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

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Addendum I

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

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

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

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

The following example illustrates the changes :-

September 2002

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

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

Epicentral Estimates

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

Observational Data

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

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

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

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

Addendum II

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

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

Addendum III

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

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

*IDC **01** 00:06:30.0±1.4,7.00°S×155.16°E,h0km,mb3.9/7, mb1 4.1/8,mb1mx3.8/51,mbtmp3.9/8,ML2.1/1,MS3.4/7, Ms1 3.4/7,ms1mx2.9/46,Error ellipse: s-maj=56.4km s-min=23.1km az=137.0*
*ISCJB **01** 00:06:35.0±0.6,7.01°S±0.10°×154.98°E±0.07°,h41km, mb4.1/13,MS3.3/6,Error ellipse: s-maj=14.7km s-min=8.6km az=157.1*
*NEIC **01** 00:06:36.8±1.3,7.03°S×155.06°E,h47km±12km,mb4.0/6, Error ellipse: s-maj=14.3km s-min=9.3km az=163.0*
ISC 01 00:06:36.5±0.6,**7.0°S**±0.1°×**155.03°E**±0.08°,**h41km,n23, σ1s.22**/21,**mb4.0**/13,**MS3.3**/6,**1D,Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HNR	Honiara	5.45	117	Pn	Pn	00 07 54.1	-1.1
PMG	Port Moresby	8.16	252	Pn	Pn	00 08 33.4	+0.9
	1.3nm,0.3s,baz=345,slow=2.6,SNR=4.0						
PMG				Sn	Sn	00 10 02.6	-0.9
	1.0nm,0.3s,baz=350,slow=23,SNR=2.0						
PMG				LR	LR	00 11 39.3	
	comp=Z,176nm,19.2s,baz=36,slow=37						
CTAO	Charters Tower	15.58	212	Pn	Pn	00 10 13.4	0.0
	5.4nm,0.6s						
WRAB	Tennant Creek	23.85	235	eP	P	00 11 45.8	-0.4
	3.1nm,0.9s						
WRA	Warramunga Arr	23.87	235	P	P	00 11 45.8	-0.6
	2.5nm,0.7s,baz=58,slow=9.8,SNR=14						
WRA				LR	LR	00 20 38.2	
	comp=Z,95nm,18.5s,baz=250,slow=35						
ASAR	Alice Springs	26.22	228	P	P	00 12 07.7	-0.1
	1.4nm,0.9s,baz=58,slow=9.0,SNR=12						
ASAR				LR	LR	00 20 58.1	
	comp=Z,76nm,18.5s,baz=149,slow=33						
STKA	Stephens Creek	27.78	205	LR	LR	00 23 25.6	
	comp=Z,94nm,18.6s,baz=19,slow=36						
BATI	Baumata	31.18	262	LR	LR	00 27 23.5	
	comp=Z,55nm,18.2s,baz=86,slow=40						
AFI	Afiamalu	33.34	105	LR	LR	00 24 29.1	
	comp=Z,33nm,18.3s,baz=143,slow=32						
TAU	Tasmania Unive	36.45	190	eP	P	00 13 37.1	-0.3
	5.7nm,0.9s						
COCO	West Island	57.53	260	P	P	00 16 20.1	-2.2
	80nm,0.3s						
CMAR	Chiang Mai Arr	60.80	296	P	P	00 16 45.9	+1.0
	0.6nm,0.3s,baz=120,slow=5.3,SNR=6.0						
CHTO	Chiang Mai	60.92	296	P	P	00 16 46.1	+0.4
	0.6nm,0.5s						
MCK	McKinley	82.01	22	eP	P	00 18 52.9	+0.9
	0.6nm,0.6s						
QSPA	South Pole Qui	83.02	180	P	P	00 18 57.6	+0.2
	9.1nm,1.0s						
ILAR	Eielson Array	83.33	21	P	P	00 18 59.1	+0.3
	0.2nm,0.6s,baz=220,slow=6.9,SNR=1.5						
ILAR				LR	LR	00 54 38.7	
	comp=Z,24nm,18.7s,baz=304,slow=35						
MKAR	Makanchi Array	83.40	319	P	P	00 18 58.8	-0.8
	0.4nm,0.7s,baz=98,slow=5.1,SNR=4.8						
SYO	Syowa Base	92.37	199⇓	eX	P	00 19 46.0	+3.7
YKA	Yellowknife Ar	96.29	28	P	P	00 19 60.0	-0.4
	0.4nm,0.7s,baz=267,slow=4.4,SNR=5.6						
YKA	Yellowknife Ar	96.29	28	P	P	00 20 00.0	-0.4
PDAR	Pinedale Array	98.65	48	P	P	00 20 12.2	+0.4
	0.2nm,0.3s,baz=180,slow=0.9,SNR=1.9						
SUR	Sutherland	121.44	225	PKPdf	PKPdf	00 25 25.4	-1.0
TORD	Torodi Ar. Bea	153.05	285	PKPbc	PKPbc	00 26 29.8	-0.8
	0.6nm,0.9s,baz=87,slow=1.9,SNR=7.2						

*IDC **01** 00:11:40.6±1.9,53.17°N×164.14°W,h0km,mb3.6/4, mb1 3.8/5,mb1mx3.3/76,mbtmp3.4/5,ML2.4/1,Error ellipse: s-maj=40.0km s-min=29.3km az=10.0*
*ISCJB **01** 00:11:46.4±2.3,53.53°N±0.06°×162.89°W±0.07°, h11km±16km,mb3.5/4,Error ellipse: s-maj=9.9km s-min=7.5km az=3.9*
*NEIC **01** 00:11:47.6±0.0,53.60°N×162.87°W,h12km,ML3.3(AEIC), After AEIC.*
ISC 01 00:11:46.8±2.0,**53.64°N**±0.09°×**163.00°W**±0.05°,**h5km**±12km, **n20,σ1s.46**/24,**mb3.7**/4,**South of Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ISLZ	Isanotski Laza	1.16	339	P	Pn	00 12 09.7	-0.1
FALS	False Pass	1.24	349	P	Pn	00 12 10.8	0.0
FALS				S	Sn	00 12 28.4	+0.5
SSLW	Shishaldin Wes	1.31	330	P	Pg	00 12 12.1	+0.1
SSLW				S	Sn	00 12 31.5	+1.8
WESN	West Dahl Nort	1.32	315	P	Pg	00 12 12.7	+0.7
WESN				S	Sn	00 12 31.4	+1.6
DT1	Dutton Round H	1.53	16	P	Pn	00 12 13.4	-1.3
BALA	Baldy Mountain	1.56	4	P	Pg	00 12 16.5	-0.2
AKSA	Akutan Strait	1.67	288	P	Pb	00 12 17.9	-0.2
AKSA				S	Sg	00 12 40.5	0.0
HAG	Hague Volcano	1.80	20	P	Pn	00 12 18.9	+0.5
PS4A	Pavlof South-4	1.83	21	P	Pn	00 12 19.4	+0.5
UNV	Unalaska Valle	2.09	277	P	Pn	00 12 22.7	+0.2
SDPT	Sand Point	2.26	40	P	Pn	00 12 26.6	+1.9
MSW	Makushin Switc	2.26	278	P	Pn	00 12 25.6	+0.7
MSW				S	Sb	00 12 54.5	-1.9
MGOD	Makushin Gods	2.31	275	P	Pn	00 12 26.4	+0.9
KDAK	Kodiak Island	7.20	51	Pn	Pn	00 13 29.7	-2.8
	0.2nm,0.3s,baz=188,slow=4.7,SNR=10						
ILAR	Eielson Array	13.82	30	Pn	Pn	00 15 06.8	+3.6
	0.0nm,0.3s,baz=225,slow=12,SNR=3.4						
INK	Inuvik	20.19	32	P	P	00 16 20.5	-1.4
	0.6nm,0.6s,baz=237,slow=10,SNR=3.7						
YKA	Yellowknife Ar	26.47	51	P	P	00 17 25.7	+1.2
	0.4nm,0.6s,baz=267,slow=8.6,SNR=10						
TXAR	Lajitas Array	48.95	95	P	P	00 20 33.3	-0.7
	0.8nm,0.6s,baz=301,slow=5.7,SNR=16						
KURBB	Kurchatov Arra	63.99	321	P	P	00 22 13.8	-7.0
	0.5nm,1.0s,baz=39,slow=7.6,SNR=3.7						
GERES	GERESS Array B	77.85	2	P	P	00 23 44.4	-0.6
	0.5nm,0.7s,baz=359,slow=7.0,SNR=3.3						

*IDC **01** 00:12:32.4±2.4,53.36°N×163.19°W,h0km,mb3.6/6, mb1 3.9/6,mb1mx3.4/76,mbtmp3.6/6,Error ellipse: s-maj=77.2km s-min=26.1km az=19.0*
*ISCJB **01** 00:12:35.1±1.3,54.1°N±0.2°×162.6°W±0.2°,h13km,mb3.6/6, Error ellipse: s-maj=32.0km s-min=11.9km az=159.6*
ISC 01 00:12:37.0±1.6,**54.0°N**±0.3°×**162.7°W**±0.1°,**h13km,n13, σ1s.70**/8,**mb3.8**/6,**South of Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KDAK	Kodiak Island	6.85	52	Pn	Pn	00 14 17.2	+0.2
	0.3nm,0.3s,baz=180,slow=9.1,SNR=2.7						
KDAK				Sn	Sn	00 15 33.3	-1.5
	baz=134,slow=18,SNR=2.6						
YKA	Yellowknife Ar	26.13	52	P	P	00 18 13.5	+3.2
	0.3nm,0.6s,baz=272,slow=9.0,SNR=5.5						
H11N2	WAKE ISLAND Hy	41.35	226	T	T	01 03 56.7	
	baz=25						
H11N3	WAKE ISLAND Hy	41.35	226	T	T	01 04 16.0	
	baz=25						
H11N1	WAKE ISLAND Hy	41.36	226	T	T	01 03 53.5	
	baz=25						
H11S1	WAKE ISLAND Hy	42.52	226	T	T	01 05 13.7	
	baz=23						
H11S2	WAKE ISLAND Hy	42.53	226	T	T	01 05 15.1	
	baz=23						
H11S3	WAKE ISLAND Hy	42.53	226	T	T	01 05 31.6	
	baz=23						
TXAR	Lajitas Array	48.80	96	P	P	00 21 20.9	-1.0
	0.9nm,0.5s,baz=297,slow=5.9,SNR=14						
KURBB	Kurchatov Arra	63.83	322	P	P	00 23 08.2	-0.4
	0.8nm,0.9s,baz=29,slow=6.6,SNR=4.3						
BVAR	Borovoye Array	64.61	328	P	P	00 23 13.6	-0.1
	0.8nm,0.7s,baz=27,slow=9.7,SNR=3.5						
MKAR	Makanchi Array	65.50	317	P	P	00 23 18.8	-0.7
	0.3nm,0.6s,baz=39,slow=6.2,SNR=3.9						
GERES	GERESS Array B	77.51	2	P	P	00 24 32.4	+0.3
	0.2nm,0.4s,baz=322,slow=7.8,SNR=3.8						

*IDC **01** 00:17:11.4±1.2,53.83°N×162.87°W,h0km,mb4.0/13, mb1 4.0/16,mb1mx3.7/76,mbtmp3.9/16,ML3.3/3,MS3.5/3, Ms1 3.5/3,ms1mx2.7/71,Error ellipse: s-maj=27.2km s-min=16.1km az=6.0*
*ISCJB **01** 00:17:12.5±1.8,53.47°N±0.06°×162.78°W±0.07°, h32km±14km,mb4.0/13,MS3.5/3,Error ellipse: s-maj=9.9km s-min=6.6km az=170.9*
*NEIC **01** 00:17:13.8±0.0,53.54°N×162.86°W,h39km,ML3.3(AEIC), After AEIC.*
ISC 01 00:17:13.6±1.1,**53.7°N**±0.1°×**162.83°W**±0.05°,**h22km**±6km, **n37,σ1s.39**/35,**mb4.0**/13,**MS3.5**/3,**South of Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FALS	False Pass	1.26	344	ePn	Pb	00 17 36.5	0.0
FALS				eSn	Sb	00 17 55.1	+2.8
SSLW	Shishaldin Wes	1.36	326	P	Pb	00 17 37.4	-0.9
SSLW				S	Sb	00 17 57.9	+2.6
WESN	West Dahl Nort	1.39	312	P	Pb	00 17 38.1	-0.6
BALA	Baldy Mountain	1.55	1	P	Pb	00 17 41.6	+0.1
AKSA	Akutan Strait	1.77	287	P	Pn	00 17 42.8	-0.1
AKSA				S	Sb	00 18 05.5	-1.5
PS4A	Pavlof South-4	1.79	18	P	Pb	00 17 44.6	-1.1
PS4A				S	Sb	00 18 08.3	+0.7
AKUT	Akutan	1.81	287	ePn	Pn	00 17 43.2	-0.3
AHB	Akutan Harbor	1.83	286	P	Pn	00 17 43.9	+0.1
ZRO	Akutan Zero	1.92	285	P	Pn	00 17 44.7	-0.3
SDPT	Sand Point	2.19	38	ePn	Pn	00 17 49.5	+0.9
UNV	Unalaska Valle	2.19	277	ePn	Pn	00 17 48.1	-0.5
MSW	Makushin Switc	2.36	278	P	Pn	00 17 50.9	-0.1
MSW				S	Sn	00 18 19.8	+0.5
CHGN	Chignik	3.68	42	ePn	Pn	00 18 10.2	+1.1
KDAK	Kodiak Island	7.11	50	Pn	Pn	00 18 55.1	-1.1
	0.6nm,0.3s,baz=187,slow=5.5,SNR=11						
KDAK				Sn	Sn	00 20 12.3	-3.9
	0.2nm,0.3s,baz=150,slow=20,SNR=3.9						
ILAR	Eielson Array	13.76	30	Pn	Pn	00 20 24.0	-3.1
	0.1nm,0.3s,baz=228,slow=14,SNR=3.3						
INK	Inuvik	20.13	32	P	P	00 21 44.1	-1.6
	0.1nm,0.3s,baz=238,slow=12,SNR=9.2						
INK				LR	LR	00 30 50.5	
	comp=Z,180nm,18.3s,baz=282,slow=41						
YKA	Yellowknife Ar	26.39	51	P	P	00 22 48.2	+0.2
	0.8nm,0.8s,baz=269,slow=8.8,SNR=15						
NVAR	Mina Array Bea	33.83	98	P	P	00 23 56.4	+2.1
	1.3nm,0.6s,baz=302,slow=8.4,SNR=3.2						
ULM	Lac du Bonnet	40.03	67	P	P	00 24 46.6	0.0
	2.0nm,0.8s,baz=270,slow=2.0,SNR=3.9						
H11N2	WAKE ISLAND Hy	41.07	226	T	T	01 09 20.8	
	baz=27,slow=76,SNR=18						
H11N3	WAKE ISLAND Hy	41.07	226	T	T	01 09 04.3	
	baz=27,slow=76,SNR=14						
H11N1	WAKE ISLAND Hy	41.09	226	T	T	01 09 12.7	
	baz=27,slow=76,SNR=5.8						
H11S1	WAKE ISLAND Hy	42.24	226	T	T	01 10 33.7	
	baz=23,slow=74						
H11S2	WAKE ISLAND Hy	42.25	226	T	T	01 10 35.0	
	baz=23,slow=74						
H11S3	WAKE ISLAND Hy	42.25	226	T	T	01 10 41.2	
	baz=23						
USRK	Ussuriysk Ar.	42.45	285	LR	LR	00 42 28.0	
	comp=Z,46nm,21.0s,baz=57,slow=36						
SPITS	Spitsbergen Ar	48.43	0	P	P	00 25 52.9	-0.6
	21nm,1.2s,baz=354,slow=13,SNR=4.4						
TXAR	Lajitas Array	48.84	95	P	P	00 25 58.6	+1.2
	1.4nm,0.7s,baz=302,slow=5.7,SNR=20						
SONM	Songino Array	53.96	304	P	P	00 26 35.6	+0.1
	0.4nm,0.7s,baz=29,slow=9.9,SNR=2.4						
ARCES	ARCESS Array B	56.98	357	P	P	00 26 56.0	-0.7
	3.8nm,0.9s,baz=19,slow=8.7,SNR=3.9						
KURBB	Kurchatov Arra	64.05	322	P	P	00 27 45.4	+0.2
	0.5nm,0.5s,baz=33,slow=6.7,SNR=7.8						
BVAR	Borovoye Array	64.85	328	P	P	00 27 51.6	+1.2
	0.7nm,0.5s,baz=32,slow=8.3,SNR=5.7						
FINES	FINESS Array B	65.03	355	P	P	00 27 51.1	-0.4
	2.2nm,1.0s,baz=354,slow=7.0,SNR=4.6						
MKAR	Makanchi Array	65.69	317	P	P	00 27 56.0	0.0
	0.3nm,0.7s,baz=45,slow=7.7,SNR=6.0						
HFS	Hagfors	66.53	2	P	P	00 28 01.4	+0.2
	1.3nm,0.6s,baz=299,slow=13,SNR=3.8						
GNI	Garni	83.59	339	LR	LR	01 13 25.7	
	comp=Z,23nm,18.9s,baz=306,slow=40						
BRTR	Keskin Array B	85.92	347	P	P	00 29 52.7	+0.9
	1.1nm,1.1s,baz=8.3,slow=5.2,SNR=3.5						

*IDC **01** 00:35:37.2±1.4,3.68°S×99.67°E,h0km,mb3.7/9,mb1 3.8/9, mb1mx3.5/62,mbtmp3.7/9,Error ellipse: s-maj=58.3km s-min=19.5km az=51.0*
*ISCJB **01** 00:35:40.7±1.2,3.6°S±0.2°×99.8°E±0.3°,h33km,mb3.7/9, Error ellipse: s-maj=49.1km s-min=16.1km az=142.9*
ISC 01 00:35:42.6±1.4,**3.6°S**±0.3°×**99.8°E**±0.3°,**h35km,n16, σ0s.72**/10,**mb3.8**/9,**Southwest of Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	21.95	358	P	P	00 40 33.1	-0.4
	0.5nm,0.3s,baz=185,slow=10.0,SNR=4.1						
H08S2	Diego Garcia H	27.45	260	T	T	01 10 45.4	
	baz=82,slow=74						
H08S3	Diego Garcia H	27.45	260	T	T	01 10 48.7	
	baz=82,slow=74						
H08S1	Diego Carcia H	27.46	260	T	T	01 10 49.3	
	baz=82						
H01W3	Cape Leeuwin H	33.84	159	T	T	01 18 22.3	
	baz=330						
H01W2	Cape Leeuwin H	33.85	159	T	T	01 18 15.4	
	baz=330						
H01W1	Cape Leeuwin H	33.86	159	T	T	01 18 31.1	
	baz=330						
WRA	Warramunga Arr	37.39	119	P	P	00 42 51.5	-1.0
	0.6nm,0.7s,baz=286,slow=8.5,SNR=5.2						
ASAR	Alice Springs	38.50	124	P	P	00 43 02.6	+0.7
	0.3nm,0.4s,baz=293,slow=7.7,SNR=6.9						
SONM	Songino Array	51.56	6	P	P	00 44 45.9	+0.5
	1.0nm,0.7s,baz=187,slow=10,SNR=5.2						
MKAR	Makanchi Array	52.52	345	P	P	00 44 53.3	+0.9
	0.5nm,0.5s,baz=150,slow=9.3,SNR=9.1						
ZALV	Zalesovo Beam	58.71	350	P	P	00 45 36.0	-0.7
	1.2nm,0.7s,baz=160,slow=8.9,SNR=7.5						
BVAR	Borovoye Array	61.62	340	P	P	00 45 56.2	-0.4
	0.3nm,0.4s,baz=133,slow=8.5,SNR=2.8						
BRTR	Keskin Array B	74.25	313	P	P	00 47 16.3	-0.3
	0.4nm,0.8s,baz=134,slow=8.3,SNR=2.2						
FINES	FINESS Array B	85.44	332	P	P	00 48 16.8	+0.4
	2.4nm,1.1s,baz=122,slow=6.9,SNR=4.0						
TXAR	Lajitas Array	146.10	39	PKPbc	PKPab	00 55 20.8	+0.3
	0.4nm,0.7s,baz=265,slow=1.0,SNR=6.5						

IDC 01 00:39:46.5±1.4,**13.14°N**×**144.70°E,h0km,mb3.4**/3, **mb1 3.7**/3,**mb1mx3.2**/59,**mbtmp3.4**/3,**Error ellipse: s-maj=263.8km s-min=15.8km az=109.0,Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GUMO	Guam	0.48	21	Pn	Pn	00 40 00.1	-0.5
	234nm,0.3s,baz=297,slow=6.2,SNR=389						
GUMO				Sn	Sb	00 40 08.1	+2.8
	645nm,0.3s,baz=0.0,slow=20,SNR=16						
H11N1	WAKE ISLAND Hy	22.26	70	T	T	01 07 32.8	
	baz=249,slow=75						
H11N2	WAKE ISLAND Hy	22.27	70	T	T	01 07 30.3	
	baz=249						
H11N3	WAKE ISLAND Hy	22.27	70	T	T	01 07 33.9	
	baz=249,slow=75						
WRA	Warramunga Arr	34.42	197	P	P	00 46 35.5	-0.3
	0.2nm,0.5s,baz=21,slow=9.3,SNR=7.2						
ASAR	Alice Springs	38.07	196	P	P	00 47 06.5	-0.6
	0.3nm,0.7s,baz=17,slow=9.9,SNR=2.6						
ILAR	Eielson Array	69.04	25	P	P	00 50 55.7	+1.9
	0.6nm,1.1s,baz=249,slow=7.5,SNR=2.2						

*ISCJB **01** 00:49:48.0±0.6,13.7°N±0.1°×120.55°E±0.08°,h100km, mb3.8/15,Error ellipse: s-maj=15.0km s-min=10.1km az=18.2*
*IDC **01** 00:49:49.9±0.7,13.84°N×120.93°E,h111km±4km,mb3.5/15, mb1 3.6/15,mb1mx3.4/67,mbtmp3.9/15,Error ellipse: s-maj=29.5km s-min=13.7km az=63.0*
ISC 01 00:49:49.3±0.7,**13.7°N**±0.1°×**120.6°E**±0.1°,**h100km,n29, σ1s.23**/31,**mb4.0**/15,**2C-1D,Mindoro**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TGY	Tagaytay City	0.48	38	P	Pn	00 50 06.7	+1.6
	408nm,0.3s,baz=252,slow=2.6,SNR=22						
TGY				S	Sn	00 50 19.1	+2.2
	1μm,0.3s,baz=336,slow=20,SNR=85						
TGY	Tagaytay City	0.48	38⇑	eP	Pn	00 50 06.3	+1.3
TGY				iS	Sn	00 50 19.9	+3.1
LQP	Lukban	0.96	66⇑	eP	Pn	00 50 14.2	+4.7
GQP	Guinayangan	1.77	84⇓	eP	Pn	00 50 21.1	+2.1
CMAR	Chiang Mai Arr	21.36	286	P	P	00 54 30.2	+1.5
	0.8nm,0.4s,baz=103,slow=8.3,SNR=7.2						
ODAN	Odare	33.69	298	eP	P	00 56 21.7	+0.4
	28nm,0.6s						
RAMN	Ramite	34.39	298	eP	P	00 56 28.0	+0.6
	23nm,0.6s						
JIRN	Jiri	34.94	299	eP	P	00 56 32.7	+0.4
	35nm,0.6s						
GUN	Gumba	35.27	299	eP	P	00 56 35.4	+0.3
	25nm,0.7s						
PKI	Pulchoki	35.58	298	eP	P	00 56 37.4	-0.3
PKIN	Phulchoki	35.59	298	eP	P	00 56 37.9	+0.2
KKN	Kakani	35.75	299	eP	P	00 56 39.2	+0.2
SONM	Songino Array	36.01	344	P	P	00 56 40.3	-0.6
	1.8nm,0.5s,baz=164,slow=9.7,SNR=14						
WRA	Warramunga Arr	36.07	158	P	P	00 56 40.8	-0.7
	0.2nm,0.3s,baz=326,slow=12,SNR=15						
WRA				pP	pP	00 57 05.3	+0.9
	1.7nm,0.9s,baz=338,slow=9.5,SNR=7.9						
GKN	Gorkha	36.35	299	eP	P	00 56 44.4	+0.3
DANN	Dangsing	37.19	299	eP	P	00 56 51.2	-0.2
PYUN	Piuthan	37.78	298	eP	P	00 56 56.4	+0.1
ASAR	Alice Springs	39.37	161	P	P	00 57 09.0	-0.3
	0.2nm,0.4s,baz=334,slow=7.6,SNR=4.6						
ASAR				pP	pP	00 57 33.7	+1.4
	0.3nm,0.5s,baz=341,slow=7.2,SNR=4.5						
TLY	Talaya	40.26	344	P	P	00 57 15.6	-0.7
	1.3nm,0.4s,baz=163,slow=11,SNR=3.0						
MKAR	Makanchi Array	45.97	324	P	P	00 58 02.7	+0.2
	0.5nm,0.4s,baz=130,slow=9.1,SNR=12						
AAK	Ala-Archa	49.00	315	P	P	00 58 26.9	+0.8
	0.4nm,0.3s,baz=139,slow=10,SNR=4.9						
ZALV	Zalesovo Beam	49.00	333	P	P	00 58 24.7	-1.0
	0.8nm,0.3s,baz=126,slow=7.0,SNR=6.8						
KURBB	Kurchatov Arra	50.13	326	P	P	00 58 34.6	+0.3
	1.3nm,0.3s,baz=123,slow=7.7,SNR=18						
BVAR	Borovoye Array	55.71	326	P	P	00 59 15.2	-0.2
	1.8nm,0.6s,baz=105,slow=8.7,SNR=13						
GEYT	Alibeck	60.07	306	P	P	00 59 47.1	+0.9
	1.0nm,0.7s,baz=152,slow=6.7,SNR=4.6						
AKTO	Aktyubinsk	62.15	320	P	P	00 59 59.5	-0.4
	0.8nm,0.5s,baz=105,slow=12,SNR=3.8						
ILAR	Eielson Array	78.76	26	P	P	01 01 39.2	-1.5
	0.3nm,0.7s,baz=308,slow=4.4,SNR=4.4						
ARCES	ARCESS Array B	79.04	339	P	P	01 01 41.2	-0.9
	2.0nm,0.9s,baz=92,slow=5.4,SNR=3.8						
YKA	Yellowknife Ar	92.78	22	P	P	01 02 47.1	-3.1
	0.1nm,0.4s,baz=307,slow=4.3,SNR=5.3						

TRN 01 01:06:58.2,13.98°N×60.57°W,h18km,MD3.7,5C-1D, Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SLW	Petit Monier	0.36	277⇑	eP	Pn	01 07 08.3	-0.3
SLW				eS	Sn	01 07 14.2	-1.0
MCLT	Moule a Chique	0.45	234⇑	iP	Pn	01 07 09.8	0.0
MCLT				eS	Sn	01 07 17.6	+0.2
SLB	Belfond	0.48	252	eP	Pn	01 07 11.4	+1.1
LPMF	Morne Lapointe	0.71	327⇓	eP	Pg	01 07 12.3	+0.1
BIM	Bigot	0.72	318	eP	Pn	01 07 13.5	-0.1
TRMF	Trois Ilets	0.72	320⇑	eP	Pg	01 07 12.8	+0.3
ZAM	Aeronautique	0.74	323⇑	eP	Pg	01 07 12.9	+0.1
SSV	Crater Summit	0.89	223	eP	Pn	01 07 17.8	+1.9
SVCV	St. Vincent, C	0.90	219	eP	Pn	01 07 16.9	+0.9
SVCV				eS	Sn	01 07 30.6	+2.1
SVV	Soufriere Volc	0.91	224⇑	iP	Pn	01 07 18.1	+2.0
SVV				eS	Sn	01 07 31.5	+2.7
FDF	Fort de France	0.94	323	eP	Pg	01 07 16.5	0.0
FDF				eS	Sn	01 07 29.4	-0.2
SVB	Belmont	0.96	223	eP	Pg	01 07 17.9	+0.9
SVB				eS	Sn	01 07 31.5	+1.3
PML	Morne Lenard	1.00	323	eP	Pg	01 07 17.9	+0.3
BAMF	Morne Balai	1.00	326	eP	Pb	01 07 16.9	-0.3
CXM	Morne La Croix	1.01	325	eP	Pn	01 07 17.8	+0.1
PCM	Pelee Case Pet	1.04	323	eP	Pb	01 07 17.2	-0.5
PCM	Pelee Case Pet	1.04	323	eP	Pb	01 07 17.8	+0.1
BBGH	Gun Hill	1.29	130	eP	Pg	01 07 22.7	-0.5
BBGH				eS	Sg	01 07 40.3	+0.3
DSHT	Scott’s Head	1.45	328	eP	Pg	01 07 25.7	-0.6
DSHT				eS	Sg	01 07 44.7	-0.6
DBCT	Belle View Cho	1.49	330	eP	Pb	01 07 26.1	+0.7
DBCT				eS	Sg	01 07 45.7	-0.7
DLPL	La Plaine	1.50	334	eP	Pn	01 07 24.9	+0.6
DLPL				eS	Sb	01 07 44.9	+0.7
MDN	Morne-Daniel	1.55	329	eP	Pb	01 07 26.1	-0.4
MDN				eS	Sb	01 07 46.4	+0.6
BBL	Barber’s Block	1.77	331	eP	Pb	01 07 30.0	-0.2
BBL				eS	Sb	01 07 51.8	-0.3
MDMP	Dominica, Moor	1.80	333	eP	Pb	01 07 30.0	-0.7
MDMP				eS	Sb	01 07 53.3	+0.2
MDPO	Dominica; Chan	1.80	332	eP	Pb	01 07 30.0	-0.7
MDPO				eS	Sb	01 07 53.5	+0.5
MDVC	Dominica, Viel	1.82	334	eP	Pb	01 07 30.2	-0.8
MDVC				eS	Sb	01 07 53.3	-0.1
MDPV	Dominica, Penn	1.84	333	eP	Pn	01 07 30.0	+1.1
MDPV				eS	Sb	01 07 53.6	-0.4
MGG	Marie-Galante	2.06	340	eP	Pn	01 07 32.5	+0.5
GRGR	Grenville	2.12	210	eP	Pb	01 07 35.1	-1.0
GRGR				eS	Sb	01 08 00.9	-1.1
TBG	Guadaloupe-3	2.13	331	eP	Pn	01 07 34.5	+1.5
TBG				eS	Sb	01 08 01.1	-1.4
TAG	Tarade	2.31	333	eP	Pb	01 07 37.7	-1.8
DEG	La Desirade	2.37	349	eP	Pn	01 07 36.8	+0.5
DEG				eS	Sn	01 08 06.2	+1.2
SEG	Port Louis	2.58	340	eP	Pn	01 07 40.2	+1.1
TOSP	Speyside	2.66	179	eP	Pn	01 07 42.0	+1.8
TOSP				eS	Sn	01 08 13.3	+1.2
MLYT	Lee’s Yard	3.14	330	eP	Pn	01 07 48.1	+1.2
MLYT				eS	Sn	01 08 25.1	+1.1
ANWB	Willy Bob	3.85	342	eP	Pn	01 07 59.1	+2.4
ANWB				eS	Sn	01 08 40.1	-1.4

GUC 01 01:17:27.7±0.5,**23.24°S**×**69.50°W,h90km**±3km,**ML3.7,6C, Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PB06	IPOC Station P	0.53	353⇑	iP	Pn	01 17 43.1	+0.2
PB06				eS	Sn	01 17 55.0	+0.7
PB06				IAML		01 17 55.7	
	comp=E,5μm,0.2s						
ANCH	Antofagasta	0.94	242⇑	eP	Pn	01 17 53.6	+6.9
ANCH				eS	Sn	01 18 08.3	+7.3
PB10	IPOC Station P	1.00	254⇑	iP	Pn	01 17 47.8	+0.4
PB10				eS	Sn	01 18 02.8	+0.5
PB10				IAML		01 18 04.1	
	comp=N,3μm,0.2s						
PB04	IPOC Station P	1.08	326⇑	iP	Pn	01 17 49.1	+0.6
PB04				eS	Sn	01 18 05.3	+1.3
PB04				IAML		01 18 08.6	
	comp=E,2μm,0.2s						
PB09	IPOC Station P	1.45	10⇑	eP	Pn	01 17 54.0	+0.9
PB09				eS	Sn	01 18 15.0	+2.8
PB09				IAML		01 18 17.6	
	comp=N,4μm,0.3s						
PB07	IPOC Station P	1.54	347⇑	iP	Pn	01 17 54.6	+0.4
PB07				eS	Sn	01 18 15.0	+0.8
PB07				IAML		01 18 18.4	
	comp=E,715nm,0.2s						
PB14	IPOC Station P	1.61	211	eP	Pn	01 17 55.0	-0.2
PB14				eS	Sn	01 18 14.5	-1.4
GO02	Mina Guanaco	1.92	182	eP	Pn	01 17 58.2	-0.9
GO02				eS	Sn	01 18 22.2	-0.9
PB02	IPOC Station P	1.94	349	eP	Pn	01 17 59.6	+0.3
PB02				eS	Sn	01 18 24.6	+1.2

MEX 01 01:43:07.3±0.5,**16.23°N**×**99.02°W,h16km**±10km,**MD3.8, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.87	79	eP	Pb	01 43 21.5	-2.7
PNIG				eS	Sb	01 43 31.8	-3.8
TLIG	Tlapa	1.40	18	eP	Pn	01 43 28.7	-3.6
TLIG				eS	Sn	01 43 45.5	-4.9
CAIG	El Cayaco	1.45	304	eP	Pn	01 43 28.5	-4.3
CAIG				eS	Sn	01 43 46.8	-4.7
VHO	Vista Hermosa	2.35	69	eP	Pn	01 43 43.9	-1.6

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
VHO				eS	Sn	01 44 12.1	-2.0
HUIG	Huatulco	2.84	99	eP	Pn	01 43 48.4	-3.6
HUIG				eS	Sn	01 44 20.2	-5.7

*NNC **01** 01:43:34.6±0.5, 42°.36N×73°.06E, h0km, mb3.9, mpv3.6, Error ellipse: s-maj=8.5km s-min=2.3km az=0.0*
*KRNET **01** 01:43:34.0±0.1, 42°.26N×73°.04E, h10km, mb3.8*
*SOME **01** 01:43:34.2, 42°.23N×73°.07E, h10km*
*IDC **01** 01:43:35.1±1.3, 42°.32N×73°.14E, h0km, mb3.7/5, mb1 3.8/11, mb1mx3.5/72, mbtmp3.6/11, ML3.3/6, Error ellipse: s-maj=18.6km s-min=8.2km az=178.0*
*MOS **01** 01:43:35.7±1.8, 42°.48N×72°.96E, h12km, mb4.1/4, Error ellipse: s-maj=10.2km s-min=8.0km az=67.3*
*KNET **01** 01:43:35.9±0.7, 42°.34N×73°.19E, h2km±3km, ml3.2, Error ellipse: s-maj=4.2km s-min=2.6km az=91.0*
ISC 01 01:43:34.7±1.0, 42°.30N±0°.02×73°.06E±0°.01, h3km±7km, n105, σ1.40/174, mb3.6/7, 48C-30D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MNAS	Manas	0.45	295	⇑P	Pg	01 43 43.1	-0.3
	183nm,0.3s						
MNAS				⇑S	Sg	01 43 49.4	0.0
	251nm,0.3s						
MNAS	Manas	0.45	295	⇑iP	Pg	01 43 42.9	-0.5
	baz=0.0						
MNAS				⇑iS	Sg	01 43 49.0	-0.3
	baz=0.0						
MNAS	Manas	0.45	295	PG	Pg	01 43 43.1	-0.3
MNAS				S	Sg	01 43 49.3	0.0
MNAS				pmax	pmax		
	comp=Z,183nm,0.3s						
MNAS				smax	smax		
	comp=N,251nm,0.3s						
MRKS	Merke	0.46	15	eP	Pg	01 43 44.1	+0.5
	comp=N,299nm,0.4s						
MRKS				eS	Sb	01 43 51.2	-1.7
	comp=N,1μm,0.3s						
MRKS	Merke	0.46	15	eP	Pg	01 43 44.1	+0.5
	baz=16						
MRKS				eS	Sb	01 43 51.2	-1.7
	baz=16						
AML	Almayashu	0.50	109	P	Pg	01 43 43.9	-0.3
	comp=N,130nm,0.1s,SNR=445						
AML				⇓S	Sg	01 43 51.5	+0.7
	comp=N,235nm,0.1s						
AML	Almayashu	0.50	109	⇑iP	Pg	01 43 44.0	-0.3
	baz=5.0						
AML				⇑iS	Sg	01 43 51.3	+0.5
	baz=5.0						
EKS2	Erkin-Say	0.64	55	⇓P	Pg	01 43 47.1	0.0
	comp=N,30nm,0.2s,SNR=162						
EKS2				⇓S	Sg	01 43 55.6	+0.2
	comp=N,216nm,0.2s						
EKS2	Erkin-Say	0.64	55	⇑iP	Pg	01 43 47.2	+0.2
	baz=53						
EKS2				⇑iS	Sg	01 43 55.5	+0.1
	baz=53						
ARK	Arkit	0.96	239	⇓iP	Pg	01 43 51.5	-1.5
	baz=39						
ARK				⇓iS	Sg	01 44 04.1	-1.3
	baz=39						
ARSB	Arslanbob	0.97	183	⇑eP	Pg	01 43 51.7	-1.7
	baz=83						
ARSB				⇑iS	Sg	01 44 04.6	-1.4
	baz=83						
UCH	Uchtor	1.08	93	⇑P	Pg	01 43 54.5	-0.9
	comp=N,38nm,0.2s,SNR=76						
UCH				⇓S	Sg	01 44 09.9	+0.5
	comp=N,276nm,0.2s						
UCH	Uchtor	1.08	93	⇓iP	Pg	01 43 54.5	-0.9
	baz=91						
UCH				⇓iS	Sg	01 44 09.9	+0.5
	baz=91						
AAK	Ala-Archa	1.11	72	Pg	Pg	01 43 55.9	-0.2
	comp=N,43nm,0.3s,baz=225,slow=4.8,SNR=565						
AAK				Lg	Lg	01 44 10.3	
	comp=N,39nm,0.3s,baz=142,slow=19,SNR=40						
AAK				LR	LR	01 44 31.6	
	comp=N,68nm,19.4s,baz=130,slow=54						
AAK	Ala-Archa	1.11	72	⇑P	Pg	01 43 55.4	-0.6
	comp=N,35nm,0.3s						
AAK				⇑S	Sg	01 44 10.3	-0.2
	comp=N,118nm,0.4s						
AAK	Ala-Archa	1.11	72	⇓P	Pg	01 43 55.5	-0.6
	comp=N,96nm,0.3s,SNR=175						
AAK				⇑S	Sg	01 44 10.5	0.0
	comp=N,192nm,0.3s						
AAK	Ala-Archa	1.11	72	⇑iP	Pg	01 43 55.4	-0.6
	baz=70						
AAK				⇑iS	Sb	01 44 10.9	-0.8
	baz=70						
AAK	Ala-Archa	1.11	72	PG	Pg	01 43 55.4	-0.6
AAK				S	Sg	01 44 10.2	-0.2
AAK				pmax	pmax		
	comp=Z,35nm,0.4s						
AAK				smax	smax		
	comp=N,118nm,0.4s						
FRU1	Bishkek	1.27	66	⇑iP	Pn	01 43 58.6	-0.8
	baz=64						
FRU1				⇑iS	Sn	01 44 15.8	-1.2
	baz=64						
DZA	Taraz	1.41	296	eP	Pn	01 44 00.8	-0.5
	comp=N,74nm,0.2s						
DZA				eS	Sg	01 44 19.9	0.0
	comp=N,264nm,0.3s						
DZA	Taraz	1.41	296	eP	Pn	01 44 00.8	-0.5
	baz=97						
DZA				eS	Sg	01 44 19.9	0.0
	baz=97						
CHMS	Chumysh	1.43	60	⇑P	Pb	01 44 01.3	-0.7
	comp=N,35nm,0.2s,SNR=41						
CHMS				⇑S	Sg	01 44 20.9	+0.2
	comp=N,202nm,0.2s						
CHMS	Chumysh	1.43	60	⇑iP	Pb	01 44 01.2	-0.8
	baz=59						
CHMS				⇑iS	Sg	01 44 20.7	+0.1
	baz=59						
USP	Ospenovka	1.44	47	⇓P	Pb	01 44 01.4	-0.7
	comp=N,86nm,0.2s,SNR=107						
USP	Ospenovka	1.44	47	⇑iP	Pb	01 44 01.4	-0.7
	baz=46						
USP				⇑iS	Sg	01 44 21.0	+0.2
	baz=46						
KBK	Karagaybulak	1.44	75	⇓P	Pn	01 44 01.5	-0.3
	comp=N,47nm,0.1s,SNR=36						
KBK	Karagaybulak	1.44	75	⇑iP	Pn	01 44 01.4	-0.5
	baz=74						
KBK				⇑iS	Sg	01 44 21.3	+0.3
	baz=74						
KZA	Kyzart	1.64	97	P	Pb	01 44 05.2	-0.7
	comp=N,56nm,0.3s,SNR=186						
KZA	Kyzart	1.64	97	⇑iP	Pb	01 44 05.1	-0.7
	baz=96						
KZA				⇑iS	Sg	01 44 27.7	+0.3
	baz=96						
JBG	Jabagly	1.87	275	eP	Pb	01 44 09.5	-0.1
	baz=84						
JBG				eS	Sg	01 44 35.4	+0.7
	baz=84						
TKM2	Tokmak 2	1.97	71	⇓Pn	Pb	01 44 10.9	-0.5
	comp=N,38nm,0.3s						
TKM2				⇓Lg	Lg	01 44 37.7	
	comp=N,172nm,0.5s						
TKM2	Tokmak 2	1.97	71	⇓P	Pb	01 44 10.7	-0.6
	comp=N,110nm,0.3s,SNR=153						
TKM2	Tokmak 2	1.97	71	⇑iP	Pb	01 44 10.9	-0.5
	baz=70						
TKM2				⇑iS	Sg	01 44 37.7	-0.4
	baz=70						
TKM2	Tokmak 2	1.97	71	PN	Pb	01 44 10.8	-0.5
TKM2						01 44 37.6	
TKM2				pmax	pmax		
	comp=Z,38nm,0.4s						
TKM2				pmax	pmax		
	comp=N,172nm,0.5s						
KK31	Karatay Array	2.04	294	⇓Pn	Pb	01 44 11.3	-1.2
	comp=N,12nm,0.4s,baz=108,slow=15,SNR=543						
KK31				Lg	Lg	01 44 39.5	
	comp=N,136nm,0.6s,baz=102,slow=32,SNR=16						
KK31	Karatay Array	2.04	294	PN	Pb	01 44 11.3	-1.2
KK31						01 44 39.4	
KK31				pmax	pmax		
	comp=Z,6.0nm,0.2s						
KK31				pmax	pmax		
	comp=Z,136nm,0.6s						
BOOM	Boomskoye usch	2.14	84	⇓eP	Pb	01 44 13.0	-1.2
	baz=83						
BOOM				⇓iS	Sb	01 44 40.3	-1.0
	baz=83						
DGS	Degeres	2.21	64	eP	Pb	01 44 14.9	-0.4
	comp=Z,164nm,0.4s						
DGS				eS	Sg	01 44 45.5	0.0
	comp=Z,362nm,0.4s						
DGS	Degeres	2.21	64	eP	Pb	01 44 15.0	-0.4
	baz=63						
DGS				eS	Sg	01 44 45.6	0.0
	baz=63						
IUG	Iuzhnay	2.25	267	eP	Pb	01 44 16.7	+0.6
	comp=Z,189nm,0.2s						
IUG				eS	Sg	01 44 47.5	+0.4
	comp=Z,475nm,0.4s						
IUG	Iuzhnay	2.25	267	eP	Pb	01 44 16.7	+0.6
	baz=68						
IUG				eS	Sg	01 44 47.5	+0.4
	baz=68						
KST	Kastek	2.27	70	eP	Pb	01 44 16.9	+0.6
	comp=Z,14nm,0.4s						
KST				eS	Sg	01 44 48.0	+0.5
	comp=Z,617nm,0.4s						
KST	Kastek	2.27	70	eP	Pb	01 44 16.9	+0.6
	baz=69						
KST				eS	Sg	01 44 48.0	+0.5
	baz=69						
SFK	Sufi-Kurgan	2.31	172	⇑Pn	Pn	01 44 15.4	+1.6
	comp=Z,48nm,0.7s						
SFK				⇑Lg	Lg	01 44 46.3	
	comp=Z,144nm,0.4s						
SFK	Sufi-Kurgan	2.31	172	⇓iP	Pn	01 44 14.0	+0.2
	baz=71						
SFK				⇓iS	Sn	01 44 42.8	-0.1
	baz=71						
SFK	Sufi-Kurgan	2.31	172	PN	Pn	01 44 15.4	+1.6
NRN	Naryn	2.36	111	⇓iP	Pn	01 44 15.8	+1.2
	baz=10.0						
NRN				⇓iS	Sn	01 44 45.2	+0.9
	baz=10.0						
ULHL	Ulahol	2.36	90	⇓P	Pb	01 44 17.5	-0.5
	comp=Z,55nm,0.4s,SNR=169						
ULHL	Ulahol	2.36	90	⇓iP	Pb	01 44 17.0	-1.0
	baz=89						
ULHL				⇓eS	Sb	01 44 47.2	-0.4
	baz=89						
BRLS	Boroldav	2.49	288	eP	Pb	01 44 20.7	+0.7
	comp=Z,0.5nm,0.4s						
BRLS				eS	Sg	01 44 54.1	-0.5
	comp=Z,24nm,0.4s						
BRLS	Boroldav	2.49	288	eP	Pb	01 44 20.7	+0.7
	baz=83						
BRLS				eS	Sg	01 44 54.1	-0.5
	baz=83						
CHM	Chimkent	2.56	272	eP	Pb	01 44 22.4	+1.1
	comp=Z,108nm,0.2s						
CHM				eS	Sg	01 44 57.8	+0.8
	comp=Z,229nm,0.5s						
CHM	Chimkent	2.56	272	eP	Pb	01 44 22.4	+1.1
	baz=73						
CHM				eS	Sg	01 44 57.8	+0.8
	baz=73						
MTBS	Maitube	2.62	70	eP	Pb	01 44 22.6	+0.3
	comp=Z,34nm,0.3s						
MTBS				eS	Sg	01 44 57.6	-1.2
	comp=Z,158nm,0.4s						
MTBS	Maitube	2.62	70	eP	Pb	01 44 22.6	+0.3
	baz=70						
MTBS				eS	Sg	01 44 57.5	-1.2
	baz=70						
IZV	Izvestkoviy	2.72	73	eP	Pb	01 44 24.1	+0.1
	comp=Z,72nm,0.5s						
IZV				eS	Sg	01 45 00.5	-1.6
	comp=Z,197nm,0.5s						
IZV	Izvestkoviy	2.72	73	eP	Pb	01 44 24.2	+0.1
	baz=72						
IZV				eS	Sg	01 45 00.5	-1.6
	baz=72						
BTK	Batken	2.81	218	⇑iP	Pn	01 44 20.0	-0.6
	baz=18						
BTK				⇑eS	Sn	01 44 54.3	-0.7
	baz=18						
KUU	Kurty	2.88	55	eP	Pb	01 44 25.7	-1.1
	comp=Z,6.6nm,0.3s						
KUU				eS	Sb	01 45 02.7	+0.3
	comp=Z,150nm,0.4s						
KUU	Kurty	2.88	55	eP	Pb	01 44 25.7	-1.1
	baz=55						
KUU				eS	Sb	01 45 02.8	+0.3
	baz=55						
TNSS	Tian-Shan	2.96	74	eP	Pb	01 44 27.8	-0.5
	comp=Z,35nm,0.4s						
TNSS				eS	Sg	01 45 07.2	-2.6
	comp=Z,179nm,0.5s						
TNSS	Tian-Shan	2.96	74	eP	Pb	01 44 27.8	-0.5
	baz=74						
TNSS				eS	Sg	01 45 07.2	-2.6
	baz=74						
AAA	Alma-Ata	2.98	71	ePN	Pb	01 44 27.3	-1.2
AAA				eS	Sg	01 45 09.0	-1.4
AAA				pmax	pmax		
	comp=Z,26nm,0.1s						
AAA				smax	smax		
	comp=E,238nm,0.4s						
KTBS	Karatobe	3.01	61	eP	Pb	01 44 29.2	+0.3
KTBS				eS	Sg	01 45 08.9	-2.4
KNDC	Almaty	3.02	71	⇓Pg	Pg	01 44 31.4	-1.1
	comp=E,29nm,0.5s						
KNDC				⇑Lg	Lg	01 45 10.3	
	comp=E,242nm,0.6s						
MDOK	Medeo	3.06	72	⇑Pg	Pb	01 44 29.6	-0.3
	comp=E,27nm,0.6s						
MDOK				⇓Lg	Lg	01 45 10.4	
	comp=E,143nm,1.0s						
MDOK	Medeo	3.06	72	eP	Pb	01 44 30.2	+0.3
	comp=E,16nm,0.3s						
MDOK				eS	Sg	01 45 10.5	-2.5
	comp=E,83nm,0.4s						
MDOK	Medeo	3.06	72	eP	Pb	01 44 30.2	+0.3
	baz=72						
MDOK				eS	Sg	01 45 10.6	-2.5
	baz=72						
KDJ	Kajisay	3.06	92	⇑eP	Pn	01 44 26.5	+2.3
	baz=91						
KDJ				⇑iS	Sb	01 45 05.9	-1.9
	baz=91						
KOTS	Kotyrbulak	3.13	71	eP	Pb	01 44 32.2	+1.2
CHKK	Chushkaly	3.27	60	eP	Pb	01 44 34.1	+0.7
	comp=E,19nm,0.4s						
CHKK				eS	Sg	01 45 17.4	-2.3
	comp=E,176nm,0.4s						
CHKK	Chushkaly	3.27	60	eP	Pb	01 44 34.1	+0.7
	baz=60						
CHKK				eS	Sg	01 45 17.4	-2.3
	baz=60						
KURS	Kuram	3.94	71	eP	Pb	01 44 45.8	+1.0
KURS				eS	Sg	01 45 37.2	-3.9
ARXS	Arharly	3.97	60	eP	Pb	01 44 47.1	+1.7
	comp=E,32nm,0.5s						
ARXS				eS	Sg	01 45 39.8	-2.5
	comp=E,178nm,0.6s						
MNBS	Baschi	4.29	64	eP	Pb	01 44 52.9	+2.0
	comp=E,37nm,0.5s						
MNBS				eS	Sg	01 45 49.5	-3.0
	comp=E,81nm,0.5s						
MNBS	Baschi	4.29	64	eP	Pb	01 44 52.9	+2.0
	baz=65						
MNBS				eS	Sg	01 45 49.5	-3.0
	baz=65						
PDGK	Podgornoye	4.84	76	⇑Pg	Pb	01 45 01.5	+1.3
	comp=E,12nm,0.9s						
PDGK				⇓Lg	Lg	01 46 04.4	
	comp=E,52nm,0.7s						
PDGK	Podgornoye	4.84	76	PN	Pb	01 45 01.5	+1.3
MAKZ	Makanchi	7.80	52	⇑Pn	Pn	01 45 29.9	+0.8
	comp=E,0.8nm,0.5s						
MAKZ				⇑Lg	Lg	01 47 36.5	
	comp=E,9.5nm,0.7s						
MAKZ	Makanchi	7.80	52	P	Pn	01 45 29.9	+0.8
MK31	Makanchi Array	7.98	53	⇑Pn	Pn	01 45 33.3	+1.8
	comp=E,0.2nm,0.3s,baz=233,slow=9.2,SNR=21						
MK31				⇓Lg	Lg	01 47 46.4	
	comp=E,7.3nm,0.8s,baz=238,slow=26,SNR=4.1						
MK31	Makanchi Array	7.98	53	eP	Pb	01 45 43.3	-10
MK31				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MKAR	Makanchi Array	7.98	53	Pn	Pn	01 45 33.1	+1.6
	comp=Z,0.4nm,0.3s,baz=231,slow=14,SNR=17						
MKAR				Sn	Sn	01 47 02.3	+0.1
	baz=254,slow=18,SNR=2.7						
MKAR				Lg	Lg	01 47 43.8	
	comp=Z,0.4nm,0.3s,baz=242,slow=26,SNR=7.2						
MKAR	Makanchi Array	7.98	53	eP	Pn	01 45 33.7	+2.2
KURBB	Kurchatov Arra	9.14	22	Pn	Pn	01 45 46.4	-0.9
	comp=Z,0.2nm,0.3s,baz=215,slow=13,SNR=7.6						
KURBB				Sn	Sn	01 47 32.1	+1.4
	comp=Z,0.2nm,0.3s,baz=209,slow=18,SNR=6.1						
KURBB				Lg	Lg	01 48 23.9	
	comp=Z,0.2nm,0.3s,baz=211,slow=34,SNR=6.7						
KURK	Kurchatov	9.25	23	P	Pn	01 45 46.4	-2.5
KURK						01 47 32.1	
BVA0	Borovoye Array	10.88	351	Pn	Pn	01 46 09.5	-1.7
	comp=Z,2.4nm,0.6s,baz=232,slow=37,SNR=8.8						
BVA0				⇑Sn	Sn	01 48 11.2	-2.2
	comp=Z,2.2nm,0.7s,baz=170,slow=23,SNR=4.5						
BVAR	Borovoye Array	10.88	351	Pn	Pn	01 46 10.0	-1.2
	comp=Z,0.7nm,0.3s,baz=163,slow=16,SNR=11						
BVAR				Sn	Sn	01 48 10.3	-3.1
	comp=Z,0.4nm,0.3s,baz=172,slow=23,SNR=5.2						
BVAR				Lg	Lg	01 49 14.1	
	comp=Z,0.3nm,0.3s,baz=171,slow=22,SNR=3.5						
BRVK	Borovoye	10.93	351	⇑Pn	Pn	01 46 09.4	-2.4
	comp=Z,2.8nm,0.5s						
BRVK				⇑Sn	Sn	01 48 14.6	0.0
	comp=Z,3.4nm,0.7s						
BRVK	Borovoye	10.93	351	⇑eP	Pn	01 46 10.8	-1.1
AB31	Akbulak array	11.49	312	⇑Pn	Pn	01 46 17.6	-2.0
	comp=Z,0.4nm,0.3s,baz=119,slow=15,SNR=30						
AB31				⇓Sn	Sn	01 48 27.0	-1.4
	comp=Z,1.2nm,0.7s,baz=115,slow=23,SNR=4.2						
GEYT	Alibeck	12.24	254	Pn	Pn	01 46 31.1	+1.1
	comp=Z,0.2nm,0.3s,baz=57,slow=10,SNR=4.3						
GEYT				Sn	Sn	01 48 41.4	-5.6
	comp=Z,0.4nm,0.3s,baz=35,slow=13,SNR=4.2						
DGZ	Jazzator, Alta	12.42	49	⇓eP	Pn	01 46 34.2	+1.7
AKTO	Aktyubinsk	13.18	313	Pn	Pn	01 46 41.8	-0.9
	comp=Z,0.3nm,0.3s,baz=114,slow=14,SNR=8.1						
AKTO				Sn	Sn	01 49 03.0	-6.6
	comp=Z,0.0nm,0.3s,baz=22,slow=19,SNR=2.7						
ZALV	Zalesovo Beam	14.03	30	Pn	Pn	01 46 54.5	+0.3
	comp=Z,0.3nm,0.3s,baz=226,slow=15,SNR=3.6						
ZALV				Sn	Sn	01 49 29.7	-0.7
	comp=Z,0.2nm,0.3s,baz=234,slow=24,SNR=4.9						
ZALV				Lg	Lg	01 50 57.9	
	comp=Z,0.1nm,0.3s,baz=230,slow=28,SNR=2.2						
KNGR	Kungurtug, Tuv	18.72	55	eP	Pn	01 47 56.9	+2.2
ANN	Anapa	25.82	288	eP	P	01 49 06.3	-0.7
ANN				pmax	pmax		
	comp=Z,87nm,0.8s						
ARCES	ARCESS Array B	36.51	334	P	P	01 50 42.6	+1.7
	comp=Z,2.3nm,0.8s,baz=108,slow=8.6,SNR=4.1						
ARCES	ARCESS Array B	36.51	334	eP	P	01 50 43.1	+2.2
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
HFS	Hagfors	39.67	318	P	P	01 51 08.9	+1.3
	comp=Z,4.3nm,1.0s,baz=115,slow=9.7,SNR=3.2						
TIXI	Tiksi	39.82	24	⇑eP	P	01 51 09.7	+1.0
TIXI				pmax	pmax		
	comp=Z,1.0nm,0.6s						
GERES	GERESS Array B	41.13	300	P	P	01 51 21.4	+1.3
	comp=Z,0.4nm,0.7s,baz=70,slow=8.5,SNR=3.0						
ILAR	Eielson Array	68.77	17	P	P	01 54 40.6	+1.1
	comp=Z,0.4nm,0.9s,baz=325,slow=5.2,SNR=4.6						
YKA	Yellowknife Ar	75.38	4	P	P	01 55 19.6	+0.5
	comp=Z,0.1nm,0.7s,baz=354,slow=6.4,SNR=5.1						
YKA	Yellowknife Ar	75.38	4	eP	P	01 55 20.7	+1.6

*ISCJB **01** 01:49:07.5±0.8, 21°.78S±0°.04×67°.4W±0°.1, h204km±8km, mb3.3/6, Error ellipse: s-maj=15.4km s-min=6.7km az=9.4*
*GUC **01** 01:49:08.7±0.7, 21°.74S×67°.72W, h227km±9km, ML3.9*
*IDC **01** 01:49:09.0±5.9, 21°.44S×67°.08W, h188km±41km, mb3.2/6, mb1 3.5/7, mb1mx3.3/38, mbtmp3.7/7, Error ellipse: s-maj=63.0km s-min=20.8km az=13.0*
ISC 01 01:49:07.5±1.1, 21°.70S±0°.05×67°.20W±0°.10, h186km±9km, n25, σ2.00/41, mb3.5/6, 12C-1D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PB09	IPOC Station P	1.90	267	⇑iP	Pn	01 49 45.2	+1.0
PB09				eS	Sn	01 50 12.9	+0.3
PB09				IAML		01 50 15.1	
	comp=E,621nm,0.2s						
PB01	IPOC Station P	2.23	287	⇑iP	Pn	01 49 48.1	+0.4
PB01				eS	Sn	01 50 18.3	-0.5
PB01				IAML		01 50 20.2	
	comp=E,522nm,0.2s						
PB08	IPOC Station P	2.40	310	⇑iP	Pn	01 49 51.7	+1.8
PB08				i S	Sn	01 50 24.4	+1.7
PB06	IPOC Station P	2.42	245	⇑iP	Pn	01 49 49.6	-0.1
PB06				eS	Sn	01 50 21.2	-1.5
PB06				IAML		01 50 22.4	
	comp=E,348nm,0.3s						
PB07	IPOC Station P	2.50	269	⇑eP	Pn	01 49 50.8	+0.1
PB07				eS	Sn	01 50 22.6	-1.8
PB07				IAML		01 50 23.9	
	comp=N,553nm,0.1s						
PB02	IPOC Station P	2.54	278	⇑iP	Pn	01 49 51.3	+0.1
PB02				eS	Sn	01 50 23.1	-2.0
PB02				IAML		01 50 24.7	
	comp=E,896nm,0.3s						
GO01	Chusmiza	2.75	317	⇑iP	Pn	01 49 55.9	+1.8
GO01				eS	Sn	01 50 31.7	+1.4
GO01				IAML		01 50 34.1	
	comp=N,186nm,0.4s						
PB04	IPOC Station P	2.81	257	⇑iP	Pn	01 49 53.9	-0.4
PB04				eS	Sn	01 50 27.9	-3.0
PB04				IAML		01 50 30.2	
	comp=N,324nm,0.3s						
PB11	IPOC Station P	3.00	310	⇑iP	Pn	01 49 57.0	+0.3
PB11				eS	Sn	01 50 34.0	-1.0
MNMC	Minye Minye	3.40	318	⇑iP	Pn	01 50 02.8	+1.0
MNMC				i S	Sn	01 50 44.1	0.0
PSGC	Pisagua	3.45	307	⇑iP	Pn	01 50 01.3	-0.8
PSGC				i S	Sn	01 50 41.7	-3.0
ANCH	Antofagasta	3.56	236	eP	Pn	01 50 09.5	+6.2
ANCH				i S	Sn	01 50 49.7	+2.7
PB10	IPOC Station P	3.59	239	⇑iP	Pn	01 50 02.7	-1.0
PB10				i S	Sn	01 50 42.5	-5.1
PB14	IPOC Station P	4.14	225	eP	Pn	01 50 10.0	-0.9
PB14				i S	Sn	01 50 55.8	-4.9
PB12	IPOC Station P	4.25	316	⇓iP	Pn	01 50 11.1	-1.1
PB12				i S	Sn	01 50 59.7	-3.1
LPAZ	La Paz	5.46	351	P	Pn	01 50 25.2	-2.9
	comp=N,0.1nm,0.3s,baz=186,slow=18,SNR=1.7						
LPAZ				S	Sn	01 51 32.6	+1.0
	comp=N,0.2nm,0.3s,baz=341,slow=14,SNR=4.5						
SIV	San Ignacio	8.12	47	P	Pn	01 51 02.2	-0.3
	comp=N,2.3nm,0.3s,baz=254,slow=8.7,SNR=41						
SIV				S	Sn	01 52 29.0	-4.7
	comp=N,1.1nm,0.3s,baz=153,slow=21,SNR=10						
TXAR	Lajitas Array	61.72	324	P	P	01 59 06.4	+0.1
	comp=N,0.1nm,0.6s,baz=154,slow=4.7,SNR=1.6						
KOWA	Kowa	71.64	66	P	P	02 00 09.3	0.0
	comp=N,0.6nm,0.6s,baz=180,slow=4.0,SNR=3.0						
PDAR	Pinedale Array	75.09	329	P	P	02 00 30.2	+1.1
	comp=N,0.2nm,0.3s,baz=125,slow=7.8,SNR=1.5						
TORD	Torodi Ar. Bea	75.93	70	P	P	02 00 34.0	-0.2
	comp=N,0.6nm,0.3s,baz=259,slow=5.8,SNR=35						
ULM	Lac du Bonnet	76.00	341	P	P	02 00 33.8	0.0
	comp=N,0.9nm,0.5s,baz=197,slow=11,SNR=3.4						
YKA	Yellowknife Ar	91.91	340	P	P	02 01 54.6	+0.4
	comp=N,0.2nm,0.5s,baz=130,slow=4.5,SNR=4.0						
WRA	Warramunga Arr	133.56	208	PKP	PKPdf	02 08 04.0	+1.4
	comp=N,0.3nm,0.8s,baz=154,slow=1.8,SNR=5.0						
MKAR	Makanchi Array	144.84	37	PKP	PKPdf	02 08 22.9	+0.6
	comp=N,0.5nm,0.7s,baz=316,slow=3.7,SNR=6.1						

IDC 01 02:00:59.9±1.3, 22°.36N×143°.22E, h23km±6km, mb3.4/5, mb1 3.5/5, mb1mx3.1/70, mbtmp3.5/5, Error ellipse: s-maj=66.2km s-min=21.2km az=90.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
H11N1	WAKE ISLAND Hy	22.25	92	T	T	02 29 34.5	
	baz=280,slow=75,SNR=21						
H11N2	WAKE ISLAND Hy	22.25	92	T	T	02 29 16.7	
	baz=280,slow=75,SNR=18						

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
H11N3	WAKE ISLAND Hy	22.27	92	T	T	02 29 25.1	
	baz=280,slow=75,SNR=20						
H11S3	WAKE ISLAND Hy	22.32	96	T	T	02 29 27.1	
	baz=284,slow=75,SNR=208						
H11S1	WAKE ISLAND Hy	22.33	96	T	T	02 29 27.8	
	baz=284,slow=75,SNR=125						
H11S2	WAKE ISLAND Hy	22.34	96	T	T	02 29 29.1	
	baz=284,slow=75,SNR=133						
WRA	Warramunga Arr	42.93	192	P	P	02 08 56.5	-0.6
	0.7nm,0.8s,baz=19,slow=9.1,SNR=4.7						
WRA				pP	pP	02 09 04.2	0.0
	0.6nm,0.7s,baz=13,slow=8.7,SNR=3.7						
ASAR	Alice Springs	46.63	192	P	P	02 09 26.7	+0.1
	0.2nm,0.6s,baz=14,slow=11,SNR=4.5						
ASAR				pP	pP	02 09 33.9	+0.1
	0.3nm,0.6s,baz=20,slow=14,SNR=3.3						
BVAR	Borovoye Array	62.19	319	P	P	02 11 19.6	+0.1
	0.8nm,0.6s,baz=79,slow=7.5,SNR=3.9						
YKA	Yellowknife Ar	75.86	28	P	P	02 12 44.7	+0.6
	0.1nm,0.4s,baz=294,slow=6.1,SNR=1.9						
FINES	FINESS Array B	82.60	334	P	P	02 13 20.4	-0.5
	1.0nm,0.9s,baz=113,slow=5.3,SNR=3.9						
FINES				pP	pP	02 13 28.3	-0.2
	0.8nm,0.4s,baz=74,slow=4.9,SNR=2.5						

*IDC **01** 02:07:02.3±2.9, 36°.35N×71°.20E, h169km±26km, mb3.4/9, mb1 3.4/16, mb1mx3.1/69, mbtmp3.9/16, Error ellipse: s-maj=21.4km s-min=16.3km az=4.0*

*ISCJB **01** 02:07:04.1±0.4, 36°.64N±0°.03×71°.22E±0°.06, h188km, mb3.5/10, Error ellipse: s-maj=6.6km s-min=4.2km az=155.4*

*NNC **01** 02:07:08.1±2.4, 37°.00N×70°.94E, h170km±42km, mb3.3, mpv4.2, Error ellipse: s-maj=23.8km s-min=17.7km az=154.0*

ISC 01 02:07:04.9±0.7**, 36°.69N**±0°.07×**71°.15E**±0°.06**, h188km, n46, σ1^{s}75**/54**, mb3.5**/10**, 7C-5D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SFK	Sufi-Kurgan	3.80	28	⇑P	Pn	02 08 04.6	+0.7
	20nm,0.3s						
SFK				⇓S	Sn	02 08 47.9	-2.2
	98nm,0.3s						
AML	Almayashu	5.78	19	P	Pn	02 08 29.4	0.0
	SNR=105						
MNAS	Manas	5.88	10	⇑P	Pn	02 08 31.1	+0.6
	15nm,0.3s						
MNAS				⇓S	Sn	02 09 35.0	-3.1
	43nm,0.7s						
UCH	Uchtor	6.11	24	P	Pn	02 08 34.0	+0.2
	SNR=30						
KZA	Kyzart	6.25	29	P	Pn	02 08 35.9	+0.4
	SNR=13						
EKS2	Erkin-Say	6.30	18	P	Pn	02 08 36.0	+0.1
	SNR=26						
KK31	Karatay Array	6.42	356	⇑P	Pn	02 08 38.4	+1.0
	7.5nm,0.4s,baz=172,slow=12,SNR=349						
KK31				⇑S	Sn	02 09 46.9	-3.7
	22nm,0.4s,baz=180,slow=22,SNR=19						
AAK	Ala-Archa	6.47	22	P	Pn	02 08 39.0	+0.7
	8.9nm,0.3s,baz=160,slow=6.3,SNR=119						
AAK				S	Sn	02 09 49.3	-2.7
	2.9nm,0.3s,baz=126,slow=23,SNR=30						
AAK	Ala-Archa	6.47	22	⇓P	Pn	02 08 38.1	-0.1
	15nm,0.4s						
AAK				⇑S	Sn	02 09 50.2	-1.9
	57nm,0.6s						
AAK	Ala-Archa	6.47	22	P	Pn	02 08 38.9	+0.7
	SNR=44						
KBK	Karagaybulak	6.64	25	P	Pn	02 08 41.9	+1.5
	SNR=9.2						
ULHL	Ulahol	6.80	34	P	Pn	02 08 42.9	+0.3
	SNR=6.6						
CHMS	Chumysh	6.88	23	P	Pn	02 08 43.8	+0.4
	SNR=7.0						
USP	Ospenovka	7.05	20	P	Pn	02 08 45.4	-0.3
	SNR=19						
TKM2	Tokmak 2	7.10	27	⇑P	Pn	02 08 46.2	-0.2
	5.3nm,0.6s						
TKM2				⇓S	Sn	02 10 04.1	-2.8
	20nm,0.8s						
TKM2	Tokmak 2	7.10	27	P	Pn	02 08 46.9	+0.4
	SNR=9.5						
GEYT	Alibeck	10.46	281	P	Pn	02 09 29.4	-0.9
	1.4nm,0.3s,baz=103,slow=8.4,SNR=16						
GEYT				S	Sn	02 11 21.7	-5.0
	0.6nm,0.3s,baz=90,slow=16,SNR=3.2						
MKAR	Makanchi Array	13.06	36	P	Pn	02 10 05.5	+2.0
	0.2nm,0.3s,baz=210,slow=8.1,SNR=6.0						
PYUN	Piuthan	13.16	127	eP	Pn	02 10 02.7	-2.4
	18nm,0.3s						
PYUN				eS	Sn	02 12 18.7	-13
DANN	Dangsing	13.49	124	eP	Pn	02 10 07.4	-1.9
KOLN	Koldanda	13.78	127	eP	Pn	02 10 10.4	-2.4
KOLN				eS	Sn	02 12 35.2	-11
GKN	Gorkha	14.31	123	eP	Pn	02 10 17.7	-1.6
	13nm,0.2s						
DMN	Daman	14.88	124	eP	Pn	02 10 26.1	-0.3
KKN	Kakani	14.88	123	eP	Pn	02 10 25.3	-1.1
KURBB	Kurchatov Arra	14.90	19	P	Pn	02 10 28.6	+2.4
	0.1nm,0.3s,baz=212,slow=8.2,SNR=5.0						
AB31	Akbulak array	14.97	330	⇓P	Pn	02 10 27.3	+0.2
	1.6nm,0.3s,baz=145,slow=11,SNR=82						
AB31				⇑S	Sn	02 13 05.9	-8.5
	5.4nm,0.6s,baz=151,slow=22,SNR=18						
PKIN	Phulchoki	15.09	123	eP	Pn	02 10 28.5	-0.6
PKI	Pulchoki	15.11	123	eP	Pn	02 10 28.3	-1.0
	23nm,0.4s						
GUN	Gumba	15.21	121	eP	Pn	02 10 29.9	-0.7
JIRN	Jiri	15.58	121	eP	Pn	02 10 34.9	-0.2
	79nm,0.4s						
RAMN	Ramite	16.31	122	eP	P	02 10 43.5	+0.1
	14nm,0.3s						
BVAR	Borovoye Array	16.34	358	P	P	02 10 45.5	+2.3
	0.4nm,0.3s,baz=157,slow=11,SNR=5.3						
AKTO	Aktyubinsk	16.68	330	P	Pn	02 10 49.5	+1.8
	2.8nm,0.3s,baz=138,slow=8.8,SNR=27						
AKTO				S	S	02 13 49.4	-1.6
	0.2nm,0.3s,baz=193,slow=19,SNR=4.9						
ODAN	Odare	16.91	121	eP	Pn	02 10 52.0	+1.0
	9.6nm,0.4s						
ZALV	Zalesovo Beam	19.69	24	P	P	02 11 21.3	+1.7
	0.5nm,0.3s,baz=221,slow=9.6,SNR=4.9						
BRTR	Keskin Array B	29.49	287	P	P	02 12 54.9	+3.4
	0.3nm,0.6s,baz=88,slow=9.0,SNR=2.8						
FINES	FINESS Array B	37.39	326	P	P	02 14 01.4	+2.2
	0.4nm,0.3s,baz=120,slow=8.3,SNR=5.9						
ARCES	ARCESS Array B	41.01	337	P	P	02 14 30.8	+1.7
	3.1nm,1.0s,baz=123,slow=7.8,SNR=4.5						
HFS	Hagfors	42.99	322	P	P	02 14 47.1	+1.8
	0.8nm,0.4s,baz=78,slow=13,SNR=11						
NB2	NORSAR Subarra	44.30	323	P	P	02 14 57.2	+1.5
	comp=Z,1.0nm,0.5s,baz=95,slow=7.9						
NOA	NORSAR Array B	44.30	323	P	P	02 14 57.2	+1.5
	comp=Z,2.8nm,1.1s,baz=104,slow=6.9,SNR=3.9						
TORD	Torodi Ar. Bea	65.84	269	P	P	02 17 30.0	-0.5
	comp=Z,0.4nm,0.5s,baz=50,slow=5.8,SNR=19						
KOWA	Kowa	69.68	273	P	P	02 17 54.0	-0.4
	comp=Z,1.1nm,0.6s,baz=78,slow=7.7,SNR=7.4						
YKA	Yellowknife Ar	81.05	3	P	P	02 18 59.3	+0.9
	comp=Z,0.5nm,0.6s,baz=348,slow=5.3,SNR=15						
WRA	Warramunga Arr	81.99	122	P	P	02 19 02.7	-1.3
	comp=Z,0.6nm,0.6s,baz=325,slow=4.9,SNR=8.2						
ASAR	Alice Springs	84.27	125	P	P	02 19 14.1	-1.5
	comp=Z,0.5nm,0.8s,baz=317,slow=5.3,SNR=6.2						

IDC 01 02:10:51.8±6.2**, 15°.17N×99°.16W, h0km, mb3.4**/2**, mb1 3.8**/4**, mb1mx3.5**/44**, mbtmp3.4**/4**, ML3.4**/2**, MS3.8**/1**, Ms1 3.8**/1**, ms1mx2.6**/25**, Error ellipse: s-maj=103.6km s-min=24.1km az=176.0, Off coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMIG	Matias Romero	4.54	64	Pn	Pn	02 12 02.9	+1.1
	2.2nm,0.3s,baz=254,slow=9.1,SNR=19						
CMIG				Pg	Pg	02 12 17.4	-1.4
	3.2nm,0.3s,baz=273,slow=9.9,SNR=12						
CMIG				Sn	Sn	02 12 58.4	+3.2
	3.2nm,0.3s,baz=302,slow=19,SNR=2.6						
CMIG				Lg	Lg	02 13 14.3	
	7.7nm,0.3s,baz=348,slow=19,SNR=12						
APG	El Apazote	8.40	90	Sn	Sn	02 14 31.6	+0.7
	0.2nm,0.3s,baz=318,slow=16,SNR=2.7						
APG				Lg	Lg	02 15 27.7	
	0.3nm,0.3s,baz=315,slow=14,SNR=2.6						
H06E1	SOCORRO T-PHAS	11.81	289	T	T	02 25 26.6	
	SNR=6.4						
TXAR	Lajitas Array	14.70	344	Pn	P	02 14 25.2	-2.4
	0.0nm,0.3s,baz=159,slow=11,SNR=5.8						
PDAR	Pinedale Array	28.92	344	P	P	02 16 52.5	-0.3
	0.3nm,0.5s,baz=164,slow=9.9,SNR=2.6						
YKA	Yellowknife Ar	48.52	351	P	P	02 19 35.8	-0.5
	0.4nm,0.8s,baz=158,slow=7.1,SNR=5.4						
KDAK	Kodiak Island	58.14	330	LR	LR	02 43 54.1	
	comp=Z,82nm,18.0s,baz=252,slow=34						

IDC 01 02:36:16.3±631.0**, 37°.53N×14°.64E, h0km, Error ellipse: s-maj=236.5km s-min=99.8km az=64.0, Sicily**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
I48TN	KESRA INFRASON	4.61	250	*i*		02 49 34.7	
	baz=67,slow=327,SNR=7.0						
I26DE	FREYUNG INFRAS	11.34	357	*i*		03 45 40.0	
	baz=175,slow=338,SNR=0.4						
I43RU	DUBNA INFRASON	24.39	31	*i*		05 06 04.4	
	baz=229,slow=330,SNR=0.2						

*IDC **01** 02:36:59.5±1.7, 10°.82N×126°.32E, h0km, mb3.9/8, mb1 4.0/8, mb1mx3.6/62, mbtmp3.9/8, Error ellipse: s-maj=181.9km s-min=19.6km az=68.0*

*ISCJB **01** 02:37:04.2±0.7, 10°.75N±0°.06×126°.21E±0°.06, h49km, mb4.0/8, Error ellipse: s-maj=9.0km s-min=8.7km az=138.2*

*MAN **01** 02:37:06, 10°.73N×125°.94E, h31km, mb4.6, ML3.5, MS3.4*

ISC 01 02:37:06.0±1.1**, 10°.73N**±0°.08×**126°.2E**±0°.1**, h49km, n18, σ1^{s}23**/15**, mb4.0**/8**, 1C-2D, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SCPH	Surigao	1.16	216	⇓eP	Pn	02 37 24.4	-1.4
SCPH				eS	Sn	02 37 39.7	-0.8
PLP	Palo	1.25	291	⇓eP	Pn	02 37 24.6	-2.5
PLP				i S	Sn	02 37 41.2	-1.7
LLP	Lapu-Lapu	2.21	260	eP	Pn	02 37 40.1	-0.1
LLP				eS	Sn	02 38 08.2	+1.9
RCP	Roxas	3.46	284	⇑eP	Pn	02 37 58.5	+1.1
WRA	Warramunga Arr	31.52	165	P	P	02 43 23.6	0.0
	0.3nm,0.7s,baz=344,slow=9.1,SNR=2.2						
ASAR	Alice Springs	35.01	168	P	P	02 43 54.6	+0.6
	0.3nm,0.3s,baz=339,slow=7.5,SNR=16						
H11S3	WAKE ISLAND Hy	39.89	74	T	T	03 27 25.6	
	baz=265,slow=75,SNR=13						
H11S1	WAKE ISLAND Hy	39.90	74	T	T	03 27 20.9	
	baz=265,slow=75,SNR=10						
H11S2	WAKE ISLAND Hy	39.90	74	T	T	03 27 20.9	
	baz=265,slow=75,SNR=10						
H11N1	WAKE ISLAND Hy	40.20	72	T	T	03 27 48.1	
	baz=265,slow=74,SNR=31						
H11N2	WAKE ISLAND Hy	40.21	72	T	T	03 27 46.8	
	baz=265,slow=74,SNR=17						
H11N3	WAKE ISLAND Hy	40.22	72	T	T	03 27 49.4	
	baz=265,slow=74,SNR=27						
MKAR	Makanchi Array	51.61	323	P	P	02 46 08.2	+0.6
	1.0nm,0.5s,baz=120,slow=7.9,SNR=16						
ZALV	Zalesovo Beam	54.18	331	P	P	02 46 26.5	+0.1
	0.5nm,0.3s,baz=110,slow=6.7,SNR=2.6						
KURBB	Kurchatov Arra	55.65	325	P	P	02 46 37.4	+0.4
	2.1nm,0.2s,baz=127,slow=7.1,SNR=2.6						
BVAR	Borovoye Array	61.24	325	P	P	02 47 15.2	-0.8
	0.3nm,0.5s,baz=133,slow=10,SNR=2.1						
ARCES	ARCESS Array B	83.73	340	P	P	02 49 30.3	+0.8
	2.9nm,0.9s,baz=82,slow=5.5,SNR=6.8						
FINES	FINESS Array B	85.45	332	P	P	02 49 38.4	+0.2
	1.2nm,0.9s,baz=64,slow=6.5,SNR=4.6						

*IDC **01** 02:38:04.4±1.2, 53°.84N×162°.96W, h0km, mb3.8/12, mb1 3.9/14, mb1mx3.6/85, mbtmp3.7/14, ML3.0/2, Error ellipse: s-maj=27.8km s-min=16.5km az=2.0*

*ISCJB **01** 02:38:07.7±1.1, 53°.63N±0°.08×162°.85W±0°.08, h40km±9km, mb3.8/11, Error ellipse: s-maj=14.3km s-min=6.3km az=157.1*

*NEIC **01** 02:38:07.1±0.0, 53°.58N×162°.83W, h41km, ML3.3(AEIC), After AEIC.*

ISC 01 02:38:07.2±1.4**, 53°.7N**±0°.1×**162°.86W**±0°.06**, h22km**±9km**, n32, σ1^{s}12**/32**, mb3.9**/11**, South of Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FALS	False Pass	1.20	344	P	Pn	02 38 29.1	+0.6
FALS				S	Sb	02 38 45.5	+1.3
SSLW	Shishaldin Wes	1.30	326	P	Pb	02 38 30.9	0.0
WESN	West Dahl Nort	1.33	311	P	Pb	02 38 31.4	-0.1
BALA	Baldy Mountain	1.49	2	P	Pb	02 38 35.0	+0.8
AKSA	Akutan Strait	1.73	285	P	Pn	02 38 36.0	+0.1
AKSA				S	Sb	02 38 59.1	-0.4
AHB	Akutan Harbor	1.80	284	P	Pn	02 38 37.0	+0.2
ZRO	Akutan Zero	1.89	283	P	Pn	02 38 38.0	-0.1
SDPT	Sand Point	2.15	39	P	Pn	02 38 42.3	+0.6
SDPT				S	Sn	02 39 09.0	+1.3
UNV	Unalaska Valle	2.17	275	P	Pn	02 38 41.0	-1.0
UNV				S	Sn	02 39 08.5	+0.4
MSW	Makushin Switc	2.34	277	P	Pn	02 38 44.0	-0.3
MSW				S	Sn	02 39 13.1	+0.8
MGOD	Makushin Gods	2.38	274	P	Pn	02 38 44.9	-0.1
OKTU	Okmok Mt. Tuli	3.11	266	P	Pn	02 38 55.4	+0.4
KDAK	Kodiak Island	7.09	51	Pn	Pn	02 39 47.9	-1.6
	0.4nm,0.3s,baz=206,slow=8.2,SNR=13						
KDAK				Sn	Sn	02 41 06.2	-3.1
	baz=311,slow=19,SNR=2.7						
ILAR	Eielson Array	13.72	30	Pn	Pn	02 41 16.9	-3.2
	0.1nm,0.3s,baz=210,slow=12,SNR=3.1						
INK	Inuvik	20.09	32	P	P	02 42 38.0	-0.8
	0.7nm,0.5s,baz=242,slow=12,SNR=5.7						
PETK	Petropavlovsk-	23.32	285	P	P	02 43 13.1	-0.4
	5.6nm,1.0s,baz=84,slow=15,SNR=3.3						
YKA	Yellowknife Ar	26.37	51	P	P	02 43 41.9	+0.6
	0.6nm,0.7s,baz=271,slow=9.1,SNR=16						
NVAR	Mina Array Bea	33.86	98	P	P	02 44 49.8	+1.7
	0.9nm,0.6s,baz=302,slow=11,SNR=2.6						
ULM	Lac du Bonnet	40.02	67	P	P	02 45 40.5	+0.4
	1.7nm,0.7s,baz=296,slow=5.1,SNR=4.8						
H11N2	WAKE ISLAND Hy	41.09	226	T	T	03 29 54.6	
	baz=26,slow=76,SNR=9.1						
H11N3	WAKE ISLAND Hy	41.10	226	T	T	03 29 59.3	
	baz=26,slow=76,SNR=9.0						
H11N1	WAKE ISLAND Hy	41.11	226	T	T	03 29 42.6	
	baz=26,slow=76,SNR=7.0						
H11S1	WAKE ISLAND Hy	42.26	226	T	T	03 31 24.9	
	baz=26,slow=76,SNR=14						
H11S2	WAKE ISLAND Hy	42.28	226	T	T	03 31 13.7	
	baz=26,slow=76,SNR=7.7						
H11S3	WAKE ISLAND Hy	42.28	226	T	T	03 31 23.0	
	baz=26,slow=76,SNR=7.1						
TXAR	Lajitas Array	48.87	95	P	P	02 46 51.9	+0.7
	1.2nm,0.6s,baz=304,slow=5.6,SNR=22						
BVAR	Borovoye Array	64.79	328	P	P	02 48 43.2	-0.4
	0.8nm,0.8s,baz=32,slow=8.5,SNR=5.3						
FINES	FINESS Array B	64.97	355	P	P	02 48 44.7	+0.1
	3.1nm,1.1s,baz=30,slow=9.7,SNR=3.9						
MKAR	Makanchi Array	65.63	317	P	P	02 48 48.8	-0.5
	0.2nm,0.4s,baz=59,slow=5.6,SNR=3.3						
HFS	Hagfors	66.47	2	P	P	02 48 54.0	-0.3
	2.5nm,0.9s,baz=0.0,slow=2.9,SNR=3.6						
GERES	GERESS Array B	77.78	2	P	P	02 50 02.6	+0.3
	0.4nm,0.6s,baz=13,slow=6.0,SNR=3.6						
ESDC	Sonseca Array	85.22	16	P	P	02 50 42.5	+0.7
	0.1nm,0.5s,baz=356,slow=6.8,SNR=3.2						

IDC 01 02:46:17.2±1.9**, 1°.94N×126°.31E, h0km, mb3.2**/4**, mb1 3.4**/4**, mb1mx3.2**/52**, mbtmp3.3**/4**, Error ellipse: s-maj=191.8km s-min=23.7km az=66.0, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	23.13	160	P	P	02 51 24.0	-1.2
	0.1nm,0.3s,baz=339,slow=11,SNR=1.3						
ASAR	Alice Springs	26.51	164	P	P	02 51 57.7	+1.1
	0.1nm,0.3s,baz=347,slow=12,SNR=2.2						
MKAR	Makanchi Array	58.78	326	P	P	02 56 17.6	+0.3
	0.4nm,0.4s,baz=122,slow=7.8,SNR=8.6						
KURBB	Kurchatov Arra	63.02	328	P	P	02 56 45.4	-0.6
	0.2nm,0.5s,baz=122,slow=6.0,SNR=1.8						

*ATA **01** 03:07:01.8±1.9, 40°.64N×42°.63E, h7km±49km, ML2.4, MW2.6*

*CSEM **01** 03:07:02.9, 40°.65N×42°.61E, h9km, ML2.4*

*ISK **01** 03:07:02.9, 40°.65N×42°.61E, h9km, ML2.4/5*

*ISCJB **01** 03:07:03.1±0.6, 40°.64N±0°.04×42°.63E±0°.04, h9km±5km, Error ellipse: s-maj=6.4km s-min=4.3km az=149.6*

ISC 01 03:07:02.7±1.1**, 40°.67N**±0°.04×**42°.64E**±0°.03**, h9km**±10km**, n19, σ0^{s}49**/28**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SENK	Senkaya-Erzuru	0.25	244	PG	Pg	03 07 07.7	0.0
SENK				SG	Sg	03 07 11.3	+0.2
SENK	Senkaya-Erzuru	0.25	244	ePg	Pg	03 07 07.7	0.0
SENK				eSg	Sg	03 07 11.3	+0.2
KARS	Kars	0.34	97	PG	Pb	03 07 10.8	-0.1
KARS				SG	Sb	03 07 16.5	0.0
KARS	Kars	0.34	97	ePg	Pb	03 07 10.8	-0.1
KARS				eSg	Sb	03 07 16.5	0.0
DIGO	Kars	0.61	114	eP	Pg	03 07 14.1	-0.5
DIGO				eS	Sg	03 07 23.1	+0.4
DIGO				IAML		03 07 24.8	
	comp=Z,21nm,0.2s						
EAK	Akyaka	0.73	88	eP	Pg	03 07 16.6	-0.3
EPOS	Posof	0.83	5	eP	Pg	03 07 19.1	+0.3
EPOS				eS	Sn	03 07 32.2	-1.1
EPOS				IAML		03 07 33.0	
	comp=Z,5.1nm,0.4s						
HOMI	Horasan	0.84	222	eP	Pg	03 07 17.6	-1.2
HOMI				eS	Sg	03 07 29.4	-0.4
AKH	Akhalkalaki	0.98	41	PG	Pn	03 07 22.6	-0.2
AKH				SG	Sn	03 07 37.4	+0.5
AKH	Akhalkalaki	0.98	41	ePg	Pn	03 07 22.6	-0.2
AKH				eSg	Sn	03 07 37.4	+0.5
AGRB	Hanur-Agry	1.13	166	PN	Pg	03 07 24.6	+0.3
AGRB	Hanur-Agry	1.13	166	ePn	Pg	03 07 24.6	+0.3
ERZM	Erzurum	1.24	232	eP	Pb	03 07 26.2	-0.2
TUTA	Tutak	1.27	174	eP	Pn	03 07 26.7	-0.2
TASB	TASBURUN-IGDIR	1.40	119	PN	Pn	03 07 28.9	+0.4
TASB	TASBURUN-IGDIR	1.40	119	ePn	Pn	03 07 28.9	+0.4
EKAR	Karacoban	1.48	198	eP	Pg	03 07 31.4	+0.3
BAYT	Ayd˜–ntepe-Bay	1.93	263	PN	Pn	03 07 36.5	+0.7
BAYT	Ayd˜–ntepe-Bay	1.93	263	ePn	Pn	03 07 36.5	+0.7

*ISCJB **01** 03:18:21.2±0.2, 59°.99N±0°.02×153°.24W±0°.05, h136km±2km, mb3.8/14, Error ellipse: s-maj=4.7km s-min=3.4km az=42.4*

*IDC **01** 03:18:21.4±1.3, 59°.96N×153°.29W, h116km±18km, mb3.8/12, mb1 3.8/15, mb1mx3.5/77, mbtmp4.1/15, Error ellipse: s-maj=16.7km s-min=13.3km az=140.0*

*NEIC **01** 03:18:23.3±0.0, 59°.98N×153°.29W, h129km, ML4.0(AEIC), After AEIC.*

ISC 01 03:18:22.6±0.7**, 59°.98N**±0°.03×**153°.25W**±0°.04**, h132km**±5km**, n110, σ1^{s}13**/129**, mb4.0**/14**, Southern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ILS	Iliamna Low So	0.09	105	P	Pn	03 18 40.3	-0.3
ILW	Iliamna West	0.10	35	P	Pn	03 18 40.1	-0.5
ILW				S	Sn	03 18 54.1	-0.3
IVE	Iliamna Volcan	0.12	73	P	Pn	03 18 40.2	-0.4
RSO	Redoubt South	0.54	27	ePn	Pn	03 18 42.2	-0.1
RDWB	Redoubt West	0.55	21	P	Pn	03 18 42.0	-0.3
RDWB				S	Sn	03 18 56.6	-0.7
NCT	North Crescent	0.60	15	P	Pn	03 18 42.6	0.0
AUNW	Augustine NWes	0.62	191	P	Pn	03 18 42.5	0.0
AUW	Augustine West	0.62	191	P	Pn	03 18 42.5	-0.1
RDJH	Redoubt Jeurge	0.65	20	P	Pn	03 18 42.9	-0.1
RDJH				S	Sn	03 18 57.9	-0.4
AUI	Augustine Isla	0.66	188	P	Pn	03 18 42.6	-0.2
AUI				S	Sn	03 18 57.7	-0.4
DFR	Drift River	0.67	24	P	Pn	03 18 42.9	-0.1
HOM	Homer	0.87	111	P	Pn	03 18 44.7	+0.2
HOM				S	Sn	03 19 01.7	+0.7
CDD	Cape Douglas	1.07	191	P	Pn	03 18 46.1	-0.3
FONW	Fourpeaked Sta	1.20	197	P	Pn	03 18 47.4	-0.3
FOSS	Fourpeaked Sta	1.21	191	P	Pn	03 18 47.4	-0.3
BRLK	Bradley Lake	1.21	99	P	Pn	03 18 47.8	+0.1
BRLK				S	Sn	03 19 06.5	-0.3
CKL	Chakachamna La	1.30	20	P	Pn	03 18 49.0	+0.3
SPWE	Spurr West	1.34	14	P	Pn	03 18 49.6	+0.4
SPCP	Crater Peak Br	1.40	22	P	Pn	03 18 50.2	+0.4
SPCP				S	Sn	03 19 11.1	+0.6
SVW2	Sparrevohn	1.61	315	P	Pn	03 18 51.3	-0.7
SVW2				S	Sn	03 19 12.7	-1.8
KARR	Katmai Rainbow	1.67	207	P	Pn	03 18 52.6	-0.1
STLK	Strandline Lak	1.67	24	P	Pn	03 18 53.1	+0.3
FIB	Fire Island	1.93	51	P	Pn	03 18 56.6	+0.9
FIB				S	Sn	03 19 22.3	+1.3
SUA	Susitna One	1.93	38	P	Pn	03 18 56.1	+0.2
SUA				S	Sn	03 19 21.8	+0.5
KELA	Mount Kelaz	2.01	221	P	Pn	03 18 56.3	-0.5
RC01	Rabbit Creek A	2.06	56	P	Pn	03 18 57.1	-0.2
RC01				S	Sn	03 19 22.9	-1.1
SKT	Skwentna	2.17	22	P	Pn	03 18 58.7	0.0
SKT				S	Sn	03 19 26.7	+0.2
KDAK	Kodiak Island	2.23	171	P	Pn	03 18 58.0	-1.4
	36nm,0.3s,baz=22,slow=7.8,SNR=893						
KDAK				S	Sn	03 19 25.1	-2.6
	161nm,0.3s,baz=328,slow=24,SNR=21						
PMR	Palmer	2.58	50	P	Pn	03 19 03.0	-0.8
PMR				S	Sn	03 19 33.6	-2.0
KNK	Knik Glacier	2.76	57	P	Pn	03 19 05.0	-1.1
OHAK	Old Harbor	2.77	180	P	Pn	03 19 04.4	-1.8
OHAK				S	Sn	03 19 36.3	-3.5
GHO	Glory Hole Cre	2.77	48	P	Pn	03 19 05.2	-1.1
PPLA	Purkeypile	2.97	9	P	Pn	03 19 09.6	+0.6
SML	Sawmill	3.02	51	P	Pn	03 19 08.3	-1.2
GLI	Glacier Island	3.18	71	P	Pn	03 19 09.5	-2.1
TT01	Tatalina	3.22	337	P	Pn	03 19 11.4	-0.7
SCM	Sheep Creek Mo	3.44	55	P	Pn	03 19 13.9	-1.0
JPK	Jack Peak	3.46	69	P	Pn	03 19 13.8	-1.5
CAST	Castle Rocks	3.50	9	P	Pn	03 19 15.7	+0.1
MID	Middleton Isla	3.54	96	P	Pn	03 19 15.9	-0.3
KTH	Kantishna Hill	3.75	16	P	Pn	03 19 18.4	-0.6
TRF	Thorofare Moun	3.76	21	P	Pn	03 19 18.4	-0.8
EYAK	Cordova Ski Ar	3.78	78	P	Pn	03 19 18.8	-0.5
DIV	Divide	3.87	69	ePn	Pn	03 19 19.1	-1.4
DIV				eSn	Sn	03 20 02.9	-2.7
KLU	Klutina	3.90	64	P	Pn	03 19 20.0	-1.1
RND	Reindeer	4.02	29	P	Pn	03 19 22.0	-0.7
BPAW	Bear Paw Mtn.	4.27	13	P	Pn	03 19 24.6	-1.2
MCK	McKinley	4.28	27	P	Pn	03 19 25.5	-0.5
PS11	TAPS Pump St11	4.33	58	P	Pn	03 19 26.2	-0.4
BMRM	Bremner River	4.39	73	P	Pn	03 19 26.2	-1.4
CHGN	Chignik	4.59	219	P	Pn	03 19 29.5	-0.7
HARP	HAARP	4.61	55	P	Pn	03 19 29.9	-0.5
NICHA	Nichawak Mount	4.65	83	P	Pn	03 19 30.7	-0.3
SUCK	Suckling Hills	4.75	85	P	Pn	03 19 32.7	+0.4
PAX	Paxson	4.78	48	P	Pn	03 19 32.3	-0.4
VNSG	Veniaminof 6	4.96	221	P	Pn	03 19 34.9	-0.2
PS10	TAPS Pump St10	4.96	43	P	Pn	03 19 35.5	+0.5
VRDI	Verde Repeater	4.99	71	P	Pn	03 19 34.5	-1.1
KHIT	Khitrov Hills	5.01	80	P	Pn	03 19 34.5	-1.3
WRH	Wood River Hil	5.11	26	P	Pn	03 19 35.9	-1.2
MLY	Manley	5.20	12	P	Pn	03 19 37.0	-1.3
KULT	Kultieth River	5.27	83	P	Pn	03 19 39.3	0.0
MENT	Mentasta	5.45	53	P	Pn	03 19 41.0	-0.6
ISLE	Juniper Island	5.46	79	P	Pn	03 19 42.0	+0.1
PS08	TAPS Pump Stn8	5.47	30	P	Pn	03 19 41.0	-0.8
RIDG	Independ'e Rid	5.48	43	P	Pn	03 19 41.8	-0.3
BALM	Baldy	5.49	74	P	Pn	03 19 41.6	-0.7
MDM	Murphy Dome	5.51	23	P	Pn	03 19 41.1	-1.3
COLA	College	5.51	25	P	Pn	03 19 41.5	-0.9
ILAR	Eielson Array	5.64	29	P	Pn	03 19 43.3	-0.9
	28nm,0.3s,baz=215,slow=13,SNR=2175						
ILAR				S	Sn	03 20 42.7	-5.1
	16nm,0.3s,baz=213,slow=20,SNR=10						
ILB	Eielson Array	5.64	29	P	Pn	03 19 42.9	-1.3
DOT	Dot Lake	5.70	46	P	Pn	03 19 44.2	-0.8
GLM	Gilmore Dome	5.71	26	P	Pn	03 19 44.3	-0.8
BARN	Barnard Glacie	5.82	74	P	Pn	03 19 47.3	+0.5
SCRK	Sand Creek	5.92	43	P	Pn	03 19 46.9	-1.2
RKAV	Rock Avalanche	5.96	82	P	Pn	03 19 49.4	+0.9
IM3	Indian Mountai	6.03	358	P	Pn	03 19 49.3	-0.1
SDPT	Sand Point	6.05	223	ePn	Pn	03 19 47.9	-1.8
SAMH	Samovar Hills	6.25	83	P	Pn	03 19 53.4	+1.0

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
BCA3	Beaver Creek A	6.29	56	P	Pn	03 19 52.7	-0.2
PRP	Porcupine Dome	6.59	29	P	Pn	03 19 56.3	-0.7
EGAK	Eagle	7.39	44	P	Pn	03 20 06.6	-1.1
COLD	Coldfoot	7.40	9	P	Pn	03 20 06.8	-0.9
FYU	Fort Yukon	7.53	25	P	Pn	03 20 08.4	-1.0
YUK5	Granite Creek	7.67	75	P	Pn	03 20 11.2	-0.4
DAWY	Dawson	7.69	52	P	Pn	03 20 11.6	-0.1
HYT	Haines Junctio	7.84	77	P	Pn	03 20 14.3	+0.5
BM3	Burnt Mountain	8.38	23	P	Pn	03 20 18.9	-2.1
SKAG	Skagway	9.07	86	ePn	Pn	03 20 31.6	+1.4
WHY	Whitehorse	9.13	78	P	Pn	03 20 31.1	-0.1
WRAK	Wrangell Islan	11.57	99	ePn	Pn	03 21 04.9	+1.3
INK	Inuvik	11.93	37	P	Pn	03 21 07.3	-0.8
	1.4nm,0.3s,baz=245,slow=14,SNR=44						
INK				S	Sn	03 23 16.4	-3.0
	0.1nm,0.3s,baz=275,slow=16,SNR=2.9						
DLBC	Dease Lake	11.98	87	ePn	Pn	03 21 11.5	+2.5
YKA	Yellowknife Ar	18.57	66	P	P	03 22 29.9	+0.9
	0.2nm,0.3s,baz=278,slow=10.0,SNR=50						
YKA				PcP	PcP	03 26 52.2	+0.2
	0.0nm,0.3s,baz=285,slow=1.5,SNR=5.3						
RES	Resolute Bay	25.39	32	P	P	03 23 38.9	+1.8
	0.4nm,0.4s,baz=247,slow=13,SNR=3.9						
SEY	Seymchan	25.49	300	P	P	03 23 37.2	-1.0
	0.8nm,0.5s,baz=74,slow=18,SNR=3.7						
PETK	Petropavlovsk-	27.34	277	P	P	03 23 55.5	+0.7
	3.8nm,0.8s,baz=68,slow=13,SNR=4.4						
MA2	Magadan	27.47	294	P	P	03 23 58.1	+2.1
	4.7nm,0.7s,baz=29,slow=18,SNR=3.1						
SPITS	Spitsbergen Ar	41.94	3	P	P	03 25 59.7	+0.1
	21nm,1.1s,baz=356,slow=12,SNR=4.1						
KLR	Kul'dur	42.44	290	P	P	03 26 04.7	+0.8
	0.2nm,0.7s,baz=306,slow=5.8,SNR=6.9						
TXAR	Lajitas Array	45.09	110	P	P	03 26 26.1	+0.6
	0.1nm,0.5s,baz=310,slow=7.0,SNR=2.7						
KSRS	Korea Array	53.06	282	P	P	03 27 26.8	+0.9
	1.9nm,0.6s,baz=34,slow=7.1,SNR=6.7						
KSAR	Wonju Array Be	53.09	282	P	P	03 27 26.8	+0.7
SONM	Songino Array	54.70	306	P	P	03 27 38.8	+0.9
	2.5nm,0.7s,baz=44,slow=6.8,SNR=11						
ZALV	Zalesovo Beam	57.32	323	P	P	03 27 56.4	+0.2
	2.2nm,0.5s,baz=23,slow=6.6,SNR=12						
KURK	Kurchatov	61.98	325	P	P	03 28 28.4	+0.4
BVAR	Borovoye Array	62.03	332	P	P	03 28 28.0	-0.4
	1.7nm,0.7s,baz=18,slow=5.2,SNR=9.1						
KURBB	Kurchatov Arra	62.08	326	P	P	03 28 28.4	-0.4
	0.7nm,0.5s,baz=28,slow=6.7,SNR=6.0						
MKAR	Makanchi Array	64.37	321	P	P	03 28 43.0	-0.9
	0.3nm,0.5s,baz=31,slow=5.9,SNR=4.4						
AKTO	Aktyubinsk	67.06	339	P	P	03 29 00.6	-0.5
	0.9nm,0.5s,baz=45,slow=8.3,SNR=3.5						

IDC 01 03:19:26.1±3.0**,54°.49N×87°.02E,h0**km**,mb1 2.9**/2**, mb1mx2.7**/71**,mbtmp2.9**/2**,ML2.7**/2**,Error ellipse: s-maj=24.7km s-min=17.9km az=57.0,Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.40	248	i		03 28 05.0	
	baz=71,slow=321,SNR=8.8						
ZALV	Zalesovo Beam	1.40	248	Pg	Pn	03 19 51.0	-1.8
	1.4nm,0.3s,baz=66,slow=16,SNR=14						
ZALV				Lg	Lg	03 20 10.7	
	1.4nm,0.3s,baz=65,slow=27,SNR=8.3						
ZALV				Rg	Rg	03 20 27.3	
	1.6nm,0.4s,baz=73,slow=17,SNR=1.4						
KURBB	Kurchatov Arra	6.46	237	Pn	Pn	03 21 03.1	+0.7
	0.1nm,0.3s,baz=55,slow=14,SNR=7.5						
KURBB				Sn	Sn	03 22 15.5	-1.3
	0.0nm,0.3s,baz=57,slow=18,SNR=2.3						
KURBB				Lg	Lg	03 22 55.9	
	0.0nm,0.3s,baz=68,slow=8.1,SNR=2.1						
MKAR	Makanchi Array	8.27	203	Pn	Pn	03 21 28.2	+1.0
	0.1nm,0.3s,baz=31,slow=14,SNR=6.3						
MKAR				Sn	Sn	03 23 01.4	+0.2
	0.1nm,0.3s,baz=30,slow=26,SNR=3.5						
MKAR				Lg	Lg	03 23 51.7	
	0.0nm,0.3s,baz=37,slow=31,SNR=6.2						

IDC 01 03:26:46.2±2.1**,1°.60N×124°.92E,h0**km**,mb3.4**/3**, mb1 3.6**/3**,mb1mx3.2**/61**,mbtmp3.4**/3**,Error ellipse: s-maj=194.3km s-min=27.7km az=64.0,Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	23.32	157	P	P	03 31 55.5	-0.6
	0.7nm,0.4s,baz=335,slow=11,SNR=10						
ASAR	Alice Springs	26.59	161	P	P	03 32 26.9	+0.6
	0.2nm,0.3s,baz=348,slow=13,SNR=7.2						
MKAR	Makanchi Array	58.30	327	P	P	03 36 42.8	-0.1
	0.2nm,0.5s,baz=114,slow=7.1,SNR=1.9						

IDC 01 03:28:31.8±1.7**,2°.17N×126°.37E,h0**km**,mb3.5**/5**, mb1 3.6**/5**,mb1mx3.3**/57**,mbtmp3.5**/5**,Error ellipse: s-maj=173.0km s-min=21.9km az=65.0,Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	23.33	161	P	P	03 33 41.2	-0.6
	0.7nm,0.4s,baz=340,slow=11,SNR=11						
ASAR	Alice Springs	26.71	164	P	P	03 34 13.2	+0.1
	0.3nm,0.7s,baz=344,slow=6.7,SNR=2.8						
STKA	Stephens Creek	36.82	158	P	P	03 35 42.5	+0.7
	0.7nm,0.4s,baz=318,slow=15,SNR=2.2						
MKAR	Makanchi Array	58.63	326	P	P	03 38 30.9	+0.1
	0.1nm,0.4s,baz=112,slow=10,SNR=2.1						
KURBB	Kurchatov Arra	62.85	328	P	P	03 38 59.0	-0.4
	0.1nm,0.2s,baz=115,slow=5.7,SNR=1.6						

*NEIC **01** 04:06:11.0±0.0,36°.57S×177°.22E,h3km,ML4.8(WEL), After WEL.*

WEL 01 04:06:14.1±0.8**,37°S**±7°×**17°7E**±°**,h33**km**,ML4.2**/22**,Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WIZ	White Island	0.87	182	P*	Pn	04 06 28.6	-1.3
WIZ	White Island	0.87	182	P	Pn	04 06 29.4	-0.6
WIZ	White Island	0.87	182	S	Sn	04 06 41.7	+0.2
HAZ	Te Kaha	1.19	158	P	Pn	04 06 32.8	-1.5
HAZ	Te Kaha	1.19	158	S	Sn	04 06 49.5	+0.2
KUZ	Kuaotunu	1.21	265	P	Pn	04 06 33.2	-1.5
KUZ	Kuaotunu	1.21	265	S	Sn	04 06 48.5	-1.3
MXZ	Matakaoa Point	1.25	136	P*	Pn	04 06 34.2	-1.1
MXZ				S*	Sn	04 06 50.4	-0.6
MXZ	Matakaoa Point	1.25	136	P	Pn	04 06 34.5	-0.8
MXZ	Matakaoa Point	1.25	136	S	Sn	04 06 50.5	-0.5
OPRZ	Ohinepanea	1.30	204	P*	Pn	04 06 35.2	-0.7
OPRZ	Ohinepanea	1.30	204	P	Pn	04 06 35.1	-0.8
TGRZ	Tauranga	1.32	215	P*	Pn	04 06 35.1	-1.0
TGRZ	Tauranga	1.32	215	P	Pn	04 06 35.2	-0.9
RUGZ	Raukumara Rang	1.36	165	P	Pn	04 06 36.0	-0.8
RUGZ	Raukumara Rang	1.36	165	S	Sn	04 06 53.8	0.0
MARZ	Manawahe	1.40	198	P	Pn	04 06 37.7	+0.4
PKGZ	Pakihiroa	1.41	151	P	Pn	04 06 37.7	+0.3
GRZ	Great Barrier	1.48	285	P	Pn	04 06 37.5	-0.9
GRZ	Great Barrier	1.48	285	S	Sn	04 06 56.6	+0.1
EDRZ	Edgecumbe	1.50	195	P	Pb	04 06 40.8	-0.6
WMGZ	Waiomatatini S	1.50	141	Pn	Pn	04 06 39.5	+0.8
WMGZ	Waiomatatini S	1.50	141	P	Pn	04 06 39.5	+0.8
KMRZ	Kaimai	1.56	220	P	Pb	04 06 41.9	-0.5
KARZ	Kaharoa	1.57	209	P	Pn	04 06 39.0	-0.6
URZ	Urewera	1.60	183	P*	Pn	04 06 39.5	-0.6
URZ	Urewera	1.60	183	P	Pn	04 06 39.8	-0.3
TWGZ	Tauwhareparae	1.63	158	Pn	Pb	04 06 42.5	-1.2
TWGZ	Tauwhareparae	1.63	158	P	Pb	04 06 42.5	-1.1
PUZ	Puketiti	1.64	150	Pn	Pn	04 06 41.8	+1.2
PUZ	Puketiti	1.64	150	P	Pn	04 06 41.9	+1.3
NGRZ	Ngongotaha	1.66	209	P	Pn	04 06 40.9	0.0
TARZ	Mount Tarawera	1.68	200	P*	Pb	04 06 46.6	+2.2
WIAZ	Waiheke Island	1.68	265	P	Pn	04 06 40.2	-1.0
MWZ	Matawai	1.69	172	P*	Pn	04 06 40.5	-0.8
MWZ	Matawai	1.69	172	P	Pn	04 06 40.6	-0.7
MWZ	Matawai	1.69	172	P	Pn	04 06 40.6	-0.7
MKAZ	Moumakai	1.71	254	Pn	Pn	04 06 40.6	-0.9
MKAZ	Moumakai	1.71	254	P	Pn	04 06 40.6	-0.9
MKAZ	Moumakai	1.71	254	S	Sb	04 07 04.4	-1.6
TOZ	Tahuroa Road	1.74	231	P*	Pn	04 06 41.5	-0.5
TOZ	Tahuroa Road	1.74	231	P	Pn	04 06 41.5	-0.4
RAGZ	Rawiri	1.84	175	P*	Pn	04 06 43.3	-0.2
RAGZ	Rawiri	1.84	175	P	Pn	04 06 43.4	-0.1
TKGZ	Te Karaka	1.85	165	Pn	Pn	04 06 45.3	+1.9
TKGZ	Te Karaka	1.85	165	P	Pb	04 06 45.7	-1.5
MUGZ	Murupara	1.85	191	P	Pn	04 06 45.2	+1.7
ETAZ	East Tamaki Re	1.86	260	Pn	Pn	04 06 44.9	+1.3
ETAZ				Sn	Sb	04 07 09.0	-1.4
ETAZ	East Tamaki Re	1.86	260	P	Pn	04 06 44.4	+0.8
ETAZ	East Tamaki Re	1.86	260	P	Pn	04 06 45.1	+1.4
KBAZ	Karaka Road Bo	1.92	256	Pn	Pn	04 06 45.9	+1.5
KBAZ	Karaka Road Bo	1.92	256	P	Pn	04 06 46.0	+1.6
ABAZ	Army Bay	1.92	271	Pn	Pn	04 06 46.1	+1.7
ABAZ	Army Bay	1.92	271	P	Pn	04 06 46.2	+1.7
CNGZ	Carnagh Statio	1.99	157	P	Pb	04 06 49.0	-0.6
EPAZ	Eden Park BICE	2.00	263	P	Pn	04 06 47.6	+2.1
HBAZ	Herne Bay Bore	2.01	264	P	Pb	04 06 47.9	-2.0
RIGZ	Rimuhau	2.09	168	P	Pb	04 06 49.3	-2.1
AWAZ	Awhitu Peninsu	2.11	258	P	Pn	04 06 46.8	-0.2
AWAZ	Awhitu Peninsu	2.11	258	P	Pb	04 06 52.7	+1.1
SNGZ	Shannon Statio	2.12	177	P	Pn	04 06 49.5	+2.2
RVAZ	Riverhead Bore	2.12	266	Pn	Pn	04 06 47.4	+0.1
RVAZ	Riverhead Bore	2.12	266	P	Pn	04 06 47.3	+0.1
KUTZ	Kaahu Road	2.14	211	P	Pn	04 06 47.6	+0.1
TLZ	Tolley Road	2.14	218	P	Pn	04 06 47.6	+0.1
WTAZ	Waiatarua	2.14	262	Pn	Pn	04 06 47.4	-0.1
WTAZ	Waiatarua	2.14	262	P	Pn	04 06 47.6	+0.1
MTHZ	Maungataniwha	2.21	188	P	Pn	04 06 50.7	+2.2
RAHZ	Arahi	2.26	183	P	Pn	04 06 51.6	+2.5
WCZ	Waipu Caves	2.43	286	Pn	Pn	04 06 50.8	-0.7
WCZ	Waipu Caves	2.43	286	P	Pn	04 06 51.0	-0.5
NMHZ	Naumai	2.46	188	Pn	Pn	04 06 54.7	+2.8
NMHZ	Naumai	2.46	188	P	Pn	04 06 54.7	+2.8
BKZ	Black Stump Fm	2.57	193	P*	Pn	04 06 55.2	+1.7
BKZ	Black Stump Fm	2.57	193	P	Pn	04 06 55.8	+2.3
ARHZ	Aropaoanui	2.61	184	P	Pb	04 06 58.3	-1.9
KATZ	Kakaramea	2.61	207	P	Pb	04 06 57.7	-2.5
HIZ	Hauiti	2.64	225	Pn	Pn	04 06 54.7	+0.4
HIZ	Hauiti	2.64	225	P	Pn	04 06 54.7	+0.4
OTVZ	Oturere	2.79	206	P*	Pb	04 07 01.3	-2.0
TWVZ	Taurewa	2.79	210	P	Pn	04 06 57.0	+0.4
NGZ	Ngauruhoe	2.82	206	P	Pb	04 07 03.5	-0.4
KWHZ	Kaweka Forest	2.83	193	P	Pn	04 07 00.0	+2.9
TUVZ	Tukino	2.89	205	P	Pb	04 07 03.6	-1.4
FWVZ	Far West T-bar	2.91	206	P	Pb	04 07 03.8	-1.6
WHVZ	Whangaehu Hut	2.92	206	P	Pb	04 07 06.1	+0.5
TRVZ	Turoa	2.95	206	P*	Pb	04 07 02.6	-3.5
TRVZ	Turoa	2.95	206	P	Pb	04 07 02.6	-3.5
WNVZ	Wahianoa	2.96	205	P*	Pb	04 07 03.4	-2.8
BHHZ	Black Hill Sta	2.97	198	P	Pn	04 07 02.4	+3.4
MOVZ	Moawhango	2.98	202	P	Pb	04 07 02.8	-3.7
PKVZ	Pokaka	3.02	209	P	Pb	04 07 03.9	-3.3
KRHZ	Kereru	3.06	192	P	Pn	04 07 03.0	+2.9
KAHZ	Kahuranaki	3.15	185	P	Pn	04 07 03.1	+1.8
OUZ	Omahuta	3.27	295	Pn	Pn	04 07 02.5	-0.5
OUZ	Omahuta	3.27	295	P	Pn	04 07 02.6	-0.4
PKE	Pukeiti	3.60	224	P	Pn	04 07 09.5	+1.9
PREZ	Palmer Road	3.61	221	P	Pn	04 07 10.5	+2.8
BFZ	Birch Farm	4.09	190	P	Pn	04 07 15.6	+1.3
HOWZ	Holdsworth Sta	4.44	197	P	Pn	04 07 20.4	+1.3
OGWZ	Otaki Gorge	4.45	200	P	Pn	04 07 22.4	+3.2
QRZ	Quartz Range	5.55	220	P	Pn	04 07 37.2	+2.9
QRZ	Quartz Range	5.55	220	P	Pn	04 07 37.3	+3.0
THZ	Tophouse	6.10	212	P	Pn	04 07 45.4	+3.4

WEL 01 04:07:10.2±2.0**,37°S**±11°×**17°7E**±°**,h33**km**,ML3.7**/3**,Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MWZ	Matawai	1.71	174	S	Sn	04 07 57.4	-1.1
MUGZ	Murupara	1.89	193	S	Sn	04 08 04.7	+1.7
MUGZ	Murupara	1.89	193	P	Pn	04 07 40.6	+0.3
CNGZ	Carnagh Statio	1.98	159	P	Pn	04 07 40.9	-0.6
HBAZ	Herne Bay Bore	2.08	263	S	Sn	04 08 06.5	-1.1
HBAZ	Herne Bay Bore	2.08	263	P	Pn	04 07 43.9	+1.1
RIGZ	Rimuhau	2.10	170	S	Sn	04 08 09.8	+1.6
AWAZ	Awhitu Peninsu	2.18	258	S	Sn	04 08 10.5	+0.4
RVAZ	Riverhead Bore	2.20	266	S	Sn	04 08 12.3	+1.8

*WEL **01** 04:24:40.5±0.8,37°S±5°×17°7E±°,h5km,ML4.1/17*
*NEIC **01** 04:24:40.5±0.0,36°.56S×177°.24E,h5km,ML4.7(WEL), After WEL.*

ISC 01 04:24:38.6±1.4**,36°.57S**±0°.06×**177°.23E**±0°.04**,h13**km±11km**, n57,σ0s61**/56**,Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WIZ	White Island	0.96	182	P*	Pn	04 24 57.7	0.0
WIZ				S*	Sn	04 25 10.4	-0.8
WIZ	White Island	0.96	182	S	Sn	04 25 10.9	-0.2
WIZ	White Island	0.96	182	P	Pn	04 24 57.8	0.0
KUZ	Kuaotunu	1.22	261	P*	Pg	04 25 01.9	-0.2
KUZ				S*	Sg	04 25 18.1	+0.1
KUZ	Kuaotunu	1.22	261	P	Pg	04 25 02.7	+0.6
KUZ	Kuaotunu	1.22	261	S	Sg	04 25 18.1	+0.1
HAZ	Te Kaha	1.27	160	P	Pn	04 25 02.1	+0.2
MXZ	Matakaoa Point	1.31	139	P*	Pb	04 25 03.3	+0.2
MXZ				S*	Sb	04 25 19.6	-0.3
MXZ	Matakaoa Point	1.31	139	P	Pg	04 25 03.7	-0.2
MXZ	Matakaoa Point	1.31	139	S	Sn	04 25 20.1	+0.1
OPRZ	Ohinepanea	1.38	203	P*	Pb	04 25 04.3	0.0
OPRZ	Ohinepanea	1.38	203	P	Pb	04 25 04.6	+0.3
TGRZ	Tauranga	1.39	213	P*	Pb	04 25 04.5	+0.1
TGRZ	Tauranga	1.39	213	P	Pb	04 25 04.5	+0.1
TGRZ	Tauranga	1.39	213	S	Sg	04 25 23.5	+0.1
RUGZ	Raukumara Rang	1.44	166	P	Pb	04 25 05.7	+0.4
RUGZ	Raukumara Rang	1.44	166	S	Sg	04 25 24.6	-0.4
GRZ	Great Barrier	1.46	282	P	Pg	04 25 07.0	+0.3
GRZ	Great Barrier	1.46	282	S	Sg	04 25 26.2	+0.5
WMGZ	Waiomatatini S	1.57	143	Pn	Pg	04 25 08.9	+0.2
WMGZ	Waiomatatini S	1.57	143	P	Pg	04 25 09.1	+0.4
OMRZ	Omania	1.68	204	P	Pb	04 25 09.8	+0.4
URZ	Urewera	1.69	183	P*	Pb	04 25 08.7	-0.8
URZ	Urewera	1.69	183	P	Pb	04 25 08.8	-0.8
WIAZ	Waiheke Island	1.70	262	P	Pg	04 25 11.1	-0.1
WIAZ	Waiheke Island	1.70	262	S	Sg	04 25 32.9	-0.3
PUZ	Puketiti	1.71	152	Pn	Pg	04 25 11.1	-0.3
PUZ	Puketiti	1.71	152	P	Pg	04 25 11.2	-0.2
TWGZ	Tauwhareparae	1.71	160	Pn	Pg	04 25 11.9	+0.5
TWGZ	Tauwhareparae	1.71	160	P	Pg	04 25 11.5	0.0
NGRZ	Ngongotaha	1.74	208	P	Pb	04 25 10.1	-0.3
MKAZ	Moumakai	1.74	252	Pn	Pb	04 25 10.7	+0.4
MKAZ	Moumakai	1.74	252	P	Pg	04 25 11.2	-0.8
TARZ	Mount Tarawera	1.76	199	P	Pb	04 25 10.8	+0.1
MWZ	Matawai	1.78	172	P*	Pn	04 25 09.9	+0.9
MWZ	Matawai	1.78	172	P	Pb	04 25 10.1	-1.0
TOZ	Tahuroa Road	1.80	229	P*	Pb	04 25 10.8	-0.5
TOZ	Tahuroa Road	1.80	229	P	Pb	04 25 10.9	-0.5
ETAZ	East Tamaki Re	1.89	258	Pn	Pg	04 25 14.2	-0.6
ETAZ	East Tamaki Re	1.89	258	P	Pb	04 25 13.0	+0.2
ABAZ	Army Bay	1.93	268	Pn	Pg	04 25 15.6	0.0
ABAZ				Sn	Sg	04 25 40.5	-0.1
RAGZ	Rawiri	1.93	176	P*	Pb	04 25 12.6	-1.1
RAGZ				S*	Sn	04 25 35.1	-0.2
RAGZ	Rawiri	1.93	176	P	Pb	04 25 12.7	-0.9
TKGZ	Te Karaka	1.93	165	Pn	Pb	04 25 13.9	+0.3
KBAZ	Karaka Road Bo	1.95	254	Pn	Pg	04 25 15.3	-0.6
RVAZ	Riverhead Bore	2.14	264	Pn	Pb	04 25 16.1	-1.0
WCZ	Waipu Caves	2.41	284	Pn	Pb	04 25 20.4	-1.4
BKZ	Black Stump Fm	2.66	192	P*	Pb	04 25 24.9	-1.2
HIZ	Hauiti	2.71	223	Pn	Pn	04 25 23.9	+2.2
OTVZ	Oturere	2.87	205	P*	Pb	04 25 29.5	-0.2
WNVZ	Wahianoa	3.04	205	P*	Pb	04 25 32.6	0.0
DZM	Mont Dzumac	17.22	324	eLR	LR	04 32 33.3	
	293nm,24.6s						
PPT2	Papeete2	34.84	66	eLR	LR	04 40 48.8	
	67nm,25.2s						
PPT2	Papeete2	34.84	66	eT	T	05 08 15.7	
	1.9nm,0.3s						
TVO	Taravao	34.96	67	eT	T	05 08 25.3	
	1.0nm,0.3s						
PMOR	Pomariorio Ree	37.74	65	eT	T	05 11 52.4	
	2.7nm,0.3s						
VAH	Vaihoa	37.78	65	eT	T	05 11 55.5	
	4.9nm,0.2s						

*NEIC **01** 04:30:56.8±0.0,36°.55S×177°.19E,h6km,ML4.1(WEL), After WEL.*

WEL 01 04:30:57.5±0.8**,37°S**±6°×**17°7E**±°**,h5**km**,ML3.7**/14**,Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WIZ	White Island	0.91	177	P	Pg	04 31 13.8	-1.2
WIZ	White Island	0.91	177	S	Sg	04 31 27.2	+0.4
KUZ	Kuaotunu	1.15	263	P*	Pg	04 31 18.4	-1.0
KUZ				S*	Sg	04 31 34.4	+0.1
KUZ	Kuaotunu	1.15	263	P	Pg	04 31 18.8	-0.7
KUZ	Kuaotunu	1.15	263	S	Sg	04 31 34.5	+0.2
HAZ	Te Kaha	1.25	156	P	Pg	04 31 18.4	-3.1
OPRZ	Ohinepanea	1.31	200	P	Pg	04 31 23.2	+0.5
TGRZ	Tauranga	1.32	212	P*	Pn	04 31 21.1	-1.4
TGRZ	Tauranga	1.32	212	P	Pn	04 31 20.9	-1.6
MXZ	Matakaoa Point	1.33	136	P*	Pn	04 31 19.7	-3.0
MXZ				S*	Sg	04 31 36.0	-4.3
MXZ	Matakaoa Point	1.33	136	P	Pn	04 31 19.7	-3.0
MXZ	Matakaoa Point	1.33	136	S	Sg	04 31 36.3	-4.0
GRZ	Great Barrier	1.40	284	P	Pn	04 31 22.9	-0.7
GRZ	Great Barrier	1.40	284	S	Sb	04 31 42.1	-0.2
RUGZ	Raukumara Rang	1.42	162	P	Pn	04 31 22.4	-1.6
PKGZ	Pakihiroa	1.48	150	P	Pn	04 31 23.7	-1.1
WMGZ	Waiomatatini S	1.58	140	Pn	Pn	04 31 25.3	-0.8
WMGZ	Waiomatatini S	1.58	140	P	Pn	04 31 25.3	-0.8
WMGZ	Waiomatatini S	1.58	140	S	Sg	04 31 48.0	-0.2
WIAZ	Waiheke Island	1.62	263	P	Pn	04 31 27.1	+0.4
URZ	Urewera	1.65	181	P*	Pn	04 31 25.0	-2.1
URZ	Urewera	1.65	181	P	Pn	04 31 26.2	-0.8
MKAZ	Moumakai	1.66	252	Pn	Pn	04 31 26.5	-0.7
MKAZ	Moumakai	1.66	252	P	Pn	04 31 26.7	-0.5
TWGZ	Tauwhareparae	1.70	157	Pn	Pn	04 31 27.6	-0.3
TWGZ	Tauwhareparae	1.70	157	P	Pn	04 31 28.1	+0.3
PUZ	Puketiti	1.71	149	P	Pb	04 31 28.9	-0.5
PUZ	Puketiti	1.71	149	S	Sg	04 31 51.8	-0.6
TOZ	Tahuroa Road	1.72	229	P	Pn	04 31 27.3	-0.7
MWZ	Matawai	1.75	170	P*	Pn	04 31 26.2	-2.2
MWZ	Matawai	1.75	170	P	Pn	04 31 26.3	-2.2
ETAZ	East Tamaki Re	1.81	258	Pn	Pb	04 31 30.7	-0.3
ETAZ	East Tamaki Re	1.81	258	P	Pb	04 31 30.9	-0.1
MUGZ	Murupara	1.88	189	P	Pn	04 31 31.1	+0.7
RAGZ	Rawiri	1.89	173	P*	Pn	04 31 28.9	-1.6
RAGZ	Rawiri	1.89	173	P	Pn	04 31 29.0	-1.5
RAGZ	Rawiri	1.89	173	P	Pn	04 31 29.1	-1.5
TKGZ	Te Karaka	1.91	163	P	Pn	04 31 31.6	+0.9
AWAZ	Awhitu Peninsu	2.05	257	P	Pb	04 31 34.8	-0.4
RVAZ	Riverhead Bore	2.06	265	P	Pn	04 31 33.8	+1.1
WTAZ	Waiatarua	2.08	260	P	Pb	04 31 34.8	-0.9
RIGZ	Rimuhau	2.15	167	P	Pb	04 31 35.5	-1.4
MTHZ	Maungataniwha	2.25	186	P	Pb	04 31 37.5	-1.1
RAHZ	Arahi	2.30	181	P	Pb	04 31 38.1	-1.3
WCZ	Waipu Caves	2.35	286	P	Pn	04 31 36.8	0.0
NMHZ	Naumai	2.50	186	Pn	Pb	04 31 40.9	-1.9
NMHZ	Naumai	2.50	186	P	Pb	04 31 41.1	-1.7
BKZ	Black Stump Fm	2.60	191	P*	Pn	04 31 41.3	+1.1
BKZ	Black Stump Fm	2.60	191	P	Pb	04 31 42.4	-2.2
KWHZ	Kaweka Forest	2.86	191	P	Pb	04 31 47.8	-1.3
FWVZ	Far West T-bar	2.92	205	P	Pb	04 31 49.0	-1.2
TRVZ	Turoa	2.96	205	P	Pb	04 31 50.6	-0.2
MOVZ	Moawhango	3.00	201	P	Pn	04 31 48.3	+2.6
KRHZ	Kereru	3.09	191	P	Pb	04 31 50.1	-2.8
BFZ	Birch Farm	4.12	189	P	Pn	04 32 02.8	+1.7
TIWZ	Tintock	4.27	193	P	Pn	04 32 04.1	+0.9

*IDC **01** 04:35:28.8±3.9,5°.95S×146°.78E,h24km±24km,mb3.8/7, mb1 4.1/9,mb1mx3.7/44,mbtmp4.0/9,ML4.1/1,MS3.3/3, Ms1 3.2/3,ms1mx2.7/38,Error ellipse: s-maj=34.6km s-min=17.3km az=85.0*
*ISCJB **01** 04:35:30.7±0.8,6°.04S±0°.07×146°.6E±0°.1,h52km,mb3.8/7, MS3.1/2,Error ellipse: s-maj=19.5km s-min=9.4km az=174.9*
*NEIC **01** 04:35:32.3±2.4,6°.03S×146°.65E,h54km±21km,mb4.0/1, Error ellipse: s-maj=23.6km s-min=18.4km az=120.0*

ISC 01 04:35:32.6±1.0**,6°.03S**±0°.09×**146°.7E**±0°.2**,h52**km**,n12, σ1s33**/13**,mb3.9**/6**,Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	3.39	172	Pn	Pn	04 36 22.9	-0.1
	9.1nm,0.3s,baz=329,slow=8.3,SNR=18						
PMG				Sn	Sn	04 37 02.1	+0.2
	18nm,0.3s,baz=64,slow=23,SNR=6.9						
PMG				Lg	Lg	04 37 18.6	
	29nm,0.3s,baz=328,slow=18,SNR=8.2						
PMG				LR	LR	04 38 10.7	
	comp=Z,395nm,18.5s,baz=360,slow=47						
COEN	Coen	8.59	203	ePn	Pn	04 37 34.0	-0.3
	21nm,0.4s						
WRAB	Tennant Creek	18.27	220	eP	P	04 39 40.7	-1.4
	14nm,1.2s						
WRA	Warramunga Arr	18.29	220	P	P	04 39 41.1	-1.2
	0.7nm,0.3s,baz=40,slow=11,SNR=32						
WRA				ScP	ScP	04 47 46.9	+2.8
	baz=41,slow=2.0,SNR=5.8						
ASAR	Alice Springs	21.40	214	P	P	04 40 15.5	-0.6
	2.0nm,0.6s,baz=50,slow=8.4,SNR=20						
ASAR				LR	LR	04 48 39.2	
	comp=Z,167nm,20.3s,baz=68,slow=37						
STKA	Stephens Creek	26.14	190	P	P	04 41 02.5	+0.5
	2.3nm,0.7s,baz=6.9,slow=10.0,SNR=3.1						
STKA				LR	LR	04 51 27.6	
	comp=Z,29nm,19.6s,baz=24,slow=36						
CMAR	Chiang Mai Arr	52.97	298	P	P	04 44 45.9	+1.6
	1.0nm,0.3s,baz=121,slow=5.8,SNR=3.3						
VNDA	Vanda	71.90	177	P	P	04 46 50.3	+0.5
	0.8nm,0.5s,baz=328,slow=7.6,SNR=9.0						
MKAR	Makanchi Array	77.31	321	P	P	04 47 20.8	-0.9
	0.5nm,0.7s,baz=110,slow=6.4,SNR=6.0						
ILAR	Eielson Array	85.65	23	P	P	04 48 04.2	-1.1
	0.6nm,0.6s,baz=253,slow=5.0,SNR=18						
YKA	Yellowknife Ar	99.36	28	P	Pdif	04 49 08.2	-0.8
	0.3nm,0.9s,baz=268,slow=4.2,SNR=4.2						
TORD	Torodi Ar. Bea	144.77	284	PKP	PKPbc	04 55 03.5	-0.3
	2.0nm,0.8s,baz=78,slow=2.9,SNR=21						

*ISK **01** 04:42:27.9,38°.92N×43°.60E,h5km,ML3.4/10*
*ATA **01** 04:42:28.9±1.1,38°.93N×43°.49E,h9km±17km,ML3.8, MW3.8*
*DDA **01** 04:42:28.8,38°.90N×43°.59E,h16km,Ml3.5*
*CSEM **01** 04:42:29.9±0.2,38°.95N×43°.58E,h5km,ML3.5,Error ellipse: s-maj=4.7km s-min=3.3km az=142.0*
*ISCJB **01** 04:42:29.9±0.4,38°.91N±0°.02×43°.58E±0°.03,h8km±3km, Error ellipse: s-maj=4.0km s-min=2.7km az=43.4*
*IASPEI **01** 04:42:29.6±0.8,38°.92N±0°.02×43°.56E±0°.02,h12km±5km, Error ellipse: s-maj=3.8km s-min=2.6km az=128.4,GT5 selection from ISC bulletin GT5 identified by Bondˆ¡r and McLaughlin (2009) selection criteria Bondˆ¡r and McLaughlin, A new ground truth data set for seismic studies, <i>Seism. Res. Let.</i>, 80, 465-472, 2009*

ISC 01 04:42:29.7±0.8**,38°.93N**±0°.02×**43°.58E**±0°.02**,h12**km±5km**, n97,σ1s31**/131**,4C-6D,Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VMUR	Van-Muradiye	0.06	355	i P	Pg	04 42 32.2	-0.2
VMUR				i S	Sg	04 42 35.0	+0.7
VMUR	Van-Muradiye	0.06	355	P	Pg	04 42 32.2	-0.2
ERCV	ERCIS-VAN	0.21	296	PG	Pg	04 42 33.3	-1.0
ERCV				SG	Sg	04 42 37.7	+0.2
ERCV	ERCIS-VAN	0.21	296	ePg	Pg	04 42 33.3	-1.0
ERCV				eSg	Sg	04 42 37.7	+0.2
CLDR	Caldiran	0.34	51	PG	Pg	04 42 35.7	-1.0
CLDR				SG	Sb	04 42 41.8	-1.6
CLDR	Caldiran	0.34	51	i P	Pg	04 42 35.6	-1.0
CLDR				i S	Sb	04 42 41.9	-1.5
CLDR	Caldiran	0.34	51	ePg	Pg	04 42 35.7	-1.0
CLDR				S	Sb	04 42 41.9	-1.5
VANB	Van	0.36	204	PG	Pb	04 42 37.8	-0.4
VANB				SG	Sb	04 42 44.8	+0.9
VANB	Van	0.36	204	ePg	Pb	04 42 37.8	-0.4
VANB				eSg	Sb	04 42 44.8	+0.9
TVAN	Van	0.42	199	i P	Pg	04 42 37.5	-0.6
TVAN				i S	Sb	04 42 44.9	-0.8
TVAN	Van	0.42	199	P	Pg	04 42 37.5	-0.6

TVAN				S	Sb	04 42 44.9	-0.8
DYDN	Diyadin	0.62	8	*i* P	Pg	04 42 41.3	-0.6
DYDN				*i* Pg	Pb	04 42 42.5	-0.3
DYDN				*e*S	Sb	04 42 52.0	+0.4
DYDN				IAML		04 42 53.0	
	comp=Z,233nm,0.5s						
DYDN	Diyadin	0.62	8	*i* P	Pb	04 42 41.7	-1.0
DYDN				*i* S	Sn	04 42 52.7	-2.0
DYDN	Diyadin	0.62	8	P	Pb	04 42 41.7	-1.0
ADCV	BITLIS_Adilcev	0.68	260	*i* P	Pg	04 42 42.0	-0.9
ADCV				*i* S	Sb	04 42 52.2	-0.9
ADCV	BITLIS_Adilcev	0.68	260	P	Pg	04 42 42.0	-0.9
ADCV				S	Sb	04 42 52.2	-0.9
GEVA	Gevas	0.74	214	*i* P	Pg	04 42 42.7	-1.3
GEVA				IAML		04 42 58.7	
	comp=Z,292nm,0.6s						
GEVA	Gevas	0.74	214	*i* P	Pg	04 42 42.6	-1.4
GEVA				*i* S	Sb	04 42 54.6	-0.2
TUTA	Tutak	0.76	309	*i* P	Pg	04 42 43.4	-1.1
TUTA				*e*S	Sg	04 42 54.2	-0.3
TUTA				IAML		04 43 00.6	
	comp=Z,591nm,0.2s						
TUTA	Tutak	0.76	309	*i* P	Pg	04 42 43.2	-1.3
TUTA				*i* S	Sb	04 42 56.2	+0.7
TUTA	Tutak	0.76	309	P	Pg	04 42 43.2	-1.3
TUTA				S	Sb	04 42 56.2	+0.7
IGDI	IGDIR	1.02	22	⇓*i*P	Pb	04 42 48.9	-0.5
IGDI				*e*S	Sn	04 43 04.3	0.0
IGDI	IGDIR	1.02	22	*i* P	Pn	04 42 49.2	-0.8
IGDI				*i* S	Sn	04 43 07.2	+3.0
TASB	TASBURUN-IGDIR	1.17	26	PN	Pn	04 42 51.7	-0.4
TASB	TASBURUN-IGDIR	1.17	26	*e*Pn	Pn	04 42 51.7	-0.4
EKAR	Karacoban	1.22	286	*e*P	Pb	04 42 51.6	-1.4
EKAR				*i* P	Pn	04 42 51.9	-1.0
EKAR				*e*S	Sb	04 43 08.4	-0.4
EKAR				IAML		04 43 18.7	
	comp=Z,207nm,0.6s						
EKAR	Karacoban	1.22	286	*i* P	Pb	04 42 51.7	-1.3
EKAR	Karacoban	1.22	286	P	Pb	04 42 51.7	-1.3
EATA	Eleskirt	1.26	318	*i* P	Pg	04 42 53.2	-0.8
EATA				*e*S	Sn	04 43 10.2	-0.4
EATA				IAML		04 43 13.1	
	comp=Z,45nm,0.4s						
EATA	Eleskirt	1.26	318	*i* P	Pg	04 42 53.2	-0.8
EATA				*i* S	Sn	04 43 12.3	+1.7
EATA	Eleskirt	1.26	318	P	Pg	04 42 53.2	-0.8
EATA				S	Sn	04 43 12.3	+1.7
HYR	Heyderabad	1.27	51	P	Pg	04 42 53.8	-0.3
	SNR=20						
HYR				⇓S	Sn	04 43 12.6	+2.2
GURO	Guroymak-BITLI	1.27	253	PN	Pn	04 42 51.7	-1.7
GURO	Guroymak-BITLI	1.27	253	*e*Pn	Pn	04 42 51.7	-1.7
HAKT	HAKKARI	1.37	176	*i* P	Pn	04 42 53.8	-1.2
YOVA	Hakkari_Yˆ…kse	1.45	157	*i* P	Pn	04 42 55.8	-0.3
YOVA	Hakkari_Yˆ…kse	1.45	157	P	Pn	04 42 55.8	-0.3
DIGO	Kars	1.49	354	*i* P	Pb	04 42 56.7	-0.9
DIGO				*i* Pg	Pg	04 42 57.7	-0.7
DIGO				IAML		04 43 29.0	
	comp=Z,28nm,0.5s						
DIGO	Kars	1.49	354	*i* P	Pg	04 42 57.7	-0.7
DIGO	Kars	1.49	354	P	Pg	04 42 57.7	-0.7
NAX	Nakhchivan	1.51	80	P	Pg	04 42 58.5	-0.3
	SNR=7.8						
NAX				⇓S	Sg	04 43 22.3	+3.9
SRTM	Siirt_Merkez	1.60	235	*i* P	Pb	04 42 58.6	-0.7
SRTM	Siirt_Merkez	1.60	235	P	Pb	04 42 58.6	-0.7
SBZ	Shahbuz	1.60	72	P	Pg	04 42 59.4	-1.2
	SNR=52						
SBZ				⇓S	Sg	04 43 25.1	+3.7
VRTB	Varto-Mus	1.67	279	PN	Pb	04 42 59.6	-0.9
VRTB	Varto-Mus	1.67	279	*i* P	Pb	04 42 59.9	-0.6
VRTB	Varto-Mus	1.67	279	*e*Pn	Pb	04 42 59.6	-0.9
VRTB	Varto-Mus	1.67	279	P	Pb	04 42 59.9	-0.6
SIRT	Sirnak	1.68	213	PN	Pb	04 42 59.8	-0.9
SIRT	Sirnak	1.68	213	*e*Pn	Pb	04 42 59.8	-0.9
HOMI	Horasan	1.71	311	*i* P	Pg	04 43 01.3	-1.3
HOMI				*e*S	Sg	04 43 26.1	+1.3
HOMI				IAML		04 43 51.4	
	comp=Z,36nm,0.6s						
HOMI	Horasan	1.71	311	*i* P	Pb	04 43 00.5	-0.8
KARS	Kars	1.74	347	PN	Pb	04 43 00.6	-1.2
KARS	Kars	1.74	347	*e*Pn	Pb	04 43 00.6	-1.2
EAK	Akyaka	1.76	1	*i* P	Pg	04 43 03.1	-0.4
EAK				IAML		04 43 42.4	
	comp=Z,42nm,0.8s						
EAK	Akyaka	1.76	1	*i* P	Pg	04 43 02.9	-0.5
EAK	Akyaka	1.76	1	P	Pg	04 43 02.9	-0.5
ORD	Ordubad	1.88	89	P	Pg	04 43 04.3	-1.6
	SNR=29						
SENK	Senkaya-Erzuru	1.89	330	PN	Pb	04 43 03.0	-1.3
SENK	Senkaya-Erzuru	1.89	330	*e*Pn	Pb	04 43 03.0	-1.3
ERZM	Erzurum	1.97	300	*e*P	Pb	04 43 04.2	-1.6
ERZM	Erzurum	1.97	300	*i* P	Pb	04 43 05.2	-0.6
ERZM	Erzurum	1.97	300	P	Pb	04 43 05.2	-0.6
SVAN	Silvan-Diyarba	2.02	248	PN	Pb	04 43 04.7	-1.8
SVAN	Silvan-Diyarba	2.02	248	*i* P	Pb	04 43 05.5	-1.0
SVAN	Silvan-Diyarba	2.02	248	*e*Pn	Pb	04 43 04.7	-1.8
SVAN	Silvan-Diyarba	2.02	248	P	Pb	04 43 05.5	-1.0
BTMN	Batman	2.09	241	*i* P	Pb	04 43 06.8	-0.8
BTMN	Batman	2.09	241	P	Pb	04 43 06.8	-0.8
ECAT	Cat-ERZURUM	2.13	289	*i* P	Pb	04 43 08.1	-0.4
ECAT	Cat-ERZURUM	2.13	289	*i* P	Pb	04 43 08.3	-0.2
ECAT	Cat-ERZURUM	2.13	289	P	Pb	04 43 08.3	-0.2
BNGB	Bingˆ¶l	2.26	273	PN	Pn	04 43 08.3	+1.2
GDB	GEDABAY	2.45	42	⇑P	Pn	04 43 09.3	-0.5
GDB				⇑S	Sb	04 43 41.8	-2.4
AKH	Akhalkalaki	2.48	359	PN	Pn	04 43 11.3	+1.1
AKH	Akhalkalaki	2.48	359	*e*Pn	Pn	04 43 11.3	+1.1
QZX	Qazax, Azerbai	2.54	32	⇓P	Pn	04 43 09.3	-1.5
QZX				⇑S	Sn	04 43 41.9	+0.2
KOPT	Kop Dagi	2.62	296	*e*P	Pb	04 43 16.3	-0.6
EPOS	Posof	2.66	346	*e*P	Pb	04 43 17.6	+0.3
GANJ	Ganja	2.72	50	⇓P	Pn	04 43 13.4	0.0
GANJ				⇑S	Sb	04 43 49.2	-2.6
DIY	Diyarbakir	2.83	250	*e*Pn	Pn	04 43 16.9	+2.0
DYBB	Diyarbakir	2.87	251	PN	Pn	04 43 16.9	+1.5
MAZI	Mazidag	2.87	240	PN	Pn	04 43 16.8	+1.3
MAZI	Mazidag	2.87	240	*e*Pn	Pn	04 43 16.8	+1.3
DGRG	David-gareji	2.87	28	*e*P	Pn	04 43 17.1	+1.7
BAYB	BAYBURT	2.89	298	*e*P	Pb	04 43 22.2	+0.8
BAYT	Aydˇ–ntepe-Bay	3.03	300	PN	Pn	04 43 19.2	+1.5
BAYT	Aydˇ–ntepe-Bay	3.03	300	*e*Pn	Pn	04 43 19.2	+1.5
TNCL	Tunceli-Merkez	3.15	275	*e*P	Pb	04 43 22.4	-3.4
PTK	Pertek	3.27	271	PN	Pn	04 43 22.7	+1.7
PTK	Pertek	3.27	271	*e*Pn	Pn	04 43 22.7	+1.7
KELT	Kelkit	3.56	291	*e*P	Pn	04 43 27.4	+2.4
KEMA	Kemaliye	3.97	277	*e*P	Pb	04 43 38.0	-1.7
URFA	Urfa	4.03	250	PN	Pn	04 43 33.4	+2.0
URFA	Urfa	4.03	250	*e*Pn	Pn	04 43 33.4	+2.0
MALT	Malatya	4.08	263	PN	Pn	04 43 34.2	+2.1
MALT	Malatya	4.08	263	*e*Pn	Pn	04 43 34.2	+2.1

*NIED **01** 04:47:00, 36°.30N×140°.50E, h65^{km}, Mw3.8 Best double couple: $M_0$5.86000×10^{14} NP1:ϕ_s248.00000°, δ64.00000°, λ-152.00000°. NP2:ϕ_s145.00000°, δ65.00000°, λ-29.00000°.*

*IDC **01** 04:47:50.3±1.9, 36°.46N×141°.02E, h0^{km}, mb3.8/6, mb1 3.8/8, mb1mx3.5/68, mbtmp3.8/8, ML3.4/2, MS2.4/1, Ms1 2.4/1, ms1mx2.1/66, Error ellipse: s-maj=51.3km s-min=22.6km az=71.0*

*NEIC **01** 04:47:55.8±1.5, 36°.35N×140°.86E, h35^{km}±11^{km}, mb4.2/2, Error ellipse: s-maj=17.9km s-min=11.5km az=140.0*

*ISCJB **01** 04:47:57.6±0.6, 36°.27N±0°.05×140°.59E±0°.07, h61^{km}±4^{km}, mb3.9/9, Error ellipse: s-maj=9.7km s-min=7.3km az=19.8*

*JMA **01** 04:47:59.2±0.1, 36°.25N×140°.49E, h52^{km}±1^{km}, M3.4 Broadband fault plane solution: P waves. NP1: ϕ_s27.00000°, δ75.00000°, λ77.00000°. NP2:ϕ_s248.00000°, δ19.00000°, λ129.00000°. Principal axes: T Plg58.0000°, Azm280.0000°; N Plg12.0000°, Azm30.0000°; P Plg29.0000°, Azm127.0000°;*

JMA Felt I J1.

ISC 01 04:47:58.5±0.9**, 36°.31N**±0°.06×**140°.58E**±0°.06**, h55**^{km}±7^{km}**, n23,** $\sigma 1^{s}$**27**/27**, mb4.0**/9**, 4D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JHO	Hitachi	0.30	358	⇓P	Pn	04 48 09.0	+0.9
JHO				S	Sn	04 48 15.8	+0.8
JYT	Yasato	0.33	255	⇓P	Pn	04 48 08.2	-0.1
JYT				S	Sn	04 48 14.5	-0.8
JAG	Ashikaga	0.92	277	⇓P	Pn	04 48 15.0	-0.2
JAG				S	Sn	04 48 26.6	-1.0
JFK	Kawauchi	1.08	13	P	Pn	04 48 18.3	+0.9
JFK				S	Sn	04 48 33.0	+1.6
JKT	Katashina	1.17	293	⇓P	Pn	04 48 19.0	+0.4
JKT				S	Sn	04 48 33.4	-0.2
MJAR	Matsushiro Arr	1.93	277	Pn	Pn	04 48 28.4	-0.5
	12nm,0.3s,baz=118,slow=7.6,SNR=155						
MJAR				LR	LR	04 49 24.5	
	comp=Z,95nm,21.5s,baz=85,slow=42						
MAJO	Matsushiro	1.93	278	*e*Pn	Pn	04 48 29.5	+0.6
MAT	Matsushiro	1.93	278	P	Pn	04 48 29.6	+0.7
MAT				*e*S	Sn	04 48 54.9	+2.9
JHJ	Hachijo jima 2	3.25	192	Pn	Pn	04 48 47.1	+0.1
	7.0nm,0.3s,baz=147,slow=22,SNR=3.9						
JHJ				Sn	Sn	04 49 24.8	+0.3
	27nm,0.3s,baz=54,slow=23,SNR=5.6						
ASAJ	Asahikawa	7.95	11	*e*Pn	Pn	04 49 48.1	-3.1
SONM	Songino Array	27.64	305	P	P	04 53 40.7	-0.2
	0.7nm,0.7s,baz=114,slow=10,SNR=4.0						
H11S1	WAKE ISLAND Hy	29.05	121	T	T	05 24 44.0	
	baz=314,slow=75,SNR=13						
H11S3	WAKE ISLAND Hy	29.05	121	T	T	05 24 41.8	
	baz=314,slow=75,SNR=6.8						
H11S2	WAKE ISLAND Hy	29.07	121	T	T	05 24 45.7	
	baz=314,slow=75,SNR=7.2						
ZALV	Zalesovo Beam	41.91	313	P	P	04 55 43.8	+0.5
	2.2nm,0.8s,baz=94,slow=4.5,SNR=6.5						
MKAR	Makanchi Array	43.94	303	P	P	04 56 00.6	+0.7
	1.0nm,0.8s,baz=97,slow=9.2,SNR=7.6						
KURK	Kurchatov	45.85	309	P	P	04 56 16.4	+1.5
KURBB	Kurchatov Arra	45.92	308	P	P	04 56 16.4	+0.9
	1.7nm,0.7s,baz=84,slow=8.3,SNR=15						
TRF	Thorofare Moun	49.00	34	*e*P	P	04 56 36.9	-2.5
	2.7nm,1.0s						
BRVK	Borovoye	50.62	313	*e*P	P	04 56 52.5	+0.9
	4.5nm,0.6s						
WRA	Warramunga Arr	56.26	187	P	P	04 57 33.4	+0.1
	0.2nm,0.6s,baz=5.8,slow=7.4,SNR=4.8						
ABKAR	Akbulak array	57.89	310	*e*P	P	04 57 44.8	+0.2
	0.9nm,0.5s						
AKASG	Malin Array Be	74.45	322	P	P	04 59 30.9	+0.3
	0.5nm,0.5s,baz=42,slow=6.1,SNR=4.4						

*ISCJB **01** 04:50:26.1±0.5, 37°.08N±0°.03×72°.05E±0°.07, h142^{km}, mb3.2/1, Error ellipse: s-maj=8.7km s-min=3.5km az=164.4*

*IDC **01** 04:50:30.4±7.0, 37°.50N×71°.82E, h150^{km}±50^{km}, mb2.9/1, mb1 3.1/5, mb1mx2.8/67, mbtmp3.7/5, Error ellipse: s-maj=99.5km s-min=24.2km az=146.0*

*NNC **01** 04:50:32.2±2.1, 37°.59N×71°.70E, h137^{km}±36^{km}, mb3.3, mpv4.2, Error ellipse: s-maj=20.8km s-min=15.2km az=139.0*

ISC 01 04:50:26.0±0.7**, 37°.12N**±0°.05×**72°.15E**±0°.07**, h142**^{km}**, n38,** $\sigma 2^{s}$**08**/50**, 9C-3D, Tajikistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SFK	Sufi-Kurgan	3.08	20	⇑P	Pn	04 51 16.8	+2.5
	26nm,0.3s						
SFK				⇑S	Sn	04 51 51.6	+0.1
	53nm,0.2s						
AML	Almayashu	5.14	13	P	Pn	04 51 42.9	+1.4
	SNR=120						
MNAS	Manas	5.37	3	⇓P	Pn	04 51 45.6	+1.4
	53nm,0.4s						
MNAS				⇑S	Sn	04 52 41.7	-3.6
	35nm,0.5s						
UCH	Uchtor	5.42	19	P	Pn	04 51 46.9	+1.8
	SNR=72						
KZA	Kyzart	5.50	25	P	Pn	04 51 47.6	+1.3
	SNR=9.4						
EKS2	Erkin-Say	5.67	12	P	Pn	04 51 50.2	+1.9
	SNR=16						
AAK	Ala-Archa	5.80	17	P	Pn	04 51 52.1	+2.1
	9.3nm,0.3s,baz=170,slow=4.2,SNR=112						
AAK				S	Sn	04 52 53.6	-2.0
	3.6nm,0.3s,baz=315,slow=24,SNR=10						
AAK	Ala-Archa	5.80	17	⇑P	Pn	04 51 51.8	+1.8
	23nm,0.6s						
AAK				⇑S	Sn	04 52 54.1	-1.5
	13nm,0.5s						
AAK	Ala-Archa	5.80	17	P	Pn	04 51 52.0	+2.0
	SNR=58						
KBK	Karagaybulak	5.93	20	P	Pn	04 51 55.1	+3.3
	SNR=8.2						
DHRM	DHARAMSHALA	5.94	144	*e*P	Pn	04 51 50.2	-1.8
DHRM				*e*S	Sn	04 53 00.7	+1.4
DHRM				*e*S	Sn	04 53 00.7	+1.4
DHRM				IAML		04 53 04.7	
	comp=N,252nm,0.2s						
DHRM				IAML		04 53 05.1	
	comp=E,279nm,0.3s						
ULHL	Ulahol	6.01	30	P	Pn	04 51 55.1	+2.2
	SNR=7.7						
KK31	Karatay Array	6.11	349	⇑P	Pn	04 51 55.1	+1.1
	comp=E,9.2nm,0.3s,baz=165,slow=11,SNR=306						
KK31				⇓S	Sn	04 52 57.8	-4.9
	comp=E,6.9nm,0.2s,baz=164,slow=22,SNR=12						
CHMS	Chumysh	6.20	18	P	Pn	04 51 57.1	+1.9
	SNR=14						
TKM2	Tokmak 2	6.37	23	⇑P	Pn	04 51 59.9	+2.2
	comp=E,1.6nm,0.4s						
TKM2				⇑S	Sn	04 53 08.3	-1.0
	comp=E,1.3nm,0.3s						
TKM2	Tokmak 2	6.37	23	P	Pn	04 51 59.9	+2.2
	SNR=6.5						
USP	Ospenovka	6.40	16	P	Pn	04 51 59.1	+1.2
	SNR=13						
SMLA	Simla	7.28	144	*e*P	Pn	04 52 09.8	+0.1
SMLA				*e*S	Sn	04 53 31.6	+0.4
SMLA				IAML		04 53 35.8	
	comp=N,118nm,0.1s						
SMLA				IAML		04 53 36.1	
	comp=E,131nm,0.1s						
JOSI	Joshimath	8.99	135	*e*S	Sn	04 54 10.9	-1.8
JOSI				IAML		04 54 14.9	
	comp=N,78nm,0.3s						
JOSI				IAML		04 54 14.9	
	comp=N,78nm,0.3s						
JOSI				IAML		04 54 15.8	
	comp=E,141nm,0.6s						
JOSI				IAML		04 54 15.8	
	comp=E,141nm,0.6s						
BHGR	Bahadurgarh	9.32	153	*e*P	Pn	04 52 34.6	-2.4
KHET	Khetri	9.53	160	*e*P	Pn	04 52 38.5	-1.4
KHET				*e*S	Sn	04 54 24.5	-1.0
KHET				IAML		04 54 25.8	
	comp=E,12nm,0.4s						
KHET				IAML		04 54 26.1	
	comp=N,12nm,0.3s						
JASL	Jaisalmer	10.22	186	*e*P	Pn	04 52 48.9	-0.2
GEYT	Alibeck	11.17	278	P	Pn	04 53 01.8	+0.2
	comp=N,1.4nm,0.3s,baz=95,slow=10,SNR=7.0						
MKAR	Makanchi Array	12.25	35	P	Pn	04 53 16.9	+1.2
	comp=N,0.1nm,0.3s,baz=213,slow=12,SNR=3.1						
PYUN	Piuthan	12.82	131	*e*P	Pn	04 53 25.0	+1.7
	comp=N,18nm,0.4s						
PYUN				*e*S	Sn	04 55 40.7	-4.3
KOLN	Koldanda	13.42	131	*e*P	Pn	04 53 33.0	+1.9
	comp=N,6.2nm,0.2s						
KOLN				*e*S	Sn	04 55 54.5	-5.1
GKN	Gorkha	13.90	127	*e*P	Pn	04 53 39.0	+1.8
	comp=N,15nm,0.3s						
KKN	Kakani	14.46	126	*e*P	P	04 53 46.4	-0.6
DMN	Daman	14.47	127	*e*P	P	04 53 46.5	-0.7
	comp=N,10nm,0.4s						
PKIN	Phulchoki	14.68	127	*e*P	P	04 53 50.2	+0.7
PKI	Pulchoki	14.69	127	*e*P	P	04 53 50.2	+0.5
GUN	Gumba	14.77	124	*e*P	P	04 53 50.3	-0.3
AB31	Akbulak array	15.02	328	⇓P	P	04 53 52.7	-0.1
	comp=N,0.7nm,0.4s,baz=134,slow=14,SNR=38						
AB31				⇑S	Sn	04 56 26.3	-11
	comp=N,4.6nm,0.6s,baz=154,slow=22,SNR=17						
JIRN	Jiri	15.14	125	*e*P	P	04 53 55.6	+0.9
RAMN	Ramite	15.89	126	*e*P	P	04 54 04.5	+1.6
	comp=N,10nm,0.4s						
ODAN	Odare	16.47	124	*e*P	P	04 54 12.8	+3.6
	comp=N,7.8nm,0.3s						
ZALV	Zalesovo Beam	18.98	24	P	Pn	04 54 38.2	-0.2
	comp=N,0.3nm,0.3s,baz=212,slow=11,SNR=5.1						
TORD	Torodi Ar. Bea	66.65	269	P	P	05 01 03.5	+1.8
	comp=N,0.3nm,0.8s,baz=54,slow=5.2,SNR=6.3						

*UCR **01** 05:11:00.2±0.8, 13°.08N×89°.60W, h31^{km}±4^{km}, ML3.9, mb4.5(NEIC)*

*ISCJB **01** 05:11:01.3±1.0, 13°.31N±0°.10×89°.60W±0°.08, h69^{km}±8^{km}, Error ellipse: s-maj=17.8km s-min=9.5km az=31.1*

*NEIC **01** 05:11:02.0±1.0, 13°.43N×89°.69W, h50^{km}±18^{km}, mb4.5/4, MD3.9(SNET), Error ellipse: s-maj=15.7km s-min=10.2km az=209.0*

NEIC Felt [II] at San Salvador.

ISC 01 05:11:02.1±1.3**, 13°.3N**±0°.1×**89°.61W**±0°.08**, h51**^{km}±18^{km}**, n33,** $\sigma 1^{s}$**14**/39**, 3C-9D, El Salvador**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
COLS	Colinas	0.52	36	*e*P	Pn	05 11 13.2	-0.6
SNET	Serv Nac Est T	0.57	40	*e*Pn	Pn	05 11 13.8	-0.6
SNET				*e*Sn	Sn	05 11 24.1	+0.8
SNET	Serv Nac Est T	0.57	40	⇓*e*P	Pn	05 11 13.8	-0.6
SNET				IAML		05 11 26.9	
	comp=Z,5μm,0.4s						
BOQS	Boqueron	0.58	34	⇑*e*P	Pn	05 11 14.4	-0.3
BOQS				*e*S	Sn	05 11 25.3	+1.6
SBLS	San Blas	0.59	359	⇓*i*P	Pn	05 11 14.8	+0.1
UEES	San Salvador	0.60	37	⇓*e*P	Pn	05 11 14.3	-0.5
UEES				*e*S	Sn	05 11 25.1	+1.3
UEES				IAML		05 11 26.3	
	comp=Z,5μm,0.2s						
UTEC	San Salvador	0.60	41	*e*P	Pn	05 11 14.2	-0.5
UTEC				IAML		05 11 25.9	
	comp=Z,4μm,0.3s						
UESS	San Salvador	0.61	41	⇑*e*P	Pn	05 11 14.7	-0.1
UESS				IAML		05 11 28.8	
	comp=Z,6μm,0.1s						
OPAM	San Salvador	0.61	40	⇓*e*P	Pn	05 11 14.5	-0.4
OPAM				IAML		05 11 28.7	
	comp=Z,7μm,0.1s						
SNJE	San Jose	0.62	1	⇓*i*P	Pn	05 11 15.1	0.0
UDBS	Soyapango	0.65	43	*e*P	Pn	05 11 14.9	-0.4
UDBS				IAML		05 11 30.5	
	comp=Z,5μm,0.2s						
LFRS	El Faro	0.65	55	⇓*i*P	Pn	05 11 14.6	-0.8
LFU	La Fuente	0.69	44	⇓*i*P	Pn	05 11 15.8	-0.1
LBRS	Las Brisas	0.74	48	⇓*i*P	Pn	05 11 16.3	-0.1
LBRS				*e*S	Sn	05 11 27.9	+1.0
UESV	Ojushtada	0.81	80	⇑*e*P	Pn	05 11 17.4	+0.1
UESV				*e*S	Sn	05 11 30.8	+2.2
UESV				IAML		05 11 32.8	
	comp=Z,3μm,0.2s						
SNVI	San Vicente	0.83	64	*e*P	Pn	05 11 16.8	-1.0
TECA	Tecapa	1.11	77	*e*P	Pn	05 11 19.7	-1.7
LLGN	La Laguna	1.12	35	*e*P	Pn	05 11 22.3	+0.7
LLGN				IAML		05 11 42.0	
	comp=Z,849nm,0.6s						
MTO3	Montecristo	1.17	12	⇓*e*P	Pn	05 11 23.2	+0.9
PACA	Pacayal	1.27	80	*e*P	Pn	05 11 22.7	-0.9
LCY	Lacayo	1.29	82	*e*P	Pn	05 11 22.7	-1.2
VSM	San Miguel	1.31	82	*e*P	Pn	05 11 23.2	-1.1
CAHU	Cacacuatique	1.46	69	*e*P	Pn	05 11 25.8	-0.5
LCND	La Caˆ–ada	1.68	88	*e*P	Pn	05 11 27.1	-1.9
LCND				*e*S	Sn	05 11 48.7	-0.7
LCND				IAML		05 11 53.6	
	comp=Z,2μm,0.3s						
CNCH	Conchagua	1.73	89	*e*P	Pn	05 11 28.2	-1.7
TGUH	Tegucigalpa,Un	2.41	70	*e*Pn	Pn	05 11 38.3	-0.8
HDC	Heredia	6.28	120	*e*Pn	Pn	05 12 34.6	+2.3
UNM	Universidad Na	10.99	305	*e*Pn	Pn	05 13 34.6	-2.4
CBCY	The Bluff, Cay	11.44	54	*e*Pn	Pn	05 13 42.2	-0.6
GTBY	Guantanamo Bay	15.40	63	*e*Pn	Pn	05 14 36.3	+0.1
	comp=Z,103nm,1.7s						
HELC	Santa Helena	15.54	115	*e*Pn	Pn	05 14 38.7	+0.4
	comp=Z,38nm,2.0s						
OTAV	Otavalo	17.01	139	*e*Pn	P	05 14 59.4	+1.1
	comp=Z,11nm,1.8s						
PRAC	Prado	17.36	122	*e*Pn	P	05 15 03.3	+1.7
	comp=Z,46nm,0.3s						

*IDC **01** 05:16:30.3±2.2, 2°.00N×96°.57E, h0^{km}, mb3.9/7, mb1 4.0/8, mb1mx3.6/67, mbtmp3.9/8, MS3.5/1, Ms1 3.5/1, ms1mx2.5/58, Error ellipse: s-maj=65.7km s-min=26.1km az=53.0*

ISC 01 05:16:35.2±2.4**, 2°.1N**±0°.3×**96°.7E**±0°.4**, h28**^{km}**, n15,** $\sigma 0^{s}$**41**/8**, mb3.9**/7**, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	16.38	8	Pn	P	05 20 25.4	-0.5
	baz=197,slow=11,SNR=12						
H08S2	Diego Garcia H	26.04	248	T	T	05 48 59.2	
	baz=69,slow=75,SNR=115						
H08S3	Diego Garcia H	26.04	248	T	T	05 48 59.2	
	baz=69,slow=75,SNR=84						
H08S1	Diego Carcia H	26.06	248	T	T	05 49 04.4	
	baz=69,slow=75,SNR=96						
H01W3	Cape Leeuwin H	40.28	158	T	T	06 07 03.5	
	baz=334,slow=76,SNR=6.3						
H01W2	Cape Leeuwin H	40.29	158	T	T	06 07 01.3	
	baz=334,slow=76,SNR=4.7						
H01W1	Cape Leeuwin H	40.30	158	T	T	06 06 59.3	
	baz=334,slow=76,SNR=5.6						
WRA	Warramunga Arr	42.94	123	P	P	05 24 31.9	-0.1
	0.5nm,0.9s,baz=301,slow=9.2,SNR=5.9						
KSRS	Korea Array	45.37	35	P	P	05 24 51.3	+0.1
	0.9nm,0.4s,baz=228,slow=7.8,SNR=3.2						
MKAR	Makanchi Array	46.23	346	P	P	05 24 58.1	+0.2
	2.0nm,0.7s,baz=162,slow=7.7,SNR=28						
SONM	Songino Array	46.30	9	P	P	05 24 59.0	+0.4
	0.8nm,0.5s,baz=187,slow=11,SNR=3.7						
TLY	Talaya	49.72	6	LR	LR	05 50 10.3	
	comp=Z,44nm,19.4s,baz=300,slow=40						
KURBB	Kurchatov Arra	50.72	345	P	P	05 25 32.5	+0.1
	0.7nm,0.6s,baz=163,slow=6.6,SNR=9.6						
ZALV	Zalesovo Beam	52.58	351	P	P	05 25 46.3	+0.1
	3.4nm,0.6s,baz=174,slow=7.1,SNR=17						
BVAR	Borovoye Array	55.22	341	P	P	05 26 05.0	-0.6
	0.5nm,0.5s,baz=154,slow=7.9,SNR=4.9						

NNC 01 05:22:56.2±5.0**, 37°.50N**×**71°.19E, h0**^{km}**, mb3.5, mpv3.1, 7C-3D, Error ellipse: s-maj=39.1km s-min=33.5km az=150.0, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SFK	Sufi-Kurgan	3.10	35	⇑Pn	Pn	05 23 47.1	+0.5
	3.7nm,0.3s						
SFK				⇑Sn	Sn	05 24 27.2	+2.8
	25nm,0.5s						
MNAS	Manas	5.08	11	⇑Pn	Pn	05 24 14.9	+1.0
	1.9nm,0.4s						
MNAS				⇑Sn	Sn	05 25 13.7	+0.3
	9.5nm,0.9s						
KK31	Karatay Array	5.62	355	⇓Pn	Pn	05 24 23.2	+2.1
	0.4nm,0.3s,baz=158,slow=11,SNR=9.3						
KK31				⇑Sn	Sn	05 25 28.1	+1.7
	2.5nm,0.4s,baz=168,slow=19,SNR=18						
AAK	Ala-Archa	5.72	25	⇑Pn	Pn	05 24 21.0	-1.7
	1.2nm,0.5s						
AAK				⇓Sn	Sn	05 25 27.6	-1.5
	3.9nm,0.6s						
TKM2	Tokmak 2	6.38	31	⇑Pn	Pn	05 24 27.8	-3.9
	0.5nm,0.5s						
TKM2				⇓Sn	Sn	05 25 45.2	-0.1
	0.7nm,0.7s						

*ISCJB **01** 05:31:20.2±0.6, 32°.97N±0°.04×115°.55W±0°.03, h11^{km}±4^{km}, Error ellipse: s-maj=6.8km s-min=3.6km az=156.5*

*NEIC **01** 05:31:21.2±0.0, 32°.99N×115°.54W, h16^{km}, ML2.9(PAS), After PAS.*

NEIC Felt [III] at Brawley. Also felt at Palm Desert.

ISC 01 05:31:20.7±0.9**, 32°.99N**±0°.03×**115°.55W**±0°.02**, h14**^{km}±8^{km}**, n29,** $\sigma 1^{s}$**43**/37**, California-Baja California border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SWSC	Sam W. Stewart	0.21	258	P	Pg	05 31 25.7	+0.2
	baz=78,SNR=195						
SWSC				S	Sg	05 31 29.1	+0.4
	baz=78						
IKP	In-Ko-Pah, Jac	0.58	234	P	Pg	05 31 32.4	+0.3

	baz=54,SNR=33						
IKP				S	Sg	05 31 40.2	+0.3
	baz=54						
GLA	Glamis	0.61	84	P	Pg	05 31 32.2	-0.5
	baz=265,SNR=18						
GLA				S	Sg	05 31 40.2	-0.7
	baz=265						
GLA	Glamis	0.61	84	ePg	Pg	05 31 32.3	-0.5
GLA				ePn	Pn	05 31 40.6	+5.5
BC3	Big Chuckawall	0.67	7	P	Pg	05 31 33.6	-0.2
	baz=186,SNR=98						
BC3				S	Sg	05 31 42.9	+0.3
	baz=186						
MONP2	Monument Peak	0.74	263	P	Pg	05 31 35.0	-0.2
	baz=82,SNR=27						
MONP2				S	Sg	05 31 45.0	+0.1
	baz=82						
XPFO	Piæon Flat	0.98	309	ePg	Pb	05 31 38.8	-0.8
PFO	Pinyon Flats O	0.98	309	P	Pb	05 31 38.6	-1.0
	baz=129,SNR=23						
PFO	Pinyon Flats O	0.98	309	ePg	Pb	05 31 38.9	-0.7
BAR	Barrett	0.99	252	ePn	Pb	05 31 39.0	-0.7
BAR				eSn	Sb	05 31 52.6	-0.1
BELC	Belle Mtn. Jos	1.07	340	S	Sb	05 31 55.8	+0.6
	baz=159						
Y12C	Blythe	1.15	48	S	Sn	05 31 57.5	-0.3
	baz=229						
Y12C	Blythe	1.15	48	ePn	Pn	05 31 42.3	-0.1
IRM	Iron Mountain	1.21	16	P	Pn	05 31 42.5	-0.8
	baz=196,SNR=108						
109C	Camp Elliot, M	1.31	266	Pb	Pn	05 31 44.9	+0.3
	baz=85,SNR=28						
CPE	Camp Elliot	1.31	266	ePn	Pn	05 31 44.9	+0.3
113A	Mohawk Valley,	1.52	98	ePn	Pn	05 31 42.4	-5.1
PDMCI	Parker Dam,Lak	1.76	42	Sb	Sb	05 32 15.3	+0.6
	baz=222						
Y14A	Wickenburg	2.33	65	ePn	Pb	05 32 03.1	+0.6
MWC	Mount Wilson	2.43	301	ePn	Pn	05 31 59.0	-1.2
MWC				eSg	Sg	05 32 37.2	-1.5
W13A	Hualapai Mount	2.52	33	ePn	Pb	05 32 07.2	+1.3
GSC	Goldstone, Bar	2.53	336	ePn	Pn	05 32 03.3	+1.9
SHPR	Sheep Range	3.52	5	ePg	Pg	05 32 31.8	+3.6
ISA	Isabella, Lake	3.60	319	ePg	Pg	05 32 30.9	+1.2
X16A	Lo Mia Camp, P	3.71	66	ePn	Pn	05 32 18.9	+1.0
TUC	Tucson	4.08	98	eSg	Sg	05 33 29.6	-2.1
LCMT	Little Creek M	4.43	25	ePg	Pg	05 32 44.9	-0.8
LCMT				eSg	Sg	05 33 39.7	-3.4
KNB	Kanab	4.60	28	ePg	Pg	05 32 46.7	-2.1
X18A	Snowflake	4.91	70	ePg	Pg	05 32 58.2	+3.4
X18A				eSg	Sg	05 33 56.5	-2.0

*NEIC **01** 05:33:59.7±0.2, 20.24N×122.45E, h10km, mb4.8/58, Error ellipse: s-maj=6.7km s-min=4.5km az=88.0*
NEIC Felt [IV PIVS] at Basco, Sabtang and Uyugan and [II PIVS] at Itbayat.
*GCMT **01** 05:33:59.7±0.2, 20.41N×122.42E, h27km±1km, MW5.1/100, Moment Tensor Solution. s43,c52; s100,c144; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.35±.18; $M_{\theta\theta}$3.19±.13; $M_{\phi\phi}$-4.53±.15; $M_{r\theta}$0.44±.24; $M_{\theta\phi}$2.35±.11; $M_{\phi r}$2.18±.32; Best double couple: $M_0$5.00600×10^{16} NP1:ϕ_s27.00000°, δ86.00000°, λ153.00000°. NP2:ϕ_s119.00000°, δ63.00000°, λ5.00000°. Principal axes: T 4.2620, Plg22.0000°, Azm339.0000°; N 1.4970, Plg62.0000°, Azm199.0000°; P -5.7490, Plg16.0000°, Azm76.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NIED **01** 05:34:00, 20.70N×122.40E, h38km, Mw5.0 Best double couple: $M_0$4.22000×10^{16} NP1:ϕ_s116.00000°, δ48.00000°, λ19.00000°. NP2:ϕ_s14.00000°, δ76.00000°, λ136.00000°.*
*MOS **01** 05:34:00.9±1.3, 20.17N×122.34E, h31km, mb4.9/41, MS4.2/8, Error ellipse: s-maj=9.8km s-min=4.8km az=109.2*
*ISCJB **01** 05:34:01.3±0.6, 20.38N±0.01×122.60E±0.02, h33km±4km, mb4.7/118, MS4.2/35, Error ellipse: s-maj=3.1km s-min=1.9km az=166.0*
*TAP **01** 05:34:01.3, 20.52N×122.63E, h34km±5km, ML5.5, D*
*BJI **01** 05:34:01.4, 20.42N×122.36E, h7km, mb4.5/53, mB4.9/45, ML4.4/4, Ms4.5/61, Ms7 4.3/54*
*JMA **01** 05:34:02.4±0.5, 20.69N×122.42E, h10km, M4.8*
*IDC **01** 05:34:02.3±3.3, 20.20N×122.58E, h33km±25km, mb4.3/28, mb1 4.4/30, mb1mx4.2/68, mbtmp4.5/30, ML4.5/2, MS3.9/23, Ms1 3.9/23, ms1mx3.8/39, Error ellipse: s-maj=17.7km s-min=11.2km az=75.0*
*MAN **01** 05:34:04, 20.02N×122.38E, h8km, mb5.2, ML4.2, MS4.3*
ISC 01 05:34:02.1±0.7, **20.32N**±0.03×**122.56E**±0.03, **h25**km±4km, **n424**, σ2.43/514, **mb4.7**/118, **MS4.2**/37, **16C-23D, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LAY	Lan-yu	1.96	331	i P	Pn	05 34 31.1	-2.6
	baz=327						
TSEB	Hengchuen, Pin	2.21	316	P	Pn	05 34 36.1	-1.1
	baz=310						
TSEB				eS	Sn	05 35 00.6	-3.2
	baz=310						
TWKBT	Hengchun	2.30	315	eP	Pn	05 34 36.5	-1.9
	baz=310						
TWK1	Hengchun	2.30	315	P	Pn	05 34 35.9	-2.6
	baz=310						
TWK1				S	Sn	05 35 03.3	-2.7
	baz=310						
TAW	Tawu	2.56	323	eP	Pn	05 34 40.1	-1.9
	baz=320						
TAW				eS	Sn	05 35 06.8	-5.4
	baz=320						
TWH	Lutao	2.59	337	P	Pn	05 34 38.3	-4.0
	baz=335						
TWH				eS	Sn	05 35 06.0	-7.0
	baz=335						
EAST	Anshuo	2.60	322	eP	Pn	05 34 40.4	-2.2
	baz=319						
EAST				S	Sn	05 35 09.8	-3.7
	baz=319						
ECL	Taimali	2.72	327	eP	Pn	05 34 42.5	-1.6
	baz=324						
ECL				eS	Sn	05 35 11.4	-4.9
	baz=324						
SCZT	Fangliau	2.73	319	eP	Pn	05 34 42.9	-1.5
	baz=327						
SCZT				eS	Sn	05 35 15.0	-1.5
	baz=327						
TTN	Taitung	2.76	332	eP	Pn	05 34 43.7	-1.0
	baz=329						
TTN				eS	Sn	05 35 15.5	-1.7
	baz=329						
TWGBT	Beinan	2.84	331	eP	Pn	05 34 44.0	-1.9
	baz=316						
SSPT	Xinbi	2.85	320	eP	Pn	05 34 46.4	+0.5
	baz=327						
SSPT				eS	Sn	05 35 19.1	-0.3
	baz=327						
TWG	Pinlang	2.85	331	eP	Pn	05 34 44.0	-2.0
	baz=315						
TWG				eS	Sn	05 35 15.0	-4.5
	baz=315						
TWG	Pinlang	2.85	331	ePn	Pn	05 34 44.2	-1.8
TWG				eSn	Sn	05 35 15.4	-4.2
WLCH	Liuqiu	2.87	315	eS	Sn	05 35 21.3	+1.3
	baz=312						
TWP	Hsiaoliuchiu	2.88	315	eS	Sn	05 35 21.4	+1.2
	baz=312						
MASBT	Mashibuluo	2.91	322	eP	Pn	05 34 45.5	-1.2
	baz=330						
MASBT				eS	Sb	05 35 24.5	-3.8
	baz=330						
CHKT	Chengkung	2.98	338	eP	Pn	05 34 44.6	-3.2
	baz=336						
CHKT				eS	Sn	05 35 16.6	-6.1
	baz=336						
SSD	Sandimen	3.01	324	eP	Pn	05 34 47.4	-0.8
	baz=321						
SSD				eS	Sn	05 35 18.8	-4.7
	baz=321						
SGLT	Jiouru	3.08	322	eP	Pn	05 34 50.6	+1.5
	baz=329						
SGLT				eS	Sn	05 35 27.3	+2.2
	baz=329						
FULB	Fuli	3.10	338	eP	Pn	05 34 47.0	-2.5
	baz=348						
FULB				S	Sn	05 35 20.7	-5.0
	baz=348						
WSSB	Gushan	3.15	318	eP	Pn	05 34 52.6	+2.4
	baz=300						
TWM1	Shoushan	3.19	322	eP	Pn	05 34 51.8	+1.1
	baz=329						
ELDTW	Lidau	3.20	334	eP	Pn	05 34 48.7	-2.1
	baz=321						
ELDTW				eS	Sn	05 35 23.4	-4.9
	baz=321						
SLGT	Liugui	3.21	327	P	Pn	05 34 51.9	+1.0
	baz=333						
SLGT				eS	Sn	05 35 26.6	-1.7
	baz=333						
TWF1	Yuli	3.24	339	eP	Pn	05 34 48.4	-2.9
	baz=347						
TWF1				S	Sn	05 35 24.0	-5.1
	baz=347						
YULB	Yu-li	3.28	339	eP	Pn	05 34 46.4	-5.5
	baz=347						
YULB	Yu-li	3.28	339	ePn	Pn	05 34 49.2	-2.7
YULB				eSn	Sn	05 35 25.8	-4.3
STYT	Tauyuan	3.29	330	P	Pn	05 34 52.8	+0.7
	baz=328						
STYT				eS	Sn	05 35 24.9	-5.6
	baz=328						
SGST	Jiashian	3.31	327	eP	Pn	05 34 52.8	+0.5
	baz=325						
SGST				eS	Sn	05 35 29.7	-1.2
	baz=325						
EHY	Hungye	3.38	340	eP	Pn	05 34 50.8	-2.5
	baz=339						
EHY				eS	Sn	05 35 26.5	-6.0
	baz=339						
CHN3	Shinhua	3.42	324	eS	Sn	05 35 36.7	+3.1
	baz=322						
CHN1	Nanshi	3.42	327	P	Pn	05 34 54.8	+0.9
	baz=325						
CHN1				eS	Sn	05 35 32.9	-0.8
	baz=325						
WTP	Ta-pu	3.43	328	eP	Pn	05 34 53.3	-0.8
	baz=327						
WTP				eS	Sn	05 35 25.6	-8.3
	baz=327						
TPUB	Ta-pu	3.47	329	P	Pn	05 34 56.0	+1.5
	baz=327						
TPUB				eS	Sn	05 35 35.6	+0.8
	baz=327						
TPUB	Ta-pu	3.47	329	ePn	Pn	05 34 55.1	+0.6
TPUB				eSn	Sn	05 35 33.2	-1.6
TAI1	Yung-k'ang	3.47	322	eS	Sn	05 35 31.7	-3.1
	baz=320						
EGFH	Guangfu	3.50	343	eP	Pn	05 34 52.2	-2.7
	baz=350						
EGFH				eS	Sn	05 35 30.4	-5.1
	baz=350						
TWK	Hsinying	3.51	327	P	Pn	05 34 56.9	+1.8
	baz=326						
TWK				eS	Sn	05 35 37.6	+1.7
	baz=326						
CHN4	Tsaushan	3.53	329	P	Pn	05 34 55.7	+0.4
	baz=327						
CHN4				eS	Sn	05 35 38.0	+1.7
	baz=327						
ALS	Alishan	3.57	333	P	Pn	05 34 56.2	+0.1
	baz=331						
ALS				eS	Sn	05 35 36.9	-0.9
	baz=331						
SCLT	Jiali	3.60	323	eP	Pn	05 34 56.6	+0.3
	baz=321						
SCLT				eS	Sn	05 35 35.5	-2.5
	baz=321						
ESL	Shilin	3.63	343	eP	Pn	05 34 56.4	-0.4
	baz=351						
ESL				eS	Sn	05 35 32.6	-6.2
	baz=351						
ENLB	Shoufeng	3.68	346	eP	Pn	05 34 54.0	-3.4
	baz=345						
ENLB				eS	Sn	05 35 33.9	-6.0
	baz=345						
CHN5	Tsauling	3.70	332	P	Pn	05 34 58.8	+1.0
	baz=315						
CHN8	Yiju	3.72	324	eS	Sn	05 35 37.3	-3.7
	baz=323						
CHY	Chiayi	3.74	328	eP	Pn	05 34 57.8	-0.3
	baz=327						
CHN2	Minshiung	3.74	329	eP	Pn	05 34 59.5	+1.2
	baz=313						
HWA	Hwalien	3.75	346	eS	Sn	05 35 36.4	-5.3
	baz=346						
SSLB	Suanglung	3.76	337	eP	Pn	05 34 59.5	+1.0
	baz=345						
SSLB	Suanglung	3.76	337	ePn	Pn	05 34 57.3	-1.2
SSLB				eSn	Sn	05 35 39.3	-2.8
WLGB	Puzi	3.78	327	eP	Pn	05 35 00.2	+1.4
	baz=325						
WLGB				eS	Sn	05 35 40.0	-2.5
	baz=325						
WGK	Gukeng	3.83	331	eP	Pn	05 35 01.0	+1.5
	baz=330						
WGK				eS	Sn	05 35 43.0	-0.7
	baz=330						
OWD	Renai	3.84	341	eP	Pn	05 34 58.4	-1.3
	baz=349						
OWD				eS	Sn	05 35 37.0	-7.2
	baz=349						
WDLH	Douliu	3.84	331	eP	Pn	05 34 59.6	-0.1
	baz=330						
TWD	Chiawan	3.85	347	eP	Pn	05 34 56.7	-3.0
	baz=346						
TWD				eS	Sn	05 35 37.4	-6.8
	baz=346						
SMLT	Sun Moon Lake	3.87	337	eP	Pn	05 34 59.4	-0.7
	baz=344						
WJS	Zhushan	3.88	334	eP	Pn	05 35 01.1	+0.9
	baz=318						
WJS				eS	Sn	05 35 44.3	-0.6
	baz=318						
HATJ	Hateruma jima	3.89	17	P	Pn	05 35 00.0	-0.3
HATJ				eS	Sn	05 35 41.8	-3.5
TYC	Yuchr	3.90	336	P	Pn	05 35 01.2	+0.8
	baz=344						
TYC				eS	Sn	05 35 43.2	-2.3
	baz=344						
CHGB	Renai	3.94	341	P	Pn	05 35 01.1	-0.1
	baz=350						
NACB	Ninganchiao	3.94	347	eP	Pn	05 35 04.3	+3.3
	baz=354						
NACB	Ninganchiao	3.94	347	ePn	Pn	05 34 59.0	-2.0
NACB				eSn	Sn	05 35 40.3	-6.1
WNT	Mingjian	3.95	334	eP	Pn	05 35 02.5	+1.5
	baz=318						
WNT				eS	Sn	05 35 45.3	-1.3
	baz=318						
WSF	Szhu	3.96	327	eP	Pn	05 35 00.8	-0.3
	baz=326						
WSF				eS	Sn	05 35 42.5	-4.2
	baz=326						
WDGT	Dungji	3.98	318	eP	Pn	05 35 00.5	-1.1
	baz=316						
WDGT				eS	Sn	05 35 42.2	-5.2
	baz=316						
WHF	Hehuan Shan	3.99	343	eP	Pn	05 35 01.7	-0.4
	baz=353						
WHF				eS	Sn	05 35 41.9	-6.4
	baz=353						
DPDB	Guoxing	4.00	338	eP	Pn	05 35 01.3	-0.5
	baz=345						
DPDB				eS	Sn	05 35 45.4	-2.5
	baz=345						
TWT	Tachien	4.12	342	P	Pn	05 35 03.7	0.0
	baz=352						
TWT				eS	Sn	05 35 46.4	-4.7
	baz=352						
JKRS	Kuro-shima	4.12	19	P	Pn	05 35 03.4	-0.1
JKRS				S	Sn	05 35 48.5	-2.4
TDCB	Techi	4.13	342	eP	Pn	05 35 03.6	0.0
	baz=352						
TDCB				eS	Sn	05 35 49.1	-2.2
	baz=352						
JYNG	Yonagunijimaku	4.13	5	P	Pn	05 35 03.6	0.0
JYNG				eS	Sn	05 35 48.2	-2.8
IRIF	Iriomote-Funau	4.14	15	P	Pn	05 35 03.2	-0.5
IRIF				S	Sn	05 35 48.0	-3.3
YOJ	Yonaguni jima	4.14	6	P	Pn	05 35 03.5	-0.2
YOJ				eS	Sn	05 35 48.7	-2.7
YOJ	Yonaguni jima	4.14	6	ePn	Pn	05 35 03.6	-0.2
YOJ	Yonaguni jima	4.14	6	eP	Pn	05 35 03.6	-0.2
NANB	Nanao	4.16	350	eP	Pn	05 35 03.5	-0.4
	baz=349						
ENA	Nanau	4.16	350	eP	Pn	05 35 02.4	-1.6
	baz=349						
ENA				eS	Sn	05 35 45.8	-6.1
	baz=349						
ENAH	Nanao	4.17	351	eP	Pn	05 35 02.9	-1.2
	baz=350						
ENAH				eS	Sn	05 35 47.8	-4.2
	baz=350						
WCHH	Zhanghua	4.18	334	eP	Pn	05 35 05.2	+1.0
	baz=319						
WCHH				eS	Sn	05 35 51.3	-1.0
	baz=319						
TCU	Taichung	4.19	336	eP	Pn	05 35 06.3	+1.8
	baz=335						
TCU				eS	Sn	05 35 51.2	-1.4
	baz=335						
NNSB	Datong	4.23	345	eP	Pn	05 35 05.8	+0.6
	baz=345						
NNSH	Datong	4.23	345	eS	Sn	05 35 47.6	-6.2
	baz=345						
NNS	Nan Shan	4.25	345	eP	Pn	05 35 01.4	-3.9
	baz=345						
NNS				eS	Sn	05 35 43.6	-11
	baz=345						
PNG	Penghu	4.27	320	eP	Pn	05 35 04.0	-1.6
	baz=318						
PNG				eS	Sn	05 35 48.0	-6.6
	baz=318						
JIJ	Ishigaki jima	4.28	20	P	Pn	05 35 05.3	-0.4
JIJ				S	Sn	05 35 50.8	-4.1
TWC	Suao	4.32	351	P	Pn	05 35 05.7	-0.6
	baz=1.0						
TWC				eS	Sn	05 35 51.6	-4.2
	baz=1.0						
TWQ1	Liyutan	4.34	338	P	Pn	05 35 07.2	+0.8
	baz=323						
TWQ1				eS	Sn	05 35 55.5	-0.8
	baz=323						
ENTT	Nioudou	4.40	348	eP	Pn	05 35 05.9	-1.4
	baz=356						
ENTT				eS	Sn	05 35 52.7	-5.1
	baz=356						
NSY	Sanyi	4.41	338	P	Pn	05 35 08.4	+1.0
	baz=324						
NSY				eS	Sn	05 35 58.0	+0.1
	baz=324						
PTSB	Yuanli	4.46	338	eP	Pn	05 35 09.3	+1.2
	baz=323						
PTSB				eS	Sn	05 35 55.3	-3.8
	baz=323						
TWE	Neicheng	4.46	349	eP	Pn	05 35 07.9	-0.2
	baz=349						
TWE				eS	Sn	05 35 51.3	-7.9
	baz=349						
YHNB	Yeheng	4.47	346	eP	Pn	05 35 08.3	0.0
	baz=345						
YHNB				eS	Sn	05 35 59.8	+0.2
	baz=345						
YHNB	Yeheng	4.47	346	ePn	Pn	05 35 07.6	-0.7
ILA	Ilan	4.49	350	eS	Sn	05 35 55.0	-4.9
	baz=359						
NMLH	Miaoli	4.51	339	eS	Sn	05 35 58.8	-1.6
	baz=325						
NSTT	Nanjuang	4.53	342	eP	Pn	05 35 10.4	+1.3
	baz=325						
NSTT				eS	Sn	05 35 55.0	-6.0
	baz=325						
LIOB	Emei	4.54	342	eP	Pn	05 35 09.3	0.0
	baz=325						
LIOB				eS	Sn	05 35 58.6	-2.6
	baz=325						
EGS		4.54	353	eS	Sn	05 35 57.8	-3.5
	baz=353						
JISG	Ishigakijimahi	4.54	20	P	Pn	05 35 08.8	-0.5
JISG				S	Sn	05 35 58.3	-3.0
NWLT	Wulai	4.54	348	eS	Sn	05 35 54.4	-7.0
	baz=347						
WLTB	Daxi	4.67	345	eP	Pb	05 35 16.6	-6.7
	baz=353						
WLTB				eS	Sn	05 36 03.2	-1.3
	baz=353						
TIPB	Shuangxi	4.68	352	eP	Pn	05 35 10.8	-0.4
TIPB				eS	Sn	05 35 59.6	-5.2
TWB1	Santiao Chiao	4.70	354	eP	Pn	05 35 11.1	-0.3
	baz=353						
TWB1				eS	Sn	05 35 59.9	-5.1
	baz=353						
HSN	Hsinchu	4.70	342	eS	Sn	05 36 04.1	-1.0
	baz=326						
TWA	Mucha	4.73	349	eP	Pn	05 35 16.7	+4.9
	baz=357						
TWA				eS	Sn	05 36 02.8	-3.1
	baz=357						
JTJ	Tarama	4.74	24	P	Pn	05 35 12.6	+0.7
JTJ				S	Sn	05 36 03.4	-2.6
TATO	Taipei	4.74	348	ePn	Pn	05 35 11.3	-0.7
NWF	Wu-fen Shan	4.79	351	eP	Pn	05 35 12.9	+0.2
	baz=359						
NWF				eS	Sn	05 36 04.6	-2.8
	baz=359						
NCU	National Centr	4.80	345	eS	Sn	05 36 04.3	-3.4
	baz=357						
YM10	YM10	4.90	349	eP	Pn	05 35 14.6	+0.3
	baz=349						
YM04	YM04	4.91	349	eP	Pn	05 35 15.1	+0.8
	baz=349						
YM08	YM08	4.93	350	eP	Pn	05 35 15.1	+0.5
	baz=1.0						
YM08				eS	Sn	05 36 09.7	-1.2
	baz=1.0						
NTST	Danshui	4.93	348	eS	Sn	05 36 08.4	-2.5
	baz=348						
PCPH	Palayan	4.93	197⇑	eP	Pn	05 35 15.5	+0.8
PCPH				eS	Sn	05 36 12.1	+1.2
TWY	Chenhua	5.01	350	eP	Pn	05 35 18.6	+2.9
TWY				eS	Sn	05 36 09.3	-3.5
JIRB	Irabujima	5.09	28	P	Pn	05 35 17.0	+0.2
JMJ	Miyako jima 2	5.14	29	P	Pn	05 35 18.2	+0.8
JMJ				eS	Sn	05 36 14.8	-1.1
JOGS	Gusukube	5.14	30	P	Pn	05 35 18.4	+0.9
JOGS				S	Sn	05 36 13.7	-2.4
JIKM	Ikemajima	5.21	28	P	Pn	05 35 19.0	+0.6
JIKM				eS	Sn	05 36 16.2	-1.5
QZH	Quanzhou	5.89	322⇑	iPn	Pn	05 35 26.3	-1.4
QZH				Sn	Sn	05 36 27.6	-6.8
QZH				smax	smax		
	comp=N,150nm,0.6s						
QZH				smax	smax		
	comp=E,150nm,0.8s						
QZH				LR	LR		
	comp=N,1μm,14.9s						
QZH				LR	LR		
	comp=E,2μm,19.2s						
QZH				LR	LR		
	comp=Z,3μm,19.9s						
LQP	Lukban	6.25	189⇑	eP	Pn	05 35 34.9	+1.9
TGY	Tagaytay City	6.37	194	Pn	Pn	05 35 38.1	+3.6
	173nm,0.3s,baz=23,slow=2.5,SNR=8.7						
TGY				LR	LR	05 38 19.3	
	comp=Z,3μm,21.9s,baz=17,slow=41						
GQP	Guinayangan	6.38	181⇑	eP	Pn	05 35 35.2	+0.7
JKE	Kume jima 2	7.13	32	P	Pn	05 35 44.4	-0.4
JJT3	Tamagusuku3	7.53	39	P	Pn	05 35 50.6	+0.3
JAGN	Aguni-jima	7.58	34	P	Pn	05 35 50.4	-0.5
JNTH	Nagotoyohara	7.95	38	P	Pn	05 35 55.9	-0.1
JIH	Iheya	8.32	35	P	Pn	05 36 00.6	-0.5
JOW	Kunigami	8.33	38	Pn	Pn	05 36 01.0	-0.3
	34nm,0.3s,baz=358,slow=15,SNR=65						
JOW				Sn	Sn	05 37 27.7	-7.0
	21nm,0.3s,baz=336,slow=30,SNR=6.6						
JOW				LR	LR	05 38 17.1	
	comp=Z,322nm,21.8s,baz=160,slow=30						
JOW	Kunigami	8.33	38	P	Pn	05 36 01.2	-0.1
JOW	Kunigami	8.33	38	ePn	Pn	05 36 01.2	-0.1
JOW				eSn	Sn	05 37 28.2	-6.4
MCO	Taipa Grande	8.59	284	P	Pn	05 36 03.0	-1.9
JTK	Tokunoshima	9.45	37	P	Pn	05 36 15.6	-1.0
JMZ	Minamidaito 2	9.67	54	P	Pn	05 36 16.6	-3.0
JMZ				S	Sn	05 37 57.6	-10
JAMN	Amaminishikomi	9.93	36	P	Pn	05 36 21.8	-1.4
JAM	Amami Oshima	10.30	37	P	Pn	05 36 27.1	-1.1
QIZ	Qiongzhong	12.05	266	P	Pn	05 36 52.0	-0.3
QIZ				S	Sn	05 39 04.1	-1.9

QIZ LR LR
comp=N,1μm,16.7s
QIZ LR LR
comp=E,1μm,12.7s
QIZ LR LR
comp=Z,2μm,16.2s
QIZ Qiongzhong 12.05 266 *e*Pn **Pn 05 36 50.8 -1.6**
QIZ *e*Sn **Sn 05 38 58.6 -7.4**
NJ2 Nanjing 12.15 345 *e*P **Pn 05 36 53.0 -0.6**
NJ2 S **Sn 05 39 08.0 -0.2**
NJ2 LR LR
comp=N,950nm,15.2s
NJ2 LR LR
comp=E,2μm,13.0s
NJ2 LR LR
comp=Z,1μm,24.3s
WHN Wuhan 12.59 326 ⇓P **Pn 05 36 58.3 -1.3**
WHN S Sn 05 39 27.2 +8.1
WHN LR LR
comp=N,2μm,12.0s
WHN LR LR
comp=E,5μm,14.6s
WHN LR LR
comp=Z,4μm,18.2s
JNU Nakatsue 14.75 28 Pn **Pn 05 37 29.6 +0.4**
0.5nm,0.3s,baz=292,slow=3.4,SNR=4.3
JNU LR LR 05 43 12.9
comp=Z,369nm,19.4s,baz=198,slow=37
ENH Enshi 15.42 313 *e*Pn **Pn 05 37 38.6 +0.6**
38nm,1.0s
MYLDM Lahad Datu 15.56 195 *e*Pn **Pn 05 37 41.9 +2.0**
21nm,0.9s
GYA Guiyang 15.82 296 *e*P **Pn 05 37 43.2 -0.1**
GYA sP pP 05 37 52.0 -1.8
GYA S **Sn 05 40 37.8 -0.3**
GYA SS **S 05 40 56.7 +4.6**
GYA pmax pmax
comp=Z,20nm,0.7s
GYA pmax pmax
comp=Z,110nm,4.8s
GYA LR LR
comp=N,510nm,13.2s
GYA LR LR
comp=E,540nm,12.8s
GYA LR LR
comp=Z,550nm,13.8s
TIA Tai'an 16.54 344 P **Pn 05 37 52.6 +0.3**
TIA pmax pmax
comp=Z,17nm,1.1s
TJN Taejon 16.54 14⇑ *e*P **P 05 37 57.0 +2.2**
PALU Palau 17.31 137 P **Pn 05 38 00.7 -1.4**
baz=17,SNR=7.2
KS15 Wonju Array Si 17.68 14 *e*Pn **Pn 05 38 02.0 -4.6**
KSAR Wonju Array Be 17.68 14 P **P 05 38 11.6 +4.2**
KSAR Wonju Array Be 17.68 14 P **P 05 38 11.6 +4.2**
KSRS Korea Array 17.70 14 P **P 05 38 11.6 +4.0**
1.1nm,0.3s,baz=201,slow=11,SNR=24
KS01 Wonju Array Si 17.72 14 *e*P **P 05 38 12.4 +4.7**
XAN Xi'an 18.25 321 ⇑P **P 05 38 14.3 +0.5**
XAN pP pP 05 38 20.2 -0.4
XAN S **Sn 05 41 34.4 -2.4**
XAN pmax pmax
comp=Z,20nm,1.3s
XAN pmax pmax
comp=Z,460nm,4.9s
XAN LR LR
comp=N,1μm,13.4s
XAN LR LR
comp=E,940nm,17.7s
XAN LR LR
comp=Z,1μm,18.7s
DL2 Dalian 18.54 358 P **Pn 05 38 18.3 +1.2**
DL2 *e*S **Sn 05 41 44.6 +0.9**
DL2 pmax pmax
comp=Z,27nm,1.3s
DL2 pmax pmax
comp=Z,620nm,5.8s
DL2 LR LR
comp=E,2μm,16.3s
DL2 LR LR
comp=Z,850nm,16.9s
KMI Kunming 18.90 288 P **Pn 05 38 22.8 +1.0**
KMI pP sP 05 38 28.8 -2.5
KMI sP pP 05 38 31.8 +3.8
KMI PP **PnPn 05 38 39.9 +5.6**
KMI S **Sn 05 41 51.5 -1.3**
KMI SS **SnSn 05 42 16.0 +9.1**
KMI pmax pmax
comp=Z,11nm,1.7s
KMI pmax pmax
comp=Z,260nm,4.0s
KMI LR LR
comp=N,1μm,23.7s
KMI LR LR
comp=E,440nm,24.1s
KMI LR LR
comp=Z,780nm,14.9s
INU Inuyama 19.65 37 *e*P **Pn 05 38 36.0 +5.4**
52nm,1.3s
MRSI Marisa 19.73 182 P **P 05 38 30.2 +0.2**
CD2 Chengdu 19.94 306 P **P 05 38 32.6 +0.3**
CD2 pP Pn 05 38 35.5 +1.4
CD2 S **Sn 05 42 17.2 -0.5**
CD2 sS sS 05 42 22.3 -4.3
CD2 pmax pmax
comp=Z,50nm,0.5s
CD2 pmax pmax
comp=Z,340nm,4.8s
CD2 LR LR
comp=N,2μm,11.1s
CD2 LR LR
comp=E,1μm,12.5s
CD2 LR LR
comp=Z,2μm,14.3s
JHJ Hachijo jima 2 19.94 47 LR LR 05 44 40.9
comp=Z,476nm,21.1s,baz=279,slow=32
MPSI Mapaga 20.03 188 P **P 05 38 32.9 -0.4**
BJT Baijiatuau 20.39 346 *e*P **P 05 38 37.3 +0.3**
22nm,0.6s
BJT Baijiatuau 20.39 346 *e*P **P 05 38 37.3 +0.3**
BJT pmax pmax
comp=Z,22nm,0.6s
BJI Beijing 20.41 346 P Pn 05 38 38.1 -1.3
BJI pmax pmax
comp=Z,29nm,0.8s
BJI LR LR
comp=Z,620nm,11.2s
BJI LR LR
comp=Z,900nm,14.5s
BJI LR LR
comp=Z,2μm,42.6s
SBUM Sibu 20.43 211 *e*P **P 05 38 37.2 -0.4**
comp=Z,40nm,0.8s
SRAK Srakaew 20.58 256 P Pn 05 38 48.1 +6.5
APSI Ampana 21.12 183 P **P 05 38 43.3 -1.8**
NAYO Nakonayok 21.13 257 P **P 05 38 47.7 +2.5**
comp=Z,14nm,1.1s
MAJO Matsushiro 21.18 37⇓ *e*P **P 05 38 48.1 +2.5**
MAJO pmax pmax
comp=Z,18nm,1.5s
MAT Matsushiro 21.18 37 P **P 05 38 47.1 +1.5**
MJAR Matsushiro Arr 21.18 37 P **P 05 38 49.4 +3.8**
comp=Z,4.4nm,1.0s,baz=222,slow=10,SNR=7.5
PHIT Phitsanulok 21.20 265 P **P 05 38 47.0 +1.0**
comp=Z,31nm,1.0s,comp=Z,389nm
LUWI Luwuk 21.23 179 P **P 05 38 47.0 +0.7**
LUWI Luwuk 21.23 179 *e*P **P 05 38 46.3 +0.1**
comp=Z,92nm,1.0s
PAYA Payao 21.37 271 P **P 05 38 49.7 +1.9**
comp=Z,10nm,0.9s,comp=Z,102nm
SNY Shenyang 21.46 2 ⇓P **P 05 38 51.0 +2.5**
SNY S **S 05 42 46.9 +1.5**
SNY pmax pmax
comp=Z,25nm,0.8s
SNY pmax pmax
comp=Z,360nm,4.9s
SNY LR LR
comp=Z,860nm,19.0s
SNY LR LR
comp=Z,590nm,15.9s
SNY LR LR
comp=Z,1μm,20.6s
LAMP Lampang 21.70 269 P P 05 39 02.5 +11
CMAI Chiengmai2 22.09 273 P **P 05 38 58.8 +3.1**
comp=Z,217nm,1.1s,comp=Z,21μm
KSM Kuching 22.23 214 *e*P **P 05 38 56.0 -1.0**
comp=Z,26nm,0.9s
CMMT Chiang Mai 22.30 270 P **P 05 38 58.4 +0.6**
comp=Z,18nm,0.9s
CHTO Chiang Mai 22.30 270 P **P 05 39 00.4 +2.5**
comp=Z,59nm,1.2s
CHTO Chiang Mai 22.30 270 *e*P **P 05 38 55.9 -2.0**
comp=Z,10nm,0.9s
CHTO Chiang Mai 22.30 270 *e*P **P 05 38 55.9 -2.0**
CHTO pmax pmax
comp=Z,10.0nm,0.9s
GUMO Guam 22.35 104 LR LR 05 45 46.2
comp=Z,464nm,20.4s,baz=264,slow=32
CM01 Chiang Mai Arr 22.35 269 *e*P **P 05 38 57.2 -1.1**
CM31 Chiang Mai Arr 22.36 269 *e*P **P 05 38 56.9 -1.5**
CMAR Chiang Mai Arr 22.36 269 P **P 05 38 59.0 +0.6**
comp=Z,4.5nm,0.9s,baz=73,slow=9.1,SNR=22
CMAR ScP **ScP 05 46 26.6 -2.8**
comp=Z,0.3nm,0.3s,baz=86,slow=2.7,SNR=4.2
CMAR LR LR 05 47 47.2
comp=Z,254nm,20.9s,baz=58,slow=37
CMAR Chiang Mai Arr 22.36 269 P **P 05 38 59.0 +0.6**
MTKI Muara Teweh, K 22.43 200 P **P 05 38 56.6 -2.5**
SANI Sanana 22.48 171 P **P 05 38 59.8 +0.1**
HHC Hu-ho-hao-te 22.51 338 *e*P **P 05 38 59.8 -0.2**
HHC S **S 05 43 00.9 -4.7**
HHC sS pS 05 43 12.0 -2.0
HHC pmax pmax
comp=Z,13nm,0.9s
HHC pmax pmax
comp=Z,110nm,4.0s
HHC LR LR
comp=Z,490nm,11.9s
HHC LR LR
comp=Z,880nm,11.5s
HHC LR LR
comp=Z,490nm,12.3s
SWI Sorong 22.71 157 P **P 05 39 03.0 +0.9**
LZH Lanzhou 22.72 318 ⇑P **P 05 39 04.4 +2.1**
LZH sP sP 05 39 17.1 +4.6
LZH *e*S **S 05 43 11.1 +1.6**
LZH pmax pmax
comp=Z,36nm,1.2s
LZH pmax pmax
comp=Z,190nm,5.0s
LZH LR LR
comp=Z,2μm,12.1s
LZH LR LR
comp=Z,1μm,10.7s
LZH LR LR
comp=Z,2μm,12.4s
PHET Kaeng Krachan 23.16 255 P P 05 39 19.2 +12
TTSI Tana Toraja 23.37 187 P **P 05 39 09.3 +0.4**
CN2 Changchun 23.54 5 *e*P **P 05 39 11.7 +1.4**
CN2 *e*sP sP 05 39 22.2 +1.4
CN2 *e*S **S 05 43 21.1 -1.7**
CN2 pmax pmax
comp=Z,10.0nm,0.7s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=Z,700nm,16.0s
CN2 LR LR
comp=Z,1μm,16.0s
CN2 LR LR
comp=Z,1μm,19.0s
NLAI Namlea 23.83 169 P **P 05 39 13.8 +0.5**
KBKI Kotabaru 24.30 196 P **P 05 39 17.7 0.0**
MSAI Masohi 24.33 164 P **P 05 39 19.2 +1.2**
MDJ Mudanjiang 24.93 12 P **P 05 39 25.2 +2.1**
MDJ sP sP 05 39 35.2 +1.5
MDJ S **S 05 43 49.2 +4.2**
MDJ sS sS 05 43 59.6 +2.3
MDJ SS **SnSn 05 44 42.0 +7.9**
MDJ pmax pmax
comp=Z,14nm,0.8s
MDJ pmax pmax
comp=Z,190nm,5.1s
MDJ LR LR
comp=Z,860nm,16.0s
MDJ LR LR
comp=Z,1μm,13.2s
MDJ LR LR
comp=Z,1μm,15.1s
FAKI Fak Fak 24.97 157 *e*P **P 05 39 24.8 +1.0**
comp=Z,40nm,1.1s
USRK Ussuriysk Ar. 25.08 16 P **P 05 39 23.8 -0.7**
comp=Z,1.5nm,0.6s,baz=201,slow=11,SNR=3.5
KAPI Kappang 25.32 187 *e*P **P 05 39 25.2 -1.7**
comp=Z,18nm,0.6s
KAPI Kappang 25.32 187 *e*P **P 05 39 25.3 -1.7**
KAPI pmax pmax
comp=Z,18nm,0.6s
MYKOM Kota Tinggi 25.95 227 *e*P **P 05 39 33.1 +0.4**
comp=Z,20nm,1.2s
IPM Ipoh 26.21 236 *e*P **P 05 39 35.7 +0.5**
comp=Z,18nm,0.7s
GTA Gaotai 27.28 319 *e*P **P 05 39 44.6 -0.1**
GTA pP pP 05 39 51.6 -0.5
GTA sP sP 05 39 54.9 -0.4
GTA S **S 05 44 20.1 -2.6**
GTA sS pS 05 44 31.5 +0.6
GTA SS **SnSn 05 45 37.5 +5.6**
GTA pmax pmax
comp=Z,4.0nm,1.0s
GTA pmax pmax
comp=Z,100nm,6.4s
GTA LR LR
comp=Z,670nm,14.7s
GTA LR LR
comp=Z,460nm,16.2s
GTA LR LR
comp=Z,470nm,14.0s
PLAI Plampang 29.34 190 P **P 05 40 02.4 -0.7**
KLR Kul'dur 29.77 12 P **P 05 40 08.4 +1.8**
comp=Z,1.1nm,0.8s,baz=230,slow=5.8,SNR=32
KLR Kul'dur 29.77 12⇓ *i*P **P 05 40 08.9 +2.3**
SOEI Soe 29.93 177 P P 05 40 03.9 -4.5
SOEI Soe 29.93 177 *e*P **P 05 40 05.2 -3.2**
comp=Z,36nm,0.8s
ULN Ulaanbaatar 30.21 339 *e*P **P 05 40 10.0 -0.7**
comp=Z,14nm,1.0s
ULN Ulaanbaatar 30.21 339 *c i*P **P 05 40 10.2 -0.5**
ULN pmax pmax
comp=Z,39nm,2.5s
BATI Baumata 30.35 178 P **P 05 40 09.3 -2.8**
comp=Z,57nm,0.7s,baz=2.0,slow=3.0,SNR=8.2
BATI LR LR 05 55 21.7
comp=Z,111nm,18.2s,baz=351,slow=42
BATI Baumata 30.35 178 P **P 05 40 09.8 -2.2**
SONM Songino Array 30.41 338 P **P 05 40 11.9 -0.6**
comp=Z,3.3nm,0.7s,baz=158,slow=8.8,SNR=12
SONA1 Songino Array 30.42 338 *e*P **P 05 40 11.7 -0.8**
MDSI Maura Dua 30.56 218 P **P 05 40 13.6 -0.3**
LEM Lembang 30.72 210 LR LR 05 54 15.4
comp=Z,259nm,18.9s,baz=43,slow=40
GSI Gunungsitoli 30.88 235 *e*P **P 05 40 17.9 +1.2**
comp=Z,44nm,1.3s
YSS Yuzh-Sakhalins 31.25 27 *e*P P 05 40 28.3 +8.6
YSS pmax pmax
comp=Z,20nm,1.4s
CISI Cisompet, Garu 31.27 209 *e*P **P 05 40 19.1 -1.1**
comp=Z,28nm,0.6s
RAMN Ramite 33.52 288 *e*P **P 05 40 40.4 +0.2**
comp=Z,22nm,0.8s
ZEA Zeya 33.55 5 *e*P **P 05 40 41.2 +1.4**
ZEA pmax pmax
comp=N,24nm,1.0s
ZEA pmax pmax
comp=Z,29nm,1.0s
ZEA MLR MLR
comp=Z,600nm,16.0s
ZEA MLR MLR
comp=N,500nm,15.0s
ZAK Zakamensk 33.66 338 *e*P **P 05 40 39.4 -1.5**
ZAK pmax pmax
comp=Z,3.0nm,1.0s
JIRN Jiri 33.93 290 *e*P **P 05 40 44.2 +0.3**
comp=Z,26nm,0.8s
MTN Manton Dam 34.02 165 *e*P **P 05 40 41.8 -2.3**
comp=Z,9.3nm,0.7s
GUN Gumba 34.23 290 *e*P **P 05 40 46.7 +0.3**
comp=Z,37nm,0.8s
PKI Pulchoki 34.62 289 *e*P **P 05 40 49.8 0.0**
TLY Talaya 34.62 339 P **P 05 40 49.4 +0.3**
comp=Z,9.3nm,0.7s,baz=250,slow=2.6,SNR=6.5
TLY Talaya 34.62 339 *e*P **P 05 40 49.0 -0.1**
comp=Z,8.8nm,0.7s
TLY Talaya 34.62 339 *e*P **P 05 40 48.8 -0.3**
TLY *e* 05 42 04.6
TLY *e*S **S 05 46 23.2 +6.1**
TLY pmax pmax
comp=Z,9.0nm,0.8s
TLY MLR MLR
comp=Z,368nm,20.0s
PKIN Phulchoki 34.63 289 *e*P **P 05 40 49.6 -0.2**
XMIS Christmas Isla 34.84 210 *e*P **P 05 40 52.0 +0.7**
comp=Z,46nm,1.0s
MOY Mondy 35.55 337 *e*P **P 05 40 57.3 +0.1**
KNGR Kungurtug, Tuv 36.12 333 *i*P **P 05 41 02.9 +0.8**
DANN Dangsing 36.13 290 *e*P **P 05 41 02.9 +0.2**
KOLN Koldanda 36.23 289 *e*P **P 05 41 03.4 -0.1**
comp=Z,16nm,0.7s
KNRA Kununurra 36.28 170 P **P 05 41 01.6 -2.1**
baz=36,SNR=14
PYUN Piuthan 36.79 290 *e*P **P 05 41 07.8 -0.5**
WMQ Urumqi 37.29 317 P **P 05 41 10.9 -1.3**
WMQ PcP **PcP 05 43 29.7 -1.6**
WMQ pmax pmax
comp=Z,14nm,0.7s
WMQ pmax pmax
comp=Z,270nm,4.5s
WMQ LR LR
comp=Z,1μm,16.7s
WMQ LR LR
comp=Z,770nm,21.1s
WMQ LR LR
comp=Z,670nm,24.1s
BOD Bodaibo 37.98 353 *e*P **P 05 41 16.6 -1.0**
BOD pmax pmax
comp=Z,6.0nm,1.7s
PMG Port Moresby 38.19 138 LR LR 05 58 19.4
comp=Z,71nm,18.3s,baz=328,slow=38
COEN Coen 39.63 148 P **P 05 41 31.1 -0.9**
baz=40,SNR=6.4
DGZ Jazzator, Alta 40.46 325⇑ *i*P **P 05 41 39.1 +0.4**
DGZ pmax pmax
comp=Z,5.0nm,0.8s
MBWA Marble Bar 41.32 184 *e*P **P 05 41 43.3 -2.5**
comp=Z,17nm,0.8s
H11N1 WAKE ISLAND Hy 41.56 83 T T 06 27 24.5
baz=278,slow=75,SNR=79
H11N2 WAKE ISLAND Hy 41.56 83 T T 06 27 17.7
baz=278,slow=75,SNR=71
H11S3 WAKE ISLAND Hy 41.57 85 T T 06 26 54.3
baz=281,slow=75,SNR=112
H11N3 WAKE ISLAND Hy 41.58 83 T T 06 26 57.9
baz=278,slow=75,SNR=69
H11S1 WAKE ISLAND Hy 41.58 85 T T 06 27 01.9
baz=281,slow=75,SNR=130
H11S2 WAKE ISLAND Hy 41.58 85 T T 06 26 55.7
baz=281,slow=75,SNR=122
WRAB Tennant Creek 41.63 163 *e*P **P 05 41 46.2 -2.2**
comp=Z,14nm,0.9s
WRAB Tennant Creek 41.63 163⇓ *i*P **P 05 41 46.5 -2.0**
WRAB pmax pmax
comp=Z,14nm,0.9s
WRA Warramunga Arr 41.64 163 P **P 05 41 46.4 -2.2**
comp=Z,12nm,0.9s,baz=346,slow=9.1,SNR=66
WB2 Warramunga Arr 41.64 163 *e*P **P 05 41 46.5 -2.1**
YAK Yakutsk 41.97 5 *e*P **P 05 41 51.0 +0.3**
YAK *e**PP **sP 05 41 59.9 -1.6**
YAK *e* 05 43 43.5
YAK *e*S **S 05 48 09.8 +2.1**
YAK *e**SS **sS 05 48 22.1 +1.8**
YAK pmax pmax
comp=Z,12nm,0.9s
YAK pmax pmax
comp=N,2.0nm,0.8s
YAK pmax pmax
comp=Z,137nm,3.0s
YAK pmax pmax
comp=N,92nm,3.3s
YAK pmax pmax
comp=E,93nm,3.5s
YAK smax smax
comp=N,58nm,4.4s
YAK smax smax
comp=E,134nm,4.3s
YAK MLR MLR
comp=Z,208nm,17.0s
YAK MLR MLR
comp=N,223nm,16.0s
YAK MLR MLR
comp=E,244nm,14.0s
MK01 Makanchi Array 42.01 318 *e*P **P 05 41 51.4 0.0**
MK31 Makanchi Array 42.03 318 *e*P **P 05 41 51.8 +0.3**
MK31 Makanchi Array 42.03 318 *e*P **P 05 41 51.7 +0.2**
MK31 pmax pmax
comp=Z,7.0nm,0.5s
MKAR Makanchi Array 42.03 318 P **P 05 41 51.8 +0.3**
comp=Z,7.9nm,0.5s,baz=110,slow=9.9,SNR=114
MKAR LR LR 06 01 11.9
comp=Z,567nm,18.8s,baz=110,slow=39
MKAR Makanchi Array 42.03 318 *e*P **P 05 41 51.8 +0.3**
comp=Z,102nm,0.5s
MKAR Makanchi Array 42.03 318 *e*P **P 05 41 51.8 +0.3**
MKAR pmax pmax
comp=Z,102nm,0.5s
PETK Petropavlovsk- 42.43 31 LR LR 06 02 17.7
comp=Z,129nm,18.6s,baz=224,slow=40
GIRL Giralia 43.47 191 P **P 05 42 03.1 -0.2**
baz=44,SNR=3.8
MTSU Mount Surprise 43.77 149 P **P 05 42 06.4 +0.5**
baz=44,SNR=6.1
QIS Mount Isa 43.91 157 P **P 05 42 06.3 -0.7**
baz=44,SNR=7.4
MA2 Magadan 44.10 20⇑ *e*P **P 05 42 10.6 +2.5**
KSH Kashi 44.14 306 P **P 05 42 12.0 +3.2**
KSH sP sP 05 42 20.5 +0.9
KSH PcP **PcP 05 43 57.5 +3.9**
KSH S **S 05 48 43.6 +3.2**
KSH SS **SS 05 51 55.4 -3.0**
KSH pmax pmax
comp=Z,5.0nm,0.5s
KSH pmax pmax
comp=Z,64nm,3.2s
KSH LR LR
comp=Z,160nm,11.3s
KSH LR LR
comp=Z,250nm,12.3s
KSH LR LR
comp=Z,430nm,15.2s
ZAA0 Zalesovo Array 44.18 329 *e*P **P 05 42 08.0 -0.7**
comp=Z,7.7nm,0.8s
ZALV Zalesovo Beam 44.18 329 P **P 05 42 07.8 -1.0**
comp=Z,5.8nm,0.6s,baz=111,slow=7.7,SNR=24
AS31 Alice Springs 45.09 165 *e*P **P 05 42 15.3 -1.0**
comp=Z,3.3nm,0.9s
ASAR Alice Springs 45.09 165 P **P 05 42 14.5 -1.9**
comp=Z,4.4nm,0.4s,baz=350,slow=6.7,SNR=63
ASAR LR LR 06 01 54.0
comp=Z,111nm,20.3s,baz=356,slow=37
AS01 Alice Springs 45.10 165 *e*P **P 05 42 14.6 -1.8**
TKM2 Tokmak 2 45.20 311 P **P 05 42 18.0 +0.7**
SNR=9.3
KZA Kyzart 45.24 310 P **P 05 42 19.2 +1.3**
SNR=11
WRKA Warakurna 45.43 173 P **P 05 42 17.5 -1.5**
baz=46,SNR=23
NVS Novosibirsk 45.45 329 *e*P **P 05 42 16.6 -2.2**
NVS *e* 05 44 04.8
NVS pmax pmax
comp=Z,12nm,1.5s
NVS pmax pmax
comp=N,5.0nm,1.1s
NVS pmax pmax
comp=E,6.0nm,1.4s
NIL Nilore 45.51 298 *e*P **P 05 42 18.9 -0.8**
comp=E,17nm,0.6s
NIL Nilore 45.51 298 *e*P **P 05 42 18.9 -0.8**
NIL pmax pmax
comp=Z,17nm,0.6s
KBK Karagaybulak 45.59 310 P **P 05 42 21.7 +1.3**
SNR=7.2
UCH Uchtor 45.80 310 P **P 05 42 23.8 +1.4**
SNR=13
FRU Bishkek 45.87 310 *e*P **P 05 42 21.0 -1.4**
FRU MLR MLR
comp=E,600nm,17.0s
KURK Kurchatov 45.89 322 *e*P **P 05 42 22.0 -0.4**
comp=E,16nm,0.7s
KURK Kurchatov 45.89 322 P **P 05 42 20.8 -1.6**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
KURK				pmax	pmax		
	comp=Z,16nm,0.7s						
KURBB	Kurchatov Arra	45.90	322	P	P	05 42 22.3	-0.2
	comp=Z,16nm,0.8s,baz=119,slow=7.5,SNR=91						
AAK	Ala-Archa	45.91	310	P	P	05 42 22.8	-0.1
AAK				pmax	pmax		
	comp=Z,4.0nm,1.0s						
CTAO	Charters Tower	46.38	149	eP	P	05 42 27.7	+1.2
	comp=Z,12nm,0.8s						
CTAO	Charters Tower	46.38	149	eP	P	05 42 27.7	+1.2
CTAO				pmax	pmax		
	comp=Z,12nm,0.8s						
AML	Almayashu	46.38	309	P	P	05 42 28.3	+1.4
	SNR=13						
MEEK	Meekatharra	46.83	185	P	P	05 42 28.4	-1.6
	baz=47,SNR=4.5						
HNR	Honiara	47.19	125	LR	LR	05 59 48.6	
	comp=Z,168nm,21.7s,baz=301,slow=33						
SEY	Seymchan	47.20	18	⇑eP	P	05 42 34.4	+1.9
MNAS	Manas	47.31	310	P	P	05 42 34.4	+0.5
MNAS				pmax	pmax		
	comp=Z,16nm,1.3s						
OTUK	Ortayu	48.84	317	P	P	05 42 45.5	0.0
OTUK				pmax	pmax		
	comp=Z,12nm,0.7s						
KK31	Karatay Array	48.87	310	iP	P	05 42 46.1	+0.3
KK31				pmax	pmax		
	comp=Z,7.0nm,1.0s						
KKAR	Karatay Array	48.87	310	eP	P	05 42 46.3	+0.5
KKAR	Karatay Array	48.87	310	eP	P	05 42 46.3	+0.5
KBL	Kabul	49.05	298	eP	P	05 42 47.7	+0.2
	comp=Z,17nm,1.1s						
KBL	Kabul	49.05	298	eP	P	05 42 47.7	+0.2
KBL				pmax	pmax		
	comp=Z,17nm,1.1s						
MORW	Morawa	49.50	188	P	P	05 42 49.0	-1.6
	baz=50,SNR=3.2						
FORT	Forrest	51.08	174	eP	P	05 43 01.5	-0.9
	comp=Z,454nm,0.8s						
QLP	Quilpie	51.14	155	P	P	05 43 02.0	-1.0
	baz=51,SNR=7.5						
KMBL	Kambalda	51.39	181	P	P	05 43 03.2	-1.7
	baz=52,SNR=8.1						
TIXI	Tiksi	51.47	3	P	P	05 43 04.0	-0.9
	comp=Z,4.0nm,0.5s,baz=170,slow=4.5,SNR=15						
TIXI	Tiksi	51.47	3	eP	P	05 43 04.2	-0.7
	comp=Z,10nm,1.1s						
TIXI	Tiksi	51.47	3	⇓iP	P	05 43 04.6	-0.4
TIXI				pmax	pmax		
	comp=Z,24nm,2.5s						
BVA0	Borovoye Array	51.48	322	iP	P	05 43 04.5	-0.9
BVA0				pmax	pmax		
	comp=Z,6.0nm,1.1s						
BVAR	Borovoye Array	51.48	322	P	P	05 43 05.1	-0.2
	comp=Z,3.9nm,0.8s,baz=108,slow=8.3,SNR=20						
BVAR				LR	LR	06 07 20.3	
	comp=Z,172nm,18.7s,baz=103,slow=39						
BRVK	Borovoye	51.55	322	eP	P	05 43 05.8	-0.1
	comp=Z,10nm,0.9s						
BRVK	Borovoye	51.55	322	c iP	P	05 43 06.4	+0.5
BRVK				pmax	pmax		
	comp=Z,38nm,1.2s						
BBOO	Buckleboo	54.38	166	P	P	05 43 27.7	+0.8
	baz=54,SNR=6.0						
BILL	Bilibino	54.90	19	d iP	P	05 43 31.7	+1.4
BILL				e		05 44 35.0	
BILL				e		05 45 35.7	
BILL				ePPP	PPP	05 46 43.1	
BILL				pmax	pmax		
	comp=Z,14nm,1.0s						
BILL				pmax	pmax		
	comp=Z,392nm,20.0s						
STKA	Stephens Creek	55.01	160	P	P	05 43 29.9	-1.6
	comp=Z,3.4nm,0.5s,baz=328,slow=7.1,SNR=14						
STKA				LR	LR	06 08 09.4	
	comp=Z,99nm,21.9s,baz=352,slow=37						
HTT	Hallett	55.68	163	P	P	05 43 36.0	-0.3
	baz=56,SNR=3.6						
CMSA	Cobar Meteorol	56.13	156	P	P	05 43 39.5	-0.1
	baz=56,SNR=5.6						
AB31	Akbulak array	57.07	316	iP	P	05 43 46.0	-0.1
AB31				pmax	pmax		
	comp=Z,2.0nm,0.5s						
ABKAR	Akbulak array	57.07	316	eP	P	05 43 45.6	-0.6
	comp=Z,42nm,0.6s						
GEYT	Alibeck	57.90	303	P	P	05 43 52.9	+0.7
	comp=Z,7.0nm,0.8s,baz=92,slow=4.5,SNR=14						
GEYT				LR	LR	06 11 47.3	
	comp=Z,308nm,21.8s,baz=45,slow=39						
SVE	Sverdlovsk	57.92	325	⇓eP	P	05 43 53.2	+1.3
SVE				pmax	pmax		
	comp=Z,12nm,0.8s						
AKTO	Aktyubinsk	58.45	317	LR	LR	06 11 05.9	
	comp=Z,247nm,20.6s,baz=100,slow=38						
AKTO	Aktyubinsk	58.45	317	P	P	05 43 54.2	-1.6
ARU	Arti	58.97	324	eP	P	05 43 57.5	-1.8
	comp=Z,8.0nm,1.0s						
ARU	Arti	58.97	324	d iP	P	05 43 58.5	-0.8
ARU						05 44 43.4	
ARU						05 46 05.1	
ARU				S	S	05 52 06.2	+2.3
ARU				SS	SS	05 55 54.0	-3.6
ARU				pmax	pmax		
	comp=Z,25nm,2.5s						
CNB	Canberra Magne	60.89	155	P	P	05 44 12.9	+0.2
	baz=61,SNR=6.4						
TOO	Toolangi	61.49	159	P	P	05 44 17.0	+0.3
	baz=62,SNR=4.7						
MAK	Makhachkala	65.67	309	eP	P	05 44 40.7	-3.7
MAK				eS	S	05 53 23.0	-5.8
MAK				pmax	pmax		
	comp=Z,31nm,0.5s						
MAK				MLR	MLR		
	comp=Z,216nm,18.0s						
VRH	Novokhopyorsk	68.76	318	eP	P	05 45 03.0	-0.8
VRH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
AKH	Akhalkalaki	68.82	308	⇓iP	P	05 45 06.1	+1.4
AKH	Akhalkalaki	68.82	308	eP	P	05 45 05.6	+0.9
	comp=Z,12nm,0.7s						
KBZ	Khabaz	68.91	310	P	P	05 45 05.0	+0.1
	comp=Z,8.7nm,0.9s,baz=99,slow=4.4,SNR=12						
KBZ	Khabaz	68.91	310	P	P	05 45 05.0	+0.1
KIV	Kislovodsk	69.03	310	eP	P	05 45 05.7	-0.2
	comp=Z,22nm,0.9s						
KIV	Kislovodsk	69.03	310	eP	P	05 45 06.5	+0.7
KIV				pmax	pmax		
	comp=Z,27nm,1.1s						
KIV				MLR	MLR		
	comp=Z,156nm,17.0s						
IM3	Indian Mountai	69.07	26	eP	P	05 45 07.8	+2.3
KLMR	Klimovskoe	69.11	329	eP	P	05 45 03.2	-2.6
KLMR				AMP		05 45 06.6	
	comp=Z,11nm,1.0s						
KLMR				LQ	LQ	06 10 05.2	
KLMR				LQ	LQ	06 10 05.2	
KLMR				LR	LR	06 15 20.2	
KLMR	Klimovskoe	69.11	329	eP	P	05 45 03.2	-2.6
KLMR				pmax	pmax		
	comp=Z,11nm,1.0s						
NEY	Neytrino	69.11	310	⇑eP	P	05 45 07.6	+1.2
NEY				pmax	pmax		
	comp=Z,2.0nm,0.8s						
CAST	Castle Rocks	69.97	29	eP	P	05 45 13.0	+1.9
	comp=Z,13nm,1.0s						
LPSR	Galich'ya Gora	70.31	320	eP	P	05 45 12.1	-1.2
LPSR				pmax	pmax		
	comp=Z,10.0nm,0.8s						
VSR	Storozhevoye	70.35	318	eP	P	05 45 11.7	-2.0
VSR				pmax	pmax		
	comp=Z,6.0nm,0.8s						
BPAW	Bear Paw Mtn.	70.39	28	eP	P	05 45 16.0	+2.3
	comp=Z,10nm,1.3s						
MLY	Manley	70.40	27	eP	P	05 45 16.6	+2.8
	comp=Z,4.7nm,0.8s						
KTH	Kantishna Hill	70.48	28	eP	P	05 45 17.2	+2.9
	comp=Z,5.7nm,0.9s						
RAYN	Ar Rayn	70.74	289	eP	P	05 45 15.0	-1.6
	comp=Z,6.1nm,0.8s						
RAYN	Ar Rayn	70.74	289	eP	P	05 45 15.0	-1.6
RAYN				pmax	pmax		
	comp=Z,6.0nm,0.8s						
SUA	Susitna One	70.81	31	eP	P	05 45 18.6	+2.2
	comp=Z,7.7nm,0.9s						
MCK	McKinley	71.33	28	eP	P	05 45 21.5	+2.0
	comp=Z,9.3nm,1.0s						
RND	Reindeer	71.42	28	eP	P	05 45 21.3	+1.3
	comp=Z,12nm,0.9s						
RND	Reindeer	71.42	28	eP	P	05 45 21.3	+1.3
RND				pmax	pmax		
	comp=Z,12nm,0.9s						
MDM	Murphy Dome	71.46	27	eP	P	05 45 21.8	+1.6
	comp=Z,10nm,1.0s						
WRH	Wood River Hil	71.59	27	eP	P	05 45 23.9	+2.9
	comp=Z,22nm,1.7s						
SML	Sawmill	71.89	30	eP	P	05 45 25.1	+2.2
	comp=Z,15nm,1.2s						
ILAR	Eielson Array	72.06	27	P	P	05 45 24.3	+0.5
	comp=Z,1.0nm,0.8s,baz=283,slow=6.0,SNR=12						
ILAR				LR	LR	06 19 04.7	
	comp=Z,62nm,18.9s,baz=304,slow=38						
SCM	Sheep Creek Mo	72.36	30	eP	P	05 45 27.8	+2.1
	comp=Z,15nm,1.0s						
SCM	Sheep Creek Mo	72.36	30	eP	P	05 45 27.8	+2.1
SCM				pmax	pmax		
	comp=Z,15nm,1.0s						
AFI	Afiamalu	72.95	112	LR	LR	06 11 47.3	
	comp=Z,107nm,19.7s,baz=303,slow=31						
RIDG	Independ'e Rid	73.13	28	eP	P	05 45 31.9	+1.7
	comp=Z,22nm,1.6s						
SCRK	Sand Creek	73.45	27	eP	P	05 45 34.4	+2.2
	comp=Z,5.4nm,1.1s						
ARCES	ARCESS Array B	73.59	339	P	P	05 45 31.9	-0.8
	comp=Z,3.5nm,0.8s,baz=67,slow=9.5,SNR=9.1						
MENT	Mentasta	73.79	28	eP	P	05 45 36.3	+2.2
	comp=Z,6.4nm,1.0s						
EGAK	Eagle	74.46	26	eP	P	05 45 39.3	+1.3
	comp=Z,7.5nm,1.1s						
DAWY	Dawson	75.39	27	eP	P	05 45 45.5	+2.2
	comp=Z,6.0nm,0.9s						
FIA1	FINESS Array S	75.42	330	eP	P	05 45 43.1	-0.4
FINES	FINESS Array B	75.42	330	P	P	05 45 42.6	-0.9
	comp=Z,10nm,0.8s,baz=86,slow=7.8,SNR=30						
VSU	Vasula	75.90	327	⇓eP	P	05 45 45.7	-0.6
VSU				pmax	pmax		
	comp=Z,28nm,0.8s						
INK	Inuvik	76.32	22	eP	P	05 45 49.6	+1.1
	comp=Z,12nm,1.3s						
BRTR	Keskin Array B	76.51	308	P	P	05 45 49.7	-0.7
	comp=Z,0.7nm,0.4s,baz=140,slow=3.5,SNR=8.6						
BRTR				LR	LR	06 22 27.7	
	comp=Z,79nm,21.6s,baz=50,slow=38						
ATD	Arta Tunnel	76.54	277	LR	LR	06 17 42.9	
	comp=Z,18nm,21.9s,baz=28,slow=34						
AKASG	Malin Array Be	76.61	319	P	P	05 45 48.8	-1.7
	comp=Z,2.3nm,0.6s,baz=61,slow=6.2,SNR=9.9						
KIEV	Kiev	76.62	319	eP	P	05 45 48.9	-1.7
	comp=Z,8.1nm,1.1s						
KIEV	Kiev	76.62	319	eP	P	05 45 48.9	-1.7
KIEV				pmax	pmax		
	comp=Z,8.0nm,1.1s						
MMAI	Mount Meron Ar	76.92	301	LR	LR	06 22 17.0	
	comp=Z,67nm,20.3s,baz=215,slow=38						
SUW	Suwalki	79.14	324	eP	P	05 46 04.4	-0.1
	comp=Z,40nm,1.0s						
SUW	Suwalki	79.14	324	eP	P	05 46 04.4	-0.1
SUW				pmax	pmax		
	comp=Z,40nm,1.0s						
TESR	Tescani	79.47	316	⇑iP	P	05 46 05.7	-0.8
VRI	Vrincioaia	79.62	315	⇑iP	P	05 46 08.4	+1.1
VRI	Vrincioaia	79.62	315	⇑P	P	05 46 08.4	+1.1
BURAR	Bucovina Array	80.04	317	⇓iP	P	05 46 09.3	-0.4
BURAR	Bucovina Array	80.04	317	⇓P	P	05 46 09.3	-0.4
BUR04	Bucovina Ar. S	80.04	317	eP	P	05 46 09.2	-0.5
HFS	Hagfors	81.55	331	P	P	05 46 17.2	-0.2
	comp=Z,3.6nm,0.6s,baz=121,slow=2.6,SNR=11						
DRGR		81.93	317	⇓iP	P	05 46 20.1	+0.4
DRGR		81.93	317	⇓P	P	05 46 20.1	+0.4
NB2	NORSAR Subarra	82.23	333	P	P	05 46 19.6	-1.3
	comp=Z,4.3nm,0.9s,baz=63,slow=5.6						
NOA	NORSAR Array B	82.23	333	P	P	05 46 19.7	-1.3
	comp=Z,3.2nm,0.8s,baz=60,slow=5.3,SNR=7.9						
RES	Resolute Bay	82.25	9	P	P	05 46 20.9	+0.1
	comp=Z,3.2nm,1.0s,baz=317,slow=5.5,SNR=8.7						
RES	Resolute Bay	82.25	9	eP	P	05 46 21.0	+0.1
	comp=Z,7.7nm,1.1s						
OJC	Ojcow	82.45	321	eP	P	05 46 21.4	-0.9
OJC	Ojcow	82.45	321	eP	P	05 46 22.2	-0.2
	comp=Z,6.9nm,0.9s						
OJC	Ojcow	82.45	321	eP	P	05 46 21.4	-0.9
VTS	Vitosha	83.10	313	⇓iP	P	05 46 26.5	+0.5
VTS	Vitosha	83.10	313	eP	P	05 46 25.9	-0.2
	comp=Z,9.4nm,0.9s						
VTS	Vitosha	83.10	313	⇓P	P	05 46 26.6	+0.5
PSZ	Piszkesteto	83.28	319	⇓iP	P	05 46 27.7	+0.9
PSZ	Piszkesteto	83.28	319	⇓P	P	05 46 27.7	+0.9
VYHS	Vyhne	83.71	319	eP	P	05 46 28.4	-0.5
VYHS	Vyhne	83.71	319	eP	P	05 46 28.4	-0.5
VYHS				pmax	pmax		
	comp=Z,5.0nm,1.3s						
MORC	Moravsky Berou	83.97	321	⇓iP	P	05 46 30.2	0.0
MORC	Moravsky Berou	83.97	321	⇓P	P	05 46 30.2	0.0
KSP	Ksiaz	84.25	322	eP	P	05 46 31.0	-0.5
KSP	Ksiaz	84.25	322	eP	P	05 46 31.0	-0.5
DPC	Dobruska-Polom	84.44	322	eP	P	05 46 32.0	-0.6
DPC				epP	PcP	05 46 37.8	+1.6
DPC	Dobruska-Polom	84.44	322	eP	P	05 46 32.0	-0.6
DPC				e		05 46 37.8	
UPC	Upice	84.55	322	eP	P	05 46 33.3	+0.2
UPC	Upice	84.55	322	eP	P	05 46 33.3	+0.2
VRAC	Vranov	84.72	321	P	P	05 46 33.8	-0.3
	comp=Z,6.2nm,1.0s,baz=87,slow=5.4,SNR=5.5						
VRAC	Vranov	84.72	321	⇓iP	P	05 46 33.9	-0.1
VRAC	Vranov	84.72	321	⇓P	P	05 46 33.9	-0.1
PRU	Pruhonice	85.63	322	AMS	AMS	06 26 20.0	
	comp=Z,200nm,14.2s						
CLL	Collm	85.90	324	eP	P	05 46 40.0	+0.2
	comp=Z,6.0nm,1.0s						
CLL				i		05 46 51.6	
CLL				ePP	PP	05 49 58.0	-1.2
CLL				eSS	SS	06 02 42.0	-6.5
CLL				Lm	MLR	06 28 00.0	
	comp=Z,200nm,18.9s						
CLL	Collm	85.90	324	eP	P	05 46 37.0	-2.8
CLL				i		05 46 51.6	
CLL				pmax	pmax		
	comp=Z,6.0nm,1.0s						
KMBO	Kilima Mbogo	85.99	267	P	P	05 46 41.0	-0.2
	comp=Z,4.2nm,0.9s,baz=24,slow=5.8,SNR=9.6						
KMBO	Kilima Mbogo	85.99	267	eP	P	05 46 41.9	+0.6
	comp=Z,3.9nm,0.9s						
YKA	Yellowknife Ar	86.02	23	P	P	05 46 40.6	+0.4
	comp=Z,4.0nm,0.8s,baz=312,slow=4.7,SNR=77						
YKA				PKKPbc	PKKPdf	06 04 36.9	+3.7
	comp=Z,0.2nm,0.5s,baz=129,slow=2.4,SNR=7.7						
RAR	Rarotonga	86.39	114	LR	LR	06 18 26.3	
	comp=Z,38nm,21.3s,baz=272,slow=31						
KHC	Kasperske Hory	86.58	322	eP	P	05 46 44.9	+1.6
KHC				AMS	AMS	06 29 30.0	
	comp=Z,200nm,12.6s						
KHC	Kasperske Hory	86.58	322	eP	P	05 46 44.9	+1.6
KHC				MLR	MLR		
	comp=Z,200nm,12.6s						
GERES	GERESS Array B	86.64	321	P	P	05 46 43.1	-0.6
	comp=Z,0.6nm,0.7s,baz=58,slow=5.0,SNR=6.9						
EKA	Eskdalemuir Ar	91.71	332	P	P	05 47 05.8	-1.5
	comp=Z,0.4nm,0.4s,baz=22,slow=3.2,SNR=5.3						
TORD	Torodi Ar. Bea	113.02	295	PKKPab	PKKPab	06 03 33.0	-0.2
	comp=Z,0.7nm,0.8s,baz=257,slow=4.5,SNR=3.5						
TXAR	Lajitas Array	113.49	43	PKiKP	PKiKP	05 52 38.4	-0.3
	comp=Z,0.4nm,0.7s,baz=318,slow=2.2,SNR=6.2						
SDV	Santo Domingo	148.21	25	ePKPdf	PKPdf	05 53 43.4	-0.3

NNC 01 05:36:01.0±3.7, 37°.24N×70°.99E, h0km, mb3.7, mpv3.3, 4C-4D, Error ellipse: s-maj=28.8km s-min=25.5km az=148.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	Sufi-Kurgan	3.40	35	⇑Pn	Pn	05 36 55.9	+0.4
	1.4nm,0.3s						
SFK				⇓Sn	Sn	05 37 38.7	+2.0
	5.6nm,0.4s						
MNAS	Manas	5.37	12	⇓Pn	Pn	05 37 22.9	+0.4
	2.0nm,0.4s						
MNAS				⇑Sn	Sn	05 38 26.2	+1.1
	2.2nm,0.5s						
KK31	Karatay Array	5.86	357	⇓Pn	Pn	05 37 29.6	+0.4
	1.0nm,0.3s,baz=171,slow=12,SNR=28						
KK31				⇓Sn	Sn	05 38 39.0	+1.8
	0.9nm,0.5s,baz=178,slow=22,SNR=6.0						
AAK	Ala-Archa	6.02	25	⇑Pn	Pn	05 37 29.6	-2.0
	2.3nm,0.4s						
AAK				⇑Sn	Sn	05 38 39.9	-1.4
	0.9nm,0.4s						

IDC 01 05:36:05.9±1.0, 19°.91N×122°.25E, h0km, mb3.9/6, mb1 4.1/6, mb1mx3.6/70, mbtmp3.9/6, Error ellipse: s-maj=68.7km s-min=20.3km az=65.0
JMA 01 05:36:09.6±0.4, 20°.58N×122°.43E, h24km, M4.8
ISC 01 05:36:10.8±1.1, 20°.38N±0°.09×122°.8E±0°.1, h31km, n18, σ1s.64/26, mb3.9/6, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATJ	Hateruma jima	3.79	15	eS	Sn	05 37 49.1	-1.5
JKRS	Kuro-shima	4.01	17	P	Pn	05 37 10.9	+0.8
JKRS				eS	Sn	05 37 54.4	-1.7
IRIF	Iriomote-Funau	4.04	13	P	Pn	05 37 11.3	+0.8
IRIF				S	Sn	05 37 55.4	-1.4
JYNG	Yonagunijimaku	4.06	3	P	Pn	05 37 09.9	-0.8
JYNG				eS	Sn	05 37 55.9	-1.3
YOJ	Yonaguni jima	4.07	3	P	Pn	05 37 10.4	-0.5
YOJ				eS	Sn	05 37 55.9	-1.6
JIJ	Ishigaki jima	4.17	18	P	Pn	05 37 12.6	+0.3
JIJ				eS	Sn	05 37 57.6	-2.4
JISG	Ishigakijimahi	4.43	19	P	Pn	05 37 15.6	-0.3
JISG				eS	Sn	05 38 05.3	-1.1
JTJ	Tarama	4.61	23	P	Pn	05 37 19.4	+1.1
JTJ				S	Sn	05 38 10.3	-0.5
JIRB	Irabujima	4.96	26	P	Pn	05 37 23.7	+0.5
JIRB				eS	Sn	05 38 20.5	+1.0
JOGS	Gusukube	5.00	29	P	Pn	05 37 24.5	+0.7
JOGS				S	Sn	05 38 21.4	+0.8
JIKM	Ikemajima	5.08	27	eS	Sn	05 38 22.4	0.0
JOW	Kunigami	8.18	37	Sn	Sn	05 39 34.6	-4.2
	4.5nm,0.3s,baz=76,slow=11,SNR=3.4						
WRA	Warramunga Arr	41.65	163	P	P	05 43 53.2	-3.4
	3.3nm,0.8s,baz=346,slow=9.1,SNR=5.7						
MKAR	Makanchi Array	42.10	318	P	P	05 43 59.1	-0.9
	1.6nm,0.8s,baz=110,slow=8.5,SNR=2.7						
ZALV	Zalesovo Beam	44.22	329	P	P	05 44 17.3	+0.3
	1.7nm,0.8s,baz=118,slow=7.3,SNR=2.8						
ASAR	Alice Springs	45.11	166	P	P	05 44 21.7	-2.7
	1.0nm,0.7s,baz=342,slow=6.3,SNR=5.2						
AKASG	Malin Array Be	76.67	319	P	P	05 48 00.3	+1.5
	0.1nm,0.3s,baz=60,slow=5.5,SNR=4.2						
YKA	Yellowknife Ar	85.89	23	P	P	05 48 50.5	+3.1
	0.7nm,0.8s,baz=310,slow=4.8,SNR=2.9						

ISCJB 01 05:38:56.7±0.4, 38°.65N±0°.06×14°.99E±0°.06, h260km±5km, mb3.4/5, Error ellipse: s-maj=9.0km s-min=7.8km az=1.9
ROM 01 05:38:57.1±0.3, 38°.65N×14°.92E, h252km±4km, Ml3.2/29, Error ellipse: s-maj=5.4km s-min=3.2km az=139.0
IDC 01 05:38:58.0±1.4, 38°.81N×14°.75E, h263km±26km, mb3.0/6, mb1 3.0/10, mb1mx2.8/74, mbtmp3.6/10, Error ellipse: s-maj=46.7km s-min=20.2km az=34.0
LDG 01 05:38:57.1, 38°.78N×15°.11E, h258km
CSEM 01 05:38:58.3±0.3, 38°.69N×14°.89E, h245km±3km, ML3.1/4, Error ellipse: s-maj=7.8km s-min=5.3km az=133.0
ISC 01 05:38:56.2±0.8, 38°.61N±0°.10×14°.95E±0°.07, h259km±7km, n119, σ1s.32/127, mb3.7/5, 4D, Sicily

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LLI	Lipari	0.16	182	Pg	Pn	05 39 31.0	+1.4
	534nm,0.8s						
LLI	Lipari	0.16	182	Pg	Pn	05 39 31.0	+1.4
	534nm,0.8s						
VPL	Vulcano Piano	0.23	174	Pg	Pn	05 39 30.5	+0.8
	411nm,0.9s						
VPL	Vulcano Piano	0.23	174	Pg	Pn	05 39 30.5	+0.8
	411nm,0.9s						
MILZ	Milazzo	0.40	147	⇓iPg	Pn	05 39 30.3	+0.3
MILZ				Sg	S	05 39 55.3	-1.2
	153nm,0.4s						
MILZ	Milazzo	0.40	147	⇓iPg	Pn	05 39 30.3	+0.3
MILZ				Sg	S	05 39 55.3	-1.2
	153nm,0.4s						
MSRU	Castanea	0.56	128	⇓iPg	Pn	05 39 30.6	+0.2
MSRU				Sg	S	05 39 56.5	-0.8
	232nm,0.6s						
MSRU	Castanea	0.56	128	⇓iPg	Pn	05 39 30.6	+0.2
MSRU				Sg	S	05 39 56.5	-0.8
	232nm,0.6s						
MPNC	Port Mandanici	0.56	146	Pg	Pn	05 39 30.9	+0.4
	215nm,0.7s						
MPNC	Port Mandanici	0.56	146	Pg	Pn	05 39 30.9	+0.4
	215nm,0.7s						
MUCR	Ucria	0.57	186	Pg	Pn	05 39 30.9	+0.3
	58nm,0.6s						
MUCR	Ucria	0.57	186	Pg	Pn	05 39 30.9	+0.3
	58nm,0.6s						
MCSR	Castroreale	0.59	157	Pg	Pn	05 39 31.4	+0.7
	445nm,0.8s						
MCSR	Castroreale	0.59	157	Pg	Pn	05 39 31.4	+0.7
	445nm,0.8s						
NOV	Novara	0.60	166	Pg	Pn	05 39 32.1	+1.4
NOV	Novara	0.60	166	Pg	Pn	05 39 32.1	+1.4
MMME	Mongiuffi-Meli	0.71	161	Pg	Pn	05 39 32.3	+1.2
	134nm,0.4s						
MMME	Mongiuffi-Meli	0.71	161	Pg	Pn	05 39 32.3	+1.2
	134nm,0.4s						
JOPP	Joppolo	0.73	90	Pg	Pn	05 39 31.6	+0.6
JOPP				Sg	S	05 39 56.7	-1.7
	100nm,0.4s						
JOPP	Joppolo	0.73	90	Pg	Pn	05 39 31.6	+0.6
JOPP				Sg	S	05 39 56.7	-1.7
	100nm,0.4s						
MSCL	Scilla	0.76	120	Pg	Pn	05 39 31.6	+0.4
	371nm,0.7s						
MSCL	Scilla	0.76	120	Pg	Pn	05 39 31.6	+0.4
	371nm,0.7s						
GMB	Gambarie	0.82	122	Pg	Pn	05 39 32.3	+0.7
	580nm,0.3s						
GMB	Gambarie	0.82	122	Pg	Pn	05 39 32.3	+0.7
	580nm,0.3s						
GIB	Gibilmanna	0.96	230	Pg	Pn	05 39 32.8	+0.6
	40nm,0.6s						
GIB	Gibilmanna	0.96	230	Pg	Pn	05 39 32.8	+0.6
	40nm,0.6s						
SOI	Samo	1.02	121	Pg	Pn	05 39 33.4	+1.0
SOI				Sg	S	05 39 59.6	-1.2
	73nm,0.3s						
SOI	Samo	1.02	121	Pg	Pn	05 39 33.4	+1.0
SOI				Sg	S	05 39 59.6	-1.2
	73nm,0.3s						
MPAZ	Palizzi	1.06	128	Pg	Pn	05 39 33.7	+1.1
	165nm,0.3s						
MPAZ	Palizzi	1.06	128	Pg	Pn	05 39 33.7	+1.1
	165nm,0.3s						
CAR1	CAROLEI	1.17	56	Pg	Pn	05 39 34.1	+0.8
	126nm,0.6s						
CAR1	CAROLEI	1.17	56	Pg	Pn	05 39 34.1	+0.8
	126nm,0.6s						
RESU	Resuttano	1.19	217	Pg	Pn	05 39 35.4	+1.9
RESU	Resuttano	1.19	217	Pg	Pn	05 39 35.4	+1.9
VAE	Valguarnera	1.21	201	P	Pn	05 39 36.6	+3.0
	2.6nm,0.3s,baz=0.0,slow=10,SNR=4.7						
SOLUN	Solunto	1.23	246	Pg	Pn	05 39 34.0	+0.4
	28nm,0.3s						
SOLUN	Solunto	1.23	246	Pg	Pn	05 39 34.0	+0.4
	28nm,0.3s						
HLNI	Lentini	1.26	183	Pg	Pn	05 39 34.9	+1.1
	34nm,0.2s						
HLNI	Lentini	1.26	183	Pg	Pn	05 39 34.9	+1.1
	34nm,0.2s						
ALJA	Alia	1.28	228	Pg	Pn	05 39 35.5	+1.5
	77nm,0.4s						
ALJA	Alia	1.28	228	Pg	Pn	05 39 35.5	+1.5
	77nm,0.4s						
HCRL	Carlentini	1.32	177	Pg	Pn	05 39 35.5	+1.2
	147nm,0.9s						
HCRL	Carlentini	1.32	177	Pg	Pn	05 39 35.5	+1.2
	147nm,0.9s						
MPG	Monte Pellegri	1.33	251	Pg	Pn	05 39 34.9	+0.6
	29nm,0.2s						
MPG	Monte Pellegri	1.33	251	Pg	Pn	05 39 34.9	+0.6
	29nm,0.2s						
HAGA	Augusta	1.33	173	Pg	Pn	05 39 35.3	+1.0
	53nm,0.7s						
HAGA	Augusta	1.33	173	Pg	Pn	05 39 35.3	+1.0
	53nm,0.7s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
AGST	Augusta-Monte	1.37	171	Pg	Pn	05 39 35.7	+1.2
AGST	Augusta-Monte	1.37	171	Pg	Pn	05 39 35.7	+1.2
SERS	Sersale	1.42	72	Pg	Pn	05 39 36.3	+1.3
	101nm,0.5s						
SERS	Sersale	1.42	72	Pg	Pn	05 39 36.3	+1.3
	101nm,0.5s						
HVZN	Vizzini	1.44	188	Pg	Pn	05 39 36.4	+1.2
	79nm,0.6s						
HVZN	Vizzini	1.44	188	Pg	Pn	05 39 36.4	+1.2
	79nm,0.6s						
SSY	Sortino	1.46	176	Pg	Pn	05 39 36.3	+1.1
	63nm,0.7s						
SSY	Sortino	1.46	176	Pg	Pn	05 39 36.3	+1.1
	63nm,0.7s						
CORL	Corleone	1.48	242	Pg	Pn	05 39 36.1	+0.7
	111nm,1.2s						
CORL	Corleone	1.48	242	Pg	Pn	05 39 36.1	+0.7
	111nm,1.2s						
MEU	Monte Lauro	1.50	181	Pg	Pn	05 39 37.0	+1.3
	145nm,0.3s						
MEU	Monte Lauro	1.50	181	Pg	Pn	05 39 37.0	+1.3
	145nm,0.3s						
TIP	Timpagrande	1.52	67	Pg	Pn	05 39 37.2	+1.6
	66nm,0.6s						
TIP	Timpagrande	1.52	67	Pg	Pn	05 39 37.2	+1.6
	66nm,0.6s						
HAVL	Avola	1.65	175	Pg	Pn	05 39 38.0	+1.3
	66nm,0.7s						
HAVL	Avola	1.65	175	Pg	Pn	05 39 38.0	+1.3
	66nm,0.7s						
HMDC	Modica	1.65	185	Pg	Pn	05 39 38.4	+1.7
	125nm,1.5s						
HMDC	Modica	1.65	185	Pg	Pn	05 39 38.4	+1.7
	125nm,1.5s						
CLTB	Caltabellotta	1.71	234	Pg	Pn	05 39 38.2	+1.0
	97nm,0.4s						
CLTB	Caltabellotta	1.71	234	Pg	Pn	05 39 38.2	+1.0
	97nm,0.4s						
LADO	San Nicola del	1.72	66	Pg	Pn	05 39 37.9	+0.8
	15nm,0.3s						
LADO	San Nicola del	1.72	66	Pg	Pn	05 39 37.9	+0.8
	15nm,0.3s						
CRJA	Costa Raja	1.73	243	Pg	Pn	05 39 38.4	+1.1
	25nm,0.2s						
CRJA	Costa Raja	1.73	243	Pg	Pn	05 39 38.4	+1.1
	25nm,0.2s						
MMGO	Monte Magaggia	1.82	239	Pg	Pn	05 39 38.6	+0.6
	39nm,0.3s						
MMGO	Monte Magaggia	1.82	239	Pg	Pn	05 39 38.6	+0.6
	39nm,0.3s						
SOKA	Soboth	8.06	0	P	Pn	05 40 51.7	+1.4
SOKA	Soboth	8.06	0	Pn	Pn	05 40 51.7	+1.4
ABTA	Abfaltersbach	8.33	348	P	Pn	05 40 55.5	+1.9
	0.1nm,0.3s						
ABTA	Abfaltersbach	8.33	348	Pn	Pn	05 40 55.5	+1.9
	0.1nm,0.3s						
IDI	Anoyia	8.62	110	P	P	05 41 01.8	-2.7
	0.6nm,0.3s,baz=286,slow=16,SNR=5.8						
ARSA	Arzberg	8.65	3	P	Pn	05 40 58.8	+1.2
	2.0nm,0.7s						
ARSA	Arzberg	8.65	3	ePn	Pn	05 40 58.8	+1.2
	2.0nm,0.7s						
MBDF	Montbardon	8.65	318	eP	Pn	05 41 00.7	+2.9
MBDF	Montbardon	8.65	318	eP	Pn	05 41 00.7	+2.9
FETA	Feichten	8.96	341	ePn	P	05 41 05.7	-2.6
	12nm,0.9s						
MOTA	Moosalm	9.18	343	P	Pn	05 41 06.8	+2.5
	6.0nm,1.2s						
MOTA	Moosalm	9.18	343	ePn	Pn	05 41 06.8	+2.5
	6.0nm,1.2s						
LPG	La Plagne	9.19	321	eP	Pn	05 41 06.0	+1.3
LPG	La Plagne	9.19	321	eP	Pn	05 41 06.0	+1.3
LPL	La Plagne	9.22	321	eP	Pn	05 41 06.4	+1.4
LPL	La Plagne	9.22	321	eP	Pn	05 41 06.4	+1.4
MOA	Molln	9.25	357	P	Pn	05 41 07.1	+1.9
	0.2nm,0.3s						
MOA	Molln	9.25	357	ePn	Pn	05 41 07.1	+1.9
	0.2nm,0.3s						
ORIF	Oris-en-Rattie	9.25	316	eP	Pn	05 41 06.7	+1.4
ORIF	Oris-en-Rattie	9.25	316	eP	Pn	05 41 06.7	+1.4
CONA	Conrad Observa	9.34	4	P	Pn	05 41 08.0	+1.7
	6.7nm,1.4s						
CONA	Conrad Observa	9.34	4	ePn	Pn	05 41 08.0	+1.7
	6.7nm,1.4s						
GERES	GERESS Array B	10.27	355	P	Pn	05 41 17.4	-0.6
	0.1nm,0.3s,baz=161,slow=12,SNR=11						
CABF	La Chapelle	10.32	324	eP	Pn	05 41 19.9	+1.2
CABF	La Chapelle	10.32	324	eP	Pn	05 41 19.9	+1.2
HINF	Hinteralfeld	10.93	330	eP	Pn	05 41 27.1	+0.9
HINF	Hinteralfeld	10.93	330	eP	Pn	05 41 27.1	+0.9
CDF	Champ du Feu	11.27	333	eP	Pn	05 41 31.4	+1.0
	1.9nm,0.4s						
CDF	Champ du Feu	11.27	333	eP	Pn	05 41 31.4	+1.0
	0.9nm,0.4s						
AVF	Avril sur Loir	11.81	318	eP	P	05 41 38.9	-1.1
AVF	Avril sur Loir	11.81	318	eP	P	05 41 38.9	-1.1
BRTR	Keskin Array B	14.54	80	P	Pn	05 42 13.2	+2.5
	0.1nm,0.3s,baz=266,slow=14,SNR=3.3						
LDF	La Druitiere	14.77	317	eP	Pn	05 42 14.7	+1.6
GRR	Gorron	15.05	316	eP	Pn	05 42 17.9	+1.5
GRR	Gorron	15.05	316	eP	Pn	05 42 17.9	+1.5
FLN	La Foliniere	15.06	317	eP	Pn	05 42 17.7	+1.1
FLN	La Foliniere	15.06	317	eP	Pn	05 42 17.7	+1.1
AKASG	Malin Array Be	15.75	35	P	Pn	05 42 24.5	-0.3
	2.0nm,0.3s,baz=229,slow=9.8,SNR=16						
SGMF	Saint Gilles	15.93	313	eP	Pn	05 42 26.8	-0.1
	2.1nm,0.4s						
ROSF	Rostrenen	16.38	312	eP	Pn	05 42 31.7	-0.5
	2.9nm,0.3s						
EKA	Eskdalemuir Ar	20.69	330	P	P	05 43 15.9	-0.8
	0.3nm,0.4s,baz=142,slow=11,SNR=4.6						
HFS	Hagfors	21.56	358	P	P	05 43 23.8	-1.3
	1.4nm,0.5s,baz=170,slow=12,SNR=7.2						
NOA	NORSAR Array B	22.58	355	P	P	05 43 34.2	-0.2
	0.4nm,0.5s,baz=174,slow=10,SNR=2.9						
FINES	FINESS Array B	23.88	13	P	P	05 43 46.5	+0.3
	0.7nm,0.3s,baz=180,slow=9.2,SNR=17						
ARCES	ARCESS Array B	31.50	7	P	P	05 44 53.2	-0.5
	3.0nm,1.0s,baz=190,slow=8.3,SNR=19						
MKAR	Makanchi Array	48.78	57	P	P	05 47 16.9	+1.7
	0.3nm,0.3s,baz=275,slow=7.5,SNR=4.0						

TAP 01 05:41:22.3, 24°.24N×121°.80E, h57km, ML3.5, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NANB	Nanao	0.20	346	P	Pn	05 41 31.6	+0.2
	baz=345						
NANB				eS	Sn	05 41 38.5	+0.6
	baz=345						
ENA	Nanau	0.20	343	P	Pn	05 41 31.5	+0.1
	baz=345						
ENA				S	Sn	05 41 38.8	+0.9
	baz=345						
NACB	Ninganchiao	0.20	251	P	Pn	05 41 31.4	0.0
	baz=251						
NACB				eS	Sn	05 41 38.4	+0.4
	baz=251						
ENAH	Nanao	0.21	2	P	Pn	05 41 31.7	+0.3
	baz=1.0						
ENAH				eS	Sn	05 41 38.7	+0.7
	baz=1.0						
TWD	Chiawan	0.25	230	P	Pn	05 41 31.7	0.0
	baz=229						
TWD				S	Sn	05 41 38.6	+0.3
	baz=229						
HWA	Hwalien	0.32	215	eP	Pn	05 41 32.5	+0.3
	baz=213						
HWA				eS	Sn	05 41 41.1	+1.8
	baz=213						
TWC	Suao	0.37	6	P	Pn	05 41 33.2	+0.5
	baz=7.0						
TWC				eS	Sn	05 41 41.2	+1.0
	baz=7.0						
ENLB	Shoufeng	0.38	209	P	Pn	05 41 33.2	+0.5
	baz=209						
ENLB				S	Sn	05 41 41.7	+1.4
	baz=209						
NNSB	Datong	0.43	296	P	Pn	05 41 33.5	+0.1
	baz=296						
NNSB				S	Sn	05 41 41.9	+0.5
	baz=296						
NNSH	Datong	0.43	296	eP	Pn	05 41 33.3	-0.1
	baz=296						
NNSH				eS	Sn	05 41 41.7	+0.3
	baz=296						
NNS	Nan Shan	0.44	297	P	Pn	05 41 33.8	+0.3
	baz=297						
NNS				eS	Sn	05 41 42.1	+0.5
	baz=297						
ENTT	Nioudou	0.46	332	P	Pn	05 41 33.9	+0.4
	baz=332						
ENTT				eS	Sn	05 41 43.0	+1.4
	baz=332						
WHF	Hehuan Shan	0.50	259	P	Pn	05 41 34.2	-0.2
	baz=259						
WHF				S	Sn	05 41 43.5	+0.2
	baz=259						
ILA	Ilan	0.53	355	eS	Sn	05 41 45.1	+2.1
	baz=355						
SLBB	Yuanshan	0.54	343	P	Pn	05 41 35.3	+0.8
	baz=343						
SLBB				eS	Sn	05 41 44.9	+1.6
	baz=343						
ESL	Shilin	0.54	219	eP	Pn	05 41 33.7	-0.8
	baz=217						
ESL				eS	Sn	05 41 42.4	-0.9
	baz=217						
TWT	Tachien	0.57	272	P	Pn	05 41 35.7	+0.7
	baz=271						
TWT				eS	Sn	05 41 45.4	+1.2
	baz=271						
YHNB	Yeheng	0.58	318	P	Pn	05 41 35.4	+0.4
	baz=317						
YHNB				eS	Sn	05 41 44.6	+0.4
	baz=317						
TDCB	Techi	0.59	272	P	Pn	05 41 35.8	+0.6
	baz=271						
TDCB				eS	Sn	05 41 44.7	+0.2
	baz=271						
CHGB	Renai	0.60	253	P	Pn	05 41 35.6	+0.2
	baz=252						
CHGB				eS	Sn	05 41 44.9	0.0
	baz=252						
NWLT	Wulai	0.60	333	eP	Pn	05 41 35.5	+0.3
	baz=332						
NWLT				eS	Sn	05 41 45.3	+0.7
	baz=332						
OWD	Renai	0.64	244	P	Pn	05 41 35.7	0.0
	baz=243						
OWD				eS	Sn	05 41 45.2	-0.3
	baz=243						
EGFH	Guangfu	0.66	211	P	Pn	05 41 36.7	+0.8
	baz=211						
EGFH				eS	Sn	05 41 45.2	-0.6
	baz=211						
TIPB	Shuangxi	0.73	2	P	Pn	05 41 36.7	-0.1
	baz=1.0						
TIPB				eS	Sn	05 41 47.9	+0.6
	baz=1.0						
TWA	Mucha	0.77	345	P	Pn	05 41 37.9	+0.7
	baz=345						
TWA				eS	Sn	05 41 49.4	+1.3
	baz=345						
TWB1	Santiao Chiao	0.79	12	eP	Pn	05 41 38.4	+1.0
	baz=12						
TWB1				eS	Sn	05 41 50.1	+1.6
	baz=12						
WLTB	Daxi	0.79	321	P	Pn	05 41 38.0	+0.5
	baz=320						
WLTB				eS	Sn	05 41 50.6	+2.0
	baz=320						
LIOB	Emei	0.82	300	eP	Pn	05 41 38.1	+0.1
	baz=299						
LIOB				eS	Sn	05 41 51.2	+1.7
	baz=299						
DPDB	Guoxing	0.83	256	eP	Pn	05 41 38.3	+0.3
	baz=255						
DPDB				eS	Sn	05 41 50.7	+1.1
	baz=255						
NSTT	Nanjuang	0.83	298	P	Pn	05 41 39.0	+1.0
	baz=298						
NSTT				eS	Sn	05 41 51.1	+1.6
	baz=298						
WFSB	Wu-fen Shan	0.83	359	P	Pn	05 41 38.7	+0.7
	baz=358						
WFSB				eS	Sn	05 41 50.8	+1.3
	baz=358						
SSLB	Suanglung	0.90	240	P	Pn	05 41 39.5	+0.6
	baz=240						
SSLB				eS	Sn	05 41 53.0	+1.9
	baz=240						
SMLT	Sun Moon Lake	0.90	247	P	Pn	05 41 40.0	+1.0
	baz=246						
SMLT				eS	Sn	05 41 52.3	+1.1
	baz=246						
NCU	National Centr	0.92	323	eP	Pn	05 41 39.2	0.0
	baz=322						
NCU				eS	Sn	05 41 52.4	+0.8
	baz=322						
TYC	Yuchr	0.93	249	P	Pn	05 41 40.2	+1.0
	baz=248						
TYC				eS	Sn	05 41 52.9	+1.2
	baz=248						
TWS1	Kuangyinshan	0.93	338	eP	Pn	05 41 39.5	+0.2
	baz=338						
TWS1				eS	Sn	05 41 52.5	+0.7
	baz=338						
YM04	YM04	0.94	345	eP	Pn	05 41 39.5	0.0
	baz=345						
YM04				eS	Sn	05 41 53.1	+0.9
	baz=345						
TWQ1	Liyutan	0.95	277	P	Pn	05 41 40.0	+0.5
	baz=276						
TWQ1				eS	Sn	05 41 53.3	+1.1
	baz=276						
YM07	YM07	0.95	350	eP	Pn	05 41 38.7	-0.9
	baz=349						
YM07				eS	Sn	05 41 52.0	-0.3
	baz=349						
YULB	Yu-li	0.96	209	eP	Pn	05 41 39.3	-0.4
	baz=208						
YULB				eS	Sn	05 41 55.5	+3.0
	baz=208						
PTSB	Yuanli	1.02	282	P	Pn	05 41 41.1	+0.6
	baz=281						
PTSB				eS	Sn	05 41 56.5	+2.5
	baz=281						
TCU	Taichung	1.03	265	eP	Pn	05 41 40.9	+0.2
	baz=264						
TCU				eS	Sn	05 41 56.0	+1.8
	baz=264						
WJS	Zhushan	1.07	247	eP	Pn	05 41 41.8	+0.8
	baz=247						
WJS				eS	Sn	05 41 56.9	+1.9
	baz=247						
WNT	Mingjian	1.08	251	P	Pn	05 41 41.9	+0.6
	baz=250						
WNT				eS	Sn	05 41 57.8	+2.4
	baz=250						
WCHH	Zhanghua	1.15	262	eP	Pn	05 41 42.8	+0.7
	baz=262						
ALS	Alishan	1.17	232	eP	Pn	05 41 44.2	+1.5
	baz=231						
ALS				eS	Sn	05 42 00.3	+2.5
	baz=231						
CHN5	Tsauling	1.21	238	P	Pn	05 41 43.9	+0.8
	baz=238						
CHN5				eS	Sn	05 41 59.4	+0.8
	baz=238						
CHN4	Tsaushan	1.42	232	P	Pn	05 41 46.9	+1.1
	baz=231						
CHN4				eS	Sn	05 42 04.9	+1.5
	baz=231						

JMA 01 06:19:07.4±0.3, 23°.88N×125°.86E, h0km, M3.5, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOGS	Gusukube	0.97	335	P	Pg	06 19 26.2	+0.2
JOGS				eS	Sb	06 19 39.7	-0.8
JMJ	Miyako jima 2	1.06	331	P	Pb	06 19 28.5	-0.2
JMJ				eS	Sb	06 19 42.5	-0.7
JIRB	Irabujima	1.13	327	P	Pg	06 19 29.1	0.0
JIRB				eS	Sb	06 19 44.9	-0.3
JIKM	Ikemajima	1.18	332	P	Pb	06 19 30.4	-0.3
JIKM				eS	Sb	06 19 46.6	+0.1
JTJ	Tarama	1.30	306	P	Pg	06 19 31.9	-0.5
JTJ				eS	Sb	06 19 49.9	-0.1
JISG	Ishigakijimahi	1.58	297	P	Pn	06 19 36.8	+0.1
JIJ	Ishigaki jima	1.64	287	P	Pn	06 19 37.8	+0.3
JKRS	Kuro-shima	1.73	282	P	Pn	06 19 39.3	+0.6
HATJ	Hateruma jima	1.89	276	eS	Sn	06 20 05.7	+0.3

ISK 01 06:26:56.3, 38°.68N×43°.08E, h5km, ML3.4/5
ATA 01 06:26:56.7±1.2, 38°.66N×42°.97E, h15km±6km, ML3.9, MW3.7
DDA 01 06:26:57.3, 38°.66N×43°.08E, h20km, Ml3.5
CSEM 01 06:26:57.7±0.1, 38°.68N×43°.06E, h2km, ML3.4, Error ellipse: s-maj=3.5km s-min=3.2km az=140.0
ISC 01 06:26:57.7±1.0, 38°.67N±0°.02×43°.06E±0°.02, h6km±9km, n93, σ1§11/136, 1C-1D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	Van	0.27	107	PG	Pg	06 27 03.6	+0.5
VANB				SG	Sb	06 27 09.2	-0.7
VANB	Van	0.27	107	i Pg	Pg	06 27 03.6	+0.5
VANB				eSg	Sb	06 27 09.2	-0.7
ADCV	BITLIS_Adilcev	0.29	297	i P	Pb	06 27 04.5	-1.0
ADCV				i S	Sb	06 27 10.0	-0.7
ADCV	BITLIS_Adilcev	0.29	297	P	Pb	06 27 04.5	-1.0
ADCV				S	Sb	06 27 10.0	-0.7
TVAN	Van	0.31	118	i P	Pg	06 27 04.0	+0.3
TVAN				i S	Sb	06 27 09.5	-1.6
TVAN	Van	0.31	118	P	Pg	06 27 04.1	+0.3
TVAN				S	Sb	06 27 09.5	-1.6
GEVA	Gevas	0.36	180	i P	Pg	06 27 04.3	-0.4
GEVA				eS	Sg	06 27 10.3	+0.7
GEVA				IAML		06 27 12.1	
	comp=Z,2µm,0.4s						
GEVA	Gevas	0.36	180	i P	Pg	06 27 04.4	-0.4
GEVA				i S	Sg	06 27 10.2	+0.7
GEVA	Gevas	0.36	180	P	Pg	06 27 04.4	-0.4
GEVA				S	Sg	06 27 10.2	+0.7
ERCV	ERCIS-VAN	0.41	32	PG	Pg	06 27 05.1	-0.6
ERCV				SG	Sb	06 27 12.1	-1.9
ERCV	ERCIS-VAN	0.41	32	ePg	Pg	06 27 05.1	-0.6
ERCV				eSg	Sb	06 27 12.1	-1.9
VMUR	Van-Muradiye	0.51	52	i P	Pb	06 27 08.0	-1.2
VMUR				i S	Sb	06 27 16.9	0.0
VMUR	Van-Muradiye	0.51	52	P	Pb	06 27 08.0	-1.2
VMUR				S	Sb	06 27 16.9	0.0
TUTA	Tutak	0.75	345	⇓ iP	Pg	06 27 12.2	0.0
TUTA				eS	Sb	06 27 22.9	-1.1
TUTA				IAML		06 27 24.2	
	comp=Z,552nm,0.5s						
TUTA	Tutak	0.75	345	i P	Pg	06 27 12.2	0.0
TUTA				i S	Sb	06 27 23.1	-0.9
TUTA	Tutak	0.75	345	P	Pg	06 27 12.2	0.0
TUTA				S	Sb	06 27 23.1	-0.9
GURO	Guroymak-BITLI	0.81	262	PG	Pg	06 27 12.7	-0.7
GURO	Guroymak-BITLI	0.81	262	ePg	Pg	06 27 12.7	-0.7
CLDR	Caldiran	0.82	55	PG	Pg	06 27 12.0	-1.5
CLDR				SG	Sb	06 27 24.6	-1.2
CLDR	Caldiran	0.82	55	i P	Pg	06 27 11.9	-1.5
CLDR				i S	Sb	06 27 24.9	-0.8
CLDR	Caldiran	0.82	55	ePg	Pg	06 27 12.0	-1.5
CLDR				eSg	Sb	06 27 24.6	-1.2
CLDR				S	Sb	06 27 25.0	-0.8
AGRB	Hanur-Agry	0.90	357	PG	Pg	06 27 14.6	-0.5
AGRB	Hanur-Agry	0.90	357	ePg	Pg	06 27 14.6	-0.5
EKAR	Karacoban	0.97	307	eP	Pg	06 27 15.6	-0.8
EKAR	Karacoban	0.97	307	i P	Pg	06 27 15.8	-0.6
EKAR				i S	Sn	06 27 37.6	+5.3
EKAR	Karacoban	0.97	307	P	Pg	06 27 15.8	-0.6
DYDN	Diyadin	1.00	29	eP	Pg	06 27 16.7	-0.2
DYDN				i Pg	Pn	06 27 17.7	-0.8
DYDN				eS	Sn	06 27 34.0	+1.1
DYDN				IAML		06 27 47.8	
	comp=Z,71nm,0.6s						
DYDN	Diyadin	1.00	29	i P	Pg	06 27 16.8	-0.1
DYDN	Diyadin	1.00	29	P	Pg	06 27 16.8	-0.1
SRTM	Siirt_Merkez	1.12	233	i P	Pb	06 27 19.0	-0.6
SRTM				i S	Sg	06 27 34.6	+0.7
SRTM	Siirt_Merkez	1.12	233	P	Pb	06 27 19.0	-0.6
SRTM				S	Sg	06 27 34.6	+0.7
HAKT	HAKKARI	1.23	155	i P	Pn	06 27 19.6	-2.0
HAKT				i S	Sn	06 27 40.4	+1.8
HAKT	HAKKARI	1.23	155	P	Pn	06 27 19.6	-2.0
HAKT				S	Sn	06 27 40.4	+1.8
EATA	Eleskirt	1.27	340	eP	Pn	06 27 21.4	-0.9
EATA				eS	Sn	06 27 40.2	+0.4
EATA	Eleskirt	1.27	340	i P	Pn	06 27 21.1	-1.2
EATA				i S	Sn	06 27 39.9	+0.2
EATA	Eleskirt	1.27	340	P	Pn	06 27 21.1	-1.2
EATA				S	Sn	06 27 39.9	+0.2
SIRT	Sirnak	1.27	203	PN	Pg	06 27 22.1	0.0
SIRT	Sirnak	1.27	203	ePn	Pg	06 27 22.1	0.0
VRTB	Varto-Mus	1.34	292	PN	Pb	06 27 22.9	-0.4
VRTB	Varto-Mus	1.34	292	i P	Pb	06 27 23.0	-0.4
VRTB	Varto-Mus	1.34	292	P	Pb	06 27 23.0	-0.4
IGDI	IGDIR	1.43	33	⇑ iP	Pb	06 27 24.4	-0.4
IGDI				i Pg	Pg	06 27 25.2	0.0
IGDI				eS	Sg	06 27 46.1	+2.4
IGDI	IGDIR	1.43	33	i P	Pg	06 27 24.7	-0.5
IGDI				i S	Sg	06 27 44.0	+0.2
YOVA	Hakkari_Yˆ…kse	1.46	138	i P	Pn	06 27 24.1	-0.7
YOVA				i S	Sg	06 27 46.6	+2.1
YOVA	Hakkari_Yˆ…kse	1.46	138	P	Pn	06 27 24.0	-0.7
YOVA				S	Sg	06 27 46.6	+2.1
SVAN	Silvan-Diyarba	1.55	251	PN	Pb	06 27 26.6	-0.3
SVAN	Silvan-Diyarba	1.55	251	i P	Pg	06 27 27.3	-0.2
SVAN				i S	Sg	06 27 48.4	+0.8
SVAN	Silvan-Diyarba	1.55	251	ePn	Pb	06 27 26.6	-0.3
SVAN	Silvan-Diyarba	1.55	251	P	Pg	06 27 27.3	-0.2
SVAN				S	Sg	06 27 48.4	+0.8
TASB	TASBURUN-IGDIR	1.60	35	PN	Pb	06 27 26.7	-0.9
TASB	TASBURUN-IGDIR	1.60	35	ePn	Pb	06 27 26.7	-0.9
BTMN	Batman	1.61	242	i P	Pb	06 27 28.1	+0.2
BTMN				i S	Sg	06 27 50.2	+0.7
BTMN	Batman	1.61	242	P	Pb	06 27 28.1	+0.2
BTMN				S	Sg	06 27 50.2	+0.7
HOMI	Horasan	1.64	327	eP	Pn	06 27 26.9	-0.3
HOMI	Horasan	1.64	327	i P	Pn	06 27 27.2	0.0
DIGO	Kars	1.76	8	eP	Pn	06 27 28.7	-0.2
DIGO				eS	Sg	06 27 56.1	+1.9
DIGO				IAML		06 28 01.5	
	comp=Z,22nm,0.4s						
DIGO	Kars	1.76	8	i P	Pb	06 27 30.2	-0.3
DIGO	Kars	1.76	8	P	Pb	06 27 30.2	-0.3
ERZM	Erzurum	1.80	314	eP	Pb	06 27 30.2	-1.1
ERZM	Erzurum	1.80	314	i P	Pn	06 27 29.9	+0.3
ERZM	Erzurum	1.80	314	P	Pn	06 27 29.9	+0.3
ECAT	Cat-ERZURUM	1.87	301	eP	Pb	06 27 31.1	-1.4
ECAT				i Pg	Pg	06 27 32.4	-1.2
ECAT	Cat-ERZURUM	1.87	301	i P	Pb	06 27 31.2	-1.2
ECAT	Cat-ERZURUM	1.87	301	P	Pb	06 27 31.2	-1.2
BNGB	Bingˆ¶l	1.89	280	PN	Pn	06 27 31.1	+0.5
KARS	Kars	1.95	0	PN	Pn	06 27 31.9	+0.4
KARS	Kars	1.95	0	ePn	Pn	06 27 31.9	+0.4
SENK	Senkaya-Erzuru	1.96	344	PN	Pn	06 27 31.9	+0.2
SENK	Senkaya-Erzuru	1.96	344	ePn	Pn	06 27 31.9	+0.2
BINT	Bingol	2.02	277	ePn	Pn	06 27 31.1	-1.3
EAK	Akyaka	2.05	12	eP	Pb	06 27 35.9	+0.4
EAK	Akyaka	2.05	12	i P	Pb	06 27 34.5	-1.0
EAK	Akyaka	2.05	12	P	Pb	06 27 34.5	-1.0
HANI	Diyarbakir_Han	2.10	264	i P	Pb	06 27 34.9	-1.4
HANI				i S	Sg	06 28 04.3	-1.0
HANI	Diyarbakir_Han	2.10	264	P	Pb	06 27 34.9	-1.4
HANI				S	Sg	06 28 04.3	-1.0
MARD	Mardin	2.26	234	i P	Pn	06 27 33.7	-2.0
MAZI	Mazidag	2.39	240	PN	Pn	06 27 38.6	+1.1
MAZI	Mazidag	2.39	240	ePn	Pn	06 27 38.6	+1.1
KOPT	Kop Dagi	2.40	305	eP	Pb	06 27 42.3	+0.8
DBAD	Bademkaya	2.57	336	i P	Pb	06 27 45.3	+1.0
ARTV	Artvin	2.66	341	eP	Pb	06 27 45.7	-0.1
BAYB	BAYBURT	2.69	307	eP	Pg	06 27 47.8	-1.4
BAYB	BAYBURT	2.69	307	i P	Pb	06 27 47.3	+1.0
ERZN	Erzincan	2.75	290	PN	Pn	06 27 43.5	+1.0
TNCL	Tunceli-Merkez	2.78	280	i P	Pb	06 27 45.2	-2.6
TNCL	Tunceli-Merkez	2.78	280	P	Pb	06 27 45.2	-2.6
BAYT	Ayd˜–ntepe-Bay	2.84	308	PN	Pn	06 27 44.6	+0.9
BAYT	Ayd˜–ntepe-Bay	2.84	308	ePn	Pn	06 27 44.6	+0.9
EPOS	Posof	2.84	355	eP	Pb	06 27 49.4	+0.5
PTK	Pertek	2.88	275	PN	Pn	06 27 45.3	+1.1
PTK	Pertek	2.88	275	ePn	Pn	06 27 45.3	+1.1
KELT	Kelkit	3.29	298	eP	Pb	06 27 57.9	+1.2
KEMA	Kemaliye	3.61	281	eP	Pb	06 28 01.8	-0.1

*CSEM **01** 06:30:31.8±0.2, 39°.01N×43°.69E, h5km, ML3.4, Error ellipse: s-maj=5.2km s-min=3.6km az=111.0*
*ISK **01** 06:30:31.6, 39°.01N×43°.68E, h6km, ML3.1/6*
*ATA **01** 06:30:31.1±1.9, 39°.01N×43°.70E, h5km±32km, ML3.2, MW3.5*
*DDA **01** 06:30:31.6, 39°.01N×43°.69E, h5km, Ml3.4*
*ISCJB **01** 06:30:32.4±0.5, 39°.02N±0°.02×43°.69E±0°.04, h4km±4km, Error ellipse: s-maj=5.3km s-min=3.5km az=31.4*
ISC 01 06:30:32.1±1.1**, 39°.04N**±0°.02×**43°.66E**±0°.02**, h2**km±9km**, n52,** σ1^{s}14/77**, Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VMUR	**Van-Muradiye**	**0.09**	**236**	*i* P	**Pg**	**06 30 33.6**	**-0.2**
VMUR				*i* S	**Sg**	**06 30 35.4**	**+0.4**
VMUR	**Van-Muradiye**	**0.09**	**236**	P	**Pg**	**06 30 33.6**	**-0.2**
VMUR				S	**Sg**	**06 30 35.4**	**+0.4**
CLDR	**Caldiran**	**0.22**	**62**	PG	**Pg**	**06 30 36.2**	**-0.3**
CLDR				SG	**Sg**	**06 30 40.8**	**+1.3**
CLDR	**Caldiran**	**0.22**	**62**	*i* P	**Pg**	**06 30 36.1**	**-0.4**
CLDR				*i* S	**Sg**	**06 30 40.6**	**+1.3**
CLDR	**Caldiran**	**0.22**	**62**	*e*Pg	**Pg**	**06 30 36.2**	**-0.3**
CLDR				S	**Sg**	**06 30 40.7**	**+1.3**
ERCV	**ERCIS-VAN**	**0.25**	**266**	PG	**Pg**	**06 30 36.9**	**-0.1**
ERCV				SG	**Sg**	**06 30 41.5**	**+1.2**
ERCV	**ERCIS-VAN**	**0.25**	**266**	*e*Pg	**Pg**	**06 30 36.9**	**-0.1**
ERCV				*e*Sg	**Sg**	**06 30 41.5**	**+1.2**
VANB	**Van**	**0.49**	**206**	PG	**Pb**	**06 30 42.7**	**-0.9**
VANB				SG	**Sb**	**06 30 50.9**	**-0.3**
VANB	**Van**	**0.49**	**206**	*e*Pg	**Pb**	**06 30 42.7**	**-0.9**
VANB				*e*Sg	**Sb**	**06 30 50.9**	**-0.3**
DYDN	**Diyadin**	**0.51**	**2**	*e*P	**Pg**	**06 30 42.4**	**+0.5**
DYDN				*e*S	**Sg**	**06 30 49.9**	**+1.4**
DYDN				IAML		06 30 52.3	
	comp=Z,122nm,0.3s						
DYDN	**Diyadin**	**0.51**	**2**	*i* P	**Pb**	**06 30 42.9**	**-1.0**
DYDN				*i* S	**Sb**	**06 30 51.3**	**-0.5**
DYDN	**Diyadin**	**0.51**	**2**	P	**Pb**	**06 30 42.9**	**-1.0**
DYDN				S	**Sb**	**06 30 51.3**	**-0.5**
TVAN	**Van**	**0.55**	**202**	*i* P	**Pg**	**06 30 42.9**	**+0.3**
TVAN				*i* S	**Sb**	**06 30 52.3**	**-0.6**
TVAN	**Van**	**0.55**	**202**	P	**Pg**	**06 30 42.9**	**+0.3**
AGRB	**Hanur-Agry**	**0.75**	**316**	PG	**Pg**	**06 30 46.8**	**+0.3**
AGRB				SG	**Sb**	**06 30 58.5**	**-0.3**
AGRB	**Hanur-Agry**	**0.75**	**316**	*e*Pg	**Pg**	**06 30 46.8**	**+0.3**
AGRB				*e*Sg	**Sb**	**06 30 58.5**	**-0.3**
ADCV	**BITLIS_Adilcev**	**0.77**	**253**	*i* P	**Pg**	**06 30 46.5**	**-0.3**
ADCV				*i* S	**Sb**	**06 30 59.4**	**+0.1**
ADCV	**BITLIS_Adilcev**	**0.77**	**253**	P	**Pg**	**06 30 46.5**	**-0.3**
ADCV				S	**Sb**	**06 30 59.4**	**+0.1**
GEVA	**Gevas**	**0.86**	**213**	*e*P	**Pg**	**06 30 47.8**	**-0.9**
GEVA				*e*S	**Sb**	**06 31 01.1**	**-1.0**
GEVA				IAML		06 31 11.5	
	comp=Z,62nm,0.5s						
GEVA	**Gevas**	**0.86**	**213**	*i* P	**Pg**	**06 30 47.9**	**-0.8**
GEVA				*i* S	**Sn**	**06 31 07.2**	**+2.4**
GEVA	**Gevas**	**0.86**	**213**	P	**Pg**	**06 30 47.9**	**-0.8**
IGDI	**IGDIR**	**0.89**	**21**	*e*P	**Pb**	**06 30 50.2**	**-0.1**
IGDI	**IGDIR**	**0.89**	**21**	*i* P	**Pb**	**06 30 50.2**	**-0.1**
IGDI				*i* S	**Sn**	**06 31 05.2**	**-0.1**
TASB	**TASBURUN-IGDIR**	**1.04**	**25**	PG	**Pb**	**06 30 52.3**	**-0.7**
TASB	**TASBURUN-IGDIR**	**1.04**	**25**	*e*Pg	**Pb**	**06 30 52.3**	**-0.7**
EATA	**Eleskirt**	**1.23**	**313**	*e*P	**Pn**	**06 30 55.4**	**-1.2**
EATA	**Eleskirt**	**1.23**	**313**	*i* P	**Pg**	**06 30 55.9**	**+0.3**
EATA				*i* S	**Sn**	**06 31 13.6**	**-0.4**
EATA	**Eleskirt**	**1.23**	**313**	P	**Pg**	**06 30 55.9**	**+0.3**
EATA				S	**Sn**	**06 31 13.6**	**-0.4**
EKAR	**Karacoban**	**1.26**	**280**	*e*P	**Pn**	**06 30 55.4**	**-1.6**
EKAR				*e*S	**Sn**	**06 31 17.1**	**+2.4**
EKAR				IAML		06 31 28.0	
	comp=Z,20nm,0.4s						
EKAR	**Karacoban**	**1.26**	**280**	*i* P	**Pg**	**06 30 56.5**	**+0.2**
EKAR				*i* S	**Sn**	**06 31 19.9**	**+5.2**
EKAR	**Karacoban**	**1.26**	**280**	P	**Pg**	**06 30 56.5**	**+0.2**
GURO	**Guroymak-BITLI**	**1.36**	**250**	PN	**Pn**	**06 30 56.8**	**-1.5**
GURO	**Guroymak-BITLI**	**1.36**	**250**	*e*Pn	**Pn**	**06 30 56.8**	**-1.5**
DIGO	**Kars**	**1.39**	**351**	*e*P	**Pg**	**06 30 58.9**	**0.0**
DIGO	**Kars**	**1.39**	**351**	*i* P	**Pb**	**06 30 58.7**	**-0.4**
DIGO	**Kars**	**1.39**	**351**	P	**Pb**	**06 30 58.7**	**-0.4**
HAKT	**HAKKARI**	**1.48**	**179**	*i* P	**Pn**	**06 30 58.4**	**-1.6**
HAKT				*i* S	**Sg**	**06 31 22.5**	**+2.9**
HAKT	**HAKKARI**	**1.48**	**179**	P	**Pn**	**06 30 58.4**	**-1.6**
HOMI	**Horasan**	**1.69**	**307**	*e*P	**Pg**	**06 31 04.4**	**-0.1**
VRTB	**Varto-Mus**	**1.72**	**275**	PN	**Pb**	**06 31 03.2**	**-1.4**
VRTB	**Varto-Mus**	**1.72**	**275**	*e*Pn	**Pb**	**06 31 03.2**	**-1.4**
SIRT	**Sirnak**	**1.81**	**213**	PN	**Pn**	**06 31 03.9**	**-0.5**
SIRT	**Sirnak**	**1.81**	**213**	*e*Pn	**Pn**	**06 31 03.9**	**-0.5**
SENK	**Senkaya-Erzuru**	**1.83**	**327**	PN	**Pb**	**06 31 05.1**	**-1.3**
SENK	**Senkaya-Erzuru**	**1.83**	**327**	*e*Pn	**Pb**	**06 31 05.1**	**-1.3**
ERZM	**Erzurum**	**1.98**	**297**	*e*P	**Pg**	**06 31 09.4**	**-0.6**
ERZM	**Erzurum**	**1.98**	**297**	*i* P	**Pg**	**06 31 09.5**	**-0.6**
BTMN	**Batman**	**2.20**	**239**	*i* P	**Pb**	**06 31 12.4**	**-0.3**
BNGB	**Bingˆ¶l**	**2.33**	**270**	PN	**Pn**	**06 31 11.7**	**+0.2**
BINT	**Bingol**	**2.48**	**267**	*e*Pn	**Pn**	**06 31 11.7**	**-2.0**
MAZI	**Mazidag**	**2.98**	**239**	PN	**Pn**	**06 31 20.8**	**+0.2**
MAZI	**Mazidag**	**2.98**	**239**	*e*Pn	**Pn**	**06 31 20.8**	**+0.2**

*ATA **01** 06:45:09.9±1.1, 38°.48N×43°.64E, h50km±12km, ML3.0, MW3.2*
*ISK **01** 06:45:15.8, 38°.68N×43°.03E, h7km, ML2.7/6*
*ISCJB **01** 06:45:16.7±0.4, 38°.66N±0°.03×43°.04E±0°.03, h11km±4km, Error ellipse: s-maj=4.5km s-min=3.8km az=158.3*
*CSEM **01** 06:45:16.5±0.2, 38°.67N×43°.03E, h12km, ML2.8, Error ellipse: s-maj=4.6km s-min=3.8km az=153.0*
*DDA **01** 06:45:17.1, 38°.63N×43°.06E, h7km, Ml2.8*
ISC 01 06:45:16.2±1.1**, 38°.66N**±0°.02×**43°.05E**±0°.02**, h3**km±10km**, n36,** σ1^{s}13/57**, Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.27**	**104**	PG	**Pb**	**06 45 23.1**	**-0.7**
VANB				SG	**Sb**	**06 45 28.5**	**-0.4**
VANB	**Van**	**0.27**	**104**	*e*Pg	**Pb**	**06 45 23.1**	**-0.7**
VANB				*e*Sg	**Sb**	**06 45 28.5**	**-0.4**
ADCV	**BITLIS_Adilcev**	**0.30**	**300**	*i* P	**Pb**	**06 45 23.7**	**-0.6**
ADCV				*i* S	**Sb**	**06 45 29.4**	**-0.3**
ADCV	**BITLIS_Adilcev**	**0.30**	**300**	P	**Pb**	**06 45 23.7**	**-0.6**
TVAN	**Van**	**0.31**	**116**	*i* P	**Pg**	**06 45 23.3**	**+1.1**
TVAN				*i* S	**Sb**	**06 45 28.8**	**-1.3**
TVAN	**Van**	**0.31**	**116**	P	**Pg**	**06 45 23.3**	**+1.1**
TVAN				S	**Sb**	**06 45 28.8**	**-1.3**
GEVA	**Gevas**	**0.35**	**179**	*e*P	**Pg**	**06 45 22.2**	**-0.7**
GEVA	**Gevas**	**0.35**	**179**	*i* P	**Pg**	**06 45 24.0**	**+1.0**
GEVA				*i* S	**Sg**	**06 45 27.6**	**+0.1**
GEVA	**Gevas**	**0.35**	**179**	P	**Pg**	**06 45 24.0**	**+1.0**
GEVA				S	**Sg**	**06 45 27.6**	**+0.1**
ERCV	**ERCIS-VAN**	**0.42**	**32**	PG	**Pg**	**06 45 24.6**	**+0.2**
ERCV				SG	**Sg**	**06 45 30.9**	**+1.0**
ERCV	**ERCIS-VAN**	**0.42**	**32**	*e*Pg	**Pg**	**06 45 24.6**	**+0.2**
ERCV				*e*Sg	**Sg**	**06 45 30.9**	**+1.0**
VMUR	**Van-Muradiye**	**0.52**	**51**	*i* P	**Pb**	**06 45 28.0**	**-0.2**
VMUR				*i* S	**Sb**	**06 45 36.0**	**-0.2**
VMUR	**Van-Muradiye**	**0.52**	**51**	P	**Pb**	**06 45 28.0**	**-0.2**
VMUR				S	**Sb**	**06 45 36.0**	**-0.2**
TUTA	**Tutak**	**0.76**	**346**	*e*P	**Pg**	**06 45 31.4**	**+0.5**
TUTA	**Tutak**	**0.76**	**346**	*i* P	**Pb**	**06 45 31.6**	**-0.8**
TUTA				*i* S	**Sb**	**06 45 41.9**	**-1.3**
TUTA	**Tutak**	**0.76**	**346**	P	**Pb**	**06 45 31.5**	**-0.8**
TUTA				S	**Sb**	**06 45 41.9**	**-1.3**
GURO	**Guroymak-BITLI**	**0.81**	**262**	PG	**Pg**	**06 45 31.5**	**-0.2**
GURO				SG	**Sg**	**06 45 42.7**	**+0.5**
GURO	**Guroymak-BITLI**	**0.81**	**262**	*e*Pg	**Pg**	**06 45 31.5**	**-0.2**
GURO				*e*Sg	**Sg**	**06 45 42.7**	**+0.5**
CLDR	**Caldiran**	**0.83**	**54**	PG	**Pg**	**06 45 32.3**	**+0.2**
CLDR				SG	**Sb**	**06 45 43.9**	**-1.2**
CLDR	**Caldiran**	**0.83**	**54**	*e*Pg	**Pg**	**06 45 32.3**	**+0.2**
CLDR				*e*Sg	**Sb**	**06 45 43.9**	**-1.2**
AGRB	**Hanur-Agry**	**0.91**	**357**	PG	**Pg**	**06 45 33.6**	**-0.2**
AGRB	**Hanur-Agry**	**0.91**	**357**	*e*Pg	**Pg**	**06 45 33.6**	**-0.2**
EKAR	**Karacoban**	**0.97**	**308**	*e*P	**Pg**	**06 45 35.0**	**+0.1**
EKAR				*i* Pg	**Pn**	**06 45 37.7**	**+0.6**
EKAR				*e*S	**Sn**	**06 45 56.5**	**+5.0**
EKAR				IAML		06 45 59.3	
	comp=Z,8.8nm,0.4s						
EKAR	**Karacoban**	**0.97**	**308**	*i* P	**Pg**	**06 45 34.0**	**-0.9**
EKAR	**Karacoban**	**0.97**	**308**	P	**Pg**	**06 45 34.0**	**-0.9**
SRTM	**Siirt_Merkez**	**1.11**	**233**	*i* P	**Pb**	**06 45 38.0**	**-0.2**
SRTM	**Siirt_Merkez**	**1.11**	**233**	P	**Pb**	**06 45 38.0**	**-0.2**
HAKT	**HAKKARI**	**1.22**	**155**	*i* P	**Pn**	**06 45 38.4**	**-2.0**
HAKT	**HAKKARI**	**1.22**	**155**	P	**Pn**	**06 45 38.4**	**-2.0**
EATA	**Eleskirt**	**1.28**	**340**	*e*P	**Pn**	**06 45 39.7**	**-1.6**
EATA				*e*S	**Sn**	**06 46 00.5**	**+1.4**
BTMN	**Batman**	**1.60**	**242**	*i* P	**Pb**	**06 45 46.0**	**-0.5**
BTMN				*i* S	**Sg**	**06 46 08.6**	**+0.9**
BTMN	**Batman**	**1.60**	**242**	P	**Pb**	**06 45 46.0**	**-0.5**
BNGB	**Bingˆ¶l**	**1.88**	**281**	PN	**Pn**	**06 45 49.1**	**-0.3**
BINT	**Bingol**	**2.02**	**277**	*e*Pn	**Pn**	**06 45 49.1**	**-2.2**
MAZI	**Mazidag**	**2.38**	**241**	PN	**Pn**	**06 45 56.3**	**0.0**
MAZI	**Mazidag**	**2.38**	**241**	*e*Pn	**Pn**	**06 45 56.3**	**0.0**

*NEIC **01** 06:53:33.3±0.0, 36°.59S×177°.17E, h5km, ML4.0(WEL), After WEL.*
WEL 01 06:53:33.2±0.8**, 37°S**±6°×**17°7E**±°**, h5**km**, ML3.6**/19**, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WIZ	**White Island**	**0.89**	**179**	P	Pb	06 53 51.2	+0.1
WIZ	**White Island**	**0.89**	**179**	S	Sb	06 54 03.6	+0.2
KUZ	**Kuaotunu**	**1.17**	**264**	P*	Pg	06 53 54.2	-1.4
KUZ	**Kuaotunu**	**1.17**	**264**	P	Pg	06 53 54.3	-1.2
KUZ	**Kuaotunu**	**1.17**	**264**	P	Pg	06 53 54.4	-1.1
KUZ	**Kuaotunu**	**1.17**	**264**	S	Sg	06 54 10.4	-0.3
HAZ	**Te Kaha**	**1.23**	**156**	P	Pg	06 53 54.6	-2.0
MXZ	**Matakaoa Point**	**1.30**	**136**	P*	Pn	06 53 56.1	-1.9
MXZ				S*	Sg	06 54 12.7	-2.4
MXZ	**Matakaoa Point**	**1.30**	**136**	P	Pn	06 53 56.2	-1.8
MXZ	**Matakaoa Point**	**1.30**	**136**	S	Sg	06 54 12.8	-2.2
TGRZ	**Tauranga**	**1.31**	**213**	P*	Pn	06 53 56.6	-1.5
TGRZ	**Tauranga**	**1.31**	**213**	P	Pn	06 53 56.9	-1.2
GRZ	**Great Barrier**	**1.43**	**285**	P	Pn	06 53 59.3	-0.4
GRZ	**Great Barrier**	**1.43**	**285**	S	Sb	06 54 18.3	-0.5
PKGZ	**Pakihiroa**	**1.45**	**150**	P	Pn	06 53 58.7	-1.4
WMGZ	**Waiomatatini S**	**1.55**	**140**	Pn	Pn	06 54 01.4	0.0
WMGZ	**Waiomatatini S**	**1.55**	**140**	P	Pn	06 54 01.7	+0.3
KMRZ	**Kaimai**	**1.56**	**218**	P	Pn	06 54 00.9	-0.7
URZ	**Urewera**	**1.63**	**182**	P*	Pn	06 54 01.6	-0.8
URZ	**Urewera**	**1.63**	**182**	P	Pn	06 54 01.8	-0.7
WIAZ	**Waiheke Island**	**1.64**	**264**	P	Pn	06 54 01.8	-0.8
TWGZ	**Tauwhareparae**	**1.67**	**157**	Pn	Pb	06 54 04.3	-0.2
TWGZ	**Tauwhareparae**	**1.67**	**157**	P	Pb	06 54 04.4	0.0
MKAZ	**Moumakai**	**1.68**	**253**	Pn	Pn	06 54 02.3	-0.8
MKAZ	**Moumakai**	**1.68**	**253**	P	Pn	06 54 02.3	-0.9
PUZ	**Puketiti**	**1.68**	**149**	Pn	Pn	06 54 03.5	+0.2
PUZ	**Puketiti**	**1.68**	**149**	P	Pn	06 54 03.7	+0.4
TOZ	**Tahuroa Road**	**1.72**	**230**	P*	Pn	06 54 03.1	-0.7
TOZ	**Tahuroa Road**	**1.72**	**230**	P	Pn	06 54 03.2	-0.6
MWZ	**Matawai**	**1.72**	**170**	P*	Pn	06 54 02.5	-1.4
MWZ	**Matawai**	**1.72**	**170**	P	Pn	06 54 02.6	-1.3
ETAZ	**East Tamaki Re**	**1.82**	**259**	Pn	Pn	06 54 05.0	-0.1
ETAZ	**East Tamaki Re**	**1.82**	**259**	P	Pn	06 54 05.1	-0.1
MUGZ	**Murupara**	**1.87**	**190**	P	Pn	06 54 05.7	-0.1
RAGZ	**Rawiri**	**1.87**	**174**	P*	Pn	06 54 05.0	-0.9
RAGZ	**Rawiri**	**1.87**	**174**	P	Pn	06 54 05.2	-0.8
ABAZ	**Army Bay**	**1.88**	**270**	P	Pb	06 54 08.0	+0.1
TKGZ	**Te Karaka**	**1.89**	**163**	P	Pb	06 54 07.6	-0.4
CNGZ	**Carnagh Statio**	**2.03**	**156**	P	Pn	06 54 08.8	+0.8
RVAZ	**Riverhead Bore**	**2.08**	**265**	Pn	Pn	06 54 08.8	+0.1
RVAZ	**Riverhead Bore**	**2.08**	**265**	P	Pn	06 54 09.0	+0.3
WTAZ	**Waiatarua**	**2.10**	**261**	P	Pn	06 54 08.8	-0.2
TLZ	**Tolley Road**	**2.13**	**217**	P	Pn	06 54 09.0	-0.4
SNGZ	**Shannon Statio**	**2.15**	**176**	P	Pn	06 54 10.5	+0.8
MTHZ	**Maungataniwha**	**2.23**	**187**	P	Pn	06 54 12.3	+1.4
RAHZ	**Arahi**	**2.28**	**182**	P	Pb	06 54 13.8	-1.0
WCZ	**Waipu Caves**	**2.38**	**286**	Pn	Pn	06 54 12.2	-0.6
WCZ	**Waipu Caves**	**2.38**	**286**	P	Pn	06 54 12.3	-0.5
NMHZ	**Naumai**	**2.48**	**186**	Pn	Pb	06 54 16.9	-1.3
NMHZ	**Naumai**	**2.48**	**186**	P	Pn	06 54 14.7	+0.4
BKZ	**Black Stump Fm**	**2.59**	**192**	P*	Pn	06 54 16.2	+0.5
BKZ	**Black Stump Fm**	**2.59**	**192**	P	Pn	06 54 17.5	+1.8
HIZ	**Hauiti**	**2.63**	**224**	Pn	Pn	06 54 16.2	0.0
HIZ	**Hauiti**	**2.63**	**224**	P	Pn	06 54 16.2	0.0
OTVZ	**Oturere**	**2.79**	**205**	P*	Pb	06 54 21.2	-2.4
KWHZ	**Kaweka Forest**	**2.85**	**192**	P	Pn	06 54 21.8	+2.5
BHHZ	**Black Hill Sta**	**2.98**	**197**	P	Pn	06 54 23.8	+2.6
MOVZ	**Moawhango**	**2.99**	**201**	P	Pb	06 54 24.5	-2.4
KRHZ	**Kereru**	**3.07**	**192**	P	Pn	06 54 23.8	+1.4
OUZ	**Omahuta**	**3.22**	**295**	P	Pn	06 54 24.3	-0.1
OUZ	**Omahuta**	**3.22**	**295**	P	Pn	06 54 24.4	0.0
BFZ	**Birch Farm**	**4.11**	**190**	P	Pn	06 54 37.5	+1.0

*NEIC **01** 06:56:07.6±2.6, 40°.41N×127°.18W, h10km, ML3.4(NCEDC), Error ellipse: s-maj=33.1km s-min=8.3km az=79.0*
*ISCJB **01** 06:56:08.1±0.8, 40°.46N±0°.04×127°.06W±0°.07, h16km, mb3.1/3, Error ellipse: s-maj=8.3km s-min=5.0km az=158.7*
*IDC **01** 06:56:09.2±2.6, 40°.71N×126°.89W, h0km, mb3.2/3, mb1 3.6/5, mb1mx3.3/64, mbtmp3.2/5, ML3.0/2, Error ellipse: s-maj=46.3km s-min=19.2km az=41.0*
ISC 01 06:56:10.0±1.3**, 40°.48N**±0°.05×**127°.01W**±0°.09**, h16**km**, n54,** σ**2**^{s}**01**/60**, mb3.2**/3**, Off coast of northern California**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JCC	**Jacoby Creek,**	**2.29**	**81**	*e*Pn	**Pn**	**06 56 45.9**	**-1.2**
KHMM	**Horse Mountain**	**2.53**	**80**	*e*Pn	**Pn**	**06 56 49.0**	**-1.5**
KHMM				*e*Sn	**Sn**	**06 57 23.0**	**+2.0**
KMRM	**Mail Ridge**	**2.54**	**95**	*e*Pn	**Pn**	**06 56 51.1**	**+0.6**
KCPM	**Cahto Peak**	**2.75**	**106**	*e*Pn	**Pn**	**06 56 53.5**	**0.0**
GTC	**Three Chop Rid**	**2.87**	**111**	*e*Pn	**Pn**	**06 56 52.1**	**-3.0**
L02D	**Cave Junction,**	**3.06**	**56**	P	**Pn**	**06 56 56.9**	**-0.8**
	baz=240,SNR=11						
L02D				S	**Sn**	**06 57 32.9**	**-1.2**
	baz=240						
KEBM	**Edson Butte**	**3.12**	**39**	*e*Pn	**Pn**	**06 56 57.5**	**-1.1**
M02C	**Callahan**	**3.28**	**73**	P	**Pn**	**06 57 00.1**	**-0.6**
	baz=256,SNR=15						
N02D	**Trinity Center**	**3.31**	**80**	P	**Pn**	**06 57 00.9**	**-0.3**
	baz=263						
N02D				S	**Sn**	**06 57 40.5**	**+0.3**
	baz=263						
HOPS	**Hopland Field**	**3.38**	**115**	*e*Pn	**Pn**	**06 57 00.2**	**-1.9**
HOPS				*e*Sn	**Sn**	**06 57 40.8**	**-1.1**
WDC	**Whiskeytown Da**	**3.41**	**87**	*e*Pn	**Pn**	**06 57 02.0**	**-0.5**
YBH	**Yreka Blue Hor**	**3.48**	**68**	Pn	**Pn**	**06 57 03.0**	**-0.5**
	1.6nm,0.3s,baz=272,slow=11,SNR=31						
YBH	**Yreka Blue Hor**	**3.48**	**68**	*e*Pn	**Pn**	**06 57 03.8**	**+0.2**
YBH				*e*Sn	**Sg**	**06 57 57.9**	**-3.9**
GDXM	**Geysers**	**3.66**	**116**	*e*Pn	**Pn**	**06 57 07.0**	**+1.0**
GRTM	**Round Top Moun**	**3.69**	**113**	*e*Pn	**Pn**	**06 57 10.5**	**+4.1**
HUMO	**Hull Mountain**	**3.71**	**54**	*e*Pn	**Pn**	**06 57 05.9**	**-0.8**
HUMO				*e*Sn	**Sn**	**06 57 49.9**	**-0.2**
NMTM	**Middletown**	**3.90**	**114**	*e*Pn	**Pn**	**06 57 10.8**	**+1.5**
MCCM	**Marconi Confer**	**3.97**	**125**	*e*Pn	**Pn**	**06 57 08.1**	**-2.0**
MCCM				*e*Sn	**Sn**	**06 57 57.4**	**+1.1**
M04C	**Macdoel**	**4.12**	**70**	P	**Pn**	**06 57 13.6**	**+1.2**
	baz=254						
ORV	**Oroville**	**4.33**	**101**	*e*Pn	**Pn**	**06 57 15.4**	**+0.2**
CPIM	**Pinole Ridge**	**4.48**	**122**	*e*Pn	**Pn**	**06 57 21.3**	**+4.0**
AFDM	**Forest Hills D**	**4.90**	**106**	*e*Pn	**Pn**	**06 57 23.9**	**+0.8**
RDG13	**Poverty Ridge**	**5.12**	**125**	*e*Pn	**Pn**	**06 57 24.6**	**-1.4**
RDG13				*e*Sn	**Sn**	**06 58 22.5**	**-2.3**
BEKR	**Beckworth**	**5.13**	**95**	*e*Pn	**Pn**	**06 57 29.3**	**+2.9**
H04A	**Detroit Lake**	**5.50**	**39**	*e*Pn	**Pn**	**06 57 33.3**	**+2.0**
CMB	**Columbia Colle**	**5.70**	**113**	*e*Pn	**Pn**	**06 57 35.1**	**+1.2**
CMB				*e*Sn	**Sn**	**06 58 41.3**	**+2.3**
SAO	**San Andreas Ge**	**5.72**	**129**	*e*Pn	**Pn**	**06 57 31.8**	**-2.5**
SAO				*e*Sn	**Sn**	**06 58 36.3**	**-3.4**
WAKR	**Walker**	**6.18**	**106**	*e*Pn	**Pn**	**06 57 43.8**	**+3.0**
PMPB	**Monarch Peak**	**6.48**	**129**	*e*Pn	**Pn**	**06 57 42.6**	**-2.1**
PMPB				*e*Sn	**Sn**	**06 58 57.1**	**-1.2**
E03A	**Lebam**	**6.56**	**21**	*e*Pn	**Pn**	**06 57 46.2**	**+0.6**
MDPB	**Devils Postpil**	**6.80**	**112**	*e*Pn	**Pn**	**06 57 51.3**	**+2.0**
OMMB	**Old Mammoth Mi**	**6.86**	**112**	*e*Pn	**Pn**	**06 57 52.5**	**+2.3**
KVN	**Kaiserville**	**7.01**	**99**	*e*Pn	**Pn**	**06 57 55.9**	**+3.7**
NV01	**Mina Array Sit**	**7.04**	**104**	*e*Pn	**Pn**	**06 57 55.0**	**+2.4**
NVAR	**Mina Array Bea**	**7.04**	**104**	Pn	**Pn**	**06 57 54.0**	**+1.4**
	baz=290,slow=13,SNR=3.0						
PAGB	**Antelope Grade**	**7.14**	**130**	*e*Pn	**Pn**	**06 57 52.1**	**-1.6**
NV11	**Mina Array Sit**	**7.15**	**104**	*e*Pn	**Pn**	**06 57 54.8**	**+0.7**
LON	**Longmire**	**7.31**	**29**	*e*Pn	**Pn**	**06 57 56.9**	**+0.8**
ISA	**Isabella, Lake**	**8.28**	**123**	*e*Pn	**Pn**	**06 58 08.9**	**-0.4**
ISA				*e*Sn	**Sn**	**06 59 39.5**	**-3.1**
GSC	**Goldstone, Bar**	**9.58**	**119**	*e*Pn	**Pn**	**06 58 27.7**	**+0.4**
SHPR	**Sheep Range**	**10.10**	**109**	*e*Pn	**Pn**	**06 58 39.2**	**+4.7**
LTX	**Lajitas**	**22.08**	**113**	*e*P	**P**	**07 01 07.2**	**+2.8**
TXAR	**Lajitas Array**	**22.08**	**113**	P	**P**	**07 01 07.2**	**+2.8**
	0.9nm,0.9s,baz=292,slow=6.6,SNR=8.3						
YKA	**Yellowknife Ar**	**23.27**	**15**	P	**P**	**07 01 16.0**	**-0.5**
	0.6nm,1.0s,baz=203,slow=8.8,SNR=5.0						
YKA	**Yellowknife Ar**	**23.27**	**15**	P	**P**	**07 01 16.0**	**-0.5**
YKB5	**Yellowknife Ar**	**23.27**	**15**	*e*P	**P**	**07 01 16.0**	**-0.5**
ILAR	**Eielson Array**	**26.91**	**341**	P	**P**	**07 01 49.7**	**-0.3**
	0.6nm,0.8s,baz=161,slow=7.9,SNR=8.2						
ILB	**Eielson Array**	**26.91**	**341**	*e*P	**P**	**07 01 49.6**	**-0.3**
H11N3	**WAKE ISLAND Hy**	**59.45**	**271**	T	T	08 10 21.1	
	baz=53,slow=75,SNR=6.7						
H11N2	**WAKE ISLAND Hy**	**59.45**	**271**	T	T	08 10 22.6	
	baz=53,slow=75,SNR=7.5						
H11N1	**WAKE ISLAND Hy**	**59.47**	**271**	T	T	08 10 34.6	
	baz=53,slow=75,SNR=7.8						
H11S1	**WAKE ISLAND Hy**	**60.32**	**270**	T	T	08 11 29.5	
	baz=54,slow=75,SNR=7.1						
H11S2	**WAKE ISLAND Hy**	**60.33**	**270**	T	T	08 11 26.0	
	baz=54,slow=75,SNR=5.2						
H11S3	**WAKE ISLAND Hy**	**60.34**	**270**	T	T	08 11 28.8	
	baz=54,slow=75,SNR=4.3						

MEX 01 07:15:36.3±0.5**, 16°.15N**×**98°.33W, h2**km**, MD3.8, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.30**	**39**	*e*P	Pg	07 15 41.8	-0.4
PNIG				*e*S	Sg	07 15 46.6	+0.4
TLIG	**Tlapa**	**1.42**	**351**	*e*P	Pn	07 15 59.6	-3.7
TLIG				*e*S	Sg	07 16 18.3	-3.7
VHO	**Vista Hermosa**	**1.78**	**59**	*e*P	Pn	07 16 05.9	-2.3
VHO				*e*S	Sn	07 16 30.7	-0.9
HUIG	**Huatulco**	**2.17**	**100**	*e*P	Pn	07 16 10.0	-3.5
HUIG				*e*S	Sg	07 16 45.9	0.0

*ISK **01** 07:28:42.7, 38°.70N×43°.03E, h7km, ML2.7/4*
*ISCJB **01** 07:28:44.0±0.4, 38°.67N±0°.03×43°.03E±0°.03, h9km±6km, Error ellipse: s-maj=5.8km s-min=4.2km az=166.0*
*ATA **01** 07:28:43.3±1.4, 38°.67N×42°.97E, h7km±83km, ML3.2, MW3.3*
*CSEM **01** 07:28:43.5±0.2, 38°.67N×43°.02E, h10km, ML3.2, Error ellipse: s-maj=5.6km s-min=4.6km az=4.0*
*DDA **01** 07:28:44.3, 38°.66N×43°.07E, h7km, Ml3.2*
ISC 01 07:28:43.8±0.9**, 38°.67N**±0°.03×**43°.04E**±0°.02**, h15**km±10km**, n31,** σ**0**^{s}**65**/48**, 1D, Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ADCV	**BITLIS_Adilcev**	**0.28**	**299**	*i* P	**Pb**	**07 28 50.7**	**0.0**
ADCV				*i* S	**Sb**	**07 28 56.3**	**+1.0**
ADCV	**BITLIS_Adilcev**	**0.28**	**299**	P	**Pb**	**07 28 50.7**	**0.0**
ADCV				S	**Sb**	**07 28 56.3**	**+1.0**
VANB	**Van**	**0.28**	**106**	PG	**Pb**	**07 28 50.2**	**-0.5**
VANB				SG	**Sb**	**07 28 55.5**	**+0.2**
VANB	**Van**	**0.28**	**106**	*e*Pg	**Pb**	**07 28 50.2**	**-0.5**
VANB				*e*Sg	**Sb**	**07 28 55.5**	**+0.2**
TVAN	**Van**	**0.32**	**117**	*i* P	**Pg**	**07 28 50.3**	**-0.3**
TVAN				*i* S	**Sg**	**07 28 55.7**	**+0.5**
TVAN	**Van**	**0.32**	**117**	P	**Pg**	**07 28 50.3**	**-0.3**
TVAN				S	**Sg**	**07 28 55.7**	**+0.5**
GEVA	**Gevas**	**0.36**	**178**	*e*P	**Pg**	**07 28 50.6**	**-0.5**
GEVA				IAML		07 28 58.3	
	comp=Z,197nm,0.4s						
GEVA	**Gevas**	**0.36**	**178**	*i* P	**Pg**	**07 28 50.7**	**-0.5**
GEVA				*i* S	**Sg**	**07 28 56.6**	**+0.3**
GEVA	**Gevas**	**0.36**	**178**	P	**Pg**	**07 28 50.7**	**-0.5**
GEVA				S	**Sg**	**07 28 56.6**	**+0.3**
VMUR	**Van-Muradiye**	**0.52**	**52**	*i* P	**Pg**	**07 28 54.3**	**+0.1**
VMUR				*i* S	**Sb**	**07 29 02.9**	**+0.7**
VMUR	**Van-Muradiye**	**0.52**	**52**	P	**Pg**	**07 28 54.3**	**+0.1**
VMUR				S	**Sb**	**07 29 02.9**	**+0.7**
TUTA	**Tutak**	**0.75**	**346**	⇓*i*P	**Pb**	**07 28 58.5**	**-0.2**
TUTA				*e*S	**Sb**	**07 29 09.2**	**+0.3**
TUTA				IAML		07 29 10.2	
	comp=Z,113nm,0.2s						
TUTA	**Tutak**	**0.75**	**346**	*i* P	**Pb**	**07 28 58.5**	**-0.2**
TUTA				*i* S	**Sb**	**07 29 09.3**	**+0.5**
TUTA	**Tutak**	**0.75**	**346**	P	**Pb**	**07 28 58.5**	**-0.2**
TUTA				S	**Sb**	**07 29 09.3**	**+0.5**
GURO	**Guroymak-BITLI**	**0.80**	**262**	PG	**Pg**	**07 28 59.1**	**-0.3**
GURO				SG	**Sg**	**07 29 09.6**	**-0.3**
GURO	**Guroymak-BITLI**	**0.80**	**262**	*e*Pg	**Pg**	**07 28 59.1**	**-0.3**
GURO				*e*Sg	**Sg**	**07 29 09.6**	**-0.3**
CLDR	**Caldiran**	**0.83**	**55**	PG	**Pg**	**07 28 58.5**	**-1.5**
CLDR				SG	**Sg**	**07 29 10.6**	**-0.3**
CLDR	**Caldiran**	**0.83**	**55**	*e*Pg	**Pg**	**07 28 58.5**	**-1.5**
CLDR				*e*Sg	**Sg**	**07 29 10.6**	**-0.3**
AGRB	**Hanur-Agry**	**0.90**	**358**	PG	**Pg**	**07 29 00.5**	**-0.8**
AGRB	**Hanur-Agry**	**0.90**	**358**	*e*Pg	**Pg**	**07 29 00.5**	**-0.8**
EKAR	**Karacoban**	**0.96**	**308**	*e*P	**Pg**	**07 29 02.1**	**-0.3**
DYDN	**Diyadin**	**1.00**	**30**	*e*P	**Pn**	**07 29 04.6**	**+1.1**
DYDN				IAML		07 29 36.5	
	comp=Z,21nm,0.4s						
EATA	**Eleskirt**	**1.26**	**340**	*e*P	**Pg**	**07 29 07.4**	**-0.8**
VRTB	**Varto-Mus**	**1.33**	**292**	PN	**Pn**	**07 29 07.9**	**-0.1**
VRTB	**Varto-Mus**	**1.33**	**292**	*e*Pn	**Pn**	**07 29 07.9**	**-0.1**
IGDI	**IGDIR**	**1.44**	**34**	*e*P	**Pg**	**07 29 11.1**	**-0.5**
HOMI	**Horasan**	**1.63**	**328**	*e*P	**Pn**	**07 29 13.1**	**+0.9**
ERZM	**Erzurum**	**1.79**	**314**	*e*P	**Pb**	**07 29 17.1**	**+0.6**
ECAT	**Cat-ERZURUM**	**1.86**	**301**	*e*P	**Pg**	**07 29 18.4**	**-1.1**
BNGB	**Bingˆ¶l**	**1.87**	**281**	PN	**Pn**	**07 29 15.9**	**+0.5**
BINT	**Bingol**	**2.01**	**277**	*e*Pn	**Pn**	**07 29 15.9**	**-1.3**

*ISCJB **01** 07:29:12.7±0.5, 38°.63N±0°.03×43°.04E±0°.04, h32km±4km, Error ellipse: s-maj=6.1km s-min=5.5km az=140.8*
*CSEM **01** 07:29:12.3±0.1, 38°.63N×43°.04E, h30km, ML2.7, Error ellipse: s-maj=3.3km s-min=2.8km az=150.0*
*ISK **01** 07:29:12.1, 38°.64N×43°.06E, h25km, ML2.7/7*
*DDA **01** 07:29:13.4, 38°.67N×43°.02E, h7km, Ml3.2*
ISC 01 07:29:12.6±0.9**, 38°.63N**±0°.03×**43°.05E**±0°.03**, h31**km±7km**, n28,** σ**0**^{s}**43**/44**, Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.27**	**98**	PG	**Pb**	**07 29 19.6**	**-0.3**
VANB				SG	**Sb**	**07 29 25.2**	**+0.3**
VANB	**Van**	**0.27**	**98**	*e*Pg	**Pb**	**07 29 19.6**	**-0.3**
VANB				*e*Sg	**Sb**	**07 29 25.2**	**+0.3**
TVAN	**Van**	**0.30**	**110**	*i* P	**Pb**	**07 29 20.0**	**-0.4**
TVAN				*i* S	**Sb**	**07 29 25.5**	**-0.1**
TVAN	**Van**	**0.30**	**110**	P	**Pb**	**07 29 20.0**	**-0.4**
TVAN				S	**Sb**	**07 29 25.5**	**-0.1**
ADCV	**BITLIS_Adilcev**	**0.31**	**305**	*i* P	**Pb**	**07 29 20.4**	**0.0**
ADCV				*i* S	**Sb**	**07 29 26.0**	**+0.3**
ADCV	**BITLIS_Adilcev**	**0.31**	**305**	P	**Pb**	**07 29 20.4**	**0.0**
ADCV				S	**Sb**	**07 29 26.0**	**+0.3**
GEVA	**Gevas**	**0.32**	**178**	*i* P	**Pb**	**07 29 20.3**	**-0.3**
GEVA				*i* S	**Sn**	**07 29 26.6**	**-0.4**
GEVA	**Gevas**	**0.32**	**178**	P	**Pb**	**07 29 20.3**	**-0.3**
GEVA				S	**Sn**	**07 29 26.6**	**-0.4**
ERCV	**ERCIS-VAN**	**0.45**	**30**	PG	**Pb**	**07 29 21.8**	**-0.6**
ERCV				SG	**Sb**	**07 29 28.9**	**-0.3**
ERCV	**ERCIS-VAN**	**0.45**	**30**	*e*Pg	**Pb**	**07 29 21.8**	**-0.6**
ERCV				*e*Sg	**Sb**	**07 29 28.9**	**-0.3**
VMUR	**Van-Muradiye**	**0.54**	**49**	*i* P	**Pb**	**07 29 24.0**	**+0.1**
VMUR				*i* S	**Sn**	**07 29 32.3**	**-0.3**
VMUR	**Van-Muradiye**	**0.54**	**49**	P	**Pb**	**07 29 24.0**	**+0.1**
VMUR				S	**Sn**	**07 29 32.3**	**-0.3**
TUTA	**Tutak**	**0.79**	**347**	*i* P	**Pn**	**07 29 28.1**	**+0.3**
TUTA				*i* S	**Sn**	**07 29 38.8**	**+0.1**
TUTA	**Tutak**	**0.79**	**347**	P	**Pn**	**07 29 28.1**	**+0.3**
TUTA				S	**Sn**	**07 29 38.8**	**+0.1**
GURO	**Guroymak-BITLI**	**0.80**	**264**	PG	**Pn**	**07 29 28.2**	**+0.4**
GURO	**Guroymak-BITLI**	**0.80**	**264**	*e*Pg	**Pn**	**07 29 28.2**	**+0.4**
CLDR	**Caldiran**	**0.85**	**53**	PG	**Pb**	**07 29 28.4**	**-0.6**
CLDR				SG	**Sn**	**07 29 40.7**	**+0.5**
CLDR	**Caldiran**	**0.85**	**53**	*e*Pg	**Pb**	**07 29 28.4**	**-0.6**
CLDR				*e*Sg	**Sn**	**07 29 40.7**	**+0.5**
AGRB	**Hanur-Agry**	**0.94**	**357**	PG	**Pn**	**07 29 30.2**	**+0.3**
AGRB	**Hanur-Agry**	**0.94**	**357**	*e*Pg	**Pn**	**07 29 30.2**	**+0.3**
SIRT	**Sirnak**	**1.23**	**203**	PN	**Pn**	**07 29 34.3**	**+0.6**
SIRT	**Sirnak**	**1.23**	**203**	*e*Pn	**Pn**	**07 29 34.3**	**+0.6**
VRTB	**Varto-Mus**	**1.35**	**294**	PN	**Pn**	**07 29 35.1**	**-0.3**
VRTB	**Varto-Mus**	**1.35**	**294**	*e*Pn	**Pn**	**07 29 35.1**	**-0.3**
TASB	**TASBURUN-IGDIR**	**1.64**	**34**	PN	**Pn**	**07 29 39.8**	**+0.5**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TASB	TASBURUN-IGDIR	1.64	34	ePn	Pn	07 29 39.8	+0.5
BNGB	Bingˆ¶l	1.88	282	PN	Pn	07 29 43.6	+0.9
BINT	Bingol	2.01	278	ePn	Pn	07 29 43.6	-1.0

IDC 01 07:30:38.6±3.0, 54.̊11N×86.̊35E, h0km, mb1 3.0/2, mb1mx2.8/70, mbtmp3.0/2, ML2.9/2, Error ellipse: s-maj=29.6km s-min=14.9km az=68.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	0.92	261	i		07 36 40.0	
	baz=81,slow=324,SNR=3.9						
ZALV	Zalesovo Beam	0.92	261	Pg	Pg	07 30 55.1	-1.0
	1.7nm,0.3s,baz=78,slow=17,SNR=16						
ZALV				Rg	Rg	07 31 12.6	
	6.9nm,0.3s,baz=77,slow=30,SNR=18						
KURBB	Kurchatov Arra	5.93	237	Pn	Pn	07 32 08.5	+1.0
	0.2nm,0.3s,baz=54,slow=13,SNR=16						
KURBB				Lg	Lg	07 33 47.6	
	0.0nm,0.3s,baz=51,slow=31,SNR=4.2						
MKAR	Makanchi Array	7.77	201	Pn	Pn	07 32 33.7	+0.9
	0.2nm,0.3s,baz=22,slow=13,SNR=13						
MKAR				Lg	Lg	07 34 46.2	
	0.1nm,0.3s,baz=20,slow=31,SNR=8.7						

*MOS **01** 07:31:33.8±1.2, 23.̊00S×69.̊08W, h77km, mb5.3/17, Error ellipse: s-maj=17.1km s-min=6.8km az=108.5*
*ISCJB **01** 07:31:34.8±0.2, 23.̊14S±0.̊02×69.̊17W±0.̊03, h99km±2km, mb4.7/72, Error ellipse: s-maj=5.2km s-min=2.7km az=159.7*
*SJA **01** 07:31:35.1±0.7, 23.̊09S×68.̊98W, h219km±14km, ML4.6, MW4.2*
*GUC **01** 07:31:36.7±0.4, 23.̊06S×69.̊32W, h94km±3km, ML5.2*
*NEIC **01** 07:31:37.0±0.2, 23.̊05S×69.̊03W, mb4.9/55, ML5.2(GUC), Error ellipse: s-maj=7.4km s-min=4.7km az=67.0*
NEIC Felt [IV] at Calama and Sierra Gorda; [III] at Baquedano, Oficina Maria Elena, San Pedro de Atacama and Toconao; [II] at Antofagasta and Tocopilla.
*GCMT **01** 07:31:37.0±0.3, 23.̊31S×69.̊51W, h111km±3km, MW5.0/79, Moment Tensor Solution. s34,c37; s79,c111; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.12±.14; $M_{\theta\theta}$0.26±.17; $M_{\phi\phi}$0.85±.23; $M_{r\theta}$0.97±.07; $M_{\theta\phi}$2.87±.14; $M_{\phi r}$-2.63±.12; Best double couple: $M_0$4.11700×10^{16} NP1:ϕ_s2.00000°, δ77.00000°, λ-137.00000°. NP2: ϕ_s260.00000°, δ48.00000°, λ-18.00000°. Principal axes: T 3.8680, Plg18.0000°, Azm125.0000°; N 0.4930, Plg45.0000°, Azm15.0000°; P -4.3660, Plg39.0000°, Azm230.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*IDC **01** 07:31:37.3±0.4, 22.̊99S×69.̊05W, h94km±2km, mb4.2/16, mb1 4.4/20, mb1mx4.2/45, mbtmp4.6/20, MS3.8/14, Ms1 3.7/14, ms1mx3.4/39 Error ellipse: s-maj=15.5km s-min=10.6km az=44.0*
*BJI **01** 07:31:39.1, 23.̊10S×69.̊10W, h96km, mB5.1/8*

ISC 01 07:31:36.6±0.3, 23.̊12S±0.̊03×69.̊20W±0.̊04, h96km±2km, h96km:pP-P, n399, σ1.̊49/432, mb4.9/74, 11C-7D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PB06	IPOC Station P	0.54	320	⇑iP	Pn	07 31 51.9	-0.6
PB06				eS	Sn	07 32 03.1	-1.2
PB06				IAML		07 32 04.6	
	comp=E,172µm,1.0s						
PB04	IPOC Station P	1.18	312	ePn	Pn	07 31 58.3	-0.7
PB04				eSn	Sn	07 32 13.9	-1.8
PB04	IPOC Station P	1.18	312	⇑iP	Pn	07 31 58.2	-0.8
PB04				eS	Sn	07 32 14.2	-1.5
PB04				IAML		07 32 16.9	
	comp=N,61µm,0.2s						
ANCH	Antofagasta	1.25	243	⇑iP	Pn	07 32 05.7	+6.2
ANCH				eS	Sn	07 32 22.6	+5.7
PB10	IPOC Station P	1.31	252	ePn	Pn	07 31 59.7	-0.6
PB10				eSn	Sn	07 32 15.3	-2.8
PB10	IPOC Station P	1.31	252	⇑iP	Pn	07 31 59.6	-0.6
PB10				eS	Sn	07 32 16.9	-1.3
PB10				IAML		07 32 21.6	
	comp=E,36µm,0.4s						
PB09	IPOC Station P	1.32	358	⇑iP	Pn	07 32 01.1	+0.4
PB09				eS	Sn	07 32 19.1	+0.3
PB07	IPOC Station P	1.53	335	⇑iP	Pn	07 32 02.6	-0.6
PB07				eS	Sn	07 32 22.0	-1.3
PB07				IAML		07 32 23.6	
	comp=E,51µm,0.3s						
PB02	IPOC Station P	1.91	340	⇑iP	Pn	07 32 07.3	-0.6
PB02				eS	Sn	07 32 30.7	-1.1
PB02				IAML		07 32 35.2	
	comp=E,32µm,0.2s						
GO02	Mina Guanaco	2.06	190	⇓iP	Pn	07 32 10.3	+0.2
GO02				eS	Sn	07 32 36.0	+0.3
PB01	IPOC Station P	2.09	353	ePn	Pn	07 32 10.0	-0.3
PB01				eSn	Sn	07 32 35.7	-0.3
PB01	IPOC Station P	2.09	353	⇑iP	Pn	07 32 09.8	-0.5
PB01				eS	Sn	07 32 35.3	-0.7
PB01				IAML		07 32 39.3	
	comp=E,19µm,0.2s						
PB11	IPOC Station P	3.37	353	ePn	Pn	07 32 25.6	-1.8
HJA	Humahuaca	3.49	92	eP	Pn	07 32 30.8	+1.6
YJA	Yavi	3.53	75	eP	Pn	07 32 31.3	+1.4
SLA	San Lorenzo	3.73	116	eP	Pn	07 32 33.6	+1.3
AZAP	Zapla	3.94	107	eP	Pn	07 32 36.3	+1.1
MNMC	Minye Minye	3.99	355	ePn	Pn	07 32 34.6	-1.3
ASTB	Santa Barbara	4.43	102	eP	Pn	07 32 43.0	+1.2
ASTB				eS	Sn	07 33 30.4	-1.9
ALOL	LOMAS DE OLMED	4.84	99	eP	Pn	07 32 47.3	+0.1
ALOL				eS	Sn	07 33 38.4	-3.6
AHML	Horco Molle	5.06	137	eP	Pn	07 32 51.9	+1.8
AHML				IAML		07 32 53.3	
	comp=Z,332nm,0.9s						
AHML				eS	Sn	07 33 45.4	-1.9
VCA	Vinchina	5.66	171	eP	Pn	07 32 59.2	+0.8
VCA				IAML		07 33 08.4	
	comp=Z,345nm,0.6s						
LCO	Las Campanas	6.02	193	ePn	Pn	07 32 60.0	-3.4
LCO				eSn	Sn	07 34 08.6	-2.4
LCO	Las Campanas	6.02	193	eP	Pn	07 33 04.8	+1.4
LCO				eP	Pn	07 33 05.0	+1.7
LCO				eS	Sn	07 34 11.2	+0.1
LCO	Las Campanas	6.02	193	eP	Pn	07 33 00.0	-3.4
LCO				e		07 34 08.6	
CYA	Choya	6.12	151	eP	Pn	07 33 04.2	-0.3
CYA				eP	Pn	07 33 04.3	-0.2
CYA				IAML		07 33 34.6	
	comp=Z,88nm,0.6s						
CYA				eS	Sn	07 34 09.5	-3.6
CYA				eS	Sn	07 34 10.0	-3.1
AGUA	GUANDACOL	6.37	174	eP	Pn	07 33 08.4	+0.4
AGUA				eS	Sn	07 34 17.0	-2.4
LPAZ	La Paz	6.87	9	P	Pn	07 33 15.8	+0.4
	comp=Z,8.5nm,0.3s,baz=190,slow=6.7,SNR=176						
LPAZ	La Paz	6.87	9	ePn	Pn	07 33 16.1	+0.7
ARE	Arequipa	6.97	342	eP	Pn	07 33 13.0	-3.4
ARE				eS	Sn	07 34 26.0	-8.3
ARE	Arequipa	6.97	342	eP	Pn	07 33 13.0	-3.4
ARE				eS	Sn	07 34 26.0	-8.3
ACDV	Cuesta del Vie	7.02	179	eP	Pn	07 33 17.0	+0.1
AROD	Rodeo	7.02	182	eP	Pn	07 33 16.8	-0.3
APLL	PUNTA DE LOS L	7.63	162	eP	Pn	07 33 23.6	-1.4
APLL				IAML		07 33 26.5	
	comp=Z,28nm,0.4s						
AMOG	MOGNA	7.81	176	eP	Pn	07 33 25.7	-1.9
AMOG				eS	Sn	07 34 50.7	-3.7
RTLL	Cerro Villicun	8.20	176	eP	Pn	07 33 31.4	-1.5
RTLS	Leoncito	8.64	181	eP	Pn	07 33 37.2	-2.0
RTCV	Cerro Valdivia	8.72	176	eP	Pn	07 33 38.2	-1.8
RTCV				eS	Sn	07 35 10.6	-6.1
AUSP	Uspallata	9.07	181	eP	Pn	07 33 43.4	-1.5
TCA	Tanti	9.15	154	eP	Pn	07 33 43.4	-2.4
ACAN	Cantantal	9.29	169	eP	Pn	07 33 45.7	-2.0
ASAL	Salagasta	9.44	178	eP	Pn	07 33 47.5	-2.3
ASAL				eS	Sn	07 35 25.9	-8.2
ARCO	CERRO ARCO	9.69	179	eP	Pn	07 33 50.7	-2.5
ARCO				IAML		07 35 39.4	
	comp=Z,40nm,0.6s						
ROC1	El Roble	9.95	189	ePn	Pn	07 33 53.2	-3.6
ROC1	El Roble	9.95	189	eP	Pn	07 33 54.9	-1.9
PEL	Peldehue	10.07	187	ePn	Pn	07 34 01.5	+3.2
PEL	Peldehue	10.07	187	eP	Pn	07 34 01.5	+3.2
SIV	San Ignacio	10.44	49	P	Pn	07 33 59.8	-3.6
	comp=Z,10nm,0.3s,baz=243,slow=12,SNR=155						
SIV				S	Sn	07 35 47.3	-11
	comp=Z,4.3nm,0.3s,baz=290,slow=13,SNR=4.3						
CPUP	Villa Florida	11.25	109	P	Pn	07 34 12.4	-1.9
	comp=Z,2.6nm,0.3s,baz=280,slow=12,SNR=45						
CPUP				LR	LR	07 39 02.5	
	comp=Z,650nm,20.6s,baz=292,slow=40						
CPUP	Villa Florida	11.25	109	ePn	Pn	07 34 12.7	-1.6
CPUP	Villa Florida	11.25	109	eP	Pn	07 34 12.7	-1.6
NNA	Nana	13.25	325	ePn	Pn	07 34 39.3	-1.8
NNA				eSn	Sn	07 36 59.4	-7.5
NNA	Nana	13.25	325	eP	Pn	07 34 39.3	-1.8
NNA				e		07 36 59.4	
TRQA	Tornquist	16.12	159	ePn	Pn	07 35 16.2	-1.4
	comp=Z,132nm,0.9s						
TRQA	Tornquist	16.12	159	eP	Pn	07 35 16.2	-1.4
TRQA				pmax	pmax		
	comp=Z,132nm,0.9s						
PLCA	Paso Flores	17.60	183	P	P	07 35 35.1	-0.2
	comp=Z,0.6nm,0.3s,baz=26,slow=14,SNR=28						
PLCA				LR	LR	07 42 44.9	
	comp=Z,206nm,19.5s,baz=24,slow=38						
PLCA	Paso Flores	17.60	183	eP	P	07 35 35.6	+0.2
	comp=Z,68nm,1.3s						
PLCA	Paso Flores	17.60	183	eP	P	07 35 35.6	+0.2
PLCA				pmax	pmax		
	comp=Z,68nm,1.3s						
ATAH	Atahualpa	18.19	329	P	Pn	07 35 44.5	+1.1
	comp=Z,0.2nm,0.3s,baz=147,slow=13,SNR=6.1						
SPB	Sao Paulo	19.99	96	eP	P	07 36 00.4	-1.1
	comp=Z,189nm,1.1s						
CHRN	Cochrane	24.23	186	eP	P	07 36 45.2	+0.8
	comp=Z,25nm,0.9s						
OTAV	Otavalo	24.90	338	eP	P	07 36 50.8	-0.5
	comp=Z,116nm,1.6s						
OTAV	Otavalo	24.90	338	eP	P	07 36 50.8	-0.5
OTAV				pmax	pmax		
	comp=Z,116nm,1.6s						
FLOC	Florencia	25.35	345	eP	sP	07 37 29.2	+1.9
CMBC	Cumbal	25.35	339	eP	sP	07 37 38.4	+11
GCUF	Volcan Galeras	25.47	341	eP	sP	07 37 29.3	+0.4
CRUC	La Cruz	25.68	342	eP	sP	07 37 36.5	+5.9
SOTA	Rioblanco	26.12	343	eP	sP	07 37 38.4	+3.5
PCON	Cinco Dias	26.25	344	eP	sP	07 37 39.1	+2.9
SJAC	San Juan de Ar	26.64	349	eP	sP	07 37 37.7	-1.5
PRAC	Prado	27.25	348	eP	P	07 37 11.7	-0.3
	comp=Z,67nm,1.0s						
PRAC	Prado	27.25	348	eP	sP	07 37 43.6	-0.9
VILC	Villavicencio,	27.42	350	eP	sP	07 37 45.5	-0.7
YOTC	Yotoco, Valle	27.83	345	eP	sP	07 37 51.9	+2.1
ROSC	El Rosal	28.24	349	LR	LR	07 51 21.9	
	comp=Z,106nm,18.8s,baz=189,slow=42						
ROSC	El Rosal	28.24	349	eP	P	07 37 21.1	-0.1
	comp=Z,12nm,0.9s						
NORC	Norcasia	29.04	348	eP	sP	07 37 58.5	-2.2
RUSC	La Rusia	29.09	352	eP	P	07 37 28.2	-0.6
	comp=Z,30nm,1.0s						
RUSC	La Rusia	29.09	352	eP	sP	07 38 00.6	-0.8
EFI	East Falkland	29.77	166	⇓eP	P	07 37 33.9	-0.1
EFI				pmax	pmax		
	comp=Z,39nm,1.0s						
HELC	Santa Helena	29.78	347	eP	P	07 37 34.3	-0.6
	comp=Z,59nm,0.6s						
PTBC	PUERTO BERRIO,	29.93	349	eP	pP	07 37 56.7	-0.6
ZARC	Zaragoza, Cauc	30.93	349	eP	sP	07 38 13.9	-3.3
SDV	Santo Domingo	31.84	357	LR	LR	07 53 19.1	
	comp=Z,130nm,18.5s,baz=182,slow=41						
SDV	Santo Domingo	31.84	357	eP	P	07 37 52.2	-0.6
	comp=Z,12nm,0.8s						
RCBR	Riachuelo	36.40	67	eP	P	07 38 31.2	-0.9
	comp=Z,44nm,0.8s						
RCBR	Riachuelo	36.40	67	eP	P	07 38 31.2	-0.9
RCBR				pmax	pmax		
	comp=Z,44nm,0.8s						
JTS	JuntasAbangare	36.62	333	sP	sP	07 39 08.5	+1.7
	comp=Z,11nm,0.8s,baz=209,slow=4.6,SNR=7.5						
APG	El Apazote	43.23	329	sP	sP	07 40 02.9	+0.7
	comp=Z,19nm,1.0s,baz=177,slow=6.4,SNR=11						
CMIG	Matias Romero	47.20	326	P	P	07 40 00.6	+0.6
	comp=Z,4.1nm,1.0s,baz=120,slow=8.9,SNR=4.3						
MOIG	Morelia	52.77	321	eP	P	07 40 44.3	+2.0
MOIG				epP	pP	07 41 07.9	+2.3
ZAIG	Zacatecas	55.99	322	eP	P	07 41 06.4	+0.7
154A	Montrose	56.99	346	P	P	07 41 12.6	+0.4
	baz=165						
251A	Midway	57.05	344	P	P	07 41 12.2	-0.5
	baz=162						
250A	Grady	57.17	343	P	P	07 41 13.0	-0.6
	baz=161						
347A	Saraland	57.30	340	P	P	07 41 13.8	-0.6
	baz=159						
249A	Camden	57.41	342	P	P	07 41 15.1	-0.1
	baz=160						
248A	Dixon Mills	57.70	341	P	P	07 41 17.1	-0.2
	baz=160						
Z50A	Ashland	58.29	344	P	P	07 41 21.0	-0.4
	baz=162						
245A	Little AP, Sta	58.31	339	P	P	07 41 21.5	0.0
	baz=157						
Z49A	Columbiana	58.39	343	P	P	07 41 21.7	-0.4
	baz=161						
342A	Flagon Creek P	58.54	337	P	P	07 41 23.9	+0.8
	baz=155						
HKT	Hockley	58.65	333	eP	P	07 41 24.2	+0.3
	comp=Z,45nm,1.1s						
HKT				epP	pP	07 41 48.7	+1.2
HKT	Hockley	58.65	333	eP	P	07 41 24.2	+0.3
HKT				e*PP	pP	07 41 48.7	+1.2
HKT				pmax	pmax		
	comp=Z,45nm,1.1s						
Z47A	Carrollton	58.83	342	P	P	07 41 25.0	-0.1
	baz=160						
Y50A	Piedmont	58.84	344	P	P	07 41 25.3	+0.1
	baz=162						
833A	Chaparral WMA,	58.86	329	P	P	07 41 25.8	+0.4
	baz=147						
Y49A	Blount Mountai	58.99	343	P	P	07 41 25.5	-0.7
	baz=161						
KMSC	Kings Mountain	59.08	348	P	P	07 41 26.9	+0.1
	baz=167						
242A	Grayson	59.10	337	P	P	07 41 26.7	-0.3
	baz=155						
241A	Mo Tay, Goldon	59.34	337	P	P	07 41 28.8	+0.1
	baz=154						
X50A	Fort Payne	59.36	344	P	P	07 41 28.0	-0.8
	baz=162						
Y47A	UCPARC, Winfie	59.42	342	P	P	07 41 29.0	-0.2
	baz=160						
X49A	Woodville	59.58	344	P	P	07 41 29.8	-0.5
	baz=162						
X48A	Hartselle	59.72	343	P	P	07 41 30.9	-0.3
	baz=161						
141A	Papa Simpson,	59.86	337	P	P	07 41 33.2	+1.0
	baz=155						
X47A	Russelville	60.00	342	P	P	07 41 32.3	-0.9
	baz=160						
TKL	Tuckaleechee C	60.07	346	P	P	07 41 33.1	-0.5
	comp=Z,7.3nm,0.9s,baz=127,slow=6.7,SNR=5.6						
TKL				LR	LR	08 10 06.5	
	comp=Z,44nm,18.3s,baz=221,slow=38						
140A	Cam and Jess,	60.14	336	P	P	07 41 34.8	+0.6
	baz=154						
W48A	Pulaski	60.34	343	P	P	07 41 35.2	-0.2
	baz=161						
W47A	Westpoint	60.62	343	P	P	07 41 36.6	-0.8
	baz=160						
SNAA	Sanae	60.84	161	P	P	07 41 39.4	+0.8
SNAA	Sanae	60.84	161	eP	P	07 41 38.3	-0.3
SNAA				pmax	pmax		
	comp=Z,778nm,1.2s						
JCT	Junction City	60.86	330	P	P	07 41 39.6	+0.4
	baz=148						
JCT	Junction City	60.86	330	eP	P	07 41 39.4	+0.2
	comp=Z,11nm,0.8s						
JCT				epP	pP	07 42 03.8	+0.9
JCT				esP	sP	07 42 13.3	-0.2
JCT	Junction City	60.86	330	eP	P	07 41 39.4	+0.2
JCT				e*PP	pP	07 42 03.8	+0.9
JCT				pmax	pmax		
	comp=Z,11nm,0.8s						
V48A	Smith Brothers	60.88	344	P	P	07 41 38.8	-0.3
	baz=161						
W45A	Hickory Valley	60.98	341	P	P	07 41 39.8	0.0
	baz=159						
Y40A	Okolona	61.27	337	P	P	07 41 42.2	+0.4
	baz=154						
V46A	Holladay	61.28	343	P	P	07 41 41.5	-0.4
	baz=160						
WVT	Waverly	61.51	343	P	P	07 41 42.6	-0.8
	baz=160						
U48A	Cassie Pea, Po	61.53	344	P	P	07 41 43.4	-0.1
	baz=162						
U47A	Clarksville	61.66	343	P	P	07 41 43.8	-0.5
	baz=161						
TXAR	Lajitas Array	61.81	326	P	P	07 41 46.2	+0.5
	comp=Z,1.3nm,0.8s,baz=149,slow=7.7,SNR=17						
TXAR				pP	pP	07 42 09.2	-0.4
	comp=Z,1.3nm,0.8s,baz=144,slow=9.2,SNR=4.6						
TXAR				sP	sP	07 42 20.1	0.0
	comp=Z,5.3nm,0.9s,baz=141,slow=8.1,SNR=13						
MIAR	Mount Ida	61.85	337	P	P	07 41 45.8	+0.1
	baz=154						
MIAR	Mount Ida	61.85	337	eP	P	07 41 45.5	-0.1
	comp=Z,19nm,1.0s						
MIAR				epP	pP	07 42 08.7	-0.9
MIAR	Mount Ida	61.85	337	eP	P	07 41 45.6	-0.1
MIAR				e*PP	pP	07 42 08.7	-0.9
MIAR				pmax	pmax		
	comp=Z,19nm,1.0s						
W41B	Gary Mavity, V	61.96	339	P	P	07 41 46.2	-0.2
	baz=156						
X39A	Fountain Ranch	62.01	337	P	P	07 41 47.3	+0.5
	baz=154						
T48A	Bowling Green	62.06	344	P	P	07 41 47.1	+0.1
	baz=162						
T47A	Sharon Grove	62.13	344	P	P	07 41 47.3	-0.2
	baz=161						
W40A	Ferguson Farm,	62.26	338	P	P	07 41 48.4	+0.1
	baz=155						
V42A	Cord	62.26	340	P	P	07 41 47.5	-0.8
	baz=157						
T46A	Princeton	62.38	343	P	P	07 41 48.7	-0.4
	baz=160						
V41A	Mountainview	62.49	339	P	P	07 41 49.6	-0.4
	baz=156						
W39A	Magazine	62.51	337	P	P	07 41 50.7	+0.6
	baz=154						
ABTX	Abilene, Hawle	62.60	331	P	P	07 41 50.6	-0.2
	baz=148						
ABTX	Abilene, Hawle	62.60	331	eP	P	07 41 50.9	+0.2
	comp=Z,4.7nm,0.8s						
ABTX				epP	pP	07 42 15.6	+0.9
U42A	Revenden	62.71	340	P	P	07 41 51.0	-0.4
	baz=157						
V40A	Witts Springs	62.73	338	P	P	07 41 51.3	-0.3
	baz=155						
T44A	Benton	62.90	342	P	P	07 41 52.3	-0.3
	baz=159						
U41A	Viola	62.92	339	P	P	07 41 52.2	-0.7
	baz=156						
V39A	Pettigrew	63.04	338	P	P	07 41 53.6	-0.1
	baz=155						
T43A	Greenville	63.10	341	P	P	07 41 53.6	-0.4
	baz=158						
WCI	Wyandotte Cave	63.10	345	P	P	07 41 53.1	-0.8
	baz=162						
WCI	Wyandotte Cave	63.10	345	eP	P	07 41 53.1	-0.8
	comp=Z,50nm,1.2s						
WCI				epP	pP	07 42 17.0	-0.9
WCI	Wyandotte Cave	63.10	345	eP	P	07 41 53.1	-0.8
WCI				e*PP	pP	07 42 17.0	-0.9
WCI				pmax	pmax		
	comp=Z,49nm,1.2s						
MCWV	Mont Chateau	63.24	351	P	P	07 41 55.5	+0.6
	baz=169						
U40A	Yellville	63.24	339	P	P	07 41 54.5	-0.4
	baz=156						
T42A	Van Buren	63.29	340	P	P	07 41 55.0	-0.2
	baz=157						
U39A	Green Forest	63.48	338	P	P	07 41 56.4	0.0
	baz=155						
S43A	Fulton Ridge,	63.49	342	P	P	07 41 56.0	-0.5
	baz=158						
R45A	Skylar, Fairfi	63.66	343	P	P	07 41 57.0	-0.6
	baz=160						
O56A	Blue Knob Stat	63.66	352	P	P	07 41 58.1	+0.4
	baz=170						
BBTS	Babate	63.76	59	LR	LR	08 08 14.7	
	comp=Z,61nm,21.8s,baz=230,slow=35						
R44A	Waltonville	63.84	343	P	P	07 41 57.5	-1.3
	baz=160						
T40A	Mansfield	63.85	339	P	P	07 41 58.6	-0.4
	baz=156						
TUL1	Leonard	63.88	336	eP	P	07 41 58.7	-0.4
	comp=Z,48nm,1.4s						
TUL1				ePcP	sP	07 42 33.4	-0.2
S42A	Caledonia	63.88	341	P	P	07 41 58.3	-0.8
	baz=158						
S41A	Jillco Farms,	64.01	340	P	P	07 41 58.9	-1.0
	baz=157,SNR=5.5						
BLO	Bloomington	64.06	345	eP	P	07 41 59.3	-0.9
	comp=Z,10nm,0.8s						
BLO	Bloomington	64.06	345	eP	P	07 41 59.3	-0.9
BLO				pmax	pmax		
	comp=Z,10.0nm,0.8s						
Q45A	Warren Harvey,	64.20	344	P	P	07 41 59.8	-1.3
	baz=160						
S40A	Lebanon	64.26	340	P	P	07 42 01.3	-0.3
	baz=156						
CCM	Cathedral Cave	64.28	341	P	P	07 42 01.4	-0.3
	baz=157						
CCM	Cathedral Cave	64.28	341	eP	P	07 42 01.3	-0.4
	comp=Z,17nm,0.6s						
CCM	Cathedral Cave	64.28	341	eP	P	07 42 01.3	-0.4
CCM				pmax	pmax		
	comp=Z,17nm,0.6s						
T38A	Diamond	64.34	338	P	P	07 42 02.1	0.0
	baz=154,SNR=5.9						
R42A	Luebbering	64.36	341	P	P	07 42 01.8	-0.4
	baz=158						
GDL2	Guadalupe Moun	64.47	327	eP	P	07 42 03.9	+0.7
	comp=Z,1.8nm,0.2s						
GDL2				ePcP	sP	07 42 37.8	0.0
R41A	Rosebud	64.55	341	P	P	07 42 02.7	-0.7
	baz=157,SNR=5.3						
MNTX	Cornudas Mount	64.58	326	P	P	07 42 03.8	-0.1
	baz=143						
MNTX	Cornudas Mount	64.58	326	eP	P	07 42 03.8	-0.1
	comp=Z,6.3nm,1.0s						
MNTX				ePcP	PcP	07 42 37.3	+0.3
S39A	Bolivar	64.61	339	P	P	07 42 03.7	-0.2
	baz=155,SNR=8.0						
S38A	Stockton	64.75	338	P	P	07 42 04.6	-0.2
	baz=155,SNR=5.0						
R40A	Maddies Statio	64.82	340	P	P	07 42 04.6	-0.5
	baz=156						
R39A	Chumby, Stover	65.08	339	P	P	07 42 06.2	-0.7
	baz=156						
Q41A	Truxton	65.11	341	P	P	07 42 06.7	-0.4
	baz=158						
MSTX	Muleshoe	65.15	330	P	P	07 42 07.2	-0.4
	baz=146						
MSTX	Muleshoe	65.15	330	eP	P	07 42 07.2	-0.4
	comp=Z,21nm,1.1s						
MSTX				ePcP	sP	07 42 41.3	-0.8
R38A	Fenwick Farm,	65.25	339	P	P	07 42 07.8	-0.2
	baz=155,SNR=5.1						
AMTX	Amarillo	65.41	331	eP	P	07 42 09.9	+0.7
	comp=Z,9.0nm,0.9s						
NVL	N'lazarevskaya	65.42	159	eP	P	07 42 09.7	+1.0
NVL				pmax	pmax		
	comp=Z,25nm,1.1s						
P41A	Barry, Barry	65.73	342	P	P	07 42 10.5	-0.6
	baz=158						
Q39A	Willow Grove F	65.73	340	P	P	07 42 10.4	-0.7
	baz=156						
Q38A	Cooks Store, C	65.86	339	P	P	07 42 11.8	0.0
	baz=155,SNR=7.2						
P40A	Paris	65.88	341	P	P	07 42 11.9	-0.2
	baz=157						
P39B	Salisbury	66.06	340	P	P	07 42 13.1	-0.1
	baz=156						
P38A	Dawn	66.43	340	P	P	07 42 15.4	-0.1
	baz=155						
121A	Cookes Peak, D	66.49	325	P	P	07 42 17.9	+1.6
	baz=141						
121A	Cookes Peak, D	66.49	325	eP	P	07 42 17.5	+1.1
	comp=Z,6.0nm,1.0s						
QSPA	South Pole Qui	67.08	180	eP	P	07 42 20.9	+1.4
	comp=Z,120nm,1.0s						
WLVO	Wesleyville	67.25	353	P	P	07 42 21.3	+0.7

baz=171
N39A Derby Farms, D 67.26 341 P P 07 42 20.3 -0.5
baz=157
LPM Los Pinos Moun 67.30 327 eP P 07 42 23.0 +1.6
comp=Z,0.7nm,0.8s
M40A Post Highland 67.46 342 P P 07 42 21.1 -0.9
baz=158
LAZ Ladron 67.62 327 eP P 07 42 25.4 +1.9
comp=Z,8.5nm,1.6s
N37A Lee Faris, Mou 67.68 340 P P 07 42 23.5 0.0
baz=155
ANMO Albuquerque 67.71 327 P P 07 42 25.4 +1.3
comp=Z,6.1nm,0.8s,baz=326,slow=12,SNR=35
ANMO sP sP 07 42 59.1 +0.4
comp=Z,11nm,0.9s,baz=329,slow=8.7,SNR=11
ANMO Albuquerque 67.71 327 P P 07 42 25.1 +1.1
baz=143
ANMO Albuquerque 67.71 327 eP P 07 42 25.3 +1.3
comp=Z,17nm,1.0s
ANMO sP sP 07 42 59.1 +0.4
ANMO Albuquerque 67.71 327 d iP P 07 42 24.5 +0.5
ANMO pmax pmax
comp=Z,8.0nm,1.0s
FRNY Flat Rock 67.75 357 eP P 07 42 20.0 -3.7
comp=Z,13nm,1.0s
CBKS Cedar Bluff 67.93 335 P P 07 42 26.0 +0.9
baz=150
CBKS Cedar Bluff 67.93 335 eP P 07 42 25.7 +0.6
comp=Z,26nm,0.9s
CBKS Cedar Bluff 67.93 335 eP P 07 42 25.7 +0.6
CBKS pmax pmax
comp=Z,26nm,0.9s
TUC Tucson 67.95 323 P P 07 42 27.0 +1.6
baz=139
TUC Tucson 67.95 323 eP P 07 42 26.3 +0.9
comp=Z,20nm,1.3s
TUC Tucson 67.95 323 eP P 07 42 26.3 +0.9
TUC pmax pmax
comp=Z,20nm,1.3s
M38A Pleasantville 67.96 341 P P 07 42 24.8 -0.3
baz=156,SNR=5.5
L40A Anamosa 67.98 342 P P 07 42 25.7 +0.4
baz=158
O34A Beatrice 68.00 338 P P 07 42 26.1 +0.7
baz=153
PKME Peaks-Kenny Pk 68.06 360 eP P 07 42 26.4 +0.8
comp=Z,29nm,1.2s
SADO Sadowa 68.17 352 P P 07 42 26.4 0.0
comp=Z,2.5nm,0.8s,baz=64,slow=1.1,SNR=4.2
SADO pP pP 07 42 50.7 0.0
comp=Z,4.2nm,0.6s,baz=116,slow=4.5,SNR=3.5
SADO sP sP 07 43 00.5 -0.6
comp=Z,12nm,0.8s,baz=224,slow=2.8,SNR=6.6
PLVO Plevna 68.21 354 P P 07 42 27.1 +0.4
baz=172
M37A Trindle Farm, 68.22 340 P P 07 42 27.0 +0.2
baz=155,SNR=5.2
O33A Hebron 68.22 337 P P 07 42 26.9 +0.1
baz=152
N35A Tabor 68.24 339 P P 07 42 26.7 -0.3
baz=154
L39A Vinton 68.26 342 P P 07 42 27.2 +0.2
baz=157
BMRO Meriville Lake 68.28 351 P P 07 42 28.0 +0.9
baz=168
K40A Colesburg 68.55 343 P P 07 42 28.4 -0.5
baz=158
L38A Oak Wood Farm, 68.55 341 P P 07 42 28.6 -0.3
baz=156
ALFO Alfred 68.62 356 P P 07 42 29.4 +0.3
baz=174
K39A Oelwein 68.76 342 P P 07 42 29.6 -0.6
baz=158,SNR=6.5
214A Organ Pipe Nat 68.84 321 eP P 07 42 33.3 +2.3
comp=Z,16nm,0.8s
J41A Loganville 68.88 344 P P 07 42 30.6 -0.2
baz=159
KLBO Killbear Provi 68.89 352 P P 07 42 30.9 +0.1
baz=169
L36A Harm Buss Farm 69.04 340 P P 07 42 31.9 0.0
baz=155
LIC Lamto 69.10 73 eP P 07 42 32.5 -0.4
comp=Z,101nm,1.8s
J39A Decorah 69.30 343 P P 07 42 32.9 -0.5
baz=158
TIC Toumodi 69.30 73 eP P 07 42 33.9 -0.3
K37A Belmond 69.33 341 P P 07 42 33.8 +0.1
baz=156
KIC Kosan Boka 69.42 73 eP P 07 42 34.5 -0.4
comp=Z,42nm,0.8s
DBIC Dimbokro 69.46 73 P P 07 42 35.0 0.0
comp=Z,10nm,0.8s,baz=224,slow=5.7,SNR=11
DBIC pP pP 07 42 59.3 -0.1
comp=Z,24nm,0.9s,baz=209,slow=8.3,SNR=6.6
DBIC sP sP 07 43 09.8 0.0
comp=Z,23nm,0.8s,baz=215,slow=6.3,SNR=6.4
DBIC LR LR 08 13 08.0
comp=Z,74nm,18.1s,baz=211,slow=36
SDCO Great Sand Dun 69.51 330 P P 07 42 36.8 +1.6
baz=144
SDCO Great Sand Dun 69.51 330 eP P 07 42 36.9 +1.6
comp=Z,15nm,1.2s
W18A Petrified Fore 69.52 325 eP P 07 42 36.5 +1.2
comp=Z,41nm,1.2s
BGNE Belgrade 69.59 337 eP P 07 42 35.1 -0.2
comp=Z,106nm,1.1s
I38A Scanlan Farm, 70.12 342 P P 07 42 38.4 -0.1
baz=157
S22A 4UR Ranch, Cre 70.13 329 P P 07 42 39.5 +0.4
baz=143
H40A Chili 70.15 344 P P 07 42 38.2 -0.5
baz=159
Q24A Divide 70.34 331 P P 07 42 41.2 +0.8
baz=145
MVCO Mesa Verde 70.51 328 P P 07 42 42.4 +1.0
baz=142
MVCO Mesa Verde 70.51 328 eP P 07 42 42.3 +1.0
comp=Z,34nm,1.0s
WUAZ Wupatki 70.69 325 P P 07 42 44.1 +1.8
baz=139
K31A O'Neill 70.88 337 P P 07 42 43.2 0.0
baz=151
J33A Davis 70.88 339 P P 07 42 43.1 0.0
baz=153
H36A Jessenland, He 71.07 342 P P 07 42 44.6 +0.3
baz=156
ECSD EROS Data Cent 71.13 339 P P 07 42 44.6 0.0
baz=153
Y12C Blythe 71.13 321 P P 07 42 47.1 +2.2
baz=136
ISCO Idaho Springs 71.23 331 P P 07 42 46.5 +0.8
baz=145
ISCO Idaho Springs 71.23 331 eP P 07 42 46.9 +1.2
comp=Z,1.4nm,0.7s
ISCO Idaho Springs 71.23 331 eP P 07 42 46.9 +1.2
ISCO pmax pmax
comp=Z,1.0nm,0.7s
SPMN Marine on St. 71.34 343 P P 07 42 45.7 -0.2
baz=157
SPMN Marine on St. 71.34 343 eP P 07 42 45.9 0.0
comp=Z,9.4nm,0.8s
H35A Sunnyside Ranc 71.44 341 P P 07 42 46.3 -0.2
baz=155
F37A Hinrichs Farm, 71.75 343 P P 07 42 48.4 +0.1
baz=157
IRM Iron Mountain 71.78 321 P P 07 42 50.4 +1.5
baz=136
E39A Mellen 71.83 345 P P 07 42 48.9 +0.1
baz=159
H33A Prehn Over Nor 72.02 340 P P 07 42 50.1 +0.1
baz=153
F36A Milaca 72.13 342 P P 07 42 50.2 -0.3
baz=156
G33A Ortonville 72.38 340 P P 07 42 52.0 -0.1
baz=154
E36A McGregor 72.66 343 P P 07 42 53.2 -0.5
baz=157
O20A White River Ci 72.69 330 P P 07 42 55.4 +1.1
baz=142
O20A White River Ci 72.69 330 eP P 07 42 55.7 +1.4
comp=Z,22nm,1.3s
TMUT Trail Mountain 73.47 327 eP P 07 43 00.4 +1.3
comp=Z,20nm,0.5s
C37A Embarrass 73.49 344 P P 07 42 57.8 -0.8
baz=158
EYMN Ely 73.53 345 eP P 07 42 58.1 -0.7
comp=Z,15nm,1.0s
KOWA Kowa 73.91 66 P P 07 43 01.8 +0.1
comp=Z,7.0nm,0.7s,baz=250,slow=7.9,SNR=19
KOWA pP pP 07 43 26.3 0.0
comp=Z,15nm,0.6s,baz=247,slow=5.8,SNR=10.0
KOWA LR LR 08 15 03.2
comp=Z,77nm,19.3s,baz=225,slow=35
C35A Jirik Farms, M 73.94 343 P P 07 43 01.1 -0.2
baz=156
RSSD Black Hills 74.14 335 P P 07 43 03.9 +1.2
baz=147
RSSD Black Hills 74.14 335 eP P 07 43 03.9 +1.2
comp=Z,10nm,0.9s
RSSD Black Hills 74.14 335 eP P 07 43 03.9 +1.2
RSSD pmax pmax
comp=Z,10.0nm,0.9s
B35A Bob, Littlefor 74.48 343 P P 07 43 03.6 -0.7
baz=156
MPMC Manual Prospec 74.48 321 P P 07 43 05.2 +0.3
baz=134
ISA Isabella, Lake 74.78 320 P P 07 43 07.4 +0.9
baz=134
DUG Dugway, Tooele 74.96 327 P P 07 43 08.9 +1.4
baz=139
AGMN Agassiz Nation 75.01 342 P P 07 43 07.1 -0.3
baz=155
AGMN Agassiz Nation 75.01 342 eP P 07 43 07.0 -0.4
comp=Z,4.9nm,0.9s
R11A Troy Canyon, C 75.05 324 P P 07 43 09.3 +1.2
baz=136
SYO Syowa Base 75.08 159⇑ eP P 07 43 07.0 -0.6
SYO Syowa Base 75.08 159⇓ eP cP PcP 07 43 18.8 -2.0
C31A Landman Farms, 75.11 341 P P 07 43 08.2 +0.3
baz=153
VNDA Vanda 75.21 190 P P 07 43 10.6 +2.3
comp=Z,3.3nm,0.9s,baz=107,slow=4.5,SNR=9.1
VNDA sP sP 07 43 44.6 +1.3
comp=Z,3.2nm,0.9s,baz=130,slow=4.3,SNR=4.7
VES Vestal, Richgr 75.27 320 P P 07 43 10.4 +1.2
baz=133
B32A Ashes, Strandq 75.29 342 P P 07 43 09.1 +0.1
baz=154
PDAR Pinedale Array 75.38 330 P P 07 43 10.3 +0.3
comp=Z,0.5nm,0.6s,baz=168,slow=7.6,SNR=7.4
PDAR pP pP 07 43 35.2 +0.6
comp=Z,1.1nm,0.8s,baz=178,slow=5.6,SNR=4.3
PDAR sP sP 07 43 44.5 -0.5
comp=Z,2.5nm,0.9s,baz=77,slow=6.7,SNR=6.2
A33A Warroad 75.45 343 P P 07 43 10.0 +0.1
baz=155
MDND Maddock 75.75 339 eP P 07 43 12.3 +0.7
comp=Z,47nm,1.0s
NVAR Mina Array Bea 76.61 322 P P 07 43 18.4 +1.4
comp=Z,2.8nm,0.8s,baz=164,slow=6.6,SNR=8.9
NVAR pP pP 07 43 43.1 +1.3
comp=Z,1.3nm,0.6s,baz=170,slow=7.8,SNR=2.8
NVAR sP sP 07 43 52.9 +0.9
comp=Z,2.6nm,0.8s,baz=145,slow=6.3,SNR=3.9
ULM Lac du Bonnet 76.78 343 P P 07 43 17.1 -0.3
comp=Z,2.6nm,0.4s,baz=157,slow=5.7,SNR=7.9
ULM pP pP 07 43 41.6 -0.5
comp=Z,3.3nm,0.5s,baz=149,slow=6.2,SNR=4.3
RLMT Red Lodge 77.11 332 P P 07 43 21.0 +1.3
baz=142
RLMT Red Lodge 77.11 332 eP P 07 43 20.5 +0.8
comp=Z,25nm,1.2s
GCMT Greycliff 77.82 332 eP P 07 43 24.7 +1.2
comp=Z,6.8nm,1.2s
TORD Torodi Ar. Bea 78.15 70 P P 07 43 25.7 -0.2
comp=Z,16nm,0.9s,baz=255,slow=5.2,SNR=74
TORD pP pP 07 43 50.2 -0.4
comp=Z,32nm,0.7s,baz=252,slow=5.2,SNR=16
TORD LR LR 08 17 50.5
comp=Z,31nm,18.8s,baz=150,slow=36
HLID Hailey 78.27 328 P P 07 43 27.9 +1.7
baz=138
HLID Hailey 78.27 328 eP P 07 43 27.8 +1.7
comp=Z,14nm,1.0s
MCMT McKenzie Canyo 78.48 330 eP P 07 43 28.0 +0.7
comp=Z,5.3nm,1.3s
BOZ Bozeman (W) 78.52 331 P P 07 43 28.5 +1.0
baz=141
LRM Limekiln Ridge 79.06 331 eP P 07 43 31.4 +0.9
comp=Z,3.2nm,0.9s
HRY Holter Researc 79.47 332 eP P 07 43 33.8 +1.2
comp=Z,0.7nm,0.4s
EGMT Eagleton 79.62 334 P P 07 43 34.1 +0.9
baz=142
TSUM Tsumeb 79.83 107 eP P 07 43 34.5 -0.8
comp=Z,22nm,1.0s
TSUM eP cP PcP 07 43 41.6 -1.0
WALA Waterton Lakes 82.17 332 eP P 07 43 47.6 +0.7
comp=Z,4.0nm,0.8s
RAR Rarotonga 82.42 250 LR LR 08 11 37.4
comp=Z,22nm,21.8s,baz=224,slow=29
MORF Marmelete 82.80 44 eP pP 07 44 16.5 +1.1
MAW Mawson 82.86 163 P P 07 43 51.5 +1.4
comp=Z,12nm,1.0s,baz=248,slow=3.5,SNR=6.4
MAW pP pP 07 44 16.5 +1.3
comp=Z,11nm,0.7s,baz=236,slow=4.3,SNR=6.0
BOSA Boshof 82.92 118 P P 07 43 52.0 +0.5
comp=Z,8.7nm,0.8s,baz=265,slow=3.7,SNR=11
BOSA pP pP 07 44 17.1 +0.6
comp=Z,18nm,0.9s,baz=248,slow=4.9,SNR=8.7
BOSA LR LR 08 18 57.0
comp=Z,26nm,18.1s,baz=208,slow=34
NEW Newport 83.01 330 LR LR 08 23 12.1
comp=Z,108nm,19.3s,baz=218,slow=37
PBDV Barranco-do-Ve 83.23 45 eP pP 07 44 19.1 +1.5
PNCL Nicolau / Gran 83.35 44 eP pP 07 44 19.2 +1.1
PCVE Castro Verde 83.39 44 eP pP 07 44 19.6 +1.3
PVAQ Vaqueiros 83.46 45 eP pP 07 44 19.9 +1.2
PBEJ Beja 83.73 44 eP pP 07 44 21.3 +1.2
EVO Evora 83.93 44 eP pP 07 44 22.0 +0.9
ALMR Almeirim 83.94 43 eP pP 07 44 22.3 +1.2
PMTG Montargil 84.11 43 eP pP 07 44 23.0 +1.0
PTOM Tomar 84.31 43 eP pP 07 44 23.9 +0.8
PBAR Barrancos 84.35 44 eP pP 07 44 24.1 +0.9
PESTR Estremoz 84.39 44 eP pP 07 44 24.2 +0.7
PCAS Casmilo, Conde 84.52 42 eP pP 07 44 25.1 +1.0
PMRV Marv??o 84.84 43 eP pP 07 44 26.1 +0.3
PCBR Castelo Branco 85.03 43 eP pP 07 44 27.2 +0.5
EDM Edmonton 85.11 335 eP P 07 44 02.0 +0.3
comp=Z,21nm,1.4s
EDM eP pP 07 44 26.4 -0.4
EDM Edmonton 85.11 335 eP P 07 44 02.0 +0.3
EDM e*PP pP 07 44 26.4 -0.4
EDM pmax pmax
comp=Z,21nm,1.4s
PVIS Viseu 85.28 42 eP pP 07 44 28.7 +0.7
MTE Manteigas 85.31 42 eP pP 07 44 28.7 +0.5
PVRL Vila Real 85.72 42 eP pP 07 44 30.7 +0.5
POLO Lamas de Olo 85.73 42 eP pP 07 44 30.8 +0.5
PCAB Cabril 85.78 41 eP pP 07 44 31.1 +0.6
TAM Tamanrasset 85.79 63 eP P 07 44 10.3 +4.4
comp=Z,7.0nm,0.8s
TAM Tamanrasset 85.79 63 eP P 07 44 10.3 +4.4
TAM pmax pmax
comp=Z,7.0nm,0.8s
MVO Moncorvo 86.07 42 eP pP 07 44 32.7 +0.7
PBRG Braganca 86.62 42 eP pP 07 44 35.2 +0.6
PAB San Pablo 86.85 45 eP P 07 44 11.4 +0.8
comp=Z,28nm,1.0s
PAB San Pablo 86.85 45 eP P 07 44 11.5 +0.8
PAB pmax pmax
comp=Z,28nm,1.0s
ESDC Sonseca Array 87.17 45 P P 07 44 12.9 +0.7
comp=Z,0.2nm,0.4s,baz=254,slow=9.2,SNR=3.6
ESDC pP pP 07 44 38.2 +0.8
comp=Z,5.1nm,0.8s,baz=250,slow=4.0,SNR=11
YKA Yellowknife Ar 92.62 341 P P 07 44 37.1 +0.1
comp=Z,3.2nm,0.8s,baz=138,slow=4.5,SNR=81
YKA pP pP 07 45 02.2 -0.2
comp=Z,3.7nm,0.8s,baz=137,slow=4.6,SNR=12
KEST Kesra 94.49 53 LR LR 08 27 38.2
comp=Z,54nm,19.7s,baz=339,slow=36
VAE Valguarnera 98.92 53 LR LR 08 30 26.0
comp=Z,76nm,20.4s,baz=295,slow=36
GERES GERESS Array B 102.59 42 pP pPdif 07 45 48.4 +0.5
comp=Z,0.4nm,0.6s,baz=222,slow=3.6,SNR=3.2
ASAR Alice Springs 128.36 207 PKP PKPdf 07 50 32.9 +0.1
comp=Z,3.5nm,0.7s,baz=130,slow=1.6,SNR=11
ASAR pPKP pPKPdf 07 50 59.1 -0.1
comp=Z,3.9nm,0.8s,baz=162,slow=1.9,SNR=6.5
ARU Arti 129.63 35 i PKIKP PKPdf 07 50 34.5 +0.5
ARU 07 52 46.0
ARU SS SS 08 09 57.0 -4.0
TIXI Tiksi 130.36 353⇑ iPKIKP PKPdf 07 50 34.4 -0.6
WRA Warramunga Arr 131.43 210 PKP PKPdf 07 50 39.4 +0.7
comp=Z,3.0nm,0.6s,baz=156,slow=1.7,SNR=13
WRA pPKP pPKPdf 07 51 06.0 +0.9
comp=Z,3.1nm,0.8s,baz=162,slow=1.4,SNR=3.9
WRAB Tennant Creek 131.43 210⇓ iPKIKP PKPdf 07 50 36.9 -1.8
SEY Seymchan 131.47 336⇑ iPKIKP PKPdf 07 50 38.5 +1.2
ABKAR Akbulak array 132.51 44 ePKPdf PKPdf 07 50 41.1 +1.4
NVS Novosibirsk 142.24 26 ePKIKP PKPdf 07 50 57.2 -0.3
NVS e 07 51 26.1
KURK Kurchatov 142.82 34 PKP PKPdf 07 50 56.2 -2.4
KURK Kurchatov 142.82 34 PKIKP PKPdf 07 50 56.2 -2.4
KURBB Kurchatov Arra 142.83 34 PKP PKPdf 07 50 56.2 -2.5
comp=Z,0.4nm,0.5s,baz=306,slow=3.1,SNR=5.7
ZALV Zalesovo Beam 143.53 26 PKP PKPdf 07 50 58.6 -1.1
comp=Z,1.9nm,0.5s,baz=301,slow=4.3,SNR=13
ZALV pPKP pPKPdf 07 51 25.9 -0.3
comp=Z,5.7nm,0.7s,baz=286,slow=2.7,SNR=5.5
FRU Bishkek 144.20 48 ePKIKP PKPdf 07 51 01.5 +0.1
FRU e 07 51 25.0
BATI Baumata 144.56 202 PKP PKPdf 07 51 06.2 +3.3
SOEI Soe 144.77 203 PKP PKPdf 07 51 04.1 +0.8
SOEI Soe 144.77 203 ePKPdf PKPdf 07 51 04.4 +1.0
YSS Yuzh-Sakhalins 145.04 321 i PKIKP PKPbc 07 51 02.3 +0.1
BOD Bodaibo 145.26 357 ePKIKP PKPbc 07 51 01.9 -0.7
BOD e 07 51 27.9
BOD pmax pmax
comp=Z,25nm,1.4s
NIL Nilore 145.51 64 ePKPbc PKPdf 07 51 04.1 +0.2
NIL Nilore 145.51 64 ePKIKP PKPdf 07 51 04.1 +0.2
GRNR Gornyy 145.97 331 ePKP2 PKPab 07 51 06.0 +0.3
GRNR pmax pmax
comp=Z,67nm,1.0s
KSH Kashi 146.31 53 PKPbc PKPab 07 51 11.1 +3.6
FAKI Fak Fak 146.72 222 PKP PKPab 07 51 09.3 -0.3
ZEA Zeya 147.00 342 ePKP2 PKPab 07 51 08.8 -0.7
ZEA pmax pmax
comp=Z,32nm,1.2s
MKAR Makanchi Array 147.09 37 PKPbc PKPdf 07 51 07.2 +1.0
comp=Z,6.8nm,0.9s,baz=328,slow=1.9,SNR=37
MKAR pPKPbc pPKPdf 07 51 33.5 +0.8
comp=Z,26nm,0.9s,baz=304,slow=2.8,SNR=14
ERM Erimo 147.13 313⇓ iPKIKP PKPdf 07 51 05.1 -1.2
ERM i 07 51 10.7
PLAI Plampang 147.52 193 PKP PKPab 07 51 11.9 -0.8
DGZ Jazzator, Alta 147.75 29⇓ iPKIKP PKPdf 07 51 07.1 -0.3
JAGI Jajag, Banyuwa 148.43 186 PKP PKPbc 07 51 13.1 +0.2
PCJI Pacitan 148.87 181 PKP PKPbc 07 51 14.4 +0.3
CMJI Cimerak 149.20 175 PKP PKPbc 07 51 14.6 -0.3
MOY Mondy 150.51 12 ePKIKP PKPbc 07 51 18.9 +1.8
MOY pmax pmax
comp=Z,20nm,1.4s
SANI Sanana 150.93 213 PKP PKPbc 07 51 18.4 -0.7
SANI PKP PKiKP 07 51 19.3 -0.4
MDSI Maura Dua 151.81 166 PKP PKPbc 07 51 19.7 -1.4
MDSI PKP PKiKP 07 51 20.8 -0.7
WMQ Urumqi 151.92 37 PKPbc PKPdf 07 51 10.7 -3.3
WMQ LR LR
comp=Z,450nm,7.7s
WMQ LR LR
comp=Z,470nm,12.5s
WMQ LR LR
comp=Z,380nm,19.1s
ZAK Zakamensk 152.16 10 ePKIKP PKPbc 07 51 20.9 0.0
ZAK pmax pmax
comp=Z,2.0nm,1.1s
USRK Ussuriysk Ar. 152.71 325 PKPbc PKPbc 07 51 22.7 +0.5
comp=Z,3.6nm,0.8s,baz=318,slow=1.6,SNR=5.4
USRK pPKPbc pPKPbc 07 51 49.1 +0.6
comp=Z,3.5nm,0.9s,baz=13,slow=2.5,SNR=2.8
MJAR Matsushiro Arr 152.83 306 PKPbc PKPbc 07 51 23.1 +0.3
comp=Z,3.9nm,1.1s,baz=81,slow=33,SNR=5.7
MJAR PKPab PKPab 07 51 35.1 +0.9
comp=Z,2.6nm,0.9s,baz=96,slow=1.4,SNR=7.0
SONM Songino Array 155.09 7 PKP PKPdf 07 51 19.7 +1.1
comp=Z,0.5nm,0.4s,baz=177,slow=10,SNR=3.6
KSRS Korea Array 159.49 318 PKP PKPdf 07 51 25.2 +1.1
comp=Z,3.2nm,1.1s,baz=33,slow=1.2,SNR=7.0
KSRS pPKP pPKPdf 07 51 51.1 +0.4
comp=Z,2.6nm,1.0s,baz=354,slow=1.3,SNR=4.1
KSAR Wonju Array Be 159.52 318 PKP PKPdf 07 51 25.2 +1.0
KSAR pPKP pPKPdf 07 51 51.1 +0.3
KSAR Wonju Array Be 159.52 318 PKIKP PKPdf 07 51 25.2 +1.0
KSAR 07 51 51.1
HHC Hu-ho-hao-te 162.31 358 ePKP PKPdf 07 51 24.7 -2.6
HHC PP PP 07 56 00.1 +1.9
HHC SS SS 08 16 10.0 -0.8
HHC AMB AMB
comp=Z,41nm,9.9s
HHC LR LR
comp=Z,260nm,20.1s
HHC LR LR
comp=Z,260nm,21.1s
HHC LR LR
comp=Z,230nm,20.5s
LZH Lanzhou 165.74 23 ePKP PKPdf 07 51 27.5 -3.1
LZH pPKP pPKPdf 07 51 54.4 -2.8
LZH LR LR
comp=Z,53nm,18.0s
LZH LR LR
comp=Z,60nm,18.1s
LZH LR LR
comp=Z,87nm,20.1s
CMAR Chiang Mai Arr 167.98 111 PKP PKPdf 07 51 33.9 +1.4
comp=Z,0.6nm,0.3s,baz=245,slow=1.7,SNR=5.5
NJ2 Nanjing 168.60 323 ePKP PKPdf 07 51 32.9 +0.3
CD2 Chengdu 170.02 37 PKP PKPdf 07 51 33.0 -0.6
GYA Guiyang 174.98 48 ePKP PKPdf 07 51 34.0 -1.9
GYA PKPab PKPab 07 53 11.6 +0.2
GYA PKS PKSdf 07 55 04.8 -3.5
GYA PP PP 07 57 03.6 -0.1
GYA AMB AMB
comp=Z,120nm,8.4s

IDC ***01*** *07:41:07.9±0.6,20.˚18S×173.˚94W,h0km,mb4.4/14, mb1 4.6/15,mb1mx4.4/43,mbtmp4.4/15,ML4.6/1,MS3.9/22, Ms1 3.9/22,ms1mx3.7/54,Error ellipse: s-maj=25.7km s-min=17.0km az=133.0*

ISCJB ***01*** *07:41:12.2±0.3,20.˚04S±0.˚05×174.˚11W±0.˚06,h33km, mb4.8/61,MS4.1/23,Error ellipse: s-maj=8.8km s-min=5.9km az=36.8*

NEIC ***01*** *07:41:13.7±0.2, 19.˚99S×174.˚05W,h35km,mb4.9/41, Error ellipse: s-maj=10.4km s-min=5.9km az=124.0*

BJI ***01*** *07:41:13.9,20.˚11S×174.˚48W,h34km,mb5.2/22, mB5.4/14,Ms5.2/5,Ms7 5.0/6*

MOS ***01*** *07:41:19.7±1.3, 19.˚33S×175.˚40W,h33km,mb5.3/12, Error ellipse: s-maj=17.7km s-min=13.0km az=32.1*

ISC 01 07:41:13.5±0.5, 19.83S±0.06×174.05W±0.08, h34km±1km, h35km; pP-P, n219, σ1s 46/218, mb4.9/61, MS4.0/24, 23C-17D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**6.28**	**21**	Pn	**Pn**	**07 42 41.6**	**-2.2**
	18nm,0.3s,baz=2.8,slow=2.0,SNR=37						
AFI				Sn	**Sn**	**07 43 50.0**	**-4.3**
	20nm,0.3s,baz=265,slow=23,SNR=3.8						
AFI				LR	LR	07 45 06.1	
	comp=Z,479nm,21.5s,baz=191,slow=36						
AFI				T	T	07 49 20.9	
	12nm,0.3s,baz=235,slow=23,SNR=6.5						
AFI	**Afiamalu**	**6.28**	**21**	ePn	**Pn**	**07 42 41.6**	**-2.2**
AFI				eSn	**Sn**	**07 43 49.4**	**-4.9**
AFI				T		07 49 20.9	
MSVF	**Nonsavu**	**7.77**	**284⇑**	iP	**Pn**	**07 43 04.2**	**-0.2**
RAO	**Raoul Island**	**10.02**	**200**	ePn	**Pn**	**07 43 33.6**	**-1.5**
RAO	**Raoul Island**	**10.02**	**200**	eP	**Pn**	**07 43 33.6**	**-1.5**
FUNA	**Funafuti**	**13.00**	**329**	ePn	**Pn**	**07 44 15.2**	**-0.7**
RAR	**Rarotonga**	**13.45**	**98**	Pn	Pn	07 44 10.0	-12
	5.4nm,0.3s,baz=258,slow=8.3,SNR=24						
RAR				LR	LR	07 47 52.2	
	comp=Z,424nm,20.6s,baz=276,slow=30						
KNTN	**Kanton**	**17.10**	**8**	ePn	**Pn**	**07 45 09.3**	**-0.7**
	99nm,1.3s						
DZM	**Mont Dzumac**	**18.36**	**260**	Pn	**Pn**	**07 45 27.3**	**+1.7**
	0.6nm,0.3s,baz=77,slow=18,SNR=13						
DZM				LR	LR	07 51 37.1	
	comp=Z,546nm,19.5s,baz=89,slow=34						
DZM	**Mont Dzumac**	**18.36**	**260**	eP	**Pn**	**07 45 27.0**	**+1.4**
	26nm,0.8s						
URZ	**Urewera**	**19.91**	**201**	P	**P**	**07 45 38.7**	**-3.5**
	1.9nm,0.3s,baz=340,slow=3.0,SNR=5.4						
HIZ	**Hauiti**	**20.96**	**205**	eP	**P**	**07 45 52.8**	**-0.7**

30nm,0.8s
PPT Papeete 23.28 88 LR LR 07 52 48.3
comp=Z,154nm,20.8s,baz=266,slow=30
PPT Papeete 23.28 88 *eP* **P 07 46 18.6 +0.2**
THZ Tophouse 24.51 204 *eP* **P 07 46 28.9 -0.9**
13nm,0.6s
LTZ Lake Taylor 25.63 204 *eP* **P 07 46 38.7 -1.1**
18nm,0.7s
OXZ Oxford 26.18 203 *eP* **P 07 46 44.8 0.0**
25nm,0.7s
RPZ Rata Peaks 26.89 204 *eP* **P 07 46 51.9 +0.7**
21nm,0.8s
HNR Honiara 27.16 289 LR LR 07 56 08.6
comp=Z,256nm,19.9s,baz=152,slow=33
FOZ Fox Glacier 27.23 206 *eP* **P 07 46 54.2 -0.1**
27nm,0.8s
CTAO Charters Tower 37.26 263 *eP* **P 07 48 21.1 -1.2**
50nm,1.8s
CTAO Charters Tower 37.26 263 *eP* **P 07 48 21.1 -1.2**
CTAO pmax pmax
comp=Z,50nm,1.8s
PMG Port Moresby 38.85 280 LR LR 08 02 41.9
comp=Z,227nm,18.8s,baz=170,slow=33
PMG Port Moresby 38.85 280 *eP* **P 07 48 35.3 -0.5**
PMG pmax pmax
comp=Z,54nm,1.1s
STKA Stephens Creek 41.42 244 P **P 07 48 55.3 -1.7**
comp=Z,2.7nm,0.5s,baz=94,slow=12,SNR=9.6
STKA LR LR 08 05 05.7
comp=Z,128nm,18.4s,baz=55,slow=35
STKA Stephens Creek 41.42 244 *eP* **P 07 48 55.5 -1.5**
comp=Z,1.9nm,1.2s
STKA Stephens Creek 41.42 244 *eP* **P 07 48 55.5 -1.5**
STKA pmax pmax
comp=Z,2.0nm,1.2s
AS01 Alice Springs 48.24 256 *eP* **P 07 49 49.5 -1.9**
AS31 Alice Springs 48.28 256 *eP* **P 07 49 48.3 -3.5**
comp=Z,1.8nm,0.6s
ASAR Alice Springs 48.28 256 P **P 07 49 49.8 -2.0**
comp=Z,4.6nm,0.6s,baz=100,slow=7.6,SNR=39
ASAR PcP **PcP 07 51 18.5 +0.1**
comp=Z,2.7nm,0.8s,baz=106,slow=4.1,SNR=4.1
ASAR LR LR 08 09 54.5
comp=Z,166nm,18.8s,baz=100,slow=36
WB2 Warramunga Arr 48.36 261 *eP* **P 07 49 51.7 -0.7**
comp=Z,8.4nm,0.7s
WRAB Tennant Creek 48.36 261 *eP* **P 07 49 51.3 -1.1**
comp=Z,50nm,1.9s
WRAB Tennant Creek 48.36 261⇑*iP* **P 07 49 51.4 -1.0**
WRAB *i* *PP **pP 07 50 00.4 -2.2**
WRAB *i* *SP **sP 07 50 05.4 -1.3**
WRAB pmax pmax
comp=Z,5.0nm,0.8s
WRA Warramunga Arr 48.37 261 P **P 07 49 50.4 -2.1**
comp=Z,4.9nm,0.6s,baz=98,slow=6.1,SNR=40
WRA LR LR 08 09 41.7
comp=Z,185nm,18.6s,baz=85,slow=35
FORT Forrest 52.96 246 *eP* **P 07 50 25.7 -1.2**
comp=Z,426nm,0.8s
VNDA Vanda 58.93 186 P **P 07 51 08.0 -0.9**
comp=Z,2.1nm,0.9s,baz=9.5,slow=6.4,SNR=6.8
VNDA Vanda 58.93 186 *eP* **P 07 51 08.7 -0.2**
comp=Z,8.6nm,1.4s
VNDA Vanda 58.93 186 *eP* **P 07 51 08.7 -0.2**
VNDA pmax pmax
comp=Z,9.0nm,1.4s
RPN Rapa Nui 59.25 110 LR LR 08 09 35.8
comp=Z,66nm,21.2s,baz=293,slow=29
DAV Davao City (W) 65.12 288 LR LR 08 19 00.7
comp=Z,144nm,19.6s,baz=18,slow=35
QSPA South Pole Qui 70.24 180 *eP* **P 07 52 22.9 -0.1**
comp=Z,32nm,1.0s
MJAR Matsushiro Arr 71.95 321 P **P 07 52 35.4 +1.8**
comp=Z,10nm,0.7s,baz=162,slow=5.8,SNR=28
MJAR LR LR 08 17 31.3
comp=Z,79nm,21.5s,baz=190,slow=30
MAJO Matsushiro 71.95 321 *eP* **P 07 52 35.5 +1.9**
comp=Z,20nm,0.8s
MAJO Matsushiro 71.95 321*c iP* **P 07 52 34.5 +0.9**
MAJO pmax pmax
comp=Z,20nm,0.9s
MAT Matsushiro 71.95 321 P **P 07 52 35.5 +1.9**
MJB9 Matsu-Tunnel 71.95 321 *eP* **P 07 52 35.0 +1.3**
comp=Z,20nm,0.8s
YUK Yuzh-Kuril'sk 73.39 331 *i* P **P 07 52 43.2 +1.3**
ASAJ Asahikawa 74.98 329 P **P 07 52 54.4 +3.2**
comp=Z,11nm,0.6s,baz=198,slow=4.6,SNR=8.9
LPIG La Paz 75.89 58 LR LR 08 23 28.2
comp=Z,96nm,18.3s,baz=207,slow=33
PETK Petropavlovsk- 76.65 343 P **P 07 53 02.8 +2.2**
comp=Z,13nm,0.7s,baz=108,slow=8.7,SNR=14
LEM Lembang 76.77 267 LR LR 08 30 23.0
comp=Z,48nm,18.1s,baz=40,slow=38
TPUB Ta-pu 76.78 301 *eP* **P 07 53 01.4 -0.7**
comp=Z,58nm,1.0s
KSM Kuching 77.01 276 *eP* **P 07 53 03.3 -0.3**
comp=Z,12nm,0.8s
KSM *ep*P **PcP 07 53 14.4 -0.1**
YSS Yuzh-Sakhalins 77.03 331 *eP* **P 07 53 04.4 +1.6**
comp=Z,32nm,0.9s
YSS Yuzh-Sakhalins 77.03 331 *eP* **P 07 53 04.4 +1.6**
YSS pmax pmax
comp=Z,33nm,0.9s
NVAR Mina Array Bea 78.03 42 P **P 07 53 09.7 +0.8**
comp=Z,0.7nm,0.5s,baz=225,slow=8.7,SNR=5.4
KSRS Korea Array 78.90 317 P **P 07 53 16.4 +2.9**
comp=Z,7.2nm,0.9s,baz=133,slow=6.0,SNR=17
KSRS Korea Array 78.90 317 P **P 07 53 16.4 +2.9**
KSRS pmax pmax
comp=Z,6.0nm,0.8s
KSAR Wonju Array Be 78.92 317 P **P 07 53 16.4 +2.8**
KSAR Wonju Array Be 78.92 317 P **P 07 53 16.4 +2.8**
KS01 Wonju Array Si 78.93 317 *eP* **P 07 53 15.2 +1.6**
Y14A Wickenburg 78.96 48 *eP* **P 07 53 14.8 +0.8**
comp=Z,6.6nm,1.3s
KDAK Kodiak Island 79.36 12 LR LR 08 21 43.1
comp=Z,118nm,19.8s,baz=260,slow=31
TUC Tucson 79.67 50 *eP* **P 07 53 18.9 +0.9**
comp=Z,3.0nm,0.8s
TUC Tucson 79.67 50 *eP* **P 07 53 18.9 +0.9**
TUC pmax pmax
comp=Z,3.0nm,0.8s
X16A Lo Mia Camp, P 80.31 48 *eP* **P 07 53 22.5 +1.0**
comp=Z,3.0nm,0.8s
MDJ Mudanjiang 82.16 323 P **P 07 53 32.7 +1.9**
MDJ pmax pmax
comp=Z,15nm,0.6s
MDJ pmax pmax
comp=Z,240nm,4.9s
NJ2 Nanjing 82.36 308 *eP* **P 07 53 32.8 +0.7**
NJ2 pmax pmax
comp=Z,20nm,0.7s
SUA Susitna One 83.14 11 *eP* **P 07 53 37.1 +1.4**
comp=Z,5.5nm,0.9s
GAMB Gambell 83.35 1 *eP* **P 07 53 38.4 +1.9**
comp=Z,9.8nm,0.8s
TX31 Lajitas Ar. Si 83.59 56 *eP* **P 07 53 39.0 +0.3**
TXAR Lajitas Array 83.59 56 P **P 07 53 39.0 +0.2**
comp=Z,1.1nm,0.9s,baz=216,slow=9.1,SNR=10
TXAR LR LR 08 25 53.7
comp=Z,46nm,18.0s,baz=0.0,slow=32
TXAR Lajitas Array 83.59 56 P **P 07 53 39.0 +0.2**
KLR Kul'dur 83.90 328⇓*eP* **P 07 53 41.3 +1.6**
QIZ Qiongzhong 84.00 293 P **P 07 53 41.1 +0.2**
QIZ S **S 08 04 02.1 -1.0**
QIZ LR LR
comp=Z,530nm,17.2s
CN2 Changchun 84.09 321 *eP* **P 07 53 44.3 +3.5**
ANMO Albuquerque 84.11 50 LR LR 08 25 49.4
comp=Z,47nm,19.4s,baz=118,slow=32
ANMO Albuquerque 84.11 50 *eP* **P 07 53 42.2 +0.8**
comp=Z,5.5nm,1.1s
ANMO Albuquerque 84.11 50*d iP* **P 07 53 41.7 +0.3**
ANMO *i* *PP **pP 07 53 52.0 -0.3**
ANMO pmax pmax
comp=Z,4.0nm,1.1s
CAST Castle Rocks 84.74 10 *eP* **P 07 53 45.0 +1.2**
comp=Z,15nm,1.6s
TRF Thorofare Moun 85.07 10 *eP* **P 07 53 46.2 +0.7**
comp=Z,8.5nm,0.9s
S22A 4UR Ranch, Cre 85.21 47 *eP* **P 07 53 47.7 +0.6**
comp=Z,3.3nm,1.0s
RND Reindeer 85.28 11 *eP* **P 07 53 48.2 +1.7**
comp=Z,17nm,1.0s
RND Reindeer 85.28 11 *eP* **P 07 53 48.2 +1.7**
RND pmax pmax
comp=Z,17nm,1.0s

MCK McKinley 85.57 11 *eP* **P 07 53 48.8 +1.0**
comp=Z,14nm,0.9s
MCK McKinley 85.57 11 *eP* **P 07 53 48.8 +1.0**
MCK pmax pmax
comp=Z,14nm,0.9s
CMIG Matias Romero 85.94 70 LR LR 08 25 24.1
comp=Z,31nm,18.7s,baz=224,slow=31
PDAR Pinedale Array 85.96 42 P **P 07 53 50.0 -0.5**
comp=Z,0.4nm,0.8s,baz=189,slow=5.2,SNR=3.4
MSTX Muleshoe 86.35 52 *eP* **P 07 53 52.3 -0.2**
comp=Z,4.6nm,0.8s
WRH Wood River Hil 86.39 11 *eP* **P 07 53 52.9 +1.0**
comp=Z,15nm,1.0s
DOT Dot Lake 86.44 13 *eP* **P 07 53 53.2 +1.1**
comp=Z,12nm,0.8s
MLY Manley 86.46 10 *eP* **P 07 53 52.7 +0.4**
comp=Z,7.4nm,1.1s
CCB Clear Creek Bu 86.61 11 *eP* **P 07 53 54.0 +1.2**
comp=Z,8.9nm,1.0s
SEY Seymchan 86.62 345⇓*iP* **P 07 53 54.8 +1.8**
IPM Ipoh 86.74 276 *eP* **P 07 53 55.7 +0.9**
comp=Z,29nm,0.9s
SCRK Sand Creek 86.74 13 *eP* **P 07 53 55.4 +1.6**
comp=Z,5.2nm,1.1s
COLA College 86.81 11 *eP* **P 07 53 54.8 +1.0**
comp=Z,15nm,0.9s
COLA College 86.81 11 *eP* **P 07 53 54.8 +1.0**
COLA pmax pmax
comp=Z,15nm,0.9s
MDM Murphy Dome 86.82 11 *eP* **P 07 53 54.3 +0.3**
comp=Z,11nm,1.1s
ILAR Eielson Array 86.89 11 P **P 07 53 54.9 +0.6**
comp=Z,1.6nm,0.9s,baz=224,slow=5.4,SNR=16
ILB Eielson Array 86.89 11 *eP* **P 07 53 54.4 +0.1**
IL1 Eielson Array 86.89 11 *eP* **P 07 53 54.2 0.0**
IM3 Indian Mountai 86.92 8 *eP* **P 07 53 55.6 +1.2**
PLCA Paso Flores 87.01 132 LR LR 08 23 55.3
comp=Z,54nm,20.5s,baz=234,slow=30
DAWY Dawson 87.84 14 *eP* **P 07 54 00.9 +1.9**
EGAK Eagle 88.05 13 *eP* **P 07 54 00.2 +0.4**
comp=Z,6.7nm,1.1s
PSI Prapat 88.14 274 *eP* **P 07 54 00.5 -1.2**
comp=Z,14nm,1.0s
PSI Prapat 88.14 274 *eP* **P 07 54 00.5 -1.2**
PSI pmax pmax
comp=Z,14nm,1.0s
SYO Syowa Base 88.16 192⇓*eP* **P 07 53 57.8 -2.7**
SNAA Sanae 88.54 177 LR LR 08 32 52.3
comp=Z,47nm,18.2s,baz=180,slow=35
BILL Bilibino 88.80 353⇓*eP* **P 07 54 05.3 +2.0**
BILL *e* 07 57 36.8
BILL *eS* S 08 04 57.5 +10
BILL *eSS* **SS 08 10 34.6 -6.2**
BILL pmax pmax
comp=Z,3.0nm,0.9s
BILL pmax pmax
comp=Z,134nm,18.0s
ZEA Zeya 88.90 329 *eP* **P 07 54 06.2 +2.1**
ZEA pmax pmax
comp=Z,26nm,1.0s
GYA Guiyang 89.58 298 *eP* **P 07 54 09.0 +0.9**
GYA pmax pmax
comp=Z,10.0nm,1.0s
XAN Xi'an 90.71 306 P **P 07 54 15.9 +2.7**
XAN pP sP 07 54 26.6 -1.4
XAN pmax pmax
comp=Z,9.0nm,0.9s
XAN pmax pmax
comp=Z,150nm,5.3s
HHC Hu-ho-hao-te 91.58 313 *eP* **P 07 54 18.0 +0.9**
HHC pmax pmax
comp=Z,19nm,1.4s
HHC pmax pmax
comp=Z,120nm,8.2s
KMI Kunming 92.38 296 P **P 07 54 20.0 -1.3**
KMI pmax pmax
comp=Z,14nm,0.9s
JTS JuntasAbangare 92.59 80 LR LR 08 25 29.4
comp=Z,52nm,20.9s,baz=352,slow=29
CM01 Chiang Mai Arr 93.39 288 *eP* **P 07 54 27.6 +1.8**
CMAR Chiang Mai Arr 93.41 288 P **P 07 54 28.2 +2.3**
comp=Z,4.4nm,0.9s,baz=115,slow=2.9,SNR=15
CD2 Chengdu 93.58 301 *eP* **P 07 54 26.4 -0.1**
YKA Yellowknife Ar 94.38 24 P **P 07 54 30.1 +0.8**
comp=Z,0.3nm,0.8s,baz=240,slow=4.3,SNR=6.0
LZH Lanzhou 95.34 306 *eP* **P 07 54 35.0 +0.4**
LZH pP pP 07 54 45.7 +0.1
LZH sP sP 07 54 50.0 +0.5
LZH pmax pmax
comp=Z,18nm,1.0s
LZH pmax pmax
comp=Z,410nm,4.8s
LZH LR LR
comp=Z,98nm,14.3s
LZH LR LR
comp=Z,110nm,14.2s
LZH LR LR
comp=Z,150nm,17.5s
LPAZ La Paz 98.86 111 LR LR 08 30 56.5
comp=Z,37nm,20.4s,baz=274,slow=30
BVAR Borovoye Array 120.94 321 PKP **PKPdf 08 00 01.8 -0.3**
comp=Z,1.2nm,0.5s,baz=57,slow=6.0,SNR=7.7
ARCES ARCESS Array B 128.88 351 PKP **PKPdf 08 00 17.4 +0.5**
comp=Z,1.8nm,0.7s,baz=333,slow=1.4,SNR=8.6
FINES FINESS Array B 136.09 346 PKP **PKPdf 08 00 32.2 +1.5**
comp=Z,1.1nm,0.8s,baz=46,slow=5.5,SNR=4.8
EKA Eskdalemuir Ar 143.89 9 PKP PKPbc 08 00 43.3 +0.5
comp=Z,2.0nm,0.6s,baz=310,slow=2.7,SNR=9.4
AKASG Malin Array Be 144.12 335 PKP PKPbc 08 00 43.6 0.0
comp=Z,3.0nm,0.7s,baz=40,slow=4.6,SNR=45
AKBB Malin Array Si 144.12 335 *e*PKPdf PKPbc 08 00 43.5 -0.1
KIEV Kiev 144.13 335 *e*PKPdf PKPbc 08 00 44.2 +0.6
AK11 Malin Array Si 144.16 335 *e*PKPdf PKPbc 08 00 43.7 0.0
BAYT Ayd¨–ntepe-Bay 144.34 313 *eP* **PKPdf 08 00 46.1 -0.4**
BNGB Bing¨ll 144.52 310 *eP* **PKPdf 08 00 46.8 0.0**
ERZN Erzincan 144.96 312 *eP* **PKPdf 08 00 47.4 -0.2**
MAZI Mazidag 145.25 308 *eP* **PKPdf 08 00 48.6 +0.5**
PTK Pertek 145.48 311 *eP* **PKPab 08 00 49.6 +0.7**
ILIC ilic-Erzincan 145.83 312 *eP* **PKPab 08 00 51.0 +0.9**
MALT Malatya 146.41 310 *eP* **PKPbc 08 00 51.6 +0.2**
SORM Soroca 146.45 332⇑*iP* **PKPab 08 00 51.8 -0.1**
URFA Urfa 146.46 309 *eP* **PKPbc 08 00 51.3 -0.2**
SVSK Karacayir 146.71 314 *eP* **PKPab 08 00 52.7 -0.5**
DARE Darende-Malaty 146.97 311 *eP* **PKPab 08 00 53.8 -0.6**
OJC Ojcow 147.74 343 *e*PKPbc **PKPab 08 00 56.0 -0.9**
OJC Ojcow 147.74 343 *e*PKIKP **PKPab 08 00 56.0 -0.9**
KMRS Kahramanmaras 147.84 310 *eP* **PKPab 08 00 57.4 -0.4**
KSP Ksiaz 147.99 348 *e*PKP **PKPab 08 00 57.1 -0.8**
KSP Ksiaz 147.99 348 *e*PKIKP **PKPab 08 00 57.1 -0.8**
CLL Collm 148.10 352⇑*i*PKPbc **PKPbc 08 00 56.4 +0.9**
comp=Z,11nm,0.9s
CLL *i* PKPab **PKPab 08 00 58.9 +0.6**
comp=Z,10.0nm,0.8s
CLL *i* (pPKPbc) 08 01 04.5
CLL Lm MLR 09 00 00.0
comp=Z,200nm,21.0s
CLL Collm 148.10 352 *e*PKPbc **PKPbc 08 00 56.5 +1.1**
BUR08 Bucovina Ar. S 148.15 335 *e*PKPbc **PKPab 08 00 57.7 -1.1**
BUR04 Bucovina Ar. S 148.17 335 *e*PKPbc **PKPab 08 00 57.9 -1.0**
BURAR Bucovina Array 148.17 335⇑*iP* **PKPab 08 00 58.2 -0.7**
BURAR Bucovina Array 148.17 335⇑*i*PKIKP **PKPab 08 00 58.2 -0.7**
BRG Berggiesshubel 148.38 350 *e*PKP **PKPbc 08 00 57.5 +1.2**
comp=Z,12nm,1.3s
BRG Berggiesshubel 148.38 350 *e*PKIKP **PKPbc 08 00 57.5 +1.2**
BRG pmax pmax
comp=Z,8.0nm,1.3s
TESR Tescani 148.44 332⇑*iP* **PKPab 08 00 58.2 -1.7**
DPC Dobruska-Polom 148.45 347 *e*PKP **PKPbc 08 00 58.0 +1.5**
DPC *ex* x 08 01 01.9
DPC Dobruska-Polom 148.45 347 *e*PKIKP **PKPbc 08 00 58.0 +1.5**
DPC *e* 08 01 01.9
OKC Ostrava-Krasne 148.52 345 *e*PKP **PKPbc 08 00 56.4 -0.2**
OKC *ep*PKP **PKPab 08 01 01.6 +1.6**
PVCC Panska Ves 148.61 349 *e*PKP **PKPab 08 00 58.8 -1.6**
PVCC Panska Ves 148.61 349 *e*PKIKP **PKPab 08 00 58.8 -1.6**
MORC Moravsky Berou 148.72 345⇓*iP* **PKPab 08 00 58.5 +1.3**
MORC Moravsky Berou 148.72 345 *e*PKPbc **PKPbc 08 00 58.6 +1.4**
MORC Moravsky Berou 148.72 345⇓*e*PKIKP **PKPbc 08 00 58.5 +1.3**
CFR Carcaliu 148.75 329⇑*iP* **PKPbc 08 00 58.0 +0.6**
CFR Carcaliu 148.75 329⇑*i*PKIKP **PKPbc 08 00 58.1 +0.7**
VRI Vrincioaia 148.90 331⇑*iP* **PKPbc 08 00 58.6 +0.8**
VRI Vrincioaia 148.90 331⇑*i*PKIKP **PKPbc 08 00 58.6 +0.8**
BR131 Keskin Array S 149.05 316 *e*PKPbc **PKPbc 08 00 59.0 +0.5**
BRTR Keskin Array B 149.05 316 PKPbc **PKPbc 08 00 59.0 +0.5**
comp=Z,2.7nm,0.8s,baz=126,slow=2.7,SNR=11
BRTR Keskin Array B 149.05 316 PKIKP **PKPbc 08 00 59.0 +0.5**
BRTR pmax pmax
comp=Z,3.0nm,0.8s
KECS Kecovo 149.10 341 *e*PKP **PKPbc 08 00 59.8 +1.6**
KECS *e* 08 01 05.2
KECS Kecovo 149.10 341 *e*PKIKP **PKPbc 08 00 59.8 +1.6**
KECS *e* 08 01 05.2
TIRR Tirgusor 149.14 328⇓*iP* **PKPbc 08 00 59.6 +1.2**
TIRR Tirgusor 149.14 328⇓*i*PKIKP **PKPbc 08 00 59.6 +1.2**
PRU Pruhonice 149.14 349 *e*PKP **PKPbc 08 00 59.1 +0.9**
PRU *ep*PKP **pPKPdf 08 01 04.4 -0.9**
PRU AMS AMS 09 01 10.0
comp=Z,200nm,17.3s
PRU Pruhonice 149.14 349 *e*PKIKP **PKPbc 08 00 59.1 +0.9**
PRU *e* 08 01 04.4
PRU MLR MLR
comp=Z,200nm,17.3s
GOPC GO Pecny, Ondr 149.17 349 *e*PKP **PKPab 08 01 01.9 -0.8**
GOPC GO Pecny, Ondr 149.17 349 *e*PKIKP **PKPab 08 01 01.9 -0.8**
TLB Topalu 149.23 328⇓*iP* **PKPbc 08 01 00.1 +1.5**
TLB Topalu 149.23 328⇓*i*PKIKP **PKPbc 08 01 00.1 +1.5**
VRAC Vranov 149.38 346⇑*iP* **PKPbc 08 01 00.0 +1.2**
VRAC Vranov 149.38 346⇑*i*PKIKP **PKPbc 08 01 00.0 +1.2**
DOPR Dopca 149.41 333⇓*iP* **PKPbc 08 01 00.6 +1.5**
MLR Muntele Rosu 149.54 332⇑*iP* **PKPbc 08 01 00.0 +0.5**
MLR Muntele Rosu 149.54 332 *e*PKPbc **PKPbc 08 00 59.9 +0.4**
MLR Muntele Rosu 149.54 332⇑*i*PKIKP **PKPbc 08 01 00.0 +0.4**
BR231 Keskin MP Arra 149.54 317 *e*PKPbc **PKPbc 08 00 58.9 -0.8**
VYHS Vyhne 149.57 343 *e*PKP **PKPdf 08 00 56.8 +2.0**
VYHS *e* 08 01 00.7
VYHS *e* 08 01 05.7
PSZ Piszkesteto 149.78 341⇑*iP* **PKPbc 08 01 01.2 +1.2**
PSZ Piszkesteto 149.78 341⇑*i*PKIKP **PKPbc 08 01 01.2 +1.2**
DRGR 149.81 337⇓*iP* **PKPbc 08 01 00.8 +0.7**
DRGR 149.81 337⇓*i*PKIKP **PKPbc 08 01 00.8 +0.7**
VOIR 149.98 333⇑*iP* **PKPbc 08 01 01.6 +1.1**
VOIR 149.98 333⇑*i*PKIKP **PKPbc 08 01 01.6 +1.1**
MODS Modra-Piesok 150.09 345 *e*PKP **PKPbc 08 01 01.9 +1.3**
KHC Kasperske Hory 150.13 350 *e*PKP **PKPbc 08 01 01.6 +0.9**
KHC *ex* x 08 01 08.6
KHC *ep*PKP **sPKPbc 08 01 14.6 -1.2**
KHC AMS AMS 09 02 50.0
comp=Z,200nm,21.5s
KHC Kasperske Hory 150.13 350 *e*PKPbc **PKPbc 08 01 02.5 +1.8**
KHC *e*PKPab **pPKPdf 08 01 08.6 +1.6**
ARR Arges 150.21 333⇑*iP* **PKPbc 08 01 03.0 +1.9**
GEC2 GERESS Array S 150.39 350 *e*PKPdf **PKPdf 08 00 56.3 +0.1**
GEC2 GERESS Array S 150.39 350 *e*PKIKP **PKPdf 08 00 56.3 +0.1**
GERES GERESS Array B 150.39 350 PKPbc **PKPbc 08 01 01.8 +0.3**
comp=Z,2.3nm,0.8s,baz=11,slow=2.7,SNR=18
GEA0 GERESS Array S 150.40 350 *e*PKPdf **PKPdf 08 00 57.8 +1.6**
GEA0 *e* 08 01 14.8
LOT Lotru 150.51 334⇓*iP* **PKPbc 08 01 01.9 0.0**
SIRR Siria 150.64 337⇓*iP* **PKPbc 08 01 03.4 +1.4**
CONA Conrad Observa 150.84 346 *e*PKIKP **PKiKP 08 01 03.9 +0.8**
comp=Z,5.8nm,0.8s
CONA *es*PKPbc **sPKPbc 08 01 16.5 -1.1**
comp=Z,7.8nm,0.8s
BZS Buzias 151.21 337⇑*iP* **PKPbc 08 01 04.2 +0.9**
BZS Buzias 151.21 337⇑*i*PKIKP **PKPbc 08 01 04.2 +0.9**
MOA Molln 151.25 348 *e*PKIKP **PKiKP 08 01 04.1 +0.2**
comp=Z,1.9nm,0.6s
MOA *ep*PKiKP **sPKPbc 08 01 17.1 -1.4**
comp=Z,2.4nm,0.7s
KBA Koelnbreinsper 152.16 349 *e*PKiKP **PKPbc 08 01 05.8 +0.1**
comp=Z,5.5nm,1.0s
WATA Walderalm 152.18 352 *ep*PKPdf **pPKPdf 08 01 08.9 -1.4**
comp=Z,5.7nm,0.9s
WATA *ep*PKiKP sPKPbc 08 01 19.2 -1.6
comp=Z,2.1nm,0.5s
SOKA Soboth 152.21 347 *e*PKiKP **PKiKP 08 01 06.9 +0.9**
comp=Z,4.6nm,1.2s
MOTA Moosalm 152.23 352 *e*PKiKP **PKiKP 08 01 07.1 +1.0**
comp=Z,2.3nm,0.7s
MOTA *ep*PKiKP **pPKiKP 08 01 17.5 +0.1**
comp=Z,3.6nm,0.7s
WTTA Wattenberg 152.25 352 *ep*PKPdf **pPKPdf 08 01 08.4 -2.1**
comp=Z,3.1nm,0.6s
WTTA *ep*PKiKP pPKiKP 08 01 18.9 +1.5
comp=Z,5.2nm,1.0s
OBKA Obir 152.47 347 *e*PKiKP **PKiKP 08 01 06.8 +0.2**
comp=Z,33nm,2.0s
FETA Feichten 152.60 353 *e*PKiKP **PKiKP 08 01 07.4 +0.5**
comp=Z,3.3nm,1.0s
FETA *ep*PKiKP **pPKiKP 08 01 19.7 +1.5**
comp=Z,5.9nm,0.7s
ABTA Abfaltersbach 152.62 350 *e*PKiKP **PKiKP 08 01 06.8 -0.1**
comp=Z,5.8nm,0.8s
ABTA *ep*PKiKP **pPKiKP 08 01 18.7 +0.6**
comp=Z,2.9nm,0.5s
IDI Anoyia 157.28 317⇓*iP* **PKPab 08 01 41.1 +3.7**
TORD Torodi Ar. Bea 172.20 148 PKP **PKPdf 08 01 18.1 -1.6**
comp=Z,0.6nm,0.8s,baz=271,slow=1.5,SNR=3.7

ISCJB ***01*** *08:01:16.1±0.5,24.°90N±0.°03×122.°11E±0.°02, h125km±3km, Error ellipse: s-maj=5.6km s-min=3.1km az=169.7*
JMA ***01*** *08:01:16.5±0.1,24.°83N×122.°08E, h122km±2km, M2.5*
TAP ***01*** *08:01:16.1,24.°97N×122.°10E, h126km, ML3.5, D*
ISC 01 08:01:16.4±1.7, 24.°92N±0.°06×122.°10E±0.°03, h125km±9km, n66, σ0s46/111, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.14**	**311**	**P**		**Pn**	**08 01 33.4**	**-0.1**
	baz=293							
TWB1				*e*S		**Sn**	**08 01 46.8**	**+0.4**
	baz=293							
TIPB	**Shuangxi**	**0.26**	**282**	*e*P		**Pn**	**08 01 32.6**	**-1.2**
	baz=271							
TIPB				*e*S		**Sn**	**08 01 47.3**	**+0.3**
	baz=271							
NWF	**Wu-fen Shan**	**0.33**	**298**	*e*P		**Pn**	**08 01 33.8**	**-0.3**
	baz=289							
NWF				*e*S		**Sn**	**08 01 47.8**	**+0.3**
	baz=289							
ILA	**Ilan**	**0.36**	**245**	*e*P		**Pn**	**08 01 34.2**	**+0.1**
	baz=236							
TWC	**Suao**	**0.38**	**217**	P		**Pn**	**08 01 34.2**	**-0.1**
	baz=211							
TWC				*e*S		**Sn**	**08 01 47.1**	**-0.7**
	baz=211							
TWE	**Neicheng**	**0.44**	**244**	*e*P		**Pn**	**08 01 34.5**	**-0.1**
	baz=236							
TWE				*e*S		**Sn**	**08 01 48.4**	**+0.2**
	baz=236							
ENAH	**Nanao**	**0.54**	**210**	P		**Pn**	**08 01 35.5**	**+0.4**
	baz=206							
ENAH				*e*S		**Sn**	**08 01 49.4**	**+0.2**
	baz=206							
YM10	**YM10**	**0.55**	**296**	*e*S		**Sn**	**08 01 49.8**	**+0.3**
	baz=291							
ENTT	**Nioudou**	**0.56**	**241**	P		**Pn**	**08 01 35.6**	**+0.3**
	baz=235							
NWLT	**Wulai**	**0.56**	**256**	*e*P		**Pn**	**08 01 35.1**	**-0.2**
	baz=250							
NWLT				*e*S		**Sn**	**08 01 49.2**	**-0.4**
	baz=250							
YM04	**YM04**	**0.56**	**295**	*e*P		**Pn**	**08 01 34.9**	**-0.4**
	baz=290							
YM04				*e*S		**Sn**	**08 01 50.0**	**+0.3**
	baz=290							
TWY	**Chenhua**	**0.58**	**308**	*e*P		**Pn**	**08 01 35.0**	**-0.3**
	baz=304							
TWY				*e*S		**Sn**	**08 01 49.9**	**+0.2**
	baz=304							
ENA	**Nanau**	**0.59**	**214**	P		**Pn**	**08 01 35.9**	**+0.4**
	baz=210							
ENA				*e*S		**Sn**	**08 01 50.4**	**+0.6**
	baz=210							
NTST	**Danshui**	**0.64**	**293**	*e*P		**Pn**	**08 01 36.1**	**+0.3**
	baz=288							
NTST				*e*S		**Sn**	**08 01 51.2**	**+0.8**
	baz=288							
TWS1	**Kuangyinshan**	**0.65**	**287**	*e*P		**Pn**	**08 01 36.0**	**+0.2**
	baz=282							
TWS1				*e*S		**Sn**	**08 01 50.9**	**+0.3**
	baz=282							
WLTB	**Daxi**	**0.78**	**265**	*e*P		**Pn**	**08 01 37.1**	**+0.3**
	baz=261							
WLTB				*e*S		**Sn**	**08 01 52.4**	**+0.2**
	baz=261							
NNSH	**Datong**	**0.81**	**234**	P		**Pn**	**08 01 37.6**	**+0.2**
	baz=230							

NNSH S **Sn** **08 01 52.8 -0.3**
baz=230
NNS **Nan Shan** **0.82 235** *e*P **Pn** **08 01 37.6 +0.2**
baz=230
NNS *e*S **Sn** **08 01 53.1 -0.1**
baz=230
NCU **National Centr** **0.83 274** *e*P **Pn** **08 01 37.4 +0.1**
baz=269
NCU *e*S **Sn** **08 01 53.5 +0.3**
baz=269
NCUH **Zhongli** **0.83 274** *e*P **Pn** **08 01 37.3 -0.1**
baz=270
NCUH *e*S **Sn** **08 01 53.1 -0.1**
baz=270
JYNG **Yonagunijimaku** **0.90 121** P **Pn** **08 01 37.8 -0.1**
JYNG S **Sn** **08 01 53.7 -0.4**
YOJ **Yonaguni jima** **0.94 119** P **Pn** **08 01 38.2 -0.1**
YOJ S **Sn** **08 01 54.1 -0.8**
TWD **Chiawan** **0.95 209** *e*P **Pn** **08 01 37.9 -0.5**
baz=206
TWD *e*S **Sn** **08 01 54.3 -0.7**
baz=206
LIOB **Emei** **1.02 255** P **Pn** **08 01 39.1 0.0**
baz=252
LIOB *e*S **Sn** **08 01 55.9 -0.3**
baz=252
HSN **Hsinchu** **1.03 264** *e*P **Pn** **08 01 38.9 -0.3**
baz=261
NSTT **Nanjuang** **1.04 254** *i* P **Pn** **08 01 39.1 -0.1**
baz=251
NSTT S **Sn** **08 01 55.8 -0.8**
baz=251
TWT **Tachien** **1.07 232** *i* P **Pn** **08 01 40.5 +0.7**
baz=229
TWT S **Sn** **08 01 58.3 +0.9**
baz=229
WHF **Hehuan Shan** **1.08 225** *i* P **Pn** **08 01 40.4 +0.3**
baz=222
WHF *e*S **Sn** **08 01 58.4 +0.3**
baz=222
ENLB **Shoufeng** **1.11 204** *e*P **Pn** **08 01 40.0 +0.1**
baz=203
NMLH **Miaoli** **1.25 253** *e*P **Pn** **08 01 41.2 -0.2**
baz=250
NMLH *e*S **Sn** **08 02 00.1 -0.2**
baz=250
ESL **Shilin** **1.26 209** *e*P **Pn** **08 01 40.7 -0.8**
baz=207
OWD **Renai** **1.28 222** *e*P **Pn** **08 01 42.1 +0.2**
baz=219
OWD *e*S **Sn** **08 02 01.4 +0.2**
baz=219
NSY **Sanyi** **1.32 248** *e*P **Pn** **08 01 42.3 +0.2**
baz=245
NSY *e*S **Sn** **08 02 01.8 +0.1**
baz=245
TWQ1 **Liyutan** **1.34 245** *e*P **Pn** **08 01 42.3 0.0**
baz=242
TWQ1 *e*S **Sn** **08 02 01.6 -0.5**
baz=242
PTSB **Yuanli** **1.35 250** *e*P **Pn** **08 01 42.5 -0.1**
baz=247
DPDB **Guoxing** **1.39 231** *e*P **Pn** **08 01 43.3 +0.4**
baz=228
DPDB *e*S **Sn** **08 02 04.0 +0.9**
baz=228
EGFH **Guangfu** **1.39 207** *e*P **Pn** **08 01 43.1 +0.2**
baz=205
SMLT **Sun Moon Lake** **1.50 227** *e*P **Pn** **08 01 44.7 +0.4**
baz=225
SMLT *e*S **Sn** **08 02 06.5 +1.0**
baz=225
TCU **Taichung** **1.51 240** *e*P **Pn** **08 01 43.9 -0.3**
baz=237
TYC **Yuchr** **1.52 229** *e*P **Pn** **08 01 44.6 +0.3**
baz=226
EHY **Hungye** **1.57 207** *e*P **Pn** **08 01 44.9 -0.2**
baz=205
EHY *e*S **Sn** **08 02 05.4 -1.4**
baz=205
IRIF **Iriomote-Funau** **1.59 111** P **Pn** **08 01 45.1 -0.1**
IRIF S **Sn** **08 02 07.4 +0.3**
WCHH **Zhanghua** **1.64 240** *e*P **Pn** **08 01 45.3 -0.4**
baz=237
WCHH *e*S **Sn** **08 02 07.1 -0.9**
baz=237
WNT **Mingjian** **1.66 232** *e*P **Pn** **08 01 46.2 +0.2**
baz=229
WNT *e*S **Sn** **08 02 09.1 +0.6**
baz=229
WJS **Zhushan** **1.66 229** *e*P **Pn** **08 01 46.3 +0.3**
baz=227
WJS *e*S **Sn** **08 02 08.9 +0.3**
baz=227
TWF1 **Yuli** **1.72 205** *e*P **Pn** **08 01 46.7 -0.1**
baz=204
HATJ **Hateruma jima** **1.77 119** P **Pn** **08 01 47.7 +0.4**
HATJ *e*S **Sn** **08 02 11.3 +0.4**
ALS **Alishan** **1.83 220** *e*P **Pn** **08 01 48.6 +0.2**
baz=218
CHN5 **Tsauling** **1.85 225** *e*P **Pn** **08 01 48.9 +0.6**
baz=223
CHN5 *e*S **Sn** **08 02 13.4 +0.7**
baz=223
FULB **Fuli** **1.86 204** *e*P **Pn** **08 01 48.5 0.0**
baz=202
FULB *e*S **Sn** **08 02 14.0 +1.0**
baz=202
JKRS **Kuro-shima** **1.86 111** P **Pn** **08 01 48.7 +0.3**
JKRS S **Sn** **08 02 12.8 -0.1**
WDLH **Douliu** **1.88 230** *e*P **Pn** **08 01 49.0 +0.4**
baz=228
CHKT **Chengkung** **1.93 201** *e*S **Sn** **08 02 13.2 -1.2**
baz=199
JIJ **Ishigaki jima** **1.94 106** P **Pn** **08 01 49.3 0.0**
JIJ S **Sn** **08 02 13.8 -0.7**
JISG **Ishigakijimahi** **2.03 99** P **Pn** **08 01 50.7 +0.2**
JISG S **Sn** **08 02 16.0 -0.6**
CHN4 **Tsaushan** **2.08 222** *e*P **Pn** **08 01 51.3 +0.2**
baz=220
CHN4 *e*S **Sn** **08 02 17.8 +0.1**
baz=220
CHY **Chiayi** **2.08 228** *e*P **Pn** **08 01 51.4 +0.3**
baz=226
STYT **Tauyuan** **2.14 215** *e*P **Pn** **08 01 52.1 +0.2**
baz=214
WSF **Szhu** **2.14 234** *e*S **Sn** **08 02 18.1 -0.8**
baz=232
TWK **Hsinying** **2.21 222** *e*P **Pn** **08 01 52.8 0.0**
baz=220
TWK *e*S **Sn** **08 02 20.5 -0.1**
baz=220
CHN1 **Nanshi** **2.25 220** *e*P **Pn** **08 01 53.1 -0.1**
baz=218
CHN1 *e*S **Sn** **08 02 21.2 -0.2**
baz=218
SLGT **Liugui** **2.33 215** *e*P **Pn** **08 01 54.8 +0.5**
baz=214
JTJ **Tarama** **2.38 96** P **Pn** **08 01 55.2 +0.4**
JTJ S **Sn** **08 02 24.7 +0.4**
PNG **Penghu** **2.69 241** *e*P **Pn** **08 01 58.2 -0.6**
baz=238
WDGT **Dungji** **2.77 234** *e*P **Pn** **08 01 59.3 -0.7**
baz=232
SCZT **Fangliau** **2.88 209** *e*P **Pn** **08 02 01.7 +0.5**
baz=207

NIED ***01*** *08:07:00, 25˚.20N×126˚.90E, h5km, Mw4.4 Best double couple: M₀4.01000×10¹⁵ NP1:φ₀275.00000°, δ42.00000°, λ-172.00000°. NP2:φ₀179.00000°, δ84.00000°, λ-48.00000°.*

IDC ***01*** *08:07:27.5±0.7, 25˚.16N×126˚.83E, h0km, mb4.2/25, mb1 4.3/27, mb1mx4.1/74, mbtmp4.2/27, ML3.3/3, Error ellipse: s-maj=17.7km s-min=15.0km az=96.0*

MOS ***01*** *08:07:30.7±0.9, 25˚.16N×126˚.81E, h33km, mb4.6/20, Error ellipse: s-maj=12.9km s-min=6.8km az=114.7*

JMA ***01*** *08:07:31.9±0.2, 25˚.18N×126˚.90E, h44km, M4.5*

ISCJB ***01*** *08:07:32.5±1.0, 25˚.53N±0˚.05×126˚.65E±0˚.04, h27km±8km, mb4.5/57, MS4.1/6, Error ellipse: s-maj=9.6km s-min=3.5km az=144.5*

BJI ***01*** *08:07:33.6, 25˚.45N×126˚.82E, h41km, mb4.4/29, mB4.5/19, Ms4.2/21, Ms7 4.1/20*

NEIC ***01*** *08:07:34.9±1.7, 25˚.53N×126˚.61E, h31km±11km, mb4.5/14,*

Error ellipse: s-maj=13.4km s-min=4.9km az=145.0

ISC 01 08:07:33.9±0.6, **25˚.42N**±0˚.05×**126˚.68E**±0˚.04, **h30**km±2km, **n136**, σ2ˢ**16**/160, **mb4.4**/56, **MS4.1**/7, **10C-2D, Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res
				Op	ISC		
JKE	**Kume jima 2**	**0.91**	**6**	P	**Pn**	**08 07 52.2**	**+1.6**
JKE				*e*S	**Sn**	**08 08 05.7**	**+3.0**
JJT3	**Tamagusuku3**	**1.23**	**54**	P	**Pn**	**08 07 53.5**	**-1.6**
JJT3				S	**Sn**	**08 08 07.0**	**-3.7**
JAGN	**Aguni-jima**	**1.27**	**24**	P	**Pb**	**08 07 56.4**	**-0.8**
JOGS	**Gusukube**	**1.33**	**240**	P	**Pn**	**08 07 56.1**	**-0.3**
JIKM	**Ikemajima**	**1.39**	**249**	P	**Pn**	**08 07 57.4**	**+0.2**
JIKM				S	**Sb**	**08 08 15.6**	**-0.9**
JMJ	**Miyako jima 2**	**1.39**	**245**	P	**Pn**	**08 07 57.3**	**0.0**
JIRB	**Irabujima**	**1.49**	**247**	P	**Pn**	**08 07 58.4**	**-0.2**
JIRB				S	**Sb**	**08 08 18.5**	**-0.8**
JNTH	**Nagotoyohara**	**1.63**	**48**	P	**Pn**	**08 07 59.5**	**-1.1**
JNTH				*e*S	**Sn**	**08 08 18.2**	**-2.4**
JTJ	**Tarama**	**1.95**	**247**	P	**Pn**	**08 08 04.5**	**-0.5**
JTJ				*e*S	**Sn**	**08 08 28.1**	**-0.4**
JIH	**Iheya**	**1.98**	**36**	P	**Pn**	**08 08 06.0**	**+0.6**
JOW	**Kunigami**	**2.01**	**45**	Pn	**Pn**	**08 08 05.1**	**-0.7**
	4.9nm,0.3s,baz=145,slow=12,SNR=36						
JOW	**Kunigami**	**2.01**	**45**	P	**Pn**	**08 08 04.6**	**-1.2**
JOW	**Kunigami**	**2.01**	**45**	*e*Pn	**Pn**	**08 08 05.8**	**0.0**
JISG	**Ishigakijimahi**	**2.30**	**249**	P	**Pn**	**08 08 09.0**	**-0.8**
JIJ	**Ishigaki jima**	**2.53**	**246**	P	**Pn**	**08 08 11.7**	**-1.3**
JOKE	**Okinoerabujima**	**2.57**	**41**	P	**Pn**	**08 08 12.5**	**-1.1**
JKRS	**Kuro-shima**	**2.69**	**245**	P	**Pn**	**08 08 15.0**	**-0.2**
IRIF	**Iriomote-Funau**	**2.89**	**249**	P	**Pn**	**08 08 18.3**	**+0.4**
JTK	**Tokunoshima**	**3.11**	**40**	P	**Pn**	**08 08 19.4**	**-1.6**
TATO	**Taipei**	**4.72**	**266**	*e*Pn	**Pn**	**08 08 42.0**	**-1.1**
NACB	**Ninganchiao**	**4.78**	**256**	*e*Pn	**Pn**	**08 08 42.8**	**-1.2**
YHNB	**Yeheng**	**4.87**	**262**	*e*Pn	**Pn**	**08 08 47.0**	**+1.8**
YULB	**Yu-li**	**5.30**	**249**	*e*Pn	**Pn**	**08 08 47.7**	**-3.5**
SSLB	**Suanglung**	**5.46**	**254**	*e*Pn	**Pn**	**08 08 54.7**	**+1.5**
JNU	**Nakatsue**	**8.50**	**25**	Pn	**Pn**	**08 09 35.5**	**+0.4**
	1.6nm,0.3s,baz=186,slow=5.6,SNR=14						
NJ2	**Nanjing**	**9.52**	**316**	*e*P	**Pn**	**08 09 47.5**	**-1.5**
NJ2				S	**Sn**	**08 11 32.3**	**-2.7**
NJ2				pmax	pmax		
	comp=Z,14nm,0.6s						
NJ2				LR	LR		
	comp=N,650nm,15.2s						
NJ2				LR	LR		
	comp=E,590nm,14.1s						
NJ2				LR	LR		
	comp=Z,610nm,13.6s						
KSAR	**Wonju Array Be**	**12.03**	**5**	Pn	**Pn**	**08 10 22.7**	**-0.6**
KSAR	**Wonju Array Be**	**12.03**	**5**	P	**Pn**	**08 10 22.7**	**-0.6**
KSRS	**Korea Array**	**12.04**	**5**	Pn	**Pn**	**08 10 22.7**	**-0.8**
	0.1nm,0.3s,baz=192,slow=11,SNR=3.4						
MJAR	**Matsushiro Arr**	**14.84**	**39**	Pn	**P**	**08 11 07.6**	**+0.4**
	0.1nm,0.3s,baz=213,slow=9.0,SNR=5.6						
BJI	**Beijing**	**17.02**	**331**	P	**Pn**	**08 11 28.0**	**-1.7**
BJI				LR	LR		
	comp=N,590nm,16.3s						
BJI				LR	LR		
	comp=E,260nm,13.5s						
BJI				LR	LR		
	comp=Z,560nm,20.4s						
XAN	**Xi'an**	**17.63**	**303**	P	**P**	**08 11 40.3**	**+2.1**
XAN				pP	sP	08 11 48.6	-1.2
XAN				sP	pP	08 11 52.6	+6.5
XAN				pmax	pmax		
	comp=Z,9.0nm,1.2s						
XAN				pmax	pmax		
	comp=Z,170nm,4.5s						
XAN				LR	LR		
	comp=N,180nm,10.7s						
XAN				LR	LR		
	comp=E,610nm,11.2s						
XAN				LR	LR		
	comp=Z,630nm,12.3s						
CN2	**Changchun**	**18.36**	**357**	*e*P	**Pn**	**08 11 47.9**	**+1.7**
CN2				*e*pP	sP	08 11 57.3	-0.5
CN2				*e*S	**Sn**	**08 15 06.3**	**-4.1**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
CN2				pmax	pmax		
	comp=Z,200nm,3.0s						
CN2				LR	LR		
	comp=N,230nm,17.0s						
CN2				LR	LR		
	comp=E,200nm,17.0s						
CN2				LR	LR		
	comp=Z,290nm,17.0s						
HHC	**Hu-ho-hao-te**	**19.87**	**324**	*e*P	**Pn**	**08 12 05.2**	**+0.6**
HHC				PP	**PnPn**	**08 12 24.4**	**+5.5**
HHC				S	**S**	**08 15 36.2**	**-8.9**
HHC				pmax	pmax		
	comp=Z,11nm,0.8s						
HHC				pmax	pmax		
	comp=Z,77nm,3.9s						
HHC				LR	LR		
	comp=N,500nm,10.6s						
HHC				LR	LR		
	comp=E,550nm,10.2s						
HHC				LR	LR		
	comp=Z,420nm,10.1s						
CD2	**Chengdu**	**20.92**	**290**	*e*P	**P**	**08 12 14.6**	**+0.4**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,120nm,5.0s						
MYLDM	**Lahad Datu**	**21.60**	**203**	*e*P	**P**	**08 12 26.6**	**+5.1**
	14nm,0.9s						
KMI	**Kunming**	**21.64**	**274**	P	**P**	**08 12 25.8**	**+3.6**
KMI				pP	sP	08 12 35.4	+1.4
KMI				sP	pP	08 12 40.2	+10
KMI				S	**S**	**08 16 13.7**	**-7.0**
KMI				sS	Sn	08 16 35.8	+5.7
KMI				pmax	pmax		
	comp=Z,16nm,0.9s						
KMI				pmax	pmax		
	comp=Z,87nm,3.9s						
KMI				LR	LR		
	comp=N,250nm,20.6s						
KMI				LR	LR		
	comp=E,360nm,18.5s						
KMI				LR	LR		
	comp=Z,400nm,18.5s						
LZH	**Lanzhou**	**22.26**	**304**	⇑P	**P**	**08 12 30.3**	**+1.6**
LZH				pP	sP	08 12 41.0	+0.5
LZH				sP	pP	08 12 47.1	+10
LZH				PP	**PnPn**	**08 12 58.7**	**+7.0**
LZH				S	**S**	**08 16 30.6**	**-1.6**
LZH				sS	Sn	08 16 44.1	-0.6
LZH				SS	**SnSn**	**08 17 06.5**	**+6.1**
LZH				pmax	pmax		
	comp=Z,38nm,1.1s						
LZH				pmax	pmax		
	comp=Z,220nm,4.6s						
LZH				LR	LR		
	comp=N,680nm,11.6s						
LZH				LR	LR		
	comp=E,620nm,11.3s						
LZH				LR	LR		
	comp=Z,880nm,12.8s						
ASAJ	**Asahikawa**	**22.70**	**31**	*e*P	**P**	**08 12 34.2**	**+1.1**
	17nm,1.4s						
KLR	**Kul'dur**	**24.09**	**8**	P	**P**	**08 12 46.2**	**-0.6**
	0.0nm,0.3s,baz=190,slow=12,SNR=3.6						
KLR	**Kul'dur**	**24.09**	**8**	⇑*i*P	**P**	**08 12 47.2**	**+0.5**
KLR				*i* *PP	**sP**	**08 12 56.2**	**-2.7**
KLR				*i* *SP	**pP**	**08 13 00.8**	**+5.5**
YSS	**Yuzh-Sakhalins**	**25.01**	**27**	*e*P	**P**	**08 12 55.4**	**+0.3**
YSS				pmax	pmax		
	comp=Z,10.0nm,0.8s						
CHTO	**Chiang Mai**	**26.49**	**261**	*e*P	**P**	**08 13 09.5**	**+0.7**
	comp=Z,3.9nm,0.6s						
CHTO	**Chiang Mai**	**26.49**	**261**	*e*P	**P**	**08 13 09.5**	**+0.7**
CHTO				pmax	pmax		
	comp=Z,4.0nm,0.6s						
GTA	**Gaotai**	**26.50**	**308**	*e*P	**P**	**08 13 09.0**	**+0.1**
GTA				pP	sP	08 13 20.7	-0.4
GTA				sP	pP	08 13 26.4	+8.9
GTA				S	**S**	**08 17 35.0**	**-6.3**
GTA				sS	sS	08 17 58.3	+2.8
GTA				pmax	pmax		
	comp=Z,9.0nm,1.1s						
GTA				pmax	pmax		
	comp=Z,45nm,6.9s						
GTA				LR	LR		
	comp=Z,310nm,13.8s						
GTA				LR	LR		
	comp=Z,420nm,11.9s						
GTA				LR	LR		
	comp=Z,300nm,14.0s						
CM01	**Chiang Mai Arr**	**26.61**	**260**	*e*P	**P**	**08 13 09.7**	**-0.2**
CMAR	**Chiang Mai Arr**	**26.61**	**260**	P	**P**	**08 13 09.8**	**-0.1**
	comp=Z,1.2nm,0.7s,baz=62,slow=7.5,SNR=10						
ULN	**Ulaanbaatar**	**27.23**	**330**	*e*P	**P**	**08 13 15.2**	**-0.2**
	comp=Z,7.7nm,1.3s						
ULN	**Ulaanbaatar**	**27.23**	**330**	*ce*P	**P**	**08 13 15.7**	**+0.3**
ULN				pmax	pmax		
	comp=Z,9.0nm,1.7s						
SONM	**Songino Array**	**27.50**	**330**	P	**P**	**08 13 17.3**	**-0.5**
	comp=Z,2.7nm,0.5s,baz=143,slow=10,SNR=7.7						
SONA1	**Songino Array**	**27.51**	**330**	*e*P	**P**	**08 13 17.5**	**-0.3**
TLY	**Talaya**	**31.55**	**332**	P	**P**	**08 13 53.7**	**+0.3**
	comp=Z,1.1nm,0.3s,baz=163,slow=6.2,SNR=5.0						
TLY	**Talaya**	**31.55**	**332**	*e*P	**P**	**08 13 53.2**	**-0.3**
	comp=Z,3.0nm,0.9s						
TLY	**Talaya**	**31.55**	**332**	*e*P	**P**	**08 13 54.1**	**+0.6**
TLY				pmax	pmax		
	comp=Z,4.0nm,1.1s						
TLY				MLR	MLR		
	comp=Z,177nm,17.0s						
KULM	**Kulim**	**31.98**	**236**	*e*P	**P**	**08 13 59.5**	**+1.9**
	comp=Z,17nm,1.2s						
ODAN	**Odare**	**35.20**	**281**	*e*P	**P**	**08 14 27.0**	**+1.1**
	comp=Z,46nm,0.7s						
RAMN	**Ramite**	**35.89**	**281**	*e*P	**P**	**08 14 32.4**	**+0.6**
	comp=Z,21nm,0.7s						
JIRN	**Jiri**	**36.18**	**283**	*e*P	**P**	**08 14 35.3**	**+0.9**
	comp=Z,17nm,0.7s						
GUN	**Gumba**	**36.43**	**283**	*e*P	**P**	**08 14 37.4**	**+0.9**
	comp=Z,11nm,0.4s						
WMQ	**Urumqi**	**36.55**	**310**	P	**P**	**08 14 37.3**	**+0.3**
WMQ				sP	sP	08 14 54.1	+4.8
WMQ				pmax	pmax		
	comp=Z,15nm,1.1s						
WMQ				pmax	pmax		
	comp=Z,280nm,4.7s						
WMQ				LR	LR		
	comp=Z,490nm,6.1s						
WMQ				LR	LR		
	comp=Z,470nm,13.5s						
WMQ				LR	LR		
	comp=Z,380nm,19.5s						
YAK	**Yakutsk**	**36.65**	**2**	*i* P	**P**	**08 14 37.4**	**-0.1**
PKI	**Pulchoki**	**36.88**	**283**	*e*P	**P**	**08 14 40.8**	**+0.5**
	comp=Z,12nm,0.4s						
PKIN	**Phulchoki**	**36.89**	**283**	*e*P	**P**	**08 14 41.6**	**+1.3**
KKN	**Kakani**	**36.97**	**283**	*e*P	**P**	**08 14 41.8**	**+0.8**
DMN	**Daman**	**37.14**	**283**	*e*P	**P**	**08 14 43.2**	**+0.7**
GKN	**Gorkha**	**37.51**	**283**	*e*P	**P**	**08 14 46.1**	**+0.6**
KOLN	**Koldanda**	**38.45**	**283**	*e*P	**P**	**08 14 54.3**	**+0.8**
	comp=Z,22nm,0.9s						
RABL	**Rabaul**	**38.45**	**136**	*e*P	**P**	**08 14 56.9**	**+3.5**
	comp=Z,142nm,0.4s						
DGZ	**Jazzator, Alta**	**38.79**	**319**	⇓*i*P	**P**	**08 14 56.5**	**+0.5**
PYUN	**Piuthan**	**38.95**	**284**	*e*P	**P**	**08 14 58.9**	**+1.2**
	comp=Z,44nm,0.8s						
MK01	**Makanchi Array**	**41.03**	**313**	*e*P	**P**	**08 15 14.4**	**0.0**
MK31	**Makanchi Array**	**41.04**	**313**	*e*P	**P**	**08 15 14.3**	**-0.3**
MK31	**Makanchi Array**	**41.04**	**313**	*e*P	**P**	**08 15 14.1**	**-0.5**
MK31				pmax	pmax		
	comp=Z,7.0nm,0.6s						
MKAR	**Makanchi Array**	**41.04**	**313**	P	**P**	**08 15 14.6**	**0.0**
	comp=Z,8.6nm,0.6s,baz=99,slow=10,SNR=122						
MKAR	**Makanchi Array**	**41.04**	**313**	*e*P	**P**	**08 15 14.3**	**-0.3**
	comp=Z,61nm,0.6s						
SEY	**Seymchan**	**41.20**	**18**	P	**P**	**08 15 15.9**	**+0.3**
	comp=Z,2.4nm,0.6s,baz=226,slow=8.4,SNR=11						
SEY	**Seymchan**	**41.20**	**18**	*ce*P	**P**	**08 15 15.8**	**+0.2**
SEY				*i* *PP	**sP**	**08 15 24.9**	**-3.1**
SEY				*i* *SP	**pP**	**08 15 28.9**	**+4.5**
MAKZ	**Makanchi**	**41.25**	**313**	*e*P	**P**	**08 15 16.3**	**0.0**
	comp=Z,11nm,0.9s						
MAKZ	**Makanchi**	**41.25**	**313**	P	**P**	**08 15 15.5**	**-0.8**
MAKZ				pmax	pmax		
	comp=Z,9.0nm,0.7s						
ZALV	**Zalesovo Beam**	**42.06**	**324**	P	**P**	**08 15 22.3**	**-0.5**
	comp=Z,2.4nm,0.7s,baz=110,slow=7.9,SNR=9.9						
ZALV	**Zalesovo Beam**	**42.06**	**324**	*e*P	**P**	**08 15 21.7**	**-1.0**
KURK	**Kurchatov**	**44.45**	**318**	*e*P	**P**	**08 15 41.8**	**-0.4**
	comp=Z,23nm,1.6s						
KURK	**Kurchatov**	**44.45**	**318**	*ce*P	**P**	**08 15 41.9**	**-0.2**
KURK				pmax	pmax		
	comp=Z,6.0nm,1.2s						
KURBB	**Kurchatov Arra**	**44.48**	**317**	P	**P**	**08 15 42.1**	**-0.3**
	comp=Z,2.4nm,0.4s,baz=107,slow=9.2,SNR=23						
WRAB	**Tennant Creek**	**45.70**	**170**	*e*P	**P**	**08 15 47.6**	**-4.7**
	comp=Z,8.1nm,1.0s						
WRAB	**Tennant Creek**	**45.70**	**170**	*e*P	**P**	**08 15 47.6**	**-4.7**
WRAB				pmax	pmax		
	comp=Z,8.0nm,1.0s						
WRA	**Warramunga Arr**	**45.70**	**170**	P	P	08 15 47.4	-5.0
	comp=Z,3.7nm,0.7s,baz=351,slow=8.4,SNR=34						
TIXI	**Tiksi**	**46.28**	**1**	*e*P	**P**	**08 15 56.0**	**-0.3**
	comp=Z,13nm,2.0s						
TIXI	**Tiksi**	**46.28**	**1**	⇓*i*P	**P**	**08 15 56.5**	**+0.2**
TIXI				*i* *PP	**sP**	**08 16 05.2**	**-3.5**
NIL	**Nilore**	**46.77**	**293**	*e*P	**P**	**08 16 01.1**	**+0.4**
	comp=Z,12nm,0.6s						
NIL	**Nilore**	**46.77**	**293**	*e*P	**P**	**08 16 01.2**	**+0.4**
NIL				pmax	pmax		
	comp=Z,12nm,0.6s						
KK31	**Karatay Array**	**48.74**	**306**	*i* P	**P**	**08 16 16.4**	**+0.5**
KK31				pmax	pmax		
	comp=Z,1.0nm,0.5s						
KKAR	**Karatay Array**	**48.74**	**306**	*e*P	**P**	**08 16 15.8**	**0.0**
KKAR	**Karatay Array**	**48.74**	**306**	*e*P	**P**	**08 16 15.9**	**0.0**
BILL	**Bilibino**	**48.88**	**19**	⇑*e*P	**P**	**08 16 16.8**	**+0.3**
BILL				*e*		08 18 09.7	
BILL				*e*S	**S**	**08 23 24.5**	**+6.5**
BILL				pmax	pmax		
	comp=Z,2.0nm,1.0s						
ASAR	**Alice Springs**	**49.30**	**171**	P	**P**	**08 16 16.0**	**-4.3**
	comp=Z,1.2nm,0.6s,baz=355,slow=12,SNR=26						
ASAR	**Alice Springs**	**49.30**	**171**	P	**P**	**08 16 16.0**	**-4.3**
BVA0	**Borovoye Array**	**49.95**	**319**	P	**P**	**08 16 23.9**	**-1.1**
BVA0				pmax	pmax		
	comp=Z,2.0nm,0.7s						
BVAR	**Borovoye Array**	**49.95**	**319**	P	**P**	**08 16 25.0**	**0.0**
	comp=Z,1.7nm,0.6s,baz=102,slow=8.7,SNR=14						
BVAR	**Borovoye Array**	**49.95**	**319**	P	**P**	**08 16 25.0**	**0.0**
BRVK	**Borovoye**	**50.02**	**319**	*ce*P	**P**	**08 16 26.3**	**+0.8**
BRVK				*i* *PP	**sP**	**08 16 35.2**	**-2.8**
BRVK				pmax	pmax		
	comp=Z,7.0nm,1.2s						
KBL	**Kabul**	**50.16**	**295**	*e*P	**P**	**08 16 28.1**	**+1.0**
	comp=Z,47nm,1.7s						
KBL	**Kabul**	**50.16**	**295**	*e*P	**P**	**08 16 28.1**	**+1.0**
KBL				pmax	pmax		
	comp=Z,47nm,1.7s						
AB31	**Akbulak array**	**56.18**	**314**	*e*P	**P**	**08 17 11.5**	**+0.6**
AB31				pmax	pmax		
	comp=Z,4.0nm,0.5s						
ABKAR	**Akbulak array**	**56.18**	**314**	*e*P	**P**	**08 17 11.8**	**+0.8**
	comp=Z,76nm,0.5s						
ARU	**Arti**	**57.16**	**322**	*c i*P	**P**	**08 17 17.2**	**-0.6**
ARU						08 18 09.8	
ARU						08 19 20.9	
ARU				S	**S**	**08 25 11.8**	**+0.7**
ARU				SS	**SS**	**08 28 56.1**	**-3.8**
ARU				pmax	pmax		
	comp=Z,6.0nm,1.2s						
ARU				MLR	MLR		
	comp=Z,338nm,21.0s						
AKTO	**Aktyubinsk**	**57.41**	**315**	P	**P**	**08 17 20.6**	**+1.0**
	comp=Z,2.8nm,0.7s,baz=89,slow=5.0,SNR=12						
GEYT	**Alibeck**	**58.48**	**300**	P	**P**	**08 17 28.6**	**+1.2**
	comp=Z,1.8nm,0.5s,baz=29,slow=3.4,SNR=7.2						
RND	**Reindeer**	**65.14**	**30**	*e*P	**P**	**08 18 11.1**	**-0.7**
	comp=Z,5.8nm,0.8s						
RND	**Reindeer**	**65.14**	**30**	*e*P	**P**	**08 18 11.1**	**-0.7**
RND				pmax	pmax		
	comp=Z,6.0nm,0.8s						
COLA	**College**	**65.38**	**28**	*e*P	**P**	**08 18 12.6**	**-0.6**
ILAR	**Eielson Array**	**65.81**	**28**	P	**P**	**08 18 16.2**	**+0.2**
	comp=Z,0.5nm,0.7s,baz=264,slow=6.3,SNR=5.4						
KBZ	**Khabaz**	**68.58**	**309**	P	**P**	**08 18 35.2**	**+1.2**
	comp=Z,2.5nm,0.7s,baz=136,slow=4.5,SNR=6.3						
KIV	**Kislovodsk**	**68.67**	**310**	*e*P	**P**	**08 18 33.7**	**-1.0**
KIV				pmax	pmax		
	comp=Z,10.0nm,1.1s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KIV				MLR	MLR		
	comp=Z,53nm,17.0s						
SPITS	**Spitsbergen Ar**	**69.33**	**348**	P	**P**	**08 18 38.8**	**+0.8**
	comp=Z,12nm,1.0s,baz=339,slow=7.7,SNR=3.8						
INK	**Inuvik**	**70.18**	**23**	P	**P**	**08 18 43.1**	**-0.3**
	comp=Z,1.4nm,0.7s,baz=244,slow=2.0,SNR=3.9						
ARCES	**ARCESS Array B**	**70.24**	**338**	P	**P**	**08 18 43.3**	**-0.5**
	comp=Z,3.5nm,1.0s,baz=65,slow=7.4,SNR=9.4						
RAYN	**Ar Rayn**	**72.73**	**288**	*e*P	**P**	**08 18 58.9**	**-0.8**
	comp=Z,7.2nm,1.3s						
FINES	**FINESS Array B**	**72.87**	**330**	P	**P**	**08 18 59.4**	**-0.3**
	comp=Z,3.2nm,0.9s,baz=72,slow=6.2,SNR=13						
VSU	**Vasula**	**73.67**	**327**	*ce*P	**P**	**08 19 04.6**	**+0.1**
VSU				pmax	pmax		
	comp=Z,29nm,1.1s						
AKASG	**Malin Array Be**	**75.23**	**319**	P	**P**	**08 19 13.2**	**-0.5**
	comp=Z,1.3nm,0.5s,baz=57,slow=6.5,SNR=8.8						
KIEV	**Kiev**	**75.24**	**319**	⇑*i*P	**P**	**08 19 13.4**	**-0.4**
KIEV				*i* *PP	**PcP**	**08 19 25.9**	**-1.2**
KIEV				*i* *SP	**sP**	**08 19 30.4**	**+3.8**
KIEV				pmax	pmax		
	comp=Z,4.0nm,1.1s						
BRTR	**Keskin Array B**	**76.42**	**308**	P	**P**	**08 19 21.0**	**0.0**
	comp=Z,4.3nm,1.2s,baz=141,slow=8.0,SNR=7.4						
BRTR	**Keskin Array B**	**76.42**	**308**	P	**P**	**08 19 21.0**	**0.0**
RES	**Resolute Bay**	**76.60**	**10**	P	**P**	**08 19 20.6**	**-0.5**
	comp=Z,2.3nm,0.7s,baz=304,slow=6.3,SNR=12						
RES	**Resolute Bay**	**76.60**	**10**	*e*P	**P**	**08 19 21.3**	**+0.2**
	comp=Z,3.8nm,0.9s						
BR231	**Keskin MP Arra**	**76.99**	**308**	*e*P	**P**	**08 19 22.6**	**-1.6**
HFS	**Hagfors**	**78.88**	**332**	P	**P**	**08 19 34.3**	**+0.2**
	comp=Z,1.6nm,0.7s,baz=86,slow=7.6,SNR=4.9						
NB2	**NORSAR Subarra**	**79.41**	**333**	P	**P**	**08 19 36.8**	**-0.2**
	comp=Z,1.3nm,0.6s,baz=55,slow=5.3						
NOA	**NORSAR Array B**	**79.41**	**333**	P	**P**	**08 19 37.2**	**+0.2**
	comp=Z,2.1nm,0.8s,baz=55,slow=5.3,SNR=6.9						
KWP	**Kalwaria Pacla**	**79.49**	**320**	*e*P	**P**	**08 19 39.1**	**+1.5**
	comp=Z,691nm,0.4s						
KWP	**Kalwaria Pacla**	**79.49**	**320**	*e*P	**P**	**08 19 39.1**	**+1.5**
KWP				pmax	pmax		
	comp=Z,691nm,0.4s						
YKA	**Yellowknife Ar**	**79.84**	**24**	P	**P**	**08 19 38.4**	**-0.9**
	comp=Z,0.9nm,0.7s,baz=298,slow=5.4,SNR=21						
GERES	**GERESS Array B**	**84.99**	**322**	P	**P**	**08 20 06.9**	**+0.4**
	comp=Z,0.3nm,0.5s,baz=60,slow=5.8,SNR=3.4						
GERES	**GERESS Array B**	**84.99**	**322**	P	**P**	**08 20 07.0**	**+0.4**
SMCO	**Snowmass**	**98.51**	**39**	*e*P	Pdif	08 21 12.3	+2.0
	comp=Z,13nm,1.3s						

*ISCJB **01** 08:07:48.7±0.8, 25°.2N±0°.2×126°.8E±0°.3, h10km, mb4.1/11, MS3.5/1, Error ellipse: s-maj=42.8km s-min=16.2km az=156.1*
*IDC **01** 08:07:48.7±0.9, 25°.21N×126°.91E, h0km, mb4.2/11, mb1 4.3/11, mb1mx3.9/73, mbtmp4.2/11, MS3.6/1, Ms1 3.8/1, ms1mx2.9/43, Error ellipse: s-maj=46.2km s-min=19.5km az=66.0*
ISC 01 08:07:50.4±1.0**, 25°.2N**±0°.2×**126°.9E**±0°.3**, h10**km**, n12, σ0ˢ.91**/11**, mb4.2**/11**, Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**26.81**	**261**	LR	LR	08 23 34.9	
	comp=Z,132nm,20.0s,baz=70,slow=35						
MKAR	**Makanchi Array**	**41.37**	**313**	P	**P**	**08 15 35.8**	**-0.8**
	7.2nm,0.6s,baz=100,slow=10,SNR=15						
ZALV	**Zalesovo Beam**	**42.37**	**324**	P	**P**	**08 15 43.2**	**-1.4**
	1.8nm,0.6s,baz=104,slow=6.1,SNR=4.4						
KURBB	**Kurchatov Arra**	**44.81**	**317**	P	**P**	**08 16 03.4**	**-0.9**
	1.6nm,0.4s,baz=107,slow=9.2,SNR=9.4						
WRA	**Warramunga Arr**	**45.45**	**170**	P	**P**	**08 16 08.7**	**-1.0**
	3.1nm,0.7s,baz=352,slow=8.4,SNR=6.2						
ASAR	**Alice Springs**	**49.05**	**172**	P	**P**	**08 16 38.3**	**+0.5**
	1.3nm,0.7s,baz=358,slow=11,SNR=6.0						
GEYT	**Alibeck**	**58.80**	**300**	P	**P**	**08 17 50.0**	**+0.9**
	2.8nm,0.6s,baz=70,slow=1.7,SNR=4.6						
ARCES	**ARCESS Array B**	**70.53**	**339**	P	**P**	**08 19 05.1**	**0.0**
	1.2nm,0.7s,baz=69,slow=7.1,SNR=6.1						
AKASG	**Malin Array Be**	**75.55**	**319**	P	**P**	**08 19 34.7**	**-0.4**
	1.1nm,0.5s,baz=55,slow=6.6,SNR=4.2						
NOA	**NORSAR Array B**	**79.71**	**334**	P	**P**	**08 19 58.6**	**+0.3**
	1.4nm,0.6s,baz=53,slow=5.5,SNR=4.3						
YKA	**Yellowknife Ar**	**79.94**	**24**	P	**P**	**08 19 59.5**	**+0.2**
	1.0nm,0.8s,baz=298,slow=5.3,SNR=7.3						
GERES	**GERESS Array B**	**85.31**	**322**	P	**P**	**08 20 28.6**	**+0.9**
	0.2nm,0.3s,baz=46,slow=4.2,SNR=4.3						

MEX 01 08:07:57.9±0.3**, 16°.31N×98°.32W, h9**km±1km**, MD3.9, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.20**	**65**	*e*P	Pg	08 08 01.8	-0.3
PNIG				*i* S	Sg	08 08 04.8	-0.2
TLIG	**Tlapa**	**1.27**	**349**	*e*P	Pn	08 08 18.3	-3.7
TLIG				*e*S	Sb	08 08 34.1	-4.6
VHO	**Vista Hermosa**	**1.70**	**63**	*e*P	Pn	08 08 24.4	-3.5
VHO				*e*S	Sn	08 08 45.1	-4.8
HUIG	**Huatulco**	**2.19**	**104**	*e*P	Pn	08 08 31.3	-3.2
HUIG				*e*S	Sn	08 09 02.5	+0.7

*ISCJB **01** 08:08:34.2±1.1, 67°.78N±0°.03×33°.6E±0°.2, h0km, Error ellipse: s-maj=8.7km s-min=4.9km az=177.2*
*CSEM **01** 08:08:34.6±0.7, 67°.75N×33°.69E, h2km, ML2.1, Error ellipse: s-maj=14.9km s-min=8.9km az=91.0, Mining explosion.*
*HEL **01** 08:08:35.2±0.5, 67°.78N×33°.80E, h0km, ML2.1, Explosion*
*KOLA **01** 08:08:35.2, 67°.67N×33°.79E, h0km*
*NAO **01** 08:08:36.8±1.8, 67°.60N×33°.36E, ML2.7*
ISC 01 08:08:32.2±1.6**, 67°.70N**±0°.04×**34°.00E**±0°.08**, h0**km**, n28, σ1ˢ.51**/50**, Baltic States-Belarus-Northwestern Russia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
APA	**Apatity**	**0.26**	**240**	P	**Pg**	**08 08 38.4**	**+1.2**
APA				S	**Sg**	**08 08 40.7**	**+0.1**
APA0	**Apatity Array**	**0.40**	**257**	P	**Pg**	**08 08 40.7**	**+0.9**
APA0				S	**Sg**	**08 08 44.8**	**-0.1**
VRF	**Varrio**	**1.68**	**274**	Pg	**Pn**	**08 09 03.4**	**+0.7**
VRF				Sg	**Sn**	**08 09 23.6**	**-1.3**
	16nm,0.2s						
VRF	**Varrio**	**1.68**	**274**	PG	**Pn**	**08 09 03.4**	**+0.7**
	baz=91						
VRF				MSG		08 09 22.9	
	comp=Z,16nm,0.2s						
VRF				SG	**Sn**	**08 09 23.6**	**-1.3**
KU6	**Riekki**	**2.34**	**226**	Pn	**Pn**	**08 09 14.0**	**+2.2**
KU6				Sn	**Sb**	**08 09 43.8**	**-0.7**
KU6	**Riekki**	**2.34**	**226**	PN	**Pn**	**08 09 14.0**	**+2.2**
KU6				SN	**Sb**	**08 09 43.8**	**-0.7**
KU6				MSG		08 09 44.4	
	comp=Z,9.6nm,0.2s						
MSF	**Maaselka**	**2.66**	**230**	Pn	**Pn**	**08 09 19.0**	**+2.7**
MSF				Sb	**Sb**	**08 09 54.5**	**+0.7**
MSF	**Maaselka**	**2.66**	**230**	PN	**Pn**	**08 09 19.0**	**+2.7**
MSF				SB	**Sb**	**08 09 54.5**	**+0.7**
SGF	**Sodankyl**	**2.88**	**268**	Pn	**Pn**	**08 09 20.3**	**+1.1**
SGF				Sg	**Sb**	**08 09 59.7**	**-0.4**
SGF	**Sodankyl**	**2.88**	**268**	PN	**Pn**	**08 09 20.3**	**+1.1**
SGF				SG	**Sb**	**08 09 59.6**	**-0.4**
RNF	**Rovaniemi**	**3.30**	**254**	Pn	**Pn**	**08 09 26.6**	**+1.6**
RNF				Sn	**Sn**	**08 10 05.7**	**+0.7**
RNF	**Rovaniemi**	**3.30**	**254**	PN	**Pn**	**08 09 26.6**	**+1.6**
RNF				SN	**Sn**	**08 10 05.7**	**+0.7**
ARA0	**ARCESS Array S**	**3.62**	**305**	Pn	**Pn**	**08 09 31.4**	**+2.0**
	baz=124,slow=16						
ARA0				Pg	**Pg**	**08 09 40.1**	**-1.3**
	baz=118,slow=16						
ARA0				Sn	**Sn**	**08 10 13.2**	**+0.4**
	baz=118,slow=28						
ARA0				Lg	Lg	08 10 25.1	
	baz=115,slow=28						
ARA0	**ARCESS Array S**	**3.62**	**305**	Pn	**Pn**	**08 09 31.4**	**+2.0**
	baz=124,slow=16						
ARA0				Pg	**Pg**	**08 09 40.1**	**-1.3**
	baz=118,slow=16						
ARA0				Sn	**Sn**	**08 10 13.2**	**+0.4**
	baz=118,slow=28						
ARA0				Lg	Lg	08 10 25.1	
	baz=115,slow=28						
ARE0	**ARCESS Array S**	**3.62**	**305**	PN	**Pn**	**08 09 30.9**	**+1.5**
ARE0				SN	**Sn**	**08 10 13.2**	**+0.5**
HEF	**Hetta**	**3.95**	**285**	Pn	**Pn**	**08 09 35.6**	**+1.7**
HEF				Sn	**Sn**	**08 10 20.5**	**-0.4**
HEF	**Hetta**	**3.95**	**285**	PN	**Pn**	**08 09 35.6**	**+1.7**
HEF				SN	**Sn**	**08 10 20.5**	**-0.4**
TOF	**Tornio**	**4.15**	**251**	PN	**Pn**	**08 09 37.4**	**+0.8**
TOF				SN	**Sn**	**08 10 25.9**	**+0.2**
OUL	**Oulu**	**4.18**	**235**	Pn	**Pn**	**08 09 40.0**	**+2.9**
OUL				Sg	**Sg**	**08 10 45.0**	**-1.4**
OUL	**Oulu**	**4.18**	**235**	PN	**Pn**	**08 09 40.0**	**+2.9**
OUL				SG	**Sg**	**08 10 45.0**	**-1.4**
FIA0	**FINESS Array S**	**7.14**	**212**	Pn	**Pn**	**08 10 18.2**	**+0.4**
	baz=28,slow=14						
FIA0				Sn	**Sn**	**08 11 36.2**	**-3.3**
	baz=11,slow=22						
FIA0				Lg	Lg	08 12 10.7	
	baz=36,slow=28						
FIA0	**FINESS Array S**	**7.14**	**212**	Pn	**Pn**	**08 10 18.2**	**+0.4**
	baz=28,slow=14						
FIA0				Sn	**Sn**	**08 11 36.2**	**-3.3**
	baz=11,slow=22						
FIA0				Lg	Lg	08 12 10.7	
	baz=36,slow=28						
SPA0	**Spitsbergen Ar**	**11.64**	**342**	Pn	**Pn**	**08 11 19.3**	**0.0**
	baz=141,slow=10						
SPA0	**Spitsbergen Ar**	**11.64**	**342**	Pn	**Pn**	**08 11 19.3**	**0.0**
	baz=141,slow=10						
HFS	**Hagfors**	**11.66**	**239**	Lg	Lg	08 14 28.3	
	baz=53,slow=37						
HFS	**Hagfors**	**11.66**	**239**	Lg	Lg	08 14 28.3	
	baz=53,slow=37						
NRA0	**NORESS Array S**	**11.95**	**245**	Pn	**Pn**	**08 11 22.4**	**-1.2**
	baz=49,slow=8.6						
NRA0	**NORESS Array S**	**11.95**	**245**	Pn	**Pn**	**08 11 22.4**	**-1.2**
	baz=49,slow=8.6						

*ISCJB **01** 08:17:23.8±0.7, 1°.66S±0°.05×81°.66W±0°.05, h33km, mb3.6/5, Error ellipse: s-maj=7.8km s-min=6.7km az=35.7*
*IGQ **01** 08:17:24.3±1.3, 2°S±11°×8°2W±°, h10km, MLv4.6/4*
*IDC **01** 08:17:27.6±6.4, 1°.53S×81°.29W, h50km±75km, mb3.4/5, mb1 3.7/7, mb1mx3.5/43, mbtmp3.7/7, ML3.6/2, MS3.0/1, Ms1 3.0/1, ms1mx2.5/25, Error ellipse: s-maj=116.6km s-min=32.8km az=54.0*
ISC 01 08:17:25.9±0.8**, 1°.65S**±0°.08×**81°.60W**±0°.08**, h35**km**, n41, σ1ˢ.10**/40**, mb3.7**/5**, Off coast of Ecuador**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MAG1	**Magdalena**	**2.41**	**49**	P	**Pn**	**08 18 02.6**	**-0.3**
RIOE1	**Riobamba**	**2.97**	**92**	P	**Pn**	**08 18 09.3**	**-1.6**
RIOE1				S	**Sn**	**08 18 45.3**	**-0.3**
ILLI	**Illinizas Sur**	**3.01**	**72**	P	**Pn**	**08 18 11.7**	**+0.1**
BMAS	**Trigal station**	**3.12**	**87**	P	**Pn**	**08 18 13.7**	**+0.7**
ARRY	**Arrayan**	**3.14**	**87**	P	**Pn**	**08 18 13.2**	**-0.1**
POND	**Pondoa**	**3.15**	**86**	P	**Pn**	**08 18 12.9**	**-0.5**
POND				S	**Sn**	**08 18 52.5**	**+2.5**
BPAT	**Tungurahua Vol**	**3.16**	**87**	P	**Pn**	**08 18 13.1**	**-0.7**
BRUN	**Tungurahua Vol**	**3.19**	**86**	P	**Pn**	**08 18 11.9**	**-2.1**
CAMI	**Rancho Maria**	**3.24**	**73**	P	**Pn**	**08 18 14.8**	**0.0**
BNAS	**Cotopaxi Volca**	**3.26**	**73**	P	**Pn**	**08 18 15.8**	**+0.7**
NAS2	**Nasa**	**3.28**	**72**	P	**Pn**	**08 18 15.0**	**-0.4**
BREF	**Cotopaxi Volca**	**3.30**	**73**	P	**Pn**	**08 18 16.2**	**+0.4**
TERV	**Terraza Guagua**	**3.33**	**64**	P	**Pn**	**08 18 13.7**	**-2.4**
BVC2	**Cotopaxi Volca**	**3.33**	**73**	P	**Pn**	**08 18 17.4**	**+1.3**
PINO	**Pino**	**3.34**	**64**	P	**Pn**	**08 18 13.9**	**-2.3**
BTAM	**Cotopaxi Volca**	**3.34**	**73**	P	Pn	08 18 18.0	+1.8
VC1	**Cotopaxi 1**	**3.35**	**73**	P	Pn	08 18 18.9	+2.6
YANA	**Yana**	**3.39**	**63**	P	**Pn**	**08 18 16.2**	**-0.6**
COV1	**Cotopaxi Volc**	**3.40**	**73**	P	**Pn**	**08 18 17.2**	**+0.2**
ANTG	**Antisana-Guama**	**3.53**	**71**	P	**Pn**	**08 18 18.0**	**-0.8**
ANTS	**Antisana-Sarah**	**3.61**	**72**	P	Pn	08 18 22.1	+2.1
OTAV	**Otavalo**	**3.66**	**59**	*e*P	**Pn**	**08 18 19.3**	**-1.2**
OTAV	**Otavalo**	**3.66**	**59**	P	**Pn**	**08 18 19.7**	**-0.9**
CUIC	**Cuicocha-Domo**	**3.77**	**59**	P	**Pn**	**08 18 21.4**	**-0.7**
COTA	**Cotacachi**	**3.81**	**59**	P	**Pn**	**08 18 22.5**	**-0.2**
IMBA	**Imbabura, San**	**3.90**	**61**	P	**Pn**	**08 18 23.6**	**-0.2**
URCU	**Urcuqui**	**3.93**	**58**	P	**Pn**	**08 18 23.8**	**-0.5**
CMBC	**Cumbal**	**4.57**	**56**	*e*P	Pn	08 18 34.8	+1.8
GCUF	**Volcan Galeras**	**5.12**	**56**	*e*P	**Pn**	**08 18 38.7**	**-2.0**
CRUC	**La Cruz**	**5.64**	**55**	*e*P	**Pn**	**08 18 48.2**	**+0.6**
SOTA	**Rioblanco**	**6.25**	**53**	*e*P	**Pn**	**08 18 56.8**	**+0.6**
ATAH	**Atahualpa**	**6.31**	**150**	P	**Pn**	**08 18 57.3**	**+0.4**
	1.0nm,0.3s,baz=301,slow=4.1,SNR=8.2						
ATAH				S	**Sn**	**08 20 09.3**	**+1.2**
	1.3nm,0.3s,baz=10,slow=12,SNR=2.5						
ATAH				LR	LR	08 21 49.7	
	comp=Z,130nm,20.7s,baz=356,slow=42						
POPC	**Popayan, Colom**	**6.45**	**50**	*e*P	**Pn**	**08 18 57.6**	**-1.0**
PCON	**Cinco Dias**	**6.53**	**53**	*e*P	**Pn**	**08 18 60.0**	**-0.1**
LPAZ	**La Paz**	**19.68**	**138**	P	**Pn**	**08 21 53.0**	**-1.5**
	0.1nm,0.3s,baz=313,slow=10,SNR=8.1						
TXAR	**Lajitas Array**	**37.35**	**327**	PcP	**PcP**	**08 26 54.9**	**+0.7**
	0.2nm,0.8s,baz=156,slow=6.4,SNR=4.2						
ANMO	**Albuquerque**	**43.22**	**330**	P	**P**	**08 25 24.8**	**+0.7**
	1.0nm,0.7s,baz=334,slow=11,SNR=6.8						
NVAR	**Mina Array Bea**	**52.29**	**324**	P	**P**	**08 26 35.5**	**+1.0**
	0.4nm,0.4s,baz=138,slow=6.9,SNR=2.4						
ULM	**Lac du Bonnet**	**53.13**	**349**	P	**P**	**08 26 39.9**	**-0.3**
	2.7nm,0.6s,baz=164,slow=9.6,SNR=7.8						
YKA	**Yellowknife Ar**	**68.67**	**344**	P	**P**	**08 28 24.7**	**-0.7**
	0.2nm,0.6s,baz=145,slow=6.1,SNR=6.5						
ILAR	**Eielson Array**	**81.19**	**337**	P	**P**	**08 29 37.4**	**-0.5**
	0.3nm,0.9s,baz=128,slow=5.9,SNR=3.9						

*ISK **01** 08:18:38.1, 39°.56N×25°.90E, h21km, ML2.5/8*
*ISCJB **01** 08:18:39.4±0.5, 39°.55N±0°.02×25°.92E±0°.04, h23km±6km, Error ellipse: s-maj=5.7km s-min=4.0km az=166.0*
*CSEM **01** 08:18:39.1±0.2, 39°.56N×25°.92E, h20km, ML2.5, Error ellipse: s-maj=4.4km s-min=3.0km az=82.0*
*ATH **01** 08:18:39.4, 39°.53N×25°.89E, h16km±6km, ML1.9/1, Error ellipse: s-maj=6.4km s-min=0.8km az=189.0*
*DDA **01** 08:18:45.1, 39°.83N×26°.19E, h7km, Ml2.4*
ISC 01 08:18:39.0±0.9**, 39°.56N**±0°.02×**25°.92E**±0°.03**, h16**km±7km**, n37, σ0ˢ.59**/58**, Aegean Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GPNR	**Gulpinar-Canak**	**0.20**	**123**	PG	**Pg**	**08 18 43.9**	**+0.2**
GPNR				SG	**Sb**	**08 18 47.6**	**-0.1**
GPNR	**Gulpinar-Canak**	**0.20**	**123**	*e*Pg	**Pg**	**08 18 43.9**	**+0.2**
GPNR				*e*Sg	**Sb**	**08 18 47.6**	**-0.1**
BOZC	**Bozcaada**	**0.30**	**20**	PG	**Pg**	**08 18 45.5**	**+0.1**
BOZC				SG	**Sb**	**08 18 50.7**	**+0.1**
BOZC	**Bozcaada**	**0.30**	**20**	*i* P	**Pb**	**08 18 46.4**	**+0.5**
BOZC				*i* S	**Sb**	**08 18 51.3**	**+0.7**
BOZC	**Bozcaada**	**0.30**	**20**	*e*Pg	**Pg**	**08 18 45.5**	**+0.1**
BOZC				*e*Sg	**Sb**	**08 18 50.7**	**+0.1**
SIGR	**SIGRI**	**0.35**	**188**	PG	**Pb**	**08 18 46.8**	**-0.1**
SIGR				SG	**Sg**	**08 18 51.3**	**0.0**
SIGR	**SIGRI**	**0.35**	**188**	P	**Pg**	**08 18 46.0**	**-0.3**
SIGR				S	**Sg**	**08 18 51.2**	**-0.1**
SIGR	**SIGRI**	**0.35**	**188**	P	**Pg**	**08 18 46.1**	**-0.3**
SIGR	**SIGRI**	**0.35**	**188**	*e*Pg	**Pb**	**08 18 46.8**	**-0.1**
SIGR				*e*Sg	**Sg**	**08 18 51.3**	**0.0**
EZN	**Ezine**	**0.41**	**50**	PG	**Pg**	**08 18 47.3**	**0.0**
EZN				SG	**Sb**	**08 18 54.5**	**+0.7**
EZN	**Ezine**	**0.41**	**50**	*e*Pg	**Pg**	**08 18 47.3**	**0.0**
EZN				*e*Sg	**Sb**	**08 18 54.5**	**+0.7**
PRK	**Paraskevi**	**0.42**	**139**	P	**Pb**	**08 18 48.7**	**+0.7**
PRK				S	**Sg**	**08 18 53.0**	**-0.2**
PRK				AML	AML	08 18 54.6	
	comp=E,503µm,0.2s						
PRK				AML	AML	08 18 54.9	
	comp=N,415µm,0.2s						
PRK	**Paraskevi**	**0.42**	**139**	P	**Pb**	**08 18 48.2**	**+0.2**
PRK				S	**Sg**	**08 18 53.3**	**+0.1**
BAYC	**CANAKKALE_Bayr**	**0.52**	**70**	*i* P	**Pb**	**08 18 50.2**	**+0.5**
BAYC				*i* S	**Sb**	**08 18 57.7**	**+0.8**
BAYC	**CANAKKALE_Bayr**	**0.52**	**70**	P	**Pb**	**08 18 50.2**	**+0.5**
BAYC				S	**Sb**	**08 18 57.7**	**+0.8**
GADA	**Gvkgeada**	**0.63**	**359**	PG	**Pg**	**08 18 50.9**	**-0.5**
GADA	**Gvkgeada**	**0.63**	**359**	*e*Pg	**Pg**	**08 18 50.9**	**-0.5**
AYVA	**Ayvalik**	**0.65**	**113**	*i* P	**Pb**	**08 18 52.6**	**+0.7**
AYVA				*i* S	**Sb**	**08 19 01.9**	**+1.2**
AYVA	**Ayvalik**	**0.65**	**113**	P	**Pb**	**08 18 52.6**	**+0.7**
AYVA				S	**Sb**	**08 19 01.9**	**+1.2**
LIA	**Limnos Island**	**0.66**	**301**	P	**Pg**	**08 18 52.0**	**+0.1**
LIA				S	**Sb**	**08 19 01.7**	**+0.7**
LIA	**Limnos Island**	**0.66**	**301**	P	**Pg**	**08 18 52.1**	**+0.1**
LIA				S	**Sb**	**08 19 01.6**	**+0.7**
DKL	**Dikili**	**0.91**	**122**	PG	**Pb**	**08 18 56.2**	**-0.2**
DKL	**Dikili**	**0.91**	**122**	*e*Pg	**Pb**	**08 18 56.2**	**-0.2**
GELI	**Tayfur-Gelibol**	**0.94**	**27**	PG	**Pb**	**08 18 56.7**	**-0.1**
GELI	**Tayfur-Gelibol**	**0.94**	**27**	*e*Pg	**Pb**	**08 18 56.7**	**-0.1**
SMTH	**Samothraki Isl**	**0.95**	**342**	P	**Pn**	**08 18 58.1**	**+0.4**
SMTH				S	**Sn**	**08 19 11.4**	**+0.4**
SMTH	**Samothraki Isl**	**0.95**	**342**	P	**Pn**	**08 18 58.1**	**+0.4**
SMTH				S	**Sn**	**08 19 11.6**	**+0.6**
LPK	**Lapseki**	**1.04**	**38**	PG	**Pb**	**08 18 57.4**	**-1.1**
LPK	**Lapseki**	**1.04**	**38**	*e*Pg	**Pb**	**08 18 57.4**	**-1.1**
CHOS	**Chios island**	**1.18**	**175**	PN	**Pn**	**08 19 00.1**	**-0.8**
CHOS	**Chios island**	**1.18**	**175**	P	**Pb**	**08 19 01.3**	**+0.3**
CHOS				S	**Sn**	**08 19 16.7**	**+0.1**
CHOS	**Chios island**	**1.18**	**175**	*e*Pn	**Pn**	**08 19 00.1**	**-0.8**
CHOS	**Chios island**	**1.18**	**175**	P	**Pb**	**08 19 01.2**	**+0.2**
ERIK	**Erikli-Kesan**	**1.20**	**22**	PN	**Pn**	**08 18 59.7**	**-1.3**
ERIK	**Erikli-Kesan**	**1.20**	**22**	*e*Pn	**Pn**	**08 18 59.7**	**-1.3**
URLA	**Izmir**	**1.31**	**156**	PN	**Pn**	**08 19 01.8**	**-0.8**
URLA	**Izmir**	**1.31**	**156**	*e*Pn	**Pn**	**08 19 01.8**	**-0.8**

IDC 01 08:19:06.4±1.8**, 8°.47S×127°.94E, h0**km**, mb3.8**/2**, mb1 3.5**/4**, mb1mx3.2**/49**, mbtmp3.3**/4**, ML2.8**/2**, Error ellipse: s-maj=71.3km s-min=30.3km az=74.0, Timor region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**12.98**	**152**	Pn	Pn	08 22 12.7	+0.4
	0.1nm,0.3s,baz=331,slow=11,SNR=6.6						
ASAR	**Alice Springs**	**16.15**	**160**	Pn	Pn	08 22 54.5	-0.5
	0.0nm,0.3s,baz=349,slow=13,SNR=3.4						
MJAR	**Matsushiro Arr**	**45.80**	**12**	P	P	08 27 30.0	-0.1
	1.7nm,0.6s,baz=195,slow=9.3,SNR=9.7						
MKAR	**Makanchi Array**	**68.36**	**328**	P	P	08 30 09.7	-0.1
	0.4nm,1.0s,baz=127,slow=6.0,SNR=3.5						

*ISCJB **01** 08:47:45.4±1.3, 45°.3N±0°.2×153°.7E±0°.1, h19km, mb3.6/5, Error ellipse: s-maj=26.6km s-min=7.5km az=155.8*
*IDC **01** 08:47:45.4±2.1, 45°.90N×153°.82E, h0km, mb3.6/5, mb1 3.8/7, mb1mx3.4/70, mbtmp3.7/7, ML3.1/2, Error ellipse: s-maj=58.3km s-min=25.5km az=170.0*
*MOS **01** 08:47:48.7±1.9, 45°.92N×153°.69E, h42km, mb4.5/3, Error ellipse: s-maj=19.6km s-min=13.2km az=143.5*
*SKHL **01** 08:47:49.1±0.2, 45°.31N×153°.76E, h53km±9km, mb4.6/3*
ISC 01 08:47:46.5±1.5**, 45°.3N**±0°.2×**153°.8E**±0°.1**, h19**km**, n18, σ1ˢ.61**/19**, mb3.6**/5**, 1D, East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**4.20**	**272**	*i* P	**Pn**	**08 48 50.9**	**+1.5**
KUR				AMB	AMB	08 48 51.8	
	15nm,0.3s						
KUR				*i* S	**Sn**	**08 49 37.1**	**-0.8**
KUR				A	A	08 49 41.6	
	104nm,0.3s						
KUR				A	A	08 49 41.6	
	107nm,0.3s						
KUR	**Kuril'sk**	**4.20**	**272**	*d i*PN	**Pn**	**08 48 51.5**	**+2.1**
KUR				*i* S	**Sn**	**08 49 38.0**	**+0.1**
KUR				pmax	pmax		
	comp=N,48nm,0.3s						
KUR				pmax	pmax		
	comp=E,21nm,0.3s						
KUR				pmax	pmax		
	comp=Z,149nm,0.3s						
KUR				smax	smax		
	comp=N,104nm,0.3s						
KUR				smax	smax		
	comp=E,107nm,0.3s						
SHO	**Shikotan**	**5.18**	**257**	*e*P	**Pn**	**08 49 04.1**	**+1.3**
SHO				AMB	AMB	08 49 06.7	
	comp=E,25nm,0.4s						
SHO				*i* S	**Sn**	**08 50 00.4**	**-1.6**
SHO				A	A	08 50 05.2	
	comp=E,47nm,0.3s						
SHO				A	A	08 50 05.2	
	comp=E,45nm,0.3s						
SHO	**Shikotan**	**5.18**	**257**	*e*PN	**Pn**	**08 49 04.1**	**+1.3**
SHO				pmax	pmax		
	comp=Z,27nm,0.4s						
SHO				pmax	pmax		
	comp=N,3.0nm,0.2s						
SHO				pmax	pmax		
	comp=E,13nm,0.2s						
SKR	**Severo-Kuril's**	**5.65**	**15**	*e*P	**Pn**	**08 49 10.8**	**+1.5**
YUK	**Yuzh-Kuril'sk**	**5.80**	**261**	*e*P	**Pn**	**08 49 13.1**	**+1.7**
YUK				AMB	AMB	08 49 15.3	
	comp=E,44nm,0.3s						
YUK				*e*S	**Sn**	**08 50 16.3**	**-1.1**
YUK				A	A	08 50 30.0	
	comp=E,190nm,0.6s						
YUK				A	A	08 50 30.0	
	comp=E,130nm,0.6s						
YUK	**Yuzh-Kuril'sk**	**5.80**	**261**	PN	**Pn**	**08 49 13.9**	**+2.5**
YUK				pmax	pmax		
	comp=Z,44nm,0.2s						
YUK				pmax	pmax		
	comp=E,8.0nm,0.1s						
YUK				pmax	pmax		
	comp=N,18nm,0.2s						
YSS	**Yuzh-Sakhalins**	**7.87**	**286**	*e*P	**Pn**	**08 49 41.4**	**+1.6**
ASAJ	**Asahikawa**	**8.07**	**266**	Pn	**Pn**	**08 49 45.7**	**+3.1**
	comp=N,0.7nm,0.3s,baz=86,slow=13,SNR=8.8						
PETK	**Petropavlovsk-**	**8.26**	**17**	Pn	Pn	08 49 37.6	-7.6
	comp=N,0.2nm,0.3s,baz=199,slow=13,SNR=3.2						
SONM	**Songino Array**	**32.32**	**292**	P	**P**	**08 54 13.2**	**-1.1**
	comp=N,0.3nm,0.5s,baz=81,slow=8.9,SNR=2.2						
MKAR	**Makanchi Array**	**48.08**	**299**	P	**P**	**08 56 24.2**	**-0.4**
	comp=N,0.4nm,0.7s,baz=67,slow=9.3,SNR=4.8						
KURK	**Kurchatov**	**48.61**	**305**	P	**P**	**08 56 28.0**	**-0.6**
KURBB	**Kurchatov Arra**	**48.70**	**305**	P	**P**	**08 56 28.0**	**-1.3**
	comp=N,0.2nm,0.3s,baz=70,slow=8.3,SNR=4.3						
FINES	**FINESS Array B**	**65.60**	**335**	P	**P**	**08 58 27.7**	**-0.9**
	comp=N,1.3nm,0.8s,baz=44,slow=8.5,SNR=4.3						
DZM	**Mont Dzumac**	**67.98**	**167**	*e*LR	LR	09 19 27.9	
	comp=N,161nm,22.4s						
TXAR	**Lajitas Array**	**77.80**	**61**	P	**P**	**08 59 42.9**	**+0.2**
	comp=N,0.3nm,0.5s,baz=312,slow=4.7,SNR=7.8						
PPT2	**Papeete2**	**80.90**	**126**	*e*LR	LR	09 25 33.9	
	comp=N,85nm,25.8s						

*NIED **01** 08:48:00, 37°.90N×142°.70E, h38km, Mw4.5 Best double couple: $M_0$7.39000×10^15 NP1:ϕ_s182.00000°, δ34.00000°, λ52.00000°. NP2:ϕ_s45.00000°, δ64.00000°, λ112.00000°.*
*JMA **01** 08:48:49.8±0.1, 37°.87N×142°.66E, h30km±2km, M4.4*
JMA Felt I J1.
*ISCJB **01** 08:48:50.6±0.9, 37°.92N±0°.03×142°.61E±0°.03, h25km±6km, mb4.5/58, MS3.8/24, Error ellipse: s-maj=4.9km s-min=3.9km az=140.3*
*BJI **01** 08:48:50.1, 37°.75N×142°.84E, h36km, mb4.7/31, mB4.8/19, Ms4.2/16, Ms7 4.1/16*
*MOS **01** 08:48:53.5±1.2, 38°.03N×142°.48E, h44km, mb4.7/20, MS4.0/5, Error ellipse: s-maj=8.2km s-min=5.3km az=98.4*
*NEIC **01** 08:48:54.4±0.5, 37°.95N×142°.52E, h40km±4km, mb4.6/22, Error ellipse: s-maj=5.8km s-min=3.9km az=127.0*
NEIC Felt at Tokyo. Recorded [1 JMA] in Miyagi.
*IDC **01** 08:48:54.3±2.7, 37°.91N×142°.48E, h37km±23km, mb4.0/23, mb1 4.1/28, mb1mx4.0/70, mbtmp4.2/28, ML3.5/5, MS3.7/23, Ms1 3.7/23, ms1mx3.5/50, Error ellipse: s-maj=15.1km s-min=13.2km az=118.0*
ISC 01 08:48:52.4±0.5**, 37°.92N**±0°.04×**142°.60E**±0°.04**, h28**km±2km**, h28**km**:pP-P, n170, σ1ˢ.88**/185**, mb4.5**/58**, MS3.8**/25**, 11C-5D, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**1.12**	**299**	P	**Pn**	**08 49 10.7**	**-1.4**
OFUJ	**Ofunato**	**1.36**	**328**	P	**Pn**	**08 49 14.3**	**-1.3**
OFUJ				*e*S	**Sn**	**08 49 32.2**	**-0.5**
JMM	**Marumori**	**1.43**	**268**	P	**Pn**	**08 49 14.8**	**-1.6**
JMM				*e*S	**Sn**	**08 49 33.0**	**-1.3**
JFK	**Kawauchi**	**1.48**	**248**	P	**Pn**	**08 49 15.3**	**-1.8**
JFK				*e*S	**Sn**	**08 49 33.8**	**-1.7**
JMK	**Ichinoseki**	**1.49**	**314**	P	**Pn**	**08 49 16.3**	**-1.0**
JMK				*e*S	**Sn**	**08 49 35.4**	**-0.4**
JOU	**Okura**	**1.59**	**287**	P	**Pn**	**08 49 17.9**	**-0.7**
JOU				*e*S	**Sb**	**08 49 38.5**	**-2.2**
JFT	**Otama**	**1.84**	**258**	P	**Pn**	**08 49 21.5**	**-0.6**

JOM Ohasama 1.85 327 P **Pn 08 49 22.0 -0.3**
JOM *e*S **Sb 08 49 45.8 -2.6**
JYK Kaneyama 2.02 300 P **Pn 08 49 24.4 -0.2**
JYS Shirataka 2.02 279 P **Pn 08 49 24.1 -0.5**
JANG Nango 2.59 341 P **Pn 08 49 31.9 -0.5**
JAG Ashikaga 2.92 240 P **Pn 08 49 37.1 +0.1**
MJAR Matsushiro Arr 3.76 250 Pn **Pn 08 49 49.2 +0.6**
3.5nm,0.3s,baz=53,slow=11,SNR=28
MJAR LR LR 08 51 24.6
comp=Z,873nm,19.1s,baz=70,slow=41
MAJO Matsushiro 3.77 250 *e*Pn **Pn 08 49 49.1 +0.5**
MAJO Matsushiro 3.77 250 ⇓*i*P **Pn 08 49 49.8 +1.2**
MAT Matsushiro 3.77 250 P **Pn 08 49 50.4 +1.8**
MAT *e*S **Sn 08 50 32.6 +0.6**
MJB9 Matsu-Tunnel 3.77 250 *e*Pn **Pn 08 49 50.1 +1.5**
ERM Erimo 4.11 6 *e*Pn **Pn 08 49 52.7 -0.6**
ERM *e*Sn **Sn 08 50 41.5 +1.1**
ERM Erimo 4.11 6 *d*⇓*i*P **Pn 08 49 55.1 +1.8**
INU Inuyama 5.17 242 *e*Pn **Pn 08 50 09.9 +2.0**
JHJ2 Mitsune 5.31 206 *e*Pn **Pn 08 50 10.6 +0.8**
JHJ Hachijo jima 2 5.31 206 Pn **Pn 08 50 09.8 -0.1**
20nm,0.3s,baz=337,slow=19,SNR=16
JHJ Sn **Sn 08 51 05.8 -4.4**
61nm,0.3s,baz=256,slow=23,SNR=7.5
JHJ LR LR 08 52 30.5
comp=Z,570nm,20.6s,baz=307,slow=41
ASAJ Asahikawa 6.19 360 Pn **Pn 08 50 22.7 +0.8**
2.8nm,0.3s,baz=217,slow=17,SNR=25
ASAJ Asahikawa 6.19 360 *e*Pn **Pn 08 50 23.7 +1.9**
YUK Yuzh-Kuril'sk 6.58 21 *e*P **Pn 08 50 26.8 -0.5**
YUK *i* S **Sn 08 51 36.3 -5.1**
YUK pmax pmax
comp=N,29nm,0.2s
YUK pmax pmax
comp=Z,95nm,0.2s
YUK smax smax
comp=N,265nm,0.4s
YUK smax smax
comp=E,313nm,0.3s
SHO Shikotan 6.75 27 *e*P **Pn 08 50 29.0 -0.5**
SHO *i* S **Sn 08 51 38.8 -6.6**
SHO pmax pmax
comp=Z,22nm,0.3s
SHO pmax pmax
comp=N,8.0nm,0.1s
SHO pmax pmax
comp=E,24nm,0.2s
SHO smax smax
comp=N,35nm,0.3s
SHO smax smax
comp=E,154nm,0.4s
KUR Kuril'sk 8.30 27 *e*P **Pn 08 50 51.9 +1.1**
KUR *i* S **Sn 08 52 18.8 -4.8**
KUR pmax pmax
comp=Z,33nm,0.3s
KUR pmax pmax
comp=E,11nm,0.2s
YSS Yuzh-Sakhalins 9.03 1 *e*Pn **Pn 08 51 00.8 0.0**
YSS Yuzh-Sakhalins 9.03 1 ⇓*i*P **Pn 08 51 01.7 +1.0**
YSS pmax pmax
comp=Z,30nm,1.2s
YSS MLR MLR
comp=N,700nm,17.0s
YSS MLR MLR
comp=Z,600nm,17.0s
YSS MLR MLR
comp=E,700nm,15.0s
VLA Vladivostok 9.66 306 ⇑*i*P **Pn 08 51 08.5 -1.0**
USRK Ussuriysk Ar. 10.17 311 Pn **Pn 08 51 17.2 +0.8**
comp=E,0.5nm,0.3s,baz=122,slow=13,SNR=17
USRK LR LR 08 54 56.5
comp=E,631nm,19.8s,baz=114,slow=36
JNU Nakatsue 10.68 247 Pn **Pn 08 51 24.8 +1.2**
comp=E,0.2nm,0.3s,baz=60,slow=6.4,SNR=4.2
JNU LR LR 08 55 54.5
comp=E,501nm,19.6s,baz=55,slow=40
KSRS Korea Array 11.64 272 Pn Pn 08 51 39.6 +3.0
comp=E,0.2nm,0.3s,baz=78,slow=13,SNR=6.7
KSRS LR LR 08 55 50.2
comp=E,303nm,19.5s,baz=82,slow=36
KSAR Wonju Array Be 11.67 272 Pn **Pn 08 51 39.6 +2.6**
KSAR Wonju Array Be 11.67 272 P **Pn 08 51 39.6 +2.6**
MDJ Mudanjiang 11.84 308 P Pn 08 51 43.6 +4.3
MDJ sP 08 51 55.7
MDJ S **Sn 08 53 51.5 +1.0**
MDJ pmax pmax
comp=E,16nm,1.3s
MDJ pmax pmax
comp=E,320nm,4.6s
MDJ LR LR
comp=E,420nm,16.5s
MDJ LR LR
comp=E,750nm,12.6s
MDJ LR LR
comp=E,950nm,14.1s
MDJ Mudanjiang 11.84 308 Pn **Pn 08 51 37.9 -1.4**
comp=E,29nm,1.4s
TYV Tymovskoe 12.94 0 *e*P **Pn 08 51 50.5 -3.7**
TYV pmax pmax
comp=Z,500nm,5.0s
TYV pmax pmax
comp=Z,10.0nm,1.5s
KLR Kul'dur 13.75 329 ⇑*i*P **Pn 08 52 05.6 +0.3**
CN2 Changchun 14.23 300 *e*P **P 08 52 14.7 -4.3**
CN2 *e*pP Pn 08 52 22.1 +10
CN2 *e*S **Sn 08 54 53.0 +4.1**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=Z,310nm,17.0s
CN2 LR LR
comp=Z,440nm,17.0s
CN2 LR LR
comp=Z,500nm,15.0s
NKL Nikolayevsk 15.29 356 *e*P **Pn 08 52 23.8 -2.2**
NKL MLR MLR
comp=N,500nm,16.0s
NKL MLR MLR
comp=E,500nm,16.0s
NKL MLR MLR
comp=Z,600nm,16.0s
PETK Petropavlovsk- 18.45 30 LR LR 09 00 39.0
comp=Z,176nm,20.3s,baz=230,slow=38
ZEA Zeya 19.02 331 *e*P **Pn 08 53 12.0 -0.8**
ZEA pmax pmax
comp=N,24nm,1.0s
ZEA pmax pmax
comp=Z,29nm,1.0s
ZEA MLR MLR
comp=Z,700nm,16.0s
ZEA MLR MLR
comp=E,200nm,15.0s
ZEA MLR MLR
comp=N,500nm,16.0s
NJ2 Nanjing 20.29 260 *e*P Pn 08 53 26.4 -1.6
NJ2 pmax pmax
comp=N,11nm,0.7s
YOJ Yonaguni jima 21.41 237 *e*P **P 08 53 36.8 -1.2**
comp=N,350nm,1.8s
YOJ Yonaguni jima 21.41 237 *e*P **P 08 53 36.8 -1.2**
YOJ pmax pmax
comp=Z,350nm,1.8s
MA2 Magadan 22.30 11 P **P 08 53 48.1 +0.9**
comp=Z,9.1nm,0.7s,baz=182,slow=8.8,SNR=7.5
MA2 LR LR 09 03 42.9
comp=Z,99nm,18.2s,baz=302,slow=40
MA2 Magadan 22.30 11 *i*P **P 08 53 49.9 +2.6**
MA2 *e**SP **sP 08 53 59.6 +1.1**
HHC Hu-ho-hao-te 24.10 287 *e*P **P 08 54 05.6 -0.1**
HHC PP **PnPn 08 54 40.8 +5.6**
HHC S **S 08 58 17.0 -4.6**
HHC SS **SnSn 08 59 14.9 +11**
HHC pmax pmax
comp=Z,28nm,0.8s
HHC pmax pmax
comp=Z,160nm,4.6s
HHC LR LR
comp=Z,360nm,12.3s
HHC LR LR
comp=Z,460nm,11.3s
HHC LR LR
comp=Z,430nm,12.3s
GUMO Guam 24.32 175 LR LR 09 02 54.8
comp=Z,80nm,20.9s,baz=40,slow=35

YAK Yakutsk 25.42 346 LR LR 09 05 40.8
comp=Z,99nm,18.8s,baz=156,slow=40
YAK Yakutsk 25.42 346 *e*P **P 08 54 17.9 +0.7**
comp=Z,30nm,0.7s
YAK Yakutsk 25.42 346 *e*P **P 08 54 18.2 +0.9**
YAK *e**PP **sP 08 54 26.7 -2.2**
YAK *e* 08 54 33.7
YAK *e*PPP PPP 08 54 55.3
YAK *e*S **S 08 58 43.4 +1.3**
YAK *e**SS sS 08 59 02.7 +7.0
YAK pmax pmax
comp=Z,27nm,1.0s
YAK pmax pmax
comp=N,12nm,1.1s
YAK pmax pmax
comp=E,2.0nm,0.9s
YAK pmax pmax
comp=Z,62nm,1.4s
YAK pmax pmax
comp=N,58nm,1.5s
YAK pmax pmax
comp=E,45nm,1.9s
YAK smax smax
comp=N,150nm,2.8s
YAK smax smax
comp=E,32nm,2.2s
SEY Seymchan 25.74 10 ⇑*i*P **P 08 54 21.7 +1.5**
SEY *i* *SP **sP 08 54 34.4 +2.6**
BOD Bodaibo 27.30 326 *e*P **P 08 54 34.2 -0.1**
BOD pmax pmax
comp=Z,13nm,1.4s
ULN Ulaanbaatar 27.65 302 *e*P **P 08 54 37.5 -0.3**
comp=Z,4.4nm,0.9s
ULN Ulaanbaatar 27.65 302 ⇑*i*P **P 08 54 39.1 +1.3**
ULN *i* *PP **sP 08 54 46.4 -3.1**
ULN pmax pmax
comp=Z,8.0nm,1.2s
H11N2 WAKE ISLAND Hy 27.83 124 T T 09 24 00.4
baz=316,slow=75,SNR=339
H11N1 WAKE ISLAND Hy 27.84 124 T T 09 23 52.1
baz=316,slow=75,SNR=318
H11N3 WAKE ISLAND Hy 27.84 124 T T 09 23 51.0
baz=316,slow=75,SNR=299
SONA1 Songino Array 28.08 302 *e*P **P 08 54 41.9 +0.3**
SONM Songino Array 28.09 302 P **P 08 54 41.9 +0.3**
comp=Z,1.7nm,0.6s,baz=118,slow=8.0,SNR=7.9
ENH Enshi 28.35 264 *e*P **P 08 54 44.0 -0.1**
comp=Z,28nm,0.9s
H11S1 WAKE ISLAND Hy 28.58 126 T T 09 24 41.7
baz=318,slow=76,SNR=90
H11S3 WAKE ISLAND Hy 28.59 126 T T 09 24 40.8
baz=318,slow=76,SNR=108
H11S2 WAKE ISLAND Hy 28.60 126 T T 09 24 57.5
baz=318,slow=76,SNR=114
ZAK Zakamensk 30.47 307 *e*P **P 08 55 01.3 -1.4**
ZAK pmax pmax
comp=Z,4.0nm,1.3s
TLY Talaya 30.48 309 *e*P **P 08 55 03.5 +0.8**
comp=Z,4.1nm,0.7s
TLY Talaya 30.48 309 *e*P **P 08 55 04.0 +1.3**
TLY *e* 08 56 03.1
TLY *e*S **S 09 00 00.9 -1.1**
TLY *e*SS **SnSn 09 01 35.5 -3.4**
TLY pmax pmax
comp=Z,5.0nm,1.1s
TLY MLR MLR
comp=Z,291nm,15.0s
LZH Lanzhou 30.86 279 P **P 08 55 07.0 +0.7**
LZH pP sP 08 55 17.3 -0.7
LZH sP pP 08 55 22.0 +7.4
LZH PP **PP 08 56 09.7 -6.4**
LZH S **S 09 00 08.7 +0.2**
LZH sS sS 09 00 22.2 0.0
LZH pmax pmax
comp=Z,25nm,1.2s
LZH pmax pmax
comp=Z,160nm,5.7s
LZH LR LR
comp=Z,260nm,12.8s
LZH LR LR
comp=Z,490nm,12.6s
LZH LR LR
comp=Z,800nm,14.0s
CD2 Chengdu 32.62 269 *e*P **P 08 55 21.0 -0.8**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,120nm,5.0s
BILL Bilibino 32.91 16 ⇓*i*P **P 08 55 24.9 +1.1**
BILL *e* 08 56 36.0
BILL *e*S **S 09 00 39.2 -0.4**
BILL pmax pmax
comp=Z,6.0nm,1.1s
BILL pmax pmax
comp=Z,121nm,18.0s
GTA Gaotai 33.21 286 *e*P **P 08 55 27.8 +0.8**
GTA pP sP 08 55 36.4 -2.3
GTA sP pP 08 55 41.5 +6.3
GTA S **S 09 00 43.2 -2.0**
GTA sS sS 09 01 00.5 +1.7
GTA pmax pmax
comp=Z,8.0nm,1.1s
GTA pmax pmax
comp=Z,55nm,5.9s
GTA LR LR
comp=Z,140nm,15.0s
GTA LR LR
comp=Z,220nm,15.4s
GTA LR LR
comp=Z,270nm,14.5s
DAV Davao City (W) 34.38 211 LR LR 09 07 47.0
comp=Z,89nm,21.9s,baz=18,slow=33
KMI Kunming 36.03 261 P **P 08 55 53.2 +1.7**
KMI pP sP 08 56 03.1 -0.2
KMI sP pP 08 56 08.1 +8.2
KMI pmax pmax
comp=Z,15nm,0.9s
KMI LR LR
comp=Z,190nm,16.8s
KMI LR LR
comp=Z,220nm,16.2s
KMI LR LR
comp=Z,160nm,23.5s
DGZ Jazzator, Alta 40.64 305 *c*⇓*i*P **P 08 56 31.1 +1.1**
DGZ *i* *SP **sP 08 56 44.4 +2.6**
WMQ Urumqi 41.29 296 P P 08 56 37.8 +2.5
WMQ pP sP 08 56 45.7 -1.4
WMQ sP pP 08 56 49.2 +5.5
WMQ pmax pmax
comp=Z,31nm,0.8s
WMQ LR LR
comp=Z,160nm,30.3s
WMQ LR LR
comp=Z,89nm,39.1s
ZAA0 Zalesovo Array 42.02 312 *e*P **P 08 56 40.8 -0.3**
comp=Z,16nm,1.4s
ZALV Zalesovo Beam 42.02 312 P **P 08 56 41.3 +0.2**
comp=Z,2.5nm,0.5s,baz=86,slow=6.4,SNR=15
ZALV PcP **PcP 08 58 35.7 +0.1**
comp=Z,1.2nm,0.6s,baz=101,slow=4.6,SNR=3.1
ZALV Zalesovo Beam 42.02 312 *e*P **P 08 56 40.9 -0.2**
ZALV PcP **PcP 08 58 35.7 +0.1**
ZALV Zalesovo Beam 42.02 312 *e*P **P 08 56 40.9 -0.2**
ZALV 08 58 35.7
CMAR Chiang Mai Arr 42.63 255 LR LR 09 15 41.6
comp=Z,55nm,19.9s,baz=64,slow=38
NVS Novosibirsk 42.91 313 *e*P **P 08 56 48.6 +0.3**
NVS pmax pmax
comp=Z,14nm,1.6s
NVS pmax pmax
comp=E,11nm,1.4s
SVW2 Sparrevohn 44.24 38 *e*P **P 08 56 58.9 0.0**
comp=E,33nm,2.0s
MK01 Makanchi Array 44.45 302 *e*P **P 08 57 00.8 0.0**
MK31 Makanchi Array 44.45 302 *e*P **P 08 57 00.5 -0.3**
MK31 Makanchi Array 44.45 302 *e*P **P 08 57 00.5 -0.3**
MKAR Makanchi Array 44.45 302 P **P 08 57 00.9 0.0**
comp=E,2.0nm,0.8s,baz=86,slow=9.6,SNR=11
MKAR Makanchi Array 44.45 302 *e*P **P 08 57 00.7 -0.2**
comp=E,22nm,0.6s
MKAR Makanchi Array 44.45 302 *e*P **P 08 57 00.7 -0.2**
MKAR pmax pmax
comp=Z,22nm,0.6s
MAKZ Makanchi 44.66 302 *e*P **P 08 57 02.1 -0.4**
comp=Z,6.0nm,1.2s
MAKZ Makanchi 44.66 302 *e*P **P 08 57 02.1 -0.4**
MAKZ pmax pmax
comp=Z,6.0nm,1.2s
KDAK Kodiak Island 45.81 43 P **P 08 57 12.7 +1.3**
comp=Z,17nm,1.1s,baz=246,slow=2.9,SNR=8.7
KDAK Kodiak Island 45.81 43 *i*P **P 08 57 12.6 +1.2**
KURK Kurchatov 46.13 308 *e*P **P 08 57 14.1 0.0**
comp=Z,12nm,0.8s
KURK Kurchatov 46.13 308 P **P 08 57 14.6 +0.6**
KURK pmax pmax
comp=Z,5.0nm,0.6s
KURBB Kurchatov Arra 46.20 307 P **P 08 57 14.6 0.0**
comp=Z,5.4nm,0.6s,baz=82,slow=7.9,SNR=43
MLY Manley 46.60 32 *e*P **P 08 57 18.7 +1.1**
comp=Z,5.8nm,1.1s
PMG Port Moresby 47.27 174 LR LR 09 18 04.7
comp=Z,31nm,19.6s,baz=317,slow=37
MDM Murphy Dome 47.66 33 *e*P **P 08 57 27.9 +2.0**
comp=Z,8.9nm,1.0s
SML Sawmill 47.72 37 *e*P **P 08 57 26.6 +0.2**
comp=Z,1.6nm,1.1s
SML Sawmill 47.72 37 *e*P **P 08 57 26.6 +0.2**
SML pmax pmax
comp=Z,2.0nm,1.1s
IL1 Eielson Array 48.24 33 *e*P **P 08 57 31.0 +0.7**
ILAR Eielson Array 48.24 33 P **P 08 57 31.0 +0.7**
comp=Z,2.2nm,0.8s,baz=266,slow=6.4,SNR=25
ILAR Eielson Array 48.24 33 P **P 08 57 31.0 +0.7**
ILAR Eielson Array 48.24 33 P **P 08 57 31.0 +0.7**
ILB Eielson Array 48.24 33 *e*P **P 08 57 31.0 +0.7**
BVAR Borovoye Array 50.67 312 P **P 08 57 49.2 +0.1**
comp=Z,1.0nm,0.5s,baz=79,slow=7.7,SNR=9.7
BVAR PcP **PcP 08 59 06.6 +0.5**
comp=Z,1.1nm,0.6s,baz=57,slow=5.3,SNR=2.3
BRVK Borovoye 50.73 312 *e*P **P 08 57 49.4 -0.1**
comp=Z,3.0nm,0.8s
BRVK Borovoye 50.73 312 ⇓*i*P **P 08 57 50.0 +0.6**
BRVK pmax pmax
comp=Z,23nm,2.5s
BATI Baumata 51.05 204 LR LR 09 17 45.1
comp=Z,56nm,22.0s,baz=334,slow=34
KKAR Karatay Array 53.50 300 *e*P **P 08 58 09.6 -0.6**
KKAR Karatay Array 53.50 300 *e*P **P 08 58 09.6 -0.6**
NIL Nilore 55.23 288 *e*P **P 08 58 23.8 +0.8**
comp=Z,22nm,1.0s
NIL Nilore 55.23 288 *e*P **P 08 58 23.8 +0.8**
NIL pmax pmax
comp=Z,22nm,1.0s
ARU Arti 56.32 318 P **P 08 58 30.9 +0.5**
comp=Z,1.5nm,0.4s,baz=66,slow=7.0,SNR=7.2
ARU Arti 56.32 318 *e*P **P 08 58 29.9 -0.5**
comp=Z,32nm,1.8s
ARU Arti 56.32 318 *c*⇓*i*P **P 08 58 30.4 0.0**
ARU 08 59 26.7
ARU S **S 09 06 18.9 +0.3**
ARU SS **SS 09 09 58.4 -6.6**
ARU pmax pmax
comp=Z,17nm,1.7s
ARU MLR MLR
comp=Z,274nm,17.0s
WRAB Tennant Creek 58.07 189 *e*P **P 08 58 43.4 +0.3**
comp=Z,37nm,1.6s
WRAB Tennant Creek 58.07 189 ⇑*i*P **P 08 58 43.8 +0.7**
WRAB *i* *SP **sP 08 58 58.4 +3.3**
WRAB pmax pmax
comp=Z,10.0nm,1.0s
WB2 Warramunga Arr 58.08 189 *e*P **P 08 58 42.3 -0.8**
WRA Warramunga Arr 58.08 189 P **P 08 58 43.2 +0.1**
comp=Z,4.0nm,0.7s,baz=7.0,slow=7.2,SNR=57
WRA LR LR 09 22 44.3
comp=Z,72nm,21.2s,baz=245,slow=35
ABKAR Akbulak array 58.09 310 *e*P **P 08 58 43.1 +0.1**
comp=Z,21nm,0.6s
SPITS Spitsbergen Ar 59.83 349 LR LR 09 28 56.9
comp=Z,47nm,18.6s,baz=320,slow=40
RES Resolute Bay 61.50 15 P **P 08 59 07.0 +0.9**
comp=Z,4.8nm,0.9s,baz=301,slow=6.3,SNR=18
RES Resolute Bay 61.50 15 *e*P **P 08 59 07.0 +0.9**
comp=Z,9.8nm,1.1s
RES Resolute Bay 61.50 15 *e*P **P 08 59 07.0 +0.9**
RES pmax pmax
comp=Z,10.0nm,1.1s
AS01 Alice Springs 61.80 189 *e*P **P 08 59 08.9 +0.3**
AS01 *e*pP **sP 08 59 18.8 -1.9**
ASAR Alice Springs 61.80 189 P **P 08 59 08.8 +0.2**
comp=Z,1.3nm,0.7s,baz=17,slow=6.7,SNR=22
ASAR LR LR 09 24 36.1
comp=Z,64nm,21.1s,baz=286,slow=35
YKA Yellowknife Ar 62.56 31 P **P 08 59 14.1 +0.8**
comp=Z,0.8nm,0.7s,baz=301,slow=6.6,SNR=15
TULEG Thule 64.09 8 *e*P **P 08 59 23.3 0.0**
comp=Z,6.9nm,1.0s
OBN Obninsk 67.95 323 *e*P **P 08 59 48.2 -0.1**
OBN pmax pmax
comp=Z,5.0nm,0.8s
FINES FINESS Array B 68.46 332 P **P 08 59 51.6 +0.1**
comp=Z,3.2nm,0.7s,baz=36,slow=7.4,SNR=9.1
FINES LR LR 09 33 53.2
comp=Z,84nm,19.1s,baz=359,slow=39
KIV Kislovodsk 71.03 311 *e*P **P 09 00 08.9 +1.1**
KIV pmax pmax
comp=Z,13nm,1.0s
KIV MLR MLR
comp=Z,94nm,18.0s
KBZ Khabaz 71.03 311 P **P 09 00 08.1 +0.5**
comp=Z,5.2nm,1.1s,baz=156,slow=4.5,SNR=3.8
FFC Flin Flon 72.45 33 *e*P **P 09 00 17.1 +1.2**
comp=Z,3.4nm,0.9s
FFC Flin Flon 72.45 33 *e*P **P 09 00 17.1 +1.2**
FFC pmax pmax
comp=Z,3.0nm,0.9s
HFS Hagfors 73.66 336 LR LR 09 35 45.4
comp=Z,155nm,19.7s,baz=25,slow=38
NVAR Mina Array Bea 73.70 54 P P 09 00 25.9 +2.0
comp=Z,1.5nm,1.0s,baz=284,slow=5.3,SNR=5.3
NB2 NORSAR Subarra 73.73 338 P **P 09 00 23.9 +0.5**
comp=Z,4.4nm,0.8s,baz=39,slow=6.2
NOA NORSAR Array B 73.73 338 P **P 09 00 23.9 +0.5**
comp=Z,2.0nm,0.6s,baz=39,slow=6.0,SNR=5.1
NOA LR LR 09 35 38.7
comp=Z,92nm,20.1s,baz=20,slow=38
NOA NORSAR Array B 73.73 338 P **P 09 00 24.0 +0.5**
AKASG Malin Array Be 74.17 323 P **P 09 00 26.0 -0.1**
comp=Z,2.0nm,0.6s,baz=44,slow=6.5,SNR=13
AKASG LR LR 09 35 42.8
comp=Z,82nm,20.7s,baz=60,slow=38
KIEV Kiev 74.18 323 ⇑*i*P **P 09 00 26.7 +0.5**
KIEV pmax pmax
comp=Z,4.0nm,1.0s
AK11 Malin Array Si 74.21 323 *e*P **P 09 00 26.6 +0.3**
H17A Grant Village 74.78 45 *e*P **P 09 00 29.7 -0.5**
comp=Z,5.3nm,1.0s
SFJD Kangerlussuaq 74.92 5 LR LR 09 35 20.4
comp=Z,69nm,18.7s,baz=340,slow=37
PDAR Pinedale Array 76.37 46 P **P 09 00 40.5 +1.2**
comp=Z,0.9nm,0.7s,baz=314,slow=1.0,SNR=6.5
BUR08 Bucovina Ar. S 78.18 322 *e*P **P 09 00 49.0 -0.2**
BUR04 Bucovina Ar. S 78.19 322 *e*P **P 09 00 49.0 -0.3**
ULM Lac du Bonnet 78.24 34 P **P 09 00 49.9 +0.6**
comp=Z,0.5nm,0.3s,baz=330,slow=6.7,SNR=4.2
OJC Ojcow 78.82 327 *e*P **P 09 00 52.7 +0.2**
comp=Z,7.7nm,1.0s
OJC Ojcow 78.82 327 *e*P **P 09 00 52.7 +0.2**
OJC pmax pmax
comp=Z,8.0nm,1.0s
BRTR Keskin Array B 78.96 312 P **P 09 00 54.4 +0.7**
comp=Z,0.5nm,0.6s,baz=130,slow=14,SNR=4.9
BRTR LR LR 09 40 54.1
comp=Z,31nm,18.6s,baz=78,slow=40
DPC Dobruska-Polom 80.20 328 *e*P **P 09 01 01.5 +1.4**
DPC *e*pP **sP 09 01 11.8 -0.5**
DPC Dobruska-Polom 80.20 328 *e*P **P 09 01 01.5 +1.4**
DPC *e* 09 01 11.8
CLL Collm 80.79 331 *e*P **P 09 01 03.0 -0.1**
CLL LmV 09 39 00.0
comp=Z,100nm,19.0s
CLL Collm 80.79 331 *e*P **P 09 01 03.0 -0.1**
RAYN Ar Rayn 81.19 293 *e*P **P 09 01 06.0 +0.2**
comp=Z,5.2nm,1.2s
KHC Kasperske Hory 82.27 329 *e*P **P 09 01 10.1 -1.0**
KHC *e*pP **sP 09 01 22.6 -0.8**
KHC Kasperske Hory 82.27 329 *e*P **P 09 01 10.1 -1.0**
KHC *e* 09 01 22.6
TUC Tucson 82.30 55 *e*P **P 09 01 11.9 +0.3**
comp=Z,5.4nm,1.3s
TUC Tucson 82.30 55 *e*P **P 09 01 11.9 +0.3**
TUC pmax pmax

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
	comp=Z,5.0nm,1.3s						
GERES	GERESS Array B	82.45	329	P	P	09 01 12.6	+0.5
	comp=Z,0.4nm,0.5s,baz=36,slow=7.0,SNR=5.8						
EKA	Eskdalemuir Ar	82.60	341	LR	LR	09 42 04.7	
	comp=Z,56nm,19.4s,baz=170,slow=39						
ANMO	Albuquerque	83.30	51	⇑iP	P	09 01 19.3	+2.4
ANMO				i *PP	sP	09 01 28.5	-0.7
ANMO				pmax	pmax		
	comp=Z,2.0nm,1.0s						
BFO	Black Forest	84.98	331	ceP	P	09 01 26.4	+1.4
APE	Apeiranthos	85.44	314	⇑eP	P	09 01 29.3	+1.8
TXAR	Lajitas Array	88.83	53	P	P	09 01 45.5	+1.3
	comp=Z,0.8nm,0.8s,baz=297,slow=3.5,SNR=8.6						
LPAZ	La Paz	145.43	60	PKPbc	PKPab	09 08 30.1	+1.1
	comp=Z,3.7nm,0.8s,baz=349,slow=3.7,SNR=15						

ISCJB 01 09:01:41.7±1.1, 25°.3N±0°.2×96°.5E±0°.2, h35km, mb3.4/4, Error ellipse: s-maj=29.8km s-min=14.4km az=44.5
IDC 01 09:01:43.8±4.7, 23°.90N×93°.67E, h80km±40km, mb3.2/4, mb1 3.4/5, mb1mx3.0/63, mbtmp3.5/5, ML3.8/1, Error ellipse: s-maj=71.9km s-min=18.9km az=69.0
ISC 01 09:01:43.5±1.4, 25°.4N±0°.2×96°.4E±0°.2, h35km, n6, σ0.58/6, mb3.5/4, Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SHL	Shillong	4.11	273	i PN	Pn	09 02 44.0	-0.1
SHL				eSN	Pn	09 02 44.0	-0.1
CMAR	Chiang Mai Arr	7.30	161	P	Pn	09 03 28.1	+0.4
	0.4nm,0.3s,baz=310,slow=13,SNR=3.7						
SONM	Songino Array	23.73	17	P	P	09 07 08.8	+16
	0.3nm,0.4s,baz=191,slow=6.6,SNR=2.5						
MKAR	Makanchi Array	24.13	336	P	P	09 06 56.5	+0.3
	0.1nm,0.3s,baz=156,slow=11,SNR=3.0						
WRA	Warramunga Arr	58.22	137	P	P	09 11 34.7	+0.1
	0.6nm,0.5s,baz=324,slow=7.3,SNR=11						
ASAR	Alice Springs	60.81	140	P	P	09 11 51.5	-0.9
	0.5nm,0.5s,baz=319,slow=6.8,SNR=11						

ISCJB 01 09:12:09.7±0.5, 26°.48N±0°.03×59°.48E±0°.04, h10km, mb3.6/7, Error ellipse: s-maj=5.7km s-min=4.8km az=177.5
IDC 01 09:12:09.7±1.3, 26°.47N×59°.50E, h0km, mb3.7/7, mb1 3.8/8, mb1mx3.5/60, mbtmp3.7/8, ML3.8/1, Error ellipse: s-maj=33.6km s-min=20.1km az=121.0
CSEM 01 09:12:12.0±0.4, 26°.52N×59°.46E, h20km, ML3.4, Error ellipse: s-maj=10.2km s-min=9.5km az=64.0
OMAN 01 09:12:14.2±99.0, 26°.54N×59°.36E, h36km±17km, Error ellipse: s-maj=23.9km s-min=6.4km az=33.0
DSN 01 09:12:28.4±45.0, 25°.79N×58°.27E, h15km, ML2.7/6, Error ellipse: s-maj=15.4km s-min=2.2km az=252.0
ISC 01 09:12:11.2±0.8, 26°.49N±0°.05×59°.47E±0°.05, h10km, n34, σ1.20/43, mb3.7/7, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CHBR	Chabahar	1.28	134	ePg	Pn	09 12 34.2	-0.9
CHBR				eSg	Sb	09 12 51.9	0.0
BANOM	Banah	2.90	259	P	Pn	09 12 57.5	0.0
BANOM	Banah	2.90	259	P	Pn	09 12 57.5	0.0
SHME	Shamm	3.02	262	P	Pn	09 13 01.4	+2.3
BNDS	Bandar-Abbas	3.08	288	ePn	Pn	09 13 00.2	+0.2
MSFE	Esma-Masafi	3.18	250	P	Pn	09 13 01.4	0.0
ZHSF	Zahedan	3.32	20	ePn	Pn	09 13 02.9	-0.4
UOSS	Minazif	3.32	243	P	Pn	09 13 01.6	-1.6
UOSS				S	Sn	09 13 40.6	-2.2
UOSS	Minazif	3.32	243	P	Pn	09 13 01.6	-1.6
UOSS				S	Sn	09 13 40.6	-2.2
UOSS	Minazif	3.32	243	eP	Pn	09 13 01.6	-1.6
	SNR=10						
WSAR	Wadi Sarin	3.33	193	Pn	Pn	09 13 02.8	-0.6
	8.9nm,0.3s,baz=52,slow=9.7,SNR=64						
WSAR				Sn	Sn	09 13 42.6	-0.4
	8.6nm,0.3s,baz=323,slow=23,SNR=5.5						
WSAR	Wadi Sarin	3.33	193	P	Pn	09 13 02.9	-0.4
WSAR				S	Sn	09 13 42.6	-0.4
HATD	Hatta, Dubai	3.44	242	P	Pn	09 13 03.1	-1.7
HATD	Hatta, Dubai	3.44	242	P	Pn	09 13 03.1	-1.7
SOHO	SOHO	3.54	229	P	Pn	09 13 05.0	-1.3
	SNR=6.9						
SOHO	SOHO	3.54	229	eP	Pn	09 13 05.0	-1.3
	SNR=6.9						
ASHO	Ashiyiah	3.56	240	P	Pn	09 13 05.9	-0.7
ASHO	Ashiyiah	3.56	240	P	Pn	09 13 05.9	-0.7
ASHO	Ashiyiah	3.56	240	eP	Pn	09 13 05.9	-0.7
	SNR=19						
WBK	Wadi Bani Khal	3.89	187	P	Pn	09 13 10.4	-0.7
	SNR=7.7						
WBK				S	Sn	09 13 55.8	-1.1
WBK	Wadi Bani Khal	3.89	187	P	Pn	09 13 10.4	-0.7
	SNR=7.7						
WBK				S	Sn	09 13 55.8	-1.1
ALNE	Al Ain	4.15	235	P	Pn	09 13 15.6	+1.0
	SNR=6.1						
ALNE	Al Ain	4.15	235	eP	Pn	09 13 14.6	0.0
	SNR=5.7						
BSYO	Bisya	4.26	209	P	Pn	09 13 17.8	+1.7
BSY	Bisya	4.26	209	P	Pn	09 13 17.8	+1.5
JMDO	Jabal Madar	4.29	197	P	Pn	09 13 17.8	+1.2
JMDO				S	Sn	09 14 07.8	+1.1
JMDO	Jabal Madar	4.29	197	P	Pn	09 13 17.8	+1.2
JMDO				S	Sn	09 14 07.8	+1.1
BRTR	Keskin Array B	25.24	308	P	P	09 17 39.3	+1.8
	1.3nm,0.8s,baz=129,slow=11,SNR=6.6						
MKAR	Makanchi Array	27.14	36	P	P	09 17 55.6	+1.1
	0.4nm,0.6s,baz=224,slow=7.8,SNR=6.0						
KURBB	Kurchatov Arra	28.17	26	P	P	09 18 04.0	+0.4
	0.4nm,0.5s,baz=225,slow=8.4,SNR=6.1						
ZALV	Zalesovo Beam	33.22	28	P	P	09 18 48.0	-0.2
	0.8nm,0.5s,baz=233,slow=9.8,SNR=4.7						
FINES	FINESS Array B	41.53	336	P	P	09 19 58.2	-0.3
	2.2nm,1.0s,baz=141,slow=7.1,SNR=3.0						
ARCES	ARCESS Array B	47.41	345	P	P	09 20 44.1	-1.3
	2.4nm,1.0s,baz=128,slow=8.1,SNR=3.6						
TORD	Torodi Ar. Bea	55.54	268	P	P	09 21 47.6	+0.5
	0.2nm,0.5s,baz=64,slow=7.6,SNR=5.7						

ISK 01 09:14:06.4, 38°.43N×35°.82E, h19km, ML2.2/5
ISCJB 01 09:14:07.2±0.6, 38°.43N±0°.03×35°.97E±0°.07, h11km±7km, Error ellipse: s-maj=9.2km s-min=4.8km az=175.9
CSEM 01 09:14:07.3±0.3, 38°.42N×35°.96E, h12km, ML2.2, Error ellipse: s-maj=9.4km s-min=6.0km az=89.0
DDA 01 09:14:08.1, 38°.41N×35°.94E, h7km, Ml2.7
ISC 01 09:14:07.5±1.1, 38°.43N±0°.03×35°.91E±0°.04, h10km±10km, n24, σ1.51/35, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BNN	Bunyan	0.43	354	PG	Pg	09 14 15.3	-0.7
BNN				SG	Sg	09 14 22.0	+0.4
BNN	Bunyan	0.43	354	ePg	Pg	09 14 15.3	-0.7
BNN				eSg	Sg	09 14 22.0	+0.4
SAIM	ADANA	0.47	163	i P	Pg	09 14 16.6	-0.1
SAIM				i S	Sb	09 14 23.6	-1.3
SAIM	ADANA	0.47	163	P	Pg	09 14 16.6	-0.1
SAIM				S	Sb	09 14 23.6	-1.3
YAHY	KAYSERI_Yahyal	0.54	232	i P	Pg	09 14 18.5	+0.5
YAHY				i S	Sb	09 14 28.1	+1.1
YAHY	KAYSERI_Yahyal	0.54	232	P	Pg	09 14 18.5	+0.5
YAHY				S	Sb	09 14 28.1	+1.1
ANDN	Andirin	0.91	158	i P	Pn	09 14 28.9	+2.4
ANDN				i S	Sn	09 14 45.1	+5.4
ANDN	Andirin	0.91	158	P	Pn	09 14 28.9	+2.4
KOZT	Kozan	0.95	184	PG	Pg	09 14 25.2	-0.5
KOZT				SG	Sn	09 14 39.2	-1.2
KOZT	Kozan	0.95	184	ePg	Pg	09 14 25.2	-0.5
KOZT				eSg	Sn	09 14 39.2	-1.2
KMRS	Kahramanmaras	1.21	139	PN	Pn	09 14 29.5	-1.0
KMRS				SN	Sn	09 14 46.3	-0.6
KMRS	Kahramanmaras	1.21	139	ePn	Pn	09 14 29.5	-1.0
KMRS				eSn	Sn	09 14 46.3	-0.6
DARE	Darende-Malaty	1.25	83	PN	Pg	09 14 30.7	-0.7
DARE	Darende-Malaty	1.25	83	ePn	Pg	09 14 30.7	-0.7
KARA	Karaisali	1.34	210	PN	Pn	09 14 30.4	-1.9
KARA	Karaisali	1.34	210	ePn	Pn	09 14 30.4	-1.9
CEYT	Ceyhan	1.42	185	PN	Pn	09 14 31.9	-1.4
CEYT	Ceyhan	1.42	185	ePn	Pn	09 14 31.9	-1.4
CUKAN	kangal_SIVAS	1.51	53	i P	Pg	09 14 37.4	+0.9
CUKAN	kangal_SIVAS	1.51	53	P	Pg	09 14 37.4	+0.9
CDAG	Cicekdag	1.69	315	i P	Pb	09 14 39.3	+0.6
CDAG	Cicekdag	1.69	315	P	Pb	09 14 39.3	+0.6
SVSK	Karacayir	1.71	29	PN	Pn	09 14 36.5	-0.9
SVSK	Karacayir	1.71	29	ePn	Pn	09 14 36.5	-0.9

IDC 01 09:29:53.6±1.2, 28°.26N×55°.34E, h0km, mb3.7/8, mb1 3.7/9, mb1mx3.5/58, mbtmp3.7/9, ML3.3/1, Error ellipse: s-maj=24.1km s-min=23.2km az=73.0
TEH 01 09:29:55.3, 28°.34N×55°.37E, h10km, ML3.2
ISCJB 01 09:29:56.2±0.5, 28°.20N±0°.04×55°.28E±0°.06, h22km, mb3.6/8, Error ellipse: s-maj=8.9km s-min=4.4km az=146.1
CSEM 01 09:29:57.9, 28°.19N×55°.46E, h38km, ML3.1
ISC 01 09:29:57.5±0.7, 28°.24N±0°.05×55°.37E±0°.04, h22km, n29, σ1.62/32, mb3.7/8, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BNDS	Bandar-Abbas	1.10	140	ePg	Pn	09 30 16.5	-1.2
BNDS				eSg	Sb	09 30 31.3	-0.6
GENO	Geno	1.10	140	ePg	Pb	09 30 19.0	+1.1
GENO				eSg	Sn	09 30 36.0	+3.7
GENO				eAMB	AMB	09 30 41.3	
	comp=Z,5μm,0.2s						
NIAN	Nian	1.46	117	ePn	Pn	09 30 24.4	+1.8
NIAN				eAMB	AMB	09 30 50.5	
	comp=Z,4μm,0.2s						
NGRK	Negar Kerman	1.84	40	ePn	Pn	09 30 28.2	+0.1
NGRK				eAMB	AMB	09 30 57.8	
	comp=Z,99nm,0.1s						
GHIR	Ghir-Karzin	2.10	272	ePn	Pb	09 30 33.6	-1.4
GHIR				eSg	Sb	09 31 05.5	+4.8
KRBR	Kerman	2.12	35	ePn	Pn	09 30 33.1	+1.2
ISRV	Sarvestan	2.28	300	ePn	Pn	09 30 36.0	+1.9
ISRV				eAMB	AMB	09 31 26.7	
	comp=Z,5μm,0.5s						
KHGB	Koh Gabri	2.33	24	ePn	Pn	09 30 35.8	+1.0
KHGB				eAMB	AMB	09 31 17.0	
	comp=Z,99nm,0.4s						
CHMN	Cheshme madani	2.49	49	ePn	Pn	09 30 39.3	+2.3
CHMN				eAMB	AMB	09 31 21.1	
	comp=Z,99nm,0.4s						
IMEH	Mehriz	3.21	348	ePn	Pn	09 30 47.7	+0.9
IMEH				eAMB	AMB	09 31 43.1	
	comp=Z,925nm,0.3s						
IBAF	Bafgh	3.34	3	ePn	Pn	09 30 49.4	+0.9
IBAF				eAMB	AMB	09 32 02.2	
	comp=Z,1μm,0.6s						
IKAZ	Kazeroun	3.45	297	ePn	Pn	09 30 51.7	+1.5
IKAZ				eAMB	AMB	09 32 17.3	
	comp=N,6μm,0.5s						
ISAD	Sadrabad	3.94	339	ePn	Pn	09 30 59.0	+2.1
ISAD				eAMB	AMB	09 32 04.8	
	comp=Z,697nm,0.4s						
ICHK	Chekchek	4.07	348	ePn	Pn	09 30 59.5	+0.8
ICHK				eAMB	AMB	09 31 13.0	
	comp=Z,436nm,0.3s						
IRAM	Ramesheh	4.40	325	eAMB	AMB	09 31 23.2	
	comp=Z,304nm,0.4s						
IRAM				ePn	Pn	09 31 03.6	+0.5
ANAR	Anarak	5.13	344	ePn	Pn	09 31 14.1	+1.0
ANAR				eAMB	AMB	09 32 48.1	
	comp=Z,99nm,0.5s						
IZEF	Zefreh	5.33	331	ePn	Pn	09 31 15.1	-0.9
IZEF				eAMB	AMB	09 31 42.9	
	comp=Z,102nm,0.4s						
TABS	Tabas	5.59	15	ePn	Pn	09 31 21.1	+1.6
WSAR	Wadi Sarin	5.79	149	Pn	Pn	09 31 23.0	+1.0
	comp=Z,0.7nm,0.3s,baz=321,slow=5.9,SNR=9.4						
WSAR				Sn	Sn	09 32 27.5	-0.2
	comp=Z,0.4nm,0.3s,baz=3.2,slow=21,SNR=2.8						
IKLH	Kolahrood	6.02	328	ePn	Pn	09 31 19.1	-6.4
IKLH				eAMB	AMB	09 33 35.2	
	comp=Z,80nm,0.2s						
BRTR	Keskin Array B	21.29	308	P	P	09 34 42.6	-0.1
	comp=Z,2.5nm,0.8s,baz=126,slow=12,SNR=12						
AKTO	Aktyubinsk	22.25	4	P	P	09 34 52.3	-0.5
	comp=Z,1.0nm,0.6s,baz=164,slow=9.7,SNR=5.4						
BVAR	Borovoye Array	27.14	20	P	P	09 35 37.8	-1.1
	comp=Z,0.6nm,0.7s,baz=190,slow=7.3,SNR=5.1						
MKAR	Makanchi Array	28.05	41	P	P	09 35 46.9	-0.3
	comp=Z,0.3nm,0.7s,baz=236,slow=8.6,SNR=3.6						
ZALV	Zalesovo Beam	33.51	32	P	P	09 36 34.3	-0.8
	comp=Z,0.9nm,0.6s,baz=232,slow=7.3,SNR=4.4						
KHC	Kasperske Hory	38.09	315	eP	P	09 37 13.4	-1.2
FINES	FINESS Array B	38.50	338	P	P	09 37 17.0	-0.8
	comp=Z,1.0nm,0.7s,baz=156,slow=9.8,SNR=5.9						
HFS	Hagfors	42.49	330	P	P	09 37 50.0	-0.8
	comp=Z,1.2nm,0.4s,baz=108,slow=9.3,SNR=9.4						
TORD	Torodi Ar. Bea	52.01	265	P	P	09 39 04.4	-1.2
	comp=Z,1.2nm,0.6s,baz=63,slow=7.7,SNR=10						

NIED 01 10:00:00, 36°.80N×140°.60E, h5km, Mw3.4 Best double couple: Mo1.63000×10[14] NP1:φs14.00000°, δ35.00000°, λ-92.00000°. NP2:φs197.00000°, δ55.00000°, λ-88.00000°.
ISCJB 01 10:00:22.1±0.7, 36°.80N±0°.04×140°.66E±0°.08, h14km±5km, mb3.4/4, Error ellipse: s-maj=11.8km s-min=5.3km az=24.0
JMA 01 10:00:22.6, 36°.82N×140°.57E, h6km±1km, M3.5 Broadband fault plane solution: P waves. NP1: φs211.00000°, δ75.00000°, λ-82.00000°. NP2:φs1.00000°, δ17.00000°, λ-119.00000°. Principal axes: T Plg30.0000°, Azm294.0000°; N Plg8.0000°, Azm29.0000°; P Plg59.0000°, Azm132.0000°;
JMA Felt II J1.
IDC 01 10:00:30.6±3.7, 36°.70N×140°.16E, h74km±35km, mb3.0/4, mb1 3.3/4, mb1mx3.0/56, mbtmp3.3/4 Error ellipse: s-maj=41.3km s-min=24.9km az=93.0
ISC 01 10:00:22.6±1.1, 36°.82N±0°.03×140°.58E±0°.05, h9km±8km, n12, σ0.81/17, mb3.4/4, 4C-1D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JHO	Hitachi	0.21	183	⇑P	Pg	10 00 26.9	0.0
JHO				S	Sg	10 00 29.9	+0.1
ONAJ	Iwakimizuishiy	0.33	31	⇑P	Pg	10 00 29.2	0.0
JSB	Shiboa	0.55	286	⇑P	Pg	10 00 33.8	+0.4
JFK	Kawauchi	0.59	23	P	Pg	10 00 33.7	-0.5
JFK				S	Sg	10 00 42.1	+0.2
JYT	Yasato	0.67	208	⇓P	Pg	10 00 35.2	-0.3
JYT				S	Sg	10 00 44.3	0.0
JFT	Otama	0.72	344	⇑P	Pg	10 00 36.4	-0.2
JFT				S	Sg	10 00 45.8	-0.3
MJAR	Matsushiro Arr	1.93	262	P	Pn	10 00 56.1	+0.4
	15nm,0.3s,baz=88,slow=14,SNR=153						
MAT	Matsushiro	1.93	262	P	Pn	10 00 56.4	+0.7
MAT				S	Sb	10 01 21.9	-0.4
KURBB	Kurchatov Arra	45.61	308	P	P	10 08 41.4	-1.6
	0.2nm,0.5s,baz=83,slow=7.7,SNR=3.0						
WRA	Warramunga Arr	56.76	187	P	P	10 10 06.0	-1.1
	0.3nm,0.4s,baz=4.4,slow=7.3,SNR=9.8						
YKA	Yellowknife Ar	64.33	30	P	P	10 10 60.0	+1.7
	0.1nm,0.6s,baz=302,slow=6.8,SNR=2.9						
TXAR	Lajitas Array	90.78	52	P	P	10 13 27.2	+0.6
	0.2nm,0.7s,baz=316,slow=3.8,SNR=2.6						

IDC 01 10:02:48.8±1.8, 1°.51N×84°.87W, h0km, mb3.6/5, mb1 3.9/6, mb1mx3.6/40, mbtmp3.8/6, ML4.0/1, MS3.3/9, Ms1 3.3/9, ms1mx3.0/40, Error ellipse: s-maj=138.1km s-min=21.6km az=60.0
ISC 01 10:02:54.4±1.3, 1°.6N±0°.4×84°.7W±0°.6, h35km, n14, σ1.06/7, mb3.8/5, MS3.2/5, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ATAH	Atahualpa	10.72	144	Pn	Pn	10 05 26.1	+0.3
	1.3nm,0.3s,baz=315,slow=14,SNR=4.5						
ATAH				LR	LR	10 09 07.7	
	comp=Z,231nm,19.0s,baz=340,slow=35						
APG	El Apazote	14.49	337	LR	LR	10 10 40.1	
	comp=Z,159nm,21.7s,baz=173,slow=32						
SDV	Santo Domingo	15.79	62	LR	LR	10 12 35.6	
	comp=Z,77nm,21.0s,baz=217,slow=37						
CMIG	Matias Romero	18.37	328	LR	LR	10 12 24.1	
	comp=Z,132nm,18.7s,baz=152,slow=31						
LPAZ	La Paz	24.16	138	P	P	10 08 07.7	-0.6
	2.5nm,0.8s,baz=317,slow=9.8,SNR=8.3						
LPAZ				LR	LR	10 18 24.9	
	comp=Z,72nm,20.9s,baz=338,slow=39						
SJG	San Juan	24.55	47	LR	LR	10 18 26.0	
	comp=Z,10nm,19.5s,baz=260,slow=38						
SIV	San Ignacio	29.17	128	LR	LR	10 19 30.4	
	comp=Z,58nm,20.8s,baz=7.5,slow=34						
LPIG	La Paz	33.38	314	LR	LR	10 19 06.5	
	comp=Z,68nm,19.8s,baz=196,slow=29						
PDAR	Pinedale Array	46.64	335	P	P	10 11 19.8	+0.1
	0.3nm,0.7s,baz=159,slow=7.7,SNR=2.8						
NVAR	Mina Array Bea	47.85	324	LR	LR	10 31 45.5	
	comp=Z,89nm,18.0s,baz=88,slow=36						
ULM	Lac du Bonnet	49.41	351	P	P	10 11 41.7	+1.1
	1.1nm,0.6s,baz=170,slow=9.4,SNR=3.1						
YKA	Yellowknife Ar	64.74	345	P	P	10 13 29.0	+0.1
	0.1nm,0.6s,baz=144,slow=6.3,SNR=7.9						
INK	Inuvik	74.32	343	P	P	10 14 26.3	-1.6
	1.4nm,1.1s,baz=111,slow=2.1,SNR=2.9						
WRA	Warramunga Arr	137.68	242	PKP	PKPdf	10 22 16.5	+0.6
	0.3nm,0.9s,baz=100,slow=2.5,SNR=3.6						

IDC 01 10:35:30.2±3.0, 54°.24N×87°.28E, h0km, mb1 2.7/2, mb1mx2.5/66, mbtmp2.7/2, ML2.4/2, Error ellipse: s-maj=27.1km s-min=19.1km az=45.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.48	260	i		10 44 45.5	
	baz=78,slow=322,SNR=23						
ZALV	Zalesovo Beam	1.48	260	Pg	Pn	10 35 56.5	-1.6
	1.4nm,0.3s,baz=78,slow=15,SNR=14						
ZALV				Lg	Lg	10 36 17.2	
	1.2nm,0.3s,baz=73,slow=20,SNR=6.6						
KURBB	Kurchatov Arra	6.46	239	Pn	Pn	10 37 07.4	+0.9
	0.1nm,0.3s,baz=53,slow=14,SNR=5.0						
KURBB				Lg	Lg	10 38 56.3	
	0.0nm,0.3s,baz=44,slow=32,SNR=2.9						
MKAR	Makanchi Array	8.10	205	Pn	Pn	10 37 30.3	+1.2
	0.1nm,0.3s,baz=27,slow=14,SNR=3.2						
MKAR				Lg	Lg	10 39 45.9	
	baz=26,slow=30,SNR=2.5						

NNC 01 10:48:03.9±14.0, 51°.50N×82°.65E, h0km, mb2.8, mpv2.4, Error ellipse: s-maj=143.0km s-min=57.8km az=21.0
IDC 01 10:48:11.2±1.2, 51°.30N×82°.00E, h0km, mb1 2.2/3, mb1mx2.2/69, mbtmp2.2/3, ML1.7/3, 2C-4D, Error ellipse: s-maj=14.1km s-min=11.5km az=119.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KURK	Kurchatov	2.21	256	⇑Pn	Pn	10 48 50.0	+0.8
	1.9nm,0.7s						
KURK				⇑Sn	Sb	10 49 20.2	+0.1
	9.1nm,0.7s						
KURBB	Kurchatov Arra	2.30	254	Pn	Pn	10 48 51.1	+0.8
	0.2nm,0.3s,baz=71,slow=18,SNR=18						
KURBB				Lg	Lg	10 49 21.8	
	0.3nm,0.3s,baz=70,slow=31,SNR=11						
I46RU	ZALESOVO INFRA	3.16	32	i		11 05 20.0	
	baz=216,slow=342,SNR=35						
ZALV	Zalesovo Beam	3.16	32	Pn	Pn	10 49 00.9	-1.3
	0.2nm,0.3s,baz=213,slow=10,SNR=2.9						
ZALV				Pg	Pb	10 49 09.4	+1.1
	0.3nm,0.3s,baz=215,slow=18,SNR=6.6						
ZALV				Sn	Sn	10 49 37.6	-3.0
	0.4nm,0.3s,baz=212,slow=27,SNR=6.2						
ZALV				Lg	Lg	10 49 52.1	
	0.5nm,0.3s,baz=218,slow=26,SNR=6.9						
MAKZ	Makanchi	4.49	180	⇓Pn	Pn	10 49 15.5	-5.0
	0.4nm,0.5s						
MAKZ				⇓Lg	Lg	10 50 34.5	
	2.3nm,0.7s						
MK31	Makanchi Array	4.51	177	⇓Pn	Pn	10 49 18.5	-2.3
	0.1nm,0.3s,baz=7.6,slow=11,SNR=3.3						
MK31				⇓Lg	Lg	10 50 35.3	
	1.5nm,0.6s,baz=15,slow=29,SNR=5.7						
MKAR	Makanchi Array	4.51	177	Pn	Pn	10 49 20.0	-0.9
	0.1nm,0.3s,baz=7.0,slow=12,SNR=4.6						
MKAR				Pg	Pb	10 49 31.1	-0.2
	0.2nm,0.3s,baz=356,slow=16,SNR=4.8						
MKAR				Lg	Lg	10 50 34.0	
	0.4nm,0.3s,baz=3.0,slow=30,SNR=12						

IDC 01 10:51:17.0±2.1, 37°.73N×142°.09E, h0km, mb3.3/3, mb1 3.6/3, mb1mx3.2/64, mbtmp3.3/3, ML2.5/1, Error ellipse: s-maj=45.7km s-min=33.0km az=46.0
ISCJB 01 10:51:22.1±1.2, 37°.67N±0°.04×141°.80E±0°.07, h31km±6km, mb3.5/3, Error ellipse: s-maj=10.0km s-min=5.8km az=15.7
JMA 01 10:51:23.3, 37°.70N×141°.73E, h43km±1km, M3.1
ISC 01 10:51:22.0±2.0, 37°.68N±0°.05×141°.82E±0°.09, h25km±13km, n21, σ1.22/26, mb3.5/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JFK	Kawauchi	0.81	247	P	Pb	10 51 37.6	+0.1
JFK				eS	Sb	10 51 47.5	-0.5
JMM	Marumori	0.83	283	P	Pb	10 51 37.8	+0.1
JMM				eS	Sb	10 51 47.9	-0.6
JIO	Ouri	0.85	335	P	Pn	10 51 38.4	0.0
JIO				eS	Sb	10 51 49.0	-0.2
ONAJ	Iwakimizuishiy	1.00	235	P	Pn	10 51 40.3	-0.1
ONAJ				eS	Sn	10 51 52.1	-1.6
JOU	Okura	1.14	307	P	Pn	10 51 42.3	0.0
JOU				eS	Sn	10 51 56.0	-1.1
JFT	Otama	1.19	262	P	Pn	10 51 43.5	+0.5
JFT				eS	Sn	10 51 57.8	-0.5
JMK	Ichinoseki	1.35	340	P	Pn	10 51 45.6	+0.4
JMK				eS	Sn	10 52 02.1	-0.2
JYS	Shirataka	1.48	292	P	Pn	10 51 47.6	+0.6
JYS				eS	Sn	10 52 05.6	0.0
JYK	Kaneyama	1.68	318	P	Pn	10 51 50.3	+0.5
JYK				eS	Sn	10 52 09.7	-0.8
JOM	Ohasama	1.83	347	P	Pn	10 51 53.4	+1.6
JOM				eS	Sn	10 52 15.4	+1.1
JYA	Atsumi	1.89	299	eS	Sn	10 52 16.1	+0.5
MJAR	Matsushiro Arr	3.10	250	Pn	Pn	10 52 10.7	+1.4
	0.5nm,0.3s,baz=76,slow=15,SNR=7.9						
MJAR				Sn	Sn	10 52 49.7	+4.1
	0.7nm,0.3s,baz=79,slow=17,SNR=4.7						
H11N2	WAKE ISLAND Hy	28.21	122	T	T	11 26 47.6	
	baz=318						
H11N1	WAKE ISLAND Hy	28.22	122	T	T	11 26 48.7	
	baz=318						
H11N3	WAKE ISLAND Hy	28.23	122	T	T	11 26 49.8	
	baz=318						
H11S1	WAKE ISLAND Hy	28.95	124	T	T	11 27 40.7	
	baz=325						
H11S3	WAKE ISLAND Hy	28.95	124	T	T	11 27 43.5	
	baz=325						
H11S2	WAKE ISLAND Hy	28.97	124	T	T	11 27 40.7	
	baz=325						
KURBB	Kurchatov Arra	45.86	308	P	P	10 59 41.7	-0.2
	0.4nm,0.9s,baz=84,slow=8.1,SNR=4.0						
WRA	Warramunga Arr	57.75	188	P	P	11 01 09.0	-1.8
	0.7nm,1.1s,baz=5.0,slow=6.8,SNR=4.6						
ASAR	Alice Springs	61.48	188	P	P	11 01 36.8	+0.4
	0.3nm,0.8s,baz=12,slow=10,SNR=4.1						

MEX 01 10:58:33.0±0.4, 16°.29N×98°.31W, h2km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.20	59	eP	Pg	10 58 36.8	-0.2
PNIG				i S	Sg	10 58 39.8	+0.1
TLIG	Tlapa	1.29	349	eP	Pg	10 58 54.2	-3.6
TLIG				i S	Sg	10 59 11.1	-3.6
VHO	Vista Hermosa	1.70	62	eP	Pn	10 58 60.0	-4.0
VHO				i S	Sn	10 59 21.8	-4.6
HUIG	Huatulco	2.18	103	eP	Pn	10 59 09.7	-0.6
HUIG				i S	Sn	10 59 29.7	-8.2

IDC 01 11:03:54.5±6.8, 20°.38S×177°.58W, h0km, mb3.8/3,

mb1 4.2/3, mb1mx3.7/39, mbtmp3.8/3, Error ellipse: s-maj=305.9km s-min=38.5km az=146.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ASAR	Alice Springs	44.93	257	P	P	11 12 10.7	-0.9
	1.0nm,0.6s,baz=98,slow=7.5,SNR=33						
WRA	Warramunga Arr	45.01	262	P	P	11 12 12.9	+0.7
	2.7nm,0.9s,baz=95,slow=8.3,SNR=108						
ILAR	Eielson Array	88.11	13	P	P	11 16 46.8	+0.3
	0.2nm,0.8s,baz=197,slow=5.6,SNR=3.5						
BRTR	Keskin Array B	147.05	313	PKPbc	PKPdf	11 23 38.4	+0.7
	0.2nm,0.4s,baz=73,slow=4.5,SNR=2.7						

ISK 01 11:10:22.5, 38.67N×43.04E, h21km, ML2.3/4
ISCJB 01 11:10:24.0±0.5, 38.65N±0.03×43.03E±0.04, h15km, Error ellipse: s-maj=4.9km s-min=3.8km az=21.0
DDA 01 11:10:23.9, 38.67N×43.02E, h7km, Ml2.8
CSEM 01 11:10:23.7±0.2, 38.67N×43.03E, h10km, ML2.8, Error ellipse: s-maj=5.5km s-min=4.8km az=20.0
ISC 01 11:10:23.9±0.9, 38.67N±0.03×43.04E±0.02, h15km, n18, σ0s62/32, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ADCV	BITLIS_Adilcev	0.28	300	i P	Pb	11 10 30.9	+0.1
ADCV				i S	Sb	11 10 36.4	+1.1
ADCV	BITLIS_Adilcev	0.28	300	P	Pb	11 10 30.9	+0.1
ADCV				S	Sb	11 10 36.4	+1.1
VANB	Van	0.29	105	PG	Pg	11 10 30.2	+0.2
VANB				SG	Sb	11 10 35.5	0.0
VANB	Van	0.29	105	ePg	Pg	11 10 30.2	+0.2
VANB				eSg	Sb	11 10 35.5	0.0
TVAN	Van	0.32	116	i P	Pg	11 10 30.5	-0.2
TVAN				i S	Sg	11 10 35.9	+0.5
TVAN	Van	0.32	116	P	Pg	11 10 30.5	-0.2
TVAN				S	Sg	11 10 35.9	+0.5
GEVA	Gevas	0.36	177	i P	Pg	11 10 30.7	-0.6
GEVA				i S	Sg	11 10 37.2	+0.9
GEVA	Gevas	0.36	177	P	Pg	11 10 30.7	-0.6
GEVA				S	Sg	11 10 37.2	+0.9
VMUR	Van-Muradiye	0.53	53	i P	Pg	11 10 34.4	0.0
VMUR				i S	Sb	11 10 42.8	+0.3
VMUR	Van-Muradiye	0.53	53	P	Pg	11 10 34.4	0.0
VMUR				S	Sb	11 10 42.8	+0.3
TUTA	Tutak	0.75	347	i P	Pg	11 10 38.6	0.0
TUTA				i S	Sb	11 10 49.2	+0.3
TUTA	Tutak	0.75	347	P	Pg	11 10 38.6	0.0
TUTA				S	Sb	11 10 49.2	+0.3
GURO	Guroymak-BITLI	0.80	262	PG	Pg	11 10 38.4	-1.0
GURO				SG	Sb	11 10 50.2	+0.1
GURO	Guroymak-BITLI	0.80	262	ePg	Pg	11 10 38.4	-1.0
GURO				eSg	Sb	11 10 50.2	+0.1
CLDR	Caldiran	0.83	55	PG	Pg	11 10 39.1	-1.0
CLDR	Caldiran	0.83	55	ePg	Pg	11 10 39.1	-1.0
AGRB	Hanur-Agry	0.91	358	PG	Pb	11 10 40.5	-0.9
AGRB	Hanur-Agry	0.91	358	ePg	Pb	11 10 40.5	-0.9

IDC 01 11:38:41.3±2.3, 5.05S×133.12E, h0km, mb3.4/1, mb1 3.7/4, mb1mx3.3/48, mbtmp3.5/4, ML3.3/2, Error ellipse: s-maj=86.1km s-min=15.8km az=82.0, Aru Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	14.85	176	Pn	Pn	11 42 11.5	-1.2
	0.1nm,0.3s,baz=357,slow=13,SNR=11						
WRA				Sn	Sn	11 44 57.6	-0.4
	0.1nm,0.3s,baz=354,slow=23,SNR=4.6						
FITZ	Fitzroy Crossi	14.88	209	Pn	Pn	11 42 14.2	+1.0
	baz=21,slow=13						
FITZ				Sn	Sn	11 45 01.0	+2.1
	baz=11,slow=5.2						
ASAR	Alice Springs	18.52	178	P	P	11 42 59.4	-0.1
	0.2nm,0.3s,baz=3.2,slow=11,SNR=22						
ASAR				S	Sn	11 46 28.5	+1.2
	0.0nm,0.3s,baz=351,slow=24,SNR=3.1						
MKAR	Makanchi Array	68.36	325	P	P	11 49 44.7	0.0
	0.3nm,0.7s,baz=131,slow=6.5,SNR=2.8						

MEX 01 11:42:53.1±0.4, 16.09N×98.45W, h27km±46km, MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.43	46	eP	Pb	11 43 00.8	-1.5
PNIG				eS	Sb	11 43 06.8	-1.8
TLIG	Tlapa	1.47	356	eP	Pn	11 43 15.4	-2.5
TLIG				eS	Sn	11 43 32.6	-3.8
VHO	Vista Hermosa	1.91	59	eP	Pn	11 43 21.7	-2.5
VHO				eS	Sn	11 43 45.8	-1.7
HUIG	Huatulco	2.28	98	eP	Sn	11 43 54.5	-1.7

IDC 01 11:44:05.9±2.5, 26.83N×97.89E, h0km, mb3.2/4, mb1 3.5/4, mb1mx3.1/65, mbtmp3.2/4, Error ellipse: s-maj=365.8km s-min=21.2km az=58.0
ISCJB 01 11:44:07.6±0.7, 26.92N±0.06×95.40E±0.06, h10km, mb3.2/4, Error ellipse: s-maj=10.9km s-min=4.8km az=145.3
NDI 01 11:44:08.6±2.9, 27.09N×95.32E, h10km±21km, ML3.4
ISC 01 11:44:08.2±1.0, 26.98N±0.07×95.37E±0.06, h10km, n14, σ1s63/19, mb3.3/4, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LKP	Lekhapani	0.55	50	eP	Pg	11 44 18.9	+0.1
LKP				eS	Sb	11 44 27.1	-0.6
LKP				eS	Sg	11 44 27.3	+1.2
LKP				IAML		11 44 28.4	
	comp=E,980nm,0.3s						
LKP				IAML		11 44 30.2	
	comp=N,1μm,0.4s						
MOKO	MOKOCHONG	1.01	229	eP	Pg	11 44 28.4	+0.8
MOKO				eS	Sb	11 44 45.0	+3.7
MOKO				IAML		11 44 47.6	
	comp=N,870nm,0.2s						
MOKO				IAML		11 44 47.8	
	comp=E,1μm,0.4s						
ZIRO	ZIRO	1.46	292	eP	Pn	11 44 35.3	+0.5
ITAN	ITANAGAR	1.48	277	eS	Sn	11 44 55.6	+1.3
ITAN				IAML		11 45 00.5	
	comp=N,389nm,0.1s						
ITAN				IAML		11 45 00.7	
	comp=E,624nm,0.2s						
KOHI	KOHIMA	1.69	222	eP	Pn	11 44 37.0	-1.0
KOHI				eS	Sn	11 44 58.7	-1.1
KOHI				IAML		11 45 08.5	
	comp=E,7μm,0.2s						
KOHI				IAML		11 45 09.6	
	comp=N,304nm,0.4s						
TEZP	TEZPUR	2.33	262	eP	Pn	11 44 47.0	+0.4
TEZP				eS	Sn	11 45 15.8	+0.5
TEZP				eS	Sb	11 45 17.0	-2.1
TEZP				IAML		11 45 19.4	
	comp=N,288nm,0.2s						
TEZP				IAML		11 45 20.4	
	comp=E,216nm,0.1s						
IMP	Imphal	2.50	211	eP	Pn	11 44 49.2	+0.2
GUWA	GUWAHATI	3.39	257	eP	Pn	11 45 00.7	-0.5
GUWA				eS	Sn	11 45 40.1	-1.3
GUWA				eS	Sb	11 45 40.1	-10
GUWA				IAML		11 45 41.9	
	comp=E,104nm,0.2s						
GUWA				IAML		11 45 42.8	
	comp=N,84nm,0.2s						
SHL	Shillong	3.44	247	eP	Pn	11 45 01.0	-1.0
SHL				ex	Sn	11 45 40.0	-2.9
TURI	Tura	4.75	254	eP	Pn	11 45 20.1	+0.3
TURI				eS	Sn	11 46 12.4	-2.5
TURI				IAML		11 46 16.9	
	comp=E,156nm,0.2s						
TURI				IAML		11 46 17.2	
	comp=N,132nm,0.3s						
MKAR	Makanchi Array	22.31	336	P	P	11 49 16.1	+10
	comp=N,0.1nm,0.4s,baz=154,slow=11,SNR=2.8						
KURBB	Kurchatov Arra	26.88	336	P	P	11 49 58.7	+10
	comp=N,0.2nm,0.6s,baz=146,slow=10,SNR=2.5						
WRA	Warramunga Arr	60.02	137	P	P	11 54 03.7	-12
	comp=N,0.6nm,0.5s,baz=329,slow=7.5,SNR=14						
ASAR	Alice Springs	62.62	140	P	P	11 54 21.5	-11
	comp=N,0.3nm,0.7s,baz=322,slow=7.1,SNR=5.0						

NIED 01 11:47:00, 37.10N×143.30E, h5km, Mw3.6 Best double couple: M0 3.02000×10^14 NP1:φs199.00000°, δ40.00000°, λ-99.00000°. NP2:φs31.00000°, δ51.00000°, λ-82.00000°.
IDC 01 11:47:49.2±0.6, 37.03N×143.40E, h0km, mb3.8/19, mb1 4.0/23, mb1mx3.9/63, mbtmp3.9/23, ML3.7/4, MS2.7/2, Ms1 2.7/2, ms1mx2.2/57, Error ellipse: s-maj=17.3km s-min=14.9km az=115.0
ISCJB 01 11:47:52.6±0.3, 37.05N±0.03×143.24E±0.03, h33km, mb4.2/36, Error ellipse: s-maj=4.1km s-min=3.1km az=160.7
JMA 01 11:47:52.3±0.2, 37.12N×143.31E, h52km, M3.8
NEIC 01 11:47:54.6±1.7, 37.03N×143.33E, h34km±12km, mb4.6/18, Error ellipse: s-maj=5.8km s-min=4.3km az=131.0
ISC 01 11:47:54.8±0.5, 37.13N±0.04×143.26E±0.06, h35km, n97, σ1s64/119, mb4.2/36, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JFK	Kawauchi	1.92	278	P	Pn	11 48 23.9	-1.1
JFK				eS	Sn	11 48 47.1	-0.8
ONAJ	Iwakimizuishiy	1.97	270	P	Pn	11 48 24.4	-1.3
ONAJ				eS	Sn	11 48 48.3	-0.9
JIO	Ouri	2.01	312	P	Pn	11 48 25.2	-1.0
JIO				eS	Sn	11 48 49.2	-0.9
JMM	Marumori	2.10	291	P	Pn	11 48 26.6	-0.8
JMM				eS	Sn	11 48 51.9	-0.3
JFT	Otama	2.36	280	P	Pn	11 48 31.0	-0.1
JFT				eS	Sn	11 48 59.3	+0.4
JMK	Ichinoseki	2.43	319	P	Pn	11 48 30.9	-1.1
JMK				eS	Sn	11 48 59.2	-1.3
JOM	Ohasama	2.81	327	P	Pn	11 48 36.2	-0.9
JOM				eS	Sn	11 49 09.1	-0.6
JYK	Kaneyama	2.91	309	P	Pn	11 48 38.2	-0.3
JYK				eS	Sn	11 49 13.0	+0.8
BSO1	Boso 1	3.09	218	P	Pn	11 48 39.1	-1.4
BSO1				eS	Sn	11 49 13.9	-2.1
JAG	Ashikaga	3.14	258	P	Pn	11 48 41.1	-0.6
JAG				eS	Sn	11 49 17.0	-0.9
JANG	Nango	3.52	338	P	Pn	11 48 45.5	-1.4
JANG				eS	Sn	11 49 24.9	-2.3
JRY	Ryogami san	3.68	254	P	Pn	11 48 48.4	-0.8
JRY				eS	Sn	11 49 29.2	-2.2
JOD2	Odawara 2	3.85	242	P	Pn	11 48 50.4	-1.2
JOD2				eS	Sn	11 49 33.2	-2.5
MJAR	Matsushiro Arr	4.09	263	Pn	Pn	11 48 55.5	+0.6
	3.1nm,0.3s,baz=88,slow=14,SNR=36						
MJAR				Sn	Sn	11 49 40.9	-0.7
	1.9nm,0.3s,baz=90,slow=18,SNR=3.8						
MJAR				LR	LR	11 50 54.8	
	comp=Z,81nm,18.2s,baz=85,slow=45						
MAJO	Matsushiro	4.10	263	ePn	Pn	11 48 55.8	+0.9
MAJO				eSn	Sn	11 49 40.9	-0.7
MAT	Matsushiro	4.10	263	P	Pn	11 48 55.9	+1.0
MAT				S	Sn	11 49 39.7	-1.9
JOT	Ohata	4.58	339	P	Pn	11 49 01.1	-0.4
JOT				eS	Sn	11 49 51.1	-2.4
ERM	Erimo	4.88	359	ePn	Pn	11 49 02.4	-3.2
ERM				eSn	Sn	11 49 57.5	-3.3
JHJ2	Mitsune	4.90	216	P	Pn	11 49 04.0	-2.0
JHJ2				eS	Sn	11 49 56.3	-5.2
JHJ	Hachijo jima 2	4.91	216	Pn	Pn	11 49 03.7	-2.4
	5.8nm,0.3s,baz=151,slow=22,SNR=6.7						
JHJ				Sn	Sn	11 49 53.2	-8.5
	12nm,0.3s,baz=73,slow=19,SNR=2.6						
JKB	Kayabe	5.05	341	P	Pn	11 49 07.2	-0.8
JKB				eS	Sn	11 50 02.0	-3.1
INU	Inuyama	5.35	252	ePn	Pn	11 49 12.8	+0.7
JCH	Churui	5.48	1	P	Pn	11 49 11.0	-2.8
JCH				eS	Sn	11 50 09.9	-5.7
ASAJ	Asahikawa	7.00	356	Pn	Pn	11 49 33.3	-1.4
	3.2nm,0.3s,baz=223,slow=8.8,SNR=46						
ASAJ				Sn	Sn	11 50 49.3	-3.7
	0.1nm,0.3s,baz=209,slow=19,SNR=2.7						
KSRS	Korea Array	12.22	276	Pn	Pn	11 50 48.1	+1.8
	0.1nm,0.3s,baz=90,slow=13,SNR=5.0						
KSRS				LR	LR	11 55 47.0	
	comp=Z,31nm,18.9s,baz=66,slow=39						
KS15	Wonju Array Si	12.26	276	ePn	Pn	11 50 48.1	+1.4
KSAR	Wonju Array Be	12.26	276	Pn	Pn	11 50 48.1	+1.4
KLR	Kul'dur	14.70	329	Pn	Pn	11 51 17.0	-3.0
	0.0nm,0.3s,baz=134,slow=13,SNR=3.9						
SEY	Seymchan	26.43	9	P	P	11 53 28.8	+0.8
	0.8nm,0.4s,baz=110,slow=23,SNR=4.5						
H11N2	WAKE ISLAND Hy	26.95	124	T	T	12 21 35.1	
	SNR=7.0						
H11N1	WAKE ISLAND Hy	26.96	124	T	T	12 21 34.6	
	SNR=4.4						
H11N3	WAKE ISLAND Hy	26.96	124	T	T	12 21 35.7	
	SNR=5.7						
H11S1	WAKE ISLAND Hy	27.69	126	T	T	12 22 34.4	
	baz=321						
H11S3	WAKE ISLAND Hy	27.69	126	T	T	12 22 31.2	
	baz=321						
H11S2	WAKE ISLAND Hy	27.71	126	T	T	12 22 32.4	
	baz=321						
SONA0	Songino Array	28.96	303	eP	P	11 53 52.9	+2.0
SONM	Songino Array	28.96	303	P	P	11 53 52.9	+2.0
	0.6nm,0.6s,baz=112,slow=6.5,SNR=3.6						
QIZ	Qiongzhong	34.32	248	eP	P	11 54 37.7	-0.4
	73nm,1.5s						
ZAA1	Zalesovo Array	42.94	312	eP	P	11 55 50.4	+0.4
ZAA1				ePcP	PcP	11 57 40.3	+0.2
ZALV	Zalesovo Beam	42.94	312	P	P	11 55 50.4	+0.4
	0.7nm,0.6s,baz=73,slow=5.0,SNR=3.8						
ZALV				PcP	PcP	11 57 40.3	+0.2
	0.5nm,0.4s,baz=90,slow=3.0,SNR=2.8						
MK32	Makanchi Array	45.32	302	eP	P	11 56 10.2	+1.0
MKAR	Makanchi Array	45.32	302	P	P	11 56 10.2	+1.0
	0.5nm,0.7s,baz=86,slow=11,SNR=1.7						
IM3	Indian Mountai	45.82	31	eP	P	11 56 13.5	+0.7
SUA	Susitna One	46.90	37	eP	P	11 56 22.4	+0.9
	12nm,1.6s						
MLY	Manley	46.98	32	eP	P	11 56 22.7	+0.7
	1.5nm,1.2s						
KURK	Kurchatov	47.03	308	eP	P	11 56 23.4	+0.8
	4.6nm,0.6s						
KURK				ePcP	PcP	11 57 53.7	-0.6
KURBB	Kurchatov Arra	47.11	308	P	P	11 56 24.1	+1.0
	1.1nm,0.5s,baz=85,slow=7.7,SNR=12						
KURBB				PcP	PcP	11 57 53.7	-0.8
	0.1nm,0.4s,baz=71,slow=6.1,SNR=3.1						
PMR	Palmer	47.66	37	eP	P	11 56 28.4	+1.2
	7.8nm,1.4s						
MDM	Murphy Dome	48.05	32	eP	P	11 56 31.6	+1.3
	8.2nm,1.8s						
SCM	Sheep Creek Mo	48.51	36	eP	P	11 56 34.9	+0.9
	13nm,1.4s						
ILAR	Eielson Array	48.62	32	P	P	11 56 34.8	+0.1
	0.6nm,0.6s,baz=262,slow=5.9,SNR=19						
ILB	Eielson Array	48.62	32	eP	P	11 56 35.1	+0.5
IL1	Eielson Array	48.62	32	eP	P	11 56 34.8	+0.1
DOT	Dot Lake	49.90	34	eP	P	11 56 46.4	+1.9
	20nm,2.0s						
SCRK	Sand Creek	49.91	33	eP	P	11 56 45.0	+0.2
	4.1nm,1.5s						
INK	Inuvik	53.63	27	P	P	11 57 12.6	+0.4
	0.6nm,0.4s,baz=290,slow=5.8,SNR=10						
INK	Inuvik	53.63	27	eP	P	11 57 12.6	+0.4
	12nm,1.9s						
WRAB	Tennant Creek	57.38	190	eP	P	11 57 38.7	-0.9
	28nm,2.0s						
WB2	Warramunga Arr	57.38	190	eP	P	11 57 37.6	-2.1
	12nm,1.5s						
WR1	Warramunga Arr	57.38	190	eP	P	11 57 38.6	-1.1
	10nm,1.5s						
WRA	Warramunga Arr	57.38	190	P	P	11 57 38.6	-1.1
	2.0nm,0.6s,baz=7.8,slow=7.0,SNR=46						
AB06	Akbulak array	58.98	311	eP	P	11 57 51.2	+0.5
AB05	Akbulak array	59.00	311	eP	P	11 57 51.5	+0.8
AB07	Akbulak array	59.00	311	eP	P	11 57 51.3	+0.6
AB02	Akbulak array	59.00	311	eP	P	11 57 51.4	+0.6
AB01	Akbulak array	59.00	311	eP	P	11 57 51.7	+0.9
ABKAR	Akbulak array	59.00	311	eP	P	11 57 51.5	+0.8
	49nm,1.9s						
AB04	Akbulak array	59.01	311	eP	P	11 57 51.9	+1.1
AB09	Akbulak array	59.02	311	eP	P	11 57 52.0	+1.2
AB08	Akbulak array	59.02	311	eP	P	11 57 51.8	+0.9
AKTO	Aktyubinsk	59.70	312	P	P	11 57 56.2	+0.6
	0.8nm,0.7s,baz=18,slow=20,SNR=3.2						
AS01	Alice Springs	61.10	190	eP	P	11 58 04.9	-0.5
AS31	Alice Springs	61.11	190	eP	P	11 58 04.7	-0.7
	0.7nm,1.0s						
ASAR	Alice Springs	61.11	190	P	P	11 58 04.7	-0.7
	0.8nm,0.4s,baz=5.3,slow=7.3,SNR=29						
RES	Resolute Bay	62.13	15	eP	P	11 58 12.0	+0.3
	2.7nm,1.5s						
YKB5	Yellowknife Ar	62.98	31	eP	P	11 58 17.6	0.0
YKA	Yellowknife Ar	62.98	31	P	P	11 58 17.5	0.0
	0.1nm,0.5s,baz=305,slow=6.9,SNR=4.7						
ARA0	ARCESS Array S	64.42	340	eP	P	11 58 27.4	+0.4
ARCES	ARCESS Array B	64.42	340	P	P	11 58 27.4	+0.4
	4.7nm,1.1s,baz=46,slow=8.8,SNR=4.4						
VVHS	Vashon High Sc	66.38	48	eP	P	11 58 41.7	+1.8
FIA1	FINESS Array S	69.41	333	eP	P	11 58 59.7	+1.0
FIA0	FINESS Array S	69.41	333	eP	P	11 58 59.5	+0.7
FINES	FINESS Array B	69.41	333	P	P	11 58 59.5	+0.7
	1.5nm,0.6s,baz=46,slow=8.2,SNR=6.8						
FCC	Fort Churchill	73.25	27	eP	P	11 59 22.1	+0.2
	3.7nm,1.1s						
BOZ	Bozeman (W)	73.64	45	eP	P	11 59 25.4	+0.6
	6.4nm,1.9s						
NVAR	Mina Array Bea	73.74	54	P	P	11 59 25.8	+0.3
	0.3nm,0.5s,baz=279,slow=6.3,SNR=2.4						
NC405	NORSAR Array S	74.45	338	eP	P	11 59 29.2	+0.1
HFS	Hagfors	74.60	336	P	P	11 59 30.2	+0.3
	2.2nm,0.8s,baz=14,slow=8.9,SNR=3.1						
NB200	NORSAR Array S	74.66	338	eP	P	11 59 30.4	+0.1
NOA	NORSAR Array B	74.66	338	P	P	11 59 30.4	+0.1
	1.8nm,0.9s,baz=55,slow=5.0,SNR=2.8						
AKASG	Malin Array Be	75.12	323	P	P	11 59 33.2	+0.2
	0.3nm,0.4s,baz=51,slow=6.3,SNR=2.8						
AKBB	Malin Array Si	75.12	323	eP	P	11 59 33.2	+0.2
GERES	GERESS Array B	83.40	329	P	P	12 00 18.3	-0.1
	0.2nm,0.3s,baz=54,slow=9.9,SNR=2.8						
LTX	Lajitas	88.88	53	eP	P	12 00 45.9	+0.1
TXAR	Lajitas Array	88.88	53	P	P	12 00 45.9	+0.1
	0.1nm,0.4s,baz=310,slow=4.6,SNR=2.9						
LPAZ	La Paz	145.36	62	PKPbc	PKPbc	12 07 28.5	-1.5
	0.5nm,0.4s,baz=342,slow=6.4,SNR=2.9						
LPAZ	La Paz	145.36	62	ePKPbc	PKPbc	12 07 29.5	-0.5
LPAZ				ePKPdf	PKPdf	12 07 29.8	-0.3

IDC 01 12:20:08.9±1.1, 29.82N×139.59E, h0km, mb3.4/6, mb1 3.6/6, mb1mx3.4/54, mbtmp3.4/6, Error ellipse: s-maj=42.2km s-min=21.3km az=77.0, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SONM	Songino Array	31.18	315	P	P	12 26 30.3	+0.7
	0.3nm,0.4s,baz=132,slow=6.2,SNR=2.2						
KURBB	Kurchatov Arra	49.51	313	P	P	12 29 00.8	-0.3
	0.2nm,0.3s,baz=77,slow=6.8,SNR=4.5						
WRA	Warramunga Arr	49.73	186	P	P	12 29 03.1	+0.1
	0.2nm,0.2s,baz=7.0,slow=8.6,SNR=16						
ASAR	Alice Springs	53.46	186	P	P	12 29 30.7	-0.2
	0.2nm,0.4s,baz=358,slow=6.8,SNR=6.3						
BVAR	Borovoye Array	54.50	316	P	P	12 29 37.6	-0.6
	0.4nm,0.5s,baz=86,slow=7.4,SNR=4.0						
YKA	Yellowknife Ar	70.83	28	P	P	12 31 27.1	+0.1
	0.1nm,0.5s,baz=293,slow=5.6,SNR=3.5						

MEX 01 13:06:13.0±0.6, 18.18N×99.55W, h53km±6km, MD3.8, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PLIG	Platanillo	0.22	11	eP	Pn	13 06 20.2	-1.8
PLIG				eS	Sn	13 06 26.6	-1.7
ARIG	Puente Sto Nin	0.77	278	eP	Pn	13 06 26.1	-1.7
ARIG				i S	Sn	13 06 37.1	-1.5
YAIG	Yautepec	0.82	33	eP	Pn	13 06 27.1	-1.5
YAIG				i S	Sn	13 06 38.7	-1.2

IDC 01 13:14:31.4±0.3, 35.18S×14.81W, h0km, mb4.9/28, mb1 5.0/28, mb1mx4.9/38, mbtmp4.9/28, MS4.7/28, Ms1 4.7/28, ms1mx4.5/41, Error ellipse: s-maj=14.3km s-min=12.2km az=123.0
ISCJB 01 13:14:31.9±0.2, 35.14S±0.04×14.94W±0.04, h10km, mb5.2/122, MS4.8/40, Error ellipse: s-maj=7.1km s-min=4.1km az=148.0
MOS 01 13:14:32.1±0.9, 35.12S×14.92W, h10km, mb5.5/30, MS4.6/7, Error ellipse: s-maj=14.4km s-min=7.0km az=70.4
GCMT 01 13:14:32.7±0.2, 35.19S×14.53W, h12km, MW5.3/116, Moment Tensor Solution. s65,c90; s116,c196; Duration: 1s1 Moment tensor: Scale 10^17 Nm; Mrr0.72±.03; Mθθ-0.25±.03; Mφφ-0.47±.02; Mrθ0.19±.07; Mθφ-1.03±.02; Mφr-0.19±.06; Best double couple: M0 1.17900×10^17 NP1:φs188.00000°, δ59.00000°, λ38.00000°. NP2:φs76.00000°, δ59.00000°, λ143.00000°. Principal axes: T 0.9640, Plg47.0000°, Azm42.0000°; N 0.4310, Plg43.0000°, Azm222.0000°; P -1.3950, Plg0.0000°, Azm312.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.
NEIC 01 13:14:32.7±0.1, 35.19S×14.88W, h10km, mb5.4/60 Error ellipse: s-maj=6.1km s-min=4.2km az=148.0
BJI 01 13:14:33.7, 35.20S×14.90W, h10km, mB5.6/14, Ms5.7/9, Ms7 5.5/9
ISC 01 13:14:33.1±0.3, 35.15S±0.06×14.94W±0.07, h10km, n455, σ1s08/433, mb5.3/123, MS4.7/41, 25C-25D, Tristan da Cunha region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
H09N1	TRISTAN DA CUN	2.86	133	Pn	Pn	13 15 12.6	-6.1
	SNR=796						
H09N1				Sn	Sn	13 15 42.0	-11
H09N1				T	T	13 18 01.2	
	SNR=3807						
H09W1	TRISTAN DA CUN	2.87	134	Pn	Pn	13 15 12.7	-6.1
H09W1				Sn	Sn	13 15 42.4	-11
H09W1				T	T	13 18 03.2	
	SNR=166						
SHEL	Horse Pasture	20.81	26	eP	P	13 19 13.6	-1.1
	277nm,1.0s						
SHEL	Horse Pasture	20.81	26	eP	P	13 19 13.6	-1.1
SHEL				pmax	pmax		
	comp=Z,277nm,1.0s						
H10S2	ASCENSION HYDR	26.07	1	T	T	13 47 13.4	
	baz=180,slow=75,SNR=483						
H10S3	ASCENSION HYDR	26.07	1	T	T	13 47 14.3	
	baz=180,slow=75,SNR=576						
H10S1	ASCENSION HYDR	26.08	1	T	T	13 47 11.5	
	baz=180,slow=75,SNR=537						
H10N1	ASCENSION HYDR	27.17	1	T	T	13 48 34.5	
	baz=180,slow=73,SNR=28						
H10N3	ASCENSION HYDR	27.18	1	T	T	13 48 31.7	
	baz=180,slow=73,SNR=301						
H10N2	ASCENSION HYDR	27.19	1	T	T	13 48 32.2	
	baz=180,slow=73,SNR=51						
SUR	Sutherland	29.75	95	P	P	13 21 25.1	+45
	comp=Z,0.7nm,0.6s,baz=252,slow=15,SNR=18						
SUR				S	S	13 26 24.5	+48
	comp=Z,0.2nm,0.7s,baz=273,slow=18,SNR=2.6						
SUR				LR	LR	13 29 47.7	
	comp=Z,184nm,20.7s,baz=250,slow=31						
BOSA	Boshof	34.57	91	P	P	13 21 19.8	-2.4
	comp=Z,9.4nm,0.9s,baz=240,slow=9.1,SNR=10						
BOSA				LR	LR	13 32 29.4	
	comp=Z,2μm,21.0s,baz=244,slow=31						
BOSA	Boshof	34.57	91	eP	P	13 21 19.2	-3.0
	comp=Z,14nm,0.9s						
VNA2	Neumayer--Watz	36.07	176	P	P	13 21 35.5	+1.1
	baz=349,slow=10						
VNA3	Neumayer Olymp	36.27	177	P	P	13 21 37.2	+1.1
SNAA	Sanae	37.14	174	P	P	13 21 44.9	+1.2
SNAA	Sanae	37.14	174	P	P	13 21 43.5	-0.1
	comp=Z,4.3nm,0.9s,baz=304,slow=18,SNR=5.1						
SNAA				PcP	PcP	13 24 03.1	-0.5
	comp=Z,4.6nm,1.0s,baz=331,slow=7.6,SNR=3.5						
SNAA				LR	LR	13 33 04.0	
	comp=Z,562nm,21.3s,baz=352,slow=30						
SNAA	Sanae	37.14	174c	iP	P	13 21 44.9	+1.2
SNAA				pmax	pmax		
	comp=Z,401nm,1.1s						
CPUP	Villa Florida	37.25	272	P	P	13 21 46.1	+1.1
	comp=Z,8.4nm,1.1s,baz=119,slow=6.7,SNR=12						

CPUP LR LR 13 34 52.2
comp=Z,601nm,18.5s,baz=122,slow=33
CPUP Villa Florida 37.25 272 *eP* **P 13 21 45.7 +0.6**
comp=Z,17nm,1.3s
TRQA Tornquist 37.57 251 *eP* **P 13 21 48.2 +0.5**
comp=Z,64nm,1.1s
TRQA Tornquist 37.57 251 P **P 13 21 48.0 +0.4**
NVL N'lazarevskaya 38.45 166 *eP* **P 13 21 54.8 +0.2**
NVL *e* 13 23 23.6
NVL *eS* **S 13 27 49.6 +0.2**
NVL *eSS* **SnSn 13 30 31.1 -4.1**
NVL pmax pmax
comp=Z,52nm,1.0s
TCA Tanti 41.37 261 *i* P **P 13 22 19.7 +0.2**
LIC Lamto 42.20 15 *eP* **P 13 22 24.7 -1.5**
comp=Z,211nm,1.1s
KIC Kosan Boka 42.39 15 *eP* **P 13 22 26.3 -1.5**
comp=Z,200nm,1.0s
TIC Toumodi 42.60 15 *eP* **P 13 22 28.2 -1.3**
DBIC Dimbokro 42.66 15 P **P 13 22 29.6 -0.4**
comp=Z,42nm,1.0s,baz=175,slow=9.5,SNR=30
DBIC LR LR 13 35 33.6
comp=Z,468nm,20.6s,baz=180,slow=30
DBIC Dimbokro 42.66 15 *eP* **P 13 22 29.4 -0.6**
comp=Z,69nm,1.0s
ACAN Cantantal 43.15 258 *i* P **P 13 22 34.2 +0.2**
APLL PUNTA DE LOS L 43.25 261 *i* P **P 13 22 33.8 -1.0**
CYA Choya 43.37 264 *i* P **P 13 22 35.1 -0.6**
PLCA Paso Flores 43.60 245 P **P 13 22 38.8 +1.3**
comp=Z,14nm,0.9s,baz=128,slow=4.4,SNR=26
PLCA LR LR 13 39 28.8
comp=Z,622nm,19.0s,baz=122,slow=34
PLCA Paso Flores 43.60 245 *eP* **P 13 22 38.6 +1.1**
comp=Z,126nm,1.8s
PLCA Paso Flores 43.60 245 *eP* **P 13 22 38.6 +1.1**
PLCA pmax pmax
comp=Z,126nm,1.8s
AHML Horco Molle 43.63 267 *i* P **P 13 22 40.0 +2.1**
ALOL LOMAS DE OLMED 43.78 271 *i* P **P 13 22 41.0 +2.0**
ASTB Santa Barbara 44.10 271 *i* P **P 13 22 43.4 +1.5**
AAGR Agrelo 44.21 257 *i* P **P 13 22 42.5 -0.1**
ASAL Salagasta 44.37 257 *i* P **P 13 22 44.0 +0.2**
FSA Cafayete 44.43 267 *i* P **P 13 22 43.9 -0.6**
AZAP Zapla 44.48 270 *i* P **P 13 22 46.0 +1.0**
RTLL Cerro Villicun 44.50 259 *i* P **P 13 22 44.3 -0.5**
SLA San Lorenzo 44.63 269 *i* P **P 13 22 46.2 +0.1**
AMOG MOGNA 44.65 260 *i* P **P 13 22 46.2 +0.1**
AUSP Uspallata 44.93 258 *i* P **P 13 22 49.6 +1.0**
RTLS Leoncito 45.00 258 *i* P **P 13 22 50.4 +1.3**
SYO Syowa Base 45.09 156 ⇓*i*P **P 13 22 47.4 -1.5**
SYO Syowa Base 45.09 156 ⇓*i*X P 13 22 54.4 +5.5
AGUA GUANDACOL 45.16 262 *i* P **P 13 22 50.4 +0.1**
VCA Vinchina 45.21 263 *i* P **P 13 22 50.8 +0.1**
HJA Humahuaca 45.22 271 *i* P **P 13 22 52.6 +1.6**
ACDV Cuesta del Vie 45.42 260 *i* P **P 13 22 53.5 +1.2**
PEL Peldehue 45.67 256 *eP* **P 13 22 54.3 +0.2**
PEL Peldehue 45.67 256 *eP* **P 13 22 54.3 +0.2**
AROD Rodeo 45.71 260 *i* P **P 13 22 56.2 +1.4**
YJA Yavi 45.78 272 *i* P **P 13 22 57.5 +1.9**
ROC1 El Roble 45.99 256 *eP* **P 13 22 56.5 -0.4**
comp=Z,222nm,0.9s
ROC1 El Roble 45.99 256 *i* P **P 13 22 57.7 +0.8**
GO05 HualaæØ 46.07 253 *eP* **P 13 22 56.1 -1.2**
comp=Z,41nm,0.9s
PB10 IPOC Station P 49.30 268 *eP* **P 13 23 23.2 +0.9**
comp=Z,66nm,0.9s
PB04 IPOC Station P 49.50 269 *eP* **P 13 23 24.5 +0.3**
comp=Z,64nm,1.1s
BBTS Babate 49.56 358 LR LR 13 39 45.1
comp=Z,727nm,20.8s,baz=182,slow=30
PB01 IPOC Station P 49.57 271 *eP* **P 13 23 24.3 -0.3**
comp=Z,50nm,1.1s
PB11 IPOC Station P 50.33 273 *eP* **P 13 23 30.0 -0.5**
comp=Z,43nm,1.0s
KOWA Kowa 50.45 14 P **P 13 23 31.0 0.0**
comp=Z,57nm,1.0s,baz=200,slow=11,SNR=72
KOWA LR LR 13 39 50.0
comp=Z,273nm,20.7s,baz=207,slow=30
TORD Torodi Ar. Bea 50.55 21 P **P 13 23 31.4 -0.5**
comp=Z,45nm,0.9s,baz=197,slow=7.3,SNR=160
TORD PcP **PcP 13 24 48.2 -1.5**
comp=Z,6.6nm,1.0s,baz=216,slow=5.9,SNR=3.9
TORD LR LR 13 40 42.4
comp=Z,635nm,19.7s,baz=195,slow=31
MNMC Minye Minye 50.59 273 *eP* **P 13 23 32.0 -0.6**
comp=Z,24nm,0.9s
LPAZ La Paz 50.86 278 P **P 13 23 34.7 -0.3**
comp=Z,6.8nm,0.9s,baz=110,slow=6.0,SNR=17
LPAZ LR LR 13 44 40.0
comp=Z,928nm,18.9s,baz=116,slow=36
LPAZ La Paz 50.86 278 *eP* **P 13 23 33.9 -1.1**
comp=Z,15nm,1.2s
MAW Mawson 53.44 152 P **P 13 23 52.6 -0.2**
comp=Z,7.8nm,0.7s,baz=258,slow=5.7,SNR=18
MAW LR LR 13 41 27.8
comp=Z,1µm,21.8s,baz=252,slow=30
MBAR Mbarara 54.65 61 *eP* **P 13 24 01.8 -0.7**
comp=Z,34nm,1.1s
MBAR Mbarara 54.65 61 *eP* **P 13 24 01.8 -0.7**
MBAR pmax pmax
comp=Z,34nm,1.1s
QSPA South Pole Qui 55.10 180 P **P 13 24 05.7 +0.5**
comp=Z,35nm,1.0s,baz=218,slow=5.9,SNR=33
QSPA LR LR 13 46 00.5
comp=Z,482nm,18.3s,baz=200,slow=34
QSPA South Pole Qui 55.10 180 *eP* **P 13 24 05.1 -0.1**
comp=Z,49nm,1.0s
ABPO Ambohimpanom 56.79 91 *eP* **P 13 24 17.9 0.0**
comp=Z,42nm,1.5s
ABPO Ambohimpanom 56.79 91 *eP* **P 13 24 17.9 0.0**
ABPO pmax pmax
comp=Z,42nm,1.5s
OPO Ambohidratompo 56.98 90 LR LR 13 45 35.0
comp=Z,1µm,21.0s,baz=242,slow=33
KMBO Kilima Mbogo 59.10 67 P **P 13 24 35.5 +1.2**
comp=Z,0.6nm,0.3s,baz=220,slow=6.9,SNR=8.7
KMBO LR LR 13 47 26.2
comp=Z,1µm,21.0s,baz=254,slow=34
TAM Tamanrasset 60.80 22 *eP* **P 13 24 46.0 +0.4**
comp=Z,4.9nm,0.5s
TAM Tamanrasset 60.80 22 *eP* **P 13 24 46.0 +0.4**
TAM pmax pmax
comp=Z,5.0nm,0.5s
MIR Mirnyy 64.91 155 ⇓*i*P P 13 25 20.0 +7.8
MIR pmax pmax
comp=Z,108nm,1.5s
PCRV Puerto La Cruz 65.09 304 LR LR 13 51 22.7
comp=Z,3µm,21.1s,baz=130,slow=34
SBA Scott Base 67.26 180 *eP* **P 13 25 28.0 +0.8**
comp=Z,14nm,0.8s
SBA Scott Base 67.26 180 *eP* **P 13 25 28.0 +0.8**
SBA pmax pmax
comp=Z,14nm,0.8s
FLOC Florencia 67.36 289 *eP* **P 13 25 27.8 -1.0**
VILC Villavicencio, 67.47 293 *eP* **P 13 25 29.0 -0.6**
VNDA Vanda 67.58 179 P **P 13 25 29.5 +0.3**
comp=Z,1.6nm,0.9s,baz=210,slow=6.9,SNR=8.9
VNDA LR LR 13 51 10.7
comp=Z,482nm,21.6s,baz=174,slow=33
VNDA Vanda 67.58 179 *eP* **P 13 25 29.2 0.0**
comp=Z,49nm,2.0s
VNDA Vanda 67.58 179 *eP* **P 13 25 29.2 0.0**
VNDA pmax pmax
comp=Z,49nm,2.0s
CHIC Chingaza 67.84 293 *eP* **P 13 25 31.8 -0.5**
PRAC Prado 68.12 291 *eP* **P 13 25 33.1 -0.5**
comp=Z,116nm,1.1s
RUSC La Rusia 68.17 294 *eP* **P 13 25 34.1 -0.4**
comp=Z,26nm,1.2s
RUSC La Rusia 68.17 294 *eP* **P 13 25 34.8 +0.3**
SDV Santo Domingo 68.38 299 P **P 13 25 36.5 +1.1**
comp=Z,42nm,1.1s,baz=184,slow=19,SNR=19
SDV LR LR 13 54 23.8
comp=Z,1µm,18.1s,baz=90,slow=35
PCON Cinco Dias 68.40 289 *eP* **P 13 25 37.6 +1.6**
ROSC El Rosal 68.42 293 P **P 13 25 36.2 +0.4**
comp=Z,3.5nm,0.3s,baz=206,slow=5.9,SNR=6.0
ROSC LR LR 13 54 38.2
comp=Z,2µm,18.1s,baz=123,slow=35
SOTA Rioblanco 68.45 289 *eP* **P 13 25 36.9 +0.7**
CMBC Cumbal 68.65 287 *eP* **P 13 25 39.4 +2.0**
BARC Barichara 68.71 295 *eP* **P 13 25 36.1 -1.4**
OTAV Otavalo 68.71 286 *eP* **P 13 25 38.6 +0.8**
comp=Z,52nm,1.4s
OTAV Otavalo 68.71 286 *eP* **P 13 25 39.2 +1.4**
OTAV Otavalo 68.71 286 P **P 13 25 39.2 +1.4**

POPC Popayan, Colom 68.75 289 *eP* **P 13 25 38.5 +0.8**
PAMC Pamplona, Colo 68.85 296 *eP* **P 13 25 40.0 +1.4**
TOLC Tolima 69.01 292 *eP* **P 13 25 39.6 +0.1**
NORC Norcasia 69.30 293 *eP* **P 13 25 39.9 -1.1**
HORQ Saladito 69.31 290 *eP* **P 13 25 39.4 -1.9**
YOTC Yotoco, Valle 69.41 291 *eP* **P 13 25 40.1 -1.6**
GUYC Guyana, Colomb 69.47 292 *eP* **P 13 25 42.4 -0.2**
PTBC PUERTO BERRIO, 69.62 294 *eP* **P 13 25 41.2 -1.7**
HELC Santa Helena 70.20 293 *eP* **P 13 25 45.8 -1.1**
comp=Z,102nm,1.1s
HELC Santa Helena 70.20 293 *eP* **P 13 25 45.4 -1.5**
ZARC Zaragoza, Cauc 70.55 294 *eP* **P 13 25 47.6 -1.0**
ATD Arta Tunnel 71.67 61 LR LR 13 55 11.3
comp=Z,437nm,19.1s,baz=182,slow=34
SJG San Juan 71.87 309 *eP* **P 13 25 55.5 -0.9**
comp=Z,43nm,1.1s
SJG San Juan 71.87 309 *eP* **P 13 25 55.5 -0.9**
SJG pmax pmax
comp=Z,43nm,1.1s
MOTC Monteria, Cord 71.99 295 *eP* **P 13 25 58.2 +1.0**
PFVI Vila Bisbo 72.14 5 *eP* **P 13 25 57.9 +0.3**
comp=Z,98nm,1.6s
PFVI Vila Bisbo 72.14 5 *eP* **P 13 25 57.8 +0.2**
comp=Z,85nm,1.2s
PBDV Barranco-do-Ve 72.32 6 *eP* **P 13 25 59.8 +1.1**
comp=Z,100nm,1.2s
MORF Marmelete 72.32 5 *eP* **P 13 25 58.6 -0.2**
MORF AMb AMB 13 26 01.6
comp=Z,75nm,1.3s
MORF Marmelete 72.32 5 *eP* **P 13 25 59.5 +0.7**
comp=Z,68nm,1.2s
MORF Marmelete 72.32 5 *eP* **P 13 25 58.6 -0.2**
MORF pmax pmax
comp=Z,75nm,1.3s
PVAQ Vaqueiros 72.49 6 *eP* **P 13 26 00.4 +0.7**
comp=Z,78nm,1.1s
PVAQ Vaqueiros 72.49 6 *e*LR LR 13 49 29.3
comp=Z,392nm,20.0s
PTEO Sao Teotonio 72.55 5 *eP* **P 13 26 01.0 +0.9**
comp=Z,61nm,1.2s
PCVE Castro Verde 72.69 6 *eP* **P 13 26 01.7 +0.8**
comp=Z,50nm,1.3s
MESJ Messejana 72.89 6 *eP* **P 13 26 02.0 -0.1**
MESJ AMb AMB 13 26 04.5
comp=Z,36nm,1.1s
MESJ Messejana 72.89 6 *eP* **P 13 26 01.9 -0.1**
MESJ pmax pmax
comp=Z,36nm,1.1s
PBEJ Beja 73.10 6 *eP* **P 13 26 04.1 +0.8**
comp=Z,34nm,1.3s
PNCL Nicolau / Gran 73.13 5 *eP* **P 13 26 04.5 +1.0**
comp=Z,47nm,1.2s
PBAR Barrancos 73.32 6 *eP* **P 13 26 05.4 +0.8**
comp=Z,106nm,1.3s
EVO Evora 73.59 6 *eP* **P 13 26 06.9 +0.7**
comp=Z,46nm,1.3s
PESTR Estremoz 73.96 6 *eP* **P 13 26 09.3 +0.9**
comp=Z,58nm,1.2s
PESTR Estremoz 73.96 6 *eP* **P 13 26 08.7 +0.3**
comp=Z,24nm,1.1s
KEST Kesra 74.06 20 P **P 13 26 09.8 +0.7**
comp=Z,22nm,0.9s,baz=197,slow=2.3,SNR=24
KEST LR LR 13 56 18.8
comp=Z,588nm,18.9s,baz=168,slow=34
PMTG Montargil 74.11 5 *eP* **P 13 26 10.2 +1.0**
comp=Z,41nm,1.2s
ALMR Almeirim 74.17 5 *eP* **P 13 26 10.4 +0.9**
comp=Z,80nm,1.3s
PMRV Marv??o 74.53 6 *eP* **P 13 26 12.4 +0.7**
comp=Z,58nm,1.4s
PMRV Marv??o 74.53 6 *e*LR LR 13 50 25.7
comp=Z,327nm,18.0s
PTOM Tomar 74.64 5 *eP* **P 13 26 13.6 +1.3**
comp=Z,54nm,1.1s
PCBR Castelo Branco 74.93 6 *eP* **P 13 26 14.0 0.0**
comp=Z,29nm,1.3s
PAB San Pablo 74.96 8 *eP* **P 13 26 13.1 -1.2**
comp=Z,13nm,1.0s
PAB San Pablo 74.96 8 *eP* **P 13 26 13.1 -1.2**
PAB pmax pmax
comp=Z,13nm,1.0s
PCAS Casmilo, Conde 75.06 5 *eP* **P 13 26 15.4 +0.6**
comp=Z,46nm,1.2s
ESDC Sonseca Array 75.14 9 P **P 13 26 15.3 0.0**
comp=Z,16nm,1.0s,baz=183,slow=6.1,SNR=62
ESDC LR LR 13 56 54.1
comp=Z,239nm,18.3s,baz=160,slow=34
BCIP Isla Barro Col 75.37 292 P **P 13 26 17.2 0.0**
comp=Z,50nm,1.0s
MTE Meleiços 75.48 6 *e*LR LR 13 51 13.4
comp=Z,305nm,20.0s
MVO Moncorvo 76.29 6 *eP* **P 13 26 22.7 +0.9**
comp=Z,59nm,1.3s
MVO Moncorvo 76.29 6 *e*LR LR 13 51 19.8
comp=Z,289nm,20.0s
PCAB Cabril 76.75 5 *eP* **P 13 26 25.5 +1.1**
comp=Z,74nm,1.2s
PBRG Braganca 76.95 6 *eP* **P 13 26 26.6 +1.1**
comp=Z,46nm,1.4s
PGAV Gavieira, Arco 76.98 5 *eP* **P 13 26 26.3 +0.5**
comp=Z,36nm,1.7s
PGAV Gavieira, Arco 76.98 5 *e*LR LR 13 51 06.5
comp=Z,285nm,22.0s
VAE Valguarnera 77.23 24 P **P 13 26 26.9 -0.4**
comp=Z,16nm,0.4s,baz=111,slow=8.9,SNR=4.1
VAE LR LR 13 57 27.7
comp=Z,271nm,20.1s,baz=157,slow=33
RPN Rapa Nui 78.24 245 LR LR 13 53 22.8
comp=Z,330nm,19.9s,baz=109,slow=30
GTBY Guantanamo Bay 79.09 304 *eP* **P 13 26 36.8 -1.1**
comp=Z,77nm,1.1s
HDC Heredia 79.16 290 *eP* **P 13 26 38.6 +0.1**
comp=Z,132nm,1.3s
IDI Anoyia 79.32 32 P **P 13 26 39.4 +0.6**
comp=Z,15nm,0.8s,baz=221,slow=6.2,SNR=12
IDI Anoyia 79.32 32⇑*i*P **P 13 26 39.7 +0.8**
IDI Anoyia 79.32 32 *eP* **P 13 26 39.1 +0.2**
comp=Z,19nm,0.9s
TIP Timpagrande 79.55 25 ⇓*i*P **P 13 26 41.0 +1.0**
TIP Timpagrande 79.55 25 *eP* **P 13 26 39.8 -0.3**
comp=Z,52nm,1.1s
EIL Elat 79.79 43 LR LR 14 00 40.4
comp=Z,640nm,18.2s,baz=240,slow=35
JTS JuntasAbangare 79.99 290 P **P 13 26 44.0 +1.1**
comp=Z,42nm,1.0s,baz=95,slow=2.9,SNR=20
JTS LR LR 14 00 08.1
comp=Z,635nm,21.7s,baz=193,slow=34
JTS JuntasAbangare 79.99 290 *eP* **P 13 26 43.3 +0.3**
comp=Z,54nm,1.0s
JTS JuntasAbangare 79.99 290 *eP* **P 13 26 43.3 +0.3**
JTS pmax pmax
comp=Z,53nm,1.0s
KARP Karpathos 80.55 34 *eP* **P 13 26 45.2 -0.3**
comp=Z,37nm,1.0s
APE Apeiranthos 81.10 32⇑*eP* **P 13 26 48.2 -0.2**
APE pmax pmax
comp=Z,37nm,1.0s
AGG Agios Georgios 81.45 28 *eP* **P 13 26 50.3 +0.1**
comp=Z,91nm,1.0s
AGG Agios Georgios 81.45 28 *eP* **P 13 26 50.3 +0.1**
AGG pmax pmax
comp=Z,91nm,1.0s
RAYN Ar Rayn 81.74 54 *eP* **P 13 26 52.4 +0.3**
comp=Z,33nm,1.2s
RAYN Ar Rayn 81.74 54 P **P 13 26 52.4 +0.3**
TIR Tirane 82.56 26⇑*i*P **P 13 26 57.5 +1.6**
TIR Tirane 82.56 26 *eP* **P 13 26 57.0 +1.1**
TIR Tirane 82.56 26⇑P **P 13 26 57.5 +1.6**
CSS Mamiatis 83.04 38 *eP* **P 13 26 58.5 -0.1**
comp=Z,5.9nm,1.1s
ISP Isparta 83.96 35 ⇓*i*P **P 13 27 04.1 +0.7**
ISP Isparta 83.96 35 *eP* **P 13 27 03.3 -0.1**
comp=Z,27nm,1.2s
ISP Isparta 83.96 35 ⇓P **P 13 27 04.1 +0.7**
TUE Stuetta 84.14 17 *eP* **P 13 27 03.1 -1.1**
comp=Z,16nm,1.2s
FUORN Ofenpass-Fuorn 84.50 17 *eP* **P 13 27 05.5 -0.5**
comp=Z,20nm,0.9s
BLY Banja Luka 84.69 22⇑*i*P **P 13 27 07.3 +0.5**
BLY Banja Luka 84.69 22 *eP* **P 13 27 06.9 +0.2**
comp=Z,24nm,1.1s
VTS Vitosha 84.86 27⇑*i*P **P 13 27 08.6 +0.7**
VTS Vitosha 84.86 27 *eP* **P 13 27 07.8 -0.1**
comp=Z,34nm,1.2s
VTS Vitosha 84.86 27 ⇑P **P 13 27 08.6 +0.7**
FETA Feichten 84.98 17 *eP* **P 13 27 08.0 -0.4**
comp=Z,9.2nm,1.0s

DIVS Divibare 85.03 24 *eP* **P 13 27 08.5 -0.1**
comp=Z,36nm,1.1s
DAVA Damuels 85.03 17 *eP* **P 13 27 08.6 0.0**
comp=Z,20nm,1.1s,SNR=6.6
ABTA Abfaltersbach 85.18 19 *eP* **P 13 27 09.9 +0.6**
comp=Z,29nm,1.2s,SNR=7.4
GCIS Gornji Cirnik 85.23 21 *i* P **P 13 27 10.1 +0.6**
ECH Echery 85.31 15 *eP* **P 13 27 09.6 -0.2**
comp=Z,18nm,1.3s
ECH Echery 85.31 15 *eP* **P 13 27 09.6 -0.2**
ECH pmax pmax
comp=Z,18nm,1.3s
MYKA Terra Mystica 85.37 19 *i* P **P 13 27 10.5 +0.3**
comp=Z,13nm,1.1s
MOTA Moosalm 85.38 17 *eP* **P 13 27 10.2 -0.2**
comp=Z,7.8nm,1.1s
RETA Reutte 85.43 17 *eP* **P 13 27 10.0 -0.5**
comp=Z,11nm,1.2s
WTTA Wattenberg 85.44 18 *i* P **P 13 27 10.8 +0.1**
comp=Z,11nm,1.2s
WATA Walderalm 85.49 18 *eP* **P 13 27 10.6 -0.3**
comp=Z,13nm,1.0s,SNR=5.3
BFO Black Forest 85.66 15 *eP* **P 13 27 11.2 -0.4**
comp=Z,25nm,1.1s
BFO Black Forest 85.66 15*c**eP* **P 13 27 11.9 +0.3**
KBA Koelnbreinsper 85.70 19 *eP* **P 13 27 12.1 +0.1**
comp=Z,1.6nm,0.5s
PERS Pernice 85.79 20 *i* P **P 13 27 12.9 +0.6**
SOKA Soboth 85.80 20 *eP* **P 13 27 13.3 +1.0**
comp=Z,44nm,1.1s,SNR=12
KOGS Kog 85.94 21 *i* P **P 13 27 13.7 +0.8**
ARSA Arzberg 86.46 20 *eP* **P 13 27 16.3 +0.7**
comp=Z,26nm,1.1s,SNR=9.3
WLF Walferdange 86.49 14 ⇓P **P 13 27 16.2 +0.6**
WLF Walferdange 86.49 14 *eP* **P 13 27 16.0 +0.4**
comp=Z,28nm,1.2s
WLF Walferdange 86.49 14 *eP* **P 13 27 16.0 +0.4**
WLF pmax pmax
comp=Z,27nm,1.2s
BR231 Keskin MP Arra 86.63 35 *eP* **P 13 27 17.0 +0.3**
MOA Molln 86.66 19 *eP* **P 13 27 15.8 -0.7**
comp=Z,12nm,1.0s
BZS Buzias 86.91 25⇑*i*P **P 13 27 18.5 +0.7**
BZS Buzias 86.91 25⇑P **P 13 27 18.5 +0.7**
BR131 Keskin Array S 86.94 35 *eP* **P 13 27 17.9 -0.4**
BRTR Keskin Array B 86.94 35 P **P 13 27 18.4 +0.2**
comp=Z,6.0nm,1.0s,baz=191,slow=5.7,SNR=17
SNF Seneffe 86.96 12 ⇓P **P 13 27 19.3 +1.5**
BCLA Clavier 87.05 13⇑P **P 13 27 19.0 +0.7**
APG El Apazote 87.11 290 P **P 13 27 19.9 +0.2**
comp=Z,18nm,0.9s,baz=158,slow=8.3,SNR=12
APG LR LR 14 07 40.3
comp=Z,338nm,18.2s,baz=116,slow=37
CONA Conrad Observa 87.17 20 *eP* **P 13 27 19.7 +0.6**
comp=Z,22nm,1.1s,SNR=10
GERES GERESS Array B 87.43 18 P **P 13 27 20.1 -0.2**
comp=Z,1.8nm,0.9s,baz=194,slow=5.1,SNR=10
GERES PP **PP 13 30 42.5 -2.9**
comp=Z,2.5nm,1.0s,baz=159,slow=11,SNR=5.9
GRFO Grafenberg 87.60 17 *eP* **P 13 27 21.3 +0.3**
comp=Z,34nm,1.2s
GRFO Grafenberg 87.60 17 *eP* **P 13 27 21.3 +0.3**
GRFO pmax pmax
comp=Z,34nm,1.2s
KHC Kasperske Hory 87.66 18 *eP* **P 13 27 21.4 +0.1**
KHC *ep*P **sP 13 27 25.3 -0.6**
KHC *ex* x 13 27 39.3
KHC *e*PP **PP 13 30 44.2 -3.0**
KHC AMS AMS 14 02 50.0
comp=Z,300nm,22.2s
KHC Kasperske Hory 87.66 18 *eP* **P 13 27 20.5 -0.9**
comp=Z,6.9nm,1.5s
KHC Kasperske Hory 87.66 18 *eP* **P 13 27 21.4 +0.1**
KHC *e* 13 27 25.3
KHC *e* 13 30 44.2
KHC MLR MLR
comp=Z,300nm,22.2s
059Z Ave Maria 87.69 305 P **P 13 27 24.3 +2.3**
baz=131
MODS Modra-Piesok 87.98 21 *eP* **P 13 27 23.2 +0.3**
MODS Modra-Piesok 87.98 21 *eP* **P 13 27 23.2 +0.3**
VOIR 87.98 27 ⇓*i*P **P 13 27 23.4 +0.3**
VOIR 87.98 27 ⇓P **P 13 27 23.4 +0.3**
ILGA Ilgaz 88.02 35 *eP* **P 13 27 23.9 +0.4**
comp=Z,22nm,1.0s
DRGR 88.31 25⇑*i*P **P 13 27 25.4 +0.8**
DRGR 88.31 25⇑P **P 13 27 25.4 +0.8**
TREC Trest 88.31 19 AMS AMS 14 03 30.0
comp=Z,400nm,15.3s
DSB Dublin 88.34 5 *eP* **P 13 27 25.3 +0.9**
comp=Z,17nm,1.1s
MLR Muntele Rosu 88.37 27 P **P 13 27 24.8 -0.1**
comp=Z,4.1nm,0.9s,baz=176,slow=9.5,SNR=9.0
MLR Muntele Rosu 88.37 27 *eP* **P 13 27 25.5 +0.5**
comp=Z,24nm,1.1s
PSZ Piszkesteto 88.37 23 ⇓*i*P **P 13 27 26.0 +1.2**
PSZ Piszkesteto 88.37 23 *eP* **P 13 27 23.8 -1.0**
comp=Z,24nm,1.1s
PSZ Piszkesteto 88.37 23 ⇓P **P 13 27 26.0 +1.2**
VYHS Vyhne 88.55 22 *eP* **P 13 27 25.6 0.0**
VYHS Vyhne 88.55 22 *eP* **P 13 27 25.6 0.0**
VYHS pmax pmax
comp=Z,10.0nm,1.1s
VRAC Vranov 88.63 20 P **P 13 27 25.3 -0.6**
comp=Z,4.6nm,0.8s,baz=205,slow=5.2,SNR=6.3
VRAC LR LR 14 04 57.6
comp=Z,204nm,20.1s,baz=218,slow=34
VRAC Vranov 88.63 20⇑*i*P **P 13 27 25.9 0.0**
VRAC Vranov 88.63 20⇑P **P 13 27 25.9 0.0**
GOPC GO Pecny, Ondr 88.69 19 *eP* **P 13 27 26.6 +0.4**
GOPC *ep*P **sP 13 27 33.2 +2.5**
GOPC AMS AMS 14 03 00.0
comp=Z,400nm,23.6s
GOPC GO Pecny, Ondr 88.69 19 *eP* **P 13 27 26.6 +0.4**
GOPC *e* 13 27 33.2
GOPC MLR MLR
comp=Z,400nm,23.6s
PRU Pruhonice 88.69 19 *eP* **P 13 27 26.9 +0.7**
PRU AMS AMS 14 04 20.0
comp=Z,400nm,19.4s
PRU Pruhonice 88.69 19 *eP* **P 13 27 26.9 +0.7**
PRU MLR MLR
comp=Z,400nm,19.4s
958A Wauchula 88.72 305 P **P 13 27 28.5 +1.7**
baz=131
PLOR Plostina 88.94 28 ⇓*i*P **P 13 27 29.9 +2.4**
PLOR Plostina 88.94 28 ⇓P **P 13 27 29.9 +2.4**
VRI Vrincioaia 88.98 28 ⇓*i*P **P 13 27 27.6 -0.1**
VRI Vrincioaia 88.98 28 ⇓P **P 13 27 27.6 -0.1**
KECS Kecovo 89.05 23 *eP* **P 13 27 28.3 +0.4**
KECS Kecovo 89.05 23 *eP* **P 13 27 28.3 +0.4**
KECS pmax pmax
comp=Z,54nm,2.8s
957A Wimauma 89.10 305 P **P 13 27 30.6 +2.0**
baz=131
ARCR ARCALIA 89.14 26 ⇓*i*P **P 13 27 29.5 +1.1**
PVCC Panska Ves 89.20 18 AMS AMS 14 04 30.0
comp=Z,300nm,22.2s
MORC Moravsky Berou 89.32 20 ⇓*i*P **P 13 27 30.6 +1.4**
MORC Moravsky Berou 89.32 20 *eP* **P 13 27 29.0 -0.2**
comp=Z,66nm,1.2s
MORC Moravsky Berou 89.32 20 ⇓P **P 13 27 30.6 +1.4**
LANS Liptovska Anna 89.33 22 *eP* **P 13 27 30.3 +1.0**
LANS Liptovska Anna 89.33 22 *eP* **P 13 27 30.3 +1.0**
BRG Berggiesshubel 89.35 18 *eP* **P 13 27 29.7 +0.5**
comp=Z,30nm,1.8s
BRG *e* 13 30 59.2
comp=Z,7.5nm,1.4s
comp=N,261nm,21.8s
comp=E,144nm,14.4s
comp=Z,276nm,24.5s
BRG Berggiesshubel 89.35 18 *eP* **P 13 27 29.7 +0.5**
BRG *e* 13 30 59.2
BRG pmax pmax
comp=Z,4.0nm,1.8s
BRG MLR MLR
comp=N,8µm,21.8s
BRG MLR MLR
comp=E,261nm,14.4s
BRG MLR MLR
comp=Z,144nm,24.5s
DPC Dobruska-Polom 89.50 19 *eP* **P 13 27 30.0 0.0**
DPC AMS AMS 14 03 40.0
comp=Z,200nm,18.3s
DPC Dobruska-Polom 89.50 19 *eP* **P 13 27 30.0 0.0**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
DPC				MLR	MLR		
	comp=Z,200nm,18.3s						
CLL	Collm	89.52	17	eP	P	13 27 30.0	0.0
	comp=Z,45nm,1.9s						
CLL				ePP	PP	13 30 59.0	-3.1
CLL				ePPS	PPS	13 39 42.0	
CLL				eSS	SS	13 44 24.0	+6.9
CLL				e		13 45 24.0	
CLL				eSSS	SSS	13 48 12.0	
CLL	Collm	89.52	17	eP	P	13 27 30.0	0.0
CLL				pmax	pmax		
	comp=Z,45nm,1.9s						
OKC	Ostrava-Krasne	89.55	21	eP	P	13 27 30.8	+0.6
OKC	Ostrava-Krasne	89.55	21	eP	P	13 27 30.8	+0.6
UPC	Upice	89.56	19	AMS	AMS	14 03 20.0	
	comp=Z,300nm,18.2s						
CRVS	Cervenica-Dubn	89.73	23	eP	P	13 27 32.2	+1.1
CRVS	Cervenica-Dubn	89.73	23	eP	P	13 27 32.2	+1.1
UZH	Uzhgorod	89.77	24	eP	P	13 27 31.6	+0.4
BURAR	Bucovina Array	89.90	26	⇓iP	P	13 27 33.8	+1.8
BURAR	Bucovina Array	89.90	26	⇓P	P	13 27 33.8	+1.8
BUR04	Bucovina Ar. S	89.90	26	eP	P	13 27 31.8	-0.3
657A	Interlachen	90.10	307	P	P	13 27 35.1	+1.8
	baz=131						
OJC	Ojcow	90.38	21	eP	P	13 27 34.0	-0.1
	comp=Z,12nm,1.1s						
OJC	Ojcow	90.38	21	eP	P	13 27 34.0	-0.1
OJC				pmax	pmax		
	comp=Z,12nm,1.1s						
WSAR	Wadi Sarin	90.66	62	P	P	13 27 36.0	-0.1
	comp=Z,6.0nm,1.0s,baz=230,slow=5.7,SNR=5.3						
EKA	Eskdalemuir Ar	90.68	7	P	P	13 27 36.6	+1.3
	comp=Z,16nm,1.0s,baz=181,slow=4.8,SNR=17						
SORM	Soroca	91.48	27	⇑iP	P	13 27 39.8	+0.6
SORM	Soroca	91.48	27	⇑P	P	13 27 39.8	+0.6
155A	Kite	92.47	309	P	P	13 27 46.3	+2.0
	baz=131						
154A	Montrose	92.88	308	P	P	13 27 47.8	+1.7
	baz=130						
AKH	Akhalkalaki	93.15	40	⇓iP	P	13 27 49.3	+1.9
AKH	Akhalkalaki	93.15	40	eP	P	13 27 47.1	-0.2
	comp=Z,39nm,1.3s						
AKH	Akhalkalaki	93.15	40	eP	P	13 27 47.2	-0.2
AKH				pmax	pmax		
	comp=Z,39nm,1.3s						
PAL	Palisades	93.15	319	P	P	13 27 48.2	+1.1
	baz=135						
KMSC	Kings Mountain	93.41	311	P	P	13 27 48.2	-0.4
	comp=Z,27nm,0.3s						
252A	Lumpkin	93.54	307	P	P	13 27 50.3	+1.1
	baz=130						
KIEV	Kiev	93.91	26	eP	P	13 27 49.9	-0.5
	comp=Z,13nm,1.1s						
KIEV	Kiev	93.91	26	d iP	P	13 27 50.8	+0.4
KIEV				pmax	pmax		
	comp=Z,11nm,1.1s						
AKASG	Malin Array Be	93.92	26	P	P	13 27 50.3	-0.1
	comp=Z,9.5nm,1.0s,baz=219,slow=4.2,SNR=29						
251A	Midway	94.04	307	P	P	13 27 52.1	+0.6
	baz=129						
NEY	Neytrino	94.07	38	⇑iP	P	13 27 52.4	+0.8
NEY				pmax	pmax		
	comp=Z,3.0nm,1.0s						
151A	Opelika	94.26	307	P	P	13 27 53.2	+0.7
	baz=129						
ZEI	Tsey	94.34	39	eP	P	13 27 54.3	+1.4
ZEI				pmax	pmax		
	comp=Z,10.0nm,0.8s						
KBZ	Khabaz	94.50	38	P	P	13 27 54.2	+0.9
	comp=Z,9.3nm,1.1s,baz=247,slow=5.8,SNR=9.2						
250A	Grady	94.54	306	P	P	13 27 54.5	+0.7
	baz=129						
KIV	Kislovodsk	94.56	38	eP	P	13 27 52.9	-0.8
	comp=Z,48nm,1.5s						
KIV	Kislovodsk	94.56	38	eP	P	13 27 54.3	+0.6
KIV				pmax	pmax		
	comp=Z,20nm,1.1s						
KIV				MLR	MLR		
	comp=Z,245nm,20.0s						
NCK	Nalchik	94.69	39	⇑iP	P	13 27 56.0	+1.8
NCK				pmax	pmax		
	comp=Z,23nm,1.1s						
SUW	Suwalki	94.71	21	eP	P	13 27 53.0	-0.9
	comp=Z,46nm,1.0s						
SUW	Suwalki	94.71	21	eP	P	13 27 53.0	-0.9
SUW				pmax	pmax		
	comp=Z,47nm,1.0s						
150A	Eclectic	94.77	307	P	P	13 27 54.4	-0.4
	baz=129						
Z50A	Ashland	95.11	307	P	P	13 27 56.2	-0.2
	baz=129						
TKL	Tuckaleechee C	95.26	310	LR	LR	14 13 09.1	
	comp=Z,119nm,18.3s,baz=130,slow=37						
Z49A	Columbiana	95.47	307	P	P	13 27 57.6	-0.4
	baz=129						
H01W2	Cape Leeuwin H	95.63	140	T	T	15 15 05.8	
	baz=220,slow=75,SNR=4.2						
H01W3	Cape Leeuwin H	95.65	140	T	T	15 15 05.8	
	baz=220,slow=75,SNR=4.4						
H01W1	Cape Leeuwin H	95.65	140	T	T	15 15 05.8	
	baz=220,slow=75,SNR=5.6						
LRAL	Lakeview Retre	95.68	307	P	P	13 27 56.9	-2.1
	baz=129						
Y48A	Jasper	96.33	307	P	P	13 28 01.9	0.0
	baz=128						
Y47A	UCPARC, Winfie	96.77	307	P	P	13 28 03.6	-0.3
	baz=128						
T48A	Bowling Green	97.81	310	P	Pdif	13 28 08.9	+0.3
	baz=128						
GEYT	Alibeck	99.32	50	PP	PP	13 32 16.6	-2.3
	comp=Z,4.2nm,0.9s,baz=256,slow=6.0,SNR=8.4						
R39A	Chumby, Stover	102.76	308	P	Pdif	13 28 30.3	-0.3
	baz=125						
L41A	Preston	103.33	312	P	Pdif	13 28 31.9	-1.1
	baz=126						
E43A	Lone Tree Farm	103.81	317	P	Pdif	13 28 36.8	+1.8
	baz=127						
TXAR	Lajitas Array	105.28	295	PP	PP	13 33 09.7	+5.8
	comp=Z,0.7nm,0.9s,baz=141,slow=8.1,SNR=3.9						
TXAR				PKKP	PKKPab	13 44 40.4	+2.6
	comp=Z,1.1nm,0.9s,baz=273,slow=2.4,SNR=7.2						
KLMR	Klimovskoe	105.45	24	ePP	PP	13 33 01.5	-2.9
KLMR				AMP		13 33 03.8	
	comp=Z,12nm,1.3s						
KSH	Kashi	111.92	56	ePKP	PKiKP	13 33 07.7	-0.7
PPT2	Papeete2	112.16	227	eSS	SS	13 49 43.8	+12
	comp=Z,95nm,26.5s						
PPT2	Papeete2	112.16	227	eLR	LR	14 06 36.3	
	comp=Z,368nm,30.5s						
TAOE	Nuku Hiva Isla	112.29	241	eLR	LR	14 06 44.5	
	comp=Z,174nm,28.3s						
ASAR	Alice Springs	114.47	149	PKP	PKPdf	13 33 11.6	-2.2
	comp=Z,2.2nm,0.9s,baz=210,slow=1.4,SNR=15						
ASAR				PKKPbc	PKKPbc	13 43 51.6	-0.3
	comp=Z,0.7nm,1.0s,baz=74,slow=1.6,SNR=4.1						
BVAR	Borovoye Array	114.61	41	PKKPbc	PKKPbc	13 43 50.5	-1.4
	comp=Z,0.4nm,0.6s,baz=196,slow=8.3,SNR=3.1						
WRA	Warramunga Arr	117.93	147	PKP	PKPdf	13 33 18.7	-1.8
	comp=Z,3.0nm,1.0s,baz=232,slow=1.6,SNR=12						
WRA				PKKPbc	PKKPbc	13 43 39.0	-0.8
	comp=Z,2.0nm,1.0s,baz=23,slow=3.4,SNR=10						
WRAB	Tennant Creek	117.94	147	⇑iPKIKP	PKPdf	13 33 20.6	+0.1
WRAB				pmax	pmax		
	comp=Z,14nm,1.2s						
KURBB	Kurchatov Arra	118.25	46	PKP	PKPdf	13 33 19.1	-0.9
	comp=Z,1.9nm,0.8s,baz=248,slow=2.6,SNR=12						
KURBB				PKKPbc	PKKPab	13 43 40.3	+1.0
	comp=Z,1.4nm,1.0s,baz=68,slow=3.6,SNR=7.5						
KURK	Kurchatov	118.34	46	ePKPdf	PKPdf	13 33 19.2	-0.9
KURK				PKKPbc	PKKPab	13 43 40.3	+1.4
KURK	Kurchatov	118.34	46	PKIKP	PKPdf	13 33 19.1	-1.1
KURK				pmax	pmax		
	comp=Z,3.0nm,1.0s						
MAKZ	Makanchi	118.96	51	ePKPdf	PKPdf	13 33 20.3	-1.3
MAKZ	Makanchi	118.96	51	ePKIKP	PKPdf	13 33 20.3	-1.3
MK01	Makanchi Array	119.16	51	ePKPdf	PKPdf	13 33 20.5	-1.4
MK31	Makanchi Array	119.16	51	ePKPdf	PKPdf	13 33 20.4	-1.5
MK31	Makanchi Array	119.16	51	ePKIKP	PKPdf	13 33 20.4	-1.5
MKAR	Makanchi Array	119.16	51	PKP	PKPdf	13 33 20.8	-1.1
	comp=Z,2.8nm,1.0s,baz=253,slow=3.0,SNR=15						
MKAR				PP	PP	13 34 31.4	-11
	comp=Z,1.1nm,0.9s,baz=251,slow=3.7,SNR=3.8						
MKAR	Makanchi Array	119.16	51	ePKPdf	PKPdf	13 33 20.4	-1.6
MKAR				PP	PP	13 34 31.4	-11
ISA	Isabella, Lake	119.27	295	P	PKPdf	13 33 23.6	+1.0
	baz=114						
CM01	Chiang Mai Arr	119.68	88	ePKPdf	PKPdf	13 33 22.5	-1.3
CMAR	Chiang Mai Arr	119.68	88	PKP	PKPdf	13 33 22.8	-1.0
	comp=Z,3.4nm,1.0s,baz=240,slow=3.9,SNR=13						
CHTO	Chiang Mai	119.86	87	ePKPdf	PKPdf	13 33 22.9	-1.2
CHTO	Chiang Mai	119.86	87	ePKIKP	PKPdf	13 33 22.9	-1.2
NVAR	Mina Array Bea	120.23	298	PKP	PKPdf	13 33 25.5	+1.0
	comp=Z,1.0nm,0.7s,baz=96,slow=1.6,SNR=2.7						
RES	Resolute Bay	120.97	342	PKP	PKPdf	13 33 24.1	-0.5
	comp=Z,4.6nm,1.1s,baz=143,slow=1.0,SNR=12						
WMQ	Urumqi	121.68	56	ePKP	PKPdf	13 33 25.7	-1.2
WMQ				LR	LR		
	comp=Z,6μm,21.7s						
WMQ				LR	LR		
	comp=Z,7μm,14.5s						
WMQ				LR	LR		
	comp=Z,6μm,24.1s						
EDM	Edmonton	122.01	315	ePKPdf	PKPdf	13 33 26.1	-1.1
EDM	Edmonton	122.01	315	ePKIKP	PKPdf	13 33 26.1	-1.1
CTA	Charters Tower	122.24	159	PKP	PKPdf	13 33 28.1	-0.7
	comp=Z,4.7nm,0.9s,baz=108,slow=3.2,SNR=3.5						
NVS	Novosibirsk	122.33	43	ePKIKP	PKPdf	13 33 27.1	-0.6
MTN	Manton Dam	122.45	140	ePKPdf	PKPdf	13 33 27.4	-1.9
ZALV	Zalesovo Beam	122.98	44	PKP	PKPdf	13 33 27.8	-1.2
	comp=Z,2.5nm,0.9s,baz=262,slow=3.0,SNR=7.4						
ZALV				PP	PP	13 35 07.3	-1.3
	comp=Z,1.8nm,0.9s,baz=264,slow=8.2,SNR=4.4						
ZALV				PKKPbc	PKKPbc	13 43 20.5	-0.8
	comp=Z,2.7nm,0.9s,baz=66,slow=3.6,SNR=8.2						
B08A	Colville Reser	124.26	309	ePKPdf	PKPdf	13 33 30.7	-1.0
YKA	Yellowknife Ar	124.85	326	PKP	PKPdf	13 33 31.4	-0.9
	comp=Z,4.3nm,1.0s,baz=93,slow=2.0,SNR=39						
B05A	Bryant	126.01	308	P	PKPdf	13 33 35.1	+0.1
	baz=105						
GTA	Gaotai	128.91	65	PKP	PKPdf	13 33 41.0	0.0
GTA				PP	PP	13 35 53.9	+5.2
GTA				SKKS		13 42 41.0	
GTA				SS	SS	13 53 10.9	+2.8
GTA				AMB	AMB		
	comp=Z,140nm,6.4s						
GTA				LR	LR		
	comp=Z,4μm,15.7s						
GTA				LR	LR		
	comp=Z,2μm,16.6s						
GTA				LR	LR		
	comp=Z,2μm,17.8s						
CD2	Chengdu	129.13	76	PKP	PKPdf	13 33 40.5	-1.1
GYA	Guiyang	129.71	83	ePdif	Pdif	13 30 30.0	-0.9
GYA				PKP	PKPdf	13 33 41.8	-1.1
GYA				PP	PP	13 35 57.4	+3.3
GYA				AMB	AMB		
	comp=Z,140nm,7.9s						
LZH	Lanzhou	130.97	70	PKP	PKPdf	13 33 41.2	-3.9
LZH				sPKP		13 33 54.4	
LZH				LR	LR		
	comp=Z,75nm,18.0s						
LZH				LR	LR		
	comp=Z,80nm,18.1s						
LZH				LR	LR		
	comp=Z,100nm,20.2s						
DLBC	Dease Lake	132.08	320	ePKPdf	PKPdf	13 33 46.8	+0.5
MOY	Mondy	132.19	49	ePKIKP	PKPdf	13 33 47.5	+0.7
MOY				pmax	pmax		
	comp=Z,35nm,2.0s						
PMG	Port Moresby	132.56	156	⇑iPKIKP	PKPdf	13 33 48.9	+0.3
INK	Inuvik	132.67	334	PKhKP	PKPpre	13 33 40.2	
	comp=Z,3.4nm,1.0s,baz=59,slow=7.6,SNR=9.0						
INK	Inuvik	132.67	334	PKPpre	PKPpre	13 33 40.2	
INK				ePKPdf	PKPdf	13 33 46.5	-0.5
INK	Inuvik	132.67	334	PKIKP	PKPpre	13 33 40.2	
INK				e		13 33 46.5	
ZAK	Zakamensk	133.50	51	ePKIKP	PKPdf	13 33 48.7	-0.6
ZAK				pmax	pmax		
	comp=Z,6.0nm,1.7s						
TLY	Talaya	133.83	49	ePKPdf	PKPdf	13 33 49.9	+0.1
TLY	Talaya	133.83	49	ePKIKP	PKPdf	13 33 50.8	+1.0
TLY				pmax	pmax		
	comp=Z,10.0nm,1.5s						
WHY	Whitehorse	134.44	323	ePKPdf	PKPdf	13 33 50.9	+0.1
SONM	Songino Array	135.28	55	PKP	PKPdf	13 33 51.1	-1.6
	comp=Z,3.2nm,0.9s,baz=231,slow=3.4,SNR=12						
SONM				PP	PP	13 36 30.5	+1.1
	comp=Z,0.9nm,0.9s,baz=231,slow=9.1,SNR=2.8						
HYT	Haines Junctio	135.70	324	ePKPdf	PKPdf	13 33 52.4	-0.7
ULN	Ulaanbaatar	135.72	55	ePKPdf	PKPdf	13 33 52.8	-0.9
ULN	Ulaanbaatar	135.72	55	⇓iPKIKP	PKPdf	13 33 53.7	+0.1
DAWY	Dawson	135.94	329	ePKPdf	PKPdf	13 33 52.6	-0.7
FYU	Fort Yukon	137.50	333	ePKPdf	PKPdf	13 33 56.8	+0.7
WHN	Wuhan	137.51	81	PKP	PKPdf	13 33 57.4	+0.1
HHC	Hu-ho-hao-te	138.00	66	ePKP	PKPdf	13 33 58.0	0.0
HHC				PP	PP	13 36 51.0	+4.3
HHC				SS	SS	13 55 03.2	+5.2
HHC				AMB	AMB		
	comp=Z,41nm,9.0s						
DOT	Dot Lake	138.04	329	ePKPpre	PKPpre	13 33 47.7	
TOLK	Toolik Lake Re	138.09	337	P	PKPdf	13 33 57.6	+0.4
	baz=61						
TOLK	Toolik Lake Re	138.09	337	ePKPdf	PKPdf	13 33 57.2	0.0
MENT	Mentasta	138.11	328	ePKPdf	PKPdf	13 33 57.6	+0.2
IL1	Eielson Array	138.81	331	ePKPpre	PKPpre	13 33 48.4	
IL1				ePKPdf	PKPdf	13 33 58.8	+0.2
ILAR	Eielson Array	138.81	331	PKhKP	PKPpre	13 33 49.0	
	comp=Z,1.8nm,0.9s,baz=26,slow=2.3,SNR=11						
ILAR				PKP	PKPdf	13 33 58.4	-0.3
	comp=Z,9.7nm,1.0s,baz=54,slow=0.5,SNR=27						
ILAR				PP	PP	13 36 50.4	-0.3
	comp=Z,1.0nm,1.0s,baz=69,slow=5.6,SNR=4.7						
ILB	Eielson Array	138.81	331	ePKPdf	PKPdf	13 33 58.7	+0.1
TIXI	Tiksi	138.85	17	⇑iPKIKP	PKPdf	13 33 59.9	+1.4
TIXI				i		13 34 01.1	
TIXI				pmax	pmax		
	comp=Z,11nm,2.5s						
HDA	Harding Lake	138.97	331	ePKPpre	PKPpre	13 33 51.5	
HDA				ePKPdf	PKPdf	13 33 59.1	+0.2
COLD	Coldfoot	138.98	335	ePKPdf	PKPdf	13 33 59.4	+0.5
BMRM	Bremner River	139.06	325	ePKPdf	PKPdf	13 33 59.1	-0.1
COLA	College	139.15	331	ePKPdf	PKPdf	13 33 59.1	-0.1
COLA	College	139.15	331	ePKIKP	PKPdf	13 33 59.1	-0.1
CCB	Clear Creek Bu	139.23	331	ePKPdf	PKPdf	13 33 58.3	-1.0
RAGM	Ragged Mountai	139.25	324	ePKPdf	PKPdf	13 33 58.9	-0.7
MDM	Murphy Dome	139.27	332	ePKPdf	PKPdf	13 33 58.7	-0.7
WRH	Wood River Hil	139.41	331	ePKPdf	PKPdf	13 33 59.4	-0.3
BOD	Bodaibo	139.44	40	ePKHKP	PKPpre	13 33 39.4	
BOD				e		13 33 59.1	
BOD				pmax	pmax		
	comp=Z,29nm,1.1s						
KLU	Klutina	139.52	326	ePKPdf	PKPdf	13 33 59.4	-0.7
DHY	Denali Highway	139.64	329	ePKPdf	PKPdf	13 34 00.6	+0.3
MCK	McKinley	140.04	330	ePKPdf	PKPdf	13 34 01.1	+0.2
MCK	McKinley	140.04	330	ePKIKP	PKPdf	13 34 01.1	+0.2
SCM	Sheep Creek Mo	140.05	327	ePKPdf	PKPdf	13 34 01.2	+0.1
SCM	Sheep Creek Mo	140.05	327	ePKIKP	PKPdf	13 34 01.2	+0.1
RND	Reindeer	140.14	330	ePKPpre	PKPpre	13 33 53.6	
RND				ePKPdf	PKPdf	13 34 01.4	+0.3
RND	Reindeer	140.14	330	ePKHKP	PKPpre	13 33 53.6	
RND				e		13 34 01.4	
MLY	Manley	140.20	332	ePKPpre	PKPpre	13 33 57.2	
MLY				ePKPdf	PKPdf	13 34 01.6	+0.5
SML	Sawmill	140.51	327	ePKPpre	PKPpre	13 33 54.9	
SML				ePKPdf	PKPdf	13 34 01.9	0.0
SML	Sawmill	140.51	327	ePKHKP	PKPpre	13 33 54.9	
SML				e		13 34 01.9	
TRF	Thorofare Moun	140.71	330	ePKPpre	PKPpre	13 33 55.9	
TRF				ePKPdf	PKPdf	13 34 02.3	0.0
BPAW	Bear Paw Mtn.	140.71	331	ePKPpre	PKPpre	13 33 54.9	
BPAW				ePKPdf	PKPdf	13 34 01.4	-0.7
IM3	Indian Mountai	140.83	335	ePKPpre	PKPpre	13 33 57.0	
IM3				ePKPdf	PKPdf	13 34 02.6	+0.3
KTH	Kantishna Hill	140.93	330	ePKPpre	PKPpre	13 33 56.2	
PMR	Palmer	140.94	327	ePKPdf	PKPdf	13 34 02.3	-0.2
PMR	Palmer	140.94	327	ePKIKP	PKPdf	13 34 02.3	-0.2
RC01	Rabbit Creek A	141.40	326	ePKPdf	PKPdf	13 34 03.2	-0.2
CAST	Castle Rocks	141.45	331	ePKPpre	PKPpre	13 33 57.5	
CAST				ePKPdf	PKPdf	13 34 03.1	-0.4
NJ2	Nanjing	141.65	81	ePKP	PKPdf	13 34 05.3	+0.6
SUA	Susitna One	141.71	327	ePKPpre	PKPpre	13 33 58.6	
PPLA	Purkeypile	141.73	330	ePKPpre	PKPpre	13 33 58.2	
SPU	Mount Spurr	142.40	327	ePKPpre	PKPpre	13 34 00.7	
BRLK	Bradley Lake	142.41	325	ePKPdf	PKPdf	13 34 06.3	+1.0
KDAK	Kodiak Island	143.94	322	ePKPdf	PKPbc	13 34 06.4	+0.6
KDAK	Kodiak Island	143.94	322	ePKIKP	PKPbc	13 34 06.4	+0.6
SVW2	Sparrevohn	143.97	328	ePKPdf	PKPdf	13 34 07.9	0.0
OHAK	Old Harbor	144.49	322	ePKPdf	PKPdf	13 34 08.3	-0.6
YAK	Yakutsk	145.12	29	PKPbc	PKPbc	13 34 09.0	-0.4
	comp=Z,68nm,0.9s,baz=305,slow=0.9,SNR=24						
YAK	Yakutsk	145.12	29	ePKPbc	PKPbc	13 34 08.8	-0.6
YAK	Yakutsk	145.12	29	ePKIKP	PKPbc	13 34 08.5	-0.9
YAK				pmax	pmax		
	comp=Z,40nm,0.8s						
YAK				pmax	pmax		
	comp=N,4.0nm,1.0s						
YAK				pmax	pmax		
	comp=E,6.0nm,0.8s						
CLNS	Chul'man	145.38	39	ePKP2	PKPbc	13 34 09.1	-1.4
CLNS				pmax	pmax		
	comp=E,7.0nm,1.1s						
CLNS				pmax	pmax		
	comp=Z,42nm,1.1s						
CLNS				pmax	pmax		
	comp=N,7.0nm,0.9s						
BILL	Bilibino	147.05	359	c iPKIKP	PKPdf	13 34 13.1	+0.1
BILL				e		13 37 46.5	
BILL				ePPP	PPP	13 40 59.5	
BILL				pmax	pmax		
	comp=Z,56nm,1.4s						
BILL				pmax	pmax		
	comp=Z,542nm,17.0s						
ZEA	Zeya	147.74	43	ePKP2	PKPbc	13 34 17.2	-0.2
ZEA				pmax	pmax		
	comp=Z,150nm,2.0s						
GAMB	Gambell	147.99	341	ePKPdf	PKPdf	13 34 15.2	+0.5
CN2	Changchun	148.47	62	ePKPbc	PKPbc	13 34 18.2	-1.5
CN2				ePP	PP	13 37 55.0	+5.5
CN2				AMB	AMB		
	comp=Z,200nm,3.0s						
CN2				LR	LR		
	comp=Z,500nm,16.0s						
CN2				LR	LR		
	comp=Z,290nm,16.0s						
CN2				LR	LR		
	comp=Z,670nm,19.0s						
KS15	Wonju Array Si	150.07	75	ePKPbc	PKPbc	13 34 23.7	-0.2
KSAR	Wonju Array Be	150.07	75	PKPbc	PKPbc	13 34 23.6	-0.3
KSAR	Wonju Array Be	150.07	75	PKIKP	PKPbc	13 34 23.6	-0.3
KS01	Wonju Array Si	150.08	75	ePKPdf	PKPdf	13 34 17.7	-1.2
KS01				ePKPbc	sPKPdf	13 34 22.9	-0.6
KSRS	Korea Array	150.10	75	PKPbc	PKPbc	13 34 23.6	-0.3
	comp=Z,18nm,0.9s,baz=269,slow=2.5,SNR=50						
SEY	Seymchan	151.09	12	PKP	PKPdf	13 34 20.0	+0.3
	comp=Z,8.4nm,0.9s,baz=353,slow=2.3,SNR=13						
SEY				PKPbc	PKiKP	13 34 26.2	+0.2
	comp=Z,58nm,0.9s,baz=347,slow=1.0,SNR=52						
SEY	Seymchan	151.09	12	⇑iPKIKP	PKPdf	13 34 20.9	+1.2
MDJ	Mudanjiang	151.37	60	PKPbc	PKPbc	13 34 24.4	-2.4
MDJ	Mudanjiang	151.37	60	ePKPbc	PKPbc	13 34 25.7	-1.1
JNU	Nakatsue	151.71	84	PKPbc	PKPbc	13 34 26.8	-1.1
	comp=Z,16nm,1.0s,baz=181,slow=5.4,SNR=6.0						
JNU	Nakatsue	151.71	84	ePKPbc	PKPbc	13 34 27.3	-0.7
JNU				ePKPab	PKPab	13 34 36.2	-0.6
KLR	Kul'dur	151.85	50	PKP	PKPdf	13 34 21.5	+0.2
	comp=Z,0.8nm,1.1s,baz=289,slow=3.9,SNR=5.9						
KLR				PKPbc	PKPbc	13 34 27.2	-0.5
	comp=Z,3.9nm,0.9s,baz=307,slow=4.3,SNR=62						
KLR	Kul'dur	151.85	50	d iPKIKP	PKPdf	13 34 21.1	-0.2
USRK	Ussuriysk Ar.	153.13	60	PKPbc	PKPbc	13 34 29.0	-1.7
	comp=Z,6.7nm,0.9s,baz=316,slow=1.5,SNR=7.1						
MA2	Magadan	153.83	17	PKPbc	PKPbc	13 34 31.5	-0.2
	comp=Z,15nm,0.9s,baz=68,slow=3.4,SNR=9.4						
GRNR	Gornyy	154.08	44	ePKIKP	PKPbc	13 34 31.4	-1.2
GRNR				pmax	pmax		
	comp=Z,26nm,1.0s						
NKL	Nikolayevsk	155.10	36	ePKIKP	PKPdf	13 34 25.0	-0.7
MJAR	Matsushiro Arr	158.21	78	PKPab	PKPab	13 35 04.4	0.0
	comp=Z,9.3nm,1.0s,baz=271,slow=5.3,SNR=9.0						

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*TAP **01** 13:17:30.6, 24.°56N×122.°49E, h71km, ML3.7, C*
*JMA **01** 13:17:30.5±0.1, 24.°49N×122.°47E, h71km±2km, M3.0*
*ISCJB **01** 13:17:31.0±0.3, 24.°53N±0.°02×122.°50E±0.°01, h58km±5km,*
Error ellipse: s-maj=3.2km s-min=2.1km az=175.2
ISC 01 13:17:31.7±1.2**, 24.°52N**±0.°03×**122.°49E**±0.°02**, h58**km±8km**,**
n97, σ1.**°06**/193**, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	Yonagunijimaku	0.42	99	P	Pn	13 17 42.9	+0.3
JYNG				S	Sn	13 17 51.9	+1.4
YOJ	Yonaguni jima	0.47	97	eP	Pn	13 17 43.5	+0.4
	baz=101						
YOJ				eS	Sn	13 17 52.1	+0.7
	baz=101						
YOJ	Yonaguni jima	0.47	97	P	Pn	13 17 43.5	+0.4
YOJ				S	Sn	13 17 52.2	+0.7
TWC	Suao	0.59	279	P	Pn	13 17 44.1	-0.4
	baz=280						
TWC				S	Sn	13 17 53.7	-0.1
	baz=280						
EGS		0.61	303	eP	Pn	13 17 44.7	+0.1
	baz=300						
EGS				eS	Sn	13 17 54.9	+0.8
	baz=300						
ENAH	Nanao	0.63	264	P	Pn	13 17 45.0	+0.1
	baz=263						
ENAH				S	Sn	13 17 55.4	+0.8
	baz=263						
TWB1	Santiao Chiao	0.67	317	P	Pn	13 17 44.9	-0.6
	baz=319						
TWB1				eS	Sn	13 17 54.8	-0.6
	baz=319						
NANB	Nanao	0.68	263	eP	Pn	13 17 45.5	-0.1
	baz=257						
NANB				eS	Sn	13 17 56.3	+0.6
	baz=257						
ENA	Nanau	0.69	263	P	Pn	13 17 45.8	+0.1
	baz=255						
ENA				eS	Sn	13 17 56.2	+0.3
	baz=255						
ILA	Ilan	0.72	290	eP	Pn	13 17 46.2	+0.1
	baz=287						
ILA				S	Sn	13 17 57.0	+0.5
	baz=287						
TIPB	Shuangxi	0.76	307	P	Pn	13 17 45.0	-1.5
	baz=308						
TIPB				eS	Sn	13 17 55.3	-2.1
	baz=308						
TWE	Neicheng	0.78	285	P	Pn	13 17 46.5	-0.3
	baz=286						
TWE				S	Sn	13 17 57.6	-0.3
	baz=286						
SLBB	Yuanshan	0.81	287	P	Pn	13 17 47.3	0.0
	baz=288						
SLBB				eS	Sn	13 17 59.2	+0.5
	baz=288						
NWF	Wu-fen Shan	0.85	310	P	Pn	13 17 47.4	-0.4
	baz=308						
NWF				eS	Sn	13 17 58.6	-0.9
	baz=308						
WFSB	Wu-fen Shan	0.85	310	P	Pn	13 17 47.4	-0.3
	baz=308						
WFSB				S	Sn	13 17 58.7	-0.7
	baz=308						
ENTT	Nioudou	0.85	278	P	Pn	13 17 47.6	-0.1
	baz=275						
ENTT				S	Sn	13 18 00.3	+0.7
	baz=275						
NACB	Ninganchiao	0.89	247	P	Pn	13 17 47.4	-0.8
	baz=236						
NACB				S	Sn	13 18 00.4	+0.1
	baz=236						
TWD	Chiawan	0.93	242	eP	Pn	13 17 48.0	-0.7
	baz=231						
TWD				eS	Sn	13 18 00.5	-0.7
	baz=231						
NWLT	Wulai	0.94	286	eP	Pn	13 17 48.9	+0.1
	baz=290						
NWLT				S	Sn	13 18 01.3	-0.2
	baz=290						
TWA	Mucha	0.95	299	P	Pn	13 17 48.5	-0.4
	baz=297						
TWA				eS	Sn	13 18 00.9	-0.8
	baz=297						
HWA	Hwalien	0.97	237	eP	Pn	13 17 47.8	-1.5
	baz=226						
HWA				eS	Sn	13 18 02.6	+0.4
	baz=226						
NNSB	Datong	1.02	265	P	Pn	13 17 49.5	-0.4
	baz=254						
NNSB				S	Sn	13 18 03.0	-0.4
	baz=254						
NNSH	Datong	1.02	265	P	Pn	13 17 49.6	-0.4

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	baz=255						
NNSH				eS	Sn	13 18 03.1	-0.3
	baz=255						
ENLB	Shoufeng	1.02	233	P	Pn	13 17 49.6	-0.3
	baz=231						
ENLB				eS	Sn	13 18 03.4	+0.1
	baz=231						
TATO	Taipei	1.02	297	eP	Pn	13 17 49.2	-0.7
	baz=294						
TATO				eS	Sn	13 18 02.1	-1.3
	baz=294						
NNS	Nan Shan	1.02	266	P	Pn	13 17 49.7	-0.4
	baz=255						
NNS				eS	Sn	13 18 03.7	0.0
	baz=255						
YM07	YM07	1.03	310	eP	Pn	13 17 48.3	-1.7
	baz=300						
YM07				S	Sn	13 18 01.6	-2.0
	baz=300						
YHNB	Yeheng	1.03	279	P	Pn	13 17 50.1	0.0
	baz=276						
YHNB				eS	Sn	13 18 03.8	+0.1
	baz=276						
TAP	Taipei	1.04	300	eP	Pn	13 17 49.4	-0.7
	baz=288						
TAP				eS	Sn	13 18 03.2	-0.6
	baz=288						
NSK	Sanguang	1.05	279	P	Pn	13 17 49.4	-0.9
	baz=276						
NSK				eS	Sn	13 18 03.3	-0.8
	baz=276						
YM08	YM08	1.06	309	eP	Pn	13 17 49.5	-0.9
	baz=301						
YM08				eS	Sn	13 18 03.1	-1.2
	baz=301						
YM10	YM10	1.06	307	P	Pn	13 17 49.9	-0.6
	baz=305						
YM10				eS	Sn	13 18 03.2	-1.2
	baz=305						
YM04	YM04	1.08	306	eP	Pn	13 17 49.9	-0.7
	baz=295						
YM04				eS	Sn	13 18 03.4	-1.4
	baz=295						
YM03	YM03	1.09	307	eP	Pn	13 17 50.2	-0.7
	baz=297						
YM03				eS	Sn	13 18 04.8	-0.3
	baz=297						
TWY	Chenhua	1.11	313	eP	Pn	13 17 50.7	-0.3
	baz=305						
TWY				eS	Sn	13 18 05.3	-0.1
	baz=305						
TWS1	Kuangyinshan	1.14	301	eP	Pn	13 17 51.0	-0.5
	baz=299						
TWS1				eS	Sn	13 18 05.7	-0.4
	baz=299						
IRIF	Iriomote-Funau	1.14	99	P	Pn	13 17 51.0	-0.5
IRIF				S	Sn	13 18 05.9	-0.3
WLTB	Daxi	1.18	287	eP	Pn	13 17 51.9	-0.1
	baz=292						
WLTB				eS	Sn	13 18 07.8	+0.7
	baz=292						
WHF	Hehuan Shan	1.18	252	P	Pn	13 17 52.1	-0.3
	baz=250						
WHF				S	Sn	13 18 07.2	-0.6
	baz=250						
ESL	Shilin	1.20	234	eP	Pn	13 17 51.2	-1.0
	baz=232						
ESL				eS	Sn	13 18 07.1	-0.5
	baz=232						
TWT	Tachien	1.23	258	eP	Pn	13 17 53.3	+0.4
	baz=250						
TWT				eS	Sn	13 18 09.2	+0.5
	baz=250						
TDCB	Techi	1.25	258	P	Pn	13 17 53.1	0.0
	baz=250						
TDCB				eS	Sn	13 18 08.5	-0.5
	baz=250						
NCU	National Centr	1.27	291	eP	Pn	13 17 53.4	+0.1
	baz=289						
NCU				eS	Sn	13 18 10.0	+0.7
	baz=289						
NCUH	Zhongli	1.27	291	eP	Pn	13 17 53.2	-0.1
	baz=289						
NCUH				eS	Sn	13 18 09.9	+0.6
	baz=289						
HATJ	Hateruma jima	1.28	111	P	Pn	13 17 53.6	+0.2
HATJ				eS	Sn	13 18 10.6	+1.0
CHGB	Renai	1.29	250	P	Pn	13 17 53.6	-0.1
	baz=239						
CHGB				S	Sn	13 18 08.9	-1.1
	baz=239						
EGFH	Guangfu	1.29	229	P	Pn	13 17 52.5	-1.0
	baz=221						
EGFH				S	Sn	13 18 08.8	-1.0
	baz=221						
OWD	Renai	1.33	245	P	Pn	13 17 53.8	-0.3
	baz=236						
OWD				S	Sn	13 18 09.9	-1.0
	baz=236						
LIOB	Emei	1.35	276	eP	Pn	13 17 54.3	-0.1
	baz=274						
LIOB				eS	Sn	13 18 11.3	0.0
	baz=274						
NSTT	Nanjuang	1.36	275	eP	Pn	13 17 54.5	0.0
	baz=273						
NSTT				eS	Sn	13 18 11.3	-0.3
	baz=273						
SBCB	Hsinchu	1.40	282	eP	Pn	13 17 54.8	-0.1
	baz=280						
SBCB				eS	Sn	13 18 12.7	+0.2
	baz=280						
JKRS	Kuro-shima	1.41	101	P	Pn	13 17 55.1	0.0
JKRS				S	Sn	13 18 13.3	+0.6
HGSD	Ruisui	1.42	224	eP	Pn	13 17 54.2	-0.9
	baz=218						
HGSD				eS	Sn	13 18 11.5	-1.3
	baz=218						
EHY	Hungye	1.47	227	eP	Pn	13 17 54.7	-1.3
	baz=225						
EHY				eS	Sn	13 18 12.1	-2.1
	baz=225						
DPDB	Guoxing	1.51	252	eP	Pn	13 17 56.8	+0.3
	baz=246						
DPDB				eS	Sn	13 18 15.5	+0.3
	baz=246						
JIJ	Ishigaki jima	1.51	96	P	Pn	13 17 55.8	-0.7
JIJ				S	Sn	13 18 14.7	-0.4
NMLH	Miaoli	1.55	271	eP	Pn	13 17 57.3	+0.3
	baz=269						
NMLH				eS	Sn	13 18 18.4	+2.3
	baz=269						
YULB	Yu-li	1.57	225	eP	Pn	13 17 56.1	-1.1
	baz=232						
YULB				eS	Sn	13 18 14.9	-1.6
	baz=232						
TWQ1	Liyutan	1.58	264	eP	Pn	13 17 57.3	-0.1
	baz=262						
TWQ1				eS	Sn	13 18 18.7	+1.9
	baz=262						
NSY	Sanyi	1.58	267	eP	Pn	13 17 57.6	+0.1
	baz=265						
NSY				eS	Sn	13 18 17.4	+0.5
	baz=265						
SSLB	Suanglung	1.58	243	eP	Pn	13 17 57.0	-0.5
	baz=236						
SSLB				eS	Sn	13 18 16.1	-0.9
	baz=236						
SMLT	Sun Moon Lake	1.59	247	eP	Pn	13 17 57.9	+0.2
	baz=240						
SMLT				eS	Sn	13 18 17.7	+0.6
	baz=240						
TWF1	Yuli	1.60	224	eP	Pn	13 17 56.6	-1.1
	baz=231						
TWF1				eS	Sn	13 18 15.5	-1.8
	baz=231						
TYC	Yuchr	1.61	248	eP	Pn	13 17 58.2	+0.3
	baz=240						
TYC				eS	Sn	13 18 18.8	+1.1
	baz=240						
JISG	Ishigakijimahi	1.66	87	P	Pn	13 17 57.7	-0.7
JISG				S	Sn	13 18 18.3	-0.3
TCU	Taichung	1.70	258	eP	Pn	13 17 59.4	+0.4
	baz=268						
TCU				eS	Sn	13 18 22.0	+2.3
	baz=268						
FULB	Fuli	1.71	220	P	Pn	13 17 58.2	-1.0
	baz=212						
FULB				eS	Sn	13 18 18.3	-1.8
	baz=212						
YUS	Yu-Shan	1.74	234	eP	Pn	13 18 00.1	0.0
	baz=226						
YUS				eS	Sn	13 18 20.3	-1.1
	baz=226						
CHKT	Chengkung	1.75	216	eP	Pn	13 17 58.3	-1.4
	baz=209						
CHKT				eS	Sn	13 18 17.7	-3.2
	baz=209						
WJS	Zhushan	1.76	247	P	Pn	13 18 00.9	+1.2
	baz=238						
WJS				eS	Sn	13 18 23.1	+2.0
	baz=238						
WNT	Mingjian	1.77	249	eP	Pn	13 18 01.0	+1.0
	baz=259						
WNT				eS	Sn	13 18 23.7	+2.2
	baz=259						
WCHH	Zhanghua	1.82	256	eP	Pn	13 18 00.7	+0.1
	baz=264						
WCHH				eS	Sn	13 18 24.1	+1.5
	baz=264						
ALS	Alishan	1.84	237	eP	Pn	13 18 01.9	+0.6
	baz=228						
ALS				eS	Sn	13 18 24.4	+0.8
	baz=228						
ELDTW	Lidau	1.89	226	P	Pn	13 18 00.8	-1.0
	baz=221						
ELDTW				eS	Sn	13 18 22.7	-1.8
	baz=221						
CHN5	Tsauling	1.90	241	P	Pn	13 18 02.5	+0.7
	baz=232						
CHN5				eS	Sn	13 18 26.2	+1.5
	baz=232						
WGK	Gukeng	1.95	245	eP	Pn	13 18 03.4	+1.0
	baz=244						
WGK				eS	Sn	13 18 28.0	+2.2
	baz=244						
WDLH	Douliu	1.97	246	eP	Pn	13 18 03.9	+1.2
	baz=257						
WDLH				eS	Sn	13 18 29.2	+3.0
	baz=257						
JTJ	Tarama	2.01	86	P	Pn	13 18 03.4	+0.1
JTJ				S	Sn	13 18 28.2	+0.8
RLNB	Erlin	2.05	253	eP	Pn	13 18 03.9	+0.2
	baz=263						
RLNB				eS	Sn	13 18 28.2	+0.1
	baz=263						
STYT	Tauyuan	2.09	230	eP	Pn	13 18 04.8	+0.4
	baz=226						
STYT				eS	Sn	13 18 30.1	+0.9
	baz=226						
CHN2	Minshiung	2.09	242	eP	Pn	13 18 05.7	+1.3
	baz=254						
CHN2				eS	Sn	13 18 32.1	+2.9
	baz=254						
CHN4	Tsaushan	2.09	237	P	Pn	13 18 05.4	+1.0
	baz=236						
CHN4				eS	Sn	13 18 31.2	+2.0
	baz=236						
TPUB	Ta-pu	2.09	235	eP	Pn	13 18 05.3	+0.8
	baz=228						
TPUB				eS	Sn	13 18 30.5	+1.1
	baz=228						
TWGBT	Beinan	2.13	218	eP	Pn	13 18 03.6	-1.3
	baz=224						
TWGBT				eS	Sn	13 18 27.9	-2.4
	baz=224						
TWG	Pinlang	2.13	218	eP	Pn	13 18 04.2	-0.7
	baz=224						
TWG				eS	Sn	13 18 28.4	-2.0
	baz=224						
WTP	Ta-pu	2.14	234	eP	Pn	13 18 06.2	+1.1
	baz=233						
WTP				eS	Sn	13 18 31.8	+1.4
	baz=233						
TWK	Hsinying	2.22	236	P	Pn	13 18 07.0	+0.8
	baz=235						
TWK				eS	Sn	13 18 34.3	+1.9
	baz=235						
CHN1	Nanshi	2.24	234	eP	Pn	13 18 07.5	+1.1
	baz=233						
CHN1				eS	Sn	13 18 34.8	+1.9
	baz=233						
SGST	Jiashian	2.26	231	P	Pn	13 18 07.9	+1.2
	baz=230						
SGST				eS	Sn	13 18 35.5	+2.1
	baz=230						
SLGT	Liugui	2.27	228	eP	Pn	13 18 08.0	+1.1
	baz=228						
SLGT				eS	Sn	13 18 35.3	+1.5
	baz=228						
ECL	Taimali	2.38	217	eP	Pn	13 18 06.6	-1.7
	baz=216						
ECL				eS	Sn	13 18 33.5	-2.8
	baz=216						
CHN8	Yiju	2.39	241	eP	Pn	13 18 09.0	+0.6
	baz=240						
CHN8				eS	Sn	13 18 38.2	+1.6
	baz=240						
SSD	Sandimen	2.46	224	eP	Pn	13 18 09.9	+0.6
	baz=224						
SSD				eS	Sn	13 18 39.4	+1.2
	baz=224						
JIRB	Irabujima	2.46	82	P	Pn	13 18 09.2	-0.1
JIRB				eS	Sn	13 18 37.8	-0.4
MASBT	Mashibuluo	2.55	222	eP	Pn	13 18 10.7	0.0
	baz=222						
MASBT				eS	Sn	13 18 41.4	+0.8
	baz=222						
EAST	Anshuo	2.61	216	eP	Pn	13 18 10.5	-1.0
	baz=215						
SCZT	Fangliau	2.74	219	eP	Pn	13 18 14.5	+1.2
	baz=232						
SCZT				eS	Sn	13 18 44.8	-0.5
	baz=232						

*ISCJB **01** 13:27:59.5±0.6, 39°.59N±0°.04×143°.76E±0°.07, h11^{km}, mb3.8/9, MS3.6/3, Error ellipse: s-maj=8.1km s-min=4.5km az=27.6*

*IDC **01** 13:27:59.9±1.2, 39°.59N×143°.60E, h0^{km}, mb3.8/10, mb1 3.8/12, mb1mx3.6/66, mbtmp3.8/12, ML3.3/2, MS2.9/4, Ms1 2.9/4, ms1mx2.6/56, Error ellipse: s-maj=38.2km s-min=17.0km az=86.0*

*NIED **01** 13:28:00, 39°.60N×143°.70E, h17^{km}, Mw3.6 Best double couple: $M_0$3.10000×10^{14} NP1:ϕ_s169.00000°, δ33.00000°, λ46.00000°. NP2:ϕ_s38.00000°, δ67.00000°, λ114.00000°.*

*JMA **01** 13:28:01.3±0.2, 39°.63N×143°.68E, h24^{km}, M3.9*

ISC 01 13:28:01.3±1.0**, 39°.60N**±0°.06×**143°.66E**±0°.08**, h11^{km}, n38, σ0^{s}97**/32**, mb3.9**/9**, MS3.5**/3**, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MIYJ	Miyakonagasawa	1.42	270	P	Pn	13 28 26.4	-0.7
JTH	Tanohata	1.43	284	P	Pn	13 28 26.1	-1.0
JTH				eS	Sn	13 28 44.9	-0.9
OFUJ	Ofunato	1.63	252	P	Pn	13 28 29.4	-0.5
JANG	Nango	1.82	296	P	Pn	13 28 31.5	-1.0
JOM	Ohasama	1.84	267	P	Pn	13 28 32.8	+0.1
JOM				eS	Sn	13 28 56.6	+0.6
JMK	Ichinoseki	2.00	252	P	Pn	13 28 34.7	-0.3
JIO	Ouri	2.13	238	P	Pn	13 28 36.3	-0.5
JYK	Kaneyama	2.65	256	P	Pn	13 28 44.4	+0.4
JOT	Ohata	2.67	313	P	Pn	13 28 44.3	+0.1
JNBK	Urakawa-nobuka	2.77	346	P	Pn	13 28 46.5	+1.0
JNBK				eS	Sn	13 29 19.9	+1.0
JCH	Churui	3.02	356	P	Pn	13 28 49.4	+0.4
JCH				eS	Sn	13 29 23.0	-2.2
JKB	Kayabe	3.04	320	P	Pn	13 28 49.8	+0.6
JFT	Otama	3.33	232	P	Pn	13 28 53.5	+0.2
JAK	Akkeshi	3.48	13	P	Pn	13 28 54.4	-0.9
JAK				eS	Sn	13 29 34.8	-1.7
ASAJ	Asahikawa	4.58	350	Pn	Pn	13 29 12.2	+1.7
	1.2nm,0.3s,baz=193,slow=12,SNR=18						
ASAJ				Sn	Sn	13 30 05.6	+1.9
	1.0nm,0.3s,baz=102,slow=19,SNR=3.1						
MJAR	Matsushiro Arr	5.27	236	Pn	Pn	13 29 20.5	+0.5
	1.0nm,0.3s,baz=43,slow=11,SNR=22						
MAT	Matsushiro	5.28	236	P	Pn	13 29 21.5	+1.5
JNU	Nakatsue	12.16	242	LR	LR	13 35 40.6	
	comp=Z,36nm,18.3s,baz=30,slow=38						
KSRS	Korea Array	12.51	265	LR	LR	13 35 36.8	
	comp=Z,26nm,19.9s,baz=51,slow=37						
MA2	Magadan	20.50	10	P	Pn	13 32 41.0	-0.1
	1.5nm,0.3s,baz=200,slow=12,SNR=2.9						
YAK	Yakutsk	24.03	344	LR	LR	13 43 33.5	
	comp=Z,18nm,19.6s,baz=333,slow=39						
H11N2	WAKE ISLAND Hy	28.14	128	T	T	14 03 25.1	
	baz=314						
H11N1	WAKE ISLAND Hy	28.14	128	T	T	14 03 26.5	
	baz=314						
H11N3	WAKE ISLAND Hy	28.15	128	T	T	14 03 27.3	
	baz=314						
H11S1	WAKE ISLAND Hy	28.96	130	T	T	14 04 31.7	
	baz=323						
H11S3	WAKE ISLAND Hy	28.96	130	T	T	14 04 28.5	
	baz=323						
H11S2	WAKE ISLAND Hy	28.97	130	T	T	14 04 32.7	
	baz=323						
ZALV	Zalesovo Beam	41.55	310	P	P	13 35 49.3	+0.7
	0.8nm,0.4s,baz=98,slow=8.6,SNR=3.2						
MKAR	Makanchi Array	44.30	300	P	P	13 36 11.2	+0.1
	1.1nm,0.9s,baz=86,slow=9.2,SNR=5.6						
KURBB	Kurchatov Arra	45.86	306	P	P	13 36 23.6	+0.3
	1.2nm,0.6s,baz=80,slow=8.2,SNR=7.8						
BVAR	Borovoye Array	50.19	311	P	P	13 36 55.7	-1.0
	2.2nm,0.9s,baz=68,slow=8.0,SNR=4.0						
INK	Inuvik	51.30	28	LR	LR	13 59 48.3	
	comp=Z,47nm,18.3s,baz=137,slow=37						
WRA	Warramunga Arr	59.87	190	P	P	13 38 07.5	+0.5
	0.4nm,0.8s,baz=8.8,slow=7.1,SNR=3.1						
ASAR	Alice Springs	63.59	190	P	P	13 38 32.3	+0.2
	0.4nm,1.1s,baz=16,slow=7.7,SNR=3.2						
FINES	FINESS Array B	67.36	333	P	P	13 38 56.2	+0.2
	2.5nm,1.1s,baz=120,slow=6.8,SNR=3.4						
HFS	Hagfors	72.47	336	P	P	13 39 26.9	-0.5
	2.4nm,0.8s,baz=118,slow=5.2,SNR=3.8						
AKASG	Malin Array Be	73.34	323	P	P	13 39 32.2	-0.5
	0.2nm,0.4s,baz=52,slow=6.9,SNR=2.9						
ULM	Lac du Bonnet	76.39	35	LR	LR	14 16 51.7	
	comp=Z,275nm,18.8s,baz=128,slow=38						

IDC 01 13:42:53.9±2.4**, 6°.89S**×**127°.81E, h0^{km}, mb3.7**/1**, mb1 3.2**/3**, mb1mx3.0**/52**, mbtmp3.1**/3**, ML3.0**/1**, Error ellipse: s-maj=295.8km s-min=30.7km az=65.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	14.44	155	Pn	Pn	13 46 19.5	-0.3
	0.1nm,0.3s,baz=332,slow=14,SNR=6.4						
WRA				Sn	Sn	13 48 49.3	-11
	0.2nm,0.3s,baz=336,slow=24,SNR=5.9						
ASAR	Alice Springs	17.68	161	P	Pn	13 47 02.0	+0.2
	baz=340,slow=9.7,SNR=2.8						
ASAR				S	Sn	13 50 13.3	-6.3
	0.0nm,0.3s,baz=347,slow=25,SNR=3.2						
MKAR	Makanchi Array	66.96	328	P	P	13 53 48.4	0.0
	0.3nm,0.3s,baz=116,slow=7.8,SNR=11						

MEX 01 13:58:02.0±0.4**, 16°.51N**×**98°.54W, h4^{km}, MD3.9, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.41	106	i P	Pg	13 58 09.7	-0.3
PNIG				i S	Sg	13 58 15.6	+0.2
TLIG	Tlapa	1.05	359	eP	Pg	13 58 19.4	-2.7
TLIG				i S	Sg	13 58 32.7	-3.1
PLIG	Platanillo	2.09	334	eP	Pn	13 58 35.1	-2.8
PLIG				eS	Sn	13 59 00.1	-4.3
YAIG	Yautepec	2.39	348	eP	Pn	13 58 40.5	-1.7
YAIG				eS	Sn	13 59 12.9	+0.8
ARIG	Puente Sto Nin	2.47	316	eP	Pn	13 58 41.8	-1.3
ARIG				i S	Sn	13 59 14.9	+1.2
ZIIG	Zihuatanejo	3.00	292	eS	Sn	13 59 27.3	+0.4

*ISCJB **01** 14:01:15.2±1.1, 40°.49N±0°.06×69°.91E±0°.07, h10^{km}, Error ellipse: s-maj=10.4km s-min=5.4km az=40.9*

*KRNET **01** 14:01:15.1±0.1, 40°.54N×69°.97E, mb2.5*

*NNC **01** 14:01:21.6±4.8, 40°.82N×70°.47E, h0^{km}, mb2.7, mpv2.3, Error ellipse: s-maj=42.0km s-min=32.7km az=7.0*

ISC 01 14:01:15.7±1.3**, 40°.57N**±0°.07×**70°.02E**±0°.06**, h10^{km}, n10, σ2^{s}04**/17**, 15C-3D, Tajikistan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BTK	Batken	0.80	130	⇑eP	Pg	14 01 30.2	-0.9
	baz=26						
BTK				⇑iS	Sg	14 01 41.4	-0.1
	baz=26						
TAS	Tashkent	0.94	324	⇓iP	Pb	14 01 32.9	-1.2
	baz=28						
TAS				⇓iS	Sb	14 01 45.3	-1.3
	baz=28						
ARSB	Arslanbob	2.37	71	⇑iP	Pb	14 01 56.8	-1.7
	baz=70						
ARSB				⇑iS	Sb	14 02 26.6	-1.2
	baz=70						
KK31	Karatay Array	2.56	8	Pn	Pb	14 02 00.7	-1.0
	1.1nm,0.5s,baz=189,slow=16,SNR=36						
KK31				Lg	Lg	14 02 33.6	
	3.2nm,0.3s,baz=193,slow=28,SNR=21						
MNAS	Manas	2.67	43	⇑Pn	Pb	14 02 01.4	-2.3
	0.9nm,0.4s						
MNAS				⇑Lg	Lg	14 02 34.8	
	5.1nm,0.4s						
MNAS	Manas	2.67	43	⇑eP	Pn	14 02 00.1	+1.2
	baz=43						
MNAS				⇑iS	Sb	14 02 34.6	-2.0
	baz=43						
SFK	Sufi-Kurgan	2.72	101	⇑iP	Pn	14 02 01.1	+1.4
	baz=0.0						
SFK				⇑iS	Sn	14 02 34.9	+2.1
	baz=0.0						
AML	Almayashu	3.17	59	⇑eP	Pn	14 02 08.3	+2.2
	baz=59						
AML				⇑eS	Sn	14 02 47.1	+2.9
	baz=59						
UCH	Uchtor	3.76	62	⇑iP	Pn	14 02 16.8	+2.6
	baz=62						
UCH				⇑iS	Sn	14 03 01.2	+2.4
	baz=62						
AAK	Ala-Archa	3.94	57	⇓Pg	Pb	14 02 22.8	-2.5
	0.6nm,0.6s						
AAK				⇑Lg	Lg	14 03 12.2	
	0.5nm,0.6s						

*NIED **01** 14:04:00, 37°.10N×141°.10E, h53^{km}, Mw5.7 Best double couple: $M_0$4.57000×10^{17} NP1:ϕ_s214.00000°, δ23.00000°, λ103.00000°. NP2:ϕ_s20.00000°, δ68.00000°, λ85.00000°.*

*BJI **01** 14:04:22.5, 37°.08N×141°.11E, h58^{km}, mb5.5/83, mB5.6/65, Ms5.5/98, Ms7 5.4/89*

*NEIC **01** 14:04:24.9±0.1, 37°.12N×140°.96E, h48^{km}, mb5.8/14, ME5.3, MS5.2/134, MW5.7, Error ellipse: s-maj=2.4km s-min=1.8km az=138.0, Moment Tensor Solution. s63 Moment tensor: Scale 10^{17}Nm; M_{rr}2.83; $M_{\theta\theta}$-1.05; $M_{\phi\phi}$-1.78; $M_{r\theta}$1.31; $M_{\theta\phi}$-1.53; $M_{\phi r}$2.92; Best double couple: $M_0$4.30000×10^{17} NP1:ϕ_s229.00000°, δ22.00000°, λ110.00000°. NP2:ϕ_s28.00000°, δ69.00000°, λ82.00000°. Principal axes: T 4.3000, Plg65.0000°, Azm284.0000°; N 0.0600, Plg7.0000°, Azm31.0000°; P -4.3500, Plg24.0000°, Azm124.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from CMT mechanism.*

NEIC Felt [IV] at Fukushima and Sendai; [III] at Tokyo and Yokosuka; [II] at Funabashi. Felt widely in east-central and north-central Honshu. Recorded [5L JMA] in Fukushima.

*JMA **01** 14:04:24.9±0.1, 37°.08N×141°.13E, h53^{km}±1^{km}, M5.9 Broadband fault plane solution: P waves. NP1: ϕ_s204.00000°, δ45.00000°, λ96.00000°. NP2:ϕ_s16.00000°, δ45.00000°, λ84.00000°. Principal axes: T Plg86.0000°, Azm198.0000°; N Plg4.0000°, Azm20.0000°; P Plg0.0000°, Azm290.0000°;*

*MOS **01** 14:04:24.0±1.0, 37°.21N×141°.01E, h53^{km}, mb6.0/63, MS5.3/74 Error ellipse: s-maj=5.9km s-min=3.7km az=101.6*

*GCMT **01** 14:04:24.9±0.1, 37°.10N×141°.23E, h52^{km}, MW5.8/134, Moment Tensor Solution. s130,c267; s134,c361; Duration: 1^{s}8 Moment tensor: Scale 10^{17}Nm; M_{rr}4.21±.05; $M_{\theta\theta}$-0.69±.04; $M_{\phi\phi}$-3.52±.04; $M_{r\theta}$1.07±.04; $M_{\theta\phi}$-1.56±.03; $M_{\phi r}$3.07±.04; Best double couple:*

M₀5.32000×10[17] NP1:φs21.00000°,δ64.00000°, λ87.00000°. NP2:φs207.00000°,δ26.00000°,λ95.00000°. Principal axes: T 5.3240, Plg71.0000°, Azm286.0000°; N -0.0080, Plg2.0000°, Azm22.0000°; P -5.3150, Plg19.0000°, Azm113.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.

*ISCJB **01** 14:04:25.5±0.2, 37°.13N±0°.01×140°.98E±0°.01, h63km±1km, mb5.6/219 Error ellipse: s-maj=2.4km s-min=1.8km az=145.8*

*IDC **01** 14:04:28.8±1.1, 37°.13N×141°.01E, h78km±9km, mb5.2/48, mb1 5.2/54, mb1mx5.1/64, mbtmp5.5/54, MS5.0/55, Ms1 5.0/55, ms1mx5.0/60, Error ellipse: s-maj=8.8km s-min=7.4km az=110.0*

ISC 01 14:04:25.5±0.2**, 37°.17N**±0°.02×**141°.04E**±0°.02**, h54**km±1km**, h54**km**:pP-P, n1854, σ1**s**44**/2003**, mb5.7**/257**, MS5.2**/246**, 148C-71D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.20**	**249**	⇓P	**Pn**	**14 04 34.0**	**-0.5**
ONAJ				*e*S	**Sn**	**14 04 40.3**	**-0.5**
JFK	**Kawauchi**	**0.23**	**326**	⇓P	**Pn**	**14 04 34.7**	**+0.1**
JFT	**Otama**	**0.66**	**302**	⇓P	**Pn**	**14 04 40.5**	**+1.5**
JFT				*e*S	**Sn**	**14 04 51.0**	**+2.3**
JHO	**Hitachi**	**0.68**	**214**	⇑P	**Pn**	**14 04 37.8**	**-1.4**
JHO				S	**Sn**	**14 04 46.8**	**-2.3**
JMM	**Marumori**	**0.72**	**344**	⇓P	**Pn**	**14 04 40.4**	**+0.7**
JMM				*e*S	**Sn**	**14 04 51.7**	**+1.7**
JSB	**Shiboa**	**0.92**	**257**	⇓P	**Pn**	**14 04 42.9**	**+0.6**
JFY	**Yanaizu**	**1.09**	**283**	⇓P	**Pn**	**14 04 45.4**	**+0.8**
JOU	**Okura**	**1.23**	**346**	⇓P	**Pn**	**14 04 47.3**	**+0.9**
JYS	**Shirataka**	**1.30**	**324**	⇓P	**Pn**	**14 04 49.0**	**+1.6**
JYS				*e*S	**Sn**	**14 05 07.4**	**+3.7**
JIO	**Ouri**	**1.30**	**11**	⇓P	**Pn**	**14 04 47.6**	**+0.2**
JIO				*e*S	**Sn**	**14 05 04.1**	**+0.3**
JAG	**Ashikaga**	**1.48**	**240**	⇓P	**Pn**	**14 04 49.6**	**-0.2**
JAG				*e*S	**Sn**	**14 05 07.7**	**-0.3**
JKT	**Katashina**	**1.49**	**255**	⇓P	**Pn**	**14 04 50.9**	**+0.8**
JKT				*e*S	**Sn**	**14 05 09.8**	**+1.3**
JNS	**Sasagawa**	**1.51**	**296**	⇓P	**Pn**	**14 04 51.1**	**+0.8**
JHK	**Hiroka**	**1.62**	**273**	⇓P	**Pn**	**14 04 52.9**	**+1.2**
JYA	**Atsumi**	**1.76**	**324**	⇓P	**Pn**	**14 04 55.3**	**+1.6**
JYK	**Kaneyama**	**1.82**	**343**	⇓P	**Pn**	**14 04 56.0**	**+1.5**
JIZZ	**Izumozaki**	**1.89**	**282**	⇓P	**Pn**	**14 04 57.5**	**+2.1**
JAW	**Awa shima**	**1.91**	**313**	⇓P	**Pn**	**14 04 57.1**	**+1.4**
I30JP	**ISUMI INFRASON**	**1.95**	**198**	P	**Pn**	**14 04 58.7**	**+2.5**
	baz=35,slow=17,SNR=1.1						
I30JP				S	**Sn**	**14 05 20.2**	**+0.6**
	baz=35,slow=302						
JGK	**Kuni**	**2.02**	**253**	⇓P	**Pn**	**14 04 58.5**	**+1.3**
JGK				*e*S	**Sn**	**14 05 24.5**	**+3.2**
JRY	**Ryogami san**	**2.07**	**237**	⇓P	**Pn**	**14 04 57.7**	**-0.2**
JRG	**Rokugo**	**2.24**	**352**	⇓P	**Pn**	**14 05 02.1**	**+1.9**
BSO4	**Boso 4**	**2.25**	**195**	P	**Pn**	**14 05 00.7**	**+0.4**
JJN	**Nakama**	**2.30**	**269**	⇓P	**Pn**	**14 05 02.7**	**+1.7**
JOM	**Ohasama**	**2.30**	**5**	⇓P	**Pn**	**14 05 01.9**	**+0.8**
MJAR	**Matsushiro Arr**	**2.35**	**255**	P	**Pn**	**14 05 03.0**	**+1.2**
	444nm,0.3s,baz=85,slow=15,SNR=2352						
MJAR				S	**Sn**	**14 05 34.5**	**+5.0**
	418nm,0.3s,baz=71,slow=20,SNR=8.8						
MAJO	**Matsushiro**	**2.36**	**255**	*e*Pn	**Pn**	**14 05 03.4**	**+1.6**
MAJO	**Matsushiro**	**2.36**	**255**	*e*P	**Pn**	**14 05 03.4**	**+1.6**
MAT	**Matsushiro**	**2.36**	**255**	P	**Pn**	**14 05 03.4**	**+1.6**
MAT				*e*S	**Sn**	**14 05 31.2**	**+1.6**
MAT	**Matsushiro**	**2.36**	**255**	P	**Pn**	**14 05 03.3**	**+1.5**
JSD	**Sado**	**2.37**	**292**	⇓P	**Pn**	**14 05 02.5**	**+0.6**
JYW	**Yuwa**	**2.45**	**345**	⇓P	**Pn**	**14 05 05.5**	**+2.4**
JNG	**Nsakai**	**2.48**	**253**	⇓P	**Pn**	**14 05 04.9**	**+1.3**
BSO1	**Boso 1**	**2.52**	**181**	P	**Pn**	**14 05 02.4**	**-1.1**
JYN	**Shimob**	**2.62**	**231**	P	**Pn**	**14 05 05.9**	**+0.5**
JIM2	**Oshima 3**	**2.78**	**208**	P	**Pn**	**14 05 06.9**	**-0.7**
JKZ	**Kuzumaki**	**2.82**	**5**	⇓P	**Pn**	**14 05 09.2**	**+1.1**
JSZ	**Suzu**	**2.94**	**276**	⇓P	**Pn**	**14 05 10.8**	**+1.0**
JIZS	**Izushimoda**	**3.01**	**216**	P	**Pn**	**14 05 10.1**	**-0.7**
JTT	**Ttatey**	**3.02**	**260**	⇓P	**Pn**	**14 05 13.0**	**+2.1**
SHZ3	**Shizuoka 3**	**3.11**	**228**	P	**Pn**	**14 05 13.1**	**+0.9**
JGN	**Niukaw**	**3.14**	**254**	⇓P	**Pn**	**14 05 14.5**	**+1.9**
JNY	**Yasuok**	**3.14**	**236**	P	**Pn**	**14 05 14.3**	**+1.7**
JHG	**Hegura jima**	**3.34**	**283**	⇓P	**Pn**	**14 05 16.4**	**+1.1**
JGF	**Kuroka**	**3.36**	**243**	⇓P	**Pn**	**14 05 17.3**	**+1.7**
JJH	**Hakui**	**3.41**	**267**	P	**Pn**	**14 05 17.8**	**+1.5**
JYZW	**Yoshizawa**	**3.45**	**232**	P	**Pn**	**14 05 17.6**	**+0.9**
HMMJ	**Hamamatsu 2**	**3.55**	**230**	⇓P	**Pn**	**14 05 19.1**	**+1.0**
JAO	**Obara**	**3.60**	**239**	⇓P	**Pn**	**14 05 20.6**	**+1.7**
JAO				*e*S	**Sn**	**14 06 05.5**	**+5.3**
JTM	**Tenmabayashi**	**3.61**	**0**	⇓P	**Pn**	**14 05 21.0**	**+2.1**
INU	**Inuyama**	**3.73**	**242**	*e*Pn	**Pn**	**14 05 22.2**	**+1.6**
JKG	**Kaga**	**3.89**	**258**	P	**Pn**	**14 05 25.7**	**+3.0**
JHJ	**Hachijo jima 2**	**4.17**	**195**	P	**Pn**	**14 05 26.2**	**-0.5**
	958nm,0.3s,baz=336,slow=22,SNR=165						
JHJ				S	**Sn**	**14 06 11.4**	**-2.8**
	1μm,0.3s,baz=73,slow=19,SNR=18						
JHJ2	**Mitsune**	**4.17**	**194**	P	**Pn**	**14 05 25.5**	**-1.2**
JHJ2	**Mitsune**	**4.17**	**194**	*e*Pn	**Pn**	**14 05 24.8**	**-1.9**
JFM	**Mihama**	**4.40**	**250**	⇓P	**Pn**	**14 05 32.2**	**+2.4**
JIE	**Ise**	**4.48**	**233**	P	**Pn**	**14 05 31.8**	**+0.9**
JKN2	**Miekihoku**	**4.86**	**234**	⇑P	**Pn**	**14 05 36.8**	**+0.7**
JWT	**Wachi**	**4.93**	**249**	⇓P	**Pn**	**14 05 39.0**	**+1.9**
JKY	**Yasaka**	**5.03**	**254**	P	**Pn**	**14 05 40.8**	**+2.4**
ERM	**Erimo**	**5.10**	**18**	*e*Pn	**Pn**	**14 05 39.3**	**-0.1**
ERM	**Erimo**	**5.10**	**18**	*d i*P	**Pn**	**14 05 40.2**	**+0.8**
ERM				pmax	pmax		
	comp=Z,1μm,1.0s						
ASAJ	**Asahikawa**	**7.04**	**9**	P	**Pn**	**14 06 06.6**	**+0.7**
	comp=Z,36nm,0.3s,baz=216,slow=9.8,SNR=319						
ASAJ				S	**Sn**	**14 07 26.1**	**+1.6**
	comp=Z,62nm,0.3s,baz=195,slow=20,SNR=5.6						
ASAJ	**Asahikawa**	**7.04**	**9**	*e*Pn	**Pn**	**14 06 05.9**	**0.0**
ASAJ				S	**Sn**	**14 07 26.1**	**+1.6**
GRPR	**Tuman**	**7.70**	**26**	*i* P	**Pn**	**14 06 13.4**	**-1.6**
GRPR				*i* S	**Sn**	**14 07 36.8**	**-4.0**
GRPR				pmax	pmax		
	comp=Z,949nm,0.4s						
YUK	**Yuzh-Kuril'sk**	**7.77**	**27**	*i* P	**Pn**	**14 06 14.1**	**-1.8**
YUK				*i* S	**Sn**	**14 07 38.4**	**-4.0**
YUK				pmax	pmax		
	comp=Z,1μm,0.3s						
YUK				pmax	pmax		
	comp=E,404nm,0.4s						
YUK				pmax	pmax		
	comp=N,268nm,0.2s						
YUK				MLR	MLR		
	comp=Z,6μm,17.0s						
SHO	**Shikotan**	**8.01**	**32**	*i* P	**Pn**	**14 06 16.3**	**-2.9**
SHO				*e*S	**Sn**	**14 07 41.8**	**-6.5**
SHO				pmax	pmax		
	comp=Z,171nm,0.7s						
SHO				pmax	pmax		
	comp=N,132nm,0.6s						
SHO				pmax	pmax		
	comp=E,154nm,0.5s						
SHO				MLR	MLR		
	comp=Z,5μm,16.0s						
TEY	**Ternei**	**8.54**	**338**	*e*P	**Pn**	**14 06 27.0**	**+0.6**
TEY				pmax	pmax		
	comp=Z,15nm,0.7s						
TEY				pmax	pmax		
	comp=N,2μm,4.0s						
TEY				pmax	pmax		
	comp=Z,2μm,5.0s						
TEY				MLR	MLR		
	comp=Z,5μm,13.0s						
VLA	**Vladivostok**	**9.18**	**313**	⇓*i*P	**Pn**	**14 06 36.8**	**+1.6**
JNU	**Nakatsue**	**9.25**	**247**	P	**Pn**	**14 06 38.4**	**+2.1**
	comp=Z,5.8nm,0.3s,baz=65,slow=3.7,SNR=123						
JNU				LR	LR	14 10 52.3	
	comp=Z,13μm,19.6s,baz=70,slow=42						
JNU	**Nakatsue**	**9.25**	**247**	P	**Pn**	**14 06 38.1**	**+1.8**
JNU	**Nakatsue**	**9.25**	**247**	*e*Pn	**Pn**	**14 06 37.7**	**+1.4**
MSHR	**Mys Shultsa**	**9.32**	**308**	*e*P	**Pn**	**14 06 38.1**	**+1.0**
KUR	**Kuril'sk**	**9.55**	**30**	*d i*P	**Pn**	**14 06 40.2**	**-0.1**
KUR				*e*S	**Sn**	**14 08 20.5**	**-5.5**
KUR				pmax	pmax		
	comp=Z,385nm,0.7s						
KUR				pmax	pmax		
	comp=N,157nm,0.4s						
KUR				pmax	pmax		
	comp=E,112nm,0.3s						
KUR				smax	smax		
	comp=E,1μm,0.6s						
KUR				smax	smax		
	comp=N,725nm,0.5s						
KUR				smax	smax		
	comp=N,4μm,1.4s						
KUR				smax	smax		
	comp=E,3μm,1.1s						
KUR				smax	smax		
	comp=Z,6μm,18.0s						
USRK	**Ussuriysk Ar.**	**9.82**	**318**	P	**Pn**	**14 06 46.4**	**+2.5**
	comp=Z,10nm,0.3s,baz=132,slow=14,SNR=153						
USRK				LR	LR	14 10 23.0	
	comp=Z,23μm,19.5s,baz=128,slow=36						
YSS	**Yuzh-Sakhalins**	**9.86**	**7**	*e*Pn	**Pn**	**14 06 44.5**	**0.0**
YSS	**Yuzh-Sakhalins**	**9.86**	**7**	⇓*e*P	**Pn**	**14 06 44.4**	**0.0**
YSS				*e*S	**Sn**	**14 08 29.5**	**-4.0**
YSS				pmax	pmax		
	comp=Z,270nm,0.8s						
YSS				pmax	pmax		
	comp=N,240nm,1.1s						
YSS				MLR	MLR		
	comp=Z,7μm,14.0s						
YSS				MLR	MLR		
	comp=N,6μm,19.0s						
CBIJ	**Chichi jima**	**10.10**	**174**	P	Pn	14 06 42.4	-5.4
CBIJ				*e*S	Sn	14 08 26.2	-13
CBIJ	**Chichi jima**	**10.10**	**174**	*e*Pn	Pn	14 06 41.9	-5.9
CBIJ				S	Sn	14 08 25.0	-15
JCJ	**Chichijima**	**10.10**	**174**	P	Pn	14 06 42.5	-5.4
	comp=N,143nm,0.3s,baz=337,slow=8.7,SNR=32						
JCJ				S	Sn	14 08 25.0	-15
	baz=17,slow=20						
KSRS	**Korea Array**	**10.45**	**275**	P	**Pn**	**14 06 57.0**	**+4.4**
	comp=N,8.4nm,0.3s,baz=88,slow=14,SNR=113						
KSRS				S	Sn	14 08 59.8	+12
	baz=83,slow=20,SNR=1.7						
KSRS				LR	LR	14 10 45.2	
	comp=N,21μm,20.2s,baz=83,slow=36						
KSRS				PcP	**PcP**	**14 12 55.2**	**+1.0**
	comp=N,0.2nm,0.3s,baz=79,slow=1.1,SNR=4.7						
KSRS				ScP	**ScP**	**14 16 20.9**	**-1.1**
	comp=N,0.1nm,0.3s,baz=104,slow=2.0,SNR=9.6						
KS01	**Wonju Array Si**	**10.47**	**276**	*e*Pn	**Pn**	**14 06 56.0**	**+3.0**
KS15	**Wonju Array Si**	**10.48**	**275**	*e*Pn	**Pn**	**14 06 56.9**	**+3.8**
KSAR	**Wonju Array Be**	**10.48**	**275**	P	**Pn**	**14 06 57.0**	**+3.9**
KSAR				S	Sn	14 08 59.8	+11
KSAR				PcP	**PcP**	**14 12 55.2**	**+1.0**
KSAR				ScP	**ScP**	**14 16 20.9**	**-1.2**
KSAR	**Wonju Array Be**	**10.48**	**275**	P	**Pn**	**14 06 57.0**	**+3.9**
KSAR				S	Sn	14 08 59.8	+11
MDJ	**Mudanjiang**	**11.41**	**314**	P	**Pn**	**14 07 06.2**	**+0.5**
MDJ				sP		14 07 23.4	
MDJ				S	**Sn**	**14 09 12.0**	**+0.5**
MDJ				pmax	pmax		
	comp=N,570nm,0.9s						
MDJ				pmax	pmax		
	comp=N,2μm,4.1s						
MDJ				LR	LR		
	comp=N,14μm,15.9s						
MDJ				LR	LR		
	comp=N,10μm,19.9s						
MDJ				LR	LR		
	comp=N,24μm,20.3s						
MDJ	**Mudanjiang**	**11.41**	**314**	*e*Pn	**Pn**	**14 07 07.9**	**+2.3**
CN2	**Changchun**	**13.58**	**304**	*e*P	**Pn**	**14 07 36.8**	**+1.5**
CN2				*e*sP	P	14 07 55.6	+13
CN2				*e*S	**Sn**	**14 10 06.9**	**+2.5**
CN2				pmax	pmax		
	comp=N,30nm,1.1s						
CN2				pmax	pmax		
	comp=N,200nm,5.0s						
CN2				LR	LR		
	comp=N,6μm,16.0s						
CN2				LR	LR		
	comp=N,9μm,16.0s						
CN2				LR	LR		
	comp=N,12μm,15.0s						
TYV	**Tymovskoe**	**13.73**	**4**	*e*P	**Pn**	**14 07 34.3**	**-3.0**
TYV				pmax	pmax		
	comp=Z,1μm,4.8s						
TYV				pmax	pmax		
	comp=Z,317nm,1.3s						
TYV				MLR	MLR		
	comp=N,4μm,18.0s						
TYV				MLR	MLR		
	comp=Z,6μm,17.0s						
KLR	**Kul'dur**	**13.81**	**334**	P	**Pn**	**14 07 39.9**	**+1.5**
	comp=Z,0.3nm,0.3s,baz=150,slow=12,SNR=42						
KLR	**Kul'dur**	**13.81**	**334**	*d i*P	**Pn**	**14 07 39.6**	**+1.2**
GRNR	**Gornyy**	**13.99**	**348**	*e*P	**Pn**	**14 07 40.0**	**-0.8**
GRNR				pmax	pmax		
	comp=N,84nm,1.2s						
GRNR				pmax	pmax		
	comp=Z,82nm,1.2s						
SNY	**Shenyang**	**14.26**	**294**	⇑P	**Pn**	**14 07 45.8**	**+1.4**
SNY				S	**Sn**	**14 10 24.5**	**+3.6**
SNY				pmax	pmax		
	comp=Z,130nm,1.5s						
SNY				pmax	pmax		
	comp=Z,2μm,3.5s						
SNY				LR	LR		
	comp=Z,7μm,12.6s						
SNY				LR	LR		
	comp=Z,18μm,14.7s						
SNY				LR	LR		
	comp=Z,22μm,16.9s						
JOW	**Kunigami**	**14.94**	**230**	P	**Pn**	**14 07 55.0**	**+1.6**
	comp=Z,3.9nm,0.3s,baz=237,slow=8.0,SNR=10						
JOW				LR	LR	14 13 44.1	
	comp=Z,7μm,21.7s,baz=60,slow=37						
JOW	**Kunigami**	**14.94**	**230**	*e*Pn	**Pn**	**14 07 52.3**	**-1.1**
DL2	**Dalian**	**15.39**	**282**	⇑*i*P	**Pn**	**14 08 00.3**	**+1.1**
DL2				sP	**pP**	**14 08 16.1**	**+1.3**
DL2				S	**Sn**	**14 10 53.4**	**+4.8**
DL2				pmax	pmax		
	comp=Z,120nm,0.8s						
DL2				pmax	pmax		
	comp=Z,2μm,6.1s						
DL2				LR	LR		
	comp=Z,9μm,18.6s						
DL2				LR	LR		
	comp=Z,12μm,21.4s						
NKL	**Nikolayevsk**	**15.98**	**359**	*e*P	**Pn**	**14 08 02.8**	**-3.7**
NKL				*e*S	**Sn**	**14 11 03.0**	**+0.5**
NKL				pmax	pmax		
	comp=N,25nm,0.9s						
NKL				pmax	pmax		
	comp=Z,49nm,0.9s						
NKL				pmax	pmax		
	comp=N,600nm,10.0s						
NKL				pmax	pmax		
	comp=Z,600nm,6.0s						
NKL				smax	smax		
	comp=E,2μm,9.0s						
NKL				smax	smax		
	comp=Z,2μm,9.0s						
NKL				MLR	MLR		
	comp=N,4μm,18.0s						
NKL				MLR	MLR		
	comp=E,3μm,18.0s						
NKL				MLR	MLR		
	comp=Z,6μm,17.0s						
OKH	**Okha**	**16.43**	**4**	⇑*i*P	**Pn**	**14 08 10.3**	**-1.9**
OKH				*i* S	**Sn**	**14 11 06.0**	**-7.5**
OKH				pmax	pmax		
	comp=Z,300nm,16.0s						
OKH				smax	smax		
	comp=E,900nm,15.3s						
OKH				smax	smax		
	comp=Z,5μm,19.0s						
SSE	**Sheshan**	**17.51**	**256**	P	**P**	**14 08 27.2**	**+0.9**
SSE				S	**S**	**14 11 42.7**	**-2.6**
SSE				pmax	pmax		
	comp=Z,32nm,1.0s						
SSE				pmax	pmax		
	comp=Z,910nm,4.9s						
SSE				LR	LR		
	comp=Z,4μm,21.6s						
SSE				LR	LR		
	comp=Z,4μm,17.3s						
NJ2	**Nanjing**	**18.95**	**261**	*e*P	**P**	**14 08 41.0**	**-1.1**
NJ2				S	**S**	**14 12 12.2**	**-2.3**
NJ2				sS	**sS**	**14 12 31.7**	**-2.2**
NJ2				pmax	pmax		
	comp=Z,43nm,1.0s						
NJ2				pmax	pmax		
	comp=Z,1μm,4.3s						
NJ2				LR	LR		
	comp=Z,8μm,21.7s						
NJ2				LR	LR		
	comp=Z,8μm,22.8s						
NJ2				LR	LR		
	comp=Z,11μm,24.9s						
JISG	**Ishigakijimahi**	**19.03**	**233**	P	**P**	**14 08 40.1**	**-3.0**
ZEA	**Zeya**	**19.12**	**334**	*e*P	**P**	**14 08 42.2**	**-1.7**
ZEA				*e*S	**S**	**14 12 12.0**	**-5.7**
ZEA				pmax	pmax		
	comp=Z,1μm,6.0s						
ZEA				pmax	pmax		
	comp=N,210nm,1.0s						
ZEA				pmax	pmax		
	comp=Z,640nm,1.0s						
ZEA				smax	smax		
	comp=N,3μm,8.0s						
ZEA				MLR	MLR		
	comp=N,8μm,16.0s						
ZEA				MLR	MLR		
	comp=E,4μm,16.0s						
ZEA				MLR	MLR		
	comp=Z,11μm,16.0s						
TIA	**Tai'an**	**19.20**	**274**	P	**P**	**14 08 44.5**	**-0.3**
TIA				pmax	pmax		
	comp=Z,130nm,0.7s						
TIA				LR	LR		
	comp=Z,4μm,13.5s						
TIA				LR	LR		
	comp=Z,6μm,17.1s						
TIA				LR	LR		
	comp=Z,10μm,18.1s						
JIJ	**Ishigaki jima**	**19.30**	**233**	P	**P**	**14 08 43.1**	**-2.9**
HIA	**Hailar**	**19.59**	**315**	*e*P	**P**	**14 08 45.8**	**-3.3**
HIA	**Hailar**	**19.59**	**315**	*e*P	**P**	**14 08 45.8**	**-3.3**
BJI	**Beijing**	**19.62**	**286**	⇓*i*P	**P**	**14 08 48.3**	**-1.1**
BJI				S	**S**	**14 12 28.0**	**+0.1**
BJI				pmax	pmax		
	comp=Z,170nm,1.4s						
BJI				pmax	pmax		
	comp=Z,5μm,12.3s						
BJI				LR	LR		
	comp=Z,6μm,14.1s						
BJT	**Baijiatuau**	**19.63**	**286**	*e*P	**P**	**14 08 46.4**	**-3.1**
BJT	**Baijiatuau**	**19.63**	**286**	*e*P	**P**	**14 08 46.4**	**-3.1**
PETK	**Petropavlovsk-**	**19.72**	**31**	P	**Pn**	**14 08 52.7**	**+0.4**
	comp=Z,1.3nm,0.3s,baz=199,slow=9.1,SNR=17						
PETK				LR	LR	14 16 45.3	
	comp=Z,1μm,22.0s,baz=221,slow=37						
PET	**Petropavlovsk**	**20.06**	**32**	*e*P	**P**	**14 08 55.0**	**+1.0**
PET				LR	LR		
	comp=Z,6μm,19.0s						
PET	**Petropavlovsk**	**20.06**	**32**	*e*P	Pn	14 08 55.2	-1.0
PET				*e*S	Sn	14 12 41.7	+0.8
PET				pmax	pmax		
	comp=Z,255nm,1.2s						
PET				MLR	MLR		
	comp=Z,2μm,17.0s						
TATO	**Taipei**	**20.65**	**239**	*e*P	**P**	**14 08 59.1**	**-1.6**
YHNB	**Yeheng**	**20.92**	**239**	*e*P	**P**	**14 09 01.1**	**-2.6**
YHNB				LR	LR		
	comp=Z,4μm,19.0s						
NACB	**Ninganchiao**	**21.10**	**238**	*e*P	**P**	**14 09 01.0**	**-4.6**
SSLB	**Suanglung**	**21.80**	**238**	*e*P	**P**	**14 09 09.6**	**-3.5**
YULB	**Yu-li**	**21.83**	**237**	*e*P	**P**	**14 09 08.8**	**-4.6**
TPUB	**Ta-pu**	**22.34**	**237**	*e*P	**P**	**14 09 15.7**	**-3.2**
TWG	**Pinlang**	**22.38**	**236**	*e*P	**P**	**14 09 14.7**	**-4.6**
CLNS	**Chul'man**	**22.43**	**336**	*e*P	**P**	**14 09 17.2**	**-2.4**
CLNS				*e**PP	**pP**	**14 09 26.5**	**-5.4**
CLNS				*e*		14 09 38.2	
CLNS				*e*		14 13 13.1	
CLNS				*e*S	**S**	**14 13 18.7**	**-3.5**
CLNS				*e*SS	**SnSn**	**14 14 00.6**	**+6.3**
CLNS				pmax	pmax		
	comp=E,19nm,0.8s						
CLNS				pmax	pmax		
	comp=N,110nm,1.2s						
CLNS				pmax	pmax		
	comp=Z,110nm,1.1s						
CLNS				pmax	pmax		
	comp=E,64nm,1.0s						
CLNS				pmax	pmax		
	comp=N,171nm,1.0s						
CLNS				pmax	pmax		
	comp=Z,98nm,0.9s						
CLNS				smax	smax		
	comp=N,3μm,11.9s						
CLNS				smax	smax		
	comp=E,1μm,13.1s						
CLNS				MLR	MLR		
	comp=Z,7μm,17.0s						
CLNS				MLR	MLR		
	comp=E,2μm,13.0s						
CLNS				MLR	MLR		
	comp=N,4μm,14.0s						
TIY	**Taiyuan**	**22.68**	**280**	*e*P	**P**	**14 09 18.2**	**-4.3**
TIY				sP	**sP**	**14 09 45.4**	**+3.8**
TIY				S	**S**	**14 13 22.1**	**-4.9**
TIY				SS	**SnSn**	**14 14 09.8**	**+9.1**
TIY				pmax	pmax		
	comp=N,71nm,0.7s						
TIY				pmax	pmax		
	comp=N,720nm,5.5s						
TIY				LR	LR		
	comp=N,5μm,18.4s						
TIY				LR	LR		
	comp=N,8μm,13.3s						
TIY				LR	LR		
	comp=N,10μm,15.3s						
QZH	**Quanzhou**	**22.70**	**244**	⇑*i*P	**P**	**14 09 19.5**	**-3.2**
QZH				S	**S**	**14 13 21.1**	**-6.2**
QZH				LR	LR		
	comp=N,4μm,24.5s						
QZH				LR	LR		
	comp=N,3μm,16.3s						
QZH				LR	LR		
	comp=N,5μm,25.1s						
WHN	**Wuhan**	**23.08**	**261**	⇑P	**P**	**14 09 25.3**	**-1.3**
WHN				S	**S**	**14 13 26.9**	**-6.6**
WHN				LR	LR		
	comp=N,7μm,20.8s						
WHN				LR	LR		
	comp=N,24μm,25.3s						
WHN				LR	LR		
	comp=N,26μm,26.3s						
HHC	**Hu-ho-hao-te**	**23.14**	**288**	*e*P	**P**	**14 09 25.9**	**-1.3**
HHC				sP	sP	14 09 47.3	+0.8
HHC				PP	**PnPn**	**14 10 00.1**	**+5.7**
HHC				S	**S**	**14 13 31.8**	**-2.8**
HHC				sS	Sn	14 13 50.2	-5.1
HHC				SS	**SnSn**	**14 14 18.6**	**+6.7**
HHC				pmax	pmax		
	comp=N,43nm,0.8s						
HHC				pmax	pmax		
	comp=N,480nm,4.0s						
HHC				LR	LR		
	comp=N,12μm,12.4s						
HHC				LR	LR		
	comp=N,10μm,12.4s						
HHC				LR	LR		
	comp=N,10μm,13.9s						
MA2	**Magadan**	**23.28**	**13**	P	**P**	**14 09 28.8**	**+0.6**
	comp=N,436nm,1.0s,baz=200,slow=8.8,SNR=160						
MA2	**Magadan**	**23.28**	**13**	*c i*P	**P**	**14 09 28.0**	**-0.2**
MA2				*i* *SP	**sP**	**14 09 46.2**	**-1.4**
GUMO	**Guam**	**23.74**	**171**	P	**P**	**14 09 32.7**	**-0.1**
	comp=N,242nm,1.1s,baz=29,slow=7.6,SNR=4.9						
GUMO				LR	LR	14 21 44.3	
	comp=N,878nm,18.3s,baz=20,slow=44						
GUMO	**Guam**	**23.74**	**171**	*e*P	**P**	**14 09 32.2**	**-0.6**
	comp=N,688nm,1.0s						
GUMO	**Guam**	**23.74**	**171**	*e*P	**P**	**14 09 32.2**	**-0.6**
GUMO				pmax	pmax		
	comp=Z,688nm,1.0s						
BTO	**Baotou**	**24.32**	**288**	*e*P	**P**	**14 09 36.7**	**-1.4**
CIT	**Chita**	**24.37**	**316**	*e*P	**P**	**14 09 35.8**	**-2.6**
CIT				*e*		14 09 52.3	
CIT				*e*		14 10 25.3	
CIT				*e*		14 13 56.0	
CIT				pmax	pmax		
	comp=Z,552nm,1.7s						
YAK	**Yakutsk**	**25.87**	**348**	P	**P**	**14 09 52.4**	**+0.7**
	comp=Z,185nm,0.4s,baz=19,slow=2.7,SNR=56						
YAK				LR	LR	14 20 21.5	
	comp=Z,7μm,20.1s,baz=120,slow=37						
YAK	**Yakutsk**	**25.87**	**348**	*e*P	**P**	**14 09 51.6**	**-0.1**

YAK **Yakutsk** 25.87 348*c* *i*P **P** 14 09 51.7 -0.1
YAK *e**PP **pP** 14 10 08.0 +2.6
YAK *e* 14 10 28.3
YAK *e*S **S** 14 14 13.4 -4.1
YAK pmax pmax
comp=Z,211nm,1.0s
YAK pmax pmax
comp=N,110nm,1.2s
YAK pmax pmax
comp=E,40nm,0.9s
YAK pmax pmax
comp=Z,430nm,1.5s
YAK pmax pmax
comp=N,303nm,1.5s
YAK pmax pmax
comp=E,252nm,1.4s
YAK smax smax
comp=N,642nm,2.3s
YAK smax smax
comp=E,514nm,2.3s
YAK MLR MLR
comp=Z,8µm,23.0s
YAK MLR MLR
comp=N,19µm,24.0s
YAK MLR MLR
comp=E,2µm,21.0s
XAN **Xi'an** 26.23 273 ⇑P **P** 14 09 54.3 -1.2
XAN pP pP 14 10 07.1 -2.0
XAN sP sP 14 10 13.5 -2.0
XAN PP **PnPn** **14 10 36.3 -0.3**
XAN PcP **PcP** **14 13 22.1 +1.2**
XAN S **S** **14 14 17.5 -6.5**
XAN SS **SnSn** **14 15 28.0 +0.5**
XAN ScP **ScP** **14 16 55.2 -0.8**
XAN PcS **PcS** **14 17 01.6 -0.5**
XAN pmax pmax
comp=E,110nm,0.8s
XAN pmax pmax
comp=E,2µm,4.7s
XAN LR LR
comp=E,4µm,18.7s
XAN LR LR
comp=E,2µm,20.4s
XAN LR LR
comp=E,5µm,22.5s
SEY **Seymchan** 26.71 12 P **P** **14 10 01.1 +1.7**
comp=E,192nm,1.1s,baz=205,slow=7.2,SNR=73
SEY **Seymchan** 26.71 12*c* *i*P **P** **14 10 00.8 +1.4**
SEY *i* *SP **sP** **14 10 19.6 +0.1**
ULN **Ulaanbaatar** 27.03 304 *e*P **P** **14 10 02.5 -0.1**
ULN **Ulaanbaatar** 27.03 304 *e*P **P** **14 10 02.5 -0.1**
ENH **Enshi** 27.05 265 *e*P **P** **14 10 01.3 -1.5**
ENH LR LR
comp=Z,7µm,21.0s
BOD **Bodaibo** 27.25 328 *e*P **P** **14 10 04.3 0.0**
BOD pmax pmax
comp=Z,154nm,0.9s
SONM **Songino Array** 27.46 304 P **P** **14 10 06.2 -0.3**
comp=Z,41nm,0.5s,baz=107,slow=8.6,SNR=87
SONM PcP **PcP** **14 13 24.3 +0.6**
comp=Z,5.5nm,0.4s,baz=127,slow=2.5,SNR=8.1
SONM ScP **ScP** **14 16 57.0 -2.6**
comp=Z,11nm,1.3s,baz=132,slow=2.2,SNR=6.2
SONM LR LR 14 21 40.9
comp=Z,6µm,18.2s,baz=98,slow=38
H11N2 **WAKE ISLAND Hy** 28.48 120 T T 14 40 08.7
baz=314
H11N1 **WAKE ISLAND Hy** 28.48 121 T T 14 40 09.4
baz=314
H11N3 **WAKE ISLAND Hy** 28.50 120 T T 14 40 01.3
baz=314
TGY **Tagaytay City** 29.14 223 P **P** **14 10 21.4 -0.2**
comp=Z,238nm,0.6s,baz=87,slow=8.8,SNR=7.7
H11S1 **WAKE ISLAND Hy** 29.19 123 T T 14 41 08.9
baz=316,slow=75
H11S3 **WAKE ISLAND Hy** 29.19 123 T T 14 41 09.5
baz=316,slow=75
H11S2 **WAKE ISLAND Hy** 29.20 123 T T 14 41 03.2
baz=316,slow=75
LZH **Lanzhou** 29.75 279 ⇑P **P** **14 10 27.3 +0.3**
LZH pP pP 14 10 41.5 +0.8
LZH sP sP 14 10 47.6 +0.5
LZH PP **PnPn** **14 11 26.0 +1.7**
LZH S **S** **14 15 19.6 +0.1**
LZH sS sS 14 15 40.0 -2.8
LZH SS **SnSn** **14 16 54.8 +1.5**
LZH pmax pmax
comp=Z,350nm,0.8s
LZH pmax pmax
comp=Z,760nm,7.1s
LZH LR LR
comp=Z,9µm,11.4s
LZH LR LR
comp=Z,19µm,12.1s
LZH LR LR
comp=Z,28µm,12.1s
IRK **Irkutsk** 29.78 312 *e*P **P** **14 10 26.6 -0.3**
IRK pmax pmax
comp=Z,88nm,2.9s
ZAK **Zakamensk** 29.95 308 *e*P **P** **14 10 27.5 -1.0**
ZAK *e* 14 13 25.9
ZAK pmax pmax
comp=Z,43nm,1.2s
ZAK pmax pmax
comp=Z,24nm,1.4s
TLY **Talaya** 30.01 311 *e*P **P** **14 10 29.8 +0.8**
TLY LR LR
comp=Z,6µm,20.0s
TLY **Talaya** 30.01 311*c* *i*P **P** **14 10 29.0 0.0**
TLY *e* 14 11 43.7
TLY *e* 14 13 28.1
TLY *e*S **S** **14 15 21.7 -1.4**
TLY *e*SS **ScP** **14 17 04.1 -3.3**
TLY pmax pmax
comp=Z,54nm,0.8s
TLY MLR MLR
comp=Z,5µm,14.0s
GYA **Guiyang** 30.95 260 ⇑*i*P **P** **14 10 36.4 -1.2**
GYA pP pP 14 10 53.0 +1.6
GYA sP sP 14 10 59.8 +2.0
GYA PP **PnPn** **14 11 41.4 +1.3**
GYA PcP **PcP** **14 13 34.6 +1.7**
GYA S **S** **14 15 31.4 -7.0**
GYA sS sS 14 16 02.0 +0.3
GYA ScP **ScP** **14 17 10.8 -0.2**
GYA SS **SnSn** **14 17 22.3 -0.3**
GYA ScS **ScS** **14 21 05.4 -2.8**
GYA pmax pmax
comp=Z,140nm,1.1s
GYA pmax pmax
comp=Z,620nm,9.0s
GYA LR LR
comp=Z,4µm,20.0s
GYA LR LR
comp=Z,5µm,25.2s
GYA LR LR
comp=Z,9µm,23.3s
CD2 **Chengdu** 31.37 270 ⇑P **P** **14 10 40.4 -0.8**
CD2 pP pP 14 10 53.4 -1.6
CD2 sP sP 14 10 59.7 -1.7
CD2 S **S** **14 15 41.2 -3.6**
CD2 sS sS 14 16 06.9 -1.2
CD2 pmax pmax
comp=Z,150nm,0.5s
CD2 pmax pmax
comp=Z,720nm,5.6s
CD2 LR LR
comp=Z,7µm,15.4s
CD2 LR LR
comp=Z,9µm,16.9s
CD2 LR LR
comp=Z,12µm,17.9s
MOY **Mondy** 31.62 310 *e*P **P** **14 10 44.4 +1.2**
MOY *e* 14 11 49.8
MOY pmax pmax
comp=Z,88nm,3.1s
GTA **Gaotai** 32.23 287 *e*P **P** **14 10 48.6 -0.2**
GTA pP pP 14 11 03.0 +0.4
GTA sP sP 14 11 09.8 +0.8
GTA PcP **PcP** **14 13 37.3 +1.1**
GTA S **S** **14 15 55.3 -3.0**
GTA sS sS 14 16 19.3 -2.3
GTA ScP **ScP** **14 17 14.8 -0.4**
GTA PcS **PcS** **14 17 21.1 -0.1**
GTA SS **SnSn** **14 17 50.1 -3.5**

GTA ScS **ScS** **14 21 12.8 -1.5**
GTA pmax pmax
comp=Z,21nm,0.8s
GTA pmax pmax
comp=Z,710nm,7.8s
GTA LR LR
comp=Z,4µm,17.8s
GTA LR LR
comp=Z,3µm,21.1s
GTA LR LR
comp=Z,5µm,23.8s
QIZ **Qiongzhong** 32.71 245 P **P** **14 10 53.0 0.0**
QIZ S **S** **14 16 07.3 +1.5**
QIZ pmax pmax
comp=Z,650nm,4.6s
QIZ LR LR
comp=Z,3µm,18.6s
QIZ LR LR
comp=Z,3µm,16.7s
QIZ LR LR
comp=Z,2µm,16.7s
QIZ **Qiongzhong** 32.71 245 PFAKE 14 11 00.0 +7.0
QIZ LR LR
comp=Z,3µm,19.0s
DAV **Davao City (W)** 33.11 209 LR LR 14 23 34.4
comp=Z,2µm,21.1s,baz=52,slow=35
CTBH **Cotabato--PC H** 33.51 211⇑*e*P **P** **14 10 57.8 -2.1**
KNGR **Kungurtug, Tuv** 33.62 308 *i*P **P** **14 11 02.3 +1.6**
BILL **Bilibino** 33.98 17*c* *i*P **P** **14 11 03.5 0.0**
BILL *e* 14 12 18.7
BILL *i*S **S** **14 16 18.8 -5.6**
BILL pmax pmax
comp=Z,110nm,1.1s
BILL smax smax
comp=Z,2µm,19.0s
KMI **Kunming** 34.69 261 P **P** **14 11 09.9 -0.5**
KMI pP pP 14 11 26.4 +2.2
KMI sP sP 14 11 30.8 +0.2
KMI PP **PP** **14 12 31.0 +1.3**
KMI S **S** **14 16 28.1 -8.6**
KMI sS sS 14 16 57.2 -2.9
KMI pmax pmax
comp=Z,160nm,1.5s
KMI pmax pmax
comp=Z,1µm,5.9s
KMI LR LR
comp=Z,4µm,22.1s
KMI LR LR
comp=Z,6µm,21.5s
KMI LR LR
comp=Z,9µm,23.0s
TIXI **Tiksi** 35.12 353 *e*P **P** **14 11 13.1 -0.1**
TIXI **Tiksi** 35.12 353*c* *i*P **P** **14 11 13.7 +0.5**
TIXI pmax pmax
comp=Z,161nm,1.7s
TIXI MLR MLR
comp=Z,2µm,18.0s
MIDW **Midway** 35.89 92 PFAKE 14 11 30.0 +10
MIDW LR LR
comp=Z,8µm,22.0s
HVS **Khovu-Aksy** 36.07 308⇑*i*P **P** **14 11 22.7 +0.9**
HVS pmax pmax
comp=Z,38nm,0.7s
HVS MLR MLR
comp=Z,5µm,15.0s
KRAR **Krasnoyarsk** 37.15 316 *i*P **P** **14 11 31.9 +1.1**
MYLDM **Lahad Datu** 37.93 218 *e*P **P** **14 11 38.9 +1.1**
SKNT **Sakolnakorn** 38.32 248 P **P** **14 11 40.6 -0.5**
comp=Z,96nm,1.5s,comp=Z,2µm
KKM **Kota Kinabalu** 38.38 222 *e*P **P** **14 11 41.8 0.0**
KKM LR LR
comp=Z,2µm,20.0s
GAMB **Gambell** 38.75 31 *e*P **P** **14 11 45.0 +0.8**
SWI **Sorong** 38.92 196 P **P** **14 11 46.6 +0.5**
comp=Z,55nm,0.6s,comp=Z,2µm
LKP **Lekhapani** 39.14 269 *e*P **P** **14 11 48.7 +0.7**
JAY **Jayapura** 39.49 181 P **P** **14 11 50.9 0.0**
comp=Z,903nm,1.8s,comp=Z,16µm
GENI **Genyem** 39.57 181 P **P** **14 11 52.5 +1.0**
comp=Z,293nm,1.3s,comp=Z,5µm
LBMI **Labuha** 39.66 202 P **P** **14 11 52.8 +0.5**
comp=Z,173nm,2.1s,comp=Z,4µm
KMSI **Cibinong** 39.69 207 P **P** **14 11 51.6 -0.9**
comp=Z,455nm,0.8s,comp=Z,4µm
DIBR **DIBRUGARH** 39.83 270 *e*P **P** **14 11 54.9 +1.2**
PAYA **Payao** 40.01 255 P **P** **14 11 56.4 +1.2**
comp=Z,10nm,1.0s,comp=Z,137nm
DGZ **Jazzator, Alta** 40.07 306*d* *i*P **P** **14 11 57.7 +2.1**
DGZ pmax pmax
comp=Z,190nm,0.8s
DGZ MLR MLR
comp=Z,2µm,15.0s
CMAI **Chiengmai2** 40.32 257 P **P** **14 11 58.1 +0.1**
comp=Z,570nm,1.5s,comp=Z,64µm
WMQ **Urumqi** 40.51 297 P **P** **14 12 00.3 +1.1**
WMQ pP pP 14 12 15.7 +2.4
WMQ sP sP 14 12 21.2 +1.6
WMQ PP **PnPn** **14 13 37.0 -0.4**
WMQ PcP **PcP** **14 13 57.9 -2.9**
WMQ S **S** **14 18 05.2 +0.9**
WMQ pmax pmax
comp=Z,850nm,1.1s
WMQ LR LR
comp=Z,6µm,20.5s
WMQ LR LR
comp=Z,7µm,20.5s
WMQ LR LR
comp=Z,11µm,28.7s
MRSI **Marisa** 40.56 210 P **P** **14 12 00.5 +0.8**
comp=Z,157nm,1.6s,comp=Z,3µm
ZIRO **ZIRO** 40.65 270 *e*P **P** **14 12 01.6 +0.9**
ZIRO IAmb IAmb 14 12 02.6
comp=Z,199nm,0.5s
MOKO **MOKOCHONG** 40.66 268 *e*P **P** **14 12 01.0 +0.3**
LAMP **Lampang** 40.67 254 P **P** **14 12 01.3 +0.6**
comp=Z,26nm,0.8s,comp=Z,203nm
FAKI **Fak Fak** 40.72 194 P **P** **14 12 01.4 +0.4**
comp=Z,118nm,0.7s,comp=Z,2µm
FAKI **Fak Fak** 40.72 194 *e*P **P** **14 11 59.9 -1.1**
PHIT **Phitsanulok** 40.87 252 P **P** **14 12 02.7 +0.4**
comp=Z,26nm,1.0s,comp=Z,257nm
CMMT **Chiang Mai** 41.03 255 P **P** **14 12 02.8 -0.9**
comp=Z,62nm,1.9s,comp=Z,1µm
CHTO **Chiang Mai** 41.04 255 P **P** **14 12 03.8 0.0**
comp=Z,275nm,1.9s,comp=Z,6µm
CHTO **Chiang Mai** 41.04 255 *e*P **P** **14 12 03.1 -0.6**
CHTO LR LR
comp=Z,4µm,20.0s
CHTO **Chiang Mai** 41.04 255 P **P** **14 12 03.7 0.0**
SNR=21
CHTO **Chiang Mai** 41.04 255 *e*P **P** **14 12 03.1 -0.6**
CHTO MLR MLR
comp=Z,4µm,20.0s
CM31 **Chiang Mai Arr** 41.24 255 *e*P **P** **14 12 05.3 -0.1**
CMAR **Chiang Mai Arr** 41.24 255 P **P** **14 12 05.5 +0.1**
comp=Z,10nm,0.7s,baz=44,slow=7.7,SNR=46
CMAR PcP **PcP** **14 14 03.4 -0.1**
comp=Z,5.7nm,0.6s,baz=32,slow=2.2,SNR=6.7
CMAR ScP **ScP** **14 17 48.6 -0.1**
comp=Z,3.9nm,1.1s,baz=35,slow=3.3,SNR=5.8
CMAR LR LR 14 31 25.0
comp=Z,4µm,18.3s,baz=67,slow=39
CM01 **Chiang Mai Arr** 41.25 255 *e*P **P** **14 12 05.1 -0.4**
KOHI **KOHIMA** 41.26 268 *e*P **P** **14 12 03.0 -2.6**
KOHI IAmb IAmb 14 12 06.8
SANI **Sanana** 41.45 203 P **P** **14 12 05.9 -1.2**
comp=Z,186nm,0.8s,comp=Z,3µm
MPSI **Mapaga** 41.54 213 P **P** **14 12 08.4 +0.6**
comp=Z,82nm,1.6s,comp=Z,2µm
ZALV **Zalesovo Beam** 41.60 312 P **P** **14 12 09.4 +1.5**
comp=Z,171nm,0.5s,baz=95,slow=6.9,SNR=504
ZALV PcP **PcP** **14 14 04.2 +0.2**
comp=Z,17nm,0.4s,baz=74,slow=2.4,SNR=6.8
ZALV ScP **ScP** **14 17 51.4 +1.9**
comp=Z,3.0nm,0.8s,baz=113,slow=3.3,SNR=3.4
ZALV LR LR 14 30 12.4
comp=Z,5µm,18.3s,baz=72,slow=37
LUWI **Luwuk** 41.62 208 P **P** **14 12 07.1 -1.4**
comp=Z,150nm,1.4s,comp=Z,3µm
LUWI **Luwuk** 41.62 208 *e*P **P** **14 12 06.5 -2.0**
SRAK **Srakaew** 41.64 247 P **P** **14 12 05.7 -3.0**
comp=Z,428nm,0.8s,comp=Z,4µm
IMP **Imphal** 41.81 267 *e*P **P** **14 12 10.2 +0.1**
IMP IAmb IAmb 14 12 15.3
comp=Z,40nm,0.9s
MSAI **Masohi** 41.86 198 P **P** **14 12 12.0 +1.6**
comp=Z,58nm,1.6s,comp=Z,951nm
TEZP **TEZPUR** 41.90 270 *e*P **P** **14 12 10.7 0.0**
TEZP IAmb IAmb 14 12 13.8
comp=Z,70nm,0.8s
LSA **Lhasa** 41.90 275 *e*P **P** **14 12 12.0 +0.8**
LSA LR LR
comp=Z,2µm,21.0s
LSA **Lhasa** 41.90 275 P **P** **14 12 12.4 +1.2**
LSA **Lhasa** 41.90 275 *e*P **P** **14 12 12.0 +0.8**
LSA MLR MLR
comp=Z,2µm,21.0s
APSI **Ampana** 41.94 210 P **P** **14 12 11.7 +0.7**
comp=Z,295nm,1.1s,comp=Z,4µm
NLAI **Namlea** 42.25 201 P **P** **14 12 14.3 +0.8**
comp=Z,109nm,1.0s,comp=Z,1µm
CHBT **CHBT** 42.26 245 P **P** **14 12 16.2 +2.5**
comp=Z,2µm,1.1s,comp=Z,619µm
AAI **Ambon** 42.38 199 P **P** **14 12 16.0 +1.4**
comp=Z,311nm,1.3s,comp=Z,4µm
NVS **Novosibirsk** 42.53 314 ⇓*i*P **P** **14 12 16.7 +1.3**
NVS *e*S **S** **14 18 34.8 +1.1**
NVS *e*SSS SSS 14 22 28.9
NVS pmax pmax
comp=Z,158nm,0.9s
NVS pmax pmax
comp=N,30nm,0.9s
NVS pmax pmax
comp=E,119nm,0.9s
NVS smax smax
comp=E,70nm,2.0s
GUWA **GUWAHATI** 42.97 270 *e*P **P** **14 12 18.9 -0.5**
GUWA IAmb IAmb 14 12 21.2
comp=Z,101nm,0.8s
NRIK **Noril'sk** 43.02 335 P **P** **14 12 21.0 +1.8**
comp=Z,21nm,0.5s
SHL **Shillong** 43.11 269 *e*P **P** **14 12 20.1 -0.7**
SHL *e*P **P** **14 12 20.2 -0.6**
SHL IAmb IAmb 14 12 24.4
comp=Z,840nm,2.6s
SGKI **Sangatta, Kali** 43.34 215 P P 14 12 17.0 -5.4
SMKI **Samarinda** 43.45 216 P **P** **14 12 24.4 +1.1**
comp=Z,176nm,1.8s,comp=Z,3µm
SBUM **Sibu** 43.55 224 *e*P **P** **14 12 23.4 -0.7**
SAIH **SAIHA** 43.73 264 *e*P **P** **14 12 25.1 -0.6**
SAIH IAmb IAmb 14 12 27.6
comp=Z,89nm,0.7s
MK01 **Makanchi Array** 43.79 302 *e*P **P** **14 12 26.1 +0.3**
MK31 **Makanchi Array** 43.79 302 *e*P **P** **14 12 26.1 +0.3**
MK31 **Makanchi Array** 43.79 302 *i* P **P** **14 12 26.4 +0.6**
MK31 pmax pmax
comp=Z,82nm,0.7s
MKAR **Makanchi Array** 43.79 302 P **P** **14 12 26.3 +0.5**
comp=Z,76nm,0.7s,baz=87,slow=9.5,SNR=601
MKAR PcP **PcP** **14 14 12.0 +0.4**
comp=Z,18nm,0.8s,baz=80,slow=4.2,SNR=3.0
MKAR ScP **ScP** **14 17 58.7 +0.1**
comp=Z,1.1nm,0.8s,baz=84,slow=5.2,SNR=2.3
MKAR LR LR 14 32 29.2
comp=Z,667nm,20.2s,baz=78,slow=38
MAKZ **Makanchi** 44.00 302 *e*P **P** **14 12 27.7 +0.2**
MAKZ **Makanchi** 44.00 302 P **P** **14 12 27.6 +0.1**
MAKZ pmax pmax
comp=Z,157nm,1.1s
PHET **Kaeng Krachan** 44.14 248 P **P** **14 12 29.7 +0.8**
comp=Z,61nm,0.7s,comp=Z,471nm
BKB **Balikpapan** 44.31 216 P **P** **14 12 31.0 +0.8**
comp=Z,352nm,1.8s,comp=Z,8µm
TURI **Tura** 44.35 270 *e*P **P** **14 12 31.2 +0.6**
TURI IAmb IAmb 14 12 34.3
comp=Z,75nm,0.8s
AGT **Agartala** 44.42 267 *e*P **P** **14 12 31.8 +0.8**
AGT IAmb IAmb 14 12 38.4
comp=Z,172nm,0.8s
BELO **BELONIA** 44.57 266 *e*P **P** **14 12 33.5 +1.2**
BELO IAmb IAmb 14 12 35.4
comp=Z,121nm,0.6s
GTK **Tadong** 44.94 273 *e*P **P** **14 12 35.4 +0.1**
GTK IAmb IAmb 14 12 38.6
comp=Z,47nm,0.9s
MTKI **Muara Teweh, K** 45.00 219 P **P** **14 12 36.8 +1.1**
comp=Z,281nm,2.0s,comp=Z,6µm
KSM **Kuching** 45.43 226 *e*P **P** **14 12 39.4 +0.2**
KSM LR LR
comp=Z,798nm,19.0s
KURK **Kurchatov** 45.61 308 *e*P **P** **14 12 40.1 0.0**
KURK ScP **ScP** **14 18 02.5 -3.4**
KURK LR LR
comp=Z,8µm,20.0s
KURK **Kurchatov** 45.61 308*c* *i*P **P** **14 12 40.6 +0.4**
KURK pmax pmax
comp=Z,200nm,0.9s
KURK MLR MLR
comp=Z,5µm,19.0s
KURBB **Kurchatov Arra** 45.68 308 P **P** **14 12 41.6 +0.9**
comp=Z,98nm,0.5s,baz=84,slow=8.6,SNR=424
KURBB ScP **ScP** **14 18 02.5 -3.7**
comp=Z,1.1nm,0.7s,baz=70,slow=4.1,SNR=2.5
BNSI **Bone** 45.73 210 P **P** **14 12 41.9 +0.4**
comp=Z,169nm,1.3s,comp=Z,3µm
BBSI **Bau Bau** 45.81 206 P **P** **14 12 44.3 +2.2**
comp=Z,17nm,1.2s
SAUI **Saumlaki** 45.84 194 P **P** **14 12 43.5 +1.2**
STKI **Sintang** 45.94 223 P **P** **14 12 43.7 +0.6**
comp=Z,102nm,1.4s,comp=Z,4µm
ODAN **Odare** 46.10 273 *e*P **P** **14 12 45.3 +0.6**
TARA **Tarawa** 46.20 133 *e*P **P** **14 12 44.8 -0.4**
KAPI **Kappang** 46.43 210 *e*P **P** **14 12 46.4 -0.6**
comp=Z,318nm,1.4s
KAPI LR LR
comp=Z,629nm,20.0s
KAPI **Kappang** 46.43 210 P **P** **14 12 46.8 -0.1**
SNR=37
KBKI **Kotabaru** 46.44 215 P **P** **14 12 47.2 +0.1**
comp=Z,92nm,1.6s,comp=Z,2µm
IM3 **Indian Mountai** 46.68 31 *e*P **P** **14 12 49.6 +1.2**
PMG **Port Moresby** 46.69 172 LR LR 14 36 01.3
comp=Z,228nm,18.1s,baz=344,slow=41
PMG **Port Moresby** 46.69 172 *e*P **P** **14 12 49.4 +0.5**
PMG **Port Moresby** 46.69 172 ⇑*i*P **P** **14 12 50.5 +1.6**
PMG pmax pmax
comp=Z,119nm,1.2s
PMG MLR MLR
comp=Z,2µm,9.0s
RAMN **Ramite** 46.70 274 *e*P **P** **14 12 50.0 +0.7**
JIRN **Jiri** 46.71 275 *e*P **P** **14 12 50.5 +0.9**
comp=Z,637nm,0.8s
GUN **Gumba** 46.84 275 *e*P **P** **14 12 51.4 +0.8**
comp=Z,620nm,0.9s
OHAK **Old Harbor** 46.86 43 *e*P **P** **14 12 50.2 +0.3**
BSSI **Bau Bau, Buton** 47.18 208 P **P** **14 12 53.3 +0.5**
comp=Z,99nm,1.1s,comp=Z,2µm
KDAK **Kodiak Island** 47.20 42 *e*P **P** **14 12 53.6 +1.2**
KDAK LR LR
comp=Z,939nm,20.0s
KDAK **Kodiak Island** 47.20 42*ce*P **P** **14 12 53.3 +0.8**
KDAK *e**PP **pP** **14 13 08.0 +1.2**
SKLT **Songkhla** 47.31 241 P **P** **14 12 54.3 +0.4**
comp=Z,192nm,1.1s,comp=Z,2µm
PKI **Pulchoki** 47.37 275 *e*P **P** **14 12 54.9 +0.2**
comp=Z,299nm,1.0s
SURT **Suratani** 47.37 245 P **P** **14 12 54.4 0.0**
comp=Z,86nm,1.5s,comp=Z,1µm
KKN **Kakani** 47.37 276 *e*P **P** **14 12 55.1 +0.5**
comp=Z,443nm,0.8s
PKIN **Phulchoki** 47.37 275 *e*P **P** **14 12 55.6 +0.9**
comp=Z,234nm,0.8s
TRTT **Trang** 47.50 243 P **P** **14 12 55.3 -0.1**
comp=Z,35nm,1.6s,comp=Z,791nm
HOM **Homer** 47.57 39 *e*P **P** **14 12 55.2 -0.1**
DMN **Daman** 47.59 275 *e*P **P** **14 12 57.0 +0.7**
BPAW **Bear Paw Mtn.** 47.77 33 *e*P **P** **14 12 57.5 +0.6**
GKN **Gorkha** 47.79 276 *e*P **P** **14 12 58.3 +0.5**
comp=Z,738nm,0.9s
KTH **Kantishna Hill** 47.80 34 *e*P **P** **14 12 59.0 +1.8**
comp=Z,259nm,1.2s
MLY **Manley** 47.89 32 *e*P **P** **14 12 59.5 +1.6**
JOHN **Johnston Islan** 47.94 101 PFAKE 14 13 10.0 +11
JOHN LR LR
comp=Z,485nm,21.0s
BRLK **Bradley Lake** 47.94 39 *e*P **P** **14 12 59.0 +0.7**
comp=Z,46nm,0.7s
COLD **Coldfoot** 48.18 29 *e*P **P** **14 13 01.3 +1.3**
AAA **Alma-Ata** 48.29 298 *e*P **P** **14 13 02.3 +1.0**
AAA *e*S **S** **14 19 52.6 -4.7**
AAA pmax pmax
comp=Z,900nm,5.9s

AAA smax smax
comp=E,2µm,9.8s
AAA MLR MLR
comp=Z,6µm,17.0s
DANN Dangsing 48.34 277 *eP* **P 14 13 03.1 +1.0**
comp=Z,68nm,0.9s
TOLK Toolik Lake Re 48.48 27 P **P 14 13 03.8 +1.4**
baz=267
TOLK Toolik Lake Re 48.48 27 *eP* **P 14 13 03.8 +1.4**
KULM Kulim 48.63 239 *eP* **P 14 13 03.9 -0.2**
KULM LR LR
comp=Z,2µm,22.0s
MCK McKinley 48.68 34 *eP* **P 14 13 04.6 +0.6**
MCK McKinley 48.68 34 *eP* **P 14 13 04.6 +0.6**
KOLN Koldanda 48.72 276 *eP* **P 14 13 05.5 +0.5**
comp=Z,281nm,0.9s
RND Reindeer 48.73 34 *eP* **P 14 13 04.0 -0.4**
RND Reindeer 48.73 34 *eP* **P 14 13 04.0 -0.4**
BOK Bokaro 48.74 270 *eP* **P 14 13 06.1 +1.1**
MDM Murphy Dome 48.96 32 *eP* **P 14 13 07.5 +1.5**
IPM Ipoh 48.96 238 *eP* **P 14 13 05.6 -1.0**
DGPR DIGLIPUR 49.02 254 *eP* **P 14 13 07.8 +0.7**
DGPR IAmb IAmb 14 13 10.1
comp=Z,175nm,0.7s
WRH Wood River Hil 49.03 33 *eP* **P 14 13 07.4 +0.8**
ULHL Ulahol 49.04 297 P **P 14 13 08.8 +1.5**
SNR=7.3
PYUN Piuthan 49.05 277 *eP* **P 14 13 08.2 +0.7**
comp=Z,996nm,1.0s
SML Sawmill 49.06 36 *eP* **P 14 13 07.5 +0.6**
SML Sawmill 49.06 36 *eP* **P 14 13 07.5 +0.6**
MYKOM Kota Tinggi 49.10 233 *eP* **P 14 13 07.8 +0.1**
COLA College 49.12 32 *eP* **P 14 13 08.3 +1.1**
COLA LR LR
comp=Z,952nm,21.0s
COLA College 49.12 32 *eP* **P 14 13 08.3 +1.1**
COLA MLR MLR
comp=Z,952nm,21.0s
CCB Clear Creek Bu 49.15 33 *eP* **P 14 13 07.9 +0.5**
SOEI Soe 49.26 202 P **P 14 13 09.1 +0.1**
comp=Z,431nm,1.2s,comp=Z,5µm
SOEI Soe 49.26 202 *eP* **P 14 13 08.1 -1.0**
TKM2 Tokmak 2 49.30 298 P **P 14 13 10.6 +1.3**
SNR=169
TPRI Tanjung Pinang 49.35 232 P **P 14 13 09.9 +0.3**
comp=Z,36nm,1.0s,comp=Z,14µm
DHY Denali Highway 49.42 35 *eP* **P 14 13 10.3 +0.5**
HDA Harding Lake 49.53 33 *eP* **P 14 13 10.8 +0.5**
SCM Sheep Creek Mo 49.53 36 *eP* **P 14 13 09.9 -0.6**
SCM Sheep Creek Mo 49.53 36 *eP* **P 14 13 10.0 -0.6**
IL1 Eielson Array 49.54 32 *eP* **P 14 13 10.9 +0.4**
ILAR Eielson Array 49.54 32 P **P 14 13 11.8 +1.4**
comp=Z,60nm,0.8s,baz=269,slow=6.1,SNR=427
ILAR LR LR 14 36 19.2
comp=Z,606nm,18.5s,baz=294,slow=38
ILB Eielson Array 49.54 32 *eP* **P 14 13 10.8 +0.4**
HNR Honiara 49.64 155 LR LR 14 31 03.2
comp=Z,2µm,21.6s,baz=320,slow=32
GLI Glacier Island 49.73 38 *eP* **P 14 13 12.7 +0.7**
KZA Kyzart 49.79 297 P **P 14 13 15.1 +1.8**
SNR=97
KBK Karagaybulak 49.83 298 P **P 14 13 14.4 +1.1**
SNR=126
CHMS Chumysh 49.87 299 P **P 14 13 14.1 +0.7**
SNR=24
BATI Baumata 49.87 203 P **P 14 13 14.3 +0.8**
comp=Z,107nm,0.6s,baz=58,slow=5.0,SNR=20
BATI LR LR 14 33 42.2
comp=Z,487nm,21.8s,baz=45,slow=35
BATI Baumata 49.87 203 P **P 14 13 13.4 -0.1**
comp=Z,138nm,0.9s,comp=Z,1µm
USP Ospenovka 49.97 299 P **P 14 13 14.8 +0.7**
SNR=40
FRU Bishkek 50.01 298 *i* P **P 14 13 15.0 +0.5**
FRU *i* 14 13 34.0
FRU S **S 14 20 21.0 -0.4**
FRU pmax pmax
comp=Z,390nm,2.0s
FRU MLR MLR
comp=E,6µm,19.5s
KSH Kashi 50.08 294 P **P 14 13 19.1 +4.0**
KSH pP sP 14 13 35.4 -0.4
KSH PcP **PcP 14 14 37.6 +3.5**
KSH S **S 14 20 28.9 +6.4**
KSH pmax pmax
comp=E,49nm,1.1s
KSH pmax pmax
comp=E,1µm,4.3s
KSH LR LR
comp=E,5µm,18.0s
KSH LR LR
comp=E,2µm,13.4s
KSH LR LR
comp=E,6µm,17.2s
OTUK Ortayu 50.10 306 P P 14 13 24.7 +10
OTUK pmax pmax
comp=Z,161nm,1.1s
PBA Port Blair 50.11 252 *eP* P 14 13 15.5 +0.1
FYU Fort Yukon 50.14 30 *eP* **P 14 13 17.0 +2.0**
AAK Ala-Archa 50.16 298 P **P 14 13 16.4 +0.7**
SNR=58
AAK Ala-Archa 50.16 298 PFAKE 14 13 30.0 +14
AAK LR LR
comp=Z,9µm,19.0s
AAK Ala-Archa 50.16 298 P **P 14 13 16.3 +0.6**
AAK Ala-Archa 50.16 298 P **P 14 13 15.6 -0.1**
AAK pmax pmax
comp=Z,126nm,1.4s
KLU Klutina 50.23 37 *eP* **P 14 13 16.4 +0.6**
BVA0 Borovoye Array 50.26 312 P **P 14 13 16.4 +0.3**
BVA0 pmax pmax
comp=Z,68nm,0.9s
BVAR Borovoye Array 50.26 312 P **P 14 13 17.3 +1.3**
comp=Z,46nm,0.6s,baz=76,slow=7.4,SNR=233
BVAR PcP **PcP 14 14 35.3 +0.9**
comp=Z,28nm,0.6s,baz=72,slow=4.7,SNR=4.7
BVAR LR LR 14 35 50.5
comp=Z,5µm,18.5s,baz=79,slow=37
UCH Uchtor 50.27 298 P **P 14 13 18.0 +1.1**
SNR=38
PAX Paxson 50.29 35 *eP* **P 14 13 16.8 +0.5**
PAX Paxson 50.29 35 *eP* **P 14 13 16.8 +0.5**
BRVK Borovoye 50.31 312 *eP* **P 14 13 16.7 +0.2**
BRVK LR LR
comp=Z,3µm,19.0s
BRVK Borovoye 50.31 312 P **P 14 13 16.8 +0.3**
SNR=48
BRVK Borovoye 50.31 312 *c i* P **P 14 13 17.0 +0.5**
BRVK *i* *PP **pP 14 13 30.6 -0.4**
BRVK *i* *SP **sP 14 13 36.5 -0.7**
BRVK pmax pmax
comp=Z,196nm,0.8s
BRVK MLR MLR
comp=Z,5µm,18.0s
DIV Divide 50.34 37 *eP* **P 14 13 18.0 +1.3**
DSRI Dabo 50.40 230 P **P 14 13 18.1 +0.5**
comp=Z,129nm,1.2s,comp=Z,4µm
EYAK Cordova Ski Ar 50.43 38 *eP* **P 14 13 18.3 +1.1**
HARP HAARP 50.49 35 *eP* **P 14 13 19.2 +1.5**
RIDG Independ'e Rid 50.50 34 *eP* **P 14 13 18.1 +0.3**
MTN Manton Dam 50.62 193 *eP* **P 14 13 17.9 -1.2**
EKS2 Erkin-Say 50.66 298 P **P 14 13 20.2 +0.8**
SNR=36
PLAI Plampang 50.69 210 P **P 14 13 18.4 -1.3**
comp=Z,108nm,1.2s,comp=Z,1µm
KMMI Kalianget 50.76 216 P **P 14 13 20.2 0.0**
comp=Z,196nm,1.3s,comp=Z,3µm
SCRK Sand Creek 50.85 33 *eP* **P 14 13 20.9 +0.3**
DOT Dot Lake 50.85 34 *eP* **P 14 13 20.8 +0.3**
AML Almayashu 50.88 298 P **P 14 13 22.7 +1.3**
SNR=131
COEN Coen 50.90 177 *eP* **P 14 13 20.9 -0.3**
BMRM Bremner River 50.93 37 *eP* **P 14 13 22.2 +1.1**
RAGM Ragged Mountai 50.98 38 *eP* **P 14 13 22.7 +1.3**
MENT Mentasta 51.09 35 *eP* **P 14 13 23.9 +1.6**
SRBI Singaraja 51.11 214 P **P 14 13 23.5 +0.7**
comp=Z,99nm,0.8s,comp=Z,2µm
LHMI Lhok Sumawe 51.26 243 P **P 14 13 25.3 +1.2**
comp=Z,278nm,1.4s,comp=Z,3µm
LHMI Lhok Sumawe 51.26 243 *eP* **P 14 13 23.7 -0.4**
GRJI Gresik 51.35 217 P **P 14 13 26.5 +1.8**
comp=Z,223nm,0.8s,comp=Z,2µm
MNAS Manas 51.60 299 P **P 14 13 26.8 +0.2**
MNAS pmax pmax
comp=Z,66nm,0.8s
PSI Prapat 51.61 239 *eP* **P 14 13 26.4 -0.4**
PSI Prapat 51.61 239 *eP* **P 14 13 26.4 -0.4**
DNP Denpasar 51.64 213 P **P 14 13 26.4 -0.4**
comp=Z,304nm,0.9s,comp=Z,16µm
SFK Sufi-Kurgan 51.70 295 P **P 14 13 27.8 +0.4**
SFK pmax pmax
comp=Z,141nm,0.9s
RGRI Rengat 51.71 233 P **P 14 13 29.1 +1.7**
IGBI Denpasar 51.79 213 P **P 14 13 26.4 -1.5**
comp=Z,165nm,0.9s,comp=Z,3µm
JAGI Jajag, Banyuwa 51.92 215 P **P 14 13 27.5 -1.5**
comp=Z,66nm,1.2s,comp=Z,2µm
JAGI Jajag, Banyuwa 51.92 215 *eP* **P 14 13 25.8 -3.2**
DDI Dehra Dun 51.98 282 *eP* **P 14 13 29.8 +0.4**
DDI IAmb IAmb 14 13 33.7
comp=Z,58nm,0.8s
EGAK Eagle 51.98 32 *eP* **P 14 13 29.4 +0.6**
EGAK LR LR
comp=Z,1µm,21.0s
BKNI Bangkinang 52.03 235 P **P 14 13 30.3 +0.5**
comp=Z,179nm,1.0s,comp=Z,4µm
MLSI Meulaboh, Aceh 52.32 242 P **P 14 13 31.9 0.0**
comp=Z,163nm,0.7s,comp=Z,3µm
SMLA Simla 52.33 283 *eP* **P 14 13 31.9 0.0**
TPTI 52.48 241 P **P 14 13 31.1 -2.1**
comp=Z,31nm,1.1s,comp=Z,1µm
DHRM DHARAMSHALA 52.53 285 *eP* **P 14 13 32.5 -1.2**
DHRM IAmb IAmb 14 13 33.0
comp=Z,240nm,1.4s
PWJI Pagerwojo 52.64 217 P **P 14 13 33.3 -0.9**
comp=Z,249nm,0.7s,comp=Z,3µm
MNSI Mandailing Nat 52.64 236 P **P 14 13 34.0 -0.3**
comp=Z,76nm,0.6s,comp=Z,2µm
KK31 Karatay Array 52.80 300 *eP* **P 14 13 35.6 +0.4**
KK31 pmax pmax
comp=Z,15nm,0.5s
KKAR Karatay Array 52.80 300 *eP* **P 14 13 35.2 0.0**
KKAR Karatay Array 52.80 300 *eP* **P 14 13 35.2 0.0**
DAWY Dawson 52.85 33 *eP* **P 14 13 36.4 +1.1**
PCJI Pacitan 53.09 218 P **P 14 13 37.4 -0.2**
UGM Wanagama 53.17 219 P **P 14 13 37.7 -0.5**
comp=Z,398nm,1.4s,comp=Z,5µm
UGM Wanagama 53.17 219 *eP* **P 14 13 37.5 -0.7**
PDSI Padang 53.34 234 P **P 14 13 40.6 +1.1**
comp=Z,23nm,0.7s
KPJI Karang Pucung 53.50 221 P **P 14 13 40.1 -0.5**
comp=Z,149nm,0.8s,comp=Z,2µm
GSI Gunungsitoli 53.62 239 P **P 14 13 41.8 +0.3**
comp=Z,573nm,1.4s,comp=Z,10µm
GSI Gunungsitoli 53.62 239 *eP* **P 14 13 41.0 -0.5**
KLI Kotabumi 53.77 227 P **P 14 13 42.2 0.0**
LEM Lembang 53.77 223 P **P 14 13 43.2 +0.4**
comp=Z,142nm,0.8s,baz=47,slow=6.2,SNR=34
LEM LR LR 14 37 39.5
comp=Z,631nm,20.0s,baz=9.0,slow=37
LEM Lembang 53.77 223 P **P 14 13 42.2 -0.6**
MDSI Maura Dua 53.81 228 P **P 14 13 42.7 -0.2**
comp=Z,105nm,1.5s,comp=Z,2µm
BLSI Bandar Lampung 53.90 226 P **P 14 13 43.4 -0.2**
comp=Z,181nm,0.7s
MASI Maura Aman, Be 53.93 231 P **P 14 13 44.5 +0.7**
comp=Z,292nm,1.1s,comp=Z,4µm
VIS Vishakhapatnam 53.93 265 *eP* **P 14 13 43.1 -0.7**
CISI Cisompet, Garu 54.28 222 P **P 14 13 44.2 -2.1**
CISI Cisompet, Garu 54.28 222 *eP* **P 14 13 43.8 -2.6**
NIL Nilore 54.29 288 *eP* **P 14 13 47.1 +0.8**
NIL LR LR
comp=Z,588nm,21.0s
NIL Nilore 54.29 288 *eP* **P 14 13 47.1 +0.8**
NIL MLR MLR
comp=Z,588nm,21.0s
LWLI Liwa 54.31 228 P **P 14 13 48.5 +1.8**
HYT Haines Junctio 54.37 37 *eP* **P 14 13 47.9 +1.3**
INK Inuvik 54.40 27 LR LR 14 39 56.5
comp=Z,622nm,19.3s,baz=276,slow=39
INK Inuvik 54.40 27 *eP* **P 14 13 47.6 +1.1**
INK Inuvik 54.40 27 *eP* **P 14 13 47.6 +1.1**
KASI Kota Agung 54.46 227 P **P 14 13 46.4 -1.2**
SISI Saibi 54.54 235 P **P 14 13 47.3 -1.0**
KIP Kipapa 54.56 89 *i* P **P 14 13 51.2 +2.9**
KIP pmax pmax
comp=Z,2µm,2.5s
CGJI Cibinong 54.66 225 P **P 14 13 46.4 -2.7**
SVE Sverdlovsk 54.84 318 *d i* P **P 14 13 50.8 +0.9**
SVE *eS **S 14 21 24.5 -2.3**
SVE *e* 14 23 36.2
SVE *eSS **SS 14 25 16.8 +6.7**
SVE pmax pmax
comp=Z,255nm,0.9s
SVE pmax pmax
comp=Z,514nm,14.6s
SVE MLR MLR
comp=Z,5µm,17.0s
SVE MLR MLR
comp=E,4µm,17.0s
NGP Nagpur 55.53 272 *eP* **P 14 13 55.4 0.0**
PVM Polavaram 55.55 266 *eP* **P 14 13 56.0 +0.5**
PVM IAmb IAmb 14 13 58.5
comp=Z,83nm,1.0s
PVM *eS **S 14 21 38.1 +0.8**
PVM IVMs_BB IVMs_BB 14 36 33.6
comp=Z,878nm,28.6s
WHY Whitehorse 55.65 36 *eP* **P 14 13 57.5 +1.7**
BHPL Bhopal 55.77 275 *eP* **P 14 13 55.6 -1.5**
BHPL IAmb IAmb 14 13 58.0
comp=Z,62nm,0.9s
SKAG Skagway 55.77 38 *eP* **P 14 13 58.4 +1.9**
ARU Arti 56.06 318 LR LR 14 40 21.0
comp=Z,4µm,18.0s,baz=68,slow=38
ARU Arti 56.06 318 *eP* **P 14 13 58.9 +0.2**
ARU Arti 56.06 318 *c i* P **P 14 13 59.0 +0.4**
ARU *PP **pP 14 14 15.2 +1.9**
ARU 14 14 55.9
ARU 14 15 59.9
ARU S **S 14 21 44.6 +1.6**
ARU *SS **sS 14 22 06.4 -1.3**
ARU 14 23 38.8
ARU SS **SS 14 25 30.0 +0.8**
ARU pmax pmax
comp=Z,532nm,1.7s
ARU MLR MLR
comp=Z,5µm,23.0s
BESE Bessie Mountai 56.26 39 *eP* **P 14 14 01.7 +1.6**
SIT Sitka 56.48 41 *eP* **P 14 14 03.5 +1.9**
SIT Sitka 56.48 41 *eP* **P 14 14 03.5 +1.9**
RPR Rampur 56.54 269 *eP* **P 14 14 02.8 +0.2**
RPR IAmb IAmb 14 14 03.8
comp=Z,111nm,0.6s
RPR *eS **S 14 21 48.7 -1.7**
RPR IVMs_BB IVMs_BB 14 39 46.2
comp=Z,774nm,20.5s
KBL Kabul 57.09 291 *eP* **P 14 14 06.4 -0.2**
KBL Kabul 57.09 291 *eP* **P 14 14 06.4 -0.2**
WRAB Tennant Creek 57.15 187 *eP* **P 14 14 05.5 -1.3**
WRAB LR LR
comp=Z,2µm,20.0s
WRAB Tennant Creek 57.15 187 *d i* P **P 14 14 06.6 -0.1**
WRAB *i* *PP **pP 14 14 20.7 -0.8**
WRAB pmax pmax
comp=Z,31nm,0.9s
WRAB MLR MLR
comp=Z,765nm,19.0s
WRA Warramunga Arr 57.16 188 P **P 14 14 05.5 -1.3**
comp=Z,29nm,0.7s,baz=4.5,slow=7.0,SNR=328
WRA LR LR 14 36 11.4
comp=Z,812nm,21.7s,baz=5.0,slow=33
WRA PKPPKP **P'P'df 14 43 56.0 +5.3**
comp=Z,2.3nm,1.1s,baz=188,slow=1.8,SNR=4.6
WRA PKP2bc 14 44 03.9
comp=Z,3.8nm,1.0s,baz=186,slow=1.8,SNR=7.4
CTAO Charters Tower 57.17 174 *eP* **P 14 14 06.4 -0.4**
CTAO LR LR
comp=Z,2µm,20.0s
CTAO Charters Tower 57.17 174 *eP* **P 14 14 06.4 -0.4**
CTAO MLR MLR
comp=Z,2µm,20.0s
SRSP Sriramsagar 57.26 270 *eP* **P 14 14 07.7 0.0**
SRSP IAmb IAmb 14 14 09.8
comp=Z,145nm,0.8s
SRSP *eS **S 14 21 59.4 -0.5**
SRSP IVMs_BB IVMs_BB 14 40 57.3
comp=Z,879nm,20.3s
ABKAR Akbulak array 57.62 310 *eP* **P 14 14 09.8 0.0**
ADKI Addanki 57.65 266 *eP* **P 14 14 11.1 +0.6**
ADKI IAmb IAmb 14 14 13.0
comp=Z,96nm,1.3s
ADKI *eS **S 14 22 05.4 +0.5**
ADKI IVMs_BB IVMs_BB 14 36 01.6
comp=Z,814nm,25.0s
NJS Nagarjunasagar 57.78 267 *eP* **P 14 14 11.5 +0.1**
NJS *eS **S 14 22 04.2 -2.6**
NJS IVMs_BB IVMs_BB 14 38 33.1
comp=Z,695nm,27.8s
FUNA Funafuti 57.82 134 *ep* **pP 14 14 27.7 +1.4**
FUNA LR LR
comp=Z,6µm,20.0s
HYBB Hyderabad (bro 57.91 268 *eP* **P 14 14 12.3 0.0**
HYBB IAmb IAmb 14 14 14.2
comp=Z,90nm,0.9s
HYBB *eS **S 14 22 07.2 -1.3**
HYBB IVMs_BB IVMs_BB 14 41 14.8
comp=Z,677nm,18.1s
HYB Hyderabad 57.91 268 *i* P **P 14 14 11.5 -0.8**
HYB *eS **S 14 22 12.0 +3.5**
HYB Hyderabad 57.91 268 *eP* **P 14 14 11.4 -0.9**
HYB IAmb IAmb 14 14 11.9
comp=Z,84nm,0.8s
WRAK Wrangell Islan 58.24 41 *eP* **P 14 14 15.9 +1.9**
comp=Z,93nm,1.4s
AKTO Aktyubinsk 58.36 312 P **P 14 14 15.3 +0.4**
comp=Z,58nm,0.7s,baz=79,slow=9.1,SNR=142
AKTO PcP **PcP 14 15 05.8 +0.4**
comp=Z,14nm,0.5s,baz=63,slow=2.3,SNR=2.2
AKTO LR LR 14 40 39.4
comp=Z,4µm,19.4s,baz=75,slow=37
AKTO Aktyubinsk 58.36 312 P **P 14 14 14.8 -0.2**
AKTO pmax pmax
comp=Z,87nm,0.8s
SRLM Srisailam 58.36 267 *eP* **P 14 14 15.4 -0.1**
SRLM IAmb IAmb 14 14 18.3
comp=Z,269nm,2.9s
SRLM *eS **S 14 22 12.8 -1.6**
SRLM IVMs_BB IVMs_BB 14 37 40.7
comp=Z,625nm,31.7s
DLBC Dease Lake 58.70 38 *eP* **P 14 14 18.6 +1.3**
MDRS Chennai 59.00 263 *eP* **P 14 14 20.0 +0.1**
MDRS IAmb IAmb 14 14 21.9
comp=Z,57nm,0.6s
SKHT Srikalahasti 59.04 264 *eP* **P 14 14 21.0 +0.8**
SKHT IAmb IAmb 14 14 23.0
comp=Z,121nm,0.8s
SKHT *eS **S 14 22 22.9 -0.3**
SKHT IVMs_BB IVMs_BB 14 40 21.2
comp=Z,496nm,28.0s
KLRI Killari 59.12 270 *eP* **P 14 14 20.4 -0.3**
KLRI IAmb IAmb 14 14 21.7
comp=Z,205nm,0.6s
KLRI *eS **S 14 22 22.9 -1.3**
KLRI IVMs_BB IVMs_BB 14 42 11.7
comp=Z,1µm,21.6s
KNTN Kanton 59.16 121 *eP* **P 14 14 21.5 +0.6**
DIB Dawson Inlet, 59.33 44 *eP* **P 14 14 21.2 -0.5**
URV Uravakonda 60.31 267 *eP* **P 14 14 28.8 -0.2**
URV IAmb IAmb 14 14 30.3
comp=Z,604nm,2.2s
URV *eS **S 14 22 39.9 +0.4**
URV IVMs_BB IVMs_BB 14 38 33.1
comp=Z,635nm,29.6s
SPA0 Spitsbergen Ar 60.33 349 *eP* **P 14 14 27.3 -0.9**
SPITS Spitsbergen Ar 60.33 349 P **P 14 14 29.4 +1.2**
comp=Z,4.4nm,0.4s,baz=60,slow=8.5,SNR=44
SPITS LR LR 14 42 34.4
comp=Z,716nm,21.8s,baz=35,slow=38
KBS Kingsbay 60.47 350 *eP* **P 14 14 30.0 +0.9**
KBS LR LR
comp=Z,1µm,21.0s
KBS Kingsbay 60.47 350 *eP* **P 14 14 30.6 +1.5**
AS01 Alice Springs 60.88 187 *eP* **P 14 14 31.6 -1.0**
AS31 Alice Springs 60.88 187 *eP* **P 14 14 31.8 -0.8**
ASAR Alice Springs 60.89 187 P **P 14 14 32.1 -0.5**
comp=Z,9.0nm,0.7s,baz=7.4,slow=7.9,SNR=154
ASAR PcP **PcP 14 15 16.8 +1.1**
comp=Z,15nm,0.7s,baz=353,slow=4.2,SNR=3.3
ASAR LR LR 14 39 28.5
comp=Z,570nm,20.7s,baz=358,slow=34
ASAR PKP2bc 14 43 56.6
comp=Z,2.2nm,0.9s,baz=180,slow=2.3,SNR=6.3
ASAR PKP2ab 14 44 09.7
comp=Z,4.8nm,1.1s,baz=196,slow=2.6,SNR=7.4
POO Poona 61.06 272 *eP* **P 14 14 33.7 -0.4**
HSPB Hornsund (broa 61.25 348 *eP* **P 14 14 36.1 +1.7**
MBWA Marble Bar 61.40 203 *eP* **P 14 14 35.2 -0.8**
MBWA LR LR
comp=Z,611nm,19.0s
MBWA Marble Bar 61.40 203 P **P 14 14 34.8 -1.2**
SNR=7.2
LVZ Lovozero 61.86 336 *eP* **P 14 14 38.9 +0.2**
LVZ LR LR
comp=Z,3µm,20.0s
LVZ Lovozero 61.86 336 *c i* P **P 14 14 39.4 +0.7**
LVZ *i* *PP **pP 14 14 53.6 0.0**
LVZ *i* *SP **sP 14 14 59.7 0.0**
LVZ pmax pmax
comp=Z,125nm,1.7s
LVZ MLR MLR
comp=Z,3µm,17.0s
BHJ Bhuj 61.92 279 *eP* **P 14 14 41.0 +1.3**
BHJ IAmb IAmb 14 14 42.3
comp=Z,88nm,0.4s
PALK Pallekele 62.11 257 *eP* **P 14 14 40.6 -0.6**
PALK Pallekele 62.11 257 P **P 14 14 41.6 +0.4**
SNR=18
PALK Pallekele 62.11 257 *i* P **P 14 14 41.5 +0.4**
SNR=16
PALK Pallekele 62.11 257 *c eP* **P 14 14 42.0 +0.9**
APA Apatity 62.44 336 *i* *P **P 14 14 41.5 -1.0**
APA *i* 14 15 01.5
APA *i* S S 14 23 18.0 +13
APA *i* SS **SS 14 27 10.0 +1.3**
APA pmax pmax
comp=Z,42nm,1.2s
APA MLR MLR
comp=Z,4µm,17.0s
TMCR Tamitsa 62.48 331 *eP* **P 14 14 42.1 -0.7**
TMCR pmax pmax
comp=Z,334nm,1.5s
RES Resolute Bay 62.54 14 *eP* **P 14 14 42.5 -0.6**
RES Resolute Bay 62.54 14 *eP* **P 14 14 42.5 -0.6**
GOA Goa 62.74 269 *eP* **P 14 14 45.7 +0.4**
GOA IAmb IAmb 14 14 46.6
comp=Z,185nm,0.9s
EIDS Eidsvold 62.92 170 *eP* **P 14 14 47.0 +0.9**
KEV Kevo 63.20 339 *eP* **P 14 14 47.8 +0.2**
KEV LR LR
comp=Z,3µm,20.0s
KEV Kevo 63.20 339 *eP* **P 14 14 47.8 +0.2**
KEV MLR MLR
comp=Z,3µm,20.0s
KLMR Klimovskoe 63.48 328 *eP* **P 14 14 46.8 -2.7**
KLMR AMP 14 14 51.9
comp=Z,166nm,1.1s
KLMR *ePP **PP 14 17 04.5 -4.6**
KLMR *eS **S 14 23 11.5 -6.8**
KLMR *eS **S 14 23 11.5 -6.8**
KLMR LQ LQ 14 36 37.1
KLMR LQ LQ 14 36 37.1
KLMR LR LR 14 41 47.4
KLMR Klimovskoe 63.48 328 *eP* **P 14 14 46.8 -2.7**
KLMR *eS **S 14 23 11.5 -6.8**
KLMR pmax pmax
comp=Z,166nm,1.1s
GEYT Alibeck 63.51 299 P **P 14 14 51.4 +1.2**
comp=Z,59nm,0.8s,baz=31,slow=3.5,SNR=129
GEYT LR LR 14 45 24.9
comp=Z,1µm,18.2s,baz=70,slow=39
HAMF Hammerfest 63.59 341 *eP* **P 14 14 50.7 +0.6**
DZM Mont Dzumac 63.61 154 P **P 14 14 52.2 +1.3**
comp=Z,123nm,1.1s,baz=332,slow=9.5,SNR=25
DZM LR LR 14 40 21.1
comp=Z,3µm,20.4s,baz=325,slow=34
DZM Mont Dzumac 63.61 154 *eP* **P 14 14 52.7 +1.8**
comp=Z,367nm,1.3s
DZM *epP **pP 14 15 06.7 +0.9**
comp=Z,676nm,1.4s
DZM *eS **S 14 23 20.9 0.0**
comp=Z,2µm,36.0s
DZM Mont Dzumac 63.61 154 *e* LR LR 14 33 51.9
comp=Z,4µm,21.3s
ARCES ARCESS Array B 63.76 339 P **P 14 14 52.3 +1.0**
comp=Z,16nm,0.5s,baz=60,slow=8.0,SNR=236

ARCES LR LR 14 45 08.7
comp=Z,2µm,21.4s,baz=53,slow=38
ARCES ARCESS Array B 63.76 339 *eP* **P 14 14 51.8 +0.5**
ARCES ARCESS Array B 63.76 339 *eP* **P 14 14 51.8 +0.5**
ARE0 ARCESS Array S 63.76 339 *eP* **P 14 14 52.0 +0.7**
ARE0 ARCESS Array S 63.76 339 *eP* **P 14 14 52.3 +1.0**
YKA Yellowknife Ar 63.84 30 P **P 14 14 52.9 +1.1**
comp=Z,22nm,0.8s,baz=302,slow=6.6,SNR=378
YKA PKPPKP **P'P'df 14 43 44.1 -5.6**
comp=Z,2.7nm,1.1s,baz=105,slow=2.5,SNR=14
YKA PKP2ab 14 44 00.2
comp=Z,0.7nm,0.8s,baz=120,slow=2.3,SNR=4.3
YKA Yellowknife Ar 63.84 30 P **P 14 14 53.0 +1.1**
TRD Trivandrum 64.29 261 *eP* **P 14 14 54.3 -1.2**
COCO West Island 64.30 229 PFAKE 14 15 10.0 +15
COCO LR LR
comp=Z,650nm,20.0s
COCO West Island 64.30 229 *ceP* **P 14 14 58.0 +2.5**
KTK1 Kautokeino 64.72 339 *eP* **P 14 14 58.5 +1.0**
MSVF Nonsavu 64.80 141 PFAKE 14 15 10.0 +11
MSVF LR LR
comp=Z,3µm,21.0s
MSVF Nonsavu 64.80 141 ⇓ *iP* **P 14 15 01.5 +2.7**
MSVF MLR MLR
comp=Z,728nm,5.0s
TULEG Thule 65.00 7 *eP* **P 14 14 58.9 -0.4**
TRO Tromso 65.48 341 *eP* **P 14 15 03.2 +0.7**
DAG Danmarks Havn 65.61 355 ⇑ *iP* **P 14 15 03.5 +0.3**
DAG *i* 14 15 18.9
DAG Danmarks Havn 65.61 355 ⇑ *iP* **P 14 15 03.5 +0.3**
DAG *i* 14 15 18.9
LLLB Lillooet 66.36 44 *eP* **P 14 15 08.2 -0.3**
NLWA Neilton Lookou 66.84 47 *eP* **P 14 15 11.4 -0.2**
MOS Moscow 66.96 323 *eP* **P 14 15 10.5 -1.6**
MOS *i* 14 15 31.1
MOS *e* 14 17 39.2
MOS *eS* **S 14 24 00.0 -1.0**
MOS *e**SS **sS 14 24 24.4 -1.9**
MOS *eSS* **SS 14 28 20.2 +0.7**
MOS pmax pmax
comp=Z,399nm,1.6s
MOS pmax pmax
comp=Z,1µm,2.0s
MOS MLR MLR
comp=Z,2µm,18.0s
VRH Novokhopyorsk 67.27 318 *eP* **P 14 15 14.2 0.0**
VRH *e**SP **sP 14 15 33.2 -2.2**
VRH pmax pmax
comp=Z,140nm,0.6s
VRH MLR MLR
comp=Z,3µm,18.0s
B05A Bryant 67.43 46 P **P 14 15 17.2 +1.9**
baz=301
AFI Afiamalu 67.45 130 *eP* **P 14 15 15.7 -0.1**
comp=Z,48nm,1.1s
AFI LR LR
comp=Z,3µm,20.0s
AFI Afiamalu 67.45 130 *eP* **P 14 15 15.7 -0.1**
AFI pmax pmax
comp=Z,48nm,1.1s
AFI MLR MLR
comp=Z,3µm,20.0s
MNCY Minicoy 67.54 263 *eP* **P 14 15 15.1 -1.4**
STEI Steigen 67.64 341 *eP* **P 14 15 17.3 +1.1**
B06A Marblemount 67.65 45 *eP* **P 14 15 17.1 +0.5**
OBN Obninsk 67.80 323 *eP* **P 14 15 17.3 -0.2**
OBN LR LR
comp=Z,2µm,21.0s
OBN Obninsk 67.80 323 *c iP* **P 14 15 17.8 +0.3**
OBN *i* 14 15 37.0
OBN *i* S **S 14 24 12.2 +1.0**
OBN pmax pmax
comp=Z,165nm,1.6s
OBN MLR MLR
comp=Z,2µm,17.0s
KULLO Kullorsuaq 67.87 5 ⇑ *iP* **P 14 15 17.8 +0.2**
comp=Z,65nm,1.2s
KULLO Kullorsuaq 67.87 5 ⇑ *iP* **P 14 15 17.8 +0.2**
KULLO pmax pmax
comp=Z,65nm,1.2s
PUL Pulkovo 67.92 329 *ceP* **P 14 15 19.1 +1.0**
PUL pmax pmax
comp=Z,217nm,1.0s
ARMA Armidale 67.97 170 *eP* **P 14 15 19.6 +0.8**
LPSR Galich'ya Gora 68.00 320 *eP* **P 14 15 19.0 +0.2**
LPSR *e**SP **sP 14 15 37.5 -2.4**
LPSR pmax pmax
comp=Z,160nm,0.7s
LPSR MLR MLR
comp=Z,5µm,14.0s
F04D Rainier, OR 68.02 48 P **P 14 15 21.1 +2.1**
baz=301
D05A Enumclaw 68.05 47 *eP* **P 14 15 20.1 +0.9**
MAK Makhachkala 68.14 308 *eP* **P 14 15 18.9 -0.9**
MAK *e**PP **pP 14 15 33.8 -1.0**
MAK *e**SP **sP 14 15 39.1 -1.9**
MAK *e* 14 17 49.0
MAK *e*PPP PPP 14 19 28.5
MAK *eS* **S 14 24 16.4 +0.8**
MAK *e**SS **sS 14 24 39.3 -1.6**
MAK *eSS* **SS 14 28 43.3 +5.0**
MAK pmax pmax
comp=Z,252nm,1.2s
MAK MLR MLR
comp=Z,2µm,17.0s
C06D Leavenworth 68.30 46 P **P 14 15 22.9 +2.2**
baz=302
VORR Voronezh 68.36 319 *eP* **P 14 15 20.0 -1.0**
VORR pmax pmax
comp=Z,450nm,1.6s
LON Longmire 68.38 47 *eP* **P 14 15 22.2 +0.9**
LON Longmire 68.38 47 *eP* **P 14 15 22.3 +0.9**
FIA1 FINESS Array S 68.55 332 *eP* **P 14 15 22.1 +0.1**
FINES FINESS Array B 68.55 332 P **P 14 15 22.6 +0.6**
comp=Z,77nm,0.8s,baz=39,slow=8.4,SNR=203
FINES LR LR 14 47 54.3
comp=Z,3µm,19.7s,baz=51,slow=38
COR Corvallis 68.61 50 *eP* **P 14 15 23.6 +0.8**
COR Corvallis 68.61 50 *eP* **P 14 15 23.6 +0.8**
VSR Storozhevoye 68.63 319 *eP* **P 14 15 22.4 -0.3**
VSR *e**SP **sP 14 15 41.8 -2.1**
VSR pmax pmax
comp=Z,140nm,0.8s
VSR MLR MLR
comp=Z,5µm,17.0s
FORT Forrest 68.68 192 *eP* **P 14 15 22.4 -0.8**
STKA Stephens Creek 68.69 179 P **P 14 15 23.5 +0.3**
comp=Z,12nm,0.6s,baz=341,slow=7.6,SNR=38
LTY Liberty 68.77 46 *eP* **P 14 15 24.2 +0.4**
B08A Colville Reser 68.95 45 *eP* **P 14 15 25.2 +0.4**
I03D Drain, OR 69.05 51 P **P 14 15 28.3 +2.8**
baz=302
GROC Groznyy 69.08 309 *eP* **P 14 15 24.9 -0.8**
GROC *e**PP **pP 14 15 39.2 -1.6**
GROC *e**SP **sP 14 15 45.2 -1.7**
GROC *e* 14 15 48.7
GROC *e* 14 17 57.4
GROC pmax pmax
comp=Z,71nm,1.0s
MOR8 Moi Rana 69.13 340 *eP* **P 14 15 25.0 -0.6**
SEKA Sheki 69.24 306 P **P 14 15 24.6 -2.2**
H04A Detroit Lake 69.24 49 *eP* **P 14 15 27.2 +0.5**
KONS Konsvik 69.25 340 *eP* **P 14 15 26.9 +0.6**
ZKTA Zakatala 69.38 307 P **P 14 15 26.0 -1.6**
STOK Stokkvaagen 69.40 340 *eP* **P 14 15 27.7 +0.5**
EDM Edmonton 69.42 38 *eP* **P 14 15 27.8 +0.1**
EDM Edmonton 69.42 38 *eP* **P 14 15 27.8 +0.1**
G05D Wamic, OR 69.47 48 P **P 14 15 29.7 +1.6**
baz=302
LKRN Lenkeran, Azer 69.51 303 P **P 14 15 26.8 -1.6**
MNGR Mingechevir, A 69.54 306 P **P 14 15 26.9 -1.6**
I04A Tendick Farm, 69.58 50 P **P 14 15 30.3 +1.5**
baz=302,SNR=6.7
E07A Sunnyside 69.62 47 *eP* **P 14 15 29.5 +0.5**
GOF Gofitskoye 69.78 312 ⇑ *iP* **P 14 15 30.4 +0.4**
GOF pmax pmax
comp=Z,251nm,1.3s
BBOO Buckleboo 69.78 184 *eP* **P 14 15 29.1 -0.8**
C09A Chrisman Ranch 69.85 45 *eP* **P 14 15 30.6 +0.3**
G06A Carlson Farm, 69.88 48 *eP* **P 14 15 31.4 +0.7**
D08A Wollman Farm, 69.89 46 *eP* **P 14 15 31.5 +0.9**
HAWA Hanford 69.90 47 *eP* **P 14 15 30.7 0.0**
F07A Phinny Hill Vi 69.94 47 *eP* **P 14 15 31.1 +0.2**
I05D Terrebonne, OR 69.94 49 P **P 14 15 33.0 +1.9**
baz=303,SNR=5.6
J04D Umpqua Nationa 70.06 51 P **P 14 15 34.0 +2.0**
baz=303,SNR=7.7
GANJ Ganja 70.10 306 P **P 14 15 30.3 -1.8**
VSU Vasula 70.18 329 ⇑ *iP* **P 14 15 33.0 +0.9**
VSU *i* *SP **sP 14 15 52.7 -0.7**
VSU pmax pmax
comp=Z,703nm,1.7s
VSU MLR MLR
comp=Z,5µm,19.0s
NEW Newport 70.24 44 P **P 14 15 34.4 +1.6**
baz=304,SNR=25
NEW Newport 70.24 44 *eP* **P 14 15 33.1 +0.3**
NEW LR LR
comp=Z,687nm,19.0s
NEW Newport 70.24 44 *eP* **P 14 15 33.1 +0.3**
NEW MLR MLR
comp=Z,687nm,19.0s
NCK Nalchik 70.28 310 ⇓ *iP* **P 14 15 34.0 +0.9**
NCK *i* *PP **pP 14 15 45.4 -2.9**
NCK *i* *SP **sP 14 15 53.3 -1.1**
NCK pmax pmax
comp=Z,58nm,1.1s
NCK MLR MLR
comp=Z,2µm,26.0s
PINE Pine Mountain 70.48 50 *eP* **P 14 15 36.5 +1.9**
ZEI Tsey 70.48 309 *eP* **P 14 15 33.3 -1.3**
ZEI pmax pmax
comp=Z,57nm,0.8s
YBH Yreka Blue Hor 70.50 52 P **P 14 15 36.6 +2.1**
comp=Z,22nm,1.1s,baz=249,slow=9.4,SNR=10
YBH LR LR 14 40 31.1
comp=Z,276nm,22.0s,baz=297,slow=31
YBH Yreka Blue Hor 70.50 52 *eP* **P 14 15 36.4 +1.9**
TBLG Delisi 70.53 308 *eP* **P 14 15 34.6 0.0**
TBLG Delisi 70.53 308 *eP* **P 14 15 34.6 0.0**
WSAR Wadi Sarin 70.54 285 P **P 14 15 35.5 +0.5**
comp=Z,26nm,0.9s,baz=71,slow=6.3,SNR=20
WSAR LR LR 14 52 30.9
comp=Z,926nm,18.1s,baz=88,slow=41
SUMG Summit 70.54 360 ⇑ *iP* **P 14 15 36.1 +1.4**
SUMG *i* 14 15 55.6
SUMG Summit 70.54 360 *eP* **P 14 15 35.8 +1.2**
SUMG Summit 70.54 360 ⇑ *iP* **P 14 15 36.1 +1.4**
SUMG *i* 14 15 55.6
J05D Fort Rock, OR 70.57 50 P **P 14 15 37.1 +2.0**
baz=303,SNR=11
KBZ Khabaz 70.58 310 P **P 14 15 35.6 +0.7**
comp=Z,62nm,0.9s,baz=60,slow=4.7,SNR=79
KBZ LR LR 14 51 24.6
comp=Z,2µm,18.2s,baz=54,slow=40
M02C Callahan 70.59 52 P **P 14 15 37.5 +2.4**
baz=303
KIV Kislovodsk 70.59 311 *eP* **P 14 15 35.7 +0.6**
KIV LR LR
comp=Z,2µm,20.0s
KIV Kislovodsk 70.59 311 P **P 14 15 36.0 +0.9**
SNR=49
KIV Kislovodsk 70.59 311 *i* P **P 14 15 36.0 +0.9**
SNR=32
KIV Kislovodsk 70.59 311 *eP* **P 14 15 35.9 +0.9**
KIV *e* 14 15 55.9
KIV *e* 14 18 12.6
KIV *eS* **S 14 24 46.1 +1.4**
KIV pmax pmax
comp=Z,276nm,1.1s
KIV pmax pmax
comp=Z,296nm,3.8s
KIV MLR MLR
comp=Z,2µm,17.0s
K04D Chiloquin, OR 70.61 51 P **P 14 15 37.1 +1.9**
baz=303
WBK Wadi Bani Khal 70.62 284 P **P 14 15 37.0 +1.5**
SNR=8.0
BIDO Bidbid 70.78 285 P **P 14 15 37.2 +0.7**
SNR=28
G08A Pilot Rock 70.84 47 *eP* **P 14 15 37.6 +1.0**
BANOM Banah 70.88 288 P **P 14 15 37.9 +0.8**
SNR=18
BANOM Banah 70.88 288 *i* P **P 14 15 37.8 +0.8**
SNR=16
N02D Trinity Center 70.91 53 P **P 14 15 39.0 +2.0**
baz=303
SHME Shamm 70.93 289 *i* P **P 14 15 37.9 +0.5**
SNR=16
NEY Neytrino 70.95 310 *d iP* **P 14 15 39.2 +1.8**
NEY *i* *SP **sP 14 15 59.1 +0.5**
NEY pmax pmax
comp=Z,26nm,1.4s
NEY MLR MLR
comp=Z,747nm,22.0s
M04C Macdoel 71.02 52 P **P 14 15 39.7 +1.9**
baz=303,SNR=9.3
NSS Namsos 71.05 339 *eP* **P 14 15 38.0 +0.7**
SMDO Samad 71.09 285 P **P 14 15 40.2 +1.8**
SNR=8.8
I07A Izee 71.18 49 *eP* **P 14 15 39.6 +0.9**
MDH Madha 71.22 288 *i* P **P 14 15 38.7 -0.3**
SNR=8.2
WDC Whiskeytown Da 71.23 53 *eP* **P 14 15 39.9 +1.0**
WDC Whiskeytown Da 71.23 53 *eP* **P 14 15 39.9 +1.0**
MSFE Esma-Masafi 71.29 288 *i* P **P 14 15 40.2 +0.7**
SNR=19
HOQ Hoqain 71.37 286 P **P 14 15 41.4 +1.4**
SNR=8.4
GNI Garni 71.38 306 P **P 14 15 41.2 +1.1**
comp=Z,32nm,0.9s,baz=18,slow=6.4,SNR=14
GNI LR LR 14 49 56.8
comp=Z,2µm,18.3s,baz=57,slow=38
GNI Garni 71.38 306 *eP* **P 14 15 41.8 +1.8**
GNI Garni 71.38 306 P **P 14 15 41.2 +1.1**
JMDO Jabal Madar 71.42 284 P **P 14 15 41.4 +1.1**
SNR=6.2
NAX Nakhchivan 71.42 305 P **P 14 15 38.5 -1.7**
F10A Beach Ranch, E 71.46 46 *eP* **P 14 15 41.3 +0.9**
UOSS Minazif 71.48 288 *eP* **P 14 15 40.5 -0.2**
UOSS Minazif 71.48 288 *i* P **P 14 15 40.4 -0.2**
SNR=17
AKH Akhalkalaki 71.48 308 ⇓ *iP* **P 14 15 41.9 +1.2**
AKH Akhalkalaki 71.48 308 *eP* **P 14 15 41.0 +0.3**
AKH Akhalkalaki 71.48 308 *eP* **P 14 15 41.0 +0.3**
WALA Waterton Lakes 71.53 42 *eP* **P 14 15 41.5 +0.8**
UMQ Umm Al-Quwin 71.58 288 *i* P **P 14 15 42.7 +1.5**
SNR=6.2
HATD Hatta, Dubai 71.60 287 P **P 14 15 42.5 +1.1**
SNR=22
HATD Hatta, Dubai 71.60 287 *i* P **P 14 15 42.1 +0.7**
SNR=22
SOHO SOHO 71.67 287 *i* P **P 14 15 41.8 0.0**
SNR=21
ASHO Ashiyiah 71.73 287 P **P 14 15 43.2 +1.0**
SNR=32
ASHO Ashiyiah 71.73 287 *i* P **P 14 15 42.7 +0.4**
SNR=30
O03D Paynes Creek 71.85 53 P **P 14 15 44.3 +1.5**
baz=304,SNR=8.3
NAZ Nazwa, Dubai 71.87 288 P **P 14 15 43.8 +0.8**
SNR=19
NAZ Nazwa, Dubai 71.87 288 *i* P **P 14 15 44.0 +1.0**
SNR=15
NAZ *i* P **P 14 15 44.0 +1.0**
SNR=10
MOD Modoc Plateau 71.91 51 *eP* **P 14 15 43.7 +0.5**
BSY Bisya 71.92 285 P **P 14 15 45.1 +1.7**
SNR=18
SCO Scoresbysund 71.94 354 ⇑ *iP* **P 14 15 43.9 +1.3**
SCO *i* 14 16 02.9
SCO Scoresbysund 71.94 354 *eP* **P 14 15 43.7 +1.0**
SCO Scoresbysund 71.94 354 ⇑ *iP* **P 14 15 43.9 +1.3**
SCO *i* 14 16 02.9
BMO Blue Mountains 72.05 47 *eP* **P 14 15 44.8 +0.9**
BMO LR LR
comp=Z,765nm,20.0s
BMO Blue Mountains 72.05 47 *eP* **P 14 15 44.8 +0.9**
BMO MLR MLR
comp=Z,765nm,20.0s
JTMT Jette 72.10 43 *eP* **P 14 15 45.1 +0.9**
ARQ Araqi 72.11 286 P **P 14 15 44.8 +0.3**
SNR=10
IDID Didziasalis 72.20 327 *eP* **P 14 15 45.3 +0.9**
IDID IAmb IAmb 14 15 46.0
comp=Z,39nm,0.8s
J08A Circle Bar Ran 72.21 49 *eP* **P 14 15 45.9 +1.1**
MICGM Minsk 72.21 326 ⇓ *iP* **P 14 15 43.0 -1.5**
MICGM PM 14 15 45.0
comp=Z,0.4nm,1.5s
MICGM *e*PcP **pP 14 16 01.0 +1.3**
MICGM *e*pP **sP 14 16 05.0 -0.8**
MICGM *e*sP PcP 14 16 12.0 +10
MICGM *e*PP PP 14 17 54.0 -31
MICGM *e*S **S 14 25 02.0 -0.8**
MICGM *e*SP **SKiKP 14 25 12.0 -3.6**
MICGM *e*sS **sS 14 25 26.0 -2.4**
MICGM *e*LR LR 14 44 08.0
MICGM LRM MLR 14 50 30.0
comp=Z,4.2nm,16.0s
MICGM LRM MLR 14 50 50.0
comp=Z,2.2nm,16.0s
MNK Minsk 72.21 326 ⇓ *iP* **P 14 15 43.0 -1.5**
MNK *e* 14 16 01.0
MNK *e**PP **sP 14 16 05.0 -0.8**
MNK *e*S **S 14 25 02.0 -0.8**
MNK *e**SS **sS 14 25 26.0 -2.4**
MNK pmax pmax
comp=Z,430nm,1.5s
MNK MLR MLR
comp=Z,4µm,16.0s
MNK MLR MLR
comp=Z,2µm,16.0s
ALNE Al Ain 72.31 287 *i* P **P 14 15 46.0 +0.4**
SNR=25
IIGN Ignalina 72.40 327 *eP* **P 14 15 46.4 +0.8**
IIGN IAmb IAmb 14 15 47.3
comp=Z,46nm,0.7s
NACGM Naroch 72.44 326 *eP* **P 14 15 46.0 +0.1**
NACGM *e*PP PP 14 18 38.0 +11
NACGM *e*PPP PPP 14 20 16.0
NACGM *eS* **SKiKP 14 25 12.0 -3.9**
NACGM *eSS* SS 14 30 08.0 +24
NACGM *e*SSS SSS 14 33 18.0
NACGM *e*LQ LQ 14 41 20.0
NACGM *e*LR LR 14 45 16.0
NACGM LRM MLR 14 51 30.0
comp=Z,2.9nm,18.0s
ORV Oroville 72.46 54 *eP* **P 14 15 46.8 +0.5**
ORV Oroville 72.46 54 *eP* **P 14 15 46.8 +0.5**
CLDR Calditan 72.47 306 *eP* **P 14 15 46.5 -0.1**
CAN Canberra 72.51 173 *eP* **P 14 15 46.9 +0.5**
CAN LR LR
comp=Z,2µm,22.0s
CAN Canberra 72.51 173 *eP* **P 14 15 46.9 +0.5**
CAN MLR MLR
comp=Z,2µm,22.0s
TBLU Trondheim 72.51 339 *eP* **P 14 15 45.3 -0.8**
SOC Sochi 72.58 312 *c iP* **P 14 15 47.1 +0.2**
SOC *e**SP **sP 14 16 06.8 -1.4**
SOC *e*PPP PPP 14 20 16.8
SOC *eS* **S 14 25 09.5 +2.1**
SOC *e**SS **sS 14 25 37.5 +4.5**
SOC pmax pmax
comp=Z,106nm,0.9s
SOC MLR MLR
comp=Z,3µm,18.0s
AJN Ajban 72.61 288 *i* P **P 14 15 47.4 0.0**
SNR=12
WVOR Wild Horse Val 72.63 50 *eP* **P 14 15 47.9 +0.5**
WVOR Wild Horse Val 72.63 50 *eP* **P 14 15 47.9 +0.5**
SENK Senkaya-Erzuru 72.67 308 *eP* **P 14 15 49.1 +1.3**
AGRB Hanur-Agry 72.82 307 *eP* **P 14 15 49.5 +0.8**
MSO Missoula 72.83 44 P **P 14 15 49.7 +1.2**
baz=306,SNR=19
MSO Missoula 72.83 44 *eP* **P 14 15 48.8 +0.3**
AFDM Forest Hills D 73.14 54 *eP* **P 14 15 50.9 +0.6**
NWAO Narrogin (SRO) 73.19 201 *eP* **P 14 15 50.1 -0.4**
comp=Z,708nm,1.4s
NWAO LR LR
comp=Z,1µm,19.0s
NWAO Narrogin (SRO) 73.19 201 *eP* **P 14 15 50.1 -0.4**
NWAO pmax pmax
comp=Z,708nm,1.4s
NWAO MLR MLR
comp=Z,1µm,19.0s
ANN Anapa 73.22 314 *eP* P 14 15 43.5 -7.1
ANN pmax pmax
comp=Z,307nm,1.5s
ANN MLR MLR
comp=E,1µm,17.0s
ANN MLR MLR
comp=N,1µm,17.0s
ANN MLR MLR
comp=Z,2µm,17.0s
RDG13 Poverty Ridge 73.49 55 *eP* **P 14 15 54.1 +1.6**
ILULI Ilulissat 73.55 4 ⇑ *iP* **P 14 15 52.9 +0.8**
ILULI *i* 14 16 10.7
ILULI Ilulissat 73.55 4 *eP* **P 14 15 52.3 +0.2**
ILULI Ilulissat 73.55 4 ⇑ *iP* **P 14 15 52.9 +0.8**
ILULI *i* 14 16 10.7
PAHR Pah Rah Range 73.72 52 *eP* **P 14 15 54.7 +0.8**
NC405 NORSAR Array S 73.73 337 *eP* **P 14 15 52.8 -0.6**
FFC Flin Flon 73.75 33 *eP* **P 14 15 53.6 0.0**
FFC LR LR
comp=Z,702nm,19.0s
FFC Flin Flon 73.75 33 *eP* **P 14 15 53.6 0.0**
FFC MLR MLR
comp=Z,702nm,19.0s
NC303 NORSAR Array S 73.75 337 *eP* **P 14 15 53.4 -0.1**
MFID Camas Ranch 73.75 48 *eP* **P 14 15 54.6 +0.5**
VCNR Virginia City 73.79 53 *eP* **P 14 15 56.0 +1.6**
DOMB Dombas 73.81 339 *eP* **P 14 15 55.0 +1.1**
MOL Molde 73.82 340 *eP* **P 14 15 54.2 +0.4**
HFS Hagfors 73.84 336 P **P 14 15 54.7 +0.7**
comp=Z,22nm,0.5s,baz=49,slow=6.6,SNR=166
HFS LR LR 14 51 05.0
comp=Z,4µm,19.3s,baz=44,slow=38
NC204 NORSAR Array S 73.90 337 *eP* **P 14 15 54.6 +0.1**
NB201 NORSAR Array S 73.91 337 *eP* **P 14 15 53.9 -0.5**
NB2 NORSAR Subarra 73.94 337 P **P 14 15 55.2 +0.5**
comp=Z,68nm,0.7s,baz=40,slow=6.2
NB2 NORSAR Subarra 73.94 337 P **P 14 15 55.2 +0.5**
baz=40,slow=6.2
NOA NORSAR Array B 73.94 337 P **P 14 15 55.4 +0.7**
comp=Z,48nm,0.8s,baz=39,slow=5.8,SNR=86
NOA LR LR 14 51 41.1
comp=Z,3µm,19.6s,baz=40,slow=38
AKASG Malin Array Be 74.00 322 P **P 14 15 55.3 +0.1**
comp=Z,34nm,0.4s,baz=46,slow=6.1,SNR=396
AKASG LR LR 14 51 24.8
comp=Z,3µm,18.9s,baz=45,slow=38
FCC Fort Churchill 74.01 26 *eP* **P 14 15 55.3 +0.3**
FCC Fort Churchill 74.01 26 *eP* **P 14 15 55.3 +0.3**
KIEV Kiev 74.02 322 *eP* **P 14 15 55.0 -0.2**
KIEV LR LR
comp=Z,3µm,20.0s
KIEV Kiev 74.02 322 *i* P **P 14 15 55.3 0.0**
SNR=40
KIEV Kiev 74.02 322 *d iP* **P 14 15 56.0 +0.8**
KIEV *i* *SP **sP 14 16 15.5 -1.0**
KIEV pmax pmax
comp=Z,78nm,1.0s
KIEV MLR MLR
comp=Z,3µm,17.0s
CMB Columbia Colle 74.03 54 *eP* **P 14 15 56.3 +0.7**
CMB Columbia Colle 74.03 54 *eP* **P 14 15 56.3 +0.7**
NBO02 NORSAR Array S 74.05 337 *eP* **P 14 15 55.2 -0.1**
HRY Holter Researc 74.06 43 *eP* **P 14 15 56.8 +1.1**
NC602 NORSAR Array S 74.07 337 *eP* **P 14 15 55.5 +0.1**
NC602 NORSAR Array S 74.07 337 *eP* **P 14 15 56.0 +0.6**
NBO00 NORSAR Array S 74.08 337 *eP* **P 14 15 55.8 +0.3**
BAYT Ayd¯ıntepe-Bay 74.16 309 *eP* **P 14 15 57.2 +0.7**
NAO01 NORSAR Array S 74.19 337 *eP* **P 14 15 56.4 +0.3**
YERR Yerington 74.22 53 *eP* **P 14 15 57.9 +0.9**
LRM Limekiln Ridge 74.25 44 *eP* **P 14 15 58.2 +1.1**
AKN Aaknes 74.29 339 *eP* **P 14 15 57.3 +0.7**
SIRT Sirnak 74.35 305 *eP* **P 14 15 57.9 +0.3**
WAKR Walker 74.38 53 *eP* **P 14 15 59.0 +1.2**
DLMT Dillon 74.45 45 *eP* **P 14 15 59.1 +1.0**
HLID Hailey 74.50 47 P **P 14 16 00.0 +1.6**
baz=307,SNR=32
HLID Hailey 74.50 47 *eP* **P 14 15 59.6 +1.2**
HLID LR LR
comp=Z,974nm,22.0s
SUW Suwalki 74.61 327 *i* P **P 14 15 59.0 +0.4**
SUW Suwalki 74.61 327 *eP* **P 14 15 58.6 0.0**
SUW Suwalki 74.61 327 ⇑ *iP* **P 14 15 59.0 +0.4**
BNGB Bing¯l¶l 74.63 307 *eP* **P 14 15 59.6 +0.4**
MCMT McKenzie Canyo 74.63 45 *eP* **P 14 15 59.6 +0.3**
BMN Battle Mountai 74.66 51 *eP* **P 14 16 00.4 +1.0**
BMN Battle Mountai 74.66 51 *eP* **P 14 16 00.4 +1.0**
BOZ Bozeman (W) 74.85 44 P **P 14 16 01.7 +1.3**

baz=308,SNR=75
BOZ Bozeman (W) 74.85 44 *e*P **P 14 16 01.2 +0.8**
BOZ LR LR
comp=Z,744nm,20.0s
BOZ Bozeman (W) 74.85 44 *e*P **P 14 16 01.2 +0.8**
BOZ MLR MLR
comp=Z,744nm,20.0s
RYN Ryan 74.89 53 *e*P **P 14 16 01.5 +0.7**
OSL Oslo 74.95 337 *e*P **P 14 16 01.8 +1.4**
SIM Simferopol' 75.02 315 *d i*P **P 14 16 02.6 +1.4**
SIM *i* 14 16 22.0
SIM *e* 14 18 57.0
SIM *e*PS **PnS 14 26 24.0 +8.2**
SIM pmax pmax
comp=Z,57nm,1.0s
SIM pmax pmax
comp=Z,50nm,8.2s
SIM MLR MLR
comp=Z,1μm,14.4s
MDPB Devils Postpil 75.11 54 *e*P **P 14 16 03.2 +1.0**
NV01 Mina Array Sit 75.14 53 *e*P **P 14 16 03.4 +1.1**
NVAR Mina Array Bea 75.14 53 P **P 14 16 04.4 +2.1**
comp=Z,16nm,0.7s,baz=291,slow=5.9,SNR=58
NVAR LR LR 14 42 17.8
comp=Z,444nm,21.8s,baz=83,slow=30
NV11 Mina Array Sit 75.24 53 *e*P **P 14 16 03.7 +1.0**
MLAC Mammoth, Mammo 75.27 54 P **P 14 16 05.1 +2.0**
baz=306
FOO Floro 75.30 340 *e*P **P 14 16 02.7 +0.3**
HYA Hoyanger 75.34 339 *e*P **P 14 16 04.1 +1.4**
PAGB Antelope Grade 75.44 56 *e*P **P 14 16 04.5 +0.7**
PTK Pertek 75.50 308 *e*P **P 14 16 05.1 +0.8**
KONO Kongsberg 75.53 337 *e*P **P 14 16 04.3 +0.4**
KONO Kongsberg 75.53 337 *e*P **P 14 16 04.9 +1.1**
KONO Kongsberg 75.53 337 *ce*P **P 14 16 04.7 +0.9**
KONO pmax pmax
comp=Z,24nm,0.9s
KONO MLR MLR
comp=Z,4μm,18.0s
YHB Horse Butte 75.61 44 *e*P **P 14 16 05.0 +0.1**
MAZI Mazidag 75.67 306 *e*P **P 14 16 04.9 -0.3**
SFJD Kangerlussuaq 75.77 5 P **P 14 16 05.5 +0.5**
comp=Z,38nm,1.1s,baz=345,slow=6.9,SNR=13
SFJD LR LR 14 53 33.0
comp=Z,678nm,18.5s,baz=349,slow=39
SFJD Kangerlussuaq 75.77 5 *e*P **P 14 16 06.3 +1.2**
SFJD Kangerlussuaq 75.77 5 *e*P **P 14 16 06.3 +1.2**
SHAO Shalim 75.77 282 P **P 14 16 06.0 +0.1**
RCTC Rector, Farmer 75.77 55 P **P 14 16 07.3 +1.7**
baz=306
YHH Holmes Hill 75.78 44 *e*P **P 14 16 06.2 +0.2**
YMR Madison River 75.79 44 *e*P **P 14 16 06.3 +0.4**
GCMT Greycliff 75.81 43 *e*P **P 14 16 05.8 0.0**
SUE Sulen 75.83 340 *e*P **P 14 16 06.9 +1.5**
SMMC Simmler 75.85 56 P **P 14 16 08.1 +1.9**
baz=306
RSDY Resadiye-TOKAT 75.89 310 *e*P **P 14 16 05.4 -0.9**
TIN Tinemaha, Big 76.00 54 P **P 14 16 08.5 +1.4**
baz=306
YFT Old Faithful 76.00 45 *e*P **P 14 16 08.9 +1.8**
SORM Soroca 76.09 320 ⇓ *i*P **P 14 16 07.8 +0.6**
YPP Pitchstone Pla 76.13 45 *e*P **P 14 16 09.2 +1.3**
VES Vestal, Richgr 76.15 56 P **P 14 16 08.9 +1.2**
baz=306,SNR=9.3
LKWY Lake 76.17 44 PFAKE 14 16 20.0 +12
LKWY LR LR
comp=Z,586nm,19.0s
ASK Askoy 76.18 339 *e*P **P 14 16 09.1 +1.6**
H17A Grant Village 76.18 44 P **P 14 16 11.2 +3.1**
baz=309,SNR=50
H17A Grant Village 76.18 44 *e*P **P 14 16 09.3 +1.1**
BER Bergen 76.22 339 *e*P **P 14 16 09.3 +1.6**
ODD1 Odda 76.23 338 *e*P **P 14 16 09.5 +1.7**
KVT Kavak 76.25 311 *e*P **P 14 16 09.2 +0.8**
IMW Indian Meadow 76.29 45 *e*P **P 14 16 10.0 +1.2**
SVSK Karacayir 76.38 310 *e*P **P 14 16 09.9 +0.9**
FXWY Fox Creek 76.40 45 *e*P **P 14 16 10.7 +1.3**
TOKT Tokat 76.41 310 *e*P **P 14 16 09.9 +0.6**
RLMT Red Lodge 76.45 43 P **P 14 16 11.1 +1.4**
baz=309,SNR=8.3
RLMT Red Lodge 76.45 43 *e*P **P 14 16 10.7 +1.1**
RLMT LR LR
comp=Z,771nm,20.0s
MALT Malatya 76.45 308 *e*P **P 14 16 10.7 +1.1**
CWC Cottonwood Cre 76.45 55 P **P 14 16 10.3 +0.6**
baz=306
MOOW Moose Ponds 76.49 45 *e*P **P 14 16 10.7 +0.8**
TPAW Teton Pass 76.53 45 *e*P **P 14 16 11.4 +1.2**
HVU Hansel Valley 76.54 48 *e*P **P 14 16 10.4 +0.3**
HVU Hansel Valley 76.54 48 *e*P **P 14 16 10.4 +0.3**
GRAC Grapevine Rang 76.59 54 P **P 14 16 11.9 +1.5**
baz=307,SNR=23
KIS Kishinev 76.59 319 ⇑ *i*P **P 14 16 09.0 -1.1**
comp=Z,300nm,1.6s
KIS *i* pP **sP 14 16 29.0 -2.5**
KIS *e*S **S 14 25 49.0 -3.1**
KIS Kishinev 76.59 319 *α i*P **P 14 16 09.0 -1.1**
KIS *i* 14 16 18.0
KIS *i* *PP **sP 14 16 29.0 -2.5**
KIS *e*S **S 14 25 49.0 -3.1**
KIS *e*PS PnS 14 26 19.0 -17
KIS pmax pmax
comp=Z,250nm,1.6s
KIS pmax pmax
comp=Z,900nm,4.0s
KIS MLR MLR
comp=N,3μm,17.0s
KIS MLR MLR
comp=E,3μm,17.0s
KIS MLR MLR
comp=Z,6μm,17.0s
KIS MLR MLR
comp=Z,5μm,17.0s
ISA Isabella, Lake 76.65 55 P **P 14 16 11.3 +0.5**
baz=306,SNR=6.4
ISA Isabella, Lake 76.65 55 *e*P **P 14 16 11.2 +0.5**
ISA Isabella, Lake 76.65 55 *e*P **P 14 16 11.2 +0.5**
LOHW Long Hollow 76.65 45 *e*P **P 14 16 11.3 +0.5**
SNOW Snow King Moun 76.66 45 *e*P **P 14 16 11.8 +0.9**
REDW Red Top Meadow 76.67 45 *e*P **P 14 16 11.7 +0.8**
BLS5 Blasjo 76.68 338 *e*P **P 14 16 11.8 +1.4**
URFA Urfa 76.72 307 *e*P **P 14 16 11.1 0.0**
ARVC Arvin 76.73 56 P **P 14 16 12.1 +0.9**
baz=306
DAC Darwin (Calif) 76.87 54 *e*P **P 14 16 12.7 +0.6**
DARE Darende-Malaty 76.89 309 *e*P **P 14 16 13.3 +1.2**
AHID Auburn Hatcher 76.90 46 *e*P **P 14 16 12.5 +0.2**
AHID LR LR
comp=Z,1μm,20.0s
BGU Big Grassy Mou 76.91 48 *e*P **P 14 16 12.8 +0.5**
R11A Troy Canyon, C 76.91 52 P **P 14 16 13.7 +1.3**
baz=307,SNR=60
R11A Troy Canyon, C 76.91 52 *e*P **P 14 16 13.2 +0.9**
LAO LASA Array 77.06 41 P **P 14 16 14.0 +1.2**
baz=311,SNR=22
LAO LASA Array 77.06 41 *e*P **P 14 16 13.8 +0.9**
LAO LR LR
comp=Z,912nm,21.0s
MPMC Manual Prospec 77.06 55 P **P 14 16 14.4 +1.2**
baz=307,SNR=15
LVV L'vov 77.09 324 *e*P **P 14 16 13.3 +0.4**
LVV *e*S **S 14 25 57.5 +0.1**
LVV *e*SS **SS 14 30 49.9 -4.6**
LVV MLR MLR
comp=Z,1μm,16.0s
OSI Osito Audit: C 77.11 56 P **P 14 16 14.8 +1.5**
baz=306
OSI Osito Audit: C 77.11 56 *e*P **P 14 16 14.1 +0.8**
BEL Belsk 77.16 327 *i*P **P 14 16 14.5 +1.3**
BEL Belsk 77.16 327 ⇑ *i*P **P 14 16 14.5 +1.3**
BLG Laguna Peak, P 77.18 57 P **P 14 16 14.7 +1.0**
baz=306
BSD Bornholm Skovb 77.18 332 ⇑ *i*P **P 14 16 13.6 +0.4**
comp=Z,92nm,1.0s
BSD Bornholm Skovb 77.18 332 ⇑ *i*P **P 14 16 13.6 +0.4**
BSD pmax pmax
comp=Z,92nm,1.0s
FURC Furnace Creek, 77.23 54 P **P 14 16 15.4 +1.6**
baz=307,SNR=19
LEOM Leova 77.23 319 ⇓ *i*P **P 14 16 14.7 +1.0**
LRMC Laurel Mtn Rad 77.28 55 P **P 14 16 15.8 +1.4**
baz=307
SNART Snartemo 77.33 337 *e*P **P 14 16 15.4 +1.4**
TPNV Topopah Spring 77.33 53 P **P 14 16 15.9 +1.2**
baz=307,SNR=25
TPNV Topopah Spring 77.33 53 *e*P **P 14 16 15.5 +0.8**
TPNV Topopah Spring 77.33 53 *e*P **P 14 16 15.5 +0.8**
HWUT Hardware Ranch 77.35 47 *e*P **P 14 16 15.5 +0.8**
HWUT LR LR
comp=Z,343nm,19.0s
EDW2 Edwards Air Fo 77.43 56 P **P 14 16 16.6 +1.4**
baz=307,SNR=9.3
BORG Borgarnes 77.47 352 P **P 14 16 15.2 +0.5**
comp=Z,55nm,1.1s,baz=344,slow=5.5,SNR=5.2
BORG LR LR 14 51 18.4
comp=Z,508nm,21.6s,baz=27,slow=36
BORG Borgarnes 77.47 352 *e*P **P 14 16 15.9 +1.2**
DUG Dugway, Tooele 77.49 49 P **P 14 16 16.9 +1.4**
baz=308,SNR=28
DUG Dugway, Tooele 77.49 49 *e*P **P 14 16 16.0 +0.5**
DUG LR LR
comp=Z,1μm,20.0s
DUG Dugway, Tooele 77.49 49 *e*P **P 14 16 16.0 +0.5**
DUG MLR MLR
comp=Z,1μm,20.0s
ANGG Ammassalik, Gr 77.53 359 *e*P **P 14 16 15.2 +0.2**
DECC Green Verdugo 77.58 56 P **P 14 16 17.1 +1.2**
baz=307
GKP Gorka Klasztor 77.64 329 *e*P **P 14 16 16.5 +0.7**
GKP Gorka Klasztor 77.64 329 *e*P **P 14 16 16.5 +0.7**
CORM Corum 77.66 311 *e*P **P 14 16 16.1 -0.3**
ILGA Ilgaz 77.66 312 *e*P **P 14 16 16.3 -0.2**
COP Copenhagen 77.67 333 *i*P **P 14 16 17.6 +1.7**
comp=Z,72nm,0.7s
COP Copenhagen 77.67 333 *i*P **P 14 16 17.6 +1.7**
COP pmax pmax
comp=Z,72nm,0.7s
PRAR RASCA 77.68 321 ⇓ *i*P **P 14 16 17.1 +0.9**
PASC Pasadena Art C 77.73 56 *e*P **P 14 16 16.9 +0.1**
BNN Bunyan 77.73 310 *e*P **P 14 16 16.4 -0.5**
TCUT Toone Canyon 77.75 47 *e*P **P 14 16 17.8 +0.7**
DGAR Diego Garcia 77.75 251 PFAKE 14 16 30.0 +13
DGAR LR LR
comp=Z,438nm,20.0s
TLCR 77.78 318 ⇓ *i*P **P 14 16 17.6 +0.9**
BW06 Boulder Array 77.78 45 P **P 14 16 18.3 +1.1**
baz=310,SNR=20
BW06 Boulder Array 77.78 45 *e*P **P 14 16 17.7 +0.5**
BW06 LR LR
comp=Z,965nm,22.0s
MWC Mount Wilson 77.78 56 *e*P **P 14 16 16.9 -0.3**
MWC Mount Wilson 77.78 56 *e*P **P 14 16 16.9 -0.3**
PD31 Pinedale Array 77.78 45 *e*P **P 14 16 17.7 +0.5**
PDAR Pinedale Array 77.78 45 P **P 14 16 18.5 +1.3**
comp=Z,16nm,0.8s,baz=270,slow=3.0,SNR=103
PDAR LR LR 14 46 43.3
comp=Z,491nm,21.7s,baz=329,slow=33
PDAR Pinedale Array 77.78 45 *e*P **P 14 16 17.4 +0.3**
CTU Camp Tracy 77.82 48 *e*P **P 14 16 17.7 +0.4**
KWP Kalwaria Pacla 77.84 324 *i*P **P 14 16 18.3 +1.2**
KWP Kalwaria Pacla 77.84 324 *e*P **P 14 16 17.4 +0.3**
KWP Kalwaria Pacla 77.84 324 ⇑ *i*P **P 14 16 18.3 +1.2**
KMRS Kahramanmaras 77.90 308 *e*P **P 14 16 18.2 +0.5**
GAZ Gaziantep 77.91 308 *e*P **P 14 16 18.6 +0.8**
SHOC Shoshone, Teco 77.95 54 P **P 14 16 19.4 +1.4**
baz=307,SNR=6.1
GSC Goldstone, Bar 77.96 55 P **P 14 16 19.1 +1.0**
baz=307,SNR=8.7
GSC Goldstone, Bar 77.96 55 *e*P **P 14 16 18.8 +0.7**
GSC Goldstone, Bar 77.96 55 *e*P **P 14 16 18.8 +0.7**
BUR08 Bucovina Ar. S 78.00 322 *e*P **P 14 16 18.5 +0.4**
BUR04 Bucovina Ar. S 78.02 321 *e*P **P 14 16 18.5 +0.3**
BURAR Bucovina Array 78.02 321 ⇑ *i*P **P 14 16 19.0 +0.8**
TESR Tescani 78.03 320 ⇑ *i*P **P 14 16 18.4 +0.2**
JLU Jordanelle 78.05 48 *e*P **P 14 16 19.4 +0.7**
NLU North Lily Min 78.08 49 *e*P **P 14 16 19.6 +0.8**
CFR Carcaliu 78.14 318 ⇑ *i*P **P 14 16 19.2 +0.4**
MUD Monsted U'grnd 78.20 335 ⇑ *i*P **P 14 16 19.5 +0.6**
comp=Z,84nm,1.1s
MUD Monsted U'grnd 78.20 335 ⇑ *i*P **P 14 16 19.5 +0.6**
MUD pmax pmax
comp=Z,84nm,1.1s
PETR Petresti 78.26 319 ⇑ *i*P **P 14 16 21.2 +1.8**
SHPR Sheep Range 78.30 53 *e*P **P 14 16 21.1 +1.0**
MPU Maple Canyon 78.31 48 *e*P **P 14 16 21.2 +1.1**
ODBI Odobesti 78.32 319 ⇑ *i*P **P 14 16 22.3 +2.5**
VRI Vrincioaia 78.42 319 ⇑ *i*P **P 14 16 21.5 +1.1**
TUQ Turquoise Moun 78.45 54 P **P 14 16 22.6 +1.7**
baz=308,SNR=22
TIRR Tirgusor 78.47 318 ⇑ *i*P **P 14 16 21.1 +0.5**
TIRR Tirgusor 78.47 318 *e*P **P 14 16 20.3 -0.3**
comp=Z,329nm,1.9s
TIRR Tirgusor 78.47 318 *e*P **P 14 16 20.3 -0.3**
TIRR pmax pmax
comp=Z,329nm,1.9s
PLOR Plostina 78.48 319 ⇓ *i*P **P 14 16 21.7 +1.0**
BR131 Keskin Array S 78.53 311 *e*P **P 14 16 21.3 +0.1**
BRTR Keskin Array B 78.53 311 P **P 14 16 22.1 +0.9**
comp=Z,8.3nm,0.5s,baz=97,slow=5.1,SNR=70
BRTR LR LR 14 55 40.9
comp=Z,670nm,18.8s,baz=46,slow=39
HARR Harsova 78.57 318 ⇓ *i*P **P 14 16 22.3 +1.1**
TLB Topalu 78.58 318 ⇑ *i*P **P 14 16 22.0 +0.8**
KOZT Kozan 78.59 308 *e*P **P 14 16 21.7 +0.2**
STHS Stebnicka Huta 78.67 325 *e*P **P 14 16 22.9 +1.2**
STHS *es*P **sP 14 16 42.9 -0.2**
STHS Stebnicka Huta 78.67 325 *e*P **P 14 16 22.9 +1.2**
STHS *e* 14 16 42.9
STHS pmax pmax
comp=Z,79nm,1.1s
MURC Murrieta 78.73 56 P **P 14 16 23.5 +1.2**
baz=307
UZH Uzhgorod 78.73 324 ⇓ *i*P **P 14 16 22.4 +0.4**
UZH *e**PP **PcP 14 16 32.8 +2.1**
UZH *e*S **S 14 26 12.4 -2.7**
UZH *e* 14 26 31.4
UZH *e*PS **PnS 14 26 52.0 -11**
UZH MLR MLR
comp=N,2μm,17.5s
UZH MLR MLR
comp=E,3μm,17.5s
UZH MLR MLR
comp=Z,1μm,17.5s
OJC Ojcow 78.76 326 *i*P **P 14 16 23.0 +0.9**
OJC Ojcow 78.76 326 *e*P **P 14 16 22.8 +0.6**
OJC Ojcow 78.76 326 ⇑ *i*P **P 14 16 23.0 +0.9**
CCUT Cedar City 78.79 51 *e*P **P 14 16 24.2 +1.4**
ARCR ARCALIA 78.81 322 ⇑ *i*P **P 14 16 24.3 +1.8**
BMR Baia Mare 78.82 322 ⇑ *i*P **P 14 16 23.9 +1.4**
MSU Marysvale 78.92 50 *e*P **P 14 16 24.5 +0.9**
MSU Marysvale 78.92 50 *e*P **P 14 16 24.5 +0.9**
CEYT Ceyhan 78.93 308 *e*P **P 14 16 24.6 +1.3**
PGOR Pogoanele 78.93 319 ⇑ *i*P **P 14 16 24.5 +1.4**
SZCU Shurtz Canyon 78.93 51 *e*P **P 14 16 24.7 +1.1**
CRVS Cervenica-Dubn 78.93 324 *e*P **P 14 16 24.2 +1.1**
CRVS Cervenica-Dubn 78.93 324 *e*P **P 14 16 24.2 +1.1**
ANTO Ankara 78.95 312 *e*P **P 14 16 24.8 +1.3**
ANTO Ankara 78.95 312 *e*P **P 14 16 23.2 -0.3**
ANTO LR LR
comp=Z,729nm,20.0s
ANTO Ankara 78.95 312 *e*P **P 14 16 23.2 -0.3**
ANTO MLR MLR
comp=Z,729nm,20.0s
TRPA Tarpa 78.97 323 ⇑ *e*P **P 14 16 24.5 +1.2**
BR231 Keskin MP Arra 78.98 312 *e*P **P 14 16 22.1 -1.6**
TMUT Trail Mountain 79.02 49 *e*P **P 14 16 24.8 +0.7**
GMRC Granite Mounta 79.02 55 P **P 14 16 25.6 +1.6**
baz=308,SNR=10
ISR Istrita 79.02 319 ⇓ *i*P **P 14 16 25.5 +1.8**
DOPR Dopca 79.05 320 ⇑ *i*P **P 14 16 25.6 +1.8**
MLR Muntele Rosu 79.08 320 P **P 14 16 25.3 +1.1**
comp=Z,3.1nm,0.4s,baz=42,slow=5.6,SNR=20
MLR LR LR 14 54 43.1
comp=Z,1μm,18.9s,baz=50,slow=38
MLR Muntele Rosu 79.08 320 ⇑ *i*P **P 14 16 25.3 +1.1**
MLR Muntele Rosu 79.08 320 *e*P **P 14 16 24.3 +0.1**
NIE Niedzica 79.10 325 *i*P **P 14 16 25.4 +1.3**
NIE Niedzica 79.10 325 ⇑ *i*P **P 14 16 25.4 +1.3**
YURE YUREGIR 79.12 308 *e*P **P 14 16 25.4 +1.0**
P17A Butcher Ranch, 79.19 48 *e*P **P 14 16 25.9 +1.0**
LCMT Little Creek M 79.20 52 *e*P **P 14 16 26.2 +1.2**
LDFC Landfair 79.20 54 *e*P **P 14 16 26.1 +1.2**
comp=Z,16nm,0.5s
KARA Karaisali 79.21 309 *e*P **P 14 16 25.6 +0.8**
PFO Pinyon Flats O 79.21 56 P **P 14 16 26.6 +1.5**
baz=308,SNR=9.4
PFO Pinyon Flats O 79.21 56 *e*P **P 14 16 26.1 +1.1**
PFO LR LR
comp=Z,3μm,19.0s
PFO Pinyon Flats O 79.21 56 *e*P **P 14 16 26.2 +1.1**
PFO MLR MLR
comp=Z,3μm,19.0s
MTPU Mount Pierson 79.21 50 *e*P **P 14 16 26.7 +1.4**
XPFO Piæon Flat 79.21 56 *e*P **P 14 16 26.2 +1.1**
109C Camp Elliot, M 79.22 57 P **P 14 16 26.0 +1.1**
baz=307
CPE Camp Elliot 79.22 57 *e*P **P 14 16 25.6 +0.7**
BELC Belle Mtn. Jos 79.28 55 P **P 14 16 26.6 +1.1**
baz=308,SNR=7.3
Q16A Castle Valley 79.28 49 *e*P **P 14 16 26.6 +1.1**
YAYL Yayladag 79.31 307 *e*P **P 14 16 25.8 +0.3**
SECR 79.33 319 ⇑ *i*P **P 14 16 26.9 +1.5**
P18A Preston Nutter 79.38 48 *e*P **P 14 16 27.2 +1.1**
CJR Cluj-Napoca 79.44 322 ⇑ *i*P **P 14 16 27.4 +1.4**
KNB Kanab 79.46 51 *e*P **P 14 16 28.1 +1.6**
KNB Kanab 79.46 51 *e*P **P 14 16 28.1 +1.6**
SULR 79.47 319 ⇑ *i*P **P 14 16 26.9 +0.8**
MDUB Mudurnu 79.50 313 *e*P **P 14 16 25.8 -0.7**
PKCU Pink Cliffs 79.51 51 *e*P **P 14 16 28.4 +1.6**
SRU San Rafael Swe 79.55 49 *e*P **P 14 16 27.9 +1.0**
SRU San Rafael Swe 79.55 49 *e*P **P 14 16 27.9 +1.0**
ULM Lac du Bonnet 79.55 33 P **P 14 16 27.0 +0.6**
comp=Z,57nm,1.0s,baz=312,slow=6.3,SNR=91
ULM LR LR 14 52 56.2
comp=Z,502nm,20.6s,baz=330,slow=36
K22A Casper 79.56 44 P **P 14 16 27.7 +0.8**
baz=312,SNR=17
K22A Casper 79.56 44 *e*P **P 14 16 27.2 +0.3**
MDND Maddock 79.58 37 P **P 14 16 27.8 +1.1**
baz=315,SNR=8.0
MDND Maddock 79.58 37 *e*P **P 14 16 27.2 +0.6**
VOIR 79.58 320 ⇓ *i*P **P 14 16 27.8 +1.0**
BAR Barrett 79.63 57 *e*P **P 14 16 27.2 0.0**
MONP2 Monument Peak 79.67 57 P **P 14 16 29.1 +1.4**
baz=308
LANS Liptovska Anna 79.67 325 *e*P **P 14 16 28.8 +1.6**
LANS *e* 14 16 44.4
LANS Liptovska Anna 79.67 325 *e*P **P 14 16 28.9 +1.7**
LANS *e* 14 16 44.4
KECS Kecovo 79.69 324 *e*P **P 14 16 26.6 -0.6**
KECS *es*P **sP 14 16 47.7 -1.0**
KECS *e*PP **PP 14 19 28.0 0.0**
KECS Kecovo 79.69 324 *e*P **P 14 16 26.6 -0.6**
KECS *e* 14 16 47.7
KECS *e* 14 19 28.0
KECS pmax pmax
comp=Z,25nm,1.2s
NEE2 Needles Airpor 79.71 54 P **P 14 16 28.6 +1.0**
baz=308
MTUR Matau 79.72 320 ⇓ *i*P **P 14 16 28.1 +0.5**
IRM Iron Mountain 79.74 55 P **P 14 16 29.4 +1.6**
baz=308,SNR=6.8
OKC Ostrava-Krasne 79.77 326 ⇑ *i*P **P 14 16 28.6 +1.0**
OKC *ep*P **pP 14 16 44.0 +1.0**
OKC *e*S **S 14 26 28.4 +2.3**
OKC AMS AMS 14 54 50.0
comp=Z,2μm,14.6s
OKC Ostrava-Krasne 79.77 326 ⇑ *i*P **P 14 16 28.6 +1.0**
OKC *e* 14 16 44.0
OKC *e*S **S 14 26 28.4 +2.3**
OKC MLR MLR
comp=Z,2μm,14.6s
DRGR 79.82 322 ⇑ *i*P **P 14 16 28.9 +0.8**
KSP Ksiaz 79.82 328 *i*P **P 14 16 29.0 +1.1**
KSP Ksiaz 79.82 328 ⇑ *i*P **P 14 16 29.0 +1.1**
ARR Arges 79.84 320 ⇑ *i*P **P 14 16 29.9 +1.7**
BC3 Big Chuckawall 79.85 55 P **P 14 16 29.7 +1.2**
baz=308,SNR=12
PRD Provadia 79.85 317 *i*P **P 14 16 29.2 +1.0**
TAU Tasmania Unive 79.91 175 *e*P **P 14 16 27.9 -0.2**
TAU LR LR
comp=Z,1μm,20.0s
TAU Tasmania Unive 79.91 175 *e*P **P 14 16 27.9 -0.2**
TAU MLR MLR
comp=Z,1μm,20.0s
RSSD Black Hills 79.92 42 P **P 14 16 29.4 +0.5**
baz=313
RSSD Black Hills 79.92 42 *e*P **P 14 16 28.6 -0.3**
RSSD Black Hills 79.92 42 *e*P **P 14 16 28.6 -0.3**
A31A Linda, St. Vin 79.92 35 P **P 14 16 28.7 +0.2**
baz=316
SVRH Sivrihisar-ESK 79.97 312 *e*P **P 14 16 29.2 +0.1**
W13A Hualapai Mount 79.98 54 *e*P **P 14 16 29.5 +0.2**
IKP In-Ko-Pah, Jac 80.03 57 P **P 14 16 30.7 +1.3**
baz=308,SNR=7.0
SWSC Sam W. Stewart 80.05 56 P **P 14 16 30.5 +1.1**
baz=308
MORC Moravsky Berou 80.08 327 ⇑ *i*P **P 14 16 30.4 +1.0**
MORC Moravsky Berou 80.08 327 *e*P **P 14 16 29.7 +0.3**
MORC Moravsky Berou 80.08 327 *e*P **P 14 16 29.7 +0.3**
B31A Greenbush Farm 80.08 35 P **P 14 16 29.9 +0.6**
baz=316,SNR=27
U15A North Rim 80.16 52 *e*P **P 14 16 31.6 +1.3**
DPC Dobruska-Polom 80.18 328 ⇑ *i*P **P 14 16 31.0 +1.1**
DPC *ep*P **pP 14 16 42.9 -2.4**
DPC *ep*P **pP 14 19 33.5 +1.4**
DPC *e*S **S 14 26 32.6 +2.1**
DPC AMS AMS 14 55 00.0
comp=Z,2μm,17.4s
DPC Dobruska-Polom 80.18 328 ⇑ *i*P **P 14 16 31.0 +1.1**
DPC *e* 14 16 42.9
DPC *e* 14 19 33.5
DPC *e*S **S 14 26 32.6 +2.1**
DPC MLR MLR
comp=Z,2μm,17.4s
KRLC Kraliky 80.19 327 ⇑ *e*P **P 14 16 30.8 +0.8**
KRLC *ep*P **pP 14 16 45.0 -0.4**
KRLC Kraliky 80.19 327 *e*P **P 14 16 30.8 +0.8**
KRLC *e* 14 16 45.0
UPC Upice 80.19 328 ⇑ *e*P **P 14 16 30.8 +0.9**
UPC *ep*P **pP 14 16 46.5 +1.2**
UPC *e*PP **PP 14 19 32.7 +0.5**
UPC *e*S **S 14 26 29.4 -1.2**
UPC AMS AMS 14 55 10.0
comp=Z,3μm,17.3s
UPC Upice 80.19 328 *e*P **P 14 16 30.8 +0.9**
UPC *e* 14 16 46.5
UPC *e* 14 19 32.7
UPC *e*S **S 14 26 29.4 -1.2**
UPC MLR MLR
comp=Z,3μm,17.3s
LOT Lotru 80.23 321 ⇑ *i*P **P 14 16 31.4 +1.0**
O20A White River Ci 80.23 47 P **P 14 16 31.5 +0.9**
baz=311,SNR=31
O20A White River Ci 80.23 47 *e*P **P 14 16 30.9 +0.3**
HUMR Humele 80.24 319 ⇑ *i*P **P 14 16 31.3 +1.0**
A32A Rocking H Ranc 80.25 34 P **P 14 16 30.4 +0.2**
baz=317,SNR=24
KIZK Mersin 80.27 309 *e*P **P 14 16 30.3 -0.3**
LADK Ladik-KONYA 80.27 311 *e*P **P 14 16 29.5 -1.2**
PDMCI Parker Dam,Lak 80.31 54 P **P 14 16 32.3 +1.5**
baz=309,SNR=19
RAYN Ar Rayn 80.33 292 *e*P **P 14 16 31.1 -0.1**
RAYN LR LR
comp=Z,2μm,21.0s
RAYN Ar Rayn 80.33 292 P **P 14 16 31.1 -0.1**
DEV Deva 80.36 321 ⇑ *i*P **P 14 16 32.0 +1.1**
PSZ Piszkesteto 80.37 324 ⇑ *i*P **P 14 16 32.0 +1.0**
PSZ Piszkesteto 80.37 324 ⇑ *e*P **P 14 16 32.2 +1.2**
PSZ Piszkesteto 80.37 324 *e*P **P 14 16 31.4 +0.4**
PSZ LR LR
comp=Z,1μm,22.0s
PSZ Piszkesteto 80.37 324 *e*P **P 14 16 31.4 +0.4**
PSZ MLR MLR
comp=Z,1μm,22.0s
Y12C Blythe 80.40 55 P **P 14 16 32.7 +1.3**
baz=308,SNR=14
Y12C Blythe 80.40 55 *e*P **P 14 16 32.5 +1.2**
VYHS Vyhne 80.44 325 *e*P **P 14 16 32.3 +1.0**
VYHS *e*PP **PP 14 19 34.1 -0.2**
VYHS Vyhne 80.44 325 *e*P **P 14 16 32.3 +1.0**
VYHS pmax pmax
comp=Z,73nm,1.4s
RAR Rarotonga 80.48 126 LR LR 14 45 39.0
comp=Z,2μm,20.1s,baz=306,slow=31
C31A Landman Farms, 80.50 36 P **P 14 16 32.2 +0.5**
baz=316,SNR=36
SZH Strazhica 80.60 318 *i*P **P 14 16 32.2 0.0**
B32A Ashes, Strandq 80.61 35 P **P 14 16 32.3 +0.1**
baz=317,SNR=31

GLA **Glamis** 80.63 56 P **P** 14 16 34.2 +1.5
baz=308,SNR=8.5
GLA **Glamis** 80.63 56 *e*P **P** 14 16 33.4 +0.7
GLA **Glamis** 80.63 56 *e*P **P** 14 16 33.4 +0.7
SIRR **Siria** 80.70 322 ǁ *i*P **P** 14 16 33.6 +0.8
A33A **Warroad** 80.73 34 P **P** 14 16 33.1 +0.2
baz=318,SNR=76
PV09 **Paradox Valley** 80.77 48 *e*P **P** 14 16 34.5 +0.8
BRG **Berggiesshubel** 80.78 329⇑ *i*P **P** 14 16 33.6 +0.5
comp=Z,94nm,1.2s
BRG *i* pP **pP** 14 16 49.1 +0.7
comp=Z,45nm,1.1s
BRG sP **sP** 14 16 57.0 +2.5
BRG PP **PP** 14 19 35.0 -2.0
BRG SKS **S** 14 26 31.0 -5.7
BRG *S* **ScS** 14 26 57.0 +1.6
BRG *e*PKPPKP P'P'df 14 43 07.5 -12
comp=Z,18nm,1.8s
comp=N,2μm,17.3s
comp=E,1μm,16.9s
comp=Z,2μm,18.4s
BRG **Berggiesshubel** 80.78 329⇑ *i*P **P** 14 16 33.6 +0.5
BRG *i* *PP **pP** 14 16 49.1 +0.7
BRG *SP **sP** 14 16 57.0 +2.5
BRG 14 19 35.0
BRG 14 26 31.0
BRG pmax pmax
comp=Z,94nm,1.1s
BRG pmax pmax
comp=Z,45nm,1.8s
BRG MLR MLR
comp=N,18μm,17.3s
BRG MLR MLR
comp=E,2μm,16.9s
BRG MLR MLR
comp=Z,1μm,18.4s
PVCC **Panska Ves** 80.78 329⇑ *e*P **P** 14 16 34.3 +1.2
PVCC AMS AMS 14 55 20.0
comp=Z,3μm,17.3s
PVCC **Panska Ves** 80.78 329 *e*P **P** 14 16 34.3 +1.2
PVCC MLR MLR
comp=Z,3μm,17.3s
JMB **Yambol** 80.79 317 *i* P **P** 14 16 33.9 +0.6
CLL **Collm** 80.83 330⇑ *i*P **P** 14 16 33.4 +0.1
comp=Z,254nm,1.5s
CLL *i* pP **pP** 14 16 49.3 +0.6
CLL *i* sP **sP** 14 16 53.1 -1.6
CLL *e*PP **PP** 14 19 40.0 +2.7
CLL *e*S **S** 14 26 36.0 -1.1
CLL *e*SKSac **ScS** 14 26 53.0 -2.8
CLL *e*PPS PPS 14 27 48.0
CLL *e*(SS) 14 32 12.0
CLL *e*SSS SSS 14 35 18.0
CLL *e* 14 36 24.0
CLL *e*SSSS 14 37 42.0
CLL Lm MLR 14 56 00.0
comp=Z,2μm,19.4s
CLL **Collm** 80.83 330 *e*P **P** 14 16 33.2 -0.1
CLL **Collm** 80.83 330⇑ *i*P **P** 14 16 33.4 +0.1
CLL *i* 14 16 49.3
CLL *i* *SP **sP** 14 16 53.1 -1.6
CLL *e*S **S** 14 26 36.0 -1.1
CLL pmax pmax
comp=Z,254nm,1.5s
CLL MLR MLR
comp=Z,2μm,19.4s
AKKU **Akkuyu-Mersin** 80.84 309 *e*P **P** 14 16 33.1 -0.5
VRAC **Vranov** 80.84 327⇑ *i*P **P** 14 16 34.5 +1.1
PV10 **Paradox Valley** 80.91 48 *e*P **P** 14 16 36.0 +1.7
PV04 **Paradox Valley** 80.97 48 *e*P **P** 14 16 35.3 +0.7
AGMN **Agassiz Nation** 80.99 34 P **P** 14 16 34.1 -0.1
baz=318,SNR=29
AGMN **Agassiz Nation** 80.99 34 *e*P **P** 14 16 33.9 -0.4
AGMN LR LR
comp=Z,1μm,20.0s
C32A **Crookston** 81.03 35 P **P** 14 16 34.7 +0.2
baz=317
D31A **Mcclaflin, Tow** 81.04 36 P **P** 14 16 35.0 +0.5
baz=316,SNR=10
N23A **Red Feather La** 81.05 45 P **P** 14 16 36.5 +1.4
baz=312,SNR=42
N23A **Red Feather La** 81.05 45 *e*P **P** 14 16 36.2 +1.2
PHWY **Pilot Hill** 81.05 44 *e*P **P** 14 16 35.7 +0.7
SMOL **Smolenice** 81.06 326 *e*P **P** 14 16 36.7 +2.1
SMOL **Smolenice** 81.06 326 *e*P **P** 14 16 36.7 +2.1
PV05 **Paradox Valley** 81.06 49 *e*P **P** 14 16 36.4 +1.3
BUD **Budapest** 81.09 324⇑ *e*P **P** 14 16 35.7 +1.0
TEKE **Tekeli-Mersin** 81.12 309 *e*P **P** 14 16 34.6 -0.5
B33A **Robert and Kas** 81.13 34 P **P** 14 16 34.6 -0.4
baz=318,SNR=16
GOPC **GO Pecny, Ondr** 81.16 328⇑ *e*P **P** 14 16 36.1 +1.0
GOPC *e*pP **pP** 14 16 51.9 +1.3
GOPC *e*S **S** 14 26 39.9 -0.8
GOPC AMS AMS 14 55 30.0
comp=Z,3μm,18.5s
GOPC **GO Pecny, Ondr** 81.16 328 *e*P **P** 14 16 36.1 +1.0
GOPC *e* 14 16 51.9
GOPC *e*S **S** 14 26 39.9 -0.8
GOPC MLR MLR
comp=Z,3μm,18.5s
BZS **Buzias** 81.19 322⇑ *i*P **P** 14 16 35.7 +0.4
PRU **Pruhonice** 81.21 328⇑ *i*P **P** 14 16 36.0 +0.7
PRU *e*pP **pP** 14 16 52.2 +1.4
PRU *e*S **S** 14 26 43.1 +2.0
PRU AMS AMS 14 55 30.0
comp=Z,3μm,18.7s
PRU **Pruhonice** 81.21 328⇑ *i*P **P** 14 16 36.0 +0.7
PRU *e* 14 16 52.2
PRU *e*S **S** 14 26 43.1 +2.0
PRU MLR MLR
comp=Z,3μm,18.7s
MODS **Modra-Piesok** 81.23 326 *e*P **P** 14 16 36.9 +1.4
MODS **Modra-Piesok** 81.23 326 *e*P **P** 14 16 36.9 +1.4
Y14A **Wickenburg** 81.27 54 *e*P **P** 14 16 36.9 +0.8
D32A **Dogwood Acres,** 81.31 36 P **P** 14 16 35.9 -0.1
baz=317
WUAZ **Wupatki** 81.31 52 P **P** 14 16 38.0 +1.6
baz=310,SNR=20
WUAZ **Wupatki** 81.31 52 *e*P **P** 14 16 36.8 +0.4
E31A **Nome** 81.32 37 P **P** 14 16 36.4 +0.4
baz=316,SNR=14
TREC **Trest** 81.33 327⇑ *e*P **P** 14 16 37.1 +1.1
TREC AMS AMS 14 56 00.0
comp=Z,2μm,17.9s
TREC **Trest** 81.33 327 *e*P **P** 14 16 37.1 +1.1
TREC MLR MLR
comp=Z,2μm,17.9s
PV01 **Paradox Valley** 81.34 48 *e*P **P** 14 16 36.7 0.0
B34A **Aery, Baudette** 81.39 34 P **P** 14 16 36.2 -0.1
baz=318,SNR=26
LFK **Lefkose** 81.41 308 *e*P **P** 14 16 36.3 -0.5
C33A **Trail** 81.43 35 P **P** 14 16 36.6 +0.1
baz=318,SNR=5.3
ZST **Bratislava** 81.44 326 *e*P **P** 14 16 37.3 +0.7
ZST **Bratislava** 81.44 326 *e*P **P** 14 16 37.3 +0.7
ZST pmax pmax
comp=Z,327nm,2.3s
RRH **Rhenigidale** 81.47 343⇑ *e*P **P** 14 16 37.4 +0.9
113A **Mohawk Valley,** 81.50 55 *e*P **P** 14 16 37.5 +0.3
CSKK **Cs˙ǂkako** 81.53 325⇑ *e*P **P** 14 16 37.8 +0.7
SUTC **Sutluce-Ispart** 81.56 311 *e*P **P** 14 16 37.3 -0.3
SMCO **Snowmass** 81.60 47 *e*P **P** 14 16 38.9 +0.8
ISP **Isparta** 81.62 311⇑ *i*P **P** 14 16 37.8 -0.1
ISP **Isparta** 81.62 311 *e*P **P** 14 16 37.2 -0.7
ISP LR LR
comp=Z,1μm,20.0s
ISP **Isparta** 81.62 311 *d i*P **P** 14 16 38.5 +0.6
ISP pmax pmax
comp=Z,33nm,1.1s
ISP MLR MLR
comp=Z,963nm,23.0s
F31A **Hecla** 81.64 37 P **P** 14 16 38.2 +0.4
baz=316,SNR=10.0
IVI **Ivigtut** 81.68 4 *e*P **P** 14 16 38.6 +1.1
comp=Z,52nm,1.0s
E32A **Braaten, Kindr** 81.68 36 P **P** 14 16 38.3 +0.4
baz=317
MPEP **Malo Peshtene** 81.70 319 *i* P **P** 14 16 38.6 +0.5
CSS **Mathiatis** 81.74 308 *e*P **P** 14 16 37.5 -1.0
CSS **Mathiatis** 81.74 308 *e*P **P** 14 16 37.8 -0.7
CSS LR LR
comp=Z,336nm,21.0s
CSS **Mathiatis** 81.74 308 P **P** 14 16 38.1 -0.4
D33A **AnnSam, Waubun** 81.85 35 P **P** 14 16 38.9 +0.1
baz=318,SNR=11
NKC **Novy Kostel** 81.88 330⇑ *i*P **P** 14 16 39.7 +0.8
NKC *e*pP **pP** 14 16 51.5 -2.9
NKC AMS AMS 14 56 20.0
comp=Z,2μm,15.5s
NKC **Novy Kostel** 81.88 330⇑ *i*P **P** 14 16 39.7 +0.8
NKC *e* 14 16 51.5
NKC MLR MLR
comp=Z,2μm,15.5s
B35A **Bob, Littlefor** 81.90 33 P **P** 14 16 39.3 +0.3
baz=319,SNR=50
C34A **RKJ Ranch, Bem** 81.90 34 P **P** 14 16 39.2 +0.1
baz=318,SNR=9.6
LEF **Lefka** 81.92 308 *e*P **P** 14 16 39.2 -0.2
ISCO **Idaho Springs** 81.97 46 P **P** 14 16 41.2 +1.2
baz=312,SNR=27
ISCO **Idaho Springs** 81.97 46 *e*P **P** 14 16 40.4 +0.4
ISCO LR LR
comp=Z,759nm,19.0s
ISCO **Idaho Springs** 81.97 46 *e*P **P** 14 16 40.4 +0.4
ISCO MLR MLR
comp=Z,759nm,19.0s
X16A **Lo Mia Camp, P** 81.97 53 *e*P **P** 14 16 40.4 +0.5
KDZ **Kurdzhali** 81.98 317 *i* P **P** 14 16 39.4 -0.2
MVCO **Mesa Verde** 81.99 49 P **P** 14 16 41.0 +0.9
baz=311,SNR=34
MVCO **Mesa Verde** 81.99 49 *e*P **P** 14 16 40.9 +0.9
MVCO LR LR
comp=Z,789nm,20.0s
PGB **Panagyurishte** 82.03 318 *i* P **P** 14 16 40.8 +0.9
SOP **Sopron** 82.07 326⇑ *e*P **P** 14 16 41.3 +1.4
URZ **Urewera** 82.11 152 *e*pP pP 14 16 54.0 -1.4
G31A **Conde** 82.12 38 P **P** 14 16 40.7 +0.4
baz=316,SNR=5.7
F32A **Veblen** 82.18 37 P **P** 14 16 40.6 +0.1
baz=317
D34A **Park Rapids** 82.19 35 P **P** 14 16 40.6 0.0
baz=318,SNR=17
MORH **M˙ǂr˙gy, Hung** 82.19 324⇑ *e*P **P** 14 16 40.7 +0.1
CONA **Conrad Observa** 82.20 326 *e*PcP **P** 14 16 42.0 +1.2
comp=Z,113nm,1.5s,SNR=61
CONA *e*P **pP** 14 16 57.8 +1.7
comp=Z,77nm,1.4s
E33A **Westby DABS, E** 82.25 36 P **P** 14 16 41.3 +0.4
baz=318,SNR=16
RDO **Rodhopi** 82.26 317 P **P** 14 16 41.0 0.0
KHC **Kasperske Hory** 82.27 328⇑ *i*P **P** 14 16 41.6 +0.6
KHC *e*pP **pP** 14 16 57.8 +1.3
KHC *e*S **S** 14 26 53.6 +1.4
KHC AMS AMS 14 56 10.0
comp=Z,3μm,18.9s
KHC **Kasperske Hory** 82.27 328 *e*P **P** 14 16 41.1 +0.1
KHC **Kasperske Hory** 82.27 328⇑ *i*P **P** 14 16 41.6 +0.6
KHC *e* 14 16 57.8
KHC *e*S **S** 14 26 53.6 +1.4
KHC MLR MLR
comp=Z,3μm,18.9s
C35A **Jirik Farms, M** 82.28 34 P **P** 14 16 40.9 -0.2
baz=319,SNR=51
SUSD **Miller** 82.32 39 P **P** 14 16 41.8 +0.5
baz=316
RZN **Rozhen** 82.34 317 *i* P **P** 14 16 44.6 +2.9
GERES **GERESS Array B** 82.43 328 P **P** 14 16 42.2 +0.3
comp=Z,13nm,0.4s,baz=40,slow=6.2,SNR=162
GERES LR LR 14 56 53.8
comp=Z,2μm,18.6s,baz=41,slow=38
G32A **Webster** 82.45 37 P **P** 14 16 42.7 +0.7
baz=317,SNR=5.3
VTS **Vitosha** 82.51 319⇑ *i*P **P** 14 16 43.6 +1.0
VTS **Vitosha** 82.51 319 *e*P **P** 14 16 43.0 +0.5
VTS **Vitosha** 82.51 319 *i* P **P** 14 16 43.5 +1.0
VTS **Vitosha** 82.51 319 P **P** 14 16 42.5 0.0
VTS **Vitosha** 82.51 319 *e*P **P** 14 16 43.0 +0.5
H31A **Wolsey** 82.53 38 P **P** 14 16 42.6 +0.1
baz=316
W18A **Petrified Fore** 82.59 51 P **P** 14 16 44.4 +1.3
baz=311
W18A **Petrified Fore** 82.59 51 *e*P **P** 14 16 43.1 0.0
F33A **5 Mile Ranch,** 82.60 36 P **P** 14 16 43.3 +0.5
baz=317,SNR=54
E34A **Wadena** 82.63 35 P **P** 14 16 43.1 +0.2
baz=318
S22A **4UR Ranch, Cre** 82.63 48 P **P** 14 16 45.2 +1.8
baz=312,SNR=63
S22A **4UR Ranch, Cre** 82.63 48 *e*P **P** 14 16 44.0 +0.5
214A **Organ Pipe Nat** 82.64 55 P **P** 14 16 44.3 +1.0
baz=309,SNR=7.6
214A **Organ Pipe Nat** 82.64 55 *e*P **P** 14 16 44.2 +0.9
comp=Z,769nm,1.7s
WTSB **Winterswijk** 82.65 333 *e*P **P** 14 16 43.0 +0.2
comp=Z,246nm,1.6s
WTSB *e*pP **pP** 14 16 58.8 +0.5
BKZ **Black Stump Fm** 82.68 153 *e*P **P** 14 16 43.5 +0.5
D35A **Remer** 82.71 34 P **P** 14 16 43.0 -0.3
baz=319,SNR=18
C36A **Pine Crest Far** 82.74 33 P **P** 14 16 43.4 0.0
baz=320,SNR=47
Q24A **Divide** 82.80 46 P **P** 14 16 45.1 +0.8
baz=313,SNR=12
Q24A **Divide** 82.80 46 *e*P **P** 14 16 44.7 +0.4
GRFO **Grafenberg** 82.80 330 *e*P **P** 14 16 43.9 +0.2
GRFO **Grafenberg** 82.80 330 *e*P **P** 14 16 43.9 +0.2
X18A **Snowflake** 82.84 52 *e*P **P** 14 16 45.5 +1.0
ARSA **Arzberg** 82.86 326 *e*P **P** 14 16 45.1 +1.0
comp=Z,60nm,1.5s,SNR=23
ARSA *e*P **pP** 14 17 00.4 +0.8
comp=Z,44nm,1.5s
BEHE **Becsehely** 82.88 325⇑ *e*P **P** 14 16 44.7 +0.5
EKA **Eskdalemuir Ar** 82.90 340 P **P** 14 16 44.8 +0.7
comp=Z,14nm,0.7s,baz=30,slow=4.4,SNR=44
EKA LR LR 14 57 14.7
comp=Z,1μm,19.4s,baz=45,slow=38
KAVA **Kavala** 82.92 317 P **P** 14 16 44.8 +0.3
ESK **Eskdalemuir** 82.93 340 *e*P **P** 14 16 45.2 +1.0
ESK LR LR
comp=Z,1μm,21.0s
ESK **Eskdalemuir** 82.93 340 *e*P **P** 14 16 44.0 -0.2
ESK IAmb IAmb 14 16 44.4
comp=Z,55nm,1.1s
ESK IAMs_20 IAMs_20 14 50 30.6
comp=Z,2μm,25.2s
ESK **Eskdalemuir** 82.93 340 *e*P **P** 14 16 45.3 +1.0
ESK MLR MLR
comp=Z,1μm,21.0s
MMB **Musomiste** 82.94 318 *i* P **P** 14 16 45.5 +0.9
E35A **Pequot Lakes** 82.95 35 P **P** 14 16 44.5 0.0
baz=319,SNR=14
MOA **Molln** 82.96 327 *e*P **P** 14 16 45.5 +0.9
comp=Z,3.9nm,0.8s,SNR=26
G33A **Ortonville** 83.00 37 P **P** 14 16 45.4 +0.6
baz=317,SNR=44
EDMD **Edmundbyers** 83.01 339⇑ *e*P **P** 14 16 45.1 +0.4
EDMD IAmb IAmb 14 16 45.7
comp=Z,52nm,1.2s
EDMD IAMs_20 IAMs_20 14 57 52.2
comp=Z,2μm,17.3s
H32A **Carlson Farm,** 83.02 38 P **P** 14 16 45.3 +0.3
baz=317,SNR=8.8
NVR **Nevrokopi** 83.03 318 P **P** 14 16 44.8 -0.3
D36A **Goodland** 83.04 34 P **P** 14 16 44.9 -0.1
baz=319,SNR=23
C37A **Embarrass** 83.05 33 P **P** 14 16 45.1 0.0
baz=320,SNR=46
DIVS **Divibare** 83.08 322 *e*P **P** 14 16 45.5 +0.1
KKB **Krupnik** 83.09 318 *i* P **P** 14 16 46.3 +0.9
F34A **Alexandria** 83.12 36 P **P** 14 16 45.9 +0.4
baz=318,SNR=13
BHH **Howats Hill** 83.13 340⇑ *e*P **P** 14 16 46.5 +1.2
KOGS **Kog** 83.13 325 *i* P **P** 14 16 45.6 +0.1
KOGS *e*pP **sP** 14 17 05.7 -1.3
OGNE **Ogallala** 83.18 43 P **P** 14 16 46.5 +0.6
baz=314
OGNE **Ogallala** 83.18 43 *e*P **P** 14 16 46.3 +0.4
OGNE LR LR
comp=Z,764nm,19.0s
EYMN **Ely** 83.18 33 P **P** 14 16 46.0 +0.2
baz=320,SNR=86
EYMN **Ely** 83.18 33 *e*P **P** 14 16 45.7 0.0
EYMN LR LR
comp=Z,885nm,20.0s
H33A **Prehn Over Nor** 83.23 37 P **P** 14 16 46.6 +0.5
baz=317,SNR=52
J31A **Geddes** 83.25 39 P **P** 14 16 46.5 +0.3
baz=316
SRS **Serrai** 83.34 318 P **P** 14 16 46.4 -0.3
G34A **Benson** 83.35 36 P **P** 14 16 47.2 +0.6
baz=318,SNR=18
I32A **Karley and Nic** 83.36 38 P **P** 14 16 46.9 +0.1
baz=317
D37A **Cotton** 83.38 34 P **P** 14 16 46.7 -0.1
baz=320,SNR=16
F35A **Swanville** 83.39 35 P **P** 14 16 47.1 +0.2
baz=318,SNR=13
YER **Yerkesik** 83.41 312 P **P** 14 16 46.9 -0.3
SDCO **Great Sand Dun** 83.42 47 P **P** 14 16 48.5 +1.0
baz=313,SNR=39
SDCO **Great Sand Dun** 83.42 47 *e*P **P** 14 16 48.4 +0.9
SDCO LR LR
comp=Z,509nm,19.0s
BBO1 **Bothel** 83.45 340⇑ *i*P **P** 14 16 48.1 +1.2
C38A **Sawbill Land.** 83.45 33 P **P** 14 16 47.1 0.0
baz=321,SNR=76
GROS **Grobnik** 83.46 326 *i* P **P** 14 16 47.5 +0.2
GROS *e*PP **PP** 14 20 01.5 +2.3
E36A **McGregor** 83.50 34 P **P** 14 16 47.4 0.0
baz=319,SNR=40
SOKA **Soboth** 83.51 326 *e*P **P** 14 16 48.1 +0.6
comp=Z,129nm,1.3s,SNR=43
SOKA *e*P **pP** 14 17 04.1 +1.1
comp=Z,69nm,1.1s
J32A **Parkston** 83.64 39 P **P** 14 16 48.4 +0.2
baz=317
I33A **Coleman** 83.67 38 P **P** 14 16 48.7 +0.3
baz=317,SNR=18
KNT **Kendrikon** 83.68 318 P **P** 14 16 47.8 -0.6
KNT **Kendrikon** 83.68 318 P **P** 14 16 47.8 -0.6
KNT **Kendrikon** 83.68 318 P **P** 14 16 47.8 -0.6
H34A **Spellman Lake,** 83.71 37 P **P** 14 16 49.2 +0.7
baz=318,SNR=7.3
DOBS **Dobrina** 83.72 325 *i* P **P** 14 16 48.7 +0.2
K31A **O'Neill** 83.72 40 P **P** 14 16 49.1 +0.5
baz=316,SNR=6.2
TUC **Tucson** 83.74 54 P **P** 14 16 50.3 +1.3
baz=310
TUC **Tucson** 83.74 54 *e*P **P** 14 16 49.3 +0.3
comp=Z,51nm,1.1s
TUC **Tucson** 83.74 54 *e*P **P** 14 16 49.3 +0.3
TUC pmax pmax
comp=Z,51nm,1.1s
VAY **Valandovo** 83.74 318 P **P** 14 16 49.0 +0.3
VAY **Valandovo** 83.74 318 P **P** 14 16 49.0 +0.3
VAY **Valandovo** 83.74 318 ǁ *i*P **P** 14 16 49.5 +0.8
VAY **Valandovo** 83.74 318 P **P** 14 16 49.0 +0.3
THZ **Tophouse** 83.78 157 *e*P **P** 14 16 48.5 -0.2
OBKA **Obir** 83.86 326 *e*P **P** 14 16 49.0 -0.3
comp=Z,18nm,0.9s
OBKA *e*P **sP** 14 17 08.3 -2.5
comp=Z,32nm,1.1s
C39A **Grand Marais** 83.86 32 P **P** 14 16 49.1 -0.1
baz=321,SNR=27
F36A **Milaca** 83.87 35 P **P** 14 16 49.2 -0.1
baz=319,SNR=12
SKO **Skopje** 83.88 319⇑ *i*P **P** 14 16 50.7 +1.3
CLGH **Cloghs, Cushen** 83.89 342⇑ *e*P **P** 14 16 50.2 +1.0
CLGH IAmb IAmb 14 16 51.2
comp=Z,265nm,1.6s
G35A **Watkins** 83.91 36 P **P** 14 16 50.2 +0.7
baz=319,SNR=12
LEGS **Legarje** 83.94 325 *e*P **P** 14 16 49.7 +0.1
PLG **Polygyros** 83.94 317 P **P** 14 16 49.7 -0.1
PLG **Polygyros** 83.94 317 P **P** 14 16 49.7 -0.1
PLG **Polygyros** 83.94 317 P **P** 14 16 49.7 -0.1
PLE **Pljevlja** 83.94 321⇑ *i*P **P** 14 16 50.6 +0.7
KBA **Koelnbreinsper** 83.95 327 *e*PcP **P** 14 16 50.5 +0.6
comp=Z,56nm,1.2s,SNR=16
HGN **Heimansgroeve** 83.95 333 *e*P **P** 14 16 49.6 +0.1
comp=Z,328nm,1.9s
HGN *e*pP **pP** 14 17 05.4 +0.4
HGN **Heimansgroeve** 83.95 333 *e*S S 14 27 35.0 +26
HGN *e*SS **SS** 14 32 43.9 +7.3
SNZO **South Karori** 83.97 155 PFAKE 14 17 00.0 +11
SNZO LR LR
comp=Z,1μm,22.0s
BLY **Banja Luka** 83.97 323⇑ *i*P **P** 14 16 50.4 +0.6
BLY **Banja Luka** 83.97 323 *e*P **P** 14 16 49.5 -0.3
ECSD **EROS Data Cent** 83.99 38 P **P** 14 16 50.2 +0.2
baz=317,SNR=55
ECSD **EROS Data Cent** 83.99 38 *e*P **P** 14 16 50.0 0.0
ECSD LR LR
comp=Z,874nm,22.0s
BEBN **Eben Emael** 84.01 333 ⇑P **P** 14 16 50.0 +0.2
IVA **Iberane** 84.02 321⇑ *i*P **P** 14 16 51.2 +1.0
BODT **Bodrum** 84.03 313 P **P** 14 16 49.3 -1.0
BODT **Bodrum** 84.03 313 P **P** 14 16 49.3 -1.0
MEM **Membach** 84.05 333 ⇑P **P** 14 16 50.2 +0.2
comp=Z,41nm,1.6s
K32A **Verdigre** 84.10 39 P **P** 14 16 50.4 -0.1
baz=317
J33A **Davis** 84.12 38 P **P** 14 16 50.9 +0.3
baz=317,SNR=8.1
PAIG **Paliouri** 84.12 317 P **P** 14 16 50.5 -0.2
PAIG **Paliouri** 84.12 317 P **P** 14 16 50.5 -0.2
PAIG **Paliouri** 84.12 317 P **P** 14 16 50.5 -0.2
I34A **Hadley** 84.14 37 P **P** 14 16 51.1 +0.3
baz=318,SNR=5.9
H35A **Sunnyside Ranc** 84.14 36 P **P** 14 16 51.2 +0.6
baz=318,SNR=54
MYKA **Terra Mystica** 84.17 327 *e*P **P** 14 16 50.8 -0.1
comp=Z,20nm,0.6s,SNR=11
MYKA *e*P **sP** 14 17 12.0 -0.4
comp=Z,22nm,0.7s
E38A **The Farm, Brul** 84.19 33 P **P** 14 16 51.0 +0.1
baz=320,SNR=61
PVY **Plav** 84.19 321⇑ *i*P **P** 14 16 51.3 +0.2
C40A **Isle Royale Na** 84.19 31 P **P** 14 16 51.0 +0.1
baz=322,SNR=6.5
KSCO **Kaye Shedlock'** 84.19 45 P **P** 14 16 51.8 +0.5
baz=314
KSCO **Kaye Shedlock'** 84.19 45 *e*P **P** 14 16 50.8 -0.5
LBWR **Ladybower, Pea** 84.20 339⇑ *e*P **P** 14 16 51.7 +0.9
LBWR IAmb IAmb 14 16 52.8
comp=Z,156nm,1.0s
LBWR IAMs_20 IAMs_20 14 54 55.9
comp=Z,3μm,25.9s
LJU **Ljubljana** 84.22 326 *i* P **P** 14 16 51.2 +0.1
KOME **Kolasin** 84.23 321⇑ *i*P **P** 14 16 51.7 +0.4
IOMK **Kirk Michael** 84.23 341 *e*P **P** 14 16 51.2 +0.3
G36A **St. Michael** 84.24 35 P **P** 14 16 51.5 +0.3
baz=319,SNR=11
MHTCO **State Highway** 84.31 47 *e*P **P** 14 16 53.3 +1.3
F37A **Hinrichs Farm,** 84.39 35 P **P** 14 16 52.0 +0.1
baz=320,SNR=6.4
KRUS **Krusevo** 84.41 319 *i* P **P** 14 16 52.7 +0.4
BCLA **Clavier** 84.46 333 ⇑P **P** 14 16 52.0 -0.1
comp=Z,60nm,1.7s
BCLA AP **pP** 14 17 08.0 +0.3
T25A **Trinidad** 84.46 47 P **P** 14 16 53.8 +1.1
baz=313,SNR=42
T25A **Trinidad** 84.46 47 *e*P **P** 14 16 52.0 -0.7
FOZ **Fox Glacier** 84.48 159 *e*P **P** 14 16 52.5 +0.5
UCC **Uccle** 84.48 334 ⇑P **P** 14 16 51.1 -1.2
UCC **Uccle** 84.48 334 *e*P **P** 14 16 51.5 -0.8
UCC **Uccle** 84.48 334 *e*P **P** 14 16 51.5 -0.8
WATA **Walderalm** 84.50 328 *i* PcP **P** 14 16 53.5 +0.8
comp=Z,7.5nm,0.6s,SNR=7.5
WATA *e*P **sP** 14 17 12.7 -1.5
comp=Z,3.5nm,0.4s
PMOR **Pomariorio Ree** 84.51 113 *e*P **P** 14 16 55.5 +2.7
comp=Z,66nm,1.1s
PMOR *e*pP **pP** 14 17 08.7 +0.3
comp=Z,365nm,1.4s
PMOR **Pomariorio Ree** 84.51 113 *e*T T 15 49 18.6
comp=Z,51nm,0.2s
LTZ **Lake Taylor** 84.51 157 *e*P **P** 14 16 51.4 -0.9
NKY **Niksic** 84.52 321⇑ *i*P **P** 14 16 53.0 +0.2
WTTA **Wattenberg** 84.54 328 *e*P **P** 14 16 53.0 +0.2
comp=Z,56nm,1.8s,SNR=9.7
F38A **Pierce - Schro** 84.54 34 P **P** 14 16 53.3 +0.6
baz=320,SNR=75
L32A **Elgin** 84.55 40 P **P** 14 16 53.3 +0.4
baz=317
ABTA **Abfaltersbach** 84.57 327 *e*P **P** 14 16 52.4 -0.5
comp=Z,25nm,0.9s,SNR=12
ABTA *e*P **sP** 14 17 12.2 -2.2
comp=Z,29nm,0.9s
NKME **Niksic** 84.57 321⇑ *i*P **P** 14 16 53.6 +0.6
KHZ **Kahutara** 84.58 156 *e*P **P** 14 16 52.1 -0.4
BIA **Bitola** 84.62 319 *e*P **P** 14 16 50.9 -2.3
K33A **Hardington** 84.63 39 P **P** 14 16 53.6 +0.4
baz=317

J34A	**George**	**84.64**	**38**	P	**P**	**14 16 53.4**	**+0.1**
	baz=318,SNR=8.6						
CWF	**Charnwood Fore**	**84.66**	**338**	⇑*e*P	**P**	**14 16 52.5**	**-0.6**
CWF				IAmb	IAmb	14 16 53.8	
	comp=Z,175nm,1.4s						
CWF				IAMs_20	IAMs_20	14 56 02.0	
	comp=Z,4µm,24.4s						
H36A	**Jessenland, He**	**84.66**	**36**	P	**P**	**14 16 54.2**	**+0.9**
	baz=319,SNR=29						
PDG	**Podgorica**	**84.67**	**321**	⇑*i*P	**P**	**14 16 53.9**	**+0.5**
TTG	**Podgorica**	**84.67**	**321**	⇑*i*P	**P**	**14 16 53.7**	**+0.3**
TTG	**Podgorica**	**84.67**	**321**	*e*P	**P**	**14 16 53.0**	**-0.3**
TTG	**Podgorica**	**84.67**	**321**	*e*P	**P**	**14 16 53.0**	**-0.3**
LAZ	**Ladron**	**84.67**	**50**	*e*P	**P**	**14 16 54.8**	**+1.0**
SPMN	**Marine on St.**	**84.69**	**35**	P	**P**	**14 16 53.5**	**0.0**
	baz=320,SNR=19						
SPMN	**Marine on St.**	**84.69**	**35**	*e*P	**P**	**14 16 53.2**	**-0.2**
I35A	**Creekview Farm**	**84.69**	**37**	P	**P**	**14 16 53.7**	**+0.2**
	baz=318,SNR=9.1						
MOTA	**Moosalm**	**84.70**	**328**	*e*PcP	**P**	**14 16 54.3**	**+0.6**
	comp=Z,17nm,0.8s,SNR=23						
MOTA				*e*P	**pP**	**14 17 10.7**	**+1.5**
	comp=Z,42nm,1.1s						
ANMO	**Albuquerque**	**84.73**	**50**	P	**P**	**14 16 55.4**	**+1.3**
	baz=312						
ANMO	**Albuquerque**	**84.73**	**50**	*e*P	**P**	**14 16 55.2**	**+1.1**
ANMO				LR	LR		
	comp=Z,773nm,19.0s						
ANMO	**Albuquerque**	**84.73**	**50**	*d i*P	**P**	**14 16 56.2**	**+2.1**
ANMO				pmax	pmax		
	comp=Z,76nm,1.2s						
ANMO				MLR	MLR		
	comp=Z,321nm,19.0s						
RETA	**Reutte**	**84.73**	**329**	*e*PcP	**P**	**14 16 54.4**	**+0.7**
	comp=Z,106nm,1.3s,SNR=32						
RETA				*i* P	**sP**	**14 17 14.2**	**-1.0**
SNF	**Seneffe**	**84.75**	**334**	⇑P	**P**	**14 16 53.7**	**+0.1**
	comp=Z,83nm,1.6s						
SNF				⇑AP	**pP**	**14 17 09.6**	**+0.4**
WLF	**Walferdange**	**84.78**	**332**	⇓P	**P**	**14 16 54.3**	**+0.5**
	comp=Z,99nm,1.9s						
WLF				⇓AP	**pP**	**14 17 10.2**	**+0.8**
WLF	**Walferdange**	**84.78**	**332**	*e*P	**P**	**14 16 53.5**	**-0.3**
WLF				LR	LR		
	comp=Z,2µm,20.0s						
WLF	**Walferdange**	**84.78**	**332**	*e*P	**P**	**14 16 53.5**	**-0.3**
WLF				MLR	MLR		
	comp=Z,2µm,20.0s						
XOR	**Xorichti**	**84.79**	**317**	P	**P**	**14 16 53.3**	**-0.8**
XOR	**Xorichti**	**84.79**	**317**	P	**P**	**14 16 53.3**	**-0.8**
E39A	**Mellen**	**84.80**	**33**	P	**P**	**14 16 54.1**	**+0.1**
	baz=321,SNR=45						
OHR	**Ohrid**	**84.83**	**319**	⇑*i*P	**P**	**14 16 54.5**	**+0.2**
VAH	**Vaihoa**	**84.86**	**113**	*e*P	**P**	**14 16 57.0**	**+2.4**
	comp=Z,52nm,1.1s						
VAH				*e*pP	**pP**	**14 17 10.5**	**+0.4**
	comp=Z,202nm,1.4s						
BGNE	**Belgrade**	**84.91**	**40**	P	**P**	**14 16 55.0**	**+0.3**
	baz=317,SNR=5.3						
BGNE	**Belgrade**	**84.91**	**40**	*e*P	**P**	**14 16 54.7**	**0.0**
OXZ	**Oxford**	**84.94**	**158**	*e*P	**P**	**14 16 54.5**	**+0.2**
BUM	**Brajici-Budva**	**84.94**	**321**	⇑*i*P	**P**	**14 16 55.5**	**+0.6**
J35A	**Milford**	**84.95**	**37**	P	**P**	**14 16 55.0**	**+0.2**
	baz=318						
PPT	**Papeete**	**84.97**	**116**	P	**P**	**14 16 56.4**	**+1.3**
	comp=Z,23nm,1.0s,baz=320,slow=9.7,SNR=3.9						
PPT				LR	LR	14 49 05.8	
	comp=Z,1µm,19.6s,baz=297,slow=32						
PPT2	**Papeete2**	**84.98**	**116**	*e*P	**P**	**14 16 57.9**	**+2.6**
	comp=Z,31nm,1.1s						
PPT2				*e*pP	**pP**	**14 17 11.1**	**+0.3**
	comp=Z,138nm,1.4s						
PPT2	**Papeete2**	**84.98**	**116**	*e*S	**S**	**14 27 19.4**	**-0.9**
	comp=Z,782nm,25.2s						
PPT2				*e*SS	**SS**	**14 32 57.9**	**+3.2**
	comp=Z,503nm,26.2s						
PPT2	**Papeete2**	**84.98**	**116**	*e*LR	LR	14 43 39.8	
	comp=Z,7µm,30.0s,baz=313						
PPT2	**Papeete2**	**84.98**	**116**	*e*T	T	15 49 55.3	
	comp=Z,10nm,0.3s						
RPZ	**Rata Peaks**	**85.00**	**159**	*e*P	**P**	**14 16 54.8**	**+0.1**
F39A	**Loretta**	**85.00**	**33**	P	**P**	**14 16 55.5**	**+0.5**
	baz=321,SNR=24						
ULC	**Ulcinj**	**85.01**	**320**	⇑*i*P	**P**	**14 16 55.5**	**+0.3**
K34A	**Le Mars**	**85.02**	**38**	P	**P**	**14 16 55.4**	**+0.2**
	baz=318,SNR=16						
PAE	**Paea**	**85.02**	**116**	*e*P	**P**	**14 16 57.8**	**+2.4**
	comp=Z,6.2nm,1.2s						
PAE				*e*pP	**pP**	**14 17 11.2**	**+0.3**
	comp=Z,31nm,1.5s						
PAE	**Paea**	**85.02**	**116**	*e*T	T	15 49 57.9	
	comp=Z,2.8nm,0.3s						
Y22D	**IRIS PASSCAL I**	**85.02**	**51**	P	**P**	**14 16 57.1**	**+1.6**
	baz=312						
Y22D	**IRIS PASSCAL I**	**85.02**	**51**	*e*P	**P**	**14 16 55.9**	**+0.4**
Y22E	**IRIS PASSCAL I**	**85.02**	**51**	P	**P**	**14 16 57.0**	**+1.5**
	baz=312						
E40A	**Wakefield**	**85.03**	**33**	P	**P**	**14 16 55.9**	**+0.7**
	baz=322,SNR=75						
BFO	**Black Forest**	**85.03**	**331**	*e*P	**P**	**14 16 55.1**	**0.0**
BFO				LR	LR		
	comp=Z,954nm,20.0s						
BFO	**Black Forest**	**85.03**	**331**	*ce*P	**P**	**14 16 55.4**	**+0.2**
HCY	**Herceg Novi**	**85.03**	**321**	⇑*i*P	**P**	**14 16 56.1**	**+0.9**
I36A	**Fitzsimmons Fa**	**85.03**	**36**	P	**P**	**14 16 55.5**	**+0.3**
	baz=319,SNR=8.4						
LPM	**Los Pinos Moun**	**85.04**	**50**	*e*P	**P**	**14 16 56.4**	**+0.7**
APE	**Apeiranthos**	**85.07**	**314**	⇑*i*P	**P**	**14 16 54.8**	**-0.8**
APE	**Apeiranthos**	**85.07**	**314**	⇑*i*P	**P**	**14 16 54.9**	**-0.7**
APE				pmax	pmax		
	comp=Z,48nm,0.9s						
APE				MLR	MLR		
	comp=Z,768nm,20.0s						
FOEL	**Foel Wylfa**	**85.07**	**339**	IAMs_20	IAMs_20	14 59 19.6	
	comp=Z,2µm,21.6s						
FETA	**Feichten**	**85.11**	**328**	*e*PcP	**P**	**14 16 56.1**	**+0.4**
	comp=Z,29nm,0.9s,SNR=15						
FETA				*e*P	**sP**	**14 17 15.9**	**-1.4**
	comp=Z,56nm,1.1s						
D41A	**Chassel**	**85.11**	**32**	P	**P**	**14 16 56.1**	**+0.6**
	baz=322,SNR=9.5						
STON	**Ston**	**85.12**	**322**	P	**P**	**14 16 53.8**	**-1.8**
H37A	**Dierke Farm, C**	**85.12**	**35**	P	**P**	**14 16 56.3**	**+0.6**
	baz=320,SNR=23						
TIAR	**Tiarei**	**85.12**	**116**	*e*P	**P**	**14 16 58.3**	**+2.4**
	comp=Z,13nm,1.1s						
TIAR				*e*pP	**pP**	**14 17 11.7**	**+0.2**
	comp=Z,55nm,1.1s						
TIAR	**Tiarei**	**85.12**	**116**	*e*T	T	15 50 05.4	
	comp=Z,8.7nm,0.3s						
TIR	**Tirane**	**85.14**	**320**	⇑*i*P	**P**	**14 16 56.2**	**+0.4**
TIR	**Tirane**	**85.14**	**320**	*e*P	**P**	**14 16 55.9**	**+0.1**
TIR				LR	LR		
	comp=Z,6µm,20.0s						
TIR	**Tirane**	**85.14**	**320**	*e*P	**P**	**14 16 55.9**	**+0.1**
TIR				MLR	MLR		
	comp=Z,6µm,20.0s						
KARP	**Karpathos**	**85.15**	**312**	*e*P	**P**	**14 16 55.5**	**-0.5**
KARP	**Karpathos**	**85.15**	**312**	P	**P**	**14 16 55.8**	**-0.2**
BNM	**Barren Site**	**85.15**	**50**	*e*P	**P**	**14 16 57.1**	**+0.8**
G38A	**Ridgeland**	**85.16**	**34**	P	**P**	**14 16 55.9**	**+0.1**
	baz=320,SNR=24						
NVLJ	**Novalja**	**85.19**	**325**	P	**P**	**14 16 55.4**	**-0.5**
DAVA	**Damuels**	**85.25**	**329**	*i* PcP	**P**	**14 16 56.8**	**+0.4**
	comp=Z,0.7nm,0.0s,SNR=28						
DAVA				*i* P	**pP**	**14 17 13.0**	**+1.0**
ELSH	**Elham, Standar**	**85.27**	**336**	IAMs_20	IAMs_20	14 58 35.9	
	comp=Z,3µm,19.0s						
M33A	**Taylor Creek F**	**85.28**	**40**	P	**P**	**14 16 56.6**	**+0.1**
	baz=317						
SCHQ	**Schefferville**	**85.28**	**16**	P	**P**	**14 16 57.1**	**+0.8**
	comp=Z,57nm,1.0s,baz=353,slow=5.5,SNR=25						
SCHQ				LR	LR	14 56 34.6	
	comp=Z,816nm,21.4s,baz=343,slow=37						
319A	**Douglas**	**85.32**	**54**	*e*P	**P**	**14 16 57.7**	**+0.7**
I37A	**Lemond, Waseca**	**85.33**	**36**	P	**P**	**14 16 57.6**	**+1.0**
	baz=319,SNR=28						
TVO	**Taravao**	**85.34**	**116**	*e*P	**P**	**14 16 59.7**	**+2.7**
	comp=Z,6.2nm,0.9s						
TVO				*e*pP	**pP**	**14 17 12.9**	**+0.3**
	comp=Z,79nm,1.4s						
TVO	**Taravao**	**85.34**	**116**	*e*T	T	15 50 21.8	
	comp=Z,1.6nm,0.3s						
H38A	**Maiden Rock**	**85.34**	**35**	P	**P**	**14 16 57.1**	**+0.3**
	baz=320,SNR=15						
F40A	**Park Falls**	**85.35**	**33**	P	**P**	**14 16 57.0**	**+0.2**
	baz=322						
LBZ	**Lake Benmore**	**85.37**	**159**	*e*P	**P**	**14 16 57.4**	**+0.9**
G39A	**Holcombe**	**85.38**	**34**	P	**P**	**14 16 56.8**	**-0.1**
	baz=321,SNR=21						
LKR	**Lokris**	**85.40**	**316**	P	**P**	**14 16 55.6**	**-1.5**
LKR	**Lokris**	**85.40**	**316**	P	**P**	**14 16 55.6**	**-1.5**
J36A	**Seneca 1, Swea**	**85.40**	**37**	P	**P**	**14 16 57.5**	**+0.4**
	baz=319,SNR=16						
L34A	**Svendsen Farm,**	**85.41**	**39**	P	**P**	**14 16 57.4**	**+0.3**
	baz=318,SNR=11						
E41A	**Kenton**	**85.42**	**32**	P	**P**	**14 16 57.1**	**0.0**
	baz=322,SNR=34						
K35A	**Storm Lake**	**85.42**	**38**	P	**P**	**14 16 57.4**	**+0.2**
	baz=318,SNR=7.3						
MQZ	**McQueen's Vall**	**85.47**	**158**	*e*P	**P**	**14 16 57.8**	**+0.9**
AGG	**Agios Georgios**	**85.50**	**317**	*e*P	**P**	**14 16 56.1**	**-1.6**
AGG	**Agios Georgios**	**85.50**	**317**	*e*P	**P**	**14 16 56.1**	**-1.6**
121A	**Cookes Peak, D**	**85.51**	**52**	P	**P**	**14 16 59.4**	**+1.4**
	baz=312,SNR=30						
121A	**Cookes Peak, D**	**85.51**	**52**	*e*P	**P**	**14 16 59.0**	**+1.0**
	comp=Z,51nm,0.9s						
ECH	**Echery**	**85.58**	**331**	*e*P	**P**	**14 16 57.5**	**-0.4**
ECH				LR	LR		
	comp=Z,917nm,20.0s						
ECH	**Echery**	**85.58**	**331**	*e*P	**P**	**14 16 57.5**	**-0.4**
ECH				MLR	MLR		
	comp=Z,917nm,20.0s						
SANT	**Santorini**	**85.59**	**313**	*e*P	**P**	**14 16 56.7**	**-1.5**
SANT				LR	LR		
	comp=Z,589nm,21.0s						
DSB	**Dublin**	**85.62**	**341**	*e*P	**P**	**14 16 58.6**	**+0.7**
FUORN	**Ofenpass-Fuorn**	**85.62**	**328**	*e*P	**P**	**14 16 58.7**	**+0.3**
COWI	**Conover**	**85.63**	**32**	*e*P	**P**	**14 16 58.5**	**+0.3**
COWI				LR	LR		
	comp=Z,911nm,20.0s						
M34A	**Aspy Farms, Fr**	**85.65**	**40**	P	**P**	**14 16 58.6**	**+0.3**
	baz=318,SNR=7.0						
L35A	**Bielow Farm, R**	**85.72**	**39**	P	**P**	**14 16 58.8**	**+0.1**
	baz=318,SNR=5.9						
HSIG		**85.75**	**57**	*e*P	**P**	**14 16 57.6**	**-1.5**
STRD	**Stroud**	**85.75**	**338**	IAMs_20	IAMs_20	14 55 43.1	
	comp=Z,4µm,26.4s						
N33A	**J Bar K, Exete**	**85.76**	**41**	P	**P**	**14 16 58.7**	**-0.2**
	baz=317						
HMNX	**Herstmonceux**	**85.77**	**336**	⇑*e*P	**P**	**14 16 58.6**	**0.0**
HMNX				IAMs_20	IAMs_20	14 53 58.2	
	comp=Z,3µm,27.5s						
J37A	**Redenius Farm,**	**85.79**	**37**	P	**P**	**14 16 59.5**	**+0.5**
	baz=319,SNR=22						
H39A	**Augusta**	**85.80**	**34**	P	**P**	**14 16 59.5**	**+0.5**
	baz=321,SNR=30						
I38A	**Scanlan Farm,**	**85.81**	**35**	P	**P**	**14 16 59.3**	**+0.2**
	baz=320,SNR=21						
G40A	**Rib Lake**	**85.82**	**34**	P	**P**	**14 16 59.6**	**+0.4**
	baz=322,SNR=29						
K36A	**Gilmore City**	**85.86**	**38**	P	**P**	**14 16 59.8**	**+0.4**
	baz=319,SNR=19						
E42A	**Champion**	**85.89**	**32**	P	**P**	**14 16 59.8**	**+0.4**
	baz=323,SNR=13						
MONM	**Monmouth**	**85.89**	**338**	IAMs_20	IAMs_20	14 54 40.7	
	comp=Z,4µm,27.6s						
F41A	**Three Lakes**	**85.93**	**33**	P	**P**	**14 17 00.2**	**+0.6**
	baz=322,SNR=45						
CBKS	**Cedar Bluff**	**85.93**	**43**	P	**P**	**14 16 59.8**	**-0.1**
	baz=316,SNR=9.0						
CBKS	**Cedar Bluff**	**85.93**	**43**	*e*P	**P**	**14 16 59.0**	**-0.9**
CBKS				LR	LR		
	comp=Z,824nm,19.0s						
CBKS	**Cedar Bluff**	**85.93**	**43**	*e*P	**P**	**14 16 59.0**	**-0.9**
CBKS				MLR	MLR		
	comp=Z,824nm,19.0s						
SRIG	**Santa Rosalia**	**85.97**	**59**	*e*P	**P**	**14 17 00.6**	**+0.4**
ZKR	**Zakros**	**86.01**	**312**	P	**P**	**14 16 59.9**	**-0.3**
ZKR	**Zakros**	**86.01**	**312**	P	**P**	**14 16 59.9**	**-0.3**
ANX	**Ano Chora**	**86.03**	**317**	P	**P**	**14 17 00.1**	**-0.3**
DSL	**Palaion Diasel**	**86.09**	**318**	P	**P**	**14 16 59.4**	**-1.2**
DSL	**Palaion Diasel**	**86.09**	**318**	P	**P**	**14 16 59.4**	**-1.2**
ODZ	**Otahua Downs**	**86.10**	**159**	*e*P	**P**	**14 17 00.2**	**+0.1**
TUE	**Stuetta**	**86.12**	**329**	*e*P	**P**	**14 17 00.2**	**-0.6**
TUE				LR	LR		
	comp=Z,3µm,19.0s						
M35A	**Neola**	**86.12**	**39**	P	**P**	**14 17 01.3**	**+0.6**
	baz=318,SNR=9.6						
K37A	**Belmond**	**86.16**	**37**	P	**P**	**14 17 01.0**	**+0.2**
	baz=319,SNR=39						
L36A	**Harm Buss Farm**	**86.16**	**38**	P	**P**	**14 17 01.3**	**+0.4**
	baz=319,SNR=8.8						
O33A	**Hebron**	**86.17**	**41**	P	**P**	**14 17 00.5**	**-0.4**
	baz=317,SNR=6.2						
N34A	**Lincoln**	**86.18**	**40**	P	**P**	**14 17 00.7**	**-0.3**
	baz=318,SNR=8.9						
H40A	**Chili**	**86.24**	**34**	P	**P**	**14 17 01.8**	**+0.6**
	baz=321,SNR=35						
NPS	**Neapolis**	**86.26**	**312**	P	**P**	**14 17 00.1**	**-1.4**
NPS	**Neapolis**	**86.26**	**312**	P	**P**	**14 17 00.1**	**-1.4**
NPS	**Neapolis**	**86.26**	**312**	P	**P**	**14 17 00.1**	**-1.4**
GUR	**Goura**	**86.27**	**316**	P	**P**	**14 16 59.6**	**-2.0**
J38A	**Wedel Dairy, R**	**86.29**	**36**	P	**P**	**14 17 01.6**	**+0.1**
	baz=320,SNR=33						
E43A	**Lone Tree Farm**	**86.31**	**31**	P	**P**	**14 17 01.9**	**+0.4**
	baz=324,SNR=10						
G41A	**Antigo**	**86.31**	**33**	P	**P**	**14 17 01.9**	**+0.4**
	baz=322,SNR=11						
I39A	**Houston**	**86.32**	**35**	P	**P**	**14 17 01.4**	**-0.2**
	baz=321,SNR=26						
LAST	**Lasithi**	**86.41**	**312**	P	**P**	**14 17 02.0**	**-0.3**
LAST	**Lasithi**	**86.41**	**312**	P	**P**	**14 17 02.0**	**-0.3**
PDO	**Prodromos**	**86.43**	**317**	P	**P**	**14 17 02.0**	**-0.2**
TAOE	**Nuku Hiva Isla**	**86.50**	**104**	*e*S	**S**	**14 27 33.5**	**-1.9**
	comp=Z,2µm,26.2s						
TAOE				*e*SS	**SS**	**14 33 21.2**	**+4.2**
	comp=Z,378nm,25.8s						
TAOE	**Nuku Hiva Isla**	**86.50**	**104**	*e*LR	LR	14 44 11.3	
	comp=Z,5µm,25.8s						
TAOE	**Nuku Hiva Isla**	**86.50**	**104**	*e*T	T	15 51 42.2	
	comp=Z,30nm,0.2s						
DAMY	**Dhamar**	**86.51**	**286**	*e*P	**P**	**14 17 01.6**	**-1.7**
E44A	**Grand Marais A**	**86.55**	**30**	P	**P**	**14 17 03.2**	**+0.6**
	baz=324,SNR=6.6						
O34A	**Beatrice**	**86.56**	**40**	P	**P**	**14 17 02.5**	**-0.3**
	baz=318,SNR=9.0						
H41A	**Junction City**	**86.57**	**34**	P	**P**	**14 17 03.2**	**+0.3**
	baz=322,SNR=25						
H41A	**Junction City**	**86.57**	**34**	*e*P	**P**	**14 17 02.3**	**-0.5**
M36A	**Felix, Anita**	**86.58**	**39**	P	**P**	**14 17 03.6**	**+0.6**
	baz=319,SNR=9.2						
L37A	**Phoenix Point,**	**86.59**	**38**	P	**P**	**14 17 03.3**	**+0.3**
	baz=319,SNR=7.7						
N35A	**Tabor**	**86.60**	**39**	P	**P**	**14 17 03.7**	**+0.7**
	baz=318,SNR=11						
G42A	**Mountain**	**86.61**	**33**	P	**P**	**14 17 03.6**	**+0.6**
	baz=323,SNR=27						
G42A	**Mountain**	**86.61**	**33**	*e*P	**P**	**14 17 02.9**	**-0.1**
J39A	**Decorah**	**86.64**	**36**	P	**P**	**14 17 03.1**	**-0.1**
	baz=321,SNR=40						
K38A	**Parkersburg**	**86.67**	**37**	P	**P**	**14 17 03.4**	**+0.1**
	baz=320,SNR=8.1						
IDI	**Anoyia**	**86.67**	**313**	P	**P**	**14 17 03.2**	**-0.4**
	comp=Z,42nm,0.6s,baz=36,slow=8.2,SNR=41						
IDI				LR	LR	15 00 43.0	
	comp=Z,657nm,20.3s,baz=44,slow=39						
IDI	**Anoyia**	**86.67**	**313**	⇑*i*P	**P**	**14 17 02.9**	**-0.7**
IDI	**Anoyia**	**86.67**	**313**	*e*P	**P**	**14 17 02.6**	**-0.9**
F43A	**Flat Rock, Esc**	**86.68**	**31**	P	**P**	**14 17 03.7**	**+0.4**
	baz=324,SNR=9.9						
I40A	**Norwalk**	**86.71**	**35**	P	**P**	**14 17 03.9**	**+0.4**
	baz=321,SNR=8.9						
F44A	**Big Bay de Noc**	**86.87**	**31**	P	**P**	**14 17 04.7**	**+0.5**
	baz=324,SNR=20						
O35A	**Humboldt**	**86.90**	**40**	P	**P**	**14 17 04.5**	**0.0**
	baz=318						
SIVA	**Sivas**	**86.91**	**312**	P	**P**	**14 17 04.7**	**+0.1**
SIVA	**Sivas**	**86.91**	**312**	P	**P**	**14 17 04.7**	**+0.1**
I41A	**Arkdale**	**86.92**	**34**	P	**P**	**14 17 04.9**	**+0.4**
	baz=322,SNR=14						
G43A	**Wallace**	**86.92**	**32**	P	**P**	**14 17 05.0**	**+0.6**
	baz=323,SNR=23						
G43A	**Wallace**	**86.92**	**32**	*e*P	**P**	**14 17 04.7**	**+0.3**
L38A	**Oak Wood Farm,**	**86.96**	**37**	P	**P**	**14 17 05.3**	**+0.5**
	baz=320,SNR=16						
N36A	**Muff Farm, Cla**	**86.98**	**39**	P	**P**	**14 17 05.8**	**+0.9**
	baz=319,SNR=11						
M37A	**Trindle Farm,**	**86.99**	**38**	P	**P**	**14 17 05.9**	**+1.0**
	baz=319,SNR=13						
VAM	**Vamos**	**86.99**	**313**	P	**P**	**14 17 04.5**	**-0.5**
VAM	**Vamos**	**86.99**	**313**	P	**P**	**14 17 04.5**	**-0.5**
VAM	**Vamos**	**86.99**	**313**	P	**P**	**14 17 04.5**	**-0.5**
SCIA	**State Center**	**87.02**	**37**	P	**P**	**14 17 05.9**	**+0.9**
	baz=320,SNR=8.7						
SCIA	**State Center**	**87.02**	**37**	*e*P	**P**	**14 17 04.8**	**-0.2**
SCIA				LR	LR		
	comp=Z,985nm,19.0s						
ITM	**Ithomi**	**87.04**	**316**	P	**P**	**14 17 04.3**	**-1.0**
J40A	**Soldiers Grove**	**87.04**	**35**	P	**P**	**14 17 05.2**	**0.0**
	baz=321,SNR=14						
K39A	**Oelwein**	**87.04**	**36**	P	**P**	**14 17 05.0**	**-0.1**
	baz=320,SNR=36						
SENIN	**Lac Senin/Sane**	**87.04**	**330**	*e*P	**P**	**14 17 04.9**	**-0.4**
E45A	**Wooded Hills,**	**87.06**	**30**	P	**P**	**14 17 05.7**	**+0.5**
	baz=325,SNR=10						
H42A	**Shiocton**	**87.15**	**33**	P	**P**	**14 17 06.1**	**+0.5**
	baz=323,SNR=14						
H42A	**Shiocton**	**87.15**	**33**	*e*P	**P**	**14 17 05.6**	**0.0**
MATE	**Matera**	**87.27**	**321**	⇑*i*P	**P**	**14 17 06.1**	**-0.1**
J41A	**Loganville**	**87.39**	**35**	P	**P**	**14 17 07.1**	**+0.3**
	baz=322,SNR=26						
K40A	**Colesburg**	**87.39**	**36**	P	**P**	**14 17 07.1**	**+0.2**
	baz=321,SNR=31						
N37A	**Lee Faris, Mou**	**87.40**	**39**	P	**P**	**14 17 07.6**	**+0.7**
	baz=319,SNR=16						
M38A	**Pleasantville**	**87.40**	**38**	P	**P**	**14 17 07.6**	**+0.7**
	baz=320,SNR=44						
KSU1	**Kansas State U**	**87.40**	**41**	P	**P**	**14 17 07.0**	**+0.1**
	baz=318,SNR=13						
KSU1	**Kansas State U**	**87.40**	**41**	*e*P	**P**	**14 17 06.6**	**-0.3**
KSU1				LR	LR		
	comp=Z,553nm,21.0s						
L39A	**Vinton**	**87.43**	**37**	P	**P**	**14 17 07.4**	**+0.3**
	baz=320,SNR=37						
DYA	**Yadsworthy**	**87.46**	**338**	⇑*e*P	**P**	**14 17 06.1**	**-0.9**
DYA				IAmb	IAmb	14 17 07.6	
	comp=Z,122nm,1.3s						
DYA				IAMs_20	IAMs_20	14 55 38.1	
	comp=Z,2µm,22.6s						
I42A	**Draeger Farm,**	**87.47**	**34**	P	**P**	**14 17 07.6**	**+0.4**
	baz=322,SNR=20						
I42A	**Draeger Farm,**	**87.47**	**34**	*e*P	**P**	**14 17 07.2**	**+0.1**
F45A	**CMU Biological**	**87.48**	**31**	P	**P**	**14 17 07.6**	**+0.5**
	baz=325,SNR=10						
H43A	**Windswept, Lux**	**87.51**	**33**	P	**P**	**14 17 07.9**	**+0.6**
	baz=323,SNR=22						
H43A	**Windswept, Lux**	**87.51**	**33**	*e*P	**P**	**14 17 07.4**	**0.0**
VLC	**Villacollemand**	**87.53**	**327**	PFAKE		14 17 20.0	+13
VLC				LR	LR		
	comp=Z,2µm,20.0s						
AQU	**L'Aquila**	**87.58**	**324**	*e*P	**P**	**14 17 07.3**	**-0.5**
AQU				LR	LR		
	comp=Z,2µm,19.0s						
AQU	**L'Aquila**	**87.58**	**324**	*e*P	**P**	**14 17 07.3**	**-0.5**
AQU				MLR	MLR		
	comp=Z,2µm,19.0s						
MNTX	**Cornudas Mount**	**87.58**	**51**	P	**P**	**14 17 08.8**	**+0.9**
	baz=313,SNR=20						
MNTX	**Cornudas Mount**	**87.58**	**51**	*e*P	**P**	**14 17 08.2**	**+0.2**
MNTX				LR	LR		
	comp=Z,841nm,22.0s						
MSTX	**Muleshoe**	**87.61**	**48**	P	**P**	**14 17 08.5**	**+0.2**
	baz=314,SNR=7.5						
MSTX	**Muleshoe**	**87.61**	**48**	*e*P	**P**	**14 17 08.4**	**+0.2**
AMTX	**Amarillo**	**87.62**	**47**	P	**P**	**14 17 09.4**	**+1.2**
	baz=315						
AMTX	**Amarillo**	**87.62**	**47**	*e*P	**P**	**14 17 08.8**	**+0.6**
JFWS	**Jewell Farm**	**87.64**	**35**	P	**P**	**14 17 08.0**	**0.0**
	baz=322,SNR=11						
JFWS	**Jewell Farm**	**87.64**	**35**	*e*P	**P**	**14 17 07.8**	**-0.2**
JFWS				LR	LR		
	comp=Z,1µm,20.0s						
JFWS	**Jewell Farm**	**87.64**	**35**	*e*P	**P**	**14 17 07.8**	**-0.2**
JFWS				MLR	MLR		
	comp=Z,1µm,20.0s						
F46A	**Macinaw City C**	**87.71**	**30**	P	**P**	**14 17 08.9**	**+0.6**
	baz=325,SNR=8.6						
VAL	**Valentia**	**87.77**	**343**	*e*P	**P**	**14 17 08.8**	**+0.4**
VAL	**Valentia**	**87.77**	**343**	*i* S	**S**	**14 27 48.2**	**+1.8**
I43A	**Langenfeld Bro**	**87.82**	**33**	P	**P**	**14 17 09.3**	**+0.4**
	baz=323,SNR=12						
J42A	**Columbus**	**87.83**	**34**	P	**P**	**14 17 09.2**	**+0.3**
	baz=322,SNR=17						
M39A	**Webster**	**87.85**	**37**	P	**P**	**14 17 09.5**	**+0.5**
	baz=320,SNR=29						
L40A	**Anamosa**	**87.85**	**36**	P	**P**	**14 17 09.1**	**+0.1**
	baz=321,SNR=24						
K41A	**Shullsburg**	**87.85**	**35**	P	**P**	**14 17 09.2**	**+0.2**
	baz=322,SNR=13						
N38A	**Joes South For**	**87.85**	**38**	P	**P**	**14 17 09.7**	**+0.6**
	baz=320,SNR=16						
GDL2	**Guadalupe Moun**	**87.87**	**50**	*e*P	**P**	**14 17 09.9**	**+0.4**
O37A	**Wolven Farm, M**	**87.87**	**39**	P	**P**	**14 17 09.7**	**+0.5**
	baz=319,SNR=10						
J43A	**Natural Harves**	**88.10**	**34**	P	**P**	**14 17 10.4**	**+0.3**
	baz=323,SNR=15						
N39A	**Derby Farms, D**	**88.15**	**38**	P	**P**	**14 17 11.1**	**+0.6**
	baz=320,SNR=21						
K42A	**Prairie Point,**	**88.16**	**35**	P	**P**	**14 17 10.4**	**0.0**
	baz=322,SNR=19						
L41A	**Preston**	**88.18**	**36**	P	**P**	**14 17 10.6**	**0.0**
	baz=321,SNR=19						
P37A	**Lathrop**	**88.21**	**40**	P	**P**	**14 17 11.1**	**+0.3**
	baz=319,SNR=12						
CUC	**Castrocucco**	**88.21**	**321**	*e*P	**P**	**14 17 09.9**	**-1.0**
CUC				LR	LR		
	comp=Z,2µm,20.0s						
M40A	**Post Highland**	**88.22**	**37**	P	**P**	**14 17 11.2**	**+0.5**
	baz=321,SNR=23						
O38A	**Galt**	**88.25**	**39**	P	**P**	**14 17 11.5**	**+0.5**
	baz=320,SNR=7.7						
TIP	**Timpagrande**	**88.34**	**320**	*e*P	**P**	**14 17 11.0**	**-0.6**
TIP				LR	LR		
	comp=Z,3µm,22.0s						
TIP	**Timpagrande**	**88.34**	**320**	P	**P**	**14 17 11.1**	**-0.4**
BNI	**Bardonecchia**	**88.36**	**330**	*e*P	**P**	**14 17 11.0**	**-0.6**
BNI				LR	LR		
	comp=Z,2µm,22.0s						
BNI	**Bardonecchia**	**88.36**	**330**	*e*P	**P**	**14 17 11.0**	**-0.6**
BNI				MLR	MLR		
	comp=Z,2µm,22.0s						
GLMI	**Grayling**	**88.55**	**31**	P	**P**	**14 17 13.3**	**+1.1**
	baz=325,SNR=15						
GLMI	**Grayling**	**88.55**	**31**	*e*P	**P**	**14 17 13.2**	**+0.9**
GLMI				LR	LR		
	comp=Z,625nm,21.0s						
N40A	**Mertquake, Sal**	**88.59**	**37**	P	**P**	**14 17 13.2**	**+0.7**
	baz=321,SNR=7.1						
P38A	**Dawn**	**88.59**	**39**	P	**P**	**14 17 13.1**	**+0.5**
	baz=320,SNR=19						
O39A	**Kirksville**	**88.61**	**38**	P	**P**	**14 17 13.2**	**+0.6**
	baz=320,SNR=5.5						
L42A	**Oliver, Polo**	**88.62**	**35**	P	**P**	**14 17 12.8**	**+0.1**
	baz=322,SNR=14						
K43A	**Burlington**	**88.67**	**34**	P	**P**	**14 17 12.9**	**0.0**
	baz=323						
M41A	**Milan**	**88.70**	**36**	P	**P**	**14 17 13.4**	**+0.3**
	baz=321,SNR=15						
L43A	**Garden Prairie**	**88.90**	**35**	P	**P**	**14 17 14.0**	**0.0**
	baz=322,SNR=6.7						
M42A	**Sheffield**	**89.01**	**36**	P	**P**	**14 17 14.6**	**+0.1**
	baz=322,SNR=8.1						
SSB	**Saint Sauveur**	**89.02**	**331**	*e*P	**P**	**14 17 14.4**	**-0.2**
SSB				LR	LR		
	comp=Z,1µm,20.0s						
SSB	**Saint Sauveur**	**89.02**	**331**	*e*P	**P**	**14 17 14.4**	**-0.2**
SSB				MLR	MLR		
	comp=Z,1µm,20.0s						
O40A	**La Belle**	**89.03**	**38**	P	**P**	**14 17 15.3**	**+0.7**
	baz=320,SNR=26						
Q38A	**Cooks Store, C**	**89.05**	**39**	P	**P**	**14 17 14.8**	**0.0**
	baz=320,SNR=12						
N41A	**Harden Midland**	**89.07**	**37**	P	**P**	**14 17 15.2**	**+0.4**
	baz=321,SNR=7.8						
P39B	**Salisbury**	**89.09**	**39**	P	**P**	**14 17 15.4**	**+0.5**
	baz=320,SNR=18						
L44A	**Lake County Fo**	**89.28**	**34**	P	**P**	**14 17 16.0**	**+0.3**
	baz=323						
Q39A	**Willow Grove F**	**89.31**	**39**	P	**P**	**14 17 16.3**	**+0.3**
	baz=320,SNR=42						
N42A	**Yates City**	**89.37**	**36**	P	**P**	**14 17 16.8**	**+0.6**
	baz=322,SNR=7.4						
LPIG	**La Paz**	**89.38**	**60**	LR	LR	14 53 08.0	
	comp=Z,368nm,18.6s,baz=306,slow=33						
M43A	**Waltham Townsh**	**89.39**	**35**	P	**P**	**14 17 16.8**	**+0.5**
	baz=322,SNR=30						
WMOK	**Wichita Mounta**	**89.39**	**45**	P	**P**	**14 17 17.1**	**+0.6**
	baz=316,SNR=26						

WMOK **Wichita Mounta** 89.39 45 eP P 14 17 16.6 +0.1
WMOK **Wichita Mounta** 89.39 45 eP P 14 17 16.6 +0.1
P40A **Paris** 89.40 38 P P 14 17 17.0 +0.6
baz=320,SNR=32
TOBO **Tobermory, Bru** 89.43 29 P P 14 17 16.7 +0.3
baz=327
CEL **Celeste** 89.48 320 eP P 14 17 15.7 -1.1
CEL LR LR
comp=Z,3µm,20.0s
R38A **Fenwick Farm,** 89.49 40 P P 14 17 16.7 -0.1
baz=319,SNR=8.9
O41A **Passleys Farm,** 89.52 37 P P 14 17 17.5 +0.6
baz=321,SNR=16
ATD **Arta Tunnel** 89.55 284 LR LR 14 59 49.1
comp=Z,580nm,21.3s,baz=45,slow=37
N43A **Stutzman Famil** 89.69 36 P P 14 17 18.1 +0.4
baz=322,SNR=5.7
P41A **Barry, Barry** 89.78 38 P P 14 17 18.8 +0.7
baz=321,SNR=22
Q40A **Laux Farm, Aux** 89.80 39 P P 14 17 18.7 +0.4
baz=320,SNR=13
KLBO **Killbear Provi** 89.81 28 P P 14 17 18.6 +0.4
baz=328,SNR=12
R39A **Chumby, Stover** 89.84 40 P P 14 17 18.5 0.0
baz=320,SNR=18
M44A **Midewin, Midew** 89.85 35 P P 14 17 19.0 +0.6
baz=323,SNR=12
S38A **Stockton** 89.91 41 P P 14 17 18.7 -0.1
baz=319,SNR=12
HDIL **Hopedale** 89.93 36 P P 14 17 19.3 +0.4
baz=322,SNR=9.1
HDIL **Hopedale** 89.93 36 eP P 14 17 19.5 +0.6
HDIL LR LR
comp=Z,1µm,21.0s
BMRO **Meriville Lake** 90.08 29 P P 14 17 20.0 +0.6
baz=328,SNR=5.4
O43A **Sugar Creek Fa** 90.14 36 P P 14 17 20.2 +0.4
baz=322
T38A **Diamond** 90.16 41 P P 14 17 20.4 +0.4
baz=319,SNR=28
S39A **Bolivar** 90.17 40 P P 14 17 20.0 0.0
baz=320,SNR=19
P42A **Winchester** 90.19 37 P P 14 17 20.5 +0.4
baz=322,SNR=12
TUL1 **Leonard** 90.20 43 P P 14 17 20.9 +0.7
baz=316,SNR=10
TUL1 **Leonard** 90.20 43 eP P 14 17 20.7 +0.6
R40A **Maddies Statio** 90.25 39 P P 14 17 20.6 +0.2
baz=320,SNR=22
Q41A **Truxton** 90.25 38 P P 14 17 21.0 +0.6
baz=321,SNR=17
TX31 **Lajitas Ar. Si** 90.27 52 eP P 14 17 21.2 +0.5
TXAR **Lajitas Array** 90.27 52 P P 14 17 22.2 +1.4
comp=Z,26nm,0.9s,baz=300,slow=3.2,SNR=191
TXAR PKKPbc **PKKPbc** 14 34 49.9 +1.5
comp=Z,0.4nm,0.6s,baz=150,slow=4.9,SNR=6.3
TXAR LR LR 14 51 34.1
comp=Z,777nm,21.9s,baz=0.0,slow=31
N44A **Piper City** 90.28 35 P P 14 17 21.1 +0.6
baz=323
BRCO **Bruce Peninsul** 90.29 29 P P 14 17 21.2 +0.7
baz=328
BASO **Ashfield** 90.40 29 P P 14 17 21.6 +0.7
baz=327,SNR=6.6
ABTX **Abilene, Hawle** 90.41 47 P P 14 17 22.3 +1.0
baz=316,SNR=15
ABTX **Abilene, Hawle** 90.41 47 eP P 14 17 21.9 +0.6
N45A **Kentland** 90.52 35 P P 14 17 22.3 +0.7
baz=323,SNR=8.6
P43A **Skaggs, Pawnee** 90.54 37 P P 14 17 21.7 0.0
baz=322
M46A **Old House Fiel** 90.59 34 P P 14 17 22.6 +0.7
baz=324
HPIG 90.63 55 eP P 14 17 23.2 +0.6
Q42A **Golden Eagle** 90.63 38 P P 14 17 22.8 +0.7
baz=321,SNR=8.2
O44A **Mansfield** 90.64 36 P P 14 17 22.6 +0.5
baz=323
T39A **Clever** 90.64 41 P P 14 17 22.4 +0.1
baz=320,SNR=6.6
S40A **Lebanon** 90.66 40 P P 14 17 22.4 +0.1
baz=320,SNR=15
R41A **Rosebud** 90.69 39 P P 14 17 22.8 +0.4
baz=321,SNR=19
SADO **Sadowa** 90.71 27 eP P 14 17 22.5 +0.1
N46A **Monticello** 90.83 34 P P 14 17 23.2 +0.1
baz=324,SNR=5.5
VAE **Valguarnera** 90.83 320 LR LR 15 03 42.7
comp=Z,2µm,18.1s,baz=54,slow=39
O45A **Potomac** 90.90 35 P P 14 17 24.2 +0.8
baz=323,SNR=7.3
BANO **Bancroft** 90.93 26 P P 14 17 23.9 +0.5
baz=330,SNR=16
CCM **Cathedral Cave** 90.94 39 P P 14 17 24.1 +0.5
baz=321
CCM **Cathedral Cave** 90.94 39 eP P 14 17 23.5 -0.1
CCM **Cathedral Cave** 90.94 39 eP P 14 17 23.5 -0.1
R42A **Luebbering** 90.99 38 P P 14 17 24.4 +0.5
baz=321,SNR=9.1
T40A **Mansfield** 90.99 40 P P 14 17 23.8 0.0
baz=320,SNR=15
Q43A **New Douglas** 91.01 37 P P 14 17 24.4 +0.5
baz=322
AAM **Ann Arbor** 91.02 31 P P 14 17 24.5 +0.6
baz=326
AAM **Ann Arbor** 91.02 31 eP P 14 17 24.2 +0.3
AAM LR LR
comp=Z,634nm,19.0s
AAM **Ann Arbor** 91.02 31 eP P 14 17 24.2 +0.3
AAM MLR MLR
comp=Z,634nm,19.0s
TRQ **Mont Tremblant** 91.03 24 eP P 14 17 23.7 -0.2
S41A **Jillco Farms,** 91.05 39 P P 14 17 24.3 +0.1
baz=321,SNR=7.0
U39A **Green Forest** 91.08 41 P P 14 17 24.2 -0.1
baz=320,SNR=38
SFIN **Lafayette** 91.09 35 P P 14 17 24.7 +0.5
baz=324,SNR=10
SFIN **Lafayette** 91.09 35 eP P 14 17 24.6 +0.4
P44A **Sand Creek, Wi** 91.11 36 P P 14 17 24.7 +0.4
baz=323,SNR=5.9
PLVO **Plevna** 91.22 26 P P 14 17 25.1 +0.3
baz=331,SNR=15
PLVO **Plevna** 91.22 26 eP P 14 17 25.1 +0.3
ELFO **Elginfield** 91.22 30 P P 14 17 25.6 +0.8
baz=328,SNR=7.1
ACTO **Acton** 91.36 29 P P 14 17 25.9 +0.5
baz=328
CLTB **Caltabellotta** 91.36 321 PFAKE 14 17 40.0 +14
CLTB LR LR
comp=Z,2µm,20.0s
Q44A **Meyer Farm, Va** 91.37 37 P P 14 17 26.0 +0.5
baz=322,SNR=7.0
S42A **Caledonia** 91.39 39 P P 14 17 26.0 +0.3
baz=321,SNR=15
FVM **French Village** 91.40 38 eP P 14 17 25.6 -0.2
FVM **French Village** 91.40 38 eP P 14 17 25.6 -0.2
V39A **Pettigrew** 91.40 42 P P 14 17 26.0 +0.2
baz=319,SNR=31
R43A **Red Bud** 91.42 38 P P 14 17 26.1 +0.3
baz=322,SNR=8.7
U40A **Yellville** 91.42 41 P P 14 17 26.1 +0.2
baz=320,SNR=53
ALFO **Alfred** 91.45 24 P P 14 17 26.5 +0.7
baz=332,SNR=5.5
P45A **Graceland, Par** 91.47 36 P P 14 17 26.5 +0.5
baz=323
DELO **Deloro Mine** 91.48 27 P P 14 17 26.3 +0.3
baz=330,SNR=14
O47A **Sheridan** 91.62 34 P P 14 17 27.0 +0.3
baz=324
DRWO **Darlington Wes** 91.63 28 P P 14 17 27.1 +0.5
baz=329,SNR=7.7
P46A **Rosedale** 91.65 35 P P 14 17 27.4 +0.6
baz=324,SNR=6.9
VSL **Villasalto** 91.70 325 PFAKE 14 17 40.0 +13
VSL LR LR
comp=Z,1µm,19.0s
WLVO **Wesleyville** 91.71 27 P P 14 17 27.4 +0.4
baz=330,SNR=7.6
Q45A **Warren Harvey,** 91.78 36 P P 14 17 28.1 +0.7
baz=323,SNR=7.9
T42A **Van Buren** 91.81 39 P P 14 17 28.1 +0.4
baz=321,SNR=18
W39A **Magazine** 91.81 42 P P 14 17 28.2 +0.5
baz=319,SNR=7.8
JCT **Junction City** 91.85 49 P P 14 17 28.6 +0.6
baz=316,SNR=6.0
JCT **Junction City** 91.85 49 eP P 14 17 27.9 -0.1
JCT LR LR
comp=Z,1µm,19.0s
JCT **Junction City** 91.85 49 eP P 14 17 27.9 -0.1
JCT MLR MLR
comp=Z,1µm,19.0s
R44A **Waltonville** 91.85 37 P P 14 17 28.3 +0.5
baz=322
V40A **Witts Springs** 91.86 41 P P 14 17 28.1 +0.1
baz=320,SNR=7.8
TYNO **Tyneside** 91.87 29 P P 14 17 27.7 0.0
baz=329,SNR=6.1
S43A **Fulton Ridge,** 91.90 38 P P 14 17 28.2 +0.2
baz=322
U41A **Viola** 91.92 40 P P 14 17 28.3 +0.2
baz=320,SNR=12
OLIL **Olney** 91.94 36 eP P 14 17 28.5 +0.3
WDD **Wied Dalam** 92.03 319 PFAKE 14 17 40.0 +11
WDD LR LR
comp=Z,2µm,20.0s
WHTX **Lake Whitney,** 92.15 46 P P 14 17 30.1 +0.8
baz=317,SNR=11
WHTX **Lake Whitney,** 92.15 46 eP P 14 17 29.8 +0.5
X39A **Fountain Ranch** 92.15 43 P P 14 17 29.9 +0.6
baz=319,SNR=27
T43A **Greenville** 92.17 39 P P 14 17 29.6 +0.3
baz=322,SNR=7.3
P47A **Martinsville** 92.18 35 P P 14 17 29.7 +0.4
baz=324,SNR=6.0
W40A **Ferguson Farm,** 92.20 42 P P 14 17 30.0 +0.6
baz=320,SNR=15
W40A **Ferguson Farm,** 92.20 42 eP P 14 17 29.4 -0.1
R45A **Skylar, Fairfi** 92.20 37 P P 14 17 30.4 +1.0
baz=323
S44A **Carbondale** 92.20 38 P P 14 17 30.1 +0.7
baz=322,SNR=7.0
SIUC **Southern Illin** 92.21 38 eP P 14 17 29.6 +0.1
V41A **Mountainview** 92.22 41 P P 14 17 29.9 +0.3
baz=320,SNR=19
U42A **Revenden** 92.26 40 P P 14 17 30.0 +0.3
baz=321
BLO **Bloomington** 92.32 35 eP P 14 17 30.3 +0.3
BLO **Bloomington** 92.32 35 eP P 14 17 30.3 +0.3
PBMO **Poplar Bluff** 92.34 39 eP P 14 17 30.1 0.0
MEDO **Medina** 92.34 28 P P 14 17 30.4 +0.5
baz=330
MIAR **Mount Ida** 92.42 42 P P 14 17 31.2 +0.7
baz=320,SNR=30
MIAR **Mount Ida** 92.42 42 eP P 14 17 30.8 +0.3
MIAR LR LR
comp=Z,627nm,21.0s
MIAR **Mount Ida** 92.42 42 eP P 14 17 30.8 +0.3
MIAR MLR MLR
comp=Z,627nm,21.0s
LONY **Lake Ozonia** 92.44 25 P P 14 17 30.8 +0.4
baz=332,SNR=7.4
LONY **Lake Ozonia** 92.44 25 eP P 14 17 30.4 0.0
LONY LR LR
comp=Z,827nm,19.0s
T44A **Benton** 92.52 38 P P 14 17 31.4 +0.5
baz=322
S45A **Carrier Mills** 92.55 37 P P 14 17 31.4 +0.4
baz=323
PQI **Presque Isle** 92.55 20 eP P 14 17 31.1 +0.3
Q47A **Bedord North L** 92.55 35 P P 14 17 31.1 0.0
baz=324,SNR=8.4
FRNY **Flat Rock** 92.57 24 eP P 14 17 30.4 -0.6
V42A **Cord** 92.61 40 P P 14 17 31.3 0.0
baz=321,SNR=6.8
R46A **Gibon Southern** 92.63 36 P P 14 17 32.2 +0.8
baz=323
W41B **Gary Mavity, V** 92.64 41 P P 14 17 31.7 +0.2
baz=320,SNR=14
USIN **University of** 92.75 36 P P 14 17 31.7 -0.3
X40A **Basin Creek Fa** 92.86 42 P P 14 17 33.5 +0.9
baz=320,SNR=11
UALR **University of** 92.90 41 eP P 14 17 33.1 +0.4
comp=Z,8.5nm,0.9s
MMNY **Mt. Morris Dam** 92.92 28 eP P 14 17 32.6 -0.1
435B **Jarrell** 92.95 47 P P 14 17 33.8 +0.7
baz=317,SNR=6.6
Y40A **Okolona** 92.98 43 P P 14 17 33.6 +0.5
baz=320
ALLY **Alegheny Colle** 92.99 30 eP P 14 17 33.3 +0.3
ACSO **Alum Creek Sta** 93.02 32 P P 14 17 34.1 +0.9
baz=320,SNR=7.7
ACSO **Alum Creek Sta** 93.02 32 eP P 14 17 33.3 +0.2
ACSO LR LR
comp=Z,813nm,21.0s
R47A **Wooly Knot Far** 93.02 36 P P 14 17 33.6 +0.4
baz=324,SNR=5.1
X41A **Kaden, Bauxite** 93.02 42 P P 14 17 34.0 +0.7
baz=320
NCB **Newcomb** 93.13 25 eP P 14 17 33.7 +0.1
WCI **Wyandotte Cave** 93.19 35 P P 14 17 34.6 +0.6
baz=324
WCI **Wyandotte Cave** 93.19 35 eP P 14 17 34.2 +0.2
WCI **Wyandotte Cave** 93.19 35 eP P 14 17 34.2 +0.2
R48A **Northridge Ran** 93.24 35 P P 14 17 34.9 +0.7
baz=324
VT1 **Waterbury** 93.29 24 eP P 14 17 34.6 +0.3
M54A **Oil Creek Stat** 93.30 29 P P 14 17 35.3 +0.8
baz=329
M54A **Oil Creek Stat** 93.30 29 eP P 14 17 34.7 +0.2
T46A **Princeton** 93.38 37 P P 14 17 35.7 +0.8
baz=323
Y41A **Eaglette Beard** 93.44 42 P P 14 17 36.4 +1.2
baz=320
Z40A **Long Farm, Mag** 93.49 43 P P 14 17 36.3 +0.9
baz=320
PKME **Peaks-Kenny Pk** 93.49 21 P P 14 17 36.4 +1.2
baz=336,SNR=8.4
PKME **Peaks-Kenny Pk** 93.49 21 eP P 14 17 35.9 +0.7
PKME LR LR
comp=Z,890nm,20.0s
LBNH **Lisbon** 93.63 23 P P 14 17 37.0 +1.1
baz=334
LBNH **Lisbon** 93.63 23 eP P 14 17 35.6 -0.3
LBNH **Lisbon** 93.63 23 eP P 14 17 35.6 -0.3
N54A **Moraine State** 93.64 30 P P 14 17 36.6 +0.6
baz=328
N54A **Moraine State** 93.64 30 eP P 14 17 36.0 0.0
833A **Chaparral WMA,** 93.64 50 P P 14 17 37.1 +0.8
baz=316
S48A **Wiedeman Farm,** 93.76 36 P P 14 17 37.1 +0.5
baz=324
T47A **Sharon Grove** 93.80 37 P P 14 17 37.3 +0.5
baz=324,SNR=7.9
ACCN **Adirondack Com** 93.84 25 eP P 14 17 37.4 +0.5
Y42A **Garnett, Star** 93.91 42 P P 14 17 38.5 +1.1
baz=320
NATX **Nacogdoches** 93.92 45 eP P 14 17 37.9 +0.4
NATX LR LR
comp=Z,1µm,20.0s
HNH **Hanover** 94.00 24 eP P 14 17 38.0 +0.4
WVL **Waterville** 94.03 21 eP P 14 17 38.3 +0.6
T48A **Bowling Green** 94.04 36 P P 14 17 38.8 +0.9
baz=324
BINY **Binghamton** 94.08 27 P P 14 17 38.8 +0.7
baz=331
BINY **Binghamton** 94.08 27 PFAKE 14 17 50.0 +12
BINY LR LR
comp=Z,960nm,20.0s
WVT **Waverly** 94.14 38 P P 14 17 39.0 +0.6
baz=323
WVT **Waverly** 94.14 38 eP P 14 17 38.2 -0.2
WVT **Waverly** 94.14 38 eP P 14 17 38.2 -0.2
U47A **Clarksville** 94.15 37 P P 14 17 39.1 +0.7
baz=323
W45A **Hickory Valley** 94.23 39 P P 14 17 39.4 +0.5
baz=322
V46A **Holladay** 94.26 38 P P 14 17 38.9 0.0
baz=323,SNR=5.2
FURI **Furi** 94.39 285 eP P 14 17 38.7 -1.6
FFD **Franklin Falls** 94.41 23 eP P 14 17 39.4 -0.1
U48A **Cassie Pea, Po** 94.45 37 P P 14 17 40.2 +0.4
baz=324
EMMW **East Machias** 94.51 20 eP P 14 17 40.8 +0.9
V47A **Nunnelly** 94.53 38 P P 14 17 40.4 +0.2
baz=323,SNR=8.1
HKT **Hockley** 94.59 47 eP P 14 17 39.8 -0.7
HKT **Hockley** 94.59 47 eP P 14 17 39.8 -0.7
OXF **Oxford** 94.63 40 eP P 14 17 40.6 -0.1
OXF **Oxford** 94.63 40 eP P 14 17 40.6 -0.1
X45A **UM Field Stati** 94.70 40 P P 14 17 41.3 +0.2
baz=322
KEST **Kesra** 94.73 322 P P 14 17 40.9 -0.3
comp=Z,9.3nm,0.8s,baz=35,slow=1.4,SNR=13
KEST LR LR 15 04 17.1
comp=Z,880nm,21.7s,baz=358,slow=38
SSPA **Standing Stone** 94.74 29 eP P 14 17 41.1 +0.1
O56A **Blue Knob Stat** 94.79 29 eP P 14 17 41.5 +0.1
MCWV **Mont Chateau** 94.80 30 P P 14 17 42.3 +0.9
baz=328
V48A **Smith Brothers** 94.94 37 P P 14 17 43.0 +0.9
baz=324
W47A **Westpoint** 94.95 38 P P 14 17 42.5 +0.4
baz=323
KVTX **Kingsville** 95.12 50 PFAKE 14 17 50.0 +7.0
KVTX LR LR
comp=Z,553nm,19.0s
N59A **State Game Lan** 95.28 27 P P 14 17 44.1 +0.5
baz=331
N59A **State Game Lan** 95.28 27 eP P 14 17 43.5 -0.1
W48A **Pulaski** 95.37 38 P P 14 17 44.3 +0.3
baz=324,SNR=6.8
Y46A **Houston** 95.40 40 P P 14 17 44.4 +0.2
baz=322,SNR=5.6
X47A **Russelville** 95.41 39 P P 14 17 44.5 +0.2
baz=323
WES **Weston** 95.50 23 eP P 14 17 44.3 -0.2
WES **Weston** 95.50 23 eP P 14 17 44.3 -0.2
ZAIG **Zacatecas** 95.52 56 eP P 14 17 45.2 -0.1
TZTN **Tazewell** 95.82 35 P P 14 17 46.9 +0.8
baz=326
TZTN **Tazewell** 95.82 35 eP P 14 17 46.0 -0.1
PAL **Palisades** 95.87 26 P P 14 17 46.8 +0.6
baz=333
244A **Avery, Jackson** 95.89 42 P P 14 17 47.7 +1.3
baz=321
LNIG **Linares** 96.04 53 eP P 14 17 47.3 0.0
PBRG **Braganca** 96.06 336 eP P 14 17 47.4 +0.3
comp=Z,43nm,1.7s
PGAV **Gavieira, Arco** 96.40 337 eLR LR 14 52 03.2
comp=Z,1µm,22.0s
TKL **Tuckaleechee C** 96.45 35 P P 14 17 49.2 +0.2
comp=Z,13nm,0.9s,baz=30,slow=7.7,SNR=10
TKL LR LR 15 03 53.9
comp=Z,575nm,20.8s,baz=332,slow=37
BLA **Blacksburg** 96.64 32 PFAKE 14 18 00.0 +10
BLA LR LR
comp=Z,759nm,20.0s
MVO **Moncorvo** 96.74 336 eP P 14 17 50.2 0.0
comp=Z,45nm,1.5s
MVO **Moncorvo** 96.74 336 eLQ LQ 14 47 14.5
MVO eLR LR 14 53 16.1
comp=Z,2µm,20.0s
POLO **Lamas de Olo** 96.79 337 eP P 14 17 50.4 -0.1
comp=Z,23nm,1.5s
POLO **Lamas de Olo** 96.79 337 ePP PP 14 21 47.6 +2.7
PVRL **Vila Real** 96.85 337 eP P 14 17 51.1 +0.4
comp=Z,39nm,1.4s
ESDC **Sonseca Array** 97.03 334 P Pdif 14 17 51.7 0.0
comp=Z,1.6nm,0.7s,baz=22,slow=3.4,SNR=18
ESDC PP PP 14 21 45.7 -1.1
comp=Z,4.0nm,0.9s,baz=28,slow=7.6,SNR=7.6
ESDC LR LR 15 05 55.9
comp=Z,2µm,21.1s,baz=40,slow=38
CBN **Corbin Frederi** 97.04 30 PFAKE 14 18 00.0 +8.4
CBN LR LR
comp=Z,714nm,20.0s
PAB **San Pablo** 97.28 334 eP P 14 17 52.4 -0.4
PAB LR LR
comp=Z,2µm,21.0s
PAB **San Pablo** 97.28 334 eP P 14 17 52.4 -0.4
PAB MLR MLR
comp=Z,2µm,21.0s
Z50A **Ashland** 97.38 38 P Pdif 14 17 54.0 +0.7
baz=324
MTE **Manteigas** 97.59 336 eP Pdif 14 17 54.3 +0.1
comp=Z,34nm,1.7s
MTE **Manteigas** 97.59 336 eSKS SKKSac 14 28 53.7 -1.4
MTE **Manteigas** 97.59 336 eLQ LQ 14 47 40.0
MTE eLR LR 14 52 50.2
comp=Z,1µm,20.0s
MTE **Manteigas** 97.59 336 PFAKE 14 18 10.0 +16
MTE LR LR
comp=Z,1µm,20.0s
PCAS **Casmilo, Conde** 98.21 337 eP Pdif 14 17 57.0 +0.2
250A **Grady** 98.23 39 P Pdif 14 17 57.8 +0.7
baz=324
PMRV **Marv??o** 98.42 336 eP Pdif 14 17 58.1 +0.3
comp=Z,24nm,1.6s
PMRV **Marv??o** 98.42 336 ePP PP 14 22 00.7 +3.3
PMRV eSKS SKKSac 14 28 56.9 -4.1
PMRV **Marv??o** 98.42 336 eLQ LQ 14 47 41.3
PMRV eLR LR 14 52 06.3
comp=Z,1µm,24.0s
GOGA **Godfrey** 98.44 36 PFAKE 14 18 10.0 +12
GOGA LR LR
comp=Z,734nm,22.0s
BRAL **Brewton** 98.48 40 PFAKE 14 18 10.0 +12
BRAL LR LR
comp=Z,632nm,20.0s
PESTR **Estremoz** 99.00 336 eP Pdif 14 18 00.5 +0.1
comp=Z,20nm,1.5s
PESTR **Estremoz** 99.00 336 ePP PP 14 22 03.1 +1.3
PESTR eSKS SKSac 14 28 38.5 +4.4
PMTG **Montargil** 99.02 336 eP Pdif 14 18 00.7 +0.3
PMTG **Montargil** 99.02 336 ePP PP 14 22 04.0 +2.1
ALMR **Almeirim** 99.05 337 eP Pdif 14 18 00.8 +0.2
ALMR eS SKSac 14 28 33.8 -0.5
ALMR **Almeirim** 99.05 337 eP Pdif 14 18 00.7 +0.1
ALMR **Almeirim** 99.05 337 eP Pdif 14 18 00.8 +0.2
ALMR eS SKSac 14 28 33.8 -0.5
RKT **Rikitea** 99.08 112 eSKSac SKSac 14 28 36.3 +1.7
comp=Z,462nm,29.9s
RKT eSP SP 14 30 52.9 -1.3
comp=Z,616nm,32.5s
RKT eSS SS 14 36 17.7 +0.4
comp=Z,542nm,33.8s
RKT **Rikitea** 99.08 112 eLR LR 14 50 20.6
comp=Z,4µm,25.5s,baz=306
CNNC **Cliffs of the** 99.38 31 PFAKE 14 18 10.0 +7.9
CNNC LR LR
comp=Z,865nm,19.0s
EVO **Evora** 99.44 336 eP Pdif 14 18 02.7 +0.4
EVO **Evora** 99.44 336 ePP PP 14 22 08.1 +3.0
PBAR **Barrancos** 99.44 335 eP Pdif 14 18 02.4 +0.1
PMAFR **Mafra** 99.46 337 eSKS SKKSac 14 29 06.6 -1.9
LIS **Lisbon** 99.64 337 eP Pdif 14 18 03.3 +0.1
LIS AMS AMS 15 00 01.1
comp=E,1µm,24.2s
LIS **Lisbon** 99.64 337 eP Pdif 14 18 03.2 +0.1
PNCL **Nicolau / Gran** 99.99 336 eP Pdif 14 18 05.0 +0.2
PNCL **Nicolau / Gran** 99.99 336 ePP PP 14 22 11.1 +1.8
MESJ **Messejana** 100.14 336 eP Pdif 14 18 05.4 -0.1
MESJ ePP PP 14 22 11.3 +0.9
MESJ eS SKSac 14 28 38.8 -0.9
MESJ AMS AMS 15 09 00.4
comp=Z,2µm,22.9s
MESJ **Messejana** 100.14 336 eP Pdif 14 18 05.3 -0.1
MESJ e 14 22 11.3
MESJ eS SKSac 14 28 38.8 -0.9
NHSC **New Hope** 100.21 34 PFAKE 14 18 20.0 +14
NHSC LR LR
comp=Z,1µm,22.0s
PCVE **Castro Verde** 100.27 336 eP Pdif 14 18 06.7 +0.7
PCVE **Castro Verde** 100.27 336 ePP PP 14 22 13.4 +2.0
PVAQ **Vaqueiros** 100.36 335 ePP PP 14 22 15.3 +3.1
PVAQ **Vaqueiros** 100.36 335 eLR LR 14 52 18.0
comp=Z,2µm,20.0s
PTEO **Sao Teotonio** 100.57 336 eP Pdif 14 18 07.5 +0.2
PBDV **Barranco-do-Ve** 100.58 335 eP Pdif 14 18 07.6 +0.1
MORF **Marmelete** 100.76 336 eP Pdif 14 18 08.1 -0.2
MORF ePP PP 14 22 16.3 +1.0
MORF eSS SS 14 36 41.2 +3.3
MORF AMS AMS 15 06 00.9
comp=Z,1µm,22.4s
MORF **Marmelete** 100.76 336 eP Pdif 14 18 08.8 +0.5
MORF **Marmelete** 100.76 336 ePP PP 14 22 17.4 +2.2
MORF **Marmelete** 100.76 336 eP Pdif 14 18 08.1 -0.2
MORF e 14 22 16.2
MORF eSS SS 14 36 41.1 +3.2
KMBO **Kilima Mbogo** 101.66 277 PFAKE 14 18 20.0 +7.1
KMBO LR LR
comp=Z,937nm,22.0s
RTC **Rabat Centre** 103.14 333 PFAKE 14 18 30.0 +11
RTC LR LR
comp=Z,4µm,19.0s

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
ABPO	Ambohimpanom	104.19	257	PFAKE		14 18 40.0	+16
ABPO				LR	LR		
	comp=Z,342nm,20.0s						
CASY	Casey	105.77	192	PFAKE		14 22 50.0	
CASY				LR	LR		
	comp=Z,87nm,19.0s						
MBAR	Mbarara	106.46	282	PFAKE		14 23 00.0	
MBAR				LR	LR		
	comp=Z,687nm,21.0s						
BBSR	BB Station	106.76	23	PFAKE		14 23 00.0	
BBSR				LR	LR		
	comp=Z,539nm,20.0s						
TAM	Tamanrasset	107.11	317	PFAKE		14 23 00.0	
TAM				LR	LR		
	comp=Z,839nm,20.0s						
PMOZ	Porto Moniz, M	107.46	341	eLR	LR	14 55 57.5	
	comp=Z,641nm,22.0s						
GTBY	Guantanamo Bay	113.77	37	PFAKE		14 23 10.0	
GTBY				LR	LR		
	comp=Z,491nm,20.0s						
MTDJ	Mount Denham	113.98	40	PFAKE		14 23 10.0	
MTDJ				LR	LR		
	comp=Z,543nm,21.0s						
GRTK	Grand Turk	114.22	33	PFAKE		14 23 10.0	+11
GRTK				LR	LR		
	comp=Z,712nm,20.0s						
VNDA	Vanda	115.14	175	PKP	PKPdf	14 22 58.6	-0.7
	comp=Z,2.6nm,0.8s,baz=310,slow=4.1,SNR=14						
SBA	Scott Base	115.82	174	PFAKE		14 23 10.0	+9.4
SBA				LR	LR		
	comp=Z,852nm,20.0s						
JTS	JuntasAbangare	116.06	52	PFAKE		14 23 10.0	+7.0
JTS				LR	LR		
	comp=Z,575nm,20.0s						
SDDR	Presa de Saban	116.37	34	PFAKE		14 23 20.0	+16
SDDR				LR	LR		
	comp=Z,746nm,20.0s						
TORD	Torodi Ar. Bea	117.02	315	PKP	PKPdf	14 23 04.3	-0.5
	comp=Z,2.8nm,0.4s,baz=11,slow=1.5,SNR=59						
TORD				PP	PP	14 24 04.3	-10
	comp=Z,3.0nm,0.9s,baz=21,slow=6.1,SNR=5.0						
TORD				PKKPbc	PKKPbc	14 33 30.9	+2.1
	comp=Z,2.5nm,1.1s,baz=216,slow=3.2,SNR=5.9						
LSZ	Lusaka	117.19	271	ePKPdf	PKPdf	14 23 05.8	+0.6
LSZ				LR	LR		
	comp=Z,706nm,22.0s						
LSZ	Lusaka	117.19	271	ePKIKP	PKPdf	14 23 05.8	+0.6
LSZ				MLR	MLR		
	comp=Z,706nm,22.0s						
SJG	San Juan	119.33	30	PFAKE		14 23 20.0	+11
SJG				LR	LR		
	comp=Z,434nm,20.0s						
MAW	Mawson	119.54	206	PKP	PKPdf	14 23 08.4	+0.5
	comp=Z,4.2nm,0.8s,baz=81,slow=4.2,SNR=4.8						
BCIP	Isla Barro Col	120.08	48	PFAKE		14 23 20.0	+9.3
BCIP				LR	LR		
	comp=Z,489nm,21.0s						
ANWB	Willy Bob	121.36	26	PFAKE		14 23 20.0	+6.9
ANWB				LR	LR		
	comp=Z,547nm,22.0s						
MOTC	Monteria, Cord	122.80	45	eP	PKPdf	14 23 15.9	-0.1
FDF	Fort de France	124.30	26	PFAKE		14 23 30.0	+11
FDF				LR	LR		
	comp=Z,715nm,22.0s						
ZARC	Zaragoza, Cauc	124.31	45	eP	PKPdf	14 23 16.0	-2.9
LBTB	Lobatse	124.36	263	ePKPdf	PKPdf	14 23 19.0	+0.3
LBTB	Lobatse	124.36	263	ePKIKP	PKPdf	14 23 19.0	+0.3
OCAC	Ocana	124.54	43	eP	PKPdf	14 23 21.1	+1.6
HELC	Santa Helena	124.99	46	ePKPdf	PKPdf	14 23 19.3	-1.3
BRRC	Barranca, Sant	125.27	44	eP	PKPdf	14 23 21.1	+0.4
PTBC	PUERTO BERRIO,	125.31	45	eP	PKPdf	14 23 20.5	-0.3
SDV	Santo Domingo	125.41	40	PKP	PKPdf	14 23 21.9	+0.7
	comp=Z,76nm,1.0s,baz=314,slow=2.6,SNR=74						
SDV	Santo Domingo	125.41	40	ePKPdf	PKPdf	14 23 21.7	+0.5
SDV				LR	LR		
	comp=Z,463nm,20.0s						
PAMC	Pamplona, Colo	125.63	43	eP	PKPdf	14 23 21.9	-0.1
GUYC	Guyana, Colomb	125.85	47	eP	PKPdf	14 23 22.1	-0.4
NORC	Norcasia	125.87	46	eP	PKPdf	14 23 22.1	+0.2
DBIC	Dimbokro	125.98	317	PKP	PKPdf	14 23 22.4	+0.3
	comp=Z,6.5nm,0.4s,baz=21,slow=2.3,SNR=12						
DBIC	Dimbokro	125.98	317	ePKPdf	PKPdf	14 23 21.4	-0.7
BARC	Barichara	125.98	44	eP	PKPdf	14 23 22.7	+0.3
TIC	Toumodi	126.09	317	eP	PKPdf	14 23 20.5	-1.8
SACV	Santiago Islan	126.16	342	PFAKE		14 23 30.0	+7.6
SACV				LR	LR		
	comp=Z,273nm,20.0s						
KIC	Kosan Boka	126.17	316	eP	PKPdf	14 23 22.0	-0.5
	comp=Z,59nm,1.1s						
YOTC	Yotoco, Valle	126.27	49	eP	PKPdf	14 23 21.4	-1.5
BOSA	Boshof	126.31	259	PKP	PKPdf	14 23 22.9	+0.5
	comp=Z,20nm,1.1s,baz=35,slow=1.7,SNR=11						
BOSA	Boshof	126.31	259	ePKPdf	PKPdf	14 23 21.6	-0.8
BOSA	Boshof	126.31	259	ePKIKP	PKPdf	14 23 21.6	-0.8
LIC	Lamto	126.44	316	eP	PKPdf	14 23 22.5	-0.5
	comp=Z,137nm,1.4s						
HORQ	Saladito	126.50	49	eP	PKPdf	14 23 23.0	-0.5
GRGR	Grenville	126.52	28	PFAKE		14 23 30.0	+6.9
GRGR				LR	LR		
	comp=Z,635nm,21.0s						
RUSC	La Rusia	126.61	44	ePKPdf	PKPdf	14 23 23.4	-0.5
RUSC	La Rusia	126.61	44	eP	PKPdf	14 23 23.8	-0.1
ROSC	El Rosal	126.78	46	PKP	PKPdf	14 23 24.6	+0.5
	comp=Z,24nm,0.9s,baz=349,slow=5.2,SNR=18						
QSPA	South Pole Qui	126.92	180	PKP	PKPdf	14 23 21.8	-0.4
	comp=Z,16nm,0.8s,baz=287,slow=1.5,SNR=42						
QSPA	South Pole Qui	126.92	180	ePKPdf	PKPdf	14 23 21.8	-0.4
QSPA				LR	LR		
	comp=Z,1μm,22.0s						
PCRV	Puerto La Cruz	127.09	32	PKP	PKPdf	14 23 23.5	-0.8
	comp=Z,13nm,0.7s,baz=326,slow=3.6,SNR=6.1						
CHIC	Chingaza	127.28	46	eP	PKPdf	14 23 24.9	-0.2
PCON	Cinco Dias	127.55	50	eP	PKPdf	14 23 26.8	+1.0
VILC	Villavicencio,	127.73	46	eP	PKPdf	14 23 25.4	-0.3
CMBC	Cumbal	127.74	52	eP	PKPdf	14 23 27.3	+1.3
OTAV	Otavalo	127.88	54	ePKPdf	PKPdf	14 23 25.1	-1.2
OTAV				LR	LR		
	comp=Z,458nm,20.0s						
OTAV	Otavalo	127.88	54	eP	PKPdf	14 23 26.4	+0.1
OTAV	Otavalo	127.88	54	PKIKP	PKPdf	14 23 25.1	-1.2
SYO	Syowa Base	128.20	207	⇑eX	Pdif	14 20 21.6	+12
FLOC	Florencia	128.59	50	eP	PKPdf	14 23 27.2	+0.1
SUR	Sutherland	131.37	257	PFAKE		14 23 40.0	+8.0
SUR				LR	LR		
	comp=Z,2μm,20.0s						
NNA	Nana	137.82	63	PFAKE		14 24 00.0	+16
NNA				LR	LR		
	comp=Z,322nm,21.0s						
SNAA	Sanae	140.79	197	PKP	PKPpre	14 23 40.4	
SNAA	Sanae	140.79	197	PKhKP	PKPpre	14 23 40.3	
	comp=Z,3.5nm,0.4s,baz=87,slow=3.8,SNR=21						
SNAA				PKP	PKPdf	14 23 48.3	+0.2
	comp=Z,12nm,1.1s,baz=186,slow=4.6,SNR=7.6						
VNA2	Neumayer--Watz	142.37	196	PKP	PKPpre	14 23 47.0	
	baz=96,slow=2.8						
VNA3	Neumayer Olymp	142.62	195	PKP	PKPpre	14 23 47.3	
VNA1	Neumayer--Stat	142.77	196	PKP	PKPpre	14 23 46.3	
ASCN	Ascension	143.31	316	PFAKE		14 24 10.0	+16
ASCN				LR	LR		
	comp=Z,849nm,21.0s						
SHEL	Horse Pasture	143.82	297	PFAKE		14 24 10.0	+15
SHEL				LR	LR		
	comp=Z,319nm,19.0s						
LPAZ	La Paz	146.88	59	PKPbc	PKPbc	14 24 03.2	+0.2
	comp=Z,100nm,0.7s,baz=350,slow=2.8,SNR=256						
LPAZ	La Paz	146.88	59	ePKPdf	PKPbc	14 24 02.1	-0.9
LPAZ	La Paz	146.88	59	eP	PKPbc	14 24 02.8	-0.2
LPAZ	La Paz	146.88	59	ePKP2	PKPbc	14 24 02.1	-0.9
PB12	IPOC Station P	146.90	65	eP	PKPbc	14 24 01.4	-1.0
PSGC	Pisagua	147.67	66	eP	PKPdf	14 24 02.5	+0.8
MNMC	Minye Minye	147.76	65	ePKPdf	PKPbc	14 24 03.8	-1.2
MNMC	Minye Minye	147.76	65	eP	PKPbc	14 24 03.6	-1.4
PB11	IPOC Station P	148.12	66	ePKPdf	PKPdf	14 24 02.7	+0.2
PB11				ePKPbc	PKPbc	14 24 06.5	+0.8
PB11	IPOC Station P	148.12	66	eP	PKPdf	14 24 03.0	+0.5
GO01	Chusmiza	148.39	65	eP	PKPbc	14 24 07.4	+0.5
PB08	IPOC Station P	148.72	66	iP	PKPbc	14 24 08.7	+1.1
PB02	IPOC Station P	148.90	68	iP	PKPbc	14 24 08.6	+0.9
PB01	IPOC Station P	149.04	67	ePKPdf	PKPdf	14 24 04.8	+0.9
PB01				ePKPbc	PKPbc	14 24 08.6	+0.5
PB01	IPOC Station P	149.04	67	iP	PKPbc	14 24 08.5	+0.5
PB07	IPOC Station P	149.15	69	iP	PKPbc	14 24 09.0	+0.6
PB04	IPOC Station P	149.31	70	ePKPdf	PKPdf	14 24 05.8	+1.4
PB04				ePKPbc	PKPbc	14 24 09.8	+1.0
PB04	IPOC Station P	149.31	70	iP	PKPbc	14 24 09.7	+1.0
PB09	IPOC Station P	149.67	68	iP	PKPbc	14 24 10.5	+0.9
PB10	IPOC Station P	149.68	72	ePKPdf	PKPdf	14 24 05.8	+1.1
PB10				ePKPbc	PKiKP	14 24 10.5	+0.1
PB10	IPOC Station P	149.68	72	eP	PKPbc	14 24 09.5	+0.1
PB10	IPOC Station P	149.68	72	eP	PKPbc	14 24 09.9	+0.5
PB06	IPOC Station P	149.96	70	iP	PKPbc	14 24 11.0	+0.6
PB14	IPOC Station P	150.40	74	eP	PKPbc	14 24 12.9	+1.3
LCO	Las Campanas	152.29	82	ePKPbc	PKPbc	14 24 16.3	+0.6
LCO				LR	LR		
	comp=Z,956nm,21.0s						
LCO	Las Campanas	152.29	82	eP	PKPbc	14 24 17.1	+1.4
LCO	Las Campanas	152.29	82	PKIKP	PKPbc	14 24 16.3	+0.6
GO09	Cerro Castillo	152.52	132	ePKPbc	PKPbc	14 24 15.9	+0.8
YJA	Yavi	152.63	64	eP	PKPbc	14 24 18.8	+1.9
GO05	HualaæØ	153.34	95	ePKPdf	PKPdf	14 24 08.6	-1.4
GO05				ePKPbc	PKiKP	14 24 17.9	+0.2
GO05	HualaæØ	153.34	95	eP	PKPbc	14 24 18.4	+0.9
HJA	Humahuaca	153.34	66	eP	PKPbc	14 24 20.2	+1.8
ROC1	El Roble	153.50	91	ePKPbc	PKPbc	14 24 18.3	0.0
ROC1	El Roble	153.50	91	eP	PKPbc	14 24 18.8	+0.5
AROD	Rodeo	153.74	84	eP	PKPbc	14 24 20.7	+1.8
PEL	Peldehue	153.82	91	ePKPdf	PKPdf	14 24 10.6	-0.1
PEL				ePKPbc	PKiKP	14 24 19.0	+0.2
PEL	Peldehue	153.82	91	ePKIKP	PKPdf	14 24 10.6	-0.1
ACDV	Cuesta del Vie	154.02	83	eP	PKPbc	14 24 20.7	+1.3
VCA	Vinchina	154.14	80	eP	PKPdf	14 24 12.9	+1.4
SLA	San Lorenzo	154.17	69	eP	PKPbc	14 24 19.9	+0.1
AGUA	GUANDACOL	154.24	81	eP	PKPbc	14 24 21.5	+1.7
ASTB	Santa Barbara	154.49	66	eP	PKPbc	14 24 21.9	+1.4
RTLS	Leoncito	154.49	87	eP	PKPbc	14 24 21.1	+0.6
AUSP	Uspallata	154.56	88	eP	PKPbc	14 24 22.9	+2.3
FSA	Cafayete	154.58	72	eP	PKPdf	14 24 12.9	+0.7
ALOL	LOMAS DE OLMED	154.75	65	eP	PKPbc	14 24 22.2	+1.2
AMOG	MOGNA	154.82	84	eP	PKPbc	14 24 22.2	+1.3
ZON	Zonda	154.89	86	eP	PKPbc	14 24 21.8	+0.8
RTCV	Cerro Valdivia	155.12	87	eP	PKPdf	14 24 22.9	+10
ASAL	Salagasta	155.12	88	eP	PKPdf	14 24 22.7	+10
PLCA	Paso Flores	155.25	108	PKP	PKPdf	14 24 12.8	+0.3
	comp=Z,1.5nm,0.7s,baz=242,slow=6.1,SNR=5.3						
PLCA				PKPab	PKPab	14 24 38.5	+0.7
	comp=Z,12nm,0.9s,baz=289,slow=3.9,SNR=8.7						
AAGR	Agrelo	155.29	89	eP	PKPdf	14 24 23.1	+10
AHML	Horco Molle	155.42	73	eP	PKPdf	14 24 12.9	-0.3
CYA	Choya	155.88	77	eP	PKPdf	14 24 24.2	+11
RFA	San Rafael	156.04	93	eP	PKPdf	14 24 24.8	+11
APLL	PUNTA DE LOS L	156.16	82	eP	PKPdf	14 24 23.6	+10
EFI	East Falkland	160.18	143	PFAKE		14 24 30.0	+12
EFI				LR	LR		
	comp=Z,1μm,21.0s						
CPUP	Villa Florida	161.04	60	PKP	PKPdf	14 24 19.9	0.0
	comp=Z,6.2nm,1.0s,baz=329,slow=1.3,SNR=11						
CPUP				PKPab	PKPab	14 25 03.7	+0.6
	comp=Z,11nm,0.9s,baz=307,slow=5.1,SNR=10						
CPUP	Villa Florida	161.04	60	ePKPdf	PKPdf	14 24 19.2	-0.7
CPUP				PKPab	PKPab	14 25 03.7	+0.6
SPB	Sao Paulo	164.63	31	ePKPdf	PKPdf	14 24 21.7	-1.8
SPB				LR	LR		
	comp=Z,813nm,21.0s						

*ISK **01** 14:17:44.5, 38.°70N×43.°03E, h6km, ML2.6/5*
*CSEM **01** 14:17:45.5±0.2, 38.°69N×43.°02E, h5km, ML2.6, Error ellipse: s-maj=5.2km s-min=4.5km az=10.0*
*DDA **01** 14:17:46.0, 38.°67N×43.°08E, h7km, Ml2.6*
ISC 01 14:17:45.1±1.0**, 38.°70N**±0.°03×**43.°07E**±0.°02**, h17**km±9km**, n22,** σ**1.°02**/38**, Turkey**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
VANB	Van	0.27	113	PG	Pb	14 17 52.0	+0.4
VANB				SG	Sb	14 17 57.3	+1.3
VANB	Van	0.27	113	ePg	Pb	14 17 52.0	+0.4
VANB				eSg	Sb	14 17 57.3	+1.3
ADCV	BITLIS_Adilcev	0.29	291	iP	Pb	14 17 52.6	+0.6
ADCV				iS	Sb	14 17 58.1	+1.5
ADCV	BITLIS_Adilcev	0.29	291	P	Pb	14 17 52.6	+0.6
ADCV				S	Sb	14 17 58.1	+1.5
TVAN	Van	0.32	123	iP	Pg	14 17 52.2	+0.3
TVAN				iS	Sb	14 17 57.6	+0.2
TVAN	Van	0.32	123	P	Pg	14 17 52.2	+0.3
TVAN				S	Sb	14 17 57.6	+0.2
GEVA	Gevas	0.39	181	iP	Pg	14 17 52.7	-0.5
GEVA				iS	Sg	14 17 58.5	-0.2
GEVA	Gevas	0.39	181	P	Pg	14 17 52.7	-0.5
GEVA				S	Sg	14 17 58.5	-0.2
VMUR	Van-Muradiye	0.48	54	iP	Pb	14 17 56.1	+0.8
VMUR				iS	Sn	14 18 04.7	-1.0
VMUR	Van-Muradiye	0.48	54	P	Pb	14 17 56.1	+0.8
VMUR				S	Sn	14 18 04.7	-1.0
TUTA	Tutak	0.72	344	iP	Pb	14 18 00.3	+0.9
TUTA				iS	Sn	14 18 11.0	-0.7
TUTA	Tutak	0.72	344	P	Pb	14 18 00.3	+0.9
TUTA				S	Sn	14 18 11.0	-0.7
CLDR	Caldiran	0.79	56	PG	Pg	14 18 00.7	+0.1
CLDR	Caldiran	0.79	56	iP	Pg	14 17 57.9	-2.7
CLDR				iS	Sb	14 18 12.6	+1.4
CLDR	Caldiran	0.79	56	P	Pg	14 17 57.9	-2.7
CLDR	Caldiran	0.79	56	ePg	Pg	14 18 00.7	+0.1
CLDR				S	Sb	14 18 12.6	+1.4
GURO	Guroymak-BITLI	0.83	260	PG	Pg	14 18 00.5	-0.7
GURO				SG	Sg	14 18 11.5	-0.7
GURO	Guroymak-BITLI	0.83	260	ePg	Pg	14 18 00.5	-0.7
GURO				eSg	Sg	14 18 11.5	-0.7
AGRB	Hanur-Agry	0.87	356	PG	Pg	14 18 01.9	-0.2
AGRB	Hanur-Agry	0.87	356	ePg	Pg	14 18 01.9	-0.2
VRTB	Varto-Mus	1.34	290	PN	Pb	14 18 09.9	+0.1
VRTB	Varto-Mus	1.34	290	ePn	Pb	14 18 09.9	+0.1

*IDC **01** 14:22:04.5±1.0, 20.°68N×146.°38E, h0km, mb3.7/10, mb1 3.9/10, mb1mx3.6/63, mbtmp3.7/10, MS4.0/1, Ms1 4.0/1, ms1mx3.3/57, Error ellipse: s-maj=36.0km s-min=20.9km az=86.0*
*ISCJB **01** 14:22:07.7±0.9, 20.°7N±0.°1×146.°4E±0.°2, h34km, mb3.7/10, MS3.9/1, Error ellipse: s-maj=30.9km s-min=17.1km az=177.1*
ISC 01 14:22:09.7±1.0**, 20.°7N**±0.°2×**146.°4E**±0.°3**, h34**km**, n11,** σ**0.°41**/11**, mb3.6**/10**, Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
KSRS	Korea Array	23.16	320	P	P	14 27 13.6	+0.4
	2.2nm,0.9s,baz=141,slow=8.4,SNR=8.2						
KSRS				LR	LR	14 35 56.0	
	comp=Z,391nm,18.8s,baz=190,slow=36						
WRA	Warramunga Arr	42.03	197	P	P	14 29 58.2	0.0
	0.6nm,0.7s,baz=18,slow=8.9,SNR=7.4						
ASAR	Alice Springs	45.70	196	P	P	14 30 27.4	-0.2
	0.2nm,0.7s,baz=14,slow=7.9,SNR=4.1						
ZALV	Zalesovo Beam	56.86	322	P	P	14 31 50.5	-0.4
	1.2nm,0.7s,baz=101,slow=7.5,SNR=5.0						
MKAR	Makanchi Array	57.58	313	P	P	14 31 56.1	-0.1
	0.4nm,0.6s,baz=98,slow=7.5,SNR=5.6						
KURBB	Kurchatov Arra	60.30	317	P	P	14 32 14.8	-0.1
	1.6nm,0.7s,baz=94,slow=7.7,SNR=11						
ILAR	Eielson Array	61.62	27	P	P	14 32 23.3	-0.4
	0.3nm,0.8s,baz=261,slow=6.0,SNR=4.1						
BVAR	Borovoye Array	65.38	320	P	P	14 32 48.6	-0.1
	2.7nm,0.6s,baz=69,slow=8.1,SNR=9.1						
YKA	Yellowknife Ar	75.98	28	P	P	14 33 53.5	+0.5
	0.1nm,0.5s,baz=290,slow=5.9,SNR=4.0						
FINES	FINESS Array B	85.38	335	P	P	14 34 42.9	-0.5
	0.9nm,0.4s,baz=66,slow=3.6,SNR=12						
TORD	Torodi Ar. Bea	131.68	311	PKP	PKPdf	14 41 20.6	+0.6
	0.2nm,0.6s,baz=298,slow=1.6,SNR=3.7						

IDC 01 14:22:12.9±42.0**, 6.°23S**×**108.°30E, h0**km**, mb3.4**/3**, mb1 3.6**/3**, mb1mx3.3**/61**, mbtmp3.4**/3**, Error ellipse: s-maj=708.3km s-min=171.2km az=131.0, Jawa**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
WRA	Warramunga Arr	28.73	121	P	P	14 28 12.4	+0.1
	0.1nm,0.4s,baz=294,slow=12,SNR=5.4						
ASAR	Alice Springs	30.11	128	P	P	14 28 24.6	0.0
	0.2nm,0.3s,baz=304,slow=8.2,SNR=5.3						
STKA	Stephens Creek	40.21	134	P	P	14 29 51.2	-0.2
	1.9nm,0.9s,baz=302,slow=9.5,SNR=5.3						

ARO 01 14:22:50.2, 12.°N±2°×**43.°6E**±0.°3**, h5**km±2km**, Ml3.7, Ethiopia**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
OBO	Obock	0.32	302	eP	Pg	14 22 56.4	0.0
MCAD	Moucha	0.36	256	eP	Pg	14 22 57.1	-0.1
TDD	Tadjoura Ara	0.65	269	eP	Pg	14 23 01.9	-0.7
ATD	Arta Tunnel	0.76	248	eP	Pg	14 23 03.9	-1.0
ATD	Arta Tunnel	0.76	248	eP	Pg	14 23 03.9	-1.0
ATD				eS	Sg	14 23 14.8	0.0
SGH	Sud-Ghoubbet	0.99	248	eP	Pg	14 23 07.5	-1.9
MAOD	Malaho	1.34	282	eP	Pn	14 23 13.5	-2.2

*NNC **01** 14:33:24.5±1.7, 40.°11N×77.°64E, h0km, mb3.2, mpv2.9, Error ellipse: s-maj=13.5km s-min=6.4km az=125.0*
*SOME **01** 14:33:25.5, 40.°07N×77.°55E, h15km*
*KRNET **01** 14:33:28.7±0.1, 40.°28N×77.°70E, mb2.9*
ISC 01 14:33:26.3±2.2**, 40.°24N**±0.°09×**77.°97E**±0.°08**, h10**km**, n22,** σ**1.°95**/39**, 13C-11D, Kyrgyzstan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
NRN	Naryn	1.91	309	⇑eP	Pb	14 34 01.2	-0.3
	baz=12						
NRN				⇑iS	Sb	14 34 25.1	-0.5
	baz=12						
KDJ	Kajisay	1.98	343	⇓iP	Pg	14 34 03.9	-0.4
	baz=49						
KDJ				⇓iS	Sg	14 34 29.5	-0.6
	baz=49						
ULHL	Ulahol	2.39	328	⇑iP	Pb	14 34 09.4	-0.2
	baz=31						
ULHL				⇑iS	Sb	14 34 39.5	+0.2
	baz=31						
BOOM	Boomskoye usch	2.72	326	⇑eP	Pb	14 34 13.9	-1.3
	baz=30						
BOOM				⇑iS	Sb	14 34 46.7	-1.9
	baz=30						
KZA	Kyzart	2.76	313	⇑iP	Pb	14 34 14.5	-1.4
	baz=15						
KZA				⇑eS	Sb	14 34 47.0	-2.9
	baz=15						
TNSS	Tian-Shan	2.90	345	eP	Pb	14 34 20.0	+1.6
	6.3nm,0.6s						
TNSS				eS	Sg	14 34 59.1	-0.4
	7.1nm,0.7s						
IZV	Izvestkoviy	2.98	340	eP	Pb	14 34 20.2	+0.7
	4.2nm,1.0s						
IZV				eS	Sg	14 34 59.9	-2.0
	7.8nm,0.6s						
MDOK	Medeo	3.00	347	Pg	Pb	14 34 20.6	+0.6
	6.4nm,1.0s						
MDOK				Lg	Lg	14 35 02.0	
	16nm,0.6s						
MDOK	Medeo	3.00	347	eP	Pb	14 34 20.6	+0.6
	2.6nm,0.7s						
MDOK				eS	Sg	14 35 00.2	-2.6
	14nm,0.5s						
KOTS	Kotyrbulak	3.06	348	eP	Pg	14 34 24.0	-1.0
KOTS				eS	Sg	14 35 05.6	+0.9
MTBS	Maitube	3.11	339	eP	Pb	14 34 22.9	+1.1
	4.3nm,0.1s						
MTBS				eS	Sg	14 35 03.9	-2.4
	4.1nm,0.2s						
KST	Kastek	3.18	332	eP	Pb	14 34 22.2	-0.8
	0.6nm,0.3s						
KST				eS	Sb	14 35 02.5	+0.6
	5.2nm,0.5s						
TKM2	Tokmak 2	3.22	327	⇑Pg	Pb	14 34 23.1	-0.6
	2.2nm,0.5s						
TKM2				⇑Lg	Lg	14 35 06.0	
	13nm,0.8s						
UCH	Uchtor	3.28	308	⇓iP	Pb	14 34 21.5	-3.3
	baz=10.0						
UCH				⇓iS	Sn	14 34 59.6	+2.2
	baz=10.0						
KBK	Karagaybulak	3.32	318	⇓eP	Pb	14 34 22.2	-3.1
	baz=20						
KBK				⇓iS	Sn	14 35 00.8	+2.8
	baz=20						
DGS	Degeres	3.42	332	eP	Pb	14 34 27.3	+0.2
	1.3nm,0.6s						
DGS				eS	Sb	14 35 11.6	+2.8
	4.2nm,0.6s						
SFK	Sufi-Kurgan	3.43	268	⇓Pg	Pn	14 34 22.0	+1.9
	1.4nm,0.5s						
SFK				⇓Lg	Lg	14 35 05.5	
	5.0nm,0.3s						
AAK	Ala-Archa	3.55	314	⇑Pg	Pb	14 34 28.3	-0.9
	3.0nm,0.7s						
AAK				⇓Lg	Lg	14 35 14.0	
	7.1nm,0.7s						
AAK	Ala-Archa	3.55	314	⇑iP	Pb	14 34 25.2	-4.0
	baz=15						
AAK				⇑iS	Sn	14 35 06.1	+2.5
	baz=15						
KTMS	Ketmen	3.67	28	eS	Sn	14 35 03.4	-3.2
CHKK	Chushkaly	3.69	349	eP	Pg	14 34 34.9	-2.1
	3.4nm,0.6s						
CHKK				eS	Sg	14 35 24.4	-0.3
	5.2nm,0.4s						
AML	Almayashu	3.74	302	⇓eP	Pn	14 34 27.5	+3.1
	baz=3.0						
AML				⇓eS	Sn	14 35 10.9	+2.1
	baz=3.0						

*IDC **01** 14:45:38.7±0.7, 17.°14N×147.°51E, h0km, mb3.8/17, mb1 4.0/18, mb1mx3.8/65, mbtmp3.9/18, ML4.1/1, Error ellipse: s-maj=23.4km s-min=13.6km az=88.0*
*ISCJB **01** 14:45:42.8±0.7, 17.°17N±0.°06×147.°5E±0.°1, h41km, mb3.8/18, Error ellipse: s-maj=19.0km s-min=7.3km az=12.6*
*NEIC **01** 14:45:46.8±2.2, 17.°13N×147.°44E, h61km±19km, mb4.0/2, Error ellipse: s-maj=22.2km s-min=9.4km az=83.0*
ISC 01 14:45:44.7±0.7**, 17.°14N**±0.°08×**147.°5E**±0.°1**, h41**km**, n26,** σ**1.°10**/31**, mb3.8**/19**, Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
GUMO	Guam	4.37	216	Pn	Pn	14 46 47.7	-0.9
	10nm,0.3s,baz=36,slow=19,SNR=5.6						
GUMO				Sn	Sn	14 47 38.6	+0.3
	9.6nm,0.3s,baz=41,slow=20,SNR=2.7						
GUMO	Guam	4.37	216	ePn	Pn	14 46 50.6	+2.0
GUMO				Sn	Sn	14 47 38.6	+0.3
MJAR	Matsushiro Arr	21.01	339	P	P	14 50 23.2	-1.6
	2.0nm,0.6s,baz=170,slow=10,SNR=4.2						
MAJO	Matsushiro	21.01	339	eP	P	14 50 26.3	+1.5
PMG	Port Moresby	26.38	181	P	P	14 51 17.2	-0.1
	5.2nm,0.7s,baz=350,slow=6.1,SNR=3.5						
KSRS	Korea Array	26.60	323	P	P	14 51 17.4	-1.8
	0.5nm,0.6s,baz=139,slow=9.1,SNR=3.1						
KSAR	Wonju Array Be	26.61	323	P	P	14 51 17.4	-1.9
KLR	Kul'dur	34.47	342	P	P	14 52 29.2	+0.7
	0.2nm,0.6s,baz=162,slow=7.3,SNR=7.6						
WRAB	Tennant Creek	39.05	200	eP	P	14 53 07.6	-0.2
	2.2nm,0.6s						
WRA	Warramunga Arr	39.07	200	P	P	14 53 07.2	-0.7
	2.0nm,0.7s,baz=24,slow=9.1,SNR=9.5						
ASAR	Alice Springs	42.69	199	P	P	14 53 36.3	-1.4
	0.7nm,0.6s,baz=26,slow=9.2,SNR=8.0						
ASAR				PcP	PcP	14 55 28.0	-1.2
	0.4nm,0.8s,baz=23,slow=3.3,SNR=3.0						
SONM	Songino Array	45.44	322	P	P	14 53 58.9	-0.8
	0.5nm,0.8s,baz=134,slow=6.8,SNR=2.8						
SONM				PcP	PcP	14 55 40.4	+2.0
	0.6nm,0.6s,baz=98,slow=3.1,SNR=2.4						
CMAR	Chiang Mai Arr	46.17	279	P	P	14 54 06.9	+1.2
	1.1nm,0.8s,baz=82,slow=8.0,SNR=11						
ZALV	Zalesovo Beam	60.30	323	P	P	14 55 48.1	-1.0
	1.1nm,0.7s,baz=116,slow=6.7,SNR=4.5						
ZALV				PcP	PcP	14 56 34.0	-0.1
	0.6nm,0.6s,baz=121,slow=5.4,SNR=2.4						
MKAR	Makanchi Array	60.79	314	P	P	14 55 52.7	0.0
	0.7nm,0.8s,baz=86,slow=8.4,SNR=6.4						
KURK	Kurchatov	63.59	319	P	P	14 56 10.8	-0.4
KURBB	Kurchatov Arra	63.63	318	P	P	14 56 10.8	-0.7
	1.4nm,0.7s,baz=96,slow=7.1,SNR=13						
ILAR	Eielson Array	64.27	26	P	P	14 56 15.7	+0.2
	0.5nm,0.9s,baz=248,slow=4.8,SNR=3.4						
BVAR	Borovoye Array	68.78	321	P	P	14 56 44.4	-0.1
	2.8nm,0.7s,baz=89,slow=7.9,SNR=13						
ABKAR	Akbulak array	75.66	317	eP	P	14 57 25.3	-0.4

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
	0.7nm,0.6s						
YKA	Yellowknife Ar	78.54	28	P	P	14 57 42.2	+0.6
	0.2nm,0.6s,baz=284,slow=5.4,SNR=5.4						
ARCES	ARCESS Array B	84.50	343	P	P	14 58 14.0	+1.1
	0.9nm,0.6s,baz=35,slow=6.7,SNR=5.0						
FINES	FINESS Array B	89.02	336	P	P	14 58 34.9	-0.2
	1.3nm,0.7s,baz=54,slow=2.4,SNR=3.7						
BRTR	Keskin Array B	96.44	315	P	P	14 59 09.8	-0.3
	0.3nm,0.3s,baz=52,slow=2.4,SNR=3.0						
LPAZ	La Paz	145.86	94	PKPbc	PKPab	15 05 23.1	+1.3
	1.1nm,0.7s,baz=252,slow=3.2,SNR=3.6						
SIV	San Ignacio	152.57	92	PKPbc	PKPbc	15 05 36.3	-1.4
	0.7nm,0.7s,baz=248,slow=5.4,SNR=2.4						

*CSEM **01** 14:47:12.5±0.2, 45°.05N×14°.93E, h2km, ML2.7/8, Error ellipse: s-maj=4.6km s-min=2.8km az=66.0*
*VIE **01** 14:47:12.3±0.9, 45°.06N×14°.97E, h4km, mb2.0/3, ML2.4/6, Error ellipse: s-maj=5.7km s-min=4.4km az=173.0*
ISC 01 14:47:12.8±1.1**, 45°.05N**±0°.02×**14°.96E**±0°.03**, h2**km±11km**, n30, σ0s.80**/54**, Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GBRS	Gornja Briga	0.49	347	i Pg	Pg	14 47 22.1	-0.1
GBRS				eSg	Sg	14 47 29.6	+1.1
	comp=Z,16nm,0.1s						
GBRS	Gornja Briga	0.49	347	i Pg	Pg	14 47 22.1	-0.1
GBRS				eSg	Sg	14 47 29.6	+1.1
	comp=Z,16nm,0.1s						
NVLJ	Novalja	0.49	188	i Pg	Pg	14 47 22.0	-0.2
NVLJ				Sg	Sg	14 47 29.6	+1.0
NVLJ	Novalja	0.49	188	i Pg	Pg	14 47 22.0	-0.2
NVLJ				Sg	Sg	14 47 29.6	+1.0
BOJS	Bojanci	0.49	24	i Pg	Pg	14 47 22.3	+0.1
BOJS				eSg	Sg	14 47 29.2	+0.6
	comp=Z,40nm,0.2s						
BOJS	Bojanci	0.49	24	Pg	Pg	14 47 22.3	+0.1
BOJS				eSg	Sg	14 47 29.2	+0.6
	comp=Z,40nm,0.2s						
KNDS	Knezji Dol	0.63	319	i Pg	Pg	14 47 24.3	-0.5
KNDS				eSg	Sb	14 47 34.2	-1.6
	comp=Z,17nm,0.1s						
KNDS	Knezji Dol	0.63	319	i Pg	Pg	14 47 24.3	-0.5
KNDS				eSg	Sb	14 47 34.2	-1.6
	comp=Z,17nm,0.1s						
OZLJ	Ozalj	0.67	32	ePg	Pb	14 47 26.2	-0.9
OZLJ				Sg	Sg	14 47 35.0	+0.9
OZLJ	Ozalj	0.67	32	ePg	Pb	14 47 26.2	-0.9
OZLJ				Sg	Sg	14 47 35.0	+0.9
VISS	Visnje	0.76	353	i Pg	Pg	14 47 26.7	-0.5
VISS				eSg	Sg	14 47 37.4	+0.4
	comp=Z,16nm,0.2s						
VISS	Visnje	0.76	353	i Pg	Pg	14 47 26.7	-0.5
VISS				eSg	Sg	14 47 37.4	+0.4
	comp=Z,16nm,0.2s						
UDBI	Udbina	0.78	132	ePg	Pg	14 47 27.4	-0.2
UDBI				Sg	Sb	14 47 38.9	-1.1
UDBI	Udbina	0.78	132	ePg	Pg	14 47 27.4	-0.2
UDBI				Sg	Sb	14 47 38.9	-1.1
CEY	Cerknica	0.78	331	i Pg	Pg	14 47 27.1	-0.7
CEY				eSg	Sb	14 47 39.6	-0.6
	comp=Z,12nm,0.1s						
CEY	Cerknica	0.78	331	i Pg	Pg	14 47 27.1	-0.7
CEY				eSg	Sb	14 47 39.6	-0.6
	comp=Z,12nm,0.1s						
VNDS	Vrh nad Dolski	1.06	350	i Pg	Pg	14 47 33.1	-0.1
VNDS	Vrh nad Dolski	1.06	350	i Pg	Pg	14 47 33.1	-0.1
DRE	Drenchia	1.45	321	ePg	Pg	14 47 40.3	-0.3
DRE				eSg	Sn	14 48 01.5	+1.7
DRE	Drenchia	1.45	321	ePg	Pg	14 47 40.4	-0.3
DRE				eSg	Sn	14 48 01.5	+1.7
OBKA	Obir	1.48	349	Pg	Pb	14 47 40.8	-0.3
	comp=Z,1.1nm,0.1s						
OBKA				Sg	Sg	14 48 01.7	+1.2
	comp=Z,6.0nm,0.2s						
OBKA	Obir	1.48	349	Pg	Pb	14 47 40.8	-0.3
	comp=Z,1.1nm,0.1s						
OBKA				Sg	Sg	14 48 01.7	+1.2
	comp=Z,6.0nm,0.2s						
VINO	Villanova	1.68	316	ePg	Pb	14 47 44.2	-0.3
VINO	Villanova	1.68	316	ePg	Pb	14 47 44.2	-0.3
PRED	Cave del Predi	1.70	325	ePg	Pb	14 47 44.0	-0.8
PRED	Cave del Predi	1.70	325	ePg	Pb	14 47 44.0	-0.8
MYKA	Terra Mystica	1.83	330	Pg	Pg	14 47 47.2	-0.6
	comp=Z,1.1nm,0.2s						
MYKA				Sg	Sg	14 48 11.9	+0.5
	comp=Z,4.1nm,0.2s						
MYKA	Terra Mystica	1.83	330	Pg	Pg	14 47 47.2	-0.6
	comp=Z,1.1nm,0.2s						
MYKA				Sg	Sg	14 48 11.9	+0.5
	comp=Z,4.1nm,0.2s						
ABTA	Abfaltersbach	2.41	316	Pn	Pn	14 47 53.5	+0.2
	comp=Z,1.0nm,0.3s						
ABTA				Sg	Sg	14 48 30.8	+0.7
	comp=Z,1.9nm,0.3s						
ABTA	Abfaltersbach	2.41	316	Pn	Pn	14 47 53.5	+0.2
	comp=Z,1.0nm,0.3s						
ABTA				Sg	Sg	14 48 30.8	+0.7
	comp=Z,1.9nm,0.3s						

*IDC **01** 14:49:56.9±0.6, 31°.29N×142°.33E, h0km, mb4.0/17, mb1 4.1/20, mb1mx3.9/67, mbtmp3.9/20, ML3.1/3, MS3.6/1, Ms1 3.6/1, ms1mx2.7/61, Error ellipse: s-maj=17.5km s-min=15.2km az=83.0*
*NEIC **01** 14:49:58.4±0.2, 31°.28N×142°.32E, h10km, mb4.4/4, Error ellipse: s-maj=7.3km s-min=5.1km az=72.0*
*JMA **01** 14:50:09.9±0.4, 32°.02N×141°.84E, h44km, M4.1*
ISC 01 14:50:03.0±0.6**, 31°.63N**±0°.07×**142°.27E**±0°.08**, h35**km**, n48, σ2s.22**/52**, mb4.0**/21**, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JHJ2	Mitsune	2.55	306	P	Pn	14 50 43.0	+1.2
JHJ2	Mitsune	2.55	306	ePn	Pn	14 50 43.2	+1.4
JHJ	Hachijo jima 2	2.58	306	Pn	Pn	14 50 42.6	+0.5
	9.0nm,0.3s,baz=132,slow=18,SNR=6.2						
JHJ				Sn	Sn	14 51 12.9	+0.6
	36nm,0.3s,baz=131,slow=19,SNR=6.9						
BSO1	Boso 1	3.21	341	P	Pn	14 50 52.0	+1.7
BSO4	Boso 4	3.72	335	P	Pn	14 50 59.7	+1.9
BSO4				eS	Sn	14 51 36.8	-3.6
JIM2	Oshima 3	3.89	323	P	Pn	14 51 01.6	+1.3
TATJ	Tateyama 2	3.94	330	P	Pn	14 51 02.0	+1.2
TATJ				S	Sn	14 51 41.9	-3.9
JOD2	Odawara 2	4.50	325	P	Pn	14 51 09.9	+1.3
CBIJ	Chichi jima	4.52	181	ePn	Pn	14 51 02.0	-6.9
CBIJ				Sn	Sn	14 51 46.6	-14
JCJ	Chichijima	4.52	181	Pn	Pn	14 51 01.6	-7.3
	baz=0.0,slow=20						
JCJ				Sn	Sn	14 51 46.6	-14
	9.2nm,0.3s,baz=332,slow=19,SNR=2.3						
JHU	Hanno	4.89	330	P	Pn	14 51 16.1	+2.1
JYT	Yasato	4.90	340	P	Pn	14 51 16.7	+2.6
JYN	Shimob	4.96	322	P	Pn	14 51 16.0	+1.1
JAG	Ashikaga	5.32	335	P	Pn	14 51 21.8	+1.9
ONAJ	Iwakimizuishiy	5.59	348	S	Sn	14 52 25.4	-1.3
MJAR	Matsushiro Arr	5.95	327	Pn	Pn	14 51 31.0	+2.5
	1.1nm,0.3s,baz=158,slow=11,SNR=15						
MJAR				Sn	Sn	14 52 41.1	+5.7
	1.3nm,0.3s,baz=161,slow=14,SNR=6.1						
MAJO	Matsushiro	5.95	327	ePn	Pn	14 51 30.9	+2.3
	14nm,0.6s						
MAT	Matsushiro	5.95	327	P	Pn	14 51 31.1	+2.6
MAT				eS	Sn	14 52 35.0	-0.4
ASAJ	Asahikawa	12.47	1	Pn	Pn	14 52 56.5	-1.3
	0.6nm,0.3s,baz=191,slow=10,SNR=9.9						
ASAJ				Sn	Sn	14 55 08.5	-6.9
	0.1nm,0.3s,baz=180,slow=20,SNR=4.7						
JOW	Kunigami	13.12	252	LR	LR	14 58 25.4	
	comp=Z,232nm,18.2s,baz=296,slow=39						
KSRS	Korea Array	13.17	300	Pn	P	14 53 14.0	-3.0
	0.1nm,0.3s,baz=118,slow=16,SNR=5.4						
KSAR	Wonju Array Be	13.20	300	Pn	P	14 53 14.0	-3.3
KLR	Kul'dur	19.29	339	P	Pn	14 54 27.3	+1.5
	0.0nm,0.3s,baz=158,slow=15,SNR=4.7						
CHTO	Chiang Mai	40.97	262	eP	P	14 57 41.2	-1.4
	2.6nm,0.9s						
CMAR	Chiang Mai Arr	41.13	262	P	P	14 57 42.1	-1.8
	1.1nm,0.9s,baz=54,slow=6.9,SNR=8.3						
ZALV	Zalesovo Beam	46.20	316	P	P	14 58 26.6	+2.4
	0.5nm,0.2s,baz=76,slow=6.3,SNR=3.6						
ZALV				PcP	PcP	14 59 59.6	+0.1
	0.9nm,0.6s,baz=92,slow=5.0,SNR=3.6						
MKAR	Makanchi Array	47.75	307	P	P	14 58 38.1	+1.6
	0.9nm,0.6s,baz=84,slow=10,SNR=9.6						
KURK	Kurchatov	49.95	312	eP	P	14 58 54.5	+1.3
	29nm,1.1s						
KURBB	Kurchatov Arra	50.01	312	P	P	14 58 54.9	+1.2
	1.1nm,0.6s,baz=87,slow=7.0,SNR=10						
WRAB	Tennant Creek	51.83	189	eP	P	14 59 04.6	-3.1
	4.7nm,0.8s						
WRA	Warramunga Arr	51.84	190	P	P	14 59 04.5	-3.3
	5.5nm,0.8s,baz=6.3,slow=8.3,SNR=19						
ILAR	Eielson Array	53.74	30	P	P	14 59 22.1	+0.8
	1.5nm,0.8s,baz=262,slow=6.1,SNR=18						
BRVK	Borovoye	54.88	315	eP	P	14 59 30.8	+1.0
	2.8nm,0.7s						
ASAR	Alice Springs	55.56	189	P	P	14 59 31.8	-3.2
	0.5nm,0.7s,baz=10,slow=6.9,SNR=6.3						
INK	Inuvik	58.90	26	P	P	14 59 59.4	+1.4
	1.2nm,0.8s,baz=277,slow=8.8,SNR=6.2						
ABKAR	Akbulak array	62.04	313	eP	P	15 00 20.3	+0.6
RES	Resolute Bay	67.65	14	P	P	15 00 56.9	+1.1
	0.7nm,0.5s,baz=326,slow=3.7,SNR=5.5						
YKA	Yellowknife Ar	68.14	29	P	P	15 00 59.6	+0.5
	0.7nm,0.9s,baz=294,slow=6.1,SNR=8.8						
FINES	FINESS Array B	73.93	333	P	P	15 01 35.0	+0.8
	4.1nm,1.2s,baz=34,slow=8.4,SNR=3.6						
NVAR	Mina Array Bea	77.68	52	P	P	15 01 57.3	+1.0
	0.5nm,0.6s,baz=297,slow=7.0,SNR=2.8						
AKASG	Malin Array Be	79.02	323	P	P	15 02 03.7	+0.5
	0.7nm,0.5s,baz=50,slow=5.7,SNR=6.9						
NOA	NORSAR Array B	79.44	338	P	P	15 02 06.1	+0.7
	1.2nm,0.8s,baz=41,slow=5.2,SNR=3.1						
PDAR	Pinedale Array	80.95	45	P	P	15 02 14.4	+0.2
	0.4nm,0.8s,baz=300,slow=2.7,SNR=3.9						
BRTR	Keskin Array B	82.99	313	P	P	15 02 26.2	+1.4
	1.1nm,0.8s,baz=124,slow=1.8,SNR=6.0						
TXAR	Lajitas Array	92.83	53	P	P	15 03 13.1	+0.7
	1.2nm,1.0s,baz=288,slow=2.3,SNR=7.7						
LPAZ	La Paz	148.43	68	PKPbc	PKPbc	15 09 47.2	+0.1
	1.1nm,0.8s,baz=248,slow=5.4,SNR=5.0						
SIV	San Ignacio	153.66	59	PKPab	PKPab	15 10 10.8	-0.6
	0.4nm,0.5s,baz=269,slow=4.4,SNR=3.6						
RCBR	Riachuelo	154.27	356	PKPbc	PKPbc	15 10 01.0	+0.8
	208nm,0.7s,baz=282,slow=0.0,SNR=5.1						

*NEIC **01** 14:51:51.0±0.0, 38°.01S×176°.02E, h201km, ML4.4(WEL), After WEL.*
WEL 01 14:51:51.0, 38°S±4°×**17°6E**±°**, h204**km±5km**, North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NGRZ	Ngongotaha	0.12	124	P	Pn	14 52 17.5	-0.1
KARZ	Kaharoa	0.14	85	P	Pn	14 52 17.4	-0.3
UTU	Utuhina	0.18	144	P	Pn	14 52 17.6	0.0
KMRZ	Kaimai	0.21	333	P	Pn	14 52 17.4	-0.4
OMRZ	Omania	0.26	107	P	Pn	14 52 17.6	-0.2
LIRZ	Lichensteins R	0.26	83	P	Pn	14 52 17.7	-0.1
HSRZ	Hossack Road	0.31	152	P	Pn	14 52 18.1	+0.2
HLRZ	Highlands Stat	0.32	134	P	Pn	14 52 18.6	+0.6
GRRZ	Galatos Road	0.32	173	P	Pn	14 52 18.2	+0.2
TGRZ	Tauranga	0.34	27	Pn	Pn	14 52 17.6	-0.5
TGRZ	Tauranga	0.34	27	P	Pn	14 52 17.6	-0.5
HRRZ	Handcock Road	0.40	154	Pn	Pn	14 52 18.3	+0.1
HRRZ	Handcock Road	0.40	154	P	Pn	14 52 18.4	+0.3
TARZ	Mount Tarawera	0.40	120	Pn	Pn	14 52 19.0	+0.7
TARZ	Mount Tarawera	0.40	120	P	Pn	14 52 19.1	+0.8
OPRZ	Ohinepanea	0.43	64	Pn	Pn	14 52 17.8	-0.5
OPRZ	Ohinepanea	0.43	64	P	Pn	14 52 17.8	-0.5
RRRZ	Republican Roa	0.47	131	Pn	Pn	14 52 18.5	+0.1
RRRZ	Republican Roa	0.47	131	P	Pn	14 52 18.4	+0.1
MARZ	Manawahe	0.49	84	P	Pn	14 52 18.8	+0.3
KUTZ	Kaahu Road	0.49	202	P	Pn	14 52 18.5	0.0
WPRZ	Whakapapatarin	0.49	171	Pn	Pn	14 52 18.5	0.0
WPRZ	Whakapapatarin	0.49	171	P	Pn	14 52 18.5	0.0
TLZ	Tolley Road	0.51	234	Pn	Pn	14 52 18.4	-0.1
TLZ	Tolley Road	0.51	234	P	Pn	14 52 18.5	-0.1
TLZ	Tolley Road	0.51	234	S	S	14 52 39.9	-0.2
PRRZ	Plateau Road	0.53	151	Pn	Pn	14 52 18.5	-0.1
PRRZ	Plateau Road	0.53	151	P	Pn	14 52 18.6	0.0
TOZ	Tahuroa Road	0.54	304	Pn	Pn	14 52 18.1	-0.5
TOZ				Sn	S	14 52 38.8	-1.2
TOZ	Tahuroa Road	0.54	304	P	Pn	14 52 18.2	-0.4
TOZ	Tahuroa Road	0.54	304	S	S	14 52 38.9	-1.1
EDRZ	Edgecumbe	0.54	98	Pn	Pn	14 52 19.1	+0.4
EDRZ	Edgecumbe	0.54	98	P	Pn	14 52 19.4	+0.7
ALRZ	Allen Road	0.57	157	Pn	Pn	14 52 18.9	+0.2
ALRZ	Allen Road	0.57	157	P	Pn	14 52 18.9	+0.2
WHTZ	Whakaora	0.64	187	P	Pn	14 52 19.1	0.0
MUGZ	Murupara	0.71	129	P	Pn	14 52 19.1	-0.3
MUGZ	Murupara	0.71	129	S	S	14 52 40.2	-1.3
WATZ	Wairara	0.72	201	Pn	Pn	14 52 19.5	0.0
WATZ	Wairara	0.72	201	P	Pn	14 52 19.6	+0.1
WATZ	Wairara	0.72	201	S	S	14 52 41.7	0.0
MRHZ	Matea Rd	0.85	161	P	Pn	14 52 19.9	-0.3
MRHZ	Matea Rd	0.85	161	S	S	14 52 40.4	-2.5
HATZ	Hinemaiaia	0.86	178	P	Pn	14 52 19.8	-0.3
HATZ	Hinemaiaia	0.86	178	S	S	14 52 41.2	-1.8
URZ	Urewera	0.86	106	Pn	Pn	14 52 19.6	-0.5
URZ				Sn	S	14 52 40.7	-2.0
URZ	Urewera	0.86	106	P	Pn	14 52 19.8	-0.3
URZ	Urewera	0.86	106	S	S	14 52 40.7	-2.1
RATZ	Rangitukua	0.86	195	Pn	Pn	14 52 20.0	-0.2
RTZ	Ruatahuna	0.93	129	P	Pn	14 52 20.6	-0.1
RTZ	Ruatahuna	0.93	129	S	S	14 52 42.5	-1.2
RITZ	Rihia Road	0.95	190	Pn	Pn	14 52 21.0	+0.2
RITZ	Rihia Road	0.95	190	P	Pn	14 52 21.0	+0.2
RITZ	Rihia Road	0.95	190	S	S	14 52 43.4	-0.6
KATZ	Kakaramea	0.98	197	Pn	Pn	14 52 20.9	-0.2
MTHZ	Maungataniwha	1.02	143	P	Pn	14 52 21.2	0.0
MTHZ	Maungataniwha	1.02	143	S	S	14 52 43.3	-1.5
HIZ	Hauiti	1.06	243	Pn	Pn	14 52 21.1	-0.4
HIZ	Hauiti	1.06	243	P	Pn	14 52 21.1	-0.4
HIZ	Hauiti	1.06	243	S	S	14 52 44.5	-0.6
KRVZ	Karewarewa	1.11	197	Pn	Pn	14 52 21.6	-0.4
WTVZ	West Tongariro	1.14	199	Pn	Pn	14 52 21.8	-0.3
TWVZ	Taurewa	1.15	205	Pn	Pn	14 52 22.0	-0.2
RAGZ	Rawiri	1.16	114	Pn	Pn	14 52 22.4	+0.1
OTVZ	Oturere	1.17	195	Pn	Pn	14 52 22.2	-0.2
BKZ	Black Stump Fm	1.18	163	Pn	Pn	14 52 22.0	-0.4
MWZ	Matawai	1.19	105	Pn	Pn	14 52 22.4	-0.1
NGZ	Ngauruhoe	1.20	197	Pn	Pn	14 52 22.4	-0.2
NMHZ	Naumai	1.21	151	Pn	Pn	14 52 23.3	+0.7
SNGZ	Shannon Statio	1.25	127	Pn	Pn	14 52 23.3	+0.4
TUVZ	Tukino	1.27	194	Pn	Pn	14 52 22.9	-0.3
FWVZ	Far West T-bar	1.28	198	Pn	Pn	14 52 22.9	-0.5
DRZ	Dome Shelter	1.30	197	Pn	Pn	14 52 23.9	+0.3
WHVZ	Whangaehu Hut	1.30	196	Pn	Pn	14 52 23.3	-0.2
TRVZ	Turoa	1.32	197	Pn	Pn	14 52 23.5	-0.3
WNVZ	Wahianoa	1.34	196	Pn	Pn	14 52 23.4	-0.3
PKVZ	Pokaka	1.37	204	Pn	Pn	14 52 23.6	-0.3
MOVZ	Moawhango	1.39	190	Pn	Pn	14 52 23.4	-0.7
ETAZ	East Tamaki Re	1.41	320	Pn	Pn	14 52 23.5	-0.7
MTVZ	Mangateitei	1.43	199	Pn	Pn	14 52 23.9	-0.4
ARHZ	Aropaoanui	1.43	149	Pn	Pn	14 52 24.8	+0.5
BHHZ	Black Hill Sta	1.45	180	Pn	Pn	14 52 24.0	-0.6
TKGZ	Te Karaka	1.46	107	Pn	Pn	14 52 25.0	+0.4
MCHZ	McNeill Hill	1.49	161	Pn	Pn	14 52 25.4	+0.6
VRZ	Vera Road	1.49	223	Pn	Pn	14 52 24.7	-0.1
TWGZ	Tauwhareparae	1.52	96	Pn	Pn	14 52 25.8	+0.6
KNZ	Kokohu	1.60	128	Pn	Pn	14 52 26.1	+0.3
PRGZ	Paritu Road	1.68	122	Pn	Pn	14 52 27.0	+0.4
MHEZ	Mangahewa	1.71	232	Pn	Pn	14 52 27.5	+0.6
PUZ	Puketiti	1.73	92	Pn	Pn	14 52 27.0	-0.2
CNGZ	Carnagh Statio	1.75	106	Pn	Pn	14 52 28.3	+1.1
CKHZ	Cape Kidnapper	1.81	154	Pn	Pn	14 52 28.2	+0.5
MHGZ	Mahia Peninsul	1.83	128	Pn	Pn	14 52 28.6	+0.7
MXZ	Matakaoa Point	1.84	76	Pn	Pn	14 52 28.5	+0.4
DREZ	Durham Road	1.86	231	Pn	Pn	14 52 28.6	+0.3
KAHZ	Kahuranaki	1.87	160	Pn	Pn	14 52 28.7	+0.3
WMGZ	Waiomatatini S	1.87	84	Pn	Pn	14 52 28.6	+0.2
PNHZ	Pukenui	1.88	177	Pn	Pn	14 52 27.9	-0.6
WAZ	Wanganui	1.91	206	Pn	Pn	14 52 28.1	-0.7
NEZ	North Egmont	1.97	231	Pn	Pn	14 52 29.8	+0.3
PREZ	Palmer Road	1.98	228	Pn	Pn	14 52 29.8	+0.3
PKE	Pukeiti	2.00	234	Pn	Pn	14 52 29.9	+0.2
TSZ	Takapari Road	2.02	182	Pn	Pn	14 52 29.2	-0.8
KHEZ	Kahui Hut	2.04	231	Pn	Pn	14 52 30.3	+0.1
WPHZ	Waipukurau	2.05	172	Pn	Pn	14 52 29.8	-0.4
PXZ	Pawanui	2.09	163	Pn	Pn	14 52 30.4	-0.2
NWEZ	Newall Road	2.12	234	Pn	Pn	14 52 31.1	+0.3
NMEZ	Namu Road	2.19	230	Pn	Pn	14 52 32.0	+0.3
DVHZ	Dannevirke	2.26	178	Pn	Pn	14 52 31.5	-1.0
PRHZ	Porangahau	2.27	169	Pn	Pn	14 52 32.1	-0.5
POWZ	Post Office Ro	2.37	185	Pn	Pn	14 52 32.4	-1.2
PRWZ	Pori Road	2.52	182	Pn	Pn	14 52 34.2	-1.0
BFZ	Birch Farm	2.65	177	Pn	Pn	14 52 35.4	-1.3
MRZ	Mangatainoka R	2.65	188	Pn	Pn	14 52 35.0	-1.6
TIWZ	Tintock	2.74	183	Pn	Pn	14 52 36.3	-1.5
OGWZ	Otaki Gorge	2.86	194	Pn	Pn	14 52 37.4	-1.7
CPWZ	Castlepoint	2.87	178	Pn	Pn	14 52 38.3	-0.9
HOWZ	Holdsworth Sta	2.89	188	Pn	Pn	14 52 37.6	-1.9
KIW	Kapiti Island	2.96	197	Pn	Pn	14 52 38.2	-2.1
TMWZ	Te Maipa	3.07	182	Pn	Pn	14 52 39.7	-1.8
MTW	Mount Morrison	3.15	188	Pn	Pn	14 52 40.2	-2.2
CAW	Cannon Point	3.16	194	Pn	Pn	14 52 40.4	-2.2
DUWZ	D'Urville Isla	3.22	210	Pn	Pn	14 52 41.1	-2.3
TRWZ	Traveller	3.37	185	Pn	Pn	14 52 43.0	-2.2
PAWZ	Paruwai Farm	3.38	188	Pn	Pn	14 52 42.8	-2.4
WEL	Wellington	3.40	197	Pn	Pn	14 52 42.9	-2.5
MSWZ	Moikau Station	3.44	190	Pn	Pn	14 52 43.4	-2.5
TCW	Tory Channel	3.46	203	Pn	Pn	14 52 43.8	-2.4
BHW	Baring Head	3.49	195	Pn	Pn	14 52 44.0	-2.6
PLWZ	Palliser	3.58	190	Pn	Pn	14 52 45.0	-2.7
TUWZ	Tuamarina	3.76	205	Pn	Pn	14 52 47.1	-2.7
NNZ	Nelson	3.79	212	Pn	Pn	14 52 47.4	-2.9
QRZ	Quartz Range	3.91	223	Pn	Pn	14 52 48.4	-3.2
CMWZ	Cape Campbell	3.97	200	Pn	Pn	14 52 50.8	-1.7
BSWZ	Blackbirch Sta	4.04	204	Pn	Pn	14 52 50.6	-2.7
THZ	Tophouse	4.45	212	Pn	Pn	14 52 55.2	-3.2
KHZ	Kahutara	4.78	203	Pn	Pn	14 52 59.8	-2.8
DSZ	Denniston Nort	4.95	220	Pn	Pn	14 53 00.8	-3.9
LTZ	Lake Taylor	5.55	210	Pn	Pn	14 53 08.2	-4.3
OXZ	Oxford	6.11	209	Pn	Pn	14 53 15.1	-4.5
CRLZ	Canterbury Las	6.12	204	Pn	Pn	14 53 16.1	-3.5
MQZ	McQueen's Vall	6.23	203	Pn	Pn	14 53 16.6	-4.4
WVZ	Waitaha Valley	6.46	217	Pn	Pn	14 53 20.6	-3.5
RPZ	Rata Peaks	6.83	212	Pn	Pn	14 53 24.9	-4.0
FOZ	Fox Glacier	7.25	219	Pn	Pn	14 53 29.8	-4.6
LBZ	Lake Benmore	7.74	213	Pn	Pn	14 53 36.3	-4.4
CTZ	Chatham Island	7.95	138	Pn	Pn	14 53 52.0	+8.6
ODZ	Otahua Downs	8.10	208	Pn	Pn	14 53 41.9	-3.4
JCZ	Jackson Bay	8.16	220	Pn	Pn	14 53 41.0	-5.2
WKZ	Wanaka	8.60	216	Pn	Pn	14 53 46.7	-5.2
EAZ	Earnscleugh	8.79	213	Pn	Pn	14 53 49.4	-4.9
TUZ	Tuapeka	9.24	209	Pn	Pn	14 53 57.0	-3.2
WHZ	Wether Hill Ro	9.90	215	Pn	Pn	14 54 02.8	-6.0
SYZ	Scrubby Hill	9.92	209	Pn	Pn	14 54 05.8	-3.1

*ISCJB **01** 14:54:27.1±1.0, 38°.33N±0°.06×26°.64E±0°.06, h14km±8km, Error ellipse: s-maj=11.8km s-min=5.9km az=30.9*
*CSEM **01** 14:54:27.6±0.1, 38°.36N×26°.67E, h8km, ML2.5, Error ellipse: s-maj=5.1km s-min=1.9km az=35.0*
*ISK **01** 14:54:27.3, 38°.33N×26°.64E, h12km, ML2.5/2*
*DDA **01** 14:54:28.3, 38°.32N×26°.55E, h7km, Ml2.1*
ISC 01 14:54:28.0±1.4**, 38°.33N**±0°.05×**26°.64E**±0°.04**, h9**km±7km**, n14, σ0s.46**/22**, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URLA	Izmir	0.05	315	PG	Pg	14 54 29.8	-0.2
URLA				SG	Sg	14 54 31.6	+0.2
URLA	Izmir	0.05	315	i P	Pg	14 54 29.8	-0.2
URLA				i S	Sg	14 54 31.7	+0.3
URLA	Izmir	0.05	315	P	Pg	14 54 29.8	-0.2
URLA				S	Sg	14 54 31.7	+0.3
ZEY	˜zmir	0.14	231	i P	Pg	14 54 30.8	-0.3
ZEY				i S	Sg	14 54 32.5	-0.7
GMLD	Gumuldur	0.33	139	PG	Pg	14 54 34.4	-0.1
GMLD				SG	Sg	14 54 39.6	+0.7
GMLD	Gumuldur	0.33	139	ePg	Pg	14 54 34.4	-0.1
GMLD				eSg	Sg	14 54 39.6	+0.7
CHOS	Chios island	0.46	278	PG	Pg	14 54 36.9	-0.2
CHOS				SG	Sg	14 54 43.9	+0.7
CHOS	Chios island	0.46	278	ePg	Pg	14 54 36.9	-0.2
CHOS				eSg	Sg	14 54 43.9	+0.7
GCAM	G?zelcaml?	0.78	143	PG	Pg	14 54 42.7	-0.3
GCAM	G?zelcaml?	0.78	143	ePg	Pg	14 54 42.7	-0.3
AYDB	Zeytinkoy-Aydi	1.06	111	PG	Pg	14 54 47.9	-0.4
AYDB	Zeytinkoy-Aydi	1.06	111	ePg	Pg	14 54 47.9	-0.4
SIGR	SIGRI	1.08	326	PG	Pg	14 54 48.3	-0.4
SIGR	SIGRI	1.08	326	ePg	Pg	14 54 48.3	-0.4

*IDC **01** 14:57:55.8±1.3, 53°.90N×162°.93W, h0km, mb3.8/8, mb1 3.8/11, mb1mx3.6/84, mbtmp3.6/11, ML2.9/3, Error ellipse: s-maj=28.7km s-min=19.5km az=6.0*
*ISCJB **01** 14:57:56.5±0.7, 53°.55N±0°.06×162°.74W±0°.07, h25km, mb3.8/9, Error ellipse: s-maj=8.5km s-min=5.7km az=168.4*
*NEIC **01** 14:57:58.5±2.2, 53°.68N×162°.87W, h23km±15km, ML3.2(AEIC), Error ellipse: s-maj=11.8km s-min=5.5km az=163.0*
ISC 01 14:57:58.6±0.8**, 53°.73N**±0°.08×**162°.79W**±0°.04**, h25**km**, n36, σ1s.29**/36**, mb3.9**/9**, South of Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ISLZ	Isanotski Laza	1.14	332	P	Pb	14 58 19.2	-0.5
FALS	False Pass	1.19	342	P	Pb	14 58 20.4	-0.1
FALS				S	Sb	14 58 36.8	+1.3
SSLS	Shishaldin Sou	1.22	325	P	Pb	14 58 21.1	+0.1
SSLS				S	Sb	14 58 39.1	+2.9
WESE	West Dahl East	1.29	306	P	Pb	14 58 21.4	-0.9
SSLW	Shishaldin Wes	1.31	324	P	Pb	14 58 22.0	-0.5
WESN	West Dahl Nort	1.35	309	P	Pb	14 58 22.4	-0.8
DT1	Dutton Round H	1.42	12	P	Pb	14 58 23.2	-1.1
BALA	Baldy Mountain	1.47	0	P	Pb	14 58 25.9	+0.6
PS4A	Pavlof South-4	1.71	18	P	Pb	14 58 28.4	-1.0
AKSA	Akutan Strait	1.77	285	P	Pn	14 58 27.0	-0.5
AKSA				S	Sb	14 58 50.7	-1.3
AKUT	Akutan	1.81	284	ePn	Pn	14 58 27.7	-0.5
ZRO	Akutan Zero	1.92	282	P	Pn	14 58 29.3	-0.5
SDPT	Sand Point	2.11	39	P	Pn	14 58 33.3	+1.0
SDPT				S	Sb	14 58 59.9	-2.0
UNV	Unalaska Valle	2.21	275	ePn	Pn	14 58 32.5	-1.1
MSW	Makushin Switc	2.37	276	P	Pn	14 58 35.3	-0.7
MGOD	Makushin Gods	2.42	273	P	Pn	14 58 36.2	-0.4
KDAK	Kodiak Island	7.05	51	Pn	Pn	14 59 38.9	-1.1
	0.4nm,0.3s,baz=181,slow=5.2,SNR=14						
KDAK				Sn	Sn	15 00 57.9	-1.3
	0.2nm,0.3s,baz=245,slow=19,SNR=3.9						
KDAK	Kodiak Island	7.05	51	Pn	Pn	14 59 39.2	-0.8
KDAK				Sn	Sn	15 00 57.9	-1.3
ILAR	Eielson Array	13.68	30	Pn	Pn	15 01 06.8	-4.0
	0.0nm,0.3s,baz=219,slow=12,SNR=3.0						
INK	Inuvik	20.05	32	P	P	15 02 28.8	-0.7
	0.1nm,0.3s,baz=249,slow=12,SNR=5.3						
YKA	Yellowknife Ar	26.32	51	P	P	15 03 33.1	+1.1
	0.3nm,0.6s,baz=268,slow=9.3,SNR=9.3						
NVAR	Mina Array Bea	33.82	99	P	P	15 04 41.0	+2.2
	1.0nm,0.6s,baz=307,slow=8.9,SNR=3.1						
H11N2	WAKE ISLAND Hy	41.14	226	T	T	15 49 39.3	
	baz=26,slow=76						
H11N3	WAKE ISLAND Hy	41.14	226	T	T	15 49 43.5	
	baz=26,slow=76						
H11N1	WAKE ISLAND Hy	41.15	226	T	T	15 49 42.7	
	baz=26,slow=76						
H11S1	WAKE ISLAND Hy	42.30	226	T	T	15 51 17.4	
	baz=26						
H11S2	WAKE ISLAND Hy	42.32	226	T	T	15 51 20.0	
	baz=26						
H11S3	WAKE ISLAND Hy	42.32	226	T	T	15 51 15.6	
	baz=26						
TXAR	Lajitas Array	48.83	95	P	P	15 06 43.0	+1.1
	0.9nm,0.6s,baz=295,slow=5.1,SNR=14						
ARCES	ARCESS Array B	56.90	357	P	P	15 07 40.4	-0.3
	3.2nm,1.0s,baz=13,slow=8.3,SNR=2.7						
KURK	Kurchatov	63.89	322	P	P	15 08 29.8	+1.1
KURBB	Kurchatov Arra	64.00	322	P	P	15 08 29.8	+0.3
	0.7nm,0.9s,baz=39,slow=6.6,SNR=4.8						
MKAR	Makanchi Array	65.64	317	P	P	15 08 39.7	-0.6
	0.3nm,0.7s,baz=45,slow=6.0,SNR=4.6						
ABKAR	Akbulak array	71.24	332	eP	P	15 09 15.8	+0.7
	0.9nm,0.6s						
AKASG	Malin Array Be	75.45	352	P	P	15 09 40.0	0.0
	0.4nm,0.4s,baz=8.8,slow=6.1,SNR=3.0						
BRTR	Keskin Array B	85.85	347	P	P	15 10 36.3	+0.3
	0.8nm,0.8s,baz=350,slow=5.1,SNR=3.6						

ISCJB ***01*** *15:14:48.8±1.0, 0.°9N±0.°1×85.°9W±0.°2, h10km, mb3.8/7, Error ellipse: s-maj=25.3km s-min=11.2km az=145.7*
IDC ***01*** *15:14:48.7±1.5, 0.°86N×86.°02W, h0km, mb3.8/7, mb1 4.0/11, mb1mx3.8/46, mbtmp3.9/11, ML3.2/3, Error ellipse: s-maj=50.1km s-min=19.9km az=54.0*
ISC 01 15:14:50.5±1.1**, 0.°9N**±0.°1×**86.°0W**±0.°2**, h10km, n11, σ0.s50**/11**, mb3.8**/7**, Off coast of Ecuador**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JTS	JuntasAbangare	9.39	6	Pn	Pn	15 17 05.5	-0.5
	0.2nm,0.3s,baz=202,slow=11,SNR=3.5						
ATAH	Atahualpa	10.99	137	Pn	Pn	15 17 28.2	0.0
	1.1nm,0.3s,baz=320,slow=8.1,SNR=5.2						
ROSC	El Rosal	12.28	71	Pn	Pn	15 17 46.3	+0.3
	0.9nm,0.3s,baz=230,slow=14,SNR=3.9						
APG	El Apazote	14.71	343	Pn	Pn	15 18 19.3	+0.3
	baz=160,slow=18,SNR=1.9						
LPAZ	La Paz	24.53	135	P	P	15 20 10.7	-0.5
	1.9nm,0.7s,baz=322,slow=8.0,SNR=8.2						
TXAR	Lajitas Array	32.93	331	P	P	15 21 25.4	0.0
	0.2nm,0.7s,baz=143,slow=9.1,SNR=2.7						
ULM	Lac du Bonnet	49.90	352	P	P	15 23 43.3	-0.8
	2.5nm,0.7s,baz=157,slow=9.3,SNR=5.9						
YKA	Yellowknife Ar	65.09	346	P	P	15 25 30.8	-0.2
	0.3nm,0.7s,baz=138,slow=6.5,SNR=13						
SFJD	Kangerlussuaq	70.44	14	P	P	15 26 05.2	+0.5
	4.8nm,0.8s,baz=201,slow=10,SNR=3.1						
INK	Inuvik	74.62	343	P	P	15 26 30.0	+0.5
	0.6nm,0.8s,baz=96,slow=5.5,SNR=3.0						
ESDC	Sonseca Array	83.28	50	P	P	15 27 18.1	+0.3
	0.7nm,0.8s,baz=275,slow=4.8,SNR=4.3						

IGQ ***01*** *15:41:19.9±0.2, 0.°9S±0.°9×7°8W±°, h14km, MLv4.0/9*
ISCJB ***01*** *15:41:21.6±0.3, 0.°95S±0.°01×78.°31W±0.°03, h10km, mb3.6/7, Error ellipse: s-maj=4.7km s-min=1.9km az=9.3*
IDC ***01*** *15:41:29.7±3.2, 0.°95S×78.°17W, h65km±33km, mb3.4/7, mb1 3.8/10, mb1mx3.5/48, mbtmp3.9/10, ML3.6/3, Error ellipse: s-maj=39.1km s-min=17.8km az=70.0*
ISC 01 15:41:22.5±0.6**, 0.°93S**±0.°02×**78.°25W**±0.°04**, h10km, n58, σ1.s91**/70**, mb3.8**/7**, Ecuador**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
COV1	Cotopaxi Volc	0.28	341	P	Pg	15 41 28.1	-0.5
BMOR	Cotopaxi Volca	0.29	314	P	Pg	15 41 27.2	-1.4
BMOR				S	Sg	15 41 31.1	-1.5
BTAM	Cotopaxi Volca	0.29	330	P	Pg	15 41 27.3	-1.3
BTAM				S	Sg	15 41 31.6	-1.2
BVC2	Cotopaxi Volca	0.32	329	P	Pg	15 41 27.8	-1.3
BVC2				S	Sg	15 41 31.4	-2.0
BREF	Cotopaxi Volca	0.32	324	P	Pg	15 41 28.1	-1.1
VC1	Cotopaxi 1	0.33	332	P	Pg	15 41 28.0	-1.2
BNAS	Cotopaxi Volca	0.35	318	P	Pg	15 41 28.4	-1.2
BNAS				S	Sg	15 41 32.6	-1.7
NAS2	Nasa	0.36	323	P	Pg	15 41 28.7	-1.1
CAMI	Rancho Maria	0.36	315	P	Pg	15 41 28.5	-1.3
ALAT	Latacunga	0.37	271	P	Pg	15 41 28.8	-1.1
ANTM	Antisana-La Mi	0.40	4	P	Pg	15 41 29.2	-1.3
ANTM				S	Sg	15 41 33.9	-1.8
ANTG	Antisana-Guama	0.43	359	P	Pg	15 41 29.6	-1.4
ANTG				S	Sg	15 41 35.3	-1.5
ANTS	Antisana-Sarah	0.44	10	P	Pg	15 41 30.0	-1.2
ANTS				S	Sg	15 41 36.0	-1.2
AAM1	Ambato 1 (Muni	0.49	231	P	Pg	15 41 30.7	-1.4
AAM1				S	Sg	15 41 37.2	-1.4
AAM2	Ambato 2 (Merc	0.49	227	P	Pg	15 41 30.7	-1.5
AAM2				S	Sg	15 41 37.3	-1.5
BRUN	Tungurahua Vol	0.51	198	P	Pg	15 41 30.6	-1.9
ILLI	Illinizas Sur	0.53	294	P	Pg	15 41 31.5	-1.4
BULB	Ulba Tungurahu	0.53	198	P	Pg	15 41 30.9	-2.0
POND	Pondoa	0.53	203	P	Pg	15 41 30.9	-1.9
POND				S	Sg	15 41 37.5	-2.4
JUI6	Juive	0.54	204	P	Pg	15 41 30.8	-2.2
RETU	Refugio	0.55	201	P	Pg	15 41 31.5	-1.9
BBIL	Ulba Tungurahu	0.57	205	P	Pg	15 41 31.7	-1.9
BBIL				S	Sg	15 41 39.2	-1.9
BIL2	Estacion Bilba	0.58	206	P	Pg	15 41 31.6	-2.2
BPAT	Tungurahua Vol	0.60	198	P	Pg	15 41 32.3	-1.9
BPAT				S	Sg	15 41 39.9	-2.3
ARRY	Arrayan	0.61	200	P	Pg	15 41 32.1	-2.2
BMAS	Trigal station	0.61	202	P	Pg	15 41 32.2	-2.2
BMAS				S	Sg	15 41 39.7	-2.9
IGUA	Igualata	0.68	215	P	Pg	15 41 33.8	-1.9
TERV	Terraza Guagua	0.83	335	P	Pg	15 41 37.3	-1.3
YANA	Yana	0.87	338	P	Pg	15 41 37.8	-1.6
OTAV	Otavalo	1.18	350	eP	Pb	15 41 41.7	-3.6
IMBA	Imbabura, San	1.20	2	P	Pn	15 41 45.2	-0.6
CUIC	Cuicocha-Domo	1.23	355	P	Pn	15 41 44.4	-1.8
COTA	Cotacachi	1.26	356	P	Pn	15 41 45.6	-1.1
YAHU	Yahuarcocha	1.31	8	P	Pb	15 41 46.4	-1.0
URCU	Urcuqui	1.36	360	P	Pn	15 41 47.3	-0.7
MAG1	Magdalena	1.75	299	P	Pn	15 41 53.2	+0.3
CMBC	Cumbal	1.91	13	eP	Pg	15 41 57.6	-1.5
AGUAY	Guayaquil	2.03	237	P	Pn	15 41 56.4	-0.5
GCUF	Volcan Galeras	2.33	23	eP	Pb	15 42 02.9	-1.9
CPAS2	Pasto	2.36	25	eP	Pb	15 42 04.9	-0.4
CRUC	La Cruz	2.80	28	eP	Pb	15 42 10.9	-2.0
SOTA	Rioblanco	3.46	28	eP	Pb	15 42 20.7	-3.5
SOTA				e		15 42 20.7	
FLOC	Florencia	3.60	46	eP	Pn	15 42 19.6	+1.1
PCON	Cinco Dias	3.73	30	eP	Pn	15 42 23.5	+2.8
HORQ	Saladito	4.68	20	eP	Pn	15 42 36.2	+2.7
YOTC	Yotoco, Valle	5.24	21	eP	Pn	15 42 42.1	+1.1
PRAC	Prado	5.71	36	eP	Pb	15 42 54.1	-8.2
ATAH	Atahualpa	6.16	181	P	Pn	15 42 57.6	+3.6
	4.5nm,0.3s,baz=356,slow=13,SNR=23						
ATAH				S	Sn	15 44 11.5	+6.7
	baz=18,slow=20,SNR=3.0						
VILC	Villavicencio,	6.77	42	eP	Pb	15 43 12.7	-7.7
SDV	Santo Domingo	12.36	38	P	Pn	15 44 24.0	+5.2
	0.4nm,0.3s,baz=234,slow=12,SNR=5.8						
LPAZ	La Paz	18.23	147	P	P	15 45 38.9	+2.3
	0.2nm,0.3s,baz=343,slow=15,SNR=8.1						
SIV	San Ignacio	22.60	132	P	P	15 46 23.8	+0.2
	4.8nm,0.8s,baz=316,slow=11,SNR=30						
TXAR	Lajitas Array	38.68	323	P	P	15 48 48.1	+1.4
	0.1nm,0.7s,baz=138,slow=11,SNR=3.5						
TXAR				PcP	PcP	15 50 59.4	+0.6
	0.5nm,1.0s,baz=134,slow=5.4,SNR=3.6						
PLCA	Paso Flores	40.23	171	P	P	15 49 00.4	+0.9
	2.2nm,1.0s,baz=2.1,slow=11,SNR=3.5						
ANMO	Albuquerque	44.39	326	P	P	15 49 34.6	+1.0
	1.4nm,0.8s,baz=341,slow=9.6,SNR=6.3						
YKA	Yellowknife Ar	68.93	343	P	P	15 52 27.1	-0.4
	0.5nm,0.8s,baz=136,slow=6.1,SNR=14						
INK	Inuvik	78.65	342	P	P	15 53 24.6	+0.3
	2.5nm,1.2s,baz=110,slow=5.4,SNR=5.4						
ILAR	Eielson Array	81.87	336	P	P	15 53 41.9	+0.1
	0.3nm,0.9s,baz=114,slow=4.0,SNR=5.5						

IDC 01 15:41:53.2±2.0**, 3.°36N**×**126.°38E, h0km, mb3.2**/4**, mb1 3.4**/4**, mb1mx3.2**/58**, mbtmp3.2**/4**, Error ellipse: s-maj=205.6km s-min=21.5km az=66.0, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	24.44	162	P	P	15 47 13.3	-0.5
	0.5nm,0.6s,baz=341,slow=10,SNR=7.0						
ASAR	Alice Springs	27.84	165	P	P	15 47 45.3	+0.7
	0.2nm,1.0s,baz=341,slow=7.2,SNR=2.8						
MKAR	Makanchi Array	57.66	326	P	P	15 51 44.7	-0.7
	0.2nm,0.6s,baz=121,slow=5.4,SNR=2.4						
KURBB	Kurchatov Arra	61.86	328	P	P	15 52 14.7	+0.4
	0.2nm,0.6s,baz=130,slow=6.3,SNR=3.9						

ISCJB ***01*** *15:51:21.6±1.0, 12.°1N±0.°2×143.°8E±0.°2, h26km, mb3.6/7, Error ellipse: s-maj=31.4km s-min=10.9km az=39.4*
IDC ***01*** *15:51:26.0±3.2, 12.°15N×144.°07E, h51km±29km, mb3.4/7, mb1 3.5/7, mb1mx3.2/56, mbtmp3.6/7, Error ellipse: s-maj=39.0km s-min=20.3km az=109.0*
ISC 01 15:51:23.1±1.1**, 12.°2N**±0.°2×**144.°0E**±0.°2**, h26km, n8, σ0.s68**/9**, mb3.6**/7**, South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GUMO	Guam	1.61	31	P	Pb	15 51 52.0	-0.2
	33nm,0.3s,baz=190,slow=12,SNR=20						
GUMO				S	Sb	15 52 12.3	+0.1
	44nm,0.3s,baz=351,slow=19,SNR=6.0						
GUMO				LR	LR	15 52 30.1	
	comp=Z,54nm,20.4s,baz=118,slow=39						
WRA	Warramunga Arr	33.33	197	P	P	15 57 59.0	-0.1
	0.3nm,0.8s,baz=20,slow=9.6,SNR=3.0						
MKAR	Makanchi Array	61.93	317	P	P	16 01 41.4	+0.7
	0.3nm,0.7s,baz=93,slow=5.4,SNR=3.1						
KURBB	Kurchatov Arra	65.16	320	P	P	16 02 02.2	+0.4
	0.5nm,0.7s,baz=104,slow=6.4,SNR=7.9						
ILAR	Eielson Array	70.17	25	P	P	16 02 32.8	-0.4
	0.2nm,0.6s,baz=249,slow=6.1,SNR=3.2						
BVAR	Borovoye Array	70.51	322	P	P	16 02 35.2	-0.4
	0.8nm,0.5s,baz=104,slow=9.1,SNR=5.3						
YKA	Yellowknife Ar	84.47	27	P	P	16 03 54.4	+1.1
	0.1nm,0.3s,baz=285,slow=5.1,SNR=4.2						
FINES	FINESS Array B	92.07	335	P	P	16 04 29.0	-0.8
	0.7nm,0.5s,baz=57,slow=5.1,SNR=9.9						

IDC ***01*** *15:56:07.9±1.1, 3.°76S×144.°74E, h0km, mb3.7/6, mb1 4.0/8, mb1mx3.6/44, mbtmp3.8/8, ML3.3/2, MS3.4/2, Ms1 3.4/2, ms1mx2.8/35, Error ellipse: s-maj=38.7km s-min=18.7km az=84.0*
ISCJB ***01*** *15:56:11.3±0.9, 3.°82S±0.°09×144.°6E±0.°2, h33km, mb3.6/6, MS3.3/2, Error ellipse: s-maj=24.5km s-min=9.7km az=156.1*
ISC 01 15:56:13.3±1.0**, 3.°8S**±0.°1×**144.°6E**±0.°2**, h35km, n9, σ1.s03**/9**, mb3.6**/6**, Near north coast of New Guinea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	6.12	156	Pn	Pn	15 57 40.7	-0.6
	4.9nm,0.3s,baz=339,slow=8.6,SNR=23						
PMG				Sn	Sn	15 58 51.8	+1.6
	1.5nm,0.3s,baz=218,slow=17,SNR=3.6						
WRA	Warramunga Arr	18.91	211	P	Pn	16 00 31.5	-0.5
	0.4nm,0.3s,baz=32,slow=11,SNR=42						
ASAR	Alice Springs	22.29	207	P	P	16 01 08.1	+0.3
	3.7nm,0.6s,baz=32,slow=9.8,SNR=92						
ASAR				LR	LR	16 10 54.9	
	comp=Z,151nm,18.4s,baz=312,slow=40						
STKA	Stephens Creek	28.07	185	P	P	16 02 00.8	-0.9
	0.7nm,0.7s,baz=339,slow=14,SNR=2.9						
USRK	Ussuriysk Ar.	49.11	348	LR	LR	16 26 31.8	
	comp=Z,22nm,18.2s,baz=57,slow=37						
CMAR	Chiang Mai Arr	50.11	298	P	P	16 05 05.8	+0.4
	0.4nm,0.5s,baz=118,slow=6.2,SNR=4.4						
MKAR	Makanchi Array	74.29	321	P	P	16 07 47.4	+0.3
	0.2nm,0.5s,baz=104,slow=6.1,SNR=4.2						
KURBB	Kurchatov Arra	78.05	323	P	P	16 08 09.5	+1.2
	0.5nm,1.0s,baz=104,slow=4.2,SNR=3.6						
ILAR	Eielson Array	84.42	24	P	P	16 08 41.2	-0.7
	1.2nm,1.1s,baz=235,slow=4.9,SNR=4.0						

IDC 01 15:58:02.3±5.2**, 4.°39S**×**151.°40E, h109km**±44km**, mb3.1**/4**, mb1 3.4**/5**, mb1mx3.0**/45**, mbtmp3.5**/5**, Error ellipse: s-maj=81.1km s-min=31.0km az=122.0, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	6.53	220	P	Pn	15 59 37.2	+1.4
	1.2nm,0.3s,baz=22,slow=16,SNR=3.4						
PMG				S	Sn	16 00 48.7	-0.2
	4.6nm,0.3s,baz=343,slow=23,SNR=8.0						
WRA	Warramunga Arr	22.70	226	P	P	16 02 54.6	-0.5
	0.9nm,0.5s,baz=49,slow=10.0,SNR=11						
ASAR	Alice Springs	25.54	220	P	P	16 03 21.2	+0.1
	0.2nm,0.3s,baz=56,slow=9.3,SNR=5.8						
MKAR	Makanchi Array	79.10	319	P	P	16 09 55.0	+0.1
	0.3nm,0.7s,baz=109,slow=7.8,SNR=3.0						
ILAR	Eielson Array	82.31	22	P	P	16 10 10.5	-1.1
	0.2nm,0.5s,baz=253,slow=5.8,SNR=4.1						
TORD	Torodi Ar. Bea	148.85	288	PKPbc	PKPbc	16 17 38.9	+0.5
	0.3nm,0.3s,baz=73,slow=2.9,SNR=6.2						

IDC ***01*** *15:58:26.1±2.1, 9.°57N×91.°71E, h0km, mb3.6/4, mb1 3.9/5, mb1mx3.3/62, mbtmp3.6/5, ML3.8/1, Error ellipse: s-maj=72.1km s-min=24.8km az=65.0*
ISC 01 15:58:41.8±1.3**, 10.°8N**±0.°1×**95.°0E**±0.°2**, h20km, n19, σ1.s34**/15**, mb3.8**/4**, Andaman Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	8.48	26	Pn	Pb	16 01 08.5	+0.5
	0.2nm,0.3s,baz=228,slow=14,SNR=8.7						
ODAN	Odare	17.47	337	eP	Pn	16 02 44.3	-0.4
RAMN	Ramite	17.87	335	eP	Pn	16 02 48.2	-1.4
	11nm,0.3s						
JIRN	Jiri	18.67	335	eP	P	16 02 59.0	-0.1
PKI	Pulchoki	18.93	333	eP	P	16 03 01.5	-0.4
PKIN	Phulchoki	18.94	333	eP	P	16 03 01.7	-0.3
GUN	Gumba	19.02	335	eP	P	16 03 04.2	+1.3
DMN	Daman	19.10	332	eP	P	16 03 04.1	+0.4
KKN	Kakani	19.17	333	eP	P	16 03 06.0	+1.5
GKN	Gorkha	19.65	332	eP	P	16 03 11.2	+1.6
KOLN	Koldanda	19.96	329	eP	P	16 03 14.4	+1.3
PYUN	Piuthan	20.54	328	eP	P	16 03 21.9	+2.5
H08S3	Diego Garcia H	28.96	232	T	T	16 31 47.2	
	baz=49,slow=76,SNR=2.6						
H08S2	Diego Garcia H	28.96	232	T	T	16 31 56.3	
	baz=49,slow=76,SNR=4.4						
H08S1	Diego Carcia H	28.98	232	T	T	16 31 57.5	
	baz=49,slow=76,SNR=2.3						
KURBB	Kurchatov Arra	41.91	344	P	P	16 06 21.8	-9.1
	0.2nm,0.6s,baz=170,slow=8.8,SNR=3.1						
WRA	Warramunga Arr	49.35	128	P	P	16 07 31.4	+1.2
	0.7nm,0.3s,baz=301,slow=9.9,SNR=47						
ASAR	Alice Springs	51.22	132	P	P	16 07 44.1	-0.3
	0.7nm,0.4s,baz=308,slow=7.0,SNR=34						
ILAR	Eielson Array	91.69	22	P	P	16 11 46.0	-1.6
	0.2nm,0.7s,baz=310,slow=5.6,SNR=4.7						

MEX 01 16:01:54.9±0.3**, 16.°37N**×**98.°32W, h2km, MD3.9, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.18	84	i P	Pg	16 01 58.2	-0.3
PNIG				i S	Sg	16 02 01.2	+0.2
TLIG	Tlapa	1.21	349	eP	Pg	16 02 15.2	-2.8
TLIG				eS	Sg	16 02 30.9	-2.8
VHO	Vista Hermosa	1.67	65	eP	Pn	16 02 20.7	-4.7
VHO				eS	Sn	16 02 41.6	-5.9
HUIG	Huatulco	2.21	105	eP	Pn	16 02 29.9	-2.7
HUIG				eS	Sn	16 02 56.8	-3.7

IDC 01 16:10:20.4±4.7**, 2.°62S**×**139.°30E, h0km, mb3.5**/2**, mb1 3.8**/3**, mb1mx3.4**/44**, mbtmp3.6**/3**, ML3.5**/1**, Error ellipse: s-maj=187.0km s-min=30.2km az=88.0, Near north coast of Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	17.89	195	P	Pn	16 14 30.7	-0.1
	0.2nm,0.3s,baz=15,slow=12,SNR=9.1						
ASAR	Alice Springs	21.56	194	P	P	16 15 11.3	-0.4
	1.8nm,0.8s,baz=12,slow=10,SNR=11						
MKAR	Makanchi Array	70.08	322	P	P	16 21 34.9	+0.3
	0.2nm,0.5s,baz=107,slow=7.3,SNR=4.0						

IDC 01 16:13:04.0±7.1**, 7.°58S**×**128.°58E, h184km**±77km**, mb3.1**/3**, mb1 3.3**/6**, mb1mx3.0**/48**, mbtmp3.7**/6**, Error ellipse: s-maj=75.8km s-min=24.5km az=37.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BATI	Baumata	5.52	241	P	Pn	16 14 25.5	+0.7
	5.0nm,0.3s,baz=90,slow=3.0,SNR=9.1						
BATI				S	Sn	16 15 28.1	-0.3
	7.5nm,0.3s,baz=229,slow=20,SNR=11						
WRA	Warramunga Arr	13.50	156	P	Pn	16 16 06.5	-1.9
	0.7nm,0.3s,baz=337,slow=12,SNR=19						
WRA				S	Sn	16 18 28.7	-10
	0.4nm,0.3s,baz=329,slow=20,SNR=5.7						
ASAR	Alice Springs	16.80	163	P	Pn	16 16 49.3	+0.5
	0.4nm,0.3s,baz=339,slow=11,SNR=19						
ASAR				S	S	16 19 50.9	-2.9
	0.2nm,0.3s,baz=316,slow=18,SNR=5.6						
MKAR	Makanchi Array	67.94	328	P	P	16 23 43.0	0.0
	0.2nm,0.6s,baz=121,slow=8.0,SNR=5.6						
ZALV	Zalesovo Beam	71.48	334	P	P	16 24 04.4	0.0
	0.3nm,0.4s,baz=120,slow=8.5,SNR=2.5						
KURBB	Kurchatov Arra	72.27	329	P	P	16 24 09.4	+0.2
	0.2nm,0.4s,baz=129,slow=4.7,SNR=3.5						

IDC 01 16:19:56.4±2.2**, 11.°12N**×**91.°24E, h0km, mb3.4**/4**, mb1 3.5**/5**, mb1mx3.2**/64**, mbtmp3.3**/5**, ML3.4**/1**, Error ellipse: s-maj=58.3km s-min=26.2km az=71.0, Andaman Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	10.42	45	Pn	Pn	16 22 29.1	+1.9
	0.1nm,0.3s,baz=235,slow=16,SNR=4.9						
H08S3	Diego Garcia H	26.37	226	T	T	16 54 05.5	
	baz=45,slow=75,SNR=45						
H08S2	Diego Garcia H	26.37	226	T	T	16 53 59.1	
	baz=45,slow=75,SNR=54						
H08S1	Diego Carcia H	26.39	226	T	T	16 54 04.8	
	baz=45,slow=75,SNR=52						
MKAR	Makanchi Array	36.36	350	P	P	16 27 02.3	+0.1
	0.5nm,0.7s,baz=157,slow=7.8,SNR=5.9						
KSRS	Korea Array	42.06	45	P	P	16 27 48.8	-1.2
	0.2nm,0.3s,baz=244,slow=8.5,SNR=2.3						
WRA	Warramunga Arr	52.47	126	P	P	16 29 11.3	-0.1
	0.2nm,0.5s,baz=306,slow=8.4,SNR=5.0						
ASAR	Alice Springs	54.18	130	P	P	16 29 24.1	+0.1
	0.3nm,0.8s,baz=306,slow=6.9,SNR=3.2						

IDC ***01*** *16:22:04.3±2.7, 7.°98S×149.°03E, h77km±18km, mb3.5/4, mb1 3.7/6, mb1mx3.3/48, mbtmp3.8/6, MS3.1/2, Ms1 3.1/2, ms1mx2.6/23, Error ellipse: s-maj=39.8km s-min=19.1km az=137.0*
ISC 01 16:21:59.3±1.9**, 8.°1S**±0.°3×**149.°4E**±0.°2**, h35km, n9, σ1.s66**/9**, mb3.7**/4**, Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	2.55	239	P	Pn	16 22 39.0	+0.8
	35nm,0.3s,baz=53,slow=6.8,SNR=170						
PMG				S	Sn	16 23 09.7	+1.7
	34nm,0.3s,baz=139,slow=18,SNR=8.6						
WRA	Warramunga Arr	18.73	229	P	Pn	16 26 14.8	-1.0
	0.3nm,0.3s,baz=48,slow=10,SNR=29						
ASAR	Alice Springs	21.44	222	P	P	16 26 44.9	+0.2
	1.0nm,0.5s,baz=55,slow=9.3,SNR=41						
ASAR				S	S	16 30 37.8	-3.1
	1.7nm,1.0s,baz=38,slow=21,SNR=9.1						
GUMO	Guam	21.99	348	LR	LR	16 35 03.6	
	comp=Z,33nm,19.9s,baz=118,slow=36						
STKA	Stephens Creek	24.75	196	P	P	16 27 18.0	+0.3
	1.3nm,0.5s,baz=26,slow=9.8,SNR=6.4						
FITZ	Fitzroy Crossi	25.13	244	P	P	16 27 20.3	-1.0
	1.2nm,0.3s						
JHJ	Hachijo jima 2	41.98	348	LR	LR	16 46 29.6	
	comp=Z,30nm,19.7s,baz=308,slow=35						
VNDA	Vanda	69.71	177	P	P	16 33 06.2	+1.0
	0.5nm,0.6s,baz=318,slow=6.7,SNR=5.6						
TORD	Torodi Ar. Bea	147.85	282	PKPbc	PKPbc	16 41 41.1	-0.7
	0.2nm,0.8s,baz=94,slow=3.1,SNR=2.2						

ISCJB ***01*** *16:39:06.8±0.5, 21.°34S±0.°03×69.°81W±0.°07, h68km±4km, mb3.6/3, Error ellipse: s-maj=10.3km s-min=4.7km az=5.4*
GUC ***01*** *16:39:06.9±0.7, 21.°32S×69.°83W, h57km±2km, ML4.1*
IDC ***01*** *16:39:06.6±0.9, 21.°58S×69.°70W, h58km±6km, mb3.7/3, mb1 3.9/6, mb1mx3.5/38, mbtmp3.9/6, MS3.2/3, Ms1 3.2/3, ms1mx2.8/36, Error ellipse: s-maj=28.2km s-min=18.4km az=117.0*
ISC 01 16:39:06.8±0.7**, 21.°33S**±0.°04×**69.°87W**±0.°07**, h58km**±5km**, n28, σ1.s69**/37**, mb4.0**/3**, 7C-4D, Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PB02	IPOC Station P	0.03	292	⇑ i P	Pn	16 39 16.0	+0.4
PB02				i S	Sn	16 39 22.3	+0.3
PB02				IAML		16 39 22.8	
	comp=E,98μm,0.3s						
PB07	IPOC Station P	0.39	183	⇑ i P	Pn	16 39 18.4	+0.6
PB07				i S	Sn	16 39 26.3	+0.6
PB07				IAML		16 39 26.5	
	comp=E,12μm,0.4s						
PB01	IPOC Station P	0.45	51	⇓ i P	Pn	16 39 18.4	+0.2
PB01				i S	Sn	16 39 26.4	-0.1
PB01				IAML		16 39 26.5	
	comp=E,33μm,0.3s						
PB09	IPOC Station P	0.74	129	⇓ i P	Pn	16 39 22.9	+1.2
PB09				i S	Sn	16 39 33.5	+1.0
PB09				IAML		16 39 34.6	
	comp=E,38μm,0.2s						
PB04	IPOC Station P	1.03	195	⇑ i P	Pn	16 39 26.1	+0.7
PB04				eS	Sn	16 39 40.6	+1.5
PB04				IAML		16 39 44.2	
	comp=N,4μm,0.3s						
PB08	IPOC Station P	1.36	29	⇓ i P	Pn	16 39 30.6	+0.7
PB08				i S	Sn	16 39 48.2	+1.0
PB08				IAML		16 39 50.3	
	comp=N,3μm,0.2s						
PB06	IPOC Station P	1.40	169	⇑ i P	Pn	16 39 31.1	+0.9
PB06				eS	Sn	16 39 49.9	+2.2
PB06				IAML		16 39 51.8	
	comp=E,1μm,0.6s						
PB11	IPOC Station P	1.57	7	⇑ i P	Pn	16 39 33.3	+0.6
PB11				i S	Sn	16 39 53.1	+1.1
PSGC	Pisagua	1.74	352	⇑ i P	Pn	16 39 34.8	-0.1
PSGC				i S	Sn	16 39 57.2	+1.1
PSGC				IAML		16 40 00.9	
	comp=E,2μm,0.4s						
GO01	Chusmiza	1.77	21	⇓ i P	Pn	16 39 36.9	+1.4
GO01				i S	Sn	16 39 58.9	+1.7
GO01				IAML		16 40 01.5	
	comp=N,5μm,0.2s						
MNMC	Minye Minye	2.20	7	⇑ i P	Pn	16 39 42.1	+0.8
MNMC				i S	Sn	16 40 08.8	+1.2
MNMC				IAML		16 40 17.1	
	comp=E,3μm,0.3s						
LPAZ	La Paz	5.28	18	P	Pn	16 40 27.8	+4.1
	comp=E,1.4nm,0.3s,baz=188,slow=7.0,SNR=36						
LPAZ				S	Sn	16 41 29.8	+6.3
	baz=258,slow=17,SNR=1.0						
LPAZ				LR	LR	16 42 42.0	
	comp=E,86nm,21.7s,baz=226,slow=39						
SIV	San Ignacio	9.88	59	P	Pn	16 41 25.6	-0.6
	comp=E,2.0nm,0.3s,baz=253,slow=12,SNR=29						
SIV				S	Sn	16 43 16.0	+0.3
	baz=299,slow=22,SNR=1.0						
CPUP	Villa Florida	12.50	116	P	Pn	16 41 59.4	-2.6
	comp=E,0.0nm,0.3s,baz=301,slow=12,SNR=2.7						
CPUP				LR	LR	16 47 42.0	
	comp=E,66nm,20.0s,baz=250,slow=42						
ATAH	Atahualpa	16.35	328	LR	LR	16 48 43.7	
	comp=E,457nm,20.6s,baz=310,slow=35						
KOWA	Kowa	73.77	67	P	P	16 50 34.5	-0.8
	comp=E,1.2nm,0.6s,baz=252,slow=8.4,SNR=3.6						
TORD	Torodi Ar. Bea	78.14	71	P	P	16 50 59.6	-0.7
	comp=E,0.8nm,0.4s,baz=266,slow=7.1,SNR=11						
YKA	Yellowknife Ar	90.73	341	P	P	16 52 03.3	+0.4
	comp=E,0.2nm,0.6s,baz=132,slow=4.4,SNR=7.6						
YKA				pP	pP	16 52 19.1	-0.4
	comp=E,0.3nm,0.7s,baz=133,slow=4.7,SNR=5.4						
H11S2	WAKE ISLAND Hy	126.97	278	T	T	19 17 39.1	
	baz=103,slow=74,SNR=114						
H11S1	WAKE ISLAND Hy	126.98	278	T	T	19 17 36.8	
	baz=103,slow=74,SNR=60						
H11S3	WAKE ISLAND Hy	126.99	278	T	T	19 17 41.4	
	baz=103,slow=74,SNR=75						
H11N3	WAKE ISLAND Hy	127.05	279	T	T	19 17 30.6	
	baz=102,slow=75,SNR=48						
H11N2	WAKE ISLAND Hy	127.07	279	T	T	19 17 32.5	
	baz=102,slow=75,SNR=46						
H11N1	WAKE ISLAND Hy	127.07	279	T	T	19 17 31.8	
	baz=102,slow=75,SNR=27						
ASAR	Alice Springs	129.64	209	PKP	PKPdf	16 58 10.3	+0.2
	comp=E,0.4nm,0.9s,baz=121,slow=1.6,SNR=3.4						
ASAR				pPKP	pPKPdf	16 58 27.1	-0.2
	comp=E,0.3nm,0.9s,baz=163,slow=3.6,SNR=2.1						
WRA	Warramunga Arr	132.64	212	PKP	PKPdf	16 58 16.5	+0.7
	comp=E,0.2nm,0.6s,baz=152,slow=1.4,SNR=6.4						
ZALV	Zalesovo Beam	142.17	24	PKhKP	PKPpre	16 58 28.3	
	comp=E,0.3nm,0.5s,baz=289,slow=4.4,SNR=2.6						
ZALV				PKP	PKiKP	16 58 33.0	-2.2
	comp=E,0.6nm,0.5s,baz=252,slow=1.4,SNR=4.4						
ZALV				pPKP	pPKPdf	16 58 49.7	+0.3
	comp=E,0.8nm,0.4s,baz=307,slow=3.1,SNR=3.5						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**146.01**	**35**	PKPbc	**PKPbc**	**16 58 39.2**	**-0.9**
	comp=E,1.5nm,0.7s,baz=323,slow=3.9,SNR=24						
MKAR				pPKPbc	**pPKPdf**	**16 58 56.3**	**-0.2**
	comp=E,0.8nm,0.7s,baz=331,slow=3.2,SNR=5.9						

DJA 01 17:19:21.1±0.6**,1°S**±2°×**12°3E**±°**,h13**km±4km**,M3.7**/8**,**
mb3.7/1**,MLv3.8**/8**,Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**0.81**	**237**	P	Pb	17 19 37.0	-0.1
LUWI				S	Sg	17 19 47.5	-0.1
KMSI	**Cibinong**	**1.27**	**25**	P	Pb	17 19 45.1	+0.1
KMSI				S	Sg	17 20 02.2	0.0
APSI	**Ampana**	**1.83**	**260**	P	Pn	17 19 51.4	-0.9
APSI				S	Sb	17 20 16.4	-0.9
MRSI	**Marisa**	**1.84**	**305**	P	Pn	17 19 50.9	-1.6
MRSI				S	Sn	17 20 16.5	+0.8
SANI	**Sanana**	**2.92**	**120**	P	Pn	17 20 08.0	+0.7
SANI				S	Sn	17 20 41.4	-0.9
MPSI	**Mapaga**	**3.67**	**285**	P	Pn	17 20 17.5	-0.1
LBMI	**Labuha**	**4.05**	**91**	P	Pn	17 20 22.5	-0.4
TTSI	**Tana Toraja**	**4.37**	**236**	P	Pn	17 20 29.5	+2.2
NLAI	**Namlea**	**4.50**	**126**	P	Pn	17 20 32.3	+3.3
BBSI	**Bau Bau**	**4.94**	**190**	P	Pn	17 20 36.9	+1.8
BNSI	**Bone**	**5.05**	**221**	P	Pn	17 20 37.7	+1.1

*ISCJB **01** 17:29:03.0±1.1, 6°8S±0°2×155°3E±0°1, h41km, mb3.7/7, Error ellipse: s-maj=31.8km s-min=10.3km az=145.4*
*IDC **01** 17:29:06.3±6.3, 6°83S×155°24E, h56km±50km, mb3.5/7, mb1 3.8/8, mb1mx3.4/48, mbtmp3.8/8, ML1.7/1, MS3.1/1, Ms1 3.1/1, ms1mx2.5/23, Error ellipse: s-maj=43.6km s-min=26.0km az=115.0*
ISC 01 17:29:04.2±1.2**,6°8S**±0°2×**155°4E**±0°2**,h41**km**,n23,**
σ**0s57**/22**,mb3.6**/7**,Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.23**	**120**	LR	LR	17 32 34.7	
	comp=Z,206nm,21.9s,baz=312,slow=39						
PMG	**Port Moresby**	**8.52**	**252**	P	**Pn**	**17 31 06.4**	**+1.3**
	0.4nm,0.3s,baz=145,slow=14,SNR=2.4						
PMG				S	**Sn**	**17 32 39.7**	**-0.3**
	0.9nm,0.3s,baz=82,slow=21,SNR=3.7						
WRA	**Warramunga Arr**	**24.22**	**235**	P	**P**	**17 34 16.6**	**-0.7**
	0.9nm,0.7s,baz=59,slow=9.3,SNR=18						
WRA				PcP	**PcP**	**17 37 57.5**	**+0.2**
	0.3nm,0.5s,baz=62,slow=2.5,SNR=6.9						
ASAR	**Alice Springs**	**26.56**	**229**	P	**P**	**17 34 37.7**	**-1.0**
	0.3nm,0.6s,baz=62,slow=9.2,SNR=11						
ASAR				PcP	**PcP**	**17 38 02.9**	**+0.3**
	0.3nm,0.9s,baz=87,slow=3.3,SNR=3.0						
H11S3	**WAKE ISLAND Hy**	**27.52**	**24**	T	T	18 03 05.1	
	baz=203,SNR=4.5						
H11S2	**WAKE ISLAND Hy**	**27.52**	**24**	T	T	18 03 04.6	
	baz=203,SNR=3.9						
H11S1	**WAKE ISLAND Hy**	**27.54**	**24**	T	T	18 03 11.0	
	baz=203						
CMAR	**Chiang Mai Arr**	**61.03**	**295**	P	**P**	**17 39 14.3**	**0.0**
	3.2nm,0.8s,baz=120,slow=5.2,SNR=31						
SONM	**Songino Array**	**69.38**	**327**	P	**P**	**17 40 07.8**	**-0.2**
	0.4nm,0.5s,baz=126,slow=7.3,SNR=3.4						
ODAN	**Odare**	**73.75**	**300**	*e*P	**P**	**17 40 34.7**	**-0.2**
	12nm,0.6s						
RAMN	**Ramite**	**74.45**	**300**	*e*P	**P**	**17 40 38.5**	**-0.5**
	4.6nm,0.5s						
JIRN	**Jiri**	**75.00**	**301**	*e*P	**P**	**17 40 42.1**	**-0.2**
	11nm,0.6s						
GUN	**Gumba**	**75.33**	**301**	*e*P	**P**	**17 40 43.9**	**-0.3**
	12nm,0.7s						
PKI	**Pulchoki**	**75.64**	**301**	*e*P	**P**	**17 40 45.4**	**-0.6**
PKIN	**Phulchoki**	**75.66**	**301**	*e*P	**P**	**17 40 46.0**	**0.0**
KKN	**Kakani**	**75.81**	**301**	*e*P	**P**	**17 40 46.5**	**-0.3**
	7.4nm,0.8s						
DMN	**Daman**	**75.91**	**301**	*e*P	**P**	**17 40 47.4**	**0.0**
	10nm,0.8s						
GKN	**Gorkha**	**76.42**	**301**	*e*P	**P**	**17 40 49.7**	**-0.5**
KOLN	**Koldanda**	**77.24**	**300**	*e*P	**P**	**17 40 54.3**	**-0.6**
	2.6nm,0.4s						
ILAR	**Eielson Array**	**83.07**	**21**	P	**P**	**17 41 25.2**	**0.0**
	0.4nm,0.7s,baz=252,slow=5.6,SNR=7.2						
MKAR	**Makanchi Array**	**83.51**	**319**	P	**P**	**17 41 27.6**	**-0.3**
	0.8nm,0.9s,baz=123,slow=6.4,SNR=4.8						
YKA	**Yellowknife Ar**	**96.01**	**28**	P	**P**	**17 42 27.8**	**+0.9**
	0.6nm,0.9s,baz=267,slow=4.9,SNR=9.2						
TORD	**Torodi Ar. Bea**	**153.33**	**286**	PKPbc	**PKPbc**	**17 48 58.5**	**-0.5**
	0.8nm,0.8s,baz=84,slow=1.8,SNR=4.2						

*NIED **01** 17:30:00, 20°80N×122°40E, h35km, Mw4.1 Best double couple: M0 1.49000×10^15 NP1:φs125.00000°, δ15.00000°, λ8.00000°. NP2:φs28.00000°, δ88.00000°, λ105.00000°.*
*IDC **01** 17:30:54.3±0.9, 20°21N×122°58E, h0km, mb3.4/6, mb1 3.6/8, mb1mx3.3/63, mbtmp3.5/8, ML3.6/2, Error ellipse: s-maj=30.8km s-min=18.9km az=69.0*
*ISCJB **01** 17:30:58.0±0.6, 20°39N±0°04×122°76E±0°08, h36km, mb3.3/6, Error ellipse: s-maj=11.2km s-min=4.6km az=21.3*
*JMA **01** 17:30:58.8±0.5, 20°76N×122°43E, h0km, M4.3*
*MAN **01** 17:31:00, 20°01N×122°40E, h1km, mb4.8, ML3.7, MS3.6*
ISC 01 17:30:59.5±0.8**,20°36N**±0°07×**122°69E**±0°10**,h36**km**,n27,**
σ**1s52**/38**,mb3.3**/6**,1C,Philippine Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HATJ	**Hateruma jima**	**3.83**	**15**	P	**Pn**	**17 31 56.7**	**+0.8**
HATJ				*e*S	**Sn**	**17 32 38.1**	**-1.5**
JKRS	**Kuro-shima**	**4.05**	**17**	P	**Pn**	**17 31 59.8**	**+0.8**
JKRS				S	**Sn**	**17 32 43.8**	**-1.4**
IRIF	**Iriomote-Funau**	**4.08**	**14**	P	**Pn**	**17 32 00.0**	**+0.7**
IRIF				S	**Sn**	**17 32 44.8**	**-1.0**
JYNG	**Yonagunijimaku**	**4.08**	**3**	P	**Pn**	**17 31 59.9**	**+0.5**
JYNG				*e*S	**Sn**	**17 32 45.4**	**-0.5**
YOJ	**Yonaguni jima**	**4.10**	**4**	P	**Pn**	**17 32 00.2**	**+0.6**
YOJ				*e*S	**Sn**	**17 32 44.8**	**-1.5**
JIJ	**Ishigaki jima**	**4.21**	**18**	P	**Pn**	**17 32 02.0**	**+0.8**
JIJ				S	**Sn**	**17 32 46.9**	**-2.2**
JISG	**Ishigakijimahi**	**4.47**	**19**	P	**Pn**	**17 32 05.8**	**+1.1**
JISG				S	**Sn**	**17 32 54.7**	**-0.8**
JTJ	**Tarama**	**4.65**	**23**	P	**Pn**	**17 32 09.2**	**+2.0**
JTJ				S	**Sn**	**17 32 59.0**	**-1.0**
JIRB	**Irabujima**	**5.01**	**27**	P	**Pn**	**17 32 13.4**	**+1.3**
JIRB				*e*S	**Sn**	**17 33 08.0**	**-0.8**
JOGS	**Gusukube**	**5.05**	**29**	P	**Pn**	**17 32 14.7**	**+2.0**
JOGS				*e*S	**Sn**	**17 33 11.9**	**+2.1**
GQP	**Guinayangan**	**6.42**	**182**	⇑*e*P	**Pn**	**17 32 31.9**	**+0.4**
JKE	**Kume jima 2**	**7.03**	**32**	P	**Pn**	**17 32 41.2**	**+1.2**
JKE				*e*S	**Sn**	**17 33 58.0**	**-0.7**
JAGN	**Aguni-jima**	**7.48**	**33**	*e*S	**Sn**	**17 34 09.1**	**-0.6**
JIH	**Iheya**	**8.22**	**35**	P	**Pn**	**17 32 57.0**	**+0.8**
JIH				*e*S	**Sn**	**17 34 26.7**	**-1.2**
JOW	**Kunigami**	**8.23**	**37**	Pn	**Pn**	**17 32 57.6**	**+1.2**
	2.9nm,0.3s,baz=322,slow=13,SNR=13						
JOW				Sn	**Sn**	**17 34 23.6**	**-4.6**
	1.6nm,0.3s,baz=304,slow=29,SNR=6.1						
JOW	**Kunigami**	**8.23**	**37**	P	**Pn**	**17 32 58.3**	**+1.9**
JOW				S	**Sn**	**17 34 24.9**	**-3.3**
KSRS	**Korea Array**	**17.64**	**14**	P	**P**	**17 35 04.8**	**+1.8**
	0.1nm,0.3s,baz=204,slow=12,SNR=4.5						
CMAR	**Chiang Mai Arr**	**22.47**	**269**	P	**P**	**17 35 55.4**	**-0.4**
	0.8nm,1.0s,baz=72,slow=9.7,SNR=5.1						
H11S3	**WAKE ISLAND Hy**	**41.45**	**85**	T	T	18 23 53.0	
	baz=281,slow=74,SNR=4.7						
H11S1	**WAKE ISLAND Hy**	**41.46**	**85**	T	T	18 23 53.6	
	baz=281,slow=74,SNR=8.0						
H11S2	**WAKE ISLAND Hy**	**41.46**	**85**	T	T	18 23 55.4	
	baz=281,slow=74,SNR=4.9						
WRA	**Warramunga Arr**	**41.65**	**163**	P	**P**	**17 38 43.1**	**-1.5**
	0.4nm,0.7s,baz=344,slow=9.0,SNR=4.9						
MKAR	**Makanchi Array**	**42.08**	**318**	P	**P**	**17 38 48.2**	**+0.3**
	0.3nm,0.5s,baz=106,slow=9.7,SNR=8.0						
ZALV	**Zalesovo Beam**	**44.21**	**329**	P	**P**	**17 39 04.9**	**-0.1**
	0.3nm,0.4s,baz=123,slow=7.2,SNR=2.9						
ASAR	**Alice Springs**	**45.10**	**165**	P	**P**	**17 39 11.6**	**-0.8**
	0.2nm,0.4s,baz=347,slow=6.6,SNR=15						
KURBB	**Kurchatov Arra**	**45.94**	**322**	P	**P**	**17 39 18.4**	**-0.4**
	0.5nm,0.8s,baz=112,slow=8.1,SNR=3.4						
SDV	**Santo Domingo**	**148.12**	**26**	PKPbc	**PKPbc**	**17 50 43.4**	**+0.7**
	4.9nm,0.5s,baz=12,slow=7.2,SNR=9.6						

*NEIC **01** 17:37:40.5±0.0, 16°57N×98°86W, h16km, MD4.0(MEX), After MEX.*
MEX 01 17:37:40.5±0.9**,16°57N**×**98°86W,h17**km±559km**,MD4.0,**
Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.73**	**104**	*e*P	Pb	17 37 52.9	-1.8
PNIG				*i* S	Sg	17 38 00.6	-3.8
PNIG	**Pinotepa**	**0.73**	**104**	*e*P	Pb	17 37 52.9	-1.8
PNIG				*i* S	Sg	17 38 00.6	-3.8
TLIG	**Tlapa**	**1.03**	**16**	*e*P	Pb	17 37 56.4	-3.6
TLIG				*e*S	Sb	17 38 08.4	-4.8
TLIG	**Tlapa**	**1.03**	**16**	*e*P	Pb	17 37 56.4	-3.6
TLIG				*e*S	Sb	17 38 08.4	-4.8
CAIG	**El Cayaco**	**1.43**	**290**	*e*P	Pn	17 38 01.8	-3.9
CAIG				*e*S	Sn	17 38 18.9	-5.2
CAIG	**El Cayaco**	**1.43**	**290**	*e*P	Pn	17 38 01.8	-3.9
CAIG				*e*S	Sn	17 38 18.9	-5.2
PLIG	**Platanillo**	**1.91**	**341**	*e*P	Pn	17 38 10.0	-2.5
PLIG				*e*S	Sn	17 38 32.2	-4.0
PLIG	**Platanillo**	**1.91**	**341**	*e*P	Pn	17 38 10.0	-2.5
PLIG				*e*S	Sn	17 38 32.2	-4.0
VHO	**Vista Hermosa**	**2.10**	**76**	*e*P	Pn	17 38 11.7	-3.4
VHO				*e*S	Sn	17 38 37.2	-3.8
VHO	**Vista Hermosa**	**2.10**	**76**	*e*P	Pn	17 38 11.7	-3.4
VHO				*e*S	Sn	17 38 37.2	-3.8
HUIG	**Huatulco**	**2.76**	**106**	*e*P	Pn	17 38 21.7	-2.4
HUIG				*e*S	Sn	17 38 52.7	-4.3
HUIG	**Huatulco**	**2.76**	**106**	*e*P	Pn	17 38 21.7	-2.4
HUIG				*e*S	Sn	17 38 52.7	-4.3
MOIG	**Morelia**	**3.80**	**325**	Pn	Pn	17 38 38.3	-0.3
MOIG				*e*Sg	Sb	17 39 37.6	+4.4

*IDC **01** 17:42:12.8±3.5, 35°99N×71°14E, h68km±29km, mb3.4/10, mb1 3.5/16, mb1mx3.2/65, mbtmp3.7/16, ML3.5/6, MS2.7/1, Ms1 2.7/1, ms1mx2.1/41, Error ellipse: s-maj=24.6km s-min=18.2km az=173.0*
*NNC **01** 17:42:20.9±4.9, 36°61N×70°67E, h108km±110km, mb3.4, mpv4.1, Error ellipse: s-maj=41.5km s-min=37.6km az=96.0*
ISC 01 17:42:15.6±0.8**,36°23N**±0°07×**71°02E**±0°06**,h100**km**,n44,**
σ**2s81**/47**,mb3.7**/9**,6C-6D,Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**4.26**	**27**	⇓P	**Pn**	**17 43 21.0**	**+2.6**
	7.8nm,0.3s						
SFK				⇑S	**Sn**	**17 44 09.8**	**+2.7**
	9.6nm,0.3s						
AML	**Almayashu**	**6.25**	**19**	P	**Pn**	**17 43 46.9**	**+1.3**
	SNR=156						
MNAS	**Manas**	**6.36**	**10**	⇓P	**Pn**	**17 43 48.4**	**+1.6**
	4.2nm,0.3s						
MNAS				⇓S	**Sn**	**17 44 56.2**	**-1.7**
	9.4nm,0.5s						
UCH	**Uchtor**	**6.58**	**23**	P	**Pn**	**17 43 51.3**	**+1.2**
	SNR=15						
KZA	**Kyzart**	**6.70**	**28**	P	**Pn**	**17 43 52.8**	**+1.1**
	SNR=14						
EKS2	**Erkin-Say**	**6.77**	**17**	P	**Pn**	**17 43 53.9**	**+1.5**
	SNR=54						
KK31	**Karatay Array**	**6.88**	**357**	⇑P	**Pn**	**17 43 55.0**	**+1.2**
	8.9nm,0.3s,baz=177,slow=12,SNR=372						
KK31				⇓S	**Sn**	**17 45 08.1**	**-2.4**
	8.1nm,0.4s,baz=187,slow=23,SNR=10						
AAK	**Ala-Archa**	**6.94**	**22**	P	**Pn**	**17 43 56.4**	**+1.6**
	4.6nm,0.3s,baz=163,slow=5.9,SNR=80						
AAK				S	**Sn**	**17 45 11.2**	**-1.0**
	0.6nm,0.3s,baz=328,slow=20,SNR=7.0						
AAK	**Ala-Archa**	**6.94**	**22**	P	**Pn**	**17 43 56.0**	**+1.2**
	8.3nm,0.5s						
AAK				S	**Sn**	**17 45 10.2**	**-2.1**
	8.3nm,0.8s						
AAK	**Ala-Archa**	**6.94**	**22**	P	**Pn**	**17 43 56.2**	**+1.5**
	SNR=21						
KBK	**Karagaybulak**	**7.10**	**24**	P	**Pn**	**17 43 58.4**	**+1.5**
	SNR=9.6						
CHMS	**Chumysh**	**7.35**	**22**	P	**Pn**	**17 44 01.3**	**+1.1**
	SNR=11						
USP	**Ospenovka**	**7.52**	**20**	P	**Pn**	**17 44 04.0**	**+1.4**
	SNR=27						
TKM2	**Tokmak 2**	**7.56**	**26**	⇓P	**Pn**	**17 44 04.1**	**+0.9**
	6.2nm,0.6s						
TKM2				⇓S	**Sn**	**17 45 25.8**	**-1.5**
	3.9nm,1.1s						
TKM2	**Tokmak 2**	**7.56**	**26**	P	**Pn**	**17 44 04.4**	**+1.2**
	SNR=8.8						
GEYT	**Alibeck**	**10.45**	**283**	P	**Pn**	**17 44 42.8**	**+0.4**
	0.5nm,0.3s,baz=110,slow=13,SNR=5.6						
GEYT				S	**Sn**	**17 46 35.6**	**-1.9**
	0.7nm,0.3s,baz=111,slow=16,SNR=5.7						
PYUN	**Piuthan**	**12.97**	**125**	*e*P	Pn	17 45 11.6	-4.7
	11nm,0.4s						
DANN	**Dangsing**	**13.32**	**123**	*e*P	Pn	17 45 16.9	-4.1
MKAR	**Makanchi Array**	**13.50**	**35**	P	**Pn**	**17 45 22.7**	**-0.2**
	0.0nm,0.3s,baz=222,slow=13,SNR=3.5						
KOLN	**Koldanda**	**13.59**	**125**	*e*P	**Pn**	**17 45 20.8**	**-3.6**
	6.7nm,0.3s						
GKN	**Gorkha**	**14.14**	**122**	*e*P	Pn	17 45 27.2	-4.3
	12nm,0.4s						
GKN				*e*S	Sn	17 47 51.9	-15
DMN	**Daman**	**14.71**	**122**	*e*P	Pn	17 45 34.2	-4.7
	6.0nm,0.3s						
KKN	**Kakani**	**14.72**	**121**	*e*P	Pn	17 45 33.8	-5.1
PKIN	**Phulchoki**	**14.93**	**121**	*e*P	Pn	17 45 37.4	-4.3
	7.8nm,0.4s						
PKI	**Pulchoki**	**14.95**	**121**	*e*P	Pn	17 45 37.4	-4.5
	3.9nm,0.2s						
GUN	**Gumba**	**15.07**	**119**	*e*P	**Pn**	**17 45 38.9**	**-4.6**
AB31	**Akbulak array**	**15.33**	**332**	⇑P	**Pn**	**17 45 45.9**	**-0.4**
	0.2nm,0.3s,baz=33,slow=24,SNR=18						
AB31				⇑S	**Sn**	**17 48 28.6**	**-6.9**
	0.8nm,0.5s,baz=149,slow=22,SNR=4.5						
KURBB	**Kurchatov Arra**	**15.38**	**18**	P	**P**	**17 45 49.7**	**+0.4**
	0.1nm,0.3s,baz=207,slow=10,SNR=7.2						
JIRN	**Jiri**	**15.44**	**119**	*e*P	**Pn**	**17 45 43.3**	**-4.9**
	38nm,0.5s						
RAMN	**Ramite**	**16.16**	**121**	*e*P	**Pn**	**17 45 52.6**	**-4.5**
ODAN	**Odare**	**16.77**	**119**	*e*P	**Pn**	**17 46 00.5**	**-4.1**
	9.0nm,0.5s						
BVAR	**Borovoye Array**	**16.80**	**359**	P	**P**	**17 46 06.4**	**+1.4**
	0.5nm,0.3s,baz=164,slow=12,SNR=8.5						
AKTO	**Aktyubinsk**	**17.03**	**331**	P	**P**	**17 46 10.2**	**+2.7**
	0.3nm,0.3s,baz=150,slow=11,SNR=14						
AKTO				S	**Sn**	**17 49 09.0**	**-7.3**
	0.1nm,0.3s,baz=18,slow=22,SNR=2.0						
AKTO				LR	LR	17 54 26.7	
	comp=Z,24nm,20.8s,baz=50,slow=42						
AKTO	**Aktyubinsk**	**17.03**	**331**	⇑P	**P**	**17 46 09.6**	**+2.0**
	4.7nm,0.8s						
AKTO				⇑S	**Sn**	**17 49 11.2**	**-5.2**
	2.4nm,0.7s						
ZALV	**Zalesovo Beam**	**20.16**	**24**	P	**P**	**17 46 42.1**	**+0.5**
	0.9nm,0.3s,baz=213,slow=12,SNR=7.1						
ARU	**Arti**	**21.90**	**341**	P	**P**	**17 47 04.6**	**+4.4**
	1.2nm,0.5s,baz=131,slow=9.3,SNR=4.4						
FINES	**FINESS Array B**	**37.72**	**326**	P	**P**	**17 49 24.1**	**+3.0**
	0.9nm,0.7s,baz=107,slow=12,SNR=4.2						
ARCES	**ARCESS Array B**	**41.40**	**338**	P	**P**	**17 49 54.5**	**+2.9**
	5.0nm,1.2s,baz=96,slow=7.6,SNR=6.5						
HFS	**Hagfors**	**43.29**	**322**	P	**P**	**17 50 10.0**	**+3.0**
	2.4nm,0.8s,baz=104,slow=12,SNR=4.1						
NOA	**NORSAR Array B**	**44.61**	**323**	P	**P**	**17 50 20.0**	**+2.4**
	1.2nm,0.9s,baz=101,slow=4.6,SNR=2.8						
TORD	**Torodi Ar. Bea**	**65.73**	**269**	P	**P**	**17 52 50.0**	**+0.1**
	0.5nm,0.5s,baz=52,slow=5.2,SNR=4.6						
YKA	**Yellowknife Ar**	**81.52**	**3**	P	**P**	**17 54 23.0**	**+1.5**
	0.2nm,0.5s,baz=343,slow=4.9,SNR=4.0						
WRA	**Warramunga Arr**	**81.83**	**122**	P	**P**	**17 54 23.7**	**-0.1**
	0.1nm,0.5s,baz=326,slow=4.7,SNR=4.5						
ASAR	**Alice Springs**	**84.08**	**125**	P	**P**	**17 54 35.7**	**+0.3**
	0.2nm,0.9s,baz=313,slow=4.9,SNR=3.4						

RSNC 01 17:43:15.0±0.7**,9°62N**×**73°33W,h0**km±11km**,ML2.2,**
Northern Colombia

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CODC	**Agust˘›n Codaz**	**0.33**	**340**	*e*P	Pg	17 43 21.8	+0.4
CODC				*i*		17 43 41.0	
	comp=Z,223nm,0.6s						
CODC	**Agust˘›n Codaz**	**0.33**	**340**	*e*P	Pg	17 43 21.7	+0.3
CODC				*i*		17 43 27.5	
	comp=Z,237nm,0.4s						
OCAC	**Ocana**	**1.37**	**180**	*e*P	Pg	17 43 39.7	-1.6
OCAC	**Ocana**	**1.37**	**180**	*e*P	Pg	17 43 39.5	-1.9
PAMC	**Pamplona, Colo**	**2.35**	**165**	*e*P	Pn	17 43 54.7	-0.6
PAMC				*e*S	Sn	17 44 25.1	0.0
PAMC	**Pamplona, Colo**	**2.35**	**165**	*e*P	Pn	17 43 56.2	+0.9
PAMC				*e*S	Sb	17 44 27.1	-1.3
MOTC	**Monteria, Cord**	**2.45**	**250**	*e*S	Sn	17 44 26.5	-0.5
ZARC	**Zaragoza, Cauc**	**2.60**	**216**	*e*P	Pn	17 43 56.1	-2.2
ZARC				*e*S	Sn	17 44 30.1	-0.5
ZARC	**Zaragoza, Cauc**	**2.60**	**216**	*e*P	Pn	17 43 56.1	-2.2
ZARC				*e*S	Sn	17 44 28.2	-2.5
ZARC				*i*		17 44 39.8	
	comp=Z,15nm,1.0s						
PTBC	**PUERTO BERRIO,**	**3.26**	**200**	*e*P	Pn	17 44 06.3	-1.1
PTBC				*i*		17 45 04.7	
	comp=Z,5.7nm,0.7s						
PTBC	**PUERTO BERRIO,**	**3.26**	**200**	*e*P	Pn	17 44 05.1	-2.3
PTBC				*e*S	Sn	17 44 45.0	-1.9
PTBC				*i*		17 45 04.7	
	comp=Z,5.7nm,0.7s						
RUSC	**La Rusia**	**3.71**	**176**	*e*P	Pn	17 44 12.2	-1.9
RUSC				*i*		17 45 28.8	
	comp=Z,3.8nm,0.6s						
RUSC	**La Rusia**	**3.71**	**176**	*e*P	Pn	17 44 13.4	-0.7
RUSC				*e*S	Sn	17 45 00.3	+1.5
RUSC				*i*		17 45 22.5	
	comp=Z,4.0nm,0.7s						

*ISCJB **01** 18:10:42.0±0.6, 43°88N±0°06×105°16W±0°08, h0km, Error ellipse: s-maj=8.6km s-min=8.4km az=144.9*
*NEIC **01** 18:10:42.9±0.9, 43°73N×105°19W, h0km, MN2.8, Error ellipse: s-maj=13.4km s-min=13.1km az=186.0, Suspected Mining explosion.*
NEIC 68 km [42 miles] SSE of Gillette.
*IDC **01** 18:10:44.1±1.8, 43°93N×105°59W, h0km, mb1 3.6/3, mb1mx3.2/68, mbtmp3.4/3, ML2.8/2, Error ellipse: s-maj=48.5km s-min=8.8km az=148.0*
ISC 01 18:10:42.6±1.1**,43°76N**±0°07×**105°25W**±0°06**,h0**km**,n17,**
σ**1s89**/15**,Wyoming**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.95**	**67**	*e*Pn	**Pb**	**18 11 02.1**	**0.0**
K22A	**Casper**	**1.45**	**220**	*e*Pn	**Pn**	**18 11 10.4**	**+0.2**
LAO	**LASA Array**	**3.01**	**347**	*e*Pn	**Pn**	**18 11 29.3**	**-2.3**
RLMT	**Red Lodge**	**3.18**	**297**	*e*Pn	**Pn**	**18 11 35.5**	**+1.4**
PDAR	**Pinedale Array**	**3.30**	**254**	Pn	**Pn**	**18 11 38.2**	**+2.4**
	6.0nm,0.3s,baz=74,slow=16,SNR=64						
PDAR				Lg	Lg	18 12 21.1	
	23nm,0.3s,baz=72,slow=31,SNR=12						
OGNE	**Ogallala**	**3.69**	**139**	*e*Pn	**Pn**	**18 11 43.6**	**+2.6**
GCMT	**Greycliff**	**3.74**	**304**	*e*Pn	**Pn**	**18 11 43.7**	**+1.9**
H17A	**Grant Village**	**3.89**	**281**	*e*Pn	**Pn**	**18 11 46.2**	**+2.3**
ISCO	**Idaho Springs**	**3.97**	**184**	*e*Pn	**Pn**	**18 11 47.1**	**+2.0**
YMR	**Madison River**	**4.21**	**284**	Pn	Pn	18 11 35.9	-12
O20A	**White River Ci**	**4.25**	**213**	*e*Pn	Pn	18 11 44.1	-4.7
BOZ	**Bozeman (W)**	**4.90**	**294**	*e*Pn	**Pn**	**18 11 58.3**	**+0.5**
KSCO	**Kaye Shedlock'**	**5.14**	**157**	Pn	**Pn**	**18 11 59.2**	**-1.7**
	23nm,0.4s						
JLU	**Jordanelle**	**5.58**	**238**	Pn	**Pn**	**18 12 05.1**	**-2.0**
	6.8nm,0.6s						
MPU	**Maple Canyon**	**6.05**	**234**	Pn	**Pn**	**18 12 15.2**	**+1.6**
	22nm,0.8s						
ULM	**Lac du Bonnet**	**9.12**	**41**	Pn	**Pn**	**18 12 55.1**	**-0.3**
	1.0nm,0.3s,baz=237,slow=13,SNR=9.5						
ULM				Lg	Lg	18 15 24.4	
	0.5nm,0.3s,baz=134,slow=18,SNR=3.6						
YKA	**Yellowknife Ar**	**19.55**	**347**	P	**P**	**18 15 11.3**	**-0.3**
	0.1nm,0.3s,baz=159,slow=11,SNR=7.4						

*NIED **01** 18:17:00, 36°60N×140°90E, h44km, Mw3.5 Best double couple: M0 1.90000×10^14 NP1:φs185.00000°, δ51.00000°, λ-180.00000°. NP2:φs94.00000°, δ90.00000°, λ-39.00000°.*
*ISCJB **01** 18:17:20.4±0.7, 36°55N±0°04×140°98E±0°07, h53km±5km, mb3.4/5, Error ellipse: s-maj=10.2km s-min=5.9km az=19.1*
*IDC **01** 18:17:21.3±1.8, 36°56N×141°01E, h45km±17km, mb3.2/5, mb1 3.4/8, mb1mx3.1/68, mbtmp3.5/8, ML3.3/3, Error ellipse: s-maj=16.5km s-min=10.9km az=77.0*
*JMA **01** 18:17:22.0±0.1, 36°54N×140°85E, h51km±1km, M3.5*
JMA Felt I J1.
ISC 01 18:17:21.4±1.2**,36°55N**±0°05×**140°97E**±0°08**,h45**km±10km**,**
n23,σ**0s59**/27**,mb3.5**/5**,Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JHO	**Hitachi**	**0.33**	**281**	P	**Pn**	**18 17 30.8**	**+0.4**
JHO				S	**Sn**	**18 17 36.6**	**-0.1**
ONAJ	**Iwakimizuishiy**	**0.57**	**346**	P	**Pn**	**18 17 33.6**	**+0.3**
ONAJ				S	**Sn**	**18 17 41.5**	**-0.3**
JYT	**Yasato**	**0.70**	**243**	P	**Pn**	**18 17 34.6**	**-0.4**
JYT				S	**Sn**	**18 17 43.5**	**-1.3**
JFK	**Kawauchi**	**0.82**	**355**	P	**Pn**	**18 17 36.7**	**+0.1**
JFK				S	**Sn**	**18 17 47.2**	**-0.5**
JSB	**Shiboa**	**0.94**	**297**	P	**Pn**	**18 17 38.2**	**0.0**
JSB				S	**Sn**	**18 17 50.2**	**-0.4**
JFT	**Otama**	**1.09**	**333**	P	**Pn**	**18 17 41.0**	**+0.7**
JFT				S	**Sn**	**18 17 54.6**	**+0.4**
JAG	**Ashikaga**	**1.23**	**265**	P	**Pn**	**18 17 41.7**	**-0.4**
JFY	**Yanaizu**	**1.33**	**311**	P	**Pn**	**18 17 43.7**	**+0.2**
MJAR	**Matsushiro Arr**	**2.22**	**271**	P	**Pn**	**18 17 56.2**	**+0.4**
	5.4nm,0.3s,baz=90,slow=13,SNR=72						
MJAR				S	**Sn**	**18 18 22.5**	**+0.5**
	14nm,0.3s,baz=92,slow=17,SNR=18						
MAT	**Matsushiro**	**2.23**	**271**	P	**Pn**	**18 17 56.5**	**+0.7**
MAT				S	**Sn**	**18 18 21.6**	**-0.5**
JHJ	**Hachijo jima 2**	**3.56**	**196**	P	**Pn**	**18 18 15.3**	**+1.2**
	8.4nm,0.3s,baz=17,slow=19,SNR=7.0						
JHJ				S	**Sn**	**18 18 55.5**	**+0.6**
	27nm,0.3s,baz=126,slow=22,SNR=7.6						
ASAJ	**Asahikawa**	**7.66**	**9**	P	**Pn**	**18 19 10.3**	**-0.1**
	0.6nm,0.3s,baz=218,slow=18,SNR=11						
ASAJ				S	**Sn**	**18 20 34.9**	**-0.9**
	0.4nm,0.3s,baz=144,slow=19,SNR=3.2						
SONM	**Songino Array**	**27.76**	**305**	P	**P**	**18 23 06.5**	**+0.6**
	0.6nm,0.5s,baz=108,slow=8.1,SNR=6.0						
H11N2	**WAKE ISLAND Hy**	**28.21**	**119**	T	T	18 52 50.1	
	baz=312,slow=75,SNR=9.0						
H11N1	**WAKE ISLAND Hy**	**28.22**	**119**	T	T	18 52 50.8	
	baz=312,slow=75,SNR=7.8						
H11N3	**WAKE ISLAND Hy**	**28.23**	**119**	T	T	18 52 51.5	
	baz=312,slow=75,SNR=4.2						
H11S1	**WAKE ISLAND Hy**	**28.90**	**122**	T	T	18 53 43.4	
	baz=314,slow=76,SNR=24						
H11S3	**WAKE ISLAND Hy**	**28.90**	**122**	T	T	18 53 53.3	
	baz=314,slow=76,SNR=14						
H11S2	**WAKE ISLAND Hy**	**28.92**	**122**	T	T	18 54 02.8	
	baz=314,slow=76,SNR=16						
ZALV	**Zalesovo Beam**	**41.98**	**313**	P	**P**	**18 25 07.7**	**-0.1**
	0.7nm,0.5s,baz=99,slow=8.0,SNR=5.1						
MKAR	**Makanchi Array**	**44.08**	**302**	P	**P**	**18 25 25.3**	**+0.4**
	0.3nm,0.7s,baz=86,slow=9.5,SNR=3.2						
KURBB	**Kurchatov Arra**	**46.02**	**308**	P	**P**	**18 25 39.7**	**-0.5**
	0.5nm,0.6s,baz=83,slow=7.8,SNR=3.9						
WRA	**Warramunga Arr**	**56.53**	**187**	P	**P**	**18 26 58.9**	**-0.3**
	0.1nm,0.3s,baz=2.8,slow=7.6,SNR=4.3						

IDC 01 18:23:10.9±64.0**,20°92S**×**178°96W,h0**km**,mb3.6**/3**,**
mb1 3.8/3**,mb1mx3.5**/44**,mbtmp3.6**/3**,Error ellipse: s-maj=1157.0km s-min=158.7km az=83.0,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**36.79**	**244**	P	P	18 30 19.6	-1.0
	2.8nm,0.9s,baz=83,slow=8.1,SNR=4.7						
ASAR	**Alice Springs**	**43.54**	**257**	P	P	18 31 17.1	+0.3
	0.4nm,0.8s,baz=92,slow=6.8,SNR=5.5						
WRA	**Warramunga Arr**	**43.65**	**263**	P	P	18 31 17.9	+0.2
	0.2nm,0.3s,baz=97,slow=7.7,SNR=20						

IDC 01 18:46:28.8±4.6**,6°33S**×**130°03E,h195**km±42km**,mb2.7**/1**,**
mb1 3.1/4**,mb1mx2.8**/53**,mbtmp3.6**/4**,Error ellipse:**

s-maj=55.5km s-min=18.2km az=67.0, Banda Sea

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res ISC
BATI	**Baumata**	**7.39**	**238**	P	Pn	18 48 13.4	-0.7
	4.2nm,0.3s,baz=92,slow=7.1,SNR=16						
BATI				S	Sn	18 49 31.1	-6.6
	6.0nm,0.3s,baz=272,slow=17,SNR=6.5						
WRA	**Warramunga Arr**	**14.16**	**163**	P	Pn	18 49 40.6	-0.4
	0.3nm,0.3s,baz=344,slow=11,SNR=22						
WRA				S	Sn	18 52 10.4	-8.9
	0.6nm,0.3s,baz=338,slow=23,SNR=10						
ASAR	**Alice Springs**	**17.63**	**168**	P	Pn	18 50 22.9	+0.1
	0.3nm,0.3s,baz=344,slow=9.6,SNR=42						
ASAR				S	S	18 53 33.8	-0.4
	0.1nm,0.3s,baz=352,slow=26,SNR=4.4						
MKAR	**Makanchi Array**	**67.69**	**327**	P	P	18 57 05.0	0.0
	0.1nm,0.5s,baz=119,slow=8.1,SNR=3.5						

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*NIED **01** 19:00:00, 40°.90N×145°.40E, h5km, Mw3.6 Best double couple: M₀2.67000×10¹⁴ NP1:φs235.00000°, δ34.00000°, λ-113.00000°. NP2:φs82.00000°, δ59.00000°, λ-75.00000°.*

*IDC **01** 19:00:05.3±0.8, 40°.75N×145°.17E, h0km, mb3.6/12, mb1 3.8/15, mb1mx3.6/61, mbtmp3.7/15, ML3.4/3, MS3.1/4, Ms1 3.1/4, ms1mx2.5/63, Error ellipse: s-maj=21.6km s-min=15.2km az=105.0*

*ISCJB **01** 19:00:07.8±0.5, 40°.80N±0°.03×145°.11E±0°.05, h33km, mb3.6/12, MS3.3/3, Error ellipse: s-maj=5.7km s-min=4.3km az=20.8*

*JMA **01** 19:00:07.1±0.2, 40°.88N×145°.35E, h68km±3km, M4.0*

ISC 01 19:00:09.2±0.8**, 40°.77N**±0°.05×**145°.26E**±0°.07**, h35km, n36, σ2ˢ.42**/46**, mb3.6**/12**, MS3.4**/3**, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res ISC
JEM	**Erimo**	**2.01**	**309**	P	**Pn**	**19 00 39.6**	**-1.0**
JEM				eS	**Sn**	**19 01 01.7**	**-2.8**
JAK	**Akkeshi**	**2.26**	**349**	P	**Pn**	**19 00 41.5**	**-2.5**
JAK				eS	**Sn**	**19 01 08.0**	**-2.6**
JCH	**Churui**	**2.32**	**323**	P	**Pn**	**19 00 43.5**	**-1.4**
JCH				eS	**Sn**	**19 01 09.3**	**-2.9**
JOB	**Onbets**	**2.38**	**334**	P	**Pn**	**19 00 44.2**	**-1.5**
JNBK	**Urakawa-nobuka**	**2.41**	**309**	P	**Pn**	**19 00 45.8**	**-0.3**
JNBK				eS	**Sn**	**19 01 13.2**	**-1.1**
NEM2	**Nemuro 2**	**2.61**	**8**	P	**Pn**	**19 00 46.8**	**-2.1**
NEM2				eS	**Sn**	**19 01 15.3**	**-4.1**
JAR	**Ashorobuto**	**2.75**	**337**	P	**Pn**	**19 00 48.8**	**-2.0**
JAR				eS	**Sn**	**19 01 18.9**	**-4.0**
JNK	**Nakash**	**2.84**	**352**	P	**Pn**	**19 00 49.5**	**-2.5**
JNK				eS	**Sn**	**19 01 19.9**	**-5.0**
JANG	**Nango**	**2.88**	**263**	P	**Pn**	**19 00 50.7**	**-1.9**
JBT2	**Biratori 2**	**2.95**	**314**	P	**Pn**	**19 00 52.3**	**-1.2**
JFR	**Furan**	**3.11**	**321**	P	**Pn**	**19 00 54.5**	**-1.2**
JRA	**Rausu**	**3.16**	**358**	P	**Pn**	**19 00 54.3**	**-2.1**
JTM	**Tenmabayashi**	**3.18**	**272**	P	**Pn**	**19 00 56.0**	**-0.7**
JTM				eS	**Sn**	**19 01 30.0**	**-3.4**
JOT	**Ohata**	**3.24**	**282**	P	**Pn**	**19 00 56.4**	**-1.1**
JOT				eS	**Sn**	**19 01 31.8**	**-3.0**
JOM	**Ohasama**	**3.31**	**248**	P	**Pn**	**19 00 57.6**	**-0.8**
JOM				eS	**Sn**	**19 01 33.5**	**-3.0**
JTKR	**Abashiri--Toko**	**3.35**	**343**	P	**Pn**	**19 00 57.8**	**-1.2**
JTKR				eS	**Sn**	**19 01 34.7**	**-2.8**
JKB	**Kayabe**	**3.37**	**291**	P	**Pn**	**19 00 58.7**	**-0.6**
JEW	**Eniwo**	**3.52**	**307**	P	**Pn**	**19 01 01.6**	**+0.3**
JEW				eS	**Sn**	**19 01 40.9**	**-0.8**
ASAJ	**Asahikawa**	**3.88**	**330**	Pn	**Pn**	**19 01 06.3**	**+0.1**
	1.4nm,0.3s,baz=207,slow=15,SNR=52						
ASAJ				Sn	**Sn**	**19 01 52.3**	**+1.7**
	4.3nm,0.3s,baz=220,slow=28,SNR=7.9						
MJAR	**Matsushiro Arr**	**6.95**	**235**	Pn	**Pn**	**19 01 48.4**	**-0.1**
	0.5nm,0.3s,baz=59,slow=12,SNR=6.4						
MJAR				Sn	**Sn**	**19 03 05.0**	**-1.3**
	0.1nm,0.3s,baz=229,slow=22,SNR=2.6						
MJAR				LR	LR	19 04 51.3	
	comp=Z,33nm,18.7s,baz=310,slow=42						
JHJ	**Hachijo jima 2**	**8.81**	**212**	Pn	**Pn**	**19 02 13.2**	**-0.7**
	7.3nm,0.3s,baz=69,slow=18,SNR=2.2						
JHJ				Sn	**Sn**	**19 03 43.5**	**-8.4**
	2.4nm,0.3s,baz=39,slow=18,SNR=3.1						
SEY	**Seymchan**	**22.60**	**8**	P	**P**	**19 05 08.3**	**+2.0**
	1.4nm,0.3s,baz=30,slow=20,SNR=3.4						
YAK	**Yakutsk**	**23.28**	**341**	LR	LR	19 15 23.5	
	comp=Z,24nm,18.3s,baz=270,slow=39						
SONM	**Songino Array**	**28.46**	**297**	P	**P**	**19 06 01.5**	**+0.7**
	1.2nm,0.9s,baz=65,slow=11,SNR=3.9						
ZALV	**Zalesovo Beam**	**41.74**	**309**	P	**P**	**19 07 56.1**	**+1.5**
	0.4nm,0.4s,baz=133,slow=6.3,SNR=3.1						
ILAR	**Eielson Array**	**44.73**	**34**	P	P	19 08 20.5	+2.0
	0.4nm,0.8s,baz=256,slow=6.3,SNR=6.0						
MKAR	**Makanchi Array**	**44.78**	**300**	P	**P**	**19 08 20.5**	**+1.2**
	0.3nm,0.8s,baz=110,slow=8.3,SNR=2.9						
KURBB	**Kurchatov Arra**	**46.16**	**306**	P	**P**	**19 08 31.0**	**+0.9**
	1.2nm,0.7s,baz=75,slow=8.7,SNR=6.4						
INK	**Inuvik**	**49.68**	**29**	P	P	19 08 59.0	+1.9
	0.6nm,0.5s,baz=311,slow=9.9,SNR=4.9						
YKA	**Yellowknife Ar**	**59.06**	**32**	P	**P**	**19 10 06.6**	**+1.3**
	0.1nm,0.3s,baz=299,slow=6.2,SNR=4.1						
WRA	**Warramunga Arr**	**61.25**	**192**	P	**P**	**19 10 21.8**	**+1.0**
	0.4nm,0.5s,baz=9.0,slow=6.8,SNR=9.9						
ASAR	**Alice Springs**	**64.97**	**191**	P	**P**	**19 10 46.9**	**+1.4**
	0.3nm,0.7s,baz=7.3,slow=6.6,SNR=5.6						
FINES	**FINESS Array B**	**66.88**	**333**	P	**P**	**19 10 58.0**	**+0.7**
	3.3nm,1.1s,baz=61,slow=6.5,SNR=3.3						
KVAR	**Kislovodsk Arr**	**70.69**	**312**	LR	LR	19 45 58.0	
	comp=Z,20nm,19.2s,baz=182,slow=39						
AKASG	**Malin Array Be**	**73.14**	**323**	P	**P**	**19 11 36.6**	**+0.8**
	0.2nm,0.3s,baz=44,slow=5.8,SNR=4.1						
TKL	**Tuckaleechee C**	**91.60**	**38**	LR	LR	19 57 55.9	
	comp=Z,26nm,18.5s,baz=34,slow=38						

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*SJA **01** 19:09:56.4±1.4, 31°.83S×71°.30W, h12km, ML4.7, MW4.3*

*NEIC **01** 19:09:57.0±0.0, 31°.91S×71°.32W, h65km, mb4.9/23, ML4.9(GUC), After GUC.*

NEIC Felt [IV] at Illapel and Los Vilos; [III] at Canela, Combarbala, Monte Patria, Ovalle, Puchuncavi, Quillota, Salamanca and Zapallar; [II] at Lampa, Rancagua, Rio Hurtado, San Antonio, Santiago, Tiltil and Valparaiso. Also felt at Cabildo.

*GUC **01** 19:09:57.2±0.7, 31°.91S×71°.27W, h69km±17km, ML4.9*

*ISCJB **01** 19:09:58.6±0.3, 31°.94S±0°.02×71°.37W±0°.05, h77km±3km, mb4.7/36, Error ellipse: s-maj=6.9km s-min=3.1km az=10.5*

*IDC **01** 19:09:59.4±0.5, 31°.95S×71°.09W, h67km±2km, mb4.2/14, mb1 4.4/18, mb1mx4.2/35, mbtmp4.5/18, MS3.5/10, Ms1 3.5/10, ms1mx3.2/32, Error ellipse: s-maj=18.1km s-min=12.2km az=61.0*

*BJI **01** 19:10:00.0, 31°.90S×71°.30W, h80km, mB5.0/3, Ms5.0/2, Ms7 4.9/2*

ISC 01 19:09:59.0±0.4**, 31°.91S**±0°.03×**71°.35W**±0°.04**, h67km**±2km**, h67km:pP-P, n262, σ1ˢ.39**/300**, mb4.8**/36**, 2C-8D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res ISC
ROCH	**El Roble**	**1.10**	**165**	⇓iP	**Pn**	**19 10 18.7**	**-0.2**
ROCH				i S	**Sn**	**19 10 34.3**	**+0.6**
ROCH				IAML		19 10 38.2	
	comp=N,40μm,0.4s						
ROC1	**El Roble**	**1.10**	**165**	ePn	**Pn**	**19 10 19.1**	**+0.1**
ROC1				eSn	**Sn**	**19 10 34.4**	**+0.6**
ROC1	**El Roble**	**1.10**	**165**	eP	**Pn**	**19 10 18.4**	**-0.5**
ROC1				eS	**Sn**	**19 10 35.4**	**+1.7**
PEL	**Peldehue**	**1.35**	**156**	ePn	**Pn**	**19 10 21.9**	**-0.1**
PEL				eSn	**Sn**	**19 10 39.2**	**-0.1**
PEL	**Peldehue**	**1.35**	**156**	eP	**Pn**	**19 10 21.4**	**-0.6**
PEL				i S	**Sn**	**19 10 39.0**	**-0.3**
CLCH	**Cerro Calan**	**1.64**	**155**	⇓iP	**Pn**	**19 10 25.9**	**+0.1**
CLCH				i S	**Sn**	**19 10 45.8**	**-0.2**
CLCH				IAML		19 10 49.8	
	comp=E,17μm,0.4s						
RCDM	**Rinconada Maip**	**1.64**	**164**	⇓iP	**Pn**	**19 10 22.9**	**-3.0**
RCDM				i S	**Sn**	**19 10 40.6**	**-5.5**
AUSP	**Uspallata**	**1.70**	**101**	eP	**Pn**	**19 10 27.2**	**+0.4**
FSR	**Penalolen**	**1.71**	**156**	⇓iP	**Pn**	**19 10 28.2**	**+1.4**
FSR				i S	**Sn**	**19 10 47.6**	**-0.2**
RTLS	**Leoncito**	**1.75**	**87**	eP	**Pn**	**19 10 28.0**	**+0.4**
RTLS				eS	**Sn**	**19 10 52.9**	**+3.7**
RTLS				IAML		19 10 54.6	
	comp=Z,5μm,0.7s						
ANTU	**Antumapu**	**1.76**	**160**	eP	**Pn**	**19 10 27.6**	**+0.1**
ANTU				i S	**Sn**	**19 10 48.8**	**-0.2**
ANTU				IAML		19 11 02.2	
	comp=E,10μm,0.4s						
GO04	**Tololo Observa**	**1.79**	**16**	⇓iP	**Pn**	**19 10 28.2**	**+0.1**
GO04				i S	**Sn**	**19 10 51.0**	**+0.9**
TLL	**Tololo Astrono**	**1.80**	**15**	eP	**Pn**	**19 10 28.2**	**0.0**
TLL				i S	**Sn**	**19 10 50.9**	**+0.7**
LMEL	**Las Melosas**	**2.16**	**154**	eP	**Pn**	**19 10 33.6**	**+0.7**
LMEL				i S	**Sn**	**19 11 00.6**	**+1.8**
LMEL				IAML		19 11 03.8	
	comp=N,9μm,0.4s						
AROD	**Rodeo**	**2.37**	**43**	eP	**Pn**	**19 10 37.0**	**+1.0**
AROD				eS	**Sn**	**19 11 07.6**	**+3.5**
RTCV	**Cerro Valdivia**	**2.39**	**90**	eP	**Pn**	**19 10 36.9**	**+0.9**
SJA	**San Juan**	**2.41**	**82**	eP	**Pn**	**19 10 37.0**	**+0.8**
SJA				eS	**Sn**	**19 11 08.1**	**+3.4**
SJA				IAML		19 11 11.2	
	comp=Z,3μm,0.4s						
RTLL	**Cerro Villicun**	**2.52**	**78**	eP	**Pn**	**19 10 38.7**	**+0.9**
RTLL				IAML		19 11 18.5	
	comp=Z,3μm,0.4s						
CHPI	**Pichilemu**	**2.54**	**192**	eP	**Pn**	**19 10 37.4**	**-0.4**
CHPI				i S	**Sn**	**19 11 05.7**	**-1.9**
ACDV	**Cuesta del Vie**	**2.58**	**48**	eP	**Pn**	**19 10 39.3**	**+0.6**
AMOG	**MOGNA**	**2.63**	**69**	eP	**Pn**	**19 10 39.9**	**+0.6**
AMOG				eS	**Sn**	**19 11 13.1**	**+3.1**
LCO	**Las Campanas**	**2.94**	**11**	ePn	**Pn**	**19 10 43.9**	**+0.2**
LCO				eSn	**Sn**	**19 11 19.2**	**+1.3**
LCO	**Las Campanas**	**2.94**	**11**	eP	**Pn**	**19 10 43.9**	**+0.2**
LCO				eS	**Sn**	**19 11 21.2**	**+3.2**
LCO	**Las Campanas**	**2.94**	**11**	⇓iP	**Pn**	**19 10 43.6**	**0.0**
LCO				i S	**Sn**	**19 11 18.5**	**+0.5**
LCO				IAML		19 11 27.4	
	comp=E,5μm,0.5s						
NICH	**Los Niches**	**3.09**	**178**	⇓iP	**Pn**	**19 10 46.4**	**+1.0**
NICH				i S	**Sn**	**19 11 23.1**	**+2.0**
GO05	**HualaæØ**	**3.13**	**189**	ePn	**Pn**	**19 10 45.9**	**-0.1**
GO05				eSn	**Sn**	**19 11 21.5**	**-0.8**
GO05	**HualaæØ**	**3.13**	**189**	eP	**Pn**	**19 10 46.0**	**0.0**
GO05				eS	**Sn**	**19 11 30.3**	**+8.1**
GO05	**HualaæØ**	**3.13**	**189**	eP	**Pn**	**19 10 45.8**	**-0.2**
GO05				i S	**Sn**	**19 11 21.7**	**-0.5**
GO05				IAML		19 11 40.2	
	comp=E,3μm,0.6s						
VACH	**Vallenar**	**3.36**	**9**	eP	Pn	19 11 02.4	+13
VACH				i S	Sn	19 11 41.0	+13
VCA	**Vinchina**	**4.17**	**42**	eP	**Pn**	**19 11 01.7**	**+1.3**
VCA				eS	**Sn**	**19 11 51.0**	**+3.0**
VCA				IAML		19 12 03.5	
	comp=Z,3μm,0.6s						
COCH	**Cobquecura**	**4.38**	**195**	⇑iP	**Pn**	**19 11 02.4**	**-0.6**
COCH				i S	**Sn**	**19 11 49.9**	**-2.7**
APLL	**PUNTA DE LOS L**	**4.40**	**71**	eP	**Pn**	**19 11 03.0**	**-0.4**
APLL				IAML		19 11 59.4	
	comp=Z,975nm,0.9s						
CPCH	**Copiapo**	**4.62**	**11**	⇓iP	**Pn**	**19 11 03.5**	**-2.8**
CPCH				i S	**Sn**	**19 11 56.3**	**-2.4**
PB10	**IPOC Station P**	**8.39**	**5**	ePn	**Pn**	**19 11 59.9**	**+1.9**
PLCA	**Paso Flores**	**8.83**	**176**	P	**Pn**	**19 12 04.1**	**+0.1**
	comp=Z,1.0nm,0.3s,baz=7.6,slow=11,SNR=49						
PLCA				S	**Sn**	**19 13 50.8**	**+8.9**
	comp=Z,0.1nm,0.3s,baz=292,slow=16,SNR=1.4						
PLCA				LR	LR	19 15 40.3	
	comp=Z,234nm,19.9s,baz=22,slow=39						
PLCA	**Paso Flores**	**8.83**	**176**	ePn	**Pn**	**19 12 04.5**	**+0.5**
PB04	**IPOC Station P**	**9.60**	**7**	ePn	**Pn**	**19 12 13.4**	**-1.2**
TRQA	**Tornquist**	**9.83**	**131**	ePn	**Pn**	**19 12 16.3**	**-1.3**
PB01	**IPOC Station P**	**10.95**	**9**	ePn	Pn	19 12 26.9	-6.1
PB11	**IPOC Station P**	**12.19**	**8**	ePn	**Pn**	**19 12 51.1**	**+1.0**
MNMC	**Minye Minye**	**12.82**	**8**	ePn	**Pn**	**19 12 57.9**	**-0.8**
CPUP	**Villa Florida**	**13.46**	**69**	P	**Pn**	**19 13 03.4**	**-3.5**
	comp=Z,0.4nm,0.3s,baz=242,slow=12,SNR=16						
CPUP				S	**Sn**	**19 15 32.1**	**-2.7**
	comp=Z,0.9nm,0.3s,baz=327,slow=8.0,SNR=3.2						
CPUP				LR	LR	19 18 40.6	
	comp=Z,209nm,18.6s,baz=250,slow=39						
CPUP	**Villa Florida**	**13.46**	**69**	ePn	Pn	19 13 02.0	-4.9
LPAZ	**La Paz**	**15.82**	**11**	P	**Pn**	**19 13 38.6**	**+0.3**
	comp=Z,1.3nm,0.3s,baz=186,slow=7.0,SNR=103						
LPAZ	**La Paz**	**15.82**	**11**	ePn	**Pn**	**19 13 38.5**	**+0.1**
	comp=Z,48nm,1.3s						
SIV	**San Ignacio**	**18.40**	**33**	P	**P**	**19 14 07.2**	**-1.7**
	comp=Z,2.2nm,0.3s,baz=224,slow=10,SNR=115						
SIV				LR	LR	19 22 39.5	
	comp=Z,172nm,19.9s,baz=190,slow=42						
SPB	**Sao Paulo**	**22.70**	**75**	eP	**P**	**19 14 54.3**	**-0.9**
	comp=Z,28nm,1.0s						
ATAH	**Atahualpa**	**25.51**	**344**	LR	LR	19 23 59.4	
	comp=Z,52nm,18.1s,baz=180,slow=33						
OTAV	**Otavalo**	**32.67**	**347**	eP	**P**	**19 16 28.7**	**+3.3**
	comp=Z,14nm,1.4s						
OTAV	**Otavalo**	**32.67**	**347**	eP	P	19 16 18.1	-7.3
CHIC	**Chingaza**	**36.41**	**356**	eP	**P**	**19 16 58.7**	**+1.1**
ROSC	**El Rosal**	**36.65**	**355**	P	**P**	**19 17 02.1**	**+2.4**
	comp=Z,10nm,0.8s,baz=170,slow=7.1,SNR=7.2						
RUSC	**La Rusia**	**37.62**	**357**	eP	**P**	**19 17 09.4**	**+1.4**
	comp=Z,21nm,0.8s						
RUSC	**La Rusia**	**37.62**	**357**	eP	**P**	**19 17 08.0**	**-0.1**
HELC	**Santa Helena**	**38.09**	**353**	eP	**P**	**19 17 13.1**	**+1.3**
	comp=Z,43nm,0.8s						
PTBC	**PUERTO BERRIO,**	**38.35**	**355**	eP	**P**	**19 17 11.3**	**-2.3**
ZARC	**Zaragoza, Cauc**	**39.32**	**355**	eP	**P**	**19 17 20.6**	**-1.1**
SDV	**Santo Domingo**	**40.57**	**1**	P	**P**	**19 17 31.9**	**-0.4**
	comp=Z,9.8nm,0.9s,baz=213,slow=3.5,SNR=7.7						
SDV	**Santo Domingo**	**40.57**	**1**	eP	**P**	**19 17 32.1**	**-0.1**
	comp=Z,15nm,1.1s						
MOTC	**Monteria, Cord**	**40.67**	**353**	eP	P	19 17 24.6	-8.2
JTS	**JuntasAbangare**	**43.93**	**341**	P	**P**	**19 18 01.9**	**+2.5**
	comp=Z,2.5nm,0.5s,baz=16,slow=7.5,SNR=3.7						
SJG	**San Juan**	**49.98**	**6**	eP	**P**	**19 18 45.7**	**-0.8**
	comp=Z,30nm,0.8s						
APG	**El Apazote**	**50.12**	**336**	P	**P**	**19 18 49.3**	**+1.5**
	comp=Z,5.2nm,0.8s,baz=331,slow=15,SNR=5.2						
CBYP	**Canovanas**	**50.17**	**7**	eP	**P**	**19 18 46.6**	**-1.4**
	comp=Z,40nm,0.8s						
VNA2	**Neumayer--Watz**	**51.72**	**158**	P	**P**	**19 18 58.8**	**-0.2**
	baz=294,slow=8.5						
SNAA	**Sanae**	**53.31**	**158**	P	**P**	**19 19 11.4**	**+0.6**
SNAA	**Sanae**	**53.31**	**158**	P	**P**	**19 19 10.8**	**0.0**
	comp=Z,2.8nm,0.6s,baz=246,slow=10.0,SNR=8.6						
SNAA				pP	**pP**	**19 19 27.6**	**-0.4**
	comp=Z,7.1nm,0.9s,baz=303,slow=6.3,SNR=5.1						
SNAA				LR	LR	19 41 24.8	
	comp=Z,60nm,19.0s,baz=167,slow=36						
555A	**McAlpin**	**62.67**	**349**	P	**P**	**19 20 17.6**	**+1.0**
	baz=169						
251A	**Midway**	**65.03**	**347**	P	**P**	**19 20 32.3**	**+0.2**
	baz=167						
833A	**Chaparral WMA,**	**65.57**	**333**	P	**P**	**19 20 38.0**	**+2.3**
	baz=154						
150A	**Eclectic**	**65.65**	**346**	P	**P**	**19 20 36.5**	**+0.5**
	baz=166						
Z50A	**Ashland**	**66.26**	**347**	P	**P**	**19 20 40.4**	**+0.5**
	baz=166						
Z49A	**Columbiana**	**66.32**	**346**	P	**P**	**19 20 40.8**	**+0.5**
	baz=166						
Z47A	**Carrollton**	**66.65**	**345**	P	**P**	**19 20 43.3**	**+0.8**
	baz=165						
Y50A	**Piedmont**	**66.84**	**347**	P	**P**	**19 20 43.8**	**+0.1**
	baz=167						
Y48A	**Jasper**	**67.15**	**346**	P	**P**	**19 20 45.7**	**+0.1**
	baz=166						
Y47A	**UCPARC, Winfie**	**67.28**	**345**	P	**P**	**19 20 47.3**	**+0.9**
	baz=165						
Y46A	**Houston**	**67.49**	**344**	P	**P**	**19 20 48.4**	**+0.7**
	baz=164						
X49A	**Woodville**	**67.56**	**347**	P	**P**	**19 20 47.7**	**-0.5**
	baz=166						
SYO	**Syowa Base**	**67.60**	**159**	⇑eX	P	19 20 39.0	-9.1
Y45A	**Yeager Farm, C**	**67.63**	**344**	P	**P**	**19 20 50.0**	**+1.4**
	baz=163						
X48A	**Hartselle**	**67.64**	**346**	P	**P**	**19 20 49.8**	**+1.1**
	baz=166						
JCT	**Junction City**	**67.66**	**334**	P	**P**	**19 20 50.8**	**+1.8**
	baz=154						
JCT	**Junction City**	**67.66**	**334**	eP	**P**	**19 20 49.9**	**+1.0**
	comp=Z,9.5nm,0.6s						
X47A	**Russelville**	**67.88**	**345**	P	**P**	**19 20 50.8**	**+0.6**
	baz=165						
TX31	**Lajitas Ar. Si**	**68.21**	**330**	eP	**P**	**19 20 54.1**	**+1.6**
TX31				epP	**sP**	**19 21 18.5**	**+0.6**
TX31				esP	**PcP**	**19 21 18.9**	**+1.0**
TXAR	**Lajitas Array**	**68.21**	**330**	P	**P**	**19 20 54.1**	**+1.6**
	comp=Z,1.8nm,0.7s,baz=152,slow=8.1,SNR=21						
TXAR				pP	**pP**	**19 21 11.7**	**+1.3**
	comp=Z,0.5nm,0.6s,baz=152,slow=7.8,SNR=3.0						
TXAR				sP	**sP**	**19 21 18.8**	**+0.9**
	comp=Z,4.4nm,0.8s,baz=152,slow=8.6,SNR=18						
TKL	**Tuckaleechee C**	**68.22**	**349**	P	**P**	**19 20 52.4**	**+0.1**
	comp=Z,4.0nm,0.7s,baz=171,slow=8.1,SNR=6.4						
OXF	**Oxford**	**68.22**	**344**	P	**P**	**19 20 52.0**	**-0.3**
	baz=164						
OXF	**Oxford**	**68.22**	**344**	eP	**P**	**19 20 50.4**	**-1.9**
	comp=Z,28nm,0.9s						
W48A	**Pulaski**	**68.28**	**346**	P	**P**	**19 20 52.8**	**+0.1**
	baz=166						
W47A	**Westpoint**	**68.53**	**346**	P	**P**	**19 20 54.3**	**+0.1**
	baz=165						
V48A	**Smith Brothers**	**68.84**	**347**	P	**P**	**19 20 56.8**	**+0.6**
	baz=166						
V47A	**Nunnelly**	**69.07**	**346**	P	**P**	**19 20 57.8**	**+0.2**
	baz=165						
V46A	**Holladay**	**69.17**	**345**	P	**P**	**19 20 57.7**	**-0.4**
	baz=165						
MIAR	**Mount Ida**	**69.33**	**341**	P	**P**	**19 21 00.4**	**+1.2**
	baz=160						
MIAR	**Mount Ida**	**69.33**	**341**	eP	**P**	**19 20 58.0**	**-1.2**
	comp=Z,35nm,2.0s						
WVT	**Waverly**	**69.42**	**346**	P	**P**	**19 21 00.5**	**+0.7**
	baz=165						
WVT	**Waverly**	**69.42**	**346**	eP	**P**	**19 20 58.6**	**-1.1**
	comp=Z,21nm,0.9s						
X39A	**Fountain Ranch**	**69.45**	**340**	P	**P**	**19 21 01.3**	**+1.3**
	baz=160						
ABTX	**Abilene, Hawle**	**69.53**	**335**	P	**P**	**19 21 01.7**	**+1.1**
	baz=155						
U48A	**Cassie Pea, Po**	**69.53**	**347**	P	**P**	**19 21 01.2**	**+0.7**
	baz=166						
W41B	**Gary Mavity, V**	**69.56**	**342**	P	**P**	**19 21 01.4**	**+0.8**
	baz=161						
U47A	**Clarksville**	**69.61**	**346**	P	**P**	**19 21 01.5**	**+0.6**
	baz=166,SNR=9.5						
U46A	**Springville**	**69.72**	**346**	P	**P**	**19 21 02.4**	**+0.9**
	baz=165						
U45A	**Rockin P Farm,**	**69.83**	**345**	P	**P**	**19 21 03.5**	**+1.2**
	baz=164						
W39A	**Magazine**	**70.00**	**341**	P	**P**	**19 21 04.7**	**+1.3**
	baz=160,SNR=9.6						
BBTS	**Babate**	**70.00**	**57**	LR	LR	19 51 10.3	
	comp=Z,33nm,18.0s,baz=184,slow=35						
T48A	**Bowling Green**	**70.09**	**347**	P	**P**	**19 21 03.9**	**+0.1**
	baz=166						
T47A	**Sharon Grove**	**70.11**	**347**	P	**P**	**19 21 04.4**	**+0.4**
	baz=166						
V41A	**Mountainview**	**70.11**	**342**	P	**P**	**19 21 04.5**	**+0.5**
	baz=161						
V40A	**Witts Springs**	**70.31**	**342**	P	**P**	**19 21 06.1**	**+0.9**
	baz=161						
T46A	**Princeton**	**70.32**	**346**	P	**P**	**19 21 06.0**	**+0.8**
	baz=165						
U42A	**Revenden**	**70.41**	**343**	P	**P**	**19 21 06.6**	**+0.8**
	baz=162						
S48A	**Wiedeman Farm,**	**70.56**	**348**	P	**P**	**19 21 06.1**	**-0.5**
	baz=167						
V39A	**Pettigrew**	**70.56**	**341**	P	**P**	**19 21 07.8**	**+1.0**
	baz=160,SNR=5.1						
U40A	**Yellville**	**70.83**	**342**	P	**P**	**19 21 09.4**	**+0.9**
	baz=161,SNR=5.7						
T43A	**Greenville**	**70.88**	**344**	P	**P**	**19 21 09.4**	**+0.7**
	baz=163						
S46A	**Don Dixon Farm**	**70.90**	**346**	P	**P**	**19 21 08.8**	**0.0**
	baz=165						
MNTX	**Cornudas Mount**	**70.99**	**330**	P	**P**	**19 21 10.1**	**+0.6**
	baz=150						
MNTX	**Cornudas Mount**	**70.99**	**330**	eP	**P**	**19 21 08.9**	**-0.6**
	comp=Z,8.7nm,0.8s						
U39A	**Green Forest**	**71.03**	**341**	P	**P**	**19 21 10.6**	**+1.0**
	baz=160,SNR=6.6						
WCI	**Wyandotte Cave**	**71.15**	**348**	P	**P**	**19 21 10.4**	**+0.1**
	baz=167						
T41A	**Mountain View**	**71.20**	**343**	P	**P**	**19 21 11.5**	**+0.9**
	baz=162,SNR=5.6						
R48A	**Northridge Ran**	**71.25**	**348**	P	**P**	**19 21 11.1**	**+0.3**
	baz=167						
TUL1	**Leonard**	**71.25**	**339**	P	**P**	**19 21 11.5**	**+0.6**
	baz=158						
S43A	**Fulton Ridge,**	**71.30**	**344**	P	**P**	**19 21 11.8**	**+0.6**
	baz=163,SNR=5.6						
R46A	**Gibon Southern**	**71.37**	**347**	P	**P**	**19 21 11.6**	**+0.1**
	baz=166						
R45A	**Skylar, Fairfi**	**71.60**	**346**	P	**P**	**19 21 13.0**	**+0.1**
	baz=165						
T39A	**Clever**	**71.60**	**342**	P	**P**	**19 21 14.0**	**+1.0**
	baz=160						
S42A	**Caledonia**	**71.66**	**344**	P	**P**	**19 21 13.6**	**+0.3**
	baz=163						
S41A	**Jillco Farms,**	**71.71**	**343**	P	**P**	**19 21 14.0**	**+0.3**
	baz=162,SNR=7.3						
FVM	**French Village**	**71.77**	**344**	eP	**P**	**19 21 13.3**	**-0.7**
	comp=Z,14nm,1.0s						
T38A	**Diamond**	**71.86**	**341**	P	**P**	**19 21 15.6**	**+1.0**
	baz=160						
MSTX	**Muleshoe**	**71.90**	**333**	P	**P**	**19 21 16.3**	**+1.2**
	baz=152,SNR=6.6						
S40A	**Lebanon**	**71.91**	**342**	P	**P**	**19 21 15.9**	**+1.0**
	baz=161						
CCM	**Cathedral Cave**	**72.03**	**344**	P	**P**	**19 21 16.5**	**+0.9**
	baz=162						
S39A	**Bolivar**	**72.22**	**342**	P	**P**	**19 21 17.6**	**+0.9**
	baz=160,SNR=6.2						
R41A	**Rosebud**	**72.30**	**344**	P	**P**	**19 21 18.0**	**+0.8**
	baz=162,SNR=6.2						
S38A	**Stockton**	**72.31**	**341**	P	**P**	**19 21 18.2**	**+1.0**
	baz=160,SNR=7.0						
R40A	**Maddies Statio**	**72.51**	**343**	P	**P**	**19 21 19.3**	**+0.9**
	baz=162,SNR=9.7						
N59A	**State Game Lan**	**72.58**	**356**	P	**P**	**19 21 20.0**	**+1.3**
	baz=176						
ACSO	**Alum Creek Sta**	**72.58**	**351**	P	**P**	**19 21 19.2**	**+0.4**
	baz=170						
Q42A	**Golden Eagle**	**72.68**	**344**	P	**P**	**19 21 19.7**	**+0.3**
	baz=163						
R39A	**Chumby, Stover**	**72.73**	**342**	P	**P**	**19 21 20.6**	**+0.9**
	baz=161,SNR=5.0						
121A	**Cookes Peak, D**	**72.75**	**328**	P	**P**	**19 21 22.5**	**+2.2**
	baz=148						
Q41A	**Truxton**	**72.89**	**344**	P	**P**	**19 21 21.4**	**+0.8**
	baz=162						
N54A	**Moraine State**	**72.94**	**353**	P	**P**	**19 21 21.2**	**+0.2**
	baz=172						
Q40A	**Laux Farm, Aux**	**73.13**	**343**	P	**P**	**19 21 23.0**	**+0.9**
	baz=162						
P42A	**Winchester**	**73.28**	**345**	P	**P**	**19 21 23.1**	**+0.1**
	baz=163						
Q39A	**Willow Grove F**	**73.40**	**343**	P	**P**	**19 21 23.6**	**0.0**
	baz=161						
Q38A	**Cooks Store, C**	**73.49**	**342**	P	**P**	**19 21 24.7**	**+0.5**
	baz=160,SNR=5.0						
LIC	**Lamto**	**73.57**	**72**	eP	**P**	**19 21 24.2**	**-1.1**
	comp=Z,49nm,1.2s						
P40A	**Paris**	**73.63**	**343**	P	**P**	**19 21 25.9**	**+0.9**
	baz=162,SNR=6.6						
P39B	**Salisbury**	**73.76**	**343**	P	**P**	**19 21 26.5**	**+0.7**
	baz=161						
TIC	**Toumodi**	**73.82**	**71**	eP	**P**	**19 21 25.8**	**-1.0**
KIC	**Kosan Boka**	**73.88**	**72**	eP	**P**	**19 21 25.9**	**-1.2**
	comp=Z,32nm,0.8s						
O41A	**Passleys Farm,**	**73.91**	**345**	P	**P**	**19 21 27.2**	**+0.5**
	baz=163						
DBIC	**Dimbokro**	**73.97**	**71**	P	**P**	**19 21 26.7**	**-0.8**
	comp=Z,12nm,0.6s,baz=212,slow=6.1,SNR=28						
DBIC				LR	LR	19 50 16.4	
	comp=Z,38nm,21.9s,baz=201,slow=33						
N44A	**Piper City**	**73.99**	**347**	P	**P**	**19 21 27.1**	**+0.1**
	baz=165						
P38A	**Dawn**	**74.09**	**342**	P	**P**	**19 21 28.4**	**+0.7**
	baz=160						
O40A	**La Belle**	**74.15**	**344**	P	**P**	**19 21 28.7**	**+0.7**
	baz=162						
T25A	**Trinidad**	**75.32**	**333**	P	**P**	**19 21 35.8**	**+0.7**
	baz=151,SNR=5.1						
T25A	**Trinidad**	**75.32**	**333**	eP	**P**	**19 21 37.0**	**+1.8**
	comp=Z,9.7nm,0.8s						
M38A	**Pleasantville**	**75.69**	**343**	P	**P**	**19 21 37.6**	**+0.7**
	baz=161						
L41A	**Preston**	**75.70**	**345**	P	**P**	**19 21 37.3**	**+0.4**
	baz=163						
L40A	**Anamosa**	**75.85**	**345**	P	**P**	**19 21 38.3**	**+0.6**
	baz=163						
M37A	**Trindle Farm,**	**75.90**	**343**	P	**P**	**19 21 38.9**	**+0.8**
	baz=160						

			SNR=6.6				
KURBB	**Kurchatov Arra**	**150.94**	**41**	PKPbc	**PKPbc**	**19 29 43.8**	**+0.2**
	comp=Z,7.1nm,0.7s,baz=300,slow=3.0,SNR=57						
KURBB				pPKPbc	**sPKPdf**	**19 30 03.9**	**-0.5**
	comp=Z,2.2nm,0.8s,baz=299,slow=3.1,SNR=3.7						
KURK	**Kurchatov**	**150.94**	**41**	*e*PKPbc	**PKPbc**	**19 29 44.1**	**+0.5**
KURK				pPKPbc	**sPKPdf**	**19 30 03.9**	**-0.5**
AAK	**Ala-Archa**	**150.97**	**59**	P	**PKPbc**	**19 29 45.0**	**+0.8**
	SNR=12						
AAK	**Ala-Archa**	**150.97**	**59**	*e*PKPbc	**PKPbc**	**19 29 44.9**	**+0.7**
UCH	**Uchtor**	**151.05**	**59**	P	**PKPbc**	**19 29 45.7**	**+0.9**
	SNR=14						
TKM2	**Tokmak 2**	**151.71**	**58**	P	**PKPbc**	**19 29 46.3**	**+0.3**
	SNR=6.9						
ZALV	**Zalesovo Beam**	**152.15**	**31**	PKPbc	**PKPbc**	**19 29 46.4**	**+0.1**
	comp=Z,14nm,0.5s,baz=304,slow=3.3,SNR=60						
ZALV				pPKPbc	**pPKPbc**	**19 30 05.4**	**-0.3**
	comp=Z,4.8nm,0.6s,baz=311,slow=2.9,SNR=5.2						
KSH	**Kashi**	**152.51**	**65**	P	**PKPbc**	**19 29 47.5**	**-0.3**
KSH				pmax	pmax		
	comp=Z,13nm,0.9s						
MAKZ	**Makanchi**	**154.73**	**46**	*e*PKPbc	**PKPbc**	**19 29 51.8**	**-0.4**
MAKZ				*e*PKPab	**PKPab**	**19 30 07.3**	**-0.1**
MK31	**Makanchi Array**	**154.93**	**46**	*e*PKPab	**PKPab**	**19 30 08.2**	**-0.1**
MKAR	**Makanchi Array**	**154.93**	**46**	PKPbc	**PKPbc**	**19 29 52.5**	**-0.1**
	comp=Z,1.6nm,0.7s,baz=307,slow=2.3,SNR=9.2						
MKAR				PKPab	**PKPab**	**19 30 08.1**	**-0.2**
	comp=Z,2.8nm,0.6s,baz=297,slow=4.1,SNR=13						
MKAR				pPKPab	**pPKPab**	**19 30 26.3**	**-0.8**
	comp=Z,1.6nm,0.8s,baz=299,slow=2.9,SNR=2.9						
WMQ	**Urumqi**	**159.69**	**48**	PKP	**PKPdf**	**19 29 49.8**	**-0.2**
CMAR	**Chiang Mai Arr**	**164.00**	**145**	PKP	**PKPdf**	**19 29 55.5**	**+0.5**
	comp=Z,0.8nm,0.9s,baz=291,slow=2.5,SNR=5.3						
CMAR				pPKP	**pPKPdf**	**19 30 14.1**	**-0.5**
	comp=Z,0.3nm,0.4s,baz=235,slow=3.0,SNR=2.2						
CMAR				pPKPab	**pPKPab**	**19 31 06.2**	**-0.8**
	comp=Z,0.7nm,0.9s,baz=225,slow=5.5,SNR=3.0						
SONM	**Songino Array**	**164.00**	**6**	PKPab	**PKPab**	**19 30 47.9**	**+0.3**
	comp=Z,0.5nm,0.8s,baz=320,slow=4.4,SNR=4.4						
HHC	**Hu-ho-chao-te**	**170.77**	**346**	*e*PKP	**PKPdf**	**19 29 56.4**	**-3.1**
LZH	**Lanzhou**	**174.23**	**42**	PKP	**PKPdf**	**19 29 57.0**	**-4.2**
LZH				pPKP	pPKPdf	19 30 24.0	+3.3
LZH				sPKP		19 30 34.0	
LZH				LR	LR		
	comp=Z,53nm,18.0s						
LZH				LR	LR		
	comp=Z,60nm,18.1s						
LZH				LR	LR		
	comp=Z,87nm,20.1s						
GYA	**Guiyang**	**174.30**	**162**	*e*PKP	**PKPdf**	**19 30 00.2**	**-1.2**
GYA				sPKP		19 30 29.8	
GYA				PKPab	**PKPab**	**19 31 35.0**	**+1.3**
GYA				PKS	**PKSdf**	**19 33 31.4**	**-2.5**
GYA				PP	**PP**	**19 35 27.7**	**+2.7**
GYA				AMB	AMB		
	comp=Z,120nm,8.2s						
CD2	**Chengdu**	**175.70**	**102**	PKP	**PKPdf**	**19 30 01.5**	**-0.1**

*GUC **01** 19:19:11.6±0.5,21.°54S×68.°51W,h159km±6km, ML3.7*
*IDC **01** 19:19:11.1±2.9,21.°60S×67.°80W,h119km±25km,mb3.8/3, mb1 3.5/6,mb1mx3.3/41,mbtmp3.9/6,MS3.3/1,Ms1 3.3/1, ms1mx2.6/34,Error ellipse: s-maj=31.6km s-min=23.6km az=105.0*

ISC 01 19:19:11.3±1.0,21.°55S±0.°06×68.°1W±0.°1,h138km±12km, n20,σ1°65/31,mb4.0/3,10C-2D,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**1.05**	**256**	⇑	*i*P		**Pn**	**19 19 36.1**	**+0.5**
PB09					IAML			19 19 56.3	
	comp=N,2μm,0.4s								
PB01	**IPOC Station P**	**1.35**	**292**	⇑	*i*P		**Pn**	**19 19 38.6**	**+0.2**
PB01					*i* S		**Sn**	**19 19 58.3**	**-0.8**
PB01					IAML			19 19 59.6	
	comp=N,2μm,0.3s								
PB07	**IPOC Station P**	**1.63**	**263**	⇑	*i*P		**Pn**	**19 19 41.5**	**-0.1**
PB07					*i* S		**Sn**	**19 20 03.6**	**-1.1**
PB07					IAML			19 20 04.5	
	comp=N,1μm,0.2s								
PB02	**IPOC Station P**	**1.65**	**278**	⇑	*i*P		**Pn**	**19 19 41.5**	**-0.1**
PB02					*i* S		**Sn**	**19 20 03.9**	**-1.0**
PB02					IAML			19 20 04.9	
	comp=N,2μm,0.2s								
PB08	**IPOC Station P**	**1.69**	**326**	⇓	*i*P		**Pn**	**19 19 43.8**	**+1.3**
PB08					*i* S		**Sn**	**19 20 07.7**	**+1.5**
PB08					IAML			19 20 09.4	
	comp=N,442nm,0.3s								
PB06	**IPOC Station P**	**1.76**	**229**	⇑	*i*P		**Pn**	**19 19 42.9**	**-0.1**
PB06					*i* S		**Sn**	**19 20 06.1**	**-1.1**
PB06					IAML			19 20 06.7	
	comp=E,459nm,0.7s								
PB04	**IPOC Station P**	**2.02**	**247**	⇑	*i*P		**Pn**	**19 19 45.5**	**-0.6**
PB04					*i* S		**Sn**	**19 20 10.6**	**-2.2**
PB04					IAML			19 20 13.3	
	comp=N,271nm,0.2s								
GO01	**Chusmiza**	**2.11**	**332**	⇓	*i*P		**Pn**	**19 19 48.9**	**+1.3**
GO01					*i* S		**Sn**	**19 20 16.9**	**+1.6**
GO01					IAML			19 20 19.6	
	comp=N,592nm,0.3s								
PB11	**IPOC Station P**	**2.27**	**321**	⇑	*i*P		**Pn**	**19 19 49.1**	**0.0**
PB11					*i* S		**Sn**	**19 20 18.0**	**-0.3**
PSGC	**Pisagua**	**2.69**	**316**	⇑	*i*P		**Pn**	**19 19 53.3**	**-0.9**
PSGC					*i* S		**Sn**	**19 20 25.5**	**-1.8**
PSGC					IAML			19 20 27.0	
	comp=E,226nm,0.5s								
MNMC	**Minye Minye**	**2.77**	**330**	⇑	*i*P		**Pn**	**19 19 56.0**	**+0.6**
MNMC					*e*S		**Sn**	**19 20 29.6**	**+0.1**
MNMC					IAML			19 20 31.2	
	comp=E,528nm,0.3s								
PB10	**IPOC Station P**	**2.96**	**228**	⇑	*i*P		**Pn**	**19 19 56.2**	**-1.5**
PB10					IAML			19 20 30.6	
	comp=N,300nm,0.4s								
LPAZ	**La Paz**	**5.23**	**0**	P			**Pn**	**19 20 29.9**	**+1.7**
	comp=N,0.7nm,0.3s,baz=182,slow=6.9,SNR=18								
LPAZ					S		**Sn**	**19 21 28.6**	**+0.5**
	comp=N,0.2nm,0.3s,baz=186,slow=10,SNR=1.8								
SIV	**San Ignacio**	**8.68**	**52**	P			**Pn**	**19 21 12.3**	**-1.7**
	comp=N,1.6nm,0.3s,baz=238,slow=10,SNR=21								
SIV					S		**Sn**	**19 22 43.9**	**-6.5**
	comp=N,0.2nm,0.3s,baz=127,slow=20,SNR=3.2								
PLCA	**Paso Flores**	**19.23**	**186**	P			**P**	**19 23 25.1**	**+0.2**
	comp=N,0.1nm,0.3s,baz=6.8,slow=15,SNR=3.3								
JTS	**JuntasAbangare**	**35.69**	**331**	LR		LR		19 40 45.8	
	comp=N,42nm,18.6s,baz=124,slow=36								
DBIC	**Dimbokro**	**68.06**	**73**	P			**P**	**19 29 56.9**	**+0.5**
	comp=N,1.4nm,0.5s,baz=233,slow=10,SNR=3.3								
KOWA	**Kowa**	**72.38**	**66**	P			**P**	**19 30 23.4**	**+0.6**
	comp=N,0.6nm,0.4s,baz=194,slow=4.2,SNR=3.0								
TORD	**Torodi Ar. Bea**	**76.70**	**70**	P			**P**	**19 30 47.9**	**+0.2**
	comp=N,1.1nm,0.4s,baz=256,slow=5.5,SNR=13								
MKAR	**Makanchi Array**	**145.25**	**36**	PKPbc			**PKPab**	**19 38 33.6**	**+0.8**
	comp=N,0.3nm,0.7s,baz=322,slow=2.9,SNR=4.7								

IDC 01 19:19:30.7±7.5,15.°92S×173.°51W,h0km,mb3.4/3, mb1 3.7/4,mb1mx3.5/45,mbtmp3.4/4,ML3.1/1,Error ellipse: s-maj=346.2km s-min=25.6km az=141.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.61**	**40**	Pn		Pn		19 20 12.2	-1.9
	3.9nm,0.3s,baz=318,slow=18,SNR=4.7								
AFI				Sn		Sn		19 20 40.7	-5.9
	7.6nm,0.3s,baz=18,slow=20,SNR=6.5								
WRA	**Warramunga Arr**	**49.62**	**257**	P			P	19 28 23.5	-0.9
	0.2nm,0.7s,baz=92,slow=6.8,SNR=5.4								
ASAR	**Alice Springs**	**49.85**	**252**	P			P	19 28 26.0	-0.1
	0.4nm,0.6s,baz=89,slow=7.8,SNR=16								
ILAR	**Eielson Array**	**82.97**	**11**	P			P	19 31 58.4	+1.2
	0.4nm,1.0s,baz=224,slow=6.3,SNR=3.6								

*BEO **01** 19:21:23.3±0.6,39.°49N×15.°40E,h0km*
*ROM **01** 19:21:25.3±0.2,39.°72N×15.°77E,h286km±2km, Ml3.9/69, Error ellipse: s-maj=3.3km s-min=1.9km az=92.0*
*ISCJB **01** 19:21:27.3±0.1,39.°76N±0.°02×15.°70E±0.°02,h276km±1km, mb3.9/24,Error ellipse: s-maj=2.8km s-min=2.2km az=41.4*
*LDG **01** 19:21:27.6±0.2,39.°79N×15.°53E,h276km,Error ellipse: s-maj=6.4km s-min=3.5km az=169.0*

*PDG **01** 19:21:27.5±0.4,40.°02N×15.°65E,h275km±1km,ML3.8/12, Error ellipse: s-maj=1.5km s-min=1.1km az=90.0*
*CSEM **01** 19:21:28.1±0.1,39.°77N×15.°69E,h269km±1km,ML3.7/17, Error ellipse: s-maj=2.4km s-min=2.0km az=132.0*
*PRU **01** 19:21:28.5,40.°34N×15.°36E,h0km,M3.9*
*IDC **01** 19:21:29.1±1.0,39.°84N×15.°61E,h285km±11km,mb3.5/22, mb1 3.6/31,mb1mx3.4/69,mbtmp4.2/31,Error ellipse: s-maj=11.1km s-min=7.5km az=122.0*

ISC 01 19:21:27.7±0.5,39.77N±0.°04×15.77E±0.°04,h271km±5km, n556,σ1°20/619,mb4.0/24,130C-81D,Southern Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
T0712	**Santa Domenica**	**0.09**	**50**	⇓	*i*Pg		**Pn**	**19 22 02.3**	**0.0**
	439nm,0.8s								
CUC	**Castrocucco**	**0.23**	**10**	⇓	*i*Pg		**Pn**	**19 22 02.7**	**+0.2**
CUC					Sg		**S**	**19 22 29.8**	**-0.2**
	341nm,0.7s								
CUC	**Castrocucco**	**0.23**	**10**	⇓	*i*Pg		**Pn**	**19 22 02.7**	**+0.2**
CUC					Sg		**S**	**19 22 29.8**	**-0.2**
	341nm,0.7s								
T0715	**Campotenese**	**0.24**	**72**	Pg			**Pn**	**19 22 03.0**	**+0.4**
	3μm,1.6s								
CET2	**Cetraro**	**0.28**	**148**	⇓	*i*Pg		**Pn**	**19 22 02.6**	**-0.1**
	2μm,0.5s								
CET2	**Cetraro**	**0.28**	**148**	⇓	*i*Pg		**Pn**	**19 22 02.6**	**-0.1**
	2μm,0.5s								
MGR	**Morigerati**	**0.41**	**336**	⇓	*i*Pg		**Pn**	**19 22 03.3**	**+0.6**
MGR					Sg		**S**	**19 22 31.1**	**+0.6**
	370nm,0.4s								
MGR	**Morigerati**	**0.41**	**336**	⇓	*i*Pg		**Pn**	**19 22 03.3**	**+0.6**
MGR					Sg		**S**	**19 22 31.1**	**+0.6**
	370nm,0.4s								
SALB	**San Lorenzo Be**	**0.46**	**76**	⇓	*i*Pg		**Pn**	**19 22 03.5**	**+0.5**
SALB					Sg		**S**	**19 22 30.8**	**-0.1**
	469nm,0.3s								
SALB	**San Lorenzo Be**	**0.46**	**76**	⇓	*i*Pg		**Pn**	**19 22 03.5**	**+0.5**
SALB					Sg		**S**	**19 22 30.8**	**-0.1**
	469nm,0.3s								
SCHR	**S. Chirico Rap**	**0.49**	**29**	⇓	*i*Pg		**Pn**	**19 22 03.9**	**+0.8**
SCHR					Sg		**S**	**19 22 32.3**	**+1.3**
	429nm,0.3s								
MTSN	**Montesano sull**	**0.50**	**359**	⇓	*i*Pg		**Pn**	**19 22 03.4**	**+0.3**
	366nm,0.4s								
MTSN	**Montesano sull**	**0.50**	**359**	⇓	*i*Pg		**Pn**	**19 22 03.4**	**+0.3**
	366nm,0.4s								
MCEL	**Monticello**	**0.56**	**3**	⇓	*i*Pg		**Pn**	**19 22 04.4**	**+1.2**
MCEL					Sg		**S**	**19 22 32.7**	**+1.3**
	659nm,0.6s								
MCEL	**Monticello**	**0.56**	**3**	⇓	*i*Pg		**Pn**	**19 22 04.4**	**+1.2**
MCEL					Sg		**S**	**19 22 32.7**	**+1.3**
	659nm,0.6s								
ORI	**Oriolo Calabro**	**0.60**	**60**	⇓	*i*Pg		**Pn**	**19 22 04.0**	**+0.7**
	882nm,0.3s								
ORI	**Oriolo Calabro**	**0.60**	**60**	⇓	*i*Pg		**Pn**	**19 22 04.0**	**+0.7**
	882nm,0.3s								
SLCN	**Sala Consilina**	**0.63**	**351**	⇓	*i*Pg		**Pn**	**19 22 04.1**	**+0.6**
	598nm,0.3s								
SLCN	**Sala Consilina**	**0.63**	**351**	⇓	*i*Pg		**Pn**	**19 22 04.1**	**+0.6**
	598nm,0.3s								
CMPR	**Campora**	**0.66**	**327**	⇓	*i*Pg		**Pn**	**19 22 04.1**	**+0.6**
CMPR					Sg		**S**	**19 22 33.2**	**+1.3**
	169nm,0.6s								
CMPR	**Campora**	**0.66**	**327**	⇓	*i*Pg		**Pn**	**19 22 04.1**	**+0.6**
CMPR					Sg		**S**	**19 22 33.2**	**+1.3**
	169nm,0.6s								
CRAC	**Craco**	**0.79**	**40**	Pg			**Pn**	**19 22 04.5**	**+0.5**
	501nm,0.6s								
CRAC	**Craco**	**0.79**	**40**	Pg			**Pn**	**19 22 04.5**	**+0.5**
	501nm,0.6s								
CDRU	**Civita di Ruta**	**0.81**	**334**	⇓	*i*Pg		**Pn**	**19 22 04.7**	**+0.6**
CDRU					Sg		**S**	**19 22 32.8**	**-0.2**
	95nm,0.4s								
CDRU	**Civita di Ruta**	**0.81**	**334**	⇓	*i*Pg		**Pn**	**19 22 04.7**	**+0.6**
CDRU					Sg		**S**	**19 22 32.8**	**-0.2**
	95nm,0.4s								
PIPA	**Pietrapaola**	**0.86**	**109**	⇓	*i*Pg		**Pn**	**19 22 05.1**	**+0.8**
	1μm,0.2s								
PIPA	**Pietrapaola**	**0.86**	**109**	⇓	*i*Pg		**Pn**	**19 22 05.1**	**+0.8**
	1μm,0.2s								
PZUN	**Potenza**	**0.88**	**2**	Pg			**Pn**	**19 22 04.5**	**+0.2**
	134nm,0.4s								
PZUN	**Potenza**	**0.88**	**2**	Pg			**Pn**	**19 22 04.5**	**+0.2**
	134nm,0.4s								
TIP	**Timpagrande**	**0.97**	**127**	⇑	*i*P		**Pn**	**19 22 05.4**	**+0.5**
TIP	**Timpagrande**	**0.97**	**127**		S		**S**	**19 22 33.9**	**-0.4**
TIP	**Timpagrande**	**0.97**	**127**	⇓	*i*Pg		**Pn**	**19 22 05.5**	**+0.5**
TIP					Sg		**S**	**19 22 33.5**	**-0.8**
	664nm,0.6s								
TIP	**Timpagrande**	**0.97**	**127**	⇓	*i*Pg		**Pn**	**19 22 05.5**	**+0.5**
TIP					Sg		**S**	**19 22 33.5**	**-0.8**
	664nm,0.6s								
MIGL	**Miglionico**	**0.99**	**31**	⇓	*i*Pg		**Pn**	**19 22 05.0**	**+0.1**
MIGL					Sg		**S**	**19 22 34.1**	**-0.2**
	857nm,0.5s								
MIGL	**Miglionico**	**0.99**	**31**	⇓	*i*Pg		**Pn**	**19 22 05.0**	**+0.1**
MIGL					Sg		**S**	**19 22 34.1**	**-0.2**
	857nm,0.5s								
MRLC	**Muro Lucano**	**1.01**	**348**	⇓	*i*Pg		**Pn**	**19 22 05.6**	**+0.6**
	113nm,0.6s								
MRLC	**Muro Lucano**	**1.01**	**348**	⇓	*i*Pg		**Pn**	**19 22 05.6**	**+0.6**
	113nm,0.6s								
SERS	**Sersale**	**1.02**	**135**	⇓	*i*Pg		**Pn**	**19 22 05.7**	**+0.4**
SERS					Sg		**S**	**19 22 33.9**	**-1.1**
	798nm,0.4s								
SERS	**Sersale**	**1.02**	**135**	⇓	*i*Pg		**Pn**	**19 22 05.7**	**+0.4**
SERS					Sg		**S**	**19 22 33.9**	**-1.1**
	798nm,0.4s								
ACER	**Acerenza**	**1.03**	**8**	Pg			**Pn**	**19 22 05.1**	**0.0**
	278nm,0.7s								
ACER	**Acerenza**	**1.03**	**8**	Pg			**Pn**	**19 22 05.1**	**0.0**
	278nm,0.7s								
LADO	**San Nicola del**	**1.05**	**117**	⇓	*i*Pg		**Pn**	**19 22 05.8**	**+0.5**
	450nm,0.8s								
LADO	**San Nicola del**	**1.05**	**117**	⇓	*i*Pg		**Pn**	**19 22 05.8**	**+0.5**
	450nm,0.8s								
GRI	**Girifalco**	**1.07**	**151**	Pg			**Pn**	**19 22 05.9**	**+0.5**
	2μm,0.8s								
GRI	**Girifalco**	**1.07**	**151**	Pg			**Pn**	**19 22 05.9**	**+0.5**
	2μm,0.8s								
MCRV	**Calabrutti - M**	**1.11**	**336**	⇓	*i*Pg		**Pn**	**19 22 06.4**	**+0.7**
	136nm,0.3s								
MCRV	**Calabrutti - M**	**1.11**	**336**	⇓	*i*Pg		**Pn**	**19 22 06.4**	**+0.7**
	136nm,0.3s								
MATE	**Matera**	**1.14**	**39**	⇓	*i*P		**Pn**	**19 22 05.6**	**0.0**
MATE	**Matera**	**1.14**	**39**		S		**S**	**19 22 34.7**	**-1.0**
MATE	**Matera**	**1.14**	**39**	⇓	*i*Pg		**Pn**	**19 22 05.8**	**+0.2**
MATE					Sg		**S**	**19 22 34.7**	**-1.0**
	433nm,0.6s								
MATE	**Matera**	**1.14**	**39**	⇓	*i*Pg		**Pn**	**19 22 05.8**	**+0.2**
MATE					Sg		**S**	**19 22 34.7**	**-1.0**
	433nm,0.6s								
JOPP	**Joppolo**	**1.16**	**175**	⇑	*e*Pg		**Pn**	**19 22 05.6**	**-0.4**
JOPP	**Joppolo**	**1.16**	**175**	⇑	*e*Pg		**Pn**	**19 22 05.6**	**-0.4**
JOPP					Sg		**S**	**19 22 33.8**	**-2.4**
	2μm,0.6s								
PALZ	**Palazzo San Ge**	**1.19**	**7**	⇓	*i*Pg		**Pn**	**19 22 06.1**	**+0.1**
	683nm,1.4s								
PALZ	**Palazzo San Ge**	**1.19**	**7**	⇓	*i*Pg		**Pn**	**19 22 06.1**	**+0.1**
	683nm,1.4s								
VULT	**Monte Vulture**	**1.19**	**355**	Pg			**Pn**	**19 22 06.4**	**+0.3**
	124nm,0.4s								
VULT	**Monte Vulture**	**1.19**	**355**	Pg			**Pn**	**19 22 06.4**	**+0.3**
	124nm,0.4s								
SNAL	**S. Angelo Dei**	**1.23**	**340**	⇓	*i*Pg		**Pn**	**19 22 07.1**	**+0.8**
	688nm,1.8s								
SNAL	**S. Angelo Dei**	**1.23**	**340**	⇓	*i*Pg		**Pn**	**19 22 07.1**	**+0.8**
	688nm,1.8s								
SG1	**Sgolgore (BA)**	**1.28**	**33**	*i*	Pn		**Pn**	**19 22 07.1**	**+0.6**
AMUR	**Altamura**	**1.31**	**29**	⇓	*i*Pg		**Pn**	**19 22 07.3**	**+0.6**
	278nm,0.3s								
AMUR	**Altamura**	**1.31**	**29**	⇓	*i*Pg		**Pn**	**19 22 07.3**	**+0.6**
	278nm,0.3s								
CAFE	**Carife**	**1.32**	**342**	⇓	*i*Pg		**Pn**	**19 22 08.1**	**+1.2**
	315nm,1.0s								
CAFE	**Carife**	**1.32**	**342**	⇓	*i*Pg		**Pn**	**19 22 08.1**	**+1.2**
	315nm,1.0s								
MRVN	**Minervino Murg**	**1.34**	**14**	⇓	*i*Pg		**Pn**	**19 22 07.1**	**+0.2**
	259nm,0.9s								
MRVN	**Minervino Murg**	**1.34**	**14**	⇓	*i*Pg		**Pn**	**19 22 07.1**	**+0.2**
	259nm,0.9s								
MASS	**Massafra**	**1.37**	**50**	*i*	Pn		**Pn**	**19 22 07.3**	**+0.2**
TAR1	**Taranto**	**1.39**	**56**	*i*	Pn		**Pn**	**19 22 06.4**	**-0.8**
SGTA	**Sant Agata di**	**1.40**	**348**	⇓	*i*Pg		**Pn**	**19 22 08.2**	**+0.8**
	110nm,0.6s								
SGTA	**Sant Agata di**	**1.40**	**348**	⇓	*i*Pg		**Pn**	**19 22 08.2**	**+0.8**

	110nm,0.6s						
NOCI	Noci	1.43	44	⇓iPg	Pn	19 22 07.9	+0.4
NOCI	Noci	1.43	44	⇓iPg	Pn	19 22 07.9	+0.4
LLI	Lipari	1.46	206	⇑iPg	Pn	19 22 08.7	+0.9
	1µm,0.8s						
LLI	Lipari	1.46	206	⇑iPg	Pn	19 22 08.7	+0.9
	1µm,0.8s						
CEL	Celeste	1.51	176	Pg	Pn	19 22 07.5	-0.7
	514nm,0.6s						
CEL	Celeste	1.51	176	Pg	Pn	19 22 07.5	-0.7
	514nm,0.6s						
VPL	Vulcano Piano	1.51	204	⇑iPg	Pn	19 22 08.4	+0.2
	1µm,0.3s						
VPL	Vulcano Piano	1.51	204	⇑iPg	Pn	19 22 08.4	+0.2
	1µm,0.3s						
MSRU	Castanea	1.51	188	Pg	Pn	19 22 07.3	-0.9
	968nm,0.5s						
MSRU	Castanea	1.51	188	Pg	Pn	19 22 07.3	-0.9
	968nm,0.5s						
MSCL	Scilla	1.53	179	Pg	Pn	19 22 07.4	-1.0
	1µm,0.5s						
MSCL	Scilla	1.53	179	Pg	Pn	19 22 07.4	-1.0
	1µm,0.5s						
MILZ	Milazzo	1.55	196	⇑iPg	Pn	19 22 08.0	-0.4
MILZ				Sg	S	19 22 38.8	-1.8
	942nm,0.5s						
MILZ	Milazzo	1.55	196	⇑iPg	Pn	19 22 08.0	-0.4
MILZ				Sg	S	19 22 38.8	-1.8
	942nm,0.5s						
PAOL	Paolisi	1.56	325	Pg	Pn	19 22 09.3	+0.8
	101nm,1.1s						
PAOL	Paolisi	1.56	325	Pg	Pn	19 22 09.3	+0.8
	101nm,1.1s						
CGL1	Ceglie Messapi	1.58	55	i Pn	Pn	19 22 09.1	+0.5
BAI	Bari	1.59	32	i Pn	Pn	19 22 09.1	+0.6
GMB	Gambarie	1.59	178	Pg	Pn	19 22 08.6	-0.4
	2µm,0.4s						
GMB	Gambarie	1.59	178	Pg	Pn	19 22 08.6	-0.4
	2µm,0.4s						
FASA	Fasano	1.61	49	i Pn	Pn	19 22 09.3	+0.6
ATN	Antennamare	1.62	188	Pg	Pn	19 22 08.7	-0.4
	614nm,0.4s						
ATN	Antennamare	1.62	188	Pg	Pn	19 22 08.7	-0.4
	614nm,0.4s						
IACL	Alicudi	1.65	222	⇑iPg	Pn	19 22 09.5	+0.4
	116nm,0.6s						
IACL	Alicudi	1.65	222	⇑iPg	Pn	19 22 09.5	+0.4
	116nm,0.6s						
MPNC	Port Mandanici	1.65	191	⇑iPg	Pn	19 22 08.4	-0.8
	560nm,0.5s						
MPNC	Port Mandanici	1.65	191	⇑iPg	Pn	19 22 08.4	-0.8
	560nm,0.5s						
SOI	Samo	1.71	172	Pg	Pn	19 22 09.4	-0.2
	254nm,0.4s						
SOI	Samo	1.71	172	Pg	Pn	19 22 09.4	-0.2
	254nm,0.4s						
MCSR	Castroreale	1.75	193	Pg	Pn	19 22 09.7	-0.3
	924nm,0.3s						
MCSR	Castroreale	1.75	193	Pg	Pn	19 22 09.7	-0.3
	924nm,0.3s						
MESG	Mesagne	1.80	62	⇓iPg	Pn	19 22 10.9	+0.7
MESG	Mesagne	1.80	62	⇓iPg	Pn	19 22 10.9	+0.7
NOV	Novara	1.80	196	⇑ePg	Pn	19 22 10.6	+0.1
NOV	Novara	1.80	196	⇑ePg	Pn	19 22 10.6	+0.1
MPAZ	Palizzi	1.82	174	Pg	Pn	19 22 10.2	-0.3
	663nm,0.5s						
MPAZ	Palizzi	1.82	174	Pg	Pn	19 22 10.2	-0.3
	663nm,0.5s						
MUCR	Ucria	1.85	202	⇑iPg	Pn	19 22 11.0	+0.1
	214nm,0.5s						
MUCR	Ucria	1.85	202	⇑iPg	Pn	19 22 11.0	+0.1
	214nm,0.5s						
PTRJ	Pietraroja	1.85	330	Pg	Pn	19 22 11.6	+0.8
	116nm,0.7s						
PTRJ	Pietraroja	1.85	330	Pg	Pn	19 22 11.6	+0.8
	116nm,0.7s						
MMME	Mongiuffi-Meli	1.87	192	⇑iPg	Pn	19 22 11.0	0.0
	425nm,0.6s						
MMME	Mongiuffi-Meli	1.87	192	⇑iPg	Pn	19 22 11.0	0.0
	425nm,0.6s						
MS1	Monte Sant'Ang	1.94	4	i Pn	Pn	19 22 11.9	+0.5
MSAG	Monte S. Angel	1.95	3	⇓iPg	Pn	19 22 11.8	+0.3
MSAG	Monte S. Angel	1.95	3	⇓iPg	Pn	19 22 11.8	+0.3
MSFR	San Fratello	1.96	208	⇑iPg	Pn	19 22 12.3	+0.6
	98nm,0.4s						
MSFR	San Fratello	1.96	208	⇑iPg	Pn	19 22 12.3	+0.6
	98nm,0.4s						
SCTE	Santa Cesarea	2.10	81	⇓iPg	Pn	19 22 13.5	+0.8
SCTE	Santa Cesarea	2.10	81	⇓iPg	Pn	19 22 13.5	+0.8
PLLN	Pollina	2.18	216	⇑iPg	Pn	19 22 14.0	+0.4
	189nm,0.6s						
PLLN	Pollina	2.18	216	⇑iPg	Pn	19 22 14.0	+0.4
	189nm,0.6s						
GIB	Gibilmanna	2.23	218	⇑iPg	Pn	19 22 14.6	+0.5
	474nm,0.6s						
GIB	Gibilmanna	2.23	218	⇑iPg	Pn	19 22 14.6	+0.5
	474nm,0.6s						
GALF	Gagliano Caste	2.25	205	Pg	Pn	19 22 15.0	+0.7
	347nm,0.5s						
GALF	Gagliano Caste	2.25	205	Pg	Pn	19 22 15.0	+0.7
	347nm,0.5s						
USI	Ustica	2.27	243	Pg	Pn	19 22 15.0	+0.7
	160nm,0.8s						
USI	Ustica	2.27	243	Pg	Pn	19 22 15.0	+0.7
	160nm,0.8s						
ECNV	Catenanuova	2.32	201	Pg	Pn	19 22 15.7	+0.8
	742nm,1.0s						
ECNV	Catenanuova	2.32	201	Pg	Pn	19 22 15.7	+0.8
	742nm,1.0s						
CAGR	Agira	2.36	205	⇑iPg	Pn	19 22 16.5	+1.3
	637nm,0.6s						
CAGR	Agira	2.36	205	⇑iPg	Pn	19 22 16.5	+1.3
	637nm,0.6s						
SOLUN	Solunto	2.41	227	⇑iPg	Pn	19 22 16.2	+0.5
	84nm,0.8s						
SOLUN	Solunto	2.41	227	⇑iPg	Pn	19 22 16.2	+0.5
	84nm,0.8s						
MPG	Monte Pellegri	2.46	230	Pg	Pn	19 22 16.9	+0.7
	163nm,0.7s						
MPG	Monte Pellegri	2.46	230	Pg	Pn	19 22 16.9	+0.7
	163nm,0.7s						
RESU	Resuttano	2.50	213	⇑iPg	Pn	19 22 18.3	+1.7
	190nm,0.5s						
RESU	Resuttano	2.50	213	⇑iPg	Pn	19 22 18.3	+1.7
	190nm,0.5s						
HLNI	Lentini	2.51	196	⇑iPg	Pn	19 22 16.0	-0.6
HLNI				Sg	S	19 22 53.7	-1.8
	83nm,0.3s						
HLNI	Lentini	2.51	196	⇑iPg	Pn	19 22 16.0	-0.6
HLNI				Sg	S	19 22 53.7	-1.8
	83nm,0.3s						
VAE	Valguarnera	2.52	205	P	Pn	19 22 19.0	+2.2
	25nm,0.3s,baz=225,slow=1.0,SNR=66						
VAE				S	S	19 23 07.2	+11
	baz=83,slow=5.8,SNR=1.2						
HAGA	Augusta	2.52	191	⇑iPg	Pn	19 22 15.5	-1.2
HAGA	Augusta	2.52	191	⇑iPg	Pn	19 22 15.5	-1.2
HAGA				Sg	S	19 22 52.9	-2.8
AGST	Augusta-Monte	2.54	190	⇑iPg	Pn	19 22 15.5	-1.4
AGST	Augusta-Monte	2.54	190	⇑iPg	Pn	19 22 15.5	-1.4
HCRL	Carlentini	2.54	193	⇑iPg	Pn	19 22 16.2	-0.8
HCRL	Carlentini	2.54	193	⇑iPg	Pn	19 22 16.2	-0.8
ALJA	Alia	2.55	219	Pg	Pn	19 22 18.2	+1.1
	339nm,1.1s						
ALJA	Alia	2.55	219	Pg	Pn	19 22 18.2	+1.1
	339nm,1.1s						
INTR	Introdacqua	2.65	328	⇑iPg	Pn	19 22 18.9	+0.9
	118nm,1.0s						
INTR	Introdacqua	2.65	328	⇑iPg	Pn	19 22 18.9	+0.9
	118nm,1.0s						
VVLD	Villa Vallelon	2.66	323	⇑iPg	Pn	19 22 18.9	+0.8
	139nm,1.9s						
VVLD	Villa Vallelon	2.66	323	⇑iPg	Pn	19 22 18.9	+0.8
	139nm,1.9s						
SSY	Sortino	2.66	192	⇑iPg	Pn	19 22 17.0	-1.2
SSY	Sortino	2.66	192	⇑iPg	Pn	19 22 17.0	-1.2
CORL	Corleone	2.68	227	⇑iPg	Pn	19 22 19.2	+0.9
	271nm,0.5s						
CORL	Corleone	2.68	227	⇑iPg	Pn	19 22 19.2	+0.9
	271nm,0.5s						
MCT	Mte Cammarata	2.71	219	⇑iPg	Pn	19 22 20.5	+1.8
	167nm,0.7s						
MCT	Mte Cammarata	2.71	219	⇑iPg	Pn	19 22 20.5	+1.8
	167nm,0.7s						
MEU	Monte Lauro	2.74	194	Pg	Pn	19 22 18.7	-0.3
MEU	Monte Lauro	2.74	194	Pg	Pn	19 22 18.7	-0.3
GUAR	Guarcino	2.75	318	Pg	Pn	19 22 19.8	+0.9
	10.0nm,0.4s						
GUAR	Guarcino	2.75	318	Pg	Pn	19 22 19.8	+0.9
	10.0nm,0.4s						
RAFF	Raffo Rosso	2.77	204	⇑iPg	Pn	19 22 19.6	+0.4
	123nm,0.5s						
RAFF	Raffo Rosso	2.77	204	⇑iPg	Pn	19 22 19.6	+0.4
	123nm,0.5s						
HAVL	Avola	2.84	190	Pg	Pn	19 22 18.8	-1.2
HAVL	Avola	2.84	190	Pg	Pn	19 22 18.8	-1.2
PTQR	Pietraquaria	2.88	322	⇑iPg	Pn	19 22 21.6	+1.3
PTQR	Pietraquaria	2.88	322	⇑iPg	Pn	19 22 21.6	+1.3
HMDC	Modica	2.91	196	⇑iPg	Pn	19 22 20.4	-0.2
HMDC	Modica	2.91	196	⇑iPg	Pn	19 22 20.4	-0.2
CLTB	Caltabellotta	2.96	223	Pg	Pn	19 22 21.6	+0.4
	313nm,0.5s						
CLTB	Caltabellotta	2.96	223	Pg	Pn	19 22 21.6	+0.4
	313nm,0.5s						
FAVR	Favara	2.99	214	Pg	Pn	19 22 22.5	+1.1
	103nm,0.8s						
FAVR	Favara	2.99	214	Pg	Pn	19 22 22.5	+1.1
	103nm,0.8s						
FAGN	Fagnano	3.00	327	Pg	Pn	19 22 22.4	+1.0
FAGN	Fagnano	3.00	327	Pg	Pn	19 22 22.4	+1.0
MMGO	Monte Magaggia	3.03	227	⇓iPg	Pn	19 22 22.1	+0.3
	117nm,0.4s						
MMGO	Monte Magaggia	3.03	227	⇓iPg	Pn	19 22 22.1	+0.3
	117nm,0.4s						
CERT	Cerreto	3.04	317	Pg	Pn	19 22 22.8	+1.0
CERT	Cerreto	3.04	317	Pg	Pn	19 22 22.8	+1.0
KEK	Kerkira	3.11	90	P	Pn	19 22 23.8	+1.2
KEK	Kerkira	3.11	90	P	Pn	19 22 23.8	+1.2
KEK	Kerkira	3.11	90	⇓iPg	Pn	19 22 23.8	+1.2
AQU	L'Aquila	3.14	326	⇑iPn	Pn	19 22 24.0	+1.0
FIAM	Fiamignano	3.20	322	⇑iPg	Pn	19 22 25.2	+1.5
FIAM	Fiamignano	3.20	322	⇑iPg	Pn	19 22 25.2	+1.5
HCY	Herceg Novi	3.38	37	⇑iPn	Pn	19 22 25.5	0.0
HCY				eSn	S	19 23 09.1	-2.4
HCY	Herceg Novi	3.38	37	⇑iPn	Pn	19 22 25.5	0.0
HCY				eSn	S	19 23 09.1	-2.4
STON	Ston	3.43	25	P	Pn	19 22 25.6	-0.4
STON	Ston	3.43	25	ePn	Pn	19 22 24.7	-1.2
STON	Ston	3.43	25	i P	Pn	19 22 25.5	-0.4
ULC	Ulcinj	3.43	49	⇓iPn	Pn	19 22 27.0	+0.9
ULC				eSn	S	19 23 11.6	-1.0
ULC	Ulcinj	3.43	49	⇓iPn	Pn	19 22 27.0	+0.9
ULC				eSn	S	19 23 11.6	-1.0
SGD	Sagiada	3.45	91	P	Pn	19 22 27.7	+1.4
SGD	Sagiada	3.45	91	P	Pn	19 22 27.7	+1.4
BUM	Brajici-Budva	3.47	42	ePn	Pn	19 22 27.5	+1.0
BUM				eSn	S	19 23 11.0	-2.3
BUM	Brajici-Budva	3.47	42	ePn	Pn	19 22 27.5	+1.0
BUM				eSn	S	19 23 11.0	-2.3
TIR	Tirane	3.50	62	⇑iP	Pn	19 22 28.4	+1.6
TIR	Tirane	3.50	62	⇑iP	Pn	19 22 28.4	+1.6
LNSS	Leonessa	3.50	325	⇑iPg	Pn	19 22 27.7	+0.8
	63nm,1.1s						
LNSS	Leonessa	3.50	325	⇑iPg	Pn	19 22 27.7	+0.8
	63nm,1.1s						
TREB	Trebinje	3.54	33	⇓iPn	Pn	19 22 27.6	+0.5
DRME	Dracevica, Mon	3.54	46	ePn	Pn	19 22 28.4	+1.2
DRME				eSn	S	19 23 13.5	-1.2
DRME	Dracevica, Mon	3.54	46	ePn	Pn	19 22 28.4	+1.2
DRME				eSn	S	19 23 13.5	-1.2
CEME	Cevo	3.66	40	⇓iPn	Pn	19 22 28.9	+0.3
CEME				eSn	S	19 23 14.8	-2.3
CEME	Cevo	3.66	40	⇓iPn	Pn	19 22 28.9	+0.3
CEME				eSn	S	19 23 14.8	-2.3
TOLF	Tolfa	3.66	310	⇑iPg	Pn	19 22 29.6	+1.0
TOLF	Tolfa	3.66	310	⇑iPg	Pn	19 22 29.6	+1.0
CESX	Cesi	3.72	321	⇑iPg	Pn	19 22 30.3	+1.1
CESX	Cesi	3.72	321	⇑iPg	Pn	19 22 30.3	+1.1
PDG	Podgorica	3.75	44	ePn	Pn	19 22 29.0	-0.5
	18nm,0.7s						
PDG				eSn	S	19 23 17.4	-1.4
	99nm,1.0s						
PDG	Podgorica	3.75	44	⇑iP	Pn	19 22 30.8	+1.3
PDG	Podgorica	3.75	44	ePn	Pn	19 22 29.9	+0.4
PDG	Podgorica	3.75	44	⇑iP	Pn	19 22 30.8	+1.3
PDG				eSn	S	19 23 17.4	-1.4
	99nm,1.0s						
TTG	Podgorica	3.75	44	ePn	Pn	19 22 29.9	+0.4
TTG				eSn	S	19 23 16.8	-2.0
NKME	Niksic	3.84	38	ePn	Pn	19 22 31.8	+1.2
NKME				eSn	S	19 23 18.3	-2.5
NKME	Niksic	3.84	38	ePn	Pn	19 22 31.8	+1.2
NKME				eSn	S	19 23 18.3	-2.5
CESI	CESI - Serrava	3.89	327	⇑iPg	Pn	19 22 31.8	+0.7
CESI	CESI - Serrava	3.89	327	⇑iPg	Pn	19 22 31.8	+0.7
NKY	Niksic	3.90	38	⇑iPn	Pn	19 22 31.8	+0.5
NKY				eSn	S	19 23 19.6	-2.5
NKY	Niksic	3.90	38	⇑iPn	Pn	19 22 31.8	+0.5
NKY				eSn	S	19 23 19.6	-2.5
LKD2	Lefkada island	3.92	103	P	Pn	19 22 32.9	+1.3
LKD2	Lefkada island	3.92	103	P	Pn	19 22 32.9	+1.3
JAN	Janina	3.92	90	P	Pn	19 22 33.8	+2.2
JAN	Janina	3.92	90	P	Pn	19 22 33.8	+2.2
FSK	Fiskardo	3.95	108	P	Pn	19 22 33.6	+1.7
OHR	Ohrid	4.07	69	i Pn	Pn	19 22 34.8	+1.6
VLS	Valsamata	4.08	111	P	Pn	19 22 34.4	+1.0
VLS	Valsamata	4.08	111	P	Pn	19 22 34.4	+1.0
SNTG	Esanatoglia	4.08	330	Pg	Pn	19 22 33.6	+0.3
SNTG	Esanatoglia	4.08	330	Pg	Pn	19 22 33.6	+0.3
ATCC	AVT- Casa Cast	4.15	327	Pg	Pn	19 22 34.6	+0.6
ATCC	AVT- Casa Cast	4.15	327	Pg	Pn	19 22 34.6	+0.6
DSL	Palaion Diasel	4.17	97	P	Pn	19 22 36.1	+1.6
DSL	Palaion Diasel	4.17	97	P	Pn	19 22 36.1	+1.6
MGAB	Montegabbione	4.18	320	⇑iPg	Pn	19 22 35.7	+1.3
MGAB	Montegabbione	4.18	320	⇑iPg	Pn	19 22 35.7	+1.3
KOME	Kolasin	4.18	41	⇑iPn	Pn	19 22 35.9	+1.4
KOME				eSn	S	19 23 25.4	-2.5
KOME	Kolasin	4.18	41	⇑iPn	Pn	19 22 35.9	+1.4
KOME				eSn	S	19 23 25.4	-2.5
PVY	Plav	4.24	47	⇓iPn	Pn	19 22 36.9	+1.6
PVY				eSn	S	19 23 27.5	-1.8
PVY	Plav	4.24	47	⇓iPn	Pn	19 22 36.9	+1.6
PVY				eSn	S	19 23 27.5	-1.8
KFL	Anninata	4.25	111	P	Pn	19 22 36.4	+1.1
KFL	Anninata	4.25	111	P	Pn	19 22 36.4	+1.1
ATTE	AVT- Monte Tez	4.28	324	Pg	Pn	19 22 36.3	+0.6
ATTE	AVT- Monte Tez	4.28	324	Pg	Pn	19 22 36.3	+0.6
MCIV	Monte Civitell	4.31	316	⇑iPg	Pn	19 22 37.1	+1.1
MCIV	Monte Civitell	4.31	316	⇑iPg	Pn	19 22 37.1	+1.1
KPRO	Kipourio	4.31	86	P	Pn	19 22 38.6	+2.5
KPRO	Kipourio	4.31	86	P	Pn	19 22 38.6	+2.5
PDO	Prodromos	4.37	104	P	Pn	19 22 38.5	+1.8
PDO	Prodromos	4.37	104	P	Pn	19 22 38.5	+1.8
BEY	Berane	4.39	44	ePn	Pn	19 22 38.1	+1.1
BEY				eSn	S	19 23 30.4	-1.9
IVA	Berane	4.39	44	ePn	Pn	19 22 38.1	+1.1
IVA				eSn	S	19 23 30.4	-1.9
FNA	Florina	4.41	75	P	Pn	19 22 38.7	+1.5
FNA	Florina	4.41	75	P	Pn	19 22 38.7	+1.5
BIA	Bitola	4.43	72	i Pn	Pn	19 22 38.8	+1.4
KRUS	Krusevo	4.47	67	i Pn	Pn	19 22 39.2	+1.2
PIEI	Pieia	4.48	328	⇑iPg	Pn	19 22 38.4	+0.5
PIEI	Pieia	4.48	328	⇑iPg	Pn	19 22 38.4	+0.5
PLE	Pljevlja	4.48	36	⇓iPn	Pn	19 22 38.8	+0.8
PLE				eSn	S	19 23 31.5	-2.8
PLE	Pljevlja	4.48	36	⇓iPn	Pn	19 22 38.8	+0.8
PLE				eSn	S	19 23 31.5	-2.8
ATMC	Monte Cedrone	4.55	325	⇓iPg	Pn	19 22 39.5	+0.7
ATMC	Monte Cedrone	4.55	325	⇓iPg	Pn	19 22 39.5	+0.7
KZN	Kozani	4.64	81	P	Pn	19 22 42.1	+2.2
KZN	Kozani	4.64	81	P	Pn	19 22 42.1	+2.2
SJES	Sjenica	4.71	41	ePn	Pn	19 22 40.4	-0.3
	10nm,0.5s						
SJES				eSn	S	19 23 39.1	0.0
	24nm,0.3s						
UDBI	Udbina	4.76	360	P	Pn	19 22 42.0	+0.8
UDBI	Udbina	4.76	360	i P	Pn	19 22 42.0	+0.8
EVR	Evrytania	4.76	98	P	Pn	19 22 44.0	+2.6
EVR	Evrytania	4.76	98	P	Pn	19 22 44.0	+2.6
CASP	Castiglione de	4.77	311	⇑iPg	Pn	19 22 42.3	+1.0
CASP	Castiglione de	4.77	311	⇑iPg	Pn	19 22 42.3	+1.0
THL	Klokotos Trika	4.83	90	P	Pn	19 22 44.2	+2.2
THL	Klokotos Trika	4.83	90	P	Pn	19 22 44.2	+2.2
SKO	Skopje	4.83	61	i Pn	Pn	19 22 42.8	+0.7
NVLJ	Novalja	4.84	352	P	Pn	19 22 42.6	+0.5
NVLJ	Novalja	4.84	352	i P	Pn	19 22 42.5	+0.5
FROS	Frosini	4.88	316	⇑iPg	Pn	19 22 43.7	+1.1
FROS	Frosini	4.88	316	⇑iPg	Pn	19 22 43.7	+1.1
BBLS	Lazići	4.92	32	i Pn	Pn	19 22 44.3	+1.2
	71nm,0.5s						
BBLS				eSn	S	19 23 43.5	0.0
	449nm,1.4s						
BBLS	Lazići	4.92	32	i Pn	Pn	19 22 44.3	+1.2
	71nm,0.5s						
BBLS				eSn	S	19 23 43.5	0.0
	449nm,1.4s						
HAPS	Han Pijesak,Bl	4.93	28	i Pn	Pn	19 22 43.7	+0.4
	16nm,0.5s						
HAPS				eSn	S	19 23 43.5	-0.3
	13nm,0.7s						
HAPS	Han Pijesak,Bl	4.93	28	i Pn	Pn	19 22 43.7	+0.4
	16nm,0.5s						
HAPS				eSn	S	19 23 43.5	-0.3
	13nm,0.7s						
DRO	Drossia	4.98	109	P	Pn	19 22 46.2	+2.3
DRO	Drossia	4.98	109	P	Pn	19 22 46.2	+2.3
CSNT	Castellina Chi	5.00	319	⇑iPg	Pn	19 22 45.1	+1.1
CSNT	Castellina Chi	5.00	319	⇑iPg	Pn	19 22 45.1	+1.1
IVAS	Ivanjica	5.03	39	ePn	Pn	19 22 45.5	+1.0
	1.3nm,0.5s						
IVAS				eSn	S	19 23 45.2	-0.7
	26nm,0.9s						
IVAS	Ivanjica	5.03	39	ePn	Pn	19 22 45.5	+1.0
	1.3nm,0.5s						
IVAS				eSn	S	19 23 45.2	-0.7
	26nm,0.9s						
SERG	Sergoula	5.08	103	P	Pn	19 22 49.0	+3.9
SERG	Sergoula	5.08	103	P	Pn	19 22 49.0	+3.9
BLY	Banja Luka	5.09	11	⇑ePn	Pn	19 22 45.8	+0.7
	48nm,0.4s						
BLY	Banja Luka	5.09	11	⇑iP	Pn	19 22 46.0	+0.8
BLY	Banja Luka	5.09	11	⇑iPg	Pn	19 22 45.9	+0.8
BLY	Banja Luka	5.09	11	⇑iPg	Pn	19 22 45.9	+0.8
AGG	Agios Georgios	5.14	96	P	Pn	19 22 48.3	+2.5
AGG	Agios Georgios	5.14	96	P	Pn	19 22 48.3	+2.5
KLV	Kalavryta, Ach	5.27	107	P	Pn	19 22 49.9	+2.5
KLV	Kalavryta, Ach	5.27	107	P	Pn	19 22 49.9	+2.5
SELS	Selova	5.30	48	i Pn	Pn	19 22 48.0	+0.3
	1.0nm,0.5s						
SELS	Selova	5.30	48	i Pn	Pn	19 22 48.0	+0.3
	1.0nm,0.5s						
DIVS	Divibare	5.36	35	ePn	Pn	19 22 49.0	+0.6
	3.6nm,0.6s						
DIVS				eSn	S	19 23 51.5	-1.6
	6.8nm,0.3s						
DIVS	Divibare	5.36	35	ePn	Pn	19 22 49.0	+0.6
	3.6nm,0.6s						
DIVS				eSn	S	19 23 51.5	-1.6
	6.8nm,0.3s						
VAY	Valandovo	5.41	71	i Pn	Pn	19 22 49.6	+0.6
GUR	Goura	5.45	107	P	Pn	19 22 52.0	+2.3
GUR	Goura	5.45	107	P	Pn	19 22 52.0	+2.3
ITM	Ithomi	5.48	116	P	Pn	19 22 45.6	-4.4
ITM	Ithomi	5.48	116	S	S	19 23 55.2	-0.7
BARS	Barje	5.48	54	ePn	Pn	19 22 51.1	+1.2
	5.8nm,0.4s						
BARS	Barje	5.48	54	ePn	Pn	19 22 51.1	+1.2
	5.8nm,0.4s						
GRUS	Gruza	5.54	40	ePn	Pn	19 22 52.0	+1.5
	5.0nm,0.8s						
GRUS	Gruza	5.54	40	ePn	Pn	19 22 52.0	+1.5
	5.0nm,0.8s						
TEKS	Tekeris	5.54	29	ePn	Pn	19 22 51.4	+0.9
	2.9nm,0.5s						
TEKS	Tekeris	5.54	29	ePn	Pn	19 22 51.4	+0.9
	2.9nm,0.5s						
TRUS	Trudelj	5.64	36	i Pn	Pn	19 22 52.7	+1.0
	2.2nm,0.5s						
TRUS	Trudelj	5.64	36	i Pn	Pn	19 22 52.7	+1.0
	2.2nm,0.5s						
BOJS	Bojanci	5.75	356	ePn	Pn	19 22 53.7	+0.7
BOJS	Bojanci	5.75	356	ePn	Pn	19 22 53.7	+0.7
GBRS	Gornja Briga	5.81	353	i P	Pn	19 22 54.8	+1.0
GBRS	Gornja Briga	5.81	353	i P	Pn	19 22 54.8	+1.0
PGF	Pioggiola	5.81	301	eP	Pn	19 22 52.4	-1.6
PGF	Pioggiola	5.81	301	eP	Pn	19 22 52.4	-1.6
OZLJ	Ozalj	5.85	358	P	Pn	19 22 56.3	+2.0
OZLJ	Ozalj	5.85	358	i P	Pn	19 22 56.2	+2.0
CEY	Cerknica	6.05	351	⇑iPn	Pn	19 22 56.9	+0.1
CRES	Cresnjev	6.06	358	⇑iPn	Pn	19 22 57.2	+0.3
FGSL	Fruska Gora	6.16	28	ePn	Pn	19 22 58.9	+0.8
	22nm,0.5s						
FRGS	Fruska Gora	6.16	28	ePn	Pn	19 22 58.9	+0.7
	22nm,0.5s						
ZAPS	Zavoj	6.23	54	i Pn	Pn	19 23 01.2	+2.1
	3.5nm,0.8s						
ZAPS				eSn	S	19 24 14.1	+1.6
	3.2nm,1.1s						
ZAPS	Zavoj	6.23	54	i Pn	Pn	19 23 01.2	+2.1
	3.5nm,0.8s						
ZAPS				eSn	S	19 24 14.1	+1.6
	3.2nm,1.1s						
VTS	Vitosha	6.29	61	i Pn	Pn	19 23 01.8	+2.0
	9.8nm,0.7s						
VTS	Vitosha	6.29	61	⇓iP	Pn	19 23 02.8	+3.0
VTS	Vitosha	6.29	61	i Pn	Pn	19 23 01.8	+2.0
	9.8nm,0.7s						
VTS	Vitosha	6.29	61	⇓iP	Pn	19 23 02.8	+3.0
ZAGS	Zajecar	6.30	48	i Pn	Pn	19 23 01.0	+1.2
	2.9nm,0.6s						
ZAGS	Zajecar	6.30	48	i Pn	Pn	19 23 01.0	+1.2
	2.9nm,0.6s						
LJU	Ljubljana	6.34	352	ePn	Pn	19 23 00.8	+0.5
	70nm,0.7s						
LJU	Ljubljana	6.34	352	ePn	Pn	19 23 00.8	+0.5
	70nm,0.7s						
KUBS	Kucevo	6.39	42	ePn	Pn	19 23 00.8	-0.2
	10nm,0.6s						
KUBS	Kucevo	6.39	42	ePn	Pn	19 23 00.8	-0.2
	10nm,0.6s						
KEST	Kesra	6.49	234	P	Pn	19 23 04.6	+2.3
	0.5nm,0.3s,baz=359,slow=1.3,SNR=8.6						
KEST				S	S	19 24 21.4	+3.0
	0.1nm,0.3s,baz=105,slow=20,SNR=4.6						
BEHE	Becsehely	6.74	6	⇑ex	Pn	19 23 05.9	+0.6
BEHE	Becsehely	6.74	6	⇑eP	Pn	19 23 05.9	+0.6
MORH	Mˆ‡rˆ¡gy, Hung	6.78	17	⇑ex	Pn	19 23 06.4	+0.7
MORH	Mˆ‡rˆ¡gy, Hung	6.78	17	⇑eP	Pn	19 23 06.4	+0.7
OBKA	Obir	6.80	353	P	Pn	19 23 07.0	+0.9
	20nm,0.5s,SNR=11						
OBKA	Obir	6.80	353	ePn	Pn	19 23 07.0	+0.9
	20nm,0.5s,SNR=11						
SOKA	Soboth	6.93	356	P	Pn	19 23 08.0	+0.3
	10.0nm,0.6s,SNR=9.4						
SOKA	Soboth	6.93	356	ePn	Pn	19 23 08.0	+0.3
	10.0nm,0.6s,SNR=9.4						
MYKA	Terra Mystica	7.04	348	P	Pn	19 23 09.7	+0.7
	7.9nm,0.4s,SNR=6.0						
MYKA	Terra Mystica	7.04	348	ePn	Pn	19 23 09.7	+0.7
	7.9nm,0.4s,SNR=6.0						
BZS	Buzias	7.26	34	⇑iPn	Pn	19 23 13.2	+1.5
	6.9nm,0.8s						
BZS	Buzias	7.26	34	⇑iP	Pn	19 23 13.1	+1.4
BZS	Buzias	7.26	34	⇑iP	Pn	19 23 13.1	+1.4
ABTA	Abfaltersbach	7.37	342	P	Pn	19 23 13.8	+0.7
	66nm,0.6s,SNR=28						
ABTA	Abfaltersbach	7.37	342	ePn	Pn	19 23 13.8	+0.7
	66nm,0.6s,SNR=28						
SBF	Sospel	7.45	306	eP	Pn	19 23 13.6	-0.5
SBF	Sospel	7.45	306	eP	Pn	19 23 13.6	-0.5
ARSA	Arzberg	7.49	359	ePn	Pn	19 23 14.5	0.0
	3.6nm,0.6s						
ARSA	Arzberg	7.49	359	ePn	Pn	19 23 14.5	0.0
	3.6nm,0.6s						
ARSA	Arzberg	7.49	359	P	Pn	19 23 14.8	+0.3
	18nm,0.7s,SNR=12						
ARSA	Arzberg	7.49	359	i Pn	Pn	19 23 14.8	+0.3
	18nm,0.7s,SNR=12						
KBA	Koelnbreinsper	7.52	347	P	Pn	19 23 15.8	+0.7
	14nm,0.8s,SNR=9.9						
KBA	Koelnbreinsper	7.52	347	ePn	Pn	19 23 15.8	+0.7
	14nm,0.8s,SNR=9.9						
SIRR	Siria	7.80	32	⇑iP	Pn	19 23 19.8	+1.4
SIRR	Siria	7.80	32	⇑iP	Pn	19 23 19.8	+1.4
CSKK	Csˆ‡kako	7.81	13	⇑ex	Pn	19 23 19.2	+0.7
CSKK	Csˆ‡kako	7.81	13	⇑eP	Pn	19 23 19.2	+0.7
FRF	La Foret Royal	7.81	302	eP	Pn	19 23 17.2	-1.4
FRF	La Foret Royal	7.81	302	eP	Pn	19 23 17.2	-1.4
SOP	Sopron	7.94	4	⇑ex	Pn	19 23 20.8	+0.7
SOP	Sopron	7.94	4	⇑eP	Pn	19 23 20.8	+0.7
FETA	Feichten	8.12	335	P	Pn	19 23 22.6	0.0
	20nm,0.9s,SNR=7.2						
FETA	Feichten	8.12	335	ePn	Pn	19 23 22.6	0.0
	20nm,0.9s,SNR=7.2						

MOA	Molln	8.15	353	P	Pn	19 23 23.8	+0.9
	28nm,0.7s,SNR=21						
MOA	Molln	8.15	353	i Pn	Pn	19 23 23.8	+0.9
	28nm,0.7s,SNR=21						
WATA	Walderalm	8.15	339	P	Pn	19 23 23.7	+0.7
	14nm,0.6s,SNR=19						
WATA	Walderalm	8.15	339	ePn	Pn	19 23 23.7	+0.7
	14nm,0.6s,SNR=19						
CONA	Conrad Observa	8.16	0	P	Pn	19 23 23.4	+0.4
	22nm,1.2s,SNR=9.6						
CONA	Conrad Observa	8.16	0	ePn	Pn	19 23 23.4	+0.4
	22nm,1.2s,SNR=9.6						
MOTA	Moosalm	8.30	337	P	Pn	19 23 25.5	+0.7
	8.8nm,0.6s,SNR=15						
MOTA	Moosalm	8.30	337	ePn	Pn	19 23 25.5	+0.7
	8.8nm,0.6s,SNR=15						
MBDF	Montbardon	8.31	310	eP	Pn	19 23 25.7	+0.7
MBDF	Montbardon	8.31	310	eP	Pn	19 23 25.7	+0.7
RETA	Reutte	8.53	336	P	Pn	19 23 28.8	+1.2
	13nm,0.7s,SNR=6.5						
RETA	Reutte	8.53	336	i Pn	Pn	19 23 28.8	+1.2
	13nm,0.7s,SNR=6.5						
ARR	Arges	8.61	47⇑	iP	Pn	19 23 31.4	+2.8
ARR	Arges	8.61	47⇑	iP	Pn	19 23 31.4	+2.8
DAVA	Damuels	8.65	332	P	Pn	19 23 29.4	+0.3
	16nm,0.6s,SNR=13						
DAVA	Damuels	8.65	332	ePn	Pn	19 23 29.4	+0.3
	16nm,0.6s,SNR=13						
DRGR		8.66	34⇓	iP	Pn	19 23 31.0	+1.8
DRGR		8.66	34⇓	iP	Pn	19 23 31.0	+1.8
MODS	Modra-Piesok	8.68	7	ePn	Pn	19 23 29.7	+0.4
MODS	Modra-Piesok	8.68	7	ePN	Pn	19 23 29.7	+0.4
PSZ	Piszkesteto	8.68	19⇑	iP	Pn	19 23 29.9	+0.5
PSZ	Piszkesteto	8.68	19⇑	ex	Pn	19 23 30.0	+0.5
PSZ	Piszkesteto	8.68	19⇑	eP	Pn	19 23 30.0	+0.5
LPG	La Plagne	8.77	314	eP	Pn	19 23 31.3	+0.5
LPG	La Plagne	8.77	314	eP	Pn	19 23 31.3	+0.5
LPL	La Plagne	8.79	314	eP	Pn	19 23 31.5	+0.5
LPL	La Plagne	8.79	314	eP	Pn	19 23 31.5	+0.5
SMOL	Smolenice	8.83	7	ePn	Pn	19 23 31.8	+0.6
SMOL	Smolenice	8.83	7	ePN	Pn	19 23 31.8	+0.6
VOIR		8.88	47⇓	iP	Pn	19 23 34.4	+2.3
VOIR		8.88	47⇓	iP	Pn	19 23 34.4	+2.3
ORIF	Oris-en-Rattie	8.95	308	eP	Pn	19 23 33.6	+0.7
ORIF	Oris-en-Rattie	8.95	308	eP	Pn	19 23 33.6	+0.7
VYHS	Vyhne	9.00	13	ePn	Pn	19 23 33.8	+0.4
VYHS	Vyhne	9.00	13	ePN	Pn	19 23 33.8	+0.4
NPS	Neapolis	9.02	117	P	P	19 23 55.2	+15
GERES	GERESS Array B	9.20	351	P	Pn	19 23 36.3	+0.4
	2.1nm,0.3s,baz=165,slow=13,SNR=176						
KECS	Kecovo	9.35	20	ePn	Pn	19 23 39.3	+1.5
KECS	Kecovo	9.35	20	ePN	Pn	19 23 39.3	+1.5
DOPR	Dopca	9.39	46⇑	iP	Pn	19 23 40.1	+1.7
DOPR	Dopca	9.39	46⇑	iP	Pn	19 23 40.1	+1.7
MLR	Muntele Rosu	9.43	49	P	P	19 23 42.2	-2.3
	0.4nm,0.3s,baz=116,slow=23,SNR=6.8						
MLR	Muntele Rosu	9.43	49⇑	iP	P	19 23 43.1	-1.5
KHC	Kasperske Hory	9.49	351	ePN	Pn	19 23 39.5	-0.1
KHC				ex	x	19 23 45.6	
KHC				ex	x	19 23 48.0	
KHC	Kasperske Hory	9.49	351	Pn	Pn	19 23 39.5	-0.1
VRAC	Vranov	9.56	3	P	Pn	19 23 41.3	+0.9
	1.8nm,0.3s,baz=189,slow=12,SNR=22						
VRAC	Vranov	9.56	3⇑	iP	Pn	19 23 41.0	+0.6
VRAC	Vranov	9.56	3⇑	iP	Pn	19 23 41.0	+0.6
TRPA	Tarpa	9.68	28⇑	ex	Pn	19 23 42.8	+1.0
TRPA	Tarpa	9.68	28⇑	eP	Pn	19 23 42.8	+1.0
SPAK	Spaichingen-Ko	9.73	331	eP	Pn	19 23 42.1	-0.5
LANS	Liptovska Anna	9.75	15	ePn	Pn	19 23 44.6	+1.8
LANS	Liptovska Anna	9.75	15	ePN	Pn	19 23 44.6	+1.8
CABF	La Chapelle	9.83	317	eP	Pn	19 23 42.2	-1.7
CRVS	Cervenica-Dubn	10.00	22	ePN	P	19 23 49.5	-1.2
MORC	Moravsky Berou	10.09	7⇑	iP	Pn	19 23 47.8	+0.8
MORC	Moravsky Berou	10.09	7⇑	iP	Pn	19 23 47.8	+0.8
MORC	Moravsky Berou	10.09	7	ePn	Pn	19 23 48.2	+1.2
VRI	Vrincioaia	10.10	49⇑	iP	P	19 23 49.8	-2.0
VRI	Vrincioaia	10.10	49⇑	iP	P	19 23 49.8	-2.0
GOPC	GO Pecny, Ondr	10.17	356	ePN	Pn	19 23 48.6	+0.6
GOPC				ex	x	19 23 54.5	
GOPC	GO Pecny, Ondr	10.17	356	Pn	Pn	19 23 48.6	+0.6
NIE	Niedzica	10.18	17	eP	P	19 23 50.7	-2.0
NIE				eS	S	19 26 44.3	+62
NIE	Niedzica	10.18	17	eP	P	19 23 50.7	-2.0
OKC	Ostrava-Krasne	10.21	9	ePN	Pn	19 23 49.8	+1.3
OKC	Ostrava-Krasne	10.21	9	Pn	Pn	19 23 49.8	+1.3
PRU	Pruhonice	10.26	356	ePN	Pn	19 23 49.8	+0.8
PRU				ex	x	19 23 54.9	
PRU	Pruhonice	10.26	356	Pn	Pn	19 23 49.8	+0.8
HINF	Hinteralfeld	10.30	324	eP	Pn	19 23 48.3	-1.4
TLB	Topalu	10.30	58⇓	iP	P	19 23 55.7	+1.6
KRLC	Kraliky	10.34	4	ePN	Pn	19 23 51.0	+1.0
KRLC	Kraliky	10.34	4	Pn	Pn	19 23 51.0	+1.0
BURAR	Bucovina Array	10.40	38⇑	iP	Pn	19 23 53.3	+2.3
BURAR	Bucovina Array	10.40	38⇑	iP	Pn	19 23 53.3	+2.3
STHS	Stebnicka Huta	10.41	20	ePn	Pn	19 23 53.2	+2.3
STHS	Stebnicka Huta	10.41	20	ePN	Pn	19 23 53.2	+2.3
CDF	Champ du Feu	10.58	328	eP	Pn	19 23 52.6	-0.5
	9.6nm,0.4s						
DPC	Dobruska-Polom	10.59	2	ePN	Pn	19 23 53.8	+0.6
DPC				ex	x	19 23 57.8	
DPC	Dobruska-Polom	10.59	2	Pn	Pn	19 23 53.8	+0.6
HAU	Haudompre	10.67	324	eP	Pn	19 23 53.2	-1.0
NKC	Novy Kostel	10.73	348	ePN	Pn	19 23 56.1	+1.2
NKC				ex	x	19 24 00.4	
NKC	Novy Kostel	10.73	348	Pn	Pn	19 23 56.1	+1.2
UPC	Upice	10.74	1	ePN	Pn	19 23 56.1	+1.0
UPC				ex	x	19 24 00.5	
UPC	Upice	10.74	1	Pn	Pn	19 23 56.1	+1.0
PVCC	Panska Ves	10.80	356	ePN	Pn	19 23 57.0	+1.3
PVCC				ex	x	19 24 01.0	
PVCC	Panska Ves	10.80	356	Pn	Pn	19 23 57.0	+1.3
OJC	Ojcow	10.84	14	eP	Pn	19 23 55.2	-1.0
THEF	They Montfort	11.00	323	eP	Pn	19 23 58.2	-0.1
KWP	Kalwaria Pacla	11.03	24	eP	P	19 24 01.7	-0.4
KWP	Kalwaria Pacla	11.03	24	eP	P	19 24 01.7	-0.4
TLCR		11.05	56⇑	iP	P	19 24 04.6	+2.2
SMF	Signal de Mont	11.08	312	eP	Pn	19 23 57.0	-2.4
KSP	Ksiaz	11.09	2	eP	Pn	19 24 00.4	+1.1
KSP	Ksiaz	11.09	2	eP	Pn	19 24 00.4	+1.1
BRG	Berggiesshubel	11.18	354	i P	Pn	19 24 01.2	+0.7
	17nm,0.8s						
BRG				i		19 24 05.1	
	25nm,0.8s						
PAGF	Fort de Pagny	11.36	324	eP	Pn	19 24 02.6	-0.1
PAGF	Fort de Pagny	11.36	324	eP	Pn	19 24 02.6	-0.1
LOR	Lormes	11.44	315	eP	Pn	19 24 01.8	-1.9
	baz=125						
AVF	Avril sur Loir	11.44	312	eP	Pn	19 24 01.7	-2.1
SSF	Saint Saulge	11.51	313	eP	Pn	19 24 02.1	-2.5
MEZF	Maizieres J'vi	11.63	322	eP	P	19 24 09.3	+0.5
	baz=137						
MEZF	Maizieres J'vi	11.63	322	eP	P	19 24 09.3	+0.5
CLL	Collm	11.70	351⇓	iP	Pn	19 24 08.4	+1.5
	comp=Z,16nm,0.8s						
CLL				i		19 24 11.4	
	comp=Z,21nm,0.9s						
MILM	Milestii Mici	11.88	49⇑	iP	P	19 24 12.9	+1.3
MILM	Milestii Mici	11.88	49⇑	iP	P	19 24 12.9	+1.3
SORM	Soroca	12.33	43⇑	iP	P	19 24 18.9	+2.4
SORM	Soroca	12.33	43⇑	iP	P	19 24 18.9	+2.4
ETSF	Etsaut	12.66	290	eP	Pn	19 24 18.0	-0.9
BAIF	Baives	13.14	325	eP	P	19 24 25.4	-0.1
	comp=Z,1.4nm,0.3s						
BAIF	Baives	13.14	325	eP	P	19 24 25.4	-0.1
	comp=Z,0.7nm,0.3s						
SJPF	Ste Jean	13.18	290	eP	Pn	19 24 24.6	-0.5
SJPF	Ste Jean	13.18	290	eP	Pn	19 24 24.6	-0.5
BRTR	Keskin Array B	13.76	84	P	P	19 24 35.2	+2.5
	comp=Z,0.1nm,0.3s,baz=268,slow=12,SNR=5.3						
LDF	La Druitiere	14.39	313	eP	P	19 24 37.3	-2.1
	comp=Z,2.7nm,0.5s						
AKASG	Malin Array Be	14.45	36	P	P	19 24 40.1	+0.2
	comp=Z,4.9nm,0.3s,baz=228,slow=10,SNR=44						
SUW	Suwalki	15.11	17	eP	P	19 24 38.4	-8.9
ESDC	Sonseca Array	15.19	276	P	P	19 24 47.8	-0.5
	comp=Z,1.6nm,0.3s,baz=77,slow=11,SNR=24						
NACGM	Naroch	16.85	22	e	P	19 25 06.0	-0.3
PBRG	Braganca	17.16	284	eP	P	19 25 09.3	-0.6
PBRG	Braganca	17.16	284	eP	P	19 25 09.3	-0.6
MVO	Moncorvo	17.40	282	eP	P	19 25 12.7	+0.2
MVO	Moncorvo	17.40	282	eP	P	19 25 12.7	+0.2
PBAR	Barrancos	17.80	272	eP	P	19 25 16.4	-0.4
PBAR	Barrancos	17.80	272	eP	P	19 25 16.4	-0.4
MTE	Manteigas	17.84	280	eP	Pn	19 25 20.5	0.0
MTE	Manteigas	17.84	280	eP	Pn	19 25 20.5	0.0
PMRV	Marv??o	17.85	276	eP	P	19 25 17.1	-0.2
PMRV	Marv??o	17.85	276	eP	P	19 25 17.1	-0.2
PESTR	Estremoz	18.09	275	eP	P	19 25 19.7	-0.2
PESTR	Estremoz	18.09	275	eP	P	19 25 19.7	-0.2
PBEJ	Beja	18.47	272	eP	P	19 25 24.8	+0.8
PBEJ	Beja	18.47	272	eP	P	19 25 24.8	+0.8
PVAQ	Vaqueiros	18.50	270	eP	P	19 25 23.5	-0.8
PVAQ	Vaqueiros	18.50	270	eP	P	19 25 23.5	-0.8
PMTG	Montargil	18.54	276	eP	P	19 25 23.1	-1.6
PMTG	Montargil	18.54	276	eP	P	19 25 23.1	-1.6
PTOM	Tomar	18.60	277	eP	P	19 25 25.9	+0.6
PTOM	Tomar	18.60	277	eP	P	19 25 25.9	+0.6
PCAS	Casmilo, Conde	18.61	279	eP	P	19 25 24.9	-0.5
PCAS	Casmilo, Conde	18.61	279	eP	P	19 25 24.9	-0.5
PCVE	Castro Verde	18.69	271	eP	P	19 25 27.1	+0.7
PCVE	Castro Verde	18.69	271	eP	P	19 25 27.1	+0.7
PBDV	Barranco-do-Ve	18.71	270	eP	P	19 25 27.2	+0.7
PBDV	Barranco-do-Ve	18.71	270	eP	P	19 25 27.2	+0.7
PNCL	Nicolau / Gran	18.96	273	eP	P	19 25 28.7	-0.5
PNCL	Nicolau / Gran	18.96	273	eP	P	19 25 28.7	-0.5
PMAFR	Mafra	19.37	276	eP	P	19 25 33.4	-0.2
PMAFR	Mafra	19.37	276	eP	P	19 25 33.4	-0.2
PFVI	Vila Bisbo	19.43	270	eP	P	19 25 34.8	+0.6
PFVI	Vila Bisbo	19.43	270	eP	P	19 25 34.8	+0.6
EKA	Eskdalemuir Ar	20.04	327	P	P	19 25 38.6	-1.9
	baz=118,slow=8.4,SNR=11						
HFS	Hagfors	20.43	357	P	P	19 25 43.3	-1.3
	comp=Z,7.6nm,0.5s,baz=163,slow=10,SNR=40						
KBZ	Khabaz	20.59	70	P	P	19 25 47.6	+1.3
	comp=Z,3.3nm,0.9s,baz=323,slow=9.3,SNR=6.8						
NB2	NORSAR Subarra	21.49	354	P	P	19 25 53.7	-1.3
	comp=Z,1.5nm,0.5s,baz=177,slow=10						
NOA	NORSAR Array B	21.49	354	P	P	19 25 54.4	-0.6
	comp=Z,0.6nm,0.3s,baz=156,slow=9.8,SNR=11						
FINES	FINESS Array B	22.61	13	P	P	19 26 04.9	-0.3
	comp=Z,9.3nm,0.4s,baz=189,slow=9.2,SNR=84						
KLMR	Klimovskoe	25.72	27	eP	P	19 26 31.6	-1.6
KLMR					AMP	19 26 36.9	
	comp=Z,14nm,1.5s						
TORD	Torodi Ar. Bea	29.27	209	P	P	19 27 05.2	+0.1
	comp=Z,2.5nm,0.5s,baz=18,slow=9.6,SNR=25						
ARCES	ARCESS Array B	30.28	7	P	P	19 27 12.6	-0.8
	comp=Z,2.9nm,0.7s,baz=187,slow=8.7,SNR=25						
KOWA	Kowa	30.57	220	P	P	19 27 16.0	-0.6
	comp=Z,1.0nm,0.5s,baz=346,slow=8.3,SNR=3.9						
AKTO	Aktyubinsk	31.28	56	P	P	19 27 23.2	+0.8
	comp=Z,0.8nm,0.4s,baz=225,slow=5.1,SNR=3.8						
BORG	Borgarnes	32.94	332	P	P	19 27 36.7	+0.1
	comp=Z,29nm,1.1s,baz=329,slow=5.9,SNR=2.7						
DBIC	Dimbokro	37.81	215	P	P	19 28 18.2	-0.3
	comp=Z,2.5nm,0.4s,baz=16,slow=9.6,SNR=14						
SPITS	Spitsbergen Ar	38.53	0	P	P	19 28 24.2	+0.5
	comp=Z,5.2nm,0.8s,baz=197,slow=4.5,SNR=7.5						
BVAR	Borovoye Array	38.99	52	P	P	19 28 28.9	+1.1
	comp=Z,0.6nm,0.4s,baz=282,slow=10,SNR=6.9						
KURBB	Kurchatov Arra	44.29	54	P	P	19 29 11.3	+0.7
	comp=Z,0.7nm,0.3s,baz=298,slow=8.0,SNR=16						
ZALV	Zalesovo Beam	47.41	49	P	P	19 29 35.3	+0.5
	comp=Z,1.7nm,0.3s,baz=285,slow=8.4,SNR=11						
MKAR	Makanchi Array	47.63	59	P	P	19 29 37.4	+0.7
	comp=Z,1.5nm,0.4s,baz=283,slow=7.1,SNR=30						
WMQ	Urumqi	52.22	61	P	P	19 30 12.0	+0.8
WMQ				sP	sP	19 31 34.4	-5.0
WMQ				pmax	pmax		
	comp=Z,17nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,490nm,6.9s						
SCHQ	Schefferville	54.75	315	P	P	19 30 28.3	-0.9
	comp=Z,1.8nm,0.3s,baz=59,slow=14,SNR=4.3						
SONM	Songino Array	62.28	50	P	P	19 31 20.5	-0.7
	comp=Z,0.5nm,0.9s,baz=287,slow=5.3,SNR=2.1						
LZH	Lanzhou	66.76	62	eP	P	19 31 48.9	-1.4
LZH				pP	pP	19 32 53.5	+1.9
LZH				sP	sP	19 33 24.6	+3.7
LZH				ePP	PP	19 34 22.8	+1.9
LZH				pmax	pmax		
	comp=Z,24nm,1.1s						
LZH				pmax	pmax		
	comp=Z,160nm,6.4s						
LZH				LR	LR		
	comp=N,98nm,14.3s						
LZH				LR	LR		
	comp=E,110nm,14.2s						
LZH				LR	LR		
	comp=Z,150nm,17.5s						
BOSA	Boshof	68.60	171	P	P	19 32 02.2	+0.6
	comp=Z,1.4nm,0.4s,baz=354,slow=7.3,SNR=7.1						
HHC	Hu-ho-hao-te	69.14	54	eP	P	19 32 02.6	-2.4
HHC				pmax	pmax		
	comp=Z,7.0nm,1.2s						
HHC				pmax	pmax		
	comp=Z,120nm,7.0s						
YKA	Yellowknife Ar	70.58	338	P	P	19 32 13.0	-0.1
	comp=Z,0.2nm,0.5s,baz=38,slow=5.8,SNR=4.7						
ULM	Lac du Bonnet	72.18	321	P	P	19 32 22.6	-0.3
	comp=Z,2.8nm,0.5s,baz=52,slow=7.8,SNR=5.3						
NJ2	Nanjing	79.15	57	eP	P	19 33 04.2	+1.7
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.8s						
SDV	Santo Domingo	81.63	275	P	P	19 33 15.5	-0.7
	comp=Z,2.4nm,0.5s,baz=304,slow=8.0,SNR=4.9						
TXAR	Lajitas Array	91.16	310	P	P	19 34 03.3	+1.1
	comp=Z,0.5nm,0.8s,baz=90,slow=5.0,SNR=4.9						
WRA	Warramunga Arr	124.25	88	PKP	PKPdf	19 39 54.1	-0.4
	comp=Z,0.4nm,1.1s,baz=334,slow=1.6,SNR=3.8						
ASAR	Alice Springs	125.99	92	PKP	PKPdf	19 39 57.5	-0.2
	comp=Z,0.1nm,0.4s,baz=3.8,slow=1.4,SNR=3.0						

IDC 01 19:24:03.7±2.0**,19°.01S**×**168°.85E,h0**km**,mb3.5**/3**, mb1 3.8**/4**,mb1mx3.5**/39**,mbtmp3.5**/4**,ML3.5**/1**,Error ellipse: s-maj=81.0km s-min=29.9km az=139.0,Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	3.79	216	Pn	Pn	19 25 02.1	-1.4
	3.5nm,0.3s,baz=74,slow=10,SNR=28						
DZM				Sn	Sn	19 25 42.5	-6.4
	8.6nm,0.3s,baz=311,slow=20,SNR=5.6						
WRA	Warramunga Arr	32.52	263	P	P	19 30 36.9	+0.3
	0.2nm,0.8s,baz=81,slow=5.9,SNR=2.7						
ASAR	Alice Springs	32.83	256	P	P	19 30 39.3	0.0
	0.2nm,0.4s,baz=79,slow=8.8,SNR=10						
ILAR	Eielson Array	90.12	17	P	P	19 37 04.9	-0.4
	0.5nm,0.8s,baz=232,slow=5.1,SNR=4.8						
ARCES	ARCESS Array B	124.76	345	PKP	PKPdf	19 43 04.8	+0.1
	3.0nm,1.1s,baz=64,slow=2.1,SNR=3.7						

*NEIC **01** 19:24:56.0±0.0,16°.47N×98°.46W,h20km,MD4.0(MEX), After MEX.*
MEX 01 19:24:56.0±0.6**,16°.47N**×**98°.46W,h20**km±43km**,MD4.0, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.32	103	i P	Pb	19 25 01.9	-1.2
PNIG				eS	Sb	19 25 06.7	-1.2
PNIG	Pinotepa	0.32	103	i P	Pb	19 25 01.9	-1.2
PNIG				eS	Sb	19 25 06.7	-1.2
TLIG	Tlapa	1.09	354	eP	Pn	19 25 12.6	-3.8
TLIG				eS	Sb	19 25 25.7	-4.6
TLIG	Tlapa	1.09	354	eP	Pn	19 25 12.6	-3.8
TLIG				eS	Sb	19 25 25.7	-4.6
VHO	Vista Hermosa	1.76	70	eP	Pn	19 25 23.0	-2.6
VHO				eS	Sn	19 25 43.0	-4.4
VHO	Vista Hermosa	1.76	70	eP	Pn	19 25 23.0	-2.6
VHO				eS	Sn	19 25 43.0	-4.4
CAIG	El Cayaco	1.83	289	eP	Pn	19 25 23.1	-3.2
CAIG	El Cayaco	1.83	289	eP	Pn	19 25 23.1	-3.2
PLIG	Platanillo	2.16	333	eP	Pn	19 25 29.1	-1.8
PLIG				eS	Sn	19 25 53.9	-3.3
PLIG	Platanillo	2.16	333	eP	Pn	19 25 29.1	-1.8
PLIG				eS	Sn	19 25 53.9	-3.3
HUIG	Huatulco	2.36	107	eP	Pn	19 25 32.7	-0.9
HUIG				i S	Sn	19 25 57.3	-4.8
HUIG	Huatulco	2.36	107	eP	Pn	19 25 32.7	-0.9
HUIG				i S	Sn	19 25 57.3	-4.8

*NDI **01** 19:25:08.4±3.9,25°.53N×95°.22E,h30km,ML3.1*
ISC 01 19:25:08.3±1.8**,25°.56N**±0°.06×**95°.15E**±0°.08**,h96**km±17km**, n9,σ0s.85**/16**,Myanmar-India border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOKO	MOKOCHONG	0.95	323	eP	Pn	19 25 29.2	+1.2
MOKO				ex	x	19 25 44.0	
KOHI	KOHIMA	0.95	280	eP	Pn	19 25 27.8	-0.3
KOHI				eS	Sn	19 25 42.4	-0.6
KOHI				IAML		19 25 45.9	
	comp=N,1µm,0.2s						
KOHI				IAML		19 25 46.6	
	comp=E,2µm,0.2s						
IMP	Imphal	1.31	237	eP	Pn	19 25 32.4	+0.4
IMP				eS	Sn	19 25 50.3	+0.3
LKP	Lekhapani	1.88	19	eP	Pn	19 25 39.2	+0.1
LKP				eS	Sn	19 26 02.8	+0.2
LKP				IAML		19 26 05.7	
	comp=N,32nm,0.1s						
LKP				IAML		19 26 06.0	
	comp=E,25nm,0.2s						
ZIRO	ZIRO	2.28	330	eP	Pn	19 25 44.4	-0.2
ZIRO				eS	Sn	19 26 11.0	-1.3
ZIRO				IAML		19 26 13.7	
	comp=N,4µm,0.1s						
ZIRO				IAML		19 26 14.7	
	comp=E,2µm,0.6s						
TEZP	TEZPUR	2.36	297	eP	Pn	19 25 46.0	+0.5
TEZP				eS	Sn	19 26 13.6	-0.4
TEZP				IAML		19 26 15.6	
	comp=N,277nm,0.1s						
TEZP				IAML		19 26 16.0	
	comp=E,248nm,0.2s						
GUWA	GUWAHATI	3.18	282	eS	Sn	19 26 32.3	-1.2
GUWA				IAML		19 26 34.4	
	comp=E,78nm,0.2s						
GUWA				IAML		19 26 34.5	
	comp=N,70nm,0.2s						
SAIH	SAIHA	3.64	213	eP	Pn	19 26 02.8	+0.1
SAIH				eS	Sn	19 26 43.6	-1.1
SAIH				IAML		19 26 48.2	
	comp=E,8.1nm,0.2s						
SAIH				IAML		19 26 48.8	
	comp=N,5.2nm,0.3s						
TURI	Tura	4.35	271	eP	Pn	19 26 13.5	+1.4
TURI				eS	Sn	19 27 01.9	+0.2
TURI				IAML		19 27 05.3	
	comp=N,23nm,0.1s						
TURI				IAML		19 27 05.5	
	comp=E,31nm,0.1s						

*ISCJB **01** 19:33:03.7±0.5,40°.12N±0°.02×28°.42E±0°.03,h4km±5km, Error ellipse: s-maj=4.2km s-min=3.7km az=154.0*
*ISK **01** 19:33:03.6,40°.11N×28°.43E,h10km,ML2.6/11*
*CSEM **01** 19:33:04.0±0.1,40°.12N×28°.44E,h10km,ML2.6,Error ellipse: s-maj=2.9km s-min=2.3km az=127.0*
*DDA **01** 19:33:04.5,40°.07N×28°.41E,h7km,Ml2.3*
ISC 01 19:33:04.2±0.9**,40°.11N**±0°.02×**28°.42E**±0°.02**,h12**km±10km**, n42,σ0s.68**/64**,Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ORLT	Orhaneli	0.37	100	PG	Pg	19 33 10.9	-0.7
ORLT				SG	Sg	19 33 17.0	+0.4
ORLT	Orhaneli	0.37	100	ePg	Pg	19 33 10.9	-0.7
ORLT				eSg	Sg	19 33 17.0	+0.4
MDNY	Mudanya-Bursa	0.44	54	PG	Pg	19 33 12.6	-0.3
MDNY				SG	Sg	19 33 19.2	+0.5
MDNY	Mudanya-Bursa	0.44	54	ePg	Pg	19 33 12.6	-0.3
MDNY				eSg	Sg	19 33 19.2	+0.5
EDC	Edincik	0.49	299	PG	Pg	19 33 13.6	-0.2
EDC				SG	Sg	19 33 21.0	+0.8
EDC	Edincik	0.49	299	ePg	Pg	19 33 13.6	-0.2
EDC				eSg	Sg	19 33 21.0	+0.8
DURS	Dursunbey	0.51	175	i P	Pg	19 33 14.0	-0.2
DURS				i S	Sg	19 33 21.5	+0.4
DURS	Dursunbey	0.51	175	P	Pg	19 33 14.0	-0.2
DURS				S	Sg	19 33 21.5	+0.4
ARMT	Armutlu	0.56	37	PG	Pg	19 33 15.2	0.0
ARMT	Armutlu	0.56	37	ePg	Pg	19 33 15.2	0.0
BALB	Balikesir	0.63	222	PG	Pg	19 33 16.2	-0.2
BALB	Balikesir	0.63	222	ePg	Pg	19 33 16.2	-0.2
BALY	Balya	0.72	239	i P	Pg	19 33 17.4	-0.7
BALY				i S	Sg	19 33 26.7	-0.9
BALY	Balya	0.72	239	P	Pg	19 33 17.5	-0.7
BALY				S	Sg	19 33 26.7	-0.9
BUY	Buyukada	0.91	36	PG	Pg	19 33 21.5	-0.3
BUY	Buyukada	0.91	36	ePg	Pg	19 33 21.5	-0.3
STEP	BALIKESIR_Sava	0.91	217	i P	Pb	19 33 22.3	+0.4
STEP				i S	Sb	19 33 34.7	+0.7
STEP	BALIKESIR_Sava	0.91	217	P	Pb	19 33 22.3	+0.4
STEP				S	Sb	19 33 34.7	+0.7
TVSB	Tavsanli	1.04	129	PG	Pg	19 33 23.8	-0.4
TVSB	Tavsanli	1.04	129	ePg	Pg	19 33 23.8	-0.4
ISK	Istanbul-Kandi	1.07	27	PG	Pg	19 33 24.4	-0.4
ISK	Istanbul-Kandi	1.07	27	ePg	Pg	19 33 24.4	-0.4
DEMI	Demirci	1.09	168	i P	Pn	19 33 25.7	+0.4
DEMI				i S	Sb	19 33 39.4	+0.2
DEMI	Demirci	1.09	168	P	Pn	19 33 25.7	+0.4
DEMI				S	Sb	19 33 39.4	+0.2
BGKT	Bogazkoy	1.10	14	PN	Pb	19 33 25.1	0.0
BGKT	Bogazkoy	1.10	14	ePn	Pb	19 33 25.1	0.0
RKY	Sarkoy-Tekirda	1.11	302	PN	Pg	19 33 25.4	-0.2
RKY	Sarkoy-Tekirda	1.11	302	ePn	Pg	19 33 25.4	-0.2
SIMA	Simav-Kutahya	1.12	157	PN	Pb	19 33 25.3	-0.1
SIMA	Simav-Kutahya	1.12	157	ePn	Pb	19 33 25.3	-0.1
SLVT	Silivri	1.13	352	PN	Pg	19 33 25.7	-0.2
SLVT	Silivri	1.13	352	ePn	Pg	19 33 25.7	-0.2
HRT	Hereke	1.19	53	PN	Pb	19 33 26.5	-0.1
HRT	Hereke	1.19	53	ePn	Pb	19 33 26.5	-0.1
GDZ	Gediz	1.31	141	i P	Pn	19 33 27.7	-0.7
GDZ				i S	Sb	19 33 45.0	-0.6
GDZ	Gediz	1.31	141	P	Pn	19 33 27.7	-0.7
GDZ				S	Sb	19 33 45.0	-0.6
AKHS	Akhisar	1.32	201	i P	Pn	19 33 27.7	-0.7
AKHS				i S	Sg	19 33 48.6	+2.0
AKHS	Akhisar	1.32	201	P	Pn	19 33 27.7	-0.7
AKHS				S	Sg	19 33 48.6	+2.0
BAYC	CANAKKALE_Bayr	1.49	256	i P	Pb	19 33 32.1	+0.4
BAYC				i S	Sg	19 33 51.5	-0.6
BAYC	CANAKKALE_Bayr	1.49	256	P	Pb	19 33 32.1	+0.4
BAYC				S	Sg	19 33 51.5	-0.6
BORA	Eskisehir	1.58	98	i P	Pb	19 33 32.9	-0.4
BORA				i S	Sg	19 33 56.9	+1.9
BORA	Eskisehir	1.58	98	P	Pb	19 33 32.9	-0.4
BORA				S	Sg	19 33 56.9	+1.9

*IDC **01** 19:35:07.3±1.5,9°.88N×125°.77E,h0km,mb3.3/6, mb1 3.5/6,mb1mx3.3/61,mbtmp3.3/6,Error ellipse: s-maj=68.2km s-min=24.3km az=66.0*
*ISCJB **01** 19:35:13.0±0.8,10°.56N±0°.05×125°.46E±0°.07,h10km, mb3.3/6,Error ellipse: s-maj=10.8km s-min=6.1km az=162.8*
*MAN **01** 19:35:13,10°.53N×125°.37E,h2km,mb4.8,ML3.7,MS3.6*
ISC 01 19:35:14.1±0.9**,10°.50N**±0°.05×**125°.29E**±0°.06**,h10**km**,n13, σ1s.26**/15**,mb3.3**/6**,5C-1D,Leyte**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLP	Palo	0.73	335⇑	iP	Pb	19 35 28.7	-0.3
PLP				i S	Sn	19 35 39.8	-2.0
SCPH	Surigao	0.73	165⇑	eP	Pb	19 35 28.6	-0.4
SCPH				eS	Sb	19 35 39.2	+0.1
LLP	Lapu-Lapu	1.32	262⇑	eP	Pg	19 35 39.5	+0.1
LLP				eS	Sg	19 35 58.4	+1.9
SNPH	Sibulan	2.33	241	eP	Pb	19 35 54.9	-1.3
BIPH	Bislig	2.53	155⇑	iP	Pg	19 36 02.1	-0.4
BIPH				i S	Sg	19 36 35.1	-0.2
RCP	Roxas	2.71	293⇓	eP	Pb	19 36 00.4	-2.4
LQP	Lukban	5.13	315⇑	eP	Pn	19 36 21.3	-10
CMAR	Chiang Mai Arr	26.68	290	P	P	19 40 55.0	+1.3
	0.4nm,0.7s,baz=97,slow=7.7,SNR=4.4						
WRA	Warramunga Arr	31.53	164	P	P	19 41 25.0	-12
	0.1nm,0.4s,baz=342,slow=10,SNR=3.1						
SONM	Songino Array	40.48	340	P	P	19 42 54.4	+1.3
	0.2nm,0.7s,baz=141,slow=7.1,SNR=2.9						
MKAR	Makanchi Array	51.27	323	P	P	19 44 18.4	+0.2
	0.4nm,0.7s,baz=120,slow=7.8,SNR=4.8						

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res ISC
ZALV	**Zalesovo Beam**	**53.97**	**332**	P	**P**	**19 44 38.2**	**+0.2**
	0.2nm,0.3s,baz=134,slow=10,SNR=2.7						
KURBB	**Kurchatov Arra**	**55.34**	**326**	P	**P**	**19 44 48.0**	**-0.1**
	0.3nm,0.5s,baz=127,slow=7.0,SNR=3.6						

*CSEM **01** 19:59:32.3±1.2, 36°.92N×29°.52E, h1km, ML1.7, Error ellipse: s-maj=22.3km s-min=15.8km az=107.0, Suspected Mining explosion.*
*DDA **01** 19:59:37.7, 36°.92N×29°.04E, h7km, Ml1.7, Suspected Mining explosion.*
ISK 01 19:59:36.5, 36°.75N×28°.96E, h29km, ML1.7/4, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FETY	**Fethiye**	**0.15**	**138**	PG	Pb	19 59 42.4	+0.2
FETY				SG	Sb	19 59 47.0	+1.0
FETY	**Fethiye**	**0.15**	**138**	P	Pb	19 59 42.0	-0.2
FETY	**Fethiye**	**0.15**	**138**	*e*Pg	Pb	19 59 42.4	+0.2
FETY				*e*Sg	Sb	19 59 47.0	+1.0
FETY				S		19 59 48.1	
DALY	**Dalyan (Mu˜la**	**0.25**	**285**	PG	Pn	19 59 43.9	-0.4
DALY				SG	Sn	19 59 48.8	-0.4
DALY	**Dalyan (Mu˜la**	**0.25**	**285**	*i* P	Pn	19 59 44.4	+0.1
DALY				*i* S	Sn	19 59 49.6	+0.4
DALY	**Dalyan (Mu˜la**	**0.25**	**285**	*e*Pg	Pn	19 59 43.9	-0.4
DALY	**Dalyan (Mu˜la**	**0.25**	**285**	P	Pn	19 59 44.4	+0.1
DALY				S	Sn	19 59 49.6	+0.4
TURN	**Turunc**	**0.31**	**293**	PG	Pn	19 59 48.9	+3.9
TURN				SG	Sn	19 59 57.9	+7.3
YER	**Yerkesik**	**0.66**	**306**	PG	Pn	19 59 50.2	+0.2
YER	**Yerkesik**	**0.66**	**306**	*e*Pg	Pn	19 59 50.2	+0.2
TAVA	**DENIZLI_Tavas**	**0.71**	**357**	*i* P	Pb	19 59 48.2	-2.3
TAVA				*i* S	Sb	19 59 57.4	-2.7
TAVA	**DENIZLI_Tavas**	**0.71**	**357**	P	Pb	19 59 48.2	-2.3
TAVA				S	Sb	19 59 57.4	-2.7

*ATA **01** 20:02:33.0±1.5, 38°.59N×43°.56E, h9km±45km, ML3.0, MW3.2*
*ISK **01** 20:02:35.7, 38°.64N×43°.15E, h2km, ML2.7/6*
*ISCJB **01** 20:02:38.0±0.4, 38°.67N±0°.02×43°.18E±0°.04, h5km±5km, Error ellipse: s-maj=4.8km s-min=4.1km az=0.0*
*CSEM **01** 20:02:37.2±0.2, 38°.64N×43°.18E, h10km, ML2.7, Error ellipse: s-maj=6.2km s-min=4.8km az=134.0*
*DDA **01** 20:02:37.7, 38°.65N×43°.22E, h7km, Ml2.6*
ISC 01 20:02:37.8±0.8**, 38°.65N**±0°.02×**43°.21E**±0°.02**, h15**km±6km**, n41, σ1s.16**/63**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.15**	**111**	PG	**Pg**	**20 02 41.5**	**-0.4**
VANB				SG	**Sg**	**20 02 45.6**	**+1.0**
VANB	**Van**	**0.15**	**111**	*e*Pg	**Pg**	**20 02 41.5**	**-0.4**
VANB				*e*Sg	**Sg**	**20 02 45.6**	**+1.0**
TVAN	**Van**	**0.20**	**128**	*i* P	**Pg**	**20 02 41.8**	**-0.9**
TVAN				*i* S	**Sg**	**20 02 46.0**	**+0.1**
TVAN	**Van**	**0.20**	**128**	P	**Pg**	**20 02 41.8**	**-0.9**
TVAN				S	**Sg**	**20 02 46.0**	**+0.1**
GEVA	**Gevas**	**0.36**	**199**	*i* P	**Pg**	**20 02 43.8**	**-1.4**
GEVA				*e*S	**Sg**	**20 02 50.1**	**-0.2**
GEVA				IAML		20 02 53.7	
	comp=Z,150nm,0.4s						
GEVA	**Gevas**	**0.36**	**199**	*i* P	**Pg**	**20 02 44.1**	**-1.1**
GEVA				*i* S	**Sb**	**20 02 50.7**	**-0.7**
GEVA	**Gevas**	**0.36**	**199**	P	**Pg**	**20 02 44.1**	**-1.1**
GEVA				S	**Sb**	**20 02 50.7**	**-0.7**
ERCV	**ERCIS-VAN**	**0.38**	**16**	PG	**Pg**	**20 02 44.7**	**-1.0**
ERCV				SG	**Sg**	**20 02 51.3**	**+0.2**
ERCV	**ERCIS-VAN**	**0.38**	**16**	*e*Pg	**Pg**	**20 02 44.7**	**-1.0**
ERCV				*e*Sg	**Sg**	**20 02 51.3**	**+0.2**
ADCV	**BITLIS_Adilcev**	**0.41**	**293**	*i* P	**Pg**	**20 02 45.9**	**-0.2**
ADCV				*i* S	**Sb**	**20 02 53.1**	**+0.1**
ADCV	**BITLIS_Adilcev**	**0.41**	**293**	P	**Pg**	**20 02 45.9**	**-0.2**
ADCV				S	**Sb**	**20 02 53.1**	**+0.1**
VMUR	**Van-Muradiye**	**0.44**	**40**	*i* P	**Pb**	**20 02 47.4**	**-0.1**
VMUR				*i* S	**Sb**	**20 02 56.2**	**+2.2**
VMUR	**Van-Muradiye**	**0.44**	**40**	P	**Pb**	**20 02 47.4**	**-0.1**
VMUR				S	**Sb**	**20 02 56.2**	**+2.2**
CLDR	**Caldiran**	**0.74**	**48**	PG	**Pg**	**20 02 51.7**	**-0.7**
CLDR				SG	**Sb**	**20 03 03.4**	**+0.8**
CLDR	**Caldiran**	**0.74**	**48**	*i* P	**Pg**	**20 02 51.5**	**-0.8**
CLDR				*i* S	**Sn**	**20 03 04.3**	**-0.8**
CLDR	**Caldiran**	**0.74**	**48**	P	**Pg**	**20 02 51.5**	**-0.8**
CLDR	**Caldiran**	**0.74**	**48**	*e*Pg	**Pg**	**20 02 51.7**	**-0.7**
CLDR				*e*Sg	**Sb**	**20 03 03.4**	**+0.8**
CLDR				S	**Sn**	**20 03 04.3**	**-0.8**
TUTA	**Tutak**	**0.81**	**338**	*e*P	**Pg**	**20 02 52.9**	**-0.7**
TUTA				IAML		20 03 08.9	
	comp=Z,37nm,0.3s						
TUTA	**Tutak**	**0.81**	**338**	*i* P	**Pg**	**20 02 52.8**	**-0.8**
TUTA	**Tutak**	**0.81**	**338**	P	**Pg**	**20 02 52.8**	**-0.8**
GURO	**Guroymak-BITLI**	**0.92**	**264**	PG	**Pg**	**20 02 53.5**	**-2.3**
GURO	**Guroymak-BITLI**	**0.92**	**264**	*e*Pg	**Pg**	**20 02 53.5**	**-2.3**
AGRB	**Hanur-Agry**	**0.94**	**350**	PG	**Pg**	**20 02 54.6**	**-1.5**
AGRB	**Hanur-Agry**	**0.94**	**350**	*e*Pg	**Pg**	**20 02 54.6**	**-1.5**
DYDN	**Diyadin**	**0.97**	**23**	*e*P	Pg	20 02 51.1	-5.5
DYDN				IAML		20 03 17.8	
	comp=Z,8.5nm,0.6s						
HAKT	**HAKKARI**	**1.16**	**160**	*i* P	**Pg**	**20 02 58.5**	**-1.8**
HAKT				*i* S	**Sn**	**20 03 17.8**	**+2.3**
HAKT	**HAKKARI**	**1.16**	**160**	P	**Pg**	**20 02 58.5**	**-1.8**
HAKT				S	**Sn**	**20 03 17.8**	**+2.3**
SRTM	**Siirt_Merkez**	**1.21**	**237**	*i* P	**Pg**	**20 03 00.6**	**-0.5**
SRTM				*i* S	**Sn**	**20 03 18.6**	**+2.3**
SRTM	**Siirt_Merkez**	**1.21**	**237**	P	**Pg**	**20 03 00.6**	**-0.5**
SRTM				S	**Sn**	**20 03 18.6**	**+2.3**
SIRT	**Sirnak**	**1.30**	**208**	PN	**Pn**	**20 03 00.8**	**-0.7**
SIRT	**Sirnak**	**1.30**	**208**	*e*Pn	**Pn**	**20 03 00.8**	**-0.7**
TASB	**TASBURUN-IGDIR**	**1.55**	**31**	PN	**Pb**	**20 03 05.7**	**-0.6**
TASB	**TASBURUN-IGDIR**	**1.55**	**31**	*e*Pn	**Pb**	**20 03 05.7**	**-0.6**
BTMN	**Batman**	**1.70**	**244**	*i* P	**Pb**	**20 03 09.3**	**+0.4**
BTMN				*i* S	**Sg**	**20 03 33.7**	**+1.1**
BTMN	**Batman**	**1.70**	**244**	P	**Pb**	**20 03 09.3**	**+0.4**
BTMN	**Batman**	**1.70**	**244**	S	**Sg**	**20 03 33.7**	**+1.1**
HOMI	**Horasan**	**1.72**	**325**	*e*P	**Pb**	**20 03 09.4**	**+0.1**
BNGB	**Bingˆ¶l**	**2.00**	**281**	PN	**Pn**	**20 03 11.2**	**0.0**
BINT	**Bingol**	**2.13**	**277**	*e*Pn	**Pn**	**20 03 11.2**	**-1.9**
HANI	**Diyarbakir_Han**	**2.21**	**265**	*i* P	**Pb**	**20 03 18.0**	**+0.4**
HANI				*i* S	**Sg**	**20 03 49.2**	**+0.2**
HANI	**Diyarbakir_Han**	**2.21**	**265**	P	**Pb**	**20 03 18.0**	**+0.4**

*CSEM **01** 20:16:32.9±0.2, 39°.03N×43°.68E, h2km, ML2.6, Error ellipse: s-maj=5.3km s-min=3.6km az=117.0*
*DDA **01** 20:16:32.3, 39°.00N×43°.68E, h5km, Ml2.6*
*ISK **01** 20:16:32.0, 39°.03N×43°.68E, h16km, ML2.3/4*
*ATA **01** 20:16:32.9±0.9, 39°.04N×43°.58E, h10km±381km, ML2.4, MW2.6*
*ISCJB **01** 20:16:33.1±0.6, 39°.04N±0°.03×43°.67E±0°.05, h8km±5km, Error ellipse: s-maj=6.8km s-min=4.1km az=23.1*
ISC 01 20:16:32.9±1.0**, 39°.04N**±0°.02×**43°.66E**±0°.03**, h5**km±8km**, n24, σ0s.51**/44**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VMUR	**Van-Muradiye**	**0.09**	**232**	*i* P	**Pg**	**20 16 34.7**	**-0.2**
VMUR				*i* S	**Sg**	**20 16 36.5**	**+0.2**
VMUR	**Van-Muradiye**	**0.09**	**232**	P	**Pg**	**20 16 34.7**	**-0.2**
VMUR				S	**Sg**	**20 16 36.5**	**+0.2**
CLDR	**Caldiran**	**0.23**	**63**	PG	**Pg**	**20 16 37.3**	**-0.1**
CLDR				SG	**Sg**	**20 16 41.2**	**+0.7**
CLDR	**Caldiran**	**0.23**	**63**	*i* P	**Pg**	**20 16 37.3**	**-0.1**
CLDR				*i* S	**Sg**	**20 16 41.9**	**+1.5**
CLDR	**Caldiran**	**0.23**	**63**	P	**Pg**	**20 16 37.3**	**-0.1**
CLDR				*e*Sg	**Sg**	**20 16 41.2**	**+0.7**
VANB	**Van**	**0.49**	**205**	PG	**Pb**	**20 16 43.6**	**-0.6**
VANB				SG	**Sb**	**20 16 52.1**	**+0.4**
VANB	**Van**	**0.49**	**205**	*e*Pg	**Pb**	**20 16 43.6**	**-0.6**
VANB				*e*Sg	**Sb**	**20 16 52.1**	**+0.4**
DYDN	**Diyadin**	**0.50**	**3**	*e*P	**Pb**	**20 16 43.7**	**-0.7**
DYDN				*e*S	**Sb**	**20 16 51.6**	**-0.5**
DYDN				IAML		20 16 52.6	
	comp=Z,17nm,0.3s						
DYDN	**Diyadin**	**0.50**	**3**	*i* P	**Pb**	**20 16 44.0**	**-0.4**
DYDN				*i* S	**Sb**	**20 16 52.5**	**+0.3**
DYDN	**Diyadin**	**0.50**	**3**	P	**Pb**	**20 16 44.0**	**-0.4**
TVAN	**Van**	**0.55**	**201**	*i* P	**Pg**	**20 16 43.6**	**+0.1**
TVAN				*i* S	**Sg**	**20 16 51.3**	**+0.6**
TVAN	**Van**	**0.55**	**201**	P	**Pg**	**20 16 43.6**	**+0.1**
TVAN				S	**Sg**	**20 16 51.3**	**+0.6**
AGRB	**Hanur-Agry**	**0.74**	**316**	PG	**Pg**	**20 16 47.3**	**+0.1**
AGRB				SG	**Sb**	**20 16 58.4**	**-0.6**
AGRB	**Hanur-Agry**	**0.74**	**316**	*e*Pg	**Pg**	**20 16 47.3**	**+0.1**
AGRB				*e*Sg	**Sb**	**20 16 58.4**	**-0.6**
TUTA	**Tutak**	**0.75**	**299**	*e*P	**Pg**	**20 16 47.7**	**+0.3**
TUTA				*e*S	**Sg**	**20 16 57.8**	**+0.7**
TUTA				IAML		20 17 06.5	
	comp=Z,16nm,0.2s						
TUTA	**Tutak**	**0.75**	**299**	*i* P	**Pg**	**20 16 47.6**	**+0.3**
TUTA				*i* S	**Sb**	**20 16 58.8**	**-0.4**
TUTA	**Tutak**	**0.75**	**299**	P	**Pg**	**20 16 47.6**	**+0.3**
TUTA				S	**Sb**	**20 16 58.8**	**-0.4**
ADCV	**BITLIS_Adilcev**	**0.76**	**253**	*i* P	**Pg**	**20 16 47.8**	**+0.2**
ADCV				*i* S	**Sb**	**20 16 59.6**	**+0.1**
ADCV	**BITLIS_Adilcev**	**0.76**	**253**	P	**Pg**	**20 16 47.8**	**+0.2**
ADCV				S	**Sb**	**20 16 59.7**	**+0.1**
GEVA	**Gevas**	**0.87**	**213**	*e*P	**Pg**	**20 16 49.0**	**-0.6**
GEVA				*e*S	**Sb**	**20 17 02.1**	**-0.4**
GEVA				IAML		20 17 13.4	
	comp=Z,7.1nm,0.7s						
GEVA	**Gevas**	**0.87**	**213**	*i* P	**Pg**	**20 16 49.0**	**-0.6**
GEVA				*i* S	**Sn**	**20 17 05.7**	**+0.7**
GEVA	**Gevas**	**0.87**	**213**	P	**Pg**	**20 16 49.0**	**-0.6**
TASB	**TASBURUN-IGDIR**	**1.04**	**25**	PG	**Pg**	**20 16 52.5**	**-0.5**
TASB	**TASBURUN-IGDIR**	**1.04**	**25**	*e*Pg	**Pg**	**20 16 52.5**	**-0.5**

*ISCJB **01** 20:29:08.7±0.4, 24°.08S±0°.03×66°.79W±0°.03, h212km±4km, mb3.0/3, Error ellipse: s-maj=5.4km s-min=4.0km az=32.9*
*SJA **01** 20:29:08.2±0.7, 24°.07S×66°.73W, h224km±5km, ML3.4, MW3.3*
*IDC **01** 20:29:08.1±2.6, 23°.99S×66°.41W, h188km±22km, mb3.0/3, mb1 3.3/7, mb1mx3.1/40, mbtmp3.6/7, Error ellipse: s-maj=28.3km s-min=19.7km az=63.0*
*GUC **01** 20:29:10.6±0.5, 23°.98S×67°.30W, h245km±12km, ML4.5*
ISC 01 20:29:09.5±0.8**, 24°.05S**±0°.04×**66°.76W**±0°.04**, h208**km±7km**, n33, σ1s.44**/53**, mb3.1**/3**, 9C-1D, Salta Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLA	**San Lorenzo**	**1.32**	**121**	*e*P	**Pn**	**20 29 43.1**	**+0.4**
SLA				*e*S	**S**	**20 30 08.7**	**+0.5**
SLA				IAML		20 30 09.6	
	comp=Z,148nm,0.6s						
SLA	**San Lorenzo**	**1.32**	**121**	*e*P	**Pn**	**20 29 42.5**	**-0.2**
SLA				*i* S	**S**	**20 30 05.4**	**-2.8**
HJA	**Humahuaca**	**1.49**	**56**	*e*P	**Pn**	**20 29 44.8**	**+0.5**
HJA				IAML		20 29 45.3	
	comp=Z,188nm,0.4s						
HJA				*e*S	**S**	**20 30 12.9**	**+1.9**
AZAP	**Zapla**	**1.56**	**97**	*e*P	**Pn**	**20 29 44.7**	**+0.1**
AZAP				IAML		20 29 45.1	
	comp=Z,457nm,0.3s						
AZAP				*e*S	**S**	**20 30 12.6**	**+0.9**
ASTB	**Santa Barbara**	**2.11**	**88**	*e*P	**Pn**	**20 29 49.9**	**0.0**
ASTB				*e*S	**S**	**20 30 21.3**	**+0.4**
FSA	**Cafayete**	**2.17**	**161**	*e*P	**Pn**	**20 29 50.1**	**-0.4**
FSA				IAML		20 29 50.3	
	comp=Z,89nm,0.3s						
YJA	**Yavi**	**2.19**	**32**	*e*P	**Pn**	**20 29 51.8**	**+0.7**
YJA				IAML		20 29 52.7	
	comp=Z,32nm,0.7s						
YJA				*e*S	**S**	**20 30 24.6**	**+1.6**
ALOL	**LOMAS DE OLMED**	**2.55**	**85**	*e*P	**Pn**	**20 29 54.4**	**-0.1**
ALOL				*e*S	**S**	**20 30 28.4**	**-0.7**
GO02	**Mina Guanaco**	**2.81**	**246**	⇓*i*P	**Pn**	**20 29 58.5**	**+0.8**
GO02				*i* S	**S**	**20 30 35.6**	**+0.8**
PB06	**IPOC Station P**	**2.91**	**297**	⇑*i*P	**Pn**	**20 29 59.5**	**+0.8**
PB06				*i* S	**S**	**20 30 35.8**	**-0.9**
PB06				IAML		20 30 37.8	
	comp=E,823nm,0.1s						
AHML	**Horco Molle**	**3.01**	**155**	*e*P	**Pn**	**20 29 59.7**	**-0.1**
AHML				IAML		20 30 00.3	
	comp=Z,63nm,0.7s						
AHML				*e*S	**S**	**20 30 37.7**	**-1.0**
PB09	**IPOC Station P**	**3.21**	**314**	⇑*i*P	**Pn**	**20 30 03.2**	**+1.0**
PB09				*i* S	**S**	**20 30 43.0**	**+0.1**
PB09				IAML		20 30 46.5	
	comp=E,725nm,0.2s						
ANCH	**Antofagasta**	**3.36**	**276**	⇑*i*P	Pn	20 30 11.4	+7.5
ANCH				*i* S	**S**	**20 30 51.2**	**+5.3**
PB14	**IPOC Station P**	**3.38**	**259**	*i* P	**Pn**	**20 30 04.7**	**+0.4**
PB14				*i* S	**S**	**20 30 45.2**	**-1.5**
PB14				IAML		20 30 48.3	
	comp=E,431nm,0.3s						
PB10	**IPOC Station P**	**3.52**	**278**	*e*P	**Pn**	**20 30 06.1**	**+0.4**
PB10				*e*S	**S**	**20 30 48.9**	**-0.4**
PB10	**IPOC Station P**	**3.52**	**278**	⇑*i*P	**Pn**	**20 30 06.3**	**+0.6**
PB10				*i* S	**S**	**20 30 48.3**	**-1.1**
PB04	**IPOC Station P**	**3.56**	**298**	⇑*i*P	**Pn**	**20 30 06.5**	**+0.1**
PB04				*i* S	**S**	**20 30 48.7**	**-1.7**
PB07	**IPOC Station P**	**3.70**	**308**	⇑*i*P	**Pn**	**20 30 08.2**	**+0.2**
PB07				*i* S	**S**	**20 30 51.6**	**-2.0**
PB01	**IPOC Station P**	**3.91**	**319**	⇑*i*P	**Pn**	**20 30 10.5**	**-0.2**
PB01				*i* S	**S**	**20 30 56.6**	**-1.6**
PB02	**IPOC Station P**	**3.97**	**313**	⇑*i*P	**Pn**	**20 30 11.2**	**-0.2**
PB02				*i* S	**S**	**20 30 56.8**	**-2.7**
CYA	**Choya**	**4.46**	**169**	*e*P	**Pn**	**20 30 17.2**	**-0.1**
CYA				IAML		20 30 19.0	
	comp=Z,21nm,0.4s						
PB08	**IPOC Station P**	**4.48**	**330**	⇑*i*P	**Pn**	**20 30 18.5**	**+0.5**
PB08				*i* S	**S**	**20 31 11.2**	**-0.2**
VCA	**Vinchina**	**4.84**	**195**	*e*P	**Pn**	**20 30 22.4**	**+0.1**
VCA				IAML		20 30 24.3	
	comp=Z,34nm,0.6s						
VCA				*e*S	**S**	**20 31 16.2**	**-3.3**
LPAZ	**La Paz**	**7.83**	**350**	P	**Pn**	**20 31 01.3**	**+0.1**
	comp=Z,3.0nm,0.3s,baz=167,slow=6.8,SNR=69						
LPAZ				S	**S**	**20 32 27.7**	**-2.4**
	comp=Z,0.1nm,0.3s,baz=342,slow=19,SNR=2.0						
CPUP	**Villa Florida**	**8.84**	**107**	P	Pn	20 31 08.3	-5.3
	comp=Z,0.1nm,0.3s,baz=58,slow=9.5,SNR=2.2						
SIV	**San Ignacio**	**9.63**	**35**	P	**Pn**	**20 31 21.7**	**-2.4**
	comp=Z,0.3nm,0.3s,baz=241,slow=14,SNR=5.8						
SIV				S	S	20 33 01.5	-11
	comp=Z,0.1nm,0.3s,baz=143,slow=20,SNR=2.7						
PLCA	**Paso Flores**	**16.94**	**190**	P	**Pn**	**20 32 53.8**	**-0.9**
	comp=Z,0.1nm,0.3s,baz=46,slow=14,SNR=3.2						
TXAR	**Lajitas Array**	**63.85**	**324**	P	**P**	**20 39 21.1**	**+1.1**
	comp=Z,0.1nm,0.4s,baz=142,slow=4.6,SNR=3.1						
TORD	**Torodi Ar. Bea**	**76.38**	**69**	P	**P**	**20 40 35.7**	**-0.6**
	comp=Z,0.2nm,0.5s,baz=262,slow=5.5,SNR=3.9						
YKA	**Yellowknife Ar**	**94.25**	**340**	P	**P**	**20 42 05.8**	**+1.4**
	comp=Z,0.2nm,0.6s,baz=131,slow=4.2,SNR=7.4						
ASAR	**Alice Springs**	**128.50**	**204**	PKP	**PKPdf**	**20 47 52.7**	**+0.4**
	comp=Z,0.4nm,0.7s,baz=154,slow=1.9,SNR=5.9						
WRA	**Warramunga Arr**	**131.68**	**207**	PKP	**PKPdf**	**20 47 59.7**	**+1.3**
	comp=Z,0.3nm,0.4s,baz=157,slow=1.7,SNR=13						
MKAR	**Makanchi Array**	**146.42**	**40**	PKPbc	**PKPab**	**20 48 25.8**	**-1.5**
	comp=Z,1.4nm,0.8s,baz=306,slow=3.2,SNR=13						

MEX 01 20:46:38.2±0.3**, 16°.44N**×**98°.49W, h13**km**, MD3.8, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.35**	**98**	*i* P	Pg	20 46 44.8	-0.4
PNIG				*e*S	Sg	20 46 49.9	-0.1
TLIG	**Tlapa**	**1.12**	**356**	*e*P	Pb	20 46 55.5	-4.1
TLIG				*e*S	Sb	20 47 09.9	-4.2
VHO	**Vista Hermosa**	**1.79**	**69**	*e*P	Pn	20 47 05.3	-3.8
VHO				*i* S	Sn	20 47 28.2	-3.5

*KRNET **01** 20:48:27.5±0.1, 39°.41N×72°.37E, h16km, mb3.1*
*SOME **01** 20:48:28.0, 39°.43N×72°.37E, h0km*
*NNC **01** 20:48:30.6±2.8, 39°.51N×72°.48E, h0km, mb3.5, mpv3.1, Error ellipse: s-maj=27.0km s-min=10.8km az=170.0*
ISC 01 20:48:30.6±1.6**, 39°.48N**±0°.08×**72°.35E**±0°.03**, h10**km**, n24, σ2s.21**/44**, 26C-6D, Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**1.03**	**59**	⇑P	**Pg**	**20 48 48.2**	**-2.4**
	12nm,0.4s						
SFK				⇑S	**Sg**	**20 49 02.3**	**-1.8**
	93nm,0.5s						
SFK	**Sufi-Kurgan**	**1.03**	**59**	⇑*i*P	**Pg**	**20 48 48.0**	**-2.6**
	baz=55						
SFK				⇑*i*S	**Sg**	**20 49 03.0**	**-1.1**
	baz=55						
BTK	**Batken**	**1.31**	**296**	⇑*i*P	**Pb**	**20 48 53.6**	**-1.8**
	baz=99						
BTK				⇑*i*S	**Sg**	**20 49 12.3**	**-0.6**
	baz=99						
ARSB	**Arslanbob**	**1.90**	**15**	⇑*i*P	**Pb**	**20 49 03.7**	**-1.8**
	baz=14						
ARSB				⇑*i*S	**Sb**	**20 49 31.1**	**+1.7**
	baz=14						
ARK	**Arkit**	**2.33**	**353**	⇓*i*P	**Pn**	**20 49 09.8**	**+0.6**
	baz=53						
ARK				⇓*i*S	**Sb**	**20 49 41.8**	**+0.1**
	baz=53						
AML	**Almayashu**	**2.83**	**21**	⇓*i*P	**Pn**	**20 49 18.0**	**+1.7**
	baz=20						
AML				⇓*i*S	**Sb**	**20 49 54.5**	**-2.0**
	baz=20						
MNAS	**Manas**	**3.00**	**2**	⇑Pn	**Pn**	**20 49 19.9**	**+1.5**
	3.9nm,0.5s						
MNAS				⇓Lg	Lg	20 50 02.7	
	13nm,0.6s						
MNAS	**Manas**	**3.00**	**2**	⇑*i*P	**Pn**	**20 49 20.2**	**+1.8**
	baz=2.0						
MNAS				⇑*i*S	**Sn**	**20 49 57.5**	**+3.0**
	baz=2.0						
IUG	**Iuzhnay**	**3.19**	**327**	*e*P	**Pb**	**20 49 28.2**	**+0.8**
	15nm,0.5s						
IUG				*e*S	**Sg**	**20 50 11.8**	**-1.3**
	32nm,0.5s						
MRKS	**Merke**	**3.33**	**11**	*e*P	**Pb**	**20 49 30.8**	**+1.0**
	12nm,0.3s						
MRKS				*e*S	**Sg**	**20 50 16.0**	**-1.4**
	11nm,0.4s						
EKS2	**Erkin-Say**	**3.35**	**18**	⇑*e*P	**Pn**	**20 49 24.9**	**+1.7**
	baz=18						
EKS2				⇑*e*S	**Sb**	**20 50 07.5**	**-3.6**
	baz=18						
NRN	**Naryn**	**3.40**	**54**	⇑*i*P	**Pn**	**20 49 24.4**	**+0.4**
	baz=53						
NRN				⇑*i*S	**Sn**	**20 50 06.6**	**+2.1**
	baz=53						
KZA	**Kyzart**	**3.40**	**39**	⇑*i*P	**Pn**	**20 49 25.1**	**+1.0**
	baz=38						
KZA				⇑*e*S	**Sn**	**20 50 07.7**	**+3.0**
	baz=38						
AAK	**Ala-Archa**	**3.54**	**27**	⇑Pg	**Pb**	**20 49 33.9**	**+0.3**
	4.7nm,0.5s						
AAK				⇑Lg	Lg	20 50 21.5	
	11nm,0.5s						
AAK	**Ala-Archa**	**3.54**	**27**	⇑*e*P	**Pn**	**20 49 27.0**	**+1.1**
	baz=26						
AAK				⇑*i*S	**Sn**	**20 50 11.1**	**+3.2**
	baz=26						
KBK	**Karagaybulak**	**3.73**	**31**	⇑*e*P	**Pn**	**20 49 29.9**	**+1.5**
	baz=30						
KBK				⇑*e*S	**Sn**	**20 50 16.2**	**+3.7**
	baz=30						
KK31	**Karatay Array**	**3.87**	**340**	⇓Pn	**Pn**	**20 49 32.0**	**+1.8**
	1.0nm,0.3s,baz=147,slow=12,SNR=15						
KK31				⇑Lg	Lg	20 50 31.8	
	1.9nm,0.3s,baz=152,slow=30,SNR=4.6						
BRLS	**Borolday**	**4.02**	**333**	*e*P	**Pb**	**20 49 40.6**	**-0.9**
	0.6nm,0.4s						
BRLS				*e*S	**Sb**	**20 50 33.2**	**+3.0**
	9.4nm,0.5s						
TKM2	**Tokmak 2**	**4.22**	**34**	⇑Pg	**Pb**	**20 49 46.1**	**+1.1**
	2.7nm,0.5s						
TKM2				⇑Lg	Lg	20 50 41.1	
	7.7nm,0.8s						
KST	**Kastek**	**4.48**	**36**	*e*P	**Pg**	**20 49 52.9**	**-3.5**
	0.8nm,0.4s						
KST				*e*S	**Sg**	**20 50 54.5**	**0.0**
	7.1nm,0.9s						
DGS	**Degeres**	**4.55**	**33**	*e*P	**Pb**	**20 49 52.5**	**+1.8**
	3.8nm,0.8s						
DGS				*e*S	**Sg**	**20 50 53.5**	**-3.3**
	8.9nm,0.8s						
IZV	**Izvestkoviy**	**4.79**	**41**	*e*P	**Pb**	**20 49 57.5**	**+2.8**
	4.5nm,1.0s						
IZV				*e*S	**Sg**	**20 51 01.6**	**-2.8**
	8.9nm,0.7s						
TNSS	**Tian-Shan**	**4.96**	**43**	*e*P	**Pb**	**20 50 00.3**	**+2.5**
	2.7nm,0.8s						
TNSS				*e*S	**Sg**	**20 51 07.0**	**-2.9**
	17nm,0.9s						
MDOK	**Medeo**	**5.10**	**42**	*e*P	**Pb**	**20 50 03.4**	**+3.4**
	2.7nm,0.4s						
MDOK				*e*S	**Sg**	**20 51 11.6**	**-2.8**
	5.7nm,0.7s						

*IDC **01** 21:01:28.6±6.0, 26°.85S×178°.23W, h254km±56km, mb3.4/5, mb1 3.6/7, mb1mx3.2/45, mbtmp4.1/7, Error ellipse: s-maj=36.4km s-min=32.3km az=7.0*
ISC 01 21:01:21.9±1.1**, 26°.9S**±0°.1×**177°.8W**±0°.2**, h202**km**, n13, σ0s.99**/13**, mb3.6**/5**, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**12.15**	**199**	P	**P**	**21 04 13.5**	**+0.6**
	1.5nm,0.3s,baz=276,slow=4.9,SNR=15						
URZ				S	**S**	**21 06 23.5**	**-0.2**
	2.3nm,0.3s,baz=98,slow=23,SNR=11						
DZM	**Mont Dzumac**	**15.09**	**285**	P	**P**	**21 04 47.3**	**+1.5**
	0.5nm,0.3s,baz=110,slow=8.6,SNR=5.8						
ASAR	**Alice Springs**	**43.56**	**263**	P	**P**	**21 09 05.2**	**-1.0**
	1.2nm,0.6s,baz=104,slow=7.2,SNR=24						
WRA	**Warramunga Arr**	**44.23**	**268**	P	**P**	**21 09 09.6**	**-1.9**
	1.6nm,0.8s,baz=105,slow=6.2,SNR=13						
MJAR	**Matsushiro Arr**	**75.43**	**325**	P	**P**	**21 12 42.6**	**-0.9**
	0.6nm,0.5s,baz=165,slow=7.0,SNR=5.3						
KSRS	**Korea Array**	**81.76**	**319**	P	**P**	**21 13 18.0**	**0.0**
	0.6nm,0.7s,baz=138,slow=7.5,SNR=3.9						
ILAR	**Eielson Array**	**94.45**	**13**	P	**P**	**21 14 18.9**	**+0.6**
	0.3nm,0.8s,baz=226,slow=7.0,SNR=3.7						
FINES	**FINESS Array B**	**141.85**	**342**	PKhKP	PKPpre	21 20 23.5	
	2.8nm,1.1s,baz=18,slow=5.8,SNR=3.2						
NB2	**NORSAR Subarra**	**145.27**	**352**	PKP	**PKPbc**	**21 20 35.2**	**+0.1**
	comp=Z,3.6nm,1.1s,baz=17,slow=2.6						
NOA	**NORSAR Array B**	**145.27**	**352**	PKPbc	**PKPdf**	**21 20 34.6**	**-0.4**
	comp=Z,1.7nm,0.8s,baz=12,slow=3.0,SNR=3.8						
HFS	**Hagfors**	**145.80**	**350**	PKPbc	**PKPdf**	**21 20 36.0**	**+0.2**
	comp=Z,1.5nm,0.6s,baz=66,slow=4.9,SNR=6.6						
AKASG	**Malin Array Be**	**148.50**	**326**	PKPbc	**PKPbc**	**21 20 43.8**	**-0.6**
	comp=Z,0.5nm,0.3s,baz=46,slow=4.3,SNR=6.1						
MMAI	**Mount Meron Ar**	**150.63**	**290**	PKPbc	**PKPbc**	**21 20 51.0**	**+0.7**
	comp=Z,0.6nm,0.4s,baz=79,slow=7.5,SNR=4.4						

*IDC **01** 21:13:39.2±1.4, 6°.05S×149°.18E, h0km, mb3.5/3, mb1 4.0/5, mb1mx3.5/45, mbtmp3.8/5, ML4.0/1, MS2.8/1, Ms1 2.8/1, ms1mx2.4/29, Error ellipse: s-maj=73.3km s-min=22.3km az=117.0*
*ISCJB **01** 21:13:45.5±1.4, 6°.1S±0°.3×149°.0E±0°.5, h60km, mb3.4/3, Error ellipse: s-maj=76.0km s-min=13.8km az=27.7*
ISC 01 21:13:47.1±1.5**, 6°.1S**±0°.3×**149°.0E**±0°.6**, h60**km**, n7, σ0s.86**/7**, mb3.4**/3**, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.78**	**209**	Pn	**Pn**	**21 14 41.9**	**-0.9**
	9.9nm,0.3s,baz=30,slow=4.8,SNR=35						
PMG				Sn	**Sn**	**21 15 27.4**	**+1.3**
	baz=201,slow=15,SNR=8.5						
HNR	**Honiara**	**11.33**	**108**	LR	LR	21 19 37.4	
	comp=Z,48nm,19.8s,baz=248,slow=32						
WRA	**Warramunga Arr**	**19.83**	**225**	P	**P**	**21 18 13.0**	**-0.1**
	0.4nm,0.3s,baz=51,slow=11,SNR=53						
ASAR	**Alice Springs**	**22.74**	**218**	P	**P**	**21 18 44.1**	**-0.2**
	0.7nm,0.5s,baz=53,slow=9.8,SNR=22						
STKA	**Stephens Creek**	**26.58**	**194**	P	**P**	**21 19 19.6**	**-0.1**
	0.6nm,0.5s,baz=337,slow=15,SNR=3.0						
ILAR	**Eielson Array**	**84.78**	**23**	P	**P**	**21 26 15.0**	**+0.5**
	0.4nm,0.8s,baz=234,slow=5.5,SNR=3.0						
TORD	**Torodi Ar. Bea**	**147.05**	**285**	PKPbc	**PKPbc**	**21 33 24.3**	**0.0**
	0.4nm,0.5s,baz=77,slow=4.1,SNR=5.8						

*BJI **01** 21:43:59.2, 4°.32S×153°.95E, h98km, mb5.4/74, mB5.7/65*
*MOS **01** 21:44:01.9±0.9, 4°.40S×153°.46E, h105km, mb5.4/58, MS4.6/15, Error ellipse: s-maj=7.5km s-min=5.0km az=102.0*
*ISCJB **01** 21:44:01.6±0.5, 4°.50S±0°.02×153°.48E±0°.02, h107km±4km, mb5.4/283, Error ellipse: s-maj=3.6km s-min=3.4km az=144.1*

IDC ***01*** *21:44:03.2±0.5, 4.°48S×153.°59E, h110km±4km, mb5.1/38, mb1 5.1/42, mb1mx5.0/54, mbtmp5.4/42, MS4.5/30, Ms1 4.5/30, ms1mx4.4/42, Error ellipse: s-maj=9.9km s-min=7.5km az=83.0*

GCMT ***01*** *21:44:04.1±0.1, 4.°61S×153.°55E, h96km, MW5.8/147, Moment Tensor Solution. s143,c275; s147,c365; Duration: 1.s9 Moment tensor: Scale 10^{17}Nm; M_{rr}5.38±.05; $M_{\theta\theta}$-1.79±.06; $M_{\phi\phi}$-3.59±.05; $M_{r\theta}$-1.63±.04; $M_{\theta\phi}$3.02±.05; $M_{\phi r}$1.83±.04; Best double couple: $M_0$6.12300×10^{17} NP1:ϕ_s321.00000°,δ57.00000°, λ88.00000°. NP2:ϕ_s146.00000°,δ33.00000°,λ94.00000°. Principal axes: T 5.8960, Plg78.0000°, Azm223.0000°; N 0.4540, Plg2.0000°, Azm322.0000°; P -6.3500, Plg12.0000°, Azm53.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

NEIC ***01*** *21:44:04.1±0.8, 4.°52S×153.°43E, h118km±7km, mb5.4/181, MW5.7 Error ellipse: s-maj=3.9km s-min=3.5km az=69.0, Moment Tensor Solution. s32 Moment tensor: Scale 10^{17}Nm; M_{rr}4.17; $M_{\theta\theta}$-1.32; $M_{\phi\phi}$-2.85; $M_{r\theta}$-1.70; $M_{\theta\phi}$1.91; $M_{\phi r}$2.08; Best double couple: $M_0$5.00000×10^{17} NP1: ϕ_s149.00000°,δ29.00000°,λ95.00000°. NP2: ϕ_s323.00000°,δ61.00000°,λ87.00000°. Principal axes: T 4.9700, Plg73.0000°, Azm227.0000°; N -0.0400, Plg2.0000°, Azm324.0000°; P -4.9300, Plg16.0000°, Azm55.0000°;*

NEIC Felt at Kavieng. Also felt at Kokopo, New Britain.

DJA ***01*** *21:44:05.5±0.8, 5°S±4°×15°3E±°, h126km±7km, M5.7/61, mb5.6/61, mB6.0/45, MLv6.4/1, Mw(mB)5.6/45, Mwp5.8/4*

ISC 01 21:44:02.2±0.3**, 4.°48S**±0.°03×**153.°63E**±0.°03**, h105**km±2km**, h105**km**:pP-P, n758,** σ1.s70/851**, mb5.4**/270**, 46C-25D, New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.49**	**281**	*e*Pn	**Pn**	**21 44 27.0**	**-1.6**
RABL				*e*Sn	**Sn**	**21 44 46.3**	**-2.3**
MANU	**Manus Island**	**6.71**	**291**	*e*Pn	**Pn**	**21 45 39.2**	**+1.1**
MANU				*e*Sn	**Sn**	**21 46 49.3**	**-3.8**
HNR	**Honiara**	**7.97**	**128**	*e*P	**Pn**	**21 45 56.0**	**+0.7**
HNR				*e*S	**Sn**	**21 47 21.0**	**-2.8**
HNR	**Honiara**	**7.97**	**128**	P	**Pn**	**21 45 58.0**	**+2.7**
	17nm,0.3s,baz=252,slow=2.9,SNR=7.5						
HNR				S	**Sn**	**21 47 24.7**	**+0.8**
	166nm,0.3s,baz=253,slow=19,SNR=4.8						
HNR	**Honiara**	**7.97**	**128**	*e*Pn	**Pn**	**21 45 58.2**	**+2.9**
HNR				*e*Sn	**Sn**	**21 47 24.2**	**+0.4**
PMG	**Port Moresby**	**8.07**	**232**	P	**Pn**	**21 45 57.1**	**+0.4**
	128nm,0.3s,baz=55,slow=8.2,SNR=115						
PMG				S	**Sn**	**21 47 27.1**	**+0.7**
	102nm,0.3s,baz=156,slow=21,SNR=17						
PMG				LR	LR	21 49 19.5	
	comp=Z,10µm,21.4s,baz=46,slow=39						
PMG	**Port Moresby**	**8.07**	**232**	*e*Pn	**Pn**	**21 45 56.5**	**-0.2**
PMG				*e*Sn	**Sn**	**21 47 22.8**	**-3.6**
PATS	**Pohnpei**	**12.18**	**23**	*e*Pn	**Pn**	**21 46 51.1**	**-1.0**
JAY	**Jayapura**	**13.05**	**278**	P	**Pn**	**21 47 02.9**	**-0.8**
	2µm,1.1s,24µm						
GENI	**Genyem**	**13.57**	**278**	P	**Pn**	**21 47 10.4**	**0.0**
	286nm,0.8s,8µm						
COEN	**Coen**	**13.96**	**227**	P	**Pn**	**21 47 16.0**	**+0.5**
	baz=14,SNR=60						
COEN	**Coen**	**13.96**	**227**	*e*Pn	**Pn**	**21 47 15.0**	**-0.5**
MTSU	**Mount Surprise**	**16.34**	**213**	P	**P**	**21 47 46.2**	**-0.3**
	baz=16,SNR=31						
CTA	**Charters Tower**	**17.09**	**204**	P	**P**	**21 47 56.3**	**+1.5**
	0.9nm,0.3s,baz=33,slow=13,SNR=46						
CTA				LR	LR	21 54 10.8	
	comp=Z,4µm,18.6s,baz=21,slow=36						
CTAO	**Charters Tower**	**17.09**	**204**	*e*P	**P**	**21 47 55.5**	**+0.7**
	66nm,0.9s						
CTAO				*e*Sn	**Sn**	**21 51 05.0**	**0.0**
CTAO	**Charters Tower**	**17.09**	**204**	*e*P	**P**	**21 47 55.5**	**+0.7**
CTAO				*e*		21 51 05.0	
CTAO				pmax	pmax		
	comp=Z,66nm,0.9s						
RKPI	**Ransiki, Papua**	**19.65**	**278**	P	**Pn**	**21 48 24.2**	**-1.0**
	comp=Z,835nm,1.1s,comp=Z,8µm						
KMPI	**Kaimana, Papua**	**19.89**	**272**	P	**Pn**	**21 48 26.8**	**-1.3**
	comp=Z,257nm,1.2s,comp=Z,5µm						
GUMO	**Guam**	**19.95**	**334**	P	**P**	**21 48 25.7**	**-0.3**
	comp=Z,5.2nm,0.3s,baz=184,slow=19,SNR=2.7						
GUMO				LR	LR	21 54 58.0	
	comp=Z,666nm,20.5s,baz=144,slow=33						
GUMO	**Guam**	**19.95**	**334**	*e*P	**P**	**21 48 24.8**	**-1.3**
	comp=Z,751nm,1.5s						
GUMO	**Guam**	**19.95**	**334**	*e*P	**P**	**21 48 24.8**	**-1.3**
GUMO				pmax	pmax		
	comp=Z,751nm,1.5s						
TARA	**Tarawa**	**20.13**	**74**	*e*P	Pn	21 48 31.3	+0.4
	comp=Z,388nm,0.8s						
EIDS	**Eidsvold**	**20.91**	**186**	P	**P**	**21 48 37.2**	**+0.8**
	baz=21,SNR=28						
EIDS	**Eidsvold**	**20.91**	**186**	*e*P	**P**	**21 48 37.7**	**+1.4**
	comp=Z,120nm,0.9s						
EIDS				*e*S	**S**	**21 52 22.0**	**-1.7**
QIS	**Mount Isa**	**21.01**	**219**	P	**P**	**21 48 37.6**	**+0.1**
	baz=21,SNR=79						
FAKI	**Fak Fak**	**21.39**	**273**	P	**P**	**21 48 41.1**	**-0.6**
	comp=Z,214nm,1.0s,comp=Z,8µmcomp=Z,13µm						
FAKI	**Fak Fak**	**21.39**	**273**	*e*P	**P**	**21 48 41.0**	**-0.6**
	comp=Z,453nm,1.5s						
FAKI				*e*S	**S**	**21 52 35.0**	**+1.7**
DZM	**Mont Dzumac**	**21.45**	**146**	P	**P**	**21 48 43.8**	**+1.6**
	comp=Z,16nm,0.5s,baz=326,slow=9.7,SNR=16						
DZM				LR	LR	21 56 08.1	
	comp=Z,2µm,21.5s,baz=18,slow=34						
DZM	**Mont Dzumac**	**21.45**	**146**	*e*P	**P**	**21 48 37.7**	**-4.5**
	comp=Z,289nm,1.4s						
DZM				*e*S	**S**	**21 52 24.4**	**-10**
	comp=Z,2µm,24.7s						
DZM				*e*LR	LR	21 53 54.9	
	comp=Z,7µm,29.1s						
DZM	**Mont Dzumac**	**21.45**	**146**	*e*P	**P**	**21 48 44.0**	**+1.8**
	comp=Z,189nm,1.4s						
RMQ	**Roma**	**22.37**	**192**	P	**P**	**21 48 52.7**	**+0.8**
	baz=22,SNR=176						
SARN	**Sarigan**	**22.43**	**340**	*e*P	**P**	**21 48 50.8**	**-1.8**
PALU	**Palau**	**22.44**	**301**	P	**P**	**21 48 52.9**	**+0.3**
	baz=22,SNR=46						
SAUI	**Saumlaki**	**22.46**	**260**	P	**P**	**21 48 54.0**	**+1.1**
	comp=Z,646nm,1.3s,comp=Z,8µm						
SAUI	**Saumlaki**	**22.46**	**260**	*e*P	**P**	**21 48 54.1**	**+1.2**
	comp=Z,824nm,1.2s						
SWI	**Sorong**	**22.63**	**278**	P	**P**	**21 48 54.1**	**-0.5**
	comp=Z,250nm,0.9s,comp=Z,6µm						
MTN	**Manton Dam**	**23.72**	**248**	P	**P**	**21 49 04.9**	**+0.1**
	baz=24,SNR=42						
MTN	**Manton Dam**	**23.72**	**248**	*e*P	**P**	**21 49 02.3**	**-2.6**
	comp=Z,364nm,1.1s						
QLP	**Quilpie**	**23.74**	**201**	P	**P**	**21 49 04.9**	**0.0**
	baz=24,SNR=283						
WRAB	**Tennant Creek**	**24.26**	**229**	*e*P	**P**	**21 49 09.4**	**-0.3**
	comp=Z,288nm,0.6s						
WRAB				*e*S	**S**	**21 53 21.4**	**+0.3**
WRAB	**Tennant Creek**	**24.26**	**229***c*	*i*P	**P**	**21 49 09.6**	**-0.1**
WRAB				*i* S	**S**	**21 53 23.3**	**+2.2**
WRAB				pmax	pmax		
	comp=Z,219nm,0.6s						
WB2	**Warramunga Arr**	**24.27**	**229**	*e*P	**P**	**21 49 09.2**	**-0.5**
	comp=Z,243nm,0.6s						
WR1	**Warramunga Arr**	**24.27**	**229**	*e*P	**P**	**21 49 09.2**	**-0.7**
	comp=Z,269nm,0.9s						
WR1				*e*S	**S**	**21 53 28.3**	**+6.9**
WR1				*e*ScP	**ScP**	**21 56 16.8**	**+0.1**
WRA	**Warramunga Arr**	**24.27**	**229**	P	**P**	**21 49 09.2**	**-0.7**
	comp=Z,292nm,0.7s,baz=54,slow=10.0,SNR=477						
WRA				S	**S**	**21 53 28.3**	**+6.9**
	comp=Z,36nm,1.1s,baz=50,slow=17,SNR=10						
WRA				ScP	**ScP**	**21 56 16.8**	**+0.1**
	comp=Z,5.7nm,0.8s,baz=67,slow=3.5,SNR=5.0						
WRA				LR	LR	21 59 04.8	
	comp=Z,3µm,18.9s,baz=65,slow=37						
WRA	**Warramunga Arr**	**24.27**	**229**	P	**P**	**21 49 09.2**	**-0.7**
WRA				pmax	pmax		
	comp=Z,266nm,0.7s						
WRA				pmax	pmax		
	comp=N,6.0nm,0.8s						
WRA				MLR	MLR		
	comp=Z,3µm,18.9s						
AAI	**Ambon**	**25.38**	**271**	P	**P**	**21 49 20.3**	**+0.3**
	comp=Z,96nm,0.8s,comp=Z,2µm						
FUNA	**Funafuti**	**25.71**	**100**	*e*P	**P**	**21 49 25.0**	**+2.1**
	comp=Z,179nm,1.4s						
ARMA	**Armidale**	**25.87**	**184**	P	**P**	**21 49 25.4**	**+1.2**
	baz=26,SNR=84						
ARMA	**Armidale**	**25.87**	**184**	*e*P	**P**	**21 49 25.5**	**+1.2**
	comp=Z,150nm,0.8s						
H11S3	**WAKE ISLAND Hy**	**26.21**	**29**	T	T	22 18 29.3	
	baz=208,slow=76,SNR=66						
H11S2	**WAKE ISLAND Hy**	**26.21**	**29**	T	T	22 18 30.5	
	baz=208,slow=76,SNR=70						
H11S1	**WAKE ISLAND Hy**	**26.23**	**29**	T	T	22 18 26.4	
	baz=208,slow=76,SNR=66						
LBMI	**Labuha**	**26.38**	**278**	P	**P**	**21 49 29.5**	**+0.6**
	comp=Z,278nm,1.0s,comp=Z,5µm						
NLAI	**Namlea**	**26.50**	**272**	P	**P**	**21 49 30.5**	**+0.5**
	comp=Z,58nm,1.3s,comp=Z,2µm						
KNRA	**Kununurra**	**26.85**	**244**	P	**P**	**21 49 32.6**	**-0.6**
	baz=27,SNR=35						
AS01	**Alice Springs**	**26.91**	**223**	*e*P	**P**	**21 49 31.7**	**-2.0**
AS31	**Alice Springs**	**26.94**	**223**	*e*P	**P**	**21 49 33.8**	**-0.1**
	comp=Z,14nm,0.6s						
AS31				*e*PcP	**PcP**	**21 52 53.8**	**+0.2**
AS31				*e*S	**S**	**21 54 11.1**	**+7.5**
AS31				*e*ScP	**ScP**	**21 56 24.8**	**+0.5**
ASAR	**Alice Springs**	**26.94**	**223**	P	**P**	**21 49 33.8**	**-0.2**
	comp=Z,45nm,0.8s,baz=56,slow=8.6,SNR=190						
ASAR				PcP	**PcP**	**21 52 53.8**	**+0.2**
	comp=Z,26nm,1.1s,baz=52,slow=2.5,SNR=7.2						
ASAR				S	**S**	**21 54 11.1**	**+7.5**
	comp=Z,3.2nm,0.8s,baz=38,slow=14,SNR=3.4						
ASAR				ScP	**ScP**	**21 56 24.8**	**+0.5**
	comp=Z,3.7nm,0.9s,baz=41,slow=3.8,SNR=3.5						
H11N1	**WAKE ISLAND Hy**	**27.35**	**28**	T	T	22 20 09.0	
	baz=200,slow=75						
H11N3	**WAKE ISLAND Hy**	**27.37**	**28**	T	T	22 20 10.7	
	baz=200						
H11N2	**WAKE ISLAND Hy**	**27.37**	**28**	T	T	22 19 25.9	
	baz=200,slow=75						
LHI	**Lord Howe Isla**	**27.38**	**170**	P	**P**	**21 49 38.2**	**+0.6**
	baz=28,SNR=8.0						
LHI	**Lord Howe Isla**	**27.38**	**170**	*e*P	**P**	**21 49 38.3**	**+0.6**
	comp=Z,220nm,0.8s						
SANI	**Sanana**	**27.70**	**274**	P	**P**	**21 49 41.2**	**+0.4**
	comp=Z,88nm,1.6s,comp=Z,3µm						
CMSA	**Cobar Meteorol**	**27.93**	**195**	P	**P**	**21 49 42.8**	**+0.2**
	baz=28,SNR=180						
MGCD	**Mangrove Creek**	**28.68**	**184**	P	**P**	**21 49 51.0**	**+1.7**
	baz=29,SNR=6.6						
RIV	**Riverview**	**29.29**	**184**	P	**P**	**21 49 56.2**	**+1.6**
	baz=29,SNR=15						
STKA	**Stephens Creek**	**29.50**	**201**	P	**P**	**21 49 56.5**	**0.0**
	comp=Z,101nm,0.7s,baz=360,slow=8.0,SNR=153						
STKA				LR	LR	22 02 01.9	
	comp=Z,3µm,18.1s,baz=17,slow=37						
STKA	**Stephens Creek**	**29.50**	**201**	P	**P**	**21 49 55.9**	**-0.7**
	baz=30,SNR=262						
STKA	**Stephens Creek**	**29.50**	**201**	*e*P	**P**	**21 49 56.2**	**-0.3**
	comp=Z,22nm,0.8s						
SOEI	**Soe**	**29.59**	**258**	P	**P**	**21 49 59.0**	**+1.3**
	comp=Z,130nm,0.9s,comp=Z,2µmcomp=Z,9µm						
SOEI	**Soe**	**29.59**	**258**	*e*P	**P**	**21 49 57.2**	**-0.5**
	comp=Z,110nm,0.9s						
KMSI	**Cibinong**	**30.05**	**279**	P	**P**	**21 50 02.0**	**+0.4**
	comp=Z,318nm,0.8s,comp=Z,3µm						
YNG	**Young**	**30.06**	**189**	P	**P**	**21 50 02.7**	**+1.2**
	baz=30,SNR=23						
BATI	**Baumata**	**30.25**	**257**	P	**P**	**21 50 04.5**	**+1.1**
	comp=Z,114nm,0.8s,baz=80,slow=4.6,SNR=22						
BATI				LR	LR	22 04 36.9	
	comp=Z,4µm,21.6s,baz=92,slow=41						
BATI	**Baumata**	**30.25**	**257**	P	**P**	**21 50 04.5**	**+1.1**
	comp=Z,95nm,1.1s,comp=Z,2µmcomp=Z,3µm						
CNB	**Canberra Magne**	**30.93**	**187**	P	**P**	**21 50 10.7**	**+1.5**
	baz=31,SNR=14						
BBSI	**Bau Bau**	**30.96**	**267**	P	P	21 50 19.5	+10
CAN	**Canberra**	**30.98**	**187**	*e*P	**P**	**21 50 10.8**	**+1.1**
	comp=Z,51nm,0.9s						
CAN	**Canberra**	**30.98**	**187**	*e*P	**P**	**21 50 10.8**	**+1.1**
CAN				pmax	pmax		
	comp=Z,51nm,0.9s						
LUWI	**Luwuk**	**31.01**	**275**	P	**P**	**21 50 11.1**	**+1.0**
	comp=Z,125nm,2.2s,comp=Z,3µm						
LUWI	**Luwuk**	**31.01**	**275**	*e*P	**P**	**21 50 10.1**	**0.0**
	comp=Z,259nm,1.4s						
LUWI				*e*PcP	**PcP**	**21 53 05.5**	**+1.6**
MMRI	**Maumere**	**31.45**	**261**	P	**P**	**21 50 13.0**	**-1.0**
MMRI	**Maumere**	**31.45**	**261**	*e*P	**P**	**21 50 12.5**	**-1.5**
	comp=Z,242nm,0.9s						
WRKA	**Warakurna**	**31.78**	**227**	P	**P**	**21 50 15.5**	**-1.3**
	baz=32,SNR=93						
HTT	**Hallett**	**31.90**	**204**	P	**P**	**21 50 17.6**	**-0.2**
	baz=32,SNR=61						
MRSI	**Marisa**	**32.04**	**278**	P	**P**	**21 50 18.2**	**-1.0**
	comp=Z,43nm,0.6s,comp=Z,734nm						
APSI	**Ampana**	**32.14**	**275**	P	**P**	**21 50 20.7**	**+0.7**
	comp=Z,132nm,1.6s,comp=Z,2µm						
BBOO	**Buckleboo**	**32.62**	**208**	P	**P**	**21 50 23.6**	**-0.4**
	baz=33,SNR=31						
BBOO	**Buckleboo**	**32.62**	**208**	*e*P	**P**	**21 50 23.8**	**-0.2**
	comp=Z,114nm,0.9s						
MILA	**Mila**	**32.68**	**187**	P	**P**	**21 50 26.7**	**+2.2**
	baz=33,SNR=10						
BSSI	**Bau Bau, Buton**	**33.03**	**266**	P	**P**	**21 50 28.3**	**+0.4**
BASI	**Baing, Sumba**	**33.25**	**258**	P	**P**	**21 50 30.7**	**+0.9**
	comp=Z,447nm,0.9s,comp=Z,6µm						
BNSI	**Bone**	**33.42**	**269**	P	**P**	**21 50 31.3**	**+0.1**
TOO	**Toolangi**	**33.77**	**192**	P	**P**	**21 50 34.3**	**+0.3**
	baz=34,SNR=15						
TTSI	**Tana Toraja**	**33.77**	**271**	P	**P**	**21 50 36.9**	**+2.7**
	comp=Z,44nm,2.1s,comp=Z,1µm						
ARPS	**Mount Arapiles**	**33.91**	**197**	P	**P**	**21 50 35.9**	**+0.7**
	baz=34,SNR=72						
MPSI	**Mapaga**	**34.04**	**277**	P	**P**	**21 50 35.1**	**-1.5**
WBSI	**Waikabubak, Su**	**34.35**	**260**	P	**P**	**21 50 38.1**	**-1.2**
AFI	**Afiamalu**	**35.36**	**108**	LR	LR	22 04 53.9	
	comp=Z,970nm,18.5s,baz=281,slow=35						
FORT	**Forrest**	**35.56**	**220**	P	**P**	**21 50 48.8**	**-0.5**
	baz=36,SNR=153						
FORT	**Forrest**	**35.56**	**220**	*e*P	**P**	**21 50 48.9**	**-0.5**
	comp=Z,7µm,0.8s						
PLAI	**Plampang**	**35.86**	**261**	P	**P**	**21 50 49.7**	**-2.5**
MYLDM	**Lahad Datu**	**36.38**	**285**	*e*P	**P**	**21 50 57.9**	**+1.3**
	comp=Z,134nm,1.3s						
RAO	**Raoul Island**	**36.51**	**136**	LR	LR	22 02 48.2	
	comp=Z,703nm,20.9s,baz=335,slow=31						
BKB	**Balikpapan**	**36.82**	**274**	P	**P**	**21 51 03.7**	**+3.3**
MBWA	**Marble Bar**	**36.84**	**240**	*e*P	**P**	**21 50 59.8**	**-0.7**
	comp=Z,186nm,1.0s						
MBWA	**Marble Bar**	**36.84**	**240**	P	**P**	**21 50 59.0**	**-1.6**
TGY	**Tagaytay City**	**37.32**	**300**	P	**P**	**21 51 05.7**	**+1.0**
	comp=Z,112nm,0.3s,baz=219,slow=3.3,SNR=5.6						
TGY				PcP	**PcP**	**21 53 23.2**	**+1.2**
	comp=Z,196nm,0.5s,baz=228,slow=5.6,SNR=7.0						
TGY				LR	LR	22 04 21.9	
	comp=Z,867nm,20.7s,baz=122,slow=33						
KBKI	**Kotabaru**	**37.39**	**270**	P	**P**	**21 51 06.3**	**+1.0**
	comp=Z,28nm,1.0s,comp=Z,840nm						
MOO	**Moorlands**	**38.23**	**188**	P	**P**	**21 51 13.4**	**+1.5**
	baz=38,SNR=15						
SRBI	**Singaraja**	**38.34**	**263**	P	**P**	**21 51 12.3**	**-0.9**
	comp=Z,44nm,0.9s,comp=Z,1µm						
DNP	**Denpasar**	**38.38**	**262**	P	**P**	**21 51 13.9**	**+0.4**
	comp=Z,193nm,0.9s						
IGBI	**Denpasar**	**38.45**	**262**	P	**P**	**21 51 14.5**	**+0.3**
	comp=Z,323nm,0.9s,comp=Z,6µm						
TAU	**Tasmania Unive**	**38.67**	**187**	*e*P	**P**	**21 51 17.1**	**+1.5**
	comp=Z,152nm,1.5s						
TAU	**Tasmania Unive**	**38.67**	**187**	*e*P	**P**	**21 51 17.1**	**+1.5**
TAU				pmax	pmax		
	comp=Z,152nm,1.5s						
KKM	**Kota Kinabalu**	**38.79**	**285**	*e*P	**P**	**21 51 16.8**	**-0.4**
	comp=Z,87nm,0.9s						
MTKI	**Muara Teweh, K**	**38.84**	**274**	P	**P**	**21 51 18.2**	**+0.7**
	comp=Z,98nm,1.8s,comp=Z,2µm						
JAGI	**Jajag, Banyuwa**	**39.41**	**262**	P	**P**	**21 51 20.3**	**-1.9**
	comp=Z,88nm,0.9s,comp=Z,2µm						
JAGI	**Jajag, Banyuwa**	**39.41**	**262**	*e*P	**P**	**21 51 20.7**	**-1.5**
	comp=Z,71nm,0.9s						
KMMI	**Kalianget**	**39.53**	**264**	P	**P**	**21 51 27.6**	**+4.4**
JOW	**Kunigami**	**39.63**	**323**	P	**P**	**21 51 24.8**	**+1.0**
	comp=Z,110nm,0.6s,baz=317,slow=9.5,SNR=29						
JOW				LR	LR	22 07 37.2	
	comp=Z,253nm,18.8s,baz=146,slow=36						
JOW	**Kunigami**	**39.63**	**323**	*e*P	**P**	**21 51 24.8**	**+1.0**
	comp=Z,217nm,1.1s						
URZ	**Urewera**	**39.85**	**151**	P	**P**	**21 51 27.1**	**+1.7**
	comp=Z,24nm,0.9s,baz=29,slow=7.0,SNR=5.1						
URZ	**Urewera**	**39.85**	**151**	*e*P	**P**	**21 51 26.6**	**+1.2**
	comp=Z,182nm,1.8s						
MEEK	**Meekatharra**	**40.05**	**233**	P	**P**	**21 51 26.2**	**-1.2**
	baz=40,SNR=58						
KMBL	**Kambalda**	**40.05**	**224**	P	**P**	**21 51 26.7**	**-0.6**
	baz=40,SNR=63						
BKZ	**Black Stump Fm**	**40.27**	**152**	*e*P	**P**	**21 51 28.8**	**-0.3**
	comp=Z,68nm,1.7s						
THZ	**Tophouse**	**40.92**	**158**	*e*P	**P**	**21 51 35.2**	**+0.8**
	comp=Z,56nm,0.9s						
SNZO	**South Karori**	**41.25**	**156**	*e*P	**P**	**21 51 37.0**	**+0.2**
	comp=Z,92nm,1.3s						
BFZ	**Birch Farm**	**41.38**	**154**	*e*P	**P**	**21 51 36.6**	**-1.5**
	comp=Z,62nm,1.2s						
YOJ	**Yonaguni jima**	**41.42**	**315**	*e*P	**P**	**21 51 39.4**	**+0.9**
	comp=Z,178nm,0.9s						
YOJ	**Yonaguni jima**	**41.42**	**315**	*e*P	**P**	**21 51 39.4**	**+0.9**
YOJ				pmax	pmax		
	comp=Z,178nm,0.9s						
FOZ	**Fox Glacier**	**41.44**	**162**	*e*P	**P**	**21 51 38.9**	**+0.5**
	comp=Z,35nm,1.0s						
LTZ	**Lake Taylor**	**41.58**	**159**	*e*P	**P**	**21 51 40.4**	**+0.7**
	comp=Z,36nm,0.7s						
PWJI	**Pagerwojo**	**41.71**	**263**	P	**P**	**21 51 39.6**	**-1.5**
KHZ	**Kahutara**	**41.73**	**158**	*e*P	**P**	**21 51 40.2**	**-0.6**
	comp=Z,52nm,1.3s						
PBKI	**Pangkalan Bun**	**41.91**	**271**	P	**P**	**21 51 43.6**	**+0.8**
SBUM	**Sibu**	**41.95**	**279**	*e*P	**P**	**21 51 43.8**	**+0.8**
	comp=Z,494nm,2.0s						
OXZ	**Oxford**	**41.98**	**160**	*e*P	**P**	**21 51 43.0**	**+0.1**
	comp=Z,54nm,1.3s						
YULB	**Yu-li**	**41.98**	**313**	*e*P	**P**	**21 51 42.5**	**-0.7**
	comp=Z,53nm,0.8s						
RPZ	**Rata Peaks**	**41.99**	**161**	*e*P	**P**	**21 51 43.4**	**+0.4**
	comp=Z,64nm,0.9s						
GIRL	**Giralia**	**42.14**	**241**	P	**P**	**21 51 44.5**	**-0.1**
	baz=42,SNR=6.8						
NACB	**Ninganchiao**	**42.24**	**314**	*e*P	**P**	**21 51 46.1**	**+0.8**
	comp=Z,140nm,0.9s						
LBZ	**Lake Benmore**	**42.33**	**162**	*e*P	**P**	**21 51 46.0**	**+0.3**
	comp=Z,31nm,0.9s						
PCJI	**Pacitan**	**42.34**	**263**	P	**P**	**21 51 45.9**	**-0.3**
STKI	**Sintang**	**42.35**	**275**	P	**P**	**21 51 47.6**	**+1.3**
WKZ	**Wanaka**	**42.39**	**164**	*e*P	**P**	**21 51 46.6**	**+0.4**
	comp=Z,194nm,1.8s						
CRLZ	**Canterbury Las**	**42.40**	**159**	*e*P	**P**	**21 51 43.7**	**-2.5**
	comp=Z,59nm,0.9s						
TPUB	**Ta-pu**	**42.42**	**312**	*e*P	**P**	**21 51 46.2**	**-0.6**
	comp=Z,48nm,0.8s						
SSLB	**Suanglung**	**42.47**	**313**	*e*P	**P**	**21 51 47.1**	**-0.1**
	comp=Z,33nm,0.9s						
DCZ	**Deep Cove**	**42.50**	**166**	*e*P	**P**	**21 51 47.3**	**+0.3**
	comp=Z,37nm,1.1s						
MQZ	**McQueen's Vall**	**42.53**	**160**	*e*P	**P**	**21 51 45.6**	**-1.6**
	comp=Z,99nm,1.5s						
MLZ	**Mavora Lakes**	**42.65**	**165**	*e*P	**P**	**21 51 49.0**	**+0.7**
	comp=Z,44nm,0.8s						
YHNB	**Yeheng**	**42.70**	**314**	*e*P	**P**	**21 51 49.9**	**+0.8**
	comp=Z,140nm,1.0s						
TATO	**Taipei**	**42.81**	**315**	*e*P	**P**	**21 51 49.6**	**-0.2**
	comp=Z,195nm,1.0s						
UGM	**Wanagama**	**42.97**	**263**	P	**P**	**21 51 50.7**	**-0.7**
UGM	**Wanagama**	**42.97**	**263**	*e*P	**P**	**21 51 51.1**	**-0.4**
	comp=Z,148nm,1.0s						
SMRI	**Semarang**	**43.03**	**265**	*e*P	**P**	**21 51 49.2**	**-2.7**
	comp=Z,133nm,1.4s						
ODZ	**Otahua Downs**	**43.06**	**162**	*e*P	**P**	**21 51 52.8**	**+1.2**
	comp=Z,52nm,1.4s						
WHZ	**Wether Hill Ro**	**43.09**	**165**	*e*P	**P**	**21 51 52.1**	**+0.3**
	comp=Z,18nm,0.7s						
KLBR	**Kellerberrin**	**43.12**	**227**	P	**P**	**21 51 50.9**	**-1.5**
	baz=43,SNR=52						
JNU	**Nakatsue**	**43.17**	**332**	P	**P**	**21 51 52.7**	**0.0**
	comp=Z,114nm,0.8s,baz=133,slow=1.9,SNR=58						
JNU				LR	LR	22 08 02.1	
	comp=Z,183nm,19.6s,baz=155,slow=33						
JNU	**Nakatsue**	**43.17**	**332**	*e*P	**P**	**21 51 49.7**	**-2.9**
	comp=Z,133nm,0.9s						
MORW	**Morawa**	**43.19**	**231**	P	**P**	**21 51 51.5**	**-1.4**
	baz=43,SNR=59						
MJAR	**Matsushiro Arr**	**43.28**	**342**	P	**P**	**21 51 52.3**	**-1.2**
	comp=Z,7.1nm,0.9s,baz=177,slow=9.3,SNR=15						
MJAR				PcP	**PcP**	**21 53 40.7**	**-0.1**
	comp=Z,6.8nm,0.8s,baz=169,slow=3.4,SNR=8.5						
MJAR				LR	LR	22 08 03.8	
	comp=Z,247nm,20.2s,baz=170,slow=33						
MAJO	**Matsushiro**	**43.28**	**342**	*e*P	**P**	**21 51 52.5**	**-1.0**
	comp=Z,13nm,0.8s						
MAJO				*e*PP	**PcP**	**21 53 42.3**	**+1.5**
MAJO	**Matsushiro**	**43.28**	**342**⇑	*i*P	**P**	**21 51 53.3**	**-0.2**
MAJO				pmax	pmax		
	comp=Z,13nm,0.7s						
MAT	**Matsushiro**	**43.28**	**342**	P	**P**	**21 51 51.9**	**-1.6**
MAT				S	S	21 58 03.8	-9.3
MJB9	**Matsu-Tunnel**	**43.29**	**342**	*e*P	**P**	**21 51 52.5**	**-1.0**
	comp=Z,13nm,0.7s						
BLDU	**Ballidu**	**43.41**	**229**	P	**P**	**21 51 52.7**	**-2.0**
	baz=44,SNR=77						
KSM	**Kuching**	**43.69**	**277**	*e*P	**P**	**21 51 56.7**	**-0.4**
	comp=Z,146nm,0.9s						
KSM				*e*PP	**PP**	**21 53 35.3**	**-5.5**
KSM				*e*PcP	**PcP**	**21 53 43.0**	**+0.4**
NWAO	**Narrogin (SRO)**	**44.20**	**226**	P	**P**	**21 51 58.6**	**-2.3**
	baz=44,SNR=6.0						
NWAO				P	**P**	**21 51 58.6**	**-2.3**
	baz=44,SNR=6.0						
MUN	**Mundaring**	**44.45**	**228**	P	**P**	**21 52 02.3**	**-0.7**
	baz=44,SNR=9.0						
KPJI	**Karang Pucung**	**44.54**	**264**	P	**P**	**21 52 04.2**	**+0.3**
QZH	**Quanzhou**	**44.89**	**312**⇑	*i*P	**P**	**21 52 07.1**	**+0.6**
QZH				pP	**pP**	**21 52 29.9**	**-1.1**
QZH				S	**S**	**21 58 35.4**	**-1.3**
QZH				SS	**ScS**	**22 01 56.4**	**+2.8**
QZH				pmax	pmax		
	comp=Z,55nm,1.2s						
QZH				pmax	pmax		
	comp=Z,620nm,5.7s						
QZH				LR	LR		
	comp=Z,1µm,13.1s						
QZH				LR	LR		
	comp=Z,1µm,17.3s						
QZH				LR	LR		
	comp=Z,1µm,32.9s						
CMJI	**Cimerak**	**45.02**	**264**	P	**P**	**21 52 05.9**	**-1.9**
RKGY	**Rocky Gully**	**45.28**	**224**	P	**P**	**21 52 10.0**	**+0.5**
	baz=45,SNR=8.1						
CISI	**Cisompet, Garu**	**45.65**	**264**	P	**P**	**21 52 11.2**	**-1.6**
CISI	**Cisompet, Garu**	**45.65**	**264**	*e*P	**P**	**21 52 11.2**	**-1.6**
	comp=Z,417nm,1.3s						
LEM	**Lembang**	**45.83**	**265**	P	**P**	**21 52 13.9**	**-0.5**
	comp=Z,44nm,0.9s,baz=324,slow=19,SNR=11						
LEM				LR	LR	22 12 54.7	
	comp=Z,439nm,21.3s,baz=95,slow=38						
LEM	**Lembang**	**45.83**	**265**	P	**P**	**21 52 13.9**	**-0.5**
TJN	**Taejon**	**47.49**	**331**⇓	*i*P	**P**	**21 52 27.4**	**+0.7**
CGJI	**Cibinong**	**47.74**	**265**	P	**P**	**21 52 26.8**	**-2.3**
XMIS	**Christmas Isla**	**47.90**	**260**	*e*P	**P**	**21 52 30.7**	**+0.4**
	comp=Z,191nm,0.9s						
KSRS	**Korea Array**	**48.10**	**332**	P	**P**	**21 52 31.6**	**+0.3**
	comp=Z,33nm,0.9s,baz=149,slow=9.0,SNR=69						
KSRS				pP	**pP**	**21 52 57.0**	**+0.8**
	comp=Z,3.0nm,0.8s,baz=222,slow=3.4,SNR=3.2						
KSRS				ScP	**ScP**	**21 57 44.4**	**+1.8**
	comp=Z,4.4nm,1.1s,baz=138,slow=4.9,SNR=5.7						
KSRS				LR	LR	22 10 17.8	
	comp=Z,392nm,21.8s,baz=167,slow=33						
KS15	**Wonju Array Si**	**48.10**	**332**	*e*P	**P**	**21 52 32.0**	**+0.6**
KS15				*e*pP	**pP**	**21 52 57.0**	**+0.7**
KS15				*e*ScP	**ScP**	**21 57 44.4**	**+1.8**
KS01	**Wonju Array Si**	**48.13**	**332**	*e*P	**P**	**21 52 31.4**	**-0.2**
KS01				*e*pP	**pP**	**21 52 54.4**	**-2.0**
RAR	**Rarotonga**	**48.16**	**114**	LR	LR	22 10 09.7	
	comp=Z,240nm,18.9s,baz=285,slow=32						
KASI	**Kota Agung**	**48.95**	**267**	P	**P**	**21 52 35.5**	**-2.8**
QIZ	**Qiongzhong**	**49.02**	**300**	P	**P**	**21 52 39.8**	**+1.0**
QIZ				S	**S**	**21 59 37.2**	**+1.4**
QIZ				pmax	pmax		
	comp=Z,1µm,3.9s						
QIZ				LR	LR		
	comp=Z,890nm,19.6s						
QIZ				LR	LR		
	comp=Z,890nm,14.7s						
QIZ				LR	LR		
	comp=Z,1µm,30.4s						
NJ2	**Nanjing**	**49.13**	**320**	*e*P	**P**	**21 52 40.7**	**+1.4**
NJ2				S	**S**	**21 59 32.0**	**-4.8**
NJ2				sS	**sS**	**22 00 18.3**	**-1.3**

NJ2 pmax pmax
comp=Z,37nm,1.2s
NJ2 pmax pmax
comp=Z,690nm,11.4s
NJ2 LR LR
comp=Z,830nm,22.8s
NJ2 LR LR
comp=Z,630nm,19.5s
NJ2 LR LR
comp=Z,1µm,24.3s
MDSI Maura Dua 49.29 268 P P 21 52 38.9 -2.0
ASAJ Asahikawa 49.39 350 P P 21 52 42.5 +1.4
comp=Z,13nm,0.6s,baz=195,slow=6.2,SNR=18
ASAJ Asahikawa 49.39 350 *eP* **P 21 52 41.7 +0.6**
comp=Z,13nm,0.7s
MCQ Macquarie Isla 50.05 176 P **P 21 52 47.7 +1.8**
baz=50,SNR=5.2
MCQ Macquarie Isla 50.05 176 *eP* **P 21 52 47.7 +1.8**
comp=Z,290nm,0.9s
MCQ Macquarie Isla 50.05 176 *eP* **P 21 52 47.7 +1.8**
MCQ pmax pmax
comp=Z,290nm,0.9s
MYKOM Kota Tinggi 50.13 276 *eP* **P 21 52 46.8 -0.5**
comp=Z,100nm,1.1s
MNAI Manna 50.52 268 *eP* **P 21 52 48.2 -2.1**
comp=Z,182nm,1.0s
MSHR Mys Shultsa 51.09 339⇓ *eP* **P 21 52 55.6 +1.6**
WHN Wuhan 51.20 316⇓ P **P 21 52 56.4 +1.3**
WHN S **S 22 00 06.9 +1.2**
WHN pmax pmax
comp=Z,56nm,0.8s
WHN LR LR
comp=Z,770nm,10.4s
WHN LR LR
comp=Z,1µm,14.2s
WHN LR LR
comp=Z,5µm,35.2s
VLA Vladivostok 51.30 340⇑ *iP* **P 21 52 57.6 +2.1**
VLA pmax pmax
comp=Z,32nm,0.8s
YSS Yuzh-Sakhalins 52.11 351 *eP* **P 21 53 02.3 +0.8**
YSS pmax pmax
comp=Z,10.0nm,0.7s
USRK Ussuriysk Ar. 52.22 340 P **P 21 53 03.0 +0.7**
comp=Z,10nm,0.7s,baz=164,slow=8.6,SNR=18
USRK pP **pP 21 53 28.7 +1.1**
comp=Z,6.4nm,0.7s,baz=159,slow=6.9,SNR=2.7
USRK LR LR 22 14 46.1
comp=Z,283nm,18.8s,baz=144,slow=35
DL2 Dalian 52.33 329 P **P 21 53 02.1 -1.2**
DL2 S **S 22 00 21.8 +1.0**
DL2 pmax pmax
comp=Z,69nm,1.2s
DL2 pmax pmax
comp=Z,320nm,6.0s
DL2 LR LR
comp=Z,700nm,23.6s
DL2 LR LR
comp=Z,650nm,23.9s
DL2 LR LR
comp=Z,1µm,22.7s
KEKH Kekaha 52.68 58 *eP* **P 21 53 10.3 +4.2**
comp=Z,307nm,1.2s
BKNI Bangkinang 52.75 274 *eP* **P 21 53 06.5 -0.4**
comp=Z,257nm,0.9s
TIA Tai'an 52.95 323 P **P 21 53 07.2 -0.8**
TIA SS **SKiKP 22 04 10.8 -5.8**
TIA pmax pmax
comp=Z,29nm,1.0s
TIA pmax pmax
comp=Z,560nm,9.6s
TIA LR LR
comp=Z,380nm,27.0s
TIA LR LR
comp=Z,450nm,17.2s
TIA LR LR
comp=Z,970nm,30.4s
IPM Ipoh 53.30 279 *eP* **P 21 53 09.4 -1.5**
comp=Z,152nm,1.1s
MDJ Mudanjiang 53.42 339 P **P 21 53 09.8 -1.4**
MDJ pP pP 21 53 33.5 -2.9
MDJ sP sP 21 53 44.3 -3.8
MDJ S **S 22 00 34.3 -1.2**
MDJ sS sS 22 01 17.0 -1.9
MDJ ScS **ScS 22 02 49.4 -1.0**
MDJ pmax pmax
comp=Z,16nm,1.0s
MDJ pmax pmax
comp=Z,660nm,8.4s
MDJ Mudanjiang 53.42 339 *eP* **P 21 53 11.9 +0.7**
comp=Z,62nm,1.5s
SKNT Sakolnakorn 53.47 295 P **P 21 53 11.8 -0.3**
comp=Z,49nm,0.8s
SNY Shenyang 53.60 332⇑ P **P 21 53 12.2 -0.4**
SNY pP **pP 21 53 36.4 -1.4**
SNY S **S 22 00 36.9 -1.1**
SNY sS **sS 22 01 23.0 +1.6**
SNY pmax pmax
comp=Z,490nm,4.7s
SNY LR LR
comp=Z,620nm,25.5s
SNY LR LR
comp=Z,2µm,34.8s
CHBT CHBT 53.76 289 P **P 21 53 15.7 +1.5**
comp=Z,90nm,1.0s
KULM Kulim 53.80 280 *eP* **P 21 53 12.8 -1.8**
comp=Z,133nm,0.7s
KIP Kipapa 53.91 60 *eP* **P 21 53 19.6 +4.4**
comp=Z,157nm,1.2s
KIP Kipapa 53.91 60⇑ *eP* **P 21 53 16.0 +0.8**
OPA Opana 54.01 59 *eP* **P 21 53 19.8 +3.9**
comp=Z,279nm,1.0s
OPA Opana 54.01 59 *eP* **P 21 53 19.8 +3.9**
OPA pmax pmax
comp=Z,279nm,1.0s
SKLT Songkhla 54.15 282 P **P 21 53 16.4 -0.7**
comp=Z,191nm,1.0s,comp=Z,2µm
KHON Khomkaen 54.32 294 P **P 21 53 19.1 +0.8**
comp=Z,35nm,0.9s,comp=Z,335nm
CN2 Changchun 54.35 335 *eP* **P 21 53 18.5 +0.5**
CN2 epP pP 21 53 45.0 +1.7
CN2 *eS* **S 22 00 46.4 -1.7**
CN2 SS **SS 22 04 29.9 -2.1**
CN2 pmax pmax
comp=Z,10.0nm,1.1s
CN2 pmax pmax
comp=Z,200nm,5.0s
CN2 LR LR
comp=Z,470nm,19.0s
CN2 LR LR
comp=Z,260nm,19.0s
CN2 LR LR
comp=Z,510nm,19.0s
ENH Enshi 54.55 312 *eP* **P 21 53 20.1 +0.4**
comp=Z,60nm,1.0s
GYA Guiyang 54.86 307⇑ *iP* **P 21 53 23.4 +1.2**
GYA pP pP 21 53 48.8 +1.3
GYA sP sP 21 53 59.7 +0.5
GYA PP **PP 21 55 29.0 +2.8**
GYA ScP **ScP 21 58 13.2 +0.9**
GYA S **S 22 00 55.0 -0.8**
GYA sS sS 22 01 38.7 -0.6
GYA SS **SS 22 04 40.6 -0.2**
GYA pmax pmax
comp=Z,60nm,0.9s
GYA pmax pmax
comp=Z,130nm,6.4s
GYA LR LR
comp=Z,3µm,22.0s
GYA LR LR
comp=Z,4µm,23.2s
GYA LR LR
comp=Z,6µm,23.3s
KHLH Kahului Airpor 55.08 61 *eP* **P 21 53 28.2 +4.5**
comp=Z,268nm,1.1s
KHLU Kahalu'u 55.09 62 *eP* **P 21 53 27.5 +3.6**
comp=Z,152nm,1.0s
PSI Prapat 55.14 277 *eP* **P 21 53 23.0 -1.4**
comp=Z,211nm,1.6s
PSI Prapat 55.14 277 *eP* **P 21 53 23.0 -1.4**
PSI pmax pmax
comp=Z,211nm,1.6s
HLK Haleakala 55.19 61 *eP* **P 21 53 29.3 +4.5**
comp=Z,307nm,1.2s
POHA Pohakuloa 55.47 62 *eP* **P 21 53 30.3 +3.5**
comp=Z,242nm,1.1s

TYV Tymovskoe 55.93 352 *eP* **P 21 53 30.2 +1.0**
TYV pmax pmax
comp=Z,23nm,1.8s
BJI Beijing 56.09 326⇓ *iP* **P 21 53 31.2 +0.7**
BJI S **S 22 01 09.2 -2.2**
BJI SS **SS 22 04 56.7 -2.7**
BJI pmax pmax
comp=Z,25nm,1.1s
BJI LR LR
comp=Z,1µm,18.6s
SURT Suratani 56.27 284 P **P 21 53 31.1 -1.2**
comp=Z,81nm,1.0s,comp=Z,731nm
GSI Gunungsitoli 56.30 275 *eP* **P 21 53 31.1 -1.5**
comp=Z,160nm,0.9s
PHET Kaeng Krachan 56.35 289 P **P 21 53 34.1 +1.3**
comp=Z,40nm,1.0s,comp=Z,288nm
PKDT Phuket 56.51 282 P **P 21 53 32.5 -1.5**
comp=Z,111nm,0.9s,comp=Z,849nm
COCO West Island 56.62 258 *eP* **P 21 53 36.1 +1.3**
comp=Z,531nm,1.4s
COCO West Island 56.62 258 *ceP* **P 21 53 36.5 +1.7**
PHIT Phitsanulok 56.78 294 P **P 21 53 36.6 +0.8**
comp=Z,70nm,0.9s,comp=Z,580nm
KLR Kul'dur 56.78 343 P **P 21 53 36.6 +1.3**
comp=Z,2.2nm,1.0s,baz=171,slow=5.8,SNR=13
KLR Kul'dur 56.78 343 *c iP* **P 21 53 36.1 +0.8**
KLR *i* *PP **pP 21 54 00.3 -0.5**
KLR *i* 21 54 29.0
TIY Taiyuan 56.79 321 *eP* **P 21 53 35.8 +0.1**
TIY pP **pP 21 54 01.6 +0.4**
TIY S **S 22 01 20.4 -0.5**
TIY sS **sS 22 01 59.6 -5.1**
TIY pmax pmax
comp=Z,440nm,4.6s
TIY LR LR
comp=Z,360nm,13.0s
TIY LR LR
comp=Z,230nm,6.8s
TIY LR LR
comp=Z,1µm,29.5s
XAN Xi'an 56.97 316⇑ P **P 21 53 37.1 +0.1**
XAN pP pP 21 54 01.0 -1.5
XAN sP sP 21 54 12.1 -2.0
XAN PcP **PcP 21 54 32.5 +1.4**
XAN ScP **ScP 21 58 22.2 +0.9**
XAN PcS **PcS 21 58 32.8 +0.6**
XAN S **S 22 01 17.3 -6.0**
XAN ScS **ScS 22 03 14.8 -1.7**
XAN pmax pmax
comp=Z,37nm,1.6s
XAN pmax pmax
comp=Z,790nm,7.5s
XAN LR LR
comp=Z,430nm,18.2s
XAN LR LR
comp=Z,380nm,18.7s
XAN LR LR
comp=Z,990nm,35.8s
NANT Nan 57.01 296 P **P 21 53 37.7 +0.2**
comp=Z,44nm,0.8s,comp=Z,474nm
PPT Papeete 57.03 108 P **P 21 53 40.2 +2.5**
comp=Z,32nm,0.7s,baz=269,slow=7.8,SNR=7.1
PPT2 Papeete2 57.04 108 *eP* **P 21 53 33.9 -3.9**
comp=Z,25nm,0.8s
PPT2 *eS* **S 22 01 18.0 -6.8**
comp=Z,2µm,24.8s
PPT2 *eLQ* LQ 22 07 57.8
comp=Z,2µm,27.5s
PPT2 *eLR* LR 22 10 23.1
comp=Z,3µm,35.5s
PAE Paea 57.04 108 *eP* **P 21 53 33.5 -4.2**
comp=Z,2.9nm,0.7s
PPTF Pamatai, Papee 57.05 108 *eP* **P 21 53 41.9 +4.1**
comp=Z,68nm,1.1s
SRDT SRDT 57.19 290 P **P 21 53 38.8 0.0**
comp=Z,106nm,1.0s,comp=Z,2µm
TIAR Tiarei 57.25 108 *eP* **P 21 53 34.7 -4.5**
comp=Z,17nm,0.8s
TVO Taravao 57.37 108 *eP* **P 21 53 35.6 -4.5**
comp=Z,12nm,0.7s
LHMI Lhok Sumawe 57.43 279 *eP* **P 21 53 39.8 -0.8**
comp=Z,427nm,0.8s
PET Petropavlovsk 57.45 4⇓ *iP* **P 21 53 42.4 +2.5**
PET *eS* **S 22 01 30.0 +1.2**
PET *e* 22 03 12.9
PET pmax pmax
comp=Z,30nm,0.6s
PEA0B Petropavlovsk- 57.48 3 *eP* **P 21 53 43.0 +2.9**
comp=Z,382nm,1.7s
PETK Petropavlovsk- 57.48 3 P **P 21 53 41.5 +1.4**
comp=Z,50nm,0.9s,baz=152,slow=7.0,SNR=18
PETK LR LR 22 14 36.0
comp=Z,438nm,21.8s,baz=179,slow=32
PETK Petropavlovsk- 57.48 3 *eP* **P 21 53 42.0 +1.9**
PETK Petropavlovsk- 57.48 3 *eP* **P 21 53 42.0 +1.9**
PEA1 Petropavlovsk- 57.48 3 *eP* **P 21 53 41.5 +1.4**
KMI Kunming 57.50 303 P **P 21 53 42.0 +0.9**
KMI PP **PP 21 55 52.3 +2.5**
KMI S **S 22 01 34.7 +3.8**
KMI SS **SS 22 05 25.8 +3.2**
KMI pmax pmax
comp=Z,96nm,1.0s
KMI pmax pmax
comp=Z,900nm,6.7s
KMI LR LR
comp=Z,750nm,25.9s
KMI LR LR
comp=Z,480nm,22.2s
KMI LR LR
comp=Z,860nm,29.3s
LAMP Lampang 57.89 295 P **P 21 53 44.8 +1.1**
comp=Z,32nm,1.0s,comp=Z,254nm
PAYA Payao 57.94 296 P **P 21 53 44.8 +0.8**
comp=Z,39nm,0.9s,comp=Z,320nm
NKL Nikolayevsk 58.45 351 *eP* **P 21 53 47.0 +0.2**
NKL pmax pmax
comp=Z,30nm,1.0s
NKL pmax pmax
comp=Z,500nm,15.0s
CM01 Chiang Mai Arr 58.47 295 *eP* **P 21 53 47.2 -0.5**
CM31 Chiang Mai Arr 58.49 295 *eP* **P 21 53 48.5 +0.6**
CMAR Chiang Mai Arr 58.49 295 P **P 21 53 48.8 +0.9**
comp=Z,68nm,1.0s,baz=111,slow=5.1,SNR=184
CMAR Chiang Mai Arr 58.49 295 P **P 21 53 48.8 +0.9**
CMAR pmax pmax
comp=Z,71nm,1.0s
CMMT Chiang Mai 58.59 295 P **P 21 53 48.3 -0.3**
comp=Z,60nm,1.1s,comp=Z,1µm
CHTO Chiang Mai 58.60 295 P **P 21 53 49.3 +0.7**
comp=Z,249nm,1.2s,comp=Z,5µm
CHTO Chiang Mai 58.60 295 *eP* **P 21 53 49.5 +0.9**
comp=Z,65nm,1.1s
CHTO Chiang Mai 58.60 295 *eP* **P 21 53 49.5 +0.9**
CHTO pmax pmax
comp=Z,65nm,1.1s
CMAI Chiengmai2 58.85 296 P **P 21 53 51.4 +0.9**
comp=Z,334nm,1.8s,comp=Z,67µm
CD2 Chengdu 59.16 310⇑ P **P 21 53 53.1 +0.7**
CD2 pP pP 21 54 19.3 +1.3
CD2 sP sP 21 54 31.5 +1.9
CD2 S **S 22 01 51.6 -0.4**
CD2 sS sS 22 02 38.5 +2.4
CD2 SS **SS 22 05 50.0 +1.8**
CD2 pmax pmax
comp=Z,140nm,0.6s
CD2 pmax pmax
comp=Z,1µm,5.8s
CD2 LR LR
comp=Z,1µm,21.4s
CD2 LR LR
comp=Z,2µm,26.3s
CD2 LR LR
comp=Z,1µm,22.8s
HHC Hu-ho-hao-te 59.28 324 *eP* **P 21 53 53.6 +0.6**
HHC pP pP 21 54 20.5 +1.8
HHC sP sP 21 54 32.1 +1.8
HHC PcP **PcP 21 54 40.2 0.0**
HHC S **S 22 01 50.8 -2.5**
HHC sS sS 22 02 37.6 +0.2
HHC pmax pmax
comp=Z,25nm,1.1s
HHC pmax pmax
comp=Z,430nm,6.7s
HHC LR LR
comp=Z,2µm,16.6s
HHC LR LR
comp=Z,2µm,17.0s
HHC LR LR
comp=Z,2µm,16.4s
BTO Baotou 60.05 323 *eP* **P 21 53 59.0 +0.7**
HIA Hailar 61.09 335 *eP* **P 21 54 05.7 +0.6**
comp=Z,31nm,1.0s
HIA Hailar 61.09 335 *eP* **P 21 54 05.7 +0.6**
HIA pmax pmax
comp=Z,31nm,1.0s
LZH Lanzhou 61.58 315⇑ P **P 21 54 10.2 +1.3**
LZH pP pP 21 54 36.3 +1.5
LZH sP sP 21 54 45.6 -0.7
LZH PP **PP 21 56 29.0 +3.2**
LZH S **S 22 02 20.0 -3.0**
LZH sS sS 22 03 05.0 -2.4
LZH SS **SS 22 06 28.2 +2.0**
LZH pmax pmax
comp=Z,150nm,1.0s
LZH pmax pmax
comp=Z,800nm,6.4s
LZH LR LR
comp=Z,690nm,15.4s
LZH LR LR
comp=Z,850nm,15.7s
LZH LR LR
comp=Z,1µm,18.5s
ZEA Zeya 62.09 343 *eP* **P 21 54 12.5 +0.8**
ZEA pmax pmax
comp=N,35nm,1.0s
ZEA pmax pmax
comp=Z,35nm,1.0s
MA2 Magadan 63.90 358 P **P 21 54 24.0 +0.5**
comp=Z,37nm,0.7s,baz=163,slow=6.8,SNR=20
MA2 Magadan 63.90 358⇓ *iP* **P 21 54 24.5 +0.9**
CLNS Chul'man 65.44 343 *eP* **P 21 54 34.3 +0.6**
CLNS *e**PP **pP 21 54 55.6 -4.2**
CLNS *e* 21 55 05.9
CLNS *e* 21 56 57.5
CLNS *eS* **S 22 03 12.9 +3.0**
CLNS *e* 22 04 11.6
CLNS pmax pmax
comp=E,1.0nm,0.7s
CLNS pmax pmax
comp=N,6.0nm,1.2s
CLNS pmax pmax
comp=Z,19nm,1.1s
CLNS pmax pmax
comp=E,3.0nm,1.4s
CLNS pmax pmax
comp=N,2.0nm,1.2s
CLNS pmax pmax
comp=Z,5.0nm,1.1s
CLNS smax smax
comp=E,182nm,11.5s
CLNS smax smax
comp=N,281nm,15.3s
CLNS MLR MLR
comp=N,370nm,14.0s
CLNS MLR MLR
comp=Z,329nm,18.0s
CLNS MLR MLR
comp=N,177nm,14.0s
TAOE Nuku Hiva Isla 65.85 98 *eS* **S 22 03 09.6 -6.9**
comp=N,1µm,27.5s
TAOE Nuku Hiva Isla 65.85 98 *eLR* LR 22 14 26.0
comp=N,3µm,35.8s
GTA Gaotai 65.99 317 *eP* **P 21 54 38.8 +1.1**
GTA pP pP 21 55 02.6 -1.3
GTA sP sP 21 55 14.6 -0.7
GTA S **S 22 03 19.1 +1.7**
GTA sS sS 22 03 58.6 -3.7
GTA SS **SS 22 07 36.9 +2.1**
GTA pmax pmax
comp=N,32nm,1.2s
GTA pmax pmax
comp=N,820nm,9.3s
GTA LR LR
comp=N,420nm,16.6s
GTA LR LR
comp=N,270nm,15.4s
GTA LR LR
comp=N,610nm,22.6s
ULN Ulaanbaatar 66.17 328 *eP* **P 21 54 39.6 +0.9**
comp=N,39nm,1.1s
ULN Ulaanbaatar 66.17 328 *c iP* **P 21 54 39.5 +0.8**
ULN pmax pmax
comp=Z,35nm,1.0s
SONA0 Songino Array 66.50 327 *eP* **P 21 54 41.4 +0.6**
SONA0 *ep*P **PcP 21 55 09.2 -0.3**
SONM Songino Array 66.50 327 P **P 21 54 41.4 +0.6**
comp=Z,15nm,0.7s,baz=146,slow=6.4,SNR=63
SONM pP **PcP 21 55 09.2 -0.3**
comp=Z,5.0nm,0.6s,baz=147,slow=4.1,SNR=2.9
SONM LR LR 22 22 54.1
comp=Z,417nm,21.0s,baz=135,slow=35
SONA1 Songino Array 66.50 327 *eP* **P 21 54 41.1 +0.3**
SHL Shillong 66.86 300 *eP* **P 21 54 43.0 -0.6**
SHL *eS* **S 22 03 25.0 -3.6**
SEY Seymchan 67.23 359 P **P 21 54 46.0 +1.0**
comp=Z,6.4nm,0.4s,baz=186,slow=10,SNR=11
SEY Seymchan 67.23 359⇑ *iP* **P 21 54 45.8 +0.9**
CASY Casey 68.56 197 *eP* **P 21 54 53.2 0.0**
comp=Z,45nm,1.0s
LSA Lhasa 68.74 304 *eP* **P 21 54 56.8 +1.1**
comp=Z,139nm,0.9s
LSA Lhasa 68.74 304 P **P 21 54 56.5 +0.8**
LSA Lhasa 68.74 304 *eP* **P 21 54 56.8 +1.1**
LSA pmax pmax
comp=Z,139nm,0.9s
YAK Yakutsk 68.83 348 *eP* **P 21 54 54.5 -0.4**
YAK *e**PP **pP 21 55 20.8 -0.5**
YAK *e*PPP PPP 21 59 09.0
YAK *eS* **S 22 03 50.9 +0.7**
YAK *e**SS **pS 22 04 24.3 +2.8**
YAK *e* 22 04 47.0
YAK *eSS* **SS 22 08 21.7 +4.2**
YAK *e*SSS SSS 22 11 23.4
YAK pmax pmax
comp=Z,28nm,0.9s
YAK pmax pmax
comp=N,10.0nm,1.3s
YAK pmax pmax
comp=E,5.0nm,1.2s
YAK pmax pmax
comp=Z,241nm,5.2s
YAK pmax pmax
comp=N,101nm,4.0s
YAK pmax pmax
comp=E,173nm,4.3s
YAK smax smax
comp=N,135nm,4.4s
YAK smax smax
comp=E,354nm,4.1s
ZAK Zakamensk 69.66 328 *eP* **P 21 55 00.4 0.0**
ZAK *e* 21 55 40.9
ZAK pmax pmax
comp=Z,28nm,1.0s
ZAK pmax pmax
comp=Z,20nm,1.1s
BOD Bodaibo 69.80 339 *eP* **P 21 55 00.8 -0.2**
BOD pmax pmax
comp=Z,20nm,1.1s
TLY Talaya 70.22 330 *eP* **P 21 55 04.4 +0.7**
comp=Z,18nm,1.2s
TLY Talaya 70.22 330 P **P 21 55 04.0 +0.2**
SNR=6.1
TLY Talaya 70.22 330 *eP* **P 21 55 04.5 +0.7**
TLY *eS* **S 22 04 10.7 +3.6**
TLY *e* 22 05 00.4
TLY pmax pmax
comp=Z,15nm,1.1s
TLY MLR MLR
comp=Z,166nm,16.0s
IRK Irkutsk 70.24 330 *eP* **P 21 55 02.3 -1.6**
IRK pmax pmax
comp=Z,43nm,3.3s
ODAN Odare 71.10 300 *eP* **P 21 55 10.6 +0.7**
comp=Z,319nm,0.7s
RKT Rikitea 71.15 113 *eS* **S 22 04 12.3 -6.6**
comp=Z,1µm,26.8s
RKT Rikitea 71.15 113 *eLR* LR 22 16 56.4
comp=Z,1µm,33.8s
MOY Mondy 71.57 329 *eP* **P 21 55 12.6 +0.5**
MOY pmax pmax
comp=Z,62nm,3.4s
RAMN Ramite 71.80 300 *eP* **P 21 55 14.6 +0.5**

JIRN	Jiri	72.34	301	eP	P	21 55 18.1	+0.6
GUN	Gumba	72.67	301	eP	P	21 55 20.0	+0.6
	comp=Z,483nm,0.8s						
GAMB	Gambell	72.86	15	eP	P	21 55 20.9	+1.6
	comp=Z,29nm,1.1s						
KNGR	Kungurtug, Tuv	72.88	326	i P	P	21 55 20.8	+0.9
BILL	Bilibino	72.90	5⇑	iP	P	21 55 20.4	+0.9
BILL				e*PP	sP	21 55 55.8	-1.7
BILL				e		21 58 02.6	
BILL				ePPP	PPP	21 59 46.1	
BILL				i S	S	22 04 29.6	-7.6
BILL				pmax	pmax		
	comp=Z,40nm,0.8s						
PKI	Pulchoki	72.98	300	eP	P	21 55 21.3	0.0
	comp=Z,332nm,1.1s						
PKIN	Phulchoki	73.00	300	eP	P	21 55 21.4	+0.1
	comp=Z,272nm,1.1s						
VNDA	Vanda	73.12	178	P	P	21 55 21.6	+0.9
	comp=Z,44nm,0.8s,baz=332,slow=6.5,SNR=151						
VNDA	Vanda	73.12	178	eP	P	21 55 21.4	+0.7
	comp=Z,50nm,0.8s						
KKN	Kakani	73.15	301	eP	P	21 55 22.4	+0.3
DMN	Daman	73.25	300	eP	P	21 55 23.4	+0.6
	comp=Z,628nm,1.0s						
SBA	Scott Base	73.65	177	eP	P	21 55 25.6	+1.8
	comp=Z,38nm,0.9s						
SBA	Scott Base	73.65	177	eP	P	21 55 25.6	+1.8
SBA				pmax	pmax		
	comp=Z,38nm,0.9s						
PALK	Pallekele	73.70	279	eP	P	21 55 25.3	-0.1
	comp=Z,230nm,1.9s						
PALK	Pallekele	73.70	279	P	P	21 55 25.3	-0.1
	SNR=6.6						
PALK	Pallekele	73.70	279	i P	P	21 55 25.6	+0.2
	SNR=18						
PALK	Pallekele	73.70	279	i P	P	21 55 26.0	+0.6
GKN	Gorkha	73.75	301	eP	P	21 55 25.8	+0.2
	comp=Z,561nm,1.0s						
MIR	Mirnyy	74.52	201⇓	iP	P	21 55 31.0	+2.0
MIR				i		21 55 59.0	
MIR				pmax	pmax		
	comp=Z,486nm,1.5s						
DANN	Dangsing	74.59	301	eP	P	21 55 30.8	+0.2
KOLN	Koldanda	74.59	300	eP	P	21 55 30.6	+0.1
	comp=Z,272nm,1.0s						
OHAK	Old Harbor	74.89	27	eP	P	21 55 32.2	+0.9
	comp=Z,31nm,0.9s						
PYUN	Piuthan	75.19	300	eP	P	21 55 33.7	-0.2
	comp=Z,771nm,1.0s						
HVS	Khovu-Aksy	75.26	326	eP	P	21 55 34.6	+0.9
HVS				pmax	pmax		
	comp=Z,29nm,0.7s						
KDAK	Kodiak Island	75.52	27	P	P	21 55 36.0	+1.1
	comp=Z,28nm,1.0s,baz=90,slow=6.3,SNR=8.8						
KDAK				LR	LR	22 24 01.6	
	comp=Z,557nm,21.8s,baz=237,slow=32						
KDAK	Kodiak Island	75.52	27	eP	P	21 55 36.8	+1.9
	comp=Z,33nm,1.0s						
KDAK	Kodiak Island	75.52	27	P	P	21 55 36.0	+1.1
KDAK				pmax	pmax		
	comp=Z,29nm,1.0s						
KDAK				MLR	MLR		
	comp=Z,557nm,21.8s						
WMQ	Urumqi	76.07	317	P	P	21 55 39.3	+0.8
WMQ				PcP	PcP	21 55 47.0	-3.2
WMQ				pP	pP	21 56 02.4	-2.9
WMQ				PP	PP	21 58 35.5	+4.8
WMQ				S	S	22 05 14.1	+0.4
WMQ				ScS	SKKSac	22 05 41.4	+1.0
WMQ				sS	sS	22 05 55.6	-4.1
WMQ				SS	SS	22 10 12.7	+3.6
WMQ				pmax	pmax		
	comp=Z,96nm,1.3s						
WMQ				pmax	pmax		
	comp=Z,2μm,4.5s						
WMQ				LR	LR		
	comp=Z,800nm,22.7s						
WMQ				LR	LR		
	comp=Z,830nm,29.7s						
WMQ				LR	LR		
	comp=Z,1μm,34.1s						
SVW2	Sparrevohn	76.21	23	eP	P	21 55 40.6	+1.8
	comp=Z,24nm,1.0s						
HOM	Homer	76.97	25	eP	P	21 55 44.8	+1.7
	comp=Z,189nm,0.9s						
HYB	Hyderabad	77.17	289	i P	P	21 55 43.5	-1.6
BRLK	Bradley Lake	77.35	25	eP	P	21 55 45.9	+0.6
	comp=Z,41nm,1.0s						
SPU	Mount Spurr	77.65	24	eP	P	21 55 49.0	+2.1
TIXI	Tiksi	77.69	352	eP	P	21 55 46.7	-0.1
	comp=Z,17nm,1.1s						
TIXI	Tiksi	77.69	352c	iP	P	21 55 47.0	+0.2
TIXI				pmax	pmax		
	comp=Z,14nm,1.0s						
DGZ	Jazzator, Alta	78.33	323c	iP	P	21 55 51.5	+0.4
DGZ				pmax	pmax		
	comp=Z,37nm,1.0s						
SUA	Susitna One	78.33	24	eP	P	21 55 50.8	0.0
	comp=Z,27nm,0.8s						
RC01	Rabbit Creek A	78.54	24	eP	P	21 55 52.4	+0.6
	comp=Z,78nm,1.1s						
PPLA	Purkeypile	78.57	22	eP	P	21 55 51.4	-0.7
	comp=Z,38nm,1.2s						
CAST	Castle Rocks	78.90	22	eP	P	21 55 54.0	+0.3
	comp=Z,50nm,1.0s						
PMR	Palmer	79.06	24	eP	P	21 55 54.6	+0.1
	comp=Z,43nm,1.1s						
PMR	Palmer	79.06	24	eP	P	21 55 54.6	+0.1
PMR				pmax	pmax		
	comp=Z,43nm,1.1s						
SML	Sawmill	79.50	24	eP	P	21 55 57.9	+0.9
	comp=Z,95nm,1.0s						
SML	Sawmill	79.50	24	eP	P	21 55 57.9	+0.9
SML				pmax	pmax		
	comp=Z,95nm,1.0s						
GLI	Glacier Island	79.55	25	eP	P	21 55 58.0	+0.7
	comp=Z,64nm,1.1s						
TRF	Thorofare Moun	79.59	22	eP	P	21 55 57.7	0.0
	comp=Z,29nm,1.0s						
BPAW	Bear Paw Mtn.	79.69	22	eP	P	21 55 58.0	0.0
	comp=Z,27nm,1.2s						
IM3	Indian Mountai	79.81	19	eP	P	21 55 58.9	+0.3
SCM	Sheep Creek Mo	79.92	24	eP	P	21 56 00.6	+1.3
	comp=Z,59nm,1.0s						
SCM	Sheep Creek Mo	79.92	24	eP	P	21 56 00.6	+1.3
SCM				pmax	pmax		
	comp=Z,59nm,1.0s						
EYAK	Cordova Ski Ar	79.97	26	eP	P	21 56 01.4	+1.9
	comp=Z,16nm,0.9s						
RND	Reindeer	80.12	23	eP	P	21 56 00.4	0.0
	comp=Z,61nm,1.0s						
RND	Reindeer	80.12	23	eP	P	21 56 00.4	0.0
RND				pmax	pmax		
	comp=Z,61nm,1.0s						
DIV	Divide	80.23	25	eP	P	21 56 02.4	+1.3
	comp=Z,42nm,1.0s						
MCK	McKinley	80.25	22	eP	P	21 56 00.7	-0.3
	comp=Z,126nm,1.0s						
MCK	McKinley	80.25	22	eP	P	21 56 00.7	-0.3
MCK				pmax	pmax		
	comp=Z,126nm,1.0s						
MLY	Manley	80.29	21	eP	P	21 56 01.6	+0.4
	comp=Z,55nm,1.1s						
KLU	Klutina	80.34	25	eP	P	21 56 02.8	+1.1
	comp=Z,83nm,1.0s						
RAGM	Ragged Mountai	80.36	26	eP	P	21 56 03.2	+1.5
	comp=Z,47nm,1.1s						
DHY	Denali Highway	80.52	23	eP	P	21 56 03.5	+0.9
	comp=Z,27nm,1.0s						
MK01	Makanchi Array	80.62	319	eP	P	21 56 02.8	-0.6
MK31	Makanchi Array	80.63	319	eP	P	21 56 03.2	-0.3
MK31	Makanchi Array	80.63	319	eP	P	21 56 03.2	-0.3
MK32	Makanchi Array	80.63	319	eP	P	21 56 03.8	+0.4
MKAR	Makanchi Array	80.63	319	P	P	21 56 03.8	+0.4
	comp=Z,70nm,1.0s,baz=101,slow=6.5,SNR=168						
MKAR				LR	LR	22 32 08.1	
	comp=Z,205nm,20.2s,baz=112,slow=36						
MKAR	Makanchi Array	80.63	319	eP	P	21 56 03.2	-0.3
	comp=Z,319nm,0.9s						
BMRM	Bremner River	80.66	26	eP	P	21 56 04.5	+1.2
	comp=Z,60nm,1.4s						
MAKZ	Makanchi	80.84	319	eP	P	21 56 04.4	-0.2
	comp=Z,104nm,1.0s						
MAKZ	Makanchi	80.84	319	eP	P	21 56 04.4	-0.2
MAKZ				pmax	pmax		
	comp=Z,104nm,1.0s						
HARP	HAARP	81.09	24	eP	P	21 56 06.8	+1.2
	comp=Z,54nm,1.0s						
CCB	Clear Creek Bu	81.15	22	eP	P	21 56 05.3	-0.5
	comp=Z,33nm,1.0s						
MDM	Murphy Dome	81.16	21	eP	P	21 56 05.7	-0.2
	comp=Z,32nm,1.1s						
PAX	Paxson	81.23	24	eP	P	21 56 07.1	+0.7
	comp=Z,24nm,1.3s						
PAX	Paxson	81.23	24	eP	P	21 56 07.1	+0.7
PAX				pmax	pmax		
	comp=Z,24nm,1.3s						
COLA	College	81.25	22	eP	P	21 56 06.1	-0.2
	comp=Z,65nm,0.9s						
COLA	College	81.25	22	eP	P	21 56 06.1	-0.2
COLA				pmax	pmax		
	comp=Z,65nm,0.9s						
MNCI	Minicoy	81.34	279	eP	P	21 56 08.0	+0.2
	comp=Z,75nm,1.1s						
ZAA0	Zalesovo Array	81.35	326	eP	P	21 56 06.5	-0.5
ZALV	Zalesovo Beam	81.35	326	P	P	21 56 06.4	-0.6
	comp=Z,31nm,0.9s,baz=109,slow=5.3,SNR=82						
ZALV				LR	LR	22 34 57.0	
	comp=Z,149nm,18.0s,baz=70,slow=38						
ZALV	Zalesovo Beam	81.35	326	eP	P	21 56 06.1	-0.9
ZAA1	Zalesovo Array	81.35	326	eP	P	21 56 06.4	-0.6
HDA	Harding Lake	81.35	22	eP	P	21 56 06.8	-0.1
	comp=Z,13nm,0.8s						
ILAR	Eielson Array	81.56	22	P	P	21 56 07.2	-0.8
	comp=Z,29nm,0.9s,baz=251,slow=4.6,SNR=112						
ILAR				LR	LR	22 32 40.6	
	comp=Z,242nm,18.2s,baz=224,slow=36						
COLD	Coldfoot	81.69	19	eP	P	21 56 09.9	+1.3
	comp=Z,21nm,1.0s						
RIDG	Independ'e Rid	81.84	23	eP	P	21 56 10.1	+0.5
	comp=Z,32nm,0.9s						
UZB	Uzynbulak	81.91	315⇑	iP	P	21 56 11.1	+0.6
	comp=Z,466nm,1.2s						
UZB				i pP	pP	21 56 36.9	-0.7
MENT	Mentasta	81.93	24	eP	P	21 56 10.9	+1.0
	comp=Z,26nm,1.0s						
DOT	Dot Lake	82.11	24	eP	P	21 56 11.5	+0.7
	comp=Z,168nm,1.0s						
KPKS	Kokpek	82.22	315⇑	iP	P	21 56 12.7	+0.7
	comp=Z,101nm,0.7s						
SCRK	Sand Creek	82.29	23	eP	P	21 56 12.5	+0.6
	comp=Z,25nm,1.0s						
SATY	Saty	82.32	314⇑	iP	P	21 56 13.5	+0.9
	comp=Z,629nm,1.2s						
SATY				eS	S	22 06 20.6	+0.5
TARG	Taragay, Kyrgy	82.46	313	eP	P	21 56 14.8	+1.2
	comp=Z,43nm,1.0s						
NVS	Novosibirsk	82.52	327	eP	P	21 56 13.1	0.0
NVS				e		21 59 27.2	
NVS				eS	S	22 06 17.8	-3.4
NVS				pmax	pmax		
	comp=N,19nm,1.8s						
NVS				pmax	pmax		
	comp=Z,57nm,1.8s						
NVS				pmax	pmax		
	comp=E,29nm,1.7s						
NVS				pmax	pmax		
	comp=Z,30nm,2.2s						
NVS				pmax	pmax		
	comp=N,10.0nm,1.8s						
NVS				smax	smax		
	comp=N,5.0nm,1.1s						
TOLK	Toolik Lake Re	82.66	18	P	P	21 56 14.8	+1.1
	baz=237						
TOLK	Toolik Lake Re	82.66	18	eP	P	21 56 14.6	+0.9
	comp=N,20nm,0.9s						
KDJ	Kajisay	83.00	313	eP	P	21 56 17.4	+1.2
	comp=N,116nm,0.9s						
FYU	Fort Yukon	83.03	21	eP	P	21 56 17.0	+1.4
	comp=N,34nm,1.1s						
MDOK	Medeo	83.32	314	i P	P	21 56 18.1	+0.4
	comp=N,720nm,1.0s						
MDOK				i pP	pP	21 56 44.1	-0.9
MDOK				esP	sP	21 56 55.3	-0.9
MDOK				eS	S	22 06 30.1	-0.1
KSH	Kashi	83.36	310	P	P	21 56 20.0	+2.0
KSH				sP	sP	21 56 56.4	0.0
KSH				S	S	22 06 34.2	+3.5
KSH				pmax	pmax		
	comp=N,120nm,1.3s						
KSH				pmax	pmax		
	comp=N,1μm,3.8s						
KSH				LR	LR		
	comp=N,230nm,8.1s						
KSH				LR	LR		
	comp=N,170nm,6.5s						
KSH				LR	LR		
	comp=N,310nm,17.2s						
AAA	Alma-Ata	83.42	314⇑	iP	P	21 56 18.9	+0.7
	comp=N,334nm,1.2s						
AAA				eS	S	22 06 30.9	-0.2
EGAK	Eagle	83.74	23	eP	P	21 56 20.0	+0.7
	comp=N,31nm,1.0s						
HYT	Haines Junctio	83.77	27	eP	P	21 56 20.6	+0.9
	comp=N,48nm,1.1s						
KURK	Kurchatov	84.03	322	eP	P	21 56 20.4	-0.6
	comp=N,116nm,1.0s						
KURK	Kurchatov	84.03	322	P	P	21 56 20.9	-0.1
	SNR=40						
KURK	Kurchatov	84.03	322c	iP	P	21 56 21.0	0.0
KURK				pmax	pmax		
	comp=Z,126nm,1.1s						
KURBB	Kurchatov Arra	84.06	322	P	P	21 56 21.3	+0.1
	comp=Z,54nm,1.0s,baz=230,slow=25,SNR=151						
DAWY	Dawson	84.16	24	eP	P	21 56 22.6	+1.2
	comp=Z,32nm,1.1s						
BESE	Bessie Mountai	84.29	30	eP	P	21 56 24.0	+1.7
	comp=Z,23nm,1.1s						
BMNS	Besmoynak	84.29	314⇑	iP	P	21 56 23.6	+0.9
	comp=Z,2μm,1.0s						
TKM2	Tokmak 2	84.31	314	P	P	21 56 23.6	+0.8
	SNR=70						
SKAG	Skagway	84.34	29	eP	P	21 56 24.1	+1.8
	comp=Z,16nm,1.0s						
KZA	Kyzart	84.39	313	P	P	21 56 24.8	+1.2
	SNR=85						
NIL	Nilore	84.48	304	eP	P	21 56 24.0	+0.3
	comp=Z,367nm,0.8s						
NIL				eS	S	22 06 43.1	+1.1
NIL	Nilore	84.48	304	eP	P	21 56 24.0	+0.3
NIL				eS	S	22 06 43.1	+1.1
NIL				pmax	pmax		
	comp=Z,367nm,0.8s						
KBK	Karagaybulak	84.72	313	P	P	21 56 25.8	+0.8
	SNR=70						
CHMS	Chumysh	84.93	314	P	P	21 56 26.5	+0.7
	SNR=94						
WHY	Whitehorse	84.93	28	eP	P	21 56 26.9	+1.4
	comp=Z,49nm,1.8s						
UCH	Uchtor	84.96	313	P	P	21 56 27.9	+1.4
	SNR=115						
FRU	Bishkek	85.00	314⇑	iP	P	21 56 26.0	-0.1
FRU				pmax	pmax		
	comp=Z,170nm,1.8s						
AAK	Ala-Archa	85.05	313	P	P	21 56 27.5	+0.9
	SNR=112						
AAK	Ala-Archa	85.05	313	eP	P	21 56 27.1	+0.5
	comp=Z,102nm,0.9s						
AAK	Ala-Archa	85.05	313	eP	P	21 56 27.1	+0.5
AAK				pmax	pmax		
	comp=Z,102nm,0.9s						
USP	Ospenovka	85.16	314	P	P	21 56 27.7	+0.7
	SNR=100						
QSPA	South Pole Qui	85.48	180	P	P	21 56 28.7	+0.6
	comp=Z,57nm,1.1s,baz=249,slow=0.4,SNR=50						
AML	Almayashu	85.54	313	P	P	21 56 30.1	+0.8
	SNR=152						
EKS2	Erkin-Say	85.58	313	P	P	21 56 30.1	+1.0
	SNR=103						
BTLS	Baital	85.81	316⇑	iP	P	21 56 30.6	+0.6
	comp=Z,928nm,1.2s						
NRIK	Noril'sk	85.93	341	P	P	21 56 29.4	-0.7
	comp=Z,16nm,0.5s,baz=331,slow=18						
MAW	Mawson	86.18	203	P	P	21 56 31.4	0.0
	comp=Z,70nm,0.9s,baz=87,slow=5.5,SNR=55						
MAW				pP	pP	21 57 01.7	+3.0
	comp=Z,29nm,0.9s,baz=85,slow=8.3,SNR=3.0						
MAW	Mawson	86.18	203	P	P	21 56 31.4	0.0
	baz=86,SNR=30						
MAW	Mawson	86.18	203	eP	P	21 56 31.4	0.0
	comp=Z,18nm,0.9s						
MAW				epP	pP	21 57 01.7	+3.0
MAW	Mawson	86.18	203	eP	P	21 56 31.4	0.0
MAW				e*PP	pP	21 57 01.7	+3.0
MAW				pmax	pmax		
	comp=Z,18nm,0.9s						
DLBC	Dease Lake	86.69	31	eP	P	21 56 35.8	+1.6
	comp=Z,25nm,1.1s						
DZA	Taraz	87.39	313	eP	P	21 56 38.3	+0.5
	comp=Z,314nm,0.8s						
INK	Inuvik	87.87	21	P	P	21 56 39.0	-0.4
	comp=Z,22nm,1.0s,baz=252,slow=4.3,SNR=44						
INK				PKKPbc	PKKPbc	22 14 25.8	-3.1
	comp=Z,2.7nm,0.8s,baz=74,slow=2.1,SNR=12						
INK				LR	LR	22 39 01.3	
	comp=Z,353nm,18.0s,baz=250,slow=38						
INK	Inuvik	87.87	21	eP	P	21 56 39.1	-0.4
	comp=Z,34nm,1.1s						
INK	Inuvik	87.87	21	eP	P	21 56 39.1	-0.4
INK				pmax	pmax		
	comp=Z,34nm,1.1s						
KK06	Karatay Array	88.00	313	eP	P	21 56 40.6	-0.1
KK05	Karatay Array	88.01	313	eP	P	21 56 40.7	-0.1
KK02	Karatay Array	88.02	313	eP	P	21 56 40.7	-0.2
KK31	Karatay Array	88.02	313	eP	P	21 56 41.0	+0.2
KK31	Karatay Array	88.02	313	eP	P	21 56 41.0	+0.2
KKAR	Karatay Array	88.02	313	eP	P	21 56 41.0	+0.2
KKAR	Karatay Array	88.02	313	eP	P	21 56 41.0	+0.2
KK01	Karatay Array	88.02	313	eP	P	21 56 40.3	-0.5
KK04	Karatay Array	88.02	313	eP	P	21 56 40.8	-0.1
KK07	Karatay Array	88.02	313	eP	P	21 56 40.7	-0.2
KK03	Karatay Array	88.02	313	eP	P	21 56 40.4	-0.5
KK08	Karatay Array	88.03	313	eP	P	21 56 40.9	0.0
KBL	Kabul	88.06	305	eP	P	21 56 40.7	-0.8
	comp=Z,18nm,0.8s						
KBL	Kabul	88.06	305	eP	P	21 56 40.7	-0.8
KBL				pmax	pmax		
	comp=Z,18nm,0.8s						
YBH	Yreka Blue Hor	88.23	48	LR	LR	22 29 35.9	
	comp=Z,356nm,21.2s,baz=298,slow=31						
IUG	Iuzhnay	88.24	312⇑	iP	P	21 56 42.4	+0.4
	comp=Z,271nm,1.1s						
CHM	Chimkent	88.57	312⇑	iP	P	21 56 44.1	+0.6
	comp=Z,360nm,1.0s						
BVAR	Borovoye Array	89.48	323	P	P	21 56 46.6	-0.9
	comp=Z,64nm,0.9s,baz=116,slow=6.4,SNR=148						
BVAR				LR	LR	22 39 09.8	
	comp=Z,166nm,18.3s,baz=98,slow=37						
I05D	Terrebonne, OR	89.55	46	P	P	21 56 47.4	-0.7
	baz=263						
BRVK	Borovoye	89.55	323	eP	P	21 56 46.8	-1.0
	comp=Z,74nm,0.9s						
BRVK	Borovoye	89.55	323	P	P	21 56 46.9	-0.8
	SNR=29						
BRVK	Borovoye	89.55	323c	iP	P	21 56 47.0	-0.8
BRVK				pmax	pmax		
	comp=Z,76nm,0.9s						
MWC	Mount Wilson	91.10	56	eP	P	21 56 58.2	+2.5
	comp=Z,117nm,1.9s						
MWC	Mount Wilson	91.10	56	eP	P	21 56 58.2	+2.5
MWC				pmax	pmax		
	comp=Z,117nm,1.9s						
NV01	Mina Array Sit	91.24	52	eP	P	21 56 57.5	+1.2
NV01				epP	pP	21 57 23.6	-0.3
NVAR	Mina Array Bea	91.24	52	P	P	21 56 55.8	-0.5
	comp=Z,4.3nm,0.9s,baz=256,slow=3.6,SNR=9.6						
NVAR				pP	pP	21 57 24.4	+0.6
	comp=Z,2.8nm,0.8s,baz=246,slow=7.8,SNR=3.4						
NVAR				LR	LR	22 34 19.9	
	comp=Z,556nm,18.5s,baz=78,slow=33						
CWC	Cottonwood Cre	91.26	54	P	P	21 56 58.0	+1.7
	baz=266						
G08A	Pilot Rock	91.33	45	eP	P	21 56 58.2	+1.9
	comp=Z,40nm,1.8s						
NV11	Mina Array Sit	91.36	52	eP	P	21 56 58.4	+1.7
	comp=Z,1.5nm,1.4s						
LRMC	Laurel Mtn Rad	91.50	55	P	P	21 56 59.5	+2.0
	baz=266						
J08A	Circle Bar Ran	91.51	47	eP	P	21 56 58.7	+1.4
	comp=Z,20nm,1.4s						
DAC	Darwin (Calif)	91.64	54	eP	P	21 56 59.9	+1.8
	comp=Z,10nm,0.9s						
DAC	Darwin (Calif)	91.64	54	eP	P	21 56 59.9	+1.8
DAC				pmax	pmax		
	comp=Z,10.0nm,0.9s						
MPMC	Manual Prospec	91.70	54	P	P	21 57 00.2	+1.8
	baz=266						
FURC	Furnace Creek,	92.24	54	P	P	21 57 02.9	+2.3
	baz=266						
BMO	Blue Mountains	92.46	45	eP	P	21 57 03.2	+1.6
	comp=Z,10nm,1.1s						
BMO	Blue Mountains	92.46	45	eP	P	21 57 03.2	+1.6
BMO				pmax	pmax		
	comp=Z,10.0nm,1.1s						
F10A	Beach Ranch, E	92.59	44	eP	P	21 57 03.0	+0.8
	comp=Z,12nm,1.0s						
TPNV	Topopah Spring	92.76	53	P	P	21 57 04.7	+1.4
	baz=267						
NEW	Newport	92.81	42	P	P	21 57 03.1	+0.1
	comp=Z,7.5nm,1.0s,baz=227,slow=4.5,SNR=7.8						
NEW	Newport	92.81	42	P	P	21 57 03.1	+0.1
	baz=267						
NEW	Newport	92.81	42	eP	P	21 57 04.2	+1.1
	comp=Z,9.2nm,1.0s						
GMRC	Granite Mounta	93.11	56	P	P	21 57 06.6	+1.7
	baz=267						
R11A	Troy Canyon, C	93.37	52	P	P	21 57 06.8	+0.8
	baz=267						
R11A	Troy Canyon, C	93.37	52	eP	P	21 57 06.9	+0.8
	comp=Z,15nm,1.6s						
SHPR	Sheep Range	93.61	54	eP	P	21 57 09.3	+2.1
	comp=Z,9.9nm,1.2s						
SYO	Syowa Base	94.24	199⇓	iP	P	21 57 06.4	-2.7
YKA	Yellowknife Ar	94.76	28	P	P	21 57 12.1	+0.5
	comp=Z,7.0nm,1.0s,baz=271,slow=4.6,SNR=53						
YKA				pP	pP	21 57 39.7	+0.5
	comp=Z,1.0nm,0.7s,baz=268,slow=4.7,SNR=2.0						
YKA				PP	PP	22 01 02.0	+0.6
	comp=Z,1.3nm,1.1s,baz=257,slow=6.0,SNR=3.6						
YKA				PKKPbc	PKKPdf	22 14 07.2	-3.0
	comp=Z,0.8nm,0.5s,baz=87,slow=2.7,SNR=19						
YKB5	Yellowknife Ar	94.76	28	eP	P	21 57 12.1	+0.5
YKB5				epP	pP	21 57 39.7	+0.5
YKB5				ePP	PP	22 01 02.0	+0.6
WALA	Waterton Lakes	94.97	41	eP	P	21 57 14.2	+1.1
	comp=Z,16nm,1.1s						
CCUT	Cedar City	95.09	53	eP	P	21 57 16.6	+2.6
CCUT				epP	pP	21 57 44.5	+2.9
SVE	Sverdlovsk	95.36	327	eP	P	21 57 13.7	-0.8
SVE				pmax	pmax		
	comp=Z,22nm,1.3s						
EDM	Edmonton	95.37	37	eP	P	21 57 15.5	+0.8
	comp=Z,16nm,1.0s						
EDM	Edmonton	95.37	37	eP	P	21 57 15.5	+0.8
EDM				pmax	pmax		
	comp=Z,16nm,1.0s						
KNB	Kanab	95.50	53	eP	P	21 57 18.8	+2.9
	comp=Z,21nm,1.4s						
KNB	Kanab	95.50	53	eP	P	21 57 18.8	+2.9
KNB				pmax	pmax		
	comp=Z,21nm,1.4s						
AB06	Akbulak array	95.76	319	eP	P	21 57 14.6	-1.9
AB07	Akbulak array	95.77	319	eP	P	21 57 14.7	-1.9
AB02	Akbulak array	95.77	319	eP	P	21 57 14.7	-1.9
AB01	Akbulak array	95.78	319	eP	P	21 57 14.7	-1.9
AB03	Akbulak array	95.78	319	eP	P	21 57 14.7	-1.9
AB05	Akbulak array	95.78	319	eP	P	21 57 14.7	-1.8
AB31	Akbulak array	95.78	319	eP	P	21 57 14.8	-1.8
AB31	Akbulak array	95.78	319	eP	P	21 57 14.8	-1.8
ABKAR	Akbulak array	95.78	319	eP	P	21 57 14.8	-1.8
	comp=Z,103nm,1.0s						
AB04	Akbulak array	95.78	319	eP	P	21 57 14.7	-1.9
AB08	Akbulak array	95.79	319	eP	P	21 57 14.8	-1.9
AB09	Akbulak array	95.79	319	eP	P	21 57 14.7	-2.0
PKCU	Pink Cliffs	95.92	53	eP	P	21 57 17.6	-0.4
	comp=Z,76nm,2.0s						
MTPU	Mount Pierson	96.03	52	eP	P	21 57 21.1	+2.6
	comp=Z,28nm,2.0s						
WSAR	Wadi Sarin	96.34	293	P	P	21 57 19.1	-0.7
	comp=Z,19nm,0.9s,baz=116,slow=6.3,SNR=14						
ARU	Arti	96.52	326	LR	LR	22 43 09.5	
	comp=Z,151nm,19.2s,baz=105,slow=37						
ARU	Arti	96.52	326	eP	P	21 57 17.8	-2.0
	comp=Z,19nm,1.1s						
ARU	Arti	96.52	326c	iP	P	21 57 18.4	-1.4
ARU				*PP	pP	21 57 44.4	-3.0
ARU						22 01 13.0	
ARU				S	SKSac	22 07 45.4	-1.3
ARU				SS	SS	22 15 01.7	-5.7

ARU pmax pmax
comp=Z,17nm,1.0s
FXWY Fox Creek 96.94 47 eP P 21 57 23.9 +1.6
comp=Z,3.7nm,1.1s
AKTO Aktyubinsk 97.01 320 P P 21 57 20.5 -1.6
comp=Z,12nm,1.0s,baz=96,slow=11,SNR=21
AKTO LR LR 22 40 44.8
comp=Z,215nm,21.7s,baz=82,slow=35
YFT Old Faithful 97.07 46 eP Pdif 21 57 26.6 +3.6
comp=Z,5.8nm,0.9s
GYB2 ALIBECK ARRAY 97.07 308 eP Pdif 21 57 24.1 +1.2
comp=Z,25nm,1.1s
GYB1 ALIBECK ARRAY 97.07 308 eP Pdif 21 57 23.6 +0.7
comp=Z,23nm,1.1s
GYA2 ALIBECK ARRAY 97.08 308 eP Pdif 21 57 23.5 +0.6
comp=Z,25nm,1.1s
GYA1 ALIBECK ARRAY 97.08 308 eP Pdif 21 57 23.6 +0.7
comp=Z,19nm,1.1s
GEYT Alibeck 97.08 308 P P 21 57 22.3 -0.5
comp=Z,12nm,1.0s,baz=0.0,slow=1.5,SNR=28
GEYT PP PP 22 01 21.4 +1.3
comp=Z,1.8nm,0.9s,baz=101,slow=13,SNR=5.6
GEYT LR LR 22 44 59.8
comp=Z,206nm,19.1s,baz=105,slow=38
GYA0 ALIBECK ARRAY 97.08 308 eP Pdif 21 57 23.6 +0.7
comp=Z,22nm,1.1s
GYA0B ALIBECK ARRAY 97.08 308 eP Pdif 21 57 23.7 +0.8
comp=Z,23nm,1.1s
GYB3 ALIBECK ARRAY 97.08 308 eP Pdif 21 57 23.6 +0.7
comp=Z,20nm,1.0s
GYB5 ALIBECK ARRAY 97.09 308 eP Pdif 21 57 23.6 +0.6
comp=Z,20nm,1.1s
GYB4 ALIBECK ARRAY 97.09 308 eP Pdif 21 57 23.8 +0.8
comp=Z,17nm,1.0s
MOOW Moose Ponds 97.14 47 eP Pdif 21 57 24.7 +1.4
comp=Z,2.2nm,0.9s
H17A Grant Village 97.25 46 P Pdif 21 57 26.6 +2.8
baz=271
H17A Grant Village 97.25 46 eP Pdif 21 57 27.1 +3.3
comp=Z,4.7nm,0.8s
YMS Mount Sheridan 97.29 46 eP Pdif 21 57 25.5 +1.4
PD31 Pinedale Array 98.03 48 eP Pdif 21 57 27.9 +0.6
PD31 epP pP 21 57 55.2 +0.4
PD31 ePP PP 22 01 29.3 +1.9
PDAR Pinedale Array 98.03 48 P P 21 57 26.8 -0.4
comp=Z,1.9nm,1.0s,baz=242,slow=3.2,SNR=8.1
PDAR pP pP 21 57 55.2 +0.4
comp=Z,0.5nm,0.7s,baz=218,slow=3.4,SNR=2.3
PDAR PP PP 22 01 29.3 +1.9
comp=Z,0.4nm,0.3s,baz=260,slow=8.2,SNR=4.1
PDAR PKKPbc PKKPbc 22 14 00.8 -1.0
comp=Z,0.4nm,0.5s,baz=95,slow=2.3,SNR=5.8
RLMT Red Lodge 98.17 45 P Pdif 21 57 29.2 +1.4
baz=272
RLMT Red Lodge 98.17 45 eP Pdif 21 57 30.7 +2.9
comp=Z,15nm,1.8s
SOHO SOHO 98.28 294 i P P 21 57 27.5 -1.0
SNR=8.1
PV05 Paradox Valley 98.47 52 eP Pdif 21 57 30.8 +1.5
PV05 epP pP 21 57 57.8 +0.8
BANOM Banah 98.53 295 i P Pdif 21 57 30.7 +1.1
SNR=6.2
UOSS Minazif 98.60 294 eP P 21 57 28.6 -1.3
comp=Z,12nm,1.3s
UOSS Minazif 98.60 294 P P 21 57 27.7 -2.2
UOSS Minazif 98.60 294 P P 21 57 28.2 -1.7
MSFE Esma-Masafi 98.65 295 i P P 21 57 29.4 -0.7
SNR=6.6
HATD Hatta, Dubai 98.66 294 P P 21 57 28.5 -1.6
HATD Hatta, Dubai 98.66 294 P P 21 57 28.6 -1.6
ASHO Ashiyiah 98.73 294 P P 21 57 28.9 -1.6
ASHO Ashiyiah 98.73 294 P P 21 57 29.7 -0.8
RES Resolute Bay 99.89 15 ePdif Pdif 21 57 35.0 +0.5
comp=Z,13nm,1.8s
RES Resolute Bay 99.89 15 eP Pdif 21 57 35.0 +0.5
RES pmax pmax
comp=Z,13nm,1.8s
SMCO Snowmass 100.10 51 ePdif Pdif 21 57 38.8 +2.1
SNAA Sanae 102.45 187 P Pdif 21 57 45.7 -0.4
comp=Z,2.6nm,0.9s,baz=162,slow=20,SNR=4.8
LTX Lajitas 103.25 61 ePP PP 22 02 06.1 -1.1
LTX ePKKPbc PKKPbc 22 13 45.8 -0.3
TXAR Lajitas Array 103.25 61 PP PP 22 02 06.1 -1.1
comp=Z,1.3nm,1.0s,baz=270,slow=4.6,SNR=6.2
TXAR PKKPbc PKKPbc 22 13 45.8 -0.3
comp=Z,2.1nm,1.0s,baz=124,slow=3.5,SNR=12
APA Apatity 105.32 340⇑iP Pdif 21 57 56.1 -2.7
APA pmax pmax
comp=Z,5.0nm,1.1s
APA MLR MLR
comp=Z,1μm,16.0s
KLMR Klimovskoe 105.49 332 ePdif Pdif 21 57 56.9 -2.8
KLMR AMP 21 58 00.3
comp=Z,12nm,1.1s
KLMR Klimovskoe 105.49 332 eP Pdif 21 57 56.8 -2.9
KLMR pmax pmax
comp=Z,12nm,1.1s
ARA0 ARCESS Array S 106.81 343 ePKiKP PKiKP 22 02 14.9 0.0
ARCES ARCESS Array B 106.81 343 PKiKP PKiKP 22 02 14.9 0.0
comp=Z,3.6nm,1.1s,baz=42,slow=2.0,SNR=4.8
KIV Kislovodsk 108.12 315 i P Pdif 21 58 04.3 -7.6
KIV e 22 02 40.8
KIV ePS PS 22 12 05.5 -3.0
KIV eSS SS 22 17 47.1 -1.3
KIV pmax pmax
comp=Z,5.0nm,1.0s
KIV MLR MLR
comp=Z,188nm,21.0s
SOC Sochi 110.30 315 i PKIKP PKiKP 22 02 14.1 -8.1
SOC e PP 22 02 59.4 +1.2
SOC eSS SS 22 18 30.1 +13
SOC MLR MLR
comp=Z,2μm,25.0s
FIA0 FINESS Array S 111.10 336 ePdif Pdif 21 58 24.4 -0.3
FIA0 ePKiKP PKiKP 22 02 24.6 +1.5
FINES FINESS Array B 111.10 336 Pdiff Pdif 21 58 24.4 -0.3
comp=Z,3.4nm,1.0s,baz=75,slow=6.5,SNR=5.7
FINES PKiKP PKiKP 22 02 24.6 +1.5
comp=Z,3.3nm,1.0s,baz=107,slow=4.7,SNR=3.9
FRB Frobisher Bay 113.46 19 PKiKP PKiKP 22 02 27.5 0.0
comp=Z,1.0nm,0.5s,baz=276,slow=3.1,SNR=9.5
AKASG Malin Array Be 114.72 325 Pdiff Pdif 21 58 39.4 -1.5
comp=Z,2.2nm,0.9s,baz=51,slow=4.5,SNR=6.3
AKASG PKP PKiKP 22 02 29.6 -0.8
comp=Z,1.8nm,0.5s,baz=61,slow=2.2,SNR=16
AKBB Malin Array Si 114.72 325 ePdif Pdif 21 58 39.4 -1.5
AKBB ePKiKP PKiKP 22 02 30.2 -0.1
KIEV Kiev 114.73 325⇑iPKIKP PKPdf 22 02 31.1 +0.7
BR101 Keskin Array S 115.71 312 ePKPdf PKPdf 22 02 32.0 -0.9
BR101 ePP PP 22 03 38.0 +1.1
BRTR Keskin Array B 115.71 312 PKP PKPdf 22 02 32.0 -0.8
comp=Z,4.0nm,1.1s,baz=112,slow=2.3,SNR=8.2
BRTR PP PP 22 03 38.0 +1.1
comp=Z,2.1nm,0.9s,baz=93,slow=5.5,SNR=4.9
BRTR Keskin Array B 115.71 312 PKIKP PKPdf 22 02 32.0 -0.8
BRTR 22 03 38.0
BRTR pmax pmax
comp=Z,4.0nm,1.1s
BRTR pmax pmax
comp=Z,2.0nm,0.9s
KMBO Kilima Mbogo 116.19 267 PKP PKPdf 22 02 34.3 -0.3
comp=Z,4.0nm,1.1s,baz=51,slow=1.8,SNR=7.9
KMBO Kilima Mbogo 116.19 267 i P PKPdf 22 02 34.9 +0.3
SNR=6.2
BR231 Keskin MP Arra 116.31 312 ePKPdf PKPdf 22 02 32.9 -1.1
BR231 ePKPdf PKiKP 22 02 34.8 +0.8
SORM Soroca 116.32 322⇓iP PKPdf 22 02 33.2 -0.3
SORM Soroca 116.32 322 ⇓PKIKP PKPdf 22 02 33.2 -0.3
NB2 NORSAR Subarra 116.89 341 PKPdf PKPdf 22 02 36.5 +2.2
comp=Z,3.4nm,1.0s,baz=44,slow=1.9
NB200 NORSAR Array S 116.89 341 ePKPdf PKPdf 22 02 35.0 +0.7
NOA NORSAR Array B 116.89 341 PKP PKPdf 22 02 35.0 +0.7
comp=Z,1.8nm,0.8s,baz=46,slow=2.0,SNR=3.4
CSS Mathiatis 117.22 307 ePKPdf PKPdf 22 02 35.0 -0.7
EFI East Falkland 117.87 158⇑iPKIKP PKPdf 22 02 37.4 +1.0
BUR08 Bucovina Ar. S 118.44 323 ePKPdf PKPdf 22 02 39.6 +1.8
BURAR Bucovina Array 118.44 323⇑iP PKPdf 22 02 37.4 -0.4
BURAR Bucovina Array 118.44 323 ⇑PKIKP PKPdf 22 02 37.4 -0.4
BUR04 Bucovina Ar. S 118.44 323 ePKPdf PKPdf 22 02 38.6 +0.8
ISP Isparta 118.60 311 i PKIKP PKPdf 22 02 38.5 +0.1
TKL Tuckaleechee C 118.84 52 PKP PKPdf 22 02 38.7 -0.1
comp=Z,2.0nm,0.8s,baz=152,slow=9.7,SNR=3.3
KWP Kalwaria Pacla 118.92 326 ePKPdf PKPdf 22 02 38.5 0.0
KWP Kalwaria Pacla 118.92 326 ePKIKP PKPdf 22 02 38.5 0.0
MLR Muntele Rosu 118.94 320⇓iP PKPdf 22 02 38.3 -0.6
MLR Muntele Rosu 118.94 320 ⇓PKIKP PKPdf 22 02 38.4 -0.5
DOPR Dopca 119.08 321⇓iP PKPdf 22 02 38.7 -0.3
VOIR 119.53 321⇓iP PKPdf 22 02 40.5 +0.6
VOIR 119.53 321 ⇓PKIKP PKPdf 22 02 40.6 +0.6
PLCA Paso Flores 119.53 143 PKP PKPdf 22 02 39.3 -0.8
comp=Z,0.9nm,0.6s,baz=255,slow=4.6,SNR=6.4
ARR Arges 119.82 321⇓iP PKPdf 22 02 40.6 +0.1
STHS Stebnicka Huta 119.85 326 ePKP PKPdf 22 02 40.3 0.0
STHS Stebnicka Huta 119.85 326 ePKIKP PKPdf 22 02 40.3 0.0
HUMR Humele 119.97 320⇑iP PKPdf 22 02 40.1 -0.6
SCHQ Schefferville 120.14 26 PKKPbc PKKPbc 22 12 47.7 -3.3
comp=Z,6.4nm,1.0s,baz=42,slow=1.3,SNR=6.2
DRGR 120.34 323⇑iP PKPdf 22 02 41.4 0.0
DRGR 120.34 323 ⇑PKIKP PKPdf 22 02 41.4 0.0
NIE Niedzica 120.37 327 ePKP PKPdf 22 02 42.2 +0.9
NIE Niedzica 120.37 327 ePKIKP PKPdf 22 02 42.2 +0.9
BOSA Boshof 120.48 233 PKP PKPdf 22 02 41.9 -0.4
comp=Z,4.8nm,0.8s,baz=85,slow=1.8,SNR=11
LANS Liptovska Anna 120.97 327 ePKP PKPdf 22 02 43.0 +0.5
LANS Liptovska Anna 120.97 327 ePKIKP PKPdf 22 02 43.1 +0.5
OKC Ostrava-Krasne 121.30 328 ePKPdf PKPdf 22 02 43.8 +0.7
OKC Ostrava-Krasne 121.30 328 ePKIKP PKPdf 22 02 43.8 +0.7
PSZ Piszkesteto 121.40 325⇓iP PKPdf 22 02 43.8 +0.4
PSZ Piszkesteto 121.40 325 ePKPdf PKPdf 22 02 43.5 0.0
PSZ Piszkesteto 121.40 325 ⇓PKIKP PKPdf 22 02 43.8 +0.4
BZS Buzias 121.58 322⇓iP PKPdf 22 02 43.7 0.0
BZS Buzias 121.58 322 ⇓PKIKP PKPdf 22 02 43.7 0.0
MORC Moravsky Berou 121.65 328⇑iP PKPdf 22 02 44.4 +0.6
MORC Moravsky Berou 121.65 328 ePKPdf PKPdf 22 02 44.1 +0.3
MORC Moravsky Berou 121.65 328 ⇑PKIKP PKPdf 22 02 44.4 +0.6
VYHS Vyhne 121.68 326 ePKP PKPdf 22 02 43.4 -0.5
VYHS Vyhne 121.68 326 ePKIKP PKPdf 22 02 43.4 -0.5
JTS JuntasAbangare 121.68 81 PKP PKPdf 22 02 45.3 +0.4
comp=Z,2.7nm,0.5s,baz=191,slow=7.8,SNR=4.5
KRLC Kraliky 121.87 329 ePKPdf PKPdf 22 02 46.2 +2.0
KRLC Kraliky 121.87 329 ePKIKP PKPdf 22 02 46.2 +2.0
DPC Dobruska-Polom 121.94 329 ePKPdf PKPdf 22 02 44.5 +0.1
DPC esPKP 22 03 29.0
DPC Dobruska-Polom 121.94 329 ePKIKP PKPdf 22 02 44.5 +0.1
DPC e 22 03 29.0
VTS Vitosha 121.99 318⇑iP PKPdf 22 02 44.5 -0.3
VTS Vitosha 121.99 318 ePKPdf PKPdf 22 02 44.5 -0.3
VTS Vitosha 121.99 318 ePKIKP PKPdf 22 02 44.5 -0.3
UPC Upice 122.00 329 AMS AMS 22 54 50.0
VRAC Vranov 122.42 328⇑iP PKPdf 22 02 46.0 +0.7
VRAC Vranov 122.42 328 ⇑PKIKP PKPdf 22 02 46.0 +0.7
LSZ Lusaka 122.52 249 ePKPdf PKPdf 22 02 46.9 +0.4
LSZ Lusaka 122.52 249 ePKIKP PKPdf 22 02 46.9 +0.4
MODS Modra-Piesok 122.61 327 ePKP PKPdf 22 02 46.2 +0.5
MODS Modra-Piesok 122.61 327 ePKIKP PKPdf 22 02 46.2 +0.5
PVCC Panska Ves 122.71 330 ePKPdf PKPdf 22 02 46.5 +0.7
PVCC Panska Ves 122.71 330 ePKIKP PKPdf 22 02 46.5 +0.7
MBAR Mbarara 122.72 266 ePKPdf PKPdf 22 02 47.1 0.0
MBAR Mbarara 122.72 266 ePKIKP PKPdf 22 02 47.1 0.0
BRG Berggiesshubel 122.80 331 ePKP PKPdf 22 02 45.9 0.0
comp=Z,4.9nm,1.0s
BRG Berggiesshubel 122.80 331 ePKIKP PKPdf 22 02 45.9 0.0
BRG pmax pmax
comp=Z,25nm,1.0s
CLL Collm 122.97 332 ePKPdf PKPdf 22 02 46.0 -0.2
comp=Z,10.0nm,0.7s
CLL epPKPdf pPKPdf 22 03 18.0 +3.1
CLL ePP PP 22 04 25.0 -0.8
CLL ePKSdf PKSdf 22 06 18.0 -4.7
CLL ePSKS 22 14 23.0
CLL ePPS PPS 22 15 48.0
CLL e 22 16 33.0
CLL e 22 19 57.0
CLL eSS SS 22 20 42.0 -19
CLL esSS 22 22 06.0
CLL eSSS SSS 22 25 54.0
CLL LmV 22 56 00.0
comp=Z,400nm,21.5s
CLL Collm 122.97 332 ePKPdf PKPdf 22 02 46.3 +0.1
CLL Collm 122.97 332 ePKIKP PKPdf 22 02 46.0 -0.2
CLL pmax pmax
comp=Z,10.0nm,0.7s
GOPC GO Pecny, Ondr 122.99 330 AMS AMS 22 55 30.0
PRU Pruhonice 123.07 330 ePKPdf PKPdf 22 02 46.7 +0.2
PRU AMS AMS 22 55 30.0
comp=Z,400nm,17.2s
PRU Pruhonice 123.07 330 ePKIKP PKPdf 22 02 46.7 +0.2
PRU MLR MLR
comp=Z,400nm,17.2s
CONA Conrad Observa 123.64 327 ePKiKP PKPdf 22 02 47.6 -0.2
comp=Z,7.2nm,1.3s
IDI Anoyia 123.71 310 PKP PKPdf 22 02 48.8 +0.5
comp=Z,19nm,1.0s,baz=355,slow=11,SNR=5.7
IDI Anoyia 123.71 310⇑iP PKPdf 22 02 46.7 -1.6
IDI Anoyia 123.71 310 ePKPdf PKPdf 22 02 49.0 +0.8
NKC Novy Kostel 123.94 331 ePKPdf PKPdf 22 02 49.0 +0.8
NKC esPKP 22 03 36.1
NKC AMS AMS 22 52 50.0
NKC Novy Kostel 123.94 331 ePKIKP PKPdf 22 02 49.0 +0.8
KHC Kasperske Hory 124.09 329 ePKPdf PKPdf 22 02 48.4 -0.1
KHC epPKP pPKPdf 22 03 20.8 +3.5
KHC esPKP 22 03 34.2
KHC AMS AMS 22 56 10.0
comp=Z,500nm,22.5s
KHC Kasperske Hory 124.09 329 ePKPdf PKPdf 22 02 48.0 -0.5
KHC Kasperske Hory 124.09 329 ePKIKP PKPdf 22 02 48.4 -0.1
KHC e 22 03 20.8
KHC MLR MLR
comp=Z,500nm,22.5s
GEC2 GERESS Array S 124.21 329 ePKPdf PKPdf 22 02 49.0 +0.1
GEC2 GERESS Array S 124.21 329 ePKIKP PKPdf 22 02 49.0 +0.2
GERES GERESS Array B 124.21 329 PKP PKPdf 22 02 48.9 +0.1
comp=Z,4.6nm,0.7s,baz=52,slow=1.4,SNR=30
GEA0 GERESS Array S 124.22 329 ePKPdf PKPdf 22 02 48.5 -0.4
ARSA Arzberg 124.22 327 i PKPdf PKPdf 22 02 48.4 -0.4
comp=Z,7.3nm,1.1s
MOA Molln 124.54 328 ePKiKP PKiKP 22 02 49.7 0.0
comp=Z,3.9nm,0.8s
PDG Podgorica 124.64 320⇓iP PKPdf 22 02 48.7 -1.0
TIR Tirane 124.77 319⇑iP PKPdf 22 02 49.7 -0.3
TIR Tirane 124.77 319 ⇑PKIKP PKPdf 22 02 49.7 -0.3
SOKA Soboth 124.83 326 ePKPdf PKPdf 22 02 49.4 -0.7
comp=Z,5.3nm,0.8s
LEGS Legarje 125.10 325 i PKPdf PKPdf 22 02 50.2 -0.3
OBKA Obir 125.20 326 ePKPdf PKPdf 22 02 49.8 -1.0
comp=Z,6.0nm,0.9s
BOJS Bojanci 125.40 325 ePKPdf PKPdf 22 02 51.2 +0.1
KBA Koelnbreinsper 125.51 328 ePKPdf PKPdf 22 02 50.5 -1.0
comp=Z,8.4nm,1.1s
MYKA Terra Mystica 125.62 327 ePKiKP PKPdf 22 02 51.4 -0.2
comp=Z,4.8nm,0.8s
LCO Las Campanas 125.96 131 ePKPdf PKPdf 22 02 52.4 -0.6
EKA Eskdalemuir Ar 125.96 344 PKP PKPdf 22 02 52.1 +0.3
comp=Z,1.6nm,0.6s,baz=22,slow=3.1,SNR=7.2
ABTA Abfaltersbach 126.16 328 ePKPdf PKPdf 22 02 51.5 -1.1
comp=Z,7.3nm,1.0s
WATA Walderalm 126.27 329 ePKiKP PKiKP 22 02 53.3 0.0
comp=Z,13nm,1.1s
WTTA Wattenberg 126.29 329 ePKiKP PKiKP 22 02 53.6 +0.2
comp=Z,12nm,1.2s
MOTA Moosalm 126.51 329 ePKiKP PKPdf 22 02 53.2 -0.2
comp=Z,19nm,0.9s,SNR=14
RETA Reutte 126.59 329 ePKiKP PKiKP 22 02 53.9 0.0
comp=Z,6.6nm,1.1s
MEM Membach 126.61 335 ⇓PKP PKPdf 22 02 53.7 +0.5
FETA Feichten 126.92 329 ePKiKP PKPdf 22 02 54.2 0.0
comp=Z,17nm,0.9s,SNR=11
BCLA Clavier 127.05 335 ⇓PKP PKPdf 22 02 54.1 0.0
DAVA Damuels 127.17 330 ePKiKP PKiKP 22 02 55.2 +0.1
comp=Z,11nm,1.1s
BFO Black Forest 127.21 332 i PKIKP PKPdf 22 02 56.5 +2.0
WLF Walferdange 127.25 334 ⇑PKP PKPdf 22 02 55.5 +1.1
WLF Walferdange 127.25 334 ePKPdf PKPdf 22 02 55.6 +1.1
WLF Walferdange 127.25 334 ePKIKP PKPdf 22 02 55.6 +1.1
SNF Seneffe 127.40 336 ⇓PKP PKPdf 22 02 55.3 +0.5
FUORN Ofenpass-Fuorn 127.42 329 ePKPdf PKPdf 22 02 55.7 +0.4
ECH Echery 127.85 332 ePKPdf PKPdf 22 02 56.6 +0.9
ECH Echery 127.85 332 ePKIKP PKPdf 22 02 56.6 +0.9
TIP Timpagrande 127.91 318⇓iP PKPdf 22 02 54.9 -1.3
TUE Stuetta 127.99 329 ePKPdf PKPdf 22 02 56.5 +0.2
BNI Bardonecchia 130.32 330 ePKPdf PKPdf 22 03 01.3 +0.6
BNI Bardonecchia 130.32 330 ePKIKP PKPdf 22 03 01.3 +0.6
TSUM Tsumeb 130.76 240 ePKPdf PKPdf 22 03 03.2 +1.0
HELC Santa Helena 131.04 86 ePKPdf PKPdf 22 03 03.5 +0.3
PB11 IPOC Station P 131.10 121 ePKPdf PKPdf 22 03 03.1 +0.2
MNMC Minye Minye 131.42 120 ePKPdf PKPdf 22 03 03.5 -0.1
ROSC El Rosal 132.22 88 SKP SKPab 22 06 27.1 +3.3
comp=Z,12nm,0.7s,baz=76,slow=10,SNR=9.4
ROSC El Rosal 132.22 88 eSKPbc SKPab 22 06 28.1 +4.4
LPAZ La Paz 133.84 118 PKP PKPdf 22 03 09.0 +0.3
comp=Z,1.1nm,0.5s,baz=29,slow=4.6,SNR=5.4
LPAZ SKP 22 06 33.4
comp=Z,6.4nm,1.0s,baz=308,slow=0.7,SNR=4.0
LPAZ La Paz 133.84 118 ePKPdf PKPdf 22 03 09.0 +0.3
LPAZ eSKPbc SKPab 22 06 34.0 +3.0
KEST Kesra 134.73 318 PKP PKPdf 22 03 10.8 +1.6
comp=Z,9.3nm,1.0s,baz=307,slow=4.8,SNR=8.4
KEST SKP 22 06 31.4
comp=Z,14nm,1.2s,baz=114,slow=2.5,SNR=5.8
KEST Kesra 134.73 318 ePKPdf PKPdf 22 03 10.9 +1.7
KEST eSKPbc SKPab 22 06 32.0 -1.6
SDV Santo Domingo 135.84 82 PKP PKPdf 22 03 12.0 0.0
comp=Z,8.4nm,0.8s,baz=268,slow=3.5,SNR=12
SDV SKP 22 06 38.6
comp=Z,13nm,0.9s,baz=304,slow=2.1,SNR=7.0
SDV Santo Domingo 135.84 82 ePKPdf PKPdf 22 03 11.8 -0.2
SDV eSKPbc SKPab 22 06 38.3 -1.1
CPUP Villa Florida 137.14 137 PKP PKPdf 22 03 13.7 -0.1
comp=Z,3.7nm,0.9s,baz=260,slow=4.1,SNR=8.2
CPUP Villa Florida 137.14 137 ePKPdf PKPdf 22 03 14.8 +0.9
PGAV Gavieira, Arco 139.33 339 eLR LR 22 50 57.3
comp=Z,281nm,22.0s
ES19 SONSECA Array 139.48 333 ePKPpre PKPpre 22 03 10.5
ESDC Sonseca Array 139.53 333 PKhKP PKPpre 22 03 10.0
comp=Z,2.3nm,0.9s,baz=10,slow=3.2,SNR=9.6
ESDC PKP PKiKP 22 03 19.9 -0.4
comp=Z,1.0nm,0.7s,baz=23,slow=2.4,SNR=4.7
ESDC PP PP 22 06 10.8 -1.8
comp=Z,1.1nm,0.8s,baz=26,slow=6.4,SNR=4.8
ESDC SKPbc SKPbc 22 06 42.2 -1.9
comp=Z,1.3nm,0.9s,baz=37,slow=4.4,SNR=4.7
MVO Moncorvo 139.56 337 eLR LR 22 52 18.5
comp=Z,284nm,20.0s
PVIS Viseu 140.28 338 ePKPdf PKPdf 22 03 19.8 +0.5
MTE Manteigas 140.42 337 eLR LR 22 53 43.4
comp=Z,408nm,20.0s
PCBR Castelo Branco 140.88 337 ePKPdf PKPdf 22 03 19.4 -0.9
PMRV Marv??o 141.20 336 ePKPdf PKPdf 22 03 14.6 -6.3
PMRV Marv??o 141.20 336 eLR LR 22 54 46.9
comp=Z,314nm,18.0s
PTOM Tomar 141.43 338 ePKPdf PKPdf 22 03 17.1 -4.2
PESTR Estremoz 141.75 336 ePKPdf PKPdf 22 03 22.0 +0.1
ALMR Almeirim 141.90 337 ePKPdf PKPdf 22 03 21.2 -0.9
PBAR Barrancos 142.11 335 ePKPdf PKPdf 22 03 21.8 -0.7
LIS Lisbon 142.50 338 ePKPdf PKPdf 22 03 22.7 -0.5
LIS AMS AMS 22 54 59.1
comp=E,697nm,20.6s
LIS Lisbon 142.50 338 ePKIKP PKPdf 22 03 22.7 -0.5
PBEJ Beja 142.59 336 ePKPdf PKPdf 22 03 22.3 -1.1
PNCL Nicolau / Gran 142.78 336 ePKPdf PKPdf 22 03 21.3 -2.4
MESJ Messejana 142.89 336 ePKPdf PKPdf 22 03 23.3 -0.6
MESJ AMS AMS 23 08 32.7
comp=Z,430nm,16.7s
MESJ Messejana 142.89 336 ePKIKP PKPdf 22 03 23.3 -0.6
PCVE Castro Verde 142.99 335 ePKPdf PKPdf 22 03 21.0 -3.1
PVAQ Vaqueiros 143.05 335 ePKPdf PKPbc 22 03 22.6 +1.3
PVAQ Vaqueiros 143.05 335 eLR LR 22 55 45.1
comp=Z,546nm,18.0s
PBDV Barranco-do-Ve 143.28 335 ePKPdf PKPdf 22 03 23.6 -1.1
PTEO Sao Teotonio 143.35 336 ePKPdf PKPdf 22 03 23.7 -1.0
MORF Marmelete 143.52 336 ePKPdf PKPdf 22 03 24.4 -0.8
MORF AMS AMS 23 09 32.9
comp=Z,534nm,16.6s
MORF Marmelete 143.52 336 ePKIKP PKPdf 22 03 24.3 -0.8
PFVI Vila Bisbo 143.74 336 ePKPdf PKPdf 22 03 24.6 -0.8
TAM Tamanrasset 144.20 304 ePKPdf PKPbc 22 03 25.3 +0.1
TAM Tamanrasset 144.20 304 ePKIKP PKPbc 22 03 25.3 +0.1
H07S1 FLORES T-PHASE 144.99 7 ePKP PKPbc 22 03 19.6 -7.4
SPB Sao Paulo 145.35 145 ePKPdf PKPbc 22 03 28.2 -0.4
RTC Rabat Centre 145.49 331 ePKPdf PKPab 22 03 29.4 +0.4
PGRA Graciosa 145.58 2 ePKP PKPdf 22 03 20.0 -8.6
PSET Sete Cidades 146.81 359 ePKP PKPab 22 03 36.9 +2.9
PCALD Caldeiras da R 146.83 359 ePKP PKPab 22 03 34.9 +0.8
BART Pico Bartolome 146.84 358 ePKP PKPdf 22 03 21.2 -10
CMLA Cha da Macela 146.87 359 ePKP PKPdf 22 03 22.8 -8.0
PSMN Pico do Norte, 147.61 358 ePKP PKPbc 22 03 33.7 -1.1
PSMA Santa Maria 147.62 358 ePKP PKPdf 22 03 33.1 +1.0
PMOZ Porto Moniz, M 150.53 344 eLR LR 22 59 56.4
comp=Z,364nm,22.0s
TOA0 Torodi Ar. Sit 150.99 289 ePKPdf PKPdf 22 03 37.4 -0.7
TOA0 ePKPdf PKPbc 22 03 38.0 -5.9
TORD Torodi Ar. Bea 150.99 289 PKP PKPdf 22 03 37.6 -0.5
comp=Z,4.7nm,1.1s,baz=90,slow=0.6,SNR=14
TORD PKPbc PKPbc 22 03 43.3 -0.5
comp=Z,118nm,1.0s,baz=64,slow=2.5,SNR=125
TORD pPKP pPKPdf 22 04 07.4 +0.6
comp=Z,16nm,0.9s,baz=63,slow=2.4,SNR=1.6
TOA1 Torodi Ar. Sit 150.99 289 ePKPdf PKPdf 22 03 37.6 -0.5
TOA1 ePKPbc PKPbc 22 03 43.3 -0.5
KOWA Kowa 155.84 296 ePKPdif PKPdf 22 03 54.3 +9.4
KIC Kosan Boka 158.39 276 ePKIKP PKPdf 22 04 00.2 +12
comp=Z,95nm,1.0s
DBIC Dimbokro 158.48 277 PKPab PKPab 22 04 23.6 0.0
comp=Z,43nm,1.1s,baz=71,slow=5.0,SNR=13
TIC Toumodi 158.64 277 ePKIKP PKPdf 22 04 00.5 +12
LIC Lamto 158.68 276 ePKIKP PKPdf 22 04 00.6 +12
comp=Z,78nm,0.9s

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*ISCJB **01** 21:52:45.7±0.7, 4°.43S±0°.09×153°.7E±0°.1, h100km, mb3.8/14, Error ellipse: s-maj=19.9km s-min=9.4km az=29.8*
*IDC **01** 21:52:48.6±5.1, 4°.45S×153°.63E, h112km±42km, mb3.6/14, mb1 3.8/15, mb1mx3.6/53, mbtmp4.0/15, Error ellipse: s-maj=36.1km s-min=14.3km az=84.0*
ISC 01 21:52:47.2±0.8**, 4°.4S**±0°.1×**153°.7E**±0°.2**, h100**km**, n16, σ0s73**/18**, mb3.9**/14**, New Ireland region**

Code Station Name Δ° AZ° Phase ID (Op / ISC) Time (h m s) Res ISC
PMG Port Moresby 8.17 232 P Pn 21 54 44.2 +1.2
7.1nm,0.3s,baz=57,slow=4.2,SNR=6.4
PMG S Sn 21 56 12.9 -0.8
3.4nm,0.3s,baz=126,slow=19,SNR=9.3
WRA Warramunga Arr 24.37 229 P P 21 57 56.0 -0.1
8.3nm,0.5s,baz=54,slow=9.9,SNR=26
WRA PcP PcP 22 01 33.6 +0.3
0.4nm,0.7s,baz=51,slow=2.3,SNR=3.3
ASAR Alice Springs 27.04 223 P P 21 58 19.4 -0.8
0.4nm,0.5s,baz=56,slow=9.0,SNR=4.4
STKA Stephens Creek 29.58 201 P P 21 58 42.4 -0.3
3.0nm,0.7s,baz=20,slow=13,SNR=6.3
JOW Kunigami 39.64 323 P P 22 00 09.8 +0.4
4.6nm,0.4s,baz=106,slow=18,SNR=3.5
JNU Nakatsue 43.16 332 P P 22 00 38.2 +0.1
1.9nm,0.5s,baz=144,slow=9.4,SNR=2.9
CMAR Chiang Mai Arr 58.55 295 P P 22 02 33.6 -0.2
0.7nm,0.6s,baz=134,slow=5.1,SNR=5.1
SONM Songino Array 66.50 327 P P 22 03 26.9 +0.5
0.3nm,0.5s,baz=140,slow=5.0,SNR=2.7
VNDA Vanda 73.17 178 P P 22 04 06.8 +0.3
1.4nm,0.7s,baz=329,slow=7.5,SNR=9.9
MKAR Makanchi Array 80.65 319 P P 22 04 49.5 +0.4
0.3nm,0.5s,baz=88,slow=7.5,SNR=4.6
ZALV Zalesovo Beam 81.35 326 P P 22 04 52.6 0.0
0.4nm,0.5s,baz=121,slow=6.9,SNR=2.6
ILAR Eielson Array 81.48 22 P P 22 04 53.0 -0.1
0.5nm,0.7s,baz=260,slow=4.4,SNR=3.3
KURBB Kurchatov Arra 84.07 322 P P 22 05 04.8 -2.0
0.5nm,0.7s,baz=96,slow=4.6,SNR=4.0
QSPA South Pole Qui 85.53 180 P P 22 05 14.2 +0.2
0.8nm,0.4s,baz=139,slow=5.2,SNR=4.2
BVAR Borovoye Array 89.49 323 P P 22 05 32.6 -0.5
0.8nm,0.7s,baz=62,slow=3.4,SNR=3.8
TORD Torodi Ar. Bea 151.05 289 PKPbc PKPbc 22 12 29.3 -0.3
2.1nm,0.8s,baz=78,slow=2.2,SNR=13

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*NIED **01** 21:55:00, 39°.80N×142°.40E, h8km, Mw3.6 Best double couple: M0 2.97000×10^14 NP1: φs 195.00000°, δ68.00000°, λ161.00000°. NP2: φs 292.00000°, δ72.00000°, λ23.00000°.*
*IDC **01** 21:55:26.2±0.8, 39°.78N×142°.39E, h0km, mb3.8/14, mb1 3.9/19, mb1mx3.7/69, mbtmp3.8/19, ML3.4/4, Error ellipse: s-maj=19.9km s-min=15.1km az=102.0*
*ISCJB **01** 21:55:27.4±1.0, 39°.79N±0°.03×142°.37E±0°.07, h19km±6km, mb4.0/20, Error ellipse: s-maj=9.1km s-min=4.7km az=10.9*
*JMA **01** 21:55:28.4, 39°.78N×142°.30E, h21km±1km, M3.9*
JMA Felt I J1.
*NEIC **01** 21:55:32.6±0.7, 39°.81N×142°.36E, h47km±6km, mb4.6/8,*

Error ellipse: s-maj=8.2km s-min=5.2km az=119.0
NEIC Recorded [1 JMA] in Iwate.
ISC 01 21:55:26.9±1.7**, 39°.77N**±0°.03×**142°.36E**±0°.06**, h5**km±10km**, n58,** σ1s.43/66**, mb4.1**/20**, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JTH	**Tanohata**	**0.42**	**294**	P	**Pb**	**21 55 36.3**	**-0.5**
JTH				*e*S	**Sb**	**21 55 41.7**	**-1.7**
MIYJ	**Miyakonagasawa**	**0.46**	**245**	P	**Pb**	**21 55 37.1**	**-0.4**
MIYJ				*e*S	**Sg**	**21 55 43.0**	**+1.3**
JKZ	**Kuzumaki**	**0.82**	**285**	P	**Pg**	**21 55 43.0**	**+0.4**
JKZ				*e*S	**Sg**	**21 55 52.9**	**-0.4**
OFUJ	**Ofunato**	**0.87**	**218**	P	**Pb**	**21 55 44.0**	**-0.5**
OFUJ				*e*S	**Sg**	**21 55 55.0**	**+0.1**
JOM	**Ohasama**	**0.88**	**250**	P	**Pg**	**21 55 44.0**	**+0.3**
JOM				*e*S	**Sg**	**21 55 55.0**	**-0.1**
JANG	**Nango**	**0.89**	**313**	P	**Pg**	**21 55 43.5**	**-0.3**
JANG				*e*S	**Sg**	**21 55 54.1**	**-1.2**
JMK	**Ichinoseki**	**1.21**	**228**	P	**Pg**	**21 55 49.5**	**-0.5**
JMK				*e*S	**Sg**	**21 56 04.6**	**-1.0**
ERM	**Erimo**	**2.32**	**15**	*e*Pn	**Pn**	**21 56 06.7**	**+0.9**
ERM				*e*Sn	**Sb**	**21 56 38.7**	**+0.5**
ASAJ	**Asahikawa**	**4.35**	**2**	Pn	**Pn**	**21 56 34.3**	**+0.7**
	0.8nm,0.3s,baz=219,slow=7.4,SNR=5.3						
ASAJ				Sn	**Sn**	**21 57 24.7**	**+0.1**
	2.0nm,0.3s,baz=242,slow=17,SNR=2.3						
ASAJ	**Asahikawa**	**4.35**	**2**	*e*Pn	**Pn**	**21 56 35.1**	**+1.5**
ASAJ				*e*Sn	**Sn**	**21 57 24.7**	**+0.1**
MJB9	**Matsu-Tunnel**	**4.59**	**227**	*e*Pn	**Pn**	**21 56 40.8**	**+3.8**
MAJO	**Matsushiro**	**4.59**	**227**	*e*Pn	**Pn**	**21 56 40.6**	**+3.6**
MAJO				*e*Sn	**Sb**	**21 57 42.1**	**-1.6**
MAT	**Matsushiro**	**4.59**	**227**	P	**Pn**	**21 56 39.7**	**+2.7**
MAT				*e*S	**Sn**	**21 57 33.6**	**+2.8**
MJAR	**Matsushiro Arr**	**4.59**	**227**	Pn	**Pn**	**21 56 39.2**	**+2.2**
	1.3nm,0.3s,baz=32,slow=14,SNR=19						
MJAR				Sn	**Sb**	**21 57 42.1**	**-1.5**
	baz=3.7,slow=8.1,SNR=2.7						
INU	**Inuyama**	**6.12**	**226**	*e*Pn	**Pn**	**21 57 01.9**	**+3.8**
JHJ	**Hachijo jima 2**	**6.96**	**198**	Pn	**Pn**	**21 57 09.5**	**+0.1**
	8.5nm,0.3s,baz=73,slow=14,SNR=3.8						
JHJ				Sn	**Sn**	**21 58 25.5**	**-3.5**
	baz=251,slow=13,SNR=2.3						
USRK	**Ussuriysk Ar.**	**8.90**	**303**	Pn	**Pn**	**21 57 34.9**	**-1.2**
	0.1nm,0.3s,baz=141,slow=44,SNR=2.8						
KSRS	**Korea Array**	**11.53**	**263**	Pn	**Pn**	**21 58 14.9**	**+2.8**
	0.4nm,0.3s,baz=76,slow=14,SNR=3.9						
KS15	**Wonju Array Si**	**11.56**	**263**	*e*Pn	**Pn**	**21 58 14.9**	**+2.3**
KSAR	**Wonju Array Be**	**11.56**	**263**	Pn	**Pn**	**21 58 14.9**	**+2.3**
SONA0	**Songino Array**	**26.98**	**299**	*e*P	**P**	**22 01 10.4**	**+0.8**
SONM	**Songino Array**	**26.98**	**299**	P	**P**	**22 01 10.4**	**+0.8**
	0.3nm,0.5s,baz=102,slow=8.6,SNR=2.2						
H11N2	**WAKE ISLAND Hy**	**29.04**	**126**	T	T	22 32 02.9	
	baz=319,slow=75,SNR=1289						
H11N1	**WAKE ISLAND Hy**	**29.05**	**126**	T	T	22 31 59.0	
	baz=319,slow=75,SNR=700						
H11N3	**WAKE ISLAND Hy**	**29.06**	**126**	T	T	22 32 00.2	
	baz=319,slow=75,SNR=552						
H11S1	**WAKE ISLAND Hy**	**29.84**	**128**	T	T	22 33 01.4	
	baz=320,slow=76,SNR=133						
H11S3	**WAKE ISLAND Hy**	**29.85**	**128**	T	T	22 33 00.5	
	baz=320,slow=76,SNR=99						
H11S2	**WAKE ISLAND Hy**	**29.86**	**128**	T	T	22 33 06.1	
	baz=320,slow=76,SNR=88						
ZAA1	**Zalesovo Array**	**40.67**	**310**	*e*P	**P**	**22 03 08.0**	**+0.1**
ZALV	**Zalesovo Beam**	**40.67**	**310**	P	**P**	**22 03 08.0**	**+0.1**
	1.3nm,0.5s,baz=91,slow=10,SNR=5.9						
MK01	**Makanchi Array**	**43.35**	**300**	*e*P	**P**	**22 03 28.5**	**-1.4**
MK31	**Makanchi Array**	**43.35**	**300**	*e*P	**P**	**22 03 28.8**	**-1.1**
MK32	**Makanchi Array**	**43.35**	**300**	*e*P	**P**	**22 03 29.7**	**-0.3**
MKAR	**Makanchi Array**	**43.35**	**300**	P	**P**	**22 03 29.7**	**-0.3**
	0.5nm,0.5s,baz=85,slow=8.9,SNR=12						
MKAR	**Makanchi Array**	**43.35**	**300**	*e*P	**P**	**22 03 29.6**	**-0.4**
	11nm,1.1s						
MAKZ	**Makanchi**	**43.56**	**300**	*e*P	**P**	**22 03 30.8**	**-0.8**
	2.3nm,1.1s						
IM3	**Indian Mountai**	**43.93**	**32**	*e*P	**P**	**22 03 35.1**	**+0.8**
KDAK	**Kodiak Island**	**44.59**	**44**	*e*P	**P**	**22 03 39.6**	**0.0**
	104nm,1.8s						
KURK	**Kurchatov**	**44.88**	**306**	*e*P	**P**	**22 03 41.2**	**-0.9**
	11nm,1.8s						
KURBB	**Kurchatov Arra**	**44.95**	**306**	P	**P**	**22 03 42.7**	**+0.1**
	1.6nm,0.4s,baz=80,slow=8.9,SNR=5.4						
ILAR	**Eielson Array**	**46.80**	**34**	P	**P**	**22 03 56.3**	**-0.7**
	0.3nm,0.8s,baz=246,slow=6.8,SNR=3.5						
ILB	**Eielson Array**	**46.80**	**34**	*e*P	**P**	**22 03 56.3**	**-0.7**
BVAR	**Borovoye Array**	**49.32**	**311**	P	**P**	**22 04 16.7**	**0.0**
	0.4nm,0.4s,baz=69,slow=8.0,SNR=2.8						
INK	**Inuvik**	**51.62**	**28**	P	**P**	**22 04 35.2**	**+1.3**
	0.7nm,0.9s,baz=342,slow=3.4,SNR=2.9						
INK	**Inuvik**	**51.62**	**28**	*e*P	**P**	**22 04 35.2**	**+1.3**
	16nm,1.9s						
WB2	**Warramunga Arr**	**59.87**	**189**	*e*P	**P**	**22 05 31.7**	**-1.9**
WR1	**Warramunga Arr**	**59.87**	**189**	*e*P	**P**	**22 05 33.2**	**-0.4**
	22nm,1.7s						
WRA	**Warramunga Arr**	**59.87**	**189**	P	**P**	**22 05 33.2**	**-0.4**
	0.9nm,0.6s,baz=6.7,slow=7.0,SNR=15						
YKA	**Yellowknife Ar**	**61.08**	**31**	P	**P**	**22 05 41.7**	**+0.3**
	0.1nm,0.5s,baz=302,slow=6.5,SNR=3.2						
YKB5	**Yellowknife Ar**	**61.08**	**31**	*e*P	**P**	**22 05 41.7**	**+0.3**
AS31	**Alice Springs**	**63.60**	**189**	*e*P	**P**	**22 05 58.8**	**0.0**
	1.2nm,1.0s						
ASAR	**Alice Springs**	**63.60**	**189**	P	**P**	**22 05 58.7**	**0.0**
	0.4nm,0.5s,baz=197,slow=29,SNR=4.5						
FIA0	**FINESS Array S**	**66.75**	**332**	*e*P	**P**	**22 06 18.6**	**-0.1**
FINES	**FINESS Array B**	**66.75**	**332**	P	**P**	**22 06 18.6**	**-0.1**
	3.2nm,1.0s,baz=18,slow=9.4,SNR=3.4						
KBZ	**Khabaz**	**69.69**	**310**	P	**P**	**22 06 37.6**	**+0.1**
	1.1nm,0.7s,baz=28,slow=19,SNR=2.5						
HFS	**Hagfors**	**71.90**	**336**	P	**P**	**22 06 50.6**	**-0.1**
	3.8nm,0.9s,baz=5.7,slow=4.3,SNR=3.6						
AKASG	**Malin Array Be**	**72.59**	**322**	P	**P**	**22 06 55.2**	**+0.2**
	0.4nm,0.3s,baz=45,slow=6.7,SNR=4.8						
AKBB	**Malin Array Si**	**72.59**	**322**	*e*P	**P**	**22 06 55.2**	**+0.2**
	28nm,1.8s						

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*CSEM **01** 22:07:34.5±0.3, 38°.52N×43°.32E, h24km±2km, ML2.4, Error ellipse: s-maj=9.9km s-min=4.8km az=141.0*
*ISK **01** 22:07:34.3, 38°.58N×43°.24E, h18km, ML2.4/3*
*ISCJB **01** 22:07:35.6±1.3, 38°.54N±0°.06×43°.29E±0°.06, h22km±9km, Error ellipse: s-maj=12.0km s-min=5.6km az=145.8*
*DDA **01** 22:07:36.7, 38°.59N×43°.25E, h7km, Ml2.6*
ISC 01 22:07:35.8±0.9**, 38°.58N**±0°.03×**43°.25E**±0°.03**, h16**km±7km**, n16,** σ0s.88/29**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VANB	**Van**	**0.11**	**85**	PG	**Pb**	**22 07 39.0**	**-0.7**
VANB				SG	**Sg**	**22 07 42.1**	**+0.3**
VANB	**Van**	**0.11**	**85**	*e*Pg	**Pb**	**22 07 39.0**	**-0.7**
VANB				*e*Sg	**Sg**	**22 07 42.1**	**+0.3**
TVAN	**Van**	**0.14**	**114**	*i* P	**Pb**	**22 07 39.2**	**-1.0**
TVAN				*i* S	**Sg**	**22 07 42.6**	**+0.1**
TVAN	**Van**	**0.14**	**114**	P	**Pb**	**22 07 39.2**	**-1.0**
TVAN				S	**Sg**	**22 07 42.6**	**+0.1**
GEVA	**Gevas**	**0.31**	**209**	*i* P	**Pg**	**22 07 42.3**	**-0.1**
GEVA				*i* S	**Sb**	**22 07 49.4**	**+1.4**
GEVA	**Gevas**	**0.31**	**209**	P	**Pg**	**22 07 42.3**	**-0.1**
GEVA				S	**Sb**	**22 07 49.4**	**+1.4**
ADCV	**BITLIS_Adilcev**	**0.47**	**299**	*i* P	**Pb**	**22 07 45.3**	**-0.5**
ADCV				*i* S	**Sb**	**22 07 53.4**	**+0.8**
ADCV	**BITLIS_Adilcev**	**0.47**	**299**	P	**Pb**	**22 07 45.3**	**-0.5**
ADCV				S	**Sb**	**22 07 53.4**	**+0.8**
VMUR	**Van-Muradiye**	**0.48**	**32**	*i* P	**Pg**	**22 07 45.5**	**+0.1**
VMUR				*i* S	**Sb**	**22 07 54.1**	**+1.3**
VMUR	**Van-Muradiye**	**0.48**	**32**	P	**Pg**	**22 07 45.5**	**+0.1**
VMUR				S	**Sb**	**22 07 54.2**	**+1.3**
CLDR	**Caldiran**	**0.76**	**43**	PG	**Pb**	**22 07 49.5**	**-1.4**
CLDR				SG	**Sg**	**22 08 01.3**	**+0.4**
CLDR	**Caldiran**	**0.76**	**43**	*e*Pg	**Pb**	**22 07 49.5**	**-1.4**
GURO	**Guroymak-BITLI**	**0.95**	**268**	PG	**Pb**	**22 07 53.2**	**-0.9**
GURO				SG	**Sg**	**22 08 06.5**	**-0.3**
GURO	**Guroymak-BITLI**	**0.95**	**268**	*e*Pg	**Pb**	**22 07 53.2**	**-0.9**
GURO				*e*Sg	**Sg**	**22 08 06.5**	**-0.3**
AGRB	**Hanur-Agry**	**1.01**	**349**	PG	**Pb**	**22 07 54.2**	**-0.9**
AGRB	**Hanur-Agry**	**1.01**	**349**	*e*Pg	**Pb**	**22 07 54.2**	**-0.9**

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*IDC **01** 22:13:15.5±1.2, 39°.26N×20°.98E, h0km, mb3.6/6, mb1 3.7/9, mb1mx3.4/70, mbtmp3.5/9, ML3.1/3, Error ellipse: s-maj=23.4km s-min=17.9km az=67.0*
*TIR **01** 22:13:16.9, 39°.17N×20°.68E, h34km, ML3.7/7*
*ISCJB **01** 22:13:17.3±0.4, 39°.22N±0°.01×20°.72E±0°.02, h7km±3km, mb3.5/6, Error ellipse: s-maj=3.3km s-min=1.8km az=149.4*
*ATH **01** 22:13:17.6, 39°.20N×20°.80E, h18km±1km, ML3.1/12, Error ellipse: s-maj=1.4km s-min=0.7km az=197.0*
*PDG **01** 22:13:18.4±0.8, 39°.20N×20°.66E, h12km±1km, ML3.6/8, Error ellipse: s-maj=1.0km s-min=1.4km az=0.0*
*CSEM **01** 22:13:18.4±0.1, 39°.20N×20°.77E, h10km, ML3.5, Error ellipse: s-maj=3.0km s-min=1.7km az=61.0*
*THE **01** 22:13:18.0, 39°.22N×20°.80E, h0km±2km, ML3.2/9, Error ellipse: s-maj=2.2km s-min=0.6km az=296.0*
*BEO **01** 22:13:19.9±0.8, 39°.31N×20°.64E, h7km±4km*
ISC 01 22:13:17.9±0.8**, 39°.21N**±0°.01×**20°.79E**±0°.02**, h14**km±6km**, n253,** σ1s.48/341**, mb3.5**/6**, 18C-16D, Greece-Albania border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DSL	**Palaion Diasel**	**0.25**	**108**	P	**Pg**	**22 13 22.9**	**-0.4**
DSL				S	**Sg**	**22 13 27.3**	**+0.3**
DSL				AML	AML	22 13 27.8	
	comp=N,40072µm,0.2s						
DSL				AML	AML	22 13 28.2	
	comp=E,30182µm,0.2s						
DSL	**Palaion Diasel**	**0.25**	**108**	P	**Pg**	**22 13 23.1**	**-0.2**
DSL				S	**Sg**	**22 13 27.3**	**+0.3**
DSL	**Palaion Diasel**	**0.25**	**108**	P	**Pg**	**22 13 23.1**	**-0.2**
DSL				S	**Sg**	**22 13 27.3**	**+0.3**
LKD2	**Lefkada island**	**0.43**	**194**	P	**Pg**	**22 13 26.8**	**+0.3**
LKD2				S	**Sb**	**22 13 33.8**	**+0.1**
LKD2				AML	AML	22 13 36.8	
	comp=E,6535µm,0.4s						
LKD2				AML	AML	22 13 39.2	
	comp=N,6289µm,0.3s						
LKD2	**Lefkada island**	**0.43**	**194**	P	**Pg**	**22 13 26.5**	**0.0**
LKD2				S	**Sb**	**22 13 33.4**	**-0.3**
LKD2	**Lefkada island**	**0.43**	**194**	P	**Pg**	**22 13 26.5**	**0.0**
LKD2				S	**Sg**	**22 13 33.2**	**+0.8**
JAN	**Janina**	**0.45**	**6**	P	**Pg**	**22 13 26.8**	**-0.1**
JAN				S	**Sb**	**22 13 35.1**	**+0.9**
JAN				AML	AML	22 13 35.2	
	comp=N,3671µm,0.3s						
JAN				AML	AML	22 13 39.0	
	comp=E,5432µm,0.3s						
JAN	**Janina**	**0.45**	**6**	P	**Pg**	**22 13 26.8**	**-0.1**
JAN				S	**Sg**	**22 13 32.6**	**-0.3**
JAN	**Janina**	**0.45**	**6**	P	**Pg**	**22 13 26.7**	**-0.1**
JAN				S	**Sg**	**22 13 32.6**	**-0.3**
MGNA	**Meganis¸,,**	**0.55**	**180**	P	**Pg**	**22 13 27.8**	**-0.9**
MGNA				S	**Sb**	**22 13 38.2**	**+1.1**
MGNA	**Meganis¸,,**	**0.55**	**180**	P	**Pg**	**22 13 28.1**	**-0.7**
MGNA				S	**Sb**	**22 13 37.1**	**0.0**
SGD	**Sagiada**	**0.59**	**313**	P	**Pb**	**22 13 30.7**	**+0.8**
SGD	**Sagiada**	**0.59**	**313**	P	**Pg**	**22 13 29.9**	**+0.5**
SGD	**Sagiada**	**0.59**	**313**	P	**Pg**	**22 13 29.9**	**+0.5**
PDO	**Prodromos**	**0.68**	**153**	P	**Pg**	**22 13 30.8**	**-0.4**
PDO	**Prodromos**	**0.68**	**153**	P	**Pg**	**22 13 31.1**	**-0.1**
PDO	**Prodromos**	**0.68**	**153**	P	**Pg**	**22 13 31.1**	**-0.1**
PDO				S	**Sb**	**22 13 41.7**	**+0.8**
FSK	**Fiskardo**	**0.77**	**193**	P	**Pg**	**22 13 30.9**	**-2.0**
FSK	**Fiskardo**	**0.77**	**193**	P	**Pg**	**22 13 32.3**	**-0.6**
PVO	**Paravola**	**0.83**	**136**	P	**Pb**	**22 13 33.4**	**-0.7**
PVO				S	**Sb**	**22 13 45.7**	**+0.7**
PVO				AML	AML	22 13 52.3	
	comp=E,2345µm,0.8s						
PVO				AML	AML	22 13 52.7	
	comp=N,2396µm,0.6s						
PVO	**Paravola**	**0.83**	**136**	P	**Pb**	**22 13 33.2**	**-0.8**
PVO				S	**Sn**	**22 13 46.5**	**-0.6**
PVO	**Paravola**	**0.83**	**136**	P	**Pb**	**22 13 33.3**	**-0.7**
PVO				S	**Sb**	**22 13 45.1**	**+0.1**
EVR	**Evrytania**	**0.85**	**110**	P	**Pb**	**22 13 33.1**	**-1.3**
EVR				S	**Sb**	**22 13 45.7**	**+0.1**
EVR				AML	AML	22 13 47.7	
	comp=N,1432µm,0.5s						
EVR				AML	AML	22 13 50.5	
	comp=E,1549µm,0.5s						
EVR	**Evrytania**	**0.85**	**110**	P	**Pb**	**22 13 33.7**	**-0.7**
EVR	**Evrytania**	**0.85**	**110**	P	**Pb**	**22 13 33.7**	**-0.7**
EVR				S	**Sg**	**22 13 45.6**	**+0.2**
KASA	**Kassiopi**	**0.85**	**309**	P	**Pb**	**22 13 34.3**	**-0.2**
KASA	**Kassiopi**	**0.85**	**309**	P	**Pb**	**22 13 34.2**	**-0.2**
KPRO	**Kipourio**	**0.87**	**31**	P	**Pb**	**22 13 33.2**	**-1.5**
KPRO	**Kipourio**	**0.87**	**31**	P	**Pb**	**22 13 33.9**	**-0.9**
KPRO	**Kipourio**	**0.87**	**31**	P	**Pb**	**22 13 33.9**	**-0.9**
SRN	**Sarande**	**0.91**	**318**	*i* Pg	**Pb**	**22 13 35.5**	**+0.1**
SRN				*i* Sg	**Sb**	**22 13 46.5**	**-0.8**
SRN	**Sarande**	**0.91**	**318**	*i* PG	**Pb**	**22 13 35.5**	**+0.1**
SRN				*i* SG	**Sb**	**22 13 46.5**	**-0.7**
KEK	**Kerkira**	**0.92**	**304**	P	**Pb**	**22 13 35.0**	**-0.5**
KEK				S	**Sn**	**22 13 51.3**	**+2.0**
KEK				AML	AML	22 13 57.5	
	comp=E,3264µm,0.4s						
KEK				AML	AML	22 13 57.6	
	comp=N,3211µm,0.7s						
KEK	**Kerkira**	**0.92**	**304**	P	**Pb**	**22 13 35.5**	**-0.1**
KEK	**Kerkira**	**0.92**	**304**	P	**Pb**	**22 13 35.5**	**-0.1**
KEK				S	**Sn**	**22 13 49.8**	**+0.5**
THL	**Klokotos Trika**	**1.01**	**69**	P	**Pb**	**22 13 36.1**	**-1.1**
THL				S	**Sn**	**22 13 51.8**	**+0.1**
THL				AML	AML	22 13 53.1	
	comp=E,1148µm,0.3s						
THL				AML	AML	22 13 53.3	
	comp=N,857µm,0.6s						
THL	**Klokotos Trika**	**1.01**	**69**	P	**Pb**	**22 13 36.4**	**-0.8**
THL				S	**Sn**	**22 13 51.4**	**-0.3**
THL	**Klokotos Trika**	**1.01**	**69**	P	**Pb**	**22 13 36.5**	**-0.8**
THL				S	**Sg**	**22 13 51.3**	**+0.6**
PENT	**Pentalofos**	**1.02**	**15**	P	**Pb**	**22 13 36.7**	**-0.7**
PENT	**Pentalofos**	**1.02**	**15**	P	**Pb**	**22 13 37.1**	**-0.3**
PENT	**Pentalofos**	**1.02**	**15**	P	**Pb**	**22 13 37.1**	**-0.3**
VLS	**Valsamata**	**1.04**	**189**	P	**Pb**	**22 13 35.2**	**-2.5**
VLS				S	**Sn**	**22 13 55.3**	**+2.8**
VLS				AML	AML	22 13 55.9	
	comp=E,3754µm,0.3s						
VLS				AML	AML	22 13 58.5	
	comp=N,6022µm,0.6s						
VLS	**Valsamata**	**1.04**	**189**	P	**Pb**	**22 13 37.6**	**-0.1**
VLS				S	**Sn**	**22 13 53.4**	**+0.9**
VLS	**Valsamata**	**1.04**	**189**	P	**Pb**	**22 13 37.6**	**-0.1**
VLS				S	**Sn**	**22 13 53.4**	**+0.9**
ANX	**Ano Chora**	**1.08**	**125**	P	**Pb**	**22 13 36.9**	**-1.5**
ANX				S	**Sn**	**22 13 54.1**	**+0.7**
ANX				AML	AML	22 13 58.5	
	comp=E,1464µm,0.5s						
ANX				AML	AML	22 14 00.8	
	comp=N,2343µm,0.5s						
ANX	**Ano Chora**	**1.08**	**125**	P	**Pb**	**22 13 37.6**	**-0.8**
ANX				S	**Sn**	**22 13 53.8**	**+0.4**
ANX	**Ano Chora**	**1.08**	**125**	P	**Pb**	**22 13 37.6**	**-0.8**
ANX				S	**Sn**	**22 13 53.8**	**+0.4**
KFL	**Anninata**	**1.10**	**180**	P	**Pb**	**22 13 36.7**	**-1.9**
KFL				S	**Sn**	**22 13 56.2**	**+2.4**
KFL	**Anninata**	**1.10**	**180**	P	**Pb**	**22 13 37.6**	**-1.1**
KFL				S	**Sn**	**22 13 54.9**	**+1.1**
KFL	**Anninata**	**1.10**	**180**	P	**Pb**	**22 13 37.6**	**-1.1**
KFL				S	**Sn**	**22 13 54.8**	**+1.0**
EFP	**Efpalio**	**1.17**	**132**	P	**Pn**	**22 13 39.9**	**+0.1**
EFP				S	**Sg**	**22 13 56.4**	**+0.6**
EFP				AML	AML	22 14 01.4	
	comp=E,1099µm,0.4s						
EFP				AML	AML	22 14 04.7	
	comp=N,1615µm,0.5s						
EFP	**Efpalio**	**1.17**	**132**	P	**Pb**	**22 13 40.1**	**+0.2**
EFP				S	**Sg**	**22 13 57.6**	**+1.9**
EFP	**Efpalio**	**1.17**	**132**	P	**Pb**	**22 13 40.1**	**+0.2**
EFP				S	**Sg**	**22 13 56.0**	**+0.3**
AGG	**Agios Georgios**	**1.21**	**98**	P	**Pn**	**22 13 39.7**	**-0.8**
AGG	**Agios Georgios**	**1.21**	**98**	P	**Pn**	**22 13 40.6**	**+0.1**
AGG				S	**Sg**	**22 13 58.3**	**+1.2**
AGG	**Agios Georgios**	**1.21**	**98**	P	**Pn**	**22 13 40.6**	**+0.1**
AGG				S	**Sg**	**22 13 58.3**	**+1.2**
NEST	**Nestorio**	**1.22**	**9**	P	**Pb**	**22 13 41.1**	**+0.3**
NEST	**Nestorio**	**1.22**	**9**	P	**Pb**	**22 13 41.0**	**+0.2**
NEST	**Nestorio**	**1.22**	**9**	P	**Pb**	**22 13 41.0**	**+0.2**
RLS	**Riolos of Patr**	**1.27**	**155**	P	**Pn**	**22 13 40.4**	**-0.8**
RLS				S	**Sn**	**22 13 58.1**	**+0.1**
RLS				AML	AML	22 14 03.6	
	comp=E,694µm,0.8s						
RLS				AML	AML	22 14 09.0	
	comp=N,857µm,0.6s						
RLS	**Riolos of Patr**	**1.27**	**155**	P	**Pn**	**22 13 40.6**	**-0.6**
RLS	**Riolos of Patr**	**1.27**	**155**	P	**Pn**	**22 13 40.9**	**-0.3**
RLS				S	**Sn**	**22 13 58.4**	**+0.4**
KZN	**Kozani**	**1.33**	**34**	P	**Pn**	**22 13 42.4**	**+0.2**
KZN				S	**Sg**	**22 14 01.9**	**+1.0**
KZN				AML	AML	22 14 04.5	
	comp=N,830µm,0.5s						
KZN				AML	AML	22 14 05.6	
	comp=E,1202µm,0.6s						
KZN	**Kozani**	**1.33**	**34**	P	**Pn**	**22 13 42.5**	**+0.4**
KZN	**Kozani**	**1.33**	**34**	P	**Pn**	**22 13 42.6**	**+0.4**
KZN				S	**Sg**	**22 14 01.6**	**+0.7**
KALE	**Kalithea**	**1.33**	**127**	P	**Pb**	**22 13 42.9**	**+0.2**
KALE	**Kalithea**	**1.33**	**127**	P	**Pb**	**22 13 42.8**	**+0.1**
LAKA	**Lakka**	**1.34**	**136**	P	**Pg**	**22 13 44.2**	**+0.5**
LAKA	**Lakka**	**1.34**	**136**	P	**Pg**	**22 13 43.5**	**-0.2**
LAKA				S	**Sg**	**22 14 02.9**	**+1.7**
LAKA	**Lakka**	**1.34**	**136**	P	**Pg**	**22 13 43.5**	**-0.2**
LAKA				S	**Sg**	**22 14 02.9**	**+1.7**
KBN	**Korca**	**1.41**	**360**	*i* Pn	**Pg**	**22 13 45.7**	**+0.6**
KBN				*i* Sn	**Sg**	**22 14 03.5**	**+0.1**
KBN	**Korca**	**1.41**	**360**	*i* PN	**Pg**	**22 13 45.7**	**+0.6**
KBN				*i* SN	**Sg**	**22 14 03.5**	**+0.1**
DRO	**Drossia**	**1.45**	**150**	P	**Pn**	**22 13 43.3**	**-0.4**
DRO	**Drossia**	**1.45**	**150**	P	**Pb**	**22 13 44.7**	**0.0**
DRO	**Drossia**	**1.45**	**150**	P	**Pb**	**22 13 44.7**	**0.0**
KTI	**Kastanea**	**1.56**	**40**	P	**Pb**	**22 13 46.7**	**0.0**
KTI	**Kastanea**	**1.56**	**40**	P	**Pb**	**22 13 46.7**	**0.0**
DSF	**Desfina**	**1.57**	**120**	P	**Pn**	**22 13 45.6**	**+0.1**
DSF	**Desfina**	**1.57**	**120**	P	**Pn**	**22 13 46.2**	**+0.7**
DSF	**Desfina**	**1.57**	**120**	P	**Pn**	**22 13 46.2**	**+0.7**
KLV	**Kalavryta, Ach**	**1.58**	**137**	P	**Pg**	**22 13 48.5**	**+0.2**
KLV	**Kalavryta, Ach**	**1.58**	**137**	P	**Pn**	**22 13 45.8**	**+0.3**
KLV	**Kalavryta, Ach**	**1.58**	**137**	P	**Pb**	**22 13 47.6**	**+0.7**
FNA	**Florina**	**1.64**	**16**	P	**Pb**	**22 13 47.4**	**-0.4**
FNA	**Florina**	**1.64**	**16**	P	**Pb**	**22 13 47.7**	**-0.2**
FNA	**Florina**	**1.64**	**16**	P	**Pb**	**22 13 47.6**	**-0.3**
GUR	**Goura**	**1.76**	**136**	P	**Pb**	**22 13 50.7**	**+0.7**
GUR	**Goura**	**1.76**	**136**	P	**Pb**	**22 13 50.1**	**0.0**
GUR	**Goura**	**1.76**	**136**	P	**Pb**	**22 13 50.0**	**0.0**
LKR	**Lokris**	**1.81**	**107**	P	**Pb**	**22 13 50.9**	**0.0**
LKR	**Lokris**	**1.81**	**107**	P	**Pb**	**22 13 50.3**	**-0.5**
LKR	**Lokris**	**1.81**	**107**	P	**Pb**	**22 13 50.3**	**-0.5**
AMT	**Artemida-Makis**	**1.82**	**156**	P	**Pb**	**22 13 51.6**	**+0.6**
AMT	**Artemida-Makis**	**1.82**	**156**	P	**Pb**	**22 13 50.9**	**-0.2**
BIA	**Bitola**	**1.85**	**13**	*i* Pn	**Pb**	**22 13 51.5**	**0.0**
XOR	**Xorichti**	**1.87**	**84**	P	**Pb**	**22 13 52.2**	**+0.3**
XOR	**Xorichti**	**1.87**	**84**	P	**Pn**	**22 13 49.7**	**+0.2**
XOR	**Xorichti**	**1.87**	**84**	P	**Pb**	**22 13 51.6**	**-0.3**
OHR	**Ohrid**	**1.90**	**0**	*i* Pn	**Pb**	**22 13 53.1**	**+0.8**
PROD	**Prodromos**	**1.91**	**119**	P	**Pb**	**22 13 52.2**	**-0.2**
PROD	**Prodromos**	**1.91**	**119**	P	**Pb**	**22 13 51.8**	**-0.6**
SCTE	**Santa Cesarea**	**1.99**	**296**	P	**Pn**	**22 13 50.7**	**-0.4**
SCTE	**Santa Cesarea**	**1.99**	**296**	P	**Pn**	**22 13 51.8**	**+0.7**
LTK	**Loutraki**	**2.08**	**124**	P	**Pb**	**22 13 54.3**	**-1.1**
LTK	**Loutraki**	**2.08**	**124**	P	**Pb**	**22 13 54.0**	**-1.4**
GRG	**Griva**	**2.14**	**35**	P	**Pb**	**22 13 55.3**	**-1.1**
GRG	**Griva**	**2.14**	**35**	P	**Pb**	**22 13 55.1**	**-1.3**
VIL2	**Platees**	**2.18**	**116**	P	**Pb**	**22 13 56.3**	**-0.9**
KRUS	**Krusevo**	**2.19**	**9**	*i* Pn	**Pb**	**22 13 56.2**	**-1.0**
ITM	**Ithomi**	**2.22**	**156**	P	**Pb**	**22 13 57.2**	**-0.6**
ITM	**Ithomi**	**2.22**	**156**	P	**Pb**	**22 13 56.5**	**-1.2**
VILL	**Villia**	**2.23**	**117**	P	**Pn**	**22 13 56.1**	**+1.6**
TIR	**Tirane**	**2.25**	**342**	*e*Pn	**Pn**	**22 13 56.0**	**+1.3**
	comp=E,27nm,0.5s						
TIR	**Tirane**	**2.25**	**342**	⇑*i*P	**Pn**	**22 13 55.6**	**+0.9**
TIR	**Tirane**	**2.25**	**342**	P	**Pb**	**22 13 56.7**	**-1.7**
TIR	**Tirane**	**2.25**	**342**	*e*Pn	**Pn**	**22 13 56.0**	**+1.3**
	comp=E,27nm,0.5s						
TIR	**Tirane**	**2.25**	**342**	P	**Pb**	**22 13 56.6**	**-1.7**
TIR				*i* Sn	**Sn**	**22 14 23.5**	**+1.3**
TIR	**Tirane**	**2.25**	**342**	*i* PN	**Pb**	**22 13 57.3**	**-1.0**
TIR				*i* SN	**Sn**	**22 14 23.5**	**+1.3**
PYL	**PYLOS**	**2.43**	**162**	P	**Pn**	**22 13 57.6**	**+0.4**
PYL	**PYLOS**	**2.43**	**162**	P	**Pn**	**22 13 58.2**	**+1.0**
PHP	**Peshkopia**	**2.49**	**354**	*i* Pn	**Pb**	**22 14 00.5**	**-1.9**
PHP				*i* Sn	**Sn**	**22 14 28.9**	**+0.7**
PHP	**Peshkopia**	**2.49**	**354**	*i* PN	**Pb**	**22 14 00.5**	**-1.8**
PHP				*i* SN	**Sn**	**22 14 28.9**	**+0.7**
VAY	**Valandovo**	**2.51**	**32**	*e*Pn	**Pb**	**22 14 00.8**	**-1.9**
	comp=E,2.5nm,0.2s						
VAY				*e*Sn	**Sb**	**22 14 32.5**	**-1.0**
	comp=E,12nm,0.3s						
VAY	**Valandovo**	**2.51**	**32**	*e*Pn	**Pb**	**22 14 00.8**	**-1.9**
	comp=E,2.5nm,0.2s						
VAY				*e*Sn	**Sb**	**22 14 32.5**	**-1.0**
	comp=E,12nm,0.3s						
VAY	**Valandovo**	**2.51**	**32**	*i* Pn	**Pn**	**22 14 00.2**	**+2.0**
KNT	**Kendrikon**	**2.53**	**39**	P	**Pb**	**22 14 01.2**	**-1.9**
KNT	**Kendrikon**	**2.53**	**39**	P	**Pn**	**22 14 00.8**	**+2.2**
EREA	**Eretria**	**2.58**	**107**	P	**Pn**	**22 14 01.4**	**+2.2**
EREA	**Eretria**	**2.58**	**107**	P	**Pn**	**22 14 01.2**	**+2.0**
KRND	**KRANIDI**	**2.60**	**134**	P	**Pn**	**22 14 00.5**	**+1.0**
KRND	**KRANIDI**	**2.60**	**134**	P	**Pn**	**22 14 00.8**	**+1.3**
PTL	**Penteli**	**2.67**	**115**	P	**Pn**	**22 14 02.4**	**+1.9**
PTL	**Penteli**	**2.67**	**115**	P	**Pn**	**22 14 02.3**	**+1.8**
VLY	**Voula,Athens**	**2.72**	**119**	P	**Pn**	**22 14 02.4**	**+1.3**
VLY	**Voula,Athens**	**2.72**	**119**	P	**Pn**	**22 14 02.6**	**+1.5**
DYR	**Agios Nikonas**	**2.73**	**153**	P	**Pn**	**22 14 03.2**	**+1.8**
DYR	**Agios Nikonas**	**2.73**	**153**	P	**Pn**	**22 14 03.1**	**+1.8**
SKO	**Skopje**	**2.80**	**10**	*i* Pn	**Pb**	**22 14 08.3**	**+0.6**
SRS	**Serrai**	**2.87**	**48**	P	**Pn**	**22 14 04.0**	**+0.8**
SRS	**Serrai**	**2.87**	**48**	P	**Pn**	**22 14 04.5**	**+1.3**
PUK	**Puka**	**2.91**	**347**	*i* Pn	**Pn**	**22 14 06.0**	**+2.1**
PUK	**Puka**	**2.91**	**347**	*i* PN	**Pn**	**22 14 06.0**	**+2.2**
ULC	**Ulcinj**	**2.99**	**337**	*e*Pn	**Pn**	**22 14 05.8**	**+0.9**
ULC				*e*Sn	**Sn**	**22 14 42.8**	**+2.2**
ULC	**Ulcinj**	**2.99**	**337**	*e*Pn	**Pn**	**22 14 05.8**	**+0.9**
ULC				*e*Sn	**Sn**	**22 14 42.8**	**+2.2**
FASA	**Fasano**	**3.09**	**302**	*e*Pn	**Pn**	**22 14 07.8**	**+1.6**
TIP	**Timpagrande**	**3.13**	**271**	⇓*i*P	**Pn**	**22 14 09.4**	**+2.5**
TIP	**Timpagrande**	**3.13**	**271**	⇓*i*P	**Pn**	**22 14 09.4**	**+2.5**
MASS	**Massafra**	**3.14**	**298**	*e*Pn	**Pn**	**22 14 08.4**	**+1.4**
NVR	**Nevrokopi**	**3.18**	**47**	P	**Pn**	**22 14 08.3**	**+0.8**
NVR	**Nevrokopi**	**3.18**	**47**	P	**Pn**	**22 14 08.9**	**+1.4**
DRME	**Dracevica, Mon**	**3.21**	**338**	⇓*i*Pn	**Pn**	**22 14 09.2**	**+1.3**
DRME				*e*Sn	**Sn**	**22 14 49.4**	**+3.4**
DRME	**Dracevica, Mon**	**3.21**	**338**	⇓*i*Pn	**Pn**	**22 14 09.2**	**+1.3**
DRME				*e*Sn	**Sn**	**22 14 49.4**	**+3.4**
NOCI	**Noci**	**3.27**	**300**	P	**Pn**	**22 14 08.6**	**-0.1**
NOCI	**Noci**	**3.27**	**300**	P	**Pn**	**22 14 09.7**	**+1.0**
BUM	**Brajici-Budva**	**3.41**	**336**	⇓*i*Pn	**Pn**	**22 14 11.5**	**+0.8**
BUM				*e*Sn	**Sn**	**22 14 52.6**	**+1.7**
BUM	**Brajici-Budva**	**3.41**	**336**	⇓*i*Pn	**Pn**	**22 14 11.5**	**+0.8**
BUM				*e*Sn	**Sn**	**22 14 52.6**	**+1.7**
PDG	**Podgorica**	**3.42**	**341**	⇓*i*P	**Pn**	**22 14 11.8**	**+1.0**
PDG	**Podgorica**	**3.42**	**341**	S	**Sn**	**22 14 52.9**	**+1.8**
PDG	**Podgorica**	**3.42**	**341**	⇓*i*P	**Pn**	**22 14 11.8**	**+1.0**
PDG	**Podgorica**	**3.42**	**341**	⇓*i*Pn	**Pn**	**22 14 12.3**	**+1.5**
PDG				*e*Sn	**Sn**	**22 14 54.2**	**+3.1**
TTG	**Podgorica**	**3.42**	**341**	⇓*i*Pn	**Pn**	**22 14 12.3**	**+1.5**
TTG				*e*Sn	**Sn**	**22 14 54.2**	**+3.1**
PVY	**Plav**	**3.44**	**350**	*e*Pn	**Pn**	**22 14 13.6**	**+2.4**
PVY				*e*Sn	**Sn**	**22 14 54.6**	**+2.8**
PVY	**Plav**	**3.44**	**350**	*e*Pn	**Pn**	**22 14 13.6**	**+2.4**
PVY				*e*Sn	**Sn**	**22 14 54.6**	**+2.8**
MATE	**Matera**	**3.45**	**296**	⇓*i*P	**Pn**	**22 14 12.5**	**+1.3**
MATE	**Matera**	**3.45**	**296**	⇓*i*P	**Pn**	**22 14 12.5**	**+1.3**
BAI	**Bari**	**3.54**	**304**	*e*Pn	**Pn**	**22 14 14.2**	**+1.7**
SG1	**Sgolgore (BA)**	**3.55**	**299**	*e*Pn	**Pn**	**22 14 13.6**	**+1.0**
CEME	**Cevo**	**3.62**	**338**	*e*Pn	**Pn**	**22 14 14.1**	**+0.5**
CEME				*e*Sn	**Sn**	**22 14 58.3**	**+2.1**
CEME	**Cevo**	**3.62**	**338**	*e*Pn	**Pn**	**22 14 14.1**	**+0.5**
CEME				*e*Sn	**Sn**	**22 14 58.3**	**+2.1**
HCY	**Herceg Novi**	**3.67**	**332**	⇑*i*Pn	**Pn**	**22 14 14.4**	**+0.1**
HCY				*e*Sn	**Sn**	**22 14 59.1**	**+1.8**
HCY	**Herceg Novi**	**3.67**	**332**	⇑*i*Pn	**Pn**	**22 14 14.4**	**+0.1**
HCY				*e*Sn	**Sn**	**22 14 59.1**	**+1.8**
BARS	**Barje**	**3.69**	**12**	*e*Pn	**Pn**	**22 14 16.5**	**+2.1**
	comp=E,3.5nm,0.3s						
BARS	**Barje**	**3.69**	**12**	*e*Pn	**Pn**	**22 14 16.5**	**+2.1**
	comp=E,3.5nm,0.3s						
BEY	**Berane**	**3.72**	**350**	⇓*i*Pn	**Pn**	**22 14 17.1**	**+2.1**
BEY				*e*Sn	**Sn**	**22 15 01.1**	**+2.5**
IVA	**Berane**	**3.72**	**350**	⇓*i*Pn	**Pn**	**22 14 17.1**	**+2.1**
IVA				*e*Sn	**Sn**	**22 15 01.1**	**+2.5**
KOME	**Kolasin**	**3.76**	**346**	⇑*i*Pn	**Pn**	**22 14 18.1**	**+2.5**
KOME				*e*Sn	**Sn**	**22 15 03.2**	**+3.5**
KOME	**Kolasin**	**3.76**	**346**	⇑*i*Pn	**Pn**	**22 14 18.1**	**+2.5**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
KOME				eSn	Sn	22 15 03.2	+3.5
NKME	Niksic	3.81	339⇓	iPn	Pn	22 14 17.6	+1.3
NKME				eSn	Sn	22 15 03.4	+2.5
NKME	Niksic	3.81	339⇓	iPn	Pn	22 14 17.6	+1.3
NKME				eSn	Sn	22 15 03.4	+2.5
VTS	Vitosha	3.84	28	ePn	Pn	22 14 19.2	+2.5
	comp=E,7.5nm,0.9s						
VTS				eSn	Sn	22 15 03.2	+1.4
	comp=E,24nm,1.4s						
VTS	Vitosha	3.84	28⇑	iP	Pn	22 14 20.1	+3.4
VTS	Vitosha	3.84	28	S	Sn	22 15 06.1	+4.3
VTS	Vitosha	3.84	28	ePn	Pn	22 14 19.2	+2.5
	comp=E,7.5nm,0.9s						
VTS	Vitosha	3.84	28⇑	iP	Pn	22 14 20.1	+3.4
VTS				eSn	Sn	22 15 03.2	+1.4
	comp=E,24nm,1.4s						
TREB	Trebinje	3.96	333	ePn	Pn	22 14 17.9	-0.3
SELS	Selova	4.01	3	ePn	Pn	22 14 20.1	+1.1
	comp=E,0.4nm,0.6s						
SJES	Sjenica	4.09	352	ePn	Pn	22 14 21.8	+1.7
	comp=E,6.9nm,0.6s						
SJES	Sjenica	4.09	352	ePn	Pn	22 14 21.8	+1.7
	comp=E,6.9nm,0.6s						
PLE	Pljevlja	4.25	346⇑	iPn	Pn	22 14 23.2	+0.9
PLE				eSn	Sn	22 15 14.6	+2.9
PLE	Pljevlja	4.25	346⇑	iPn	Pn	22 14 23.2	+0.9
PLE				eSn	Sn	22 15 14.6	+2.9
ZAPS	Zavoj	4.29	18	ePn	Pn	22 14 24.5	+1.7
	comp=E,0.2nm,0.3s						
ZAPS				eSn	Sn	22 15 13.6	+1.0
	comp=E,0.7nm,0.6s						
STON	Ston	4.34	328	ePn	Pn	22 14 22.1	-1.2
STON				Sn	Sn	22 15 09.6	-4.2
STON	Ston	4.34	328⇑	iPn	Pn	22 14 22.2	-1.2
IVAS	Ivanjica	4.39	354	ePn	Pn	22 14 25.1	+1.0
	comp=E,0.2nm,0.4s						
IVAS	Ivanjica	4.39	354	ePn	Pn	22 14 25.1	+1.0
	comp=E,0.2nm,0.4s						
GRUS	Gruza	4.67	359	ePn	Pn	22 14 29.2	+1.2
	comp=E,2.4nm,0.4s						
GRUS	Gruza	4.67	359	ePn	Pn	22 14 29.2	+1.2
	comp=E,2.4nm,0.4s						
ZAGS	Zajecar	4.72	13	ePn	Pn	22 14 29.4	+0.7
	comp=E,0.4nm,0.4s						
ZAGS				eSn	Sn	22 15 22.2	-1.0
	comp=E,4.0nm,0.6s						
ZAGS	Zajecar	4.72	13	ePn	Pn	22 14 29.4	+0.7
	comp=E,0.4nm,0.4s						
ZAGS				eSn	Sn	22 15 22.2	-1.0
	comp=E,4.0nm,0.6s						
BBLS	Lazići	4.77	348	ePn	Pn	22 14 30.5	+1.2
	comp=E,6.5nm,0.4s						
BBLS	Lazići	4.77	348	ePn	Pn	22 14 30.5	+1.2
	comp=E,6.5nm,0.4s						
DIVS	Divibare	4.92	353	i Pn	Pn	22 14 32.2	+0.7
	comp=E,5.0nm,0.7s						
DIVS				eSn	Sn	22 15 26.2	-2.0
	comp=E,9.0nm,0.5s						
DIVS	Divibare	4.92	353	i Pn	Pn	22 14 32.2	+0.7
	comp=E,5.0nm,0.7s						
DIVS				eSn	Sn	22 15 26.2	-2.0
	comp=E,9.0nm,0.5s						
TRUS	Trudelj	5.02	357	ePn	Pn	22 14 33.8	+1.1
	comp=E,0.2nm,0.2s						
TRUS	Trudelj	5.02	357	ePn	Pn	22 14 33.8	+1.1
	comp=E,0.2nm,0.2s						
HAPS	Han Pijesak,BI	5.06	345	ePn	Pn	22 14 32.9	-0.6
	comp=E,2.3nm,0.3s						
HAPS	Han Pijesak,BI	5.06	345	ePn	Pn	22 14 32.9	-0.6
	comp=E,2.3nm,0.3s						
IDI	Anoyia	5.10	139	Pn	Pn	22 14 33.2	-0.8
	comp=E,1.5nm,0.3s,baz=290,slow=16,SNR=11						
IDI				Sn	Sn	22 15 32.3	-0.4
	comp=E,1.0nm,0.3s,baz=272,slow=14,SNR=4.3						
KUBS	Kucevo	5.24	7	ePn	Pn	22 14 37.7	+1.9
	comp=E,1.0nm,0.2s						
KUBS	Kucevo	5.24	7	ePn	Pn	22 14 37.7	+1.9
	comp=E,1.0nm,0.2s						
VAE	Valguarnera	5.30	253	Sn	Sn	22 15 43.5	+5.9
	comp=E,0.7nm,0.3s,baz=47,slow=19,SNR=3.7						
TEKS	Tekeris	5.42	350	ePn	Pn	22 14 38.5	+0.3
FGSL	Fruska Gora	5.99	353	ePn	Pn	22 14 46.4	+0.3
	comp=E,4.3nm,0.3s						
FRGS	Fruska Gora	5.99	353	ePn	Pn	22 14 46.4	+0.3
	comp=E,4.3nm,0.3s						
BLY	Banja Luka	6.15	335⇑	iP	Pn	22 14 48.5	+0.2
BLY	Banja Luka	6.15	335⇑	iP	Pn	22 14 48.5	+0.2
BLY	Banja Luka	6.15	335	ePn	Pn	22 14 48.9	+0.6
BZS	Buzias	6.43	5⇑	iP	Pn	22 14 53.8	+1.7
BZS	Buzias	6.43	5⇑	iP	Pn	22 14 53.8	+1.7
UDBI	Udbina	6.50	326	ePn	Pn	22 14 54.0	+0.8
UDBI				Sn	Sn	22 16 04.8	-2.3
UDBI	Udbina	6.50	326	ePn	Pn	22 14 54.0	+0.8
ARR	Arges	6.78	24⇑	iP	Pn	22 14 59.1	+2.1
ARR	Arges	6.78	24⇑	iP	Pn	22 14 59.1	+2.1
NVLJ	Novalja	6.93	322	i Pn	Pn	22 14 59.1	0.0
NVLJ				Sn	Sn	22 16 13.7	-4.0
NVLJ	Novalja	6.93	322	i Pn	Pn	22 14 59.0	0.0
VOIR		6.98	26⇑	iP	Pn	22 15 02.8	+3.1
VOIR		6.98	26⇑	iP	Pn	22 15 02.8	+3.1
MORH	Mˆ‡rˆ¡gy, Hung	7.18	348	ePn	Pn	22 15 02.1	-0.2
MORH				eSn	Sn	22 16 17.2	-6.4
MORH	Mˆ‡rˆ¡gy, Hung	7.18	348	ePn	Pn	22 15 02.1	-0.2
MLR	Muntele Rosu	7.34	30	Pn	Pn	22 15 03.1	-1.7
	comp=E,0.0nm,0.3s,baz=128,slow=21,SNR=2.0						
OZLJ	Ozalj	7.51	330	i Pn	Pn	22 15 06.9	0.0
OZLJ	Ozalj	7.51	330	i Pn	Pn	22 15 06.9	0.0
CRES	Cresnjev	7.69	331	ePn	Pn	22 15 08.8	-0.7
CEY	Cerknica	8.04	326	ePn	Pn	22 15 13.8	-0.4
OBKA	Obir	8.61	330	Pn	Pn	22 15 22.4	+0.3
	comp=E,0.7nm,0.1s						
OBKA	Obir	8.61	330	ePn	Pn	22 15 22.4	+0.3
	comp=E,0.7nm,0.1s						
OBKA				eSn	Sn	22 16 56.4	-2.7
	comp=E,3.2nm,0.3s						
ABTA	Abfaltersbach	9.67	324	Pn	Pn	22 15 36.8	+0.2
	comp=E,0.3nm,0.1s						
ABTA	Abfaltersbach	9.67	324	ePn	Pn	22 15 36.8	+0.2
	comp=E,0.3nm,0.1s						
ABTA				Sn	Sn	22 17 20.9	-4.0
	comp=E,0.2nm,0.2s						
MOA	Molln	9.85	333	Pn	Pn	22 15 39.6	+0.7
	comp=E,1.5nm,0.2s						
MOA	Molln	9.85	333	ePn	Pn	22 15 39.6	+0.7
	comp=E,1.5nm,0.2s						
WTTA	Wattenberg	10.45	323	Sn	Sn	22 17 41.5	-2.8
	comp=E,1.4nm,0.4s						
WATA	Walderalm	10.53	323	Pn	Pn	22 15 49.5	+1.0
	comp=E,0.4nm,0.2s						
WATA	Walderalm	10.53	323	i Pn	Pn	22 15 49.5	+1.0
	comp=E,0.4nm,0.2s						
MOTA	Moosalm	10.76	322	Pn	Pn	22 15 52.5	+0.9
	comp=E,0.3nm,0.2s						
MOTA	Moosalm	10.76	322	ePn	Pn	22 15 52.5	+0.9
	comp=E,0.3nm,0.2s						
GERES	GERESS Array B	10.89	334	Pn	Pn	22 15 54.6	+1.2
	comp=E,0.2nm,0.3s,baz=158,slow=14,SNR=7.7						
RETA	Reutte	11.03	322	eSn	Sn	22 17 55.0	-3.2
	comp=E,0.2nm,0.2s						
FINES	FINESS Array B	22.50	7	P	P	22 18 15.3	-1.4
	comp=E,1.3nm,0.7s,baz=349,slow=29,SNR=3.5						
EKA	Eskdalemuir Ar	22.72	323	P	P	22 18 18.7	-0.4
	comp=E,1.4nm,0.8s,baz=118,slow=8.6,SNR=3.7						
ARCES	ARCESS Array B	30.49	3	P	P	22 19 29.2	-0.8
	comp=E,3.8nm,1.1s,baz=195,slow=9.3,SNR=2.6						
TORD	Torodi Ar. Bea	30.97	218	P	P	22 19 35.1	+0.4
	comp=E,0.2nm,0.5s,baz=36,slow=8.1,SNR=3.5						
MKAR	Makanchi Array	44.59	59	P	P	22 21 28.1	-1.4
	comp=E,0.2nm,0.3s,baz=281,slow=7.8,SNR=8.7						
ZALV	Zalesovo Beam	44.85	49	P	P	22 21 30.5	-0.8
	comp=E,0.8nm,0.5s,baz=265,slow=8.5,SNR=4.7						

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*MOS **01** 22:23:47.9±1.0, 16.°69N×98.°23W, $h27^{km}$, mb5.4/63, Error ellipse: s-maj=8.2km s-min=4.0km az=98.1*

*ISCJB **01** 22:23:49.0±0.2, 16.°79N±0.°02×98.°24W±0.°02, $h29^{km}$, mb5.1/287, MS4.5/23, Error ellipse: s-maj=3.0km s-min=1.8km az=36.5*

*GCMT **01** 22:23:48.0±0.5, 16.°58N×98.°52W, $h39^{km}$±1^{km}, MW5.3/85, Moment Tensor Solution. s35,c40; s85,c113; Duration: 1.s0 Moment tensor: Scale 10^{17}Nm; M_{rr}0.61±.05; $M_{\theta\theta}$-0.60±.04; $M_{\phi\phi}$-0.01±.04; $M_{r\theta}$0.51±.03; $M_{\theta\phi}$0.48±.03; $M_{\phi r}$-0.34±.03; Best double couple: $M_0$0.95800×10^{17} NP1:ϕ_s123.00000°, δ65.00000°, λ94.00000°. NP2: ϕ_s293.00000°, δ26.00000°, λ81.00000°. Principal axes: T 0.8350, Plg70.0000°, Azm42.0000°; N 0.2460, Plg4.0000°, Azm301.0000°; P -1.0820, Plg20.0000°, Azm210.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **01** 22:23:48.0±0.0, 16.°46N×98.°54W, $h20^{km}$, mb5.3/273, MD5.0(MEX), After MEX.*

NEIC Felt at Acapulco, Acatzingo, Mexico, Ometepec and Pinotepa Nacional.

*MEX **01** 22:23:48.6±0.6, 16.°47N×98.°54W, $h20^{km}$±8^{km}, MD5.0*

*IDC **01** 22:23:49.1±0.5, 16.°59N×98.°38W, $h28^{km}$±2^{km}, mb4.5/30, mb1 4.6/35, mb1mx4.5/50, mbtmp4.6/35, ML3.9/5, MS4.5/20, Ms1 4.5/20, ms1mx4.3/40, Error ellipse: s-maj=13.0km s-min=8.3km az=42.0*

*BJI **01** 22:23:49.5, 16.°70N×98.°30W, $h33^{km}$, mB5.3/4, Ms5.3/6, Ms7 4.9/3*

ISC 01 22:23:48.6±0.3**, 16.°56N**±0.°04**×98.°45W**±0.°04**, $h27^{km}$**±1^{km}**, $h27^{km}$:pP-P, n1009, σ1.s45**/1088**, mb5.2**/291**, MS4.6**/24**, 11C-8D, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.35	118	eP	Pb	22 23 55.6	-1.0
PNIG				eS	Sb	22 24 01.4	-0.6
TLIG	Tlapa	1.00	354	i P	Pn	22 24 05.3	-1.8
HMTT	Tlapaneco	1.24	355	eP	Pn	22 24 08.1	-2.2
ACP2	Acapulco	1.41	283	eP	Pn	22 24 09.3	-3.3
VHO	Vista Hermosa	1.72	73	eP	Pn	22 24 16.8	-0.3
CAIG	El Cayaco	1.80	286	eP	Pn	22 24 15.0	-3.0
CAIG				eS	Sn	22 24 34.0	-6.0
PLIG	Platanillo	2.08	331	eP	Pn	22 24 21.2	-0.7
TPIG	Tehuac#an	2.12	29	eP	Pn	22 24 22.2	-0.4
HUIG	Huatulco	2.39	109	eP	Pn	22 24 25.0	-1.0
ARIG	Puente Sto Nin	2.49	314	eP	Pn	22 24 26.2	-1.3
UNM	Universidad Na	2.84	346	ePn	Pn	22 24 34.0	+1.5
UNM				eSn	Sn	22 25 03.8	-2.2
UNM	Universidad Na	2.84	346	eP	Pn	22 24 34.0	+1.5
UNM				e		22 25 03.8	
CMIG	Matias Romero	3.46	81	Pn	Pn	22 24 40.3	-0.5
	27nm,0.3s,baz=253,slow=9.5,SNR=248						
CMIG				Pg	Pb	22 24 49.3	+0.1
	45nm,0.3s,baz=268,slow=14,SNR=37						
CMIG				Sn	Sn	22 25 19.8	-1.2
	125nm,0.3s,baz=278,slow=13,SNR=5.8						
CMIG				Lg	Lg	22 25 36.8	
	118nm,0.3s,baz=269,slow=8.5,SNR=13						
CMIG				LR	LR	22 26 23.6	
	comp=Z,9µm,18.6s,baz=218,slow=46						
LVIG	Laguna Verde	3.69	31	ePn	Pn	22 24 41.7	-2.4
MOIG	Morelia	4.05	320	ePn	Pn	22 24 50.8	+1.7
MOIG				eSn	Sn	22 25 42.4	+6.6
JRQG	Juriquilla Cam	4.53	336	ePn	Pn	22 24 57.2	+1.4
JRQG				eSn	Sb	22 25 59.3	-2.7
ZAIG	Zacatecas	7.29	329	ePn	Pn	22 25 36.2	+2.4
APG	El Apazote	7.84	100	Pn	Pn	22 25 41.7	+0.4
	1.3nm,0.3s,baz=327,slow=14,SNR=28						
APG				Sn	Sn	22 27 08.0	-1.4
	5.0nm,0.3s,baz=292,slow=13,SNR=2.5						
APG				Lg	Lg	22 27 59.4	
	7.7nm,0.3s,baz=252,slow=20,SNR=2.8						
LNIG	Linares	8.35	354	ePn	Pn	22 25 52.3	+4.3
MYIG	MØrida	9.34	61	ePn	Pn	22 25 59.1	-2.5
MYIG				eSn	Sn	22 27 40.7	-5.1
TGUH	Tegucigalpa,Un	11.07	101	ePn	Pn	22 26 27.1	+1.8
833A	Chaparral WMA,	11.74	356	P	Pn	22 26 36.3	+1.9
	baz=176,SNR=19						
HPIG		12.30	328	ePn	Pn	22 26 45.5	+3.1
HKT	Hockley	13.54	10	ePn	Pn	22 27 03.0	+4.0
HKT	Hockley	13.54	10	eP	Pn	22 27 03.0	+4.0
LTX	Lajitas	13.59	340	ePn	Pn	22 27 00.8	+1.0
LTX	Lajitas	13.59	340	eP	Pn	22 27 00.8	+1.0
TXAR	Lajitas Array	13.59	340	Pn	Pn	22 27 00.7	+1.0
	0.1nm,0.3s,baz=158,slow=13,SNR=20						
TXAR				Lg	Lg	22 30 58.7	
	0.1nm,0.3s,baz=156,slow=27,SNR=2.9						
TXAR				LR	LR	22 32 40.3	
	comp=Z,5µm,19.6s,baz=0.0,slow=39						
TX31	Lajitas Ar. Si	13.59	340	ePn	Pn	22 27 01.1	+1.3
NY14	Universidad de	13.86	113	eP	Pn	22 27 06.2	+2.7
JCT	Junction City	13.91	355	P	Pn	22 27 04.5	+0.3
	baz=175,SNR=6.6						
JCT	Junction City	13.91	355	ePn	Pn	22 27 05.0	+0.8
JCT	Junction City	13.91	355	eP	Pn	22 27 05.0	+0.8
GPS3	Bodega del ICE	13.96	113	eP	Pn	22 27 07.6	+2.6
GPS2	Hotel Rincˆ‡n	13.98	113	eP	Pn	22 27 08.3	+3.1
MESS	Mesas	14.12	113	eP	Pn	22 27 08.9	+1.7
COLC	Colonia	14.14	113	eP	Pn	22 27 09.9	+2.5
PLVR	Palo Verde	14.16	114	eP	Pn	22 27 09.9	+2.2
435B	Jarrell	14.18	3	P	P	22 27 14.9	-0.1
	baz=184,SNR=7.9						
CUI	Cuipilapa	14.18	113	eP	Pn	22 27 10.7	+2.7
AMAS	Alto Masis	14.35	113	eP	Pn	22 27 12.7	+2.4
JTS	JuntasAbangare	14.53	114	Pn	Pn	22 27 13.9	+1.2
	2.0nm,0.3s,baz=348,slow=5.7,SNR=14						
JTS				Sn	Sn	22 29 56.5	+3.4
	1.3nm,0.3s,baz=355,slow=21,SNR=4.2						
JCR	Jicaral	14.60	116	eP	P	22 27 17.1	-2.6
CASO	Castillo	14.66	113	eP	Pn	22 27 16.5	+2.0
CEDE	Laguna Cedeˆ–o	14.66	113	eP	Pn	22 27 16.5	+1.9
441A	DeRidder	14.92	18	P	P	22 27 23.0	-0.2
	baz=200						
CGA2	Cerro Gallo 2	15.08	114	eP	Pn	22 27 22.2	+2.0
WHTX	Lake Whitney,	15.39	3	P	P	22 27 28.5	+0.1
	baz=184,SNR=10						
WHTX	Lake Whitney,	15.39	3	ePn	Pn	22 27 24.5	+0.5
	489nm,1.1s						
HDC	Heredia	15.40	113	ePn	P	22 27 27.3	-1.5
	162nm,0.9s						
341A	Kurthwood	15.47	17	P	P	22 27 28.9	-0.4
	baz=199,SNR=13						
NATX	Nacogdoches	15.52	12	P	P	22 27 29.4	-0.5
	baz=194,SNR=14						
NATX	Nacogdoches	15.52	12	ePn	Pn	22 27 25.2	-0.5
	605nm,1.3s						
LCR2	La Lucha 2	15.61	114	eP	Pn	22 27 28.5	+1.3
CVTR	Volcan Turrial	15.70	113	eP	Pn	22 27 28.7	+0.1
URSC	Urasca	15.77	113	eP	P	22 27 31.3	-1.7
342A	Flagon Creek P	15.77	20	P	P	22 27 32.7	+0.1
	baz=202,SNR=9.3						
BUS	Buena Vista	15.91	114	eP	P	22 27 34.1	-0.6
445A	Amite	15.94	26	P	P	22 27 34.4	-0.1
	baz=210						
240A	Hunter Patters	15.99	15	P	P	22 27 35.1	0.0
	baz=197,SNR=9.8						
ABTX	Abilene, Hawle	16.03	356	P	P	22 27 36.3	+0.7
	baz=176,SNR=47						
ABTX	Abilene, Hawle	16.03	356	ePn	Pn	22 27 32.0	-0.3
	408nm,1.0s						
241A	Mo Tay, Goldon	16.19	17	P	P	22 27 36.9	-0.4
	baz=200,SNR=7.0						
MNTX	Cornudas Mount	16.34	339	P	Pn	22 27 37.1	+0.8
	baz=156,SNR=17						
MNTX	Cornudas Mount	16.34	339	ePn	Pn	22 27 36.6	+0.4
	104nm,1.2s						
344A	Westbrook Farm	16.41	24	P	Pn	22 27 36.5	-0.6
	baz=207						
140A	Cam and Jess,	16.61	15	P	P	22 27 41.1	-0.9
	baz=197,SNR=29						
141A	Papa Simpson,	16.75	16	P	P	22 27 42.4	-1.1
	baz=199,SNR=9.9						
EPT	El Paso	16.82	336	ePn	Pn	22 27 42.5	0.0
	263nm,1.9s						
346A	Big Creek Wild	16.88	27	P	Pn	22 27 41.4	-1.6
	baz=211						
HSIG		16.91	319	ePn	P	22 27 45.3	0.0
244A	Avery, Jackson	16.95	23	P	Pn	22 27 42.2	-1.7
	baz=206,SNR=12						
142A	Monroe	16.98	19	P	Pn	22 27 44.7	+0.5
	baz=202						
CPRX	Cap Rock	17.11	344	ePn	Pn	22 27 46.6	+0.4
VBMS	Vicksburg	17.17	23	P	Pn	22 27 45.5	-1.2
	baz=207						
VBMS	Vicksburg	17.17	23	ePn	Pn	22 27 45.5	-1.2
BRU2	Volcan	17.20	115	eP	P	22 27 50.1	+1.3
Z40A	Long Farm, Mag	17.24	14	P	P	22 27 48.8	-0.2
	baz=197,SNR=36						
245A	Little AP, Sta	17.25	25	P	Pn	22 27 45.6	-2.1
	baz=209						
143A	Socs Landing,	17.29	20	P	Pn	22 27 48.1	-0.1
	baz=203,SNR=11						
347A	Saraland	17.31	30	P	Pn	22 27 47.0	-1.5
	baz=214						
Z41A	Richland Creek	17.39	16	P	P	22 27 50.5	-0.1
	baz=198,SNR=42						
348A	Jackson	17.63	31	P	Pn	22 27 51.8	-0.6
	baz=215						
Z42A	Norrel Spur, H	17.65	18	P	P	22 27 54.1	+0.7
	baz=201,SNR=13						
319A	Douglas	17.74	328	ePn	P	22 27 55.5	+0.8
	162nm,1.0s						
MSTX	Muleshoe	17.77	348	P	Pn	22 27 53.8	-0.5
	baz=167,SNR=28						
MSTX	Muleshoe	17.77	348	ePn	Pn	22 27 53.0	-1.3
	112nm,0.9s						
247A	Quitman	17.83	28	P	Pn	22 27 53.6	-1.2
	baz=212						
BRAL	Brewton	17.87	34	P	P	22 27 55.2	-0.7
	baz=218,SNR=10						
BRAL	Brewton	17.87	34	ePn	P	22 27 55.6	-0.3
	228nm,1.1s						
349A	Repton	17.94	33	P	Pn	22 27 54.7	-1.6
	baz=217,SNR=25						
Y40A	Okolona	17.99	14	P	Pn	22 27 56.2	-0.6
	baz=196,SNR=12						
121A	Cookes Peak, D	18.01	334	P	P	22 27 58.7	+1.1
	baz=150,SNR=16						
121A	Cookes Peak, D	18.01	334	ePn	P	22 27 58.1	+0.5
	358nm,1.7s						
Y41A	Eaglette Beard	18.03	16	P	P	22 27 57.5	-0.2
	baz=198,SNR=17						
CBCY	The Bluff, Cay	18.05	77	ePn	P	22 27 57.8	-0.1
	121nm,1.0s						
WMOK	Wichita Mounta	18.11	359	ePn	Pn	22 27 57.2	-1.1
	64nm,1.0s						
WMOK	Wichita Mounta	18.11	359	eP	Pn	22 27 57.2	-1.1
WMOK				pmax	pmax		
	comp=Z,64nm,1.0s						
146A	Union	18.13	26	P	Pn	22 27 56.7	-1.8
	baz=210						
451A	Vernon	18.18	37	P	Pn	22 27 57.5	-1.7
	baz=222						
Y42A	Garnett, Star	18.22	18	P	P	22 27 59.7	-0.1
	baz=201						
248A	Dixon Mills	18.27	30	P	P	22 28 00.0	-0.2
	baz=215,SNR=24						
X39A	Fountain Ranch	18.30	11	P	Pn	22 27 59.1	-1.5
	baz=194,SNR=23						
MIAR	Mount Ida	18.44	13	P	P	22 28 00.4	-1.8
	baz=195,SNR=32						
MIAR	Mount Ida	18.44	13	eP	P	22 28 00.1	-2.0
	comp=Z,286nm,1.0s						
MIAR	Mount Ida	18.44	13	eP	P	22 28 00.1	-2.0
MIAR				pmax	pmax		
	comp=Z,287nm,1.0s						
350A	Dozier	18.45	35	P	Pn	22 28 02.7	+0.1
	baz=219						
AMTX	Amarillo	18.48	352	P	P	22 28 02.0	-0.6
	baz=170						
AMTX	Amarillo	18.48	352	eP	P	22 28 02.0	-0.6
	comp=Z,199nm,1.1s						
249A	Camden	18.48	32	P	P	22 28 01.1	-1.5
	baz=216,SNR=11						
147A	Livingston	18.50	28	P	P	22 28 01.8	-1.1
	baz=212,SNR=7.0						
Z45A	Winona	18.51	24	P	Pn	22 28 03.0	-0.2
	baz=207						
X40A	Basin Creek Fa	18.55	15	P	P	22 28 02.8	-0.6
	baz=197,SNR=13						
058A	Arcadia	18.64	53	P	P	22 28 02.7	-1.6
	baz=239						
X41A	Kaden, Bauxite	18.64	16	P	P	22 28 03.3	-1.1
	baz=198,SNR=17						
Z46A	Louisville	18.66	26	P	P	22 28 03.3	-1.2
	baz=210						
553A	Crawfordville	18.67	41	P	P	22 28 02.8	-1.9
	baz=226						
351A	Pinckard	18.75	36	P	P	22 28 04.0	-1.6
	baz=221						
148A	Greensboro	18.80	30	P	P	22 28 05.1	-1.0
	baz=214,SNR=22						
250A	Grady	18.92	34	P	P	22 28 07.0	-0.5
	baz=218,SNR=8.6						
958A	Wauchula	18.95	52	P	P	22 28 06.5	-1.2
	baz=238						
UALR	University of	18.95	16	eP	P	22 28 06.9	-0.8
	comp=Z,268nm,1.0s						
857A	Zephyrhills	18.97	49	P	P	22 28 06.5	-1.5
	baz=235,SNR=7.7						
BNM	Barren Site	19.00	339	eP	Pn	22 28 10.5	+1.1
Y45A	Yeager Farm, C	19.01	23	P	P	22 28 08.4	0.0
	baz=207,SNR=6.1						
W39A	Magazine	19.02	12	P	Pn	22 28 08.8	-0.6
	baz=194,SNR=54						
Y22D	IRIS PASSCAL I	19.03	338	eP	Pn	22 28 09.5	-0.2
	comp=Z,101nm,0.9s						
Z47A	Carrollton	19.04	28	P	P	22 28 08.3	-0.4
	baz=212,SNR=10.0						
059A	Moore Haven	19.10	54	P	P	22 28 08.6	-0.9
	baz=240						
X43A	Marvell	19.13	19	P	Pn	22 28 09.9	-0.8
	baz=203						
149A	Jones	19.14	31	P	P	22 28 09.0	-0.9
	baz=216,SNR=32						
LPM	Los Pinos Moun	19.14	339	eP	P	22 28 09.3	-0.8
W40A	Ferguson Farm,	19.17	14	P	P	22 28 09.5	-0.6
	baz=196,SNR=12						
W40A	Ferguson Farm,	19.17	14	eP	P	22 28 09.8	-0.4
	comp=Z,182nm,1.0s						
453A	Whigham	19.20	40	P	P	22 28 10.4	-0.2
	baz=225,SNR=6.9						
TUC	Tucson	19.26	327	P	Pn	22 28 13.4	+1.0
	baz=142						
TUC	Tucson	19.26	327	eP	Pn	22 28 13.1	+0.7
	comp=Z,274nm,2.0s						
TUC	Tucson	19.26	327	eP	Pn	22 28 13.1	+0.7
TUC				pmax	pmax		
	comp=Z,274nm,2.0s						
352A	Blakely	19.29	37	P	P	22 28 11.1	-0.4
	baz=223,SNR=6.5						
Y46A	Houston	19.29	25	P	P	22 28 11.3	-0.2
	baz=209,SNR=49						
W41B	Gary Mavity, V	19.35	16	P	P	22 28 11.5	-0.6
	baz=198						
LRAL	Lakeview Retre	19.40	30	P	P	22 28 12.1	-0.6
	baz=215,SNR=43						
LRAL	Lakeview Retre	19.40	30	eP	P	22 28 12.2	-0.4
	comp=Z,67nm,1.0s						
656A	Willston	19.40	46	P	P	22 28 12.6	0.0
	baz=232						
LAZ	Ladron	19.40	338	eP	Pn	22 28 16.1	+1.9
Z48A	Northport	19.42	28	P	P	22 28 11.9	-1.0
	baz=213,SNR=50						
TUL1	Leonard	19.42	7	P	P	22 28 11.4	-1.4
	baz=188,SNR=24						
TUL1	Leonard	19.42	7	eP	P	22 28 11.5	-1.4
	comp=Z,269nm,1.0s						
DWPF	Disney Wildern	19.47	51	P	P	22 28 12.2	-1.2
	baz=237						
DWPF	Disney Wildern	19.47	51	eP	P	22 28 12.3	-1.2
	comp=Z,142nm,1.0s						
757A	Oxford	19.47	48	P	P	22 28 12.1	-1.4
	baz=234,SNR=12						
251A	Midway	19.48	35	P	P	22 28 12.6	-1.0
	baz=220,SNR=13						
454A	Quitman	19.54	41	P	P	22 28 13.2	-1.0
	baz=227						
150A	Eclectic	19.54	33	P	P	22 28 13.6	-0.6
	baz=218,SNR=31						
X45A	UM Field Stati	19.56	23	P	P	22 28 14.0	-0.4
	baz=207,SNR=11						
555A	McAlpin	19.57	44	P	P	22 28 13.7	-0.9
	baz=230						
353A	Camilla	19.61	39	P	P	22 28 14.2	-0.8
	baz=224,SNR=6.6						
OXF	Oxford	19.63	23	P	P	22 28 14.3	-0.9
	baz=207						
OXF	Oxford	19.63	23	eP	P	22 28 14.5	-0.7
OXF	Oxford	19.63	23	eP	P	22 28 14.5	-0.7
ANMO	Albuquerque	19.66	340	P	P	22 28 16.7	+0.9
	comp=Z,0.4nm,0.3s,baz=333,slow=12,SNR=51						
ANMO				LR	LR	22 36 24.8	
	comp=Z,6µm,18.1s,baz=347,slow=38						
ANMO	Albuquerque	19.66	340	P	Pn	22 28 16.9	-0.4
	baz=157						
ANMO	Albuquerque	19.66	340	eP	P	22 28 16.3	+0.5
	comp=Z,71nm,0.9s						
ANMO	Albuquerque	19.66	340c	iP	Pn	22 28 17.3	0.0
ANMO				pmax	pmax		
	comp=Z,31nm,1.0s						
V39A	Pettigrew	19.67	12	P	P	22 28 15.2	-0.6
	baz=194,SNR=54						

Y47A	**UCPARC, Winfie** baz=212,SNR=22	19.73	27	P		P		22 28	15.8	-0.5
Z49A	**Columbiana** baz=216,SNR=58	19.75	31	P		P		22 28	16.1	-0.5
252A	**Lumpkin** baz=222,SNR=14	19.78	37	P		Pn		22 28	17.2	-1.3
V40A	**Witts Springs** baz=196,SNR=41	19.81	14	P		P		22 28	16.6	-0.6
151A	**Opelika** baz=220,SNR=14	19.85	34	P		P		22 28	17.2	-0.5
556A	**Lake Butler** baz=231,SNR=10	19.88	45	P		P		22 28	17.0	-0.9
455A	**Stateville** baz=228,SNR=7.3	19.94	42	P		P		22 28	17.7	-0.9
V41A	**Mountainview** baz=198,SNR=26	19.95	15	P		P		22 28	17.8	-1.0
X46A	**Booneville** baz=209,SNR=23	19.99	24	P		P		22 28	18.7	-0.4
657A	**Interlachen** baz=233	19.99	47	P		P		22 28	18.0	-1.1
MTDJ	**Mount Denham** comp=Z,121nm,1.2s	20.03	82	eP		P		22 28	20.1	+0.3
Y48A	**Jasper** baz=213,SNR=36	20.04	28	P		P		22 28	19.2	-0.5
TIGA	**Tifton** baz=226	20.06	40	P		P		22 28	19.9	0.0
TIGA	**Tifton** comp=Z,180nm,0.9s	20.06	40	eP		P		22 28	20.1	+0.2
Z50A	**Ashland** baz=217,SNR=59	20.11	32	P		P		22 28	20.3	-0.2
214A	**Organ Pipe Nat** baz=137,SNR=8.5	20.12	322	P		Pn		22 28	23.0	+0.4
214A	**Organ Pipe Nat** comp=Z,279nm,1.0s	20.12	322	eP		P		22 28	21.8	+1.2
V42A	**Cord** baz=200,SNR=23	20.18	17	P		P		22 28	20.0	-1.1
253A	**Americus** baz=223	20.18	38	P		P		22 28	21.2	0.0
U39A	**Green Forest** baz=194,SNR=73	20.23	12	P		P		22 28	20.3	-1.5
X47A	**Russelville** baz=211,SNR=22	20.25	26	P		P		22 28	20.7	-1.3
U40A	**Yellville** baz=196,SNR=76	20.34	13	P		P		22 28	22.5	-0.4
557A	**Orange Park** baz=232,SNR=5.9	20.34	46	P		P		22 28	22.3	-0.7
Y49A	**Blount Mountai** baz=215,SNR=24	20.35	30	P		P		22 28	22.4	-0.7
U41A	**Viola** baz=198,SNR=27	20.54	15	P		P		22 28	23.9	-1.2
X48A	**Hartselle** baz=213,SNR=40	20.55	28	P		P		22 28	24.0	-1.2
PLAL	**Pickwick Lake** comp=Z,148nm,1.0s	20.56	25	eP		P		22 28	24.0	-1.4
W46A	**Michie** baz=208	20.57	24	P		Pn		22 28	26.3	-1.5
456A	**Hilliard** baz=230	20.59	44	P		P		22 28	24.2	-1.5
254A	**Abbeville** baz=225	20.59	39	P		P		22 28	24.3	-1.4
X18A	**Snowflake** comp=Z,172nm,1.1s	20.65	332	eP		Pn		22 28	28.8	-0.2
Y50A	**Piedmont** baz=217,SNR=26	20.71	31	P		P		22 28	26.6	-0.4
T38A	**Diamond** baz=192,SNR=55	20.73	9	P		P		22 28	25.9	-1.2
U42A	**Revenden** baz=200,SNR=37	20.73	17	P		P		22 28	25.6	-1.6
T39A	**Clever** baz=194,SNR=40	20.87	11	P		P		22 28	27.2	-1.5
V45A	**Humboldt** baz=206	20.89	22	P		P		22 28	27.9	-1.0
356A	**Blackshear** baz=229	20.90	42	P		P		22 28	29.2	+0.1
X49A	**Woodville** baz=214,SNR=25	20.93	29	P		P		22 28	28.3	-1.0
W47A	**Westpoint** baz=210,SNR=35	20.99	25	P		P		22 28	28.5	-1.5
W18A	**Petrified Fore** baz=149,SNR=18	21.06	333	P		P		22 28	32.7	+1.8
W18A	**Petrified Fore** comp=Z,104nm,1.0s	21.06	333	eP		P		22 28	32.3	+1.4
T25A	**Trinidad** baz=164,SNR=70	21.17	347	P		P		22 28	32.8	+0.7
T25A	**Trinidad** comp=Z,161nm,1.0s	21.17	347	eP		P		22 28	32.4	+0.3
T40A	**Mansfield** baz=196,SNR=58	21.17	13	P		P		22 28	31.1	-0.9
154A	**Montrose** baz=224	21.18	38	P		P		22 28	31.2	-0.8
W48A	**Pulaski** baz=212,SNR=47	21.18	27	P		P		22 28	30.8	-1.2
X50A	**Fort Payne** baz=216,SNR=14	21.21	30	P		P		22 28	31.5	-0.8
MHTCO	**State Highway** comp=Z,136nm,1.1s	21.22	346	eP		P		22 28	33.6	+1.0
T41A	**Mountain View** baz=198,SNR=62	21.25	15	P		P		22 28	31.6	-1.1
V46A	**Holladay** baz=208,SNR=80	21.26	24	P		P		22 28	31.5	-1.4
X16A	**Lo Mia Camp, P** comp=Z,108nm,1.0s	21.26	329	eP		P		22 28	34.6	+1.5
113A	**Mohawk Valley,** comp=Z,53nm,0.9s	21.27	322	eP		P		22 28	34.4	+1.4
PBMO	**Poplar Bluff** comp=Z,140nm,0.9s	21.36	18	eP		P		22 28	32.5	-1.4
S38A	**Stockton** baz=192,SNR=15	21.37	10	P		P		22 28	32.7	-1.3
T42A	**Van Buren** baz=200,SNR=24	21.41	16	P		P		22 28	33.4	-1.0
UTMT	**University of** comp=Z,773nm,1.2s	21.47	22	eP		P		22 28	37.8	+2.7
256A	**Glennville** baz=228	21.49	41	P		P		22 28	34.4	-0.9
U45A	**Rockin P Farm,** baz=206,SNR=15	21.51	22	P		P		22 28	35.3	-0.2
V47A	**Nunnelly** baz=210,SNR=21	21.52	25	P		P		22 28	33.6	-2.0
S39A	**Bolivar** baz=194,SNR=66	21.53	11	P		P		22 28	34.5	-1.3
GOGA	**Godfrey** baz=222,SNR=58	21.54	36	P		P		22 28	34.7	-1.2
GOGA	**Godfrey** comp=Z,161nm,1.0s	21.54	36	eP		P		22 28	34.9	-1.1
GOGA	**Godfrey** comp=Z,161nm,1.0s	21.54	36	eP	pmax	P	pmax	22 28	34.9	-1.1
155A	**Kite** baz=226,SNR=33	21.57	39	P		P		22 28	35.2	-1.0
S40A	**Lebanon** baz=196,SNR=38	21.61	13	P		P		22 28	35.3	-1.3
WVT	**Waverly** baz=209	21.66	24	P		P		22 28	35.5	-1.7
WVT	**Waverly** comp=Z,91nm,0.9s	21.66	24	eP		P		22 28	34.7	-2.4
WVT	**Waverly** comp=Z,91nm,0.9s	21.66	24	eP	pmax	P	pmax	22 28	34.7	-2.4
T43A	**Greenville** baz=202,SNR=41	21.68	18	P		P		22 28	36.2	-1.2
Y14A	**Wickenburg** comp=Z,167nm,1.0s	21.70	326	eP		P		22 28	39.1	+1.5
U46A	**Springville** baz=208,SNR=8.6	21.73	23	P		P		22 28	38.8	+0.9
V48A	**Smith Brothers** baz=211,SNR=20	21.73	26	P		P		22 28	36.7	-1.2
S41A	**Jilco Farms,** baz=198,SNR=35	21.77	14	P		P		22 28	37.7	-0.7
T44A	**Benton** baz=203,SNR=9.5	21.90	19	P		P		22 28	38.8	-0.9
R38A	**Fenwick Farm,** baz=192,SNR=20	21.91	10	P		P		22 28	38.1	-1.7
SDCO	**Great Sand Dun** baz=162,SNR=8.6	22.00	345	P		P		22 28	42.1	+0.9
SDCO	**Great Sand Dun** comp=Z,33nm,0.9s	22.00	345	eP		P		22 28	43.0	+1.8
GLA	**Glamis** baz=134,SNR=9.5	22.10	321	P		P		22 28	43.0	+1.0
GLA	**Glamis** comp=Z,134nm,1.0s	22.10	321	eP		P		22 28	43.3	+1.3
GLA	**Glamis** comp=Z,134nm,1.0s	22.10	321	eP	pmax	P	pmax	22 28	43.3	+1.3
WUAZ	**Wupatki** baz=146,SNR=26	22.12	331	P		P		22 28	44.2	+1.9
WUAZ	**Wupatki** comp=Z,168nm,0.9s	22.12	331	eP		P		22 28	44.3	+2.0
U47A	**Clarksville** baz=210,SNR=35	22.14	24	P		P		22 28	42.3	-0.1
S42A	**Caledonia** baz=200,SNR=86	22.18	16	P		P		22 28	41.9	-0.8
R39A	**Chumby, Stover** baz=194,SNR=59	22.19	11	P		P		22 28	41.2	-1.6
S43A	**Fulton Ridge,** baz=202,SNR=24	22.20	18	P		P		22 28	42.4	-0.6
CBKS	**Cedar Bluff** baz=177,SNR=5.4	22.20	357	P		P		22 28	44.4	+1.4
CBKS	**Cedar Bluff** comp=Z,198nm,1.0s	22.20	357	eP		P		22 28	44.0	+1.0
CBKS	**Cedar Bluff** comp=Z,198nm,1.0s	22.20	357	eP	pmax	P	pmax	22 28	44.0	+1.0
R40A	**Maddies Statio** baz=196,SNR=72	22.32	13	P		P		22 28	43.1	-1.1
CCM	**Cathedral Cave** baz=198	22.33	15	P		P		22 28	42.8	-1.6
CCM	**Cathedral Cave** comp=Z,313nm,1.1s	22.33	15	eP		P		22 28	42.4	-2.0
CCM	**Cathedral Cave** comp=Z,313nm,1.1s	22.33	15	eP	pmax	P	pmax	22 28	42.4	-2.0
S22A	**4UR Ranch, Cre** comp=Z,76nm,1.4s	22.36	342	eP		P		22 28	43.8	-1.2
MVCO	**Mesa Verde** baz=154,SNR=31	22.41	339	P		P		22 28	46.0	+0.6
MVCO	**Mesa Verde** comp=Z,193nm,1.1s	22.41	339	eP		P		22 28	46.1	+0.6
Y12C	**Blythe** baz=136,SNR=9.3	22.41	323	P		P		22 28	47.1	+1.9
Y12C	**Blythe** comp=Z,75nm,1.1s	22.41	323	eP		P		22 28	46.7	+1.5
GTBY	**Guantanamo Bay** comp=Z,164nm,1.2s	22.42	78	eP		P		22 28	45.2	-0.2
T46A	**Princeton** baz=207,SNR=24	22.44	23	P		P		22 28	44.5	-1.1
FVM	**French Village** comp=Z,110nm,0.9s	22.48	17	eP		P		22 28	44.2	-1.8
FVM	**French Village** comp=Z,110nm,0.9s	22.48	17	eP	pmax	P	pmax	22 28	44.2	-1.8
Q37A	**Longview Farm,** baz=190,SNR=9.8	22.51	8	P		P		22 28	44.2	-2.0
U48A	**Cassie Pea, Po** baz=211,SNR=20	22.51	26	P		P		22 28	46.6	+0.3
KSU1	**Kansas State U** baz=185	22.52	4	P		P		22 28	45.2	-1.2
KSU1	**Kansas State U** comp=Z,125nm,1.0s	22.52	4	eP		P		22 28	44.7	-1.7
R41A	**Rosebud** baz=198,SNR=34	22.53	15	P		P		22 28	44.7	-1.8
S44A	**Carbondale** baz=204,SNR=14	22.56	19	P		P		22 28	45.2	-1.6
SIUC	**Southern Illin** comp=Z,261nm,0.9s	22.59	19	eP		P		22 28	45.1	-2.1
PDMCI	**Parker Dam,Lak** baz=138,SNR=5.2	22.59	324	P		P		22 28	48.4	+1.2
SWSC	**Sam W. Stewart** baz=132	22.62	319	P		P		22 28	48.5	+1.0
R42A	**Luebbering** baz=199,SNR=7.1	22.66	16	P		P		22 28	46.0	-1.8
KSCO	**Kaye Shedlock'** baz=170,SNR=17	22.66	352	P		P		22 28	48.4	+0.3
KSCO	**Kaye Shedlock'** comp=Z,179nm,1.4s	22.66	352	eP		P		22 28	47.5	-0.6
T47A	**Sharon Grove** baz=209,SNR=39	22.69	24	P		P		22 28	48.4	+0.2
Q38A	**Cooks Store, C** baz=192,SNR=15	22.72	10	P		P		22 28	48.3	-0.2
S45A	**Carrier Mills** baz=205,SNR=23	22.77	21	P		P		22 28	47.9	-1.1
BC3	**Big Chuckawall** baz=134,SNR=7.8	22.89	321	P		P		22 28	51.7	+1.2
R43A	**Red Bud** baz=202,SNR=13	22.89	17	P		P		22 28	49.7	-0.6
Q39A	**Willow Grove F** baz=194,SNR=31	22.91	11	P		P		22 28	48.8	-1.7
Q40A	**Laux Farm, Aux** baz=196,SNR=24	23.04	13	P		P		22 28	50.3	-1.5
W13A	**Hualapai Mount** comp=Z,61nm,1.3s	23.05	326	eP		P		22 28	54.5	+2.3
IRM	**Iron Mountain** baz=136,SNR=17	23.06	323	P		P		22 28	53.5	+1.4
S46A	**Don Dixon Farm** baz=207	23.08	22	P		P		22 28	51.6	-0.6
Q24A	**Divide** baz=164,SNR=7.8	23.08	347	P		P		22 28	53.1	+0.6
Q24A	**Divide** comp=Z,46nm,1.2s	23.08	347	eP		P		22 28	51.8	-0.8
T48A	**Bowling Green** baz=211,SNR=43	23.08	25	P		P		22 28	50.8	-1.5
TKL	**Tuckaleechee C** comp=Z,53nm,0.9s,baz=205,slow=9.6,SNR=29	23.09	32	P		P		22 28	52.0	-0.4
TKL	**Tuckaleechee C** comp=Z,306nm,1.4s	23.09	32	eP		P		22 28	52.0	-0.4
TKL	**Tuckaleechee C** comp=Z,306nm,1.4s	23.09	32	eP	pmax	P	pmax	22 28	52.0	-0.4
R44A	**Waltonville** baz=204,SNR=12	23.12	19	P		P		22 28	52.3	-0.4
SLM	**Saint Louis** comp=Z,226nm,1.3s	23.14	17	eP		P		22 28	50.2	-2.7
SLM	**Saint Louis** comp=Z,226nm,1.3s	23.14	17	eP	pmax	P	pmax	22 28	50.2	-2.7
Q41A	**Truxton** baz=198,SNR=24	23.19	14	P		P		22 28	52.0	-1.3
P37A	**Lathrop** baz=190,SNR=9.0	23.22	8	P		P		22 28	51.5	-2.1
U15A	**North Rim** comp=Z,124nm,1.0s	23.29	331	eP		P		22 28	55.9	+1.1
NHSC	**New Hope** baz=229,SNR=29	23.32	42	P		P		22 28	54.3	-0.4
NHSC	**New Hope** comp=Z,606nm,1.0s	23.32	42	eP		P		22 28	53.7	-0.9
Q42A	**Golden Eagle** baz=200,SNR=15	23.32	16	P		P		22 28	54.4	-0.2
USIN	**University of** comp=Z,248nm,1.1s	23.34	22	eP		P		22 28	54.7	-0.2
P38A	**Dawn** baz=192,SNR=13	23.38	10	P		P		22 28	54.0	-1.2
P39B	**Salisbury** baz=194,SNR=25	23.38	11	P		P		22 28	54.1	-1.1
PV05	**Paradox Valley**	23.39	338	eP		P		22 28	57.6	+1.9
R45A	**Skylar, Fairfi** baz=205,SNR=7.7	23.42	20	P		P		22 28	54.6	-1.1
O33A	**Hebron** baz=182,SNR=9.0	23.44	2	P		P		22 28	56.0	+0.1
BELC	**Belle Mtn. Jos** baz=134,SNR=6.6	23.46	321	P		P		22 28	56.2	0.0
XPFO	**Piæon Flat** comp=Z,48nm,1.3s	23.48	320	eP		P		22 28	58.1	+1.7
PFO	**Pinyon Flats O** comp=Z,50nm,1.4s	23.48	320	eP		P		22 28	58.1	+1.7
PFO	**Pinyon Flats O** comp=Z,49nm,1.4s	23.48	320	eP	pmax	P	pmax	22 28	58.1	+1.7
MOTC	**Monteria, Cord**	23.52	106	eP		P		22 28	58.0	+1.2
DANC	**Danby, Needles**	23.54	323	eP		P		22 28	56.9	+0.1
DANC				eSn		Sn		22 33	25.2	-5.0
P40A	**Paris** baz=196,SNR=35	23.56	12	P		P		22 28	55.4	-1.6
Q43A	**New Douglas** baz=201	23.58	17	P		P		22 28	56.2	-1.0
O34A	**Beatrice** baz=184,SNR=30	23.59	3	P		P		22 28	57.1	-0.2
R46A	**Gibon Southern** baz=207,SNR=11	23.62	22	P		P		22 28	56.6	-0.9
S48A	**Wiedeman Farm,** baz=211,SNR=9.2	23.69	25	P		P		22 28	57.7	-0.6
LDFC	**Landfair** comp=Z,112nm,1.1s	23.70	324	eP		P		22 28	59.6	+1.1
O35A	**Humboldt** baz=186	23.73	5	P		P		22 28	57.7	-0.9
SMCO	**Snowmass** comp=Z,326nm,1.9s	23.73	343	eP		P		22 29	00.4	+1.3
Q44A	**Meyer Farm, Va** baz=203,SNR=10	23.75	19	P		P		22 28	57.0	-1.7
PV09	**Paradox Valley**	23.78	339	eP		P		22 29	03.5	+4.0
GMRC	**Granite Mounta** baz=136,SNR=10	23.81	323	P		P		22 29	00.7	+1.1
O37A	**Wolven Farm, M** baz=190,SNR=5.5	23.82	8	P		P		22 28	58.1	-1.4
O38A	**Galt** baz=192,SNR=14	23.87	9	P		P		22 28	58.5	-1.5
OLIL	**Olney** comp=Z,82nm,0.9s	23.88	20	eP		P		22 28	58.6	-1.4
TZTN	**Tazewell** baz=217,SNR=26	23.90	31	P		P		22 29	00.0	-0.2
TZTN	**Tazewell** comp=Z,164nm,1.0s	23.90	31	eP		P		22 28	59.6	-0.7
P41A	**Barry, Barry** baz=198,SNR=17	23.92	14	P		P		22 28	59.1	-1.2
MURC	**Murrieta** baz=131,SNR=5.1	23.93	319	P		P		22 29	01.9	+1.2
ISCO	**Idaho Springs** baz=163,SNR=60	23.98	346	P		P		22 29	01.7	+0.3
ISCO	**Idaho Springs** comp=Z,115nm,1.3s	23.98	346	eP		P		22 29	02.1	+0.8
ISCO	**Idaho Springs** comp=Z,115nm,1.3s	23.98	346	eP	pmax	P	pmax	22 29	02.1	+0.8
P42A	**Winchester** baz=200,SNR=45	24.01	16	P		P		22 29	00.1	-1.1
BBSC	**Beaumont Base**	24.01	320	eP		P		22 29	07.7	+6.4
Q45A	**Warren Harvey,** baz=205,SNR=11	24.01	20	P		P		22 29	00.1	-1.1
KMSC	**Kings Mountain** baz=224,SNR=43	24.01	36	P		P		22 29	00.6	-0.7
KMSC	**Kings Mountain** comp=Z,126nm,1.0s	24.01	36	eP		P		22 29	00.2	-1.1
KNB	**Kanab** comp=Z,111nm,1.0s	24.02	331	eP		P		22 29	03.1	+1.5
KNB	**Kanab** comp=Z,111nm,1.0s	24.02	331	eP	pmax	P	pmax	22 29	03.1	+1.5
R47A	**Wooly Knot Far** baz=209,SNR=103	24.06	24	P		P		22 29	00.8	-0.9
WCI	**Wyandotte Cave** baz=210	24.09	24	P		P		22 29	01.2	-0.8
WCI	**Wyandotte Cave** comp=Z,194nm,1.1s	24.09	24	eP		P		22 29	01.2	-0.8
WCI	**Wyandotte Cave** comp=Z,194nm,1.1s	24.09	24	eP	pmax	P	pmax	22 29	01.2	-0.8
N33A	**J Bar K, Exete** baz=182,SNR=6.7	24.11	2	P		P		22 29	01.4	-0.8
PKCU	**Pink Cliffs** comp=Z,108nm,1.2s	24.14	332	eP		P		22 29	05.9	+3.1
O39A	**Kirksville** baz=194,SNR=14	24.16	11	P		P		22 29	01.7	-1.0
O40A	**La Belle** baz=196,SNR=54	24.16	12	P		P		22 29	01.5	-1.1
MALC	**Bahia Malaga**	24.19	119	eP		P		22 29	06.8	+3.6
LCMT	**Little Creek M** comp=Z,163nm,1.9s	24.21	330	eP		P		22 29	05.8	+2.5
HEC	**Hector,Ludlow** baz=135,SNR=12	24.23	322	P		P		22 29	04.6	+1.1
N34A	**Lincoln** baz=185,SNR=9.1	24.25	4	P		P		22 29	02.7	-0.7
P43A	**Skaggs, Pawnee** baz=201,SNR=8.9	24.28	17	P		P		22 29	03.1	-0.6
DSCC	**Desert Studies**	24.32	323	eP		P		22 29	10.2	+6.0
DSCC				eSn		S		22 34	00.4	+39
N35A	**Tabor** baz=187	24.34	5	P		P		22 29	03.4	-0.8
N36A	**Muff Farm, Cla** baz=188	24.36	6	P		P		22 29	04.1	-0.4
O41A	**Passleys Farm,** baz=198,SNR=38	24.38	14	P		P		22 29	03.5	-1.1
P44A	**Sand Creek, Wi** baz=203,SNR=8.9	24.38	19	P		P		22 29	03.9	-0.8
N37A	**Lee Faris, Mou** baz=190	24.39	8	P		P		22 29	03.9	-0.9
Q46A	**CEJHS Indians,** baz=207	24.40	21	P		P		22 29	04.8	0.0
R48A	**Northridge Ran** baz=210,SNR=17	24.40	24	P		P		22 29	04.0	-0.9
TUQ	**Turquoise Moun** baz=136	24.42	324	P		P		22 29	07.1	+1.9
OGNE	**Ogallala** baz=172,SNR=14	24.50	353	P		P		22 29	06.1	+0.3
OGNE	**Ogallala**	24.50	353	eP		P		22 29	06.5	+0.7
N38A	**Joes South For** baz=192,SNR=23	24.57	10	P		P		22 29	05.4	-0.9
MTPU	**Mount Pierson** comp=Z,288nm,0.9s	24.57	333	eP		P		22 29	08.5	+1.6
O42A	**Bath** baz=200,SNR=5.3	24.65	16	P		P		22 29	06.1	-0.9
Q47A	**Bedord North L** baz=209,SNR=16	24.66	23	P		P		22 29	06.3	-0.9
HELC	**Santa Helena** comp=Z,76nm,1.3s	24.69	112	eP		P		22 29	10.2	+2.0
HELC	**Santa Helena**	24.69	112	eP		P		22 29	10.3	+2.2
CCUT	**Cedar City** comp=Z,33nm,1.0s	24.70	331	eP		P		22 29	09.7	+1.8
P45A	**Graceland, Par** baz=205,SNR=6.1	24.72	20	P		P		22 29	07.5	-0.2
ZARC	**Zaragoza, Cauc**	24.75	109	eP		P		22 29	08.1	-0.2
N39A	**Derby Farms, D** baz=194,SNR=27	24.77	11	P		P		22 29	07.0	-1.2
SHPR	**Sheep Range** comp=Z,54nm,1.2s	24.79	326	eP		P		22 29	10.0	+1.4
SRU	**San Rafael Swe** comp=Z,123nm,1.0s	24.82	337	eP		P		22 29	10.0	+1.1
SRU	**San Rafael Swe** comp=Z,123nm,1.0s	24.82	337	eP	pmax	P	pmax	22 29	10.0	+1.1
BLO	**Bloomington** comp=Z,86nm,0.8s	24.83	23	eP		P		22 29	08.2	-0.5
BLO	**Bloomington** comp=Z,86nm,0.8s	24.83	23	eP	pmax	P	pmax	22 29	08.2	-0.5
GSC	**Goldstone, Bar** baz=134,SNR=6.4	24.84	322	P		P		22 29	10.7	+1.7
GSC	**Goldstone, Bar** comp=Z,26nm,0.9s	24.84	322	eP		P		22 29	11.1	+2.1
GSC	**Goldstone, Bar** comp=Z,26nm,0.9s	24.84	322	eP	pmax	P	pmax	22 29	11.1	+2.1
MWC	**Mount Wilson** comp=Z,25nm,0.9s	24.88	319	eP		P		22 29	11.7	+2.2
MWC	**Mount Wilson** comp=Z,25nm,0.9s	24.88	319	eP	pmax	P	pmax	22 29	11.7	+2.2
Q16A	**Castle Valley** comp=Z,142nm,0.9s	24.90	336	eP		P		22 29	11.1	+1.4
M34A	**Aspy Farms, Fr** baz=184,SNR=6.4	24.91	3	P		P		22 29	08.7	-0.7
CHFC	**Chilao Flat St**	24.93	319	eP		P		22 29	16.2	+6.3
M35A	**Neola** baz=186	24.93	5	P		P		22 29	10.0	+0.4
O43A	**Sugar Creek Fa** baz=201,SNR=5.6	24.94	17	P		P		22 29	08.7	-1.0
N41A	**Harden Midland** baz=198,SNR=12	24.95	14	P		P		22 29	08.6	-1.2
M33A	**Taylor Creek F** baz=183	24.95	2	P		P		22 29	08.9	-0.9
N40A	**Mertquake, Sal** baz=196,SNR=11	24.96	12	P		P		22 29	08.1	-1.8
MSU	**Marysvale**	24.97	334	eP		P		22 29	11.7	+1.4
MSU	**Marysvale**	24.97	334	eP		P		22 29	11.7	+1.4
P46A	**Rosedale** baz=206,SNR=11	24.98	21	P		P		22 29	09.2	-0.9
O20A	**White River Ci** baz=158,SNR=22	24.98	342	P		P		22 29	11.3	+1.0
O20A	**White River Ci** comp=Z,110nm,1.0s	24.98	342	eP		P		22 29	11.8	+1.4
M36A	**Felix, Anita** baz=188	25.01	7	P		P		22 29	09.0	-1.3
M37A	**Trindle Farm,** baz=190,SNR=22	25.05	8	P		P		22 29	09.5	-1.2
YOTC	**Yotoco, Valle**	25.05	118	eP		P		22 29	11.4	+0.3
O44A	**Mansfield** baz=203,SNR=8.0	25.06	18	P		P		22 29	09.9	-0.9
DECC	**Green Verdugo** baz=130	25.08	318	P		P		22 29	12.3	+1.2
HORQ	**Saladito**	25.08	119	eP		P		22 29	11.2	-0.4
N23A	**Red Feather La** baz=163,SNR=31	25.10	347	P		P		22 29	11.8	+0.3
N23A	**Red Feather La** comp=Z,59nm,1.1s	25.10	347	eP		P		22 29	12.1	+0.6
P18A	**Preston Nutter** comp=Z,121nm,1.0s	25.18	338	eP		P		22 29	13.6	+1.3
M38A	**Pleasantville** baz=192,SNR=50	25.18	9	P		P		22 29	10.6	-1.3
HDIL	**Hopedale** baz=201,SNR=15	25.20	17	P		P		22 29	10.7	-1.3
HDIL	**Hopedale** comp=Z,152nm,0.9s	25.20	17	eP		P		22 29	11.5	-0.5
P47A	**Martinsville** baz=208,SNR=12	25.20	23	P		P		22 29	10.9	-1.2
CODC	**Agust`›n Codaz**	25.20	102	eP		P		22 29	13.3	+1.0
DBD	**Des Bee Dove**	25.22	337	eP		P		22 29	08.8	-3.7

DBD ePcP PcP 22 32 49.5 +3.7
P17A Butcher Ranch, 25.22 337 eP P 22 29 14.2 +1.7
comp=Z,77nm,1.1s
TMUT Trail Mountain 25.25 336 eP P 22 29 14.4 +1.5
comp=Z,74nm,1.1s
N42A Yates City 25.26 15 P P 22 29 11.5 -1.1
baz=199,SNR=10
EDW2 Edwards Air Fo 25.27 320 eP P 22 29 18.8 +5.9
EDW2 eS S 22 33 42.5 +5.3
O45A Potomac 25.38 19 P P 22 29 12.8 -0.8
baz=205,SNR=19
L34A Svendsen Farm, 25.38 4 P P 22 29 13.4 -0.4
baz=185
PHWY Pilot Hill 25.39 348 eP P 22 29 14.5 +0.4
comp=Z,44nm,1.1s
M39A Webster 25.42 11 P P 22 29 12.7 -1.3
baz=194,SNR=12
BLG Laguna Peak, P 25.46 317 P P 22 29 15.6 +1.0
baz=129
M40A Post Highland 25.47 12 P P 22 29 13.2 -1.4
baz=196,SNR=9.4
LRMC Laurel Mtn Rad 25.48 321 P P 22 29 16.2 +1.3
baz=133,SNR=10.0
PTBC PUERTO BERRIO, 25.50 110 eP P 22 29 16.5 +1.4
OTAV Otavalo 25.53 127 eP P 22 29 17.8 +2.0
comp=Z,16nm,0.9s
NCAT North Carolina 25.57 37 eP P 22 29 14.9 -0.6
comp=Z,172nm,1.1s
N43A Stutzman Famil 25.59 16 P P 22 29 14.6 -0.9
baz=201
L35A Bielow Farm, R 25.59 5 P P 22 29 15.6 0.0
baz=187
TOLC Tolima 25.62 115 eP P 22 29 20.2 +3.7
M41A Milan 25.65 14 P P 22 29 14.8 -1.3
baz=198,SNR=8.1
SCIA State Center 25.66 9 P P 22 29 15.1 -1.1
baz=192,SNR=18
SCIA State Center 25.66 9 eP P 22 29 14.9 -1.3
comp=Z,242nm,1.1s
L36A Harm Buss Farm 25.66 7 P P 22 29 15.3 -1.0
baz=188,SNR=16
FURC Furnace Creek, 25.69 324 P P 22 29 18.1 +1.6
baz=136
SFIN Lafayette 25.70 20 P P 22 29 15.7 -0.9
baz=206,SNR=12
SFIN Lafayette 25.70 20 eP P 22 29 16.2 -0.4
comp=Z,77nm,1.0s
TPNV Topopah Spring 25.70 326 P P 22 29 18.4 +1.5
baz=138
TPNV Topopah Spring 25.70 326 eP P 22 29 20.6 +3.8
comp=Z,105nm,1.2s
TPNV Topopah Spring 25.70 326 eP P 22 29 20.7 +3.8
TPNV pmax pmax
comp=Z,105nm,1.2s
N44A Piper City 25.75 18 P P 22 29 16.2 -0.9
baz=203,SNR=12
MPMC Manual Prospec 25.76 323 P P 22 29 18.7 +1.2
baz=134,SNR=14
GCUF Volcan Galeras 25.77 124 eP P 22 29 22.3 +4.2
L37A Phoenix Point, 25.80 8 P P 22 29 16.2 -1.3
baz=190,SNR=15
SOTA Rioblanco 25.84 121 eP P 22 29 17.1 -1.6
O47A Sheridan 25.89 22 P P 22 29 16.9 -1.5
baz=208,SNR=15
PCON Cinco Dias 25.90 121 eP P 22 29 21.7 +2.4
M42A Sheffield 25.92 15 P P 22 29 17.5 -1.1
baz=199,SNR=8.5
L38A Oak Wood Farm, 25.93 9 P P 22 29 17.9 -0.7
baz=192,SNR=14
BRRC Barranca, Sant 25.94 108 eP P 22 29 18.9 -0.2
ARVC Arvin 25.95 319 P P 22 29 20.2 +1.3
baz=131
SDDR Presa de Saban 25.97 81 eP P 22 29 21.2 +1.8
comp=Z,124nm,1.3s
DAC Darwin (Calif) 25.97 323 eP P 22 29 20.6 +1.2
comp=Z,27nm,1.0s
DAC Darwin (Calif) 25.97 323 eP P 22 29 20.6 +1.2
DAC pmax pmax
comp=Z,27nm,1.0s
MARP Paez Belalcaza 25.98 119 eP P 22 29 22.6 +2.8
N45A Kentland 25.99 19 P P 22 29 19.0 -0.2
baz=205,SNR=6.4
BLA Blacksburg 26.02 34 P P 22 29 19.0 -0.7
baz=222,SNR=11
BLA Blacksburg 26.02 34 eP P 22 29 19.0 -0.7
comp=Z,264nm,1.4s
BLA Blacksburg 26.02 34 eP P 22 29 19.0 -0.7
BLA pmax pmax
comp=Z,264nm,1.4s
MPU Maple Canyon 26.03 336 eP P 22 29 21.0 +1.1
comp=Z,47nm,0.9s
L39A Vinton 26.07 11 P P 22 29 18.3 -1.7
baz=194,SNR=19
ISA Isabella, Lake 26.08 321 P P 22 29 19.6 -0.6
baz=132
ISA Isabella, Lake 26.08 321 eP P 22 29 22.0 +1.8
comp=Z,42nm,1.0s
ISA Isabella, Lake 26.08 321 eP P 22 29 22.0 +1.8
ISA pmax pmax
comp=Z,42nm,1.0s
M43A Waltham Townsh 26.11 16 P P 22 29 19.1 -1.2
baz=201,SNR=9.3
K34A Le Mars 26.12 4 P P 22 29 19.7 -0.7
baz=185
CNNC Cliffs of the 26.14 41 eP P 22 29 19.4 -1.3
comp=Z,141nm,0.9s
NLU North Lily Min 26.15 336 eP P 22 29 22.2 +1.2
comp=Z,76nm,0.9s
RWWY Rawlins 26.15 345 eP P 22 29 17.4 -3.7
comp=Z,109nm,1.3s
L40A Anamosa 26.16 12 P P 22 29 19.3 -1.5
baz=196,SNR=14
K36A Gilmore City 26.22 7 P P 22 29 20.8 -0.5
baz=189
K35A Storm Lake 26.22 5 P P 22 29 20.2 -1.1
baz=187
N46A Monticello 26.28 20 P P 22 29 20.5 -1.4
baz=206,SNR=13
VWCC Virginia Weste 26.29 35 eP P 22 29 23.1 +1.1
M44A Midewin, Midew 26.32 18 P P 22 29 21.1 -1.1
baz=203,SNR=8.2
L41A Preston 26.33 13 P P 22 29 20.8 -1.5
baz=198,SNR=16
GRAC Grapevine Rang 26.35 324 P P 22 29 24.6 +1.9
baz=136
CWC Cottonwood Cre 26.37 322 P P 22 29 24.6 +1.6
baz=134
ROSC El Rosal 26.38 114 P P 22 29 24.4 +0.9
comp=Z,8.9nm,0.9s,baz=137,slow=2.0,SNR=7.2
ROSC El Rosal 26.38 114 eP P 22 29 26.8 +3.3
comp=Z,30nm,1.1s
ROSC El Rosal 26.38 114 eP P 22 29 29.0 +5.6
R11A Troy Canyon, C 26.41 329 P P 22 29 24.4 +1.1
baz=141,SNR=14
R11A Troy Canyon, C 26.41 329 eP P 22 29 24.9 +1.6
comp=Z,39nm,1.2s
K37A Belmond 26.44 8 P P 22 29 21.5 -1.9
baz=190,SNR=19
K38A Parkersburg 26.45 9 P P 22 29 21.9 -1.5
baz=192,SNR=7.4
L42A Oliver, Polo 26.46 15 P P 22 29 22.1 -1.4
baz=199,SNR=24
JLU Jordanelle 26.47 337 eP P 22 29 27.5 +3.6
comp=Z,19nm,1.0s
M45A Boilermakers S 26.56 19 P P 22 29 24.4 0.0
baz=205,SNR=5.3
VES Vestal, Richgr 26.57 320 P P 22 29 25.8 +1.3
baz=131,SNR=6.2
BARC Barichara 26.63 109 eP P 22 29 27.0 +1.4
DUG Dugway, Tooele 26.65 335 P P 22 29 26.9 +1.5
baz=148,SNR=24
DUG Dugway, Tooele 26.65 335 eP P 22 29 27.0 +1.5
comp=Z,60nm,0.9s
DUG Dugway, Tooele 26.65 335 eP P 22 29 27.0 +1.6
DUG pmax pmax
comp=Z,60nm,0.9s
K39A Oelwein 26.66 11 P P 22 29 23.7 -1.6
baz=194,SNR=18
CTU Camp Tracy 26.66 337 eP P 22 29 26.6 +1.1
comp=Z,30nm,0.9s
GATR Gnd/Air Tx Cnt 26.67 316 eP P 22 29 26.0 +0.4
J34A George 26.72 4 P P 22 29 25.3 -0.5
baz=186
J32A Parkston 26.73 1 P P 22 29 24.7 -1.2
baz=182
PAMC Pamplona, Colo 26.78 107 eP P 22 29 28.6 +1.4
K40A Colesburg 26.79 12 P P 22 29 24.9 -1.6
baz=196,SNR=30
L43A Garden Prairie 26.86 16 P P 22 29 26.0 -1.1
baz=201,SNR=7.0
M46A Old House Fiel 26.87 20 P P 22 29 26.1 -1.1
baz=206,SNR=6.7
K41A Shullsburg 26.88 13 P P 22 29 25.8 -1.5
baz=198,SNR=11
K22A Casper 26.91 347 P P 22 29 28.0 +0.3
baz=163,SNR=8.5
K22A Casper 26.91 347 eP P 22 29 28.6 +0.9
comp=Z,92nm,1.1s
TCUT Toone Canyon 26.91 338 eP P 22 29 29.3 +1.5
comp=Z,184nm,1.2s
J36A Seneca 1, Swea 26.91 7 P P 22 29 26.1 -1.4
baz=189,SNR=8.2
FLOC Florencia 26.93 121 eP P 22 29 31.8 +3.7
RCTC Rector, Farmer 26.97 321 P P 22 29 29.3 +1.2
baz=132
J37A Redenius Farm, 26.99 8 P P 22 29 27.0 -1.3
baz=190,SNR=7.2
CHIC Chingaza 26.99 113 eP P 22 29 30.4 +1.4
RUSC La Rusia 27.01 110 eP P 22 29 30.5 +1.2
comp=Z,41nm,1.2s
RUSC La Rusia 27.01 110 eP P 22 29 29.9 +0.6
L44A Lake County Fo 27.09 17 P P 22 29 28.1 -1.0
baz=203,SNR=9.0
ECSD EROS Data Cent 27.13 3 P P 22 29 28.3 -1.2
baz=184,SNR=16
ECSD EROS Data Cent 27.13 3 eP P 22 29 28.8 -0.8
comp=Z,54nm,1.0s
ACSO Alum Creek Sta 27.15 27 P P 22 29 28.5 -1.2
baz=214,SNR=20
ACSO Alum Creek Sta 27.15 27 eP P 22 29 28.5 -1.2
comp=Z,167nm,1.3s
J38A Wedel Dairy, R 27.15 10 P P 22 29 28.5 -1.2
baz=193,SNR=18
JFWS Jewell Farm 27.19 13 P P 22 29 29.3 -0.7
baz=198,SNR=15
JFWS Jewell Farm 27.19 13 eP P 22 29 29.1 -0.9
comp=Z,71nm,1.0s
JFWS Jewell Farm 27.19 13 eP P 22 29 29.1 -0.9
JFWS pmax pmax
comp=Z,71nm,1.0s
K42A Prairie Point, 27.27 15 P P 22 29 29.4 -1.4
baz=199,SNR=9.6
J39A Decorah 27.30 11 P P 22 29 29.4 -1.7
baz=194,SNR=12
BGU Big Grassy Mou 27.36 335 eP P 22 29 32.5 +0.7
comp=Z,52nm,1.2s
HWUT Hardware Ranch 27.40 338 eP P 22 29 33.1 +0.9
comp=Z,22nm,0.9s
K43A Burlington 27.46 16 P P 22 29 31.2 -1.2
baz=202,SNR=7.0
SJAC San Juan de Ar 27.46 116 eP P 22 29 39.2 +6.3
SPUT South Promonto 27.46 337 eP P 22 29 34.5 +1.8
comp=Z,43nm,1.2s
J40A Soldiers Grove 27.54 12 P P 22 29 31.8 -1.5
baz=196,SNR=10.0
J41A Loganville 27.67 13 P P 22 29 33.0 -1.3
baz=198,SNR=16
I37A Lemond, Waseca 27.70 8 P P 22 29 33.6 -1.0
baz=191
MDPB Devils Postpil 27.77 323 eP P 22 29 37.7 +2.1
comp=Z,22nm,1.0s
JSRW J. Sargeant Re 27.78 37 eP P 22 29 34.8 -0.6
BW06 Boulder Array 27.79 342 P P 22 29 35.7 0.0
baz=157,SNR=23
BW06 Boulder Array 27.79 342 eP P 22 29 36.0 +0.3
comp=Z,160nm,1.5s
PD31 Pinedale Array 27.79 342 eP P 22 29 35.9 +0.1
PD31 epP pP 22 29 45.5 +1.9
PD31 ePcP PcP 22 32 51.4 -0.4
PDAR Pinedale Array 27.79 342 P P 22 29 35.7 0.0
comp=Z,16nm,1.0s,baz=134,slow=8.5,SNR=78
PDAR pP pP 22 29 45.5 +1.9
comp=Z,25nm,0.8s,baz=150,slow=7.4,SNR=26
PDAR PcP PcP 22 32 51.4 -0.4
comp=Z,1.8nm,0.9s,baz=138,slow=4.2,SNR=4.1
PDAR Pinedale Array 27.79 342 eP P 22 29 34.7 -1.0
PDAR pP pP 22 29 45.5 +1.9
NV11 Mina Array Sit 27.82 325 eP P 22 29 37.9 +2.0
comp=Z,4.7nm,1.4s
J42A Columbus 27.83 15 P P 22 29 35.1 -0.6
baz=200,SNR=20
I39A Houston 27.84 11 P P 22 29 34.3 -1.6
baz=194,SNR=20
IP07 Quail 27.85 36 eP P 22 29 35.9 -0.2
comp=Z,42nm,1.3s
H32A Carlson Farm, 27.87 2 P P 22 29 35.1 -1.1
baz=182,SNR=7.2
RSSD Black Hills 27.88 351 P P 22 29 36.9 +0.4
baz=169
RSSD Black Hills 27.88 351 eP P 22 29 36.8 +0.4
comp=Z,35nm,1.2s
RSSD Black Hills 27.88 351 eP P 22 29 36.8 +0.4
RSSD pmax pmax
comp=Z,35nm,1.2s
I38A Scanlan Farm, 27.88 9 P P 22 29 34.0 -2.3
baz=193,SNR=39
IP06 Yanceyville 27.89 36 eP P 22 29 38.0 +1.6
comp=Z,29nm,1.2s
NV01 Mina Array Sit 27.89 325 eP P 22 29 38.1 +1.5
NV01 epP pP 22 29 46.2 +1.7
NV01 ePcP PcP 22 32 52.6 +0.5
NV01 eS S 22 34 19.9 +1.0
NVAR Mina Array Bea 27.89 325 P P 22 29 38.1 +1.4
comp=Z,17nm,1.0s,baz=146,slow=9.8,SNR=26
NVAR pP pP 22 29 46.2 +1.7
comp=Z,15nm,0.9s,baz=152,slow=9.6,SNR=9.7
NVAR PcP PcP 22 32 52.6 +0.5
comp=Z,3.0nm,0.9s,baz=128,slow=3.9,SNR=4.2
URVA University of 27.90 37 eP P 22 29 36.6 +0.2
IP03 Louisa 27.93 36 eP P 22 29 36.5 -0.2
comp=Z,47nm,1.2s
IP04 Greensprings 27.94 36 eP P 22 29 36.1 -0.7
comp=Z,26nm,1.0s
IP01 Cuckoo 27.95 36 eP P 22 29 36.2 -0.6
comp=Z,50nm,1.3s
IP05 Hopewell Churc 27.95 37 eP P 22 29 36.5 -0.4
comp=Z,53nm,1.0s
HVU Hansel Valley 27.99 337 eP P 22 29 38.9 +1.4
comp=Z,63nm,0.9s
HVU Hansel Valley 27.99 337 eP P 22 29 38.9 +1.4
HVU pmax pmax
comp=Z,63nm,0.9s
SPRD Spring Road, M 28.01 36 eP P 22 29 37.0 -0.4
comp=Z,26nm,1.1s
I40A Norwalk 28.04 12 P P 22 29 36.3 -1.4
baz=196
J43A Natural Harves 28.07 16 P P 22 29 36.8 -1.1
baz=201,SNR=8.1
H33A Prehn Over Nor 28.07 3 P P 22 29 36.7 -1.2
baz=184
CVRD Centerville Ro 28.08 36 eP P 22 29 40.3 +2.2
comp=Z,19nm,0.9s
MCWV Mont Chateau 28.15 31 P P 22 29 37.9 -0.8
baz=220,SNR=5.7
MCWV Mont Chateau 28.15 31 eP P 22 29 38.2 -0.4
comp=Z,139nm,1.1s
RYN Ryan 28.16 325 eP P 22 29 38.5 -0.5
comp=Z,34nm,1.2s
SDV Santo Domingo 28.16 102 P P 22 29 40.1 +0.9
comp=Z,42nm,0.9s,baz=287,slow=5.1,SNR=40
SDV pP sP 22 29 49.3 -1.1
comp=Z,62nm,0.8s,baz=292,slow=12,SNR=18
H36A Jessenland, He 28.19 7 P P 22 29 38.1 -0.9
baz=189,SNR=6.4
AHID Auburn Hatcher 28.27 340 eP P 22 29 40.7 +0.7
comp=Z,169nm,2.0s
H37A Dierke Farm, C 28.32 8 P P 22 29 39.2 -1.0
baz=191
I42A Draeger Farm, 28.42 15 P P 22 29 39.9 -1.2
baz=200,SNR=9.6
I42A Draeger Farm, 28.42 15 eP P 22 29 40.3 -0.7
comp=Z,89nm,1.3s
H38A Maiden Rock 28.51 9 P P 22 29 40.3 -1.5
baz=193,SNR=10
WAKR Walker 28.58 324 eP P 22 29 44.9 +2.1
comp=Z,13nm,1.0s
G33A Ortonville 28.60 3 P P 22 29 41.1 -1.5
baz=184
I43A Langenfeld Bro 28.61 16 P P 22 29 41.7 -1.0
baz=201,SNR=5.9
AAM Ann Arbor 28.62 23 eP P 22 29 42.0 -0.8
comp=Z,228nm,1.8s
AAM Ann Arbor 28.62 23 eP P 22 29 42.0 -0.8
AAM pmax pmax
comp=Z,228nm,1.8s
H39A Augusta 28.68 11 P P 22 29 42.2 -1.2
baz=194,SNR=13
REDW Red Top Meadow 28.73 341 eP P 22 29 45.0 +1.0
comp=Z,82nm,1.1s
SNOW Snow King Moun 28.79 341 eP P 22 29 45.8 +1.2
comp=Z,88nm,0.9s
H40A Chili 28.79 12 P P 22 29 43.3 -1.0
baz=196,SNR=14
CMB Columbia Colle 28.80 322 eP P 22 29 46.3 +1.7
comp=Z,11nm,1.1s
CMB Columbia Colle 28.80 322 eP P 22 29 46.3 +1.7
CMB pmax pmax
comp=Z,11nm,1.1s
YERR Yerington 28.80 325 eP P 22 29 47.1 +2.4
comp=Z,58nm,1.8s
BMN Battle Mountai 28.82 329 eP P 22 29 46.4 +1.6
comp=Z,22nm,1.2s
BMN epP pP 22 29 52.0 -0.7
BMN Battle Mountai 28.82 329 eP P 22 29 46.4 +1.6
BMN e*PP pP 22 29 52.0 -0.7
BMN pmax pmax
comp=Z,22nm,1.2s
TPAW Teton Pass 28.87 341 eP P 22 29 46.6 +1.2
comp=Z,115nm,1.4s
LOHW Long Hollow 28.88 342 eP P 22 29 46.0 +0.6
comp=Z,68nm,0.9s
H41A Junction City 28.94 13 P P 22 29 44.5 -1.1
baz=198,SNR=11
H41A Junction City 28.94 13 eP P 22 29 45.0 -0.7
comp=Z,87nm,0.9s
SPMN Marine on St. 28.97 8 P P 22 29 44.5 -1.4
baz=191,SNR=10
SPMN Marine on St. 28.97 8 eP P 22 29 44.9 -1.0
comp=Z,83nm,1.0s
FXWY Fox Creek 29.03 341 eP P 22 29 47.6 +0.9
comp=Z,39nm,0.9s
MOOW Moose Ponds 29.04 341 eP P 22 29 47.6 +0.8
comp=Z,29nm,0.9s
MOOW ePcP PcP 22 32 55.4 +0.6
G38A Ridgeland 29.06 10 P P 22 29 45.5 -1.2
baz=193,SNR=7.5
N54A Moraine State 29.09 30 P P 22 29 46.4 -0.6
baz=219,SNR=6.2
N54A Moraine State 29.09 30 eP P 22 29 46.4 -0.6
comp=Z,198nm,1.8s
IMW Indian Meadow 29.23 341 eP P 22 29 49.7 +1.0
comp=Z,27nm,0.8s
VCNR Virginia City 29.25 325 eP P 22 29 50.9 +2.2
comp=Z,56nm,1.9s
H43A Windswept, Lux 29.25 16 P P 22 29 47.6 -0.8
baz=201
H43A Windswept, Lux 29.25 16 eP P 22 29 48.2 -0.2
comp=Z,26nm,1.0s
O56A Blue Knob Stat 29.26 32 P P 22 29 48.2 -0.4
baz=222
O56A Blue Knob Stat 29.26 32 eP P 22 29 48.2 -0.4
comp=Z,46nm,1.0s
G39A Holcombe 29.29 11 P P 22 29 47.5 -1.2
baz=194,SNR=19
PAHR Pah Rah Range 29.39 326 eP P 22 29 52.0 +2.1
comp=Z,38nm,1.8s
YMS Mount Sheridan 29.45 342 eP P 22 29 50.1 -0.5
YMS ePcP PcP 22 32 55.2 -0.8
YMS eS S 22 34 45.4 +1.9
G40A Rib Lake 29.45 12 P P 22 29 48.9 -1.2
baz=196,SNR=18
F37A Hinrichs Farm, 29.48 8 P P 22 29 49.0 -1.4
baz=192
F36A Milaca 29.50 7 P P 22 29 49.3 -1.3
baz=190,SNR=9.8
ALLY Alegheny Colle 29.55 29 eP P 22 29 50.3 -0.9
comp=Z,174nm,1.6s
H17A Grant Village 29.58 342 P P 22 29 53.4 +1.8
baz=156
H17A Grant Village 29.58 342 eP P 22 29 54.3 +2.6
comp=Z,45nm,1.4s
G41A Antigo 29.61 13 P P 22 29 50.2 -1.4
baz=198,SNR=7.8
M54A Oil Creek Stat 29.66 29 P P 22 29 50.7 -1.4
baz=219,SNR=10
M54A Oil Creek Stat 29.66 29 eP P 22 29 51.1 -1.0
comp=Z,262nm,1.8s
YFT Old Faithful 29.71 342 eP P 22 29 55.2 +2.5
comp=Z,29nm,1.0s
AFDM Forest Hills D 29.75 323 eP P 22 29 54.6 +1.6
comp=Z,7.1nm,0.9s
G42A Mountain 29.81 14 P P 22 29 51.9 -1.5
baz=200,SNR=12
G42A Mountain 29.81 14 eP P 22 29 51.9 -1.5
comp=Z,42nm,1.0s
F38A Pierce - Schro 29.82 9 P P 22 29 52.4 -1.0
baz=193,SNR=11
SSPA Standing Stone 29.88 32 P P 22 29 53.1 -0.9
baz=222
SSPA Standing Stone 29.88 32 eP P 22 29 53.5 -0.5
comp=Z,75nm,1.2s
RLMT Red Lodge 29.89 345 P P 22 29 55.0 +0.6
baz=159,SNR=35
RLMT Red Lodge 29.89 345 eP P 22 29 55.1 +0.7
comp=Z,103nm,1.1s
F39A Loretta 29.94 11 P P 22 29 53.1 -1.4
baz=195,SNR=7.1
YMR Madison River 29.94 342 eP P 22 29 56.6 +1.8
comp=Z,55nm,1.0s
E34A Wadena 29.99 5 P P 22 29 53.8 -1.2
baz=186
ERPA Erie 30.00 28 P P 22 29 53.5 -1.5
baz=217
ERPA Erie 30.00 28 eP P 22 29 54.1 -0.9
comp=Z,52nm,1.0s
G43A Wallace 30.01 15 P P 22 29 53.9 -1.1
baz=201,SNR=8.5
G43A Wallace 30.01 15 eP P 22 29 54.0 -1.1
comp=Z,102nm,1.7s
YHH Holmes Hill 30.02 342 eP P 22 29 57.0 +1.4
comp=Z,30nm,1.0s
F40A Park Falls 30.09 12 P P 22 29 54.7 -1.1
baz=196
E35A Pequot Lakes 30.10 6 P P 22 29 55.0 -0.9
baz=188
F41A Three Lakes 30.13 13 P P 22 29 54.9 -1.3
baz=198,SNR=6.6
HLID Hailey 30.14 337 P P 22 29 57.6 +1.1
baz=149,SNR=7.6
HLID Hailey 30.14 337 eP P 22 29 57.6 +1.1
comp=Z,22nm,1.0s
E36A McGregor 30.18 7 P P 22 29 55.6 -1.0
baz=190
QLMT Earthquake Lak 30.23 341 eP P 22 29 59.3 +2.0
MVL Millersville 30.24 35 eP P 22 29 59.6 +2.4
comp=Z,29nm,1.3s
F42A Maple Grove Fa 30.37 14 P P 22 29 57.4 -0.9
baz=200,SNR=6.4
E39A Mellen 30.45 11 P P 22 29 57.8 -1.2
baz=195,SNR=18
COWI Conover 30.46 13 eP P 22 29 58.4 -0.8
comp=Z,56nm,1.1s
ORV Oroville 30.47 323 eP P 22 30 01.2 +1.9
comp=Z,16nm,1.1s
ORV Oroville 30.47 323 eP P 22 30 01.2 +1.9
ORV pmax pmax
comp=Z,16nm,1.1s
GLMI Grayling 30.49 20 P P 22 29 58.1 -1.3
baz=207,SNR=6.3
GLMI Grayling 30.49 20 eP P 22 29 58.7 -0.7
comp=Z,109nm,0.8s
E38A The Farm, Brul 30.50 9 P P 22 29 58.0 -1.5
baz=193,SNR=7.3
MFID Camas Ranch 30.58 335 eP P 22 30 01.6 +1.3
comp=Z,62nm,1.4s
GCMT Greycliff 30.62 345 eP P 22 30 03.7 +3.0
E40A Wakefield 30.64 12 P P 22 29 59.8 -0.9
baz=196,SNR=27
D35A Remer 30.65 6 P P 22 29 59.4 -1.4
baz=188
F43A Flat Rock, Esc 30.67 16 P P 22 29 59.9 -1.0
baz=202,SNR=11
MCMT McKenzie Canyo 30.68 340 eP P 22 30 03.3 +1.9
LAO LASA Array 30.73 350 eP P 22 30 02.0 +0.5
comp=Z,103nm,1.3s
TYNO Tyneside 30.83 27 P P 22 30 00.8 -1.6
baz=217,SNR=6.1
D36A Goodland 30.84 7 P P 22 30 01.3 -1.2
baz=190,SNR=7.3
E41A Kenton 30.85 13 P P 22 30 01.3 -1.2
baz=198,SNR=13
SJG San Juan 30.86 82 eP P 22 30 02.7 -0.2

comp=Z,46nm,1.0s
SJG **San Juan** **30.86** **82** *e*P **P** **22 30 02.7 -0.2**
SJG pmax pmax
comp=Z,46nm,1.0s
D37A **Cotton** **30.92** **8** P **P** **22 30 01.6 -1.5**
baz=191,SNR=9.4
BOZ **Bozeman (W)** **30.98** **342** P **P** **22 30 05.1 +1.2**
baz=155,SNR=18
BOZ **Bozeman (W)** **30.98** **342** *e*P **P** **22 30 05.4 +1.5**
comp=Z,58nm,1.3s
BOZ **Bozeman (W)** **30.98** **342** *e*P **P** **22 30 05.4 +1.5**
BOZ pmax pmax
comp=Z,58nm,1.3s
F45A **CMU Biological** **30.99** **18** P **P** **22 30 02.8 -1.0**
baz=205
F44A **Big Bay de Noc** **31.00** **16** P **P** **22 30 02.4 -1.4**
baz=203,SNR=9.2
WVOR **Wild Horse Val** **31.04** **330** *e*P **P** **22 30 05.6 +1.2**
comp=Z,59nm,1.4s
WVOR **Wild Horse Val** **31.04** **330** *e*P **P** **22 30 05.6 +1.2**
WVOR pmax pmax
comp=Z,59nm,1.4s
E42A **Champion** **31.05** **14** P **P** **22 30 02.8 -1.6**
baz=200,SNR=12
DLMT **Dillon** **31.07** **341** *e*P **P** **22 30 06.4 +1.7**
comp=Z,93nm,0.9s
CBYP **Canovanas** **31.13** **82** *e*P **P** **22 30 04.7 -0.7**
comp=Z,79nm,1.2s
C31A **Landman Farms,** **31.15** **1** P **P** **22 30 04.5 -0.7**
baz=182,SNR=5.7
ACTO **Acton** **31.16** **26** P **P** **22 30 03.7 -1.6**
baz=216
LUPA **Lehigh Univers** **31.19** **35** *e*P **P** **22 30 06.1 +0.5**
comp=Z,3.7nm,1.1s
N59A **State Game Lan** **31.20** **34** *e*P **P** **22 30 09.9 +4.2**
comp=Z,58nm,1.4s
MDND **Maddock** **31.22** **359** P **P** **22 30 05.2 -0.5**
baz=178,SNR=5.3
MDND **Maddock** **31.22** **359** *e*P **P** **22 30 06.3 +0.5**
comp=Z,139nm,1.0s
E43A **Lone Tree Farm** **31.22** **15** P **P** **22 30 04.2 -1.6**
baz=202,SNR=16
F46A **Macinaw City C** **31.30** **19** P **P** **22 30 05.4 -1.1**
baz=206,SNR=6.2
LRM **Limekiln Ridge** **31.44** **341** *e*P **P** **22 30 09.3 +1.3**
MMNY **Mt. Morris Dam** **31.44** **30** *e*P **P** **22 30 07.2 -0.6**
comp=Z,168nm,1.6s
C36A **Pine Crest Far** **31.45** **7** P **P** **22 30 06.8 -1.1**
baz=190,SNR=9.4
MOD **Modoc Plateau** **31.46** **328** *e*P **P** **22 30 09.5 +1.3**
comp=Z,59nm,1.5s
D41A **Chassel** **31.50** **13** P **P** **22 30 07.0 -1.2**
baz=198,SNR=20
C37A **Embarrass** **31.51** **8** P **P** **22 30 07.5 -0.8**
baz=192
MEDO **Medina** **31.52** **29** P **P** **22 30 07.8 -0.7**
baz=219
C38A **Sawbill Land.** **31.63** **9** P **P** **22 30 08.0 -1.4**
baz=193
J08A **Circle Bar Ran** **31.68** **332** *e*P **P** **22 30 11.6 +1.6**
comp=Z,62nm,1.1s
BRNJ **Basking Ridge** **31.70** **36** *e*P **P** **22 30 10.4 +0.3**
comp=Z,43nm,0.9s
E45A **Wooded Hills,** **31.70** **18** P **P** **22 30 09.2 -0.9**
baz=205
AGMN **Agassiz Nation** **31.72** **3** *e*P **P** **22 30 06.2 -4.0**
comp=Z,49nm,0.9s
E44A **Grand Marais A** **31.73** **17** P **P** **22 30 09.5 -0.8**
baz=203,SNR=6.4
EYMN **Ely** **31.82** **9** P **P** **22 30 09.3 -1.7**
baz=193,SNR=15
EYMN **Ely** **31.82** **9** *e*P **P** **22 30 10.0 -1.0**
comp=Z,37nm,1.1s
PKRO **Pickering** **31.87** **27** P **P** **22 30 09.9 -1.7**
baz=217
C39A **Grand Marais** **31.92** **11** P **P** **22 30 10.2 -1.7**
baz=195,SNR=7.5
TOBO **Tobermory, Bru** **31.92** **23** P **P** **22 30 10.1 -1.8**
baz=212
DRWO **Darlington Wes** **31.95** **27** P **P** **22 30 10.6 -1.6**
baz=218
B35A **Bob, Littlefor** **31.95** **6** P **P** **22 30 10.6 -1.6**
baz=189,SNR=12
STVI **Saint Thomas** **31.98** **82** *e*P **P** **22 30 11.2 -1.6**
comp=Z,51nm,1.0s
B34A **Aery, Baudette** **31.99** **5** P **P** **22 30 11.5 -1.0**
baz=187
BINY **Binghamton** **31.99** **32** P **P** **22 30 11.9 -0.8**
baz=224,SNR=6.9
BINY **Binghamton** **31.99** **32** *e*P **P** **22 30 11.8 -0.8**
comp=Z,39nm,0.9s
HRY **Holter Researc** **32.05** **343** *e*P **P** **22 30 14.4 +1.1**
WLVO **Wesleyville** **32.14** **28** P **P** **22 30 13.1 -0.8**
baz=218
M04C **Macdoel** **32.18** **326** P **P** **22 30 15.4 +0.9**
baz=135
C40A **Isle Royale Na** **32.19** **12** P **P** **22 30 12.9 -1.4**
baz=197,SNR=7.4
PAL **Palisades** **32.29** **36** *e*P **P** **22 30 14.5 -0.7**
comp=Z,37nm,0.9s
PAL **Palisades** **32.29** **36** *e*P **P** **22 30 14.5 -0.7**
PAL pmax pmax
comp=Z,37nm,0.9s
A32A **Rocking H Ranc** **32.31** **2** P **P** **22 30 13.9 -1.5**
baz=184
BMO **Blue Mountains** **32.36** **335** *e*P **P** **22 30 16.5 +0.5**
comp=Z,32nm,1.1s
BMO **Blue Mountains** **32.36** **335** *e*P **P** **22 30 16.5 +0.5**
BMO pmax pmax
comp=Z,32nm,1.1s
A33A **Warroad** **32.39** **4** P **P** **22 30 14.4 -1.6**
baz=186,SNR=7.8
SADO **Sadowa** **32.49** **26** P **P** **22 30 15.6 -1.4**
comp=Z,13nm,0.9s,baz=258,slow=8.0,SNR=8.8
SADO pP **pP** **22 30 25.3 +0.5**
comp=Z,9.6nm,0.7s,baz=267,slow=7.3,SNR=4.6
SADO **Sadowa** **32.49** **26** *e*P **P** **22 30 15.6 -1.4**
SADO *e*pP **pP** **22 30 24.6 -0.3**
YBH **Yreka Blue Hor** **32.62** **325** P **P** **22 30 18.2 -0.1**
comp=Z,3.2nm,0.8s,baz=306,slow=1.5,SNR=4.1
YBH pP **pP** **22 30 26.5 +0.3**
comp=Z,5.1nm,0.8s,baz=100,slow=4.5,SNR=4.1
YBH LR LR 22 43 04.4
comp=Z,228nm,20.9s,baz=162,slow=35
MSO **Missoula** **32.80** **340** P **P** **22 30 20.5 +0.6**
baz=152,SNR=6.1
MSO **Missoula** **32.80** **340** *e*P **P** **22 30 20.6 +0.8**
comp=Z,29nm,0.9s
DELO **Deloro Mine** **32.95** **28** P **P** **22 30 20.0 -1.0**
baz=219,SNR=9.8
BANO **Bancroft** **33.21** **27** P **P** **22 30 22.0 -1.3**
baz=218
F10A **Beach Ranch, E** **33.25** **336** *e*P **P** **22 30 19.6 -4.1**
comp=Z,56nm,0.9s
G08A **Pilot Rock** **33.41** **333** *e*P **P** **22 30 25.8 +0.6**
comp=Z,35nm,1.0s
PLVO **Plevna** **33.60** **28** P **P** **22 30 25.3 -1.4**
baz=219
PLVO **Plevna** **33.60** **28** *e*P **P** **22 30 25.6 -1.1**
comp=Z,70nm,1.5s
ULM **Lac du Bonnet** **33.67** **3** P **P** **22 30 26.0 -1.3**
comp=Z,6.6nm,0.9s,baz=183,slow=10.0,SNR=9.8
ULM pP **pP** **22 30 34.8 -0.3**
comp=Z,20nm,0.9s,baz=188,slow=9.1,SNR=19
ULM **Lac du Bonnet** **33.67** **3** *e*P **P** **22 30 25.9 -1.3**
comp=Z,26nm,1.0s
ULM pP **pP** **22 30 34.8 -0.3**
ULM **Lac du Bonnet** **33.67** **3** *e*P **P** **22 30 25.9 -1.3**
ULM *PP **pP** **22 30 34.8 -0.3**
ULM pmax pmax
comp=Z,26nm,1.0s
JTMT **Jette** **33.72** **341** *e*P **P** **22 30 29.2 +1.3**
comp=Z,38nm,1.2s
QUA2 **Belchertown** **34.00** **36** *e*P **P** **22 30 32.7 +2.5**
comp=Z,72nm,1.5s
ACCN **Adirondack Com** **34.04** **33** *e*P **P** **22 30 30.5 0.0**
comp=Z,22nm,1.1s
NCB **Newcomb** **34.16** **32** *e*P **P** **22 30 30.8 -0.9**
comp=Z,70nm,1.8s
H04A **Detroit Lake** **34.43** **329** *e*P **P** **22 30 35.3 +1.3**
comp=Z,115nm,1.3s
LONY **Lake Ozonia** **34.45** **31** P **P** **22 30 33.5 -0.6**
baz=223
LONY **Lake Ozonia** **34.45** **31** *e*P **P** **22 30 33.5 -0.6**
comp=Z,64nm,1.4s
HRV **Adam Dziewonsk** **34.60** **36** P **P** **22 30 35.3 -0.1**
baz=230
HRV **Adam Dziewonsk** **34.60** **36** *e*P **P** **22 30 37.5 +2.1**
comp=Z,38nm,1.1s
HRV **Adam Dziewonsk** **34.60** **36** *e*P **P** **22 30 37.5 +2.1**
HRV pmax pmax
comp=Z,38nm,1.1s
WALA **Waterton Lakes** **34.78** **342** *e*P **P** **22 30 38.4 +1.4**
comp=Z,104nm,1.7s
ALFO **Alfred** **35.05** **29** P **P** **22 30 38.2 -1.0**
baz=222,SNR=8.2
FRNY **Flat Rock** **35.10** **31** *e*P **P** **22 30 39.1 -0.6**
comp=Z,34nm,1.3s
NEW **Newport** **35.13** **338** P **P** **22 30 40.4 +0.4**
baz=148
NEW **Newport** **35.13** **338** *e*P **P** **22 30 40.8 +0.8**
comp=Z,15nm,1.2s
NEW **Newport** **35.13** **338** *e*P **P** **22 30 40.8 +0.8**
NEW pmax pmax
comp=Z,15nm,1.2s
C09A **Chrisman Ranch** **35.17** **337** *e*P **P** **22 30 42.0 +1.8**
comp=Z,89nm,1.5s
FFD **Franklin Falls** **35.17** **35** *e*P **P** **22 30 44.4 +4.1**
comp=Z,31nm,1.1s
G03D **McMinnville, O** **35.34** **329** P **P** **22 30 42.8 +1.0**
baz=136
LBNH **Lisbon** **35.54** **34** *e*P **P** **22 30 47.0 +3.5**
comp=Z,67nm,1.4s
LBNH **Lisbon** **35.54** **34** *e*P **P** **22 30 47.0 +3.5**
LBNH pmax pmax
comp=Z,67nm,1.4s
TRQ **Mont Tremblant** **35.65** **29** *e*P **P** **22 30 43.8 -0.6**
LTY **Liberty** **35.69** **334** *e*P **P** **22 30 46.0 +1.1**
comp=Z,234nm,2.0s
LON **Longmire** **35.80** **332** *e*P **P** **22 30 46.8 +1.1**
comp=Z,24nm,1.0s
LON **Longmire** **35.80** **332** *e*P **P** **22 30 46.8 +1.1**
LON pmax pmax
comp=Z,24nm,1.0s
B08A **Colville Reser** **36.03** **336** *e*P **P** **22 30 48.3 +0.6**
comp=Z,58nm,1.4s
D05A **Enumclaw** **36.21** **333** *e*P **P** **22 30 51.0 +1.8**
comp=Z,51nm,0.8s
C06D **Leavenworth** **36.31** **334** P **P** **22 30 51.0 +0.9**
baz=142
E03A **Lebam** **36.45** **330** *e*P **P** **22 30 53.7 +2.5**
comp=Z,348nm,1.8s
WVL **Waterville** **36.98** **35** *e*P **P** **22 30 58.6 +2.9**
comp=Z,48nm,1.3s
B06A **Marblemount** **37.02** **334** *e*P **P** **22 30 56.5 +0.4**
comp=Z,18nm,0.8s
PKME **Peaks-Kenny Pk** **37.63** **34** P **P** **22 31 01.1 -0.2**
baz=230
PKME **Peaks-Kenny Pk** **37.63** **34** *e*P **P** **22 31 00.9 -0.4**
comp=Z,30nm,0.9s
A04D **Lummi Island** **37.69** **334** P **P** **22 31 02.6 +0.9**
baz=140
FFC **Flin Flon** **38.19** **357** *e*P **P** **22 31 05.3 -0.6**
comp=Z,82nm,1.0s
FFC **Flin Flon** **38.19** **357** *e*P **P** **22 31 05.3 -0.6**
FFC pmax pmax
comp=Z,82nm,1.0s
EDM **Edmonton** **38.41** **346** *e*P **P** **22 31 07.7 -0.1**
comp=Z,110nm,0.9s
EDM **Edmonton** **38.41** **346** *e*P **P** **22 31 07.7 -0.1**
EDM pmax pmax
comp=Z,110nm,0.9s
LLLB **Lillooet** **38.83** **336** *e*P **P** **22 31 12.2 +0.8**
comp=Z,71nm,1.4s
PQI **Presque Isle** **39.21** **33** *e*P **P** **22 31 14.2 -0.4**
comp=Z,29nm,1.0s
FCC **Fort Churchill** **42.26** **3** *e*P **P** **22 31 39.3 -0.2**
comp=Z,125nm,1.8s
FCC **Fort Churchill** **42.26** **3** *e*P **P** **22 31 39.3 -0.2**
FCC pmax pmax
comp=Z,125nm,1.8s
LPAZ **La Paz** **44.27** **136** P **P** **22 31 57.2 +0.3**
comp=Z,1.8nm,0.9s,baz=330,slow=9.2,SNR=6.2
LPAZ LR LR 22 50 14.3
comp=Z,274nm,18.9s,baz=286,slow=36
LPAZ **La Paz** **44.27** **136** *e*P **P** **22 31 57.3 +0.3**
comp=Z,7.9nm,1.0s
LPAZ **La Paz** **44.27** **136** *e*P **P** **22 31 57.3 +0.3**
LPAZ pmax pmax
comp=Z,8.0nm,1.0s
RPN **Rapa Nui** **44.69** **194** LR LR 22 46 10.5
comp=Z,466nm,21.5s,baz=43,slow=30
SCHQ **Schefferville** **45.29** **25** P **P** **22 32 03.0 -1.0**
comp=Z,32nm,1.0s,baz=233,slow=6.5,SNR=26
SCHQ pP **pP** **22 32 11.9 -0.1**
comp=Z,28nm,1.0s,baz=235,slow=11,SNR=8.3
SCHQ **Schefferville** **45.29** **25** *e*P **P** **22 32 03.0 -1.0**
comp=Z,46nm,1.1s
SCHQ *e*pP **pP** **22 32 11.9 -0.1**
MNMC **Minye Minye** **45.42** **140** *e*P **P** **22 32 06.8 +1.0**
comp=Z,31nm,1.3s
PB11 **IPOC Station P** **45.87** **141** *e*P **P** **22 32 09.8 +0.7**
comp=Z,34nm,1.0s
PB01 **IPOC Station P** **46.95** **142** *e*P **P** **22 32 17.0 -0.6**
YKA **Yellowknife Ar** **47.27** **350** P **P** **22 32 18.8 -0.6**
comp=Z,7.0nm,0.8s,baz=158,slow=7.4,SNR=68
YKA pP **pP** **22 32 27.6 +0.1**
comp=Z,18nm,0.9s,baz=158,slow=7.4,SNR=20
YKB5 **Yellowknife Ar** **47.27** **350** *e*P **P** **22 32 18.8 -0.6**
YKB5 *e*pP **pP** **22 32 27.6 +0.1**
DLBC **Dease Lake** **47.88** **338** *e*P **P** **22 32 26.7 +2.4**
comp=Z,41nm,1.0s
WHY **Whitehorse** **51.20** **338** *e*P **P** **22 32 50.3 +0.6**
comp=Z,16nm,0.9s
HYT **Haines Junctio** **52.28** **337** *e*P **P** **22 32 59.0 +1.3**
comp=Z,56nm,1.3s
LCO **Las Campanas** **52.65** **149** *e*P **P** **22 33 01.9 +1.0**
comp=Z,17nm,1.1s
RAGM **Ragged Mountai** **54.87** **334** *e*P **P** **22 33 18.6 +2.0**
comp=Z,41nm,1.5s
DAWY **Dawson** **55.04** **339** *e*P **P** **22 33 18.3 +0.5**
comp=Z,9.8nm,0.9s
BMRM **Bremner River** **55.15** **335** *e*P **P** **22 33 20.7 +2.0**
comp=Z,75nm,1.6s
DIV **Divide** **55.72** **334** *e*P **P** **22 33 25.0 +2.3**
comp=Z,26nm,1.3s
KLU **Klutina** **55.97** **335** *e*P **P** **22 33 26.3 +1.7**
comp=Z,26nm,1.1s
EGAK **Eagle** **56.09** **340** *e*P **P** **22 33 25.6 +0.4**
comp=Z,28nm,0.8s
GLI **Glacier Island** **56.15** **334** *e*P **P** **22 33 26.8 +1.0**
comp=Z,17nm,1.0s
HARP **HAARP** **56.16** **336** *e*P **P** **22 33 27.9 +2.1**
comp=Z,36nm,1.1s
INK **Inuvik** **56.30** **345** P **P** **22 33 26.4 -0.3**
comp=Z,13nm,0.9s,baz=127,slow=8.1,SNR=40
INK pP **pP** **22 33 36.4 +1.4**
comp=Z,22nm,1.0s,baz=129,slow=5.6,SNR=17
DOT **Dot Lake** **56.43** **337** *e*P **P** **22 33 29.0 +1.2**
comp=Z,84nm,1.1s
PAX **Paxson** **56.59** **336** *e*P **P** **22 33 29.5 +0.6**
comp=Z,19nm,1.0s
PAX **Paxson** **56.59** **336** *e*P **P** **22 33 29.5 +0.6**
PAX pmax pmax
comp=Z,19nm,1.0s
SCRK **Sand Creek** **56.59** **338** *e*P **P** **22 33 30.3 +1.2**
comp=Z,19nm,1.0s
SCM **Sheep Creek Mo** **56.73** **335** *e*P **P** **22 33 31.6 +1.7**
comp=Z,28nm,1.4s
SCM **Sheep Creek Mo** **56.73** **335** *e*P **P** **22 33 31.6 +1.7**
SCM pmax pmax
comp=Z,28nm,1.4s
RIDG **Independ'e Rid** **56.77** **337** *e*P **P** **22 33 31.1 +0.9**
comp=Z,50nm,1.0s
SML **Sawmill** **57.13** **334** *e*P **P** **22 33 33.5 +0.8**
comp=Z,27nm,1.2s
SML **Sawmill** **57.13** **334** *e*P **P** **22 33 33.5 +0.8**
SML pmax pmax
comp=Z,27nm,1.2s
BRLK **Bradley Lake** **57.30** **332** *e*P **P** **22 33 35.3 +1.3**
BRLK *e*pP **pP** **22 33 43.8 +1.5**
PMR **Palmer** **57.36** **334** *e*P **P** **22 33 35.0 +0.7**
comp=Z,15nm,0.8s
PMR **Palmer** **57.36** **334** *e*P **P** **22 33 35.0 +0.7**
PMR pmax pmax
comp=Z,15nm,0.8s
DHY **Denali Highway** **57.38** **336** *e*P **P** **22 33 34.8 +0.1**
DHY *e*pP **pP** **22 33 44.5 +1.6**
RC01 **Rabbit Creek A** **57.38** **333** *e*P **P** **22 33 35.3 +0.8**
RC01 *e*pP **pP** **22 33 44.5 +1.7**
HDA **Harding Lake** **57.91** **337** *e*P **P** **22 33 38.5 +0.3**
comp=Z,22nm,0.9s
SUA **Susitna One** **57.98** **333** *e*P **P** **22 33 39.8 +0.9**
comp=Z,34nm,0.8s
IL1 **Eielson Array** **58.09** **338** *e*P **P** **22 33 39.2 -0.1**
ILAR **Eielson Array** **58.09** **338** P **P** **22 33 39.5 +0.1**
comp=Z,11nm,1.1s,baz=139,slow=4.8,SNR=59
ILAR pP **pP** **22 33 49.3 +1.6**
comp=Z,17nm,1.0s,baz=138,slow=5.2,SNR=26
ILAR LR LR 23 00 60.0
comp=Z,1μm,18.1s,baz=130,slow=38
ILB **Eielson Array** **58.09** **338** *e*P **P** **22 33 39.9 +0.5**
ILB *e*pP **pP** **22 33 49.3 +1.6**
RND **Reindeer** **58.12** **336** *e*P **P** **22 33 40.3 +0.6**
comp=Z,50nm,1.0s
RND **Reindeer** **58.12** **336** *e*P **P** **22 33 40.3 +0.6**
RND pmax pmax
comp=Z,50nm,1.0s
RES **Resolute Bay** **58.17** **1** *e*P **P** **22 33 38.5 -1.3**
comp=Z,12nm,1.0s
RES **Resolute Bay** **58.17** **1** *e*P **P** **22 33 38.5 -1.3**
RES pmax pmax
comp=Z,12nm,1.0s
MCK **McKinley** **58.32** **336** *e*P **P** **22 33 41.7 +0.7**
comp=Z,31nm,0.9s
MCK **McKinley** **58.32** **336** *e*P **P** **22 33 41.7 +0.7**
MCK pmax pmax
comp=Z,31nm,0.9s
CCB **Clear Creek Bu** **58.36** **337** *e*P **P** **22 33 41.3 +0.1**
comp=Z,10nm,0.8s
WRH **Wood River Hil** **58.37** **337** *e*P **P** **22 33 40.9 -0.5**
comp=Z,13nm,1.0s
SPU **Mount Spurr** **58.43** **333** *e*P **P** **22 33 42.5 +0.6**
CPUP **Villa Florida** **58.44** **136** P **P** **22 33 41.5 -0.9**
comp=Z,7.7nm,1.0s,baz=323,slow=7.3,SNR=17
CPUP **Villa Florida** **58.44** **136** *e*P **P** **22 33 41.5 -0.9**
comp=Z,9.4nm,1.0s
CPUP **Villa Florida** **58.44** **136** *e*P **P** **22 33 41.5 -0.9**
CPUP pmax pmax
comp=Z,9.0nm,1.0s
COLA **College** **58.49** **338** *e*P **P** **22 33 43.1 +0.9**
comp=Z,18nm,0.8s
COLA **College** **58.49** **338** *e*P **P** **22 33 43.1 +0.9**
COLA pmax pmax
comp=Z,18nm,0.8s
FYU **Fort Yukon** **58.51** **340** *e*P **P** **22 33 43.6 +1.3**
comp=Z,38nm,1.4s
MDM **Murphy Dome** **58.67** **338** *e*P **P** **22 33 43.8 +0.3**
comp=Z,11nm,0.9s
TRF **Thorofare Moun** **58.71** **336** *e*P **P** **22 33 44.6 +0.7**
comp=Z,61nm,0.9s
KTH **Kantishna Hill** **59.01** **336** *e*P **P** **22 33 46.2 +0.3**
comp=Z,26nm,0.9s
SFJD **Kangerlussuaq** **59.10** **20** P **P** **22 33 46.3 -0.1**
comp=Z,11nm,1.0s,baz=259,slow=7.2,SNR=6.2
SFJD pP **pP** **22 33 55.6 +0.9**
comp=Z,7.4nm,0.8s,baz=227,slow=6.8,SNR=3.3
SFJD LR LR 23 02 32.2
comp=Z,361nm,18.3s,baz=280,slow=39
SFJD **Kangerlussuaq** **59.10** **20** *i* P **P** **22 33 46.3 -0.1**
PPLA **Purkeypile** **59.23** **335** *e*P **P** **22 33 48.0 +0.5**
PPLA *e*pP **pP** **22 33 57.3 +1.5**
BPAW **Bear Paw Mtn.** **59.29** **336** *e*P **P** **22 33 48.0 +0.2**
comp=Z,7.1nm,1.0s
CAST **Castle Rocks** **59.41** **335** *e*P **P** **22 33 48.6 -0.1**
comp=Z,41nm,0.9s
MLY **Manley** **59.64** **337** *e*P **P** **22 33 50.3 +0.1**
comp=Z,34nm,1.0s
SVW2 **Sparrevohn** **59.97** **332** *e*P **P** **22 33 52.3 -0.2**
comp=Z,15nm,0.9s
COLD **Coldfoot** **60.52** **339** *e*P **P** **22 33 56.8 +0.6**
comp=Z,14nm,1.0s
PPT **Papeete** **60.71** **238** LR LR 22 53 36.9
comp=Z,328nm,20.8s,baz=8.5,slow=29
TOLK **Toolik Lake Re** **61.05** **341** P **P** **22 33 59.9 +0.1**
baz=122,SNR=13
TOLK **Toolik Lake Re** **61.05** **341** *e*P **P** **22 33 59.8 +0.1**
comp=Z,16nm,0.9s
IM3 **Indian Mountai** **61.19** **337** *e*P **P** **22 34 00.3 -0.4**
TULEG **Thule** **61.92** **8** *e*P **P** **22 34 05.5 0.0**
comp=Z,27nm,1.5s
PLCA **Paso Flores** **62.62** **156** P **P** **22 34 11.5 +0.8**
comp=Z,1.4nm,0.8s,baz=27,slow=8.0,SNR=3.1
PLCA pP **pP** **22 34 18.0 -1.1**
comp=Z,30nm,0.9s,baz=354,slow=7.8,SNR=37
PLCA LR LR 22 56 04.8
comp=Z,427nm,18.3s,baz=335,slow=31
ANGG **Ammassalik, Gr** **63.14** **24** *e*P **P** **22 34 13.2 -0.6**
comp=Z,41nm,1.1s
TRQA **Tornquist** **64.22** **149** *e*P **P** **22 34 21.5 +0.2**
comp=Z,32nm,1.0s
SUMG **Summit** **65.51** **17** *i* P **P** **22 34 29.4 -0.3**
comp=Z,45nm,1.3s
SUMG **Summit** **65.51** **17** *e*P **P** **22 34 29.8 +0.1**
comp=Z,32nm,1.1s
SUMG **Summit** **65.51** **17** *i* P **P** **22 34 29.4 -0.3**
SUMG pmax pmax
comp=Z,45nm,1.3s
RCBR **Riachuelo** **65.72** **104** *e*P **P** **22 34 32.5 +0.9**
comp=Z,28nm,1.0s
CMLA **Cha da Macela** **66.68** **56** *i* P **P** **22 34 39.7 +2.3**
GAMB **Gambell** **67.88** **333** *e*P **P** **22 34 46.0 +1.6**
comp=Z,33nm,1.8s
BORG **Bogarnes** **69.66** **26** LR LR 23 07 16.1
comp=Z,184nm,18.4s,baz=256,slow=38
SCO **Scoresbysund** **70.00** **20** *e*P **P** **22 34 57.6 +0.1**
comp=Z,15nm,1.2s
SCO **Scoresbysund** **70.00** **20** *e*P **P** **22 34 57.6 +0.1**
SCO pmax pmax
comp=Z,15nm,1.2s
RAR **Rarotonga** **70.88** **240** LR LR 22 58 53.0
comp=Z,358nm,18.0s,baz=75,slow=30
DAG **Danmarks Havn** **71.65** **14⇑** *i* P **P** **22 35 06.5 -1.0**
comp=Z,22nm,1.2s
DAG **Danmarks Havn** **71.65** **14⇑** *i* P **P** **22 35 06.5 -1.0**
DAG pmax pmax
comp=Z,22nm,1.2s
BILL **Bilibino** **76.75** **337** *c i* P **P** **22 35 37.2 -0.1**
BILL *e* 22 35 47.7
BILL *e* 22 38 29.3
BILL *e*SS SS 22 50 15.7 -2.3
BILL pmax pmax
comp=Z,21nm,1.1s
BILL pmax pmax
comp=Z,417nm,18.0s
DSB **Dublin** **78.14** **38** *e*P **P** **22 35 45.7 +0.3**
comp=Z,14nm,1.0s
SPITS **Spitsbergen Ar** **78.81** **11** LR LR 23 13 04.8
comp=Z,273nm,20.5s,baz=10.0,slow=38
PGAV **Gavieira, Arco** **79.26** **49** *e*LR LR 22 51 06.2
comp=Z,281nm,22.0s
PCAS **Casmilo, Conde** **79.51** **51** *e*P **P** **22 35 53.3 +0.1**
comp=Z,30nm,1.3s
PCAS *i* P **pP** **22 36 03.1 +1.3**
EKA **Eskdalemuir Ar** **79.52** **35** P **P** **22 35 52.6 -0.3**
comp=Z,4.1nm,0.9s,baz=266,slow=5.7,SNR=6.2
EKA pP **pP** **22 36 02.2 +0.7**
comp=Z,11nm,1.0s,baz=292,slow=5.1,SNR=11
EKA LR LR 23 10 27.4
comp=Z,225nm,21.3s,baz=235,slow=35
ALMR **Almeirim** **79.64** **52** *e*P **P** **22 35 54.3 +0.3**
comp=Z,45nm,1.1s
PTOM **Tomar** **79.67** **52** *e*P **P** **22 35 53.7 -0.4**
comp=Z,26nm,1.7s
PTOM *i* P **pP** **22 36 03.9 +1.3**
POLO **Lamas de Olo** **79.73** **50** *e*P **P** **22 35 54.0 -0.5**
PFVI **Vila Bisbo** **79.91** **54** *e*P **P** **22 35 55.4 0.0**
comp=Z,86nm,1.5s
PMTG **Montargil** **79.93** **52** *e*P **P** **22 35 55.3 -0.2**
comp=Z,25nm,1.7s
PMTG *i* P **pP** **22 36 04.7 +0.6**
MORF **Marmelete** **80.00** **54** *e*P **P** **22 35 55.4 -0.6**
MTE **Manteigas** **80.14** **51** *e*P **P** **22 35 57.1 +0.4**
MTE *i* P **pP** **22 36 06.3 +1.0**
MTE **Manteigas** **80.14** **51** *e*LR LR 22 53 56.3
comp=Z,408nm,20.0s
PCBR **Castelo Branco** **80.32** **51** *e*P **P** **22 35 58.1 +0.5**
comp=Z,25nm,1.5s
MVO **Moncorvo** **80.34** **50** *e*LR LR 22 53 14.7
comp=Z,284nm,20.0s
PBRG **Braganca** **80.40** **49** *i* P P 22 36 07.7 +10
PBEJ **Beja** **80.44** **53** *e*P **P** **22 35 58.7 +0.4**
comp=Z,20nm,1.9s
PMRV **Marv??o** **80.48** **52** *e*P **P** **22 35 58.8 +0.3**
PMRV *i* P **pP** **22 36 07.4 +0.3**
PMRV **Marv??o** **80.48** **52** *e*LR LR 22 54 51.1
comp=Z,314nm,18.0s
PVAQ **Vaqueiros** **80.70** **54** *e*P **P** **22 36 00.3 +0.6**
PVAQ **Vaqueiros** **80.70** **54** *e*LR LR 22 55 46.2
comp=Z,546nm,18.0s
PBAR **Barrancos** **81.04** **53** *e*P **P** **22 36 01.5 0.0**
comp=Z,54nm,1.7s

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
PAB	San Pablo	82.73	51	eP	P	22 36 10.7	+0.2
	comp=Z,16nm,1.1s						
PAB	San Pablo	82.73	51	eP	P	22 36 10.7	+0.2
PAB				pmax	pmax		
	comp=Z,16nm,1.1s						
ESDC	Sonseca Array	82.98	51	P	P	22 36 11.2	-0.6
	comp=Z,4.0nm,1.1s,baz=301,slow=5.2,SNR=12						
ESDC				pP	pP	22 36 21.1	+0.7
	comp=Z,3.2nm,1.0s,baz=299,slow=5.0,SNR=6.5						
ES19	SONSECA Array	83.02	51	eP	P	22 36 11.7	-0.3
NBO02	NORSAR Array S	84.65	27	eP	P	22 36 20.8	+0.9
NBO02				epP	pP	22 36 29.1	+0.7
KONO	Kongsberg	84.66	29⇑	eP	P	22 36 21.1	+1.3
KONO				pmax	pmax		
	comp=Z,32nm,1.1s						
NB2	NORSAR Subarra	84.82	27	P	P	22 36 21.8	+1.1
	comp=Z,2.6nm,1.0s,baz=299,slow=5.1						
NB200	NORSAR Array S	84.82	27	eP	P	22 36 20.7	+0.1
NB200				epP	pP	22 36 30.5	+1.2
NOA	NORSAR Array B	84.82	27	P	P	22 36 20.7	+0.1
	comp=Z,6.0nm,1.0s,baz=301,slow=4.8,SNR=4.6						
NOA				pP	pP	22 36 30.5	+1.2
	comp=Z,15nm,1.1s,baz=298,slow=4.8,SNR=9.0						
NOA				LR	LR	23 17 18.9	
	comp=Z,119nm,18.2s,baz=295,slow=38						
PEA1	Petropavlovsk-	84.97	324	eP	P	22 36 22.6	+1.1
PETK	Petropavlovsk-	84.97	324	P	P	22 36 22.6	+1.1
	comp=Z,4.6nm,0.8s,baz=52,slow=9.3,SNR=2.3						
PETK	Petropavlovsk-	84.97	324	P	P	22 36 22.6	+1.1
UCC	Uccle	85.18	38	⇓P	P	22 36 22.7	+0.1
UCC				⇑XP	pP	22 36 31.6	+0.4
SNF	Seneffe	85.24	39	⇑P	P	22 36 22.7	-0.2
SNF				⇓XP	pP	22 36 32.2	+0.7
	comp=Z,18nm,1.5s						
ARA0	ARCESS Array S	85.60	17	eP	P	22 36 24.1	-0.3
ARCES	ARCESS Array B	85.60	17	P	P	22 36 24.1	-0.3
	comp=Z,7.8nm,0.9s,baz=308,slow=6.0,SNR=7.0						
ARCES				LR	LR	23 16 27.4	
	comp=Z,88nm,20.5s,baz=322,slow=37						
BCLA	Clavier	85.88	39	⇑P	P	22 36 25.9	-0.2
BCLA				⇑AP	pP	22 36 32.9	-1.9
BCLA				⇓XP	sP	22 36 35.6	-2.3
	comp=Z,17nm,1.4s						
MEM	Membach	86.23	38	⇑P	P	22 36 27.1	-0.7
MEM				⇓XP	pP	22 36 37.3	+0.9
HFS	Hagfors	86.31	28	P	P	22 36 28.1	+0.1
	comp=Z,1.8nm,0.8s,baz=191,slow=20,SNR=2.2						
TIXI	Tiksi	86.40	347	eP	P	22 36 27.4	-0.8
	comp=Z,35nm,1.2s						
TIXI	Tiksi	86.40	347⇓	iP	P	22 36 28.1	-0.2
TIXI				i *SP	pP	22 36 37.7	+0.8
TIXI				pmax	pmax		
	comp=Z,38nm,1.3s						
WLF	Walferdange	86.67	39	⇓P	P	22 36 29.7	-0.3
WLF				⇓XP	pP	22 36 40.3	+1.6
CLL	Collm	89.98	36	i P	P	22 36 44.9	-0.8
	comp=Z,7.0nm,1.0s						
CLL				i sP	pP	22 36 54.7	+0.3
CLL	Collm	89.98	36	i P	P	22 36 44.9	-0.8
CLL				i		22 36 54.7	
CLL				pmax	pmax		
	comp=Z,7.0nm,1.0s						
KOWA	Kowa	90.08	75	P	P	22 36 46.3	-0.6
	comp=Z,6.6nm,1.0s,baz=278,slow=6.0,SNR=9.0						
KOWA				pP	pP	22 36 55.7	+0.1
	comp=Z,3.1nm,0.9s,baz=291,slow=2.5,SNR=4.1						
KOWA				LR	LR	23 15 01.8	
	comp=Z,263nm,20.4s,baz=34,slow=34						
KOWA	Kowa	90.08	75	eP	P	22 36 46.6	-0.3
KOWA				epP	pP	22 36 55.7	+0.1
NKC	Novy Kostel	90.15	37	eP	P	22 36 47.1	+0.5
NKC				epP	pP	22 36 56.1	+0.8
NKC	Novy Kostel	90.15	37	eP	P	22 36 47.1	+0.5
NKC				e*PP	pP	22 36 56.1	+0.8
FUORN	Ofenpass-Fuorn	90.39	41	eP	P	22 36 48.6	+0.5
	comp=Z,12nm,1.3s						
BRG	Berggiesshubel	90.71	36	ePKP	P	22 36 48.4	-0.7
	comp=Z,9.0nm,1.2s						
BRG				e		22 36 57.6	
	comp=Z,8.3nm,1.1s						
BRG	Berggiesshubel	90.71	36	eP	P	22 36 48.4	-0.7
BRG				e		22 36 57.6	
BRG				pmax	pmax		
	comp=Z,5.0nm,1.2s						
FIA0	FINESS Array S	90.73	23	eP	P	22 36 48.0	-0.9
FIA0				epP	pP	22 36 57.6	-0.1
FIA0	FINESS Array S	90.73	23	eP	P	22 36 48.1	-0.9
FIA0				e*PP	pP	22 36 57.6	-0.1
FINES	FINESS Array B	90.73	23	P	P	22 36 48.0	-0.9
	comp=Z,8.9nm,1.0s,baz=30,slow=5.3,SNR=9.4						
FINES				pP	pP	22 36 57.6	-0.1
	comp=Z,13nm,0.9s,baz=336,slow=4.2,SNR=8.0						
FINES				LR	LR	23 18 43.7	
	comp=Z,232nm,21.6s,baz=342,slow=36						
KHC	Kasperske Hory	91.30	38	eP	P	22 36 52.5	+0.5
KHC				epP	pP	22 36 59.9	-0.8
KHC				AMS	AMS	23 21 10.0	
KHC	Kasperske Hory	91.30	38	eP	P	22 36 52.5	+0.5
	comp=Z,4.1nm,1.4s						
KHC	Kasperske Hory	91.30	38	eP	P	22 36 52.5	+0.5
KHC				pmax	pmax		
	comp=Z,4.0nm,1.4s						
TIC	Toumodi	91.40	83	eP	P	22 36 51.8	-1.3
PRU	Pruhonice	91.46	36	eP	P	22 36 52.9	+0.3
PRU				epP	pP	22 37 00.2	-1.1
PRU	Pruhonice	91.46	36	eP	P	22 36 52.9	+0.3
PRU				e*PP	pP	22 37 00.2	-1.1
GERES	GERESS Array B	91.50	38	P	P	22 36 52.2	-0.8
	comp=Z,0.9nm,0.9s,baz=343,slow=2.8,SNR=8.2						
GERES				PP	PP	22 40 32.1	+1.4
	comp=Z,0.5nm,0.9s,baz=345,slow=4.6,SNR=3.6						
GERES				LR	LR	23 18 50.3	
	comp=Z,229nm,19.5s,baz=308,slow=36						
GERES	GERESS Array B	91.50	38	PP	PP	22 40 32.1	+1.4
GEA0	GERESS Array S	91.51	38	eP	P	22 36 52.0	-1.0
GEA0				epP	pP	22 37 01.1	-0.6
LIC	Lamto	91.52	83	eP	P	22 36 51.0	-2.6
	comp=Z,77nm,1.6s						
DBIC	Dimbokro	91.55	83	P	P	22 36 53.3	-0.4
	comp=Z,7.1nm,1.1s,baz=231,slow=2.5,SNR=3.5						
DBIC	Dimbokro	91.55	83	eP	P	22 36 53.3	-0.4
	comp=Z,14nm,1.1s						
DBIC	Dimbokro	91.55	83	eP	P	22 36 53.3	-0.4
DBIC				pmax	pmax		
	comp=Z,14nm,1.1s						
KIC	Kosan Boka	91.75	83	eP	P	22 36 53.8	-0.9
	comp=Z,19nm,1.0s						
KSP	Ksiaz	92.03	35	eP	P	22 36 55.1	-0.2
KSP	Ksiaz	92.03	35	eP	P	22 36 55.1	-0.2
UPC	Upice	92.04	36	AMS	AMS	23 24 10.0	
	comp=Z,400nm,15.5s						
DPC	Dobruska-Polom	92.29	36	eP	P	22 36 56.7	+0.1
DPC				epP	pP	22 37 04.4	-0.8
DPC				AMS	AMS	23 22 40.0	
	comp=Z,300nm,17.3s						
DPC	Dobruska-Polom	92.29	36	eP	P	22 36 56.7	+0.1
DPC				e*PP	pP	22 37 04.4	-0.8
DPC				MLR	MLR		
	comp=Z,300nm,17.3s						
VRAC	Vranov	92.96	36	P	P	22 36 59.6	0.0
	comp=Z,1.5nm,0.7s,baz=267,slow=8.3,SNR=4.1						
YAK	Yakutsk	92.98	339	P	P	22 37 00.1	+0.7
	comp=Z,15nm,0.3s,baz=44,slow=0.3,SNR=3.1						
YAK	Yakutsk	92.98	339	eP	P	22 37 00.1	+0.7
	comp=Z,30nm,0.9s						
YAK	Yakutsk	92.98	339	eP	P	22 37 00.1	+0.7
YAK				pmax	pmax		
	comp=Z,30nm,0.9s						
MORC	Moravsky Berou	93.26	36	eP	P	22 37 01.1	+0.1
MORC				epP	pP	22 37 10.1	+0.4
MORC	Moravsky Berou	93.26	36	eP	P	22 37 01.1	+0.1
MORC				e*PP	pP	22 37 10.1	+0.4
OKC	Ostrava-Krasne	93.56	35	eP	P	22 37 02.6	+0.2
OKC				epP	pP	22 37 11.6	+0.6
OKC	Ostrava-Krasne	93.56	35	eP	P	22 37 02.6	+0.2
OKC				e*PP	pP	22 37 11.6	+0.6
KEST	Kesra	94.23	51	P	P	22 37 06.0	+0.1
	comp=Z,2.9nm,1.0s,baz=299,slow=3.2,SNR=3.5						
KEST	Kesra	94.23	51	eP	P	22 37 06.0	+0.1
	comp=Z,29nm,2.0s						
OJC	Ojcow	94.27	35	epP	pP	22 37 14.2	-0.1
OJC	Ojcow	94.27	35	eP	P	22 37 14.2	+8.6
VYHS	Vyhne	94.64	36	eP	P	22 37 07.1	-0.3
VYHS				e		22 37 16.8	
VYHS	Vyhne	94.64	36	eP	P	22 37 07.1	-0.3
VYHS				e		22 37 16.8	
VYHS				pmax	pmax		
	comp=Z,5.0nm,1.6s						
STHS	Stebnicka Huta	95.50	35	eP	P	22 37 12.0	+0.7
STHS	Stebnicka Huta	95.50	35	eP	P	22 37 12.0	+0.7
STHS				pmax	pmax		
	comp=Z,5.0nm,1.6s						
TOA1	Torodi Ar. Sit	95.77	75	eP	P	22 37 11.4	-1.7
TOA1				epP	pP	22 37 20.7	-1.1
TOA0	Torodi Ar. Sit	95.77	75	eP	P	22 37 11.6	-1.6
TORD	Torodi Ar. Bea	95.77	75	P	P	22 37 11.4	-1.8
	comp=Z,1.7nm,1.0s,baz=270,slow=4.8,SNR=7.1						
TORD				pP	pP	22 37 20.7	-1.1
	comp=Z,0.7nm,0.8s,baz=316,slow=4.8,SNR=3.5						
KLMR	Klimovskoe	95.84	19	eP	P	22 37 09.6	-3.0
KLMR				AMP		22 37 22.2	
	comp=Z,27nm,1.2s						
KLMR				ePP	PP	22 40 59.0	-4.9
KLMR	Klimovskoe	95.84	19	eP	P	22 37 09.5	-3.0
KLMR				e		22 40 59.0	
KLMR				pmax	pmax		
	comp=Z,27nm,1.2s						
TAM	Tamanrasset	96.01	64	eP	P	22 37 14.4	+0.1
	comp=Z,5.9nm,1.2s						
TAM				epP	pP	22 37 23.8	+0.8
TAM	Tamanrasset	96.01	64	eP	P	22 37 14.4	+0.1
TAM				e*PP	pP	22 37 23.8	+0.8
TAM				pmax	pmax		
	comp=Z,6.0nm,1.2s						
KWP	Kalwaria Pacla	96.17	34	eP	P	22 37 14.7	+0.4
KWP	Kalwaria Pacla	96.17	34	eP	P	22 37 14.7	+0.4
UZH	Uzhgorod	96.51	35	eP	P	22 37 14.7	-1.1
UZH				e		22 37 24.7	
LVV	L'vov	96.77	33	eP	P	22 37 26.9	+10
AKASG	Malin Array Be	98.87	31	P	P	22 37 24.0	-2.4
	comp=Z,0.3nm,0.5s,baz=293,slow=3.0,SNR=4.2						
AKASG				PP	PP	22 41 26.7	-0.7
	comp=Z,0.2nm,0.4s,baz=309,slow=7.5,SNR=4.4						
AKASG				LR	LR	23 21 36.2	
	comp=Z,151nm,21.8s,baz=300,slow=35						
AKBB	Malin Array Si	98.87	31	eP	P	22 37 24.0	-2.4
	comp=Z,13nm,1.4s						
AKBB				ePP	PP	22 41 26.7	-0.7
AKBB	Malin Array Si	98.87	31	eP	P	22 37 24.0	-2.4
AKBB				e		22 41 26.7	
AKBB				pmax	pmax		
	comp=Z,13nm,1.4s						
OBN	Obninsk	99.09	24	eP	Pdif	22 37 26.6	-0.7
OBN				i		22 37 34.6	
OBN				i		22 41 37.6	
OBN				pmax	pmax		
	comp=Z,4.0nm,0.9s						
OBN				MLR	MLR		
	comp=Z,283nm,21.0s						
LPSR	Galich'ya Gora	101.89	25	eP	Pdif	22 37 39.7	-0.1
LPSR				pmax	pmax		
	comp=Z,7.0nm,0.7s						
VSR	Storozhevoye	103.02	26	eP	Pdif	22 37 43.0	-1.9
VSR				pmax	pmax		
	comp=Z,10.0nm,1.0s						
VRH	Novokhopyorsk	104.08	25	eP	Pdif	22 37 49.7	+0.1
VRH				pmax	pmax		
	comp=Z,7.0nm,1.0s						
ZAA1	Zalesovo Array	109.72	358	ePP	PP	22 42 49.1	+1.4
ZALV	Zalesovo Beam	109.72	358	PP	PP	22 42 49.1	+1.4
	comp=Z,0.4nm,0.4s,baz=4.3,slow=5.8,SNR=3.6						
ZALV	Zalesovo Beam	109.72	358	P	Pdif	22 38 08.5	-6.2
SONA0	Songino Array	112.15	342	ePP	PP	22 43 05.3	-0.2
SONM	Songino Array	112.15	342	PP	PP	22 43 05.3	-0.2
	comp=Z,0.6nm,0.9s,baz=48,slow=2.2,SNR=4.5						
KURK	Kurchatov	112.97	2	ePP	PP	22 43 11.0	0.0
KURBB	Kurchatov Arra	113.06	2	PP	PP	22 43 11.0	-0.6
	comp=Z,2.6nm,1.1s,baz=358,slow=6.1,SNR=5.5						
HHC	Hu-ho-hao-te	116.45	335	ePKP	PKPdf	22 42 28.4	-2.1
HHC				PP	PP	22 43 36.7	+0.6
HHC				SS	SS	22 59 36.5	-2.2
HHC				AMB	AMB		
	comp=Z,110nm,9.5s						
HHC				LR	LR		
	comp=Z,250nm,21.1s						
HHC				LR	LR		
	comp=Z,360nm,20.3s						
MK32	Makanchi Array	116.94	359	ePKPdf	PKPdf	22 42 29.1	-2.0
MK32				ePP	PP	22 43 37.5	-1.6
MK32				ePKKPbc	PKKPbc	22 52 58.0	-0.2
MK32				ePKKPab	PKKPab	22 53 05.0	+1.9
MKAR	Makanchi Array	116.94	359	PKP	PKPdf	22 42 29.1	-2.0
	comp=Z,0.9nm,0.9s,baz=27,slow=3.0,SNR=7.2						
MKAR				PP	PP	22 43 37.5	-1.6
	comp=Z,1.1nm,1.0s,baz=9.5,slow=3.5,SNR=3.7						
MKAR				PKKPbc	PKKPbc	22 52 57.9	-0.2
	comp=Z,0.6nm,1.0s,baz=131,slow=4.4,SNR=3.1						
MKAR				PKKPab	PKKPab	22 53 05.0	+1.9
	comp=Z,0.5nm,0.9s,baz=142,slow=5.8,SNR=5.6						
WMQ	Urumqi	119.65	355	PKP	PKPdf	22 42 36.2	-0.3
WMQ				LR	LR		
	comp=Z,260nm,30.5s						
WMQ				LR	LR		
	comp=Z,230nm,38.1s						
NJ2	Nanjing	119.88	324	ePKP	PKPdf	22 42 38.9	+1.7
SYO	Syowa Base	121.41	164⇓	eX	Pdif	22 39 01.6	-4.5
GEYT	Alibeck	121.50	22	PKP	PKPdf	22 42 40.2	0.0
	comp=Z,2.7nm,0.9s,baz=270,slow=5.9,SNR=6.1						
XAN	Xi'an	123.32	333	PKP	PKPdf	22 42 43.0	-0.8
XAN				LR	LR		
	comp=Z,200nm,20.3s						
LZH	Lanzhou	123.55	338	ePKP	PKPdf	22 42 44.1	-0.3
LZH				sPKP		22 42 58.5	
LZH				LR	LR		
	comp=Z,53nm,18.0s						
LZH				LR	LR		
	comp=Z,60nm,18.1s						
STKA	Stephens Creek	123.80	243	PKP	PKPdf	22 42 45.3	+0.7
	comp=Z,3.9nm,0.8s,baz=320,slow=1.8,SNR=6.2						
KSH	Kashi	123.97	5	ePKP	PKPdf	22 42 45.9	+0.9
ENH	Enshi	126.22	330	ePKPdf	PKPdf	22 42 49.0	-0.5
CD2	Chengdu	128.19	336	PKP	PKPdf	22 42 53.0	-0.2
WRAB	Tennant Creek	129.90	258⇑	iPKIKP	PKPdf	22 42 57.3	+0.7
WR1	Warramunga Arr	129.91	258	ePKPdf	PKPdf	22 42 56.6	0.0
WR1				epPKPdf	pPKPdf	22 43 04.1	-1.4
WRA	Warramunga Arr	129.91	258	PKP	PKPdf	22 42 56.7	0.0
	comp=Z,1.8nm,0.9s,baz=73,slow=1.8,SNR=12						
WRA				pPKP	pPKPdf	22 43 04.1	-1.4
	comp=Z,6.9nm,1.0s,baz=76,slow=1.5,SNR=25						
AS01	Alice Springs	130.51	253	ePKPdf	PKPdf	22 43 01.1	+3.4
AS31	Alice Springs	130.55	253	ePKPdf	PKPdf	22 42 57.5	-0.3
AS31				epPKPdf	pPKPdf	22 43 05.7	-1.0
ASAR	Alice Springs	130.55	253	PKP	PKPdf	22 42 57.5	-0.3
	comp=Z,1.2nm,0.9s,baz=79,slow=2.7,SNR=4.2						
ASAR				pPKP	pPKPdf	22 43 05.7	-1.1
	comp=Z,4.3nm,1.0s,baz=101,slow=2.4,SNR=12						
ASAR				SKPbc	SKPab	22 46 20.8	+1.1
	comp=Z,2.0nm,1.1s,baz=116,slow=3.4,SNR=5.0						
GYA	Guiyang	130.76	330	ePdif	Pdif	22 39 48.9	-0.1
GYA				PKP	PKiKP	22 42 59.2	0.0
GYA				PP	PP	22 45 17.8	+5.1
GYA				AMB	AMB		
	comp=Z,130nm,7.8s						
KMI	Kunming	133.71	333	PKP	PKPdf	22 43 01.3	-2.8
CM31	Chiang Mai Arr	141.22	333	ePKPdf	PKPdf	22 43 17.9	+0.2
CMAR	Chiang Mai Arr	141.22	333	PKP	PKPdf	22 43 17.9	+0.2
	comp=Z,1.0nm,0.3s,baz=338,slow=2.0,SNR=16						
CMAR	Chiang Mai Arr	141.22	333	PKIKP	PKPdf	22 43 18.0	+0.2
HYB	Hyderabad	146.11	5	i PKP	PKPdf	22 43 25.0	-1.4
KSM	Kuching	146.43	300	ePKPdf	PKPdf	22 43 27.2	+0.2
OPO	Ambohidratompo	147.21	99	PKPbc	PKPbc	22 43 30.3	-0.3
	comp=Z,12nm,0.9s,baz=270,slow=1.0,SNR=11						
ABPO	Ambohimpanom	147.26	100	ePKPdf	PKPbc	22 43 31.2	+0.5
ABPO	Ambohimpanom	147.26	100	ePKP2	PKPbc	22 43 31.2	+0.5
KULM	Kulim	151.22	317	ePKPbc	PKPbc	22 43 40.5	-0.2

*IDC **01** 22:26:28.0±4.9, 3°.11N×126°.83E, h18km±29km, mb3.8/15, mb1 3.9/15, mb1mx3.7/59, mbtmp3.9/15, MS4.0/3, Ms1 4.0/3, ms1mx3.0/50, Error ellipse: s-maj=34.5km s-min=13.0km az=72.0*

*NEIC **01** 22:26:29.8±0.3, 3°.08N×126°.87E, h35km, mb4.4/13, Error ellipse: s-maj=18.4km s-min=5.4km az=71.0*

*ISCJB **01** 22:26:30.8±0.3, 3°.05N±0°.05×126°.8E±0°.1, h63km, mb4.0/23, Error ellipse: s-maj=15.1km s-min=6.0km az=165.4*

ISC 01 22:26:33.1±0.6, **3°.06N**±0°.07×**126°.7E**±0°.1, **h63**km, **n50**, σ**1§41**/52, **mb4.1**/23, **Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	Luwuk	5.62	224	ePn	Pn	22 27 54.4	+0.2
KKM	Kota Kinabalu	10.81	286	ePn	Pn	22 29 02.9	-2.4
BATI	Baumata	13.51	193	LR	LR	22 36 22.3	
	comp=Z,178nm,19.3s,baz=230,slow=44						
MTN	Manton Dam	16.42	164	ePn	Pn	22 30 17.0	-2.6
	26nm,1.4s						
TPUB	Ta-pu	20.95	344	eP	P	22 31 08.3	-2.6
	64nm,1.5s						
SSLB	Suanglung	21.33	346	eP	P	22 31 12.2	-2.9
	88nm,1.9s						
WRAB	Tennant Creek	24.07	162	eP	P	22 31 39.8	-3.0
	5.0nm,0.6s						
WR1	Warramunga Arr	24.08	162	eP	P	22 31 41.8	-1.1
	5.0nm,0.9s						
WR1				ePcP	PcP	22 35 24.4	+1.2
WRA	Warramunga Arr	24.08	162	P	P	22 31 41.8	-1.1
	2.9nm,0.4s,baz=339,slow=10,SNR=71						
WRA				PcP	PcP	22 35 24.4	+1.2
	0.2nm,0.4s,baz=336,slow=2.3,SNR=4.2						
WRA				S	S	22 36 00.2	+4.1
	0.9nm,0.7s,baz=334,slow=20,SNR=4.9						
WB2	Warramunga Arr	24.08	162	eP	P	22 31 41.6	-1.3
	6.3nm,0.9s						
MBWA	Marble Bar	25.01	195	eP	P	22 31 50.2	-1.0
	11nm,1.0s						
AS31	Alice Springs	27.49	165	eP	P	22 32 13.4	-0.4
	2.5nm,1.4s						
AS31				ePcP	PcP	22 35 32.5	+1.5
ASAR	Alice Springs	27.49	165	P	P	22 32 13.4	-0.4
	0.4nm,0.4s,baz=341,slow=8.3,SNR=6.1						
ASAR				PcP	PcP	22 35 32.5	+1.5
	0.3nm,0.4s,baz=342,slow=1.9,SNR=3.0						
AS01	Alice Springs	27.50	165	eP	P	22 32 12.2	-1.6
CM31	Chiang Mai Arr	31.14	301	eP	P	22 32 48.5	+2.4
CMAR	Chiang Mai Arr	31.14	301	P	P	22 32 48.5	+2.4
	0.3nm,0.4s,baz=115,slow=6.8,SNR=5.2						
KS15	Wonju Array Si	34.23	2	eP	P	22 33 13.2	+0.3
KSAR	Wonju Array Be	34.23	2	P	P	22 33 13.2	+0.3
KSRS	Korea Array	34.25	2	P	P	22 33 13.2	+0.2
	1.0nm,0.8s,baz=182,slow=10,SNR=4.0						
STKA	Stephens Creek	37.54	159	P	P	22 33 41.1	-0.2
	2.6nm,0.6s,baz=340,slow=6.6,SNR=6.0						
STKA	Stephens Creek	37.54	159	eP	P	22 33 41.1	-0.2
	5.4nm,1.8s						
SHL	Shillong	40.20	307	eP	P	22 34 04.7	+0.7
USRK	Ussuriysk Ar.	41.24	6	P	P	22 34 11.9	-0.1
	2.4nm,0.7s,baz=96,slow=12,SNR=5.1						
KLR	Kul'dur	46.20	5	P	P	22 34 51.7	-0.1
	0.2nm,0.8s,baz=248,slow=2.1,SNR=9.2						
SONA0	Songino Array	47.90	342	eP	P	22 35 06.0	+0.9
SONM	Songino Array	47.90	342	P	P	22 35 06.0	+0.9
	0.3nm,0.5s,baz=154,slow=11,SNR=3.5						
MK01	Makanchi Array	58.03	326	eP	P	22 36 19.9	+0.2
MK31	Makanchi Array	58.05	326	eP	P	22 36 18.9	-0.9
MK32	Makanchi Array	58.05	326	eP	P	22 36 19.9	+0.1
MKAR	Makanchi Array	58.05	326	P	P	22 36 19.9	+0.1
	0.7nm,0.5s,baz=121,slow=8.3,SNR=12						
MKAR	Makanchi Array	58.05	326	eP	P	22 36 18.9	-0.9
	13nm,1.0s						
MAKZ	Makanchi	58.24	325	eP	P	22 36 21.3	+0.2
	2.3nm,1.0s						
MA2	Magadan	59.37	14	P	P	22 36 27.5	-1.2
	6.9nm,0.9s,baz=358,slow=16,SNR=2.7						
ZALV	Zalesovo Beam	61.14	333	P	P	22 36 41.6	+0.8
	1.0nm,0.5s,baz=113,slow=6.0,SNR=4.6						
ZAA1	Zalesovo Array	61.14	333	eP	P	22 36 41.6	+0.8
KURBB	Kurchatov Arra	62.25	328	P	P	22 36 48.7	+0.3
	1.9nm,0.7s,baz=124,slow=6.5,SNR=11						
KURK	Kurchatov	62.26	328	eP	P	22 36 49.4	+1.0
BVAR	Borovoye Array	67.83	327	P	P	22 37 24.9	+0.3
	0.6nm,0.6s,baz=126,slow=7.5,SNR=3.1						
AB07	Akbulak array	72.60	321	eP	P	22 37 54.1	+0.4
AB31	Akbulak array	72.61	321	eP	P	22 37 54.0	+0.2
ABKAR	Akbulak array	72.61	321	eP	P	22 37 54.0	+0.1
	10.0nm,0.6s						
AKTO	Aktyubinsk	74.13	322	P	P	22 38 03.1	+0.3
	0.8nm,0.7s,baz=80,slow=12,SNR=5.2						
ARU	Arti	75.45	328	P	P	22 38 10.6	+0.3
	1.0nm,0.5s,baz=113,slow=7.9						
ARU	Arti	75.45	328	eP	P	22 38 10.6	+0.3
	28nm,2.0s						
ARU	Arti	75.45	328	eP	P	22 38 10.6	+0.3
BRTR	Keskin Array B	90.38	310	LR	LR	23 27 07.0	
	comp=Z,130nm,19.9s,baz=294,slow=40						
IDI	Anoyia	97.81	306	LR	LR	23 31 08.1	
	comp=Z,92nm,19.6s,baz=264,slow=40						
TORD	Torodi Ar. Bea	123.04	288	PKP	PKPdf	22 45 24.9	+1.4
	0.9nm,0.9s,baz=66,slow=1.4,SNR=7.0						
TOA1	Torodi Ar. Sit	123.05	288	ePKPdf	PKPdf	22 45 24.9	+1.4
KOWA	Kowa	128.10	291	PKP	PKPdf	22 45 35.2	+2.0
	2.9nm,1.2s,baz=72,slow=3.2,SNR=2.8						

*ISK **01** 22:27:34.1, 38°.93N×34°.10E, h8km, ML2.6/4*

*ISCJB **01** 22:27:36.0±0.8, 38°.90N±0°.06×34°.00E±0°.05, h16km±19km, Error ellipse: s-maj=9.8km s-min=6.2km az=11.2*

*CSEM **01** 22:27:35.2±0.2, 38°.91N×34°.04E, h10km, ML2.0, Error ellipse: s-maj=5.9km s-min=5.1km az=119.0*

*DDA **01** 22:27:35.1, 38°.92N×33°.97E, h7km, Ml2.0*

ISC 01 22:27:35.0±1.1, **38°.86N**±0°.03×**34°.07E**±0°.04, **h14**km±9km, **n16**, σ**0§61**/26, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKSY	AKSARAY - Alti	0.32	229	i P	Pb	22 27 42.1	-0.4
AKSY				i S	Sg	22 27 46.4	+0.3
AKSY	AKSARAY - Alti	0.32	229	P	Pb	22 27 42.1	-0.4
AKSY				S	Sg	22 27 46.4	+0.3
SERE	Sereflikochisa	0.40	282	PG	Pg	22 27 42.9	-0.2
SERE				SG	Sg	22 27 48.6	0.0
SERE	Sereflikochisa	0.40	282	ePg	Pg	22 27 42.9	-0.2
SERE				eSg	Sg	22 27 48.6	0.0
GULA	Gulagac	0.53	166	PG	Pb	22 27 46.3	+0.2
GULA				SG	Sb	22 27 54.5	+0.8
GULA	Gulagac	0.53	166	ePg	Pb	22 27 46.3	+0.2
GULA				eSg	Sb	22 27 54.5	+0.8
AVNS	Nevsehir-Avano	0.61	95	i P	Pn	22 27 48.1	-1.2
AVNS				i S	Sn	22 27 59.1	+0.1
AVNS	Nevsehir-Avano	0.61	95	P	Pn	22 27 48.1	-1.2
SULT	Sultanhani-AKS	0.79	213	PG	Pn	22 27 51.4	-0.3
SULT				SG	Sn	22 28 03.6	+0.2
SULT	Sultanhani-AKS	0.79	213	ePg	Pn	22 27 51.4	-0.3
SULT				eSg	Sn	22 28 03.6	+0.2
CORM	Corum	1.39	18	PN	Pn	22 27 59.1	-0.9
CORM	Corum	1.39	18	ePn	Pn	22 27 59.1	-0.9
ANTO	Ankara	1.41	316	PN	Pn	22 28 00.0	-0.2
ANTO	Ankara	1.41	316	ePn	Pn	22 28 00.0	-0.2
COAL	Corum-Alaca	1.56	27	i P	Pb	22 28 03.9	+0.2
COAL				i S	Sg	22 28 26.6	+1.2
COAL	Corum-Alaca	1.56	27	P	Pb	22 28 03.9	+0.2

*IDC **01** 22:27:51.8±0.7, 37°.24N×144°.20E, h0km, mb3.6/14, mb1 3.9/17, mb1mx3.7/67, mbtmp3.7/17, ML3.8/3, MS4.5/1, Ms1 4.5/1, ms1mx2.7/59, Error ellipse: s-maj=18.7km s-min=15.7km az=129.0*

*ISCJB **01** 22:27:55.1±0.4, 37°.41N±0°.04×144°.07E±0°.04, h33km, mb4.0/20, MS4.5/1, Error ellipse: s-maj=5.3km s-min=4.3km az=171.5*

*JMA **01** 22:27:56.2±0.2, 37°.43N×143°.98E, h47km, M3.9*

*NEIC **01** 22:27:57.1±0.3, 37°.32N×144°.17E, h35km, mb4.8/7, Error ellipse: s-maj=7.3km s-min=6.3km az=135.0*

ISC 01 22:27:57.1±0.6, **37°.39N**±0°.05×**144°.07E**±0°.07, **h35**km, **n55**, σ**1§90**/67, **mb3.8**/20, **Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	Ouri	2.40	297	P	Pn	22 28 33.2	-0.7
JIO				S	Sn	22 29 00.8	-1.2
OFUJ	Ofunato	2.53	312	P	Pn	22 28 34.8	-0.9
OFUJ				eS	Sn	22 29 03.8	-1.5
JFK	Kawauchi	2.54	270	P	Pn	22 28 35.2	-0.7
JFK				eS	Sn	22 29 03.7	-2.0
JMK	Ichinoseki	2.73	306	P	Pn	22 28 38.5	0.0
JMK				eS	Sn	22 29 09.5	-0.7
JFT	Otama	2.97	274	P	Pn	22 28 41.9	+0.1
JFT				eS	Sn	22 29 15.1	-1.1
JOM	Ohasama	3.01	314	P	Pn	22 28 41.8	-0.5
JOM				S	Sn	22 29 16.2	-0.9

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
JYK	**Kaneyama**	**3.30**	**299**	P	**Pn**	**22 28 46.2**	**0.0**
JANG	**Nango**	**3.58**	**327**	*e*S	**Sn**	**22 29 28.4**	**-2.8**
JAG	**Ashikaga**	**3.82**	**257**	P	**Pn**	**22 28 52.5**	**-1.0**
JRY	**Ryogami san**	**4.37**	**253**	P	**Pn**	**22 28 59.7**	**-1.4**
JRY				*e*S	**Sn**	**22 29 47.3**	**-3.5**
ERM	**Erimo**	**4.67**	**352**	*e*Pn	**Pn**	**22 29 03.9**	**-1.1**
ERM				*e*Sn	**Sn**	**22 29 55.0**	**-3.0**
MJAR	**Matsushiro Arr**	**4.77**	**261**	Pn	**Pn**	**22 29 06.8**	**+0.3**
	3.0nm,0.3s,baz=87,slow=15,SNR=19						
MJAR				Sn	**Sn**	**22 30 01.6**	**+1.1**
	1.1nm,0.3s,baz=98,slow=24,SNR=5.7						
MAJO	**Matsushiro**	**4.77**	**262**	*e*Pn	**Pn**	**22 29 07.3**	**+0.7**
MAJO				*e*Sn	**Sn**	**22 30 01.6**	**+1.0**
MAT	**Matsushiro**	**4.77**	**262**	P	**Pn**	**22 29 07.2**	**+0.7**
MAT				S	**Sn**	**22 30 00.9**	**+0.3**
MJB9	**Matsu-Tunnel**	**4.77**	**262**	*e*Pn	**Pn**	**22 29 07.6**	**+1.1**
JKB	**Kayabe**	**5.06**	**333**	P	**Pn**	**22 29 10.3**	**-0.2**
JCH	**Churui**	**5.24**	**354**	P	**Pn**	**22 29 10.7**	**-2.3**
JCH				*e*S	**Sn**	**22 30 07.2**	**-4.9**
JHJ	**Hachijo jima 2**	**5.52**	**221**	Pn	**Pn**	**22 29 14.6**	**-2.2**
	6.7nm,0.3s,baz=84,slow=22,SNR=4.3						
JHJ				Sn	**Sn**	**22 30 12.1**	**-7.0**
	9.9nm,0.3s,baz=254,slow=24,SNR=3.8						
JTKR	**Abashiri--Toko**	**6.57**	**359**	P	**Pn**	**22 29 28.9**	**-2.3**
JTKR				*e*S	**Sn**	**22 30 38.4**	**-6.4**
ASAJ	**Asahikawa**	**6.81**	**351**	Pn	**Pn**	**22 29 33.5**	**-1.0**
	2.5nm,0.3s,baz=202,slow=14,SNR=11						
ASAJ				Sn	**Sn**	**22 30 48.9**	**-1.8**
	0.7nm,0.3s,baz=54,slow=29,SNR=3.4						
KLR	**Kul'dur**	**14.82**	**327**	Pn	**Pn**	**22 31 25.7**	**+1.7**
	0.0nm,0.3s,baz=119,slow=6.0,SNR=2.4						
YOJ	**Yonaguni jima**	**22.13**	**240**	*e*P	**P**	**22 32 45.8**	**-3.9**
	102nm,1.2s						
H11N2	**WAKE ISLAND Hy**	**26.57**	**125**	T	T	23 00 41.8	
	baz=317,slow=75,SNR=11						
H11N1	**WAKE ISLAND Hy**	**26.57**	**125**	T	T	23 00 39.6	
	baz=317,slow=75,SNR=5.0						
H11N3	**WAKE ISLAND Hy**	**26.58**	**125**	T	T	23 00 46.1	
	baz=317,slow=75,SNR=8.9						
SONA0	**Songino Array**	**29.36**	**303**	*e*P	**P**	**22 33 58.0**	**+1.3**
SONM	**Songino Array**	**29.36**	**303**	P	**P**	**22 33 58.0**	**+1.3**
	0.3nm,0.7s,baz=108,slow=9.3,SNR=2.6						
ZAA1	**Zalesovo Array**	**43.24**	**312**	*e*P	**P**	**22 35 55.7**	**+0.9**
ZALV	**Zalesovo Beam**	**43.24**	**312**	P	**P**	**22 35 55.7**	**+0.9**
	0.3nm,0.3s,baz=64,slow=9.8,SNR=2.9						
ZALV				PcP	**PcP**	**22 37 43.8**	**+0.4**
	0.7nm,0.5s,baz=70,slow=4.7,SNR=2.9						
CM31	**Chiang Mai Arr**	**43.64**	**257**	*e*P	**P**	**22 35 59.1**	**+0.6**
CMAR	**Chiang Mai Arr**	**43.64**	**257**	P	**P**	**22 35 59.1**	**+0.6**
	0.4nm,0.4s,baz=39,slow=7.1,SNR=5.1						
NRIK	**Noril'sk**	**43.84**	**335**	LR	LR	22 57 48.0	
	comp=Z,580nm,18.6s,baz=62,slow=41						
KDAK	**Kodiak Island**	**45.41**	**42**	*e*P	**P**	**22 36 11.2**	**-0.9**
	103nm,2.0s						
MK32	**Makanchi Array**	**45.72**	**302**	*e*P	**P**	**22 36 16.1**	**+1.4**
MKAR	**Makanchi Array**	**45.72**	**302**	P	**P**	**22 36 16.1**	**+1.4**
	0.7nm,0.6s,baz=82,slow=10,SNR=6.8						
KURK	**Kurchatov**	**47.38**	**308**	*e*P	**P**	**22 36 29.1**	**+1.5**
KURBB	**Kurchatov Arra**	**47.45**	**308**	P	**P**	**22 36 29.1**	**+0.9**
	0.9nm,0.7s,baz=82,slow=8.3,SNR=5.6						
ILAR	**Eielson Array**	**48.05**	**33**	P	**P**	**22 36 32.8**	**+0.1**
	0.7nm,0.7s,baz=257,slow=5.9,SNR=4.4						
ILB	**Eielson Array**	**48.05**	**33**	*e*P	**P**	**22 36 32.8**	**+0.1**
BVAR	**Borovoye Array**	**51.89**	**313**	P	**P**	**22 37 03.4**	**+1.4**
	0.3nm,0.4s,baz=83,slow=12,SNR=2.8						
INK	**Inuvik**	**53.10**	**27**	P	**P**	**22 37 11.3**	**+0.7**
	1.5nm,0.9s,baz=304,slow=3.6,SNR=4.2						
INK	**Inuvik**	**53.10**	**27**	*e*P	**P**	**22 37 11.3**	**+0.7**
	6.6nm,1.4s						
WR1	**Warramunga Arr**	**57.76**	**191**	*e*P	**P**	**22 37 43.0**	**-1.6**
	22nm,1.8s						
WRA	**Warramunga Arr**	**57.76**	**191**	P	**P**	**22 37 43.0**	**-1.6**
	0.9nm,0.7s,baz=12,slow=7.5,SNR=9.5						
AS31	**Alice Springs**	**61.48**	**191**	*e*P	**P**	**22 38 09.4**	**-0.9**
	4.7nm,1.9s						
ASAR	**Alice Springs**	**61.48**	**191**	P	**P**	**22 38 09.4**	**-0.9**
	0.3nm,0.7s,baz=15,slow=8.6,SNR=3.7						
YKA	**Yellowknife Ar**	**62.42**	**31**	P	**P**	**22 38 16.6**	**+0.4**
	0.2nm,0.7s,baz=289,slow=5.8,SNR=3.7						
YKB5	**Yellowknife Ar**	**62.42**	**31**	*e*P	**P**	**22 38 16.6**	**+0.4**
DZM	**Mont Dzumac**	**62.79**	**157**	*e*P	**P**	**22 38 18.6**	**-0.6**
	20nm,0.4s						
NV01	**Mina Array Sit**	**73.07**	**54**	*e*P	**P**	**22 39 24.6**	**+0.6**
NVAR	**Mina Array Bea**	**73.07**	**54**	P	**P**	**22 39 24.6**	**+0.6**
	0.6nm,0.4s,baz=308,slow=5.1,SNR=2.9						
AKASG	**Malin Array Be**	**75.29**	**323**	P	**P**	**22 39 37.2**	**+0.8**
	0.3nm,0.4s,baz=41,slow=6.2,SNR=4.0						
AKBB	**Malin Array Si**	**75.29**	**323**	*e*P	**P**	**22 39 37.2**	**+0.8**
	4.4nm,1.0s						
GERES	**GERESS Array B**	**83.50**	**330**	P	**P**	**22 40 22.5**	**+1.2**
	0.5nm,0.8s,baz=40,slow=5.3,SNR=2.8						
GERES	**GERESS Array B**	**83.50**	**330**	P	**P**	**22 40 22.5**	**+1.2**

*ISCJB **01** 22:30:19.9±0.5, 27.°22N±0.°03×58.°39E±0.°05, h35km, Error ellipse: s-maj=6.5km s-min=4.2km az=20.2*
*CSEM **01** 22:30:20.3±0.3, 27.°22N×58.°34E, h20km, ML3.6, Error ellipse: s-maj=9.5km s-min=5.8km az=107.0*
*TEH **01** 22:30:23.0, 27.°31N×58.°28E, h28km, ML3.6*
*DSN **01** 22:30:23.5±2.2, 26.°87N×58.°33E, h15km, ML3.3/10, Error ellipse: s-maj=33.9km s-min=11.0km az=176.0*
*OMAN **01** 22:30:26.1±1.4, 26.°77N×58.°24E, h21km±36km, Error ellipse: s-maj=32.4km s-min=8.4km az=25.0*
ISC 01 22:30:21.0±1.3**, 27.°18N**±0.°05×**58.°43E**±0.°05**, h35**km**, n52, σ1.°69**/69**, Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KHSK	**Kohestak**	**1.30**	**251**	*e*Pg	**Pn**	**22 30 45.0**	**+2.4**
KHSK				*e*AMB	AMB	22 30 45.4	
	comp=Z,25µm,0.0s						
KHSK				*e*Sg	**Sn**	**22 31 02.9**	**+4.1**
KHSK	**Kohestak**	**1.30**	**251**	*e*Pg	**Pn**	**22 30 45.0**	**+2.4**
KHSK				*e*Sg	**Sn**	**22 31 02.9**	**+4.1**
NIAN	**Nian**	**1.46**	**285**	*e*Pg	**Pn**	**22 30 46.4**	**+1.4**
NIAN				*e*Sg	**Sn**	**22 31 04.9**	**+2.0**
NIAN				*e*AMB	AMB	22 31 06.1	
	comp=Z,16µm,0.1s						
NIAN	**Nian**	**1.46**	**285**	*e*Pg	**Pn**	**22 30 46.4**	**+1.4**
NIAN				*e*Sg	**Sn**	**22 31 04.9**	**+2.0**
BNDS	**Bandar-Abbas**	**2.02**	**277**	*e*Pn	**Pn**	**22 30 50.6**	**-2.1**
BNDS				*e*Sg	**Sn**	**22 31 13.9**	**-3.0**
GENO	**Geno**	**2.02**	**277**	*e*Pn	**Pn**	**22 30 53.4**	**+0.6**
GENO				*e*AMB	AMB	22 31 19.7	
	comp=Z,5µm,0.1s						
GENO	**Geno**	**2.02**	**277**	*e*Pn	**Pn**	**22 30 53.4**	**+0.6**
BANOM	**Banah**	**2.28**	**237**	P	**Pn**	**22 30 56.8**	**+0.6**
	SNR=353						
BANOM				S	**Sn**	**22 31 22.9**	**-0.2**
BANOM	**Banah**	**2.28**	**237**	P	**Pn**	**22 30 56.8**	**+0.6**
	SNR=353						
BANOM				S	**Sn**	**22 31 24.2**	**+1.1**
BANOM	**Banah**	**2.28**	**237**	*e*P	**Pn**	**22 30 56.8**	**+0.6**
	SNR=22						
BANOM				S	**Sn**	**22 31 24.2**	**+1.1**
SHME	**Shamm**	**2.34**	**242**	P	**Pn**	**22 30 58.2**	**+1.2**
	SNR=79						
SHME				S	**Sn**	**22 31 25.1**	**+0.6**
SHME	**Shamm**	**2.34**	**242**	*e*P	**Pn**	**22 30 58.2**	**+1.2**
	SNR=8.1						
SHME				S	**Sn**	**22 31 24.5**	**0.0**
MDH	**Madha**	**2.68**	**226**	*e*P	**Pn**	**22 31 01.2**	**-0.5**
	SNR=19						
MSFE	**Esma-Masafi**	**2.73**	**229**	P	**Pn**	**22 31 02.2**	**-0.2**
	SNR=19						
MSFE				S	**Sn**	**22 31 32.4**	**-1.8**
MSFE	**Esma-Masafi**	**2.73**	**229**	*e*P	**Pn**	**22 31 02.2**	**-0.2**
	SNR=19						
UMQ	**Umm Al-Quwin**	**2.98**	**237**	*e*P	**Pn**	**22 31 07.9**	**+2.2**
	SNR=7.7						
UOSS	**Minazif**	**2.99**	**222**	P	**Pn**	**22 31 05.6**	**-0.4**
	SNR=33						
UOSS				S	**Sn**	**22 31 37.6**	**-3.1**
UOSS	**Minazif**	**2.99**	**222**	*e*P	**Pn**	**22 31 05.6**	**-0.4**
	SNR=33						
HATD	**Hatta, Dubai**	**3.12**	**222**	P	**Pn**	**22 31 07.3**	**-0.5**
HATD	**Hatta, Dubai**	**3.12**	**222**	P	**Pn**	**22 31 07.3**	**-0.5**
ZHSF	**Zahedan**	**3.18**	**40**	*e*Pn	**Pn**	**22 31 10.7**	**+1.9**
ASHO	**Ashiyiah**	**3.28**	**221**	P	**Pn**	**22 31 10.7**	**+0.7**
	SNR=40						
ASHO	**Ashiyiah**	**3.28**	**221**	P	**Pn**	**22 31 10.4**	**+0.4**
	SNR=42						
ASHO	**Ashiyiah**	**3.28**	**221**	*e*P	**Pn**	**22 31 10.4**	**+0.4**
	SNR=42						
NAZ	**Nazwa, Dubai**	**3.31**	**229**	P	**Pn**	**22 31 12.4**	**+2.0**
NAZ	**Nazwa, Dubai**	**3.31**	**229**	P	**Pn**	**22 31 12.4**	**+2.0**
SOHO	**SOHO**	**3.48**	**210**	P	**Pn**	**22 31 12.2**	**-0.5**
	SNR=152						
SOHO	**SOHO**	**3.48**	**210**	*i* P	**Pn**	**22 31 12.2**	**-0.5**
	SNR=152						
BIDO	**Bidbid**	**3.66**	**184**	P	**Pn**	**22 31 16.0**	**+0.9**
	SNR=16						
BIDO	**Bidbid**	**3.66**	**184**	P	**Pn**	**22 31 16.0**	**+0.9**
	SNR=16						
HOQ	**Hoqain**	**3.72**	**196**	P	**Pn**	**22 31 16.1**	**0.0**
	SNR=12						
HOQ	**Hoqain**	**3.72**	**196**	P	**Pn**	**22 31 16.1**	**0.0**
	SNR=12						
ALNE	**Al Ain**	**3.94**	**218**	*i* P	**Pn**	**22 31 21.4**	**+2.3**
	SNR=73						
AJN	**Ajban**	**4.05**	**231**	*i* P	**Pn**	**22 31 22.1**	**+1.5**
	SNR=10						
SMDO	**Samad**	**4.12**	**185**	P	**Pn**	**22 31 23.0**	**+1.4**
	SNR=26						
SMDO				S	**Sn**	**22 32 09.3**	**+0.7**
SMDO	**Samad**	**4.12**	**185**	P	**Pn**	**22 31 23.0**	**+1.4**
	SNR=26						
SMDO				S	**Sn**	**22 32 09.3**	**+0.7**
WBK	**Wadi Bani Khal**	**4.58**	**174**	P	**Pn**	**22 31 30.0**	**+2.1**
	SNR=12						
WBK				S	**Sn**	**22 32 18.1**	**-1.8**
	SNR=10						
WBK	**Wadi Bani Khal**	**4.58**	**174**	P	**Pn**	**22 31 30.0**	**+2.1**
	SNR=12						
WBK				S	**Sn**	**22 32 18.1**	**-1.8**
	SNR=10						
GHIR	**Ghir-Karzin**	**4.95**	**284**	*e*Pn	**Pn**	**22 31 30.6**	**-2.4**
IKOO	**Kooshah**	**5.25**	**5**	*e*Pn	**Pn**	**22 31 37.5**	**+0.3**
IKOO				*e*AMB	AMB	22 31 39.2	
	comp=Z,608nm,0.1s						
IKOO	**Kooshah**	**5.25**	**5**	*e*Pn	**Pn**	**22 31 37.5**	**+0.3**
IMEH	**Mehriz**	**5.36**	**322**	*e*Pn	**Pn**	**22 31 37.8**	**-0.9**
IMEH				*e*AMB	AMB	22 31 42.7	
	comp=Z,86nm,0.1s						
IMEH	**Mehriz**	**5.36**	**322**	*e*Pn	**Pn**	**22 31 37.8**	**-0.9**
IDAH	**Dahanechah**	**5.68**	**12**	*e*Pn	**Pn**	**22 31 44.3**	**+1.2**
IDAH				*e*AMB	AMB	22 31 55.4	
	comp=N,215nm,0.2s						
IDAH	**Dahanechah**	**5.68**	**12**	*e*Pn	**Pn**	**22 31 44.3**	**+1.2**
ITEG	**Tejag**	**5.70**	**3**	*e*Pn	**Pn**	**22 31 43.7**	**+0.3**
ITEG				*e*AMB	AMB	22 31 44.4	
	comp=Z,253nm,0.1s						
ITEG	**Tejag**	**5.70**	**3**	*e*Pn	**Pn**	**22 31 43.7**	**+0.3**
IKAZ	**Kazeroun**	**6.35**	**296**	*e*Pn	**Pn**	**22 31 51.3**	**-1.1**
IKAZ				*e*AMB	AMB	22 31 56.2	
	comp=Z,725nm,0.1s						
IKAZ	**Kazeroun**	**6.35**	**296**	*e*Pn	**Pn**	**22 31 51.3**	**-1.1**
TABS	**Tabas**	**6.54**	**350**	*e*Pn	**Pn**	**22 31 53.5**	**-1.4**
SHRT	**Shahrakht**	**6.64**	**14**	*e*Pn	**Pn**	**22 31 56.3**	**+0.1**
SLWS		**7.39**	**253**	P	**Pn**	**22 32 05.9**	**-0.5**
SLWS				S	**Sn**	**22 33 23.4**	**-5.8**

*ISCJB **01** 22:40:58.9±0.5, 13.°15N±0.°08×143.°85E±0.°09, h150km, mb3.7/13, Error ellipse: s-maj=13.5km s-min=10.8km az=26.7*
*IDC **01** 22:40:59.2±1.0, 13.°15N×143.°72E, h132km±10km, mb3.6/13, mb1 3.7/13, mb1mx3.5/60, mbtmp4.0/13, Error ellipse: s-maj=21.2km s-min=11.0km az=89.0*
ISC 01 22:41:00.7±0.7**, 13.°2N**±0.°1×**143.°9E**±0.°1**, h150**km**, n16, σ1.°04**/17**, mb3.8**/13**, South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.02**	**66**	P	**Pn**	**22 41 24.6**	**-1.1**
	40nm,0.3s,baz=352,slow=3.3,SNR=18						
GUMO				S	**Sn**	**22 41 43.2**	**-1.4**
	142nm,0.3s,baz=15,slow=23,SNR=36						
GUMO				LR	LR	22 41 45.2	
	comp=Z,105nm,21.6s,baz=301,slow=38						
MJAR	**Matsushiro Arr**	**23.83**	**349**	P	**P**	**22 45 59.9**	**-0.1**
	0.7nm,0.5s,baz=165,slow=10,SNR=3.1						
WRA	**Warramunga Arr**	**34.23**	**196**	P	**P**	**22 47 31.4**	**-0.9**
	5.9nm,0.7s,baz=18,slow=9.5,SNR=78						
FITZ	**Fitzroy Crossi**	**35.92**	**211**	P	**P**	**22 47 45.9**	**-0.9**
	baz=8.5,slow=2.6						
ASAR	**Alice Springs**	**37.90**	**195**	P	**P**	**22 48 02.8**	**-0.7**
	2.0nm,0.6s,baz=18,slow=12,SNR=29						
DZM	**Mont Dzumac**	**41.42**	**147**	P	**P**	**22 48 34.9**	**+2.1**
	7.9nm,0.5s,baz=344,slow=7.4,SNR=9.3						
STKA	**Stephens Creek**	**44.85**	**183**	P	**P**	**22 48 59.2**	**-0.8**
	2.0nm,0.5s,baz=334,slow=8.3,SNR=5.7						
SONM	**Songino Array**	**46.54**	**326**	P	**P**	**22 49 13.6**	**+0.3**
	0.5nm,0.6s,baz=144,slow=7.4,SNR=4.9						
MKAR	**Makanchi Array**	**61.14**	**316**	P	**P**	**22 50 59.4**	**+0.1**
	0.6nm,0.5s,baz=93,slow=8.1,SNR=17						
ZALV	**Zalesovo Beam**	**61.42**	**325**	P	**P**	**22 51 00.5**	**-0.5**
	0.4nm,0.4s,baz=106,slow=7.2,SNR=3.1						
KURBB	**Kurchatov Arra**	**64.34**	**320**	P	**P**	**22 51 20.0**	**-0.3**
	1.7nm,0.7s,baz=102,slow=6.9,SNR=14						
ILAR	**Eielson Array**	**69.34**	**25**	P	**P**	**22 51 51.2**	**-0.5**
	0.2nm,0.6s,baz=248,slow=5.9,SNR=5.2						
BVAR	**Borovoye Array**	**69.67**	**322**	P	**P**	**22 51 53.8**	**-0.2**
	0.7nm,0.4s,baz=97,slow=7.8,SNR=10						
INK	**Inuvik**	**75.11**	**22**	P	**P**	**22 52 27.3**	**+1.4**
	1.4nm,1.1s,baz=278,slow=5.4,SNR=2.6						
YKA	**Yellowknife Ar**	**83.66**	**27**	P	**P**	**22 53 13.2**	**+0.9**
	0.2nm,0.5s,baz=289,slow=5.1,SNR=4.3						
LPAZ	**La Paz**	**148.88**	**100**	PKPbc	**PKPbc**	**23 00 33.5**	**+1.1**
	0.7nm,0.4s,baz=278,slow=1.7,SNR=4.5						

*ISCJB **01** 22:41:51.7±0.5, 48.°94S±0.°07×121.°6E±0.°2, h13km, mb4.3/15, MS4.0/11, Error ellipse: s-maj=20.4km s-min=9.7km az=11.9*
*IDC **01** 22:41:51.3±0.6, 48.°94S×121.°58E, h0km, mb4.3/10, mb1 4.4/11, mb1mx4.1/43, mbtmp4.3/11, ML2.5/1, MS4.1/12, Ms1 4.0/12, ms1mx3.7/36, Error ellipse: s-maj=34.8km s-min=14.6km az=105.0*
*NEIC **01** 22:41:53.8±4.6, 48.°92S×121.°52E, h15km±27km, mb4.6/10, Error ellipse: s-maj=15.6km s-min=8.8km az=101.0*
ISC 01 22:41:53.5±0.5**, 48.°97S**±0.°08×**121.°6E**±0.°2**, h13**km**, n70, σ0.°85**/60**, mb4.3**/15**, MS4.1**/11**, Western Indian-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
H01W1	**Cape Leeuwin H**	**15.10**	**336**	T	T	23 00 46.0	
	baz=160,slow=74,SNR=70						
H01W2	**Cape Leeuwin H**	**15.10**	**336**	T	T	23 00 50.1	
	baz=160,slow=74,SNR=70						
H01W3	**Cape Leeuwin H**	**15.11**	**336**	T	T	23 00 47.8	
	baz=160,slow=74,SNR=61						
NWAO	**Narrogin (SRO)**	**16.35**	**347**	Pn	**Pn**	**22 45 42.8**	**+0.1**
	0.9nm,0.3s,baz=158,slow=16,SNR=6.8						
NWAO				LR	LR	22 50 42.3	
	comp=Z,749nm,21.1s,baz=30,slow=32						
NWAO	**Narrogin (SRO)**	**16.35**	**347**	*e*Pn	**Pn**	**22 45 42.8**	**+0.1**
	150nm,1.8s						
STKA	**Stephens Creek**	**22.77**	**49**	P	**P**	**22 46 54.9**	**-0.6**
	5.6nm,1.1s,baz=203,slow=11,SNR=4.4						
STKA				LR	LR	22 54 11.2	
	comp=Z,464nm,21.4s,baz=217,slow=32						
STKA	**Stephens Creek**	**22.77**	**49**	*e*P	**P**	**22 46 54.6**	**-0.9**
	3.6nm,1.3s						
ASAR	**Alice Springs**	**27.06**	**25**	P	**P**	**22 47 35.0**	**-0.7**
	8.8nm,1.1s,baz=194,slow=8.9,SNR=20						
ASAR				PcP	**PcP**	**22 50 55.8**	**-0.8**
	0.6nm,0.9s,baz=193,slow=3.9,SNR=4.1						
ASAR				LR	LR	22 57 02.5	
	comp=Z,721nm,21.4s,baz=198,slow=34						
AS31	**Alice Springs**	**27.06**	**25**	*e*P	**P**	**22 47 35.3**	**-0.4**
	4.3nm,1.3s						
AS31				*e*PcP	**PcP**	**22 50 55.8**	**-0.8**
AS01	**Alice Springs**	**27.07**	**26**	*e*P	**P**	**22 47 34.9**	**-0.9**
WR1	**Warramunga Arr**	**30.72**	**24**	*e*P	**P**	**22 48 07.1**	**-1.1**
	14nm,1.4s						
WR1				*e*PcP	**PcP**	**22 51 04.8**	**-0.9**
WRA	**Warramunga Arr**	**30.72**	**24**	P	**P**	**22 48 07.1**	**-1.1**
	6.8nm,1.1s,baz=197,slow=8.5,SNR=9.6						
WRA				PcP	**PcP**	**22 51 04.8**	**-0.9**
	0.9nm,0.8s,baz=213,slow=2.1,SNR=5.4						
FITZ	**Fitzroy Crossi**	**30.97**	**8**	P	**P**	**22 48 10.2**	**-0.1**
	4.0nm,1.0s						
VNDA	**Vanda**	**32.49**	**165**	P	**P**	**22 48 23.4**	**+0.3**
	1.1nm,0.7s,baz=302,slow=8.4,SNR=4.8						
VNDA				LR	LR	23 00 47.1	
	comp=Z,364nm,18.4s,baz=324,slow=35						
VNDA	**Vanda**	**32.49**	**165**	*e*P	**P**	**22 48 24.4**	**+1.2**
	7.6nm,1.3s						
MAW	**Mawson**	**34.32**	**216**	P	**P**	**22 48 39.4**	**+0.1**
	5.7nm,1.0s,baz=73,slow=7.4,SNR=4.7						
MAW				LR	LR	23 01 05.5	
	comp=Z,140nm,18.1s,baz=61,slow=34						
MAW	**Mawson**	**34.32**	**216**	*e*P	**P**	**22 48 39.3**	**0.0**
	3.8nm,1.1s						
BATI	**Baumata**	**38.68**	**3**	LR	LR	23 05 45.5	
	comp=Z,225nm,18.1s,baz=199,slow=37						
QSPA	**South Pole Qui**	**41.16**	**180**	P	**P**	**22 49 37.4**	**+0.2**
	4.3nm,0.7s,baz=358,slow=2.8,SNR=15						
QSPA				LR	LR	23 05 52.1	
	comp=Z,413nm,19.4s,baz=63,slow=35						
QSPA	**South Pole Qui**	**41.16**	**180**	*e*P	**P**	**22 49 38.1**	**+0.8**
LEM	**Lembang**	**43.63**	**340**	LR	LR	23 03 57.1	
	comp=Z,42nm,21.4s,baz=184,slow=30						
FAKI	**Fak Fak**	**46.78**	**15**	*e*P	**P**	**22 50 23.2**	**+0.6**
HNR	**Honiara**	**50.78**	**52**	LR	LR	23 11 14.2	
	comp=Z,173nm,18.9s,baz=178,slow=35						
SNAA	**Sanae**	**53.44**	**199**	P	**P**	**22 51 12.5**	**-0.1**
	6.2nm,0.9s,baz=141,slow=6.5,SNR=5.1						
SNAA				LR	LR	23 12 55.0	
	comp=Z,417nm,18.1s,baz=179,slow=35						
SNAA	**Sanae**	**53.44**	**199**	*e*P	**P**	**22 51 12.0**	**-0.7**
	18nm,1.1s						
MYLDM	**Lahad Datu**	**53.99**	**356**	*e*P	**P**	**22 51 20.4**	**+3.3**
	35nm,1.3s						
H08S2	**Diego Garcia H**	**58.19**	**298**	T	T	23 54 34.1	
	baz=144,slow=76,SNR=4.4						
H08S1	**Diego Carcia H**	**58.20**	**298**	T	T	23 54 30.4	
	baz=144,slow=76,SNR=4.8						
H08S3	**Diego Garcia H**	**58.20**	**298**	T	T	23 54 31.0	
	baz=144,slow=76,SNR=4.7						
GUMO	**Guam**	**65.61**	**25**	LR	LR	23 22 00.9	
	comp=Z,101nm,18.2s,baz=122,slow=37						
CM01	**Chiang Mai Arr**	**70.05**	**337**	*e*P	**P**	**22 53 04.5**	**-0.4**
CM31	**Chiang Mai Arr**	**70.09**	**337**	*e*P	**P**	**22 53 04.8**	**-0.5**
CMAR	**Chiang Mai Arr**	**70.09**	**337**	P	**P**	**22 53 04.8**	**-0.5**
	0.7nm,0.5s,baz=188,slow=5.4,SNR=7.1						
SHL	**Shillong**	**78.80**	**333**	*e*P	**P**	**22 53 55.7**	**-0.3**
	17nm,1.3s						
LSA	**Lhasa**	**82.90**	**334**	*e*P	**P**	**22 54 17.7**	**-0.4**
	3.7nm,0.8s						
KSRS	**Korea Array**	**86.23**	**5**	LR	LR	23 32 25.4	
	comp=Z,61nm,21.9s,baz=41,slow=35						
MJAR	**Matsushiro Arr**	**86.41**	**13**	P	**P**	**22 54 36.0**	**+0.8**
	0.4nm,0.4s,baz=181,slow=7.3,SNR=3.3						
MAJO	**Matsushiro**	**86.41**	**13**	*e*P	**P**	**22 54 36.0**	**+0.8**
TOA0	**Torodi Ar. Sit**	**119.33**	**256**	*e*PKPdf	**PKPdf**	**23 00 41.3**	**-1.4**
TORD	**Torodi Ar. Bea**	**119.33**	**256**	PKP	**PKPdf**	**23 00 41.2**	**-1.4**
	1.1nm,1.0s,baz=151,slow=1.0,SNR=5.4						
TOA1	**Torodi Ar. Sit**	**119.34**	**256**	*e*PKPdf	**PKPdf**	**23 00 41.2**	**-1.5**
ILAR	**Eielson Array**	**133.40**	**36**	PKP	**PKPdf**	**23 01 07.1**	**-0.9**
	0.3nm,0.6s,baz=259,slow=3.4,SNR=4.6						
ILB	**Eielson Array**	**133.40**	**36**	*e*PKPdf	**PKPdf**	**23 01 07.1**	**-0.9**
TXAR	**Lajitas Array**	**140.51**	**103**	PKP	**PKPdf**	**23 01 22.8**	**+0.4**
	0.2nm,0.8s,baz=176,slow=2.7,SNR=3.1						
LTX	**Lajitas**	**140.51**	**103**	*e*PKPdf	**PKPdf**	**23 01 22.8**	**+0.4**
REDW	**Red Top Meadow**	**143.86**	**79**	*e*PKPdf	**PKPdf**	**23 01 27.2**	**-1.0**
IMW	**Indian Meadow**	**144.05**	**78**	*e*PKPdf	**PKPdf**	**23 01 27.6**	**-0.9**
MOOW	**Moose Ponds**	**144.11**	**78**	*e*PKPdf	**PKPdf**	**23 01 27.9**	**-0.7**
LOHW	**Long Hollow**	**144.14**	**78**	*e*PKPdf	**PKPdf**	**23 01 27.5**	**-1.1**
WALA	**Waterton Lakes**	**144.30**	**68**	*e*PKPdf	**PKPdf**	**23 01 29.2**	**+0.6**
BOZ	**Bozeman (W)**	**144.36**	**75**	*e*PKPdf	**PKPdf**	**23 01 28.4**	**-0.4**
BW06	**Boulder Array**	**144.42**	**80**	*e*PKPdf	PKPbc	23 01 27.9	+0.2
PD31	**Pinedale Array**	**144.42**	**80**	*e*PKPdf	PKPbc	23 01 27.9	+0.2
PDAR	**Pinedale Array**	**144.42**	**80**	PKP	PKPbc	23 01 27.7	0.0
	1.2nm,0.8s,baz=204,slow=2.0,SNR=10						
PDAR	**Pinedale Array**	**144.42**	**80**	*e*PKPdf	**PKPab**	**23 01 27.2**	**-0.2**
YHH	**Holmes Hill**	**144.51**	**76**	*e*PKPdf	**PKPdf**	**23 01 30.1**	**+0.8**
HRY	**Holter Researc**	**144.69**	**73**	*e*PKPdf	**PKPdf**	**23 01 29.3**	**0.0**
T25A	**Trinidad**	**144.89**	**92**	*e*PKPbc	**PKPdf**	**23 01 29.6**	**-0.5**
RWWY	**Rawlins**	**145.44**	**83**	*e*PKPdf	**PKPdf**	**23 01 30.6**	**-0.3**
ISCO	**Idaho Springs**	**145.54**	**87**	*e*PKPdf	**PKPab**	**23 01 32.1**	**+0.4**
N23A	**Red Feather La**	**145.88**	**85**	*e*PKPdf	**PKPab**	**23 01 33.1**	**+0.2**
HKT	**Hockley**	**145.88**	**110**	*e*PKPdf	**PKPab**	**23 01 34.0**	**+1.3**
EDM	**Edmonton**	**145.96**	**62**	*e*PKPdf	**PKPab**	**23 01 32.1**	**-0.4**
EKA	**Eskdalemuir Ar**	**146.29**	**302**	PKPbc	**PKPbc**	**23 01 32.2**	**-0.6**
	1.1nm,0.7s,baz=101,slow=3.8,SNR=3.9						
YKA	**Yellowknife Ar**	**146.76**	**45**	PKPbc	**PKPbc**	**23 01 33.6**	**-0.3**
	2.8nm,0.8s,baz=273,slow=2.1,SNR=57						
YKB5	**Yellowknife Ar**	**146.76**	**45**	*e*PKPdf	**PKPbc**	**23 01 33.6**	**-0.3**
WMOK	**Wichita Mounta**	**147.16**	**100**	*e*PKPdf	**PKPbc**	**23 01 36.3**	**+0.3**
RSSD	**Black Hills**	**148.62**	**81**	*e*PKPbc	**PKPbc**	**23 01 40.0**	**+0.1**
RES	**Resolute Bay**	**149.99**	**18**	*e*PKPbc	**PKPbc**	**23 01 41.5**	**-0.5**
KSU1	**Kansas State U**	**151.10**	**95**	*e*PKPbc	**PKPbc**	**23 01 46.7**	**+0.9**

MEX 01 23:02:12.3±0.3**, 16.°26N**×**98.°35W, h2**km**, MD3.5, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.25**	**59**	*e*P	Pg	23 02 16.9	-0.3
PNIG				*i* S	Sg	23 02 20.6	+0.1
TLIG	**Tlapa**	**1.31**	**351**	*e*P	Pg	23 02 33.8	-3.6
TLIG				*e*S	Sg	23 02 50.3	-4.1
VHO	**Vista Hermosa**	**1.75**	**62**	*e*P	Pn	23 02 40.4	-3.5
VHO				*e*S	Sn	23 03 03.1	-3.7
HUIG	**Huatulco**	**2.21**	**103**	*i* P	Pn	23 02 43.6	-6.5

*ISCJB **01** 23:19:47.3±0.7, 17.°66N±0.°03×145.°73E±0.°03, h177km±6km, mb4.7/157, Error ellipse: s-maj=5.5km s-min=4.3km az=24.1*
*IDC **01** 23:19:47.2±0.6, 17.°72N×145.°66E, h169km±5km, mb4.1/29, mb1 4.2/31, mb1mx4.0/61, mbtmp4.5/31, Error ellipse: s-maj=11.6km s-min=6.8km az=89.0*
*NEIC **01** 23:19:48.1±0.6, 17.°67N×145.°71E, h171km±6km, mb4.8/119, Error ellipse: s-maj=4.9km s-min=3.5km az=114.0*
ISC 01 23:19:47.9±0.5**, 17.°70N**±0.°05×**145.°76E**±0.°06**, h172**km±4km**, h173**km**:pP-P, n239, σ1.°31**/252**, mb4.8**/156**, Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SARN	**Sarigan**	**0.99**	**179**	*e*Pn	**Pn**	**23 20 14.3**	**-0.6**
GUMO	**Guam**	**4.18**	**192**	P	**Pn**	**23 20 51.8**	**+0.7**
	43nm,0.3s,baz=136,slow=3.1,SNR=12						
GUMO				S	**Sn**	**23 21 40.1**	**-0.4**
	89nm,0.3s,baz=337,slow=23,SNR=7.4						
JOW	**Kunigami**	**18.54**	**302**	P	**Pn**	**23 23 54.2**	**+0.3**
	5.9nm,0.3s,baz=284,slow=2.1,SNR=13						
JOW	**Kunigami**	**18.54**	**302**	*e*P	**Pn**	**23 23 54.3**	**+0.5**
	58nm,0.7s						
MANU	**Manus Island**	**19.68**	**175**	*e*P	**P**	**23 24 04.9**	**+1.0**
	816nm,1.8s						
H11S3	**WAKE ISLAND Hy**	**19.91**	**84**	T	T	23 45 21.0	
	baz=275,slow=74,SNR=3.2						
MJAR	**Matsushiro Arr**	**19.92**	**342**	P	**P**	**23 24 06.1**	**-0.2**
	0.6nm,0.3s,baz=170,slow=9.7,SNR=8.3						
MJAR				ScP	**ScP**	**23 31 31.9**	**-4.1**
	0.2nm,0.3s,baz=180,slow=3.3,SNR=3.8						
MAT	**Matsushiro**	**19.92**	**342**	P	**P**	**23 24 07.5**	**+1.1**
H11S1	**WAKE ISLAND Hy**	**19.93**	**84**	T	T	23 45 19.5	
	baz=275,slow=74,SNR=4.4						
H11S2	**WAKE ISLAND Hy**	**19.93**	**84**	T	T	23 45 20.6	
	baz=275,slow=74,SNR=8.2						
H11N1	**WAKE ISLAND Hy**	**20.12**	**81**	T	T	23 45 34.3	
	baz=264,slow=74,SNR=14						
H11N2	**WAKE ISLAND Hy**	**20.12**	**81**	T	T	23 45 34.3	
	baz=264,slow=74,SNR=12						
H11N3	**WAKE ISLAND Hy**	**20.14**	**81**	T	T	23 45 34.3	
	baz=264,slow=74,SNR=11						
JNU	**Nakatsue**	**20.37**	**322**	P	**P**	**23 24 11.1**	**-0.1**
	3.1nm,0.6s,baz=331,slow=16,SNR=2.2						
JAY	**Jayapura**	**20.70**	**194**	P	**P**	**23 24 16.1**	**+1.3**
	441nm,1.2s						
GENI	**Genyem**	**20.90**	**196**	P	**P**	**23 24 17.3**	**+0.3**
	132nm,1.0s						
SWI	**Sorong**	**23.32**	**219**	P	**P**	**23 24 41.5**	**+0.7**
	112nm,1.0s						
YHNB	**Yeheng**	**23.75**	**291**	*e*P	**P**	**23 24 45.6**	**+1.0**
	46nm,0.6s						
SSLB	**Suanglung**	**23.95**	**289**	*e*P	**P**	**23 24 48.4**	**+1.9**
	93nm,1.9s						
FAKI	**Fak Fak**	**24.44**	**214**	P	**P**	**23 24 51.3**	**+0.4**
	96nm,0.7s						
FAKI	**Fak Fak**	**24.44**	**214**	*e*P	**P**	**23 24 51.4**	**+0.5**
	65nm,0.7s						
KSRS	**Korea Array**	**25.16**	**325**	P	**P**	**23 24 56.4**	**-0.8**
	1.0nm,0.5s,baz=143,slow=9.1,SNR=5.0						
KSAR	**Wonju Array Be**	**25.17**	**325**	P	**P**	**23 24 56.4**	**-0.9**
ASAJ	**Asahikawa**	**26.47**	**355**	P	**P**	**23 25 09.1**	**+0.2**

3.0nm,0.4s,baz=173,slow=6.8,SNR=6.8
PMG Port Moresby 26.97 177 P P 23 25 13.2 -0.4
29nm,0.5s,baz=1.8,slow=13,SNR=10.0
PMG Port Moresby 26.97 177 eP P 23 25 13.2 -0.4
31nm,0.8s
SANI Sanana 27.65 227 P P 23 25 28.2 +8.4
NJ2 Nanjing 28.18 306 eP P 23 25 26.5 +2.2
NJ2 pmax pmax
comp=Z,20nm,0.6s
MRSI Marisa 29.01 236 P P 23 25 33.4 +1.6
12nm,0.5s
LUWI Luwuk 29.31 233 P P 23 25 34.2 -0.3
96nm,0.7s
LUWI Luwuk 29.31 233 eP P 23 25 33.1 -1.4
70nm,0.6s
MYLDM Lahad Datu 29.41 248 eP P 23 25 36.8 +1.4
21nm,1.2s
KKM Kota Kinabalu 31.09 252 eP P 23 25 50.4 +0.1
51nm,0.6s
COEN Coen 31.56 185 eP P 23 25 48.6 -5.6
24nm,0.6s
TTSI Tana Toraja 32.85 234 P P 23 26 07.4 +1.8
89nm,0.7s,1µm
BNSI Bone 33.51 231 P P 23 26 13.3 +2.0
62nm,0.8s
MTN Manton Dam 33.61 206 eP P 23 26 11.4 -0.7
37nm,0.8s
KAPI Kappang 34.18 231 eP P 23 26 17.3 +0.2
9.8nm,0.6s
BSSI Bau Bau, Buton 34.41 229 P P 23 26 19.6 +0.6
SOEI Soe 34.57 220 P P 23 26 23.6 +3.1
SOEI Soe 34.57 220 eP P 23 26 19.6 -0.9
39nm,0.8s
BATI Baumata 35.29 220 P P 23 26 25.4 -1.2
46nm,0.7s,baz=95,slow=0.4,SNR=12
BATI Baumata 35.29 220 P P 23 26 25.9 -0.7
35nm,0.8s
MTKI Muara Teweh, K 35.59 242 P P 23 26 30.8 +1.7
KBKI Kotabaru 35.88 237 P P 23 26 31.8 +0.2
SBUM Sibu 36.23 249 eP P 23 26 35.3 +0.7
29nm,0.5s
PETK Petropavlovsk- 36.55 12 P P 23 26 37.3 +0.5
3.9nm,0.6s,baz=159,slow=7.7,SNR=5.7
HHC Hu-ho-hao-te 37.34 315 eP P 23 26 45.7 +1.9
HHC S S 23 32 21.5 +2.7
HHC pmax pmax
comp=Z,14nm,0.8s
HHC pmax pmax
comp=Z,110nm,4.2s
HHC LR LR
comp=N,430nm,11.1s
HHC LR LR
comp=E,710nm,11.1s
HHC LR LR
comp=Z,340nm,12.2s
CTA Charters Tower 37.56 179 P P 23 26 45.1 -0.5
6.7nm,0.6s,baz=2.4,slow=8.4,SNR=14
CTAO Charters Tower 37.56 179 eP P 23 26 45.8 +0.1
36nm,1.5s
WBSI Waikabubak, Su 37.64 226 P P 23 26 44.5 -2.0
STKI Sintang 38.00 246 P P 23 26 50.5 +1.0
PLAI Plampang 38.19 229 P P 23 26 51.7 +0.6
67nm,0.8s
KSM Kuching 38.37 249 eP P 23 26 52.8 +0.2
28nm,0.7s
WRAB Tennant Creek 39.04 197 eP P 23 26 58.4 +0.3
23nm,0.6s
WB2 Warramunga Arr 39.05 197 eP P 23 26 57.9 -0.2
WRA Warramunga Arr 39.05 197 P P 23 26 57.8 -0.4
14nm,0.6s,baz=16,slow=8.2,SNR=122
WRA PcP PcP 23 29 04.4 -0.4
1.6nm,0.5s,baz=16,slow=3.3,SNR=3.2
WRA ScP ScP 23 32 35.2 -1.7
1.0nm,0.8s,baz=14,slow=4.0,SNR=5.3
SRBI Singaraja 39.58 232 P P 23 27 04.4 +1.7
18nm,0.7s
KMMI Kalianget 39.88 235 P P 23 27 07.3 +2.2
CD2 Chengdu 40.24 297 eP P 23 27 08.0 0.0
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,120nm,5.0s
BLJI Banyuglugur 40.60 234 P P 23 27 12.3 +1.2
JAGI Jajag, Banyuwa 40.63 233 P P 23 27 10.4 -0.9
JAGI Jajag, Banyuwa 40.63 233 eP P 23 27 10.2 -1.2
32nm,1.1s
LZH Lanzhou 41.25 305 eP P 23 27 18.3 +1.9
LZH pP pP 23 27 56.3 +2.6
LZH sP sP 23 28 15.7 +2.4
LZH PP PnPn 23 29 00.0 -1.5
LZH S S 23 33 18.6 +1.1
LZH sS sS 23 34 25.0 +2.1
LZH SS SS 23 36 22.6 -5.3
LZH pmax pmax
comp=Z,24nm,1.2s
LZH pmax pmax
comp=Z,320nm,6.4s
LZH LR LR
comp=N,830nm,13.2s
LZH LR LR
comp=E,290nm,13.8s
LZH LR LR
comp=Z,410nm,15.5s
PWJI Pagerwojo 42.17 235 P P 23 27 24.1 +0.3
AS01 Alice Springs 42.70 196 eP P 23 27 27.2 -0.7
AS31 Alice Springs 42.71 196 eP P 23 27 28.0 -0.1
8.3nm,0.6s
ASAR Alice Springs 42.71 196 P P 23 27 27.9 -0.2
9.5nm,0.6s,baz=19,slow=8.5,SNR=99
ASAR ScP ScP 23 32 49.9 -1.4
0.9nm,0.9s,baz=18,slow=3.9,SNR=4.1
PCJI Pacitan 42.76 236 P P 23 27 29.1 +0.5
PHIT Phitsanulok 43.18 276 P P 23 27 34.1 +2.1
16nm,0.8s
PAYA Payao 43.44 280 P P 23 27 36.7 +2.6
3.7nm,0.6s,158nm
SONM Songino Array 43.96 322 P P 23 27 37.4 -0.5
1.3nm,0.6s,baz=133,slow=7.5,SNR=12
SONM ScP ScP 23 32 53.4 -2.9
0.9nm,0.8s,baz=88,slow=2.8,SNR=4.7
SONA1 Songino Array 43.96 322 eP P 23 27 39.4 +1.4
CMAI Chiengmai2 44.16 281 P P 23 27 43.5 +3.5
429nm,1.3s,66µm
CM01 Chiang Mai Arr 44.40 278 eP P 23 27 43.7 +2.0
CM01 epP pP 23 28 18.5 -1.0
CM31 Chiang Mai Arr 44.41 279 eP P 23 27 44.4 +2.6
CMAR Chiang Mai Arr 44.41 279 P P 23 27 41.2 -0.7
4.1nm,0.6s,baz=72,slow=6.5,SNR=31
DZM Mont Dzumac 44.41 152 P P 23 27 42.2 +0.4
20nm,0.8s,baz=209,slow=23,SNR=12
DZM Mont Dzumac 44.41 152 eP P 23 27 43.1 +1.4
LEM Lembang 44.86 240 P P 23 27 45.9 +0.3
9.0nm,0.4s,baz=289,slow=22,SNR=2.7
MBWA Marble Bar 46.28 215 eP P 23 27 56.7 +0.4
19nm,0.6s
MDSI Maura Dua 46.57 246 P P 23 27 58.0 -0.8
ARMA Armidale 48.17 173 eP P 23 28 10.8 -0.1
11nm,0.8s
PSI Prapat 48.24 258 eP P 23 28 12.4 +0.6
6.5nm,0.8s
XMIS Christmas Isla 48.51 238 eP P 23 28 12.8 -1.0
129nm,1.3s
GSI Gunungsitoli 50.04 256 eP P 23 28 26.0 +0.7
36nm,0.5s
BBOO Buckleboo 51.07 191 eP P 23 28 32.5 -0.2
69nm,0.7s
FORT Forrest 51.12 200 eP P 23 28 32.9 -0.1
1µm,0.6s
UNV Unalaska Valle 51.45 34 eP P 23 28 36.2 +1.0
86nm,1.3s
CAN Canberra 52.82 177 eP P 23 28 45.8 +0.2
13nm,0.9s
GAMB Gambell 54.36 22 eP P 23 28 57.0 +0.7
5.8nm,0.7s
WMQ Urumqi 55.01 311 P P 23 29 03.0 +1.4
ZALV Zalesovo Beam 58.84 323 P P 23 29 27.3 -0.9
0.8nm,0.3s,baz=115,slow=6.9,SNR=6.3
ZALV Zalesovo Beam 58.84 323 eP P 23 29 27.5 -0.7
MK01 Makanchi Array 59.18 314 eP P 23 29 30.5 -0.2
MK31 Makanchi Array 59.19 314 eP P 23 29 30.7 -0.1
MKAR Makanchi Array 59.19 314 P P 23 29 30.4 -0.4
1.1nm,0.4s,baz=91,slow=7.7,SNR=31
MKAR pP pP 23 30 08.9 -1.9
0.6nm,0.5s,baz=91,slow=8.2,SNR=2.3
MKAR ScP ScP 23 33 59.5 -2.3
1.1nm,1.0s,baz=101,slow=6.3,SNR=3.7
MKAR Makanchi Array 59.19 314 eP P 23 29 30.7 -0.1
10nm,0.4s
MKAR pP pP 23 30 08.9 -1.9
MKAR ScP ScP 23 33 59.5 -2.3
MAKZ Makanchi 59.41 314 eP P 23 29 32.2 -0.1
13nm,1.8s
OHAK Old Harbor 59.65 33 eP P 23 29 35.4 +1.7
87nm,1.8s
SVW2 Sparrevohn 59.67 29 eP P 23 29 34.6 +0.8
9.6nm,0.6s
BRLK Bradley Lake 61.51 31 eP P 23 29 46.2 -0.2
17nm,0.6s
PPLA Purkeypile 61.76 27 eP P 23 29 48.6 +0.6
21nm,1.4s
CAST Castle Rocks 61.96 27 eP P 23 29 50.1 +0.9
20nm,0.7s
SUA Susitna One 62.01 29 eP P 23 29 49.8 +0.1
10nm,0.6s
KURK Kurchatov 62.05 318 eP P 23 29 49.0 -1.0
8.2nm,1.3s
KURBB Kurchatov Arra 62.10 318 P P 23 29 49.3 -1.0
2.9nm,0.6s,baz=94,slow=7.5,SNR=32
IM3 Indian Mountai 62.10 24 eP P 23 29 50.5 +0.4
IM3 epP pP 23 30 33.3 +2.8
RC01 Rabbit Creek A 62.39 30 eP P 23 29 52.3 +0.2
24nm,0.5s
KTH Kantishna Hill 62.49 27 eP P 23 29 52.2 -0.6
17nm,1.1s
BPAW Bear Paw Mtn. 62.62 26 eP P 23 29 54.1 +0.5
13nm,0.6s
TRF Thorofare Moun 62.74 27 eP P 23 29 54.3 -0.3
68nm,2.0s
PMR Palmer 62.79 29 eP P 23 29 55.1 +0.3
11nm,0.7s
MLY Manley 62.99 25 eP P 23 29 57.0 +0.9
11nm,0.6s
MLY epP pP 23 30 39.7 +3.2
NGZ Ngauruhoe 63.09 154 P P 23 29 58.2 +1.0
FWVZ Far West T-bar 63.14 154 P P 23 29 58.5 +0.9
TRVZ Turoa 63.17 154 P P 23 29 57.7 -0.1
SML Sawmill 63.21 29 eP P 23 29 57.8 +0.2
29nm,0.8s
RND Reindeer 63.35 27 eP P 23 29 58.4 -0.2
BKZ Black Stump Fm 63.46 154 eP P 23 29 59.2 -0.2
80nm,1.8s
BKZ Black Stump Fm 63.46 154 P P 23 29 58.9 -0.6
KSH Kashi 63.49 306 eP P 23 30 06.3 +6.3
RAHZ Arahi 63.50 153 P P 23 30 00.6 +0.9
NMHZ Naumai 63.53 153 P P 23 30 01.0 +1.0
BHHZ Black Hill Sta 63.55 154 P P 23 30 00.0 0.0
SCM Sheep Creek Mo 63.68 29 eP P 23 30 01.4 +0.6
27nm,0.8s
COLD Coldfoot 63.85 23 eP P 23 30 02.8 +1.2
5.9nm,0.8s
DHY Denali Highway 63.93 28 eP P 23 30 02.5 +0.1
15nm,1.4s
WRH Wood River Hil 63.94 26 eP P 23 30 02.2 -0.1
7.2nm,0.6s
MDM Murphy Dome 64.00 26 eP P 23 30 02.8 +0.1
9.4nm,0.7s
CCB Clear Creek Bu 64.10 26 eP P 23 30 02.9 -0.4
14nm,1.6s
COLA College 64.14 26 eP P 23 30 03.6 +0.1
3.2nm,0.6s
KAHZ Kahuranaki 64.14 154 P P 23 30 04.3 +0.4
EYAK Cordova Ski Ar 64.19 31 eP P 23 30 05.0 +1.0
18nm,0.6s
THZ Tophouse 64.27 158 eP P 23 30 05.2 +0.5
16nm,0.7s
KLU Klutina 64.28 30 eP P 23 30 05.1 +0.5
12nm,0.7s
DIV Divide 64.28 30 eP P 23 30 05.3 +0.6
9.2nm,0.5s
OGWZ Otaki Gorge 64.31 156 P P 23 30 04.7 -0.2
TOLK Toolik Lake Re 64.50 22 eP P 23 30 06.4 +0.5
8.8nm,0.7s
IL1 Eielson Array 64.51 26 eP P 23 30 04.6 -1.4
IL1 epP pP 23 30 47.4 +0.9
ILAR Eielson Array 64.51 26 P P 23 30 04.8 -1.1
4.8nm,0.5s,baz=249,slow=5.8,SNR=85
ILAR pP pP 23 30 44.5 -2.1
3.7nm,0.9s,baz=261,slow=5.5,SNR=3.9
ILB Eielson Array 64.51 26 eP P 23 30 05.0 -1.0
HOWZ Holdsworth Sta 64.52 155 P P 23 30 06.3 0.0
BFZ Birch Farm 64.63 155 P P 23 30 06.0 -1.0
RAGM Ragged Mountai 64.69 31 eP P 23 30 08.5 +1.3
8.6nm,0.6s
PAX Paxson 64.76 28 eP P 23 30 08.1 +0.4
12nm,0.6s
HARP HAARP 64.80 29 eP P 23 30 08.9 +1.0
31nm,0.6s
BMRM Brenner River 64.81 30 eP P 23 30 08.8 +0.7
16nm,0.6s
TMWZ Te Maipa 64.84 155 P P 23 30 08.0 -0.4
LTZ Lake Taylor 64.94 159 eP P 23 30 08.7 -0.3
19nm,0.7s
KHZ Kahutara 65.07 158 eP P 23 30 08.2 -1.6
27nm,0.7s
RIDG Independ'e Rid 65.18 27 eP P 23 30 10.4 0.0
10nm,0.8s
OXZ Oxford 65.35 159 eP P 23 30 10.6 -1.0
25nm,0.7s
RPZ Rata Peaks 65.36 160 P P 23 30 10.7 -1.0
14nm,0.7s,baz=128,slow=10.0,SNR=11
RPZ Rata Peaks 65.36 160 eP P 23 30 10.7 -1.0
16nm,0.8s
DOT Dot Lake 65.50 27 eP P 23 30 12.6 +0.1
31nm,0.8s
FYU Fort Yukon 65.57 24 eP P 23 30 14.0 +1.2
40nm,1.4s
SCRK Sand Creek 65.59 27 eP P 23 30 13.1 0.0
12nm,1.2s
MQZ McQueen's Vall 65.89 159 eP P 23 30 14.5 -0.5
15nm,0.7s
NIL Nilore 66.06 299 eP P 23 30 18.3 +1.7
14nm,0.8s
EGAK Eagle 66.93 26 eP P 23 30 21.3 -0.1
5.3nm,0.6s
BVAR Borovoye Array 67.28 321 P P 23 30 22.8 -1.0
3.2nm,0.4s,baz=103,slow=8.0,SNR=34
KKAR Karatay Array 67.45 310 eP P 23 30 25.3 +0.2
DAWY Dawson 67.61 27 eP P 23 30 26.4 +0.6
4.9nm,0.8s
HYT Haines Junctio 68.25 31 eP P 23 30 30.7 +0.8
21nm,0.7s
WHY Whitehorse 69.53 31 eP P 23 30 39.0 +1.1
6.1nm,0.8s
INK Inuvik 70.27 23 eP P 23 30 41.9 -0.1
12nm,0.8s
DLBC Dease Lake 72.09 33 eP P 23 30 55.0 +1.7
34nm,1.4s
ABKAR Akbulak array 74.11 317 eP P 23 31 03.8 -1.4
16nm,0.5s
AKTO Aktyubinsk 75.15 319 P P 23 31 10.2 -0.9
0.8nm,0.6s,baz=345,slow=4.9,SNR=4.1
GEYT Alibeck 77.53 306 P P 23 31 25.4 +0.6
1.4nm,0.9s,baz=83,slow=4.5,SNR=3.4
YKA Yellowknife Ar 78.84 28 P P 23 31 31.7 +0.2
7.2nm,0.7s,baz=289,slow=5.4,SNR=88
YKA pP pP 23 32 11.0 -2.6
1.3nm,0.9s,baz=291,slow=5.4,SNR=1.5
YBH Yreka Blue Hor 79.55 50 P P 23 31 37.6 +1.6
4.0nm,0.6s,baz=324,slow=3.4,SNR=13
LTY Liberty 79.58 44 eP P 23 31 37.0 +1.1
10nm,0.6s
B08A Colville Reser 80.17 42 eP P 23 31 40.0 +0.9
17nm,0.8s
PINE Pine Mountain 80.29 47 eP P 23 31 41.6 +1.6
39nm,0.8s
RES Resolute Bay 80.38 14 eP P 23 31 39.8 +0.2
3.7nm,0.7s
ORV Oroville 81.00 51 eP P 23 31 44.7 +1.1
8.3nm,1.2s
NEW Newport 81.61 42 eP P 23 31 47.5 +0.8
5.7nm,0.8s
J08A Circle Bar Ran 82.14 47 eP P 23 31 51.0 +1.4
8.0nm,0.6s
WVOR Wild Horse Val 82.29 48 eP P 23 31 51.7 +1.2
8.2nm,0.9s
EDM Edmonton 82.35 37 eP P 23 31 51.1 +0.6
9.1nm,0.8s
ARCES ARCESS Array B 83.45 342 P P 23 31 54.4 -1.4
3.2nm,0.8s,baz=59,slow=4.0,SNR=7.4
NV01 Mina Array Sit 83.71 52 eP P 23 31 59.0 +1.0
NVAR Mina Array Bea 83.71 52 P P 23 31 58.8 +0.8
5.6nm,0.5s,baz=269,slow=5.8,SNR=20
NVAR pP pP 23 32 38.6 -2.0
1.0nm,0.6s,baz=265,slow=5.4,SNR=1.3
NV11 Mina Array Sit 83.82 52 eP P 23 31 59.8 +1.4
0.8nm,1.1s
MFID Camas Ranch 83.96 46 eP P 23 32 00.2 +1.2
12nm,1.0s
HLID Hailey 84.88 46 eP P 23 32 04.7 +1.0
5.3nm,0.9s
LRM Limekiln Ridge 85.42 43 eP P 23 32 07.2 +0.8
HRY Holter Researc 85.51 42 eP P 23 32 07.4 +0.7
22nm,0.6s
BOZ Bozeman (W) 86.04 43 eP P 23 32 10.2 +0.8
3.9nm,0.7s
QLMT Earthquake Lak 86.45 44 eP P 23 32 12.9 +1.4
HVU Hansel Valley 86.63 47 eP P 23 32 13.8 +1.4
18nm,1.3s
YHB Horse Butte 86.64 44 eP P 23 32 14.4 +2.0
12nm,0.9s
SHPR Sheep Range 86.69 53 eP P 23 32 14.2 +1.4
4.1nm,1.0s
BGU Big Grassy Mou 86.75 48 eP P 23 32 13.9 +1.0
3.7nm,0.9s
YMR Madison River 86.82 44 eP P 23 32 15.2 +1.9
11nm,0.8s
YHH Holmes Hill 86.85 44 eP P 23 32 15.1 +1.6
8.0nm,1.3s
IMW Indian Meadow 87.12 45 eP P 23 32 16.4 +1.5
4.6nm,0.8s
DUG Dugway, Tooele 87.16 49 eP P 23 32 15.8 +0.9
11nm,0.6s
FXWY Fox Creek 87.16 45 eP P 23 32 16.2 +1.2
3.0nm,0.8s
H17A Grant Village 87.18 44 eP P 23 32 18.4 +3.4
3.8nm,0.8s
MOOW Moose Ponds 87.31 45 eP P 23 32 16.4 +0.7
2.6nm,0.9s
HWUT Hardware Ranch 87.54 47 eP P 23 32 17.8 +1.0
5.5nm,0.8s
CCUT Cedar City 87.69 51 eP P 23 32 19.3 +1.7
6.0nm,0.8s
CTU Camp Tracy 87.74 48 eP P 23 32 18.7 +1.0
6.5nm,0.8s
RLMT Red Lodge 87.76 43 eP P 23 32 19.1 +1.3
4.1nm,0.6s
NLU North Lily Min 87.77 49 eP P 23 32 19.1 +1.1
7.4nm,0.8s
FINES FINESS Array B 87.81 335 P P 23 32 15.2 -2.2
0.7nm,0.3s,baz=63,slow=4.9,SNR=18
FINES pP pP 23 32 58.9 -1.4
0.9nm,0.6s,baz=64,slow=6.3,SNR=1.3
TCUT Toone Canyon 87.82 47 eP P 23 32 19.5 +1.3
14nm,0.6s
SZCU Shurtz Canyon 87.88 51 eP P 23 32 20.2 +1.7
5.8nm,0.9s
FFC Flin Flon 87.90 32 eP P 23 32 17.7 -0.2
6.0nm,0.8s
MSU Marysvale 88.22 50 eP P 23 32 21.7 +1.6
KNB Kanab 88.28 52 eP P 23 32 21.8 +1.5
9.8nm,0.8s
MTPU Mount Pierson 88.39 51 eP P 23 32 22.8 +1.7
4.7nm,0.8s
PD31 Pinedale Array 88.48 45 eP P 23 32 21.5 +0.3
PDAR Pinedale Array 88.48 45 P P 23 32 21.4 +0.1
0.7nm,0.4s,baz=177,slow=1.4,SNR=13
PDAR Pinedale Array 88.48 45 eP P 23 32 21.0 -0.2
U15A North Rim 88.89 52 eP P 23 32 24.7 +1.4
6.3nm,0.8s
SRU San Rafael Swe 89.20 49 eP P 23 32 25.6 +0.9
14nm,0.6s
P18A Preston Nutter 89.20 49 eP P 23 32 26.1 +1.3
5.0nm,0.8s
Y14A Wickenburg 89.23 55 eP P 23 32 26.1 +1.4
12nm,1.3s
O20A White River Ci 90.43 47 eP P 23 32 31.1 +0.7
6.6nm,0.8s
PV10 Paradox Valley 90.55 49 eP P 23 32 32.4 +1.3
PV05 Paradox Valley 90.63 50 eP P 23 32 29.4 -2.0
N23A Red Feather La 91.71 46 eP P 23 32 37.9 +1.6
9.3nm,0.9s
SMCO Snowmass 91.71 48 eP P 23 32 37.7 +1.1
7.6nm,0.8s
ISCO Idaho Springs 92.40 47 eP P 23 32 40.9 +1.2
3.0nm,0.8s
ULM Lac du Bonnet 93.39 34 P P 23 32 42.5 -1.0
1.4nm,0.8s,baz=306,slow=5.4,SNR=3.2
TXAR Lajitas Array 98.35 56 P Pdif 23 33 07.3 +0.7
0.3nm,0.6s,baz=245,slow=4.6,SNR=3.6
TORD Torodi Ar. Bea 133.12 308 PKP PKPdf 23 38 44.7 +0.8
0.2nm,0.5s,baz=45,slow=2.2,SNR=3.8
TORD SKPbc SKPbc 23 41 51.9 -4.0
2.9nm,1.0s,baz=46,slow=2.9,SNR=12
TORD SKPab SKPab 23 41 57.5 -0.4
0.9nm,0.8s,baz=39,slow=4.1,SNR=5.0
KOWA Kowa 136.27 315 SKPbc SKPbc 23 42 01.8 -4.2
4.5nm,1.0s,baz=44,slow=2.7,SNR=6.8
PLCA Paso Flores 141.28 134 SKPbc SKPbc 23 42 18.1 -1.1
1.4nm,0.7s,baz=252,slow=2.0,SNR=3.7
ROC1 El Roble 143.66 122 ePKPdf PKPbc 23 39 01.3 +0.2
LCO Las Campanas 144.82 115 ePKPbc PKPab 23 39 04.8 +0.1
PB11 IPOC Station P 146.44 99 ePKPdf PKPbc 23 39 10.1 +0.5
MNMC Minye Minye 146.46 98 ePKPdf PKPbc 23 39 10.5 +0.6
LPAZ La Paz 147.59 93 PKPbc PKPbc 23 39 14.4 +0.8
2.5nm,0.4s,baz=29,slow=7.4,SNR=15
LPAZ La Paz 147.59 93 ePKPbc PKPbc 23 39 13.9 +0.4

NNC 01 23:23:17.9±3.0, 38°.04N×71°.57E, h0km, mb3.6, mpv3.2, 3C-4D, Error ellipse: s-maj=23.2km s-min=17.5km az=174.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SFK	Sufi-Kurgan	2.48	37	⇑Pn	Pn	Pn	23 23 59.8	-0.1
	3.1nm,0.3s							
SFK				⇑Sn	Sn	Sn	23 24 32.7	+1.7
	18nm,0.4s							
KSH	Kashi	3.75	65	Pn	Pn	Pn	23 24 08.2	-8.9
KSH				Sn	Sn	Sn	23 24 47.5	-15
KSH				smax	smax			
	comp=N,110nm,0.5s							
KSH				smax	smax			
	comp=E,74nm,0.4s							
MNAS	Manas	4.50	9	⇓Pn	Pn	Pn	23 24 28.0	+0.5
	comp=E,2.1nm,0.3s							
MNAS				⇑Sn	Sn	Sn	23 25 21.7	+1.1
	comp=E,12nm,0.6s							
AAK	Ala-Archa	5.11	25	⇓Pn	Pn	Pn	23 24 34.7	-1.2
	comp=E,1.6nm,0.4s							
AAK				⇓Sn	Sn	Sn	23 25 34.6	-1.1
	comp=E,2.4nm,0.4s							
KK31	Karatay Array	5.12	351	⇓Pn	Pn	Pn	23 24 36.4	+0.5
	comp=E,1.6nm,0.3s,baz=174,slow=13,SNR=34							
KK31				Sn	Sn	Sn	23 25 37.5	+1.8
	comp=E,4.1nm,0.3s,baz=170,slow=21,SNR=19							

*ISCJB **01** 23:28:39.9±0.5, 39°.17N±0°.04×42°.27E±0°.03, h10km±4km, Error ellipse: s-maj=6.0km s-min=4.5km az=179.7*
*CSEM **01** 23:28:39.6±0.3, 39°.19N×42°.23E, h10km, MD2.0*
*ATA **01** 23:28:39.3±0.7, 39°.26N×42°.25E, h16km±9km, ML2.4, MW2.5*
*ISK **01** 23:28:39.3, 39°.18N×42°.26E, h9km, ML2.3/6*
*DDA **01** 23:28:40.4, 39°.17N×42°.23E, h7km, Md2.0*

ISC 01 23:28:39.5±1.1, 39°.19N±0°.03×42°.24E±0°.02, h13km±8km, n22, σ0°.46/36, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
EKAR	Karacoban	0.15	295	eP		Pg	23 28 43.6	+0.1
EKAR				eS		Sb	23 28 47.8	+0.2
EKAR				IAML			23 28 49.2	
	comp=Z,58nm,0.4s							
EKAR	Karacoban	0.15	295	i P		Pg	23 28 43.6	+0.1
EKAR				i S		Sb	23 28 48.0	+0.4
EKAR	Karacoban	0.15	295	P		Pg	23 28 43.6	+0.1
EKAR				S		Sb	23 28 48.0	+0.4
TUTA	Tutak	0.49	64	eP		Pg	23 28 49.2	-0.1
TUTA				IAML			23 28 59.4	
	comp=Z,26nm,0.5s							
ADCV	BITLIS_Adilcev	0.54	135	i P		Pg	23 28 50.3	+0.1
ADCV				i S		Sb	23 28 59.2	+0.6
ADCV	BITLIS_Adilcev	0.54	135	P		Pg	23 28 50.3	+0.1
ADCV				S		Sb	23 28 59.2	+0.6
VRTB	Varto-Mus	0.61	267	PG		Pg	23 28 51.7	+0.2
VRTB				SG		Sb	23 29 01.0	+0.3
VRTB	Varto-Mus	0.61	267	i P		Pg	23 28 44.8	-6.7
VRTB				i S		Sb	23 29 01.1	+0.3

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
VRTB	**Varto-Mus**	**0.61**	**267**	*e*Pg	**Pg**	**23 28 51.7**	**+0.2**
VRTB				S	**Sb**	**23 29 01.0**	**+0.3**
GURO	**Guroymak-BITLI**	**0.66**	**194**	PG	**Pg**	**23 28 52.4**	**0.0**
GURO				SG	**Sb**	**23 29 02.0**	**-0.1**
GURO	**Guroymak-BITLI**	**0.66**	**194**	*e*Pg	**Pg**	**23 28 52.4**	**0.0**
GURO				*e*Sg	**Sb**	**23 29 02.0**	**-0.1**
AGRB	**Hanur-Agry**	**0.70**	**56**	PG	**Pg**	**23 28 53.1**	**-0.1**
AGRB				SG	**Sb**	**23 29 03.4**	**+0.2**
AGRB	**Hanur-Agry**	**0.70**	**56**	*e*Pg	**Pg**	**23 28 53.1**	**-0.1**
AGRB				*e*Sg	**Sb**	**23 29 03.4**	**+0.2**
ECAT	**Cat-ERZURUM**	**1.06**	**293**	*e*P	**Pb**	**23 29 00.2**	**+0.2**
ECAT				*e*S	**Sn**	**23 29 15.5**	**+0.4**
ECAT				IAML		23 29 20.4	
	comp=Z,4.2nm,0.2s						
ECAT	**Cat-ERZURUM**	**1.06**	**293**	*i* P	**Pb**	**23 28 59.7**	**-0.2**
ECAT				*i* S	**Sn**	**23 29 16.0**	**+0.9**
ECAT	**Cat-ERZURUM**	**1.06**	**293**	P	**Pb**	**23 28 59.7**	**-0.2**
ECAT				S	**Sn**	**23 29 16.0**	**+0.9**
BNGB	**Bingˆ¶l**	**1.23**	**261**	PN	**Pg**	**23 29 03.3**	**0.0**
SVAN	**Silvan-Diyarba**	**1.32**	**218**	PN	**Pb**	**23 29 04.6**	**+0.4**
SVAN	**Silvan-Diyarba**	**1.32**	**218**	*e*Pn	**Pb**	**23 29 04.6**	**+0.4**
SENK	**Senkaya-Erzuru**	**1.37**	**3**	PN	**Pb**	**23 29 05.5**	**+0.3**
SENK	**Senkaya-Erzuru**	**1.37**	**3**	*e*Pn	**Pb**	**23 29 05.5**	**+0.3**
BINT	**Bingol**	**1.40**	**258**	*e*Pn	**Pn**	**23 29 03.3**	**-1.6**

*ISCJB **01** 23:37:25.0±1.1, 4°.6S±0°.2×153°.5E±0°.2, h150km, mb3.5/6, Error ellipse: s-maj=39.0km s-min=11.8km az=40.5*
*IDC **01** 23:37:25.5±6.0, 4°.53S×153°.42E, h140km±47km, mb3.3/6, mb1 3.6/7, mb1mx3.3/47, mbtmp3.8/7, Error ellipse: s-maj=60.0km s-min=28.6km az=108.0*
ISC 01 23:37:26.3±1.2**, 4°.6S**±0°.2×**153°.4E**±0°.3**, h150**km**, n8, σ1s.39**/10**, mb3.4**/6**, New Ireland region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.83**	**232**	P	**Pn**	**23 39 17.6**	**+0.1**
	4.9nm,0.3s,baz=67,slow=5.8,SNR=5.8						
PMG				S	**Sn**	**23 40 45.2**	**+0.3**
	2.5nm,0.3s,baz=136,slow=21,SNR=8.3						
WRA	**Warramunga Arr**	**24.04**	**229**	P	**P**	**23 42 28.5**	**+0.8**
	3.3nm,0.5s,baz=54,slow=10.0,SNR=67						
ASAR	**Alice Springs**	**26.71**	**223**	P	**P**	**23 42 52.3**	**+0.4**
	0.4nm,0.5s,baz=56,slow=7.9,SNR=5.2						
ASAR				pP	**pP**	**23 43 20.0**	**-3.3**
	0.5nm,0.7s,baz=53,slow=10,SNR=3.1						
STKA	**Stephens Creek**	**29.31**	**201**	P	**P**	**23 43 15.8**	**+1.0**
	1.0nm,0.6s,baz=26,slow=14,SNR=3.3						
MKAR	**Makanchi Array**	**80.58**	**319**	P	**P**	**23 49 23.1**	**+0.8**
	0.5nm,0.9s,baz=94,slow=5.8,SNR=3.9						
ILAR	**Eielson Array**	**81.75**	**22**	P	**P**	**23 49 27.9**	**0.0**
	0.3nm,0.9s,baz=225,slow=3.7,SNR=3.4						
BVAR	**Borovoye Array**	**89.45**	**323**	P	**P**	**23 50 05.8**	**-0.5**
	0.4nm,0.7s,baz=99,slow=4.7,SNR=2.5						
TORD	**Torodi Ar. Bea**	**150.83**	**289**	PKPbc	**PKPbc**	**23 57 02.0**	**-0.2**
	0.4nm,0.6s,baz=87,slow=1.5,SNR=6.7						

IDC 01 23:37:50.2±1.5**, 3°.48N**×**127°.48E, h0**km**, mb3.5**/6**, mb1 3.6**/6**, mb1mx3.4**/58**, mbtmp3.5**/6**, MS3.7**/2**, Ms1 3.7**/2**, ms1mx2.8**/31**, Error ellipse: s-maj=145.5km s-min=18.7km az=70.0, Talaud Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.23**	**164**	P	P	23 43 08.5	-0.4
	0.7nm,0.4s,baz=344,slow=9.9,SNR=8.1						
ASAR	**Alice Springs**	**27.70**	**167**	P	P	23 43 40.7	+0.4
	0.1nm,0.3s,baz=340,slow=10,SNR=3.4						
JNU	**Nakatsue**	**29.66**	**6**	LR	LR	23 56 57.9	
	comp=Z,30nm,19.9s,baz=284,slow=39						
SONM	**Songino Array**	**47.78**	**341**	P	P	23 46 29.7	+0.3
	0.2nm,0.4s,baz=131,slow=5.9,SNR=2.9						
MKAR	**Makanchi Array**	**58.19**	**325**	P	P	23 47 46.6	+0.4
	0.4nm,0.6s,baz=120,slow=8.0,SNR=6.0						
KURBB	**Kurchatov Arra**	**62.36**	**327**	P	P	23 48 15.1	+0.5
	0.5nm,0.6s,baz=128,slow=6.4,SNR=7.0						
BVAR	**Borovoye Array**	**67.94**	**327**	P	P	23 48 49.4	-1.5
	0.4nm,0.7s,baz=184,slow=37,SNR=2.4						
NRIK	**Noril'sk**	**70.85**	**346**	LR	LR	00 22 41.2	
	comp=Z,231nm,20.8s,baz=332,slow=38						
TORD	**Torodi Ar. Bea**	**123.71**	**288**	PKP	PKPdf	23 56 51.2	+0.1
	0.2nm,0.8s,baz=65,slow=2.1,SNR=3.2						

*ISCJB **01** 23:49:52.6±0.6, 53°.4S±0°.1×49°.3W±0°.2, h10km, mb3.9/9, Error ellipse: s-maj=18.9km s-min=10.0km az=33.6*
*IDC **01** 23:49:53.3±0.9, 53°.31S×48°.90W, h0km, mb4.0/6, mb1 4.1/7, mb1mx3.9/29, mbtmp3.9/7, ML4.3/1, Error ellipse: s-maj=33.4km s-min=22.3km az=57.0*
*NEIC **01** 23:49:54.3±0.6, 53°.39S×49°.33W, h10km, mb4.1/5, Error ellipse: s-maj=21.4km s-min=11.5km az=32.0*
ISC 01 23:49:54.4±0.6**, 53°.4S**±0°.1×**49°.22W**±0°.09**, h10**km**, n26, σ1s.57**/21**, mb4.0**/9**, South Atlantic Ocean**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
EFI	**East Falkland**	**5.65**	**284**	*e*Pn	**Pn**	**23 51 15.5**	**-2.9**
EFI				*e*Sn	Sn	23 52 11.7	-12
HOPE	**Hope Point**	**7.60**	**102**	*e*Pn	**Pn**	**23 51 46.6**	**+1.6**
HOPE				*e*Sn	**Sn**	**23 53 07.6**	**-3.4**
TRQA	**Tornquist**	**17.65**	**325**	*e*Pn	**Pn**	**23 53 58.8**	**-1.5**
	7.4nm,0.4s						
PLCA	**Paso Flores**	**19.16**	**303**	P	**Pn**	**23 54 19.5**	**+0.8**
	0.2nm,0.3s,baz=160,slow=11,SNR=5.0						
CPUP	**Villa Florida**	**27.66**	**344**	P	**P**	**23 55 44.3**	**+2.1**
	0.5nm,0.5s,baz=195,slow=5.9,SNR=3.4						
QSPA	**South Pole Qui**	**36.91**	**180**	P	**P**	**23 57 04.1**	**+1.2**
	7.4nm,1.0s,baz=168,slow=8.9,SNR=7.3						
QSPA	**South Pole Qui**	**36.91**	**180**	*e*P	**P**	**23 57 03.2**	**+0.2**
	2.6nm,0.6s						
LPAZ	**La Paz**	**39.84**	**331**	P	**P**	**23 57 28.7**	**+0.1**
	2.4nm,0.7s,baz=166,slow=6.4,SNR=12						
H10S3	**ASCENSION HYDR**	**52.30**	**45**	T	T	00 56 18.2	
	baz=206						
H10S2	**ASCENSION HYDR**	**52.30**	**45**	T	T	00 56 14.9	
	baz=206						
H10S1	**ASCENSION HYDR**	**52.31**	**45**	T	T	00 56 19.5	
	baz=206						
H10N3	**ASCENSION HYDR**	**53.37**	**45**	T	T	00 57 38.3	
	baz=206						
H10N1	**ASCENSION HYDR**	**53.37**	**45**	T	T	00 57 38.5	
	baz=206						
H10N2	**ASCENSION HYDR**	**53.38**	**45**	T	T	00 57 39.7	
	baz=206						
BOSA	**Boshof**	**58.51**	**97**	P	**P**	**23 59 50.3**	**-0.5**
	1.8nm,0.8s,baz=235,slow=6.6,SNR=3.8						
OTAV	**Otavalo**	**58.67**	**325**	P	**P**	**23 59 53.1**	**+0.6**
	0.4nm,0.4s						
CASY	**Casey**	**59.71**	**171**	*e*P	**P**	**23 59 58.6**	**+0.1**
	5.6nm,0.9s						
LSZ	**Lusaka**	**70.39**	**89**	P	**P**	**00 01 09.0**	**+0.3**
	0.6nm,0.5s						
KOWA	**Kowa**	**77.87**	**45**	P	**P**	**00 01 52.1**	**0.0**
	0.6nm,0.6s,baz=180,slow=6.1,SNR=3.4						
TORD	**Torodi Ar. Bea**	**79.20**	**50**	P	**P**	**00 01 59.3**	**-0.2**
	0.3nm,0.6s,baz=202,slow=6.7,SNR=5.3						
YKA	**Yellowknife Ar**	**126.36**	**328**	PKP	**PKPdf**	**00 08 56.9**	**+1.0**
	0.1nm,0.5s,baz=140,slow=2.0,SNR=3.0						
ILAR	**Eielson Array**	**139.24**	**319**	PKP	**PKPdf**	**00 09 22.5**	**+2.4**
	0.4nm,0.8s,baz=132,slow=1.3,SNR=2.5						
BVAR	**Borovoye Array**	**144.76**	**66**	PKP	**PKPab**	**00 09 29.1**	**-0.1**
	0.5nm,0.4s,baz=222,slow=38,SNR=5.6						
KURBB	**Kurchatov Arra**	**148.30**	**73**	PKPbc	**PKPbc**	**00 09 38.9**	**-0.8**
	0.4nm,0.5s,baz=238,slow=3.5,SNR=5.5						
KURK	**Kurchatov**	**148.39**	**73**	PKPbc	**PKPbc**	**00 09 38.9**	**-1.1**
MKAR	**Makanchi Array**	**148.71**	**82**	PKPbc	**PKPbc**	**00 09 39.1**	**-1.9**
	0.2nm,0.5s,baz=238,slow=1.2,SNR=4.2						

TRN 02 00:00:00.7, 11°.14N×61°.47W, h71km, MD3.7, 3C, Windward Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TRN	**Trinidad (W)**	**0.49**	**173**	⇑*i*P	Pn	00 00 15.8	+2.1
TRN				*e*S	Sn	00 00 24.5	+1.5
TBH	**Brigand Hill**	**0.76**	**149**	⇑*e*P	Pn	00 00 18.2	+1.7
TBH				*e*S	Sn	00 00 29.8	+1.8
TPP	**Pointe-a-Pierr**	**0.82**	**179**	*e*P	Pn	00 00 19.3	+2.2
TPP				*e*S	Sn	00 00 31.2	+2.0
TOSP	**Speyside**	**0.93**	**80**	⇑*i*P	Pn	00 00 19.9	+1.5
TOSP				*e*S	Sn	00 00 33.5	+2.0
GRGR	**Grenville**	**1.00**	**349**	*i* P	Pn	00 00 20.0	+0.6
GRGR				*e*S	Sn	00 00 34.7	+1.5
GRHS	**Sauteurs**	**1.09**	**351**	*e*P	Pn	00 00 22.4	+1.9
GRHS				*e*S	Sn	00 00 37.4	+2.2
GRSS	**Sisters**	**1.16**	**353**	*e*P	Pn	00 00 23.6	+2.2
SVB	**Belmont**	**2.13**	**6**	*e*P	Pn	00 00 35.3	+1.1
SVB				*e*S	Sn	00 01 01.6	+1.9
SVV	**Soufriere Volc**	**2.18**	**6**	*e*P	Pn	00 00 36.2	+1.3
SVV				*e*S	Sn	00 01 02.5	+1.6
SSV	**Crater Summit**	**2.19**	**7**	*e*P	Pn	00 00 36.3	+1.2
SSV				*e*S	Sn	00 01 03.2	+1.9
MCLT	**Moule a Chique**	**2.60**	**11**	*e*P	Pn	00 00 42.2	+1.6
MCLT				*e*S	Sn	00 01 12.8	+1.5
SLB	**Belfond**	**2.70**	**9**	*e*P	Pn	00 00 43.1	+1.1
SLB				*e*S	Sn	00 01 15.8	+2.1
TRMF	**Trois Ilets**	**3.40**	**7**	*e*P	Pn	00 00 53.1	+1.6
LPMF	**Morne Lapointe**	**3.45**	**8**	*e*P	Pn	00 00 54.0	+1.9
FDF	**Fort de France**	**3.58**	**5**	*e*P	Pn	00 00 55.3	+1.2
FDF				*e*S	Sn	00 01 36.7	+1.5
PML	**Morne Lenard**	**3.63**	**4**	*e*P	Pn	00 00 56.1	+1.5
CXM	**Morne La Croix**	**3.66**	**5**	*e*P	Pn	00 00 56.0	+0.8
PCM	**Pelee Case Pet**	**3.66**	**4**	*e*P	Pn	00 00 56.0	+1.0
PCM	**Pelee Case Pet**	**3.66**	**4**	*e*P	Pn	00 00 56.5	+1.4
BAMF	**Morne Balai**	**3.67**	**5**	*e*P	Pn	00 00 56.6	+1.5

*ISCJB **02** 00:04:09.8±0.6, 38°.53N±0°.03×15°.79E±0°.05, h99km±4km, Error ellipse: s-maj=7.2km s-min=3.4km az=35.2*
*ROM **02** 00:04:10.1±0.1, 38°.51N×15°.79E, h98km±1km, Ml2.9/14, Error ellipse: s-maj=2.4km s-min=1.2km az=128.0*
*CSEM **02** 00:04:10.2±0.1, 38°.51N×15°.80E, h100km, ML3.5/14, Error ellipse: s-maj=3.9km s-min=1.8km az=123.0*
ISC 02 00:04:08.4±1.4**, 38°.54N**±0°.03×**15°.82E**±0°.04**, h112**km±6km**, n71, σ1s.15**/134**, Sicily**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JOPP	**Joppolo**	**0.09**	**34**	Pg	**Pn**	**00 04 24.1**	**+0.3**
JOPP				Sg	**Sn**	**00 04 34.0**	**-1.4**
	395nm,0.1s						
JOPP	**Joppolo**	**0.09**	**34**	Pg	**Pn**	**00 04 24.1**	**+0.3**
JOPP				Sg	**Sn**	**00 04 34.0**	**-1.4**
	395nm,0.1s						
CEL	**Celeste**	**0.28**	**169**	Pg	**Pn**	**00 04 24.8**	**+0.4**
CEL				Sg	**Sn**	**00 04 35.2**	**-1.1**
CEL	**Celeste**	**0.28**	**169**	Pg	**Pn**	**00 04 24.8**	**+0.4**
CEL				Sg	**Sn**	**00 04 35.2**	**-1.1**
MSCL	**Scilla**	**0.30**	**185**	Pg	**Pn**	**00 04 24.8**	**+0.3**
MSCL				Sg	**Sn**	**00 04 35.6**	**-0.9**
	449nm,0.1s						
MSCL	**Scilla**	**0.30**	**185**	Pg	**Pn**	**00 04 24.8**	**+0.3**
MSCL				Sg	**Sn**	**00 04 35.6**	**-0.9**
	449nm,0.1s						
GMB	**Gambarie**	**0.37**	**179**	Pg	**Pn**	**00 04 25.4**	**+0.6**
GMB				Sg	**Sn**	**00 04 36.0**	**-1.1**
GMB	**Gambarie**	**0.37**	**179**	Pg	**Pn**	**00 04 25.4**	**+0.6**
GMB				Sg	**Sn**	**00 04 36.0**	**-1.1**
MSRU	**Castanea**	**0.37**	**222**	Pg	**Pn**	**00 04 25.0**	**+0.3**
MSRU				Sg	**Sn**	**00 04 35.6**	**-1.3**
MSRU	**Castanea**	**0.37**	**222**	Pg	**Pn**	**00 04 25.0**	**+0.3**
MSRU				Sg	**Sn**	**00 04 35.6**	**-1.3**
ATN	**Antennamare**	**0.47**	**217**	Pg	**Pn**	**00 04 25.5**	**+0.1**
ATN				Sg	**Sn**	**00 04 36.5**	**-1.6**
ATN	**Antennamare**	**0.47**	**217**	Pg	**Pn**	**00 04 25.5**	**+0.1**
ATN				Sg	**Sn**	**00 04 36.5**	**-1.6**
SOI	**Samo**	**0.50**	**158**	Pg	**Pn**	**00 04 26.3**	**+0.9**
SOI				Sg	**Sn**	**00 04 37.5**	**-0.7**
SOI	**Samo**	**0.50**	**158**	Pg	**Pn**	**00 04 26.3**	**+0.9**
SOI				Sg	**Sn**	**00 04 37.5**	**-0.7**
MILZ	**Milazzo**	**0.53**	**241**	Pg	**Pn**	**00 04 26.2**	**+0.6**
MILZ				Sg	**Sn**	**00 04 37.3**	**-1.2**
MILZ	**Milazzo**	**0.53**	**241**	Pg	**Pn**	**00 04 26.2**	**+0.6**
MILZ				Sg	**Sn**	**00 04 37.3**	**-1.2**
MPNC	**Port Mandanici**	**0.54**	**224**	Pg	**Pn**	**00 04 26.1**	**+0.4**
MPNC				Sg	**Sn**	**00 04 36.9**	**-1.8**
MPNC	**Port Mandanici**	**0.54**	**224**	Pg	**Pn**	**00 04 26.1**	**+0.4**
MPNC				Sg	**Sn**	**00 04 36.9**	**-1.8**
GRI	**Girifalco**	**0.55**	**58**	Pg	**Pn**	**00 04 26.8**	**+1.0**
GRI				Sg	**Sn**	**00 04 39.0**	**+0.1**
GRI	**Girifalco**	**0.55**	**58**	Pg	**Pn**	**00 04 26.8**	**+1.0**
GRI				Sg	**Sn**	**00 04 39.0**	**+0.1**
MPAZ	**Palizzi**	**0.60**	**166**	Pg	**Pn**	**00 04 27.2**	**+1.0**
MPAZ	**Palizzi**	**0.60**	**166**	Pg	**Pn**	**00 04 27.2**	**+1.0**
MCSR	**Castroreale**	**0.65**	**224**	Pg	**Pn**	**00 04 27.4**	**+0.8**
MCSR				Sg	**Sn**	**00 04 39.2**	**-1.1**
MCSR	**Castroreale**	**0.65**	**224**	Pg	**Pn**	**00 04 27.4**	**+0.8**
MCSR				Sg	**Sn**	**00 04 39.2**	**-1.1**
VPL	**Vulcano Piano**	**0.68**	**257**	Pg	**Pn**	**00 04 27.6**	**+0.9**
VPL				Sg	**Sn**	**00 04 39.3**	**-1.2**
VPL	**Vulcano Piano**	**0.68**	**257**	Pg	**Pn**	**00 04 27.6**	**+0.9**
VPL				Sg	**Sn**	**00 04 39.3**	**-1.2**
LLI	**Lipari**	**0.69**	**263**	Pg	**Pn**	**00 04 28.1**	**+1.3**
LLI				Sg	**Sn**	**00 04 39.2**	**-1.5**
	2µm,0.2s						
LLI	**Lipari**	**0.69**	**263**	Pg	**Pn**	**00 04 28.1**	**+1.3**
LLI				Sg	**Sn**	**00 04 39.2**	**-1.5**
	2µm,0.2s						
NOV	**Novara**	**0.74**	**227**	Pg	**Pn**	**00 04 28.6**	**+1.3**
NOV				Sg	**Sn**	**00 04 41.4**	**-0.2**
NOV	**Novara**	**0.74**	**227**	Pg	**Pn**	**00 04 28.6**	**+1.3**
NOV				Sg	**Sn**	**00 04 41.4**	**-0.2**
MMME	**Mongiuffi-Meli**	**0.75**	**217**	Pg	**Pn**	**00 04 28.8**	**+1.4**
MMME				Sg	**Sn**	**00 04 40.8**	**-0.9**
	325nm,0.7s						
MMME	**Mongiuffi-Meli**	**0.75**	**217**	Pg	**Pn**	**00 04 28.8**	**+1.4**
MMME				Sg	**Sn**	**00 04 40.8**	**-0.9**
	325nm,0.7s						
SERS	**Sersale**	**0.84**	**53**	Pg	**Pn**	**00 04 29.7**	**+1.4**
SERS				Sg	**Sn**	**00 04 42.9**	**-0.4**
	53nm,0.3s						
SERS	**Sersale**	**0.84**	**53**	Pg	**Pn**	**00 04 29.7**	**+1.4**
SERS				Sg	**Sn**	**00 04 42.9**	**-0.4**
	53nm,0.3s						
MUCR	**Ucria**	**0.89**	**237**	Pg	**Pn**	**00 04 30.0**	**+1.2**
MUCR				Sg	**Sn**	**00 04 43.9**	**-0.2**
MUCR	**Ucria**	**0.89**	**237**	Pg	**Pn**	**00 04 30.0**	**+1.2**
MUCR				Sg	**Sn**	**00 04 43.9**	**-0.2**
TIP	**Timpagrande**	**0.97**	**48**	Pg	**Pn**	**00 04 31.0**	**+1.5**
TIP				Sg	**Sn**	**00 04 46.0**	**+0.6**
TIP	**Timpagrande**	**0.97**	**48**	Pg	**Pn**	**00 04 31.0**	**+1.5**
TIP				Sg	**Sn**	**00 04 46.0**	**+0.6**
MSFR	**San Fratello**	**1.09**	**243**	Pg	**Pn**	**00 04 31.9**	**+1.2**
MSFR				Sg	**Sn**	**00 04 46.9**	**-0.7**
	71nm,1.3s						
MSFR	**San Fratello**	**1.09**	**243**	Pg	**Pn**	**00 04 31.9**	**+1.2**
MSFR				Sg	**Sn**	**00 04 46.9**	**-0.7**
	71nm,1.3s						
IACL	**Alicudi**	**1.15**	**270**	Pg	**Pn**	**00 04 32.2**	**+1.0**
IACL				Sg	**Sn**	**00 04 48.3**	**-0.3**
IACL	**Alicudi**	**1.15**	**270**	Pg	**Pn**	**00 04 32.2**	**+1.0**
IACL				Sg	**Sn**	**00 04 48.3**	**-0.3**
PIPA	**Pietrapaola**	**1.22**	**39**	Pg	**Pn**	**00 04 33.7**	**+1.6**
PIPA				Sg	**Sn**	**00 04 50.4**	**+0.3**
	35nm,0.4s						
PIPA	**Pietrapaola**	**1.22**	**39**	Pg	**Pn**	**00 04 33.7**	**+1.6**
PIPA				Sg	**Sn**	**00 04 50.4**	**+0.3**
	35nm,0.4s						
ECNV	**Catenanuova**	**1.28**	**223**	Pg	**Pn**	**00 04 33.7**	**+0.9**
ECNV	**Catenanuova**	**1.28**	**223**	Pg	**Pn**	**00 04 33.7**	**+0.9**
HAGA	**Augusta**	**1.35**	**203**	Pg	**Pn**	**00 04 34.0**	**+0.4**
HAGA				Sg	**Sn**	**00 04 52.5**	**-0.2**
	141nm,0.3s						
HAGA	**Augusta**	**1.35**	**203**	Pg	**Pn**	**00 04 34.0**	**+0.4**
HAGA				Sg	**Sn**	**00 04 52.5**	**-0.2**
	141nm,0.3s						
HCRL	**Carlentini**	**1.40**	**207**	Pg	**Pn**	**00 04 34.8**	**+0.7**
HCRL				Sg	**Sn**	**00 04 53.2**	**-0.4**
	378nm,0.1s						
HCRL	**Carlentini**	**1.40**	**207**	Pg	**Pn**	**00 04 34.8**	**+0.7**
HCRL				Sg	**Sn**	**00 04 53.2**	**-0.4**
	378nm,0.1s						
SALB	**San Lorenzo Be**	**1.40**	**17**	Pg	**Pn**	**00 04 36.3**	**+2.1**
SALB	**San Lorenzo Be**	**1.40**	**17**	Pg	**Pn**	**00 04 36.3**	**+2.1**
HLNI	**Lentini**	**1.40**	**213**	Pg	**Pn**	**00 04 34.8**	**+0.7**
HLNI				Sg	**Sn**	**00 04 52.6**	**-1.0**
	99nm,0.2s						
HLNI	**Lentini**	**1.40**	**213**	Pg	**Pn**	**00 04 34.8**	**+0.7**
HLNI				Sg	**Sn**	**00 04 52.6**	**-1.0**
	99nm,0.2s						
SSY	**Sortino**	**1.50**	**204**	Pg	**Pn**	**00 04 35.6**	**+0.3**
SSY				Sg	**Sn**	**00 04 55.6**	**-0.2**
SSY	**Sortino**	**1.50**	**204**	Pg	**Pn**	**00 04 35.6**	**+0.3**
SSY				Sg	**Sn**	**00 04 55.6**	**-0.2**
MEU	**Monte Lauro**	**1.60**	**207**	Pg	**Pn**	**00 04 37.4**	**+0.9**
MEU				Sg	**Sn**	**00 04 57.5**	**-0.4**
	59nm,0.2s						
MEU	**Monte Lauro**	**1.60**	**207**	Pg	**Pn**	**00 04 37.4**	**+0.9**
MEU				Sg	**Sn**	**00 04 57.5**	**-0.4**
	59nm,0.2s						
HVZN	**Vizzini**	**1.61**	**213**	Pg	**Pn**	**00 04 37.7**	**+1.0**
HVZN				Sg	**Sn**	**00 04 58.1**	**-0.1**
	149nm,0.8s						
HVZN	**Vizzini**	**1.61**	**213**	Pg	**Pn**	**00 04 37.7**	**+1.0**
HVZN				Sg	**Sn**	**00 04 58.1**	**-0.1**
	149nm,0.8s						
MGR	**Morigerati**	**1.61**	**353**	Pg	**Pn**	**00 04 37.9**	**+1.3**
MGR				Sg	**Sn**	**00 04 58.8**	**+0.6**
	17nm,0.4s						
MGR	**Morigerati**	**1.61**	**353**	Pg	**Pn**	**00 04 37.9**	**+1.3**
MGR				Sg	**Sn**	**00 04 58.8**	**+0.6**
	17nm,0.4s						
HAVL	**Avola**	**1.67**	**200**	Pg	**Pn**	**00 04 37.9**	**+0.6**
HAVL				Sg	**Sn**	**00 04 58.3**	**-1.0**
	181nm,0.2s						
HAVL	**Avola**	**1.67**	**200**	Pg	**Pn**	**00 04 37.9**	**+0.6**
HAVL				Sg	**Sn**	**00 04 58.3**	**-1.0**
	181nm,0.2s						
HMDC	**Modica**	**1.78**	**208**	Pg	**Pn**	**00 04 39.4**	**+0.7**
HMDC				Sg	**Sn**	**00 05 01.1**	**-0.7**
	49nm,0.4s						
HMDC	**Modica**	**1.78**	**208**	Pg	**Pn**	**00 04 39.4**	**+0.7**
HMDC				Sg	**Sn**	**00 05 01.1**	**-0.7**
	49nm,0.4s						
TAR1	**Taranto**	**2.29**	**29**	*e*Pn	**Pn**	**00 04 42.5**	**-2.5**
MASS	**Massafra**	**2.33**	**26**	*e*Pn	**Pn**	**00 04 45.6**	**0.0**
SG1	**Sgolgore (BA)**	**2.40**	**16**	*e*Pn	**Pn**	**00 04 46.9**	**+0.4**
SG1				Sn	**Sn**	**00 05 14.1**	**-1.6**
BAI	**Bari**	**2.69**	**17**	*e*Pn	**Pn**	**00 04 48.7**	**-1.6**
BAI				Sn	**Sn**	**00 05 20.1**	**-2.5**
STON	**Ston**	**4.56**	**18**	*e*Pn	**Pn**	**00 05 18.4**	**+3.2**
STON				Sn	**Sn**	**00 06 01.6**	**-5.5**

*JMA **02** 00:11:34.9, 23°.82N×121°.71E, h47km±1km, M2.8*
*ISCJB **02** 00:11:35.4±0.4, 23°.84N±0°.02×121°.72E±0°.02, h50km±5km, Error ellipse: s-maj=4.2km s-min=3.2km az=137.5*
*TAP **02** 00:11:35.3, 23°.86N×121°.66E, h52km, ML3.2, C*
ISC 02 00:11:35.8±1.2**, 23°.84N**±0°.03×**121°.70E**±0°.03**, h48**km±6km**, n32, σ0s.67**/63**, Taiwan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ENLB	**Shoufeng**	**0.11**	**305**	*e*P	**Pn**	**00 11 43.6**	**+0.2**
	baz=307						
ENLB				*e*S	**Sn**	**00 11 50.3**	**+1.6**
	baz=307						
HWA	**Hwalien**	**0.17**	**327**	*e*P	**Pn**	**00 11 43.8**	**+0.2**
	baz=340						
HWA				*e*S	**Sn**	**00 11 50.5**	**+1.3**
	baz=340						
ESL	**Shilin**	**0.25**	**264**	P	**Pn**	**00 11 43.7**	**-0.6**
	baz=266						
ESL				*e*S	**Sn**	**00 11 49.8**	**-0.4**
	baz=266						
TWD	**Chiawan**	**0.26**	**338**	P	**Pn**	**00 11 44.0**	**-0.4**
	baz=332						
TWD				S	**Sn**	**00 11 50.6**	**+0.2**
	baz=332						
EGFH	**Guangfu**	**0.30**	**236**	*e*P	**Pn**	**00 11 44.2**	**-0.6**
	baz=236						
EGFH				*e*S	**Sn**	**00 11 50.7**	**-0.4**
	baz=236						
EHY	**Hungye**	**0.48**	**227**	P	**Pn**	**00 11 45.9**	**-0.8**
	baz=220						
EHY				*e*S	**Sn**	**00 11 53.6**	**-0.9**
	baz=220						
OWD	**Renai**	**0.50**	**284**	*e*P	**Pn**	**00 11 46.6**	**-0.4**
	baz=285						
OWD				*e*S	**Sn**	**00 11 54.2**	**-0.9**
	baz=285						
ENA	**Nanau**	**0.59**	**3**	P	**Pn**	**00 11 47.8**	**-0.3**
	baz=15						
ENA				*e*S	**Sn**	**00 11 56.8**	**0.0**
	baz=15						
TWF1	**Yuli**	**0.61**	**218**	P	**Pn**	**00 11 47.5**	**-0.8**
	baz=219						
TWF1				*e*S	**Sn**	**00 11 56.8**	**-0.5**
	baz=219						
ENAH	**Nanao**	**0.62**	**9**	*e*P	**Pn**	**00 11 48.1**	**-0.3**
	baz=14						
ENAH				*e*S	**Sn**	**00 11 58.2**	**+0.8**
	baz=14						
TWT	**Tachien**	**0.64**	**311**	*e*P	**Pn**	**00 11 48.8**	**0.0**
	baz=310						
TWT				*e*S	**Sn**	**00 11 57.6**	**-0.5**
	baz=310						
NNS	**Nan Shan**	**0.67**	**333**	P	**Pn**	**00 11 48.6**	**-0.6**
	baz=337						
NNS				*e*S	**Sn**	**00 11 58.6**	**-0.2**
	baz=337						
SMLT	**Sun Moon Lake**	**0.74**	**274**	*e*P	**Pn**	**00 11 50.2**	**+0.1**
	baz=272						
SMLT				*e*S	**Sn**	**00 12 00.6**	**+0.2**
	baz=272						
FULB	**Fuli**	**0.74**	**211**	*e*P	**Pn**	**00 11 50.0**	**-0.1**
	baz=215						
FULB				*e*S	**Sn**	**00 12 01.7**	**+1.4**
	baz=215						
YUS	**Yu-Shan**	**0.77**	**243**	*e*P	**Pn**	**00 11 51.0**	**+0.2**
	baz=236						
YUS				*e*S	**Sn**	**00 12 01.5**	**-0.3**
	baz=236						
TYC	**Yuchr**	**0.78**	**275**	*e*P	**Pn**	**00 11 50.7**	**+0.2**
	baz=276						
TYC				*e*S	**Sn**	**00 12 01.8**	**+0.6**
	baz=276						
TWC	**Suao**	**0.78**	**10**	*e*P	**Pn**	**00 11 50.8**	**+0.3**
	baz=23						
TWC				*e*S	**Sn**	**00 12 01.4**	**+0.2**
	baz=23						
CHKT	**Chengkung**	**0.80**	**203**	*e*P	**Pn**	**00 11 51.1**	**+0.3**
	baz=189						
CHKT				*e*S	**Sn**	**00 12 01.2**	**-0.4**
	baz=189						
ENTT	**Nioudou**	**0.81**	**351**	*e*P	**Pn**	**00 11 50.4**	**-0.5**
	baz=353						
ENTT				*e*S	**Sn**	**00 12 01.9**	**-0.1**
	baz=353						
ALS	**Alishan**	**0.89**	**249**	*e*P	**Pn**	**00 11 52.7**	**+0.4**
	baz=241						
ALS				*e*S	**Sn**	**00 12 04.6**	**+0.4**
	baz=241						
NWLT	**Wulai**	**0.95**	**349**	*e*P	**Pn**	**00 11 52.5**	**-0.4**
	baz=349						
NWLT				*e*S	**Sn**	**00 12 04.5**	**-0.9**
	baz=349						
CHN5	**Tsauling**	**0.97**	**256**	*e*P	**Pn**	**00 11 53.5**	**+0.4**
	baz=254						
CHN5				*e*S	**Sn**	**00 12 06.8**	**+0.9**
	baz=254						
TWQ1	**Liyutan**	**0.99**	**301**	*e*P	**Pn**	**00 11 52.9**	**-0.5**
	baz=300						
TWQ1				*e*S	**Sn**	**00 12 06.0**	**-0.3**
	baz=300						
NSTT	**Nanjuang**	**1.02**	**321**	*e*P	**Pn**	**00 11 54.4**	**+0.6**
	baz=309						
NSTT				*e*S	**Sn**	**00 12 07.7**	**+0.8**
	baz=309						
LIOB	**Emei**	**1.02**	**322**	*e*P	**Pn**	**00 11 54.3**	**+0.5**
	baz=310						
LIOB				*e*S	**Sn**	**00 12 08.0**	**+1.0**
	baz=310						
TIPB	**Shuangxi**	**1.13**	**6**	*e*P	**Pn**	**00 11 54.6**	**-0.7**
	baz=357						
TIPB				*e*S	**Sn**	**00 12 09.6**	**-0.2**
	baz=357						
YOJ	**Yonaguni jima**	**1.35**	**62**	P	**Pn**	**00 11 58.3**	**+0.1**
YOJ				*e*S	**Sn**	**00 12 15.1**	**+0.2**
IRIF	**Iriomote-Funau**	**1.92**	**75**	P	**Pn**	**00 12 06.3**	**+0.3**
IRIF				*e*S	**Sn**	**00 12 29.2**	**+0.3**
HATJ	**Hateruma jima**	**1.94**	**83**	*e*S	**Sn**	**00 12 29.6**	**+0.2**
JKRS	**Kuro-shima**	**2.15**	**79**	P	**Pn**	**00 12 09.6**	**+0.5**
JKRS				*e*S	**Sn**	**00 12 36.4**	**+1.9**
JIJ	**Ishigaki jima**	**2.29**	**76**	P	**Pn**	**00 12 10.8**	**-0.3**
JIJ				S	**Sn**	**00 12 36.9**	**-1.2**
JISG	**Ishigakijimahi**	**2.49**	**72**	P	**Pn**	**00 12 13.5**	**-0.4**
JISG				*e*S	**Sn**	**00 12 41.7**	**-1.4**

*ISK **02** 00:16:48.8, 39°.31N×26°.09E, h7km, ML3.1/15*
*DDA **02** 00:16:48.5, 39°.29N×26°.09E, h4km, Ml2.9*
*ISCJB **02** 00:16:49.0±0.4, 39°.30N±0°.01×26°.05E±0°.03, h6km±3km, Error ellipse: s-maj=3.5km s-min=2.4km az=174.6*
*THE **02** 00:16:49.6, 39°.30N×26°.05E, h1km±1km, ML2.5/5, Error ellipse: s-maj=1.7km s-min=0.5km az=140.0*
*ATH **02** 00:16:49.0, 39°.33N×26°.04E, h12km±2km, ML2.5/6, Error ellipse: s-maj=3.0km s-min=1.0km az=163.0*
*CSEM **02** 00:16:49.3±0.1, 39°.30N×26°.05E, h8km, ML3.1, Error ellipse: s-maj=2.2km s-min=1.6km az=84.0*
ISC 02 00:16:49.3±0.8, 39°.30N±0°.01×26°.04E±0°.02, h11km±5km, n103, σ0s.58/151, Turkey

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GPNR	Gulpinar-Canak	0.17	24	PG	Pg	00 16 52.6	-0.5
GPNR				SG	Sg	00 16 55.5	-0.3
GPNR	Gulpinar-Canak	0.17	24	ePg	Pg	00 16 52.6	-0.5
GPNR				eSg	Sg	00 16 55.5	-0.3
SIGR	SIGRI	0.17	239	PG	Pb	00 16 54.1	-0.4
SIGR				SG	Sg	00 16 56.7	+0.9
SIGR	SIGRI	0.17	239	P	Pg	00 16 53.1	-0.1
SIGR				S	Sg	00 16 55.3	-0.5
SIGR				AML	AML	00 16 55.8	
	comp=E,5985µm,0.2s						
SIGR				AML	AML	00 16 56.0	
	comp=N,10654µm,0.3s						
SIGR	SIGRI	0.17	239	P	Pg	00 16 53.1	-0.1
SIGR				S	Sg	00 16 55.8	-0.1
SIGR	SIGRI	0.17	239	P	Pg	00 16 53.1	-0.1
SIGR	SIGRI	0.17	239	ePg	Pb	00 16 54.1	-0.4
SIGR				S	Sg	00 16 55.7	-0.1
SIGR				eSg	Sg	00 16 56.7	+0.9
PRK	Paraskevi	0.18	107	P	Pg	00 16 53.5	+0.1
PRK				S	Sg	00 16 56.5	+0.3
PRK				AML	AML	00 16 56.6	
	comp=E,6993µm,0.3s						
PRK				AML	AML	00 16 56.6	
	comp=N,6380µm,0.2s						
PRK	Paraskevi	0.18	107	P	Pg	00 16 53.4	+0.1
PRK				S	Sg	00 16 56.6	+0.4
PRK	Paraskevi	0.18	107	P	Pg	00 16 53.4	+0.1
PRK				S	Sg	00 16 56.4	+0.3
AYVA	Ayvalik	0.50	89	iP	Pg	00 16 58.6	-0.5
AYVA				iS	Sb	00 17 10.6	+3.2
AYVA	Ayvalik	0.50	89	P	Pg	00 16 58.6	-0.5
BOZC	Bozcaada	0.54	1	PG	Pg	00 16 59.7	-0.2
BOZC				SG	Sg	00 17 07.3	+0.3
BOZC	Bozcaada	0.54	1	iP	Pg	00 16 59.6	-0.2
BOZC				iS	Sg	00 17 07.4	+0.3
BOZC	Bozcaada	0.54	1	ePg	Pg	00 16 59.7	-0.2
BOZC				eSg	Sg	00 17 07.3	+0.3
EZN	Ezine	0.57	22	PG	Pg	00 16 59.9	-0.5
EZN				SG	Sg	00 17 08.1	+0.2
EZN	Ezine	0.57	22	P	Pg	00 17 00.1	-0.3
EZN				S	Sg	00 17 08.5	+0.6
EZN	Ezine	0.57	22	P	Pg	00 17 00.1	-0.3
EZN				eSg	Sg	00 17 08.1	+0.2
BAYC	CANAKKALE_Bayr	0.59	41	iP	Pg	00 17 00.1	-0.7
BAYC				iS	Sg	00 17 09.0	+0.4
BAYC	CANAKKALE_Bayr	0.59	41	P	Pg	00 17 00.1	-0.7
BAYC				S	Sg	00 17 09.0	+0.4
CAND	Candarli	0.68	120	PG	Pg	00 17 02.2	-0.4
DKL	Dikili	0.71	109	PG	Pg	00 17 02.9	-0.1
DKL	Dikili	0.71	109	ePg	Pg	00 17 02.9	-0.1
FOCM	Fo˜§a	0.79	137	PG	Pg	00 17 04.3	-0.4
FOCM	Fo˜§a	0.79	137	ePg	Pg	00 17 04.3	-0.4
KRBN	Karaburun	0.81	150	PG	Pg	00 17 04.7	-0.3
KRBN	Karaburun	0.81	150	ePg	Pg	00 17 04.7	-0.3
PSRA	Psara	0.85	206	P	Pg	00 17 05.2	-0.5
PSRA				S	Sb	00 17 18.3	+1.0
PSRA	Psara	0.85	206	P	Pg	00 17 05.3	-0.3
PSRA				S	Sb	00 17 18.0	+0.7
LIA	Limnos Island	0.89	312	P	Pb	00 17 07.2	+0.4
LIA				S	Sg	00 17 17.9	-0.3
LIA				AML	AML	00 17 21.1	
	comp=E,975µm,0.4s						
LIA				AML	AML	00 17 21.8	
	comp=N,833µm,0.4s						
LIA	Limnos Island	0.89	312	P	Pg	00 17 06.8	+0.2
LIA				S	Sn	00 17 20.4	-0.3
LIA	Limnos Island	0.89	312	P	Pg	00 17 06.4	-0.2
LIA				S	Sg	00 17 17.8	-0.4
GADA	Gvkgeada	0.90	353	PG	Pg	00 17 06.5	-0.1
GADA	Gvkgeada	0.90	353	P	Pb	00 17 06.8	-0.1
GADA				S	Sn	00 17 19.9	-0.8
GADA	Gvkgeada	0.90	353	ePg	Pg	00 17 06.5	-0.1
GADA	Gvkgeada	0.90	353	P	Pb	00 17 06.8	-0.1
GADA				S	Sn	00 17 19.9	-0.8
CHOS	Chios island	0.91	179	PG	Pg	00 17 06.5	-0.4
CHOS	Chios island	0.91	179	P	Pg	00 17 05.9	-1.0
CHOS				AML	AML	00 17 21.0	
	comp=N,631µm,0.5s						
CHOS				S	Sn	00 17 21.2	-0.1
CHOS				AML	AML	00 17 23.9	
	comp=E,1138µm,0.2s						
CHOS	Chios island	0.91	179	P	Pg	00 17 06.5	-0.4
CHOS				S	Sb	00 17 20.2	+0.9
CHOS	Chios island	0.91	179	P	Pg	00 17 06.5	-0.4
CHOS				S	Sb	00 17 20.2	+0.9
URLA	Izmir	1.03	155	PG	Pb	00 17 07.9	-1.3
URLA	Izmir	1.03	155	iP	Pb	00 17 08.1	-1.1
URLA				iS	Sb	00 17 22.3	-0.4
URLA	Izmir	1.03	155	P	Pb	00 17 08.1	-1.1
URLA				S	Sb	00 17 22.3	-0.4
ZEY	˜zmir	1.12	161	iP	Pb	00 17 10.2	-0.4
ZEY				iS	Sg	00 17 25.5	+0.1
GELI	Tayfur-Gelibol	1.15	17	PN	Pb	00 17 10.6	-0.5
GELI	Tayfur-Gelibol	1.15	17	ePn	Pb	00 17 10.6	-0.5
LPK	Lapseki	1.20	27	PN	Pn	00 17 10.9	-1.2
LPK	Lapseki	1.20	27	ePn	Pn	00 17 10.9	-1.2
SMTH	Samothraki Isl	1.23	341	P	Pn	00 17 11.9	-0.6
SMTH				S	Sn	00 17 28.9	-0.2
SMTH				AML	AML	00 17 30.1	
	comp=E,209µm,0.3s						
SMTH				AML	AML	00 17 30.9	
	comp=N,246µm,0.2s						
SMTH	Samothraki Isl	1.23	341	P	Pb	00 17 12.8	+0.2
SMTH				S	Sg	00 17 30.0	+0.9
SMTH	Samothraki Isl	1.23	341	P	Pb	00 17 12.8	+0.2
SMTH				S	Sb	00 17 28.6	+0.1
BALY	Balya	1.29	70	iP	Pn	00 17 12.5	-0.9
BALY				iS	Sn	00 17 30.4	-0.3
BALY	Balya	1.29	70	P	Pn	00 17 12.5	-0.9
BALY				S	Sn	00 17 30.4	-0.3
STEP	BALIKESIR_Sava	1.30	86	iP	Pg	00 17 14.1	-0.2
STEP				iS	Sn	00 17 30.8	0.0
STEP	BALIKESIR_Sava	1.30	86	P	Pg	00 17 14.1	-0.2
STEP				S	Sn	00 17 30.8	0.0
GMLD	Gumuldur	1.40	151	PN	Pb	00 17 15.4	0.0
GMLD	Gumuldur	1.40	151	ePn	Pb	00 17 15.4	0.0
DGB	˜zmir	1.41	152	iP	Pn	00 17 14.9	+0.1
DGB				iS	Sn	00 17 32.6	-0.8
ERIK	Erikli-Kesan	1.42	15	PN	Pn	00 17 15.2	+0.3
ERIK	Erikli-Kesan	1.42	15	ePn	Pn	00 17 15.2	+0.3
ENEZ	Enez	1.44	3	PN	Pn	00 17 15.6	+0.4
ENEZ	Enez	1.44	3	P	Pn	00 17 15.6	+0.4
ENEZ	Enez	1.44	3	P	Pn	00 17 15.6	+0.4
AKHS	Akhisar	1.44	106	iP	Pb	00 17 16.1	-0.1
AKHS				iS	Sg	00 17 35.8	+0.1
AKHS	Akhisar	1.44	106	P	Pb	00 17 16.1	-0.1
AKHS				S	Sg	00 17 35.8	+0.1
KRBG	Karabiga-Canak	1.46	41	PN	Pn	00 17 15.5	0.0
KRBG	Karabiga-Canak	1.46	41	ePn	Pn	00 17 15.5	0.0
BALB	Balikesir	1.46	76	PN	Pn	00 17 15.7	+0.1
BALB	Balikesir	1.46	76	ePn	Pn	00 17 15.7	+0.1
GONE	Gonen-Balikesi	1.47	59	PN	Pn	00 17 15.9	+0.2
GONE	Gonen-Balikesi	1.47	59	ePn	Pn	00 17 15.9	+0.2
ALN	Alexandroupoli	1.59	0	PN	Pn	00 17 17.9	+0.5
ALN	Alexandroupoli	1.59	0	P	Pn	00 17 17.1	-0.3
ALN				S	Sb	00 17 38.8	-0.1
ALN				AML	AML	00 17 40.6	
	comp=E,130µm,0.7s						
ALN				AML	AML	00 17 42.3	
	comp=N,127µm,0.6s						
ALN	Alexandroupoli	1.59	0	P	Pn	00 17 17.8	+0.4
ALN	Alexandroupoli	1.59	0	P	Pn	00 17 17.8	+0.4
ALN				S	Sb	00 17 39.3	+0.4
KESN	Edirne-Kesan	1.60	18	iP	Pn	00 17 18.0	+0.2
KESN				iS	Sb	00 17 39.9	+0.5
KESN	Edirne-Kesan	1.60	18	P	Pn	00 17 18.0	+0.2
KESN				S	Sb	00 17 39.9	+0.5
RKY	Sarkoy-Tekirda	1.64	32	PN	Pb	00 17 18.8	-0.7
RKY	Sarkoy-Tekirda	1.64	32	ePn	Pb	00 17 18.8	-0.7
SMG	Samos	1.71	158	P	Pg	00 17 22.0	0.0
SMG	Samos	1.71	158	P	Pg	00 17 21.6	-0.5
EDC	Edincik	1.75	53	PN	Pn	00 17 19.8	+0.3
EDC	Edincik	1.75	53	ePn	Pn	00 17 19.8	+0.3
GCAM	G?zelcaml?	1.85	149	PN	Pn	00 17 21.7	+0.8
GCAM	G?zelcaml?	1.85	149	ePn	Pn	00 17 21.7	+0.8
RDO	Rodhopi	1.88	348	P	Pn	00 17 21.0	-0.4
RDO	Rodhopi	1.88	348	P	Pn	00 17 21.9	+0.5
DURS	Dursunbey	1.91	80	iP	Pn	00 17 22.2	+0.4
DURS				iS	Sn	00 17 46.2	+0.4
DURS	Dursunbey	1.91	80	P	Pn	00 17 22.2	+0.4
DURS				S	Sn	00 17 46.2	+0.4
AYDB	Zeytinkoy-Aydi	1.98	132	PN	Pn	00 17 23.3	+0.5
AYDB	Zeytinkoy-Aydi	1.98	132	ePn	Pn	00 17 23.3	+0.5
TKR	Tekirdag	2.04	34	PN	Pn	00 17 23.8	+0.3
TKR	Tekirdag	2.04	34	ePn	Pn	00 17 23.8	+0.3
DEMI	Demirci	2.09	96	iP	Pb	00 17 25.9	-1.4
DEMI				iS	Sg	00 17 56.4	-0.2
DEMI	Demirci	2.09	96	P	Pb	00 17 25.9	-1.4
SBT3	Marmara-Eregli	2.17	42	PN	Pn	00 17 26.2	+1.1
SBT3	Marmara-Eregli	2.17	42	ePn	Pn	00 17 26.2	+1.1
KULA	Kula-Manisa	2.19	110	PN	Pn	00 17 26.1	+0.4
KULA	Kula-Manisa	2.19	110	ePn	Pn	00 17 26.1	+0.4
APE	Apeiranthos	2.27	190	PN	Pn	00 17 26.8	+0.1
APE	Apeiranthos	2.27	190	ePn	Pn	00 17 26.8	+0.1
SIMA	Simav-Kutahya	2.29	95	PN	Pn	00 17 27.8	+0.7
SIMA	Simav-Kutahya	2.29	95	ePn	Pn	00 17 27.8	+0.7

*ISCJB **02** 00:21:51.0±0.4, 39°.30N±0°.02×26°.03E±0°.03, h4km±4km, Error ellipse: s-maj=4.3km s-min=3.0km az=5.6*
*ISK **02** 00:21:50.9, 39°.33N×26°.01E, h6km, ML2.8/12*
*DDA **02** 00:21:50.2, 39°.28N×25°.99E, h7km, Ml2.6*
*ATH **02** 00:21:51.2, 39°.30N×26°.05E, h12km±3km, ML2.1/3, Error ellipse: s-maj=3.3km s-min=1.0km az=134.0*
*CSEM **02** 00:21:51.2±0.2, 39°.31N×26°.04E, h5km, ML2.8, Error ellipse: s-maj=4.4km s-min=3.0km az=86.0*
ISC 02 00:21:51.5±0.8, 39°.30N±0°.02×26°.04E±0°.02, h9km±6km, n55, σ0s.74/78, Turkey

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GPNR	Gulpinar-Canak	0.17	25	PG	Pg	00 21 54.8	-0.3
GPNR				SG	Sg	00 21 57.6	+0.1
GPNR	Gulpinar-Canak	0.17	25	ePg	Pg	00 21 54.8	-0.3
GPNR				eSg	Sg	00 21 57.6	+0.1
SIGR	SIGRI	0.17	238	PG	Pg	00 21 54.9	-0.2
SIGR				SG	Sg	00 21 57.8	+0.2
SIGR	SIGRI	0.17	238	P	Pg	00 21 54.8	-0.2
SIGR				S	Sg	00 21 57.1	-0.5
SIGR				AML	AML	00 21 57.8	
	comp=E,1870µm,0.3s						
SIGR				AML	AML	00 21 57.9	
	comp=N,2516µm,0.3s						
SIGR	SIGRI	0.17	238	P	Pg	00 21 54.9	-0.2
SIGR				S	Sg	00 21 57.5	-0.1
PRK	Paraskevi	0.19	108	P	Pg	00 21 55.2	-0.2
PRK				S	Sg	00 21 58.0	-0.1
PRK				AML	AML	00 21 58.7	
	comp=N,676µm,0.2s						
PRK				AML	AML	00 22 01.9	
	comp=E,1128µm,0.4s						
PRK	Paraskevi	0.19	108	P	Pg	00 21 55.2	-0.2
PRK				S	Sg	00 21 58.0	-0.1
AYVA	Ayvalik	0.50	89	iP	Pg	00 21 58.7	-2.5
AYVA				iS	Sg	00 22 08.3	+0.4
AYVA	Ayvalik	0.50	89	P	Pg	00 21 58.7	-2.5
AYVA				S	Sg	00 22 08.3	+0.4
BOZC	Bozcaada	0.54	1	PG	Pg	00 22 01.5	-0.4
BOZC	Bozcaada	0.54	1	iP	Pg	00 22 01.3	-0.7
BOZC				iS	Sg	00 22 09.4	+0.3
BOZC	Bozcaada	0.54	1	ePg	Pg	00 22 01.5	-0.4
EZN	Ezine	0.57	23	PG	Pg	00 22 02.0	-0.5
EZN				SG	Sg	00 22 10.1	+0.2
EZN	Ezine	0.57	23	ePg	Pg	00 22 02.0	-0.5
EZN				eSg	Sg	00 22 10.1	+0.2
DKL	Dikili	0.71	109	PG	Pb	00 22 06.7	+0.7
DKL	Dikili	0.71	109	ePg	Pb	00 22 06.7	+0.7
PSRA	Psara	0.85	206	P	Pg	00 22 07.3	-0.5
PSRA				S	Sb	00 22 19.6	-0.2
PSRA	Psara	0.85	206	P	Pg	00 22 07.3	-0.5
PSRA				S	Sb	00 22 19.3	-0.4
LIA	Limnos Island	0.89	312	P	Pb	00 22 08.5	-0.5
LIA	Limnos Island	0.89	312	P	Pg	00 22 08.4	-0.2
GADA	Gvkgeada	0.89	353	PG	Pg	00 22 08.2	-0.5
GADA	Gvkgeada	0.89	353	ePg	Pg	00 22 08.2	-0.5
CHOS	Chios island	0.92	179	PG	Pg	00 22 08.7	-0.4
CHOS	Chios island	0.92	179	P	Pg	00 22 08.6	-0.5
CHOS				S	Sb	00 22 22.0	+0.1
CHOS				AML	AML	00 22 25.6	
	comp=E,316µm,0.2s						
CHOS				AML	AML	00 22 25.8	
	comp=N,177µm,0.2s						
CHOS	Chios island	0.92	179	ePg	Pg	00 22 08.7	-0.4
CHOS				S	Sb	00 22 21.5	-0.3
URLA	Izmir	1.04	155	PG	Pg	00 22 09.9	-1.5
URLA	Izmir	1.04	155	iP	Pg	00 22 10.1	-1.3
URLA				iS	Sg	00 22 24.4	-0.5
URLA	Izmir	1.04	155	P	Pg	00 22 10.1	-1.3
URLA				S	Sg	00 22 24.4	-0.5
ZEY	˜zmir	1.12	161	iP	Pg	00 22 12.1	-0.9
ZEY				iS	Sg	00 22 27.2	-0.4
GELI	Tayfur-Gelibol	1.14	17	PN	Pg	00 22 12.9	-0.5
GELI	Tayfur-Gelibol	1.14	17	ePn	Pg	00 22 12.9	-0.5
LPK	Lapseki	1.20	27	PN	Pg	00 22 12.9	-1.7
LPK	Lapseki	1.20	27	ePn	Pg	00 22 12.9	-1.7
SMTH	Samothraki Isl	1.23	342	P	Pn	00 22 14.9	+0.1
SMTH				S	Sn	00 22 31.9	+0.3
SMTH	Samothraki Isl	1.23	342	P	Pb	00 22 14.7	-0.2
SMTH				S	Sn	00 22 31.7	+0.1
STEP	BALIKESIR_Sava	1.30	86	iP	Pg	00 22 16.3	-0.2
STEP				iS	Sn	00 22 34.8	+1.4
STEP	BALIKESIR_Sava	1.30	86	P	Pg	00 22 16.3	-0.2
STEP				S	Sn	00 22 34.8	+1.4
ERIK	Erikli-Kesan	1.41	15	PN	Pn	00 22 17.3	0.0
ERIK	Erikli-Kesan	1.41	15	ePn	Pn	00 22 17.3	0.0
ENEZ	Enez	1.43	3	PN	Pn	00 22 17.8	+0.2
ENEZ	Enez	1.43	3	ePn	Pn	00 22 17.8	+0.2
KRBG	Karabiga-Canak	1.46	41	PN	Pb	00 22 18.8	+0.1
KRBG	Karabiga-Canak	1.46	41	ePn	Pb	00 22 18.8	+0.1
BALB	Balikesir	1.46	76	PN	Pb	00 22 18.8	0.0
BALB	Balikesir	1.46	76	ePn	Pb	00 22 18.8	0.0
ALN	Alexandroupoli	1.59	0	PN	Pb	00 22 20.4	-0.6
ALN	Alexandroupoli	1.59	0	P	Pb	00 22 20.7	-0.3
ALN	Alexandroupoli	1.59	0	ePn	Pb	00 22 20.4	-0.6
ALN	Alexandroupoli	1.59	0	P	Pb	00 22 20.9	-0.1
RKY	Sarkoy-Tekirda	1.64	32	PN	Pn	00 22 20.9	+0.5
RKY	Sarkoy-Tekirda	1.64	32	ePn	Pn	00 22 20.9	+0.5
SMG	Samos	1.71	158	P	Pn	00 22 21.7	+0.3
SMG	Samos	1.71	158	P	Pb	00 22 22.4	-0.7
AYDB	Zeytinkoy-Aydi	1.98	133	PN	Pn	00 22 26.5	+1.2
AYDB	Zeytinkoy-Aydi	1.98	133	ePn	Pn	00 22 26.5	+1.2

*ISCJB **02** 00:30:22.2±1.0, 36°.81N±0°.07×70°.89E±0°.07, h88km, mb3.7/2, Error ellipse: s-maj=11.4km s-min=6.4km az=153.4*
*IDC **02** 00:30:22.2±4.6, 36°.75N×71°.00E, h76km±33km, mb3.5/2, mb1 3.5/8, mb1mx3.1/61, mbtmp3.7/8, MS2.5/1, Ms1 2.5/1, ms1mx2.1/48, Error ellipse: s-maj=53.3km s-min=18.2km az=147.0*
*NNC **02** 00:30:23.0±2.7, 37°.10N×70°.69E, h0km, mb4.1, mpv3.9, Error ellipse: s-maj=26.7km s-min=13.6km az=152.0*
ISC 02 00:30:23.7±1.5, 36°.8N±0°.1×70°.92E±0°.08, h88km, n24, σ1s.14/30, 7C-4D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SFK	Sufi-Kurgan	3.79	32	⇓P	Pn	00 31 21.1	+1.0
	4.9nm,0.2s						
SFK				⇑S	Sn	00 32 06.5	+2.7
	24nm,0.4s						
AML	Almayashu	5.74	21	P	Pn	00 31 46.8	+0.1
	SNR=54						
MNAS	Manas	5.81	12	⇑P	Pn	00 31 48.1	+0.7
	6.1nm,0.4s						
MNAS				⇑S	Sn	00 32 52.7	+0.1
	7.8nm,0.3s						
UCH	Uchtor	6.09	26	P	Pn	00 31 51.0	-0.5
	SNR=8.2						
KZA	Kyzart	6.24	31	P	Pn	00 31 53.5	-0.1
	SNR=10						
EKS2	Erkin-Say	6.25	20	P	Pn	00 31 54.3	+0.9
	SNR=23						
KK31	Karatay Array	6.30	357	⇓P	Pn	00 31 55.6	+1.6
	3.2nm,0.3s,baz=185,slow=14,SNR=48						
KK31				⇑S	Sn	00 33 04.6	+0.1
	1.6nm,0.3s,baz=193,slow=26,SNR=6.2						
AAK	Ala-Archa	6.45	24	P	Pn	00 31 56.4	+0.3
	5.5nm,0.3s,baz=173,slow=7.5,SNR=89						
AAK				S	Sn	00 33 07.2	-1.0
	1.4nm,0.3s,baz=124,slow=23,SNR=9.3						
AAK	Ala-Archa	6.45	24	⇓P	Pn	00 31 55.8	-0.2
	5.0nm,0.3s						
AAK				⇑S	Sn	00 33 08.3	+0.1
	6.5nm,0.5s						
AAK	Ala-Archa	6.45	24	P	Pn	00 31 55.9	-0.2
	SNR=23						
KBK	Karagaybulak	6.62	27	P	Pn	00 31 58.8	+0.3
	SNR=6.6						
CHMS	Chumysh	6.85	24	P	Pn	00 32 01.2	-0.3
	SNR=5.9						
USP	Ospenovka	7.01	22	P	Pn	00 32 03.2	-0.6
	SNR=6.6						
TKM2	Tokmak 2	7.09	29	⇓P	Pn	00 32 04.0	-0.9
	3.6nm,0.5s						
TKM2	Tokmak 2	7.09	29	P	Pn	00 32 04.4	-0.5
	SNR=7.3						
GEYT	Alibeck	10.25	280	P	Pn	00 32 48.1	+0.2
	1.4nm,0.3s,baz=117,slow=13,SNR=25						
GEYT				S	Sn	00 34 40.6	-0.3
	0.7nm,0.3s,baz=86,slow=21,SNR=6.1						
MKAR	Makanchi Array	13.09	37	P	Pn	00 33 24.0	-2.1
	0.1nm,0.3s,baz=198,slow=9.1,SNR=4.2						
AB31	Akbulak array	14.79	331	⇑P	Pn	00 33 48.6	+0.5
	0.2nm,0.3s,baz=139,slow=13,SNR=8.9						
AB31				⇑S	Sn	00 36 28.8	-2.0
	0.3nm,0.4s,baz=229,slow=12,SNR=3.3						
KURBB	Kurchatov Arra	14.86	19	P	Pn	00 33 50.3	+1.3
	0.1nm,0.3s,baz=204,slow=11,SNR=6.9						
BVAR	Borovoye Array	16.23	359	P	Pn	00 34 06.1	-0.1
	0.2nm,0.3s,baz=157,slow=12,SNR=4.3						
ZALV	Zalesovo Beam	19.67	25	P	P	00 34 43.5	-2.0
	0.5nm,0.3s,baz=226,slow=11,SNR=11						
MLR	Muntele Rosu	34.58	299	LR	LR	00 55 36.4	
	comp=Z,7.9nm,20.8s,baz=320,slow=44						
ARCES	ARCESS Array B	40.84	337	P	P	00 37 58.5	+2.2
	3.4nm,1.1s,baz=120,slow=11,SNR=3.6						
TORD	Torodi Ar. Bea	65.66	268	P	P	00 40 58.2	-0.7
	0.2nm,0.4s,baz=49,slow=5.9,SNR=8.7						

NNC 02 00:55:08.8±4.0, 37°.22N×70°.35E, h0km, mb3.6, mpv3.1, 4C-4D, Error ellipse: s-maj=30.5km s-min=25.9km az=171.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SFK	Sufi-Kurgan	3.73	41	⇓Pn	Pn	00 56 06.0	-1.8
	0.7nm,0.2s						
SFK				⇓Sn	Sn	00 56 54.8	+2.3
	2.1nm,0.3s						
MNAS	Manas	5.51	17	⇓Pn	Pn	00 56 32.6	+0.3
	1.6nm,0.7s						
MNAS				⇓Sn	Sn	00 57 36.3	-0.2
	1.2nm,0.7s						
KK31	Karatay Array	5.88	1	⇑Pn	Pn	00 56 38.9	+1.8
	0.4nm,0.2s,baz=176,slow=12,SNR=9.5						
KK31				⇑Sn	Sn	00 57 47.2	+2.0
	1.3nm,0.5s,baz=182,slow=25						
AAK	Ala-Archa	6.28	29	⇑Pn	Pn	00 56 41.9	-0.9
	1.7nm,0.5s						
AAK				⇑Sn	Sn	00 57 54.8	-0.5
	2.9nm,1.1s						

*ISCJB **02** 00:59:28.0±0.9, 23°.7S±0°.2×178°.0W±0°.1, h400km, mb4.1/11, Error ellipse: s-maj=26.8km s-min=13.6km az=8.5*
*IDC **02** 00:59:27.0±14.0, 23°.66S×177°.99W, h372km±126km, mb3.9/5, mb1 4.0/6, mb1mx3.4/41, mbtmp4.7/6, Error ellipse: s-maj=77.9km s-min=32.8km az=71.0*
*NEIC **02** 00:59:29.4±1.9, 23°.67S×178°.01W, h400km±21km, mb4.1/8, Error ellipse: s-maj=21.1km s-min=12.2km az=183.0*
ISC 02 00:59:28.8±0.9, 23°.6S±0°.2×178°.0W±0°.1, h400km, n18, σ1s.18/19, mb4.1/11, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	14.45	273	P	P	01 02 35.7	+0.3
	0.4nm,0.3s,baz=106,slow=18,SNR=6.0						
RAR	Rarotonga	17.00	86	P	P	01 03 04.0	+1.3
	5.3nm,0.6s						
EIDS	Eidsvold	28.19	260	eP	P	01 04 47.1	+0.3
	1.6nm,0.6s						
CTA	Charters Tower	33.34	269	P	P	01 05 32.1	+0.6
	5.7nm,0.3s,baz=96,slow=11,SNR=18						
CTAO	Charters Tower	33.34	269	eP	P	01 05 31.9	+0.4
	18nm,0.3s						
TAU	Tasmania Unive	34.52	228	P	P	01 05 41.8	+0.5
	14nm,0.9s						
PMG	Port Moresby	36.16	287	eP	P	01 05 55.5	+0.1
	2.6nm,0.5s						
STKA	Stephens Creek	36.57	248	P	P	01 05 59.1	+0.5
	1.7nm,0.3s,baz=85,slow=9.0,SNR=6.2						
ASAR	Alice Springs	43.92	260	P	P	01 06 57.9	-0.4
	7.4nm,0.6s,baz=98,slow=7.3,SNR=28						
WRA	Warramunga Arr	44.28	265	P	P	01 07 00.5	-0.6
	3.1nm,0.3s,baz=93,slow=8.3,SNR=149						
SBA	Scott Base	54.83	184	P	P	01 08 19.1	+0.4
	1.4nm,0.8s						
MBWA	Marble Bar	57.26	259	P	P	01 08 37.1	+0.4
	3.8nm,0.5s						
QSPA	South Pole Qui	66.52	180	eP	P	01 09 34.7	-2.2
	30nm,1.0s						
MAW	Mawson	78.70	200	P	P	01 10 48.8	+1.2
	6.0nm,0.9s,baz=108,slow=7.6,SNR=4.6						
AKASG	Malin Array Be	145.67	329	PKPbc	PKPbc	01 18 21.3	+0.1
	2.7nm,0.5s,baz=39,slow=4.9,SNR=11						
BRTR	Keskin Array B	148.84	309	PKPbc	PKPbc	01 18 31.1	+0.8
	1.0nm,0.5s,baz=136,slow=5.0,SNR=9.1						
MMAI	Mount Meron Ar	149.25	295	PKPbc	PKPab	01 18 34.1	-3.3
	2.3nm,0.5s,baz=100,slow=3.5,SNR=9.0						
TORD	Torodi Ar. Bea	169.63	178	PKP	PKPdf	01 18 49.4	-0.4
	0.8nm,0.9s,baz=325,slow=2.4,SNR=4.1						
TORD				PKPab	PKPab	01 20 05.4	-0.5
	1.0nm,0.9s,baz=208,slow=4.4,SNR=4.8						

*ATA **02** 01:15:57.5±1.5, 38°.92N×42°.16E, h9km±90km, ML2.4, MW2.6*
*ISCJB **02** 01:16:02.6±0.5, 39°.18N±0°.03×42°.26E±0°.03, h14km±5km, Error ellipse: s-maj=5.7km s-min=4.2km az=175.3*
*CSEM **02** 01:16:02.6±0.2, 39°.19N×42°.25E, h10km, ML2.5, Error ellipse: s-maj=4.6km s-min=3.5km az=162.0*
*DDA **02** 01:16:02.6, 39°.21N×42°.28E, h7km, Ml2.5*
*ISK **02** 01:16:02.2, 39°.17N×42°.26E, h15km, ML2.4/5*
ISC 02 01:16:02.7±0.9, 39°.20N±0°.03×42°.22E±0°.02, h17km±6km, n20, σ1s.09/34, 1C, Turkey

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
EKAR	Karacoban	0.14	295	⇑iP	Pg	01 16 06.0	-1.0
EKAR				eS	Sg	01 16 10.7	+0.9
EKAR				IAML		01 16 16.1	
	comp=Z,58nm,0.3s						
EKAR	Karacoban	0.14	295	iP	Pg	01 16 06.1	-0.8
EKAR				iS	Sg	01 16 10.0	+0.3
EKAR	Karacoban	0.14	295	P	Pg	01 16 06.1	-0.8
EKAR				S	Sg	01 16 10.0	+0.3
TUTA	Tutak	0.50	66	iP	Pn	01 16 16.0	+0.6
TUTA				iS	Sg	01 16 19.2	-0.4
ADCV	BITLIS_Adilcev	0.55	135	iP	Pg	01 16 13.0	-0.8
ADCV				iS	Sb	01 16 21.4	-0.3
ADCV	BITLIS_Adilcev	0.55	135	P	Pg	01 16 13.0	-0.8
ADCV				S	Sb	01 16 21.4	-0.3
VRTB	Varto-Mus	0.60	267	PG	Pg	01 16 15.1	+0.5
VRTB				SG	Sb	01 16 24.0	+1.0
VRTB	Varto-Mus	0.60	267	iP	Pb	01 16 15.4	+0.6
VRTB				iS	Sb	01 16 24.1	+1.0

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VRTB	Varto-Mus	0.60	267	ePg	Pg	01 16 15.1	+0.5
VRTB	Varto-Mus	0.60	267	P	Pb	01 16 15.4	+0.6
VRTB				eSg	Sb	01 16 24.0	+1.0
GURO	Guroymak-BITLI	0.66	193	PG	Pg	01 16 15.1	-0.7
GURO				SG	Sg	01 16 24.7	+0.1
GURO	Guroymak-BITLI	0.66	193	ePg	Pg	01 16 15.1	-0.7
GURO				eSg	Sg	01 16 24.7	+0.1
AGRB	Hanur-Agry	0.70	57	PG	Pg	01 16 16.3	-0.3
AGRB				SG	Sb	01 16 26.2	0.0
AGRB	Hanur-Agry	0.70	57	ePg	Pg	01 16 16.3	-0.3
AGRB				eSg	Sb	01 16 26.2	0.0
ERZM	Erzurum	0.97	317	eP	Pg	01 16 20.2	-1.4
ECAT	Cat-ERZURUM	1.05	293	eP	Pg	01 16 19.0	-4.1
ECAT				eS	Sb	01 16 37.6	+1.5
ECAT				IAML		01 16 39.9	
	comp=Z,2.5nm,0.4s						
BNGB	Bingˆ¶l	1.22	261	PN	Pn	01 16 25.5	+0.4
SENK	Senkaya-Erzuru	1.37	4	PN	Pn	01 16 27.8	+0.6
SENK	Senkaya-Erzuru	1.37	4	ePn	Pn	01 16 27.8	+0.6
BINT	Bingol	1.39	257	ePn	Pn	01 16 25.5	-2.0

*NEIC **02** 01:17:21.7±0.0, 16.°32N×98.°19W, h2km, MD4.0(MEX), After MEX.*

MEX 02 01:17:21.7±0.9, 16.°32N×98.°19W, h2km, MD4.0, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.09	39	i P	Pg	01 17 23.1	-0.5
PNIG				i S	Sg	01 17 25.1	+0.3
PNIG	Pinotepa	0.09	39	i P	Pg	01 17 23.1	-0.5
PNIG				i S	Sg	01 17 25.1	+0.3
TLIG	Tlapa	1.29	344	eP	Pg	01 17 42.7	-3.8
TLIG	Tlapa	1.29	344	eP	Pg	01 17 42.7	-3.8
VHO	Vista Hermosa	1.58	62	eP	Pn	01 17 47.9	-3.0
VHO				eS	Sn	01 18 07.5	-4.6
VHO	Vista Hermosa	1.58	62	eP	Pn	01 17 47.9	-3.0
VHO				eS	Sn	01 18 08.7	-3.5
HUIG	Huatulco	2.07	105	eP	Pn	01 17 54.2	-3.3
HUIG	Huatulco	2.07	105	eP	Pn	01 17 54.2	-3.3
LVIG	Laguna Verde	3.78	26	Pn	Pn	01 18 21.2	+0.2
LVIG				Sn	Sn	01 19 05.3	-0.8

IDC 02 01:22:02.8±6.4, 2.°19N×99.°07E, h0km, mb3.8/4, mb1 3.9/4, mb1mx3.3/67, mbtmp3.8/4, Error ellipse: s-maj=326.3km s-min=24.9km az=54.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	41.01	124	P	P	01 29 47.9	-0.1
	0.8nm,0.4s,baz=302,slow=9.0,SNR=15						
MKAR	Makanchi Array	46.77	344	P	P	01 30 34.1	+0.1
	0.6nm,0.4s,baz=155,slow=8.5,SNR=15						
KURBB	Kurchatov Arra	51.29	343	P	P	01 31 08.2	-0.4
	0.4nm,0.7s,baz=162,slow=7.0,SNR=4.0						
ZALV	Zalesovo Beam	52.91	349	P	P	01 31 20.5	-0.1
	0.7nm,0.3s,baz=168,slow=7.6,SNR=3.9						

*ISCJB **02** 01:38:55.6±0.5, 38.°10N±0.°03×42.°67E±0.°03, h1km±5km, Error ellipse: s-maj=4.7km s-min=3.6km az=147.8*
*CSEM **02** 01:38:55.9±0.2, 38.°11N×42.°68E, h8km, ML2.8, Error ellipse: s-maj=4.1km s-min=2.9km az=157.0*
*ISK **02** 01:38:55.0, 38.°10N×42.°64E, h3km, ML2.6/6*
*DDA **02** 01:38:56.0, 38.°11N×42.°68E, h7km, Ml2.8*
ISC 02 01:38:55.9±1.1, 38.°11N±0.°02×42.°67E±0.°02, h6km±9km, n40, σ0.s65/62, Turkey

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GEVA	Gevas	0.36	56	i P	Pg	01 39 02.7	-0.4
GEVA				i S	Sg	01 39 09.1	+1.2
GEVA	Gevas	0.36	56	P	Pg	01 39 02.7	-0.4
GEVA				S	Sg	01 39 09.1	+1.2
SRTM	Siirt_Merkez	0.60	259	i P	Pg	01 39 07.7	+0.1
SRTM				i S	Sb	01 39 17.5	-0.3
SRTM	Siirt_Merkez	0.60	259	P	Pg	01 39 07.7	+0.1
SRTM				S	Sb	01 39 17.5	-0.3
SIRT	Sirnak	0.63	197	PG	Pg	01 39 07.8	-0.4
SIRT				SG	Sg	01 39 16.8	+0.4
SIRT	Sirnak	0.63	197	ePg	Pg	01 39 07.8	-0.4
SIRT				eSg	Sg	01 39 16.8	+0.4
GURO	Guroymak-BITLI	0.67	311	PG	Pg	01 39 08.1	-0.8
GURO				SG	Sg	01 39 18.2	+0.6
GURO	Guroymak-BITLI	0.67	311	ePg	Pg	01 39 08.1	-0.8
GURO				eSg	Sg	01 39 18.2	+0.6
ADCV	BITLIS_Adilcev	0.70	3	i P	Pg	01 39 09.3	-0.1
ADCV				i S	Sb	01 39 20.0	-0.6
ADCV	BITLIS_Adilcev	0.70	3	P	Pg	01 39 09.3	-0.1
ADCV				S	Sb	01 39 20.0	-0.6
TVAN	Van	0.71	54	i P	Pb	01 39 10.3	-0.6
TVAN	Van	0.71	54	P	Pb	01 39 10.3	-0.6
VANB	Van	0.74	49	PG	Pg	01 39 09.6	-0.7
VANB	Van	0.74	49	ePg	Pg	01 39 09.6	-0.7
HAKT	HAKKARI	0.98	124	i P	Pg	01 39 14.6	-0.3
HAKT				i S	Sb	01 39 29.1	+0.2
HAKT	HAKKARI	0.98	124	P	Pg	01 39 14.6	-0.3
HAKT				S	Sb	01 39 29.1	+0.2
VMUR	Van-Muradiye	1.13	38	i P	Pg	01 39 01.6	-16
VMUR				i S	Sn	01 39 34.7	+0.3
BTMN	Batman	1.13	259	i P	Pg	01 39 17.5	-0.1
BTMN				i S	Sn	01 39 34.3	+0.1
BTMN	Batman	1.13	259	P	Pg	01 39 17.5	-0.1
BTMN				S	Sn	01 39 34.3	+0.1
SVAN	Silvan-Diyarba	1.17	273	i P	Pg	01 39 18.3	0.0
SVAN				i S	Sn	01 39 34.7	-0.3
SVAN	Silvan-Diyarba	1.17	273	P	Pg	01 39 18.3	0.0
SVAN				S	Sn	01 39 34.7	-0.3
EKAR	Karacoban	1.24	338	i P	Pg	01 39 18.6	-1.2
EKAR				i S	Sn	01 39 40.0	+2.8
EKAR	Karacoban	1.24	338	P	Pg	01 39 18.6	-1.2
VRTB	Varto-Mus	1.42	318	PN	Pn	01 39 22.6	+0.2
VRTB	Varto-Mus	1.42	318	ePn	Pn	01 39 22.6	+0.2
CLDR	Caldiran	1.42	43	PN	Pb	01 39 22.8	-0.2
CLDR	Caldiran	1.42	43	ePn	Pb	01 39 22.8	-0.2
AGRB	Hanur-Agry	1.49	10	PN	Pb	01 39 23.8	-0.3
AGRB	Hanur-Agry	1.49	10	ePn	Pb	01 39 23.8	-0.3
MARD	Mardin	1.70	243	i P	Pn	01 39 24.9	-1.4
MARD				i S	Sb	01 39 49.5	+0.2
BNGB	Bingˆ¶l	1.80	300	PN	Pn	01 39 27.8	+0.2
HANI	Diyarbakir_Han	1.82	280	i P	Pn	01 39 27.9	+0.1
HANI				i S	Sb	01 39 53.2	+0.5
HANI	Diyarbakir_Han	1.82	280	P	Pn	01 39 27.9	+0.1
HANI				S	Sb	01 39 53.2	+0.5
BINT	Bingol	1.88	295	ePn	Pn	01 39 27.8	-0.9
MAZI	Mazidag	1.88	251	PN	Pn	01 39 28.9	+0.2
MAZI	Mazidag	1.88	251	ePn	Pn	01 39 28.9	+0.2
DIYA	Diyarbakir	2.02	266	i P	Pn	01 39 29.9	-0.8
DIYA				i S	Sn	01 39 56.4	+0.1
DIYA	Diyarbakir	2.02	266	P	Pn	01 39 29.9	-0.8
DIYA				S	Sn	01 39 56.4	+0.1
PTK	Pertek	2.69	288	PN	Pn	01 39 40.6	+0.7
PTK	Pertek	2.69	288	ePn	Pn	01 39 40.6	+0.7

*IDC **02** 01:46:00.1±4.5, 12.°24N×87.°36W, h17km±27km, mb4.1/10, mb1 4.3/11, mb1mx3.9/46, mbtmp4.2/11, ML3.4/2, MS3.8/25, Ms1 3.8/25, ms1mx3.7/41, Error ellipse: s-maj=35.7km s-min=17.2km az=63.0*
*UCR **02** 01:46:03.0±2.3, 12.°07N×87.°76W, h68km±26km, MD4.4, ML3.7, mb4.5(NEIC)*
*NEIC **02** 01:46:06.0±0.8, 12.°20N×87.°74W, h50km±8km, mb4.5/61, Error ellipse: s-maj=13.4km s-min=5.9km az=224.0*
ISC 02 01:46:01.9±1.2, 12.°03N±0.°04×87.°80W±0.°04, h28km±9km, n362, σ1.s47/347, mb4.5/62, MS3.9/23, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CSGN	Cosiguina Volc	0.97	14	eP	Pb	01 46 20.9	+0.7
CSGN				eS	Sn	01 46 35.3	+2.7
CRIN	San Cristobal	0.99	48	eP	Pb	01 46 20.5	+0.1
CRIN				eS	Sn	01 46 37.1	+4.0
TELN	Telica	1.10	59	eP	Pb	01 46 21.5	-0.9
TELN				eS	Sn	01 46 37.3	+1.3
COPN	Copaltepe	1.19	83	eP	Pb	01 46 22.8	-0.9
COPN				eS	Sn	01 46 37.6	-0.4
CNCH	Conchagua	1.24	358	eP	Pb	01 46 24.1	-0.6
LCND	La Caˆ–ada	1.27	356	eP	Pb	01 46 24.5	-0.7
MOMN	Momotombo	1.29	73	eP	Pn	01 46 24.1	0.0
MOMN				eS	Sn	01 46 39.4	-1.0
XAVN	Gruta Xavier	1.45	85	eP	Pb	01 46 27.1	-1.0
XAVN				eS	Sb	01 46 45.2	-0.9
VSM	San Miguel	1.46	342	eP	Pn	01 46 27.0	+0.3
LCY	Lacayo	1.47	341	eP	Pn	01 46 26.6	0.0
TISN	Laguna Tiscapa	1.50	86	eP	Pn	01 46 24.7	-2.2
PACA	Pacayal	1.52	340	eP	Pn	01 46 27.8	+0.4
MGAN	Managua	1.52	86	eP	Pn	01 46 27.8	+0.5
BRAN	Las Pilas	1.57	64	eP	Pn	01 46 28.0	+0.1
TECA	Tecapa	1.61	335	eP	Pn	01 46 29.3	+0.7
MASN	Masaya	1.61	91	eP	Pn	01 46 27.2	-1.3
ESTN	Estel	1.75	53	eP	Pn	01 46 31.0	+0.5
CAHU	Cacacuatique	1.77	347	eP	Pb	01 46 32.5	-1.4
CAHU				eS	Sb	01 46 56.7	+0.8
LFRS	El Faro	2.00	322	eP	Pn	01 46 34.3	+0.3
LFRS				eS	Sb	01 47 01.0	-1.3
MATN	Matagalpa	2.04	64	eP	Pn	01 46 34.9	+0.5
MATN				eS	Sn	01 46 57.2	-1.8
TGUH	Tegucigalpa,Un	2.08	14	ePn	Pn	01 46 36.0	+1.1
TGUH	Tegucigalpa,Un	2.08	14	eP	Pn	01 46 35.8	+1.0
LBRS	Las Brisas	2.09	325	eP	Pn	01 46 36.5	+1.4
LFU	La Fuente	2.13	323	eP	Pn	01 46 35.5	-0.3
SNET	Serv Nac Est T	2.16	320	ePn	Pn	01 46 37.0	+0.9
SNET	Serv Nac Est T	2.16	320	eP	Pn	01 46 37.0	+0.9
SNET				IAML		01 47 11.1	
	comp=Z,582nm,0.1s						
OPAM	San Salvador	2.16	321	IAML		01 47 12.8	
	comp=Z,775nm,0.5s						
COLS	Colinas	2.19	318	eP	Pn	01 46 36.2	-0.3
UEES	San Salvador	2.20	320	eP	Pn	01 46 37.1	+0.5
BOQS	Boqueron	2.23	320	eP	Pn	01 46 38.1	+1.0
BOQS				eS	Sb	01 47 07.0	-1.8
CRZ1	La Cruz	2.32	114	eP	Pn	01 46 38.7	+0.4
CRZ1				eS	Sn	01 47 07.0	+1.1
SBLS	San Blas	2.53	315	eP	Pn	01 46 42.4	+1.0
GBS3	Finca Las Imˆ¡	2.61	118	eP	Pn	01 46 42.9	+0.7
NY14	Universidad de	2.61	122	eP	Pn	01 46 43.2	+1.0
LAPC	Finca la Perla	2.64	118	eP	Pn	01 46 43.2	+0.6
GPS3	Bodega del ICE	2.70	118	eP	Pn	01 46 44.8	+1.3
GPS2	Hotel Rincˆ‡n	2.71	118	eP	Pn	01 46 45.1	+1.4
LIM1	Limonal	2.83	118	eP	Pn	01 46 46.0	+0.8
GUAB	Guayabo de Bag	2.84	117	eP	Pn	01 46 47.6	+2.2
MESS	Mesas	2.86	116	eP	Pn	01 46 46.8	+1.1
COLC	Colonia	2.88	118	eP	Pn	01 46 47.0	+1.0
HORNC	Hornillas	2.88	117	eP	Pn	01 46 47.3	+1.2
CUI	Cuipilapa	2.92	118	eP	Pn	01 46 47.4	+0.8
PLVR	Palo Verde	2.93	125	eP	Pn	01 46 45.7	-1.0
ACAL	Aguas Claras	3.04	117	eP	Pn	01 46 49.4	+1.1
PTEN	Parque Tenorio	3.05	115	eP	Pn	01 46 48.8	+0.4
AMAS	Alto Masis	3.09	117	eP	Pn	01 46 49.8	+0.8
JTS	JuntasAbangare	3.29	121	Pn	Pn	01 46 52.3	+0.8
	comp=Z,5.6nm,0.3s,baz=170,slow=22,SNR=33						
JTS				Sn	Sn	01 47 29.1	-0.7
	comp=Z,39nm,0.3s,baz=5.4,slow=22,SNR=8.3						
JTS				Lg	Lg	01 47 40.8	
	comp=Z,28nm,0.3s,baz=8.8,slow=22,SNR=10						
JTS	JuntasAbangare	3.29	121	ePn	Pn	01 46 52.6	+1.1
JTS				eS	Sb	01 47 38.6	-0.5
CASO	Castillo	3.40	118	eP	Pn	01 46 53.9	+0.7
CEDE	Laguna Cedeˆ–o	3.40	117	eP	Pn	01 46 54.4	+1.3
ESPN	Las Esperanzas	3.42	87	eP	Pn	01 46 54.1	+0.7
CGA2	Cerro Gallo 2	3.84	121	eP	Pn	01 47 01.1	+1.9
APG	El Apazote	3.93	319	Pn	Pn	01 47 02.6	+2.0
	comp=Z,1.0nm,0.3s,baz=98,slow=10,SNR=11						
HDC	Heredia	4.14	119	ePn	Pn	01 47 07.5	+4.1
LCR2	La Lucha 2	4.37	121	eP	Pn	01 47 08.1	+1.5
CVTR	Volcan Turrial	4.44	116	eP	Pn	01 47 10.6	+2.8
URSC	Urasca	4.51	119	eP	Pn	01 47 10.6	+2.0
BRU2	Volcan	5.97	122	eP	Pn	01 47 29.9	+1.4
ICCO	Coco Island	6.49	173	eP	Pn	01 47 35.2	-0.3
BCIP	Isla Barro Col	8.33	109	ePn	Pn	01 48 04.1	+3.3
CMIG	Matias Romero	8.51	307	Pn	Pn	01 48 06.0	+2.7
	comp=Z,1.2nm,0.3s,baz=142,slow=9.1,SNR=14						
CMIG				LR	LR	01 51 54.1	
	comp=Z,943nm,19.7s,baz=124,slow=40						
CMIG	Matias Romero	8.51	307	Pn	Pn	01 48 06.0	+2.7
HELC	Santa Helena	13.43	115	ePn	Pn	01 49 13.9	+2.8
SOTA	Rioblanco	14.82	131	eP	P	01 49 35.0	-0.8
OTAV	Otavalo	14.95	141	ePn	P	01 49 38.8	+1.7
	comp=Z,3.7nm,1.0s						
CRUC	La Cruz	14.96	133	eP	P	01 49 38.1	+0.9
ROSC	El Rosal	15.12	117	LR	LR	01 55 59.0	
	comp=Z,200nm,20.4s,baz=288,slow=40						
ROSC	El Rosal	15.12	117	ePn	P	01 49 38.5	-0.5
	comp=Z,20nm,1.4s						
PRAC	Prado	15.22	122	ePn	P	01 49 42.0	+2.2
	comp=Z,14nm,0.7s						
PAMC	Pamplona, Colo	15.59	106	eP	P	01 49 46.1	+1.7
CHIC	Chingaza	15.73	117	eP	P	01 49 45.2	-0.6
RUSC	La Rusia	15.76	111	ePn	P	01 49 45.8	-0.4
	comp=Z,7.6nm,1.2s						
RUSC	La Rusia	15.76	111	eP	P	01 49 45.2	-1.0
FLOC	Florencia	15.90	130	eP	P	01 49 49.7	+2.4
LNIG	Linares	16.90	321	ePn	Pn	01 49 55.6	-1.0
	comp=Z,17nm,1.0s						
SDV	Santo Domingo	17.17	99	LR	LR	01 58 14.7	
	comp=Z,126nm,18.3s,baz=262,slow=44						
SDV	Santo Domingo	17.17	99	ePn	P	01 50 03.5	+2.0
	comp=Z,31nm,1.4s						
SDV	Santo Domingo	17.17	99	eP	P	01 50 04.3	+2.8
448A	Bay Minette	18.81	360	P	Pn	01 50 20.9	+1.0
	baz=180						
452A	Marianna	18.88	7	P	Pn	01 50 23.4	+2.6
	baz=188						
454A	Quitman	18.99	11	P	Pn	01 50 22.8	+0.7
	baz=192						
453A	Whigham	19.01	9	P	Pn	01 50 24.2	+1.9
	baz=190						
455A	Stateville	19.14	13	P	Pn	01 50 25.3	+1.4
	baz=194						
349A	Repton	19.23	2	P	Pn	01 50 26.2	+1.1
	baz=182						
351A	Pinckard	19.26	6	P	Pn	01 50 25.5	+0.2
	baz=186						
347A	Saraland	19.29	358	P	Pn	01 50 26.1	+0.3
	baz=178						
346A	Big Creek Wild	19.32	356	P	Pn	01 50 26.7	+0.6
	baz=175						
350A	Dozier	19.34	4	P	Pn	01 50 27.4	+1.0
	baz=184						
833A	Chaparral WMA,	19.50	328	P	Pn	01 50 27.7	-0.6
	baz=144,SNR=21						
353A	Camilla	19.51	9	P	Pn	01 50 27.9	-0.4
	baz=190						
344A	Westbrook Farm	19.52	352	P	P	01 50 27.4	+0.4
	baz=171,SNR=8.0						
352A	Blakely	19.54	7	P	Pn	01 50 28.1	-0.6
	baz=188,SNR=7.1						
342A	Flagon Creek P	19.70	348	P	P	01 50 29.5	+0.4
	baz=166						
TIGA	Tifton	19.70	11	P	Pn	01 50 30.0	-0.6
	baz=192						
TIGA	Tifton	19.70	11	eP	Pn	01 50 31.3	+0.6
	comp=Z,26nm,0.9s						
355A	Pearson	19.76	13	P	Pn	01 50 30.9	-0.4
	baz=194						
341A	Kurthwood	19.84	346	P	Pn	01 50 31.7	-0.6
	baz=164						
249A	Camden	19.86	2	P	Pn	01 50 32.1	-0.4
	baz=182,SNR=6.4						
247A	Quitman	19.94	358	P	P	01 50 32.1	+0.4
	baz=178						
245A	Little AP, Sta	20.00	355	P	Pn	01 50 33.2	-1.0
	baz=174						
252A	Lumpkin	20.07	8	P	Pn	01 50 34.6	-0.4
	baz=189,SNR=11						
251A	Midway	20.09	6	P	Pn	01 50 34.6	-0.6
	baz=187,SNR=6.5						
244A	Avery, Jackson	20.09	353	P	Pn	01 50 34.4	-0.8
	baz=172						
253A	Americus	20.22	9	P	Pn	01 50 35.5	-1.2
	baz=190						
254A	Abbeville	20.25	11	P	Pn	01 50 36.4	-0.7
	baz=193						
242A	Grayson	20.34	349	P	P	01 50 36.1	+0.1
	baz=167						
241A	Mo Tay, Goldon	20.45	347	P	P	01 50 38.0	+0.8
	baz=165,SNR=6.5						
149A	Jones	20.49	2	P	Pn	01 50 39.3	-0.7
	baz=183						
148A	Greensboro	20.52	1	P	Pn	01 50 39.5	-0.7
	baz=180						
151A	Opelika	20.53	6	P	P	01 50 38.9	+0.8
	baz=187,SNR=9.4						
146A	Union	20.54	357	P	Pn	01 50 39.4	-1.2
	baz=176						
150A	Eclectic	20.54	4	P	P	01 50 38.8	+0.6
	baz=185,SNR=8.6						
147A	Livingston	20.55	359	P	Pn	01 50 39.4	-1.2
	baz=178						
NATX	Nacogdoches	20.63	343	P	Pn	01 50 40.4	-1.2
	baz=160						
LRAL	Lakeview Retre	20.92	2	P	P	01 50 43.2	+0.9
	baz=182						
LRAL	Lakeview Retre	20.92	2	eP	P	01 50 43.1	+0.8
	comp=Z,10nm,1.0s						
154A	Montrose	20.93	11	P	Pn	01 50 43.7	-1.4
	baz=193						
141A	Papa Simpson,	21.01	348	P	P	01 50 44.0	+0.7
	baz=166						
155A	Kite	21.07	13	P	P	01 50 45.5	+1.6
	baz=194						
Z47A	Carrollton	21.07	359	P	P	01 50 45.1	+1.2
	baz=179						
Z46A	Louisville	21.09	357	P	P	01 50 45.7	+1.6
	baz=177						
Z49A	Columbiana	21.10	3	P	P	01 50 45.9	+1.7
	baz=183						
Z50A	Ashland	21.20	4	P	P	01 50 46.4	+1.1
	baz=185,SNR=8.8						
Z48A	Northport	21.25	1	P	P	01 50 46.9	+1.1
	baz=180						
JCT	Junction City	21.47	331	P	P	01 50 48.3	0.0
	baz=146,SNR=7.6						
JCT	Junction City	21.47	331	eP	P	01 50 51.0	+2.8
	comp=Z,14nm,0.8s						
Z41A	Richland Creek	21.62	349	P	P	01 50 50.4	+0.6
	baz=166						
GOGA	Godfrey	21.65	10	P	P	01 50 50.8	+0.7
	baz=191,SNR=11						
GOGA	Godfrey	21.65	10	eP	P	01 50 51.6	+1.5
Z40A	Long Farm, Mag	21.74	347	P	P	01 50 52.7	+1.6
	baz=165						
Y49A	Blount Mountai	21.76	3	P	P	01 50 51.7	+0.3
	baz=184						
WHTX	Lake Whitney,	21.77	337	P	P	01 50 51.5	+0.1
	baz=154						
Y47A	UCPARC, Winfie	21.77	360	P	P	01 50 52.3	+0.8
	baz=180						
Y46A	Houston	21.77	358	P	P	01 50 52.0	+0.5
	baz=177						
Y48A	Jasper	21.79	1	P	P	01 50 52.6	+1.0
	baz=182						
Y45A	Yeager Farm, C	21.79	356	P	P	01 50 52.5	+0.8
	baz=175						
Y50A	Piedmont	21.84	5	P	P	01 50 51.9	-0.3
	baz=185						
Y41A	Eaglette Beard	22.19	349	P	P	01 50 55.3	-0.6
	baz=167						
X48A	Hartselle	22.33	2	P	P	01 50 56.6	-0.9
	baz=182						
X45A	UM Field Stati	22.34	357	P	P	01 50 56.8	-0.7
	baz=176						
X47A	Russelville	22.39	360	P	P	01 50 57.3	-0.8
	baz=180,SNR=6.1						
X50A	Fort Payne	22.41	5	P	P	01 50 57.7	-0.7
	baz=185,SNR=5.2						
X49A	Woodville	22.42	3	P	P	01 50 57.8	-0.6
	baz=184						
OXF	Oxford	22.43	357	P	P	01 50 58.3	-0.2
	baz=176						
X46A	Booneville	22.43	358	P	P	01 50 58.2	-0.3
	baz=178						
Y40A	Okolona	22.45	348	P	P	01 50 58.9	+0.2
	baz=166						
TXAR	Lajitas Array	22.68	322	P	P	01 51 02.5	+1.1
	comp=Z,12nm,0.7s,baz=136,slow=10.0,SNR=152						
TXAR				LR	LR	02 01 38.4	
	comp=Z,124nm,20.4s,baz=0.0,slow=41						
TX31	Lajitas Ar. Si	22.69	322	eP	P	01 51 02.1	+0.7
X41A	Kaden, Bauxite	22.77	350	P	P	01 51 02.2	0.0
	baz=168						
UALR	University of	23.02	350	eP	P	01 51 04.6	-0.1
	comp=Z,8.3nm,0.9s						
W48A	Pulaski	23.02	2	P	P	01 51 04.4	-0.3
	baz=182						
MIAR	Mount Ida	23.02	348	P	P	01 51 04.6	-0.1
	baz=165,SNR=9.6						
MIAR	Mount Ida	23.02	348	eP	P	01 51 04.7	0.0
	comp=Z,8.7nm,0.8s						
W45A	Hickory Valley	23.06	357	P	P	01 51 04.0	-1.1
	baz=176						
X39A	Fountain Ranch	23.11	347	P	P	01 51 04.9	-0.7
	baz=164						
W47A	Westpoint	23.12	0	P	P	01 51 04.5	-1.2
	baz=180						
ABTX	Abilene, Hawle	23.20	334	P	P	01 51 05.6	-1.1
	baz=149						
ABTX	Abilene, Hawle	23.20	334	eP	P	01 51 07.3	+0.6
	comp=Z,10nm,0.8s						
W41B	Gary Mavity, V	23.39	351	P	P	01 51 07.5	-0.9
	baz=169						
W40A	Ferguson Farm,	23.55	349	P	P	01 51 09.1	-0.8
	baz=167						
W40A	Ferguson Farm,	23.55	349	eP	P	01 51 10.4	+0.5
	comp=Z,15nm,0.9s						
V48A	Smith Brothers	23.62	2	P	P	01 51 09.8	-0.9
	baz=182						
V46A	Holladay	23.67	359	P	P	01 51 09.2	-1.9
	baz=179						
W39A	Magazine	23.69	348	P	P	01 51 09.0	-2.4
	baz=165						
V47A	Nunnelly	23.69	1	P	P	01 51 10.0	-1.4
	baz=180						
KMSC	Kings Mountain	23.74	13	P	P	01 51 10.3	-1.5
	baz=196						
KMSC	Kings Mountain	23.74	13	eP	P	01 51 12.3	+0.4
	comp=Z,9.5nm,0.7s						
TKL	Tuckaleechee C	23.80	8	P	P	01 51 12.4	0.0
	comp=Z,10nm,0.9s,baz=186,slow=12,SNR=12						
TKL				LR	LR	02 00 34.3	
	comp=Z,98nm,19.1s,baz=263,slow=37						
TKL	Tuckaleechee C	23.80	8	eP	P	01 51 14.2	+1.8
	comp=Z,85nm,2.0s						
V42A	Cord	23.89	353	P	P	01 51 11.8	-1.4
	baz=171						
V41A	Mountainview	23.98	351	P	P	01 51 12.4	-1.6
	baz=169,SNR=6.8						
WVT	Waverly	23.99	360	P	P	01 51 13.0	-1.2
	baz=180						
V40A	Witts Springs	24.10	350	P	P	01 51 13.8	-1.4
	baz=168						
U46A	Springville	24.23	359	P	P	01 51 15.3	-1.1
	baz=179,SNR=6.3						
V39A	Pettigrew	24.29	348	P	P	01 51 15.8	-1.2
	baz=166,SNR=10						
U47A	Clarksville	24.31	1	P	P	01 51 15.7	-1.4
	baz=181,SNR=5.6						
U43A	Rector	24.35	355	P	P	01 51 15.9	-1.5
	baz=174						
U48A	Cassie Pea, Po	24.40	2	P	P	01 51 16.4	-1.6
	baz=183						
U42A	Revenden	24.41	353	P	P	01 51 15.7	-2.3
	baz=172						
U40A	Yellville	24.64	350	P	P	01 51 18.3	-1.9
	baz=168,SNR=6.9						
TZTN	Tazewell	24.71	8	P	P	01 51 19.4	-1.3
	baz=190						
TZTN	Tazewell	24.71	8	eP	P	01 51 21.0	+0.3
	comp=Z,14nm,0.9s						
WMOK	Wichita Mounta	24.71	338	P	P	01 51 19.6	-1.2
	baz=153						
WMOK	Wichita Mounta	24.71	338	eP	P	01 51 20.2	-0.7
	comp=Z,8.1nm,1.0s						
PBMO	Poplar Bluff	24.75	355	eP	P	01 51 19.9	-1.2
	comp=Z,7.1nm,0.8s						
U39A	Green Forest	24.78	349	P	P	01 51 20.2	-1.2
	baz=166						
TUL1	Leonard	24.85	344	P	P	01 51 21.0	-1.0
	baz=161						
TUL1	Leonard	24.85	344	eP	P	01 51 22.3	+0.3
	comp=Z,9.9nm,0.8s						
T47A	Sharon Grove	24.86	1	P	P	01 51 20.4	-1.7
	baz=182,SNR=9.6						
T46A	Princeton	24.90	360	P	P	01 51 21.2	-1.2
	baz=180						
T43A	Greenville	25.05	355	P	P	01 51 22.4	-1.4
	baz=174						
T42A	Van Buren	25.07	354	P	P	01 51 22.8	-1.1

baz=172,SNR=6.2
T41A **Mountain View** 25.16 353 P P 01 51 23.1 -1.7
baz=171,SNR=6.6
T40A **Mansfield** 25.37 351 P P 01 51 25.0 -1.7
baz=169
T39A **Clever** 25.39 350 P P 01 51 25.3 -1.6
baz=167
MNTX **Cornudas Mount** 25.41 323 P P 01 51 26.4 -0.8
baz=136,SNR=9.1
MNTX **Cornudas Mount** 25.41 323 eP P 01 51 27.7 +0.5
comp=Z,35nm,2.0s
S46A **Don Dixon Farm** 25.55 0 P P 01 51 27.6 -0.7
baz=180
S48A **Wiedeman Farm,** 25.57 3 P P 01 51 27.6 -0.9
baz=184
T38A **Diamond** 25.57 348 P P 01 51 27.6 -0.9
baz=165
S44A **Carbondale** 25.59 357 P P 01 51 27.6 -1.1
baz=177
SIUC **Southern Illin** 25.61 357 eP P 01 51 29.4 +0.5
comp=Z,8.4nm,0.9s
S41A **Jillco Farms,** 25.69 353 P P 01 51 27.5 -2.1
baz=171
MSTX **Muleshoe** 25.76 330 P P 01 51 28.8 -1.6
baz=144,SNR=11
MSTX **Muleshoe** 25.76 330 eP P 01 51 30.6 +0.2
comp=Z,30nm,0.8s
S42A **Caledonia** 25.77 355 P P 01 51 28.9 -1.4
baz=173
S40A **Lebanon** 25.81 351 P P 01 51 28.9 -1.7
baz=169
AMTX **Amarillo** 26.01 333 eP P 01 51 32.8 +0.1
comp=Z,18nm,0.9s
S39A **Bolivar** 26.03 350 P P 01 51 31.2 -1.4
baz=167,SNR=14
S38A **Stockton** 26.07 349 P P 01 51 31.2 -1.9
baz=166
CCM **Cathedral Cave** 26.10 354 P P 01 51 31.6 -1.7
baz=172
CCM **Cathedral Cave** 26.10 354 eP P 01 51 32.9 -0.4
comp=Z,8.6nm,0.7s
WCI **Wyandotte Cave** 26.12 3 P P 01 51 31.9 -1.7
baz=183
WCI **Wyandotte Cave** 26.12 3 eP P 01 51 32.8 -0.7
comp=Z,9.9nm,0.8s
R44A **Waltonville** 26.13 358 P P 01 51 31.1 -2.5
baz=177
R43A **Red Bud** 26.20 356 P P 01 51 33.0 -1.2
baz=175
R41A **Rosebud** 26.35 354 P P 01 51 34.4 -1.2
baz=172
R40A **Maddies Statio** 26.45 352 P P 01 51 34.5 -2.0
baz=170
R39A **Chumby, Stover** 26.59 351 P P 01 51 36.2 -1.6
baz=168,SNR=7.1
R38A **Fenwick Farm,** 26.61 349 P P 01 51 36.4 -1.6
baz=166,SNR=5.8
Q45A **Warren Harvey,** 26.76 359 P P 01 51 37.4 -1.8
baz=179
Q44A **Meyer Farm, Va** 26.78 358 P P 01 51 37.8 -1.7
baz=177
Q47A **Bedord North L** 26.82 2 P P 01 51 38.6 -1.2
baz=183
Q40A **Laux Farm, Aux** 27.12 353 P P 01 51 40.9 -1.6
baz=171
Q39A **Willow Grove F** 27.30 351 P P 01 51 42.5 -1.5
baz=169
Q38A **Cooks Store, C** 27.32 350 P P 01 51 42.6 -1.7
baz=167
P47A **Martinsville** 27.38 3 P P 01 51 43.6 -1.2
baz=183
121A **Cookes Peak, D** 27.44 321 eP P 01 51 50.3 +4.6
comp=Z,5.1nm,0.7s
P40A **Paris** 27.65 353 P P 01 51 46.2 -1.0
baz=171
P39B **Salisbury** 27.70 352 P P 01 51 45.9 -1.8
baz=169
P38A **Dawn** 27.95 351 P P 01 51 48.1 -1.8
baz=168,SNR=7.0
O44A **Mansfield** 28.02 359 P P 01 51 48.8 -1.7
baz=178
O45A **Potomac** 28.11 0 P P 01 51 49.1 -2.2
baz=180
O47A **Sheridan** 28.13 3 P P 01 51 49.3 -2.2
baz=183
N41A **Harden Midland** 28.69 355 P P 01 51 54.3 -2.2
baz=174
T25A **Trinidad** 29.11 332 P P 01 51 57.1 -3.5
baz=145
O34A **Beatrice** 29.12 346 P P 01 51 58.7 -1.7
baz=162
N35A **Tabor** 29.54 348 P P 01 52 02.4 -1.7
baz=164
M38A **Pleasantville** 29.65 352 P P 01 52 03.1 -1.9
baz=169
N34A **Lincoln** 29.70 347 P P 01 52 04.3 -1.2
baz=162
M37A **Trindle Farm,** 29.77 350 P P 01 52 04.6 -1.5
baz=168
L41A **Preston** 30.02 356 P P 01 52 07.2 -1.1
baz=175
SDCO **Great Sand Dun** 30.11 331 eP P 01 52 09.5 0.0
comp=Z,3.5nm,0.8s
M35A **Neola** 30.13 348 P P 01 52 08.4 -0.9
baz=164
M54A **Oil Creek Stat** 30.22 12 P P 01 52 08.7 -1.4
baz=196
L38A **Oak Wood Farm,** 30.33 352 P P 01 52 09.4 -1.7
baz=170
K41A **Shullsburg** 30.54 356 P P 01 52 11.4 -1.5
baz=175
N59A **State Game Lan** 30.66 18 P P 01 52 13.0 -1.0
baz=204
L35A **Bielow Farm, R** 30.72 349 P P 01 52 12.2 -2.3
baz=165
L34A **Svendsen Farm,** 30.75 347 P P 01 52 13.6 -1.2
baz=163
S22A **4JR Ranch, Cre** 30.75 330 eP P 01 52 18.7 +3.5
comp=Z,3.0nm,0.8s
K39A **Oelwein** 30.77 354 P P 01 52 13.3 -1.7
baz=172
K37A **Belmond** 31.04 352 P P 01 52 15.6 -1.8
baz=169
L33A **Hoskins** 31.14 346 P P 01 52 16.7 -1.5
baz=162
J42A **Columbus** 31.19 358 P P 01 52 17.1 -1.6
baz=177
J40A **Soldiers Grove** 31.36 356 P P 01 52 19.3 -0.8
baz=174
K34A **Le Mars** 31.38 348 P P 01 52 19.0 -1.4
baz=164
J36A **Seneca 1, Swea** 31.70 351 P P 01 52 21.0 -2.1
baz=168
I43A **Langenfeld Bro** 31.74 360 P P 01 52 21.9 -1.6
baz=179
ISCO **Idaho Springs** 31.83 333 eP P 01 52 27.7 +3.0
comp=Z,4.7nm,1.3s
I39A **Houston** 31.87 355 P P 01 52 23.0 -1.7
baz=173
SMCO **Snowmass** 31.95 331 eP P 01 52 27.8 +2.0
comp=Z,7.2nm,1.2s
I38A **Scanlan Farm,** 32.13 354 P P 01 52 25.9 -1.0
baz=172
J33A **Davis** 32.17 347 P P 01 52 25.3 -2.0
baz=163
H43A **Windswept, Lux** 32.32 0 P P 01 52 27.6 -1.0
baz=180
ECSD **EROS Data Cent** 32.49 348 P P 01 52 28.0 -2.1
baz=164,SNR=7.1
ECSD **EROS Data Cent** 32.49 348 eP P 01 52 28.5 -1.6
comp=Z,5.7nm,0.9s
H40A **Chili** 32.55 357 P P 01 52 28.6 -1.9
baz=175
H38A **Maiden Rock** 32.76 354 P P 01 52 31.1 -1.3
baz=172
H36A **Jessenland, He** 32.86 352 P P 01 52 31.4 -1.8
baz=169
H35A **Sunnyside Ranc** 33.11 351 P P 01 52 33.3 -2.1
baz=167
G40A **Rib Lake** 33.19 357 P P 01 52 34.7 -1.5
baz=176
G38A **Ridgeland** 33.21 355 P P 01 52 34.0 -2.3
baz=173
G39A **Holcombe** 33.27 356 P P 01 52 34.4 -2.4
baz=174
SPMN **Marine on St.** 33.35 354 P P 01 52 35.7 -1.9
baz=171
SPMN **Marine on St.** 33.35 354 eP P 01 52 36.6 -1.0
comp=Z,33nm,1.7s

H32A **Carlson Farm,** 33.40 347 P P 01 52 36.3 -1.7
baz=163,SNR=6.1
SADO **Sadowa** 33.46 11 P P 01 52 37.0 -1.5
comp=Z,3.9nm,0.6s,baz=240,slow=5.4,SNR=6.0
F43A **Flat Rock, Esc** 33.69 1 P P 01 52 39.4 -1.1
baz=181
SUSD **Miller** 33.69 346 P P 01 52 39.2 -1.3
baz=160
F40A **Park Falls** 33.83 357 P P 01 52 41.0 -0.8
baz=176
F44A **Big Bay de Noc** 33.85 2 P P 01 52 41.3 -0.6
baz=182
G33A **Ortonville** 33.87 349 P P 01 52 40.7 -1.3
baz=165
F39A **Loretta** 33.87 356 P P 01 52 41.2 -0.9
baz=174
F38A **Pierce - Schro** 33.99 355 P P 01 52 42.0 -1.1
baz=173
F36A **Milaca** 34.07 353 P P 01 52 42.2 -1.5
baz=170
G32A **Webster** 34.13 348 P P 01 52 42.4 -2.0
baz=163
F35A **Swanville** 34.20 352 P P 01 52 43.5 -1.4
baz=168
LPAZ **La Paz** 34.21 145 LR LR 02 07 30.3
comp=Z,163nm,18.2s,baz=322,slow=38
F34A **Alexandria** 34.24 351 P P 01 52 43.9 -1.4
baz=167
F33A **5 Mile Ranch,** 34.46 349 P P 01 52 45.2 -2.0
baz=165,SNR=9.6
D36A **Goodland** 35.32 354 P P 01 52 52.9 -1.7
baz=171
BW06 **Boulder Array** 35.98 332 eP P 01 53 03.4 +2.7
comp=Z,4.4nm,0.9s
PD31 **Pinedale Array** 35.98 332 eP P 01 53 03.1 +2.5
PDAR **Pinedale Array** 35.98 332 P P 01 53 00.1 -0.5
comp=Z,1.5nm,0.6s,baz=128,slow=8.3,SNR=12
PDAR LR LR 02 10 28.5
comp=Z,124nm,18.7s,baz=142,slow=41
PDAR **Pinedale Array** 35.98 332 eP P 01 53 00.5 -0.1
HWUT **Hardware Ranch** 36.05 329 eP P 01 53 01.7 +0.5
comp=Z,7.8nm,0.8s
C31A **Landman Farms,** 36.61 349 P P 01 53 04.0 -1.6
baz=163
AHID **Auburn Hatcher** 36.70 331 eP P 01 53 08.0 +1.3
comp=Z,11nm,0.6s
B34A **Aery, Baudette** 36.79 352 P P 01 53 05.3 -1.9
baz=169
B32A **Ashes, Strandq** 36.98 350 P P 01 53 07.0 -1.8
baz=166,SNR=15
REDW **Red Top Meadow** 37.04 332 eP P 01 53 10.2 +0.6
comp=Z,17nm,0.7s
MDND **Maddock** 37.05 347 eP P 01 53 09.0 -0.4
comp=Z,22nm,0.7s
SNOW **Snow King Moun** 37.07 332 eP P 01 53 10.8 +0.8
comp=Z,20nm,0.6s
LOHW **Long Hollow** 37.12 332 eP P 01 53 11.3 +1.0
comp=Z,5.3nm,0.8s
TPAW **Teton Pass** 37.18 332 eP P 01 53 12.7 +1.8
comp=Z,9.7nm,0.8s
B31A **Greenbush Farm** 37.20 349 P P 01 53 09.3 -1.4
baz=164
MOOW **Moose Ponds** 37.29 332 eP P 01 53 12.0 +0.3
comp=Z,6.2nm,0.8s
FXWY **Fox Creek** 37.33 332 eP P 01 53 13.0 +0.8
comp=Z,2.9nm,0.8s
A32A **Rocking H Ranc** 37.48 351 P P 01 53 10.8 -2.2
baz=166
IMW **Indian Meadow** 37.49 332 eP P 01 53 14.1 +0.6
comp=Z,4.6nm,0.6s
H17A **Grant Village** 37.72 333 eP P 01 53 18.1 +2.6
comp=Z,26nm,2.0s
YPP **Pitchstone Pla** 37.72 333 eP P 01 53 19.3 +3.8
comp=Z,5.2nm,0.9s
RLMT **Red Lodge** 37.74 335 eP P 01 53 16.0 +0.5
comp=Z,4.7nm,0.8s
NV01 **Mina Array Sit** 37.79 319 eP P 01 53 18.7 +2.5
NVAR **Mina Array Bea** 37.79 319 P P 01 53 18.0 +1.9
comp=Z,0.5nm,0.4s,baz=122,slow=8.6,SNR=4.1
NVAR PcP PcP 01 55 34.0 +1.4
comp=Z,1.2nm,0.7s,baz=160,slow=2.9,SNR=4.2
NVAR LR LR 02 09 46.6
comp=Z,186nm,18.8s,baz=269,slow=38
YFT **Old Faithful** 37.88 333 eP P 01 53 18.0 +1.3
comp=Z,15nm,1.2s
YMR **Madison River** 38.10 333 eP P 01 53 19.6 +0.9
comp=Z,12nm,1.0s
YHH **Holmes Hill** 38.15 333 eP P 01 53 20.4 +1.3
comp=Z,6.0nm,0.9s
YHB **Horse Butte** 38.27 333 eP P 01 53 21.7 +1.7
comp=Z,6.9nm,0.6s
QLMT **Earthquake Lak** 38.44 333 eP P 01 53 23.1 +1.7
ULM **Lac du Bonnet** 38.68 352 P P 01 53 20.9 -2.2
comp=Z,5.5nm,0.6s,baz=170,slow=8.2,SNR=17
ULM LR LR 02 11 23.3
comp=Z,93nm,19.6s,baz=122,slow=40
ULM **Lac du Bonnet** 38.68 352 eP P 01 53 21.0 -2.2
comp=Z,6.0nm,0.6s
HLID **Hailey** 38.92 329 eP P 01 53 26.7 +1.3
comp=Z,2.7nm,0.9s
BOZ **Bozeman (W)** 39.12 333 P P 01 53 25.7 -1.4
comp=Z,141.3nm,3.5s
BOZ **Bozeman (W)** 39.12 333 eP P 01 53 27.8 +0.7
comp=Z,5.3nm,0.8s
DLMT **Dillon** 39.38 332 eP P 01 53 30.8 +1.6
comp=Z,16nm,1.4s
LRM **Limekiln Ridge** 39.66 333 eP P 01 53 31.2 -0.5
WVOR **Wild Horse Val** 40.44 324 eP P 01 53 41.4 +3.3
comp=Z,6.9nm,1.0s
MSO **Missoula** 41.10 333 eP P 01 53 43.2 -0.2
comp=Z,11nm,1.3s
YBH **Yreka Blue Hor** 42.45 321 LR LR 02 16 32.9
comp=Z,193nm,18.0s,baz=151,slow=43
D08A **Wollman Farm,** 43.63 329 eP P 01 54 05.8 +1.9
comp=Z,8.3nm,0.8s
FFC **Flin Flon** 44.03 348 eP P 01 54 06.7 -0.3
comp=Z,24nm,1.9s
RPN **Rapa Nui** 44.18 208 LR LR 02 07 43.3
comp=Z,199nm,20.3s,baz=58,slow=29
B08A **Colville Reser** 44.73 330 eP P 01 54 14.7 +2.0
comp=Z,7.9nm,1.1s
SCHQ **Schefferville** 45.77 17 P P 01 54 18.8 -2.0
comp=Z,4.8nm,0.8s,baz=216,slow=9.3,SNR=5.0
SCHQ LR LR 02 15 08.0
comp=Z,185nm,18.3s,baz=284,slow=38
EDM **Edmonton** 45.88 339 eP P 01 54 21.2 -0.6
comp=Z,39nm,1.9s
CPUP **Villa Florida** 48.29 142 P P 01 54 39.5 -1.4
comp=Z,0.7nm,0.8s,baz=346,slow=11,SNR=4.3
CPUP LR LR 02 16 36.0
comp=Z,96nm,18.1s,baz=328,slow=38
YKA **Yellowknife Ar** 53.92 345 P P 01 55 20.8 -1.8
comp=Z,1.0nm,0.7s,baz=138,slow=7.9,SNR=34
YKA PcP PcP 01 56 26.9 -0.9
comp=Z,0.3nm,0.7s,baz=144,slow=3.9,SNR=4.1
YKA ScP ScP 02 00 24.6 +0.5
comp=Z,0.3nm,0.7s,baz=143,slow=4.3,SNR=5.9
PLCA **Paso Flores** 54.87 164 P P 01 55 30.1 +0.2
comp=Z,3.4nm,1.0s,baz=345,slow=7.8,SNR=5.0
PLCA LR LR 02 14 15.0
comp=Z,67nm,18.7s,baz=343,slow=31
TAOE **Nuku Hiva Isla** 56.02 251 eLR LR 02 11 56.8
comp=Z,165nm,23.0s
RKT **Rikitea** 57.90 233 eT T 02 58 14.9
comp=Z,1.5nm,0.3s
SFJD **Kangerlussuaq** 60.21 16 LR LR 02 23 30.6
comp=Z,150nm,18.1s,baz=221,slow=38
ILAR **Eielson Array** 66.26 336 P P 01 56 45.6 -1.6
comp=Z,0.6nm,0.7s,baz=138,slow=4.3,SNR=12
RND **Reindeer** 66.54 335 eP P 01 56 49.4 +0.2
comp=Z,13nm,1.5s
PPT2 **Papeete2** 67.72 245 eLR LR 02 17 15.3
comp=Z,167nm,25.5s
TOLK **Toolik Lake Re** 68.76 340 P P 01 56 59.7 -3.3
baz=112
BBTS **Babate** 69.13 79 LR LR 02 22 48.2
comp=Z,69nm,20.8s,baz=260,slow=32
RAR **Rarotonga** 78.00 245 LR LR 02 23 12.5
comp=Z,74nm,21.7s,baz=90,slow=28
KOWA **Kowa** 81.13 77 LR LR 02 31 32.1
comp=Z,55nm,18.3s,baz=265,slow=34
SPITS **Spitsbergen Ar** 81.18 12 LR LR 02 35 14.8
comp=Z,92nm,20.5s,baz=330,slow=36
DBIC **Dimbokro** 81.76 85 LR LR 02 30 56.8
comp=Z,43nm,19.2s,baz=250,slow=33
NOA **NORSAR Array B** 83.90 29 LR LR 02 34 04.6
comp=Z,34nm,19.6s,baz=0.0,slow=34
TORD **Torodi Ar. Bea** 86.83 77 LR LR 02 35 05.8
comp=Z,34nm,19.8s,baz=310,slow=34
GERES **GERESS Array B** 88.47 40 LR LR 02 34 25.6
comp=Z,113nm,19.6s,baz=272,slow=33
VAE **Valguarnera** 92.24 51 LR LR 02 34 06.1
comp=Z,65nm,21.0s,baz=218,slow=32
MLR **Muntele Rosu** 97.46 40 LR LR 02 40 05.8
comp=Z,19nm,18.1s,baz=352,slow=34
LZH **Lanzhou** 130.90 348 ePKP PKPdf 02 05 12.7 +1.2
LZH pPKP sPKPdf 02 05 22.4 -1.5
LZH sPKP 02 05 27.7
LZH LR LR
comp=N,53nm,18.0s
LZH LR LR
comp=E,60nm,18.1s
LZH LR LR
comp=Z,87nm,20.1s
ASAR **Alice Springs** 138.80 248 PKP PKPdf 02 05 26.8 +0.5
comp=Z,0.5nm,0.7s,baz=128,slow=2.3,SNR=4.5
WRA **Warramunga Arr** 138.82 253 PKP PKPdf 02 05 27.0 +0.6
comp=Z,0.7nm,0.6s,baz=90,slow=2.5,SNR=12
CMAR **Chiang Mai Arr** 148.98 348 PKPbc PKPbc 02 05 48.1 -0.1
comp=Z,1.3nm,0.4s,baz=348,slow=3.6,SNR=8.4

*ISCJB **02** 01:59:26.4±0.7, 15°.40N±0°.07×146°.0E±0°.1, h100km, mb4.0/14, Error ellipse: s-maj=18.3km s-min=8.3km az=18.3*
*NEIC **02** 01:59:28.9±1.5, 15°.28N×145°.96E, h110km±14km, mb4.0/1, Error ellipse: s-maj=17.4km s-min=13.7km az=82.0*
*IDC **02** 01:59:28.1±2.1, 15°.30N×145°.98E, h102km±20km, mb3.9/13, mb1 4.0/14, mb1mx3.6/65, mbtmp4.2/14, MS2.7/2, Ms1 2.7/2, ms1mx2.4/50, Error ellipse: s-maj=20.9km s-min=16.9km az=80.0*

ISC 02 01:59:28.3±0.8, 15°.35N±0°.09×145°.9E±0°.2, h100km, n32, σ0°65/27, mb4.0/14, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**2.03**	**211**	P	**Pn**	**02 00 02.3**	**+1.0**
	198nm,0.3s,baz=82,slow=3.0,SNR=72						
GUMO				S	**Sn**	**02 00 25.9**	**-0.6**
	92nm,0.3s,baz=355,slow=19,SNR=4.4						
GUMO				LR	LR	02 00 28.9	
	comp=Z,41nm,21.5s,baz=98,slow=30						
GUMO	**Guam**	**2.03**	**211**	*e*Pn	**Pn**	**02 00 01.7**	**+0.4**
GUMO				*e*S	**Sn**	**02 00 26.7**	**+0.2**
H11S3	**WAKE ISLAND Hy**	**20.09**	**78**	T	T	02 25 20.8	
	baz=263,slow=75,SNR=13						
H11S1	**WAKE ISLAND Hy**	**20.11**	**78**	T	T	02 25 20.3	
	baz=263,slow=75,SNR=8.0						
H11S2	**WAKE ISLAND Hy**	**20.11**	**78**	T	T	02 24 58.7	
	baz=263,slow=75,SNR=9.6						
H11N1	**WAKE ISLAND Hy**	**20.44**	**75**	T	T	02 25 19.1	
	baz=263,slow=75,SNR=6.3						
H11N2	**WAKE ISLAND Hy**	**20.45**	**75**	T	T	02 25 19.6	
	baz=263,slow=75,SNR=6.8						
H11N3	**WAKE ISLAND Hy**	**20.46**	**75**	T	T	02 25 20.4	
	baz=263,slow=75,SNR=8.3						
WRA	**Warramunga Arr**	**36.88**	**198**	P	**P**	**02 06 26.2**	**-1.1**
	1.2nm,0.7s,baz=22,slow=9.5,SNR=17						
ASAR	**Alice Springs**	**40.52**	**197**	P	**P**	**02 06 56.9**	**-0.9**
	0.5nm,0.7s,baz=18,slow=10,SNR=5.3						
CMAR	**Chiang Mai Arr**	**44.98**	**281**	P	**P**	**02 07 34.8**	**+0.8**
	1.4nm,0.3s,baz=66,slow=5.8,SNR=8.8						
SONM	**Songino Array**	**45.92**	**323**	P	**P**	**02 07 41.4**	**+0.3**
	2.5nm,0.7s,baz=136,slow=7.5,SNR=20						
RAMN	**Ramite**	**56.10**	**292**	*e*P	**P**	**02 08 57.7**	**-0.2**
	13nm,0.8s						
JIRN	**Jiri**	**56.46**	**293**	*e*P	**P**	**02 09 00.7**	**+0.2**
	22nm,0.6s						
GUN	**Gumba**	**56.73**	**293**	*e*P	**P**	**02 09 02.5**	**+0.1**
	18nm,0.6s						
PKI	**Pulchoki**	**57.15**	**293**	*e*P	**P**	**02 09 04.9**	**-0.5**
	4.1nm,0.5s						
DANN	**Dangsing**	**58.59**	**294**	*e*P	**P**	**02 09 15.7**	**+0.3**
KOLN	**Koldanda**	**58.75**	**293**	*e*P	**P**	**02 09 16.3**	**-0.1**
	17nm,0.7s						
PYUN	**Piuthan**	**59.28**	**294**	*e*P	**P**	**02 09 20.0**	**-0.1**
ZALV	**Zalesovo Beam**	**60.82**	**324**	P	**P**	**02 09 29.0**	**-0.9**
	3.3nm,0.8s,baz=102,slow=6.5,SNR=8.3						
MKAR	**Makanchi Array**	**60.97**	**315**	P	**P**	**02 09 31.2**	**+0.2**
	3.5nm,0.5s,baz=92,slow=8.3,SNR=66						
KURK	**Kurchatov**	**63.93**	**319**	P	**P**	**02 09 50.6**	**0.0**
KURBB	**Kurchatov Arra**	**63.97**	**319**	P	**P**	**02 09 50.6**	**-0.3**
	17nm,0.8s,baz=99,slow=6.7,SNR=107						
ILAR	**Eielson Array**	**66.54**	**26**	P	**P**	**02 10 06.3**	**-1.0**
	1.4nm,0.7s,baz=247,slow=6.1,SNR=24						
BVAR	**Borovoye Array**	**69.21**	**321**	P	**P**	**02 10 23.6**	**-0.6**
	3.2nm,0.5s,baz=105,slow=8.0,SNR=22						
INK	**Inuvik**	**72.35**	**23**	P	**P**	**02 10 42.6**	**-0.3**
	0.3nm,0.4s,baz=278,slow=5.3,SNR=4.1						
ABKAR	**Akbulak array**	**75.95**	**318**	*e*P	**P**	**02 11 03.2**	**-1.0**
	1.3nm,0.5s						
GEYT	**Alibeck**	**79.05**	**306**	P	**P**	**02 11 21.9**	**+0.1**
	0.7nm,0.4s,baz=63,slow=0.3,SNR=3.6						
YKA	**Yellowknife Ar**	**80.83**	**28**	P	**P**	**02 11 30.6**	**-0.2**
	1.2nm,0.6s,baz=286,slow=5.1,SNR=29						
NVAR	**Mina Array Bea**	**85.02**	**52**	P	**P**	**02 11 54.5**	**+1.3**
	0.4nm,0.4s,baz=292,slow=4.5,SNR=3.7						
ATD	**Arta Tunnel**	**99.32**	**285**	LR	LR	02 58 17.8	
	comp=Z,16nm,21.3s,baz=146,slow=36						
LPAZ	**La Paz**	**147.22**	**96**	PKPbc	**PKPdf**	**02 19 00.3**	**+1.0**
	2.3nm,0.8s,baz=318,slow=2.2,SNR=10						

MEX 02 02:06:26.0±1.4, 16°.20N×98°.47W, h15km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.38**	**59**	*e*P	Pg	02 06 32.8	-1.0
PNIG				*i* S	Sg	02 06 38.1	-1.0
TLIG	**Tlapa**	**1.36**	**356**	*i* P	Pn	02 06 46.3	-4.3
TLIG				*e*S	Sn	02 07 01.8	-6.7
VHO	**Vista Hermosa**	**1.88**	**62**	*e*P	Pn	02 06 57.2	-0.6
VHO				*e*S	Sn	02 07 20.9	-0.5
HUIG	**Huatulco**	**2.31**	**100**	*e*P	Pn	02 07 01.7	-1.9
HUIG				*i* S	Sn	02 07 29.9	-1.8

NNC 02 02:18:53.2±5.3, 37°.75N×71°.23E, h0km, mb3.5, mpv3.2, 5C-3D, Error ellipse: s-maj=40.1km s-min=31.5km az=173.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SFK	**Sufi-Kurgan**	**2.87**	**37**	⇑Pn	Pn	02 19 39.9	-0.6
	2.6nm,0.3s						
SFK				⇓Sn	Sn	02 20 18.3	+2.5
	15nm,0.4s						
MNAS	**Manas**	**4.83**	**11**	⇑Pn	Pn	02 20 07.8	+0.6
	1.3nm,0.4s						
MNAS				⇑Sn	Sn	02 21 04.4	+0.4
	4.9nm,0.5s						
KK31	**Karatay Array**	**5.37**	**354**	⇓Pn	Pn	02 20 15.4	+0.8
	0.4nm,0.2s,baz=177,slow=13,SNR=15						
KK31				⇑Sn	Sn	02 21 18.6	+1.4
	1.1nm,0.3s,baz=168,slow=23,SNR=7.0						
AAK	**Ala-Archa**	**5.48**	**26**	⇓Pn	Pn	02 20 15.0	-1.2
	1.9nm,0.5s						
AAK				⇑Sn	Sn	02 21 18.7	-1.4
	2.7nm,0.5s						

*ISCJB **02** 02:19:39.7±0.7, 0°.86S±0°.04×119°.86E±0°.04, h18km±6km, mb4.2/13, Error ellipse: s-maj=6.8km s-min=5.8km az=34.1*
*DJA **02** 02:19:40.1±0.2, 1°.S±2°.×12°.0E±°, h10km, M4.6/15, mb4.8/7, mB5.0/3, MLv4.5/15, Mw(mB)4.4/3*
*NEIC **02** 02:19:43.7±0.4, 0°.96S×119°.81E, h35km, mb4.3/3, Error ellipse: s-maj=50.7km s-min=8.0km az=60.0*
NEIC Felt [IV] at Palu.
*IDC **02** 02:20:24.8±5.4, 0°.35S×121°.79E, h473km±74km, mb3.4/10, mb1 3.5/10, mb1mx3.1/57, mbtmp4.2/10, Error ellipse: s-maj=68.5km s-min=15.4km az=59.0*

ISC 02 02:19:39.2±1.3, 0°.82S±0°.04×119°.86E±0°.04, h4km±9km, n33, σ1°00/36, mb4.3/13, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCI	**Palu**	**0.09**	**195**	P	**Pg**	**02 19 41.3**	**+0.2**
MPSI	**Mapaga**	**1.15**	**2**	P	**Pg**	**02 20 01.2**	**-0.1**
MPSI				S	**Sn**	**02 20 18.0**	**-0.3**
APSI	**Ampana**	**1.79**	**93**	P	**Pn**	**02 20 10.8**	**-0.1**

APSI				S	Sg	02 20 37.6	+0.8
TTSI	Tana Toraja	2.21	181	P	Pn	02 20 17.5	+0.8
SGKI	Sangatta, Kali	2.27	277	P	Sn	02 20 44.0	-2.1
MRSI	Marisa	2.45	58	P	Pn	02 20 19.8	-0.2
SMKI	Samarinda	2.68	278	P	Pn	02 20 23.1	0.0
LUWI	Luwuk	2.92	94	P	Pn	02 20 27.0	+0.5
LUWI				S	Sn	02 21 02.5	+0.4
BKB	Balikpapan	3.00	262	P	Pg	02 20 36.4	-0.3
BKB				S	Sn	02 21 03.7	-0.2
BNSI	Bone	3.57	176	P	Pn	02 20 36.1	+0.7
KDI	Kendari	4.16	139	P	Pn	02 20 44.0	+0.4
KMSI	Cibinong	4.35	71	P	Pb	02 20 54.1	-2.1
KBKI	Kotabaru	4.44	236	P	Pn	02 20 47.7	+0.3
BSSI	Bau Bau, Buton	5.33	173	P	Pn	02 21 00.7	+1.1
SANI	Sanana	6.25	101	P	Pn	02 21 11.9	-0.4
	128nm,0.6s,1μm0.4nm						
NLAI	Namlea	7.62	108	P	Pn	02 21 31.5	+0.3
LBMI	Labuha	7.64	89	P	Pn	02 21 31.4	-0.1
KKM	Kota Kinabalu	7.73	332	*e*Pn	Pn	02 21 36.6	+3.9
	16nm,0.6s						
WRA	Warramunga Arr	23.71	144	P	P	02 24 51.8	-0.6
	15nm,1.1s,baz=323,slow=10,SNR=51						
ASAR	Alice Springs	26.48	150	P	P	02 25 17.3	-0.6
	1.9nm,0.7s,baz=322,slow=7.8,SNR=23						
CMAR	Chiang Mai Arr	28.11	314	P	P	02 25 48.3	+16
	0.8nm,0.3s,baz=138,slow=7.0,SNR=4.6						
STKA	Stephens Creek	37.09	149	P	P	02 26 50.8	-0.1
	8.3nm,0.7s,baz=308,slow=7.9,SNR=12						
ULN	Ulaanbaatar	49.76	349	*e*P	P	02 28 33.9	+0.9
	2.2nm,0.8s						
SONM	Songino Array	49.86	348	P	P	02 28 34.5	+0.8
	1.0nm,0.6s,baz=169,slow=9.8,SNR=6.3						
MKAR	Makanchi Array	57.71	330	P	P	02 29 31.8	+0.7
	1.8nm,0.8s,baz=128,slow=8.7,SNR=15						
AAK	Ala-Archa	59.41	322	*e*P	P	02 29 44.1	+0.8
ZALV	Zalesovo Beam	61.80	337	P	P	02 29 58.5	-0.6
	2.1nm,0.5s,baz=142,slow=5.7,SNR=6.7						
KURBB	Kurchatov Arra	62.14	332	P	P	02 30 01.8	+0.3
	2.3nm,0.6s,baz=135,slow=6.2,SNR=15						
KURK	Kurchatov	62.16	332	*e*P	P	02 30 01.8	+0.1
BVAR	Borovoye Array	67.59	330	P	P	02 30 37.0	0.0
	2.4nm,0.8s,baz=111,slow=7.9,SNR=9.7						
BRVK	Borovoye	67.67	330	*e*P	P	02 30 37.7	+0.3
	2.3nm,0.4s						
ABKAR	Akbulak array	71.48	323	*e*P	P	02 31 00.7	-0.4
	2.3nm,0.9s						
BRTR	Keskin Array B	87.60	310	P	P	02 32 29.0	-0.3
	0.8nm,0.9s,baz=87,slow=7.8,SNR=3.5						

*ISCJB **02** 02:27:47.0±0.4, 14°.20S±0°.06×167°.07E±0°.08, h150km, mb4.1/17, Error ellipse: s-maj=11.5km s-min=7.2km az=29.7*
*NEIC **02** 02:27:47.9±1.8, 14°.22S×167°.17E, h148km±16km, mb4.1/4, Error ellipse: s-maj=11.6km s-min=9.7km az=152.0*
*IDC **02** 02:27:48.4±3.3, 14°.24S×167°.15E, h151km±28km, mb4.0/14, mb1 4.2/15, mb1mx3.9/46, mbtmp4.4/15, Error ellipse: s-maj=19.4km s-min=15.8km az=82.0*
ISC 02 02:27:48.3±0.4**, 14°.26S**±0°.07×**167°.2E**±0°.1**, h150km, n75, σ1s.39**/84**, mb4.1**/17**, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	7.80	185	P	Pn	02 29 39.6	+0.4
	4.7nm,0.3s,baz=122,slow=18,SNR=16						
DZM				S	Sn	02 31 09.6	+3.3
	1.1nm,0.3s,baz=136,slow=20,SNR=2.5						
DZM	Mont Dzumac	7.80	185	P	Pn	02 29 39.6	+0.4
DZM				*e*Sn	Sn	02 31 00.8	-5.5
EIDS	Eidsvold	18.71	231	P	Pn	02 31 57.5	-0.1
	baz=20,SNR=4.1						
EIDS	Eidsvold	18.71	231	*e*P	P	02 31 56.3	+0.9
	3.3nm,0.6s						
CTA	Charters Tower	20.79	251	P	P	02 32 18.7	+0.9
	baz=22						
RMQ	Roma	21.07	232	P	P	02 32 24.2	+3.3
	baz=22,SNR=5.4						
MTSU	Mount Surprise	22.26	257	P	P	02 32 33.8	+0.5
	baz=23						
QLP	Quilpie	24.68	237	P	P	02 32 56.5	+1.0
	baz=26						
STKA	Stephens Creek	29.22	229	P	P	02 33 37.0	+1.0
	8.8nm,0.4s,baz=54,slow=9.6,SNR=25						
STKA	Stephens Creek	29.22	229	P	P	02 33 37.1	+1.1
	baz=30,SNR=20						
WR9	Warramunga Arr	31.67	255	P	P	02 33 56.7	-1.1
	baz=32						
WR1	Warramunga Arr	31.84	255	*e*P	P	02 33 58.0	-1.3
	1.8nm,0.8s						
WR1				*e*PcP	PcP	02 36 46.2	-0.5
WRA	Warramunga Arr	31.84	255	P	P	02 33 58.0	-1.3
	1.4nm,0.4s,baz=84,slow=9.1,SNR=27						
WRA				PcP	PcP	02 36 46.2	-0.5
	0.5nm,0.9s,baz=90,slow=3.3,SNR=4.5						
HTT	Hallett	31.95	228	P	P	02 34 00.9	+0.8
	baz=33,SNR=6.1						
AS01	Alice Springs	32.70	248	*e*P	P	02 34 05.8	-0.9
ASAR	Alice Springs	32.74	248	P	P	02 34 05.8	-1.3
	2.2nm,0.3s,baz=77,slow=9.4,SNR=31						
ASAR				PcP	PcP	02 36 48.7	-0.5
	0.3nm,0.5s,baz=92,slow=2.8,SNR=4.4						
MOO	Moorlands	32.95	208	P	P	02 34 09.6	+1.0
	baz=34						
BBOO	Buckleboo	33.78	231	P	P	02 34 16.4	+0.4
	baz=35,SNR=41						
MTN	Manton Dam	35.03	268	P	P	02 34 24.8	-2.1
	baz=36						
WRKA	Warakurna	38.01	248	P	P	02 34 51.2	-1.0
	baz=39,SNR=5.7						
FORT	Forrest	39.44	239	P	P	02 35 03.8	-0.2
	baz=40,SNR=9.0						
MEEK	Meekatharra	46.87	247	P	P	02 36 03.3	-0.4
	baz=48,SNR=4.7						
MORW	Morawa	49.37	244	P	P	02 36 22.0	-0.9
	baz=50						
MJAR	Matsushiro Arr	57.44	332	P	P	02 37 20.8	-0.7
	1.3nm,0.5s,baz=168,slow=9.6,SNR=6.9						
KSRS	Korea Array	63.29	326	P	P	02 38 01.2	+0.1
	1.9nm,0.7s,baz=134,slow=6.0,SNR=5.1						
KSAR	Wonju Array Be	63.30	326	P	P	02 38 01.2	0.0
VNDA	Vanda	63.33	181	P	P	02 38 00.6	-0.2
	1.3nm,0.7s,baz=353,slow=7.5,SNR=14						
SBA	Scott Base	63.60	180	*e*P	P	02 38 03.3	+0.6
CM01	Chiang Mai Arr	74.63	294	*e*P	P	02 39 12.8	+1.2
CMAR	Chiang Mai Arr	74.66	294	P	P	02 39 12.7	+0.9
	2.5nm,0.6s,baz=129,slow=4.5,SNR=14						
QSPA	South Pole Qui	75.77	180	P	P	02 39 17.3	-0.2
	1.5nm,0.5s,baz=40,slow=7.9,SNR=5.7						
SONA0	Songino Array	82.06	324	*e*P	P	02 39 52.4	+0.4
SONM	Songino Array	82.06	324	P	P	02 39 52.4	+0.4
	0.7nm,0.4s,baz=154,slow=5.0,SNR=9.5						
MAW	Mawson	82.28	202	P	P	02 39 52.2	-0.4
	baz=83,SNR=5.5						
CAST	Castle Rocks	83.58	17	*e*P	P	02 39 59.3	-0.1
	3.9nm,0.8s						
SBI	Santa Barbara	84.75	54	*e*P	P	02 40 03.5	-2.3
SBI				*e*PcP	PcP	02 40 06.1	-2.9
IM3	Indian Mountai	85.14	15	*e*P	P	02 40 07.5	+0.4
HDA	Harding Lake	85.84	18	*e*P	P	02 40 10.4	-0.2
	3.0nm,0.8s						
ILAR	Eielson Array	86.11	18	P	P	02 40 10.9	-1.0
	2.3nm,0.7s,baz=235,slow=5.3,SNR=31						
ILB	Eielson Array	86.11	18	*e*P	P	02 40 11.0	-1.0
IL1	Eielson Array	86.12	18	*e*P	P	02 40 10.5	-1.4
DBD	Des Bee Dove	92.67	50	*e*P	P	02 40 47.0	+3.3
MLI	Malad Range	92.68	47	*e*P	P	02 40 47.1	+3.5
CHMT	Chamberlain Mo	93.33	42	*e*P	P	02 40 47.6	+1.0
YHB	Horse Butte	94.09	45	*e*P	P	02 40 54.4	+4.3
LTX	Lajitas	96.15	61	*e*P	P	02 40 59.8	+0.1
TXAR	Lajitas Array	96.15	61	P	P	02 40 59.8	+0.1
	0.7nm,1.1s,baz=225,slow=3.7,SNR=3.3						
MK01	Makanchi Array	96.78	316	*e*P	P	02 41 02.2	+0.2
MK31	Makanchi Array	96.79	316	*e*P	P	02 41 02.5	+0.5
MK32	Makanchi Array	96.79	316	*e*P	P	02 41 02.1	0.0
MKAR	Makanchi Array	96.79	316	P	P	02 41 02.1	0.0
	1.5nm,0.6s,baz=92,slow=6.1,SNR=17						
ZALV	Zalesovo Beam	96.95	324	P	P	02 41 01.1	-1.4
	1.3nm,0.6s,baz=103,slow=6.7,SNR=4.0						
ZAA1	Zalesovo Array	96.95	324	*e*P	P	02 41 01.1	-1.5
YKA	Yellowknife Ar	97.18	27	P	P	02 41 02.1	-1.3
	0.5nm,0.7s,baz=254,slow=4.6,SNR=13						
ARA0	ARCESS Array S	119.77	345	*e*PKPdf	PKPdf	02 46 19.7	-0.4
ARCES	ARCESS Array B	119.77	345	PKP	PKPdf	02 46 19.7	-0.4
	3.2nm,0.6s,baz=78,slow=1.9,SNR=33						
FIA0	FINESS Array S	125.25	338	*e*PKPdf	PKPdf	02 46 30.8	0.0
FINES	FINESS Array B	125.25	338	PKP	PKPdf	02 46 30.8	0.0
	1.5nm,0.4s,baz=36,slow=2.3,SNR=19						
NB2	NORSAR Subarra	130.14	345	PKP	PKPdf	02 46 40.6	+0.4
	comp=Z,2.6nm,0.8s,baz=17,slow=2.6						
NB200	NORSAR Array S	130.14	345	*e*PKPdf	PKPdf	02 46 40.8	+0.6
NOA	NORSAR Array B	130.14	345	PKP	PKPdf	02 46 40.8	+0.6
	comp=Z,0.9nm,0.6s,baz=33,slow=2.0,SNR=3.3						
AKASG	Malin Array Be	130.29	326	PKP	PKPdf	02 46 40.5	-0.2
	comp=Z,0.4nm,0.4s,baz=50,slow=3.0,SNR=5.3						
CONA	Conrad Observa	138.86	331	*i* PKiKP	PKiKP	02 47 00.0	+0.8
	comp=Z,0.9nm,0.4s						
KHC	Kasperske Hory	139.02	334	*e*PKPdf	PKPdf	02 46 59.1	+1.9
GERES	GERESS Array B	139.18	333	PKP	PKPdf	02 46 58.1	+0.5
	comp=Z,0.7nm,0.5s,baz=48,slow=2.0,SNR=6.6						
MOA	Molln	139.66	332	*e*PKiKP	PKiKP	02 47 01.4	+0.7
	comp=Z,0.8nm,0.4s						
WATA	Walderalm	141.25	333	*i* PKiKP	PKiKP	02 47 04.2	0.0
	comp=Z,2.1nm,0.4s						
ABTA	Abfaltersbach	141.28	332	*i* PKiKP	PKiKP	02 47 04.5	+0.3
	comp=Z,1.0nm,0.4s						
WTTA	Wattenberg	141.28	333	*i* PKiKP	PKiKP	02 47 04.6	+0.3
	comp=Z,1.8nm,0.4s						
MOTA	Moosalm	141.45	334	*e*PKiKP	PKiKP	02 47 03.4	-1.2
	comp=Z,1.1nm,0.5s						
KEST	Kesra	150.78	321	PKPbc	PKPbc	02 47 23.3	-0.2
	comp=Z,6.0nm,0.6s,baz=82,slow=5.4,SNR=19						
ESDC	Sonseca Array	153.50	345	PKPbc	PKPbc	02 47 29.6	+0.1
	comp=Z,0.2nm,0.5s,baz=5.6,slow=5.6,SNR=5.1						
ESDC				PKPab	PKPab	02 47 43.2	+0.9
	comp=Z,1.1nm,0.7s,baz=12,slow=4.5,SNR=8.6						
TORD	Torodi Ar. Bea	165.83	267	PKP	PKPdf	02 47 35.2	-1.0
	comp=Z,0.2nm,0.6s,baz=85,slow=1.3,SNR=4.6						
TORD				PKPab	PKPab	02 48 36.3	-0.3
	comp=Z,0.7nm,0.7s,baz=95,slow=4.5,SNR=7.7						
TOA1	Torodi Ar. Sit	165.83	267	*e*PKPdf	PKPdf	02 47 35.2	-1.0
TOA1				*e*PKPab	PKPab	02 48 36.3	-0.3
KOWA	Kowa	171.44	273	PKPab	PKPab	02 49 02.1	+0.5
	comp=Z,4.3nm,1.0s,baz=64,slow=7.6,SNR=10.0						

IDC 02 03:25:26.0±25.0**, 19°.81S**×**179°.17W, h650**km±270km**, mb3.0**/4**, mb1 3.3**/4**, mb1mx2.8**/42**, mbtmp4.1**/4**, Error ellipse: s-maj=288.8km s-min=73.6km az=130.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	32.47	264	P	P	03 31 06.3	+0.1
	2.1nm,0.4s,baz=98,slow=10,SNR=5.8						
WRA	Warramunga Arr	43.61	262	P	P	03 32 36.0	+0.2
	1.1nm,0.3s,baz=96,slow=7.3,SNR=57						
ASAR	Alice Springs	43.61	256	P	P	03 32 35.8	-0.1
	2.5nm,0.5s,baz=95,slow=8.0,SNR=26						
ILAR	Eielson Array	87.89	13	P	P	03 37 08.1	+0.2
	0.2nm,0.5s,baz=219,slow=5.5,SNR=4.9						
AKASG	Malin Array Be	141.88	331	PKP	PKPdf	03 43 43.2	-2.1
	1.7nm,0.5s,baz=42,slow=4.4,SNR=14						

*SJA **02** 03:48:12.1±0.6, 22°.67S×66°.31W, h273km±4km, ML3.4, MW3.2*
*ISCJB **02** 03:48:14.4±0.4, 22°.75S±0°.03×66°.42W±0°.04, h245km, mb3.9/1, Error ellipse: s-maj=6.0km s-min=3.5km az=137.4*
*GUC **02** 03:48:15.1±0.5, 22°.61S×66°.96W, h291km±18km, ML4.3*
*IDC **02** 03:48:15.1±2.4, 22°.57S×66°.23W, h253km±31km, mb3.7/1, mb1 3.4/4, mb1mx3.1/41, mbtmp3.9/4, Error ellipse: s-maj=42.1km s-min=21.7km az=107.0*
ISC 02 03:48:14.0±0.9**, 22°.72S**±0°.06×**66°.40W**±0°.05**, h245km, n31, σ1s.13**/46**, 10C, Jujuy Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YJA	Yavi	0.98	57	*e*P	Pn	03 48 50.2	+1.3
YJA				IAML		03 48 51.2	
	comp=Z,125nm,0.4s						
YJA				*e*S	S	03 49 18.4	+2.1
AZAP	Zapla	1.93	141	*e*P	Pn	03 48 56.4	+0.7
AZAP				IAML		03 48 57.9	
	comp=Z,28nm,0.3s						
AZAP				*e*S	S	03 49 29.5	+1.0
ASTB	Santa Barbara	2.17	125	*e*P	Pn	03 48 58.5	+0.7
ASTB				*e*S	S	03 49 32.2	0.0
ALOL	LOMAS DE OLMED	2.48	117	*e*P	Pn	03 49 00.7	+0.1
PB09	IPOC Station P	2.79	289	⇑*i*P	Pn	03 49 06.2	+2.2
PB09				*e*S	S	03 49 45.5	+2.0
PB09				IAML		03 49 49.5	
	comp=N,588nm,0.2s						
PB06	IPOC Station P	2.93	270	⇑*i*P	Pn	03 49 07.0	+1.4
PB06				*e*S	S	03 49 46.8	+0.6
PB06				IAML		03 49 49.6	
	comp=E,334nm,0.2s						
PB01	IPOC Station P	3.32	300	⇑*i*P	Pn	03 49 11.1	+1.3
PB01				*e*S	S	03 49 53.8	-0.1
PB07	IPOC Station P	3.38	286	⇑*i*P	Pn	03 49 11.9	+1.4
PB07				*e*S	S	03 49 54.5	-0.7
FSA	Cafayete	3.40	174	*e*P	Pn	03 49 11.1	+0.4
FSA				IAML		03 49 11.8	
	comp=Z,15nm,0.7s						
FSA				*e*S	S	03 49 55.6	0.0
PB04	IPOC Station P	3.49	276	⇑*i*P	Pn	03 49 13.1	+1.3
PB04				*e*S	S	03 49 57.1	-0.3
PB02	IPOC Station P	3.53	293	⇑*i*P	Pn	03 49 13.2	+1.0
PB02				*e*S	S	03 49 56.9	-1.4
PB08	IPOC Station P	3.63	315	⇑*i*P	Pn	03 49 15.6	+1.9
PB08				*e*S	S	03 50 01.4	+0.5
PB10	IPOC Station P	3.90	258	*e*P	Pn	03 49 17.2	+0.8
PB10				*e*S	S	03 50 05.6	-0.3
PB10	IPOC Station P	3.90	258	⇑*i*P	Pn	03 49 17.3	+0.9
PB10				*e*S	S	03 50 04.0	-1.9
PB14	IPOC Station P	4.13	242	*e*P	Pn	03 49 20.5	+1.2
AHML	Horco Molle	4.16	167	*e*P	Pn	03 49 19.6	+0.2
PB11	IPOC Station P	4.23	314	⇑*i*P	Pn	03 49 20.9	+0.4
PB11				*i* S	S	03 50 11.3	-1.9
MNMC	Minye Minye	4.66	320	⇑*i*P	Pn	03 49 26.6	+0.8
PSGC	Pisagua	4.66	311	*e*P	Pn	03 49 25.4	-0.2
CYA	Choya	5.72	175	*e*P	Pn	03 49 38.9	+0.4
VCA	Vinchina	6.21	195	*e*P	Pn	03 49 45.3	+0.6
VCA				IAML		03 49 48.9	
	comp=Z,20nm,0.4s						
LPAZ	La Paz	6.61	345	P	Pn	03 49 51.1	+0.8
	comp=Z,0.8nm,0.3s,baz=169,slow=11,SNR=36						
LPAZ				S	S	03 51 05.8	-1.5
	comp=Z,0.0nm,0.3s,baz=281,slow=16,SNR=1.8						
AGUA	GUANDACOL	6.99	195	*e*P	Pn	03 49 54.7	+0.2
APLL	PUNTA DE LOS L	7.64	181	*e*P	Pn	03 50 02.0	-0.7
APLL				IAML		03 50 03.7	
	comp=Z,10nm,0.2s						
AROD	Rodeo	7.91	200	*e*P	Pn	03 50 06.9	+0.5
SIV	San Ignacio	8.37	38	P	Pn	03 50 10.6	-1.5
	comp=Z,1.4nm,0.3s,baz=232,slow=9.0,SNR=34						
AMOG	MOGNA	8.39	192	*e*P	Pn	03 50 11.3	-1.0
TCA	Tanti	8.73	170	*e*P	Pn	03 50 16.0	-0.6
PLCA	Paso Flores	18.30	190	P	Pn	03 52 12.4	-0.8
	comp=Z,0.1nm,0.3s,baz=27,slow=11,SNR=5.9						
TORD	Torodi Ar. Bea	75.60	69	P	P	03 59 31.5	-0.9
	comp=Z,1.3nm,0.4s,baz=259,slow=5.9,SNR=26						
WRA	Warramunga Arr	133.01	207	PKP	PKPdf	04 07 02.3	+1.3
	comp=Z,0.1nm,0.3s,baz=156,slow=2.0,SNR=4.7						

*NIED **02** 03:50:00, 30°.20N×139°.40E, h400km, Mw4.3 Best double couple: M0 3.17000×10^15 NP1:φs65.00000°, δ37.00000°, λ-161.00000°. NP2:φs319.00000°, δ79.00000°, λ-55.00000°.*
*MOS **02** 03:50:20.8±0.9, 29°.92N×138°.70E, h411km, mb4.3/39, Error ellipse: s-maj=9.2km s-min=5.3km az=110.8*
*BJI **02** 03:50:20.3, 29°.83N×138°.61E, h400km, mb4.4/26, mB4.5/17*
*IDC **02** 03:50:22.5±0.7, 29°.97N×138°.78E, h414km±7km, mb3.9/30, mb1 3.9/36, mb1mx3.8/71, mbtmp4.6/36, Error ellipse: s-maj=9.9km s-min=7.6km az=94.0*
*NEIC **02** 03:50:22.7±0.3, 29°.92N×138°.72E, h417km±3km, mb4.3/72, Error ellipse: s-maj=4.3km s-min=3.2km az=150.0*
*JMA **02** 03:50:22.5±0.3, 30°.18N×139°.39E, h446km, M4.3*
*ISCJB **02** 03:50:24.2±0.2, 30°.10N±0°.03×138°.69E±0°.03, h443km, mb4.2/116, Error ellipse: s-maj=4.9km s-min=3.5km az=145.0*
ISC 02 03:50:25.1±0.5**, 30°.03N**±0°.06×**138°.72E**±0°.07**, h443km, n287, σ1s.33**/302**, mb4.3**/117**, 13C-19D, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ	Hachijo jima 2	3.21	16	P	P	03 51 29.6	-3.5
	96nm,0.3s,baz=276,slow=17,SNR=68						
JHJ				S	S	03 52 21.8	-6.6
	83nm,0.3s,baz=72,slow=22,SNR=9.3						
JHJ2	Mitsune	3.21	17	*e*P	P	03 51 29.3	-3.8
JHJ2				*e*S	S	03 52 22.5	-5.9
CBIJ	Chichi jima	4.22	133	*e*P	P	03 51 35.0	-6.8
CBIJ				*e*S	S	03 52 32.8	-11
JCJ	Chichijima	4.22	133	P	P	03 51 35.2	-6.6
	111nm,0.3s,baz=330,slow=4.4,SNR=32						
JCJ				S	S	03 52 32.7	-11
	161nm,0.3s,baz=271,slow=21,SNR=4.9						
JKN2	Miekihoku	4.69	334	P	P	03 51 45.0	-0.9
HMMJ	Hamamatsu 2	4.89	350	P	P	03 51 46.3	-1.6
HMMJ				S	S	03 52 51.8	-3.7
BSO3	Boso 3	4.99	17	P	P	03 51 45.1	-3.5
BSO3				*e*S	S	03 52 48.7	-8.2
BSO4	Boso 4	5.13	15	P	P	03 51 46.0	-4.1
JNY	Yasuok	5.37	352	P	P	03 51 50.4	-2.2
JNY				S	S	03 52 59.9	-4.3
JAO	Obara	5.37	347	P	P	03 51 52.0	-0.6
INU	Inuyama	5.50	345	*e*P	P	03 51 52.8	-1.1
JHU	Hanno	5.83	4	P	P	03 51 53.3	-3.9
JHU				S	S	03 53 06.2	-6.4
JYT	Yasato	6.30	11	P	P	03 51 58.0	-4.1
JAG	Ashikaga	6.41	5	P	P	03 51 59.1	-4.1
MJAR	Matsushiro Arr	6.51	356	P	P	03 52 00.5	-3.9
	2.3nm,0.3s,baz=272,slow=10,SNR=13						
MAJO	Matsushiro	6.51	356	*e*P	P	03 52 01.9	-2.6
MAJO				*e*S	S	03 53 20.6	-5.0
MAJO	Matsushiro	6.51	356	*d i*P	P	03 52 02.1	-2.3
MAT	Matsushiro	6.51	356	P	P	03 52 02.0	-2.4
MAT				S	S	03 53 17.4	-8.2
MJB9	Matsu-Tunnel	6.52	356	*e*P	P	03 52 02.0	-2.4
MJB9				*e*S	S	03 53 21.8	-3.9
JHO	Hitachi	6.75	13	S	S	03 53 21.9	-8.2
JNU	Nakatsue	7.37	297	P	P	03 52 14.5	+0.9
	1.9nm,0.3s,baz=7.9,slow=6.1,SNR=14						
JNU	Nakatsue	7.37	297	*e*P	P	03 52 13.6	0.0
JFK	Kawauchi	7.54	13	S	S	03 53 37.3	-8.4
JOW	Kunigami	9.73	253	P	P	03 52 41.1	+1.7
	3.4nm,0.3s,baz=319,slow=6.1,SNR=6.3						
TJN	Taejon	11.42	307	*e*P	P	03 52 56.5	-1.1
KSRS	Korea Array	11.64	312	P	P	03 53 00.6	+0.6
	1.0nm,0.3s,baz=127,slow=11,SNR=16						
KS15	Wonju Array Si	11.66	312	*e*P	P	03 53 00.6	+0.4
KSAR	Wonju Array Be	11.66	312	P	P	03 53 00.6	+0.4
KSAR	Wonju Array Be	11.66	312	P	P	03 53 00.6	+0.4
ERM	Erimo	12.49	15	*e*P	P	03 53 08.7	-0.3
ERM				*e*S	S	03 55 29.7	+5.2
ERM	Erimo	12.49	15	⇑*i*P	P	03 53 08.8	-0.3
ERM				pmax	pmax		
	comp=Z,27nm,0.6s						
ASAJ	Asahikawa	14.40	11	P	P	03 53 30.0	+0.3
	comp=Z,2.0nm,0.3s,baz=212,slow=14,SNR=14						
ASAJ	Asahikawa	14.40	11	*e*P	P	03 53 29.9	+0.3
	comp=Z,3.6nm,0.6s						
ASAJ	Asahikawa	14.40	11	P	P	03 53 30.0	+0.3
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
USRK	Ussuriysk Ar.	15.12	341	P	P	03 53 37.0	-0.5
	comp=Z,0.6nm,0.3s,baz=153,slow=12,SNR=8.2						
YHNB	Yeheng	16.31	255	*e*P	P	03 53 48.1	-2.3
	comp=Z,40nm,1.0s						
NACB	Ninganchiao	16.32	253	*e*P	P	03 53 47.4	-3.1
	comp=Z,27nm,0.6s						
YULB	Yu-li	16.91	251	*e*P	P	03 53 54.4	-2.3
	comp=Z,28nm,0.5s						
SSLB	Suanglung	17.02	253	*e*P	P	03 53 56.6	-1.3
	comp=Z,28nm,1.0s						
YSS	Yuzh-Sakhalins	17.19	9	⇓*e*P	P	03 54 00.4	+1.1
YSS				pmax	pmax		
	comp=Z,20nm,0.4s						
TPUB	Ta-pu	17.50	252	*e*P	P	03 54 02.7	-0.3
	comp=Z,45nm,1.1s						
KLR	Kul'dur	19.90	346	P	P	03 54 26.3	+0.7
	comp=Z,0.1nm,0.3s,baz=146,slow=8.3,SNR=27						
BJT	Baijiatuau	20.94	304	*e*P	P	03 54 34.8	-0.5
BJT	Baijiatuau	20.94	304	*e*P	P	03 54 34.8	-0.5
BJI	Beijing	20.94	305	P	P	03 54 35.3	0.0
BJI				pmax	pmax		
	comp=Z,32nm,1.0s						
TYV	Tymovskoe	21.02	7	*e*P	P	03 54 36.2	+0.3
TYV				pmax	pmax		
	comp=Z,12nm,1.2s						
HHC	Hu-ho-hao-te	24.53	303	*e*P	P	03 55 08.5	+0.7
HHC				pmax	pmax		
	comp=Z,100nm,4.0s						
XAN	Xi'an	25.54	287	P	P	03 55 16.4	-0.3
XAN				pmax	pmax		
	comp=Z,21nm,0.9s						
XAN				pmax	pmax		
	comp=Z,97nm,5.5s						
PETK	Petropavlovsk-	26.92	26	P	P	03 55 28.4	-0.2
	comp=Z,5.8nm,0.6s,baz=128,slow=1.4,SNR=11						
PETK	Petropavlovsk-	26.92	26	*e*P	P	03 55 30.2	+1.6
PETK	Petropavlovsk-	26.92	26	*e*P	P	03 55 30.2	+1.6
PEA1	Petropavlovsk-	26.92	26	*e*P	P	03 55 28.4	-0.2
LZH	Lanzhou	29.74	291	⇓P	P	03 55 53.7	-0.2
LZH				pP	pP	03 57 09.5	-2.7
LZH				sP	sP	03 57 57.3	-6.6
LZH				pmax	pmax		
	comp=Z,42nm,1.0s						
LZH				pmax	pmax		
	comp=Z,390nm,5.7s						
ULN	Ulaanbaatar	30.11	315	*e*P	P	03 55 57.0	+0.1
	comp=Z,9.7nm,0.9s						
ULN	Ulaanbaatar	30.11	315	*d i*P	P	03 55 57.2	+0.3
ULN				pmax	pmax		
	comp=Z,14nm,1.2s						
SONA0	Songino Array	30.50	315	*e*P	P	03 56 00.5	+0.3
SONA1	Songino Array	30.50	315	*e*P	P	03 56 00.2	-0.1
SONM	Songino Array	30.50	315	P	P	03 56 00.5	+0.3
	comp=Z,3.6nm,0.5s,baz=126,slow=8.8,SNR=43						
SONM				ScP	ScP	04 01 48.2	+2.0
	comp=Z,0.9nm,0.7s,baz=142,slow=2.6,SNR=6.2						
MA2	Magadan	30.66	12	P	P	03 56 01.4	+0.2
	comp=Z,16nm,0.6s,baz=194,slow=7.9,SNR=15						
MA2	Magadan	30.66	12	⇓*i*P	P	03 56 01.8	+0.6
KMI	Kunming	32.18	270	P	P	03 56 14.3	-0.9
KMI				pmax	pmax		
	comp=Z,12nm,0.5s						
GTA	Gaotai	33.11	297	*e*P	P	03 56 21.2	-1.6
GTA				pmax	pmax		
	comp=Z,18nm,1.1s						
ZAK	Zakamensk	33.40	318	*e*P	P	03 56 24.8	-0.3
ZAK				pmax	pmax		
	comp=Z,7.0nm,1.1s						
TLY	Talaya	33.75	320	*e*P	P	03 56 28.8	+0.9
	comp=Z,7.7nm,0.9s						
TLY	Talaya	33.75	320	*e*P	P	03 56 28.5	+0.6
TLY				pmax	pmax		
	comp=Z,7.0nm,0.8s						
MOY	Mondy	35.24	319	*e*P	P	03 56 41.1	+0.5
PBKT	Sadao Pong	37.00	257	P	P	03 56 55.1	-0.4
	comp=Z,15nm,0.9s						
PHIT	Phitsanulok	37.18	259	P	P	03 56 59.0	+2.0
	comp=Z,7.5nm,1.1s						
LAMP	Lampang	37.26	261	P	P	03 56 58.3	+0.6
	comp=Z,6.2nm,0.8s						
CMMT	Chiang Mai	37.73	262	P	P	03 57 00.8	-0.8
	comp=Z,19nm,0.9s						
CHTO	Chiang Mai	37.73	262	P	P	03 57 01.8	+0.2
	comp=Z,84nm,0.9s						
CHTO	Chiang Mai	37.73	262	*e*P	P	03 57 01.3	-0.3
	comp=Z,17nm,0.9s						
CHTO	Chiang Mai	37.73	262	*e*P	P	03 57 01.3	-0.3
CHTO				pmax	pmax		
	comp=Z,17nm,0.9s						
CM31	Chiang Mai Arr	37.88	262	*e*P	P	03 57 03.0	+0.2
CMAR	Chiang Mai Arr	37.88	262	P	P	03 57 03.0	+0.2
	comp=Z,1.9nm,0.3s,baz=44,slow=8.7,SNR=17						
CM01	Chiang Mai Arr	37.88	261	*e*P	P	03 57 02.4	-0.4
HVS	Khovu-Aksy	39.39	315	⇑*e*P	P	03 57 15.2	+0.4
HVS				pmax	pmax		
	comp=Z,19nm,0.7s						
SRDT	SRDT	39.62	256	P	P	03 57 18.0	+0.9
	comp=Z,15nm,0.7s						
BILL	Bilibino	41.36	15	⇓*i*P	P	03 57 30.2	-0.1
BILL				*e**PP	pP	03 58 46.0	-7.5
BILL				*e*		03 59 18.9	

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
BILL				eS	S	04 03 13.7	+2.3
BILL				pmax	pmax		
	comp=Z,17nm,1.1s						
TIXI	Tiksi	42.02	355	P	P	03 57 35.3	-0.2
	comp=Z,1.7nm,0.3s,baz=144,slow=6.4,SNR=9.3						
TIXI	Tiksi	42.02	355	eP	P	03 57 35.2	-0.2
	comp=Z,3.1nm,0.8s						
TIXI	Tiksi	42.02	355	⇓ iP	P	03 57 35.4	-0.1
TIXI				pmax	pmax		
	comp=Z,3.0nm,0.7s						
WMQ	Urumqi	42.41	303	P	P	03 57 39.6	+0.5
DGZ	Jazzator, Alta	43.05	312	d iP	P	03 57 44.8	+0.6
DGZ				pmax	pmax		
	comp=Z,9.0nm,0.7s						
MTN	Manton Dam	43.24	191	eP	P	03 57 41.8	-4.0
	comp=Z,21nm,0.6s						
ODAN	Odare	44.95	279	eP	P	03 57 59.7	+0.3
	comp=Z,29nm,0.4s						
ZAA0	Zalesovo Array	45.28	318	eP	P	03 58 01.1	-0.2
	comp=Z,6.5nm,0.5s						
ZALV	Zalesovo Beam	45.28	318	P	P	03 58 01.1	-0.2
	comp=Z,5.5nm,0.4s,baz=100,slow=7.4,SNR=23						
ZALV				PcP	PcP	03 59 32.0	-0.2
	comp=Z,2.0nm,0.4s,baz=96,slow=3.4,SNR=5.4						
ZALV				ScP	ScP	04 02 42.9	+1.0
	comp=Z,1.6nm,0.6s,baz=102,slow=4.6,SNR=6.4						
ZALV	Zalesovo Beam	45.28	318	eP	P	03 58 00.6	-0.7
ZALV				ePcP	PcP	03 59 31.9	-0.2
ZALV				ScP	ScP	04 02 42.9	+1.0
ZAA1	Zalesovo Array	45.28	318	eP	P	03 58 01.1	-0.2
ZAA1				ePcP	PcP	03 59 32.0	-0.1
RAMN	Ramite	45.59	280	eP	P	03 58 04.8	+0.3
	comp=Z,74nm,0.5s						
JIRN	Jiri	45.75	281	eP	P	03 58 06.6	+0.8
GUN	Gumba	45.94	281	eP	P	03 58 07.9	+0.7
	comp=Z,63nm,0.5s						
MK01	Makanchi Array	46.27	308	eP	P	03 58 09.0	0.0
MK31	Makanchi Array	46.27	308	eP	P	03 58 09.1	0.0
MK31	Makanchi Array	46.27	308	eP	P	03 58 09.1	0.0
MK31				pmax	pmax		
	comp=Z,3.0nm,0.6s						
MK32	Makanchi Array	46.27	308	eP	P	03 58 09.2	+0.1
MKAR	Makanchi Array	46.27	308	P	P	03 58 09.2	0.0
	comp=Z,3.6nm,0.4s,baz=85,slow=9.8,SNR=66						
MKAR				PcP	PcP	03 59 36.0	+0.1
	comp=Z,1.5nm,0.5s,baz=82,slow=12,SNR=7.7						
MKAR				ScP	ScP	04 02 47.9	+1.6
	comp=Z,1.7nm,0.7s,baz=90,slow=4.4,SNR=11						
MKAR	Makanchi Array	46.27	308	eP	P	03 58 09.1	0.0
	comp=Z,44nm,0.8s						
MKAR				PcP	PcP	03 59 36.0	+0.1
MKAR				ScP	ScP	04 02 47.9	+1.6
NVS	Novosibirsk	46.34	319	eP	P	03 58 08.9	-0.5
PKI	Pulchoki	46.44	281	eP	P	03 58 11.0	0.0
	comp=Z,15nm,0.5s						
MAKZ	Makanchi	46.49	308	eP	P	03 58 11.0	+0.2
	comp=Z,4.9nm,0.6s						
MAKZ	Makanchi	46.49	308	P	P	03 58 10.4	-0.3
MAKZ				pmax	pmax		
	comp=Z,4.0nm,0.6s						
DMN	Daman	46.68	281	eP	P	03 58 13.0	+0.2
	comp=Z,20nm,0.4s						
GKN	Gorkha	46.97	282	eP	P	03 58 15.3	+0.4
	comp=Z,21nm,0.3s						
KOLN	Koldanda	47.92	282	eP	P	03 58 22.6	+0.5
PYUN	Piuthan	48.34	282	eP	P	03 58 26.0	+0.7
	comp=Z,168nm,0.4s						
GSI	Gunungsitoli	48.38	242	eP	P	03 58 25.5	0.0
	comp=Z,110nm,1.4s						
KURK	Kurchatov	48.77	313	eP	P	03 58 27.5	-0.3
	comp=Z,9.2nm,0.8s						
KURK	Kurchatov	48.77	313	P	P	03 58 27.2	-0.6
KURK				pmax	pmax		
	comp=Z,7.0nm,0.5s						
KURBB	Kurchatov Arra	48.82	313	P	P	03 58 28.0	-0.2
	comp=Z,11nm,0.5s,baz=92,slow=7.8,SNR=136						
WB2	Warramunga Arr	49.86	185	eP	P	03 58 35.4	-0.9
WR1	Warramunga Arr	49.86	185	eP	P	03 58 35.3	-1.0
	comp=Z,18nm,0.6s						
WRA	Warramunga Arr	49.86	185	P	P	03 58 35.3	-1.0
	comp=Z,14nm,0.5s,baz=4.7,slow=8.1,SNR=190						
TKM2	Tokmak 2	51.26	303	P	P	03 58 47.4	+0.7
	SNR=13						
TKM2	Tokmak 2	51.26	303	P	P	03 58 46.8	+0.1
TKM2				pmax	pmax		
	comp=Z,5.0nm,0.6s						
KZA	Kyzart	51.63	302	P	P	03 58 51.0	+1.4
	SNR=8.9						
KBK	Karagaybulak	51.77	303	P	P	03 58 50.8	+0.4
	SNR=8.6						
AAK	Ala-Archa	52.10	303	P	P	03 58 53.0	+0.3
	comp=Z,5.2nm,0.5s,baz=121,slow=5.5,SNR=18						
AAK	Ala-Archa	52.10	303	P	P	03 58 53.2	+0.4
	SNR=7.5						
UCH	Uchtor	52.15	302	P	P	03 58 54.6	+1.2
	SNR=11						
AML	Almayashu	52.76	302	P	P	03 58 58.6	+0.8
	SNR=24						
OTUK	Ortayu	52.95	310	P	P	03 58 58.2	-0.4
OTUK				pmax	pmax		
	comp=Z,8.0nm,0.4s						
AS01	Alice Springs	53.58	185	eP	P	03 59 02.4	-0.9
AS31	Alice Springs	53.59	185	eP	P	03 59 02.7	-0.7
	comp=Z,4.7nm,0.6s						
ASAR	Alice Springs	53.59	185	P	P	03 59 02.6	-0.8
	comp=Z,6.7nm,0.5s,baz=3.4,slow=6.4,SNR=92						
BVA0	Borovoye Array	53.83	316	P	P	03 59 04.6	-0.1
BVA0				pmax	pmax		
	comp=Z,15nm,0.6s						
BVAR	Borovoye Array	53.83	316	P	P	03 59 05.0	+0.2
	comp=Z,19nm,0.4s,baz=96,slow=7.5,SNR=132						
BVAR				PcP	PcP	04 00 04.2	+0.4
	comp=Z,1.4nm,0.4s,baz=107,slow=4.8,SNR=3.7						
IM3	Indian Mountai	53.85	28	eP	P	03 59 03.8	-0.8
BRVK	Borovoye	53.89	316	eP	P	03 59 05.5	+0.3
	comp=Z,12nm,0.6s						
BRVK	Borovoye	53.89	316	d iP	P	03 59 05.3	+0.1
BRVK				pmax	pmax		
	comp=Z,10.0nm,0.6s						
KDAK	Kodiak Island	53.90	38	P	P	03 59 05.2	+0.2
	comp=Z,23nm,1.0s,baz=252,slow=1.8,SNR=53						
KDAK	Kodiak Island	53.90	38	eP	P	03 59 05.3	+0.2
	comp=Z,48nm,1.3s						
KDAK	Kodiak Island	53.90	38	i P	P	03 59 05.0	-0.1
SPU	Mount Spurr	54.22	34	eP	P	03 59 08.7	+1.2
PPLA	Purkeypile	54.24	32	eP	P	03 59 08.5	+0.8
	comp=Z,10nm,0.8s						
CAST	Castle Rocks	54.32	31	eP	P	03 59 09.2	+1.1
	comp=Z,15nm,0.9s						
BPAW	Bear Paw Mtn.	54.85	30	eP	P	03 59 12.5	+0.7
	comp=Z,6.0nm,0.6s						
SUA	Susitna One	54.86	34	eP	P	03 59 12.1	0.0
	comp=Z,8.1nm,0.6s						
KK05	Karatay Array	54.91	304	eP	P	03 59 12.7	+0.2
NIL	Nilore	54.91	292	eP	P	03 59 13.5	+0.8
	comp=Z,29nm,0.7s						
NIL	Nilore	54.91	292	eP	P	03 59 13.5	+0.8
NIL				pmax	pmax		
	comp=Z,29nm,0.7s						
KK06	Karatay Array	54.91	304	eP	P	03 59 12.8	+0.2
KK02	Karatay Array	54.92	304	eP	P	03 59 12.8	+0.1
KK31	Karatay Array	54.92	304	eP	P	03 59 13.1	+0.4
KK31	Karatay Array	54.92	304	eP	P	03 59 12.5	-0.1
KK31				pmax	pmax		
	comp=Z,9.0nm,0.6s						
KKAR	Karatay Array	54.92	304	eP	P	03 59 13.0	+0.4
KKAR	Karatay Array	54.92	304	eP	P	03 59 13.0	+0.4
KK04	Karatay Array	54.92	304	eP	P	03 59 12.8	+0.2
KK01	Karatay Array	54.92	304	eP	P	03 59 12.8	+0.1
KK03	Karatay Array	54.92	304	eP	P	03 59 12.9	+0.2
KK07	Karatay Array	54.93	304	eP	P	03 59 12.9	+0.2
KK08	Karatay Array	54.94	304	eP	P	03 59 13.0	+0.2
MLY	Manley	55.01	29	eP	P	03 59 14.0	+1.1
	comp=Z,6.1nm,0.8s						
TRF	Thorofare Moun	55.13	31	eP	P	03 59 14.0	0.0
	comp=Z,28nm,1.8s						
RC01	Rabbit Creek A	55.35	34	eP	P	03 59 15.4	+0.1
	comp=Z,18nm,1.2s						
COLD	Coldfoot	55.38	27	eP	P	03 59 16.7	+1.3
	comp=Z,2.8nm,0.8s						
PMR	Palmer	55.64	33	eP	P	03 59 17.2	-0.1
	comp=Z,14nm,1.0s						
PMR	Palmer	55.64	33	eP	P	03 59 17.2	-0.1
PMR				pmax	pmax		
	comp=Z,14nm,1.0s						
TOLK	Toolik Lake Re	55.73	25	eP	P	03 59 18.9	+0.9
	comp=Z,6.5nm,1.1s						
MCK	McKinley	55.74	31	eP	P	03 59 18.1	0.0
	comp=Z,10nm,0.8s						
MCK	McKinley	55.74	31	eP	P	03 59 18.1	0.0
MCK				pmax	pmax		
	comp=Z,11nm,0.8s						
RND	Reindeer	55.77	31	eP	P	03 59 18.6	+0.2
	comp=Z,17nm,0.6s						
RND	Reindeer	55.77	31	eP	P	03 59 18.6	+0.2
RND				pmax	pmax		
	comp=Z,17nm,0.6s						
SML	Sawmill	56.02	33	eP	P	03 59 20.1	+0.1
	comp=Z,11nm,0.8s						
SML	Sawmill	56.02	33	eP	P	03 59 20.1	+0.1
SML				pmax	pmax		
	comp=Z,11nm,0.8s						
MDM	Murphy Dome	56.07	29	eP	P	03 59 21.3	+1.0
	comp=Z,12nm,1.1s						
WRH	Wood River Hil	56.12	30	eP	P	03 59 21.1	+0.4
	comp=Z,22nm,1.8s						
CCB	Clear Creek Bu	56.25	30	eP	P	03 59 22.1	+0.6
	comp=Z,3.7nm,0.6s						
DHY	Denali Highway	56.44	32	eP	P	03 59 24.0	+0.9
	comp=Z,4.8nm,0.6s						
SCM	Sheep Creek Mo	56.49	33	eP	P	03 59 23.9	+0.5
	comp=Z,26nm,1.0s						
SCM	Sheep Creek Mo	56.49	33	eP	P	03 59 23.9	+0.5
SCM				pmax	pmax		
	comp=Z,26nm,1.0s						
HDA	Harding Lake	56.62	30	eP	P	03 59 23.7	-0.5
	comp=Z,11nm,0.8s						
GLI	Glacier Island	56.64	34	eP	P	03 59 24.7	+0.3
	comp=Z,9.4nm,0.6s						
IL1	Eielson Array	56.64	30	eP	P	03 59 23.5	-0.8
ILAR	Eielson Array	56.64	30	P	P	03 59 23.6	-0.7
	comp=Z,2.9nm,0.7s,baz=258,slow=4.7,SNR=68						
ILB	Eielson Array	56.64	30	eP	P	03 59 23.6	-0.7
KLU	Klutina	57.18	34	eP	P	03 59 28.9	+0.8
	comp=Z,8.3nm,1.0s						
PAX	Paxson	57.31	32	eP	P	03 59 29.1	0.0
	comp=Z,5.3nm,0.8s						
PAX	Paxson	57.31	32	eP	P	03 59 29.1	0.0
PAX				pmax	pmax		
	comp=Z,5.0nm,0.8s						
HARP	HAARP	57.49	32	eP	P	03 59 31.4	+1.2
	comp=Z,19nm,0.7s						
RIDG	Independ'e Rid	57.56	31	eP	P	03 59 30.7	0.0
	comp=Z,7.3nm,0.6s						
BMRM	Bremner River	57.85	34	eP	P	03 59 33.2	+0.5
	comp=Z,13nm,0.5s						
DOT	Dot Lake	57.91	31	eP	P	03 59 32.8	-0.3
	comp=Z,29nm,0.8s						
SCRK	Sand Creek	57.93	31	eP	P	03 59 33.3	0.0
	comp=Z,10nm,0.7s						
KBL	Kabul	58.02	294	eP	P	03 59 34.8	+0.2
	comp=Z,7.2nm,0.6s						
KBL	Kabul	58.02	294	eP	P	03 59 34.8	+0.2
KBL				pmax	pmax		
	comp=Z,7.0nm,0.6s						
MENT	Mentasta	58.11	32	eP	P	03 59 35.5	+1.0
	comp=Z,7.4nm,0.8s						
EGAK	Eagle	59.09	29	eP	P	03 59 40.8	-0.3
	comp=Z,3.5nm,0.7s						
DAWY	Dawson	59.93	30	eP	P	03 59 47.1	+0.4
	comp=Z,1.5nm,0.5s						
ARU	Arti	60.24	321	eP	P	03 59 48.9	0.0
	comp=Z,9.2nm,0.6s						
ARU	Arti	60.24	321	d iP	P	03 59 48.7	-0.2
ARU						04 00 25.4	
ARU						04 02 02.6	
ARU				S	S	04 07 31.8	+4.3
ARU				SS	SS	04 11 33.0	-0.5
ARU				pmax	pmax		
	comp=Z,9.0nm,0.6s						
AB06	Akbulak array	60.86	313	eP	P	03 59 53.0	-0.1
AB07	Akbulak array	60.87	313	eP	P	03 59 53.2	0.0
AB05	Akbulak array	60.87	313	eP	P	03 59 53.2	0.0
AB02	Akbulak array	60.87	313	eP	P	03 59 53.1	-0.1
AB01	Akbulak array	60.88	313	eP	P	03 59 53.2	0.0
AB31	Akbulak array	60.88	313	eP	P	03 59 53.2	0.0
AB31	Akbulak array	60.88	313	i P	P	03 59 52.7	-0.5
AB31				pmax	pmax		
	comp=Z,5.0nm,0.4s						
ABKAR	Akbulak array	60.88	313	eP	P	03 59 53.2	0.0
	comp=Z,145nm,0.4s						
AB03	Akbulak array	60.88	313	eP	P	03 59 53.2	0.0
AB04	Akbulak array	60.88	313	eP	P	03 59 53.1	-0.1
AB08	Akbulak array	60.89	313	eP	P	03 59 53.2	-0.1
AB09	Akbulak array	60.89	313	eP	P	03 59 53.3	0.0
HYT	Haines Junctio	61.31	34	eP	P	03 59 56.5	+0.5
	comp=Z,4.4nm,0.8s						
FORT	Forrest	61.32	190	eP	P	03 59 56.4	+0.2
	comp=Z,973nm,0.6s						
STKA	Stephens Creek	61.63	177	P	P	03 59 58.0	-0.3
	comp=Z,4.3nm,0.6s,baz=356,slow=7.2,SNR=12						
STKA	Stephens Creek	61.63	177	eP	P	03 59 58.0	-0.3
	comp=Z,1.4nm,0.8s						
STKA	Stephens Creek	61.63	177	eP	P	03 59 58.0	-0.3
STKA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
INK	Inuvik	61.65	25	P	P	03 59 58.0	+0.1
	comp=Z,3.7nm,0.6s,baz=283,slow=5.7,SNR=29						
INK	Inuvik	61.65	25	eP	P	03 59 57.8	-0.1
	comp=Z,4.7nm,0.8s						
AKTO	Aktyubinsk	61.81	314	P	P	03 59 58.5	-0.9
AKTO				pmax	pmax		
	comp=Z,7.0nm,0.8s						
GEYT	Alibeck	65.37	301	P	P	04 00 23.1	+0.5
	comp=Z,2.3nm,0.5s,baz=71,slow=5.3,SNR=4.2						
NWAO	Narrogin (SRO)	65.84	200	P	P	04 00 25.2	-0.1
	comp=Z,26nm,0.7s,baz=262,slow=5.3,SNR=13						
ARA0	ARCESS Array S	69.77	340	eP	P	04 00 49.8	+0.7
ARCES	ARCESS Array B	69.77	340	P	P	04 00 49.8	+0.7
	comp=Z,1.7nm,0.5s,baz=69,slow=8.1,SNR=20						
RES	Resolute Bay	69.92	13	eP	P	04 00 50.1	+0.4
	comp=Z,1.0nm,0.6s						
RES	Resolute Bay	69.92	13	eP	P	04 00 50.2	+0.4
RES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
YKA	Yellowknife Ar	71.01	28	P	P	04 00 56.4	-0.1
	comp=Z,1.9nm,0.6s,baz=296,slow=6.2,SNR=47						
YKB5	Yellowknife Ar	71.01	28	eP	P	04 00 56.1	-0.3
VRH	Novokhopyorsk	71.31	319	eP	P	04 00 58.3	-0.1
VRH				pmax	pmax		
	comp=Z,6.0nm,0.4s						
VSR	Storozhevoye	72.75	320	eP	P	04 01 06.0	-0.9
VSR				pmax	pmax		
	comp=Z,20nm,1.2s						
NCK	Nalchik	73.44	311	⇑ iP	P	04 01 11.2	+0.1
NCK				pmax	pmax		
	comp=Z,9.0nm,0.3s						
KBZ	Khabaz	73.79	311	P	P	04 01 13.8	+0.8
	comp=Z,7.4nm,0.8s,baz=103,slow=5.0,SNR=14						
FIA0	FINESS Array S	73.97	333	eP	P	04 01 13.7	0.0
FIA0	FINESS Array S	73.97	333	eP	P	04 01 13.7	0.0
FINES	FINESS Array B	73.97	333	P	P	04 01 13.7	0.0
	comp=Z,2.6nm,0.3s,baz=61,slow=5.2,SNR=53						
PINE	Pine Mountain	76.66	47	eP	P	04 01 31.0	+1.5
	comp=Z,16nm,0.8s						
J08A	Circle Bar Ran	78.44	47	eP	P	04 01 40.5	+1.5
	comp=Z,8.8nm,1.2s						
AKASG	Malin Array Be	78.45	322	P	P	04 01 38.5	-0.2
	comp=Z,1.7nm,0.4s,baz=51,slow=5.5,SNR=17						
AKBB	Malin Array Si	78.45	322	eP	P	04 01 38.5	-0.2
	comp=Z,4.9nm,0.5s						
AKBB	Malin Array Si	78.45	322	eP	P	04 01 38.5	-0.3
AKBB				pmax	pmax		
	comp=Z,5.0nm,0.5s						
KIEV	Kiev	78.47	322	⇓ iP	P	04 01 38.6	-0.2
KIEV				pmax	pmax		
	comp=Z,17nm,2.3s						
HFS	Hagfors	79.52	335	P	P	04 01 44.1	-0.2
	comp=Z,2.9nm,0.4s,baz=64,slow=6.6,SNR=21						
NB2	NORSAR Subarra	79.75	337	P	P	04 01 45.5	-0.1
	comp=Z,1.3nm,0.5s,baz=51,slow=4.8						
NB200	NORSAR Array S	79.75	337	eP	P	04 01 45.7	+0.1
NOA	NORSAR Array B	79.75	337	P	P	04 01 45.7	+0.1
	comp=Z,0.9nm,0.6s,baz=49,slow=4.8,SNR=6.8						
LRM	Limekiln Ridge	80.78	42	eP	P	04 01 52.8	+1.2
NV01	Mina Array Sit	81.07	51	eP	P	04 01 54.2	+1.1
NVAR	Mina Array Bea	81.07	51	P	P	04 01 54.3	+1.1
	comp=Z,2.7nm,0.7s,baz=294,slow=5.4,SNR=18						
RAYN	Ar Rayn	81.21	292	eP	P	04 01 54.2	+0.3
	comp=Z,6.0nm,0.6s						
BOZ	Bozeman (W)	81.38	42	eP	P	04 01 55.5	+0.9
	comp=Z,13nm,1.6s						
BOZ	Bozeman (W)	81.38	42	eP	P	04 01 55.5	+0.9
BOZ				pmax	pmax		
	comp=Z,13nm,1.6s						
BR101	Keskin Array S	81.78	311	eP	P	04 01 56.9	+0.2
BR131	Keskin Array S	81.78	311	eP	P	04 01 57.4	+0.6
BRTR	Keskin Array B	81.79	311	P	P	04 01 56.9	+0.2
	comp=Z,6.8nm,0.9s,baz=94,slow=4.2,SNR=26						
YHB	Horse Butte	82.11	43	eP	P	04 02 00.1	+1.6
	comp=Z,24nm,1.9s						
CFR	Carcaliu	82.17	318	⇓ iP	P	04 01 58.8	+0.4
CFR	Carcaliu	82.17	318	⇓P	P	04 01 58.8	+0.4
TESR	Tescani	82.24	320	⇓ iP	P	04 01 58.0	-0.8
BR231	Keskin MP Arra	82.28	312	eP	P	04 01 57.7	-1.6
YMR	Madison River	82.30	42	eP	P	04 02 01.2	+1.8
	comp=Z,8.3nm,1.3s						
BUR08	Bucovina Ar. S	82.37	321	eP	P	04 02 00.3	+0.8
BUR04	Bucovina Ar. S	82.38	321	eP	P	04 01 60.0	+0.4
BURAR	Bucovina Array	82.38	321	⇑ iP	P	04 02 00.3	+0.7
BURAR	Bucovina Array	82.38	321	⇑P	P	04 02 00.3	+0.7
ARVC	Arvin	82.42	54	eP	P	04 01 59.5	-0.3
HARR	Harsova	82.57	318	⇑ iP	P	04 02 01.2	+0.8
HARR	Harsova	82.57	318	⇑P	P	04 02 01.2	+0.8
VRI	Vrincioaia	82.58	319	⇓ iP	P	04 02 02.0	+1.5
VRI	Vrincioaia	82.58	319	⇓P	P	04 02 02.0	+1.5
PLOR	Plostina	82.63	319	⇓ iP	P	04 02 02.4	+1.6
PLOR	Plostina	82.63	319	⇓P	P	04 02 02.4	+1.6
H17A	Grant Village	82.68	43	eP	P	04 02 04.4	+3.0
	comp=Z,7.8nm,1.1s						
R11A	Troy Canyon, C	82.92	50	eP	P	04 02 03.6	+1.0
	comp=Z,4.9nm,1.3s						
RLMT	Red Lodge	83.02	41	eP	P	04 02 04.5	+1.4
	comp=Z,3.4nm,0.6s						
TPNV	Topopah Spring	83.23	51	eP	P	04 02 05.0	+0.8
	comp=Z,8.1nm,0.8s						
TPNV	Topopah Spring	83.23	51	eP	P	04 02 05.0	+0.8
TPNV				pmax	pmax		
	comp=Z,8.0nm,0.8s						
HWUT	Hardware Ranch	83.68	45	eP	P	04 02 07.8	+1.5
	comp=Z,6.2nm,0.9s						
VOIR		83.78	320	⇑ iP	P	04 02 07.5	+0.9
VOIR		83.78	320	⇑P	P	04 02 07.5	+0.9
ARR	Arges	84.05	320	⇓ iP	P	04 02 08.6	+0.6
PD31	Pinedale Array	84.23	43	eP	P	04 02 09.4	+0.3
PDAR	Pinedale Array	84.23	43	P	P	04 02 09.4	+0.3
	comp=Z,0.6nm,0.6s,baz=321,slow=2.1,SNR=6.8						
DRGR		84.24	322	⇑ iP	P	04 02 08.8	-0.1
DRGR		84.24	322	⇑P	P	04 02 08.8	-0.1
KNB	Kanab	85.48	50	eP	P	04 02 17.3	+2.0
	comp=Z,4.7nm,0.9s						
KNB	Kanab	85.48	50	eP	P	04 02 17.3	+2.0
KNB				pmax	pmax		
	comp=Z,5.0nm,0.9s						
HERR	Herculane	85.59	320	⇑ iP	P	04 02 14.5	-0.9
GERES	GERESS Array B	87.42	327	P	P	04 02 23.6	-0.7
	comp=Z,0.6nm,0.5s,baz=46,slow=5.8,SNR=5.5						
ANMO	Albuquerque	90.87	48	eP	P	04 02 42.4	+1.8
	comp=Z,1.6nm,0.8s						
ANMO	Albuquerque	90.87	48	c iP	P	04 02 42.8	+2.1
ANMO				pmax	pmax		
	comp=Z,2.0nm,1.0s						
LTX	Lajitas	96.22	51	eP	P	04 03 06.3	+1.2
LTX	Lajitas	96.22	51	eP	P	04 03 06.3	+1.2
TXAR	Lajitas Array	96.22	51	P	P	04 03 06.3	+1.2
	comp=Z,0.6nm,0.9s,baz=303,slow=5.3,SNR=7.2						
TOA1	Torodi Ar. Sit	120.37	310	ePKPdf	PKPdf	04 08 25.3	-0.4
TORD	Torodi Ar. Bea	120.37	310	PKP	PKPdf	04 08 25.3	-0.4
	comp=Z,0.9nm,0.9s,baz=18,slow=1.5,SNR=16						

IDC 02 03:54:54.4±0.9**, 54°.85S×28°.96W, h0**km**, mb3.9**/4**, mb1 4.1**/4**, mb1mx3.7**/32**, mbtmp4.0**/4**, Error ellipse: s-maj=42.4km s-min=24.5km az=73.0, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNAA	Sanae	20.25	156	P	P	03 59 29.8	-1.1
	2.4nm,0.9s,baz=310,slow=15,SNR=6.5						
QSPA	South Pole Qui	35.40	180	P	P	04 01 52.4	+0.7
	1.0nm,0.3s,baz=138,slow=8.6,SNR=9.5						
LPAZ	La Paz	48.86	306	P	P	04 03 42.3	-0.1
	2.2nm,0.7s,baz=150,slow=4.6,SNR=13						
TORD	Torodi Ar. Bea	72.53	31	P	P	04 06 23.4	+0.4
	1.3nm,1.0s,baz=203,slow=6.5,SNR=3.7						
YKA	Yellowknife Ar	134.60	319	PKP	PKPdf	04 14 11.6	-1.6
	0.2nm,0.7s,baz=134,slow=2.2,SNR=5.3						
ILAR	Eielson Array	148.56	313	PKPbc	PKPbc	04 14 40.9	-0.8
	0.9nm,0.9s,baz=129,slow=2.3,SNR=7.6						
SONM	Songino Array	151.65	86	PKPbc	PKPbc	04 14 49.7	-0.2
	0.4nm,0.6s,baz=237,slow=4.2,SNR=3.5						

IDC 02 04:23:33.5±1.9**, 3°.82S×127°.33E, h0**km**, mb3.6**/2**, mb1 3.8**/3**, mb1mx3.2**/51**, mbtmp3.6**/3**, ML3.4**/1**, MS3.1**/2**, Ms1 3.1**/2**, ms1mx2.5**/48**, Error ellipse: s-maj=347.4km s-min=27.2km az=68.0, Seram**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	17.42	157	P	Pn	04 27 38.2	0.0
	0.1nm,0.3s,baz=334,slow=13,SNR=11						
ASAR	Alice Springs	20.73	163	P	P	04 28 15.8	0.0
	0.9nm,0.4s,baz=345,slow=11,SNR=11						
ASAR				LR	LR	04 36 07.4	
	comp=Z,35nm,18.3s,baz=224,slow=36						
AAK	Ala-Archa	66.41	320	LR	LR	05 07 08.1	
	comp=Z,15nm,18.3s,baz=162,slow=39						
ZALV	Zalesovo Beam	67.58	334	P	P	04 34 31.8	0.0
	0.4nm,0.4s,baz=123,slow=6.5,SNR=2.4						

ISK 02 04:36:05.2, 38°.64N×43°.26E, h19km, ML2.4/3

CSEM 02 04:36:06.2±0.3, 38°.67N×43°.25E, h10km, ML2.4, Error ellipse: s-maj=6.9km s-min=5.2km az=131.0

DDA 02 04:36:07.1, 38°.64N×43°.29E, h7km, Ml2.7

ISC 02 04:36:06.4±1.0**, 38°.65N**±0°.03×**43°.28E**±0°.03**, h14**km±8km**, n18, σ0.77**/34**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	Van	0.10	124	PG	Pb	04 36 10.2	-0.1
VANB				SG	Sb	04 36 13.6	+0.8
VANB	Van	0.10	124	ePg	Pb	04 36 10.2	-0.1
VANB				eSg	Sb	04 36 13.6	+0.8
TVAN	Van	0.16	141	i P	Pg	04 36 10.2	-0.4
TVAN				i S	Sg	04 36 13.8	+0.5
TVAN	Van	0.16	141	P	Pg	04 36 10.1	-0.4
TVAN				S	Sg	04 36 13.8	+0.5
GEVA	Gevas	0.38	207	i P	Pg	04 36 13.9	-0.3
GEVA				i S	Sb	04 36 20.9	0.0
GEVA	Gevas	0.38	207	P	Pg	04 36 13.9	-0.3
GEVA				S	Sb	04 36 20.9	0.0
VMUR	Van-Muradiye	0.41	34	i P	Pg	04 36 14.3	-0.4
VMUR				i S	Sb	04 36 22.7	+1.1
VMUR	Van-Muradiye	0.41	34	P	Pg	04 36 14.3	-0.4
VMUR				S	Sb	04 36 22.7	+1.1
ADCV	BITLIS_Adilcev	0.46	290	i P	Pg	04 36 15.8	+0.1
ADCV				i S	Sb	04 36 24.4	+1.2
ADCV	BITLIS_Adilcev	0.46	290	P	Pg	04 36 15.8	+0.1
ADCV				S	Sb	04 36 24.4	+1.2
CLDR	Caldiran	0.70	45	PG	Pg	04 36 19.3	-0.8
CLDR				SG	Sb	04 36 30.5	+0.4
CLDR	Caldiran	0.70	45	i P	Pg	04 36 19.0	-1.1
CLDR				i S	Sb	04 36 31.2	+1.1
CLDR	Caldiran	0.70	45	P	Pg	04 36 19.0	-1.1
CLDR	Caldiran	0.70	45	ePg	Pg	04 36 19.3	-0.8
CLDR				eSg	Sb	04 36 30.5	+0.4
CLDR				S	Sb	04 36 31.2	+1.1
AGRB	Hanur-Agry	0.95	346	PG	Pg	04 36 24.2	-0.6
AGRB				SG	Sb	04 36 38.0	+0.7
AGRB	Hanur-Agry	0.95	346	ePg	Pg	04 36 24.2	-0.6
AGRB				eSg	Sb	04 36 38.0	+0.7
GURO	Guroymak-BITLI	0.98	264	PG	Pb	04 36 24.4	-0.9
GURO	Guroymak-BITLI	0.98	264	ePg	Pb	04 36 24.4	-0.9

IDC 02 04:36:14.8±22.0**, 19°.86S×179°.05W, h645**km±300km**, mb2.8**/4**, mb1 3.2**/4**, mb1mx2.8**/45**, mbtmp3.8**/4**, Error ellipse: s-maj=150.2km s-min=96.7km az=156.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	Alice Springs	43.71	256	P	P	04 43 25.6	-0.1

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	1.7nm,0.8s,baz=83,slow=8.3,SNR=12						
WRA	Warramunga Arr	43.72	262	P	P	04 43 25.9	+0.1
	0.5nm,0.3s,baz=96,slow=7.4,SNR=37						
ILAR	Eielson Array	87.92	13	P	P	04 47 58.0	+0.8
	0.4nm,0.7s,baz=215,slow=5.5,SNR=5.9						
PDAR	Pinedale Array	89.18	44	P	P	04 48 03.5	-0.4
	0.2nm,0.3s,baz=206,slow=12,SNR=4.7						
AKASG	Malin Array Be	141.98	331	PKP	PKPdf	04 54 33.1	-1.7
	0.2nm,0.3s,baz=44,slow=4.2,SNR=11						

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*NEIC **02** 04:45:25.7±0.0, 52°.72N×169°.45W, h4km, ML3.4(AEIC), After AEIC.*

*IDC **02** 04:45:33.1±7.1, 52°.71N×167°.47W, h0km, mb3.3/2, mb1 3.7/4, mb1mx3.2/79, mbtmp3.4/4, ML3.0/2, Error ellipse: s-maj=131.0km s-min=46.6km az=93.0*

ISC 02 04:45:26.0±2.2, **52°.9N**±0°.2×**169°.48W**±0°.09, **h6**km±13km, **n22**, σ**0s.90**/21, **Fox Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKSP	Okmok Steeple	0.82	60	P	Pg	04 45 42.6	+0.7
OKSP				S	Sn	04 45 56.0	-0.7
OKWE	Okmok W'ng Wal	0.97	50	P	Pb	04 45 45.9	+0.5
OKWE				S	Sn	04 46 01.7	+1.3
OKAK	Okmok	1.00	42	P	Pg	04 45 44.5	-0.6
MGOD	Makushin Gods	1.83	58	P	Pn	04 45 58.7	+0.7
MGOD				S	Sb	04 46 24.3	+1.2
MCIR	Makushin Cirqu	1.90	54	P	Pb	04 46 00.6	-0.6
MSW	Makushin Switc	1.94	55	P	Pn	04 45 59.2	-0.3
MTBL	Makushin Table	2.02	55	P	Pb	04 46 02.5	-0.7
UNV	Unalaska Valle	2.05	60	*e*Pn	Pn	04 46 01.0	0.0
UNV				*e*S	Sb	04 46 29.4	+0.1
AKRB	Akutan Reef Bi	2.41	56	P	Pn	04 46 07.6	+1.6
AKUT	Akutan	2.56	58	Pn	Pn	04 46 09.5	+1.5
KOFP	Korovin Flat P	2.88	260	P	Pn	04 46 11.8	-0.6
KOFP				S	Sn	04 46 48.6	+1.3
SMY	Shemya	9.95	276	Pn	Pn	04 47 49.3	-0.1
KDAK	Kodiak Island	10.81	56	Pn	Pn	04 48 00.6	-0.5
	0.1nm,0.3s,baz=152,slow=18,SNR=2.9						
ILAR	Eielson Array	16.60	35	Pn	Pn	04 49 19.1	0.0
	0.1nm,0.3s,baz=228,slow=10,SNR=5.0						
YKA	Yellowknife Ar	29.98	49	P	P	04 51 34.4	-0.4
	0.2nm,0.5s,baz=272,slow=7.9,SNR=12						
H11N2	WAKE ISLAND Hy	37.79	218	T	T	05 32 39.2	
	baz=23						
H11N3	WAKE ISLAND Hy	37.80	218	T	T	05 32 45.9	
	baz=23						
H11N1	WAKE ISLAND Hy	37.81	218	T	T	05 32 47.0	
	baz=23						
H11S1	WAKE ISLAND Hy	38.98	218	T	T	05 34 08.1	
	baz=23,slow=76,SNR=107						
H11S2	WAKE ISLAND Hy	38.99	218	T	T	05 34 03.4	
	baz=23,slow=76,SNR=86						
H11S3	WAKE ISLAND Hy	39.00	218	T	T	05 34 07.8	
	baz=23,slow=76,SNR=62						
TXAR	Lajitas Array	52.81	89	P	P	04 54 41.6	-0.6
	0.4nm,0.6s,baz=296,slow=5.2,SNR=6.8						

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*NIED **02** 04:50:00, 38°.80N×142°.60E, h29km, Mw4.3 Best double couple: Mo2.80000×10[15] NP1:φs270.00000°, δ28.00000°, λ-154.00000°. NP2:φs157.00000°, δ78.00000°, λ-65.00000°.*

*ISCJB **02** 04:50:55.7±0.8, 38°.73N±0°.03×142°.64E±0°.04, h20km±5km, mb4.5/49, MS3.7/15, Error ellipse: s-maj=5.7km s-min=4.0km az=36.5*

*BJI **02** 04:50:55.7, 38°.57N×142°.60E, h26km, mb4.6/35, mB4.9/18, Ms4.4/14, Ms7 4.1/9*

*MOS **02** 04:50:57.5±1.1, 38°.81N×142°.69E, h33km, mb4.5/14, Error ellipse: s-maj=9.0km s-min=6.6km az=87.7*

*JMA **02** 04:50:57.4±0.2, 38°.78N×142°.57E, h30km±3km, M4.4*

JMA Felt I J1.

*IDC **02** 04:50:59.1±0.6, 38°.72N×142°.56E, h31km±3km, mb3.9/20, mb1 4.1/23, mb1mx3.9/67, mbtmp4.2/23, ML3.8/3, MS3.5/17, Ms1 3.5/17, ms1mx3.2/61, Error ellipse: s-maj=12.8km s-min=11.3km az=105.0*

*NEIC **02** 04:51:00.8±0.6, 38°.74N×142°.59E, h44km±6km, mb4.6/14, Error ellipse: s-maj=7.2km s-min=4.9km az=132.0*

NEIC Recorded [1 JMA] in Iwate and Miyagi.

ISC 02 04:50:58.5±0.6, **38°.74N**±0°.04×**142°.61E**±0°.05, **h28**km±3km, **h28**km**:pP-P**, **n127**, σ**1s.60**/143, **mb4.5**/49, **MS3.6**/16, **8C-6D**, **Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	Ofunato	0.81	295	P	Pb	04 51 12.0	-1.9
OFUJ				S	Sb	04 51 22.0	-2.5
JIO	Ouri	1.03	254	P	Pn	04 51 15.3	-1.7
JIO				S	Sn	04 51 27.9	-2.5
MIYJ	Miyakonagasawa	1.03	324	P	Pn	04 51 14.8	-2.3
MIYJ				S	Sn	04 51 27.2	-3.5
JMK	Ichinoseki	1.10	281	P	Pn	04 51 16.7	-1.3
JMK				*e*S	Sn	04 51 30.1	-2.2
JOM	Ohasama	1.26	306	P	Pn	04 51 18.9	-1.3
JOM				*e*S	Sn	04 51 34.2	-2.0
JTH	Tanohata	1.33	335	P	Pn	04 51 19.4	-1.8
JTH				*e*S	Sn	04 51 36.2	-1.7
JOU	Okura	1.57	257	P	Pn	04 51 23.8	-0.7
JOU				*e*S	Sn	04 51 43.2	-0.7
JRG	Rokugo	1.67	294	P	Pn	04 51 25.7	-0.1
JRG				*e*S	Sn	04 51 46.5	+0.2
JMM	Marumori	1.67	239	P	Pn	04 51 24.5	-1.4
JYK	Kaneyama	1.77	276	P	Pn	04 51 26.9	-0.2
JANG	Nango	1.84	333	P	Pn	04 51 27.4	-0.7
JANG				*e*S	Sn	04 51 50.2	-0.3
JFK	Kawauchi	1.94	225	P	Pn	04 51 28.0	-1.6
ERM	Erimo	3.30	7	*e*Pn	Pn	04 51 48.7	+0.5
ERM				*e*S	Sn	04 52 29.3	+2.8
ERM	Erimo	3.30	7⇓	*e*P	Pn	04 51 48.2	0.0
MJAR	Matsushiro Arr	4.12	239	Pn	Pn	04 52 01.9	+2.3
	12nm,0.3s,baz=43,slow=11,SNR=109						
MJAR				LR	LR	04 53 48.9	
	comp=Z,1μm,18.6s,baz=60,slow=42						
MAJO	Matsushiro	4.12	239	*e*Pn	Pn	04 52 01.0	+1.3
MAJO	Matsushiro	4.12	239*d*	*i*P	Pn	04 52 00.9	+1.3
MAT	Matsushiro	4.12	239	P	Pn	04 52 02.1	+2.5
MAT				*e*S	Sn	04 52 47.7	+0.8
MJB9	Matsu-Tunnel	4.12	239	*e*Pn	Pn	04 52 00.4	+0.8
ASAJ	Asahikawa	5.37	360	Pn	Pn	04 52 16.6	-0.1
	1.0nm,0.3s,baz=246,slow=18,SNR=3.5						
ASAJ	Asahikawa	5.37	360	*e*Pn	Pn	04 52 17.6	+0.9
INU	Inuyama	5.61	235	*e*Pn	Pn	04 52 22.2	+2.2
GRPR	Tuman	5.76	23	P	Pn	04 52 20.7	-1.4
GRPR				S	Sn	04 53 23.8	-3.4
GRPR				pmax	pmax		
	comp=Z,108nm,0.5s						
GRPR				pmax	pmax		
	comp=N,101nm,0.1s						
GRPR				smax	smax		
	comp=N,205nm,0.4s						
GRPR				smax	smax		
	comp=E,151nm,0.4s						
YUK	Yuzh-Kuril'sk	5.83	24	P	Pn	04 52 21.5	-1.4
YUK				*i* S	Sn	04 53 25.2	-3.6
YUK				pmax	pmax		
	comp=N,45nm,0.2s						
YUK				pmax	pmax		
	comp=E,58nm,0.2s						
YUK				pmax	pmax		
	comp=Z,159nm,0.2s						
YUK				smax	smax		
	comp=E,243nm,0.7s						
YUK				smax	smax		
	comp=N,223nm,0.3s						
SHO	Shikotan	6.03	30	*e*P	Pn	04 52 22.6	-3.1
SHO				S	Sn	04 53 27.2	-6.6
SHO				pmax	pmax		
	comp=Z,20nm,0.4s						
SHO				pmax	pmax		
	comp=N,8.0nm,0.2s						
SHO				pmax	pmax		
	comp=E,13nm,0.5s						
SHO				smax	smax		
	comp=N,58nm,0.5s						
SHO				smax	smax		
	comp=E,65nm,0.5s						
JHJ2	Mitsune	6.06	203	*e*Pn	Pn	04 52 25.1	-1.0
JHJ2				*e*S	Sn	04 53 32.0	-2.4
JHJ	Hachijo jima 2	6.06	203	Pn	Pn	04 52 24.4	-1.8
	comp=E,29nm,0.3s,baz=332,slow=21,SNR=14						
JHJ				Sn	Sn	04 53 30.1	-4.4
	comp=E,39nm,0.3s,baz=217,slow=20,SNR=4.3						
JHJ				LR	LR	04 55 10.1	
	comp=E,472nm,20.0s,baz=69,slow=42						
YSS	Yuzh-Sakhalins	8.21	1⇓	*e*P	Pn	04 53 04.7	+9.1
YSS				pmax	pmax		
	comp=Z,20nm,0.9s						
USRK	Ussuriysk Ar.	9.65	308	LR	LR	04 56 49.5	
	comp=Z,266nm,19.1s,baz=108,slow=36						
JNU	Nakatsue	11.03	243	Pn	Pn	04 53 36.1	+1.6
	comp=Z,1.0nm,0.3s,baz=46,slow=7.5,SNR=14						
JNU				LR	LR	04 58 18.6	
	comp=Z,499nm,18.4s,baz=116,slow=40						
JNU	Nakatsue	11.03	243	*e*Pn	Pn	04 53 35.9	+1.5
KSRS	Korea Array	11.64	268	Pn	Pn	04 53 46.9	+4.2
	comp=Z,0.5nm,0.3s,baz=84,slow=14,SNR=16						
KSRS				LR	LR	04 57 58.9	
	comp=Z,215nm,18.1s,baz=74,slow=36						
KS15	Wonju Array Si	11.68	268	*e*Pn	Pn	04 53 46.8	+3.7
KSAR	Wonju Array Be	11.68	268	Pn	Pn	04 53 46.9	+3.7
KSAR	Wonju Array Be	11.68	268	P	Pn	04 53 46.9	+3.7
KLR	Kul'dur	13.06	327	Pn	Pn	04 54 02.9	+0.9
	comp=Z,0.0nm,0.3s,baz=277,slow=19,SNR=2.1						
KLR				LR	LR	04 58 39.6	
	comp=Z,12nm,20.0s,baz=102,slow=35						
KLR	Kul'dur	13.06	327⇑	*i*P	Pn	04 54 03.5	+1.4
PETK	Petropavlovsk-	17.74	31	LR	LR	05 03 02.9	
	comp=Z,71nm,18.3s,baz=186,slow=41						
NJ2	Nanjing	20.45	258	*e*P	P	04 55 33.4	-0.3
NJ2				pmax	pmax		
	comp=Z,17nm,0.5s						
MA2	Magadan	21.49	11	P	P	04 55 44.7	0.0
	comp=Z,4.4nm,0.7s,baz=167,slow=18,SNR=3.4						
MA2				pP	pP	04 55 54.0	+1.6
	comp=Z,9.1nm,0.7s,baz=185,slow=9.5,SNR=4.2						
MA2	Magadan	21.49	11⇑	*i*P	P	04 55 45.5	+0.8
HHC	Hu-ho-hao-te	23.89	285	*e*P	P	04 56 07.8	-1.9
HHC				S	S	05 00 21.8	-2.4
HHC				sS	pS	05 00 29.1	-3.8
HHC				SS	SnSn	05 01 08.2	+3.8
HHC				pmax	pmax		
	comp=Z,25nm,0.9s						
HHC				pmax	pmax		
	comp=Z,98nm,4.1s						
HHC				LR	LR		
	comp=Z,560nm,11.8s						
HHC				LR	LR		
	comp=Z,760nm,12.2s						
HHC				LR	LR		
	comp=Z,510nm,11.8s						
YAK	Yakutsk	24.64	345	LR	LR	05 07 59.0	
	comp=Z,51nm,18.1s,baz=205,slow=41						
BOD	Bodaibo	26.63	325	*e*P	P	04 56 32.7	-1.7
BOD				pmax	pmax		
	comp=Z,4.0nm,1.1s						
ULN	Ulaanbaatar	27.23	301*c*	*e*P	P	04 56 40.9	+0.8
ULN				pmax	pmax		
	comp=Z,2.0nm,0.9s						
SONA1	Songino Array	27.66	301	*e*P	P	04 56 44.2	+0.2
SONM	Songino Array	27.67	301	P	P	04 56 44.2	+0.2
	comp=Z,1.6nm,0.7s,baz=94,slow=8.2,SNR=10						
SONM				LR	LR	05 08 10.1	
	comp=Z,104nm,19.1s,baz=112,slow=37						
H11N2	WAKE ISLAND Hy	28.28	125	T	T	05 27 19.1	
	baz=317,slow=75,SNR=278						
H11N1	WAKE ISLAND Hy	28.29	125	T	T	05 27 20.1	
	baz=317,slow=75,SNR=204						
H11N3	WAKE ISLAND Hy	28.30	125	T	T	05 27 20.5	
	baz=317,slow=75,SNR=198						
ENH	Enshi	28.45	263	*e*P	P	04 56 50.6	-0.3
	comp=Z,22nm,0.8s						
H11S1	WAKE ISLAND Hy	29.06	127	T	T	05 28 21.5	
	baz=318,slow=75,SNR=50						
H11S3	WAKE ISLAND Hy	29.07	127	T	T	05 28 19.3	
	baz=318,slow=75,SNR=49						
H11S2	WAKE ISLAND Hy	29.08	127	T	T	05 28 21.6	
	baz=318,slow=75,SNR=38						
TLY	Talaya	29.97	308	LR	LR	05 09 45.5	
	comp=Z,116nm,18.6s,baz=96,slow=38						
TLY	Talaya	29.97	308	*e*P	P	04 57 04.5	+0.3
	comp=Z,2.7nm,0.9s						
TLY	Talaya	29.97	308	*e*P	P	04 57 04.2	-0.1
TLY				pmax	pmax		
	comp=Z,4.0nm,1.0s						
TLY				MLR	MLR		
	comp=Z,132nm,17.0s						
ZAK	Zakamensk	30.00	306	*e*P	P	04 57 03.8	-0.8
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.2s						
LZH	Lanzhou	30.75	277	*e*P	P	04 57 11.0	-0.5
LZH				pP	pP	04 57 19.0	-0.8
LZH				sP	sP	04 57 21.5	-1.7
LZH				*e*S	S	05 02 12.7	-0.2
LZH				sS	pS	05 02 23.5	+1.4
LZH				SS	SnSn	05 03 53.2	+1.0
LZH				pmax	pmax		
	comp=Z,22nm,0.7s						
LZH				pmax	pmax		
	comp=Z,250nm,5.0s						
LZH				LR	LR		
	comp=Z,760nm,11.0s						
LZH				LR	LR		
	comp=Z,810nm,12.7s						
LZH				LR	LR		
	comp=Z,820nm,12.7s						
BILL	Bilibino	32.12	16⇑	*e*P	P	04 57 23.4	+0.4
BILL				*e*		04 58 28.7	
BILL				*e*S	S	05 02 35.5	+2.1
BILL				pmax	pmax		
	comp=Z,4.0nm,1.3s						
BILL				smax	smax		
	comp=Z,125nm,18.0s						
GYA	Guiyang	32.46	259⇓	*i*P	P	04 57 26.0	-0.6
GYA				pP	pP	04 57 34.4	-0.4
GYA				PP	PnPn	04 58 36.6	+2.6
GYA				SS	SS	05 04 35.5	-24
GYA				pmax	pmax		
	comp=Z,20nm,0.8s						
GYA				pmax	pmax		
	comp=Z,110nm,5.0s						
GYA				LR	LR		
	comp=Z,410nm,17.6s						
GYA				LR	LR		
	comp=Z,390nm,18.2s						
GYA				LR	LR		
	comp=Z,360nm,17.7s						
CD2	Chengdu	32.64	268	*e*P	P	04 57 27.0	-1.0
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,120nm,5.0s						
KMI	Kunming	36.17	260	P	P	04 57 59.0	+0.2
KMI				pP	pP	04 58 03.9	-3.3
KMI				sP	sP	04 58 07.0	-3.6
KMI				pmax	pmax		
	comp=Z,14nm,0.8s						
DGZ	Jazzator, Alta	40.19	304⇑	*i*P	P	04 58 33.0	+0.7
DGZ				*i* *SP	pP	04 58 41.9	+1.2
DGZ				pmax	pmax		
	comp=Z,4.0nm,0.6s						
WMQ	Urumqi	40.94	295	P	P	04 58 39.1	+0.6
WMQ				pP	pP	04 58 44.6	-2.3
WMQ				sP	sP	04 58 48.8	-1.5
WMQ				pmax	pmax		
	comp=Z,23nm,0.9s						
WMQ				pmax	pmax		
	comp=Z,150nm,6.7s						
WMQ				LR	LR		
	comp=Z,120nm,15.7s						
WMQ				LR	LR		
	comp=Z,77nm,21.9s						
ZAA0	Zalesovo Array	41.49	311	*e*P	P	04 58 42.5	-0.2
	comp=Z,6.6nm,0.8s						
ZALV	Zalesovo Beam	41.49	311	P	P	04 58 42.6	-0.1
	comp=Z,2.7nm,0.8s,baz=91,slow=8.9,SNR=9.8						
ZALV				pP	pP	04 58 51.8	+0.6
	comp=Z,6.8nm,0.8s,baz=86,slow=8.2,SNR=12						
ZALV				LR	LR	05 16 39.8	
	comp=Z,78nm,19.9s,baz=70,slow=37						
CMAR	Chiang Mai Arr	42.85	254	P	P	04 58 54.3	0.0
	comp=Z,1.2nm,0.4s,baz=47,slow=6.1,SNR=6.6						
CMAR				LR	LR	05 19 07.6	
	comp=Z,32nm,18.1s,baz=25,slow=39						
MK01	Makanchi Array	44.03	301	*e*P	P	04 59 03.3	-0.3
MK31	Makanchi Array	44.03	301	*e*P	P	04 59 03.6	+0.1
MK31	Makanchi Array	44.03	301	*e*P	P	04 59 03.7	+0.1
MKAR	Makanchi Array	44.03	301	P	P	04 59 03.4	-0.2
	comp=Z,3.6nm,0.8s,baz=85,slow=9.3,SNR=27						
MKAR				pP	pP	04 59 13.1	+1.0
	comp=Z,11nm,0.9s,baz=88,slow=10,SNR=28						
MKAR				LR	LR	05 18 07.7	
	comp=Z,54nm,18.8s,baz=65,slow=37						
MKAR	Makanchi Array	44.03	301	*e*P	P	04 59 03.6	+0.1
	comp=Z,62nm,0.8s						
MKAR				pP	pP	04 59 13.1	+1.0
MKAR	Makanchi Array	44.03	301	*e*P	P	04 59 03.7	+0.1
MKAR				*PP	pP	04 59 13.1	+1.0
MKAR				pmax	pmax		
	comp=Z,62nm,0.8s						
MAKZ	Makanchi	44.24	301	*e*P	P	04 59 05.4	+0.2
	comp=Z,11nm,0.9s						
MAKZ	Makanchi	44.24	301	*e*P	P	04 59 05.4	+0.2
MAKZ				pmax	pmax		
	comp=Z,11nm,0.9s						
IM3	Indian Mountai	44.70	31	*e*P	P	04 59 08.6	0.0
KDAK	Kodiak Island	45.20	43	P	P	04 59 12.5	-0.1
	comp=Z,4.1nm,0.6s,baz=263,slow=8.1,SNR=3.3						
KURK	Kurchatov	45.64	307	*e*P	P	04 59 15.5	-0.8
	comp=Z,15nm,0.8s						
KURK				pP	pP	04 59 26.1	+1.3
KURK	Kurchatov	45.64	307*d*	*i*P	P	04 59 15.9	-0.4
KURK				*i* *SP	pP	04 59 25.1	+0.3
KURK				pmax	pmax		
	comp=Z,35nm,1.0s						
KURBB	Kurchatov Arra	45.72	307	P	P	04 59 16.5	-0.4
	comp=Z,3.9nm,0.6s,baz=82,slow=8.4,SNR=31						
KURBB				pP	pP	04 59 26.1	+0.8
	comp=Z,14nm,0.9s,baz=82,slow=8.1,SNR=19						
MLY	Manley	45.91	33	*e*P	P	04 59 20.0	+1.7
	comp=Z,7.0nm,1.1s						
MDM	Murphy Dome	46.97	33	*e*P	P	04 59 28.1	+1.5
	comp=Z,6.3nm,1.0s						
ILAR	Eielson Array	47.55	33	P	P	04 59 31.5	+0.5
	comp=Z,2.8nm,0.7s,baz=268,slow=6.6,SNR=33						
ILB	Eielson Array	47.55	33	*e*P	P	04 59 31.6	+0.6
IL1	Eielson Array	47.55	33	*e*P	P	04 59 31.1	+0.1
KLU	Klutina	48.24	38	*e*P	P	04 59 37.3	+0.8
	comp=Z,6.8nm,1.0s						
BVAR	Borovoye Array	50.14	311	P	P	04 59 51.3	+0.2
	comp=Z,1.1nm,0.6s,baz=70,slow=9.3,SNR=5.3						
BVAR				pP	sP	05 00 01.6	-1.4
	comp=Z,1.8nm,0.6s,baz=80,slow=8.1,SNR=7.0						
BRVK	Borovoye	50.19	312⇑	*i*P	P	04 59 52.4	+1.0
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.9s						
KSH	Kashi	50.59	293	*e*P	P	04 59 59.7	+4.9
KSH				pmax	pmax		
	comp=Z,9.0nm,0.4s						
HYT	Haines Junctio	52.37	38	*e*P	P	05 00 09.2	+1.4
	comp=Z,6.6nm,1.0s						
INK	Inuvik	52.44	28	P	P	05 00 09.0	+1.0
	comp=Z,1.0nm,0.5s,baz=318,slow=5.3,SNR=11						
INK	Inuvik	52.44	28	*e*P	P	05 00 08.8	+0.8
	comp=Z,0.9nm,0.4s						
KKAR	Karatay Array	53.10	299	*e*P	P	05 00 13.8	+0.4
KKAR	Karatay Array	53.10	299	*e*P	P	05 00 13.8	+0.4
KIP	Kipapa	53.31	91⇑	*i*P	P	05 00 13.8	-1.3
KIP				pmax	pmax		
	comp=Z,415nm,1.5s						
NIL	Nilore	54.99	288	*e*P	P	05 00 28.0	+0.7
	comp=Z,47nm,0.9s						
NIL	Nilore	54.99	288	*e*P	P	05 00 28.0	+0.7
NIL				pmax	pmax		
	comp=Z,47nm,0.9s						
ARU	Arti	55.72	318	P	P	05 00 32.3	+0.3
	comp=Z,7.3nm,0.2s,baz=270,slow=19,SNR=2.3						
ARU	Arti	55.72	318	*e*P	P	05 00 32.4	+0.3
	comp=Z,11nm,1.1s						
ARU	Arti	55.72	318*d*	*i*P	P	05 00 41.4	+9.3
ARU				S	S	05 08 35.5	+19
ARU				pmax	pmax		
	comp=Z,11nm,1.2s						
ABKAR	Akbulak array	57.57	310	*e*P	P	05 00 44.8	-0.6
	comp=Z,17nm,0.6s						
AKTO	Aktyubinsk	58.24	312	P	P	05 00 50.3	+0.2
	comp=Z,0.9nm,0.6s,baz=349,slow=19,SNR=3.9						
AKTO				LR	LR	05 27 15.5	
	comp=Z,40nm,20.5s,baz=58,slow=37						
WB2	Warramunga Arr	58.88	189	*e*P	P	05 00 54.6	-0.2
	comp=Z,6.0nm,0.8s						
WRA	Warramunga Arr	58.88	189	P	P	05 00 54.5	-0.3
	comp=Z,5.0nm,0.8s,baz=7.3,slow=7.1,SNR=45						
WRA				pP	pP	05 01 03.8	+0.2
	comp=Z,3.5nm,0.6s,baz=8.4,slow=7.2,SNR=9.7						
RES	Resolute Bay	60.71	15	P	P	05 01 07.0	+0.3
	comp=Z,1.5nm,0.6s,baz=307,slow=7.4,SNR=15						
RES	Resolute Bay	60.71	15	*e*P	P	05 01 07.0	+0.3
	comp=Z,4.3nm,1.3s						
RES	Resolute Bay	60.71	15	*e*P	P	05 01 07.1	+0.4
RES				pmax	pmax		
	comp=Z,4.0nm,1.3s						
YKA	Yellowknife Ar	61.86	31	P	P	05 01 14.8	+0.1
	comp=Z,0.5nm,0.6s,baz=302,slow=6.8,SNR=14						
ASAR	Alice Springs	62.61	189	P	P	05 01 20.6	+0.4
	comp=Z,2.1nm,0.8s,baz=12,slow=6.8,SNR=21						
ASAR				pP	pP	05 01 29.9	+0.9
	comp=Z,1.6nm,0.7s,baz=13,slow=7.0,SNR=7.8						
GEYT	Alibeck	63.84	299	LR	LR	05 29 56.7	
	comp=Z,51nm,18.6s,baz=70,slow=37						
OBN	Obninsk	67.30	323	*e*P	P	05 01 50.2	-0.1
OBN				pmax	pmax		
	comp=Z,3.0nm,0.9s						
YBH	Yreka Blue Hor	68.56	53	P	P	05 01 59.6	+1.0
	comp=Z,1.9nm,0.9s,baz=288,slow=9.6,SNR=2.7						
KIV	Kislovodsk	70.50	311	*e*P	P	05 02 08.4	-2.2
KIV				pmax	pmax		
	comp=Z,7.0nm,1.0s						
KIV				MLR	MLR		
	comp=Z,34nm,18.0s						
NOA	NORSAR Array B	72.98	338	LR	LR	05 37 51.8	
	comp=Z,36nm,20.0s,baz=5.0,slow=38						
NV01	Mina Array Sit	73.22	54	*e*P	P	05 02 28.5	+1.3
NVAR	Mina Array Bea	73.22	54	P	P	05 02 28.2	+1.0
	comp=Z,1.1nm,0.8s,baz=293,slow=5.5,SNR=6.0						
AKASG	Malin Array Be	73.52	323	P	P	05 02 27.7	-0.7
	comp=Z,0.4nm,0.3s,baz=44,slow=6.3,SNR=5.8						
PDAR	Pinedale Array	75.80	46	P	P	05 02 42.5	+0.3
	comp=Z,1.2nm,0.7s,baz=265,slow=2.4,SNR=11						
BUR04	Bucovina Ar. S	77.55	322	*e*P	P	05 02 51.9	+0.2
MLR	Muntele Rosu	78.69	320	LR	LR	05 39 01.8	
	comp=Z,8.7nm,19.6s,baz=24,slow=37						
PV10	Paradox Valley	78.94	49	*e*P	P	05 03 01.7	+1.9
ANMO	Albuquerque	82.77	51*c*	*e*P	P	05 03 20.9	+0.7
ANMO				pmax	pmax		
	comp=Z,2.0nm,1.0s						
PMOR	Pomariorio Ree	84.01	114	*e*T	T	06 35 56.1	
	comp=Z,5.4nm,0.2s						
PPT2	Papeete2	84.58	117	*e*LR	LR	05 30 38.4	
	comp=Z,57nm,24.0s						
TXAR	Lajitas Array	88.34	53	P	P	05 03 48.3	+0.4
	comp=Z,0.7nm,0.6s,baz=299,slow=3.5,SNR=14						
TXAR				LR	LR	05 39 56.5	
	comp=Z,21nm,19.4s,baz=0.0,slow=33						
LPAZ	La Paz	145.01	59	PKPbc	PKPbc	05 10 33.4	-0.1
	comp=Z,0.8nm,0.7s,baz=6.4,slow=12,SNR=3.6						

IDC 02 05:10:42.2±9.7, **4°.52S**×**153°.49E**, **h133**km±66km, **mb3.3**/3, **mb1 3.5**/4, **mb1mx3.2**/46, **mbtmp3.8**/4, **Error ellipse: s-maj=107.3km s-min=40.8km az=105.0**, **New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	7.94	232	P	Pn	05 12 35.0	+0.2
	3.2nm,0.3s,baz=68,slow=8.1,SNR=5.1						
PMG				S	Sn	05 14 04.0	+0.9
	2.5nm,0.3s,baz=112,slow=19,SNR=9.9						
WRA	Warramunga Arr	24.14	229	P	P	05 15 47.4	+1.3
	3.2nm,0.8s,baz=53,slow=9.8,SNR=29						
ASAR	Alice Springs	26.82	223	P	P	05 16 08.6	-1.7
	0.3nm,0.4s,baz=51,slow=9.5,SNR=3.5						
MKAR	Makanchi Array	80.57	319	P	P	05 22 39.8	-0.1
	0.7nm,1.1s,baz=104,slow=6.1,SNR=3.7						
TORD	Torodi Ar. Bea	150.87	289	PKPbc	PKPbc	05 30 20.3	+0.1
	0.8nm,0.7s,baz=57,slow=2.3,SNR=5.9						

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*IDC **02** 05:40:33.2±1.8, 2°.68S×128°.47E, h0km, mb3.8/3, mb1 4.1/4, mb1mx3.6/54, mbtmp3.9/4, ML4.4/1, Error ellipse: s-maj=145.9km s-min=23.4km az=68.0*

*ISCJB **02** 05:40:41.0±0.5, 3°.37S±0°.05×127°.28E±0°.04, h65km±6km,*

mb3.6/3, Error ellipse: s-maj=9.7km s-min=5.6km az=25.0
*DJA **02** 05:40:42.8±0.3, 3°S±3°×12°7E±°, h37km±5km, M4.4/12, mb4.7/5, mB5.0/3, MLv4.3/12, Mw(mB)4.3/3*
ISC 02 05:40:42.0±1.0**, 3°.40S**±0°.08×**127°.26E**±0°.05**, h58**km±9km**, n16,** σ**0s.93**/21**, mb3.7**/3**, Seram**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NLAI	Namlea	0.23	315	P	Pn	05 40 51.5	+0.1
NLAI				S	Sn	05 40 57.6	-0.6
AAI	Ambon	0.97	107	P	Pn	05 40 59.2	-0.4
AAI				S	Sn	05 41 12.6	-0.1
MSAI	Masohi	1.66	88	P	Pn	05 41 08.4	-0.5
MSAI				S	Sn	05 41 29.4	+0.2
SANI	Sanana	1.85	316	P	Pn	05 41 10.5	-0.9
SANI				S	Sn	05 41 32.3	-1.4
LBMI	Labuha	2.75	5	P	Pn	05 41 25.0	+1.2
LBMI				S	Sn	05 41 55.8	-0.1
BNDI	Bandanaira	2.86	113	P	Pn	05 41 25.8	+0.6
SWI	Sorong	4.72	58	P	Pn	05 41 50.3	-0.5
SWI				S	Sn	05 42 43.5	-0.8
FAKI	Fak Fak	5.00	85	P	Pn	05 41 55.2	+0.6
LUWI	Luwuk	5.06	297	P	Pn	05 41 56.2	+0.8
	160nm,0.7s,4μm0.5nm						
KMSI	Cibinong	5.13	320	P	Pn	05 41 46.8	-10
APSI	Ampana	6.13	294	P	Pn	05 42 11.9	+1.9
	69nm,0.9s,778nm						
MRSI	Marisa	6.57	306	P	Pn	05 42 17.7	+1.7
WRA	Warramunga Arr	17.83	158	P	P	05 44 46.5	+0.1
	1.2nm,0.3s,baz=341,slow=11,SNR=54						
ASAR	Alice Springs	21.15	163	P	P	05 45 23.1	+0.7
	4.6nm,0.8s,baz=346,slow=11,SNR=43						
MKAR	Makanchi Array	63.74	327	P	P	05 51 07.8	-0.1
	0.6nm,0.7s,baz=119,slow=7.5,SNR=5.5						
KURBB	Kurchatov Arra	68.04	329	P	P	05 51 34.5	-0.8
	0.3nm,0.5s,baz=130,slow=5.6,SNR=5.6						

IDC 02 06:15:02.9±3.2**, 30°.02S**×**138°.79E, h0**km**, mb1 3.0**/3**, mb1mx2.9**/46**, mbtmp2.7**/3**, ML2.6**/3**, Error ellipse: s-maj=115.8km s-min=17.4km az=46.0, South Australia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	Stephens Creek	3.04	128	Pn	Pn	06 15 51.0	-1.3
	0.3nm,0.3s,baz=301,slow=14,SNR=3.1						
STKA				Pg	Pb	06 15 58.0	+0.1
	0.9nm,0.3s,baz=308,slow=14,SNR=6.6						
STKA				Sn	Sn	06 16 27.6	-1.9
	0.9nm,0.3s,baz=12,slow=21,SNR=3.9						
STKA				Lg	Lg	06 16 41.1	
	1.4nm,0.3s,baz=18,slow=21,SNR=5.2						
ASAR	Alice Springs	7.68	324	Pn	Pn	06 16 57.3	+1.2
	0.2nm,0.3s,baz=143,slow=12,SNR=3.8						
WRA	Warramunga Arr	10.81	337	Pn	Pn	06 17 38.4	-0.6
	0.1nm,0.3s,baz=160,slow=12,SNR=4.7						

*IDC **02** 06:21:44.3±1.5, 36°.01N×141°.16E, h0km, mb3.3/2, mb1 3.5/4, mb1mx3.2/69, mbtmp3.3/4, ML3.0/2, Error ellipse: s-maj=38.5km s-min=28.1km az=111.0*
*ISCJB **02** 06:21:46.5±1.0, 35°.83N±0°.04×140°.99E±0°.08, h23km±5km, mb3.3/2, Error ellipse: s-maj=11.7km s-min=6.0km az=167.8*
*JMA **02** 06:21:46.9±0.1, 35°.83N×140°.98E, h14km±1km, M3.4*
JMA Felt I J1.
ISC 02 06:21:46.3±1.4**, 35°.85N**±0°.04×**141°.00E**±0°.08**, h14**km±7km**, n16,** σ**1s.13**/17**, 1C, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CHOJ	Chosi	0.19	217	⇑P	Pg	06 21 50.6	0.0
CHOJ				S	Sg	06 21 53.2	-0.3
JYT	Yasato	0.75	300	P	Pg	06 22 01.0	+0.1
JYT				S	Sg	06 22 11.1	+0.3
JCN	Nagara	0.78	236	P	Pn	06 22 02.5	-0.3
JCN				eS	Sb	06 22 13.0	+1.0
JHO	Hitachi	0.83	336	P	Pg	06 22 02.6	+0.2
JHO				S	Sb	06 22 14.7	+1.1
BSO3	Boso 3	1.12	201	P	Pb	06 22 06.7	-0.6
MJAR	Matsushiro Arr	2.36	288	Pn	Pn	06 22 25.1	+0.5
	2.6nm,0.3s,baz=112,slow=7.9,SNR=13						
MJAR				Sn	Sn	06 22 51.9	-1.5
	2.6nm,0.3s,baz=41,slow=28,SNR=5.4						
MAT	Matsushiro	2.36	288	P	Pn	06 22 25.1	+0.5
MAT				S	Sn	06 22 51.8	-1.6
JHJ	Hachijo jima 2	2.91	201	Pn	Pn	06 22 32.4	+0.3
	7.8nm,0.3s,baz=60,slow=20,SNR=3.0						
JHJ				Sn	Sn	06 23 06.5	-0.4
	4.3nm,0.3s,baz=77,slow=19,SNR=3.0						
H11N2	WAKE ISLAND Hy	27.86	118	T	T	06 56 36.3	
	baz=311,slow=75,SNR=60						
H11N1	WAKE ISLAND Hy	27.87	118	T	T	06 56 40.4	
	baz=311,slow=75,SNR=37						
H11N3	WAKE ISLAND Hy	27.88	118	T	T	06 56 41.0	
	baz=311,slow=75,SNR=41						
H11S1	WAKE ISLAND Hy	28.53	120	T	T	06 57 28.4	
	baz=312,slow=75,SNR=24						
H11S3	WAKE ISLAND Hy	28.53	121	T	T	06 57 28.3	
	baz=312,slow=75,SNR=24						
H11S2	WAKE ISLAND Hy	28.54	121	T	T	06 57 29.6	
	baz=312,slow=75,SNR=20						
ILAR	Eielson Array	50.67	32	P	P	06 30 43.0	-1.8
	0.3nm,0.6s,baz=277,slow=7.2,SNR=4.1						
WRA	Warramunga Arr	55.85	188	P	P	06 31 25.5	+2.2
	0.2nm,0.8s,baz=9.0,slow=7.8,SNR=3.6						

*MOS **02** 06:24:06.6±0.5, 49°.27N×156°.53E, h23km, mb4.3/1, Error ellipse: s-maj=60.7km s-min=7.6km az=81.4*
KRSC 02 06:24:07.0±1.2**, 49°.43N**×**156°.86E, h16**km±22km**, ML4.1, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	1.34	339	eP	Pn	06 24 31.4	+0.3
SKR				eS	Sn	06 24 48.0	-0.6
SKR	Severo-Kuril's	1.34	339	ePN	Pb	06 24 31.5	-0.3
SKR				eS	Sn	06 24 48.0	-0.6
SKR				smax	smax		
	comp=N,187nm,0.5s						
SKR				smax	smax		
	comp=E,341nm,0.4s						
PAU	Pauzhetka	2.04	359	eP	Pb	06 24 42.5	-1.1
PAU				eS	Sb	06 25 08.2	-0.6
PAU	Pauzhetka	2.04	359	PN	Pb	06 24 42.5	-1.1
PAU				S	Sb	06 25 08.2	-0.6
KDTR	Khodutka, Kamc	2.51	18	eP	Pb	06 24 49.8	-1.8
KDTR				eS	Sb	06 25 20.8	-1.4
MTVR	Mutnovka	3.17	15	eP	Pn	06 24 59.1	+2.8
MTVR				eS	Sn	06 25 37.5	+3.6
MTVR	Mutnovka	3.17	15	PN	Pn	06 24 59.1	+2.8
RUS	Russkaya	3.19	19	eP	Pn	06 24 59.1	+2.7
RUS				eS	Sn	06 25 36.6	+2.6
RUS	Russkaya	3.19	19	PN	Pn	06 24 59.1	+2.7
KRMR	Karymshinskiy	3.50	13	eP	Pn	06 25 04.4	+3.7
KRMR				eS	Sn	06 25 46.0	+4.3
KRMR	Karymshinskiy	3.50	13	PN	Pn	06 25 04.4	+3.7
APC	Apacha	3.51	3	eP	Pn	06 25 03.5	+2.7
APC	Apacha	3.51	3	PN	Pn	06 25 03.5	+2.7
DALK	Dalny	3.80	18	eP	Pn	06 25 08.2	+3.4
DALK				eS	Sn	06 25 52.4	+3.3
DALK	Dalny	3.80	18	PN	Pn	06 25 08.2	+3.4
UGLR	Uglovaya	3.98	17	eP	Pn	06 25 11.1	+3.7
UGLR	Uglovaya	3.98	17	PN	Pn	06 25 11.1	+3.7
AVH	Avacha	4.02	16	eP	Pn	06 25 12.3	+4.4
AVH	Avacha	4.02	16	PN	Pn	06 25 12.3	+4.4
SMAR	Somma	4.03	17	P	Pn	06 25 12.0	+3.8
SMAR	Somma	4.03	17	PN	Pn	06 25 12.0	+3.8
GNL	Ganaly	4.33	9	eP	Pn	06 25 16.3	+4.1
GNL	Ganaly	4.33	9	PN	Pn	06 25 16.3	+4.1

IDC 02 06:28:15.3±2.4**, 53°.74N**×**86°.93E, h0**km**, mb1 3.2**/2**, mb1mx2.9**/68**, mbtmp3.2**/2**, ML2.8**/2**, Error ellipse: s-maj=20.8km s-min=14.4km az=73.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.27	281	i		06 36 45.0	
	baz=100,slow=329,SNR=4.5						
ZALV	Zalesovo Beam	1.27	281	Pg	Pg	06 28 38.3	-1.3
	3.4nm,0.3s,baz=101,slow=15,SNR=17						
ZALV				Lg	Lg	06 28 56.6	
	2.8nm,0.3s,baz=99,slow=29,SNR=13						
KURBB	Kurchatov Arra	6.03	242	Pn	Pn	06 29 46.2	+0.6
	0.1nm,0.3s,baz=58,slow=14,SNR=12						
KURBB				Sn	Sn	06 30 55.1	-0.2
	0.0nm,0.3s,baz=59,slow=26,SNR=2.5						
KURBB				Lg	Lg	06 31 25.9	
	0.0nm,0.3s,baz=65,slow=33,SNR=8.1						
MKAR	Makanchi Array	7.56	205	Pn	Pn	06 30 08.1	+1.5
	0.3nm,0.3s,baz=26,slow=12,SNR=6.6						
MKAR				Lg	Lg	06 32 15.3	
	0.0nm,0.3s,baz=21,slow=31,SNR=6.2						

*SJA **02** 06:36:50.3±0.6, 28°.70S×72°.00W, h11km±6km, ML4.2, MW4.1*
*IDC **02** 06:37:00.8±0.6, 29°.10S×71°.36W, h36km±3km, mb3.8/9, mb1 3.9/13, mb1mx3.8/35, mbtmp3.9/13, ML3.7/4, MS3.4/4, Ms1 3.4/4, ms1mx2.9/31, Error ellipse: s-maj=23.1km s-min=17.5km az=67.0*
*BJI **02** 06:37:00.3, 29°.10S×71°.40W, h34km, Ms4.8/1, Ms7 4.6/2*
*GUC **02** 06:37:01.2±0.3, 29°.09S×71°.16W, h68km±4km, ML4.3*
*NEIC **02** 06:37:01.0±0.0, 29°.09S×71°.16W, h68km, mb4.5/7, ML4.3(GUC), After GUC.*
*ISCJB **02** 06:37:02.0±1.8, 28°.93S±0°.03×71°.59W±0°.06, h33km±13km, mb4.2/13, Error ellipse: s-maj=9.5km s-min=5.2km az=176.3*
ISC 02 06:36:59.8±0.6**, 28°.99S**±0°.04×**71°.63W**±0°.05**, h32**km±3km**, h32**km**:pP-P, n74,** σ**1s.82**/101**, mb4.3**/13**, 2C-3D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LCO	Las Campanas	0.81	92	ePn	Pn	06 37 14.4	-0.9
LCO				eSn	Sb	06 37 22.5	-4.0
LCO	Las Campanas	0.81	92	eP	Pn	06 37 14.2	-1.1
LCO	Las Campanas	0.81	92	⇑eP	Pn	06 37 14.3	-1.0
LCO				eS	Sb	06 37 24.3	-2.2
LCO				IAML		06 37 25.2	
	comp=E,67μm,0.3s						
TLL	Tololo Astrono	1.37	149	⇓eP	Pn	06 37 22.8	-0.3
TLL				eS	Sn	06 37 39.2	-1.0
TLL				IAML		06 37 45.2	
	comp=E,6μm,0.9s						
GO04	Tololo Observa	1.38	149	⇓iP	Pn	06 37 22.8	-0.3
GO04				eS	Sn	06 37 39.2	-1.2
GO04				IAML		06 37 46.1	
	comp=N,17μm,0.5s						
GO03	Copiap	1.86	42	⇓eP	Pn	06 37 29.9	+0.4
GO03				eS	Sn	06 37 52.1	+0.2
GO03				IAML		06 38 00.3	
	comp=E,3μm,0.4s						
CPCH	Copiapo	1.98	35	eP	Pn	06 37 32.3	+1.1
AROD	Rodeo	2.21	122	eP	Pn	06 37 36.9	+2.3
ACDV	Cuesta del Vie	2.48	119	eP	Pn	06 37 40.8	+2.6
AGUA	GUANDACOL	2.79	101	eP	Pn	06 37 45.0	+2.7
AGUA				eS	Sb	06 38 24.4	+1.6
VCA	Vinchina	3.01	86	eP	Pn	06 37 47.8	+2.3
VCA				IAML		06 37 53.5	
	comp=Z,1μm,0.3s						
VCA				eS	Sb	06 38 28.6	-0.7
AMOG	MOGNA	3.34	126	eP	Pn	06 37 53.2	+3.3
AMOG				eS	Sb	06 38 39.2	+0.6
RTLS	Leoncito	3.45	145	eP	Pn	06 37 55.1	+3.5
RTLS				eS	Sb	06 38 43.2	+1.3
RTLS				IAML		06 38 47.9	
	comp=Z,1μm,0.6s						
RTLL	Cerro Villicun	3.59	131	eP	Pn	06 37 56.6	+3.3
RTLL				IAML		06 38 56.1	
	comp=Z,531nm,0.5s						
ZON	Zonda	3.60	136	eP	Pn	06 37 57.2	+3.7
ZON				eS	Sb	06 38 45.8	-0.4
SJA	San Juan	3.66	134	eP	Pn	06 37 57.4	+3.1
SJA				eS	Sb	06 38 47.8	-0.1
SJA				IAML		06 38 58.0	
	comp=Z,559nm,0.8s						
AUSP	Uspallata	3.75	150	eP	Pn	06 37 59.1	+3.3
AUSP				eS	Sb	06 38 50.6	-0.2
RTCV	Cerro Valdivia	3.91	138	eP	Pn	06 38 00.5	+2.7
ROC1	El Roble	4.00	173	ePn	Pn	06 37 59.3	+0.1
ROC1				eSn	Sn	06 38 42.8	-2.4
ROC1	El Roble	4.00	173	eP	Pn	06 38 00.2	+1.0
PEL	Peldehue	4.22	169	ePn	Pn	06 38 02.6	+0.7
PEL				eSn	Sn	06 38 49.1	-1.0
ASAL	Salagasta	4.32	147	eP	Pn	06 38 07.1	+3.8
APLL	PUNTA DE LOS L	4.65	109	eP	Pn	06 38 09.0	+1.0
APLL				IAML		06 38 34.4	
	comp=Z,84nm,0.4s						
CYA	Choya	5.15	85	eP	Pn	06 38 16.3	+1.6
CYA				IAML		06 38 19.9	
	comp=Z,217nm,0.8s						
PB10	IPOC Station P	5.54	10	ePn	Pn	06 38 18.2	-1.9
PB10				eSn	Sn	06 39 21.4	-1.4
FSA	Cafayete	5.78	62	eP	Pn	06 38 23.9	+0.4
FSA				IAML		06 38 58.2	
	comp=Z,14nm,0.4s						
AHML	Horco Molle	5.99	70	eP	Pn	06 38 27.1	+0.8
AHML				IAML		06 40 14.1	
	comp=Z,36nm,0.6s						
GO05	HualaæØ	6.00	182	ePn	Pn	06 38 24.7	-1.7
GO05				eSn	Sn	06 39 29.4	-4.7
PB04	IPOC Station P	6.76	12	ePn	Pn	06 38 34.7	-2.4
PB01	IPOC Station P	8.15	14	ePn	Pn	06 38 53.2	-2.9
PB11	IPOC Station P	9.37	11	ePn	Pn	06 39 09.7	-3.0
PB11				eSn	Sn	06 40 53.7	-3.4
MNMC	Minye Minye	9.99	11	ePn	Pn	06 39 18.4	-3.1
PLCA	Paso Flores	11.75	176	Pn	Pn	06 39 42.4	-2.8
	comp=Z,0.1nm,0.3s,baz=4.0,slow=11,SNR=7.3						
TRQA	Tornquist	12.10	141	ePn	Pn	06 39 48.4	-1.6
CPUP	Villa Florida	12.95	82	Pn	Pn	06 39 59.0	-2.6
	comp=Z,0.1nm,0.3s,baz=265,slow=10,SNR=6.3						
CPUP				LR	LR	06 45 27.5	
	comp=Z,132nm,20.0s,baz=227,slow=40						
CPUP	Villa Florida	12.95	82	ePn	Pn	06 39 59.9	-1.8
LPAZ	La Paz	13.05	15	Pn	Pn	06 40 06.2	+2.6
	comp=Z,0.3nm,0.3s,baz=129,slow=3.1,SNR=11						
LPAZ	La Paz	13.05	15	ePn	Pn	06 40 01.4	-2.3
SIV	San Ignacio	16.19	39	Pn	Pn	06 40 44.0	-1.1
	comp=Z,0.1nm,0.3s,baz=306,slow=8.7,SNR=3.8						
SIV				LR	LR	06 48 07.1	
	comp=Z,67nm,18.4s,baz=240,slow=41						
NNA	Nana	17.61	343	ePn	P	06 41 05.2	+1.6
	comp=Z,18nm,1.4s						
RUSC	La Rusia	34.71	357	eP	P	06 43 49.4	+1.9
	comp=Z,3.9nm,1.2s						
SNAA	Sanae	56.10	159	P	P	06 46 35.2	-0.5
	comp=Z,4.6nm,1.1s,baz=285,slow=13,SNR=5.2						
SNAA				pP	pP	06 46 46.2	+0.8
	comp=Z,2.7nm,0.6s,baz=333,slow=11,SNR=3.2						
SNAA				LR	LR	07 12 17.8	
	comp=Z,50nm,18.3s,baz=166,slow=38						
TKL	Tuckaleechee C	65.32	349	P	P	06 47 38.9	+0.2
	comp=Z,2.9nm,0.8s,baz=129,slow=13,SNR=4.5						
TKL	Tuckaleechee C	65.32	349	eP	P	06 47 38.9	+0.2
	comp=Z,4.7nm,0.9s						
LTX	Lajitas	65.58	329	eP	P	06 47 43.0	+2.4
TXAR	Lajitas Array	65.58	329	P	P	06 47 43.0	+2.4
	comp=Z,0.7nm,0.6s,baz=156,slow=8.6,SNR=12						
PBMO	Poplar Bluff	67.77	344	eP	P	06 47 55.6	+1.4
	comp=Z,7.5nm,0.6s						
SIUC	Southern Illin	68.38	345	eP	P	06 47 59.1	+1.1
	comp=Z,7.5nm,0.6s						
CCM	Cathedral Cave	69.18	344	eP	P	06 48 04.2	+1.2
	comp=Z,4.9nm,0.8s						
SYO	Syowa Base	70.39	159	⇑eX	P	06 48 15.0	+4.8
DBIC	Dimbokro	73.29	72	P	P	06 48 27.0	-1.5
	comp=Z,1.7nm,0.7s,baz=270,slow=2.0,SNR=2.5						
DBIC				pP	pP	06 48 39.1	+0.6
	comp=Z,3.3nm,0.8s,baz=257,slow=5.2,SNR=2.2						
DBIC				LR	LR	07 20 33.0	
	comp=Z,28nm,18.1s,baz=137,slow=36						
DBIC	Dimbokro	73.29	72	eP	P	06 48 26.4	-2.1
	comp=Z,8.1nm,1.1s						
KOWA	Kowa	78.27	66	P	P	06 48 57.0	+0.1
	comp=Z,1.2nm,0.5s,baz=256,slow=9.0,SNR=3.6						
PD31	Pinedale Array	79.48	333	eP	P	06 49 04.9	+1.6
PDAR	Pinedale Array	79.48	333	P	P	06 49 04.9	+1.6
	comp=Z,0.4nm,0.6s,baz=141,slow=6.4,SNR=4.2						
NV01	Mina Array Sit	80.00	325	eP	P	06 49 06.3	+0.1
NVAR	Mina Array Bea	80.00	325	P	P	06 49 08.4	+2.2
	comp=Z,0.5nm,0.8s,baz=134,slow=5.2,SNR=2.8						
TOA0	Torodi Ar. Sit	82.19	70	eP	P	06 49 17.2	-0.9
TOA1	Torodi Ar. Sit	82.19	70	eP	P	06 49 17.9	-0.2
TORD	Torodi Ar. Bea	82.19	70	P	P	06 49 17.9	-0.1
	comp=Z,1.2nm,0.7s,baz=260,slow=5.3,SNR=7.1						
TORD				pP	pP	06 49 28.4	+0.2
	comp=Z,1.7nm,0.6s,baz=265,slow=4.7,SNR=9.4						
YKA	Yellowknife Ar	97.44	341	P	P	06 50 30.3	+0.6
	comp=Z,0.1nm,0.6s,baz=145,slow=4.2,SNR=3.9						
YKA				pP	sP	06 50 41.7	-1.9
	comp=Z,0.1nm,0.8s,baz=135,slow=4.0,SNR=2.3						
ASAR	Alice Springs	122.16	208	PKP	PKPdf	06 55 51.2	-0.8
	comp=Z,0.3nm,0.5s,baz=142,slow=1.5,SNR=4.3						
WR1	Warramunga Arr	125.27	210	ePKPdf	PKPdf	06 55 57.9	0.0
WR1				epPKPdf	pPKPdf	06 56 09.5	+1.0
WRA	Warramunga Arr	125.27	210	PKP	PKPdf	06 55 57.9	-0.1
	comp=Z,1.1nm,0.6s,baz=155,slow=1.6,SNR=25						
WRA				pPKP	pPKPdf	06 56 09.5	+1.0
	comp=Z,0.5nm,0.4s,baz=156,slow=1.8,SNR=3.3						
KURK	Kurchatov	148.84	38	ePKPbc	PKPbc	06 56 44.5	+0.7
KURK				epPKPab	pPKPbc	06 56 55.3	+1.0
KURBB	Kurchatov Arra	148.84	38	PKPbc	PKPbc	06 56 44.5	+0.7
	comp=Z,0.8nm,0.6s,baz=302,slow=3.1,SNR=9.6						
KURBB				pPKPbc	pPKPbc	06 56 55.3	+1.0
	comp=Z,1.5nm,0.8s,baz=298,slow=3.2,SNR=8.1						
ZAA1	Zalesovo Array	149.72	28	ePKPbc	PKPbc	06 56 46.6	+0.7
ZAA1				epPKPab	pPKPbc	06 56 57.8	+1.3
ZALV	Zalesovo Beam	149.73	28	PKPbc	PKPbc	06 56 46.6	+0.7
	comp=Z,3.2nm,0.6s,baz=302,slow=3.6,SNR=13						
ZALV				pPKPbc	pPKPbc	06 56 57.8	+1.3
	comp=Z,3.1nm,0.7s,baz=298,slow=3.2,SNR=5.5						
MK32	Makanchi Array	153.00	42	ePKPbc	PKPbc	06 56 53.5	-0.3
MK32				ePKPab	pPKPbc	06 57 05.2	+0.9
MKAR	Makanchi Array	153.00	42	PKPbc	PKPbc	06 56 53.5	-0.3
	comp=Z,0.6nm,0.6s,baz=319,slow=1.9,SNR=8.6						
MKAR				pPKPbc	pPKPbc	06 57 05.2	+0.9
	comp=Z,1.1nm,0.8s,baz=338,slow=2.6,SNR=8.5						
WMQ	Urumqi	157.82	43	ePKP	PKPdf	06 56 52.7	-0.4
WMQ				LR	LR		
	comp=Z,85nm,19.9s						
HHC	Hu-ho-hao-te	167.89	348	ePKP	PKPdf	06 57 02.6	-0.4
NJ2	Nanjing	170.46	291	ePKP	PKPdf	06 57 04.0	-0.7
LZH	Lanzhou	171.96	27	ePKP	PKPdf	06 57 04.7	-0.9
LZH				pPKP	pPKPdf	06 57 15.4	-0.8
LZH				sPKP		06 57 19.2	
LZH				LR	LR		
	comp=Z,75nm,18.0s						
LZH				LR	LR		
	comp=Z,80nm,18.1s						
LZH				LR	LR		
	comp=Z,100nm,20.2s						

IDC 02 06:59:03.2±2.1**, 4°.89N**×**124°.92E, h0**km**, mb3.7**/4**, mb1 3.9**/4**, mb1mx3.4**/59**, mbtmp3.7**/4**, Error ellipse: s-maj=226.1km s-min=27.5km az=65.0, Celebes Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	26.36	160	P	P	07 04 41.2	-0.1
	0.6nm,0.3s,baz=338,slow=9.9,SNR=22						
ASAR	Alice Springs	29.71	163	P	P	07 05 11.4	+0.2
	0.8nm,0.4s,baz=344,slow=7.2,SNR=19						
STKA	Stephens Creek	39.87	158	P	P	07 06 38.5	-0.3
	0.8nm,0.5s,baz=353,slow=8.1,SNR=3.0						
KURBB	Kurchatov Arra	59.80	328	P	P	07 09 10.1	-0.1
	0.1nm,0.3s,baz=125,slow=5.8,SNR=2.5						

IDC 02 07:11:41.5±13.0**, 4°.59S**×**153°.90E, h96**km±80km**, mb3.5**/2**, mb1 3.8**/3**, mb1mx3.2**/43**, mbtmp4.0**/3**, ML2.4**/1**, Error ellipse: s-maj=197.8km s-min=63.7km az=111.0, New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	8.23	234	P	Pn	07 13 38.4	+0.2
	2.6nm,0.3s,baz=30,slow=9.4,SNR=8.7						
WRA	Warramunga Arr	24.41	230	P	P	07 16 51.4	+0.2
	3.3nm,0.7s,baz=54,slow=9.9,SNR=36						
ASAR	Alice Springs	27.05	224	P	P	07 17 14.8	-0.4
	0.7nm,0.9s,baz=56,slow=9.3,SNR=4.7						
TORD	Torodi Ar. Bea	151.28	289	PKPbc	PKPbc	07 31 24.9	-0.1
	0.6nm,0.7s,baz=48,slow=2.6,SNR=4.5						

*CSEM **02** 07:16:06.4, 34°.36N×27°.03E, h38km, ML3.0/2*
*ATH **02** 07:16:06.4, 34°.36N×27°.03E, h38km±3km, ML3.0/2, Error ellipse: s-maj=6.6km s-min=4.1km az=328.0*
*IDC **02** 07:16:11.9±2.4, 35°.16N×26°.57E, h0km, mb3.9/4, mb1 3.9/5, mb1mx3.5/52, mbtmp3.8/5, ML3.8/1, Error ellipse: s-maj=60.1km s-min=13.5km az=176.0*
*DDA **02** 07:17:17.3, 35°.27N×26°.87E, h37km, Ml2.9*
ISC 02 07:16:09.9±1.3**, 34°.55N**±0°.10×**26°.85E**±0°.04**, h10**km**, n29,** σ**1s.37**/35**, mb3.8**/4**, Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ZKR	Zakros	0.76	317	P	Pg	07 16 25.6	+0.8
ZKR				S	Sn	07 16 39.4	+1.0
ZKR				AML	AML	07 16 44.1	
	comp=N,1016μm,0.5s						
ZKR				AML	AML	07 16 48.7	
	comp=E,2361μm,0.5s						
ZKR	Zakros	0.76	317	P	Pg	07 16 25.5	+0.8
ZKR				S	Sn	07 16 39.4	+1.0
NPS	Neapolis	1.24	305	P	Pn	07 16 32.5	-0.8
NPS				S	Sb	07 16 51.1	+1.7
NPS				AML	AML	07 16 56.4	
	comp=E,747μm,0.5s						
NPS				AML	AML	07 17 02.6	
	comp=N,717μm,0.6s						
NPS	Neapolis	1.24	305	P	Pn	07 16 32.3	-1.0
NPS				S	Sb	07 16 51.1	+1.7
LAST	Lasithi	1.28	299	P	Pn	07 16 32.1	-1.8
LAST	Lasithi	1.28	299	P	Pn	07 16 32.4	-1.6
SIVA	Sivas	1.74	286	P	Pn	07 16 38.6	-1.5
SIVA	Sivas	1.74	286	P	Pn	07 16 38.7	-1.5
IDI	Anoyia	1.77	295	Pg	Pn	07 16 38.8	-1.9
	comp=N,1.5nm,0.3s,baz=117,slow=16,SNR=7.5						
IDI				Lg	Lg	07 16 55.4	
	comp=N,5.8nm,0.3s,baz=80,slow=11,SNR=12						
THR6	Thira Island,	2.15	327	P	Pn	07 16 44.9	-1.0
THR6	Thira Island,	2.15	327	P	Pn	07 16 45.0	-0.9
THR3	Thira Island,	2.20	328	P	Pn	07 16 45.9	-0.6
THR3	Thira Island,	2.20	328	P	Pn	07 16 45.9	-0.6
THR2	Thira island,	2.21	329	P	Pn	07 16 46.5	-0.2
THR2	Thira island,	2.21	329	P	Pn	07 16 46.2	-0.5
THR5	Thira Island,	2.23	327	P	Pn	07 16 45.7	-1.2
THR5	Thira Island,	2.23	327	P	Pn	07 16 45.9	-1.0
IMMV	Iera Moni Meta	2.52	292	P	Pn	07 16 50.8	-0.2
IMMV	Iera Moni Meta	2.52	292	P	Pn	07 16 50.4	-0.6
DALY	Dalyan (Mu˜la	2.69	33	iP	Pb	07 16 58.2	-0.1
TURN	Turunc	2.72	31	iP	Pn	07 16 53.9	+0.3
AKAS	Kas	2.81	53	iP	Pb	07 16 59.7	-0.6
AKAS				iS	Sb	07 17 33.9	-0.8
AYDN	Tasoluk	3.21	15	iP	Pn	07 17 00.5	0.0
TAVA	DENIZLI_Tavas	3.35	29	iP	Pb	07 17 07.0	-2.6
TAVA				iS	Sb	07 17 49.5	-1.0
GERES	GERESS Array B	17.29	330	Pn	Pn	07 20 09.2	-2.2
	comp=N,0.1nm,0.3s,baz=138,slow=13,SNR=4.3						
ARCES	ARCESS Array B	35.04	359	P	P	07 23 00.2	-2.3
	comp=N,4.2nm,1.1s,baz=184,slow=7.1,SNR=3.1						
KURBB	Kurchatov Arra	40.43	50	P	P	07 23 50.1	+1.8
	comp=N,0.7nm,0.7s,baz=280,slow=8.9,SNR=5.4						
MKAR	Makanchi Array	42.95	56	P	P	07 24 11.2	+2.1
	comp=N,1.0nm,0.7s,baz=278,slow=6.5,SNR=13						
SONM	Songino Array	58.80	51	P	P	07 26 10.2	+1.8
	comp=N,0.4nm,0.4s,baz=278,slow=9.4,SNR=5.7						

MEX 02 07:18:02.6±0.5**, 16°.14N**×**98°.50W, h18**km**, MD3.9, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.43	54	eP	Pg	07 18 10.1	-1.4
PNIG				eS	Sg	07 18 16.0	-1.5
TLIG	Tlapa	1.42	357	eP	Pn	07 18 24.0	-3.6
TLIG				eS	Sn	07 18 41.1	-4.8
VHO	Vista Hermosa	1.93	61	eP	Pn	07 18 33.2	-1.5
VHO				eS	Sb	07 19 01.2	0.0
HUIG	Huatulco	2.33	99	eP	Pn	07 18 38.9	-1.1
HUIG				eS	Sg	07 19 17.4	0.0

*ISK **02** 07:18:29.4, 38°.74N×43°.08E, h22km, ML2.6/2*
*ATA **02** 07:18:29.8±0.3, 38°.71N×43°.14E, h20km±17km, ML3.1, MW2.9*
*CSEM **02** 07:18:30.6±0.2, 38°.74N×43°.10E, h22km±3km, ML2.6, Error ellipse: s-maj=5.5km s-min=4.9km az=173.0*
*ISCJB **02** 07:18:31.0±0.6, 38°.72N±0°.03×43°.09E±0°.04, h26km±7km, Error ellipse: s-maj=5.5km s-min=5.0km az=169.2*
*DDA **02** 07:18:31.1, 38°.71N×43°.08E, h7km, Ml2.9*
ISC 02 07:18:30.6±1.0**, 38°.72N**±0°.03×**43°.10E**±0°.03**, h30**km±7km**, n24, σ0.s64**/39**, 3D, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.26**	**119**	PG	**Pb**	**07 18 37.7**	**+0.1**
VANB				SG	**Sb**	**07 18 43.1**	**+0.8**
VANB	**Van**	**0.26**	**119**	*e*Pg	**Pb**	**07 18 37.7**	**+0.1**
VANB				*e*Sg	**Sb**	**07 18 43.1**	**+0.8**
TVAN	**Van**	**0.30**	**129**	*i* P	**Pb**	**07 18 37.6**	**-0.7**
TVAN				*i* S	**Sb**	**07 18 43.4**	**-0.2**
TVAN	**Van**	**0.30**	**129**	P	**Pb**	**07 18 37.6**	**-0.7**
TVAN				S	**Sb**	**07 18 43.4**	**-0.2**
ADCV	**BITLIS_Adilcev**	**0.31**	**287**	*i* P	**Pb**	**07 18 37.9**	**-0.5**
ADCV				*i* S	**Sb**	**07 18 43.5**	**-0.1**
GEVA	**Gevas**	**0.41**	**185**	⇓*i*P	**Pb**	**07 18 38.8**	**-1.0**
GEVA				⇓*e*P	**Pb**	**07 18 38.8**	**-1.0**
GEVA				*e*S	**Sb**	**07 18 45.8**	**-0.2**
GEVA				IAML		07 18 47.8	
	comp=Z,104nm,0.6s						
GEVA	**Gevas**	**0.41**	**185**	*i* P	**Pb**	**07 18 38.9**	**-0.9**
VMUR	**Van-Muradiye**	**0.46**	**54**	*i* P	**Pb**	**07 18 40.2**	**-0.3**
VMUR				*i* S	**Sn**	**07 18 47.8**	**-0.9**
VMUR	**Van-Muradiye**	**0.46**	**54**	P	**Pb**	**07 18 40.2**	**-0.3**
VMUR				S	**Sn**	**07 18 47.8**	**-0.9**
TUTA	**Tutak**	**0.72**	**342**	⇓*i*P	**Pb**	**07 18 44.7**	**-0.2**
TUTA				IAML		07 18 57.0	
	comp=Z,137nm,0.3s						
TUTA	**Tutak**	**0.72**	**342**	*i* P	**Pb**	**07 18 44.8**	**0.0**
CLDR	**Caldiran**	**0.76**	**56**	PG	**Pb**	**07 18 44.8**	**-0.8**
CLDR				SG	**Sb**	**07 18 55.7**	**-0.1**
CLDR	**Caldiran**	**0.76**	**56**	*i* P	**Pb**	**07 18 44.6**	**-1.0**
CLDR	**Caldiran**	**0.76**	**56**	P	**Pb**	**07 18 44.6**	**-1.0**
CLDR	**Caldiran**	**0.76**	**56**	*e*Pg	**Pb**	**07 18 44.8**	**-0.8**
CLDR				*e*Sg	**Sb**	**07 18 55.7**	**-0.1**
GURO	**Guroymak-BITLI**	**0.85**	**259**	PG	**Pb**	**07 18 46.2**	**-0.8**
GURO				SG	**Sb**	**07 18 58.4**	**+0.2**
GURO	**Guroymak-BITLI**	**0.85**	**259**	*e*Pg	**Pb**	**07 18 46.2**	**-0.8**
GURO				*e*Sg	**Sb**	**07 18 58.4**	**+0.2**
AGRB	**Hanur-Agry**	**0.86**	**354**	PG	**Pb**	**07 18 46.8**	**-0.4**
AGRB				SG	**Sn**	**07 18 58.4**	**-0.2**
AGRB	**Hanur-Agry**	**0.86**	**354**	*e*Pg	**Pb**	**07 18 46.8**	**-0.4**
AGRB				*e*Sg	**Sn**	**07 18 58.4**	**-0.2**
EKAR	**Karacoban**	**0.97**	**304**	*e*P	**Pn**	**07 18 49.4**	**+0.9**
EKAR				IAML		07 19 18.6	
	comp=Z,14nm,0.4s						
EKAR	**Karacoban**	**0.97**	**304**	*i* P	**Pn**	**07 18 49.4**	**+0.9**
EKAR	**Karacoban**	**0.97**	**304**	P	**Pn**	**07 18 49.4**	**+0.9**
HAKT	**HAKKARI**	**1.25**	**157**	*i* P	**Pb**	**07 18 54.2**	**+0.4**
HAKT	**HAKKARI**	**1.25**	**157**	P	**Pb**	**07 18 54.2**	**+0.4**

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*ISCJB **02** 07:24:56.9±0.7, 29°.02S±0°.03×69°.57W±0°.04, h130km±7km, Error ellipse: s-maj=5.6km s-min=4.4km az=0.7*
*GUC **02** 07:24:57.0±0.4, 29°.00S×69°.89W, h157km±12km, ML3.9*
*SJA **02** 07:24:57.1±0.9, 29°.04S×69°.55W, h127km±4km, ML3.2, MW3.3, Fault plane solution: NP1:φs321.34000°, δ66.01000°, λ53.41000°.*
ISC 02 07:24:56.7±1.5**, 29°.02S**±0°.03×**69°.61W**±0°.04**, h136**km±11km**, n20, σ0.s89**/39**, 8C-7D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCO	**Las Campanas**	**0.95**	**270**	⇓*i*P	**Pn**	**07 25 20.6**	**+0.5**
LCO				*e*S	**Sn**	**07 25 38.2**	**+0.4**
LCO	**Las Campanas**	**0.95**	**270**	*e*P	**Pn**	**07 25 20.2**	**+0.2**
LCO				*e*S	**Sn**	**07 25 36.9**	**-0.9**
LCO				IAML		07 25 37.8	
	comp=E,2μm,0.3s						
AGUA	**GUANDACOL**	**1.08**	**116**	⇓*e*P	**Pn**	**07 25 21.6**	**+0.5**
AGUA				*e*S	**Sn**	**07 25 38.5**	**-1.1**
AROD	**Rodeo**	**1.15**	**174**	⇓*e*P	**Pn**	**07 25 22.6**	**+0.6**
AROD				*e*S	**Sn**	**07 25 41.2**	**0.0**
ACDV	**Cuesta del Vie**	**1.22**	**160**	⇓*e*P	**Pn**	**07 25 23.1**	**+0.6**
ACDV				*e*S	**Sn**	**07 25 41.7**	**-0.5**
VCA	**Vinchina**	**1.27**	**77**	⇑*e*P	**Pn**	**07 25 24.5**	**+1.6**
VCA				*e*S	**Sn**	**07 25 41.7**	**-1.1**
VCA				IAML		07 25 44.4	
	comp=Z,586nm,0.2s						
GO03	**Copiap**	**1.52**	**339**	*e*P	**Pn**	**07 25 26.3**	**+0.6**
GO03				*e*S	**Sn**	**07 25 47.5**	**-0.1**
GO03				IAML		07 25 48.4	
	comp=N,1μm,0.6s						
TLL	**Tololo Astrono**	**1.54**	**222**	*e*P	**Pn**	**07 25 26.2**	**+0.2**
TLL				*e*S	**Sn**	**07 25 47.5**	**-0.9**
TLL				IAML		07 25 50.3	
	comp=N,1μm,0.4s						
GO04	**Tololo Observa**	**1.54**	**222**	*e*P	**Pn**	**07 25 26.2**	**+0.2**
GO04				*e*S	**Sn**	**07 25 47.7**	**-0.6**
GO04				IAML		07 25 51.0	
	comp=N,2μm,0.4s						
CPCH	**Copiapo**	**1.78**	**338**	*e*P	**Pn**	**07 25 28.8**	**+0.3**
CPCH				*e*S	**Sn**	**07 25 52.4**	**-0.4**
AMOG	**MOGNA**	**2.14**	**153**	⇑*e*P	**Pn**	**07 25 33.3**	**+0.4**
AMOG				*e*S	**Sn**	**07 25 59.9**	**-0.7**
RTLL	**Cerro Villicun**	**2.50**	**157**	⇑*e*P	**Pn**	**07 25 38.5**	**+1.2**
RTLL				*e*S	**Sn**	**07 26 07.5**	**-1.0**
RTLL				IAML		07 26 09.6	
	comp=Z,242nm,0.3s						
RTLS	**Leoncito**	**2.78**	**174**	⇑*e*P	**Pn**	**07 25 42.3**	**+1.2**
RTLS				*e*S	**Sn**	**07 26 15.4**	**+0.1**
RTLS				IAML		07 26 18.7	
	comp=Z,147nm,0.8s						
RTCV	**Cerro Valdivia**	**2.98**	**162**	⇑*e*P	**Pn**	**07 25 44.3**	**+1.0**
RTCV				*e*S	**Sn**	**07 26 18.4**	**-0.9**
APLL	**PUNTA DE LOS L**	**3.01**	**118**	⇓*e*P	**Pn**	**07 25 44.1**	**+0.3**
APLL				IAML		07 26 18.7	
	comp=Z,46nm,0.4s						
APLL				*e*S	**Sn**	**07 26 18.8**	**-1.2**
AUSP	**Uspallata**	**3.20**	**177**	⇑*i*P	**Pn**	**07 25 47.7**	**+1.3**
AUSP				*e*S	**Sn**	**07 26 25.7**	**+0.9**
CYA	**Choya**	**3.40**	**81**	⇓*e*P	**Pn**	**07 25 49.1**	**+0.4**
CYA				*e*S	**Sn**	**07 26 27.6**	**-1.3**
CYA				IAML		07 26 27.9	
	comp=Z,32nm,0.8s						
ASAL	**Salagasta**	**3.62**	**170**	⇑*e*P	**Pn**	**07 25 53.1**	**+1.4**
ASAL				*e*S	**Sn**	**07 26 33.3**	**-1.0**
ROC1	**El Roble**	**4.12**	**197**	⇑*e*P	**Pn**	**07 25 57.4**	**-1.1**
FSA	**Cafayete**	**4.33**	**49**	⇓*e*P	**Pn**	**07 26 02.1**	**+0.8**
FSA				IAML		07 26 02.5	
	comp=Z,5.6nm,0.4s						
FSA				*e*S	**Sn**	**07 26 50.6**	**-0.7**

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*IDC **02** 07:38:12.2±0.9, 53°.22N×163°.23E, h0km, mb3.5/7, mb1 3.8/8, mb1mx3.4/74, mbtmp3.5/8, ML3.0/1, Error ellipse: s-maj=30.2km s-min=19.7km az=150.0*
*KRSC **02** 07:38:14.6±1.6, 53°.33N×163°.02E, h86km±32km, ML4.3*
*ISCJB **02** 07:38:15.6±0.5, 53°.34N±0°.03×163°.08E±0°.05, h33km, mb3.4/7, Error ellipse: s-maj=5.1km s-min=3.2km az=40.3*
*MOS **02** 07:38:18.4±0.8, 53°.46N×162°.77E, h69km, mb4.2/2, Error ellipse: s-maj=8.3km s-min=5.6km az=106.0*
ISC 02 07:38:17.0±0.8**, 53°.30N**±0°.04×**163°.15E**±0°.06**, h35**km**, n72, σ1.s33**/119**, mb3.5**/7**, Off east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**1.89**	**265**	*e*P	**Pn**	**07 38 45.7**	**-1.1**
SPN				*e*S	**Sn**	**07 39 07.3**	**-2.1**
SPN	**Mys Shipunski**	**1.89**	**265**	PN	**Pn**	**07 38 45.7**	**-1.1**
SPN				S	**Sn**	**07 39 07.3**	**-2.1**
NLC	**Nalytchevo**	**2.29**	**268**	*e*P	**Pn**	**07 38 51.6**	**-0.6**
NLC				*e*S	**Sn**	**07 39 17.8**	**-1.4**
NLC	**Nalytchevo**	**2.29**	**268**	PN	**Pn**	**07 38 51.6**	**-0.6**
NLC				S	**Sn**	**07 39 17.8**	**-1.4**
KII	**Karymskiy**	**2.32**	**290**	*e*P	**Pn**	**07 38 51.7**	**-1.1**
KII				*e*S	**Sn**	**07 39 18.8**	**-1.3**
KII	**Karymskiy**	**2.32**	**290**	PN	**Pn**	**07 38 51.7**	**-1.1**
KII				S	**Sn**	**07 39 18.8**	**-1.3**
KZV	**Kizimen**	**2.47**	**318**	*e*P	**Pn**	**07 38 53.9**	**-1.0**
KZV				*e*S	**Sn**	**07 39 22.5**	**-1.4**
KZV	**Kizimen**	**2.47**	**318**	PN	**Pn**	**07 38 53.9**	**-1.0**
KZV				S	**Sn**	**07 39 22.5**	**-1.4**
TUMD	**Tumrok D**	**2.50**	**321**	*e*P	**Pn**	**07 38 53.8**	**-1.3**
TUMD				*e*S	**Sn**	**07 39 21.8**	**-2.5**
UGLR	**Uglovaya**	**2.60**	**270**	*e*P	**Pn**	**07 38 56.6**	**0.0**
UGLR				*e*S	**Sn**	**07 39 26.0**	**-1.0**
UGLR	**Uglovaya**	**2.60**	**270**	PN	**Pn**	**07 38 56.6**	**0.0**
UGLR				S	**Sn**	**07 39 26.0**	**-1.0**
SMAR	**Somma**	**2.61**	**271**	*e*P	**Pn**	**07 38 56.6**	**-0.3**
SMAR	**Somma**	**2.61**	**271**	PN	**Pn**	**07 38 56.6**	**-0.3**
AVH	**Avacha**	**2.65**	**271**	*e*P	**Pn**	**07 38 57.3**	**0.0**
AVH				*e*S	**Sn**	**07 39 27.0**	**-1.2**
AVH	**Avacha**	**2.65**	**271**	PN	**Pn**	**07 38 57.3**	**0.0**
AVH				S	**Sn**	**07 39 27.0**	**-1.2**
TUMR	**Tumrok**	**2.65**	**320**	*e*P	**Pn**	**07 38 56.7**	**-0.6**
TUMR	**Tumrok**	**2.65**	**320**	PN	**Pn**	**07 38 53.8**	**-3.5**
TUMR				S	**Sn**	**07 39 21.8**	**-6.5**
DALK	**Dalny**	**2.66**	**266**	*e*P	**Pn**	**07 38 56.4**	**-0.9**
DALK				*e*S	**Sn**	**07 39 27.5**	**-0.8**
DALK	**Dalny**	**2.66**	**266**	PN	**Pn**	**07 38 56.4**	**-0.9**
DALK				S	**Sn**	**07 39 27.5**	**-0.8**
KRX	**Arik**	**2.70**	**273**	*e*P	**Pn**	**07 38 57.6**	**-0.4**
KRX				*e*S	**Sn**	**07 39 28.3**	**-1.2**
KRX	**Arik**	**2.70**	**273**	PN	**Pn**	**07 38 57.6**	**-0.4**
KRX				S	**Sn**	**07 39 28.3**	**-1.2**
KOK	**Koryaka**	**2.71**	**272**	*e*P	**Pn**	**07 38 57.8**	**-0.3**
KOK	**Koryaka**	**2.71**	**272**	PN	**Pn**	**07 38 57.8**	**-0.3**
PET	**Petropavlovsk**	**2.72**	**266**	*e*P	**Pn**	**07 38 57.5**	**-0.7**
PET				*e*S	**Sn**	**07 39 28.2**	**-1.6**
PET	**Petropavlovsk**	**2.72**	**266**	*e*PN	**Pn**	**07 38 59.0**	**+0.8**
PET				*e*S	**Sn**	**07 39 29.6**	**-0.2**
PET				pmax	pmax		
	comp=Z,25nm,0.4s						
PET				smax	smax		
	comp=N,299nm,0.6s						
PET				smax	smax		
	comp=E,350nm,0.5s						
KBTR	**Krutoberegovo**	**2.92**	**356**	*e*P	**Pn**	**07 38 58.7**	**-2.1**
KBTR				*e*S	**Sn**	**07 39 32.9**	**-1.7**
KBTR	**Krutoberegovo**	**2.92**	**356**	PN	**Pn**	**07 38 58.7**	**-2.1**
KBTR				S	**Sn**	**07 39 32.9**	**-1.7**
RUS	**Russkaya**	**2.94**	**255**	*e*P	**Pn**	**07 39 00.3**	**-0.9**
RUS				*e*S	**Sn**	**07 39 33.5**	**-1.8**
RUS	**Russkaya**	**2.94**	**255**	PN	**Pn**	**07 39 00.3**	**-0.9**
RUS				S	**Sn**	**07 39 33.5**	**-1.8**
KMNR	**Kamenistaya**	**2.99**	**327**	*e*P	**Pn**	**07 39 01.9**	**0.0**
KMNR				*e*S	**Sn**	**07 39 35.9**	**-0.6**
KMNR	**Kamenistaya**	**2.99**	**327**	PN	**Pn**	**07 39 01.9**	**0.0**
KMNR				S	**Sn**	**07 39 35.9**	**-0.6**
BZMR	**Bezymyannaya**	**3.06**	**331**	*e*P	**Pn**	**07 39 02.9**	**0.0**
BZMR	**Bezymyannaya**	**3.06**	**331**	PN	**Pn**	**07 39 02.9**	**0.0**
KRMR	**Karymshinskiy**	**3.07**	**263**	*e*P	**Pn**	**07 39 02.9**	**0.0**
KRMR				*e*S	**Sn**	**07 39 37.5**	**-0.8**
KRMR	**Karymshinskiy**	**3.07**	**263**	PN	**Pn**	**07 39 02.9**	**0.0**
KRMR				S	**Sn**	**07 39 37.5**	**-0.8**
BZWR	**Bezymyannyi-We**	**3.08**	**331**	*e*P	**Pn**	**07 39 03.0**	**-0.3**
BZWR	**Bezymyannyi-We**	**3.08**	**331**	PN	**Pn**	**07 39 03.0**	**-0.3**
MTVR	**Mutnovka**	**3.12**	**257**	*e*P	**Pn**	**07 39 02.6**	**-1.2**
MTVR				*e*S	**Sn**	**07 39 38.1**	**-1.8**
MTVR	**Mutnovka**	**3.12**	**257**	PN	**Pn**	**07 39 02.6**	**-1.2**
MTVR				S	**Sn**	**07 39 38.1**	**-1.8**
LGNR	**Loginova**	**3.13**	**334**	*e*P	**Pn**	**07 39 04.1**	**+0.1**
LGNR	**Loginova**	**3.13**	**334**	PN	**Pn**	**07 39 04.1**	**+0.1**
GNL	**Ganaly**	**3.14**	**279**	*e*P	**Pn**	**07 39 04.4**	**+0.4**
GNL				*e*S	**Sn**	**07 39 40.0**	**-0.2**
GNL	**Ganaly**	**3.14**	**279**	PN	**Pn**	**07 39 04.4**	**+0.4**
GNL				S	**Sn**	**07 39 40.0**	**-0.2**
CIRR	**Tsirk**	**3.14**	**335**	*e*P	**Pn**	**07 39 04.2**	**+0.1**
CIRR	**Tsirk**	**3.14**	**335**	PN	**Pn**	**07 39 04.2**	**+0.1**
KRSR	**Krestovskiy**	**3.28**	**334**	*e*P	**Pn**	**07 39 05.2**	**-0.8**
KRSR	**Krestovskiy**	**3.28**	**334**	PN	**Pn**	**07 39 05.2**	**-0.8**
PETK	**Petropavlovsk-**	**3.29**	**269**	Pn	**Pn**	**07 39 06.5**	**+0.6**
	comp=E,7.9nm,0.3s,baz=88,slow=19,SNR=164						
PETK				Sn	**Sn**	**07 39 44.2**	**+0.4**
	comp=E,13nm,0.3s,baz=202,slow=24,SNR=13						
KLY	**Klyuchi**	**3.34**	**335**	*e*P	**Pn**	**07 39 06.4**	**-0.3**
KLY				*e*S	**Sn**	**07 39 43.6**	**-1.5**
KLY	**Klyuchi**	**3.34**	**335**	PN	**Pn**	**07 39 06.4**	**-0.3**
KLY				S	**Sn**	**07 39 43.6**	**-1.5**
KOZ	**Kozyrevsk**	**3.35**	**327**	*e*P	**Pn**	**07 39 06.9**	**0.0**
KOZ				*e*S	**Sn**	**07 39 45.7**	**+0.3**
KOZ	**Kozyrevsk**	**3.35**	**327**	PN	**Pn**	**07 39 06.9**	**0.0**
KOZ				S	**Sn**	**07 39 45.7**	**+0.3**
SMKR	**Semkarok**	**3.43**	**344**	*e*P	**Pn**	**07 39 06.9**	**-1.0**
SMKR				*e*S	**Sn**	**07 39 46.9**	**-0.4**
SMKR	**Semkarok**	**3.43**	**344**	PN	**Pn**	**07 39 06.9**	**-1.0**
SMKR				S	**Sn**	**07 39 46.9**	**-0.4**
KDTR	**Khodutka, Kamc**	**3.44**	**246**	*e*P	**Pn**	**07 39 07.0**	**-1.0**
KDTR				*e*S	**Sn**	**07 39 44.3**	**-3.2**
BDR	**Baidarnaya**	**3.46**	**342**	*e*P	**Pn**	**07 39 07.8**	**-0.6**
BDR	**Baidarnaya**	**3.46**	**342**	PN	**Pn**	**07 39 07.8**	**-0.6**
SRKR	**Sorokina**	**3.55**	**342**	*e*P	**Pn**	**07 39 08.8**	**-0.8**
SRKR				*e*S	**Sn**	**07 39 47.6**	**-2.7**
SRKR	**Sorokina**	**3.55**	**342**	PN	**Pn**	**07 39 08.8**	**-0.8**
SRKR				S	**Sn**	**07 39 47.6**	**-2.7**
APC	**Apacha**	**3.63**	**266**	*e*P	**Pn**	**07 39 11.8**	**+1.1**
APC				*e*S	**Sn**	**07 39 51.5**	**-0.7**
APC	**Apacha**	**3.63**	**266**	PN	**Pn**	**07 39 11.8**	**+1.1**
APC				S	**Sn**	**07 39 51.5**	**-0.7**
ESO	**Esso**	**3.69**	**317**	*e*P	**Pn**	**07 39 11.2**	**-0.3**
ESO				*e*S	**Sn**	**07 39 52.6**	**-1.1**
ESO	**Esso**	**3.69**	**317**	PN	**Pn**	**07 39 11.2**	**-0.3**
ESO				S	**Sn**	**07 39 52.6**	**-1.1**
SKR	**Severo-Kuril's**	**5.08**	**242**	*e*P	**Pn**	**07 39 29.4**	**-1.1**
SKR				*e*S	**Sn**	**07 40 24.0**	**-3.8**
SKR	**Severo-Kuril's**	**5.08**	**242**	PN	**Pn**	**07 39 29.4**	**-1.1**
ILAR	**Eielson Array**	**27.36**	**46**	P	**P**	**07 43 58.5**	**+0.1**
	comp=E,0.3nm,0.9s,baz=257,slow=8.2,SNR=3.5						
YKA	**Yellowknife Ar**	**41.75**	**44**	P	**P**	**07 46 02.3**	**+0.1**
	comp=E,0.1nm,0.8s,baz=293,slow=7.4,SNR=2.6						
MKAR	**Makanchi Array**	**49.71**	**297**	P	**P**	**07 47 06.4**	**+1.1**
	comp=E,0.3nm,0.6s,baz=58,slow=6.4,SNR=3.3						
FINES	**FINESS Array B**	**60.64**	**338**	P	**P**	**07 48 24.7**	**+0.9**
	comp=E,2.7nm,0.9s,baz=31,slow=8.3,SNR=3.7						
TXAR	**Lajitas Array**	**68.85**	**69**	P	**P**	**07 49 19.3**	**+1.4**
	comp=E,0.5nm,0.6s,baz=295,slow=5.0,SNR=11						
WRA	**Warramunga Arr**	**77.09**	**208**	P	**P**	**07 50 06.0**	**-0.4**
	comp=E,0.4nm,0.8s,baz=28,slow=6.6,SNR=4.0						
ASAR	**Alice Springs**	**80.74**	**207**	P	**P**	**07 50 27.4**	**+0.9**
	comp=E,0.8nm,1.1s,baz=20,slow=5.1,SNR=4.8						

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*NIED **02** 07:39:00, 33°.80N×132°.20E, h59km, Mw4.2 Best double couple: Mo2.54000×10^15 NP1:φs309.00000°, δ39.00000°, λ-148.00000°. NP2:φs193.00000°, δ71.00000°, λ-56.00000°.*
*ISCJB **02** 07:39:05.9±0.3, 33°.75N±0°.03×132°.14E±0°.04, h64km±3km, mb3.9/17, Error ellipse: s-maj=5.7km s-min=5.1km az=155.0*
*IDC **02** 07:39:07.6±0.6, 33°.81N×132°.02E, h61km±4km, mb3.6/17, mb1 3.8/18, mb1mx3.6/69, mbtmp3.9/18, MS3.1/9, Ms1 3.2/9, ms1mx2.8/64, Error ellipse: s-maj=13.4km s-min=7.2km az=135.0*
*JMA **02** 07:39:07.1, 33°.78N×132°.18E, h56km, M4.1 Broadband fault plane solution: P waves. NP1:φs180.00000°, δ61.00000°, λ-64.00000°. NP2:φs314.00000°, δ38.00000°, λ-128.00000°. Principal axes: T Plg12.0000°, Azm251.0000°; N Plg23.0000°, Azm346.0000°; P Plg64.0000°, Azm135.0000°;*
JMA Felt II J1.
ISC 02 07:39:06.9±0.5**, 33°.75N**±0°.04×**132°.15E**±0°.04**, h59**km±4km**, n41, σ1.s11**/59**, mb4.0**/17**, MS3.2**/6**, 9C-2D, Shikoku**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNA	**Nagahama**	**0.33**	**124**	⇑P	**Pn**	**07 39 17.0**	**-0.2**
JNA				S	**Sn**	**07 39 24.3**	**-0.3**
JKD	**Kudamatsu**	**0.38**	**323**	⇓P	**Pn**	**07 39 17.5**	**-0.1**
JKD				S	**Sn**	**07 39 25.0**	**-0.4**
JHM	**Kurahashi**	**0.50**	**39**	⇑P	**Pn**	**07 39 18.4**	**-0.4**
JHM				S	**Sn**	**07 39 26.7**	**-0.7**
UWA2	**Uwa jima 2**	**0.66**	**143**	⇑P	**Pn**	**07 39 21.0**	**+0.3**
UWA2				S	**Sn**	**07 39 30.9**	**+0.2**
JET	**Tanbara**	**0.75**	**87**	⇑P	**Pn**	**07 39 21.5**	**-0.2**
JET				S	**Sn**	**07 39 32.2**	**-0.4**
JKU	**Kubokawa**	**0.88**	**119**	⇑P	**Pn**	**07 39 23.2**	**-0.2**
JKU				S	**Sn**	**07 39 35.2**	**-0.2**
JHT	**Toyohira**	**0.94**	**14**	⇑P	**Pn**	**07 39 24.2**	**0.0**
JHT				S	**Sn**	**07 39 36.7**	**-0.2**
JTO	**Tosashimizu**	**1.04**	**148**	⇓P	**Pn**	**07 39 25.8**	**+0.4**
JTO				S	**Sn**	**07 39 38.9**	**-0.2**
JNU	**Nakatsue**	**1.23**	**240**	P	**Pn**	**07 39 29.0**	**+1.0**
	191nm,0.3s,baz=51,slow=3.9,SNR=830						
JNU				S	**Sn**	**07 39 43.5**	**-0.3**
	293nm,0.3s,baz=293,slow=7.7,SNR=21						
JGT2	**ShimaneMisato**	**1.35**	**13**	⇑P	**Pn**	**07 39 29.3**	**-0.2**
JGT2				S	**Sn**	**07 39 45.8**	**-0.7**
JMN	**Monobe**	**1.44**	**90**	⇑P	**Pn**	**07 39 30.0**	**-0.8**
JMN				S	**Sn**	**07 39 47.1**	**-1.7**
JHS	**Saijyo**	**1.48**	**32**	⇑P	**Pn**	**07 39 31.2**	**-0.2**
KSRS	**Korea Array**	**5.05**	**318**	P	**Pn**	**07 40 20.8**	**+0.7**
	1.7nm,0.3s,baz=139,slow=14,SNR=20						
KSRS				LR	LR	07 42 35.6	
	comp=Z,132nm,20.0s,baz=112,slow=42						
MAT	**Matsushiro**	**5.69**	**59**	P	**Pn**	**07 40 30.1**	**+1.2**
MAT				S	**Sn**	**07 41 37.3**	**+4.4**
MJAR	**Matsushiro Arr**	**5.69**	**59**	P	**Pn**	**07 40 30.8**	**+1.9**
	15nm,0.3s,baz=243,slow=14,SNR=214						
JHJ	**Hachijo jima 2**	**6.41**	**93**	P	**Pn**	**07 40 38.4**	**-0.4**
	45nm,0.3s,baz=232,slow=20,SNR=13						
JHJ				S	**Sn**	**07 41 47.1**	**-3.4**
	5.9nm,0.3s,baz=64,slow=19,SNR=3.6						
JHJ				LR	LR	07 43 13.3	
	comp=Z,178nm,21.6s,baz=310,slow=38						
USRK	**Ussuriysk Ar.**	**10.44**	**359**	LR	LR	07 45 12.6	
	comp=Z,54nm,20.0s,baz=158,slow=35						
KLR	**Kul'dur**	**15.47**	**359**	P	**Pn**	**07 42 40.6**	**-0.8**
	0.0nm,0.3s,baz=156,slow=10.0,SNR=2.4						
SONM	**Songino Array**	**23.91**	**314**	P	**P**	**07 44 15.0**	**-0.3**
	2.8nm,1.0s,baz=124,slow=9.9,SNR=9.3						
SONM				pP	**pP**	**07 44 29.7**	**+0.1**
	3.7nm,1.0s,baz=120,slow=11,SNR=8.4						
TLY	**Talaya**	**27.31**	**320**	LR	LR	07 55 48.4	
	comp=Z,41nm,18.9s,baz=104,slow=37						
CMAR	**Chiang Mai Arr**	**33.31**	**251**	LR	LR	07 59 18.6	
	comp=Z,23nm,21.4s,baz=70,slow=36						
ZALV	**Zalesovo Beam**	**38.76**	**316**	PcP	**PcP**	**07 48 33.8**	**-2.0**
	0.5nm,0.3s,baz=83,slow=5.3,SNR=4.4						
ZALV				LR	LR	08 01 44.3	
	comp=Z,38nm,20.9s,baz=70,slow=35						
MKAR	**Makanchi Array**	**39.57**	**304**	P	**P**	**07 46 31.6**	**-0.7**
	0.2nm,0.5s,baz=95,slow=9.0,SNR=3.6						
MKAR				pP	**pP**	**07 46 46.2**	**-1.1**
	0.4nm,0.6s,baz=88,slow=11,SNR=4.0						
MKAR				PcP	**PcP**	**07 48 37.9**	**-0.8**
	0.4nm,0.6s,baz=64,slow=4.2,SNR=4.7						
MKAR				LR	LR	08 04 02.4	
	comp=Z,36nm,20.1s,baz=96,slow=38						
KURBB	**Kurchatov Arra**	**42.18**	**310**	P	**P**	**07 46 52.8**	**-0.9**
	0.6nm,0.8s,baz=94,slow=9.1,SNR=5.8						
KURBB				PcP	**PcP**	**07 48 46.3**	**-0.7**
	0.8nm,0.8s,baz=89,slow=3.9,SNR=6.9						
AAK	**Ala-Archa**	**45.40**	**299**	LR	LR	08 06 29.7	
	comp=Z,31nm,21.1s,baz=346,slow=36						
BVAR	**Borovoye Array**	**47.25**	**314**	P	**P**	**07 47 33.6**	**-0.5**
	1.1nm,0.6s,baz=99,slow=8.9,SNR=6.9						
BVAR				PcP	**PcP**	**07 49 04.4**	**0.0**
	0.4nm,0.4s,baz=72,slow=4.7,SNR=3.7						
WRA	**Warramunga Arr**	**53.43**	**177**	P	**P**	**07 48 21.1**	**+0.2**
	1.9nm,0.6s,baz=354,slow=8.1,SNR=32						
AKTO	**Aktyubinsk**	**55.20**	**311**	LR	LR	08 12 49.0	
	comp=Z,45nm,18.5s,baz=63,slow=37						
ILAR	**Eielson Array**	**56.24**	**31**	P	**P**	**07 48 41.4**	**+0.6**
	0.4nm,0.7s,baz=290,slow=9.4,SNR=7.6						
ILAR				pP	**pP**	**07 48 56.6**	**+0.2**
	0.6nm,0.6s,baz=271,slow=5.9,SNR=4.6						
ASAR	**Alice Springs**	**57.12**	**178**	P	**P**	**07 48 48.0**	**+0.6**
	0.7nm,0.4s,baz=9.5,slow=13,SNR=28						
ASAR				pP	**pP**	**07 49 04.1**	**+1.0**
	0.8nm,0.6s,baz=8.3,slow=13,SNR=4.5						
INK	**Inuvik**	**60.66**	**25**	P	**P**	**07 49 12.4**	**+0.9**
	0.5nm,0.7s,baz=271,slow=5.7,SNR=2.5						
INK				pP	**pP**	**07 49 28.8**	**+1.6**
	1.6nm,0.8s,baz=302,slow=5.4,SNR=5.1						
ARCES	**ARCESS Array B**	**64.30**	**338**	P	**P**	**07 49 35.0**	**-0.8**
	3.6nm,0.9s,baz=62,slow=8.4,SNR=6.6						
FINES	**FINESS Array B**	**68.03**	**330**	P	**P**	**07 49 59.2**	**-0.6**
	4.8nm,0.6s,baz=68,slow=5.9,SNR=23						
YKA	**Yellowknife Ar**	**70.30**	**27**	P	**P**	**07 50 14.8**	**+1.0**
	0.3nm,0.8s,baz=304,slow=6.3,SNR=8.6						
YKA				pP	**pP**	**07 50 29.7**	**-0.1**
	0.3nm,0.9s,baz=302,slow=6.2,SNR=5.0						
AKASG	**Malin Array Be**	**72.05**	**319**	P	**P**	**07 50 23.5**	**-1.1**
	1.4nm,0.5s,baz=54,slow=6.7,SNR=4.2						
NB2	**NORSAR Subarra**	**74.06**	**334**	P	**P**	**07 50 35.8**	**-0.6**
	comp=Z,4.1nm,0.8s,baz=47,slow=5.9						
NOA	**NORSAR Array B**	**74.06**	**334**	P	**P**	**07 50 36.0**	**-0.4**
	comp=Z,3.5nm,0.8s,baz=49,slow=5.7,SNR=5.8						
BRTR	**Keskin Array B**	**75.11**	**308**	P	**P**	**07 50 41.9**	**-1.1**
	comp=Z,1.0nm,0.9s,baz=141,slow=8.0,SNR=4.5						
NVAR	**Mina Array Bea**	**82.92**	**48**	P	**P**	**07 51 27.4**	**+1.6**
	comp=Z,0.5nm,0.5s,baz=304,slow=6.4,SNR=2.8						
PDAR	**Pinedale Array**	**85.22**	**41**	P	**P**	**07 51 38.8**	**+1.3**
	comp=Z,0.3nm,0.7s,baz=196,slow=2.3,SNR=3.4						
ULM	**Lac du Bonnet**	**86.20**	**29**	P	**P**	**07 51 42.5**	**+0.7**
	comp=Z,0.9nm,0.7s,baz=297,slow=4.5,SNR=3.4						
ULM				pP	**pP**	**07 51 59.1**	**+0.8**
	comp=Z,2.0nm,0.7s,baz=332,slow=3.5,SNR=4.5						

IDC 02 07:47:48.3±2.1**, 18°.20S**×**177°.45W, h0**km**, mb3.9**/4**, mb1 4.3**/4**, mb1mx3.8**/44**, mbtmp3.9**/4**, Error ellipse: s-maj=122.8km s-min=26.8km az=153.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**45.48**	**260**	P	P	07 56 10.0	+0.3
	1.7nm,0.4s,baz=97,slow=7.9,SNR=68						
ASAR	**Alice Springs**	**45.59**	**254**	P	P	07 56 10.2	-0.4
	2.4nm,0.4s,baz=90,slow=7.5,SNR=58						
TXAR	**Lajitas Array**	**85.39**	**57**	P	P	08 00 28.4	+0.3
	0.2nm,0.7s,baz=209,slow=5.2,SNR=3.0						
ILAR	**Eielson Array**	**85.97**	**13**	P	P	08 00 29.6	-0.4
	1.0nm,1.1s,baz=198,slow=5.7,SNR=3.3						

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*CSEM **02** 07:49:31.6, 38°.40N×21°.86E, h11km, ML1.3/6*
ATH 02 07:49:31.6, 38°.40N×**21°.86E, h11**km±3km**, ML1.3**/6**, Error ellipse: s-maj=3.7km s-min=1.2km az=48.0, Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EFP	**Efpalio**	**0.04**	**50**	P	Pg	07 49 33.2	-0.5
EFP				S	Sg	07 49 35.0	-0.3
EFP				AML	AML	07 49 35.2	
	comp=E,822μm,0.2s						
EFP				AML	AML	07 49 36.1	
	comp=N,521μm,0.2s						
EFP	**Efpalio**	**0.04**	**50**	P	Pg	07 49 33.5	-0.2
EFP				S	Sg	07 49 35.2	-0.1
ANX	**Ano Chora**	**0.20**	**13**	P	Pg	07 49 35.3	-0.7
ANX				S	Sg	07 49 39.2	+0.2
ANX				AML	AML	07 49 39.5	
	comp=E,235μm,0.2s						
ANX				AML	AML	07 49 39.5	
	comp=N,223μm,0.3s						
ANX	**Ano Chora**	**0.20**	**13**	P	Pg	07 49 35.6	-0.4
ANX				S	Sg	07 49 39.1	+0.1
KALE	**Kalithea**	**0.22**	**92**	P	Pb	07 49 37.1	-0.6
KALE				S	Sg	07 49 41.5	+2.1
KALE				AML	AML	07 49 42.1	
	comp=N,122μm,0.1s						
KALE				AML	AML	07 49 42.5	
	comp=E,82μm,0.1s						
KALE	**Kalithea**	**0.22**	**92**	P	Pg	07 49 36.6	+0.4
KALE				S	Sg	07 49 40.5	+1.1
KLV	**Kalavryta, Ach**	**0.42**	**147**	P	Pg	07 49 39.5	-0.4
KLV				S	Sg	07 49 44.5	-1.0
KLV	**Kalavryta, Ach**	**0.42**	**147**	P	Pg	07 49 39.7	-0.2
KLV				S	Sg	07 49 45.2	-0.3
DRO	**Drossia**	**0.46**	**195**	P	Pg	07 49 39.9	-0.8
DRO				AML	AML	07 49 47.9	
	comp=N,183μm,0.3s						
DRO				AML	AML	07 49 48.0	
	comp=E,244μm,0.3s						
DRO				S	Sb	07 49 48.3	-0.3
DRO	**Drossia**	**0.46**	**195**	P	Pg	07 49 40.2	-0.5
DRO				S	Sb	07 49 47.7	-0.9
RLS	**Riolos of Patr**	**0.46**	**223**	P	Pg	07 49 40.9	+0.3
RLS				S	Sb	07 49 47.7	-0.9
RLS				AML	AML	07 49 48.8	
	comp=E,56μm,0.3s						
RLS				AML	AML	07 49 48.9	

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=N,73µm,0.2s						
RLS	Riolos of Patr	0.46	223	P	Pg	07 49 40.8	+0.2
RLS				S	Sg	07 49 47.5	+0.8
PDO	Prodromos	0.57	291	P	Pg	07 49 41.9	-0.8
PDO				S	Sb	07 49 52.3	+0.6
PDO				AML	AML	07 49 52.4	
	comp=N,96µm,0.3s						
PDO				AML	AML	07 49 53.4	
	comp=E,50µm,0.2s						
PDO	Prodromos	0.57	291	P	Pg	07 49 42.2	-0.5
PDO				S	Sb	07 49 51.4	-0.3

*NEIC **02** 07:52:09.8±0.0, 19°.06N×67°.77W, h88km, MD3.1(RSPR), After RSPR.*

RSPR 02 07:52:09.8, 19°.06N×67°.77W, h88km±6km, MD3.1/10, 20C, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMPR	Mona Island, P	0.99	189⇑	eP	Pn	07 52 27.8	-1.5
IMPR	Mona Island, P	0.99	189	eS	Sn	07 52 43.6	-0.2
LSP	Las Mesas	1.09	144⇑	eP	Pn	07 52 29.9	-0.6
LSP	Las Mesas	1.09	144	eS	Sn	07 52 46.0	0.0
LSP	Las Mesas	1.09	144⇑	eP	Pn	07 52 29.9	-0.6
LSP				eS	Sn	07 52 46.0	0.0
AOPR	Arecibo Observ	1.19	126⇑	eP	Pn	07 52 30.1	-1.6
AOPR	Arecibo Observ	1.19	126⇑	eP	Pn	07 52 30.1	-1.6
CRPR	Cabo Rojo, PR	1.22	149⇑	eP	Pn	07 52 31.9	-0.1
CRPR				eS	Sn	07 52 49.9	+1.2
CRPR	Cabo Rojo, PR	1.22	149⇑	eP	Pn	07 52 31.9	-0.1
EMPR	Esperanza - Ma	1.31	116⇑	eP	Pn	07 52 32.2	-0.9
EMPR	Esperanza - Ma	1.31	116	eS	Sn	07 52 50.1	-0.4
EMPR	Esperanza - Ma	1.31	116⇑	eP	Pn	07 52 32.2	-0.9
EMPR				eS	Sn	07 52 50.1	-0.4
CELP	Cerrillos	1.49	131⇑	eP	Pn	07 52 35.3	-0.1
CELP				eS	Sn	07 52 54.1	-0.6
CELP	Cerrillos	1.49	131⇑	eP	Pn	07 52 35.3	-0.1
DR12	Loma Pena Alta	1.55	260⇑	eP	Pn	07 52 36.1	-0.1
DR12				eS	Sn	07 52 55.8	-0.4
DR12	Loma Pena Alta	1.55	260⇑	eP	Pn	07 52 36.1	-0.1
CBYP	Canovanas	1.97	113⇑	eP	Pn	07 52 41.2	-0.4
CBYP	Canovanas	1.97	113⇑	eP	Pn	07 52 41.2	-0.4
CBYP	Canovanas	1.97	113	eS	Sn	07 53 06.0	0.0
CBYP	Canovanas	1.97	113⇑	eP	Pn	07 52 41.2	-0.4
CBYP				eS	Sn	07 53 06.0	0.0
CUPR	Culebra, Puert	2.47	107⇑	eP	Pn	07 52 48.2	0.0
CUPR	Culebra, Puert	2.47	107⇑	eP	Pn	07 52 48.2	0.0
STVI	Saint Thomas	2.76	104⇑	eP	Pn	07 52 51.5	-0.6
STVI	Saint Thomas	2.76	104⇑	eP	Pn	07 52 51.5	-0.6
SDDR	Presa de Saban	3.33	269	ePn	Pn	07 53 02.4	+2.5
SDDR				eSn	Sn	07 53 35.3	-3.2

*CSEM **02** 08:00:13.2, 38°.86N×29°.21W, h0km, ML3.6*

PDA 02 08:00:13.2±1.2, 38°.86N×29°.21W, h0km±10km, MD3.8, ML3.6, Error ellipse: s-maj=14.5km s-min=5.9km az=84.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCED	Cedros	0.46	119	eP	Pg	08 00 21.3	-0.7
PCED				eS	Sg	08 00 27.8	-0.2
PCED				A	A	08 00 30.0	
	686nm,0.2s						
PCED	Cedros	0.46	119	eP	Pg	08 00 21.3	-0.7
PCED				eS	Sg	08 00 27.8	-0.2
CALA	Caldeira	0.48	124	eP	Pg	08 00 22.1	-0.4
CALA				eS	Sg	08 00 28.6	-0.2
CALA	Caldeira	0.48	124	eP	Pg	08 00 22.1	-0.4
CALA				eS	Sg	08 00 28.6	-0.2
HOR	Horta	0.56	126	eP	Pg	08 00 22.9	-1.1
HOR				eS	Sg	08 00 30.8	-0.5
HOR				A	A	08 00 32.4	
	2µm,0.5s						
HOR	Horta	0.56	126	eP	Pg	08 00 22.9	-1.1
HOR				eS	Sg	08 00 30.8	-0.5
PCAN	Candelaria	0.69	124	eP	Pg	08 00 24.9	-1.5
PCAN				eS	Sg	08 00 34.6	-0.8
PCAN				A	A	08 00 36.7	
	1µm,0.3s						
PCAN	Candelaria	0.69	124	eP	Pg	08 00 24.9	-1.5
PCAN				eS	Sg	08 00 34.6	-0.8
PICO	Pico	0.71	120	eP	Pg	08 00 25.3	-1.5
PICO				eS	Sg	08 00 35.1	-0.9
PICO				A	A	08 00 36.4	
	3µm,0.3s						
PICO	Pico	0.71	120	eP	Pg	08 00 25.3	-1.5
PICO				eS	Sg	08 00 35.1	-0.9
PMAN	Manadas	0.91	104	eP	Pg	08 00 27.8	-2.8
PMAN				eS	Sg	08 00 39.5	-2.8
PMAN				A	A	08 00 50.9	
	422nm,0.5s						
PMAN	Manadas	0.91	104	eP	Pg	08 00 27.8	-2.8
PMAN				eS	Sg	08 00 39.5	-2.8
PGRA	Graciosa	0.98	79	eP	Pg	08 00 29.2	-2.7
PGRA				eS	Sg	08 00 40.8	-3.8
PGRA				A	A	08 00 43.2	
	402nm,0.3s						
PGRA	Graciosa	0.98	79	eP	Pg	08 00 29.2	-2.7
PGRA				eS	Sg	08 00 40.8	-3.8
ADH	Angra Heroismo	1.56	97	eP	Pn	08 00 37.3	-4.9
ADH				eS	Sn	08 00 55.6	-7.5
ADH				A	A	08 00 56.7	
	197nm,0.3s						
ADH	Angra Heroismo	1.56	97	eP	Pn	08 00 37.3	-4.9
ADH				eS	Sn	08 00 55.6	-7.5
PSET	Sete Cidades	2.93	109	eP	Pn	08 00 56.7	-4.4
PSET				A	A	08 00 57.2	
	102nm,0.3s						
PSET				eS	Sn	08 01 29.2	-7.8
PSET	Sete Cidades	2.93	109	eP	Pn	08 00 56.7	-4.4
PSET				eS	Sn	08 01 29.2	-7.8
PDA	Ponta Delgada	3.00	111	eP	Pn	08 00 58.0	-4.0
PDA	Ponta Delgada	3.00	111	eP	Pn	08 00 58.0	-4.0
CMLA	Cha da Macela	3.10	109	eP	Pn	08 00 59.0	-4.4
CMLA				eS	Sn	08 01 33.2	-7.9
CMLA				A	A	08 01 37.5	
	48nm,0.3s						
CMLA	Cha da Macela	3.10	109	eP	Pn	08 00 59.0	-4.4
CMLA				eS	Sn	08 01 33.2	-7.9
BART	Pico Bartolome	3.36	107	eP	Pn	08 01 03.1	-3.9
BART	Pico Bartolome	3.36	107	eP	Pn	08 01 03.1	-3.9
PSMA	Santa Maria	3.73	119	eP	Pn	08 01 07.4	-4.5
PSMA				eS	Sn	08 01 47.9	-8.6
PSMA				A	A	08 01 52.7	
	22nm,0.3s						
PSMN	Pico do Norte,	3.77	118	eP	Pn	08 01 08.0	-4.5
PSMN				eS	Sn	08 01 49.1	-8.4
PSMN				A	A	08 01 53.0	
	16nm,0.3s						
PSMN	Pico do Norte,	3.77	118	eP	Pn	08 01 08.0	-4.5
PSMN				eS	Sn	08 01 49.1	-8.4

MEX 02 08:01:59.3±0.5, 16°.32N×98°.32W, h1km±24km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.20	69	i P	Pg	08 02 03.1	-0.1
PNIG				i S	Sg	08 02 06.0	+0.2
TLIG	Tlapa	1.26	349	eP	Pg	08 02 20.2	-3.3
TLIG				eS	Sg	08 02 36.6	-3.2
VHO	Vista Hermosa	1.70	64	eP	Pn	08 02 26.4	-3.8
VHO				eS	Sn	08 02 48.3	-4.4
HUIG	Huatulco	2.20	104	eP	Pn	08 02 36.3	-0.7
HUIG				eS	Sn	08 03 04.6	-0.2

IDC 02 08:11:52.6±7.7, 10°.51S×164°.11E, h54km±32km, mb3.9/3, mb1 4.0/6, mb1mx3.5/50, mbtmp4.1/6, ML4.0/3, Error ellipse: s-maj=116.7km s-min=22.7km az=37.0, Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	4.24	284	eP	Pn	08 12 55.0	+0.3
HNR				eS	Sn	08 13 45.0	+2.0
HNR	Honiara	4.24	284	P	Pn	08 12 55.2	+0.5
	20nm,0.3s,baz=200,slow=12,SNR=4.8						
HNR				S	Sn	08 13 43.5	+0.5
	8.7nm,0.3s,baz=164,slow=20,SNR=2.0						
DZM	Mont Dzumac	11.71	169	P	Pn	08 14 36.6	-0.6
	0.6nm,0.3s,baz=342,slow=13,SNR=10						
DZM				S	Sn	08 16 37.9	-8.6
	0.4nm,0.3s,baz=143,slow=20,SNR=3.0						
CTA	Charters Tower	19.66	239	P	P	08 16 18.0	+0.6
	0.3nm,0.3s,baz=66,slow=15,SNR=5.0						
STKA	Stephens Creek	29.76	221	P	P	08 17 56.0	+1.9
	1.9nm,0.8s,baz=27,slow=11,SNR=3.0						
WRA	Warramunga Arr	30.17	248	P	P	08 17 57.4	-0.6
	1.9nm,0.4s,baz=80,slow=9.1,SNR=38						
ASAR	Alice Springs	31.61	242	P	P	08 18 09.9	-0.8
	1.5nm,0.8s,baz=63,slow=10,SNR=14						

*ISCJB **02** 08:17:04.8±0.8, 16°.87S±0°.02×173°.55W±0°.03, h35km±6km, mb5.2/292, MS4.5/42, Error ellipse: s-maj=4.9km s-min=2.9km az=43.3*

*BJI **02** 08:17:05.8, 16°.78S×172°.97W, h47km, mb5.1/32, mB5.5/18, Ms5.2/21, Ms7 4.9/22*

*WEL **02** 08:17:06.0, 16°.94S×173°.51W, h43km*

*GCMT **02** 08:17:06.9±0.1, 16°.93S×173°.19W, h66km, MW5.4/124, Moment Tensor Solution. s109,c184; s124,c217; Duration: 1s.2 Moment tensor: Scale 10^17 Nm; M_{rr}1.03±.02; $M_{\theta\theta}$-0.98±.02; $M_{\phi\phi}$-0.05±.02; $M_{r\theta}$-0.44±.01; $M_{\theta\phi}$-0.62±.02; $M_{\phi r}$-0.58±.01; Best double couple: $M_0$1.37900×10^17 NP1:ϕ_s228.00000°, δ62.00000°, λ72.00000°. NP2:ϕ_s82.00000°, δ33.00000°, λ119.00000°. Principal axes: T 1.2950, Plg68.0000°, Azm103.0000°; N 0.1680, Plg15.0000°, Azm236.0000°; P -1.4630, Plg15.0000°, Azm331.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **02** 08:17:07.0±0.7, 16°.94S×173°.51W, h43km±5km, mb5.3/240 Error ellipse: s-maj=4.7km s-min=2.8km az=137.0*

NEIC Felt at Alofi, Niue.

*IDC **02** 08:17:10.5±0.3, 17°.04S×173°.55W, h73km±2km, mb4.7/31, mb1 4.7/32, mb1mx4.7/47, mbtmp5.0/32, MS4.3/35, Ms1 4.4/35, ms1mx4.3/39, Error ellipse: s-maj=11.7km s-min=8.9km az=130.0*

*MOS **02** 08:17:11.3±1.2, 16°.73S×173°.41W, h80km, mb5.2/60, Error ellipse: s-maj=9.6km s-min=7.0km az=68.3*

ISC 02 08:17:07.7±0.2, 17°.01S±0°.04×173°.41W±0°.04, h51km±1km, h50km:pP-P, n924, σ1s.40/984, mb5.2/291, MS4.5/42, 33C-11D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	3.46	27	P	Pn	08 17 55.3	-3.8
	250nm,0.3s,baz=194,slow=3.1,SNR=667						
AFI				S	Sn	08 18 30.8	-8.1
	2µm,0.3s,baz=227,slow=23,SNR=20						
AFI				LR	LR	08 19 06.9	
	comp=Z,5µm,21.0s,baz=190,slow=33						
NIUE	Niue	3.90	122	P	Pn	08 18 05.2	+0.1
	baz=4.1,SNR=1000						
MSVF	Nonsavu	8.19	264	ePn	Pn	08 19 02.0	-2.1
MSVF	Nonsavu	8.19	264	eP	Pn	08 19 02.0	-2.1
FUNA	Funafuti	11.09	319	ePn	Pn	08 19 46.3	+2.6
GLKZ	Green Lake	12.88	198	P	Pn	08 20 08.8	+0.7
GLKZ	Green Lake	12.88	198	S	Sn	08 22 22.7	-7.3
RAR	Rarotonga	13.55	110	P	Pn	08 20 16.4	-0.8
	38nm,0.3s,baz=262,slow=8.4,SNR=82						
RAR				S	Sn	08 22 35.7	-11
	5.4nm,0.3s,baz=112,slow=19,SNR=3.3						
RAR				LR	LR	08 24 26.5	
	comp=Z,768nm,21.4s,baz=290,slow=32						
RAR	Rarotonga	13.55	110	ePn	Pn	08 20 16.6	-0.7
RAR				eSn	Sn	08 22 49.8	+3.6
RAR	Rarotonga	13.55	110	P	Pn	08 20 16.3	-1.0
RAR	Rarotonga	13.55	110	S	Sn	08 22 35.7	-11
RAR	Rarotonga	13.55	110	eP	Pn	08 20 16.6	-0.7
RAR				e		08 22 49.8	
KNTN	Kanton	14.24	7	ePn	Pn	08 20 22.8	-3.9
DZM	Mont Dzumac	19.64	252	P	P	08 21 32.8	+0.4
	1.6nm,0.3s,baz=66,slow=20,SNR=13						
DZM				LR	LR	08 28 07.1	
	comp=Z,1µm,19.8s,baz=64,slow=34						
DZM	Mont Dzumac	19.64	252	eP	Pn	08 21 34.3	+0.1
	94nm,1.1s						
DZM				eLQ	LQ	08 25 36.1	
	1µm,25.2s						
DZM				eLR	LR	08 26 30.7	
	4µm,28.1s						
DZM	Mont Dzumac	19.64	252	eP	P	08 21 32.8	+0.4
	81nm,1.0s						
OUZ	Omahuta	21.53	210	eP	P	08 21 54.3	+1.8
	113nm,1.1s						
WMGZ	Waiomatatini S	21.95	198	P	P	08 22 01.2	+4.2
WMGZ	Waiomatatini S	21.95	198	S	S	08 25 53.5	-3.0
HAZ	Te Kaha	22.08	199	P	P	08 22 00.6	+2.2
HAZ	Te Kaha	22.08	199	S	S	08 25 49.1	-10
PKGZ	Pakihiroa	22.11	198	P	P	08 22 02.2	+3.4
PKGZ	Pakihiroa	22.11	198	S	S	08 25 53.5	-6.2
PUZ	Puketiti	22.23	198	P	P	08 22 02.8	+2.7
PUZ	Puketiti	22.23	198	S	S	08 25 56.1	-5.7
RUGZ	Raukumara Rang	22.30	199	P	P	08 22 04.1	+3.1
RUGZ	Raukumara Rang	22.30	199	S	S	08 25 58.3	-4.9
TWGZ	Tauwhareparae	22.41	198	P	P	08 22 05.6	+3.6
TWGZ	Tauwhareparae	22.41	198	S	S	08 25 58.3	-6.6
TGRZ	Tauranga	22.56	202	P	P	08 22 07.8	+4.2
OPRZ	Ohinepanea	22.56	201	P	P	08 22 06.3	+2.7
TARA	Tarawa	22.69	322	eP	P	08 22 04.6	-0.6
	116nm,0.6s						
MWZ	Matawai	22.69	199	P	P	08 22 06.9	+1.9
MWZ	Matawai	22.69	199	S	S	08 26 06.7	-3.0
TKGZ	Te Karaka	22.69	198	P	P	08 22 07.5	+2.6
TKGZ	Te Karaka	22.69	198	S	S	08 26 06.9	-2.8
URZ	Urewera	22.75	200	P	P	08 22 05.3	-0.3
	75nm,0.5s,baz=40,slow=2.9,SNR=83						
URZ				S	S	08 26 09.3	-1.4
	14nm,0.5s,baz=81,slow=22,SNR=10						
URZ				LR	LR	08 28 45.3	
	comp=Z,222nm,20.1s,baz=30,slow=31						
URZ	Urewera	22.75	200	P	P	08 22 05.7	+0.1
URZ	Urewera	22.75	200	S	S	08 26 07.1	-3.6
PAE	Paea	22.75	95	eP	P	08 22 07.0	+1.2
	9.2nm,0.8s						
PAE	Paea	22.75	95	eT	T	08 45 25.4	
	15nm,0.3s						
PPT2	Papeete2	22.76	95	eP	P	08 22 07.2	+1.2
	134nm,1.4s						
PPT2				eS	S	08 26 08.7	-2.7
	1µm,34.2s						
PPT2				eLQ	LQ	08 26 36.5	
	4µm,28.0s						
PPT2				eLR	LR	08 27 33.0	
	3µm,25.8s,baz=261						
PPT2	Papeete2	22.76	95	eT	T	08 45 25.9	
	16nm,0.3s						
PPT	Papeete	22.76	95	P	P	08 22 06.6	+0.6
	76nm,0.9s,baz=252,slow=3.3,SNR=9.7						
PPT				LR	LR	08 28 28.6	
	comp=Z,757nm,20.9s,baz=268,slow=30						
PPT	Papeete	22.76	95	eP	P	08 22 07.4	+1.5
PPT	Papeete	22.76	95	eP	P	08 22 07.4	+1.5
PPTF	Pamatai, Papee	22.77	95	eP	P	08 22 07.5	+1.3
	122nm,1.0s						
KARZ	Kaharoa	22.82	201	P	P	08 22 09.9	+3.5
OMRZ	Omania	22.86	201	P	P	08 22 10.8	+4.0
RAGZ	Rawiri	22.87	199	P	P	08 22 05.0	-2.0
RIGZ	Rimuhau	22.96	198	P	P	08 22 11.0	+3.2
TIAR	Tiarei	22.98	95	eP	P	08 22 09.2	+1.0
	17nm,0.7s						
TIAR	Tiarei	22.98	95	eT	T	08 45 41.2	
	7.4nm,0.3s						
HLRZ	Highlands Stat	23.00	201	P	P	08 22 12.0	+3.8
RRRZ	Republican Roa	23.02	201	P	P	08 22 11.8	+3.4
RRRZ	Republican Roa	23.02	201	S	S	08 25 58.8	-16
MUGZ	Murupara	23.06	200	P	P	08 22 10.5	+1.7
MUGZ	Murupara	23.06	200	S	S	08 26 16.8	+0.9
TVO	Taravao	23.06	96	eP	P	08 22 10.0	+0.9
	23nm,0.8s						
TVO	Taravao	23.06	96	eT	T	08 45 49.0	
	5.8nm,0.3s						
HSRZ	Hossack Road	23.09	201	P	P	08 22 12.9	+3.8
RTZ	Ruatahuna	23.12	199	P	P	08 22 11.9	+2.5
RTZ	Ruatahuna	23.12	199	S	S	08 26 13.7	-3.3
PRGZ	Paritu Road	23.12	198	P	P	08 22 14.3	+4.8
HRRZ	Handcock Road	23.14	201	P	P	08 22 12.6	+2.9
SNGZ	Shannon Statio	23.16	199	P	P	08 22 12.7	+2.9
GRRZ	Galatos Road	23.17	201	P	P	08 22 12.2	+2.3
PRRZ	Plateau Road	23.20	201	P	P	08 22 13.5	+3.3
ALRZ	Allen Road	23.28	201	P	P	08 22 13.4	+2.5
KNZ	Kokohu	23.28	198	P	P	08 22 14.0	+3.1
MHGZ	Mahia Peninsul	23.33	197	P	P	08 22 16.8	+5.3
RAHZ	Arahi	23.36	199	P	P	08 22 14.9	+3.2
MTHZ	Maungataniwha	23.38	199	P	P	08 22 14.6	+2.7
WHHZ	Waihua	23.46	199	P	P	08 22 16.6	+4.0
MRHZ	Matea Rd	23.50	200	P	P	08 22 14.8	+1.8
NMHZ	Naumai	23.61	199	P	P	08 22 16.6	+2.4
HIZ	Hauiti	23.77	203	eP	P	08 22 17.9	+2.3
	66nm,0.6s						
BKZ	Black Stump Fm	23.77	200	eP	P	08 22 16.4	+0.8
	31nm,0.5s						
KAHZ	Kahuranaki	24.23	198	P	P	08 22 24.6	+4.9
KRHZ	Kereru	24.25	199	P	P	08 22 23.8	+3.8
PMOR	Pomariorio Ree	24.60	89	eP	P	08 22 24.5	+1.1
	303nm,1.2s						
PMOR	Pomariorio Ree	24.60	89	eT	T	08 47 38.2	
	9.4nm,0.2s						
XMAS	Kiritimati	24.63	41	eP	P	08 22 24.1	+0.5
	134nm,0.8s						
VAH	Vaihoa	24.82	90	eP	P	08 22 26.0	+0.6
	213nm,1.1s						
VAH	Vaihoa	24.82	90	eT	T	08 47 55.4	
	25nm,0.3s						
BFZ	Birch Farm	25.23	199	eP	P	08 22 30.2	+1.4
	72nm,1.2s						
SNZO	South Karori	26.30	201	eP	P	08 22 39.5	+1.1
	79nm,1.1s						
HNR	Honiara	26.99	283	LR	LR	08 32 00.4	
	comp=Z,2µm,20.5s,baz=114,slow=33						
HNR	Honiara	26.99	283	eP	P	08 22 44.7	-0.3
	201nm,1.0s						
HNR	Honiara	26.99	283	eP	P	08 22 44.7	-0.3
HNR				pmax	pmax		
	comp=Z,201nm,1.0s						
THZ	Tophouse	27.33	203	eP	P	08 22 48.5	+0.7
	comp=Z,32nm,0.6s						
KHZ	Kahutara	27.68	201	eP	P	08 22 50.7	-0.1
	comp=Z,28nm,0.7s						
LTZ	Lake Taylor	28.45	202	eP	P	08 22 58.2	+0.4
	comp=Z,69nm,0.8s						
LHI	Lord Howe Isla	28.86	235	eP	P	08 23 02.8	+1.3
	comp=Z,189nm,1.3s						
OXZ	Oxford	29.00	202	eP	P	08 23 01.0	-1.7
	comp=Z,71nm,0.5s						
CRLZ	Canterbury Las	29.01	201	eP	P	08 23 02.7	0.0
	comp=Z,19nm,0.6s						
RPZ	Rata Peaks	29.70	203	P	P	08 23 07.3	-1.6
	comp=Z,8.8nm,0.4s,baz=24,slow=3.1,SNR=12						
RPZ				LR	LR	08 35 35.0	
	comp=Z,985nm,19.8s,baz=26,slow=37						
RPZ	Rata Peaks	29.70	203	eP	P	08 23 10.6	+1.7
FOZ	Fox Glacier	30.03	205	eP	P	08 23 11.8	+0.1
	comp=Z,45nm,0.8s						
LBZ	Lake Benmore	30.60	203	eP	P	08 23 16.4	-0.4
	comp=Z,94nm,2.0s						
ODZ	Otahua Downs	30.99	202	eP	P	08 23 22.2	+1.9
	comp=Z,18nm,0.8s						
WKZ	Wanaka	31.43	204	eP	P	08 23 23.4	-0.7
	comp=Z,80nm,1.4s						
WKZ				epP	pP	08 23 29.8	-7.4
MLZ	Mavora Lakes	32.23	205	eP	P	08 23 30.6	-0.6
	comp=Z,27nm,1.0s						
DCZ	Deep Cove	32.70	206	eP	P	08 23 35.9	+0.6
	comp=Z,28nm,0.9s						
WHZ	Wether Hill Ro	32.73	204	eP	P	08 23 36.3	+0.8
	comp=Z,25nm,0.7s						
TAOE	Nuku Hiva Isla	33.37	80	eLR	LR	08 32 23.2	
	comp=Z,2µm,28.0s,baz=256						
TAOE	Nuku Hiva Isla	33.37	80	eT	T	08 58 28.6	
	comp=Z,174nm,0.2s						
TAOE	Nuku Hiva Isla	33.37	80	eP	P	08 23 39.8	-1.8
	comp=Z,73nm,1.0s						
EIDS	Eidsvold	34.06	250	eP	P	08 23 45.2	-2.1
	comp=Z,25nm,1.3s						
ARMA	Armidale	34.53	241	P	P	08 23 50.4	-1.2
	baz=34,SNR=22						
ARMA	Armidale	34.53	241	eP	P	08 23 50.4	-1.2
	comp=Z,24nm,0.7s						
MGCD	Mangrove Creek	35.74	236	P	P	08 24 00.9	-0.9
	baz=36						
RMQ	Roma	36.27	248	P	P	08 24 05.7	-0.7
	baz=36,SNR=5.7						
RKT	Rikitea	36.53	106	eS	S	08 29 49.6	+1.9
	comp=Z,329nm,36.8s						
RKT				eLQ	LQ	08 32 29.0	
	comp=Z,815nm,37.5s						
RKT				eLR	LR	08 33 48.5	
	comp=Z,3µm,29.5s,baz=272						
RKT	Rikitea	36.53	106	eT	T	09 02 45.6	
	comp=Z,12nm,0.2s						
CNB	Canberra Magne	37.78	234	P	P	08 24 17.6	-1.6
	baz=38,SNR=12						
CTA	Charters Tower	38.30	259	P	P	08 24 21.6	-2.1
	comp=Z,13nm,0.7s,baz=89,slow=11,SNR=19						
CTAO	Charters Tower	38.30	259	eP	P	08 24 21.2	-2.4
	comp=Z,18nm,0.8s						
CTAO	Charters Tower	38.30	259	eP	P	08 24 21.3	-2.4
CTAO				pmax	pmax		
	comp=Z,18nm,0.8s						
PMG	Port Moresby	39.07	276	P	P	08 24 29.2	-1.0
	comp=Z,15nm,0.7s,baz=78,slow=6.0,SNR=8.4						
PMG				LR	LR	08 39 38.6	
	comp=Z,210nm,18.1s,baz=118,slow=35						
PMG	Port Moresby	39.07	276	eP	P	08 24 30.4	+0.3
	comp=Z,29nm,1.0s						
PMG	Port Moresby	39.07	276⇑	eP	P	08 24 29.6	-0.5
PMG				pmax	pmax		
	comp=Z,56nm,0.7s						
CMSA	Cobar Meteorol	39.75	241	P	P	08 24 33.5	-2.2
	baz=40,SNR=17						
MTSU	Mount Surprise	40.26	262	P	P	08 24 38.1	-1.9
	baz=40,SNR=9.8						
QLP	Quilpie	40.31	249	P	P	08 24 38.1	-2.3
	baz=40,SNR=13						
H11S2	WAKE ISLAND Hy	40.34	330	T	T	09 05 56.9	
	baz=133,slow=74,SNR=21						
H11S3	WAKE ISLAND Hy	40.35	330	T	T	09 06 47.1	
	baz=133,SNR=19						
H11S1	WAKE ISLAND Hy	40.35	330	T	T	09 06 14.5	
	baz=133,slow=74,SNR=50						
KIP	Kipapa	41.06	22⇑	eP	P	08 24 48.7	+2.2
H11N3	WAKE ISLAND Hy	41.30	331	T	T	09 08 28.7	
	baz=151,slow=76,SNR=39						
H11N1	WAKE ISLAND Hy	41.31	331	T	T	09 08 41.7	
	baz=151,slow=76,SNR=30						
H11N2	WAKE ISLAND Hy	41.32	331	T	T	09 08 31.9	
	baz=151,slow=76,SNR=47						
TOO	Toolangi	41.46	232	P	P	08 24 48.2	-1.5
	baz=42,SNR=10.0						
COEN	Coen	41.89	268	P	P	08 24 52.5	-1.0
	baz=42,SNR=7.8						
COEN	Coen	41.89	268	eP	P	08 24 52.2	-1.3
	comp=Z,21nm,1.0s						
STKA	Stephens Creek	43.25	241	P	P	08 25 03.0	-1.3
	comp=Z,46nm,0.8s,baz=95,slow=12,SNR=66						
STKA				LR	LR	08 42 42.8	
	comp=Z,524nm,19.0s,baz=75,slow=36						
STKA	Stephens Creek	43.25	241	P	P	08 25 03.0	-1.3
	baz=43,SNR=30						
STKA	Stephens Creek	43.25	241	eP	P	08 25 03.5	-0.8
	comp=Z,13nm,0.9s						
STKA	Stephens Creek	43.25	241	eP	P	08 25 03.5	-0.8
STKA				pmax	pmax		
	comp=Z,13nm,0.9s						
ARPS	Mount Arapiles	44.04	234	P	P	08 25 09.2	-1.4
	baz=44,SNR=8.4						
QIS	Mount Isa	44.51	258	P	P	08 25 12.3	-2.3
	baz=44,SNR=4.5						
HTT	Hallett	45.72	240	P	P	08 25 22.4	-1.7
	baz=46,SNR=17						
BBOO	Buckleboo	48.02	241	P	P	08 25 40.1	-1.8
	baz=48,SNR=16						
BBOO	Buckleboo	48.02	241	eP	P	08 25 40.7	-1.3
	comp=Z,50nm,1.1s						
WB2	Warramunga Arr	49.48	258	eP	P	08 25 51.2	-2.2
	comp=Z,25nm,0.9s						
WR1	Warramunga Arr	49.49	258	eP	P	08 25 50.8	-2.6
	comp=Z,31nm,0.9s						
WRA	Warramunga Arr	49.49	258	P	P	08 25 50.8	-2.7
	comp=Z,13nm,0.6s,baz=95,slow=7.1,SNR=249						
WRA				pP	pP	08 26 10.4	+3.2
	comp=Z,19nm,0.9s,baz=92,slow=7.2,SNR=8.5						
WRA				LR	LR	08 45 51.6	
	comp=Z,568nm,20.2s,baz=105,slow=35						
AS01	Alice Springs	49.58	253	eP	P	08 25 51.8	-2.4

AS31 **Alice Springs** 49.62 253 eP P 08 25 52.3 -2.2
comp=Z,43nm,0.6s
ASAR **Alice Springs** 49.62 253 P P 08 25 52.3 -2.2
comp=Z,138nm,0.7s,baz=86,slow=8.5,SNR=481
ASAR S S 08 32 50.1 -9.4
comp=Z,1.4nm,0.8s,baz=88,slow=15,SNR=8.2
ASAR LR LR 08 46 33.9
comp=Z,290nm,18.5s,baz=88,slow=36
GUMO **Guam** 51.21 304 LR LR 08 44 37.3
comp=Z,288nm,20.9s,baz=112,slow=32
MTN **Manton Dam** 53.61 266 eP P 08 26 23.2 -1.1
comp=Z,10.0nm,0.8s
WRKA **Warakurna** 54.66 251 P P 08 26 29.9 -2.0
baz=54,SNR=13
FORT **Forrest** 54.70 244 P P 08 26 30.9 -1.1
baz=55,SNR=10
RPN **Rapa Nui** 59.69 112 LR LR 08 47 21.6
comp=Z,106nm,21.2s,baz=274,slow=30
SOEI **Soe** 60.86 268 eP P 08 27 15.6 -0.1
comp=Z,93nm,0.8s
BATI **Baumata** 61.33 268 P P 08 27 19.6 +0.9
comp=Z,30nm,0.7s,baz=163,slow=3.8,SNR=6.0
SBA **Scott Base** 61.66 185 eP P 08 27 22.7 +2.9
comp=Z,27nm,0.9s
SBA **Scott Base** 61.66 185 eP P 08 27 22.7 +2.9
SBA pmax pmax
comp=Z,27nm,0.9s
VNDA **Vanda** 61.79 186 P P 08 27 23.2 +2.5
comp=Z,8.9nm,0.8s,baz=4.8,slow=6.9,SNR=54
VNDA **Vanda** 61.79 186 eP P 08 27 23.0 +2.3
comp=Z,23nm,1.1s
MBWA **Marble Bar** 62.92 255 eP P 08 27 27.1 -2.1
comp=Z,49nm,1.5s
MMRI **Maumere** 63.08 269 eP P 08 27 29.7 -0.7
comp=Z,44nm,0.8s
MEEK **Meekatharra** 63.21 248 P P 08 27 29.6 -1.6
baz=63,SNR=5.5
KLBR **Kellerberrin** 63.49 243 P P 08 27 31.8 -1.1
baz=63,SNR=9.8
NWAO **Narrogin (SRO)** 63.84 241 LR LR 08 55 20.4
comp=Z,378nm,18.5s,slow=36
BLDU **Ballidu** 64.47 244 P P 08 27 38.2 -1.1
baz=64,SNR=8.4
MUN **Mundaring** 64.78 242 P P 08 27 41.4 +0.1
baz=65
DAV **Davao City (W)** 64.87 286 LR LR 08 54 32.0
comp=Z,203nm,19.3s,baz=112,slow=35
MORW **Morawa** 65.20 245 P P 08 27 43.2 -1.0
baz=65
JHJ **Hachijo jima 2** 66.95 318 LR LR 08 53 56.0
comp=Z,113nm,19.1s,baz=124,slow=33
GIRL **Giralia** 67.72 252 P P 08 28 00.6 +0.3
baz=68,SNR=3.3
MJAR **Matsushiro Arr** 70.16 320 P P 08 28 15.0 -0.1
comp=Z,1.8nm,0.6s,baz=156,slow=6.0,SNR=6.6
MJAR LR LR 08 53 29.2
comp=Z,460nm,21.9s,baz=135,slow=31
MJAR **Matsushiro Arr** 70.16 320 P P 08 28 15.0 -0.1
MAJO **Matsushiro** 70.16 320 eP P 08 28 15.0 -0.2
MAJO **Matsushiro** 70.16 320⇑ eP P 08 28 15.3 +0.2
MAJO pmax pmax
comp=Z,6.0nm,1.0s
ERM **Erimo** 71.10 327⇓ eP P 08 28 19.7 -1.0
ERM pmax pmax
comp=Z,34nm,1.2s
TGY **Tagaytay City** 71.80 291 LR LR 08 55 55.2
comp=Z,391nm,21.2s,baz=134,slow=32
SMMC **Simmler** 72.59 43 P P 08 28 30.8 +0.9
baz=234
PAGB **Antelope Grade** 72.67 43 eP P 08 28 28.8 -1.6
comp=Z,60nm,1.4s
RDG13 **Poverty Ridge** 72.75 41 eP P 08 28 28.2 -2.7
comp=Z,107nm,1.8s
RPV **Rancho Palos V** 72.75 46 eP P 08 28 35.8 +5.1
JNU **Nakatsue** 72.89 313 P P 08 28 30.6 -1.1
comp=Z,11nm,0.7s,baz=79,slow=5.2,SNR=7.9
JNU LR LR 08 55 16.7
comp=Z,269nm,21.4s,baz=124,slow=31
JNU **Nakatsue** 72.89 313 eP P 08 28 30.6 -1.1
comp=Z,70nm,1.6s
ASAJ **Asahikawa** 72.89 328 P P 08 28 31.7 +0.3
comp=Z,12nm,0.8s,baz=204,slow=7.4,SNR=7.4
ASAJ **Asahikawa** 72.89 328 eP P 08 28 30.6 -0.8
comp=Z,14nm,0.9s
HOPS **Hopland Field** 72.92 39 eP P 08 28 32.1 +0.5
comp=Z,170nm,1.6s
QSPA **South Pole Qui** 73.05 180 P P 08 28 33.3 +1.0
comp=Z,8.3nm,0.7s,baz=7.9,slow=2.0,SNR=23
QSPA **South Pole Qui** 73.05 180 eP P 08 28 33.2 +1.0
comp=Z,25nm,1.0s
109C **Camp Elliot, M** 73.17 47 P P 08 28 33.6 +0.3
baz=236
ARVC **Arvin** 73.26 44 P P 08 28 34.0 +0.2
baz=234
MWC **Mount Wilson** 73.26 45 eP P 08 28 34.2 +0.2
comp=Z,36nm,0.7s
MWC **Mount Wilson** 73.26 45 eP P 08 28 34.3 +0.2
MWC pmax pmax
comp=Z,36nm,0.7s
KMRM **Mail Ridge** 73.33 38 eP P 08 28 33.5 -0.7
comp=Z,283nm,1.7s
MURC **Murrieta** 73.50 46 P P 08 28 35.6 +0.3
baz=236
VES **Vestal, Richgr** 73.50 43 P P 08 28 35.7 +0.5
baz=234
BFSC **Mount Baldy Ra** 73.54 46 P P 08 28 35.9 +0.3
baz=236
MONP2 **Monument Peak** 73.65 47 P P 08 28 36.8 +0.4
baz=237
RCTC **Rector, Farmer** 73.67 43 P P 08 28 36.4 +0.3
baz=234
EDW2 **Edwards Air Fo** 73.68 45 P P 08 28 36.9 +0.6
baz=235
IKP **In-Ko-Pah, Jac** 73.74 48 P P 08 28 37.3 +0.5
baz=237
ISA **Isabella, Lake** 73.80 44 P P 08 28 37.7 +0.7
baz=235
ISA **Isabella, Lake** 73.80 44 eP P 08 28 37.8 +0.7
comp=Z,46nm,1.1s
ISA **Isabella, Lake** 73.80 44 eP P 08 28 37.8 +0.7
ISA pmax pmax
comp=Z,46nm,1.1s
LPIG **La Paz** 73.89 58 LR LR 08 52 02.0
comp=Z,199nm,20.4s,baz=215,slow=28
CMB **Columbia Colle** 73.97 41 eP P 08 28 38.2 +0.3
comp=Z,25nm,1.0s
CMB **Columbia Colle** 73.97 41 eP P 08 28 38.3 +0.3
CMB pmax pmax
comp=Z,25nm,1.0s
PFO **Pinyon Flats O** 74.02 47 P P 08 28 38.8 +0.4
baz=236
PFO **Pinyon Flats O** 74.02 47 eP P 08 28 39.2 +0.8
comp=Z,131nm,2.0s
PFO **Pinyon Flats O** 74.02 47 eP P 08 28 39.2 +0.8
PFO pmax pmax
comp=Z,131nm,2.0s
SWSC **Sam W. Stewart** 74.12 48 P P 08 28 39.4 +0.5
baz=237
PETK **Petropavlovsk-** 74.15 342 P P 08 28 39.3 +0.7
comp=Z,33nm,1.0s,baz=120,slow=7.4,SNR=9.0
PETK LR LR 08 55 41.8
comp=Z,202nm,21.8s,baz=148,slow=31
PEA1 **Petropavlovsk-** 74.15 342 eP P 08 28 39.3 +0.7
AFDM **Forest Hills D** 74.16 40 eP P 08 28 39.1 0.0
comp=Z,22nm,1.1s
ORV **Oroville** 74.22 39 eP P 08 28 39.7 +0.4
comp=Z,94nm,2.0s
ORV **Oroville** 74.22 39 eP P 08 28 39.7 +0.4
ORV pmax pmax
comp=Z,94nm,2.0s
LRMC **Laurel Mtn Rad** 74.23 44 P P 08 28 40.2 +0.6
baz=235
WDC **Whiskeytown Da** 74.24 38 eP P 08 28 39.9 +0.5
comp=Z,106nm,1.8s
WDC **Whiskeytown Da** 74.24 38 eP P 08 28 39.9 +0.5
WDC pmax pmax
comp=Z,106nm,1.8s
N02D **Trinity Center** 74.40 37 P P 08 28 41.0 +0.6
baz=230,SNR=5.9
O03D **Paynes Creek** 74.50 38 P P 08 28 41.0 0.0
baz=231,SNR=9.0
CWC **Cottonwood Cre** 74.51 43 P P 08 28 41.7 +0.4
baz=235
BELC **Belle Mtn. Jos** 74.55 47 P P 08 28 41.7 +0.1
baz=237
M02C **Callahan** 74.58 37 P P 08 28 42.0 +0.6
baz=230,SNR=5.4
L02D **Cave Junction,** 74.65 36 P P 08 28 42.3 +0.6
baz=229
MPMC **Manual Prospec** 74.69 44 P P 08 28 42.6 +0.2
baz=235
MLAC **Mammoth, Mammo** 74.71 42 P P 08 28 43.2 +0.7
baz=234
GSC **Goldstone, Bar** 74.72 45 P P 08 28 42.9 +0.5
baz=236
GSC **Goldstone, Bar** 74.72 45 eP P 08 28 43.1 +0.7
comp=Z,24nm,0.9s
GSC **Goldstone, Bar** 74.72 45 eP P 08 28 43.1 +0.7
GSC pmax pmax
comp=Z,24nm,0.9s
DAC **Darwin (Calif)** 74.74 44 eP P 08 28 43.2 +0.6
comp=Z,108nm,2.0s
DAC **Darwin (Calif)** 74.74 44 eP P 08 28 43.2 +0.6
DAC pmax pmax
comp=Z,109nm,2.0s
BC3 **Big Chuckawall** 74.75 47 P P 08 28 43.2 +0.6
baz=237
TIN **Tinemaha, Big** 74.77 43 P P 08 28 43.5 +0.7
baz=234
HEC **Hector,Ludlow** 74.78 46 P P 08 28 43.1 +0.4
baz=236
WAKR **Walker** 74.85 41 eP P 08 28 44.5 +1.2
comp=Z,118nm,1.8s
GLA **Glamis** 74.86 48 P P 08 28 44.2 +0.9
baz=238
GLA **Glamis** 74.86 48 eP P 08 28 44.4 +1.2
comp=Z,23nm,1.0s
GLA **Glamis** 74.86 48 eP P 08 28 44.4 +1.2
GLA pmax pmax
comp=Z,23nm,1.0s
YSS **Yuzh-Sakhalins** 74.87 331 eP P 08 28 43.5 +0.7
comp=Z,46nm,1.2s
YSS **Yuzh-Sakhalins** 74.87 331⇑ eP P 08 28 43.0 +0.1
YSS pmax pmax
comp=Z,30nm,0.7s
YBH **Yreka Blue Hor** 74.88 37 eP P 08 28 43.3 +0.1
comp=Z,149nm,1.8s
YBH **Yreka Blue Hor** 74.88 37 eP P 08 28 43.3 +0.1
YBH pmax pmax
comp=Z,149nm,1.8s
BEKR **Beckworth** 75.10 40 eP P 08 28 44.8 +0.2
comp=Z,66nm,1.5s
DSCC **Desert Studies** 75.11 46 eP P 08 28 49.5 +5.0
VCNR **Virginia City** 75.19 40 eP P 08 28 45.9 +0.7
comp=Z,22nm,1.0s
GMRC **Granite Mounta** 75.22 46 P P 08 28 45.7 +0.4
baz=237
IRM **Iron Mountain** 75.23 47 P P 08 28 45.9 +0.6
baz=237
YERR **Yerington** 75.26 41 eP P 08 28 46.0 +0.4
comp=Z,44nm,1.2s
GRAC **Grapevine Rang** 75.30 43 P P 08 28 46.7 +1.0
baz=235
HUMO **Hull Mountain** 75.30 36 eP P 08 28 47.0 +1.5
comp=Z,87nm,1.8s
FURC **Furnace Creek,** 75.33 44 P P 08 28 46.4 +0.6
baz=236
TUQ **Turquoise Moun** 75.39 45 P P 08 28 46.9 +0.6
baz=236
SHOC **Shoshone, Teco** 75.41 45 P P 08 28 46.7 +0.4
baz=236
M04C **Macdoel** 75.41 37 P P 08 28 46.8 +0.4
baz=231,SNR=8.2
Y12C **Blythe** 75.45 47 P P 08 28 47.3 +0.8
baz=238
Y12C **Blythe** 75.45 47 eP P 08 28 47.7 +1.1
comp=Z,21nm,0.9s
113A **Mohawk Valley,** 75.47 49 eP P 08 28 47.3 +0.6
comp=Z,20nm,0.9s
RYN **Ryan** 75.50 41 eP P 08 28 47.4 +0.5
comp=Z,31nm,1.1s
NV01 **Mina Array Sit** 75.52 42 eP P 08 28 46.6 -0.6
NVAR **Mina Array Bea** 75.52 42 P P 08 28 47.9 +0.8
comp=Z,22nm,0.9s,baz=227,slow=9.8,SNR=99
PAHR **Pah Rah Range** 75.60 40 eP P 08 28 48.2 +0.7
comp=Z,32nm,1.2s
NV11 **Mina Array Sit** 75.62 42 eP P 08 28 48.3 +0.7
comp=Z,5.4nm,1.2s
214A **Organ Pipe Nat** 75.75 50 P P 08 28 49.1 +0.8
baz=239
214A **Organ Pipe Nat** 75.75 50 eP P 08 28 49.1 +0.8
comp=Z,985nm,1.9s
LDFC **Landfair** 75.75 46 eP P 08 28 49.5 +1.1
comp=Z,53nm,0.9s
I03D **Drain, OR** 75.79 35 P P 08 28 49.2 +0.9
baz=229
NEE2 **Needles Airpor** 75.93 47 P P 08 28 50.0 +0.7
baz=238
PDMCI **Parker Dam,Lak** 76.01 47 P P 08 28 50.5 +0.7
baz=238
TPNV **Topopah Spring** 76.01 44 P P 08 28 50.6 +0.7
baz=236
TPNV **Topopah Spring** 76.01 44 eP P 08 28 50.7 +0.7
comp=Z,28nm,0.9s
TPNV **Topopah Spring** 76.01 44 eP P 08 28 50.7 +0.8
TPNV pmax pmax
comp=Z,28nm,0.9s
KVN **Kaiserville** 76.02 41 eP P 08 28 50.3 +0.4
comp=Z,27nm,1.0s
KVN **Kaiserville** 76.02 41 eP P 08 28 50.3 +0.4
KVN pmax pmax
comp=Z,27nm,1.0s
J04D **Umpqua Nationa** 76.19 36 P P 08 28 51.6 +0.8
baz=230
I04A **Tendick Farm,** 76.37 35 P P 08 28 52.2 +0.6
baz=230
MOD **Modoc Plateau** 76.39 38 eP P 08 28 52.5 +0.6
comp=Z,154nm,1.8s
KDAK **Kodiak Island** 76.49 11 P P 08 28 52.1 +0.2
comp=Z,13nm,0.6s,baz=215,slow=4.7,SNR=18
KDAK **Kodiak Island** 76.49 11 eP P 08 28 52.0 +0.2
comp=Z,33nm,1.1s
SHPR **Sheep Range** 76.50 45 eP P 08 28 53.6 +0.9
comp=Z,26nm,0.9s
W13A **Hualapai Mount** 76.61 47 eP P 08 28 54.0 +0.6
comp=Z,17nm,0.9s
Y14A **Wickenburg** 76.62 48 eP P 08 28 54.0 +0.7
comp=Z,24nm,0.8s
J05D **Fort Rock, OR** 76.71 36 P P 08 28 54.6 +0.9
baz=231
G03D **McMinnville, O** 76.83 34 P P 08 28 55.0 +0.8
baz=229
H04A **Detroit Lake** 77.07 35 eP P 08 28 56.0 +0.5
comp=Z,192nm,2.0s
PINE **Pine Mountain** 77.19 36 eP P 08 28 57.8 +1.4
comp=Z,42nm,0.8s
R11A **Troy Canyon, C** 77.23 43 P P 08 28 57.3 +0.5
baz=236
R11A **Troy Canyon, C** 77.23 43 eP P 08 28 57.2 +0.4
comp=Z,20nm,1.1s
KSRS **Korea Array** 77.30 316 P P 08 28 58.8 +1.9
comp=Z,5.1nm,1.0s,baz=129,slow=6.0,SNR=8.7
KSRS LR LR 09 00 28.6
comp=Z,184nm,18.9s,baz=127,slow=34
I05D **Terrebonne, OR** 77.31 35 P P 08 28 57.7 +0.8
baz=231
KS15 **Wonju Array Si** 77.32 316 eP P 08 28 58.5 +1.5
KSAR **Wonju Array Be** 77.32 316 P P 08 28 58.8 +1.8
KSAR **Wonju Array Be** 77.32 316 eP P 08 28 58.8 +1.8
KS01 **Wonju Array Si** 77.33 316 eP P 08 28 58.4 +1.3
KSM **Kuching** 77.33 275 eP P 08 28 57.8 +0.1
comp=Z,20nm,0.9s
BMN **Battle Mountai** 77.37 41 eP P 08 28 58.0 +0.5
comp=Z,27nm,0.9s
BMN **Battle Mountai** 77.37 41 eP P 08 28 58.0 +0.5
BMN pmax pmax
comp=Z,27nm,0.9s
TUC **Tucson** 77.41 50 P P 08 28 58.9 +1.1
baz=240
TUC **Tucson** 77.41 50 eP P 08 28 58.7 +0.9
comp=Z,161nm,2.0s
TUC **Tucson** 77.41 50 eP P 08 28 58.7 +0.9
TUC pmax pmax
comp=Z,161nm,2.0s
WVOR **Wild Horse Val** 77.69 38 eP P 08 28 59.4 +0.2
comp=Z,25nm,0.9s
WVOR **Wild Horse Val** 77.69 38 eP P 08 28 59.4 +0.2
WVOR pmax pmax
comp=Z,25nm,0.9s
TYV **Tymovskoe** 77.77 333 eP P 08 28 59.3 +0.1
TYV pmax pmax
comp=Z,15nm,1.0s
G05D **Wamic, OR** 77.90 35 P P 08 29 00.7 +0.6
baz=231
X16A **Lo Mia Camp, P** 77.98 48 eP P 08 29 01.8 +0.7
comp=Z,24nm,0.8s
LCMT **Little Creek M** 78.06 45 eP P 08 29 02.3 +0.9
comp=Z,22nm,0.9s
VLA **Vladivostok** 78.07 322⇓ eP P 08 29 00.6 -0.4
VLA pmax pmax
comp=Z,27nm,0.8s
319A **Douglas** 78.08 52 eP P 08 29 02.8 +1.2
comp=Z,31nm,0.8s
I07A **Izee** 78.19 37 eP P 08 29 03.0 +1.1
comp=Z,14nm,0.9s
CCUT **Cedar City** 78.27 45 eP P 08 29 03.8 +1.1
comp=Z,29nm,0.9s
J08A **Circle Bar Ran** 78.34 38 eP P 08 29 03.3 +0.6
comp=Z,28nm,1.0s
KNB **Kanab** 78.35 45 eP P 08 29 04.2 +1.1
comp=Z,108nm,1.6s
KNB **Kanab** 78.35 45 eP P 08 29 04.2 +1.1
KNB pmax pmax
comp=Z,108nm,1.6s
U15A **North Rim** 78.41 46 eP P 08 29 04.7 +1.2
comp=Z,188nm,1.9s
SZCU **Shurtz Canyon** 78.48 45 eP P 08 29 04.8 +1.0
comp=Z,30nm,1.0s
GHW **Garrison Hill** 78.55 33 eP P 08 29 07.1 +3.4
WUAZ **Wupatki** 78.58 47 P P 08 29 05.2 +0.9
baz=240
WUAZ **Wupatki** 78.58 47 eP P 08 29 05.6 +1.3
comp=Z,111nm,2.0s
LON **Longmire** 78.60 33 eP P 08 29 04.0 -0.1
comp=Z,11nm,0.9s
LON **Longmire** 78.60 33 eP P 08 29 04.0 -0.1
LON pmax pmax
comp=Z,11nm,0.9s
USRK **Ussuriysk Ar.** 78.66 323 LR LR 08 57 21.7
comp=Z,613nm,21.9s,baz=117,slow=31
BRLK **Bradley Lake** 78.66 11 eP P 08 29 03.9 -0.1
comp=Z,25nm,1.0s
D05A **Enumclaw** 78.79 33 eP P 08 29 05.5 +0.5
comp=Z,89nm,1.4s
HPIG 78.90 57 eP P 08 29 06.9 +0.6
comp=Z,20nm,1.0s
X18A **Snowflake** 79.11 49 eP P 08 29 08.2 +0.9
comp=Z,13nm,0.8s
SVW2 **Sparrevohn** 79.14 9 eP P 08 29 05.9 -0.7
comp=Z,10nm,1.0s
G08A **Pilot Rock** 79.23 36 eP P 08 29 08.1 +0.4
comp=Z,23nm,0.9s
MTPU **Mount Pierson** 79.32 45 eP P 08 29 10.2 +1.6
comp=Z,217nm,2.0s
B05A **Bryant** 79.43 32 P P 08 29 09.2 +0.8
baz=230
E07A **Sunnyside** 79.52 34 eP P 08 29 09.9 +0.8
comp=Z,30nm,0.9s
LTY **Liberty** 79.53 33 eP P 08 29 09.3 +0.2
comp=Z,28nm,1.3s
W18A **Petrified Fore** 79.55 48 P P 08 29 10.3 +0.7
baz=241
W18A **Petrified Fore** 79.55 48 eP P 08 29 10.7 +1.0
comp=Z,92nm,1.9s
MSU **Marysvale** 79.57 44 eP P 08 29 11.1 +1.3
MSU **Marysvale** 79.57 44 eP P 08 29 11.1 +1.3
HAWA **Hanford** 79.59 35 eP P 08 29 10.0 +0.6
comp=Z,22nm,0.9s
121A **Cookes Peak, D** 79.75 51 P P 08 29 12.0 +1.3
baz=242
121A **Cookes Peak, D** 79.75 51 eP P 08 29 12.1 +1.3
comp=Z,22nm,0.8s
ZAIG **Zacatecas** 79.75 62 eP P 08 29 11.6 +0.5
SPU **Mount Spurr** 79.78 10 eP P 08 29 08.8 -1.4
BMO **Blue Mountains** 79.91 37 eP P 08 29 11.4 +0.1
comp=Z,18nm,0.9s
BMO **Blue Mountains** 79.91 37 eP P 08 29 11.4 +0.1
BMO pmax pmax
comp=Z,18nm,0.9s
MFID **Camas Ranch** 79.94 39 eP P 08 29 11.8 +0.3
comp=Z,19nm,0.8s
DUG **Dugway, Tooele** 80.04 43 P P 08 29 12.5 +0.4
baz=238
DUG **Dugway, Tooele** 80.04 43 eP P 08 29 12.6 +0.4
comp=Z,44nm,1.5s
DUG **Dugway, Tooele** 80.04 43 eP P 08 29 12.6 +0.4
DUG pmax pmax
comp=Z,44nm,1.5s
RC01 **Rabbit Creek A** 80.11 11 eP P 08 29 11.6 -0.3
comp=Z,23nm,1.0s
SUA **Susitna One** 80.27 11 eP P 08 29 12.2 -0.7
comp=Z,27nm,0.7s
NKL **Nikolayevsk** 80.28 334 eP P 08 29 10.0 -2.9
D08A **Wollman Farm,** 80.33 34 eP P 08 29 13.7 +0.3
comp=Z,30nm,1.0s
EPT **El Paso** 80.36 53 eP P 08 29 15.1 +1.0
comp=Z,19nm,0.9s
NLU **North Lily Min** 80.39 43 eP P 08 29 14.7 +0.6
comp=Z,6.6nm,1.0s
EYAK **Cordova Ski Ar** 80.44 13 eP P 08 29 13.2 -0.3
comp=Z,16nm,1.0s
GLI **Glacier Island** 80.45 13 eP P 08 29 12.7 -1.0
comp=Z,38nm,0.8s
GAMB **Gambell** 80.53 1 eP P 08 29 14.8 +0.8
comp=Z,32nm,1.0s
F10A **Beach Ranch, E** 80.61 36 eP P 08 29 14.8 -0.2
comp=Z,34nm,0.8s
SKT **Skwentna** 80.61 10 eP P 08 29 13.0 -1.6
comp=Z,15nm,1.0s
TMUT **Trail Mountain** 80.62 44 eP P 08 29 16.8 +1.2
comp=Z,39nm,0.8s
PMR **Palmer** 80.69 11 eP P 08 29 14.2 -0.7
comp=Z,43nm,1.4s
PMR **Palmer** 80.69 11 eP P 08 29 14.2 -0.7
PMR pmax pmax
comp=Z,43nm,1.4s
MPU **Maple Canyon** 80.71 43 eP P 08 29 16.5 +0.6
comp=Z,14nm,1.0s
HLID **Hailey** 80.87 39 P P 08 29 17.3 +0.8
baz=236
HLID **Hailey** 80.87 39 eP P 08 29 17.1 +0.6
comp=Z,27nm,0.8s
GHO **Glory Hole Cre** 80.89 12 eP P 08 29 15.6 -0.6
comp=Z,25nm,0.7s
HVU **Hansel Valley** 80.91 41 eP P 08 29 17.1 +0.3
comp=Z,20nm,0.9s
HVU **Hansel Valley** 80.91 41 eP P 08 29 17.1 +0.3
HVU pmax pmax
comp=Z,20nm,0.9s
B08A **Colville Reser** 80.92 33 eP P 08 29 16.1 -0.4
comp=Z,18nm,0.9s
DIV **Divide** 80.95 13 eP P 08 29 16.3 -0.1
comp=Z,47nm,1.0s
SRU **San Rafael Swe** 80.99 45 eP P 08 29 17.8 +0.5
comp=Z,20nm,0.8s
SRU **San Rafael Swe** 80.99 45 eP P 08 29 17.8 +0.5
SRU pmax pmax
comp=Z,20nm,0.8s
CTU **Camp Tracy** 80.99 43 eP P 08 29 17.9 +0.6
comp=Z,13nm,1.1s
SML **Sawmill** 81.04 12 eP P 08 29 18.2 +1.4
comp=Z,18nm,0.9s
SML **Sawmill** 81.04 12 eP P 08 29 18.3 +1.4
SML pmax pmax
comp=Z,18nm,0.9s
LLLB **Lillooet** 81.07 30 eP P 08 29 17.6 +0.4
comp=Z,16nm,1.0s
BMRM **Bremner River** 81.07 14 eP P 08 29 16.5 -0.5
comp=Z,34nm,1.0s
LAZ **Ladron** 81.09 50 eP P 08 29 19.1 +1.2
Y22D **IRIS PASSCAL I** 81.10 50 P P 08 29 19.1 +1.1
baz=243
Y22D **IRIS PASSCAL I** 81.10 50 eP P 08 29 19.8 +1.8
comp=Z,32nm,0.8s
Y22E **IRIS PASSCAL I** 81.10 50 P P 08 29 19.3 +1.3
baz=243
NJ2 **Nanjing** 81.12 307 eP P 08 29 19.0 +1.1
NJ2 pmax pmax
comp=Z,12nm,0.5s
C09A **Chrisman Ranch** 81.14 34 eP P 08 29 18.2 +0.5
comp=Z,17nm,0.7s
MNTX **Cornudas Mount** 81.19 53 P P 08 29 19.2 +0.9
baz=244
MNTX **Cornudas Mount** 81.19 53 eP P 08 29 19.1 +0.7
comp=Z,22nm,0.8s
KLU **Klutina** 81.25 13 eP P 08 29 17.5 -0.5
comp=Z,22nm,1.1s
SCM **Sheep Creek Mo** 81.26 12 eP P 08 29 17.7 -0.4
comp=Z,49nm,1.0s
SCM **Sheep Creek Mo** 81.26 12 eP P 08 29 17.7 -0.4
SCM pmax pmax
comp=Z,49nm,1.0s
BNM **Barren Site** 81.35 50 eP P 08 29 19.7 +0.3

LPM **Los Pinos Moun** 81.42 50 *e*P P 08 29 20.7 +1.0
TCUT **Toone Canyon** 81.43 42 *e*P P 08 29 20.3 +0.6
comp=Z,481nm,2.0s
P18A **Preston Nutter** 81.43 44 *e*P P 08 29 20.9 +1.1
comp=Z,60nm,1.8s
MVCO **Mesa Verde** 81.44 47 P P 08 29 20.5 +0.7
baz=241
MVCO **Mesa Verde** 81.44 47 *e*P P 08 29 20.4 +0.6
comp=Z,9.5nm,0.8s
PV05 **Paradox Valley** 81.44 46 *e*P P 08 29 20.7 +0.9
TX31 **Lajitas Ar. Si** 81.51 56 *e*P P 08 29 20.7 +0.5
LTX **Lajitas** 81.51 56 *e*P P 08 29 21.3 +1.1
LTX **Lajitas** 81.51 56 *e*P P 08 29 21.3 +1.1
TXAR **Lajitas Array** 81.51 56 P P 08 29 21.3 +1.1
comp=Z,6.7nm,0.8s,baz=219,slow=8.7,SNR=89
TXAR LR LR 08 58 30.9
comp=Z,171nm,20.6s,baz=0.0,slow=30
HWUT **Hardware Ranch** 81.59 42 *e*P P 08 29 20.3 -0.1
comp=Z,66nm,1.9s
PV09 **Paradox Valley** 81.62 46 *e*P P 08 29 21.7 +0.9
PV10 **Paradox Valley** 81.63 46 *e*P P 08 29 21.2 +0.3
MA2 **Magadan** 81.69 342 P P 08 29 19.7 -0.6
comp=Z,7.2nm,0.7s,baz=161,slow=6.1,SNR=5.8
MA2 **Magadan** 81.69 342⇑ *e*P P 08 29 22.2 +1.9
PV04 **Paradox Valley** 81.73 46 *e*P P 08 29 22.0 +0.7
PV01 **Paradox Valley** 81.83 46 *e*P P 08 29 22.4 +0.5
ANMO **Albuquerque** 81.84 50 P P 08 29 22.9 +0.9
baz=243
ANMO **Albuquerque** 81.84 50 *e*P P 08 29 22.7 +0.8
comp=Z,17nm,0.8s
ANMO **Albuquerque** 81.84 50 *c i*P P 08 29 22.5 +0.6
ANMO pmax pmax
comp=Z,42nm,1.7s
KLR **Kul'dur** 81.86 327 LR LR 09 00 54.1
comp=Z,19nm,21.9s,baz=148,slow=32
KLR **Kul'dur** 81.86 327⇑ *e*P P 08 29 21.6 +0.2
CAST **Castle Rocks** 81.87 10 *e*P P 08 29 19.2 -2.1
comp=Z,15nm,1.0s
NEW **Newport** 82.03 34 P P 08 29 22.2 -0.3
baz=234
NEW **Newport** 82.03 34 *e*P P 08 29 22.0 -0.5
comp=Z,9.4nm,0.9s
NEW **Newport** 82.03 34 *e*P P 08 29 22.0 -0.5
NEW pmax pmax
comp=Z,9.0nm,0.9s
GDL2 **Guadalupe Moun** 82.19 53 *e*P P 08 29 24.9 +1.2
KTH **Kantishna Hill** 82.19 10 *e*P P 08 29 21.8 -1.2
comp=Z,27nm,1.1s
TRF **Thorofare Moun** 82.20 10 *e*P P 08 29 21.9 -1.2
comp=Z,22nm,0.8s
HARP **HAARP** 82.23 13 *e*P P 08 29 22.7 -0.4
comp=Z,23nm,0.9s
SKAG **Skagway** 82.26 19 *e*P P 08 29 23.8 +0.6
comp=Z,17nm,1.0s
CN2 **Changchun** 82.31 320 *e*P P 08 29 24.4 +0.5
CN2 *e*S S 08 39 41.0 +5.2
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 LR LR
comp=Z,360nm,20.0s
CN2 LR LR
comp=Z,350nm,20.0s
CN2 LR LR
comp=Z,480nm,22.0s
DHY **Denali Highway** 82.38 12 *e*P P 08 29 23.4 -0.7
comp=Z,14nm,1.0s
RND **Reindeer** 82.41 11 *e*P P 08 29 23.7 -0.4
comp=Z,60nm,1.0s
RND **Reindeer** 82.41 11 *e*P P 08 29 23.7 -0.4
RND pmax pmax
comp=Z,60nm,1.0s
MCMT **McKenzie Canyo** 82.50 39 *e*P P 08 29 25.1 -0.2
PAX **Paxson** 82.67 12 *e*P P 08 29 24.8 -0.7
comp=Z,11nm,1.0s
PAX **Paxson** 82.67 12 *e*P P 08 29 24.8 -0.7
PAX pmax pmax
comp=Z,11nm,1.0s
BPAW **Bear Paw Mtn.** 82.69 10 *e*P P 08 29 24.0 -1.5
comp=Z,16nm,1.2s
MCK **McKinley** 82.69 11 *e*P P 08 29 25.2 -0.3
comp=Z,70nm,1.0s
MCK **McKinley** 82.69 11 *e*P P 08 29 25.2 -0.3
MCK pmax pmax
comp=Z,70nm,1.0s
HYT **Haines Junctio** 82.74 17 *e*P P 08 29 25.5 -0.4
comp=Z,26nm,1.0s
S22A **4UR Ranch, Cre** 82.86 47 P P 08 29 28.5 +1.2
baz=242
S22A **4UR Ranch, Cre** 82.86 47 *e*P P 08 29 28.4 +1.0
comp=Z,48nm,0.8s
CPRX **Cap Rock** 82.92 52 *e*P P 08 29 28.8 +1.2
comp=Z,14nm,0.7s
DLMT **Dillon** 82.94 38 *e*P P 08 29 28.0 +0.6
comp=Z,22nm,0.8s
REDW **Red Top Meadow** 82.95 41 *e*P P 08 29 28.0 +0.4
comp=Z,55nm,1.3s
TPAW **Teton Pass** 82.95 41 *e*P P 08 29 27.9 +0.2
comp=Z,30nm,0.9s
MSO **Missoula** 82.97 37 P P 08 29 26.8 -0.6
baz=236
MSO **Missoula** 82.97 37 *e*P P 08 29 27.0 -0.5
comp=Z,13nm,0.9s
FXWY **Fox Creek** 82.98 40 *e*P P 08 29 28.3 +0.6
comp=Z,64nm,1.6s
MENT **Mentasta** 83.01 13 *e*P P 08 29 26.8 -0.4
comp=Z,14nm,0.9s
O20A **White River Ci** 83.02 45 P P 08 29 28.3 +0.3
baz=241
O20A **White River Ci** 83.02 45 *e*P P 08 29 28.3 +0.3
comp=Z,33nm,1.1s
SNOW **Snow King Moun** 83.06 41 *e*P P 08 29 28.8 +0.6
comp=Z,35nm,0.8s
IMW **Indian Meadow** 83.17 40 *e*P P 08 29 29.5 +0.7
comp=Z,184nm,1.9s
LNIG **Linares** 83.19 62 *e*P P 08 29 29.1 +0.2
comp=Z,34nm,0.9s
MOOW **Moose Ponds** 83.22 40 *e*P P 08 29 29.0 0.0
comp=Z,53nm,1.9s
LOHW **Long Hollow** 83.23 41 *e*P P 08 29 29.4 +0.3
comp=Z,18nm,0.9s
LRM **Limekiln Ridge** 83.28 38 *e*P P 08 29 29.4 +0.2
JTMT **Jette** 83.29 36 *e*P P 08 29 28.2 -0.9
comp=Z,11nm,0.8s
WHY **Whitehorse** 83.36 18 *e*P P 08 29 29.2 +0.1
comp=Z,20nm,1.3s
QLMT **Earthquake Lak** 83.36 39 *e*P P 08 29 30.8 +1.1
SMCO **Snowmass** 83.43 46 *e*P P 08 29 30.3 0.0
comp=Z,141nm,1.8s
YPP **Pitchstone Pla** 83.45 40 *e*P P 08 29 31.0 +0.8
comp=Z,59nm,1.9s
BW06 **Boulder Array** 83.46 42 P P 08 29 30.2 0.0
baz=240
BW06 **Boulder Array** 83.46 42 *e*P P 08 29 30.0 -0.2
comp=Z,20nm,0.8s
YHB **Horse Butte** 83.46 39 *e*P P 08 29 31.2 +1.0
comp=Z,41nm,0.8s
PD31 **Pinedale Array** 83.46 42 *e*P P 08 29 29.9 -0.4
PDAR **Pinedale Array** 83.46 42 P P 08 29 30.0 -0.2
comp=Z,17nm,0.7s,baz=212,slow=3.4,SNR=170
PDAR pP sP 08 29 50.4 -0.2
comp=Z,14nm,0.8s,baz=202,slow=3.1,SNR=8.7
PDAR **Pinedale Array** 83.46 42 *e*P P 08 29 29.1 -1.2
RIDG **Independ'e Rid** 83.48 12 *e*P P 08 29 29.5 -0.2
comp=Z,37nm,1.3s
QIZ **Qiongzhong** 83.50 292 P P 08 29 30.5 -0.1
QIZ S S 08 39 52.8 +3.9
QIZ pmax pmax
comp=Z,29nm,2.4s
QIZ LR LR
comp=Z,450nm,24.5s
WRH **Wood River Hil** 83.52 11 *e*P P 08 29 29.2 -0.6
comp=Z,48nm,0.9s
YFT **Old Faithful** 83.52 40 *e*P P 08 29 32.7 +2.1
comp=Z,19nm,0.9s
YMR **Madison River** 83.56 40 *e*P P 08 29 31.8 +1.1
comp=Z,34nm,0.9s
DOT **Dot Lake** 83.56 13 *e*P P 08 29 29.6 -0.5
comp=Z,76nm,1.0s
MLY **Manley** 83.59 9 *e*P P 08 29 29.3 -0.9
comp=Z,28nm,1.0s
BOZ **Bozeman (W)** 83.64 38 P P 08 29 31.5 +0.5
baz=238
BOZ **Bozeman (W)** 83.64 38 *e*P P 08 29 31.3 +0.3
comp=Z,23nm,0.8s
BOZ **Bozeman (W)** 83.64 38 *e*P P 08 29 31.3 +0.3
BOZ pmax pmax
comp=Z,23nm,0.8s

H17A **Grant Village** 83.65 40 P P 08 29 32.7 +1.5
baz=239
H17A **Grant Village** 83.65 40 *e*P P 08 29 32.9 +1.6
comp=Z,22nm,0.8s
HDA **Harding Lake** 83.67 11 *e*P P 08 29 30.1 -0.4
comp=Z,35nm,0.9s
YHH **Holmes Hill** 83.69 39 *e*P P 08 29 32.2 +0.8
comp=Z,28nm,0.9s
CCB **Clear Creek Bu** 83.73 11 *e*P P 08 29 30.1 -0.7
comp=Z,33nm,0.9s
SDCO **Great Sand Dun** 83.80 48 P P 08 29 32.7 +0.5
baz=243
SDCO **Great Sand Dun** 83.80 48 *e*P P 08 29 32.0 -0.1
comp=Z,15nm,1.0s
SCRK **Sand Creek** 83.87 13 *e*P P 08 29 31.4 -0.3
comp=Z,17nm,1.0s
COLA **College** 83.93 11 *e*P P 08 29 31.6 -0.2
comp=Z,76nm,1.0s
COLA **College** 83.93 11 *e*P P 08 29 31.6 -0.2
COLA pmax pmax
comp=Z,76nm,1.0s
MDM **Murphy Dome** 83.94 10 *e*P P 08 29 30.9 -1.1
comp=Z,58nm,1.3s
WHN **Wuhan** 83.99 304 P P 08 29 37.1 +4.2
WHN S S 08 39 54.2 +0.8
WHN LR LR
comp=Z,800nm,20.3s
ILAR **Eielson Array** 84.01 11 P P 08 29 31.6 -0.7
comp=Z,5.7nm,0.6s,baz=224,slow=5.7,SNR=113
ILAR LR LR 08 59 07.9
comp=Z,214nm,21.5s,baz=212,slow=30
ILB **Eielson Array** 84.01 11 *e*P P 08 29 31.3 -1.0
IL1 **Eielson Array** 84.02 11 *e*P P 08 29 29.2 -3.0
IM3 **Indian Mountai** 84.06 8 *e*P P 08 29 32.4 0.0
SEY **Seymchan** 84.06 345 P P 08 29 32.4 -0.1
comp=Z,8.8nm,0.8s,baz=131,slow=6.1,SNR=25
SEY **Seymchan** 84.06 345⇑ *e*P P 08 29 32.7 +0.2
MHTCO **State Highway** 84.09 48 *e*P P 08 29 34.4 +0.8
comp=Z,10nm,1.1s
HRY **Holter Researc** 84.12 37 *e*P P 08 29 33.5 +0.1
MSTX **Muleshoe** 84.15 52 P P 08 29 34.4 +0.5
baz=245
MSTX **Muleshoe** 84.15 52 *e*P P 08 29 34.3 +0.5
comp=Z,292nm,1.9s
WALA **Waterton Lakes** 84.23 35 *e*P P 08 29 33.7 -0.2
comp=Z,22nm,1.0s
T25A **Trinidad** 84.30 49 P P 08 29 35.0 +0.3
baz=244
T25A **Trinidad** 84.30 49 *e*P P 08 29 34.7 0.0
comp=Z,14nm,1.0s
RWWY **Rawlins** 84.45 44 *e*P P 08 29 34.7 -0.7
comp=Z,37nm,1.0s
833A **Chaparral WMA,** 84.54 58 P P 08 29 36.2 +0.4
baz=248
Q24A **Divide** 84.59 47 P P 08 29 36.6 +0.4
baz=243
Q24A **Divide** 84.59 47 *e*P P 08 29 37.0 +0.8
comp=Z,52nm,1.5s
ISCO **Idaho Springs** 84.65 46 P P 08 29 36.7 +0.2
baz=243
ISCO **Idaho Springs** 84.65 46 *e*P P 08 29 37.1 +0.6
comp=Z,25nm,1.6s
ISCO **Idaho Springs** 84.65 46 *e*P P 08 29 37.1 +0.6
ISCO pmax pmax
comp=Z,25nm,1.6s
RLMT **Red Lodge** 84.83 40 P P 08 29 37.6 +0.5
baz=240
RLMT **Red Lodge** 84.83 40 *e*P P 08 29 37.4 +0.3
comp=Z,15nm,1.0s
N23A **Red Feather La** 84.93 45 P P 08 29 37.9 +0.1
baz=243
N23A **Red Feather La** 84.93 45 *e*P P 08 29 38.3 +0.5
comp=Z,14nm,1.0s
DAWY **Dawson** 84.97 14 *e*P P 08 29 37.1 -0.1
JCT **Junction City** 85.04 56 P P 08 29 38.3 +0.1
baz=247
JCT **Junction City** 85.04 56 *e*P P 08 29 38.5 +0.2
comp=Z,15nm,0.8s
JCT **Junction City** 85.04 56 *e*P P 08 29 38.5 +0.2
JCT pmax pmax
comp=Z,15nm,0.8s
EGAK **Eagle** 85.18 13 *e*P P 08 29 38.2 +0.2
comp=Z,31nm,1.3s
AMTX **Amarillo** 85.34 52 P P 08 29 40.2 +0.4
baz=246
AMTX **Amarillo** 85.34 52 *e*P P 08 29 40.1 +0.3
comp=Z,46nm,0.8s
K22A **Casper** 85.36 43 P P 08 29 39.9 +0.2
baz=242
K22A **Casper** 85.36 43 *e*P P 08 29 40.1 +0.3
comp=Z,44nm,1.6s
PHWY **Pilot Hill** 85.44 44 *e*P P 08 29 39.8 -0.6
comp=Z,14nm,0.9s
COLD **Coldfoot** 85.72 9 *e*P P 08 29 41.4 +0.6
comp=Z,33nm,1.1s
FYU **Fort Yukon** 85.93 11 *e*P P 08 29 42.2 +0.4
comp=Z,55nm,1.4s
ABTX **Abilene, Hawle** 86.00 54 P P 08 29 43.6 +0.6
baz=247
ABTX **Abilene, Hawle** 86.00 54 *e*P P 08 29 43.5 +0.5
comp=Z,105nm,0.8s
BILL **Bilibino** 86.09 352⇑ *i*P P 08 29 42.0 -0.6
BILL *i*S SKSac 08 39 55.4 -8.5
BILL pmax pmax
comp=Z,11nm,1.0s
BILL pmax pmax
comp=Z,763nm,23.0s
COCO **West Island** 86.28 258 *i*P P 08 29 47.8 +3.1
MAW **Mawson** 86.28 199 P P 08 29 44.4 +0.7
comp=Z,8.5nm,0.8s,baz=141,slow=8.1,SNR=11
MAW LR LR 09 05 28.4
comp=Z,442nm,21.2s,baz=76,slow=34
MAW **Mawson** 86.28 199 P P 08 29 44.6 +0.9
baz=86,SNR=8.3
MAW **Mawson** 86.28 199 *e*P P 08 29 44.4 +0.7
comp=Z,3.0nm,0.9s
MAW **Mawson** 86.28 199 *e*P P 08 29 44.4 +0.7
MAW pmax pmax
comp=Z,3.0nm,0.9s
BJI **Beijing** 86.56 314 P P 08 29 48.8 +3.3
BJI S S 08 40 21.4 +3.0
BJI pmax pmax
comp=Z,26nm,1.3s
BJI LR LR
comp=Z,360nm,4.9s
BJI LR LR
comp=Z,460nm,5.3s
EDM **Edmonton** 86.85 31 *e*P P 08 29 46.2 -0.5
comp=Z,46nm,1.1s
EDM **Edmonton** 86.85 31 *e*P P 08 29 46.2 -0.5
EDM pmax pmax
comp=Z,46nm,1.1s
435B **Jarrell** 86.92 57 P P 08 29 48.3 +0.7
baz=248
IPM **Ipoh** 87.07 276 *e*P P 08 29 49.0 +0.4
comp=Z,15nm,0.6s
TOLK **Toolik Lake Re** 87.13 9 P P 08 29 47.5 -0.2
baz=203
TOLK **Toolik Lake Re** 87.13 9 *e*P P 08 29 47.7 0.0
comp=Z,71nm,1.9s
LAO **LASA Array** 87.45 39 P P 08 29 50.4 +0.7
baz=242
LAO **LASA Array** 87.45 39 *e*P P 08 29 50.6 +0.9
comp=Z,10nm,0.8s
WHTX **Lake Whitney,** 87.47 56 P P 08 29 50.6 +0.4
baz=248
WHTX **Lake Whitney,** 87.47 56 *e*P P 08 29 50.6 +0.4
comp=Z,33nm,0.9s
WMOK **Wichita Mounta** 87.48 53 *e*P P 08 29 50.3 +0.2
comp=Z,28nm,1.7s
WMOK **Wichita Mounta** 87.48 53 *e*P P 08 29 50.3 +0.2
WMOK pmax pmax
comp=Z,28nm,1.7s
RSSD **Black Hills** 87.64 42 P P 08 29 50.8 -0.1
baz=244
RSSD **Black Hills** 87.64 42 *e*P P 08 29 50.1 -0.9
comp=Z,12nm,1.0s
RSSD **Black Hills** 87.64 42 *e*P P 08 29 50.1 -0.9
RSSD pmax pmax
comp=Z,12nm,1.0s
APG **El Apazote** 87.78 74 P P 08 29 53.3 +1.1
comp=Z,15nm,0.9s,baz=328,slow=11,SNR=15
APG LR LR 09 03 28.6
comp=Z,103nm,18.1s,baz=271,slow=32
HKT **Hockley** 88.03 58 *e*P P 08 29 53.6 +0.8
comp=Z,57nm,1.9s
HKT **Hockley** 88.03 58 *e*P P 08 29 53.6 +0.8
HKT pmax pmax
comp=Z,57nm,1.9s
CBKS **Cedar Bluff** 88.35 49 P P 08 29 54.8 +0.6
baz=247
PLCA **Paso Flores** 88.44 132 LR LR 09 00 30.6
comp=Z,275nm,21.2s,baz=273,slow=29
PSI **Prapat** 88.58 273 *e*P P 08 29 55.7 -0.3
comp=Z,11nm,0.9s
PSI **Prapat** 88.58 273 *e*P P 08 29 55.7 -0.3
PSI pmax pmax
comp=Z,11nm,0.9s
GYA **Guiyang** 88.79 298 *e*P P 08 29 57.8 +1.1
GYA pP pP 08 30 10.0 -1.5
GYA PP PP 08 33 29.8 +3.3
GYA SKS SKSac 08 40 21.2 -1.2
GYA S S 08 40 40.0 -0.5
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,120nm,6.2s
TRTT **Trang** 89.32 278 P P 08 29 59.9 +0.6
comp=Z,10nm,0.8s
GSI **Gunungsitoli** 89.44 272 *e*P P 08 29 58.0 -1.9
comp=Z,27nm,0.7s
XAN **Xi'an** 89.56 306 P P 08 29 54.4 -5.6
XAN pP PcP 08 30 03.6 +2.2
XAN sP pP 08 30 08.3 -6.6
NATX **Nacogdoches** 89.61 57 *e*P P 08 30 01.8 +1.5
comp=Z,48nm,1.1s
INK **Inuvik** 89.82 14 P P 08 29 59.5 -0.8
comp=Z,6.0nm,0.8s,baz=217,slow=5.0,SNR=30
INK **Inuvik** 89.82 14 *e*P P 08 29 59.9 -0.5
comp=Z,8.3nm,0.9s
INK **Inuvik** 89.82 14 *e*P P 08 29 59.9 -0.5
INK pmax pmax
comp=Z,8.0nm,0.9s
HHC **Hu-ho-hao-te** 90.11 313 *e*P P 08 30 04.5 +2.0
HHC sP sP 08 30 22.6 -0.4
HHC S S 08 40 57.6 +5.4
HHC SS SS 08 46 55.7 +3.3
HHC pmax pmax
comp=Z,22nm,0.9s
HHC pmax pmax
comp=Z,82nm,4.4s
HHC LR LR
comp=Z,510nm,17.3s
HHC LR LR
comp=Z,610nm,18.0s
HHC LR LR
comp=Z,640nm,17.1s
TGUH **Tegucigalpa,Un** 90.43 76 *e*P P 08 30 03.9 -0.5
comp=Z,26nm,1.1s
YAK **Yakutsk** 90.58 337 LR LR 09 03 52.0
comp=Z,133nm,21.1s,baz=98,slow=31
YAK **Yakutsk** 90.58 337 *e*P P 08 30 09.6 +5.6
YAK pmax pmax
comp=Z,10.0nm,1.0s
YAK pmax pmax
comp=N,4.0nm,1.2s
PBKT **Sadao Pong** 90.71 287 P P 08 30 06.6 +0.9
comp=N,13nm,0.8s
KSU1 **Kansas State U** 90.72 49 *e*P P 08 30 04.4 -0.8
comp=N,8.1nm,0.7s
PHET **Kaeng Krachan** 90.86 283 P P 08 30 08.6 +2.1
comp=N,7.7nm,0.8s
X39A **Fountain Ranch** 90.98 54 P P 08 30 07.1 +0.4
baz=250
SYO **Syowa Base** 91.03 191⇑ *e*X P 08 30 11.8 +5.6
PEL **Peldehue** 91.07 125 *e*P P 08 30 07.7 +0.5
comp=N,56nm,0.5s
PEL **Peldehue** 91.07 125 *e*P P 08 30 07.7 +0.5
PEL pmax pmax
comp=Z,56nm,0.5s
SNAA **Sanae** 91.31 177 P P 08 30 07.6 0.0
comp=Z,6.0nm,1.0s,baz=146,slow=7.3,SNR=6.6
SNAA **Sanae** 91.31 177 *e*P P 08 30 07.6 0.0
comp=Z,31nm,1.6s
SNAA **Sanae** 91.31 177 *i*P P 08 30 07.7 +0.1
PHIT **Phitsanulok** 91.40 287 P P 08 30 10.3 +1.4
comp=Z,13nm,0.8s
MIAR **Mount Ida** 91.41 54 *e*P P 08 30 08.6 0.0
comp=Z,16nm,1.6s
MIAR **Mount Ida** 91.41 54 *e*P P 08 30 08.6 0.0
MIAR pmax pmax
comp=Z,16nm,1.6s
Y40A **Okolona** 91.47 55 P P 08 30 09.5 +0.7
baz=251
W39A **Magazine** 91.47 54 P P 08 30 09.1 +0.3
baz=250
JTS **JuntasAbangare** 91.50 80 P P 08 30 11.7 +2.2
comp=Z,14nm,0.8s,baz=11,slow=7.4,SNR=15
JTS pP sP 08 30 32.9 +3.0
comp=Z,23nm,0.9s,baz=321,slow=5.6,SNR=7.2
JTS LR LR 09 00 26.7
comp=Z,114nm,20.9s,baz=328,slow=28
YKA **Yellowknife Ar** 91.57 23 P P 08 30 08.1 -0.5
comp=Z,1.8nm,0.8s,baz=236,slow=4.1,SNR=26
YKA pP sP 08 30 29.5 +0.4
comp=Z,6.5nm,0.9s,baz=234,slow=4.4,SNR=12
YKA PKKP PKKPdf 08 47 27.5 -1.1
comp=Z,0.1nm,0.4s,baz=41,slow=1.9,SNR=4.9
YKB5 **Yellowknife Ar** 91.57 23 *e*P P 08 30 08.1 -0.5
Z41A **Richland Creek** 91.59 56 P P 08 30 10.2 +0.8
baz=251
NANT **Nan** 91.62 289 P P 08 30 11.0 +1.1
comp=Z,4.3nm,0.9s,comp=Z,1μm
T38A **Diamond** 91.70 52 P P 08 30 09.8 -0.1
baz=250
KMI **Kunming** 91.71 296 P P 08 30 12.6 +2.1
KMI pP pP 08 30 24.4 -0.9
KMI sP sP 08 30 29.0 -1.9
KMI PP PP 08 33 50.7 +0.8
KMI SKS SKSac 08 40 39.7 +0.1
KMI S ScS 08 41 09.5 -0.9
KMI pmax pmax
comp=Z,14nm,0.5s
KMI pmax pmax
comp=Z,94nm,4.3s
KMI LR LR
comp=Z,100nm,5.1s
KMI LR LR
comp=Z,92nm,4.1s
KMI LR LR
comp=Z,250nm,20.2s
V39A **Pettigrew** 91.79 53 P P 08 30 10.4 0.0
baz=250
Y41A **Eaglette Beard** 91.95 55 P P 08 30 11.8 +0.7
baz=251
W40A **Ferguson Farm,** 92.02 54 P P 08 30 11.5 +0.1
baz=251
W40A **Ferguson Farm,** 92.02 54 *e*P P 08 30 11.9 +0.5
comp=Z,17nm,1.0s
142A **Monroe** 92.04 57 P P 08 30 11.7 +0.2
baz=251
U39A **Green Forest** 92.10 53 P P 08 30 11.3 -0.4
baz=251
X41A **Kaden, Bauxite** 92.22 55 P P 08 30 12.8 +0.5
baz=251
R38A **Fenwick Farm,** 92.38 51 P P 08 30 12.8 -0.2
baz=250
ECSD **EROS Data Cent** 92.39 45 P P 08 30 12.8 -0.1
baz=249
ECSD **EROS Data Cent** 92.39 45 *e*P P 08 30 11.8 -1.2
comp=Z,6.6nm,1.1s
V40A **Witts Springs** 92.41 53 P P 08 30 13.2 0.0
baz=251
UALR **University of** 92.45 54 *e*P P 08 30 14.6 +1.2
comp=Z,15nm,0.8s
LAMP **Lampang** 92.50 288 P P 08 30 15.2 +1.2
comp=Z,14nm,0.7s
N36A **Muff Farm, Cla** 92.51 48 P P 08 30 13.4 -0.1
baz=250
LCO **Las Campanas** 92.53 121 *e*P P 08 30 16.6 +2.2
comp=Z,21nm,1.0s
P37A **Lathrop** 92.53 49 P P 08 30 13.2 -0.4
baz=250
PAYA **Payao** 92.53 289 P P 08 30 15.2 +1.1
comp=Z,8.7nm,0.7s,comp=Z,208nm
U40A **Yellville** 92.57 53 P P 08 30 13.6 -0.3
baz=251
Y42A **Garnett, Star** 92.58 56 P P 08 30 15.0 +1.0
baz=251
CD2 **Chengdu** 92.64 301 *e*P P 08 30 15.0 +0.6
CD2 pP pP 08 30 27.3 -2.0
CD2 SKS SKSac 08 40 44.8 +0.6
CD2 S ScS 08 41 16.6 -0.9
CD2 sS pS 08 41 37.7 +3.2

CD2 SS **SS** 08 47 30.8 +1.7
CD2 pmax pmax
comp=Z,20nm,0.5s
CD2 pmax pmax
comp=Z,220nm,5.0s
CD2 LR LR
comp=Z,230nm,20.4s
CD2 LR LR
comp=Z,480nm,23.3s
CD2 LR LR
comp=Z,430nm,22.4s
W41B Gary Mavity, V 92.65 54 P **P** 08 30 14.7 +0.5
baz=251
S39A Bolivar 92.65 51 P **P** 08 30 13.9 -0.4
baz=251
344A Westbrook Farm 92.68 58 P **P** 08 30 16.0 +1.5
baz=252
244A Avery, Jackson 92.90 58 P **P** 08 30 16.1 +0.6
baz=252
V41A Mountainview 92.92 54 P **P** 08 30 15.5 0.0
baz=251
X42A Stuttgart 92.94 55 P **P** 08 30 16.3 +0.7
baz=252
R39A Chumby, Stover 93.07 51 P **P** 08 30 16.1 -0.1
baz=251
CM01 Chiang Mai Arr 93.08 288 *e*P **P** 08 30 17.6 +1.0
CM31 Chiang Mai Arr 93.11 288 *e*P **P** 08 30 17.8 +1.0
CMAR Chiang Mai Arr 93.11 288 P **P** 08 30 17.8 +1.0
comp=Z,7.4nm,0.7s,baz=106,slow=2.3,SNR=33
CMAR LR LR 09 06 58.7
comp=Z,151nm,21.9s,baz=109,slow=32
CMAR Chiang Mai Arr 93.11 288 *ce*P **P** 08 30 17.7 +1.0
CMAR pmax pmax
comp=Z,9.0nm,0.7s
P38A Dawn 93.14 50 P **P** 08 30 15.7 -0.7
baz=251
C31A Landman Farms, 93.15 41 P **P** 08 30 15.5 -0.9
baz=248
CMMT Chiang Mai 93.21 289 P **P** 08 30 17.1 -0.2
comp=Z,17nm,0.7s
CHTO Chiang Mai 93.21 289 P **P** 08 30 18.2 +0.9
comp=Z,76nm,0.7s
CHTO Chiang Mai 93.21 289 *e*P **P** 08 30 18.0 +0.7
comp=Z,12nm,0.6s
CHTO Chiang Mai 93.21 289 *e*P **P** 08 30 18.0 +0.7
CHTO pmax pmax
comp=Z,11nm,0.6s
S40A Lebanon 93.24 52 P **P** 08 30 17.0 0.0
baz=251
W42A Bald Knob 93.25 54 P **P** 08 30 17.8 +0.8
baz=252
U41A Viola 93.28 53 P **P** 08 30 17.3 +0.2
baz=251
M37A Trindle Farm, 93.35 48 P **P** 08 30 17.3 -0.1
baz=250
CMAI Chiengmai2 93.44 290 P **P** 08 30 19.3 +0.8
FFC Flin Flon 93.44 33 *e*P **P** 08 30 17.0 -0.5
comp=Z,8.2nm,1.3s
FFC Flin Flon 93.44 33 *e*P **P** 08 30 17.0 -0.5
FFC pmax pmax
comp=Z,8.0nm,1.3s
V42A Cord 93.52 54 P **P** 08 30 18.3 +0.1
baz=252
T41A Mountain View 93.62 52 P **P** 08 30 18.7 0.0
baz=252
R40A Maddies Statio 93.64 51 P **P** 08 30 18.7 0.0
baz=251
N38A Joes South For 93.74 49 P **P** 08 30 18.7 -0.5
baz=251
E33A Westby DABS, E 93.79 42 P **P** 08 30 19.3 0.0
baz=249
U42A Revenden 93.80 53 P **P** 08 30 19.3 -0.3
baz=252
S41A Jillco Farms, 93.80 52 P **P** 08 30 19.2 -0.4
baz=252
M38A Pleasantville 93.97 48 P **P** 08 30 19.8 -0.4
baz=251
O39A Kirksville 94.06 49 P **P** 08 30 20.0 -0.7
baz=251
B32A Ashes, Strandq 94.12 41 P **P** 08 30 19.6 -1.1
baz=249
T42A Van Buren 94.12 53 P **P** 08 30 20.5 -0.6
baz=252
LZH Lanzhou 94.17 306 *e*P **P** 08 30 22.7 +1.2
LZH pP pP 08 30 36.0 -0.3
LZH sP sP 08 30 41.5 -0.5
LZH *e*PP **PP** 08 34 10.0 +1.1
LZH pmax pmax
comp=Z,31nm,1.0s
LZH pmax pmax
comp=Z,260nm,5.0s
LZH LR LR
comp=Z,98nm,15.3s
LZH LR LR
comp=Z,110nm,16.2s
LZH LR LR
comp=Z,150nm,18.5s
P40A Paris 94.19 50 P **P** 08 30 20.6 -0.7
baz=252
N39A Derby Farms, D 94.29 49 P **P** 08 30 21.0 -0.8
baz=251
R41A Rosebud 94.30 51 P **P** 08 30 21.1 -0.7
baz=252
CCM Cathedral Cave 94.33 52 P **P** 08 30 21.1 -0.8
baz=252
A32A Rocking H Ranc 94.33 40 P **P** 08 30 20.8 -0.9
baz=249
O40A La Belle 94.51 50 P **P** 08 30 22.1 -0.7
baz=252
AGMN Agassiz Nation 94.51 41 *e*P **P** 08 30 21.4 -1.1
comp=Z,32nm,1.6s
PBMO Poplar Bluff 94.55 53 *e*P **P** 08 30 23.2 +0.2
comp=Z,10nm,1.1s
S42A Caledonia 94.58 52 P **P** 08 30 22.5 -0.6
baz=252
OXF Oxford 94.67 55 P **P** 08 30 23.1 -0.5
baz=253
M39A Webster 94.72 48 P **P** 08 30 23.2 -0.5
baz=252
T43A Greenville 94.75 53 P **P** 08 30 23.6 -0.3
baz=252
Y46A Houston 94.92 56 P **P** 08 30 25.0 +0.2
baz=253
P41A Barry, Barry 94.96 50 P **P** 08 30 24.5 -0.3
baz=252
A33A Warroad 95.02 40 P **P** 08 30 23.8 -1.1
baz=250
L39A Vinton 95.04 48 P **P** 08 30 24.8 -0.3
baz=252
M40A Post Highland 95.17 48 P **P** 08 30 25.5 -0.2
baz=252
ULM Lac du Bonnet 95.18 39 P **P** 08 30 24.3 -1.2
comp=Z,4.0nm,0.8s,baz=231,slow=4.7,SNR=12
ULM LR LR 09 06 44.8
comp=Z,347nm,20.6s,baz=267,slow=31
ULM Lac du Bonnet 95.18 39 *e*P **P** 08 30 24.6 -1.0
comp=Z,22nm,1.4s
ULM Lac du Bonnet 95.18 39 *e*P **P** 08 30 24.6 -1.0
ULM pmax pmax
comp=Z,22nm,1.4s
F36A Milaca 95.19 44 P **P** 08 30 25.2 -0.5
baz=251
O41A Passleys Farm, 95.23 50 P **P** 08 30 25.4 -0.6
baz=252
B34A Aery, Baudette 95.33 41 P **P** 08 30 25.2 -1.1
baz=251
P42A Winchester 95.46 50 P **P** 08 30 26.8 -0.3
baz=253
L40A Anamosa 95.58 48 P **P** 08 30 27.1 -0.5
baz=252
ULN Ulaanbaatar 95.62 318⇑ *e*P **P** 08 30 28.7 +0.8
ULN pmax pmax
comp=Z,3.0nm,1.0s
J39A Decorah 95.62 47 P **P** 08 30 26.9 -0.9
baz=252
D36A Goodland 95.85 43 P **P** 08 30 27.9 -0.8
baz=252
PLAL Pickwick Lake 95.85 55 *e*P **P** 08 30 29.2 +0.2
comp=Z,11nm,1.4s
X47A Russelville 95.89 56 P **P** 08 30 28.8 -0.4
baz=254
R44A Waltonville 96.01 52 P **P** 08 30 29.4 -0.3
baz=253
SONA0 Songino Array 96.03 318 *e*P **P** 08 30 28.9 -0.8
SONM Songino Array 96.03 318 P **P** 08 30 28.9 -0.8
comp=Z,0.7nm,0.6s,baz=131,slow=4.5,SNR=4.0
SONM LR LR 09 08 34.8
comp=Z,158nm,21.4s,baz=102,slow=32

V46A Holladay 96.05 55 P **P** 08 30 29.6 -0.3
baz=254
G38A Ridgeland 96.09 45 P **P** 08 30 29.3 -0.6
baz=252
C36A Pine Crest Far 96.24 42 P **P** 08 30 29.4 -1.1
baz=252
W47A Westpoint 96.31 55 P **P** 08 30 30.8 -0.2
baz=254
J40A Soldiers Grove 96.31 47 P **P** 08 30 30.2 -0.7
baz=253
WVT Waverly 96.37 54 P **P** 08 30 31.1 -0.2
baz=254
K41A Shullsburg 96.39 48 P **P** 08 30 30.6 -0.6
baz=253
JFWS Jewell Farm 96.52 47 P **P** 08 30 31.1 -0.7
baz=253
JFWS Jewell Farm 96.52 47 *e*P **P** 08 30 31.7 -0.2
comp=Z,29nm,1.4s
JFWS Jewell Farm 96.52 47 *e*P **P** 08 30 31.7 -0.2
JFWS pmax pmax
comp=Z,29nm,1.4s
X48A Hartselle 96.52 56 P **P** 08 30 31.6 -0.4
baz=254
TIXI Tiksi 96.54 344⇑ *e*P **P** 08 30 30.8 -0.4
TIXI pmax pmax
comp=Z,3.0nm,0.9s
T46A Princeton 96.57 53 P **P** 08 30 32.3 +0.1
baz=254
W48A Pulaski 96.80 55 P **P** 08 30 33.0 -0.3
baz=254
J41A Loganville 96.81 47 P **P** 08 30 32.7 -0.4
baz=253
351A Pinckard 96.82 60 P **P** 08 30 33.3 -0.2
baz=254
150A Eclectic 96.84 58 P **P** 08 30 33.3 -0.3
baz=254
U47A Clarksville 96.87 54 P **P** 08 30 33.2 -0.4
baz=254
H40A Chili 96.92 46 P **P** 08 30 32.9 -0.7
baz=253
MNMC Minye Minye 96.97 112 *e*P **P** 08 30 33.1 -1.7
comp=Z,7.3nm,0.8s
Z50A Ashland 97.09 58 P **P** 08 30 34.2 -0.5
baz=254
X49A Woodville 97.11 56 P **P** 08 30 34.5 -0.2
baz=254
T47A Sharon Grove 97.17 54 P Pdif 08 30 35.0 0.0
baz=254
251A Midway 97.20 59 P **P** 08 30 35.1 -0.1
baz=255
352A Blakely 97.43 59 P **P** 08 30 35.8 -0.4
baz=255
X50A Fort Payne 97.63 56 P **P** 08 30 36.4 -0.7
baz=255
E40A Wakefield 97.77 44 P **P** 08 30 36.9 -0.5
baz=254
GTA Gaotai 98.17 309 *e*P **P** 08 30 38.7 -0.9
GTA pP pP 08 30 51.6 -2.9
GTA sP sP 08 30 57.5 -2.6
GTA pmax pmax
comp=Z,4.0nm,0.8s
COWI Conover 98.18 44 *e*P **P** 08 30 39.0 -0.3
comp=Z,7.8nm,0.8s
FCC Fort Churchill 98.96 31 *e*P **P** 08 30 41.6 -0.8
comp=Z,5.8nm,0.9s
FCC Fort Churchill 98.96 31 *e*P **P** 08 30 41.6 -0.8
FCC pmax pmax
comp=Z,6.0nm,0.9s
556A Lake Butler 99.16 61 P **Pdif** 08 30 43.1 -0.9
baz=256
LPAZ La Paz 99.27 110 P **Pdif** 08 30 47.0 +1.3
comp=Z,0.8nm,0.7s,baz=336,slow=2.7,SNR=2.5
LPAZ LR LR 09 06 02.7
comp=Z,107nm,21.4s,baz=263,slow=30
LPAZ La Paz 99.27 110 *e*P **Pdif** 08 30 47.0 +1.3
TKL Tuckaleechee C 99.42 56 LR LR 09 08 09.6
comp=Z,127nm,21.1s,baz=252,slow=31
ZAA1 Zalesovo Array 110.48 322 *e*PKiKP **PKiKP** 08 35 32.5 -1.7
ZALV Zalesovo Beam 110.48 322 PKiKP **PKiKP** 08 35 32.5 -1.7
comp=Z,1.2nm,0.6s,baz=74,slow=1.0,SNR=5.6
ZALV pPKiKP **pPKiKP** 08 35 54.8 +5.2
comp=Z,2.9nm,0.6s,baz=96,slow=0.8,SNR=4.9
MK32 Makanchi Array 111.94 314 *e*Pdif **Pdif** 08 31 42.2 +1.7
MK32 *e*PKiKP **PKiKP** 08 35 36.2 -1.0
MKAR Makanchi Array 111.94 314 Pdiff **Pdif** 08 31 42.2 +1.7
comp=Z,0.3nm,0.9s,baz=92,slow=7.2,SNR=3.5
MKAR PKiKP **PKiKP** 08 35 36.2 -1.0
comp=Z,2.2nm,0.6s,baz=76,slow=1.1,SNR=32
MKAR pPKiKP **pPKiKP** 08 35 56.6 +4.0
comp=Z,6.3nm,0.8s,baz=91,slow=1.3,SNR=17
MKAR PKKPbc **PKKPbc** 08 46 29.2 -1.7
comp=Z,0.3nm,0.7s,baz=302,slow=2.7,SNR=3.3
MKAR PKKPab **PKKPab** 08 46 39.0 +1.3
comp=Z,0.4nm,0.6s,baz=271,slow=3.7,SNR=4.7
KURK Kurchatov 114.33 318 *e*PKiKP PKPdf 08 35 40.8 -0.8
KURK Kurchatov 114.33 318 *d i*PKiKP PKPdf 08 35 41.3 -0.3
KURK pmax pmax
comp=Z,22nm,1.7s
KURBB Kurchatov Arra 114.40 318 PKP PKPdf 08 35 40.8 -1.0
comp=Z,2.8nm,0.7s,baz=95,slow=1.9,SNR=22
KURBB pPKP sPKiKP 08 36 01.3 -1.3
comp=Z,4.8nm,0.8s,baz=96,slow=1.9,SNR=13
SPITS Spitsbergen Ar 118.61 358 PKP **PKPdf** 08 35 48.9 -0.3
comp=Z,7.4nm,0.8s,baz=270,slow=2.9,SNR=4.0
SUMG Summit 118.74 14 *e*PKiKP **PKPdf** 08 35 53.2 +3.1
SUMG *i* 08 36 10.7
SUMG pmax pmax
comp=Z,3.0nm,0.8s
DAG Danmarks Havn 118.83 6 *i*PKiKP **PKPdf** 08 35 46.4 -3.2
DAG *i* 08 36 08.6
DAG pmax pmax
comp=Z,3.0nm,0.9s
BVAR Borovoye Array 119.14 322 PKP **PKPdf** 08 35 50.3 -0.5
comp=Z,6.9nm,0.6s,baz=48,slow=2.2,SNR=28
BVAR pPKP **sPKPdf** 08 36 10.7 -1.0
comp=Z,13nm,0.8s,baz=90,slow=1.5,SNR=13
BRVK Borovoye 119.19 322 *e*PKPdf **PKPdf** 08 35 50.6 -0.4
BRVK Borovoye 119.19 322 *d i*PKiKP **PKPdf** 08 35 50.5 -0.4
KK06 Karatay Array 120.39 310 *e*PKPdf **PKPdf** 08 35 52.5 -1.1
KK31 Karatay Array 120.40 310 *e*PKPdf **PKPdf** 08 35 52.9 -0.7
KK31 Karatay Array 120.40 310 *e*PKiKP **PKPdf** 08 35 52.9 -0.7
KKAR Karatay Array 120.40 310 *e*PKPdf **PKPdf** 08 35 53.0 -0.6
KKAR Karatay Array 120.40 310 *e*PKiKP **PKPdf** 08 35 53.0 -0.6
KK07 Karatay Array 120.41 310 *e*PKPdf **PKPdf** 08 35 52.8 -0.8
KBL Kabul 121.96 300 *e*PKPdf **PKPdf** 08 35 57.3 +0.1
KBL Kabul 121.96 300 *e*PKiKP **PKPdf** 08 35 57.3 +0.1
SCO Scoresbysund 123.80 11 *e*PKPdf **PKPdf** 08 35 59.1 -0.1
SCO Scoresbysund 123.80 11 *i*PKiKP **PKPdf** 08 35 59.0 -0.3
SCO *i* 08 36 20.0
SCO pmax pmax
comp=Z,4.0nm,0.8s
ARU Arti 124.69 328 PKhKP PKPpre 08 35 55.3
comp=Z,10nm,0.2s,baz=171,slow=1.0,SNR=10
ARU Arti 124.69 328 *e*PKPdf **PKPdf** 08 36 01.0 -0.4
ARU Arti 124.69 328 *i*PKiKP **PKPdf** 08 36 00.8 -0.6
ARU 08 43 09.6
ARU SS SS 08 54 35.6 -3.6
ARA0 ARCESS Array S 126.19 352 *e*PKPdf **PKPdf** 08 36 03.7 -0.2
ARA0 *ep*PKPdf **sPKPdf** 08 36 24.7 -0.1
ARCES ARCESS Array B 126.19 352 PKP **PKPdf** 08 36 03.7 -0.2
comp=Z,11nm,0.7s,baz=331,slow=1.6,SNR=24
ARCES pPKP **sPKPdf** 08 36 24.7 -0.1
comp=Z,14nm,0.8s,baz=0.0,slow=0.5,SNR=8.9
ARCES ARCESS Array B 126.19 352 *e*PKPdf **PKPdf** 08 36 03.2 -0.7
ARCES ARCESS Array B 126.19 352 *e*PKiKP **PKPdf** 08 36 03.2 -0.7
AB31 Akbulak array 126.43 319 *e*PKPdf **PKPdf** 08 36 04.9 0.0
AB31 Akbulak array 126.43 319 *e*PKiKP **PKPdf** 08 36 04.9 0.0
ABKAR Akbulak array 126.43 319 *e*PKPdf **PKPdf** 08 36 04.9 0.0
AKTO Aktyubinsk 127.23 321 PKP **PKPdf** 08 36 05.9 -0.5
comp=Z,2.2nm,0.8s,baz=10,slow=3.6,SNR=7.5
AKTO pPKP **sPKPdf** 08 36 25.9 -1.5
comp=Z,5.0nm,0.9s,baz=19,slow=3.3,SNR=8.1
TMCR Tamitsa 128.24 343 *e*PKiKP **PKPdf** 08 36 05.1 -2.8
TMCR pmax pmax
comp=Z,15nm,0.7s
KLMR Klimovskoe 130.29 340 *e*PKPdf **PKPdf** 08 36 11.2 -0.7
KLMR AMP 08 36 17.9
comp=Z,11nm,1.3s
KLMR Klimovskoe 130.29 340 *e*PKiKP **PKPdf** 08 36 11.1 -0.8
KLMR pmax pmax
comp=Z,11nm,1.3s
GEYT Alibeck 130.44 306 PKP **PKPdf** 08 36 12.6 -0.4
comp=Z,2.4nm,0.7s,baz=202,slow=3.2,SNR=4.0
GEYT pPKP **sPKPdf** 08 36 33.3 -0.6
comp=Z,3.2nm,0.7s,baz=259,slow=3.0,SNR=3.4
BOSA Boshof 131.19 202 PKP **PKPdf** 08 36 15.5 +0.6
comp=Z,1.1nm,0.7s,baz=156,slow=2.8,SNR=3.8
BOSA pPKP **sPKPdf** 08 36 36.0 +0.2
comp=Z,6.1nm,1.0s,baz=102,slow=2.1,SNR=4.6
FIA0 FINESS Array S 133.50 347 *e*PKPdf **PKPdf** 08 36 18.6 +0.6
FIA0 *ep*PKPdf **sPKPdf** 08 36 38.7 -0.1
FIA0 FINESS Array S 133.50 347 *e*PKiKP **PKPdf** 08 36 18.6 +0.6
FIA0 *e* 08 36 38.7
FINES FINESS Array B 133.50 347 PKP **PKPdf** 08 36 18.6 +0.6
comp=Z,6.6nm,0.7s,baz=112,slow=2.1,SNR=13
FINES pPKP **sPKPdf** 08 36 38.7 -0.1
comp=Z,8.9nm,0.9s,baz=358,slow=5.7,SNR=5.7
OBN Obninsk 135.57 336⇑ *i*PKiKP **PKPdf** 08 36 23.5 +1.5
OBN *i* 08 36 43.8
OBN pmax pmax
comp=Z,5.0nm,0.8s
NB2 NORSAR Subarra 135.90 357 PKPdf **PKPdf** 08 36 23.5 +0.9
comp=Z,7.1nm,1.2s,baz=6.6,slow=1.8
NB200 NORSAR Array S 135.90 357 *e*PKPdf **PKPdf** 08 36 22.4 -0.1
NB200 *ep*PKPdf **sPKPdf** 08 36 43.6 +0.1
NOA NORSAR Array B 135.90 357 PKP **PKPdf** 08 36 22.4 -0.1
comp=Z,1.8nm,0.7s,baz=317,slow=2.3,SNR=3.6
NOA pPKP **sPKPdf** 08 36 43.6 +0.1
comp=Z,5.4nm,1.0s,baz=14,slow=4.0,SNR=4.0
HFS Hagfors 136.62 355 PKP **PKPdf** 08 36 22.9 -1.0
comp=Z,6.1nm,0.7s,baz=108,slow=7.7,SNR=5.2
HFS pPKP **sPKPdf** 08 36 46.2 +1.4
comp=Z,8.3nm,0.8s,baz=90,slow=2.9,SNR=4.8
MAK Makhachkala 136.74 315 *i*PKiKP **PKPdf** 08 36 24.8 +0.2
MAK *e* 08 39 07.3
MAK *e*SS SS 08 57 03.6 -3.8
MAK pmax pmax
comp=Z,164nm,1.9s
KBZ Khabaz 139.40 319 PKP **PKPdf** 08 36 31.0 +1.6
comp=Z,2.1nm,0.9s,baz=243,slow=2.3,SNR=2.7
KBZ pPKP **sPKPdf** 08 36 51.6 +1.3
comp=Z,4.7nm,0.9s,baz=156,slow=2.7,SNR=4.5
KIV Kislovodsk 139.41 319 *i*PKiKP **PKPdf** 08 36 31.4 +1.7
KIV pmax pmax
comp=Z,7.0nm,1.0s
KIV MLR MLR
comp=Z,185nm,23.0s
GNI Garni 139.77 313 *c i*PKiKP **PKPdf** 08 36 34.6 +4.1
EKA Eskdalemuir Ar 141.02 9 PKhKP PKPpre 08 36 24.5
comp=Z,1.1nm,0.7s,baz=328,slow=2.5,SNR=4.0
AKASG Malin Array Be 141.81 337 PKhKP PKPpre 08 36 25.3
comp=Z,0.4nm,0.3s,baz=40,slow=4.3,SNR=4.6
AKASG PKP **PKPdf** 08 36 33.1 -0.5
comp=Z,2.6nm,0.6s,baz=35,slow=2.8,SNR=12
AKASG pPKP sPKPdf 08 36 53.9 -0.6
comp=Z,7.8nm,0.9s,baz=40,slow=3.3,SNR=5.0
AKBB Malin Array Si 141.81 337 *e*PKPdf **PKPdf** 08 36 33.1 -0.5
AKBB Malin Array Si 141.81 337 *e*PKiKP **PKPdf** 08 36 33.1 -0.5
KIEV Kiev 141.82 337 ‖ *e*PKiKP **PKPdf** 08 36 33.9 +0.3
ANN Anapa 142.09 324 *i*PKiKP **PKPdf** 08 36 39.8 +5.5
ANN pmax pmax
comp=Z,97nm,1.3s
SORM Soroca 144.20 335 ⇑PKiKP **PKPab** 08 36 35.8 +0.1
KMBO Kilima Mbogo 144.81 242 PKP PKPbc 08 36 39.9 +0.5
comp=Z,14nm,0.8s,baz=77,slow=4.2,SNR=42
KMBO pPKP sPKPdf 08 37 01.0 -0.2
comp=Z,8.1nm,0.6s,baz=123,slow=1.2,SNR=5.1
KMBO Kilima Mbogo 144.81 242 *e*PKPdf **PKPdf** 08 36 40.2 -0.1
KWP Kalwaria Pacla 144.94 342 *e*PKP **PKPab** 08 36 38.1 -0.4
KWP *e* 08 36 59.4
KWP Kalwaria Pacla 144.94 342 *e*PKPdf PKPbc 08 36 38.6 +0.2
KWP Kalwaria Pacla 144.94 342 *e*PKiKP **PKPab** 08 36 38.1 -0.4
KWP *e* 08 36 59.4
CMLA Cha da Macela 145.04 47 *i*PKiKP **PKPdf** 08 36 40.9 +1.2
OJC Ojcow 145.20 345 *e*PKP PKPpre 08 36 35.1
OJC *e* 08 36 58.7
OJC Ojcow 145.20 345 *e*PKHKP PKPpre 08 36 35.1
KSP Ksiaz 145.36 349 *e*PKP **PKPbc** 08 36 39.8 0.0
KSP *e* 08 37 00.6
KSP Ksiaz 145.36 349 *e*PKiKP **PKPbc** 08 36 39.8 0.0
KSP *e* 08 37 00.5
CLL Collm 145.40 353 ⇑ *i*PKPbc **PKPbc** 08 36 39.2 -0.7
comp=Z,24nm,0.9s
CLL *i* sPKiKP sPKPab 08 37 00.4 -0.2
comp=Z,34nm,0.9s
CLL *e*PSKS 08 50 12.0
CLL *e*PPS PPS 08 52 36.0
CLL *e*SS SS 08 58 54.0 +7.6
CLL *e*(SSS) 09 04 42.0
CLL *e*SSSS 09 08 18.0
CLL LmV 09 40 00.0
comp=Z,200nm,19.6s
CLL Collm 145.40 353 *e*PKPbc **PKPbc** 08 36 39.4 -0.5
CLL Collm 145.40 353 ⇑ *i*PKP2 **PKPbc** 08 36 39.2 -0.7
CLL pmax pmax
comp=Z,24nm,0.9s
STHS Stebnicka Huta 145.56 343 *e*PKP **PKPab** 08 36 41.3 +0.5
STHS Stebnicka Huta 145.56 343 *e*PKiKP **PKPab** 08 36 41.3 +0.5
BRG Berggiesshubel 145.71 352 *i*PKP **PKPdf** 08 36 40.5 0.0
comp=Z,30nm,1.1s
BRG *i* 08 37 01.0
comp=Z,30nm,1.1s
BRG Berggiesshubel 145.71 352 *i*PKiKP **PKPdf** 08 36 40.5 0.0
BRG *i* 08 37 01.0
BRG pmax pmax
comp=Z,30nm,1.1s
BRG pmax pmax
comp=Z,31nm,1.1s
UPC Upice 145.73 349 *e*PKP **PKPab** 08 36 41.2 -0.2
UPC *ex* x 08 36 46.9
UPC *ep*PKP pPKPab 08 36 58.9 +2.5
UPC Upice 145.73 349 *e*PKP2 **PKPab** 08 36 41.2 -0.2
NIE Niedzica 145.81 344 *e*PKP **PKPdf** 08 36 39.5 -1.3
NIE *e* 08 36 59.6
NIE Niedzica 145.81 344 *e*PKiKP **PKPdf** 08 36 39.5 -1.3
NIE *e* 08 36 59.7
BUR08 Bucovina Ar. S 145.83 337 *e*PKPdf **PKPbc** 08 36 41.5 0.0
DPC Dobruska-Polom 145.83 349 *e*PKP **PKPbc** 08 36 41.5 +0.2
DPC *ex* x 08 36 47.3
DPC *ep*PKP pPKPab 08 36 59.5 +2.7
DPC Dobruska-Polom 145.83 349 *e*PKP2 **PKPbc** 08 36 41.5 +0.2
BUR04 Bucovina Ar. S 145.84 337 *e*PKPdf **PKPab** 08 36 41.9 -0.1
BURAR Bucovina Array 145.84 337 ‖ PKP2 **PKPab** 08 36 42.1 +0.1
OKC Ostrava-Krasne 145.94 347 *e*PKP **PKPab** 08 36 43.1 +0.9
OKC *ex* x 08 36 49.2
OKC *ep*PKP **sPKPdf** 08 37 00.5 -1.3
OKC Ostrava-Krasne 145.94 347 *e*PKP2 **PKPab** 08 36 43.1 +0.9
PVCC Panska Ves 145.95 351 *e*PKP **PKPbc** 08 36 41.8 +0.2
PVCC *ex* x 08 37 00.7
PVCC AMS AMS 09 40 10.0
comp=Z,300nm,20.0s
PVCC Panska Ves 145.95 351 *e*PKP2 **PKPbc** 08 36 41.8 +0.2
PVCC MLR MLR
comp=Z,300nm,20.0s
UZH Uzhgorod 145.95 341 *e*PKiKP **PKPdf** 08 36 40.2 -0.7
UZH *i* 08 37 01.4
CRVS Cervenica-Dubn 145.96 342 *e*PKP **PKPbc** 08 36 41.9 +0.2
CRVS *e* 08 37 02.1
CRVS Cervenica-Dubn 145.96 342 *e*PKP2 **PKPbc** 08 36 41.9 +0.2
MORC Moravsky Berou 146.13 347 *e*PKPdf **PKPbc** 08 36 42.2 0.0
MORC Moravsky Berou 146.13 347 *e*PKP2 **PKPbc** 08 36 42.3 0.0
UCC Uccle 146.24 3 ‖ PKP **PKPab** 08 36 42.9 -0.3
UCC ⇑APKP **sPKPdf** 08 37 03.0 +0.8
LANS Liptovska Anna 146.27 345 *e*PKP **PKPab** 08 36 43.9 +0.4
LANS *e* 08 37 04.4
LANS Liptovska Anna 146.27 345 *e*PKP2 **PKPab** 08 36 43.9 +0.4
BEBN Eben Emael 146.28 1 ⇑PKP **PKPbc** 08 36 42.6 0.0
BEBN ⇑APKP **sPKPdf** 08 37 03.1 +0.8
TLCR 146.30 331 ‖ PKP2 **PKPbc** 08 36 42.6 -0.2
TRPA Tarpa 146.32 341 *e*PKPdf **PKPbc** 08 36 42.5 -0.3
MEM Membach 146.48 1 ⇑PKP **PKPbc** 08 36 43.0 -0.1
MEM ⇑APKP **sPKPdf** 08 37 03.8 +1.2
PRU Pruhonice 146.48 351 *e*PKP **PKPbc** 08 36 43.4 +0.2
PRU *ep*PKP pPKPab 08 37 01.4 +2.1
PRU Pruhonice 146.48 351 *e*PKP2 **PKPbc** 08 36 43.4 +0.2
GOPC GO Pecny, Ondr 146.51 350 *e*PKP **PKPbc** 08 36 43.4 0.0
GOPC *ex* x 08 37 01.3
GOPC *ex* x 08 37 04.2
GOPC GO Pecny, Ondr 146.51 350 *e*PKP2 **PKPbc** 08 36 43.4 0.0
NKC Novy Kostel 146.52 353 *e*PKP **PKPbc** 08 36 43.1 -0.3
NKC *ex* x 08 37 00.8
NKC Novy Kostel 146.52 353 *e*PKP2 **PKPbc** 08 36 43.1 -0.3
SNF Seneffe 146.53 3 ⇑PKP **PKPbc** 08 36 43.2 -0.1
SNF ⇑APKP **sPKPdf** 08 37 03.8 +1.1
ILGA Ilgaz 146.54 321 *e*PKPdf **PKPab** 08 36 45.1 0.0
CFR Carcaliu 146.61 332 ⇑PKP2 **PKPbc** 08 36 43.2 -0.5
KECS Kecovo 146.62 343 *e*PKP **PKPab** 08 36 44.8 0.0
KECS *e* 08 37 04.8
KECS Kecovo 146.62 343 *e*PKP2 **PKPab** 08 36 44.8 0.0

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
BCLA	Clavier	146.65	2	⇑PKP	PKPbc	08 36 43.5	-0.2
BCLA				⇓APKP	sPKPdf	08 37 03.8	+0.9
PLOR	Plostina	146.73	334	⇑PKP2	PKPbc	08 36 44.5	+0.4
VRAC	Vranov	146.77	348	⇑PKP2	PKPab	08 36 45.0	-0.4
VYHS	Vyhne	147.04	345	*e*PKP	PKPbc	08 36 45.0	+0.1
VYHS				*e*		08 37 05.7	
VYHS	Vyhne	147.04	345	*e*PKP2	PKPbc	08 36 45.0	+0.1
HARR	Harsova	147.08	331	⇑PKP2	PKPbc	08 36 45.8	+0.7
TLB	Topalu	147.11	331	⇑PKP2	PKPbc	08 36 45.3	+0.1
CJR	Cluj-Napoca	147.19	338	⇑PKP2	PKPab	08 36 48.1	+0.9
PSZ	Piszkesteto	147.29	343	*e*PKPbc	PKPbc	08 36 46.0	+0.3
PSZ	Piszkesteto	147.29	343	⇓PKP2	PKPbc	08 36 46.5	+0.8
MLR	Muntele Rosu	147.31	334	PKPbc	PKPbc	08 36 45.4	-0.6
	comp=Z,1.5nm,0.7s,baz=150,slow=2.0,SNR=9.5						
MLR				pPKPbc	sPKPbc	08 37 06.3	-0.4
	comp=Z,6.6nm,1.0s,baz=56,slow=3.0,SNR=11						
MLR	Muntele Rosu	147.31	334	*e*PKPbc	PKPbc	08 36 45.0	-0.9
MLR				*e*PKPdf	PKPbc	08 36 45.4	-0.6
MLR	Muntele Rosu	147.31	334	*e*PKP2	PKPbc	08 36 45.0	-0.9
BR101	Keskin Array S	147.38	319	*e*PKPbc	PKPbc	08 36 46.0	-0.3
BR101				*e*pPKPdf	sPKPdf	08 37 05.5	+0.8
BR131	Keskin Array S	147.38	319	*e*PKPbc	PKPbc	08 36 46.1	-0.2
BRTR	Keskin Array B	147.38	319	PKPbc	PKPbc	08 36 46.0	-0.3
	comp=Z,13nm,0.7s,baz=130,slow=2.5,SNR=52						
BRTR				pPKPbc	sPKPdf	08 37 05.5	+0.8
	comp=Z,61nm,0.9s,baz=108,slow=2.7,SNR=19						
WLF	Walferdange	147.42	1	⇓APKP	pPKPdf	08 37 07.3	+8.6
WLF	Walferdange	147.42	1	*e*PKPbc	PKPbc	08 36 46.7	+0.8
WLF	Walferdange	147.42	1	*e*PKP2	PKPbc	08 36 46.7	+0.8
KHC	Kasperske Hory	147.46	351	*e*PKP	PKPbc	08 36 46.2	+0.1
KHC				*e*x	x	08 37 04.3	
KHC				AMS	AMS	09 41 20.0	
KHC	Kasperske Hory	147.46	351	*e*PKPdf	PKPbc	08 36 45.2	-0.9
KHC				*e*PKPbc	PKPab	08 36 48.1	0.0
KHC	Kasperske Hory	147.46	351	*e*PKP2	PKPbc	08 36 45.2	-0.9
MODS	Modra-Piesok	147.52	347	*e*PKP	PKPbc	08 36 45.1	-1.1
MODS				*e*		08 37 06.6	
MODS	Modra-Piesok	147.52	347	*e*PKP2	PKPbc	08 36 45.1	-1.1
GEC2	GERESS Array S	147.72	351	*e*PKPdf	PKPbc	08 36 46.2	-0.7
GEC2				*e*PKPbc	PKiKP	08 36 48.7	-0.2
GEC2	GERESS Array S	147.72	351	*e*PKP2	PKPbc	08 36 46.2	-0.7
GERES	GERESS Array B	147.72	351	PKP	PKPdf	08 36 44.2	+0.1
	comp=Z,3.8nm,0.8s,baz=345,slow=1.1,SNR=19						
GERES				PKPbc	PKPbc	08 36 46.7	-0.2
	comp=Z,7.9nm,0.9s,baz=29,slow=3.0,SNR=19						
GERES				pPKPbc	sPKPbc	08 37 07.6	0.0
	comp=Z,13nm,0.8s,baz=29,slow=3.0,SNR=12						
GEA0	GERESS Array S	147.73	351	*e*PKPdf	PKPdf	08 36 43.3	-0.7
GEA0				*e*PKPbc	PKPbc	08 36 46.5	-0.3
GEA0				*e*PKPab	PKPab	08 36 49.1	-0.1
ANTO	Ankara	147.81	320	*e*PKPbc	PKPbc	08 36 47.5	+0.1
ANTO	Ankara	147.81	320	*e*PKP2	PKPbc	08 36 47.5	+0.1
BR231	Keskin MP Arra	147.84	320	*e*PKPbc	PKPbc	08 36 46.5	-1.0
CONA	Conrad Observa	148.24	348	*e*PKPdf	PKPdf	08 36 45.2	+0.3
	comp=Z,16nm,0.8s,SNR=8.9						
CONA				*e*sPKPab	sPKPbc	08 37 08.4	-0.7
	comp=Z,36nm,1.1s,SNR=7.3						
SOP	Sopron	148.33	347	*e*PKPdf	PKPbc	08 36 48.6	+0.2
MOA	Molln	148.60	350	*e*PKiKP	PKPbc	08 36 49.3	+0.2
	comp=Z,4.3nm,0.7s,SNR=6.1						
MOA				*e*sPKPab	sPKPbc	08 37 10.1	+0.1
	comp=Z,29nm,0.9s						
BFO	Black Forest	148.73	358	*e*PKPbc	PKPbc	08 36 49.2	-0.2
BFO				*e*PKPab	PKPab	08 36 54.0	+0.8
BFO	Black Forest	148.73	358	*e*PKP2	PKPbc	08 36 49.3	-0.2
BZS	Buzias	148.83	339	⇑PKP2	PKPbc	08 36 49.8	0.0
ECH	Echery	148.87	359	*e*PKPbc	PKPbc	08 36 49.5	-0.3
ECH				*e*PKPab	PKPab	08 36 54.0	+0.2
ECH	Echery	148.87	359	*e*PKP2	PKPbc	08 36 49.5	-0.3
ARSA	Arzberg	148.95	348	*e*sPKPab	sPKPab	08 37 11.1	-3.6
	comp=Z,24nm,1.0s						
ZIMR		149.03	333	PKP2	PKPbc	08 36 51.7	+1.4
MORH	Mˆ‡rˆ¡gy, Hung	149.20	344	*e*PKPdf	PKPbc	08 36 50.2	-0.4
RETA	Reutte	149.41	354	*e*PKiKP	PKPbc	08 36 51.4	+0.1
	comp=Z,7.8nm,0.7s,SNR=7.2						
RETA				*e*sPKPab	sPKPbc	08 37 12.2	+0.1
	comp=Z,47nm,1.0s,SNR=4.5						
WATA	Walderalm	149.48	353	*e*PKiKP	PKPbc	08 36 51.5	0.0
	comp=Z,8.9nm,0.8s						
WATA				*e*sPKPab	sPKPbc	08 37 13.0	+0.6
	comp=Z,16nm,0.7s						
KBA	Koelnbreinsper	149.50	351	*e*PKPbc	PKPbc	08 36 51.0	-0.6
	comp=Z,14nm,1.1s,SNR=9.2						
KBA				*e*sPKiKP	pPKPab	08 37 10.4	-1.1
	comp=Z,24nm,1.0s						
MOTA	Moosalm	149.52	354	*e*PKiKP	PKPbc	08 36 51.7	+0.1
	comp=Z,14nm,0.9s,SNR=8.5						
MOTA				*e*sPKPab	sPKPbc	08 37 12.5	+0.1
	comp=Z,25nm,0.9s						
WTTA	Wattenberg	149.54	353	*e*PKiKP	PKPbc	08 36 51.7	0.0
	comp=Z,13nm,0.6s,SNR=12						
WTTA				*e*sPKPab	sPKPbc	08 37 12.8	+0.2
	comp=Z,37nm,1.0s,SNR=4.3						
MMAI	Mount Meron Ar	149.55	307	PKPbc	PKPbc	08 36 52.6	+0.6
	comp=Z,8.9nm,0.4s,baz=98,slow=2.9,SNR=2.6						
MMAI				pPKPbc	pPKPab	08 37 12.8	+0.7
	comp=Z,12nm,0.4s,baz=66,slow=10,SNR=2.5						
SOKA	Soboth	149.60	348	*e*PKPbc	PKPbc	08 36 51.4	-0.4
	comp=Z,12nm,0.8s,SNR=7.3						
SOKA				*e*sPKiKP	pPKPab	08 37 10.6	-1.2
	comp=Z,44nm,1.0s,SNR=4.5						
PERS	Pernice	149.62	348	*i* PKPbc	PKPbc	08 36 51.6	-0.2
PERS				*e*		08 37 12.5	
DAVA	Damuels	149.68	356	*e*PKiKP	PKPbc	08 36 52.1	+0.1
	comp=Z,19nm,0.8s,SNR=11						
DAVA				*e*sPKPab	sPKPbc	08 37 13.3	+0.4
	comp=Z,68nm,1.0s						
OBKA	Obir	149.85	349	*e*PKPbc	PKPbc	08 36 51.3	-1.1
	SNR=6.3						
OBKA				*i* sPKiKP	pPKPab	08 37 12.5	-0.4
FETA	Feichten	149.88	354	*e*PKiKP	PKPbc	08 36 52.7	+0.1
	comp=Z,23nm,0.8s,SNR=12						
FETA				*e*sPKPab	sPKPbc	08 37 13.8	+0.5
	comp=Z,76nm,1.0s,SNR=8.1						
MYKA	Terra Mystica	149.89	350	*e*PKPbc	PKPbc	08 36 51.6	-0.8
	comp=Z,15nm,0.7s,SNR=9.3						
MYKA				*e*sPKiKP	pPKPab	08 37 12.4	-0.6
	comp=Z,25nm,1.0s,SNR=5.8						
ABTA	Abfaltersbach	149.94	352	*e*PKPbc	PKPbc	08 36 51.9	-0.7
	comp=Z,39nm,0.7s,SNR=17						
ABTA				*e*sPKiKP	pPKPab	08 37 13.3	0.0
	comp=Z,93nm,0.9s,SNR=7.7						
CSS	Mathiatis	150.19	312	*e*PKPbc	PKPbc	08 36 52.4	-1.1
CSS				*e*PKPab	PKPab	08 36 57.5	-2.1
FUORN	Ofenpass-Fuorn	150.31	355	*e*PKPbc	PKPbc	08 36 54.0	+0.3
FUORN				*e*PKPab	PKPab	08 36 59.5	-0.5
MBAR	Mbarara	150.46	236	*e*PKPbc	PKPbc	08 36 54.5	-0.4
MBAR	Mbarara	150.46	236	*e*PKIKP	PKPbc	08 36 54.5	-0.4
TUE	Stuetta	150.53	356	*e*PKPbc	PKPbc	08 36 54.3	+0.1
TUE				*e*PKPab	PKPab	08 37 00.3	-0.6
JAVS	Javornik	150.53	349	*e*PKPbc	PKPbc	08 36 53.5	-0.6
JAVS				*i*		08 37 13.6	
BOJS	Bojanci	150.68	348	*e*PKPdf	PKPdf	08 36 48.8	0.0
BOJS				*i* PKPbc	PKPbc	08 36 54.6	+0.3
BOJS				*i*		08 37 15.3	
DIVS	Divibare	150.71	340	*e*PKPbc	PKPbc	08 36 54.0	-0.6
DIVS				*e*PKPab	PKPab	08 37 00.9	-0.6
SENIN	Lac Senin/Sane	150.72	359	*e*PKPbc	PKPbc	08 36 55.1	+0.5
TRI	Trieste	150.76	350	*e*PKPbc	PKPbc	08 36 54.1	-0.3
TRI	Trieste	150.76	350	*e*PKIKP	PKPbc	08 36 54.1	-0.3
VTS	Vitosha	150.82	334	*e*PKPbc	PKPbc	08 36 53.7	-1.2
VTS	Vitosha	150.82	334	*e*PKIKP	PKPbc	08 36 53.7	-1.2
BLY	Banja Luka	150.94	344	*e*PKPbc	PKPbc	08 36 55.0	0.0
EIL	Elat	151.16	301	PKPbc	PKPbc	08 36 57.8	+1.9
	baz=83,slow=8.1						
EIL				PKPab	PKPab	08 37 04.0	+0.2
	comp=Z,15nm,0.7s,baz=27,slow=4.5,SNR=3.7						
EIL				pPKPab	sPKPab	08 37 24.8	+0.4
	comp=Z,39nm,0.8s,baz=12,slow=4.1,SNR=6.3						
SSB	Saint Sauveur	151.76	3	*e*PKPbc	PKPbc	08 36 57.1	+0.2
SSB	Saint Sauveur	151.76	3	*e*PKIKP	PKPbc	08 36 57.1	+0.2
BNI	Bardonecchia	152.04	360	*e*PKPbc	PKPbc	08 36 57.6	0.0
BNI	Bardonecchia	152.04	360	*e*PKIKP	PKPbc	08 36 57.6	0.0
PGAV	Gavieira, Arco	152.05	24	*e*PKPbc	PKPbc	08 36 57.8	+0.1
PCAB	Cabril	152.36	24	*e*PKPbc	PKPbc	08 36 58.7	+0.4
PCAB				*i* P	sPKPbc	08 37 20.0	+0.8
POLO	Lamas de Olo	152.74	24	*e*PKPbc	PKPbc	08 36 59.7	+0.4
POLO				*i* P	sPKPbc	08 37 20.6	+0.5
PVRL	Vila Real	152.85	24	*e*PKPbc	PKPbc	08 37 00.2	+0.7
PVRL				*i* P	sPKPbc	08 37 20.3	0.0
FNA	Florina	153.08	335	*e*PKPdf	PKPdf	08 36 53.0	+0.4
FNA				*e*PKPbc	PKPbc	08 36 59.0	-1.0
FNA				*e*PKPab	pPKPdf	08 37 09.6	+1.6
FNA	Florina	153.08	335	*e*PKIKP	PKPdf	08 36 53.0	+0.4
FNA				*e*		08 36 59.0	
FNA				*e*		08 37 09.6	
MVO	Moncorvo	153.21	23	*e*PKPbc	PKPbc	08 37 00.8	+0.5
MVO				*i* P	sPKPbc	08 37 21.4	+0.3
PVIS	Viseu	153.26	25	*e*PKPdf	PKPdf	08 36 53.6	+0.7
PVIS	Viseu	153.26	25	*e*PKPab	PKPab	08 37 12.4	+0.2
MTE	Manteigas	153.67	25	*e*PKPbc	PKPbc	08 37 01.5	+0.2
MTE	Manteigas	153.67	25	*e*PKPab	PKPab	08 37 14.1	+0.1
PTOM	Tomar	153.96	27	*e*PKPbc	PKPbc	08 37 02.4	+0.6
PTOM				*i* P	sPKPbc	08 37 21.8	-0.9
PCBR	Castelo Branco	154.17	25	*e*PKPdf	PKPdf	08 36 53.9	-0.2
PCBR	Castelo Branco	154.17	25	*e*PKPbc	PKPbc	08 37 02.8	+0.5
PCBR				*i* P	pPKPbc	08 37 20.6	+3.0
PMTG	Montargil	154.49	28	*e*PKPbc	PKPbc	08 37 03.7	+0.7
PMRV	Marv??o	154.55	26	*e*PKPbc	PKPbc	08 37 03.4	+0.3
PMRV	Marv??o	154.55	26	*e*PKPab	PKPab	08 37 17.4	-0.3
PNCL	Nicolau / Gran	155.13	29	*e*PKPbc	PKPdf	08 37 05.0	+10
PNCL	Nicolau / Gran	155.13	29	*e*PKPab	PKPab	08 37 20.4	+0.2
PBEJ	Beja	155.51	28	*e*PKPdf	PKPdf	08 36 56.0	0.0
ES19	SONSECA Array	155.61	20	*e*PKPdif	PKPdf	08 37 05.5	+9.3
ES19				*e*PKPab	PKPab	08 37 22.7	+0.4
ESDC	Sonseca Array	155.62	20	PKP	PKPdf	08 36 56.9	+0.7
	comp=Z,0.1nm,0.3s,baz=353,slow=2.7,SNR=2.8						
ESDC				PKPbc	pPKPdf	08 37 05.6	-6.0
	comp=Z,1.2nm,0.7s,baz=334,slow=3.0,SNR=6.4						
ESDC				PKPab	PKPab	08 37 22.5	+0.2
	comp=Z,1.2nm,0.6s,baz=347,slow=3.1,SNR=5.0						
PCVE	Castro Verde	155.75	29	*e*PKPab	PKPab	08 37 22.8	-0.1
PBAR	Barrancos	155.75	27	*e*PKPdf	PKPdf	08 36 53.3	-3.0
KEST	Kesra	161.19	353	PKP	PKPdf	08 37 03.9	+0.8
	comp=Z,1.5nm,0.8s,baz=227,slow=4.6,SNR=4.3						
KEST				pPKP	sPKPdf	08 37 22.9	-1.0
	comp=Z,4.6nm,0.9s,baz=271,slow=4.1,SNR=4.4						
KEST	Kesra	161.19	353	*e*PKPdf	PKPdf	08 37 01.9	-1.1
DBIC	Dimbokro	164.81	131	PKP	PKPdf	08 37 05.9	-1.1
	comp=Z,6.4nm,1.2s,baz=134,slow=7.5,SNR=3.2						
DBIC				PKPab	PKPab	08 38 03.2	+0.3
	comp=Z,4.5nm,0.8s,baz=231,slow=5.6,SNR=4.8						
DBIC	Dimbokro	164.81	131	*e*PKPdf	PKPdf	08 37 05.6	-1.5
DBIC				*e*PKPab	PKPab	08 38 02.5	-0.4
DBIC	Dimbokro	164.81	131	*e*PKIKP	PKPdf	08 37 05.6	-1.5
DBIC				*e*		08 38 02.5	
KOWA	Kowa	169.49	102	PKP	PKPdf	08 37 09.4	-1.0
	comp=Z,3.8nm,0.7s,baz=34,slow=3.6,SNR=13						
KOWA				PKPab	PKPab	08 38 23.9	+0.1
	comp=Z,5.3nm,0.8s,baz=45,slow=1.4,SNR=7.7						
KOWA	Kowa	169.49	102	*e*PKPdf	PKPdf	08 37 09.4	-1.0
KOWA				*e*PKPdf	PKPdf	08 37 09.7	-0.8
KOWA				*e*PKPab	PKPab	08 38 23.9	+0.1
KOWA				*e*PKPab	PKPab	08 38 24.2	+0.4
TOA0	Torodi Ar. Sit	173.91	128	*e*PKPdf	PKPdf	08 37 11.2	-1.3
TOA0				*e*PKPab	PKPab	08 38 43.5	+0.3
TOA0				*e*PKPab	PKPab	08 38 44.0	+0.7
TORD	Torodi Ar. Bea	173.91	128	PKP	PKPdf	08 37 11.1	-1.5
	comp=Z,4.5nm,0.8s,baz=328,slow=1.2,SNR=28						
TORD				pPKP	sPKPdf	08 37 32.2	-1.3
	comp=Z,6.8nm,1.0s,baz=318,slow=1.1,SNR=9.4						
TORD				PKPab	PKPab	08 38 44.1	+0.8
	comp=Z,10nm,0.8s,baz=263,slow=4.2,SNR=38						
TORD				PP	PP	08 42 34.9	0.0
	comp=Z,1.1nm,1.1s,baz=232,slow=2.6,SNR=6.2						
TOA1	Torodi Ar. Sit	173.91	128	*e*PKPdf	PKPdf	08 37 11.1	-1.5
TOA1				*e*pPKPdf	sPKPdf	08 37 32.2	-1.3
TOA1				*e*PKPab	PKPab	08 38 44.1	+0.8
TOA1				*e*PP	PP	08 42 34.9	0.0

MEX 02 08:35:06.5±0.4, 16.°03N×98.°39W, h15km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Op	ISC	Time (h m s)	Res ISC
PNIG	Pinotepa	0.43	35	*e*P	Pg	08 35 14.1	-1.2
PNIG				*e*S	Sg	08 35 20.1	-1.1
TLIG	Tlapa	1.53	354	*e*P	Pn	08 35 29.9	-3.6
TLIG				*e*S	Sn	08 35 48.0	-5.2
VHO	Vista Hermosa	1.89	57	*e*P	Pn	08 35 34.6	-3.9
VHO				*e*S	Sn	08 36 02.6	+0.4
HUIG	Huatulco	2.21	97	*e*P	Pg	08 36 00.9	+12
HUIG				*e*S	Sg	08 36 20.5	+2.9

IDC 02 08:37:08.3±2.2, 6.°21S×154.°35E, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.5/48, mbtmp3.6/3, Error ellipse: s-maj=159.5km s-min=31.7km az=131.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	Time (h m s)	Res ISC
WRA	Warramunga Arr	23.76	233	P	P	08 42 23.2	+0.5
	1.1nm,0.7s,baz=58,slow=9.9,SNR=11						
ASAR	Alice Springs	26.23	226	P	P	08 42 45.2	-0.1
	0.5nm,0.8s,baz=63,slow=8.4,SNR=6.7						
YKA	Yellowknife Ar	95.94	28	P	P	08 50 37.5	+0.6
	0.3nm,0.9s,baz=268,slow=4.6,SNR=4.5						
TORD	Torodi Ar. Bea	152.20	286	PKPbc	PKPbc	08 57 06.1	-1.0
	0.4nm,0.7s,baz=99,slow=2.4,SNR=3.0						

IDC 02 08:45:57.1±0.7, 9.°97N×123.°31E, h0km, mb3.6/9, mb1 3.8/9, mb1mx3.6/64, mbtmp3.6/9, MS4.0/5, Ms1 4.0/5, ms1mx3.2/59, Error ellipse: s-maj=41.2km s-min=16.4km az=67.0

ISCJB 02 08:45:59.7±0.7, 10.°08N±0.°03×123.°18E±0.°04, h20km±6km, mb3.5/9, MS4.1/5, Error ellipse: s-maj=6.6km s-min=5.3km az=156.1

MAN 02 08:45:59, 10.°08N×123.°17E, h7km, mb4.7, ML3.6, MS3.5

ISC 02 08:45:58.2±1.3, 10.°04N±0.°04×123.°20E±0.°04, h7km±9km, n23, σ1.°02/29, mb3.5/9, MS4.1/5, 3C-1D, Cebu

Code	Station Name	Δ°	AZ°	Op	ISC	Time (h m s)	Res ISC
SNPH	Sibulan	0.69	177	*e*P	Pn	08 46 14.5	0.0
SNPH				*e*S	Sn	08 46 24.6	-0.9
LLP	Lapu-Lapu	0.80	70	⇓*i*P	Pb	08 46 14.0	-0.5
LLP				*e*S	Sb	08 46 24.9	-0.7
GUIM	Jordan	0.84	314	*e*P	Pg	08 46 13.8	-0.6
GUIM				*e*S	Sg	08 46 24.5	-0.8
DCPH	Dipolog City	1.45	174	⇑*e*P	Pg	08 46 26.0	-0.2
DCPH				*e*S	Sn	08 46 45.4	+1.1
RCP	Roxas	1.58	344	⇑*e*P	Pn	08 46 26.8	+0.2
RCP				*e*S	Sn	08 46 47.6	+0.3
MSLP	Maasin	1.64	87	*e*P	Pg	08 46 29.1	-0.6
MSLP				*e*S	Sg	08 46 53.7	+2.8
PLP	Palo	2.08	57	⇑*e*P	Pn	08 46 33.0	-0.5
PLP				*e*S	Sb	08 47 01.2	-1.0
BUSP	Coron	3.54	304	*e*P	Pn	08 46 54.4	+0.8
CMAR	Chiang Mai Arr	24.93	292	P	P	08 51 23.1	+0.8
	1.2nm,0.5s,baz=106,slow=8.0,SNR=6.9						
WRA	Warramunga Arr	31.75	160	P	P	08 52 22.3	-0.9
	0.3nm,0.5s,baz=330,slow=11,SNR=4.4						
WRA				PcP	PcP	08 55 13.2	-1.6
	0.5nm,0.6s,baz=339,slow=3.0,SNR=7.4						
ASAR	Alice Springs	35.09	163	P	P	08 52 52.4	0.0
	0.5nm,0.5s,baz=341,slow=6.9,SNR=13						
ASAR				PcP	PcP	08 55 22.9	-1.3
	0.4nm,0.6s,baz=339,slow=2.8,SNR=4.7						
KLR	Kul'dur	39.72	9	P	P	08 53 31.9	+0.7
	0.1nm,0.7s,baz=292,slow=5.4,SNR=4.7						
SONM	Songino Array	40.25	342	P	P	08 53 37.5	+1.6
	0.4nm,0.5s,baz=162,slow=6.1,SNR=3.1						
MKAR	Makanchi Array	50.41	324	P	P	08 54 57.1	+0.7
	0.4nm,0.7s,baz=126,slow=7.3,SNR=4.1						
MKAR				PcP	PcP	08 56 14.8	0.0
	0.7nm,0.6s,baz=106,slow=4.3,SNR=6.0						
MKAR				LR	LR	09 19 01.6	
	comp=Z,174nm,21.0s,baz=92,slow=39						
KURBB	Kurchatov Arra	54.58	327	P	P	08 55 28.4	+1.2
	0.9nm,0.8s,baz=126,slow=7.1,SNR=6.6						
ARU	Arti	67.77	327	LR	LR	09 28 30.4	
	comp=Z,206nm,20.2s,baz=78,slow=38						
KBZ	Khabaz	76.14	313	LR	LR	09 36 04.3	
	comp=Z,104nm,21.2s,baz=32,slow=39						
MMAI	Mount Meron Ar	82.78	302	LR	LR	09 42 57.2	
	comp=Z,57nm,18.7s,baz=125,slow=41						
ARCES	ARCESS Array B	83.35	339	P	P	08 58 25.6	-0.2
	1.7nm,0.7s,baz=82,slow=7.4,SNR=4.8						
KMBO	Kilima Mbogo	86.20	268	LR	LR	09 37 17.0	
	comp=Z,73nm,18.6s,baz=98,slow=36						
YKA	Yellowknife Ar	95.18	23	P	P	08 59 21.4	-0.9
	0.1nm,0.7s,baz=302,slow=5.1,SNR=4.4						
TXAR	Lajitas Array	120.23	48	PKP	PKPdf	09 04 50.8	-0.2
	0.2nm,0.6s,baz=318,slow=1.2,SNR=3.6						
PLCA	Paso Flores	147.09	161	PKPbc	PKPbc	09 05 42.0	-0.5
	1.4nm,0.7s,baz=225,slow=2.9,SNR=3.9						

IDC 02 08:46:37.7±6.2, 5.°51S×102.°26E, h0km, mb3.3/2, mb1 3.6/2, mb1mx3.1/64, mbtmp3.3/2, Error ellipse: s-maj=260.9km s-min=53.4km az=52.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Op	ISC	Time (h m s)	Res ISC
WRA	Warramunga Arr	34.32	118	P	P	08 53 27.4	+1.1
	0.3nm,0.7s,baz=288,slow=11,SNR=2.8						
ASAR	Alice Springs	35.40	124	P	P	08 53 34.2	-1.4
	0.2nm,0.5s,baz=304,slow=7.6,SNR=4.2						
TXAR	Lajitas Array	145.91	43	PKPbc	PKPdf	09 06 19.2	-0.3
	0.4nm,0.7s,baz=294,slow=2.7,SNR=5.3						

IDC 02 08:49:22.4±7.2, 6.°53S×103.°84E, h0km, mb3.2/2, mb1 3.5/2, mb1mx3.0/64, mbtmp3.2/2, MS3.5/1, Ms1 3.5/1, ms1mx2.8/19, Error ellipse: s-maj=304.4km s-min=55.8km az=52.0, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Op	ISC	Time (h m s)	Res ISC
TGY	Tagaytay City	26.61	40	LR	LR	09 07 10.3	
	comp=Z,87nm,19.0s,baz=216,slow=40						
WRA	Warramunga Arr	32.47	117	P	P	08 55 56.2	+1.3
	0.5nm,1.1s,baz=294,slow=9.8,SNR=3.6						
ASAR	Alice Springs	33.53	124	P	P	08 56 02.6	-1.6
	0.1nm,0.3s,baz=299,slow=8.1,SNR=4.6						
TXAR	Lajitas Array	145.55	45	PKPbc	PKPdf	09 09 02.8	-0.8
	0.2nm,0.6s,baz=299,slow=2.5,SNR=4.2						

MEX 02 08:56:44.8±0.8, 16.°16N×98.°77W, h16km±126km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Op	ISC	Time (h m s)	Res ISC
PNIG	Pinotepa	0.66	69	*e*P	Pg	08 56 55.3	-2.5
PNIG				*e*S	Sg	08 57 03.7	-2.7
TLIG	Tlapa	1.41	8	*e*P	Pn	08 57 06.3	-3.7
TLIG				*e*S	Sn	08 57 23.3	-5.0
VHO	Vista Hermosa	2.15	65	*e*P	Pn	08 57 17.9	-2.3
VHO				*e*S	Sb	08 57 48.7	-1.4
HUIG	Huatulco	2.58	98	*e*P	Pn	08 57 26.4	+0.4
HUIG				*e*S	Sg	08 58 06.9	-1.1

MAN 02 09:01:47, 9.°87N×123.°12E, h21km, mb4.2, ML3.0, MS2.7, 2C, Negros

Code	Station Name	Δ°	AZ°	Op	ISC	Time (h m s)	Res ISC
SNPH	Sibulan	0.53	167	*e*P	Pb	09 01 56.3	-1.5
SNPH				*e*S	Sb	09 02 03.4	-1.7
GUIM	Jordan	0.92	326	*e*P	Pn	09 02 10.1	+5.5
GUIM				*e*S	Sb	09 02 12.9	-3.0
LLP	Lapu-Lapu	0.95	62	*e*P	Pn	09 02 05.1	0.0
LLP				*e*S	Sn	09 02 18.1	0.0
DCPH	Dipolog City	1.30	170	⇑*e*P	Pn	09 02 08.6	-1.3
DCPH				*e*S	Sb	09 02 27.9	+1.0
RCP	Roxas	1.72	348	⇑*e*P	Pn	09 02 15.2	-0.6
RCP				*e*S	Sb	09 02 38.5	-0.6
MSLP	Maasin	1.74	81	*e*P	Pb	09 02 33.7	+15
MSLP				*e*S	Sb	09 02 43.5	+3.8

IDC 02 09:02:42.1±0.5, 20.°99S×174.°28W, h0km, mb4.3/19, mb1 4.5/20, mb1mx4.3/47, mbtmp4.3/20, ML3.9/1, MS3.7/14, Ms1 3.6/14, ms1mx3.4/46, Error ellipse: s-maj=20.7km s-min=14.7km az=121.0

NEIC 02 09:02:43.9±0.2, 20.°82S×174.°44W, h10km, mb4.8/19, Error ellipse: s-maj=9.7km s-min=6.2km az=124.0

ISCJB 02 09:02:45.0±0.3, 20.°92S±0.°06×174.°43W±0.°08, h27km, mb4.6/40, MS3.9/14, Error ellipse: s-maj=11.8km s-min=7.2km az=31.1

ISC 02 09:02:46.8±0.5, 20.°88S±0.°09×174.°5W±0.°1, h27km, n130, σ1.°08/118, mb4.6/40, MS3.8/14, 9C-6D, Tonga Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time (h m s)	Res ISC
AFI	Afiamalu	7.41	21	Pn	Pn	09 04 27.0	-6.4
	5.3nm,0.3s,baz=13,slow=5.0,SNR=12						
AFI				Sn	Sn	09 05 42.8	-14
	11nm,0.3s,baz=14,slow=22,SNR=3.7						
AFI	Afiamalu	7.41	21	*e*Pn	Pn	09 04 25.8	-7.6
AFI				*e*		09 04 27.2	
AFI				*e*Sn	Sn	09 05 42.8	-14
AFI				*e*Sg	Sn	09 05 48.3	-8.3
MSVF	Nonsavu	7.68	293	*e*Pn	Pn	09 04 34.7	-2.3
RAR	Rarotonga	13.77	94	Pn	Pn	09 05 45.5	-15
	4.9nm,0.3s,baz=165,slow=4.5,SNR=9.3						
RAR				Sn	Sn	09 08 00.5	-32
	1.1nm,0.3s,baz=111,slow=17,SNR=2.9						
RAR				LR	LR	09 11 18.9	
	comp=Z,214nm,18.4s,baz=280,slow=38						
DZM	Mont Dzumac	17.76	263	LR	LR	09 12 38.7	
	comp=Z,340nm,18.6s,baz=70,slow=33						
DZM	Mont Dzumac	17.76	263	*e*LR	LR	09 11 13.8	
	356nm,25.2s						
URZ	Urewera	18.77	201	P	Pn	09 07 03.5	-0.8
	0.4nm,0.3s,baz=54,slow=8.7,SNR=3.5						
BKZ	Black Stump Fm	19.79	201	*e*P	Pn	09 07 16.6	-0.1
	49nm,1.7s						
THZ	Tophouse	23.37	204	*e*P	P	09 07 55.3	+2.0
	107nm,2.0s						
PPT2	Papeete2	23.77	86	*e*LQ	LQ	09 12 13.3	
	434nm,25.0s						
PPT2				*e*LR	LR	09 13 20.2	
	395nm,27.2s,baz=242						
PPT	Papeete	23.77	86	LR	LR	09 15 20.8	
	comp=Z,101nm,18.6s,baz=277,slow=32						
LTZ	Lake Taylor	24.49	204	*e*P	P	09 08 06.0	+2.2
	14nm,0.7s						
OXZ	Oxford	25.04	204	*e*P	P	09 08 08.1	-0.7
	12nm,0.7s						
RPZ	Rata Peaks	25.75	205	P	P	09 08 14.5	-0.6
	5.2nm,0.7s,baz=122,slow=5.2,SNR=4.5						
RPZ	Rata Peaks	25.75	205	*e*P	P	09 08 14.5	-0.6
RPZ				*e*P	P	09 08 16.0	+0.9
FOZ	Fox Glacier	26.10	207	*e*P	P	09 08 19.9	+1.6
	38nm,1.0s						
HNR	Honiara	27.10	291	LR	LR	09 17 53.2	
	comp=Z,118nm,19.1s,baz=145,slow=33						
TAOE	Nuku Hiva Isla	35.22	75	*e*LR	LR	09 18 35.0	
	181nm,29.2s						
RKT	Rikitea	36.66	101	*e*LR	LR	09 19 05.0	
	291nm,32.0s						
PMG	Port Moresby	38.61	281	P	P	09 10 09.3	+1.3
	7.1nm,0.8s,baz=110,slow=9.6,SNR=4.3						
STKA	Stephens Creek	40.57	245	P	P	09 10 24.4	+0.2
	2.2nm,0.7s,baz=88,slow=11,SNR=5.9						
STKA	Stephens Creek	40.57	245	*e*P	P	09 10 24.4	+0.2
	6.9nm,1.9s						
AS01	Alice Springs	47.56	257	*e*P	P	09 11 20.0	-0.4
AS31	Alice Springs	47.60	257	*e*P	P	09 11 21.1	+0.4
	1.8nm,0.8s						
ASAR	Alice Springs	47.60	257	P	P	09 11 21.0	+0.3
	5.4nm,0.7s,baz=99,slow=7.9,SNR=62						
ASAR				PcP	PcP	09 12 51.0	+0.7
	1.1nm,0.8s,baz=109,slow=4.0,SNR=4.6						
ASAR				LR	LR	09 29 26.0	
	comp=Z,133nm,19.0s,baz=164,slow=34						
WB2	Warramunga Arr	47.76	262	*e*P	P	09 11 22.0	0.0
	6.1nm,0.9s						
WR1	Warramunga Arr	47.77	262	*e*P	P	09 11 21.7	-0.3
	7.5nm,0.8s						
WRA	Warramunga Arr	47.77	262	P	P	09 11 21.7	-0.4
	4.3nm,0.7s,baz=98,slow=8.0,SNR=30						
VNDA	Vanda	57.84	186	P	P	09 12 35.4	-0.2
	1.3nm,1.0s,baz=15,slow=8.1,SNR=5.6						
RPN	Rapa Nui	59.30	110	LR	LR	09 34 10.8	
	comp=Z,81nm,18.2s,baz=272,slow=32						
BATI	Baumata	60.19	270	LR	LR	09 39 58.8	
	comp=Z,78nm,18.4s,baz=148,slow=37						
DAV	Davao City (W)	65.03	289	LR	LR	09 42 11.4	
	comp=Z,44nm,18.1s,baz=150,slow=36						
QSPA	South Pole Qui	69.19	180	P	P	09 13 48.7	-2.1
	4.1nm,1.1s,baz=94,slow=3.8,SNR=3.6						
QSPA	South Pole Qui	69.19	180	*e*P	P	09 13 48.7	-2.1
QSPA				*e*P	P	09 13 51.4	+0.5
MJAR	Matsushiro Arr	72.49	322	P	P	09 14 12.2	+1.0

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
	4.7nm,0.8s,baz=166,slow=6.0,SNR=14						
MJAR				LR	LR	09 46 45.8	
	comp=Z,18nm,18.1s,baz=135,slow=36						
MAJO	Matsushiro	72.49	322	eP	P	09 14 12.2	+1.0
MAT	Matsushiro	72.49	322	P	P	09 14 12.0	+0.8
JECB	Eureka Canyon	76.08	41	eP	P	09 14 32.9	+0.9
PETK	Petropavlovsk-	77.52	343	P	P	09 14 39.8	0.0
	12nm,1.0s,baz=122,slow=8.1,SNR=3.4						
PEA1	Petropavlovsk-	77.53	343	eP	P	09 14 39.8	-0.1
NV01	Mina Array Sit	79.10	42	eP	P	09 14 47.8	-1.4
NVAR	Mina Array Bea	79.10	42	P	P	09 14 48.3	-0.9
	2.6nm,0.9s,baz=224,slow=9.5,SNR=6.7						
KSRS	Korea Array	79.36	317	P	P	09 14 52.9	+2.6
	4.6nm,1.0s,baz=144,slow=6.3,SNR=6.9						
KSRS				LR	LR	09 46 25.3	
	comp=Z,14nm,19.8s,baz=150,slow=33						
KS15	Wonju Array Si	79.38	317	eP	P	09 14 51.0	+0.6
KSAR	Wonju Array Be	79.38	317	P	P	09 14 52.9	+2.5
KS01	Wonju Array Si	79.39	317	eP	P	09 14 49.1	-1.4
USRK	Ussuriysk Ar.	81.14	324	P	P	09 15 02.0	+2.3
	1.6nm,0.8s,baz=86,slow=5.4,SNR=5.3						
LCMT	Little Creek M	81.53	45	eP	P	09 15 00.8	-1.4
	19nm,1.6s						
MAW	Mawson	82.29	199	P	P	09 15 06.0	+0.5
	2.5nm,0.7s,baz=90,slow=1.0,SNR=3.4						
MAW	Mawson	82.29	199	eP	P	09 15 06.0	+0.5
	9.9nm,2.0s						
NJ2	Nanjing	82.65	308	eP	P	09 15 06.9	-1.1
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
HLID	Hailey	84.52	39	eP	P	09 15 16.6	-0.9
	2.9nm,1.0s						
LTX	Lajitas	84.54	56	eP	P	09 15 18.6	+0.7
TXAR	Lajitas Array	84.54	56	P	P	09 15 18.6	+0.7
	0.7nm,0.9s,baz=204,slow=2.7,SNR=5.7						
TXAR				LR	LR	09 46 53.1	
	comp=Z,24nm,19.4s,baz=0.0,slow=31						
ANMO	Albuquerque	85.13	50	P	P	09 15 20.1	-0.8
	1.1nm,0.7s,baz=38,slow=3.2,SNR=5.3						
ANMO	Albuquerque	85.13	50	eP	P	09 15 20.4	-0.5
	4.6nm,1.1s						
RND	Reindeer	86.39	11	eP	P	09 15 25.8	-0.5
	7.9nm,1.0s						
PLCA	Paso Flores	86.63	132	LR	LR	09 43 36.2	
	comp=Z,43nm,21.5s,baz=236,slow=28						
MCK	McKinley	86.68	11	eP	P	09 15 27.3	-0.3
	9.1nm,1.0s						
PD31	Pinedale Array	87.04	42	eP	P	09 15 28.5	-1.7
PDAR	Pinedale Array	87.04	42	P	P	09 15 28.5	-1.7
	1.4nm,1.0s,baz=212,slow=5.3,SNR=5.1						
CHMT	Chamberlain Mo	87.12	37	eP	P	09 15 33.3	+2.8
WRH	Wood River Hil	87.51	11	eP	P	09 15 31.2	-0.4
	22nm,1.6s						
CCB	Clear Creek Bu	87.72	11	eP	P	09 15 32.4	-0.2
	5.2nm,1.0s						
PSI	Prapat	87.77	274	eP	P	09 15 33.8	-0.4
	10.0nm,1.0s						
Q24A	Divide	88.00	47	eP	P	09 15 33.0	-2.0
	4.0nm,0.6s						
IL1	Eielson Array	88.00	11	eP	P	09 15 32.9	-1.1
ILAR	Eielson Array	88.00	11	P	P	09 15 33.1	-0.8
	0.6nm,0.7s,baz=220,slow=5.6,SNR=6.7						
ILB	Eielson Array	88.00	11	eP	P	09 15 33.1	-0.8
APG	El Apazote	89.86	74	LR	LR	09 49 42.5	
	comp=Z,22nm,18.6s,baz=284,slow=31						
XAN	Xi'an	90.97	306	P	P	09 15 51.6	+2.9
XAN				pP	sP	09 16 01.9	+1.3
XAN				pmax	pmax		
	comp=Z,6.0nm,0.7s						
HHC	Hu-ho-hao-te	91.97	313	eP	P	09 15 53.1	-0.1
HHC				S	S	09 26 54.3	+0.9
HHC				pmax	pmax		
	comp=Z,11nm,1.4s						
HHC				pmax	pmax		
	comp=Z,160nm,8.4s						
HHC				LR	LR		
	comp=Z,890nm,17.8s						
KMI	Kunming	92.44	296	P	P	09 15 55.3	-0.6
KMI				pmax	pmax		
	comp=Z,20nm,0.5s						
CM01	Chiang Mai Arr	93.29	288	eP	P	09 15 59.6	-0.1
CMAR	Chiang Mai Arr	93.32	288	P	P	09 16 01.4	+1.5
	3.1nm,0.8s,baz=123,slow=3.0,SNR=20						
CD2	Chengdu	93.75	302	eP	P	09 16 01.4	-0.2
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
YKA	Yellowknife Ar	95.52	24	P	P	09 16 07.6	-1.3
	0.3nm,0.8s,baz=240,slow=4.5,SNR=7.2						
LZH	Lanzhou	95.60	306	eP	P	09 16 10.7	+0.6
LZH				pP	pP	09 16 15.5	-3.4
LZH				sP	sP	09 16 17.6	-4.4
LZH				ePP	PP	09 20 01.6	-0.2
LZH				pmax	pmax		
	comp=Z,19nm,1.0s						
LZH				LR	LR		
	comp=N,98nm,15.3s						
LZH				LR	LR		
	comp=E,110nm,15.7s						
LZH				LR	LR		
	comp=Z,150nm,18.6s						
ULM	Lac du Bonnet	98.83	40	LR	LR	09 56 48.9	
	comp=Z,85nm,18.2s,baz=0.5,slow=33						
ZAA1	Zalesovo Array	112.84	321	ePKiKP	PKiKP	09 21 19.3	-1.6
ZALV	Zalesovo Beam	112.84	321	PKiKP	PKiKP	09 21 19.3	-1.5
	1.1nm,0.5s,baz=180,slow=0.6,SNR=4.9						
MK32	Makanchi Array	113.83	313	ePKiKP	PKiKP	09 21 22.0	-1.1
MKAR	Makanchi Array	113.83	313	PKP	PKiKP	09 21 22.0	-1.1
	0.6nm,0.8s,baz=96,slow=1.4,SNR=2.2						
KURK	Kurchatov	116.48	317	ePKPdf	PKPdf	09 21 27.3	-0.7
KURBB	Kurchatov Arra	116.54	317	PKP	PKPdf	09 21 27.3	-0.8
	1.2nm,0.7s,baz=90,slow=2.0,SNR=7.4						
BVAR	Borovoye Array	121.46	320	PKP	PKPdf	09 21 37.6	+0.1
	2.5nm,0.7s,baz=110,slow=1.7,SNR=11						
ARA0	ARCESS Array S	129.85	351	ePKPdf	PKPdf	09 21 53.4	+0.3
ARCES	ARCESS Array B	129.85	351	PKP	PKPdf	09 21 53.4	+0.3
	3.2nm,1.0s,baz=64,slow=2.1,SNR=4.9						
RCBR	Riachuelo	131.48	119	PKhKP	PKPpre	09 21 52.7	
	110nm,0.8s,baz=228,slow=0.7,SNR=4.0						
NB200	NORSAR Array S	139.68	356	ePKPdf	PKPdf	09 22 12.5	+0.8
NOA	NORSAR Array B	139.68	356	PKP	PKPdf	09 22 12.5	+0.8
	1.6nm,0.8s,baz=291,slow=5.1,SNR=3.5						
AKASG	Malin Array Be	144.87	334	PKPbc	PKPab	09 22 20.0	-0.2
	13nm,0.7s,baz=40,slow=4.3,SNR=40						
AKBB	Malin Array Si	144.87	334	ePKPdf	PKPbc	09 22 20.4	+0.1
KIEV	Kiev	144.88	334	ePKPdf	PKPbc	09 22 19.8	-0.6
AK11	Malin Array Si	144.91	334	ePKPdf	PKPbc	09 22 20.2	-0.3
EKA	Eskdalemuir Ar	144.99	9	PKPbc	PKPbc	09 22 19.7	-0.9
	2.0nm,0.8s,baz=358,slow=5.0,SNR=5.0						
SORM	Soroca	147.17	331	⇑iP	PKPbc	09 22 28.0	+0.6
BUR08	Bucovina Ar. S	148.91	334	ePKPdf	PKPdf	09 22 27.1	-1.2
BUR04	Bucovina Ar. S	148.92	334	ePKPdf	PKPdf	09 22 27.7	-0.5
BURAR	Bucovina Array	148.92	334	⇓iP	PKPbc	09 22 32.4	+0.2
CLL	Collm	149.07	351	ePKPbc	PKPbc	09 22 33.0	+0.7
	comp=Z,13nm,1.2s						
CLL				ePKPab	pPKPdf	09 22 37.0	-0.2
BRG	Berggiesshubel	149.34	349	ePKP	PKPbc	09 22 33.4	+0.4
	comp=Z,11nm,1.1s						
DPC	Dobruska-Polom	149.37	346	⇑ePKP	PKPbc	09 22 34.3	+1.1
CFR	Carcaliu	149.41	328	⇓iP	PKPbc	09 22 33.9	+0.5
BR101	Keskin Array S	149.47	314	ePKPbc	PKPbc	09 22 34.2	+0.3
BR131	Keskin Array S	149.47	314	ePKPbc	PKPbc	09 22 34.1	+0.2
BRTR	Keskin Array B	149.47	314	PKPbc	PKPbc	09 22 34.2	+0.2
	comp=Z,3.8nm,0.8s,baz=136,slow=3.9,SNR=18						
VRI	Vrincioaia	149.60	330	⇑iP	PKPbc	09 22 32.4	-1.5
MORC	Moravsky Berou	149.62	344	⇓iP	PKPbc	09 22 32.7	-1.1
MORC	Moravsky Berou	149.62	344	ePKPbc	PKPbc	09 22 34.2	+0.4
LANS	Liptovska Anna	149.66	342	ePKP	PKPbc	09 22 35.2	+1.3
TLB	Topalu	149.88	327	⇑iP	PKPdf	09 22 28.9	-0.8
KECS	Kecovo	149.94	340	ePKP	PKPbc	09 22 36.0	+1.4
BR231	Keskin MP Arra	149.99	315	ePKPbc	PKPbc	09 22 35.0	-0.2
PRU	Pruhonice	150.08	348	⇑ePKP	PKPbc	09 22 35.7	+0.8
DOPR	Dopca	150.13	332	⇑iP	PKPbc	09 22 36.9	+1.7
MLR	Muntele Rosu	150.24	330	PKPbc	PKPbc	09 22 35.8	+0.2
	comp=Z,1.2nm,0.9s,baz=153,slow=4.5,SNR=7.8						
MLR	Muntele Rosu	150.24	330	ePKPdf	PKPdf	09 22 32.4	+1.9
VYHS	Vyhne	150.44	342	ePKP	PKPbc	09 22 36.5	+0.7
DRGR		150.59	336	⇓iP	PKPbc	09 22 36.9	+0.6
VOIR		150.69	331	⇑iP	PKPbc	09 22 37.3	+0.7
ARR	Arges	150.93	332	⇓iP	PKPbc	09 22 38.3	+1.2
MODS	Modra-Piesok	150.98	344	ePKP	PKPbc	09 22 37.4	+0.3
KHC	Kasperske Hory	151.08	349	⇑ePKP	PKPbc	09 22 38.1	+0.8
KHC				ePKPAB	sPKPdf	09 22 43.8	+0.2
KHC	Kasperske Hory	151.08	349	ePKPbc	PKPbc	09 22 37.5	+0.2
GEC2	GERESS Array S	151.33	349	ePKPdf	PKPdf	09 22 31.8	-0.2
GERES	GERESS Array B	151.33	349	PKPbc	PKPbc	09 22 37.7	-0.3
	comp=Z,2.0nm,0.8s,baz=11,slow=2.7,SNR=12						
GEA0	GERESS Array S	151.34	349	ePKPbc	PKPbc	09 22 38.0	-0.1
BZS	Buzias	151.99	335	⇓iP	PKPbc	09 22 38.5	-1.0
HERR	Herculane	152.27	334	⇑iP	PKPbc	09 22 40.8	+0.7

IDC 02 09:08:31.5±1.8**, 16°.28S**×**178°.95W, h0**km**, mb3.9**/4**, mb1 4.1**/4**, mb1mx3.7**/48**, mbtmp3.9**/4**, Error ellipse: s-maj=151.3km s-min=32.5km az=155.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	38.98	239	P	P	09 15 59.6	-0.1
	1.1nm,0.8s,baz=85,slow=11,SNR=2.4						
WRA	Warramunga Arr	44.44	258	P	P	09 16 44.5	-0.1
	0.2nm,0.2s,baz=90,slow=8.1,SNR=16						
ASAR	Alice Springs	44.76	253	P	P	09 16 46.9	-0.3
	1.8nm,0.3s,baz=88,slow=8.1,SNR=31						
TXAR	Lajitas Array	85.57	58	P	P	09 21 12.2	+0.1
	0.4nm,1.0s,baz=280,slow=5.1,SNR=3.4						

DJA 02 09:08:54.5±1.7**, 6°S**±5°×**10°4E**±°**, h15**km±14km**, M3.6**/5**, MLv3.6**/5**, Southwest of Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KASI	Kota Agung	1.00	56	P	Pb	09 09 13.2	-0.3
KASI				S	Sg	09 09 27.0	+0.1
LWLI	Liwa	1.13	20	P	Pb	09 09 15.4	-0.5
LWLI				S	Sn	09 09 31.4	+0.1
MDSI	Maura Dua	1.67	18	P	Pn	09 09 23.0	-0.3
MNAI	Manna	1.86	337	P	Pn	09 09 25.5	-0.4
CGJI	Cibinong	2.08	105	P	Pn	09 09 29.3	+0.5
CGJI				S	Sn	09 09 54.9	+0.4

ISK 02 09:13:40.1, 39°.53N×29°.88E, h17km, ML2.2/5
ISCJB 02 09:13:43.2±0.7, 39°.71N±0°.04×29°.47E±0°.06, h0km, Error ellipse: s-maj=7.1km s-min=5.5km az=174.4
CSEM 02 09:13:43.4±0.2, 39°.70N×29°.46E, h1km, ML2.2, Error ellipse: s-maj=6.8km s-min=5.5km az=92.0, Suspected Mining explosion.
DDA 02 09:13:43.8, 39°.64N×29°.44E, h7km, Ml2.6, Suspected Mining explosion.
ISC 02 09:13:43.2±0.9**, 39°.70N**±0°.03×**29°.46E**±0°.04**, h0**km**, n19, σ0s.58**/22**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TVSB	Tavsanli	0.25	180	PG	Pg	09 13 47.7	-0.3
TVSB				SG	Sg	09 13 52.7	+1.5
TVSB	Tavsanli	0.25	180	ePg	Pg	09 13 47.7	-0.3
TVSB				eSg	Sg	09 13 52.7	+1.5
GDZ	Gediz	0.61	179	iP	Pg	09 13 54.6	-0.3
GDZ	Gediz	0.61	179	P	Pg	09 13 54.6	-0.3
ADVT	Abdulvahap	0.76	16	PG	Pg	09 13 57.9	+0.1
ADVT	Abdulvahap	0.76	16	ePg	Pg	09 13 57.9	+0.1
DURS	Dursunbey	0.77	263	iP	Pb	09 13 59.5	0.0
DURS	Dursunbey	0.77	263	P	Pb	09 13 59.5	0.0
BORA	Eskisehir	0.79	76	iP	Pb	09 13 59.5	-0.3
BORA	Eskisehir	0.79	76	P	Pb	09 13 59.5	-0.3
MDNY	Mudanya-Bursa	0.80	327	PN	Pn	09 14 01.8	0.0
MDNY	Mudanya-Bursa	0.80	327	ePn	Pn	09 14 01.8	0.0
ARMT	Armutlu	0.98	332	PN	Pn	09 14 03.8	-0.4
ARMT	Armutlu	0.98	332	ePn	Pn	09 14 03.8	-0.4
BUY	Buyukada	1.18	347	PN	Pb	09 14 06.4	-0.1
BUY	Buyukada	1.18	347	ePn	Pb	09 14 06.4	-0.1
BALY	Balya	1.42	272	iP	Pn	09 14 09.6	-0.7
BALY				iS	Sb	09 14 29.1	-0.2
BALY	Balya	1.42	272	P	Pn	09 14 09.6	-0.7
BALY				S	Sb	09 14 29.1	-0.2
SHUT	Suhut-Afyon	1.43	143	PN	Pn	09 14 01.4	-9.1

MEX 02 09:14:38.2±0.3**, 16°.37N**×**98°.34W, h2**km**, MD3.6, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.20	84	iP	Pg	09 14 41.9	-0.2
PNIG				iS	Sg	09 14 45.0	+0.1
TLIG	Tlapa	1.21	350	eP	Pg	09 14 58.4	-2.9
TLIG				iS	Sg	09 15 14.2	-2.8
VHO	Vista Hermosa	1.69	65	eP	Pn	09 15 05.8	-3.1
VHO				eS	Sn	09 15 26.8	-4.5

NEIC 02 09:25:47.8±0.0, 52°.71N×169°.39W, h10km, ML3.3(AEIC), After AEIC.
ISCJB 02 09:25:48.5±0.9, 52°.9N±0°.2×169°.6W±0°.2, h29km, mb3.2/3, Error ellipse: s-maj=27.3km s-min=8.0km az=151.3
IDC 02 09:25:54.5±7.2, 52°.75N×167°.64W, h0km, mb3.3/3, mb1 3.7/5, mb1mx3.2/84, mbtmp3.3/5, ML2.9/2, Error ellipse: s-maj=130.5km s-min=43.8km az=92.0
ISC 02 09:25:50.7±1.1**, 52°.9N**±0°.2×**169°.5W**±0°.1**, h29**km**, n20, σ1s.13**/18**, mb3.4**/3**, Fox Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKSP	Okmok Steeple	0.77	65	P	Pn	09 26 03.1	-2.6
OKWE	Okmok W'ng Wal	0.91	53	P	Pb	09 26 07.3	-0.6
OKAK	Okmok	0.93	45	P	Pn	09 26 05.6	-2.1
OKAK				S	Sn	09 26 19.9	-0.2
MSOM	Makushin Julie	1.75	58	P	Pn	09 26 19.5	+0.6
MSOM				S	Sb	09 26 44.2	+0.8
MGOD	Makushin Gods	1.77	60	P	Pn	09 26 19.9	+0.4
MGOD				S	Sb	09 26 45.7	+1.3
MREP	Makushin Rep't	1.85	60	P	Pn	09 26 21.1	+0.7
MTBL	Makushin Table	1.96	57	P	Pn	09 26 23.3	+1.3
UNV	Unalaska Valle	1.99	61	P	Pn	09 26 22.4	0.0
UNV				S	Sb	09 26 49.7	-0.8
KOFP	Korovin Flat P	2.91	259	P	Pn	09 26 34.2	-0.8
KDAK	Kodiak Island	10.76	56	Pn	Pn	09 28 22.4	-0.1
	0.1nm,0.3s,baz=330,slow=20,SNR=2.2						
ILAR	Eielson Array	16.52	35	Pn	Pn	09 29 40.5	+0.6
	0.0nm,0.3s,baz=228,slow=11,SNR=4.2						
YKA	Yellowknife Ar	29.92	50	P	P	09 31 56.4	+0.9
	0.1nm,0.5s,baz=272,slow=7.8,SNR=4.9						
H11N2	WAKE ISLAND Hy	37.86	218	T	T	10 13 00.1	
	baz=24,slow=76,SNR=7.6						
H11N3	WAKE ISLAND Hy	37.87	218	T	T	10 12 57.1	
	baz=24,slow=76,SNR=8.4						
H11N1	WAKE ISLAND Hy	37.88	218	T	T	10 12 54.3	
	baz=24,slow=76,SNR=8.7						
H11S1	WAKE ISLAND Hy	39.05	218	T	T	10 14 27.8	
	baz=23,slow=76,SNR=94						
H11S2	WAKE ISLAND Hy	39.06	217	T	T	10 14 24.9	
	baz=23,slow=76,SNR=42						
H11S3	WAKE ISLAND Hy	39.07	218	T	T	10 14 29.5	
	baz=23,slow=76,SNR=45						
PDAR	Pinedale Array	40.35	80	P	P	09 33 25.9	+0.1
	0.6nm,0.7s,baz=288,slow=5.8,SNR=4.4						
TXAR	Lajitas Array	52.79	89	P	P	09 35 03.0	-0.2
	0.3nm,0.6s,baz=295,slow=5.2,SNR=6.2						

ISCJB 02 09:29:47.3±1.4, 4°.6S±0°.2×153°.7E±0°.2, h100km, mb3.6/5, Error ellipse: s-maj=37.1km s-min=13.7km az=37.9
IDC 02 09:29:50.2±8.4, 4°.58S×153°.62E, h111km±61km, mb3.5/5, mb1 3.8/6, mb1mx3.3/49, mbtmp4.0/6, MS3.9/1, Ms1 3.9/1, ms1mx2.7/32, Error ellipse: s-maj=77.8km s-min=26.4km az=94.0
ISC 02 09:29:48.7±1.6**, 4°.6S**±0°.2×**153°.7E**±0°.3**, h100**km**, n8, σ0s.62**/8**, mb3.6**/5**, New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	8.08	233	P	Pn	09 31 43.9	+0.5
	3.7nm,0.3s,baz=34,slow=7.0,SNR=14						
PMG				S	Sn	09 33 12.5	-0.6
	0.9nm,0.3s,baz=150,slow=20,SNR=11						
WRA	Warramunga Arr	24.27	229	P	P	09 34 57.3	+0.5
	5.3nm,0.5s,baz=53,slow=9.8,SNR=18						
ASAR	Alice Springs	26.93	223	P	P	09 35 20.7	-0.2
	0.5nm,0.4s,baz=55,slow=9.2,SNR=11						
STKA	Stephens Creek	29.44	201	P	P	09 35 43.1	+0.1
	1.0nm,0.4s,baz=39,slow=13,SNR=4.6						
JOW	Kunigami	39.75	323	LR	LR	09 51 53.5	
	comp=Z,189nm,21.3s,baz=135,slow=33						
SONM	Songino Array	66.62	327	P	P	09 40 29.0	+0.3
	0.4nm,0.5s,baz=123,slow=3.8,SNR=3.4						
MKAR	Makanchi Array	80.75	319	P	P	09 41 51.1	-0.2
	0.4nm,0.7s,baz=98,slow=7.5,SNR=5.1						
TORD	Torodi Ar. Bea	151.09	289	PKPbc	PKPbc	09 49 30.4	-0.9
	1.1nm,0.8s,baz=56,slow=1.9,SNR=6.4						

IDC 02 09:46:28.1±3.4**, 53°.56N**×**87°.98E, h0**km**, mb1 2.8**/2**, mb1mx2.7**/67**, mbtmp2.8**/2**, ML2.4**/2**, Error ellipse: s-maj=35.5km s-min=21.5km az=83.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.92	283	i		09 58 00.0	
	baz=98,slow=320,SNR=2.2						
ZALV	Zalesovo Beam	1.92	283	Pn	Pn	09 47 00.9	-1.0
	0.8nm,0.3s,baz=100,slow=15,SNR=15						
ZALV				Sn	Sn	09 47 27.2	+0.4
	1.3nm,0.3s,baz=104,slow=25,SNR=15						
KURBB	Kurchatov Arra	6.53	247	Pn	Pn	09 48 06.2	+1.0
	0.1nm,0.3s,baz=62,slow=14,SNR=5.7						
KURBB				Lg	Lg	09 49 55.8	
	0.0nm,0.3s,baz=63,slow=31,SNR=5.5						
MKAR	Makanchi Array	7.70	211	Pn	Pn	09 48 22.6	+1.2
	0.1nm,0.3s,baz=34,slow=15,SNR=4.5						
MKAR				Lg	Lg	09 50 30.4	
	0.0nm,0.3s,baz=40,slow=27,SNR=3.7						

VIE 02 10:00:17.1±1.4, 50°.29N×12°.83E, h0km, ml2.5/1, Error ellipse: s-maj=15.1km s-min=5.5km az=44.0 27 km ENE of Klingenthal Suspected Mining induced.
ISC 02 10:00:15.1±5.4**, 50°.24N**±0°.09×**12°.5E**±0°.2**, h10**km**, n5, σ0s.52**/8**, Germany**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	Ksiaz	2.48	74	ePg	Pg	10 01 02.5	-0.1
KSP				eSg	Sg	10 01 34.9	+0.1
KSP	Ksiaz	2.48	74	ePg	Pg	10 01 02.5	-0.1
KSP				eSg	Sg	10 01 34.9	+0.1
MOA	Molln	2.65	154	Sg	Sg	10 01 40.8	+0.5
	7.2nm,0.5s						
CONA	Conrad Observa	3.19	135	Pg	Pg	10 01 16.3	+0.1
CONA				Sg	Sg	10 01 57.7	+0.2
	9.8nm,0.5s						
ARSA	Arzberg	3.59	145	Sg	Sg	10 02 09.3	-1.0
	6.1nm,0.6s						

NIED 02 10:35:00, 33°.80N×137°.00E, h400km, Mw4.2 Best double couple: M₀2.29000×10^15 NP1:φs72.00000°, δ46.00000°, λ-177.00000°. NP2:φs340.00000°, δ88.00000°, λ-45.00000°.
ISCJB 02 10:35:07.2±0.3, 33°.76N±0°.04×137°.00E±0°.04, h365km±1km, mb3.8/46, Error ellipse: s-maj=6.6km s-min=4.6km az=155.2
MOS 02 10:35:07.0±0.8, 33°.72N×136°.99E, h364km, mb3.8/24, Error ellipse: s-maj=11.2km s-min=6.6km az=105.2
JMA 02 10:35:07.8±0.2, 33°.84N×136°.99E, h365km±2km, M3.8 Broadband fault plane solution: P waves. NP1: φs155.00000°, δ88.00000°, λ43.00000°. NP2:φs62.00000°, δ47.00000°, λ177.00000°. Principal axes: T Plg31.0000°, Azm28.0000°; N Plg47.0000°, Azm157.0000°; P Plg27.0000°, Azm280.0000°;
IDC 02 10:35:08.3±0.5, 33°.78N×136°.90E, h358km±5km, mb3.5/26, mb1 3.6/32, mb1mx3.5/79, mbtmp4.2/32 Error ellipse: s-maj=9.5km s-min=8.0km az=75.0
NEIC 02 10:35:08.1±0.9, 33°.75N×136°.93E, h361km±6km, mb4.1/15, MD3.4, Error ellipse: s-maj=16.6km s-min=11.6km az=100.0
ISC 02 10:35:08.3±0.6**, 33°.79N**±0°.05×**136°.97E**±0°.04**, h362**km±4km**, n142, σ1s.12**/162**, mb3.9**/46**, 18C-9D, Near south coast of western Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTO2	TONANKAI O.B.S	0.07	142	P	Pn	10 35 53.5	+0.4
TTO1	TONANKAI O.B.S	0.23	223	⇑P	Pn	10 35 53.7	+0.5
TTO3	TONANKAI O.B.S	0.36	78	⇓P	Pn	10 35 53.9	+0.5
JIE	Ise	0.64	340	⇓P	Pn	10 35 54.4	+0.3
JIE				S	S	10 36 30.3	-0.6
TK02	Tokai 2	0.67	76	P	Pn	10 35 54.4	+0.5
JWZ	Kozaga	1.08	256	⇑P	Pn	10 35 55.3	-0.4
JWZ				S	S	10 36 32.4	-1.3
JWY	Kouya	1.22	291	⇑P	Pn	10 35 56.6	+0.3
JWY				S	S	10 36 33.6	-1.3
INU	Inuyama	1.56	1	ePn	Pn	10 35 58.0	+0.2
JWT	Wachi	1.98	319	⇑P	Pn	10 36 00.6	+0.2
JWT				S	S	10 36 40.9	-1.5
JAI	Aioi	2.10	271	⇑P	Pn	10 36 01.4	0.0
JAI				S	S	10 36 42.8	-1.2
JYN	Shimob	2.14	37	P	Pn	10 36 01.4	-0.3
JOD2	Odawara 2	2.28	49	⇓P	Pn	10 36 02.5	-0.2
JOD2				eS	S	10 36 45.4	-1.0
JHJ	Hachijo jima 2	2.44	105	P	Pn	10 36 03.9	-0.1
	67nm,0.3s,baz=202,slow=23,SNR=23						
JHJ				S	S	10 36 50.9	+2.3
	22nm,0.3s,baz=72,slow=19,SNR=3.6						
JHJ2	Mitsune	2.47	105	P	Pn	10 36 04.0	-0.1
JHJ2	Mitsune	2.47	105	ePn	Pn	10 36 04.1	-0.1
JKG	Kaga	2.54	348	⇑P	Pn	10 36 04.5	0.0
JMN	Monobe	2.58	269	⇑P	Pn	10 36 05.3	+0.2
JMN				S	S	10 36 49.9	-0.8
JRY	Ryogami san	2.73	35	⇓P	Pn	10 36 06.1	-0.1
JRY				S	S	10 36 51.2	-1.6
MJAR	Matsushiro Arr	2.92	20	P	Pn	10 36 07.5	-0.3
	10nm,0.3s,baz=199,slow=10,SNR=98						
MJAR				S	S	10 36 54.1	-1.7
	1.1nm,0.3s,baz=204,slow=16,SNR=8.5						
MAJO	Matsushiro	2.93	20	ePn	Pn	10 36 07.5	-0.4
MAJO	Matsushiro	2.93	20	d iP	Pn	10 36 07.1	-0.7
MAT	Matsushiro	2.93	20	P	Pn	10 36 07.5	-0.3
MAT				S	S	10 36 54.3	-1.5
MAT	Matsushiro	2.93	20	P	Pn	10 36 07.5	-0.3
MAT				eS	S	10 36 54.4	-1.4
MJB9	Matsu-Tunnel	2.93	20	ePn	Pn	10 36 07.5	-0.3
JAG	Ashikaga	3.32	37	P	Pn	10 36 09.8	-1.6
JHS	Saijyo	3.41	292	P	Pn	10 36 12.4	+0.1
JHS				S	S	10 37 03.5	-0.4
BSO1	Boso 1	3.43	74	P	Pn	10 36 09.5	-2.3
JTO	Tosashimizu	3.61	256	P	Pn	10 36 14.2	0.0
JNA	Nagahama	3.76	268	P	Pn	10 36 16.1	+0.5
JNU	Nakatsue	5.14	264	P	Pn	10 36 30.6	+0.6
	6.0nm,0.3s,baz=128,slow=1.5,SNR=57						
JNU	Nakatsue	5.14	264	ePn	Pn	10 36 30.2	+0.2
JCJ	Chichijima	8.04	145	P	Pn	10 36 57.8	-5.5
	16nm,0.3s,baz=342,slow=20,SNR=7.5						
JCJ				S	S	10 38 27.3	-10
	24nm,0.3s,baz=297,slow=22,SNR=9.1						
KSRS	Korea Array	8.22	299	P	Pn	10 37 06.0	+0.9
	3.9nm,0.3s,baz=113,slow=12,SNR=87						
KS15	Wonju Array Si	8.25	299	ePn	Pn	10 37 06.0	+0.6
KS01	Wonju Array Si	8.26	299	ePn	Pn	10 37 05.4	-0.2
TJN	Taejon	8.29	291	⇑eP	Pn	10 37 06.3	+0.3
ERM	Erimo	9.55	29	ePn	P	10 37 22.4	+0.4
ERM	Erimo	9.55	29	c eP	P	10 37 22.5	+0.4
VLA	Vladivostok	10.13	338	⇑eP	P	10 37 28.3	-0.2
USRK	Ussuriysk Ar.	11.09	341	P	P	10 37 39.5	+0.3
	1.1nm,0.3s,baz=172,slow=11,SNR=15						
ASAJ	Asahikawa	11.20	21	P	Pn	10 37 40.2	-0.1
	3.5nm,0.3s,baz=251,slow=12,SNR=32						
ASAJ	Asahikawa	11.20	21	ePn	P	10 37 40.1	-0.3
YUK	Yuzh-Kuril'sk	12.34	31	eP	P	10 37 50.9	-2.1
SHO	Shikotan	12.65	34	P	Pn	10 38 01.7	+4.3
SHO				eS	S	10 40 13.0	-2.8
SHO				pmax	pmax		
	comp=Z,13nm,0.6s						
SHO				pmax	pmax		
	comp=E,8.0nm,0.3s						
SHO				pmax	pmax		
	comp=N,8.0nm,0.4s						
YSS	Yuzh-Sakhalins	13.86	17	eP	Pn	10 38 11.2	-0.2
YSS	Yuzh-Sakhalins	13.86	17	⇓eP	Pn	10 38 11.3	-0.2
YSS				eS	S	10 40 43.4	+3.4
YSS				pmax	pmax		
	comp=Z,70nm,1.0s						
YSS				pmax	pmax		
	comp=N,60nm,1.2s						
YSS				smax	smax		

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=N,20nm,1.0s						
YSS				smax	smax		
	comp=E,20nm,1.0s						
KLR	**Kul'dur**	**15.91**	**347**	P	**P**	**10 38 32.3**	**+0.3**
	comp=E,0.0nm,0.3s,baz=182,slow=14,SNR=4.2						
KLR	**Kul'dur**	**15.91**	**347**⇑	*e*P	**P**	**10 38 32.9**	**+0.9**
NKL	**Nikolayevsk**	**19.53**	**7**	*e*P	**P**	**10 39 10.8**	**+0.3**
NKL				pmax	pmax		
	comp=N,5.0nm,0.9s						
NKL				pmax	pmax		
	comp=Z,14nm,0.9s						
HIA	**Hailar**	**20.06**	**326**	*e*P	**P**	**10 39 13.4**	**-2.5**
	comp=Z,9.9nm,0.7s						
HIA	**Hailar**	**20.06**	**326**	*ce*P	**P**	**10 39 14.2**	**-1.7**
HIA				pmax	pmax		
	comp=Z,5.0nm,0.7s						
HHC	**Hu-ho-hao-te**	**21.36**	**297**	*e*P	**P**	**10 39 29.5**	**+1.7**
HHC				pmax	pmax		
	comp=Z,14nm,0.9s						
HHC				pmax	pmax		
	comp=Z,110nm,4.0s						
XAN	**Xi'an**	**23.26**	**278**	P	**P**	**10 39 44.3**	**-0.8**
XAN				pmax	pmax		
	comp=Z,11nm,0.8s						
ENH	**Enshi**	**23.54**	**269**	*e*P	**P**	**10 39 47.4**	**-0.2**
	comp=Z,22nm,0.8s						
ULN	**Ulaanbaatar**	**26.45**	**311**	*e*P	**P**	**10 40 15.1**	**+1.5**
	comp=Z,5.1nm,0.6s						
ULN	**Ulaanbaatar**	**26.45**	**311**	*ce*P	**P**	**10 40 16.3**	**+2.6**
ULN				pmax	pmax		
	comp=Z,5.0nm,0.7s						
SONA1	**Songino Array**	**26.86**	**311**	*e*P	**P**	**10 40 18.0**	**+0.8**
SONM	**Songino Array**	**26.86**	**311**	P	**P**	**10 40 17.8**	**+0.6**
	comp=Z,4.9nm,0.8s,baz=115,slow=8.9,SNR=24						
LZH	**Lanzhou**	**27.18**	**284**	*e*P	**P**	**10 40 21.2**	**+0.9**
LZH				pP	pP	10 41 25.4	-0.8
LZH				sP	sP	10 42 06.3	-2.8
LZH				pmax	pmax		
	comp=Z,27nm,1.0s						
LZH				pmax	pmax		
	comp=Z,320nm,7.8s						
MA2	**Magadan**	**27.36**	**15**	P	**P**	**10 40 21.6**	**+0.3**
	comp=Z,6.9nm,0.8s,baz=163,slow=6.2,SNR=6.4						
MA2	**Magadan**	**27.36**	**15**⇓	*e*P	**P**	**10 40 22.1**	**+0.8**
SEY	**Seymchan**	**30.73**	**14**	P	**P**	**10 40 51.1**	**+0.2**
	comp=Z,2.0nm,0.7s,baz=279,slow=3.0,SNR=6.8						
SEY	**Seymchan**	**30.73**	**14**⇑	*e*P	**P**	**10 40 51.2**	**+0.3**
KMI	**Kunming**	**30.92**	**263**	P	**P**	**10 40 53.5**	**+0.2**
KMI				pmax	pmax		
	comp=Z,5.0nm,0.5s						
HVS	**Khovu-Aksy**	**35.72**	**312**⇑	*e*P	**P**	**10 41 35.5**	**+1.7**
HVS				pmax	pmax		
	comp=Z,12nm,0.9s						
CMAR	**Chiang Mai Arr**	**37.17**	**255**	P	**P**	**10 41 45.8**	**-0.6**
	comp=Z,1.8nm,0.5s,baz=49,slow=7.6,SNR=14						
CMAR	**Chiang Mai Arr**	**37.17**	**255**	*i* P	**P**	**10 41 46.5**	**+0.2**
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.5s						
CM01	**Chiang Mai Arr**	**37.18**	**255**	*e*P	**P**	**10 41 45.5**	**-0.8**
BILL	**Bilibino**	**38.18**	**17**⇓	*i*P	**P**	**10 41 54.8**	**+0.8**
BILL				*e*		10 43 36.9	
BILL				*e*S	**S**	**10 47 22.4**	**+2.8**
BILL				pmax	pmax		
	comp=Z,7.0nm,0.5s						
WMQ	**Urumqi**	**39.18**	**300**	*e*P	**P**	**10 42 03.9**	**+1.3**
WMQ				LR	LR		
	comp=N,86nm,18.7s						
WMQ				LR	LR		
	comp=Z,90nm,18.7s						
DGZ	**Jazzator, Alta**	**39.48**	**309**	*ce*P	**P**	**10 42 06.1**	**+1.0**
DGZ				pmax	pmax		
	comp=Z,4.0nm,0.9s						
ZALV	**Zalesovo Beam**	**41.54**	**315**	P	**P**	**10 42 21.9**	**+0.4**
	comp=Z,1.4nm,0.4s,baz=98,slow=8.2,SNR=4.7						
ZALV	**Zalesovo Beam**	**41.54**	**315**	*e*P	**P**	**10 42 21.2**	**-0.3**
MK01	**Makanchi Array**	**42.86**	**304**	*e*P	**P**	**10 42 32.3**	**+0.1**
MK31	**Makanchi Array**	**42.86**	**304**	*e*P	**P**	**10 42 32.5**	**+0.2**
MK31	**Makanchi Array**	**42.86**	**304**	*e*P	**P**	**10 42 32.5**	**+0.2**
MKAR	**Makanchi Array**	**42.86**	**304**	P	**P**	**10 42 32.4**	**+0.2**
	comp=Z,1.8nm,0.4s,baz=86,slow=9.6,SNR=50						
MKAR				ScP	**ScP**	**10 47 30.5**	**-1.0**
	comp=Z,0.1nm,0.4s,baz=80,slow=5.1,SNR=3.7						
MKAR	**Makanchi Array**	**42.86**	**304**	*e*P	**P**	**10 42 32.5**	**+0.2**
	comp=Z,19nm,0.7s						
MKAR	**Makanchi Array**	**42.86**	**304**	*e*P	**P**	**10 42 32.5**	**+0.2**
MKAR				pmax	pmax		
	comp=Z,19nm,0.7s						
MAKZ	**Makanchi**	**43.08**	**305**	*e*P	**P**	**10 42 33.9**	**0.0**
	comp=Z,2.6nm,0.8s						
MAKZ	**Makanchi**	**43.08**	**305**	*e*P	**P**	**10 42 33.9**	**0.0**
MAKZ				pmax	pmax		
	comp=Z,3.0nm,0.8s						
KURK	**Kurchatov**	**45.16**	**310**	*e*P	**P**	**10 42 50.0**	**-0.2**
	comp=Z,9.2nm,0.8s						
KURK	**Kurchatov**	**45.16**	**310**	*de*P	**P**	**10 42 49.7**	**-0.5**
KURK				*i* *PP	**pP**	**10 44 03.7**	**+1.2**
KURK				pmax	pmax		
	comp=Z,11nm,0.9s						
KURBB	**Kurchatov Arra**	**45.22**	**310**	P	**P**	**10 42 50.5**	**-0.1**
	comp=Z,3.4nm,0.5s,baz=89,slow=6.8,SNR=39						
BVAR	**Borovoye Array**	**50.13**	**314**	P	**P**	**10 43 28.1**	**+0.2**
	comp=Z,0.9nm,0.3s,baz=99,slow=8.9,SNR=12						
BRVK	**Borovoye**	**50.19**	**314**	*e*P	**P**	**10 43 28.3**	**-0.1**
	comp=Z,2.7nm,0.9s						
BRVK	**Borovoye**	**50.19**	**314**	*ce*P	**P**	**10 43 28.6**	**+0.3**
BRVK				*i* *PP	**PcP**	**10 44 39.0**	**-2.6**
BRVK				pmax	pmax		
	comp=Z,12nm,1.7s						
KK06	**Karatay Array**	**51.64**	**301**	*e*P	**P**	**10 43 39.0**	**-0.2**
KK31	**Karatay Array**	**51.65**	**301**	*e*P	**P**	**10 43 39.2**	**-0.1**
KK31	**Karatay Array**	**51.65**	**301**	*e*P	**P**	**10 43 39.2**	**-0.1**
KKAR	**Karatay Array**	**51.65**	**301**	*e*P	**P**	**10 43 39.2**	**-0.1**
KKAR	**Karatay Array**	**51.65**	**301**	*e*P	**P**	**10 43 39.2**	**-0.1**
KK03	**Karatay Array**	**51.66**	**301**	*e*P	**P**	**10 43 39.1**	**-0.2**
KK07	**Karatay Array**	**51.66**	**301**	*e*P	**P**	**10 43 39.1**	**-0.3**
KDAK	**Kodiak Island**	**51.92**	**40**	*i* P	**P**	**10 43 41.3**	**+0.4**
MLY	**Manley**	**52.50**	**31**	*e*P	**P**	**10 43 45.8**	**+0.6**
	comp=Z,8.4nm,1.2s						
SUA	**Susitna One**	**52.61**	**35**	*e*P	**P**	**10 43 46.7**	**+0.6**
	comp=Z,6.8nm,1.1s						
WB2	**Warramunga Arr**	**53.49**	**183**	*e*P	**P**	**10 43 52.7**	**-0.1**
	comp=Z,6.6nm,0.4s						
WRA	**Warramunga Arr**	**53.49**	**183**	P	**P**	**10 43 52.5**	**-0.3**
	comp=Z,5.3nm,0.3s,baz=359,slow=7.6,SNR=208						
WRA	**Warramunga Arr**	**53.49**	**183**	P	**P**	**10 43 52.5**	**-0.3**
WRA				pmax	pmax		
	comp=Z,6.0nm,0.3s						
MDM	**Murphy Dome**	**53.57**	**31**	*e*P	**P**	**10 43 54.1**	**+1.2**
	comp=Z,8.5nm,0.9s						
ILAR	**Eielson Array**	**54.15**	**31**	P	**P**	**10 43 57.5**	**+0.4**
	comp=Z,0.9nm,0.8s,baz=292,slow=7.7,SNR=12						
CTA	**Charters Tower**	**54.30**	**169**	P	**P**	**10 43 58.0**	**-0.6**
	comp=Z,0.8nm,0.3s,baz=337,slow=7.7,SNR=3.1						
CTA	**Charters Tower**	**54.30**	**169**	P	**P**	**10 43 58.0**	**-0.6**
CTA				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ARU	**Arti**	**56.41**	**319**	*c i*P	**P**	**10 44 13.1**	**0.0**
ARU				S	**S**	**10 51 36.8**	**+2.0**
ARU				SS	**SS**	**10 55 24.7**	**-3.0**
ARU				pmax	pmax		
	comp=Z,11nm,2.5s						
AS01	**Alice Springs**	**57.21**	**183**	*e*P	**P**	**10 44 18.2**	**-0.8**
AS31	**Alice Springs**	**57.21**	**183**	*e*P	**P**	**10 44 18.8**	**-0.3**
	comp=Z,1.4nm,0.6s						
ASAR	**Alice Springs**	**57.21**	**183**	P	**P**	**10 44 19.1**	**0.0**
	comp=Z,1.7nm,0.5s,baz=16,slow=12,SNR=69						
AB06	**Akbulak array**	**57.25**	**311**	*e*P	**P**	**10 44 18.8**	**-0.3**
AB07	**Akbulak array**	**57.27**	**311**	*e*P	**P**	**10 44 18.8**	**-0.4**
AB05	**Akbulak array**	**57.27**	**311**	*e*P	**P**	**10 44 18.9**	**-0.3**
AB02	**Akbulak array**	**57.27**	**311**	*e*P	**P**	**10 44 18.9**	**-0.2**
AB01	**Akbulak array**	**57.27**	**311**	*e*P	**P**	**10 44 18.9**	**-0.2**
AB31	**Akbulak array**	**57.27**	**311**	*e*P	**P**	**10 44 19.1**	**-0.1**
AB31	**Akbulak array**	**57.27**	**311**	*e*P	**P**	**10 44 19.1**	**-0.1**
ABKAR	**Akbulak array**	**57.27**	**311**	*e*P	**P**	**10 44 19.0**	**-0.1**
	comp=Z,36nm,0.6s						
AB03	**Akbulak array**	**57.27**	**311**	*e*P	**P**	**10 44 18.9**	**-0.2**
AB04	**Akbulak array**	**57.27**	**311**	*e*P	**P**	**10 44 18.9**	**-0.3**
AB08	**Akbulak array**	**57.28**	**311**	*e*P	**P**	**10 44 19.0**	**-0.3**
AKTO	**Aktyubinsk**	**58.16**	**312**	P	**P**	**10 44 25.1**	**-0.1**
	comp=Z,1.0nm,0.6s,baz=74,slow=13,SNR=5.0						
INK	**Inuvik**	**58.90**	**26**	P	**P**	**10 44 30.7**	**+0.7**
	comp=Z,0.8nm,0.4s,baz=307,slow=7.3,SNR=15						
GEYT	**Alibeck**	**62.22**	**299**	P	**P**	**10 44 51.8**	**-1.0**
	comp=Z,1.5nm,0.4s,baz=99,slow=8.9,SNR=3.2						
STKA	**Stephens Creek**	**65.46**	**176**	P	**P**	**10 45 13.3**	**-0.3**
	comp=Z,1.5nm,0.8s,baz=347,slow=14,SNR=3.2						
ARCES	**ARCESS Array B**	**65.73**	**339**	P	**P**	**10 45 15.5**	**+0.7**
	comp=Z,1.8nm,0.9s,baz=70,slow=8.7,SNR=4.2						
YKA	**Yellowknife Ar**	**68.40**	**28**	P	**P**	**10 45 32.0**	**+0.5**
	comp=Z,0.4nm,0.6s,baz=296,slow=5.9,SNR=13						
FINES	**FINESS Array B**	**69.95**	**331**	P	**P**	**10 45 40.9**	**-0.1**
	comp=Z,0.8nm,0.3s,baz=48,slow=6.8,SNR=12						
KBZ	**Khabaz**	**70.22**	**310**	P	**P**	**10 45 43.5**	**+0.6**
	comp=Z,2.8nm,0.8s,baz=307,slow=2.2,SNR=4.1						
KBZ	**Khabaz**	**70.22**	**310**	P	**P**	**10 45 43.5**	**+0.6**
KBZ				pmax	pmax		
	comp=Z,2.0nm,0.7s						
GPW	**Glacier Peak**	**72.78**	**43**	*e*P	**P**	**10 45 56.1**	**-2.3**
HFS	**Hagfors**	**75.49**	**334**	P	**P**	**10 46 13.2**	**-0.1**
	comp=Z,0.7nm,0.3s,baz=76,slow=6.1,SNR=8.6						
NOA	**NORSAR Array B**	**75.72**	**336**	P	**P**	**10 46 14.6**	**0.0**
	comp=Z,2.3nm,0.9s,baz=42,slow=4.4,SNR=2.9						
BRTR	**Keskin Array B**	**78.21**	**310**	P	**P**	**10 46 29.1**	**+0.2**
	comp=Z,0.9nm,0.9s,baz=81,slow=8.9,SNR=5.5						
BRTR	**Keskin Array B**	**78.21**	**310**	*i* P	**P**	**10 46 31.1**	**+2.1**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
NVAR	**Mina Array Bea**	**79.84**	**51**	P	**P**	**10 46 39.4**	**+1.5**
	comp=Z,1.2nm,0.7s,baz=292,slow=5.3,SNR=11						
OAT	**Oat Mountain**	**81.99**	**54**	*e*P	**P**	**10 46 48.9**	**-0.1**
PDAR	**Pinedale Array**	**82.51**	**43**	P	**P**	**10 46 52.9**	**+1.2**
	comp=Z,1.2nm,0.7s,baz=289,slow=2.7,SNR=14						
PDAR	**Pinedale Array**	**82.51**	**43**	*e*P	**P**	**10 46 52.2**	**+0.5**
GSC	**Goldstone, Bar**	**82.63**	**52**	*e*P	**P**	**10 46 52.4**	**+0.1**
GSC	**Goldstone, Bar**	**82.63**	**52**	*e*P	**P**	**10 46 52.4**	**+0.1**
WMOK	**Wichita Mounta**	**94.12**	**43**	*e*P	**P**	**10 47 42.9**	**-3.9**
	comp=Z,3.6nm,0.8s						
WMOK	**Wichita Mounta**	**94.12**	**43**	*e*P	**P**	**10 47 42.9**	**-3.9**
WMOK				pmax	pmax		
	comp=Z,4.0nm,0.8s						
TXAR	**Lajitas Array**	**94.97**	**50**	P	**P**	**10 47 51.6**	**+0.8**
	comp=Z,0.2nm,0.5s,baz=274,slow=3.2,SNR=5.0						

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*ISCJB **02** 10:39:20.7±0.4, 63.°10N±0.°02×27.°70E±0.°07, h0^{km}, Error ellipse: s-maj=4.6km s-min=3.2km az=16.4*
*IDC **02** 10:39:21.2±1.6, 63.°00N×28.°21E, h0^{km}, mb1 3.2/3, mb1mx2.8/67, mbtmp3.2/3, ML2.6/3, Error ellipse: s-maj=24.1km s-min=7.0km az=107.0*
*CSEM **02** 10:39:22.1±0.3, 63.°03N×27.°70E, h2^{km}, ML1.8, Error ellipse: s-maj=7.1km s-min=5.6km az=102.0, Mining explosion.*
*HEL **02** 10:39:22.8±0.1, 63.°11N×27.°70E, h0^{km}, ML1.8, Explosion*
*UPP **02** 10:39:25.8±2.5, 63.°17N×27.°24E, h0^{km}, ML1.6*
ISC 02 10:39:22.1±0.8**, 63.°04N**±0.°03×**27.°68E**±0.°04**, h0^{km}, n49, σ1^{s}25**/71**, Finland**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KAF	**Kangasniemi**	**1.12**	**215**	Pg	**Pb**	**10 39 44.1**	**-0.2**
KAF				Sb	**Sn**	**10 40 00.2**	**-0.9**
KAF	**Kangasniemi**	**1.12**	**215**	PG	**Pb**	**10 39 44.1**	**-0.2**
KAF				MSG		10 39 58.8	
	comp=Z,4.5nm,0.2s						
KAF				SB	**Sn**	**10 40 00.2**	**-0.9**
KEF	**Keuruu**	**1.56**	**237**	Pg	**Pg**	**10 39 51.9**	**-0.1**
KEF				Sn	**Sg**	**10 40 13.3**	**+1.1**
KEF	**Keuruu**	**1.56**	**237**	PG	**Pg**	**10 39 51.9**	**-0.1**
KEF				MSG		10 40 11.0	
	comp=Z,10nm,0.2s						
KEF				SN	**Sg**	**10 40 13.3**	**+1.1**
JOF	**Joensuu**	**1.67**	**92**	Pg	**Pn**	**10 39 52.7**	**+0.3**
JOF				Sn	**Sn**	**10 40 14.4**	**-0.1**
JOF	**Joensuu**	**1.67**	**92**	PG	**Pn**	**10 39 52.7**	**+0.3**
JOF				SN	**Sn**	**10 40 14.4**	**-0.1**
FIA0	**FINESS Array S**	**1.76**	**206**	Pg	**Pg**	**10 39 55.3**	**-0.5**
FIA0	**FINESS Array S**	**1.76**	**206**	PG	**Pg**	**10 39 55.3**	**-0.5**
	baz=22						
FIA0				SG	**Sg**	**10 40 19.8**	**+1.1**
FINES	**FINESS Array B**	**1.76**	**206**	Pn	**Pg**	**10 39 55.5**	**-0.4**
	comp=Z,0.9nm,0.3s,baz=29,slow=18,SNR=30						
FINES				Lg	Lg	10 40 19.2	
	comp=Z,2.0nm,0.3s,baz=28,slow=30,SNR=25						
OUF	**Merijarvi**	**1.87**	**317**	Pb	**Pn**	**10 39 55.2**	**-0.1**
OUF				Sg	**Sn**	**10 40 20.1**	**+0.5**
	comp=Z,7.8nm,0.2s						
OUF	**Merijarvi**	**1.87**	**317**	PB	**Pn**	**10 39 55.2**	**-0.1**
	baz=129						
OUF				MSG		10 40 17.2	
	comp=Z,7.8nm,0.2s						
OUF				SG	**Sn**	**10 40 20.1**	**+0.5**
OUL	**Oulu**	**2.20**	**340**	Pg	**Pn**	**10 40 00.4**	**+0.6**
OUL				Sg	**Sn**	**10 40 29.0**	**+1.3**
OUL	**Oulu**	**2.20**	**340**	PG	**Pn**	**10 40 00.4**	**+0.6**
	baz=156						
OUL				SG	**Sn**	**10 40 29.0**	**+1.3**
VAF	**Ylistaro**	**2.28**	**272**	Pb	**Pb**	**10 40 03.2**	**-0.9**
VAF	**Ylistaro**	**2.28**	**272**	PB	**Pb**	**10 40 03.2**	**-0.9**
	baz=88						
VAF				MSG		10 40 30.7	
	comp=Z,5.8nm,0.2s						
VAF				SG	**Sb**	**10 40 33.7**	**+1.0**
VJF	**Virojoki**	**2.51**	**181**	MSG		10 40 39.0	
	comp=Z,3.7nm,0.2s						
VJF				SG	**Sg**	**10 40 41.2**	**-1.3**
PVF	**Pernaja**	**2.64**	**200**	Pb	**Pb**	**10 40 09.5**	**-0.7**
PVF	**Pernaja**	**2.64**	**200**	PB	**Pb**	**10 40 09.5**	**-0.7**
	baz=14						
PVF				MSG		10 40 42.9	
	comp=Z,2.3nm,0.2s						
PVF				SG	**Sg**	**10 40 46.0**	**-0.9**
MSF	**Maaselka**	**2.95**	**11**	Pn	**Pn**	**10 40 10.4**	**+0.3**
MSF				Sn	**Sn**	**10 40 45.1**	**-1.0**
MSF	**Maaselka**	**2.95**	**11**	PN	**Pn**	**10 40 10.4**	**+0.3**
MSF				SN	**Sn**	**10 40 45.1**	**-1.0**
KU6	**Riekki**	**3.15**	**17**	Pb	**Pn**	**10 40 13.8**	**+0.9**
KU6				Sb	**Sn**	**10 40 53.0**	**+1.9**
KU6	**Riekki**	**3.15**	**17**	PB	**Pn**	**10 40 13.8**	**+0.9**
	baz=200						
KU6				SB	**Sn**	**10 40 53.0**	**+1.9**
KU6				MSG		10 40 53.2	
	comp=Z,1.7nm,0.2s						
BURU	**Burvik**	**3.20**	**302**	P	**Pn**	**10 40 13.5**	**0.0**
BURU				S	**Sn**	**10 40 52.0**	**-0.2**
BURU	**Burvik**	**3.20**	**302**	P	**Pn**	**10 40 13.5**	**0.0**
BURU	**Burvik**	**3.20**	**302**	Pb	**Pb**	**10 40 18.2**	**-1.4**
BURU				S	**Sn**	**10 40 52.0**	**-0.2**
BURU	**Burvik**	**3.20**	**302**	PB	**Pb**	**10 40 18.2**	**-1.4**
	baz=113						
TOF	**Tornio**	**3.38**	**336**	Pn	**Pn**	**10 40 17.4**	**+1.4**
TOF	**Tornio**	**3.38**	**336**	PN	**Pn**	**10 40 17.4**	**+1.4**
KALU	**Kalix**	**3.40**	**328**	P	**Pn**	**10 40 17.9**	**+1.7**
KALU	**Kalix**	**3.40**	**328**	P	**Pn**	**10 40 17.9**	**+1.7**
SJUU	**Sjulsmark**	**3.63**	**316**	P	**Pn**	**10 40 19.6**	**+0.2**
SJUU	**Sjulsmark**	**3.63**	**316**	P	**Pn**	**10 40 19.6**	**+0.2**
RNF	**Rovaniemi**	**3.66**	**350**	Pb	**Pn**	**10 40 22.8**	**+3.0**
RNF	**Rovaniemi**	**3.66**	**350**	PB	**Pn**	**10 40 22.8**	**+3.0**
HUSU	**Husum**	**3.84**	**278**	P	**Pn**	**10 40 23.6**	**+1.2**
HUSU	**Husum**	**3.84**	**278**	P	**Pn**	**10 40 23.6**	**+1.2**
SVAU	**Svanoeiden**	**3.88**	**296**	P	**Pn**	**10 40 23.1**	**+0.2**
SVAU	**Svanoeiden**	**3.88**	**296**	P	**Pn**	**10 40 23.1**	**+0.2**
LILU	**Lilltraesk**	**4.10**	**307**	P	**Pn**	**10 40 25.7**	**-0.2**
LILU	**Lilltraesk**	**4.10**	**307**	P	**Pn**	**10 40 25.7**	**-0.2**
HEMU	**Hemsoen**	**4.43**	**270**	Pn	**Pn**	**10 40 32.4**	**+2.0**
HEMU	**Hemsoen**	**4.43**	**270**	PN	**Pn**	**10 40 32.4**	**+2.0**
PAJU	**Pajala**	**4.45**	**336**	P	**Pn**	**10 40 30.6**	**-0.1**
PAJU				S	**Sn**	**10 41 22.9**	**-0.2**
PAJU	**Pajala**	**4.45**	**336**	P	**Pn**	**10 40 30.6**	**-0.1**
PAJU				S	**Sn**	**10 41 22.9**	**-0.2**
SGF	**Sodankyl**	**4.45**	**354**	Pn	**Pn**	**10 40 31.5**	**+0.8**
SGF	**Sodankyl**	**4.45**	**354**	PN	**Pn**	**10 40 31.5**	**+0.8**
ARCES	**ARCESS Array B**	**6.59**	**353**	Pn	**Pn**	**10 40 59.3**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=167,slow=15,SNR=9.5						
ARCES				Sn	**Sn**	**10 42 10.1**	**-5.7**
	comp=Z,0.1nm,0.3s,baz=177,slow=23,SNR=5.1						
HFS	**Hagfors**	**7.28**	**253**	Pn	**Pn**	**10 41 10.7**	**+1.2**
	comp=Z,0.2nm,0.3s,baz=66,slow=14,SNR=3.2						
NOA	**NORSAR Array B**	**7.99**	**263**	Pn	**Pn**	**10 41 20.2**	**+0.9**
	comp=Z,0.1nm,0.3s,baz=102,slow=18,SNR=1.6						

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*IDC **02** 10:50:28.9±1.0, 51.°31N×96.°25E, h0^{km}, mb3.7/3, mb1 3.5/6, mb1mx3.2/71, mbtmp3.5/6, ML2.7/3, Error ellipse: s-maj=39.1km s-min=11.3km az=176.0*
*ASRS **02** 10:50:30.4±0.6, 51.°75N×95.°98E, h15^{km}, Ms3.1/1*
*MOS **02** 10:50:31.0±1.0, 51.°58N×96.°01E, h15^{km}, mb4.0/4, Error ellipse: s-maj=11.9km s-min=9.5km az=21.8*
ISC 02 10:50:31.9±0.7**, 51.°56N**±0.°07×**95.°95E**±0.°04**, h10^{km}, n40, σ2^{s}63**/49**, mb3.8**/4**, 5C-4D, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KZLR	**Kyzyl**	**0.94**	**279**	*e*Pg	**Pg**	**10 50 48.4**	**-1.6**
KZLR				*e*Sg	**Sg**	**10 51 01.0**	**-1.3**
KZLR	**Kyzyl**	**0.94**	**279**	*e*PG	**Pg**	**10 50 47.8**	**-2.2**
KNGR	**Kungurtug, Tuv**	**1.38**	**134**	*i* PG	**Pn**	**10 50 56.1**	**-1.2**
HVS	**Khovu-Aksy**	**1.47**	**254**	*c i*PG	**Pn**	**10 50 58.4**	**-0.2**
ARDR	**Aradan**	**1.86**	**304**	*e*PN	Pn	10 50 55.6	-8.3
ORL	**Orlik**	**2.58**	**66**	*e*PN	**Pn**	**10 51 14.2**	**+0.4**
ORL				*e*		10 51 46.5	
ORL				pmax	pmax		
	comp=Z,86nm,0.4s						
ORL				smax	smax		
	comp=N,839nm,0.7s						
CERR	**Cheremushki**	**3.08**	**297**	*e*Pn	**Pn**	**10 51 21.4**	**+0.9**
CERR				*e*Pg	**Pb**	**10 51 25.7**	**-1.0**
CERR				*e*Sg	**Sb**	**10 52 05.2**	**+0.9**
MOY	**Mondy**	**3.15**	**86**	*e*PN	**Pb**	**10 51 25.0**	**-2.9**
MOY				*e*		10 52 06.1	
MOY				pmax	pmax		
	comp=Z,201nm,0.5s						
MOY				smax	smax		
	comp=N,743nm,1.1s						
ABNR	**Abakan**	**3.50**	**310**	*de*PN	**Pn**	**10 51 26.9**	**+0.6**
ARS	**Arshan**	**4.04**	**82**	*e*PN	**Pb**	**10 51 41.8**	**-1.3**
ARS				*e*		10 52 32.2	
ARS				pmax	pmax		
	comp=Z,59nm,0.9s						
ARS				smax	smax		
	comp=E,911nm,0.6s						
ZAK	**Zakamensk**	**4.78**	**101**	*e*PG	Pg	10 52 09.4	+6.0
ZAK				*e*		10 53 13.2	
ZAK				pmax	pmax		
	comp=Z,43nm,0.6s						
ZAK				smax	smax		
	comp=N,202nm,1.1s						
LUZB	**Luzhba, Kemero**	**4.78**	**299**	*e*PN	**Pn**	**10 51 44.9**	**+0.9**
TLY	**Talaya**	**4.79**	**86**	Pg	Pb	10 51 50.4	-5.5
	comp=N,0.0nm,0.3s,baz=278,slow=11,SNR=2.9						
TLY				Lg	Lg	10 52 55.5	
	comp=N,0.2nm,0.3s,baz=140,slow=10,SNR=12						
TLY	**Talaya**	**4.79**	**86**	*e*PN	**Pb**	**10 51 55.4**	**-0.6**
TLY				*e*		10 52 55.3	
TLY				pmax	pmax		
	comp=Z,21nm,0.5s						
KRAR	**Krasnoyarsk**	**4.82**	**339**	*ce*PN	**Pn**	**10 51 43.8**	**-0.6**
TASR	**Tashtagol**	**5.11**	**287**	*e*Pn	**Pn**	**10 51 50.6**	**+2.1**
TASR				*e*Pg	**Pb**	**10 52 02.9**	**+1.6**
TASR				*e*Sg	**Sg**	**10 53 10.4**	**-5.5**
IRK	**Irkutsk**	**5.20**	**79**	*e*PN	**Pb**	**10 52 02.3**	**-0.5**
IRK				*e*		10 53 06.2	
IRK				pmax	pmax		
	comp=Z,101nm,0.1s						
IRK				smax	smax		
	comp=N,515nm,0.6s						
ARTR	**Artybash**	**5.40**	**276**	*e*Pn	**Pn**	**10 51 53.8**	**+1.4**
ARTR				*e*Pg	**Pb**	**10 52 07.7**	**+1.4**
ARTR				*e*Sg	**Sb**	**10 53 16.0**	**+5.0**
AKAR	**Aktash**	**5.41**	**260**	*e*Pn	**Pn**	**10 51 55.2**	**+2.5**
AKAR				*e*Pg	**Pg**	**10 52 11.7**	**-3.7**
AKAR				*e*Sg	**Sb**	**10 53 17.6**	**+6.0**
DGZ	**Jazzator, Alta**	**5.73**	**254**	*ce*PN	**Pn**	**10 51 57.5**	**+0.4**
ELT	**Eltsovka**	**6.18**	**290**	*e*Pn	**Pn**	**10 52 03.6**	**+0.5**
ELT				*e*Pg	**Pb**	**10 52 19.5**	**-0.1**
ELT				*e*Sg	**Sb**	**10 53 40.7**	**+7.2**
TRG	**Tyrgan**	**6.51**	**75**	*e*PN	**Pn**	**10 52 08.2**	**+0.5**
TRG				*e*		10 52 26.0	
UKR	**Ust'-Kan**	**7.05**	**269**	*e*Pn	**Pn**	**10 52 17.1**	**+2.0**
UKR				*e*Pg	Pb	10 52 39.7	+5.4
UKR				*e*Sg	**Sg**	**10 54 09.5**	**-8.4**
ZALV	**Zalesovo Beam**	**7.17**	**294**	Pn	**Pn**	**10 52 18.3**	**+1.7**
	comp=N,0.5nm,0.3s,baz=99,slow=11,SNR=7.3						
ZALV				Lg	Lg	10 54 10.4	
	comp=N,2.9nm,0.3s,baz=106,slow=26,SNR=9.7						
OGRR	**Ongureny**	**7.39**	**69**	*e*P	**Pn**	**10 52 19.9**	**+0.1**
OGRR				pmax	pmax		
	comp=Z,9.0nm,0.5s						
SONM	**Songino Array**	**7.73**	**115**	Pg	**Pb**	**10 52 46.7**	**+0.7**
	comp=Z,1.2nm,0.3s,baz=304,slow=18,SNR=28						
SONM				Lg	Lg	10 54 30.5	
	comp=Z,1.2nm,0.3s,baz=302,slow=17,SNR=6.5						
ULN	**Ulaanbaatar**	**8.09**	**113**⇑	*e*P	**Pn**	**10 52 29.9**	**+0.4**
NVS	**Novosibirsk**	**8.31**	**298**	*e*Pg	**Pb**	**10 52 57.2**	**+1.5**
NVS				*e*Sg	Sg	10 54 46.7	-12
MKAR	**Makanchi Array**	**10.13**	**247**	Pn	**Pn**	**10 52 56.5**	**-0.8**
	comp=Z,0.1nm,0.3s,baz=70,slow=14,SNR=3.4						
MKAR				Lg	Lg	10 55 46.8	
	comp=Z,0.5nm,0.3s,baz=62,slow=19,SNR=4.1						
MKAR	**Makanchi Array**	**10.13**	**247**	*i* P	**Pn**	**10 53 01.5**	**+4.1**
KURK	**Kurchatov**	**10.93**	**272**	*de*P	**Pn**	**10 53 10.1**	**+2.0**
KURBB	**Kurchatov Arra**	**11.00**	**272**	Pn	**Pn**	**10 53 10.9**	**+1.8**
	comp=Z,0.1nm,0.3s,baz=76,slow=15,SNR=5.1						
KURBB				Lg	Lg	10 56 15.1	
	comp=Z,0.3nm,0.3s,baz=85,slow=33,SNR=4.7						
BVAR	**Borovoye Array**	**15.69**	**285**	Pn	**Pn**	**10 54 14.3**	**+1.5**
	comp=Z,0.2nm,0.3s,baz=104,slow=10,SNR=5.1						
BRVK	**Borovoye**	**15.75**	**286**	*ce*P	**P**	**10 54 15.6**	**-1.9**
YAK	**Yakutsk**	**20.98**	**47**	*e*P	**P**	**10 55 14.1**	**-0.7**
YAK				pmax	pmax		
	comp=Z,4.0nm,0.7s						
ARU	**Arti**	**22.31**	**297**	P	**P**	**10 55 31.0**	**+1.8**
	comp=Z,2.5nm,0.5s,baz=99,slow=13,SNR=2.8						
ARU	**Arti**	**22.31**	**297**	*d i*P	**P**	**10 55 31.1**	**+1.8**
ARU						10 55 53.8	
ARU				SS	Sn	11 00 08.8	+23
ARU				pmax	pmax		
	comp=Z,10.0nm,1.7s						
AKTO	**Aktyubinsk**	**23.73**	**282**	P	**P**	**10 55 43.9**	**0.0**
	comp=Z,1.4nm,0.6s,baz=100,slow=10,SNR=6.8						
TIXI	**Tiksi**	**24.91**	**24**⇓	*e*P	**P**	**10 55 54.4**	**-0.1**
TIXI				pmax	pmax		
	comp=Z,2.0nm,0.4s						
TORD	**Torodi Ar. Bea**	**82.45**	**281**	P	**P**	**11 02 54.0**	**-0.5**
	comp=Z,0.3nm,0.6s,baz=43,slow=5.1,SNR=2.8						

MEX 02 10:58:51.4±0.5**, 16.°10N×98.°77W, h16^{km}**±92^{km}**, MD3.9, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.69**	**64**	*i* P	Pg	10 59 02.3	-2.5
PNIG				*e*S	Sg	10 59 11.0	-3.0
TLIG	**Tlapa**	**1.47**	**8**	*e*P	Pn	10 59 13.6	-3.8
TLIG				*e*S	Sn	10 59 31.3	-5.1
VHO	**Vista Hermosa**	**2.18**	**63**	*e*P	Pn	10 59 24.9	-2.3
VHO				*e*S	Sb	10 59 57.1	-0.4
HUIG	**Huatulco**	**2.58**	**97**	*e*P	Pb	10 59 38.2	+0.9

IDC 02 11:19:05.2±3.3**, 6.°18S×154.°43E, h0^{km}, mb3.4**/2**, mb1 3.8**/3**, mb1mx3.4**/45**, mbtmp3.6**/3**, ML3.3**/1**, MS3.2**/2**, Ms1 3.2**/2**, ms1mx2.6**/22**, Error ellipse: s-maj=150.4km s-min=44.6km az=122.0, Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.35**	**121**	LR	LR	11 23 27.9	
	comp=Z,206nm,18.7s,baz=221,slow=41						
PMG	**Port Moresby**	**7.89**	**246**	LR	LR	11 24 43.3	
	comp=Z,123nm,18.2s,baz=312,slow=43						
CTA	**Charters Tower**	**15.95**	**209**	Pn	P	11 22 53.0	-1.9
	0.1nm,0.3s,baz=28,slow=15,SNR=3.9						
WRA	**Warramunga Arr**	**23.84**	**233**	P	P	11 24 19.5	-0.8
	2.1nm,1.0s,baz=58,slow=9.6,SNR=7.2						
ASAR	**Alice Springs**	**26.31**	**226**	P	P	11 24 43.0	+0.1
	0.4nm,0.9s,baz=62,slow=10,SNR=4.3						
TORD	**Torodi Ar. Bea**	**152.26**	**287**	PKPbc	PKPbc	11 39 04.1	0.0
	0.5nm,0.9s,baz=78,slow=4.1,SNR=2.7						

MAN 02 11:21:27, 12.°58N×125.°45E, h23^{km}, mb4.4, ML3.2, MS2.9, 1C, Samar

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CNP	**Catarman**	**0.77**	**265**	*e*P	Pn	11 21 42.9	+0.4
BESP	**Borongan**	**0.97**	**181**	*e*P	Pb	11 21 45.1	0.0
BESP				*e*S	Sn	11 21 59.6	+1.4
PLP	**Palo**	**1.48**	**198**⇑	*e*P	Pn	11 21 51.6	-0.6
PLP				*e*S	Sb	11 22 12.1	-0.1

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
PVCP	Virac	1.62	309	eP	Pn	11 21 54.7	+0.5
MSLP	Maasin	2.49	194	eP	Pb	11 22 09.1	-2.0
MSLP				eS	Sb	11 22 42.9	+1.5

TAP 02 12:01:03.3,23°.10N×120°.68E,h13km,ML1.7,C,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SLGT	Liugui	0.11	197	P	Pb	12 01 07.1	-0.1
	baz=197						
SLGT				S	Sb	12 01 09.7	-0.1
	baz=197						
WTP	Ta-pu	0.16	338	eP	Pb	12 01 07.9	-0.3
	baz=341						
WTP				eS	Sb	12 01 11.5	0.0
	baz=341						
CHN1	Nanshi	0.17	303	eP	Pb	12 01 08.2	0.0
	baz=311						
CHN1				eS	Sb	12 01 11.4	-0.1
	baz=311						
ALS	Alishan	0.43	16	eP	Pb	12 01 12.5	-0.4
	baz=17						
WGK	Gukeng	0.60	350	eS	Sg	12 01 23.3	+0.4
	baz=3.0						
WGK	Gukeng	0.60	350	eS	Sg	12 01 23.3	+0.4
	baz=327						

TAP 02 12:01:16.1,23°.58N×120°.64E,h9km,ML1.2,B,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CHN5	Tsauling	0.04	59	eP	Pg	12 01 18.2	+0.3
	baz=57						
CHN5				eS	Sg	12 01 19.8	+0.6
	baz=57						
WDLH	Douliu	0.15	319	eS	Sg	12 01 23.4	+1.9
	baz=317						
ALS	Alishan	0.16	114	P	Pg	12 01 20.7	+1.0
	baz=114						
ALS				eS	Sg	12 01 23.9	+1.7
	baz=114						
CHN4	Tsaushan	0.23	192	eP	Pg	12 01 21.9	+1.1
	baz=204						
CHN4				eS	Sg	12 01 26.7	+2.8
	baz=204						
WTP	Ta-pu	0.33	185	eP	Pb	12 01 23.6	-0.7
	baz=185						
WTP				eS	Sb	12 01 29.9	+0.1
	baz=185						
TWK	Hsinying	0.34	205	eP	Pb	12 01 24.1	-0.3
	baz=204						
TWK				eS	Sb	12 01 30.0	0.0
	baz=204						
SSLB	Suanglung	0.35	54	eP	Pb	12 01 24.1	-0.6
	baz=53						
SSLB				eS	Sb	12 01 29.5	-0.9
	baz=53						
CHN1	Nanshi	0.41	195	eP	Pb	12 01 25.4	-0.1
	baz=197						
CHN1				eS	Sb	12 01 32.2	+0.4
	baz=197						
YULB	Yu-li	0.63	107	eP	Pb	12 01 29.2	-0.1
	baz=107						

MEX 02 12:09:08.5±0.3,15°.44N×92°.86W,h83km±16km,MD3.5, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PCIG		0.43	307	eP	Pn	12 09 20.8	-1.3
PCIG				eS	Sn	12 09 30.3	-1.8
CCIG	Comitan	1.09	40	eP	Pn	12 09 27.7	-1.3
TGIG		1.35	349	eP	Pn	12 09 30.9	-1.3
TGIG				eS	Sn	12 09 46.8	-3.2

IDC 02 12:21:40.8±9.2,4°.23S×153°.29E,h114km±63km,mb3.2/3, mb1 3.4/4,mb1mx3.1/45,mbtmp3.7/4,Error ellipse: s-maj=103.3km s-min=39.1km az=105.0,New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	7.97	229	P	Pn	12 23 34.6	+0.7
	2.7nm,0.3s,baz=56,slow=8.2,SNR=8.9						
PMG				S	Sn	12 25 02.5	0.0
	0.7nm,0.3s,baz=131,slow=19,SNR=5.9						
WRA	Warramunga Arr	24.19	228	P	P	12 26 47.4	+0.6
	2.2nm,0.5s,baz=54,slow=10.0,SNR=40						
ASAR	Alice Springs	26.90	222	P	P	12 27 10.6	-0.8
	0.2nm,0.6s,baz=56,slow=9.0,SNR=2.6						
KURBB	Kurchatov Arra	83.65	322	P	P	12 33 56.2	-0.4
	0.1nm,0.4s,baz=98,slow=3.6,SNR=2.3						
TORD	Torodi Ar. Bea	150.59	289	PKPbc	PKPbc	12 41 20.6	+0.2
	0.3nm,0.6s,baz=67,slow=2.9,SNR=2.4						

IDC 02 12:23:48.4±626.0,47°.91N×48°.61E,h0km,Error ellipse: s-maj=208.4km s-min=134.0km az=57.0,Western Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
I31KZ	AKTYUBINSK INF	6.67	64	i		13 05 30.0	
	baz=252,slow=324,SNR=4.1						
I43RU	DUBNA INFRASON	11.23	326	i		13 34 40.0	
	baz=137,slow=327,SNR=0.7						
I46RU	ZALESOVO INFRA	23.42	61	i		14 56 10.8	
	baz=271,slow=320,SNR=1.4						

CSEM 02 12:24:52.6,38°.48N×27°.09W,h10km,ML2.6
PDA 02 12:24:52.6±1.1,38°.48N×27°.09W,h10km,MD3.5,ML2.6, 2D,Error ellipse: s-maj=4.9km s-min=1.7km az=31.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ADH	Angra Heroismo	0.21	326	⇓iP	Pg	12 24 55.9	-1.1
ADH				eS	Sg	12 25 00.1	+0.1
ADH				A	A	12 25 05.1	
	674nm,0.4s						
ADH	Angra Heroismo	0.21	326	⇓iP	Pg	12 24 55.9	-1.1
ADH				eS	Sg	12 25 00.1	+0.1
PMAN	Manadas	0.80	281	eS	Sg	12 25 14.6	-3.9
PMAN				A	A	12 25 30.4	
	184nm,0.5s						
PMAN	Manadas	0.80	281	eS	Sg	12 25 14.6	-3.9
PICO	Pico	1.05	272	eP	Pg	12 25 08.7	-4.1
PICO				eS	Sg	12 25 20.9	-5.6
PICO				A	A	12 25 28.2	
	73nm,0.3s						
PICO	Pico	1.05	272	eP	Pg	12 25 08.7	-4.1
PICO				eS	Sg	12 25 20.9	-5.6
PCAN	Candelaria	1.10	270	eS	Sg	12 25 22.1	-5.9
PCAN				A	A	12 25 23.9	
	38nm,0.1s						
PCAN	Candelaria	1.10	270	eS	Sg	12 25 22.1	-5.9
PSET	Sete Cidades	1.26	121	eP	Pn	12 25 11.1	-5.2
PSET				eS	Sb	12 25 26.1	-6.6
PSET				A	A	12 25 32.8	
	67nm,0.4s						
PSET	Sete Cidades	1.26	121	eP	Pn	12 25 11.1	-5.2
PSET				eS	Sb	12 25 26.1	-6.6
CALA	Caldeira	1.27	275	eS	Sb	12 25 26.3	-6.8
CALA	Caldeira	1.27	275	eS	Sb	12 25 26.3	-6.8
PCED	Cedros	1.28	277	eS	Sb	12 25 26.1	-7.1
PCED				A	A	12 25 27.0	
	35nm,0.3s						
PCED	Cedros	1.28	277	eS	Sb	12 25 26.1	-7.1
PDA	Ponta Delgada	1.34	123	eS	Sb	12 25 28.0	-7.0
PDA	Ponta Delgada	1.34	123	eS	Sb	12 25 28.0	-7.0
CMLA	Cha da Macela	1.42	120	eP	Pn	12 25 13.8	-4.7
CMLA				eS	Sn	12 25 30.1	-7.2
CMLA				A	A	12 25 33.8	
	63nm,0.4s						
CMLA	Cha da Macela	1.42	120	eP	Pn	12 25 13.8	-4.7
CMLA				eS	Sn	12 25 30.1	-7.2
BART	Pico Bartolome	1.67	114	eP	Pn	12 25 16.9	-5.0
BART				eS	Sn	12 25 35.8	-7.6
BART				A	A	12 25 39.9	
	13nm,0.2s						
BART	Pico Bartolome	1.67	114	eP	Pn	12 25 16.9	-5.0
BART				eS	Sn	12 25 35.8	-7.6
PSMA	Santa Maria	2.15	133	eS	Sn	12 25 47.3	-7.8
PSMA				A	A	12 25 48.3	
	13nm,0.1s						
PSMN	Pico do Norte,	2.18	132	eP	Pn	12 25 24.4	-4.5
PSMN				eS	Sn	12 25 48.0	-7.9
PSMN				A	A	12 25 49.1	
	6.1nm,0.2s						
PSMN	Pico do Norte,	2.18	132	eP	Pn	12 25 24.4	-4.5
PSMN				eS	Sn	12 25 48.0	-7.9

MAN 02 12:25:10,9°.84N×122°.84E,h17km,mb4.5,ML3.4,MS3.2, 2C,Negros

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SNPH	Sibulan	0.63	142	eP	Pb	12 25 22.8	+0.1
SNPH				eS	Sg	12 25 31.1	+0.1
GUIM	Jordan	0.81	343	eP	Pn	12 25 26.9	+0.2
GUIM				eS	Sn	12 25 39.4	+0.9
DCPH	Dipolog City	1.35	158	⇑eP	Pb	12 25 34.5	-0.4
DCPH				eS	Sg	12 25 53.2	-0.5
MSLP	Maasin	2.01	82	eP	Pn	12 25 44.2	+1.0
MSLP				eS	Sb	12 26 10.0	-0.9
SCPH	Surigao	2.61	91	⇑eP	Pg	12 26 09.5	+9.3
SCPH				eS	Sn	12 26 19.3	-3.6

SOME 02 12:28:48.2,44°.60N×82°.18E,h15km
NNC 02 12:28:49.9±1.8,44°.77N×81°.86E,h0km,mb3.0,mpv2.6, Error ellipse: s-maj=34.3km s-min=6.7km az=118.0
ISC 02 12:28:53.4±2.7,44°.7N±0°.1×82°.5E±0°.2,h35km,n7, σ2s59/11,2C-4D,Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MK31	Makanchi Array	2.07	356	⇓Pn	Pn	12 29 25.8	+0.1
	1.8nm,0.2s,baz=182,slow=14,SNR=194						
MK31				⇑Lg	Lg	12 29 53.9	
	2.3nm,0.2s,baz=186,slow=28,SNR=29						
MAKZ	Makanchi	2.11	350	⇓Pn	Pn	12 29 26.0	-0.2
	0.9nm,0.2s						
MAKZ				⇓Lg	Lg	12 29 54.1	
	5.7nm,0.5s						
KAPS	Kapalarasan	2.29	285	eP	Pn	12 29 26.1	-2.7
	3.3nm,0.1s						
KAPS				eS	Sn	12 29 53.0	-2.9
	7.2nm,0.4s						
PDGK	Podgornoye	2.58	238	⇓Pg	Pn	12 29 30.1	-2.7
	0.5nm,0.2s						
PDGK				⇑Lg	Lg	12 30 02.1	
	7.8nm,0.5s						
MNBS	Baschi	3.01	259	eP	Pn	12 29 38.8	+0.2
	3.7nm,0.2s						
MNBS				eS	Sn	12 30 15.1	+1.6
	13nm,0.2s						
KPKS	Kokpek	3.02	247	eP	Pn	12 29 37.8	-1.1
	2.6nm,0.1s						
KPKS				eS	Sn	12 30 13.6	-0.3
	18nm,0.4s						
CHKK	Chushkaly	4.05	259	eP	Pn	12 29 55.5	+2.6
	0.8nm,0.2s						
CHKK				eS	Sn	12 30 43.6	+4.5
	3.9nm,0.3s						

IDC 02 12:29:08.0±4.2,2°.53S×132°.15E,h0km,mb3.8/4, mb1 3.9/5,mb1mx3.6/48,mbtmp3.8/5,ML3.9/1,Error ellipse: s-maj=317.2km s-min=23.7km az=75.0
ISCJB 02 12:29:13.9±0.7,2°.85S±0°.07×130°.62E±0°.06,h24km, mb3.7/3,Error ellipse: s-maj=11.2km s-min=6.4km az=140.3
DJA 02 12:29:16.0±1.2,3°S±4°×13°1E±°,h25km±11km,M3.7/9, MLv3.7/9
ISC 02 12:29:14.0±0.8,2°.95S±0°.06×130°.59E±0°.04,h24km,n14, σ2s20/18,mb3.9/3,Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FAKI	Fak Fak	1.66	89	P	Pb	12 29 44.4	+0.5
FAKI				S	Sb	12 30 06.3	+1.9
MSAI	Masohi	1.71	257	P	Pb	12 29 44.5	-0.3
MSAI				S	Sb	12 30 06.3	+0.5
BNDI	Bandanaira	1.71	204	P	Pb	12 29 45.8	+1.0
SWI	Sorong	2.17	18	P	Pn	12 29 48.7	-0.1
SWI				S	Sn	12 30 13.7	-1.3
AAI	Ambon	2.50	253	P	Pn	12 29 55.0	+1.7
NLAI	Namlea	3.50	265	P	Pn	12 30 09.5	+2.5
LBMI	Labuha	3.85	307	P	Pn	12 30 11.8	0.0
RKPI	Ransiki, Papua	3.86	68	P	Pn	12 30 13.5	+1.6
SANI	Sanana	4.68	281	P	Pn	12 30 24.1	+0.8
WRA	Warramunga Arr	17.29	168	P	Pn	12 33 11.3	-2.6
	0.4nm,0.3s,baz=350,slow=13,SNR=22						
WRA				S	Sn	12 36 12.8	-13
	0.1nm,0.3s,baz=347,slow=23,SNR=3.2						
ASAR	Alice Springs	20.85	171	P	P	12 33 55.0	+0.7
	4.9nm,0.5s,baz=351,slow=10,SNR=139						
ASAR				S	S	12 37 39.4	-6.4
	0.3nm,0.7s,baz=347,slow=25,SNR=2.8						
MKAR	Makanchi Array	65.21	326	P	P	12 39 55.3	+1.8
	0.4nm,0.4s,baz=127,slow=7.1,SNR=6.1						
ZALV	Zalesovo Beam	68.25	333	P	P	12 40 12.3	-0.4
	0.4nm,0.5s,baz=108,slow=7.7,SNR=2.7						
KURBB	Kurchatov Arra	69.41	328	P	P	12 40 21.0	+1.0
	1.0nm,1.0s,baz=125,slow=5.2,SNR=4.6						

IDC 02 12:36:23.7±1.7,10°.05S×116°.77E,h0km,mb3.5/5, mb1 3.6/7,mb1mx3.4/51,mbtmp3.5/7,ML3.2/2,Error ellipse: s-maj=62.5km s-min=19.7km az=41.0
ISCJB 02 12:36:26.1±0.8,10°.68S±0°.07×116°.51E±0°.05,h33km, mb3.5/5,Error ellipse: s-maj=10.2km s-min=6.1km az=23.2
DJA 02 12:36:29.5±1.1,10°S±7°×11°7E±°,h29km±16km,M4.2/12, mb4.5/2,MLv4.1/12
ISC 02 12:36:27.2±1.0,10°.64S±0°.09×116°.58E±0°.06,h35km,n16, σ2s36/21,mb3.6/4,South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TWSI	Taliwang, Sumb	1.91	9	P	Pn	12 36 57.6	+0.3
PLAI	Plampang	2.15	33	P	Pn	12 37 02.1	+1.5
PLAI				S	Sn	12 37 25.1	-1.0
IGBI	Denpasar	2.29	322	P	Pn	12 37 03.4	+0.9
SRBI	Singaraja	2.87	332	P	Pn	12 37 12.1	+1.6
SRBI				S	Sn	12 37 45.0	+1.2
WBSI	Waikabubak, Su	2.94	71	P	Pn	12 37 13.5	+2.0
WBSI				S	Sn	12 37 48.5	+2.8
JAGI	Jajag, Banyuwa	3.22	312	P	Pn	12 37 15.6	+0.3
WSI	Waingapu	3.79	76	P	Pn	12 37 24.8	+1.7
PWJI	Pagerwojo	5.38	298	P	Pn	12 37 45.6	+0.6
EDFI	Ende, Flores	5.38	70	P	Pn	12 37 47.3	+2.2
BATI	Baumata	6.99	87	Pn	Pn	12 38 04.0	-3.1
	0.2nm,0.3s,baz=289,slow=18,SNR=1.8						
BATI				Sn	Sn	12 39 23.1	-2.3
	1.7nm,0.3s,baz=287,slow=14,SNR=3.0						
WRA	Warramunga Arr	19.46	120	P	Pn	12 40 54.0	+1.5
	0.1nm,0.3s,baz=291,slow=12,SNR=8.8						
WRA				S	S	12 44 17.9	-11
	0.1nm,0.3s,baz=284,slow=24,SNR=3.5						
ASAR	Alice Springs	20.99	130	P	P	12 41 11.8	+4.0
	0.9nm,0.7s,baz=308,slow=9.2,SNR=19						
ASAR				S	S	12 44 54.4	-5.5
	0.1nm,0.7s,baz=309,slow=24,SNR=3.0						
SONM	Songino Array	58.91	352	P	P	12 46 21.8	-1.1
	0.2nm,0.4s,baz=152,slow=7.4,SNR=2.8						
MKAR	Makanchi Array	64.86	335	P	P	12 47 01.8	-1.0
	0.4nm,0.7s,baz=148,slow=7.0,SNR=4.9						
KURBB	Kurchatov Arra	69.40	335	P	P	12 47 30.5	-0.9
	0.3nm,0.6s,baz=145,slow=5.5,SNR=5.7						
ZALV	Zalesovo Beam	69.75	341	P	P	12 47 31.1	-2.4
	0.4nm,0.6s,baz=164,slow=7.0,SNR=2.7						

MAN 02 12:44:45,10°.22N×123°.18E,h1km,mb4.2,ML3.0,MS2.7, 1C,Cebu

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GUIM	Jordan	0.70	305	eP	Pg	12 44 58.6	+0.1
GUIM				eS	Sb	12 45 09.6	-0.7
LLP	Lapu-Lapu	0.79	83	eP	Pg	12 45 00.1	0.0
LLP				eS	Sb	12 45 12.1	-0.5
SNPH	Sibulan	0.87	176	eP	Pg	12 45 01.9	+0.1
MSLP	Maasin	1.66	93	eP	Pn	12 45 15.8	+0.5
MSLP				eS	Sg	12 45 38.6	+0.2
BIPH	Bislig	3.74	122	⇑iP	Pg	12 46 09.9	+13
BIPH				i S	Sn	12 46 20.4	-8.2

IDC 02 12:49:22.9±8.5,5°.05S×129°.13E,h281km±88km,mb2.6/1, mb1 2.4/3,mb1mx2.2/53,mbtmp3.0/3,Error ellipse: s-maj=105.1km s-min=21.9km az=55.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BATI	Baumata	7.46	226	P	Pn	12 51 09.6	-0.1
	6.1nm,0.3s,baz=76,slow=4.7,SNR=7.6						
WRA	Warramunga Arr	15.65	162	P	P	12 52 48.8	+0.6
	0.1nm,0.3s,baz=342,slow=12,SNR=6.3						
WRA				S	S	12 55 40.5	+1.8
	0.0nm,0.3s,baz=338,slow=20,SNR=3.0						
ASAR	Alice Springs	19.07	167	P	P	12 53 25.1	-0.2
	0.0nm,0.3s,baz=344,slow=11,SNR=2.6						
MKAR	Makanchi Array	66.13	327	P	P	12 59 40.5	0.0
	0.3nm,1.0s,baz=123,slow=5.3,SNR=2.1						

ISCJB 02 12:53:00.5±0.5,38°.96N±0°.03×141°.77E±0°.07,h71km±3km, mb3.9/20,Error ellipse: s-maj=8.8km s-min=5.0km az=15.1
NIED 02 12:53:00,39°.00N×141°.80E,h65km,Mw3.9 Best double couple: M₀8.87000×10¹⁴ NP1:φs336.00000°,δ25.00000°, λ47.00000°. NP2:φs202.00000°,δ72.00000°,λ107.00000°.
IDC 02 12:53:01.0±0.7,38°.89N×141°.68E,h62km±5km,mb3.7/19, mb1 3.9/22,mb1mx3.7/66,mbtmp4.0/22,MS2.7/5, Ms1 2.7/5,ms1mx2.4/61,Error ellipse: s-maj=13.9km s-min=9.5km az=104.0
JMA 02 12:53:01.6,38°.97N×141°.72E,h66km±1km,M4.0 Broadband fault plane solution: P waves. NP1: φs210.00000°,δ88.00000°,λ99.00000°. NP2: φs310.00000°,δ9.00000°,λ10.00000°. Principal axes: T Plg46.0000°, Azm129.0000°; N Plg9.0000°, Azm30.0000°; P Plg43.0000°, Azm292.0000°;
JMA Felt II J1.
ISC 02 12:53:01.5±0.6,38°.95N±0°.04×141°.79E±0°.07,h62km±5km, n51,σ1s36/59,mb4.1/22,11C,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OFUJ	Ofunato	0.16	323	⇑P	Pn	12 53 11.6	+0.6
OFUJ				S	Sn	12 53 18.6	+0.7
JMK	Ichinoseki	0.45	270	⇑P	Pn	12 53 13.1	+0.1
JMK				S	Sn	12 53 21.4	-0.1
JIO	Ouri	0.61	215	⇑P	Pn	12 53 15.0	+0.2
JIO				S	Sn	12 53 24.5	0.0
JOM	Ohasama	0.65	323	⇑P	Pn	12 53 15.3	+0.1
JOM				S	Sn	12 53 25.4	+0.1
JRG	Rokugo	1.00	297	⇑P	Pn	12 53 19.3	-0.3
JRG				S	Sn	12 53 32.6	-0.5
JOU	Okura	1.06	237	⇑P	Pn	12 53 20.3	-0.1
JOU				S	Sn	12 53 34.4	0.0
JYK	Kaneyama	1.12	269	⇑P	Pn	12 53 21.0	-0.1
JYK				S	Sn	12 53 35.6	-0.1
JMM	Marumori	1.34	216	⇑P	Pn	12 53 23.7	-0.3
JMM				S	Sn	12 53 40.3	-0.7
JANG	Nango	1.43	352	⇑P	Pn	12 53 25.0	-0.3
JANG				eS	Sn	12 53 42.6	-0.6
JAH	Hinai	1.52	324	⇑P	Pn	12 53 26.9	+0.4
JAH				S	Sn	12 53 46.3	+1.0
JYS	Shirataka	1.54	242	⇑P	Pn	12 53 27.1	+0.4
JYS				S	Sn	12 53 45.3	-0.4
MAT	Matsushiro	3.72	231	P	Pn	12 53 59.1	+2.6
MAT				S	Sn	12 54 43.6	+4.5
MJAR	Matsushiro Arr	3.72	231	P	Pn	12 53 58.5	+2.0
	5.1nm,0.3s,baz=35,slow=11,SNR=68						
ASAJ	Asahikawa	5.19	6	P	Pn	12 54 16.4	-0.2
	1.9nm,0.3s,baz=233,slow=11,SNR=19						
ASAJ				S	Sn	12 55 13.3	-1.8
	1.9nm,0.3s,baz=196,slow=19,SNR=2.7						
JHJ	Hachijo jima 2	6.05	196	P	Pn	12 54 26.9	-1.3
	7.5nm,0.3s,baz=76,slow=18,SNR=4.9						
JHJ				S	Sn	12 55 31.1	-5.0
	7.0nm,0.3s,baz=49,slow=19,SNR=3.2						
USRK	Ussuriysk Ar.	9.02	309	P	Pn	12 55 09.6	+0.8
	0.8nm,0.3s,baz=113,slow=38,SNR=20						
JNU	Nakatsue	10.58	240	LR	LR	12 59 07.4	
	comp=Z,35nm,20.2s,baz=294,slow=35						
KSRS	Korea Array	11.02	267	P	Pn	12 55 40.2	+4.0
	0.4nm,0.3s,baz=82,slow=13,SNR=4.4						
KSRS				LR	LR	12 59 34.0	
	comp=Z,29nm,18.9s,baz=60,slow=36						
KLR	Kul'dur	12.54	328	P	Pn	12 55 57.1	+0.2
	0.0nm,0.3s,baz=135,slow=20,SNR=2.1						
KLR				LR	LR	13 00 12.6	
	comp=Z,4.7nm,19.1s,baz=122,slow=34						
MA2	Magadan	21.42	13	P	P	12 57 45.4	+1.5
	2.3nm,0.6s,baz=142,slow=17,SNR=3.4						
SEY	Seymchan	24.85	12	P	P	12 58 18.8	+1.0
	0.2nm,0.3s,baz=204,slow=20,SNR=2.0						
SONM	Songino Array	27.01	301	P	P	12 58 37.8	+0.3
	0.5nm,0.5s,baz=101,slow=7.6,SNR=3.9						
H11N2	WAKE ISLAND Hy	28.93	124	T	T	13 29 25.3	
	baz=317,slow=75,SNR=874						
H11N1	WAKE ISLAND Hy	28.94	124	T	T	13 29 24.5	
	baz=317,slow=75,SNR=682						
H11N3	WAKE ISLAND Hy	28.95	124	T	T	13 29 25.1	
	baz=317,slow=75,SNR=1288						
TLY	Talaya	29.34	308	LR	LR	13 10 44.4	
	comp=Z,25nm,18.6s,baz=82,slow=36						
H11S1	WAKE ISLAND Hy	29.70	126	T	T	13 30 22.7	
	baz=318,slow=76,SNR=201						
H11S3	WAKE ISLAND Hy	29.70	126	T	T	13 30 22.0	
	baz=318,slow=76,SNR=209						
H11S2	WAKE ISLAND Hy	29.72	126	T	T	13 30 22.9	
	baz=318,slow=76,SNR=138						
ZALV	Zalesovo Beam	40.87	311	P	P	13 00 36.2	-0.8
	3.2nm,0.7s,baz=89,slow=7.6,SNR=15						
ZALV				pP	pP	13 00 51.9	-0.8
	1.4nm,0.4s,baz=90,slow=7.0,SNR=4.4						
MKAR	Makanchi Array	43.38	300	P	P	13 00 56.7	-0.9
	3.8nm,0.7s,baz=86,slow=9.5,SNR=43						
MKAR				pP	pP	13 01 12.2	-1.3
	1.2nm,0.6s,baz=86,slow=11,SNR=4.7						
KURBB	Kurchatov Arra	45.08	307	P	P	13 01 10.0	-1.0
	3.8nm,0.7s,baz=81,slow=8.4,SNR=29						
KURBB				pP	pP	13 01 26.0	-1.0
	2.7nm,0.5s,baz=80,slow=8.2,SNR=6.4						
KDAK	Kodiak Island	45.48	43	P	P	13 01 14.5	+0.4
	4.7nm,0.7s,baz=257,slow=15,SNR=4.0						
ILAR	Eielson Array	47.72	33	P	P	13 01 32.0	+0.4
	1.4nm,0.7s,baz=264,slow=5.9,SNR=20						
BVAR	Borovoye Array	49.52	311	P	P	13 01 44.9	-0.7
	0.4nm,0.4s,baz=71,slow=6.2,SNR=3.2						
BVAR				pP	pP	13 02 00.7	-1.0
	1.1nm,0.6s,baz=38,slow=7.3,SNR=4.1						
INK	Inuvik	52.55	28	P	P	13 02 08.5	+0.6
	0.5nm,0.4s,baz=295,slow=6.8,SNR=14						
AKTO	Aktyubinsk	57.63	311	P	P	13 02 44.0	-0.8
	0.8nm,0.5s,baz=57,slow=13,SNR=3.7						
WRA	Warramunga Arr	59.00	188	P	P	13 02 53.7	-1.0
	3.1nm,0.5s,baz=6.7,slow=7.1,SNR=50						
YKA	Yellowknife Ar	62.00	31	P	P	13 03 14.9	+0.2
	0.2nm,0.7s,baz=300,slow=6.4,SNR=6.7						
YKA				pP	pP	13 03 32.6	+1.3
	0.2nm,0.5s,baz=302,slow=6.6,SNR=4.1						
ASAR	Alice Springs	62.73	188	P	P	13 03 19.4	-0.5
	1.1nm,0.6s,baz=3.5,slow=5.6,SNR=19						
GEYT	Alibeck	63.18	298	LR	LR	13 31 15.2	
	comp=Z,22nm,18.4s,baz=140,slow=36						
FINES	FINESS Array B	67.26	332	P	P	13 03 47.6	-1.3
	1.7nm,0.9s,baz=38,slow=9.2,SNR=2.9						
FINES				pP	pP	13 04 05.0	-0.7
	3.7nm,0.7s,baz=40,slow=10,SNR=3.9						
HFS	Hagfors	72.46	336	P	P	13 04 20.9	0.0
	14nm,1.3s,baz=59,slow=7.0,SNR=3.7						
HFS				pP	pP	13 04 37.8	-0.1
	2.6nm,0.6s,baz=37,slow=7.4,SNR=2.4						
NB2	NORSAR Subarra	72.53	337	P	pP	13 04 37.9	-0.5
	comp=Z,3.0nm,0.7s,baz=39,slow=6.2						
NOA	NORSAR Array B	72.53	337	pP	pP	13 04 36.9	-1.5
	comp=Z,2.3nm,0.7s,baz=38,slow=6.2,SNR=4.1						
AKASG	Malin Array Be	72.97	322	pP	pP	13 04 39.4	-1.7
	comp=Z,1.2nm,0.4s,baz=42,slow=6.6,SNR=5.0						
NVAR	Mina Array Bea	73.61	54	P	P	13 04 28.0	-0.3
	comp=Z,0.4nm,0.5s,baz=295,slow=5.8,SNR=5.4						

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res ISC
PDAR	Pinedale Array	76.11	46	P	P	13 04 43.1	+0.4
	comp=Z,0.5nm,0.6s,baz=250,slow=2.2,SNR=6.9						
GERES	GERESS Array B	81.24	328	pP	pP	13 05 27.7	-0.2
	comp=Z,0.6nm,0.6s,baz=64,slow=11,SNR=2.0						
TXAR	Lajitas Array	88.72	53	P	P	13 05 48.9	+0.4
	comp=Z,0.4nm,0.6s,baz=289,slow=3.0,SNR=6.7						
LPAZ	La Paz	145.44	58	PKPbc	PKPdf	13 12 31.9	-1.5
	comp=Z,0.8nm,0.5s,baz=360,slow=7.9,SNR=5.2						

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*ISCJB **02** 12:56:15.6±1.5, 35°.94N±0°.08×36°.08E±0°.05, h4km±6km, Error ellipse: s-maj=12.7km s-min=6.7km az=175.3*
*DDA **02** 12:56:15.7, 36°.01N×36°.03E, h9km, Ml2.8*
*CSEM **02** 12:56:15.7, 36°.01N×36°.03E, h9km, ML2.8*
ISC 02 12:56:14.6±1.7**, 35°.93N**±0°.10×**36°.04E**±0°.04**, h12**km±6km**, n18, σ0s.51**/26**, Jordan-Syria region**

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res ISC
YAYL	Yayladag	0.11	27	P	Pg	12 56 17.9	+0.2
YAYL	Yayladag	0.11	27	*i* P	Pg	12 56 17.9	+0.2
YAYL				*i* S	Sg	12 56 19.6	-0.4
YAYL	Yayladag	0.11	27	P	Pg	12 56 17.9	+0.2
YAYL				S	Sg	12 56 19.6	-0.4
KRTS	Karatas	0.84	320	*e*P	Pn	12 56 32.5	+0.2
KRTS				*e*S	Sn	12 56 44.7	+0.2
YURE	YUREGIR	0.95	340	*e*P	Pn	12 56 33.7	-0.2
YURE				*e*S	Sn	12 56 47.0	-0.4
YURE	YUREGIR	0.95	340	*i* P	Pg	12 56 32.5	-0.5
YURE	YUREGIR	0.95	340	P	Pg	12 56 32.5	-0.5
CEYT	Ceyhan	1.10	348	*e*P	Pb	12 56 35.8	+0.2
KUZU	Kuzuini	1.18	44	*i* P	Pb	12 56 37.7	+0.6
KUZU				*i* S	Sn	12 56 53.4	+0.2
KUZU	Kuzuini	1.18	44	P	Pb	12 56 37.7	+0.6
KUZU				S	Sn	12 56 53.4	+0.2
KARA	Karaisali	1.55	329	*e*P	Pb	12 56 43.6	+0.4
KOZT	Kozan	1.56	354	*e*P	Pn	12 56 42.4	+0.2
KIZK	Mersin	1.63	290	*e*P	Pb	12 56 45.7	+1.1
KERG	Konya-Eregli	2.14	314	*i* P	Pb	12 56 53.3	-0.1
KERG				*i* S	Sb	12 57 20.5	+0.6
KERG	Konya-Eregli	2.14	314	P	Pb	12 56 53.3	-0.1
KERG				S	Sb	12 57 20.5	+0.6
SURC	SANLIURFA_SURC	2.28	65	*i* S	Sb	12 57 23.1	-0.8
SURC	SANLIURFA_SURC	2.28	65	S	Sb	12 57 23.1	-0.8
TEKE	Tekeli-Mersin	2.38	276	*e*P	Pb	12 56 56.9	-0.6

IDC 02 13:15:48.5±12.0**, 4°.12S**×**153°.94E, h72**km±82km**, mb3.0**/2**, mb1 3.4**/3**, mb1mx3.0**/43**, mbtmp3.5**/3**, ML1.8**/1**, Error ellipse: s-maj=170.7km s-min=73.3km az=109.0, New Ireland region**

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res ISC
PMG	Port Moresby	8.54	232	P	Pn	13 17 48.8	-0.7
	0.6nm,0.3s,baz=74,slow=18,SNR=2.3						
WRA	Warramunga Arr	24.75	229	P	P	13 21 04.1	+0.5
	0.5nm,0.6s,baz=55,slow=10,SNR=13						
ASAR	Alice Springs	27.42	223	P	P	13 21 27.4	-0.3
	0.2nm,0.8s,baz=53,slow=9.0,SNR=3.6						
TORD	Torodi Ar. Bea	151.16	290	PKPbc	PKPbc	13 35 34.2	-0.5
	0.1nm,0.3s,baz=100,slow=3.3,SNR=2.8						

IDC 02 13:27:39.3±4.2**, 4°.05S**×**153°.04E, h0**km**, mb3.1**/2**, mb1 3.4**/2**, mb1mx3.2**/44**, mbtmp3.1**/2**, MS3.7**/1**, Ms1 3.7**/1**, ms1mx2.6**/20**, Error ellipse: s-maj=214.7km s-min=47.7km az=120.0, New Ireland region**

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res ISC
CTA	Charters Tower	17.26	202	LR	LR	13 38 01.7	
	comp=Z,272nm,21.5s,baz=248,slow=36						
WRA	Warramunga Arr	24.12	228	P	P	13 32 58.3	+1.2
	0.3nm,0.5s,baz=55,slow=10,SNR=6.7						
ASAR	Alice Springs	26.86	222	P	P	13 33 21.6	-0.4
	0.4nm,1.0s,baz=57,slow=8.9,SNR=3.0						
TORD	Torodi Ar. Bea	150.29	290	PKPbc	PKPbc	13 47 32.7	-0.9
	0.3nm,0.9s,baz=94,slow=1.9,SNR=2.3						

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*ISCJB **02** 13:28:54.6±1.2, 4°.6S±0°.2×153°.7E±0°.2, h85km, mb3.5/5, Error ellipse: s-maj=42.4km s-min=12.7km az=44.4*
*IDC **02** 13:29:00.6±5.5, 4°.58S×153°.43E, h123km±43km, mb3.4/5, mb1 3.7/6, mb1mx3.3/45, mbtmp3.9/6, Error ellipse: s-maj=59.8km s-min=26.0km az=113.0*
ISC 02 13:28:55.7±1.2**, 4°.6S**±0°.2×**153°.7E**±0°.3**, h85**km**, n7, σ1s.30**/10**, mb3.5**/5**, New Ireland region**

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res ISC
PMG	Port Moresby	8.09	233	P	Pn	13 30 52.6	+2.1
	3.4nm,0.3s,baz=48,slow=9.1,SNR=14						
PMG				S	Sn	13 32 19.1	-1.2
	0.2nm,0.3s,baz=45,slow=20,SNR=2.8						
WRA	Warramunga Arr	24.28	229	P	P	13 34 05.6	+0.3
	3.0nm,0.6s,baz=54,slow=10.0,SNR=42						
WRA				PcP	PcP	13 37 43.4	0.0
	0.3nm,0.9s,baz=65,slow=1.5,SNR=3.0						
ASAR	Alice Springs	26.93	223	P	P	13 34 29.2	-0.1
	0.3nm,0.4s,baz=55,slow=9.1,SNR=12						
ASAR				PcP	PcP	13 37 48.6	-0.9
	0.3nm,1.0s,baz=63,slow=2.1,SNR=4.4						
STKA	Stephens Creek	29.44	201	P	P	13 34 50.8	-0.7
	2.0nm,0.8s,baz=16,slow=14,SNR=4.0						
MKAR	Makanchi Array	80.77	319	P	P	13 40 58.9	-1.1
	0.5nm,0.9s,baz=116,slow=5.5,SNR=3.6						
ILAR	Eielson Array	81.61	22	P	P	13 41 05.5	+1.4
	0.8nm,1.1s,baz=232,slow=7.4,SNR=3.5						
TORD	Torodi Ar. Bea	151.11	289	PKPbc	PKPbc	13 48 39.0	-1.1
	0.9nm,0.7s,baz=84,slow=0.9,SNR=6.8						

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*IDC **02** 13:37:39.7±2.9, 5°.58S×151°.38E, h32km±20km, mb4.0/15, mb1 4.1/17, mb1mx3.9/46, mbtmp4.2/17, ML2.9/2, MS3.6/22, Ms1 3.6/22, ms1mx3.5/38, Error ellipse: s-maj=22.4km s-min=14.9km az=108.0*
*ISCJB **02** 13:37:40.8±0.5, 5°.64S±0°.07×151°.3E±0°.1, h57km, mb4.1/17, MS3.6/21, Error ellipse: s-maj=15.9km s-min=8.7km az=25.0*
*NEIC **02** 13:37:40.5±2.4, 5°.56S×151°.34E, h39km±23km, mb4.3/2, Error ellipse: s-maj=18.4km s-min=15.9km az=72.0*
ISC 02 13:37:42.6±0.6**, 5°.63S**±0°.09×**151°.3E**±0°.1**, h57**km**, n37, σ1s.29**/30**, mb4.1**/17**, MS3.6**/21**, New Britain region**

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res ISC
PMG	Port Moresby	5.54	227	Pn	Pn	13 39 02.5	0.0
	5.5nm,0.3s,baz=43,slow=8.8,SNR=23						
PMG				Sn	Sn	13 40 02.3	-2.6
	11nm,0.3s,baz=24,slow=20,SNR=3.9						
HNR	Honiara	9.40	114	LR	LR	13 42 56.9	
	comp=Z,278nm,20.2s,baz=290,slow=34						
COEN	Coen	11.49	223	*e*P	Pn	13 40 20.5	-3.5
CTA	Charters Tower	15.18	198	Pn	Pn	13 41 14.8	+1.2
	0.1nm,0.3s,baz=22,slow=18,SNR=3.6						
CTAO	Charters Tower	15.18	198	*e*P	Pn	13 41 15.0	+1.4
GUMO	Guam	20.12	342	LR	LR	13 48 20.2	
	comp=Z,116nm,21.6s,baz=128,slow=32						
WRA	Warramunga Arr	21.76	228	P	P	13 42 28.5	-1.2
	3.2nm,0.6s,baz=52,slow=10,SNR=40						
WRA				PcP	PcP	13 46 29.2	+0.7
	0.9nm,0.6s,baz=48,slow=2.1,SNR=5.1						
WRA				ScP	ScP	13 50 03.9	+2.8
	0.7nm,0.9s,baz=48,slow=3.0,SNR=4.9						
DZM	Mont Dzumac	21.97	140	P	P	13 42 30.3	-1.6
	5.0nm,0.6s,baz=300,slow=20,SNR=3.8						
DZM				LR	LR	13 48 27.0	
	comp=Z,62nm,21.4s,baz=250,slow=30						
ASAR	Alice Springs	24.52	221	P	P	13 42 56.6	-0.3
	2.3nm,0.7s,baz=53,slow=10.0,SNR=41						
ASAR				PcP	PcP	13 46 34.8	+0.6
	0.4nm,0.7s,baz=40,slow=3.0,SNR=3.1						
ASAR				ScP	ScP	13 50 10.5	+2.2
	0.5nm,0.7s,baz=45,slow=3.0,SNR=5.3						
ASAR				LR	LR	13 51 50.2	
	comp=Z,193nm,19.6s,baz=96,slow=34						
STKA	Stephens Creek	27.64	198	P	P	13 43 25.7	+0.7
	1.8nm,0.7s,baz=359,slow=11,SNR=3.3						
STKA				LR	LR	13 54 55.4	
	comp=Z,185nm,18.4s,baz=338,slow=37						
BATI	Baumata	27.71	259	P	P	13 43 27.3	+1.5
	12nm,0.6s,baz=117,slow=6.8,SNR=2.0						
BATI				LR	LR	13 56 05.9	
	comp=Z,212nm,21.5s,baz=112,slow=40						
TGY	Tagaytay City	35.91	303	LR	LR	13 56 37.0	
	comp=Z,89nm,21.6s,baz=360,slow=32						
JHJ	Hachijo jima 2	40.05	345	LR	LR	13 58 50.8	
	comp=Z,67nm,20.4s,baz=77,slow=32						
RPZ	Rata Peaks	41.74	158	LR	LR	14 02 11.1	
	comp=Z,206nm,18.3s,baz=300,slow=35						
JNU	Nakatsue	43.12	335	P	P	13 45 38.7	+1.2
	8.3nm,0.9s,baz=247,slow=3.4,SNR=4.9						
JNU				LR	LR	14 02 30.4	
	comp=Z,33nm,18.1s,baz=122,slow=35						
LEM	Lembang	43.40	266	LR	LR	14 06 20.5	
	comp=Z,33nm,18.2s,baz=350,slow=40						
MJAR	Matsushiro Arr	43.69	345	LR	LR	14 03 53.1	
	comp=Z,54nm,18.4s,baz=165,slow=36						
KSRS	Korea Array	48.07	335	LR	LR	14 07 30.2	
	comp=Z,26nm,18.3s,baz=145,slow=37						
PETK	Petropavlovsk-	58.77	5	P	P	13 47 32.5	-2.2
	7.1nm,1.0s,baz=179,slow=7.9,SNR=3.7						
PETK				LR	LR	14 07 18.8	
	comp=Z,36nm,20.2s,baz=141,slow=30						
ULN	Ulaanbaatar	65.90	329	P	P	13 48 21.9	-0.8
	2.8nm,1.1s						
SONM	Songino Array	66.22	329	P	P	13 48 25.9	+1.2
	1.4nm,0.6s,baz=137,slow=6.2,SNR=8.5						
SONM				LR	LR	14 17 13.4	
	comp=Z,59nm,20.2s,baz=152,slow=36						
MKAR	Makanchi Array	79.95	319	P	P	13 49 45.8	+0.2
	0.6nm,0.9s,baz=99,slow=5.3,SNR=6.0						
MKAR				LR	LR	14 25 36.2	
	comp=Z,27nm,18.7s,baz=69,slow=36						
ZALV	Zalesovo Beam	81.00	327	P	P	13 49 50.4	-0.6
	1.2nm,0.7s,baz=111,slow=8.1,SNR=6.3						
MCK	McKinley	82.21	23	*e*P	P	13 49 56.7	-0.6
	3.4nm,0.8s						
KURK	Kurchatov	83.48	322	P	P	13 50 03.4	-0.7
ILAR	Eielson Array	83.50	22	P	P	13 50 02.6	-1.3
	1.2nm,0.6s,baz=249,slow=4.9,SNR=30						
ILAR				LR	LR	14 25 05.6	
	comp=Z,47nm,19.1s,baz=258,slow=34						
KURBB	Kurchatov Arra	83.51	322	P	P	13 50 04.2	0.0
	0.6nm,0.7s,baz=114,slow=3.3,SNR=5.7						
MAW	Mawson	84.22	203	LR	LR	14 23 51.5	
	comp=Z,60nm,20.5s,baz=62,slow=33						
BVAR	Borovoye Array	88.99	323	P	P	13 50 30.6	-0.5
	0.4nm,0.5s,baz=127,slow=4.3,SNR=3.5						
BVAR				LR	LR	14 32 47.3	
	comp=Z,31nm,18.2s,baz=69,slow=37						
YBH	Yreka Blue Hor	90.74	48	LR	LR	14 28 29.2	
	comp=Z,45nm,18.2s,baz=272,slow=34						
NVAR	Mina Array Bea	93.79	52	P	P	13 50 55.5	+1.4
	1.6nm,0.8s,baz=259,slow=6.5,SNR=10						
NVAR				LR	LR	14 28 54.5	
	comp=Z,103nm,18.4s,baz=95,slow=33						
ARU	Arti	96.15	326	LR	LR	14 34 46.6	
	comp=Z,54nm,18.9s,baz=148,slow=36						
YKA	Yellowknife Ar	96.86	28	P	P	13 51 06.3	-0.9
	0.1nm,0.4s,baz=266,slow=4.6,SNR=5.5						
PDAR	Pinedale Array	100.53	48	P	Pdif	13 51 25.0	+0.6
	0.2nm,0.5s,baz=256,slow=3.6,SNR=3.1						
GERES	GERESS Array B	123.94	328	PKP	PKPdf	13 56 34.9	+0.2
	0.5nm,0.4s,baz=64,slow=3.1,SNR=5.8						
TORD	Torodi Ar. Bea	149.09	286	PKPbc	PKPbc	13 57 25.7	+0.2
	11nm,0.7s,baz=69,slow=2.9,SNR=61						
KOWA	Kowa	154.14	292	PKPbc	PKPbc	13 57 37.0	-0.1
	2.9nm,0.6s,baz=72,slow=3.0,SNR=8.6						

IDC 02 13:39:25.9±629.0**, 47°.87N**×**48°.75E, h0**km**, Error ellipse: s-maj=210.9km s-min=136.8km az=55.0, Western Kazakhstan**

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res ISC
I31KZ	AKTYUBINSK INF	6.60	64	*i*		14 20 30.0	
	baz=251,slow=318,SNR=2.0						
I43RU	DUBNA INFRASON	11.31	326	*i*		14 51 10.0	
	baz=137,slow=326,SNR=1.0						
I46RU	ZALESOVO INFRA	23.36	61	*i*		16 10 06.3	
	baz=271,slow=315,SNR=1.2						

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*ISCJB **02** 13:48:23.1±0.5, 1°.48N±0°.05×128°.24E±0°.05, h100km, mb3.9/9, Error ellipse: s-maj=8.1km s-min=5.5km az=145.2*
*DJA **02** 13:48:24.3±0.5, 1°N±3°×12°8E±°, h65km±14km, M4.3/11, mB4.7/1, mb4.6/4, MLv4.2/11, Mw(mB)4.0/1*
*IDC **02** 13:48:24.6±1.0, 1°.47N×128°.13E, h92km±9km, mb3.7/9, mb1 3.7/9, mb1mx3.4/60, mbtmp4.0/9, Error ellipse: s-maj=51.7km s-min=12.9km az=71.0*
ISC 02 13:48:24.8±0.7**, 1°.46N**±0°.06×**128°.22E**±0°.07**, h100**km**, n19, σ0s.76**/26**, mb4.0**/9**, Halmahera**

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res ISC
LBMI	Labuha	2.20	199	P	Pn	13 48 59.2	-0.8
LBMI				S	Sn	13 49 26.0	-1.0
SGSI	Sangihe	3.48	310	P	Pn	13 49 16.2	-0.8
SGSI				S	Sn	13 49 56.9	-0.5
SWI	Sorong	3.81	127	P	Pn	13 49 21.1	-0.4
SWI				S	Sn	13 50 03.8	-1.6
SANI	Sanana	4.14	213	P	Pn	13 49 25.1	-0.8
KMSI	Cibinong	4.33	258	P	Pn	13 49 28.3	-0.1
NLAI	Namlea	4.80	194	P	Pn	13 49 35.3	+0.5
AAI	Ambon	5.11	180	P	Pn	13 49 39.3	+0.2
LUWI	Luwuk	5.99	246	P	Pn	13 49 50.9	-0.1
MRSI	Marisa	6.35	261	P	Pn	13 49 55.9	0.0
APSI	Ampana	6.98	250	P	Pn	13 50 04.2	-0.3
WRA	Warramunga Arr	22.10	165	P	P	13 53 12.7	+0.6
	3.2nm,0.6s,baz=343,slow=12,SNR=28						
WRA				pP	pP	13 53 31.1	-0.4
	2.3nm,0.8s,baz=344,slow=11,SNR=5.4						
ASAR	Alice Springs	25.58	168	P	P	13 53 45.5	+0.8
	0.5nm,0.4s,baz=343,slow=6.9,SNR=14						
ASAR				pP	pP	13 54 06.7	-0.2
	2.1nm,0.7s,baz=339,slow=9.6,SNR=8.1						
ASAR				PcP	PcP	13 57 13.8	+0.3
	0.2nm,0.8s,baz=333,slow=3.1,SNR=2.6						
STKA	Stephens Creek	35.50	160	P	P	13 55 12.6	+0.6
	1.1nm,0.4s,baz=356,slow=10.0,SNR=3.0						
SONM	Songino Array	49.91	341	P	P	13 57 08.9	+0.5
	0.7nm,0.6s,baz=156,slow=8.0,SNR=3.6						
MKAR	Makanchi Array	60.26	325	P	P	13 58 23.4	+0.7
	1.9nm,0.5s,baz=114,slow=8.0,SNR=39						
MKAR				pP	pP	13 58 45.5	-1.9
	0.4nm,0.5s,baz=121,slow=8.4,SNR=3.2						
SEY	Seymchan	63.91	12	P	P	13 58 47.5	+0.7
	0.4nm,0.2s,baz=127,slow=20,SNR=2.7						
KURBB	Kurchatov Arra	64.44	327	P	P	13 58 51.0	+0.5
	2.1nm,0.5s,baz=127,slow=6.0,SNR=20						
BVAR	Borovoye Array	70.02	327	P	P	13 59 25.9	+0.2
	0.5nm,0.5s,baz=190,slow=0.9,SNR=3.3						
TIXI	Tiksi	70.09	0	P	P	13 59 25.5	-0.3
	0.9nm,0.4s,baz=234,slow=0.5,SNR=6.5						

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*IDC **02** 13:52:03.9±8.6, 4°.46S×153°.62E, h107km±62km, mb3.4/5, mb1 3.7/6, mb1mx3.2/57, mbtmp3.9/6, Error ellipse: s-maj=68.5km s-min=31.7km az=85.0*
ISC 02 13:52:02.9±1.5**, 4°.4S**±0°.2×**153°.7E**±0°.2**, h100**km**, n7, σ0s.68**/9**, mb3.8**/5**, New Ireland region**

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res ISC
PMG	Port Moresby	8.14	232	P	Pn	13 53 58.7	+0.4
	3.6nm,0.3s,baz=40,slow=5.5,SNR=12						
PMG				S	Sn	13 55 28.0	-0.6
	1.1nm,0.3s,baz=130,slow=21,SNR=8.7						
WRA	Warramunga Arr	24.34	229	P	P	13 57 11.6	0.0
	3.4nm,0.7s,baz=54,slow=9.9,SNR=23						
WRA				PcP	PcP	14 00 48.1	-0.9
	0.2nm,0.7s,baz=28,slow=6.1,SNR=3.9						
ASAR	Alice Springs	27.01	223	P	P	13 57 35.2	-0.5
	0.4nm,0.7s,baz=57,slow=8.9,SNR=8.7						
STKA	Stephens Creek	29.57	201	P	P	13 57 59.0	+0.7
	1.3nm,0.6s,baz=28,slow=15,SNR=2.9						
CMAR	Chiang Mai Arr	58.50	295	P	P	14 01 49.9	+0.7
	0.8nm,0.8s,baz=109,slow=5.1,SNR=4.9						
MKAR	Makanchi Array	80.61	319	P	P	14 04 04.4	-0.2
	0.3nm,0.7s,baz=101,slow=5.1,SNR=3.8						
TORD	Torodi Ar. Bea	151.00	289	PKPbc	PKPbc	14 11 44.8	-0.5
	0.9nm,0.7s,baz=56,slow=2.3,SNR=6.9						

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*IDC **02** 13:58:12.1±1.8, 23°.98S×179°.78W, h482km±18km, mb3.4/8, mb1 3.6/10, mb1mx3.2/48, mbtmp4.4/10, Error ellipse: s-maj=19.6km s-min=16.8km az=158.0*
ISC 02 13:58:15.8±0.8**, 24°.08S**±0°.09×**180°.0W**±0°.1**, h518**km**, n32, σ1s.94**/34**, mb4.0**/7**, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res ISC
GLKZ	Green Lake	5.48	161	P	P	13 59 48.7	+0.7
AFI	Afiamalu	12.73	39	P	P	14 00 56.8	-5.4
	1.7nm,0.3s,baz=162,slow=20,SNR=3.4						
AFI				S	S	14 03 07.7	-12
	0.9nm,0.3s,baz=173,slow=15,SNR=2.5						
HAZ	Te Kaha	13.77	188	P	P	14 01 12.2	-0.5
HAZ	Te Kaha	13.77	188	S	S	14 03 37.1	-1.4
RUGZ	Raukumara Rang	13.99	188	P	P	14 01 17.0	+1.9
RUGZ	Raukumara Rang	13.99	188	S	S	14 03 46.7	+3.7
TWGZ	Tauwhareparae	14.17	187	P	P	14 01 18.3	+1.4
TWGZ	Tauwhareparae	14.17	187	S	S	14 03 49.3	+3.1
URZ	Urewera	14.36	189	P	P	14 01 15.4	-3.4
	3.8nm,0.3s,baz=11,slow=2.4,SNR=19						
URZ				S	S	14 03 48.9	-0.9
	0.9nm,0.3s,baz=87,slow=22,SNR=12						
URZ	Urewera	14.36	189	P	P	14 01 15.7	-3.1
MWZ	Matawai	14.37	188	P	P	14 01 19.6	+0.6
MWZ	Matawai	14.37	188	S	S	14 03 50.1	-0.1
RIGZ	Rimuhau	14.71	187	P	P	14 01 15.5	-7.1
ALRZ	Allen Road	14.78	191	P	P	14 01 24.7	+1.4
RAHZ	Arahi	15.01	189	P	P	14 01 25.4	-0.3
BKZ	Black Stump Fm	15.34	190	P	P	14 01 28.5	-0.7
BKZ	Black Stump Fm	15.34	190	S	S	14 04 04.7	-3.8
TUVZ	Tukino	15.59	193	P	P	14 01 31.8	-0.2
BHHZ	Black Hill Sta	15.73	191	P	P	14 01 30.9	-2.3
BHHZ	Black Hill Sta	15.73	191	S	S	14 04 11.7	-4.0
RPZ	Rata Peaks	20.93	198	P	P	14 02 22.2	+0.5
	3.6nm,0.5s,baz=29,slow=1.5,SNR=4.3						
CTA	Charters Tower	31.50	271	P	P	14 03 55.9	+0.6
	4.6nm,0.4s,baz=93,slow=11,SNR=15						
PMG	Port Moresby	34.58	289	P	P	14 04 21.2	0.0
	6.8nm,0.7s,baz=135,slow=7.1,SNR=3.1						
STKA	Stephens Creek	34.68	248	P	P	14 04 22.4	+0.5
	1.9nm,0.8s,baz=77,slow=14,SNR=2.9						
ASAR	Alice Springs	42.03	261	P	P	14 05 21.8	-0.2
	1.7nm,0.7s,baz=96,slow=7.3,SNR=39						
ASAR				PcP	PcP	14 07 03.3	-1.7
	0.2nm,0.8s,baz=94,slow=6.6,SNR=3.1						
ASAR				ScP	ScP	14 10 09.0	+2.9
	1.1nm,0.8s,baz=108,slow=4.2,SNR=10.0						
WRA	Warramunga Arr	42.42	266	P	P	14 05 24.4	-0.6
	2.5nm,0.5s,baz=96,slow=8.4,SNR=54						
WRA				ScP	ScP	14 10 10.6	+3.0
	1.3nm,1.0s,baz=100,slow=3.8,SNR=7.4						
SNAA	Sanae	84.49	179	P	P	14 09 53.0	-0.5
	4.0nm,1.1s,baz=202,slow=11,SNR=5.8						
TXAR	Lajitas Array	90.50	58	P	P	14 10 22.5	-0.1
	0.6nm,0.7s,baz=225,slow=6.7,SNR=7.3						
ARCES	ARCESS Array B	132.06	348	PKP	PKPdf	14 16 28.9	-0.7
	3.5nm,0.9s,baz=61,slow=7.3,SNR=3.1						
BRTR	Keskin Array B	147.71	307	PKPbc	PKPbc	14 17 02.7	+0.3
	0.4nm,0.5s,baz=47,slow=3.0,SNR=2.3						
EKA	Eskdalemuir Ar	148.69	4	PKPbc	PKPbc	14 17 03.0	-1.0
	0.3nm,0.3s,baz=316,slow=2.0,SNR=3.3						
TORD	Torodi Ar. Bea	169.02	189	PKPab	PKPab	14 18 38.8	0.0
	0.8nm,0.9s,baz=160,slow=4.8,SNR=3.3						

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*ISCJB **02** 14:14:10.2±1.5, 25°.1S±0°.5×180°.0E±0°.2, h496km, mb3.9/6, Error ellipse: s-maj=68.1km s-min=22.7km az=167.7*
*IDC **02** 14:14:10.6±3.3, 24°.78S×179°.98W, h494km±31km, mb3.5/6, mb1 3.7/7, mb1mx3.2/40, mbtmp4.3/7, Error ellipse: s-maj=49.2km s-min=27.6km az=166.0*
ISC 02 14:14:11.2±1.3**, 25°.0S**±0°.4×**180°.0W**±0°.2**, h496**km**, n9, σ0s.63**/9**, mb3.9**/6**, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res ISC
DZM	Mont Dzumac	12.77	280	P	P	14 16 58.6	+0.5
	0.4nm,0.3s,baz=128,slow=19,SNR=4.0						
CTA	Charters Tower	31.50	272	P	P	14 19 51.9	0.0
	12nm,0.5s,baz=94,slow=11,SNR=45						
STKA	Stephens Creek	34.34	250	P	P	14 20 16.3	+0.4
	2.1nm,0.5s,baz=87,slow=7.4,SNR=13						
ASAR	Alice Springs	41.87	262	P	P	14 21 17.0	-0.5
	1.3nm,0.4s,baz=97,slow=7.5,SNR=75						
WRA	Warramunga Arr	42.35	267	P	P	14 21 20.2	-1.1
	5.2nm,0.5s,baz=100,slow=8.0,SNR=113						
WRA				ScP	ScP	14 26 07.5	+0.7
	1.2nm,0.8s,baz=99,slow=4.1,SNR=8.1						
CMAR	Chiang Mai Arr	89.90	290	P	P	14 26 17.1	-0.2
	0.3nm,0.3s,baz=169,slow=3.8,SNR=4.5						
TXAR	Lajitas Array	90.99	58	P	P	14 26 22.3	+0.1
	0.3nm,0.6s,baz=209,slow=7.2,SNR=3.6						
HFS	Hagfors	143.59	348	PKP	PKPab	14 32 44.7	-2.3
	4.4nm,1.0s,baz=86,slow=4.6,SNR=9.3						
TORD	Torodi Ar. Bea	168.13	188	PKPab	PKPab	14 34 32.3	0.0
	0.1nm,0.4s,baz=168,slow=7.4,SNR=2.9						

IDC 02 14:21:37.1±8.8**, 4°.45S**×**153°.51E, h117**km±62km**, mb3.5**/3**, mb1 3.7**/4**, mb1mx3.2**/45**, mbtmp4.0**/4**, MS2.9**/1**, Ms1 2.9**/1**, ms1mx2.3**/26**, Error ellipse: s-maj=75.4km s-min=52.8km az=100.0, New Ireland region**

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res ISC
PMG	Port Moresby	8.00	232	P	Pn	14 23 31.0	+0.4
	3.7nm,0.3s,baz=47,slow=6.8,SNR=14						
PMG				S	Sn	14 24 59.3	-0.1
	1.4nm,0.3s,baz=136,slow=21,SNR=7.4						
PMG				LR	LR	14 27 07.1	
	comp=Z,75nm,18.3s,baz=145,slow=41						
WRA	Warramunga Arr	24.21	229	P	P	14 26 43.5	+0.5
	3.1nm,0.5s,baz=54,slow=10.0,SNR=48						
ASAR	Alice Springs	26.89	223	P	P	14 27 07.2	0.0
	0.3nm,0.5s,baz=56,slow=9.0,SNR=11						
STKA	Stephens Creek	29.49	201	P	P	14 27 29.9	-0.3
	1.5nm,0.6s,baz=1.4,slow=11,SNR=5.4						
TORD	Torodi Ar. Bea	150.86	289	PKPbc	PKPbc	14 41 16.5	-0.5
	0.7nm,0.7s,baz=69,slow=1.7,SNR=4.8						

IDC 02 14:24:42.5±2.7**, 2°.25N**×**128°.78E, h0**km**, mb3.1**/4**, mb1 3.2**/4**, mb1mx3.1**/49**, mbtmp3.1**/4**, Error ellipse: s-maj=230.5km s-min=22.9km az=69.0, Halmahera**

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res ISC
WRA	Warramunga Arr	22.72	166	P	P	14 29 46.6	+0.3
	0.3nm,0.8s,baz=346,slow=10.0,SNR=2.4						
ASAR	Alice Springs	26.24	169	P	P	14 30 18.9	-0.6
	0.2nm,0.7s,baz=345,slow=11,SNR=4.3						
MKAR	Makanchi Array	59.93	325	P	P	14 34 50.7	+0.1
	0.1nm,0.3s,baz=115,slow=8.0,SNR=4.0						
KURBB	Kurchatov Arra	64.08	327	P	P	14 35 18.4	0.0
	0.2nm,0.4s,baz=125,slow=6.9,SNR=3.0						

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*IDC **02** 14:28:43.2±1.4, 5°.74S×151°.71E, h0km, mb3.6/5, mb1 3.8/6, mb1mx3.6/42, mbtmp3.7/6, ML2.0/1, MS3.4/2, Ms1 3.4/2, ms1mx2.7/30, Error ellipse: s-maj=58.4km s-min=22.2km az=118.0*
ISC 02 14:28:50.2±2.3**, 4°.9S**±0°.5×**150°.4E**±0°.8**, h35**km**, n10, σ0s.69**/7**, mb3.5**/5**, New Britain region**

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res ISC
PMG	Port Moresby	5.53	215	Pn	Pn	14 30 12.2	+2.1
	2.9nm,0.3s,baz=80,slow=3.4,SNR=14						
PMG				Sn	Sn	14 31 12.5	+0.1
	9.7nm,0.3s,baz=157,slow=19,SNR=8.8						
WRA	Warramunga Arr	21.64	225	P	P	14 33 37.9	+0.2
	0.6nm,0.4s,baz=53,slow=10,SNR=14						
WRA				PcP	PcP	14 37 38.6	-0.1
	0.4nm,0.6s,baz=45,slow=2.3,SNR=5.7						
DZM	Mont Dzumac	23.14	139	LR	LR	14 40 28.5	
	comp=Z,66nm,18.5s,baz=328,slow=33						
ASAR	Alice Springs	24.53	219	P	P	14 34 06.3	-0.5
	1.1nm,0.8s,baz=56,slow=9.2,SNR=21						
ASAR				PcP	PcP	14 37 44.4	-0.2
	0.4nm,1.1s,baz=33,slow=2.7,SNR=2.8						
BATI	Baumata	26.99	257	LR	LR	14 47 02.0	
	comp=Z,106nm,20.3s,baz=196,slow=39						
SONM	Songino Array	65.10	329	P	P	14 39 35.4	+7.8
	0.5nm,0.6s,baz=128,slow=4.7,SNR=3.6						
MKAR	Makanchi Array	78.78	319	P	P	14 40 56.6	+7.1
	0.2nm,0.7s,baz=93,slow=5.8,SNR=2.9						
ILAR	Eielson Array	83.14	23	P	P	14 41 11.8	-0.5

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	0.4nm,0.6s,baz=250,slow=4.9,SNR=8.7						
TORD	**Torodi Ar. Bea**	**148.01**	**287**	PKPbc	**PKPab**	**14 48 35.2**	**-0.7**
	4.5nm,0.7s,baz=74,slow=3.0,SNR=27						
KOWA	**Kowa**	**153.02**	**293**	PKPbc	**PKPbc**	**14 48 46.2**	**+1.1**
	1.1nm,0.4s,baz=118,slow=1.9,SNR=4.0						

IDC 02 14:40:16.9±3.2**, 5°.70S**×**151°.33E, h0**km**, mb2.8**/2**, mb1 3.2**/3**, mb1mx2.9**/48**, mbtmp3.0**/3**, ML1.1**/1**, Error ellipse: s-maj=145.0km s-min=40.1km az=127.0, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.54**	**228**	Pn	Pn	14 41 42.9	+2.3
	0.4nm,0.3s,baz=91,slow=16,SNR=2.1						
PMG				Sn	Sn	14 42 45.1	-0.1
	1.0nm,0.3s,baz=94,slow=4.5,SNR=3.3						
WRA	**Warramunga Arr**	**21.76**	**228**	P	P	14 45 09.8	-0.5
	0.3nm,0.7s,baz=53,slow=10,SNR=4.6						
ASAR	**Alice Springs**	**24.51**	**221**	P	P	14 45 38.0	-0.2
	0.2nm,0.6s,baz=58,slow=9.5,SNR=5.9						
TORD	**Torodi Ar. Bea**	**149.17**	**286**	PKPbc	PKPbc	15 00 07.9	-0.6
	0.3nm,0.3s,baz=69,slow=2.8,SNR=3.6						

NNC 02 14:50:00.1±3.3**, 37°.16N**×**70°.59E, h0**km**, mb3.7, mpv3.3, 4C-4D, Error ellipse: s-maj=25.7km s-min=23.0km az=152.0, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**3.65**	**38**	⇓Pn	Pn	14 50 58.1	0.0
	2.1nm,0.3s						
SFK				⇓Sn	Sn	14 51 44.0	+2.1
	5.2nm,0.3s						
MNAS	**Manas**	**5.52**	**15**	⇓Pn	Pn	14 51 23.8	+0.1
	1.3nm,0.4s						
MNAS				⇑Sn	Sn	14 52 28.7	+0.8
	2.0nm,0.4s						
KK31	**Karatay Array**	**5.94**	**359**	⇑Pn	Pn	14 51 30.5	+1.2
	0.9nm,0.2s,baz=180,slow=13,SNR=21						
KK31				⇓Sn	Sn	14 52 39.6	+1.7
	1.5nm,0.4s,baz=187,slow=22,SNR=7.0						
AAK	**Ala-Archa**	**6.24**	**28**	⇑Pn	Pn	14 51 31.9	-1.7
	1.7nm,0.7s						
AAK				⇑Sn	Sn	14 52 44.9	-0.8
	2.2nm,0.8s						

KRSC 02 14:57:07.4±0.8**, 54°.62N**×**164°.20E, h51**km±22km**, ML3.5, Komandorsky Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**1.18**	**60**	*e*S	Sn	14 57 43.7	+1.3
KBTR	**Krutoberegovo**	**1.77**	**334**	*e*P	Pn	14 57 37.0	+1.4
KBTR				*e*S	Sn	14 57 58.1	+1.1
TUMD	**Tumrok D**	**2.27**	**286**	*e*P	Pn	14 57 45.6	+3.2
TUMD				*e*S	Sn	14 58 12.6	+3.4
KZV	**Kizimen**	**2.31**	**284**	*e*P	Pn	14 57 46.3	+3.2
KZV				*e*S	Sn	14 58 13.2	+2.8
BZMR	**Bezymyannaya**	**2.50**	**303**	*e*P	Pn	14 57 48.6	+2.9
SMKR	**Semkarok**	**2.50**	**323**	*e*P	Pn	14 57 49.3	+3.6
BZWR	**Bezymyannyi-We**	**2.51**	**304**	*e*P	Pn	14 57 49.3	+3.5
KMNR	**Kamenistaya**	**2.54**	**298**	*e*P	Pn	14 57 49.7	+3.5
KMNR				*e*S	Sn	14 58 19.3	+3.4
BDR	**Baidarnaya**	**2.58**	**320**	*e*P	Pn	14 57 49.6	+2.8
KLY	**Klyuchi**	**2.63**	**311**	*e*S	Sn	14 58 19.7	+1.6
SRKR	**Sorokina**	**2.66**	**321**	*e*P	Pn	14 57 50.9	+3.0
KOZ	**Kozyrevsk**	**2.86**	**302**	*e*S	Sn	14 58 28.4	+4.8
ESO	**Esso**	**3.41**	**295**	*e*P	Pn	14 58 01.0	+3.0
ESO				*e*S	Sn	14 58 40.4	+3.3
SMAR	**Somma**	**3.47**	**249**	*e*P	Pn	14 58 02.7	+3.6
UGLR	**Uglovaya**	**3.48**	**248**	*e*P	Pn	14 58 03.1	+4.0
AVH	**Avacha**	**3.50**	**249**	*e*P	Pn	14 58 03.5	+4.1
KRX	**Arik**	**3.51**	**251**	*e*P	Pn	14 58 03.0	+3.4
DALK	**Dalny**	**3.60**	**246**	*e*P	Pn	14 58 04.1	+3.5
GNL	**Ganaly**	**3.79**	**258**	*e*P	Pn	14 58 07.1	+3.7
KRMR	**Karymshinskiy**	**4.03**	**246**	*e*P	Pn	14 58 09.6	+3.1
KRMR				*e*S	Sn	14 58 55.0	+2.7

IDC 02 15:03:07.8±2.3**, 1°.84N**×**124°.45E, h0**km**, mb3.6**/3**, mb1 3.8**/3**, mb1mx3.3**/55**, mbtmp3.6**/3**, Error ellipse: s-maj=305.4km s-min=24.8km az=64.0, Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.72**	**156**	P	P	15 08 21.7	0.0
	1.4nm,0.3s,baz=335,slow=9.9,SNR=34						
ASAR	**Alice Springs**	**26.97**	**161**	P	P	15 08 51.0	-0.5
	0.2nm,0.3s,baz=337,slow=9.4,SNR=14						
MKAR	**Makanchi Array**	**57.84**	**327**	P	P	15 13 01.8	+0.4
	0.2nm,0.4s,baz=124,slow=7.3,SNR=5.3						

*ISCJB **02** 15:08:40.6±0.8, 17°.1S±0°.2×175°.2W±0°.2, h256km, mb3.8/6, Error ellipse: s-maj=37.7km s-min=10.9km az=137.7*
*IDC **02** 15:08:41.3±2.2, 17°.22S×175°.22W, h248km±23km, mb3.6/6, mb1 3.8/7, mb1mx3.4/44, mbtmp4.2/7, Error ellipse: s-maj=35.4km s-min=15.6km az=135.0*
ISC 02 15:08:41.8±0.9**, 17°.2S**±0°.3×**175°.1W**±0°.2**, h256**km**, n8, σ1s.57**/10**, mb3.8**/6**, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**4.54**	**45**	P	**Pn**	**15 09 53.1**	**+0.8**
	15nm,0.3s,baz=202,slow=1.9,SNR=19						
AFI				S	**S**	**15 10 45.5**	**-3.2**
	48nm,0.3s,baz=220,slow=24,SNR=14						
URZ	**Urewera**	**22.09**	**197**	P	**P**	**15 13 15.2**	**-0.8**
	7.7nm,1.1s,baz=329,slow=5.9,SNR=2.5						
STKA	**Stephens Creek**	**41.77**	**241**	P	**P**	**15 16 06.3**	**-0.2**
	4.3nm,0.8s,baz=94,slow=10.0,SNR=8.8						
WRA	**Warramunga Arr**	**47.90**	**258**	P	**P**	**15 16 53.6**	**-1.2**
	1.9nm,0.5s,baz=96,slow=7.2,SNR=60						
ASAR	**Alice Springs**	**48.05**	**253**	P	**P**	**15 16 55.1**	**-0.9**
	15nm,0.7s,baz=87,slow=8.6,SNR=163						
ASAR				PcP	**PcP**	**15 18 19.8**	**+0.2**
	0.3nm,0.6s,baz=90,slow=5.6,SNR=3.4						
NVAR	**Mina Array Bea**	**76.72**	**42**	P	**P**	**15 20 06.7**	**+1.5**
	0.7nm,0.8s,baz=224,slow=9.1,SNR=4.4						
ILAR	**Eielson Array**	**84.50**	**12**	P	**P**	**15 20 46.5**	**+1.0**
	0.2nm,0.5s,baz=225,slow=6.0,SNR=3.3						
BRTR	**Keskin Array B**	**146.46**	**318**	PKPbc	**PKPdf**	**15 27 52.1**	**+0.7**
	0.3nm,0.4s,baz=108,slow=4.7,SNR=3.3						

*NNC **02** 15:30:08.3±2.6, 37°.91N×71°.23E, h0km, mb5.0, mpv4.8, Error ellipse: s-maj=23.4km s-min=14.0km az=161.0*
*BJI **02** 15:30:08.6, 37°.51N×71°.87E, h120km, mb4.7/33, mB4.7/20*
*MOS **02** 15:30:09.1±1.0, 37°.53N×71°.95E, h118km, mb4.5/23, Error ellipse: s-maj=6.5km s-min=4.4km az=97.3*
*ISCJB **02** 15:30:09.2±0.1, 37°.43N±0°.02×72°.02E±0°.03, h130km, mb4.3/82, Error ellipse: s-maj=2.9km s-min=2.6km az=174.4*
*NEIC **02** 15:30:09.3±0.6, 37°.54N×71°.91E, h110km±6km, mb4.6/26, Error ellipse: s-maj=5.4km s-min=4.7km az=141.0*
*IDC **02** 15:30:09.6±1.7, 37°.50N×71°.93E, h111km±16km, mb4.1/31, mb1 4.2/37, mb1mx4.0/66, mbtmp4.5/37, MS2.9/4, Ms1 2.9/4, ms1mx2.4/71, Error ellipse: s-maj=10.1km s-min=8.4km az=30.0*
ISC 02 15:30:10.5±0.3**, 37°.47N**±0°.03×**71°.95E**±0°.04**, h130**km**, n256, σ2s.09**/286**, mb4.4**/81**, 33C-24D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**2.82**	**25**	⇓P	**Pn**	**15 30 54.8**	**-0.2**
	79nm,0.3s						
SFK				⇑S	**Sn**	**15 31 29.0**	**-0.2**
	593nm,0.5s						
SFK	**Sufi-Kurgan**	**2.82**	**25**	PN	**Pn**	**15 30 54.8**	**-0.2**
CEP	**Cherat**	**3.64**	**181**	P	**Pn**	**15 31 05.7**	**0.0**
CEP				S	**Sn**	**15 31 49.0**	**+0.7**
KBL	**Kabul**	**3.75**	**220**	*e*Pn	**Pn**	**15 31 06.5**	**-0.7**
KBL	**Kabul**	**3.75**	**220**	*e*PN	**Pn**	**15 31 06.5**	**-0.7**
KSH	**Kashi**	**3.76**	**56**	P	**Pn**	**15 31 03.5**	**-3.7**
KSH				S	**Sn**	**15 31 43.1**	**-8.1**
KSH				smax	smax		
	comp=N,4µm,0.5s						
KSH				smax	smax		
	comp=E,3µm,0.4s						
CHCP	**Chirah Chowk**	**3.95**	**164**	P	**Pn**	**15 31 10.3**	**+0.6**
NIL	**Nilore**	**3.96**	**164**	*e*Pn	**Pn**	**15 31 10.3**	**+0.6**
NIL	**Nilore**	**3.96**	**164**	*e*PN	**Pn**	**15 31 10.4**	**+0.6**
AML	**Almayashu**	**4.85**	**16**	P	**Pn**	**15 31 21.3**	**-0.6**
	SNR=555						
MNAS	**Manas**	**5.03**	**5**	⇑P	**Pn**	**15 31 23.0**	**-1.1**
	82nm,0.3s						
MNAS				⇓S	**Sn**	**15 32 17.1**	**-4.3**
	105nm,0.3s						
MNAS	**Manas**	**5.03**	**5**	PN	**Pn**	**15 31 23.4**	**-0.7**
UCH	**Uchtor**	**5.15**	**22**	P	**Pn**	**15 31 25.7**	**-0.3**
	SNR=122						
KZA	**Kyzart**	**5.26**	**28**	P	**Pn**	**15 31 26.9**	**-0.5**
	SNR=76						
EKS2	**Erkin-Say**	**5.37**	**15**	P	**Pn**	**15 31 28.5**	**-0.2**
	SNR=121						
AAK	**Ala-Archa**	**5.52**	**20**	P	**Pn**	**15 31 30.8**	**+0.1**
	47nm,0.3s,baz=178,slow=6.3,SNR=581						
AAK				S	**Sn**	**15 32 30.7**	**-2.4**
	12nm,0.3s,baz=330,slow=22,SNR=15						
AAK				LR	LR	15 33 49.0	
	comp=Z,58nm,19.7s,baz=186,slow=40						
AAK	**Ala-Archa**	**5.52**	**20**	⇓P	**Pn**	**15 31 30.5**	**-0.2**
	86nm,0.5s						
AAK				S	**Sn**	**15 32 31.0**	**-2.2**
	82nm,0.7s						
AAK	**Ala-Archa**	**5.52**	**20**	P	**Pn**	**15 31 30.8**	**+0.1**
	SNR=223						
SARP	**Sargodha**	**5.56**	**174**	P	**Pn**	**15 31 30.0**	**-1.2**
KBK	**Karagaybulak**	**5.67**	**23**	P	**Pn**	**15 31 32.9**	**+0.2**
	SNR=26						
KK31	**Karatay Array**	**5.74**	**349**	⇓P	**Pn**	**15 31 30.3**	**-3.1**
	60nm,0.3s,baz=179,slow=13,SNR=561						
KK31				⇓S	**Sn**	**15 32 31.0**	**-7.2**
	147nm,0.4s,baz=181,slow=30						
KK31	**Karatay Array**	**5.74**	**349**	PN	**Pn**	**15 31 30.3**	**-3.1**
KKAR	**Karatay Array**	**5.74**	**349**	*e*Pn	**Pn**	**15 31 31.8**	**-1.7**
KKAR	**Karatay Array**	**5.74**	**349**	*e*PN	**Pn**	**15 31 31.8**	**-1.7**
ULHL	**Ulahol**	**5.80**	**33**	P	**Pn**	**15 31 34.2**	**-0.3**
	SNR=20						
CHMS	**Chumysh**	**5.93**	**20**	P	**Pn**	**15 31 36.0**	**0.0**
	SNR=58						
USP	**Ospenovka**	**6.11**	**18**	P	**Pn**	**15 31 37.9**	**-0.6**
	SNR=15						
TKM2	**Tokmak 2**	**6.12**	**26**	⇑P	**Pn**	**15 31 38.6**	**-0.2**
	58nm,0.6s						
TKM2				⇓S	**Sn**	**15 32 46.6**	**-1.1**
	31nm,0.5s						
TKM2	**Tokmak 2**	**6.12**	**26**	P	**Pn**	**15 31 38.5**	**-0.2**
	SNR=163						
TKM2	**Tokmak 2**	**6.12**	**26**	PN	**Pn**	**15 31 38.6**	**-0.2**
DHRM	**DHARAMSHALA**	**6.32**	**144**	*e*P	**Pn**	**15 31 39.5**	**-2.1**
DHRM				*e*S	**Sn**	**15 32 46.7**	**-5.8**
DHRM				IAML		15 32 51.3	
	comp=N,1µm,0.2s						
DHRM				IAML		15 32 52.0	
	comp=E,2µm,0.5s						
MDOK	**Medeo**	**6.89**	**33**	⇑P	**Pn**	**15 31 48.6**	**-0.5**
	comp=E,46nm,0.9s						
SMLA	**Simla**	**7.66**	**144**	*e*P	**Pn**	**15 31 57.9**	**-1.4**
SMLA				*e*S	**Sn**	**15 33 16.9**	**-7.7**
SMLA				IAML		15 33 22.4	
	comp=N,685nm,0.7s						
SMLA				IAML		15 33 22.6	
	comp=E,983nm,0.9s						
PDGK	**Podgornoye**	**8.21**	**42**	⇓P	**Pn**	**15 32 07.2**	**+0.4**
	comp=E,14nm,0.6s						
PDGK				⇓S	**Sn**	**15 33 42.6**	**+4.7**
	comp=E,39nm,0.9s						
PDGK	**Podgornoye**	**8.21**	**42**	PN	**Pn**	**15 32 07.8**	**+1.0**
DDI	**Dehra Dun**	**8.75**	**143**	*e*P	**Pn**	**15 32 12.9**	**-1.2**
DDI				*e*S	**Sn**	**15 33 44.6**	**-6.5**
OTUK	**Ortayu**	**10.78**	**1**	⇓P	**Pn**	**15 32 38.3**	**-2.8**
	comp=E,18nm,0.7s						
OTUK				⇑S	**Sn**	**15 34 35.2**	**-4.7**
	comp=E,9.7nm,0.6s						
OTUK	**Ortayu**	**10.78**	**1**	P	**Pn**	**15 32 38.3**	**-2.8**
GEYT	**Alibeck**	**10.97**	**277**	P	Pn	15 32 38.2	-5.6
	comp=E,3.5nm,0.3s,baz=124,slow=12,SNR=66						
GEYT				S	Sn	15 34 32.4	-12
	comp=E,6.6nm,0.3s,baz=138,slow=15,SNR=13						
GEYT				LR	LR	15 38 14.4	
	comp=E,83nm,19.5s,baz=35,slow=44						
MAKZ	**Makanchi**	**11.93**	**35**	*e*Pn	**Pn**	**15 32 54.8**	**-1.6**
MAKZ	**Makanchi**	**11.93**	**35**	*e*P	**Pn**	**15 32 54.8**	**-1.6**
MK01	**Makanchi Array**	**12.05**	**36**	*e*Pn	**Pn**	**15 32 56.2**	**-1.8**
MK31	**Makanchi Array**	**12.06**	**36**	*e*Pn	**Pn**	**15 32 56.9**	**-1.3**
MK31	**Makanchi Array**	**12.06**	**36**	*e*P	**Pn**	**15 32 56.9**	**-1.3**
MKAR	**Makanchi Array**	**12.06**	**36**	P	**Pn**	**15 32 57.7**	**-0.5**
	comp=E,0.9nm,0.3s,baz=224,slow=14,SNR=127						
MKAR	**Makanchi Array**	**12.06**	**36**	*e*Pn	**Pn**	**15 32 56.8**	**-1.4**
MKAR	**Makanchi Array**	**12.06**	**36**	*i* P	**Pn**	**15 32 57.4**	**-0.7**
MKAR				pmax	pmax		
	comp=Z,13nm,0.7s						
PYUN	**Piuthan**	**13.16**	**132**	*e*P	**Pn**	**15 33 10.0**	**-2.8**
	comp=Z,72nm,0.4s						
DANN	**Dangsing**	**13.45**	**129**	*e*P	**Pn**	**15 33 13.2**	**-3.3**
WMQ	**Urumqi**	**13.53**	**57**	P	**Pn**	**15 33 16.9**	**-0.3**
WMQ				pP	P	15 33 25.5	+3.8
WMQ				PP		15 33 30.7	
WMQ				S	**Sn**	**15 35 46.0**	**-0.5**
WMQ				pmax	pmax		
	comp=Z,36nm,1.1s						
WMQ				pmax	pmax		
	comp=Z,140nm,3.8s						
WMQ				LR	LR		
	comp=Z,51nm,18.1s						
WMQ				LR	LR		
	comp=Z,65nm,27.3s						
WMQ				LR	LR		
	comp=Z,59nm,18.1s						
KOLN	**Koldanda**	**13.77**	**131**	*e*P	**Pn**	**15 33 17.1**	**-3.4**
	comp=Z,72nm,0.4s						
KURBB	**Kurchatov Arra**	**13.97**	**18**	P	**Pn**	**15 33 19.3**	**-3.4**
	comp=Z,0.1nm,0.3s,baz=207,slow=12,SNR=20						
KURK	**Kurchatov**	**14.08**	**18**	*e*Pn	**Pn**	**15 33 20.3**	**-3.7**
KURK	**Kurchatov**	**14.08**	**18***d*	*e*P	**Pn**	**15 33 21.1**	**-2.9**
KURK				pmax	pmax		
	comp=Z,28nm,1.0s						
GKN	**Gorkha**	**14.24**	**128**	*e*P	**Pn**	**15 33 22.9**	**-3.6**
	comp=Z,184nm,0.7s						
BHJ	**Bhuj**	**14.30**	**189**	*e*P	**Pn**	**15 33 24.2**	**-2.9**
BHJ				IAmb	IAmb	15 33 26.6	
	comp=Z,266nm,0.1s						
AB31	**Akbulak array**	**14.64**	**327**	⇓P	**Pn**	**15 33 27.4**	**-3.8**
	comp=Z,13nm,0.7s,baz=140,slow=12,SNR=226						
AB31				⇑S	Sn	15 36 02.5	-11
	comp=Z,27nm,0.7s,baz=145,slow=24,SNR=9.0						
ABKAR	**Akbulak array**	**14.64**	**327**	*e*Pn	**Pn**	**15 33 27.4**	**-3.8**
KKN	**Kakani**	**14.79**	**127**	*e*P	**Pn**	**15 33 29.3**	**-4.2**
	comp=Z,71nm,0.6s						
DMN	**Daman**	**14.81**	**128**	*e*P	**Pn**	**15 33 29.8**	**-4.0**
	comp=Z,80nm,0.6s						
BHPL	**Bhopal**	**14.94**	**160**	*e*P	**P**	**15 33 36.4**	**-1.1**
BHPL				IAmb	IAmb	15 33 38.4	
	comp=Z,63nm,0.8s						
PKIN	**Phulchoki**	**15.02**	**127**	*e*P	**Pn**	**15 33 32.6**	**-3.8**
	comp=Z,37nm,0.4s						
PKI	**Pulchoki**	**15.03**	**127**	*e*P	**Pn**	**15 33 32.7**	**-3.9**
GUN	**Gumba**	**15.10**	**125**	*e*P	**Pn**	**15 33 33.5**	**-4.0**
	comp=Z,128nm,0.7s						
JIRN	**Jiri**	**15.47**	**125**	*e*P	**Pn**	**15 33 38.6**	**-3.5**
BVA0	**Borovoye Array**	**15.60**	**356**	⇑P	**Pn**	**15 33 41.0**	**-2.1**
	comp=Z,4.6nm,0.8s,baz=155,slow=11,SNR=24						
BVA0				⇑S	**Sn**	**15 36 34.2**	**-1.8**
	comp=Z,6.5nm,0.8s,baz=163,slow=28,SNR=3.9						
BVAR	**Borovoye Array**	**15.60**	**356**	P	**Pn**	**15 33 41.1**	**-2.0**
	comp=Z,0.6nm,0.3s,baz=166,slow=13,SNR=22						
BVAR				S	Sn	15 36 22.1	-14
	comp=Z,0.1nm,0.3s,baz=172,slow=12,SNR=2.1						
BRVK	**Borovoye**	**15.63**	**356**	⇑P	**Pn**	**15 33 41.4**	**-2.2**
	comp=Z,5.1nm,0.6s						
BRVK				⇑S	**Sn**	**15 36 33.7**	**-3.1**
	comp=Z,17nm,1.2s						
BRVK	**Borovoye**	**15.63**	**356**	*e*Pn	**Pn**	**15 33 40.1**	**-3.4**
	comp=Z,6.2nm,0.8s						
BRVK	**Borovoye**	**15.63**	**356***d*	*e*P	**Pn**	**15 33 41.6**	**-1.9**
BRVK				pmax	pmax		
	comp=Z,16nm,1.0s						
RAMN	**Ramite**	**16.22**	**126**	*e*P	**Pn**	**15 33 47.7**	**-3.5**
	comp=Z,102nm,0.6s						
AKTO	**Aktyubinsk**	**16.35**	**327**	P	**Pn**	**15 33 51.5**	**-0.9**
	comp=Z,10nm,0.3s,baz=131,slow=11,SNR=95						
AKTO				S	Sn	15 36 38.1	-16
	comp=Z,0.6nm,0.3s,baz=148,slow=16,SNR=5.4						
AKTO				LR	LR	15 40 18.3	
	comp=Z,46nm,18.1s,baz=168,slow=37						
AKTO	**Aktyubinsk**	**16.35**	**327**	⇓P	**Pn**	**15 33 52.0**	**-0.4**
	comp=Z,80nm,0.7s						
AKTO				⇑S	Sn	15 36 42.8	-11
	comp=Z,34nm,0.8s						
DGZ	**Jazzator, Alta**	**16.55**	**37***d*	*i*P	**Pn**	**15 33 53.7**	**-1.3**
ODAN	**Odare**	**16.79**	**125**	*e*P	**Pn**	**15 33 55.0**	**-3.2**
	comp=Z,77nm,0.7s						
BANOM	**Banah**	**17.57**	**234**	*i* P	**P**	**15 34 05.5**	**-1.1**
	SNR=10						
SHME	**Shamm**	**17.59**	**234**	P	**P**	**15 34 05.5**	**-1.2**
LSA	**Lhasa**	**17.76**	**110**	*e*P	**Pn**	**15 34 09.5**	**-0.6**
	comp=Z,24nm,0.8s						
LSA	**Lhasa**	**17.76**	**110**	*e*P	**Pn**	**15 34 09.5**	**-0.6**
LSA				pmax	pmax		
	comp=Z,24nm,0.8s						
BOK	**Bokaro**	**18.12**	**135**	*e*P	**Pn**	**15 34 14.3**	**+0.3**
BOK				IAmb	IAmb	15 34 15.3	
	comp=Z,87nm,1.2s						
WSAR	**Wadi Sarin**	**18.22**	**223**	P	**P**	**15 34 13.9**	**+0.2**
	comp=Z,0.4nm,0.3s,baz=83,slow=8.3,SNR=8.2						
UOSS	**Minazif**	**18.33**	**232**	*e*P	**P**	**15 34 13.2**	**-1.6**
	comp=Z,12nm,0.8s						
UOSS	**Minazif**	**18.33**	**232**	P	**P**	**15 34 13.7**	**-1.1**
HATD	**Hatta, Dubai**	**18.46**	**231**	P	**P**	**15 34 16.2**	**-0.1**
ASHO	**Ashiyiah**	**18.61**	**231**	*i* P	**P**	**15 34 18.0**	**+0.1**
	SNR=20						
ZAA0	**Zalesovo Array**	**18.72**	**24**	*e*P	**P**	**15 34 18.2**	**-0.7**
	comp=Z,12nm,0.6s						
ZALV	**Zalesovo Beam**	**18.72**	**24**	P	**P**	**15 34 19.2**	**+0.4**
	comp=Z,2.5nm,0.3s,baz=222,slow=11,SNR=52						
ZALV	**Zalesovo Beam**	**18.72**	**24**	*e*P	**P**	**15 34 18.5**	**-0.4**
POO	**Poona**	**18.94**	**174**	*e*P	**Pn**	**15 34 23.1**	**-0.6**
POO				IAmb	IAmb	15 34 28.4	
	comp=Z,8.7nm,0.6s						
NVS	**Novosibirsk**	**19.01**	**20**	*e*P	P	15 34 11.3	-11
ALNE	**Al Ain**	**19.26**	**231**	*i* P	**P**	**15 34 24.4**	**-0.6**
	SNR=16						
HVS	**Khovu-Aksy**	**20.61**	**42**⇑	*e*P	**P**	**15 34 40.5**	**+1.1**
HVS				pmax	pmax		
	comp=Z,11nm,0.6s						
SHL	**Shillong**	**20.68**	**119**	*e*P	Pn	15 34 43.0	-1.1
GROC	**Groznyy**	**20.70**	**294**	*e*P	**P**	**15 34 40.5**	**+0.2**
GROC				*e**SP	**sP**	**15 35 15.3**	**-4.9**
GROC				*e*S	**S**	**15 38 23.5**	**-0.8**
GROC				*e**SS	**sS**	**15 38 59.4**	**-4.2**
GROC				pmax	pmax		
	comp=Z,69nm,0.9s						
SVE	**Sverdlovsk**	**20.79**	**342**	*e*P	**P**	**15 34 41.1**	**0.0**
SVE				*e*S	**S**	**15 38 28.9**	**+3.2**
SVE				pmax	pmax		
	comp=Z,23nm,1.0s						
HYB	**Hyderabad**	**20.80**	**162**	*i* P	**P**	**15 34 41.0**	**-0.7**
ARU	**Arti**	**20.98**	**339**	P	**P**	**15 34 43.6**	**+0.4**
	comp=Z,12nm,0.7s,baz=138,slow=5.2,SNR=26						
ARU				S	**S**	**15 38 28.9**	**-0.6**
	comp=Z,0.9nm,0.3s,baz=105,slow=20,SNR=3.1						
ARU	**Arti**	**20.98**	**339**	*e*P	**P**	**15 34 42.4**	**-0.8**
	comp=Z,21nm,0.9s						
ARU				S	**S**	**15 38 28.9**	**-0.6**
ARU	**Arti**	**20.98**	**339***c*	*i*P	**P**	**15 34 43.5**	**+0.3**
ARU						15 35 09.0	
ARU				S	**S**	**15 38 31.2**	**+1.7**
ARU				SS		15 39 10.6	
ARU				pmax	pmax		
	comp=Z,35nm,1.2s						
GNI	**Garni**	**21.34**	**286**	P	**P**	**15 34 49.4**	**+2.0**
	comp=Z,36nm,0.8s,baz=350,slow=3.3,SNR=8.6						
GNI	**Garni**	**21.34**	**286**	*e*P	**P**	**15 34 48.5**	**+1.1**
	comp=Z,45nm,0.8s						
GNI	**Garni**	**21.34**	**286***d*	*i*P	**P**	**15 34 49.2**	**+1.8**
GNI				pmax	pmax		
	comp=Z,218nm,1.2s						
TBLG	**Delisi**	**21.36**	**290**	*e*P	**P**	**15 34 47.9**	**+0.5**
	comp=Z,40nm,0.8s						
TBLG	**Delisi**	**21.36**	**290**	*e*P	**P**	**15 34 47.9**	**+0.5**
TBLG				pmax	pmax		
	comp=Z,40nm,0.8s						
GTA	**Gaotai**	**21.88**	**76**	*e*P	**P**	**15 34 54.6**	**+1.5**
GTA				pP	pP	15 35 16.8	-0.2
GTA				sP	sP	15 35 30.4	-2.8
GTA				pmax	pmax		
	comp=Z,36nm,0.9s						
ZEI	**Tsey**	**22.04**	**293**	*e*P	**P**	**15 34 53.0**	**-1.8**
ZEI				pmax	pmax		
	comp=Z,11nm,0.6s						
AKH	**Akhalkalaki**	**22.28**	**289**⇓	*i*P	**P**	**15 34 59.3**	**+2.1**
AKH	**Akhalkalaki**	**22.28**	**289**	*e*P	**P**	**15 34 58.3**	**+1.1**
	comp=Z,27nm,0.9s						
AKH	**Akhalkalaki**	**22.28**	**289**	*e*P	**P**	**15 34 58.3**	**+1.1**
AKH				pmax	pmax		
	comp=Z,27nm,0.9s						
NCK	**Nalchik**	**22.33**	**295**⇑	*e*P	**P**	**15 34 58.4**	**+0.9**
NCK				pmax	pmax		
	comp=Z,20nm,0.8s						
KNGR	**Kungurtug, Tuv**	**22.45**	**46**	*e*P	**P**	**15 35 00.7**	**+1.9**
KBZ	**Khabaz**	**22.86**	**295**	P	**P**	**15 35 02.2**	**-0.3**
	comp=Z,5.5nm,0.9s,baz=118,slow=9.1,SNR=9.7						
KBZ				S	**S**	**15 39 07.2**	**+5.2**
	comp=Z,1.8nm,0.9s,baz=94,slow=15,SNR=1.9						
KVAR	**Kislovodsk Arr**	**23.02**	**296**	P	**P**	**15 35 03.7**	**-0.6**
	comp=Z,6.1nm,0.5s,baz=73,slow=19,SNR=4.1						
KIV	**Kislovodsk**	**23.03**	**296**	*e*P	**P**	**15 35 05.6**	**+1.2**
KIV				*e**SP	**sP**	**15 35 41.0**	**-4.5**
KIV				*e*S	**S**	**15 39 08.1**	**+3.0**
KIV				pmax	pmax		
	comp=Z,14nm,1.1s						
KIV				MLR	MLR		
	comp=Z,20nm,14.0s						
KRAR	**Krasnoyarsk**	**23.28**	**30**⇑	*e*P	**P**	**15 35 06.8**	**+0.4**
MOY	**Mondy**	**24.89**	**46**	*e*P	**P**	**15 35 25.6**	**+4.4**
LZH	**Lanzhou**	**25.52**	**83**	*e*P	**P**	**15 35 28.0**	**+0.8**
LZH				pP	pP	15 35 53.6	-1.3
LZH				sP	sP	15 36 05.4	-4.5
LZH				PP	**PnPn**	**15 36 13.0**	**+1.8**
LZH				pmax	pmax		
	comp=Z,34nm,0.9s						
LZH				pmax	pmax		
	comp=Z,370nm,4.3s						
LZH				LR	LR		
	comp=Z,260nm,11.0s						
LZH				LR	LR		
	comp=Z,210nm,10.7s						
LZH				LR	LR		
	comp=Z,220nm,10.7s						
ZAK	**Zakamensk**	**25.79**	**50**	*e*P	**P**	**15 35 30.5**	**+1.2**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.0s						
RAYN	**Ar Rayn**	**26.58**	**246**	*e*P	**P**	**15 35 35.3**	**-1.3**
	comp=Z,7.9nm,0.9s						
CD2	**Chengdu**	**27.03**	**95**	*e*P	**P**	**15 35 41.0**	**+0.4**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,120nm,5.0s						
SONM	**Songino Array**	**27.17**	**57**	P	**P**	**15 35 43.9**	**+2.1**
	comp=Z,0.5nm,0.4s,baz=269,slow=10,SNR=4.9						
ULN	**Ulaanbaatar**	**27.61**	**57**⇓	*e*P	**P**	**15 35 43.8**	**-1.9**
ULN				pmax	pmax		
	comp=Z,1.0nm,0.7s						
KMI	**Kunming**	**28.91**	**106**	P	**P**	**15 35 58.2**	**+0.6**
KMI				pmax	pmax		
	comp=Z,8.0nm,0.8s						
OBN	**Obninsk**	**29.71**	**318**⇓	*e*P	**P**	**15 36 05.4**	**+1.4**
OBN				pmax	pmax		
	comp=Z,29nm,2.5s						
BR131	**Keskin Array S**	**29.88**	**286**	*e*P	**P**	**15 36 06.5**	**+0.7**
BRTR	**Keskin Array B**	**29.88**	**286**	P	**P**	**15 36 07.0**	**+1.1**
	comp=Z,3.8nm,0.6s,baz=104,slow=8.9,SNR=26						
XAN	**Xi'an**	**30.08**	**85**	P	**P**	**15 36 09.6**	**+2.0**
XAN				pmax	pmax		
	comp=Z,8.0nm,0.9s						
CMAR	**Chiang Mai Arr**	**30.28**	**121**	P	**P**	**15 36 11.0**	**+1.5**
	comp=Z,1.0nm,0.7s,baz=309,slow=9.2,SNR=10.0						
HHC	**Hu-ho-hao-te**	**30.72**	**71**	*e*P	**P**	**15 36 14.6**	**+1.3**
HHC				pmax	pmax		
	comp=Z,8.0nm,1.0s						
HHC				pmax	pmax		
	comp=Z,99nm,4.9s						
KLMR	**Klimovskoe**	**31.02**	**329**	*e*P	**P**	**15 36 11.1**	**-4.5**
KLMR				AMP		15 36 14.2	
	comp=Z,13nm,1.5s						
KLMR	**Klimovskoe**	**31.02**	**329**	*e*P	**P**	**15 36 11.0**	**-4.5**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
KLMR				pmax	pmax		
	comp=Z,13nm,1.5s						
PALK	**Pallekele**	**31.09**	**163**	P	**P**	**15 36 17.6**	**+0.9**
	comp=Z,3.8nm,0.7s,baz=18,slow=20,SNR=2.9						
AKASG	**Malin Array Be**	**32.95**	**308**	P	**P**	**15 36 32.8**	**+0.3**
	comp=Z,9.4nm,0.6s,baz=105,slow=9.1,SNR=36						
AKASG	**Malin Array Be**	**32.95**	**308**	ceP	**P**	**15 36 32.5**	**0.0**
AKASG				pmax	pmax		
	comp=Z,9.0nm,0.6s						
AKBB	**Malin Array Si**	**32.95**	**308**	eP	**P**	**15 36 32.6**	**+0.1**
	comp=Z,11nm,0.7s						
AKBB	**Malin Array Si**	**32.95**	**308**	eP	**P**	**15 36 32.6**	**+0.1**
AKBB				pmax	pmax		
	comp=Z,11nm,0.7s						
KIEV	**Kiev**	**32.95**	**307**	eP	**P**	**15 36 32.4**	**-0.2**
	comp=Z,10nm,0.7s						
KIEV	**Kiev**	**32.95**	**307**	c iP	**P**	**15 36 33.1**	**+0.6**
KIEV				pmax	pmax		
	comp=Z,7.0nm,0.7s						
AK11	**Malin Array Si**	**32.98**	**307**	eP	**P**	**15 36 32.5**	**-0.3**
BOD	**Bodaibo**	**34.12**	**40**	eP	**P**	**15 36 41.6**	**-1.0**
BOD				pmax	pmax		
	comp=Z,4.0nm,1.5s						
BJI	**Beijing**	**34.32**	**72**	eP	**P**	**15 36 47.3**	**+2.8**
BJI				pmax	pmax		
	comp=Z,15μm,3.2s						
BJI				LR	LR		
	comp=Z,270nm,4.9s						
BJI				LR	LR		
	comp=Z,370nm,10.3s						
BJI				LR	LR		
	comp=Z,2μm,35.3s						
VRI	**Vrincioaia**	**34.42**	**299**	⇓iP	**P**	**15 36 47.0**	**+1.7**
VRI	**Vrincioaia**	**34.42**	**299**	⇓P	**P**	**15 36 47.0**	**+1.7**
TESR	**Tescani**	**34.45**	**300**	⇑iP	**P**	**15 36 46.5**	**+0.9**
PLOR	**Plostina**	**34.47**	**299**	⇑iP	**P**	**15 36 47.7**	**+1.9**
PLOR	**Plostina**	**34.47**	**299**	⇑P	**P**	**15 36 47.7**	**+1.9**
MLR	**Muntele Rosu**	**34.98**	**298**	P	**P**	**15 36 52.6**	**+2.3**
	comp=Z,2.8nm,0.8s,baz=100,slow=11,SNR=16						
MLR	**Muntele Rosu**	**34.98**	**298**	⇑iP	**P**	**15 36 53.1**	**+2.8**
MLR	**Muntele Rosu**	**34.98**	**298**	eP	**P**	**15 36 52.4**	**+2.0**
	comp=Z,16nm,0.9s						
MLR	**Muntele Rosu**	**34.98**	**298**	⇑P	**P**	**15 36 53.1**	**+2.8**
BURAR	**Bucovina Array**	**35.41**	**302**	⇓iP	**P**	**15 36 54.9**	**+1.0**
BURAR	**Bucovina Array**	**35.41**	**302**	⇓P	**P**	**15 36 54.9**	**+1.0**
BUR04	**Bucovina Ar. S**	**35.41**	**302**	eP	**P**	**15 36 54.4**	**+0.4**
BUR08	**Bucovina Ar. S**	**35.42**	**302**	eP	**P**	**15 36 54.2**	**+0.2**
VOIR		**35.62**	**298**	⇑iP	**P**	**15 36 57.3**	**+1.6**
VOIR		**35.62**	**298**	⇑P	**P**	**15 36 57.3**	**+1.6**
ARR	**Arges**	**35.91**	**298**	⇑iP	**P**	**15 37 00.1**	**+1.9**
APA	**Apatity**	**37.04**	**337**	⇑iP	**P**	**15 37 05.7**	**-1.7**
APA				i *PP	pP	15 37 27.8	-8.2
APA				MLR	MLR		
	comp=Z,200nm,12.0s						
FINES	**FINESS Array B**	**37.11**	**325**	P	**P**	**15 37 08.8**	**+0.7**
	comp=Z,9.0nm,0.6s,baz=114,slow=9.2,SNR=56						
FINES				LR	LR	15 54 57.4	
	comp=Z,22nm,19.2s,baz=54,slow=40						
DRGR		**37.15**	**300**	⇑iP	**P**	**15 37 10.0**	**+1.3**
DRGR		**37.15**	**300**	⇑P	**P**	**15 37 10.0**	**+1.3**
UZH	**Uzhgorod**	**37.35**	**304**	eP	**P**	**15 37 11.4**	**+1.2**
UZH				e		15 37 36.0	
KECS	**Kecovo**	**38.55**	**303**	eP	**P**	**15 37 21.4**	**+1.1**
KECS	**Kecovo**	**38.55**	**303**	eP	**P**	**15 37 21.4**	**+1.1**
NJ2	**Nanjing**	**38.60**	**84**	eP	**P**	**15 37 21.7**	**+0.8**
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.5s						
NIE	**Niedzica**	**38.63**	**305**	eP	**P**	**15 37 23.1**	**+2.0**
NIE	**Niedzica**	**38.63**	**305**	eP	**P**	**15 37 23.1**	**+2.0**
OJC	**Ojcow**	**38.94**	**306**	eP	**P**	**15 37 24.7**	**+1.2**
OJC	**Ojcow**	**38.94**	**306**	eP	**P**	**15 37 24.7**	**+1.2**
DIVS	**Divibare**	**39.34**	**296**	eP	**P**	**15 37 27.9**	**+0.8**
	comp=Z,8.0nm,0.9s						
VYHS	**Vyhne**	**39.65**	**304**	eP	**P**	**15 37 31.1**	**+1.6**
VYHS	**Vyhne**	**39.65**	**304**	eP	**P**	**15 37 31.1**	**+1.6**
MORC	**Moravsky Berou**	**40.41**	**306**	⇓iP	**P**	**15 37 36.4**	**+0.6**
MORC	**Moravsky Berou**	**40.41**	**306**	eP	**P**	**15 37 36.4**	**+0.6**
	comp=Z,25nm,0.9s						
MORC	**Moravsky Berou**	**40.41**	**306**	eP	**P**	**15 37 36.4**	**+0.6**
MORC				pmax	pmax		
	comp=Z,25nm,0.9s						
ARCES	**ARCESS Array B**	**40.55**	**337**	P	**P**	**15 37 37.8**	**+1.2**
	comp=Z,8.3nm,0.8s,baz=111,slow=8.1,SNR=30						
VRAC	**Vranov**	**41.06**	**305**	⇑iP	**P**	**15 37 43.2**	**+2.1**
VRAC	**Vranov**	**41.06**	**305**	⇑P	**P**	**15 37 43.2**	**+2.1**
KSP	**Ksiaz**	**41.15**	**307**	eP	**P**	**15 37 42.9**	**+1.2**
KSP	**Ksiaz**	**41.15**	**307**	eP	**P**	**15 37 42.9**	**+1.2**
DPC	**Dobruska-Polom**	**41.16**	**307**	eP	**P**	**15 37 43.6**	**+1.7**
DPC				ex	x	15 37 47.5	
DPC	**Dobruska-Polom**	**41.16**	**307**	eP	**P**	**15 37 43.6**	**+1.7**
UPC	**Upice**	**41.34**	**307**	eP	**P**	**15 37 45.1**	**+1.7**
CONA	**Conrad Observa**	**41.68**	**303**	iP	**P**	**15 37 47.7**	**+1.5**
	comp=Z,11nm,0.9s,SNR=9.5						
ARSA	**Arzberg**	**41.99**	**302**	iP	**P**	**15 37 50.0**	**+1.3**
	comp=Z,3.9nm,0.7s						
PRU	**Pruhonice**	**42.33**	**306**	eP	**P**	**15 37 52.9**	**+1.6**
PRU	**Pruhonice**	**42.33**	**306**	eP	**P**	**15 37 52.9**	**+1.6**
SOKA	**Soboth**	**42.41**	**301**	iP	**P**	**15 37 53.6**	**+1.4**
	comp=Z,8.4nm,0.9s						
BRG	**Berggiesshubel**	**42.63**	**307**	eP	**P**	**15 37 54.9**	**+1.1**
	comp=Z,16nm,1.0s						
BRG	**Berggiesshubel**	**42.63**	**307**	eP	**P**	**15 37 54.9**	**+1.1**
BRG				pmax	pmax		
	comp=Z,16nm,1.0s						
YAK	**Yakutsk**	**42.74**	**36**	eP	**P**	**15 37 55.0**	**+0.6**
	comp=Z,8.7nm,0.7s						
YAK	**Yakutsk**	**42.74**	**36**	eP	**P**	**15 37 54.9**	**+0.4**
YAK				e*PP	**pP**	**15 38 22.7**	**-1.0**
YAK				e		15 39 33.1	
YAK				ePPP	PPP	15 40 18.0	
YAK				eS	**S**	**15 44 11.4**	**+3.3**
YAK				eSS	**SS**	**15 47 15.3**	**-8.0**
YAK				e		15 47 45.0	
YAK				eSSS	SSS	15 48 12.4	
YAK				pmax	pmax		
	comp=Z,7.0nm,0.9s						
YAK				pmax	pmax		
	comp=Z,148nm,4.9s						
YAK				pmax	pmax		
	comp=N,55nm,4.1s						
YAK				pmax	pmax		
	comp=E,96nm,4.4s						
YAK				smax	smax		
	comp=N,107nm,5.6s						
YAK				smax	smax		
	comp=E,173nm,4.7s						
MOA	**Molln**	**42.76**	**303**	iP	**P**	**15 37 55.8**	**+1.0**
	comp=E,7.4nm,0.8s						
OBKA	**Obir**	**42.77**	**301**	iP	**P**	**15 37 57.4**	**+2.3**
	comp=E,5.4nm,0.8s						
HFS	**Hagfors**	**42.78**	**321**	P	**P**	**15 37 55.8**	**+0.9**
	comp=E,22nm,0.5s,baz=98,slow=10,SNR=112						
GERES	**GERESS Array B**	**43.00**	**305**	P	**P**	**15 37 57.9**	**+1.0**
	comp=E,1.0nm,0.6s,baz=69,slow=8.7,SNR=8.4						
GEA0	**GERESS Array S**	**43.00**	**305**	eP	**P**	**15 37 57.1**	**+0.2**
KHC	**Kasperske Hory**	**43.04**	**305**	eP	**P**	**15 37 59.0**	**+1.8**
KHC				ex	x	15 38 02.2	
KHC	**Kasperske Hory**	**43.04**	**305**	eP	**P**	**15 37 58.1**	**+0.9**
	comp=E,1.9nm,0.7s						
KHC	**Kasperske Hory**	**43.04**	**305**	eP	**P**	**15 37 59.0**	**+1.8**
CLL	**Collm**	**43.18**	**308**	iP	**P**	**15 37 59.0**	**+0.8**
	comp=Z,8.0nm,0.8s						
CLL	**Collm**	**43.18**	**308**	eP	**P**	**15 37 58.1**	**-0.1**
	comp=Z,7.1nm,0.8s						
CLL	**Collm**	**43.18**	**308**	iP	**P**	**15 37 59.0**	**+0.8**
CLL				pmax	pmax		
	comp=Z,8.0nm,0.8s						
CUC	**Castrocucco**	**43.25**	**291**	eP	**P**	**15 38 00.0**	**+1.0**
	comp=Z,17nm,0.7s						
MYKA	**Terra Mystica**	**43.36**	**301**	iP	**P**	**15 38 01.1**	**+1.3**
	comp=Z,7.1nm,1.0s						
KBA	**Koelnbreinsper**	**43.49**	**302**	iP	**P**	**15 38 01.8**	**+0.8**
	comp=Z,3.3nm,0.7s						
NC303	**NORSAR Array S**	**44.01**	**323**	eP	**P**	**15 38 05.3**	**+0.6**
NB2	**NORSAR Subarra**	**44.07**	**322**	P	**P**	**15 38 05.4**	**+0.1**
	comp=Z,9.6nm,0.6s,baz=92,slow=7.9						
NOA	**NORSAR Array B**	**44.07**	**322**	P	**P**	**15 38 05.7**	**+0.4**
	comp=Z,7.1nm,0.6s,baz=93,slow=7.7,SNR=22						
ABTA	**Abfaltersbach**	**44.11**	**302**	iP	**P**	**15 38 06.7**	**+0.9**
	comp=Z,2.8nm,0.7s						
TIXI	**Tiksi**	**44.59**	**22**	eP	**P**	**15 38 07.9**	**-1.3**
	comp=Z,12nm,0.3s						
TIXI	**Tiksi**	**44.59**	**22**	⇑eP	**P**	**15 38 11.1**	**+1.9**
TIXI				pmax	pmax		
	comp=Z,8.0nm,2.5s						
WTTA	**Wattenberg**	**44.61**	**303**	iP	**P**	**15 38 09.0**	**-0.9**
	comp=Z,5.1nm,0.8s						
WATA	**Walderalm**	**44.63**	**303**	iP	**P**	**15 38 08.9**	**-1.2**
	comp=Z,3.6nm,0.6s						
MOTA	**Moosalm**	**44.95**	**303**	iP	**P**	**15 38 13.3**	**+0.7**
	comp=Z,6.2nm,0.8s						
RETA	**Reutte**	**45.15**	**303**	iP	**P**	**15 38 15.2**	**+1.2**
	comp=Z,3.8nm,0.9s						
FETA	**Feichten**	**45.26**	**302**	iP	**P**	**15 38 15.3**	**+0.3**
	comp=Z,5.7nm,1.0s						
DAVA	**Damuels**	**45.78**	**303**	iP	**P**	**15 38 19.5**	**+0.4**
	comp=Z,15nm,0.5s						
BFO	**Black Forest**	**46.60**	**305**	eP	**P**	**15 38 25.6**	**+0.3**
	comp=Z,5.2nm,0.9s						
BFO	**Black Forest**	**46.60**	**305**	iP	**P**	**15 38 26.7**	**+1.3**
SPITS	**Spitsbergen Ar**	**46.73**	**346**	P	**P**	**15 38 26.7**	**+0.8**
	comp=Z,2.8nm,0.7s,baz=88,slow=7.4,SNR=5.2						
JNU	**Nakatsue**	**47.62**	**77**	P	**P**	**15 38 35.8**	**+2.3**
	comp=Z,8.1nm,0.9s,baz=289,slow=7.5,SNR=2.7						
SENIN	**Lac Senin/Sane**	**47.71**	**302**	eP	**P**	**15 38 34.4**	**+0.2**
	comp=Z,6.8nm,0.6s						
WLF	**Walferdange**	**47.75**	**307**	⇑P	**P**	**15 38 35.6**	**+1.4**
	comp=Z,9.1nm,0.7s						
NKL	**Nikolayevsk**	**48.90**	**48**	eP	**P**	**15 38 44.0**	**+1.1**
KEST	**Kesra**	**49.45**	**288**	P	**P**	**15 38 48.9**	**+1.4**
	comp=Z,5.5nm,0.6s,baz=341,slow=2.5,SNR=8.9						
KMBO	**Kilima Mbogo**	**50.04**	**228**	P	**P**	**15 38 53.4**	**+1.1**
	comp=Z,1.7nm,0.6s,baz=37,slow=14,SNR=5.8						
KMBO	**Kilima Mbogo**	**50.04**	**228**	ceP	**P**	**15 38 53.7**	**+1.4**
KMBO				pmax	pmax		
	comp=Z,2.0nm,0.6s						
MJAR	**Matsushiro Arr**	**51.90**	**70**	P	**P**	**15 39 07.6**	**+1.8**
	comp=Z,1.8nm,0.8s,baz=285,slow=10,SNR=5.2						
EKA	**Eskdalemuir Ar**	**52.12**	**316**	P	**P**	**15 39 07.7**	**+0.6**
	comp=Z,2.3nm,0.6s,baz=86,slow=10,SNR=7.4						
SEY	**Seymchan**	**53.19**	**34**	P	**P**	**15 39 15.4**	**+0.6**
	comp=Z,0.8nm,0.7s,baz=242,slow=18,SNR=3.5						
BILL	**Bilibino**	**57.41**	**26**	⇓iP	**P**	**15 39 47.0**	**+2.0**
BILL				e*PP	**pP**	**15 40 16.8**	**+1.0**
BILL				e		15 41 50.6	
BILL				iS	**S**	**15 47 36.4**	**+5.1**
BILL				pmax	pmax		
	comp=Z,2.0nm,0.9s						
ES19	**SONSECA Array**	**57.62**	**298**	eP	**P**	**15 39 47.4**	**+0.4**
ESDC	**Sonseca Array**	**57.68**	**298**	P	**P**	**15 39 48.0**	**+0.6**
	comp=Z,3.9nm,0.6s,baz=56,slow=7.1,SNR=31						
TAM	**Tamanrasset**	**58.20**	**276**	eP	**P**	**15 39 52.2**	**+0.9**
	comp=Z,2.7nm,0.7s						
TAM	**Tamanrasset**	**58.20**	**276**	eP	**P**	**15 39 52.3**	**+0.9**
TAM				pmax	pmax		
	comp=Z,3.0nm,0.7s						
POLO	**Lamas de Olo**	**59.63**	**301**	eP	**P**	**15 40 03.1**	**+2.1**
SUMG	**Summit**	**60.39**	**341**	eP	**P**	**15 40 07.1**	**+1.1**
	comp=Z,6.0nm,0.6s						
SUMG	**Summit**	**60.39**	**341**	eP	**P**	**15 40 07.1**	**+1.1**
SUMG				pmax	pmax		
	comp=Z,6.0nm,0.6s						
PBAR	**Barrancos**	**60.49**	**297**	eP	**P**	**15 40 07.8**	**+1.1**
PVAQ	**Vaqueiros**	**61.31**	**297**	eP	**P**	**15 40 13.4**	**+1.1**
PBDV	**Barranco-do-Ve**	**61.53**	**297**	eP	**P**	**15 40 15.3**	**+1.5**
TOA0	**Torodi Ar. Sit**	**66.50**	**269**	eP	**P**	**15 40 45.7**	**-0.8**
	comp=Z,6.8nm,0.6s						
TOA0				epP	**PcP**	**15 41 15.0**	**-0.1**
TORD	**Torodi Ar. Bea**	**66.50**	**269**	P	**P**	**15 40 46.2**	**-0.3**
	comp=Z,5.7nm,0.5s,baz=49,slow=5.9,SNR=70						
TOLK	**Toolik Lake Re**	**69.79**	**15**	eP	**P**	**15 41 07.9**	**+1.6**
	comp=Z,22nm,1.9s						
KOWA	**Kowa**	**70.27**	**273**	P	**P**	**15 41 10.3**	**+0.3**
	comp=Z,19nm,0.7s,baz=60,slow=7.9,SNR=54						
KOWA	**Kowa**	**70.27**	**273**	eP	**P**	**15 41 10.1**	**+0.1**
	comp=Z,19nm,0.6s						
INK	**Inuvik**	**72.83**	**10**	P	**P**	**15 41 25.9**	**+1.5**
	comp=Z,1.7nm,0.5s,baz=336,slow=7.5,SNR=8.7						
INK	**Inuvik**	**72.83**	**10**	P	**P**	**15 41 26.0**	**+1.5**
ILAR	**Eielson Array**	**73.64**	**16**	P	**P**	**15 41 30.1**	**+0.7**
	comp=Z,0.7nm,0.9s,baz=318,slow=3.8,SNR=8.6						
DBIC	**Dimbokro**	**75.50**	**267**	P	**P**	**15 41 40.9**	**0.0**
	comp=Z,1.5nm,0.8s,baz=48,slow=9.4,SNR=3.1						
BBTS	**Babate**	**80.05**	**281**	P	**P**	**15 42 07.4**	**+1.4**
	comp=Z,29nm,1.2s,baz=343,slow=3.2,SNR=2.7						
YKA	**Yellowknife Ar**	**80.24**	**3**	P	**P**	**15 42 07.5**	**+1.3**
	comp=Z,1.7nm,0.5s,baz=349,slow=5.5,SNR=46						
WRA	**Warramunga Arr**	**81.86**	**123**	P	**P**	**15 42 15.4**	**0.0**
	comp=Z,0.4nm,0.7s,baz=322,slow=5.0,SNR=6.4						
WRA	**Warramunga Arr**	**81.86**	**123**	iP	**P**	**15 42 17.5**	**+2.0**
ASAR	**Alice Springs**	**84.19**	**126**	P	**P**	**15 42 28.2**	**+0.8**
	comp=Z,0.2nm,0.9s,baz=319,slow=4.6,SNR=3.3						

ISK ***02*** *15:30:30.4, 38°.85N×43°.62E, h5km, ML3.2/10*
DDA ***02*** *15:30:30.7, 38°.80N×43°.67E, h17km, Ml3.1*
ATA ***02*** *15:30:30.8±1.2, 38°.85N×43°.60E, h13km±9km, ML3.6, MW3.8*
CSEM ***02*** *15:30:31.3±0.4, 38°.83N×43°.70E, h10km, ML3.1, Error ellipse: s-maj=9.1km s-min=5.5km az=107.0*
ISC 02 15:30:31.7±0.9**, 38°.85N**±0°.02×**43°.65E**±0°.03**, h17**km±6km**,**
n66, σ**1s16**/90**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VMUR	**Van-Muradiye**	**0.15**	**336**	iP	**Pg**	**15 30 35.3**	**-0.8**
VMUR				iS	**Sb**	**15 30 39.5**	**+0.3**
VMUR	**Van-Muradiye**	**0.15**	**336**	P	**Pg**	**15 30 35.3**	**-0.8**
VMUR				S	**Sb**	**15 30 39.5**	**+0.3**
ERCV	**ERCIS-VAN**	**0.30**	**305**	PG	**Pg**	**15 30 37.3**	**-1.0**
ERCV				SG	**Sg**	**15 30 42.3**	**-0.4**
ERCV	**ERCIS-VAN**	**0.30**	**305**	ePg	**Pg**	**15 30 37.3**	**-1.0**
VANB	**Van**	**0.33**	**219**	PG	**Pb**	**15 30 39.0**	**-0.2**
VANB	**Van**	**0.33**	**219**	ePg	**Pb**	**15 30 39.0**	**-0.2**
CLDR	**Caldiran**	**0.36**	**35**	PG	**Pg**	**15 30 38.4**	**-1.0**
CLDR				SG	**Sb**	**15 30 45.5**	**+0.3**
CLDR	**Caldiran**	**0.36**	**35**	iP	**Pg**	**15 30 38.4**	**-1.0**
CLDR				iS	**Sb**	**15 30 45.6**	**+0.3**
CLDR	**Caldiran**	**0.36**	**35**	P	**Pg**	**15 30 38.4**	**-1.0**
CLDR				eSg	**Sb**	**15 30 45.5**	**+0.3**
TVAN	**Van**	**0.37**	**211**	iP	**Pg**	**15 30 38.7**	**-0.9**
TVAN				iS	**Sb**	**15 30 45.8**	**+0.2**
TVAN	**Van**	**0.37**	**211**	P	**Pg**	**15 30 38.7**	**-0.9**
TVAN				S	**Sb**	**15 30 45.8**	**+0.2**
DYDN	**Diyadin**	**0.69**	**3**	eP	**Pg**	**15 30 44.6**	**-0.8**
DYDN				eS	**Sb**	**15 30 55.2**	**+0.4**
DYDN				IAML		15 30 57.4	
	comp=Z,242nm,0.3s						
DYDN	**Diyadin**	**0.69**	**3**	iP	**Pb**	**15 30 45.0**	**-0.5**
DYDN				iS	**Sn**	**15 30 56.7**	**-0.7**
DYDN	**Diyadin**	**0.69**	**3**	P	**Pb**	**15 30 45.0**	**-0.5**
GEVA	**Gevas**	**0.71**	**221**	eP	**Pg**	**15 30 43.9**	**-1.8**
GEVA				eS	**Sb**	**15 30 55.2**	**0.0**
GEVA				IAML		15 31 00.6	
	comp=Z,285nm,0.6s						
GEVA	**Gevas**	**0.71**	**221**	iP	**Pg**	**15 30 44.2**	**-1.5**
GEVA				iS	**Sb**	**15 30 56.0**	**+0.8**
GEVA				iS	**Sn**	**15 30 57.2**	**-0.5**
GEVA	**Gevas**	**0.71**	**221**	P	**Pg**	**15 30 44.2**	**-1.5**
GEVA				S	**Sb**	**15 30 56.0**	**+0.8**
ADCV	**BITLIS_Adilcev**	**0.72**	**267**	iP	**Pg**	**15 30 44.8**	**-1.1**
ADCV				iS	**Sb**	**15 30 56.3**	**+0.7**
ADCV	**BITLIS_Adilcev**	**0.72**	**267**	P	**Pg**	**15 30 44.8**	**-1.1**
ADCV				S	**Sb**	**15 30 56.3**	**+0.7**
TUTA	**Tutak**	**0.85**	**311**	iP	**Pg**	**15 30 46.8**	**-1.5**
TUTA				iPg	**Pb**	**15 30 47.7**	**-0.5**
TUTA				eS	**Sb**	**15 30 60.0**	**+0.5**
TUTA				IAML		15 31 06.4	
	comp=Z,145nm,0.2s						
TUTA	**Tutak**	**0.85**	**311**	iP	**Pg**	**15 30 46.9**	**-1.5**
TUTA	**Tutak**	**0.85**	**311**	P	**Pg**	**15 30 46.9**	**-1.5**
AGRB	**Hanur-Agry**	**0.89**	**325**	PG	**Pg**	**15 30 48.3**	**-0.7**
AGRB	**Hanur-Agry**	**0.89**	**325**	ePg	**Pg**	**15 30 48.3**	**-0.7**
IGDI	**IGDIR**	**1.07**	**18**	eP	**Pn**	**15 30 51.9**	**-0.1**
IGDI				iPg	**Pg**	**15 30 52.7**	**+0.2**
IGDI	**IGDIR**	**1.07**	**18**	iP	**Pn**	**15 30 52.4**	**+0.4**
TASB	**TASBURUN-IGDIR**	**1.22**	**22**	PN	**Pg**	**15 30 55.3**	**0.0**
TASB	**TASBURUN-IGDIR**	**1.22**	**22**	ePn	**Pg**	**15 30 55.3**	**0.0**
HAKT	**HAKKARI**	**1.29**	**178**	iP	**Pn**	**15 30 54.4**	**-0.8**
HAKT				iS	**Sg**	**15 31 17.3**	**+3.7**
HAKT	**HAKKARI**	**1.29**	**178**	P	**Pn**	**15 30 54.4**	**-0.8**
GURO	**Guroymak-BITLI**	**1.30**	**257**	PN	**Pn**	**15 30 54.2**	**-1.0**
GURO	**Guroymak-BITLI**	**1.30**	**257**	ePn	**Pn**	**15 30 54.2**	**-1.0**
EATA	**Eleskirt**	**1.35**	**319**	eP	**Pb**	**15 30 56.5**	**-0.3**
EATA	**Eleskirt**	**1.35**	**319**	iP	**Pb**	**15 30 56.7**	**-0.1**
EATA				iS	**Sg**	**15 31 16.8**	**+1.3**
EATA	**Eleskirt**	**1.35**	**319**	P	**Pb**	**15 30 56.7**	**-0.1**
EATA				S	**Sg**	**15 31 16.8**	**+1.3**
YOVA	**Hakkari_Yˆ…kse**	**1.36**	**158**	iP	**Pn**	**15 30 54.7**	**-1.4**
YOVA	**Hakkari_Yˆ…kse**	**1.36**	**158**	P	**Pn**	**15 30 54.7**	**-1.4**
DIGO	**Kars**	**1.58**	**352**	eP	**Pb**	**15 31 00.1**	**-0.5**
DIGO	**Kars**	**1.58**	**352**	iP	**Pb**	**15 30 59.7**	**-0.9**
DIGO	**Kars**	**1.58**	**352**	P	**Pb**	**15 30 59.7**	**-0.9**
SRTM	**Siirt_Merkez**	**1.60**	**238**	iP	**Pb**	**15 31 01.1**	**+0.1**
SRTM	**Siirt_Merkez**	**1.60**	**238**	P	**Pb**	**15 31 01.1**	**+0.1**
SIRT	**Sirnak**	**1.65**	**216**	PN	**Pb**	**15 31 01.6**	**-0.1**
SIRT	**Sirnak**	**1.65**	**216**	ePn	**Pb**	**15 31 01.6**	**-0.1**
HOMI	**Horasan**	**1.80**	**312**	eP	**Pb**	**15 31 04.1**	**-0.3**
HOMI				eS	**Sg**	**15 31 31.4**	**+1.6**
HOMI				IAML		15 31 36.0	
	comp=Z,14nm,0.6s						
HOMI	**Horasan**	**1.80**	**312**	iP	**Pb**	**15 31 04.4**	**0.0**
EAK	**Akyaka**	**1.83**	**359**	eP	**Pg**	**15 31 06.5**	**-0.5**
EAK				IAML		15 31 28.9	
	comp=Z,19nm,0.5s						
EAK				eS	**Sg**	**15 31 32.1**	**+1.3**
EAK	**Akyaka**	**1.83**	**359**	iP	**Pg**	**15 31 05.3**	**-1.7**
EAK	**Akyaka**	**1.83**	**359**	P	**Pg**	**15 31 05.3**	**-1.7**
SENK	**Senkaya-Erzuru**	**1.98**	**330**	PN	**Pb**	**15 31 06.4**	**-1.0**
SENK	**Senkaya-Erzuru**	**1.98**	**330**	ePn	**Pb**	**15 31 06.4**	**-1.0**
SVAN	**Silvan-Diyarba**	**2.05**	**251**	PN	**Pb**	**15 31 07.0**	**-1.4**
SVAN	**Silvan-Diyarba**	**2.05**	**251**	ePn	**Pb**	**15 31 07.0**	**-1.4**
ERZM	**Erzurum**	**2.06**	**301**	eP	**Pg**	**15 31 09.6**	**-1.7**
ERZM	**Erzurum**	**2.06**	**301**	iP	**Pg**	**15 31 09.8**	**-1.5**
BTMN	**Batman**	**2.10**	**244**	iP	**Pb**	**15 31 09.5**	**+0.1**
ECAT	**Cat-ERZURUM**	**2.21**	**291**	eP	**Pb**	**15 31 11.3**	**0.0**
ECAT	**Cat-ERZURUM**	**2.21**	**291**	iP	**Pb**	**15 31 11.0**	**-0.3**
ECAT	**Cat-ERZURUM**	**2.21**	**291**	P	**Pb**	**15 31 11.0**	**-0.3**
BNGB	**Bingˆ¶l**	**2.32**	**274**	PN	**Pb**	**15 31 11.0**	**-2.2**
BINT	**Bingol**	**2.47**	**272**	ePn	**Pn**	**15 31 11.0**	**-0.3**
KOPT	**Kop Dagi**	**2.71**	**297**	eP	**Pb**	**15 31 18.4**	**-1.4**
MAZI	**Mazidag**	**2.88**	**242**	PN	**Pn**	**15 31 19.4**	**+2.5**
MAZI	**Mazidag**	**2.88**	**242**	ePn	**Pn**	**15 31 19.4**	**+2.5**
PTK	**Pertek**	**3.32**	**272**	PN	**Pn**	**15 31 26.1**	**+3.0**
PTK	**Pertek**	**3.32**	**272**	ePn	**Pn**	**15 31 26.1**	**+3.0**

DDA ***02*** *15:35:17.8, 37°.22N×39°.02E, h7km, Ml3.0*
CSEM ***02*** *15:35:18.7±0.3, 37°.23N×38°.95E, h8km, ML2.7, Error ellipse: s-maj=6.7km s-min=4.7km az=161.0*
ISK ***02*** *15:35:18.1, 37°.25N×38°.91E, h10km, ML2.7/5*
ISC 02 15:35:18.1±1.2**, 37°.23N**±0°.03×**38°.95E**±0°.02**, h2**km±11km**,**
n36, σ**0s89**/50**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URFA	**Urfa**	**0.23**	**334**	PG	**Pg**	**15 35 22.7**	**+0.1**
URFA	**Urfa**	**0.23**	**334**	ePg	**Pg**	**15 35 22.7**	**+0.1**
SURC	**SANLIURFA_SURC**	**0.44**	**218**	iP	**Pg**	**15 35 27.4**	**+0.8**
SURC	**SANLIURFA_SURC**	**0.44**	**218**	P	**Pg**	**15 35 27.4**	**+0.8**
MALT	**Malatya**	**1.16**	**339**	PN	**Pn**	**15 35 40.9**	**-0.5**
MALT				SN	**Sg**	**15 35 55.1**	**-0.2**
MALT	**Malatya**	**1.16**	**339**	ePn	**Pn**	**15 35 40.9**	**-0.5**
MALT				eSn	**Sg**	**15 35 55.1**	**-0.2**
DIYA	**Diyarbakir**	**1.16**	**53**	iP	**Pn**	**15 35 42.2**	**+0.8**
DIYA	**Diyarbakir**	**1.16**	**53**	P	**Pn**	**15 35 42.2**	**+0.8**
DYBB	**Diyarbakir**	**1.19**	**52**	PN	**Pn**	**15 35 41.6**	**-0.2**
DYBB				SN	**Sn**	**15 35 59.9**	**+1.4**
DIY	**Diyarbakir**	**1.21**	**56**	ePn	**Pn**	**15 35 41.6**	**-0.5**
DIY				eSn	**Sn**	**15 35 59.9**	**+0.8**
MAZI	**Mazidag**	**1.21**	**79**	PN	**Pg**	**15 35 41.4**	**0.0**
MAZI				SN	**Sn**	**15 35 58.2**	**-1.0**
MAZI	**Mazidag**	**1.21**	**79**	ePn	**Pg**	**15 35 41.4**	**0.0**
MAZI				eSn	**Sn**	**15 35 58.2**	**-1.0**
ELZG	**Elazig**	**1.26**	**1**	iP	**Pg**	**15 35 43.0**	**+0.6**
ELZG				iS	**Sn**	**15 36 02.6**	**+2.0**
ELZG	**Elazig**	**1.26**	**1**	P	**Pg**	**15 35 43.0**	**+0.6**
ELZG				S	**Sn**	**15 36 02.6**	**+2.0**
AKCD	**Akcadag**	**1.34**	**323**	iP	**Pg**	**15 35 44.0**	**+0.2**
AKCD				iS	**Sn**	**15 36 03.2**	**+0.8**
AKCD	**Akcadag**	**1.34**	**323**	P	**Pg**	**15 35 44.0**	**+0.2**
AKCD				S	**Sn**	**15 36 03.2**	**+0.8**
GAZ	**Gaziantep**	**1.39**	**268**	PN	**Pb**	**15 35 44.3**	**-0.5**
GAZ	**Gaziantep**	**1.39**	**268**	ePn	**Pb**	**15 35 44.3**	**-0.5**
MARD	**Mardin**	**1.46**	**86**	iP	**Pn**	**15 35 44.8**	**-0.8**
MARD				iS	**Sg**	**15 36 05.2**	**+0.1**
KUZU	**Kuzuini**	**1.57**	**254**	iP	**Pg**	**15 35 47.9**	**-0.3**
KUZU				iS	**Sg**	**15 36 09.6**	**+1.1**
KUZU	**Kuzuini**	**1.57**	**254**	P	**Pg**	**15 35 47.9**	**-0.3**
KUZU				S	**Sg**	**15 36 09.6**	**+1.1**
HANI	**Diyarbakir_Han**	**1.65**	**44**	iP	**Pn**	**15 35 47.4**	**-0.7**
HANI	**Diyarbakir_Han**	**1.65**	**44**	P	**Pn**	**15 35 47.4**	**-0.7**
KMRS	**Kahramanmaras**	**1.66**	**280**	PN	**Pn**	**15 35 47.0**	**-1.2**
KMRS	**Kahramanmaras**	**1.66**	**280**	ePn	**Pn**	**15 35 47.0**	**-1.2**
PTK	**Pertek**	**1.69**	**12**	PN	**Pb**	**15 35 49.3**	**-0.8**
PTK	**Pertek**	**1.69**	**12**	ePn	**Pb**	**15 35 49.3**	**-0.8**
DARE	**Darende-Malaty**	**1.77**	**319**	PN	**Pn**	**15 35 49.5**	**-0.3**
DARE	**Darende-Malaty**	**1.77**	**319**	ePn	**Pn**	**15 35 49.5**	**-0.3**
HEKM	**Malatya_Hekimh**	**1.82**	**335**	iP	**Pb**	**15 35 51.6**	**-0.7**
HEKM	**Malatya_Hekimh**	**1.82**	**335**	P	**Pb**	**15 35 51.6**	**-0.7**
BTMN	**Batman**	**1.96**	**70**	iP	**Pn**	**15 35 52.7**	**+0.3**
BTMN				iS	**Sg**	**15 36 21.8**	**+0.8**
BTMN	**Batman**	**1.96**	**70**	P	**Pn**	**15 35 52.7**	**+0.3**
KEMA	**Kemaliye**	**2.06**	**350**	iP	**Pb**	**15 35 54.6**	**-1.8**
KEMA	**Kemaliye**	**2.06**	**350**	P	**Pb**	**15 35 54.6**	**-1.8**
BNGB	**Bingˆ¶l**	**2.22**	**37**	PN	**Pn**	**15 35 56.9**	**+0.8**

KRSC ***02*** *16:04:11.6±0.9, 53°.62N×160°.88E, h50km±15km, ML4.4*
ISCJB ***02*** *16:04:13.8±0.5, 53°.64N±0°.03×160°.75E±0°.07, h65km±4km, mb3.6/18, Error ellipse: s-maj=8.0km s-min=2.7km az=32.1*
MOS ***02*** *16:04:13.0±0.7, 53°.60N×160°.85E, h52km, mb3.9/12, Error ellipse: s-maj=9.3km s-min=4.6km az=78.4*
IDC ***02*** *16:04:17.9±1.9, 53°.79N×160°.42E, h84km±16km, mb3.5/17, mb1 3.6/18, mb1mx3.4/73, mbtmp3.8/18, MS2.9/3, Ms1 2.9/3, ms1mx2.4/51, Error ellipse: s-maj=20.1km s-min=14.8km az=130.0*
ISC 02 16:04:13.6±1.0**, 53°.63N**±0°.03×**160°.80E**±0°.04**, h48**km±10km**,**
n101, σ**1s47**/138**, mb3.7**/18**, Near east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.71**	**221**	eP	**Pn**	**16 04 27.2**	**-0.1**
SPN				eS	**Sn**	**16 04 37.1**	**-0.2**
SPN	**Mys Shipunski**	**0.71**	**221**	PN	**Pn**	**16 04 27.2**	**-0.1**
SPN				S	**Sn**	**16 04 37.1**	**-0.2**
KII	**Karymskiy**	**0.90**	**297**	iP	**Pn**	**16 04 29.5**	**-0.4**
KII				eS	**Sn**	**16 04 41.0**	**-0.9**
KII	**Karymskiy**	**0.90**	**297**	PN	**Pn**	**16 04 29.5**	**-0.4**
KII				S	**Sn**	**16 04 41.0**	**-0.9**
NLC	**Nalytchevo**	**0.99**	**243**	iP	**Pn**	**16 04 31.0**	**0.0**
NLC				eS	**Sn**	**16 04 44.1**	**+0.3**
NLC	**Nalytchevo**	**0.99**	**243**	PN	**Pn**	**16 04 31.0**	**0.0**
NLC				S	**Sn**	**16 04 44.1**	**+0.3**
SMAR	**Somma**	**1.25**	**254**	eP	**Pn**	**16 04 35.3**	**+0.5**
SMAR	**Somma**	**1.25**	**254**	PN	**Pn**	**16 04 35.3**	**+0.5**
UGLR	**Uglovaya**	**1.26**	**251**	eP	**Pn**	**16 04 35.5**	**+0.7**
UGLR				eS	**Sn**	**16 04 51.7**	**+1.1**
UGLR	**Uglovaya**	**1.26**	**251**	PN	**Pn**	**16 04 35.5**	**+0.7**
UGLR				S	**Sn**	**16 04 51.7**	**+1.1**
AVH	**Avacha**	**1.29**	**254**	eP	**Pn**	**16 04 35.8**	**+0.6**
AVH				eS	**Sn**	**16 04 52.7**	**+1.4**
AVH	**Avacha**	**1.29**	**254**	PN	**Pn**	**16 04 35.8**	**+0.6**
AVH				S	**Sn**	**16 04 52.7**	**+1.4**
KRX	**Arik**	**1.31**	**259**	eP	**Pn**	**16 04 36.0**	**+0.4**
KRX				eS	**Sn**	**16 04 52.4**	**+0.4**
KRX	**Arik**	**1.31**	**259**	PN	**Pn**	**16 04 36.0**	**+0.4**
KRX				S	**Sn**	**16 04 52.4**	**+0.4**
KOK	**Koryaka**	**1.34**	**256**	eP	**Pn**	**16 04 36.5**	**+0.6**
KOK	**Koryaka**	**1.34**	**256**	PN	**Pn**	**16 04 36.5**	**+0.6**
DALK	**Dalny**	**1.37**	**245**	iP	**Pn**	**16 04 36.6**	**+0.4**
DALK				iS	**Sn**	**16 04 53.8**	**+0.7**
DALK	**Dalny**	**1.37**	**245**	PN	**Pn**	**16 04 36.6**	**+0.4**
DALK				S	**Sn**	**16 04 53.8**	**+0.7**
PET	**Petropavlovsk**	**1.42**	**246**	PN	**Pn**	**16 04 37.6**	**+0.7**
PET				S	**Sn**	**16 04 55.1**	**+0.6**
KZV	**Kizimen**	**1.51**	**349**	eP	**Pn**	**16 04 38.3**	**-0.1**
KZV				eS	**Sn**	**16 04 57.8**	**+0.8**
KZV	**Kizimen**	**1.51**	**349**	PN	**Pn**	**16 04 38.3**	**-0.1**
KZV				S	**Sn**	**16 04 57.8**	**+0.8**
TUMR	**Tumrok**	**1.70**	**347**	eP	**Pn**	**16 04 41.4**	**+0.6**
TUMR				eS	**Sn**	**16 05 01.4**	**0.0**
TUMR	**Tumrok**	**1.70**	**347**	PN	**Pn**	**16 04 41.4**	**+0.6**
TUMR				S	**Sn**	**16 05 01.4**	**0.0**
GNL	**Ganaly**	**1.70**	**273**	iP	**Pn**	**16 04 41.7**	**+0.8**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GNL				i S	Sn	16 05 02.9	+1.4
GNL	Ganaly	1.70	273	PN	Pn	16 04 41.7	+0.8
GNL				S	Sn	16 05 02.9	+1.4
KRMR	Karymshinskiy	1.79	245	eP	Pn	16 04 43.0	+1.0
KRMR				eS	Sn	16 05 04.5	+0.9
KRMR	Karymshinskiy	1.79	245	PN	Pn	16 04 43.0	+1.0
KRMR				S	Sn	16 05 04.5	+0.9
RUS	Russkaya	1.83	230	eP	Pn	16 04 43.7	+1.2
RUS				eS	Sn	16 05 05.2	+0.8
RUS	Russkaya	1.83	230	PN	Pn	16 04 43.7	+1.2
RUS				S	Sn	16 05 05.2	+0.8
PETK	Petropavlovsk-	1.93	255	P	Pn	16 04 44.9	+1.0
	48nm,0.3s,baz=84,slow=20,SNR=688						
PETK				S	Sn	16 05 09.3	+2.3
	40nm,0.3s,baz=136,slow=27,SNR=15						
MTVR	Mutnovka	1.95	235	eP	Pn	16 04 45.4	+1.1
MTVR				eS	Sn	16 05 09.0	+1.3
MTVR	Mutnovka	1.95	235	PN	Pn	16 04 45.4	+1.1
MTVR				S	Sn	16 05 09.0	+1.3
KMNR	Kamenistaya	2.15	352	eP	Pn	16 04 48.5	+1.4
KMNR	Kamenistaya	2.15	352	PN	Pn	16 04 48.5	+1.4
APC	Apacha	2.30	254	eP	Pn	16 04 50.5	+1.6
APC				eS	Sn	16 05 18.5	+2.6
APC	Apacha	2.30	254	PN	Pn	16 04 50.5	+1.6
APC				S	Sn	16 05 18.5	+2.6
BZMR	Bezymyannaya	2.32	356	eP	Pn	16 04 50.6	+1.3
BZMR	Bezymyannaya	2.32	356	PN	Pn	16 04 50.6	+1.3
BZWR	Bezymyannyi-We	2.34	356	eP	Pn	16 04 51.0	+1.3
BZWR	Bezymyannyi-We	2.34	356	PN	Pn	16 04 51.0	+1.3
LGNR	Loginova	2.46	359	eP	Pn	16 04 53.4	+2.0
LGNR	Loginova	2.46	359	PN	Pn	16 04 53.4	+2.0
KDTR	Khodutka, Kamc	2.46	223	eP	Pn	16 04 53.2	+2.0
KDTR				eS	Sn	16 05 21.7	+1.7
KOZ	Kozyrevsk	2.49	348	eP	Pn	16 04 52.3	+0.7
KOZ	Kozyrevsk	2.49	348	PN	Pn	16 04 52.3	+0.7
KRSR	Krestovskiy	2.59	357	eP	Pn	16 04 54.4	+1.3
KRSR	Krestovskiy	2.59	357	PN	Pn	16 04 54.4	+1.3
ESO	Esso	2.60	333	i P	Pn	16 04 53.6	+0.5
ESO	Esso	2.60	333	PN	Pn	16 04 53.6	+0.5
KLY	Klyuchi	2.69	358	eP	Pn	16 04 55.6	+1.3
KLY				eS	Sn	16 05 27.0	+1.5
KLY	Klyuchi	2.69	358	PN	Pn	16 04 55.6	+1.3
KLY				S	Sn	16 05 27.0	+1.5
KBTR	Krutoberegovo	2.83	23	eP	Pn	16 04 57.1	+0.9
KBTR				eS	Sn	16 05 31.3	+2.2
KBTR	Krutoberegovo	2.83	23	PN	Pn	16 04 57.1	+0.9
KBTR				S	Sn	16 05 31.3	+2.2
KBG	Krutoberegovo	2.85	22	eP	Pn	16 04 59.0	+2.6
KBG	Krutoberegovo	2.85	22	PN	Pn	16 04 59.0	+2.6
BDR	Baidarnaya	2.95	4	eP	Pn	16 05 01.1	+3.1
BDR				eS	Sn	16 05 35.5	+3.3
BDR	Baidarnaya	2.95	4	PN	Pn	16 05 01.1	+3.1
BDR				S	Sn	16 05 35.5	+3.3
SMKR	Semkarok	2.98	7	eP	Pn	16 04 59.8	+1.4
SMKR				eS	Sn	16 05 34.0	+1.1
SMKR	Semkarok	2.98	7	PN	Pn	16 04 59.8	+1.4
SMKR				S	Sn	16 05 34.0	+1.1
SRKR	Sorokina	3.04	4	eP	Pn	16 05 01.3	+2.2
SRKR				eS	Sn	16 05 36.4	+2.2
SRKR	Sorokina	3.04	4	PN	Pn	16 05 01.3	+2.2
SRKR				S	Sn	16 05 36.4	+2.2
PAU	Pauzhetka	3.26	230	eP	Pn	16 05 04.2	+2.1
PAU				eS	Sn	16 05 40.8	+1.2
PAU	Pauzhetka	3.26	230	PN	Pn	16 05 04.2	+2.1
PAU				S	Sn	16 05 40.8	+1.2
BKI	Bering	3.41	60	eP	Pn	16 05 04.5	+0.4
BKI				eS	Sn	16 05 40.7	-2.5
BKI	Bering	3.41	60	PN	Pn	16 05 04.5	+0.4
BKI				S	Sn	16 05 40.7	-2.5
SKR	Severo-Kuril's	4.13	226	eP	Pn	16 05 15.6	+1.6
SKR				eS	Sn	16 06 02.9	+2.0
SKR	Severo-Kuril's	4.13	226	PN	Pn	16 05 15.6	+1.6
SKR				S	Sn	16 06 02.9	+2.0
OSSR	Ossora	5.77	12	eP	Pn	16 05 39.4	+2.9
OSSR	Ossora	5.77	12	PN	Pn	16 05 39.4	+2.9
MA2	Magadan	8.12	321	LR	LR	16 09 35.0	
	comp=Z,42nm,19.3s,baz=85,slow=40						
NKL	Nikolayevsk	12.02	276	ePN	Pn	16 07 15.2	+13
YAK	Yakutsk	18.41	310	P	P	16 08 22.9	-1.5
	0.0nm,0.3s,baz=62,slow=2.4,SNR=4.8						
KLR	Kul'dur	18.57	268	P	Pn	16 08 28.2	+1.3
	0.0nm,0.3s,baz=24,slow=8.4,SNR=4.2						
TIXI	Tiksi	22.77	334	P	P	16 09 11.3	-0.1
	0.3nm,0.4s,baz=117,slow=11,SNR=6.0						
MJAR	Matsushiro Arr	23.21	232	P	P	16 09 16.8	+0.6
	1.5nm,0.8s,baz=14,slow=12,SNR=4.8						
ILAR	Eielson Array	28.14	46	P	P	16 10 01.1	+0.5
	0.6nm,0.9s,baz=267,slow=8.0,SNR=4.7						
INK	Inuvik	33.18	38	P	P	16 10 46.0	+1.0
	1.0nm,0.7s,baz=327,slow=6.1,SNR=4.2						
H11N2	WAKE ISLAND Hy	34.16	170	T	T	16 47 18.2	
	baz=353,slow=76,SNR=114						
H11N3	WAKE ISLAND Hy	34.18	170	T	T	16 47 25.2	
	baz=353,slow=76,SNR=98						
H11N1	WAKE ISLAND Hy	34.18	170	T	T	16 47 21.2	
	baz=353,slow=76,SNR=78						
SONM	Songino Array	34.19	283	LR	LR	16 25 18.8	
	comp=Z,30nm,19.9s,baz=223,slow=37						
H11S1	WAKE ISLAND Hy	35.35	170	T	T	16 48 45.7	
	baz=352,slow=76,SNR=10						
H11S3	WAKE ISLAND Hy	35.36	170	T	T	16 48 46.0	
	baz=352,slow=76,SNR=24						
H11S2	WAKE ISLAND Hy	35.37	170	T	T	16 48 47.0	
	baz=352,slow=76,SNR=9.5						
YKA	Yellowknife Ar	42.48	43	P	P	16 12 04.3	+0.9
	0.5nm,0.7s,baz=300,slow=8.1,SNR=6.8						
SPITS	Spitsbergen Ar	46.67	351	P	P	16 12 35.5	-1.2
	5.0nm,0.8s,baz=8.3,slow=11,SNR=2.8						
KURK	Kurchatov	47.81	302	P	P	16 12 44.3	-1.5
KURK				pmax	pmax		
	comp=Z,1.0nm,0.6s						
KURBB	Kurchatov Arra	47.91	302	P	P	16 12 44.3	-2.3
	comp=Z,0.5nm,0.5s,baz=60,slow=7.6,SNR=4.0						
MKAR	Makanchi Array	48.30	296	P	P	16 12 46.5	-3.2
	comp=Z,0.3nm,0.6s,baz=61,slow=7.6,SNR=6.9						
FINES	FINESS Array B	59.79	337	P	P	16 14 12.5	-0.7
	comp=Z,1.6nm,0.5s,baz=33,slow=7.1,SNR=11						
NB2	NORSAR Subarra	63.14	344	P	P	16 14 34.9	-0.9
	comp=Z,1.0nm,0.5s,baz=23,slow=6.9						
NOA	NORSAR Array B	63.14	344	P	P	16 14 35.0	-0.8
	comp=Z,1.8nm,1.0s,baz=29,slow=6.0,SNR=5.4						
HFS	Hagfors	63.57	342	P	P	16 14 37.7	-0.8
	comp=Z,2.0nm,0.6s,baz=38,slow=5.7,SNR=7.0						
AKASG	Malin Array Be	68.37	329	P	P	16 15 07.3	-2.2
	comp=Z,0.2nm,0.2s,baz=31,slow=6.5,SNR=4.2						
AKASG	Malin Array Be	68.37	329	P	P	16 15 07.3	-2.2
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
TXAR	Lajitas Array	70.04	68	P	P	16 15 22.1	+1.7
	comp=Z,0.7nm,0.8s,baz=335,slow=4.0,SNR=3.9						
EKA	Eskdalemuir Ar	70.60	350	P	P	16 15 22.9	-0.3
	comp=Z,0.5nm,0.5s,baz=26,slow=5.0,SNR=3.4						
MLR	Muntele Rosu	74.01	329	LR	LR	16 50 22.6	
	comp=Z,6.9nm,19.6s,baz=8.0,slow=38						
GERES	GERESS Array B	74.17	338	P	P	16 15 44.5	-0.3
	comp=Z,0.6nm,0.6s,baz=39,slow=5.1,SNR=5.2						
WRA	Warramunga Arr	76.75	206	P	P	16 15 59.9	+0.3
	comp=Z,0.6nm,1.0s,baz=15,slow=5.9,SNR=5.1						
ASAR	Alice Springs	80.42	205	P	P	16 16 20.9	+1.1
	comp=Z,0.5nm,0.9s,baz=16,slow=5.1,SNR=5.3						

IDC 02 16:16:38.5±1.5, 16°.37N×92°.52W, h0km, mb3.4/2, mb1 3.8/5, mb1mx3.5/45, mbtmp3.4/5, ML3.4/3, Error ellipse: s-maj=53.2km s-min=14.4km az=34.0, Chiapas

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CMIG	Matias Romero	2.38	288	Pn	Pn	16 17 18.6	-0.2
	7.5nm,0.3s,baz=152,slow=12,SNR=39						
CMIG				Sn	Sn	16 17 50.1	+1.4
	25nm,0.3s,baz=146,slow=16,SNR=10						
APG	El Apazote	2.40	124	Pn	Pn	16 17 18.9	-0.4
	6.5nm,0.3s,baz=311,slow=12,SNR=43						
APG				Lg	Lg	16 17 55.1	
	8.6nm,0.3s,baz=312,slow=17,SNR=3.9						
TXAR	Lajitas Array	16.48	323	Pn	P	16 20 32.9	-1.2
	0.1nm,0.3s,baz=147,slow=12,SNR=2.8						
NVAR	Mina Array Bea	31.54	319	P	P	16 23 02.7	-0.1
	0.6nm,0.7s,baz=126,slow=9.0,SNR=4.1						
YKA	Yellowknife Ar	48.61	347	P	P	16 25 23.8	+0.1
	0.2nm,0.5s,baz=155,slow=7.2,SNR=5.7						

ISCJB 02 16:23:34.6±0.9, 33°.8N±0°.1×88°.0E±0°.2, h10km, mb3.5/3, MS2.6/1, Error ellipse: s-maj=25.3km s-min=14.0km az=153.2

IDC 02 16:23:34.4±1.4, 33°.70N×87°.91E, h0km, mb3.6/3, mb1 3.5/7, mb1mx3.3/71, mbtmp3.3/7, ML3.0/3, MS2.8/1, Ms1 2.8/1, ms1mx2.3/56, Error ellipse: s-maj=35.7km s-min=30.7km az=64.0

ISC 02 16:23:36.1±1.2, 33°.8N±0°.1×88°.0E±0°.2, h10km, n9, σ1°.15/7, mb3.7/3, Xizang

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WMQ	Urumqi	10.00	359	P	Pn	16 25 54.1	-5.7
WMQ				smax	smax		
	comp=N,13nm,0.5s						
WMQ				smax	smax		
	comp=E,14nm,0.7s						
MKAR	Makanchi Array	13.68	343	Pn	Pn	16 26 50.1	0.0
	comp=E,0.1nm,0.3s,baz=160,slow=14,SNR=4.0						
CMAR	Chiang Mai Arr	18.14	145	P	P	16 27 49.0	+0.5
	comp=E,0.0nm,0.3s,baz=332,slow=11,SNR=3.9						
KURBB	Kurchatov Arra	18.18	340	P	P	16 27 48.7	0.0
	comp=E,0.0nm,0.3s,baz=158,slow=12,SNR=8.0						
SONM	Songino Array	19.66	39	P	Pn	16 28 06.2	-0.4
	baz=235,slow=12,SNR=2.3						
TLY	Talaya	21.14	28	LR	LR	16 35 48.7	
	comp=E,25nm,19.1s,baz=306,slow=34						
GERES	GERESS Array B	55.64	310	P	P	16 33 13.8	+1.5
	comp=E,0.6nm,0.7s,baz=68,slow=6.5,SNR=3.9						
TORD	Torodi Ar. Bea	79.80	279	P	P	16 35 43.5	-1.6
	comp=E,0.8nm,0.7s,baz=39,slow=4.3,SNR=4.3						
YKA	Yellowknife Ar	82.31	10	P	P	16 35 57.5	-0.1
	comp=E,0.1nm,0.5s,baz=335,slow=5.2,SNR=4.3						

IDC 02 16:26:04.6±9.7, 4°.38S×153°.31E, h142km±64km, mb3.2/2, mb1 3.5/3, mb1mx3.0/53, mbtmp3.8/3, Error ellipse: s-maj=135.1km s-min=59.8km az=120.0, New Ireland region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	7.89	230	P	Pn	16 27 56.7	+0.1
	2.4nm,0.3s,baz=57,slow=17,SNR=10						
PMG				S	Sn	16 29 24.8	+0.3
	0.9nm,0.3s,baz=118,slow=17,SNR=3.6						
WRA	Warramunga Arr	24.10	228	P	P	16 31 07.5	+0.2
	2.0nm,0.5s,baz=53,slow=10.0,SNR=44						
ASAR	Alice Springs	26.80	222	P	P	16 31 31.6	-0.1
	0.2nm,0.5s,baz=56,slow=9.2,SNR=8.0						
TORD	Torodi Ar. Bea	150.65	289	PKPbc	PKPbc	16 45 40.5	-0.5
	0.6nm,0.8s,baz=91,slow=2.9,SNR=3.3						

ISCJB 02 16:28:49.8±0.9, 4°.4S±0°.1×153°.7E±0°.2, h85km, mb3.7/10, Error ellipse: s-maj=31.3km s-min=10.0km az=38.2

IDC 02 16:28:53.7±5.3, 4°.46S×153°.66E, h108km±44km, mb3.5/10, mb1 3.8/11, mb1mx3.6/51, mbtmp4.0/11, MS3.0/2, Ms1 3.0/2, ms1mx2.6/26, Error ellipse: s-maj=39.3km s-min=24.0km az=103.0

ISC 02 16:28:51.2±1.1, 4°.4S±0°.2×153°.7E±0°.2, h85km, n13, σ1°.09/13, mb3.7/10, New Ireland region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HNR	Honiara	7.93	129	LR	LR	16 33 46.4	
	comp=Z,107nm,21.0s,baz=285,slow=37						
PMG	Port Moresby	8.21	232	P	Pn	16 30 49.4	+1.9
	16nm,0.3s,baz=51,slow=7.6,SNR=52						
PMG				S	Sn	16 32 17.4	-1.3
	4.9nm,0.3s,baz=114,slow=19,SNR=8.8						
PMG				LR	LR	16 33 09.1	
	comp=Z,121nm,20.8s,baz=114,slow=32						
WRA	Warramunga Arr	24.41	229	P	P	16 34 01.5	-0.4
	6.8nm,0.4s,baz=54,slow=10.0,SNR=137						
ASAR	Alice Springs	27.07	223	P	P	16 34 25.5	-0.5
	0.7nm,0.4s,baz=56,slow=9.1,SNR=38						
STKA	Stephens Creek	29.61	201	P	P	16 34 48.1	-0.3
	2.2nm,0.7s,baz=52,slow=10,SNR=7.6						
CMAR	Chiang Mai Arr	58.56	295	P	P	16 38 40.0	+0.6
	0.6nm,0.7s,baz=116,slow=5.5,SNR=8.3						
MKAR	Makanchi Array	80.65	319	P	P	16 40 54.7	-0.1
	0.3nm,0.6s,baz=101,slow=6.8,SNR=7.0						
ZALV	Zalesovo Beam	81.35	326	P	P	16 40 57.1	-1.2
	0.5nm,0.3s,baz=116,slow=6.6,SNR=3.2						
ILAR	Eielson Array	81.44	22	P	P	16 40 58.5	-0.2
	0.4nm,0.6s,baz=242,slow=5.0,SNR=5.3						
KURBB	Kurchatov Arra	84.07	322	P	P	16 41 12.5	0.0
	0.4nm,0.8s,baz=98,slow=4.6,SNR=3.8						
BVAR	Borovoye Array	89.49	323	P	P	16 41 37.6	-1.2
	0.6nm,0.6s,baz=108,slow=4.7,SNR=3.5						
YKA	Yellowknife Ar	94.64	28	P	P	16 42 03.5	+1.1
	0.1nm,0.4s,baz=271,slow=4.4,SNR=2.7						
TORD	Torodi Ar. Bea	151.07	289	PKPbc	PKPbc	16 48 34.3	-1.2
	1.0nm,0.5s,baz=86,slow=2.1,SNR=9.5						

DJA 02 16:32:25.2±0.2, 3°S±2°×12°7E±°, h10km, M4.5/15, mb4.9/6, mB5.0/6, MLv4.6/15, Mw(mB)4.3/6

ISCJB 02 16:32:26.4±0.2, 2°.87S±0°.03×127°.31E±0°.04, h42km, mb4.4/29, MS3.3/5, Error ellipse: s-maj=5.6km s-min=3.8km az=158.1

NEIC 02 16:32:28.6±0.6, 2°.82S×127°.44E, h50km±5km, mb4.5/11, Error ellipse: s-maj=6.9km s-min=4.1km az=58.0

IDC 02 16:32:33.6±2.8, 2°.87S×127°.47E, h94km±24km, mb3.9/15, mb1 3.9/16, mb1mx3.7/56, mbtmp4.2/16, MS3.2/5, Ms1 3.2/5, ms1mx2.8/46, Error ellipse: s-maj=26.6km s-min=9.2km az=67.0

ISC 02 16:32:28.3±0.4, 2°.90S±0°.04×127°.32E±0°.06, h42km, n87, σ1°.39/91, mb4.4/29, MS3.1/5, 1C, Ceram Sea

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NLAI	Namlea	0.40	213	P	Pn	16 32 35.2	-2.6
NLAI				S	Sn	16 32 42.9	-1.6
AAI	Ambon	1.17	132	P	Pn	16 32 49.9	+1.6
SANI	Sanana	1.57	303	P	Pn	16 32 48.6	-5.2
MSAI	Masohi	1.67	105	P	Pn	16 32 57.0	+1.9
LBMI	Labuha	2.26	5	P	Pn	16 33 01.5	-1.7
LBMI				S	Sn	16 33 28.1	-1.7
BNDI	Bandanaira	3.04	122	P	Pn	16 33 16.1	+2.2
TNTI	Ternate	3.65	1	ePn	Pn	16 33 20.1	-2.2
SWI	Sorong	4.43	63	P	Pn	16 33 32.5	-0.6
KMSI	Cibinong	4.80	316	P	Pn	16 33 34.6	-3.5
LUWI	Luwuk	4.90	292	P	Pn	16 33 37.1	-2.5
LUWI	Luwuk	4.90	292	ePn	Pn	16 33 37.1	-2.5
FAKI	Fak Fak	4.93	90	P	Pn	16 33 39.5	-0.4
	42nm,0.5s,1μm						
FAKI	Fak Fak	4.93	90	ePn	Pn	16 33 39.1	-0.8
BBSI	Bau Bau	5.38	241	P	Pn	16 33 45.8	-0.3
APSI	Ampana	6.00	289	P	Pn	16 33 52.7	-1.9
	296nm,0.7s,3μm						
MRSI	Marisa	6.34	302	P	Pn	16 33 56.7	-2.5
	56nm,0.5s,774nm						
SOEI	Soe	7.45	204	ePn	Pn	16 34 17.9	+3.3
PCI	Palu	7.73	285	P	Pn	16 34 16.0	-2.4
KAPI	Kappang	7.83	254	ePn	Pn	16 34 21.3	+1.6
	19nm,0.4s						
MPSI	Mapaga	8.08	293	P	Pn	16 34 21.3	-1.9
BATI	Baumata	8.11	206	P	Pn	16 34 31.9	+8.3
	2.4nm,0.3s,baz=76,slow=8.3,SNR=5.4						
BATI				LR	LR	16 38 05.5	
	comp=Z,184nm,18.4s,baz=49,slow=40						
MTN	Manton Dam	10.57	159	ePn	Pn	16 34 58.6	+1.3
MYLDM	Lahad Datu	11.92	312	ePn	Pn	16 35 16.2	+0.5
KKM	Kota Kinabalu	14.21	309	ePn	Pn	16 35 47.9	+0.8
JAGI	Jajag, Banyuwa	14.21	247	ePn	Pn	16 35 49.6	+2.5
WRA	Warramunga Arr	18.27	158	P	P	16 36 37.5	-1.1
	2.1nm,0.3s,baz=341,slow=11,SNR=39						
WRA				S	Sn	16 40 00.4	-1.6
	0.0nm,0.3s,baz=335,slow=22,SNR=3.6						
WRA				PcP	PcP	16 41 09.5	-0.3
	baz=324,slow=1.4,SNR=3.2						
WB2	Warramunga Arr	18.27	158	eP	P	16 36 37.2	-1.4
	14nm,0.9s						
COEN	Coen	19.13	126	eP	P	16 36 47.8	-0.3
	22nm,0.6s						
MBWA	Marble Bar	19.59	202	eP	Pn	16 36 54.6	0.0
	30nm,1.6s						
PMG	Port Moresby	20.75	109	P	P	16 37 05.1	-0.6
	10nm,0.6s,baz=312,slow=15,SNR=3.7						
PMG				LR	LR	16 46 01.0	
	comp=Z,59nm,18.3s,baz=250,slow=39						
AS31	Alice Springs	21.60	163	eP	P	16 37 14.0	-0.8
	5.7nm,0.9s						
ASAR	Alice Springs	21.60	163	P	P	16 37 14.7	-0.2
	3.3nm,0.3s,baz=344,slow=11,SNR=71						
ASAR				S	S	16 41 10.2	-1.9
	5.4nm,1.1s,baz=346,slow=22,SNR=15						
ASAR				PcP	PcP	16 41 15.8	+0.1
	1.6nm,0.5s,baz=348,slow=1.4,SNR=12						
AS01	Alice Springs	21.61	163	eP	P	16 37 14.5	-0.4
CTA	Charters Tower	25.17	134	P	P	16 37 51.2	+1.3
	2.2nm,0.8s,baz=313,slow=15,SNR=3.6						
STKA	Stephens Creek	31.80	157	P	P	16 38 48.1	-0.9
	2.0nm,0.5s,baz=325,slow=8.1,SNR=9.3						
HNR	Honiara	33.06	103	LR	LR	16 55 21.5	
	comp=Z,60nm,18.0s,baz=190,slow=42						
CM01	Chiang Mai Arr	35.05	308	eP	P	16 39 16.3	-1.2
CMAR	Chiang Mai Arr	35.09	308	P	P	16 39 18.7	+0.9
	1.3nm,0.7s,baz=140,slow=7.8,SNR=12						
CMAR				LR	LR	16 55 03.8	
	comp=Z,18nm,18.3s,baz=180,slow=38						
CHTO	Chiang Mai	35.29	309	eP	P	16 39 19.8	+0.3
	4.1nm,0.9s						
NJ2	Nanjing	35.68	348	eP	P	16 39 22.8	+0.2
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.5s						
KMI	Kunming	36.67	321	P	P	16 39 34.9	+3.4
KMI				pmax	pmax		
	comp=Z,8.0nm,0.6s						
CD2	Chengdu	40.44	328	eP	P	16 40 03.0	+0.2
MJAR	Matsushiro Arr	40.54	14	LR	LR	16 54 20.7	
	comp=Z,29nm,21.1s,baz=155,slow=32						
XAN	Xi'an	40.63	336	P	P	16 40 05.0	+0.6
XAN				pP	sP	16 40 18.6	-2.4
XAN				pmax	pmax		
	comp=Z,6.0nm,0.8s						
BJI	Beijing	43.94	348⇑	i P	P	16 40 32.0	+0.8
BJI				pmax	pmax		
	comp=Z,11nm,0.9s						
SHL	Shillong	44.49	312	eP	P	16 40 38.0	+2.0
LZH	Lanzhou	44.56	333	eP	P	16 40 38.3	+1.9
LZH				pP	sP	16 40 51.0	-2.1
LZH				sP	pP	16 40 56.4	+8.2
LZH				PP	PP	16 42 24.2	+3.2
LZH				pmax	pmax		
	comp=Z,27nm,1.0s						
LZH				pmax	pmax		
	comp=Z,420nm,7.1s						
LZH				LR	LR		
	comp=N,98nm,14.3s						
LZH				LR	LR		
	comp=E,110nm,14.2s						
LZH				LR	LR		
	comp=Z,150nm,17.5s						
HHC	Hu-ho-hao-te	45.86	343	eP	P	16 40 48.0	+1.4
HHC				pmax	pmax		
	comp=Z,8.0nm,1.1s						
HHC				pmax	pmax		
	comp=Z,66nm,6.0s						
USRK	Ussuriysk Ar.	47.08	5	P	P	16 40 56.1	+0.2
	1.2nm,0.4s,baz=173,slow=7.8,SNR=4.4						
LSA	Lhasa	47.41	316	eP	P	16 40 59.4	0.0
	13nm,1.4s						
ODAN	Odare	48.58	310	eP	P	16 41 08.9	+0.7
GTA	Gaotai	49.12	332	eP	P	16 41 13.4	+1.4
GTA				pmax	pmax		
	comp=Z,4.0nm,1.0s						
RAMN	Ramite	49.23	310	eP	P	16 41 14.3	+1.1
	16nm,0.6s						
JIRN	Jiri	49.91	310	eP	P	16 41 19.1	+0.6
GUN	Gumba	50.27	310	eP	P	16 41 21.8	+0.6
	16nm,0.7s						
PKI	Pulchoki	50.46	310	eP	P	16 41 22.8	+0.2
PKIN	Phulchoki	50.47	310	eP	P	16 41 22.9	+0.3
KKN	Kakani	50.67	310	eP	P	16 41 24.5	+0.5
DMN	Daman	50.71	310	eP	P	16 41 24.9	+0.5
GKN	Gorkha	51.27	310	eP	P	16 41 29.0	+0.5
KOLN	Koldanda	51.95	309	eP	P	16 41 34.3	+0.6
	13nm,0.6s						
PYUN	Piuthan	52.58	309	eP	P	16 41 39.0	+0.6
ULN	Ulaanbaatar	53.58	343	eP	P	16 41 44.9	-0.4
	3.0nm,0.8s						
SONM	Songino Array	53.75	343	P	P	16 41 46.5	0.0
	2.0nm,0.8s,baz=161,slow=7.7,SNR=8.8						
SONA1	Songino Array	53.76	343	eP	P	16 41 45.9	-0.6
WMQ	Urumqi	58.52	327	P	P	16 42 19.7	-0.9
WMQ				sP	sP	16 42 39.9	+2.3
WMQ				PP	PP	16 44 32.1	+1.6
WMQ				pmax	pmax		
	comp=Z,15nm,0.8s						
WMQ				pmax	pmax		
	comp=Z,110nm,4.3s						
KSH	Kashi	63.21	317	eP	P	16 42 53.1	+0.5
MK01	Makanchi Array	63.34	327	eP	P	16 42 52.8	-0.4
MK31	Makanchi Array	63.36	327	eP	P	16 42 52.8	-0.5
MKAR	Makanchi Array	63.36	327	P	P	16 42 53.0	-0.3
	1.7nm,0.6s,baz=118,slow=8.2,SNR=18						
MKAR	Makanchi Array	63.36	327	eP	P	16 42 52.8	-0.5
	20nm,1.0s						
MAKZ	Makanchi	63.54	327	eP	P	16 42 54.3	-0.2
	7.7nm,1.4s						
ZALV	Zalesovo Beam	66.75	334	P	P	16 43 14.4	-0.8
	1.1nm,0.8s,baz=145,slow=5.4,SNR=4.3						
ZALV	Zalesovo Beam	66.75	334	eP	P	16 43 14.0	-1.2
KURBB	Kurchatov Arra	67.64	329	P	P	16 43 20.2	-0.7
	4.0nm,0.9s,baz=128,slow=6.2,SNR=28						
KURK	Kurchatov	67.65	329	eP	P	16 43 20.2	-0.7
	12nm,1.2s						
BVAR	Borovoye Array	73.19	328	P	P	16 43 54.3	-0.5
	2.1nm,0.8s,baz=140,slow=7.0,SNR=8.7						
TIXI	Tiksi	74.42	1	eP	P	16 44 00.9	-0.6
	12nm,1.8s						
VNDA	Vanda	76.82	173	P	P	16 44 14.1	-1.1
	0.7nm,0.5s,baz=316,slow=6.6,SNR=6.6						
AKTO	Aktyubinsk	79.22	322	P	P	16 44 28.6	-0.5
	1.5nm,0.6s,baz=102,slow=7.9,SNR=3.9						
ILAR	Eielson Array	90.81	25	P	P	16 45 24.9	-2.0
	0.6nm,0.9s,baz=238,slow=5.1,SNR=4.1						
ARCES	ARCESS Array B	96.83	340	P	P	16 45 52.9	-1.6
	1.8nm,0.6s,baz=75,slow=7.6,SNR=8.5						
PHWY	Pilot Hill	119.23	43	ePKPdf	PKPdf	16 51 12.6	-1.1
TORD	Torodi Ar. Bea	125.31	284	PKP	PKPdf	16 51 25.6	0.0
	0.4nm,0.7s,baz=77,slow=0.9,SNR=2.4						
DBIC	Dimbokro	132.21	276	ePKPdf	PKPdf	16 51 38.1	-0.7
PLCA	Paso Flores	133.60	161	PKP	PKPdf	16 51 41.5	+0.6
	1.0nm,0.7s,baz=180,slow=1.0,SNR=3.8						
CPUP	Villa Florida	150.59	171	PKPbc	PKPbc	16 52 16.1	-0.4
	3.0nm,0.6s,baz=209,slow=4.2,SNR=7.5						

ISK 02 16:45:20.7, 38°.10N×42°.65E, h2km, ML2.6/5

ISCJB 02 16:45:21.3±0.6, 38°.09N±0°.03×42°.67E±0°.03, h2km±5km, Error ellipse: s-maj=4.8km s-min=3.7km az=136.8

DDA 02 16:45:21.3, 38°.11N×42°.68E, h7km, Ml2.8

CSEM 02 16:45:21.3±0.2, 38°.10N×42°.68E, h5km, ML2.8, Error ellipse: s-maj=4.4km s-min=3.7km az=141.0

ISC 02 16:45:21.6±1.2, 38°.11N±0°.02×42°.67E±0°.02, h7km±10km, n27, σ0°.69/50, Turkey

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GEVA	Gevas	0.37	56	i P	Pg	16 45 28.2	-0.6
GEVA				i S	Sg	16 45 34.4	+0.7
GEVA	Gevas	0.37	56	P	Pg	16 45 28.2	-0.6
GEVA				S	Sg	16 45 34.4	+0.7
SRTM	Siirt_Merkez	0.60	259	i P	Pg	16 45 32.8	-0.4
SRTM				i S	Sb	16 45 42.4	-0.8
SRTM	Siirt_Merkez	0.60	259	P	Pg	16 45 32.8	-0.4
SRTM				S	Sb	16 45 42.4	-0.8
SIRT	Sirnak	0.63	197	PG	Pg	16 45 33.7	0.0
SIRT				SG	Sb	16 45 42.9	-1.2
SIRT	Sirnak	0.63	197	ePg	Pg	16 45 33.7	0.0
SIRT				eSg	Sb	16 45 42.9	-1.2
GURO	Guroymak-BITLI	0.67	312	PG	Pg	16 45 33.7	-0.8
GURO				SG	Sb	16 45 44.5	-0.8
GURO	Guroymak-BITLI	0.67	312	ePg	Pg	16 45 33.7	-0.8
GURO				eSg	Sb	16 45 44.5	-0.8
ADCV	BITLIS_Adilcev	0.70	3	i P	Pg	16 45 35.1	0.0
ADCV				i S	Sb	16 45 45.5	-0.8
ADCV	BITLIS_Adilcev	0.70	3	P	Pg	16 45 35.1	0.0
ADCV				S	Sb	16 45 45.5	-0.8
HAKT	HAKKARI	0.99	123	i P	Pg	16 45 39.6	-0.9
HAKT				i S	Sb	16 45 55.0	+0.5
HAKT	HAKKARI	0.99	123	P	Pg	16 45 39.6	-0.9
HAKT				S	Sb	16 45 55.0	+0.5
BTMN	Batman	1.13	259	i P	Pg	16 45 42.5	-0.7

BTMN				*i* S	**Sn**	**16 45 59.9**	**+0.2**
BTMN	**Batman**	**1.13**	**259**	P	**Pg**	**16 45 42.5**	**-0.7**
BTMN				S	**Sn**	**16 45 59.9**	**+0.2**
SVAN	**Silvan-Diyarba**	**1.16**	**273**	PN	**Pg**	**16 45 43.5**	**-0.3**
SVAN				SN	**Sb**	**16 46 00.1**	**+0.8**
SVAN	**Silvan-Diyarba**	**1.16**	**273**	*e*Pn	**Pg**	**16 45 43.5**	**-0.3**
SVAN				*e*Sn	**Sb**	**16 46 00.1**	**+0.8**
TUTA	**Tutak**	**1.30**	**5**	*i* P	**Pg**	**16 45 45.5**	**-1.0**
TUTA				*i* S	**Sn**	**16 46 04.6**	**+0.4**
TUTA	**Tutak**	**1.30**	**5**	P	**Pg**	**16 45 45.5**	**-1.0**
TUTA				S	**Sn**	**16 46 04.6**	**+0.4**
AGRB	**Hanur-Agry**	**1.49**	**10**	PN	**Pg**	**16 45 49.8**	**-0.3**
AGRB				SN	**Sg**	**16 46 10.1**	**+0.6**
AGRB	**Hanur-Agry**	**1.49**	**10**	*e*Pn	**Pg**	**16 45 49.8**	**-0.3**
AGRB				*e*Sn	**Sg**	**16 46 10.1**	**+0.6**
MARD	**Mardin**	**1.69**	**243**	*i* P	**Pn**	**16 45 51.6**	**-0.1**
MARD				*i* S	**Sn**	**16 46 12.9**	**-0.8**
BNGB	**Bingˆ¶l**	**1.79**	**300**	PN	**Pn**	**16 45 53.8**	**+0.7**
HANI	**Diyarbakir_Han**	**1.81**	**281**	*i* P	**Pn**	**16 45 53.2**	**-0.1**
HANI				*i* S	**Sb**	**16 46 18.9**	**+0.7**
HANI	**Diyarbakir_Han**	**1.81**	**281**	P	**Pn**	**16 45 53.2**	**-0.1**
HANI				S	**Sb**	**16 46 18.9**	**+0.7**
MAZI	**Mazidag**	**1.88**	**251**	PN	**Pn**	**16 45 55.1**	**+0.9**
MAZI	**Mazidag**	**1.88**	**251**	*e*Pn	**Pn**	**16 45 55.1**	**+0.9**
BINT	**Bingol**	**1.88**	**295**	*e*Pn	**Pn**	**16 45 53.8**	**-0.4**

IDC 02 17:01:39.8±2.1**,20°.10S×66°.93E,h0**km**,mb3.5**/8**, mb1 3.7**/8**,mb1mx3.5**/60**,mbtmp3.5**/8**,MS3.6**/5**,Ms1 3.6**/5**, ms1mx3.2**/46**,Error ellipse: s-maj=67.4km s-min=25.2km az=42.0,Mauritius-Reunion region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**13.50**	**24**	T	T	17 18 57.9	
	baz=204,slow=76,SNR=79						
H08S2	**Diego Garcia H**	**13.51**	**24**	T	T	17 18 57.1	
	baz=204,slow=76,SNR=33						
H08S3	**Diego Garcia H**	**13.52**	**24**	T	T	17 19 01.5	
	baz=204,slow=76,SNR=61						
H08N3	**Diego Garcia H**	**14.24**	**17**	T	T	17 19 41.5	
	baz=198,slow=76,SNR=88						
H08N1	**Diego Carcia H**	**14.24**	**17**	T	T	17 19 44.9	
	baz=198,slow=76,SNR=10						
H08N2	**Diego Garcia H**	**14.26**	**17**	T	T	17 19 43.1	
	baz=198,slow=76,SNR=71						
BOSA	**Boshof**	**38.74**	**249**	LR	LR	17 21 19.2	
	comp=Z,114nm,21.0s,baz=84,slow=30						
LEM	**Lembang**	**41.59**	**77**	LR	LR	17 22 47.1	
	comp=Z,112nm,21.8s,baz=234,slow=30						
MAW	**Mawson**	**47.56**	**182**	LR	LR	17 25 16.3	
	comp=Z,68nm,21.2s,baz=58,slow=30						
CMAR	**Chiang Mai Arr**	**49.55**	**41**	P	P	17 10 32.1	-0.6
	0.5nm,0.7s,baz=230,slow=7.0,SNR=5.2						
CMAR				LR	LR	17 28 48.2	
	comp=Z,97nm,20.1s,baz=212,slow=33						
ASAR	**Alice Springs**	**61.75**	**107**	P	P	17 12 00.7	+0.2
	0.4nm,0.8s,baz=276,slow=5.6,SNR=4.9						
WRA	**Warramunga Arr**	**62.91**	**103**	P	P	17 12 08.1	-0.2
	0.9nm,1.0s,baz=255,slow=5.8,SNR=3.8						
BRTR	**Keskin Array B**	**67.15**	**333**	P	P	17 12 35.0	-0.6
	0.5nm,0.8s,baz=155,slow=7.9,SNR=3.1						
KVAR	**Kislovodsk Arr**	**67.51**	**341**	LR	LR	17 42 05.0	
	comp=Z,18nm,19.9s,baz=163,slow=36						
MKAR	**Makanchi Array**	**68.02**	**11**	P	P	17 12 39.3	-1.5
	0.7nm,1.0s,baz=198,slow=5.8,SNR=4.8						
KURBB	**Kurchatov Arra**	**71.16**	**8**	P	P	17 13 01.0	+1.0
	0.3nm,0.7s,baz=208,slow=6.2,SNR=3.6						
ZALV	**Zalesovo Beam**	**75.34**	**11**	P	P	17 13 26.2	+1.5
	0.8nm,0.6s,baz=193,slow=5.8,SNR=4.2						
AKASG	**Malin Array Be**	**77.93**	**337**	P	P	17 13 39.5	+0.2
	0.6nm,0.4s,baz=155,slow=4.2,SNR=5.2						

IDC 02 17:01:56.0±5.3**,12°.26S×167°.13E,h0**km**,mb3.5**/3**, mb1 3.8**/3**,mb1mx3.4**/43**,mbtmp3.5**/3**,Error ellipse: s-maj=264.4km s-min=32.6km az=140.0,Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**32.37**	**252**	P	P	17 08 27.4	-0.2
	0.6nm,0.7s,baz=84,slow=8.9,SNR=8.0						
ASAR	**Alice Springs**	**33.50**	**246**	P	P	17 08 37.5	+0.1
	0.2nm,0.7s,baz=71,slow=8.8,SNR=6.2						
ILAR	**Eielson Array**	**84.23**	**18**	P	P	17 14 29.1	0.0
	0.4nm,0.8s,baz=208,slow=5.6,SNR=3.4						

IDC 02 17:07:18.3±1.9**,3°.35S×154°.62E,h0**km**,mb3.6**/3**, mb1 4.0**/4**,mb1mx3.4**/45**,mbtmp3.8**/4**,ML2.4**/1**,Error ellipse: s-maj=152.1km s-min=31.0km az=139.0,North of Solomon Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**9.55**	**231**	Pn	Pn	17 09 38.7	+1.5
	2.0nm,0.3s,baz=49,slow=10,SNR=8.5						
PMG				Sn	Sn	17 11 07.2	-18
	0.5nm,0.3s,baz=147,slow=19,SNR=2.9						
WRA	**Warramunga Arr**	**25.76**	**229**	P	P	17 12 50.9	-0.1
	1.0nm,0.5s,baz=54,slow=10,SNR=30						
ASAR	**Alice Springs**	**28.44**	**223**	P	P	17 13 14.7	-0.5
	0.2nm,0.6s,baz=55,slow=9.0,SNR=6.0						
NVAR	**Mina Array Bea**	**89.76**	**52**	P	P	17 20 19.4	+0.1
	0.2nm,0.3s,baz=256,slow=6.0,SNR=3.6						

NNC 02 17:26:00.4±3.7**,36°.78N×70°.27E,h0**km**,mb3.8,mpv3.4, 5C-3D,Error ellipse: s-maj=30.0km s-min=26.2km az=139.0,Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**4.11**	**37**	⇑Pn	Pn	17 27 04.3	-0.4
	3.5nm,0.3s						
SFK				⇑Sn	Sn	17 27 55.9	+2.3
	6.0nm,0.3s						
MNAS	**Manas**	**5.96**	**16**	⇓Pn	Pn	17 27 31.4	+1.4
	3.2nm,0.7s						
MNAS				⇑Sn	Sn	17 28 39.5	+0.6
	3.3nm,0.5s						
KK31	**Karatay Array**	**6.32**	**2**	⇑Pn	Pn	17 27 35.2	+0.4
	1.0nm,0.5s,baz=182,slow=13,SNR=14						
KK31				⇓Sn	Sn	17 28 49.5	+1.8
	3.8nm,0.7s,baz=192,slow=23,SNR=12						
AAK	**Ala-Archa**	**6.70**	**28**	⇓Pn	Pn	17 27 38.9	-1.3
	1.7nm,0.4s						
AAK				⇑Sn	Sn	17 28 56.2	-1.0
	5.7nm,0.9s						

*DJA **02** 17:28:55.2±0.5,3°N±4°×12°8E±°,h10km,M4.8/14, mb5.0/14,mB5.1/6,MLv4.9/13,Mw(mB)4.5/6*
*ISCJB **02** 17:28:56.0±0.2,2°.80N±0°.02×127°.57E±0°.03,h64km, mb4.6/64,Error ellipse: s-maj=5.1km s-min=3.2km az=165.2*
*BJI **02** 17:28:56.5,2°.70N×127°.50E,h73km,mb4.5/32,mB4.8/16, Ms4.5/4,Ms7 4.3/4*
*IDC **02** 17:28:56.5±2.9,2°.75N×127°.68E,h59km±27km,mb4.2/27, mb1 4.2/28,mb1mx4.0/64,mbtmp4.5/28,ML4.3/1,MS3.3/5, Ms1 3.3/5,ms1mx3.0/62,Error ellipse: s-maj=19.7km s-min=9.7km az=83.0*
*NEIC **02** 17:28:58.5±0.6,2°.75N×127°.57E,h76km±6km,mb4.6/32, Error ellipse: s-maj=6.4km s-min=3.7km az=70.0*
ISC 02 17:28:57.5±0.4**,2°.73N**±0°.05×**127°.57E**±0°.07**,h64**km**,n137, σ1s.28**/138**,mb4.5**/63**,3C,Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.95**	**186**	*e*Pn	**Pn**	**17 29 29.6**	**+1.1**
SGSI	**Sangihe**	**2.25**	**295**	P	**Pn**	**17 29 30.7**	**-1.7**
SGSI				S	**Sn**	**17 29 58.2**	**-0.9**
LBMI	**Labuha**	**3.34**	**181**	P	**Pn**	**17 29 49.9**	**+2.5**
KMSI	**Cibinong**	**4.17**	**239**	P	**Pn**	**17 30 00.7**	**+2.0**
GSPH	**General Santos**	**4.24**	**322**	⇑*i*P	**Pn**	**17 29 56.8**	**-2.9**
MATI	**Mati**	**4.39**	**343**	*e*P	**Pn**	**17 30 01.1**	**-0.6**
DAV	**Davao City (W)**	**4.75**	**335**	P	**Pn**	**17 30 07.3**	**+0.8**
	14nm,0.3s,baz=92,slow=1.7,SNR=5.2						
DAV				S	**Sn**	**17 31 04.3**	**+3.9**
	61nm,0.3s,baz=107,slow=19,SNR=5.0						
DAV				LR	LR	17 31 57.9	
	comp=Z,328nm,19.4s,baz=148,slow=38						
KCP	**Kidapawan**	**4.92**	**330**	⇑*e*P	**Pn**	**17 30 07.4**	**-1.5**
SANI	**Sanana**	**5.00**	**198**	P	**Pn**	**17 30 09.8**	**-0.3**
	58nm,0.5s,2μm0.5nm						
SWI	**Sorong**	**5.13**	**134**	P	**Pn**	**17 30 13.6**	**+1.7**
	157nm,1.0s,2μm						
BIPH	**Bislig**	**5.55**	**348**	⇑*i*P	Pn	17 30 23.5	+5.9
BIPH				*i* S	**Sn**	**17 31 23.9**	**+3.8**
BUKP	**Musuan**	**5.69**	**334**	*e*S	**Pn**	**17 30 19.6**	**+0.1**
NLAI	**Namlea**	**5.95**	**184**	P	**Pn**	**17 30 25.9**	**+2.9**
	67nm,0.6s,1μm						
MRSI	**Marisa**	**6.05**	**248**	P	**Pn**	**17 30 26.0**	**+1.5**
LUWI	**Luwuk**	**6.08**	**232**	P	**Pn**	**17 30 27.5**	**+2.6**
	120nm,0.6s,2μm						
LUWI	**Luwuk**	**6.08**	**232**	*e*Pn	**Pn**	**17 30 27.0**	**+2.1**
MSAI	**Masohi**	**6.19**	**167**	P	**Pn**	**17 30 28.7**	**+2.4**
AAI	**Ambon**	**6.40**	**174**	P	**Pn**	**17 30 31.6**	**+2.3**
BUTP	**Butuan**	**6.49**	**343**	*e*P	**Pn**	**17 30 30.3**	**-0.2**
PAGZ	**Pagadian**	**6.57**	**321**	*e*P	**Pn**	**17 30 29.7**	**-1.9**
APSI	**Ampana**	**6.93**	**239**	P	**Pn**	**17 30 37.6**	**+1.1**
FAKI	**Fak Fak**	**7.31**	**140**	P	**Pn**	**17 30 43.2**	**+1.5**
	120nm,0.6s,1μm						
FAKI	**Fak Fak**	**7.31**	**140**	*e*Pn	**Pn**	**17 30 43.9**	**+2.2**
BNDI	**Bandanaira**	**7.57**	**162**	P	**Pn**	**17 30 47.6**	**+2.3**
MSLP	**Maasin**	**7.83**	**340**	*e*P	**Pn**	**17 30 49.9**	**+1.0**
MPSI	**Mapaga**	**8.02**	**253**	P	**Pn**	**17 30 52.0**	**+0.5**
	45nm,0.8s						
MYLDM	**Lahad Datu**	**9.37**	**285**	*e*Pn	**Pn**	**17 31 10.7**	**+0.9**
BBSI	**Bau Bau**	**9.57**	**211**	P	**Pn**	**17 31 14.2**	**+1.6**
	8.3nm,0.8s						
BNSI	**Bone**	**10.28**	**226**	P	**Pn**	**17 31 22.0**	**-0.4**
	20nm,0.7s						
KKM	**Kota Kinabalu**	**11.79**	**287**	*e*Pn	**Pn**	**17 31 43.6**	**+0.6**
SOEI	**Soe**	**12.83**	**195**	P	**Pn**	**17 31 59.8**	**+2.5**
SOEI	**Soe**	**12.83**	**195**	*e*Pn	**Pn**	**17 31 58.3**	**+1.0**
TGY	**Tagaytay City**	**13.06**	**330**	LR	LR	17 38 02.5	
	comp=Z,92nm,19.6s,baz=196,slow=42						
BATI	**Baumata**	**13.43**	**197**	P	**Pn**	**17 32 08.4**	**+3.2**
	0.4nm,0.3s,baz=63,slow=2.3,SNR=4.2						
SBUM	**Sibu**	**15.33**	**269**	*e*Pn	**Pn**	**17 32 30.3**	**+0.1**
	14nm,0.8s						
MTN	**Manton Dam**	**15.87**	**167**	*e*Pn	**Pn**	**17 32 37.3**	**+0.2**
	15nm,0.6s						
JAGI	**Jajag, Banyuwa**	**17.40**	**230**	*e*Pn	**P**	**17 32 57.2**	**+0.6**
	213nm,1.8s						
GUMO	**Guam**	**20.22**	**57**	LR	LR	17 39 58.9	
	comp=Z,90nm,20.6s,baz=287,slow=33						
FITZ	**Fitzroy Crossi**	**20.78**	**185**	P	**P**	**17 33 31.8**	**-1.7**
	4.3nm,0.5s,baz=18,slow=11						
YULB	**Yu-li**	**21.42**	**344**	*e*P	**P**	**17 33 39.4**	**-0.9**
	57nm,1.7s						
TPUB	**Ta-pu**	**21.53**	**342**	*e*P	**P**	**17 33 39.7**	**-1.8**
	156nm,1.9s						
SSLB	**Suanglung**	**21.89**	**344**	*e*P	**P**	**17 33 44.9**	**-0.5**
	15nm,0.9s						
LEM	**Lembang**	**22.06**	**244**	P	**P**	**17 33 49.6**	**+2.1**
	12nm,0.6s,baz=345,slow=2.9,SNR=4.9						
COEN	**Coen**	**22.68**	**137**	*e*P	**P**	**17 33 54.6**	**+0.6**
	11nm,1.3s						
WRA	**Warramunga Arr**	**23.49**	**164**	P	**P**	**17 34 00.5**	**-1.3**
	7.0nm,0.4s,baz=343,slow=9.9,SNR=127						
WB2	**Warramunga Arr**	**23.50**	**164**	*e*P	**P**	**17 34 00.9**	**-1.0**
MYKOM	**Kota Tinggi**	**23.71**	**268**	*e*P	**P**	**17 34 04.0**	**0.0**
	10nm,0.8s						
MBWA	**Marble Bar**	**24.95**	**198**	*e*P	**P**	**17 34 15.1**	**0.0**
	39nm,1.1s						
AS31	**Alice Springs**	**26.95**	**167**	*e*P	**P**	**17 34 33.0**	**-0.2**
	2.2nm,0.6s						
ASAR	**Alice Springs**	**26.95**	**167**	P	**P**	**17 34 32.3**	**-0.9**
	1.8nm,0.4s,baz=346,slow=7.6,SNR=99						
ASAR				PcP	**PcP**	**17 37 54.1**	**+0.2**
	2.2nm,0.6s,baz=345,slow=2.3,SNR=8.8						
AS01	**Alice Springs**	**26.96**	**167**	*e*P	**P**	**17 34 33.2**	**-0.1**
AS01				*e*PcP	**PcP**	**17 37 53.7**	**-0.2**
CHAI	**Chaiyaphum**	**28.38**	**299**	P	**P**	**17 34 46.1**	**+0.1**
	3.9nm,0.7s						
GSI	**Gunungsitoli**	**30.00**	**268**	*e*P	**P**	**17 34 59.5**	**-1.0**
	27nm,1.5s						
PHIT	**Phitsanulok**	**30.29**	**300**	P	**P**	**17 35 03.6**	**+0.7**
	8.2nm,0.7s						
NJ2	**Nanjing**	**30.30**	**345**	*e*P	**P**	**17 35 03.9**	**+1.1**
NJ2				pmax	pmax		
	comp=Z,11nm,0.6s						
WHN	**Wuhan**	**30.36**	**337**	P	P	17 35 13.7	+10
JNU	**Nakatsue**	**30.39**	**6**	LR	LR	17 48 12.6	
	comp=Z,53nm,19.5s,baz=299,slow=38						
CM01	**Chiang Mai Arr**	**32.07**	**301**	*e*P	**P**	**17 35 18.2**	**-0.5**
CM31	**Chiang Mai Arr**	**32.10**	**301**	*e*P	**P**	**17 35 18.6**	**-0.3**
CMAR	**Chiang Mai Arr**	**32.10**	**301**	P	**P**	**17 35 17.9**	**-0.9**
	1.8nm,0.6s,baz=118,slow=6.8,SNR=19						
CMMT	**Chiang Mai**	**32.25**	**302**	P	**P**	**17 35 19.6**	**-0.6**
CHTO	**Chiang Mai**	**32.25**	**302**	*e*P	**P**	**17 35 19.8**	**-0.5**
	2.7nm,0.7s						
ENH	**Enshi**	**32.31**	**330**	*e*P	**P**	**17 35 20.4**	**-0.2**
	6.9nm,0.9s						
KMI	**Kunming**	**32.67**	**315**	P	**P**	**17 35 26.3**	**+2.2**
KMI				pmax	pmax		
	comp=Z,10.0nm,0.5s						
FORT	**Forrest**	**33.32**	**179**	*e*P	**P**	**17 35 28.9**	**-0.5**
	1μm,1.7s						
KSAR	**Wonju Array Be**	**34.55**	**0**	P	**P**	**17 35 39.1**	**-0.9**
KSRS	**Korea Array**	**34.56**	**1**	P	**P**	**17 35 39.1**	**-1.0**
	1.8nm,0.5s,baz=175,slow=9.8,SNR=11						
MJAR	**Matsushiro Arr**	**35.05**	**15**	P	**P**	**17 35 42.3**	**-2.1**
	2.0nm,0.7s,baz=192,slow=9.8,SNR=7.8						
XAN	**Xi'an**	**35.68**	**333**	P	**P**	**17 35 49.9**	**+0.1**
XAN				pP	pP	17 36 04.6	-1.0
XAN				pmax	pmax		
	comp=Z,10.0nm,1.0s						
CD2	**Chengdu**	**35.94**	**324**	*e*P	**P**	**17 35 52.5**	**+0.4**
BBOO	**Buckleboo**	**36.25**	**168**	*e*P	**P**	**17 35 54.3**	**-0.3**
	63nm,1.8s						
NWAO	**Narrogin (SRO)**	**36.79**	**195**	P	**P**	**17 35 58.6**	**-0.5**
	14nm,0.9s,baz=265,slow=6.1,SNR=13						
STKA	**Stephens Creek**	**36.91**	**160**	P	**P**	**17 35 59.9**	**-0.3**
	9.7nm,0.6s,baz=341,slow=6.1,SNR=2.8						
STKA	**Stephens Creek**	**36.91**	**160**	*e*P	**P**	**17 35 59.9**	**-0.3**
	3.7nm,0.7s						
LZH	**Lanzhou**	**39.78**	**329**	*e*P	**P**	**17 36 26.6**	**+2.0**
LZH				pP	sP	17 36 46.6	-1.4
LZH				sP	pP	17 36 54.0	+13
LZH				PP	**PnPn**	**17 38 03.3**	**+2.5**
LZH				pmax	pmax		
	comp=Z,48nm,1.0s						
LZH				pmax	pmax		
	comp=Z,280nm,6.4s						
LZH				LR	LR		
	comp=N,280nm,13.2s						
LZH				LR	LR		
	comp=E,320nm,13.6s						
LZH				LR	LR		
	comp=Z,400nm,17.2s						
HHC	**Hu-ho-hao-te**	**40.61**	**341**	*e*P	**P**	**17 36 32.8**	**+1.6**
HHC				pmax	pmax		
	comp=Z,9.0nm,0.9s						
HHC				pmax	pmax		
	comp=Z,76nm,5.3s						
USRK	**Ussuriysk Ar.**	**41.48**	**5**	P	**P**	**17 36 37.2**	**-1.0**
	3.0nm,0.6s,baz=174,slow=7.6,SNR=6.2						
ASAJ	**Asahikawa**	**43.31**	**16**	P	**P**	**17 36 52.5**	**-0.6**
	3.9nm,0.5s,baz=242,slow=8.7,SNR=10						
LSA	**Lhasa**	**43.72**	**312**	*e*P	**P**	**17 36 57.6**	**+0.4**
	2.7nm,0.8s						
GTA	**Gaotai**	**44.38**	**329**	*e*P	**P**	**17 37 02.6**	**+0.7**
GTA				pmax	pmax		
	comp=Z,2.0nm,1.0s						
ODAN	**Odare**	**45.33**	**306**	*e*P	**P**	**17 37 09.4**	**-0.4**
RAMN	**Ramite**	**46.01**	**306**	*e*P	**P**	**17 37 14.3**	**-0.9**
	5.8nm,0.5s						
JIRN	**Jiri**	**46.63**	**306**	*e*P	**P**	**17 37 19.3**	**-0.9**
	8.2nm,0.5s						
GUN	**Gumba**	**46.99**	**306**	*e*P	**P**	**17 37 21.6**	**-1.4**
	8.0nm,0.4s						
PKIN	**Phulchoki**	**47.24**	**306**	*e*P	**P**	**17 37 24.1**	**-0.7**
KKN	**Kakani**	**47.42**	**306**	*e*P	**P**	**17 37 25.2**	**-1.0**
	4.2nm,0.5s						
DMN	**Daman**	**47.49**	**306**	*e*P	**P**	**17 37 26.9**	**+0.1**
	8.6nm,0.8s						
GKN	**Gorkha**	**48.03**	**306**	*e*P	**P**	**17 37 29.2**	**-1.6**
	5.5nm,0.6s						
ULN	**Ulaanbaatar**	**48.32**	**342**	*e*P	**P**	**17 37 32.8**	**0.0**
	7.9nm,1.1s						
SONM	**Songino Array**	**48.51**	**341**	P	**P**	**17 37 33.9**	**-0.2**
	1.4nm,0.7s,baz=155,slow=9.2,SNR=9.6						
SONA1	**Songino Array**	**48.52**	**341**	*e*P	**P**	**17 37 34.0**	**-0.2**
KOLN	**Koldanda**	**48.78**	**305**	*e*P	**P**	**17 37 36.1**	**-0.5**
	14nm,0.5s						
PYUN	**Piuthan**	**49.40**	**305**	*e*P	**P**	**17 37 41.7**	**+0.3**
	16nm,0.7s						
WMQ	**Urumqi**	**54.02**	**325**	P	**P**	**17 38 16.8**	**+1.4**
WMQ				pP	pP	17 38 29.2	-2.9
WMQ				sP	sP	17 38 43.8	+4.5
WMQ				pmax	pmax		
	comp=Z,21nm,1.3s						
WMQ				pmax	pmax		
	comp=Z,270nm,5.1s						
WMQ				LR	LR		
	comp=N,200nm,20.1s						
WMQ				LR	LR		
	comp=E,110nm,18.1s						
WMQ				LR	LR		
	comp=Z,320nm,20.7s						
PETK	**Petropavlovsk-**	**56.04**	**21**	P	**P**	**17 38 28.9**	**-0.9**
	7.1nm,1.0s,baz=236,slow=4.2,SNR=4.2						
MK01	**Makanchi Array**	**58.83**	**325**	*e*P	**P**	**17 38 49.8**	**+0.2**
MK31	**Makanchi Array**	**58.85**	**325**	*e*P	**P**	**17 38 50.2**	**+0.5**
MKAR	**Makanchi Array**	**58.85**	**325**	P	**P**	**17 38 50.1**	**+0.5**
	6.0nm,0.5s,baz=117,slow=8.1,SNR=138						
MKAR	**Makanchi Array**	**58.85**	**325**	*e*P	**P**	**17 38 50.2**	**+0.5**
	47nm,0.6s						
MAKZ	**Makanchi**	**59.03**	**325**	*e*P	**P**	**17 38 51.2**	**+0.3**
	13nm,0.9s						
KSH	**Kashi**	**59.34**	**315**	P	**P**	**17 38 55.3**	**+2.0**
KSH				pmax	pmax		
	comp=Z,2.0nm,0.4s						
KZA	**Kyzart**	**60.91**	**318**	P	**P**	**17 39 05.7**	**+1.3**
	SNR=6.3						
TKM2	**Tokmak 2**	**61.04**	**319**	P	**P**	**17 39 06.1**	**+1.1**
	SNR=7.4						
UCH	**Uchtor**	**61.47**	**317**	P	**P**	**17 39 09.8**	**+1.5**
	SNR=8.0						
ZALV	**Zalesovo Beam**	**61.85**	**333**	P	**P**	**17 39 08.8**	**-1.1**
	0.8nm,0.5s,baz=126,slow=7.5,SNR=6.7						
ZALV	**Zalesovo Beam**	**61.85**	**333**	*e*P	**P**	**17 39 08.7**	**-1.2**
AML	**Almayashu**	**61.99**	**317**	P	**P**	**17 39 12.6**	**+1.0**
	SNR=7.9						
EKS2	**Erkin-Say**	**62.15**	**318**	P	**P**	**17 39 13.3**	**+0.9**
	SNR=9.6						
KURBB	**Kurchatov Arra**	**63.03**	**327**	P	**P**	**17 39 17.8**	**-0.1**
	8.6nm,0.8s,baz=128,slow=6.0,SNR=75						
KURK	**Kurchatov**	**63.03**	**327**	*e*P	**P**	**17 39 17.7**	**-0.2**
	9.8nm,0.7s						
KKAR	**Karatay Array**	**64.53**	**317**	*e*P	**P**	**17 39 28.4**	**+0.5**
BVAR	**Borovoye Array**	**68.61**	**327**	P	**P**	**17 39 53.2**	**-0.6**
	4.5nm,0.8s,baz=124,slow=6.0,SNR=32						
BRVK	**Borovoye**	**68.68**	**327**	*e*P	**P**	**17 39 54.0**	**-0.2**
	4.7nm,0.8s						
TIXI	**Tiksi**	**68.83**	**0**	*e*P	**P**	**17 39 53.2**	**-1.5**
	2.7nm,0.7s						
GEYT	**Alibeck**	**72.17**	**309**	P	**P**	**17 40 16.6**	**+0.8**
	3.7nm,0.7s,baz=132,slow=4.4,SNR=11						
ABKAR	**Akbulak array**	**73.45**	**321**	*e*P	**P**	**17 40 22.8**	**-0.3**
	20nm,0.8s						
AKTO	**Aktyubinsk**	**74.96**	**322**	P	**P**	**17 40 31.5**	**-0.4**
	2.1nm,0.7s,baz=101,slow=7.2,SNR=11						
GAMB	**Gambell**	**74.97**	**24**	*e*P	**P**	**17 40 31.8**	**+0.2**
	4.4nm,0.8s						
ARU	**Arti**	**76.22**	**328**	P	**P**	**17 40 37.6**	**-1.3**
	4.2nm,0.7s,baz=66,slow=0.4,SNR=8.9						
ARU	**Arti**	**76.22**	**328**	*e*P	**P**	**17 40 38.0**	**-1.0**
	4.3nm,0.6s						
RAYN	**Ar Rayn**	**81.64**	**293**	*e*P	**P**	**17 41 08.5**	**-1.0**
	3.3nm,0.8s						
KDAK	**Kodiak Island**	**82.29**	**32**	P	**P**	**17 41 12.0**	**+0.1**
	8.8nm,0.9s,baz=276,slow=6.9,SNR=5.5						
VNDA	**Vanda**	**82.33**	**173**	P	**P**	**17 41 11.9**	**0.0**
	2.9nm,0.7s,baz=319,slow=6.7,SNR=22						
IM3	**Indian Mountai**	**82.91**	**24**	*e*P	**P**	**17 41 15.7**	**+0.6**
MAW	**Mawson**	**83.11**	**200**	P	**P**	**17 41 16.2**	**+0.2**
	5.7nm,0.8s,baz=65,slow=5.6,SNR=7.1						
CAST	**Castle Rocks**	**83.25**	**27**	*e*P	**P**	**17 41 17.2**	**+0.3**
	4.8nm,0.8s						
SUA	**Susitna One**	**83.64**	**29**	*e*P	**P**	**17 41 18.9**	**-0.2**
	39nm,1.8s						
MLY	**Manley**	**84.03**	**25**	*e*P	**P**	**17 41 21.3**	**+0.4**
	23nm,1.8s						
COLD	**Coldfoot**	**84.48**	**23**	*e*P	**P**	**17 41 24.2**	**+1.0**
	10nm,1.2s						
RND	**Reindeer**	**84.69**	**27**	*e*P	**P**	**17 41 24.3**	**0.0**
	26nm,1.8s						
SML	**Sawmill**	**84.82**	**28**	*e*P	**P**	**17 41 25.4**	**+0.5**
	10nm,0.8s						
TOLK	**Toolik Lake Re**	**84.87**	**21**	*e*P	**P**	**17 41 26.4**	**+1.3**
	6.8nm,1.0s						
ILAR	**Eielson Array**	**85.64**	**25**	P	**P**	**17 41 27.6**	**-1.4**
	0.3nm,0.5s,baz=270,slow=4.5,SNR=6.0						
ARCES	**ARCESS Array B**	**91.67**	**340**	P	**P**	**17 41 55.9**	**-1.6**
	3.4nm,0.9s,baz=74,slow=8.9,SNR=5.2						
FINES	**FINESS Array B**	**93.10**	**332**	P	**P**	**17 42 03.5**	**-0.7**
	1.9nm,0.9s,baz=118,slow=2.8,SNR=4.3						
YKA	**Yellowknife Ar**	**100.06**	**25**	P	**Pdif**	**17 42 36.0**	**+0.3**
	0.1nm,0.5s,baz=294,slow=4.8,SNR=4.5						
TORD	**Torodi Ar. Bea**	**124.02**	**288**	PKP	**PKPdf**	**17 47 49.0**	**-0.7**
	0.7nm,0.6s,baz=80,slow=1.3,SNR=5.5						

*IDC **02** 17:33:04.9±0.9,3°.46S×144°.27E,h0km,mb3.9/8, mb1 3.9/10,mb1mx3.8/49,mbtmp3.8/10,ML2.6/2,Error ellipse: s-maj=35.3km s-min=19.0km az=82.0*
*ISCJB **02** 17:33:07.6±0.6,3°.59S±0°.06×144°.2E±0°.1,h31km,mb3.9/9, Error ellipse: s-maj=19.0km s-min=7.5km az=161.6*
*NEIC **02** 17:33:11.9±0.9,3°.60S×144°.20E,h53km±9km,mb4.4/2, Error ellipse: s-maj=15.6km s-min=10.0km az=85.0*
ISC 02 17:33:09.7±0.7**,3°.46S**±0°.10×**144°.4E**±0°.2**,h31**km**,n19, σ1s.24**/22**,mb3.9**/9**,Near north coast of New Guinea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.52**	**155**	Pn	**Pn**	**17 34 45.0**	**+1.5**
	0.8nm,0.3s,baz=351,slow=13,SNR=3.2						
PMG				Sn	**Sn**	**17 35 56.4**	**-0.4**
	0.1nm,0.3s,baz=345,slow=20,SNR=1.8						
WR1	**Warramunga Arr**	**19.09**	**210**	*e*P	**P**	**17 37 27.3**	**-2.6**
	7.7nm,1.0s						
WR1				*e*PcP	**PcP**	**17 41 54.0**	**0.0**
WRA	**Warramunga Arr**	**19.09**	**210**	P	**P**	**17 37 27.3**	**-2.6**
	0.1nm,0.3s,baz=32,slow=12,SNR=3.8						
WRA				PcP	**PcP**	**17 41 54.0**	**0.0**
	baz=0.7,slow=1.7,SNR=4.9						
BATI	**Baumata**	**21.62**	**251**	*e*P	**P**	**17 38 00.5**	**+3.0**
AS01	**Alice Springs**	**22.47**	**206**	*e*pP	pP	17 38 16.9	+2.0
ASAR	**Alice Springs**	**22.49**	**206**	P	**P**	**17 38 05.7**	**-1.1**
	2.1nm,0.8s,baz=33,slow=9.8,SNR=6.9						
ASAR				PcP	**PcP**	**17 42 00.1**	**-0.3**
	0.6nm,0.7s,baz=16,slow=1.9,SNR=4.6						
KSRS	**Korea Array**	**43.49**	**341**	P	**P**	**17 41 10.6**	**+0.4**
	1.7nm,0.7s,baz=160,slow=9.7,SNR=5.5						
KSAR	**Wonju Array Be**	**43.49**	**341**	P	**P**	**17 41 10.6**	**+0.4**
CMAR	**Chiang Mai Arr**	**49.76**	**298**	P	**P**	**17 41 59.4**	**-0.3**
	0.7nm,0.8s,baz=130,slow=5.2,SNR=6.9						
SONA0	**Songino Array**	**60.94**	**332**	*e*P	**P**	**17 43 20.2**	**+0.3**
SONM	**Songino Array**	**60.94**	**332**	P	**P**	**17 43 20.2**	**+0.3**
	0.5nm,0.8s,baz=151,slow=6.3,SNR=3.1						
MK32	**Makanchi Array**	**73.89**	**321**	*e*P	**P**	**17 44 41.3**	**-0.5**
MKAR	**Makanchi Array**	**73.89**	**321**	P	**P**	**17 44 41.3**	**-0.5**
	0.7nm,0.8s,baz=106,slow=7.6,SNR=4.7						
ZALV	**Zalesovo Beam**	**75.49**	**328**	P	**P**	**17 44 50.1**	**-0.7**
	1.1nm,0.8s,baz=111,slow=6.5,SNR=5.7						
ZAA1	**Zalesovo Array**	**75.49**	**328**	*e*P	**P**	**17 44 50.1**	**-0.7**
NIL	**Nilore**	**76.33**	**306**	*e*P	**P**	**17 44 56.0**	**-0.1**
	10nm,0.7s						
BVAR	**Borovoye Array**	**83.19**	**324**	P	**P**	**17 45 32.7**	**-0.1**
	2.0nm,0.8s,baz=103,slow=6.4,SNR=14						
ILAR	**Eielson Array**	**84.20**	**24**	P	**P**	**17 45 37.1**	**-0.7**
	0.8nm,0.7s,baz=253,slow=4.6,SNR=8.6						
SIV	**San Ignacio**	**148.26**	**128**	PKPbc	**PKPbc**	**17 52 54.1**	**+0.3**
	5.1nm,0.7s,baz=271,slow=3.9,SNR=12						

*IDC **02** 17:36:40.5±0.4,16°.45N×98°.34W,h0km,mb5.2/42, mb1 5.3/47,mb1mx5.2/57,mbtmp5.2/47,ML4.7/5,MS5.8/42, Ms1 5.8/42,ms1mx5.6/50,Error ellipse: s-maj=11.6km s-min=8.3km az=56.0*
*NEIC **02** 17:36:42.1±0.1,16°.40N×98°.32W,h9km,mb5.8/298, ME5.9,MS5.9/149,MW6.0,MD6.0(MEX),Error ellipse: s-maj=2.6km s-min=1.7km az=217.0 Broadband fault plane solution: P waves. NP1:φs100.00000°,δ20.00000°, λ-90.00000°. NP2:φs280.00000°,δ70.00000°, λ-90.00000°. Principal axes: T Plg25.0000°, Azm10.0000°; N Plg0.0000°, Azm0.0000°; P Plg65.0000°, Azm190.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB*

mechanism.

NEIC *Felt [V] at Acapulco, Chapultepec and Coacalco; [IV] at Atizapan, Naucalpan, Oaxaca and Tlalnepantla; [III] at Cholula, Cuernavaca, Mexico, Puebla, Puerto Escondido and Tlaxcala; [II] at Tehuacan and Toluca. Felt in much of south-central Mexico.*

GCMT ***02*** *17:36:42.1±0.1, 16°.58N×98°.35W, h12^{km}, MW6.1/137, Moment Tensor Solution. s137,c276; s135,c511; Duration: 2^{s}6 Moment tensor: Scale 10^{18}Nm; M_{rr}-1.31±.01; $M_{\theta\theta}$1.40±.01; $M_{\phi\phi}$-0.09±.01; $M_{r\theta}$0.68±.02; $M_{\theta\phi}$0.01±.01; $M_{\phi r}$-0.06±.02; Best double couple: $M_0$1.51900×10^{18} NP1:ϕ_s272.00000°, δ58.00000°, λ-87.00000°. NP2:ϕ_s86.00000°, δ32.00000°, λ-95.00000°. Principal axes: T 1.5630, Plg13.0000°, Azm0.0000°; N -0.0890, Plg3.0000°, Azm91.0000°; P -1.4760, Plg76.0000°, Azm191.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

ISCJB ***02*** *17:36:43.1±0.4, 16°.58N±0°.01×98°.24W±0°.01, h21^{km}±3^{km}, mb5.7/443, MS5.9/238 Error ellipse: s-maj=2.6km s-min=1.6km az=44.0*

NEIC ***02*** *17:36:43.0±0.0, 16°.58N×98°.18W, h11^{km}, Moment Tensor Solution. s37 Moment tensor: Scale 10^{18}Nm; M_{rr}-1.02; $M_{\theta\theta}$0.98; $M_{\phi\phi}$0.04; $M_{r\theta}$0.66; $M_{\theta\phi}$0.05; $M_{\phi r}$0.25; Best double couple: $M_0$1.20000×10^{18} NP1:ϕ_s257.00000°, δ63.00000°, λ-98.00000°. NP2:ϕ_s95.00000°, δ29.00000°, λ-73.00000°. Principal axes: T 1.1900, Plg17.0000°, Azm353.0000°; N 0.0700, Plg7.0000°, Azm260.0000°; P -1.2600, Plg71.0000°, Azm147.0000°;*

MEX ***02*** *17:36:43.3±2.4, 16°.30N×98°.54W, h12^{km}±30^{km}, MD6.0*

BJI ***02*** *17:36:43.9, 16°.60N×98°.25W, h10^{km}, mb5.8/1, mB6.4/55, Ms6.3/61, Ms7 6.2/55*

MOS ***02*** *17:36:44.0±1.1, 16°.52N×98°.30W, h27^{km}, mb5.9/102, MS5.9/68, Error ellipse: s-maj=6.1km s-min=3.4km az=95.0*

UCR ***02*** *17:36:44.8±0.8, 16°.69N×98°.32W, h178^{km}±20^{km}, ML5.3, mb5.8(NEIC)*

ISC 02 17:36:42.5±0.4**, 16°.37N**±0°.02×**98°.46W**±0°.02**, h16**^{km}±2^{km}**, h16**^{km}**:pP-P, n1907,** σ1^s**95**/2112**, mb5.8**/456**, MS5.9**/245**, 32C-29D, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.32**	**87**	eP	**Pg**	**17 36 48.4**	**-0.9**
PNIG				eS	**Sg**	**17 36 53.7**	**-0.2**
PNIG	**Pinotepa**	**0.32**	**87**	eP	**Pg**	**17 36 48.4**	**-0.9**
PNIG				eS	**Sg**	**17 36 53.7**	**-0.2**
TLIG	**Tlapa**	**1.19**	**355**	eP	**Pn**	**17 37 02.1**	**-2.5**
TLIG				eS	**Sb**	**17 37 19.1**	**-0.8**
TLIG	**Tlapa**	**1.19**	**355**	eP	**Pn**	**17 37 02.1**	**-2.5**
TLIG				eS	**Sb**	**17 37 19.1**	**-0.8**
HMTT	**Tlapaneco**	**1.42**	**356**	eP	**Pn**	**17 37 06.1**	**-1.6**
HMTT				eS	**Sn**	**17 37 24.4**	**-1.8**
ACP2	**Acapulco**	**1.45**	**290**	eP	**Pn**	**17 37 04.8**	**-3.3**
ACP2				eS	**Sn**	**17 37 23.8**	**-3.0**
VHO	**Vista Hermosa**	**1.80**	**67**	eP	**Pn**	**17 37 12.7**	**-0.3**
VHO				eS	**Sn**	**17 37 34.7**	**-0.9**
VHO	**Vista Hermosa**	**1.80**	**67**	eP	**Pn**	**17 37 12.7**	**-0.3**
VHO				eS	**Sn**	**17 37 34.7**	**-0.9**
CAIG	**El Cayaco**	**1.86**	**291**	eP	**Pn**	**17 37 10.6**	**-3.0**
CAIG				eS	**Sn**	**17 37 32.4**	**-4.3**
CAIG	**El Cayaco**	**1.86**	**291**	eP	**Pn**	**17 37 10.6**	**-3.0**
CAIG				eS	**Sn**	**17 37 32.4**	**-4.3**
PANG	**Puerto Angel**	**2.04**	**110**	eP	**Pn**	**17 37 15.1**	**-1.1**
PANG				eS	**Sb**	**17 37 45.6**	**+1.4**
PLIG	**Platanillo**	**2.24**	**334**	eP	**Pn**	**17 37 18.5**	**-0.6**
PLIG				eS	**Sn**	**17 37 46.0**	**-0.4**
PLIG	**Platanillo**	**2.24**	**334**	eP	**Pn**	**17 37 18.5**	**-0.6**
PLIG				eS	**Sn**	**17 37 46.0**	**-0.4**
TPIG	**Tehuac#an**	**2.29**	**27**	eP	**Pn**	**17 37 20.2**	**+0.4**
TPIG				eS	**Sn**	**17 37 46.1**	**-1.7**
TPIG	**Tehuac#an**	**2.29**	**27**	eP	**Pn**	**17 37 20.2**	**+0.4**
TPIG				eS	**Sn**	**17 37 46.1**	**-1.7**
HUIG	**Huatulco**	**2.34**	**105**	eP	**Pn**	**17 37 19.4**	**-1.0**
HUIG				eS	**Sn**	**17 37 46.7**	**-2.0**
HUIG	**Huatulco**	**2.34**	**105**	eP	**Pn**	**17 37 19.4**	**-1.0**
HUIG				eS	**Sn**	**17 37 46.7**	**-2.0**
YAIG	**Yautepec**	**2.54**	**347**	eP	**Pn**	**17 37 23.3**	**+0.1**
YAIG				eS	**Sn**	**17 37 53.5**	**-0.5**
YAIG	**Yautepec**	**2.54**	**347**	eP	**Pn**	**17 37 23.3**	**+0.1**
YAIG				eS	**Sn**	**17 37 53.5**	**-0.5**
ARIG	**Puente Sto Nin**	**2.62**	**317**	eP	**Pn**	**17 37 23.6**	**-0.5**
ARIG				eS	**Sn**	**17 37 53.9**	**-1.6**
PHPU	**Puebla**	**2.67**	**6**	eP	**Pn**	**17 37 25.6**	**+0.5**
PHPU				eS	**Sb**	**17 38 04.7**	**+1.9**
AMVM	**AMECAMECA**	**2.76**	**354**	eP	**Pn**	**17 37 26.9**	**+0.5**
UNM	**Universidad Na**	**3.02**	**347**	eP	**Pn**	**17 37 30.6**	**+0.6**
UNM				eS	**Sn**	**17 38 07.1**	**+1.3**
UNM	**Universidad Na**	**3.02**	**347**	ePn	**Pn**	**17 37 30.5**	**+0.6**
UNM				eS	**Sn**	**17 38 07.1**	**+1.3**
UNM	**Universidad Na**	**3.02**	**347**	eP	**Pn**	**17 37 30.5**	**+0.6**
UNM				eS	**Sn**	**17 38 07.1**	**+1.3**
PBVM	**Pinon**	**3.11**	**349**	eP	**Pn**	**17 37 31.6**	**+0.7**
PBVM	**Pinon**	**3.11**	**349**	eP	**Pn**	**17 37 31.6**	**+0.7**
TOVM	**TOLUCA**	**3.12**	**338**	eP	**Pn**	**17 37 32.0**	**+0.7**
TOVM				eS	**Sn**	**17 38 10.8**	**+2.4**
ZIIG	**Zihuatanejo**	**3.12**	**294**	eP	**Pn**	**17 37 28.9**	**-2.2**
ZIIG				eS	**Sn**	**17 38 06.2**	**-1.9**
ZIIG	**Zihuatanejo**	**3.12**	**294**	eP	**Pn**	**17 37 28.9**	**-2.2**
ZIIG				eS	**Sn**	**17 38 06.2**	**-1.9**
AZVM	**Cuida Lopez Ma**	**3.29**	**346**	eP	**Pn**	**17 37 33.9**	**+0.3**
AZVM				eS	**Sn**	**17 38 15.6**	**+3.0**
VTVM	**Tizayuca**	**3.39**	**355**	eP	Pn	17 37 22.5	-13
VTVM				eS	**Sn**	**17 38 06.3**	**-8.9**
CMIG	**Matias Romero**	**3.50**	**78**	Pn	**Pn**	**17 37 35.3**	**-1.0**
	68nm,0.3s,baz=262,slow=12,SNR=154						
CMIG				Pg	**Pb**	**17 37 43.4**	**-0.7**
	156nm,0.3s,baz=260,slow=13,SNR=38						
CMIG				LR	LR	17 38 30.1	
	comp=Z,26μm,20.4s,baz=275,slow=32						
CMIG				Lg	Lg	17 38 31.9	
	3μm,0.3s,baz=340,slow=19,SNR=23						
LVIG	**Laguna Verde**	**3.86**	**30**	eP	**Pn**	**17 37 39.4**	**-1.8**
LVIG				eS	**Sn**	**17 38 21.8**	**-4.4**
LVIG	**Laguna Verde**	**3.86**	**30**	ePn	**Pn**	**17 37 38.9**	**-2.3**
LVIG				eS	**Sn**	**17 38 21.8**	**-4.4**
DEIG	**Demacu**	**3.94**	**352**	eP	**Pb**	**17 37 51.8**	**0.0**
DEIG				eS	**Sb**	**17 38 40.4**	**+1.0**
DEIG	**Demacu**	**3.94**	**352**	eP	**Pb**	**17 37 51.8**	**0.0**
DEIG				eS	**Sb**	**17 38 40.4**	**+1.0**
MOIG	**Morelia**	**4.19**	**322**	eP	**Pn**	**17 37 47.1**	**+1.2**
MOIG				eS	**Sn**	**17 38 38.2**	**+3.5**
MOIG	**Morelia**	**4.19**	**322**	ePn	**Pn**	**17 37 46.6**	**+0.7**
MOIG				eS	**Sn**	**17 38 38.2**	**+3.5**
TUIG	**Tuzandepetl**	**4.20**	**66**	eP	**Pn**	**17 37 45.5**	**-0.4**
TUIG				eS	**Sb**	**17 38 48.5**	**+1.9**
TUIG	**Tuzandepetl**	**4.20**	**66**	eP	**Pn**	**17 37 45.5**	**-0.4**
TUIG				eS	**Sb**	**17 38 48.5**	**+1.9**
JRQG	**Juriquilla Cam**	**4.70**	**337**	ePn	**Pn**	**17 37 52.9**	**-0.1**
MMIG	**Aquila**	**5.04**	**293**	eP	**Pn**	**17 37 55.5**	**-1.9**
MMIG				eS	**Sn**	**17 38 55.5**	**+0.1**
MMIG	**Aquila**	**5.04**	**293**	eP	**Pn**	**17 37 55.5**	**-1.9**
MMIG				eS	**Sn**	**17 38 55.5**	**+0.1**
PCIG		**5.08**	**97**	eP	**Pn**	**17 37 57.8**	**-0.3**
PCIG				eS	**Sn**	**17 39 03.3**	**+6.8**
PCIG		**5.08**	**97**	eP	**Pn**	**17 37 57.8**	**-0.3**
PCIG				eS	**Sn**	**17 39 03.3**	**+6.8**
IGIG	**Irapuato, Guan**	**5.13**	**328**	eP	**Pn**	**17 37 59.8**	**+0.9**
TGIG		**5.14**	**85**	eP	**Pn**	**17 37 59.0**	**+0.2**
TGIG				eS	**Sb**	**17 39 07.3**	**-6.2**
TGIG		**5.14**	**85**	eP	**Pn**	**17 37 59.0**	**+0.2**
TGIG				eS	**Sb**	**17 39 07.3**	**-6.2**
CCIG	**Comitan**	**6.07**	**90**	eP	**Pn**	**17 38 11.8**	**0.0**
CCIG				eS	**Sn**	**17 39 24.9**	**+3.8**
CCIG	**Comitan**	**6.07**	**90**	eP	**Pn**	**17 38 11.8**	**0.0**
CCIG				eS	**Sn**	**17 39 24.9**	**+3.8**
THIG		**6.14**	**103**	eP	**Pn**	**17 38 14.0**	**+1.4**
THIG				eP	**Pn**	**17 38 14.0**	**+1.4**
THIG				eS	**Sn**	**17 39 13.9**	**-8.7**
THIG		**6.14**	**103**	eP	**Pn**	**17 38 14.0**	**+1.4**
THIG				eS	**Sn**	**17 39 13.9**	**-8.7**
CJM	**Chamela**	**6.99**	**297**	eP	**Pn**	**17 38 23.0**	**-1.3**
CJM				eS	Sn	17 39 31.6	-12
CJM	**Chamela**	**6.99**	**297**	eP	**Pn**	**17 38 23.0**	**-1.3**
CJM				eS	Sn	17 39 31.6	-12
ZAIG	**Zacatecas**	**7.45**	**329**	i P	**Pn**	**17 38 31.3**	**+0.5**
ZAIG				eS	**Sb**	**17 40 23.4**	**+3.2**
ZAIG	**Zacatecas**	**7.45**	**329**	ePn	**Pn**	**17 38 32.5**	**+1.7**
ZAIG				eS	**Sb**	**17 40 23.4**	**+3.2**
APG	**El Apazote**	**7.82**	**99**	Pn	**Pn**	**17 38 36.0**	**+0.1**
	8.1nm,0.3s,baz=324,slow=13,SNR=115						
APG				Sn	**Sn**	**17 39 59.2**	**-5.0**
	29nm,0.3s,baz=317,slow=18,SNR=4.1						
APG				Lg	Lg	17 40 46.4	
	102nm,0.3s,baz=220,slow=18,SNR=8.6						
LNIG	**Linares**	**8.53**	**354**	eP	**Pn**	**17 38 44.6**	**-0.9**
LNIG				eS	**Sn**	**17 40 23.1**	**+1.6**
LNIG	**Linares**	**8.53**	**354**	ePn	**Pn**	**17 38 45.0**	**-0.5**
LNIG				eS	**Sn**	**17 40 23.1**	**+1.6**
BOQS	**Boqueron**	**9.25**	**105**	eP	**Pn**	**17 38 58.0**	**+2.6**
SNET	**Serv Nac Est T**	**9.31**	**105**	ePn	**Pn**	**17 38 58.4**	**+2.2**
MYIG	**MØrida**	**9.44**	**60**	ePn	**Pn**	**17 38 56.3**	**-1.6**
MYIG				eS	**Sn**	**17 40 46.6**	**+2.9**
MAIG	**Mazatlaan**	**10.11**	**313**	eP	**Pn**	**17 39 09.8**	**+2.8**
MAIG				i S	**Sn**	**17 41 00.6**	**+0.6**
MAIG	**Mazatlaan**	**10.11**	**313**	eP	**Pn**	**17 39 09.8**	**+2.8**
MAIG				i S	**Sn**	**17 41 00.6**	**+0.6**
CAHU	**Cacacuatique**	**10.23**	**103**	eP	**Pn**	**17 39 11.8**	**+2.8**
TEIG	**Tepich**	**10.40**	**67**	eP	**Pn**	**17 39 10.4**	**-0.7**
TEIG				eS	**Sn**	**17 41 04.7**	**-2.7**
TEIG				AML	AML	17 41 27.0	
	comp=Z,1μm,0.8s						
TGUH	**Tegucigalpa,Un**	**11.04**	**101**	ePn	**Pn**	**17 39 19.4**	**-0.5**
TGUH	**Tegucigalpa,Un**	**11.04**	**101**	eP	**Pn**	**17 39 21.8**	**+2.0**
CSGN	**Cosiguina Volc**	**11.08**	**106**	eP	**Pn**	**17 39 23.8**	**+3.4**
KVTX	**Kingsville**	**11.13**	**3**	ePn	**Pn**	**17 39 22.5**	**+1.5**
CRIN	**San Cristobal**	**11.63**	**107**	eP	**Pn**	**17 39 31.2**	**+3.2**
833A	**Chaparral WMA,**	**11.93**	**356**	P	**Pn**	**17 39 31.5**	**-0.4**
	baz=175,SNR=124						
CNGN	**Cerro Negro**	**12.03**	**107**	eP	**Pn**	**17 39 35.9**	**+2.5**
H06E1	**SOCORRO T-PHAS**	**12.12**	**283**	T	T	17 51 43.7	
	SNR=356						
ESTN	**Estel**	**12.14**	**104**	eP	**Pn**	**17 39 37.0**	**+2.0**
H06S1	**SOCORRO T**	**12.15**	**283**	T	T	17 51 46.6	
	SNR=46						
MOMN	**Momotombo**	**12.20**	**107**	eP	**Pn**	**17 39 38.6**	**+2.8**
COPN	**Copaltepe**	**12.24**	**108**	eP	**Pn**	**17 39 38.4**	**+2.2**
APYN	**Apoyeque**	**12.44**	**108**	eP	**Pn**	**17 39 41.8**	**+2.8**
HPIG		**12.46**	**329**	eP	**Pn**	**17 39 42.2**	**+2.8**
HPIG		**12.46**	**329**	ePn	**Pn**	**17 39 41.6**	**+2.2**
TISN	**Laguna Tiscapa**	**12.54**	**108**	eP	**Pn**	**17 39 40.7**	**+0.3**
MGAN	**Managua**	**12.56**	**108**	eP	**Pn**	**17 39 43.1**	**+2.5**
MATN	**Matagalpa**	**12.60**	**104**	⇓iP	**Pn**	**17 39 43.1**	**+1.8**
LPIG	**La Paz**	**13.51**	**307**	Pn	**Pn**	**17 39 56.2**	**+2.6**
	comp=Z,16nm,0.3s,baz=326,slow=6.4,SNR=14						
LPIG				LR	LR	17 44 33.9	
	comp=Z,21μm,18.5s,baz=125,slow=35						
CRZ1	**La Cruz**	**13.53**	**111**	⇑eP	**Pn**	**17 39 55.9**	**+2.1**
HKT	**Hockley**	**13.73**	**10**	ePn	**Pn**	**17 39 54.5**	**-2.0**
HKT	**Hockley**	**13.73**	**10**	eP	**Pn**	**17 39 54.5**	**-2.0**
LTX	**Lajitas**	**13.76**	**341**	ePn	**Pn**	**17 39 59.6**	**+2.6**
LTX				e		17 43 59.3	
LTX	**Lajitas**	**13.76**	**341**	eP	**Pn**	**17 39 59.7**	**+2.6**
TX31	**Lajitas Ar. Si**	**13.76**	**341**	ePn	**Pn**	**17 39 58.2**	**+1.1**
TX31				ePn	**Pn**	**17 39 58.5**	**+1.5**
TXAR	**Lajitas Array**	**13.76**	**341**	Pn	**Pn**	**17 39 59.6**	**+2.6**
	comp=Z,0.5nm,0.3s,baz=158,slow=12,SNR=86						
TXAR				Lg	Lg	17 43 59.3	
	comp=Z,0.8nm,0.3s,baz=162,slow=33,SNR=7.7						
TXAR				LR	LR	17 45 39.3	
	comp=Z,114μm,19.5s,baz=0.0,slow=39						
PLVR	**Palo Verde**	**14.09**	**114**	eP	**Pn**	**17 40 03.2**	**+1.5**
JCT	**Junction City**	**14.10**	**355**	P	**Pn**	**17 40 01.4**	**-0.2**
	baz=174,SNR=48						
JCT	**Junction City**	**14.10**	**355**	ePn	**Pn**	**17 40 01.5**	**-0.1**
JCT	**Junction City**	**14.10**	**355**	eP	**Pn**	**17 40 01.5**	**-0.1**
ESPN	**Las Esperanzas**	**14.34**	**105**	eP	**Pn**	**17 40 05.5**	**+0.6**
435B	**Jarrell**	**14.37**	**3**	P	**Pn**	**17 40 04.5**	**-0.8**
	baz=183,SNR=19						
JTS	**JuntasAbangare**	**14.46**	**113**	Pn	**Pn**	**17 40 08.4**	**+1.7**
	comp=Z,6.0nm,0.3s,baz=7.0,slow=11,SNR=53						
JTS				Sn	**Sn**	**17 42 55.6**	**+8.7**
	baz=3.2,slow=18,SNR=1.2						
JCR	**Jicaral**	**14.52**	**115**	⇑eP	**P**	**17 40 12.1**	**-2.1**
542A	**Morse**	**14.72**	**21**	P	**Pn**	**17 40 06.8**	**-3.3**
	baz=202						
645A	**Chauvin**	**14.89**	**28**	P	**Pn**	**17 40 08.7**	**-3.7**
	baz=210						
543A	**St. Martinvill**	**14.93**	**23**	P	**Pn**	**17 40 09.4**	**-3.5**
	baz=205						
SRA1	**San Ramˆ‡n**	**14.97**	**113**	eP	**P**	**17 40 16.9**	**-2.3**
CGA2	**Cerro Gallo 2**	**15.02**	**113**	eP	**Pn**	**17 40 15.9**	**+1.6**
441A	**DeRidder**	**15.10**	**18**	P	**Pn**	**17 40 12.1**	**-3.1**
	baz=199						
544A	**White Castle**	**15.22**	**25**	P	**Pn**	**17 40 12.7**	**-4.1**
	baz=207						
442A	**Mamou**	**15.30**	**20**	P	**Pn**	**17 40 13.6**	**-4.3**
	baz=202						
HDC	**Heredia**	**15.33**	**113**	ePn	**Pn**	**17 40 18.5**	**0.0**
	comp=Z,3μm,1.4s						
646A	**Port Sulphur**	**15.36**	**30**	P	**Pn**	**17 40 13.5**	**-5.1**
	baz=212						
SJS	**Escuela Geolog**	**15.41**	**113**	eP	**P**	**17 40 22.6**	**-1.5**
545A	**Edgard**	**15.45**	**27**	P	**Pn**	**17 40 14.4**	**-5.3**
	baz=209						
LCR2	**La Lucha 2**	**15.54**	**113**	eP	**Pn**	**17 40 21.3**	**0.0**
443A	**Delano Plantat**	**15.57**	**22**	P	**Pn**	**17 40 16.0**	**-5.4**
	baz=204						
WHTX	**Lake Whitney,**	**15.58**	**3**	P	**Pn**	**17 40 20.2**	**-1.2**
	baz=183,SNR=57						
WHTX	**Lake Whitney,**	**15.58**	**3**	ePn	**Pn**	**17 40 19.6**	**-1.8**
	comp=Z,2μm,1.3s						
CVTR	**Volcan Turrial**	**15.64**	**112**	⇓eP	**Pn**	**17 40 24.4**	**+1.6**
341A	**Kurthwood**	**15.65**	**17**	P	**Pn**	**17 40 19.1**	**-3.3**
	baz=199,SNR=14						
URSC	**Urasca**	**15.70**	**113**	eP	**P**	**17 40 26.4**	**-1.0**
NATX	**Nacogdoches**	**15.70**	**12**	ePn	**Pn**	**17 40 20.5**	**-2.6**
	comp=Z,2μm,1.4s						
BUS	**Buena Vista**	**15.84**	**114**	eP	**Pn**	**17 40 27.2**	**+1.7**
444A	**Pine Grove**	**15.92**	**25**	P	**Pn**	**17 40 21.5**	**-4.4**
	baz=208						
342A	**Flagon Creek P**	**15.95**	**19**	P	**Pn**	**17 40 23.2**	**-3.0**
	baz=201,SNR=19						
546A	**Slidell**	**15.95**	**29**	P	**Pn**	**17 40 20.8**	**-5.5**
	baz=212						
343A	**Vidalia**	**16.10**	**22**	P	**Pn**	**17 40 25.2**	**-3.0**
	baz=204						
445A	**Amite**	**16.11**	**26**	P	**Pn**	**17 40 25.1**	**-3.2**
	baz=209,SNR=8.4						
240A	**Hunter Patters**	**16.17**	**14**	P	**Pn**	**17 40 25.5**	**-3.6**
	baz=196,SNR=13						
ABTX	**Abilene, Hawle**	**16.22**	**356**	P	**Pn**	**17 40 28.1**	**-1.6**
	baz=175,SNR=172						
ABTX	**Abilene, Hawle**	**16.22**	**356**	ePn	**Pn**	**17 40 29.6**	**-0.2**
	comp=Z,1μm,1.1s						
241A	**Mo Tay, Goldon**	**16.37**	**17**	P	**Pn**	**17 40 28.2**	**-3.5**
	baz=199,SNR=13						
CGIG		**16.43**	**330**	eP	**P**	**17 40 34.5**	**-0.8**
CGIG		**16.43**	**330**	eP	**P**	**17 40 34.5**	**-0.8**
MNTX	**Cornudas Mount**	**16.51**	**339**	P	**Pn**	**17 40 34.0**	**+0.6**
	baz=156,SNR=169						
MNTX	**Cornudas Mount**	**16.51**	**339**	ePn	**Pn**	**17 40 34.0**	**+0.6**
	comp=Z,396nm,1.3s						
WBCY	**West Bay, Gran**	**16.52**	**77**	ePn	**Pn**	**17 40 33.0**	**-0.6**
	comp=Z,883nm,1.1s						
344A	**Westbrook Farm**	**16.58**	**24**	P	**Pn**	**17 40 32.3**	**-2.1**
	baz=206						
446A	**Poplarville**	**16.59**	**28**	P	**Pn**	**17 40 31.6**	**-2.8**
	baz=212						
242A	**Grayson**	**16.64**	**19**	P	**Pn**	**17 40 32.7**	**-2.4**
	baz=201						
GDL2	**Guadalupe Moun**	**16.64**	**342**	ePn	**Pn**	**17 40 34.9**	**-0.4**
GDL2				ePn	**pP**	**17 40 40.2**	**-2.0**
243A	**Waterproof**	**16.69**	**21**	P	**Pn**	**17 40 33.6**	**-2.1**
	baz=203						
FSCY	**Frank Sound, G**	**16.71**	**77**	ePn	**Pn**	**17 40 34.7**	**-1.3**
	comp=Z,506nm,0.8s						
FSCY				ePn	**P**	**17 40 40.3**	**+2.1**
PTJ1	**Puerto Jimˆ'ne**	**16.72**	**116**	⇑eP	**P**	**17 40 38.9**	**+0.5**
345A	**Thompson Farm,**	**16.74**	**26**	P	**Pn**	**17 40 33.9**	**-2.4**
	baz=209,SNR=6.8						
SRIG	**Santa Rosalia**	**16.79**	**313**	eP	**P**	**17 40 38.2**	**-0.8**
SRIG	**Santa Rosalia**	**16.79**	**313**	ePn	**P**	**17 40 39.3**	**+0.2**
140A	**Cam and Jess,**	**16.79**	**14**	P	**Pn**	**17 40 34.5**	**-2.5**
	baz=196,SNR=46						
447A	**Lucedale**	**16.92**	**30**	P	**Pn**	**17 40 35.9**	**-2.8**
	baz=214						
141A	**Papa Simpson,**	**16.93**	**16**	P	**Pn**	**17 40 35.9**	**-2.8**
	baz=198,SNR=15						
EPT	**El Paso**	**16.99**	**336**	ePn	**Pn**	**17 40 40.2**	**+0.6**
	comp=Z,475nm,1.4s						
HSIG		**17.05**	**320**	eP	**P**	**17 40 42.1**	**+0.1**
HSIG		**17.05**	**320**	ePn	**P**	**17 40 42.7**	**+0.7**
346A	**Big Creek Wild**	**17.05**	**27**	P	**Pn**	**17 40 38.2**	**-2.1**
	baz=210,SNR=7.7						
244A	**Avery, Jackson**	**17.12**	**23**	P	**Pn**	**17 40 37.7**	**-3.5**
	baz=206,SNR=25						
BRU2	**Volcan**	**17.13**	**114**	eP	**P**	**17 40 45.1**	**+2.0**
142A	**Monroe**	**17.15**	**19**	P	**Pn**	**17 40 38.7**	**-2.8**
	baz=201,SNR=16						
142A				Sn	**Sn**	**17 43 54.0**	**+2.0**
	baz=201						
VBMS	**Vicksburg**	**17.35**	**23**	P	**Pn**	**17 40 41.2**	**-2.7**
	baz=206,SNR=11						
VBMS	**Vicksburg**	**17.35**	**23**	ePn	**Pn**	**17 40 41.7**	**-2.3**
	comp=Z,2μm,1.9s						
245A	**Little AP, Sta**	**17.42**	**25**	P	**Pn**	**17 40 42.5**	**-2.4**
	baz=208						
Z40A	**Long Farm, Mag**	**17.42**	**14**	P	**Pn**	**17 40 42.2**	**-2.7**
	baz=196,SNR=82						
448A	**Bay Minette**	**17.43**	**32**	P	**Pn**	**17 40 42.8**	**-2.2**
	baz=216						
143A	**Socs Landing,**	**17.47**	**20**	P	**Pn**	**17 40 41.7**	**-3.8**
	baz=203,SNR=13						
347A	**Saraland**	**17.48**	**29**	P	**Pn**	**17 40 43.4**	**-2.3**
	baz=213						
Z41A	**Richland Creek**	**17.57**	**16**	P	**Pn**	**17 40 44.0**	**-2.8**
	baz=198,SNR=51						
449A	**Pace**	**17.63**	**34**	P	**Pn**	**17 40 44.4**	**-3.0**
	baz=218,SNR=13						
246A	**Jackson Lee, B**	**17.73**	**27**	P	**Pn**	**17 40 45.5**	**-3.3**
	baz=210						
144A	**Alexander Plac**	**17.75**	**23**	P	**Pn**	**17 40 46.5**	**-2.5**
	baz=206						
LCCY	**Blossom Villag**	**17.78**	**77**	ePn	**Pn**	**17 40 48.0**	**-1.4**
	comp=Z,960nm,1.2s						
348A	**Jackson**	**17.80**	**31**	P	**Pn**	**17 40 46.4**	**-3.1**
	baz=215						
Z42A	**Norrel Spur, H**	**17.83**	**18**	P	**Pn**	**17 40 47.4**	**-2.5**
	baz=200,SNR=13						
319A	**Douglas**	**17.89**	**328**	ePn	**P**	**17 40 52.8**	**+1.3**
	comp=Z,1μm,1.4s						
145A	**Houston Renfro**	**17.91**	**24**	P	**Pn**	**17 40 48.6**	**-2.4**
	baz=207,SNR=18						
MSTX	**Muleshoe**	**17.95**	**348**	P	**Pn**	**17 40 50.3**	**-1.3**
	baz=166,SNR=235						
MSTX	**Muleshoe**	**17.95**	**348**	ePn	**Pn**	**17 40 51.7**	**+0.2**
	comp=Z,801nm,1.2s						
247A	**Quitman**	**17.99**	**28**	P	**Pn**	**17 40 48.9**	**-3.1**
	baz=212,SNR=11						
450A	**Crestview**	**18.00**	**35**	P	**Pn**	**17 40 49.3**	**-2.8**
	baz=219						
BRAL	**Brewton**	**18.03**	**33**	P	**Pn**	**17 40 48.9**	**-3.5**
	baz=217,SNR=11						
BRAL	**Brewton**	**18.03**	**33**	ePn	**Pn**	**17 40 51.8**	**-0.7**
	comp=Z,1μm,1.5s						
CBCY	**The Bluff, Cay**	**18.09**	**77**	ePn	**Pn**	**17 40 51.3**	**-2.0**
	comp=Z,558nm,1.0s						
349A	**Repton**	**18.10**	**33**	P	**Pn**	**17 40 50.4**	**-3.0**
	baz=217,SNR=12						
121A	**Cookes Peak, D**	**18.17**	**334**	P	**P**	**17 40 55.7**	**+1.1**
	baz=150,SNR=83						
Y40A	**Okolona**	**18.17**	**14**	P	**Pn**	**17 40 52.1**	**-2.1**
	baz=196,SNR=29						
Y41A	**Eaglette Beard**	**18.21**	**16**	P	**Pn**	**17 40 52.5**	**-2.2**
	baz=198,SNR=22						
552A	**Lynn Haven**	**18.25**	**39**	P	**Pn**	**17 40 52.1**	**-3.1**
	baz=224						
WMOK	**Wichita Mounta**	**18.29**	**359**	P	**Pn**	**17 40 54.0**	**-1.6**
	baz=179,SNR=33						
WMOK	**Wichita Mounta**	**18.29**	**359**	ePn	**Pn**	**17 40 54.8**	**-0.9**
	comp=Z,789nm,1.8s						
WMOK	**Wichita Mounta**	**18.29**	**359**	eP	**Pn**	**17 40 54.8**	**-0.9**
WMOK				pmax	pmax		
	comp=Z,789nm,1.8s						
146A	**Union**	**18.30**	**26**	P	**Pn**	**17 40 53.4**	**-2.3**
	baz=210,SNR=19						
Z44A	**Pea Ridge, Bel**	**18.33**	**22**	P	**Pn**	**17 40 54.1**	**-1.9**
	baz=205						
451A	**Vernon**	**18.33**	**37**	P	**Pn**	**17 40 54.2**	**-1.9**
	baz=222,SNR=7.7						
Y42A	**Garnett, Star**	**18.40**	**18**	P	**P**	**17 40 54.6**	**-2.3**
	baz=200,SNR=23						
248A	**Dixon Mills**	**18.43**	**30**	P	**P**	**17 40 55.1**	**-2.2**
	baz=214,SNR=31						
X39A	**Fountain Ranch**	**18.48**	**11**	P	**P**	**17 40 56.3**	**-1.5**
	baz=193,SNR=64						
350A	**Dozier**	**18.61**	**34**	P	**P**	**17 40 57.0**	**-2.3**
	baz=219,SNR=19						
MIAR	**Mount Ida**	**18.62**	**13**	P	**P**	**17 40 57.6**	**-1.7**
	baz=194,SNR=165						
MIAR	**Mount Ida**	**18.62**	**13**	eP	**P**	**17 40 58.3**	**-1.0**
	comp=Z,386nm,1.0s						
MIAR	**Mount Ida**	**18.62**	**13**	eP	**P**	**17 40 58.3**	**-1.0**
MIAR				pmax	pmax		
	comp=Z,386nm,1.0s						
249A	**Camden**	**18.64**	**32**	P	**P**	**17 40 57.7**	**-1.8**
	baz=216,SNR=29						
AMTX	**Amarillo**	**18.66**	**352**	P	**P**	**17 40 59.8**	**-0.1**
	baz=170						
AMTX	**Amarillo**	**18.66**	**352**	eP	**P**	**17 40 59.2**	**-0.6**
	comp=Z,438nm,1.0s						
147A	**Livingston**	**18.67**	**28**	P	**P**	**17 40 58.5**	**-1.4**
	baz=212,SNR=24						
059Z	**Ave Maria**	**18.68**	**55**	P	**P**	**17 40 57.8**	**-2.2**
	baz=241						
Z45A	**Winona**	**18.68**	**23**	P	**P**	**17 40 58.2**	**-1.8**
	baz=207,SNR=8.2						
X40A	**Basin Creek Fa**	**18.73**	**15**	P	**P**	**17 40 58.9**	**-1.6**
	baz=197,SNR=54						
Y43A	**Makayla and Ka**	**18.74**	**20**	P	**P**	**17 40 59.7**	**-0.9**
	baz=203						
058A	**Arcadia**	**18.75**	**53**	P	**P**	**17 40 57.6**	**-3.2**
	baz=238						
957A	**Wimauma**	**18.76**	**50**	P	**P**	**17 40 57.8**	**-3.0**
	baz=236						
553A	**Crawfordville**	**18.82**	**41**	P	**P**	**17 41 00.2**	**-1.3**
	baz=226,SNR=10						
X41A	**Kaden, Bauxite**	**18.82**	**15**	P	**P**	**17 41 00.0**	**-1.5**
	baz=198,SNR=15						
Z46A	**Louisville**	**18.83**	**25**	P	**P**	**17 41 00.6**	**-1.0**
	baz=209,SNR=22						
452A	**Marianna**	**18.83**	**38**	P	**P**	**17 41 00.1**	**-1.5**
	baz=223,SNR=5.7						
351A	**Pinckard**	**18.91**	**36**	P	**P**	**17 41 01.0**	**-1.5**
	baz=221						
148A	**Greensboro**	**18.97**	**29**	P	**P**	**17 41 02.0**	**-1.1**
	baz=213,SNR=24						
Y44A	**Strider, Charl**	**19.02**	**21**	P	**P**	**17 41 03.1**	**-0.6**
	baz=204						
958A	**Wauchula**	**19.07**	**51**	P	**P**	**17 41 02.2**	**-2.1**
	baz=237						
250A	**Grady**	**19.08**	**33**	P	**P**	**17 41 02.5**	**-1.8**
	baz=218,SNR=15						
857A	**Zephyrhills**	**19.09**	**49**	P	**P**	**17 41 01.5**	**-3.1**
	baz=235,SNR=8.4						
X42A	**Stuttgart**	**19.12**	**17**	P	**P**	**17 41 04.4**	**-0.3**
	baz=200						
UALR	**University of**	**19.13**	**16**	eP	**P**	**17 41 03.4**	**-1.5**
	comp=Z,385nm,1.1s						
655A	**Horseshoe Beac**	**19.13**	**44**	P	**P**	**17 41 02.9**	**-2.0**
	baz=230						
BNM	**Barren Site**	**19.16**	**339**	eP	**Pn**	**17 41 07.2**	**+0.7**
Y45A	**Yeager Farm, C**	**19.18**	**23**	P	**P**	**17 41 04.6**	**-0.8**
	baz=206,SNR=42						
Y22D	**IRIS PASSCAL I**	**19.20**	**338**	P	**Pn**	**17 41 08.4**	**+1.6**
	baz=154,SNR=9.5						
Y22D	**IRIS PASSCAL I**	**19.20**	**338**	eP	**Pn**	**17 41 08.7**	**+1.9**
	comp=Z,800nm,1.4s						
Y22E	**IRIS PASSCAL I**	**19.20**	**338**	P	**Pn**	**17 41 08.6**	**+1.8**
	baz=154						
Z47A	**Carrollton**	**19.20**	**27**	P	**P**	**17 41 04.5**	**-1.2**
	baz=211,SNR=20						
W39A	**Magazine**	**19.21**	**12**	P	**P**	**17 41 05.5**	**-0.2**
	baz=193,SNR=108						
059A	**Moore Haven**	**19.22**	**54**	P	**P**	**17 41 03.8**	**-2.1**
	baz=240						
554A	**Perry**	**19.22**	**42**	P	**P**	**17 41 03.9**	**-2.0**
	baz=228,SNR=12						
LENM	**Lemitar**	**19.30**	**338**	eP	**Pn**	**17 41 07.8**	**-0.3**
149A	**Jones**	**19.31**	**31**	P	**P**	**17 41 05.9**	**-0.9**
	baz=216,SNR=60						
X43A	**Marvell**	**19.31**	**19**	P	**P**	**17 41 07.3**	**+0.4**
	baz=202						
LPM	**Los Pinos Moun**	**19.31**	**339**	eP	**Pn**	**17 41 09.4**	**+1.2**
453A	**Whigham**	**19.35**	**39**	P	**P**	**17 41 06.7**	**-0.6**
	baz=225						
W40A	**Ferguson Farm,**	**19.35**	**13**	P	**P**	**17 41 07.1**	**-0.2**
	baz=195,SNR=18						

W40A Ferguson Farm, 19.35 13 *e*P P 17 41 07.3 0.0
comp=Z,943nm,1.6s
TUC Tucson 19.41 327 P Pn 17 41 11.3 +2.0
baz=142
TUC Tucson 19.41 327 *e*P Pn 17 41 10.5 +1.2
TUC Tucson 19.41 327 *e*P Pn 17 41 10.5 +1.2
TUC pmax pmax
comp=Z,707nm,1.6s
352A Blakely 19.44 37 P P 17 41 08.1 -0.2
baz=222
Y46A Houston 19.46 25 P P 17 41 08.3 -0.2
baz=208,SNR=54
BCIP Isla Barro Col 19.51 109 *e*P Pn 17 41 10.2 -0.4
comp=Z,2µm,1.8s
BCIP Isla Barro Col 19.51 109 *e*P Pn 17 41 10.4 -0.1
W41B Gary Mavity, V 19.53 15 P P 17 41 08.7 -0.6
baz=198,SNR=46
656A Willston 19.53 46 P P 17 41 08.3 -1.0
baz=232,SNR=9.2
X44A Crenshaw 19.53 21 P P 17 41 08.6 -0.7
baz=204,SNR=7.5
LRAL Lakeview Retre 19.56 30 P P 17 41 08.8 -0.8
baz=214,SNR=53
LRAL Lakeview Retre 19.56 30 *e*P P 17 41 10.0 +0.3
comp=Z,227nm,1.0s
LAZ Ladron 19.57 338 *e*P Pn 17 41 12.1 +0.7
Z48A Northport 19.58 28 P P 17 41 09.2 -0.7
baz=212,SNR=110
DWPF Disney Wildern 19.59 50 P P 17 41 08.7 -1.3
baz=237
DWPF Disney Wildern 19.59 50 *e*P P 17 41 09.6 -0.4
comp=Z,325nm,1.1s
757A Oxford 19.60 48 P P 17 41 07.5 -2.5
baz=234,SNR=15
TUL1 Leonard 19.60 6 P P 17 41 09.4 -0.7
baz=187,SNR=68
TUL1 Leonard 19.60 6 *e*P P 17 41 09.5 -0.7
comp=Z,2µm,1.4s
251A Midway 19.63 35 P P 17 41 09.6 -0.8
baz=220,SNR=50
454A Quitman 19.68 41 P P 17 41 09.6 -1.3
baz=226,SNR=14
858A St. Cloud 19.70 50 P P 17 41 09.6 -1.6
baz=236
959A Okeechobee 19.70 53 P P 17 41 10.5 -0.7
baz=239
150A Eclectic 19.70 33 P P 17 41 10.9 -0.3
baz=217,SNR=42
555A McAlpin 19.71 43 P P 17 41 09.8 -1.5
baz=229,SNR=8.3
X45A UM Field Stati 19.73 23 P P 17 41 10.5 -1.0
baz=206,SNR=26
353A Camilla 19.76 39 P P 17 41 10.7 -1.2
baz=224,SNR=15
OXF Oxford 19.81 23 P P 17 41 11.2 -1.1
baz=206,SNR=31
OXF Oxford 19.81 23 *e*P P 17 41 11.2 -1.1
comp=Z,605nm,1.1s
OXF Oxford 19.81 23 *e*P P 17 41 11.2 -1.1
OXF pmax pmax
comp=Z,605nm,1.1s
W42A Bald Knob 19.82 17 P P 17 41 12.3 -0.1
baz=200
ANMO Albuquerque 19.83 340 P Pn 17 41 14.4 -0.1
comp=Z,2.3nm,0.3s,baz=339,slow=12,SNR=119
ANMO S Sn 17 44 58.0 +0.8
comp=Z,0.2nm,0.3s,baz=180,slow=19,SNR=2.1
ANMO Lg Lg 17 47 04.2
baz=53,slow=21,SNR=3.1
ANMO LR LR 17 49 33.1
comp=Z,180µm,20.0s,baz=340,slow=39
ANMO Albuquerque 19.83 340 P Pn 17 41 14.9 +0.4
baz=156
ANMO Albuquerque 19.83 340 *e*P Pn 17 41 14.1 -0.4
comp=Z,496nm,1.4s
ANMO S Sn 17 44 58.0 +0.8
ANMO *e* 17 47 04.2
ANMO Albuquerque 19.83 340 *ce*P Pn 17 41 14.0 -0.4
ANMO pmax pmax
comp=Z,429nm,1.2s
ANMO MLR MLR
comp=Z,171µm,17.0s
V39A Pettigrew 19.86 12 P P 17 41 12.8 -0.1
baz=193,SNR=222
060A Indiantown 19.86 55 P P 17 41 12.2 -0.7
baz=241
W43A Forest City 19.89 19 P P 17 41 13.3 +0.1
baz=202
Y47A UCPARC, Winfie 19.90 27 P P 17 41 13.1 -0.2
baz=211,SNR=46
MCJ Malvern 19.91 83 ||*i*P Pn 17 41 15.6 +0.3
Z49A Columbiana 19.92 31 P P 17 41 13.6 +0.1
baz=215,SNR=203
252A Lumpkin 19.93 36 P P 17 41 13.2 -0.5
baz=222,SNR=20
859A Kempfer Cattle 19.96 51 P P 17 41 12.8 -1.3
baz=238
V40A Witts Springs 20.00 14 P P 17 41 14.2 -0.2
baz=196,SNR=125
151A Opelika 20.01 34 P P 17 41 14.3 -0.2
baz=219,SNR=66
556A Lake Butler 20.01 45 P P 17 41 13.3 -1.3
baz=230,SNR=28
MTDJ Mount Denham 20.07 82 *e*P P 17 41 14.7 -0.7
comp=Z,826nm,1.4s
455A Stateville 20.09 42 P P 17 41 14.6 -0.8
baz=228,SNR=12
657A Interlachen 20.12 46 P P 17 41 14.3 -1.5
baz=232,SNR=12
V41A Mountainview 20.14 15 P P 17 41 15.5 -0.4
baz=197,SNR=75
X46A Booneville 20.16 24 P P 17 41 15.8 -0.4
baz=208,SNR=83
TIGA Tifton 20.21 39 P P 17 41 15.8 -0.9
baz=225,SNR=11
TIGA Tifton 20.21 39 *e*P P 17 41 15.3 -1.4
comp=Z,881nm,1.3s
Y48A Jasper 20.21 28 P P 17 41 16.4 -0.3
baz=212,SNR=53
W44A Shelby Farms P 20.23 21 P P 17 41 16.5 -0.4
baz=204
758A Lake Helen 20.23 49 P P 17 41 16.0 -1.0
baz=235
214A Organ Pipe Nat 20.26 323 P Pn 17 41 19.2 -0.1
baz=136,SNR=108
Z50A Ashland 20.27 32 P P 17 41 17.5 +0.1
baz=217,SNR=175
BBJ Bamboo Saint A 20.33 81 ||*i*P Pn 17 41 19.9 -0.3
253A Americus 20.33 37 P P 17 41 17.8 -0.2
baz=223
V42A Cord 20.36 17 P P 17 41 17.7 -0.6
baz=199,SNR=60
PCJ Portland Cotta 20.41 83 ||*i*P Pn 17 41 20.8 -0.4
U39A Green Forest 20.42 12 P P 17 41 18.5 -0.4
baz=193,SNR=132
X47A Russelville 20.42 26 P P 17 41 18.5 -0.5
baz=210,SNR=46
658A Bunnell 20.45 48 P P 17 41 18.4 -1.0
baz=234
W45A Hickory Valley 20.46 22 P P 17 41 19.2 -0.3
baz=206
557A Orange Park 20.48 46 P P 17 41 18.1 -1.6
baz=232
Y49A Blount Mountai 20.51 30 P P 17 41 19.8 -0.2
baz=214,SNR=65
U40A Yellville 20.52 13 P P 17 41 19.8 -0.3
baz=195,SNR=220
V43A Jonesboro 20.58 19 P P 17 41 20.6 -0.2
baz=202
355A Pearson 20.60 41 P P 17 41 18.8 -2.2
baz=227,SNR=5.4
MAPC Malpelo 20.62 125 *e*P P 17 41 21.7 +0.4
X48A Hartselle 20.72 28 P P 17 41 21.3 -0.9
baz=212,SNR=47
U41A Viola 20.72 15 P P 17 41 21.9 -0.4
baz=198,SNR=83
456A Hilliard 20.73 44 P P 17 41 21.1 -1.2
baz=230
PLAL Pickwick Lake 20.73 25 *e*P P 17 41 21.5 -0.9
254A Abbeville 20.74 39 P P 17 41 21.6 -0.9
baz=225,SNR=15
W46A Michie 20.75 24 P P 17 41 21.2 -1.4
baz=208,SNR=22
X18A Snowflake 20.81 332 *e*P Pn 17 41 25.9 0.0
comp=Z,1µm,1.4s
V44A Blytheville 20.83 20 P P 17 41 23.3 0.0
baz=203

GWJ Greenwich 20.83 82 *i*P Pn 17 41 25.2 -1.0
Y50A Piedmont 20.87 31 P P 17 41 23.4 -0.4
baz=216,SNR=39
U42A Revenden 20.91 17 P P 17 41 23.5 -0.8
baz=199,SNR=156
T38A Diamond 20.91 9 P P 17 41 23.3 -1.0
baz=191,SNR=155
153A Fort Valley 20.93 37 P P 17 41 23.8 -0.7
baz=222,SNR=6.6
457A Yulee 20.97 44 P P 17 41 24.1 -0.9
baz=231
356A Blackshear 21.05 42 P P 17 41 25.3 -0.5
baz=228
T39A Clever 21.06 11 P P 17 41 25.4 -0.5
baz=193,SNR=86
V45A Humboldt 21.07 22 P P 17 41 25.2 -0.8
baz=206
X49A Woodville 21.09 29 P P 17 41 25.6 -0.7
baz=214,SNR=47
W47A Westpoint 21.16 25 P P 17 41 26.1 -1.0
baz=210,SNR=99
U43A Rector 21.16 18 P P 17 41 26.6 -0.4
baz=201
W18A Petrified Fore 21.22 334 P P 17 41 29.6 +1.8
baz=148,SNR=241
W18A Petrified Fore 21.22 334 *e*P P 17 41 29.8 +2.0
comp=Z,1µm,1.4s
SPIG San Pedro Mart 21.30 316 *e*P P 17 41 31.2 +2.2
SPIG San Pedro Mart 21.30 316 *e*P P 17 41 31.2 +2.2
154A Montrose 21.33 38 P P 17 41 27.8 -1.0
baz=224,SNR=12
T25A Trinidad 21.34 347 P P 17 41 30.0 +0.8
baz=164,SNR=295
T25A Trinidad 21.34 347 *e*P P 17 41 30.2 +1.0
comp=Z,806nm,1.1s
W48A Pulaski 21.34 27 P P 17 41 28.3 -0.7
baz=211,SNR=93
T40A Mansfield 21.35 13 P P 17 41 28.4 -0.7
baz=195,SNR=167
X50A Fort Payne 21.37 30 P P 17 41 28.7 -0.6
baz=215,SNR=74
MHTCO State Highway 21.40 346 *e*P P 17 41 31.4 +1.6
comp=Z,462nm,1.3s
113A Mohawk Valley, 21.41 322 *e*P P 17 41 31.6 +1.9
comp=Z,592nm,1.6s
X16A Lo Mia Camp, P 21.42 329 *e*P P 17 41 32.3 +2.3
comp=Z,397nm,0.9s
T41A Mountain View 21.43 15 P P 17 41 29.3 -0.6
baz=197,SNR=157
V46A Holladay 21.43 24 P P 17 41 28.2 -1.7
baz=208,SNR=119
U44B Burton Farm, H 21.47 20 P P 17 41 29.8 -0.5
baz=204
U44A Portageville 21.51 20 P P 17 41 30.3 -0.5
baz=203
357A Townsend 21.53 43 P P 17 41 30.1 -0.8
baz=229
PBMO Poplar Bluff 21.54 18 *e*P P 17 41 30.5 -0.5
comp=Z,573nm,1.1s
S38A Stockton 21.55 10 P P 17 41 29.9 -1.3
baz=192,SNR=62
T42A Van Buren 21.59 16 P P 17 41 30.9 -0.7
baz=199,SNR=140
256A Glennville 21.63 41 P P 17 41 30.4 -1.7
baz=228,SNR=6.2
UTMT University of 21.64 21 *e*P P 17 41 31.4 -0.7
comp=Z,3µm,1.3s
U45A Rockin P Farm, 21.68 22 P P 17 41 30.9 -1.7
baz=206,SNR=22
V47A Nunnelly 21.69 25 P P 17 41 31.5 -1.2
baz=209,SNR=95
GOGA Godfrey 21.70 36 P P 17 41 32.0 -0.7
baz=222,SNR=118
GOGA Godfrey 21.70 36 *e*P P 17 41 31.7 -1.1
GOGA comp=Z,567nm,1.3s LR LR
comp=Z,25µm,19.0s
GOGA Godfrey 21.70 36 *e*P P 17 41 31.7 -1.1
GOGA pmax pmax
comp=Z,567nm,1.3s
GOGA MLR MLR
comp=Z,25µm,19.0s
155A Kite 21.71 39 P P 17 41 31.6 -1.4
baz=225,SNR=36
S39A Bolivar 21.71 11 P P 17 41 31.9 -1.1
baz=193,SNR=122
S40A Lebanon 21.79 13 P P 17 41 33.1 -0.7
baz=195,SNR=143
WVT Waverly 21.83 24 P P 17 41 33.3 -0.9
baz=208
WVT Waverly 21.83 24 *e*P P 17 41 32.6 -1.6
comp=Z,334nm,1.0s
WVT Waverly 21.83 24 *e*P P 17 41 32.6 -1.6
WVT pmax pmax
comp=Z,335nm,1.0s
Y14A Wickenburg 21.84 326 *e*P P 17 41 36.5 +2.1
comp=Z,758nm,1.3s
T43A Greenville 21.86 18 P P 17 41 33.4 -1.1
baz=201,SNR=203
V48A Smith Brothers 21.90 26 P P 17 41 33.9 -1.1
baz=211,SNR=43
U46A Springville 21.91 23 P P 17 41 33.7 -1.3
baz=207,SNR=8.0
S41A Jillco Farms, 21.95 14 P P 17 41 34.7 -0.7
baz=197,SNR=223
CAPC Capurgana 21.98 108 *e*P P 17 41 36.7 +0.7
T44A Benton 22.08 19 P P 17 41 35.1 -1.7
baz=203,SNR=25
R38A Fenwick Farm, 22.10 10 P P 17 41 35.4 -1.6
baz=191,SNR=106
SDCO Great Sand Dun 22.18 345 P P 17 41 39.1 +0.9
baz=194,SNR=90
SDCO Great Sand Dun 22.18 345 *e*P P 17 41 39.6 +1.4
comp=Z,272nm,1.4s
SDCO LR LR
comp=Z,37µm,20.0s
257A Skidaway Islan 22.18 42 P P 17 41 37.5 -0.5
baz=229
GLA Glamis 22.24 321 P P 17 41 40.7 +2.0
baz=134,SNR=87
GLA Glamis 22.24 321 *e*P P 17 41 41.0 +2.4
comp=Z,211µm,1.4s
GLA Glamis 22.24 321 *e*P P 17 41 41.0 +2.4
GLA pmax pmax
comp=Z,1µm,1.4s
WUAZ Wupatki 22.28 331 P P 17 41 41.7 +2.5
baz=145,SNR=231
WUAZ Wupatki 22.28 331 *e*P P 17 41 41.6 +2.3
comp=Z,1µm,1.3s
WUAZ LR LR
comp=Z,190µm,19.0s
U47A Clarksville 22.32 24 P P 17 41 37.5 -1.9
baz=209,SNR=47
T45A Paducah 22.33 21 P P 17 41 38.1 -1.4
baz=205,SNR=5.4
S42A Caledonia 22.36 16 P P 17 41 38.1 -1.8
baz=199,SNR=168
R39A Chumby, Stover 22.37 11 P P 17 41 38.8 -1.2
baz=193,SNR=211
S43A Fulton Ridge, 22.38 18 P P 17 41 38.1 -2.0
baz=201,SNR=80
CBKS Cedar Bluff 22.39 357 P P 17 41 39.4 -0.8
baz=176,SNR=110
CBKS Cedar Bluff 22.39 357 *e*P P 17 41 40.0 -0.2
comp=Z,814nm,1.2s
CBKS LR LR
comp=Z,42µm,22.0s
CBKS Cedar Bluff 22.39 357 *e*P P 17 41 40.0 -0.2
CBKS pmax pmax
comp=Z,813nm,1.2s
CBKS MLR MLR
comp=Z,42µm,22.0s
GTBY Guantanamo Bay 22.46 77 *e*P P 17 41 41.4 +0.2
comp=Z,510nm,1.0s
GTBY LR LR
comp=Z,13µm,21.0s
R40A Maddies Statio 22.50 13 P P 17 41 40.4 -1.0
baz=195,SNR=214
CCM Cathedral Cave 22.52 15 P P 17 41 40.4 -1.1
baz=198
CCM Cathedral Cave 22.52 15 *e*P P 17 41 40.0 -1.5
comp=Z,492nm,1.1s
CCM Cathedral Cave 22.52 15 *e*P P 17 41 40.0 -1.5
CCM pmax pmax
comp=Z,492nm,1.1s
S22A 4UR Ranch, Cre 22.54 342 P P 17 41 43.9 +1.9
baz=158
S22A 4UR Ranch, Cre 22.54 342 *e*P P 17 41 43.5 +1.5
comp=Z,590nm,1.4s
Y12C Blythe 22.55 323 P P 17 41 43.7 +1.7
baz=136,SNR=26
Y12C Blythe 22.55 323 *e*P P 17 41 44.1 +2.2
comp=Z,533nm,1.5s
MVCO Mesa Verde 22.58 339 P P 17 41 43.8 +1.3
baz=154,SNR=251
MVCO Mesa Verde 22.58 339 *e*P P 17 41 43.4 +0.9
comp=Z,2µm,1.4s
MVCO LR LR
comp=Z,153µm,21.0s
T46A Princeton 22.61 22 P P 17 41 41.1 -1.5
baz=207,SNR=97
FVM French Village 22.66 17 *e*P P 17 41 41.2 -1.9
comp=Z,653nm,1.5s
FVM French Village 22.66 17 *e*P P 17 41 41.2 -1.9
FVM pmax pmax
comp=Z,653nm,1.5s
U48A Cassie Pea, Po 22.68 26 P P 17 41 42.0 -1.3
baz=210,SNR=38
Q37A Longview Farm, 22.69 8 P P 17 41 41.2 -2.2
baz=190,SNR=17
KSU1 Kansas State U 22.70 4 P P 17 41 41.3 -2.2
baz=184
KSU1 Kansas State U 22.70 4 *e*P P 17 41 42.5 -1.0
comp=Z,288nm,1.0s
KSU1 LR LR
comp=Z,59µm,19.0s
R41A Rosebud 22.71 15 P P 17 41 41.5 -2.1
baz=197,SNR=100
S44A Carbondale 22.74 19 P P 17 41 42.6 -1.3
baz=203,SNR=68
PDMCI Parker Dam,Lak 22.74 325 P P 17 41 46.5 +2.6
baz=138,SNR=20
IKP In-Ko-Pah, Jac 22.76 319 P P 17 41 46.3 +2.0
baz=131,SNR=53
SWSC Sam W. Stewart 22.76 320 P P 17 41 45.4 +1.3
baz=132,SNR=51
SIUC Southern Illin 22.77 19 *e*P P 17 41 43.2 -1.1
comp=Z,564nm,1.3s
R42A Luebbering 22.84 16 P P 17 41 43.2 -1.8
baz=199,SNR=43
KSCO Kaye Shedlock' 22.85 352 P P 17 41 45.2 0.0
baz=169,SNR=45
KSCO Kaye Shedlock' 22.85 352 *e*P P 17 41 45.6 +0.5
comp=Z,924nm,1.2s
T47A Sharon Grove 22.87 24 P P 17 41 43.8 -1.4
baz=209,SNR=87
Q38A Cooks Store, C 22.90 10 P P 17 41 44.1 -1.5
baz=192,SNR=48
S45A Carrier Mills 22.94 20 P P 17 41 44.7 -1.4
baz=205,SNR=82
SOLC Bahia Solano 22.95 114 *e*P P 17 41 48.3 +2.0
TJIG Tijuana 22.98 317 *e*P P 17 41 49.1 +2.6
BC3 Big Chuckawall 23.03 321 P P 17 41 49.0 +1.9
baz=134,SNR=46
R43A Red Bud 23.07 17 P P 17 41 45.9 -1.5
baz=201,SNR=40
Q39A Willow Grove F 23.09 11 P P 17 41 46.0 -1.5
baz=193,SNR=47
MONP2 Monument Peak 23.11 319 P P 17 41 49.7 +1.6
baz=131,SNR=16
BAR Barrett 23.14 318 *e*P P 17 41 50.5 +2.4
comp=Z,595nm,1.8s
W13A Hualapai Mount 23.20 326 *e*P P 17 41 51.9 +2.9
comp=Z,576nm,1.8s
IRM Iron Mountain 23.20 323 P P 17 41 50.4 +1.5
baz=135,SNR=45
Q40A Laux Farm, Aux 23.22 13 P P 17 41 47.5 -1.4
baz=195,SNR=76
TKL Tuckaleechee C 23.25 32 P P 17 41 48.4 -0.8
comp=Z,366nm,1.3s,baz=212,slow=7.6,SNR=38
TKL S S 17 46 02.4 +1.6
comp=Z,5.3nm,0.6s,baz=146,slow=18,SNR=2.2
TKL Tuckaleechee C 23.25 32 *e*P P 17 41 48.8 -0.4
comp=Z,672nm,1.4s
TKL S S 17 46 02.4 +1.6
TKL Tuckaleechee C 23.25 32 P P 17 41 48.4 -0.8
TKL S S 17 46 02.4 +1.6
TKL pmax pmax
comp=Z,494nm,1.3s
TKL smax smax
comp=N,5.0nm,0.6s
S46A Don Dixon Farm 23.25 22 P P 17 41 47.9 -1.3
baz=207,SNR=14
T48A Bowling Green 23.25 25 P P 17 41 47.9 -1.3
baz=210,SNR=80
Q24A Divide 23.26 347 P P 17 41 50.4 +0.8
baz=163,SNR=80
Q24A Divide 23.26 347 *e*P P 17 41 50.4 +0.8
comp=N,474nm,1.4s
R44A Waltonville 23.30 19 P P 17 41 48.7 -1.0
baz=203,SNR=18
SLM Saint Louis 23.32 16 *e*P P 17 41 49.0 -0.9
comp=N,315nm,1.3s
SLM Saint Louis 23.32 16 *e*P P 17 41 49.0 -0.9
SLM pmax pmax
comp=Z,315nm,1.3s
NEE2 Needles Airpor 23.35 325 P P 17 41 51.5 +1.3
baz=137,SNR=6.6
Q41A Truxton 23.37 14 P P 17 41 48.8 -1.5
baz=197,SNR=98
P37A Lathrop 23.41 8 P P 17 41 48.8 -1.9
baz=190,SNR=31
PV01 Paradox Valley 23.43 340 *e*P P 17 41 52.8 +1.5
U15A North Rim 23.45 331 *e*P P 17 41 53.4 +1.8
comp=Z,1µm,1.6s
NHSC New Hope 23.46 41 P P 17 41 49.3 -2.0
baz=229,SNR=40
NHSC New Hope 23.46 41 *e*P P 17 41 52.2 +0.9
comp=Z,2µm,1.3s
NHSC LR LR
comp=Z,19µm,21.0s
MOTC Monteria, Cord 23.48 106 *e*P P 17 41 52.1 +0.5
Q42A Golden Eagle 23.51 16 P P 17 41 50.4 -1.3
baz=199,SNR=41
USIN University of 23.52 22 *e*P P 17 41 51.4 -0.4
comp=Z,776nm,1.2s
109C Camp Elliot, M 23.55 318 P P 17 41 53.6 +1.4
baz=130,SNR=7.0
CPE Camp Elliot 23.55 318 *e*P P 17 41 53.6 +1.4
comp=Z,739nm,2.0s
P38A Dawn 23.56 10 P P 17 41 50.8 -1.4
baz=192,SNR=52
P39B Salisbury 23.56 11 P P 17 41 50.7 -1.6
baz=193,SNR=91
PV05 Paradox Valley 23.56 339 *e*P P 17 41 53.8 +1.2
BELC Belle Mtn. Jos 23.60 321 P P 17 41 54.2 +1.4
baz=134,SNR=9.5
R45A Skylar, Fairfi 23.60 20 P P 17 41 51.4 -1.2
baz=205,SNR=20
XPFO Pigeon Flat 23.61 320 *e*P P 17 41 55.1 +2.1
comp=Z,427nm,1.8s
PFO Pinyon Flats O 23.61 320 P P 17 41 54.6 +1.6
baz=132,SNR=25
PFO Pinyon Flats O 23.61 320 *e*P P 17 41 55.1 +2.1
comp=Z,369nm,1.7s
PFO LR LR
comp=Z,16µm,20.0s
PFO Pinyon Flats O 23.61 320 *e*P P 17 41 55.1 +2.1
PFO pmax pmax
comp=Z,369nm,1.7s
PFO MLR MLR
comp=Z,16µm,20.0s
O33A Hebron 23.63 2 P P 17 41 52.0 -1.0
baz=182,SNR=30
DBBC Dabeiba 23.67 111 *e*P P 17 41 56.2 +2.6
P40A Paris 23.74 12 P P 17 41 52.5 -1.5
baz=195,SNR=217
Q43A New Douglas 23.76 17 P P 17 41 53.3 -0.8
baz=201,SNR=29
O34A Beatrice 23.77 3 P P 17 41 53.6 -0.7
baz=184,SNR=158
R46A Gibon Southern 23.79 22 P P 17 41 53.5 -1.0
baz=206,SNR=10
PV10 Paradox Valley 23.81 339 *e*P P 17 41 55.3 +0.3
S48A Wiedeman Farm, 23.86 25 P P 17 41 54.7 -0.5
baz=210,SNR=33
SMCO Snowmass 23.91 344 *e*P P 17 41 57.7 +1.7
comp=Z,1µm,1.4s
O35A Humboldt 23.91 5 P P 17 41 54.7 -0.9
baz=186,SNR=10.0
Q44A Meyer Farm, Va 23.92 18 P P 17 41 54.9 -0.8
baz=202,SNR=28
GMRC Granite Mounta 23.95 323 P P 17 41 58.0 +1.8
baz=136,SNR=71
PV09 Paradox Valley 23.95 339 *e*P P 17 41 57.0 +0.7
GRGC Isla de Gorgon 23.98 122 *e*P P 17 41 57.1 +0.7

O37A	Wolven Farm, M	24.00	8	P	P	17 41 55.1	-1.4
	baz=190,SNR=26						
O38A	Galt	24.06	9	P	P	17 41 55.8	-1.1
	baz=191,SNR=45						
OLIL	Olney	24.06	20	eP	P	17 41 56.5	-0.5
	comp=Z,399nm,1.2s						
TZTN	Tazewell	24.06	31	P	P	17 41 57.1	0.0
	baz=217,SNR=66						
TZTN	Tazewell	24.06	31	eP	P	17 41 57.5	+0.4
	comp=Z,899nm,1.4s						
MURC	Murrieta	24.07	319	P	P	17 41 59.1	+1.9
	baz=131,SNR=27						
P41A	Barry, Barry	24.10	14	P	P	17 41 56.2	-1.2
	baz=197,SNR=58						
MALC	Bahia Malaga	24.11	118	eP	P	17 41 58.3	+0.5
ISCO	Idaho Springs	24.16	346	P	P	17 41 59.8	+1.5
	baz=163,SNR=305						
ISCO	Idaho Springs	24.16	346	eP	P	17 41 59.4	+1.1
	comp=Z,842nm,1.4s						
ISCO				LR	LR		
	comp=Z,32μm,20.0s						
ISCO	Idaho Springs	24.16	346	eP	P	17 41 59.4	+1.1
ISCO				pmax	pmax		
	comp=Z,842nm,1.4s						
ISCO				MLR	MLR		
	comp=Z,32μm,20.0s						
KMSC	Kings Mountain	24.17	36	P	P	17 41 58.2	+0.2
	baz=223,SNR=47						
KMSC	Kings Mountain	24.17	36	eP	P	17 41 58.6	+0.5
	comp=Z,209nm,0.8s						
KNB	Kanab	24.18	331	eP	P	17 42 00.5	+2.1
	comp=Z,929nm,1.4s						
KNB	Kanab	24.18	331	eP	P	17 42 00.5	+2.1
KNB				pmax	pmax		
	comp=Z,929nm,1.4s						
Q45A	Warren Harvey,	24.19	20	P	P	17 41 58.0	-0.2
	baz=204,SNR=38						
P42A	Winchester	24.19	15	P	P	17 41 57.6	-0.6
	baz=199,SNR=120						
TUMC	Tumaco	24.22	125	eP	P	17 41 59.2	+0.5
	comp=Z,1μm,1.6s						
TUMC	Tumaco	24.22	125	eP	P	17 42 00.9	+2.2
R47A	Wooly Knot Far	24.23	23	P	P	17 41 58.0	-0.6
	baz=208,SNR=111						
WCI	Wyandotte Cave	24.26	24	P	P	17 41 59.0	+0.2
	baz=209						
WCI	Wyandotte Cave	24.26	24	eP	P	17 41 59.2	+0.3
	comp=Z,590nm,1.2s						
WCI	Wyandotte Cave	24.26	24	eP	P	17 41 59.2	+0.3
WCI				pmax	pmax		
	comp=Z,590nm,1.2s						
N33A	J Bar K, Exete	24.30	2	P	P	17 41 59.2	0.0
	baz=182,SNR=23						
PKCU	Pink Cliffs	24.30	332	eP	P	17 42 02.2	+2.6
	comp=Z,1μm,1.7s						
BBRC	Big Bear Solar	24.34	320	P	P	17 42 01.8	+1.9
	baz=132						
O39A	Kirksville	24.35	11	P	P	17 41 58.9	-0.8
	baz=194,SNR=50						
O40A	La Belle	24.35	12	P	P	17 41 58.9	-0.8
	baz=195,SNR=218						
HEC	Hector,Ludlow	24.37	322	P	P	17 42 02.0	+2.0
	baz=134,SNR=56						
RVR	Riverside	24.44	319	eP	P	17 42 03.8	+3.3
RVR	Riverside	24.44	319	eP	P	17 42 03.8	+3.3
N34A	Lincoln	24.44	4	P	P	17 42 00.5	0.0
	baz=184,SNR=32						
P43A	Skaggs, Pawnee	24.46	17	P	P	17 42 00.5	-0.2
	baz=201,SNR=23						
N35A	Tabor	24.52	5	P	P	17 42 01.0	-0.3
	baz=186,SNR=14						
N36A	Muff Farm, Cla	24.54	6	P	P	17 42 01.4	-0.1
	baz=188,SNR=20						
SCI2	San Clemente I	24.55	316	P	P	17 42 03.7	+2.1
	baz=127						
O41A	Passleys Farm,	24.56	14	P	P	17 42 01.0	-0.6
	baz=197,SNR=134						
PLMC	San Jos˜' del	24.56	115	eP	P	17 42 02.9	+1.0
P44A	Sand Creek, Wi	24.56	19	P	P	17 42 01.9	+0.3
	baz=203,SNR=31						
TUQ	Turquoise Moun	24.57	324	P	P	17 42 03.7	+1.8
	baz=136,SNR=18						
Q46A	CEJHS Indians,	24.57	21	P	P	17 42 02.0	+0.3
	baz=206						
R48A	Northridge Ran	24.57	24	P	P	17 42 01.6	-0.2
	baz=210,SNR=26						
N37A	Lee Faris, Mou	24.58	8	P	P	17 42 01.2	-0.6
	baz=190,SNR=18						
HELC	Santa Helena	24.63	112	eP	P	17 42 02.9	0.0
	comp=Z,879nm,1.9s						
HELC	Santa Helena	24.63	112	eP	P	17 42 04.9	+2.0
OGNE	Ogallala	24.68	354	P	P	17 42 04.2	+1.4
	baz=172,SNR=48						
OGNE	Ogallala	24.68	354	eP	P	17 42 04.2	+1.4
	comp=Z,2μm,1.2s						
OGNE				LR	LR		
	comp=Z,35μm,22.0s						
ZARC	Zaragoza, Cauc	24.70	108	eP	P	17 42 03.6	+0.5
CIS	Catalina Islan	24.73	317	P	P	17 42 06.0	+2.8
	baz=128,SNR=7.1						
MTPU	Mount Pierson	24.74	333	eP	P	17 42 05.8	+2.2
	comp=Z,1μm,1.3s						
N38A	Joes South For	24.75	10	P	P	17 42 03.3	0.0
	baz=192,SNR=12						
BFSC	Mount Baldy Ra	24.78	319	P	P	17 42 05.6	+1.8
	baz=131,SNR=25						
BFSC	Mount Baldy Ra	24.78	319	eP	P	17 42 03.4	-0.4
RRX	Edison Barstow	24.80	321	P	P	17 42 07.3	+3.5
	baz=133						
Q47A	Bedord North L	24.83	23	P	P	17 42 03.8	-0.3
	baz=208,SNR=21						
O42A	Bath	24.83	15	P	P	17 42 03.9	-0.2
	baz=199						
FMP	Fort Macarthur	24.84	318	P	P	17 42 06.5	+2.3
	baz=129						
CCUT	Cedar City	24.86	331	eP	P	17 42 05.7	+1.0
	comp=Z,202nm,1.4s						
P45A	Graceland, Par	24.89	20	P	P	17 42 04.6	0.0
	baz=205,SNR=17						
RPV	Rancho Palos V	24.93	318	eP	P	17 42 06.5	+1.5
SHPR	Sheep Range	24.94	327	eP	P	17 42 07.2	+2.0
	comp=Z,427nm,1.5s						
BGNE	Belgrade	24.95	1	P	P	17 42 06.2	+1.0
	baz=180						
N39A	Derby Farms, D	24.96	11	P	P	17 42 05.4	+0.2
	baz=193,SNR=172						
YOTC	Yotoco, Valle	24.97	117	eP	P	17 42 06.9	+1.2
GSC	Goldstone, Bar	24.98	322	P	P	17 42 07.7	+2.1
	baz=134,SNR=61						
GSC	Goldstone, Bar	24.98	322	eP	P	17 42 07.3	+1.7
	comp=Z,640nm,1.6s						
GSC	Goldstone, Bar	24.98	322	eP	P	17 42 07.3	+1.7
GSC				pmax	pmax		
	comp=Z,640nm,1.6s						
SRU	San Rafael Swe	24.99	337	eP	P	17 42 07.5	+1.7
	comp=Z,724nm,1.3s						
SRU	San Rafael Swe	24.99	337	eP	P	17 42 07.5	+1.7
SRU				pmax	pmax		
	comp=Z,724nm,1.3s						
HORQ	Saladito	24.99	119	eP	P	17 42 05.6	-0.4
BLO	Bloomington	25.00	22	eP	P	17 42 05.9	+0.3
	comp=Z,967nm,1.9s						
BLO	Bloomington	25.00	22	eP	P	17 42 05.9	+0.3
BLO				pmax	pmax		
	comp=Z,967nm,1.9s						
MWC	Mount Wilson	25.02	319	eP	P	17 42 08.3	+2.3
	comp=Z,676nm,1.6s						
MWC	Mount Wilson	25.02	319	eP	P	17 42 08.3	+2.3
MWC				pmax	pmax		
	comp=Z,676nm,1.6s						
PASC	Pasadena Art C	25.06	319	eP	P	17 42 07.0	+0.8
	comp=Z,760nm,1.9s						
PASC				ePcP	PcP	17 45 41.4	+0.7
Q16A	Castle Valley	25.07	336	eP	P	17 42 08.5	+2.0
	comp=Z,1μm,1.6s						
M34A	Aspy Farms, Fr	25.09	3	P	P	17 42 07.1	+0.7
	baz=184,SNR=16						
SHOC	Shoshone, Teco	25.10	324	P	P	17 42 09.3	+2.7
	baz=136,SNR=6.6						
O43A	Sugar Creek Fa	25.12	17	P	P	17 42 07.1	+0.4
	baz=201,SNR=13						
M35A	Neola	25.12	5	P	P	17 42 07.0	+0.4
	baz=186,SNR=34						
N41A	Harden Midland	25.13	14	P	P	17 42 06.5	-0.2
	baz=197,SNR=36						
MSU	Marysvale	25.13	334	eP	P	17 42 08.6	+1.6
MSU	Marysvale	25.13	334	eP	P	17 42 08.6	+1.6
M33A	Taylor Creek F	25.14	2	P	P	17 42 07.4	+0.6
	baz=182,SNR=25						
N40A	Mertquake, Sal	25.14	12	P	P	17 42 06.6	-0.3
	baz=195,SNR=33						
P46A	Rosedale	25.16	21	P	P	17 42 07.4	+0.4
	baz=206,SNR=33						
O20A	White River Ci	25.16	342	P	P	17 42 08.5	+1.3
	baz=157,SNR=100						
O20A	White River Ci	25.16	342	eP	P	17 42 09.2	+1.9
	comp=Z,245nm,0.9s						
CODC	Agust˘›n Codaz	25.17	102	eP	P	17 42 08.4	+1.0
GUYC	Guyana, Colomb	25.19	114	eP	P	17 42 10.9	+2.8
M36A	Felix, Anita	25.19	6	P	P	17 42 07.4	+0.1
	baz=188,SNR=21						
DECC	Green Verdugo	25.21	319	P	P	17 42 09.8	+2.2
	baz=130,SNR=15						
M37A	Trindle Farm,	25.23	8	P	P	17 42 08.0	+0.3
	baz=190,SNR=47						
O44A	Mansfield	25.24	18	P	P	17 42 07.8	+0.1
	baz=203,SNR=12						
N23A	Red Feather La	25.28	347	P	P	17 42 09.4	+1.0
	baz=163,SNR=146						
N23A	Red Feather La	25.28	347	eP	P	17 42 10.0	+1.6
	comp=Z,509nm,1.3s						
P18A	Preston Nutter	25.35	338	eP	P	17 42 11.0	+1.9
	comp=Z,919nm,1.2s						
M38A	Pleasantville	25.37	9	P	P	17 42 08.8	-0.1
	baz=192,SNR=190						
SNCC	San Nicolas Is	25.37	315	P	P	17 42 12.6	+3.6
	baz=126						
P47A	Martinsville	25.37	22	P	P	17 42 08.9	0.0
	baz=208,SNR=32						
HDIL	Hopedale	25.38	16	P	P	17 42 08.8	-0.1
	baz=200,SNR=30						
HDIL	Hopedale	25.38	16	eP	P	17 42 09.2	+0.3
	comp=Z,2μm,1.8s						
HDIL				LR	LR		
	comp=Z,38μm,22.0s						
RREF	El Recreo	25.38	114	eP	P	17 42 13.6	+3.6
P17A	Butcher Ranch,	25.39	337	eP	P	17 42 11.2	+1.9
	comp=Z,811nm,1.6s						
EDW2	Edwards Air Fo	25.41	320	P	P	17 42 10.5	+1.2
	baz=131,SNR=60						
TMUT	Trail Mountain	25.41	336	eP	P	17 42 11.7	+2.0
	comp=Z,507nm,1.2s						
OTAV	Otavalo	25.43	127	eP	P	17 42 12.3	+2.2
	comp=Z,606nm,1.8s						
OTAV				LR	LR		
	comp=Z,6μm,21.0s						
OTAV	Otavalo	25.43	127	eP	P	17 42 11.5	+1.3
N42A	Yates City	25.44	15	P	P	17 42 09.4	-0.1
	baz=199,SNR=53						
POPC	Popayan, Colom	25.46	120	eP	P	17 42 12.1	+1.8
CMBC	Cumbal	25.47	125	eP	P	17 42 12.1	+1.5
NORC	Norcasia	25.50	112	eP	P	17 42 12.7	+2.3
ANIL	Santa Ana	25.53	115	eP	P	17 42 13.3	+2.3
L32A	Elgin	25.55	1	P	P	17 42 11.4	+0.9
	baz=181						
TOLC	Tolima	25.55	115	eP	P	17 42 14.2	+3.0
O45A	Potomac	25.56	19	P	P	17 42 10.7	+0.1
	baz=204,SNR=40						
PHWY	Pilot Hill	25.57	348	eP	P	17 42 12.3	+1.3
	comp=Z,250nm,1.1s						
L34A	Svendsen Farm,	25.57	4	P	P	17 42 11.6	+0.8
	baz=184						
BLG	Laguna Peak, P	25.59	317	P	P	17 42 12.6	+1.6
	baz=128,SNR=17						
M39A	Webster	25.60	11	P	P	17 42 10.7	-0.3
	baz=194,SNR=42						
LRMC	Laurel Mtn Rad	25.62	322	P	P	17 42 12.8	+1.4
	baz=133,SNR=86						
M40A	Post Highland	25.66	12	P	P	17 42 11.2	-0.3
	baz=195,SNR=19						
GCUF	Volcan Galeras	25.68	124	eP	P	17 42 13.3	+0.8
OSI	Osito Audit: C	25.69	319	P	P	17 42 13.4	+1.4
	baz=130,SNR=15						
OSI	Osito Audit: C	25.69	319	eP	P	17 42 13.7	+1.7
	comp=Z,863nm,1.8s						
CPAS1	Pasto	25.72	124	eP	P	17 42 10.9	-1.9
NCAT	North Carolina	25.73	37	eP	P	17 42 12.9	+0.7
	comp=Z,985nm,1.5s						
L33A	Hoskins	25.73	2	P	P	17 42 12.4	+0.3
	baz=182,SNR=9.1						
SOTA	Rioblanco	25.75	121	eP	P	17 42 14.9	+1.7
N43A	Stutzman Famil	25.77	16	P	P	17 42 12.6	+0.1
	baz=200,SNR=44						
L35A	Bielow Farm, R	25.77	5	P	P	17 42 12.4	-0.1
	baz=186,SNR=16						
CRUC	La Cruz	25.79	123	eP	P	17 42 16.5	+3.1
PCON	Cinco Dias	25.81	120	eP	P	17 42 16.2	+2.4
M41A	Milan	25.84	14	P	P	17 42 12.8	-0.3
	baz=197,SNR=30						
FURC	Furnace Creek,	25.84	324	P	P	17 42 14.7	+1.5
	baz=136,SNR=18						
OCAC	Ocana	25.84	105	eP	P	17 42 16.2	+2.6
SCIA	State Center	25.84	9	P	P	17 42 13.3	+0.1
	baz=191,SNR=41						
SCIA	State Center	25.84	9	eP	P	17 42 13.5	+0.3
	comp=Z,483nm,0.9s						
SCIA				LR	LR		
	comp=Z,42μm,20.0s						
L36A	Harm Buss Farm	25.85	6	P	P	17 42 13.6	+0.4
	baz=188,SNR=14						
TPNV	Topopah Spring	25.85	326	P	P	17 42 15.9	+2.3
	baz=138,SNR=138						
TPNV	Topopah Spring	25.85	326	eP	P	17 42 15.4	+1.9
	comp=Z,798nm,1.5s						
TPNV	Topopah Spring	25.85	326	eP	P	17 42 15.4	+1.9
TPNV				pmax	pmax		
	comp=Z,798nm,1.5s						
SFIN	Lafayette	25.88	20	P	P	17 42 13.5	0.0
	baz=205,SNR=38						
SFIN	Lafayette	25.88	20	eP	P	17 42 13.5	0.0
	comp=Z,322nm,1.1s						
SCZ2	Santa Cruz Isl	25.89	317	P	P	17 42 16.3	+2.5
	baz=127						
BRRC	Barranca, Sant	25.89	108	eP	P	17 42 15.7	+1.7
MARP	Paez Belalcaza	25.90	119	eP	P	17 42 16.9	+2.6
MPMC	Manual Prospec	25.91	323	P	P	17 42 15.4	+1.3
	baz=134,SNR=104						
N44A	Piper City	25.93	18	P	P	17 42 14.1	+0.1
	baz=203,SNR=28						
WBSM	Bird Springs	25.93	321	eP	P	17 42 16.1	+1.8
L37A	Phoenix Point,	25.98	8	P	P	17 42 14.1	-0.3
	baz=190,SNR=50						
SDDR	Presa de Saban	26.01	80	eP	P	17 42 14.3	-0.7
	comp=Z,413nm,1.1s						
SDDR				LR	LR		
	comp=Z,19μm,21.0s						
O47A	Sheridan	26.07	22	P	P	17 42 14.8	-0.5
	baz=207,SNR=24						
URIC	Uribia, Colomb	26.08	97	eP	P	17 42 16.2	+0.6
ARVC	Arvin	26.09	320	P	P	17 42 17.3	+1.8
	baz=130,SNR=15						
M42A	Sheffield	26.10	15	P	P	17 42 15.4	-0.1
	baz=199,SNR=19						
L38A	Oak Wood Farm,	26.11	9	P	P	17 42 15.6	-0.1
	baz=192,SNR=92						
DAC	Darwin (Calif)	26.12	323	eP	P	17 42 17.8	+1.8
	comp=Z,366nm,1.6s						
DAC	Darwin (Calif)	26.12	323	eP	P	17 42 17.8	+1.8
DAC				pmax	pmax		
	comp=Z,367nm,1.6s						
K31A	O'Neill	26.16	360	P	P	17 42 16.9	+0.8
	baz=179,SNR=9.3						
N45A	Kentland	26.17	19	P	P	17 42 16.4	+0.3
	baz=204,SNR=11						
K33A	Hardington	26.17	2	P	P	17 42 17.1	+0.9
	baz=183						
BLA	Blacksburg	26.18	34	P	P	17 42 16.2	-0.1
	baz=222,SNR=15						
BLA	Blacksburg	26.18	34	eP	P	17 42 16.8	+0.4
	comp=Z,276nm,1.1s						
BLA				LR	LR		
	comp=Z,13μm,21.0s						
BLA	Blacksburg	26.18	34	eP	P	17 42 16.8	+0.4
BLA				pmax	pmax		
	comp=Z,276nm,1.1s						
BLA				MLR	MLR		
	comp=Z,13μm,21.0s						
MPU	Maple Canyon	26.20	337	eP	P	17 42 18.4	+1.7
	comp=Z,128nm,1.0s						
K32A	Verdigre	26.20	1	P	P	17 42 17.2	+0.7
	baz=181						
SBC	Santa Barbara	26.21	317	P	P	17 42 18.6	+2.0
	baz=128						
SBC	Santa Barbara	26.21	317	ePcP	PcP	17 45 42.4	-1.0
ISA	Isabella, Lake	26.22	321	P	P	17 42 18.2	+1.4
	baz=132,SNR=55						
ISA	Isabella, Lake	26.22	321	eP	P	17 42 19.0	+2.2
	comp=Z,224nm,1.4s						
ISA	Isabella, Lake	26.22	321	eP	P	17 42 19.0	+2.2
ISA				pmax	pmax		
	comp=Z,224nm,1.4s						
L39A	Vinton	26.26	11	P	P	17 42 16.6	-0.3
	baz=194,SNR=108						
M43A	Waltham Townsh	26.29	16	P	P	17 42 17.0	-0.2
	baz=201,SNR=24						
K34A	Le Mars	26.30	4	P	P	17 42 17.2	-0.2
	baz=185,SNR=6.6						
ROSC	El Rosal	26.31	113	P	P	17 42 21.2	+3.0
	comp=Z,19nm,1.1s,baz=317,slow=7.6,SNR=27						
ROSC	El Rosal	26.31	113	eP	P	17 42 17.8	-0.4
	comp=Z,280nm,1.5s						
ROSC				eP	pP	17 42 22.8	-0.3
ROSC	El Rosal	26.31	113	eP	P	17 42 21.6	+3.4
NLU	North Lily Min	26.32	336	eP	P	17 42 19.5	+1.7
	comp=Z,445nm,1.4s						
GRTK	Grand Turk	26.33	75	eP	P	17 42 19.5	+1.7
	comp=Z,583nm,1.3s						
GRTK				LR	LR		
	comp=Z,19μm,21.0s						
RWWY	Rawlins	26.33	345	eP	P	17 42 19.1	+1.2
	comp=Z,1μm,1.4s						
L40A	Anamosa	26.35	12	P	P	17 42 17.6	-0.2
	baz=196,SNR=75						
PRAC	Prado	26.36	116	eP	P	17 42 18.7	+0.5
	comp=Z,123nm,1.0s						
PRAC	Prado	26.36	116	eP	P	17 42 20.9	+2.7
K36A	Gilmore City	26.40	7	P	P	17 42 18.5	+0.3
	baz=188						
K35A	Storm Lake	26.41	5	P	P	17 42 18.1	-0.2
	baz=187,SNR=8.2						
BETC	Betania	26.42	119	eP	P	17 42 20.2	+1.5
VWCC	Virginia Weste	26.45	35	eP	P	17 42 18.9	+0.1
N46A	Monticello	26.46	20	P	P	17 42 18.7	-0.1
	baz=206,SNR=28						
GRAC	Grapevine Rang	26.50	324	P	P	17 42 20.9	+1.7
	baz=136,SNR=19						
M44A	Midewin, Midew	26.50	18	P	P	17 42 18.9	-0.2
	baz=202,SNR=16						
CWC	Cottonwood Cre	26.51	323	P	P	17 42 21.6	+2.0
	baz=134						
L41A	Preston	26.51	13	P	P	17 42 18.9	-0.4
	baz=197,SNR=56						
PKM	Mcpherson Peak	26.56	318	P	P	17 42 20.8	+0.8
	baz=128,SNR=18						
R11A	Troy Canyon, C	26.57	329	P	P	17 42 21.5	+1.5
	baz=141,SNR=142						
R11A	Troy Canyon, C	26.57	329	eP	P	17 42 21.3	+1.3
	comp=Z,267nm,1.4s						
BARC	Barichara	26.58	109	eP	P	17 42 21.5	+1.1
K37A	Belmond	26.63	8	P	P	17 42 19.5	-0.8
	baz=190,SNR=57						
K38A	Parkersburg	26.64	9	P	P	17 42 19.9	-0.4
	baz=192,SNR=25						
L42A	Oliver, Polo	26.64	15	P	P	17 42 20.0	-0.4
	baz=199,SNR=80						
VES	Vestal, Richgr	26.71	320	P	P	17 42 22.6	+1.5
	baz=131,SNR=97						
PAMC	Pamplona, Colo	26.73	107	eP	P	17 42 24.2	+2.1
M45A	Boilermakers S	26.74	19	P	P	17 42 21.4	+0.1
	baz=204,SNR=8.3						
DUG	Dugway, Tooele	26.82	335	P	P	17 42 24.1	+1.9
	baz=148,SNR=78						
DUG	Dugway, Tooele	26.82	335	eP	P	17 42 24.4	+2.2
	comp=Z,255nm,1.3s						
DUG				LR	LR		
	comp=Z,43μm,22.0s						
DUG	Dugway, Tooele	26.82	335	eP	P	17 42 24.4	+2.2
DUG				pmax	pmax		
	comp=Z,255nm,1.3s						
DUG				MLR	MLR		
	comp=Z,43μm,22.0s						
J31A	Geddes	26.83	360	P	P	17 42 22.1	0.0
	baz=179,SNR=15						
CTU	Camp Tracy	26.83	337	eP	P	17 42 23.3	+1.0
	comp=Z,89nm,1.1s						
K39A	Oelwein	26.84	11	P	P	17 42 21.6	-0.6
	baz=194,SNR=47						
FLOC	Florencia	26.84	121	eP	P	17 42 24.4	+1.9
J33A	Davis	26.89	2	P	P	17 42 22.5	-0.2
	baz=183,SNR=10						
J34A	George	26.91	4	P	P	17 42 23.1	+0.3
	baz=185,SNR=18						
J32A	Parkston	26.92	1	P	P	17 42 23.8	+0.9
	baz=181						
CHIC	Chingaza	26.93	113	eP	P	17 42 26.2	+2.4
SMMC	Simmler	26.94	319	P	P	17 42 24.4	+1.2
	baz=129,SNR=20						
RUSC	La Rusia	26.95	110	eP	P	17 42 25.6	+1.5
	comp=Z,129nm,1.3s						
RUSC	La Rusia	26.95	110	eP	P	17 42 25.4	+1.3
K40A	Colesburg	26.98	12	P	P	17 42 23.0	-0.4
	baz=195,SNR=26						
TIN	Tinemaha, Big	27.03	323	P	P	17 42 26.6	+2.5
	baz=134						
L43A	Garden Prairie	27.04	16	P	P	17 42 23.8	-0.3
	baz=200,SNR=39						
J35A	Milford	27.05	5	P	P	17 42 24.1	0.0
	baz=187						
M46A	Old House Fiel	27.05	20	P	P	17 42 23.9	-0.2
	baz=206,SNR=20						
K41A	Shullsburg	27.06	13	P	P	17 42 23.8	-0.5
	baz=197,SNR=24						
TCUT	Toone Canyon	27.08	338	eP	P	17 42 26.9	+2.2
	comp=Z,580nm,1.2s						
K22A	Casper	27.08	347	P	P	17 42 24.5	-0.1
	baz=163,SNR=71						
K22A	Casper	27.08	347	eP	P	17 42 26.1	+1.5
	comp=Z,393nm,1.2s						
J36A	Seneca 1, Swea	27.10	7	P	P	17 42 24.1	-0.5
	baz=188,SNR=24						
RCTC	Rector, Farmer	27.11	321	P	P	17 42 26.8	+2.1
	baz=132,SNR=9.8						
J37A	Redenius Farm,	27.17	8	P	P	17 42 24.6	-0.6
	baz=190,SNR=27						
VILC	Villavicencio,	27.20	114	eP	P	17 42 26.8	+0.9
L44A	Lake County Fo	27.27	17	P	P	17 42 26.0	0.0
	baz=202,SNR=12						
SDD	Santo Domingo	27.31	81	eP	P	17 42 25.7	-0.9
	comp=Z,949nm,1.3s						
ACSO	Alum Creek Sta	27.32	26	P	P	17 42 26.1	-0.4
	baz=214,SNR=35						
ACSO	Alum Creek Sta	27.32	26	eP	P	17 42 26.2	-0.3
	comp=Z,200nm,0.9s						
ACSO				LR	LR		
	comp=Z,16μm,19.0s						
ECSD	EROS Data Cent	27.32	3	P	P	17 42 26.1	-0.4
	baz=184,SNR=26						
ECSD	EROS Data Cent	27.32	3	eP	P	17 42 26.6	+0.1
	comp=Z,203nm,1.3s						
ECSD				LR	LR		
	comp=Z,53μm,21.0s						
J38A	Wedel Dairy, R	27.34	10	P	P	17 42 26.0	-0.7
	baz=192,SNR=62						
PAGB	Antelope Grade	27.36	319	eP	P	17 42 28.7	+1.6
	comp=Z,688nm,1.8s						
JFWS	Jewell Farm	27.37	13	P	P	17 42 26.4	-0.6
	baz=197,SNR=33						
JFWS	Jewell Farm	27.37	13	eP	P	17 42 26.8	-0.2
	comp=Z,209nm,1.0s						
JFWS				LR	LR		
	comp=Z,38μm,19.0s						
JFWS	Jewell Farm	27.37	13	eP	P	17 42 26.8	-0.2
JFWS				pmax	pmax		
	comp=Z,209nm,1.0s						
JFWS				MLR	MLR		
	comp=Z,38μm,19.0s						
K42A	Prairie Point,	27.45	15	P	P	17 42 27.3	-0.4
	baz=199,SNR=26						
J39A	Decorah	27.48	11	P	P	17 42 27.3	-0.7
	baz=194,SNR=35						
BGU	Big Grassy Mou	27.52	336	eP	P	17 42 30.1	+1.6
	comp=Z,416nm,1.5s						
I35A	Creekview Farm	27.55	5	P	P	17 42 28.3	-0.3
	baz=187,SNR=9.6						
HWUT	Hardware Ranch	27.57	338	eP	P	17 42 30.1	+1.1
	comp=Z,167nm,1.3s						
HWUT				LR	LR		
	comp=Z,130μm,21.0s						
I31A	Royce, Wessing	27.57	360	P	P	17 42 29.7	+1.0
	baz=180						
I32A	Karley and Nic	27.58	2	P	P	17 42 29.0	+0.1
	baz=182						

I33A **Coleman** 27.62 3 P P 17 42 29.3 +0.1
baz=183
SPUT **South Promonto** 27.63 337 eP P 17 42 30.8 +1.3
comp=Z,317nm,1.7s
K43A **Burlington** 27.64 16 P P 17 42 28.5 -0.8
baz=201,SNR=19
I34A **Hadley** 27.67 4 P P 17 42 29.3 -0.3
baz=185,SNR=7.1
J40A **Soldiers Grove** 27.73 12 P P 17 42 29.7 -0.4
baz=196,SNR=17
MLAC **Mammoth, Mammo** 27.77 324 P P 17 42 33.2 +2.2
baz=134
YOPC **Yopal, Colombi** 27.78 110 eP P 17 42 32.2 +1.1
I36A **Fitzsimmons Fa** 27.82 7 P P 17 42 30.2 -0.7
baz=189,SNR=9.2
J41A **Loganville** 27.85 13 P P 17 42 30.5 -0.7
baz=197,SNR=55
I37A **Lemond, Waseca** 27.89 8 P P 17 42 30.6 -0.9
baz=190,SNR=5.9
NV11 **Mina Array Sit** 27.96 326 eP P 17 42 34.6 +2.0
comp=Z,13nm,1.3s
BW06 **Boulder Array** 27.97 342 P P 17 42 33.3 +0.7
baz=157,SNR=162
BW06 **Boulder Array** 27.97 342 eP P 17 42 33.9 +1.3
comp=Z,435nm,1.3s
BW06 LR LR
comp=Z,138µm,20.0s
PD31 **Pinedale Array** 27.97 342 eP P 17 42 33.8 +1.2
PDAR **Pinedale Array** 27.97 342 P P 17 42 33.8 +1.2
comp=Z,193nm,1.1s,baz=126,slow=7.5,SNR=98
PDAR PcP PcP 17 45 48.6 +1.0
comp=Z,4.4nm,0.6s,baz=122,slow=4.4,SNR=5.9
PDAR LR LR 17 54 42.4
comp=Z,110µm,18.1s,baz=166,slow=39
PDAR **Pinedale Array** 27.97 342 eP P 17 42 32.7 +0.1
PDAR PcP PcP 17 45 48.6 +1.0
SUSD **Miller** 27.98 359 P P 17 42 32.8 +0.3
baz=179
J42A **Columbus** 28.01 15 P P 17 42 32.4 -0.3
baz=199,SNR=71
PMPB **Monarch Peak** 28.01 319 eP P 17 42 35.1 +2.2
comp=Z,563nm,1.5s
H31A **Wolsey** 28.02 360 P P 17 42 33.6 +0.8
baz=180
I39A **Houston** 28.02 11 P P 17 42 32.2 -0.6
baz=194,SNR=70
NV01 **Mina Array Sit** 28.04 325 eP P 17 42 34.9 +1.6
NVAR **Mina Array Bea** 28.04 325 P P 17 42 35.4 +2.1
comp=Z,97nm,1.1s,baz=149,slow=8.7,SNR=109
NVAR PcP PcP 17 45 49.0 +1.1
comp=Z,19nm,1.2s,baz=141,slow=3.0,SNR=5.3
IP06 **Yanceyville** 28.05 36 eP P 17 42 36.5 +3.5
comp=Z,33nm,0.8s
URVA **University of** 28.05 37 eP P 17 42 31.8 -1.3
H32A **Carlson Farm,** 28.06 2 P P 17 42 33.3 +0.1
baz=182,SNR=28
RSSD **Black Hills** 28.06 351 P P 17 42 35.3 +1.9
baz=168
RSSD **Black Hills** 28.06 351 eP P 17 42 34.9 +1.5
comp=Z,168nm,1.3s
RSSD **Black Hills** 28.06 351 eP P 17 42 34.9 +1.5
RSSD pmax pmax
comp=Z,168nm,1.3s
I38A **Scanlan Farm,** 28.07 9 P P 17 42 32.5 -0.7
baz=192,SNR=56
IP03 **Louisa** 28.09 36 eP P 17 42 33.8 +0.3
comp=Z,72nm,1.1s
IP04 **Greensprings** 28.09 36 eP P 17 42 34.7 +1.3
comp=Z,199nm,1.5s
IP01 **Cuckoo** 28.10 36 eP P 17 42 34.0 +0.5
comp=Z,80nm,1.0s
IP05 **Hopewell Churc** 28.10 36 eP P 17 42 34.2 +0.6
comp=Z,160nm,1.1s
SDV **Santo Domingo** 28.13 102 P P 17 42 35.7 +1.4
comp=Z,106nm,0.9s,baz=293,slow=4.0,SNR=46
SDV LR LR 17 55 21.9
comp=Z,11µm,19.1s,baz=308,slow=40
SDV **Santo Domingo** 28.13 102 eP P 17 42 35.6 +1.3
comp=Z,189nm,1.0s
SDV **Santo Domingo** 28.13 102 eP P 17 42 36.8 +2.5
HVU **Hansel Valley** 28.16 337 eP P 17 42 36.2 +2.0
comp=Z,247nm,1.5s
HVU **Hansel Valley** 28.16 337 eP P 17 42 36.2 +2.0
HVU pmax pmax
comp=Z,247nm,1.5s
SPRD **Spring Road, M** 28.16 36 eP P 17 42 34.4 +0.2
comp=Z,71nm,1.0s
I40A **Norwalk** 28.23 12 P P 17 42 34.4 -0.2
baz=196,SNR=12
J43A **Natural Harves** 28.25 16 P P 17 42 34.2 -0.6
baz=200,SNR=33
H33A **Prehn Over Nor** 28.26 3 P P 17 42 35.2 +0.2
baz=183
H34A **Spellman Lake,** 28.30 4 P P 17 42 35.1 -0.2
baz=185,SNR=18
RYN **Ryan** 28.30 325 eP P 17 42 37.3 +1.7
comp=Z,200nm,1.3s
MCWV **Mont Chateau** 28.31 31 P P 17 42 36.2 +0.8
baz=220
MCWV **Mont Chateau** 28.31 31 eP P 17 42 35.9 +0.4
comp=Z,84nm,0.9s
H36A **Jessenland, He** 28.38 7 P P 17 42 35.7 -0.2
baz=189,SNR=28
KVN **Kaiserville** 28.39 327 eP P 17 42 37.9 +1.6
comp=Z,223nm,1.4s
KVN **Kaiserville** 28.39 327 eP P 17 42 37.9 +1.6
KVN pmax pmax
comp=Z,223nm,1.4s
H35A **Sunnyside Ranc** 28.40 5 P P 17 42 36.2 0.0
baz=187
AHID **Auburn Hatcher** 28.44 340 eP P 17 42 37.9 +1.2
comp=Z,481nm,1.8s
AHID LR LR
comp=Z,97µm,19.0s
H37A **Dierke Farm, C** 28.51 8 P P 17 42 37.1 0.0
baz=191,SNR=16
I41A **Arkdale** 28.54 13 P P 17 42 37.7 +0.3
baz=197
CBN **Corbin Frederi** 28.58 36 P P 17 42 38.1 +0.3
baz=226
CBN **Corbin Frederi** 28.58 36 PFAKE 17 42 50.0 +12
CBN LR LR
comp=Z,11µm,20.0s
I42A **Draeger Farm,** 28.60 15 P P 17 42 37.6 -0.4
baz=199,SNR=40
I42A **Draeger Farm,** 28.60 15 eP P 17 42 38.1 +0.2
comp=Z,320nm,1.3s
H38A **Maiden Rock** 28.69 9 P P 17 42 38.3 -0.4
baz=192,SNR=39
WAKR **Walker** 28.72 324 eP P 17 42 41.1 +1.7
comp=Z,194nm,1.5s
SAO **San Andreas Ge** 28.76 319 eP P 17 42 40.7 +1.2
comp=Z,149nm,1.4s
SAO **San Andreas Ge** 28.76 319 eP P 17 42 40.7 +1.2
SAO pmax pmax
comp=Z,149nm,1.4s
G31A **Conde** 28.77 0 P P 17 42 39.6 +0.2
baz=180
G33A **Ortonville** 28.78 3 P P 17 42 39.2 -0.3
baz=184,SNR=24
I43A **Langenfeld Bro** 28.79 16 P P 17 42 39.3 -0.3
baz=201,SNR=20
AAM **Ann Arbor** 28.79 23 P P 17 42 39.6 0.0
baz=210
AAM **Ann Arbor** 28.79 23 eP P 17 42 39.3 -0.4
comp=Z,389nm,1.5s
AAM LR LR
comp=Z,15µm,19.0s
AAM **Ann Arbor** 28.79 23 eP P 17 42 39.3 -0.4
AAM pmax pmax
comp=Z,389nm,1.5s
AAM MLR MLR
comp=Z,15µm,19.0s
G32A **Webster** 28.80 1 P P 17 42 39.9 +0.1
baz=182
H39A **Augusta** 28.86 11 P P 17 42 40.0 -0.3
baz=194,SNR=50
G34A **Benson** 28.88 4 P P 17 42 39.9 -0.5
baz=185,SNR=6.7
GUVC **San Jose del G** 28.89 116 eP P 17 42 42.8 +1.9
REDW **Red Top Meadow** 28.90 341 eP P 17 42 42.4 +1.5
comp=Z,867nm,1.8s
CMB **Columbia Colle** 28.95 322 eP P 17 42 42.2 +1.1
comp=Z,205nm,1.8s
CMB **Columbia Colle** 28.95 322 eP P 17 42 42.3 +1.1
CMB pmax pmax
comp=Z,205nm,1.8s
G35A **Watkins** 28.95 6 P P 17 42 41.1 0.0
baz=188
YERR **Yerington** 28.95 325 eP P 17 42 43.1 +1.7
comp=Z,166nm,1.5s
SNOW **Snow King Moun** 28.96 341 eP P 17 42 42.9 +1.5
comp=Z,318nm,1.3s
H40A **Chili** 28.97 12 P P 17 42 41.0 -0.3
baz=196,SNR=55
BMN **Battle Mountai** 28.98 330 eP P 17 42 42.7 +1.1
comp=Z,147nm,1.6s
BMN **Battle Mountai** 28.98 330 eP P 17 42 42.7 +1.1
BMN pmax pmax
comp=Z,147nm,1.6s
G36A **St. Michael** 29.04 7 P P 17 42 41.3 -0.6
baz=189,SNR=10
TPAW **Teton Pass** 29.04 341 eP P 17 42 44.0 +1.8
comp=Z,431nm,1.4s
LOHW **Long Hollow** 29.05 342 eP P 17 42 43.7 +1.5
comp=Z,392nm,1.4s
H41A **Junction City** 29.12 13 P P 17 42 42.0 -0.6
baz=197,SNR=57
H41A **Junction City** 29.12 13 eP P 17 42 42.5 0.0
comp=Z,289nm,1.1s
SPMN **Marine on St.** 29.15 8 P P 17 42 42.3 -0.6
baz=191,SNR=28
SPMN **Marine on St.** 29.15 8 eP P 17 42 42.6 -0.3
comp=Z,523nm,1.6s
FXWY **Fox Creek** 29.20 341 eP P 17 42 45.0 +1.4
comp=Z,192nm,1.4s
MOOW **Moose Ponds** 29.21 342 eP P 17 42 45.1 +1.4
comp=Z,235nm,1.4s
G38A **Ridgeland** 29.24 10 P P 17 42 42.7 -0.9
baz=193,SNR=27
N54A **Moraine State** 29.25 29 P P 17 42 43.1 -0.7
baz=218,SNR=8.0
N54A **Moraine State** 29.25 29 eP P 17 42 43.1 -0.7
comp=Z,313nm,1.5s
H42A **Shiocton** 29.28 15 P P 17 42 44.2 +0.3
baz=200
H42A **Shiocton** 29.28 15 eP P 17 42 43.6 -0.4
comp=Z,82nm,1.0s
RDG13 **Poverty Ridge** 29.36 320 eP P 17 42 48.2 +3.2
comp=Z,214nm,1.4s
VCNR **Virginia City** 29.40 325 eP P 17 42 48.1 +2.8
comp=Z,137nm,1.5s
F31A **Hecla** 29.40 0 P P 17 42 44.5 -0.5
baz=180,SNR=19
IMW **Indian Meadow** 29.41 341 eP P 17 42 46.9 +1.4
comp=Z,102nm,1.0s
O56A **Blue Knob Stat** 29.42 32 P P 17 42 44.6 -0.8
baz=221,SNR=11
O56A **Blue Knob Stat** 29.42 32 eP P 17 42 45.9 +0.6
comp=Z,91nm,1.1s
F32A **Veblen** 29.43 2 P P 17 42 45.3 0.0
baz=182
H43A **Windswept, Lux** 29.43 16 P P 17 42 44.3 -1.0
baz=201,SNR=8.5
H43A **Windswept, Lux** 29.43 16 eP P 17 42 45.4 0.0
comp=Z,346nm,1.8s
F33A **5 Mile Ranch,** 29.43 3 P P 17 42 45.3 0.0
baz=184
F34A **Alexandria** 29.46 5 P P 17 42 45.4 -0.1
baz=186
G39A **Holcombe** 29.47 10 P P 17 42 45.6 -0.1
baz=194,SNR=68
RUBR **Rubicon Trail** 29.50 324 eP P 17 42 47.5 +1.1
comp=Z,279nm,1.0s
PAHR **Pah Rah Range** 29.54 326 eP P 17 42 48.9 +2.4
comp=Z,127nm,1.5s
F35A **Swanville** 29.58 6 P P 17 42 46.5 -0.1
baz=187
G40A **Rib Lake** 29.63 12 P P 17 42 46.5 -0.6
baz=196,SNR=57
F37A **Hinrichs Farm,** 29.67 8 P P 17 42 46.9 -0.5
baz=191,SNR=14
F36A **Milaca** 29.69 7 P P 17 42 46.6 -1.0
baz=189,SNR=25
YPP **Pitchstone Pla** 29.71 342 eP P 17 42 49.1 +1.0
comp=Z,97nm,1.3s
ALLY **Alegheny Colle** 29.72 28 eP P 17 42 47.8 -0.2
comp=Z,101nm,1.0s
H17A **Grant Village** 29.75 342 P P 17 42 50.3 +1.8
baz=156,SNR=41
H17A **Grant Village** 29.75 342 eP P 17 42 49.2 +0.8
comp=Z,114nm,1.4s
G41A **Antigo** 29.79 13 P P 17 42 48.2 -0.4
baz=198,SNR=8.8
M54A **Oil Creek Stat** 29.83 29 P P 17 42 48.5 -0.5
baz=218,SNR=17
M54A **Oil Creek Stat** 29.83 29 eP P 17 42 48.6 -0.3
comp=Z,499nm,2.0s
LKWY **Lake** 29.86 343 PFAKE 17 43 00.0 +11
LKWY LR LR
comp=Z,60µm,20.0s
YFT **Old Faithful** 29.88 342 eP P 17 42 52.2 +2.6
comp=Z,160nm,1.5s
AFDM **Forest Hills D** 29.90 323 eP P 17 42 51.8 +2.2
comp=Z,107nm,1.6s
AGP **Aguadilla** 29.94 81 eP P 17 42 49.5 -0.6
comp=Z,592nm,1.6s
LOY **Loyalton** 29.97 325 ePcP PcP 17 45 53.4 +0.7
G42A **Mountain** 29.99 14 P P 17 42 49.8 -0.5
baz=199,SNR=17
G42A **Mountain** 29.99 14 eP P 17 42 50.0 -0.2
comp=Z,123nm,1.0s
F38A **Pierce - Schro** 30.01 9 P P 17 42 50.1 -0.3
baz=192,SNR=38
SSPA **Standing Stone** 30.04 32 P P 17 42 51.0 +0.3
baz=222
SSPA **Standing Stone** 30.04 32 eP P 17 42 50.0 -0.8
comp=Z,113nm,1.3s
RLMT **Red Lodge** 30.07 345 P P 17 42 52.0 +0.8
baz=159,SNR=151
RLMT **Red Lodge** 30.07 345 eP P 17 42 52.6 +1.4
comp=Z,242nm,1.1s
RLMT LR LR
comp=Z,24µm,19.0s
E31A **Nome** 30.10 1 P P 17 42 50.9 -0.4
baz=181,SNR=13
E33A **Westby DABS, E** 30.11 3 P P 17 42 51.0 -0.4
baz=184
YMR **Madison River** 30.12 342 eP P 17 42 53.1 +1.4
comp=Z,297nm,1.4s
F39A **Loretta** 30.12 11 P P 17 42 51.1 -0.4
baz=194,SNR=33
E32A **Braaten, Kindr** 30.15 2 P P 17 42 51.5 -0.2
baz=182
ERPA **Erie** 30.16 28 P P 17 42 51.1 -0.7
baz=217
ERPA **Erie** 30.16 28 eP P 17 42 51.5 -0.3
comp=Z,73nm,0.9s
E34A **Wadena** 30.18 5 P P 17 42 51.6 -0.3
baz=186,SNR=14
BEKR **Beckworth** 30.19 325 eP P 17 42 50.5 -1.8
comp=Z,330nm,1.8s
G43A **Wallace** 30.19 15 P P 17 42 51.7 -0.3
baz=201,SNR=18
G43A **Wallace** 30.19 15 eP P 17 42 51.9 -0.1
comp=Z,328nm,1.4s
YHH **Holmes Hill** 30.19 342 eP P 17 42 54.4 +2.0
comp=Z,137nm,1.3s
YHB **Horse Butte** 30.26 342 eP P 17 42 54.3 +1.4
comp=Z,188nm,1.7s
E35A **Pequot Lakes** 30.29 6 P P 17 42 52.9 +0.1
baz=187,SNR=13
HLID **Hailey** 30.31 337 P P 17 42 54.4 +1.1
baz=148,SNR=60
HLID **Hailey** 30.31 337 eP P 17 42 53.7 +0.4
comp=Z,86nm,1.3s
HLID LR LR
comp=Z,36µm,21.0s
AOPR **Arecibo Observ** 30.31 82 eP P 17 42 52.1 -1.3
comp=Z,120nm,1.3s
F41A **Three Lakes** 30.31 13 P P 17 42 52.4 -0.7
baz=198,SNR=9.2
PAGS **Pennsylvania G** 30.36 34 eP P 17 42 53.1 -0.4
comp=Z,130nm,1.4s
E36A **McGregor** 30.37 7 P P 17 42 53.3 -0.3
baz=190,SNR=20
MVL **Millersville** 30.40 35 eP P 17 42 54.0 +0.1
comp=Z,53nm,1.2s
QLMT **Earthquake Lak** 30.40 342 eP P 17 42 55.5 +1.4
E37A **Wrenshall** 30.52 8 P P 17 42 54.8 -0.2
baz=191
F42A **Maple Grove Fa** 30.55 14 P P 17 42 54.4 -0.7
baz=200,SNR=8.8
D31A **Mcclaflin, Tow** 30.59 1 P P 17 42 55.2 -0.3
baz=181,SNR=5.1
ORV **Oroville** 30.61 324 eP P 17 42 57.9 +2.1
comp=Z,174nm,1.5s
ORV **Oroville** 30.61 324 eP P 17 42 57.9 +2.1
ORV pmax pmax
comp=Z,174nm,1.5s
E39A **Mellen** 30.63 11 P P 17 42 55.8 -0.2
baz=195,SNR=38
COWI **Conover** 30.65 13 eP P 17 42 56.0 -0.1
comp=Z,300nm,1.5s
COWI LR LR
comp=Z,28µm,21.0s
ATAH **Atahualpa** 30.66 138 P P 17 42 58.1 +1.2
comp=Z,33nm,0.8s,baz=326,slow=9.6,SNR=27
ATAH S S 17 47 54.8 -4.4
comp=Z,4.8nm,0.7s,baz=8.7,slow=19,SNR=1.4
ATAH LR LR 17 52 41.4
comp=Z,26µm,20.9s,baz=307,slow=31
GLMI **Grayling** 30.67 20 P P 17 42 56.2 -0.1
baz=206
GLMI **Grayling** 30.67 20 eP P 17 42 56.2 -0.1
comp=Z,310nm,0.9s
GLMI LR LR
comp=Z,18µm,22.0s
E38A **The Farm, Brul** 30.69 9 P P 17 42 56.3 -0.1
baz=193,SNR=12
D32A **Dogwood Acres,** 30.70 2 P P 17 42 56.8 +0.3
baz=182
MFID **Camas Ranch** 30.74 335 eP P 17 42 58.3 +1.2
comp=Z,163nm,1.3s
D34A **Park Rapids** 30.74 4 P P 17 42 56.4 -0.6
baz=186,SNR=9.0
D33A **AnnSam, Waubun** 30.76 3 P P 17 42 57.0 -0.1
baz=185
E40A **Wakefield** 30.82 12 P P 17 42 57.6 0.0
baz=196,SNR=59
D35A **Remer** 30.84 6 P P 17 42 57.4 -0.3
baz=188,SNR=9.0
MCMT **McKenzie Canyo** 30.85 340 eP P 17 42 60.0 +1.8
F43A **Flat Rock, Esc** 30.85 15 P P 17 42 57.4 -0.5
baz=201,SNR=33
GDXM **Geysers** 30.88 321 eP P 17 42 59.8 +1.5
comp=Z,115nm,1.4s
SJG **San Juan** 30.89 82 P P 17 42 57.3 -1.2
comp=Z,45nm,0.6s,baz=277,slow=8.0,SNR=30
SJG S S 17 48 00.2 -1.9
comp=Z,7.4nm,0.3s,baz=348,slow=20,SNR=3.7
SJG LR LR 17 55 53.7
comp=Z,3µm,21.5s,baz=244,slow=38
SJG **San Juan** 30.89 82 eP P 17 42 56.1 -2.4
LAO **LASA Array** 30.91 350 P P 17 42 59.3 +0.8
baz=165,SNR=32
LAO **LASA Array** 30.91 350 eP P 17 42 59.4 +1.0
comp=Z,408nm,1.4s
LAO LR LR
comp=Z,5µm,20.0s
D36A **Goodland** 31.03 7 P P 17 42 58.8 -0.6
baz=190,SNR=22
E41A **Kenton** 31.03 13 P P 17 42 59.2 -0.2
baz=198,SNR=23
D37A **Cotton** 31.10 8 P P 17 42 59.8 -0.3
baz=191,SNR=16
BOZ **Bozeman (W)** 31.16 342 P P 17 43 02.4 +1.6
baz=155,SNR=100
BOZ **Bozeman (W)** 31.16 342 eP P 17 43 02.8 +2.0
comp=Z,185nm,1.4s
BOZ LR LR
comp=Z,90µm,22.0s
BOZ **Bozeman (W)** 31.16 342 eP P 17 43 02.8 +2.0
BOZ pmax pmax
comp=Z,185nm,1.4s
BOZ MLR MLR
comp=Z,90µm,22.0s
CBYP **Canovanas** 31.16 82 eP P 17 42 59.5 -1.5
comp=Z,729nm,1.8s
HOPS **Hopland Field** 31.16 321 eP P 17 43 05.0 +4.2
comp=Z,332nm,1.5s
F45A **CMU Biological** 31.17 18 P P 17 42 59.9 -0.8
baz=204,SNR=16
F44A **Big Bay de Noc** 31.18 16 P P 17 43 00.5 -0.2
baz=202,SNR=24
WVOR **Wild Horse Val** 31.20 330 eP P 17 43 02.9 +1.8
comp=Z,396nm,1.6s
WVOR LR LR
comp=Z,67µm,22.0s
WVOR **Wild Horse Val** 31.20 330 eP P 17 43 02.9 +1.8
WVOR pmax pmax
comp=Z,396nm,1.6s
WVOR MLR MLR
comp=Z,67µm,22.0s
E42A **Champion** 31.23 14 P P 17 43 00.5 -0.8
baz=200,SNR=37
DLMT **Dillon** 31.24 341 eP P 17 43 03.8 +2.3
comp=Z,341nm,1.3s
O03D **Paynes Creek** 31.28 324 P P 17 43 02.2 +0.3
baz=133
C34A **RKJ Ranch, Bem** 31.33 5 P P 17 43 01.4 -0.6
baz=186,SNR=14
C31A **Landman Farms,** 31.34 1 P P 17 43 01.9 -0.3
baz=181,SNR=7.5
LUPA **Lehigh Univers** 31.35 35 eP P 17 43 02.6 +0.3
comp=Z,7.2nm,1.2s
N59A **State Game Lan** 31.36 34 P P 17 43 03.2 +0.8
baz=225
N59A **State Game Lan** 31.36 34 eP P 17 43 02.3 -0.1
comp=Z,116nm,1.5s
C33A **Trail** 31.38 3 P P 17 43 01.9 -0.6
baz=185,SNR=5.5
MDND **Maddock** 31.40 359 P P 17 43 03.4 +0.8
baz=178,SNR=35
MDND **Maddock** 31.40 359 eP P 17 43 03.5 +0.8
comp=Z,1µm,1.3s
C32A **Crookston** 31.41 3 P P 17 43 02.9 +0.1
baz=183
E43A **Lone Tree Farm** 31.41 15 P P 17 43 02.0 -0.8
baz=201,SNR=46
C35A **Jirik Farms, M** 31.46 6 P P 17 43 02.5 -0.7
baz=188,SNR=30
F46A **Macinaw City C** 31.48 19 P P 17 43 03.3 0.0
baz=206,SNR=16
MMNY **Mt. Morris Dam** 31.61 30 eP P 17 43 04.4 -0.1
comp=Z,176nm,1.3s
LRM **Limekiln Ridge** 31.61 341 eP P 17 43 06.7 +1.9
MOD **Modoc Plateau** 31.62 328 eP P 17 43 06.6 +1.8
comp=Z,239nm,1.5s
C36A **Pine Crest Far** 31.64 7 P P 17 43 04.0 -0.8
baz=190,SNR=35
D41A **Chassel** 31.68 13 P P 17 43 05.0 -0.1
baz=198,SNR=34
C37A **Embarrass** 31.69 8 P P 17 43 04.9 -0.4
baz=191,SNR=8.6
C38A **Sawbill Land.** 31.81 9 P P 17 43 05.6 -0.7
baz=193,SNR=7.4
J08A **Circle Bar Ran** 31.84 332 eP P 17 43 08.4 +1.7
comp=Z,225nm,1.1s
BRNJ **Basking Ridge** 31.86 36 eP P 17 43 07.2 +0.5
comp=Z,101nm,0.8s
E45A **Wooded Hills,** 31.88 18 P P 17 43 06.5 -0.4
baz=204,SNR=13
WDC **Whiskeytown Da** 31.89 324 eP P 17 43 06.3 -0.8
comp=Z,52nm,1.5s
WDC **Whiskeytown Da** 31.89 324 eP P 17 43 06.3 -0.8
WDC pmax pmax
comp=Z,52nm,1.5s
B33A **Robert and Kas** 31.90 4 P P 17 43 06.8 -0.2
baz=185,SNR=15
AGMN **Agassiz Nation** 31.91 3 P P 17 43 07.2 +0.1
baz=184,SNR=21
AGMN **Agassiz Nation** 31.91 3 eP P 17 43 07.3 +0.1
comp=Z,100nm,0.8s
AGMN LR LR
comp=Z,24µm,21.0s
KCPM **Cahto Peak** 31.91 322 eP P 17 43 10.1 +2.7
comp=Z,364nm,1.5s
E44A **Grand Marais A** 31.91 16 P P 17 43 07.0 -0.2
baz=203,SNR=8.9
B31A **Greenbush Farm** 31.97 1 P P 17 43 08.2 +0.5
baz=181
B32A **Ashes, Strandq** 31.97 2 P P 17 43 07.6 -0.1
baz=183,SNR=20
EYMN **Ely** 32.00 9 P P 17 43 07.6 -0.5
baz=192,SNR=13
EYMN **Ely** 32.00 9 eP P 17 43 07.5 -0.5
comp=Z,105nm,1.2s
EYMN LR LR
comp=Z,24µm,19.0s
C39A **Grand Marais** 32.10 11 P P 17 43 08.2 -0.6
baz=195,SNR=9.4
ODNJ **Ogdensburg** 32.11 35 eP P 17 43 10.1 +1.1
comp=Z,121nm,1.6s

B35A Bob, Littlefor 32.14 6 P P 17 43 08.6 -0.5
baz=188,SNR=40
BINY Binghamton 32.16 32 P P 17 43 09.8 +0.4
baz=223
BINY Binghamton 32.16 32 eP P 17 43 09.8 +0.4
comp=Z,104nm,1.0s
BINY LR LR
comp=Z,12µm,22.0s
B34A Aery, Baudette 32.18 5 P P 17 43 08.5 -1.0
baz=187,SNR=21
CDVI St. Croix 32.22 83 eP P 17 43 08.9 -1.3
comp=Z,99nm,0.8s
HRY Holter Researc 32.23 343 eP P 17 43 11.2 +1.1
N02D Trinity Center 32.25 324 P P 17 43 10.6 +0.3
baz=132
KMRM Mail Ridge 32.33 322 eP P 17 43 13.1 +2.0
comp=Z,333nm,1.4s
M04C Macdoel 32.33 326 P P 17 43 12.5 +1.4
baz=134,SNR=22
C40A Isle Royale Na 32.38 12 P P 17 43 10.9 -0.4
baz=197,SNR=16
PAL Palisades 32.44 36 P P 17 43 11.7 -0.2
baz=228
PAL Palisades 32.44 36 eP P 17 43 11.7 -0.2
comp=Z,86nm,0.9s
PAL Palisades 32.44 36 eP P 17 43 11.7 -0.2
PAL pmax pmax
comp=Z,86nm,0.9s
A31A Linda, St. Vin 32.49 2 P P 17 43 10.5 -1.7
baz=182
A32A Rocking H Ranc 32.50 2 P P 17 43 11.6 -0.7
baz=183
K05A Summer Lake 32.52 328 eP P 17 43 14.7 +1.9
comp=Z,268nm,1.8s
BMO Blue Mountains 32.53 335 eP P 17 43 12.8 +0.1
comp=Z,143nm,1.5s
BMO LR LR
comp=Z,35µm,20.0s
BMO Blue Mountains 32.53 335 eP P 17 43 12.8 +0.1
BMO pmax pmax
comp=Z,143nm,1.5s
BMO MLR MLR
comp=Z,35µm,20.0s
A33A Warroad 32.57 4 P P 17 43 12.7 -0.2
baz=185,SNR=35
ABVI Anegada Island 32.60 81 eP P 17 43 12.5 -1.1
comp=Z,664nm,1.6s
M02C Callahan 32.61 325 P P 17 43 13.8 +0.3
baz=132
SADO Sadowa 32.66 26 P P 17 43 12.6 -1.2
comp=Z,41nm,1.0s,baz=260,slow=7.7,SNR=22
SADO S S 17 48 23.4 -5.8
comp=Z,6.9nm,0.8s,baz=270,slow=19,SNR=3.1
SADO Sadowa 32.66 26 eP P 17 43 12.6 -1.2
comp=Z,215nm,1.6s
SADO S S 17 48 23.4 -5.8
KHMM Horse Mountain 32.76 323 eP P 17 43 16.1 +1.2
comp=Z,316nm,1.4s
YBH Yreka Blue Hor 32.77 325 P P 17 43 15.2 +0.4
comp=Z,8.2nm,0.8s,baz=170,slow=7.1,SNR=16
YBH S S 17 48 29.0 -2.2
comp=Z,1.5nm,0.8s,baz=60,slow=20,SNR=2.4
YBH LR LR 17 58 39.2
comp=Z,13µm,19.7s,baz=148,slow=40
YBH Yreka Blue Hor 32.77 325 eP P 17 43 15.3 +0.4
comp=Z,70nm,1.6s
YBH S S 17 48 29.0 -2.2
I07A Izee 32.87 332 eP P 17 43 17.0 +1.2
comp=Z,35nm,1.0s
K04D Chiloquin, OR 32.88 327 P P 17 43 16.6 +0.7
baz=136,SNR=8.4
JCC Jacoby Creek, 32.90 323 eP P 17 43 18.7 +2.8
comp=Z,447nm,1.4s
MSO Missoula 32.98 340 P P 17 43 17.5 +0.8
baz=152,SNR=25
MSO Missoula 32.98 340 eP P 17 43 18.0 +1.3
comp=Z,178nm,1.5s
J05D Fort Rock, OR 33.10 329 P P 17 43 19.3 +1.4
baz=137,SNR=16
PINE Pine Mountain 33.33 330 eP P 17 43 20.4 +0.5
comp=Z,218nm,1.8s
F10A Beach Ranch, E 33.42 336 eP P 17 43 21.3 +0.8
comp=Z,164nm,1.0s
PCRV Puerto La Cruz 33.46 96 P P 17 43 21.3 +0.1
comp=Z,25nm,1.0s,baz=69,slow=4.0,SNR=6.2
PCRV S S 17 48 36.8 -5.6
comp=Z,13nm,1.0s,baz=278,slow=19,SNR=2.2
PCRV LR LR 17 58 20.3
comp=Z,8µm,18.9s,baz=292,slow=39
J04D Umpqua Nationa 33.51 328 P P 17 43 22.1 +0.6
baz=136,SNR=30
L02D Cave Junction, 33.54 325 P P 17 43 22.4 +0.8
baz=132
G08A Pilot Rock 33.58 333 eP P 17 43 23.0 +1.1
comp=Z,110nm,1.1s
SABA Saba 33.67 83 eP P 17 43 23.1 +0.1
comp=Z,514nm,1.5s
SABA Saba 33.67 83 eP P 17 43 21.5 -1.5
TRY Troy 33.74 34 eP P 17 43 23.1 -0.1
comp=Z,160nm,1.6s
SMRT St. Maarten 33.81 82 eP P 17 43 23.1 -1.1
comp=Z,164nm,1.1s
SMRT St. Maarten 33.81 82 eP P 17 43 22.4 -1.8
ULM Lac du Bonnet 33.86 3 P P 17 43 23.6 -0.6
comp=Z,50nm,1.2s,baz=190,slow=8.9,SNR=31
ULM S S 17 48 40.6 -7.1
comp=Z,5.1nm,1.1s,baz=136,slow=5.4,SNR=2.2
ULM LR LR 17 58 13.9
comp=Z,29µm,19.2s,baz=182,slow=38
ULM Lac du Bonnet 33.86 3 eP P 17 43 23.4 -0.7
comp=Z,66nm,0.9s
ULM S S 17 48 40.6 -7.1
JTMT Jette 33.90 341 eP P 17 43 26.1 +1.4
comp=Z,126nm,1.4s
KBO Bosley Butte 33.92 325 eP P 17 43 26.8 +1.8
comp=Z,701nm,1.5s
I05D Terrebonne, OR 33.92 330 P P 17 43 26.2 +1.2
baz=138,SNR=11
SEUS St. Eustatius 33.93 83 eP P 17 43 25.3 +0.1
comp=Z,705nm,1.3s
SEUS St. Eustatius 33.93 83 eP P 17 43 24.8 -0.4
I04A Tendick Farm, 34.05 328 P P 17 43 26.8 +0.8
baz=136,SNR=13
QUA2 Belchertown 34.16 36 eP P 17 43 27.6 +0.7
comp=Z,77nm,1.0s
ACCN Adirondack Com 34.20 33 eP P 17 43 27.2 0.0
comp=Z,60nm,1.1s
E09A Wood Farm, Sta 34.23 336 eP P 17 43 27.7 +0.2
comp=Z,52nm,1.0s
G06A Carlson Farm, 34.27 332 eP P 17 43 29.5 +1.6
comp=Z,266nm,1.8s
NCB Newcomb 34.33 32 eP P 17 43 27.6 -0.8
comp=Z,77nm,1.4s
KEBM Edson Butte 34.42 325 eP P 17 43 30.8 +1.5
comp=Z,785nm,1.3s
BBSR BB Station 34.45 56 eP P 17 43 28.9 -0.7
comp=Z,187nm,1.3s
BBSR LR LR
comp=Z,14µm,20.0s
I03D Drain, OR 34.47 327 P P 17 43 30.8 +1.3
baz=134,SNR=8.7
F07A Phinny Hill Vi 34.47 333 eP P 17 43 29.5 0.0
comp=Z,102nm,1.4s
E08A Dider Farm, El 34.58 335 eP P 17 43 30.8 +0.4
comp=Z,108nm,1.6s
H04A Detroit Lake 34.59 330 eP P 17 43 31.8 +1.1
comp=Z,495nm,1.4s
G05D Wamic, OR 34.59 331 P P 17 43 31.7 +1.1
baz=139
LONY Lake Ozonia 34.62 31 P P 17 43 30.9 0.0
baz=223,SNR=6.8
LONY Lake Ozonia 34.62 31 eP P 17 43 31.0 +0.2
comp=Z,270nm,1.8s
LONY LR LR
comp=Z,24µm,22.0s
HAWA Hanford 34.69 334 eP P 17 43 31.4 -0.1
comp=Z,82nm,1.5s
HAWA LR LR
comp=Z,9µm,19.0s
MLYT Lee's Yard 34.74 84 eP P 17 43 31.6 -0.7
HRV Adam Dziewonsk 34.75 36 P P 17 43 31.3 -0.7
baz=229
HRV Adam Dziewonsk 34.75 36 eP P 17 43 32.0 0.0
comp=Z,98nm,1.0s
HRV Adam Dziewonsk 34.75 36 eP P 17 43 32.0 0.0
HRV pmax pmax
comp=Z,98nm,1.0s
WES Weston 34.81 36 eP P 17 43 31.5 -1.0
comp=Z,65nm,1.1s
WES eP P 17 43 34.6 +2.1
WES Weston 34.81 36 eP P 17 43 31.5 -1.0
WES pmax pmax
comp=Z,65nm,1.1s
WALA Waterton Lakes 34.95 342 eP P 17 43 34.7 +0.9
comp=Z,270nm,1.5s
E07A Sunnyside 34.96 334 eP P 17 43 34.6 +0.8
comp=Z,150nm,1.6s
D08A Wollman Farm, 34.98 335 eP P 17 43 34.2 +0.2
comp=Z,121nm,1.5s
ANWB Willy Bob 35.06 82 eP P 17 43 34.2 -0.7
ANWB LR LR
comp=Z,6µm,21.0s
ANWB Willy Bob 35.06 82 eP P 17 43 34.1 -0.9
COR Corvallis 35.07 329 eP P 17 43 35.5 +0.9
comp=Z,520nm,1.5s
COR Corvallis 35.07 329 eP P 17 43 35.6 +0.9
COR pmax pmax
comp=Z,520nm,1.5s
HNH Hanover 35.15 34 eP P 17 43 35.8 +0.4
comp=Z,68nm,1.2s
GDHS Morne Mazeau, 35.19 85 eP P 17 43 35.4 -0.8
comp=Z,237nm,1.2s
FRNY Flat Rock 35.26 31 eP P 17 43 35.7 -0.7
comp=Z,289nm,2.0s
NEW Newport 35.30 338 P P 17 43 37.5 +0.7
comp=Z,11nm,0.7s,baz=142,slow=8.5,SNR=17
NEW PcP PcP 17 46 08.1 +1.0
comp=Z,41nm,1.2s,baz=129,slow=6.5,SNR=3.0
NEW S S 17 49 10.7 +0.6
comp=Z,0.6nm,0.3s,baz=80,slow=19,SNR=1.7
NEW LR LR 17 59 50.3
comp=Z,21µm,20.5s,baz=162,slow=39
NEW Newport 35.30 338 P P 17 43 37.7 +1.0
baz=148,SNR=14
NEW Newport 35.30 338 eP P 17 43 37.7 +1.0
comp=Z,97nm,1.5s
NEW PcP PcP 17 46 08.1 +1.0
NEW S S 17 49 10.7 +0.6
NEW Newport 35.30 338 eP P 17 43 37.7 +1.0
NEW 17 46 08.1
NEW S S 17 49 10.7 +0.6
NEW pmax pmax
comp=Z,97nm,1.5s
VT1 Waterbury 35.33 33 eP P 17 43 35.8 -1.2
comp=Z,95nm,1.6s
VT1 eP P 17 43 41.3 +4.3
C09A Chrisman Ranch 35.34 337 eP P 17 43 38.5 +1.5
comp=Z,152nm,1.1s
TBG Guadaloupe-3 35.34 86 e P 17 43 40.6 +3.2
NNA Nana 35.37 141 eP P 17 43 38.7 +1.0
comp=Z,124nm,1.6s
NNA LR LR
comp=Z,12µm,21.0s
NNA Nana 35.37 141 eP P 17 43 38.7 +1.0
NNA pmax pmax
comp=Z,124nm,1.6s
NNA MLR MLR
comp=Z,12µm,21.0s
G03D McMinnville, O 35.50 329 P P 17 43 39.7 +1.3
baz=136,SNR=11
BBL Barber's Block 35.55 86 e P 17 43 38.9 -0.3
MTMW Mount Mitchell 35.59 331 eP P 17 43 39.9 +0.5
MGG Marie-Galante 35.65 85 eP P 17 43 33.4 -6.7
JLK June Lake 35.66 331 ePcP PcP 17 46 09.0 +0.8
LBNH Lisbon 35.70 33 P P 17 43 40.5 +0.3
baz=227
LBNH Lisbon 35.70 33 eP P 17 43 40.1 -0.1
comp=Z,90nm,1.3s
LBNH Lisbon 35.70 33 eP P 17 43 40.1 -0.1
LBNH pmax pmax
comp=Z,90nm,1.3s
DLPL La Plaine 35.78 86 eP P 17 43 41.4 +0.2
TRQ Mont Tremblant 35.81 29 eP P 17 43 41.1 -0.1
LTY Liberty 35.86 334 eP P 17 43 42.8 +1.2
comp=Z,260nm,1.4s
DEG La Desirade 35.86 85 eP P 17 43 40.8 -1.2
GRGR Grenville 35.89 92 PFAKE 17 43 50.0 +7.8
GRGR LR LR
comp=Z,6µm,20.0s
GRGR Grenville 35.89 92 eP P 17 43 42.6 +0.4
CXM Moule La Croix 35.92 87 eP P 17 43 41.5 -1.1
FDF Fort de France 35.95 87 eP P 17 43 41.2 -1.4
FDF comp=Z,539nm,1.8s
FDF LR LR
comp=Z,9µm,20.0s
FDF Fort de France 35.95 87 eP P 17 43 39.6 -3.1
FDF Fort de France 35.95 87 eP P 17 43 42.7 0.0
FDF Fort de France 35.95 87 eP P 17 43 41.3 -1.4
FDF pmax pmax
comp=Z,539nm,1.8s
FDF MLR MLR
comp=Z,9µm,20.0s
LON Longmire 35.96 332 eP P 17 43 44.0 +1.5
comp=Z,199nm,1.4s
LON Longmire 35.96 332 eP P 17 43 44.0 +1.5
LON pmax pmax
comp=Z,199nm,1.4s
F04D Rainier, OR 36.01 331 P P 17 43 44.3 +1.5
baz=137,SNR=6.1
BIM Bigot 36.06 88 eP P 17 43 43.8 +0.2
SVB Belmont 36.07 90 eP P 17 43 43.0 -0.8
comp=Z,116nm,0.8s
SVB Belmont 36.07 90 eP P 17 43 42.4 -1.3
SVB Belmont 36.07 90 eP P 17 43 44.1 +0.3
TRMF Trois Ilets 36.07 88 eP P 17 43 46.3 +2.6
ZAM Aeronautique 36.09 88 eP P 17 43 45.4 +1.5
LPMF Morne Lapointe 36.15 88 eP P 17 43 45.4 +1.1
SVCV St. Vincent, C 36.17 90 eP P 17 43 42.2 -2.4
B08A Colville Reser 36.20 336 eP P 17 43 45.6 +1.2
comp=Z,240nm,1.6s
MCLT Moule a Chique 36.30 89 eP P 17 43 45.7 0.0
D05A Enumclaw 36.37 333 eP P 17 43 47.2 +1.4
comp=Z,338nm,1.3s
C06D Leavenworth 36.47 334 P P 17 43 48.3 +1.5
baz=142,SNR=25
E03A Lebam 36.61 331 eP P 17 43 48.3 +0.4
comp=Z,244nm,1.1s
TOSP Speyside 37.13 93 eP P 17 43 50.0 -2.7
WVL Waterville 37.14 35 eP P 17 43 52.2 -0.2
comp=Z,113nm,1.5s
B06A Marblemount 37.19 335 eP P 17 43 53.6 +0.8
comp=Z,212nm,1.5s
B05A Bryant 37.24 334 P P 17 43 54.6 +1.3
baz=140,SNR=16
NLWA Neilton Lookou 37.37 331 eP P 17 43 55.1 +0.6
comp=Z,546nm,1.4s
NLWA LR LR
comp=Z,47µm,20.0s
BBGH Gun Hill 37.72 90 PFAKE 17 44 10.0 +12
BBGH LR LR
comp=Z,13µm,21.0s
PKME Peaks-Kenny Pk 37.79 34 P P 17 43 57.3 -0.7
baz=230
PKME Peaks-Kenny Pk 37.79 34 eP P 17 43 59.1 +1.2
comp=Z,44nm,1.0s
PKME LR LR
comp=Z,16µm,19.0s
A04D Lummi Island 37.85 334 P P 17 43 59.9 +1.4
baz=140,SNR=12
PGC Sidney 38.12 333 eP P 17 44 01.4 +0.7
comp=Z,188nm,1.2s
FFC Flin Flon 38.37 357 eP P 17 44 02.4 -0.3
comp=Z,268nm,0.9s
FFC LR LR
comp=Z,26µm,21.0s
FFC Flin Flon 38.37 357 eP P 17 44 02.4 -0.3
FFC pmax pmax
comp=Z,268nm,0.9s
FFC MLR MLR
comp=Z,26µm,21.0s
EMMW East Machias 38.45 36 eP P 17 44 04.0 +0.5
comp=Z,230nm,1.7s
EDM Edmonton 38.59 346 eP P 17 44 05.3 +0.7
comp=Z,277nm,0.9s
EDM Edmonton 38.59 346 eP P 17 44 05.3 +0.7
EDM pmax pmax
comp=Z,277nm,0.9s
LLLB Lillooet 39.00 336 eP P 17 44 08.3 +0.2
comp=Z,277nm,1.4s
PQI Presque Isle 39.37 33 eP P 17 44 11.3 +0.1
comp=Z,68nm,1.0s
FCC Fort Churchill 42.45 3 eP P 17 44 36.8 +0.5
comp=Z,66nm,0.9s
FCC Fort Churchill 42.45 3 eP P 17 44 36.8 +0.5
FCC pmax pmax
comp=Z,86nm,0.9s
BBB Bella Bella 42.74 333 LR LR 18 01 30.7
comp=Z,27µm,21.0s,baz=152,slow=35
LPAZ La Paz 44.14 136 P P 17 44 51.6 +0.3
comp=Z,25nm,1.1s,baz=358,slow=5.7,SNR=31
LPAZ S S 17 51 26.0 +1.7
comp=Z,0.8nm,0.7s,baz=197,slow=14,SNR=1.6
LPAZ LR LR 18 01 55.0
comp=Z,13µm,19.9s,baz=310,slow=34
LPAZ La Paz 44.14 136 eP P 17 44 51.6 +0.3
LPAZ epP P 17 44 51.7 +0.3
LPAZ S S 17 51 26.0 +1.7
RPN Rapa Nui 44.51 194 P P 17 44 55.2 +1.9
comp=Z,99nm,0.8s,baz=289,slow=7.2,SNR=4.5
RPN S S 17 51 35.3 +7.2
comp=Z,92nm,1.1s,baz=113,slow=7.7,SNR=2.0
RPN Rapa Nui 44.51 194 P P 17 44 55.2 +1.9
RPN S S 17 51 35.3 +7.2
RPN LR LR
comp=Z,6µm,20.0s
RPN Rapa Nui 44.51 194 P P 17 44 55.2 +1.9
RPN S S 17 51 35.3 +7.2
RPN MLR MLR
comp=Z,6µm,20.0s
MNMC Minye Minye 45.29 140 eP P 17 45 00.6 +0.6
comp=Z,149nm,1.3s
SCHQ Schefferville 45.46 25 P P 17 45 00.9 +0.2
comp=Z,79nm,0.9s,baz=230,slow=6.2,SNR=26
SCHQ S S 17 51 40.9 -0.6
comp=Z,3.6nm,0.8s,baz=216,slow=17,SNR=2.1
SCHQ LR LR 18 07 02.2
comp=Z,22µm,18.4s,baz=228,slow=40
SCHQ Schefferville 45.46 25 eP P 17 45 00.9 +0.2
comp=Z,109nm,1.0s
SCHQ S S 17 51 40.9 -0.6
PB11 IPOC Station P 45.73 141 eP P 17 45 04.1 +0.7
comp=Z,142nm,1.1s
PB01 IPOC Station P 46.81 142 eP P 17 45 12.4 +0.7
comp=Z,129nm,1.5s
PB04 IPOC Station P 47.42 143 eP P 17 45 17.3 +0.7
comp=Z,196nm,1.5s
YKA Yellowknife Ar 47.45 350 P P 17 45 15.7 -0.4
comp=Z,35nm,0.7s,baz=158,slow=7.3,SNR=141
WRAK Wrangell Islan 47.49 335 PFAKE 17 45 30.0 +13
WRAK LR LR
comp=Z,22µm,22.0s
DLBC Dease Lake 48.05 338 eP P 17 45 22.3 +1.3
comp=Z,200nm,1.2s
PB10 IPOC Station P 48.12 145 eP P 17 45 22.2 +0.3
comp=Z,145nm,1.6s
TAOE Nuku Hiva Isla 48.27 242 eP P 17 45 24.2 +0.9
comp=Z,320nm,1.3s
TAOE eS S 17 52 25.2 +2.4
comp=Z,5µm,26.1s
TAOE eLQ LQ 17 56 58.6
comp=Z,8µm,24.0s
TAOE eLR LR 17 58 56.2
comp=Z,15µm,25.2s,baz=57
TAOE Nuku Hiva Isla 48.27 242 eT T 18 36 33.3
comp=Z,213nm,0.2s
TAOE Nuku Hiva Isla 48.27 242 eP P 17 45 24.1 +0.7
comp=Z,144nm,1.2s
SIV San Ignacio 48.94 129 P P 17 45 27.9 -0.5
comp=Z,20nm,0.9s,baz=310,slow=8.0,SNR=70
YJA Yavi 50.09 139 eP P 17 45 38.5 +1.0
YJA IVMs_BB IVMs_BB 17 45 43.5
comp=Z,3µm,5.0s
SKAG Skagway 50.72 337 eP P 17 45 42.8 +1.5
comp=Z,128nm,1.7s
HJA Humahuaca 50.91 140 eP P 17 45 44.9 +1.2
HJA IVMs_BB IVMs_BB 17 45 49.9
comp=Z,4µm,5.1s
WHY Whitehorse 51.37 338 eP P 17 45 47.0 +0.7
comp=Z,180nm,1.5s
FRB Frobisher Bay 51.61 16 P P 17 45 47.8 -0.1
comp=Z,36nm,1.0s,baz=221,slow=9.0,SNR=13
AZAP Zapla 51.87 140 eP P 17 45 51.0 +0.4
AZAP IVMs_BB IVMs_BB 17 45 56.2
comp=Z,4µm,5.3s
ASTB Santa Barbara 52.05 140 eP P 17 45 52.1 +0.2
ALOL LOMAS DE OLMEC 52.25 139 eP P 17 45 53.5 +0.3
LCO Las Campanas 52.49 149 eP P 17 45 56.7 +1.5
comp=Z,57nm,1.1s
LCO LR LR
comp=Z,10µm,21.0s
RKT Rikitea 53.06 223 eP P 17 46 00.2 +1.0
comp=Z,388nm,1.2s
RKT eS S 17 53 30.0 +1.2
comp=Z,7µm,27.0s
RKT eLQ LQ 17 59 14.5
comp=Z,5µm,29.2s
RKT eLR LR 18 01 27.0
comp=Z,27µm,25.5s,baz=40
RKT Rikitea 53.06 223 eT T 18 42 39.0
comp=Z,130nm,0.3s
VCA Vinchina 53.54 147 eP P 17 46 04.6 +1.8
AHML Horco Molle 53.62 143 eP P 17 46 04.4 +1.0
AGUA GUANDACOL 53.99 147 eP P 17 46 07.7 +1.6
AROD Rodeo 54.05 149 eP P 17 46 08.6 +1.8
POHA Pohakuloa 54.15 283 eP P 17 46 07.7 0.0
comp=Z,739nm,1.4s
POHA LR LR
comp=Z,7µm,19.0s
MLOA Mauna Loa Obse 54.22 283 eP P 17 46 09.8 +1.4
comp=Z,934nm,1.4s
ACDV Cuesta del Vie 54.23 148 eP P 17 46 10.6 +2.7
BALM Baldy 54.44 335 eP P 17 46 11.5 +2.5
comp=Z,186nm,1.5s
BALM Baldy 54.44 335 eP P 17 46 11.5 +2.5
BALM pmax pmax
comp=Z,186nm,1.5s
MHA Mahukona 54.45 283 eP P 17 46 10.6 +1.1
MHA Mahukona 54.45 283 eP P 17 46 10.6 +1.1
KHLU Kahalu'u 54.51 283 eP P 17 46 10.1 0.0
comp=Z,468nm,1.5s
CYA Choya 54.62 144 eP P 17 46 11.4 +0.9
KHLH Kahului Airpor 54.87 284 eP P 17 46 14.8 +2.3
comp=Z,361nm,1.4s
RAGM Ragged Mountai 55.04 334 eP P 17 46 14.7 +1.5
comp=Z,209nm,1.5s
AMOG MOGNA 55.16 148 eP P 17 46 16.5 +2.0
DAWY Dawson 55.21 339 eP P 17 46 15.4 +1.0
comp=Z,45nm,1.2s
BMRM Bremner River 55.32 335 eP P 17 46 16.4 +1.2
comp=Z,159nm,1.3s
RTLS Leoncito 55.47 150 eP P 17 46 18.5 +1.6
RTLL Cerro Villicun 55.49 149 eP P 17 46 18.4 +1.5
ZON Zonda 55.56 149 eP P 17 46 18.8 +1.4
EYAK Cordova Ski Ar 55.57 334 eP P 17 46 19.0 +2.1
comp=Z,121nm,1.3s
ROC1 El Roble 55.65 152 eP P 17 46 19.1 +1.0
comp=Z,31nm,1.0s
ROC1 El Roble 55.65 152 eP P 17 46 19.9 +1.7
APLL PUNTA DE LOS L 55.74 146 eP P 17 46 19.1 +0.4
AUSP Uspallata 55.77 150 eP P 17 46 20.8 +1.7
DIV Divide 55.89 334 eP P 17 46 20.7 +1.4
comp=Z,188nm,1.5s
RTCV Cerro Valdivia 55.89 149 eP P 17 46 21.2 +1.6
PEL Peldehue 55.94 152 eP P 17 46 21.2 +1.2
comp=Z,194nm,1.6s
PEL Peldehue 55.94 152 eP P 17 46 21.2 +1.2
PEL pmax pmax
comp=Z,194nm,1.6s
MENT Mentasta 56.07 337 eP P 17 46 22.0 +1.4
comp=Z,96nm,1.4s
KLU Klutina 56.14 335 eP P 17 46 21.9 +0.8
comp=Z,143nm,1.4s
EGAK Eagle 56.26 340 eP P 17 46 22.4 +0.5
comp=Z,62nm,0.9s
EGAK LR LR
comp=Z,38µm,20.0s
OPA Opana 56.26 285 eP P 17 46 23.5 +0.9
comp=Z,160nm,1.0s
OPA Opana 56.26 285 eP P 17 46 23.5 +0.9
OPA pmax pmax
comp=Z,160nm,1.0s
HON Honolulu 56.29 285 eP P 17 46 24.3 +1.6
HON Honolulu 56.29 285 eP P 17 46 24.3 +1.6
KIP Kipapa 56.29 285 eP P 17 46 24.6 +1.8
comp=Z,578nm,1.3s
KIP Kipapa 56.29 285 deP P 17 46 25.9 +3.1
KIP pmax pmax
comp=Z,3µm,1.2s
KIP MLR MLR
comp=Z,16µm,17.0s

HARP **HAARP** 56.32 336 *e*P P 17 46 23.6 +1.2
comp=Z,300nm,1.6s
INK **Inuvik** 56.48 345 P P 17 46 23.2 -0.1
comp=Z,27nm,0.8s,baz=133,slow=7.1,SNR=52
INK LR LR 18 12 46.0
comp=Z,16µm,19.0s,baz=148,slow=38
INK **Inuvik** 56.48 345 *e*P P 17 46 23.6 +0.3
comp=Z,113nm,1.3s
INK **Inuvik** 56.48 345 *e*P P 17 46 23.6 +0.3
INK pmax pmax
comp=Z,113nm,1.3s
DOT **Dot Lake** 56.60 338 *e*P P 17 46 25.6 +1.2
comp=Z,164nm,1.0s
PAX **Paxson** 56.75 336 *e*P P 17 46 26.8 +1.3
comp=Z,236nm,2.0s
PAX **Paxson** 56.75 336 *e*P P 17 46 26.8 +1.3
PAX pmax pmax
comp=Z,236nm,2.0s
SCRK **Sand Creek** 56.76 338 *e*P P 17 46 26.9 +1.3
comp=Z,77nm,1.1s
SCM **Sheep Creek Mo** 56.89 335 *e*P P 17 46 26.8 +0.3
comp=Z,120nm,1.4s
SCM **Sheep Creek Mo** 56.89 335 *e*P P 17 46 26.8 +0.3
SCM pmax pmax
comp=Z,120nm,1.4s
ACAN **Cantantal** 56.90 148 *e*P P 17 46 28.3 +1.5
RIDG **Independ'e Rid** 56.94 337 *e*P P 17 46 28.1 +1.3
comp=Z,90nm,1.0s
GO05 **HualaæØ** 56.98 154 *e*P P 17 46 28.0 +0.7
comp=Z,137nm,1.3s
GO05 **HualaæØ** 56.98 154 *e*P P 17 46 27.2 -0.1
SML **Sawmill** 57.29 334 *e*P P 17 46 30.7 +1.4
comp=Z,213nm,1.6s
SML **Sawmill** 57.29 334 *e*P P 17 46 30.7 +1.4
SML pmax pmax
comp=Z,213nm,1.6s
KDAK **Kodiak Island** 57.46 329 P P 17 46 31.9 +1.5
comp=Z,7.4nm,0.6s,baz=134,slow=23,SNR=4.4
KDAK **Kodiak Island** 57.46 329 *e*P P 17 46 31.9 +1.5
comp=Z,186nm,1.7s
KDAK LR LR
comp=Z,6µm,19.0s
KDAK **Kodiak Island** 57.46 329 *e*P P 17 46 31.9 +1.5
KDAK pmax pmax
comp=Z,186nm,1.7s
KDAK MLR MLR
comp=Z,6µm,19.0s
BRLK **Bradley Lake** 57.46 332 *e*P P 17 46 32.1 +1.6
comp=Z,83nm,1.1s
TCA **Tanti** 57.52 146 *e*P P 17 46 31.9 +0.5
GHO **Glory Hole Cre** 57.52 334 *e*P P 17 46 32.3 +1.3
comp=Z,96nm,1.1s
PMR **Palmer** 57.52 334 *e*P P 17 46 31.8 +1.0
comp=Z,62nm,1.0s
PMR **Palmer** 57.52 334 *e*P P 17 46 31.8 +1.0
PMR pmax pmax
comp=Z,62nm,1.0s
RC01 **Rabbit Creek A** 57.54 333 *e*P P 17 46 31.2 +0.2
comp=Z,79nm,1.2s
DHY **Denali Highway** 57.55 336 *e*P P 17 46 31.3 +0.1
comp=Z,79nm,1.5s
OHAK **Old Harbor** 57.60 328 *e*P P 17 46 33.5 +2.1
comp=Z,136nm,1.2s
KEKH **Kekaha** 57.80 286 *e*P P 17 46 36.0 +2.5
comp=Z,486nm,1.4s
VAH **Vaihoa** 57.81 240 *e*P P 17 46 35.0 +1.5
PMOR **Pomariorio Ree** 57.91 240 *e*P P 17 46 36.0 +1.8
comp=Z,222nm,1.2s
PMOR **Pomariorio Ree** 57.91 240 *e*T T 18 48 40.3
comp=Z,19nm,0.2s
HDA **Harding Lake** 58.08 337 *e*P P 17 46 35.3 +0.5
comp=Z,64nm,1.1s
SUA **Susitna One** 58.15 333 *e*P P 17 46 36.5 +1.1
comp=Z,100nm,1.0s
IL1 **Eielson Array** 58.26 338 *e*P P 17 46 36.1 +0.1
ILAR **Eielson Array** 58.26 338 P P 17 46 36.5 +0.5
comp=Z,29nm,1.1s,baz=138,slow=5.0,SNR=58
ILAR LR LR 18 13 58.1
comp=Z,32µm,18.5s,baz=136,slow=38
ILAR PKPPKP **P'P'df** 18 16 15.0 -5.2
comp=Z,0.9nm,1.0s,baz=311,slow=3.5,SNR=5.3
ILB **Eielson Array** 58.26 338 *e*P P 17 46 36.8 +0.9
RND **Reindeer** 58.29 336 *e*P P 17 46 37.4 +1.1
comp=Z,124nm,1.1s
RND **Reindeer** 58.29 336 *e*P P 17 46 37.4 +1.1
RND pmax pmax
comp=Z,124nm,1.1s
RFA **San Rafael** 58.31 151 *e*P P 17 46 37.7 +0.9
CPUP **Villa Florida** 58.31 136 P P 17 46 35.7 -1.1
comp=Z,26nm,0.9s,baz=325,slow=7.7,SNR=59
CPUP LR LR 18 10 46.2
comp=Z,7µm,21.3s,baz=323,slow=35
CPUP **Villa Florida** 58.31 136 *e*P P 17 46 36.0 -0.9
comp=Z,47nm,1.0s
CPUP **Villa Florida** 58.31 136 *e*P P 17 46 36.0 -0.9
CPUP pmax pmax
comp=Z,47nm,1.0s
RES **Resolute Bay** 58.35 1 P P 17 46 35.9 -0.5
comp=Z,11nm,0.8s,baz=204,slow=8.7,SNR=28
RES LR LR 18 12 20.1
comp=Z,16µm,18.4s,baz=202,slow=37
RES **Resolute Bay** 58.35 1 *e*P P 17 46 35.8 -0.7
comp=Z,34nm,1.2s
MCK **McKinley** 58.48 336 *e*P P 17 46 38.5 +0.9
comp=Z,93nm,1.1s
MCK **McKinley** 58.48 336 *e*P P 17 46 38.5 +0.9
MCK pmax pmax
comp=Z,93nm,1.1s
CCB **Clear Creek Bu** 58.52 337 *e*P P 17 46 38.7 +0.9
comp=Z,40nm,1.3s
WRH **Wood River Hil** 58.54 337 *e*P P 17 46 38.7 +0.8
comp=Z,39nm,1.0s
SPU **Mount Spurr** 58.59 333 *e*P P 17 46 39.2 +0.7
COLA **College** 58.66 338 *e*P P 17 46 39.0 +0.3
comp=Z,60nm,1.0s
COLA LR LR
comp=Z,26µm,19.0s
COLA **College** 58.66 338 *e*P P 17 46 39.0 +0.3
COLA pmax pmax
comp=Z,60nm,1.0s
COLA MLR MLR
comp=Z,26µm,19.0s
FYU **Fort Yukon** 58.69 340 *e*P P 17 46 40.4 +1.5
comp=Z,214nm,1.6s
SKT **Skwentna** 58.71 334 *e*P P 17 46 40.0 +0.8
comp=Z,110nm,1.0s
MDM **Murphy Dome** 58.84 338 *e*P P 17 46 40.7 +0.6
comp=Z,45nm,1.0s
TRF **Thorofare Moun** 58.88 336 *e*P P 17 46 41.2 +0.7
comp=Z,165nm,1.0s
SFJD **Kangerlussuaq** 59.28 20 P P 17 46 42.8 -0.2
comp=Z,45nm,1.0s,baz=230,slow=7.4,SNR=11
SFJD LR LR 18 15 40.9
comp=Z,7µm,18.4s,baz=235,slow=40
SFJD **Kangerlussuaq** 59.28 20 *i*P P 17 46 43.7 +0.7
SFJD **Kangerlussuaq** 59.28 20 *e*P P 17 46 42.8 -0.2
SFJD *e*P P 17 46 43.4 +0.4
PPLA **Purkeypile** 59.39 335 *e*P P 17 46 45.1 +1.1
comp=Z,345nm,1.7s
BPAW **Bear Paw Mtn.** 59.46 336 *e*P P 17 46 44.8 +0.4
comp=Z,111nm,1.3s
CAST **Castle Rocks** 59.58 335 *e*P P 17 46 45.2 0.0
comp=Z,96nm,1.0s
MLY **Manley** 59.80 337 *e*P P 17 46 47.3 +0.5
comp=Z,367nm,2.0s
SVW2 **Sparrevohn** 60.13 332 *e*P P 17 46 49.0 0.0
comp=Z,75nm,1.1s
ILULI **Ilulissat** 60.41 18 *e*P P 17 46 50.5 -0.2
comp=Z,44nm,1.1s
ILULI **Ilulissat** 60.41 18 *e*P P 17 46 50.5 -0.2
ILULI pmax pmax
comp=Z,44nm,1.1s
TIAR **Tiarei** 60.41 238 *e*P P 17 46 52.6 +1.0
comp=Z,38nm,0.8s
TVO **Taravao** 60.45 238 *e*P P 17 46 53.2 +1.3
comp=Z,44nm,1.0s
TVO **Taravao** 60.45 238 *e*T T 18 51 48.9
comp=Z,1.0nm,0.2s
PPT **Papeete** 60.60 238 P P 17 46 54.9 +2.0
comp=Z,20nm,0.7s,baz=58,slow=17,SNR=4.6
PPT LR LR 18 06 21.1
comp=Z,5µm,18.5s,baz=61,slow=29
PPT **Papeete** 60.60 238 P P 17 46 54.9 +2.0
PPT pmax pmax
comp=Z,12nm,0.4s
PPT MLR MLR
comp=Z,5µm,18.5s

PPT2 **Papeete2** 60.62 238 *e*P P 17 46 54.6 +1.6
comp=Z,88nm,1.7s
PPT2 *e*S S 17 55 09.4 +0.4
comp=Z,10µm,26.8s
PPT2 *e*SS SS 17 59 02.8 -5.1
comp=Z,2µm,26.5s
PPT2 *e*LQ LQ 18 02 19.5
comp=Z,18µm,30.2s
PPT2 *e*LR LR 18 04 27.5
comp=Z,14µm,27.2s,baz=50
PAE **Paea** 60.66 238 *e*P P 17 46 54.5 +1.3
comp=Z,26nm,1.4s
COLD **Coldfoot** 60.70 339 *e*P P 17 46 53.2 +0.5
comp=Z,102nm,1.7s
TOLK **Toolik Lake Re** 61.22 341 P P 17 46 57.1 +0.7
baz=121,SNR=29
TOLK **Toolik Lake Re** 61.22 341 *e*P P 17 46 57.0 +0.7
comp=Z,56nm,1.1s
IM3 **Indian Mountai** 61.36 337 *e*P P 17 46 56.7 -0.5
TULEG **Thule** 62.11 8 *e*P P 17 47 02.1 0.0
comp=Z,139nm,1.9s
FALS **False Pass** 62.38 324 *e*P P 17 47 04.6 +0.3
comp=Z,436nm,1.3s
PLCA **Paso Flores** 62.45 156 P P 17 47 05.9 +0.9
comp=Z,60nm,0.9s,baz=351,slow=8.1,SNR=84
PLCA LR LR 18 08 48.3
comp=Z,11µm,18.1s,baz=359,slow=31
PLCA **Paso Flores** 62.45 156 *e*P P 17 47 05.9 +0.9
comp=Z,124nm,1.0s
PLCA **Paso Flores** 62.45 156 *e*P P 17 47 05.9 +0.9
PLCA pmax pmax
comp=Z,124nm,1.0s
ANGG **Ammassalik, Gr** 63.31 24 *e*P P 17 47 11.1 +0.8
comp=Z,196nm,1.5s
SPB **Sao Paulo** 63.74 127 *e*P P 17 47 13.7 -0.1
comp=Z,82nm,1.4s
SPB LR LR
comp=Z,12µm,20.0s
UNV **Unalaska Valle** 64.00 322 *e*P P 17 47 14.8 -0.2
comp=Z,211nm,1.2s
TRQA **Tornquist** 64.07 149 *e*P P 17 47 16.0 +0.3
comp=Z,158nm,1.2s
TRQA LR LR
comp=Z,16µm,21.0s
PCED **Cedros** 64.26 55 *e*P P 17 47 18.2 +1.1
comp=Z,220nm,1.3s
PCAN **Candelaria** 64.43 55 *e*P P 17 47 19.2 +0.9
comp=Z,130nm,0.9s
PMAN **Manadas** 64.74 55 *e*P P 17 47 21.4 +1.2
comp=Z,64nm,1.0s
PGRA **Graciosa** 64.82 54 *e*P P 17 47 21.8 +1.1
comp=Z,248nm,2.2s
RCBR **Riachuelo** 65.68 104 *e*P P 17 47 27.2 +0.4
comp=Z,174nm,1.0s
RCBR LR LR
comp=Z,38µm,20.0s
SUMG **Summit** 65.69 17 *i*P P 17 47 27.8 +1.5
SUMG **Summit** 65.69 17 *e*P P 17 47 26.5 +0.3
comp=Z,92nm,1.0s
SUMG **Summit** 65.69 17 *i*P P 17 47 27.8 +1.5
PSET **Sete Cidades** 66.63 55 *e*P P 17 47 33.8 +1.3
comp=Z,165nm,0.8s
CMLA **Cha da Macela** 66.79 56 *e*P P 17 47 34.7 +1.2
comp=Z,196nm,1.4s
CMLA **Cha da Macela** 66.79 56 PFAKE 17 47 50.0 +16
CMLA LR LR
comp=Z,5µm,20.0s
PCALD **Caldeiras da R** 66.82 55 *e*P P 17 47 34.9 +1.2
comp=Z,58nm,0.5s
BART **Pico Bartolome** 67.07 55 *e*P P 17 47 36.5 +1.1
comp=Z,272nm,1.2s
PSMA **Santa Maria** 67.15 56 *e*P P 17 47 36.9 +1.1
comp=Z,89nm,1.1s
PSMN **Pico do Norte,** 67.20 56 *e*P P 17 47 37.3 +1.2
comp=Z,97nm,1.2s
CHRN **Cochrane** 67.46 161 *e*P P 17 47 38.0 +0.7
comp=Z,21nm,1.1s
GAMB **Gambell** 68.04 333 *e*P P 17 47 42.3 +1.4
comp=Z,56nm,1.6s
BORG **Borgarnes** 69.83 26 P P 17 47 57.8 +5.8
comp=Z,37nm,1.0s,baz=248,slow=0.4,SNR=4.3
BORG LR LR 18 20 24.8
comp=Z,4µm,19.0s,baz=275,slow=38
BORG **Borgarnes** 69.83 26 *e*P P 17 47 52.6 +0.6
comp=Z,81nm,1.2s
BORG P P 17 47 57.8 +5.8
BORG **Borgarnes** 69.83 26 *e*P P 17 47 52.6 +0.6
BORG 17 47 57.8
BORG pmax pmax
comp=Z,81nm,1.2s
SCO **Scoresbysund** 70.18 20 *i*P P 17 47 58.1 +4.1
comp=Z,11µm,18.0s
SCO **Scoresbysund** 70.18 20 *e*P P 17 47 54.7 +0.7
comp=Z,126nm,2.0s
SCO **Scoresbysund** 70.18 20 *i*P P 17 47 58.1 +4.1
SCO MLR MLR
comp=Z,11µm,18.0s
RAR **Rarotonga** 70.78 240 LR LR 18 11 01.8
comp=Z,3µm,19.1s,baz=60,slow=29
GO09 **Cerro Castillo** 71.13 163 *e*P P 17 48 01.7 +1.7
comp=Z,294nm,1.9s
SACV **Santiago Islan** 71.68 79 PFAKE 17 48 20.0 +16
SACV LR LR
comp=Z,2µm,20.0s
DAG **Danmarks Havn** 71.84 14 *i*P P 17 48 04.5 +0.5
DAG **Danmarks Havn** 71.84 14 *i*P P 17 48 04.5 +0.5
MIDW **Midway** 72.86 295 PFAKE 17 48 20.0 +9.0
MIDW LR LR
comp=Z,4µm,20.0s
PMOZ **Porto Moniz, M** 74.10 60 *e*P P 17 48 20.6 +2.2
PMOZ *e*S S 17 57 56.8 +5.6
PMOZ **Porto Moniz, M** 74.10 60 *e*LR LR 18 11 20.4
comp=Z,5µm,20.0s
PMAR **Madeira** 74.36 60 *e*P P 17 48 23.9 +3.9
JMIC **Jan Mayen** 74.64 20 *e*P P 17 48 23.8 +3.1
JMIC *e*S S 17 57 57.3 +1.8
PMPS **Porto Santo** 74.78 60 *e*P P 17 48 24.1 +1.9
VAL **Valentia** 76.20 40 *e*P P 17 48 29.6 -0.4
VAL *i*S S 17 58 18.1 +4.6
EFI **East Falkland** 76.35 155 PFAKE 17 48 40.0 +9.4
EFI LR LR
comp=Z,10µm,19.0s
EFI **East Falkland** 76.35 155 *c e*P P 17 48 32.1 +1.5
EFI pmax pmax
comp=Z,118nm,1.4s
BILL **Bilibino** 76.91 337 *d i*P P 17 48 33.7 0.0
BILL *e* 17 48 48.8
BILL *e* 17 51 30.7
BILL *e*PPP PPP 17 53 12.7
BILL *i*S S 17 58 16.5 -4.3
BILL *i*SS SS 18 03 21.6 +4.8
BILL pmax pmax
comp=Z,31nm,1.0s
BILL pmax pmax
comp=Z,13µm,19.0s
KBS **Kingsbay** 77.87 11 *e*P P 17 48 38.8 -0.1
comp=Z,199nm,1.5s
KBS LR LR
comp=Z,8µm,22.0s
KBS **Kingsbay** 77.87 11 *e*P P 17 48 42.6 +3.7
KBS *e*S S 17 58 35.4 +4.5
KBS *e*SS SS 18 03 34.8 +4.0
KBS **Kingsbay** 77.87 11 *e*P P 17 48 38.8 -0.1
KBS pmax pmax
comp=Z,199nm,1.5s
KBS MLR MLR
comp=Z,8µm,22.0s
DSB **Dublin** 78.29 38 *e*P P 17 48 40.6 -1.1
comp=Z,44nm,1.4s
BBTS **Babate** 78.41 78 LR LR 18 21 06.1
comp=Z,7µm,19.1s,baz=289,slow=34
AFI **Afiamalu** 78.42 252 LR LR 18 15 33.2
comp=Z,1µm,18.0s,baz=64,slow=30
AFI **Afiamalu** 78.42 252 *e*P P 17 48 44.0 +0.9
comp=Z,100nm,1.4s
AFI **Afiamalu** 78.42 252 *e*P P 17 48 44.0 +0.9
AFI pmax pmax
comp=Z,101nm,1.4s
SPA0 **Spitsbergen Ar** 78.99 11 *e*P P 17 48 45.5 +0.3
SPA0 *e*S S 17 58 46.5 +3.6
SPA0 **Spitsbergen Ar** 78.99 11 *e*P P 17 48 46.6 +1.4
SPITS **Spitsbergen Ar** 78.99 11 P P 17 48 45.7 +0.6
comp=Z,5.7nm,0.7s,baz=289,slow=4.4,SNR=8.3
SPITS LR LR 18 26 12.5
comp=Z,8µm,18.4s,baz=320,slow=38
PMAFR **Mafra** 79.27 53 *e*P P 17 48 47.7 +0.3

PMAFR *e*S S 17 58 47.4 +0.1
PMAFR *e*SS SS 18 03 59.3 +5.6
HSPB **Hornsund (broa** 79.37 12 *e*P P 17 48 49.1 +1.9
HSPB **Hornsund (broa** 79.37 12 *e*P P 17 48 50.3 +3.1
HSPB *e* 17 51 52.0
HSPB *e*S S 17 58 57.6 +11
PGAV **Gavieira, Arco** 79.38 49 *e*P P 17 48 48.2 +0.1
comp=Z,56nm,1.6s
PGAV **Gavieira, Arco** 79.38 49 *e*S S 17 58 50.7 +2.1
PGAV *e*SS SS 18 03 57.4 +2.0
PGAV *e*LR LR 18 13 49.3
comp=Z,4µm,18.0s
PMST **Lisbon--Monsan** 79.39 53 *e*P P 17 48 49.5 +1.4
comp=Z,92nm,1.2s
LIS **Lisbon** 79.42 53 *e*P P 17 48 48.7 +0.4
LIS *e*S S 17 58 49.6 +0.8
LIS AMS AMS 18 19 45.0
comp=Z,4µm,20.0s
LIS **Lisbon** 79.42 53 *e*P P 17 48 48.6 +0.4
LIS *e*S S 17 58 49.6 +0.8
PCAB **Cabril** 79.62 50 *e*P P 17 48 49.4 +0.1
comp=Z,56nm,1.5s
PCAS **Casmilo, Conde** 79.63 51 *e*P P 17 48 49.7 +0.4
comp=Z,129nm,1.7s
PCAS **Casmilo, Conde** 79.63 51 *e*S S 17 58 52.7 +1.7
PCAS *e*SS SS 18 04 05.8 +6.8
ESK **Eskdalemuir** 79.65 35 *e*P P 17 48 50.5 +1.4
comp=Z,32nm,1.0s
ESK LR LR
comp=Z,5µm,22.0s
ESK **Eskdalemuir** 79.65 35 *e*P P 17 48 50.5 +1.4
ESK pmax pmax
comp=Z,32nm,1.0s
ESK MLR MLR
comp=Z,5µm,22.0s
EKA **Eskdalemuir Ar** 79.67 35 P P 17 48 49.2 -0.1
comp=Z,9.7nm,0.8s,baz=297,slow=4.7,SNR=13
EKA LR LR 18 24 43.0
comp=Z,3µm,20.5s,baz=285,slow=36
ALMR **Almeirim** 79.77 52 *e*P P 17 48 50.5 +0.4
ALMR *e*S S 17 58 53.1 +0.6
ALMR AMS AMS 18 19 55.4
comp=Z,5µm,19.1s
ALMR **Almeirim** 79.77 52 *e*P P 17 48 51.3 +1.2
comp=Z,101nm,1.3s
ALMR **Almeirim** 79.77 52 *e*P P 17 48 50.4 +0.4
ALMR *e*S S 17 58 53.1 +0.6
PTOM **Tomar** 79.79 52 *e*P P 17 48 51.5 +1.3
comp=Z,66nm,1.6s
POLO **Lamas de Olo** 79.86 50 *e*P P 17 48 50.7 0.0
comp=Z,20nm,1.7s
POLO **Lamas de Olo** 79.86 50 *e*S S 17 58 54.8 +1.2
POLO *e*SS SS 18 04 00.8 -1.8
PVIS **Viseu** 79.93 51 *e*P P 17 48 52.1 +1.1
comp=Z,56nm,1.7s
PVRL **Vila Real** 79.94 50 *e*P P 17 48 52.3 +1.3
comp=Z,44nm,1.7s
PTEO **Sao Teotonio** 80.01 54 *e*P P 17 48 52.8 +1.4
comp=Z,105nm,1.6s
PFVI **Vila Bisbo** 80.02 54 *e*P P 17 48 52.5 +1.0
comp=Z,102nm,1.4s
PFVI **Vila Bisbo** 80.02 54 *e*S S 17 58 57.2 +2.0
PFVI *e*SS SS 18 04 11.4 +6.4
PFVI **Vila Bisbo** 80.02 54 *e*P P 17 48 51.1 -0.4
comp=Z,100nm,1.2s
PNCL **Nicolau / Gran** 80.03 53 *e*P P 17 48 52.1 +0.6
comp=Z,31nm,1.1s
PNCL **Nicolau / Gran** 80.03 53 *e*S S 17 58 56.8 +1.5
PNCL *e*SS SS 18 04 12.1 +7.0
PMTG **Montargil** 80.05 52 *e*P P 17 48 51.8 +0.2
comp=Z,55nm,1.3s
PMTG **Montargil** 80.05 52 *e*S S 17 58 54.7 -0.8
PMTG *e*SS SS 18 04 05.8 +0.5
MORF **Marmelete** 80.12 54 *e*P P 17 48 52.3 +0.1
MORF *e*S S 17 58 56.8 +0.3
MORF AMS AMS 18 21 53.5
comp=Z,4µm,18.8s
MORF **Marmelete** 80.12 54 *e*P P 17 48 52.4 +0.3
comp=Z,63nm,1.3s
MORF **Marmelete** 80.12 54 *e*S S 17 58 57.6 +1.2
MORF *e*SS SS 18 04 12.1 +5.5
MORF **Marmelete** 80.12 54 *e*P P 17 48 52.2 +0.1
MORF *e*S S 17 58 56.7 +0.3
MTE **Manteigas** 80.26 51 *e*P P 17 48 52.5 -0.3
comp=Z,55nm,2.2s
MTE **Manteigas** 80.26 51 *e*S S 17 58 58.6 +0.8
MTE *e*SS SS 18 04 12.8 +4.2
MTE **Manteigas** 80.26 51 *e*LR LR 18 14 28.5
comp=Z,4µm,20.0s
MTE **Manteigas** 80.26 51 *e*P P 17 48 53.1 +0.2
comp=Z,31nm,1.0s
MTE LR LR
comp=Z,4µm,20.0s
MESJ **Messejana** 80.33 53 *e*P P 17 48 53.6 +0.4
MESJ *e*S S 17 58 59.1 +0.5
MESJ AMS AMS 18 29 39.0
comp=Z,3µm,15.3s
MESJ **Messejana** 80.33 53 *e*P P 17 48 53.5 +0.4
MESJ *e*S S 17 58 59.0 +0.5
PCBR **Castelo Branco** 80.44 51 *e*P P 17 48 53.8 +0.1
comp=Z,52nm,1.5s
MVO **Moncorvo** 80.47 50 *e*P P 17 48 54.3 +0.4
comp=Z,45nm,1.4s
MVO **Moncorvo** 80.47 50 *e*S S 17 59 00.5 +0.5
MVO *e*SS SS 18 04 11.2 -0.5
MVO **Moncorvo** 80.47 50 *e*LR LR 18 14 11.3
comp=Z,4µm,20.0s
PCVE **Castro Verde** 80.52 54 *e*P P 17 48 54.9 +0.7
comp=Z,64nm,2.1s
PCVE **Castro Verde** 80.52 54 *e*S S 17 59 01.8 +1.3
PBRG **Braganca** 80.53 49 *e*P P 17 48 54.3 +0.1
comp=Z,39nm,1.7s
PBRG **Braganca** 80.53 49 *e*S S 17 59 00.4 -0.2
PBRG *e*SS SS 18 04 17.4 +4.9
PBEJ **Beja** 80.56 53 *e*P P 17 48 55.7 +1.3
comp=Z,46nm,1.8s
PESTR **Estremoz** 80.58 52 *e*P P 17 48 54.8 +0.3
comp=Z,40nm,1.6s
PESTR **Estremoz** 80.58 52 *e*S S 17 59 03.0 +1.9
PESTR *e*SS SS 18 04 18.7 +5.4
PESTR **Estremoz** 80.58 52 *e*P P 17 48 54.3 -0.2
comp=Z,8.2nm,0.9s
PMRV **Marv??o** 80.60 52 *e*P P 17 48 54.5 -0.1
comp=Z,70nm,1.6s
PMRV **Marv??o** 80.60 52 *e*S S 17 59 02.8 +1.5
PMRV *e*SS SS 18 04 21.6 +8.0
PMRV **Marv??o** 80.60 52 *e*LR LR 18 14 25.8
comp=Z,5µm,20.0s
PBDV **Barranco-do-Ve** 80.69 54 *e*P P 17 48 56.1 +0.9
comp=Z,68nm,2.1s
PBDV **Barranco-do-Ve** 80.69 54 *e*S S 17 59 04.1 +1.7
PBDV *e*SS SS 18 04 25.4 +10
PVAQ **Vaqueiros** 80.82 54 *e*P P 17 48 56.5 +0.7
comp=Z,49nm,2.2s
PVAQ **Vaqueiros** 80.82 54 *e*S S 17 59 07.7 +4.1
PVAQ **Vaqueiros** 80.82 54 *e*LR LR 18 14 23.7
comp=Z,3µm,18.0s
PBAR **Barrancos** 81.16 53 *e*P P 17 48 57.8 +0.2
comp=Z,92nm,1.6s
PBAR **Barrancos** 81.16 53 *e*S S 17 59 09.8 +2.6
BJO **Bjornoya** 81.37 14 *e*P P 17 49 00.9 +2.9
BJO *e*S S 17 59 10.0 +2.0
BJO *e*SS SS 18 04 21.9 -1.4
HOPEN **Hopen** 81.49 11 *e*P P 17 49 00.4 +1.8
FOO **Floro** 82.02 28 *e*P P 17 49 07.1 +5.5
SUE **Sulen** 82.07 29 *e*P P 17 49 02.5 +0.6
RTC **Rabat Centre** 82.33 57 PFAKE 17 49 20.0 +16
RTC LR LR
comp=Z,15µm,21.0s
BER **Bergen** 82.56 29 *e*P P 17 49 05.6 +1.2
AKN **Aaknes** 82.68 27 *e*P P 17 49 06.6 +1.4
AKN *e*SS SS 18 04 45.3 +2.0
HYA **Hoyanger** 82.68 28 *e*P P 17 49 06.6 +1.5
LOF **Lofoten** 82.82 20 *e*P P 17 49 07.5 +1.8
PAB **San Pablo** 82.85 51 *e*P P 17 49 06.7 +0.1
comp=Z,68nm,1.4s
PAB LR LR
comp=Z,6µm,20.0s
PAB **San Pablo** 82.85 51 *e*P P 17 49 06.7 +0.1
PAB pmax pmax
comp=Z,68nm,1.4s
PAB MLR MLR
comp=Z,6µm,20.0s
ESDC **Sonseca Array** 83.11 51 P P 17 49 08.2 +0.3
comp=Z,8.6nm,1.0s,baz=299,slow=4.9,SNR=25

ESDC LR LR 18 23 42.6
comp=Z,3µm,19.6s,baz=280,slow=34
ESLA Sonseca Array 83.11 51 *eP* **P 17 49 07.5 -0.4**
comp=Z,25nm,1.1s
ES19 SONSECA Array 83.15 51 *eP* **P 17 49 07.0 -1.1**
STAV Stavanger 83.24 30 *eP* **P 17 49 11.8 +3.8**
ODD1 Odda 83.33 29 *eP* **P 17 49 08.7 +0.1**
BLS5 Blasjo 83.43 30 *eP* P 17 49 14.5 +5.4
STOK Stokkvaagen 83.43 22 *eP* **P 17 49 10.2 +1.3**
STEI Steigen 83.48 20 *eP* **P 17 49 12.0 +2.9**
DOMB Dombas 83.64 27 *eP* **P 17 49 13.1 +3.0**
TBLU Trondheim 83.66 26 *eP* **P 17 49 14.1 +4.0**
TRO Tromso 83.81 18 *eP* **P 17 49 11.4 +0.7**
TRO *eSS* SS 18 05 02.2 +2.6
NSS Namsos 83.82 24 *eP* **P 17 49 14.7 +3.8**
SEY Seymchan 83.97 334 P **P 17 49 12.4 +0.7**
comp=Z,27nm,1.0s,baz=86,slow=5.6,SNR=27
SEY PKKPbc **PKKPbc 18 07 26.8 -1.7**
comp=Z,3.9nm,0.9s,baz=0.0,slow=7.1,SNR=11
SEY Seymchan 83.97 334⇑ *eP* **P 17 49 12.3 +0.6**
MOR8 Moi Rana 84.02 22 *eP* **P 17 49 15.8 +3.9**
MOR8 *ePP* **PP 17 52 26.5 +1.2**
MOR8 *eSS* SS 18 05 07.0 +4.1
SNART Snartemo 84.19 31 *eP* **P 17 49 15.5 +2.6**
PET Petropavlovsk 84.61 324 PFAKE 17 49 30.0 +15
PET LR LR
comp=Z,4µm,21.0s
PET Petropavlovsk 84.61 324 *eP* **P 17 49 15.5 +0.4**
PET *eS* **S 17 59 38.3 -3.3**
PET *ePS* **PnS 18 00 32.3 -4.0**
PET pmax pmax
comp=Z,2µm,5.3s
PET pmax pmax
comp=Z,73nm,1.6s
PET pmax pmax
comp=Z,4µm,4.7s
HAMF Hammerfest 84.62 16 *ePP* PP 17 52 31.7 +1.7
NC204 NORSAR Array S 84.69 27 *eP* P 17 49 20.4 +4.9
NBO00 NORSAR Array S 84.80 27 *eP* **P 17 49 16.5 +0.5**
NBO02 NORSAR Array S 84.82 27 *eP* **P 17 49 17.2 +1.1**
KONO Kongsberg 84.82 29 *eP* **P 17 49 17.3 +1.2**
comp=Z,412nm,1.8s
KONO Kongsberg 84.82 29 *eP* **P 17 49 18.9 +2.8**
KONO Kongsberg 84.82 29⇑ *eP* **P 17 49 18.0 +1.9**
KONO pmax pmax
comp=Z,33nm,1.1s
KONO MLR MLR
comp=Z,6µm,19.0s
HOMB Homborsund 84.85 30 *ePP* PP 17 52 31.3 -0.9
NAO01 NORSAR Array S 84.92 28 *eP* **P 17 49 16.6 0.0**
NB2 NORSAR Subarra 84.98 27 P **P 17 49 18.2 +1.2**
comp=Z,280nm,2.0s,baz=297,slow=5.1
NB2 NORSAR Subarra 84.98 27 P **P 17 49 18.2 +1.2**
baz=297,slow=5.1
NB200 NORSAR Array S 84.98 27 *eP* **P 17 49 18.0 +1.1**
NOA NORSAR Array B 84.98 27 P **P 17 49 18.0 +1.1**
comp=Z,10nm,1.0s,baz=300,slow=5.0,SNR=9.9
NOA LR LR 18 30 00.6
comp=Z,2µm,18.3s,baz=295,slow=38
PMSA Palmer Station 85.05 166 PFAKE 17 49 30.0 +13
PMSA LR LR
comp=Z,4µm,19.0s
FUNA Funafuti 85.11 260 PFAKE 17 49 30.0 +12
FUNA LR LR
comp=Z,4µm,19.0s
PEA1 Petropavlovsk- 85.12 324 *eP* **P 17 49 18.8 +1.1**
PEA0B Petropavlovsk- 85.12 324 *eP* **P 17 49 17.8 +0.1**
comp=Z,300nm,1.5s
PETK Petropavlovsk- 85.12 324 P **P 17 49 18.8 +1.0**
comp=Z,61nm,1.1s,baz=66,slow=8.9,SNR=11
PETK Petropavlovsk- 85.12 324 *eP* **P 17 49 19.4 +1.6**
PETK Petropavlovsk- 85.12 324 P **P 17 49 18.8 +1.0**
PETK pmax pmax
comp=Z,65nm,1.1s
NC602 NORSAR Array S 85.26 28 *eP* **P 17 49 19.3 +1.0**
NC602 NORSAR Array S 85.26 28 *eP* **P 17 49 22.5 +4.2**
UCC Uccle 85.33 38 ⇑P **P 17 49 19.7 +0.9**
UCC Uccle 85.33 38 *eP* **P 17 49 18.2 -0.6**
comp=Z,110nm,1.5s
UCC Uccle 85.33 38 *eP* **P 17 49 18.2 -0.6**
UCC pmax pmax
comp=Z,110nm,1.5s
SNF Seneffe 85.39 39 ⇑P **P 17 49 20.3 +1.2**
ARA0 ARCESS Array S 85.78 17 *eP* **P 17 49 20.4 -0.3**
ARCES ARCESS Array B 85.78 17 P **P 17 49 20.4 -0.3**
comp=Z,11nm,0.9s,baz=322,slow=9.2,SNR=16
ARCES LR LR 18 27 41.7
comp=Z,3µm,21.9s,baz=315,slow=36
ARCES ARCESS Array B 85.78 17 *eP* **P 17 49 20.5 -0.2**
ARCES ARCESS Array B 85.78 17 *eP* **P 17 49 20.5 -0.2**
ARE0 ARCESS Array S 85.78 17 *eP* **P 17 49 24.4 +3.6**
MUD Monsted U'grnd 85.90 32 *i P* **P 17 49 23.7 +2.2**
comp=Z,6µm,18.0s
MUD Monsted U'grnd 85.90 32 *eP* **P 17 49 23.7 +2.2**
MUD MLR MLR
comp=Z,6µm,18.0s
BCLA Clavier 86.03 39 ⇑P **P 17 49 23.0 +0.7**
KEV Kevo 86.06 17 PFAKE 17 49 30.0 +7.9
KEV LR LR
comp=Z,6µm,22.0s
MA2 Magadan 86.11 332 P **P 17 49 23.4 +0.9**
comp=Z,32nm,1.0s,baz=56,slow=5.3,SNR=15
MA2 S **S 17 59 51.3 -5.0**
comp=Z,1.0nm,0.2s,baz=252,slow=20,SNR=2.1
MA2 Magadan 86.11 332‖ *eP* **P 17 49 25.0 +2.5**
BEBN Eben Emael 86.12 38 ‖P **P 17 49 23.1 +0.4**
HGN Heimansgroeve 86.28 38 *eP* **P 17 49 23.2 -0.3**
comp=Z,4µm,6.1s
HGN *ePP* **PP 17 52 47.6 +3.5**
HGN *eS* **S 18 00 02.5 +4.3**
HGN *eSS* **SS 18 05 37.5 +0.7**
WTSB Winterswijk 86.34 37 *eP* **P 17 49 24.0 +0.2**
comp=Z,3µm,4.9s
MEM Membach 86.38 38 ⇑P **P 17 49 24.9 +0.8**
HFS Hagfors 86.48 28 P **P 17 49 24.8 +0.5**
comp=Z,7.1nm,0.8s,baz=298,slow=3.1,SNR=7.7
HFS LR LR 18 29 14.8
comp=Z,3µm,19.8s,baz=286,slow=36
TIXI Tiksi 86.58 347 P **P 17 49 24.4 -0.2**
comp=Z,24nm,1.0s,baz=19,slow=3.5,SNR=42
TIXI S **SKSac 17 59 46.6 -3.7**
comp=Z,0.1nm,0.4s,baz=300,slow=20,SNR=2.5
TIXI Tiksi 86.58 347 *eP* **P 17 49 23.6 -1.1**
comp=Z,164nm,1.5s
TIXI S **SKSac 17 59 46.6 -3.7**
TIXI LR LR
comp=Z,4µm,19.0s
TIXI Tiksi 86.58 347 *d iP* **P 17 49 24.0 -0.6**
TIXI pmax pmax
comp=Z,120nm,1.5s
TIXI MLR MLR
comp=Z,7µm,23.0s
ASCN Ascension 86.60 99 PFAKE 17 49 40.0 +14
ASCN LR LR
comp=Z,2µm,21.0s
WLF Walferdange 86.81 39 ‖P **P 17 49 27.3 +1.1**
WLF Walferdange 86.81 39 *eP* **P 17 49 26.1 -0.1**
comp=Z,196nm,2.0s
WLF LR LR
comp=Z,5µm,19.0s
WLF Walferdange 86.81 39 *eP* **P 17 49 26.1 -0.1**
WLF pmax pmax
comp=Z,196nm,2.0s
WLF MLR MLR
comp=Z,5µm,19.0s
SKR Severo-Kuril's 86.92 322 *eP* **P 17 49 24.5 -2.1**
SKR *ePPP* PPP 17 54 44.2
SKR *eS* **S 17 59 59.5 -4.9**
SKR MLR MLR
comp=Z,3µm,17.0s
SKR MLR MLR
comp=Z,4µm,17.0s
SSB Saint Sauveur 87.37 44 *eP* **P 17 49 28.6 -0.5**
comp=Z,66nm,1.8s
SSB LR LR
comp=Z,3µm,21.0s
SSB Saint Sauveur 87.37 44 *eP* **P 17 49 28.6 -0.5**
SSB pmax pmax
comp=Z,66nm,1.8s
SSB MLR MLR
comp=Z,3µm,21.0s
HOPE Hope Point 87.85 149 *eP* **P 17 49 32.5 +1.7**
comp=Z,181nm,1.3s
HOPE LR LR
comp=Z,4µm,20.0s

COP Copenhagen 87.88 32 *i P* **P 17 49 32.7 +1.5**
comp=Z,3µm,16.0s
COP Copenhagen 87.88 32 *eP* **P 17 49 32.7 +1.5**
COP MLR MLR
comp=Z,3µm,16.0s
ECH Echery 87.97 40 *eP* **P 17 49 31.5 -0.4**
comp=Z,24nm,1.3s
ECH LR LR
comp=Z,6µm,21.0s
ECH Echery 87.97 40 *eP* **P 17 49 31.5 -0.4**
ECH pmax pmax
comp=Z,25nm,1.3s
ECH MLR MLR
comp=Z,6µm,21.0s
TARA Tarawa 88.29 271 PFAKE 17 49 50.0 +16
TARA LR LR
comp=Z,161nm,20.0s
BFO Black Forest 88.65 40 *eP* **P 17 49 34.5 -0.6**
comp=Z,18nm,1.2s
BFO LR LR
comp=Z,7µm,20.0s
BFO Black Forest 88.65 40 *i P* **P 17 49 37.0 +1.9**
SENIN Lac Senin/Sane 88.77 42 *eP* **P 17 49 35.4 -0.5**
comp=Z,57nm,1.7s
BNI Bardonecchia 88.86 43 *eP* **P 17 49 40.5 +4.2**
comp=Z,48nm,1.6s
BNI LR LR
comp=Z,5µm,20.0s
BNI Bardonecchia 88.86 43 *eP* **P 17 49 40.5 +4.2**
BNI pmax pmax
comp=Z,48nm,1.6s
BNI MLR MLR
comp=Z,5µm,20.0s
MSVF Nonsavu 88.92 251 *eP* **P 17 49 37.7 +0.8**
comp=Z,184nm,1.4s
MSVF Nonsavu 88.92 251 *c eP* **P 17 49 40.4 +3.5**
MSVF pmax pmax
comp=Z,78nm,1.1s
RAO Raoul Island 89.01 239 LR LR 18 19 35.6
comp=Z,2µm,19.9s,baz=76,slow=29
WAKE Wake Island 89.16 290 PFAKE 17 49 50.0 +12
WAKE LR LR
comp=Z,2µm,19.0s
APA Apatity 89.27 17⇓ *i P* **P 17 49 34.7 -2.8**
APA *i* 17 53 08.0
APA *i* 18 00 08.0
APA *i S* **S 18 00 18.0 -8.2**
APA *i PS* **PnS 18 01 29.0 -2.6**
APA *i SS* **SS 18 06 17.0 -2.4**
LVZ Lovozero 89.37 16 PFAKE 17 49 50.0 +12
LVZ LR LR
comp=Z,4µm,22.0s
BSD Bornholm Skovb 89.40 32 *i P* **P 17 49 40.2 +1.8**
comp=Z,5µm,25.0s
BSD Bornholm Skovb 89.40 32 *eP* **P 17 49 40.2 +1.8**
BSD MLR MLR
comp=Z,5µm,25.0s
GRFO Grafenberg 89.83 38 *eP* **P 17 49 40.4 -0.1**
comp=Z,34nm,1.3s
GRFO Grafenberg 89.83 38 *eP* **P 17 49 40.4 -0.1**
GRFO pmax pmax
comp=Z,34nm,1.3s
TUE Stuetta 90.03 41 *eP* **P 17 49 41.5 -0.3**
comp=Z,23nm,1.3s
TUE LR LR
comp=Z,6µm,21.0s
DAVA Damuels 90.03 40 *i pP* **P 17 49 43.5 +1.8**
comp=Z,27nm,1.3s
DAVA PKKPdf **PKKPdf 18 07 10.1 +1.3**
comp=Z,6.5nm,1.0s
KOWA Kowa 90.14 75 P **P 17 49 42.7 +0.1**
comp=Z,16nm,0.8s,baz=298,slow=6.6,SNR=26
KOWA LR LR 18 28 15.1
comp=Z,3µm,18.9s,baz=290,slow=34
KOWA Kowa 90.14 75 *eP* **P 17 49 42.7 +0.1**
comp=Z,42nm,1.2s
CLL Collm 90.14 36 *i P* **P 17 49 41.6 -0.3**
comp=Z,102nm,2.8s
CLL *i sP* **pP 17 49 46.3 -1.1**
comp=Z,59nm,1.8s
CLL *e* 17 49 56.0
CLL *ePP* **PP 17 53 16.0 +1.1**
CLL *ePPP* PPP 17 55 10.0
CLL *eSKSac* **SKSac 18 00 11.0 -1.4**
CLL *eS* **ScS 18 00 38.0 -0.9**
CLL *ePS* **PnS 18 01 40.0 -2.5**
CLL *eSS* **SS 18 06 31.0 -1.9**
CLL *e* 18 07 43.0
CLL *eSSS* SSS 18 10 16.0
CLL *e* 18 12 24.0
CLL *eSSSS* 18 13 18.0
CLL Lm MLR 18 35 00.0
comp=N,2µm,18.6s
CLL Lm MLR 18 35 00.0
comp=E,5µm,19.0s
CLL Lm MLR 18 35 00.0
comp=Z,6µm,18.5s
CLL Collm 90.14 36 *eP* **P 17 49 41.5 -0.5**
comp=Z,40nm,1.6s
CLL Collm 90.14 36 *i P* **P 17 49 41.6 -0.3**
CLL *i* 17 49 46.3
CLL *e* 18 00 11.0
CLL *eS* **ScS 18 00 38.0 -0.9**
CLL pmax pmax
comp=Z,59nm,1.8s
CLL MLR MLR
comp=Z,6µm,18.5s
NKC Novy Kostel 90.30 37 *eP* **P 17 49 44.3 +1.5**
NKC *ex* x 17 50 08.6
NKC *ex* x 17 50 14.1
NKC *ePP* **PP 17 53 15.2 -1.1**
NKC *eSKS* **SKSac 18 00 19.0 +5.5**
NKC *eSP* **SP 18 01 46.9 +4.8**
NKC *eSS* **SS 18 06 34.9 -0.6**
NKC AMS AMS 18 31 10.0
comp=Z,5µm,20.0s
NKC Novy Kostel 90.30 37 *eP* **P 17 49 44.3 +1.5**
NKC *e* 17 53 15.2
NKC *e* 18 01 46.9
NKC *eSS* SS 18 06 34.9 -0.6
NKC MLR MLR
comp=Z,5µm,20.0s
RETA Reutte 90.49 40 *i pP* **P 17 49 45.4 +1.6**
comp=Z,26nm,1.5s,SNR=8.7
FUORN Ofenpass-Fuorn 90.54 41 *eP* **P 17 49 44.2 -0.1**
comp=Z,12nm,0.9s
FETA Feichten 90.66 40 *i PcP* **P 17 49 45.5 +0.8**
comp=Z,19nm,1.7s
FETA *ePKPbc* **PKKPbc 18 07 10.1 -2.0**
comp=Z,7.8nm,1.6s
MOTA Moosalm 90.76 40 *i pP* **P 17 49 46.8 +1.7**
comp=Z,16nm,1.0s,SNR=8.0
MOTA PKKPdf **PKKPdf 18 07 08.0 +0.4**
comp=Z,3.7nm,1.0s
BRG Berggiesshubel 90.86 36 *eP* **P 17 49 45.8 +0.5**
comp=Z,15nm,1.1s
BRG PP **PP 17 53 16.0 -4.7**
BRG SKS **SKSac 18 00 16.0 -0.6**
BRG S **S 18 00 41.0 -0.6**
BRG PS **PS 18 01 46.0 -4.8**
BRG SS **SS 18 06 40.0 -3.5**
comp=N,3µm,18.8s
comp=E,3µm,18.3s
comp=Z,5µm,17.9s
BRG Berggiesshubel 90.86 36 *eP* **P 17 49 45.8 +0.5**
BRG 17 53 16.0
BRG 18 00 16.0
BRG S **S 18 00 41.0 -0.6**
BRG PS **PS 18 01 46.0 -4.8**
BRG SS **SS 18 06 40.0 -3.5**
BRG pmax pmax
comp=Z,15nm,1.1s
BRG MLR MLR
comp=N,3µm,18.8s
BRG MLR MLR
comp=E,3µm,18.3s
BRG MLR MLR
comp=Z,5µm,17.9s
FIA0 FINESS Array S 90.91 23 *eP* **P 17 49 44.6 -0.7**
FIA0 FINESS Array S 90.91 23 *eP* **P 17 49 44.6 -0.7**
FIA1 FINESS Array S 90.91 23 *eP* **P 17 49 43.9 -1.4**
FINES FINESS Array B 90.91 23 P **P 17 49 44.6 -0.7**
comp=Z,8.8nm,0.8s,baz=356,slow=6.1,SNR=16
WATA Walderalm 91.05 40 *i pP* **P 17 49 48.5 +2.0**
comp=Z,16nm,1.3s

WTTA Wattenberg 91.12 40 *i P* **P 17 49 50.3 +3.4**
comp=Z,15nm,1.6s
WTTA PKKPdf **PKKPdf 18 07 04.1 -2.9**
comp=Z,4.0nm,1.0s
PVCC Panska Ves 91.38 36 *eP* **P 17 49 49.3 +1.6**
PVCC *ePP* **PP 17 53 25.4 +0.6**
PVCC *eSKS* **SKSac 18 00 24.0 +4.4**
PVCC *eSP* **SPn 18 01 56.5 +1.9**
PVCC *eSS* **SS 18 06 50.5 -0.4**
PVCC AMS AMS 18 36 10.0
comp=Z,5µm,16.7s
PVCC Panska Ves 91.38 36 *eP* **P 17 49 49.3 +1.6**
PVCC *e* 17 53 25.4
PVCC *e* 18 01 56.5
PVCC *eSS* SS 18 06 50.5 -0.4
PVCC MLR MLR
comp=Z,5µm,16.7s
TIC Toumodi 91.44 83 *eP* **P 17 49 48.7 0.0**
KHC Kasperske Hory 91.45 38 *eP* **P 17 49 49.6 +1.4**
KHC *ex* x 17 50 22.4
KHC *ePP* **PP 17 53 26.7 +1.2**
KHC *eSKS* **SKSac 18 00 24.8 +4.6**
KHC *eSP* **SPn 18 01 59.0 +3.4**
KHC *eSS* **SS 18 06 51.0 -1.2**
KHC AMS AMS 18 29 30.0
comp=Z,6µm,21.4s
KHC Kasperske Hory 91.45 38 *eP* **P 17 49 49.6 +1.4**
comp=Z,21nm,1.8s
KHC Kasperske Hory 91.45 38 *eP* **P 17 49 49.6 +1.4**
KHC *e* 17 53 26.7
KHC *e* 18 01 59.0
KHC *eSS* SS 18 06 51.0 -1.2
KHC MLR MLR
comp=Z,6µm,21.4s
GKP Gorka Klasztor 91.49 33 *eP* **P 17 49 49.0 +0.9**
GKP LMZ LR 18 25 25.6
comp=Z,7µm,28.6s
GKP Gorka Klasztor 91.49 33 *eP* **P 17 49 49.0 +0.9**
GKP MLR MLR
comp=Z,7µm,28.6s
PRA Prague 91.51 36 *eP* **P 17 49 49.4 +1.0**
PRA *ePP* **PP 17 53 26.8 +0.9**
PRA *eSKS* **SKSac 18 00 25.0 +4.6**
PRA *eSP* **SPn 18 01 58.4 +2.2**
PRA *eSS* **SS 18 06 52.4 -0.5**
PRA AMS AMS 18 35 10.0
comp=Z,4µm,17.7s
PRA Prague 91.51 36 *eP* **P 17 49 49.4 +1.0**
PRA *e* 17 53 26.8
PRA *e* 18 01 58.4
PRA *eSS* SS 18 06 52.4 -0.5
PRA MLR MLR
comp=Z,4µm,17.7s
LIC Lamto 91.55 83 *eP* **P 17 49 49.3 +0.1**
comp=Z,159nm,1.3s
DBIC Dimbokro 91.58 83 P **P 17 49 49.2 -0.1**
comp=Z,24nm,1.0s,baz=258,slow=4.2,SNR=20
DBIC LR LR 18 28 26.3
comp=Z,2µm,20.4s,baz=278,slow=34
DBIC Dimbokro 91.58 83 *eP* **P 17 49 48.7 -0.7**
comp=Z,31nm,1.0s
DBIC Dimbokro 91.58 83 *eP* **P 17 49 48.7 -0.7**
DBIC pmax pmax
comp=Z,31nm,1.0s
PRU Pruhonice 91.61 36 *eP* **P 17 49 49.1 +0.3**
PRU *ex* x 17 50 04.7
PRU *ePP* **PP 17 53 27.5 +0.8**
PRU *eSKS* **SKSac 18 00 25.1 +4.1**
PRU *eSP* **SPn 18 02 01.4 +4.0**
PRU *eSS* **SS 18 06 47.0 -7.3**
PRU AMS AMS 18 33 20.0
comp=Z,4µm,20.0s
PRU Pruhonice 91.61 36 *eP* **P 17 49 49.1 +0.3**
PRU *e* 17 50 04.7
PRU *e* 17 53 27.5
PRU *e* 18 02 01.4
PRU *eSS* SS 18 06 47.0 -7.3
PRU MLR MLR
comp=Z,4µm,20.0s
VLC Villacollemand 91.64 43 PFAKE 17 50 00.0 +11
VLC LR LR
comp=Z,3µm,20.0s
GEC2 GERESS Array S 91.66 38 *eP* **P 17 49 48.7 -0.5**
comp=Z,20nm,1.3s
GEC2 GERESS Array S 91.66 38 *eP* **P 17 49 48.7 -0.5**
GEC2 pmax pmax
comp=Z,20nm,1.3s
GERES GERESS Array B 91.66 38 P **P 17 49 49.2 0.0**
comp=Z,1.9nm,0.8s,baz=320,slow=4.0,SNR=13
GERES PKKPbc **PKKPbc 18 07 08.2 -1.4**
comp=Z,1.5nm,1.0s,baz=132,slow=1.5,SNR=8.2
GERES PKPPKP **P'P'df 18 15 20.3 -1.4**
comp=Z,0.3nm,0.3s,baz=31,slow=5.9,SNR=6.0
GERES LR LR 18 34 50.3
comp=Z,5µm,18.0s,baz=298,slow=38
GEA0 GERESS Array S 91.66 38 *eP* **P 17 49 48.8 -0.4**
KIC Kosan Boka 91.78 83 *eP* **P 17 49 50.4 +0.1**
comp=Z,85nm,1.0s
GOPC GO Pecny, Ondr 91.79 36 *eP* **P 17 49 50.7 +1.0**
GOPC *ePP* **PP 17 53 29.0 +0.9**
GOPC *eSKS* **SKSac 18 00 26.5 +4.5**
GOPC *eSP* **SPn 18 02 03.2 +3.8**
GOPC *eSS* **SS 18 06 50.2 -6.7**
GOPC AMS AMS 18 33 40.0
comp=Z,5µm,19.2s
GOPC GO Pecny, Ondr 91.79 36 *eP* **P 17 49 50.7 +1.0**
GOPC *e* 17 53 29.0
GOPC *e* 18 02 03.2
GOPC *eSS* SS 18 06 50.2 -6.7
GOPC MLR MLR
comp=Z,5µm,19.2s
ABTA Abfaltersbach 91.88 40 *i pP* **P 17 49 52.1 +1.8**
comp=Z,16nm,1.1s,SNR=8.2
ABTA PKKPbc **PKKPbc 18 07 08.8 -0.1**
comp=Z,5.2nm,1.1s
KSP Ksiaz 92.19 35 *eP* **P 17 49 52.3 +0.8**
KSP *eS* **SKSac 18 00 26.1 +1.9**
KSP *eSS* **SS 18 07 05.0 +2.5**
KSP LMZ LR 18 29 02.1
comp=Z,5µm,22.5s
KSP Ksiaz 92.19 35 *eP* **P 17 49 52.3 +0.8**
KSP *eS* **SKSac 18 00 26.1 +1.9**
KSP *eSS* **SS 18 07 05.0 +2.5**
KSP MLR MLR
comp=Z,5µm,22.5s
UPC Upice 92.20 36 *eP* **P 17 49 53.0 +1.5**
UPC *ePP* **PP 17 53 31.9 +0.6**
UPC *eSKS* **SKSac 18 00 27.7 +3.4**
UPC *eSP* SPn 18 02 05.7 +1.6
UPC AMS AMS 18 36 50.0
comp=Z,7µm,16.9s
UPC Upice 92.20 36 *eP* **P 17 49 53.0 +1.5**
UPC *e* 17 53 31.9
UPC *e* 18 00 27.7
UPC *e* 18 02 05.7
UPC MLR MLR
comp=Z,7µm,16.9s
KBA Koelnbreinsper 92.25 39 *i PcP* **P 17 49 52.2 +0.2**
comp=Z,24nm,1.3s
DPC Dobruska-Polom 92.45 36 *eP* **P 17 49 53.4 +0.7**
DPC *ex* x 17 53 08.3
DPC *ePP* **PP 17 53 34.6 +1.3**
DPC *eSKS* **SKSac 18 00 28.1 +2.4**
DPC *eSP* SPn 18 02 07.6 +0.6
DPC *eSS* **SS 18 07 00.7 -5.7**
DPC AMS AMS 18 36 50.0
comp=Z,6µm,17.0s
DPC Dobruska-Polom 92.45 36 *eP* **P 17 49 53.4 +0.7**
DPC *e* 17 53 34.6
DPC *e* 18 00 28.1
DPC *e* 18 02 07.6
DPC *eSS* SS 18 07 00.7 -5.7
DPC MLR MLR
comp=Z,6µm,17.0s
MOA Molln 92.45 38 *i pP* **P 17 49 53.9 +1.1**
comp=Z,19nm,1.2s,SNR=11
MYKA Terra Mystica 92.63 40 *i pP* **P 17 49 55.2 +1.5**
comp=Z,13nm,1.1s
MYKA PKKPbc **PKKPbc 18 07 07.9 +0.9**
comp=Z,5.0nm,1.0s
KRLC Kraliky 92.84 36 *eP* **P 17 49 57.8 +3.2**
KRLC *ex* x 17 50 17.7
KRLC Kraliky 92.84 36 *eP* **P 17 49 57.8 +3.2**
VSL Villasalto 92.87 48 *eP* **P 17 49 53.5 -1.4**

	comp=Z,41nm,1.2s						
VSL				LR	LR		
	comp=Z,3µm,19.0s						
TMCR	Tamitsa	93.05	18	eP	P	17 49 55.0	-0.1
TMCR				pmax	pmax		
	comp=Z,17nm,1.2s						
YAK	Yakutsk	93.15	339	P	P	17 49 57.1	+1.4
	comp=Z,45nm,0.9s,baz=130,slow=2.2,SNR=21						
YAK				S	SKSac	18 00 27.3	-1.7
	comp=Z,2.3nm,0.4s,baz=58,slow=2.7,SNR=2.8						
YAK	Yakutsk	93.15	339	eP	P	17 49 55.6	0.0
	comp=Z,50nm,1.0s						
YAK				S	SKSac	18 00 27.3	-1.7
YAK				LR	LR		
	comp=Z,11µm,19.0s						
YAK	Yakutsk	93.15	339	eP	P	17 49 55.6	0.0
YAK				e*PP	sP	17 50 02.8	-0.2
YAK				e		17 53 38.6	
YAK				ePPP	PPP	17 55 42.3	
YAK				eS	SKSac	18 00 29.3	+0.3
YAK				e		18 01 04.3	
YAK				pmax	pmax		
	comp=Z,27nm,0.9s						
YAK				pmax	pmax		
	comp=N,6.0nm,1.4s						
YAK				pmax	pmax		
	comp=E,12nm,1.4s						
YAK				pmax	pmax		
	comp=Z,670nm,4.8s						
YAK				pmax	pmax		
	comp=N,153nm,4.1s						
YAK				pmax	pmax		
	comp=E,180nm,4.5s						
YAK				smax	smax		
	comp=N,1µm,5.4s						
YAK				smax	smax		
	comp=E,623nm,5.3s						
YAK				MLR	MLR		
	comp=Z,6µm,21.0s						
YAK				MLR	MLR		
	comp=N,15µm,21.0s						
YAK				MLR	MLR		
	comp=E,3µm,22.0s						
JAVS	Javornik	93.23	40	eP	P	17 49 58.0	+1.4
OBKA	Obir	93.24	40	i PcP	P	17 49 55.9	-0.7
	comp=E,19nm,1.2s						
OBKA				PKKPdf	PKKPdf	18 06 59.4	-3.7
	comp=E,5.4nm,1.4s						
CONA	Conrad Observa	93.36	38	i PcP	P	17 49 57.8	+0.7
	comp=E,21nm,1.5s,SNR=11						
MORC	Moravsky Berou	93.41	36	eP	P	17 49 55.9	-1.3
	comp=E,45nm,1.0s						
MORC	Moravsky Berou	93.41	36	eP	P	17 49 55.9	-1.3
MORC				pmax	pmax		
	comp=Z,45nm,1.0s						
SOKA	Soboth	93.46	39	i pP	P	17 49 59.0	+1.5
	comp=Z,31nm,1.4s						
SOKA				ePKKPbc	PKKPbc	18 07 05.6	+0.7
	comp=Z,4.9nm,1.0s						
ARSA	Arzberg	93.48	39	i pP	P	17 49 59.0	+1.4
	comp=Z,8.5nm,1.1s						
PERS	Pernice	93.53	39	eP	P	17 49 59.5	+1.6
OKC	Ostrava-Krasne	93.72	35	eP	P	17 49 59.9	+1.3
OKC				ePP	PP	17 53 43.4	+0.2
OKC				eSKS	SKSac	18 00 36.1	+3.4
OKC				eSP	SP	18 02 25.8	+5.8
OKC				eSS	SS	18 07 20.3	-4.2
OKC				AMS	AMS	18 37 40.0	
	comp=Z,4µm,17.0s						
OKC	Ostrava-Krasne	93.72	35	eP	P	17 49 59.9	+1.3
OKC				e		17 53 43.4	
OKC				e		18 00 36.1	
OKC				e		18 02 25.8	
OKC				eSS	SS	18 07 20.3	-4.2
OKC				MLR	MLR		
	comp=Z,4µm,17.0s						
VISS	Visnje	93.75	40	eP	P	17 50 00.3	+1.5
ZST	Bratislava	93.95	37	eP	P	17 50 00.3	+0.6
ZST				ePP	PP	17 53 44.9	-0.2
ZST	Bratislava	93.95	37⇑	eSKSp	SKSac	18 00 36.5	+2.5
ZST				eSS	SS	18 07 27.6	-0.3
ZST				eL	L	18 31 12.1	
ZST	Bratislava	93.95	37	eP	P	17 50 00.4	+0.7
ZST				pmax	pmax		
	comp=Z,466nm,3.0s						
MODS	Modra-Piesok	93.97	37	eP	P	17 50 00.8	+1.0
MODS				ePP	PP	17 53 43.5	-1.7
MODS	Modra-Piesok	93.97	37⇑	eSKSp	SKSac	18 00 36.3	+2.2
MODS				eSS	SS	18 07 31.2	+3.1
MODS	Modra-Piesok	93.97	37	eP	P	17 50 00.8	+1.0
MODS				e		17 53 43.5	
MODS				eS	SKSac	18 00 36.3	+2.2
MODS				eSS	SS	18 07 31.2	+3.1
BEL	Belsk	94.09	33	eP	P	17 49 59.4	-0.8
BEL				LMZ	LR	18 26 57.5	
	comp=Z,6µm,28.6s						
BEL	Belsk	94.09	33	eP	P	17 49 59.4	-0.8
BEL				MLR	MLR		
	comp=Z,6µm,28.6s						
NKL	Nikolayevsk	94.18	329	eP	P	17 50 00.0	-0.6
NKL				eS	SKSac	18 00 40.0	+5.0
NKL				pmax	pmax		
	comp=Z,69nm,1.2s						
NKL				pmax	pmax		
	comp=E,800nm,5.0s						
NKL				pmax	pmax		
	comp=Z,2µm,5.0s						
NKL				smax	smax		
	comp=N,2µm,11.0s						
NKL				smax	smax		
	comp=E,3µm,11.0s						
NKL				smax	smax		
	comp=Z,900nm,11.0s						
KUR	Kuril'sk	94.25	320d	iP	P	17 50 09.3	+8.2
KUR				pmax	pmax		
	comp=Z,54nm,0.6s						
KEST	Kesra	94.36	51	P	P	17 50 02.1	+0.2
	comp=Z,9.4nm,0.9s,baz=237,slow=6.5,SNR=5.9						
KEST				LR	LR	18 30 34.5	
	comp=Z,2µm,19.8s,baz=260,slow=34						
KEST	Kesra	94.36	51	eP	P	17 50 00.5	-1.4
	comp=Z,42nm,1.4s						
NRIK	Noril'sk	94.41	358	LR	LR	18 34 27.6	
	comp=Z,2µm,21.6s,baz=240,slow=37						
AQU	L'Aquila	94.41	44	PFAKE		17 50 10.0	+8.0
AQU				LR	LR		
	comp=Z,4µm,20.0s						
TYV	Tymovskoe	94.42	326	eP	P	17 50 01.7	0.0
TYV				pmax	pmax		
	comp=Z,17nm,1.7s						
OJC	Ojcow	94.43	35	eP	P	17 50 02.7	+0.9
OJC				ePP	PP	17 53 49.5	+0.8
OJC				eS	SKSac	18 00 38.2	+1.7
OJC				LMZ	LR	18 30 30.7	
	comp=Z,5µm,22.2s						
OJC	Ojcow	94.43	35	eP	P	17 50 02.3	+0.4
	comp=Z,15nm,1.1s						
OJC	Ojcow	94.43	35	eP	P	17 50 02.7	+0.9
OJC				e		17 53 49.5	
OJC				eS	SKSac	18 00 38.2	+1.7
OJC				MLR	MLR		
	comp=Z,5µm,22.2s						
VYHS	Vyhne	94.80	36	eP	P	17 50 04.0	+0.4
VYHS				ePP	PP	17 53 50.1	-1.6
VYHS	Vyhne	94.80	36⇑	eSKSp	SKSac	18 00 44.4	+5.8
VYHS				eSS	SS	18 07 39.4	-0.6
VYHS	Vyhne	94.80	36	eP	P	17 50 04.0	+0.4
VYHS				pmax	pmax		
	comp=Z,413nm,4.4s						
LANS	Liptovska Anna	94.81	36	eP	P	17 50 05.6	+1.9
LANS				ePP	PP	17 53 51.9	+0.1
LANS	Liptovska Anna	94.81	36	eP	P	17 50 05.6	+1.9
LANS				e		17 53 51.9	
NIE	Niedzica	95.13	35	eP	P	17 50 04.4	-0.7
NIE				eS	SKSac	18 00 42.8	+2.4
NIE				eSS	SS	18 07 47.8	+3.1
NIE				LMZ	LR	18 30 29.4	
	comp=Z,2µm,24.3s						
NIE	Niedzica	95.13	35	eP	P	17 50 04.4	-0.7
NIE				eS	SKSac	18 00 42.8	+2.4
NIE				eSS	SS	18 07 47.8	+3.1
NIE				MLR	MLR		
	comp=Z,2µm,24.3s						
NACGM	Naroch	95.23	28	eP	P	17 50 12.0	+6.6
NACGM				ePP	PP	17 53 52.0	-2.8
NACGM				eSKS	SKSac	18 00 44.0	+3.4
NACGM				ePS	SP	18 02 14.0	-22
NACGM				eSS	SS	18 07 35.0	-11
NACGM				eSSS	SSS	18 11 32.0	
NACGM				eLR	LR	18 24 26.0	
NACGM				LRM	MLR	18 33 21.0	
	comp=Z,8.1nm,20.0s						
URZ	Urewera	95.70	232	LR	LR	18 23 08.5	
	comp=Z,2µm,21.6s,baz=78,slow=29						
PSZ	Piszkesteto	95.70	37⇑	iP	P	17 50 09.7	+1.9
PSZ	Piszkesteto	95.70	37⇑	eP	P	17 50 09.4	+1.6
PSZ	Piszkesteto	95.70	37	eP	P	17 50 07.5	-0.3
	comp=Z,42nm,1.4s						
PSZ				LR	LR		
	comp=Z,4µm,19.0s						
PSZ	Piszkesteto	95.70	37	⇑P	P	17 50 09.7	+1.9
KECS	Kecovo	95.74	36	eP	P	17 50 10.1	+2.3
KECS	Kecovo	95.74	36	eP	P	17 50 10.1	+2.3
KECS				pmax	pmax		
	comp=Z,3.0nm,1.1s						
TOA1	Torodi Ar. Sit	95.83	75	eP	P	17 50 07.8	-1.1
TOA0	Torodi Ar. Sit	95.83	75	eP	P	17 50 07.5	-1.4
TORD	Torodi Ar. Bea	95.83	75	P	P	17 50 07.8	-1.1
	comp=Z,5.1nm,0.9s,baz=293,slow=4.9,SNR=20						
TORD				PKKP	PKKPbc	18 06 57.9	+0.2
	comp=Z,2.0nm,0.9s,baz=97,slow=2.0,SNR=7.5						
TORD				PKPPKP	P'P'df	18 15 10.9	-2.8
	comp=Z,1.6nm,1.2s,baz=177,slow=0.3,SNR=4.9						
TORD				LR	LR	18 29 44.4	
	comp=Z,6µm,21.9s,baz=300,slow=33						
MORH	Mˆ‡rˆ¡gy, Hung	95.86	38⇑	eP	P	17 50 09.2	+0.8
KLMR	Klimovskoe	96.02	19	eP	P	17 50 07.4	-1.4
KLMR				AMP		17 50 14.7	
	comp=Z,46nm,1.5s						
KLMR				ePP	PP	17 53 59.6	-1.0
KLMR				eS	SKSac	18 00 42.4	-2.1
KLMR				eS	SKSac	18 00 42.4	-2.1
KLMR				eSS	SS	18 07 57.7	+1.4
KLMR				eSS	SS	18 07 57.7	+1.4
KLMR				LQ	LQ	18 28 55.4	
KLMR				LQ	LQ	18 28 55.4	
KLMR				LR	LR	18 34 10.4	
KLMR				AMP		18 38 48.3	
	comp=Z,630nm,16.7s						
KLMR	Klimovskoe	96.02	19	eP	P	17 50 07.4	-1.4
KLMR				e		17 53 59.5	
KLMR				eS	SKSac	18 00 42.4	-2.1
KLMR				eSS	SS	18 07 57.6	+1.3
KLMR				pmax	pmax		
	comp=Z,46nm,1.5s						
CRVS	Cervenica-Dubn	96.05	35	eP	P	17 50 11.0	+1.7
CRVS				ePP	PP	17 53 59.5	-1.9
CRVS	Cervenica-Dubn	96.05	35	eP	P	17 50 11.0	+1.7
CRVS				e		17 53 59.5	
YUK	Yuzh-Kuril'sk	96.08	319c	iP	P	17 50 05.7	-3.8
YUK				e*PP	sP	17 50 15.7	-1.2
YUK				i		17 53 58.2	
YUK				i S	SKSac	18 00 40.9	-4.6
YUK				i SS	SS	18 08 02.2	+3.9
YUK				pmax	pmax		
	comp=Z,322nm,3.1s						
YUK				pmax	pmax		
	comp=Z,102nm,1.2s						
YUK				pmax	pmax		
	comp=E,87nm,1.1s						
YUK				pmax	pmax		
	comp=N,79nm,0.6s						
YUK				MLR	MLR		
	comp=Z,3µm,22.0s						
YUK				MLR	MLR		
	comp=N,2µm,18.0s						
YUK				MLR	MLR		
	comp=E,1µm,19.0s						
TAM	Tamanrasset	96.09	64	eP	P	17 50 09.4	-0.8
	comp=E,12nm,1.0s						
TAM				LR	LR		
	comp=Z,6µm,22.0s						
TAM	Tamanrasset	96.09	64	eP	P	17 50 09.4	-0.8
TAM				pmax	pmax		
	comp=Z,13nm,1.0s						
TAM				MLR	MLR		
	comp=Z,6µm,22.0s						
KWP	Kalwaria Pacla	96.33	34	eP	P	17 50 12.1	+1.6
KWP				LMZ	LR	18 23 41.0	
	comp=Z,5µm,37.0s						
KWP	Kalwaria Pacla	96.33	34	eP	P	17 50 12.1	+1.6
CLTB	Caltabellotta	96.41	48	PFAKE		17 50 20.0	+8.8
CLTB				LR	LR		
	comp=Z,2µm,19.0s						
YSS	Yuzh-Sakhalins	96.46	323	eP	P	17 50 11.7	+0.6
	comp=Z,60nm,1.3s						
YSS				LR	LR		
	comp=Z,3µm,19.0s						
YSS	Yuzh-Sakhalins	96.46	323⇑	eP	P	17 50 13.6	+2.5
YSS				e*SP	sP	17 50 24.0	+5.5
YSS				e		17 54 08.0	
YSS				e		18 00 50.0	
YSS				eS	S	18 01 34.6	+3.5
YSS				ePS	PS	18 02 56.0	+3.4
YSS				eSS	SS	18 08 03.0	-0.5
YSS				pmax	pmax		
	comp=Z,30nm,1.4s						
YSS				pmax	pmax		
	comp=N,20nm,1.5s						
YSS				pmax	pmax		
	comp=E,20nm,1.1s						
YSS				pmax	pmax		
	comp=Z,500nm,4.3s						
YSS				pmax	pmax		
	comp=N,400nm,5.1s						
UZH	Uzhgorod	96.66	35	eP	P	17 50 12.0	0.0
UZH				i		17 50 25.2	
UZH				i		17 54 05.6	
UZH				i		18 00 45.2	
UZH				eS	S	18 01 25.6	-7.2
UZH				i PS	PS	18 02 54.4	-0.3
SHEL	Horse Pasture	96.91	105	PFAKE		17 50 30.0	+16
SHEL				LR	LR		
	comp=Z,949nm,19.0s						
LVV	L'vov	96.93	33	eP	P	17 50 14.6	+1.4
LVV				e		17 54 09.4	
LVV				e		18 00 40.8	
LVV				eS	S	18 01 29.9	-5.2
LVV				eSS	SS	18 08 14.2	+4.3
CUC	Castrocucco	97.12	45	eP	P	17 50 13.1	-1.3
	comp=Z,14nm,1.4s						
CUC				LR	LR		
	comp=Z,3µm,20.0s						
VAE	Valguarnera	97.30	48	LR	LR	18 30 47.9	
	comp=Z,3µm,19.7s,baz=328,slow=33						
MATE	Matera	97.40	44⇓	iP	Pdif	17 50 30.3	+15
GRNR	Gornyy	97.71	328	eP	Pdif	17 50 17.1	+0.3
GRNR				pmax	pmax		
	comp=Z,42nm,1.0s						
DIVS	Divibare	97.77	40	eP	P	17 50 16.1	-1.2
	comp=Z,18nm,1.4s						
DRGR		97.92	36⇑	iP	Pdif	17 50 18.6	+0.7
DRGR		97.92	36	⇑P	Pdif	17 50 18.6	+0.7
BZS	Buzias	97.94	38⇑	iP	P	17 50 17.8	-0.1
BZS	Buzias	97.94	38	⇑P	P	17 50 17.8	-0.1
CEL	Celeste	97.98	46	PFAKE		17 50 30.0	+12
CEL				LR	LR		
	comp=Z,2µm,21.0s						
WDD	Wied Dalam	98.12	49	PFAKE		17 50 30.0	+11
WDD				LR	LR		
	comp=Z,3µm,19.0s						
TIP	Timpagrande	98.14	45	PFAKE		17 50 30.0	+11
TIP				LR	LR		
	comp=Z,4µm,21.0s						
SNZO	South Karori	98.30	229	PFAKE		17 50 30.0	+11
SNZO				LR	LR		
	comp=Z,3µm,19.0s						
ERM	Erimo	98.81	318	PFAKE		17 50 30.0	+8.2
ERM				LR	LR		
	comp=Z,4µm,21.0s						
BURAR	Bucovina Array	98.85	35⇓	iP	Pdif	17 50 30.0	+7.9
BURAR	Bucovina Array	98.85	35	⇓P	Pdif	17 50 30.1	+8.0
AK11	Malin Array Si	99.02	31	eP	Pdif	17 50 20.7	-1.8
KIEV	Kiev	99.03	31	eP	Pdif	17 50 22.1	-0.5
	comp=Z,44nm,2.0s						
KIEV				LR	LR		
	comp=Z,4µm,19.0s						
KIEV	Kiev	99.03	31⇓	eP	Pdif	17 50 22.2	-0.4
KIEV				pmax	pmax		
	comp=Z,19nm,2.0s						
AKASG	Malin Array Be	99.03	31	P	Pdif	17 50 22.3	-0.3
	comp=Z,1.4nm,0.7s,baz=290,slow=3.6,SNR=10						
AKASG				PKKPbc	PKKPbc	18 06 47.7	-2.2
	comp=Z,1.4nm,0.8s,baz=98,slow=2.1,SNR=7.9						
AKASG				LR	LR	18 39 23.0	
	comp=Z,3µm,18.0s,baz=325,slow=38						
AKASG	Malin Array Be	99.03	31	i P	Pdif	17 50 22.2	-0.4
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.6s						
AKBB	Malin Array Si	99.03	31	eP	Pdif	17 50 21.5	-1.1
	comp=Z,45nm,2.0s						
AKBB	Malin Array Si	99.03	31	eP	Pdif	17 50 21.5	-1.1
AKBB				pmax	pmax		
	comp=Z,45nm,2.0s						
TIR	Tirane	99.12	42	PFAKE		17 50 30.0	+6.7
TIR				LR	LR		
	comp=Z,4µm,20.0s						
MOS	Moscow	99.21	23	eP	Pdif	17 50 21.0	-2.3
MOS				eS	SKSac	18 00 55.7	-5.3
MOS				e		18 01 41.5	
MOS				pmax	pmax		
	comp=Z,51nm,1.8s						
MOS				MLR	MLR		
	comp=Z,9µm,22.0s						
MOS				MLR	MLR		
	comp=N,7µm,21.0s						
MOS				MLR	MLR		
	comp=E,6µm,22.0s						
OBN	Obninsk	99.26	24	PFAKE		17 50 40.0	+16
OBN				LR	LR		
	comp=Z,6µm,22.0s						
OBN	Obninsk	99.26	24⇓	eP	Pdif	17 50 24.3	+0.8
OBN				i S	SKSac	18 01 01.7	+0.4
OBN				i PS	PS	18 03 25.7	+3.2
OBN				pmax	pmax		
	comp=Z,50nm,1.7s						
OBN				MLR	MLR		
	comp=Z,6µm,21.0s						
ARR	Arges	99.83	37⇑	iP	Pdif	17 50 28.1	+1.7
DOPR	Dopca	99.92	36⇓	iP	Pdif	17 50 23.8	-2.9
ZEA	Zeya	99.95	334	eP	Pdif	17 50 26.0	-0.7
ZEA				e		17 54 38.0	
ZEA				e		18 01 08.0	
ZEA				pmax	pmax		
	comp=Z,600nm,6.0s						
ZEA				pmax	pmax		
	comp=Z,42nm,2.0s						
VOIR		100.03	37⇑	iP	Pdif	17 50 31.5	+4.2
VOIR		100.03	37	⇑P	Pdif	17 50 31.5	+4.2
SORM	Soroca	100.21	33⇓	iP	Pdif	17 50 29.7	+1.8
SORM	Soroca	100.21	33	⇓P	Pdif	17 50 29.7	+1.8
MLR	Muntele Rosu	100.51	36⇓	iP	Pdif	17 50 29.1	-0.4
MLR	Muntele Rosu	100.51	36	⇓P	Pdif	17 50 29.2	-0.3
VTS	Vitosha	100.56	40	eP	SKSac	18 01 13.1	+4.5
DZM	Mont Dzumac	100.59	250	ePP	PP	17 54 35.5	-2.1
	comp=Z,417nm,25.3s						
DZM				eSP	SP	18 03 34.3	-2.3
	comp=Z,3µm,26.2s						
DZM				eSS	SS	18 09 06.2	+2.2
	comp=Z,3µm,25.3s						
DZM	Mont Dzumac	100.59	250	eLR	LR	18 23 29.9	
	comp=Z,4µm,29.6s						
VRI	Vrincioaia	100.73	36⇓	iP	Pdif	17 50 40.2	+10
VRI	Vrincioaia	100.73	36	⇓P	Pdif	17 50 40.2	+10
KLR	Kul'dur	101.02	329	P	Pdif	17 50 31.2	-0.3
	comp=Z,0.1nm,0.7s,baz=29,slow=4.8,SNR=3.5						
KLR	Kul'dur	101.02	329⇓	eP	Pdif	17 50 33.0	+1.5
TEY	Ternei	101.08	324	eP	Pdif	17 50 32.0	+0.1
TEY				pmax	pmax		
	comp=Z,1µm,4.0s						
TEY				MLR	MLR		
	comp=N,7µm,18.0s						
TEY				MLR	MLR		
	comp=Z,2µm,16.0s						
KIS	Kishinev	101.17	34	ePP	PP	17 54 42.0	+1.6
KIS				i SKS		18 01 08.0	
KIS				i SKKS	SKKSac	18 01 32.0	-15
KIS	Kishinev	101.17	34	i PS	PS	18 03 40.0	-3.4
KIS	Kishinev	101.17	34	i PPS	PPS	18 04 28.0	
KIS				eSS	SS	18 09 04.0	-5.3
KIS				eLR	LR	18 25 00.0	
	comp=Z,4µm,24.0s						
BOD	Bodaibo	101.35	343	eP	Pdif	17 50 31.2	-1.6
BOD				e		17 54 42.0	
BOD				pmax	pmax		
	comp=Z,5.0nm,2.3s						
MMB	Musomiste	101.44	40	eP	SKSac	18 01 17.5	+4.8
PLD	Plovdiv	101.75	40	eP	SKSac	18 01 21.9	+7.9
SZH	Strazhica	101.82	38	eP	SKSac	18 01 20.6	+6.3
LPSR	Galich'ya Gora	102.06	25	eP	Pdif	17 50 35.3	-0.7
LPSR				pmax	pmax		
	comp=Z,9.0nm,1.0s						
VSR	Storozhevoye	103.19	26	eP	Pdif	17 50 40.6	-0.5
VSR				pmax	pmax		
	comp=Z,10.0nm,0.7s						
VSR				MLR	MLR		
	comp=Z,6µm,24.0s						
HNR	Honiara	103.65	264	PFAKE		17 51 00.0	+16
HNR				LR	LR		
	comp=Z,1µm,19.0s						
VRH	Novokhopyorsk	104.25	25	eP	Pdif	17 50 45.9	+0.1
VRH				pmax	pmax		
	comp=Z,10.0nm,0.8s						
VRH				MLR	MLR		
	comp=Z,9µm,24.0s						
ARU	Arti	104.95	13	PFAKE		17 51 00.0	+11
ARU				LR	LR		
	comp=Z,5µm,21.0s						
ARU	Arti	104.95	13	P	Pdif	17 50 41.9	-7.0
ARU				S	SKSac	18 01 20.4	-7.9
ARU				PS	PS	18 04 20.3	-2.4
ARU				MLR	MLR		
	comp=Z,6µm,28.0s						
MAJO	Matsushiro	104.99	316	ePKKPab	PKKPab	18 06 50.5	-0.7
MAJO				LR	LR		
	comp=Z,3µm,22.0s						
MJAR	Matsushiro Arr	104.99	316	PKKPab	PKKPab	18 06 50.5	-0.7
	comp=Z,2.3nm,1.0s,baz=240,slow=3.9,SNR=4.8						
MDJ	Mudanjiang	105.20	327	PFAKE		17 55 20.0	
MDJ				LR	LR		
	comp=Z,5µm,20.0s						
SIM	Simferopol'	105.31	33	P	Pdif	17 50 56.7	+6.0
SIM				e		17 55 12.0	
SIM				ePPP	PPP	17 57 34.0	
SIM				e		18 02 08.0	
SIM				ePS	PS	18 04 31.0	+4.0
SIM				ePPS	PPS	18 05 19.0	
SIM				eSS	SS	18 10 07.0	+0.7
SIM				eSSS	SSS	18 14 07.0	
SIM				pmax	pmax		
	comp=Z,570nm,13.0s						
SANT	Santorini	105.48	44	PFAKE		17 55 20.0	
SANT				LR	LR		
	comp=Z,2µm,20.0s						
QSPA	South Pole Qui	106.30	180	PFAKE		17 55 20.0	
QSPA				LR	LR		
	comp=Z,4µm,20.0s						
HIA	Hailar	106.41	335	PFAKE		17 55 20.0	
HIA				LR	LR		
	comp=Z,7µm,20.0s						
SBA	Scott Base	106.90	193	PFAKE		17 55 20.0	
SBA				LR	LR		
	comp=Z,6µm,21.0s						
ISP	Isparta	107.89	40	PFAKE		17 55 20.0	
ISP				LR	LR		
	comp=Z,3µm,19.0s						
CN2	Changchun	107.91	328	ePdif	Pdif	17 51 06.0	+3.7
CN2				PP	PP	17 55 31.9	+1.5
CN2				eSS	SS	18 10 46.4	+4.8
CN2				AMB	AMB		
	comp=Z,600nm,7.0s						
CN2				LR	LR		
	comp=Z,3µm,22.0s						
CN2				LR	LR		
	comp=Z,3µm,22.0s						
CN2				LR	LR		
	comp=Z,5µm,21.0s						
ANTO	Ankara	107.96	37	PFAKE		17 55 20.0	
ANTO				LR	LR		
	comp=Z,13µm,20.0s						
BR101	Keskin Array S	108.54	37	ePKiKP	PKiKP	17 55 11.2	+0.2
BR101				ePKKPbc	PKKPbc	18 06 21.4	-0.1
BRTR	Keskin Array B	108.54	37	PKiKP	PKiKP	17 55 11.2	+0.2
	comp=Z,1.4nm,0.8s,baz=216,slow=1.1,SNR=6.8						

BRTR PP **PP** 17 55 34.0 -1.5
comp=Z,2.6nm,1.1s,baz=271,slow=6.8,SNR=5.3
BRTR PKKPbc **PKKPbc** 18 06 21.4 -0.1
comp=Z,4.0nm,1.1s,baz=136,slow=3.0,SNR=11
BRTR PKKPab **PKKPdf** 18 06 34.1 -1.3
comp=Z,0.6nm,0.7s,baz=138,slow=6.0,SNR=3.8
SOC Sochi 109.11 31 *i* P **Pdif** **17 51 06.8 -0.8**
SOC *i* 17 55 39.2
SOC *e*PPP PPP 17 57 56.2
SOC *e* 18 01 45.4
SOC *e*PS **PS** **18 05 09.5 +3.5**
SOC *e*SS SS 18 10 51.0 -6.8
TLY Talaya 109.54 346 PFAKE 17 55 20.0
TLY LR LR
comp=Z,6µm,22.0s
TLY Talaya 109.54 346 *e*P **Pdif** **17 51 12.2 +2.8**
TLY *i* 17 55 40.7
TLY *e*PS **PS** **18 05 07.9 -2.2**
TLY *e*PPS PPS 18 06 13.3
TLY *e*SS SS 18 11 02.4 -0.5
TLY pmax pmax
comp=Z,34nm,3.4s
ZAA1 Zalesovo Array 109.91 358 *e*PKiKP **PKiKP** **17 55 13.9 +1.0**
ZALV Zalesovo Beam 109.91 358 PKiKP **PKiKP** **17 55 13.9 +1.0**
comp=Z,0.9nm,0.7s,baz=344,slow=3.1,SNR=4.0
ZALV PP **PP** **17 55 39.9 -4.5**
comp=Z,1.4nm,0.6s,baz=359,slow=6.2,SNR=4.6
ZALV PKKPbc **PKKPbc** **18 06 15.6 -1.8**
comp=Z,0.5nm,0.5s,baz=242,slow=3.1,SNR=4.7
ZALV PKKPab **PKKPab** **18 06 27.3 -2.4**
comp=Z,0.3nm,0.4s,baz=216,slow=4.6,SNR=3.8
BRVK Borovoye 110.18 7 PFAKE 17 55 30.0
BRVK LR LR
comp=Z,3µm,19.0s
KIV Kislovodsk 110.25 29 PFAKE 17 55 30.0
KIV LR LR
comp=Z,4µm,22.0s
KIV Kislovodsk 110.25 29 *i* P **Pdif** **17 51 10.9 -1.9**
KIV *i* 17 55 13.1
KIV *e* 17 55 46.2
KIV *e* 18 01 49.2
KIV *e*PS **PS** **18 05 14.2 -3.4**
KIV *e*SS SS 18 11 11.6 -1.6
KIV *e*SSS SSS 18 15 18.0
KIV pmax pmax
comp=Z,7.0nm,1.1s
KIV MLR MLR
comp=Z,4µm,21.0s
SNY Shenyang 110.29 328 Pdif **Pdif** **17 51 15.2 +2.3**
SNY SS SS 18 11 18.2 +4.6
SNY AMB AMB
comp=Z,740nm,6.3s
SNY LR LR
comp=Z,3µm,18.5s
SNY LR LR
comp=Z,7µm,20.6s
GUMO Guam 110.70 292 PFAKE 17 55 30.0
GUMO LR LR
comp=Z,1µm,19.0s
KSRS Korea Array 110.94 322 PKiKP **PKiKP** **17 55 16.9 +1.5**
comp=Z,1.1nm,0.7s,baz=42,slow=1.4,SNR=4.3
KSAR Wonju Array Be 110.97 322 PKiKP **PKiKP** **17 55 16.9 +1.4**
KSAR Wonju Array Be 110.97 322 PKIKP 17 55 16.9
CSS Mathiatis 111.45 41 PFAKE 17 55 30.0
CSS LR LR
comp=Z,445nm,21.0s
INCN Inchon 111.67 323 PFAKE 17 55 30.0
INCN LR LR
comp=Z,4µm,19.0s
ULN Ulaanbaatar 112.10 342 PFAKE 17 55 30.0
ULN LR LR
comp=Z,6µm,20.0s
ULN Ulaanbaatar 112.10 342 ⇓ *i*PKIKP **PKiKP** **17 55 18.8 +1.3**
ULN MLR MLR
comp=Z,6µm,21.0s
SONA0 Songino Array 112.32 342 *e*PKiKP **PKiKP** **17 55 18.3 +0.3**
SONA0 *e*PKKPbc **PKKPbc** **18 06 08.0 -1.5**
SONM Songino Array 112.32 342 PKiKP **PKiKP** **17 55 18.3 +0.3**
comp=Z,1.0nm,0.8s,baz=15,slow=0.2,SNR=4.9
SONM PP **PP** **17 55 55.6 -6.5**
comp=Z,3.2nm,1.2s,baz=46,slow=4.2,SNR=4.9
SONM PKKPbc **PKKPbc** **18 06 08.0 -1.5**
comp=Z,1.3nm,0.9s,baz=180,slow=3.5,SNR=6.2
KURK Kurchatov 113.16 2 PFAKE 17 55 30.0
KURK LR LR
comp=Z,21µm,21.0s
KURK Kurchatov 113.16 2 ⇓ *i*PKIKP **PKiKP** **17 55 20.1 +0.9**
KURK pmax pmax
comp=Z,11nm,1.2s
MAK Makhachkala 113.19 27 *e*P **Pdif** **17 51 21.9 -3.9**
MAK *i* 17 55 19.2
MAK *e* 17 56 07.8
MAK *e*SP SP 18 05 39.3 -2.5
MAK *e*SS **SS** **18 11 51.2 -0.7**
MAK pmax pmax
comp=Z,579nm,1.8s
DL2 Dalian 113.44 327 Pdif **Pdif** **17 51 27.4 +0.4**
DL2 PP **PP** **17 56 12.4 +2.1**
DL2 Dalian 113.44 327 SS SS 18 12 02.3 +6.6
DL2 AMB AMB
comp=Z,1µm,5.7s
DL2 LR LR
comp=N,4µm,18.0s
DL2 LR LR
comp=E,3µm,17.4s
DL2 LR LR
comp=Z,6µm,19.8s
SEM Semipalatinsk 113.50 1 *e*PP PP 17 56 11.9 +1.5
SEM *i* SP SP 18 05 45.4 +1.0
SEM *e*SS **SS** **18 11 58.0 +2.2**
SEM LR LR 18 45 34.2
comp=Z,2µm,21.2s
DGZ Jazzator, Alta 114.01 356 ⇑ *i*PKIKP **PKiKP** **17 55 22.5 +1.4**
DGZ MLR MLR
comp=Z,3µm,18.0s
GNI Garni 114.16 30 PFAKE 17 55 30.0 +8.3
GNI LR LR
comp=Z,4µm,21.0s
BJI Beijing 115.27 331 PKP **PKPdf** **17 55 27.0 +3.4**
BJI PP **PP** **17 56 25.5 +2.4**
BJI AMB AMB
comp=Z,2µm,4.9s
BJI LR LR
comp=Z,5µm,16.2s
BJT Baijiatuau 115.29 331 PFAKE 17 55 40.0 +16
BJT LR LR
comp=Z,6µm,20.0s
PMG Port Moresby 115.88 267 PFAKE 17 55 40.0 +15
PMG LR LR
comp=Z,2µm,19.0s
ZSN Zaisan 116.40 357 *e*PP PP 17 56 33.0 +2.3
ZSN *i* SP SP 18 06 12.6 +1.9
HHC Hu-ho-hao-te 116.61 335 *e*PKP **PKPdf** **17 55 28.6 +2.3**
HHC PP **PP** **17 56 37.0 +4.4**
HHC SS SS 18 12 44.1 +6.9
HHC AMB AMB
comp=Z,1µm,8.8s
HHC LR LR
comp=Z,6µm,20.2s
HHC LR LR
comp=Z,5µm,18.5s
HHC LR LR
comp=Z,7µm,20.5s
MAKZ Makanchi 117.11 360 *e*PKPdf **PKPdf** **17 55 26.9 -0.1**
MAKZ Makanchi 117.11 360 *e*PKiKP **PKiKP** **17 55 26.9 -0.1**
MK31 Makanchi Array 117.13 359 *e*PKPdf **PKPdf** **17 55 27.4 +0.3**
MK31 Makanchi Array 117.13 359 *e*PKiKP **PKPdf** **17 55 27.4 +0.3**
MK32 Makanchi Array 117.13 359 *e*PKPdf **PKPdf** **17 55 26.2 -0.8**
MKAR Makanchi Array 117.13 359 PKP **PKPdf** **17 55 26.2 -0.8**
comp=Z,1.8nm,0.8s,baz=17,slow=2.0,SNR=12
MKAR PKKPbc **PKKPbc** **18 05 49.5 -3.4**
comp=Z,1.5nm,0.9s,baz=155,slow=1.2,SNR=7.7
MKAR Makanchi Array 117.13 359 *e*PKPdf **PKPdf** **17 55 26.6 -0.5**
MKAR PKKPbc **PKKPbc** **18 05 49.5 -3.4**
MK01 Makanchi Array 117.15 359 *e*PKPdf **PKPdf** **17 55 27.0 -0.1**
CAN Canberra 117.53 238 PFAKE 17 55 40.0 +12
CAN LR LR
comp=Z,2µm,20.0s
BTLS Baital 118.50 6 *i* PKP **PKPdf** **17 55 30.8 +1.1**
comp=Z,35nm,1.2s
BTLS LR LR 18 48 51.4
comp=Z,2µm,18.6s
TAU Tasmania Unive 118.64 230 PFAKE 17 55 40.0 +10
TAU LR LR
comp=Z,3µm,19.0s

CTAO Charters Tower 118.75 256 PFAKE 17 55 40.0 +9.2
CTAO LR LR
comp=Z,2µm,19.0s
TDK Taldyqorghan 118.86 3 *e*PP PP 17 56 49.6 +1.9
TDK *e*SS SS 18 13 08.5 +3.1
TDK LR LR 18 48 59.4
comp=Z,7µm,19.4s
TIY Taiyuan 118.86 332 PKP **PKPdf** **17 55 35.1 +4.4**
TIY AMB AMB
comp=Z,1µm,6.5s
TIY LR LR
comp=Z,3µm,13.8s
TIY LR LR
comp=Z,6µm,16.1s
TSUM Tsumeb 119.34 103 PFAKE 17 55 40.0 +7.9
TSUM LR LR
comp=Z,2µm,19.0s
SSE Sheshan 119.35 321 PKP **PKPdf** **17 55 32.0 +0.3**
SSE AMB AMB
comp=Z,290nm,6.5s
SSE LR LR
comp=Z,1µm,18.8s
SSE LR LR
comp=Z,1µm,19.2s
WMQ Urumqi 119.84 355 PKP **PKPdf** **17 55 33.1 +0.7**
WMQ PP **PP** **17 56 58.1 +3.5**
WMQ SKS **SKSdf** **18 02 42.6 -1.5**
WMQ SKKS **SKKSac** **18 03 51.5 -4.0**
WMQ SS **SKKSdf** **18 13 25.1 -0.3**
WMQ AMB AMB
comp=Z,2µm,9.3s
WMQ LR LR
comp=Z,11µm,30.1s
WMQ LR LR
comp=Z,6µm,26.7s
WMQ LR LR
comp=Z,9µm,26.7s
KUU Kurty 119.84 4 *i* PKP **PKPdf** **17 55 33.2 +0.8**
comp=Z,36nm,1.7s
KUU LR LR 18 49 15.3
comp=Z,1µm,18.6s
BRLS Borolday 119.92 10 *e*PKP **PKPdf** **17 55 34.7 +2.1**
comp=Z,6.1nm,1.1s
BRLS *e*SS SS 18 13 24.7 +5.4
NJ2 Nanjing 120.02 324 *e*PKP **PKPdf** **17 55 35.5 +2.5**
NJ2 SKS **SKSdf** **18 02 47.6 +2.9**
NJ2 AMB AMB
comp=Z,420nm,6.5s
NJ2 LR LR
comp=Z,3µm,20.1s
NJ2 LR LR
comp=Z,3µm,19.5s
USP Ospenovka 120.31 6 P **PKPdf** **17 55 35.1 +1.8**
SNR=8.4
AAA Alma-Ata 120.56 4 *e*PKP **PKPdf** **17 55 35.6 +1.8**
comp=Z,98nm,1.2s
AAA LR LR 18 50 22.5
comp=Z,1µm,20.3s
BMNS Besmoynak 120.57 5 *i* PKP **PKPdf** **17 55 35.4 +1.4**
comp=Z,71nm,1.2s
CHM Chimkent 120.57 10 *e*PKP **PKPdf** **17 55 35.4 +1.6**
comp=Z,167nm,0.8s
CHM LR LR 18 50 26.9
comp=Z,2µm,21.2s
MDOK Medeo 120.62 4 *e*PKP **PKPdf** **17 55 34.9 +0.9**
comp=Z,70nm,1.2s
MDOK LR LR 18 50 15.4
comp=Z,2µm,22.1s
COEN Coen 120.66 263 *e*PKPdf **PKPdf** **17 55 34.0 -0.6**
UZB Uzynbulak 120.73 2 *i* PKP **PKPdf** **17 55 35.5 +1.3**
comp=Z,74nm,1.3s
UZB *i* PP **PP** **17 57 02.6 +1.8**
FRU Bishkek 120.75 6 *e*PKIKP **PKPdf** **17 55 34.0 -0.1**
FRU MLR MLR
comp=E,5µm,20.0s
TKM2 Tokmak 2 120.75 5 P **PKPdf** **17 55 34.1 -0.2**
SNR=9.4
SATY Saty 120.79 3 *e*PKP **PKPdf** **17 55 35.5 +1.1**
comp=E,112nm,1.7s
SATY *i* PP **PP** **17 57 02.9 +1.7**
SATY LR LR 18 49 37.4
comp=E,2µm,19.5s
IUG Iuzhnay 120.81 10 *e*PKP **PKPdf** **17 55 35.5 +1.2**
comp=E,107nm,1.3s
IUG *i* PP **PP** **17 57 02.9 +1.5**
IUG LR LR 18 49 15.3
comp=E,2µm,17.7s
EKS2 Erkin-Say 120.83 7 P **PKPdf** **17 55 35.3 +0.8**
SNR=13
AAK Ala-Arcba 120.93 6 P **PKPdf** **17 55 36.4 +1.7**
SNR=5.8
AAK Ala-Arcba 120.93 6 *e*PKPdf **PKPdf** **17 55 35.2 +0.5**
AAK LR LR
comp=Z,7µm,21.0s
AAK Ala-Arcba 120.93 6 P **PKPdf** **17 55 35.3 +0.7**
AAK Ala-Arcba 120.93 6 *e*PKIKP **PKPdf** **17 55 35.2 +0.5**
AAK MLR MLR
comp=Z,7µm,21.0s
UCH Uchtor 121.33 6 P **PKPdf** **17 55 36.3 +0.4**
SNR=11
AML Almayashu 121.34 7 P **PKPdf** **17 55 36.2 +0.4**
SNR=7.0
ULHL Ulahol 121.47 5 P **PKPdf** **17 55 37.9 +2.1**
SNR=16
KZA Kyzart 121.56 5 P **PKPdf** **17 55 37.9 +1.7**
SNR=9.1
KDJ Kajisay 121.65 4 *e*PKPdf **PKPdf** **17 55 36.0 -0.1**
GYB3 ALIBECK ARRAY 121.66 22 *e*PKPdf **PKPdf** **17 55 36.3 +0.3**
GYB4 ALIBECK ARRAY 121.66 22 *e*PKPdf **PKPdf** **17 55 36.3 +0.3**
GYA2 ALIBECK ARRAY 121.67 22 *e*PKPdf **PKPdf** **17 55 36.5 +0.4**
GYB2 ALIBECK ARRAY 121.67 22 *e*PKPdf **PKPdf** **17 55 36.1 0.0**
GEYT Alibeck 121.67 22 PKP **PKPdf** **17 55 35.6 -0.4**
comp=Z,6.8nm,0.7s,baz=302,slow=2.8,SNR=17
GEYT PKKPbc **PKKPbc** **18 05 35.7 -0.4**
comp=Z,5.0nm,1.1s,baz=174,slow=1.4,SNR=9.7
GYA0 ALIBECK ARRAY 121.67 22 *e*PKPdf **PKPdf** **17 55 36.8 +0.7**
GYA0B ALIBECK ARRAY 121.67 22 *e*PKPdf **PKPdf** **17 55 36.5 +0.5**
GYB5 ALIBECK ARRAY 121.68 22 *e*PKPdf **PKPdf** **17 55 36.3 +0.2**
GYA1 ALIBECK ARRAY 121.68 22 *e*PKPdf **PKPdf** **17 55 36.4 +0.3**
GYB1 ALIBECK ARRAY 121.68 22 *e*PKPdf **PKPdf** **17 55 36.4 +0.3**
GTA Gaotai 121.94 343 *e*PKP **PKPdf** **17 55 36.8 +0.1**
GTA PP **PP** **17 57 12.8 +3.6**
GTA SKKS 18 04 05.6
GTA SS **SS** **18 13 48.5 +2.9**
GTA AMB AMB
comp=Z,560nm,8.1s
GTA LR LR
comp=Z,6µm,21.6s
GTA LR LR
comp=Z,3µm,19.7s
GTA LR LR
comp=Z,7µm,20.2s
TARG Taragay, Kyrgy 122.09 3 *e*PKPdf **PKPdf** **17 55 37.5 +0.3**
NRN Naryn 122.26 5 *e*PKPdf **PKPdf** **17 55 37.9 +0.4**
NRN Naryn 122.26 5 *e*PKIKP **PKPdf** **17 55 37.9 +0.4**
SUR Sutherland 123.13 118 PFAKE 17 55 50.0 +11
SUR LR LR
comp=Z,5µm,20.0s
TATO Taipei 123.39 316 PFAKE 17 55 50.0 +10
TATO LR LR
comp=Z,2µm,19.0s
XAN Xi'an 123.49 333 PKP **PKPdf** **17 55 39.1 -0.6**
XAN SKS **SKSdf** **18 02 45.9 -5.4**
XAN SKKS **SKKSac** **18 04 13.6 -5.9**
XAN AMB AMB
comp=Z,1µm,7.7s
XAN LR LR
comp=Z,3µm,18.1s
XAN LR LR
comp=Z,5µm,17.3s
YHNB Yeheng 123.67 316 PFAKE 17 55 50.0 +10
YHNB LR LR
comp=Z,3µm,20.0s
WHN Wuhan 123.67 326 PKP **PKPdf** **17 55 40.5 +0.5**
WHN PP **PP** **17 57 24.8 +3.6**
WHN SKKS 18 04 22.7
WHN SS **SS** **18 14 08.7 +0.5**
WHN LR LR
comp=Z,5µm,16.6s
WHN LR LR
comp=Z,6µm,15.3s
WHN LR LR
comp=Z,11µm,17.5s
STKA Stephens Creek 123.70 242 PKP **PKPdf** **17 55 39.8 -0.2**
comp=Z,15nm,0.9s,baz=16,slow=1.2,SNR=24
STKA Stephens Creek 123.70 242 *e*PKPdf **PKPdf** **17 55 40.4 +0.4**

LZH Lanzhou 123.72 338 ⇑ PKP **PKPdf** **17 55 37.4 -2.8**
LZH sPKP 17 55 51.0
LZH PP **PP** **17 57 23.2 +1.8**
LZH AMB AMB
comp=Z,3µm,10.0s
LZH LR LR
comp=Z,9µm,17.8s
LZH LR LR
comp=Z,8µm,17.8s
LZH LR LR
comp=Z,12µm,19.1s
KSH Kashi 124.16 5 PKP **PKPdf** **17 55 43.2 +2.3**
KSH PP **PP** **17 57 28.8 +4.8**
KSH SKS **SKSdf** **18 02 51.0 -1.6**
KSH AMB AMB
comp=Z,2µm,5.9s
KSH LR LR
comp=Z,2µm,15.1s
KSH LR LR
comp=Z,3µm,19.4s
BAKI Biak 124.21 280 PKP **PKPdf** **17 55 43.2 +1.7**
SSLB Suanglung 124.54 315 *e*PKPdf **PKPdf** **17 55 42.8 +0.9**
QZH Quanzhou 125.31 318 ⇑ *e*PKP **PKPdf** **17 55 46.0 +2.7**
QZH AMB AMB
comp=Z,550nm,6.2s
QZH LR LR
comp=Z,1µm,21.0s
QZH LR LR
comp=Z,3µm,17.0s
QZH LR LR
comp=Z,2µm,20.8s
ENH Enshi 126.38 330 *e*PKPdf **PKPdf** **17 55 45.4 +0.1**
ENH LR LR
comp=Z,4µm,20.0s
CASY Casey 126.57 194 PFAKE 17 56 00.0 +16
CASY LR LR
comp=Z,886nm,22.0s
RAYN Ar Rayn 126.97 43 *e*PKPdf **PKPdf** **17 55 46.5 -0.1**
RAYN LR LR
comp=Z,3µm,20.0s
BOSA Boshof 127.01 114 PKP **PKPdf** **17 55 46.5 -0.1**
comp=Z,20nm,0.9s,baz=284,slow=1.6,SNR=21
LBTB Lobatse 127.27 109 *e*PKPdf **PKPdf** **17 55 48.6 +1.5**
LBTB Lobatse 127.27 109 *e*PKIKP **PKPdf** **17 55 48.6 +1.5**
MAW Mawson 127.39 171 PKP **PKPdf** **17 55 46.3 +0.4**
comp=Z,23nm,0.9s,baz=275,slow=3.2,SNR=16
MAW Mawson 127.39 171 *e*PKPdf **PKPdf** **17 55 46.9 +1.0**
MBAR Mbarara 127.56 78 PFAKE 17 56 00.0 +12
MBAR LR LR
comp=Z,723nm,22.0s
BBOO Buckleboo 128.34 241 *e*PKPdf **PKPdf** **17 55 49.9 +1.0**
CD2 Chengdu 128.36 336 PKP **PKPdf** **17 55 49.2 +0.1**
CD2 sPKP 17 55 55.0
CD2 SKS **SKSdf** **18 03 00.6 +0.1**
CD2 SKKS **SKKSac** **18 04 48.4 -2.1**
CD2 SS **SS** **18 15 07.9 +1.3**
CD2 AMB AMB
comp=Z,1µm,6.4s
CD2 LR LR
comp=Z,6µm,21.9s
CD2 LR LR
comp=Z,7µm,23.4s
CD2 LR LR
comp=Z,5µm,24.3s
FAKI Fak Fak 128.41 279 *e*PKPdf **PKPdf** **17 55 51.2 +1.7**
SWI Sorong 128.66 282 PKP **PKPdf** **17 55 50.7 +0.7**
LSZ Lusaka 128.78 97 *e*PKPdf **PKPdf** **17 55 51.1 +0.8**
LSZ LR LR
comp=Z,2µm,19.0s
LSZ Lusaka 128.78 97 *e*PKIKP **PKPdf** **17 55 51.1 +0.8**
LSZ MLR MLR
comp=Z,2µm,19.0s
NIL Nilore 129.63 9 *e*PKPdf **PKPdf** **17 55 51.3 -0.1**
NIL LR LR
comp=Z,4µm,21.0s
NIL Nilore 129.63 9 *e*PKIKP **PKPdf** **17 55 51.3 -0.1**
NIL MLR MLR
comp=Z,4µm,21.0s
WR1 Warramunga Arr 129.87 257 *e*PKPdf **PKPdf** **17 55 52.6 +0.5**
WRA Warramunga Arr 129.87 257 PKP **PKPdf** **17 55 52.6 +0.5**
comp=Z,32nm,1.1s,baz=78,slow=1.8,SNR=49
WRA SKPbc SKPbc 17 59 19.1 +5.1
comp=Z,7.0nm,1.4s,baz=79,slow=3.9,SNR=6.1
WRA SKKPbc **SKKPbc** **18 08 48.4 -7.6**
comp=Z,0.8nm,0.9s,baz=274,slow=2.0,SNR=4.2
AS01 Alice Springs 130.44 253 *e*PKPdf **PKPdf** **17 55 53.0 -0.1**
AS31 Alice Springs 130.49 253 *e*PKPdf **PKPdf** **17 55 53.3 +0.1**
ASAR Alice Springs 130.49 253 PKP **PKPdf** **17 55 53.0 -0.2**
comp=Z,22nm,1.1s,baz=104,slow=2.0,SNR=14
ASAR PP **PP** **17 58 05.3 -2.6**
comp=Z,1.6nm,1.0s,baz=83,slow=2.9,SNR=4.1
ASAR SKPbc **SKPbc** **17 59 19.6 +3.4**
comp=Z,3.8nm,1.1s,baz=90,slow=4.6,SNR=5.1
ASAR SKKPbc **SKKPbc** **18 08 45.1 -9.0**
comp=Z,1.2nm,0.9s,baz=266,slow=1.8,SNR=5.4
DAV Davao City (W) 130.59 295 ⇑ *i*P **PKPdf** **17 55 52.7 -0.9**
DAV Davao City (W) 130.59 295 PFAKE 17 56 10.0 +16
DAV LR LR
comp=Z,787nm,19.0s
GYA Guiyang 130.92 330 Pdif **Pdif** **17 52 45.0 -0.2**
GYA PKP **PKiKP** **17 55 54.7 -0.3**
GYA PKS **PKSdf** **17 59 28.9 -2.0**
GYA SKKS 18 05 04.4
GYA SS **SS** **18 15 40.2 +1.6**
GYA AMB AMB
comp=Z,160nm,7.9s
GYA LR LR
comp=Z,3µm,19.9s
GYA LR LR
comp=Z,2µm,20.8s
GYA LR LR
comp=Z,4µm,18.8s
DHRM DHARAMSHALA 131.39 6 *e*P **PKPdf** **17 55 54.2 -0.9**
DHRM IAMs_20 IAMs_20 18 48 59.7
comp=Z,4µm,26.8s
NAZ Nazwa, Dubai 131.77 32 P **PKPdf** **17 55 56.4 +0.8**
SNR=7.1
MTN Manton Dam 131.97 267 *e*PKPdf **PKPdf** **17 55 56.0 -0.1**
UOSS Minazif 132.08 32 *e*PKPdf **PKPdf** **17 55 55.6 -0.6**
UOSS Minazif 132.08 32 P **PKPdf** **17 55 56.1 -0.1**
HATD Hatta, Dubai 132.14 32 P **PKPdf** **17 55 56.5 +0.2**
SNR=7.0
ASHO Ashiyiah 132.22 32 P **PKPdf** **17 55 56.9 +0.4**
SNR=6.2
AAI Ambon 132.49 280 PKP **PKPdf** **17 55 59.2 +2.0**
SMLA Simla 132.59 5 *e*P **PKPdf** **17 55 57.0 +0.1**
LSA Lhasa 133.27 348 *e*PKPdf **PKPdf** **17 55 58.8 -0.2**
LSA LR LR
comp=Z,4µm,21.0s
LSA Lhasa 133.27 348 *e*PKIKP **PKPdf** **17 55 58.8 -0.2**
LSA MLR MLR
comp=Z,4µm,21.0s
NLAI Namlea 133.38 281 PKP **PKPdf** **17 55 58.3 -0.6**
DDI Dehra Dun 133.46 4 *e*P **PKPdf** **17 55 57.6 -1.2**
KMBO Kilima Mbogo 133.83 75 PKP **PKPdf** **17 56 01.8 +1.7**
comp=Z,1.1nm,0.3s,baz=228,slow=3.3,SNR=11
KMBO Kilima Mbogo 133.83 75 *e*PKPdf **PKPdf** **17 56 00.1 0.0**
KMBO LR LR
comp=Z,5µm,20.0s
KMBO Kilima Mbogo 133.83 75 *e*PKIKP **PKPdf** **17 56 00.1 0.0**
KMBO MLR MLR
comp=Z,5µm,20.0s
KMI Kunming 133.87 333 PKP **PKPdf** **17 55 59.0 -0.9**
KMI sPKP 17 56 03.3
KMI PP **PP** **17 58 30.4 +2.3**
KMI PKS **PKSdf** **17 59 33.6 -3.0**
KMI SKS **SKSdf** **18 03 12.8 +1.7**
KMI SKKS **SKKSac** **18 05 26.5 +1.5**
KMI AMB AMB
comp=Z,2µm,6.3s
KMI LR LR
comp=Z,2µm,16.4s
KMI LR LR
comp=Z,2µm,19.9s
KMI LR LR
comp=Z,4µm,23.4s
SANI Sanana 134.01 283 PKP **PKPdf** **17 55 57.5 -2.6**
SANI PKP **PKiKP** **17 56 00.2 -1.2**
SANI PKP **pPKPdf** **17 56 03.1 -2.6**
KMSI Cibinong 134.88 288 PKP **PKPdf** **17 55 59.2 -2.5**
QIZ Qiongzhong 135.13 321 PKP **PKPdf** **17 56 02.2 +0.1**
QIZ PP **PP** **17 58 38.4 +2.0**
QIZ SS SS 18 16 32.7 +2.5
QIZ LR LR
comp=Z,2µm,18.6s

QIZ				LR	LR		
	comp=Z,2µm,20.6s						
QIZ				LR	LR		
	comp=Z,3µm,17.7s						
QIZ	**Qiongzhong**	**135.13**	**321**	PFAKE		17 56 10.0	+7.9
QIZ				LR	LR		
	comp=Z,3µm,19.0s						
LUWI	**Luwuk**	**136.62**	**286**	PKP	**PKPdf**	**17 56 02.5**	**-2.5**
SHL	**Shillong**	**137.11**	**346**	*e*P	**PKPdf**	**17 56 04.8**	**-1.0**
SHL				IAmb	IAmb	17 56 08.1	
APSI	**Ampana**	**137.60**	**287**	PKP	**PKPdf**	**17 56 04.3**	**-2.5**
APSI				PKP	**PKiKP**	**17 56 08.4**	**-0.3**
MYLDM	**Lahad Datu**	**137.63**	**297**	*e*PKPdf	**PKPdf**	**17 56 07.4**	**+0.6**
KDI	**Kendari**	**137.83**	**282**	PKP	**PKPdf**	**17 56 04.7**	**-2.5**
SOEI	**Soe**	**137.92**	**274**	PKP	**PKPdf**	**17 56 03.6**	**-3.9**
BBSI	**Bau Bau**	**138.37**	**280**	PKP	**PKPdf**	**17 56 05.7**	**-2.5**
BATI	**Baumata**	**138.61**	**273**	PKP	**PKPdf**	**17 56 11.4**	**+2.8**
	comp=Z,8.7nm,0.5s,baz=56,slow=3.6,SNR=5.8						
BATI	**Baumata**	**138.61**	**273**	PKP	**PKPdf**	**17 56 06.1**	**-2.5**
MPSI	**Mapaga**	**138.68**	**290**	PKP	**PKPdf**	**17 56 06.9**	**-1.9**
BHJ	**Bhuj**	**138.94**	**17**	*e*P	**PKPdf**	**17 56 08.1**	**-0.9**
BHJ				IAMs_20	IAMs_20	18 49 16.6	
	comp=Z,4µm,33.0s						
KKM	**Kota Kinabalu**	**139.10**	**300**	PFAKE		17 56 20.0	+10
KKM				LR	LR		
	comp=Z,2µm,22.0s						
BOK	**Bokaro**	**139.85**	**354**	*e*P	**PKPdf**	**17 56 08.6**	**-2.1**
BOK				IAMs_20	IAMs_20	18 58 09.7	
	comp=Z,3µm,21.2s						
CMAI	**Chiengmai2**	**140.03**	**334**	P	PKPpre	17 56 03.4	
	comp=Z,55µmcomp=Z,709nm,1.7s						
PAYA	**Payao**	**140.18**	**332**	P	**PKPdf**	**17 56 12.5**	**+1.1**
PAYA	**Payao**	**140.18**	**332**	P	**PKPdf**	**17 56 12.5**	**+1.1**
	comp=Z,6.7nm,1.1s,comp=Z,102nm						
BNSI	**Bone**	**140.33**	**283**	PKP	**PKPdf**	**17 56 09.3**	**-2.5**
BHPL	**Bhopal**	**140.42**	**6**	*e*P	**PKPdf**	**17 56 10.1**	**-1.7**
BHPL				IAmb	IAmb	17 56 13.8	
	comp=Z,77nm,1.6s						
BSSI	**Bau Bau, Buton**	**140.54**	**280**	PKP	**PKPdf**	**17 56 09.7**	**-2.5**
BKSI	**Bulukumba**	**140.62**	**282**	PKP	**PKPdf**	**17 56 09.9**	**-2.4**
KAPI	**Kappang**	**140.87**	**282**	PFAKE		17 56 30.0	+17
KAPI				LR	LR		
	comp=Z,1µm,21.0s						
CMMT	**Chiang Mai**	**141.06**	**333**	P	PKPpre	17 56 08.0	
	comp=Z,1µmcomp=Z,26nm,2.5s						
CHTO	**Chiang Mai**	**141.06**	**333**	P	PKPpre	17 56 09.0	
	comp=Z,6µmcomp=Z,85nm,2.0s						
CHTO	**Chiang Mai**	**141.06**	**333**	PFAKE		17 56 30.0	+17
CHTO				LR	LR		
	comp=Z,4µm,19.0s						
CHTO	**Chiang Mai**	**141.06**	**333**	P	**PKPdf**	**17 56 12.1**	**-0.9**
	SNR=10						
SGKI	**Sangatta, Kali**	**141.12**	**290**	PKP	**PKPdf**	**17 56 10.8**	**-2.5**
CM31	**Chiang Mai Arr**	**141.38**	**333**	*e*PKPdf	**PKPdf**	**17 56 13.5**	**-0.1**
CM31	**Chiang Mai Arr**	**141.38**	**333**	P	**PKPdf**	**17 56 13.0**	**-0.5**
CMAR	**Chiang Mai Arr**	**141.38**	**333**	PKhKP	PKPpre	17 56 08.2	
	comp=Z,0.9nm,0.7s,baz=18,slow=3.5,SNR=6.7						
CMAR				PKP	**PKPdf**	**17 56 12.9**	**-0.7**
	comp=Z,9.7nm,1.0s,baz=342,slow=0.9,SNR=30						
CM01	**Chiang Mai Arr**	**141.41**	**333**	*e*PKPpre	PKPpre	17 56 07.3	
BASI	**Baing, Sumba**	**141.56**	**274**	PKP	**PKPdf**	**17 56 15.5**	**+1.5**
PHIT	**Phitsanulok**	**141.81**	**330**	P	**PKPdf**	**17 56 15.0**	**+0.7**
PHIT	**Phitsanulok**	**141.81**	**330**	P	**PKPdf**	**17 56 15.0**	**+0.7**
	comp=Z,24nm,1.0s,comp=Z,197nm						
PBKT	**Sadao Pong**	**142.07**	**329**	P	**PKPdf**	**17 56 12.9**	**-1.9**
	comp=Z,72nm,1.9s,comp=Z,1µm						
BKB	**Balikpapan**	**142.08**	**290**	PKP	**PKPdf**	**17 56 12.4**	**-2.5**
CHAI	**Chaiyaphum**	**142.11**	**327**	P	**PKPdf**	**17 56 14.2**	**-0.7**
WBSI	**Waikabubak, Su**	**142.56**	**276**	PKP	**PKPdf**	**17 56 12.8**	**-3.0**
WBSI				PKP	**PKPdf**	**17 56 13.3**	**-2.5**
NGP	**Nagpur**	**142.63**	**4**	*e*P	**PKPdf**	**17 56 14.2**	**-1.6**
NGP				*e*x	x	17 59 21.0	
KBKI	**Kotabaru**	**143.57**	**287**	PKP	PKPbc	17 56 15.5	+0.6
KBKI				PKP	PKPbc	17 56 15.5	+0.6
MBWA	**Marble Bar**	**143.59**	**256**	*e*PKPpre	PKPpre	17 56 13.0	
MBWA				LR	LR		
	comp=Z,3µm,20.0s						
MBWA	**Marble Bar**	**143.59**	**256**	P	PKPbc	17 56 14.4	-0.4
MTKI	**Muara Teweh, K**	**143.73**	**292**	PKP	PKPbc	17 56 15.5	+0.1
NAYO	**Nakonayok**	**143.78**	**326**	P	**PKPdf**	**17 56 17.4**	**-0.5**
	comp=Z,127nm,2.4s,comp=Z,5µm						
NWAO	**Narrogin (SRO)**	**143.83**	**236**	PKP	**PKPdf**	**17 56 16.9**	**-0.6**
	comp=Z,33nm,1.0s,baz=113,slow=4.3,SNR=4.7						
NWAO	**Narrogin (SRO)**	**143.83**	**236**	PFAKE		17 56 30.0	+13
NWAO				LR	LR		
	comp=Z,2µm,19.0s						
PLAI	**Plampang**	**143.89**	**278**	PKP	PKPab	17 56 14.5	-0.7
PLAI				PKP	PKPbc	17 56 15.7	-0.1
POO	**Poona**	**144.50**	**13**	*e*P	**PKPab**	**17 56 17.1**	**-0.3**
TWSI	**Taliwang, Sumb**	**144.72**	**278**	PKP	**PKPab**	**17 56 15.3**	**-3.0**
TWSI				PKP	PKPbc	17 56 16.1	-2.3
SRSP	**Sriramsagar**	**144.78**	**5**	*e*PKPab	**PKPab**	**17 56 17.3**	**-1.1**
SRDT	**SRDT**	**144.88**	**329**	P	**PKPab**	**17 56 17.8**	**-1.0**
	comp=Z,158nm,1.3s,comp=Z,6µm						
RPR	**Rampur**	**144.92**	**4**	*e*PKPab	**PKPab**	**17 56 18.1**	**-0.8**
KLRI	**Killari**	**145.43**	**8**	*e*PKPbc	**PKPbc**	**17 56 19.3**	**-1.3**
PAF	**Port-aux-Franc**	**145.84**	**167**	PFAKE		17 56 30.0	+8.7
PAF				LR	LR		
	comp=Z,5µm,19.0s						
PHET	**Kaeng Krachan**	**145.85**	**327**	P	**PKPab**	**17 56 22.7**	**+0.4**
	comp=Z,26nm,1.3s,comp=Z,419nm						
VIS	**Vishakhapatnam**	**146.07**	**357**	*e*P	**PKPdf**	**17 56 19.8**	**-2.0**
VIS				IAmb	IAmb	17 56 23.6	
	comp=Z,9µm,4.7s						
VIS				*i* x	x	18 04 33.0	
VIS				*e*x	x	18 04 38.2	
	comp=E,13nm,1.6s						
VIS				*e*x	x	18 04 50.3	
	comp=N,19nm,1.5s						
SRBI	**Singaraja**	**146.12**	**280**	PKP	**PKPdf**	**17 56 19.6**	**-2.3**
SRBI				PKP	**PKPbc**	**17 56 21.7**	**-1.2**
STKI	**Sintang**	**146.26**	**296**	PKP	**PKPdf**	**17 56 19.9**	**-2.3**
STKI				PKP	**PKPbc**	**17 56 22.8**	**-0.5**
DNP	**Denpasar**	**146.29**	**279**	PKP	**PKPdf**	**17 56 19.9**	**-2.3**
DNP				PKP	**PKPab**	**17 56 23.8**	**-0.3**
HYBB	**Hyderabad (bro**	**146.29**	**5**	*e*PKPdf	**PKPdf**	**17 56 21.5**	**-0.7**
HYB	**Hyderabad**	**146.29**	**5**	*i* PKP	**PKPdf**	**17 56 21.0**	**-1.2**
HYB	**Hyderabad**	**146.29**	**5**	*e*P	**PKPdf**	**17 56 19.4**	**-2.9**
HYB				IAmb	IAmb	17 56 25.6	
	comp=Z,750nm,2.2s						
IGBI	**Denpasar**	**146.39**	**279**	PKP	**PKPdf**	**17 56 20.1**	**-2.3**
IGBI				PKP	**PKPbc**	**17 56 23.8**	**+0.1**
KSM	**Kuching**	**146.51**	**299**	*e*PKPdf	**PKPbc**	**17 56 23.9**	**-0.2**
KSM				LR	LR		
	comp=Z,1µm,21.0s						
PVM	**Polavaram**	**146.59**	**360**	*e*PKPdf	**PKPdf**	**17 56 22.4**	**-0.3**
KMMI	**Kalianget**	**146.97**	**282**	PKP	**PKPdf**	**17 56 21.2**	**-2.2**
KMMI				PKP	**PKPbc**	**17 56 25.5**	**+0.2**
OPO	**Ambohidratompo**	**147.19**	**99**	PKPbc	**PKPab**	**17 56 27.3**	**-0.5**
	comp=Z,59nm,0.9s,baz=238,slow=3.6,SNR=46						
NJS	**Nagarjunasagar**	**147.21**	**4**	*e*PKPdf	**PKPdf**	**17 56 23.1**	**-0.6**
JAGI	**Jajag, Banyuwa**	**147.23**	**280**	PKP	**PKPdf**	**17 56 21.5**	**-2.3**
JAGI				PKP	**PKPbc**	**17 56 23.2**	**-2.9**
JAGI	**Jajag, Banyuwa**	**147.23**	**280**	*e*PKPdf	**PKPdf**	**17 56 23.4**	**-0.4**
ABPO	**Ambohimpanom**	**147.24**	**100**	*e*PKPdf	**PKPbc**	**17 56 25.4**	**-0.8**
ABPO				LR	LR		
	comp=Z,1µm,21.0s						
ABPO	**Ambohimpanom**	**147.24**	**100**	*e*PKP2	**PKPbc**	**17 56 25.4**	**-0.8**
ABPO				MLR	MLR		
	comp=Z,1µm,21.0s						
PBKI	**Pangkalan Bun**	**147.40**	**291**	PKP	**PKPdf**	**17 56 21.9**	**-2.2**
PBKI				PKP	**PKPbc**	**17 56 26.3**	**-0.3**
GOA	**Goa**	**147.44**	**14**	*e*P	**PKPdf**	**17 56 22.8**	**-1.3**
GOA				IAmb	IAmb	17 56 32.2	
	comp=Z,1µm,3.1s						
BLJI	**Banyuglugur**	**147.54**	**281**	PKP	**PKPdf**	**17 56 22.1**	**-2.2**
BLJI				PKP	**PKPbc**	**17 56 27.6**	**+0.7**
SRLM	**Srisailam**	**147.63**	**5**	*e*PKPdf	**PKPdf**	**17 56 24.1**	**-0.4**
BWJI	**Bawean**	**147.78**	**285**	PKP	**PKPdf**	**17 56 22.5**	**-2.2**
ADKI	**Addanki**	**147.95**	**3**	*e*PKPdf	**PKPdf**	**17 56 24.9**	**-0.1**
DGPR	**DIGLIPUR**	**148.55**	**338**	*e*P	**PKPdf**	**17 56 24.5**	**-1.5**
DGPR				IAmb	IAmb	17 56 32.9	
	comp=Z,620nm,0.2s						
URV	**Uravakonda**	**148.59**	**8**	*e*PKPdf	**PKPdf**	**17 56 25.7**	**-0.4**
TBJI	**Tambak Boyo**	**148.87**	**284**	PKP	**PKPdf**	**17 56 24.3**	**-2.2**
PWJI	**Pagerwojo**	**149.31**	**282**	PKP	**PKPdf**	**17 56 25.1**	**-2.1**
PWJI				PKP	**PKPbc**	**17 56 30.3**	**-1.2**
SKLT	**Songkhla**	**149.94**	**320**	P	**PKPbc**	**17 56 33.9**	**+0.8**
	comp=Z,126nm,1.4s,comp=Z,6µm						
PCJI	**Pacitan**	**149.95**	**282**	PKP	**PKPdf**	**17 56 26.8**	**-1.4**
SKHT	**Srikalahasti**	**150.02**	**4**	*e*PKPdf	**PKPdf**	**17 56 27.7**	**-0.6**
PBA	**Port Blair**	**150.03**	**338**	*e*P	PKPdf	17 56 26.2	-2.2
PBA				IAmb	IAmb	17 56 34.5	
PBA	**Port Blair**	**150.03**	**338**	*e*PKPdf	PKPdf	17 56 28.9	+0.5
SMRI	**Semarang**	**150.26**	**285**	PKP	**PKPdf**	**17 56 26.6**	**-2.2**
SMRI	**Semarang**	**150.26**	**285**	*e*pPKPdf	**PKPbc**	**17 56 33.6**	**-0.3**
UGM	**Wanagama**	**150.47**	**283**	PKP	**PKPdf**	**17 56 26.9**	**-2.2**
UGM				PKP	**PKPbc**	**17 56 34.4**	**0.0**
UGM	**Wanagama**	**150.47**	**283**	*e*PKPdf	**PKPdf**	**17 56 28.9**	**-0.3**
UGM				*e*pPKPdf	**PKPbc**	**17 56 34.2**	**-0.2**
MDRS	**Chennai**	**150.72**	**3**	*e*P	**PKPdf**	**17 56 28.1**	**-1.3**
MDRS				IAmb	IAmb	17 56 37.6	
	comp=Z,481nm,1.9s						
TPI	**Tanjungpandan**	**150.97**	**295**	PKP	**PKPdf**	**17 56 27.7**	**-2.2**
KULM	**Kulim**	**151.35**	**317**	*e*PKPdf	**PKPdf**	**17 56 30.1**	**-0.3**
KULM				LR	LR		
	comp=Z,2µm,22.0s						
MYKOM	**Kota Tinggi**	**151.52**	**307**	*e*PKPdf	**PKPdf**	**17 56 30.2**	**-0.5**
IPM	**Ipoh**	**151.70**	**315**	*e*PKPdf	**PKPdf**	**17 56 30.3**	**-0.7**
KPJI	**Karang Pucung**	**151.76**	**285**	PKP	**PKPdf**	**17 56 28.9**	**-2.1**
KPJI				PKP	**pPKPdf**	**17 56 36.4**	**-0.2**
CISI	**Cisompet, Garu**	**152.87**	**286**	PKP	**PKPdf**	**17 56 31.3**	**-1.5**
CISI	**Cisompet, Garu**	**152.87**	**286**	*e*PKPdf	**PKPdf**	**17 56 31.8**	**-1.0**
MNCY	**Minicoy**	**154.11**	**20**	*e*P	**PKPdf**	**17 56 32.1**	**-2.4**
PSI	**Prapat**	**154.35**	**316**	*e*PKPdf	**PKPdf**	**17 56 34.5**	**-0.5**
PSI	**Prapat**	**154.35**	**316**	*e*PKIKP	**PKPdf**	**17 56 34.5**	**-0.5**
TRD	**Trivandrum**	**154.87**	**11**	*e*P	**PKPdf**	**17 56 32.9**	**-2.6**
MASI	**Maura Aman, Be**	**155.77**	**301**	PKP	**PKPdf**	**17 56 34.9**	**-1.9**
GSI	**Gunungsitoli**	**156.35**	**316**	PKP	**PKPdf**	**17 56 35.6**	**-2.0**
GSI	**Gunungsitoli**	**156.35**	**316**	*e*PKPdf	**PKPdf**	**17 56 37.6**	**0.0**
COCO	**West Island**	**164.60**	**284**	PFAKE		17 57 00.0	+13
COCO				LR	LR		
	comp=Z,3µm,19.0s						
DGAR	**Diego Garcia**	**167.42**	**46**	PFAKE		17 57 00.0	+11
DGAR				LR	LR		
	comp=Z,2µm,20.0s						

JSN 02 17:41:40.9±0.3**, 18.12°N×76.60°W, h7**km±16km**, MD2.3, 4C, Jamaica region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GWJ	**Greenwich**	**0.13**	**249**⇑	*i*P	Pg	17 41 43.6	-0.1
HOJ	**Hope**	**0.18**	**231**⇑	*i*P	Pg	17 41 44.6	0.0
STH	**Stony Hill**	**0.20**	**258**	*i* P	Pg	17 41 44.9	-0.2
STH				*i* S	Sg	17 41 48.3	+0.5
STH	**Stony Hill**	**0.20**	**258**⇑	*i*P	Pg	17 41 44.8	-0.2
CMJ	**Castle Mountai**	**0.22**	**86**⇑	*i*P	Pg	17 41 45.5	+0.2

MAN 02 17:43:34, 10.16°N×123.31°E, h1km**, mb4.0, ML2.8, MS2.4, 3C, Cebu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LLP	**Lapu-Lapu**	**0.66**	**76**⇑	*e*P	Pb	17 43 47.7	-0.7
LLP				*i* S	Sb	17 43 57.5	-0.6
SNPH	**Sibulan**	**0.81**	**185**	*e*P	Pb	17 43 50.6	-0.4
SNPH				*e*S	Sb	17 44 02.8	+0.3
GUIM	**Jordan**	**0.85**	**303**	*e*P	Pg	17 43 50.6	+0.3
GUIM				*e*S	Sb	17 44 02.8	-0.7
RCP	**Roxas**	**1.50**	**338**⇑	*e*P	Pg	17 44 03.1	+0.3
RCP				*e*S	Sn	17 44 23.5	+1.2
MSLP	**Maasin**	**1.52**	**91**	*e*P	Pn	17 44 02.2	-0.2
MSLP				*e*S	Sg	17 44 24.3	+1.3
DCPH	**Dipolog City**	**1.57**	**179**⇑	*e*P	Pn	17 44 02.1	-0.9
DCPH				*e*S	Sn	17 44 23.2	-0.7

*IDC **02** 17:44:22.4±1.0, 16.42°N×98.53°W, h0km, mb4.2/7, mb1 4.4/10, mb1mx4.0/57, mbtmp4.2/10, ML3.8/3, Error ellipse: s-maj=26.4km s-min=15.6km az=19.0*
*NEIC **02** 17:44:23.8±0.8, 16.32°N×98.54°W, h10km, mb4.9/13, Error ellipse: s-maj=23.0km s-min=9.2km az=217.0*
*ISCJB **02** 17:44:25.3±0.8, 16.4°N±0.1°×98.4°W±0.1°, h28km, mb4.5/19, Error ellipse: s-maj=25.5km s-min=7.2km az=35.2*
ISC 02 17:44:26.7±0.8**, 16.5°N**±0.1°×**98.53°W**±0.09**, h28**km**, n42, σ1.69**/43**, mb4.6**/19**, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
UNM	**Universidad Na**	**2.85**	**348**	*e*Pn	**Pb**	**17 45 16.1**	**-1.0**
CMIG	**Matias Romero**	**3.53**	**80**	Pn	**Pn**	**17 45 18.1**	**-1.6**
	8.9nm,0.3s,baz=249,slow=12,SNR=3.6						
CMIG				Pg	**Pb**	**17 45 28.0**	**-0.5**
	43nm,0.3s,baz=263,slow=15,SNR=14						
CMIG				Lg	Lg	17 46 14.8	
	128nm,0.3s,baz=207,slow=16,SNR=16						
MOIG	**Morelia**	**4.03**	**321**	*e*Pn	**Pb**	**17 45 35.2**	**-1.9**
APG	**El Apazote**	**7.91**	**100**	Pn	**Pn**	**17 46 19.8**	**-0.3**
	0.9nm,0.3s,baz=291,slow=17,SNR=3.0						
APG				Lg	Lg	17 48 36.9	
	2.0nm,0.3s,baz=340,slow=20,SNR=2.8						
JTS	**JuntasAbangare**	**14.58**	**113**	Pn	**Pn**	**17 47 51.0**	**-0.3**
	0.5nm,0.3s,baz=353,slow=14,SNR=2.4						
BELC	**Belle Mtn. Jos**	**23.44**	**321**	*e*P	**P**	**17 49 36.5**	**+2.6**
ISCO	**Idaho Springs**	**24.00**	**346**	*e*P	**P**	**17 49 39.4**	**0.0**
MTPU	**Mount Pierson**	**24.57**	**333**	*e*P	**P**	**17 49 44.5**	**-0.2**
SZCU	**Shurtz Canyon**	**24.61**	**331**	*e*P	**P**	**17 49 45.0**	**+0.1**
	20nm,1.5s						
CCUT	**Cedar City**	**24.70**	**331**	*e*P	**P**	**17 49 48.8**	**+3.1**
	132nm,2.0s						
SHPR	**Sheep Range**	**24.78**	**327**	*e*P	**P**	**17 49 49.7**	**+3.3**
GSC	**Goldstone, Bar**	**24.82**	**322**	*e*P	**P**	**17 49 49.5**	**+2.8**
	100nm,2.0s						
SRU	**San Rafael Swe**	**24.83**	**337**	*e*P	**P**	**17 49 47.7**	**+0.8**
MSU	**Marysvale**	**24.96**	**334**	*e*P	**P**	**17 49 49.6**	**+1.5**
O20A	**White River Ci**	**24.99**	**342**	*e*P	**P**	**17 49 47.1**	**-1.2**
	10nm,0.9s						
SBI	**Santa Barbara**	**25.02**	**316**	*e*P	**P**	**17 49 48.9**	**+0.5**
SDDR	**Presa de Saban**	**26.05**	**81**	*e*P	**P**	**17 49 58.8**	**+0.9**
	16nm,0.9s						
PD31	**Pinedale Array**	**27.80**	**342**	*e*P	**P**	**17 50 15.9**	**+2.3**
PDAR	**Pinedale Array**	**27.80**	**342**	P	**P**	**17 50 15.9**	**+2.3**
	2.4nm,0.8s,baz=155,slow=11,SNR=5.8						
PDAR	**Pinedale Array**	**27.80**	**342**	*e*P	**P**	**17 50 15.2**	**+1.6**
NV01	**Mina Array Sit**	**27.88**	**325**	*e*P	**P**	**17 50 15.5**	**+1.0**
NVAR	**Mina Array Bea**	**27.88**	**325**	P	**P**	**17 50 15.5**	**+1.0**
	1.7nm,0.9s,baz=149,slow=9.0,SNR=4.5						
SDV	**Santo Domingo**	**28.22**	**102**	P	**P**	**17 50 18.2**	**+0.5**
	9.5nm,0.9s,baz=321,slow=6.5,SNR=4.2						
MFID	**Camas Ranch**	**30.57**	**335**	*e*P	**P**	**17 50 41.5**	**+3.3**
	8.1nm,1.4s						
J08A	**Circle Bar Ran**	**31.67**	**332**	*e*P	**P**	**17 50 51.0**	**+3.2**
	42nm,1.8s						
F10A	**Beach Ranch, E**	**33.25**	**336**	*e*P	**P**	**17 51 03.8**	**+2.1**
	11nm,1.1s						
JLK	**June Lake**	**35.49**	**331**	*e*P	**P**	**17 51 20.7**	**-0.3**
EDM	**Edmonton**	**38.42**	**346**	*e*P	**P**	**17 51 46.0**	**+0.3**
	11nm,0.8s						
YKA	**Yellowknife Ar**	**47.29**	**350**	P	**P**	**17 52 56.0**	**-1.3**
	1.5nm,0.8s,baz=156,slow=7.1,SNR=5.5						
INK	**Inuvik**	**56.32**	**345**	P	**P**	**17 54 06.0**	**+1.4**
	2.1nm,0.8s,baz=74,slow=3.1,SNR=4.2						
INK	**Inuvik**	**56.32**	**345**	*e*P	**P**	**17 54 06.0**	**+1.4**
	32nm,1.9s						
IL1	**Eielson Array**	**58.09**	**338**	*e*P	**P**	**17 54 18.3**	**+1.1**
RND	**Reindeer**	**58.12**	**336**	*e*P	**P**	**17 54 19.8**	**+2.1**
	43nm,1.9s						
CCB	**Clear Creek Bu**	**58.36**	**337**	*e*P	**P**	**17 54 17.3**	**-1.8**
	9.6nm,0.8s						
WRH	**Wood River Hil**	**58.37**	**337**	*e*P	**P**	**17 54 17.9**	**-1.3**
	12nm,0.5s						
PLCA	**Paso Flores**	**62.62**	**156**	P	**P**	**17 54 47.8**	**-0.7**
	2.0nm,0.9s,baz=315,slow=7.1,SNR=3.1						
CLL	**Collm**	**90.05**	**36**	*e*(P)	**P**	**17 57 26.0**	**+2.1**
TOA1	**Torodi Ar. Sit**	**95.84**	**75**	*e*P	**P**	**17 57 50.0**	**-1.3**
TORD	**Torodi Ar. Bea**	**95.85**	**75**	P	**P**	**17 57 50.0**	**-1.3**
	0.5nm,0.8s,baz=296,slow=4.0,SNR=2.7						
WR1	**Warramunga Arr**	**129.84**	**258**	*e*PKPdf	**PKPdf**	**18 03 34.1**	**-0.2**
WRA	**Warramunga Arr**	**129.84**	**258**	PKP	**PKPdf**	**18 03 34.1**	**-0.2**
	0.9nm,1.0s,baz=85,slow=2.7,SNR=4.1						
ASAR	**Alice Springs**	**130.47**	**253**	PKP	**PKPdf**	**18 03 35.2**	**-0.3**
	0.2nm,0.7s,baz=76,slow=2.0,SNR=2.7						

MAN 02 17:45:16, 10.11°N×123.18°E, h23km**, mb3.9, ML2.7, MS2.2, Cebu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SNPH	**Sibulan**	**0.76**	**176**	*e*P	Pn	17 45 31.6	+0.3
SNPH				*e*S	Sn	17 45 43.3	+1.2
GUIM	**Jordan**	**0.78**	**312**	*e*P	Pn	17 45 31.6	0.0
GUIM				*e*S	Sn	17 45 44.1	+1.4
MSLP	**Maasin**	**1.65**	**89**	*e*P	Pn	17 45 43.2	-0.3
MSLP				*e*S	Sb	17 46 06.1	0.0

*NIED **02** 17:48:00, 38.90°N×142.00°E, h44km, Mw4.0 Best double couple: M0 1.07000×10¹⁵ NP1: φs194.00000°, δ18.00000°, λ75.00000°. NP2: φs30.00000°, δ73.00000°, λ95.00000°.*
*ISCJB **02** 17:48:13.4±0.7, 38.87°N±0.03°×142.10°E±0.08°, h56km±4km, mb4.4/21, MS4.5/1, Error ellipse: s-maj=10.8km s-min=4.8km az=18.3*
*JMA **02** 17:48:15.2±0.1, 38.89°N×141.97°E, h50km±1km, M4.1*
JMA Felt III J1.
*IDC **02** 17:48:16.0±1.9, 38.89°N×142.07°E, h62km±16km, mb3.9/14, mb1 3.9/19, mb1mx3.7/77, mbtmp4.1/19, MS3.7/2, Ms1 3.7/2, ms1mx3.0/70, Error ellipse: s-maj=22.3km s-min=12.2km az=96.0*
*NEIC **02** 17:48:16.0±0.6, 38.87°N×142.10°E, h66km±5km, mb4.9/7, Error ellipse: s-maj=8.9km s-min=5.1km az=117.0*
NEIC Recorded [3 JMA] in Miyagi.
ISC 02 17:48:14.1±1.3**, 38.83°N**±0.05×**142.12°E**±0.09**, h49**km±10km**, n61, σ1.27**/65**, mb4.4**/21**, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**0.43**	**305**	P	**Pn**	**17 48 24.4**	**-0.1**
OFUJ				S	**Sn**	**17 48 30.8**	**-1.1**
JIO	**Ouri**	**0.72**	**238**	P	**Pn**	**17 48 28.1**	**+0.1**
JIO				S	**Sn**	**17 48 36.9**	**-1.1**
JMK	**Ichinoseki**	**0.72**	**280**	P	**Pn**	**17 48 27.6**	**-0.4**
JMK				S	**Sn**	**17 48 36.3**	**-1.8**
JOM	**Ohasama**	**0.91**	**315**	P	**Pn**	**17 48 30.2**	**-0.4**
JOM				S	**Sn**	**17 48 40.9**	**-1.8**
JOU	**Okura**	**1.24**	**248**	P	**Pn**	**17 48 34.7**	**-0.3**
JOU				S	**Sn**	**17 48 49.6**	**-1.0**
JRG	**Rokugo**	**1.29**	**296**	P	**Pn**	**17 48 35.0**	**-0.7**
JYK	**Kaneyama**	**1.38**	**274**	P	**Pn**	**17 48 36.5**	**-0.5**
JMM	**Marumori**	**1.42**	**228**	P	**Pn**	**17 48 37.5**	**-0.1**
JMM				S	**Sn**	**17 48 53.8**	**-1.3**
JANG	**Nango**	**1.61**	**343**	P	**Pn**	**17 48 39.8**	**-0.3**
JANG				S	**Sn**	**17 48 59.2**	**-0.5**
ERM	**Erimo**	**3.27**	**14**	*e*Pn	**Pn**	**17 49 03.8**	**+0.9**
MJAR	**Matsushiro Arr**	**3.86**	**235**	P	**Pn**	**17 49 13.0**	**+2.1**
	7.1nm,0.3s,baz=36,slow=12,SNR=88						
MJAR				LR	LR	17 50 52.7	
	comp=Z,108nm,20.4s,baz=225,slow=41						
MAJO	**Matsushiro**	**3.86**	**235**	*e*Pn	**Pn**	**17 49 13.1**	**+2.1**
MAJO				*e*		17 50 52.7	
MAT	**Matsushiro**	**3.86**	**235**	P	**Pn**	**17 49 12.8**	**+1.8**
MAT				S	**Sn**	**17 49 58.7**	**+3.7**
MJB9	**Matsu-Tunnel**	**3.86**	**235**	*e*Pn	**Pn**	**17 49 12.8**	**+1.9**
ASAJ	**Asahikawa**	**5.29**	**4**	P	**Pn**	**17 49 30.9**	**+0.3**
	2.2nm,0.3s,baz=208,slow=15,SNR=59						
ASAJ				S	**Sn**	**17 50 30.5**	**+0.3**
	2.3nm,0.3s,baz=102,slow=20,SNR=2.6						
ASAJ	**Asahikawa**	**5.29**	**4**	*e*Pn	**Pn**	**17 49 31.2**	**+0.7**
ASAJ				*e*Sn	**Sn**	**17 50 30.5**	**+0.3**
INU	**Inuyama**	**5.36**	**231**	*e*Pn	**Pn**	**17 49 33.2**	**+1.7**
JHJ	**Hachijo jima 2**	**6.01**	**199**	P	**Pn**	**17 49 41.9**	**+1.5**
	10nm,0.3s,baz=138,slow=23,SNR=9.7						
JHJ				S	**Sn**	**17 50 44.8**	**-3.1**
	19nm,0.3s,baz=253,slow=20,SNR=6.7						
USRK	**Ussuriysk Ar.**	**9.30**	**308**	P	**Pn**	**17 50 28.1**	**+2.6**
	1.0nm,0.3s,baz=118,slow=15,SNR=20						
KSRS	**Korea Array**	**11.27**	**267**	P	**Pn**	**17 50 55.5**	**+3.1**
	0.3nm,0.3s,baz=83,slow=14,SNR=5.4						
KS15	**Wonju Array Si**	**11.30**	**267**	*e*Pn	**Pn**	**17 50 55.5**	**+2.6**
KSAR	**Wonju Array Be**	**11.30**	**267**	P	**Pn**	**17 50 55.5**	**+2.6**
SONA0	**Songino Array**	**27.30**	**301**	*e*P	**P**	**17 53 54.1**	**0.0**
SONM	**Songino Array**	**27.30**	**301**	P	**P**	**17 53 54.1**	**0.0**
	0.6nm,0.5s,baz=106,slow=6.8,SNR=3.8						
ENH	**Enshi**	**28.09**	**262**	*e*P	**P**	**17 54 00.2**	**-1.0**
	35nm,1.6s						
H11N2	**WAKE ISLAND Hy**	**28.64**	**125**	T	T	18 24 31.8	
	baz=317,slow=75,SNR=737						
H11N1	**WAKE ISLAND Hy**	**28.65**	**125**	T	T	18 24 33.7	
	baz=317,slow=75,SNR=1019						
H11N3	**WAKE ISLAND Hy**	**28.66**	**125**	T	T	18 24 30.4	
	baz=317,slow=75,SNR=765						
H11S1	**WAKE ISLAND Hy**	**29.42**	**127**	T	T	18 25 31.3	
	baz=318,slow=76,SNR=160						
H11S3	**WAKE ISLAND Hy**	**29.42**	**127**	T	T	18 25 31.3	
	baz=318,slow=76,SNR=261						
H11S2	**WAKE ISLAND Hy**	**29.44**	**127**	T	T	18 25 29.7	
	baz=318,slow=76,SNR=137						
TLY	**Talaya**	**29.62**	**308**	LR	LR	18 06 51.3	
	comp=Z,1µm,18.2s,baz=284,slow=38						
ZAA1	**Zalesovo Array**	**41.14**	**311**	*e*P	**P**	**17 55 52.8**	**-0.5**
ZALV	**Zalesovo Beam**	**41.14**	**311**	P	**P**	**17 55 52.8**	**-0.5**
	3.8nm,0.8s,baz=96,slow=9.4,SNR=5.7						
CHTO	**Chiang Mai**	**42.30**	**254**	*e*P	**P**	**17 56 03.5**	**+0.3**
	26nm,1.3s						
MK31	**Makanchi Array**	**43.66**	**301**	*e*P	**P**	**17 56 13.6**	**-0.3**
MK32	**Makanchi Array**	**43.66**	**301**	*e*P	**P**	**17 56 13.8**	**-0.2**
MKAR	**Makanchi Array**	**43.66**	**301**	P	**P**	**17 56 13.8**	**-0.2**
	4.2nm,0.6s,baz=84,slow=8.6,SNR=18						
MKAR	**Makanchi Array**	**43.66**	**301**	*e*P	**P**	**17 56 13.7**	**-0.2**
	37nm,0.7s						
KURK	**Kurchatov**	**45.28**	**307**	*e*P	**P**	**17 56 26.5**	**-0.3**
	13nm,0.9s						
KURBB	**Kurchatov Arra**	**45.36**	**307**	P	**P**	**17 56 26.9**	**-0.5**
	9.3nm,0.5s,baz=81,slow=8.1,SNR=36						
BVAR	**Borovoye Array**	**49.79**	**311**	P	**P**	**17 57 01.6**	**-0.2**
	3.8nm,0.5s,baz=65,slow=7.7,SNR=27						
NIL	**Nilore**	**54.60**	**287**	*e*P	**P**	**17 57 38.0**	**+0.3**
	9.6nm,0.8s						
GSI	**Gunungsitoli**	**55.21**	**239**	*e*P	**P**	**17 57 40.1**	**-2.1**
	117nm,0.7s						
AB31	**Akbulak array**	**57.22**	**309**	*e*P	**P**	**17 57 55.9**	**-0.3**
ABKAR	**Akbulak array**	**57.22**	**309**	*e*P	**P**	**17 57 55.9**	**-0.3**
AKTO	**Aktyubinsk**	**57.90**	**311**	P	**P**	**17 58 01.0**	**+0.1**
	1.7nm,0.4s,baz=74,slow=7.4,SNR=6.0						
WR1	**Warramunga Arr**	**58.92**	**189**	*e*P	**P**	**17 58 08.7**	**+0.5**
	30nm,1.8s						
WRA	**Warramunga Arr**	**58.92**	**189**	P	**P**	**17 58 08.7**	**+0.5**
	1.3nm,0.5s,baz=7.0,slow=7.6,SNR=10						
YKA	**Yellowknife Ar**	**61.97**	**31**	P	**P**	**17 58 30.2**	**+1.6**
	0.2nm,0.5s,baz=303,slow=6.4,SNR=2.9						
ASAR	**Alice Springs**	**62.65**	**188**	P	**P**	**17 58 33.8**	**+0.2**
	0.9nm,0.7s,baz=9.2,slow=4.9,SNR=6.3						
FIA0	**FINESS Array S**	**67.49**	**332**	*e*P	**P**	**17 59 04.3**	**-0.2**
FINES	**FINESS Array B**	**67.49**	**332**	P	**P**	**17 59 04.3**	**-0.2**
	2.6nm,0.7s,baz=28,slow=11,SNR=11						
BVW	**Beverly**	**67.71**	**47**	*e*P	**P**	**17 59 06.6**	**+0.3**
HFS	**Hagfors**	**72.68**	**336**	P	**P**	**17 59 36.7**	**+0.2**
	2.3nm,0.8s,baz=38,slow=9.5,SNR=7.1						
AKASG	**Malin Array Be**	**73.22**	**322**	P	**P**	**17 59 39.0**	**-0.8**
	0.9nm,0.4s,baz=45,slow=6.4,SNR=12						
AKBB	**Malin Array Si**	**73.22**	**322**	*e*P	**P**	**17 59 39.0**	**-0.8**
	5.0nm,1.1s						
BR101	**Keskin Array S**	**78.08**	**312**	*e*P	**P**	**18 00 07.9**	**0.0**
BRTR	**Keskin Array B**	**78.08**	**312**	P	**P**	**18 00 07.9**	**0.0**
	0.4nm,0.4s,baz=127,slow=5.0,SNR=4.6						
CLL	**Collm**	**79.81**	**330**	*e*P	**P**	**18 00 17.0**	**0.0**
GERES	**GERESS Array B**	**81.48**	**328**	P	**P**	**18 00 25.9**	**-0.2**
	0.2nm,0.5s,baz=25,slow=6.6,SNR=4.5						

*ISCJB **02** 17:52:45.2±0.3, 68.27°N±0.04°×160.11°W±0.08°, h10km, mb4.0/11, Error ellipse: s-maj=6.2km s-min=4.2km az=13.7*
*NEIC **02** 17:52:46.5±0.0, 68.16°N×160.27°W, h10km, ML3.3(AEIC), After AEIC.*
*IDC **02** 17:52:46.2±1.0, 68.42°N×160.27°W, h0km, mb3.8/9, mb1 3.9/12, mb1mx3.5/85, mbtmp3.7/12, ML3.3/3, Error ellipse: s-maj=25.6km s-min=14.9km az=19.0*
ISC 02 17:52:47.0±0.5**, 68.26°N**±0.07×**160.21°W**±0.05**, h10**km**, n44, σ1.29**/47**, mb4.2**/11**, Northern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RDOG	**Red Dog Mine**	**1.03**	**260**	P	**Pg**	**17 53 05.3**	**-1.4**
RDOG				S	**Sg**	**17 53 19.8**	**-0.3**
IM3	**Indian Mountai**	**3.40**	**129**	*e*Pn	**Pn**	**17 53 39.5**	**-0.5**
TOLK	**Toolik Lake Re**	**3.94**	**79**	*e*Pn	**Pn**	**17 53 49.5**	**+2.0**
COLD	**Coldfoot**	**3.95**	**100**	*e*Pn	**Pn**	**17 53 48.3**	**+0.7**
PS01	**TAPS Pump Stn**	**4.59**	**59**	P	**Pn**	**17 53 56.7**	**+0.5**
PS01				S	**Sn**	**17 54 51.1**	**+1.6**
MLY	**Manley**	**4.97**	**126**	*e*Pn	**Pn**	**17 54 01.6**	**0.0**
BPAW	**Bear Paw Mtn.**	**5.60**	**134**	*e*Pn	**Pn**	**17 54 11.3**	**+1.0**
TT01	**Tatalina**	**5.64**	**160**	P	**Pn**	**17 54 10.6**	**-0.3**
MDM	**Murphy Dome**	**5.80**	**119**	*e*Pn	**Pn**	**17 54 13.1**	**+0.1**
CAST	**Castle Rocks**	**5.89**	**142**	*e*Pn	**Pn**	**17 54 14.1**	**-0.1**

BM3	Burnt Mountain	5.96	91	P	Pn	17 54 14.8	-0.5
KTH	Kantishna Hill	6.06	137	*e*Pn	Pn	17 54 16.7	+0.1
	7.3nm,0.8s						
TRF	Thorofare Moun	6.31	135	*e*Pn	Pn	17 54 21.5	+1.5
PPLA	Purkeypile	6.32	144	*e*Pn	Pn	17 54 20.5	+0.3
ILAR	Eielson Array	6.37	117	Pn	Pn	17 54 19.9	-0.8
	0.3nm,0.3s,baz=313,slow=13,SNR=13						
ILAR				Sn	Sn	17 55 31.1	-2.2
	baz=317,slow=15,SNR=2.9						
ILAR				Lg	Lg	17 56 08.4	
	0.2nm,0.3s,baz=318,slow=33,SNR=4.5						
ILB	Eielson Array	6.37	117	*e*P	Pn	17 54 19.6	-1.1
ILB	Eielson Array	6.37	117	*e*Pn	Pn	17 54 19.6	-1.1
GAMB	Gambell	6.48	232	*e*Pn	Pn	17 54 22.4	+0.1
HDA	Harding Lake	6.58	120	*e*Pn	Pn	17 54 23.4	-0.3
SKT	Skwentna	7.28	146	*e*Pn	Pn	17 54 34.3	+1.0
SVW2	Sparrevohn	7.45	162	*e*Pn	Pn	17 54 36.9	+1.2
PAX	Paxson	8.07	124	*e*Pn	Pn	17 54 43.4	-0.7
	2.2nm,0.5s						
INK	Inuvik	9.86	77	Pn	Pn	17 55 07.2	-1.2
	0.3nm,0.3s,baz=298,slow=11,SNR=9.9						
INK				Sn	Sn	17 56 53.9	-5.1
	0.3nm,0.3s,baz=31,slow=18,SNR=3.8						
YKA	Yellowknife Ar	19.45	85	P	P	17 57 13.0	-0.2
	0.1nm,0.3s,baz=302,slow=9.6,SNR=6.1						
PEA1	Petropavlovsk-	24.89	254	*e*P	P	17 58 10.3	+0.8
PETK	Petropavlovsk-	24.89	254	P	P	17 58 10.3	+0.8
	6.9nm,1.0s,baz=66,slow=13,SNR=5.7						
KTRM	Thompson Ridge	32.84	124	*e*P	P	17 59 26.2	+5.6
KTRM				*e*PcP	PcP	18 02 03.6	-1.4
HVU	Hansel Valley	36.44	112	*e*P	P	17 59 54.1	+2.4
	7.8nm,0.4s						
MDPB	Devils Postpil	38.09	122	*e*P	P	18 00 10.9	+5.0
	11nm,1.1s						
GATR	Gnd/Air Tx Cnt	40.49	126	*e*P	P	18 00 28.0	+2.4
SONA0	Songino Array	47.87	295	*e*P	P	18 01 25.5	+0.8
SONM	Songino Array	47.87	295	P	P	18 01 25.5	+0.8
	0.6nm,0.8s,baz=43,slow=4.7,SNR=2.9						
FIA0	FINESS Array S	50.52	356	*e*P	P	18 01 44.1	-0.4
FINES	FINESS Array B	50.52	356	P	P	18 01 44.1	-0.4
	1.7nm,0.8s,baz=17,slow=7.0,SNR=4.6						
NB200	NORSAR Array S	50.85	5	*e*P	P	18 01 46.3	-0.9
NOA	NORSAR Array B	50.85	5	P	P	18 01 46.3	-0.9
	0.9nm,0.9s,baz=356,slow=5.8,SNR=2.9						
HFS	Hagfors	51.83	4	P	P	18 01 53.4	-1.1
	2.4nm,0.8s,baz=20,slow=9.2,SNR=5.6						
KURK	Kurchatov	53.58	317	*e*P	P	18 02 07.8	+0.2
KURBB	Kurchatov Arra	53.69	317	P	P	18 02 07.7	-0.6
	0.2nm,0.4s,baz=21,slow=7.7,SNR=2.8						
EKA	Eskdalemuir Ar	55.56	16	P	P	18 02 22.5	+0.6
	1.6nm,0.7s,baz=359,slow=5.8,SNR=5.3						
AB31	Akbulak array	59.04	330	*e*P	P	18 02 46.5	0.0
ABKAR	Akbulak array	59.04	330	*e*P	P	18 02 46.5	0.0
AKASG	Malin Array Be	61.16	353	P	P	18 03 00.3	-0.6
	0.8nm,0.4s,baz=5.2,slow=6.8,SNR=8.8						
CMAR	Chiang Mai Arr	76.97	287	P	P	18 04 39.5	0.0
	0.4nm,0.6s,baz=360,slow=6.3,SNR=5.2						

MEX 02 17:55:59.5±0.8**,16°.32N×98°.43W,h15km,MD3.8,Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.30	76	*e*P	Pg	17 56 03.8	-2.1
PNIG				*e*S	Sg	17 56 08.3	-1.9
TLIG	Tlapa	1.24	354	*e*P	Pn	17 56 18.4	-4.1
TLIG				*e*S	Sb	17 56 33.6	-5.1
VHO	Vista Hermosa	1.79	65	*e*P	Pn	17 56 29.2	-0.9
VHO				*e*S	Sn	17 56 51.5	-1.2
CAIG	El Cayaco	1.90	293	*e*P	Pn	17 56 28.0	-3.4
CAIG				*e*S	Sn	17 56 51.3	-3.8
HUIG	Huatulco	2.30	103	*e*P	Pn	17 56 33.5	-3.5

*IDC **02** 18:06:59.0±0.9, 16°.33N×98°.47W, h0km, mb4.2/9, mb1 4.3/14, mb1mx4.0/50, mbtmp4.1/14, ML3.6/5, Error ellipse: s-maj=21.7km s-min=13.7km az=31.0*

*ISCJB **02** 18:07:01.3±0.3, 16°.64N±0°.03×98°.15W±0°.03, h10km, mb4.4/54, Error ellipse: s-maj=4.8km s-min=3.6km az=37.9*

*NEIC **02** 18:07:02.1±0.0, 16°.41N×98°.65W, h10km, mb4.5/60, MD4.6(MEX), After MEX.*

*MEX **02** 18:07:02.3±1.1, 16°.40N×98°.55W, h10km, MD3.2*

ISC 02 18:07:00.6±0.6**,16°.44N**±0°.05×**98°.52W**±0°.05**,h10km,n289, σ1s.51/291,mb4.5/54,Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.38	96	*e*P	Pg	18 07 06.2	-1.9
PNIG				*i* S	Sg	18 07 11.3	-1.9
TLIG	Tlapa	1.12	358	*i* P	Pb	18 07 20.6	-1.7
TLIG				*e*S	Sg	18 07 33.9	-3.0
TLIG	Tlapa	1.12	358	*i* P	Pb	18 07 20.6	-1.7
TLIG				*e*S	Sg	18 07 33.9	-3.0
CAIG	El Cayaco	1.78	290	*e*P	Pn	18 07 29.2	-2.3
VHO	Vista Hermosa	1.82	69	*e*P	Pn	18 07 31.3	-1.0
VHO				*e*S	Sn	18 07 54.8	-0.8
HUIG	Huatulco	2.41	106	*e*P	Pn	18 07 39.1	-1.1
HUIG				*e*S	Sn	18 08 05.3	-4.4
HUIG	Huatulco	2.41	106	*e*Pn	Pn	18 07 43.3	+3.1
UNM	Universidad Na	2.95	348	*e*Pn	Pn	18 07 51.8	+4.0
CMIG	Matias Romero	3.54	79	Pn	Pn	18 07 55.5	-0.3
	6.3nm,0.3s,baz=260,slow=18,SNR=9.7						
CMIG				Pg	Pb	18 08 03.7	+0.2
	23nm,0.3s,baz=267,slow=16,SNR=28						
CMIG				Lg	Lg	18 08 50.9	
	99nm,0.3s,baz=349,slow=19,SNR=18						
LVIG	Laguna Verde	3.83	31	*e*Pn	Pn	18 07 58.0	-1.7
MOIG	Morelia	4.11	322	*e*Pn	Pb	18 08 11.0	-2.2
JRQG	Juriquilla Cam	4.62	337	*e*Pn	Pb	18 08 19.8	-2.2
APG	El Apazote	7.89	99	Pn	Pn	18 08 54.0	-1.7
	0.7nm,0.3s,baz=327,slow=14,SNR=6.3						
H06E1	SOCORRO T-PHAS	12.06	283	T	T	18 22 03.7	
	SNR=9.5						
HKT	Hockley	13.68	10	*e*Pn	P	18 10 25.3	+1.8
LTX	Lajitas	13.68	341	*e*Pn	Pn	18 10 15.9	+1.0
TXAR	Lajitas Array	13.68	341	Pn	Pn	18 10 15.9	+1.0
	0.1nm,0.3s,baz=154,slow=11,SNR=3.7						
TXAR				Lg	Lg	18 14 22.5	
	0.1nm,0.3s,baz=156,slow=27,SNR=3.4						
TX31	Lajitas Ar. Si	13.68	341	*e*Pn	Pn	18 10 18.0	+3.1
JTS	JuntasAbangare	14.54	113	Pn	Pn	18 10 26.2	-0.5
	0.3nm,0.3s,baz=4.4,slow=17,SNR=1.6						
WHTX	Lake Whitney,	15.52	3	P	Pn	18 10 42.2	+2.6
	baz=184						
ABTX	Abilene, Hawle	16.15	357	P	Pn	18 10 49.3	+1.5
	baz=177,SNR=7.5						
ABTX	Abilene, Hawle	16.15	357	*e*Pn	P	18 10 51.5	+0.4
	24nm,0.8s						
MNTX	Cornudas Mount	16.43	339	P	P	18 10 54.4	+0.3
	baz=157						
MNTX	Cornudas Mount	16.43	339	*e*Pn	Pn	18 10 53.7	+2.3
	17nm,1.6s						
446A	Poplarville	16.56	29	P	Pn	18 10 53.0	0.0
	baz=213						
Z40A	Long Farm, Mag	17.38	14	P	Pn	18 11 03.6	+0.3
	baz=197,SNR=6.8						
319A	Douglas	17.81	329	*e*Pn	P	18 11 12.3	+2.7
	31nm,1.4s						
MSTX	Muleshoe	17.88	348	P	Pn	18 11 10.1	+0.5
	baz=167						
MSTX	Muleshoe	17.88	348	*e*Pn	Pn	18 11 09.7	+0.1
	17nm,1.1s						
X39A	Fountain Ranch	18.43	12	P	P	18 11 15.8	-0.5
	baz=194,SNR=5.3						
MIAR	Mount Ida	18.57	13	P	P	18 11 17.6	-0.2
	baz=195,SNR=10						
MIAR	Mount Ida	18.57	13	*e*P	P	18 11 18.1	+0.3
	26nm,1.0s						
AMTX	Amarillo	18.59	352	P	P	18 11 18.5	+0.4
	baz=171						
AMTX	Amarillo	18.59	352	*e*P	P	18 11 17.9	-0.2
	25nm,1.3s						
147A	Livingston	18.64	28	P	P	18 11 18.2	-0.4
	baz=212						
X40A	Basin Creek Fa	18.69	15	P	P	18 11 18.5	-0.6
	baz=198						
UALR	University of	19.08	16	*e*P	P	18 11 24.4	+0.9
	23nm,1.0s						
W39A	Magazine	19.16	12	P	P	18 11 24.4	+0.2
	baz=194						
W39A	Magazine	19.16	12	*e*P	P	18 11 25.8	+1.5
	12nm,0.8s						
TUC	Tucson	19.33	327	P	Pn	18 11 29.8	+2.5
	baz=142						
Y46A	Houston	19.43	25	P	P	18 11 27.1	-0.1
	baz=209,SNR=5.2						
W41B	Gary Mavity, V	19.49	16	P	P	18 11 28.1	+0.2
	baz=199						
TUL1	Leonard	19.55	7	P	P	18 11 28.4	-0.1
	baz=188						
TUL1	Leonard	19.55	7	*e*P	P	18 11 28.1	-0.4
	24nm,0.9s						
Z48A	Northport	19.56	28	P	P	18 11 27.9	-0.7
	baz=213						
251A	Midway	19.61	35	P	P	18 11 28.6	-0.7
	baz=220						
150A	Eclectic	19.68	33	P	P	18 11 29.4	-0.6
	baz=218						
ANMO	Albuquerque	19.76	340	P	P	18 11 32.4	+1.3
	0.2nm,0.3s,baz=346,slow=12,SNR=8.0						
ANMO	Albuquerque	19.76	340	P	P	18 11 32.9	+1.9
	baz=157						
ANMO	Albuquerque	19.76	340	*e*P	Pn	18 11 33.3	+0.8
	11nm,1.1s						
V39A	Pettigrew	19.81	12	P	P	18 11 31.3	-0.1
	baz=194,SNR=16						
Y47A	UCPARC, Winfie	19.87	27	P	P	18 11 31.3	-0.7
	baz=212						
Z49A	Columbiana	19.89	31	P	P	18 11 32.1	-0.1
	baz=216,SNR=7.1						
V40A	Witts Springs	19.95	14	P	P	18 11 32.6	-0.3
	baz=196,SNR=7.0						
V40A	Witts Springs	19.95	14	*e*P	P	18 11 33.9	+0.9
	17nm,0.9s						
151A	Opelika	19.99	34	P	P	18 11 32.9	-0.5
	baz=220						
556A	Lake Butler	20.01	45	P	P	18 11 33.1	-0.5
	baz=231						
V41A	Mountainview	20.09	15	P	P	18 11 33.9	-0.5
	baz=198,SNR=6.1						
X46A	Booneville	20.13	24	P	P	18 11 34.5	-0.3
	baz=209						
Y48A	Jasper	20.18	28	P	P	18 11 35.0	-0.4
	baz=213						
214A	Organ Pipe Nat	20.18	323	P	Pn	18 11 39.0	+1.6
	baz=137						
Z50A	Ashland	20.24	32	P	P	18 11 35.7	-0.5
	baz=217						
V42A	Cord	20.31	17	P	P	18 11 36.2	-0.6
	baz=200						
U39A	Green Forest	20.37	12	P	P	18 11 37.0	-0.4
	baz=194,SNR=9.7						
U40A	Yellville	20.47	13	P	P	18 11 38.3	-0.3
	baz=196,SNR=15						
Y49A	Blount Mountai	20.49	30	P	P	18 11 37.7	-1.1
	baz=215						
U41A	Viola	20.68	15	P	P	18 11 40.2	-0.6
	baz=198						
X48A	Hartselle	20.69	28	P	P	18 11 39.8	-1.1
	baz=213						
PLAL	Pickwick Lake	20.70	25	*e*P	P	18 11 41.5	+0.4
	30nm,1.3s						
X18A	Snowflake	20.73	332	*e*P	Pn	18 11 44.9	+0.8
	33nm,1.4s						
Y50A	Piedmont	20.84	31	P	P	18 11 42.1	-0.6
	baz=217						
T38A	Diamond	20.86	10	P	P	18 11 42.6	-0.2
	baz=192,SNR=7.1						
U42A	Revenden	20.87	17	P	P	18 11 42.7	-0.2
	baz=200						
T39A	Clever	21.01	12	P	P	18 11 44.1	-0.3
	baz=194						
X49A	Woodville	21.07	29	P	P	18 11 44.1	-0.9
	baz=214						
W47A	Westpoint	21.13	25	P	P	18 11 44.9	-0.8
	baz=210						
T25A	Trinidad	21.27	347	P	P	18 11 48.9	+1.4
	baz=165,SNR=10						
T25A	Trinidad	21.27	347	*e*P	P	18 11 50.0	+2.5
	24nm,0.9s						
T40A	Mansfield	21.31	13	P	P	18 11 47.1	-0.5
	baz=196,SNR=8.9						
W48A	Pulaski	21.32	27	P	P	18 11 47.2	-0.5
	baz=212						
X50A	Fort Payne	21.34	30	P	P	18 11 47.4	-0.7
	baz=216						
T41A	Mountain View	21.38	15	P	P	18 11 48.1	-0.3
	baz=198,SNR=11						
V46A	Holladay	21.40	24	P	P	18 11 48.1	-0.5
	baz=208,SNR=5.4						
PBMO	Poplar Bluff	21.50	18	*e*P	P	18 11 50.2	+0.6
	13nm,0.8s						
S38A	Stockton	21.50	10	P	P	18 11 49.9	+0.2
	baz=192						
T42A	Van Buren	21.54	16	P	P	18 11 50.1	0.0
	baz=200						
V47A	Nunnelly	21.66	25	P	P	18 11 50.8	-0.6
	baz=210						
S39A	Bolivar	21.66	11	P	P	18 11 51.7	+0.3
	baz=194,SNR=11						
GOGA	Godfrey	21.68	36	P	P	18 11 50.7	-0.9
	baz=222						
GOGA	Godfrey	21.68	36	*e*P	P	18 11 50.8	-0.8
	24nm,1.3s						
155A	Kite	21.70	39	P	P	18 11 50.9	-0.9
	baz=226						
S40A	Lebanon	21.74	13	P	P	18 11 52.3	+0.1
	baz=196						
Y14A	Wickenburg	21.76	326	*e*P	P	18 11 55.4	+2.8
	11nm,0.9s						
WVT	Waverly	21.80	24	P	P	18 11 52.5	-0.4
	baz=209						
WVT	Waverly	21.80	24	*e*P	P	18 11 53.1	+0.2
	20nm,0.8s						
T43A	Greenville	21.82	18	P	P	18 11 52.8	-0.3
	baz=202,SNR=8.1						
V48A	Smith Brothers	21.87	26	P	P	18 11 52.6	-1.1
	baz=212						
S41A	Jillco Farms,	21.90	15	P	P	18 11 53.4	-0.6
	baz=198,SNR=13						
R38A	Fenwick Farm,	22.05	10	P	P	18 11 55.2	-0.3
	baz=192						
SDCO	Great Sand Dun	22.10	345	P	P	18 11 58.2	+1.7
	baz=162						
257A	Skidaway Islan	22.17	43	P	P	18 11 56.1	-0.8
	baz=230						
WUAZ	Wupatki	22.20	331	P	P	18 12 00.0	+2.6
	baz=146						
WUAZ	Wupatki	22.20	331	*e*P	P	18 11 59.8	+2.4
	18nm,1.2s						
U47A	Clarksville	22.28	24	P	P	18 11 57.5	-0.6
	baz=210						
S42A	Caledonia	22.32	16	P	P	18 11 58.1	-0.4
	baz=200,SNR=10						
R39A	Chumby, Stover	22.32	11	P	P	18 11 57.8	-0.7
	baz=194,SNR=9.0						
S43A	Fulton Ridge,	22.34	18	P	P	18 11 58.3	-0.4
	baz=202						
R40A	Maddies Statio	22.46	13	P	P	18 11 59.6	-0.3
	baz=196,SNR=10						
S22A	4UR Ranch, Cre	22.46	343	P	P	18 12 01.5	+1.2
	baz=159,SNR=7.2						
S22A	4UR Ranch, Cre	22.46	343	*e*P	P	18 12 02.4	+2.1
	7.9nm,0.9s						
CCM	Cathedral Cave	22.47	15	P	P	18 11 59.9	-0.2
	baz=199						
CCM	Cathedral Cave	22.47	15	*e*P	P	18 12 00.3	+0.2
	25nm,1.1s						
Y12C	Blythe	22.47	323	P	P	18 12 02.8	+2.7
	baz=137						
MVCO	Mesa Verde	22.50	339	P	P	18 12 02.0	+1.3
	baz=155						
MVCO	Mesa Verde	22.50	339	*e*P	P	18 12 02.9	+2.2
	33nm,1.4s						
T46A	Princeton	22.58	23	P	P	18 11 60.0	-1.3
	baz=208						
U48A	Cassie Pea, Po	22.65	26	P	P	18 12 01.1	-0.9
	baz=211						
PDMCI	Parker Dam,Lak	22.66	325	P	P	18 12 04.8	+2.7
	baz=138						
R41A	Rosebud	22.67	15	P	P	18 12 01.9	-0.3
	baz=198						
SWSC	Sam W. Stewart	22.68	320	P	P	18 12 05.3	+3.0
	baz=133						
S44A	Carbondale	22.70	19	P	P	18 12 02.1	-0.4
	baz=204						
R42A	Luebbering	22.80	16	P	P	18 12 02.5	-1.0
	baz=200						
T47A	Sharon Grove	22.83	24	P	P	18 12 02.6	-1.3
	baz=210						
Q38A	Cooks Store, C	22.85	10	P	P	18 12 03.5	-0.6
	baz=192						
S45A	Carrier Mills	22.91	21	P	P	18 12 03.6	-1.1
	baz=205						
Q39A	Willow Grove F	23.04	11	P	P	18 12 05.6	-0.5
	baz=194						
IRM	Iron Mountain	23.12	323	P	P	18 12 10.0	+3.0
	baz=136						
Q40A	Laux Farm, Aux	23.17	13	P	P	18 12 07.1	-0.3
	baz=196						
Q24A	Divide	23.18	347	*e*P	P	18 12 11.6	+3.7
	6.7nm,0.8s						
T48A	Bowling Green	23.22	25	P	P	18 12 06.8	-1.1
	baz=211						
TKL	Tuckaleechee C	23.23	32	P	P	18 12 07.4	-0.6
	9.4nm,1.0s,baz=143,slow=4.0,SNR=4.1						
TKL	Tuckaleechee C	23.23	32	*e*P	P	18 12 07.4	-0.6
	79nm,1.8s						
NEE2	Needles Airpor	23.27	325	P	P	18 12 11.6	+3.2
	baz=138						
Q41A	Truxton	23.33	14	P	P	18 12 08.0	-0.9
	baz=198,SNR=6.2						
P37A	Lathrop	23.35	8	P	P	18 12 08.3	-0.9
	baz=190						
PV01	Paradox Valley	23.36	340	*e*P	P	18 12 12.0	+2.4
U15A	North Rim	23.37	331	*e*P	P	18 12 11.9	+2.1
	17nm,1.3s						
P38A	Dawn	23.51	10	P	P	18 12 10.5	-0.3
	baz=192						
P39B	Salisbury	23.51	11	P	P	18 12 10.3	-0.5
	baz=194						
TPC	Twentynine Pal	23.62	321	*e*P	P	18 12 17.3	+5.3
P40A	Paris	23.69	13	P	P	18 12 12.4	-0.2
	baz=196,SNR=6.5						
O34A	Beatrice	23.72	3	P	P	18 12 12.6	-0.2
	baz=185,SNR=5.3						
S48A	Wiedeman Farm,	23.83	25	P	P	18 12 13.0	-0.9
	baz=211						
SMCO	Snowmass	23.84	344	*e*P	P	18 12 16.8	+2.4
	9.0nm,1.0s						
GMRC	Granite Mounta	23.87	323	P	P	18 12 16.4	+1.9
	baz=136						
O38A	Galt	24.01	10	P	P	18 12 15.1	-0.5
	baz=192						
ISCO	Idaho Springs	24.09	347	P	P	18 12 16.9	+0.1
	baz=164,SNR=9.2						
ISCO	Idaho Springs	24.09	347	*e*P	P	18 12 17.8	+1.1
	10nm,1.0s						
KNB	Kanab	24.10	331	*e*P	P	18 12 19.5	+2.8
	34nm,1.7s						
P42A	Winchester	24.14	16	P	P	18 12 16.5	-0.3
	baz=200,SNR=6.5						
KMSC	Kings Mountain	24.15	36	P	P	18 12 15.6	-1.3
	baz=224						
R47A	Wooly Knot Far	24.20	24	P	P	18 12 16.1	-1.2
	baz=209,SNR=9.8						
WCI	Wyandotte Cave	24.23	24	P	P	18 12 16.4	-1.2
	baz=210						
WCI	Wyandotte Cave	24.23	24	*e*P	P	18 12 18.0	+0.3
	48nm,1.4s						
HEC	Hector,Ludlow	24.29	322	P	P	18 12 20.7	+2.3
	baz=135						
O40A	La Belle	24.30	12	P	P	18 12 17.6	-0.7
	baz=196,SNR=7.9						
DSCC	Desert Studies	24.38	323	*e*P	P	18 12 23.0	+3.9
O41A	Passleys Farm,	24.51	14	P	P	18 12 19.2	-1.1
	baz=198,SNR=5.9						
MTPU	Mount Pierson	24.66	333	*e*P	P	18 12 25.1	+3.0
	28nm,1.1s						
N38A	Joes South For	24.70	10	P	P	18 12 21.5	-0.5
	baz=192						
FMP	Fort Macarthur	24.76	318	*e*P	P	18 12 27.0	+4.5
Q47A	Bedord North L	24.79	23	P	P	18 12 22.0	-0.8
	baz=209						
GSC	Goldstone, Bar	24.90	322	P	P	18 12 25.4	+1.5
	baz=135						
GSC	Goldstone, Bar	24.90	322	*e*PcP	PcP	18 16 02.8	+3.1
N39A	Derby Farms, D	24.91	11	P	P	18 12 23.4	-0.4
	baz=194,SNR=7.7						
SRU	San Rafael Swe	24.91	337	*e*P	P	18 12 27.4	+3.2
	18nm,1.2s						
PASC	Pasadena Art C	24.98	319	*e*P	P	18 12 25.2	+0.7
Q16A	Castle Valley	24.99	336	*e*P	P	18 12 28.0	+3.1
	19nm,1.0s						
MSU	Marysvale	25.05	334	*e*P	P	18 12 29.1	+3.7
O20A	White River Ci	25.08	342	*e*P	P	18 12 28.7	+3.1
	15nm,1.0s						
N23A	Red Feather La	25.21	347	P	P	18 12 26.5	-0.4
	baz=163						
N23A	Red Feather La	25.21	347	*e*P	P	18 12 29.6	+2.8
	8.8nm,0.9s						
P18A	Preston Nutter	25.27	338	*e*P	P	18 12 29.4	+1.9
	23nm,1.0s						
M38A	Pleasantville	25.32	9	P	P	18 12 26.4	-1.1
	baz=192,SNR=8.8						
EDW2	Edwards Air Fo	25.32	320	P	P	18 12 30.3	+2.5
	baz=132						
TMUT	Trail Mountain	25.33	337	*e*P	P	18 12 29.6	+1.5
	11nm,1.2s						
N42A	Yates City	25.39	15	P	P	18 12 27.8	-0.4
	baz=200						
O45A	Potomac	25.52	19	P	P	18 12 28.6	-0.7
	baz=205						
M39A	Webster	25.55	11	P	P	18 12 29.4	-0.3
	baz=194						
N43A	Stutzman Famil	25.72	16	P	P	18 12 31.0	-0.2
	baz=201						
SCIA	State Center	25.79	9	P	P	18 12 31.3	-0.5
	baz=192						
SCIA	State Center	25.79	9	*e*P	P	18 12 32.0	+0.2
	40nm,1.0s						
L36A	Harm Buss Farm	25.79	7	P	P	18 12 31.6	-0.2
	baz=189						
MPMC	Manual Prospec	25.82	323	P	P	18 12 34.4	+2.0
	baz=135						
SFIN	Lafayette	25.84	20	P	P	18 12 31.7	-0.6
	baz=206						
N44A	Piper City	25.89	18	P	P	18 12 31.9	-0.8
	baz=204						
L37A	Phoenix Point,	25.93	8	P	P	18 12 33.0	0.0
	baz=191						
O47A	Sheridan	26.03	22	P	P	18 12 33.1	-0.9
	baz=208						
L38A	Oak Wood Farm,	26.06	9	P	P	18 12 34.1	-0.2
	baz=192						
ISA	Isabella, Lake	26.14	321	P	P	18 12 37.0	+1.9
	baz=132						
L39A	Vinton	26.21	11	P	P	18 12 34.7	-0.9
	baz=194						
M43A	Waltham Townsh	26.25	16	P	P	18 12 35.1	-0.8
	baz=201						
L40A	Anamosa	26.30	12	P	P	18 12 35.4	-1.0
	baz=196						
M44A	Midewin, Midew	26.46	18	P	P	18 12 36.5	-1.4
	baz=203						
L41A	Preston	26.47	13	P	P	18 12 36.3	-1.6
	baz=198						
R11A	Troy Canyon, C	26.48	329	P	P	18 12 39.4	+1.1
	baz=141						
K37A	Belmond	26.57	8	P	P	18 12 38.2	-0.7
	baz=191						
L42A	Oliver, Polo	26.59	15	P	P	18 12 38.0	-1.1
	baz=199						
DUG	Dugway, Tooele	26.74	335	P	P	18 12 42.1	+1.5
	baz=149						
DUG	Dugway, Tooele	26.74	335	*e*P	P	18 12 43.5	+2.9
	12nm,1.4s						
K39A	Oelwein	26.79	11	P	P	18 12 39.3	-1.5
	baz=194						
SMMC	Simmler	26.86	318	P	P	18 12 44.2	+2.6
	baz=129						
K40A	Colesburg	26.93	12	P	P	18 12 41.6	-0.5
	baz=196						
TIN	Tinemaha, Big	26.94	323	P	P	18 12 45.2	+2.7
	baz=135						
TIN	Tinemaha, Big	26.94	323	*e*PcP	PcP	18 16 03.2	-1.2
TCUT	Toone Canyon	27.00	338	*e*P	P	18 12 45.3	+2.3
	13nm,1.0s						
K22A	Casper	27.01	347	P	P	18 12 43.1	+0.1
	baz=163						
K22A	Casper	27.01	347	*e*P	P	18 12 44.8	+1.7
	12nm,1.0s						
K41A	Shullsburg	27.02	13	P	P	18 12 42.4	-0.5
	baz=198						
J37A	Redenius Farm,	27.12	8	P	P	18 12 43.5	-0.4
	baz=191						
ECSD	EROS Data Cent	27.26	3	P	P	18 12 45.4	+0.4
	baz=184						

ECSD	**EROS Data Cent** 17nm,1.6s	27.26	3	*e*P		P	18 12 45.3	+0.2
ACSO	**Alum Creek Sta** baz=214	27.29	27	P		P	18 12 44.2	-1.1
ACSO	**Alum Creek Sta** 15nm,0.7s	27.29	27	*e*P		P	18 12 45.1	-0.2
J38A	**Wedel Dairy, R** baz=193	27.29	10	P		P	18 12 45.4	0.0
JFWS	**Jewell Farm** baz=198	27.32	13	P		P	18 12 45.4	-0.2
J39A	**Decorah** baz=194	27.43	11	P		P	18 12 46.5	-0.1
J41A	**Loganville** baz=198	27.80	13	P		P	18 12 49.7	-0.2
BW06	**Boulder Array** baz=157,SNR=7.3	27.89	342	P		P	18 12 51.8	+0.8
BW06	**Boulder Array** 7.7nm,1.1s	27.89	342	*e*P		P	18 12 52.2	+1.2
PD31	**Pinedale Array**	27.89	342	*e*P		P	18 12 52.7	+1.7
PDAR	**Pinedale Array** 2.9nm,0.8s,baz=136,slow=8.9,SNR=19	27.89	342	P		P	18 12 52.5	+1.5
PDAR	**Pinedale Array**	27.89	342	*e*P		P	18 12 52.3	+1.3
NV01	**Mina Array Sit**	27.96	325	*e*P		P	18 12 55.2	+3.5
NVAR	**Mina Array Bea** 2.5nm,0.8s,baz=156,slow=10,SNR=11	27.96	325	P		P	18 12 54.1	+2.4
J42A	**Columbus** baz=200	27.96	15	P		P	18 12 51.5	+0.1
I39A	**Houston** baz=195	27.97	11	P		P	18 12 51.5	+0.1
I38A	**Scanlan Farm,** baz=193	28.01	10	P		P	18 12 51.2	-0.7
SDV	**Santo Domingo** 1.7nm,0.4s,baz=283,slow=7.6,SNR=3.8	28.20	102	P		P	18 12 55.0	+1.1
I42A	**Draeger Farm,** baz=200	28.56	15	P		P	18 12 56.1	-0.5
H38A	**Maiden Rock** baz=193	28.64	9	P		P	18 12 57.2	-0.2
I43A	**Langenfeld Bro** baz=201	28.74	16	P		P	18 12 57.3	-1.0
H40A	**Chili** baz=196	28.93	12	P		P	18 12 59.6	-0.3
LOHW	**Long Hollow** 4.7nm,0.9s	28.97	342	*e*P		P	18 13 02.7	+2.1
H41A	**Junction City** baz=198	29.07	13	P		P	18 13 01.2	-0.1
SPMN	**Marine on St.** baz=192	29.10	8	P		P	18 13 01.7	+0.2
FXWY	**Fox Creek** 7.7nm,1.3s	29.12	341	*e*P		P	18 13 03.9	+1.9
N54A	**Moraine State** baz=219	29.22	30	P		P	18 13 02.9	+0.2
N54A	**Moraine State** 90nm,1.2s	29.22	30	*e*P		P	18 13 04.0	+1.4
IMW	**Indian Meadow** 3.6nm,0.8s	29.33	341	*e*P		P	18 13 06.1	+2.2
G39A	**Holcombe** baz=195	29.42	11	P		P	18 13 04.6	+0.3
G40A	**Rib Lake** baz=196	29.58	12	P		P	18 13 06.0	+0.2
G42A	**Mountain** baz=200	29.95	14	P		P	18 13 08.7	-0.2
F38A	**Pierce - Schro** baz=193	29.95	9	P		P	18 13 09.1	+0.1
RLMT	**Red Lodge** baz=159,SNR=5.5	29.99	345	P		P	18 13 11.3	+1.7
RLMT	**Red Lodge** 7.7nm,1.0s	29.99	345	*e*P		P	18 13 12.9	+3.3
BEKR	**Beckworth** 31nm,0.6s	30.10	325	*e*P		P	18 13 12.9	+2.2
YHH	**Holmes Hill** 8.7nm,1.6s	30.12	342	*e*P		P	18 13 12.5	+1.6
HLID	**Hailey** baz=149	30.23	337	P		P	18 13 13.5	+1.8
E39A	**Mellen** baz=195	30.58	11	P		P	18 13 14.6	0.0
E40A	**Wakefield** baz=196	30.77	12	P		P	18 13 16.2	0.0
F43A	**Flat Rock, Esc** baz=202	30.81	16	P		P	18 13 16.4	-0.2
D36A	**Goodland** baz=190	30.97	7	P		P	18 13 17.6	-0.4
E41A	**Kenton** baz=198	30.98	13	P		P	18 13 18.0	-0.1
D37A	**Cotton** baz=192	31.05	8	P		P	18 13 18.6	-0.1
BOZ	**Bozeman (W)** baz=155	31.08	342	P		P	18 13 21.2	+2.0
WVOR	**Wild Horse Val** 12nm,1.3s	31.12	330	*e*P		P	18 13 23.3	+3.8
F45A	**CMU Biological** baz=205	31.13	18	P		P	18 13 19.2	-0.1
F44A	**Big Bay de Noc** baz=203	31.14	16	P		P	18 13 19.2	-0.3
DLMT	**Dillon** 11nm,1.1s	31.17	341	*e*P		P	18 13 22.9	+3.0
E42A	**Champion** baz=200	31.18	14	P		P	18 13 19.7	-0.3
E43A	**Lone Tree Farm** baz=202	31.36	15	P		P	18 13 21.4	-0.1
C35A	**Jirik Farms, M** baz=189	31.40	6	P		P	18 13 21.8	0.0
C36A	**Pine Crest Far** baz=191	31.59	7	P		P	18 13 23.4	0.0
D41A	**Chassel** baz=199	31.63	13	P		P	18 13 23.7	-0.2
J08A	**Circle Bar Ran** 11nm,1.0s	31.76	332	*e*P		P	18 13 26.8	+1.6
AGMN	**Agassiz Nation** baz=185	31.85	3	P		P	18 13 25.9	+0.1
AGMN	**Agassiz Nation** 17nm,1.5s	31.85	3	*e*P		P	18 13 25.5	-0.2
B35A	**Bob, Littlefor** baz=189	32.08	6	P		P	18 13 27.6	-0.1
A33A	**Warroad** baz=186	32.52	4	P		P	18 13 31.5	0.0
B040	**Montague**	32.59	326	*e*P		P	18 13 34.1	+1.7
F10A	**Beach Ranch, E** 19nm,1.8s	33.34	336	*e*P		P	18 13 41.1	+2.2
JLK	**June Lake**	35.58	331	*e*PcP		PcP	18 16 28.2	+1.0
B05A	**Bryant** baz=141	37.16	334	P		P	18 14 13.2	+1.5
FFC	**Flin Flon** 11nm,0.9s	38.31	357	*e*P		P	18 14 22.6	+1.3
EDM	**Edmonton** 26nm,1.1s	38.51	346	*e*P		P	18 14 24.5	+1.4
SCHQ	**Schefferville** 3.9nm,0.6s,baz=217,slow=5.6,SNR=3.7	45.43	25	P		P	18 15 19.9	+0.3
SCHQ	**Schefferville** 15nm,1.3s	45.43	25	*e*P		P	18 15 19.9	+0.3
YKA	**Yellowknife Ar** 1.9nm,0.8s,baz=157,slow=7.2,SNR=24	47.38	350	P		P	18 15 34.3	-0.4
YKB5	**Yellowknife Ar**	47.38	350	*e*P		P	18 15 34.4	-0.4
SIV	**San Ignacio** 1.0nm,0.8s,baz=304,slow=5.3,SNR=4.8	49.02	129	P		P	18 15 46.5	-1.6
IL1	**Eielson Array**	58.18	338	*e*P		P	18 16 55.4	+0.8
ILAR	**Eielson Array** 2.0nm,1.0s,baz=135,slow=4.5,SNR=10	58.18	338	P		P	18 16 55.1	+0.6
SKT	**Skwentna** 6.9nm,0.5s	58.63	334	*e*P		P	18 16 56.6	-1.2
TULEG	**Thule** 7.8nm,0.8s	62.05	8	*e*P		P	18 17 18.7	-2.2
PLCA	**Paso Flores** 1.8nm,0.8s,baz=4.0,slow=11,SNR=4.2	62.53	156	P		P	18 17 23.4	-1.3
WR1	**Warramunga Arr**	129.82	258	*e*PKPdf		PKPdf	18 26 10.9	-0.3
WRA	**Warramunga Arr** 0.7nm,0.9s,baz=86,slow=2.5,SNR=5.3	129.82	258	PKP		PKPdf	18 26 10.9	-0.3
CMAR	**Chiang Mai Arr** 0.3nm,0.4s,baz=324,slow=3.3,SNR=4.8	141.30	333	PKP		PKPdf	18 26 32.0	-0.7

MAN 02 18:07:25,10˚.44N×123˚.41E,h34km,mb4.1,ML2.9,MS2.6, Cebu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIM	**Jordan**	0.83	283	*e*P	Pb	18 07 41.9	+0.8
GUIM				*e*S	Sb	18 07 52.9	+0.9
SNPH	**Sibulan**	1.10	189	*e*P	Pb	18 07 45.1	-0.6
SNPH				*e*S	Sn	18 07 55.8	-2.5
MSLP	**Maasin**	1.45	102	*e*P	Pn	18 07 50.2	+1.3
MSLP				*e*S	Sb	18 08 21.0	+11

MEX 02 18:12:23.6±0.6,16˚.35N×98˚.51W,h5km±18km,MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	0.37	83	*i* P	Pg	18 12 30.4	-0.3
PNIG				*e*S	Sg	18 12 35.6	-0.1
TLIG	**Tlapa**	1.21	357	*e*P	Pg	18 12 43.6	-3.2
TLIG				*e*S	Sg	18 12 58.3	-4.2
CAIG	**El Cayaco**	1.82	293	*e*P	Pn	18 12 51.8	-3.8
CAIG				*e*S	Sn	18 13 14.5	-4.6
VHO	**Vista Hermosa**	1.85	67	*e*P	Pn	18 12 53.8	-2.4
VHO				*e*S	Sn	18 13 15.3	-4.7

*ISCJB **02** 18:15:38.3±0.8,48˚.8S±0˚.1×121˚.2E±0˚.4,h10km,mb3.8/7, Error ellipse: s-maj=35.1km s-min=14.0km az=17.3*
*IDC **02** 18:15:38.2±0.9,48˚.86S×121˚.16E,h0km,mb3.8/6, mb1 4.0/6,mb1mx3.8/40,mbtmp3.9/6,Error ellipse: s-maj=41.4km s-min=20.1km az=98.0*
*NEIC **02** 18:15:39.6±0.7,48˚.85S×121˚.08E,h10km,mb4.4/2,Error ellipse: s-maj=26.9km s-min=12.8km az=102.0*
ISC 02 18:15:39.9±0.8,48˚.9S±0˚.1×121˚.3E±0˚.3,h10km,n14, σ0s64/12,mb3.9/7,1C,Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W1	**Cape Leeuwin H** baz=160,slow=74,SNR=14	14.90	337	T	T	18 34 37.2	
H01W2	**Cape Leeuwin H** baz=160,slow=74,SNR=11	14.90	337	T	T	18 34 33.1	
H01W3	**Cape Leeuwin H** baz=160,slow=74,SNR=11	14.92	337	T	T	18 34 38.3	
STKA	**Stephens Creek** 1.2nm,0.7s,baz=203,slow=17,SNR=3.4	22.86	50	P	P	18 20 44.4	+1.1
ASAR	**Alice Springs** 1.3nm,0.8s,baz=205,slow=9.8,SNR=14	27.05	26	P	P	18 21 22.4	0.0
ASAR				PcP	PcP	18 24 43.0	-0.5
WRA	0.4nm,0.7s,baz=199,slow=2.2,SNR=7.1 **Warramunga Arr** 0.6nm,0.8s,baz=197,slow=12,SNR=4.7	30.70	25	P	P	18 21 54.4	-0.5
WRA				PcP	PcP	18 24 51.6	-1.0
VNDA	0.9nm,0.9s,baz=210,slow=2.2,SNR=6.2 **Vanda** 1.1nm,0.8s,baz=313,slow=7.9,SNR=5.7	32.66	165	P	P	18 22 11.4	-0.1
SBA	**Scott Base** 2.8nm,0.9s	33.72	164	P	P	18 22 27.9	+7.2
QSPA	**South Pole Qui** 5.8nm,1.0s,baz=330,slow=7.2,SNR=6.0	41.27	180	P	P	18 23 24.7	-0.3
QSPA	**South Pole Qui** 11nm,0.7s	41.27	180	*e*P	P	18 23 25.1	+0.1
SYO	**Syowa Base**	42.70	212	*e*P	P	18 23 37.0	+0.6
CMAR	**Chiang Mai Arr** 0.6nm,0.6s,baz=188,slow=5.5,SNR=8.7	69.89	337	P	P	18 26 51.4	+0.5
EKA	**Eskdalemuir Ar** 1.5nm,0.9s,baz=64,slow=1.7,SNR=3.3	146.04	302	PKPbc	PKPdf	18 35 17.6	-0.4
YKA	**Yellowknife Ar** 1.3nm,0.8s,baz=274,slow=2.2,SNR=20	146.84	45	PKPbc	PKPbc	18 35 20.8	-0.2

*IDC **02** 18:17:26.9±0.8,16˚.40N×98˚.47W,h0km,mb4.3/14, mb1 4.5/19,mb1mx4.2/50,mbtmp4.3/19,ML3.8/5,Error ellipse: s-maj=20.5km s-min=11.7km az=39.0*
*NEIC **02** 18:17:28.0±0.0,16˚.33N×98˚.49W,h1km,mb4.8/126, MD4.4(MEX),After MEX.*
*MEX **02** 18:17:28.1±0.7,16˚.37N×98˚.48W,h1km,MD4.4*
*BJI **02** 18:17:28.2,16˚.62N×98˚.41W,h10km,Ms5.0/1,Ms7 4.7/1*
*ISCJB **02** 18:17:29.9±0.5,16˚.60N±0˚.03×98˚.19W±0˚.02,h23km±4km, mb4.7/117,Error ellipse: s-maj=5.2km s-min=3.8km az=17.9*
ISC 02 18:17:27.5±1.4,16˚.47N±0˚.05×98˚.46W±0˚.05,h1km±8km, n473,σ1s36/481,mb4.8/117,Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	0.33	103	*e*P	Pg	18 17 34.2	+0.3
PNIG				*i* S	Sg	18 17 39.1	+1.0
TLIG	**Tlapa**	1.09	355	*e*P	Pg	18 17 48.1	-0.4
TLIG				*e*S	Sg	18 18 03.1	+0.3
TLIG	**Tlapa**	1.09	355	*e*P	Pg	18 17 48.0	-0.5
TLIG				*e*S	Sg	18 18 03.1	+0.3
VHO	**Vista Hermosa**	1.76	70	*e*P	Pn	18 17 58.0	-1.3
VHO				*e*S	Sn	18 18 20.2	-2.3
VHO	**Vista Hermosa**	1.76	70	*e*Pn	Pn	18 17 59.1	-0.3
VHO				*e*Sn	Sn	18 18 20.2	-2.3
CAIG	**El Cayaco**	1.82	289	*e*P	Pn	18 17 57.1	-2.9
CAIG	**El Cayaco**	1.82	289	*e*Pn	Pn	18 17 57.1	-2.9
UNM	**Universidad Na**	2.93	347	*e*Pn	Pn	18 18 17.5	+2.1
CMIG	**Matias Romero** 9.4nm,0.3s,baz=263,slow=16,SNR=12	3.48	79	Pn	Pn	18 18 21.9	-1.0
CMIG				Pg	Pb	18 18 30.5	+0.5
CMIG	19nm,0.3s,baz=236,slow=13,SNR=10			Lg	Lg	18 19 17.3	
LVIG	133nm,0.3s,baz=242,slow=14,SNR=4.7 **Laguna Verde**	3.78	31	*e*Pn	Pn	18 18 25.0	-1.9
MOIG	**Morelia**	4.11	321	*e*Pn	Pn	18 18 33.3	+1.6
JRQG	**Juriquilla Cam**	4.62	336	*e*Pn	Pn	18 18 39.9	+1.3
ZAIG	**Zacatecas**	7.37	329	*e*Pn	Pn	18 19 18.0	+1.5
APG	**El Apazote** 1.5nm,0.3s,baz=214,slow=23,SNR=8.2	7.84	100	Pn	Pn	18 19 23.6	+0.6
APG				Sn	Sn	18 20 50.7	-1.8
APG	7.2nm,0.3s,baz=340,slow=15,SNR=5.1			Lg	Lg	18 21 35.1	
LNIG	4.5nm,0.3s,baz=234,slow=21,SNR=4.3 **Linares**	8.44	354	*e*Pn	Pn	18 19 30.6	-0.4
833A	**Chaparral WMA,** baz=176	11.83	356	P	Pn	18 20 19.4	+2.0
HKT	**Hockley**	13.64	10	*e*Pn	Pn	18 20 43.1	+1.1
LTX	**Lajitas**	13.67	340	*e*Pn	Pn	18 20 43.5	+0.8
TX31	**Lajitas Ar. Si**	13.67	340	*e*Pn	Pn	18 20 44.5	+1.8
TXAR	**Lajitas Array** 0.1nm,0.3s,baz=143,slow=10,SNR=7.5	13.67	340	Pn	Pn	18 20 43.5	+0.8
TXAR				Lg	Lg	18 24 43.0	
JCT	0.1nm,0.3s,baz=155,slow=24,SNR=4.5 **Junction City** baz=175	14.00	355	P	Pn	18 20 48.0	+0.8
JCT	**Junction City**	14.00	355	*e*Pn	Pn	18 20 48.6	+1.4
435B	**Jarrell** baz=184	14.27	3	P	Pn	18 20 53.7	+2.8
435B	**Jarrell**	14.27	3	*e*Pn	Pn	18 20 51.9	+1.1
JTS	**JuntasAbangare** 0.5nm,0.3s,baz=20,slow=15,SNR=3.0	14.50	113	Pn	Pn	18 20 54.4	+0.3
WHTX	**Lake Whitney,** baz=184,SNR=7.0	15.48	3	P	P	18 21 09.2	-2.5
WHTX	**Lake Whitney,** 194nm,1.5s	15.48	3	*e*Pn	Pn	18 21 03.1	-4.1
341A	**Kurthwood** baz=199	15.57	17	P	P	18 21 10.8	-1.8
NATX	**Nacogdoches** baz=194	15.61	12	P	P	18 21 11.6	-1.6
NATX	**Nacogdoches** 143nm,1.3s	15.61	12	*e*Pn	Pn	18 21 09.3	+0.4
240A	**Hunter Patters** baz=196	16.08	15	P	P	18 21 16.4	-2.0
ABTX	**Abilene, Hawle** baz=176,SNR=13	16.12	356	P	P	18 21 19.0	+0.1
ABTX	**Abilene, Hawle** 86nm,1.1s	16.12	356	*e*Pn	Pn	18 21 15.7	+0.2
MNTX	**Cornudas Mount** baz=156	16.42	339	P	P	18 21 20.9	-1.3
MNTX	**Cornudas Mount** 18nm,1.3s	16.42	339	*e*Pn	Pn	18 21 19.7	+0.4
446A	**Poplarville** baz=212	16.50	29	P	Pn	18 21 20.7	+0.4
140A	**Cam and Jess,** baz=196	16.70	14	P	Pn	18 21 23.3	+0.5
447A	**Lucedale** baz=214	16.84	30	P	Pn	18 21 23.9	-0.7
346A	**Big Creek Wild** baz=211	16.97	27	P	Pn	18 21 25.1	-1.1
244A	**Avery, Jackson** baz=206	17.04	23	P	Pn	18 21 26.9	-0.2
Z40A	**Long Farm, Mag** baz=196,SNR=7.1	17.33	14	P	P	18 21 31.7	-0.5
245A	**Little AP, Sta** baz=208	17.34	25	P	Pn	18 21 30.3	-0.6
Z41A	**Richland Creek** baz=198	17.48	16	P	P	18 21 33.4	-0.5
Z41A	**Richland Creek** 341nm,1.7s	17.48	16	*e*Pn	P	18 21 34.4	+0.5
Z42A	**Norrel Spur, H** baz=201	17.74	18	P	P	18 21 36.5	-0.3
319A	**Douglas** 69nm,1.5s	17.82	328	*e*Pn	P	18 21 38.3	+0.5
MSTX	**Muleshoe** baz=167,SNR=8.0	17.86	348	P	Pn	18 21 36.3	-1.1
MSTX	**Muleshoe** 35nm,1.1s	17.86	348	*e*Pn	Pn	18 21 36.3	-1.1
247A	**Quitman**	17.91	28	P	Pn	18 21 37.2	-0.7
Y40A	**Okolona** baz=196	18.08	14	P	Pn	18 21 38.4	-1.6
121A	**Cookes Peak, D** baz=150,SNR=8.1	18.09	334	P	P	18 21 41.1	+0.3
X39A	**Fountain Ranch** baz=193	18.39	11	P	Pn	18 21 42.3	-1.5
MIAR	**Mount Ida** baz=195,SNR=9.7	18.53	13	P	P	18 21 44.3	-1.2
MIAR	**Mount Ida** 29nm,1.0s	18.53	13	*e*P	P	18 21 44.1	-1.4
249A	**Camden** baz=216	18.56	32	P	P	18 21 44.5	-1.3
AMTX	**Amarillo** baz=170	18.57	352	P	P	18 21 45.0	-0.9
AMTX	**Amarillo** 17nm,0.8s	18.57	352	*e*P	P	18 21 45.2	-0.8
147A	**Livingston** baz=212	18.59	28	P	P	18 21 45.0	-1.1
X40A	**Basin Creek Fa** baz=197,SNR=5.7	18.64	15	P	Pn	18 21 46.7	-0.2
X40A	**Basin Creek Fa** 44nm,1.4s	18.64	15	*e*P	Pn	18 21 47.2	+0.3
Z46A	**Louisville** baz=209	18.74	26	P	Pn	18 21 47.9	-0.3
148A	**Greensboro** baz=214	18.89	30	P	P	18 21 49.0	-0.4
UALR	**University of** 51nm,1.4s	19.04	16	*e*P	P	18 21 50.7	-0.3
655A	**Horseshoe Beac** baz=230	19.07	44	P	P	18 21 50.2	-1.1
BNM	**Barren Site**	19.08	339	*e*P	Pn	18 21 53.2	+0.8
Y45A	**Yeager Farm, C** baz=207	19.10	23	P	P	18 21 51.0	-0.7
W39A	**Magazine** baz=194,SNR=7.5	19.12	12	P	P	18 21 51.0	-0.9
W39A	**Magazine** 106nm,1.8s	19.12	12	*e*P	Pn	18 21 52.5	-0.1
Z47A	**Carrollton** baz=212	19.12	28	P	Pn	18 21 52.2	-0.5
554A	**Perry** baz=228	19.16	42	P	P	18 21 51.3	-1.1
LPM	**Los Pinos Moun**	19.23	339	*e*P	Pn	18 21 54.4	+0.2
149A	**Jones** baz=216	19.23	31	P	P	18 21 52.1	-1.1
W40A	**Ferguson Farm,** baz=196	19.26	13	P	P	18 21 53.4	-0.1
W40A	**Ferguson Farm,** 79nm,1.4s	19.26	13	*e*P	Pn	18 21 54.1	-0.3
TUC	**Tucson** baz=142	19.33	327	P	Pn	18 21 55.5	+0.1
TUC	**Tucson** 25nm,1.4s	19.33	327	*e*P	Pn	18 21 56.1	+0.8
Y46A	**Houston** baz=209,SNR=8.1	19.38	25	P	P	18 21 53.0	-1.7
W41B	**Gary Mavity, V** baz=198	19.44	15	P	P	18 21 54.0	-1.5
W41B	**Gary Mavity, V** 53nm,1.5s	19.44	15	*e*P	P	18 21 55.4	-0.1
LRAL	**Lakeview Retre** baz=215	19.48	30	P	P	18 21 54.7	-1.2
LRAL	**Lakeview Retre** 38nm,1.4s	19.48	30	*e*P	P	18 21 56.2	+0.3
LAZ	**Ladron**	19.48	338	*e*P	P	18 21 54.1	-2.1
Z48A	**Northport** baz=213,SNR=8.4	19.50	28	P	P	18 21 54.4	-1.8
TUL1	**Leonard** baz=188	19.51	7	P	P	18 21 55.2	-1.1
TUL1	**Leonard** 40nm,0.8s	19.51	7	*e*P	P	18 21 55.1	-1.1
251A	**Midway** baz=220	19.56	35	P	P	18 21 54.7	-2.1
454A	**Quitman** baz=227	19.61	41	P	P	18 21 56.3	-1.1
150A	**Eclectic** baz=218	19.63	33	P	P	18 21 55.7	-1.8
OXF	**Oxford** baz=206	19.72	23	P	P	18 21 57.4	-1.1
OXF	**Oxford** 30nm,0.9s	19.72	23	*e*P	P	18 21 58.4	-0.1
ANMO	**Albuquerque** 0.3nm,0.3s,baz=333,slow=13,SNR=15	19.75	340	P	Pn	18 22 00.1	-0.3
ANMO	**Albuquerque** baz=157	19.75	340	P	P	18 21 59.5	+0.5
ANMO	**Albuquerque** 30nm,1.4s	19.75	340	*e*P	Pn	18 21 59.9	-0.6
V39A	**Pettigrew** baz=194,SNR=20	19.77	12	P	P	18 21 58.4	-0.7
Y47A	**UCPARC, Winfie** baz=211,SNR=5.5	19.82	27	P	P	18 21 58.3	-1.2
Z49A	**Columbiana** baz=216,SNR=17	19.84	31	P	P	18 21 59.4	-0.4
252A	**Lumpkin** baz=222	19.86	36	P	P	18 21 58.9	-1.2
V40A	**Witts Springs** baz=196,SNR=16	19.91	14	P	P	18 21 59.5	-1.1
V40A	**Witts Springs** 66nm,1.1s	19.91	14	*e*P	P	18 21 60.0	-0.6
151A	**Opelika** baz=220,SNR=8.6	19.93	34	P	P	18 22 00.3	-0.6
V41A	**Mountainview** baz=198,SNR=9.6	20.05	15	P	P	18 22 01.5	-0.6
X46A	**Booneville** baz=208,SNR=5.8	20.08	24	P	P	18 22 01.2	-1.2
Y48A	**Jasper** baz=213	20.13	28	P	P	18 22 01.3	-1.7
Z50A	**Ashland** baz=217,SNR=11	20.19	32	P	P	18 22 02.2	-1.5
214A	**Organ Pipe Nat** baz=137,SNR=5.9	20.19	322	P	Pn	18 22 06.0	+0.4
V42A	**Cord** baz=200	20.27	17	P	P	18 22 02.9	-1.6
U39A	**Green Forest** baz=194,SNR=13	20.32	12	P	P	18 22 03.6	-1.5
X47A	**Russelville** baz=210,SNR=5.4	20.34	26	P	P	18 22 04.1	-1.2
U40A	**Yellville** baz=196,SNR=18	20.43	13	P	P	18 22 04.3	-2.0
Y49A	**Blount Mountai** baz=215	20.43	30	P	P	18 22 04.3	-2.0
U41A	**Viola** baz=198,SNR=6.2	20.64	15	P	P	18 22 07.1	-1.4
X48A	**Hartselle** baz=212,SNR=6.6	20.64	28	P	P	18 22 07.4	-1.1
PLAL	**Pickwick Lake** 57nm,1.3s	20.65	25	*e*P	P	18 22 07.7	-1.0
W46A	**Michie** baz=208	20.66	24	P	P	18 22 07.8	-0.9
254A	**Abbeville** baz=225	20.67	39	P	P	18 22 07.4	-1.5
X18A	**Snowflake** 74nm,1.4s	20.73	332	*e*P	Pn	18 22 11.9	-0.1
Y50A	**Piedmont** baz=216	20.79	31	P	P	18 22 09.0	-1.2
T38A	**Diamond** baz=191,SNR=9.0	20.82	9	P	P	18 22 10.0	-0.4
U42A	**Revenden** baz=200,SNR=6.9	20.82	17	P	P	18 22 08.9	-1.6
T39A	**Clever** baz=194	20.97	11	P	P	18 22 10.9	-1.2
X49A	**Woodville** baz=214	21.01	29	P	P	18 22 10.8	-1.7
W47A	**Westpoint** baz=210	21.08	25	P	P	18 22 11.6	-1.7
W18A	**Petrified Fore** baz=149	21.14	334	P	P	18 22 15.9	+1.8
T25A	**Trinidad** baz=164,SNR=16	21.25	347	P	P	18 22 17.5	+2.1
T25A	**Trinidad** 37nm,1.0s	21.25	347	*e*P	P	18 22 17.1	+1.7
W48A	**Pulaski** baz=212,SNR=8.8	21.26	27	P	P	18 22 14.1	-1.1
T40A	**Mansfield** baz=196,SNR=18	21.26	13	P	P	18 22 14.5	-0.7
X50A	**Fort Payne** baz=216	21.29	30	P	P	18 22 14.1	-1.5
MHTCO	**State Highway** 25nm,1.1s	21.31	346	*e*P	P	18 22 17.7	+1.7
113A	**Mohawk Valley,** 14nm,0.8s	21.33	322	*e*P	P	18 22 17.8	+1.8
X16A	**Lo Mia Camp, P** 27nm,1.0s	21.34	329	*e*P	P	18 22 18.2	+1.9
T41A	**Mountain View** baz=198,SNR=20	21.34	15	P	P	18 22 15.3	-0.8
V46A	**Holladay** baz=208	21.35	24	P	P	18 22 15.2	-1.0
PBMO	**Poplar Bluff** 26nm,0.8s	21.45	18	*e*P	P	18 22 17.6	+0.4

S38A	Stockton baz=192	21.46	10	P	P	18 22 15.8	-1.6
T42A	Van Buren baz=200,SNR=13	21.50	16	P	P	18 22 17.8	+0.1
V47A	Nunnelly baz=209,SNR=9.1	21.61	25	P	P	18 22 18.2	-0.8
S39A	Bolivar baz=193,SNR=8.9	21.62	11	P	P	18 22 18.4	-0.7
GOGA	Godfrey baz=222,SNR=5.8	21.62	36	P	P	18 22 18.3	-0.9
GOGA	Godfrey 61nm,1.4s	21.62	36	eP	P	18 22 18.1	-1.0
155A	Kite baz=226	21.64	39	P	P	18 22 17.9	-1.4
S40A	Lebanon baz=196	21.70	13	P	P	18 22 18.4	-1.6
WVT	Waverly baz=208	21.75	24	P	P	18 22 18.5	-2.0
WVT	Waverly 123nm,1.6s	21.75	24	eP	P	18 22 19.3	-1.1
Y14A	Wickenburg 26nm,0.9s	21.77	326	eP	P	18 22 22.3	+1.5
T43A	Greenville baz=201,SNR=6.9	21.77	18	P	P	18 22 18.7	-2.0
V48A	Smith Brothers baz=211,SNR=7.5	21.82	26	P	P	18 22 19.4	-1.8
S41A	Jillco Farms, baz=197,SNR=17	21.86	14	P	P	18 22 21.1	-0.6
R38A	Fenwick Farm, baz=192	22.01	10	P	P	18 22 21.2	-2.0
SDCO	Great Sand Dun baz=162	22.09	345	P	P	18 22 24.6	+0.2
GLA	Glamis baz=135,SNR=6.8	22.16	321	P	P	18 22 26.7	+1.7
GLA	Glamis 37nm,1.1s	22.16	321	eP	P	18 22 26.6	+1.6
WUAZ	Wupatki baz=146,SNR=10.0	22.20	331	P	P	18 22 26.6	+1.1
WUAZ	Wupatki 54nm,1.0s	22.20	331	eP	P	18 22 27.1	+1.6
U47A	Clarksville baz=209	22.23	24	P	P	18 22 23.4	-2.3
S42A	Caledonia baz=200,SNR=9.7	22.27	16	P	P	18 22 25.9	-0.2
R39A	Chumby, Stover baz=194,SNR=18	22.28	11	P	P	18 22 24.5	-1.6
S43A	Fulton Ridge, baz=202	22.29	18	P	P	18 22 24.6	-1.6
CBKS	Cedar Bluff baz=177	22.29	357	P	P	18 22 26.7	+0.4
CBKS	Cedar Bluff 97nm,1.6s	22.29	357	eP	P	18 22 27.9	+1.6
R40A	Maddies Statio baz=196,SNR=20	22.41	13	P	P	18 22 25.7	-1.9
CCM	Cathedral Cave baz=198	22.43	15	P	P	18 22 26.0	-1.7
CCM	Cathedral Cave 86nm,1.6s	22.43	15	eP	P	18 22 28.4	+0.6
S22A	4UR Ranch, Cre baz=159,SNR=12	22.45	342	P	P	18 22 30.3	+2.0
S22A	4UR Ranch, Cre 17nm,1.3s	22.45	342	eP	P	18 22 29.2	+0.9
MVCO	Mesa Verde baz=154,SNR=13	22.49	339	P	P	18 22 29.4	+0.7
MVCO	Mesa Verde 119nm,1.5s	22.49	339	eP	P	18 22 30.2	+1.5
T46A	Princeton baz=207,SNR=7.1	22.53	23	P	P	18 22 27.7	-1.1
FVM	French Village 74nm,1.8s	22.57	17	eP	P	18 22 28.9	-0.5
U48A	Cassie Pea, Po baz=211	22.60	26	P	P	18 22 27.7	-1.8
R41A	Rosebud baz=198,SNR=11	22.62	15	P	P	18 22 28.9	-0.9
S44A	Carbondale baz=203	22.65	19	P	P	18 22 28.6	-1.6
SIUC	Southern Illin 101nm,1.7s	22.68	19	eP	P	18 22 30.4	-0.1
IKP	In-Ko-Pah, Jac baz=131	22.69	318	P	P	18 22 32.9	+2.2
SWSC	Sam W. Stewart baz=133	22.69	319	P	P	18 22 32.5	+2.0
R42A	Luebbering baz=199	22.75	16	P	P	18 22 29.6	-1.6
KSCO	Kaye Shedlock' baz=170	22.75	352	P	P	18 22 30.8	-0.6
T47A	Sharon Grove baz=209,SNR=9.7	22.78	24	P	P	18 22 29.4	-2.2
Q38A	Cooks Store, C baz=192	22.81	10	P	P	18 22 30.4	-1.4
S45A	Carrier Mills baz=205,SNR=6.2	22.86	21	P	P	18 22 31.4	-0.9
BC3	Big Chuckawall baz=134	22.96	321	P	P	18 22 34.6	+1.0
R43A	Red Bud baz=201	22.99	17	P	P	18 22 32.1	-1.5
Q39A	Willow Grove F baz=194,SNR=5.5	23.00	11	P	P	18 22 32.2	-1.6
MONP2	Monument Peak baz=131	23.04	318	P	P	18 22 35.9	+1.3
IRM	Iron Mountain baz=136	23.13	323	P	P	18 22 36.6	+1.3
Q40A	Laux Farm, Aux baz=196	23.13	13	P	P	18 22 33.5	-1.6
S46A	Don Dixon Farm baz=207	23.17	22	P	P	18 22 34.0	-1.5
Q24A	Divide baz=164	23.17	347	P	P	18 22 35.7	-0.2
T48A	Bowling Green baz=210,SNR=8.4	23.17	25	P	P	18 22 33.8	-1.8
TKL	Tuckaleechee C 29nm,1.1s,baz=203,slow=8.2,SNR=8.9	23.17	32	P	P	18 22 35.3	-0.3
TKL	Tuckaleechee C 70nm,1.3s	23.17	32	eP	P	18 22 35.1	-0.5
R44A	Waltonville baz=203	23.21	19	P	P	18 22 34.9	-1.1
Q41A	Truxton baz=198,SNR=7.8	23.28	14	P	P	18 22 34.8	-1.9
EML	El Monte Cty P	23.31	318	eP	P	18 22 40.0	+3.0
P37A	Lathrop baz=190	23.32	8	P	P	18 22 35.1	-1.9
PV01	Paradox Valley	23.35	340	eP	P	18 22 38.6	+1.0
U15A	North Rim 75nm,1.8s	23.37	331	eP	P	18 22 39.5	+1.5
NHSC	New Hope baz=229	23.39	42	P	P	18 22 35.6	-2.3
NHSC	New Hope 200nm,1.3s	23.39	42	eP	P	18 22 38.5	+0.7
Q42A	Golden Eagle baz=199	23.42	16	P	P	18 22 37.2	-0.9
USIN	University of 210nm,1.5s	23.43	22	eP	P	18 22 38.7	+0.5
DPP	Dos Picos Cty	23.45	318	ePcP	PcP	18 26 24.0	-0.9
DPP				eS	S	18 26 55.7	+2.8
DPP				eSn	Sn	18 27 11.1	-0.5
P38A	Dawn baz=192	23.47	10	P	P	18 22 37.0	-1.5
P39B	Salisbury baz=194,SNR=11	23.47	11	P	P	18 22 36.4	-2.2
PV05	Paradox Valley	23.48	339	eP	P	18 22 40.1	+1.2
R45A	Skylar, Fairfi baz=205	23.51	20	P	P	18 22 37.5	-1.5
BELC	Belle Mtn. Jos	23.52	321	ePcP	PcP	18 26 30.2	+5.1
TPFO	Pinon Flats baz=132	23.54	320	P	P	18 22 38.8	-0.7
TPC	Twentynine Pal	23.63	321	ePcP	PcP	18 26 27.4	+2.2
P40A	Paris baz=195,SNR=10	23.65	12	P	P	18 22 38.8	-1.5
Q43A	New Douglas baz=201	23.67	17	P	P	18 22 38.2	-2.3
O34A	Beatrice baz=184	23.68	3	P	P	18 22 39.5	-1.2
R46A	Gibon Southern baz=207	23.71	22	P	P	18 22 39.9	-1.0
SMV	Samsville	23.76	21	eS	Sn	18 27 24.9	+6.1
S48A	Wiedeman Farm, baz=211,SNR=6.1	23.78	25	P	P	18 22 40.2	-1.5
O35A	Humboldt baz=186	23.82	5	P	P	18 22 41.4	-0.6
SMCO	Snowmass 80nm,1.6s	23.82	343	eP	P	18 22 43.8	+1.3
Q44A	Meyer Farm, Va baz=203	23.84	18	P	P	18 22 41.5	-0.7
PV09	Paradox Valley	23.87	339	eP	P	18 22 43.7	+0.9
GMRC	Granite Mounta baz=136	23.87	323	P	P	18 22 43.0	+0.3
O37A	Wolven Farm, M baz=190	23.91	8	P	P	18 22 42.5	-0.4

O38A	Galt baz=192	23.97	9	P	P	18 22 42.3	-1.1
OLIL	Olney 30nm,0.9s	23.97	20	eP	P	18 22 43.1	-0.4
TZTN	Tazewell baz=217	23.98	31	P	P	18 22 42.1	-1.5
TZTN	Tazewell 79nm,1.3s	23.98	31	eP	P	18 22 43.5	-0.1
P41A	Barry, Barry baz=198	24.01	14	P	P	18 22 43.2	-0.6
ISCO	Idaho Springs baz=163,SNR=24	24.07	346	P	P	18 22 43.9	-0.9
ISCO	Idaho Springs 36nm,1.2s	24.07	346	eP	P	18 22 45.0	+0.2
KMSC	Kings Mountain baz=224	24.09	36	P	P	18 22 41.8	-2.9
KNB	Kanab 52nm,1.3s	24.10	331	eP	P	18 22 47.0	+2.1
P42A	Winchester baz=199,SNR=11	24.10	16	P	P	18 22 43.7	-1.0
Q45A	Warren Harvey, baz=205	24.10	20	P	P	18 22 44.1	-0.5
R47A	Wooly Knot Far baz=209,SNR=15	24.15	23	P	P	18 22 43.5	-1.6
WCI	Wyandotte Cave baz=209	24.18	24	P	P	18 22 43.8	-1.6
O39A	Kirksville baz=194	24.25	11	P	P	18 22 44.4	-1.7
O40A	La Belle baz=196,SNR=14	24.26	12	P	P	18 22 45.2	-0.9
HEC	Hector,Ludlow baz=135	24.30	322	P	P	18 22 46.6	-0.1
P43A	Skaggs, Pawnee baz=201	24.37	17	P	P	18 22 47.3	+0.1
O41A	Passleys Farm, baz=198,SNR=11	24.47	14	P	P	18 22 47.1	-1.0
P44A	Sand Creek, Wi baz=203	24.48	19	P	P	18 22 47.9	-0.2
N37A	Lee Faris, Mou baz=190	24.48	8	P	P	18 22 46.8	-1.4
R48A	Northridge Ran baz=210	24.49	24	P	P	18 22 45.8	-2.4
OGNE	Ogallala baz=172	24.59	353	P	P	18 22 48.7	-0.5
MTPU	Mount Pierson 44nm,0.9s	24.65	333	eP	P	18 22 51.6	+1.4
CIS	Catalina Islan baz=129	24.66	317	P	P	18 22 51.8	+1.9
N38A	Joes South For baz=192	24.66	10	P	P	18 22 49.3	-0.5
SZCU	Shurtz Canyon 58nm,1.9s	24.69	331	eP	P	18 22 53.4	+3.1
PSRC	Puddingstone R	24.70	319	eS	S	18 27 15.5	+2.5
PSRC				e		18 27 17.8	
SSK	Sunset Peak	24.71	319	ePcP	PcP	18 26 30.8	+3.0
Q47A	Bedord North L baz=208	24.74	23	P	P	18 22 49.6	-0.9
BGNE	Belgrade 1μm,0.5s	24.86	1	eP	P	18 22 52.3	+0.8
SHPR	Sheep Range 21nm,1.4s	24.86	327	eP	P	18 22 54.5	+2.6
N39A	Derby Farms, D baz=194,SNR=14	24.87	11	P	P	18 22 51.1	-0.5
GSC	Goldstone, Bar baz=135	24.91	322	P	P	18 22 52.6	+0.4
GSC	Goldstone, Bar 32nm,1.4s	24.91	322	eP	P	18 22 53.9	+1.7
SRU	San Rafael Swe 21nm,1.0s	24.91	337	eP	P	18 22 53.2	+0.9
MWC	Mount Wilson	24.95	319	ePcP	PcP	18 26 27.0	-1.3
Q16A	Castle Valley 18nm,0.9s	24.98	336	eP	P	18 22 54.4	+1.4
Q16A				eS	S	18 27 14.1	-3.7
N41A	Harden Midland baz=197	25.04	14	P	P	18 22 52.6	-0.6
M33A	Taylor Creek F baz=183	25.04	2	P	P	18 22 53.2	0.0
MSU	Marysvale	25.05	334	eP	P	18 22 56.0	+2.4
N40A	Mertquake, Sal baz=196	25.05	12	P	P	18 22 51.5	-1.8
O20A	White River Ci baz=158	25.07	342	P	P	18 22 54.2	+0.5
O20A	White River Ci 22nm,1.0s	25.07	342	eP	P	18 22 55.3	+1.5
P46A	Rosedale baz=206	25.07	21	P	P	18 22 52.4	-1.1
M37A	Trindle Farm, baz=190	25.14	8	P	P	18 22 54.3	+0.2
N23A	Red Feather La baz=163	25.19	347	P	P	18 22 55.2	+0.4
N23A	Red Feather La 20nm,1.3s	25.19	347	eP	P	18 22 55.5	+0.6
P18A	Preston Nutter 28nm,0.9s	25.26	338	eP	P	18 22 56.3	+0.7
M38A	Pleasantville baz=192,SNR=14	25.28	9	P	P	18 22 54.3	-1.0
P47A	Martinsville baz=208	25.29	22	P	P	18 22 54.6	-0.9
HDIL	Hopedale baz=201	25.29	17	P	P	18 22 54.8	-0.7
HDIL	Hopedale 89nm,1.4s	25.29	17	eP	P	18 22 55.6	+0.2
P17A	Butcher Ranch, 63nm,1.8s	25.30	337	eP	P	18 22 58.1	+2.2
P17A				eS	S	18 27 26.3	+3.5
TMUT	Trail Mountain 37nm,1.2s	25.33	336	eP	P	18 22 56.5	+0.3
EDW2	Edwards Air Fo baz=132	25.34	320	P	P	18 22 56.7	+0.7
N42A	Yates City baz=199	25.35	15	P	P	18 22 55.1	-0.9
O45A	Potomac baz=204	25.47	19	P	P	18 22 56.9	-0.2
PHWY	Pilot Hill 15nm,1.1s	25.48	348	eP	P	18 22 57.8	+0.3
OTAV	Otavalo 19nm,1.3s	25.48	127	eP	P	18 22 59.7	+1.8
M39A	Webster baz=194	25.51	11	P	P	18 22 56.1	-1.3
BLG	Laguna Peak, P baz=129	25.52	317	P	P	18 22 59.7	+2.1
LRMC	Laurel Mtn Rad baz=133	25.55	321	P	P	18 22 59.3	+1.3
NCAT	North Carolina 99nm,1.5s	25.65	37	eP	P	18 22 59.3	+0.5
N43A	Stutzman Famil baz=201,SNR=5.2	25.68	16	P	P	18 22 58.5	-0.5
STCC	Santa Clara	25.72	318	eP	P	18 23 00.3	+3.9
SCIA	State Center baz=192	25.75	9	P	P	18 22 58.6	-1.0
SCIA	State Center 38nm,0.9s	25.75	9	eP	P	18 22 59.7	+0.1
L36A	Harm Buss Farm baz=188	25.75	7	P	P	18 22 59.3	-0.4
FURC	Furnace Creek, baz=136	25.76	324	P	P	18 23 00.8	+1.0
TPNV	Topopah Spring baz=138	25.77	326	P	P	18 23 02.6	+2.5
TPNV	Topopah Spring 31nm,1.4s	25.77	326	eP	P	18 23 02.6	+2.5
SFIN	Lafayette baz=206	25.79	20	P	P	18 22 58.6	-1.4
SFIN	Lafayette 19nm,1.0s	25.79	20	eP	P	18 22 59.0	-1.0
MPMC	Manual Prospec baz=134	25.83	323	P	P	18 23 02.1	+1.4
N44A	Piper City baz=203	25.84	18	P	P	18 22 59.8	-0.7
L37A	Phoenix Point, baz=190	25.89	8	P	P	18 22 59.9	-1.0
O47A	Sheridan baz=208	25.98	22	P	P	18 23 00.5	-1.2
SDDR	Presa de Saban 75nm,1.7s	26.00	80	eP	P	18 23 03.1	+0.9
L38A	Oak Wood Farm, baz=192	26.02	9	P	P	18 23 01.5	-0.6
DAC	Darwin (Calif) 18nm,1.4s	26.04	323	eP	P	18 23 03.8	+1.2
BLA	Blacksburg baz=222	26.10	34	P	P	18 23 03.4	+0.5
ISA	Isabella, Lake baz=132	26.15	321	P	P	18 23 04.0	+0.6
ISA	Isabella, Lake 42nm,2.0s	26.15	321	eP	P	18 23 05.6	+2.2
L39A	Vinton baz=194	26.17	11	P	P	18 23 02.6	-0.8
M43A	Waltham Townsh baz=201	26.20	16	P	P	18 23 03.1	-0.7

NLU	North Lily Min 37nm,1.5s	26.23	336	eP	P	18 23 05.5	+1.2
RWWY	Rawlins 84nm,1.4s	26.24	345	eP	P	18 23 05.8	+1.4
L40A	Anamosa baz=196	26.26	12	P	P	18 23 03.7	-0.5
N46A	Monticello baz=206	26.37	20	P	P	18 23 05.4	+0.1
M44A	Midewin, Midew baz=203	26.41	18	P	P	18 23 05.2	-0.4
L41A	Preston baz=197	26.42	13	P	P	18 23 05.5	-0.3
CWC	Cottonwood Cre baz=134	26.44	323	P	P	18 23 07.2	+1.1
R11A	Troy Canyon, C baz=141,SNR=6.8	26.48	329	P	P	18 23 08.8	+2.2
R11A	Troy Canyon, C 10nm,1.2s	26.48	329	eP	P	18 23 07.8	+1.2
PKM	Mcpherson Peak baz=129	26.49	318	P	P	18 23 08.9	+2.3
K37A	Belmond baz=190	26.54	8	P	P	18 23 05.5	-1.3
L42A	Oliver, Polo baz=199	26.55	15	P	P	18 23 05.7	-1.2
VES	Vestal, Richgr baz=131	26.64	320	P	P	18 23 09.7	+1.9
DUG	Dugway, Tooele baz=148,SNR=6.3	26.73	335	P	P	18 23 10.3	+1.6
DUG	Dugway, Tooele 39nm,1.8s	26.73	335	eP	P	18 23 09.9	+1.2
K39A	Oelwein baz=194	26.75	11	P	P	18 23 07.2	-1.5
K40A	Colesburg baz=196	26.89	12	P	P	18 23 08.9	-1.0
L43A	Garden Prairie baz=201	26.95	16	P	P	18 23 09.4	-1.1
K41A	Shullsburg baz=197	26.97	13	P	P	18 23 09.7	-1.0
RUSC	La Rusia 7.3nm,1.4s	26.99	110	eP	P	18 23 12.6	+0.9
TCUT	Toone Canyon 35nm,1.2s	26.99	338	eP	P	18 23 12.2	+1.0
K22A	Casper baz=163	26.99	347	P	P	18 23 11.9	+0.8
K22A	Casper 31nm,1.2s	26.99	347	eP	P	18 23 11.7	+0.6
J37A	Redenius Farm, baz=190	27.08	8	P	P	18 23 10.4	-1.3
L44A	Lake County Fo baz=202	27.18	17	P	P	18 23 12.5	-0.1
ECSD	EROS Data Cent baz=184	27.23	3	P	P	18 23 13.3	+0.3
ECSD	EROS Data Cent 34nm,1.6s	27.23	3	eP	P	18 23 14.4	+1.5
ACSO	Alum Creek Sta baz=214	27.23	27	P	P	18 23 11.2	-1.9
ACSO	Alum Creek Sta 113nm,1.5s	27.23	27	eP	P	18 23 12.2	-0.9
J38A	Wedel Dairy, R baz=193	27.25	10	P	P	18 23 12.0	-1.2
JFWS	Jewell Farm baz=197	27.28	13	P	P	18 23 12.4	-1.0
JFWS	Jewell Farm 24nm,1.1s	27.28	13	eP	P	18 23 13.1	-0.4
J39A	Decorah baz=194	27.39	11	P	P	18 23 14.3	-0.2
HWUT	Hardware Ranch 11nm,1.2s	27.48	338	eP	P	18 23 16.6	+1.2
J41A	Loganville baz=198	27.76	13	P	P	18 23 16.9	-0.9
MDPB	Devils Postpil 8.8nm,1.2s	27.84	323	eP	P	18 23 20.3	+1.4
BW06	Boulder Array baz=157,SNR=11	27.88	342	P	P	18 23 19.9	+0.8
BW06	Boulder Array 26nm,1.3s	27.88	342	eP	P	18 23 19.1	0.0
PD31	Pinedale Array	27.88	342	eP	P	18 23 18.9	-0.1
PDAR	Pinedale Array 4.8nm,0.9s,baz=131,slow=8.1,SNR=26	27.88	342	P	P	18 23 19.3	+0.2
PDAR	Pinedale Array	27.88	342	eP	P	18 23 19.1	0.0
NV11	Mina Array Sit 1.1nm,1.3s	27.89	326	eP	P	18 23 20.5	+1.4
J42A	Columbus baz=199,SNR=5.4	27.92	15	P	P	18 23 20.1	+0.9
I39A	Houston baz=194	27.93	11	P	P	18 23 19.4	+0.1
H32A	Carlson Farm, baz=182	27.96	2	P	P	18 23 19.0	-0.6
NV01	Mina Array Sit	27.96	325	eP	P	18 23 21.6	+1.6
NVAR	Mina Array Bea 3.9nm,0.8s,baz=150,slow=10,SNR=21	27.96	325	P	P	18 23 21.6	+1.7
RSSD	Black Hills baz=169	27.97	351	P	P	18 23 20.2	+0.3
RSSD	Black Hills 36nm,1.8s	27.97	351	eP	P	18 23 20.6	+0.7
I38A	Scanlan Farm, baz=193	27.97	9	P	P	18 23 17.9	-1.8
IP03	Louisa 14nm,1.0s	28.01	36	eP	P	18 23 20.6	+0.6
I40A	Norwalk baz=196	28.14	12	P	P	18 23 19.0	-2.1
SDV	Santo Domingo 5.1nm,0.8s,baz=330,slow=5.5,SNR=6.2	28.15	102	P	P	18 23 23.1	+1.3
J43A	Natural Harves baz=201	28.16	16	P	P	18 23 20.1	-1.2
KVN	Kaiserville 26nm,1.8s	28.31	327	eP	P	18 23 24.7	+1.8
H37A	Dierke Farm, C baz=191	28.42	8	P	P	18 23 22.6	-1.0
I41A	Arkdale baz=197	28.45	13	P	P	18 23 23.4	-0.5
I42A	Draeger Farm, baz=199	28.51	15	P	P	18 23 25.1	+0.6
I42A	Draeger Farm, 44nm,1.4s	28.51	15	eP	P	18 23 25.0	+0.6
H38A	Maiden Rock baz=192	28.60	9	P	P	18 23 24.2	-1.0
REDW	Red Top Meadow 28nm,1.3s	28.81	341	eP	P	18 23 28.1	+0.7
SNOW	Snow King Moun 22nm,1.2s	28.87	341	eP	P	18 23 28.6	+0.6
H40A	Chili baz=196	28.88	12	P	P	18 23 26.6	-1.1
TPAW	Teton Pass 24nm,1.3s	28.96	341	eP	P	18 23 30.6	+1.8
LOHW	Long Hollow 27nm,1.3s	28.96	342	eP	P	18 23 29.5	+0.7
H41A	Junction City baz=198	29.03	13	P	P	18 23 28.5	-0.5
H41A	Junction City 54nm,1.4s	29.03	13	eP	P	18 23 27.9	-1.2
SPMN	Marine on St. baz=191	29.06	8	P	P	18 23 28.3	-1.0
FXWY	Fox Creek 5.8nm,1.0s	29.11	341	eP	P	18 23 31.0	+0.9
MOOW	Moose Ponds 11nm,1.2s	29.13	342	eP	P	18 23 31.0	+0.8
G38A	Ridgeland baz=193	29.15	10	P	P	18 23 29.7	-0.4
N54A	Moraine State baz=218	29.17	29	P	P	18 23 29.0	-1.4
JSTM	Santa Teresa H	29.19	320	ePcP	PcP	18 26 41.6	+3.6
IMW	Indian Meadow 8.1nm,1.1s	29.32	341	eP	P	18 23 32.5	+0.5
G39A	Holcombe baz=194	29.38	11	P	P	18 23 31.1	-1.1
G40A	Rib Lake baz=196	29.54	12	P	P	18 23 32.8	-0.8
F36A	Milaca baz=190	29.60	7	P	P	18 23 32.5	-1.5
H17A	Grant Village 9.7nm,1.3s	29.66	342	eP	P	18 23 37.0	+2.0
M54A	Oil Creek Stat baz=218	29.75	29	P	P	18 23 33.4	-2.1
LOY	Loyalton	29.90	325	eP	P	18 23 36.3	-0.7
G42A	Mountain baz=200	29.90	14	P	P	18 23 35.6	-1.2
F38A	Pierce - Schro baz=193	29.92	9	P	P	18 23 35.9	-1.0
RLMT	Red Lodge baz=159,SNR=10	29.98	345	P	P	18 23 37.2	-0.5
RLMT	Red Lodge 33nm,1.5s	29.98	345	eP	P	18 23 38.7	+0.9
YMR	Madison River 39nm,1.7s	30.03	342	eP	P	18 23 40.5	+2.3
F39A	Loretta baz=194	30.03	11	P	P	18 23 36.9	-1.1
G43A	Wallace	30.10	15	P	P	18 23 37.9	-0.6

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	baz=201						
YHH	Holmes Hill	30.10	342	eP	P	18 23 40.3	+1.3
	24nm,1.9s						
F40A	Park Falls	30.18	12	P	P	18 23 38.2	-1.1
	baz=196						
HLID	Hailey	30.22	337	P	P	18 23 39.6	-0.3
	baz=149						
HLID	Hailey	30.22	337	eP	P	18 23 40.7	+0.8
	6.1nm,1.3s						
E36A	McGregor	30.28	7	P	P	18 23 40.3	+0.2
	baz=190						
ORV	Oroville	30.54	323	eP	P	18 23 45.1	+2.6
	6.8nm,1.3s						
E39A	Mellen	30.54	11	P	P	18 23 42.6	+0.1
	baz=195						
COWI	Conover	30.56	13	eP	P	18 23 42.3	-0.3
	19nm,1.3s						
E38A	The Farm, Brul	30.60	9	P	P	18 23 43.1	+0.2
	baz=193						
MFID	Camas Ranch	30.66	335	eP	P	18 23 45.1	+1.4
	35nm,1.9s						
E40A	Wakefield	30.73	12	P	P	18 23 43.3	-0.8
	baz=196						
D35A	Remer	30.75	6	P	P	18 23 43.6	-0.6
	baz=188						
F43A	Flat Rock, Esc	30.77	16	P	P	18 23 42.8	-1.5
	baz=202						
SJG	San Juan	30.88	82	P	P	18 23 47.4	+1.7
	6.1nm,0.3s,baz=252,slow=9.6,SNR=3.5						
D36A	Goodland	30.94	7	P	P	18 23 44.1	-1.8
	baz=190						
E41A	Kenton	30.94	13	P	P	18 23 45.4	-0.5
	baz=198						
D37A	Cotton	31.01	8	P	P	18 23 46.2	-0.4
	baz=191						
BOZ	Bozeman (W)	31.07	342	P	P	18 23 47.8	+0.5
	baz=155,SNR=6.6						
BOZ	Bozeman (W)	31.07	342	eP	P	18 23 48.9	+1.6
	24nm,1.6s						
F45A	CMU Biological	31.08	18	P	P	18 23 45.2	-2.0
	baz=204						
F44A	Big Bay de Noc	31.09	16	P	P	18 23 45.6	-1.7
	baz=203						
WVOR	Wild Horse Val	31.11	330	eP	P	18 23 49.6	+1.9
	21nm,1.4s						
E42A	Champion	31.14	14	P	P	18 23 46.9	-0.9
	baz=200						
DLMT	Dillon	31.16	341	eP	P	18 23 49.5	+1.4
	18nm,1.2s						
MDND	Maddock	31.31	359	P	P	18 23 48.8	-0.4
	baz=178						
E43A	Lone Tree Farm	31.32	15	P	P	18 23 47.4	-1.8
	baz=201						
LRM	Limekiln Ridge	31.52	341	eP	P	18 23 52.8	+1.4
C36A	Pine Crest Far	31.55	7	P	P	18 23 50.7	-0.6
	baz=190						
D41A	Chassel	31.59	13	P	P	18 23 51.4	-0.2
	baz=198						
J08A	Circle Bar Ran	31.75	332	eP	P	18 23 54.5	+1.2
	14nm,0.9s						
AGMN	Agassiz Nation	31.82	3	P	P	18 23 52.6	-1.0
	baz=185						
AGMN	Agassiz Nation	31.82	3	eP	P	18 23 52.6	-1.0
	22nm,1.5s						
B35A	Bob, Littlefor	32.04	6	P	P	18 23 55.0	-0.6
	baz=189						
B34A	Aery, Baudette	32.09	5	P	P	18 23 55.7	-0.3
	baz=187						
HRY	Holter Researc	32.14	343	eP	P	18 23 58.4	+1.7
M04C	Macdoel	32.25	326	P	P	18 23 58.1	+0.4
	baz=135						
BMO	Blue Mountains	32.44	335	eP	P	18 24 00.7	+1.3
	18nm,1.4s						
A33A	Warroad	32.48	4	P	P	18 23 57.9	-1.6
	baz=186						
YBH	Yreka Blue Hor	32.69	325	P	P	18 24 00.7	-0.8
	0.8nm,0.5s,baz=158,slow=8.6,SNR=3.2						
MSO	Missoula	32.89	340	P	P	18 24 03.8	+0.6
	baz=152						
MSO	Missoula	32.89	340	eP	P	18 24 04.0	+0.8
	12nm,1.3s						
KTRM	Thompson Ridge	33.17	325	eP	P	18 24 09.3	+3.5
KTRM				eS	S	18 29 27.3	+0.9
F10A	Beach Ranch, E	33.33	336	eP	P	18 24 07.8	+0.7
	14nm,1.0s						
G08A	Pilot Rock	33.49	333	eP	P	18 24 08.9	+0.4
	5.8nm,0.8s						
I04A	Tendick Farm,	33.98	328	P	P	18 24 13.7	+1.1
	baz=136						
WALA	Waterton Lakes	34.86	342	eP	P	18 24 20.9	+0.6
	29nm,1.5s						
MTMW	Mount Mitchell	35.51	331	ePcP	PcP	18 26 58.6	+3.2
GLK	Glacier Lake	35.64	332	ePcP	PcP	18 26 56.4	+0.7
LTY	Liberty	35.77	334	eP	P	18 24 29.4	+1.2
	37nm,1.6s						
LON	Longmire	35.88	332	eP	P	18 24 31.2	+2.2
	9.8nm,1.0s						
FFC	Flin Flon	38.28	357	eP	P	18 24 48.8	-0.5
	38nm,1.4s						
EDM	Edmonton	38.49	346	eP	P	18 24 51.4	+0.2
	67nm,1.5s						
MNMC	Minye Minye	45.36	140	eP	P	18 25 48.3	+0.3
	22nm,0.4s						
SCHQ	Schefferville	45.38	25	P	P	18 25 46.2	-1.1
	8.7nm,1.0s,baz=225,slow=6.1,SNR=3.9						
YKA	Yellowknife Ar	47.36	350	P	P	18 26 02.1	-0.6
	2.5nm,0.8s,baz=158,slow=7.3,SNR=25						
YKB5	Yellowknife Ar	47.36	350	eP	P	18 26 01.5	-1.2
SIV	San Ignacio	49.00	129	P	P	18 26 14.2	-2.0
	1.2nm,0.8s,baz=4.9,slow=6.8,SNR=6.1						
INK	Inuvik	56.39	345	P	P	18 27 10.1	0.0
	3.5nm,0.8s,baz=126,slow=7.9,SNR=14						
INK	Inuvik	56.39	345	eP	P	18 27 09.9	-0.2
	23nm,1.6s						
DOT	Dot Lake	56.52	338	eP	P	18 27 11.9	+0.7
	16nm,1.0s						
SCRK	Sand Creek	56.68	338	eP	P	18 27 13.7	+1.3
	25nm,1.9s						
RIDG	Independ'e Rid	56.85	337	eP	P	18 27 14.1	+0.4
	11nm,1.1s						
IL1	Eielson Array	58.17	338	eP	P	18 27 22.5	-0.3
ILAR	Eielson Array	58.17	338	P	P	18 27 22.7	-0.1
	4.2nm,1.1s,baz=127,slow=5.3,SNR=13						
ILB	Eielson Array	58.17	338	eP	P	18 27 22.9	+0.2
RND	Reindeer	58.20	336	eP	P	18 27 23.8	+0.7
	21nm,1.4s						
RES	Resolute Bay	58.26	1	eP	P	18 27 23.1	-0.2
	5.3nm,1.4s						
CPUP	Villa Florida	58.38	136	P	P	18 27 22.9	-1.9
	2.4nm,1.0s,baz=305,slow=8.5,SNR=4.3						
CAST	Castle Rocks	59.49	335	eP	P	18 27 31.6	-0.4
	13nm,1.4s						
MLY	Manley	59.72	337	eP	P	18 27 34.0	+0.4
	6.5nm,1.1s						
TOLK	Toolik Lake Re	61.13	341	P	P	18 27 42.4	-0.7
	baz=122						
PLCA	Paso Flores	62.53	156	P	P	18 27 52.3	-0.7
	4.3nm,0.9s,baz=343,slow=11,SNR=6.9						
PLCA	Paso Flores	62.53	156	eP	P	18 27 52.3	-0.7
	22nm,1.4s						
ESDC	Sonseca Array	83.05	51	P	P	18 29 54.5	-0.6
	0.2nm,0.4s,baz=298,slow=3.2,SNR=4.1						
TIXI	Tiksi	86.49	347	eP	P	18 30 11.0	-0.7
	14nm,1.5s						
HHC	Hu-ho-hao-te	116.53	335	ePKP	PKPdf	18 36 15.6	+1.8
WMQ	Urumqi	119.74	355	ePKP	PKPdf	18 36 20.5	+0.7
NJ2	Nanjing	119.95	324	ePKP	PKPdf	18 36 21.4	+1.0
LZH	Lanzhou	123.63	338	ePKP	PKPdf	18 36 23.0	-4.6
LZH				LR	LR		
	comp=N,98nm,16.3s						
LZH				LR	LR		
	comp=E,110nm,16.7s						
LZH				LR	LR		
	comp=Z,150nm,16.6s						
CD2	Chengdu	128.28	336	PKP	PKPdf	18 36 36.0	-0.5

*ISCJB **02** 18:22:12.9±1.1, 16°.36N±0°.09×98°.50W±0°.06, h10km, mb3.4/3, Error ellipse: s-maj=13.1km s-min=6.5km az=20.2*
*NEIC **02** 18:22:14.5±0.0, 16°.33N×98°.45W, h5km, MD4.1(MEX), After MEX.*
*MEX **02** 18:22:14.6±0.5, 16°.33N×98°.45W, h5km±23km, MD3.9*
*IDC **02** 18:22:16.1±5.7, 16°.63N×98°.40W, h0km, mb3.6/3, mb1 3.9/5, mb1mx3.6/52, mbtmp3.6/5, ML3.8/1, Error ellipse: s-maj=112.3km s-min=17.5km az=11.0*

ISC 02 18:22:14.2±1.1**, 16°.40N**±0°.09×**98°.51W**±0°.05**, h10km, n15, σ1s.84**/21**, mb3.6**/3**, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.36	91	eP	Pg	18 22 20.4	-1.0
PNIG				i S	Sg	18 22 25.0	-1.3
PNIG	Pinotepa	0.36	91	i P	Pg	18 22 20.4	-1.0
PNIG				i S	Sg	18 22 25.0	-1.3
PNIG	Pinotepa	0.36	91	e	Pg	18 22 20.4	-1.0
PNIG				e	Sg	18 22 25.0	-1.3
TLIG	Tlapa	1.16	357	i P	Pn	18 22 35.3	-1.3
TLIG				eS	Sb	18 22 50.4	-1.2
TLIG	Tlapa	1.16	357	i P	Pn	18 22 35.3	-1.3
TLIG				eS	Sb	18 22 50.4	-1.2
CAIG	El Cayaco	1.81	291	eP	Pn	18 22 43.0	-2.3
CAIG	El Cayaco	1.81	291	eP	Pn	18 22 43.0	-2.3
CAIG	El Cayaco	1.81	291	e	Pn	18 22 43.0	-2.3
VHO	Vista Hermosa	1.83	68	eP	Pn	18 22 43.4	-2.4
VHO	Vista Hermosa	1.83	68	eP	Pn	18 22 43.4	-2.4
CMIG	Matias Romero	3.54	78	Pn	Pn	18 23 09.8	+0.6
	9.2nm,0.3s,baz=264,slow=9.2,SNR=7.3						
CMIG				Pg	Pb	18 23 18.9	+2.0
	12nm,0.3s,baz=268,slow=18,SNR=6.4						
CMIG				Lg	Lg	18 24 04.3	
	86nm,0.3s,baz=235,slow=5.7,SNR=10.0						
ANMO	Albuquerque	19.80	340	P	Pn	18 26 47.3	+0.8
	baz=259,slow=19,SNR=2.6						
PDAR	Pinedale Array	27.93	342	P	P	18 28 06.7	+1.8
	0.8nm,0.6s,baz=140,slow=11,SNR=6.1						
NVAR	Mina Array Bea	28.00	325	P	P	18 28 08.7	+3.2
	0.3nm,0.6s,baz=143,slow=11,SNR=1.8						
YKA	Yellowknife Ar	47.41	350	P	P	18 30 48.6	+0.1
	0.5nm,0.8s,baz=158,slow=7.1,SNR=5.3						

*MEX **02** 18:26:26.7±0.4, 16°.28N×98°.47W, h1km, MD4.3*
*IDC **02** 18:26:26.1±1.3, 16°.42N×98°.46W, h0km, mb4.2/11, mb1 4.4/15, mb1mx4.1/52, mbtmp4.1/15, ML3.6/4, Error ellipse: s-maj=28.9km s-min=14.2km az=24.0*
*NEIC **02** 18:26:27.3±0.0, 16°.31N×98°.46W, h1km, mb4.6/75, MD4.3(MEX), After MEX.*
*ISCJB **02** 18:26:28.2±0.3, 16°.68N±0°.03×98°.13W±0°.03, h10km, mb4.5/63, Error ellipse: s-maj=4.8km s-min=4.2km az=28.2*

ISC 02 18:26:27.4±0.8**, 16°.39N**±0°.09×**98°.50W**±0°.06**, h10km, n310, σ1s.50**/307**, mb4.6**/63**, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.36	90	eP	Pg	18 26 33.2	-1.4
PNIG				i S	Sg	18 26 38.2	-1.1
TLIG	Tlapa	1.17	357	eP	Pn	18 26 47.6	-2.4
TLIG	Tlapa	1.17	357	eP	Pn	18 26 47.6	-2.4
CAIG	El Cayaco	1.81	291	eP	Pn	18 26 56.6	-2.2
VHO	Vista Hermosa	1.82	68	eP	Pn	18 26 57.9	-1.2
TPIG	Tehuac#an	2.29	28	eP	Pn	18 27 04.8	-0.7
TPIG	Tehuac#an	2.29	28	ePn	Pn	18 27 05.5	0.0
HUIG	Huatulco	2.38	105	eP	Pn	18 27 06.5	-0.1
UNM	Universidad Na	2.99	348	ePn	Pn	18 27 17.0	+1.7
CMIG	Matias Romero	3.53	78	Pn	Pn	18 27 21.2	-1.2
	11nm,0.3s,baz=258,slow=13,SNR=8.0						
CMIG				Pg	Pb	18 27 30.8	+0.7
	25nm,0.3s,baz=262,slow=17,SNR=11						
CMIG				Lg	Lg	18 28 17.4	
	48nm,0.3s,baz=23,slow=14,SNR=4.2						
LVIG	Laguna Verde	3.86	31	ePn	Pn	18 27 23.6	-3.3
MOIG	Morelia	4.15	322	ePn	Pn	18 27 29.7	-1.5
APG	El Apazote	7.86	99	Pn	Pn	18 28 21.1	-1.1
	0.3nm,0.3s,baz=302,slow=16,SNR=1.9						
APG				Lg	Lg	18 30 29.9	
	2.2nm,0.3s,baz=48,slow=20,SNR=3.8						
833A	Chaparral WMA,	11.91	356	P	Pn	18 29 18.6	+1.3
	baz=176						
H06E1	SOCORRO T-PHAS	12.09	283	T	T	18 41 34.1	
	SNR=7.4						
LTX	Lajitas	13.73	341	ePn	Pn	18 29 43.1	+0.8
TX31	Lajitas Ar. Si	13.73	341	ePn	Pn	18 29 43.9	+1.5
TXAR	Lajitas Array	13.73	341	Pn	Pn	18 29 43.1	+0.8
	0.1nm,0.3s,baz=158,slow=14,SNR=4.7						
JCT	Junction City	14.08	355	P	Pn	18 29 47.5	+0.5
	baz=175						
JCT	Junction City	14.08	355	ePn	Pn	18 29 47.9	+0.9
435B	Jarrell	14.35	3	ePn	P	18 29 57.7	-0.2
WHTX	Lake Whitney,	15.56	3	P	Pn	18 30 07.2	+0.2
	baz=184						
WHTX	Lake Whitney,	15.56	3	ePn	P	18 30 11.4	+0.1
	45nm,0.9s						
ABTX	Abilene, Hawle	16.20	357	P	Pn	18 30 17.5	+2.2
	baz=176,SNR=12						
ABTX	Abilene, Hawle	16.20	357	ePn	P	18 30 19.1	+0.7
	51nm,0.8s						
MNTX	Cornudas Mount	16.48	339	P	Pn	18 30 20.1	+1.3
	baz=156						
MNTX	Cornudas Mount	16.48	339	ePn	Pn	18 30 19.5	+0.7
140A	Cam and Jess,	16.78	15	P	Pn	18 30 22.9	+0.2
	baz=196						
244A	Avery, Jackson	17.12	23	P	Pn	18 30 27.5	+0.6
	baz=206						
245A	Little AP, Sta	17.43	25	P	Pn	18 30 31.0	+0.3
	baz=208						
Z41A	Richland Creek	17.57	16	ePn	P	18 30 34.5	+1.0
	65nm,0.9s						
319A	Douglas	17.86	329	ePn	P	18 30 38.2	+1.2
	59nm,1.3s						
MSTX	Muleshoe	17.92	348	P	Pn	18 30 35.3	-1.7
	baz=167,SNR=5.7						
MSTX	Muleshoe	17.92	348	ePn	Pn	18 30 36.6	-0.4
	18nm,0.9s						
121A	Cookes Peak, D	18.14	334	P	Pn	18 30 39.6	-0.1
	baz=150						
Y40A	Okolona	18.17	14	P	Pn	18 30 38.3	-1.5
	baz=196						
X39A	Fountain Ranch	18.47	11	P	P	18 30 41.2	-2.3
	baz=193						
MIAR	Mount Ida	18.61	13	P	P	18 30 42.7	-2.3
	baz=195,SNR=7.0						
MIAR	Mount Ida	18.61	13	eP	P	18 30 45.1	0.0
	26nm,1.1s						
AMTX	Amarillo	18.64	352	P	P	18 30 43.2	-2.2
	baz=170						
AMTX	Amarillo	18.64	352	eP	P	18 30 44.9	-0.5
	17nm,0.8s						
X40A	Basin Creek Fa	18.73	15	eP	Pn	18 30 48.0	+1.3
	28nm,1.5s						
UALR	University of	19.12	16	eP	Pn	18 30 52.9	+1.4
	18nm,0.9s						
BNM	Barren Site	19.14	339	eP	Pn	18 30 53.1	+1.2
W39A	Magazine	19.20	12	P	P	18 30 50.3	-1.2
	baz=194						
W39A	Magazine	19.20	12	eP	P	18 30 52.5	+1.0
	12nm,0.8s						
LPM	Los Pinos Moun	19.29	339	eP	Pn	18 30 55.0	+1.3
149A	Jones	19.31	31	P	P	18 30 51.3	-1.4
	baz=216						
TUC	Tucson	19.38	327	P	Pn	18 30 55.6	+1.0
	baz=142						
TUC	Tucson	19.38	327	eP	Pn	18 30 56.2	+1.5
	18nm,1.0s						
Y46A	Houston	19.46	25	P	P	18 30 53.1	-1.3
	baz=208						
LAZ	Ladron	19.54	338	eP	P	18 30 54.8	-0.7
LRAL	Lakeview Retre	19.57	30	P	P	18 30 54.5	-1.0
	baz=214						
LRAL	Lakeview Retre	19.57	30	eP	P	18 30 55.9	+0.4
	62nm,2.0s						
Z48A	Northport	19.59	28	P	P	18 30 54.6	-1.2
	baz=213						
TUL1	Leonard	19.59	7	P	P	18 30 54.0	-1.8
	baz=188						
TUL1	Leonard	19.59	7	eP	P	18 30 54.7	-1.1
	29nm,0.8s						
150A	Eclectic	19.71	33	P	P	18 30 56.3	-0.8
	baz=218						
OXF	Oxford	19.80	23	P	P	18 30 56.7	-1.4
	baz=206						
ANMO	Albuquerque	19.81	340	P	P	18 30 58.5	+0.2
	0.3nm,0.3s,baz=334,slow=12,SNR=17						
ANMO	Albuquerque	19.81	340	P	P	18 30 58.7	+0.3
	baz=157						
ANMO	Albuquerque	19.81	340	eP	P	18 30 59.5	+1.2
	14nm,1.1s						
V39A	Pettigrew	19.85	12	P	P	18 30 57.1	-1.5
	baz=194,SNR=11						
Y47A	UCPARC, Winfie	19.90	27	P	P	18 30 58.3	-0.9
	baz=211						
Z49A	Columbiana	19.92	31	P	P	18 30 58.7	-0.8
	baz=215						
V40A	Witts Springs	19.99	14	P	P	18 30 58.8	-1.4
	baz=196,SNR=14						
V40A	Witts Springs	19.99	14	eP	P	18 30 59.4	-0.8
	27nm,0.9s						
151A	Opelika	20.02	34	P	P	18 30 59.8	-0.7
	baz=219						
V41A	Mountainview	20.13	15	P	P	18 31 00.1	-1.6
	baz=198,SNR=8.8						
X46A	Booneville	20.16	24	P	P	18 31 00.5	-1.4
	baz=208						
Y48A	Jasper	20.21	28	P	P	18 31 01.4	-1.2
	baz=213						
214A	Organ Pipe Nat	20.23	323	P	Pn	18 31 05.9	+1.2
	baz=137						
V42A	Cord	20.35	17	P	P	18 31 02.2	-1.8
	baz=200						
U39A	Green Forest	20.41	12	P	P	18 31 02.7	-2.0
	baz=194						
X47A	Russelville	20.42	26	P	P	18 31 03.5	-1.4
	baz=210						
U40A	Yellville	20.51	13	P	P	18 31 04.3	-1.5
	baz=195,SNR=15						
Y49A	Blount Mountai	20.52	30	P	P	18 31 04.7	-1.2
	baz=215						
U41A	Viola	20.72	15	P	P	18 31 06.5	-1.6
	baz=198						
X48A	Hartselle	20.72	28	P	P	18 31 06.7	-1.4
	baz=212						
PLAL	Pickwick Lake	20.73	25	eP	P	18 31 08.7	+0.4
	60nm,1.5s						
X18A	Snowflake	20.78	332	eP	Pn	18 31 11.1	-0.3
	34nm,1.3s						
T38A	Diamond	20.90	9	P	P	18 31 08.3	-1.7
	baz=191,SNR=6.2						
U42A	Revenden	20.90	17	P	P	18 31 08.4	-1.7
	baz=200						
T39A	Clever	21.05	11	P	P	18 31 10.0	-1.7
	baz=194						
X49A	Woodville	21.10	29	P	P	18 31 11.0	-1.2
	baz=214						
W47A	Westpoint	21.16	25	P	P	18 31 12.0	-0.9
	baz=210						
W18A	Petrified Fore	21.19	334	P	P	18 31 14.8	+1.4
	baz=149,SNR=6.2						
W18A	Petrified Fore	21.19	334	eP	P	18 31 15.3	+2.0
	16nm,1.0s						
T25A	Trinidad	21.32	347	P	P	18 31 15.4	+0.6
	baz=164,SNR=24						
T25A	Trinidad	21.32	347	eP	P	18 31 16.4	+1.6
	30nm,0.9s						
T40A	Mansfield	21.35	13	P	P	18 31 13.3	-1.5
	baz=196,SNR=9.8						
W48A	Pulaski	21.35	27	P	P	18 31 13.8	-1.1
	baz=212						
MHTCO	State Highway	21.37	346	eP	P	18 31 16.7	+1.4
	13nm,0.7s						
113A	Mohawk Valley,	21.37	323	eP	P	18 31 17.4	+2.3
	96nm,1.6s						
X50A	Fort Payne	21.37	30	P	P	18 31 14.1	-1.1
	baz=216						
X16A	Lo Mia Camp, P	21.38	329	eP	P	18 31 17.9	+2.4
	21nm,0.8s						
T41A	Mountain View	21.42	15	P	P	18 31 14.6	-1.1
	baz=198,SNR=12						
V46A	Holladay	21.43	24	P	P	18 31 14.0	-1.8
	baz=208						
S38A	Stockton	21.54	10	P	P	18 31 15.1	-1.8
	baz=192						
T42A	Van Buren	21.58	16	P	P	18 31 16.1	-1.2
	baz=199,SNR=7.7						
U45A	Rockin P Farm,	21.68	22	P	P	18 31 16.6	-1.9
	baz=206						
V47A	Nunnelly	21.69	25	P	P	18 31 17.3	-1.2
	baz=209						
S39A	Bolivar	21.71	11	P	P	18 31 17.3	-1.4
	baz=193,SNR=12						
S40A	Lebanon	21.78	13	P	P	18 31 18.0	-1.5
	baz=196,SNR=10						
Y14A	Wickenburg	21.81	326	eP	P	18 31 22.0	+2.1
	20nm,0.9s						
WVT	Waverly	21.83	24	P	P	18 31 18.5	-1.5
	baz=208						
T43A	Greenville	21.86	18	P	P	18 31 18.5	-1.8
	baz=201						
V48A	Smith Brothers	21.91	26	P	P	18 31 19.4	-1.4
	baz=211						
S41A	Jillco Farms,	21.94	14	P	P	18 31 19.5	-1.7
	baz=197,SNR=13						
R38A	Fenwick Farm,	22.09	10	P	P	18 31 20.4	-2.3
	baz=192						
GLA	Glamis	22.20	321	P	P	18 31 26.9	+2.8
	baz=135						
GLA	Glamis	22.20	321	eP	P	18 31 26.2	+2.1
	76nm,1.4s						
WUAZ	Wupatki	22.25	331	P	P	18 31 26.6	+1.8
	baz=146,SNR=8.6						
WUAZ	Wupatki	22.25	331	eP	P	18 31 27.0	+2.3
	34nm,1.0s						
U47A	Clarksville	22.32	24	P	P	18 31 24.1	-1.2
	baz=209						
S42A	Caledonia	22.36	16	P	P	18 31 25.3	-0.3
	baz=200,SNR=12						
R39A	Chumby, Stover	22.36	11	P	P	18 31 23.9	-1.9
	baz=194,SNR=12						
S43A	Fulton Ridge,	22.37	18	P	P	18 31 24.9	-0.9
	baz=201						
R40A	Maddies Statio	22.50	13	P	P	18 31 26.3	-0.9
	baz=196,SNR=13						
S22A	4UR Ranch, Cre	22.51	343	P	P	18 31 28.4	+0.8
	baz=159,SNR=14						
S22A	4UR Ranch, Cre	22.51	343	eP	P	18 31 28.5	+0.8
	10nm,0.8s						
CCM	Cathedral Cave	22.51	15	P	P	18 31 26.0	-1.3
	baz=198						
CCM	Cathedral Cave	22.51	15	eP	P	18 31 26.7	-0.6
	27nm,1.1s						
MVCO	Mesa Verde	22.55	339	P	P	18 31 28.7	+0.7
	baz=154,SNR=8.6						
MVCO	Mesa Verde	22.55	339	eP	P	18 31 28.9	+1.0
	26nm,1.0s						
WESC	Westside Schoo	22.55	319	epP	pP	18 31 38.1	+7.4
FVM	French Village	22.66	17	eP	P	18 31 29.5	+0.6
	52nm,1.8s						
U48A	Cassie Pea, Po	22.68	26	P	P	18 31 28.1	-1.0
	baz=211						
R41A	Rosebud	22.71	15	P	P	18 31 28.3	-1.1
	baz=198						
KSCO	Kaye Shedlock'	22.82	352	P	P	18 31 29.9	-0.9
	baz=170						
R42A	Luebbering	22.84	16	P	P	18 31 30.0	-0.8
	baz=199						
T47A	Sharon Grove	22.87	24	P	P	18 31 30.0	-1.1
	baz=209						
Q38A	Cooks Store, C	22.89	10	P	P	18 31 30.0	-1.3
	baz=192						
S45A	Carrier Mills	22.94	21	P	P	18 31 30.3	-1.6
	baz=205						
R43A	Red Bud	23.07	17	P	P	18 31 31.3	-1.9
	baz=201						
Q39A	Willow Grove F	23.08	11	P	P	18 31 31.5	-1.9
	baz=193						
IRM	Iron Mountain	23.17	323	P	P	18 31 36.5	+2.2
	baz=136						
Q40A	Laux Farm, Aux	23.21	13	P	P	18 31 33.0	-1.7
	baz=196						
Q24A	Divide	23.23	347	P	P	18 31 34.2	-1.0
	baz=164						
T48A	Bowling Green	23.25	25	P	P	18 31 34.1	-1.0
	baz=210						
TKL	Tuckaleechee C	23.25	32	P	P	18 31 34.0	-1.1
	12nm,1.1s,baz=225,slow=8.9,SNR=4.5						
TKL	Tuckaleechee C	23.25	32	eP	P	18 31 35.2	+0.1
	56nm,1.5s						
Q41A	Truxton	23.36	14	P	P	18 31 35.6	-0.5
	baz=198,SNR=5.8						
P37A	Lathrop	23.40	8	P	P	18 31 34.8	-1.7
	baz=190						
PV01	Paradox Valley	23.41	340	eP	P	18 31 38.3	+1.5
U15A	North Rim	23.42	331	eP	P	18 31 39.2	+2.1
	13nm,0.9s						
NHSC	New Hope	23.47	41	P	P	18 31 37.1	-0.2
	baz=229						
Q42A	Golden Eagle	23.50	16	P	P	18 31 36.2	-1.3
	baz=199						
USIN	University of	23.52	22	eP	P	18 31 40.0	+2.3
	82nm,1.3s						

PV05	Paradox Valley	23.54	339	*eP*		P	18 31 39.8	+1.6
P38A	Dawn baz=192	23.55	10	P		P	18 31 36.2	-1.8
P39B	Salisbury baz=194	23.55	11	P		P	18 31 36.4	-1.6
R45A	Skylar, Fairfi baz=205	23.60	20	P		P	18 31 37.1	-1.4
O33A	Hebron baz=182	23.61	2	P		P	18 31 37.0	-1.6
DNR	Dunn Ranch,Anz	23.65	320	*eP*		P	18 31 43.3	+4.0
P40A	Paris baz=195,SNR=6.8	23.73	12	P		P	18 31 38.9	-0.8
Q43A	New Douglas baz=201	23.75	17	P		P	18 31 38.3	-1.7
O34A	Beatrice baz=184	23.76	3	P		P	18 31 38.8	-1.3
S48A	Wiedeman Farm, baz=210	23.86	25	P		P	18 31 40.0	-1.1
SMCO	Snowmass 12nm,1.0s	23.88	344	*eP*		P	18 31 43.2	+1.5
GMRC	Granite Mounta baz=136	23.91	323	P		P	18 31 43.5	+1.7
Q44A	Meyer Farm, Va baz=203	23.92	18	P		P	18 31 40.2	-1.3
O38A	Galt baz=192	24.05	9	P		P	18 31 41.3	-1.4
TZTN	Tazewell baz=217	24.07	31	P		P	18 31 42.4	-0.6
TZTN	Tazewell 84nm,1.6s	24.07	31	*eP*		P	18 31 45.0	+2.0
P41A	Barry, Barry baz=198	24.09	14	P		P	18 31 41.6	-1.6
ISCO	Idaho Springs baz=163,SNR=11	24.14	347	P		P	18 31 44.7	+0.7
KNB	Kanab 15nm,1.0s	24.14	331	*eP*		P	18 31 46.7	+2.7
KMSC	Kings Mountain baz=224	24.17	36	P		P	18 31 43.5	-0.5
P42A	Winchester baz=199	24.18	16	P		P	18 31 42.8	-1.2
Q45A	Warren Harvey, baz=205	24.18	20	P		P	18 31 42.7	-1.3
R47A	Wooly Knot Far baz=209,SNR=7.2	24.23	23	P		P	18 31 43.6	-0.8
WCI	Wyandotte Cave baz=209	24.26	24	P		P	18 31 43.4	-1.3
WCI	Wyandotte Cave 17nm,0.7s	24.26	24	*eP*		P	18 31 44.3	-0.4
O39A	Kirksville baz=194	24.34	11	P		P	18 31 43.7	-1.7
HEC	Hector,Ludlow baz=135	24.34	322	P		P	18 31 47.9	+2.2
LCMT	Little Creek M 9.4nm,1.2s	24.34	330	*eP*		P	18 31 48.0	+2.3
O40A	La Belle baz=195,SNR=7.6	24.34	12	P		P	18 31 44.4	-1.1
O41A	Passleys Farm, baz=198	24.55	14	P		P	18 31 46.2	-1.2
P44A	Sand Creek, Wi baz=203	24.56	19	P		P	18 31 46.2	-1.3
R48A	Northridge Ran baz=210	24.57	24	P		P	18 31 46.5	-1.2
MTPU	Mount Pierson 38nm,0.8s	24.71	333	*eP*		P	18 31 51.9	+2.6
SHPR	Sheep Range 18nm,1.3s	24.90	327	*eP*		P	18 31 53.7	+2.9
N39A	Derby Farms, D baz=194,SNR=7.3	24.95	11	P		P	18 31 49.9	-1.1
SRU	San Rafael Swe 15nm,0.9s	24.96	337	*eP*		P	18 31 52.8	+1.4
Q16A	Castle Valley 20nm,0.8s	25.04	336	*eP*		P	18 31 53.8	+1.7
M35A	Neola baz=186	25.11	5	P		P	18 31 50.7	-1.7
N41A	Harden Midland baz=197	25.12	14	P		P	18 31 51.5	-1.0
O20A	White River Ci baz=158	25.13	342	P		P	18 31 53.2	+0.3
O20A	White River Ci 19nm,0.9s	25.13	342	*eP*		P	18 31 55.0	+2.1
N40A	Mertquake, Sal baz=196	25.13	12	P		P	18 31 51.6	-1.0
M37A	Trindle Farm, baz=190	25.22	8	P		P	18 31 52.8	-0.6
N23A	Red Feather La baz=163	25.25	347	P		P	18 31 53.9	-0.2
N23A	Red Feather La 37nm,1.8s	25.25	347	*eP*		P	18 31 55.2	+1.2
P18A	Preston Nutter 21nm,0.8s	25.32	338	*eP*		P	18 31 57.3	+2.6
M38A	Pleasantville baz=192,SNR=7.3	25.36	9	P		P	18 31 53.7	-1.0
P17A	Butcher Ranch, 13nm,1.0s	25.36	337	*eP*		P	18 31 57.2	+2.3
EDW2	Edwards Air Fo baz=132	25.37	320	P		P	18 31 57.6	+2.6
TMUT	Trail Mountain 17nm,1.1s	25.38	337	*eP*		P	18 31 56.8	+1.5
N42A	Yates City baz=199	25.43	15	P		P	18 31 54.0	-1.4
LRMC	Laurel Mtn Rad baz=133	25.58	322	P		P	18 31 59.4	+2.4
M39A	Webster baz=194	25.59	11	P		P	18 31 55.3	-1.5
N43A	Stutzman Famil baz=201	25.76	16	P		P	18 31 56.6	-1.7
TPNV	Topopah Spring 60nm,1.6s	25.82	326	*eP*		P	18 32 03.4	+4.3
SCIA	State Center baz=192	25.83	9	P		P	18 31 58.0	-1.0
SCIA	State Center 39nm,0.8s	25.83	9	*eP*		P	18 31 58.6	-0.4
SCZ2	Santa Cruz Isl baz=128	25.85	317	P		P	18 32 02.6	+3.3
SFIN	Lafayette baz=206	25.87	20	P		P	18 31 58.1	-1.3
L37A	Phoenix Point, baz=190	25.97	8	P		P	18 31 58.4	-1.9
L38A	Oak Wood Farm, baz=192,SNR=6.9	26.10	9	P		P	18 32 00.5	-0.9
MPU	Maple Canyon 6.1nm,0.9s	26.17	337	*eP*		P	18 32 04.2	+1.9
L39A	Vinton baz=194	26.25	11	P		P	18 32 01.2	-1.5
M43A	Waltham Townsh baz=201	26.28	16	P		P	18 32 01.6	-1.5
L40A	Anamosa baz=196	26.34	12	P		P	18 32 01.9	-1.6
N46A	Monticello baz=206	26.46	20	P		P	18 32 02.7	-2.0
L41A	Preston baz=197	26.51	13	P		P	18 32 03.5	-1.6
R11A	Troy Canyon, C baz=141	26.53	329	P		P	18 32 06.8	+1.2
R11A	Troy Canyon, C 15nm,1.6s	26.53	329	*eP*		P	18 32 10.0	+4.4
K37A	Belmond baz=190	26.62	8	P		P	18 32 04.5	-1.6
K38A	Parkersburg baz=192	26.62	9	P		P	18 32 04.7	-1.5
L42A	Oliver, Polo baz=199	26.63	15	P		P	18 32 04.9	-1.4
VES	Vestal, Richgr baz=131	26.67	320	P		P	18 32 09.5	+2.9
DUG	Dugway, Tooele baz=148	26.79	335	P		P	18 32 08.2	+0.4
K39A	Oelwein baz=194	26.83	11	P		P	18 32 06.5	-1.5
K40A	Colesburg baz=196	26.97	12	P		P	18 32 07.9	-1.4
M46A	Old House Fiel baz=206	27.05	20	P		P	18 32 08.7	-1.3
TCUT	Toone Canyon 19nm,0.9s	27.05	338	*eP*		P	18 32 12.0	+1.7
K41A	Shullsburg baz=197	27.06	13	P		P	18 32 08.7	-1.4
K22A	Casper 23nm,1.3s	27.06	347	*eP*		P	18 32 11.8	+1.6
J36A	Seneca 1, Swea baz=189	27.08	7	P		P	18 32 09.0	-1.3
J37A	Redenius Farm, baz=190	27.16	8	P		P	18 32 10.0	-1.0
ECSD	EROS Data Cent baz=184	27.30	3	P		P	18 32 11.1	-1.2
ECSD	EROS Data Cent 13nm,1.2s	27.30	3	*eP*		P	18 32 14.8	+2.5
ACSO	Alum Creek Sta baz=214	27.32	27	P		P	18 32 11.2	-1.3
ACSO	Alum Creek Sta 20nm,0.8s	27.32	27	*eP*		P	18 32 11.9	-0.6
J38A	Wedel Dairy, R baz=192	27.33	10	P		P	18 32 10.7	-1.8
K42A	Prairie Point, baz=199	27.44	15	P		P	18 32 12.5	-1.0
HWUT	Hardware Ranch 14nm,1.4s	27.54	338	*eP*		P	18 32 15.9	+1.3
J41A	Loganville baz=198	27.84	13	P		P	18 32 16.0	-1.1
NV11	Mina Array Sit 0.4nm,1.0s	27.93	326	*eP*		P	18 32 20.5	+2.4
BW06	Boulder Array baz=157,SNR=6.3	27.94	342	P		P	18 32 18.7	+0.4
BW06	Boulder Array 15nm,1.4s	27.94	342	*eP*		P	18 32 19.1	+0.8
PD31	Pinedale Array	27.94	342	*eP*		P	18 32 19.1	+0.8
PDAR	Pinedale Array 2.2nm,0.6s,baz=126,slow=9.3,SNR=17	27.94	342	P		P	18 32 18.4	+0.2
PDAR	Pinedale Array	27.94	342	*eP*		P	18 32 18.0	-0.2
J42A	Columbus baz=199	28.00	15	P		P	18 32 17.4	-1.1
NV01	Mina Array Sit	28.01	325	*eP*		P	18 32 20.9	+2.0
NVAR	Mina Array Bea 3.2nm,0.9s,baz=148,slow=10.0,SNR=11	28.01	325	P		P	18 32 20.1	+1.2
RSSD	Black Hills baz=169	28.04	352	P		P	18 32 18.6	-0.5
H32A	Carlson Farm, baz=182	28.04	2	P		P	18 32 17.8	-1.1
I38A	Scanlan Farm, baz=192	28.05	9	P		P	18 32 17.5	-1.5
SDV	Santo Domingo 1.3nm,0.3s,baz=6.8,slow=5.2,SNR=4.2	28.17	102	P		P	18 32 22.3	+1.7
CBN	Corbin Frederi baz=226	28.59	36	P		P	18 32 23.3	-0.5
H38A	Maiden Rock baz=192	28.68	9	P		P	18 32 23.0	-1.6
G33A	Ortonville baz=184	28.77	3	P		P	18 32 23.6	-1.7
I43A	Langenfeld Bro baz=201	28.78	16	P		P	18 32 23.8	-1.7
REDW	Red Top Meadow 15nm,1.3s	28.87	341	*eP*		P	18 32 27.8	+1.2
H40A	Chili baz=196	28.96	12	P		P	18 32 26.1	-1.0
LOHW	Long Hollow 46nm,1.9s	29.02	342	*eP*		P	18 32 29.0	+1.1
H41A	Junction City baz=198	29.11	13	P		P	18 32 27.3	-1.1
SPMN	Marine on St. baz=191	29.14	8	P		P	18 32 27.3	-1.3
FXWY	Fox Creek 4.1nm,1.0s	29.17	341	*eP*		P	18 32 30.3	+1.0
MOOW	Moose Ponds 4.8nm,0.9s	29.19	342	*eP*		P	18 32 30.3	+1.0
IMW	Indian Meadow 14nm,0.6s	29.38	341	*eP*		P	18 32 33.3	+2.2
G39A	Holcombe baz=194	29.46	11	P		P	18 32 30.1	-1.3
G40A	Rib Lake baz=196	29.62	12	P		P	18 32 31.9	-1.0
F36A	Milaca baz=190	29.68	7	P		P	18 32 32.1	-1.3
G42A	Mountain baz=200	29.98	14	P		P	18 32 34.4	-1.7
RLMT	Red Lodge baz=159,SNR=5.5	30.04	345	P		P	18 32 37.5	+0.6
RLMT	Red Lodge 9.3nm,1.1s	30.04	345	*eP*		P	18 32 38.5	+1.6
F39A	Loretta baz=194	30.11	11	P		P	18 32 36.6	-0.6
G43A	Wallace baz=201	30.18	15	P		P	18 32 37.0	-0.8
HLID	Hailey 6.3nm,1.4s	30.28	337	*eP*		P	18 32 43.3	+4.4
F41A	Three Lakes baz=198	30.30	13	P		P	18 32 37.9	-1.0
E40A	Wakefield baz=196	30.81	12	P		P	18 32 42.5	-1.0
D35A	Remer baz=188	30.82	6	P		P	18 32 42.6	-0.9
F43A	Flat Rock, Esc baz=201	30.85	16	P		P	18 32 42.5	-1.2
D37A	Colon baz=191	31.09	8	P		P	18 32 44.4	-1.4
F44A	Big Bay de Noc baz=203	31.18	16	P		P	18 32 44.8	-1.8
DLMT	Dillon 8.3nm,1.0s	31.22	341	*eP*		P	18 32 49.1	+1.9
E42A	Champion baz=200	31.22	14	P		P	18 32 45.4	-1.7
LRM	Limekiln Ridge	31.58	341	*eP*		P	18 32 52.6	+2.1
C36A	Pine Crest Far baz=190	31.63	7	P		P	18 32 49.3	-1.3
D41A	Chassel baz=198	31.67	13	P		P	18 32 50.3	-0.7
J08A	Circle Bar Ran 11nm,0.9s	31.81	332	*eP*		P	18 32 54.1	+1.8
AGMN	Agassiz Nation baz=185	31.89	3	P		P	18 32 51.8	-1.1
AGMN	Agassiz Nation 6.0nm,0.8s	31.89	3	*eP*		P	18 32 52.2	-0.8
B32A	Ashes, Strandq baz=184	31.96	2	P		P	18 32 52.3	-1.2
KKPM	Kettenpom Peak	32.02	323	*eP*		P	18 33 00.0	+5.7
B34A	Aery, Baudette baz=187	32.16	5	P		P	18 32 54.3	-1.0
HRY	Holter Researc	32.20	343	*eP*		P	18 32 57.8	+2.0
N02D	Trinity Center baz=133	32.21	324	P		P	18 32 58.3	+2.4
C40A	Isle Royale Na baz=197	32.37	12	P		P	18 32 56.2	-0.8
A32A	Rocking H Ranc baz=184	32.48	2	P		P	18 32 57.0	-1.1
A33A	Warroad baz=186	32.56	4	P		P	18 32 57.5	-1.2
F10A	Beach Ranch, E 12nm,1.0s	33.39	336	*eP*		P	18 33 07.2	+1.0
ULM	Lac du Bonnet 1.3nm,0.5s,baz=186,slow=7.9,SNR=3.2	33.84	3	P		P	18 33 09.2	-0.7
LON	Longmire	35.93	332	*eP*		P	18 33 28.2	+0.2
FFC	Flin Flon 9.9nm,0.8s	38.35	357	*eP*		P	18 33 48.4	-0.1
EDM	Edmonton 13nm,0.8s	38.56	346	*eP*		P	18 33 50.7	+0.4
SCHQ	Schefferville 5.2nm,0.8s,baz=249,slow=3.5,SNR=5.6	45.46	25	P		P	18 34 45.6	-1.0
SCHQ	Schefferville 8.6nm,1.0s	45.46	25	*eP*		P	18 34 46.6	0.0
YKA	Yellowknife Ar 1.6nm,0.7s,baz=158,slow=7.3,SNR=25	47.43	350	P		P	18 35 01.4	-0.5
INK	Inuvik 3.3nm,0.8s,baz=136,slow=7.9,SNR=13	56.46	345	P		P	18 36 08.9	-0.1
IL1	Eielson Array	58.23	338	*eP*		P	18 36 21.9	+0.2
ILAR	Eielson Array 1.7nm,0.9s,baz=142,slow=5.4,SNR=8.5	58.23	338	P		P	18 36 22.4	+0.6
ILB	Eielson Array	58.23	338	*eP*		P	18 36 22.4	+0.6
CPUP	Villa Florida 1.8nm,1.1s,baz=330,slow=7.7,SNR=3.1	58.35	136	P		P	18 36 22.0	-1.1
TOLK	Toolik Lake Re baz=122	61.19	341	P		P	18 36 42.1	-0.1
TIXI	Tiksi 1.5nm,0.8s,baz=40,slow=3.6,SNR=6.8	86.56	346	P		P	18 39 10.1	-0.4

*IDC **02** 18:28:26.0±0.8, 19.°05N×107.°74W, h0km, mb4.4/12, mb1 4.6/14, mb1mx4.2/52, mbtmp4.4/14, ML4.6/1, MS4.1/7, Ms1 4.1/7, ms1mx3.8/53, Error ellipse: s-maj=26.1km s-min=15.4km az=63.0*

*ISCJB **02** 18:28:27.6±0.5, 18.°86N±0.°05×107.°50W±0.°03, h16km, mb4.6/63, MS4.4/3, Error ellipse: s-maj=7.8km s-min=3.4km az=20.4*

*NEIC **02** 18:28:30.9±0.9, 18.°81N×107.°59W, h28km±5km, mb4.7/92, Error ellipse: s-maj=7.4km s-min=5.9km az=212.0*

NEIC Felt at Manzanillo.

ISC 02 18:28:29.0±0.7, 18.°89N±0.°08×107.°64W±0.°10, h16km, n356, σ1°36/348, mb4.7/64, MS4.3/3, Off coast of Jalisco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H06E1	SOCORRO T-PHAS SNR=1203	3.11	269	T	T	18 32 15.1	
H06S1	SOCORRO T SNR=41	3.14	268	T	T	18 32 24.1	
H06N1	SOCORRO T-PHAS SNR=27	3.17	270	T	T	18 32 14.7	

LPIG	La Paz comp=Z,692nm,20.1s,baz=42,slow=32	5.75	335	LR		LR	18 31 24.4	
HPIG		8.22	12	*e*Pn		Pn	18 30 27.5	-0.3
LNIG	Linares	9.66	50	*e*Pn		Pn	18 30 49.2	+1.7
LTX	Lajitas	11.02	18	*e*Pn		Pn	18 31 05.0	-1.1
TX31	Lajitas Ar. Si	11.02	18	*e*Pn		Pn	18 31 06.7	+0.6
TXAR	Lajitas Array 1.1nm,0.3s,baz=206,slow=14,SNR=32	11.02	18	Pn		Pn	18 31 05.0	-1.1
TXAR				LR		LR	18 34 19.5	
833A	comp=Z,252nm,19.2s,baz=0.0,slow=32 Chaparral WMA, baz=220,SNR=10.0	12.05	37	P		Pn	18 31 21.4	+1.1
CMIG	Matias Romero comp=Z,1μm,21.1s,baz=264,slow=34	12.27	96	LR		LR	18 35 32.5	
319A	Douglas	12.53	354	*e*Pn		Pn	18 31 30.5	+3.7
EPT	El Paso	12.87	4	*e*Pn		Pn	18 31 34.5	+3.0
MNTX	Cornudas Mount baz=189,SNR=6.6	12.92	9	P		Pn	18 31 32.6	+0.6
MNTX	Cornudas Mount	12.92	9	*e*Pn		Pn	18 31 34.5	+2.4
JCT	Junction City baz=213	13.56	30	P		Pn	18 31 42.4	+1.5
JCT	Junction City	13.56	30	*e*Pn		Pn	18 31 44.2	+3.4
121A	Cookes Peak, D baz=179	13.59	359	P		Pn	18 31 41.9	+0.5
TUC	Tucson baz=167	13.66	349	P		Pn	18 31 43.6	+1.3
TUC	Tucson	13.66	349	*e*Pn		Pn	18 31 45.4	+3.1
214A	Organ Pipe Nat baz=159	13.82	341	P		Pn	18 31 45.2	+0.8
113A	Mohawk Valley,	14.88	340	*e*Pn		Pn	18 32 01.8	+3.1
435B	Jarrell baz=219	14.94	36	P		Pn	18 32 00.6	+0.9
BNM	Barren Site	15.23	3	*e*Pn		Pn	18 32 05.5	+1.7
HKT	Hockley 171nm,1.6s	15.38	42	*e*Pn		Pn	18 32 07.3	+1.8
LPM	Los Pinos Moun	15.39	3	*e*Pn		P	18 32 09.5	-0.9
ABTX	Abilene, Hawle baz=209,SNR=7.6	15.45	26	P		Pn	18 32 07.1	+0.6
ABTX	Abilene, Hawle 80nm,1.2s	15.45	26	*e*Pn		Pn	18 32 07.6	+1.1
LAZ	Ladron	15.46	2	*e*Pn		Pn	18 32 09.3	+2.6
GLA	Glamis baz=154	15.51	337	P		Pn	18 32 07.8	+0.6
GLA	Glamis 76nm,1.4s	15.51	337	*e*Pn		Pn	18 32 09.5	+2.4
WESC	Westside Schoo	15.61	334	*e*Pn		P	18 32 12.4	-0.1
WESC				*e*Sn		Sn	18 34 41.5	-19
MSTX	Muleshoe baz=197,SNR=7.1	15.64	15	P		Pn	18 32 09.3	+0.3
MSTX	Muleshoe 79nm,1.1s	15.64	15	*e*Pn		Pn	18 32 09.7	+0.8
IKP	In-Ko-Pah, Jac baz=149	15.68	333	P		Pn	18 32 10.1	+0.7
X18A	Snowflake 36nm,1.3s	15.72	353	*e*Pn		Pn	18 32 12.6	+2.6
Y14A	Wickenburg 24nm,1.3s	15.74	343	*e*Pn		Pn	18 32 12.3	+2.1
SWSC	Sam W. Stewart baz=150	15.80	334	P		Pn	18 32 12.6	+1.7
BAR	Barrett 71nm,1.8s	15.95	331	*e*Pn		Pn	18 32 15.4	+2.5
WHTX	Lake Whitney, baz=217,SNR=5.1	15.95	33	P		Pn	18 32 13.1	+0.2
WHTX	Lake Whitney, 55nm,0.9s	15.95	33	*e*Pn		Pn	18 32 14.4	+1.5
MONP2	Monument Peak baz=148	16.02	332	P		Pn	18 32 15.5	+1.5
Y12C	Blythe baz=156	16.03	339	P		Pn	18 32 15.5	+1.6
Y12C	Blythe 46nm,1.3s	16.03	339	*e*Pn		Pn	18 32 16.1	+2.3
ANMO	Albuquerque baz=352,slow=12,SNR=2.1	16.03	4	Pn		Pn	18 32 13.2	-0.9
ANMO	Albuquerque baz=184	16.03	4	P		Pn	18 32 15.7	+1.6
ANMO	Albuquerque 17nm,1.0s	16.03	4	*e*Pn		Pn	18 32 15.6	+1.6
W18A	Petrified Fore baz=173	16.28	354	P		Pn	18 32 18.0	+0.8
W18A	Petrified Fore 29nm,1.1s	16.28	354	*e*Pn		Pn	18 32 18.4	+1.2
BC3	Big Chuckawall baz=153	16.28	336	P		Pn	18 32 19.1	+1.9
DPP	Dos Picos Cty	16.34	331	*e*Pn		Pn	18 32 13.1	-4.8
PDMCI	Parker Dam,Lak baz=158	16.41	341	P		Pn	18 32 19.8	+1.1
IRM	Iron Mountain baz=154	16.62	338	P		Pn	18 32 23.2	+1.8
XPFO	Piæon Flat 88nm,1.8s	16.65	333	*e*Pn		Pn	18 32 23.0	+1.1
PFO	Pinyon Flats O baz=150	16.65	333	P		Pn	18 32 22.8	+0.9
PFO	Pinyon Flats O 89nm,1.8s	16.65	333	*e*Pn		Pn	18 32 23.3	+1.4
AMTX	Amarillo baz=200	16.79	17	P		Pn	18 32 24.6	+0.9
AMTX	Amarillo 95nm,1.1s	16.79	17	*e*Pn		Pn	18 32 23.6	-0.1
APG	El Apazote comp=Z,936nm,18.4s,baz=340,slow=32	16.88	101	LR		LR	18 37 34.6	
MURC	Murrieta baz=148	16.96	332	P		Pn	18 32 27.5	+1.8
DEVC	Devers	16.98	334	*e*Pn		P	18 32 32.6	+4.8
DANC	Danby, Needles	17.13	338	*e*Pn		Pn	18 32 23.4	-4.4
RVR	Riverside	17.37	332	*e*PcP		PcP	18 37 12.8	+0.3
CLTC	Calectric	17.43	332	*e*Pn		Pn	18 32 27.9	-3.7
BREC	Barre Substati	17.50	330	*e*Sn		Sn	18 35 48.4	+1.5
WMOK	Wichita Mounta baz=208	17.64	25	P		Pn	18 32 33.3	-1.0
WMOK	Wichita Mounta 35nm,1.3s	17.64	25	*e*Pn		Pn	18 32 33.7	-0.5
HEC	Hector,Ludlow baz=152	17.66	336	P		Pn	18 32 34.0	-0.5
BFSC	Mount Baldy Ra baz=147	17.70	332	P		Pn	18 32 34.7	-0.4
CHFC	Chilao Flat St	17.95	331	*e*PcP		PcP	18 37 13.3	-0.4
341A	Kurthwood baz=230	18.02	44	P		Pn	18 32 38.3	-0.6
GSC	Goldstone, Bar 29nm,1.4s	18.26	335	*e*Pn		P	18 32 44.1	+2.1
MHTCO	State Highway 30nm,1.4s	18.36	8	*e*Pn		P	18 32 44.1	+0.8
EDW2	Edwards Air Fo baz=148	18.39	332	P		P	18 32 43.4	-0.1
T25A	Trinidad baz=190	18.41	8	P		P	18 32 43.8	+0.1
TPO	Tropico Hills	18.50	332	*e*Sn		Sn	18 36 11.0	-0.3
342A	Flagon Creek P baz=231	18.60	45	P		Pn	18 32 48.4	+2.4
SHPR	Sheep Range 18nm,1.3s	18.76	341	*e*P		P	18 32 48.9	+1.3
S22A	4UR Ranch, Cre baz=182	18.81	2	P		P	18 32 49.0	+0.8
S22A	4UR Ranch, Cre 33nm,1.5s	18.81	2	*e*Pn		Pn	18 32 50.0	+1.2
SDCO	Great Sand Dun baz=186	18.89	5	P		P	18 32 49.3	+0.2
SDCO	Great Sand Dun 33nm,1.4s	18.89	5	*e*P		P	18 32 50.0	+0.9
MPMC	Manual Prospec baz=151	19.19	335	P		P	18 32 51.7	-0.6
CCUT	Cedar City 31nm,1.8s	19.26	346	*e*P		P	18 32 53.5	+0.3
ISA	Isabella, Lake baz=147	19.26	332	P		P	18 32 53.5	+0.5
ISA	Isabella, Lake 12nm,1.1s	19.26	332	*e*P		P	18 32 53.9	+0.9
GATR	Gnd/Air Tx Cnt	19.35	326	*es*P		sP	18 33 05.0	+4.5
DAC	Darwin (Calif) 20nm,1.3s	19.42	335	*e*P		Pn	18 32 57.3	+1.3
PV10	Paradox Valley	19.46	357	*e*P		Pn	18 32 57.4	+0.8
X39A	Fountain Ranch baz=221	19.67	35	P		P	18 32 57.7	+0.2
CWC	Cottonwood Cre baz=150	19.75	334	P		P	18 32 59.8	+1.3
TUL1	Leonard baz=214	19.93	29	P		P	18 33 00.2	0.0
TUL1	Leonard 116nm,1.8s	19.93	29	*e*P		P	18 33 00.4	+0.2
MIAR	Mount Ida baz=222,SNR=6.4	19.99	36	P		P	18 33 00.3	-0.7
Q24A	Divide baz=187	20.12	6	P		P	18 33 03.8	+1.1
Q16A	Castle Valley 45nm,1.6s	20.20	352	*e*P		Pn	18 33 06.5	+1.3
SMCO	Snowmass 21nm,1.2s	20.23	2	*e*P		P	18 33 05.6	+1.7

W39A	**Magazine** baz=220,SNR=8.1	20.37	34	P	P	18 33 04.6	-0.4
W39A	**Magazine** 90nm,1.4s	20.37	34	eP	P	18 33 05.4	+0.4
X40A	**Basin Creek Fa** baz=224	20.37	37	P	P	18 33 04.7	-0.3
X40A	**Basin Creek Fa** 67nm,1.6s	20.37	37	eP	P	18 33 05.8	+0.8
KSCO	**Kaye Shedlock'** baz=193	20.52	11	P	P	18 33 05.1	-1.7
KSCO	**Kaye Shedlock'** 77nm,1.1s	20.52	11	eP	P	18 33 04.6	-2.2
TMUT	**Trail Mountain** 13nm,0.9s	20.57	352	eP	P	18 33 06.9	-0.6
PSMM	**Smith Mountain**	20.58	329	eP	P	18 33 09.3	+1.9
R11A	**Troy Canyon, C** baz=158,SNR=5.1	20.59	342	P	P	18 33 07.4	-0.2
R11A	**Troy Canyon, C** 29nm,1.4s	20.59	342	eP	P	18 33 08.2	+0.6
P17A	**Butcher Ranch,** 39nm,1.3s	20.69	353	eP	P	18 33 10.1	+1.4
W40A	**Ferguson Farm,** baz=222,SNR=11	20.75	36	P	P	18 33 09.4	+0.3
W40A	**Ferguson Farm,** 88nm,1.0s	20.75	36	eP	P	18 33 10.3	+1.2
P18A	**Preston Nutter** 35nm,1.1s	20.79	354	eP	P	18 33 10.4	+0.5
ISCO	**Idaho Springs** baz=185,SNR=8.3	20.92	4	P	P	18 33 10.2	-1.1
ISCO	**Idaho Springs** 29nm,1.4s	20.92	4	eP	P	18 33 12.0	+0.8
V39A	**Pettigrew** baz=220,SNR=9.1	20.93	33	P	P	18 33 10.4	-0.7
CBKS	**Cedar Bluff** baz=201,SNR=9.0	21.01	17	P	P	18 33 11.9	-0.1
CBKS	**Cedar Bluff** 83nm,1.1s	21.01	17	eP	P	18 33 11.7	-0.3
O20A	**White River Ci** baz=178	21.18	359	P	P	18 33 14.2	+0.2
O20A	**White River Ci** 37nm,1.0s	21.18	359	eP	P	18 33 15.0	+1.0
W41B	**Gary Mavity, V** baz=224,SNR=9.1	21.20	37	P	P	18 33 13.0	-1.0
W41B	**Gary Mavity, V** 57nm,1.3s	21.20	37	eP	P	18 33 14.2	+0.3
MPU	**Maple Canyon** 15nm,1.2s	21.34	352	eP	P	18 33 16.3	+0.6
V40A	**Witts Springs** baz=221,SNR=6.2	21.34	35	P	P	18 33 14.8	-0.7
V40A	**Witts Springs** 30nm,0.9s	21.34	35	eP	P	18 33 15.7	+0.2
U39A	**Green Forest** baz=219,SNR=13	21.43	33	P	P	18 33 15.9	-0.6
NV11	**Mina Array Sit** 2.6nm,1.2s	21.52	337	eP	P	18 33 19.5	+1.9
T38A	**Diamond** baz=216,SNR=5.7	21.54	30	P	P	18 33 16.7	-1.0
247A	**Quitman** baz=237	21.57	49	P	P	18 33 17.6	-0.4
NV01	**Mina Array Sit**	21.57	337	eP	P	18 33 19.3	+1.1
NVAR	**Mina Array Bea** 6.8nm,1.1s,baz=157,slow=10,SNR=6.8	21.57	337	P	P	18 33 17.0	-1.2
Z45A	**Winona** baz=232	21.58	45	P	P	18 33 18.3	+0.2
V41A	**Mountainview** baz=223,SNR=6.7	21.69	36	P	P	18 33 19.2	-0.1
DUG	**Dugway, Tooele** baz=167,SNR=8.1	21.70	349	P	P	18 33 20.1	+0.6
DUG	**Dugway, Tooele** 38nm,1.4s	21.70	349	eP	P	18 33 20.2	+0.7
U40A	**Yellville** baz=220	21.74	34	P	P	18 33 18.9	-0.8
RYN	**Ryan** 39nm,1.5s	21.83	337	eP	P	18 33 22.1	+1.2
Z46A	**Louisville** baz=234	21.98	46	P	P	18 33 22.3	-0.1
T39A	**Clever** baz=218,SNR=7.2	21.98	32	P	P	18 33 21.3	-1.1
N23A	**Red Feather La** baz=184,SNR=8.7	21.98	3	P	P	18 33 22.4	-0.3
N23A	**Red Feather La** 42nm,1.3s	21.98	3	eP	P	18 33 23.8	+1.1
CTU	**Camp Tracy** 24nm,1.2s	22.02	352	eP	P	18 33 24.4	+1.4
KVN	**Kaiserville** 41nm,1.3s	22.05	338	eP	P	18 33 24.6	+1.3
WAKR	**Walker** 78nm,1.3s	22.08	335	eP	P	18 33 25.1	+1.5
CMB	**Columbia Colle** 14nm,1.2s	22.08	332	eP	P	18 33 25.2	+1.7
V42A	**Cord** baz=224,SNR=6.2	22.14	37	P	P	18 33 23.2	-0.8
147A	**Livingston** baz=236	22.15	48	P	P	18 33 24.5	+0.3
S38A	**Stockton** baz=216,SNR=6.9	22.20	30	P	P	18 33 24.1	-0.7
U41A	**Viola** baz=222	22.23	35	P	P	18 33 24.5	-0.5
BRAL	**Brewton** baz=241	22.26	53	P	P	18 33 25.8	+0.4
KSU1	**Kansas State U** baz=208	22.30	23	P	P	18 33 25.3	-0.5
TCUT	**Toone Canyon** 44nm,1.3s	22.39	353	eP	P	18 33 28.4	+1.3
YERR	**Yerington** 48nm,1.2s	22.41	336	eP	P	18 33 29.0	+1.8
X45A	**UM Field Stati** baz=231	22.43	43	P	P	18 33 27.9	+0.7
Y46A	**Houston** baz=233	22.44	45	P	P	18 33 26.5	-0.8
OXF	**Oxford** baz=230	22.47	43	P	P	18 33 27.0	-0.6
OXF	**Oxford** 32nm,0.9s	22.47	43	eP	P	18 33 29.4	+1.8
T40A	**Mansfield** baz=220	22.51	33	P	P	18 33 26.9	-1.2
S39A	**Bolivar** baz=217	22.53	31	P	P	18 33 27.0	-1.3
Z47A	**Carrollton** baz=235	22.58	47	P	P	18 33 28.3	-0.5
249A	**Camden** baz=239	22.61	51	P	P	18 33 27.8	-1.3
U42A	**Revenden** baz=224,SNR=16	22.61	36	P	P	18 33 28.5	-0.6
V43A	**Jonesboro** baz=226	22.61	38	P	P	18 33 27.6	-1.6
148A	**Greensboro** baz=237	22.63	49	P	P	18 33 29.2	-0.1
R38A	**Fenwick Farm,** baz=215	22.65	29	P	P	18 33 29.7	+0.1
O33A	**Hebron** baz=205	22.83	20	P	P	18 33 30.1	-1.3
T41A	**Mountain View** baz=222,SNR=6.2	22.83	34	P	P	18 33 30.8	-0.6
VCNR	**Virginia City** 23nm,1.0s	22.84	335	eP	P	18 33 33.3	+1.5
S40A	**Lebanon** baz=219	22.87	32	P	P	18 33 30.6	-1.3
451A	**Vernon** baz=244	23.01	55	P	P	18 33 31.9	-1.5
Z48A	**Northport** baz=236	23.04	47	P	P	18 33 32.4	-1.2
PAHR	**Pah Rah Range** 34nm,1.4s	23.09	336	eP	P	18 33 36.3	+1.9
Y47A	**UCPARC, Winfie** baz=234	23.13	46	P	P	18 33 33.6	-1.0
R39A	**Chumby, Stover** baz=217	23.16	30	P	P	18 33 33.7	-1.2
T42A	**Van Buren** baz=223	23.18	35	P	P	18 33 32.2	-1.8
O34A	**Beatrice** baz=207	23.23	22	P	P	18 33 34.6	-0.9
250A	**Grady** baz=241	23.24	52	P	P	18 33 34.9	-0.8
LRAL	**Lakeview Retre** baz=237	23.24	49	P	P	18 33 34.9	-0.8
LRAL	**Lakeview Retre** 22nm,0.9s	23.24	49	eP	P	18 33 36.7	+1.0
S41A	**Jillco Farms,** baz=221,SNR=7.9	23.25	33	P	P	18 33 34.5	-1.3
Q38A	**Cooks Store, C** baz=215	23.41	28	P	P	18 33 36.0	-1.4
X47A	**Russelville** baz=233	23.49	45	P	P	18 33 36.4	-1.7
R40A	**Maddies Statio** baz=219,SNR=6.2	23.52	32	P	P	18 33 37.4	-1.1
W46A	**Michie** baz=231	23.52	43	P	P	18 33 36.7	-1.8
O35A	**Humboldt** baz=208	23.58	23	P	P	18 33 38.9	-0.1
Y48A	**Jasper** baz=236	23.60	47	P	P	18 33 38.5	-0.8
P37A	**Lathrop** baz=213	23.61	26	P	P	18 33 38.5	-0.8
PLAL	**Pickwick Lake** 30nm,1.3s	23.62	43	eP	P	18 33 39.5	0.0
T43A	**Greenville** baz=224,SNR=8.4	23.67	36	P	P	18 33 39.2	-0.7
K22A	**Casper** baz=182	23.71	2	P	P	18 33 40.4	-0.1
K22A	**Casper** 27nm,1.1s	23.71	2	eP	P	18 33 40.3	-0.1
150A	**Eclectic** baz=240	23.73	51	P	P	18 33 40.7	+0.2
Q39A	**Willow Grove F** baz=216	23.77	29	P	P	18 33 40.6	-0.3
ORV	**Oroville** 20nm,1.4s	23.83	333	eP	P	18 33 43.5	+2.1
CCM	**Cathedral Cave** baz=221	23.86	33	P	P	18 33 41.8	+0.1
CCM	**Cathedral Cave** 39nm,0.9s	23.86	33	eP	P	18 33 42.1	+0.4
BW06	**Boulder Array** baz=175	23.86	357	P	P	18 33 40.4	-1.6
PD31	**Pinedale Array**	23.86	357	eP	P	18 33 41.7	-0.3
PDAR	**Pinedale Array** 1.5nm,0.6s,baz=162,slow=9.7,SNR=5.3	23.86	357	P	P	18 33 39.5	-2.5
PDAR	**Pinedale Array**	23.86	357	eP	P	18 33 41.7	-0.3
553A	**Crawfordville** baz=247	23.88	57	P	P	18 33 40.3	-1.6
S42A	**Caledonia** baz=222,SNR=6.0	23.89	35	P	P	18 33 40.4	-1.6
R41A	**Rosebud** baz=220,SNR=8.0	23.97	33	P	P	18 33 41.6	-1.2
X48A	**Hartselle** baz=235	23.99	46	P	P	18 33 42.1	-0.9
P38A	**Dawn** baz=214	24.00	28	P	P	18 33 41.7	-1.3
U45A	**Rockin P Farm,** baz=228	24.06	40	P	P	18 33 42.6	-1.0
W47A	**Westpoint** baz=232,SNR=7.5	24.10	43	P	P	18 33 43.4	-0.6
V46A	**Holladay** baz=230,SNR=7.1	24.10	42	P	P	18 33 42.7	-1.3
Z50A	**Ashland** baz=239	24.13	49	P	P	18 33 43.3	-1.0
S43A	**Fulton Ridge,** baz=224,SNR=12	24.14	36	P	P	18 33 43.6	-0.7
Q40A	**Laux Farm, Aux** baz=218	24.16	31	P	P	18 33 43.2	-1.4
O37A	**Wolven Farm, M** baz=212	24.18	26	P	P	18 33 44.4	-0.3
151A	**Opelika** baz=241	24.20	51	P	P	18 33 43.5	-1.4
P39B	**Salisbury** baz=216,SNR=6.6	24.23	29	P	P	18 33 44.6	-0.6
FVM	**French Village** 35nm,1.0s	24.24	35	eP	P	18 33 45.3	0.0
R42A	**Luebbering** baz=222,SNR=5.0	24.26	34	P	P	18 33 45.4	-0.1
252A	**Lumpkin** baz=243	24.40	53	P	P	18 33 46.0	-0.7
O38A	**Galt** baz=214	24.43	27	P	P	18 33 45.6	-1.4
W48A	**Pulaski** baz=234,SNR=6.5	24.47	44	P	P	18 33 46.5	-0.8
WVT	**Waverly** baz=230	24.49	41	P	P	18 33 47.6	0.0
V47A	**Nunnelly** baz=231	24.50	42	P	P	18 33 47.3	-0.3
353A	**Camilla** baz=245	24.51	55	P	P	18 33 48.6	+0.8
X49A	**Woodville** baz=236	24.52	46	P	P	18 33 46.8	-1.0
Q41A	**Truxton** baz=220,SNR=8.4	24.55	32	P	P	18 33 47.3	-0.8
REDW	**Red Top Meadow** 39nm,1.4s	24.55	354	eP	P	18 33 49.8	+1.5
O03D	**Paynes Creek** baz=146	24.57	333	P	P	18 33 48.1	-0.3
P40A	**Paris** baz=217	24.59	30	P	P	18 33 48.1	-0.4
SNOW	**Snow King Moun** 31nm,1.3s	24.64	355	eP	P	18 33 51.2	+2.0
N37A	**Lee Faris, Mou** baz=212	24.66	25	P	P	18 33 48.8	-0.3
S44A	**Carbondale** baz=225	24.68	37	P	P	18 33 49.8	+0.5
TPAW	**Teton Pass** 35nm,1.3s	24.69	354	eP	P	18 33 51.4	+1.8
R43A	**Red Bud** baz=223	24.72	35	P	P	18 33 49.9	+0.3
LOHW	**Long Hollow** 37nm,1.2s	24.78	355	eP	P	18 33 51.5	+1.1
K31A	**O'Neill** baz=200	24.83	16	P	P	18 33 50.0	-0.7
FXWY	**Fox Creek** 7.4nm,0.9s	24.84	354	eP	P	18 33 51.1	+0.2
957A	**Wimauma** baz=255	24.88	65	P	P	18 33 50.4	-0.8
V48A	**Smith Brothers** baz=233	24.90	43	P	P	18 33 50.3	-1.0
MOOW	**Moose Ponds** 15nm,1.3s	24.93	355	eP	P	18 33 52.6	+0.9
X50A	**Fort Payne** baz=237	24.95	47	P	P	18 33 50.3	-1.6
U47A	**Clarksville** baz=231	25.03	42	P	P	18 33 52.1	-0.3
T46A	**Princeton** baz=229	25.04	40	P	P	18 33 52.0	-0.5
S45A	**Carrier Mills** baz=227	25.06	38	P	P	18 33 53.3	+0.7
058A	**Arcadia** baz=256	25.11	66	P	P	18 33 53.0	-0.2
O40A	**La Belle** baz=217	25.15	29	P	P	18 33 52.1	-1.3
R44A	**Waltonville** baz=225,SNR=7.6	25.17	36	P	P	18 33 53.3	-0.3
P41A	**Barry, Barry** baz=219	25.18	31	P	P	18 33 53.6	-0.2
455A	**Stateville** baz=248	25.21	57	P	P	18 33 53.6	-0.5
HLID	**Hailey** baz=165,SNR=6.7	25.25	348	P	P	18 33 55.0	+0.4
HLID	**Hailey** 22nm,1.5s	25.25	348	eP	P	18 33 56.7	+2.1
WVOR	**Wild Horse Val** 49nm,1.3s	25.26	341	eP	P	18 33 56.9	+2.2
Q43A	**New Douglas** baz=223	25.33	34	P	P	18 33 55.5	+0.4
MOD	**Modoc Plateau** 18nm,1.1s	25.35	338	eP	P	18 33 58.0	+2.5
MFID	**Camas Ranch** 15nm,1.2s	25.41	346	eP	P	18 33 56.8	+0.9
YPP	**Pitchstone Pla** 10nm,1.4s	25.45	355	eP	P	18 33 57.2	+0.7
N39A	**Derby Farms, D** baz=215	25.47	27	P	P	18 33 56.1	-0.3
P42A	**Winchester** baz=221	25.47	32	P	P	18 33 56.5	+0.1
254A	**Abbeville** baz=245	25.48	55	P	P	18 33 55.7	-0.9
T47A	**Sharon Grove** baz=230	25.49	41	P	P	18 33 56.3	-0.3
U48A	**Cassie Pea, Po** baz=232	25.54	42	P	P	18 33 57.2	0.0
H17A	**Grant Village** 13nm,1.3s	25.55	355	eP	P	18 33 58.5	+1.1
O41A	**Passleys Farm,** baz=219	25.61	31	P	P	18 33 57.2	-0.5
M38A	**Pleasantville** baz=213	25.63	26	P	P	18 33 57.2	-0.6
R45A	**Skylar, Fairfi** baz=226	25.65	37	P	P	18 33 58.2	+0.1
Q44A	**Meyer Farm, Va** baz=224,SNR=7.8	25.67	35	P	P	18 33 58.7	+0.5
M04C	**Macdoel** baz=148	25.83	335	P	P	18 33 59.9	0.0
YMR	**Madison River** 10.0nm,1.0s	25.86	355	eP	P	18 34 01.3	+1.2
YMR				eS	S	18 38 30.0	+0.6
N40A	**Mertquake, Sal** baz=217	25.89	29	P	P	18 33 59.9	-0.3
YHB	**Horse Butte** 9.6nm,1.2s	25.96	354	eP	P	18 34 01.8	+0.7
YHH	**Holmes Hill**	25.97	355	eP	P	18 34 02.9	+1.7
J33A	**Davis** baz=203	25.97	18	P	P	18 34 00.2	-0.8
GOGA	**Godfrey** baz=242	26.00	51	P	P	18 34 00.2	-1.0
L37A	**Phoenix Point,** baz=211	26.00	24	P	P	18 34 01.6	+0.4
T48A	**Bowling Green** baz=231,SNR=5.2	26.00	41	P	P	18 34 00.7	-0.6
J08A	**Circle Bar Ran** 46nm,1.4s	26.05	342	eP	P	18 34 02.6	+0.8
QLMT	**Earthquake Lak**	26.06	354	eP	P	18 34 02.7	+0.7
M39A	**Webster** baz=215	26.11	27	P	P	18 34 00.6	-1.6
Q45A	**Warren Harvey,** baz=226	26.14	36	P	P	18 34 00.8	-1.7
RLMT	**Red Lodge** baz=176	26.20	357	P	P	18 34 01.6	-1.6
MCMT	**McKenzie Canyo**	26.23	352	eP	P	18 34 04.6	+1.1
K05A	**Summer Lake** 63nm,1.7s	26.28	338	eP	P	18 34 07.0	+3.0
M40A	**Post Highland** baz=216	26.34	28	P	P	18 34 00.9	-3.4
S48A	**Wiedeman Farm,** baz=231	26.56	41	P	P	18 34 05.6	-0.7
KTRM	**Thompson Ridge**	26.57	333	eP	P	18 34 05.6	-1.0
KTRM				ePcP	PcP	18 37 29.6	-1.1
KTRM				eS	S	18 38 40.7	+0.1
HDIL	**Hopedale** baz=221	26.73	32	P	P	18 34 07.5	-0.4
BOZ	**Bozeman (W)** baz=172	26.84	354	P	P	18 34 08.7	-0.2
BOZ	**Bozeman (W)** 14nm,1.5s	26.84	354	eP	P	18 34 11.4	+2.5
J05D	**Fort Rock, OR** baz=151	26.89	338	P	P	18 34 08.4	-1.0
TKL	**Tuckaleechee C** comp=Z,1um,18.5s,baz=7.5,slow=41	26.89	47	LR	LR	18 46 43.7	
H32A	**Carlson Farm,** baz=202	26.93	16	P	P	18 34 10.0	+0.4
L40A	**Anamosa** baz=216	27.00	28	P	P	18 34 09.9	-0.3
P46A	**Rosedale** baz=226	27.17	36	P	P	18 34 11.5	-0.2
J04D	**Umpqua Nationa** baz=149	27.18	336	P	P	18 34 12.7	+0.6
K39A	**Oelwein** baz=214	27.24	26	P	P	18 34 11.7	-0.7
TZTN	**Tazewell** baz=236	27.53	45	P	P	18 34 13.6	-1.4
H34A	**Spellman Lake,** baz=205	27.55	18	P	P	18 34 14.8	-0.4
P47A	**Martinsville** baz=228	27.61	37	P	P	18 34 16.4	+0.7
K41A	**Shullsburg** baz=217	27.84	28	P	P	18 34 16.5	-1.2
JFWS	**Jewell Farm** baz=217	28.11	28	P	P	18 34 18.9	-1.2
MSO	**Missoula** baz=167	28.35	351	P	P	18 34 22.9	+0.5
F36A	**Milaca** baz=208	29.33	20	P	P	18 34 29.3	-1.7
ASR	**Mount Adams--S**	29.53	340	eP	P	18 34 39.8	+6.9
E35A	**Pequot Lakes** baz=206	29.67	19	P	P	18 34 32.0	-2.1
G39A	**Holcombe** baz=213	29.68	24	P	P	18 34 32.3	-1.7
D34A	**Park Rapids** baz=204	29.92	17	P	P	18 34 35.1	-1.1
D35A	**Remer** baz=206	30.25	19	P	P	18 34 37.4	-1.7
NEW	**Newport** baz=162	30.30	347	P	P	18 34 38.5	-1.1
F40A	**Park Falls** baz=214	30.61	24	P	P	18 34 41.1	-1.2
D36A	**Goodland** baz=208	30.61	20	P	P	18 34 40.1	-2.2
E38A	**The Farm, Brul** baz=211	30.65	22	P	P	18 34 39.9	-2.8
G42A	**Mountain** baz=217	30.75	27	P	P	18 34 42.0	-1.6
F41A	**Three Lakes** baz=216	30.87	26	P	P	18 34 42.5	-2.2
VVHS	**Vashon High Sc**	30.93	340	eP	P	18 34 47.5	+2.3
G43A	**Wallace** baz=218	31.09	28	P	P	18 34 44.1	-2.4
E40A	**Wakefield** baz=214	31.13	24	P	P	18 34 44.8	-2.1
C36A	**Pine Crest Far** baz=208	31.23	19	P	P	18 34 45.0	-2.8
B34A	**Aery, Baudette** baz=204	31.35	17	P	P	18 34 47.0	-1.8
B35A	**Bob, Littlefor** baz=206	31.50	18	P	P	18 34 47.3	-2.8
C39A	**Grand Marais** baz=212	32.20	22	P	P	18 34 51.4	-4.9
F44A	**Big Bay de Noc** baz=220	32.21	28	P	P	18 34 51.8	-4.6
ULM	**Lac du Bonnet** 8.6nm,1.0s,baz=190,slow=7.7,SNR=7.3	32.67	14	P	P	18 34 58.0	-2.5
ULM	**Lac du Bonnet** 62nm,2.0s	32.67	14	eP	P	18 34 59.1	-1.3
M54A	**Oil Creek Stat** baz=235	32.81	41	P	P	18 35 01.2	-0.6
SADO	**Sadowa** 4.6nm,0.8s,baz=264,slow=12,SNR=3.2	35.06	36	P	P	18 35 19.3	-2.0
SADO	**Sadowa** 35nm,1.5s	35.06	36	eP	P	18 35 19.3	-2.0
FFC	**Flin Flon** 37nm,1.8s	36.04	6	eP	P	18 35 28.7	-0.8
SDV	**Santo Domingo** 10nm,0.8s,baz=268,slow=3.1,SNR=11	37.20	100	P	P	18 35 40.6	+0.5
SDV	**Santo Domingo** 19nm,1.0s	37.20	100	eP	P	18 35 42.5	+2.3
ATAH	**Atahualpa** comp=Z,489nm,18.8s,baz=332,slow=31	38.73	129	LR	LR	18 48 29.1	
SJG	**San Juan** 9.8nm,0.3s,baz=272,slow=5.8,SNR=6.0	39.29	84	P	P	18 35 56.8	-0.7
SJG	comp=Z,466nm,18.6s,baz=304,slow=39			LR	LR	18 53 58.4	
PCRV	**Puerto La Cruz** 22nm,1.0s,baz=330,slow=4.9,SNR=3.2	42.43	96	P	P	18 36 23.8	+0.3
YKA	**Yellowknife Ar** 1.4nm,0.8s,baz=169,slow=7.8,SNR=8.5	43.84	355	P	P	18 36 32.2	-1.9
YKA	0.3nm,0.8s,baz=163,slow=4.4,SNR=3.9			PcP	PcP	18 38 19.5	-0.8
YKB5	**Yellowknife Ar**	43.84	355	eP	P	18 36 32.2	-1.9
YKB5				ePP	PcP	18 38 19.6	-0.8
MENT	**Mentasta** 68nm,1.8s	50.50	340	eP	P	18 37 27.1	+0.9
EGAK	**Eagle** 13nm,1.0s	51.03	342	eP	P	18 37 31.2	+1.2
PAX	**Paxson** 8.1nm,1.1s	51.11	339	eP	P	18 37 32.7	+1.9
RIDG	**Independ'e Rid** 26nm,1.0s	51.42	340	eP	P	18 37 33.7	+0.6
INK	**Inuvik** 4.2nm,1.0s,baz=140,slow=9.7,SNR=4.9	52.02	348	P	P	18 37 36.1	-1.3
INK	**Inuvik** 17nm,1.1s	52.02	348	eP	P	18 37 37.4	0.0
SPU	**Mount Spurr**	52.47	335	eP	P	18 37 41.1	+0.1
IL1	**Eielson Array**	52.77	340	eP	P	18 37 44.1	+1.0
ILAR	**Eielson Array** 3.3nm,1.1s,baz=156,slow=5.5,SNR=7.9	52.77	340	P	P	18 37 41.0	-2.2
ILB	**Eielson Array**	52.77	340	eP	P	18 37 44.2	+1.1
MCK	**McKinley** 12nm,1.1s	52.80	338	eP	P	18 37 45.0	+1.7
WRH	**Wood River Hil** 15nm,1.2s	52.97	339	eP	P	18 37 45.9	+1.3
TRF	**Thorofare Moun** 20nm,1.1s	53.10	338	eP	P	18 37 47.4	+1.6
PPLA	**Purkeypile** 21nm,1.3s	53.48	336	eP	P	18 37 50.4	+1.9
IM3	**Indian Mountai**	55.79	339	eP	P	18 38 05.9	+0.9
TOLK	**Toolik Lake Re** 8.3nm,0.8s	56.12	343	eP	P	18 38 07.4	-0.1
CPUP	**Villa Florida** 3.1nm,1.0s,baz=310,slow=4.1,SNR=4.6	66.38	131	P	P	18 39 18.6	+1.2
CPUP	**Villa Florida** 13nm,1.5s	66.38	131	eP	P	18 39 18.3	+0.9
PLCA	**Paso Flores** 6.5nm,1.0s,baz=351,slow=8.2,SNR=8.8	68.60	151	P	P	18 39 33.3	+1.9
PLCA	**Paso Flores** 10nm,1.0s	68.60	151	eP	P	18 39 33.2	+1.9
WR1	**Warramunga Arr**	121.84	258	ePKPdf	PKPdf	18 47 21.4	-1.9
WRA	**Warramunga Arr** 2.0nm,0.8s,baz=74,slow=2.3,SNR=18	121.84	258	PKP	PKPdf	18 47 21.4	-1.9
AS31	**Alice Springs**	122.82	254	ePKPdf	PKPdf	18 47 23.6	-1.5

ASAR	**Alice Springs**	**122.82**	**254**	PKP	**PKPdf**	**18 47 23.6**	**-1.5**
	2.7nm,0.9s,baz=83,slow=2.2,SNR=17						
CM31	**Chiang Mai Arr**	**134.62**	**323**	*e*PKPdf	**PKPdf**	**18 47 46.8**	**-0.9**
CMAR	**Chiang Mai Arr**	**134.62**	**323**	PKP	**PKPdf**	**18 47 46.8**	**-0.9**
	0.5nm,0.6s,baz=355,slow=2.8,SNR=6.8						

IDC 02 18:29:49.1±1.7,**4°.03N×126°.76E, h0**km**, mb3.6**/5, **mb1 3.8**/5, **mb1mx3.4**/62, **mbtmp3.6**/5, **Error ellipse: s-maj=180.9km s-min=19.7km az=67.0, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.95**	**163**	P	P	18 35 12.8	-1.6
	0.4nm,0.3s,baz=341,slow=11,SNR=35						
ASAR	**Alice Springs**	**28.39**	**166**	P	P	18 35 47.0	+1.6
	0.9nm,0.8s,baz=340,slow=7.9,SNR=12						
MKAR	**Makanchi Array**	**57.33**	**325**	P	P	18 39 39.2	+0.2
	0.2nm,0.3s,baz=114,slow=6.9,SNR=7.3						
ZALV	**Zalesovo Beam**	**60.34**	**333**	P	P	18 39 58.5	-1.3
	0.6nm,0.6s,baz=133,slow=6.3,SNR=3.6						
KURBB	**Kurchatov Arra**	**61.51**	**327**	P	P	18 40 08.7	+0.9
	0.3nm,0.5s,baz=127,slow=6.3,SNR=4.5						

IDC 02 18:30:02.3±15.0,**16°.87S×168°.44E, h0**km**, mb3.6**/4, **mb1 3.9**/5, **mb1mx3.6**/45, **mbtmp3.8**/5, **ML4.5**/1, **Error ellipse: s-maj=250.7km s-min=53.6km az=67.0, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**5.50**	**200**	Pn	Pn	18 31 24.0	-1.7
	16nm,0.3s,baz=303,slow=22,SNR=296						
DZM				Sn	Sn	18 32 13.6	-16
	7.9nm,0.3s,baz=336,slow=21,SNR=8.8						
CTA	**Charters Tower**	**21.28**	**258**	P	P	18 34 50.5	-0.1
	2.2nm,0.8s,baz=80,slow=12,SNR=4.1						
STKA	**Stephens Creek**	**28.55**	**234**	P	P	18 36 01.2	+1.3
	0.7nm,0.4s,baz=58,slow=13,SNR=1.7						
WRA	**Warramunga Arr**	**32.47**	**259**	P	P	18 36 34.6	-0.2
	0.4nm,0.8s,baz=88,slow=9.0,SNR=4.0						
ASAR	**Alice Springs**	**33.04**	**252**	P	P	18 36 39.1	-0.6
	0.3nm,0.5s,baz=80,slow=8.6,SNR=6.4						

MAN 02 18:30:37, 11°.10N×126°.18E, h15km**, mb4.5, ML3.3, MS3.1, 1C-1D, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BESP	**Borongan**	**0.88**	**304**	*e*P	Pb	18 30 54.0	0.0
PLP	**Palo**	**1.18**	**273**⇑	*e*P	Pn	18 30 56.8	-2.2
PLP				*e*S	Sg	18 31 16.0	+0.8
SCPH	**Surigao**	**1.48**	**207**⇓	*e*P	Pn	18 31 02.1	-1.0
SCPH				*e*S	Sn	18 31 21.0	-1.1
MSLP	**Maasin**	**1.61**	**234**	*e*P	Pn	18 31 04.7	-0.3
MSLP				*e*S	Sb	18 31 27.2	+0.5
CNP	**Catarman**	**2.04**	**314**	*e*P	Pn	18 31 11.1	+0.3
BUTP	**Butuan**	**2.19**	**195**	*e*P	Pn	18 31 13.6	+0.8
BUTP				*e*S	Sb	18 31 42.6	-0.6
BUKP	**Musuan**	**3.39**	**199**	*e*P	Pn	18 31 31.6	+2.2
BUKP				*e*S	Sn	18 32 11.2	+1.8

ISCJB ***02*** *18:39:10.7±0.5, 16°.46N±0°.05×98°.10W±0°.03, h10km, mb4.4/56, Error ellipse: s-maj=7.9km s-min=4.5km az=5.9*
IDC ***02*** *18:39:10.9±1.0, 16°.39N×98°.43W, h0km, mb4.2/8, mb1 4.4/12, mb1mx4.0/52, mbtmp4.1/12, ML3.7/4, Error ellipse: s-maj=22.9km s-min=14.6km az=18.0*
NEIC ***02*** *18:39:12.7±0.0, 16°.27N×98°.46W, h17km, mb4.5/58, MD4.2(MEX), After MEX.*
MEX ***02*** *18:39:12.6±0.4, 16°.27N×98°.46W, h17km, MD4.2*
ISC 02 18:39:12.3±0.7,**16°.39N**±0°.07×**98°.48W**±0°.05,**h10**km**, n266,** σ**1s.70**/269, **mb4.5**/56, **Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.34**	**89**	*e*P	**Pg**	**18 39 18.7**	**-0.3**
PNIG				*e*S	**Sg**	**18 39 23.8**	**+0.3**
TLIG	**Tlapa**	**1.17**	**356**	*e*P	**Pn**	**18 39 32.6**	**-2.3**
TLIG				*e*S	**Sb**	**18 39 47.8**	**-2.3**
TLIG	**Tlapa**	**1.17**	**356**	*e*P	**Pn**	**18 39 32.6**	**-2.3**
TLIG				*e*S	**Sb**	**18 39 47.8**	**-2.3**
VHO	**Vista Hermosa**	**1.80**	**68**	*e*P	**Pn**	**18 39 43.4**	**-0.2**
CAIG	**El Cayaco**	**1.84**	**291**	*e*P	**Pn**	**18 39 41.0**	**-2.9**
CAIG	**El Cayaco**	**1.84**	**291**	*e*Pn	**Pn**	**18 39 41.0**	**-2.9**
HUIG	**Huatulco**	**2.36**	**105**	*e*P	**Pn**	**18 39 51.8**	**+0.7**
UNM	**Universidad Na**	**3.00**	**347**	*e*Pn	**Pn**	**18 40 03.6**	**+3.5**
CMIG	**Matias Romero**	**3.51**	**78**	Pn	**Pn**	**18 40 06.7**	**-0.3**
	5.0nm,0.3s,baz=252,slow=9.1,SNR=15						
CMIG				Pg	**Pb**	**18 40 15.3**	**+0.7**
	18nm,0.3s,baz=270,slow=14,SNR=36						
CMIG				Lg	Lg	18 41 02.4	
	120nm,0.3s,baz=181,slow=22,SNR=29						
LVIG	**Laguna Verde**	**3.85**	**30**	*e*Pn	**Pn**	**18 40 09.4**	**-2.2**
MOIG	**Morelia**	**4.17**	**322**	*e*Pn	**Pn**	**18 40 20.8**	**+4.6**
JRQG	**Juriquilla Cam**	**4.68**	**337**	*e*Pn	Pn	18 40 30.9	+7.7
ZAIG	**Zacatecas**	**7.43**	**329**	*e*Pn	**Pn**	**18 41 03.6**	**+2.5**
APG	**El Apazote**	**7.84**	**99**	Pn	**Pn**	**18 41 06.8**	**+0.1**
	0.4nm,0.3s,baz=318,slow=16,SNR=5.8						
APG				Lg	Lg	18 43 16.9	
	1.2nm,0.3s,baz=41,slow=15,SNR=5.2						
833A	**Chaparral WMA,**	**11.91**	**356**	P	**Pn**	**18 42 03.6**	**+1.4**
	baz=176						
H06E1	**SOCORRO T-PHAS**	**12.11**	**283**	T	T	18 54 21.5	
	SNR=21						
LTX	**Lajitas**	**13.74**	**341**	*e*Pn	**Pn**	**18 42 29.2**	**+1.8**
TXAR	**Lajitas Array**	**13.74**	**341**	Pn	**Pn**	**18 42 29.2**	**+1.8**
	0.1nm,0.3s,baz=160,slow=16,SNR=6.0						
TXAR				Lg	Lg	18 46 31.0	
	0.0nm,0.3s,baz=163,slow=34,SNR=3.2						
TX31	**Lajitas Ar. Si**	**13.74**	**341**	*e*Pn	**Pn**	**18 42 29.3**	**+1.9**
JCT	**Junction City**	**14.08**	**355**	P	**Pn**	**18 42 33.0**	**+1.0**
	baz=175						
JCT	**Junction City**	**14.08**	**355**	*e*Pn	**Pn**	**18 42 32.9**	**+1.0**
WHTX	**Lake Whitney,**	**15.56**	**3**	P	**Pn**	**18 42 54.6**	**+2.7**
	baz=184						
ABTX	**Abilene, Hawle**	**16.20**	**356**	P	**Pn**	**18 43 03.1**	**+3.0**
	baz=176,SNR=7.0						
ABTX	**Abilene, Hawle**	**16.20**	**356**	*e*Pn	**Pn**	**18 43 01.2**	**+1.1**
	29nm,0.8s						
MNTX	**Cornudas Mount**	**16.49**	**339**	P	**Pn**	**18 43 05.5**	**+1.7**
	baz=156						
MNTX	**Cornudas Mount**	**16.49**	**339**	*e*Pn	**Pn**	**18 43 04.6**	**+0.8**
	7.6nm,1.0s						
GDL2	**Guadalupe Moun**	**16.62**	**342**	*e*Pn	**Pn**	**18 43 06.7**	**+1.1**
140A	**Cam and Jess,**	**16.78**	**14**	P	**Pn**	**18 43 07.7**	**+0.3**
	baz=196						
Z40A	**Long Farm, Mag**	**17.41**	**14**	P	**Pn**	**18 43 15.4**	**0.0**
	baz=196						
319A	**Douglas**	**17.88**	**329**	*e*Pn	**Pn**	**18 43 22.4**	**+1.1**
	15nm,0.8s						
MSTX	**Muleshoe**	**17.93**	**348**	P	**Pn**	**18 43 22.0**	**+0.1**
	baz=167						
MSTX	**Muleshoe**	**17.93**	**348**	*e*Pn	**Pn**	**18 43 20.2**	**-1.7**
	21nm,1.0s						
121A	**Cookes Peak, D**	**18.15**	**334**	P	**Pn**	**18 43 26.6**	**+1.8**
	baz=150,SNR=6.6						
X39A	**Fountain Ranch**	**18.47**	**11**	P	**P**	**18 43 27.1**	**-1.2**
	baz=193						
MIAR	**Mount Ida**	**18.61**	**13**	P	**P**	**18 43 29.8**	**-0.1**
	baz=195						
MIAR	**Mount Ida**	**18.61**	**13**	*e*P	**P**	**18 43 30.4**	**+0.5**
	11nm,0.9s						
AMTX	**Amarillo**	**18.64**	**352**	P	**P**	**18 43 30.3**	**0.0**
	baz=170						
AMTX	**Amarillo**	**18.64**	**352**	*e*P	**P**	**18 43 29.5**	**-0.8**
	13nm,0.8s						
BNM	**Barren Site**	**19.15**	**339**	*e*P	**P**	**18 43 37.2**	**+1.2**
W39A	**Magazine**	**19.20**	**12**	P	**P**	**18 43 36.1**	**-0.2**
	baz=194						
LPM	**Los Pinos Moun**	**19.29**	**339**	*e*P	**P**	**18 43 39.8**	**+2.2**
149A	**Jones**	**19.30**	**31**	P	**P**	**18 43 36.1**	**-1.4**
	baz=216						
TUC	**Tucson**	**19.39**	**327**	P	**P**	**18 43 39.9**	**+1.4**
	baz=142						
TUC	**Tucson**	**19.39**	**327**	*e*P	**Pn**	**18 43 41.2**	**+1.5**
	10nm,1.3s						
Y46A	**Houston**	**19.45**	**25**	P	**P**	**18 43 37.9**	**-1.2**
	baz=208						
W41B	**Gary Mavity, V**	**19.52**	**15**	P	**P**	**18 43 38.0**	**-1.9**
	baz=198						
Z48A	**Northport**	**19.58**	**28**	P	**P**	**18 43 37.9**	**-2.6**
	baz=213						
TUL1	**Leonard**	**19.59**	**7**	P	**P**	**18 43 39.7**	**-0.9**
	baz=188						
150A	**Eclectic**	**19.70**	**33**	P	**P**	**18 43 40.6**	**-1.3**
	baz=218						
ANMO	**Albuquerque**	**19.82**	**340**	P	**P**	**18 43 44.2**	**+0.9**
	0.4nm,0.3s,baz=337,slow=11,SNR=16						
ANMO	**Albuquerque**	**19.82**	**340**	P	**P**	**18 43 44.1**	**+0.8**
	baz=157						
ANMO	**Albuquerque**	**19.82**	**340**	*e*P	**P**	**18 43 44.2**	**+0.9**
	7.4nm,0.8s						
V39A	**Pettigrew**	**19.84**	**12**	P	**P**	**18 43 42.6**	**-0.9**
	baz=194,SNR=12						
Z49A	**Columbiana**	**19.91**	**31**	P	**P**	**18 43 43.0**	**-1.1**
	baz=215						
V40A	**Witts Springs**	**19.98**	**14**	P	**P**	**18 43 44.0**	**-0.9**
	baz=196,SNR=8.0						
V40A	**Witts Springs**	**19.98**	**14**	*e*P	**P**	**18 43 44.4**	**-0.6**
	18nm,1.0s						
V41A	**Mountainview**	**20.12**	**15**	P	**P**	**18 43 45.7**	**-0.8**
	baz=198						
X46A	**Booneville**	**20.15**	**24**	P	**P**	**18 43 45.9**	**-0.8**
	baz=208						
Y48A	**Jasper**	**20.20**	**28**	P	**P**	**18 43 45.7**	**-1.6**
	baz=213						
214A	**Organ Pipe Nat**	**20.24**	**323**	P	**P**	**18 43 49.1**	**+1.3**
	baz=137						
Z50A	**Ashland**	**20.26**	**32**	P	**P**	**18 43 46.1**	**-1.8**
	baz=217						
V42A	**Cord**	**20.34**	**17**	P	**P**	**18 43 47.4**	**-1.5**
	baz=200						
U39A	**Green Forest**	**20.40**	**12**	P	**P**	**18 43 48.4**	**-1.0**
	baz=194						
U40A	**Yellville**	**20.51**	**13**	P	**P**	**18 43 49.4**	**-1.2**
	baz=195						
Y49A	**Blount Mountai**	**20.51**	**30**	P	**P**	**18 43 48.9**	**-1.7**
	baz=215						
X48A	**Hartselle**	**20.71**	**28**	P	**P**	**18 43 48.4**	**-4.4**
	baz=212						
U41A	**Viola**	**20.71**	**15**	P	**P**	**18 43 51.2**	**-1.6**
	baz=198						
PLAL	**Pickwick Lake**	**20.73**	**25**	*e*P	**P**	**18 43 52.2**	**-0.8**
	16nm,1.1s						
X18A	**Snowflake**	**20.79**	**332**	*e*P	**P**	**18 43 55.0**	**+1.1**
	44nm,1.5s						
T38A	**Diamond**	**20.90**	**9**	P	**P**	**18 43 53.8**	**-1.0**
	baz=191						
U42A	**Revenden**	**20.90**	**17**	P	**P**	**18 43 53.0**	**-1.8**
	baz=200						
T39A	**Clever**	**21.05**	**11**	P	**P**	**18 43 55.2**	**-1.2**
	baz=194						
X49A	**Woodville**	**21.09**	**29**	P	**P**	**18 43 53.8**	**-3.1**
	baz=214						
W47A	**Westpoint**	**21.16**	**25**	P	**P**	**18 43 55.7**	**-1.9**
	baz=210						
W18A	**Petrified Fore**	**21.20**	**334**	P	**P**	**18 43 58.6**	**+0.3**
	baz=149						
W18A	**Petrified Fore**	**21.20**	**334**	*e*P	**P**	**18 44 00.3**	**+2.0**
	14nm,0.9s						
154A	**Montrose**	**21.32**	**38**	P	**P**	**18 43 57.1**	**-2.3**
	baz=224						
T25A	**Trinidad**	**21.33**	**347**	P	**P**	**18 44 00.8**	**+1.1**
	baz=164,SNR=9.4						
T25A	**Trinidad**	**21.33**	**347**	*e*P	**P**	**18 44 00.9**	**+1.3**
	20nm,0.9s						
W48A	**Pulaski**	**21.34**	**27**	P	**P**	**18 43 56.9**	**-2.6**
	baz=212						
T40A	**Mansfield**	**21.34**	**13**	P	**P**	**18 43 58.4**	**-1.2**
	baz=196,SNR=6.6						
X50A	**Fort Payne**	**21.36**	**30**	P	**P**	**18 43 57.8**	**-2.2**
	baz=216						
MHTCO	**State Highway**	**21.38**	**346**	*e*P	**P**	**18 44 00.7**	**+0.5**
	9.6nm,0.8s						
X16A	**Lo Mia Camp, P**	**21.40**	**329**	*e*P	**P**	**18 44 02.3**	**+1.8**
	18nm,0.8s						
T41A	**Mountain View**	**21.42**	**15**	P	**P**	**18 43 59.0**	**-1.5**
	baz=198						
V46A	**Holladay**	**21.43**	**24**	P	**P**	**18 43 58.4**	**-2.2**
	baz=208						
357A	**Townsend**	**21.53**	**43**	P	**P**	**18 43 59.3**	**-2.3**
	baz=230						
PBMO	**Poplar Bluff**	**21.53**	**18**	*e*P	**P**	**18 44 02.2**	**+0.6**
	11nm,0.8s						
S38A	**Stockton**	**21.54**	**10**	P	**P**	**18 43 59.6**	**-2.1**
	baz=192						
T42A	**Van Buren**	**21.58**	**16**	P	**P**	**18 44 00.3**	**-1.8**
	baz=199						
V47A	**Nunnelly**	**21.68**	**25**	P	**P**	**18 44 00.0**	**-3.3**
	baz=209						
GOGA	**Godfrey**	**21.70**	**36**	P	**P**	**18 43 59.8**	**-3.6**
	baz=222						
S39A	**Bolivar**	**21.70**	**11**	P	**P**	**18 44 01.2**	**-2.3**
	baz=193						
155A	**Kite**	**21.71**	**39**	P	**P**	**18 43 59.6**	**-4.0**
	baz=225						
S40A	**Lebanon**	**21.78**	**13**	P	**P**	**18 44 01.7**	**-2.6**
	baz=196						
Y14A	**Wickenburg**	**21.82**	**326**	*e*P	**P**	**18 44 06.2**	**+1.3**
	17nm,0.8s						
WVT	**Waverly**	**21.83**	**24**	P	**P**	**18 44 01.6**	**-3.2**
	baz=208						
T43A	**Greenville**	**21.85**	**18**	P	**P**	**18 44 03.0**	**-2.1**
	baz=201						
V48A	**Smith Brothers**	**21.90**	**26**	P	**P**	**18 44 02.2**	**-3.3**
	baz=211						
S41A	**Jillco Farms,**	**21.94**	**14**	P	**P**	**18 44 03.3**	**-2.7**
	baz=197						
R38A	**Fenwick Farm,**	**22.09**	**10**	P	**P**	**18 44 05.1**	**-2.5**
	baz=192						
SDCO	**Great Sand Dun**	**22.16**	**345**	P	**P**	**18 44 09.8**	**+1.1**
	baz=162						
GLA	**Glamis**	**22.22**	**321**	P	**P**	**18 44 09.4**	**+0.3**
	baz=135						
GLA	**Glamis**	**22.22**	**321**	*e*P	**P**	**18 44 10.8**	**+1.7**
	17nm,1.1s						
WUAZ	**Wupatki**	**22.26**	**331**	P	**P**	**18 44 10.6**	**+0.9**
	baz=146,SNR=8.8						
WUAZ	**Wupatki**	**22.26**	**331**	*e*P	**P**	**18 44 11.9**	**+2.2**
	29nm,1.0s						
S42A	**Caledonia**	**22.35**	**16**	P	**P**	**18 44 09.5**	**-1.0**
	baz=200						
R39A	**Chumby, Stover**	**22.36**	**11**	P	**P**	**18 44 09.5**	**-1.0**
	baz=194,SNR=5.8						
S43A	**Fulton Ridge,**	**22.37**	**18**	P	**P**	**18 44 09.0**	**-1.6**
	baz=201						
R40A	**Maddies Statio**	**22.49**	**13**	P	**P**	**18 44 11.2**	**-0.7**
	baz=196						
CCM	**Cathedral Cave**	**22.50**	**15**	P	**P**	**18 44 11.1**	**-1.0**
	baz=198						
CCM	**Cathedral Cave**	**22.50**	**15**	*e*P	**P**	**18 44 12.4**	**+0.4**
	19nm,1.3s						
S22A	**4UR Ranch, Cre**	**22.52**	**342**	P	**P**	**18 44 13.4**	**+0.9**
	baz=159,SNR=8.4						
S22A	**4UR Ranch, Cre**	**22.52**	**342**	*e*P	**P**	**18 44 13.0**	**+0.5**
	7.6nm,0.8s						
MVCO	**Mesa Verde**	**22.56**	**339**	P	**P**	**18 44 13.4**	**+0.4**
	baz=154,SNR=6.4						
MVCO	**Mesa Verde**	**22.56**	**339**	*e*P	**P**	**18 44 13.5**	**+0.6**
	20nm,0.9s						
T46A	**Princeton**	**22.61**	**22**	P	**P**	**18 44 11.5**	**-1.7**
	baz=207						
U48A	**Cassie Pea, Po**	**22.67**	**26**	P	**P**	**18 44 11.9**	**-2.0**
	baz=211						
R41A	**Rosebud**	**22.70**	**15**	P	**P**	**18 44 13.5**	**-0.7**
	baz=198						
PDMCI	**Parker Dam,Lak**	**22.72**	**325**	P	**P**	**18 44 13.1**	**-1.3**
	baz=138						
KSCO	**Kaye Shedlock'**	**22.83**	**352**	P	**P**	**18 44 14.9**	**-0.8**
	baz=170						
R42A	**Luebbering**	**22.83**	**16**	P	**P**	**18 44 13.5**	**-2.0**
	baz=199						
T47A	**Sharon Grove**	**22.86**	**24**	P	**P**	**18 44 14.0**	**-1.8**
	baz=209						
IRM	**Iron Mountain**	**23.18**	**323**	P	**P**	**18 44 19.0**	**-0.3**
	baz=136,SNR=6.0						
Q24A	**Divide**	**23.24**	**347**	P	**P**	**18 44 19.2**	**-0.9**
	baz=164						
TKL	**Tuckaleechee C**	**23.24**	**32**	P	**P**	**18 44 18.9**	**-1.0**
	6.5nm,0.9s,baz=178,slow=11,SNR=4.7						
T48A	**Bowling Green**	**23.25**	**25**	P	**P**	**18 44 17.9**	**-1.9**
	baz=210						
NEE2	**Needles Airpor**	**23.33**	**325**	P	**P**	**18 44 20.6**	**-0.1**
	baz=138						
Q41A	**Truxton**	**23.36**	**14**	P	**P**	**18 44 18.5**	**-2.4**
	baz=198						
EML	**El Monte Cty P**	**23.36**	**318**	*e*PcP	**PcP**	**18 48 06.5**	**-1.5**
EML				*e*S	**S**	**18 48 39.9**	**+5.9**
P37A	**Lathrop**	**23.39**	**8**	P	**P**	**18 44 20.3**	**-1.0**
	baz=190						
PV01	**Paradox Valley**	**23.41**	**340**	*e*P	**P**	**18 44 23.3**	**+1.5**
U15A	**North Rim**	**23.43**	**331**	*e*P	**P**	**18 44 23.7**	**+1.7**
	12nm,0.9s						
DPP	**Dos Picos Cty**	**23.49**	**318**	*e*PcP	**PcP**	**18 48 07.5**	**-0.7**
DPP				*e*S	**S**	**18 48 39.8**	**+3.5**
Q42A	**Golden Eagle**	**23.50**	**16**	P	**P**	**18 44 21.0**	**-1.3**
	baz=199						
P38A	**Dawn**	**23.55**	**10**	P	**P**	**18 44 21.9**	**-0.9**
	baz=192						
P39B	**Salisbury**	**23.55**	**11**	P	**P**	**18 44 21.5**	**-1.4**
	baz=194						
BELC	**Belle Mtn. Jos**	**23.58**	**321**	*e*PcP	**PcP**	**18 48 12.8**	**+4.2**
PFO	**Pinyon Flats O**	**23.59**	**320**	*e*P	**P**	**18 44 26.7**	**+3.2**
PLM	**Palomar**	**23.67**	**319**	*e*Sn	Sn	18 49 06.0	+5.7
P40A	**Paris**	**23.73**	**12**	P	**P**	**18 44 23.7**	**-0.9**
	baz=195						
O34A	**Beatrice**	**23.76**	**3**	P	**P**	**18 44 24.5**	**-0.4**
	baz=184						
S48A	**Wiedeman Farm,**	**23.85**	**25**	P	**P**	**18 44 23.5**	**-2.4**
	baz=210						
SMCO	**Snowmass**	**23.89**	**344**	*e*P	**P**	**18 44 28.1**	**+1.5**
	14nm,1.1s						
GMRC	**Granite Mounta**	**23.93**	**323**	P	**P**	**18 44 26.7**	**0.0**
	baz=136						
O38A	**Galt**	**24.05**	**9**	P	**P**	**18 44 26.7**	**-0.9**
	baz=192						
ISCO	**Idaho Springs**	**24.14**	**346**	P	**P**	**18 44 28.1**	**-0.7**
	baz=163,SNR=11						
ISCO	**Idaho Springs**	**24.14**	**346**	*e*P	**P**	**18 44 29.5**	**+0.6**
	9.2nm,0.8s						
KNB	**Kanab**	**24.16**	**331**	*e*P	**P**	**18 44 30.1**	**+1.1**
	15nm,1.0s						
P42A	**Winchester**	**24.18**	**15**	P	**P**	**18 44 27.4**	**-1.5**
	baz=199						
R47A	**Wooly Knot Far**	**24.22**	**23**	P	**P**	**18 44 27.3**	**-1.9**
	baz=209						
WCI	**Wyandotte Cave**	**24.25**	**24**	P	**P**	**18 44 27.1**	**-2.5**
	baz=209						
WCI	**Wyandotte Cave**	**24.25**	**24**	*e*P	**P**	**18 44 29.5**	**-0.1**
	20nm,1.1s						
WCI				*e*Sn	S	18 49 24.9	+37
N33A	**J Bar K, Exete**	**24.28**	**2**	P	**P**	**18 44 29.6**	**-0.2**
	baz=182						
O39A	**Kirksville**	**24.33**	**11**	P	**P**	**18 44 29.5**	**-0.7**
	baz=194						
O40A	**La Belle**	**24.34**	**12**	P	**P**	**18 44 28.8**	**-1.5**
	baz=195						
HEC	**Hector,Ludlow**	**24.35**	**322**	P	**P**	**18 44 29.8**	**-0.8**
	baz=135						
HEC	**Hector,Ludlow**	**24.35**	**322**	*e*P	**P**	**18 44 33.8**	**+3.2**
O41A	**Passleys Farm,**	**24.55**	**14**	P	**P**	**18 44 30.6**	**-1.6**
	baz=198						
MTPU	**Mount Pierson**	**24.72**	**333**	*e*P	**P**	**18 44 36.5**	**+2.3**
	32nm,0.9s						
BFSC	**Mount Baldy Ra**	**24.75**	**319**	*e*P	**P**	**18 44 35.4**	**+1.1**
CCUT	**Cedar City**	**24.84**	**331**	*e*P	**P**	**18 44 37.0**	**+1.8**
	5.1nm,1.1s						
N39A	**Derby Farms, D**	**24.95**	**11**	P	**P**	**18 44 33.3**	**-2.5**
	baz=194						
SRU	**San Rafael Swe**	**24.97**	**337**	*e*P	**P**	**18 44 37.6**	**+1.3**
	12nm,0.9s						
PASC	**Pasadena Art C**	**25.04**	**319**	*e*P	**P**	**18 44 40.0**	**+3.2**
Q16A	**Castle Valley**	**25.05**	**336**	*e*P	**P**	**18 44 39.1**	**+2.0**
	17nm,0.8s						
MSU	**Marysvale**	**25.11**	**334**	*e*P	**P**	**18 44 40.7**	**+3.1**
O20A	**White River Ci**	**25.14**	**342**	P	**P**	**18 44 37.5**	**-0.3**
	baz=158						
O20A	**White River Ci**	**25.14**	**342**	*e*P	**P**	**18 44 39.9**	**+2.1**
	9.5nm,0.8s						
N23A	**Red Feather La**	**25.26**	**347**	P	**P**	**18 44 38.2**	**-0.8**
	baz=163						
N23A	**Red Feather La**	**25.26**	**347**	*e*P	**P**	**18 44 40.2**	**+1.2**
	11nm,1.1s						
P18A	**Preston Nutter**	**25.33**	**338**	*e*P	**P**	**18 44 40.4**	**+0.8**
	15nm,0.8s						
M38A	**Pleasantville**	**25.36**	**9**	P	**P**	**18 44 37.7**	**-1.8**
	baz=192,SNR=5.4						
P17A	**Butcher Ranch,**	**25.37**	**337**	*e*P	**P**	**18 44 42.8**	**+2.9**
	19nm,0.8s						
TMUT	**Trail Mountain**	**25.39**	**336**	*e*P	**P**	**18 44 41.8**	**+1.5**
	21nm,1.2s						
PHWY	**Pilot Hill**	**25.55**	**348**	*e*P	**P**	**18 44 42.5**	**+0.9**
	5.2nm,0.8s						
M39A	**Webster**	**25.59**	**11**	P	**P**	**18 44 39.3**	**-2.3**
	baz=194						
LRMC	**Laurel Mtn Rad**	**25.60**	**322**	P	**P**	**18 44 41.8**	**-0.2**
	baz=133						
N43A	**Stutzman Famil**	**25.76**	**16**	P	**P**	**18 44 41.1**	**-2.0**
	baz=201						
TPNV	**Topopah Spring**	**25.83**	**326**	P	**P**	**18 44 43.9**	**-0.1**
	baz=138						
TPNV	**Topopah Spring**	**25.83**	**326**	*e*P	**P**	**18 44 44.3**	**+0.2**
	44nm,2.0s						
SCIA	**State Center**	**25.83**	**9**	P	**P**	**18 44 41.8**	**-2.0**
	baz=192						
SCIA	**State Center**	**25.83**	**9**	*e*P	**P**	**18 44 42.5**	**-1.3**
MPMC	**Manual Prospec**	**25.88**	**323**	P	**P**	**18 44 44.4**	**-0.2**
	baz=134						
N44A	**Piper City**	**25.92**	**18**	P	**P**	**18 44 43.2**	**-1.5**
	baz=203						
DAC	**Darwin (Calif)**	**26.10**	**323**	*e*P	**P**	**18 44 47.9**	**+1.4**
	9.0nm,1.4s						
L38A	**Oak Wood Farm,**	**26.10**	**9**	P	**P**	**18 44 45.8**	**-0.4**
	baz=192						
MPU	**Maple Canyon**	**26.18**	**337**	*e*P	**P**	**18 44 48.0**	**+0.8**
	9.1nm,1.1s						
ISA	**Isabella, Lake**	**26.20**	**321**	P	**P**	**18 44 47.6**	**+0.3**
	baz=132						
L39A	**Vinton**	**26.24**	**11**	P	**P**	**18 44 46.2**	**-1.3**
	baz=194						
NLU	**North Lily Min**	**26.30**	**336**	*e*P	**P**	**18 44 49.5**	**+1.1**
	16nm,1.4s						
L41A	**Preston**	**26.50**	**13**	P	**P**	**18 44 48.4**	**-1.4**
	baz=197						
R11A	**Troy Canyon, C**	**26.55**	**329**	P	**P**	**18 44 50.3**	**-0.2**
	baz=141						
R11A	**Troy Canyon, C**	**26.55**	**329**	*e*P	**P**	**18 44 52.3**	**+1.8**
	14nm,1.7s						
K37A	**Belmond**	**26.61**	**8**	P	**P**	**18 44 49.8**	**-1.1**
	baz=190						
L42A	**Oliver, Polo**	**26.63**	**15**	P	**P**	**18 44 49.9**	**-1.1**
	baz=199						
CRGC	**Crocker Grade**	**26.70**	**319**	*e*PcP	**PcP**	**18 48 15.3**	**-0.2**
DUG	**Dugway, Tooele**	**26.80**	**335**	P	**P**	**18 44 53.8**	**+1.1**
	baz=148						
K39A	**Oelwein**	**26.83**	**11**	P	**P**	**18 44 51.3**	**-1.5**
	baz=194						
K40A	**Colesburg**	**26.97**	**12**	P	**P**	**18 44 53.2**	**-0.9**
	baz=196						
TCUT	**Toone Canyon**	**27.06**	**338**	*e*P	**P**	**18 44 56.7**	**+1.5**
	16nm,0.9s						
K22A	**Casper**	**27.07**	**347**	P	**P**	**18 44 55.5**	**+0.3**
	baz=163						
K22A	**Casper**	**27.07**	**347**	*e*P	**P**	**18 44 55.9**	**+0.8**
	16nm,1.0s						
ECSD	**EROS Data Cent**	**27.30**	**3**	P	**P**	**18 44 56.2**	**-0.9**
	baz=184						
ACSO	**Alum Creek Sta**	**27.31**	**26**	P	**P**	**18 44 55.6**	**-1.5**
	baz=214						
JFWS	**Jewell Farm**	**27.36**	**13**	P	**P**	**18 44 56.5**	**-1.1**
	baz=197						
HWUT	**Hardware Ranch**	**27.55**	**338**	*e*P	**P**	**18 45 00.1**	**+0.5**
	4.5nm,0.9s						
J41A	**Loganville**	**27.84**	**13**	P	**P**	**18 45 00.9**	**-1.1**
	baz=198						
MDPB	**Devils Postpil**	**27.89**	**323**	*e*PcP	**PcP**	**18 48 21.5**	**+3.0**
NV11	**Mina Array Sit**	**27.94**	**326**	*e*P	**P**	**18 45 04.5**	**+1.4**
	0.5nm,1.1s						
BW06	**Boulder Array**	**27.95**	**342**	*e*P	**P**	**18 45 04.0**	**+0.9**
	10nm,1.4s						
PD31	**Pinedale Array**	**27.95**	**342**	*e*P	**P**	**18 45 02.5**	**-0.7**
PDAR	**Pinedale Array**	**27.95**	**342**	P	**P**	**18 45 03.9**	**+0.7**
	1.6nm,0.7s,baz=134,slow=8.6,SNR=12						
PDAR	**Pinedale Array**	**27.95**	**342**	*e*P	**P**	**18 45 03.4**	**+0.3**
J42A	**Columbus**	**28.00**	**15**	P	**P**	**18 45 01.8**	**-1.5**
	baz=199						
NV01	**Mina Array Sit**	**28.02**	**325**	*e*P	**P**	**18 45 05.7**	**+1.8**
NVAR	**Mina Array Bea**	**28.02**	**325**	P	**P**	**18 45 06.0**	**+2.2**
	3.7nm,0.9s,baz=148,slow=9.9,SNR=15						
I38A	**Scanlan Farm,**	**28.05**	**9**	P	**P**	**18 45 02.6**	**-1.2**
	baz=192						
REDW	**Red Top Meadow**	**28.88**	**341**	*e*P	**P**	**18 45 11.8**	**+0.3**
	14nm,1.4s						
LOHW	**Long Hollow**	**29.03**	**342**	*e*P	**P**	**18 45 14.0**	**+1.2**
	10nm,1.3s						
SPMN	**Marine on St.**	**29.14**	**8**	P	**P**	**18 45 12.1**	**-1.4**
	baz=191						

F31A	Hecla	29.38	0	P	P	18 45 15.1	-0.5
	baz=180						
G39A	Holcombe	29.46	11	P	P	18 45 15.1	-1.1
	baz=194						
RLMT	Red Lodge	30.05	345	P	P	18 45 22.3	+0.5
	baz=159						
RLMT	Red Lodge	30.05	345	eP	P	18 45 21.9	+0.1
	10nm,1.2s						
BEKR	Beckworth	30.17	325	eP	P	18 45 24.6	+1.8
	5.8nm,0.5s						
F40A	Park Falls	30.26	12	P	P	18 45 20.3	-3.1
	baz=196						
HLID	Hailey	30.29	337	P	P	18 45 24.0	+0.2
	baz=149						
E39A	Mellen	30.62	11	P	P	18 45 24.6	-2.0
	baz=195						
E40A	Wakefield	30.81	12	P	P	18 45 26.8	-1.5
	baz=196						
F43A	Flat Rock, Esc	30.84	16	P	P	18 45 26.9	-1.7
	baz=201						
SJG	San Juan	30.90	82	P	P	18 45 28.2	-1.1
	6.7nm,0.2s,baz=101,slow=22,SNR=6.6						
E41A	Kenton	31.02	13	P	P	18 45 28.5	-1.6
	baz=198						
BOZ	Bozeman (W)	31.14	342	P	P	18 45 32.8	+1.5
	baz=155						
BOZ	Bozeman (W)	31.14	342	eP	P	18 45 33.3	+2.0
	9.9nm,1.4s						
F44A	Big Bay de Noc	31.17	16	P	P	18 45 29.4	-2.1
	baz=203						
CBYP	Canovanas	31.17	82	eP	P	18 45 31.2	-0.6
	29nm,0.9s						
GNAM	Navarro Ridge	31.61	321	eP	P	18 45 38.6	+3.2
J08A	Circle Bar Ran	31.82	332	eP	P	18 45 38.8	+1.5
	9.0nm,0.8s						
B32A	Ashes, Strandq	31.96	2	P	P	18 45 38.0	-0.3
	baz=184						
B35A	Bob, Littlefor	32.12	6	P	P	18 45 39.4	-0.4
	baz=188						
HRY	Holter Researc	32.21	343	eP	P	18 45 41.2	+0.5
MSO	Missoula	32.96	340	P	P	18 45 48.0	+0.7
	baz=152						
KTRM	Thompson Ridge	33.23	325	eP	P	18 45 52.4	+2.7
F10A	Beach Ranch, E	33.40	336	eP	P	18 45 52.5	+1.3
	10nm,0.9s						
NEW	Newport	35.28	338	P	P	18 46 07.2	-0.1
	baz=148						
ASR	Mount Adams--S	35.38	332	eP	P	18 46 12.0	+3.7
JLK	June Lake	35.64	331	eP	P	18 46 09.5	-0.9
B05A	Bryant	37.23	334	P	P	18 46 23.7	-0.2
	baz=141						
FFC	Flin Flon	38.35	357	eP	P	18 46 33.1	-0.2
	7.0nm,0.8s						
EDM	Edmonton	38.57	346	eP	P	18 46 35.6	+0.4
	15nm,0.8s						
YKA	Yellowknife Ar	47.43	350	P	P	18 47 46.1	-0.7
	1.3nm,0.8s,baz=157,slow=7.3,SNR=18						
YKB5	Yellowknife Ar	47.43	350	eP	P	18 47 46.1	-0.7
DIV	Divide	55.87	334	eP	P	18 48 48.3	-1.7
	15nm,0.8s						
EGAK	Eagle	56.24	340	eP	P	18 48 52.5	0.0
	10nm,1.2s						
RIDG	Independ'e Rid	56.92	337	eP	P	18 48 58.5	+1.0
IL1	Eielson Array	58.24	338	eP	P	18 49 07.2	+0.6
ILAR	Eielson Array	58.24	338	P	P	18 49 06.8	+0.2
	1.3nm,0.9s,baz=137,slow=5.4,SNR=9.4						
ILB	Eielson Array	58.24	338	eP	P	18 49 06.8	+0.2
TOLK	Toolik Lake Re	61.20	341	P	P	18 49 27.5	+0.5
	baz=122						
PLCA	Paso Flores	62.47	156	P	P	18 49 36.5	+0.6
	4.5nm,1.1s,baz=351,slow=10,SNR=3.7						
TIXI	Tiksi	86.56	347	P	P	18 51 54.3	-1.1
	0.8nm,0.7s,baz=49,slow=3.5,SNR=6.4						
LZH	Lanzhou	123.70	338	PKP	PKPdf	18 58 07.3	-3.7
LZH				pPKP	sPKPdf	18 58 16.3	+0.7
LZH				sPKP		18 58 20.3	
LZH				LR	LR		
	comp=N,83nm,16.2s						
LZH				LR	LR		
	comp=E,21nm,16.6s						
LZH				LR	LR		
	comp=Z,95nm,17.2s						
WR1	Warramunga Arr	129.85	258	ePKPdf	PKPdf	18 58 23.1	+0.2
WRA	Warramunga Arr	129.85	258	PKP	PKPdf	18 58 23.1	+0.2
	comp=Z,0.4nm,0.8s,baz=64,slow=1.9,SNR=3.7						
ASAR	Alice Springs	130.48	253	PKP	PKPdf	18 58 23.9	-0.2
	comp=Z,0.2nm,0.9s,baz=20,slow=3.0,SNR=2.6						

*ISCJB **02** 18:56:47.0±1.7, 23°.5S±0°.1×178°.8W±0°.2, h417km, mb3.8/7, Error ellipse: s-maj=28.6km s-min=13.3km az=159.2*
*IDC **02** 18:56:48.5±2.2, 23°.55S×178°.93W, h412km±25km, mb3.6/7, mb1 3.7/8, mb1mx3.3/41, mbtmp4.4/8, Error ellipse: s-maj=23.7km s-min=19.9km az=169.0*
ISC 02 18:56:48.4±1.3**, 23°.6S**±0°.1×**178°.8W**±0°.2**, h417**km**, n12, σ1s.27**/15**, mb3.8**/7**, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	Mont Dzumac	13.70	273	P	P	18 59 48.3	+1.9
	0.4nm,0.3s,baz=94,slow=19,SNR=4.4						
URZ	Urewera	15.03	193	P	P	18 59 59.0	-1.5
	2.8nm,0.3s,baz=272,slow=3.0,SNR=10.0						
URZ				S	S	19 02 39.8	+0.3
	3.6nm,0.3s,baz=267,slow=24,SNR=19						
PMG	Port Moresby	35.45	288	P	P	19 03 06.5	-1.3
	36nm,0.8s,baz=103,slow=7.0,SNR=13						
STKA	Stephens Creek	35.86	248	P	P	19 03 11.5	+0.4
	0.7nm,0.5s,baz=119,slow=13,SNR=4.5						
ASAR	Alice Springs	43.17	260	P	P	19 04 10.2	-0.6
	2.8nm,0.6s,baz=92,slow=7.3,SNR=58						
ASAR				S	S	19 10 06.6	+0.7
	0.4nm,0.8s,baz=93,slow=16,SNR=4.3						
WRA	Warramunga Arr	43.53	265	P	P	19 04 12.3	-1.3
	2.1nm,0.3s,baz=90,slow=6.1,SNR=264						
WRA				S	S	19 10 08.7	-2.4
	0.4nm,0.8s,baz=102,slow=13,SNR=2.9						
VNDA	Vanda	54.78	185	P	P	19 05 37.6	+1.0
	1.3nm,1.0s,baz=355,slow=7.4,SNR=4.0						
BATI	Baumata	56.31	273	P	P	19 05 49.1	+0.7
	9.0nm,0.6s,baz=215,slow=4.8,SNR=4.5						
CMAR	Chiang Mai Arr	90.46	290	P	P	19 09 05.8	+1.1
	0.8nm,0.9s,baz=135,slow=3.5,SNR=6.4						
FINES	FINESS Array B	138.50	342	PKP	PKPdf	19 15 24.5	-0.3
	4.8nm,1.2s,baz=20,slow=6.3,SNR=4.2						
AKASG	Malin Array Be	145.30	328	PKPbc	PKPdf	19 15 36.3	-0.9
	1.1nm,0.4s,baz=44,slow=4.1,SNR=9.5						
MMAI	Mount Meron Ar	148.58	295	PKPbc	PKPbc	19 15 47.6	0.0
	1.1nm,0.5s,baz=80,slow=5.3,SNR=6.1						

WEL 02 19:04:13.6, 44°S±1°×**172°.8E**±0°.6**, h12**km±1km**, ML3.8**/5**, South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CRLZ	Canterbury Las	0.10	267	P	Pg	19 04 18.1	+1.7
CRLZ	Canterbury Las	0.10	267	S	Sg	19 04 20.4	+1.9
MQZ	McQueen's Vall	0.16	209	P	Pb	19 04 18.6	+0.2
MQZ	McQueen's Vall	0.16	209	S	Sg	19 04 21.5	+1.7
OKCZ	Okains Bay	0.27	125	P	Pb	19 04 20.4	+0.1
AKCZ	Akaroa Harbour	0.32	160	P	Pb	19 04 21.8	+0.5
AKCZ	Akaroa Harbour	0.32	160	S	Sb	19 04 27.0	+0.6
EYCZ	Eyrewell	0.33	297	P	Pb	19 04 21.6	+0.3
OXZ	Oxford	0.58	295	P	Pb	19 04 26.1	+0.5
LTZ	Lake Taylor	0.86	336	P	Pn	19 04 31.4	-0.1
RPZ	Rata Peaks	1.25	263	P	Pg	19 04 37.5	0.0
KHZ	Kahutara	1.29	27	P	Pn	19 04 37.0	-0.3
WVZ	Waitaha Valley	1.56	288	P	Pb	19 04 42.1	-0.1
THZ	Tophouse	1.81	4	P	Pn	19 04 44.6	0.0
BSWZ	Blackbirch Sta	2.03	24	P	Pn	19 04 47.6	+0.1
LBZ	Lake Benmore	2.03	245	P	Pn	19 04 48.9	+1.4
ODZ	Otahua Downs	2.12	225	P	Pn	19 04 49.4	+0.7
FOZ	Fox Glacier	2.14	270	P	Pb	19 04 51.5	-0.7
TUWZ	Tuamarina	2.31	23	P	Pn	19 04 51.4	0.0
NNZ	Nelson	2.40	11	P	Pn	19 04 53.1	+0.6
TCW	Tory Channel	2.61	26	P	Pn	19 04 55.1	-0.4
BHW	Baring Head	2.67	37	P	Pn	19 04 55.6	-0.6
QRZ	Quartz Range	2.75	356	P	Pn	19 04 58.1	+0.7
JCZ	Jackson Bay	2.92	259	P	Pn	19 05 01.3	+1.4
WKZ	Wanaka	2.97	244	P	Pn	19 05 01.8	+1.3
EAZ	Earnscleugh	2.98	235	P	Pn	19 05 01.7	+1.1
CAW	Cannon Point	3.00	36	P	Pn	19 04 59.9	-0.9
TUZ	Tuapeka	3.26	222	P	Pn	19 05 05.6	+1.2
MRZ	Mangatainoka R	3.58	37	P	Pn	19 05 07.8	-1.1
MLZ	Mavora Lakes	3.77	240	P	Pn	19 05 12.6	+1.0
BFZ	Birch Farm	3.88	43	P	Pn	19 05 11.6	-1.4
SYZ	Scrubby Hill	3.92	220	P	Pn	19 05 15.4	+1.9
WHZ	Wether Hill Ro	4.14	234	P	Pn	19 05 16.6	+0.1
ANWZ	Angora Road	4.16	43	P	Pn	19 05 18.1	+1.3
APZ	The Paps	4.69	224	P	Pn	19 05 25.7	+1.6
TUVZ	Tukino	4.82	28	P	Pn	19 05 26.5	+0.5

*ISCJB **02** 19:09:21.1±1.3, 4°.5S±0°.2×153°.7E±0°.2, h100km, mb3.5/7, Error ellipse: s-maj=34.8km s-min=12.2km az=34.8*
*IDC **02** 19:09:22.4±8.2, 4°.45S×153°.71E, h100km±60km, mb3.4/7, mb1 3.6/8, mb1mx3.4/48, mbtmp3.8/8, ML2.6/1, Error ellipse: s-maj=65.7km s-min=26.5km az=88.0*
ISC 02 19:09:22.5±1.4**, 4°.5S**±0°.2×**153°.7E**±0°.2**, h100**km**, n9, σ0s.85**/11**, mb3.7**/7**, New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	8.15	233	P	Pn	19 11 18.6	+0.5
	4.0nm,0.3s,baz=47,slow=7.7,SNR=12						
PMG				S	Sn	19 12 47.7	-0.9
	0.9nm,0.3s,baz=139,slow=19,SNR=8.7						
WRA	Warramunga Arr	24.36	229	P	P	19 14 31.0	-0.3
	3.7nm,0.7s,baz=54,slow=10.0,SNR=69						
ASAR	Alice Springs	27.02	223	P	P	19 14 55.3	-0.1
	0.4nm,0.7s,baz=54,slow=8.9,SNR=9.9						
ASAR				PcP	PcP	19 18 14.2	-0.4
	0.3nm,0.7s,baz=46,slow=2.1,SNR=4.8						
STKA	Stephens Creek	29.55	201	P	P	19 15 18.4	+0.6
	1.7nm,0.7s,baz=9.4,slow=9.7,SNR=4.6						
CMAR	Chiang Mai Arr	58.56	295	P	P	19 19 10.3	+1.1
	0.3nm,0.4s,baz=117,slow=5.5,SNR=5.2						
MKAR	Makanchi Array	80.67	319	P	P	19 21 24.3	-0.2
	0.2nm,0.5s,baz=102,slow=4.7,SNR=3.3						
KURBB	Kurchatov Arra	84.09	322	P	P	19 21 42.2	0.0
	0.5nm,0.9s,baz=119,slow=3.9,SNR=4.1						
BVAR	Borovoye Array	89.51	323	P	P	19 22 07.0	-1.4
	0.5nm,0.8s,baz=98,slow=11,SNR=4.5						
TORD	Torodi Ar. Bea	151.06	289	PKPbc	PKPbc	19 29 04.2	-0.8
	1.3nm,0.7s,baz=54,slow=2.4,SNR=8.6						

MEX 02 19:17:17.8±0.4**, 16°.33N**×**98°.49W, h4**km±5km**, MD4.0, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.35	79	eP	Pg	19 17 24.4	-0.2
PNIG				eS	Sg	19 17 29.3	0.0
TLIG	Tlapa	1.23	357	eP	Pg	19 17 38.1	-3.4
TLIG				eS	Sg	19 17 53.9	-3.5
VHO	Vista Hermosa	1.84	66	eP	Pn	19 17 48.6	-1.7
VHO				eS	Sn	19 18 12.4	-1.7
CAIG	El Cayaco	1.85	293	eP	Pn	19 17 46.1	-4.2
CAIG				eS	Sn	19 18 09.4	-4.7
HUIG	Huatulco	2.35	103	eP	Pn	19 17 54.4	-2.8
HUIG				eS	Sn	19 18 21.8	-4.8

*ISCJB **02** 19:29:49.9±0.2, 17°.73S±0°.04×178°.88W±0°.04, h539km, mb4.6/139, Error ellipse: s-maj=5.8km s-min=3.4km az=139.0*
*BJI **02** 19:29:49.6, 17°.28S×178°.82W, h520km, mb4.6/16, mB5.1/9*
*IDC **02** 19:29:49.7±1.3, 17°.73S×178°.79W, h524km±15km, mb4.0/32, mb1 4.1/34, mb1mx4.0/55, mbtmp4.9/34, Error ellipse: s-maj=11.2km s-min=8.3km az=123.0*
*NEIC **02** 19:29:50.1±0.3, 17°.69S×178°.83W, h530km±3km, mb4.6/78, Error ellipse: s-maj=6.5km s-min=3.8km az=134.0*
ISC 02 19:29:50.8±0.3**, 17°.74S**±0°.06×**178°.82W**±0°.06**, h539**km**, n295, σ1s.07**/314**, mb4.6**/139**, 3C-1D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MSVF	Nonsavu	2.98	270	eP	P	19 31 03.4	-1.6
AFI	Afiamalu	7.78	62	P	P	19 31 44.3	-1.9
	28nm,0.3s,baz=43,slow=3.7,SNR=26						
AFI				S	S	19 33 19.8	-0.8
	4.8nm,0.3s,baz=86,slow=19,SNR=2.4						
AFI	Afiamalu	7.78	62	eP	P	19 31 44.0	-2.2
AFI				S	S	19 33 19.8	-0.8
NIUE	Niue	8.55	100	P	P	19 31 54.5	+0.7
	baz=8.4,SNR=6.3						
FUNA	Funafuti	9.36	348	eP	P	19 32 01.5	-0.6
DZM	Mont Dzumac	14.51	250	P	P	19 32 55.2	-0.3
	3.5nm,0.3s,baz=81,slow=19,SNR=29						
TARA	Tarawa	20.64	336	eP	P	19 33 51.4	-2.0
	602nm,1.4s						
URZ	Urewera	20.75	189	P	P	19 33 52.6	-1.4
	6.7nm,0.3s,baz=247,slow=2.2,SNR=14						
URZ				S	S	19 37 09.1	-1.9
	17nm,0.9s,baz=81,slow=11,SNR=3.6						
KHZ	Kahutara	25.45	193	eP	P	19 34 35.0	-0.9
	23nm,0.8s						
LTZ	Lake Taylor	26.09	195	eP	P	19 34 40.5	-1.1
	25nm,0.9s						
OXZ	Oxford	26.66	195	eP	P	19 34 45.6	-1.0
	42nm,0.8s						
RPZ	Rata Peaks	27.27	196	P	P	19 34 51.2	-0.8
	12nm,0.8s,baz=2.2,slow=4.1,SNR=6.9						
FOZ	Fox Glacier	27.45	198	eP	P	19 34 53.2	-0.3
	36nm,0.8s						
WKZ	Wanaka	28.87	198	eP	P	19 35 05.3	-0.6
	45nm,1.2s						
EIDS	Eidsvold	28.96	250	P	P	19 35 06.9	0.0
	baz=29,SNR=34						
EIDS	Eidsvold	28.96	250	eP	P	19 35 06.9	0.0
	68nm,0.6s						
MLZ	Mavora Lakes	29.63	199	eP	P	19 35 13.3	+0.8
	56nm,0.8s						
ARMA	Armidale	29.69	239	P	P	19 35 14.3	+1.0
	baz=30,SNR=130						
ARMA	Armidale	29.69	239	eP	P	19 35 14.9	+1.5
	106nm,0.6s						
DCZ	Deep Cove	30.02	200	eP	P	19 35 15.7	-0.2
	24nm,1.1s						
WHZ	Wether Hill Ro	30.16	199	eP	P	19 35 17.6	+0.6
	52nm,0.9s						
MGCD	Mangrove Creek	31.07	234	P	P	19 35 26.4	+1.4
	baz=31,SNR=29						
RMQ	Roma	31.20	248	P	P	19 35 27.3	+1.0
	baz=31,SNR=72						
RIV	Riverview	31.27	233	P	P	19 35 28.1	+1.4
	baz=32,SNR=6.1						
CTA	Charters Tower	33.09	260	P	P	19 35 42.3	-0.1
	46nm,0.7s,baz=87,slow=10,SNR=95						
CTAO	Charters Tower	33.09	260	eP	P	19 35 42.2	-0.2
	55nm,0.8s						
CNB	Canberra Magne	33.22	232	P	P	19 35 44.5	+1.1
	baz=33,SNR=7.0						
CAN	Canberra	33.49	232	eP	P	19 35 46.5	+0.8
	45nm,0.8s						
YNG	Young	33.57	234	P	P	19 35 47.5	+1.1
	baz=34,SNR=20						
PMG	Port Moresby	34.04	280	P	P	19 35 50.8	+0.3
	26nm,0.8s,baz=67,slow=7.0,SNR=7.7						
PMG	Port Moresby	34.04	280	eP	P	19 35 51.5	+1.0
	41nm,0.9s						
MILA	Mila	34.09	229	P	P	19 35 51.8	+1.0
	baz=34,SNR=19						
CMSA	Cobar Meteorol	34.89	240	P	P	19 35 58.0	+0.6
	baz=35,SNR=188						
MTSU	Mount Surprise	35.03	264	P	P	19 35 58.6	-0.2
	baz=35,SNR=43						
QLP	Quilpie	35.23	249	P	P	19 36 00.4	+0.1
	baz=35,SNR=144						
COEN	Coen	36.71	270	P	P	19 36 13.0	+0.3
	baz=37,SNR=64						
COEN	Coen	36.71	270	eP	P	19 36 13.1	+0.4
	46nm,0.9s						
TOO	Toolangi	36.97	230	P	P	19 36 15.7	+1.1
	baz=37,SNR=47						
MOO	Moorlands	37.95	222	P	P	19 36 23.7	+1.2
	baz=38,SNR=6.5						
STKA	Stephens Creek	38.37	241	P	P	19 36 26.9	+0.9
	60nm,0.5s,baz=89,slow=10,SNR=281						
STKA	Stephens Creek	38.37	241	P	P	19 36 27.0	+0.9
	baz=39,SNR=242						
STKA	Stephens Creek	38.37	241	eP	P	19 36 26.9	+0.9
	28nm,1.0s						
QIS	Mount Isa	39.30	259	P	P	19 36 32.9	-0.8
	baz=40,SNR=10						
ARPS	Mount Arapiles	39.44	233	P	P	19 36 35.1	+0.6
	baz=40,SNR=18						
MMPI	Merauke	40.71	278	P	P	19 36 46.0	+1.0
	219nm,0.7s						
HTT	Hallett	40.89	239	P	P	19 36 47.1	+0.7
	baz=41,SNR=61						
JAY	Jayapura	42.48	286	P	P	19 36 59.7	+0.6
	323nm,0.8s						
GENI	Genyem	42.94	286	P	P	19 37 03.7	+1.0
	124nm,0.6s						
BBOO	Buckleboo	43.14	241	P	P	19 37 04.4	+0.4
	baz=43,SNR=87						
BBOO	Buckleboo	43.14	241	eP	P	19 37 04.5	+0.4
	152nm,0.9s						
WB2	Warramunga Arr	44.26	259	eP	P	19 37 12.0	-0.9
WR1	Warramunga Arr	44.27	259	eP	P	19 37 11.8	-1.2
	46nm,0.8s						
WRA	Warramunga Arr	44.27	259	P	P	19 37 11.8	-1.2
	21nm,0.5s,baz=92,slow=7.1,SNR=423						
WRA				ScP	ScP	19 41 47.8	+1.3
	2.0nm,0.7s,baz=88,slow=4.1,SNR=5.3						
WRA				S	S	19 43 02.4	-5.5
	1.1nm,0.7s,baz=90,slow=14,SNR=5.9						
AS01	Alice Springs	44.41	254	eP	P	19 37 14.0	0.0
AS31	Alice Springs	44.46	254	eP	P	19 37 14.3	-0.1
	80nm,0.6s						
ASAR	Alice Springs	44.46	254	P	P	19 37 14.2	-0.1
	292nm,0.7s,baz=89,slow=8.0,SNR=6654						
ASAR				ScP	ScP	19 41 48.7	+1.5
	3.1nm,0.7s,baz=90,slow=4.1,SNR=8.1						
ASAR				S	S	19 43 06.2	-4.3
	5.7nm,1.0s,baz=85,slow=16,SNR=23						
MTN	Manton Dam	48.41	268	P	P	19 37 43.6	-0.7
	baz=49,SNR=26						
MTN	Manton Dam	48.41	268	eP	P	19 37 43.7	-0.7
	48nm,0.8s						
WRKA	Warakurna	49.52	252	P	P	19 37 52.6	+0.1
	baz=50,SNR=294						
FORT	Forrest	49.72	244	P	P	19 37 53.6	-0.2
	baz=50,SNR=33						
FORT	Forrest	49.72	244	eP	P	19 37 53.5	-0.4
	3μm,0.6s						
KNRA	Kununurra	50.11	264	P	P	19 37 56.5	-0.4
	baz=50,SNR=39						
FAKI	Fak Fak	50.16	281	P	P	19 37 56.5	-0.8
	14nm,1.0s						
BNDI	Bandanaira	51.82	278	P	P	19 38 09.0	-0.4
	59nm,0.7s						
SWI	Sorong	51.82	283	P	P	19 38 09.6	+0.2
	113nm,0.8s,972nm						
FITZ	Fitzroy Crossi	52.67	260	P	P	19 38 15.9	+0.6
	11nm,0.3s,baz=90,slow=6.1						
AAI	Ambon	53.70	279	P	P	19 38 22.4	-0.4
	52nm,0.5s						
NLAI	Namlea	54.88	279	P	P	19 38 31.3	+0.2
	56nm,0.8s						
KMBL	Kambalda	55.03	244	P	P	19 38 31.2	-0.7
	baz=55,SNR=13						
LBMI	Labuha	55.40	282	P	P	19 38 35.2	+0.5
	48nm,0.7s						
SOEI	Soe	55.68	270	P	P	19 38 37.7	+0.9
	145nm,1.0s						
SOEI	Soe	55.68	270	eP	P	19 38 38.1	+1.3
	97nm,0.7s						
TNTI	Ternate	56.04	283	eP	P	19 38 39.5	+0.4
	30nm,1.0s						
BATI	Baumata	56.14	269	P	P	19 38 40.1	+0.2
	28nm,0.6s,baz=172,slow=2.9,SNR=17						
BATI	Baumata	56.14	269	P	P	19 38 39.9	0.0
SANI	Sanana	56.33	280	P	P	19 38 40.5	-0.6
	40nm,0.9s						
MBWA	Marble Bar	57.73	256	eP	P	19 38 50.3	-0.3
	28nm,0.8s						
MMRI	Maumere	57.90	271	eP	P	19 38 51.4	-0.5
	38nm,0.7s						
MEEK	Meekatharra	58.12	249	P	P	19 38 52.6	-0.7
	baz=58,SNR=16						
KLBR	Kellerberrin	58.55	243	P	P	19 38 55.6	-0.4
	baz=59,SNR=36						
NWAO	Narrogin (SRO)	58.94	242	P	P	19 38 58.0	-0.6
	16nm,0.5s,baz=343,slow=8.1,SNR=10.0						
NWAO	Narrogin (SRO)	58.94	242	P	P	19 38 58.6	0.0
	baz=59,SNR=4.2						
NWAO				P	P	19 38 58.6	0.0
	baz=59,SNR=4.2						
BLDU	Ballidu	59.50	245	P	P	19 39 01.8	-0.6
	baz=60,SNR=26						
MUN	Mundaring	59.85	243	P	P	19 39 04.7	-0.1
	baz=60,SNR=7.1						
MORW	Morawa	60.19	246	P	P	19 39 06.6	-0.4
	baz=60,SNR=8.7						
BSSI	Bau Bau, Buton	60.26	273	P	P	19 39 06.9	-0.8
	29nm,0.9s						
SBA	Scott Base	60.56	183	eP	P	19 39 11.1	+2.5
	12nm,1.0s						
VNDA	Vanda	60.58	185	P	P	19 39 10.3	+1.6
	1.7nm,0.3s,baz=352,slow=7.2,SNR=14						
VNDA	Vanda	60.58	185	eP	P	19 39 10.7	+2.0
	2.6nm,0.8s						
APSI	Ampana	60.79	279	P	P	19 39 12.0	+0.8
	77nm,0.7s						
MRSI	Marisa	60.99	281	P	P	19 39 12.2	-0.3
	10nm,0.9s						
BNSI	Bone	61.13	275	P	P	19 39 13.5	0.0
	36nm,1.1s						
PLAI	Plampang	62.10	269	P	P	19 39 19.3	-0.5
	50nm,0.7s						
PCI	Palu	62.50	278	P	P	19 39 24.0	+1.6
	54nm,1.1s						
GIRL	Giralia	62.57	253	P	P	19 39 23.8	+1.1
	baz=63,SNR=9.3						
MPSI	Mapaga	62.86	280	P	P	19 39 24.3	-0.4
	19nm,0.8s						
TWSI	Taliwang, Sumb	62.98	269	P	P	19 39 24.6	-0.8
JAGI	Jajag, Banyuwa	65.65	269	P	P	19 39 41.1	-1.3
	82nm,0.9s						
MYLDM	Lahad Datu	65.89	284	eP	P	19 39 43.4	-0.5
	11nm,1.1s						
MJAR	Matsushiro Arr	67.54	324	P	P	19 39 53.1	-0.5
	10nm,0.6s,baz=166,slow=6.4,SNR=34						
MAJO	Matsushiro	67.54	324	eP	P	19 39 53.3	-0.3
	17nm,0.5s						
MAT	Matsushiro	67.54	324	P	P	19 39 53.2	-0.4
MJB9	Matsu-Tunnel	67.54	324	eP	P	19 39 53.7	0.0
	16nm,0.5s						
PWJI	Pagerwojo	68.01	268	P	P	19 39 56.6	-0.3
	63nm,1.4s						
PCJI	Pacitan	68.56	268	P	P	19 40 00.4	+0.1
	129nm,0.9s						
UGM	Wanagama	69.26	268	P	P	19 40 04.4	-0.1
	74nm,1.3s						
KPJI	Karang Pucung	70.93	268	P	P	19 40 14.2	-0.2
	42nm,0.6s						
ASAJ	Asahikawa	70.94	332	P	P	19 40 15.2	+1.5
	12nm,0.6s,baz=237,slow=3.5,SNR=24						
CISI	Cisompet, Garu	71.94	268	P	P	19 40 19.4	-1.0
	60nm,0.7s						
KSM	Kuching	72.27	277	eP	P	19 40 22.6	+0.4
	26nm,0.9s						
QSPA	South Pole Qui	72.31	180	P	P	19 40 22.5	+0.8
	16nm,0.9s,baz=53,slow=0.7,SNR=28						
LEM	Lembang	72.33	268	P	P	19 40 23.4	+0.6
	71nm,0.7s,baz=38,slow=4.1,SNR=23						
LEM	Lembang	72.33	268	P	P	19 40 23.0	+0.2
	975nm,1.0s						
PETK	Petropavlovsk-	73.42	345	P	P	19 40 27.9	-0.1
	29nm,0.9s,baz=112,slow=7.3,SNR=23						
PEA1	Petropavlovsk-	73.42	345	eP	P	19 40 27.9	-0.1
CGJI	Cibinong	74.22	268	P	P	19 40 32.5	-0.9
	147nm,0.5s,1μm						
KSRS	Korea Array	74.31	319	P	P	19 40 34.4	+1.0
	1.5nm,0.6s,baz=130,slow=6.1,SNR=5.2						
KS15	Wonju Array Si	74.33	318	eP	P	19 40 34.4	+0.9
KSAR	Wonju Array Be	74.33	318	P	P	19 40 34.4	+0.9
KS01	Wonju Array Si	74.34	319	eP	P	19 40 33.6	0.0
KASI	Kota Agung	75.67	269	P	P	19 40 40.4	-1.1
	83nm,0.8s						
USRK	Ussuriysk Ar.	76.25	326	P	P	19 40 45.0	+1.0
	4.4nm,0.7s,baz=119,slow=4.4,SNR=7.2						
MDSI	Maura Dua	76.27	270	P	P	19 40 43.2	-1.6
	12nm,0.8s						
PEV	Pleasant Valle	76.44	44	eP	P	19 40 42.7	-2.6
CRPB	Russellman Par	76.93	43	eP	P	19 40 50.9	+3.0
NJ2	Nanjing	77.53	310	eP	P	19 40 50.8	-0.5
NJ2				pmax	pmax		
	comp=Z,13nm,0.5s						
MDJ	Mudanjiang	77.82	325	eP	P	19 40 53.3	+0.8
	19nm,0.8s						
AFDM	Forest Hills D	78.12	42	eP	P	19 40 54.6	+0.2
	5.5nm,1.1s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KDAK	Kodiak Island	78.33	14	P	P	19 40 55.0	+0.1
	14nm,0.8s,baz=219,slow=6.5,SNR=4.7						
WESC	Westside Schoo	78.44	50	eP	P	19 40 56.2	+0.1
YBH	Yreka Blue Hor	78.64	39	P	P	19 40 57.8	+0.6
	3.6nm,0.8s,baz=176,slow=2.8,SNR=8.7						
WAKR	Walker	78.87	43	eP	P	19 40 59.4	+0.8
	6.9nm,0.9s						
DAC	Darwin (Calif)	78.91	46	eP	P	19 40 59.8	+0.9
	8.8nm,1.4s						
COA	Coachella	78.94	50	eP	P	19 41 00.1	+1.2
YERR	Yerington	79.26	43	eP	P	19 41 01.1	+0.4
	6.2nm,0.7s						
NV01	Mina Array Sit	79.58	44	eP	P	19 41 02.9	+0.5
NVAR	Mina Array Bea	79.58	44	P	P	19 41 03.2	+0.9
	3.6nm,0.8s,baz=226,slow=8.8,SNR=17						
CN2	Changchun	79.65	323	eP	P	19 41 03.1	+0.8
NV11	Mina Array Sit	79.67	44	eP	P	19 41 03.4	+0.6
	0.4nm,0.9s						
KVN	Kaiserville	80.04	44	eP	P	19 41 05.7	+0.9
MOD	Modoc Plateau	80.21	40	eP	P	19 41 06.0	+0.5
	5.8nm,0.8s						
BRLK	Bradley Lake	80.50	14	eP	P	19 41 06.0	-0.5
	80nm,1.8s						
PINE	Pine Mountain	80.90	38	eP	P	19 41 10.3	+1.1
	14nm,1.1s						
MA2	Magadan	80.93	345	P	P	19 41 07.7	-0.9
	8.2nm,0.6s,baz=130,slow=5.1,SNR=12						
SPU	Mount Spurr	81.52	13	eP	P	19 41 10.6	-1.2
WVOR	Wild Horse Val	81.53	40	eP	P	19 41 12.3	0.0
	9.2nm,1.0s						
TUC	Tucson	81.91	52	eP	P	19 41 16.5	+2.1
	6.6nm,1.0s						
SUA	Susitna One	82.06	13	eP	P	19 41 13.6	-0.9
	21nm,0.9s						
J08A	Circle Bar Ran	82.14	40	eP	P	19 41 16.4	+1.1
	8.7nm,0.9s						
MNSI	Mandailing Nat	82.24	273	P	P	19 41 15.7	-0.7
	5.4nm,0.8s						
PMR	Palmer	82.53	14	eP	P	19 41 16.0	-0.7
	17nm,1.3s						
U15A	North Rim	82.70	48	eP	P	19 41 19.7	+1.1
	15nm,1.1s						
GHO	Glory Hole Cre	82.74	14	eP	P	19 41 17.2	-0.7
	23nm,0.8s						
G08A	Pilot Rock	82.92	38	eP	P	19 41 19.7	+0.4
	6.6nm,1.0s						
DIV	Divide	82.94	15	eP	P	19 41 18.4	-0.5
	17nm,0.7s						
BMRM	Bremner River	83.10	16	eP	P	19 41 19.5	-0.2
	12nm,0.7s						
SCM	Sheep Creek Mo	83.16	14	eP	P	19 41 19.9	-0.2
	27nm,0.7s						
SKNT	Sakolnakorn	83.44	290	P	P	19 41 22.7	+0.4
	11nm,1.7s						
PSI	Prapat	83.48	275	eP	P	19 41 22.4	-0.4
	12nm,0.8s						
SEY	Seymchan	83.52	347	P	P	19 41 21.4	-0.3
	22nm,0.6s,baz=156,slow=5.4,SNR=150						
CAST	Castle Rocks	83.54	12	eP	P	19 41 20.1	-1.8
	18nm,0.8s						
BALM	Baldy	83.77	17	eP	P	19 41 23.1	0.0
	10nm,0.7s						
MFID	Camas Ranch	83.80	41	eP	P	19 41 24.7	+1.0
	16nm,1.4s						
MAW	Mawson	83.89	200	P	P	19 41 23.4	-0.1
	9.8nm,0.9s,baz=107,slow=8.2,SNR=9.8						
MAW	Mawson	83.89	200	P	P	19 41 23.0	-0.6
	baz=84,SNR=6.2						
MAW	Mawson	83.89	200	eP	P	19 41 24.4	+0.8
	2.2nm,0.9s						
TRF	Thorofare Moun	83.93	12	eP	P	19 41 23.0	-0.9
	20nm,0.8s						
HARP	HAARP	84.18	15	eP	P	19 41 24.6	-0.4
	20nm,0.8s						
RND	Reindeer	84.19	13	eP	P	19 41 24.3	-0.8
	26nm,0.8s						
DHY	Denali Highway	84.23	14	eP	P	19 41 24.5	-0.9
	34nm,1.8s						
GSI	Gunungsitoli	84.30	273	P	P	19 41 27.7	+1.0
	31nm,0.8s						
GSI	Gunungsitoli	84.30	273	eP	P	19 41 27.7	+1.0
	18nm,0.7s						
F10A	Beach Ranch, E	84.31	38	eP	P	19 41 26.5	+0.4
	9.0nm,0.9s						
TRTT	Trang	84.33	280	P	P	19 41 27.4	+0.6
	8.5nm,0.9s						
BPAW	Bear Paw Mtn.	84.37	12	eP	P	19 41 24.3	-1.6
	4.4nm,1.0s						
MCK	McKinley	84.46	13	eP	P	19 41 25.3	-1.1
	15nm,1.0s						
GYA	Guiyang	84.61	300	eP	P	19 41 28.4	+0.3
GYA				pP	pP	19 43 24.2	-0.9
GYA				sP	sP	19 44 17.0	-2.8
GYA				PP	PP	19 44 54.5	+0.6
GYA				SKS	SKSac	19 51 00.8	-0.3
GYA				S	S	19 51 11.0	+0.1
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
HLID	Hailey	84.76	41	eP	P	19 41 29.3	+0.8
	4.7nm,0.9s						
MLY	Manley	85.25	12	eP	P	19 41 29.0	-1.2
	3.4nm,0.8s						
WRH	Wood River Hil	85.29	13	eP	P	19 41 29.3	-1.1
	13nm,0.9s						
HDA	Harding Lake	85.48	13	eP	P	19 41 30.7	-0.6
	7.1nm,0.9s						
DOT	Dot Lake	85.50	15	eP	P	19 41 31.1	-0.3
	26nm,0.8s						
CCB	Clear Creek Bu	85.51	13	eP	P	19 41 30.1	-1.2
	8.4nm,0.9s						
IM3	Indian Mountai	85.58	10	eP	P	19 41 30.9	-0.8
MDM	Murphy Dome	85.69	13	eP	P	19 41 30.9	-1.4
	9.3nm,1.1s						
SCRK	Sand Creek	85.80	15	eP	P	19 41 32.6	-0.3
	8.1nm,1.2s						
IL1	Eielson Array	85.81	13	eP	P	19 41 31.3	-1.5
ILAR	Eielson Array	85.81	13	P	P	19 41 31.8	-1.1
	3.3nm,0.7s,baz=225,slow=5.1,SNR=37						
ILAR				PP	PP	19 45 04.5	+2.0
	1.2nm,0.9s,baz=212,slow=7.8,SNR=4.5						
ILB	Eielson Array	85.81	13	eP	P	19 41 31.7	-1.1
ILB				ePP	PP	19 45 04.5	+2.0
XAN	Xi'an	85.84	308	P	P	19 41 35.0	+1.2
XAN				pmax	pmax		
	comp=Z,8.0nm,1.2s						
PHET	Kaeng Krachan	86.02	285	P	P	19 41 37.6	+2.7
ANMO	Albuquerque	86.30	52	P	P	19 41 36.6	+0.5
	1.0nm,0.7s,baz=150,slow=8.1,SNR=2.9						
ANMO	Albuquerque	86.30	52	eP	P	19 41 36.6	+0.5
	6.0nm,0.8s						
MCMT	McKenzie Canyo	86.37	41	eP	P	19 41 37.0	+0.8
HHC	Hu-ho-hao-te	86.87	315	eP	P	19 41 40.9	+2.3
HHC				pmax	pmax		
	comp=Z,6.0nm,1.3s						
HHC				pmax	pmax		
	comp=Z,270nm,7.0s						
REDW	Red Top Meadow	86.93	43	eP	P	19 41 40.0	+1.1
	8.2nm,1.1s						
FXWY	Fox Creek	86.95	42	eP	P	19 41 39.6	+0.6
	5.4nm,0.9s						
IMW	Indian Meadow	87.12	42	eP	P	19 41 41.1	+1.2
	7.4nm,0.9s						
EGAK	Eagle	87.15	15	eP	P	19 41 38.8	-0.3
	4.6nm,0.7s						
O20A	White River Ci	87.22	46	epP	pP	19 43 35.8	-2.6
COLD	Coldfoot	87.32	11	eP	P	19 41 39.6	-0.3
	7.0nm,0.8s						
KMI	Kunming	87.40	297	P	P	19 41 41.1	-0.4
KMI				pmax	pmax		
	comp=Z,8.0nm,0.5s						
PD31	Pinedale Array	87.50	44	eP	P	19 41 41.5	-0.2
PDAR	Pinedale Array	87.50	44	P	P	19 41 42.0	+0.3
	1.1nm,0.6s,baz=227,slow=3.5,SNR=14						
PDAR	Pinedale Array	87.50	44	eP	P	19 41 41.4	-0.2
YHH	Holmes Hill	87.60	41	eP	P	19 41 44.7	+2.6
	21nm,2.0s						
CM01	Chiang Mai Arr	88.43	290	eP	P	19 41 47.4	+1.2
CM31	Chiang Mai Arr	88.46	290	eP	P	19 41 47.3	+1.0
CM31				ePP	PP	19 45 27.2	+2.8
CMAR	Chiang Mai Arr	88.46	290	P	P	19 41 47.3	+1.0
	1.3nm,0.8s,baz=116,slow=3.1,SNR=13						
CMAR				PP	PP	19 45 27.2	+2.8
	0.3nm,0.8s,baz=120,slow=5.1,SNR=4.2						
LZH	Lanzhou	90.47	308	eP	P	19 41 56.2	+0.7
LZH				sP	sP	19 44 48.3	-0.2
LZH				ePP	PP	19 45 43.8	+3.6
LZH				pmax	pmax		

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,43nm,1.0s						
LZH				pmax	pmax		
	comp=Z,900nm,8.5s						
SNAA	Sanae	90.78	179	P	P	19 41 55.3	-0.9
SNAA	Sanae	90.78	179	P	P	19 41 55.0	-1.1
	2.6nm,0.7s,baz=218,slow=12,SNR=6.2						
SNAA	Sanae	90.78	179	eP	P	19 41 55.0	-1.1
	18nm,1.5s						
VNA3	Neumayer Olymp	90.93	177	P	P	19 41 56.7	-0.1
VNA2	Neumayer--Watz	91.37	177	P	P	19 41 57.1	-1.7
	baz=169,slow=4.8						
VNA1	Neumayer--Stat	91.60	177	P	P	19 41 55.6	-4.3
INK	Inuvik	91.83	15	P	P	19 42 00.1	-0.6
	4.0nm,0.9s,baz=220,slow=4.6,SNR=12						
INK				PP	PP	19 45 50.3	+0.7
	0.9nm,0.7s,baz=94,slow=8.5,SNR=4.6						
INK	Inuvik	91.83	15	eP	P	19 42 00.1	-0.6
	6.3nm,1.0s						
INK				ePP	PP	19 45 50.3	+0.7
SONA0	Songino Array	93.17	319	eP	P	19 42 07.8	+0.2
SONA0				ePP	PP	19 46 02.9	+2.3
SONM	Songino Array	93.17	319	P	P	19 42 07.8	+0.2
	0.4nm,0.5s,baz=118,slow=5.2,SNR=4.7						
SONM				PP	PP	19 46 02.9	+2.3
	0.7nm,0.7s,baz=125,slow=7.7,SNR=5.7						
YKA	Yellowknife Ar	94.34	25	P	P	19 42 12.0	-0.3
	1.7nm,0.9s,baz=245,slow=4.4,SNR=22						
YKB5	Yellowknife Ar	94.34	25	eP	P	19 42 12.1	-0.3
TIXI	Tiksi	95.89	345	P	P	19 42 18.3	-0.9
	1.1nm,0.5s,baz=128,slow=5.4,SNR=10.0						
TIXI				PP	PP	19 46 17.4	-3.3
	0.5nm,0.2s,baz=138,slow=4.5,SNR=3.9						
AGMN	Agassiz Nation	98.48	42	epP	pP	19 44 29.4	-1.4
MK32	Makanchi Array	108.73	314	ePKiKP	PKiKP	19 47 17.6	-1.1
MKAR	Makanchi Array	108.73	314	PKiKP	PKiKP	19 47 17.6	-1.1
	0.2nm,0.5s,baz=117,slow=0.4,SNR=4.6						
BVAR	Borovoye Array	116.47	321	PKP	PKPdf	19 47 32.4	-0.8
	0.4nm,0.3s,baz=120,slow=2.1,SNR=5.6						
FINES	FINESS Array B	132.92	344	SKPbc	SKPbc	19 50 42.5	+0.7
	7.6nm,0.8s,baz=42,slow=3.1,SNR=14						
NOA	NORSAR Array B	136.16	353	SKP	SKPab	19 50 57.8	-0.7
	1.5nm,0.8s,baz=15,slow=3.2,SNR=3.9						
KMBO	Kilima Mbogo	139.84	246	SKPbc	SKPbc	19 51 05.2	+1.0
	0.9nm,0.4s,baz=17,slow=2.1,SNR=4.5						
AKASG	Malin Array Be	140.23	332	SKPbc	SKPbc	19 51 03.8	+0.1
	0.5nm,0.4s,baz=29,slow=2.2,SNR=5.5						
KWP	Kalwaria Pacla	143.76	336	ePKP	PKPbc	19 48 23.6	+0.1
KWP	Kalwaria Pacla	143.76	336	ePKPbc	PKPab	19 48 23.5	0.0
BUR08	Bucovina Ar. S	144.26	332	ePKPbc	PKPab	19 48 26.3	+0.7
BUR04	Bucovina Ar. S	144.28	332	ePKPbc	PKPdf	19 48 25.6	0.0
OJC	Ojcow	144.31	339	ePKP	PKPbc	19 48 25.1	-0.1
BR101	Keskin Array S	144.38	315	ePKPbc	PKPdf	19 48 26.1	0.0
BR131	Keskin Array S	144.38	315	ePKPbc	PKPbc	19 48 26.0	0.0
BRTR	Keskin Array B	144.38	315	PKP	PKPdf	19 48 26.1	0.0
	2.0nm,0.5s,baz=95,slow=3.2,SNR=14						
STHS	Stebnicka Huta	144.48	337	ePKP	PKPdf	19 48 25.7	-0.1
NIE	Niedzica	144.82	338	ePKP	PKPab	19 48 27.3	-0.3
CRVS	Cervenica-Dubn	144.82	337	ePKP	PKPab	19 48 27.4	-0.2
KSP	Ksiaz	144.84	343	ePKP	PKPab	19 48 27.4	-0.2
BR231	Keskin MP Arra	144.91	315	ePKPdf	PKPdf	19 48 26.8	-0.2
OKC	Ostrava-Krasne	145.18	341	ePKP	PKPbc	19 48 27.6	-0.3
CLL	Collm	145.21	347	⇑iPKPbc	PKPbc	19 48 27.8	-0.2
	comp=Z,17nm,0.7s						
CLL				iPKPab	PKPab	19 48 28.8	-0.2
	comp=Z,13nm,0.7s						
CLL				eSKPdf	SKPdf	19 51 11.0	+0.8
CLL	Collm	145.21	347	ePKPdf	PKPbc	19 48 27.8	-0.2
UPC	Upice	145.22	343	ePKP	PKPbc	19 48 28.4	+0.4
UPC				ex	x	19 48 30.0	
DPC	Dobruska-Polom	145.27	343	ePKP	PKPbc	19 48 28.8	+0.6
DPC				ex	x	19 48 30.5	
LANS	Liptovska Anna	145.34	339	ePKP	PKPab	19 48 29.6	-0.1
BRG	Berggiesshubel	145.41	346	iPKP	PKPbc	19 48 28.6	0.0
	comp=Z,9.3nm,0.8s						
MORC	Moravsky Berou	145.42	341	ePKPdf	PKPbc	19 48 28.9	+0.2
MLR	Muntele Rosu	145.48	329	ePKPdf	PKPbc	19 48 29.6	+0.4
KECS	Kecovo	145.54	337	ePKP	PKPbc	19 48 28.8	-0.2
PVCC	Panska Ves	145.57	345	ePKP	PKPbc	19 48 29.3	+0.3
MBAR	Mbarara	145.67	241	ePKPdf	PKPbc	19 48 30.6	0.0
MMAI	Mount Meron Ar	145.72	303	PKPbc	PKPbc	19 48 30.4	+0.3
	comp=Z,2.0nm,0.5s,baz=68,slow=4.9,SNR=9.8						
PRU	Pruhonice	146.08	344	ePKP	PKPbc	19 48 30.7	+0.2
PRU				ex	x	19 48 32.5	
GOPC	GO Pecny, Ondr	146.08	344	ePKP	PKPbc	19 48 30.7	+0.2
GOPC				ex	x	19 48 32.7	
VYHS	Vyhne	146.12	339	ePKP	PKPbc	19 48 31.1	+0.4
VYHS				e		19 48 33.2	
NKC	Novy Kostel	146.34	347	ePKP	PKPbc	19 48 31.3	0.0
NKC				ex	x	19 48 33.7	
SMOL	Smolenice	146.57	340	ePKP	PKPbc	19 48 32.7	+0.8
SMOL				e		19 48 35.1	
MODS	Modra-Piesok	146.74	340	ePKP	PKPbc	19 48 33.0	+0.6
MEM	Membach	146.98	354	⇑PKPbc	PKPbc	19 48 32.7	-0.2
KHC	Kasperske Hory	147.11	345	ePKP	PKPbc	19 48 33.5	+0.1
KHC				ex	x	19 48 37.2	
KHC	Kasperske Hory	147.11	345	ePKPbc	PKPbc	19 48 33.0	-0.3
BCLA	Clavier	147.23	355	⇓PKPab	PKPab	19 48 36.4	-0.7
GEC2	GERESS Array S	147.34	345	ePKPbc	PKPbc	19 48 33.7	-0.4
GERES	GERESS Array B	147.34	345	PKPbc	PKPbc	19 48 34.1	+0.1
	comp=Z,2.9nm,0.5s,baz=23,slow=3.2,SNR=34						
GEA0	GERESS Array S	147.35	345	ePKPbc	PKPbc	19 48 33.9	-0.2
CONA	Conrad Observa	147.58	341	ePKiKP	PKPbc	19 48 35.1	+0.4
	comp=Z,5.5nm,0.7s,SNR=9.1						
WLF	Walferdange	147.90	354	⇑PKPbc	PKPbc	19 48 35.8	+0.4
WLF	Walferdange	147.90	354	ePKPbc	PKPbc	19 48 36.1	+0.8
MOA	Molln	148.11	343	PKPbc	PKPbc	19 48 35.5	-0.5
	comp=Z,5.4nm,1.0s						
ARSA	Arzberg	148.29	341	PKPab	PKPab	19 48 39.8	-1.7
	comp=Z,2.5nm,0.9s						
BFO	Black Forest	148.93	351	ePKPbc	PKPbc	19 48 38.2	+0.2
VTS	Vitosha	148.94	328	ePKPbc	PKPbc	19 48 38.2	-0.2
SOKA	Soboth	148.95	341	ePKiKP	PKiKP	19 48 39.2	+0.1
	comp=Z,2.9nm,0.5s						
KBA	Koelnbreinsper	149.07	344	ePKPbc	PKPbc	19 48 38.1	-0.5
	comp=Z,6.2nm,0.7s						
OBKA	Obir	149.25	342	ePKiKP	PKiKP	19 48 40.0	+0.3
	comp=Z,4.5nm,0.8s						
WATA	Walderalm	149.27	346	ePKPbc	PKPbc	19 48 38.4	-0.6
	comp=Z,3.4nm,0.5s						
RETA	Reutte	149.30	347	ePKPab	PKPab	19 48 45.8	+0.1
	comp=Z,9.9nm,1.1s						
DIVS	Divibare	149.31	333	ePKPbc	PKPbc	19 48 39.0	-0.1
WTTA	Wattenberg	149.32	346	ePKiKP	PKPbc	19 48 39.2	0.0
	comp=Z,5.3nm,0.5s						
MOTA	Moosalm	149.36	347	ePKPbc	PKPbc	19 48 38.5	-0.7
	comp=Z,1.4nm,0.4s						
MYKA	Terra Mystica	149.40	343	ePKPbc	PKPbc	19 48 38.2	-1.0
	comp=Z,3.8nm,0.5s						
ABTA	Abfaltersbach	149.59	345	ePKPbc	PKPbc	19 48 38.6	-1.1
	comp=Z,14nm,1.3s,SNR=5.8						
DAVA	Damuels	149.67	348	ePKPab	PKPab	19 48 47.3	-0.2
	comp=Z,3.1nm,0.4s						
FETA	Feichten	149.75	347	ePKPbc	PKPbc	19 48 40.0	-0.2
	comp=Z,5.8nm,1.2s						
FUORN	Ofenpass-Fuorn	150.23	347	ePKPbc	PKPbc	19 48 41.6	+0.1
SENIN	Lac Senin/Sane	151.01	351	ePKPbc	PKPbc	19 48 43.0	-0.1
FNA	Florina	151.19	327	ePKPbc	PKPbc	19 48 42.8	-0.8
ESDC	Sonseca Array	157.69	10	PKPab	PKPab	19 49 21.1	-0.7
	comp=Z,0.9nm,0.6s,baz=340,slow=3.9,SNR=8.8						
TORD	Torodi Ar. Bea	175.41	186	PKP	PKPdf	19 48 58.1	-1.7
	comp=Z,0.8nm,0.9s,baz=325,slow=2.3,SNR=4.0						
TORD				PKPab	PKPab	19 50 39.6	-0.7
	comp=Z,0.8nm,0.8s,baz=178,slow=4.0,SNR=4.7						
TOA1	Torodi Ar. Sit	175.41	186	ePKPdf	PKPdf	19 48 58.1	-1.7
TOA1				ePKPab	PKPab	19 50 39.6	-0.7

*IDC **02** 19:38:06.8±0.8, 16°.43N×98°.42W, h0km, mb4.4/15, mb1 4.5/20, mb1mx4.3/54, mbtmp4.4/20, ML4.2/4, MS4.0/4, Ms1 4.0/4, ms1mx3.4/45, Error ellipse: s-maj=22.6km s-min=13.4km az=46.0*

*MEX **02** 19:38:08.2±1.0, 16°.32N×98°.46W, h5km, MD4.2*

*ISCJB **02** 19:38:09.7±0.5, 16°.62N±0°.03×98°.13W±0°.03, h22km±4km, mb4.5/80, Error ellipse: s-maj=5.7km s-min=4.2km az=25.1*

*NEIC **02** 19:38:10.4±0.5, 16°.50N×98°.29W, h16km±3km, mb4.6/93, MD4.2(MEX), Error ellipse: s-maj=6.6km s-min=4.1km az=215.0*

ISC 02 19:38:07.6±1.4**, 16°.46N**±0°.05×**98°.47W**±0°.05**, h5**km±8km**, n402, σ1s.40**/407**, mb4.7**/80**, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.33	102	eP	Pg	19 38 14.0	-0.1
PNIG				iS	Sg	19 38 18.7	+0.2
PNIG	Pinotepa	0.33	102	eSg	Sg	19 38 18.7	+0.2
TLIG	Tlapa	1.10	355	eP	Pg	19 38 28.1	-0.6
TLIG				eS	Sg	19 38 42.7	-0.2
TLIG	Tlapa	1.10	355	eP	Pg	19 38 28.1	-0.6
TLIG				eS	Sg	19 38 42.7	-0.2
VHO	Vista Hermosa	1.77	70	eP	Pn	19 38 38.8	-0.2
VHO				eS	Sn	19 38 59.9	-2.2
VHO	Vista Hermosa	1.77	70	ePn	Pn	19 38 38.8	-0.2
VHO				eSn	Sn	19 38 59.9	-2.2
CAIG	El Cayaco	1.82	289	eP	Pn	19 38 37.4	-2.1
CAIG				eS	Sn	19 38 59.9	-3.1
HUIG	Huatulco	2.37	107	eP	Pn	19 38 44.6	-2.5
HUIG				iS	Sn	19 39 12.5	-4.2
UNM	Universidad Na	2.93	347	ePn	Pb	19 38 58.4	-2.0
CMIG	Matias Romero	3.49	79	Pn	Pn	19 39 01.5	-1.1
	35nm,0.3s,baz=262,slow=11,SNR=156						
CMIG				Pg	Pb	19 39 10.7	+0.8
	63nm,0.3s,baz=251,slow=17,SNR=62						
CMIG				Lg	Lg	19 39 56.5	
	66nm,0.3s,baz=226,slow=20,SNR=4.3						
LVIG	Laguna Verde	3.78	31	ePn	Pn	19 39 04.8	-1.8
MOIG	Morelia	4.11	321	ePn	Pn	19 39 12.9	+1.6
JRQG	Juriquilla Cam	4.62	336	ePn	Pn	19 39 20.9	+2.6
ZAIG	Zacatecas	7.37	329	ePn	Pn	19 39 58.8	+2.6
APG	El Apazote	7.84	100	Pn	Pn	19 40 03.1	+0.5
	2.6nm,0.3s,baz=153,slow=22,SNR=24						
APG				Lg	Lg	19 42 11.6	
	1.4nm,0.3s,baz=31,slow=18,SNR=4.4						
LNIG	Linares	8.45	354	ePn	Pn	19 40 13.2	+2.5
833A	Chaparral WMA,	11.84	356	P	Pn	19 40 58.5	+1.4
	baz=175						
HKT	Hockley	13.64	10	ePn	Pn	19 41 22.0	+0.3
TXAR	Lajitas Array	13.67	340	Pn	Pn	19 41 24.1	+1.7
	baz=158,slow=14,SNR=5.7						
TXAR				Lg	Lg	19 45 26.6	
	0.1nm,0.3s,baz=166,slow=32,SNR=4.3						
TXAR				LR	LR	19 47 03.5	
	comp=Z,369nm,20.3s,baz=0.0,slow=39						
LTX	Lajitas	13.67	340	ePn	Pn	19 41 24.1	+1.7
LTX				e		19 45 26.6	
TX31	Lajitas Ar. Si	13.67	340	ePn	Pn	19 41 23.7	+1.3
JCT	Junction City	14.01	355	P	Pn	19 41 28.6	+1.7
	baz=174						
JCT	Junction City	14.01	355	ePn	Pn	19 41 28.5	+1.7
435B	Jarrell	14.28	3	P	P	19 41 35.9	-2.0
	baz=183						
435B	Jarrell	14.28	3	ePn	Pn	19 41 31.6	+1.1
JTS	JuntasAbangare	14.51	113	Pn	Pn	19 41 33.8	0.0
	2.9nm,0.3s,baz=334,slow=20,SNR=4.0						
542A	Morse	14.64	21	P	P	19 41 39.8	-2.1
	baz=202						
WHTX	Lake Whitney,	15.49	3	P	P	19 41 50.0	-1.4
	baz=183						
WHTX	Lake Whitney,	15.49	3	ePn	P	19 41 51.7	+0.4
	104nm,1.4s						
341A	Kurthwood	15.57	17	P	P	19 41 50.1	-2.1
	baz=199						
NATX	Nacogdoches	15.62	12	ePn	Pn	19 41 48.2	-0.2
	90nm,1.1s						
342A	Flagon Creek P	15.87	20	P	P	19 41 54.0	-1.6
	baz=201						
240A	Hunter Patters	16.09	15	P	P	19 41 56.9	-1.1
	baz=196						
ABTX	Abilene, Hawle	16.13	356	P	P	19 41 59.1	+0.6
	baz=175,SNR=10						
ABTX	Abilene, Hawle	16.13	356	ePn	P	19 41 59.0	+0.6
	43nm,0.8s						
241A	Mo Tay, Goldon	16.29	17	P	P	19 41 58.7	-1.5
	baz=199						
MNTX	Cornudas Mount	16.42	339	P	P	19 42 02.7	+1.0
	baz=155						
MNTX	Cornudas Mount	16.42	339	ePn	Pn	19 41 59.6	+0.7
	11nm,1.1s						
344A	Westbrook Farm	16.50	24	P	P	19 42 01.3	-1.3
	baz=206						
446A	Poplarville	16.51	29	P	P	19 42 02.2	-0.5
	baz=212						
140A	Cam and Jess,	16.71	14	P	P	19 42 04.1	-0.7
	baz=196,SNR=6.9						
244A	Avery, Jackson	17.05	23	P	P	19 42 09.0	+0.5
	baz=206						
142A	Monroe	17.07	19	P	P	19 42 09.4	+0.5
	baz=201						
Z40A	Long Farm, Mag	17.34	14	P	Pn	19 42 11.0	+0.6
	baz=196,SNR=5.5						
245A	Little AP, Sta	17.35	25	P	Pn	19 42 10.7	+0.2
	baz=208						
Z41A	Richland Creek	17.49	16	P	Pn	19 42 10.7	-1.6
	baz=198						
Z41A	Richland Creek	17.49	16	ePn	P	19 42 14.2	+0.7
	108nm,1.1s						
319A	Douglas	17.82	328	ePn	Pn	19 42 16.8	+0.3
	14nm,1.0s						
MSTX	Muleshoe	17.86	348	P	P	19 42 18.0	+0.3
	baz=166						
MSTX	Muleshoe	17.86	348	ePn	P	19 42 17.4	-0.3
	17nm,0.8s						
Y40A	Okolona	18.09	14	P	Pn	19 42 18.7	-1.0
	baz=196						
Y41A	Eaglette Beard	18.13	16	P	Pn	19 42 19.3	-0.9
	baz=198						
WMOK	Wichita Mounta	18.20	359	P	Pn	19 42 20.8	-0.3
	baz=178						
WMOK	Wichita Mounta	18.20	359	ePn	P	19 42 21.4	0.0
	9.5nm,0.9s						
X39A	Fountain Ranch	18.39	11	P	Pn	19 42 22.1	-1.4
	baz=193						
MIAR	Mount Ida	18.54	13	P	P	19 42 24.4	-0.7
	baz=194,SNR=8.3						
MIAR	Mount Ida	18.54	13	eP	Pn	19 42 25.1	-0.1
	23nm,0.9s						
249A	Camden	18.57	32	P	P	19 42 24.0	-1.4
	baz=216						
AMTX	Amarillo	18.57	352	P	P	19 42 25.1	-0.4
	baz=170						
AMTX	Amarillo	18.57	352	eP	P	19 42 25.2	-0.3
	18nm,0.9s						
147A	Livingston	18.59	28	P	P	19 42 23.9	-1.8
	baz=212						
Z46A	Louisville	18.75	26	P	P	19 42 24.9	-2.5
	baz=209						
452A	Marianna	18.77	38	P	P	19 42 23.8	-3.8
	baz=223						
UALR	University of	19.05	16	eP	Pn	19 42 31.5	+0.1
	40nm,1.1s						
BNM	Barren Site	19.08	339	eP	Pn	19 42 33.9	+1.9
Y45A	Yeager Farm, C	19.10	23	P	P	19 42 28.4	-2.9
	baz=206						
W39A	Magazine	19.12	12	P	P	19 42 31.2	-0.3
	baz=193,SNR=6.7						
W39A	Magazine	19.12	12	eP	Pn	19 42 32.2	-0.1
	46nm,1.4s						
Z47A	Carrollton	19.13	28	P	P	19 42 29.7	-1.9
	baz=211						
554A	Perry	19.16	42	P	P	19 42 31.1	-0.8
	baz=228						
LPM	Los Pinos Moun	19.23	339	eP	Pn	19 42 35.6	+1.8
149A	Jones	19.23	31	P	P	19 42 31.7	-1.1
	baz=216,SNR=9.5						
TUC	Tucson	19.33	327	eP	Pn	19 42 36.5	+1.6
	5.5nm,0.9s						
Y46A	Houston	19.38	25	P	P	19 42 33.0	-1.4
	baz=208,SNR=15						
W41B	Gary Mavity, V	19.45	15	P	P	19 42 33.9	-1.2
	baz=198						
W41B	Gary Mavity, V	19.45	15	eP	P	19 42 34.6	-0.4
	63nm,1.6s						
LRAL	Lakeview Retre	19.49	30	P	P	19 42 33.7	-1.8
	baz=214						
LRAL	Lakeview Retre	19.49	30	eP	Pn	19 42 36.1	-0.5
	38nm,1.4s						
Z48A	Northport	19.51	28	P	P	19 42 33.5	-2.2
	baz=212,SNR=9.5						
TUL1	Leonard	19.52	7	P	P	19 42 34.7	-1.1
	baz=187						
TUL1	Leonard	19.52	7	eP	P	19 42 35.4	-0.4
	36nm,0.8s						
150A	Eclectic	19.63	33	P	P	19 42 36.2	-0.9
	baz=218,SNR=6.1						
OXF	Oxford	19.73	23	P	P	19 42 37.6	-0.5
	baz=206						
ANMO	Albuquerque	19.75	340	P	Pn	19 42 39.7	-0.3
	0.3nm,0.3s,baz=336,slow=10,SNR=13						
ANMO				LR	LR	19 50 56.3	
	comp=Z,524nm,18.4s,baz=232,slow=39						

ANMO	Albuquerque baz=156	19.75	340	P		Pn	19 42	40.4	+0.4
ANMO	Albuquerque 6.0nm,0.8s	19.75	340	eP		Pn	19 42	39.9	-0.2
V39A	Pettigrew baz=193,SNR=19	19.77	12	P		P	19 42	38.0	-0.7
Y47A	UCPARC, Winfie baz=211	19.82	27	P		P	19 42	38.4	-0.8
Z49A	Columbiana baz=215,SNR=13	19.84	31	P		P	19 42	38.4	-1.0
252A	Lumpkin baz=222	19.87	36	P		P	19 42	38.4	-1.2
V40A	Witts Springs baz=196,SNR=7.2	19.91	14	P		P	19 42	39.6	-0.5
V40A	Witts Springs 46nm,1.3s	19.91	14	eP		P	19 42	39.9	-0.2
151A	Opelika baz=219,SNR=7.7	19.94	34	P		P	19 42	39.2	-1.3
556A	Lake Butler baz=231	19.95	45	P		P	19 42	39.8	-0.8
V41A	Mountainview baz=197,SNR=7.3	20.05	15	P		P	19 42	40.9	-0.8
X46A	Booneville baz=208,SNR=5.4	20.08	24	P		P	19 42	41.2	-0.8
Y48A	Jasper baz=213	20.13	28	P		P	19 42	41.1	-1.4
758A	Lake Helen baz=235	20.18	49	P		P	19 42	42.3	-0.8
214A	Organ Pipe Nat baz=136	20.19	322	P		Pn	19 42	46.8	+1.7
Z50A	Ashland baz=217,SNR=8.9	20.19	32	P		P	19 42	41.3	-1.9
V42A	Cord baz=199	20.27	17	P		P	19 42	42.1	-1.9
U39A	Green Forest baz=193,SNR=15	20.33	12	P		P	19 42	43.5	-1.2
X47A	Russelville baz=210	20.34	26	P		P	19 42	43.2	-1.7
U40A	Yellville baz=195,SNR=14	20.43	13	P		P	19 42	44.7	-1.1
Y49A	Blount Mountai baz=214,SNR=7.7	20.44	30	P		P	19 42	44.1	-1.9
U41A	Viola baz=198	20.64	15	P		P	19 42	47.1	-1.0
X48A	Hartselle baz=212,SNR=6.7	20.64	28	P		P	19 42	46.5	-1.5
PLAL	Pickwick Lake 58nm,1.3s	20.66	25	eP		P	19 42	47.7	-0.5
W46A	Michie baz=208	20.67	24	P		P	19 42	48.6	+0.3
254A	Abbeville baz=225	20.68	39	P		P	19 42	48.0	-0.5
X18A	Snowflake 19nm,1.0s	20.73	332	eP		Pn	19 42	52.2	+0.6
Y50A	Piedmont baz=216	20.80	31	P		P	19 42	49.6	-0.2
T38A	Diamond baz=191,SNR=8.1	20.82	9	P		P	19 42	49.1	-0.9
U42A	Revenden baz=199	20.83	17	P		P	19 42	49.2	-0.9
T39A	Clever baz=193,SNR=5.2	20.97	11	P		P	19 42	50.0	-1.6
X49A	Woodville baz=214,SNR=7.6	21.02	29	P		P	19 42	50.5	-1.6
W47A	Westpoint baz=210,SNR=8.6	21.09	25	P		P	19 42	51.5	-1.4
W18A	Petrified Fore baz=148	21.14	334	P		P	19 42	54.9	+1.2
T25A	Trinidad baz=164	21.26	347	P		P	19 42	56.1	+1.1
T25A	Trinidad 27nm,0.8s	21.26	347	eP		P	19 42	56.4	+1.4
T40A	Mansfield baz=195	21.27	13	P		P	19 42	54.0	-0.8
W48A	Pulaski baz=211,SNR=11	21.27	27	P		P	19 42	53.5	-1.4
X50A	Fort Payne baz=215	21.30	30	P		P	19 42	54.0	-1.2
MHTCO	State Highway 22nm,1.1s	21.31	346	eP		P	19 42	56.8	+1.3
113A	Mohawk Valley, 9.1nm,0.8s	21.33	322	eP		P	19 42	58.2	+2.6
X16A	Lo Mia Camp, P 18nm,1.0s	21.34	329	eP		P	19 42	57.5	+1.6
T41A	Mountain View baz=197	21.34	15	P		P	19 42	54.8	-0.8
V46A	Holladay baz=208,SNR=14	21.36	24	P		P	19 42	55.0	-0.8
PBMO	Poplar Bluff 17nm,0.8s	21.45	18	eP		P	19 42	57.5	+0.7
S38A	Stockton baz=192	21.47	10	P		P	19 42	55.9	-1.1
T42A	Van Buren baz=199	21.50	16	P		P	19 42	56.6	-0.7
U45A	Rockin P Farm, baz=206	21.60	22	P		P	19 42	57.1	-1.3
V47A	Nunnelly baz=209,SNR=7.8	21.61	25	P		P	19 42	57.4	-1.2
S39A	Bolivar baz=193,SNR=9.4	21.63	11	P		P	19 42	57.4	-1.3
GOGA	Godfrey baz=222,SNR=11	21.63	36	P		P	19 42	57.8	-1.0
GOGA	Godfrey 41nm,1.2s	21.63	36	eP		P	19 42	58.2	-0.6
155A	Kite baz=225	21.65	39	P		P	19 42	57.6	-1.4
S40A	Lebanon baz=195,SNR=8.8	21.70	13	P		P	19 42	58.4	-1.1
WVT	Waverly baz=208	21.75	24	P		P	19 42	58.5	-1.5
T43A	Greenville baz=201,SNR=7.6	21.78	18	P		P	19 42	58.8	-1.5
V48A	Smith Brothers baz=211	21.83	26	P		P	19 42	58.6	-2.2
S41A	Jillco Farms, baz=197,SNR=8.7	21.86	14	P		P	19 43	00.1	-1.1
T44A	Benton baz=203	22.00	19	P		P	19 43	02.1	-0.5
R38A	Fenwick Farm, baz=191	22.01	10	P		P	19 43	01.2	-1.6
SDCO	Great Sand Dun baz=161	22.09	345	P		P	19 43	05.1	+1.1
SDCO	Great Sand Dun 8.8nm,1.0s	22.09	345	eP		P	19 43	05.6	+1.6
GLA	Glamis baz=134	22.16	321	P		P	19 43	08.2	+3.7
GLA	Glamis 14nm,0.8s	22.16	321	eP		P	19 43	07.0	+2.4
WUAZ	Wupatki baz=145	22.20	331	P		P	19 43	07.8	+2.7
WUAZ	Wupatki 33nm,1.3s	22.20	331	eP		P	19 43	07.9	+2.9
U47A	Clarksville baz=209,SNR=5.9	22.24	24	P		P	19 43	03.9	-1.3
S42A	Caledonia baz=199,SNR=7.3	22.28	16	P		P	19 43	04.6	-1.1
R39A	Chumby, Stover baz=193,SNR=12	22.29	11	P		P	19 43	04.9	-0.9
CBKS	Cedar Bluff baz=176	22.30	357	P		P	19 43	06.0	+0.1
CBKS	Cedar Bluff 47nm,1.4s	22.30	357	eP		P	19 43	07.2	+1.3
R40A	Maddies Statio baz=195,SNR=14	22.42	13	P		P	19 43	06.9	-0.3
CCM	Cathedral Cave baz=198	22.43	15	P		P	19 43	06.5	-0.8
S22A	4UR Ranch, Cre baz=158,SNR=7.7	22.45	342	P		P	19 43	09.3	+1.5
S22A	4UR Ranch, Cre 7.2nm,0.9s	22.45	342	eP		P	19 43	10.0	+2.2
MVCO	Mesa Verde baz=154,SNR=7.0	22.49	339	P		P	19 43	10.1	+1.8
MVCO	Mesa Verde 96nm,1.8s	22.49	339	eP		P	19 43	09.1	+0.9
T46A	Princeton baz=207,SNR=8.4	22.54	23	P		P	19 43	07.3	-1.1
FVM	French Village 23nm,0.8s	22.58	17	eP		P	19 43	09.8	+0.9
U48A	Cassie Pea, Po baz=211,SNR=8.8	22.60	26	P		P	19 43	08.5	-0.7
Q37A	Longview Farm, baz=190	22.61	8	P		P	19 43	09.0	-0.1
R41A	Rosebud baz=197	22.63	15	P		P	19 43	08.7	-0.7
S44A	Carbondale baz=203	22.66	19	P		P	19 43	09.7	0.0
IKP	In-Ko-Pah, Jac baz=131	22.69	318	P		P	19 43	15.4	+5.3
SWSC	Sam W. Stewart baz=132	22.69	319	P		P	19 43	12.6	+2.5
SIUC	Southern Illin 56nm,1.4s	22.69	19	eP		P	19 43	08.2	-1.8
R42A	Luebbering baz=199	22.76	16	P		P	19 43	09.9	-0.8
T47A	Sharon Grove baz=209,SNR=8.9	22.79	24	P		P	19 43	10.2	-0.9
Q38A	Cooks Store, C baz=192	22.81	10	P		P	19 43	10.8	-0.5
S45A	Carrier Mills baz=205	22.86	21	P		P	19 43	11.3	-0.6
R43A	Red Bud baz=201	22.99	17	P		P	19 43	12.7	-0.6
Q39A	Willow Grove F baz=193	23.01	11	P		P	19 43	12.7	-0.6
IRM	Iron Mountain baz=135	23.13	323	P		P	19 43	16.4	+1.6
Q24A	Divide baz=163	23.17	347	P		P	19 43	15.3	-0.1
Q24A	Divide 12nm,1.1s	23.17	347	eP		P	19 43	16.8	+1.4
T48A	Bowling Green baz=210,SNR=11	23.18	25	P		P	19 43	14.2	-0.9
TKL	Tuckaleechee C 41nm,1.2s,baz=203,slow=9.1,SNR=7.1	23.18	32	P		P	19 43	15.4	+0.2
TKL	Tuckaleechee C 167nm,1.7s	23.18	32	eP		P	19 43	15.4	+0.2
R44A	Waltonville baz=203	23.22	19	P		P	19 43	15.3	-0.2
Q41A	Truxton baz=197	23.29	14	P		P	19 43	15.2	-1.1
P37A	Lathrop baz=190	23.32	8	P		P	19 43	16.3	-0.2
PV01	Paradox Valley	23.35	340	eP		P	19 43	18.4	+1.2
U15A	North Rim 15nm,1.1s	23.37	331	eP		P	19 43	19.3	+1.8
NHSC	New Hope baz=229	23.40	42	P		P	19 43	15.1	-2.3
NHSC	New Hope 332nm,1.4s	23.40	42	eP		P	19 43	17.0	-0.4
Q42A	Golden Eagle baz=199	23.42	16	P		P	19 43	15.4	-2.2
USIN	University of 109nm,1.1s	23.44	22	eP		P	19 43	17.6	-0.2
P38A	Dawn baz=192	23.48	10	P		P	19 43	17.0	-1.2
P39B	Salisbury baz=193,SNR=6.4	23.48	11	P		P	19 43	17.0	-1.1
BELC	Belle Mtn. Jos	23.52	321	eP		P	19 43	20.5	+1.6
P40A	Paris baz=195,SNR=9.3	23.66	12	P		P	19 43	18.5	-1.4
Q43A	New Douglas baz=201	23.68	17	P		P	19 43	18.4	-1.7
O34A	Beatrice baz=184,SNR=5.8	23.68	3	P		P	19 43	19.4	-0.8
R46A	Gibon Southern baz=206	23.71	22	P		P	19 43	18.5	-2.0
S48A	Wiedeman Farm, baz=210,SNR=6.4	23.78	25	P		P	19 43	19.9	-1.3
SMCO	Snowmass 29nm,1.4s	23.82	343	eP		P	19 43	23.6	+1.6
Q44A	Meyer Farm, Va baz=202	23.84	18	P		P	19 43	20.8	-0.9
GMRC	Granite Mounta	23.88	323	eP		P	19 43	24.0	+1.7
O37A	Wolven Farm, M baz=190	23.92	8	P		P	19 43	21.4	-1.0
O38A	Galt baz=191	23.97	9	P		P	19 43	21.7	-1.2
TZTN	Tazewell 113nm,0.9s	23.99	31	eP		P	19 43	24.0	+0.8
P41A	Barry, Barry baz=197	24.01	14	P		P	19 43	21.8	-1.5
ISCO	Idaho Springs baz=163,SNR=14	24.07	346	P		P	19 43	25.2	+0.9
ISCO	Idaho Springs 22nm,1.3s	24.07	346	eP		P	19 43	25.6	+1.3
KNB	Kanab 11nm,1.1s	24.10	331	eP		P	19 43	25.3	+0.9
KMSC	Kings Mountain baz=223	24.10	36	P		P	19 43	23.2	-1.0
KMSC	Kings Mountain 52nm,1.3s	24.10	36	eP		P	19 43	25.2	+1.0
P42A	Winchester baz=199,SNR=9.1	24.10	16	P		P	19 43	23.3	-0.9
Q45A	Warren Harvey, baz=204	24.11	20	P		P	19 43	23.0	-1.2
R47A	Wooly Knot Far baz=209,SNR=19	24.15	23	P		P	19 43	23.8	-0.8
WCI	Wyandotte Cave baz=209	24.18	24	P		P	19 43	23.8	-1.1
WCI	Wyandotte Cave 49nm,1.0s	24.18	24	eP		P	19 43	24.9	0.0
O39A	Kirksville baz=194	24.26	11	P		P	19 43	24.8	-0.9
O40A	La Belle baz=195,SNR=12	24.26	12	P		P	19 43	25.0	-0.6
N36A	Muff Farm, Cla baz=188	24.46	6	P		P	19 43	25.9	-1.6
O41A	Passleys Farm, baz=197,SNR=11	24.47	14	P		P	19 43	26.3	-1.2
P44A	Sand Creek, Wi baz=203	24.48	19	P		P	19 43	26.9	-0.7
N37A	Lee Faris, Mou baz=190	24.49	8	P		P	19 43	25.2	-2.5
R48A	Northridge Ran baz=210	24.50	24	P		P	19 43	26.7	-1.1
OGNE	Ogallala baz=171	24.59	354	P		P	19 43	29.4	+0.6
MTPU	Mount Pierson 27nm,0.8s	24.66	333	eP		P	19 43	32.8	+3.1
N38A	Joes South For baz=192	24.66	10	P		P	19 43	29.1	-0.3
BFSC	Mount Baldy Ra	24.70	319	ePcP		PcP	19 47	09.8	+2.7
Q47A	Bedord North L baz=208	24.75	23	P		P	19 43	28.1	-2.0
P45A	Graceland, Par baz=205	24.81	20	P		P	19 43	30.1	-0.6
SHPR	Sheep Range 9.5nm,1.3s	24.86	327	eP		P	19 43	31.6	+0.3
N39A	Derby Farms, D baz=193,SNR=12	24.87	11	P		P	19 43	30.6	-0.6
GSC	Goldstone, Bar baz=134	24.91	322	P		P	19 43	34.3	+2.6
SRU	San Rafael Swe 13nm,0.9s	24.91	337	eP		P	19 43	33.0	+1.3
Q16A	Castle Valley 13nm,0.7s	24.99	336	eP		P	19 43	33.1	+0.6
PASC	Pasadena Art C	24.99	319	ePcP		PcP	19 47	09.3	+1.7
N41A	Harden Midland baz=197	25.04	14	P		P	19 43	32.3	-0.4
MSU	Marysvale	25.05	334	eP		P	19 43	35.5	+2.4
N40A	Mertquake, Sal baz=195	25.05	12	P		P	19 43	32.6	-0.2
O20A	White River Ci baz=157	25.07	342	P		P	19 43	34.3	+1.1
P46A	Rosedale baz=206	25.07	21	P		P	19 43	32.6	-0.4
SBI	Santa Barbara	25.11	316	eP		P	19 43	37.4	+4.0
SBI				ePcP		PcP	19 47	08.3	+0.4
M37A	Trindle Farm, baz=190	25.14	8	P		P	19 43	32.1	-1.5
N23A	Red Feather La baz=163	25.19	347	P		P	19 43	35.0	+0.6
N23A	Red Feather La 11nm,1.0s	25.19	347	eP		P	19 43	35.9	+1.5
P18A	Preston Nutter 18nm,0.9s	25.26	338	eP		P	19 43	37.6	+2.5
M38A	Pleasantville baz=192,SNR=12	25.28	9	P		P	19 43	34.4	-0.5
HDIL	Hopedale baz=200	25.29	17	P		P	19 43	33.5	-1.5
P17A	Butcher Ranch, 14nm,1.1s	25.31	337	eP		P	19 43	37.3	+2.0
TMUT	Trail Mountain 43nm,1.7s	25.33	336	eP		P	19 43	36.6	+0.9
EDW2	Edwards Air Fo baz=131	25.33	320	P		P	19 43	36.3	+0.8
N42A	Yates City baz=199	25.36	15	P		P	19 43	34.4	-1.1
ALPC	Antelope	25.40	319	ePcP		PcP	19 47	10.7	+2.1
O45A	Potomac baz=204,SNR=6.7	25.47	19	P		P	19 43	36.4	-0.2
PHWY	Pilot Hill 11nm,1.1s	25.48	348	eP		P	19 43	37.9	+0.8
M39A	Webster baz=194	25.51	11	P		P	19 43	36.3	-0.7
LRMC	Laurel Mtn Rad baz=133	25.55	321	P		P	19 43	40.4	+2.9
M40A	Post Highland baz=195	25.57	12	P		P	19 43	37.3	-0.2
OSI	Osito Audit: C	25.62	319	eP		P	19 43	36.1	-2.0
NCAT	North Carolina 25nm,0.9s	25.66	37	eP		P	19 43	38.4	0.0
N43A	Stutzman Famil baz=200,SNR=7.4	25.68	16	P		P	19 43	38.2	-0.3
M41A	Milan baz=197	25.75	14	P		P	19 43	38.6	-0.5
SCIA	State Center baz=191,SNR=6.3	25.76	9	P		P	19 43	39.2	0.0
SCIA	State Center 42nm,0.8s	25.76	9	eP		P	19 43	39.1	-0.1
TPNV	Topopah Spring baz=137	25.77	326	P		P	19 43	42.8	+3.2
SFIN	Lafayette baz=205	25.80	20	P		P	19 43	38.8	-0.7
SFIN	Lafayette 39nm,1.1s	25.80	20	eP		P	19 43	39.5	0.0
MPMC	Manual Prospec baz=134	25.83	323	P		P	19 43	42.6	+2.4
N44A	Piper City baz=203	25.85	18	P		P	19 43	39.2	-0.9
L37A	Phoenix Point, baz=190	25.89	8	P		P	19 43	40.1	-0.3
O47A	Sheridan baz=207	25.99	22	P		P	19 43	40.3	-1.0
SDDR	Presa de Saban 38nm,1.3s	26.00	80	eP		P	19 43	42.4	+0.7
L38A	Oak Wood Farm, baz=192,SNR=6.9	26.02	9	P		P	19 43	41.6	0.0
N45A	Kentland baz=204	26.09	19	P		P	19 43	41.8	-0.4
L39A	Vinton baz=194,SNR=5.8	26.17	11	P		P	19 43	42.6	-0.3
M43A	Waltham Townsh baz=201	26.20	16	P		P	19 43	42.2	-1.1
NLU	North Lily Min 19nm,1.5s	26.23	336	eP		P	19 43	45.4	+1.5
L40A	Anamosa baz=195	26.26	12	P		P	19 43	42.8	-1.0
N46A	Monticello baz=206	26.38	20	P		P	19 43	44.1	-0.7
M44A	Midewin, Midew baz=203	26.42	18	P		P	19 43	43.9	-1.3
L41A	Preston baz=197,SNR=6.2	26.43	13	P		P	19 43	44.4	-0.8
K37A	Belmond baz=190	26.54	8	P		P	19 43	45.1	-1.1
L42A	Oliver, Polo baz=199	26.55	15	P		P	19 43	45.4	-1.0
VES	Vestal, Richgr baz=131	26.64	320	P		P	19 43	50.6	+3.3
DUG	Dugway, Tooele baz=148	26.73	335	P		P	19 43	50.2	+1.9
DUG	Dugway, Tooele 8.8nm,1.0s	26.73	335	eP		P	19 43	49.9	+1.6
K39A	Oelwein baz=194	26.75	11	P		P	19 43	47.1	-1.1
K40A	Colesburg baz=195,SNR=6.9	26.89	12	P		P	19 43	48.5	-1.0
L43A	Garden Prairie baz=200	26.96	16	P		P	19 43	49.4	-0.6
M46A	Old House Fiel baz=206	26.97	20	P		P	19 43	49.1	-1.0
K41A	Shullsburg baz=197	26.98	13	P		P	19 43	49.4	-0.8
TCUT	Toone Canyon 16nm,0.9s	26.99	338	eP		P	19 43	52.5	+1.8
J37A	Redenius Farm, baz=190	27.09	8	P		P	19 43	50.3	-0.9
ECSD	EROS Data Cent baz=184	27.23	3	P		P	19 43	52.2	-0.3
ECSD	EROS Data Cent 7.1nm,0.9s	27.23	3	eP		P	19 43	52.9	+0.4
ACSO	Alum Creek Sta baz=214,SNR=6.2	27.24	27	P		P	19 43	51.7	-0.9
ACSO	Alum Creek Sta 40nm,0.9s	27.24	27	eP		P	19 43	52.1	-0.5
J38A	Wedel Dairy, R baz=192	27.25	10	P		P	19 43	51.8	-0.9
JFWS	Jewell Farm baz=197	27.28	13	P		P	19 43	51.9	-1.0
JFWS	Jewell Farm 21nm,1.0s	27.28	13	eP		P	19 43	53.1	+0.1
K42A	Prairie Point, baz=199	27.36	15	P		P	19 43	53.3	-0.4
J39A	Decorah baz=194	27.40	11	P		P	19 43	52.9	-1.1
J41A	Logansville baz=197	27.77	13	P		P	19 43	56.3	-1.0
MDPB	Devils Postpil	27.84	323	esP		sP	19 44	06.5	+6.0
BW06	Boulder Array baz=156,SNR=10	27.88	342	P		P	19 43	59.9	+1.3
BW06	Boulder Array 14nm,1.3s	27.88	342	eP		P	19 43	59.5	+0.9
PD31	Pinedale Array	27.88	342	eP		P	19 43	59.9	+1.3
PDAR	Pinedale Array 3.5nm,0.8s,baz=134,slow=8.5,SNR=23	27.88	342	P		P	19 43	59.8	+1.1
PDAR	comp=Z,263nm,20.9s,baz=28,slow=39			LR		LR	19 56	24.1	
PDAR	Pinedale Array	27.88	342	eP		P	19 43	59.2	+0.6
NV11	Mina Array Sit 0.7nm,1.4s	27.89	326	eP		P	19 44	01.2	+2.5
J42A	Columbus baz=199	27.93	15	P		P	19 43	58.0	-0.7
I39A	Houston baz=194	27.93	11	P		P	19 43	58.1	-0.7
NV01	Mina Array Sit	27.97	325	eP		P	19 44	01.6	+2.1
NVAR	Mina Array Bea 2.7nm,0.9s,baz=148,slow=7.0,SNR=10.0	27.97	325	P		P	19 44	01.4	+1.9
RSSD	Black Hills baz=168	27.97	351	P		P	19 44	00.0	+0.6
I38A	Scanlan Farm, baz=192	27.98	9	P		P	19 43	58.6	-0.6
SDV	Santo Domingo 8.3nm,0.7s,baz=266,slow=4.3,SNR=11	28.16	102	P		P	19 44	02.5	+1.2
SDV	Santo Domingo 8.8nm,0.8s	28.16	102	eP		P	19 44	03.7	+2.4
J43A	Natural Harves baz=200	28.16	16	P		P	19 44	00.4	-0.5
H36A	Jessenland, He baz=189	28.29	7	P		P	19 44	01.6	-0.3
I42A	Draeger Farm, baz=199	28.52	15	P		P	19 44	03.4	-0.6
H38A	Maiden Rock baz=192	28.61	9	P		P	19 44	03.9	-0.9
I43A	Langenfeld Bro baz=201	28.70	16	P		P	19 44	04.4	-1.3
H39A	Augusta baz=194	28.77	11	P		P	19 44	05.1	-1.2
REDW	Red Top Meadow 8.2nm,1.1s	28.81	341	eP		P	19 44	08.4	+1.5
H40A	Chili baz=196	28.89	12	P		P	19 44	05.9	-1.4
LOHW	Long Hollow 7.7nm,0.9s	28.96	342	eP		P	19 44	09.5	+1.3
H41A	Junction City baz=197	29.04	13	P		P	19 44	07.6	-1.0
H41A	Junction City 26nm,1.1s	29.04	13	eP		P	19 44	08.8	+0.1
SPMN	Marine on St. baz=191	29.07	8	P		P	19 44	07.9	-1.0
FXWY	Fox Creek 5.4nm,0.9s	29.11	341	eP		P	19 44	11.2	+1.6
MOOW	Moose Ponds 4.5nm,0.8s	29.13	342	eP		P	19 44	11.0	+1.3
G38A	Ridgeland baz=193	29.15	10	P		P	19 44	08.4	-1.3
G39A	Holcombe baz=194	29.38	11	P		P	19 44	10.3	-1.4
G40A	Rib Lake baz=196	29.55	12	P		P	19 44	11.4	-1.8
F36A	Milaca baz=189	29.60	7	P		P	19 44	12.6	-1.0
G42A	Mountain baz=199	29.91	14	P		P	19 44	15.0	-1.3
F38A	Pierce - Schro baz=192	29.92	9	P		P	19 44	15.3	-1.1
RLMT	Red Lodge baz=159,SNR=7.3	29.98	345	P		P	19 44	18.2	+1.0
RLMT	Red Lodge 18nm,1.4s	29.98	345	eP		P	19 44	19.2	+2.0
F39A	Loretta baz=194	30.04	11	P		P	19 44	16.6	-0.9
G43A	Wallace baz=201	30.10	15	P		P	19 44	18.1	0.0

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
YHH	Holmes Hill	30.11	342	eP	P	19 44 20.6	+2.1
	3.0nm,0.9s						
F40A	Park Falls	30.19	12	P	P	19 44 17.4	-1.4
	baz=196						
HLID	Hailey	30.22	337	P	P	19 44 21.5	+2.2
	baz=148						
HLID	Hailey	30.22	337	eP	P	19 44 21.6	+2.3
	22nm,1.9s						
E40A	Wakefield	30.73	12	P	P	19 44 22.7	-1.0
	baz=196						
D35A	Remer	30.75	6	P	P	19 44 22.6	-1.2
	baz=188						
F43A	Flat Rock, Esc	30.77	16	P	P	19 44 22.8	-1.1
	baz=201						
LAO	LASA Array	30.82	350	P	P	19 44 24.2	-0.3
	baz=165						
E41A	Kenton	30.94	13	P	P	19 44 24.0	-1.4
	baz=198						
BOZ	Bozeman (W)	31.07	342	P	P	19 44 28.2	+1.4
	baz=155						
BOZ	Bozeman (W)	31.07	342	eP	P	19 44 28.8	+2.0
	9.3nm,1.4s						
F45A	CMU Biological	31.09	18	P	P	19 44 25.8	-0.9
	baz=204						
F44A	Big Bay de Noc	31.10	16	P	P	19 44 25.4	-1.4
	baz=202						
WVOR	Wild Horse Val	31.12	330	eP	P	19 44 27.9	+0.6
	17nm,1.6s						
E42A	Champion	31.15	14	P	P	19 44 27.0	-0.3
	baz=200						
DLMT	Dillon	31.16	341	eP	P	19 44 30.0	+2.4
	15nm,1.2s						
E43A	Lone Tree Farm	31.32	15	P	P	19 44 26.4	-2.4
	baz=201						
C35A	Jirik Farms, M	31.37	6	P	P	19 44 28.2	-1.0
	baz=188						
LRM	Limekiln Ridge	31.52	341	eP	P	19 44 32.1	+1.2
C36A	Pine Crest Far	31.55	7	P	P	19 44 30.2	-0.6
	baz=190						
D41A	Chassel	31.60	13	P	P	19 44 30.0	-1.2
	baz=198						
J08A	Circle Bar Ran	31.76	332	eP	P	19 44 34.9	+2.1
	9.2nm,0.8s						
AGMN	Agassiz Nation	31.82	3	P	P	19 44 32.2	-1.0
	baz=184						
EYMN	Ely	31.92	9	P	P	19 44 32.6	-1.4
	baz=192						
B35A	Bob, Littlefor	32.05	6	P	P	19 44 33.7	-1.5
	baz=188						
B34A	Aery, Baudette	32.09	5	P	P	19 44 33.3	-2.2
	baz=187						
M02C	Callahan	32.54	325	P	P	19 44 41.7	+2.0
	baz=132						
L02D	Cave Junction,	33.47	325	P	P	19 44 49.6	+1.9
	baz=132						
ULM	Lac du Bonnet	33.77	3	P	P	19 44 48.9	-1.3
	1.5nm,0.6s,baz=221,slow=7.1,SNR=3.4						
FFC	Flin Flon	38.28	357	eP	P	19 45 29.1	+0.4
	17nm,1.0s						
EDM	Edmonton	38.50	346	eP	P	19 45 31.4	+0.8
	22nm,1.1s						
SCHQ	Schefferville	45.38	25	P	P	19 46 26.6	-0.3
	9.4nm,0.8s,baz=217,slow=4.2,SNR=6.3						
SCHQ	Schefferville	45.38	25	eP	P	19 46 27.0	+0.1
	12nm,0.9s						
YKA	Yellowknife Ar	47.36	350	P	P	19 46 42.2	0.0
	3.1nm,0.8s,baz=158,slow=7.3,SNR=28						
YKB5	Yellowknife Ar	47.36	350	eP	P	19 46 42.2	0.0
INK	Inuvik	56.39	345	P	P	19 47 49.3	-0.3
	3.9nm,0.8s,baz=136,slow=7.1,SNR=14						
INK	Inuvik	56.39	345	eP	P	19 47 50.6	+1.1
	7.4nm,0.9s						
RIDG	Independ'e Rid	56.86	337	eP	P	19 47 55.7	+2.6
	16nm,1.2s						
IL1	Eielson Array	58.17	338	eP	P	19 48 03.8	+1.5
ILAR	Eielson Array	58.17	338	P	P	19 48 02.6	+0.4
	3.9nm,1.1s,baz=142,slow=4.2,SNR=15						
ILB	Eielson Array	58.17	338	eP	P	19 48 03.8	+1.5
RND	Reindeer	58.21	336	eP	P	19 48 03.6	+1.0
	24nm,1.5s						
RES	Resolute Bay	58.26	1	LR	LR	20 15 03.6	
	comp=Z,193nm,21.4s,baz=22,slow=38						
CPUP	Villa Florida	58.38	136	P	P	19 48 02.2	-2.0
	2.0nm,1.0s,baz=28,slow=1.3,SNR=4.4						
CPUP	Villa Florida	58.38	136	eP	P	19 48 02.2	-2.0
	14nm,1.7s						
SPU	Mount Spurr	58.51	333	eP	P	19 48 05.5	+0.7
TRF	Thorofare Moun	58.79	336	eP	P	19 48 07.7	+0.8
	13nm,0.9s						
CAST	Castle Rocks	59.50	335	eP	P	19 48 13.5	+2.0
	8.8nm,1.0s						
MLY	Manley	59.72	337	eP	P	19 48 15.5	+2.4
	27nm,1.7s						
TOLK	Toolik Lake Re	61.13	341	P	P	19 48 22.1	-0.5
	baz=121						
PLCA	Paso Flores	62.53	156	P	P	19 48 32.6	+0.2
	2.6nm,0.7s,baz=356,slow=6.3,SNR=6.9						
SUMG	Summit	65.60	17	eP	P	19 48 54.4	+1.8
	9.3nm,0.9s						
EKA	Eskdalemuir Ar	79.61	35	P	P	19 50 14.3	-1.5
	2.2nm,0.9s,baz=289,slow=4.4,SNR=3.0						
SEY	Seymchan	83.89	334	P	P	19 50 38.5	+0.2
	3.1nm,0.3s,baz=52,slow=21,SNR=5.2						
TIXI	Tiksi	86.49	347	P	P	19 50 52.3	+1.1
	1.2nm,0.8s,baz=12,slow=4.4,SNR=8.6						
DBIC	Dimbokro	91.58	83	P	P	19 51 15.8	-0.5
	3.5nm,1.0s,baz=280,slow=14,SNR=3.3						
LZH	Lanzhou	123.63	338	ePKP	PKPdf	19 57 05.5	-1.6
LZH				pPKP	sPKPdf	19 57 14.1	+4.8
LZH				sPKP		19 57 19.7	
LZH				LR	LR		
	comp=N,78nm,16.3s						
LZH				LR	LR		
	comp=E,56nm,16.7s						
LZH				LR	LR		
	comp=Z,52nm,17.6s						
WR1	Warramunga Arr	129.88	258	ePKPdf	PKPdf	19 57 18.2	-0.9
WRA	Warramunga Arr	129.88	258	PKP	PKPdf	19 57 18.2	-0.9
	comp=Z,0.7nm,0.9s,baz=85,slow=2.5,SNR=6.9						
ASAR	Alice Springs	130.51	253	PKP	PKPdf	19 57 20.4	+0.1
	comp=Z,0.4nm,0.8s,baz=109,slow=2.5,SNR=4.4						
CMAR	Chiang Mai Arr	141.30	333	PKP	PKPdf	19 57 39.9	-0.5
	comp=Z,0.4nm,0.9s,baz=359,slow=1.8,SNR=4.2						

*IDC **02** 19:44:22.1±1.7, 0°.47N×125°.03E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.1/57, mbtmp3.2/3, Error ellipse: s-maj=119.1km s-min=23.7km az=67.0*
*ISCJB **02** 19:44:32.5±1.2, 0°.5N±0°.1×125°.71E±0°.07, h73km, mb3.1/3, Error ellipse: s-maj=17.3km s-min=6.7km az=26.2*
*DJA **02** 19:44:33.0±0.6, 1°N±3°×12°6E±°, h64km±28km, M3.1/6, MLv3.1/6*
ISC 02 19:44:31.5±1.2, **0°.6N**±0°.1×**125°.72E**±0°.07, **h73**km, **n9**, σ**2s.42**/12, **mb3.2**/3, **Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KMSI	Cibinong	1.74	270	P	Pn	19 45 01.3	+1.6
KMSI				S	Sn	19 45 23.4	+2.3
LBMI	Labuha	2.15	124	P	Pn	19 45 07.4	+2.1
LBMI				S	Sn	19 45 32.6	+1.4
SANI	Sanana	2.62	174	P	Pn	19 45 13.3	+1.6
SANI				S	Sn	19 45 42.8	+0.3
MRSI	Marisa	3.78	269	P	Pn	19 45 28.8	+1.4
NLAI	Namlea	4.04	160	P	Pn	19 45 31.9	+1.0
FITZ	Fitzroy Crossi	18.56	180	P	P	19 48 37.5	-5.2
	baz=270,slow=20						
WRA	Warramunga Arr	22.07	158	P	P	19 49 20.2	-0.5
	0.6nm,0.7s,baz=336,slow=11,SNR=8.8						
ASAR	Alice Springs	25.38	162	P	P	19 49 53.6	+1.5
	0.3nm,0.6s,baz=340,slow=10.0,SNR=5.4						
MKAR	Makanchi Array	59.59	327	P	P	19 54 25.8	-2.0
	0.1nm,0.4s,baz=124,slow=9.0,SNR=2.9						

MAN 02 19:47:41, 12°.40N×123°.69E, h5km, mb3.9, ML2.6, MS2.2, 2D, Luzon

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MMPH	Masbate	0.07	238⇓	iP	Pg	19 47 44.0	+1.4
MMPH				i S	Sg	19 47 45.5	+1.7
CNP	Catarman	0.96	83	eP	Pn	19 48 00.7	-0.5
CNP				eS	Sn	19 48 15.7	+0.5
RCP	Roxas	1.24	228⇓	eP	Pn	19 48 05.2	+0.1
RCP				eS	Sb	19 48 21.5	+0.2

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GUIM	Jordan	2.06	212	eP	Pb	19 48 18.1	-0.9
GUIM				eS	Sn	19 48 26.1	-16

GUC 02 19:49:59.4±0.5, **24°.13S**×**67°.66W**, **h222**km±10km, **ML3.9**, **4C-1D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GO02	Mina Guanaco	2.04	239⇑	iP	Pn	19 50 41.7	+1.5
GO02				i S	S	19 51 14.4	+2.4
GO02				IAML		19 51 15.0	
	comp=N,446nm,0.2s						
PB06	IPOC Station P	2.25	308⇑	iP	Pn	19 50 44.4	+2.0
PB06				i S	S	19 51 17.7	+2.1
PB06				IAML		19 51 20.1	
	comp=N,366nm,0.1s						
PB14	IPOC Station P	2.55	258⇑	iP	Pn	19 50 47.8	+2.3
PB14				i S	S	19 51 23.7	+2.3
PB14				IAML		19 51 26.1	
	comp=E,143nm,0.1s						
ANCH	Antofagasta	2.56	279⇓	iP	Pn	19 50 55.4	+10
ANCH				i S	S	19 51 32.7	+12
PB10	IPOC Station P	2.72	282	eP	Pn	19 50 50.3	+3.2
PB10				eS	S	19 51 28.9	+4.7
PB10				IAML		19 51 34.4	
	comp=N,258nm,0.4s						
PB09	IPOC Station P	2.74	328	eP	Pn	19 50 49.2	+1.7
PB09				i S	S	19 51 27.4	+2.3
PB09				IAML		19 51 27.8	
	comp=E,379nm,0.3s						
PB04	IPOC Station P	2.90	307	eP	Pn	19 50 51.6	+2.3
PB04				i S	S	19 51 30.7	+2.5
PB04				IAML		19 51 34.6	
	comp=N,134nm,0.1s						
PB07	IPOC Station P	3.15	319⇑	iP	Pn	19 50 54.1	+1.9
PB07				i S	S	19 51 35.2	+1.9
PB02	IPOC Station P	3.47	323	eP	Pn	19 50 58.1	+2.2
PB02				i S	S	19 51 43.0	+3.0

PRU 02 19:52:55.3, 50°.11N×19°.15E, h0km, Poland

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LANS	Liptovska Anna	0.98	168	ePG	Pg	19 53 13.2	-0.9
LANS				eSG	Sg	19 53 26.5	-0.3
KRLC	Kraliky	1.53	270	eSG	Sg	19 53 42.7	-1.6
DPC	Dobruska-Polom	1.83	279	eSG	Sb	19 53 53.2	0.0

*IDC **02** 19:54:29.9±1.4, 37°.96N×142°.85E, h0km, mb3.9/7, mb1 3.9/11, mb1mx3.6/63, mbtmp3.9/11, ML3.6/3, Error ellipse: s-maj=39.7km s-min=17.9km az=78.0*
*ISCJB **02** 19:54:31.1±0.5, 37°.92N±0°.04×142°.72E±0°.06, h18km, mb4.4/12, Error ellipse: s-maj=6.3km s-min=6.3km az=30.3*
*JMA **02** 19:54:32.9±0.2, 37°.88N×142°.58E, h33km±3km, M3.9*
*NEIC **02** 19:54:33.6±3.0, 37°.94N×142°.81E, h25km±21km, mb5.0/6, Error ellipse: s-maj=12.4km s-min=8.6km az=103.0*
ISC 02 19:54:32.8±0.8, **37°.96N**±0°.06×**142°.68E**±0°.07, **h18**km, **n46**, σ**1s.52**/45, **mb4.5**/12, **Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JIO	Ouri	1.16	295	P	Pn	19 54 53.0	-1.0
JIO				S	Sb	19 55 06.0	-2.8
OFUJ	Ofunato	1.37	325	P	Pn	19 54 56.6	-0.3
JMM	Marumori	1.49	267	P	Pn	19 54 57.0	-1.7
JMM				S	Sn	19 55 15.8	-1.9
JMK	Ichinoseki	1.51	311	P	Pn	19 54 58.7	-0.2
JFK	Kawauchi	1.55	248	P	Pn	19 54 57.4	-2.1
JOU	Okura	1.64	285	P	Pn	19 55 00.1	-0.6
JOM	Ohasama	1.86	325	P	Pn	19 55 04.2	+0.5
JOM				eS	Sn	19 55 28.0	+1.3
JFT	Otama	1.91	257	P	Pn	19 55 03.5	-0.9
JYK	Kaneyama	2.05	298	P	Pn	19 55 06.6	+0.2
JYS	Shirataka	2.08	278	P	Pn	19 55 06.5	-0.2
JYS				eS	Sn	19 55 31.2	-0.9
JRG	Rokugo	2.15	312	P	Pn	19 55 09.0	+1.3
JAG	Ashikaga	3.00	240	P	Pn	19 55 18.7	-0.7
MJAR	Matsushiro Arr	3.84	250	Pn	Pn	19 55 32.4	+1.4
	2.5nm,0.3s,baz=77,slow=17,SNR=24						
MAJO	Matsushiro	3.84	250	ePn	Pn	19 55 31.9	+1.0
MAT	Matsushiro	3.84	250	P	Pn	19 55 33.0	+2.0
MAT				S	Sn	19 56 19.5	+3.9
MJB9	Matsu-Tunnel	3.84	250	ePn	Pn	19 55 32.2	+1.2
JHJ	Hachijo jima 2	5.38	207	Pn	Pn	19 55 51.6	-0.5
	6.7nm,0.3s,baz=99,slow=23,SNR=15						
ASAJ	Asahikawa	6.15	359	Pn	Pn	19 56 03.6	+1.0
	1.4nm,0.3s,baz=210,slow=12,SNR=24						
USRK	Ussuriysk Ar.	10.19	311	Pn	Pn	19 57 00.8	+2.8
	0.2nm,0.3s,baz=121,slow=15,SNR=3.4						
H11N2	WAKE ISLAND Hy	27.80	124	T	T	20 29 37.1	
	baz=316,slow=75,SNR=58						
H11N1	WAKE ISLAND Hy	27.80	124	T	T	20 29 37.7	
	baz=316,slow=75,SNR=45						
H11N3	WAKE ISLAND Hy	27.82	124	T	T	20 29 36.7	
	baz=316,slow=75,SNR=39						
SONA0	Songino Array	28.12	302	eP	P	20 00 24.4	+0.7
SONM	Songino Array	28.12	302	P	P	20 00 24.4	+0.7
	0.9nm,0.7s,baz=115,slow=8.1,SNR=6.7						
H11S1	WAKE ISLAND Hy	28.56	126	T	T	20 30 31.5	
	baz=317,slow=76,SNR=17						
H11S3	WAKE ISLAND Hy	28.56	126	T	T	20 30 38.8	
	baz=317,slow=76,SNR=12						
H11S2	WAKE ISLAND Hy	28.57	126	T	T	20 30 36.1	
	baz=317,slow=76,SNR=12						
ZAA1	Zalesovo Array	42.04	312	eP	P	20 02 23.9	+0.9
ZALV	Zalesovo Beam	42.04	312	P	P	20 02 23.9	+0.9
	1.5nm,0.5s,baz=79,slow=7.3,SNR=5.9						
MK31	Makanchi Array	44.48	302	eP	P	20 02 44.0	+1.1
MK32	Makanchi Array	44.48	302	eP	P	20 02 43.0	+0.1
MKAR	Makanchi Array	44.48	302	P	P	20 02 43.0	+0.1
	0.6nm,0.7s,baz=88,slow=9.3,SNR=9.3						
MKAR	Makanchi Array	44.48	302	eP	P	20 02 44.0	+1.1
	4.1nm,0.6s						
KURK	Kurchatov	46.16	308	eP	P	20 02 57.1	+1.1
KURBB	Kurchatov Arra	46.23	307	P	P	20 02 57.1	+0.5
	3.0nm,0.6s,baz=81,slow=8.0,SNR=30						
AB31	Akbulak array	58.11	310	eP	P	20 04 25.6	+0.7
ABKAR	Akbulak array	58.11	310	eP	P	20 04 25.6	+0.7
WR1	Warramunga Arr	58.13	189	eP	P	20 04 24.9	-0.4
	28nm,2.0s						
WRA	Warramunga Arr	58.13	189	P	P	20 04 24.9	-0.4
	0.4nm,0.6s,baz=6.7,slow=7.3,SNR=14						
ASAR	Alice Springs	61.86	189	P	P	20 04 52.1	+1.2
	0.2nm,0.7s,baz=25,slow=9.1,SNR=4.4						
FIA0	FINESS Array S	68.46	332	eP	P	20 05 33.2	-0.1
FINES	FINESS Array B	68.46	332	P	P	20 05 33.2	-0.1
	3.4nm,1.0s,baz=17,slow=10,SNR=3.2						
LAO	LASA Array	75.61	42	eP	P	20 06 12.2	-4.4
	15nm,0.8s						
LCMT	Little Creek M	77.68	53	eP	P	20 06 26.0	-2.5
	9.3nm,0.6s						
RWWY	Rawlins	78.33	46	eP	P	20 06 33.3	+1.1
	26nm,1.0s						
ACSO	Alum Creek Sta	91.65	33	eP	P	20 07 37.9	-1.0
	63nm,1.5s						

*CSEM **02** 19:54:46.7±0.3, 50°.33N×18°.76E, h2km, Error ellipse: s-maj=7.4km s-min=3.0km az=5.0*
PRU 02 19:54:47.8, 50°.24N×18°.77E, h0km, Poland

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CHZP	Chorzow	0.15	70	ePg	Pg	19 54 49.9	-0.8
CHZP				eSg	Sg	19 54 52.4	-0.2
OKC	Ostrava-Krasne	0.57	225	ePG	Pb	19 54 59.7	-0.9
OKC				eSG	Sb	19 55 08.7	-0.6
OKC	Ostrava-Krasne	0.57	225	Pg	Pb	19 54 59.7	-0.9
OKC				Sg	Sb	19 55 08.7	-0.6
OJC	Ojcow	0.66	91	ePg	Pg	19 54 59.9	-0.6
OJC				eSg	Sg	19 55 09.3	+0.3
OJC	Ojcow	0.66	91	ePg	Pg	19 54 59.9	-0.5
OJC				eSg	Sg	19 55 09.3	+0.3
MORC	Moravsky Berou	0.92	240	ePg	Pg	19 55 05.2	-0.2
MORC				eSg	Sb	19 55 18.4	-1.0
LANS	Liptovska Anna	1.18	157	ePg	Pg	19 55 10.3	-0.1
LANS				eSg	Sb	19 55 26.4	-0.5
LANS	Liptovska Anna	1.18	157	ePG	Pg	19 55 10.3	-0.1
LANS				eSG	Sb	19 55 26.4	-0.5
NIE	Niedzica	1.29	129	ePg	Pg	19 55 12.6	+0.2
NIE				eSg	Sn	19 55 31.0	0.0
NIE	Niedzica	1.29	129	ePg	Pg	19 55 12.6	+0.1
NIE				eSg	Sn	19 55 31.0	0.0
KRLC	Kraliky	1.29	263	ePG	Pg	19 55 11.5	-1.0
KRLC				eSG	Sg	19 55 28.5	-0.7
KRLC	Kraliky	1.29	263	Pg	Pg	19 55 11.5	-1.0
KRLC				Sg	Sg	19 55 28.5	-0.7
DPC	Dobruska-Polom	1.57	275	ePG	Pn	19 55 16.1	-0.9
DPC				eSG	Sn	19 55 37.6	-0.5
DPC	Dobruska-Polom	1.57	275	Pg	Pn	19 55 16.1	-0.9
DPC				Sg	Sn	19 55 37.6	-0.5
VRAC	Vranov	1.69	237	ePn	Pn	19 55 18.9	+0.3
VRAC				eSg	Sb	19 55 41.7	+0.1
VYHS	Vyhne	1.75	179	ePg	Pn	19 55 18.3	-1.1
VYHS	Vyhne	1.75	179	ePG	Pn	19 55 18.3	-1.1
VYHS				eSG	Sn	19 55 40.8	-1.6
VYHS				eLG	Lg	19 55 45.0	
KHC	Kasperske Hory	3.55	254	eSG	Sg	19 56 40.9	-0.9
KHC	Kasperske Hory	3.55	254	Sg	Sg	19 56 40.9	-0.9

*CSEM **02** 19:56:08.7±0.3, 50°.29N×18°.86E, h1km, Error ellipse: s-maj=5.9km s-min=2.8km az=2.0*
PRU 02 19:56:09.6, 50°.27N×18°.86E, h0km, Poland

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CHZP	Chorzow	0.09	76	ePg	Pg	19 56 11.0	-0.3
CHZP				eSg	Sg	19 56 12.3	-0.1
OJC	Ojcow	0.60	94	ePg	Pg	19 56 20.4	-0.8
OJC				eSg	Sg	19 56 29.1	+0.1
OJC	Ojcow	0.60	94	ePg	Pg	19 56 20.4	-0.8
OJC				eSg	Sg	19 56 29.1	+0.1
OKC	Ostrava-Krasne	0.63	227	eSG	Sb	19 56 31.5	-1.4
OKC	Ostrava-Krasne	0.63	227	Sg	Sb	19 56 31.5	-1.4
MORC	Moravsky Berou	0.98	240	ePg	Pg	19 56 27.9	-0.5
MORC				eSg	Sg	19 56 41.1	0.0
LANS	Liptovska Anna	1.19	160	ePg	Pg	19 56 31.8	-0.5
LANS				eSg	Sg	19 56 47.3	-0.4
LANS	Liptovska Anna	1.19	160	ePG	Pg	19 56 31.8	-0.5
LANS				eSG	Sg	19 56 47.3	-0.4
KRLC	Kraliky	1.35	262	eSG	Sg	19 56 52.9	-0.1
KRLC	Kraliky	1.35	262	Sg	Sg	19 56 52.9	-0.1
DPC	Dobruska-Polom	1.63	274	ePG	Pn	19 56 39.9	+0.3
DPC				eSG	Sn	19 57 01.2	-0.1
DPC	Dobruska-Polom	1.63	274	Pg	Pn	19 56 39.9	+0.3
DPC				Sg	Sn	19 57 01.2	-0.1
VRAC	Vranov	1.76	238	eSg	Sn	19 57 04.5	+0.1
VYHS	Vyhne	1.78	181	eSn	Sn	19 57 04.0	-0.9
VYHS	Vyhne	1.78	181	eSN	Sn	19 57 04.0	-0.9
KHC	Kasperske Hory	3.61	254	eSG	Sg	19 58 04.2	-1.4
KHC	Kasperske Hory	3.61	254	Sg	Sg	19 58 04.2	-1.4

*ISCJB **02** 19:59:28.1±1.1, 39°.57N±0°.08×45°.06E±0°.09, h10km, Error ellipse: s-maj=14.2km s-min=4.9km az=40.7*
*ATA **02** 19:59:28.8±1.8, 39°.70N×44°.91E, h17km±19km, ML3.0, MW3.2*
*TEH **02** 19:59:29.6, 39°.45N×44°.74E, h10km, ML2.6*
ISC 02 19:59:27.9±1.3, **39°.63N**±0°.08×**44°.98E**±0°.06, **h10**km, **n11**, σ**0s.95**/14, **Iran-Armenia-Azerbaijan border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
IGDI	IGDIR	0.73	289	eP	Pb	19 59 42.5	-0.3
IGDI				eS	Sb	19 59 52.5	-0.5
IGDI				IAML		19 59 54.7	
	comp=Z,44nm,0.2s						
DYDN	Diyadin	1.00	265	eP	Pb	19 59 47.8	+0.2
DYDN				eS	Sn	20 00 02.3	-0.2
DYDN				IAML		20 00 10.8	
	comp=Z,19nm,0.4s						
IMRD	Marand	1.08	148	ePg	Pb	19 59 48.6	-0.2
IMRD				eAMB	AMB	20 00 04.9	
	comp=Z,7μm,0.1s						
ISHB	Shabestar	1.44	160	ePg	Pn	19 59 54.0	-0.3
ISHB				eSg	Sn	20 00 11.8	-1.5
ISHB				eAMB	AMB	20 00 15.6	
	comp=Z,2μm,0.2s						
DIGO	Kars	1.46	303	eP	Pn	19 59 53.6	-1.0
EAK	Akyaka	1.49	315	eP	Pg	19 59 57.2	+0.7
ITBZ	Tabriz	1.67	147	ePn	Pn	19 59 58.6	+1.2
ITBZ				eAMB	AMB	20 00 21.7	
	comp=N,1μm,0.1s						
TUTA	Tutak	1.69	263	eP	Pb	19 59 59.3	0.0
TUTA				eS	Sg	20 00 24.3	+2.0
TUTA				IAML		20 00 30.2	
	comp=Z,12nm,0.6s						
EATA	Eleskirt	1.93	278	eP	Pg	20 00 05.0	0.0
EKAR	Karacoban	2.29	261	eP	Pg	20 00 11.4	-0.4
IBST	Bostanabad	2.44	142	eAMB	AMB	20 00 16.6	
	comp=Z,99nm,0.2s						

NEIC 02 20:03:37.5±0.0, **51°.65N**×**175°.28W**, **h37**km, **ML3.5**(AEIC), **After AEIC., Andreanof Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GSTD	Great Sitkin T	0.68	308	P	Pn	20 03 51.4	+0.6
GSTD				S	Sn	20 04 01.2	+1.1
ETKA	Kagalaska Isla	0.73	287	P	Pn	20 03 51.4	0.0
ETKA				S	Sn	20 04 01.8	+0.4
ADAG	Mount Adagdak	0.89	293	P	Pn	20 03 54.6	+1.1
KOKL	Mount Kliuchef	0.95	44	P	Pn	20 03 54.6	+0.2
KOWE	Korovin West	0.96	41	P	Pn	20 03 55.1	+0.6
KOWE				S	Sn	20 04 08.1	+1.2
KOFP	Korovin Flat P	0.96	49	P	Pn	20 03 54.8	+0.2
KIRH	Kanaga Island	1.16	283	P	Pn	20 03 57.7	+0.6
KINC	Kanaga Island	1.19	285	P	Pn	20 03 58.2	+0.6
TAPA	Tanaga Point A	1.59	277	P	Pn	20 04 03.8	+0.7
TAPA				S	Sn	20 04 23.7	+1.3
OHAK	Old Harbor	13.93	58	eP	P	20 06 56.6	-2.9
ILB	Eielson Array	19.68	37	eP	P	20 08 03.8	+0.7
DOT	Dot Lake	20.32	42	eP	P	20 08 09.9	-0.2
SCRK	Sand Creek	20.47	41	eP	P	20 08 11.1	-0.7

MEX 02 20:07:23.4±0.3, **16°.37N**×**98°.48W**, **h0**km±12km, **MD3.5**, **Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.34	86	eP	Pg	20 07 29.7	-0.3
PNIG				i S	Sg	20 07 34.8	+0.4
TLIG	Tlapa	1.19	356	eP	Pg	20 07 43.6	-2.7
TLIG				eS	Sg	20 07 59.1	-2.6
CAIG	El Cayaco	1.84	292	eP	Pn	20 07 52.9	-3.3
CAIG				i S	Sn	20 08 15.4	-4.9

MEX 02 20:16:33.8±0.4, **16°.27N**×**98°.48W**, **h10**km, **MD3.7**, **Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.36	69	i P	Pg	20 16 40.5	-0.4
PNIG				eS	Sg	20 16 45.6	-0.1
TLIG	Tlapa	1.29	356	eP	Pn	20 16 54.1	-4.0
TLIG				eS	Sb	20 17 10.0	-5.0
VHO	Vista Hermosa	1.85	64	eP	Pn	20 17 04.0	-1.9
VHO				eS	Sn	20 17 25.0	-4.4

*IDC **02** 20:17:01.2±4.5, 5°.95S×130°.55E, h48km±49km, mb3.5/8, mb1 3.8/11, mb1mx3.6/49, mbtmp3.9/11, ML4.4/3, Error ellipse: s-maj=48.7km s-min=23.0km az=57.0*
*ISCJB **02** 20:17:06.5±0.3, 6°.23S±0°.03×130°.35E±0°.04, h124km, mb3.6/8, Error ellipse: s-maj=6.1km s-min=4.0km az=167.4*
*NEIC **02** 20:17:08.4±0.8, 6°.13S×130°.29E, h118km±9km, mb4.3/2, Error ellipse: s-maj=12.6km s-min=8.4km az=87.0*
*DJA **02** 20:17:08.4±0.4, 6°S±2°×13°0E±°, h104km±13km, M4.2/13, mB5.2/2, mb4.1/6, MLv4.2/13, Mw(mB)4.6/2*
ISC 02 20:17:08.4±0.7, **6°.17S**±0°.05×**130°.35E**±0°.06, **h124**km, **n48**, σ**1s.05**/49, **mb3.6**/8, **Banda Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BNDI	Bandanaira	1.70	345	P	Pn	20 17 36.6	-1.8
SAUI	Saumlaki	2.03	152	P	Pn	20 17 41.5	-0.9

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
SAUI				S	Sn	20 18 06.5	-2.0
SAUI	**Saumlaki**	**2.03**	**152**	*e*Pn	**Pn**	**20 17 44.1**	**+1.7**
MSAI	**Masohi**	**3.14**	**333**	P	**Pn**	**20 17 56.7**	**0.0**
MSAI				S	**Sn**	**20 18 35.3**	**+1.3**
AAI	**Ambon**	**3.27**	**319**	P	**Pn**	**20 17 58.9**	**+0.5**
FAKI	**Fak Fak**	**3.75**	**30**	P	**Pn**	**20 18 04.8**	**+0.1**
FAKI	**Fak Fak**	**3.75**	**30**	*e*Pn	**Pn**	**20 18 05.0**	**+0.3**
KMPI	**Kaimana, Papua**	**4.17**	**53**	P	**Pn**	**20 18 10.0**	**-0.3**
KMPI				S	**Sn**	**20 18 57.9**	**-0.5**
NLAI	**Namlea**	**4.36**	**312**	P	**Pn**	**20 18 14.2**	**+1.4**
SWI	**Sorong**	**5.35**	**10**	P	**Pn**	**20 18 26.4**	**+0.2**
SANI	**Sanana**	**5.97**	**313**	P	**Pn**	**20 18 35.1**	**+0.6**
LBMI	**Labuha**	**6.19**	**333**	P	**Pn**	**20 18 37.7**	**+0.3**
LBMI				S	**Sn**	**20 19 46.3**	**-0.7**
MTN	**Manton Dam**	**6.67**	**173**	*e*Pn	**Pn**	**20 18 43.3**	**-0.7**
SOEI	**Soe**	**6.99**	**239**	P	**Pn**	**20 18 48.3**	**-0.1**
	46nm,0.8s						
SOEI	**Soe**	**6.99**	**239**	*e*Pn	**Pn**	**20 18 48.6**	**+0.2**
BATI	**Baumata**	**7.73**	**238**	P	**Pn**	**20 18 57.1**	**-1.2**
	6.4nm,0.3s,baz=58,slow=4.7,SNR=14						
BATI				S	**Sn**	**20 20 21.5**	**-2.9**
	2.5nm,0.3s,baz=98,slow=18,SNR=3.6						
BATI	**Baumata**	**7.73**	**238**	P	**Pn**	**20 18 58.7**	**+0.4**
FITZ	**Fitzroy Crossi**	**12.71**	**201**	P	Pn	20 20 01.2	-3.6
WR1	**Warramunga Arr**	**14.23**	**165**	*e*Pn	Pn	20 20 21.0	-3.4
WR1				*e*Sn	Sn	20 22 48.3	-13
WRA	**Warramunga Arr**	**14.23**	**165**	P	Pn	20 20 21.0	-3.4
	1.5nm,0.3s,baz=341,slow=13,SNR=54						
WRA				S	Sn	20 22 48.3	-13
	2.8nm,0.3s,baz=336,slow=22,SNR=12						
WB2	**Warramunga Arr**	**14.23**	**164**	*e*Pn	Pn	20 20 20.6	-3.8
AS31	**Alice Springs**	**17.73**	**169**	*e*P	**P**	**20 21 06.8**	**+0.2**
	2.7nm,0.5s						
ASAR	**Alice Springs**	**17.73**	**169**	P	**P**	**20 21 08.1**	**+1.4**
	1.5nm,0.3s,baz=350,slow=9.5,SNR=75						
ASAR				S	S	20 24 11.6	-13
	0.6nm,0.3s,baz=343,slow=24,SNR=7.1						
AS01	**Alice Springs**	**17.73**	**169**	*e*P	**P**	**20 21 08.6**	**+1.9**
STKA	**Stephens Creek**	**27.65**	**159**	P	**P**	**20 22 45.8**	**+1.3**
	0.6nm,0.3s,baz=333,slow=7.5,SNR=5.0						
CMAR	**Chiang Mai Arr**	**39.48**	**309**	P	**P**	**20 24 26.7**	**-0.3**
	0.2nm,0.6s,baz=128,slow=6.2,SNR=4.3						
MJAR	**Matsushiro Arr**	**43.12**	**9**	P	**P**	**20 24 54.9**	**-1.6**
	0.3nm,0.5s,baz=187,slow=13,SNR=4.3						
MAJO	**Matsushiro**	**43.12**	**9**	*e*P	**P**	**20 24 54.9**	**-1.6**
RAMN	**Ramite**	**53.63**	**310**	*e*P	**P**	**20 26 18.1**	**+0.5**
	10nm,0.4s						
JIRN	**Jiri**	**54.31**	**310**	*e*P	**P**	**20 26 22.7**	**0.0**
	4.1nm,0.3s						
GUN	**Gumba**	**54.67**	**311**	*e*P	**P**	**20 26 25.4**	**+0.1**
	7.5nm,0.4s						
PKI	**Pulchoki**	**54.86**	**310**	*e*P	**P**	**20 26 26.2**	**-0.4**
	2.0nm,0.4s						
PKIN	**Phulchoki**	**54.87**	**310**	*e*P	**P**	**20 26 26.2**	**-0.4**
KKN	**Kakani**	**55.07**	**310**	*e*P	**P**	**20 26 27.8**	**-0.1**
	2.6nm,0.5s						
DMN	**Daman**	**55.11**	**310**	*e*P	**P**	**20 26 28.2**	**-0.1**
	3.1nm,0.4s						
GKN	**Gorkha**	**55.66**	**310**	*e*P	**P**	**20 26 32.1**	**-0.1**
	5.4nm,0.3s						
KOLN	**Koldanda**	**56.34**	**309**	*e*P	**P**	**20 26 37.1**	**+0.1**
	2.2nm,0.4s						
SONA0	**Songino Array**	**57.77**	**341**	*e*P	**P**	**20 26 47.8**	**+1.2**
SONM	**Songino Array**	**57.77**	**341**	P	**P**	**20 26 47.8**	**+1.2**
	0.4nm,0.4s,baz=162,slow=4.8,SNR=6.3						
MK31	**Makanchi Array**	**67.73**	**326**	*e*P	**P**	**20 27 53.7**	**+1.1**
MK32	**Makanchi Array**	**67.73**	**326**	*e*P	**P**	**20 27 53.9**	**+1.4**
MKAR	**Makanchi Array**	**67.73**	**326**	P	**P**	**20 27 53.9**	**+1.3**
	1.7nm,0.6s,baz=124,slow=7.9,SNR=24						
MKAR	**Makanchi Array**	**67.73**	**326**	*e*P	**P**	**20 27 53.7**	**+1.1**
	8.7nm,0.6s						
ZALV	**Zalesovo Beam**	**71.00**	**334**	P	**P**	**20 28 11.9**	**-0.6**
	0.6nm,0.5s,baz=101,slow=7.5,SNR=3.0						
ZAA1	**Zalesovo Array**	**71.00**	**334**	*e*P	**P**	**20 28 11.9**	**-0.6**
KURBB	**Kurchatov Arra**	**71.99**	**328**	P	**P**	**20 28 18.9**	**+0.4**
	0.6nm,0.5s,baz=129,slow=4.9,SNR=8.0						
KURK	**Kurchatov**	**72.00**	**328**	*e*P	**P**	**20 28 18.9**	**+0.4**
BVAR	**Borovoye Array**	**77.55**	**328**	P	**P**	**20 28 51.2**	**+0.7**
	0.4nm,0.6s,baz=134,slow=10,SNR=4.0						
ZALV	**Zalesovo Beam**	**19.44**	**28**	P	**P**	**20 43 30.7**	**-1.6**
	1.1nm,0.6s,baz=215,slow=12,SNR=5.9						

MEX 02 20:30:57.9±0.6**, 16°.33N×98°.38W, h10km, MD3.6, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.25**	**76**	*e*P	Pg	20 31 02.3	-0.7
PNIG				*i* S	Sg	20 31 06.5	+0.1
TLIG	**Tlapa**	**1.24**	**352**	*e*P	Pn	20 31 17.4	-4.1
TLIG				*e*S	Sb	20 31 33.0	-4.5
VHO	**Vista Hermosa**	**1.74**	**65**	*e*P	Pn	20 31 25.8	-2.6
VHO				*e*S	Sn	20 31 45.9	-4.8
CAIG	**El Cayaco**	**1.95**	**292**	*e*P	Pn	20 31 28.0	-3.0
CAIG				*e*S	Sn	20 31 51.3	-4.2

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*IDC **02** 20:38:52.3±6.4, 36°.23N×70°.28E, h0km, mb3.4/1, mb1 3.4/7, mb1mx3.1/67, mbtmp3.4/7, ML3.1/6, Error ellipse: s-maj=88.5km s-min=29.1km az=164.0*

*NNC **02** 20:39:07.4±3.0, 37°.89N×69°.13E, h0km, mb3.6, mpv3.2, Error ellipse: s-maj=22.8km s-min=16.2km az=15.0*

ISC 02 20:39:05.8±1.1**, 37°.72N**±0°.08×**69°.25E**±0°.07**, h10km, n21, σ2s.82/25, 11C-5D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**4.03**	**54**	⇑Pn	**Pn**	**20 40 10.0**	**+2.2**
	0.6nm,0.2s						
SFK				⇓Pg	**Pb**	**20 40 20.2**	**+3.2**
	12nm,0.5s						
SFK				⇑Sn	**Sn**	**20 40 58.3**	**+3.2**
	7.3nm,0.3s						
SFK				⇓Lg	Lg	20 41 14.8	
	29nm,0.4s						
MNAS	**Manas**	**5.37**	**27**	⇓Pn	**Pn**	**20 40 27.8**	**+1.6**
	0.8nm,0.3s						
MNAS				⇓Sn	**Sn**	**20 41 31.0**	**+2.9**
	2.5nm,0.4s						
MNAS				⇑Lg	Lg	20 41 54.1	
	19nm,1.1s						
KK31	**Karatay Array**	**5.46**	**10**	⇑Pn	**Pn**	**20 40 29.9**	**+2.6**
	0.4nm,0.3s,baz=188,slow=13						
KK31				⇑Pg	**Pg**	**20 40 46.6**	**-3.7**
	1.1nm,0.4s						
KK31				⇑Sn	**Sn**	**20 41 30.4**	**+0.3**
	2.8nm,0.5s,baz=199,slow=23						
KK31				⇑Lg	Lg	20 41 56.5	
	8.5nm,0.7s						
AAK	**Ala-Archa**	**6.34**	**38**	Pn	**Pn**	**20 40 42.0**	**+2.6**
	1.0nm,0.3s,baz=176,slow=4.9,SNR=14						
AAK				Lg	Lg	20 42 22.8	
	0.6nm,0.3s,baz=353,slow=19,SNR=3.2						
AAK	**Ala-Archa**	**6.34**	**38**	⇓Pn	**Pn**	**20 40 41.6**	**+2.2**
	2.4nm,0.7s						
AAK				⇑Lg	Lg	20 42 28.8	
	10.0nm,0.8s						
TKM2	**Tokmak 2**	**7.10**	**41**	⇑Pn	**Pn**	**20 40 51.6**	**+1.7**
	1.0nm,0.5s						
TKM2				⇑Lg	Lg	20 42 49.1	
	3.6nm,0.6s						
GEYT	**Alibeck**	**8.82**	**275**	Pn	**Pn**	**20 41 16.9**	**+3.6**
	0.5nm,0.3s,baz=101,slow=14,SNR=3.2						
MKAR	**Makanchi Array**	**13.23**	**43**	Pn	**Pn**	**20 42 11.8**	**-1.8**
	0.0nm,0.3s,baz=230,slow=12,SNR=10						
AB31	**Akbulak array**	**13.35**	**333**	⇑Pn	**Pn**	**20 42 14.6**	**-0.7**
	0.2nm,0.3s						
AB31				Sn	**Sn**	**20 44 40.1**	**-3.5**
KURBB	**Kurchatov Arra**	**14.49**	**24**	Pn	**Pn**	**20 42 28.8**	**-2.1**
	0.0nm,0.3s,baz=212,slow=12,SNR=2.6						
AKTO	**Aktyubinsk**	**15.03**	**331**	Pn	**P**	**20 42 45.2**	**+1.6**
	0.1nm,0.3s,baz=167,slow=11,SNR=7.7						
BVAR	**Borovoye Array**	**15.32**	**3**	Pn	**P**	**20 42 44.5**	**-2.3**
	0.1nm,0.3s,baz=153,slow=9.7,SNR=3.0						
KOLN	**Koldanda**	**15.61**	**125**	*e*P	Pn	20 42 41.8	-4.3
GKN	**Gorkha**	**16.14**	**122**	*e*P	**Pn**	**20 42 50.2**	**-2.7**
	8.4nm,0.6s						
KKN	**Kakani**	**16.71**	**122**	*e*P	**Pn**	**20 42 57.0**	**-3.2**
	5.4nm,0.6s						
PKIN	**Phulchoki**	**16.92**	**122**	*e*P	**Pn**	**20 42 59.8**	**-3.2**
PKI	**Pulchoki**	**16.93**	**122**	*e*P	**Pn**	**20 42 59.8**	**-3.4**
GUN	**Gumba**	**17.04**	**120**	*e*P	**Pn**	**20 43 01.9**	**-2.6**
JIRN	**Jiri**	**17.41**	**120**	*e*P	**Pn**	**20 43 05.8**	**-3.4**
	5.8nm,0.3s						
RAMN	**Ramite**	**18.14**	**121**	*e*P	Pn	20 43 13.4	-4.8
	8.3nm,0.7s						

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*NIED **02** 20:41:00, 24°.10N×121°.70E, h26km, Mw4.0 Best double couple: M0 1.01000×10^15 NP1:φs237.00000°, δ23.00000°, λ116.00000°. NP2:φs29.00000°, δ69.00000°, λ79.00000°.*

*BJI **02** 20:41:21.9, 24°.22N×121°.68E, h11km, ML3.4/4*

*JMA **02** 20:41:22.2, 24°.09N×121°.65E, h29km, M3.5*

*TAP **02** 20:41:23.2, 24°.16N×121°.68E, h29km, ML4.3, B*

*ISCJB **02** 20:41:23.1±0.2, 24°.15N±0°.01×121°.75E±0°.01, h26km±1km, mb3.6/13, MS2.9/1, Error ellipse: s-maj=2.5km s-min=1.6km az=37.2*

*IDC **02** 20:41:32.8±5.4, 24°.04N×121°.66E, h126km±51km, mb3.3/13, mb1 3.4/14, mb1mx3.2/65, mbtmp3.7/14, MS3.1/2, Ms1 3.2/2, ms1mx2.6/27, Error ellipse: s-maj=23.8km s-min=14.4km az=69.0*

ISC 02 20:41:23.1±0.7**, 24°.14N**±0°.02×**121°.71E**±0°.02**, h28km**±4km**, n140, σ0s.96/223, mb3.7/13, 22C-24D, Taiwan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NACB	**Ninganchiao**	**0.11**	**287**	⇓*i*P	**Pb**	**20 41 28.3**	**0.0**
	baz=280						
NACB				S	**Sb**	**20 41 31.6**	**-0.2**
	baz=280						
TWD	**Chiawan**	**0.12**	**241**	⇑*i*P	**Pb**	**20 41 28.6**	**+0.2**
	baz=231						
TWD				S	**Sb**	**20 41 32.3**	**+0.5**
	baz=231						
HWA	**Hwalien**	**0.19**	**212**	⇑P	**Pn**	**20 41 29.8**	**-0.3**
	baz=206						
HWA				*e*S	**Sb**	**20 41 34.5**	**+1.6**
	baz=206						
ENLB	**Shoufeng**	**0.26**	**204**	⇑P	**Pn**	**20 41 30.6**	**-0.4**
	baz=202						
ENLB				S	**Sn**	**20 41 36.2**	**+0.2**
	baz=202						
ENA	**Nanau**	**0.29**	**5**	⇑*i*P	**Pb**	**20 41 30.2**	**0.0**
	baz=8.0						
ENA				*e*S	**Sb**	**20 41 35.3**	**+0.2**
	baz=8.0						
NANB	**Nanao**	**0.29**	**6**	⇑P	**Pb**	**20 41 30.3**	**0.0**
	baz=8.0						
NANB				S	**Sb**	**20 41 35.1**	**+0.1**
	baz=8.0						
ENAH	**Nanao**	**0.32**	**16**	⇑P	**Pb**	**20 41 30.8**	**+0.1**
	baz=16						
ENAH				*e*S	**Sb**	**20 41 36.3**	**+0.5**
	baz=16						
WHF	**Hehuan Shan**	**0.41**	**271**	⇓*i*P	**Pb**	**20 41 32.0**	**-0.4**
	baz=268						
WHF				S	**Sb**	**20 41 38.2**	**-0.4**
	baz=268						
ESL	**Shilin**	**0.41**	**218**	⇓*i*P	**Pb**	**20 41 31.6**	**-0.5**
	baz=223						
ESL				*e*S	**Sb**	**20 41 37.5**	**-0.6**
	baz=223						
NNSB	**Datong**	**0.42**	**314**	⇓P	**Pb**	**20 41 31.9**	**-0.4**
	baz=314						
NNSB				S	**Sb**	**20 41 37.9**	**-0.5**
	baz=314						
NNSH	**Datong**	**0.42**	**314**	*e*P	**Pb**	**20 41 31.8**	**-0.4**
	baz=314						
NNSH				*e*S	**Sb**	**20 41 37.9**	**-0.5**
	baz=314						
NNS	**Nan Shan**	**0.43**	**314**	⇓*i*P	**Pb**	**20 41 32.1**	**-0.4**
	baz=315						
NNS				S	**Sb**	**20 41 38.2**	**-0.6**
	baz=315						
TWC	**Suao**	**0.48**	**15**	⇑*i*P	**Pb**	**20 41 33.3**	**+0.1**
	baz=15						
TWC				S	**Sb**	**20 41 40.4**	**+0.3**
	baz=15						
CHGB	**Renai**	**0.50**	**261**	⇓*i*P	**Pb**	**20 41 33.4**	**-0.2**
	baz=254						
CHGB				S	**Sb**	**20 41 40.1**	**-0.6**
	baz=254						
TWT	**Tachien**	**0.50**	**283**	⇓*i*P	**Pb**	**20 41 33.7**	**0.0**
	baz=283						
TWT				S	**Sb**	**20 41 40.8**	**0.0**
	baz=283						
ENTT	**Nioudou**	**0.52**	**345**	⇓P	**Pb**	**20 41 33.4**	**-0.3**
	baz=346						
ENTT				S	**Sb**	**20 41 40.6**	**-0.4**
	baz=346						
TDCB	**Techi**	**0.52**	**283**	⇓*i*P	**Pb**	**20 41 33.7**	**-0.2**
	baz=281						
TDCB				S	**Sb**	**20 41 40.5**	**-0.8**
	baz=281						
OWD	**Renai**	**0.53**	**250**	⇓P	**Pb**	**20 41 33.7**	**-0.3**
	baz=247						
OWD				*e*S	**Sb**	**20 41 41.0**	**-0.3**
	baz=247						
TWE	**Neicheng**	**0.58**	**356**	⇓*i*P	**Pb**	**20 41 34.5**	**-0.3**
	baz=354						
TWE				*e*S	**Sb**	**20 41 42.7**	**-0.1**
	baz=354						
YHNB	**Yeheng**	**0.61**	**330**	⇓P	**Pb**	**20 41 35.0**	**-0.4**
	baz=321						
YHNB				S	**Sb**	**20 41 42.9**	**-0.8**
	baz=321						
ILA	**Ilan**	**0.62**	**3**	*e*P	**Pb**	**20 41 35.4**	**-0.1**
	baz=1.0						
NWLT	**Wulai**	**0.66**	**343**	*e*P	**Pb**	**20 41 35.6**	**-0.6**
	baz=339						
NWLT				*e*S	**Sb**	**20 41 44.4**	**-0.7**
	baz=339						
HGSD	**Ruisui**	**0.70**	**202**	*e*P	**Pb**	**20 41 36.5**	**-0.2**
	baz=215						
HGSD				*e*S	**Sn**	**20 41 47.9**	**+0.9**
	baz=215						
EHY	**Hungye**	**0.73**	**210**	⇑*e*P	**Pb**	**20 41 35.5**	**-1.7**
	baz=206						
DPDB	**Guoxing**	**0.73**	**262**	⇓*i*P	**Pb**	**20 41 37.0**	**-0.3**
	baz=256						
DPDB				*i* S	**Sb**	**20 41 46.7**	**-0.2**
	baz=256						
EGS		**0.73**	**16**	*e*P	**Pn**	**20 41 37.6**	**+0.1**
	baz=12						
EGS				*e*S	**Sn**	**20 41 47.9**	**+0.1**
	baz=12						
SSLB	**Suanglung**	**0.78**	**243**	⇓P	**Pb**	**20 41 37.5**	**-0.6**
	baz=242						
SSLB				S	**Sb**	**20 41 47.2**	**-1.1**
	baz=242						
SMLT	**Sun Moon Lake**	**0.79**	**251**	⇓*i*P	**Pb**	**20 41 37.9**	**-0.4**
	baz=246						
SMLT				S	**Sb**	**20 41 48.8**	**+0.1**
	baz=246						
LIOB	**Emei**	**0.81**	**308**	⇓*i*P	**Pn**	**20 41 38.9**	**+0.2**
	baz=308						
LIOB				S	**Sb**	**20 41 49.4**	**+0.1**
	baz=308						
NSTT	**Nanjuang**	**0.81**	**307**	⇓*i*P	**Pb**	**20 41 38.8**	**+0.1**
	baz=307						
NSTT				S	**Sb**	**20 41 49.0**	**-0.3**
	baz=307						
TYC	**Yuchr**	**0.82**	**254**	⇓*i*P	**Pn**	**20 41 38.2**	**-0.5**
	baz=248						
TYC				S	**Sb**	**20 41 48.9**	**-0.5**
	baz=248						
WLTB	**Daxi**	**0.82**	**329**	⇓P	**Pb**	**20 41 39.2**	**+0.4**
	baz=339						
WLTB				S	**Sn**	**20 41 50.2**	**+0.1**
	baz=339						
TIPB	**Shuangxi**	**0.83**	**7**	⇓*e*P	**Pn**	**20 41 37.9**	**-1.2**
	baz=359						
TIPB				*e*S	**Sb**	**20 41 49.2**	**-0.8**
	baz=359						
YULB	**Yu-li**	**0.84**	**207**	*e*P	**Pn**	**20 41 37.0**	**-2.0**
	baz=205						
TWA	**Mucha**	**0.85**	**352**	*e*P	**Pn**	**20 41 39.1**	**-0.1**
	baz=353						
TWA				*e*S	**Sn**	**20 41 50.7**	**0.0**
	baz=353						
TATO	**Taipei**	**0.86**	**346**	⇓P	**Pn**	**20 41 39.2**	**-0.1**
	baz=346						
TATO				S	**Sb**	**20 41 50.5**	**0.0**
	baz=346						
TWF1	**Yuli**	**0.87**	**206**	⇑*e*P	**Pn**	**20 41 37.6**	**-1.9**
	baz=213						
TWQ1	**Liyutan**	**0.88**	**284**	⇓P	**Pb**	**20 41 40.5**	**+0.6**
	baz=283						
TWQ1				S	**Sn**	**20 41 52.1**	**+0.5**
	baz=283						
TWB1	**Santiao Chiao**	**0.90**	**16**	*e*P	**Pb**	**20 41 40.6**	**+0.4**
	baz=17						
TWB1				*e*S	**Sb**	**20 41 51.5**	**-0.3**
	baz=17						
NSY	**Sanyi**	**0.91**	**288**	⇑P	**Pb**	**20 41 41.1**	**+0.8**
	baz=287						
NSY				S	**Sn**	**20 41 53.6**	**+1.3**
	baz=287						
NWF	**Wu-fen Shan**	**0.93**	**4**	*e*P	**Pn**	**20 41 40.5**	**+0.1**
	baz=350						
NWF				*e*S	**Sn**	**20 41 53.7**	**+0.9**
	baz=350						
SBCB	**Hsinchu**	**0.93**	**315**	*e*P	**Pb**	**20 41 41.1**	**+0.5**
	baz=313						
SBCB				S	**Sn**	**20 41 54.0**	**+1.3**
	baz=313						
WFSB	**Wu-fen Shan**	**0.93**	**4**	*e*P	**Pb**	**20 41 40.5**	**-0.1**
	baz=350						
WFSB				*e*S	**Sn**	**20 41 53.7**	**+1.0**
	baz=350						
NMLH	**Miaoli**	**0.93**	**295**	*e*P	**Pb**	**20 41 41.4**	**+0.7**
	baz=294						
NMLH				S	**Sn**	**20 41 54.9**	**+2.1**
	baz=294						
HSN	**Hsinchu**	**0.95**	**314**	*e*P	**Pb**	**20 41 41.2**	**+0.3**
	baz=316						
HSN				S	**Sb**	**20 41 54.6**	**+1.5**
	baz=316						
TCU	**Taichung**	**0.95**	**271**	*e*P	**Pb**	**20 41 41.6**	**+0.7**
	baz=270						
TCU				*e*S	**Sb**	**20 41 55.2**	**+2.1**
	baz=270						
YUS	**Yu-Shan**	**0.95**	**227**	*e*P	**Pn**	**20 41 40.5**	**-0.5**
	baz=218						
YUS				*e*S	**Sb**	**20 41 52.6**	**-1.2**
	baz=218						
NCUH	**Zhongli**	**0.95**	**330**	*e*P	**Pb**	**20 41 41.4**	**+0.3**
	baz=339						
NCUH				*e*S	**Sb**	**20 41 54.8**	**+1.4**
	baz=339						
NCU	**National Centr**	**0.96**	**330**	*e*P	**Pb**	**20 41 41.3**	**+0.2**
	baz=329						
NCU				S	**Sb**	**20 41 54.9**	**+1.5**
	baz=329						
WJS	**Zhushan**	**0.96**	**251**	*e*P	**Pb**	**20 41 41.5**	**+0.5**
	baz=250						
WJS				*e*S	**Sb**	**20 41 55.0**	**+1.7**
	baz=250						
PTSB	**Yuanli**	**0.97**	**289**	*e*P	**Pb**	**20 41 41.7**	**+0.4**
	baz=287						
PTSB				S	**Sb**	**20 41 55.2**	**+1.4**
	baz=287						
WNT	**Mingjian**	**0.98**	**255**	⇑*i*P	**Pb**	**20 41 41.9**	**+0.5**
	baz=254						
WNT				S	**Sb**	**20 41 55.1**	**+1.2**
	baz=254						
TWS1	**Kuangyinshan**	**0.99**	**344**	*e*P	**Pb**	**20 41 41.5**	**-0.3**
	baz=354						
TWS1				*e*S	**Sb**	**20 41 55.0**	**+0.5**
	baz=354						
FULB	**Fuli**	**1.01**	**202**	*e*P	**Pn**	**20 41 40.5**	**-1.0**
	baz=212						
YM10	**YM10**	**1.02**	**352**	*e*P	**Pn**	**20 41 41.5**	**-0.1**
	baz=351						
YM10				*e*S	**Sn**	**20 41 54.8**	**-0.3**
	baz=351						
YM04	**YM04**	**1.02**	**351**	*e*P	**Pn**	**20 41 41.6**	**-0.1**
	baz=351						
YM07	**YM07**	**1.03**	**355**	*e*P	**Pn**	**20 41 40.6**	**-1.2**
	baz=345						
YM07				*e*S	**Sn**	**20 41 55.1**	**-0.3**
	baz=345						
ALS	**Alishan**	**1.04**	**233**	⇑P	**Pn**	**20 41 42.3**	**+0.2**
	baz=224						
ALS				*e*S	**Sb**	**20 41 56.0**	**-0.1**
	baz=224						
YM03	**YM03**	**1.05**	**351**	*e*P	**Pn**	**20 41 41.8**	**-0.2**
	baz=350						
YM03				*e*S	**Sb**	**20 41 56.1**	**+0.1**
	baz=350						
NTST	**Danshui**	**1.05**	**347**	*e*P	**Pn**	**20 41 41.9**	**-0.1**
	baz=355						
NTST				*e*S	**Sb**	**20 41 57.1**	**+1.1**
	baz=355						
WCHH	**Zhanghua**	**1.06**	**267**	*e*P	**Pb**	**20 41 43.2**	**+0.5**
	baz=266						
WCHH				*e*S	**Sb**	**20 41 58.0**	**+1.7**
	baz=266						
CHKT	**Chengkung**	**1.08**	**197**	*e*P	**Pn**	**20 41 41.8**	**-0.7**
	baz=208						
CHN5	**Tsauling**	**1.09**	**241**	⇑P	**Pb**	**20 41 43.2**	**-0.2**
	baz=229						
CHN5				*e*S	**Sb**	**20 41 59.0**	**+1.7**
	baz=229						
TWY	**Chenhua**	**1.14**	**355**	*e*P	**Pn**	**20 41 43.5**	**+0.4**
	baz=341						
ELDTW	**Lidau**	**1.14**	**214**	*e*P	**Pn**	**20 41 41.9**	**-1.4**
	baz=202						
WGK	**Gukeng**	**1.15**	**247**	*e*P	**Pb**	**20 41 44.5**	**+0.2**
	baz=247						
WGK				S	**Sb**	**20 42 00.4**	**+1.6**
	baz=247						
JYNG	**Yonagunijimaku**	**1.17**	**74**	P	**Pn**	**20 41 44.0**	**+0.5**
JYNG				S	**Sb**	**20 41 59.3**	**0.0**
WDLH	**Douliu**	**1.17**	**248**	*e*P	**Pb**	**20 41 45.0**	**+0.3**
	baz=248						
WDLH				*e*S	**Sb**	**20 42 01.5**	**+2.1**
	baz=248						
YOJ	**Yonaguni jima**	**1.23**	**75**	⇓P	**Pn**	**20 41 44.8**	**+0.5**
	baz=77						
YOJ				*e*S	**Sb**	**20 42 01.9**	**+0.9**
	baz=77						
YOJ	**Yonaguni jima**	**1.23**	**75**	P	**Pn**	**20 41 44.8**	**+0.5**
YOJ				S	**Sb**	**20 42 00.8**	**-0.3**
RLNB	**Erlin**	**1.26**	**259**	⇑P	**Pb**	**20 41 46.0**	**-0.3**
	baz=259						
RLNB				S	**Sb**	**20 42 02.9**	**+0.8**
	baz=259						
CHN2	**Minshiung**	**1.29**	**242**	*e*P	**Pb**	**20 41 47.0**	**+0.4**
	baz=243						
CHN2				*e*S	**Sb**	**20 42 05.1**	**+2.3**
	baz=243						
CHN4	**Tsaushan**	**1.29**	**233**	P	**Pb**	**20 41 46.7**	**-0.1**
	baz=234						
CHN4				*e*S	**Sb**	**20 42 04.6**	**+1.6**
	baz=234						
TPUB	**Ta-pu**	**1.30**	**230**	⇑P	**Pb**	**20 41 46.5**	**-0.4**
	baz=231						
TPUB				S	**Sb**	**20 42 04.1**	**+1.0**
	baz=231						
STYT	**Tauyuan**	**1.31**	**222**	⇑P	**Pn**	**20 41 46.0**	**+0.5**
	baz=221						
WTCT	**Ta-ch'eng**	**1.34**	**258**	*e*P	**Pb**	**20 41 46.7**	**-0.8**
	baz=258						
WTCT				*e*S	**Sb**	**20 42 05.0**	**+0.7**
	baz=258						
CHY	**Chiayi**	**1.34**	**242**	*e*P	**Pb**	**20 41 47.5**	**-0.1**
	baz=243						
CHY				*e*S	**Sb**	**20 42 06.0**	**+1.6**
	baz=243						
WTP	**Ta-pu**	**1.34**	**229**	⇑P	**Pb**	**20 41 47.1**	**-0.6**
	baz=231						
WTP				S	**Sb**	**20 42 06.2**	**+1.6**
	baz=231						
TWK	**Hsinying**	**1.42**	**233**	⇓P	**Pb**	**20 41 48.5**	**-0.5**
	baz=234						
TWK				S	**Sb**	**20 42 08.4**	**+1.7**
	baz=234						
TWG	**Pinlang**	**1.44**	**204**	*e*P	**Pn**	**20 41 46.4**	**-1.0**
	baz=190						
TWGBT	**Beinan**	**1.44**	**204**	*e*P	**Pn**	**20 41 45.4**	**-1.9**
	baz=190						
TWH	**Lutao**	**1.44**	**189**	*e*P	**Pn**	**20 41 46.3**	**-1.0**
	baz=188						
CHN1	**Nanshi**	**1.44**	**229**	*e*P	**Pb**	**20 41 48.7**	**-0.7**
	baz=231						
CHN1				*e*S	**Sb**	**20 42 07.8**	**+0.4**
	baz=231						
WLGB	**Puzi**	**1.45**	**243**	⇑*i*P	**Pb**	**20 41 49.1**	**-0.3**
	baz=244						
WLGB				*e*S	**Sb**	**20 42 08.8**	**+1.2**
	baz=244						
WSF	**Szhu**	**1.45**	**250**	*e*P	**Pn**	**20 41 48.4**	**+0.9**
	baz=251						
WSF				*e*S	**Sb**	**20 42 08.5**	**+0.9**
	baz=251						
TTN	**Taitung**	**1.47**	**201**	*e*P	**Pn**	**20 41 48.8**	**+1.0**
	baz=201						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SGST	Jiashian	1.48	225	⇑P	Pb	20 41 49.3	-0.6
	baz=216						
SGST				eS	Sb	20 42 08.6	+0.3
	baz=216						
SLGT	Liugui	1.50	221	eP	Pb	20 41 49.6	-0.8
	baz=224						
SLGT				eS	Sb	20 42 10.0	+1.0
	baz=224						
CHN8	Yiju	1.59	240	⇑P	Pb	20 41 50.7	-1.1
	baz=231						
CHN8				eS	Sb	20 42 12.4	+0.9
	baz=231						
CHN3	Shinhua	1.63	230	eP	Pb	20 41 52.5	0.0
	baz=234						
CHN3				eS	Sb	20 42 15.0	+2.4
	baz=234						
ECL	Taimali	1.69	205	eP	Pn	20 41 49.9	-0.8
	baz=194						
SSD	Sandimen	1.71	216	eP	Pn	20 41 52.4	+1.4
	baz=208						
SSD				eS	Sb	20 42 15.3	+0.4
	baz=208						
TAI1	Yung-k'ang	1.75	232	eP	Pb	20 41 53.6	-0.9
	baz=233						
TWM1	Shoushan	1.77	222	eP	Pb	20 41 53.8	-1.1
	baz=224						
SGLT	Jiouru	1.80	219	eP	Pb	20 41 55.1	-0.3
	baz=221						
MASBT	Mashibuluo	1.82	213	eP	Pn	20 41 52.9	+0.3
	baz=219						
MASBT				eS	Sb	20 42 18.4	+0.3
	baz=219						
IRIF	Iriomote-Funau	1.85	84	P	Pn	20 41 53.3	+0.3
HATJ	Hateruma jima	1.91	92	P	Pn	20 41 54.6	+0.8
EAST	Anshuo	1.92	205	eP	Pn	20 41 53.9	0.0
	baz=197						
TAW	Tawu	1.93	203	eP	Pn	20 41 54.6	+0.6
	baz=193						
SSPT	Xinbi	1.96	213	eP	Pn	20 41 56.0	+1.6
	baz=201						
WSSB	Gushan	2.00	222	eP	Pn	20 41 56.5	+1.4
	baz=225						
PNG	Penghu	2.06	254	eP	Pn	20 41 55.8	0.0
	baz=255						
PNG				eS	Sn	20 42 20.6	+0.1
	baz=255						
PHUB	P'eng-hu	2.06	253	⇑P	Pn	20 41 55.9	+0.1
	baz=253						
PHUB				eS	Sn	20 42 20.3	-0.2
	baz=253						
WDGT	Dungji	2.08	245	eP	Pn	20 41 56.5	+0.5
	baz=248						
WDGT				eS	Sn	20 42 22.2	+1.2
	baz=248						
LAY	Lan-yu	2.10	184	eP	Pn	20 41 54.8	-1.6
	baz=183						
JKRS	Kuro-shima	2.10	87	P	Pn	20 41 57.3	+0.9
JKRS				S	Sn	20 42 22.6	+1.1
WLCH	Liuqiu	2.16	215	eP	Pn	20 41 59.0	+1.7
	baz=233						
TWP	Hsiaoliuchiu	2.17	215	eP	Pb	20 42 00.7	-1.1
	baz=233						
JIJ	Ishigaki jima	2.23	84	P	Pn	20 41 58.6	+0.4
JIJ				S	Sn	20 42 24.8	0.0
VWUC	VWUC	2.23	293	eP	Pn	20 41 57.4	-0.7
	baz=291						
HEN	Hengchun	2.31	203	eP	Pn	20 42 01.6	+2.4
	baz=196						
TWK1	Hengchun	2.34	201	eP	Pn	20 42 01.0	+1.3
	baz=195						
TWKBT	Hengchun	2.34	201	eP	Pn	20 42 01.4	+1.7
	baz=195						
TSEB	Hengchuen, Pin	2.35	199	eP	Pn	20 42 02.1	+2.2
	baz=190						
JISG	Ishigakijimahi	2.41	79	P	Pn	20 42 00.8	+0.1
MATB	Ma-tsu	2.57	322	eP	Pn	20 42 01.9	-1.0
	baz=319						
JTJ	Tarama	2.77	79	P	Pn	20 42 06.4	+0.8
QZH	Quanzhou	2.95	286	⇑iPn	Pn	20 42 07.9	-0.2
QZH				Sn	Sn	20 42 39.4	-3.3
QZH				smax	smax		
	comp=N,180nm,0.5s						
QZH				smax	smax		
	comp=E,110nm,0.4s						
KNMB	Chin-men Tao	3.05	277	eP	Pn	20 42 08.9	-0.6
	baz=274						
JIRB	Irabujima	3.23	77	P	Pn	20 42 13.0	+1.1
JIKM	Ikemajima	3.31	76	S	Sn	20 42 53.6	+2.1
JOGS	Gusukube	3.42	79	P	Pn	20 42 16.1	+1.5
VDOS	Pratas Island	5.74	234	eP	Pn	20 42 48.4	+1.9
	baz=235						
KSRS	Korea Array	14.30	20	P	P	20 44 50.9	+0.4
	0.4nm,0.3s,baz=203,slow=12,SNR=12						
MJAR	Matsushiro Arr	18.82	45	LR	LR	20 53 28.9	
	comp=Z,58nm,20.9s,baz=115,slow=38						
CMAR	Chiang Mai Arr	21.94	259	P	P	20 46 16.6	+2.0
	0.3nm,0.7s,baz=55,slow=7.8,SNR=4.0						
CMAR				LR	LR	20 55 28.1	
	comp=Z,43nm,19.5s,baz=220,slow=38						
SONM	Songino Array	26.60	337	P	P	20 46 59.7	+0.6
	0.8nm,0.7s,baz=154,slow=9.5,SNR=6.3						
WMQ	Urumqi	34.03	314	eP	P	20 48 07.8	+3.0
MKAR	Makanchi Array	38.71	316	P	P	20 48 44.8	+0.2
	0.9nm,0.7s,baz=106,slow=9.3,SNR=10						
ZALV	Zalesovo Beam	40.55	327	P	P	20 48 58.8	-0.9
	0.7nm,0.4s,baz=57,slow=5.5,SNR=4.8						
KURBB	Kurchatov Arra	42.45	320	P	P	20 49 15.0	-0.4
	0.4nm,0.8s,baz=110,slow=7.8,SNR=2.9						
WRA	Warramunga Arr	45.51	163	P	P	20 49 38.4	-1.9
	0.9nm,0.6s,baz=345,slow=8.7,SNR=18						
BVAR	Borovoye Array	48.02	321	P	P	20 49 58.8	-0.8
	0.4nm,0.5s,baz=111,slow=8.1,SNR=5.2						
ASAR	Alice Springs	48.97	165	P	P	20 50 06.4	-0.8
	0.4nm,0.5s,baz=342,slow=7.1,SNR=5.6						
ILAR	Eielson Array	69.03	27	P	P	20 52 25.4	-0.5
	0.2nm,0.5s,baz=290,slow=7.9,SNR=4.2						
FINES	FINESS Array B	71.73	330	P	P	20 52 41.7	-0.6
	2.1nm,0.9s,baz=204,slow=3.8,SNR=3.7						
INK	Inuvik	73.08	22	P	P	20 52 50.0	-0.4
	0.7nm,0.9s,baz=292,slow=8.8,SNR=3.0						
BRTR	Keskin Array B	73.59	307	P	P	20 52 52.6	-1.5
	0.6nm,0.8s,baz=355,slow=3.2,SNR=3.6						
YKA	Yellowknife Ar	82.82	23	P	P	20 53 43.5	-1.0
	0.7nm,0.7s,baz=313,slow=4.8,SNR=15						

*IDC **02** 21:14:30.0±2.9, 5°.77S×149°.79E, h0km, mb4.1/2, mb1 4.4/4, mb1mx3.6/43, mbtmp4.2/4, ML2.1/1, MS3.7/14, Ms1 3.7/14, ms1mx3.4/38, Error ellipse: s-maj=99.2km s-min=33.4km az=113.0*

ISC 02 21:14:37.9±1.9**, 6°.1S**±0°.2×**150°.0E**±0°.2**, h52km, n28, σ1s.65**/18**, MS3.7**/12**, New Britain region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	4.33	220	Pn	Pn	21 15 40.3	-0.9
	7.4nm,0.3s,baz=44,slow=5.1,SNR=62						
PMG				Sn	Sn	21 16 32.1	+1.7
	36nm,0.3s,baz=225,slow=22,SNR=6.1						
PMG				LR	LR	21 17 30.7	
	comp=Z,1μm,18.3s,baz=82,slow=40						
COEN	Coen	10.30	220	P	Pn	21 17 02.6	-0.5
	baz=9.4,SNR=8.4						
HNR	Honiara	10.44	109	LR	LR	21 20 57.6	
	comp=Z,91nm,18.8s,baz=288,slow=36						
MTSU	Mount Surprise	13.20	204	P	Pn	21 17 41.1	-1.6
	baz=12,SNR=17						
CTA	Charters Tower	14.40	194	Pn	Pn	21 17 58.1	-0.8
	baz=14,slow=16,SNR=2.7						
QIS	Mount Isa	17.57	214	P	Pn	21 18 37.2	-2.0
	baz=17,SNR=6.5						
EIDS	Eidsvold	19.23	177	P	P	21 18 57.5	-0.3
	baz=18						
MTN	Manton Dam	19.75	249	P	Pn	21 19 07.1	+1.6
	baz=19,SNR=3.3						
GUMO	Guam	20.17	345	LR	LR	21 25 39.7	
	comp=Z,79nm,21.8s,baz=114,slow=34						
RMQ	Roma	20.34	183	P	P	21 19 09.7	-0.3
	baz=20,SNR=4.9						
WB0	Warramunga Arr	20.36	227	P	P	21 19 09.3	-1.0
	baz=20						
WRA	Warramunga Arr	20.52	226	P	P	21 19 10.4	-1.5
	18nm,0.7s,baz=50,slow=10,SNR=107						
WRA				LR	LR	21 27 43.9	
	comp=Z,256nm,20.9s,baz=40,slow=38						
QLP	Quilpie	21.12	194	P	P	21 19 17.2	-1.2
	baz=20,SNR=3.3						
DZM	Mont Dzumac	22.52	137	LR	LR	21 27 06.9	
	comp=Z,220nm,18.7s,baz=235,slow=33						
KNRA	Kununurra	22.88	244	P	P	21 19 37.3	0.0
	baz=22,SNR=12						
ASAR	Alice Springs	23.35	220	P	P	21 19 40.8	-1.1
	1.6nm,0.7s,baz=54,slow=8.9,SNR=23						
ASAR				LR	LR	21 28 23.6	
	comp=Z,219nm,20.1s,baz=23,slow=36						
ARMA	Armidale	24.28	176	P	P	21 19 53.0	+2.5
	baz=24						
CMSA	Cobar Meteorol	25.66	188	P	P	21 20 06.2	+3.3
	baz=25						
BATI	Baumata	26.35	259	LR	LR	21 31 34.5	
	comp=Z,214nm,18.2s,baz=110,slow=39						
STKA	Stephens Creek	26.85	196	LR	LR	21 30 53.2	
	comp=Z,227nm,20.3s,baz=4.2,slow=36						
HTT	Hallett	29.10	199	P	P	21 20 35.3	+1.6
	baz=28						
LEM	Lembang	42.08	267	LR	LR	21 41 03.3	
	comp=Z,51nm,21.4s,baz=82,slow=38						
JNU	Nakatsue	42.98	336	LR	LR	21 38 22.6	
	comp=Z,292nm,20.3s,baz=298,slow=34						
PETK	Petropavlovsk-	59.31	5	LR	LR	21 45 43.3	
	comp=Z,68nm,19.8s,baz=132,slow=32						
SONM	Songino Array	65.92	329	LR	LR	21 56 33.1	
	comp=Z,62nm,18.1s,baz=48,slow=38						
ZALV	Zalesovo Beam	80.65	327	LR	LR	22 04 09.7	
	comp=Z,26nm,19.1s,baz=70,slow=37						
YBH	Yreka Blue Hor	92.00	48	LR	LR	22 06 04.5	
	comp=Z,74nm,18.1s,baz=338,slow=34						
TORD	Torodi Ar. Bea	147.96	285	PKPbc	PKPbc	21 34 17.7	-0.8
	0.7nm,0.3s,baz=73,slow=3.1,SNR=10						

GUC 02 21:30:43.3±0.5**, 23°.92S×67°.29W, h231km**±25km**, ML3.9, 3C-3D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PB06	IPOC Station P	2.42	299	⇑iP	Pn	21 31 30.6	+2.0
PB06				iS	S	21 32 06.0	+2.1
PB06				IAML		21 32 07.2	
	comp=N,175nm,0.3s						
GO02	Mina Guanaco	2.44	239	⇑iP	Pn	21 31 30.6	+1.7
GO02				iS	S	21 32 07.1	+2.6
GO02				IAML		21 32 07.5	
	comp=N,304nm,0.2s						
ANCH	Antofagasta	2.87	274	⇓iP	Pn	21 31 43.2	+10
ANCH				iS	S	21 32 22.3	+10
PB14	IPOC Station P	2.93	255	eP	Pn	21 31 36.5	+2.4
PB14				iS	S	21 32 16.5	+2.6
PB14				IAML		21 32 18.5	
	comp=E,164nm,0.3s						
PB10	IPOC Station P	3.02	277	⇑iP	Pn	21 31 37.6	+2.8
PB10				iS	S	21 32 18.7	+3.4
PB04	IPOC Station P	3.07	300	⇓iP	Pn	21 31 38.0	+2.4
PB04				iS	S	21 32 18.8	+2.3
PB07	IPOC Station P	3.24	312	⇓iP	Pn	21 31 39.3	+1.8
PB07				iS	S	21 32 22.1	+1.9
PB02	IPOC Station P	3.53	317	eP	Pn	21 31 42.6	+1.7
PB02				iS	S	21 32 26.7	+0.6

*ISK **02** 21:42:35.9, 42°.46N×43°.34E, h3km, ML3.2/3*
*CSEM **02** 21:42:36.7±0.3, 42°.47N×43°.29E, h2km, ML2.7, Error ellipse: s-maj=6.7km s-min=3.6km az=162.0*
*DDA **02** 21:42:36.5, 42°.37N×43°.28E, h5km, Ml3.1*
*ATA **02** 21:42:36.7±1.1, 42°.36N×43°.26E, h21km±7km, ML3.4, MW3.4*
*TIF **02** 21:42:36.1, 42°.51N×43°.31E, h15km±2km*
ISC 02 21:42:36.3±1.2**, 42°.45N**±0°.04×**43°.29E**±0°.02**, h2km**±10km**, n50, σ0s.75**/82**, Western Caucasus**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ONI	Oni	0.18	42	P	Pg	21 42 40.1	+0.3
ONI				S	Sg	21 42 42.9	+0.6
GUDG	Gudauri	0.88	89	P	Pg	21 42 53.3	+0.1
GUDG				S	Sb	21 43 06.1	-0.7
GUDG	Gudauri	0.88	89	P	Pg	21 42 53.3	+0.1
GUDG				S	Sb	21 43 06.1	-0.7
EPOS	Posof	1.04	204	eP	Pg	21 42 55.4	-0.7
EPOS				eS	Sg	21 43 09.9	+0.3
EPOS				IAML		21 43 13.8	
	comp=Z,21nm,0.3s						
EPOS	Posof	1.04	204	iP	Pg	21 42 55.3	-0.8
EPOS				iS	Sg	21 43 10.3	+0.8
EPOS	Posof	1.04	204	P	Pg	21 42 55.3	-0.8
EPOS				S	Sg	21 43 10.4	+0.8
AKH	Akhalkalaki	1.05	172	PG	Pg	21 42 56.9	+0.5
AKH				SG	Sb	21 43 12.2	+0.5
AKH	Akhalkalaki	1.05	172	P	Pb	21 42 57.0	-0.4
AKH				S	Sb	21 43 12.3	+0.5
AKH	Akhalkalaki	1.05	172	P	Pb	21 42 57.0	-0.4
AKH				eSg	Sb	21 43 12.2	+0.5
DUS	Dusheti	1.11	109	P	Pb	21 42 58.4	+0.1
DUS	Dusheti	1.11	109	P	Pb	21 42 58.4	+0.1
TBLG	Delisi	1.30	123	PN	Pg	21 43 00.9	-0.3
TBLG				SN	Sn	21 43 19.3	-0.2
TBLG	Delisi	1.30	123	eP	Pg	21 43 00.7	-0.5
TBLG				eS	Sn	21 43 19.2	-0.3
TBLG				IAML		21 43 21.1	
	comp=Z,18nm,0.3s						
TBLG	Delisi	1.30	123	P	Pg	21 43 00.9	-0.3
TBLG				S	Sn	21 43 19.2	-0.3
TBLG	Delisi	1.30	123	P	Pg	21 43 00.9	-0.3
TBLG				eSn	Sn	21 43 19.3	-0.2
BTNK	Botanikuri	1.36	124	P	Pn	21 43 02.0	-0.4
BTNK				S	Sn	21 43 21.1	0.0
BTNK	Botanikuri	1.36	124	P	Pn	21 43 02.0	-0.4
BTNK				S	Sn	21 43 21.1	0.0
ARTV	Artvin	1.62	219	eP	Pn	21 43 05.6	-0.5
ARTV				eS	Sn	21 43 27.4	-0.4
ARTV				IAML		21 43 29.1	
	comp=Z,32nm,0.2s						
ARTV	Artvin	1.62	219	iP	Pn	21 43 05.4	-0.7
ARTV				iS	Sn	21 43 27.8	0.0
ARTV	Artvin	1.62	219	P	Pn	21 43 05.4	-0.7
ARTV				S	Sn	21 43 27.8	0.0
DBOC	Borcka	1.64	228	iP	Pn	21 43 06.3	+0.1
DBOC				iS	Sg	21 43 29.1	+0.2
DBOC	Borcka	1.64	228	P	Pn	21 43 06.3	+0.1
DBOC				S	Sg	21 43 29.1	+0.2
EAK	Akyaka	1.78	172	eP	Pn	21 43 08.3	-0.1
EAK	Akyaka	1.78	172	iP	Pn	21 43 08.2	-0.1
EAK				iS	Sb	21 43 32.7	+0.1
EAK	Akyaka	1.78	172	P	Pn	21 43 08.2	-0.1
EAK				S	Sb	21 43 32.7	+0.1
KARS	Kars	1.83	185	PN	Pb	21 43 10.0	-0.6
KARS	Kars	1.83	185	ePn	Pb	21 43 10.0	-0.6
DGRG	David-gareji	1.85	122	eP	Pb	21 43 10.1	-0.8
DGRG				eS	Sg	21 43 35.9	+0.2
DGRG				IAML		21 43 40.4	
	comp=Z,37nm,0.4s						
DGRG	David-gareji	1.85	122	P	Pb	21 43 10.4	-0.5
DGRG				S	Sg	21 43 36.0	+0.3
DGRG	David-gareji	1.85	122	P	Pb	21 43 10.0	-0.9
DGRG				S	Sg	21 43 35.9	+0.2
DBAD	Bademkaya	1.86	220	iP	Pn	21 43 10.1	+0.7
DBAD				iS	Sb	21 43 35.3	+0.4
DBAD	Bademkaya	1.86	220	P	Pn	21 43 10.1	+0.7
DBAD				S	Sb	21 43 35.3	+0.4
DDEM	Demirkent	1.94	217	iP	Pb	21 43 12.1	-0.3
DDEM				iS	Sb	21 43 37.5	+0.4
DDEM	Demirkent	1.94	217	P	Pb	21 43 12.1	-0.3
DDEM				S	Sb	21 43 37.5	+0.4
SENK	Senkaya-Erzuru	2.02	201	PN	Pb	21 43 12.8	-1.0
SENK	Senkaya-Erzuru	2.02	201	ePn	Pb	21 43 12.8	-1.0
DIGO	Kars	2.04	178	eP	Pn	21 43 12.5	+0.6
DIGO				eS	Sb	21 43 39.3	-0.8
DIGO	Kars	2.04	178	iP	Pn	21 43 13.0	+1.1
DIGO				iS	Sb	21 43 40.4	+0.3
DIGO	Kars	2.04	178	P	Pn	21 43 13.0	+1.1
DIGO				S	Sb	21 43 40.4	+0.3
CHOM	Cayeli-Rize	2.32	235	ePn	Pn	21 43 16.4	+0.8
DDFL	Dedoflistskaro	2.34	115	P	Pg	21 43 20.4	-0.8
TASB	TASBURUN-IGDIR	2.57	163	PN	Pn	21 43 19.9	+0.9
TASB	TASBURUN-IGDIR	2.57	163	ePn	Pn	21 43 19.9	+0.9
EATA	Eleskirt	2.66	193	eP	Pn	21 43 22.1	+1.7
ERZM	Erzurum	2.93	210	eP	Pn	21 43 26.0	+1.9
TUTA	Tutak	3.07	187	eP	Pn	21 43 28.2	+2.2
BAYT	Ayd˜−ntepe-Bay	3.13	230	PN	Pn	21 43 28.3	+1.4
BAYT	Ayd˜−ntepe-Bay	3.13	230	ePn	Pn	21 43 28.3	+1.4
BAYB	BAYBURT	3.16	227	eP	Pb	21 43 31.1	-2.3
EKAR	Karacoban	3.33	197	eP	Pn	21 43 30.8	+1.2

*ISK **02** 21:45:32.6, 36°.47N×31°.00E, h21km, ML2.6/3*
*CSEM **02** 21:45:33.1±0.6, 36°.41N×30°.90E, h10km, ML2.4, Error ellipse: s-maj=12.8km s-min=6.6km az=153.0*
*DDA **02** 21:45:34.4, 36°.74N×30°.71E, h7km, Ml2.4*
ISC 02 21:45:33.0±1.9**, 36°.47N**±0°.06×**30°.89E**±0°.04**, h8km**±13km**, n25, σ0s.82**/43**, Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ANTB	Antalya	0.47	336	PG	Pb	21 45 43.8	+0.4
ANTB				SG	Sb	21 45 51.2	+0.7
ANTB	Antalya	0.47	336	ePg	Pb	21 45 43.8	+0.4
ANTB				eSg	Sb	21 45 51.2	+0.7
KORT	Korkueli	0.68	321	PG	Pb	21 45 47.7	+0.5
KORT				SG	Sb	21 45 58.3	+1.4
KORT	Korkueli	0.68	321	iP	Pn	21 45 48.2	-0.8
KORT				iS	Sb	21 45 58.2	+1.4
KORT	Korkueli	0.68	321	ePg	Pb	21 45 47.7	+0.5
KORT	Korkueli	0.68	321	P	Pn	21 45 48.2	-0.8
KORT				S	Sb	21 45 58.2	+1.4
KEPZ	Antalya-Kepez	0.72	53	iP	Pn	21 45 49.3	-0.2
KEPZ				iS	Sn	21 46 00.4	-0.3
KEPZ	Antalya-Kepez	0.72	53	P	Pn	21 45 49.3	-0.2
KEPZ				S	Sn	21 46 00.4	-0.3
ELL	Elmali	0.83	290	PG	Pn	21 45 51.0	-0.1
ELL				SG	Sn	21 46 04.3	+0.6
ELL	Elmali	0.83	290	ePg	Pn	21 45 51.0	-0.1
ELL				eSg	Sn	21 46 04.3	+0.6
SUTC	Sutluce-Ispart	1.01	5	PG	Pg	21 45 51.9	-0.4
SUTC	Sutluce-Ispart	1.01	5	ePg	Pg	21 45 51.9	-0.4
AKAS	Kas	1.06	257	iP	Pb	21 45 53.8	+0.1
AKAS				iS	Sn	21 46 10.0	+0.7
AKAS	Kas	1.06	257	P	Pb	21 45 53.8	+0.1
AKAS				S	Sn	21 46 10.0	+0.7
FETY	Fethiye	1.46	277	PN	Pn	21 45 59.5	-0.2
FETY	Fethiye	1.46	277	P	Pn	21 45 59.2	-0.5
FETY	Fethiye	1.46	277	ePn	Pn	21 45 59.5	-0.2
FETY				S	Sn	21 46 17.4	-1.6
DOGA	KONYA_Doganhis	1.75	21	iP	Pn	21 46 03.4	-0.3
DOGA				iS	Sn	21 46 25.6	-0.6
DOGA	KONYA_Doganhis	1.75	21	P	Pn	21 46 03.4	-0.3
DOGA				S	Sn	21 46 25.6	-0.6
DALY	Dalyan (Mu˜la	1.83	281	PN	Pn	21 46 04.3	-0.4
DALY	Dalyan (Mu˜la	1.83	281	iP	Pn	21 46 04.6	-0.1
DALY				iS	Sn	21 46 26.0	-2.0
DALY	Dalyan (Mu˜la	1.83	281	ePn	Pn	21 46 04.3	-0.4
DALY	Dalyan (Mu˜la	1.83	281	P	Pn	21 46 04.6	-0.1
DALY				S	Sn	21 46 26.0	-2.0
TAVA	DENIZLI_Tavas	1.87	303	iP	Pn	21 46 05.3	0.0
TAVA				iS	Sn	21 46 27.9	-1.2
TAVA	DENIZLI_Tavas	1.87	303	P	Pn	21 46 05.3	0.0
TAVA				S	Sn	21 46 27.9	-1.2

IDC 02 21:47:33.4±0.8**, 18°.95N×145°.62E, h0km, mb3.6**/8**, mb1 3.9**/8**, mb1mx3.6**/59**, mbtmp3.6**/8**, Error ellipse: s-maj=34.8km s-min=19.8km az=106.0, Mariana Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	40.20	197	P	P	21 55 12.3	+0.6
	4.4nm,0.6s,baz=20,slow=9.1,SNR=96						
ASAR	Alice Springs	43.87	196	P	P	21 55 40.8	-1.0
	0.7nm,0.7s,baz=11,slow=6.2,SNR=8.0						
MKAR	Makanchi Array	58.24	314	P	P	21 57 30.0	+0.3
	0.1nm,0.5s,baz=99,slow=9.3,SNR=2.5						
KURBB	Kurchatov Arra	61.09	318	P	P	21 57 48.8	-0.4
	0.3nm,0.6s,baz=96,slow=7.2,SNR=3.7						
ILAR	Eielson Array	63.46	26	P	P	21 58 04.7	-0.1
	0.4nm,0.8s,baz=231,slow=5.7,SNR=3.7						
INK	Inuvik	69.17	23	P	P	21 58 42.2	+0.9
	0.5nm,0.5s,baz=233,slow=5.1,SNR=3.5						
YKA	Yellowknife Ar	77.80	28	P	P	21 59 31.2	-1.1
	0.3nm,0.6s,baz=293,slow=5.6,SNR=4.9						
NVAR	Mina Array Bea	83.04	52	P	P	22 00 01.8	+0.5
	0.6nm,0.6s,baz=268,slow=6.3,SNR=2.8						

TRN 02 21:49:57.6, 10°.85N×62°.31W, h7km, MD3.5, 1C, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TRN	Trinidad (W)	0.91	103	⇑iP	Pn	21 50 16.4	-0.4
TRN				eS	Sb	21 50 28.6	+0.5
TPP	Pointe-a-Pierr	0.99	122	eP	Pg	21 50 16.8	+0.1
TPP				eS	Sb	21 50 30.5	-0.1
TBH	Brigand Hill	1.27	107	eP	Pg	21 50 22.9	+0.9
TBH				eS	Sn	21 50 40.4	+1.1
TOSP	Speyside	1.79	76	eP	Pn	21 50 29.2	+0.2
TOSP				eS	Sg	21 51 00.8	+5.5

*ISCJB **02** 22:07:27.7±1.6, 4°.2S±0°.3×153°.4E±0°.3, h100km, mb3.2/4, Error ellipse: s-maj=58.5km s-min=13.6km az=40.7*
*IDC **02** 22:07:32.0±5.4, 4°.31S×153°.28E, h122km±45km, mb3.1/4, mb1 3.4/5, mb1mx3.1/44, mbtmp3.6/5, Error ellipse: s-maj=58.6km s-min=30.2km az=125.0*
ISC 02 22:07:30.8±1.7**, 4°.2S**±0°.3×**153°.3E**±0°.4**, h100km, n6, σ2s.39**/7**, mb3.3**/4**, New Ireland region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	7.97	229	P	Pn	22 09 23.4	-0.5
	1.4nm,0.3s,baz=135,slow=5.7,SNR=3.2						
PMG				S	Sn	22 10 54.0	+1.5
	1.3nm,0.3s,baz=306,slow=21,SNR=5.9						
WRA	Warramunga Arr	24.19	228	P	P	22 12 36.6	-1.6
	1.3nm,0.6s,baz=54,slow=10.0,SNR=18						
ASAR	Alice Springs	26.91	222	P	P	22 13 01.1	-1.7
	0.1nm,0.2s,baz=56,slow=9.1,SNR=4.1						
CMAR	Chiang Mai Arr	58.02	295	P	P	22 17 13.2	-0.5
	0.2nm,0.3s,baz=92,slow=4.5,SNR=4.1						
ILAR	Eielson Array	81.42	22	P	P	22 19 35.9	-0.5
	0.2nm,0.8s,baz=228,slow=3.5,SNR=2.9						
TORD	Torodi Ar. Bea	150.53	289	PKPbc	PKPdf	22 27 10.4	+3.8
	0.5nm,0.7s,baz=46,slow=1.8,SNR=4.4						

*NEIC **02** 22:15:03.4±0.0, 16°.30N×98°.44W, h10km, MD4.1(MEX), After MEX.*
MEX 02 22:15:03.4±0.6**, 16°.30N×98°.44W, h10km**±4km**, MD4.1, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.31	73	eP	Pg	22 15 09.1	-0.5
PNIG				iS	Sg	22 15 13.8	0.0
PNIG	Pinotepa	0.31	73	eP	Pg	22 15 09.1	-0.5
PNIG				iS	Sg	22 15 13.8	0.0
TLIG	Tlapa	1.26	354	iP	Pn	22 15 23.4	-3.8
TLIG				eS	Sb	22 15 38.9	-4.8
TLIG	Tlapa	1.26	354	iP	Pn	22 15 23.4	-3.8
TLIG				eS	Sb	22 15 38.9	-4.8
HMTT	Tlapaneco	1.49	355	eP	Pn	22 15 26.7	-3.7
HMTT				eS	Sn	22 15 44.5	-5.5
VHO	Vista Hermosa	1.80	65	eP	Pn	22 15 33.2	-1.5
VHO				eS	Sn	22 15 56.6	-1.2
VHO	Vista Hermosa	1.80	65	eP	Pn	22 15 33.2	-1.5
VHO				eS	Sn	22 15 56.6	-1.2
CAIG	El Cayaco	1.91	293	eP	Pn	22 15 32.7	-3.3
CAIG				eS	Sn	22 15 55.3	-4.8
CAIG	El Cayaco	1.91	293	eP	Pn	22 15 32.7	-3.3
CAIG				eS	Sn	22 15 55.3	-4.8
HUIG	Huatulco	2.30	103	eP	Pn	22 15 39.8	-1.6
HUIG				eS	Sn	22 16 05.3	-4.5
HUIG	Huatulco	2.30	103	eP	Pn	22 15 41.3	-0.2
HUIG				eS	Sn	22 16 05.3	-4.5
MOIG	Morelia	4.26	322	ePn	Pn	22 16 03.3	-5.3
MOIG				eS	Sn	22 17 00.3	+1.8

IDC 02 22:21:11.8±2.3**, 23°.12S×67°.91W, h0km, mb3.8**/2**, mb1 3.9**/4**, mb1mx3.6**/37**, mbtmp3.8**/4**, ML3.8**/2**, Error ellipse: s-maj=56.9km s-min=48.5km az=56.0, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LPAZ	La Paz	6.80	358	Pn	Pn	22 22 54.4	+1.0
	0.6nm,0.3s,baz=150,slow=5.9,SNR=19						
SIV	San Ignacio	9.58	43	Pn	Pn	22 23 30.3	-0.7
	1.5nm,0.3s,baz=245,slow=11,SNR=25						
TORD	Torodi Ar. Bea	77.03	70	P	P	22 33 07.0	-0.1
	0.4nm,0.4s,baz=250,slow=5.4,SNR=12						
YKA	Yellowknife Ar	93.02	340	P	P	22 34 25.4	-1.2
	0.2nm,0.5s,baz=133,slow=4.2,SNR=5.2						
MKAR	Makanchi Array	146.36	38	PKPbc	PKPab	22 40 55.0	-0.4
	0.3nm,0.5s,baz=323,slow=4.0,SNR=6.2						

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*SOME **02** 22:21:46.6, 44.°07N×83.°73E, h10km*
*NNC **02** 22:21:49.4±2.8, 44.°34N×83.°80E, h0km, mb3.2, mpv2.8, Error ellipse: s-maj=25.0km s-min=8.8km az=112.0*
ISC 02 22:21:52.5±2.6**, 44.°3N**±0.°1×**83.°8E**±0.°1**, h20**km**, n8, σ2.§61**/12**, 3C-3D, Northern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MK31	Makanchi Array	2.69	337	⇑Pg	Pb	22 22 38.1	-1.9
	2.0nm,0.3s,baz=150,slow=17,SNR=29						
MK31				⇓Lg	Lg	22 23 15.2	
	7.8nm,0.5s,baz=157,slow=29,SNR=12						
MAKZ	Makanchi	2.79	333	⇓Pg	Pb	22 22 40.0	-1.7
	2.0nm,0.3s						
MAKZ				⇑Lg	Lg	22 23 17.8	
	5.8nm,0.6s						
ZSN	Zaisan	3.21	13	eP	Pb	22 22 47.2	-1.6
	1.5nm,0.2s						
ZSN				eS	Sb	22 23 30.8	+3.3
	9.3nm,0.4s						
PDGK	Podgornoye	3.28	254	⇓Pg	Pb	22 22 49.9	-0.1
	1.1nm,0.4s						
PDGK				⇑Lg	Lg	22 23 32.3	
	11nm,0.8s						
KAPS	Kapalarasan	3.31	288	eP	Pb	22 22 48.3	-2.2
	0.6nm,0.1s						
KAPS				eS	Sb	22 23 32.6	+2.2
	7.4nm,0.5s						
ARXS	Arharly	4.30	271	eP	Pb	22 23 04.2	-3.1
	0.8nm,0.2s						
ARXS				eS	Sb	22 23 59.7	+0.9
	5.3nm,0.5s						
TNSS	Tian-Shan	5.14	258	eP	Pb	22 23 20.7	-1.3
	1.6nm,0.4s						
TNSS				eS	Sb	22 24 28.0	+4.6
	3.7nm,0.8s						
KUU	Kurty	5.39	268	eP	Pb	22 23 23.9	-2.1
	1.9nm,0.3s						
KUU				eS	Sb	22 24 34.2	+3.8
	3.9nm,0.3s						

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*SCB **02** 22:47:44.1±0.7, 22.°66S×66.°86W, h198km, Ml4.0/1, Error ellipse: s-maj=18.1km s-min=8.6km az=32.0*
*ISCJB **02** 22:47:45.0±0.3, 22.°73S±0.°02×66.°38W±0.°03, h256km±2km, mb4.1/15, Error ellipse: s-maj=4.9km s-min=3.3km az=164.2*
*SJA **02** 22:47:45.5±0.9, 22.°68S×66.°34W, h249km±6km, ML4.1, MW3.5*
*IDC **02** 22:47:45.1±1.9, 22.°60S×66.°09W, h234km±14km, mb3.7/12, mb1 3.8/15, mb1mx3.6/40, mbtmp4.3/15, Error ellipse: s-maj=18.6km s-min=13.8km az=38.0*
*NEIC **02** 22:47:46.0±0.0, 22.°68S×66.°34W, h249km, mb4.2/4, MD4.1(SJA), After SJA.*
*GUC **02** 22:47:47.0±0.4, 22.°72S×66.°53W, h221km±9km, ML4.6*
ISC 02 22:47:45.5±0.6**, 22.°72S**±0.°04×**66.°41W**±0.°04**, h246**km±6km**, n74, σ2.§01**/108**, mb4.1**/15**, 16C-2D, Jujuy Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
YJA	Yavi	0.99	57	i P	Pn	22 48 21.4	+0.9
YJA				i S	S	22 48 46.8	-1.2
HJA	Humahuaca	1.04	118	i P	Pn	22 48 22.0	+1.3
HJA				eS	S	22 48 49.1	+0.7
MOCB	Mochara	1.63	26	⇑iPn	Pn	22 48 25.5	+0.5
MOCB				⇑iSn	S	22 48 55.1	-0.9
	465nm,0.6s						
AZAP	Zapla	1.94	141	i P	Pn	22 48 27.7	+0.4
AZAP				eS	S	22 49 04.0	+3.8
SLA	San Lorenzo	2.15	158	i P	Pn	22 48 30.9	+1.7
SLA				i S	S	22 49 07.4	+3.7
SLA	San Lorenzo	2.15	158	⇑iP	Pn	22 48 30.9	+1.7
ASTB	Santa Barbara	2.17	125	i P	Pn	22 48 29.9	+0.5
ASTB				i S	S	22 49 04.2	+0.3
ALOL	LOMAS DE OLMED	2.48	116	eP	Pn	22 48 32.3	0.0
ALOL				i S	S	22 49 15.6	+6.4
PB09	IPOC Station P	2.79	289	⇑iP	Pn	22 48 37.8	+2.1
PB09				IAML		22 49 20.6	
	comp=N,1μm,0.2s						
PB06	IPOC Station P	2.92	270	IAML		22 49 20.9	
	comp=E,521nm,0.5s						
PB01	IPOC Station P	3.31	300	ePn	Pn	22 48 42.8	+1.4
PB01				eS	S	22 49 25.6	+0.1
PB01	IPOC Station P	3.31	300	⇑iP	Pn	22 48 42.5	+1.2
PB01				i S	S	22 49 24.9	-0.6
PB07	IPOC Station P	3.38	286	⇑iP	Pn	22 48 43.5	+1.4
PB07				i S	S	22 49 25.7	-1.1
FSA	Cafayete	3.40	174	i P	Pn	22 48 42.9	+0.6
FSA				eS	S	22 49 26.1	-1.2
PB04	IPOC Station P	3.48	276	ePn	Pn	22 48 44.5	+1.2
PB04				eS	S	22 49 27.9	-1.1
PB04	IPOC Station P	3.48	276	⇑iP	Pn	22 48 44.6	+1.3
PB04				i S	S	22 49 28.3	-0.7
PB02	IPOC Station P	3.53	293	⇑iP	Pn	22 48 44.8	+1.0
PB02				i S	S	22 49 28.5	-1.3
PB08	IPOC Station P	3.63	315	⇑iP	Pn	22 48 47.0	+1.8
PB08				i S	S	22 49 32.6	+0.2
GO02	Mina Guanaco	3.79	230	⇑iP	Pn	22 48 48.7	+1.8
GO02				i S	S	22 49 36.5	+0.8
ANCH	Antofagasta	3.81	255	eP	Pn	22 48 55.6	+8.8
ANCH				i S	S	22 49 41.9	+6.5
PB10	IPOC Station P	3.90	258	ePn	Pn	22 48 49.5	+1.6
PB10				eS	S	22 49 36.9	-0.5
PB10	IPOC Station P	3.90	258	eP	Pn	22 48 49.4	+1.5
PB10				eS	S	22 49 36.9	-0.5
GO01	Chusmiza	4.00	319	⇑iP	Pn	22 48 51.2	+1.5
GO01				i S	S	22 49 40.0	-0.5
PB14	IPOC Station P	4.13	242	eP	Pn	22 48 52.3	+1.4
PB14				eS	S	22 49 41.9	-0.8
PB11	IPOC Station P	4.23	314	ePn	Pn	22 48 52.1	+0.1
PB11				eS	S	22 49 39.8	-5.1
MNMC	Minye Minye	4.66	320	ePn	Pn	22 48 58.1	+0.9
MNMC				eS	S	22 49 52.8	-1.5
MNMC	Minye Minye	4.66	320	eP	Pn	22 48 58.0	+0.7
MNMC				i S	S	22 49 52.8	-1.5
CYA	Choya	5.72	175	eP	Pn	22 49 11.7	+1.7
CYA				i S	S	22 50 16.3	-1.3
BBOJ	La Paz, Jacaqu	5.96	343	⇑iPn	Pn	22 49 15.5	+1.9
BBOE	La Paz, Chanca	6.07	346	⇑iPn	Pn	22 49 16.6	+1.6
VCA	Vinchina	6.20	195	eP	Pn	22 49 17.9	+1.7
VCA				IAML		22 49 18.7	
	comp=Z,44nm,0.4s						
VCA				eS	S	22 50 29.5	+0.8
BBOD	La Paz, Gloria	6.40	341	⇑iPn	Pn	22 49 20.3	+1.2
BBOD				⇑iSn	S	22 50 31.3	-2.6
LPAZ	La Paz	6.61	345	P	Pn	22 49 22.7	+0.9
	comp=Z,2.9nm,0.3s,baz=154,slow=9.2,SNR=44						
LPAZ				S	S	22 50 36.7	-2.1
	comp=Z,0.4nm,0.3s,baz=312,slow=18,SNR=4.8						
LPAZ	La Paz	6.61	345	ePn	Pn	22 49 22.8	+0.9
LPAZ				eS	S	22 50 36.1	-2.6
LPAZ	La Paz	6.61	345	eP	Pn	22 49 22.5	+0.7
LPAZ	La Paz	6.61	345	⇑iPn	Pn	22 49 22.5	+0.7
LPAZ				eSn	S	22 50 36.2	-2.6
AGUA	GUANDACOL	6.99	195	i P	Pn	22 49 26.6	+0.6
AGUA				eS	S	22 50 45.1	-1.6
LCO	Las Campanas	7.36	211	ePn	Pn	22 49 30.6	-0.3
LCO				eS	S	22 50 44.0	-11
LCO	Las Campanas	7.36	211	eP	Pn	22 49 30.7	-0.1
LCO				eS	S	22 50 44.0	-11
APLL	PUNTA DE LOS L	7.64	181	eP	Pn	22 49 33.1	-1.1
APLL				i S	S	22 50 56.5	-5.1
APLL				IAML		22 51 00.7	
	comp=Z,12nm,0.5s						
AROD	Rodeo	7.91	200	i P	Pn	22 49 39.9	+2.0
AROD				eS	S	22 51 06.8	-1.4
SIV	San Ignacio	8.38	38	P	Pn	22 49 41.3	-2.4
	comp=Z,5.1nm,0.3s,baz=246,slow=6.3,SNR=126						
SIV	San Ignacio	8.38	38	⇓iP	Pn	22 49 41.6	-2.1
AMOG	MOGNA	8.39	192	eP	Pn	22 49 42.9	-0.9
AMOG				i S	S	22 51 13.5	-5.6
TCA	Tanti	8.73	170	i P	Pn	22 49 47.4	-0.6
TCA				IAML		22 49 48.6	
	comp=Z,11nm,0.4s						
TCA				eS	S	22 51 21.3	-5.7
RTCV	Cerro Valdivia	9.30	191	eP	Pn	22 49 54.9	-0.3
ASAL	Salagasta	10.06	192	eP	Pn	22 50 04.5	-0.4
ROC1	El Roble	11.00	201	eP	Pn	22 50 15.1	-1.7
TRQA	Tornquist	15.75	167	eP	P	22 51 14.1	+0.3
	comp=Z,2.1nm,0.5s						
PLCA	Paso Flores	18.29	190	P	P	22 51 43.1	+1.6
	comp=Z,0.4nm,0.3s,baz=39,slow=11,SNR=11						
SDV	Santo Domingo	31.69	352	P	P	22 53 44.5	-2.1
	comp=Z,1.9nm,0.4s,baz=180,slow=20,SNR=4.0						
SDV	Santo Domingo	31.69	352	eP	P	22 53 43.6	-3.0
	comp=Z,2.1nm,0.4s						
RCBR	Riachuelo	33.88	65	P	P	22 54 02.5	-3.0
	comp=Z,133nm,0.7s,baz=340,slow=0.1,SNR=3.9						
FDF	Fort de France	37.58	8	eP	P	22 54 36.4	-0.3
	comp=Z,25nm,0.5s						
APG	El Apazote	44.28	326	P	P	22 55 32.5	+1.0
	comp=Z,1.5nm,0.4s,baz=104,slow=8.3,SNR=3.3						
TKL	Tuckaleechee C	60.35	344	P	P	22 57 29.1	+0.4
	comp=Z,4.5nm,0.7s,baz=139,slow=10.0,SNR=5.8						
TXAR	Lajitas Array	62.97	324	P	P	22 57 47.8	+1.4
	comp=Z,0.4nm,0.6s,baz=153,slow=8.1,SNR=2.7						
DBIC	Dimbokro	66.88	72	P	P	22 58 10.5	-1.2
	comp=Z,1.6nm,0.6s,baz=238,slow=11,SNR=5.8						
KOWA	Kowa	71.40	65	P	P	22 58 38.1	-1.3
	comp=Z,2.2nm,0.6s,baz=246,slow=8.3,SNR=6.8						
SYO	Syowa Base	74.54	159	⇓eP	P	22 58 53.4	-3.4
TOA0	Torodi Ar. Sit	75.60	69	eP	P	22 59 02.7	-1.1
	comp=Z,4.1nm,0.6s						
TORD	Torodi Ar. Bea	75.60	69	P	P	22 59 02.8	-1.1
	comp=Z,3.9nm,0.5s,baz=256,slow=5.7,SNR=84						
PDAR	Pinedale Array	76.34	329	P	P	22 59 09.3	+1.6
	comp=Z,0.3nm,0.5s,baz=110,slow=7.8,SNR=3.6						
ULM	Lac du Bonnet	77.20	341	P	P	22 59 12.3	+0.3
	comp=Z,2.5nm,0.7s,baz=147,slow=5.0,SNR=8.4						
SCHQ	Schefferville	77.24	360	P	P	22 59 12.3	+0.2
	comp=Z,2.4nm,0.6s,baz=150,slow=8.1,SNR=3.5						
ESDC	Sonseca Array	85.10	43	P	P	22 59 54.7	+0.8
	comp=Z,1.7nm,0.8s,baz=242,slow=4.3,SNR=9.7						
YKA	Yellowknife Ar	93.12	340	P	P	23 00 32.2	+1.2
	comp=Z,0.8nm,0.6s,baz=129,slow=4.6,SNR=19						
WRA	Warramunga Arr	133.01	207	PKP	PKPdf	23 06 33.7	+1.3
	comp=Z,0.1nm,0.3s,baz=153,slow=2.0,SNR=7.9						
WRA				SKPbc	SKPab	23 09 38.9	+0.1
	comp=Z,0.2nm,0.6s,baz=156,slow=3.2,SNR=5.4						
KURBB	Kurchatov Arra	141.03	36	PKP	PKPdf	23 06 47.5	+1.3
	comp=Z,0.2nm,0.3s,baz=306,slow=2.3,SNR=4.1						
ZALV	Zalesovo Beam	142.01	28	PKP	PKPdf	23 06 49.2	+1.5
	comp=Z,1.1nm,0.5s,baz=316,slow=2.8,SNR=5.1						
MKAR	Makanchi Array	145.19	39	PKP	PKPab	23 06 55.0	+0.8
	comp=Z,8.2nm,1.0s,baz=316,slow=2.8,SNR=56						
KLR	Kul'dur	149.90	336	PKPbc	PKPbc	23 07 07.0	+0.6
	comp=Z,0.1nm,0.4s,baz=342,slow=3.2,SNR=4.0						
SONM	Songino Array	154.29	11	PKPab	PKPab	23 07 32.5	+1.0
	comp=Z,0.3nm,0.9s,baz=304,slow=3.4,SNR=4.6						
LZH	Lanzhou	164.22	30	ePKP	PKPdf	23 07 23.5	+3.6
LZH				pPKP	pPKPdf	23 08 21.5	-1.6
LZH				sPKP		23 08 44.8	
LZH				LR	LR		
	comp=N,53nm,18.0s						
LZH				LR	LR		
	comp=E,60nm,18.1s						
LZH				LR	LR		
	comp=Z,87nm,20.1s						

MAN 02 22:58:57, 10.°08N×123.°20E, h1km, mb4.6, ML3.5, MS3.3, 2C-3D, Cebu

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SNPH	Sibulan	0.73	177	eP	Pb	22 59 11.9	-0.6
SNPH				i S	Sg	22 59 21.8	+1.2
LLP	Lapu-Lapu	0.79	72	⇓iP	Pg	22 59 12.2	0.0
LLP				i S	Sg	22 59 23.1	+0.6
GUIM	Jordan	0.81	312	eP	Pg	22 59 12.8	+0.2
GUIM				eS	Sg	22 59 24.2	+1.1
JAP	San Jose, Anti	1.40	298	⇓eP	Pb	22 59 26.6	+2.6
DCPH	Dipolog City	1.49	174	⇑eP	Pn	22 59 23.6	-1.4
DCPH				eS	Sb	22 59 43.8	-1.2
RCP	Roxas	1.54	343	⇓eP	Pb	22 59 26.1	-0.2
RCP				eS	Sg	22 59 46.7	+0.2
MSLP	Maasin	1.64	88	eP	Pn	22 59 27.0	+0.1
MSLP				eS	Sg	22 59 49.6	+0.1
PLP	Palo	2.06	58	⇑eP	Pn	22 59 30.9	-1.8
PAGZ	Pagadian	2.22	175	eP	Pn	22 59 35.3	+0.3
BUKP	Musuan	2.86	140	eP	Pn	22 59 44.3	+0.5

MEX 02 23:05:15.4±0.6**, 17.°30N×99.°76W, h30km, MD3.8, Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ACP2	Acapulco	0.44	197	eP	Pb	23 05 22.9	-2.0
ACP2				eS	Sb	23 05 29.9	-1.4
CAIG	El Cayaco	0.55	243	eP	Pb	23 05 24.3	-2.3
CAIG				eS	Sb	23 05 32.6	-1.7
PLIG	Platanillo	1.12	12	eP	Pn	23 05 33.5	-1.7
PLIG				eS	Sn	23 05 46.8	-2.7
YAIG	Yautepec	1.69	23	eP	Pn	23 05 40.6	-2.4
YAIG				eS	Sn	23 06 01.2	-2.6

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*NEIC **02** 23:19:37.2±0.0, 16.°31N×98.°52W, h15km, MD4.0(MEX), After MEX.*
MEX 02 23:19:37.0±0.6**, 16.°30N×98.°54W, h15km, MD3.9, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.41	77	eP	Pg	23 19 43.8	-1.5
PNIG				i S	Sg	23 19 49.9	-0.9
PNIG	Pinotepa	0.41	77	eP	Pg	23 19 43.8	-1.5
PNIG				i S	Sg	23 19 49.9	-0.9
TLIG	Tlapa	1.25	359	eP	Pn	23 19 56.0	-4.1
TLIG				eS	Sb	23 20 11.1	-5.3
TLIG	Tlapa	1.25	359	eP	Pn	23 19 56.0	-4.1
TLIG				eS	Sb	23 20 11.1	-5.3
CAIG	El Cayaco	1.81	294	eP	Pn	23 20 04.6	-3.2
CAIG				eS	Sn	23 20 27.4	-3.1
CAIG	El Cayaco	1.81	294	eP	Pn	23 20 05.1	-2.6
CAIG				eS	Sn	23 20 27.4	-3.1
VHO	Vista Hermosa	1.89	66	eP	Pn	23 20 06.8	-2.1
VHO	Vista Hermosa	1.89	66	eP	Pn	23 20 07.2	-1.8
MOIG	Morelia	4.20	323	ePn	Pn	23 20 40.0	-0.8
MOIG				eS	Sb	23 21 43.3	+2.0

JMA 02 23:23:18.2±0.2**, 38.°40N×144.°49E, h36km, M3.6, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OFUJ	Ofunato	2.31	288	P	Pn	23 23 55.3	+1.6
OFUJ				S	Sn	23 24 23.4	+2.6
MIYJ	Miyakonagasawa	2.39	300	P	Pn	23 23 56.1	+1.3
MIYJ				eS	Sn	23 24 24.2	+1.4
JIO	Ouri	2.47	272	P	Pn	23 23 57.4	+1.6
JIO				S	Sn	23 24 26.2	+1.5
JMK	Ichinoseki	2.62	283	P	Pn	23 23 59.9	+2.0
JMK				eS	Sn	23 24 30.6	+2.2
JOM	Ohasama	2.71	294	P	Pn	23 24 01.2	+2.0
JOM				S	Sn	23 24 33.4	+2.6
JOU	Okura	3.01	271	P	Pn	23 24 05.6	+2.3
JOU				S	Sn	23 24 40.8	+2.7
JRG	Rokugo	3.17	289	P	Pn	23 24 08.0	+2.5
JRG				S	Sn	23 24 45.6	+3.6
JYK	Kaneyama	3.27	280	P	Pn	23 24 09.5	+2.5
JYK				S	Sn	23 24 47.5	+2.8
JFT	Otama	3.40	256	P	Pn	23 24 11.3	+2.6
JFT				S	Sn	23 24 50.2	+2.5
JCH	Churui	4.30	349	P	Pn	23 24 20.5	-0.5
JCH				eS	Sn	23 25 07.9	-1.9
NEM2	Nemuro 2	5.05	10	S	Sn	23 25 21.6	-6.7
JRY	Ryogami san	5.05	244	P	Pn	23 24 32.9	+1.4
JRY				eS	Sn	23 25 27.5	-1.1
JTKR	Abashiri--Toko	5.58	356	P	Pn	23 24 37.9	-0.7
JTKR				S	Sn	23 25 37.2	-4.3

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*NIED **02** 23:33:00, 37.°50N×141.°60E, h53km, Mw3.7 Best double couple: Mo3.94000×10^14 NP1:φs352.00000°, δ24.00000°, λ81.00000°. NP2:φs182.00000°, δ66.00000°, λ94.00000°.*
*ISCJB **02** 23:33:35.2±0.8, 37.°46N±0.°03×141.°63E±0.°08, h60km±6km, mb3.5/11, Error ellipse: s-maj=11.3km s-min=5.5km az=9.9*
*IDC **02** 23:33:36.7±3.1, 37.°44N×141.°56E, h56km±29km, mb3.3/11, mb1 3.5/13, mb1mx3.3/69, mbtmp3.6/13, ML3.7/2, MS2.5/1, Ms1 2.5/1, ms1mx2.2/32, Error ellipse: s-maj=22.4km s-min=14.9km az=72.0*
*JMA **02** 23:33:36.6±0.1, 37.°51N×141.°59E, h48km±2km, M4.1*
JMA Felt II J1.
ISC 02 23:33:35.4±1.5**, 37.°48N**±0.°04×**141.°72E**±0.°08**, h42**km±15km**, n31, σ1.§27**/38**, mb3.5**/11**, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JFK	Kawauchi	0.69	260	P	Pn	23 33 48.9	+0.2
JFK				S	Sn	23 33 57.0	-1.3
ONAJ	Iwakimizuishiy	0.83	243	P	Pn	23 33 51.0	+0.3
ONAJ				S	Sn	23 34 01.3	-0.5
JMM	Marumori	0.83	298	P	Pn	23 33 50.9	+0.2
JMM				S	Sn	23 34 01.0	-0.8
JIO	Ouri	1.01	343	P	Pn	23 33 54.0	+0.9
JIO				S	Sn	23 34 06.3	+0.1
JFT	Otama	1.10	272	P	Pn	23 33 55.0	+0.6
JFT				S	Sn	23 34 07.9	-0.6
JOU	Okura	1.22	317	P	Pn	23 33 56.1	+0.2
JOU				S	Sn	23 34 11.3	+0.1
JYS	Shirataka	1.50	300	P	Pn	23 34 00.3	+0.4
JYS				eS	Sn	23 34 17.6	-0.7
JMK	Ichinoseki	1.52	345	P	Pn	23 34 01.1	+1.0
JMK				S	Sn	23 34 19.3	+0.7
JFY	Yanaizu	1.61	268	P	Pn	23 34 01.7	+0.4
JFY				S	Sn	23 34 20.4	-0.5
JYK	Kaneyama	1.79	324	P	Pn	23 34 04.7	+0.9
JYK				S	Sn	23 34 25.4	+0.1
MJAR	Matsushiro Arr	2.97	253	P	Pn	23 34 20.3	+0.3
	6.9nm,0.3s,baz=88,slow=15,SNR=28						
MJAR				S	Sn	23 34 58.6	+4.2
	6.6nm,0.3s,baz=147,slow=27,SNR=7.9						
MJAR				LR	LR	23 35 48.1	
	comp=Z,82nm,18.9s,baz=100,slow=47						
MAT	Matsushiro	2.97	253	P	Pn	23 34 21.4	+1.4
MAT				S	Sn	23 34 58.4	+4.0
JHJ	Hachijo jima 2	4.63	201	P	Pn	23 34 43.3	+0.4
	20nm,0.3s,baz=314,slow=23,SNR=13						
JHJ				S	Sn	23 35 34.6	-0.8
	29nm,0.3s,baz=70,slow=22,SNR=7.9						
SONM	Songino Array	27.74	303	P	P	23 39 18.9	-1.1
	0.3nm,0.6s,baz=111,slow=7.4,SNR=1.8						
H11N2	WAKE ISLAND Hy	28.17	122	T	T	00 09 43.8	
	baz=315,slow=76,SNR=43						
H11N1	WAKE ISLAND Hy	28.18	122	T	T	00 09 43.0	
	baz=315,slow=76,SNR=38						
H11N3	WAKE ISLAND Hy	28.19	122	T	T	00 09 43.3	
	baz=315,slow=76,SNR=61						
H11S1	WAKE ISLAND Hy	28.90	124	T	T	00 10 37.8	
	baz=316,slow=75,SNR=23						
H11S3	WAKE ISLAND Hy	28.90	124	T	T	00 10 36.1	
	baz=316,slow=75,SNR=21						
H11S2	WAKE ISLAND Hy	28.92	124	T	T	00 10 39.0	
	baz=316,slow=75,SNR=20						
ZALV	Zalesovo Beam	41.80	312	P	P	23 41 19.7	-0.9
	0.3nm,0.3s,baz=76,slow=6.1,SNR=2.7						
MKAR	Makanchi Array	44.09	302	P	P	23 41 38.3	-1.0
	0.2nm,0.4s,baz=79,slow=8.5,SNR=5.9						
KURBB	Kurchatov Arra	45.92	308	P	P	23 41 52.7	-1.0
	1.3nm,0.7s,baz=83,slow=8.2,SNR=12						
ILAR	Eielson Array	48.98	33	P	P	23 42 16.1	-1.1
	0.4nm,0.7s,baz=279,slow=6.5,SNR=5.3						
BVAR	Borovoye Array	50.45	312	P	P	23 42 28.4	-0.3
	0.3nm,0.5s,baz=76,slow=12,SNR=2.9						
WRA	Warramunga Arr	57.54	188	P	P	23 43 20.5	-0.1
	0.6nm,0.5s,baz=6.6,slow=7.4,SNR=9.0						
ASAR	Alice Springs	61.27	188	P	P	23 43 44.8	-1.5
	0.3nm,0.7s,baz=6.3,slow=9.3,SNR=3.9						
YKA	Yellowknife Ar	63.30	30	P	P	23 44 00.4	+1.0
	0.3nm,0.7s,baz=302,slow=6.9,SNR=6.1						
PDAR	Pinedale Array	77.17	46	P	P	23 45 25.7	+0.8
	0.2nm,0.5s,baz=325,slow=7.7,SNR=3.0						
TXAR	Lajitas Array	89.65	53	P	P	23 46 29.7	+0.6
	0.3nm,0.5s,baz=298,slow=2.7,SNR=5.2						
LPAZ	La Paz	146.25	59	PKPbc	PKPbc	23 53 13.0	+0.5
	0.8nm,0.5s,baz=42,slow=5.9,SNR=4.5						

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*NEIC **02** 23:35:46.7±0.0, 16.°21N×98.°41W, h25km, MD4.1(MEX), After MEX.*
MEX 02 23:35:47.0±0.5**, 16.°34N×98.°47W, h0**km±7km**, MD4.1, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.34	82	eP	Pg	23 35 52.9	-0.5
PNIG				eS	Sg	23 35 58.1	+0.3
PNIG	Pinotepa	0.34	82	eP	Pg	23 35 52.9	-0.6
PNIG				eS	Sg	23 35 57.9	+0.1
TLIG	Tlapa	1.22	356	eP	Pg	23 36 07.1	-3.3
TLIG				eS	Sg	23 36 23.4	-2.8
TLIG	Tlapa	1.22	356	eP	Pg	23 36 07.1	-3.3
TLIG				eS	Sg	23 36 23.4	-2.8
VHO	Vista Hermosa	1.82	66	eP	Pn	23 36 17.7	-2.1
VHO				eS	Sn	23 36 39.3	-4.3
VHO	Vista Hermosa	1.82	66	eP	Pn	23 36 17.0	-2.7
VHO				eS	Sn	23 36 39.3	-4.3
CAIG	El Cayaco	1.86	292	eP	Pn	23 36 16.1	-4.0
CAIG				eS	Sn	23 36 40.2	-4.1
CAIG	El Cayaco	1.86	292	eP	Pn	23 36 16.1	-4.0
CAIG				eS	Sn	23 36 40.2	-4.1
HUIG	Huatulco	2.34	104	i P	Pn	23 36 23.6	-3.2
HUIG				eS	Sn	23 36 56.2	-0.2
HUIG	Huatulco	2.34	104	eP	Pn	23 36 26.1	-0.8
HUIG				eS	Sn	23 36 56.2	-0.2
LVIG	Laguna Verde	3.89	30	Pn	Pn	23 36 40.7	-7.4
LVIG				Sn	Sn	23 37 27.6	-6.8

IDC 02 23:37:29.3±9.7**, 4.°25S×153.°33E, h127**km±65km**, mb3.3**/2**, mb1 3.6**/3**, mb1mx3.1**/54**, mbtmp3.8**/3**, Error ellipse: s-maj=137.7km s-min=58.2km az=120.0, New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	7.98	230	P	Pn	23 39 23.1	+0.5
	2.9nm,0.3s,baz=74,slow=7.4,SNR=4.1						
PMG				S	Sn	23 40 50.8	-0.6
	0.9nm,0.3s,baz=300,slow=20,SNR=6.1						
WRA	Warramunga Arr	24.20	228	P	P	23 42 34.5	+0.2
	1.6nm,0.5s,baz=54,slow=9.9,SNR=34						
ASAR	Alice Springs	26.91	222	P	P	23 42 58.9	+0.2
	0.2nm,0.4s,baz=62,slow=8.5,SNR=3.8						
TORD	Torodi Ar. Bea	150.63	289	PKPbc	PKPbc	23 57 06.8	-0.7
	0.1nm,0.4s,baz=83,slow=2.9,SNR=4.5						

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*SOME **02** 23:43:38.8, 43.°58N×82.°48E, h0km*
*NNC **02** 23:43:39.2±4.3, 43.°55N×82.°62E, h0km, mb3.2, mpv2.9, Error ellipse: s-maj=43.4km s-min=12.3km az=137.0*
ISC 02 23:43:42.3±1.6**, 43.°72N**±0.°08×**82.°43E**±0.°07**, h10km, n22, σ2.§58**/44**, 4C-5D, Northern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
UZB	Uzynbulak	2.55	258	eP	Pn	23 44 24.1	+0.2
	2.0nm,0.2s						
UZB				eS	Sn	23 44 55.7	+0.6
	30nm,0.2s						
KAPS	Kapalarasan	2.70	306	eP	Pb	23 44 30.1	-0.6
	4.0nm,0.2s						
KAPS				eS	Sb	23 45 06.6	+2.7
	20nm,0.2s						
KPKS	Kokpek	2.74	266	eP	Pn	23 44 27.1	+0.7
	1.4nm,0.1s						
KPKS				eS	Sn	23 45 00.8	+1.2
	51nm,0.3s						
MNBS	Baschi	2.94	278	eP	Pb	23 44 33.6	-1.3
	5.0nm,0.2s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MNBS				eS	Sb	23 45 12.3	+1.4
	27nm,0.3s						
SATY	Saty	3.01	259	eP	Pb	23 44 34.9	-1.2
	11nm,0.1s						
SATY				eS	Sb	23 45 14.3	+1.3
	64nm,0.1s						
MK31	Makanchi Array	3.07	358	⇓Pn	Pn	23 44 30.4	-0.5
	0.1nm,0.2s,baz=176,slow=14,SNR=231						
MK31				⇑Pg	Pg	23 44 40.6	-0.6
	9.8nm,0.4s,baz=185,slow=14,SNR=97						
MK31				⇓Lg	Lg	23 45 20.6	
	3.1nm,0.2s,baz=175,slow=26,SNR=7.2						
MAKZ	Makanchi	3.10	354	⇑Pn	Pn	23 44 30.7	-0.7
	1.5nm,0.7s						
MAKZ				⇓Pg	Pg	23 44 41.2	-0.5
	3.5nm,0.3s						
MAKZ				⇑Lg	Lg	23 45 22.0	
	6.3nm,0.7s						
KURS	Kuram	3.11	267	eP	Pb	23 44 37.5	-0.2
	1.1nm,0.7s						
KURS				eS	Sb	23 45 18.7	+3.1
	6.9nm,0.6s						
TDK	Taldyqorghan	3.16	295	eP	Pb	23 44 39.1	+0.6
	30nm,0.3s						
TDK				eS	Sb	23 45 21.4	+4.2
	43nm,0.8s						
ARXS	Arharly	3.36	280	eP	Pb	23 44 41.0	-1.1
	3.1nm,0.3s						
ARXS				eS	Sb	23 45 24.8	+1.8
	35nm,0.6s						
KOTS	Kotyrbulak	3.90	265	eP	Pb	23 44 52.7	+1.3
	1.3nm,0.2s						
KOTS				eS	Sg	23 45 44.2	-3.5
	10nm,0.5s						
CHKK	Chushkaly	3.94	274	eP	Pb	23 44 53.0	+1.0
	1.9nm,0.2s						
CHKK				eS	Sb	23 45 44.9	+5.1
	20nm,0.3s						
MDOK	Medeo	3.96	264	⇓Pg	Pg	23 44 54.9	-3.4
	2.1nm,0.6s						
MDOK				⇑Sn	Sn	23 45 32.3	+2.4
	2.0nm,0.4s						
MDOK				⇓Lg	Lg	23 45 48.7	
	5.7nm,0.5s						
MDOK	Medeo	3.96	264	eP	Pb	23 44 53.1	+0.7
	1.8nm,0.5s						
MDOK				eS	Sb	23 45 44.9	+4.5
	5.3nm,0.5s						
TNSS	Tian-Shan	4.06	262	eP	Pb	23 44 54.7	+0.5
	2.5nm,0.4s						
TNSS				eS	Sb	23 45 48.2	+4.8
	9.2nm,0.5s						
ZSN	Zaisan	4.10	24	eP	Pb	23 44 55.6	+1.1
	1.8nm,0.2s						
ZSN				eS	Sg	23 45 50.1	-3.8
	14nm,0.6s						
KTBS	Karatobe	4.17	272	eP	Pb	23 44 57.4	+1.6
	3.8nm,0.1s						
KTBS				eS	Sg	23 45 52.5	-3.7
	16nm,0.5s						
IZV	Izvestkoviy	4.30	263	eP	Pb	23 44 58.1	0.0
	1.9nm,0.5s						
IZV				eS	Sb	23 45 53.7	+3.6
	15nm,0.6s						
MTBS	Maitube	4.41	264	eP	Pb	23 45 02.4	+2.4
	3.2nm,0.1s						
MTBS				eS	Sg	23 46 00.7	-3.3
	14nm,0.2s						
KUU	Kurty	4.42	274	eP	Pb	23 45 00.4	+0.4
	0.7nm,0.4s						
KUU				eS	Sb	23 45 57.6	+4.3
	13nm,0.5s						
KST	Kastek	4.76	264	eP	Pb	23 45 07.8	+1.8
	0.6nm,0.3s						
KST				eS	Sg	23 46 10.6	-4.7
	5.6nm,0.7s						
DGS	Degeres	4.87	267	eP	Pb	23 45 07.7	-0.1
	1.2nm,0.3s						
DGS				eS	Sb	23 46 10.3	+3.8
	11nm,0.5s						

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*ISCJB **02** 23:49:43.4±1.2, 16.°40N±0.°06×98.°56W±0.°04, h10^{km}±7^{km}, mb3.7/5, Error ellipse: s-maj=11.3km s-min=5.6km az=24.2*

*IDC **02** 23:49:43.9±1.9, 16.°45N×98.°51W, h0^{km}, mb3.8/5, mb1 3.9/9, mb1mx3.7/47, mbtmp3.7/9, ML3.4/4, Error ellipse: s-maj=37.1km s-min=15.7km az=23.0*

*NEIC **02** 23:49:45.8±0.0, 16.°30N×98.°48W, h23^{km}, MD4.1(MEX), After MEX.*

*MEX **02** 23:49:45.6±0.7, 16.°36N×98.°51W, h5^{km}, MD4.1*

ISC 02 23:49:44.6±1.4**, 16.°50N**±0.°06×**98.°53W**±0.°04**, h6**^{km}±10^{km}**, n20,** σ1**.°16**/31**, mb3.6**/5**, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.40	106	eP	Pg	23 49 52.0	-0.4
PNIG				i S	Sg	23 49 57.6	-0.1
PNIG	Pinotepa	0.40	106	i P	Pg	23 49 52.0	-0.4
PNIG				i S	Sg	23 49 57.6	-0.1
TLIG	Tlapa	1.06	358	eP	Pn	23 50 04.7	-1.4
TLIG				eS	Sn	23 50 19.8	-1.4
TLIG	Tlapa	1.06	358	eP	Pn	23 50 04.7	-1.4
TLIG				eS	Sn	23 50 19.6	-1.6
CAIG	El Cayaco	1.75	288	eP	Pn	23 50 14.1	-1.5
CAIG				eS	Sn	23 50 36.7	-1.5
CAIG	El Cayaco	1.75	288	eP	Pn	23 50 13.6	-2.0
CAIG				eS	Sn	23 50 36.7	-1.5
VHO	Vista Hermosa	1.81	71	eP	Pn	23 50 16.4	-0.2
VHO				eS	Sb	23 50 40.0	-1.4
VHO	Vista Hermosa	1.81	71	eP	Pn	23 50 16.4	-0.2
VHO				eS	Sb	23 50 40.0	-1.4
HUIG	Huatulco	2.44	107	eP	Pn	23 50 24.6	-0.4
HUIG				eS	Sn	23 50 54.3	-0.8
HUIG	Huatulco	2.44	107	eP	Pn	23 50 24.6	-0.4
HUIG				eS	Sn	23 50 54.3	-0.8
CMIG	Matias Romero	3.54	80	Pn	Pn	23 50 39.3	-0.9
	8.6nm,0.3s,baz=258,slow=11,SNR=27						
CMIG				Pg	Pb	23 50 48.3	+0.6
	35nm,0.3s,baz=263,slow=16,SNR=61						
CMIG				Lg	Lg	23 51 36.9	
	148nm,0.3s,baz=337,slow=8.4,SNR=31						
MOIG	Morelia	4.05	322	ePn	Pn	23 50 49.2	+1.8
APG	El Apazote	7.91	100	Pn	Pn	23 51 39.7	-0.7
	0.5nm,0.3s,baz=318,slow=13,SNR=3.9						
APG				Lg	Lg	23 53 50.8	
	0.8nm,0.3s,baz=339,slow=19,SNR=4.2						
TXAR	Lajitas Array	13.62	341	Pn	Pn	23 53 00.5	+2.0
	0.0nm,0.3s,baz=172,slow=15,SNR=2.1						
TXAR				Lg	Lg	23 56 58.1	
	baz=155,slow=24,SNR=2.2						
JTS	JuntasAbangare	14.57	113	Pn	Pn	23 53 12.3	+0.8
	0.2nm,0.3s,baz=330,slow=14,SNR=2.1						
TKL	Tuckaleechee C	23.18	32	P	P	23 54 52.7	+0.6
	6.5nm,1.0s,baz=188,slow=6.9,SNR=3.8						
PDAR	Pinedale Array	27.82	342	P	P	23 55 35.7	+0.7
	0.6nm,0.6s,baz=140,slow=7.2,SNR=6.4						
SDV	Santo Domingo	28.22	102	P	P	23 55 38.7	-0.1
	1.3nm,0.5s,baz=281,slow=7.1,SNR=3.6						
YKA	Yellowknife Ar	47.31	350	P	P	23 58 18.6	-0.2
	0.4nm,0.7s,baz=156,slow=7.2,SNR=6.1						
ILAR	Eielson Array	58.11	338	P	P	23 59 39.6	+0.9
	0.6nm,1.0s,baz=148,slow=7.5,SNR=3.7						

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*IDC **02** 23:54:56.7±0.7, 16.°14N×98.°65W, h0^{km}, mb4.5/18, mb1 4.7/23, mb1mx4.5/48, mbtmp4.5/23, ML3.4/5, MS4.1/30, Ms1 4.1/30, ms1mx4.0/41, Error ellipse: s-maj=22.5km s-min=11.9km az=55.0*

*ISCJB **02** 23:54:57.3±0.3, 16.°22N±0.°03×98.°49W±0.°02, h10^{km}, mb4.9/167, MS4.2/30, Error ellipse: s-maj=4.2km s-min=2.7km az=3.6*

*MEX **02** 23:54:58.4±0.6, 15.°97N×98.°84W, h16^{km}±93^{km}, MD4.7*

*GCMT **02** 23:55:00.1±0.6, 16.°31N×98.°39W, h12^{km}, MW4.9/79, Moment Tensor Solution. s16,c21; s79,c104; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.77±.09; $M_{\theta\theta}$-2.50±.08; $M_{\phi\phi}$-0.27±.09; $M_{r\theta}$0.03±.35; $M_{\theta\phi}$0.96±.08; $M_{\phi r}$0.64±.45; Best double couple: $M_0$2.88700×10^{16} NP1:ϕ_s302.00000°,δ48.00000°,λ106.00000°. NP2: ϕ_s98.00000°,δ44.00000°,λ72.00000°. Principal axes: T 2.9100, Plg78.0000°, Azm282.0000°; N -0.0460, Plg12.0000°, Azm111.0000°; P -2.8640, Plg2.0000°, Azm21.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **02** 23:55:00.1±0.3, 16.°28N×98.°57W, h10^{km}, mb5.0/169, MD4.7(MEX) Error ellipse: s-maj=5.4km s-min=3.0km az=32.0*

NEIC Felt at Mexico and Ometepec.

*MOS **02** 23:55:02.0±1.1, 16.°29N×98.°55W, h39^{km}, mb5.2/42, Error ellipse: s-maj=10.9km s-min=4.7km az=100.8*

ISC 02 23:55:01.7±1.7**, 16.°25N**±0.°06×**98.°59W**±0.°05**, h26**^{km}±10^{km}**, n747,** σ1**.°02**/736**, mb5.0**/167**, MS4.2**/30**, 8C-4D, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.47	72	eP	Pb	23 55 10.8	-0.6
PNIG				eS	Sn	23 55 20.9	+0.6
PNIG	Pinotepa	0.47	72	eP	Pb	23 55 10.8	-0.6
PNIG				eS	Sn	23 55 21.2	+0.9
TLIG	Tlapa	1.31	1	eP	Pn	23 55 22.6	-1.9
TLIG				eS	Sn	23 55 41.1	-0.1
TLIG	Tlapa	1.31	1	eP	Pn	23 55 22.6	-1.9
TLIG				eS	Sb	23 55 43.3	+1.1
HMTT	Tlapaneco	1.54	1	eP	Pn	23 55 25.7	-2.0
HMTT				eS	Sb	23 55 48.5	-0.4
VHO	Vista Hermosa	1.96	65	eP	Pn	23 55 33.1	-0.5
VHO				eS	Sb	23 56 02.1	+1.0
VHO	Vista Hermosa	1.96	65	eP	Pn	23 55 33.1	-0.5
VHO				eS	Sb	23 56 02.1	+1.0
CMIG	Matias Romero	3.65	76	Pn	Pn	23 55 55.9	-0.7
	7.9nm,0.3s,baz=244,slow=13,SNR=24						
CMIG				Lg	Lg	23 57 02.6	
	99nm,0.3s,baz=350,slow=21,SNR=20						
CMIG				LR	LR	23 57 40.4	
	comp=Z,5µm,18.4s,baz=260,slow=44						
MOIG	Morelia	4.21	324	ePn	Pn	23 56 03.8	-0.8
MOIG				eSn	Sn	23 56 58.4	+5.3
JRQG	Juriquilla Cam	4.77	339	ePn	Pn	23 56 15.3	+3.1
JRQG				eSn	Sn	23 57 03.2	-3.6
ZAIG	Zacatecas	7.49	331	ePn	Pn	23 56 50.4	+0.7
APG	El Apazote	7.93	98	Pn	Pn	23 56 54.6	-0.9
	0.1nm,0.3s,baz=315,slow=16,SNR=4.4						
APG				Sn	Sn	23 58 22.9	-1.7
	1.0nm,0.3s,baz=286,slow=13,SNR=3.7						
APG				Lg	Lg	23 59 07.7	
	1.7nm,0.3s,baz=337,slow=16,SNR=4.0						
LNIG	Linares	8.65	355	ePn	Pn	23 57 08.6	+3.4
TGUH	Tegucigalpa,Un	11.14	100	ePn	Pn	23 57 43.5	+4.1
H06E1	SOCORRO T-PHAS	12.03	284	T	T	00 09 52.1	
	SNR=1349						
833A	Chaparral WMA,	12.04	357	P	Pn	23 57 51.5	-0.2
	baz=176,SNR=6.1						
H06S1	SOCORRO T	12.05	284	T	T	00 09 51.4	
	SNR=161						
HPIG		12.50	329	ePn	Pn	23 57 57.8	-0.4
LPIG	La Paz	13.49	307	LR	LR	00 02 28.3	
	comp=Z,687nm,20.6s,baz=64,slow=33						
TXAR	Lajitas Array	13.84	341	Pn	Pn	23 58 15.4	-1.0
	0.1nm,0.3s,baz=162,slow=16,SNR=26						
TXAR				Lg	Lg	00 02 27.4	
	0.1nm,0.3s,baz=150,slow=30,SNR=7.2						
TXAR				LR	LR	00 04 30.4	
	comp=Z,985nm,20.6s,baz=0.0,slow=41						
TX31	Lajitas Ar. Si	13.84	341	ePn	Pn	23 58 16.6	+0.3
HKT	Hockley	13.88	10	ePn	Pn	23 58 18.0	+1.3
HKT	Hockley	13.88	10	eP	Pn	23 58 18.0	+1.3
JCT	Junction City	14.21	356	P	Pn	23 58 21.1	-0.4
	baz=175,SNR=15						
JCT	Junction City	14.21	356	ePn	Pn	23 58 20.9	-0.5
JCT	Junction City	14.21	356	eP	Pn	23 58 20.9	-0.5
435B	Jarrell	14.50	3	P	Pn	23 58 26.0	+0.7
	baz=184						
JTS	JuntasAbangare	14.53	112	Pn	Pn	23 58 25.6	-0.2
	0.0nm,0.3s,baz=3.7,slow=16,SNR=2.8						
JTS	JuntasAbangare	14.53	112	ePn	P	23 58 29.6	-2.5
	6.2nm,1.1s						
JTS	JuntasAbangare	14.53	112	eP	P	23 58 29.6	-2.5
JTS				pmax	pmax		
	comp=Z,6.0nm,1.1s						
441A	DeRidder	15.26	18	P	Pn	23 58 36.4	+0.9
	baz=200						
HDC	Heredia	15.40	112	ePn	Pn	23 58 39.0	+1.4
	comp=Z,160nm,1.3s						
WHTX	Lake Whitney,	15.71	4	P	Pn	23 58 42.5	+1.1
	baz=184,SNR=10						
WHTX	Lake Whitney,	15.71	4	ePn	Pn	23 58 41.3	0.0
	comp=Z,162nm,1.0s						
341A	Kurthwood	15.81	17	P	Pn	23 58 43.3	+0.7
	baz=199,SNR=6.3						
NATX	Nacogdoches	15.86	12	P	Pn	23 58 43.8	+0.7
	baz=194						
NATX	Nacogdoches	15.86	12	ePn	Pn	23 58 44.0	+0.8
	comp=Z,130nm,1.2s						
342A	Flagon Creek P	16.11	20	P	Pn	23 58 47.4	+1.0
	baz=202						
240A	Hunter Patters	16.33	15	P	Pn	23 58 50.1	+0.9
	baz=197						
ABTX	Abilene, Hawle	16.34	357	P	Pn	23 58 50.1	+0.7
	baz=176,SNR=24						
ABTX	Abilene, Hawle	16.34	357	ePn	Pn	23 58 48.5	-0.9
	comp=Z,105nm,0.9s						
241A	Mo Tay, Goldon	16.53	17	P	Pn	23 58 52.6	+0.8
	baz=199						
MNTX	Cornudas Mount	16.58	339	P	Pn	23 58 52.0	-0.5
	baz=156,SNR=38						
MNTX	Cornudas Mount	16.58	339	ePn	Pn	23 58 51.9	-0.6
	comp=Z,58nm,1.3s						
344A	Westbrook Farm	16.75	24	P	Pn	23 58 54.8	+0.2
	baz=207						
242A	Grayson	16.80	19	P	Pn	23 58 55.4	+0.2
	baz=202						
FSCY	Frank Sound, G	16.86	77	ePn	Pn	23 58 53.9	-2.1
	comp=Z,286nm,1.5s						
345A	Thompson Farm,	16.91	26	P	Pn	23 58 57.1	+0.5
	baz=209						
140A	Cam and Jess,	16.95	15	P	Pn	23 58 57.0	0.0
	baz=197,SNR=14						
EPT	El Paso	17.05	336	ePn	Pn	23 58 58.0	-0.5
	comp=Z,56nm,1.1s						
HSIG		17.06	320	ePn	Pn	23 58 59.0	+0.5
141A	Papa Simpson,	17.09	17	P	Pn	23 58 59.4	+0.6
	baz=199						
244A	Avery, Jackson	17.29	23	P	Pn	23 59 01.3	-0.1
	baz=206						
142A	Monroe	17.32	19	P	Pn	23 59 01.7	+0.1
	baz=202						
CPRX	Cap Rock	17.38	345	ePn	P	23 59 04.4	+0.6
	comp=Z,9.7nm,0.7s						
VBMS	Vicksburg	17.51	23	P	Pn	23 59 04.0	-0.1
	baz=206						
VBMS	Vicksburg	17.51	23	ePn	Pn	23 59 01.8	-2.3
	comp=Z,96nm,1.3s						
Z40A	Long Farm, Mag	17.58	15	P	P	23 59 05.4	-0.4
	baz=197,SNR=11						
245A	Little AP, Sta	17.59	25	P	Pn	23 59 05.5	+0.4
	baz=209						
143A	Socs Landing,	17.63	20	P	P	23 59 06.3	-0.1
	baz=203						
Z41A	Richland Creek	17.73	16	P	Pn	23 59 06.1	-0.6
	baz=198,SNR=9.2						
Z42A	Norrel Spur, H	17.99	18	P	Pn	23 59 09.5	-0.4
	baz=201						
MSTX	Muleshoe	18.05	349	P	Pn	23 59 09.5	-1.3
	baz=167,SNR=32						
MSTX	Muleshoe	18.05	349	eP	Pn	23 59 08.9	-1.9
	comp=Z,154nm,1.3s						
121A	Cookes Peak, D	18.23	334	P	Pn	23 59 13.1	-0.1
	baz=151,SNR=19						
349A	Repton	18.28	33	P	Pn	23 59 13.3	-0.3
	baz=217						
Y40A	Okolona	18.33	14	P	P	23 59 13.9	-0.2
	baz=196						
Y41A	Eaglette Beard	18.37	16	P	P	23 59 14.4	-0.1
	baz=198						
WMOK	Wichita Mounta	18.42	360	P	P	23 59 14.4	-0.6
	baz=179						
X39A	Fountain Ranch	18.63	12	P	P	23 59 16.6	-0.8
	baz=194,SNR=6.1						
AMTX	Amarillo	18.77	352	P	P	23 59 18.7	-0.4
	baz=171						
AMTX	Amarillo	18.77	352	eP	P	23 59 18.0	-1.0
	comp=Z,66nm,0.8s						
MIAR	Mount Ida	18.77	13	P	P	23 59 17.7	-1.2
	baz=195,SNR=9.6						
MIAR	Mount Ida	18.77	13	eP	P	23 59 17.5	-1.5
	comp=Z,26nm,1.0s						
MIAR	Mount Ida	18.77	13	eP	P	23 59 17.5	-1.5
MIAR				pmax	pmax		
	comp=Z,26nm,1.0s						
249A	Camden	18.81	32	P	P	23 59 18.9	-0.5
	baz=216						
147A	Livingston	18.84	28	P	P	23 59 19.3	-0.5
	baz=212						
X40A	Basin Creek Fa	18.89	15	P	P	23 59 19.9	-0.3
	baz=197						
X41A	Kaden, Bauxite	18.98	16	P	P	23 59 20.8	-0.4
	baz=198,SNR=6.4						
148A	Greensboro	19.14	29	P	P	23 59 22.5	-0.5
	baz=214						
BNM	Barren Site	19.24	339	eP	Pn	23 59 24.9	-0.5
Y22D	IRIS PASSCAL I	19.27	339	eP	P	23 59 24.1	-0.5
	comp=Z,196nm,1.5s						
857A	Zephyrhills	19.27	49	P	P	23 59 24.7	+0.2
	baz=235						
UALR	University of	19.29	16	eP	P	23 59 23.4	-1.2
	comp=Z,42nm,1.1s						
655A	Horseshoe Beac	19.31	44	P	P	23 59 25.0	+0.1
	baz=230						
W39A	Magazine	19.36	12	P	P	23 59 25.3	-0.1
	baz=194,SNR=14						
LPM	Los Pinos Moun	19.39	340	eP	P	23 59 26.4	+0.5
TUC	Tucson	19.45	328	eP	P	23 59 26.7	+0.2
	comp=Z,49nm,1.1s						
TUC	Tucson	19.45	328	eP	P	23 59 26.7	+0.2
TUC				pmax	pmax		
	comp=Z,49nm,1.1s						
149A	Jones	19.48	31	P	P	23 59 26.4	-0.4
	baz=216						
W40A	Ferguson Farm,	19.51	14	P	P	23 59 27.4	+0.4
	baz=196,SNR=6.4						
W40A	Ferguson Farm,	19.51	14	eP	Pn	23 59 29.2	+0.9
	comp=Z,86nm,1.1s						
BCIP	Isla Barro Col	19.59	109	eP	Pn	23 59 31.4	+1.9
	comp=Z,175nm,1.5s						
Y46A	Houston	19.63	25	P	P	23 59 28.5	+0.1
	baz=209						
LAZ	Ladron	19.64	339	eP	P	23 59 29.2	+0.5
W41B	Gary Mavity, V	19.69	16	P	P	23 59 29.0	0.0
	baz=198						
LRAL	Lakeview Retre	19.73	30	P	P	23 59 29.1	-0.4
	baz=215						
LRAL	Lakeview Retre	19.73	30	eP	P	23 59 29.2	-0.3
	comp=Z,53nm,1.4s						
TUL1	Leonard	19.75	7	P	P	23 59 28.6	-0.9
	baz=188,SNR=14						
TUL1	Leonard	19.75	7	eP	P	23 59 28.7	-0.9
	comp=Z,58nm,0.9s						
Z48A	Northport	19.76	28	P	P	23 59 29.4	-0.4
	baz=213,SNR=5.1						
DWPF	Disney Wildern	19.77	50	eP	Pn	23 59 30.7	-0.8
	comp=Z,43nm,1.1s						
757A	Oxford	19.78	47	P	P	23 59 29.4	-0.6
	baz=234						
251A	Midway	19.81	35	P	P	23 59 29.8	-0.5
	baz=220						
454A	Quitman	19.86	41	P	P	23 59 30.7	-0.2
	baz=227						
150A	Eclectic	19.88	33	P	P	23 59 30.9	-0.2
	baz=218						
858A	St. Cloud	19.88	50	P	P	23 59 30.4	-0.7
	baz=237						
555A	McAlpin	19.89	43	P	P	23 59 31.0	-0.3
	baz=229						
X45A	UM Field Stati	19.90	23	P	P	23 59 31.1	-0.2
	baz=207						
ANMO	Albuquerque	19.91	341	P	P	23 59 32.2	+0.6
	comp=Z,0.4nm,0.3s,baz=334,slow=12,SNR=43						
ANMO				LR	LR	00 07 53.2	
	comp=Z,2µm,21.4s,baz=338,slow=39						
ANMO	Albuquerque	19.91	341	eP	P	23 59 32.2	+0.6
	comp=Z,193nm,2.0s						
ANMO	Albuquerque	19.91	341	ceP	P	23 59 31.8	+0.1
ANMO				pmax	pmax		
	comp=Z,27nm,1.0s						
353A	Camilla	19.94	39	P	P	23 59 31.4	-0.4
	baz=224						
OXF	Oxford	19.97	23	P	P	23 59 31.5	-0.6
	baz=207						
OXF	Oxford	19.97	23	eP	P	23 59 31.7	-0.4
	comp=Z,36nm,0.9s						
OXF	Oxford	19.97	23	eP	P	23 59 31.7	-0.4
OXF				pmax	pmax		
	comp=Z,36nm,0.9s						
V39A	Pettigrew	20.01	12	P	P	23 59 31.8	-0.8
	baz=194,SNR=26						
060A	Indiantown	20.04	55	P	P	23 59 32.7	-0.1
	baz=241						
W43A	Forest City	20.05	19	P	P	23 59 32.7	-0.2
	baz=202						
Y47A	UCPARC, Winfie	20.07	27	P	P	23 59 32.4	-0.8
	baz=211,SNR=6.0						
Z49A	Columbiana	20.09	31	P	P	23 59 33.0	-0.3
	baz=216,SNR=9.9						
252A	Lumpkin	20.11	36	P	P	23 59 33.0	-0.6
	baz=222						
859A	Kempfer Cattle	20.14	51	P	P	23 59 33.6	-0.4
	baz=238						
V40A	Witts Springs	20.15	14	P	P	23 59 33.0	-1.0
	baz=196,SNR=16						
151A	Opelika	20.18	34	P	P	23 59 34.4	-0.1
	baz=220						
556A	Lake Butler	20.19	44	P	P	23 59 33.9	-0.6
	baz=231						
MTDJ	Mount Denham	20.21	81	eP	P	23 59 35.5	+0.6
	comp=Z,202nm,1.5s						
455A	Stateville	20.26	42	P	P	23 59 34.7	-0.6
	baz=228						
214A	Organ Pipe Nat	20.29	323	P	P	23 59 36.1	+0.5
	baz=137,SNR=16						
214A	Organ Pipe Nat	20.29	323	eP	P	23 59 36.4	+0.7
	comp=Z,809nm,1.7s						
V41A	Mountainview	20.29	15	P	P	23 59 34.0	-1.6
	baz=198,SNR=24						
657A	Interlachen	20.30	46	P	P	23 59 34.5	-1.2
	baz=233						
X46A	Booneville	20.33	24	P	P	23 59 34.8	-1.1
	baz=209,SNR=5.6						
Y48A	Jasper	20.38	28	P	P	23 59 36.0	-0.5
	baz=213						
Z50A	Ashland	20.44	32	P	P	23 59 36.1	-1.1
	baz=217						
V42A	Cord	20.51	17	P	P	23 59 36.8	-1.2
	baz=200,SNR=18						
U39A	Green Forest	20.57	12	P	P	23 59 37.2	-1.4
	baz=194,SNR=36						
X47A	Russelville	20.59	26	P	P	23 59 37.7	-1.2
	baz=210,SNR=5.4						
U40A	Yellville	20.67	13	P	P	23 59 38.6	-1.1
	baz=196,SNR=25						
Y49A	Blount Mountai	20.69	30	P	P	23 59 38.7	-1.2
	baz=215,SNR=6.4						
X18A	Snowflake	20.87	333	eP	P	23 59 43.3	+1.2
	comp=Z,69nm,0.9s						
U41A	Viola	20.88	15	P	P	23 59 40.8	-1.2
	baz=198,SNR=12						
X48A	Hartselle	20.89	28	P	P	23 59 40.5	-1.5
	baz=212,SNR=7.8						
PLAL	Pickwick Lake	20.90	25	eP	Pn	23 59 43.7	-1.1
	comp=Z,72nm,1.2s						
456A	Hilliard	20.91	43	P	P	23 59 41.7	-0.5
	baz=230						
W46A	Michie	20.91	24	P	P	23 59 41.5	-0.8
	baz=208						
Y50A	Piedmont	21.04	31	P	P	23 59 41.8	-1.9
	baz=216						
T38A	Diamond	21.06	10	P	P	23 59 42.2	-1.6
	baz=192,SNR=8.3						
U42A	Revenden	21.07	17	P	P	23 59 42.8	-1.2
	baz=200,SNR=31						
153A	Fort Valley	21.11	37	P	P	23 59 43.3	-1.1
	baz=223						
457A	Yulee	21.15	44	P	P	23 59 43.8	-1.1
	baz=231						
T39A	Clever	21.21	12	P	P	23 59 44.3	-1.2
	baz=194,SNR=20						
356A	Blackshear	21.23	42	P	P	23 59 44.5	-1.2
	baz=229						
V45A	Humboldt	21.23	22	P	P	23 59 44.7	-1.0
	baz=206						
X49A	Woodville	21.27	29	P	P	23 59 45.2	-0.9
	baz=214,SNR=10						
W18A	Petrified Fore	21.28	334	P	P	23 59 45.8	-0.7
	baz=149						
W18A	Petrified Fore	21.28	334	eP	P	23 59 47.1	+0.7
	comp=Z,29nm,1.1s						

W47A Westpoint 21.33 25 P P 23 59 46.2 -0.6
baz=210,SNR=15
T25A Trinidad 21.44 347 P P 23 59 48.3 +0.1
baz=164,SNR=31
T25A Trinidad 21.44 347 eP P 23 59 49.0 +0.7
comp=Z,93nm,1.1s
MHTCO State Highway 21.49 347 eP P 23 59 49.3 +0.5
comp=Z,43nm,1.0s
154A Montrose 21.50 38 P P 23 59 47.8 -0.9
baz=224
T40A Mansfield 21.51 13 P P 23 59 47.8 -0.9
baz=196,SNR=43
W48A Pulaski 21.52 27 P P 23 59 47.6 -1.2
baz=212,SNR=11
X50A Fort Payne 21.54 30 P P 23 59 47.8 -1.3
baz=216,SNR=5.7
T41A Mountain View 21.58 15 P P 23 59 48.4 -1.1
baz=198,SNR=28
V46A Holladay 21.60 24 P P 23 59 48.2 -1.5
baz=208,SNR=20
U44B Burton Farm, H 21.64 21 P P 23 59 48.7 -1.3
baz=205
PBMO Poplar Bluff 21.70 18 eP P 23 59 50.3 -0.4
comp=Z,117nm,1.2s
S38A Stockton 21.70 10 P P 23 59 49.5 -1.3
baz=192,SNR=25
T42A Van Buren 21.75 16 P P 23 59 49.7 -1.5
baz=200,SNR=15
UTMT University of 21.81 22 eP P 23 59 55.2 +3.3
comp=Z,272nm,1.1s
V47A Nunnelly 21.86 25 P P 23 59 51.6 -0.8
baz=210,SNR=10
S39A Bolivar 21.86 11 P P 23 59 50.9 -1.6
baz=194,SNR=24
GOGA Godfrey 21.88 36 eP P 23 59 51.5 -1.1
comp=Z,24nm,1.0s
GOGA Godfrey 21.88 36 eP P 23 59 51.6 -1.1
GOGA pmax pmax
comp=Z,24nm,1.0s
Y14A Wickenburg 21.88 326 eP P 23 59 53.3 +0.5
comp=Z,104nm,1.2s
155A Kite 21.89 39 P P 23 59 51.4 -1.4
baz=226
S40A Lebanon 21.94 13 P P 23 59 52.0 -1.4
baz=196,SNR=20
WVT Waverly 22.00 24 eP P 23 59 54.4 +0.4
comp=Z,68nm,1.0s
WVT Waverly 22.00 24 eP P 23 59 54.4 +0.4
WVT pmax pmax
comp=Z,68nm,1.0s
T43A Greenville 22.02 18 P P 23 59 52.6 -1.6
baz=202,SNR=34
V48A Smith Brothers 22.07 26 P P 23 59 53.3 -1.5
baz=211,SNR=7.0
S41A Jillco Farms, 22.10 15 P P 23 59 54.0 -1.1
baz=198,SNR=28
T44A Benton 22.24 19 P P 23 59 55.5 -1.0
baz=203
R38A Fenwick Farm, 22.25 10 P P 23 59 54.6 -2.0
baz=192
GLA Glamis 22.26 322 P P 23 59 57.0 +0.2
baz=135,SNR=14
GLA Glamis 22.26 322 eP P 23 59 57.7 +0.9
comp=Z,157nm,1.3s
GLA Glamis 22.26 322 eP P 23 59 57.7 +0.9
GLA pmax pmax
comp=Z,157nm,1.3s
SDCO Great Sand Dun 22.27 345 P P 23 59 56.7 -0.5
baz=162,SNR=11
SDCO Great Sand Dun 22.27 345 eP P 23 59 57.1 -0.1
comp=Z,95nm,1.8s
WUAZ Wupatki 22.33 332 P P 23 59 57.8 +0.1
baz=146,SNR=33
WUAZ Wupatki 22.33 332 eP P 23 59 58.6 +0.9
comp=Z,81nm,1.0s
U47A Clarksville 22.49 24 P P 23 59 59.6 +0.4
baz=209,SNR=13
T45A Paducah 22.49 21 P P 23 59 59.3 +0.1
baz=206
CBKS Cedar Bluff 22.51 358 eP P 00 00 00.4 +0.9
comp=Z,120nm,1.4s
CBKS Cedar Bluff 22.51 358 eP P 00 00 00.4 +0.9
CBKS pmax pmax
comp=Z,120nm,1.4s
S42A Caledonia 22.52 16 P P 23 59 58.8 -0.8
baz=200,SNR=24
R39A Chumby, Stover 22.52 11 P P 23 59 57.4 -2.2
baz=194,SNR=26
S43A Fulton Ridge, 22.54 18 P P 23 59 58.9 -0.8
baz=202,SNR=7.9
Y12C Blythe 22.58 323 P P 23 59 59.5 -0.8
baz=137,SNR=9.8
Y12C Blythe 22.58 323 eP P 00 00 00.9 +0.7
comp=Z,79nm,1.4s
GTBY Guantanamo Bay 22.61 77 eP P 00 00 01.5 +0.8
comp=Z,159nm,1.2s
S22A 4UR Ranch, Cre 22.62 343 P P 00 00 01.3 +0.4
baz=159,SNR=48
S22A 4UR Ranch, Cre 22.62 343 eP P 00 00 01.4 +0.4
comp=Z,54nm,1.1s
MVCO Mesa Verde 22.65 339 P P 00 00 01.1 -0.1
baz=155,SNR=63
MVCO Mesa Verde 22.65 339 eP P 00 00 01.3 +0.1
comp=Z,173nm,1.1s
R40A Maddies Statio 22.66 13 P P 00 00 01.2 +0.2
baz=196,SNR=30
CCM Cathedral Cave 22.67 15 P P 00 00 00.5 -0.6
baz=198
CCM Cathedral Cave 22.67 15 eP P 00 00 01.0 -0.1
comp=Z,52nm,1.1s
CCM Cathedral Cave 22.67 15 eP P 00 00 01.0 -0.1
CCM pmax pmax
comp=Z,52nm,1.1s
IKP In-Ko-Pah, Jac 22.77 319 P P 00 00 02.2 -0.2
baz=132
PDMCI Parker Dam,Lak 22.77 325 P P 00 00 01.9 -0.3
baz=138,SNR=7.3
SWSC Sam W. Stewart 22.77 320 P P 00 00 02.2 -0.1
baz=133,SNR=6.3
T46A Princeton 22.78 23 P P 00 00 02.1 -0.2
baz=207
FVM French Village 22.82 17 eP P 00 00 02.6 -0.1
comp=Z,204nm,1.2s
FVM French Village 22.82 17 eP P 00 00 02.6 -0.1
FVM pmax pmax
comp=Z,204nm,1.2s
KSU1 Kansas State U 22.84 4 P P 00 00 01.2 -1.7
baz=185
KSU1 Kansas State U 22.84 4 eP P 00 00 02.3 -0.6
comp=Z,41nm,1.3s
Q37A Longview Farm, 22.84 8 P P 00 00 02.0 -0.9
baz=190
U48A Cassie Pea, Po 22.85 26 P P 00 00 02.6 -0.4
baz=211,SNR=12
R41A Rosebud 22.87 15 P P 00 00 03.0 -0.2
baz=198,SNR=22
S44A Carbondale 22.90 19 P P 00 00 03.0 -0.5
baz=204,SNR=9.4
SIUC Southern Illin 22.93 19 eP P 00 00 04.7 +0.8
comp=Z,90nm,1.1s
KSCO Kaye Shedlock' 22.96 352 eP P 00 00 06.5 +2.2
comp=Z,161nm,1.1s
R42A Luebbering 23.00 16 P P 00 00 04.0 -0.5
baz=199,SNR=16
T47A Sharon Grove 23.03 24 P P 00 00 04.5 -0.4
baz=209,SNR=19
Q38A Cooks Store, C 23.05 10 P P 00 00 04.6 -0.4
baz=192
BC3 Big Chuckawall 23.05 322 P P 00 00 05.0 -0.3
baz=135,SNR=14
S45A Carrier Mills 23.11 21 P P 00 00 04.7 -0.9
baz=205,SNR=6.9
MONP2 Monument Peak 23.13 319 P P 00 00 05.7 -0.5
baz=132
BAR Barrett 23.15 318 eP P 00 00 07.2 +1.0
IRM Iron Mountain 23.23 323 P P 00 00 06.9 -0.1
baz=136,SNR=39
R43A Red Bud 23.23 17 P P 00 00 06.9 0.0
baz=201,SNR=15
Q39A Willow Grove F 23.24 11 P P 00 00 06.2 -0.8
baz=194
Q24A Divide 23.35 347 P P 00 00 08.0 -0.5
baz=164,SNR=7.9
Q24A Divide 23.35 347 eP P 00 00 09.8 +1.3
comp=Z,158nm,1.9s
Q40A Laux Farm, Aux 23.37 13 P P 00 00 06.4 -1.9
baz=196,SNR=19
NEE2 Needles Airpor 23.38 325 P P 00 00 07.9 -0.6
baz=138
S46A Don Dixon Farm 23.42 22 P P 00 00 08.3 -0.4
baz=207
T48A Bowling Green 23.42 25 P P 00 00 07.7 -1.1
baz=211,SNR=12
TKL Tuckaleechee C 23.42 32 P P 00 00 09.8 +0.9
comp=Z,14nm,0.9s,baz=219,slow=13,SNR=4.5
TKL LR LR 00 13 16.4
comp=Z,211nm,18.2s,baz=210,slow=47
TKL Tuckaleechee C 23.42 32 eP P 00 00 09.9 +1.1
comp=Z,29nm,1.1s
TKL Tuckaleechee C 23.42 32 eP P 00 00 10.0 +1.1
TKL pmax pmax
comp=Z,29nm,1.1s
R44A Waltonville 23.46 19 P P 00 00 07.7 -1.4
baz=203,SNR=7.2
SLM Saint Louis 23.48 17 eP P 00 00 10.2 +0.8
comp=Z,154nm,1.5s
SLM Saint Louis 23.48 17 eP P 00 00 10.2 +0.8
SLM pmax pmax
comp=Z,154nm,1.5s
PV01 Paradox Valley 23.51 340 eP P 00 00 09.7 -0.2
Q41A Truxton 23.53 14 P P 00 00 08.7 -1.1
baz=198,SNR=30
P37A Lathrop 23.55 8 P P 00 00 08.2 -1.8
baz=190
109C Camp Elliot, M 23.56 318 P P 00 00 09.4 -0.8
baz=130
BELC Belle Mtn. Jos 23.62 322 P P 00 00 10.3 -0.6
baz=134,SNR=10
XPFO Piæon Flat 23.63 320 eP P 00 00 11.7 +0.7
comp=Z,37nm,1.2s
PFO Pinyon Flats O 23.63 320 P P 00 00 09.7 -1.3
baz=133
PFO Pinyon Flats O 23.63 320 eP P 00 00 11.7 +0.7
comp=Z,38nm,1.3s
PFO Pinyon Flats O 23.63 320 eP P 00 00 11.7 +0.7
PFO pmax pmax
comp=Z,38nm,1.3s
PV05 Paradox Valley 23.64 339 eP P 00 00 11.2 0.0
NHSC New Hope 23.64 41 P P 00 00 10.1 -0.9
baz=229
NHSC New Hope 23.64 41 eP P 00 00 13.7 +2.8
comp=Z,181nm,1.1s
Q42A Golden Eagle 23.66 16 P P 00 00 09.5 -1.7
baz=200,SNR=16
USIN University of 23.68 22 eP P 00 00 11.7 +0.4
comp=Z,211nm,1.4s
P38A Dawn 23.71 10 P P 00 00 09.6 -2.0
baz=192,SNR=12
P39B Salisbury 23.71 11 P P 00 00 09.7 -1.9
baz=194,SNR=20
O33A Hebron 23.76 2 P P 00 00 10.6 -1.5
baz=182
R45A Skylar, Fairfi 23.76 20 P P 00 00 11.3 -0.8
baz=205,SNR=5.7
PV10 Paradox Valley 23.89 339 eP P 00 00 12.9 -0.7
P40A Paris 23.89 13 P P 00 00 12.2 -1.1
baz=196,SNR=40
O34A Beatrice 23.91 4 P P 00 00 12.7 -0.8
baz=184,SNR=13
Q43A New Douglas 23.92 17 P P 00 00 13.3 -0.2
baz=201,SNR=8.5
R46A Gibon Southern 23.96 22 P P 00 00 12.9 -1.0
baz=207
GMRC Granite Mounta 23.98 324 P P 00 00 14.6 +0.3
baz=136,SNR=25
SMCO Snowmass 24.00 344 eP P 00 00 15.8 +1.0
comp=Z,112nm,1.3s
PV09 Paradox Valley 24.03 339 eP P 00 00 15.6 +0.7
S48A Wiedeman Farm, 24.03 25 P P 00 00 14.2 -0.4
baz=211
O35A Humboldt 24.05 5 P P 00 00 14.0 -0.7
baz=186
MURC Murrieta 24.08 319 P P 00 00 15.2 0.0
baz=131,SNR=5.1
Q44A Meyer Farm, Va 24.09 19 P P 00 00 14.5 -0.6
baz=203
O37A Wolven Farm, M 24.15 8 P P 00 00 14.8 -0.9
baz=190
O38A Galt 24.20 10 P P 00 00 15.5 -0.7
baz=192,SNR=5.9
OLIL Olney 24.22 20 eP P 00 00 16.3 0.0
comp=Z,71nm,1.3s
KNB Kanab 24.23 331 eP P 00 00 17.7 +1.0
comp=Z,45nm,1.1s
KNB Kanab 24.23 331 eP P 00 00 17.7 +1.0
KNB pmax pmax
comp=Z,45nm,1.1s
TZTN Tazewell 24.23 31 P P 00 00 16.3 -0.2
baz=217,SNR=9.3
TZTN Tazewell 24.23 31 eP P 00 00 16.4 -0.2
comp=Z,42nm,1.1s
P41A Barry, Barry 24.25 14 P P 00 00 15.6 -1.1
baz=198,SNR=14
ISCO Idaho Springs 24.25 347 P P 00 00 17.1 +0.1
baz=163,SNR=45
ISCO Idaho Springs 24.25 347 eP P 00 00 17.5 +0.4
comp=Z,254nm,1.8s
ISCO Idaho Springs 24.25 347 eP P 00 00 17.5 +0.4
ISCO pmax pmax
comp=Z,254nm,1.8s
KMSC Kings Mountain 24.34 36 P P 00 00 17.6 +0.1
baz=224,SNR=6.3
KMSC Kings Mountain 24.34 36 eP P 00 00 18.0 +0.4
P42A Winchester 24.34 16 P P 00 00 17.0 -0.5
baz=199,SNR=12
Q45A Warren Harvey, 24.35 20 P P 00 00 17.0 -0.6
baz=205
R47A Wooly Knot Far 24.40 23 P P 00 00 18.0 +0.1
baz=209,SNR=7.0
HEC Hector,Ludlow 24.40 323 P P 00 00 18.9 +0.7
baz=135,SNR=14
LCMT Little Creek M 24.42 331 eP P 00 00 20.1 +1.7
comp=Z,21nm,1.0s
N33A J Bar K, Exete 24.43 2 P P 00 00 17.9 -0.3
baz=183
WCI Wyandotte Cave 24.43 24 P P 00 00 17.8 -0.5
baz=210
WCI Wyandotte Cave 24.43 24 eP P 00 00 18.1 -0.2
comp=Z,102nm,1.2s
WCI Wyandotte Cave 24.43 24 eP P 00 00 18.1 -0.2
WCI pmax pmax
comp=Z,102nm,1.2s
O39A Kirksville 24.50 11 P P 00 00 18.1 -0.8
baz=194,SNR=9.9
O40A La Belle 24.50 12 P P 00 00 18.1 -0.8
baz=196,SNR=35
SCI2 San Clemente I 24.56 316 P P 00 00 19.2 -0.3
baz=128
N34A Lincoln 24.57 4 P P 00 00 19.1 -0.4
baz=185,SNR=6.6
TUQ Turquoise Moun 24.60 324 P P 00 00 20.4 +0.4
baz=137
P43A Skaggs, Pawnee 24.62 17 P P 00 00 19.6 -0.3
baz=201
N35A Tabor 24.66 5 P P 00 00 19.7 -0.6
baz=187
N36A Muff Farm, Cla 24.68 7 P P 00 00 19.7 -0.9
baz=188
O41A Passleys Farm, 24.71 14 P P 00 00 20.3 -0.5
baz=198,SNR=14
N37A Lee Faris, Mou 24.72 8 P P 00 00 19.9 -1.0
baz=190,SNR=5.6
P44A Sand Creek, Wi 24.72 19 P P 00 00 20.4 -0.6
baz=203
CIS Catalina Islan 24.73 317 P P 00 00 20.8 -0.3
baz=129
Q46A CEJHS Indians, 24.74 21 P P 00 00 20.2 -0.8
baz=206
R48A Northridge Ran 24.74 24 P P 00 00 20.7 -0.4
baz=210,SNR=6.2
BFSC Mount Baldy Ra 24.79 320 P P 00 00 21.5 -0.2
baz=132
OGNE Ogallala 24.79 354 P P 00 00 22.1 +0.5
baz=172,SNR=13
OGNE Ogallala 24.79 354 eP P 00 00 23.0 +1.3
comp=Z,256nm,1.1s
MTPU Mount Pierson 24.80 334 eP P 00 00 23.2 +1.2
comp=Z,148nm,1.4s
SZCU Shurtz Canyon 24.82 332 eP P 00 00 23.6 +1.4
comp=Z,37nm,1.2s
FMP Fort Macarthur 24.85 318 P P 00 00 22.2 +0.1
baz=130
N38A Joes South For 24.90 10 P P 00 00 22.2 -0.3
baz=192,SNR=21
CCUT Cedar City 24.91 331 eP P 00 00 20.7 -2.3
comp=Z,16nm,1.1s
SHPR Sheep Range 24.98 327 eP P 00 00 24.2 +0.7
comp=Z,45nm,1.3s
O42A Bath 24.99 16 P P 00 00 22.6 -0.7
baz=200
Q47A Bedord North L 25.00 23 P P 00 00 23.0 -0.4
baz=208,SNR=8.5
GSC Goldstone, Bar 25.00 323 P P 00 00 23.6 0.0
baz=135,SNR=20
GSC Goldstone, Bar 25.00 323 eP P 00 00 24.1 +0.4
comp=Z,186nm,1.9s
GSC Goldstone, Bar 25.00 323 eP P 00 00 24.1 +0.4
GSC pmax pmax
comp=Z,186nm,1.9s
MWC Mount Wilson 25.03 319 eP P 00 00 24.7 +0.7
comp=Z,64nm,1.4s
MWC Mount Wilson 25.03 319 eP P 00 00 24.7 +0.7
MWC pmax pmax
comp=Z,64nm,1.4s
P45A Graceland, Par 25.06 20 P P 00 00 23.6 -0.3
baz=205
N39A Derby Farms, D 25.11 11 P P 00 00 23.9 -0.5
baz=194,SNR=18
SHOC Shoshone, Teco 25.13 324 P P 00 00 24.9 +0.3
baz=137
BLO Bloomington 25.17 22 eP P 00 00 25.3 +0.4
comp=Z,32nm,1.0s
BLO Bloomington 25.17 22 eP P 00 00 25.3 +0.4
BLO pmax pmax
comp=Z,32nm,1.0s
MSU Marysvale 25.19 334 eP P 00 00 26.5 +1.1
MSU Marysvale 25.19 334 eP P 00 00 26.5 +1.1
DECC Green Verdugo 25.22 319 P P 00 00 25.7 +0.1
baz=130
M34A Aspy Farms, Fr 25.23 4 P P 00 00 25.7 +0.2
baz=184
O20A White River Ci 25.24 342 P P 00 00 26.3 +0.5
baz=158,SNR=16
O20A White River Ci 25.24 342 eP P 00 00 27.1 +1.2
comp=Z,134nm,1.3s
M33A Taylor Creek F 25.27 2 P P 00 00 25.3 -0.6
baz=183
O43A Sugar Creek Fa 25.28 17 P P 00 00 25.2 -0.7
baz=201
N41A Harden Midland 25.28 14 P P 00 00 25.4 -0.5
baz=198,SNR=7.0
N40A Mertquake, Sal 25.29 13 P P 00 00 25.1 -0.9
baz=196
P46A Rosedale 25.32 21 P P 00 00 25.8 -0.5
baz=206
M36A Felix, Anita 25.33 7 P P 00 00 25.5 -0.9
baz=188
SNCC San Nicolas Is 25.37 316 P P 00 00 26.3 -0.6
baz=127
M37A Trindle Farm, 25.38 8 P P 00 00 26.2 -0.6
baz=190,SNR=9.0
N23A Red Feather La 25.38 347 P P 00 00 26.9 -0.2
baz=163,SNR=16
N23A Red Feather La 25.38 347 eP P 00 00 28.1 +1.0
comp=Z,33nm,1.0s
O44A Mansfield 25.40 18 P P 00 00 26.5 -0.5
baz=203
P18A Preston Nutter 25.42 339 eP P 00 00 28.4 +0.8
comp=Z,182nm,1.5s
EDW2 Edwards Air Fo 25.43 320 P P 00 00 27.3 -0.1
baz=132,SNR=12
OTAV Otavalo 25.45 127 eP P 00 00 30.2 +2.0
comp=Z,54nm,1.8s
TMUT Trail Mountain 25.48 337 eP P 00 00 28.6 +0.4
comp=Z,55nm,1.2s
M38A Pleasantville 25.51 9 P P 00 00 27.6 -0.5
baz=192,SNR=14
HDIL Hopedale 25.53 17 P P 00 00 27.9 -0.4
baz=201
P47A Martinsville 25.54 23 P P 00 00 27.9 -0.5
baz=208
N42A Yates City 25.60 15 P P 00 00 28.5 -0.3
baz=199,SNR=6.2
BLG Laguna Peak, P 25.60 318 P P 00 00 28.4 -0.5
baz=129
LRMC Laurel Mtn Rad 25.64 322 P P 00 00 29.9 +0.4
baz=134,SNR=25
PHWY Pilot Hill 25.66 348 eP P 00 00 30.5 +0.7
comp=Z,55nm,1.2s
L32A Elgin 25.68 1 P P 00 00 29.3 -0.3
baz=181
OSI Osito Audit: C 25.70 319 P P 00 00 29.7 -0.2
baz=130
OSI Osito Audit: C 25.70 319 eP P 00 00 30.0 0.0
L34A Svendsen Farm, 25.70 4 P P 00 00 29.5 -0.4
baz=185
O45A Potomac 25.72 19 P P 00 00 29.9 -0.1
baz=205,SNR=12
M39A Webster 25.75 11 P P 00 00 29.6 -0.6
baz=194,SNR=10
M40A Post Highland 25.81 12 P P 00 00 30.1 -0.7
baz=196,SNR=6.7
L33A Hoskins 25.86 2 P P 00 00 30.7 -0.5
baz=183
FURC Furnace Creek, 25.87 325 P P 00 00 32.1 +0.8
baz=136,SNR=8.6
TPNV Topopah Spring 25.89 326 P P 00 00 32.4 +0.7
baz=138,SNR=19
TPNV Topopah Spring 25.89 326 eP P 00 00 33.0 +1.3
comp=Z,122nm,1.5s
TPNV Topopah Spring 25.89 326 eP P 00 00 33.0 +1.3
TPNV pmax pmax
comp=Z,122nm,1.5s
SCZ2 Santa Cruz Isl 25.90 317 P P 00 00 31.6 -0.1
baz=128
NCAT North Carolina 25.90 37 eP P 00 00 33.9 +2.2
comp=Z,77nm,1.5s
L35A Bielow Farm, R 25.91 5 P P 00 00 31.2 -0.5
baz=187
N43A Stutzman Famil 25.93 16 P P 00 00 31.6 -0.2
baz=201,SNR=7.2
MPMC Manual Prospec 25.93 323 P P 00 00 32.0 -0.1
baz=135,SNR=22
L36A Harm Buss Farm 25.99 7 P P 00 00 32.0 -0.4
baz=189
M41A Milan 25.99 14 P P 00 00 31.7 -0.7
baz=198,SNR=14
SCIA State Center 25.99 9 P P 00 00 31.8 -0.6
baz=192,SNR=7.7
SCIA State Center 25.99 9 eP P 00 00 32.6 +0.2
comp=Z,102nm,1.0s
SFIN Lafayette 26.04 20 P P 00 00 32.5 -0.3
baz=206
SFIN Lafayette 26.04 20 eP P 00 00 33.0 +0.2
comp=Z,39nm,1.3s
N44A Piper City 26.09 18 P P 00 00 33.0 -0.3
baz=203
ARVC Arvin 26.10 320 P P 00 00 33.4 -0.1
baz=131
L37A Phoenix Point, 26.12 8 P P 00 00 33.2 -0.4
baz=190
DAC Darwin (Calif) 26.14 323 eP P 00 00 34.3 +0.2
comp=Z,69nm,1.7s
DAC Darwin (Calif) 26.14 323 eP P 00 00 34.3 +0.2
DAC pmax pmax
comp=Z,69nm,1.7s
SDDR Presa de Saban 26.16 80 eP P 00 00 35.7 +1.5
comp=Z,41nm,1.0s
O47A Sheridan 26.23 22 P P 00 00 33.6 -1.0
baz=208
ISA Isabella, Lake 26.24 321 P P 00 00 34.6 -0.2
baz=132,SNR=10
ISA Isabella, Lake 26.24 321 eP P 00 00 35.9 +1.1
comp=Z,34nm,1.1s
ISA Isabella, Lake 26.24 321 eP P 00 00 35.9 +1.1
ISA pmax pmax
comp=Z,34nm,1.1s
M42A Sheffield 26.25 15 P P 00 00 34.2 -0.6
baz=199,SNR=5.7
L38A Oak Wood Farm, 26.26 9 P P 00 00 34.4 -0.5
baz=192,SNR=15
MPU Maple Canyon 26.27 337 eP P 00 00 36.0 +0.9
comp=Z,19nm,1.0s
K31A O'Neill 26.29 360 P P 00 00 34.9 -0.3
baz=180
N45A Kentland 26.33 19 P P 00 00 35.2 -0.3
baz=204
K32A Verdigre 26.33 1 P P 00 00 35.0 -0.5
baz=181
ROSC El Rosal 26.38 113 P P 00 00 39.0 +2.4
comp=Z,6.5nm,0.3s,baz=313,slow=19,SNR=6.5
ROSC El Rosal 26.38 113 eP P 00 00 42.2 +5.6
comp=Z,30nm,1.2s
NLU North Lily Min 26.38 336 eP P 00 00 37.4 +1.1

L39A **Vinton** 26.41 11 P P 00 00 34.8 -1.3
baz=194,SNR=17
PRAC **Prado** 26.42 116 eP P 00 00 39.9 +3.3
comp=Z,52nm,1.6s
RWWY **Rawlins** 26.42 345 eP P 00 00 38.5 +1.8
comp=Z,99nm,1.4s
K34A **Le Mars** 26.44 4 P P 00 00 36.0 -0.5
baz=185
M43A **Waltham Townsh** 26.45 16 P P 00 00 36.3 -0.2
baz=201,SNR=9.3
L40A **Anamosa** 26.50 12 P P 00 00 36.1 -0.9
baz=196,SNR=9.6
GRAC **Grapevine Rang** 26.53 325 P P 00 00 37.2 -0.2
baz=136
CWC **Cottonwood Cre** 26.54 323 P P 00 00 37.7 +0.1
baz=134
K36A **Gilmore City** 26.54 7 P P 00 00 37.7 +0.3
baz=189
K35A **Storm Lake** 26.55 6 P P 00 00 37.0 -0.4
baz=187
PKM **Mcpherson Peak** 26.57 318 P P 00 00 36.5 -1.4
baz=129
R11A **Troy Canyon, C** 26.61 329 P P 00 00 38.0 -0.3
baz=141,SNR=20
R11A **Troy Canyon, C** 26.61 329 eP P 00 00 38.9 +0.6
comp=Z,40nm,1.4s
N46A **Monticello** 26.62 20 P P 00 00 37.8 -0.3
baz=206
M44A **Midewin, Midew** 26.66 18 P P 00 00 38.3 -0.2
baz=203
L41A **Preston** 26.67 14 P P 00 00 37.5 -1.0
baz=198,SNR=15
JLU **Jordanelle** 26.71 338 eP P 00 00 40.1 +0.8
comp=Z,13nm,1.1s
VES **Vestal, Richgr** 26.73 321 P P 00 00 38.5 -0.7
baz=132,SNR=13
K37A **Belmond** 26.77 8 P P 00 00 38.4 -1.1
baz=190,SNR=9.6
K38A **Parkersburg** 26.78 10 P P 00 00 38.6 -0.9
baz=192
L42A **Oliver, Polo** 26.80 15 P P 00 00 39.0 -0.7
baz=199,SNR=16
DUG **Dugway, Tooele** 26.88 335 P P 00 00 40.7 +0.1
baz=149,SNR=8.9
DUG **Dugway, Tooele** 26.88 335 eP P 00 00 41.3 +0.7
comp=Z,21nm,1.1s
DUG **Dugway, Tooele** 26.88 335 eP P 00 00 41.3 +0.7
DUG pmax pmax
comp=Z,21nm,1.1s
CTU **Camp Tracy** 26.90 338 eP P 00 00 41.6 +0.8
comp=Z,12nm,0.9s
M45A **Boilermakers S** 26.90 19 P P 00 00 40.4 -0.2
baz=205
SMMC **Simmler** 26.95 319 P P 00 00 41.1 -0.1
baz=129
J31A **Geddes** 26.96 360 P P 00 00 40.7 -0.5
baz=180
K39A **Oelwein** 26.99 11 P P 00 00 40.4 -1.0
baz=194,SNR=12
J33A **Davis** 27.02 3 P P 00 00 41.2 -0.5
baz=183
RUSC **La Rusia** 27.03 109 eP P 00 00 45.1 +2.4
comp=Z,26nm,1.4s
J34A **George** 27.04 4 P P 00 00 41.4 -0.5
baz=186
J32A **Parkston** 27.05 1 P P 00 00 41.0 -0.9
baz=182
K40A **Colesburg** 27.13 12 P P 00 00 41.7 -1.0
baz=196
TCUT **Toone Canyon** 27.15 338 eP P 00 00 44.0 +0.8
comp=Z,57nm,1.0s
K22A **Casper** 27.18 347 P P 00 00 42.9 -0.4
baz=163,SNR=9.2
K22A **Casper** 27.18 347 eP P 00 00 44.1 +0.8
comp=Z,32nm,1.2s
J35A **Milford** 27.19 5 P P 00 00 42.5 -0.7
baz=187
L43A **Garden Prairie** 27.20 16 P P 00 00 42.4 -0.9
baz=201
K41A **Shullsburg** 27.22 13 P P 00 00 42.7 -0.7
baz=198,SNR=8.2
J36A **Seneca 1, Swea** 27.24 7 P P 00 00 42.5 -1.2
baz=189
J37A **Redenius Farm,** 27.32 8 P P 00 00 43.4 -0.9
baz=190
L44A **Lake County Fo** 27.43 17 P P 00 00 44.6 -0.8
baz=203
ECSD **EROS Data Cent** 27.45 3 P P 00 00 44.9 -0.7
baz=184,SNR=13
ECSD **EROS Data Cent** 27.45 3 eP P 00 00 45.4 -0.2
comp=Z,33nm,1.1s
J38A **Wedel Dairy, R** 27.48 10 P P 00 00 44.3 -1.5
baz=193
ACSO **Alum Creek Sta** 27.49 27 P P 00 00 45.1 -0.8
baz=214
JFWS **Jewell Farm** 27.52 13 P P 00 00 45.5 -0.7
baz=198,SNR=6.7
JFWS **Jewell Farm** 27.52 13 eP P 00 00 45.8 -0.4
comp=Z,28nm,1.0s
JFWS **Jewell Farm** 27.52 13 eP P 00 00 45.8 -0.4
JFWS pmax pmax
comp=Z,28nm,1.0s
BGU **Big Grassy Mou** 27.59 336 eP P 00 00 48.2 +1.2
comp=Z,39nm,1.4s
K42A **Prairie Point,** 27.61 15 P P 00 00 46.4 -0.5
baz=199,SNR=7.5
J39A **Decorah** 27.63 11 P P 00 00 46.6 -0.6
baz=194
HWUT **Hardware Ranch** 27.64 339 eP P 00 00 47.7 +0.2
comp=Z,13nm,0.9s
I35A **Creekview Farm** 27.69 6 P P 00 00 47.1 -0.6
baz=187
I32A **Karley and Nic** 27.71 2 P P 00 00 47.1 -0.8
baz=182
I33A **Coleman** 27.75 3 P P 00 00 47.5 -0.8
baz=184
K43A **Burlington** 27.80 16 P P 00 00 48.0 -0.6
baz=201
I34A **Hadley** 27.80 4 P P 00 00 48.2 -0.5
baz=186
MLAC **Mammoth, Mammo** 27.80 324 P P 00 00 48.9 -0.1
baz=135
J40A **Soldiers Grove** 27.88 12 P P 00 00 48.6 -0.7
baz=196
MDPB **Devils Postpil** 27.94 324 eP P 00 00 51.5 +1.2
comp=Z,65nm,1.6s
I36A **Fitzsimmons Fa** 27.96 7 P P 00 00 49.0 -1.0
baz=189
NV11 **Mina Array Sit** 28.00 326 eP P 00 00 51.8 +1.1
comp=Z,4.1nm,1.3s
J41A **Loganville** 28.00 13 P P 00 00 49.9 -0.6
baz=198,SNR=9.3
I37A **Lemond, Waseca** 28.03 8 P P 00 00 49.4 -1.3
baz=191
BW06 **Boulder Array** 28.05 343 P P 00 00 50.7 -0.5
baz=157,SNR=22
BW06 **Boulder Array** 28.05 343 eP P 00 00 51.1 -0.1
comp=Z,27nm,1.0s
PD31 **Pinedale Array** 28.05 343 eP P 00 00 51.6 +0.4
PDAR **Pinedale Array** 28.05 343 P P 00 00 51.6 +0.4
comp=Z,16nm,0.9s,baz=138,slow=8.8,SNR=52
PDAR **Pinedale Array** 28.05 343 eP P 00 00 51.1 -0.1
NV01 **Mina Array Sit** 28.08 326 eP P 00 00 52.5 +1.0
NVAR **Mina Array Bea** 28.08 326 P P 00 00 52.5 +1.0
comp=Z,13nm,0.9s,baz=153,slow=9.5,SNR=50
J42A **Columbus** 28.17 15 P P 00 00 51.6 -0.4
baz=200,SNR=11
RSSD **Black Hills** 28.17 352 P P 00 00 52.4 +0.2
baz=169
RSSD **Black Hills** 28.17 352 eP P 00 00 52.7 +0.5
comp=Z,49nm,1.5s
RSSD **Black Hills** 28.17 352 eP P 00 00 52.7 +0.5
RSSD pmax pmax
comp=Z,49nm,1.5s
I39A **Houston** 28.17 11 P P 00 00 51.2 -0.7
baz=194
H32A **Carlson Farm,** 28.19 2 P P 00 00 51.4 -0.7
baz=182
I38A **Scanlan Farm,** 28.21 10 P P 00 00 51.2 -1.2
baz=193,SNR=5.8
HVU **Hansel Valley** 28.23 337 eP P 00 00 53.6 +0.9
comp=Z,25nm,1.0s
HVU **Hansel Valley** 28.23 337 eP P 00 00 53.6 +0.9
HVU pmax pmax
comp=Z,25nm,1.0s
SDV **Santo Domingo** 28.23 102 P P 00 00 53.7 +0.6
comp=Z,5.2nm,0.8s,baz=290,slow=9.4,SNR=10
SDV LR LR 00 13 40.9
comp=Z,198nm,18.6s,baz=342,slow=40
SDV **Santo Domingo** 28.23 102 eP P 00 00 54.5 +1.5
comp=Z,69nm,1.8s
RYN **Ryan** 28.34 326 eP P 00 00 55.1 +1.3
comp=Z,30nm,1.4s
I40A **Norwalk** 28.38 12 P P 00 00 53.3 -0.5
baz=196
H33A **Prehn Over Nor** 28.39 3 P P 00 00 53.5 -0.5
baz=184
J43A **Natural Harves** 28.40 16 P P 00 00 53.5 -0.5
baz=201
H34A **Spellman Lake,** 28.43 4 P P 00 00 53.4 -0.9
baz=186
MCWV **Mont Chateau** 28.49 31 P P 00 00 54.2 -0.7
baz=220
I41A **Arkdale** 28.70 13 P P 00 00 56.4 -0.3
baz=198
WAKR **Walker** 28.75 325 eP P 00 00 59.1 +1.6
comp=Z,59nm,1.6s
CBN **Corbin Frederi** 28.75 36 P P 00 00 56.8 -0.4
baz=226
I42A **Draeger Farm,** 28.76 15 P P 00 00 56.4 -0.8
baz=200,SNR=7.8
I42A **Draeger Farm,** 28.76 15 eP P 00 00 57.2 +0.1
comp=Z,46nm,1.3s
H38A **Maiden Rock** 28.84 9 P P 00 00 57.1 -0.8
baz=193
G31A **Conde** 28.89 1 P P 00 00 58.2 -0.2
baz=181
G33A **Ortonville** 28.92 3 P P 00 00 58.4 -0.2
baz=184
G32A **Webster** 28.94 2 P P 00 00 58.3 -0.5
baz=182
I43A **Langenfeld Bro** 28.94 16 P P 00 00 58.4 -0.4
baz=201
AAM **Ann Arbor** 28.96 23 P P 00 00 58.5 -0.5
baz=211
CMB **Columbia Colle** 28.97 323 eP P 00 00 59.7 +0.5
comp=Z,29nm,1.8s
CMB **Columbia Colle** 28.97 323 eP P 00 00 59.7 +0.5
CMB pmax pmax
comp=Z,29nm,1.8s
REDW **Red Top Meadow** 28.98 341 eP P 00 00 59.9 +0.5
comp=Z,94nm,1.9s
YERR **Yerington** 28.98 325 eP P 00 01 00.7 +1.2
comp=Z,60nm,1.7s
H39A **Augusta** 29.01 11 P P 00 00 59.1 -0.4
baz=194
G34A **Benson** 29.02 4 P P 00 00 58.7 -0.8
baz=186
BMN **Battle Mountai** 29.02 330 eP P 00 01 00.7 +0.9
comp=Z,41nm,1.6s
BMN **Battle Mountai** 29.02 330 eP P 00 01 00.7 +0.9
BMN pmax pmax
comp=Z,41nm,1.6s
SNOW **Snow King Moun** 29.04 342 eP P 00 01 01.1 +1.1
comp=Z,42nm,1.1s
G35A **Watkins** 29.09 6 P P 00 00 59.6 -0.6
baz=188
TPAW **Teton Pass** 29.12 341 eP P 00 01 01.6 +0.8
comp=Z,31nm,1.3s
H40A **Chili** 29.12 12 P P 00 00 59.9 -0.5
baz=196,SNR=7.8
LOHW **Long Hollow** 29.13 342 eP P 00 01 01.3 +0.5
comp=Z,18nm,1.0s
G36A **St. Michael** 29.19 7 P P 00 01 00.2 -0.8
baz=190
H41A **Junction City** 29.27 13 P P 00 01 00.6 -1.2
baz=198
H41A **Junction City** 29.27 13 eP P 00 01 01.2 -0.6
comp=Z,37nm,1.2s
FXWY **Fox Creek** 29.28 341 eP P 00 01 02.8 +0.7
comp=Z,12nm,1.0s
MOOW **Moose Ponds** 29.30 342 eP P 00 01 02.9 +0.6
comp=Z,9.4nm,1.0s
MOOW ePcP PcP 00 04 08.8 +0.1
SPMN **Marine on St.** 29.30 8 P P 00 01 00.9 -1.0
baz=191
SPMN **Marine on St.** 29.30 8 eP P 00 01 01.6 -0.4
comp=Z,33nm,1.3s
G38A **Ridgeland** 29.39 10 P P 00 01 01.6 -1.2
baz=193
N54A **Moraine State** 29.42 29 P P 00 01 02.6 -0.5
baz=218
VCNR **Virginia City** 29.43 325 eP P 00 01 04.9 +1.4
comp=Z,52nm,1.7s
H42A **Shiocton** 29.43 15 P P 00 01 02.3 -0.8
baz=200
IMW **Indian Meadow** 29.49 342 eP P 00 01 04.4 +0.3
comp=Z,11nm,0.9s
F31A **Hecla** 29.53 0 P P 00 01 03.0 -1.0
baz=181
RUBR **Rubicon Trail** 29.54 325 eP P 00 01 06.3 +1.9
comp=Z,66nm,1.1s
F33A **5 Mile Ranch,** 29.57 3 P P 00 01 04.1 -0.2
baz=184
PAHR **Pah Rah Range** 29.58 326 eP P 00 01 06.0 +1.3
comp=Z,49nm,1.7s
H43A **Windswept, Lux** 29.59 16 P P 00 01 03.9 -0.6
baz=201
G39A **Holcombe** 29.62 11 P P 00 01 03.7 -1.2
baz=194
F35A **Swanville** 29.71 6 P P 00 01 04.6 -1.0
baz=188
G40A **Rib Lake** 29.78 12 P P 00 01 05.4 -0.9
baz=196,SNR=5.6
YPP **Pitchstone Pla** 29.79 342 eP P 00 01 09.4 +2.7
comp=Z,14nm,1.6s
F37A **Hinrichs Farm,** 29.81 8 P P 00 01 05.3 -1.3
baz=192
F36A **Milaca** 29.83 7 P P 00 01 05.7 -1.0
baz=190
H17A **Grant Village** 29.84 343 eP P 00 01 09.2 +2.1
comp=Z,28nm,1.8s
AFDM **Forest Hills D** 29.93 323 eP P 00 01 08.6 +0.9
comp=Z,16nm,1.5s
G41A **Antigo** 29.94 13 P P 00 01 07.1 -0.6
baz=198
YFT **Old Faithful** 29.96 342 eP P 00 01 10.5 +2.3
comp=Z,11nm,1.0s
M54A **Oil Creek Stat** 30.00 29 P P 00 01 07.6 -0.7
baz=218
G42A **Mountain** 30.15 14 P P 00 01 08.9 -0.6
baz=200
G42A **Mountain** 30.15 14 eP P 00 01 09.1 -0.4
comp=Z,29nm,1.3s
F38A **Pierce - Schro** 30.15 9 P P 00 01 08.6 -0.9
baz=193
RLMT **Red Lodge** 30.16 345 P P 00 01 09.2 -0.7
baz=159,SNR=16
RLMT **Red Lodge** 30.16 345 eP P 00 01 09.6 -0.3
YMR **Madison River** 30.20 342 eP P 00 01 11.8 +1.5
comp=Z,18nm,1.1s
F39A **Loretta** 30.27 11 P P 00 01 10.4 -0.2
baz=195
G43A **Wallace** 30.34 15 P P 00 01 10.6 -0.6
baz=201
HLID **Hailey** 30.38 337 P P 00 01 11.9 +0.1
baz=149,SNR=17
HLID **Hailey** 30.38 337 eP P 00 01 12.2 +0.5
comp=Z,12nm,0.9s
E35A **Pequot Lakes** 30.42 6 P P 00 01 11.6 -0.4
baz=188
F41A **Three Lakes** 30.46 13 P P 00 01 11.7 -0.7
baz=198
E36A **McGregor** 30.51 7 P P 00 01 12.4 -0.3
baz=190
ORV **Oroville** 30.64 324 eP P 00 01 15.3 +1.4
comp=Z,46nm,1.6s
ORV **Oroville** 30.64 324 eP P 00 01 15.3 +1.4
ORV pmax pmax
comp=Z,47nm,1.6s
E37A **Wrenshall** 30.67 8 P P 00 01 13.5 -0.6
baz=192
E39A **Mellen** 30.78 11 P P 00 01 14.8 -0.3
baz=195
COWI **Conover** 30.80 13 eP P 00 01 15.1 -0.2
comp=Z,27nm,1.3s
MFID **Camas Ranch** 30.80 335 eP P 00 01 16.3 +0.8
comp=Z,38nm,1.3s
GLMI **Grayling** 30.83 20 P P 00 01 15.3 -0.2
baz=207
D34A **Park Rapids** 30.88 5 P P 00 01 14.8 -1.2
baz=186
GCMT **Greycliff** 30.88 345 eP P 00 01 16.9 +0.7
D33A **AnnSam, Waubun** 30.89 4 P P 00 01 14.9 -1.2
baz=185
MCMT **McKenzie Canyo** 30.93 340 eP P 00 01 17.9 +1.2
E40A **Wakefield** 30.97 12 P P 00 01 16.4 -0.4
baz=196,SNR=7.4
D35A **Remer** 30.98 6 P P 00 01 16.0 -0.8
baz=188
F43A **Flat Rock, Esc** 31.01 16 P P 00 01 16.5 -0.6
baz=202
LAO **LASA Array** 31.01 350 P P 00 01 16.5 -0.8
baz=166
LAO **LASA Array** 31.01 350 eP P 00 01 16.8 -0.4
comp=Z,102nm,1.9s
SJG **San Juan** 31.03 82 P P 00 01 17.8 +0.2
comp=Z,18nm,0.9s,baz=275,slow=6.9,SNR=7.0
SJG **San Juan** 31.03 82 eP P 00 01 17.5 -0.1
comp=Z,46nm,1.3s
SJG **San Juan** 31.03 82 eP P 00 01 17.5 -0.1
SJG pmax pmax
comp=Z,46nm,1.3s
D36A **Goodland** 31.17 7 P P 00 01 17.3 -1.2
baz=190
E41A **Kenton** 31.18 13 P P 00 01 17.7 -1.0
baz=198
BOZ **Bozeman (W)** 31.24 342 P P 00 01 20.1 +0.8
baz=155,SNR=13
BOZ **Bozeman (W)** 31.24 342 eP P 00 01 20.3 +1.0
comp=Z,15nm,1.1s
BOZ **Bozeman (W)** 31.24 342 eP P 00 01 20.3 +1.0
BOZ pmax pmax
comp=Z,15nm,1.1s
D37A **Cotton** 31.25 8 P P 00 01 18.0 -1.2
baz=191
WVOR **Wild Horse Val** 31.25 331 eP P 00 01 19.6 +0.2
comp=Z,61nm,1.5s
WVOR **Wild Horse Val** 31.25 331 eP P 00 01 19.6 +0.2
WVOR pmax pmax
comp=Z,61nm,1.5s
CBYP **Canovanas** 31.30 81 eP P 00 01 20.0 -0.1
comp=Z,34nm,1.1s
O03D **Paynes Creek** 31.31 325 P P 00 01 19.0 -1.0
baz=133
DLMT **Dillon** 31.32 341 eP P 00 01 21.7 +1.6
comp=Z,42nm,1.2s
F45A **CMU Biological** 31.33 18 P P 00 01 18.6 -1.3
baz=205
F44A **Big Bay de Noc** 31.34 16 P P 00 01 19.1 -0.9
baz=203,SNR=6.2
E42A **Champion** 31.39 14 P P 00 01 19.4 -1.0
baz=200
C34A **RKJ Ranch, Bem** 31.46 5 P P 00 01 20.1 -1.1
baz=187
C31A **Landman Farms,** 31.47 1 P P 00 01 20.2 -0.9
baz=182,SNR=9.9
MDND **Maddock** 31.53 359 P P 00 01 21.0 -0.6
baz=178,SNR=11
MDND **Maddock** 31.53 359 eP P 00 01 21.8 +0.1
comp=Z,191nm,1.1s
N59A **State Game Lan** 31.53 34 P P 00 01 20.7 -1.1
baz=225
C32A **Crookston** 31.54 3 P P 00 01 20.9 -0.8
baz=184
E43A **Lone Tree Farm** 31.56 15 P P 00 01 21.2 -0.8
baz=202
C35A **Jirik Farms, M** 31.60 6 P P 00 01 21.3 -0.9
baz=188
F46A **Macinaw City C** 31.64 19 P P 00 01 22.0 -0.7
baz=206
MOD **Modoc Plateau** 31.66 328 eP P 00 01 23.2 +0.1
comp=Z,24nm,1.0s
LRM **Limekiln Ridge** 31.69 341 eP P 00 01 23.9 +0.5
C36A **Pine Crest Far** 31.78 7 P P 00 01 22.9 -1.0
baz=190
D41A **Chassel** 31.83 13 P P 00 01 23.9 -0.4
baz=198
C37A **Embarrass** 31.84 8 P P 00 01 23.5 -0.9
baz=192
J08A **Circle Bar Ran** 31.89 332 eP P 00 01 25.6 +0.5
comp=Z,53nm,1.2s
C38A **Sawbill Land.** 31.96 9 P P 00 01 25.2 -0.3
baz=193
B33A **Robert and Kas** 32.03 4 P P 00 01 25.3 -0.8
baz=185
E45A **Wooded Hills,** 32.04 18 P P 00 01 25.4 -0.8
baz=205
AGMN **Agassiz Nation** 32.04 3 P P 00 01 25.6 -0.6
baz=185,SNR=18
AGMN **Agassiz Nation** 32.04 3 eP P 00 01 25.6 -0.6
comp=Z,41nm,1.0s
E44A **Grand Marais A** 32.07 17 P P 00 01 25.8 -0.7
baz=203
B31A **Greenbush Farm** 32.10 1 P P 00 01 26.1 -0.6
baz=182
B32A **Ashes, Strandq** 32.11 3 P P 00 01 26.1 -0.6
baz=184,SNR=14
EYMN **Ely** 32.15 9 P P 00 01 26.2 -1.0
baz=193
C39A **Grand Marais** 32.25 11 P P 00 01 27.0 -1.0
baz=195
B35A **Bob, Littlefor** 32.28 6 P P 00 01 27.1 -1.1
baz=189,SNR=5.2
N02D **Trinity Center** 32.28 325 P P 00 01 27.1 -1.4
baz=133
HRY **Holter Researc** 32.31 343 eP P 00 01 29.1 +0.4
B34A **Aery, Baudette** 32.32 5 P P 00 01 28.1 -0.5
baz=187
M04C **Macdoel** 32.37 327 P P 00 01 28.6 -0.7
baz=135,SNR=7.6
C40A **Isle Royale Na** 32.53 12 P P 00 01 30.0 -0.4
baz=197
BMO **Blue Mountains** 32.59 335 eP P 00 01 31.1 0.0
comp=Z,14nm,1.1s
BMO **Blue Mountains** 32.59 335 eP P 00 01 31.1 0.0
BMO pmax pmax
comp=Z,14nm,1.1s
A31A **Linda, St. Vin** 32.62 2 P P 00 01 30.6 -0.6
baz=182
PAL **Palisades** 32.62 36 P P 00 01 30.5 -0.8
baz=228
A32A **Rocking H Ranc** 32.63 3 P P 00 01 30.5 -0.8
baz=184
M02C **Callahan** 32.64 325 P P 00 01 31.0 -0.7
baz=133
A33A **Warroad** 32.71 4 P P 00 01 31.4 -0.6
baz=186,SNR=14
KHMM **Horse Mountain** 32.79 324 eP P 00 01 34.5 +1.4
comp=Z,29nm,1.0s
YBH **Yreka Blue Hor** 32.80 326 LR LR 00 17 11.8
comp=Z,408nm,18.8s,baz=168,slow=41
SADO **Sadowa** 32.83 26 P P 00 01 32.6 -0.5
comp=Z,5.8nm,0.9s,baz=184,slow=1.7,SNR=3.4
K04D **Chiloquin, OR** 32.92 328 P P 00 01 33.8 -0.3
baz=136
MSO **Missoula** 33.05 341 P P 00 01 35.0 -0.2
baz=152,SNR=6.0
MSO **Missoula** 33.05 341 eP P 00 01 35.8 +0.5
comp=Z,8.3nm,1.0s
J05D **Fort Rock, OR** 33.14 329 P P 00 01 36.0 -0.1
baz=138
F10A **Beach Ranch, E** 33.48 336 eP P 00 01 38.9 -0.1
comp=Z,36nm,1.0s
J04D **Umpqua Nationa** 33.55 328 P P 00 01 39.8 +0.2
baz=136
PCRV **Puerto La Cruz** 33.57 96 LR LR 00 16 10.2
comp=Z,203nm,20.0s,baz=285,slow=38
G08A **Pilot Rock** 33.63 334 eP P 00 01 40.2 -0.1
comp=Z,29nm,1.1s
I05D **Terrebonne, OR** 33.97 330 P P 00 01 43.1 -0.1
baz=138
JTMT **Jette** 33.98 341 eP P 00 01 43.7 +0.4
comp=Z,13nm,1.1s
ULM **Lac du Bonnet** 33.99 3 P P 00 01 41.9 -1.3
comp=Z,15nm,1.1s,baz=200,slow=10,SNR=16
ULM **Lac du Bonnet** 33.99 3 eP P 00 01 42.4 -0.8
comp=Z,51nm,1.4s
ULM **Lac du Bonnet** 33.99 3 eP P 00 01 42.4 -0.8
ULM pmax pmax
comp=Z,51nm,1.4s
I04A **Tendick Farm,** 34.10 329 P P 00 01 43.8 -0.5
baz=136
I03D **Drain, OR** 34.51 328 P P 00 01 47.1 -0.6
baz=135
H04A **Detroit Lake** 34.63 330 eP P 00 01 49.1 +0.2
comp=Z,52nm,1.3s
G05D **Wamic, OR** 34.64 331 P P 00 01 48.3 -0.7
baz=139
LONY **Lake Ozonia** 34.79 31 P P 00 01 49.2 -1.0
baz=223
WALA **Waterton Lakes** 35.03 342 eP P 00 01 53.2 +0.8
comp=Z,32nm,1.5s

NEW	**Newport**	**35.37**	**338**	P		**P**	**00 01 55.1**	**-0.1**
	baz=148							
NEW	**Newport**	**35.37**	**338**	*e*P		**P**	**00 01 55.3**	**+0.1**
	comp=Z,22nm,1.4s							
NEW	**Newport**	**35.37**	**338**	*e*P		**P**	**00 01 55.3**	**+0.1**
NEW					pmax	pmax		
	comp=Z,22nm,1.4s							
C09A	**Chrisman Ranch**	**35.40**	**337**	*e*P		**P**	**00 01 55.9**	**+0.5**
	comp=Z,27nm,0.9s							
LTY	**Liberty**	**35.92**	**334**	*e*P		**P**	**00 02 00.7**	**+0.7**
	comp=Z,142nm,1.8s							
TRQ	**Mont Tremblant**	**35.99**	**29**	*e*P		**P**	**00 02 00.9**	**+0.3**
LON	**Longmire**	**36.01**	**333**	*e*P		**P**	**00 02 02.8**	**+2.0**
	comp=Z,22nm,1.2s							
LON	**Longmire**	**36.01**	**333**	*e*P		**P**	**00 02 02.8**	**+2.0**
LON					pmax	pmax		
	comp=Z,22nm,1.2s							
B08A	**Colville Reser**	**36.27**	**336**	*e*P		**P**	**00 02 03.1**	**+0.3**
	comp=Z,28nm,1.2s							
C06D	**Leavenworth**	**36.53**	**335**	P		**P**	**00 02 05.3**	**+0.1**
	baz=142							
B05A	**Bryant**	**37.30**	**334**	P		**P**	**00 02 11.9**	**+0.3**
	baz=141							
PKME	**Peaks-Kenny Pk**	**37.96**	**34**	P		**P**	**00 02 16.0**	**-1.2**
	baz=230							
FFC	**Flin Flon**	**38.49**	**357**	*e*P		**P**	**00 02 21.1**	**-0.4**
	comp=Z,34nm,1.2s							
FFC	**Flin Flon**	**38.49**	**357**	*e*P		**P**	**00 02 21.2**	**-0.4**
FFC					pmax	pmax		
	comp=Z,34nm,1.2s							
EDM	**Edmonton**	**38.68**	**346**	*e*P		**P**	**00 02 22.4**	**-0.8**
	comp=Z,57nm,1.0s							
EDM	**Edmonton**	**38.68**	**346**	*e*P		**P**	**00 02 22.4**	**-0.8**
EDM					pmax	pmax		
	comp=Z,57nm,1.0s							
LLLB	**Lillooet**	**39.06**	**336**	*e*P		**P**	**00 02 27.2**	**+0.7**
	comp=Z,135nm,1.8s							
FCC	**Fort Churchill**	**42.58**	**3**	*e*P		**P**	**00 02 55.6**	**+0.3**
	comp=Z,49nm,1.6s							
FCC	**Fort Churchill**	**42.58**	**3**	*e*P		**P**	**00 02 55.6**	**+0.3**
FCC					pmax	pmax		
	comp=Z,49nm,1.6s							
LPAZ	**La Paz**	**44.14**	**136**	P		**P**	**00 03 07.1**	**-2.0**
	comp=Z,3.4nm,1.1s,baz=356,slow=3.8,SNR=6.0							
LPAZ					LR	LR	00 20 19.1	
	comp=Z,154nm,19.0s,baz=315,slow=34							
LPAZ	**La Paz**	**44.14**	**136**	*e*P		**P**	**00 03 09.9**	**+0.9**
	comp=Z,17nm,1.7s							
LPAZ	**La Paz**	**44.14**	**136**	*e*P		**P**	**00 03 10.0**	**+0.9**
LPAZ					pmax	pmax		
	comp=Z,17nm,1.7s							
MNMC	**Minye Minye**	**45.27**	**140**	*e*P		**P**	**00 03 19.6**	**+1.9**
	comp=Z,40nm,1.7s							
SCHQ	**Schefferville**	**45.63**	**25**	P		**P**	**00 03 18.9**	**-0.9**
	comp=Z,16nm,0.9s,baz=228,slow=5.3,SNR=7.7							
SCHQ					LR	LR	00 25 16.6	
	comp=Z,422nm,19.0s,baz=250,slow=40							
PB11	**IPOC Station P**	**45.71**	**140**	*e*P		**P**	**00 03 22.5**	**+1.5**
	comp=Z,24nm,1.2s							
YKA	**Yellowknife Ar**	**47.55**	**350**	P		**P**	**00 03 33.9**	**-0.8**
	comp=Z,3.6nm,0.9s,baz=158,slow=7.4,SNR=44							
YKA					PP	**PP**	**00 05 28.5**	**+2.2**
	comp=Z,2.0nm,1.0s,baz=153,slow=10,SNR=5.7							
TAOE	**Nuku Hiva Isla**	**48.10**	**242**	*e*S		**S**	**00 10 37.0**	**-0.3**
	comp=Z,100nm,24.3s							
TAOE					*e*LR	LR	00 17 03.5	
	comp=Z,577nm,24.8s							
SIV	**San Ignacio**	**48.96**	**129**	P		**P**	**00 03 44.4**	**-1.8**
	comp=Z,8.2nm,1.3s,baz=316,slow=9.2,SNR=13							
RKT	**Rikitea**	**52.88**	**223**	*e*S		**S**	**00 11 42.1**	**-1.2**
	comp=Z,130nm,29.5s							
RKT					*e*LR	LR	00 19 31.0	
	comp=Z,643nm,25.5s,baz=37							
RKT	**Rikitea**	**52.88**	**223**	*e*T		T	01 00 45.2	
	comp=Z,27nm,0.3s							
KIP	**Kipapa**	**56.20**	**285**⇑	*e*P		**P**	**00 04 39.0**	**-0.9**
KIP					pmax	pmax		
	comp=Z,197nm,1.1s							
INK	**Inuvik**	**56.57**	**345**	P		**P**	**00 04 40.2**	**-1.6**
	comp=Z,11nm,1.0s,baz=127,slow=8.2,SNR=31							
DOT	**Dot Lake**	**56.67**	**338**	*e*P		**P**	**00 04 43.0**	**+0.4**
	comp=Z,153nm,1.6s							
PMOR	**Pomariorio Ree**	**57.74**	**240**	*e*T		T	01 06 58.8	
	comp=Z,9.7nm,0.2s							
CPUP	**Villa Florida**	**58.31**	**136**	P		**P**	**00 04 52.2**	**-2.4**
	comp=Z,3.3nm,1.1s,baz=323,slow=4.8,SNR=5.8							
CPUP					LR	LR	00 28 56.7	
	comp=Z,48nm,19.7s,baz=313,slow=35							
ILAR	**Eielson Array**	**58.33**	**338**	P		**P**	**00 04 54.0**	**-0.2**
	comp=Z,10nm,1.1s,baz=140,slow=4.7,SNR=53							
ILAR					LR	LR	00 31 56.8	
	comp=Z,390nm,20.9s,baz=134,slow=38							
MCK	**McKinley**	**58.55**	**336**	*e*P		**P**	**00 04 55.8**	**-0.1**
	comp=Z,47nm,1.6s							
MCK	**McKinley**	**58.55**	**336**	*e*P		**P**	**00 04 55.8**	**-0.1**
MCK					pmax	pmax		
	comp=Z,47nm,1.6s							
TRF	**Thorofare Moun**	**58.94**	**336**	*e*P		**P**	**00 04 58.7**	**-0.1**
	comp=Z,113nm,1.6s							
KTH	**Kantishna Hill**	**59.24**	**336**	*e*P		**P**	**00 05 00.3**	**-0.4**
	comp=Z,65nm,1.7s							
SFJD	**Kangerlussuaq**	**59.44**	**20**	P		**P**	**00 05 01.3**	**-0.6**
	comp=Z,13nm,0.9s,baz=236,slow=6.6,SNR=6.0							
SFJD					LR	LR	00 34 21.0	
	comp=Z,147nm,19.1s,baz=238,slow=40							
SFJD	**Kangerlussuaq**	**59.44**	**20**	*i* P		**P**	**00 05 01.8**	**-0.1**
	comp=Z,24nm,1.1s							
PPLA	**Purkeypile**	**59.45**	**335**	*e*P		**P**	**00 05 01.7**	**-0.6**
	comp=Z,96nm,1.6s							
BPAW	**Bear Paw Mtn.**	**59.52**	**336**	*e*P		**P**	**00 05 01.3**	**-1.3**
	comp=Z,10nm,1.7s							
PPT	**Papeete**	**60.43**	**238**	LR		LR	00 24 09.9	
	comp=Z,199nm,21.4s,baz=57,slow=29							
PPT2	**Papeete2**	**60.44**	**238**	*e*S		**S**	**00 13 23.3**	**-0.4**
	comp=Z,100nm,24.5s							
PPT2					*e*LR	LR	00 22 34.0	
	comp=Z,374nm,26.2s,baz=56							
TOLK	**Toolik Lake Re**	**61.30**	**341**	P		**P**	**00 05 13.9**	**-0.8**
	baz=122,SNR=8.8							
PLCA	**Paso Flores**	**62.38**	**156**	P		**P**	**00 05 21.6**	**-0.8**
	comp=Z,9.4nm,1.2s,baz=22,slow=10,SNR=3.5							
PLCA					LR	LR	00 26 51.2	
	comp=Z,174nm,18.2s,baz=0.5,slow=31							
SUMG	**Summit**	**65.85**	**17**	*i* P		**P**	**00 05 45.1**	**0.0**
	comp=Z,16nm,1.1s							
GAMB	**Gambell**	**68.09**	**333**	*e*P		**P**	**00 05 59.5**	**+0.5**
	comp=Z,30nm,1.6s							
DAG	**Danmarks Havn**	**71.99**	**14**⇑	*i*P		**P**	**00 06 22.0**	**-0.7**
	comp=Z,40nm,1.6s							
EFI	**East Falkland**	**76.28**	**155**	*de*P		**P**	**00 06 47.2**	**-0.8**
EFI					pmax	pmax		
	comp=Z,24nm,1.2s							
BILL	**Bilibino**	**76.98**	**337**⇑	*i*P		**P**	**00 06 51.1**	**-0.7**
BILL				*e*			00 09 49.0	
BILL					*e*PPP	PPP	00 11 31.6	
BILL					pmax	pmax		
	comp=Z,19nm,1.3s							
BILL					pmax	pmax		
	comp=Z,210nm,18.0s							
AFI	**Afiamalu**	**78.26**	**252**	LR		LR	00 34 26.4	
	comp=Z,46nm,19.5s,baz=48,slow=30							
BBTS	**Babate**	**78.56**	**78**	LR		LR	00 38 27.6	
	comp=Z,98nm,20.8s,baz=277,slow=33							
SPITS	**Spitsbergen Ar**	**79.14**	**11**	LR		LR	00 44 25.6	
	comp=Z,195nm,19.5s,baz=255,slow=38							
EKA	**Eskdalemuir Ar**	**79.85**	**35**	LR		LR	00 43 56.3	
	comp=Z,95nm,18.9s,baz=310,slow=37							
ESDC	**Sonseca Array**	**83.28**	**51**	P		**P**	**00 07 26.0**	**-0.5**
	comp=Z,0.9nm,0.8s,baz=292,slow=6.4,SNR=5.3							
SEY	**Seymchan**	**84.03**	**334**⇑	*e*P		**P**	**00 07 29.9**	**+0.1**
KONO	**Kongsberg**	**85.00**	**29**⇑	*e*P		**P**	**00 07 34.6**	**-0.1**
KONO					pmax	pmax		
	comp=Z,11nm,1.2s							
NOA	**NORSAR Array B**	**85.16**	**27**	LR		LR	00 48 05.8	
	comp=Z,20nm,18.1s,baz=295,slow=37							
ARCES	**ARCESS Array B**	**85.94**	**17**	LR		LR	00 47 36.0	
	comp=Z,102nm,21.8s,baz=343,slow=37							
MA2	**Magadan**	**86.16**	**331**⇑	*e*P		**P**	**00 07 40.3**	**-0.2**
BCLA	**Clavier**	**86.21**	**38**	⇓P		**P**	**00 07 41.3**	**+0.4**
	comp=Z,9.1nm,1.8s							
MEM	**Membach**	**86.56**	**38**	⇑AP		**P**	**00 07 46.5**	**+3.9**
HFS	**Hagfors**	**86.66**	**28**	LR		LR	00 46 38.5	
	comp=Z,45nm,21.4s,baz=262,slow=36							
RAO	**Raoul Island**	**88.83**	**239**	LR		LR	00 39 53.7	
	comp=Z,2μm,20.9s,baz=44,slow=30							
KOWA	**Kowa**	**90.29**	**75**	LR		LR	00 44 04.0	
	comp=Z,128nm,21.9s,baz=216,slow=33							
BRG	**Berggiesshubel**	**91.04**	**36**	*e*P		**P**	**00 08 04.6**	**+0.7**
	comp=Z,15nm,1.7s							
BRG	**Berggiesshubel**	**91.04**	**36**	*e*P		**P**	**00 08 04.6**	**+0.7**
BRG					pmax	pmax		
	comp=Z,15nm,1.7s							
FINES	**FINESS Array B**	**91.07**	**23**	LR		LR	00 49 30.4	
	comp=Z,124nm,21.8s,baz=304,slow=36							
DBIC	**Dimbokro**	**91.72**	**83**	LR		LR	00 42 46.3	
	comp=Z,38nm,21.8s,baz=268,slow=31							
GERES	**GERESS Array B**	**91.83**	**38**	P		**P**	**00 08 06.9**	**-0.8**
	comp=Z,0.3nm,0.8s,baz=328,slow=4.7,SNR=4.0							
GERES					LR	LR	00 52 24.0	
	comp=Z,120nm,18.1s,baz=296,slow=38							
YAK	**Yakutsk**	**93.22**	**339**	*e*P		**P**	**00 08 13.8**	**+0.1**
YAK					pmax	pmax		
	comp=Z,15nm,0.9s							
KEST	**Kesra**	**94.53**	**51**	LR		LR	00 49 28.5	
	comp=Z,82nm,18.7s,baz=280,slow=35							
TORD	**Torodi Ar. Bea**	**95.98**	**75**	LR		LR	00 48 41.5	
	comp=Z,140nm,20.7s,baz=280,slow=34							
VAE	**Valguarnera**	**97.48**	**48**	LR		LR	00 49 14.1	
	comp=Z,130nm,18.3s,baz=333,slow=33							
AKASG	**Malin Array Be**	**99.20**	**31**	LR		LR	00 53 28.0	
	comp=Z,75nm,21.8s,baz=355,slow=35							
OBN	**Obninsk**	**99.43**	**24**⇓	*e*P		**Pdif**	**00 08 42.6**	**+0.6**
OBN					pmax	pmax		
	comp=Z,4.0nm,1.0s							
DZM	**Mont Dzumac**	**100.42**	**250**	*e*LR		LR	00 41 37.5	
	comp=Z,151nm,22.7s							
BRVK	**Borovoye**	**110.32**	**7**⇓	*i*PKIKP		**PKiKP**	**00 13 31.1**	**-0.3**
MAK	**Makhachkala**	**113.36**	**26**	*i* PKIKP		**PKiKP**	**00 13 35.4**	**-2.1**
MAK				*e*			00 14 25.6	
MAK					pmax	pmax		
	comp=Z,93nm,0.9s							
HHC	**Hu-ho-hao-te**	**116.67**	**335**	*e*PKP		**PKPdf**	**00 13 46.4**	**+2.3**
HHC				PP		**PP**	**00 14 56.6**	**+5.8**
HHC				SS		SS	00 31 02.9	+8.0
HHC				AMB		AMB		
	comp=Z,100nm,8.5s							
HHC				LR		LR		
	comp=Z,220nm,18.2s							
HHC				LR		LR		
	comp=Z,190nm,18.0s							
HHC				LR		LR		
	comp=Z,160nm,20.2s							
MKAR	**Makanchi Array**	**117.25**	**359**	PP		PP	00 14 52.0	-2.4
	comp=Z,1.4nm,1.1s,baz=21,slow=4.0,SNR=5.0							
WMQ	**Urumqi**	**119.95**	**355**	*e*PKP		**PKPdf**	**00 13 50.0**	**-0.3**
WMQ				LR		LR		
	comp=Z,170nm,28.7s							
WMQ				LR		LR		
	comp=Z,140nm,26.1s							
WMQ				LR		LR		
	comp=Z,190nm,20.9s							
NJ2	**Nanjing**	**120.05**	**323**	*e*PKP		**PKPdf**	**00 13 52.4**	**+1.7**
LZH	**Lanzhou**	**123.79**	**338**	*e*PKP		**PKPdf**	**00 14 01.5**	**+3.5**
LZH				LR		LR		
	comp=Z,68nm,15.0s							
LZH				LR		LR		
	comp=Z,48nm,16.7s							
LZH				LR		LR		
	comp=Z,100nm,18.4s							
CD2	**Chengdu**	**128.42**	**335**	PKP		**PKPdf**	**00 14 07.4**	**+0.5**
WRA	**Warramunga Arr**	**129.72**	**257**	PKP		**PKPdf**	**00 14 08.3**	**-1.1**
	comp=Z,1.3nm,0.9s,baz=86,slow=2.1,SNR=9.5							
ASAR	**Alice Springs**	**130.33**	**253**	PKP		**PKPdf**	**00 14 09.3**	**-1.3**
	comp=Z,0.8nm,0.8s,baz=126,slow=2.6,SNR=6.4							
GYA	**Guiyang**	**130.96**	**330**	*e*Pdif		**Pdif**	**00 11 02.1**	**-1.0**
GYA				PKP		**PKPdf**	**00 14 11.0**	**-0.9**
GYA				PP		**PP**	**00 16 30.5**	**+3.3**
GYA				AMB		AMB		
	comp=Z,120nm,7.8s							
KMBO	**Kilima Mbogo**	**133.99**	**75**	PKP		**PKPdf**	**00 14 19.4**	**+1.4**
	comp=Z,0.2nm,0.3s,baz=280,slow=1.9,SNR=4.6							
CMAR	**Chiang Mai Arr**	**141.44**	**333**	PKP		**PKPdf**	**00 14 30.9**	**-0.4**
	comp=Z,0.6nm,0.4s,baz=350,slow=1.6,SNR=7.1							
CMAR	**Chiang Mai Arr**	**141.44**	**333**	PKIKP		**PKPdf**	**00 14 31.0**	**-0.4**
OPO	**Ambohidratompo**	**147.29**	**99**	PKPbc		**PKPdf**	**00 14 42.7**	**+1.1**
	comp=Z,7.0nm,0.9s,baz=183,slow=2.7,SNR=6.8							

IDC 03 00:04:11.1±3.7, 7°92S×115°11E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.3/56, mbtmp3.3/3, Error ellipse: s-maj=272.1km s-min=25.0km az=49.0, Bali Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.13**	**125**	P	P	00 09 08.7	+0.2
	0.3nm,0.3s,baz=300,slow=12,SNR=19						
ASAR	**Alice Springs**	**23.87**	**133**	P	P	00 09 26.4	-0.1
	0.6nm,0.5s,baz=308,slow=8.8,SNR=8.9						
MKAR	**Makanchi Array**	**61.81**	**335**	P	P	00 14 31.8	0.0
	0.2nm,0.5s,baz=125,slow=7.3,SNR=3.7						

MEX 03 00:20:29.7±0.4, 16°25N×98°51W, h15km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.39**	**68**	*e*P	Pg	00 20 36.8	-0.9
PNIG				*i* S	Sg	00 20 42.2	-0.9
TLIG	**Tlapa**	**1.31**	**358**	*i* P	Pn	00 20 49.6	-4.0
TLIG				*e*S	Sb	00 21 05.8	-5.0
VHO	**Vista Hermosa**	**1.89**	**64**	*e*P	Pn	00 21 01.9	+0.3
VHO				*e*S	Sn	00 21 25.2	-0.1

MEX 03 00:42:38.9±0.4, 16°21N×98°41W, h15km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.32**	**56**	*e*P	Pg	00 42 45.0	-0.7
PNIG				*i* S	Sg	00 42 49.5	-0.8
TLIG	**Tlapa**	**1.35**	**354**	*i* P	Pn	00 42 59.5	-3.9
TLIG				*e*S	Sn	00 43 15.7	-5.4
VHO	**Vista Hermosa**	**1.82**	**62**	*e*P	Pn	00 43 10.5	+0.7

MEX 03 00:53:46.7±0.5, 16°30N×98°32W, h3km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.20**	**64**	*e*P	Pg	00 53 50.5	-0.2
PNIG				*e*S	Sg	00 53 53.5	+0.1
TLIG	**Tlapa**	**1.28**	**349**	*e*P	Pg	00 54 07.6	-3.6
TLIG				*e*S	Sg	00 54 24.2	-3.5
VHO	**Vista Hermosa**	**1.70**	**63**	*e*P	Pn	00 54 14.0	-3.5
VHO				*e*S	Sn	00 54 34.8	-5.2
HUIG	**Huatulco**	**2.19**	**104**	*e*P	Pn	00 54 24.6	+0.5

*NIED **03** 00:56:00, 37°00N×140°70E, h8km, Mw3.6 Best double couple: M₀3.08000×10¹⁴ NP1:φ=166.00000°, δ42.00000°, λ-40.00000°. NP2:φ=288.00000°, δ64.00000°, λ-125.00000°.*

*IDC **03** 00:56:53.0±0.9, 37°10N×140°80E, h0km, mb3.6/9, mb1 3.8/12, mb1mx3.6/59, mbtmp3.7/12, ML3.6/3, Error ellipse: s-maj=23.3km s-min=16.8km az=90.0*

*ISCJB **03** 00:56:55.1±0.5, 37°01N±0°03×140°73E±0°05, h24km±3km, mb3.6/10, Error ellipse: s-maj=6.6km s-min=4.2km az=18.6*

*JMA **03** 00:56:56.1, 37°03N×140°60E, h10km±1km, M3.8 Broadband fault plane solution: P waves. NP1: φ=295.00000°, δ48.00000°, λ-109.00000°. NP2: φ=142.00000°, δ46.00000°, λ-70.00000°. Principal axes: T Plg1.0000°, Azm38.0000°; N Plg14.0000°, Azm308.0000°; P Plg76.0000°, Azm132.0000°;*

JMA Felt II J1.

ISC 03 00:56:55.7±0.9, 37°04N±0°03×140°67E±0°04, h18km±4km, n28, σ1°33/34, mb3.6/10, 8C, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ONAJ	**Iwakimizuishiy**	**0.12**	**58**	⇑P	**Pg**	**00 56 59.9**	**+0.3**
ONAJ				S	**Sg**	**00 57 02.8**	**+0.6**
JFK	**Kawauchi**	**0.36**	**26**	⇑P	**Pb**	**00 57 03.9**	**+0.2**
JFK				S	**Sb**	**00 57 09.5**	**+0.4**
JHO	**Hitachi**	**0.44**	**191**	⇑P	**Pg**	**00 57 04.0**	**-0.6**
JHO				S	**Sg**	**00 57 09.7**	**-0.9**
JFT	**Otama**	**0.55**	**331**	⇑P	**Pb**	**00 57 06.6**	**-0.2**
JFT				S	**Sb**	**00 57 13.9**	**-0.4**
JSB	**Shiboa**	**0.61**	**263**	⇑P	**Pg**	**00 57 07.3**	**-0.5**
JSB				S	**Sg**	**00 57 15.1**	**-0.8**
JMM	**Marumori**	**0.83**	**7**	⇑P	**Pb**	**00 57 11.7**	**+0.1**
JMM				S	**Sb**	**00 57 22.8**	**+0.3**
JFY	**Yanaizu**	**0.85**	**296**	⇑P	**Pg**	**00 57 11.5**	**-0.9**
JFY				S	**Sg**	**00 57 21.9**	**-1.8**
JYT	**Yasato**	**0.90**	**206**	⇑P	**Pg**	**00 57 12.0**	**-1.2**
JYT				S	**Sg**	**00 57 23.0**	**-2.0**
MJAR	**Matsushiro Arr**	**2.04**	**257**	Pn	**Pn**	**00 57 30.5**	**+1.3**
	51nm,0.3s,baz=76,slow=18,SNR=68						
MJAR				Sn	**Sn**	**00 57 56.2**	**+2.0**
	54nm,0.3s,baz=98,slow=18,SNR=12						
MAT	**Matsushiro**	**2.04**	**257**	P	**Pn**	**00 57 30.6**	**+1.4**
MAT				S	**Sn**	**00 57 56.8**	**+2.6**
JHJ	**Hachijo jima 2**	**3.98**	**191**	Pn	**Pn**	**00 57 57.7**	**+1.9**
	9.9nm,0.3s,baz=42,slow=20,SNR=4.6						
JHJ				Sn	**Sn**	**00 58 40.2**	**-1.8**
	10.0nm,0.3s,baz=254,slow=20,SNR=2.1						
ASAJ	**Asahikawa**	**7.22**	**11**	Pn	**Pn**	**00 58 40.6**	**+0.3**
	0.7nm,0.3s,baz=233,slow=20,SNR=2.3						
ASAJ				Sn	**Sn**	**00 59 58.4**	**-3.4**
	1.2nm,0.3s,baz=246,slow=20,SNR=2.2						
SONM	**Songino Array**	**27.29**	**304**	P	**P**	**01 02 39.6**	**+0.4**
	0.7nm,0.8s,baz=104,slow=8.1,SNR=4.6						
H11N2	**WAKE ISLAND Hy 28.66**	**120**		T	T	01 32 42.8	
	baz=313,slow=75,SNR=35						
H11N1	**WAKE ISLAND Hy 28.67**	**120**		T	T	01 32 43.8	
	baz=313,slow=75,SNR=42						
H11N3	**WAKE ISLAND Hy 28.68**	**120**		T	T	01 32 44.8	
	baz=313,slow=75,SNR=27						
H11S1	**WAKE ISLAND Hy 29.36**	**122**		T	T	01 33 36.8	
	baz=314,slow=75,SNR=68						
H11S3	**WAKE ISLAND Hy 29.36**	**122**		T	T	01 33 34.7	
	baz=314,slow=75,SNR=38						
H11S2	**WAKE ISLAND Hy 29.38**	**122**		T	T	01 33 38.0	
	baz=314,slow=75,SNR=36						
ZALV	**Zalesovo Beam**	**41.47**	**312**	P	**P**	**01 04 41.7**	**+0.4**
	0.4nm,0.5s,baz=108,slow=4.7,SNR=3.3						
MKAR	**Makanchi Array**	**43.61**	**302**	P	**P**	**01 04 59.0**	**+0.1**
	0.4nm,0.7s,baz=91,slow=8.5,SNR=4.9						
KURBB	**Kurchatov Arra**	**45.53**	**308**	P	**P**	**01 05 14.3**	**+0.3**
	0.6nm,0.3s,baz=83,slow=7.8,SNR=3.4						
ILAR	**Eielson Array**	**49.81**	**32**	P	**P**	**01 05 45.9**	**-1.2**
	0.2nm,0.8s,baz=269,slow=6.9,SNR=2.9						
WRA	**Warramunga Arr**	**56.99**	**187**	P	**P**	**01 06 40.3**	**+0.1**
	1.7nm,0.7s,baz=4.3,slow=7.4,SNR=27						
ASAR	**Alice Springs**	**60.72**	**187**	P	**P**	**01 07 07.0**	**+0.8**
	0.4nm,0.7s,baz=31,slow=5.8,SNR=5.2						
FINES	**FINESS Array B**	**68.53**	**332**	P	**P**	**01 07 57.2**	**+0.5**
	1.5nm,0.9s,baz=52,slow=9.6,SNR=4.3						
BRTR	**Keskin Array B**	**78.40**	**311**	P	**P**	**01 08 57.1**	**+1.6**
	0.4nm,0.7s,baz=32,slow=5.8,SNR=4.0						
GERES	**GERESS Array B**	**82.39**	**328**	P	**P**	**01 09 15.3**	**-1.4**
	0.7nm,0.8s,baz=44,slow=4.1,SNR=4.7						

*ISCJB **03** 01:19:56.0±0.5, 29°15S±0°15×176°4W±0°1, h36km, mb4.4/9, MS3.2/1, Error ellipse: s-maj=16.4km s-min=10.3km az=143.7*

*NEIC **03** 01:19:59.8±1.7, 29°21S×176°30W, h58km±15km, mb4.1/6, Error ellipse: s-maj=17.4km s-min=12.6km az=170.0*

*IDC **03** 01:20:02.5±3.9, 28°63S×176°60W, h58km±36km, mb3.9/5, mb1 4.1/5, mb1mx3.7/44, mbtmp4.1/5, MS3.2/2, Ms1 3.2/2, ms1mx2.8/40, Error ellipse: s-maj=109.3km s-min=32.3km az=159.0*

ISC 03 01:19:57.6±0.7, 29°1S±0°2×176°11W±0°09, h36km, n34, σ1°52/30, mb4.2/9, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.58**	**266**	P	**Pn**	**01 20 24.3**	**+1.2**
	265nm,0.3s,baz=233,slow=20,SNR=2.8						
RAO				S	**Sn**	**01 20 45.4**	**+3.1**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	419nm,0.3s,baz=270,slow=20,SNR=4.9						
BKZ	Black Stump Fm	11.72	210	ePn	Pn	01 22 41.7	-0.5
THZ	Tophouse	15.43	212	ePn	Pn	01 23 30.4	-2.1
	79nm,1.8s						
THZ				eSn	Sn	01 26 09.4	-13
RAR	Rarotonga	16.75	66	LR	LR	01 28 14.3	
	comp=Z,99nm,21.2s,baz=278,slow=29						
OXZ	Oxford	17.05	211	eSn	Sn	01 26 38.9	-23
ODZ	Otahua Downs	19.02	210	eP	Pn	01 24 17.0	-0.2
	7.7nm,1.0s						
CTA	Charters Tower	35.26	276	P	P	01 26 49.2	+0.2
	2.1nm,0.5s,baz=96,slow=11,SNR=3.7						
STKA	Stephens Creek	36.38	255	P	P	01 26 59.8	+1.3
	1.6nm,0.5s,baz=102,slow=13,SNR=4.6						
STKA	Stephens Creek	36.38	255	eP	P	01 26 58.3	-0.2
	4.1nm,1.8s						
COEN	Coen	40.55	283	eP	P	01 27 29.7	-4.0
	5.2nm,1.1s						
PTCN	Pitcairn Islan	40.96	96	eP	P	01 27 39.0	+2.0
	207nm,0.5s						
AS01	Alice Springs	44.80	265	eP	P	01 28 07.1	-1.1
AS31	Alice Springs	44.84	265	eP	P	01 28 07.0	-1.4
	1.0nm,0.4s						
ASAR	Alice Springs	44.84	265	P	P	01 28 07.0	-1.5
	1.7nm,0.6s,baz=105,slow=7.3,SNR=20						
WB2	Warramunga Arr	45.71	270	eP	P	01 28 12.7	-2.7
WR1	Warramunga Arr	45.72	270	eP	P	01 28 13.8	-1.6
	3.3nm,0.6s						
WRA	Warramunga Arr	45.72	270	P	P	01 28 13.8	-1.6
	2.3nm,0.6s,baz=109,slow=7.9,SNR=30						
RPN	Rapa Nui	58.19	105	eP	P	01 29 53.5	+5.3
MJAR	Matsushiro Arr	78.17	324	LR	LR	02 02 04.6	
	comp=Z,12nm,20.5s,baz=305,slow=33						
BCW	Bitter Crk WRg	83.20	44	eP	P	01 32 20.1	-0.1
BFSC	Mount Baldy Ra	83.81	45	eP	P	01 32 23.7	+0.3
PANH	Panhandle Gap,	90.20	34	eP	P	01 32 54.9	+0.6
YHB	Horse Butte	94.34	40	eP	P	01 33 12.6	-0.9
ILAR	Eielson Array	96.35	12	P	P	01 33 22.4	+0.6
	0.4nm,0.8s,baz=206,slow=5.9,SNR=2.7						
ILB	Eielson Array	96.35	12	eP	P	01 33 22.4	+0.6
FIA0	FINESS Array S	144.50	342	ePKPdf	PKPdf	01 39 28.1	-1.3
FINES	FINESS Array B	144.50	342	PKhKP	PKPpre	01 39 28.1	
	1.7nm,0.7s,baz=86,slow=2.9,SNR=3.8						
NB2	NORSAR Subarra	147.73	353	PKP	PKPbc	01 39 37.9	+0.1
	comp=Z,1.1nm,0.6s,baz=9.5,slow=2.8						
NB200	NORSAR Array S	147.73	353	ePKPbc	PKPbc	01 39 37.6	-0.2
NOA	NORSAR Array B	147.73	353	PKPbc	PKPbc	01 39 37.6	-0.2
	comp=Z,2.1nm,0.8s,baz=10,slow=4.5,SNR=4.4						
HFS	Hagfors	148.31	351	PKPbc	PKPbc	01 39 39.2	-0.1
	comp=Z,2.4nm,0.8s,baz=27,slow=3.5,SNR=3.6						
AKASG	Malin Array Be	151.25	326	PKPbc	PKPbc	01 39 46.5	-0.2
	comp=Z,0.4nm,0.4s,baz=56,slow=3.5,SNR=5.2						
AKBB	Malin Array Si	151.25	326	ePKPbc	PKPbc	01 39 46.5	-0.2
MMAI	Mount Meron Ar	152.79	286	PKPbc	PKPbc	01 39 52.9	+1.9
	comp=Z,0.7nm,0.6s,baz=98,slow=6.0,SNR=3.3						

MEX 03 01:23:19.7±0.5, 16.25°N×98.48°W, h2km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.37	67	eP	Pg	01 23 26.8	-0.1
PNIG				i S	Sg	01 23 31.9	+0.1
TLIG	Tlapa	1.31	357	i P	Pg	01 23 41.0	-3.9
TLIG				eS	Sg	01 23 57.4	-4.6
VHO	Vista Hermosa	1.87	64	eP	Pn	01 23 53.3	+0.4
VHO				eS	Sn	01 24 16.0	-1.2

NIED **03** *01:28:00, 42.30°N×143.00°E, h56km, Mw3.7 Best double couple: $M_0$3.65000×10^{14} NP1: ϕ_s225.00000°, δ21.00000°, λ107.00000°. NP2: ϕ_s27.00000°, δ70.00000°, λ83.00000°.*
ISCJB **03** *01:28:43.8±0.5, 42.26°N±0.05×143.08°E±0.06, h74km±3km, mb3.8/18, Error ellipse: s-maj=9.3km s-min=6.3km az=139.7*
JMA **03** *01:28:45.9±0.1, 42.33°N×143.00°E, h52km±1km, M3.5 Broadband fault plane solution: P waves. NP1: ϕ_s28.00000°, δ51.00000°, λ70.00000°. NP2: ϕ_s238.00000°, δ43.00000°, λ113.00000°. Principal axes: T Plg74.0000°, Azm236.0000°; N Plg15.0000°, Azm41.0000°; P Plg4.0000°, Azm132.0000°;*
JMA Felt I J1.
IDC **03** *01:28:46.0±1.9, 42.28°N×143.11°E, h76km±13km, mb3.6/18, mb1 3.6/20, mb1mx3.4/64, mbtmp3.8/20, MS3.5/1, Ms1 3.5/1, ms1mx2.4/69 Error ellipse: s-maj=20.1km s-min=11.0km az=117.0*
ISC 03 01:28:44.6±0.8, **42.29°N**±0.05×**143.06°E**±0.05, **h63**km±7km, **n39**, σ1.20s/39, **mb4.0**/18, **5C-2D, Hokkaido region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JNBK	Urakawa-nobuka	0.23	268	⇑P	Pn	01 28 54.2	-0.3
JEM	Erimo	0.28	165	⇑P	Pn	01 28 55.5	+0.7
JCH	Churui	0.40	34	⇑P	Pn	01 28 56.0	+0.2
JCH				eS	Sn	01 29 04.0	+0.1
JBT2	Biratori 2	0.71	314	⇓P	Pn	01 28 59.1	0.0
JOB	Onbets	0.84	43	⇑P	Pn	01 29 02.1	+1.4
JFR	Furan	0.94	339	P	Pn	01 29 01.5	-0.5
JAR	Ashorobuto	1.14	27	⇑P	Pn	01 29 05.0	+0.5
JAR				eS	Sn	01 29 19.1	-0.2
JEW	Eniwo	1.31	295	⇓P	Pn	01 29 07.2	+0.4
JEW				eS	Sn	01 29 24.4	+1.0
JAB	Ashibetsu	1.36	333	P	Pn	01 29 08.3	+0.8
JAK	Akkeshi	1.40	59	P	Pn	01 29 08.9	+0.9
JAK				eS	Sn	01 29 27.1	+1.6
ASAJ	Asahikawa	1.86	350	P	Pn	01 29 15.6	+1.5
	30nm,0.3s,baz=196,slow=14,SNR=45						
ASAJ				S	Sn	01 29 39.5	+2.9
	19nm,0.3s,baz=61,slow=32,SNR=11						
MJAR	Matsushiro Arr	6.86	215	P	Pn	01 30 25.4	+2.9
	0.4nm,0.3s,baz=26,slow=15,SNR=3.4						
MJAR				S	Sn	01 31 40.0	+0.8
	0.4nm,0.3s,baz=170,slow=13,SNR=2.9						
USRK	Ussuriysk Ar.	8.31	287	P	Pn	01 30 44.8	+2.5
	0.1nm,0.3s,baz=107,slow=14,SNR=2.3						
JHJ	Hachijo jima 2	9.51	197	LR	LR	01 34 52.6	
	comp=Z,290nm,20.0s,baz=110,slow=38						
KSRS	Korea Array	12.59	252	P	P	01 31 47.2	-2.9
	0.4nm,0.3s,baz=62,slow=13,SNR=3.2						
SEY	Seymchan	21.39	12	P	P	01 33 25.4	-1.3
	1.5nm,0.2s,baz=187,slow=4.5,SNR=3.3						
SONM	Songino Array	26.31	295	P	P	01 34 14.8	+0.4
	0.8nm,0.6s,baz=80,slow=8.8,SNR=6.0						
H11N2	WAKE ISLAND Hy	30.19	131	T	T	02 06 19.5	
	baz=324,slow=75,SNR=44						
H11N1	WAKE ISLAND Hy	30.20	131	T	T	02 06 22.6	
	baz=324,slow=75,SNR=45						
H11N3	WAKE ISLAND Hy	30.21	131	T	T	02 06 27.3	
	baz=324,slow=75,SNR=31						
H11S1	WAKE ISLAND Hy	31.07	132	T	T	02 07 31.2	
	baz=325,slow=76,SNR=34						
H11S3	WAKE ISLAND Hy	31.07	133	T	T	02 07 26.0	
	baz=325,slow=76,SNR=33						
H11S2	WAKE ISLAND Hy	31.09	133	T	T	02 07 32.6	
	baz=325,slow=76,SNR=27						
ZALV	Zalesovo Beam	39.50	308	P	P	01 36 08.5	-0.3
	1.6nm,0.7s,baz=93,slow=7.7,SNR=7.2						
MKAR	Makanchi Array	42.60	298	P	P	01 36 34.8	+0.4
	0.9nm,0.6s,baz=84,slow=9.4,SNR=12						
KURBB	Kurchatov Arra	43.94	304	P	P	01 36 45.3	+0.2
	2.1nm,0.6s,baz=78,slow=9.1,SNR=20						
ILAR	Eielson Array	44.42	35	P	P	01 36 48.2	-0.5
	0.2nm,0.8s,baz=260,slow=5.1,SNR=2.8						
BVAR	Borovoye Array	48.10	309	P	P	01 37 18.4	+0.6
	0.7nm,0.4s,baz=82,slow=9.5,SNR=13						
BVAR				PcP	PcP	01 38 45.7	+1.2
	0.3nm,0.4s,baz=104,slow=3.0,SNR=3.9						
INK	Inuvik	49.16	29	P	P	01 37 25.9	+0.3
	0.4nm,0.7s,baz=287,slow=3.0,SNR=3.8						
SPITS	Spitsbergen Ar	55.63	348	P	P	01 38 13.3	-0.2
	10nm,1.1s,baz=22,slow=9.3,SNR=3.0						
AKTO	Aktyubinsk	56.19	310	P	P	01 38 18.5	+0.7
	0.4nm,0.4s,baz=48,slow=12,SNR=2.0						
RES	Resolute Bay	57.20	16	P	P	01 38 24.7	+0.1
	0.6nm,0.4s,baz=308,slow=4.0,SNR=10						
YKA	Yellowknife Ar	58.66	32	P	P	01 38 35.0	+0.1
	0.1nm,0.5s,baz=306,slow=6.1,SNR=4.1						
ARCES	ARCESS Array B	59.55	339	P	P	01 38 41.4	+0.4
	4.1nm,0.9s,baz=59,slow=8.7,SNR=2.7						
GEYT	Alibeck	62.48	297	P	P	01 39 01.6	+0.2
	0.9nm,0.6s,baz=272,slow=10.0,SNR=2.8						
FINES	FINESS Array B	64.78	332	P	P	01 39 16.0	-0.1
	0.7nm,0.5s,baz=48,slow=7.2,SNR=12						
HFS	Hagfors	69.83	336	P	P	01 39 48.3	+0.2
	3.6nm,1.1s,baz=42,slow=4.5,SNR=8.1						
NOA	NORSAR Array B	69.84	337	P	P	01 39 48.2	0.0
	2.3nm,1.0s,baz=29,slow=4.2,SNR=2.5						
AKASG	Malin Array Be	70.93	322	P	P	01 39 53.1	-1.8
	0.6nm,0.5s,baz=49,slow=4.1,SNR=5.7						

ISCJB **03** *01:48:20.1±0.5, 30.40°N±0.08×138.9°E±0.1, h450km, mb3.3/9, Error ellipse: s-maj=18.0km s-min=8.5km az=152.6*
IDC **03** *01:48:20.9±0.8, 30.35°N×138.68°E, h426km±15km, mb3.1/9, mb1 3.1/14, mb1mx2.9/71, mbtmp3.9/14, Error ellipse: s-maj=39.2km s-min=9.2km az=72.0*
ISC 03 01:48:21.1±0.8, **30.52°N**±0.09×**139.1°E**±0.2, **h450**km, **n15**, σ2.18s/18, **mb3.3**/9, **Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JHJ	Hachijo jima 2	2.65	12	P	P	01 49 26.1	+0.7
	50nm,0.3s,baz=282,slow=23,SNR=8.4						
JHJ				S	S	01 50 18.7	+0.9
	5.8nm,0.3s,baz=31,slow=16,SNR=1.8						
JCJ	Chichijima	4.34	141	P	P	01 49 38.5	-0.8
	10nm,0.3s,baz=354,slow=18,SNR=7.2						
JCJ				S	S	01 50 41.0	-2.0
	25nm,0.3s,baz=304,slow=22,SNR=12						
MJAR	Matsushiro Arr	6.05	353	P	P	01 49 55.2	-0.6
	0.9nm,0.3s,baz=78,slow=24,SNR=4.3						
MJAR				S	S	01 51 06.6	-6.7
	0.5nm,0.3s,baz=155,slow=12,SNR=2.3						
KSRS	Korea Array	11.58	310	P	P	01 50 54.0	-1.3
	0.3nm,0.3s,baz=128,slow=10,SNR=6.7						
USRK	Ussuriysk Ar.	14.78	339	P	P	01 51 30.2	+0.6
	0.5nm,0.3s,baz=133,slow=10.0,SNR=6.6						
KLR	Kul'dur	19.50	345	P	P	01 52 20.4	+2.8
	0.0nm,0.3s,baz=153,slow=6.5,SNR=12						
SONM	Songino Array	30.40	314	P	P	01 53 54.7	-0.3
	0.3nm,0.4s,baz=115,slow=8.4,SNR=3.6						
MKAR	Makanchi Array	46.25	307	P	P	01 56 03.2	-1.1
	0.2nm,0.7s,baz=91,slow=11,SNR=2.7						
KURBB	Kurchatov Arra	48.75	312	P	P	01 56 22.6	-0.5
	0.7nm,0.5s,baz=90,slow=9.3,SNR=6.8						
WRA	Warramunga Arr	50.39	186	P	P	01 56 36.1	+0.5
	1.7nm,0.4s,baz=1.5,slow=8.2,SNR=78						
BVAR	Borovoye Array	53.72	316	P	P	01 56 59.7	+0.3
	0.3nm,0.3s,baz=99,slow=8.3,SNR=5.3						
ASAR	Alice Springs	54.11	186	P	P	01 57 03.3	+0.8
	0.7nm,0.5s,baz=17,slow=10,SNR=11						
ARCES	ARCESS Array B	69.42	340	P	P	01 58 44.4	+2.1
	2.5nm,0.9s,baz=66,slow=6.8,SNR=4.7						
FINES	FINESS Array B	73.69	333	P	P	01 59 09.0	+1.5
	1.4nm,1.0s,baz=32,slow=8.5,SNR=3.9						
HFS	Hagfors	79.22	335	P	P	01 59 39.3	+1.3
	3.4nm,1.1s,baz=79,slow=7.5,SNR=2.1						

MEX 03 01:59:13.0±0.5, **16.21°N**×**98.59°W**, **h16**km±999km, **MD3.8, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.48	68	eP	Pg	01 59 21.1	-1.5
PNIG				i S	Sg	01 59 27.4	-1.7
TLIG	Tlapa	1.34	1	i P	Pn	01 59 33.4	-3.9
TLIG				eS	Sn	01 59 49.2	-5.7
CAIG	El Cayaco	1.81	298	eP	Pn	01 59 40.3	-3.3
CAIG				eS	Sn	02 00 01.2	-5.0
VHO	Vista Hermosa	1.97	64	eP	Pn	01 59 43.6	-2.3
VHO				eS	Sn	02 00 05.7	-4.7
HUIG	Huatulco	2.42	100	eP	Pn	01 59 50.2	-1.8
HUIG				i S	Sn	02 00 23.0	+1.6

SJA **03** *02:11:00.5±0.9, 33.79°S×72.85°W, h10km, ML4.8, MW5.2*
IDC **03** *02:11:04.0±0.5, 33.79°S×72.37°W, h0km, mb4.5/19, mb1 4.6/22, mb1mx4.6/30, mbtmp4.5/22, ML4.3/3, MS4.5/23, Ms1 4.5/23, ms1mx4.4/35, Error ellipse: s-maj=22.4km s-min=13.2km az=82.0*
GUC **03** *02:11:03.2±0.5, 33.85°S×72.79°W, h32km±2km, ML5.1*
GCMT **03** *02:11:03.0±0.2, 33.86°S×72.63°W, h14km, MW5.1/89, Moment Tensor Solution. s52,c62; s89,c123; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}4.26±.16; $M_{\theta\theta}$-0.12±.10; $M_{\phi\phi}$-4.14±.12; $M_{r\theta}$-0.95±.21; $M_{\theta\phi}$-0.57±.07; $M_{\phi r}$-4.25±.33; Best double couple: $M_0$6.07800×10^{16} NP1: ϕ_s191.00000°, δ68.00000°, λ92.00000°. NP2: ϕ_s5.00000°, δ22.00000°, λ84.00000°. Principal axes: T 6.1050, Plg67.0000°, Azm106.0000°; N -0.0550, Plg2.0000°, Azm10.0000°; P -6.0510, Plg23.0000°, Azm279.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC **03** *02:11:03.0±0.0, 33.85°S×72.76°W, h32km, mb5.0/95, ML5.1(GUC), After GUC.*
NEIC Felt [III] at Linares, Lolol, Longavi, Paredones, Parral, Pichilemu, Rancagua, San Antonio, Talca and Villa Alegre; [II] at Cauquenes, Constitucion, Navidad, Pencahue, San Fernando, Santa Cruz, Valparaiso and Villa Alemana. Also felt at Calera, Santiago and Vina del Mar.
ISCJB **03** *02:11:07.2±0.1, 33.85°S±0.02×72.45°W±0.03, h33km, mb4.9/109, MS4.6/22, Error ellipse: s-maj=4.1km s-min=3.0km az=148.6*
MOS **03** *02:11:08.1±1.0, 33.89°S×72.38°W, h33km, mb5.3/33, Error ellipse: s-maj=17.0km s-min=7.9km az=100.7*
ISC 03 02:11:09.6±0.4, **33.85°S**±0.03×**72.45°W**±0.05, **h35**km±2km, **n479**, σ1.48s/472, **mb5.0**/109, **MS4.6**/23, **16C-3D, Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CHPI	Pichilemu	0.65	146	eP	Pn	02 11 18.3	-4.1
CHPI				eS	Sn	02 11 29.3	-2.1
GO05	HualaæØ	1.23	160	ePn	Pn	02 11 28.0	-2.4
GO05				eSn	Sn	02 11 43.8	-2.0
GO05	HualaæØ	1.23	160	eP	Pn	02 11 27.5	-2.9
GO05				i S	Sn	02 11 47.3	+1.5
GO05	HualaæØ	1.23	160	⇑iP	Pn	02 11 27.2	-3.2
GO05				i S	Sn	02 11 43.2	-2.6
GO05				IAML		02 11 48.8	
	comp=E,54μm,0.8s						
RCDM	Rinconada Maip	1.41	76	⇑iP	Pn	02 11 30.9	-2.0
RCDM				i S	Sn	02 11 52.6	+2.3
ROC1	El Roble	1.48	54	ePn	Pn	02 11 32.2	-1.7
ROC1				eSn	Sn	02 11 49.8	-2.4
ROC1	El Roble	1.48	54	eP	Pn	02 11 32.2	-1.7
ROC1				i S	Sn	02 11 57.5	+5.3
ROCH	El Roble	1.48	54	eP	Pn	02 11 32.0	-2.0
ROCH				eS	Sn	02 11 54.2	+2.0
ROCH				IAML		02 12 07.2	
	comp=N,30μm,1.0s						
NICH	Los Niches	1.53	139	eP	Pn	02 11 33.8	-0.6
PEL	Peldehue	1.63	65	ePn	Pn	02 11 34.2	-1.6
PEL				eSn	Sn	02 11 59.0	+3.3
PEL	Peldehue	1.63	65	⇑iP	Pn	02 11 34.7	-1.2
PEL				eS	Sn	02 11 57.9	+2.2
PEL	Peldehue	1.63	65	eP	Pn	02 11 34.2	-1.6
PEL				e		02 11 59.0	
FSR	Penalolen	1.64	77	eP	Pn	02 11 34.2	-1.8
FSR				i S	Sn	02 11 58.0	+2.1
CLCH	Cerro Calan	1.66	75	eP	Pn	02 11 35.0	-1.2
CLCH				eS	Sn	02 12 01.2	+4.9
CLCH				IAML		02 12 11.6	
	comp=N,25μm,0.5s						
LMEL	Las Melosas	1.87	91	⇑iP	Pn	02 11 38.1	-1.1
LMEL				eS	Sn	02 12 07.7	+6.1
LMEL				IAML		02 12 15.7	
	comp=N,21μm,0.8s						
FCH	Farellones	1.87	74	⇑iP	Pn	02 11 38.1	-1.3
FCH				i S	Sn	02 12 05.2	+3.2
COCH	Cobquecura	2.29	187	eP	Pn	02 11 41.4	-3.5
COCH				eS	Sn	02 12 19.1	+7.2
COCH	Cobquecura	2.29	187	IAML		02 12 29.0	
	comp=E,11μm,0.3s						
CCHI	Chillan	2.76	174	eP	Pn	02 11 50.0	-1.4
RTLS	Leoncito	3.35	53	IAML		02 13 04.4	
	comp=Z,2μm,0.8s						
RFA	San Rafael	3.42	107	eP	Pn	02 12 04.3	+3.9
RFA				eS	Sn	02 12 54.0	+14
RFA				IAML		02 13 02.7	
	comp=Z,2μm,0.7s						
RTLL	Cerro Villicun	4.19	54	IAML		02 13 27.9	
	comp=Z,1μm,0.7s						
LCO	Las Campanas	5.05	18	ePn	Pn	02 12 20.4	-2.7
LCO				eSn	Sn	02 13 17.2	-3.1
PLCA	Paso Flores	7.03	168	Pn	Pn	02 12 48.9	-1.2
	comp=Z,1.4nm,0.3s,baz=358,slow=11,SNR=51						
PLCA				Lg	Lg	02 14 43.5	
	comp=Z,1.8nm,0.3s,baz=315,slow=15,SNR=3.5						
PLCA				LR	LR	02 15 38.0	
	comp=Z,4μm,19.3s,baz=13,slow=39						
PLCA	Paso Flores	7.03	168	eP	Pn	02 12 49.1	-1.1
PLCA				IAML		02 14 59.0	
	comp=Z,111nm,0.8s						
PLCA	Paso Flores	7.03	168	eP	Pn	02 12 48.8	-1.3
TRQA	Tornquist	9.46	119	ePn	Pn	02 13 23.9	+0.5
PB10	IPOC Station P	10.43	10	ePn	Pn	02 13 34.1	-2.6
PB01	IPOC Station P	13.02	12	ePn	Pn	02 14 12.4	+0.2
CHRN	Cochrane	13.39	180	ePn	Pn	02 14 15.8	-1.2
PB11	IPOC Station P	14.25	11	ePn	Pn	02 14 27.3	-1.7
MNMC	Minye Minye	14.88	11	ePn	Pn	02 14 37.5	-0.2
CPUP	Villa Florida	15.07	64	Pn	Pn	02 14 35.7	-4.2
	comp=Z,0.1nm,0.3s,baz=242,slow=15,SNR=2.5						
CPUP				Sn	S	02 17 34.2	-7.8
	comp=Z,0.2nm,0.3s,baz=308,slow=16,SNR=2.1						
CPUP				Lg	Lg	02 18 52.2	
	comp=Z,0.2nm,0.3s,baz=327,slow=19,SNR=4.4						
CPUP				LR	LR	02 20 13.9	
	comp=Z,1μm,21.4s,baz=242,slow=37						
CPUP	Villa Florida	15.07	64	ePn	Pn	02 14 35.0	-4.9
CPUP				eSn	S	02 17 34.2	-7.8
CPUP				Lg	Lg	02 18 52.2	
CPUP	Villa Florida	15.07	64	eP	Pn	02 14 35.0	-4.9
CPUP				e		02 17 34.3	
LPAZ	La Paz	17.91	14	P	Pn	02 15 16.2	-0.3
	comp=Z,0.8nm,0.3s,baz=197,slow=7.6,SNR=51						
LPAZ				S	S	02 18 42.6	+1.3
	comp=Z,0.0nm,0.3s,baz=300,slow=13,SNR=2.2						
LPAZ	La Paz	17.91	14	ePn	Pn	02 15 16.4	-0.2
	comp=Z,29nm,1.0s						
LPAZ				eS	S	02 18 42.6	+1.3
LPAZ	La Paz	17.91	14	eP	Pn	02 15 16.4	-0.2
LPAZ				eS	S	02 18 42.6	+1.3
LPAZ				pmax	pmax		
	comp=Z,29nm,1.0s						
SIV	San Ignacio	20.53	33	P	P	02 15 43.5	-1.4
	comp=Z,22nm,0.8s,baz=225,slow=12,SNR=56						
SIV				S	Sn	02 19 41.1	+3.3
	comp=Z,1.9nm,0.8s,baz=253,slow=18,SNR=2.0						
SIV				Lg	Lg	02 22 01.3	
	comp=Z,1.4nm,0.9s,baz=329,slow=15,SNR=1.8						
SIV				LR	LR	02 25 21.9	
	comp=Z,3μm,18.7s,baz=218,slow=42						
EFI	East Falkland	20.64	154	eP	P	02 15 44.4	-1.5
	comp=Z,72nm,0.8s						
EFI	East Falkland	20.64	154	ceP	P	02 15 44.5	-1.4
EFI				pmax	pmax		
	comp=Z,37nm,0.8s						
NNA	Nana	22.13	349	eP	P	02 16 03.8	+1.5
	comp=Z,53nm,1.1s						
NNA	Nana	22.13	349	i P	P	02 16 04.2	+2.0
SPB	Sao Paulo	24.14	72	eP	P	02 16 20.9	-1.5
	comp=Z,497nm,1.9s						
ATAH	Atahualpa	27.15	347	P	P	02 16 57.6	+7.6
	comp=Z,4.4nm,0.6s,baz=184,slow=8.1,SNR=3.9						
ATAH				LR	LR	02 26 17.2	
	comp=Z,852nm,20.1s,baz=194,slow=34						
HOPE	Hope Point	32.42	140	eP	P	02 17 35.4	-0.6
	comp=Z,91nm,1.0s						
ROSC	El Rosal	38.52	357	P	P	02 18 32.8	+3.7
	comp=Z,3.2nm,0.4s,baz=156,slow=20,SNR=2.3						
RUSC	La Rusia	39.53	359	eP	P	02 18 37.6	-0.1
	comp=Z,19nm,1.2s						
HELC	Santa Helena	39.93	355	eP	P	02 18 40.6	-0.3
	comp=Z,44nm,1.3s						
SDV	Santo Domingo	42.53	3	P	P	02 18 59.1	-2.9
	comp=Z,2.1nm,0.6s,baz=320,slow=9.5,SNR=3.1						
SDV				LR	LR	02 37 54.5	
	comp=Z,701nm,20.5s,baz=220,slow=38						
SDV	Santo Domingo	42.53	3	eP	P	02 19 00.3	-1.8
	comp=Z,14nm,1.2s						
PCRV	Puerto La Cruz	44.41	11	LR	LR	02 40 00.8	
	comp=Z,1μm,19.0s,baz=170,slow=39						
SVB	Belmont	48.06	15	eP	P	02 19 44.9	-0.7
	comp=Z,49nm,1.0s						
VNA3	Neumayer Olymp	49.62	158	P	P	02 19 57.3	+0.2
VNA2	Neumayer--Watz	50.28	157	P	P	02 20 02.3	+0.2
	baz=284,slow=8.7						
GDHS	Morne Mazeau,	50.87	13	eP	P	02 20 05.0	-2.1
	comp=Z,32nm,0.7s						
APG	El Apazote	51.53	338	P	P	02 20 16.5	+4.2
	comp=Z,5.2nm,0.9s,baz=159,slow=17,SNR=2.3						
APG				LR	LR	02 37 24.5	
	comp=Z,487nm,20.4s,baz=133,slow=31						
CRPR	Cabo Rojo, PR	51.82	6	eP	P	02 20 13.3	-0.8
	comp=Z,50nm,0.8s						
SNAA	Sanae	51.85	158	P	P	02 20 13.7	-0.2
SNAA	Sanae	51.85	158	P	P	02 20 13.7	-0.2
	comp=Z,20nm,0.9s,baz=278,slow=6.8,SNR=38						
SNAA				LR	LR	02 42 35.5	
	comp=Z,538nm,18.0s,baz=292,slow=36						
SNAA	Sanae	51.85	158	eP	P	02 20 13.5	-0.4
	comp=Z,34nm,0.9s						
SNAA	Sanae	51.85	158	ceP	P	02 20 13.7	-0.2
SNAA				pmax	pmax		
	comp=Z,1μm,1.0s						
SABA	Saba	51.93	11	eP	P	02 20 14.0	-0.9
	comp=Z,86nm,0.8s						
SJG	San Juan	52.02	8	eP	P	02 20 14.6	-1.0
	comp=Z,21nm,0.9s						
SJG	San Juan	52.02	8	eP	P	02 20 14.6	-1.0
SJG				pmax	pmax		
	comp=Z,21nm,0.9s						
CBYP	Canovanas	52.21	8	eP	P	02 20 13.3	-3.8
	comp=Z,31nm,0.9s						
ANWB	Willy Bob	52.23	13	eP	P	02 20 14.2	-2.9
	comp=Z,100nm,1.3s						
RKT	Rikitea	55.26	264	eS	S	02 28 20.5	-0.4
	comp=Z,254nm,26.5s						
RKT				eLR	LR	02 36 36.3	
	comp=Z,429nm,26.0s						
QSPA	South Pole Qui	56.39	180	P	P	02 20 47.2	0.0
	comp=Z,8.9nm,0.9s,baz=143,slow=4.4,SNR=7.5						
NVL	N'lazarevskaya	56.59	157	eP	P	02 20 56.4	+8.1
NVL				eS	S	02 28 49.3	+12
NVL				pmax	pmax		
	comp=Z,3.0nm,0.4s						
NVL				MLR	MLR		
	comp=Z,760nm,6.0s						
MYIG	MØrida	56.94	341	eP	P	02 20 50.9	-0.4
	comp=Z,55nm,0.7s						
VNDA	Vanda	64.18	191	P	P	02 21 41.2	+1.1
	comp=Z,1.2nm,1.0s,baz=172,slow=2.3,SNR=2.9						
SYO	Syowa Base	66.13	159	⇓eP	P	02 21 45.4	-7.4
TAOE	Nuku Hiva Isla	66.62	275	eS	S	02 30 41.0	-5.1
	comp=Z,199nm,23.0s						
TAOE	Nuku Hiva Isla	66.62	275	eLR	LR	02 42 03.1	
	comp=Z,447nm,22.1s						
251A	Midway	66.72	348	P	P	02 21 55.8	-1.2
	baz=169						
151A	Opelika	67.13	348	P	P	02 21 58.8	-0.8
	baz=169						
LRAL	Lakeview Retre	67.92	347	P	P	02 22 04.1	-0.5
	baz=167						
Z50A	Ashland	67.94	348	P	P	02 22 04.7	0.0
	baz=168						
146A	Union	67.96	345	P	P	02 22 04.8	+0.1
	baz=166						
LPIG	La Paz	67.96	323	LR	LR	02 44 37.6	
	comp=Z,162nm,19.6s,baz=160,slow=30						
Z49A	Columbiana	67.99	347	P	P	02 22 05.0	+0.1
	baz=168						
HPIG		68.18	328	eP	P	02 22 07.1	+0.6
	comp=Z,15nm,1.2s						
241A	Mo Tay, Goldon	68.30	341	P	P	02 22 06.0	-0.9
	baz=162						
Z48A	Northport	68.36	346	P	P	02 22 06.0	-1.3
	baz=167						
Y50A	Piedmont	68.53	348	P	P	02 22 07.6	-0.8
	baz=168						
143A	Socs Landing,	68.56	343	P	P	02 22 08.0	-0.5
	baz=163						
Y47A	UCPARC, Winfie	68.93	346	P	P	02 22 10.3	-0.5
	baz=167						
JCT	Junction City	69.00	335	P	P	02 22 11.0	-0.4
	baz=156						
JCT	Junction City	69.00	335	eP	P	02 22 12.0	+0.6
	comp=Z,23nm,1.1s						
JCT	Junction City	69.00	335	eP	P	02 22 12.0	+0.6

JCT pmax pmax
comp=Z,23nm,1.1s
X50A Fort Payne 69.07 348 P P 02 22 11.1 -0.6
baz=169
Y46A Houston 69.12 345 P P 02 22 11.5 -0.5
baz=166
X49A Woodville 69.24 348 P P 02 22 11.4 -1.3
baz=168
Y45A Yeager Farm, C 69.25 345 P P 02 22 11.8 -1.0
baz=165
X48A Hartselle 69.31 347 P P 02 22 12.7 -0.5
baz=167
LTX Lajitas 69.44 331 eP P 02 22 14.2 0.0
LTX Lajitas 69.44 331 eP P 02 22 14.2 0.0
TXAR Lajitas Array 69.44 331 P P 02 22 14.2 0.0
comp=Z,1.4nm,0.6s,baz=151,slow=7.9,SNR=14
TXAR LR LR 02 48 27.6
comp=Z,524nm,18.1s,baz=0.0,slow=32
TX31 Lajitas Ar. Si 69.44 331 eP P 02 22 13.8 -0.4
X47A Russelville 69.53 346 P P 02 22 13.7 -0.8
baz=167
X46A Booneville 69.71 346 P P 02 22 15.5 -0.1
baz=166
X45A UM Field Stati 69.75 345 P P 02 22 15.5 -0.4
baz=165
OXF Oxford 69.84 345 P P 02 22 15.9 -0.5
baz=165
OXF Oxford 69.84 345 eP P 02 22 17.8 +1.4
comp=Z,35nm,0.8s
OXF Oxford 69.84 345 eP P 02 22 17.8 +1.4
OXF pmax pmax
comp=Z,35nm,0.8s
PPT2 Papeete2 69.92 262 eS S 02 31 24.6 -0.8
comp=Z,308nm,22.2s
PPT2 Papeete2 69.92 262 eLR LR 02 43 29.5
comp=Z,717nm,27.8s
PPT Papeete 69.93 262 LR LR 02 46 55.0
comp=Z,237nm,18.1s,baz=128,slow=31
TKL Tuckaleechee C 69.95 350 P P 02 22 16.4 -0.7
comp=Z,7.0nm,0.9s,baz=164,slow=7.8,SNR=7.2
TKL Tuckaleechee C 69.95 350 eP P 02 22 16.4 -0.7
comp=Z,45nm,1.8s
TKL Tuckaleechee C 69.95 350 eP P 02 22 16.5 -0.7
TKL pmax pmax
comp=Z,45nm,1.8s
W48A Pulaski 69.96 347 P P 02 22 16.4 -0.7
baz=168
Y41A Eaglette Beard 69.98 342 P P 02 22 17.0 -0.3
baz=163
PLAL Pickwick Lake 70.02 346 eP P 02 22 17.1 -0.4
comp=Z,9.9nm,0.8s
W47A Westpoint 70.19 347 P P 02 22 18.2 -0.3
baz=167
V48A Smith Brothers 70.52 348 P P 02 22 20.3 -0.3
baz=168,SNR=12
V47A Nunnelly 70.74 347 P P 02 22 21.1 -0.8
baz=167,SNR=9.4
TZTN Tazewell 70.80 351 P P 02 22 21.5 -0.8
baz=170
V46A Holladay 70.82 347 P P 02 22 21.9 -0.5
baz=167
MIAR Mount Ida 70.86 342 P P 02 22 22.4 -0.3
baz=162
MIAR Mount Ida 70.86 342 eP P 02 22 23.9 +1.2
comp=Z,20nm,1.3s
MIAR Mount Ida 70.86 342 eP P 02 22 23.9 +1.2
MIAR pmax pmax
comp=Z,20nm,1.3s
ABTX Abilene, Hawle 70.90 336 P P 02 22 22.7 -0.4
baz=157
ABTX Abilene, Hawle 70.90 336 eP P 02 22 23.4 +0.3
comp=Z,23nm,1.0s
X39A Fountain Ranch 70.97 341 P P 02 22 22.7 -0.7
baz=161
WVT Waverly 71.09 347 P P 02 22 23.4 -0.6
baz=167
WVT Waverly 71.09 347 eP P 02 22 23.7 -0.3
comp=Z,40nm,0.9s
WVT Waverly 71.09 347 eP P 02 22 23.7 -0.3
WVT pmax pmax
comp=Z,40nm,0.9s
W41B Gary Mavity, V 71.12 343 P P 02 22 23.6 -0.7
baz=163
U48A Cassie Pea, Po 71.22 348 P P 02 22 24.1 -0.7
baz=168
U47A Clarksville 71.29 347 P P 02 22 24.6 -0.7
baz=167,SNR=12
W40A Ferguson Farm, 71.35 342 P P 02 22 25.1 -0.5
baz=162
U46A Springville 71.38 347 P P 02 22 25.2 -0.5
baz=167,SNR=10.0
IP05 Hopewell Churc 71.49 356 eP P 02 22 27.2 +0.9
comp=Z,25nm,1.0s
W39A Magazine 71.53 342 P P 02 22 26.7 -0.1
baz=162
V41A Mountainview 71.69 343 P P 02 22 26.9 -0.8
baz=163,SNR=6.1
IP04 Greensprings 71.77 355 eP P 02 22 29.1 +1.0
comp=Z,16nm,0.8s
T48A Bowling Green 71.78 348 P P 02 22 27.4 -0.8
baz=168,SNR=6.8
T47A Sharon Grove 71.79 348 P P 02 22 26.9 -1.3
baz=168
BBTS Babate 71.82 58 LR LR 02 54 23.9
comp=Z,341nm,18.6s,baz=232,slow=36
V40A Witts Springs 71.87 343 P P 02 22 27.9 -0.9
baz=163
T46A Princeton 71.98 347 P P 02 22 28.7 -0.7
baz=167,SNR=6.0
U42A Revenden 72.01 344 P P 02 22 28.9 -0.7
baz=164
V39A Pettigrew 72.11 342 P P 02 22 30.1 -0.2
baz=162
U41A Viola 72.16 344 P P 02 22 29.8 -0.7
baz=163
MNTX Cornudas Mount 72.21 331 P P 02 22 29.6 -1.3
baz=152,SNR=12
MNTX Cornudas Mount 72.21 331 eP P 02 22 29.6 -1.3
comp=Z,5.8nm,0.9s
PBMO Poplar Bluff 72.24 345 eP P 02 22 30.6 -0.3
comp=Z,24nm,1.3s
S48A Wiedeman Farm, 72.26 349 P P 02 22 29.5 -1.5
baz=168
U40A Yellville 72.40 343 P P 02 22 30.8 -1.1
baz=163
T43A Greenville 72.50 345 P P 02 22 31.4 -1.1
baz=165
S46A Don Dixon Farm 72.58 347 P P 02 22 31.4 -1.5
baz=167
U39A Green Forest 72.58 342 P P 02 22 31.7 -1.3
baz=162
T42A Van Buren 72.63 344 P P 02 22 32.4 -0.9
baz=164
TUL1 Leonard 72.75 340 eP P 02 22 35.1 +1.1
comp=Z,12nm,0.8s
T41A Mountain View 72.79 344 P P 02 22 33.4 -0.9
baz=164
WCI Wyandotte Cave 72.86 349 P P 02 22 33.3 -1.3
baz=168
S44A Carbondale 72.88 346 P P 02 22 33.4 -1.3
baz=166
SIUC Southern Illin 72.89 346 eP P 02 22 34.8 0.0
comp=Z,18nm,1.0s
S43A Fulton Ridge, 72.93 345 P P 02 22 34.1 -0.9
baz=165,SNR=8.2
R48A Northridge Ran 72.96 349 P P 02 22 33.9 -1.3
baz=169
T40A Mansfield 73.07 343 P P 02 22 34.6 -1.3
baz=163
T39A Clever 73.16 343 P P 02 22 35.1 -1.3
baz=162
MSTX Muleshoe 73.22 334 P P 02 22 36.1 -0.9
baz=154,SNR=7.2
MSTX Muleshoe 73.22 334 eP P 02 22 37.0 0.0
comp=Z,15nm,1.0s
R45A Skylar, Fairfi 73.27 347 P P 02 22 35.5 -1.5
baz=167
S42A Caledonia 73.27 345 P P 02 22 35.4 -1.7
baz=164
S41A Jillco Farms, 73.31 344 P P 02 22 36.6 -0.6
baz=164,SNR=7.6
R44A Waltonville 73.38 346 P P 02 22 36.4 -1.3
baz=166
FVM French Village 73.40 345 eP P 02 22 38.8 +1.0
comp=Z,33nm,1.3s
FVM French Village 73.40 345 eP P 02 22 38.8 +1.0
FVM pmax pmax
comp=Z,33nm,1.3s
T38A Diamond 73.41 342 P P 02 22 36.3 -1.5
baz=162
MAW Mawson 73.42 164 P P 02 22 37.8 +0.2
comp=Z,3.8nm,0.6s,baz=185,slow=4.8,SNR=11
MAW LR LR 02 56 37.6
comp=Z,845nm,18.5s,baz=232,slow=37
MAW Mawson 73.42 164 eP P 02 22 38.0 +0.4
comp=Z,26nm,1.9s
MAW Mawson 73.42 164 eP P 02 22 38.0 +0.4
MAW pmax pmax
comp=Z,26nm,1.9s
S40A Lebanon 73.50 343 P P 02 22 37.3 -1.1
baz=163
R43A Red Bud 73.58 346 P P 02 22 37.8 -1.1
baz=165
CCM Cathedral Cave 73.65 345 P P 02 22 38.0 -1.3
baz=164
CCM Cathedral Cave 73.65 345 eP P 02 22 39.1 -0.1
comp=Z,26nm,0.9s
CCM Cathedral Cave 73.65 345 eP P 02 22 39.1 -0.1
CCM pmax pmax
comp=Z,26nm,0.9s
AMTX Amarillo 73.66 335 eP P 02 22 40.5 +1.0
S39A Bolivar 73.78 343 P P 02 22 38.4 -1.7
baz=162
Q45A Warren Harvey, 73.83 347 P P 02 22 39.0 -1.3
baz=167
S38A Stockton 73.87 342 P P 02 22 39.8 -0.8
baz=162,SNR=8.4
R41A Rosebud 73.91 345 P P 02 22 40.2 -0.6
baz=164,SNR=7.4
121A Cookes Peak, D 73.94 329 P P 02 22 41.1 -0.2
baz=150
121A Cookes Peak, D 73.94 329 eP P 02 22 35.9 -5.4
comp=Z,19nm,1.1s
P47A Martinsville 74.08 349 P P 02 22 39.9 -1.9
baz=164
R40A Maddies Statio 74.10 344 P P 02 22 41.1 -0.8
baz=163,SNR=7.0
Q43A New Douglas 74.17 346 P P 02 22 40.8 -1.5
baz=165
R39A Chumby, Stover 74.30 343 P P 02 22 41.8 -1.3
baz=163
Q42A Golden Eagle 74.31 345 P P 02 22 41.9 -1.2
baz=165
ACSO Alum Creek Sta 74.35 352 P P 02 22 42.2 -1.1
baz=171
ACSO Alum Creek Sta 74.35 352 eP P 02 22 42.7 -0.6
comp=Z,18nm,0.8s
P46A Rosedale 74.37 348 P P 02 22 41.7 -1.7
baz=168
P45A Graceland, Par 74.37 348 P P 02 22 42.4 -1.1
baz=167
R38A Fenwick Farm, 74.40 343 P P 02 22 43.0 -0.6
baz=162
P44A Sand Creek, Wi 74.47 347 P P 02 22 42.7 -1.3
baz=166
Q41A Truxton 74.50 345 P P 02 22 43.5 -0.7
baz=164,SNR=5.8
Q40A Laux Farm, Aux 74.73 344 P P 02 22 44.7 -0.9
baz=164
O47A Sheridan 74.80 349 P P 02 22 44.8 -1.1
baz=168
P43A Skaggs, Pawnee 74.81 346 P P 02 22 45.3 -0.7
baz=166
LIC Lamto 75.05 72 eP P 02 22 47.1 -0.9
comp=Z,70nm,1.3s
Q38A Cooks Store, C 75.06 343 P P 02 22 47.2 -0.3
baz=162
TUC Tucson 75.06 327 P P 02 22 47.4 -0.3
baz=148
TUC Tucson 75.06 327 eP P 02 22 48.3 +0.6
comp=Z,9.8nm,1.2s
TUC Tucson 75.06 327 eP P 02 22 48.3 +0.6
TUC pmax pmax
comp=Z,10.0nm,1.2s
O45A Potomac 75.07 348 P P 02 22 46.4 -1.1
baz=167
O44A Mansfield 75.11 347 P P 02 22 46.4 -1.3
baz=167
P40A Paris 75.23 344 P P 02 22 47.8 -0.6
baz=164,SNR=8.4
M54A Oil Creek Stat 75.28 354 P P 02 22 47.1 -1.6
baz=174
TIC Toumodi 75.31 71 eP P 02 22 48.8 -0.7
P39B Salisbury 75.36 344 P P 02 22 48.1 -1.0
baz=163
KIC Kosan Boka 75.36 72 eP P 02 22 48.9 -0.9
comp=Z,105nm,1.3s
O43A Sugar Creek Fa 75.40 347 P P 02 22 48.5 -0.9
baz=166
DBIC Dimbokro 75.45 72 P P 02 22 49.4 -0.9
comp=Z,10nm,0.8s,baz=197,slow=5.6,SNR=12
DBIC LR LR 02 54 42.1
comp=Z,231nm,18.2s,baz=216,slow=35
DBIC Dimbokro 75.45 72 eP P 02 22 50.0 -0.3
comp=Z,17nm,0.9s
DBIC Dimbokro 75.45 72 eP P 02 22 50.0 -0.3
DBIC pmax pmax
comp=Z,17nm,0.9s
ANMO Albuquerque 75.49 332 P P 02 22 49.5 -0.8
baz=152
ANMO Albuquerque 75.49 332 eP P 02 22 51.0 +0.7
comp=Z,16nm,1.4s
ANMO Albuquerque 75.49 332 eP P 02 22 50.6 +0.3
ANMO pmax pmax
comp=Z,4.0nm,1.2s
N46A Monticello 75.53 349 P P 02 22 49.0 -1.1
baz=168
O41A Passleys Farm, 75.55 345 P P 02 22 49.5 -0.6
baz=165
P38A Dawn 75.67 343 P P 02 22 50.1 -0.8
baz=162
O40A La Belle 75.76 345 P P 02 22 50.2 -1.2
baz=164
O39A Kirksville 76.04 344 P P 02 22 52.0 -1.1
baz=163
O37A Wolven Farm, M 76.33 343 P P 02 22 54.0 -0.7
baz=162
RAR Rarotonga 76.37 254 LR LR 02 47 44.8
comp=Z,158nm,18.9s,baz=114,slow=29
N39A Derby Farms, D 76.62 344 P P 02 22 55.9 -0.4
baz=163
T25A Trinidad 76.65 334 P P 02 22 57.5 +0.6
baz=153,SNR=6.1
T25A Trinidad 76.65 334 eP P 02 22 57.8 +1.0
comp=Z,26nm,1.1s
M41A Milan 76.69 346 P P 02 22 55.8 -0.8
baz=165
N38A Joes South For 76.71 344 P P 02 22 56.6 -0.3
baz=163
MHTCO State Highway 76.74 334 eP P 02 22 58.7 +1.4
comp=Z,22nm,1.1s
O34A Beatrice 77.00 341 P P 02 22 58.8 +0.3
baz=160
L42A Oliver, Polo 77.12 347 P P 02 22 58.7 -0.5
baz=166
L43A Garden Prairie 77.13 348 P P 02 22 58.7 -0.5
baz=166
X16A Lo Mia Camp, P 77.13 328 eP P 02 23 00.4 +0.8
comp=Z,11nm,1.0s
M38A Pleasantville 77.30 344 P P 02 22 59.6 -0.4
baz=163
L41A Preston 77.35 346 P P 02 22 59.5 -0.8
baz=165
N35A Tabor 77.36 342 P P 02 22 59.4 -1.1
baz=161
Y14A Wickenburg 77.44 326 eP P 02 23 02.4 +1.2
comp=Z,9.2nm,1.1s
M37A Trindle Farm, 77.48 344 P P 02 23 00.1 -1.1
baz=162
SDCO Great Sand Dun 77.59 334 P P 02 23 02.3 +0.1
baz=153
SDCO Great Sand Dun 77.59 334 eP P 02 23 04.0 +1.9
comp=Z,3.4nm,0.8s
L39A Vinton 77.71 345 P P 02 23 02.7 +0.3
baz=164
KSCO Kaye Shedlock' 77.71 336 P P 02 23 03.8 +1.1
baz=155
K42A Prairie Point, 77.81 347 P P 02 23 02.7 -0.3
baz=166
K41A Shullsburg 77.83 347 P P 02 23 02.4 -0.7
baz=165
SWSC Sam W. Stewart 77.95 324 P P 02 23 04.0 +0.1
baz=145
Y12C Blythe 77.99 325 P P 02 23 04.3 +0.2
baz=146
WUAZ Wupatki 78.03 328 P P 02 23 04.5 0.0
baz=148
WUAZ Wupatki 78.03 328 eP P 02 23 06.0 +1.5
comp=Z,11nm,1.0s
JFWS Jewell Farm 78.11 347 P P 02 23 04.0 -0.7
baz=165
LONY Lake Ozonia 78.12 358 P P 02 23 04.3 -0.3
baz=178
MVCO Mesa Verde 78.27 331 P P 02 23 05.4 -0.6
baz=150
MVCO Mesa Verde 78.27 331 eP P 02 23 07.8 +1.9
comp=Z,9.8nm,1.0s
L36A Harm Buss Farm 78.29 343 P P 02 23 04.2 -1.4
baz=162
J42A Columbus 78.30 348 P P 02 23 04.3 -1.3
baz=166
SADO Sadowa 78.49 355 P P 02 23 05.8 -0.8
comp=Z,4.2nm,0.7s,baz=252,slow=3.6,SNR=3.5
SADO Sadowa 78.49 355 eP P 02 23 05.8 -0.8
comp=Z,15nm,1.2s
J41A Loganville 78.51 347 P P 02 23 05.4 -1.4
baz=165
Q24A Divide 78.54 335 P P 02 23 07.3 -0.2
baz=153
J40A Soldiers Grove 78.67 347 P P 02 23 06.7 -1.0
baz=165
I43A Langenfeld Bro 78.68 348 P P 02 23 07.4 -0.3
baz=167
K36A Gilmore City 78.75 344 P P 02 23 06.7 -1.5
baz=162
W13A Hualapai Mount 78.80 326 eP P 02 23 10.2 +1.3
comp=Z,9.7nm,1.2s
J39A Decorah 78.81 346 P P 02 23 06.3 -2.2
baz=164
I42A Draeger Farm, 78.82 348 eP P 02 23 10.3 +1.8
comp=Z,14nm,1.0s
BELC Belle Mtn. Jos 78.90 324 P P 02 23 08.1 -1.2
baz=145
I41A Arkdale 79.15 347 P P 02 23 09.9 -0.4
baz=166
MURC Murrieta 79.17 323 P P 02 23 09.8 -0.9
baz=144
U15A North Rim 79.19 328 eP P 02 23 12.2 +1.1
comp=Z,16nm,1.3s
I39A Houston 79.27 346 P P 02 23 09.9 -1.1
baz=164
J36A Seneca 1, Swea 79.37 344 P P 02 23 11.5 -0.1
baz=162
GMRC Granite Mounta 79.38 325 P P 02 23 12.1 +0.2
baz=145
SMCO Snowmass 79.39 333 eP P 02 23 13.2 +0.9
comp=Z,16nm,1.1s
ISCO Idaho Springs 79.44 335 P P 02 23 12.7 +0.3
baz=153
ISCO Idaho Springs 79.44 335 eP P 02 23 13.2 +0.8
comp=Z,8.2nm,1.3s
ISCO Idaho Springs 79.44 335 eP P 02 23 13.2 +0.8
ISCO pmax pmax
comp=Z,8.0nm,1.3s
TSUM Tsumeb 79.58 106 eP P 02 23 14.0 +0.4
comp=Z,16nm,1.1s
TRQ Mont Tremblant 79.72 359 eP P 02 23 15.2 +1.7
H40A Chili 79.79 347 P P 02 23 13.3 -0.5
baz=165
BFSC Mount Baldy Ra 79.91 323 P P 02 23 13.7 -1.1
baz=144
KNB Kanab 79.92 328 eP P 02 23 16.4 +1.5
comp=Z,74nm,1.9s
KNB Kanab 79.92 328 eP P 02 23 16.4 +1.5
KNB pmax pmax
comp=Z,74nm,1.9s
G42A Mountain 80.05 349 P P 02 23 14.8 -0.3
baz=167
ECSD EROS Data Cent 80.30 342 P P 02 23 15.9 -0.7
baz=160
ECSD EROS Data Cent 80.30 342 eP P 02 23 16.2 -0.4
comp=Z,20nm,1.1s
GSC Goldstone, Bar 80.34 325 P P 02 23 16.3 -0.8
baz=144
BOSA Boshof 80.44 118 P P 02 23 17.9 -0.1
comp=Z,4.1nm,0.8s,baz=211,slow=5.3,SNR=8.4
BOSA LR LR 02 53 47.1
comp=Z,154nm,21.1s,baz=226,slow=32
BOSA Boshof 80.44 118 eP P 02 23 18.0 -0.1
H36A Jessenland, He 80.47 345 P P 02 23 17.2 -0.2
baz=162
MTPU Mount Pierson 80.50 329 eP P 02 23 19.2 +1.0
comp=Z,7.2nm,1.1s
SHPR Sheep Range 80.55 326 eP P 02 23 19.7 +1.4
comp=Z,13nm,1.3s
CCUT Cedar City 80.60 328 eP P 02 23 20.1 +1.4
comp=Z,14nm,1.2s
SRU San Rafael Swe 80.72 331 eP P 02 23 20.8 +1.6
comp=Z,4.4nm,1.0s
SRU San Rafael Swe 80.72 331 eP P 02 23 20.8 +1.6
SRU pmax pmax
comp=Z,8.0nm,1.0s
SPMN Marine on St. 80.84 346 P P 02 23 18.7 -0.8
baz=163
SPMN Marine on St. 80.84 346 eP P 02 23 18.6 -0.8
comp=Z,11nm,0.8s
KOWA Kowa 80.88 66 P P 02 23 20.2 -0.1
comp=Z,7.0nm,0.8s,baz=233,slow=7.1,SNR=24
KOWA LR LR 02 56 53.8
comp=Z,582nm,21.0s,baz=232,slow=34
LRMC Laurel Mtn Rad 80.91 324 P P 02 23 19.3 -0.9
baz=144
E43A Lone Tree Farm 80.93 350 P P 02 23 19.5 -0.3
baz=168
F40A Park Falls 80.99 348 P P 02 23 19.9 -0.3
baz=166
P18A Preston Nutter 81.05 331 eP P 02 23 22.6 +1.5
comp=Z,17nm,1.1s
P17A Butcher Ranch, 81.11 331 eP P 02 23 23.3 +2.1
comp=Z,15nm,1.2s
H33A Prehn Over Nor 81.22 343 P P 02 23 21.0 -0.5
baz=160
MPMC Manual Prospec 81.28 325 P P 02 23 22.7 +0.5
baz=144
FURC Furnace Creek, 81.31 325 P P 02 23 22.7 +0.6
baz=144
F38A Pierce - Schro 81.36 346 P P 02 23 21.9 -0.2
baz=164
TPNV Topopah Spring 81.41 326 P P 02 23 23.6 +0.7
baz=145
TPNV Topopah Spring 81.41 326 eP P 02 23 23.9 +1.0
comp=Z,36nm,1.8s
TPNV Topopah Spring 81.41 326 eP P 02 23 23.9 +1.0
TPNV pmax pmax
comp=Z,36nm,1.8s
ISA Isabella, Lake 81.45 324 P P 02 23 23.6 +0.6
baz=143
DAC Darwin (Calif) 81.51 325 eP P 02 23 24.2 +0.8
comp=Z,11nm,1.1s
DAC Darwin (Calif) 81.51 325 eP P 02 23 24.2 +0.8
DAC pmax pmax
comp=Z,11nm,1.1s
F36A Milaca 81.60 345 P P 02 23 22.5 -0.9
baz=163
D41A Chassel 81.84 349 P P 02 23 24.7 +0.1
baz=167
MPU Maple Canyon 81.94 331 eP P 02 23 27.8 +2.2
comp=Z,11nm,1.1s
E36A McGregor 82.17 346 P P 02 23 25.1 -1.3
baz=163
R11A Troy Canyon, C 82.25 327 P P 02 23 27.7 +0.4
baz=145
R11A Troy Canyon, C 82.25 327 eP P 02 23 28.3 +1.0
comp=Z,11nm,1.1s
K22A Casper 82.28 335 P P 02 23 28.2 +0.8
baz=152
DUG Dugway, Tooele 82.57 330 P P 02 23 28.5 -0.4
baz=147
DUG Dugway, Tooele 82.57 330 eP P 02 23 30.0 +1.1
comp=Z,23nm,1.4s
DUG Dugway, Tooele 82.57 330 eP P 02 23 30.0 +1.1
DUG pmax pmax
comp=Z,23nm,1.4s
LBTB Lobatse 82.67 115 eP P 02 23 29.7 -0.2
comp=Z,32nm,1.1s
LBTB Lobatse 82.67 115 eP P 02 23 29.7 -0.2
LBTB pmax pmax
comp=Z,33nm,1.1s
RSSD Black Hills 82.77 338 P P 02 23 30.3 +0.4
baz=154
RSSD Black Hills 82.77 338 eP P 02 23 31.9 +2.0
comp=Z,6.5nm,1.0s
RSSD Black Hills 82.77 338 eP P 02 23 31.9 +2.0
RSSD pmax pmax

comp=Z,6.0nm,1.0s
TCUT Toone Canyon 82.78 331 eP P 02 23 31.6 +1.6
comp=Z,88nm,2.0s
C39A Grand Marais 82.83 348 P P 02 23 29.9 +0.1
baz=166
D35A Remer 82.88 345 P P 02 23 30.0 -0.1
baz=162
C37A Embarrass 83.12 347 P P 02 23 31.7 +0.4
baz=164
HWUT Hardware Ranch 83.26 332 eP P 02 23 32.3 -0.1
comp=Z,18nm,1.1s
C35A Jirik Farms, M 83.45 346 P P 02 23 34.3 +1.3
baz=162
PD31 Pinedale Array 83.48 333 eP P 02 23 34.0 +0.4
PDAR Pinedale Array 83.48 333 P P 02 23 34.0 +0.4
comp=Z,1.0nm,0.7s,baz=142,slow=5.3,SNR=5.9
PDAR LR LR 02 56 58.3
comp=Z,374nm,18.8s,baz=158,slow=33
PDAR Pinedale Array 83.48 333 eP P 02 23 34.8 +1.2
RPZ Rata Peaks 83.54 221 LR LR 02 52 06.8
comp=Z,269nm,18.9s,baz=356,slow=30
NV01 Mina Array Sit 83.57 325 eP P 02 23 34.8 +0.6
NVAR Mina Array Bea 83.57 325 P P 02 23 35.2 +1.0
comp=Z,3.6nm,0.9s,baz=147,slow=5.7,SNR=9.4
NVAR LR LR 02 52 57.7
comp=Z,214nm,21.9s,baz=271,slow=30
D31A Mcclaflin, Tow 83.68 343 P P 02 23 34.3 +0.1
baz=159
HVU Hansel Valley 83.89 331 eP P 02 23 37.2 +1.6
comp=Z,43nm,1.9s
HVU Hansel Valley 83.89 331 eP P 02 23 37.2 +1.6
HVU pmax pmax
comp=Z,43nm,1.9s
C33A Trail 83.89 344 P P 02 23 34.6 -0.7
baz=161
B35A Bob, Littlefor 84.03 346 P P 02 23 34.8 -1.1
baz=163
WAKR Walker 84.17 325 eP P 02 23 39.1 +1.9
comp=Z,27nm,1.5s
B34A Aery, Baudette 84.34 345 P P 02 23 36.6 -0.9
baz=162
C31A Landman Farms, 84.38 343 P P 02 23 37.2 -0.5
baz=159
AGMN Agassiz Nation 84.42 345 P P 02 23 37.2 -0.7
baz=161
AGMN Agassiz Nation 84.42 345 eP P 02 23 37.5 -0.4
TOA0 Torodi Ar. Sit 84.48 70 eP P 02 23 38.1 -0.9
comp=Z,26nm,1.0s
TOA1 Torodi Ar. Sit 84.48 70 eP P 02 23 38.3 -0.8
TORD Torodi Ar. Bea 84.48 70 P P 02 23 38.3 -0.8
comp=Z,9.3nm,0.8s,baz=261,slow=4.3,SNR=45
TORD LR LR 03 00 01.1
comp=Z,223nm,18.9s,baz=235,slow=35
LOHW Long Hollow 84.59 333 eP P 02 23 40.4 +1.1
comp=Z,28nm,1.8s
TPAW Teton Pass 84.62 333 eP P 02 23 40.8 +1.3
comp=Z,7.3nm,1.1s
B32A Ashes, Strandq 84.66 344 P P 02 23 38.8 -0.3
baz=160
FXWY Fox Creek 84.78 333 eP P 02 23 40.6 +0.4
comp=Z,6.6nm,1.4s
MDND Maddock 84.90 342 P P 02 23 39.8 -0.6
baz=158
MDND Maddock 84.90 342 eP P 02 23 42.8 +2.4
comp=Z,30nm,0.9s
A33A Warroad 84.92 345 P P 02 23 40.3 -0.1
baz=161
IMW Indian Meadow 84.96 333 eP P 02 23 43.4 +2.2
comp=Z,13nm,1.3s
H17A Grant Village 85.25 334 P P 02 23 42.8 +0.2
baz=149
RLMT Red Lodge 85.41 335 P P 02 23 43.2 -0.1
baz=150
RLMT Red Lodge 85.41 335 eP P 02 23 43.0 -0.2
comp=Z,7.4nm,1.0s
YMR Madison River 85.63 334 eP P 02 23 45.4 +1.0
comp=Z,15nm,1.0s
YHH Holmes Hill 85.69 334 eP P 02 23 45.6 +0.8
comp=Z,10nm,1.0s
ORV Oroville 85.99 324 eP P 02 23 47.1 +1.1
comp=Z,40nm,1.5s
ORV Oroville 85.99 324 eP P 02 23 47.1 +1.1
ORV pmax pmax
comp=Z,40nm,1.5s
HLID Hailey 86.04 331 P P 02 23 46.5 +0.1
baz=146
HLID Hailey 86.04 331 eP P 02 23 47.4 +1.0
comp=Z,14nm,1.4s
ULM Lac du Bonnet 86.27 345 P P 02 23 45.5 -1.6
comp=Z,3.9nm,0.9s,baz=155,slow=5.0,SNR=6.8
ULM Lac du Bonnet 86.27 345 eP P 02 23 46.8 -0.3
comp=Z,12nm,1.0s
ULM Lac du Bonnet 86.27 345 eP P 02 23 46.8 -0.3
ULM pmax pmax
comp=Z,12nm,1.0s
MCMT McKenzie Canyo 86.48 332 eP P 02 23 50.4 +1.8
BOZ Bozeman (W) 86.67 334 P P 02 23 50.5 +1.1
baz=148
O03D Paynes Creek 86.71 324 P P 02 23 50.4 +0.7
baz=141
MOD Modoc Plateau 87.25 326 eP P 02 23 54.3 +2.0
comp=Z,7.4nm,0.9s
WDC Whiskeytown Da 87.28 324 eP P 02 23 52.3 -0.1
comp=Z,10nm,1.0s
WDC Whiskeytown Da 87.28 324 eP P 02 23 52.3 -0.1
WDC pmax pmax
comp=Z,11nm,1.0s
J08A Circle Bar Ran 87.58 328 eP P 02 23 55.1 +1.2
comp=Z,24nm,1.1s
N02D Trinity Center 87.67 324 P P 02 23 55.4 +1.1
baz=140
M04C Macdoel 87.88 325 P P 02 23 55.5 +0.2
baz=141
M02C Callahan 88.06 325 P P 02 23 57.0 +0.9
baz=140
K05A Summer Lake 88.17 327 eP P 02 23 58.1 +1.3
comp=Z,23nm,1.2s
YBH Yreka Blue Hor 88.25 325 P P 02 23 56.5 -0.5
comp=Z,3.3nm,0.9s,baz=116,slow=6.3,SNR=7.3
YBH Yreka Blue Hor 88.25 325 eP P 02 23 58.8 +1.7
comp=Z,31nm,1.6s
YBH Yreka Blue Hor 88.25 325 eP P 02 23 58.8 +1.7
YBH pmax pmax
comp=Z,31nm,1.6s
SCHQ Schefferville 88.45 3 P P 02 23 57.6 0.0
comp=Z,2.3nm,0.4s,baz=190,slow=5.1,SNR=2.3
SCHQ LR LR 03 06 21.7
comp=Z,103nm,18.4s,baz=263,slow=38
SCHQ Schefferville 88.45 3 eP P 02 23 57.6 0.0
comp=Z,59nm,1.8s
MSO Missoula 88.57 333 P P 02 24 00.0 +1.5
baz=147
J05D Fort Rock, OR 88.76 327 P P 02 24 00.9 +1.4
baz=142
PINE Pine Mountain 89.02 327 eP P 02 24 02.9 +2.1
comp=Z,29nm,1.4s
AFI Afiamalu 89.92 253 LR LR 02 55 10.4
comp=Z,313nm,19.6s,baz=121,slow=29
LSZ Lusaka 90.17 108 eP P 02 24 08.7 +1.8
comp=Z,46nm,1.8s
LSZ Lusaka 90.17 108 eP P 02 24 08.7 +1.8
LSZ pmax pmax
comp=Z,46nm,1.8s
TAM Tamanrasset 93.06 65 eP P 02 24 19.7 -0.3
comp=Z,7.2nm,1.1s
TAM Tamanrasset 93.06 65 eP P 02 24 19.7 -0.3
TAM pmax pmax
comp=Z,7.0nm,1.1s
MSVF Nonsavu 95.56 245‖ eP P 02 24 31.3 -0.3
MSVF pmax pmax
comp=Z,17nm,1.1s
ESDC Sonseca Array 96.72 46 P P 02 24 34.7 -1.5
comp=Z,0.2nm,0.6s,baz=260,slow=5.1,SNR=2.9
DZM Mont Dzumac 101.05 234 eLR LR 02 58 14.5
comp=Z,267nm,21.4s
YKA Yellowknife Ar 101.81 341 P Pdif 02 24 57.7 -0.6
comp=Z,0.2nm,0.7s,baz=141,slow=4.6,SNR=6.8
YKB5 Yellowknife Ar 101.81 341 ePdif Pdif 02 24 57.7 -0.6
CLL Collm 112.96 43 esPKiKP sPKiKP 02 29 51.0 -6.9
CLL eSdif Sdif 02 38 12.0 +1.6
CLL ePS PS 02 40 08.0 +1.1
CLL ePPS PPS 02 41 15.0
CLL eSS SS 02 46 24.0 +11
CLL eSSS SSS 02 50 30.0
CLL e(SSSS) 02 54 24.0
CLL Lm MLR 03 16 00.0
comp=N,100nm,20.6s
CLL comp=E,300nm,19.9s Lm MLR 03 16 00.0
CLL comp=Z,400nm,19.5s Lm MLR 03 16 00.0
TOLK Toolik Lake Re 116.61 336 P PKPdf 02 29 48.9 0.0
baz=115
AS31 Alice Springs 117.55 207 ePKPdf PKPdf 02 29 50.9 -1.3
ASAR Alice Springs 117.55 207 PKP PKPdf 02 29 50.9 -1.3
comp=Z,0.2nm,0.3s,baz=178,slow=2.8,SNR=2.8
WR1 Warramunga Arr 120.73 210 ePKPdf PKPdf 02 29 57.2 -1.2
WRA Warramunga Arr 120.73 210 PKP PKPdf 02 29 57.2 -1.2
comp=Z,0.5nm,0.5s,baz=163,slow=1.5,SNR=17
MMAI Mount Meron Ar 121.00 69 PKP PKPdf 02 29 58.7 +0.2
comp=Z,0.7nm,0.5s,baz=50,slow=4.5,SNR=3.2
BR231 Keskin MP Arra 121.47 61 ePKPdf PKPdf 02 29 59.7 +0.5
BR101 Keskin Array S 122.06 61 ePKPdf PKPdf 02 30 00.3 -0.1
BRTR Keskin Array B 122.06 61 PKP PKPdf 02 30 00.3 -0.1
comp=Z,1.2nm,0.8s,baz=200,slow=4.1,SNR=9.4
AK11 Malin Array Si 122.30 48 ePKPdf PKPdf 02 29 59.4 -0.9
KIEV Kiev 122.33 47 i/PKIKP PKPdf 02 29 59.6 -0.7
AKASG Malin Array Be 122.34 47 PKP PKPdf 02 29 59.3 -1.0
comp=Z,0.2nm,0.3s,baz=259,slow=1.9,SNR=7.4
AKBB Malin Array Si 122.34 47 ePKPdf PKPdf 02 29 59.3 -1.0
AKBB Malin Array Si 122.34 47 ePKIKP PKPdf 02 29 59.3 -1.0
RAYN Ar Rayn 125.31 84 ePKPdf PKPdf 02 30 07.9 +0.9
OBN Obninsk 127.56 43 i/PKIKP PKPdf 02 30 09.3 -0.9
OBN pmax pmax
comp=Z,7.0nm,1.1s
KLMR Klimovskoe 129.48 36 ePKPdf PKPdf 02 30 12.1 -1.6
KLMR AMP 02 30 23.4
comp=Z,36nm,1.4s
KLMR LQ LQ 03 22 25.8
KLMR LQ LQ 03 22 25.8
KLMR Klimovskoe 129.48 36 ePKIKP PKPdf 02 30 12.0 -1.6
KLMR pmax pmax
comp=Z,36nm,1.4s
KIV Kislovodsk 129.70 58 i PKIKP PKPdf 02 30 15.3 +0.5
KIV pmax pmax
comp=Z,12nm,1.1s
KIV MLR MLR
comp=Z,100nm,23.0s
KBZ Khabaz 129.80 59 PKP PKPdf 02 30 15.3 +0.5
comp=Z,3.0nm,1.1s,baz=250,slow=4.5,SNR=2.9
KBZ SKPbc SKPbc 02 33 37.5 +3.0
comp=Z,2.9nm,0.9s,baz=211,slow=3.7,SNR=4.5
GOF Gofitskoye 130.16 57‖ ePKIKP PKPdf 02 30 23.0 +7.5
ZEI Tsey 130.33 60 i PKIKP PKPdf 02 30 15.5 -0.7
ZEI pmax pmax
comp=Z,5.0nm,1.3s
GNI Garni 130.36 63 ePKPdf PKPdf 02 30 17.5 +1.2
GNI Garni 130.36 63 d/PKIKP PKPdf 02 30 16.6 +0.3
BILL Bilibino 132.55 334‖ ePKIKP PKPdf 02 30 27.0 +7.6
BILL e 02 32 42.9
BILL pmax pmax
comp=Z,15nm,2.4s
BILL pmax pmax
comp=Z,196nm,20.0s
WSAR Wadi Sarin 136.10 91 PKP PKPdf 02 30 28.2 +0.9
comp=Z,1.7nm,0.8s,baz=262,slow=7.1,SNR=2.3
SEY Seymchan 139.73 330‖ ePKIKP PKPdf 02 30 32.4 -0.4
ARU Arti 139.85 41 i PKIKP PKPdf 02 30 35.8 +2.6
ARU 02 33 29.5
ARU SS SS 02 51 47.9 -0.7
GEYT Alibeck 140.12 70 PKhKP PKPpre 02 30 21.4
comp=Z,0.7nm,0.5s,baz=290,slow=4.3,SNR=2.3
GEYT PKP PKPdf 02 30 34.2 -0.2
comp=Z,1.0nm,0.6s,baz=265,slow=6.8,SNR=2.6
AKTO Aktyubinsk 140.50 50 PKhKP PKPpre 02 30 26.2
comp=Z,0.3nm,0.4s,baz=257,slow=12,SNR=2.3
AB09 Akbulak array 141.84 52 ePKPpre PKPpre 02 30 31.8
AB08 Akbulak array 141.85 52 ePKPpre PKPpre 02 30 32.2
AB04 Akbulak array 141.85 52 ePKPpre PKPpre 02 30 31.9
AB05 Akbulak array 141.85 52 ePKPpre PKPpre 02 30 31.9
AB01 Akbulak array 141.85 52 ePKPpre PKPpre 02 30 31.9
AB31 Akbulak array 141.85 52 ePKPpre PKPpre 02 30 31.9
AB31 Akbulak array 141.85 52 ePKHKP PKPpre 02 30 32.0
ABKAR Akbulak array 141.85 52 ePKPpre PKPpre 02 30 31.9
AB03 Akbulak array 141.86 52 ePKPpre PKPpre 02 30 31.9
AB02 Akbulak array 141.86 52 ePKPpre PKPpre 02 30 31.9
AB07 Akbulak array 141.87 52 ePKPpre PKPpre 02 30 32.0
AB06 Akbulak array 141.87 52 ePKPpre PKPpre 02 30 31.4
PALK Pallekele 143.74 131 i PKIKP PKPbc 02 30 39.8 +0.7
GSI Gunungsitoli 146.30 162 ePKPdf PKPab 02 30 48.0 +0.2
BRVK Borovoye 147.33 43 cePKP2 PKPbc 02 30 48.2 -0.7
BVAR Borovoye Array 147.40 43 PKPbc PKPbc 02 30 49.6 +0.5
comp=Z,3.5nm,0.6s,baz=336,slow=3.2,SNR=16
PSI Prapat 148.07 164 PKPbc PKPbc 02 30 51.4 -0.8
baz=90,slow=0.6
PSI Prapat 148.07 164 ePKPdf PKPbc 02 30 51.1 -1.1
PSI Prapat 148.07 164 ePKP2 PKPbc 02 30 51.1 -1.1
YAK Yakutsk 148.47 340 ePKP2 PKPbc 02 30 51.5 -0.1
YAK pmax pmax
comp=Z,14nm,0.9s
YAK pmax pmax
comp=N,4.0nm,1.1s
YAK pmax pmax
comp=E,3.0nm,1.1s
HYB Hyderabad 149.30 115 i PKP PKPbc 02 30 54.0 -1.1
NKL Nikolayevsk 149.58 319 ePKP2 PKPbc 02 30 54.2 -0.5
NKL pmax pmax
comp=Z,19nm,0.9s
KURBB Kurchatov Arra 152.99 43 PKPbc PKPbc 02 31 02.7 0.0
comp=Z,2.1nm,0.7s,baz=302,slow=2.9,SNR=20
NVS Novosibirsk 152.99 32 i/PKIKP PKPbc 02 31 02.9 +0.4
NVS pmax pmax
comp=Z,32nm,1.1s
NVS pmax pmax
comp=E,6.0nm,0.7s
KURK Kurchatov 153.00 43 ‖ i/PKIKP PKPbc 02 31 02.8 +0.1
ZAA1 Zalesovo Array 154.28 32 ePKPdf PKPdf 02 30 56.7 -0.4
ZAA1 ePKPbc PKPbc 02 31 05.3 -0.1
ZALV Zalesovo Beam 154.28 32 PKP PKPdf 02 30 56.7 -0.4
comp=E,0.5nm,0.5s,baz=308,slow=7.3,SNR=3.7
ZALV PKPbc PKPbc 02 31 05.3 -0.1
comp=E,5.0nm,0.6s,baz=289,slow=3.6,SNR=19
BOD Bodaibo 155.63 352 ePKP2 PKPab 02 31 24.3 -0.8
BOD pmax pmax
comp=Z,16nm,1.7s
MK32 Makanchi Array 156.92 48 ePKPdf PKPdf 02 31 00.9 0.0
MK32 ePKPab PKPab 02 31 30.6 -0.5
MKAR Makanchi Array 156.92 48 PKP PKPdf 02 31 00.9 0.0
comp=Z,0.4nm,0.8s,baz=326,slow=0.4,SNR=3.6
MKAR PKPab PKPab 02 31 30.6 -0.5
comp=Z,1.9nm,0.6s,baz=293,slow=4.2,SNR=12
WMQ Urumqi 161.64 51 ePKP PKPdf 02 31 06.9 +0.3
WMQ LR LR
comp=Z,210nm,21.3s
WMQ LR LR
comp=Z,440nm,19.9s
WMQ LR LR
comp=Z,440nm,22.7s
CM31 Chiang Mai Arr 162.85 151 ePKPdf PKPdf 02 31 08.7 +0.3
CMAR Chiang Mai Arr 162.85 151 PKP PKPdf 02 31 08.7 +0.2
comp=Z,0.8nm,0.4s,baz=243,slow=2.9,SNR=2.7
ZAK Zakamensk 163.18 9 ePKP2 PKPab 02 31 55.1 -3.1
ZAK e 02 35 45.9
ZAK pmax pmax
comp=Z,5.0nm,1.6s
ZAK pmax pmax
comp=Z,3.0nm,1.6s
SONA0 Songino Array 166.00 3 ePKPdf PKPdf 02 31 08.2 -2.4
SONA0 ePKPab PKPab 02 32 11.3 +0.6
SONM Songino Array 166.00 3 PKP PKPdf 02 31 08.2 -2.4
comp=Z,0.2nm,0.6s,baz=95,slow=3.6,SNR=2.4
SONM PKPab PKPab 02 32 11.3 +0.6
comp=Z,1.0nm,0.9s,baz=324,slow=4.2,SNR=4.3
NJ2 Nanjing 170.34 262 ePKP PKPdf 02 31 14.9 +1.1
KMI Kunming 170.35 153 PKP PKPdf 02 31 14.0 -0.3
HHC Hu-ho-hao-te 172.32 337 ePKP PKPdf 02 31 15.8 +1.1
HHC PP PP 02 36 33.6 +3.9
HHC SS SS 02 57 42.5 +5.2
HHC AMB AMB
comp=Z,130nm,9.0s
HHC LR LR
comp=Z,200nm,21.5s
HHC LR LR
comp=Z,440nm,21.5s
HHC LR LR
comp=Z,300nm,21.7s
GYA Guiyang 172.59 174 ePKP PKPdf 02 31 15.0 -0.3
GYA PKPab PKPab 02 32 42.3 +1.9
GYA PKS PKSdf 02 34 46.6 -1.1
GYA PP PP 02 36 33.8 +3.0
GYA AMB AMB
comp=Z,120nm,8.2s
CD2 Chengdu 175.65 131 PKP PKPdf 02 31 16.5 +0.4
LZH Lanzhou 176.22 53 ePKP PKPdf 02 31 12.4 -3.8
LZH pPKP pPKPdf 02 31 23.3 -4.6
LZH LR LR
comp=Z,91nm,15.2s
LZH LR LR
comp=Z,86nm,16.8s
LZH LR LR
comp=Z,120nm,19.5s

IDC 03 02:12:05.6±10.0, 5°32S×154°07E, h159km±70km, mb3.2/5, mb1 3.4/6, mb1mx3.2/46, mbtmp3.7/6, MS2.7/1, Ms1 2.7/1, ms1mx2.4/22, Error ellipse: s-maj=99.6km s-min=28.5km az=99.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	7.97	239	P	P	Pn	02 13 58.0	-0.6
	5.1nm,0.3s,baz=66,slow=5.7,SNR=7.6							
PMG				S		Sn	02 15 28.2	+0.6
	2.2nm,0.3s,baz=97,slow=17,SNR=3.8							
PMG				LR	LR	02 17 45.4		
	comp=Z,53nm,18.2s,baz=172,slow=43							
WRA	Warramunga Arr	24.08	231	P	P	02 17 07.0		+0.4
	1.1nm,0.5s,baz=56,slow=10,SNR=24							
ASAR	Alice Springs	26.65	225	P	P	02 17 30.0		+0.2
	0.4nm,0.5s,baz=64,slow=8.6,SNR=4.5							
H11S3	WAKE ISLAND Hy	26.73	27	T	T	02 46 08.0		
	baz=207,slow=74							
H11S2	WAKE ISLAND Hy	26.74	27	T	T	02 46 05.4		
	baz=207,slow=74							
H11S1	WAKE ISLAND Hy	26.75	27	T	T	02 46 10.3		
	baz=207							
SONM	Songino Array	67.44	327	P	P	02 22 45.4		+1.2
	0.5nm,0.5s,baz=138,slow=5.3,SNR=5.2							
MKAR	Makanchi Array	81.54	319	P	P	02 24 05.3		-0.2
	0.3nm,0.6s,baz=96,slow=5.4,SNR=3.5							
KURBB	Kurchatov Arra	84.98	322	P	P	02 24 22.5		-0.5
	0.3nm,0.4s,baz=104,slow=3.9,SNR=3.8							
TORD	Torodi Ar. Bea	151.67	288	PKPbc	PKPbc	02 31 41.5		-0.8
	0.5nm,1.0s,baz=63,slow=1.6,SNR=3.6							

NIED ***03*** *02:12:00,22°.70N×122°.40E,h5km,Mw3.8 Best double couple: M₀5.03000×10¹⁴ NP1:φ₁133.00000°,δ38.00000°, λ-38.00000°. NP2:φ₂254.00000°,δ68.00000°, λ-122.00000°.*
JMA ***03*** *02:12:12.0±0.2,22°.73N×122°.45E,h42km,M3.7*
TAP ***03*** *02:12:13.3,22°.71N×122°.39E,h48km,ML4.2,D*

ISC 03 02:12:09.8±1.7, 22.72N±0°.03×122.49E±0°.03, h13km±13km, n96, σ1§14/174, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
TWH	Lutao	0.93	270	P	P	Pb	02 12 28.2	+0.4
	baz=275							
TWH				eS		Sb	02 12 39.0	-1.2
	baz=275							
LAY	Lan-yu	1.10	232	eP	P	Pn	02 12 31.1	+0.1
	baz=234							
LAY				eS		Sb	02 12 43.5	-1.4
	baz=234							
CHKT	Chengkung	1.10	291	P	P	Pb	02 12 30.7	-0.1
	baz=300							
CHKT				eS		Sb	02 12 43.2	-1.8
	baz=300							
FULB	Fuli	1.20	294	P	P	Pn	02 12 32.1	-0.2
	baz=297							
FULB				S		Sb	02 12 46.3	-1.6
	baz=297							
TTN	Taitung	1.24	272	eS		Sb	02 12 48.5	-0.4
	baz=280							
TWF1	Yuli	1.27	300	eP	P	Pn	02 12 33.4	+0.2
	baz=312							
TWF1				eS		Sb	02 12 48.2	-1.6
	baz=312							
TWG	Pinlang	1.31	275	P	P	Pb	02 12 34.6	+0.3
	baz=283							
TWG				eS		Sn	02 12 49.2	-2.0
	baz=283							
EHY	Hungye	1.33	307	eP	P	Pn	02 12 34.3	+0.2
	baz=318							
EHY				eS		Sn	02 12 50.5	-1.2
	baz=318							
EGFH	Guangfu	1.36	314	eP	P	Pb	02 12 35.2	0.0
	baz=325							
EGFH				eS		Sn	02 12 50.6	-1.8
	baz=325							
ECL	Taimali	1.42	266	eP	P	Pn	02 12 35.8	+0.5
	baz=278							
ECL				eS		Sn	02 12 52.2	-1.7
	baz=278							
ELDTW	Lidau	1.43	289	P	P	Pn	02 12 35.8	+0.2
	baz=293							
ELDTW				eS		Sn	02 12 52.1	-2.3
	baz=293							
ENLB	Shoufeng	1.44	326	eP	P	Pb	02 12 36.5	+0.1
	baz=330							
ENLB				eS		Sn	02 12 53.4	-1.0
	baz=330							
ESL	Shilin	1.46	319	eP	P	Pn	02 12 36.3	+0.4
	baz=331							
ESL				eS		Sn	02 12 52.5	-2.5
	baz=331							
HWA	Hwalien	1.50	327	eS		Sn	02 12 54.6	-1.2
	baz=332							
TAW	Tawu	1.51	257	eP	P	Pb	02 12 37.7	-0.1
	baz=267							
TAW				eS		Sn	02 12 55.4	-0.8
	baz=267							
EAST	Anshuo	1.55	258	eP	P	Pb	02 12 38.2	-0.3
	baz=268							
EAST				eS		Sn	02 12 55.8	-1.4
	baz=268							
TWD	Chiawan	1.59	329	eP	P	Pn	02 12 38.0	+0.4
	baz=334							
TWD				eS		Sn	02 12 55.6	-2.4
	baz=334							
STYT	Tauyuan	1.66	286	eP	P	Pb	02 12 39.7	-0.5
	baz=281							
STYT				eS		Sn	02 12 58.9	-0.9
	baz=281							
TSEB	Hengchuen, Pin	1.68	241	eP	P	Pb	02 12 41.2	+0.6
	baz=240							
TSEB				eS		Sn	02 13 00.6	+0.4
	baz=240							
SSD	Sandimen	1.71	271	eP	P	Pn	02 12 40.2	+0.9
	baz=278							
SSD				eS		Sn	02 12 58.2	-3.0
	baz=278							
SLGT	Liugui	1.72	280	eP	P	Pb	02 12 41.2	-0.1
	baz=281							
SLGT				eS		Sn	02 13 01.3	0.0
	baz=281							
OWD	Renai	1.72	316	eP	P	Pn	02 12 40.6	+0.9
	baz=320							
OWD				S		Sn	02 12 59.7	-2.0
	baz=320							
ALS	Alishan	1.74	297	eP	P	Pb	02 12 41.8	0.0
	baz=308							
ALS				eS		Sn	02 13 02.4	+0.2
	baz=308							
SCZT	Fangliau	1.76	259	eP	P	Pb	02 12 41.6	-0.3
	baz=265							
SCZT				eS		Sn	02 13 01.2	-1.1
	baz=265							
HEN	Hengchun	1.77	247	eP	P	Pb	02 12 41.8	-0.2
	baz=237							
HEN				eS		Sn	02 13 00.9	-1.5
	baz=237							
JYNG	Yonagunijimaku	1.78	14	P	P	Pn	02 12 41.3	+1.0
JYNG				eS		Sn	02 13 02.3	-0.5
SSPT	Xinbi	1.79	263	eP	P	Pb	02 12 43.1	+0.6
	baz=267							
SSPT				eS		Sn	02 13 01.7	-1.3
	baz=267							
SGST	Jiashian	1.79	282	eP	P	Pb	02 12 42.9	+0.4
	baz=284							
SGST				eS		Sn	02 13 03.7	+0.5
	baz=284							
HATJ	Hateruma jima	1.80	42	P	P	Pn	02 12 41.9	+1.3
HATJ				S		Sn	02 13 02.5	-0.9
YOJ	Yonaguni jima	1.80	15	P	P	Pn	02 12 42.2	+1.6
YOJ				eS		Sn	02 13 03.6	+0.2
WTP	Ta-pu	1.81	287	eP	P	Pb	02 12 43.2	+0.5

baz=291
WTP eS Sb 02 13 05.0 -0.3
baz=291
WHF Hehuan Shan 1.81 322 eP Pn 02 12 41.7 +0.6
baz=326
WHF eS Sn 02 13 02.4 -1.9
baz=326
ENAH Nanao 1.83 340 eP Pn 02 12 42.1 +1.1
baz=336
ENAH eS Sn 02 13 03.5 -0.6
baz=336
ENA Nanau 1.84 338 eP Pn 02 12 42.1 +1.0
baz=342
ENA eS Sn 02 13 03.6 -0.6
baz=342
CHN4 Tsaushan 1.85 290 P Pb 02 12 43.9 +0.3
baz=302
CHN4 eS Sb 02 13 05.8 -1.0
baz=302
CHN1 Nanshi 1.86 285 eP Pb 02 12 44.3 +0.5
baz=288
CHN1 eS Sb 02 13 06.7 -0.4
baz=288
SMLT Sun Moon Lake 1.86 309 eP Pb 02 12 43.3 -0.5
baz=313
SMLT eS Sn 02 13 04.2 -0.9
baz=313
CHN5 Tsauling 1.88 298 eP Pb 02 12 44.5 +0.4
baz=307
CHN5 eS Sb 02 13 06.9 -0.7
baz=307
TWM1 Shoushan 1.91 274 eP Pg 02 12 46.1 -0.3
baz=277
TWM1 eS Sb 02 13 07.3 -0.9
baz=277
TYC Yuchr 1.91 309 eP Pb 02 12 44.0 -0.5
baz=313
TYC eS Sn 02 13 05.8 -0.2
baz=313
TWK Hsinying 1.92 287 eP Pb 02 12 45.0 +0.2
baz=302
TWK eS Sb 02 13 08.6 -0.2
baz=302
DPDB Guoxing 1.94 313 eP Pb 02 12 44.6 -0.6
baz=325
DPDB eS Sn 02 13 06.2 -0.7
baz=325
TWT Tachien 1.95 322 eP Pb 02 12 44.6 -0.7
baz=326
TWT S Sn 02 13 06.3 -0.9
baz=326
WJS Zhushan 1.96 305 eP Pb 02 12 45.9 +0.5
baz=314
WJS S Sb 02 13 08.9 -0.8
baz=314
TWC Suao 1.97 343 eP Pn 02 12 44.4 +1.4
baz=356
TWC eS Sn 02 13 07.1 -0.5
baz=356
IRIF Iriomote-Funau 1.98 35 P Pn 02 12 44.3 +1.3
IRIF S Sn 02 13 07.3 -0.3
WLCH Liuqiu 1.98 260 eP Pg 02 12 47.6 -0.2
baz=259
WLCH eS Sb 02 13 11.0 +0.6
baz=259
NNSH Datong 1.98 330 eP Pn 02 12 44.4 +1.1
baz=333
NNSH S Sn 02 13 06.7 -1.3
baz=333
CHN3 Shinhua 1.99 281 eP Pb 02 12 47.4 +1.5
baz=283
CHN3 eS Sb 02 13 12.2 +1.7
baz=283
NNS Nan Shan 2.00 329 eP Pn 02 12 44.8 +1.4
baz=334
NNS eS Sn 02 13 07.4 -1.0
baz=334
TWP Hsiaoliuchiu 2.00 260 eS Sb 02 13 11.1 +0.3
baz=259
WGK Gukeng 2.02 299 eS Sb 02 13 11.1 -0.3
baz=313
WNT Mingjian 2.02 305 eP Pb 02 12 46.4 -0.1
baz=310
WNT eS Sb 02 13 10.9 -0.6
baz=310
CHN2 Minshiung 2.02 294 eS Sb 02 13 11.6 +0.1
baz=298
WDLH Douliu 2.04 299 eP Pb 02 12 47.3 +0.6
baz=313
WDLH eS Sb 02 13 11.3 -0.7
baz=313
CHY Chiayi 2.05 293 eP Pb 02 12 47.5 +0.5
baz=297
CHY eS Sb 02 13 11.6 -0.8
baz=297
WSSB Gushan 2.06 268 eP Pb 02 12 48.1 +1.1
baz=268
WSSB eS Sb 02 13 13.9 +1.4
baz=268
JKRS Kuro-shima 2.06 42 P Pn 02 12 45.7 +1.5
JKRS S Sn 02 13 09.2 -0.6
ENTT Nioudou 2.09 336 P Pn 02 12 46.1 +1.5
baz=340
ENTT S Sn 02 13 10.2 -0.4
baz=340
TWE Neicheng 2.13 340 P Pn 02 12 47.0 +1.8
baz=343
TWE eS Sn 02 13 11.3 -0.2
baz=343
ILA Ilan 2.15 342 eS Sn 02 13 13.1 +1.1
baz=354
WLGB Puzi 2.15 291 eP Pb 02 12 48.5 -0.2
baz=295
WLGB eS Sb 02 13 14.5 -0.7
baz=295
EGS 2.18 347 eP Pn 02 12 47.9 +2.0
baz=350
EGS eS Sn 02 13 12.6 -0.1
baz=350
CHN8 Yiju 2.19 287 eS Sb 02 13 16.2 -0.1
baz=302
TCU Taichung 2.19 311 eP Pb 02 12 49.6 +0.3
baz=315
TCU eS Sb 02 13 16.1 -0.3
baz=315
NTC Toucheng 2.21 344 P Pb 02 12 48.5 -1.2
baz=355
NTC S Sn 02 13 13.5 0.0
baz=355
WCHH Zhanghua 2.23 308 eP Pb 02 12 49.8 -0.2
baz=321
WCHH eS Sb 02 13 16.6 -1.0
baz=321
JIJ Ishigaki jima 2.24 42 P Pn 02 12 47.5 +0.9
JIJ S Sn 02 13 12.6 -1.5
NWLT Wulai 2.24 336 eP Pn 02 12 48.5 +1.8
baz=332
NWLT eS Sn 02 13 14.5 +0.2
baz=332
TWQ1 Liyutan 2.26 316 eP Pb 02 12 50.4 -0.2
baz=321
TWQ1 eS Sn 02 13 16.2 +1.4
baz=321
WSF Szhu 2.28 294 eS Sn 02 13 16.8 +1.7
baz=299
NSY Sanyi 2.32 317 eS Sb 02 13 19.1 -1.0
baz=322
TIPB Shuangxi 2.33 345 P Pn 02 12 49.1 +1.3
baz=356
TIPB S Sn 02 13 15.8 -0.6
baz=356
TWB1 Santiao Chiao 2.33 349 eP Pn 02 12 49.6 +1.7
baz=352
TWB1 eS Sn 02 13 15.7 -0.6
baz=352
WTCT Ta-ch'eng 2.33 300 eS Sn 02 13 18.1 +1.7
baz=304
NSTT Nanjuang 2.34 325 eP Pb 02 12 51.6 -0.4
baz=336
NSTT eS Sn 02 13 17.3 +0.6
baz=336
LIOB Emei 2.35 325 eP Pb 02 12 51.4 -0.6
baz=337
LIOB eS Sn 02 13 16.6 -0.3
baz=337
PTSB Yuanli 2.38 317 eS Sn 02 13 19.2 +1.7
baz=321
NMLH Miaoli 2.39 320 eS Sn 02 13 19.9 +2.1
baz=335
TWA Mucha 2.40 340 eP Pb 02 12 52.0 -1.0
baz=335
TWA eS Sn 02 13 19.2 +1.0
baz=335
WLTB Daxi 2.41 332 eS Sn 02 13 19.0 +0.6
baz=336
NWF Wu-fen Shan 2.43 345 eP Pn 02 12 51.7 +2.4
baz=348
NWF eS Sn 02 13 19.7 +0.6
baz=348
HSN Hsinchu 2.50 327 eS Sb 02 13 23.1 -2.2
baz=339
JISG Ishigakijimahi 2.50 42 P Pn 02 12 51.4 +1.1
JISG S Sn 02 13 19.9 -0.8
NCUH Zhongli 2.54 332 eP Pb 02 12 53.5 -1.7
baz=337
NCUH eS Sn 02 13 23.4 +1.8
baz=337
NCU National Centr 2.54 332 eS Sn 02 13 23.7 +2.1
baz=337
TWS1 Kuangyinshan 2.57 338 eP Pb 02 12 54.2 -1.6
baz=342
TWS1 eS Sn 02 13 24.0 +1.7
baz=342
YM10 YM10 2.57 341 eP Pn 02 12 53.7 +2.4
baz=355
YM10 eS Sn 02 13 23.5 +1.0
baz=355
NTST Danshui 2.62 339 eS Sn 02 13 24.7 +1.2
baz=352
WDGT Dungji 2.66 282 eP Pn 02 12 55.0 +2.5
baz=285
WDGT eS Sn 02 13 24.9 +0.3
baz=285
TWY Chenhua 2.67 343 eP Pn 02 12 55.0 +2.3
baz=346
TWY eS Sn 02 13 25.6 +0.7
baz=346
JTJ Tarama 2.79 46 P Pn 02 12 55.7 +1.5
JTJ S Sn 02 13 27.0 -0.8
PNG Penghu 2.83 288 eP Pn 02 12 56.9 +2.2
baz=293
PNG eS Sn 02 13 28.4 -0.3
baz=293
JIRB Irabujima 3.24 49 eS Sn 02 13 37.5 -1.3
JIKM Ikemajima 3.35 48 P Pn 02 13 03.3 +1.4
JIKM S Sn 02 13 40.9 -0.7
JOGS Gusukube 3.36 52 S Sn 02 13 42.2 +0.3

MEX 03 02:15:28.9±0.5, 16°.44N×98°.56W, h20km, MD3.7, 1C, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.41**	**96**		eP	Pb	02 15 36.3	-1.2
PNIG					*i* S	Sb	02 15 41.6	-1.9
TLIG	**Tlapa**	**1.12**	**360**		eP	Pn	02 15 46.1	-3.5
TLIG					eS	Sb	02 15 59.9	-3.9
CAIG	**El Cayaco**	**1.75**	**290**		eP	Pn	02 15 56.2	-1.9
CAIG					eS	Sn	02 16 16.2	-3.5
VHO	**Vista Hermosa**	**1.86**	**70**		eP	Pn	02 15 57.6	-2.2
VHO					*i* S	Sn	02 16 19.1	-3.7

*ISCJB **03** 02:32:31.9±1.0, 25°.4S±0°.2×179°.0E±0°.2, h550km, mb3.7/6, Error ellipse: s-maj=25.1km s-min=18.8km az=152.0*
*IDC **03** 02:32:31.3±3.9, 25°.31S×179°.17E, h536km±41km, mb3.2/6, mb1 3.4/8, mb1mx3.2/42, mbtmp4.1/8, Error ellipse: s-maj=28.9km s-min=25.6km az=22.0*

ISC 03 02:32:32.5±1.0, 25°.3S±0°.2×179°.1E±0°.2, h550km, n17, σ0s86/15, mb3.9/6, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**12.00**	**283**		P	**P**	**02 35 10.3**	**-0.9**
	0.4nm,0.3s,baz=106,slow=18,SNR=4.6							
RPZ	**Rata Peaks**	**19.51**	**198**		P	**P**	**02 36 23.5**	**-0.5**
	0.3nm,0.3s,baz=27,slow=9.0,SNR=2.5							
CTA	**Charters Tower**	**30.67**	**273**		P	**P**	**02 38 03.9**	**+1.0**
	3.4nm,0.3s,baz=97,slow=10,SNR=10							
STKA	**Stephens Creek**	**33.44**	**250**		P	**P**	**02 38 26.6**	**+0.4**
	1.9nm,0.4s,baz=92,slow=10.0,SNR=4.8							
ASAR	**Alice Springs**	**40.99**	**262**		P	**P**	**02 39 28.4**	**+0.1**
	2.9nm,0.7s,baz=100,slow=8.1,SNR=28							
WRA	**Warramunga Arr**	**41.49**	**268**		P	**P**	**02 39 31.9**	**-0.3**
	2.3nm,0.6s,baz=103,slow=8.1,SNR=48							
NVAR	**Mina Array Bea**	**86.34**	**44**		P	**P**	**02 44 17.0**	**+0.2**
	0.2nm,0.5s,baz=226,slow=7.3,SNR=2.4							
ILAR	**Eielson Array**	**93.58**	**14**		P	**P**	**02 44 50.0**	**+0.6**
	0.2nm,0.9s,baz=216,slow=10.0,SNR=2.8							
KURBB	**Kurchatov Arra**	**115.66**	**316**		PKP	**PKPdf**	**02 50 13.5**	**+1.3**
	0.3nm,0.2s,baz=33,slow=2.2,SNR=1.9							
NB2	**NORSAR Subarra**	**143.31**	**350**		PKP	PKPbc	02 51 01.8	-0.6
	comp=Z,1.3nm,0.6s,baz=20,slow=3.8							
NOA	**NORSAR Array B**	**143.31**	**350**		PKP	PKPbc	02 51 01.9	-0.5
	comp=Z,1.7nm,0.7s,baz=21,slow=3.8,SNR=7.1							
HFS	**Hagfors**	**143.73**	**348**		PKP	**PKPdf**	**02 51 03.3**	**-1.3**
	comp=Z,1.7nm,0.4s,baz=25,slow=3.8,SNR=14							
AKASG	**Malin Array Be**	**145.66**	**326**		PKPbc	**PKPbc**	**02 51 08.8**	**-1.0**
	comp=Z,0.8nm,0.4s,baz=45,slow=4.3,SNR=7.0							
MMAI	**Mount Meron Ar**	**147.47**	**292**		PKPbc	**PKPbc**	**02 51 16.2**	**+0.8**
	comp=Z,0.3nm,0.2s,baz=40,slow=5.6,SNR=3.6							
BRTR	**Keskin Array B**	**147.71**	**305**		PKPbc	**PKPbc**	**02 51 15.8**	**-0.1**
	comp=Z,0.1nm,0.4s,baz=349,slow=3.4,SNR=2.9							
EKA	**Eskdalemuir Ar**	**149.95**	**3**		PKPbc	**PKPbc**	**02 51 19.7**	**-0.9**
	comp=Z,0.7nm,0.6s,baz=350,slow=3.6,SNR=3.0							
MLR	**Muntele Rosu**	**150.46**	**320**		PKPbc	**PKPbc**	**02 51 22.2**	**-0.1**
	baz=342,slow=3.2							

IDC 03 02:32:40.0±10.0, 4°.33S×153°.41E, h134km±68km, mb3.2/2, mb1 3.5/3, mb1mx3.1/47, mbtmp3.8/3, Error ellipse: s-maj=141.0km s-min=61.2km az=121.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.99**	**231**		P	Pn	02 34 33.7	+0.3
	1.7nm,0.3s,baz=46,slow=5.3,SNR=4.7							
PMG					S	Sn	02 36 02.6	+0.2
	0.7nm,0.3s,baz=308,slow=19,SNR=5.3							
WRA	**Warramunga Arr**	**24.20**	**229**		P	P	02 37 44.9	+0.5
	2.1nm,0.7s,baz=53,slow=9.9,SNR=29							
ASAR	**Alice Springs**	**26.90**	**223**		P	P	02 38 08.2	-0.5
	0.2nm,0.4s,baz=56,slow=8.4,SNR=3.7							
TORD	**Torodi Ar. Bea**	**150.73**	**289**		PKPbc	PKPbc	02 52 17.1	-0.4
	0.8nm,1.0s,baz=65,slow=3.4,SNR=3.8							

*IDC **03** 02:39:44.1±1.7, 6°.06S×146°.59E, h25km±10km, mb4.4/28, mb1 4.5/30, mb1mx4.4/48, mbtmp4.6/30, ML4.6/1, MS3.7/16, Ms1 3.7/16, ms1mx3.5/44, Error ellipse: s-maj=14.1km s-min=8.5km az=92.0*
*ISCJB **03** 02:39:45.7±0.2, 6°.11S±0°.02×146°.51E±0°.04, h52km, mb4.7/57, MS3.7/12, Error ellipse: s-maj=5.8km s-min=3.5km az=8.4*
*NEIC **03** 02:39:48.0±1.1, 6°.08S×146°.55E, h60km±10km, mb4.8/37, Error ellipse: s-maj=7.5km s-min=5.7km az=67.0*
*DJA **03** 02:39:51.6±1.5, 6°.S±11°.×14°.7E±1°.1, h87km±10km, M5.1/12, mb4.9/12, mB5.6/4, MLv5.2/1, Mw(mB)5.1/4*

ISC 03 02:39:47.7±0.4, 6°.14S±0°.04×146°.50E±0°.06, h52km, n145, σ1s61/142, mb4.7/56, MS3.7/12, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.31**	**169**		Pn	**Pn**	**02 40 37.2**	**+0.1**
	30nm,0.3s,baz=349,slow=6.8,SNR=65							
PMG					Sn	**Sn**	**02 41 15.8**	**+0.6**
	119nm,0.3s,baz=159,slow=17,SNR=3.9							
PMG					Lg	Lg	02 41 32.3	
	158nm,0.3s,baz=340,slow=18,SNR=9.9							
PMG					LR	LR	02 42 15.5	
	comp=Z,3μm,18.7s,baz=336,slow=45							
MANU	**Manus Island**	**4.16**	**12**		ePn	**Pn**	**02 40 49.7**	**+1.0**
RABL	**Rabaul**	**5.96**	**71**		ePn	**Pn**	**02 41 14.3**	**+0.8**
COEN	**Coen**	**8.43**	**203**		P	**Pn**	**02 41 48.1**	**+0.8**
	baz=8.4,SNR=595							
COEN	**Coen**	**8.43**	**203**		ePn	**Pn**	**02 41 48.3**	**+1.0**
COEN					eSn	**Sn**	**02 43 19.0**	**-2.2**
MTSU	**Mount Surprise**	**12.11**	**190**		P	**Pn**	**02 42 38.1**	**+0.5**
	baz=12,SNR=8.8							
CTA	**Charters Tower**	**13.87**	**181**		Pn	**Pn**	**02 43 03.4**	**+1.7**
	1.7nm,0.3s,baz=360,slow=14,SNR=18							
CTA					Sn	**Sn**	**02 45 37.1**	**+3.0**
	0.3nm,0.3s,baz=285,slow=20,SNR=2.3							
CTA					LR	LR	02 47 54.8	
	comp=Z,388nm,19.6s,baz=347,slow=35							
CTAO	**Charters Tower**	**13.87**	**181**		ePn	**Pn**	**02 43 03.4**	**+1.7**
FAKI	**Fak Fak**	**14.56**	**282**		P	**P**	**02 43 17.1**	**+0.9**
FAKI	**Fak Fak**	**14.56**	**282**		ePn	**Pn**	**02 43 10.6**	**-0.3**
QIS	**Mount Isa**	**15.82**	**204**		P	**Pn**	**02 43 28.5**	**+1.4**
	baz=16,SNR=11							
SWI	**Sorong**	**16.09**	**288**		P	**P**	**02 43 34.3**	**+1.2**
MTN	**Manton Dam**	**16.55**	**245**		P	**Pn**	**02 43 37.3**	**+0.8**
	baz=17,SNR=24							
MTN	**Manton Dam**	**16.55**	**245**		ePn	**P**	**02 43 37.7**	**-0.5**
	45nm,0.6s							
WB2	**Warramunga Arr**	**18.10**	**220**		eP	**Pn**	**02 43 55.6**	**+0.1**
	26nm,0.8s							
WR1	**Warramunga Arr**	**18.11**	**220**		eP	**P**	**02 43 55.5**	**+0.1**
	26nm,0.9s							
WR1					eSn	**Sn**	**02 47 10.9**	**-6.2**
WRA	**Warramunga Arr**	**18.11**	**220**		P	**P**	**02 43 55.5**	**+0.1**
	2.2nm,0.3s,baz=41,slow=11,SNR=120							
WRA					S	**Sn**	**02 47 10.9**	**-6.2**
	0.1nm,0.3s,baz=36,slow=23,SNR=2.8							
WRA					LR	LR	02 51 56.3	
	comp=Z,395nm,19.0s,baz=30,slow=40							
WRA					ScP	**ScP**	**02 52 01.5**	**+2.6**
	0.1nm,0.3s,baz=42,slow=2.6,SNR=12							
NLAI	**Namlea**	**19.55**	**278**		P	**Pn**	**02 44 13.9**	**+0.9**
EIDS	**Eidsvold**	**19.62**	**168**		P	**P**	**02 44 12.4**	**+0.5**
	baz=20,SNR=6.4							
EIDS	**Eidsvold**	**19.62**	**168**		eP	**P**	**02 44 12.7**	**+0.7**
	15nm,0.8s							
GUMO	**Guam**	**19.67**	**355**		LR	LR	02 50 54.6	
	comp=Z,121nm,18.8s,baz=118,slow=34							
KNRA	**Kununurra**	**19.81**	**240**		P	**P**	**02 44 13.6**	**-0.6**
	baz=20,SNR=5.4							
RMQ	**Roma**	**20.35**	**174**		P	Pn	02 44 21.9	-0.5
	baz=20,SNR=6.3							
QLP	**Quilpie**	**20.45**	**186**		P	**P**	**02 44 21.7**	**+0.8**
	baz=20,SNR=27							
SANI	**Sanana**	**20.86**	**280**		P	Pn	02 44 29.7	+1.2
AS01	**Alice Springs**	**21.20**	**213**		eP	**P**	**02 44 28.2**	**-0.9**
AS31	**Alice Springs**	**21.23**	**214**		eP	**P**	**02 44 30.9**	**+1.4**
	7.1nm,0.8s							
AS31					eS	**S**	**02 48 26.6**	**+3.9**
AS31					eScP	**ScP**	**02 52 09.3**	**+3.3**
ASAR	**Alice Springs**	**21.23**	**214**		P	**P**	**02 44 29.9**	**+0.5**
	20nm,1.0s,baz=52,slow=8.8,SNR=99							
ASAR					S	**S**	**02 48 26.6**	**+3.9**
	1.0nm,0.8s,baz=30,slow=23,SNR=4.1							
ASAR					ScP	**ScP**	**02 52 09.3**	**+3.3**
	2.5nm,0.8s,baz=41,slow=3.3,SNR=8.5							
ASAR					LR	LR	02 53 55.0	
	comp=Z,470nm,20.5s,baz=32,slow=40							
SOEI	**Soe**	**22.31**	**259**		eP	**P**	**02 44 41.4**	**+0.1**
	73nm,0.8s							
BATI	**Baumata**	**22.96**	**258**		P	**P**	**02 44 49.3**	**+1.3**
	11nm,0.3s,baz=135,slow=8.6,SNR=3.5							
BATI					LR	LR	02 56 01.2	
	comp=Z,234nm,21.7s,baz=86,slow=42							
FITZ	**Fitzroy Crossi**	**23.57**	**238**		P	**P**	**02 44 54.0**	**+0.2**
	53nm,0.8s,baz=38,slow=3.6							
FITZ	**Fitzroy Crossi**	**23.57**	**238**		P	**P**	**02 44 52.1**	**-1.7**
	baz=24							
LUWI	**Luwuk**	**24.21**	**281**		P	**P**	**02 44 58.2**	**-1.6**
LUWI	**Luwuk**	**24.21**	**281**		eP	**P**	**02 44 58.5**	**-1.3**
	105nm,1.3s							
ARMA	**Armidale**	**24.63**	**169**		P	**P**	**02 45 04.0**	**+0.5**
	baz=25,SNR=4.4							
ARMA	**Armidale**	**24.63**	**169**		eP	**P**	**02 45 04.1**	**+0.5**
	45nm,1.7s							
DZM	**Mont Dzumac**	**24.94**	**131**		P	**P**	**02 45 05.2**	**-1.2**
	24nm,1.0s,baz=185,slow=18,SNR=5.8							
DZM	**Mont Dzumac**	**24.94**	**131**		eP	**P**	**02 45 02.4**	**-4.1**
	20nm,0.9s							
CMSA	**Cobar Meteorol**	**25.28**	**182**		P	**P**	**02 45 08.5**	**-0.7**
	baz=25,SNR=14							
WRKA	**Warakurna**	**25.64**	**221**		P	**P**	**02 45 11.5**	**-1.2**
	baz=26,SNR=49							
STKA	**Stephens Creek**	**26.01**	**190**		P	**P**	**02 45 15.6**	**-0.3**
	8.9nm,0.7s,baz=355,slow=9.3,SNR=19							
STKA					LR	LR	02 55 28.7	
	comp=Z,298nm,18.9s,baz=63,slow=36							
STKA	**Stephens Creek**	**26.01**	**190**		P	**P**	**02 45 15.6**	**-0.3**
	baz=26,SNR=7.4							
STKA	**Stephens Creek**	**26.01**	**190**		eP	**P**	**02 45 15.9**	**-0.1**
	2.5nm,0.8s							
HTT	**Hallett**	**28.05**	**194**		P	**P**	**02 45 34.5**	**+0.2**
	baz=28,SNR=7.6							
YNG	**Young**	**28.07**	**177**		P	**P**	**02 45 34.6**	**+0.2**
	baz=28							
BBOO	**Buckleboo**	**28.26**	**199**		P	**P**	**02 45 35.9**	**-0.2**
	baz=28							
BBOO	**Buckleboo**	**28.26**	**199**		eP	**P**	**02 45 35.7**	**-0.4**
	36nm,1.4s							
MBWA	**Marble Bar**	**29.92**	**237**		eP	**P**	**02 45 49.3**	**-1.7**
	7.6nm,0.8s							
ARPS	**Mount Arapiles**	**30.78**	**187**		P	**P**	**02 45 58.7**	**+0.3**
	baz=31							
TOO	**Toolangi**	**31.30**	**182**		P	**P**	**02 46 03.5**	**+0.6**
	baz=31							
JCJ	**Chichijima**	**33.30**	**353**		LR	LR	02 58 33.2	
	comp=Z,66nm,21.1s,baz=110,slow=34							
MEEK	**Meekatharra**	**33.49**	**229**		P	**P**	**02 46 22.7**	**+0.4**
	baz=34,SNR=17							
KMBL	**Kambalda**	**34.08**	**219**		P	**P**	**02 46 27.5**	**+0.1**
	baz=34,SNR=20							
MORW	**Morawa**	**36.71**	**228**		P	**P**	**02 46 50.3**	**+0.3**
	baz=37,SNR=3.5							
BLDU	**Ballidu**	**37.09**	**225**		P	**P**	**02 46 53.1**	**0.0**
	baz=37,SNR=7.1							
JOW	**Kunigami**	**37.23**	**332**		LR	LR	02 59 32.9	
	comp=Z,164nm,21.0s,baz=282,slow=32							
NWAO	**Narrogin (SRO)**	**38.10**	**222**		P	**P**	**02 47 01.6**	**-0.1**
	12nm,0.6s,baz=292,slow=8.2,SNR=8.8							
NWAO	**Narrogin (SRO)**	**38.10**	**222**		P	**P**	**02 47 01.6**	**-0.1**
	baz=38,SNR=7.4							
NWAO					P	**P**	**02 47 01.6**	**-0.1**
	baz=38,SNR=7.4							
NWAO	**Narrogin (SRO)**	**38.10**	**222**		eP	**P**	**02 47 01.0**	**-0.7**
	161nm,1.6s							
YHNB	**Yeheng**	**39.20**	**322**		eP	**P**	**02 47 09.7**	**-1.4**
	102nm,1.7s							
RKGY	**Rocky Gully**	**39.31**	**220**		P	**P**	**02 47 12.8**	**+1.0**
	baz=39							
JNU	**Nakatsue**	**41.77**	**340**		LR	LR	03 02 47.3	
	comp=Z,40nm,18.5s,baz=118,slow=33							
URZ	**Urewera**	**42.33**	**143**		P	**P**	**02 47 36.5**	**-0.1**
	12nm,0.6s,baz=7.1,slow=8.1,SNR=3.2							
THZ	**Tophouse**	**42.54**	**151**		eP	**P**	**02 47 38.5**	**+0.2**
	106nm,1.7s							
BKZ	**Black Stump Fm**	**42.58**	**145**		eP	**P**	**02 47 38.6**	**-0.1**
	52nm,1.4s							
MJAR	**Matsushiro Arr**	**43.16**	**350**		P	**P**	**02 47 42.7**	**-0.7**
	1.2nm,0.6s,baz=172,slow=8.9,SNR=3.7							
MJAR					LR	LR	03 05 18.9	
	comp=Z,48nm,18.6s,baz=210,slow=36							
MAJO	**Matsushiro**	**43.16**	**350**		eP	**P**	**02 47 42.7**	**-0.7**
RPZ	**Rata Peaks**	**43.20**	**154**		P	**P**	**02 47 43.8**	**+0.1**
	6.6nm,0.7s,baz=123,slow=2.1,SNR=6.4							
RPZ	**Rata Peaks**	**43.20**	**154**		eP	**P**	**02 47 43.7**	**+0.1**
	44nm,1.6s							
LBZ	**Lake Benmore**	**43.37**	**155**		eP	**P**	**02 47 45.0**	**0.0**
	37nm,1.6s							
BFZ	**Birch Farm**	**43.48**	**147**		eP	**P**	**02 47 44.7**	**-1.2**
	59nm,1.1s							
KSRS	**Korea Array**	**46.71**	**340**		P	**P**	**02 48 11.3**	**-0.2**
	6.2nm,0.9s,baz=98,slow=19,SNR=4.5							
KSRS					LR	LR	03 05 09.7	
	comp=Z,68nm,19.6s,baz=167,slow=33							
KS15	**Wonju Array Si**	**46.71**	**340**		eP	**P**	**02 48 11.3**	**-0.3**
KSAR	**Wonju Array Be**	**46.71**	**340**		P	**P**	**02 48 11.3**	**-0.3**
CHBT	**CHBT**	**47.74**	**293**		P	P	02 48 24.8	+4.9
	68nm,0.6s,4μm							
SKNT	**Sakolnakorn**	**47.90**	**299**		P	**P**	**02 48 25.7**	**+4.6**
	6.7nm,0.9s							
PSI	**Prapat**	**48.33**	**279**		P	**P**	**02 48 25.1**	**+0.3**
	4.5nm,0.5s,baz=90,slow=2.5							
PSI	**Prapat**	**48.33**	**279**		eP	**P**	**02 48 25.1**	**+0.3**
	15nm,1.1s							
ASAJ	**Asahikawa**	**50.15**	**356**		P	**P**	**02 48 38.6**	**+0.7**
	2.1nm,0.4s,baz=204,slow=20,SNR=2.7							
ASAJ	**Asahikawa**	**50.15**	**356**		eP	**P**	**02 48 38.6**	**+0.7**
	21nm,1.5s							
PHIT	**Phitsanulok**	**51.10**	**298**		P	P	02 48 52.5	+7.0
	5.8nm,0.8s,353nm							
NANT	**Nan**	**51.49**	**300**		P	**P**	**02 48 50.2**	**+1.7**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
	5.8nm,0.6s,82nm						
USRK	**Ussuriysk Ar.**	**51.79**	**347**	P	**P**	**02 48 50.8**	**+0.6**
	3.9nm,0.7s,baz=160,slow=7.2,SNR=5.9						
PAYA	**Payao**	**52.44**	**300**	P	**P**	**02 48 59.3**	**+3.8**
CM31	**Chiang Mai Arr**	**52.88**	**299**	*e*P	**P**	**02 48 59.9**	**+1.0**
CMAR	**Chiang Mai Arr**	**52.88**	**299**	P	**P**	**02 48 59.8**	**+1.0**
	4.8nm,0.6s,baz=120,slow=6.0,SNR=13						
PETK	**Petropavlovsk-**	**59.78**	**8**	P	**P**	**02 49 47.4**	**+0.1**
	3.7nm,0.7s,baz=150,slow=5.4,SNR=7.6						
PETK				LR	LR	03 11 15.7	
	comp=Z,72nm,21.8s,baz=168,slow=32						
PEA1	**Petropavlovsk-**	**59.79**	**8**	*e*P	**P**	**02 49 47.4**	**+0.1**
ULN	**Ulaanbaatar**	**63.99**	**332**	*e*P	**P**	**02 50 18.4**	**+2.5**
	6.9nm,0.8s						
SONA0	**Songino Array**	**64.29**	**331**	*e*P	**P**	**02 50 17.3**	**-0.5**
SONM	**Songino Array**	**64.29**	**331**	P	**P**	**02 50 17.3**	**-0.6**
	2.4nm,0.7s,baz=142,slow=5.5,SNR=16						
YAK	**Yakutsk**	**69.20**	**352**	LR	LR	03 20 15.4	
	comp=Z,39nm,19.3s,baz=102,slow=35						
VNDA	**Vanda**	**71.80**	**177**	P	**P**	**02 51 04.6**	**+0.2**
	5.5nm,0.6s,baz=331,slow=6.8,SNR=44						
VNDA				LR	LR	03 22 04.9	
	comp=Z,61nm,18.1s,baz=318,slow=35						
MK01	**Makanchi Array**	**77.28**	**321**	*e*P	**P**	**02 51 35.8**	**-0.9**
MK32	**Makanchi Array**	**77.29**	**321**	*e*P	**P**	**02 51 36.1**	**-0.6**
MKAR	**Makanchi Array**	**77.29**	**321**	P	**P**	**02 51 36.1**	**-0.6**
	1.6nm,0.6s,baz=99,slow=6.9,SNR=16						
MAKZ	**Makanchi**	**77.49**	**321**	*e*P	**P**	**02 51 37.1**	**-0.8**
	2.4nm,0.8s						
ZALV	**Zalesovo Beam**	**78.87**	**328**	P	**P**	**02 51 43.1**	**-2.1**
	1.5nm,0.5s,baz=114,slow=6.4,SNR=7.2						
ZAA1	**Zalesovo Array**	**78.87**	**328**	*e*P	**P**	**02 51 43.1**	**-2.1**
KDJ	**Kajisay**	**79.04**	**315**	*e*P	**P**	**02 51 49.0**	**+2.3**
	3.9nm,0.9s						
NIL	**Nilore**	**79.61**	**306**	*e*P	**P**	**02 51 51.5**	**+1.7**
	6.8nm,0.8s						
KDAK	**Kodiak Island**	**80.26**	**28**	LR	LR	03 21 00.3	
	comp=Z,97nm,19.9s,baz=142,slow=31						
KURK	**Kurchatov**	**81.03**	**323**	*e*P	**P**	**02 51 55.8**	**-1.2**
KURBB	**Kurchatov Arra**	**81.05**	**323**	P	**P**	**02 51 55.8**	**-1.3**
	1.0nm,0.8s,baz=117,slow=4.0,SNR=5.2						
MAW	**Mawson**	**81.93**	**203**	P	**P**	**02 52 01.3**	**-0.1**
	4.2nm,0.7s,baz=73,slow=1.2,SNR=4.8						
IM3	**Indian Mountai**	**83.79**	**21**	*e*P	**P**	**02 52 09.8**	**-1.3**
QSPA	**South Pole Qui**	**83.83**	**180**	P	**P**	**02 52 10.6**	**-0.9**
	5.5nm,0.6s,baz=351,slow=4.2,SNR=14						
QSPA	**South Pole Qui**	**83.83**	**180**	*e*P	**P**	**02 52 10.8**	**-0.7**
SML	**Sawmill**	**83.98**	**26**	*e*P	**P**	**02 52 11.3**	**-0.9**
	16nm,1.2s						
MLY	**Manley**	**84.43**	**22**	*e*P	**P**	**02 52 13.3**	**-1.1**
	12nm,1.3s						
RND	**Reindeer**	**84.45**	**24**	*e*P	**P**	**02 52 13.0**	**-1.6**
	5.8nm,0.7s						
DHY	**Denali Highway**	**84.92**	**25**	*e*P	**P**	**02 52 16.2**	**-0.9**
	7.7nm,1.2s						
WRH	**Wood River Hil**	**85.21**	**23**	*e*P	**P**	**02 52 16.5**	**-1.7**
	6.3nm,0.9s						
CCB	**Clear Creek Bu**	**85.39**	**23**	*e*P	**P**	**02 52 16.9**	**-2.2**
	5.5nm,0.8s						
COLD	**Coldfoot**	**85.64**	**20**	*e*P	**P**	**02 52 21.7**	**+1.4**
	8.1nm,1.4s						
IL1	**Eielson Array**	**85.80**	**23**	*e*P	**P**	**02 52 18.1**	**-3.1**
ILAR	**Eielson Array**	**85.80**	**23**	P	**P**	**02 52 18.6**	**-2.7**
	2.9nm,0.5s,baz=252,slow=4.9,SNR=73						
ILB	**Eielson Array**	**85.80**	**23**	*e*P	**P**	**02 52 18.6**	**-2.7**
DOT	**Dot Lake**	**86.51**	**25**	*e*P	**P**	**02 52 24.0**	**-0.8**
	55nm,1.6s						
BVAR	**Borovoye Array**	**86.59**	**324**	P	**P**	**02 52 23.4**	**-2.0**
	0.8nm,0.4s,baz=122,slow=7.1,SNR=3.8						
EGAK	**Eagle**	**88.09**	**24**	*e*P	**P**	**02 52 31.8**	**-0.6**
	14nm,1.4s						
DAWY	**Dawson**	**88.61**	**25**	*e*P	**P**	**02 52 34.3**	**-0.6**
	7.6nm,1.1s						
YBH	**Yreka Blue Hor**	**94.63**	**49**	P	**P**	**02 53 04.0**	**+0.6**
	2.5nm,0.9s,baz=243,slow=9.0,SNR=4.3						
OPO	**Ambohidratompo**	**96.84**	**251**	P	**P**	**02 53 12.7**	**-1.4**
	2.8nm,0.8s,baz=100,slow=6.1,SNR=3.6						
SBI	**Santa Barbara**	**97.07**	**57**	*e*P	**P**	**02 53 11.5**	**-3.0**
NV01	**Mina Array Sit**	**97.84**	**52**	*e*P	**P**	**02 53 16.6**	**-1.7**
NVAR	**Mina Array Bea**	**97.84**	**52**	P	**P**	**02 53 16.5**	**-1.7**
	0.6nm,0.7s,baz=264,slow=5.3,SNR=2.3						
DPP	**Dos Picos Cty**	**98.80**	**58**	*e*P	Pdif	02 53 24.6	+2.2
YKA	**Yellowknife Ar**	**99.52**	**28**	P	**Pdif**	**02 53 23.4**	**-1.4**
	0.8nm,1.0s,baz=274,slow=4.5,SNR=9.2						
YKA				PKKP	**PKKPdf**	**03 09 52.7**	**-1.1**
	0.3nm,0.9s,baz=105,slow=2.8,SNR=4.5						
YKB5	**Yellowknife Ar**	**99.52**	**28**	*e*P	**Pdif**	**02 53 23.4**	**-1.4**
ARCES	**ARCESS Array B**	**106.23**	**342**	PKKPbc	PKKPbc	03 09 32.0	+1.9
	3.1nm,0.9s,baz=264,slow=3.6,SNR=4.2						
TXAR	**Lajitas Array**	**110.26**	**61**	PKKP	**PKKPdf**	**03 09 34.6**	**+1.4**
	0.1nm,0.6s,baz=108,slow=8.0,SNR=4.9						
GERES	**GERESS Array B**	**121.74**	**325**	PKP	**PKPdf**	**02 58 34.3**	**-1.8**
	0.2nm,0.4s,baz=35,slow=3.6,SNR=2.5						
PLCA	**Paso Flores**	**122.28**	**147**	PKP	**PKPdf**	**02 58 38.0**	**+0.6**
	2.0nm,0.8s,baz=290,slow=3.0,SNR=7.1						
LPAZ	**La Paz**	**139.12**	**123**	PKhKP	PKPpre	02 59 03.6	
	0.8nm,0.7s,baz=164,slow=2.2,SNR=2.7						
LPAZ				PKP	**PKPdf**	**02 59 11.5**	**+1.0**
	1.8nm,0.8s,baz=34,slow=3.5,SNR=5.5						
LPAZ				SKP		03 02 43.3	
	2.7nm,0.9s,baz=1.8,slow=1.9,SNR=5.4						
ROSC	**El Rosal**	**139.35**	**90**	PKhKP	PKPpre	02 59 03.0	
	3.6nm,0.5s,baz=249,slow=8.6,SNR=2.4						
ROSC				PKP	**PKPdf**	**02 59 10.8**	**0.0**
	4.6nm,0.4s,baz=72,slow=6.4,SNR=3.3						
CPUP	**Villa Florida**	**140.30**	**145**	PKP	**PKPdf**	**02 59 11.9**	**+0.3**
	1.5nm,0.8s,baz=154,slow=0.7,SNR=5.1						
CPUP				SKP		03 02 45.4	
	1.4nm,0.9s,baz=258,slow=5.8,SNR=2.9						
TOA0	**Torodi Ar. Sit**	**144.65**	**284**	*e*PKPdf	PKPbc	02 59 18.6	0.0
TORD	**Torodi Ar. Bea**	**144.65**	**284**	PKP	PKPbc	02 59 18.5	0.0
	11nm,1.0s,baz=69,slow=3.1,SNR=65						
TOA1	**Torodi Ar. Sit**	**144.65**	**284**	*e*PKPdf	PKPbc	02 59 18.5	0.0
KOWA	**Kowa**	**149.86**	**288**	PKPbc	**PKPbc**	**02 59 32.7**	**-0.5**
	3.8nm,0.6s,baz=54,slow=3.6,SNR=21						
KIC	**Kosan Boka**	**151.42**	**272**	*e*PKP1	**PKPbc**	**02 59 37.0**	**+0.1**
	11nm,0.7s						
DBIC	**Dimbokro**	**151.53**	**273**	PKPbc	**PKPbc**	**02 59 37.3**	**+0.1**
	6.1nm,0.6s,baz=82,slow=2.4,SNR=15						
LIC	**Lamto**	**151.70**	**272**	*e*PKP1	**PKPbc**	**02 59 37.6**	**0.0**
	55nm,1.3s						
TIC	**Toumodi**	**151.70**	**273**	*e*PKP1	**PKPbc**	**02 59 36.8**	**-0.8**

KRSC 03 02:41:50.3±1.9**, 49°.24N**×**159°.07E, h16**km±29km**, ML3.5, East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KDTR	**Khodutka, Kamc**	**2.65**	**346**	P	Pn	02 42 33.6	+1.4
KDTR				S	Sn	02 43 05.2	+1.4
RUS	**Russkaya**	**3.21**	**354**	P	Pn	02 42 42.4	+2.5
RUS				S	Sb	02 43 22.2	-3.5
KRMR	**Karymshinskiy**	**3.64**	**351**	S	Sb	02 43 34.1	-3.9
DALK	**Dalny**	**3.80**	**357**	P	Pn	02 42 50.7	+2.7
DALK				S	Sn	02 43 36.3	+4.1
UGLR	**Uglovaya**	**3.97**	**358**	*e*P	Pb	02 42 55.5	-4.4
SMAR	**Somma**	**4.03**	**358**	*e*P	Pn	02 42 55.7	+4.3
AVH	**Avacha**	**4.03**	**357**	*e*P	Pn	02 42 55.7	+4.4
GNL	**Ganaly**	**4.51**	**351**	*e*P	Pn	02 43 02.2	+4.3
KBTR	**Krutoberegovo**	**7.34**	**17**	*e*P	Pn	02 43 42.1	+5.6

*IGQ **03** 03:08:04.4±1.1, 5°S±4°×8°1W±1°7, h12km, mB6.2/5, mb6.3/5, MLv6.1/4, Mw(mB)5.9/5, MwMwp6.0/6, Mwp6.0/6*

*MOS **03** 03:08:04.3±0.8, 5°.15S×80°.71W, h44km, mb5.5/102, Error ellipse: s-maj=10.0km s-min=4.5km az=108.8*

*IDC **03** 03:08:08.0±1.5, 5°.20S×80°.66W, h65km±12km, mb4.9/37, mb1 5.0/40, mb1mx5.0/46, mbtmp5.2/40, MS4.4/33, Ms1 4.4/33, ms1mx4.4/38, Error ellipse: s-maj=12.7km s-min=8.9km az=61.0*

*ISCJB **03** 03:08:07.5±0.4, 5°.11S±0°.02×80°.65W±0°.03, h75km±3km, mb5.3/372, Error ellipse: s-maj=4.6km s-min=2.4km az=155.2*

*GCMT **03** 03:08:08.0±0.3, 5°.43S×80°.72W, h37km±1km, MW5.2/82, Moment Tensor Solution. s49,c64; s82,c125; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.16±.20; $M_{\theta\theta}$0.73±.13; $M_{\phi\phi}$-3.89±.17; $M_{r\theta}$-2.59±.15; $M_{\theta\phi}$-2.13±.12; $M_{\phi r}$4.38±.23; Best double couple: $M_0$6.53300×10^{16} NP1:ϕ_s346.00000°, δ74.00000°, λ60.00000°. NP2: ϕ_s230.00000°, δ34.00000°, λ150.00000°. Principal axes: T 6.9700, Plg52.0000°, Azm221.0000°; N -0.8720, Plg29.0000°, Azm355.0000°; P -6.0970, Plg23.0000°, Azm98.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **03** 03:08:08.0±0.5, 5°.18S×80°.58W, h64km±4km, mb5.4/299, ML5.0(ARE) Error ellipse: s-maj=4.1km s-min=2.4km az=61.0*

NEIC Felt [IV] at Piura and [III] at Chiclayo and Talara. Also felt at Huancabamba, Mancora, Marcavelica, Sullana and Tumbes. Felt [III] at Cuenca, Ecuador. Also felt at Loja and Machala.

ISC 03 03:08:08.1±0.7**, 5°.16S**±0°.04×**80°.67W**±0°.06**, h66**km±6km**, n1400, σ1°.16**/1402**, mb5.4**/401**, 15C-17D, Near coast of northern Peru**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ATAH	**Atahualpa**	**3.00**	**131**	P	**Pn**	**03 08 53.4**	**-0.2**
	891nm,0.3s,baz=319,slow=8.2,SNR=778						
ATAH				S	**Sn**	**03 09 36.1**	**+7.4**
	1µm,0.3s,baz=32,slow=9.6,SNR=8.9						
ATAH				LR	LR	03 10 21.5	
	comp=Z,9µm,20.4s,baz=311,slow=45						
AGUAY	**Guayaquil**	**3.16**	**13**	P	**Pn**	**03 08 53.8**	**-1.7**
BMAS	**Trigal station**	**4.24**	**31**	P	**Pn**	**03 09 11.1**	**+0.6**
ARRY	**Arrayan**	**4.25**	**31**	P	**Pn**	**03 09 11.3**	**+0.6**
BPAT	**Tungurahua Vol**	**4.26**	**32**	P	**Pn**	**03 09 11.6**	**+0.6**
BIL2	**Estacion Bilba**	**4.26**	**31**	P	**Pn**	**03 09 12.1**	**+1.3**
BBIL	**Ulba Tungurahu**	**4.28**	**31**	P	**Pn**	**03 09 11.9**	**+0.8**
RETU	**Refugio**	**4.30**	**31**	P	**Pn**	**03 09 12.1**	**+0.6**
JUI6	**Juive**	**4.31**	**31**	P	**Pn**	**03 09 12.5**	**+1.0**
POND	**Pondoa**	**4.32**	**31**	P	**Pn**	**03 09 12.8**	**+1.1**
BULB	**Ulba Tungurahu**	**4.33**	**31**	P	**Pn**	**03 09 12.6**	**+0.8**
RUN5	**Runtun**	**4.34**	**31**	P	**Pn**	**03 09 12.7**	**+0.8**
ILLI	**Illinizas Sur**	**4.82**	**24**	P	**Pn**	**03 09 19.1**	**+0.5**
CAMI	**Rancho Maria**	**4.95**	**26**	P	**Pn**	**03 09 21.3**	**+1.0**
BNAS	**Cotopaxi Volca**	**4.96**	**26**	P	**Pn**	**03 09 21.6**	**+1.0**
BREF	**Cotopaxi Volca**	**4.98**	**27**	P	**Pn**	**03 09 22.2**	**+1.3**
BTAM	**Cotopaxi Volca**	**5.00**	**27**	P	**Pn**	**03 09 22.0**	**+0.9**
BVC2	**Cotopaxi Volca**	**5.00**	**27**	P	**Pn**	**03 09 22.0**	**+0.7**
VC1	**Cotopaxi 1**	**5.02**	**27**	P	**Pn**	**03 09 22.1**	**+0.7**
MAG1	**Magdalena**	**5.13**	**10**	P	**Pn**	**03 09 22.0**	**-0.4**
ANTM	**Antisana-La Mi**	**5.20**	**28**	P	**Pn**	**03 09 27.5**	**+3.6**
ANTS	**Antisana-Sarah**	**5.26**	**28**	P	**Pn**	**03 09 26.0**	**+1.2**
TERV	**Terraza Guagua**	**5.36**	**23**	P	**Pn**	**03 09 27.2**	**+1.1**
PINO	**Pino**	**5.37**	**23**	P	**Pn**	**03 09 27.1**	**+0.8**
YANA	**Yana**	**5.42**	**23**	P	**Pn**	**03 09 27.2**	**+0.3**
OTAV	**Otavalo**	**5.80**	**23**	*e*Pn	**Pn**	**03 09 31.4**	**-0.5**
OTAV				*e*Sn	**Sn**	**03 10 34.9**	**-2.4**
OTAV	**Otavalo**	**5.80**	**23**	*e*P	**Pn**	**03 09 31.6**	**-0.4**
OTAV	**Otavalo**	**5.80**	**23**	P	**Pn**	**03 09 32.2**	**+0.2**
CUIC	**Cuicocha-Domo**	**5.89**	**23**	P	**Pn**	**03 09 34.1**	**+0.8**
COTA	**Cotacachi**	**5.93**	**23**	P	**Pn**	**03 09 35.3**	**+1.4**
IMBA	**Imbabura, San**	**5.93**	**25**	P	**Pn**	**03 09 35.4**	**+1.6**
URCU	**Urcuqui**	**6.06**	**24**	P	**Pn**	**03 09 36.1**	**+0.6**
LITE1	**Lita**	**6.34**	**21**	P	**Pn**	**03 09 38.4**	**-0.8**
LITE1				S	**Sn**	**03 10 52.9**	**+2.5**
CMBC	**Cumbal**	**6.69**	**25**	*e*P	**Pn**	**03 09 44.8**	**+0.6**
GCUF	**Volcan Galeras**	**7.16**	**28**	*e*P	**Pn**	**03 09 50.1**	**-0.5**
CPAS2	**Pasto**	**7.20**	**28**	*e*P	Pn	03 09 45.0	-6.0
TUMC	**Tumaco**	**7.20**	**16**	*e*Pn	**Pn**	**03 09 52.8**	**+2.1**
TUMC				*e*Sn	**Sn**	**03 11 07.7**	**-3.4**
TUMC	**Tumaco**	**7.20**	**16**	*e*P	**Pn**	**03 09 50.6**	**-0.1**
CRUC	**La Cruz**	**7.64**	**29**	*e*P	**Pn**	**03 09 59.4**	**+2.3**
NNA	**Nana**	**7.77**	**151**	*e*Pn	**Pn**	**03 09 56.3**	**-2.3**
NNA				*e*Sn	**Sn**	**03 11 23.2**	**-2.0**
NNA	**Nana**	**7.77**	**151**	P	**Pn**	**03 09 57.1**	**-1.5**
NNA	**Nana**	**7.77**	**151**	*i* P	**Pn**	**03 09 57.0**	**-1.6**
SOTA	**Rioblanco**	**8.30**	**29**	*e*P	**Pn**	**03 10 06.4**	**+0.1**
FLOC	**Florencia**	**8.36**	**37**	*e*P	**Pn**	**03 10 03.9**	**-2.8**
GRGC	**Isla de Gorgon**	**8.48**	**17**	*e*P	**Pn**	**03 10 07.5**	**-0.8**
PCON	**Cinco Dias**	**8.57**	**30**	*e*P	**Pn**	**03 10 10.9**	**+0.9**
POPC	**Popayan, Colom**	**8.62**	**28**	*e*P	**Pn**	**03 10 09.2**	**-1.3**
MAPC	**Malpelo**	**9.15**	**354**	*e*P	Pn	03 10 11.7	-5.7
MARP	**Paez Belalcaza**	**9.24**	**31**	*e*P	**Pn**	**03 10 18.7**	**-0.2**
BETC	**Betania**	**9.37**	**34**	*e*P	**Pn**	**03 10 20.1**	**-0.5**
HORQ	**Saladito**	**9.48**	**25**	*e*P	**Pn**	**03 10 17.5**	**-4.8**
MALC	**Bahia Malaga**	**9.70**	**20**	*e*P	**Pn**	**03 10 22.2**	**-2.8**
YOTC	**Yotoco, Valle**	**10.05**	**26**	*e*P	**Pn**	**03 10 26.1**	**-3.9**
PRAC	**Prado**	**10.54**	**33**	*e*Pn	**Pn**	**03 10 33.3**	**-3.1**
PRAC				*e*Sn	Sn	03 12 09.0	-24
PRAC	**Prado**	**10.54**	**33**	*e*P	**Pn**	**03 10 35.0**	**-1.4**
SJAC	**San Juan de Ar**	**10.73**	**39**	*e*P	**Pn**	**03 10 37.7**	**-1.5**
PLMC	**San Jos˜ı del**	**10.91**	**24**	*e*P	Pn	03 10 34.6	-7.0
ANIL	**Santa Ana**	**10.93**	**29**	*e*P	Pn	03 10 33.2	-8.9
TOLC	**Tolima**	**11.05**	**29**	*e*P	**Pn**	**03 10 42.4**	**-1.3**
GUVC	**San Jose del G**	**11.09**	**47**	*e*P	**Pn**	**03 10 45.3**	**+1.3**
RREF	**El Recreo**	**11.32**	**28**	*e*P	**Pn**	**03 10 45.8**	**-1.9**
VILC	**Villavicencio,**	**11.54**	**37**	*e*P	**Pn**	**03 10 53.0**	**+2.6**
GUYC	**Guyana, Colomb**	**11.58**	**27**	*e*P	**Pn**	**03 10 48.5**	**-2.5**
SOLC	**Bahia Solano**	**11.77**	**16**	*e*P	**Pn**	**03 10 49.8**	**-3.4**
ROSC	**El Rosal**	**11.78**	**33**	P	**Pn**	**03 10 55.5**	**+1.7**
	1.3nm,0.3s,baz=165,slow=20,SNR=2.6						
ROSC				LR	LR	03 15 57.2	
	comp=Z,4µm,20.0s,baz=224,slow=40						
ROSC	**El Rosal**	**11.78**	**33**	*e*Pn	**Pn**	**03 10 53.7**	**0.0**
ROSC				*e*Sn	**Sn**	**03 12 56.7**	**-7.1**
ROSC	**El Rosal**	**11.78**	**33**	*e*P	Pn	03 11 04.5	+11
CHIC	**Chingaza**	**11.94**	**36**	*e*P	**Pn**	**03 10 55.7**	**-0.2**
NORC	**Norcasia**	**12.12**	**29**	*e*P	**Pn**	**03 10 58.2**	**+0.1**
HELC	**Santa Helena**	**12.38**	**25**	*e*Pn	**Pn**	**03 11 01.1**	**-0.9**
HELC	**Santa Helena**	**12.38**	**25**	*e*P	**Pn**	**03 11 00.1**	**-1.9**
DBBC	**Dabeiba**	**12.88**	**20**	*e*P	**Pn**	**03 11 09.2**	**+0.6**
YOPC	**Yopal, Colombi**	**13.30**	**38**	*e*P	**Pn**	**03 11 15.6**	**+1.4**
RUSC	**La Rusia**	**13.34**	**35**	*e*Pn	**Pn**	**03 11 13.1**	**-1.9**
RUSC	**La Rusia**	**13.34**	**35**	*e*P	**Pn**	**03 11 14.6**	**-0.4**
ZARC	**Zaragoza, Cauc**	**13.84**	**25**	*e*P	**Pn**	**03 11 20.3**	**-1.0**
BARC	**Barichara**	**13.86**	**33**	*e*P	**Pn**	**03 11 21.4**	**-0.4**
BRRC	**Barranca, Sant**	**14.02**	**30**	*e*P	**Pn**	**03 11 26.2**	**+2.6**
CAPC	**Capurgana**	**14.09**	**14**	*e*P	**Pn**	**03 11 24.9**	**+0.3**
BCIP	**Isla Barro Col**	**14.25**	**3**	Pn	Pn	03 11 20.5	-6.2
BCIP	**Isla Barro Col**	**14.25**	**3**	*e*P	**Pn**	**03 11 27.0**	**+0.3**
BCIP	**Isla Barro Col**	**14.25**	**3**	P	**P**	**03 11 35.7**	**+3.7**
MOTC	**Monteria, Cord**	**14.71**	**20**	*e*P	**Pn**	**03 11 32.6**	**-0.2**
PAMC	**Pamplona, Colo**	**14.74**	**33**	*e*P	**Pn**	**03 11 34.3**	**+0.8**
OCAC	**Ocana**	**15.19**	**29**	*e*P	**P**	**03 11 41.1**	**-1.6**
HDC	**Heredia**	**15.44**	**347**	*e*Pn	**P**	**03 11 44.5**	**-0.9**
	310nm,1.4s						
JTS	**JuntasAbangare**	**15.93**	**344**	P	**P**	**03 11 49.9**	**-0.8**
	0.3nm,0.3s,baz=202,slow=5.6,SNR=30						
JTS				LR	LR	03 16 51.4	
	comp=Z,1µm,20.1s,baz=231,slow=33						
JTS	**JuntasAbangare**	**15.93**	**344**	P	**P**	**03 11 51.2**	**+0.5**
LPAZ	**La Paz**	**16.54**	**133**	P	**Pn**	**03 11 55.6**	**-0.9**
	2.4nm,0.3s,baz=301,slow=8.8,SNR=59						
LPAZ				LR	LR	03 18 35.6	
	comp=Z,2µm,18.7s,baz=312,slow=38						
LPAZ	**La Paz**	**16.54**	**133**	*e*Pn	**Pn**	**03 11 55.4**	**-1.2**
	136nm,1.2s						
LPAZ	**La Paz**	**16.54**	**133**	P	**Pn**	**03 11 55.8**	**-0.8**
LPAZ	**La Paz**	**16.54**	**133**	*e*P	**Pn**	**03 11 55.4**	**-1.2**
LPAZ				pmax	pmax		
	comp=Z,136nm,1.2s						
CODC	**Agust˘›n Codaz**	**16.63**	**26**	*e*P	**Pn**	**03 11 55.1**	**-2.0**
PB12	**IPOC Station P**	**16.76**	**144**	P	**P**	**03 11 59.5**	**-0.4**
SDV	**Santo Domingo**	**17.17**	**36**	P	**Pn**	**03 12 03.6**	**-0.2**
	comp=Z,4.2nm,0.3s,baz=218,slow=10,SNR=25						
SDV				LR	LR	03 20 09.9	
	comp=Z,2µm,19.4s,baz=226,slow=42						
SDV	**Santo Domingo**	**17.17**	**36**	Pn	Pn	03 11 53.1	-11
SDV	**Santo Domingo**	**17.17**	**36**	*e*P	**Pn**	**03 12 02.7**	**-1.2**
SDV	**Santo Domingo**	**17.17**	**36**	P	**Pn**	**03 12 04.1**	**+0.2**
ACON	**Acoyapa**	**17.59**	**345**	P	**Pn**	**03 12 07.9**	**-1.0**
MNMC	**Minye Minye**	**17.59**	**143**	*e*Pn	**Pn**	**03 12 08.0**	**-1.2**
	comp=Z,93nm,1.0s						
MNMC	**Minye Minye**	**17.59**	**143**	P	**Pn**	**03 12 09.2**	**0.0**
ESPN	**Las Esperanzas**	**17.61**	**348**	P	**P**	**03 12 12.4**	**+3.1**
PSGC	**Pisagua**	**17.65**	**145**	P	**Pn**	**03 12 09.3**	**-0.4**
PB11	**IPOC Station P**	**18.05**	**144**	*e*P	**P**	**03 12 13.9**	**-0.3**
	comp=Z,100nm,0.9s						
PB11	**IPOC Station P**	**18.05**	**144**	P	**Pn**	**03 12 14.9**	**+0.3**
CNGN	**Cerro Negro**	**18.54**	**341**	P	Pn	03 12 32.8	+12
PB08	**IPOC Station P**	**18.64**	**144**	P	**Pn**	**03 12 22.3**	**+0.3**
URIC	**Uribia, Colomb**	**18.84**	**27**	*e*P	**P**	**03 12 21.9**	**-0.9**
ESTN	**Estel**	**19.00**	**343**	P	**Pn**	**03 12 28.9**	**+2.9**
PB01	**IPOC Station P**	**19.16**	**147**	*e*P	**P**	**03 12 27.1**	**+0.6**
	comp=Z,74nm,1.0s						
PB01	**IPOC Station P**	**19.16**	**147**	P	**P**	**03 12 27.0**	**+0.6**
PB02	**IPOC Station P**	**19.17**	**148**	P	**P**	**03 12 27.1**	**+0.6**
PB07	**IPOC Station P**	**19.51**	**149**	P	**P**	**03 12 30.6**	**+0.3**
PB03	**IPOC Station P**	**19.84**	**149**	P	**P**	**03 12 34.4**	**+0.5**
PB04	**IPOC Station P**	**19.88**	**150**	*e*P	**P**	**03 12 34.2**	**-0.1**
	comp=Z,141nm,1.2s						
PB04	**IPOC Station P**	**19.88**	**150**	P	**Pn**	**03 12 37.8**	**+1.3**
PB09	**IPOC Station P**	**19.91**	**147**	P	**Pn**	**03 12 35.7**	**-1.1**
TGUH	**Tegucigalpa,Un**	**20.18**	**341**	*e*P	**P**	**03 12 38.6**	**+1.2**
	comp=Z,140nm,0.8s						
TGUH	**Tegucigalpa,Un**	**20.18**	**341**	P	Pn	03 12 39.1	-0.7
PB05	**IPOC Station P**	**20.29**	**151**	P	**P**	**03 12 39.8**	**+1.1**
PB06	**IPOC Station P**	**20.48**	**149**	P	**P**	**03 12 40.8**	**0.0**
PB10	**IPOC Station P**	**20.69**	**153**	*e*P	**P**	**03 12 43.2**	**+0.3**
	comp=Z,82nm,1.0s						
PB10	**IPOC Station P**	**20.69**	**153**	P	**P**	**03 12 44.3**	**+1.4**
PB14	**IPOC Station P**	**21.73**	**154**	*i* P	**P**	**03 12 54.3**	**0.0**
SIV	**San Ignacio**	**22.04**	**121**	P	**P**	**03 12 56.3**	**-1.2**
	comp=Z,22nm,0.7s,baz=304,slow=11,SNR=69						
SIV				LR	LR	03 22 07.7	
	comp=Z,4µm,19.0s,baz=310,slow=38						
PCRV	**Puerto La Cruz**	**22.07**	**46**	P	**P**	**03 12 58.5**	**+0.7**
	comp=Z,52nm,0.5s,baz=198,slow=5.5,SNR=34						
PCRV				LR	LR	03 22 34.0	
	comp=Z,3µm,19.1s,baz=227,slow=39						
APG	**El Apazote**	**22.26**	**334**	P	**P**	**03 13 01.0**	**+1.0**
	comp=Z,57nm,0.9s,baz=171,slow=3.0,SNR=46						
APG				LR	LR	03 20 09.9	
	comp=Z,825nm,20.5s,baz=166,slow=32						
YJA	**Yavi**	**22.39**	**140**	*e*P	**P**	**03 13 01.3**	**-0.3**
YJA				IAmb	IAmb	03 13 28.7	
	comp=Z,65nm,1.0s						
PCJ	**Portland Cotta**	**23.01**	**9**	⇓*i*P	**P**	**03 13 10.2**	**+2.6**
MCJ	**Malvern**	**23.12**	**7**	⇓*i*P	**P**	**03 13 11.3**	**+2.5**
HJA	**Humahuaca**	**23.21**	**142**	*i* P	**P**	**03 13 10.8**	**+0.7**
HJA				IAmb	IAmb	03 13 21.1	
	comp=Z,313nm,1.2s						
STH	**Stony Hill**	**23.40**	**9**	⇑*i*P	**P**	**03 13 13.7**	**+2.4**
GWJ	**Greenwich**	**23.41**	**9**	*i* P	**P**	**03 13 11.1**	**-0.5**
MTDJ	**Mount Denham**	**23.44**	**8**	*e*P	**P**	**03 13 13.9**	**+2.1**
	comp=Z,181nm,0.8s						
MTDJ	**Mount Denham**	**23.44**	**8**	P	**P**	**03 13 14.6**	**+2.8**
BBJ	**Bamboo Saint A**	**23.63**	**8**	⇑*i*P	**P**	**03 13 16.3**	**+2.8**
AZAP	**Zapla**	**24.18**	**143**	*e*P	**P**	**03 13 19.7**	**+1.0**
AZAP				IAmb	IAmb	03 13 39.4	
	comp=Z,47nm,0.9s						
SLA	**San Lorenzo**	**24.30**	**145**	*i* P	**P**	**03 13 21.1**	**+1.4**
SLA				IAmb	IAmb	03 13 22.4	
	comp=Z,117nm,1.0s						
FSCY	**Frank Sound, G**	**24.32**	**359**	*e*P	**P**	**03 13 22.4**	**+2.8**
	comp=Z,471nm,1.3s						
ASTB	**Santa Barbara**	**24.35**	**142**	*i* P	**P**	**03 13 21.0**	**+0.9**
ALOL	**LOMAS DE OLMED**	**24.55**	**141**	*e*P	**P**	**03 13 22.4**	**+0.6**
LCCY	**Blossom Villag**	**24.67**	**1**	*e*P	**P**	**03 13 26.7**	**+3.8**
	comp=Z,273nm,0.9s						
CBCY	**The Bluff, Cay**	**24.75**	**2**	*e*P	**P**	**03 13 26.1**	**+2.5**
	comp=Z,125nm,0.8s						
LGNH	**LØogne**	**24.82**	**18**	*e*P	**P**	**03 13 27.4**	**+3.1**
	comp=Z,271nm,1.3s						
FSA	**Cafayete**	**25.13**	**148**	*i* P	**P**	**03 13 26.6**	**-0.7**
GTBY	**Guantanamo Bay**	**25.52**	**12**	*e*P	**P**	**03 13 33.5**	**+2.9**
	comp=Z,120nm,0.9s						
GTBY	**Guantanamo Bay**	**25.52**	**12**	P	**P**	**03 13 33.6**	**+3.0**
LCO	**Las Campanas**	**25.54**	**159**	*e*P	**P**	**03 13 31.1**	**+0.1**
	comp=Z,41nm,1.0s						
GRGR	**Grenville**	**25.54**	**48**	*e*P	**P**	**03 13 32.5**	**+1.6**
SDDR	**Presa de Saban**	**25.70**	**21**	*e*P	**P**	**03 13 35.4**	**+3.1**
	comp=Z,54nm,1.0s						
SDDR	**Presa de Saban**	**25.70**	**21**	P	**P**	**03 13 38.1**	**+5.8**
TOSP	**Speyside**	**25.86**	**51**	*e*P	**P**	**03 13 34.5**	**+0.8**
AHML	**Horco Molle**	**26.02**	**147**	*i* P	**P**	**03 13 35.5**	**+0.4**
AHML				IAmb	IAmb	03 13 35.7	
	comp=Z,20nm,0.9s						
CMIG	**Matias Romero**	**26.19**	**328**	P	**P**	**03 13 37.1**	**+0.4**
	comp=Z,21nm,0.9s,baz=122,slow=5.1,SNR=20						
CMIG				LR	LR	03 22 00.9	
	comp=Z,560nm,20.5s,baz=175,slow=32						
VCA	**Vinchina**	**26.26**	**155**	*i* P	**P**	**03 13 38.3**	**+0.8**
VCA				IAmb	IAmb	03 13 38.9	
	comp=Z,59nm,0.8s						
TEIG	**Tepich**	**26.31**	**344**	P	**P**	**03 13 38.9**	**+1.2**
CRPR	**Cabo Rojo, PR**	**26.62**	**30**	*e*P	**P**	**03 13 45.7**	**+5.2**
	comp=Z,84nm,1.0s						
MPR	**Mayaguez**	**26.78**	**30**	*e*P	**P**	**03 13 43.5**	**+1.5**
	comp=Z,54nm,0.7s						
AGUA	**GUANDACOL**	**26.80**	**156**	*i* P	**P**	**03 13 42.4**	**+0.2**
AGP	**Aguadilla**	**26.95**	**29**	*e*P	**P**	**03 13 44.2**	**+0.7**
	comp=Z,267nm,1.2s						
AROD	**Rodeo**	**27.03**	**158**	*i* P	**P**	**03 13 45.0**	**+0.4**
AOPR	**Arecibo Observ**	**27.09**	**30**	*e*P	**P**	**03 13 45.9**	**+1.1**
	comp=Z,141nm,0.8s						
CYA	**Choya**	**27.12**	**150**	*i* P	**P**	**03 13 45.0**	**0.0**
CYA				IAmb	IAmb	03 13 45.4	
	comp=Z,39nm,0.9s						
ACDV	**Cuesta del Vie**	**27.16**	**158**	*i* P	**P**	**03 13 46.0**	**+0.5**
SJG	**San Juan**	**27.20**	**31**	P	**P**	**03 13 46.7**	**+0.9**
	comp=Z,60nm,0.8s,baz=221,slow=7.3,SNR=25						
SJG				LR	LR	03 25 47.5	
	comp=Z,847nm,20.6s,baz=174,slow=39						
SJG	**San Juan**	**27.20**	**31**	*e*P	**P**	**03 13 46.3**	**+0.5**
SJG	**San Juan**	**27.20**	**31**	P	**P**	**03 13 47.3**	**+1.5**
MYIG	**MØrida**	**27.44**	**341**	*e*P	**P**	**03 13 48.8**	**+0.9**
	comp=Z,164nm,0.8s						
CBYP	**Canovanas**	**27.48**	**32**	*e*P	**P**	**03 13 48.8**	**+0.4**
	comp=Z,140nm,0.9s						
FDF	**Fort de France**	**27.66**	**44**	*e*P	**P**	**03 13 51.7**	**+1.7**
PCM	**Pelee Case Pet**	**27.67**	**44**	*e*P	**P**	**03 13 46.8**	**-3.3**
CXM	**Morne La Croix**	**27.70**	**44**	*e*P	**P**	**03 13 47.4**	**-3.0**
STVI	**Saint Thomas**	**28.03**	**33**	*e*P	**P**	**03 13 52.4**	**-0.8**
	comp=Z,30nm,0.6s						
AMOG	**MOGNA**	**28.09**	**157**	*i* P	**P**	**03 13 53.1**	**-0.6**
APLL	**PUNTA DE LOS L**	**28.43**	**154**	*i* P	**P**	**03 13 56.2**	**-0.5**
RTLS	**Leoncito**	**28.57**	**159**	*i* P	**P**	**03 13 58.5**	**+0.2**
RTLS				IAmb	IAmb	03 14 17.1	
	comp=Z,34nm,0.9s						
ABVI	**Anegada Island**	**28.68**	**34**	*e*P	**P**	**03 13 58.7**	**-0.2**
	comp=Z,100nm,0.9s						
BPA	**Boggy Peak**	**28.85**	**40**	*e*P	**P**	**03 13 59.5**	**-1.1**
SMRT	**St. Maarten**	**28.86**	**37**	*e*P	**P**	**03 13 59.7**	**-1.0**
	comp=Z,64nm,1.0s						
RTCV	**Cerro Valdivia**	**28.90**	**158**	*i* P	**P**	**03 14 00.6**	**-0.3**
AUSP	**Uspallata**	**28.93**	**160**	*i* P	**P**	**03 14 01.7**	**+0.4**
ROC1	**El Roble**	**29.11**	**163**	*e*P	**P**	**03 14 02.4**	**-0.6**
	comp=Z,28nm,0.8s						
ROC1	**El Roble**	**29.11**	**163**	*i* P	**P**	**03 14 02.1**	**-0.9**
ANWB	**Willy Bob**	**29.36**	**39**	*e*P	**P**	**03 14 04.5**	**-0.4**
	comp=Z,122nm,0.8s						
ANWB	**Willy Bob**	**29.36**	**39**	P	**P**	**03 14 05.4**	**+0.4**
ANWB	**Willy Bob**	**29.36**	**39**	⇑*i*P	**P**	**03 14 05.1**	**+0.2**
ANWB				*e*S	**pP**	**03 14 20.4**	**-0.6**
ACAN	**Cantantal**	**29.78**	**157**	*i* P	**P**	**03 14 08.6**	**0.0**
TCA	**Tanti**	**30.10**	**152**	*i* P	**P**	**03 14 11.0**	**-0.6**
CPUP	**Villa Florida**	**30.67**	**136**	P	**P**	**03 14 16.6**	**-0.1**
	comp=Z,8.5nm,0.8s,baz=320,slow=8.9,SNR=27						
CPUP				LR	LR	03 29 14.6	
	comp=Z,1µm,18.9s,baz=319,slow=41						
CPUP	**Villa Florida**	**30.67**	**136**	*e*P	**P**	**03 14 16.5**	**-0.1**
	comp=Z,18nm,0.9s						
CPUP	**Villa Florida**	**30.67**	**136**	P	**P**	**03 14 16.7**	**+0.1**
CPUP	**Villa Florida**	**30.67**	**136**	*e*P	**P**	**03 14 16.5**	**-0.1**
CPUP				pmax	pmax		
	comp=Z,18nm,0.9s						
GO05	**HualaæØ**	**30.79**	**166**	*e*P	**P**	**03 14 16.8**	**-0.8**
	comp=Z,69nm,1.4s						
059Z	**Ave Maria**	**31.32**	**359**	P	**P**	**03 14 22.6**	**+0.5**
	baz=178						
RFA	**San Rafael**	**31.56**	**161**	IAmb	IAmb	03 14 24.6	
	comp=Z,39nm,1.0s						
059A	**Moore Haven**	**31.94**	**359**	P	**P**	**03 14 28.0**	**+0.4**
	baz=179						
060A	**Indiantown**	**32.00**	**1**	P	**P**	**03 14 28.5**	**+0.3**
	baz=180						
058A	**Arcadia**	**32.04**	**358**	P	**P**	**03 14 28.9**	**+0.4**
	baz=178						
JRQG	**Juriquilla Cam**	**32.21**	**324**	*e*P	**P**	**03 14 32.4**	**+2.0**
	comp=Z,114nm,0.9s						
957A	**Wimauma**	**32.67**	**357**	P	**P**	**03 14 34.5**	**+0.4**
	baz=177						
859A	**Kempfer Cattle**	**33.02**	**360**	P	**P**	**03 14 37.6**	**+0.5**
	baz=179						
DWPF	**Disney Wildern**	**33.08**	**359**	P	**P**	**03 14 37.9**	**+0.3**
	baz=178						
DWPF	**Disney Wildern**	**33.08**	**359**	*e*P	**P**	**03 14 38.1**	**+0.5**
	comp=Z,44nm,0.9s						
857A	**Zephyrhills**	**33.26**	**357**	P	**P**	**03 14 39.3**	**+0.1**
	baz=177						
758A	**Lake Helen**	**33.92**	**359**	P	**P**	**03 14 45.2**	**+0.3**
	baz=179						
757A	**Oxford**	**33.93**	**358**	P	**P**	**03 14 45.0**	**0.0**
	baz=177						
656A	**Willston**	**34.37**	**357**	P	**P**	**03 14 48.8**	**0.0**
	baz=177						

658A Bunnell 34.38 359 P P 03 14 49.2 +0.2
baz=179
655A Horseshoe Beac 34.56 356 P P 03 14 50.2 -0.2
baz=175
657A Interlachen 34.56 358 P P 03 14 50.5 +0.1
baz=178,SNR=7.3
RPN Rapa Nui 34.98 228 *i* P P 03 14 58.1 +3.9
556A Lake Butler 35.00 357 P P 03 14 54.1 -0.1
baz=177,SNR=5.3
LNIG Linares 35.03 329 *e*P P 03 14 54.9 +0.3
comp=Z,37nm,0.9s
ZAIG Zacatecas 35.05 323 *e*P P 03 14 56.9 +1.7
555A McAlpin 35.15 357 P P 03 14 55.4 0.0
baz=176
553A Crawfordville 35.33 354 P P 03 14 57.5 +0.5
baz=173,SNR=7.5
552A Lynn Haven 35.37 353 P P 03 14 56.9 -0.4
baz=172
457A Yulee 35.58 359 P P 03 14 59.4 +0.1
baz=178
455A Stateville 35.77 357 P P 03 15 00.8 0.0
baz=176,SNR=6.2
454A Quitman 35.78 356 P P 03 15 00.7 -0.2
baz=175
451A Vernon 35.90 353 P P 03 15 02.1 +0.2
baz=171
453A Whigham 35.98 355 P P 03 15 02.7 +0.1
baz=174
452A Marianna 36.06 353 P P 03 15 03.6 +0.3
baz=172,SNR=15
356A Blackshear 36.30 358 P P 03 15 05.2 -0.1
baz=177
353A Camilla 36.46 355 P P 03 15 06.6 -0.1
baz=174,SNR=7.4
TIGA Tifton 36.50 356 P P 03 15 06.8 -0.2
baz=175
TIGA Tifton 36.50 356 *e*P P 03 15 07.1 +0.1
comp=Z,28nm,0.8s
KVTX Kingsville 36.52 334 *e*P P 03 15 10.0 +2.7
comp=Z,78nm,0.7s
351A Pinckard 36.53 353 P P 03 15 07.5 +0.2
baz=172,SNR=10
447A Lucedale 36.55 348 P P 03 15 07.9 +0.4
baz=166
PLCA Paso Flores 36.57 167 P P 03 15 06.8 -0.9
comp=Z,38nm,1.0s,baz=5.2,slow=9.8,SNR=50
PLCA PcP PcP 03 17 30.1 +0.2
comp=Z,20nm,0.7s,baz=355,slow=4.3,SNR=14
PLCA LR LR 03 27 12.1
comp=Z,520nm,20.5s,baz=15,slow=31
PLCA Paso Flores 36.57 167 *e*P P 03 15 07.1 -0.6
comp=Z,51nm,0.9s
PLCA Paso Flores 36.57 167 P P 03 15 07.1 -0.6
352A Blakely 36.66 354 P P 03 15 08.9 +0.5
baz=173
350A Dozier 36.77 352 P P 03 15 09.7 +0.3
baz=170
349A Repton 36.83 351 P P 03 15 10.4 +0.5
baz=169
SPB Sao Paulo 36.89 123 *e*P P 03 15 09.1 -1.5
comp=Z,62nm,0.8s
TRQA Tornquist 36.91 155 *e*P P 03 15 09.2 -1.3
comp=Z,45nm,1.0s
257A Skidaway Islan 36.92 359 P P 03 15 10.9 +0.2
baz=179
256A Glennville 36.95 358 P P 03 15 10.8 0.0
baz=178,SNR=7.1
444A Pine Grove 36.95 345 P P 03 15 11.0 +0.1
baz=163
254A Abbeville 36.98 356 P P 03 15 11.0 -0.2
baz=176,SNR=7.0
348A Jackson 37.01 350 P P 03 15 12.1 +0.7
baz=168
347A Saraland 37.12 349 P P 03 15 12.9 +0.6
baz=167
252A Lumpkin 37.15 354 P P 03 15 12.3 -0.3
baz=173,SNR=14
253A Americus 37.16 355 P P 03 15 12.2 -0.4
baz=174
346A Big Creek Wild 37.30 348 P P 03 15 14.2 +0.4
baz=165
250A Grady 37.31 352 P P 03 15 13.9 -0.1
baz=171
251A Midway 37.31 353 P P 03 15 13.7 -0.3
baz=172,SNR=16
249A Camden 37.43 351 P P 03 15 15.2 +0.3
baz=169,SNR=10
155A Kite 37.61 358 P P 03 15 16.4 0.0
baz=177,SNR=8.3
154A Montrose 37.63 357 P P 03 15 16.6 -0.1
baz=176,SNR=8.4
248A Dixon Mills 37.65 350 P P 03 15 16.9 +0.1
baz=168,SNR=5.9
344A Westbrook Farm 37.65 346 P P 03 15 18.2 +1.4
baz=163,SNR=5.6
153A Fort Valley 37.72 356 P P 03 15 17.0 -0.4
baz=175
151A Opelika 37.73 354 P P 03 15 17.3 -0.3
baz=172,SNR=8.1
247A Quitman 37.77 349 P P 03 15 18.0 +0.2
baz=167
HKT Hockley 37.81 338 *e*P P 03 15 19.4 +1.2
comp=Z,46nm,0.9s
HKT Hockley 37.81 338 *e*P P 03 15 19.4 +1.2
HKT pmax pmax
comp=Z,46nm,0.9s
833A Chaparral WMA, 37.86 333 P P 03 15 19.4 +0.7
baz=149,SNR=8.0
150A Eclectic 37.90 353 P P 03 15 18.5 -0.4
baz=171,SNR=12
342A Flagon Creek P 37.99 344 P P 03 15 20.5 +0.8
baz=161
149A Jones 37.99 352 P P 03 15 19.2 -0.5
baz=170,SNR=12
245A Little AP, Sta 38.01 347 P P 03 15 20.4 +0.5
baz=165
NHSC New Hope 38.05 1 P P 03 15 20.6 +0.4
baz=181
NHSC New Hope 38.05 1 *e*P P 03 15 21.2 +1.0
comp=Z,150nm,1.0s
148A Greensboro 38.16 351 P P 03 15 20.9 -0.2
baz=169
341A Kurthwood 38.20 343 P P 03 15 21.8 +0.4
baz=160
244A Avery, Jackson 38.20 346 P P 03 15 21.8 +0.4
baz=164
243A Waterproof 38.24 345 P P 03 15 22.6 +0.8
baz=162
VBMS Vicksburg 38.33 346 P P 03 15 22.9 +0.3
baz=164
VBMS Vicksburg 38.33 346 *e*P P 03 15 23.9 +1.4
comp=Z,44nm,0.8s
146A Union 38.42 349 P P 03 15 23.4 +0.1
baz=166
GOGA Godfrey 38.45 356 P P 03 15 23.2 -0.3
baz=175,SNR=9.7
GOGA Godfrey 38.45 356 *e*P P 03 15 23.5 0.0
comp=Z,28nm,0.9s
GOGA Godfrey 38.45 356 *e*P P 03 15 23.5 0.0
GOGA pmax pmax
comp=Z,28nm,0.9s
LRAL Lakeview Retre 38.45 351 P P 03 15 23.2 -0.3
baz=170,SNR=14
LRAL Lakeview Retre 38.45 351 *e*P P 03 15 22.9 -0.7
comp=Z,27nm,0.8s
Z50A Ashland 38.52 353 P P 03 15 23.7 -0.5
baz=172,SNR=15
Z49A Columbiana 38.54 352 P P 03 15 23.9 -0.4
baz=170,SNR=10
242A Grayson 38.59 344 P P 03 15 24.6 -0.1
baz=161,SNR=6.0
241A Mo Tay, Goldon 38.77 343 P P 03 15 26.0 -0.3
baz=160
Z47A Carrollton 38.78 350 P P 03 15 26.0 -0.4
baz=168,SNR=7.0
Z48A Northport 38.87 351 P P 03 15 26.7 -0.4
baz=169,SNR=12
Z46A Louisville 38.94 349 P P 03 15 27.9 +0.2
baz=167
142A Monroe 39.00 345 P P 03 15 28.1 0.0
baz=162
143A Socs Landing, 39.01 346 P P 03 15 28.3 +0.1
baz=163
NATX Nacogdoches 39.06 341 P P 03 15 29.3 +0.7
baz=158,SNR=12
NATX Nacogdoches 39.06 341 *e*P P 03 15 30.1 +1.4
comp=Z,59nm,0.8s
Y50A Piedmont 39.13 353 P P 03 15 28.4 -0.8
baz=172,SNR=5.5
Y49A Blount Mountai 39.18 352 P P 03 15 29.1 -0.6
baz=171,SNR=6.2
435B Jarrell 39.23 337 P P 03 15 30.9 +0.8
baz=153,SNR=8.0
Z45A Winona 39.26 348 P P 03 15 30.5 +0.2
baz=166
141A Papa Simpson, 39.31 344 P P 03 15 31.3 +0.6
baz=160
Z44A Pea Ridge, Bel 39.33 347 P P 03 15 31.1 +0.2
baz=164,SNR=7.0
Y48A Jasper 39.34 351 P P 03 15 30.1 -0.9
baz=170,SNR=7.7
Y47A UCPARC, Winfie 39.44 351 P P 03 15 31.1 -0.6
baz=169,SNR=8.7
140A Cam and Jess, 39.54 343 P P 03 15 33.5 +0.9
baz=160
Y46A Houston 39.59 349 P P 03 15 32.8 -0.3
baz=167,SNR=18
X50A Fort Payne 39.68 354 P P 03 15 33.1 -0.7
baz=172,SNR=29
Y45A Yeager Farm, C 39.71 348 P P 03 15 34.4 +0.4
baz=166,SNR=17
X49A Woodville 39.81 353 P P 03 15 34.3 -0.6
baz=171,SNR=12
X48A Hartselle 39.85 352 P P 03 15 34.5 -0.7
baz=170,SNR=9.4
JCT Junction City 39.89 334 P P 03 15 36.7 +1.1
baz=149,SNR=21
JCT Junction City 39.89 334 *e*P P 03 15 36.8 +1.1
comp=Z,60nm,0.8s
JCT Junction City 39.89 334 *e*P P 03 15 36.8 +1.1
JCT pmax pmax
comp=Z,60nm,0.8s
Z41A Richland Creek 39.90 344 P P 03 15 35.9 +0.3
baz=161
Y44A Strider, Charl 39.94 348 P P 03 15 35.8 -0.1
baz=165,SNR=7.3
HPIG 40.03 324 *e*P P 03 15 37.8 +0.6
comp=Z,23nm,0.8s
X47A Russelville 40.04 351 P P 03 15 36.0 -0.8
baz=169,SNR=10
Z40A Long Farm, Mag 40.07 343 P P 03 15 37.6 +0.6
baz=160
KMSC Kings Mountain 40.09 359 P P 03 15 36.8 -0.4
baz=179,SNR=24
KMSC Kings Mountain 40.09 359 *e*P P 03 15 36.5 -0.7
comp=Z,73nm,0.8s
Y42A Garnett, Star 40.18 346 P P 03 15 38.5 +0.6
baz=163,SNR=5.8
X45A UM Field Stati 40.22 349 P P 03 15 38.7 +0.4
baz=166
WHTX Lake Whitney, 40.25 338 P P 03 15 39.1 +0.6
baz=154
OXF Oxford 40.31 349 P P 03 15 39.0 +0.1
baz=166
OXF Oxford 40.31 349 *e*P P 03 15 38.5 -0.5
comp=Z,44nm,1.0s
OXF Oxford 40.31 349 *e*P P 03 15 38.5 -0.5
OXF pmax pmax
comp=Z,44nm,1.0s
Y41A Eaglette Beard 40.44 345 P P 03 15 40.7 +0.7
baz=161,SNR=6.2
W48A Pulaski 40.51 352 P P 03 15 40.1 -0.5
baz=170,SNR=12
PLAL Pickwick Lake 40.53 351 *e*P P 03 15 40.3 -0.5
comp=Z,19nm,1.1s
PLAL *e*PcP PcP 03 17 41.7 -0.5
X43A Marvell 40.62 347 P P 03 15 41.4 -0.2
baz=164
TKL Tuckaleechee C 40.70 356 P P 03 15 41.9 -0.4
comp=Z,47nm,1.0s,baz=175,slow=9.6,SNR=32
TKL LR LR 03 31 57.3
comp=Z,515nm,21.2s,baz=175,slow=35
TKL Tuckaleechee C 40.70 356 *e*P P 03 15 42.1 -0.2
comp=Z,58nm,1.0s
TKL Tuckaleechee C 40.70 356 *e*P P 03 15 42.1 -0.2
TKL pmax pmax
comp=Z,58nm,1.0s
W47A Westpoint 40.72 351 P P 03 15 41.5 -0.8
baz=169,SNR=19
W46A Michie 40.73 350 P P 03 15 41.3 -1.1
baz=168
Y40A Okolona 40.74 344 P P 03 15 43.3 +0.8
baz=160,SNR=20
LTX Lajitas 40.79 329 *e*P P 03 15 43.8 +0.6
LTX *e*PcP PcP 03 17 43.6 +0.2
LTX Lajitas 40.79 329 *e*P P 03 15 43.8 +0.6
LTX *e* 03 17 43.6
TXAR Lajitas Array 40.79 329 P P 03 15 43.8 +0.6
comp=Z,12nm,0.8s,baz=149,slow=10,SNR=102
TXAR PcP PcP 03 17 43.6 +0.2
comp=Z,4.9nm,0.7s,baz=158,slow=6.9,SNR=5.6
TXAR LR LR 03 30 59.2
comp=Z,371nm,20.7s,baz=0.0,slow=34
TX31 Lajitas Ar. Si 40.80 329 *e*P P 03 15 43.8 +0.6
X42A Stuttgart 40.83 346 P P 03 15 43.4 +0.1
baz=163
W45A Hickory Valley 40.89 349 P P 03 15 43.0 -0.8
baz=167,SNR=8.0
LPIG La Paz 40.99 316 P P 03 15 46.0 +1.3
comp=Z,19nm,0.8s,baz=144,slow=8.7,SNR=2.0
X41A Kaden, Bauxite 40.99 345 P P 03 15 45.1 +0.4
baz=162,SNR=5.7
NCAT North Carolina 41.03 1 *e*P P 03 15 44.7 -0.2
comp=Z,29nm,0.8s
X40A Basin Creek Fa 41.07 345 P P 03 15 45.4 +0.2
baz=161,SNR=5.7
V48A Smith Brothers 41.09 352 P P 03 15 44.7 -0.7
baz=171,SNR=17
UALR University of 41.21 345 *e*P P 03 15 46.9 +0.4
comp=Z,66nm,1.0s
V47A Nunnelly 41.27 352 P P 03 15 45.6 -1.4
baz=170,SNR=9.5
MIAR Mount Ida 41.32 344 P P 03 15 47.8 +0.4
baz=160,SNR=17
MIAR Mount Ida 41.32 344 *e*P P 03 15 47.9 +0.4
comp=Z,39nm,0.9s
MIAR Mount Ida 41.32 344 *e*P P 03 15 47.9 +0.5
MIAR pmax pmax
comp=Z,39nm,0.9s
V46A Holladay 41.34 351 P P 03 15 45.9 -1.5
baz=169,SNR=10
V45A Humboldt 41.42 350 P P 03 15 47.4 -0.8
baz=167
X39A Fountain Ranch 41.44 343 P P 03 15 49.2 +0.8
baz=160,SNR=26
W42A Bald Knob 41.49 347 P P 03 15 48.9 +0.2
baz=164
TZTN Tazewell 41.57 357 P P 03 15 48.6 -0.8
baz=176,SNR=9.5
TZTN Tazewell 41.57 357 *e*P P 03 15 48.8 -0.6
comp=Z,58nm,1.0s
W41B Gary Mavity, V 41.57 346 P P 03 15 49.7 +0.4
baz=162,SNR=22
WVT Waverly 41.61 351 P P 03 15 48.3 -1.4
baz=169
WVT Waverly 41.61 351 *e*P P 03 15 48.3 -1.4
comp=Z,19nm,0.8s
WVT Waverly 41.61 351 *e*P P 03 15 48.3 -1.4
WVT pmax pmax
comp=Z,19nm,0.8s
ABTX Abilene, Hawle 41.67 336 P P 03 15 51.2 +0.9
baz=151,SNR=39
ABTX Abilene, Hawle 41.67 336 *e*P P 03 15 51.2 +0.9
comp=Z,101nm,0.9s
W40A Ferguson Farm, 41.80 345 P P 03 15 52.1 +0.9
baz=161,SNR=8.7
W40A Ferguson Farm, 41.80 345 *e*P P 03 15 52.4 +1.1
comp=Z,112nm,1.2s
U48A Cassie Pea, Po 41.81 353 P P 03 15 50.2 -1.1
baz=171,SNR=9.9
U47A Clarksville 41.84 352 P P 03 15 50.1 -1.4
baz=170,SNR=6.4
U46A Springville 41.89 351 P P 03 15 50.8 -1.1
baz=169,SNR=8.5
V42A Cord 41.97 347 P P 03 15 52.3 -0.3
baz=164,SNR=22
W39A Magazine 41.99 344 P P 03 15 53.8 +1.0
baz=160,SNR=28
U44B Burton Farm, H 42.07 350 P P 03 15 52.9 -0.6
baz=167
V41A Mountainview 42.13 346 P P 03 15 54.1 +0.1
baz=163,SNR=76
BLA Blacksburg 42.15 0 P P 03 15 53.9 -0.2
baz=180
BLA Blacksburg 42.15 0 *e*P P 03 15 54.2 +0.1
comp=Z,42nm,1.1s
BLA Blacksburg 42.15 0 *e*P P 03 15 54.2 +0.1
BLA pmax pmax
comp=Z,42nm,1.1s
VWCC Virginia Weste 42.19 1 *e*P P 03 15 54.5 +0.1
U44A Portageville 42.29 349 P P 03 15 55.0 -0.2
baz=166
U43A Rector 42.30 348 P P 03 15 55.2 -0.1
baz=165
V40A Witts Springs 42.31 345 P P 03 15 55.9 +0.5
baz=162,SNR=38
T47A Sharon Grove 42.35 352 P P 03 15 54.6 -1.1
baz=170,SNR=11
T48A Bowling Green 42.38 353 P P 03 15 54.8 -1.1
baz=171,SNR=14
U42A Revenden 42.46 347 P P 03 15 56.2 -0.4
baz=164,SNR=16
CHRN Cochrane 42.51 172 *e*P P 03 15 56.8 -0.1
comp=Z,15nm,0.9s
T46A Princeton 42.52 351 P P 03 15 56.1 -1.0
baz=169,SNR=16
V39A Pettigrew 42.56 344 P P 03 15 58.1 +0.6
baz=161,SNR=30
U41A Viola 42.61 347 P P 03 15 57.7 -0.1
baz=163,SNR=36
URVA University of 42.61 4 *e*P P 03 15 58.2 +0.4
T45A Paducah 42.61 351 P P 03 15 57.0 -0.8
baz=168
PBMO Poplar Bluff 42.70 348 *e*P P 03 15 57.4 -1.1
comp=Z,20nm,0.8s
JSRW J. Sargeant Re 42.71 3 *e*P P 03 15 59.1 +0.5
T44A Benton 42.84 349 P P 03 15 59.2 -0.5
baz=167,SNR=6.2
U40A Yellville 42.84 345 P P 03 16 00.3 +0.5
baz=162,SNR=70
IP05 Hopewell Churc 42.85 3 *e*P P 03 16 00.1 +0.3
comp=Z,40nm,0.9s
S48A Wiedeman Farm, 42.89 354 P P 03 15 58.4 -1.7
baz=172,SNR=10
IP07 Quail 42.92 3 *e*P P 03 16 00.6 +0.3
comp=Z,46nm,1.1s
IP06 Yanceyville 42.94 3 *e*P P 03 16 01.2 +0.7
comp=Z,25nm,1.0s
IP01 Cuckoo 42.97 3 *e*P P 03 16 01.1 +0.5
comp=Z,62nm,1.1s
T43A Greenville 42.97 349 P P 03 16 00.3 -0.4
baz=166,SNR=42
IP03 Louisa 43.03 3 *e*P P 03 16 01.5 +0.4
comp=Z,46nm,0.9s
U39A Green Forest 43.03 345 P P 03 16 01.7 +0.4
baz=161,SNR=44
SPRD Spring Road, M 43.04 3 *e*P P 03 16 01.7 +0.5
comp=Z,62nm,0.9s
T42A Van Buren 43.08 348 P P 03 16 01.1 -0.5
baz=165,SNR=36
CVRD Centerville Ro 43.09 3 *e*P P 03 16 02.2 +0.6
comp=Z,70nm,1.0s
IP04 Greensprings 43.09 3 *e*P P 03 16 02.1 +0.4
comp=Z,22nm,0.8s
S46A Don Dixon Farm 43.12 352 P P 03 16 00.5 -1.5
baz=170,SNR=10
WMOK Wichita Mounta 43.20 338 P P 03 16 02.0 -0.7
baz=153,SNR=8.7
WMOK Wichita Mounta 43.20 338 *e*P P 03 16 02.2 -0.5
comp=Z,62nm,1.3s
WMOK Wichita Mounta 43.20 338 *e*P P 03 16 02.2 -0.5
WMOK pmax pmax
comp=Z,62nm,1.3s
T41A Mountain View 43.24 347 P P 03 16 02.7 -0.3
baz=164,SNR=26
S45A Carrier Mills 43.24 351 P P 03 16 01.8 -1.1
baz=168
TUL1 Leonard 43.24 342 P P 03 16 03.5 +0.5
baz=158,SNR=28
TUL1 Leonard 43.24 342 *e*P P 03 16 03.5 +0.5
comp=Z,82nm,0.8s
CBN Corbin Frederi 43.25 4 P P 03 16 02.8 -0.1
baz=185
CBN Corbin Frederi 43.25 4 *e*P P 03 16 03.5 +0.6
comp=Z,80nm,1.2s
S44A Carbondale 43.37 350 P P 03 16 03.3 -0.6
baz=167,SNR=13
SIUC Southern Illin 43.39 350 *e*P P 03 16 03.8 -0.2
comp=Z,63nm,0.8s
USIN University of 43.39 352 *e*P P 03 16 03.4 -0.7
comp=Z,55nm,0.8s
S43A Fulton Ridge, 43.40 349 P P 03 16 03.4 -0.8
baz=166,SNR=23
GDL2 Guadalupe Moun 43.46 330 *e*P P 03 16 06.5 +1.5
WCI Wyandotte Cave 43.48 354 P P 03 16 03.7 -1.1
baz=172
WCI Wyandotte Cave 43.48 354 *e*P P 03 16 03.9 -0.9
comp=Z,50nm,1.0s
WCI Wyandotte Cave 43.48 354 *e*P P 03 16 03.9 -0.9
WCI pmax pmax
comp=Z,50nm,1.0s
T40A Mansfield 43.52 346 P P 03 16 05.4 +0.2
baz=163,SNR=24
MNTX Cornudas Mount 43.57 329 P P 03 16 05.9 +0.2
baz=143,SNR=60
MNTX Cornudas Mount 43.57 329 *e*P P 03 16 05.9 +0.2
comp=Z,56nm,1.0s
R48A Northridge Ran 43.60 354 P P 03 16 04.8 -1.0
baz=172
T39A Clever 43.61 345 P P 03 16 06.1 +0.2
baz=161,SNR=47
R46A Gibon Southern 43.61 352 P P 03 16 04.8 -1.1
baz=170
S42A Caledonia 43.73 348 P P 03 16 05.9 -1.0
baz=165,SNR=10
S41A Jillco Farms, 43.76 347 P P 03 16 06.7 -0.4
baz=164,SNR=30
R45A Skylar, Fairfi 43.80 351 P P 03 16 06.7 -0.7
baz=169,SNR=14
T38A Diamond 43.86 344 P P 03 16 08.3 +0.4
baz=160,SNR=15
FVM French Village 43.87 349 *e*P P 03 16 07.0 -1.0
comp=Z,35nm,0.8s
FVM French Village 43.87 349 *e*P P 03 16 07.0 -1.0
FVM pmax pmax
comp=Z,35nm,0.8s
R44A Waltonville 43.88 350 P P 03 16 07.4 -0.7
baz=168,SNR=9.7
S40A Lebanon 43.94 346 P P 03 16 08.4 -0.1
baz=163,SNR=27
R43A Red Bud 44.06 350 P P 03 16 09.0 -0.4
baz=167,SNR=26
CCM Cathedral Cave 44.10 348 P P 03 16 09.3 -0.5
baz=165
CCM Cathedral Cave 44.10 348 *e*P P 03 16 09.0 -0.8
comp=Z,44nm,0.8s
CCM Cathedral Cave 44.10 348 *e*P P 03 16 09.0 -0.8
CCM pmax pmax
comp=Z,44nm,0.8s
MSTX Muleshoe 44.17 333 P P 03 16 11.1 +0.5
baz=148,SNR=49
MSTX Muleshoe 44.17 333 *e*P P 03 16 11.1 +0.5
comp=Z,157nm,1.0s
Q47A Bedord North L 44.19 354 P P 03 16 09.2 -1.3
baz=172,SNR=13
OLIL Olney 44.21 352 *e*P P 03 16 10.0 -0.7
comp=Z,56nm,0.8s
EPT El Paso 44.21 328 *e*P P 03 16 11.5 +0.6
comp=Z,25nm,0.8s
S39A Bolivar 44.23 346 P P 03 16 10.9 +0.1
baz=162,SNR=74
R42A Luebbering 44.23 349 P P 03 16 10.2 -0.6
baz=165,SNR=10
S38A Stockton 44.32 345 P P 03 16 11.3 -0.2
baz=161,SNR=24
R41A Rosebud 44.36 348 P P 03 16 11.5 -0.4
baz=165,SNR=19
Q45A Warren Harvey, 44.37 352 P P 03 16 10.7 -1.2
baz=169,SNR=13
BLO Bloomington 44.44 353 *e*P P 03 16 11.6 -0.9
BLO *e*PcP PcP 03 17 55.4 +0.3
BLO Bloomington 44.44 353 *e*P P 03 16 11.6 -0.9
BLO *e* 03 17 55.4
SLM Saint Louis 44.46 349 *e*P P 03 16 12.3 -0.3
comp=Z,48nm,0.6s
SLM Saint Louis 44.46 349 *e*P P 03 16 12.4 -0.3
SLM pmax pmax
comp=Z,49nm,0.6s
AMTX Amarillo 44.47 335 P P 03 16 13.3 +0.4
baz=149
AMTX Amarillo 44.47 335 *e*P P 03 16 13.5 +0.5
comp=Z,72nm,0.9s
AMTX *e*PcP PcP 03 17 56.0 +0.5
SDMD Soldier's Deli 44.48 4 *e*P P 03 16 13.5 +0.6

	comp=Z,8.7nm,0.8s						
Q44A	Meyer Farm, Va	44.51	351	P	P	03 16 12.3	-0.8
	baz=168,SNR=17						
R40A	Maddies Statio	44.55	347	P	P	03 16 12.9	-0.5
	baz=163,SNR=26						
MCWV	Mont Chateau	44.60	1	P	P	03 16 13.2	-0.5
	baz=181						
Q43A	New Douglas	44.66	350	P	P	03 16 13.2	-1.1
	baz=167,SNR=6.8						
P47A	Martinsville	44.72	354	P	P	03 16 13.1	-1.6
	baz=172						
HSIG		44.74	321	*e*P	P	03 16 15.6	+0.5
R39A	Chumby, Stover	44.75	346	P	P	03 16 14.8	-0.2
	baz=162,SNR=19						
Q42A	Golden Eagle	44.79	349	P	P	03 16 14.8	-0.4
	baz=166,SNR=8.4						
R38A	Fenwick Farm,	44.84	345	P	P	03 16 15.7	0.0
	baz=161,SNR=39						
P45A	Graceland, Par	44.94	352	P	P	03 16 14.9	-1.6
	baz=170,SNR=6.5						
P46A	Rosedale	44.96	353	P	P	03 16 14.9	-1.7
	baz=171,SNR=7.7						
Q41A	Truxton	44.96	348	P	P	03 16 16.3	-0.4
	baz=165,SNR=15						
P44A	Sand Creek, Wi	45.00	351	P	P	03 16 15.9	-1.1
	baz=169						
MVL	Millersville	45.11	5	*e*P	P	03 16 18.6	+0.8
	comp=Z,44nm,1.0s						
PSUB	Penn St. - Bra	45.12	6	*e*P	P	03 16 18.3	+0.5
	comp=Z,36nm,1.0s						
Q40A	Laux Farm, Aux	45.18	347	P	P	03 16 18.0	-0.3
	baz=164,SNR=22						
ACSO	Alum Creek Sta	45.21	358	P	P	03 16 17.5	-1.2
	baz=177,SNR=11						
ACSO	Alum Creek Sta	45.21	358	*e*P	P	03 16 18.1	-0.6
	comp=Z,46nm,0.8s						
O56A	Blue Knob Stat	45.24	2	P	P	03 16 18.3	-0.6
	baz=183						
O56A	Blue Knob Stat	45.24	2	*e*P	P	03 16 18.8	-0.2
	comp=Z,20nm,0.8s						
PAGS	Pennsylvania G	45.30	4	*e*P	P	03 16 19.6	+0.3
	comp=Z,54nm,1.2s						
P43A	Skaggs, Pawnee	45.32	350	P	P	03 16 18.7	-0.7
	baz=168,SNR=6.5						
P42A	Winchester	45.41	349	P	P	03 16 19.2	-1.0
	baz=166,SNR=12						
Q39A	Willow Grove F	45.43	347	P	P	03 16 20.1	-0.3
	baz=163,SNR=16						
319A	Douglas	45.44	325	*e*P	P	03 16 22.1	+1.4
	comp=Z,125nm,0.8s						
O47A	Sheridan	45.45	354	P	P	03 16 17.9	-2.6
	baz=172,SNR=5.5						
121A	Cookes Peak, D	45.48	327	P	P	03 16 22.8	+1.6
	baz=140,SNR=51						
Q38A	Cooks Store, C	45.50	346	P	P	03 16 21.0	0.0
	baz=162,SNR=60						
P41A	Barry, Barry	45.63	349	P	P	03 16 21.0	-0.9
	baz=165,SNR=6.7						
Q37A	Longview Farm,	45.63	345	P	P	03 16 21.7	-0.3
	baz=161						
SSPA	Standing Stone	45.64	3	P	P	03 16 21.7	-0.3
	baz=184						
SSPA	Standing Stone	45.64	3	*e*P	P	03 16 22.0	0.0
	comp=Z,40nm,1.1s						
O45A	Potomac	45.65	352	P	P	03 16 20.3	-1.7
	baz=170						
O44A	Mansfield	45.65	352	P	P	03 16 21.0	-1.1
	baz=169						
P40A	Paris	45.69	348	P	P	03 16 21.8	-0.6
	baz=164,SNR=7.1						
SFIN	Lafayette	45.70	353	P	P	03 16 21.4	-1.0
	baz=171,SNR=8.5						
SFIN	Lafayette	45.70	353	*e*P	P	03 16 21.2	-1.2
	comp=Z,31nm,0.8s						
LUPA	Lehigh Univers	45.79	6	*e*P	P	03 16 24.4	+1.2
	comp=Z,5.0nm,1.0s						
P39B	Salisbury	45.80	347	P	P	03 16 23.1	-0.2
	baz=163,SNR=36						
N54A	Moraine State	45.90	1	P	P	03 16 23.2	-0.8
	baz=181,SNR=6.5						
N54A	Moraine State	45.90	1	*e*P	P	03 16 23.8	-0.3
	comp=Z,27nm,0.9s						
O43A	Sugar Creek Fa	45.91	351	P	P	03 16 23.2	-0.9
	baz=168						
O42A	Bath	45.95	350	P	P	03 16 23.5	-1.0
	baz=167,SNR=7.3						
O41A	Passleys Farm,	46.02	349	P	P	03 16 24.0	-0.9
	baz=166,SNR=16						
N59A	State Game Lan	46.07	5	P	P	03 16 25.9	+0.5
	baz=187,SNR=14						
N59A	State Game Lan	46.07	5	*e*P	P	03 16 26.2	+0.8
	comp=Z,68nm,0.8s						
P38A	Dawn	46.11	346	P	P	03 16 25.5	-0.2
	baz=162,SNR=22						
BNM	Barren Site	46.15	330	*e*P	P	03 16 27.6	+1.2
N46A	Monticello	46.16	354	P	P	03 16 25.1	-1.0
	baz=172						
HDIL	Hopedale	46.17	351	P	P	03 16 24.9	-1.3
	baz=168,SNR=10						
HDIL	Hopedale	46.17	351	*e*P	P	03 16 25.3	-0.9
	comp=Z,55nm,0.6s						
N45A	Kentland	46.21	353	P	P	03 16 24.7	-1.7
	baz=170						
O40A	La Belle	46.22	348	P	P	03 16 25.8	-0.7
	baz=164,SNR=8.0						
Y22D	IRIS PASSCAL I	46.24	329	*e*P	P	03 16 29.0	+2.0
	comp=Z,47nm,0.8s						
N44A	Piper City	46.24	352	P	P	03 16 25.3	-1.4
	baz=170						
P37A	Lathrop	46.28	345	P	P	03 16 26.7	-0.4
	baz=161,SNR=11						
ODNJ	Ogdensburg	46.35	6	*e*P	P	03 16 28.1	+0.6
	comp=Z,22nm,0.9s						
PAL	Palisades	46.35	7	P	P	03 16 27.5	-0.1
	baz=189						
KSU1	Kansas State U	46.44	343	P	P	03 16 28.4	+0.1
	baz=158,SNR=18						
KSU1	Kansas State U	46.44	343	*e*P	P	03 16 28.7	+0.3
	comp=Z,83nm,0.8s						
M54A	Oil Creek Stat	46.45	1	P	P	03 16 27.5	-0.9
	baz=181,SNR=6.9						
M54A	Oil Creek Stat	46.45	1	*e*P	P	03 16 27.9	-0.5
	comp=Z,24nm,0.8s						
O39A	Kirksville	46.49	347	P	P	03 16 28.7	0.0
	baz=164,SNR=21						
N42A	Yates City	46.56	350	P	P	03 16 28.4	-0.8
	baz=167,SNR=13						
O38A	Galt	46.57	346	P	P	03 16 29.0	-0.3
	baz=162,SNR=14						
N41A	Harden Midland	46.59	349	P	P	03 16 28.4	-1.1
	baz=166,SNR=6.1						
LAZ	Ladron	46.60	330	*e*P	P	03 16 31.3	+1.3
M46A	Old House Fiel	46.63	354	P	P	03 16 28.1	-1.7
	baz=172,SNR=5.9						
ANMO	Albuquerque	46.70	331	P	P	03 16 31.8	+1.1
	baz=144						
ANMO	Albuquerque	46.70	331	*e*P	P	03 16 31.8	+1.1
	comp=Z,124nm,0.9s						
ANMO	Albuquerque	46.70	331	*ce*P	P	03 16 31.7	+1.0
ANMO				pmax	pmax		
	comp=Z,123nm,0.8s						
M45A	Boilermakers S	46.71	353	P	P	03 16 28.8	-1.6
	baz=171						
O37A	Wolven Farm, M	46.77	346	P	P	03 16 30.5	-0.5
	baz=161,SNR=7.1						
N40A	Mertquake, Sal	46.90	349	P	P	03 16 31.0	-0.8
	baz=165,SNR=6.3						
M43A	Waltham Townsh	46.98	351	P	P	03 16 31.0	-1.6
	baz=169,SNR=7.6						
TUC	Tucson	46.99	324	P	P	03 16 33.7	+0.8
	baz=137						
TUC	Tucson	46.99	324	*e*P	P	03 16 33.7	+0.8
	comp=Z,42nm,0.8s						
TUC	Tucson	46.99	324	*e*P	P	03 16 33.7	+0.8
TUC				pmax	pmax		
	comp=Z,42nm,0.8s						
ERPA	Erie	47.05	1	P	P	03 16 32.1	-1.0
	baz=181						
ERPA	Erie	47.05	1	*e*P	P	03 16 32.5	-0.6
	comp=Z,41nm,1.3s						
N39A	Derby Farms, D	47.08	348	P	P	03 16 32.8	-0.5
	baz=164,SNR=28						
M42A	Sheffield	47.12	351	P	P	03 16 32.6	-1.0
	baz=168						
N38A	Joes South For	47.16	347	P	P	03 16 33.8	-0.1
	baz=163,SNR=19						
M41A	Milan	47.18	350	P	P	03 16 32.9	-1.2
	baz=166,SNR=12						
CBKS	Cedar Bluff	47.18	340	P	P	03 16 34.8	+0.7
	baz=154,SNR=8.8						
CBKS	Cedar Bluff	47.18	340	*e*P	P	03 16 35.3	+1.1
	comp=Z,87nm,0.8s						
CBKS	Cedar Bluff	47.18	340	*e*P	P	03 16 35.3	+1.1
CBKS				pmax	pmax		
	comp=Z,87nm,0.8s						
BINY	Binghamton	47.32	5	P	P	03 16 35.1	0.0
	baz=186,SNR=23						
BINY	Binghamton	47.32	5	*e*P	P	03 16 35.6	+0.4
	comp=Z,85nm,0.8s						
O35A	Humboldt	47.32	344	P	P	03 16 34.6	-0.6
	baz=159						
N37A	Lee Faris, Mou	47.35	346	P	P	03 16 35.2	-0.2
	baz=162,SNR=17						
M40A	Post Highland	47.39	349	P	P	03 16 35.0	-0.7
	baz=165,SNR=7.2						
O34A	Beatrice	47.47	343	P	P	03 16 36.2	-0.2
	baz=158,SNR=18						
T25A	Trinidad	47.55	334	P	P	03 16 38.6	+1.3
	baz=147,SNR=47						
T25A	Trinidad	47.55	334	*e*P	P	03 16 38.7	+1.4
	comp=Z,76nm,0.8s						
M39A	Webster	47.59	348	P	P	03 16 36.7	-0.5
	baz=164						
N36A	Muff Farm, Cla	47.59	345	P	P	03 16 36.9	-0.3
	baz=160						
O33A	Hebron	47.63	342	P	P	03 16 37.6	0.0
	baz=157						
L42A	Oliver, Polo	47.65	351	P	P	03 16 36.6	-1.1
	baz=168,SNR=20						
MHTCO	State Highway	47.67	334	*e*P	P	03 16 39.5	+1.4
	comp=Z,61nm,0.9s						
L43A	Garden Prairie	47.68	352	P	P	03 16 36.8	-1.2
	baz=169,SNR=13						
MMNY	Mt. Morris Dam	47.73	3	*e*P	P	03 16 37.8	-0.5
	comp=Z,45nm,1.0s						
M38A	Pleasantville	47.74	347	P	P	03 16 37.6	-0.8
	baz=163,SNR=16						
N35A	Tabor	47.81	345	P	P	03 16 38.6	-0.4
	baz=160,SNR=8.0						
L41A	Preston	47.85	350	P	P	03 16 38.2	-1.1
	baz=167,SNR=21						
M37A	Trindle Farm,	47.92	346	P	P	03 16 39.8	0.0
	baz=162,SNR=12						
214A	Organ Pipe Nat	47.94	322	P	P	03 16 41.2	+1.0
	baz=134,SNR=50						
L40A	Anamosa	47.97	349	P	P	03 16 39.4	-0.8
	baz=166,SNR=13						
N34A	Lincoln	48.02	344	P	P	03 16 40.0	-0.6
	baz=158,SNR=9.8						
BCX	Boston College	48.05	9	*e*P	P	03 16 41.9	+1.2
	comp=Z,29nm,0.8s						
TRY	Troy	48.08	7	*e*P	P	03 16 41.8	+0.7
	comp=Z,66nm,0.9s						
ELFO	Elginfield	48.13	359	P	P	03 16 39.7	-1.6
	baz=179,SNR=5.5						
K43A	Burlington	48.14	352	P	P	03 16 39.8	-1.7
	baz=170,SNR=5.2						
M36A	Felix, Anita	48.15	346	P	P	03 16 41.2	-0.4
	baz=161						
HRV	Adam Dziewonsk	48.16	9	P	P	03 16 42.0	+0.4
	baz=192						
X18A	Snowflake	48.17	327	*e*P	P	03 16 43.2	+1.1
	comp=Z,66nm,0.8s						
L39A	Vinton	48.17	349	P	P	03 16 40.9	-0.9
	baz=165,SNR=10.0						
N33A	J Bar K, Exete	48.20	343	P	P	03 16 41.9	-0.1
	baz=157						
SCIA	State Center	48.22	347	P	P	03 16 42.0	-0.1
	baz=163,SNR=12						
SCIA	State Center	48.22	347	*e*P	P	03 16 42.1	0.0
	comp=Z,99nm,0.8s						
K41A	Shullsburg	48.34	350	P	P	03 16 41.9	-1.1
	baz=167,SNR=5.1						
K42A	Prairie Point,	48.35	351	P	P	03 16 42.0	-1.1
	baz=168,SNR=12						
L38A	Oak Wood Farm,	48.38	348	P	P	03 16 42.9	-0.5
	baz=164,SNR=19						
M35A	Neola	48.39	345	P	P	03 16 42.7	-0.7
	baz=160,SNR=6.1						
KSCO	Kaye Shedlock'	48.41	337	P	P	03 16 43.8	-0.1
	baz=150						
W18A	Petrified Fore	48.51	328	P	P	03 16 45.7	+1.1
	baz=140,SNR=60						
W18A	Petrified Fore	48.51	328	*e*P	P	03 16 45.9	+1.2
	comp=Z,122nm,0.9s						
SDCO	Great Sand Dun	48.54	334	P	P	03 16 46.0	+1.0
	baz=146,SNR=96						
SDCO	Great Sand Dun	48.54	334	*e*P	P	03 16 46.0	+1.0
	comp=Z,73nm,0.8s						
ACTO	Acton	48.54	1	P	P	03 16 43.3	-1.3
	baz=181,SNR=6.5						
L37A	Phoenix Point,	48.54	347	P	P	03 16 44.2	-0.4
	baz=162,SNR=20						
K40A	Colesburg	48.57	350	P	P	03 16 43.7	-1.1
	baz=166,SNR=27						
JFWS	Jewell Farm	48.63	351	P	P	03 16 44.3	-1.0
	baz=167,SNR=11						
JFWS	Jewell Farm	48.63	351	*e*P	P	03 16 44.7	-0.6
	comp=Z,34nm,0.6s						
JFWS	Jewell Farm	48.63	351	*e*P	P	03 16 44.7	-0.6
JFWS				pmax	pmax		
	comp=Z,34nm,0.6s						
M34A	Aspy Farms, Fr	48.66	344	P	P	03 16 45.2	-0.4
	baz=159,SNR=11						
K39A	Oelwein	48.71	349	P	P	03 16 44.8	-1.1
	baz=165,SNR=21						
ACCN	Adirondack Com	48.73	7	*e*P	P	03 16 46.6	+0.6
	comp=Z,36nm,0.9s						
L36A	Harm Buss Farm	48.73	346	P	P	03 16 45.7	-0.3
	baz=161,SNR=14						
J43A	Natural Harves	48.82	352	P	P	03 16 45.2	-1.5
	baz=170,SNR=6.2						
K38A	Parkersburg	48.83	348	P	P	03 16 46.0	-0.8
	baz=164,SNR=21						
J42A	Columbus	48.85	352	P	P	03 16 45.3	-1.6
	baz=169						
M33A	Taylor Creek F	48.89	344	P	P	03 16 46.8	-0.5
	baz=158						
WLVO	Wesleyville	48.90	2	P	P	03 16 45.9	-1.3
	baz=183,SNR=7.9						
X16A	Lo Mia Camp, P	48.91	326	*e*P	P	03 16 49.0	+1.2
	comp=Z,49nm,0.8s						
BASO	Ashfield	48.95	359	P	P	03 16 46.3	-1.4
	baz=179,SNR=10						
L35A	Bielow Farm, R	48.96	345	P	P	03 16 47.2	-0.6
	baz=160						
J41A	Loganville	49.03	351	P	P	03 16 47.2	-1.1
	baz=168,SNR=8.0						
L34A	Svendsen Farm,	49.04	344	P	P	03 16 48.2	-0.2
	baz=159						
FFD	Franklin Falls	49.08	9	*e*P	P	03 16 49.5	+0.8
	comp=Z,42nm,1.0s						
113A	Mohawk Valley,	49.09	322	*e*P	P	03 16 49.7	+0.8
	comp=Z,44nm,0.9s						
K37A	Belmond	49.13	347	P	P	03 16 48.4	-0.7
	baz=163,SNR=21						
S22A	4UR Ranch, Cre	49.14	332	P	P	03 16 50.1	+0.5
	baz=144,SNR=22						
S22A	4UR Ranch, Cre	49.14	332	*e*P	P	03 16 50.4	+0.7
	comp=Z,77nm,1.5s						
BRCO	Bruce Peninsul	49.18	359	P	P	03 16 47.9	-1.5
	baz=179,SNR=7.1						
J40A	Soldiers Grove	49.18	350	P	P	03 16 48.3	-1.1
	baz=167,SNR=20						
K36A	Gilmore City	49.19	347	P	P	03 16 49.3	-0.2
	baz=162,SNR=22						
HNH	Hanover	49.22	8	*e*P	P	03 16 50.7	+1.0
	comp=Z,25nm,0.9s						
NCB	Newcomb	49.24	6	*e*P	P	03 16 50.2	+0.3
	comp=Z,14nm,0.9s						
I43A	Langenfeld Bro	49.28	353	P	P	03 16 49.1	-1.1
	baz=170,SNR=10						
J39A	Decorah	49.29	349	P	P	03 16 49.0	-1.3
	baz=165,SNR=20						
I42A	Draeger Farm,	49.38	352	P	P	03 16 50.2	-0.7
	baz=169,SNR=8.3						
I42A	Draeger Farm,	49.38	352	*e*P	P	03 16 50.3	-0.7
	comp=Z,29nm,0.8s						
Q24A	Divide	49.40	335	P	P	03 16 52.0	+0.4
	baz=147,SNR=8.8						
J38A	Wedel Dairy, R	49.42	349	P	P	03 16 50.0	-1.3
	baz=164,SNR=6.7						
Y14A	Wickenburg	49.45	324	*e*P	P	03 16 52.5	+0.7
	comp=Z,63nm,0.8s						
L33A	Hoskins	49.47	344	P	P	03 16 51.3	-0.4
	baz=158						
MVCO	Mesa Verde	49.50	331	P	P	03 16 53.0	+0.7
	baz=142,SNR=43						
MVCO	Mesa Verde	49.50	331	*e*P	P	03 16 53.0	+0.7
	comp=Z,52nm,0.8s						
DELO	Deloro Mine	49.52	3	P	P	03 16 50.6	-1.5
	baz=184,SNR=12						
BMRO	Meriville Lake	49.53	359	P	P	03 16 50.7	-1.4
	baz=179,SNR=9.2						
L32A	Elgin	49.53	343	P	P	03 16 52.1	-0.1
	baz=157						
J37A	Redenius Farm,	49.63	348	P	P	03 16 52.3	-0.6
	baz=163,SNR=5.7						
K34A	Le Mars	49.64	345	P	P	03 16 52.0	-1.0
	baz=160,SNR=5.2						
I40A	Norwalk	49.64	351	P	P	03 16 52.1	-0.9
	baz=167						
WUAZ	Wupatki	49.69	327	P	P	03 16 54.9	+1.3
	baz=138,SNR=71						
WUAZ	Wupatki	49.69	327	*e*P	P	03 16 54.9	+1.3
	comp=Z,94nm,0.8s						
I41A	Arkdale	49.69	351	P	P	03 16 52.2	-1.1
	baz=168						
SADO	Sadowa	49.72	1	*e*P	P	03 16 52.3	-1.2
	comp=Z,37nm,1.0s						
I39A	Houston	49.76	350	P	P	03 16 53.1	-0.8
	baz=166,SNR=30						
VT1	Waterbury	49.77	7	*e*P	P	03 16 54.4	+0.4
	comp=Z,39nm,1.1s						
LBNH	Lisbon	49.80	8	P	P	03 16 54.6	+0.5
	baz=191						
LBNH	Lisbon	49.80	8	*e*P	P	03 16 55.4	+1.3
	comp=Z,29nm,1.1s						
LBNH	Lisbon	49.80	8	*e*P	P	03 16 55.4	+1.3
LBNH				pmax	pmax		
	comp=Z,29nm,1.1s						
K33A	Hardington	49.80	344	P	P	03 16 53.7	-0.6
	baz=158						
H43A	Windswept, Lux	49.81	353	P	P	03 16 53.1	-1.1
	baz=171,SNR=11						
H43A	Windswept, Lux	49.81	353	*e*P	P	03 16 53.9	-0.4
	comp=Z,254nm,1.5s						
J36A	Seneca 1, Swea	49.82	347	P	P	03 16 54.0	-0.4
	baz=162,SNR=51						
LONY	Lake Ozonia	49.85	6	P	P	03 16 54.0	-0.6
	baz=188,SNR=9.3						
LONY	Lake Ozonia	49.85	6	*e*P	P	03 16 54.2	-0.3
	comp=Z,34nm,1.1s						
GLMI	Grayling	49.88	356	P	P	03 16 54.1	-0.7
	baz=175						
OGNE	Ogallala	49.88	339	P	P	03 16 55.2	+0.2
	baz=152						
OGNE	Ogallala	49.88	339	*e*P	P	03 16 55.9	+0.9
	comp=Z,47nm,1.0s						
GLA	Glamis	49.93	322	P	P	03 16 56.2	+0.8
	baz=133,SNR=10.0						
GLA	Glamis	49.93	322	*e*P	P	03 16 56.3	+0.8
	comp=Z,43nm,0.8s						
GLA	Glamis	49.93	322	*e*P	P	03 16 56.3	+0.9
GLA				pmax	pmax		
	comp=Z,43nm,0.8s						
H42A	Shiocton	49.94	353	P	P	03 16 54.2	-1.0
	baz=170						
H42A	Shiocton	49.94	353	*e*P	P	03 16 54.8	-0.4
	comp=Z,38nm,1.0s						
EFI	East Falkland	50.03	162	*e*P	P	03 16 56.3	+0.5
	comp=Z,79nm,0.8s						
EFI	East Falkland	50.03	162	*de*P	P	03 16 55.9	+0.1
EFI				pmax	pmax		
	comp=Z,89nm,1.0s						
PLVO	Plevna	50.07	3	P	P	03 16 55.0	-1.2
	baz=184,SNR=9.6						
PLVO	Plevna	50.07	3	*e*P	P	03 16 55.5	-0.7
	comp=Z,31nm,0.9s						
I38A	Scanlan Farm,	50.09	349	P	P	03 16 55.2	-1.1
	baz=165,SNR=24						
K32A	Verdigre	50.12	343	P	P	03 16 55.9	-0.7
	baz=157,SNR=14						
TOBO	Tobermory, Bru	50.16	359	P	P	03 16 55.1	-1.7
	baz=179,SNR=9.7						
FRNY	Flat Rock	50.17	7	*e*P	P	03 16 57.0	+0.1
	comp=Z,35nm,1.0s						
H41A	Junction City	50.20	352	P	P	03 16 56.3	-0.9
	baz=168,SNR=11						
H41A	Junction City	50.20	352	*e*P	P	03 16 56.7	-0.5
	comp=Z,30nm,0.8s						
Y12C	Blythe	50.22	323	P	P	03 16 58.3	+0.7
	baz=134,SNR=35						
Y12C	Blythe	50.22	323	*e*P	P	03 16 58.6	+1.0
	comp=Z,74nm,0.9s						
PV01	Paradox Valley	50.27	331	*e*P	P	03 16 59.0	+0.9
I37A	Lemond, Waseca	50.27	348	P	P	03 16 57.0	-0.8
	baz=163,SNR=11						
KLBO	Killbear Provi	50.29	0	P	P	03 16 56.2	-1.6
	baz=180,SNR=15						
ISCO	Idaho Springs	50.30	335	P	P	03 16 59.1	+0.7
	baz=147,SNR=55						
ISCO	Idaho Springs	50.30	335	*e*P	P	03 16 59.1	+0.7
	comp=Z,35nm,0.8s						
ISCO	Idaho Springs	50.30	335	*e*P	P	03 16 59.1	+0.7
ISCO				pmax	pmax		
	comp=Z,35nm,0.8s						
K31A	O'Neill	50.31	343	P	P	03 16 58.1	0.0
	baz=156,SNR=8.7						
H40A	Chili	50.31	351	P	P	03 16 57.3	-0.8
	baz=167,SNR=18						
SMCO	Snowmass	50.37	333	*e*P	P	03 17 00.1	+1.0
	comp=Z,98nm,1.5s						
PDMCI	Parker Dam,Lak	50.38	324	P	P	03 16 59.4	+0.7
	baz=135,SNR=12						
I36A	Fitzsimmons Fa	50.41	348	P	P	03 16 58.1	-0.7
	baz=163,SNR=9.9						
J33A	Davis	50.45	345	P	P	03 16 58.3	-0.8
	baz=159,SNR=11						
IKP	In-Ko-Pah, Jac	50.46	321	P	P	03 17 00.4	+0.9
	baz=132,SNR=12						
SWSC	Sam W. Stewart	50.46	321	P	P	03 17 00.1	+0.7
	baz=132,SNR=7.9						
I35A	Creekview Farm	50.47	347	P	P	03 16 58.8	-0.4
	baz=161,SNR=5.3						
PV05	Paradox Valley	50.48	331	*e*P	P	03 17 00.6	+0.9
H39A	Augusta	50.52	350	P	P	03 16 58.8	-0.8
	baz=166,SNR=16						
G43A	Wallace	50.58	354	P	P	03 16 59.1	-0.9
	baz=171,SNR=22						
G43A	Wallace	50.58	354	*e*P	P	03 16 59.3	-0.7
	comp=Z,58nm,0.8s						
G42A	Mountain	50.65	353	P	P	03 16 59.6	-1.0
	baz=170,SNR=11						
G42A	Mountain	50.65	353	*e*P	P	03 16 59.8	-0.8
	comp=Z,41nm,0.8s						
PV10	Paradox Valley	50.68	331	*e*P	P	03 17 01.6	+0.3
H38A	Maiden Rock	50.69	349	P	P	03 17 00.1	-0.8
	baz=165,SNR=16						
G41A	Antigo	50.72	352	P	P	03 17 00.1	-1.0
	baz=169,SNR=11						
H37A	Dierke Farm, C	50.72	349	P	P	03 17 00.4	-0.7
	baz=164						
BC3	Big Chuckawall	50.72	322	P	P	03 17 02.1	+0.6
	baz=133,SNR=24						
J32A	Parkston	50.74	344	P	P	03 17 00.2	-1.1
	baz=158,SNR=6.1						
ECSD	EROS Data Cent	50.75	345	P	P	03 17 00.7	-0.7
	baz=159,SNR=24						
ECSD	EROS Data Cent	50.75	345	*e*P	P	03 17 00.8	-0.6
	comp=Z,24nm,0.8s						
W13A	Hualapai Mount	50.79	325	*e*P	P	03 17 03.3	+1.2
	comp=Z,58nm,0.8s						
F45A	CMU Biological	50.80	356	P	P	03 17 00.5	-1.1
	baz=174						
MONP2	Monument Peak	50.81	321	P	P	03 17 03.0	+0.7
	baz=131,SNR=9.5						
ALFO	Alfred	50.82	5	P	P	03 17 01.2	-0.5
	baz=187,SNR=9.8						
PV09	Paradox Valley	50.82	331	*e*P	P	03 17 03.4	+1.0
F46A	Macinaw City C	50.83	356	P	P	03 17 00.8	-1.2
	baz=175						
BAR	Barrett	50.84	320	*e*P	P	03 17 03.3	+1.1
	comp=Z,35nm,0.8s						
U15A	North Rim	50.86	327	*e*P	P	03 17 03.9	+1.2
	comp=Z,25nm,0.9s						
IRM	Iron Mountain	50.88	323	P	P	03 17 03.5	+1.0
	baz=133,SNR=50						
H36A	Jessenland, He	50.92	348	P	P	03 17 02.3	-0.3
	baz=163,SNR=35						
J31A	Geddes	50.92	343	P	P	03 17 01.7	-1.0
	baz=156						
NEE2	Needles Airpor	50.98	324	P	P	03 17 04.2	+0.9
	baz=134,SNR=20						

G39A Holcombe 51.09 350 P P 03 17 03.2 -0.7
baz=166,SNR=25
F43A Flat Rock, Esc 51.09 354 P P 03 17 02.8 -1.0
baz=172,SNR=9.9
G38A Ridgeland 51.09 350 P P 03 17 03.1 -0.8
baz=166,SNR=30
F42A Maple Grove Fa 51.12 353 P P 03 17 03.4 -0.8
baz=170
F44A Big Bay de Noc 51.16 355 P P 03 17 03.2 -1.2
baz=173,SNR=8.2
PKME Peaks-Kenny Pk 51.22 10 P P 03 17 05.5 +0.7
baz=194,SNR=5.6
PKME Peaks-Kenny Pk 51.22 10 eP P 03 17 05.9 +1.1
comp=Z,36nm,0.9s
F41A Three Lakes 51.22 352 P P 03 17 04.0 -0.9
baz=169,SNR=8.6
H35A Sunnyside Ranc 51.23 347 P P 03 17 04.3 -0.7
baz=162,SNR=20
109C Camp Elliot, M 51.25 320 P P 03 17 05.6 +0.3
baz=131,SNR=9.0
CPE Camp Elliot 51.25 320 eP P 03 17 06.2 +0.9
comp=Z,62nm,0.9s
BELC Belle Mtn. Jos 51.29 322 P P 03 17 06.7 +1.0
baz=132,SNR=15
XPFO Piæon Flat 51.31 321 eP P 03 17 06.9 +1.0
comp=Z,39nm,0.9s
PFO Pinyon Flats O 51.31 321 P P 03 17 06.9 +0.9
baz=132,SNR=19
PFO Pinyon Flats O 51.31 321 eP P 03 17 06.9 +0.9
comp=Z,39nm,0.9s
PFO Pinyon Flats O 51.31 321 eP P 03 17 06.9 +0.9
comp=Z,39nm,0.9s pmax pmax
SPMN Marine on St. 51.32 349 P P 03 17 04.9 -0.7
baz=164,SNR=32
SPMN Marine on St. 51.32 349 eP P 03 17 05.0 -0.6
comp=Z,68nm,0.8s
N23A Red Feather La 51.35 336 P P 03 17 06.5 +0.2
baz=147,SNR=14
N23A Red Feather La 51.35 336 eP P 03 17 06.9 +0.6
comp=Z,28nm,1.0s
H34A Spellman Lake, 51.42 346 P P 03 17 06.0 -0.4
baz=161,SNR=8.5
TRQ Mont Tremblant 51.44 5 eP P 03 17 05.9 -0.7
EKU East Kanab 51.45 327 eP P 03 17 05.1 -1.8
LDFC Landfair 51.49 324 eP P 03 17 09.1 +1.9
comp=Z,53nm,0.8s
PHWY Pilot Hill 51.49 336 eP P 03 17 07.7 +0.4
comp=Z,21nm,0.9s
G36A St. Michael 51.51 348 P P 03 17 06.5 -0.6
baz=163,SNR=9.9
I31A Royce, Wessing 51.54 344 P P 03 17 06.7 -0.6
baz=157
F40A Park Falls 51.54 352 P P 03 17 06.5 -0.7
baz=168
KNB Kanab 51.58 327 eP P 03 17 09.4 +1.5
comp=Z,61nm,0.8s
KNB Kanab 51.58 327 eP P 03 17 09.4 +1.5
KNB comp=Z,61nm,0.8s pmax pmax
COWI Conover 51.58 352 eP P 03 17 07.2 -0.4
comp=Z,27nm,0.8s
E43A Lone Tree Farm 51.61 354 P P 03 17 06.9 -0.8
baz=172,SNR=8.0
GMRC Granite Mounta 51.62 323 P P 03 17 09.0 +0.8
baz=133,SNR=31
PKCU Pink Cliffs 51.62 328 eP P 03 17 10.4 +2.0
comp=Z,57nm,0.8s
G35A Watkins 51.65 348 P P 03 17 07.5 -0.6
baz=162,SNR=9.7
F39A Loretta 51.66 351 P P 03 17 07.3 -0.8
baz=167
MMU Miners Mountai 51.66 329 eP P 03 17 09.6 +1.0
H33A Prehn Over Nor 51.67 345 P P 03 17 07.7 -0.5
baz=159,SNR=10
H32A Carlson Farm, 51.68 345 P P 03 17 07.7 -0.7
baz=158,SNR=5.3
O20A White River Ci 51.72 333 P P 03 17 09.6 +0.7
baz=144,SNR=16
O20A White River Ci 51.72 333 eP P 03 17 09.8 +0.8
comp=Z,70nm,1.2s
E42A Champion 51.76 354 P P 03 17 08.3 -0.6
baz=171,SNR=9.7
F37A Hinrichs Farm, 51.77 349 P P 03 17 08.3 -0.6
baz=165,SNR=8.7
MURC Murrieta 51.77 321 P P 03 17 10.0 +0.7
baz=131,SNR=13
LCMT Little Creek M 51.80 327 eP P 03 17 10.6 +1.1
comp=Z,36nm,0.9s
F38A Pierce - Schro 51.86 350 P P 03 17 09.1 -0.5
baz=166,SNR=26
E41A Kenton 51.92 353 P P 03 17 09.3 -0.8
baz=169,SNR=5.5
G34A Benson 51.93 347 P P 03 17 09.6 -0.6
baz=161
H31A Wolsey 51.94 344 P P 03 17 09.4 -0.8
baz=157,SNR=7.3
SRU San Rafael Swe 51.98 331 eP P 03 17 11.5 +0.7
comp=Z,46nm,0.8s
SRU San Rafael Swe 51.98 331 eP P 03 17 11.5 +0.7
SRU comp=Z,46nm,0.8s pmax pmax
MTPU Mount Pierson 52.00 328 eP P 03 17 12.2 +0.9
comp=Z,18nm,1.0s
E40A Wakefield 52.02 352 P P 03 17 10.5 -0.3
baz=168,SNR=15
BBRC Big Bear Solar 52.03 322 P P 03 17 12.7 +1.2
baz=132,SNR=6.4
SUSD Miller 52.04 343 P P 03 17 10.2 -0.8
baz=157,SNR=8.3
HEC Hector,Ludlow 52.05 323 P P 03 17 12.5 +1.1
baz=133,SNR=46
E39A Mellen 52.05 351 P P 03 17 10.7 -0.3
baz=167,SNR=7.7
F36A Milaca 52.07 349 P P 03 17 10.4 -0.7
baz=164,SNR=51
G33A Ortonville 52.08 346 P P 03 17 10.6 -0.7
baz=160,SNR=6.0
DSCC Desert Studies 52.13 323 eP P 03 17 14.9 +3.1
SZCU Shurtz Canyon 52.15 327 eP P 03 17 13.6 +1.4
comp=Z,64nm,1.0s
Q16A Castle Valley 52.15 330 eP P 03 17 13.2 +1.0
comp=Z,31nm,0.8s
TUQ Turquoise Moun 52.22 323 P P 03 17 13.5 +0.8
baz=133,SNR=37
SCI2 San Clemente I 52.23 319 P P 03 17 13.2 +0.6
baz=129
CCUT Cedar City 52.26 327 eP P 03 17 14.8 +1.7
comp=Z,66nm,0.9s
F35A Swanville 52.28 348 P P 03 17 12.3 -0.4
baz=162,SNR=28
MSU Marysvale 52.35 329 eP P 03 17 14.7 +1.0
MSU Marysvale 52.35 329 eP P 03 17 14.7 +1.0
P17A Butcher Ranch, 52.36 331 eP P 03 17 14.5 +0.8
comp=Z,66nm,0.9s
F34A Alexandria 52.37 347 P P 03 17 13.1 -0.3
baz=162,SNR=10
G32A Webster 52.40 345 P P 03 17 13.0 -0.7
baz=159
DBD Des Bee Dove 52.41 330 eP P 03 17 15.4 +1.3
CIS Catalina Islan 52.42 320 P P 03 17 14.4 +0.4
baz=130
E38A The Farm, Brul 52.43 351 P P 03 17 13.9 0.0
baz=166
D41A Chassel 52.46 353 P P 03 17 13.9 -0.1
baz=170,SNR=7.3
TMUT Trail Mountain 52.46 330 eP P 03 17 15.6 +1.1
comp=Z,148nm,2.0s
BFSC Mount Baldy Ra 52.48 321 P P 03 17 15.2 +0.6
baz=131,SNR=25
RRX Edison Barstow 52.49 322 P P 03 17 15.2 +0.7
baz=132
SHPR Sheep Range 52.52 325 eP P 03 17 16.0 +1.1
comp=Z,44nm,0.9s
E37A Wrenshall 52.54 350 P P 03 17 14.3 -0.3
baz=165,SNR=7.0
RWWY Rawlins 52.54 335 eP P 03 17 14.8 -0.2
comp=Z,59nm,0.8s
G31A Conde 52.55 344 P P 03 17 14.0 -0.8
baz=158
SGU Sterling 52.59 330 eP P 03 17 16.9 +1.4
SNO Snow College 52.63 330 eP P 03 17 17.0 +1.1
F33A 5 Mile Ranch, 52.65 346 P P 03 17 14.7 -0.7
baz=160,SNR=12
E36A McGregor 52.65 349 P P 03 17 15.1 -0.4
baz=164,SNR=32
WCU Willow Creek 52.65 329 eP P 03 17 17.2 +1.2
GSC Goldstone, Bar 52.66 323 P P 03 17 16.9 +1.0
baz=132,SNR=30
GSC Goldstone, Bar 52.66 323 eP P 03 17 16.5 +0.6
comp=Z,50nm,0.9s
GSC Goldstone, Bar 52.66 323 eP P 03 17 16.5 +0.6
GSC comp=Z,51nm,0.9s pmax pmax
MWC Mount Wilson 52.72 321 eP P 03 17 17.3 +0.9
comp=Z,53nm,0.8s
MWC Mount Wilson 52.72 321 eP P 03 17 17.3 +0.9
MWC comp=Z,53nm,0.8s pmax pmax
SHOC Shoshone, Teco 52.74 324 P P 03 17 17.5 +1.1
baz=133,SNR=18
PASC Pasadena Art C 52.76 321 eP P 03 17 17.6 +1.1
comp=Z,37nm,1.0s
PQI Presque Isle 52.81 11 eP P 03 17 17.9 +1.3
comp=Z,21nm,0.9s
F32A Veblen 52.88 346 P P 03 17 16.5 -0.7
baz=159
DECC Green Verdugo 52.91 321 P P 03 17 18.6 +0.9
baz=130,SNR=6.0
E35A Pequot Lakes 52.91 348 P P 03 17 17.3 -0.1
baz=163,SNR=20
FLU Fool Peak 53.00 330 eP P 03 17 19.3 +0.9
E34A Wadena 53.03 348 P P 03 17 18.9 +0.6
baz=162
SNCC San Nicolas Is 53.04 319 P P 03 17 18.9 +0.3
baz=129
K22A Casper 53.06 336 P P 03 17 19.2 +0.4
baz=147,SNR=19
K22A Casper 53.06 336 eP P 03 17 19.2 +0.4
comp=Z,40nm,1.0s
EDW2 Edwards Air Fo 53.10 321 P P 03 17 19.7 +0.6
baz=131,SNR=34
D37A Cotton 53.12 350 P P 03 17 18.8 -0.1
baz=165,SNR=19
F31A Hecla 53.15 345 P P 03 17 18.4 -0.8
baz=158,SNR=15
E33A Westby DABS, E 53.21 347 P P 03 17 19.0 -0.6
baz=161,SNR=6.0
MPU Maple Canyon 53.22 330 eP P 03 17 21.1 +1.1
comp=Z,36nm,0.8s
D36A Goodland 53.27 349 P P 03 17 19.6 -0.4
baz=164,SNR=13
BLG Laguna Peak, P 53.28 320 P P 03 17 20.9 +0.5
baz=130,SNR=5.7
LRMC Laurel Mtn Rad 53.31 322 P P 03 17 21.5 +0.8
baz=132,SNR=26
D35A Remer 53.34 349 P P 03 17 20.0 -0.6
baz=163,SNR=24
DAU Daniels Canyon 53.34 331 eP P 03 17 22.2 +1.1
DAU Daniels Canyon 53.34 331 eP P 03 17 22.2 +1.1
WMUT West Mountain 53.37 330 eP P 03 17 24.2 +3.1
C40A Isle Royale Na 53.37 353 P P 03 17 20.7 -0.1
baz=169
RSSD Black Hills 53.38 339 P P 03 17 21.6 +0.5
baz=160
RSSD Black Hills 53.38 339 eP P 03 17 21.7 +0.5
comp=Z,22nm,0.8s
RSSD Black Hills 53.38 339 eP P 03 17 21.7 +0.5
RSSD comp=Z,22nm,0.8s pmax pmax
NLU North Lily Min 53.39 330 eP P 03 17 21.4 0.0
comp=Z,22nm,0.8s
C39A Grand Marais 53.40 352 P P 03 17 20.3 -0.6
baz=168
TPNV Topopah Spring 53.45 325 P P 03 17 23.0 +1.3
baz=134,SNR=55
TPNV Topopah Spring 53.45 325 eP P 03 17 23.1 +1.3
comp=Z,47nm,0.9s
TPNV Topopah Spring 53.45 325 eP P 03 17 23.1 +1.3
TPNV comp=Z,47nm,0.9s pmax pmax
C38A Sawbill Land. 53.47 351 P P 03 17 20.6 -0.9
baz=167
FURC Furnace Creek, 53.48 324 P P 03 17 22.8 +1.1
baz=133,SNR=56
E32A Braaten, Kindr 53.54 346 P P 03 17 21.6 -0.4
baz=160
MPMC Manual Prospec 53.58 323 P P 03 17 23.3 +0.5
baz=132,SNR=25
D34A Park Rapids 53.58 348 P P 03 17 22.0 -0.3
baz=162,SNR=22
SCZ2 Santa Cruz Isl 53.58 320 P P 03 17 22.8 +0.2
baz=129
JLU Jordanelle 53.58 331 eP P 03 17 23.8 +1.0
comp=Z,49nm,0.9s
C37A Embarrass 53.63 350 P P 03 17 22.6 0.0
baz=166,SNR=35
E31A Nome 53.71 345 P P 03 17 22.7 -0.5
baz=158,SNR=8.0
EYMN Ely 53.73 351 P P 03 17 22.8 -0.6
baz=166,SNR=6.3
EYMN Ely 53.73 351 eP P 03 17 23.2 -0.2
comp=Z,26nm,0.8s
C36A Pine Crest Far 53.77 350 P P 03 17 23.8 +0.1
baz=165,SNR=95
D33A AnnSam, Waubun 53.77 347 P P 03 17 23.4 -0.4
baz=161
DAC Darwin (Calif) 53.78 323 eP P 03 17 24.7 +0.4
comp=Z,28nm,0.8s
DAC Darwin (Calif) 53.78 323 eP P 03 17 24.7 +0.4
DAC comp=Z,28nm,0.8s pmax pmax
ARVC Arvin 53.79 321 P P 03 17 24.9 +0.8
baz=130,SNR=9.8
CTU Camp Tracy 53.80 331 eP P 03 17 25.4 +1.2
comp=Z,34nm,1.1s
FSU Fish Springs 53.88 329 eP P 03 17 26.4 +1.6
ISA Isabella, Lake 53.91 322 P P 03 17 25.9 +0.9
baz=131,SNR=22
ISA Isabella, Lake 53.91 322 eP P 03 17 25.9 +0.9
comp=Z,26nm,0.9s
ISA Isabella, Lake 53.91 322 eP P 03 17 25.9 +0.9
ISA comp=Z,26nm,0.9s pmax pmax
C35A Jirik Farms, M 53.92 349 P P 03 17 24.5 -0.3
baz=164,SNR=41
DUG Dugway, Tooele 53.94 330 P P 03 17 26.3 +1.1
baz=139,SNR=49
DUG Dugway, Tooele 53.94 330 eP P 03 17 26.3 +1.1
comp=Z,52nm,0.8s
DUG Dugway, Tooele 53.94 330 eP P 03 17 26.3 +1.1
DUG comp=Z,52nm,0.8s pmax pmax
TCUT Toone Canyon 53.96 331 eP P 03 17 26.5 +0.9
comp=Z,60nm,0.7s
D32A Dogwood Acres, 54.04 346 P P 03 17 25.1 -0.5
baz=160
R11A Troy Canyon, C 54.05 326 P P 03 17 27.2 +1.1
baz=135,SNR=59
R11A Troy Canyon, C 54.05 326 eP P 03 17 27.4 +1.2
comp=Z,36nm,0.8s
C34A RKJ Ranch, Bem 54.06 348 P P 03 17 25.5 -0.3
baz=162,SNR=15
FPU Francis Peak 54.10 331 eP P 03 17 27.3 +0.8
D31A Mcclaflin, Tow 54.12 346 P P 03 17 26.0 -0.3
baz=159
GRAC Grapevine Rang 54.13 324 P P 03 17 27.6 +1.0
baz=133,SNR=30
CWC Cottonwood Cre 54.19 323 P P 03 17 27.9 +0.7
baz=132
PKM Mcpherson Peak 54.25 320 P P 03 17 27.9 +0.2
baz=129,SNR=5.3
MCU Monte Cristo P 54.28 332 eP P 03 17 28.5 +0.6
C33A Trail 54.34 348 P P 03 17 27.8 -0.1
baz=161,SNR=8.8
VES Vestal, Richgr 54.41 322 P P 03 17 29.4 +0.9
baz=130,SNR=16
HWUT Hardware Ranch 54.42 332 eP P 03 17 29.2 +0.4
comp=Z,141nm,0.8s
BW06 Boulder Array 54.42 334 P P 03 17 28.7 -0.1
baz=144,SNR=22
BW06 Boulder Array 54.42 334 eP P 03 17 28.6 -0.2
comp=Z,24nm,0.8s
PD31 Pinedale Array 54.42 334 eP P 03 17 28.6 -0.2
PDAR Pinedale Array 54.42 334 P P 03 17 28.7 -0.2
comp=Z,19nm,0.8s,baz=123,slow=7.5,SNR=126
PDAR LR LR 03 41 08.3
comp=Z,381nm,18.6s,baz=178,slow=36
PDAR Pinedale Array 54.42 334 eP P 03 17 27.8 -1.0
B35A Bob, Littlefor 54.51 349 P P 03 17 28.8 -0.3
baz=164
BMUT Black Mountain 54.53 332 eP P 03 17 29.8 +0.1
C32A Crookston 54.57 347 P P 03 17 29.5 0.0
baz=160
BGU Big Grassy Mou 54.60 330 eP P 03 17 31.1 +1.0
comp=Z,118nm,1.8s
SPUT South Promonto 54.61 331 eP P 03 17 31.1 +1.0
comp=Z,42nm,0.8s
SMMC Simmler 54.64 321 P P 03 17 31.4 +1.1
baz=129,SNR=16
TIN Tinemaha, Big 54.68 323 P P 03 17 31.5 +0.8
baz=132
B33A Robert and Kas 54.79 348 P P 03 17 30.9 -0.2
baz=162,SNR=28
B34A Aery, Baudette 54.80 349 P P 03 17 31.2 +0.1
baz=163,SNR=85
RCTC Rector, Farmer 54.80 322 P P 03 17 31.7 +0.3
baz=131,SNR=10
C31A Landman Farms, 54.82 346 P P 03 17 31.2 -0.1
baz=159,SNR=27
AGMN Agassiz Nation 54.87 348 P P 03 17 31.8 +0.1
baz=161,SNR=135
AGMN Agassiz Nation 54.87 348 eP P 03 17 31.9 +0.1
comp=Z,153nm,0.7s
PAGB Antelope Grade 55.06 321 eP P 03 17 34.5 +1.2
comp=Z,34nm,0.7s
AHID Auburn Hatcher 55.11 333 eP P 03 17 33.9 +0.2
comp=Z,30nm,0.8s
B32A Ashes, Strandq 55.11 347 P P 03 17 33.6 +0.2
baz=161,SNR=104
HVU Hansel Valley 55.13 331 eP P 03 17 34.5 +0.6
comp=Z,31nm,0.8s
HVU Hansel Valley 55.13 331 eP P 03 17 34.5 +0.6
HVU comp=Z,31nm,0.8s pmax pmax
MDND Maddock 55.35 345 P P 03 17 35.6 +0.5
baz=157,SNR=9.0
MDND Maddock 55.35 345 eP P 03 17 35.9 +0.8
comp=Z,184nm,0.8s
A33A Warroad 55.38 348 P P 03 17 35.5 +0.2
baz=162,SNR=73
B31A Greenbush Farm 55.39 346 P P 03 17 35.3 -0.1
baz=159,SNR=19
MLAC Mammoth, Mammo 55.43 323 P P 03 17 37.0 +0.8
baz=132
REDW Red Top Meadow 55.47 334 eP P 03 17 36.6 +0.2
comp=Z,47nm,0.9s
SNOW Snow King Moun 55.51 334 eP P 03 17 37.1 +0.4
comp=Z,23nm,0.8s
LOHW Long Hollow 55.56 334 eP P 03 17 37.2 +0.2
comp=Z,19nm,0.9s
NV11 Mina Array Sit 55.57 325 eP P 03 17 37.7 +0.6
comp=Z,4.3nm,0.8s
MDPB Devils Postpil 55.57 323 eP P 03 17 35.6 -1.6
comp=Z,33nm,0.8s
A32A Rocking H Ranc 55.59 347 P P 03 17 36.6 -0.3
baz=161,SNR=27
TPAW Teton Pass 55.61 334 eP P 03 17 37.8 +0.3
comp=Z,50nm,1.1s
NV01 Mina Array Sit 55.65 324 eP P 03 17 37.9 +0.2
NVAR Mina Array Bea 55.65 324 P P 03 17 38.7 +0.9
comp=Z,52nm,0.8s,baz=135,slow=7.2,SNR=254
NVAR LR LR 03 39 23.9
comp=Z,230nm,18.4s,baz=270,slow=34
PMPB Monarch Peak 55.72 321 eP P 03 17 39.0 +1.0
comp=Z,80nm,0.8s
MOOW Moose Ponds 55.73 334 eP P 03 17 38.2 0.0
comp=Z,21nm,1.3s
A31A Linda, St. Vin 55.76 347 P P 03 17 37.8 -0.3
baz=160,SNR=5.1
FXWY Fox Creek 55.77 334 eP P 03 17 38.7 +0.2
comp=Z,13nm,0.8s
RYN Ryan 55.91 325 eP P 03 17 40.3 +0.8
comp=Z,27nm,0.9s
IMW Indian Meadow 55.93 334 eP P 03 17 39.9 +0.2
comp=Z,25nm,1.0s
YPP Pitchstone Pla 56.17 334 eP P 03 17 42.5 +1.1
comp=Z,21nm,1.2s
H17A Grant Village 56.17 335 P P 03 17 42.0 +0.6
baz=143,SNR=11
H17A Grant Village 56.17 335 eP P 03 17 42.0 +0.6
comp=Z,29nm,1.3s
RLMT Red Lodge 56.22 336 P P 03 17 41.7 +0.1
baz=145,SNR=17
RLMT Red Lodge 56.22 336 eP P 03 17 41.8 +0.1
comp=Z,16nm,0.8s
MCID Moose Creek 56.27 334 eP P 03 17 43.0 +0.9
YFT Old Faithful 56.33 334 eP P 03 17 44.6 +2.1
comp=Z,40nm,1.2s
WAKR Walker 56.36 324 eP P 03 17 44.0 +1.2
comp=Z,44nm,0.8s
LAO LASA Array 56.37 339 P P 03 17 42.5 -0.1
baz=149,SNR=6.6
LAO LASA Array 56.37 339 eP P 03 17 42.8 +0.3
comp=Z,38nm,1.1s
BMN Battle Mountai 56.42 327 eP P 03 17 43.5 +0.4
comp=Z,53nm,0.9s
BMN Battle Mountai 56.42 327 eP P 03 17 43.5 +0.4
BMN comp=Z,53nm,0.9s pmax pmax
SAO San Andreas Ge 56.46 321 eP P 03 17 44.1 +0.8
comp=Z,46nm,1.3s
SAO San Andreas Ge 56.46 321 eP P 03 17 44.1 +0.8
SAO comp=Z,46nm,1.3s pmax pmax
YMR Madison River 56.56 334 eP P 03 17 45.5 +1.4
comp=Z,31nm,0.8s
YERR Yerington 56.57 324 eP P 03 17 45.2 +0.9
comp=Z,39nm,0.8s
YHH Holmes Hill 56.60 335 eP P 03 17 45.8 +1.3
comp=Z,67nm,1.8s
CMB Columbia Colle 56.62 323 eP P 03 17 45.0 +0.5
comp=Z,11nm,0.8s
CMB Columbia Colle 56.62 323 eP P 03 17 45.0 +0.5
CMB comp=Z,11nm,0.8s pmax pmax
YHB Horse Butte 56.72 334 eP P 03 17 46.7 +1.5
comp=Z,31nm,0.7s
ULM Lac du Bonnet 56.73 348 P P 03 17 44.5 -0.5
comp=Z,73nm,0.8s,baz=162,slow=7.1,SNR=124
ULM Lac du Bonnet 56.73 348 eP P 03 17 44.4 -0.5
comp=Z,82nm,0.8s
CRMT Chrome Mountai 56.84 336 eP P 03 17 46.7 +0.4
QLMT Earthquake Lak 56.89 334 eP P 03 17 47.8 +1.4
GCMT Greycliff 56.92 336 eP P 03 17 44.9 -1.7
VCNR Virginia City 57.01 324 eP P 03 17 48.5 +1.1
comp=Z,57nm,0.8s
PAHR Pah Rah Range 57.13 325 eP P 03 17 49.1 +0.9
comp=Z,35nm,0.9s
RUBR Rubicon Trail 57.14 324 eP P 03 17 49.8 +1.5
comp=Z,54nm,1.2s
CVLM Vallecito 57.24 322 eP P 03 17 50.2 +1.4
HLID Hailey 57.27 331 P P 03 17 49.9 +0.9
baz=139,SNR=112
HLID Hailey 57.27 331 eP P 03 17 50.0 +0.9
comp=Z,60nm,0.8s
MCMT McKenzie Canyo 57.51 333 eP P 03 17 51.8 +1.0
AFDM Forest Hills D 57.56 323 eP P 03 17 51.5 +0.4
comp=Z,28nm,0.9s
BOZ Bozeman (W) 57.58 335 P P 03 17 51.8 +0.6
baz=143,SNR=77
BOZ Bozeman (W) 57.58 335 eP P 03 17 51.8 +0.6
comp=Z,38nm,0.8s
BOZ Bozeman (W) 57.58 335 eP P 03 17 51.8 +0.6
BOZ comp=Z,38nm,0.8s pmax pmax
BEKR Beckworth 57.80 324 eP P 03 17 53.8 +0.9
comp=Z,58nm,0.8s
DLMT Dillon 57.81 334 eP P 03 17 53.8 +1.0
comp=Z,44nm,1.1s
MFID Camas Ranch 57.84 330 eP P 03 17 54.0 +0.9
comp=Z,133nm,0.9s
LRM Limekiln Ridge 58.11 334 eP P 03 17 55.4 +0.3
ORV Oroville 58.26 324 eP P 03 17 56.8 +0.9
comp=Z,94nm,0.9s
ORV Oroville 58.26 324 eP P 03 17 56.8 +0.9
ORV comp=Z,94nm,0.9s pmax pmax
HRY Holter Researc 58.55 335 eP P 03 17 58.3 +0.3
GDXM Geysers 58.57 322 eP P 03 17 59.5 +1.3
comp=Z,42nm,0.9s
WVOR Wild Horse Val 58.58 328 eP P 03 17 58.6 +0.4
comp=Z,58nm,0.9s
WVOR Wild Horse Val 58.58 328 eP P 03 17 58.6 +0.4
WVOR comp=Z,58nm,0.9s pmax pmax
O03D Paynes Creek 58.92 324 P P 03 18 00.1 -0.5
baz=130,SNR=23
MOD Modoc Plateau 59.12 326 eP P 03 18 02.5 +0.4
comp=Z,89nm,0.8s
J08A Circle Bar Ran 59.14 329 eP P 03 18 02.3 +0.2
comp=Z,36nm,0.8s
WDC Whiskeytown Da 59.53 324 eP P 03 18 03.3 -1.4
comp=Z,24nm,0.8s

WDC **Whiskeytown Da** 59.53 324 *e*P P 03 18 03.3 -1.4
WDC pmax pmax
comp=Z,25nm,0.8s
MSO Missoula 59.54 334 P P 03 18 05.4 +0.6
baz=141,SNR=38
MSO Missoula 59.54 334 *e*P P 03 18 05.4 +0.6
comp=Z,48nm,0.8s
KCPM Cahto Peak 59.59 322 *e*P P 03 18 06.9 +1.6
comp=Z,73nm,0.9s
BMO Blue Mountains 59.62 331 *e*P P 03 18 05.4 0.0
comp=Z,17nm,1.0s
BMO Blue Mountains 59.62 331 *e*P P 03 18 05.4 0.0
BMO pmax pmax
comp=Z,17nm,1.0s
N02D Trinity Center 59.88 324 P P 03 18 06.1 -1.0
baz=130,SNR=11
M04C Macdoel 59.90 325 P P 03 18 07.8 +0.4
baz=131,SNR=54
K05A Summer Lake 60.00 327 *e*P P 03 18 09.1 +1.0
KMRM Mail Ridge 60.00 323 *e*P P 03 18 09.4 +1.4
comp=Z,79nm,0.9s
I07A Izee 60.18 329 *e*P P 03 18 10.3 +1.1
comp=Z,19nm,0.8s
M02C Callahan 60.23 324 P P 03 18 09.3 -0.3
baz=130,SNR=9.0
YBH Yreka Blue Hor 60.37 325 P P 03 18 09.9 -0.7
comp=Z,41nm,0.8s,baz=132,slow=6.6,SNR=104
YBH LR LR 03 41 46.1
comp=Z,200nm,20.4s,baz=152,slow=33
YBH Yreka Blue Hor 60.37 325 *e*P P 03 18 09.8 -0.7
comp=Z,43nm,0.8s
F10A Beach Ranch, E 60.40 331 *e*P P 03 18 11.4 +0.8
comp=Z,70nm,0.8s
JTMT Jette 60.40 335 *e*P P 03 18 11.8 +1.1
comp=Z,25nm,0.8s
K04D Chiloquin, OR 60.41 326 P P 03 18 11.5 +0.7
baz=131,SNR=12
KHMM Horse Mountain 60.42 323 *e*P P 03 18 12.3 +1.3
comp=Z,67nm,0.8s
J05D Fort Rock, OR 60.56 327 P P 03 18 12.8 +0.9
baz=132,SNR=47
JCC Jacoby Creek, 60.56 323 *e*P P 03 18 13.1 +1.4
comp=Z,81nm,0.9s
HOPE Hope Point 60.59 152 *e*P P 03 18 12.5 +0.9
comp=Z,148nm,1.2s
PINE Pine Mountain 60.74 328 *e*P P 03 18 14.3 +1.2
comp=Z,46nm,0.8s
G08A Pilot Rock 60.75 330 *e*P P 03 18 14.0 +0.9
comp=Z,86nm,0.8s
SCHQ Schefferville 60.87 9 P P 03 18 13.2 -0.4
comp=Z,19nm,0.7s,baz=201,slow=5.6,SNR=19
SCHQ LR LR 03 45 04.1
comp=Z,118nm,21.2s,baz=282,slow=36
SCHQ Schefferville 60.87 9 *e*P P 03 18 13.2 -0.4
comp=Z,21nm,0.8s
J04D Umpqua Nationa 61.01 326 P P 03 18 15.5 +0.5
baz=131,SNR=22
HUMO Hull Mountain 61.07 325 *e*P P 03 18 14.6 -0.6
comp=Z,13nm,0.8s
L02D Cave Junction, 61.15 325 P P 03 18 16.4 +0.6
baz=129,SNR=12
E09A Wood Farm, Sta 61.23 331 *e*P P 03 18 16.8 +0.7
comp=Z,59nm,0.8s
WALA Waterton Lakes 61.27 336 *e*P P 03 18 17.4 +0.9
comp=Z,44nm,0.8s
I05D Terrebonne, OR 61.32 328 P P 03 18 18.0 +1.1
baz=132,SNR=32
I04A Tendick Farm, 61.54 327 P P 03 18 18.2 -0.1
baz=131,SNR=9.3
KBO Bosley Butte 61.55 324 *e*P P 03 18 19.7 +1.2
comp=Z,113nm,0.9s
G06A Carlson Farm, 61.56 329 *e*P P 03 18 19.9 +1.4
comp=Z,30nm,0.9s
E08A Dider Farm, El 61.65 331 *e*P P 03 18 19.5 +0.5
comp=Z,15nm,0.8s
F07A Phinny Hill Vi 61.66 330 *e*P P 03 18 20.8 +1.8
comp=Z,64nm,0.9s
HAWA Hanford 61.81 330 *e*P P 03 18 20.8 +0.6
comp=Z,20nm,0.9s
G05D Wamic, OR 61.92 329 P P 03 18 22.2 +1.4
baz=133,SNR=11
D08A Wollman Farm, 61.99 331 *e*P P 03 18 21.7 +0.4
comp=Z,20nm,0.8s
I03D Drain, OR 61.99 326 P P 03 18 21.8 +0.5
baz=130,SNR=6.1
H04A Detroit Lake 62.00 328 *e*P P 03 18 21.7 +0.2
comp=Z,51nm,0.9s
KEBM Edson Butte 62.02 325 *e*P P 03 18 23.3 +1.6
comp=Z,96nm,1.0s
NEW Newport 62.04 333 P P 03 18 21.9 +0.3
baz=138,SNR=13
NEW Newport 62.04 333 *e*P P 03 18 22.0 +0.3
comp=Z,19nm,0.8s
NEW Newport 62.04 333 *e*P P 03 18 22.0 +0.3
NEW pmax pmax
comp=Z,19nm,0.8s
C09A Chrisman Ranch 62.22 332 *e*P P 03 18 24.4 +1.6
comp=Z,12nm,0.8s
FFC Flin Flon 62.25 346 *e*P P 03 18 22.7 -0.2
comp=Z,13nm,0.8s
FFC Flin Flon 62.25 346 *e*P P 03 18 22.7 -0.2
FFC pmax pmax
comp=Z,13nm,0.8s
COR Corvallis 62.54 327 *e*P P 03 18 26.4 +1.4
comp=Z,116nm,0.9s
COR Corvallis 62.54 327 *e*P P 03 18 26.4 +1.4
COR pmax pmax
comp=Z,116nm,0.9s
G03D McMinnville, O 62.92 328 P P 03 18 28.4 +0.8
baz=131
LTY Liberty 62.98 331 *e*P P 03 18 28.5 +0.5
comp=Z,33nm,0.8s
STD Studebaker Rid 63.06 329 *e*P P 03 18 30.9 +2.3
B08A Colville Reser 63.12 332 *e*P P 03 18 29.2 +0.4
comp=Z,13nm,0.7s
LON Longmire 63.19 330 *e*P P 03 18 29.6 +0.2
comp=Z,38nm,0.8s
LON Longmire 63.19 330 *e*P P 03 18 29.6 +0.2
LON pmax pmax
comp=Z,38nm,0.8s
C06D Leavenworth 63.55 331 P P 03 18 32.4 +0.7
baz=134
D05A Enumclaw 63.58 330 *e*P P 03 18 32.4 +0.6
comp=Z,75nm,0.8s
E03A Lebam 63.96 328 *e*P P 03 18 35.7 +1.4
comp=Z,81nm,0.9s
B06A Marblemount 64.25 331 *e*P P 03 18 36.8 +0.6
comp=Z,37nm,0.8s
EDM Edmonton 64.36 339 *e*P P 03 18 36.5 -0.4
comp=Z,53nm,0.8s
EDM Edmonton 64.36 339 *e*P P 03 18 36.5 -0.4
EDM pmax pmax
comp=Z,53nm,0.8s
B05A Bryant 64.37 331 P P 03 18 37.0 +0.1
baz=133,SNR=7.7
FCC Fort Churchill 64.61 352 *e*P P 03 18 38.1 -0.2
comp=Z,73nm,0.8s
FCC Fort Churchill 64.61 352 *e*P P 03 18 38.1 -0.2
FCC pmax pmax
comp=Z,73nm,0.8s
NLWA Neilton Lookou 64.67 329 *e*P P 03 18 40.6 +1.6
comp=Z,52nm,0.8s
A04D Lummi Island 64.98 331 P P 03 18 42.0 +1.1
baz=133,SNR=6.6
LLLB Lillooet 65.88 333 *e*P P 03 18 47.6 +0.7
comp=Z,71nm,1.6s
BBTS Babate 66.54 72 P P 03 18 50.4 -1.3
comp=Z,13nm,0.8s,baz=275,slow=4.5,SNR=1.9
BBTS LR LR 03 48 36.8
comp=Z,303nm,18.6s,baz=254,slow=36
PPT Papeete 68.36 253 P P 03 19 02.4 -0.8
comp=Z,25nm,0.9s,baz=53,slow=10,SNR=3.2
PPT LR LR 03 41 11.9
comp=Z,349nm,18.6s,baz=109,slow=29
YKA Yellowknife Ar 72.27 344 P P 03 19 25.3 -0.7
comp=Z,11nm,0.8s,baz=137,slow=5.8,SNR=182
YKB5 Yellowknife Ar 72.27 344 *e*P P 03 19 25.3 -0.7
DLBC Dease Lake 74.61 336 *e*P P 03 19 40.9 +0.8
comp=Z,37nm,1.0s
SFJD Kangerlussuaq 75.12 12 P P 03 19 42.8 +0.2
comp=Z,26nm,0.8s,baz=224,slow=5.0,SNR=13
SFJD Kangerlussuaq 75.12 12 *i* P P 03 19 42.1 -0.6
comp=Z,28nm,0.9s
SFJD Kangerlussuaq 75.12 12 *i* P P 03 19 42.1 -0.6
SFJD pmax pmax
comp=Z,28nm,0.9s
LIC Lamto 76.35 82 *e*P P 03 19 50.8 -0.1
comp=Z,140nm,1.4s

TIC Toumodi 76.41 82 *e*P P 03 19 51.0 -0.2
DBIC Dimbokro 76.58 82 P P 03 19 52.5 +0.5
comp=Z,16nm,1.0s,baz=227,slow=5.8,SNR=13
DBIC LR LR 03 53 27.1
comp=Z,564nm,18.3s,baz=240,slow=36
DBIC Dimbokro 76.58 82 *e*P P 03 19 53.3 +1.2
comp=Z,50nm,0.8s
KIC Kosan Boka 76.65 82 *e*P P 03 19 53.2 +0.6
comp=Z,160nm,1.2s
ILULI Ilulissat 76.94 10 *i* P P 03 19 52.5 -0.5
comp=Z,36nm,0.9s
ILULI Ilulissat 76.94 10 *e*P P 03 19 53.1 +0.1
comp=Z,39nm,0.9s
ILULI Ilulissat 76.94 10 *i* P P 03 19 52.5 -0.5
ILULI pmax pmax
comp=Z,36nm,0.9s
ANGG Ammassalik, Gr 77.23 17 *e*P P 03 19 54.3 -0.3
comp=Z,32nm,1.2s
WHY Whitehorse 77.93 336 *e*P P 03 19 58.9 +0.1
comp=Z,21nm,1.1s
RAR Rarotonga 78.01 250 LR LR 03 46 17.4
comp=Z,309nm,18.3s,baz=95,slow=29
KOWA Kowa 78.43 74 P P 03 20 03.0 +0.5
comp=Z,14nm,0.7s,baz=265,slow=7.5,SNR=46
KOWA LR LR 03 55 25.8
comp=Z,933nm,18.6s,baz=236,slow=36
KOWA Kowa 78.43 74 *e*P P 03 20 03.0 +0.5
MORF Marmelete 78.97 51 *e*P P 03 20 04.9 -0.1
MORF AMb AMB 03 20 07.9
comp=Z,49nm,1.5s
MORF Marmelete 78.97 51 *e*P P 03 20 06.4 +1.4
MORF Marmelete 78.97 51 *e*PcP PcP 03 20 18.8 +5.4
MORF Marmelete 78.97 51 *e*P P 03 20 04.9 -0.1
MORF pmax pmax
comp=Z,49nm,1.5s
VNA3 Neumayer Olymp 79.08 162 P P 03 20 04.3 -0.7
HYT Haines Junctio 79.10 335 *e*P P 03 20 05.7 +0.4
comp=Z,17nm,1.1s
VNA1 Neumayer--Stat 79.37 161 P P 03 20 06.1 -0.3
PBDV Barranco-do-Ve 79.51 51 *e*P P 03 20 09.7 +1.8
PBDV Barranco-do-Ve 79.51 51 *e*PcP PcP 03 20 22.0 +6.3
ALMR Almeirim 79.52 49 *e*P P 03 20 07.9 0.0
ALMR AMb AMB 03 20 10.6
comp=Z,46nm,1.1s
ALMR Almeirim 79.52 49 *e*P P 03 20 07.0 -0.9
ALMR Almeirim 79.52 49 *e*PcP PcP 03 20 21.1 +5.4
ALMR Almeirim 79.52 49 *e*P P 03 20 07.8 0.0
ALMR pmax pmax
comp=Z,46nm,1.1s
PCVE Castro Verde 79.53 50 *e*P P 03 20 10.1 +2.1
PCVE Castro Verde 79.53 50 *e*PcP PcP 03 20 21.9 +6.1
PVAQ Vaqueiros 79.72 51 *e*P P 03 20 10.5 +1.5
VNA2 Neumayer--Watz 79.72 161 P P 03 20 07.6 -0.8
baz=300,slow=5.8
PMTG Montargil 79.76 49 *e*P P 03 20 10.2 +1.0
comp=Z,38nm,1.1s
PMTG Montargil 79.76 49 *e*PcP PcP 03 20 19.6 +2.9
PBEJ Beja 79.76 50 *e*P P 03 20 11.1 +1.9
PCAS Casmilo, Conde 79.81 48 *e*P P 03 20 11.0 +1.5
PTO Porto 80.03 47 *e*P P 03 20 11.8 +1.2
comp=Z,50nm,1.4s
PTO Porto 80.03 47 *e*PcP PcP 03 20 23.7 +5.9
KIP Kipapa 80.16 293↓ *e*P P 03 20 10.9 -0.8
KIP pmax pmax
comp=Z,294nm,1.2s
PESTR Estremoz 80.18 49 *e*P P 03 20 13.2 +1.7
comp=Z,37nm,1.3s
PESTR Estremoz 80.18 49 *e*PcP PcP 03 20 28.7 +10
PESTR Estremoz 80.18 49 *e*P P 03 20 12.5 +1.0
comp=Z,14nm,1.1s
RES Resolute Bay 80.18 356 *e*P P 03 20 10.1 -0.6
comp=Z,18nm,1.0s
RES Resolute Bay 80.18 356 *e*P P 03 20 10.1 -0.6
RES pmax pmax
comp=Z,19nm,1.0s
PVIS Viseu 80.43 47 *e*P P 03 20 13.7 +0.8
comp=Z,43nm,1.1s
PMRV Marv??o 80.47 49 *e*P P 03 20 13.3 +0.2
PGAV Gavieira, Arco 80.50 46 *e*LR LR 03 49 16.1
comp=Z,270nm,22.0s
PCBR Castelo Branco 80.52 48 *e*P P 03 20 14.1 +0.8
comp=Z,26nm,1.3s
PCBR Castelo Branco 80.52 48 *e*PcP PcP 03 20 25.8 +5.8
MTE Manteigas 80.61 48 *e*P P 03 20 14.7 +0.8
comp=Z,30nm,1.1s
MTE Manteigas 80.61 48 *e*PcP PcP 03 20 25.1 +4.6
MTE Manteigas 80.61 48 *e*P P 03 20 14.6 +0.8
comp=Z,22nm,0.9s
POLO Lamas de Olo 80.68 47 *e*P P 03 20 13.8 -0.5
POLO Lamas de Olo 80.68 47 *e*PcP PcP 03 20 24.6 +3.8
PVRL Vila Real 80.71 47 *e*P P 03 20 15.3 +0.9
KULLO Kullorsuaq 80.88 6 *i* P P 03 20 14.5 0.0
comp=Z,25nm,0.9s
KULLO Kullorsuaq 80.88 6 *i* P P 03 20 14.5 0.0
KULLO pmax pmax
comp=Z,25nm,0.9s
MVO Moncorvo 81.18 47 *e*P P 03 20 18.0 +1.1
comp=Z,35nm,1.1s
MVO Moncorvo 81.18 47 *e*PcP PcP 03 20 30.1 +7.1
MVO Moncorvo 81.18 47 *e*LR LR 03 49 35.4
comp=Z,135nm,20.0s
BALM Baldy 81.25 334 *e*P P 03 20 17.4 +0.5
comp=Z,21nm,0.9s
BALM Baldy 81.25 334 *e*P P 03 20 17.4 +0.5
BALM pmax pmax
comp=Z,21nm,0.9s
SNAA Sanae 81.31 162 P P 03 20 16.2 -0.8
SNAA Sanae 81.31 162 P P 03 20 16.2 -0.8
comp=Z,40nm,0.7s,baz=269,slow=9.9,SNR=121
SNAA Sanae 81.31 162 *e*P P 03 20 16.0 -1.0
comp=Z,47nm,0.8s
DAWY Dawson 81.53 338 *e*P P 03 20 18.4 +0.2
comp=Z,18nm,0.8s
PBRG Braganca 81.55 47 *e*P P 03 20 19.8 +1.0
comp=Z,26nm,2.0s
PBRG Braganca 81.55 47 *e*PcP PcP 03 20 30.4 +5.8
TULEG Thule 81.86 3 *e*P P 03 20 20.1 +0.5
comp=Z,26nm,1.1s
INK Inuvik 81.91 343 P P 03 20 20.2 +0.2
comp=Z,47nm,1.0s,baz=116,slow=5.0,SNR=70
INK Inuvik 81.91 343 *e*P P 03 20 20.1 +0.1
comp=Z,46nm,0.9s
BORG Borgarnes 82.11 22 P P 03 20 22.1 +1.0
comp=Z,21nm,0.8s,baz=264,slow=1.3,SNR=6.0
BORG LR LR 03 57 03.8
comp=Z,41nm,19.4s,baz=213,slow=36
BORG Borgarnes 82.11 22 *e*P P 03 20 22.1 +1.0
comp=Z,73nm,1.4s
BORG Borgarnes 82.11 22 *e*P P 03 20 22.2 +1.0
BORG pmax pmax
comp=Z,73nm,1.4s
SUMG Summit 82.12 12 *i* P P 03 20 21.3 -0.3
comp=Z,50nm,1.2s
SUMG Summit 82.12 12 *e*P P 03 20 22.1 +0.6
comp=Z,43nm,1.1s
SUMG Summit 82.12 12 P P 03 20 22.1 +0.6
SUMG Summit 82.12 12 *i* P P 03 20 21.3 -0.3
SUMG pmax pmax
comp=Z,50nm,1.2s
BMRM Bremner River 82.21 334 *e*P P 03 20 22.4 +0.5
comp=Z,31nm,0.9s
EGAK Eagle 82.56 338 *e*P P 03 20 23.6 +0.1
comp=Z,82nm,1.0s
MENT Mentasta 82.70 336 *e*P P 03 20 24.5 +0.2
comp=Z,13nm,0.9s
PAB San Pablo 82.79 49 *e*P P 03 20 26.8 +1.4
comp=Z,15nm,1.1s
PAB San Pablo 82.79 49 *e*P P 03 20 26.8 +1.4
PAB pmax pmax
comp=Z,15nm,1.1s
KLU Klutina 83.01 334 *e*P P 03 20 25.9 -0.1
comp=Z,30nm,0.8s
ESDC Sonseca Array 83.11 49 P P 03 20 28.1 +1.1
comp=Z,12nm,0.8s,baz=273,slow=4.6,SNR=58
ESDC LR LR 03 55 13.0
comp=Z,95nm,20.6s,baz=210,slow=34
ESLA Sonseca Array 83.11 49 *e*P P 03 20 28.1 +1.1
comp=Z,22nm,1.0s
DOT Dot Lake 83.15 336 *e*P P 03 20 26.9 +0.2
comp=Z,71nm,0.8s
ES19 SONSECA Array 83.16 49 *e*P P 03 20 28.1 +0.8
SCRK Sand Creek 83.27 337 *e*P P 03 20 27.4 0.0
comp=Z,25nm,0.8s
PAX Paxson 83.43 335 *e*P P 03 20 27.7 -0.5
comp=Z,35nm,0.9s
PAX Paxson 83.43 335 *e*P P 03 20 27.7 -0.5

PAX pmax pmax
comp=Z,35nm,0.9s
RIDG Independ'e Rid 83.51 336 *e*P P 03 20 28.6 +0.1
comp=Z,42nm,0.8s
TOA1 Torodi Ar. Sit 83.75 76 *e*P P 03 20 30.8 +0.1
TOA0 Torodi Ar. Sit 83.76 76 *e*P P 03 20 30.5 -0.3
TORD Torodi Ar. Bea 83.76 76 P P 03 20 30.8 +0.1
comp=Z,5.4nm,0.7s,baz=284,slow=6.2,SNR=83
TORD PKKPbc **PKKPbc** 03 38 46.7 -0.3
comp=Z,0.8nm,0.7s,baz=56,slow=2.4,SNR=4.8
TORD LR LR 03 57 20.1
comp=Z,829nm,20.3s,baz=250,slow=35
SCM Sheep Creek Mo 83.76 334 *e*P P 03 20 30.1 +0.2
comp=Z,31nm,0.9s
SCM Sheep Creek Mo 83.76 334 *e*P P 03 20 30.1 +0.2
SCM pmax pmax
comp=Z,31nm,0.9s
SML Sawmill 84.19 334 *e*P P 03 20 32.0 +0.1
comp=Z,35nm,0.8s
SML Sawmill 84.19 334 *e*P P 03 20 32.1 +0.1
SML pmax pmax
comp=Z,35nm,0.8s
DHY Denali Highway 84.27 335 *e*P P 03 20 32.8 +0.3
comp=Z,8.2nm,0.8s
GHO Glory Hole Cre 84.44 334 *e*P P 03 20 33.3 -0.1
comp=Z,22nm,0.8s
PMR Palmer 84.46 333 *e*P P 03 20 33.0 -0.3
comp=Z,9.3nm,1.0s
PMR Palmer 84.46 333 *e*P P 03 20 33.0 -0.3
PMR pmax pmax
comp=Z,9.0nm,1.0s
RC01 Rabbit Creek A 84.55 333 *e*P P 03 20 33.9 +0.1
comp=Z,18nm,0.8s
BRLK Bradley Lake 84.63 331 *e*P P 03 20 34.6 +0.4
comp=Z,33nm,1.0s
HDA Harding Lake 84.63 336 *e*P P 03 20 33.8 -0.3
comp=Z,16nm,0.8s
CCA1 84.69 39↓ *e*P P 03 20 35.7 +1.0
CCA1 IAmb IAmb 03 20 36.5
comp=Z,46nm,0.9s
IL1 Eielson Array 84.75 337 *e*P P 03 20 33.8 -0.9
ILAR Eielson Array 84.75 337 P P 03 20 34.0 -0.7
comp=Z,9.7nm,0.8s,baz=150,slow=4.0,SNR=95
ILAR PP PP 03 23 53.3 +1.7
comp=Z,3.1nm,0.9s,baz=111,slow=7.1,SNR=6.9
ILB Eielson Array 84.75 337 *e*P P 03 20 34.4 -0.4
ILB *e*PP PP 03 23 53.3 +1.7
KDAK Kodiak Island 84.82 329 P P 03 20 34.8 -0.4
comp=Z,19nm,1.0s,baz=104,slow=8.3,SNR=3.7
KDAK Kodiak Island 84.82 329 *e*P P 03 20 34.8 -0.4
comp=Z,117nm,1.6s
KDAK Kodiak Island 84.82 329 *e*P P 03 20 34.8 -0.4
KDAK pmax pmax
comp=Z,117nm,1.6s
SCO Scoresbysund 84.85 17 *i* P P 03 20 35.2 +0.1
comp=Z,8.4nm,1.0s
SCO Scoresbysund 84.85 17 *e*P P 03 20 35.6 +0.6
comp=Z,8.4nm,0.9s
SCO Scoresbysund 84.85 17 *i* P P 03 20 35.2 +0.1
SCO pmax pmax
comp=Z,8.0nm,1.0s
FYU Fort Yukon 84.88 339 *e*P P 03 20 36.1 +0.8
comp=Z,56nm,0.8s
QSPA South Pole Qui 84.93 180 P P 03 20 35.5 -0.3
comp=Z,46nm,1.0s,baz=156,slow=3.2,SNR=54
QSPA South Pole Qui 84.93 180 *e*P P 03 20 35.5 -0.3
comp=Z,90nm,1.3s
RND Reindeer 85.02 335 *e*P P 03 20 36.2 0.0
comp=Z,27nm,0.9s
RND Reindeer 85.02 335 *e*P P 03 20 36.2 0.0
RND pmax pmax
comp=Z,27nm,0.9s
CCB Clear Creek Bu 85.06 337 *e*P P 03 20 35.5 -0.8
comp=Z,8.6nm,0.8s
WRH Wood River Hil 85.11 336 *e*P P 03 20 35.9 -0.7
comp=Z,11nm,0.9s
SUA Susitna One 85.14 333 *e*P P 03 20 37.1 +0.2
comp=Z,21nm,0.9s
COLA College 85.17 337 *e*P P 03 20 37.3 +0.5
comp=Z,14nm,1.0s
COLA College 85.17 337 *e*P P 03 20 37.3 +0.5
COLA pmax pmax
comp=Z,14nm,1.0s
MCK McKinley 85.17 335 *e*P P 03 20 36.9 0.0
comp=Z,15nm,0.9s
MCK McKinley 85.17 335 *e*P P 03 20 36.9 0.0
MCK pmax pmax
comp=Z,15nm,0.9s
MDM Murphy Dome 85.35 337 *e*P P 03 20 37.4 -0.4
comp=Z,25nm,0.9s
TRF Thorofare Moun 85.63 335 *e*P P 03 20 39.2 -0.2
comp=Z,15nm,0.8s
SPU Mount Spurr 85.64 333 *e*P P 03 20 38.9 -0.5
LPW Lampeter 85.87 37 *e*P P 03 20 41.2 +0.7
LPW IAmb IAmb 03 20 42.1
comp=Z,49nm,0.9s
NVL N'lazarevskaya 86.00 161↓ *i*P P 03 20 39.5 -1.4
NVL pmax pmax
comp=Z,6.0nm,0.5s
BPAW Bear Paw Mtn. 86.15 336 *e*P P 03 20 41.2 -0.5
comp=Z,40nm,0.8s
PPLA Purkeypile 86.26 334 *e*P P 03 20 42.0 -0.4
comp=Z,38nm,0.8s
MLY Manley 86.37 336 *e*P P 03 20 42.7 -0.2
comp=Z,33nm,0.9s
CAST Castle Rocks 86.38 335 *e*P P 03 20 42.2 -0.7
comp=Z,47nm,0.8s
MCH1 Michaelchurch 86.48 37 *e*P P 03 20 43.9 +0.3
MCH1 IAmb IAmb 03 20 44.3
comp=Z,17nm,0.8s
FOEL Foel Wylfa 86.56 36 *e*P P 03 20 43.4 -0.6
FOEL IAmb IAmb 03 20 44.2
comp=Z,28nm,0.9s
MONM Monmouth 86.56 37 *e*P P 03 20 44.6 +0.6
MONM IAmb IAmb 03 20 45.4
comp=Z,58nm,1.0s
HLM1 Long Mynd 86.67 37 *e*P P 03 20 45.0 +0.5
HLM1 IAmb IAmb 03 20 45.9
comp=Z,27nm,1.0s
COLD Coldfoot 86.94 339 *e*P P 03 20 46.4 +0.9
comp=Z,36nm,0.8s
STRD Stroud 86.94 38↓ *e*P P 03 20 46.3 +0.5
STRD IAmb IAmb 03 20 47.0
comp=Z,54nm,0.8s
KESW Keswick, Cumbr 87.00 35 *e*P P 03 20 46.8 +0.7
KESW IAmb IAmb 03 20 47.5
comp=Z,56nm,1.1s
ESK Eskdalemuir 87.11 34↓ *e*P P 03 20 45.9 -0.7
ESK IAmb IAmb 03 20 47.4
comp=Z,60nm,1.2s
ECK Cauldkaine Hil 87.13 34↓ *e*P P 03 20 46.8 +0.2
EKA Eskdalemuir Ar 87.14 34 P P 03 20 47.0 +0.3
comp=Z,21nm,0.8s,baz=243,slow=5.2,SNR=35
EKA LR LR 03 58 47.3
comp=Z,60nm,19.7s,baz=250,slow=35
SSW Stow on the Wo 87.17 37↓ *e*P P 03 20 47.1 +0.2
TOLK Toolik Lake Re 87.23 340 P P 03 20 47.2 +0.2
baz=112
TOLK Toolik Lake Re 87.23 340 *e*P P 03 20 45.6 -1.3
comp=Z,23nm,0.9s
SVW2 Sparrevohn 87.25 332 *e*P P 03 20 46.5 -0.7
comp=Z,18nm,1.0s
LBWR Ladybower, Pea 87.54 36↓ *e*P P 03 20 49.6 +0.9
LBWR IAmb IAmb 03 20 50.9
comp=Z,56nm,0.9s
ESY Stoneypath 87.58 33 *e*P P 03 20 49.2 +0.4
EDMD Edmundbyers 87.70 35 *e*P P 03 20 49.7 +0.2
EDMD IAmb IAmb 03 20 50.4
comp=Z,34nm,0.9s
HPK Haverah Park 87.72 35 *e*P P 03 20 50.1 +0.6
SKP1 Kophill 87.75 38↓ *e*P P 03 20 50.1 +0.3
IM3 Indian Mountai 87.87 337 *e*P P 03 20 49.5 -0.5
TAM Tamanrasset 88.47 67 *e*P P 03 20 54.3 +0.3
comp=Z,7.8nm,1.0s
TAM Tamanrasset 88.47 67 *e*P P 03 20 54.3 +0.3
TAM pmax pmax
comp=Z,8.0nm,1.0s
WACR West Acre 88.81 37 *e*P P 03 20 55.5 +0.8
WACR IAmb IAmb 03 20 56.5
comp=Z,60nm,1.0s
DAG Danmarks Havn 88.81 12⇑ *i*P P 03 20 54.0 -0.2
comp=Z,31nm,1.1s
DAG Danmarks Havn 88.81 12 P P 03 20 54.2 0.0
DAG Danmarks Havn 88.81 12⇑ *i*P P 03 20 54.0 -0.2
DAG pmax pmax
comp=Z,31nm,1.1s

SBA Scott Base 89.64 191 eP P 03 20 58.7 +0.5
comp=Z,17nm,1.0s
SBA Scott Base 89.64 191 eP P 03 20 58.7 +0.5
SBA pmax pmax
comp=Z,17nm,1.0s
AFI Afiamalu 89.85 256 P P 03 21 01.9 +1.4
comp=Z,84nm,0.9s,baz=204,slow=5.3,SNR=7.9
AFI LR LR 03 53 27.9
comp=Z,123nm,18.7s,baz=105,slow=30
AFI Afiamalu 89.85 256 eP P 03 21 02.3 +1.8
comp=Z,95nm,0.9s
AFI Afiamalu 89.85 256 P P 03 21 02.8 +2.3
SSB Saint Sauveur 90.26 45 eP P 03 21 02.2 +0.5
comp=Z,9.6nm,1.0s
SSB Saint Sauveur 90.26 45 eP P 03 21 02.2 +0.5
SSB pmax pmax
comp=Z,10.0nm,1.0s
VNDA Vanda 90.74 191 P P 03 21 03.4 +0.1
comp=Z,6.1nm,0.8s,baz=119,slow=4.1,SNR=32
VNDA LR LR 03 52 52.1
comp=Z,157nm,21.3s,baz=114,slow=30
VNDA Vanda 90.74 191 eP P 03 21 03.8 +0.4
comp=Z,8.2nm,0.9s
VNDA Vanda 90.74 191 P P 03 21 03.7 +0.4
UCC Uccle 90.81 39 ⇑P P 03 21 05.2 +1.1
BCLA Clavier 91.37 40 ⇑P P 03 21 07.6 +0.9
comp=Z,10nm,1.7s
BNI Bardonecchia 91.74 45 eP P 03 21 09.8 +1.1
comp=Z,13nm,1.2s
BNI Bardonecchia 91.74 45 eP P 03 21 09.9 +1.1
BNI pmax pmax
comp=Z,13nm,1.2s
WLF Walferdange 91.83 40 ⇓P P 03 21 10.1 +1.2
comp=Z,18nm,1.2s
WLF Walferdange 91.83 40 eP P 03 21 10.2 +1.4
comp=Z,23nm,1.0s
WLF Walferdange 91.83 40 P P 03 21 10.7 +1.8
WLF Walferdange 91.83 40 eP P 03 21 10.3 +1.4
WLF pmax pmax
comp=Z,23nm,1.0s
MEM Membach 91.83 40 ⇑P P 03 21 09.7 +0.9
SENIN Lac Senin/Sane 92.29 44 eP P 03 21 12.4 +1.0
comp=Z,20nm,1.6s
ECH Echery 92.36 42 eP P 03 21 11.7 +0.3
comp=Z,15nm,1.1s
ECH Echery 92.36 42 eP P 03 21 11.7 +0.3
ECH pmax pmax
comp=Z,15nm,1.1s
KEST Kesra 92.99 55 P P 03 21 15.1 +0.4
comp=Z,3.6nm,0.9s,baz=248,slow=19,SNR=2.6
KEST LR LR 04 01 04.0
comp=Z,186nm,21.5s,baz=210,slow=34
KEST Kesra 92.99 55 eP P 03 21 15.1 +0.4
comp=Z,16nm,1.3s
DAVA Damuels 94.12 43 i PcP P 03 21 20.2 +0.5
comp=Z,9.8nm,1.0s
FUORN Ofenpass-Fuorn 94.35 44 eP P 03 21 22.4 +1.5
comp=Z,5.3nm,1.1s
FETA Feichten 94.69 43 i PcP P 03 21 23.2 +0.9
comp=Z,16nm,0.9s,SNR=8.9
RETA Reutte 94.73 43 i PcP P 03 21 22.9 +0.5
comp=Z,7.0nm,1.1s
MOTA Moosalm 94.96 43 i P P 03 21 22.3 -1.2
comp=Z,11nm,0.9s,SNR=7.2
GAMB Gambell 95.05 334 eP P 03 21 24.0 +0.7
comp=Z,9.3nm,1.0s
WATA Walderalm 95.28 43 i P P 03 21 23.6 -1.4
comp=Z,3.8nm,0.6s
WTTA Wattenberg 95.32 43 i PcP P 03 21 25.0 -0.2
comp=Z,5.0nm,0.7s
NB200 NORSAR Array S 95.39 29 eP P 03 21 23.6 -1.4
NOA NORSAR Array B 95.39 29 P P 03 21 23.6 -1.4
comp=Z,1.7nm,0.8s,baz=268,slow=4.6,SNR=4.5
NOA LR LR 04 01 50.8
comp=Z,75nm,21.0s,baz=255,slow=34
SYO Syowa Base 95.60 162 ⇑iP P 03 21 24.0 -1.8
SYO Syowa Base 95.60 162 ⇓ipP pP 03 21 39.2 -5.2
ABTA Abfaltersbach 95.90 44 i PcP P 03 21 27.9 +0.1
comp=Z,8.0nm,1.0s
NKC Novy Kostel 95.92 40 eP P 03 21 28.9 +1.2
NKC Novy Kostel 95.92 40 eP P 03 21 28.9 +1.2
TSUM Tsumeb 96.08 110 eP P 03 21 30.3 +1.0
comp=Z,12nm,1.1s
CLL Collm 96.29 39 i P P 03 21 30.0 +0.7
comp=Z,4.0nm,0.8s
CLL e 03 21 43.0
CLL epP pP 03 21 46.0 -1.9
CLL Collm 96.29 39 i P P 03 21 30.0 +0.7
CLL e 03 21 43.0
CLL e 03 21 46.0
CLL pmax pmax
comp=Z,4.0nm,0.8s
SPITS Spitsbergen Ar 96.46 12 LR LR 04 07 15.5
comp=Z,70nm,20.0s,baz=255,slow=37
KBA Koelnbreinsper 96.48 43 i PcP P 03 21 30.8 +0.3
comp=Z,6.2nm,0.9s
HFS Hagfors 96.62 30 P P 03 21 30.2 -0.4
comp=Z,2.7nm,0.8s,baz=186,slow=7.2,SNR=2.8
KHC Kasperske Hory 96.65 41 eP P 03 21 32.1 +1.1
KHC ex x 03 21 41.6
KHC Kasperske Hory 96.65 41 eP P 03 21 32.0 +0.9
comp=Z,1.3nm,0.8s
KHC Kasperske Hory 96.65 41 eP P 03 21 32.1 +1.1
KHC e 03 21 41.6
MYKA Terra Mystica 96.68 44 i PcP P 03 21 31.6 +0.3
comp=Z,8.0nm,0.9s
GEA0 GERESS Array S 96.73 42 eP P 03 21 31.7 +0.2
GEC2 GERESS Array S 96.73 42 eP P 03 21 32.3 +0.8
comp=Z,3.3nm,0.9s
GEC2 GERESS Array S 96.73 42 eP P 03 21 32.3 +0.8
GEC2 pmax pmax
comp=Z,3.0nm,0.9s
GERES GERESS Array B 96.73 42 P P 03 21 32.0 +0.5
comp=Z,2.0nm,0.9s,baz=252,slow=2.7,SNR=13
GERES PKKP PKKPbc 03 38 15.1 -0.8
comp=Z,0.1nm,0.3s,baz=353,slow=4.2,SNR=3.4
BRG Berggiesshubel 96.88 40 eP P 03 21 33.0 +1.0
comp=Z,4.9nm,0.9s
BRG Berggiesshubel 96.88 40 eP P 03 21 33.0 +1.0
BRG pmax pmax
comp=Z,5.0nm,0.9s
MOA Molln 97.11 43 i PcP Pdif 03 21 33.3 +0.1
comp=Z,9.6nm,1.1s
VAE Valguarnera 97.14 53 P P 03 21 33.5 -0.1
comp=Z,4.7nm,0.4s,baz=326,slow=7.3,SNR=5.1
VAE LR LR 04 02 23.2
comp=Z,158nm,20.7s,baz=329,slow=34
PRU Pruhonice 97.27 40 eP Pdif 03 21 34.7 +0.8
PRU Pruhonice 97.27 40 eP Pdif 03 21 34.7 +0.8
SOKA Soboth 97.64 44 i PcP P 03 21 35.5 -0.1
comp=Z,3.6nm,1.1s
ARSA Arzberg 97.96 43 i PcP Pdif 03 21 37.2 +0.2
comp=Z,4.6nm,0.9s
CONA Conrad Observa 98.18 42 i PcP Pdif 03 21 38.8 +0.7
comp=Z,9.0nm,1.3s,SNR=5.0
DPC Dobruska-Polom 98.41 40 eP Pdif 03 21 40.6 +1.6
DPC Dobruska-Polom 98.41 40 eP Pdif 03 21 40.6 +1.6
ARCES ARCESS Array B 100.44 20 PKKPbc PKKPbc 03 38 03.1 -2.9
comp=Z,3.5nm,0.9s,baz=20,slow=3.9,SNR=6.4
BOSA Boshof 101.41 120 PKKPbc PKKPbc 03 38 00.8 -1.2
comp=Z,3.2nm,1.1s,baz=9.1,slow=2.8,SNR=3.8
FIA0 FINESS Array S 102.48 28 ePdif Pdif 03 21 56.8 0.0
FIA0 FINESS Array S 102.48 28 eP Pdif 03 21 56.8 0.0
FINES FINESS Array B 102.48 28 Pdiff Pdif 03 21 56.8 0.0
comp=Z,5.8nm,0.9s,baz=226,slow=5.0,SNR=7.4
APA Apatity 103.79 21 ⇑iP Pdif 03 22 00.9 -1.5
APA MLR MLR
comp=Z,1μm,21.0s
KIS Kishinev 107.01 42 e 03 25 32.0
KLMR Klimovskoe 108.84 27 ePP PP 03 26 58.8 +1.8
KLMR AMP 03 27 04.1
comp=Z,16nm,1.5s
BRTR Keskin Array B 111.90 49 PKiKP PKiKP 03 26 36.0 -0.2
comp=Z,0.9nm,0.8s,baz=219,slow=1.6,SNR=4.7
BRTR PKKPbc PKKPbc 03 37 28.2 -1.7
comp=Z,0.7nm,0.6s,baz=132,slow=4.1,SNR=5.4
BRTR PKKPab PKKPab 03 37 37.5 -0.4
comp=Z,0.8nm,0.8s,baz=90,slow=3.7,SNR=4.9
H11N3 WAKE ISLAND Hy 112.82 289 T T 05 28 45.4
baz=94,slow=74,SNR=24
H11N2 WAKE ISLAND Hy 112.83 289 T T 05 28 44.8
baz=94,slow=74,SNR=21
H11N1 WAKE ISLAND Hy 112.84 289 T T 05 28 46.7
baz=94,slow=74,SNR=17
H11S2 WAKE ISLAND Hy 113.06 288 T T 05 29 02.0
baz=85,slow=76,SNR=184
H11S1 WAKE ISLAND Hy 113.07 288 T T 05 29 01.9
baz=85,slow=76,SNR=95
H11S3 WAKE ISLAND Hy 113.08 288 T T 05 29 02.7
baz=85,slow=76,SNR=64
MMAI Mount Meron Ar 114.59 56 PKP PKPdf 03 26 41.6 +0.1
comp=Z,0.3nm,0.3s,baz=264,slow=13,SNR=3.7
KBZ Khabaz 117.43 43 PKP PKPdf 03 26 46.7 +0.3
comp=Z,4.8nm,0.8s,baz=306,slow=2.4,SNR=10.0
KBZ PKKPbc PKKPbc 03 37 10.5 -0.4
comp=Z,1.5nm,0.8s,baz=260,slow=5.3,SNR=3.7
ARU Arti 119.56 25 ePKPdf PKPdf 03 26 49.4 -0.8
ARU Arti 119.56 25 i PKIKP PKPdf 03 26 49.9 -0.3
ARU 03 28 13.0
ARU 03 33 55.4
NKL Nikolayevsk 121.44 332 ePKIKP PKPdf 03 26 52.6 -1.3
NKL pmax pmax
comp=Z,11nm,0.9s
AKTO Aktyubinsk 123.16 30 PKP PKPdf 03 26 57.2 -0.1
comp=Z,3.9nm,0.8s,baz=324,slow=5.1,SNR=16
AKTO PKKPbc PKKPab 03 36 47.1 -1.1
comp=Z,2.7nm,0.8s,baz=123,slow=6.0,SNR=9.8
AKTO Aktyubinsk 123.16 30 PKIKP PKPdf 03 26 56.9 -0.4
AKTO pmax pmax
comp=Z,6.0nm,0.9s
YUK Yuzh-Kuril'sk 123.78 321 ePKIKP PKPdf 03 26 58.8 +0.1
YUK e 03 27 18.7
YUK e 03 33 53.9
YUK ePS PS 03 38 41.0 +0.4
YUK pmax pmax
comp=Z,402nm,1.0s
YUK pmax pmax
comp=Z,355nm,1.1s
AB09 Akbulak array 124.86 30 ePKPdf PKPdf 03 27 00.5 -0.1
AB05 Akbulak array 124.86 30 ePKPdf PKPdf 03 27 01.0 +0.4
AB04 Akbulak array 124.87 30 ePKPdf PKPdf 03 27 00.6 0.0
AB02 Akbulak array 124.88 30 ePKPdf PKPdf 03 27 00.5 -0.1
AB01 Akbulak array 124.88 30 ePKPdf PKPdf 03 27 00.6 0.0
AB31 Akbulak array 124.88 30 ePKPdf PKPdf 03 27 01.0 +0.4
AB31 Akbulak array 124.88 30 i PKIKP PKPdf 03 27 00.5 -0.1
AB31 pmax pmax
comp=Z,10.0nm,0.8s
ABKAR Akbulak array 124.88 30 ePKPdf PKPdf 03 27 01.0 +0.4
AB03 Akbulak array 124.88 30 ePKPdf PKPdf 03 27 00.6 -0.1
AB08 Akbulak array 124.88 30 ePKPdf PKPdf 03 27 00.7 0.0
AB06 Akbulak array 124.89 30 ePKPdf PKPdf 03 27 00.7 0.0
AB07 Akbulak array 124.89 30 ePKPdf PKPdf 03 27 00.6 -0.1
RAYN Ar Rayn 125.10 65 ePKPdf PKPdf 03 27 01.3 -0.6
STKA Stephens Creek 125.46 225 PKP PKPdf 03 27 01.6 -0.8
comp=Z,3.3nm,0.7s,baz=77,slow=2.8,SNR=7.0
ASAJ Asahikawa 125.75 323 PKP PKPdf 03 27 01.9 -0.6
comp=Z,5.5nm,0.7s,baz=301,slow=5.9,SNR=4.8
BRVK Borovoye 126.64 21 ePKPdf PKPdf 03 27 04.1 +0.2
BRVK Borovoye 126.64 21c iPKIKP PKPdf 03 27 03.2 -0.7
BRVK pmax pmax
comp=Z,18nm,1.0s
BVA0 Borovoye Array 126.70 21 PKIKP PKPdf 03 27 03.6 -0.4
BVA0 pmax pmax
comp=Z,8.0nm,0.8s
BVAR Borovoye Array 126.70 21 PKP PKPdf 03 27 04.0 0.0
comp=Z,6.8nm,0.7s,baz=268,slow=2.0,SNR=40
CTA Charters Tower 127.51 240 PKP PKPdf 03 27 06.0 -0.6
comp=Z,12nm,0.9s,baz=160,slow=0.8,SNR=11
CTA Charters Tower 127.51 240 ePKIKP PKPdf 03 27 06.0 -0.6
CTAO Charters Tower 127.51 240 ePKPdf PKPdf 03 27 05.5 -1.0
CTAO Charters Tower 127.51 240 ePKIKP PKPdf 03 27 05.5 -1.0
KLR Kul'dur 128.21 333 ⇓iPKIKP PKPdf 03 27 05.8 -1.2
NVS Novosibirsk 128.78 12 i PKIKP PKPdf 03 27 07.8 -0.1
ZAA1 Zalesovo Array 129.93 11 ePKPdf PKPdf 03 27 09.5 -0.6
ZAA0 Zalesovo Array 129.94 11 ePKPdf PKPdf 03 27 09.7 -0.5
ZALV Zalesovo Beam 129.94 11 PKP PKPdf 03 27 09.5 -0.7
comp=Z,29nm,0.9s,baz=194,slow=5.6,SNR=3.6
ZALV SKPbc SKPbc 03 30 27.9 +0.8
comp=Z,5.3nm,0.9s,baz=320,slow=4.4,SNR=4.9
ZALV Zalesovo Beam 129.94 11 ePKPdf PKPdf 03 27 09.2 -1.0
PMG Port Moresby 130.19 253c iPKIKP PKPdf 03 27 12.6 +0.8
GYB3 ALIBECK ARRAY 130.32 43 ePKPdf PKPdf 03 27 12.0 +0.6
GYB5 ALIBECK ARRAY 130.32 43 ePKPdf PKPdf 03 27 12.1 +0.6
GEYT Alibeck 130.32 43 PKP PKPdf 03 27 12.0 +0.5
comp=Z,7.9nm,0.9s,baz=284,slow=6.0,SNR=12
GYA2 ALIBECK ARRAY 130.32 43 ePKPdf PKPdf 03 27 11.6 +0.2
OTUK Ortayu 131.27 24 PKIKP PKPdf 03 27 12.9 0.0
OTUK pmax pmax
comp=Z,10.0nm,1.1s
KURK Kurchatov 131.39 17 ePKPdf PKPdf 03 27 12.9 -0.1
KURK Kurchatov 131.39 17d iPKIKP PKPdf 03 27 13.1 +0.1
KURK pmax pmax
comp=Z,88nm,1.0s
KURBB Kurchatov Arra 131.44 18 PKP PKPdf 03 27 12.9 -0.2
comp=Z,14nm,0.9s,baz=326,slow=2.3,SNR=89
USRK Ussuriysk Ar. 131.69 329 PKP PKPdf 03 27 14.1 +0.3
comp=Z,5.7nm,0.9s,baz=214,slow=2.1,SNR=5.1
COEN Coen 132.53 246 ePKPdf PKPdf 03 27 16.0 -0.1
MJAR Matsushiro Arr 132.64 317 PKP PKPdf 03 27 14.8 -1.1
comp=Z,1.7nm,0.7s,baz=135,slow=1.0,SNR=4.8
MJAR SKPbc SKPbc 03 30 37.5 +0.1
comp=Z,2.5nm,1.0s,baz=9.0,slow=1.0,SNR=4.1
MAJO Matsushiro 132.64 317 ePKPdf PKPdf 03 27 14.8 -1.0
MAJO Matsushiro 132.64 317 ePKIKP PKPdf 03 27 14.8 -1.0
KK31 Karatay Array 134.42 30 i PKIKP PKPdf 03 27 19.0 0.0
KK31 pmax pmax
comp=Z,1.0nm,0.8s
KNGR Kungurtug, Tuv 134.68 2 PKIKP PKPdf 03 27 19.6 +0.2
ZAK Zakamensk 134.81 356 ePKIKP PKPpre 03 27 14.3
ZAK pmax pmax
comp=Z,2.0nm,1.1s
AS31 Alice Springs 135.75 228 ePKPpre PKPpre 03 27 13.4
AS31 ePP PP 03 29 57.5 -2.6
ASAR Alice Springs 135.75 228 PKhKP PKPpre 03 27 08.1
comp=Z,1.4nm,0.6s,baz=140,slow=2.5,SNR=12
ASAR PKP PKPdf 03 27 21.1 -1.0
comp=Z,3.6nm,0.8s,baz=124,slow=3.2,SNR=12
ASAR PP PP 03 29 57.5 -2.6
comp=Z,1.0nm,0.8s,baz=121,slow=6.6,SNR=5.2
MNAS Manas 135.85 29 PKIKP PKPdf 03 27 21.9 0.0
MNAS pmax pmax
comp=Z,9.0nm,0.9s
MAKZ Makanchi 135.88 17 ePKPdf PKPdf 03 27 20.6 -1.0
MAKZ Makanchi 135.88 17 ePKIKP PKPdf 03 27 20.6 -1.0
MK31 Makanchi Array 135.98 17 ePKPdf PKPdf 03 27 21.2 -0.6
MK31 Makanchi Array 135.98 17 i PKIKP PKPdf 03 27 20.4 -1.4
MK31 pmax pmax
comp=Z,7.0nm,0.8s
MK32 Makanchi Array 135.98 17 ePKPdf PKPdf 03 27 21.4 -0.4
MKAR Makanchi Array 135.98 17 PKhKP PKPpre 03 27 10.6
comp=Z,0.7nm,0.7s,baz=328,slow=3.1,SNR=6.7
MKAR PKP PKPdf 03 27 21.4 -0.4
comp=Z,8.6nm,0.8s,baz=338,slow=2.0,SNR=42
MKAR Makanchi Array 135.98 17 ePKPdf PKPdf 03 27 21.2 -0.5
MKAR Makanchi Array 135.98 17 ePKIKP PKPdf 03 27 21.3 -0.5
USP Ospenovka 136.16 26 P PKPdf 03 27 23.1 +0.9
SNR=7.3
EKS2 Erkin-Say 136.31 27 P PKPdf 03 27 23.7 +1.0
SNR=14
AAK Ala-Archa 136.66 27 P PKPdf 03 27 24.5 +1.1
SNR=10.0
AAK Ala-Archa 136.66 27 ePKPdf PKPdf 03 27 24.4 +1.1
AAK Ala-Archa 136.66 27 ePKIKP PKPdf 03 27 24.4 +1.0
AML Almayashu 136.69 28 P PKPdf 03 27 24.9 +1.2
SNR=7.2
TKM2 Tokmak 2 136.91 26 P PKPdf 03 27 24.1 +0.1
SNR=9.7
ULN Ulaanbaatar 136.94 352 ePKPdf PKPdf 03 27 22.3 -1.4
ULN Ulaanbaatar 136.94 352 ⇑ePKIKP PKPdf 03 27 22.2 -1.5
ULN pmax pmax
comp=Z,6.0nm,1.0s
UCH Uchtor 136.99 27 P PKPdf 03 27 25.8 +1.5
SNR=17
SONA0 Songino Array 137.05 353 ePKPdf PKPdf 03 27 23.9 +0.1
SONA0 ePP PP 03 30 08.7 +1.6
SONM Songino Array 137.05 353 PKhKP PKPpre 03 27 10.2
comp=Z,3.0nm,1.1s,baz=311,slow=1.6,SNR=9.0
SONM PKP PKPdf 03 27 23.9 +0.1
comp=Z,6.0nm,1.0s,baz=251,slow=0.3,SNR=15
SONM PP PP 03 30 08.7 +1.6
comp=Z,1.3nm,0.8s,baz=345,slow=6.2,SNR=3.6
SONM SKP 03 30 52.5
comp=Z,0.5nm,0.5s,baz=356,slow=4.5,SNR=4.3
WR1 Warramunga Arr 137.49 233 ePKPdf PKPdf 03 27 24.8 -0.5
WRA Warramunga Arr 137.49 233 PKhKP PKPpre 03 27 13.5
comp=Z,0.8nm,0.6s,baz=124,slow=3.0,SNR=12
WRA PKP PKPdf 03 27 24.8 -0.5
comp=Z,9.4nm,0.8s,baz=111,slow=2.2,SNR=38
ULHL Ulahol 137.74 26 P PKPdf 03 27 26.8 +1.3
SNR=14
SFK Sufi-Kurgan 138.22 30 PKIKP PKPdf 03 27 23.1 -3.3
SFK pmax pmax
comp=Z,16nm,0.9s
KDJ Kajisay 138.23 25 ePKPdf PKPdf 03 27 27.1 +0.8
KSRS Korea Array 138.59 325 PKhKP PKPpre 03 27 18.9
comp=Z,2.0nm,0.9s,baz=347,slow=0.9,SNR=3.5
KSRS PKP PKPdf 03 27 26.2 -0.6
comp=Z,7.9nm,0.8s,baz=4.4,slow=1.3,SNR=14
KS01 Wonju Array Si 138.59 325 ePKPdf PKPdf 03 27 25.8 -1.0
KS15 Wonju Array Si 138.62 325 ePKPdf PKPdf 03 27 26.2 -0.7
TARG Taragay, Kyrgy 138.83 25 ePKPdf PKPdf 03 27 28.1 +0.4
TJN Taejon 139.66 324 ⇑ePKIKP PKPdf 03 27 30.3 +1.5
KSH Kashi 139.81 28 PKP PKPdf 03 27 30.3 +1.1
WMQ Urumqi 140.15 13 PKP PKPdf 03 27 29.2 -0.4
WMQ LR LR
comp=Z,580nm,33.5s
WMQ LR LR
comp=Z,360nm,39.0s
NIL Nilore 142.70 37 ePKPdf PKPdf 03 27 34.5 +0.1
NIL Nilore 142.70 37 ePKIKP PKPdf 03 27 34.5 +0.1
HHC Hu-ho-hao-te 142.80 345 ePKP PKPdf 03 27 31.0 -3.5
HHC PP PP 03 30 43.0 +0.5
HHC SS SS 03 49 18.5 +4.1
HHC AMB AMB
comp=Z,100nm,9.1s
HHC LR LR
comp=Z,390nm,20.3s
JOW Kunigami 144.97 311 PKPbc PKPbc 03 27 37.0 -0.9
comp=Z,55nm,0.9s,baz=282,slow=6.0,SNR=3.7
TIA Tai'an 145.03 334 PKPbc PKPbc 03 27 37.0 -0.8
GTA Gaotai 145.90 359 ePKPbc PKPdf 03 27 40.0 0.0
GTA PP PP 03 31 05.4 +4.6
GTA SKS SKSdf 03 34 38.0 -5.6
GTA SKKS SKKSac 03 37 44.4 -4.2
GTA SS SS 03 49 49.6 +0.1
GTA AMB AMB
comp=Z,170nm,6.2s
FAKI Fak Fak 146.15 257 ePKPdf PKPdf 03 27 40.9 -0.1
MBWA Marble Bar 147.07 217 ePKPdf PKPdf 03 27 43.2 +1.0
NJ2 Nanjing 147.60 328 ePKPbc PKPdf 03 27 42.2 -0.6
LZH Lanzhou 148.94 353 PKPbc PKPbc 03 27 49.5 +0.3
LZH SKKS 03 38 07.7
LZH AMB AMB
comp=Z,320nm,8.5s
LZH LR LR
comp=Z,170nm,15.8s
LZH LR LR
comp=Z,200nm,14.0s
LZH LR LR
comp=Z,220nm,17.0s
XAN Xi'an 149.91 344 PKPbc PKPbc 03 27 50.7 -0.8
XAN pPKP pPKPdf 03 28 03.9 -2.0
WHN Wuhan 151.05 332 ⇓PKPbc PKPbc 03 27 53.4 -0.8
SOEI Soe 151.07 239 ePKPdf PKPdf 03 27 50.0 +0.9
BATI Baumata 151.36 238 PKPbc PKPbc 03 27 55.6 +0.2
comp=Z,31nm,0.8s,baz=90,slow=4.0,SNR=7.4
PYUN Piuthan 152.40 32 eP PKPdf 03 27 50.8 0.0
DANN Dangsing 152.60 31 eP PKPdf 03 27 51.3 +0.1
KOLN Koldanda 152.99 32 eP PKPdf 03 27 51.3 -0.4
ENH Enshi 153.24 340 ePKPdf PKPdf 03 27 51.2 -0.5
GKN Gorkha 153.33 30 eP PKPdf 03 27 51.8 -0.3
KKN Kakani 153.82 29 eP PKPdf 03 27 51.9 -1.0
DMN Daman 153.88 30 eP PKPdf 03 27 52.2 -0.8
GUN Gumba 154.00 28 eP PKPdf 03 27 52.5 -0.8
CD2 Chengdu 154.04 351 PKPbc PKPdf 03 27 51.5 -1.4
CD2 pPKP pPKPdf 03 28 12.7 +0.5
CD2 sPKP 03 28 20.9
CD2 PP PP 03 31 48.7 +0.9
CD2 SS SS 03 51 21.7 +1.6
CD2 AMB AMB
comp=Z,220nm,5.2s
PKIN Phulchoki 154.05 29 eP PKPdf 03 27 52.6 -0.7
PKI Pulchoki 154.06 29 eP PKPdf 03 27 52.0 -1.4
JIRN Jiri 154.36 28 eP PKPdf 03 27 53.3 -0.6
RAMN Ramite 155.16 28 eP PKPdf 03 27 53.9 -0.9
ODAN Odare 155.59 27 eP PKPdf 03 27 54.4 -1.0
HYB Hyderabad 156.29 57 i PKP PKPdf 03 27 55.0 -1.3
TGY Tagaytay City 156.94 294 PKPab PKPab 03 28 28.8 +1.3
comp=Z,180nm,0.3s,baz=243,slow=6.8,SNR=4.3
GYA Guiyang 157.69 342 PKP PKPdf 03 27 56.0 -1.9
GYA sPKP 03 28 25.4
GYA PKPab PKPab 03 28 31.0 +0.8
GYA PKS PKSdf 03 31 28.6 -3.3
GYA PP PP 03 32 11.6 +3.3
GYA AMB AMB
comp=Z,140nm,8.0s
SHL Shillong 158.49 19 eP PKPdf 03 27 57.5 -1.5
KMI Kunming 159.88 351 PKP PKPdf 03 27 57.2 -3.5
CHTO Chiang Mai 166.42 2 ePKPab PKPab 03 29 07.2 -1.2
CHTO Chiang Mai 166.42 2 ePKP2 PKPab 03 29 07.2 -1.2
CM31 Chiang Mai Arr 166.77 2 ePKPdf PKPdf 03 28 06.8 -0.3
CM31 ePKPab PKPab 03 29 09.5 -0.4
CMAR Chiang Mai Arr 166.77 2 PKP PKPdf 03 28 06.8 -0.3
comp=Z,6.8nm,0.8s,baz=293,slow=2.4,SNR=22
CMAR PKPab PKPab 03 29 09.5 -0.4
comp=Z,15nm,0.8s,baz=340,slow=6.0,SNR=26

KRSC 03 03:10:25.8±0.9**, 50°.39N**×**159°.93E, h42**km±22km**, ML3.6, East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDTR	Khodutka, Kamc	1.84	321	eP	Pn	03 10 56.6	+1.8
RUS	Russkaya	2.23	337	eP	Pn	03 11 02.3	+2.2
RUS				eS	Sn	03 11 29.3	+2.9
MTVR	Mutnovka	2.36	333	eP	Pn	03 11 04.4	+2.3
MTVR				eS	Sn	03 11 32.8	+2.8
KRMR	Karymshinskiy	2.69	336	eP	Pn	03 11 09.9	+3.5
KRMR				eS	Sn	03 11 41.7	+4.0
AVH	Avacha	2.97	346	P	Pn	03 11 14.8	+4.4
GNL	Ganaly	3.53	340	eP	Pn	03 11 21.7	+3.6
KBTR	Krutoberegovo	6.08	15	eP	Pn	03 11 57.6	+4.7

IDC 03 03:12:24.2±4.0**, 5°.34S**×**151°.06E, h0**km**, mb2.9**/2**, mb1 3.3**/2**, mb1mx3.1**/45**, mbtmp3.0**/2**, Error ellipse: s-maj=176.8km s-min=50.5km az=117.0, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	5.59	224	Sn	Sn	03 14 53.5	-0.2
	1.0nm,0.3s,baz=140,slow=15,SNR=3.1						
WRA	Warramunga Arr	21.80	227	P	P	03 17 17.4	-0.7
	0.4nm,0.7s,baz=53,slow=10,SNR=4.5						
ASAR	Alice Springs	24.60	221	P	P	03 17 47.1	+0.8
	0.1nm,0.3s,baz=57,slow=9.1,SNR=2.9						
TORD	Torodi Ar. Bea	148.81	287	PKPbc	PKPbc	03 32 14.2	-0.7
	0.3nm,0.5s,baz=84,slow=2.2,SNR=9.5						

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*NIED **03** 03:12:00, 35°.90N×139°.60E, h92km, Mw4.3 Best double couple: $M_0$3.73000×10^15 NP1:ϕ_s109.00000°, δ20.00000°, λ70.00000°. NP2:ϕ_s311.00000°, δ72.00000°, λ97.00000°.*

*BJI **03** 03:12:45.5, 36°.00N×139°.83E, h87km, mb4.6/14, mB4.9/9, Ms4.4/4, Ms7 4.1/4*

*ISCJB **03** 03:12:47.9±0.2, 35°.85N±0°.02×139°.60E±0°.04, h100km±1km, mb4.2/54, Error ellipse: s-maj=5.1km s-min=3.7km az=157.7*

*MOS **03** 03:12:47.2±0.9, 35°.86N×139°.73E, h95km, mb4.3/14, Error ellipse: s-maj=9.7km s-min=6.2km az=111.7*

*NEIC **03** 03:12:49.5±0.4, 35°.78N×139°.53E, h97km±3km, mb4.8/15, Error ellipse: s-maj=5.0km s-min=4.2km az=77.0*

NEIC Felt at Fujisawa, Hino, Kokubunji and Yokohama. Recorded [2 JMA] in Kanagawa, Tokyo and Yamanashi.

*JMA **03** 03:12:49.5±0.1, 35°.87N×139°.59E, h90km±1km, M4.1 Broadband fault plane solution: P waves. NP1: ϕ_s313.00000°, δ74.00000°, λ78.00000°. NP2: ϕ_s171.00000°, δ20.00000°, λ126.00000°. Principal axes: T Plg59.0000°, Azm207.0000°; N Plg11.0000°, Azm317.0000°; P Plg28.0000°, Azm53.0000°;*

JMA Felt II J1.

*IDC **03** 03:12:50.2±0.7, 35°.77N×139°.45E, h100km±6km, mb3.8/30, mb1 3.9/32, mb1mx3.8/69, mbtmp4.1/32, MS3.7/3, Ms1 3.7/3, ms1mx3.0/55 Error ellipse: s-maj=12.0km s-min=6.1km az=71.0*

ISC 03 03:12:48.9±0.6**, 35°.87N**±0°.04×**139°.64E**±0°.04**, h91**km±5km**, n165,** σ1s.38/189**, mb4.3**/54**, 7C-11D, Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TOK	Tokyo	0.21	152	P	Pn	03 13 03.3	+1.3
TOK				S	Sn	03 13 14.3	+2.6
JHU	Hanno	0.29	266	⇑P	Pn	03 13 03.2	+0.8
JHU				S	Sn	03 13 13.0	+0.5
JAG	Ashikaga	0.57	345	⇑P	Pn	03 13 04.9	+0.5
JAG				S	Sn	03 13 16.1	+0.2
JRY	Ryogami san	0.61	284	⇓P	Pn	03 13 05.4	+0.7
JRY				S	Sn	03 13 17.5	+0.9
JOD2	Odawara 2	0.75	217	⇓P	Pn	03 13 05.7	-0.4
JOD2				S	Sn	03 13 17.9	-1.0
JKT	Katashina	0.95	341	⇑P	Pn	03 13 08.6	+0.4
JKT				S	Sn	03 13 23.1	+0.5
JYN	Shimob	0.96	248	⇓P	Pn	03 13 08.2	-0.1
JYN				S	Sn	03 13 22.5	-0.4
JIM2	Oshima 3	1.16	188	P	Pn	03 13 10.4	-0.2
JIM2				S	Sn	03 13 26.0	-0.9
MJAR	Matsushiro Arr	1.33	301	P	Pn	03 13 12.6	0.0
	44nm,0.3s,baz=166,slow=12,SNR=175						
MJAR				S	Sn	03 13 30.9	+0.3
	115nm,0.3s,baz=108,slow=19,SNR=31						
MAJO	Matsushiro	1.34	301	ePn	Pn	03 13 12.8	+0.2
MAJO				eSn	Sn	03 13 30.9	+0.3
MAJO	Matsushiro	1.34	301	d iP	Pn	03 13 12.5	-0.2
MAT	Matsushiro	1.34	301	P	Pn	03 13 12.5	-0.1
MAT				S	Sn	03 13 30.5	-0.1
MAT	Matsushiro	1.34	301	P	Pn	03 13 12.6	-0.1
MAT				eS	Sn	03 13 29.8	-0.8
MJB9	Matsu-Tunnel	1.34	301	ePn	Pn	03 13 13.0	+0.2
MJB9				eSn	Sn	03 13 28.6	-2.1
BSO1	Boso 1	1.64	138	P	Pn	03 13 16.9	+1.0
BSO1				S	Sn	03 13 37.8	+1.3
INU	Inuyama	2.20	257	ePn	Pn	03 13 23.9	+0.2
INU				eSn	Sn	03 13 47.1	-3.2
JHJ	Hachijo jima 2	2.75	177	P	Pn	03 13 32.1	+1.1
	773nm,0.3s,baz=26,slow=3.0,SNR=195						
JHJ				S	Sn	03 14 03.4	0.0
	152nm,0.3s,baz=322,slow=22,SNR=11						
JHJ2	Mitsune	2.76	177	ePn	Pn	03 13 31.5	+0.4
ERM	Erimo	6.72	23	ePn	Pn	03 14 25.0	+0.2
ERM				eSn	Sn	03 15 37.9	-1.9
ERM	Erimo	6.72	23	deP	Pn	03 14 21.6	-3.2
JNU	Nakatsue	7.73	252	P	Pn	03 14 40.3	+1.6
	4.0nm,0.3s,baz=40,slow=5.6,SNR=17						
JNU				LR	LR	03 18 19.7	
	comp=Z,82nm,18.6s,baz=119,slow=44						
JNU	Nakatsue	7.73	252	ePn	Pn	03 14 40.1	+1.3
ASAJ	Asahikawa	8.54	14	P	Pn	03 14 49.2	-0.5
	1.9nm,0.3s,baz=235,slow=11,SNR=13						
ASAJ				S	Sn	03 16 24.1	-0.2
	0.3nm,0.3s,baz=217,slow=20,SNR=2.1						
ASAJ	Asahikawa	8.54	14	ePn	Pn	03 14 47.7	-1.9
CBIJ	Chichi jima	9.01	165	ePn	Pn	03 14 53.5	-2.7
JCJ	Chichijima	9.01	165	P	Pn	03 14 53.5	-2.7
	13nm,0.3s,baz=279,slow=20,SNR=5.6						
JCJ				S	Sn	03 16 26.0	-10
	9.6nm,0.3s,baz=285,slow=20,SNR=3.2						
KSRS	Korea Array	9.54	283	P	Pn	03 15 04.4	+1.0
	0.4nm,0.3s,baz=98,slow=14,SNR=12						
KSRS				LR	LR	03 18 39.4	
	comp=Z,24nm,20.3s,baz=115,slow=37						
KS15	Wonju Array Si	9.57	283	ePn	Pn	03 15 04.4	+0.6
KSAR	Wonju Array Be	9.57	283	P	Pn	03 15 04.4	+0.6
KSAR	Wonju Array Be	9.57	283	P	Pn	03 15 04.4	+0.6
SHO	Shikotan	9.71	32	P	Pn	03 15 00.3	-5.3
SHO				eS	Sn	03 16 44.7	-8.0
SHO				pmax	pmax		
	comp=Z,13nm,0.9s						
TJN	Taejon	9.94	277	⇓eP	Pn	03 15 11.4	+2.6
KUR	Kuril'sk	11.25	31	eP	Pn	03 15 25.7	-0.7
YSS	Yuzh-Sakhalins	11.32	11	⇑eP	Pn	03 15 25.2	-2.2
YSS				pmax	pmax		
	comp=Z,20nm,0.7s						
MDJ	Mudanjiang	11.62	322	P	Pn	03 15 29.7	-1.8
MDJ				sP		03 15 52.1	
MDJ				S	Sn	03 17 40.1	+0.9
MDJ				ScP	ScP	03 24 34.6	-4.0
MDJ				ScS	ScS	03 28 10.8	-3.3
MDJ				pmax	pmax		
	comp=Z,280nm,4.7s						
KLR	Kul'dur	14.55	339	P	Pn	03 16 09.8	-0.2
	comp=Z,0.0nm,0.3s,baz=127,slow=14,SNR=5.2						
TYV	Tymovskoe	15.14	7	eP	P	03 16 21.8	+1.2
TYV				pmax	pmax		
	comp=Z,14nm,1.2s						
NKL	Nikolayevsk	17.29	2	eP	Pn	03 16 38.0	-6.2
NJ2	Nanjing	17.65	264	eP	Pn	03 16 48.8	0.0
NJ2				pmax	pmax		
	comp=Z,20nm,0.6s						
ZEA	Zeya	19.86	338	eP	Pn	03 17 24.2	+9.4
PETK	Petropavlovsk-	21.41	31	P	P	03 17 32.8	+3.6
	comp=Z,7.1nm,1.0s,baz=232,slow=9.0,SNR=3.3						
PEA1	Petropavlovsk-	21.42	31	eP	P	03 17 32.8	+3.6
HHC	Hu-ho-hao-te	22.52	291	eP	P	03 17 40.2	-0.9
HHC				pmax	pmax		
	comp=Z,15nm,0.7s						
HHC				pmax	pmax		
	comp=Z,150nm,4.9s						
MA2	Magadan	24.80	14	P	P	03 18 03.4	+1.3
	comp=Z,11nm,0.6s,baz=186,slow=8.1,SNR=13						
MA2	Magadan	24.80	14	⇑eP	P	03 18 03.0	+0.9
XAN	Xi'an	25.19	275	P	P	03 18 19.0	+13
XAN				pP	sP	03 18 41.4	+4.3
XAN				pmax	pmax		
	comp=Z,11nm,1.4s						
YAK	Yakutsk	26.92	350	eP	P	03 18 22.4	+1.3
YAK				pmax	pmax		
	comp=Z,8.0nm,0.8s						
SONA0	Songino Array	27.28	306	eP	P	03 18 24.9	+0.2
SONM	Songino Array	27.28	306	P	P	03 18 25.0	+0.2
	comp=Z,0.2nm,0.4s,baz=111,slow=8.8,SNR=2.7						
SONM	Songino Array	27.28	306	P	P	03 18 25.0	+0.2
SEY	Seymchan	28.22	12	P	P	03 18 34.2	+1.5
	comp=Z,1.8nm,0.6s,baz=202,slow=7.5,SNR=8.4						
SEY	Seymchan	28.22	12	⇓eP	P	03 18 33.2	+0.5
STDB	Stepnoy Dvoret	28.62	315	eP	P	03 18 30.9	-5.5
LZH	Lanzhou	28.87	281	eP	P	03 18 39.3	+0.3
LZH				pP	pP	03 18 59.4	-0.3
LZH				sP	sP	03 19 11.0	+0.7
LZH				pmax	pmax		
	comp=Z,21nm,1.0s						
LZH				pmax	pmax		
	comp=Z,98nm,4.5s						
GYA	Guiyang	29.62	261	P	P	03 18 46.1	+0.4
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
TLY	Talaya	30.04	313	eP	P	03 18 49.6	+0.5
TLY				pmax	pmax		
	comp=Z,5.0nm,0.9s						
CD2	Chengdu	30.25	271	eP	P	03 18 51.0	-0.2
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,120nm,5.0s						
KMI	Kunming	33.37	262	P	P	03 19 20.3	+1.5
KMI				pmax	pmax		
	comp=Z,6.0nm,0.5s						
BILL	Bilibino	35.55	17	⇓eP	P	03 19 36.8	0.0
BILL				e		03 20 57.5	
BILL				eSS	SS	03 27 23.1	-21
BILL				pmax	pmax		
	comp=Z,3.0nm,0.9s						
BILL				pmax	pmax		
	comp=Z,200nm,22.0s						
FAKI	Fak Fak	39.20	192	eP	P	03 20 06.4	-1.7
	comp=Z,8.1nm,0.6s						
CM31	Chiang Mai Arr	39.82	255	eP	P	03 20 12.5	-0.8
CMAR	Chiang Mai Arr	39.82	255	P	P	03 20 12.5	-0.8
	comp=Z,1.3nm,0.3s,baz=59,slow=7.5,SNR=3.8						
DGZ	Jazzator, Alta	39.93	307	deP	P	03 20 14.9	+0.8
DGZ				pmax	pmax		
	comp=Z,2.0nm,0.9s						
WMQ	Urumqi	40.10	298	P	P	03 20 17.5	+2.0
WMQ				LR	LR		
	comp=Z,210nm,21.7s						
WMQ				LR	LR		
	comp=Z,420nm,19.9s						
WMQ				LR	LR		
	comp=Z,440nm,19.9s						
ZAA1	Zalesovo Array	41.66	313	eP	P	03 20 28.3	+0.3
ZAA1				ePcP	PcP	03 22 22.8	-0.3
ZALV	Zalesovo Beam	41.66	313	P	P	03 20 28.3	+0.3
	comp=Z,1.7nm,0.6s,baz=105,slow=6.2,SNR=8.7						
ZALV				PcP	PcP	03 22 22.8	-0.3
	comp=Z,1.2nm,0.5s,baz=79,slow=3.7,SNR=3.7						
ZALV	Zalesovo Beam	41.66	313	eP	P	03 20 27.6	-0.4
MK01	Makanchi Array	43.53	303	eP	P	03 20 42.6	-0.8
MK31	Makanchi Array	43.53	303	eP	P	03 20 43.6	+0.2
MK31	Makanchi Array	43.53	303	eP	P	03 20 43.6	+0.2
MK32	Makanchi Array	43.53	303	eP	P	03 20 43.3	-0.1
MKAR	Makanchi Array	43.53	303	P	P	03 20 43.3	-0.1
	comp=Z,0.6nm,0.4s,baz=80,slow=9.8,SNR=11						
MKAR	Makanchi Array	43.53	303	eP	P	03 20 43.6	+0.3
	comp=Z,7.7nm,0.6s						
MKAR	Makanchi Array	43.53	303	i P	P	03 20 43.7	+0.3
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
KURK	Kurchatov	45.53	309	eP	P	03 20 59.0	-0.1
	comp=Z,9.6nm,0.8s						
KURK	Kurchatov	45.53	309	deP	P	03 20 58.8	-0.4
KURK				pmax	pmax		
	comp=Z,8.0nm,0.9s						
KURBB	Kurchatov Arra	45.60	309	P	P	03 20 59.5	-0.1
	comp=Z,4.0nm,0.6s,baz=85,slow=8.0,SNR=31						
SOEI	Soe	47.64	201	eP	P	03 21 14.8	-1.2
	comp=Z,14nm,0.5s						
KDAK	Kodiak Island	48.92	41	P	P	03 21 26.7	+1.4
	comp=Z,9.0nm,0.7s,baz=230,slow=7.9,SNR=4.4						
KDAK	Kodiak Island	48.92	41	eP	P	03 21 25.6	+0.3
	comp=Z,117nm,1.7s						
KDAK	Kodiak Island	48.92	41	eP	P	03 21 25.6	+0.3
KDAK				pmax	pmax		
	comp=Z,117nm,1.7s						
MTN	Manton Dam	49.11	191	eP	P	03 21 26.3	-0.9
	comp=Z,15nm,0.6s						
COEN	Coen	49.67	175	eP	P	03 21 32.2	+0.8
	comp=Z,38nm,1.5s						
AAK	Ala-Archa	49.79	299	eP	P	03 21 32.7	+0.3
	comp=Z,2.7nm,1.0s						
AAK	Ala-Archa	49.79	299	eP	P	03 21 32.7	+0.3
AAK				pmax	pmax		
	comp=Z,3.0nm,1.0s						
BVAR	Borovoye Array	50.30	313	P	P	03 21 36.0	+0.1
	comp=Z,0.7nm,0.4s,baz=86,slow=8.8,SNR=4.8						
BRVK	Borovoye	50.36	313	eP	P	03 21 37.4	+1.0
	comp=Z,3.4nm,1.2s						
BRVK	Borovoye	50.36	313	⇑eP	P	03 21 36.7	+0.3
BRVK				pmax	pmax		
	comp=Z,7.0nm,1.2s						
ILAR	Eielson Array	51.24	32	P	P	03 21 44.3	+1.5
	comp=Z,1.9nm,0.9s,baz=268,slow=5.6,SNR=5.3						
ILB	Eielson Array	51.24	32	eP	P	03 21 44.3	+1.5
KK05	Karatay Array	52.46	300	eP	P	03 21 51.8	-0.4
KK06	Karatay Array	52.46	300	eP	P	03 21 52.1	-0.1
KK02	Karatay Array	52.47	300	eP	P	03 21 52.1	-0.2
KK31	Karatay Array	52.47	300	eP	P	03 21 52.5	+0.2
KK31	Karatay Array	52.47	300	eP	P	03 21 52.5	+0.2
KKAR	Karatay Array	52.47	300	eP	P	03 21 52.5	+0.2
KKAR	Karatay Array	52.47	300	eP	P	03 21 52.5	+0.2
KK04	Karatay Array	52.47	300	eP	P	03 21 51.9	-0.4
KK09	Karatay Array	52.47	300	eP	P	03 21 52.0	-0.3
KK01	Karatay Array	52.48	300	eP	P	03 21 52.0	-0.3
KK03	Karatay Array	52.48	300	eP	P	03 21 52.0	-0.4
KK07	Karatay Array	52.48	300	eP	P	03 21 52.1	-0.3
KK08	Karatay Array	52.49	300	eP	P	03 21 52.0	-0.4
WB2	Warramunga Arr	55.73	186	eP	P	03 22 15.2	-0.9
WR1	Warramunga Arr	55.73	186	eP	P	03 22 15.3	-0.8
	comp=Z,28nm,1.5s						
WR1				ePcP	PcP	03 23 15.3	+0.9
WRA	Warramunga Arr	55.73	186	P	P	03 22 15.3	-0.8
	comp=Z,4.9nm,0.4s,baz=0.6,slow=7.7,SNR=96						
WRA				PcP	PcP	03 23 15.3	+0.9
	comp=Z,1.6nm,0.8s,baz=357,slow=4.1,SNR=4.6						
CTA	Charters Tower	56.01	172	P	P	03 22 17.9	-0.1
	comp=Z,1.5nm,0.3s,baz=315,slow=4.3,SNR=2.9						
INK	Inuvik	56.07	27	P	P	03 22 19.7	+1.7
	comp=Z,2.6nm,0.7s,baz=303,slow=0.6,SNR=2.4						
INK	Inuvik	56.07	27	eP	P	03 22 19.7	+1.7
	comp=Z,18nm,1.5s						
ARU	Arti	56.28	319	d iP	P	03 22 19.6	-0.1
ARU				S	S	03 30 06.2	+3.7
ARU				SS	SS	03 33 50.5	+0.6
ARU				pmax	pmax		
	comp=Z,18nm,2.5s						
AB06	Akbulak array	57.58	310	eP	P	03 22 28.5	-0.4
AB05	Akbulak array	57.59	310	eP	P	03 22 28.6	-0.4
AB07	Akbulak array	57.59	310	eP	P	03 22 28.5	-0.5
AB02	Akbulak array	57.59	310	eP	P	03 22 28.6	-0.4
AB01	Akbulak array	57.59	310	eP	P	03 22 28.6	-0.4
AB31	Akbulak array	57.59	310	eP	P	03 22 29.0	-0.1
AB31	Akbulak array	57.59	310	eP	P	03 22 29.0	-0.1
ABKAR	Akbulak array	57.59	310	eP	P	03 22 29.0	-0.1
	comp=Z,31nm,0.6s						
AB03	Akbulak array	57.59	310	eP	P	03 22 29.0	0.0
AB04	Akbulak array	57.60	310	eP	P	03 22 28.6	-0.4
AB09	Akbulak array	57.61	310	eP	P	03 22 29.2	0.0
AB08	Akbulak array	57.61	310	eP	P	03 22 29.1	0.0
AKTO	Aktyubinsk	58.39	312	P	P	03 22 33.4	-1.1
	comp=Z,1.2nm,0.6s,baz=68,slow=17,SNR=3.3						
AS01	Alice Springs	59.46	186	eP	P	03 22 41.5	-0.7
AS31	Alice Springs	59.46	186	eP	P	03 22 42.1	-0.1
	comp=Z,1.4nm,0.6s						
AS31				ePcP	PcP	03 23 30.1	+1.2
ASAR	Alice Springs	59.46	186	P	P	03 22 41.9	-0.4
	comp=Z,3.5nm,0.7s,baz=7.5,slow=8.2,SNR=39						
ASAR				PcP	PcP	03 23 30.1	+1.2
	comp=Z,0.9nm,0.6s,baz=12,slow=5.1,SNR=2.7						
ASAR				LR	LR	03 46 57.0	
	comp=Z,112nm,18.9s,baz=159,slow=34						
SPITS	Spitsbergen Ar	61.38	349	P	P	03 22 55.4	+0.7
	comp=Z,9.0nm,1.0s,baz=14,slow=12,SNR=3.1						
ARA0	ARCESS Array S	64.58	339	eP	P	03 23 15.6	-0.3
ARCES	ARCESS Array B	64.58	339	P	P	03 23 15.6	-0.3
	comp=Z,8.0nm,1.1s,baz=57,slow=6.6,SNR=2.7						
YKA	Yellowknife Ar	65.53	29	P	P	03 23 23.2	+1.0
	comp=Z,0.5nm,0.7s,baz=302,slow=6.8,SNR=2.7						
YKB5	Yellowknife Ar	65.53	29	eP	P	03 23 23.2	+1.0
STKA	Stephens Creek	67.42	178	P	P	03 23 34.1	-0.4
	comp=Z,1.8nm,0.6s,baz=355,slow=10,SNR=4.7						
STKA	Stephens Creek	67.42	178	eP	P	03 23 34.1	-0.4
	comp=Z,5.5nm,1.8s						
STKA	Stephens Creek	67.42	178	eP	P	03 23 34.1	-0.4
STKA				pmax	pmax		
	comp=Z,6.0nm,1.8s						
OBN	Obninsk	68.16	323	eP	P	03 23 38.3	-0.7
OBN				e		03 24 05.8	
OBN				e		03 26 10.3	
OBN				pmax	pmax		
	comp=Z,3.0nm,0.9s						
FIA0	FINESS Array S	69.17	332	eP	P	03 23 45.1	0.0
FIA0	FINESS Array S	69.17	332	eP	P	03 23 45.1	0.0
FINES	FINESS Array B	69.17	332	P	P	03 23 45.1	0.0
	comp=Z,1.2nm,0.7s,baz=59,slow=5.4,SNR=3.5						
STD	Studebaker Rid	70.11	47	eP	P	03 23 49.4	-2.0
KBZ	Khabaz	70.56	310	P	P	03 23 54.8	+0.8
	comp=Z,1.7nm,0.8s,baz=224,slow=8.8,SNR=3.7						
KIV	Kislovodsk	70.58	311	eP	P	03 23 55.4	+1.2
KIV				pmax	pmax		
	comp=Z,8.0nm,1.0s						
UMPQ	Umpqua Communi	70.97	50	eP	P	03 23 56.5	0.0
YBH	Yreka Blue Hor	72.19	51	P	P	03 24 06.3	+2.3
	comp=Z,0.9nm,0.7s,baz=295,slow=17,SNR=2.4						
AKASG	Malin Array Be	74.33	322	P	P	03 24 16.2	0.0
	comp=Z,0.3nm,0.4s,baz=46,slow=6.1,SNR=3.7						
AKBB	Malin Array Si	74.33	322	eP	P	03 24 16.2	0.0
	comp=Z,8.4nm,1.8s						
AKBB	Malin Array Si	74.33	322	eP	P	03 24 16.2	0.0
AKBB				pmax	pmax		
	comp=Z,8.0nm,1.8s						
HFS	Hagfors	74.55	335	P	P	03 24 19.3	+2.0
	comp=Z,1.4nm,0.7s,baz=57,slow=11,SNR=4.0						
NB2	NORSAR Subarra	74.69	337	P	pP	03 24 42.1	+0.3
	comp=Z,1.1nm,0.7s,baz=41,slow=6.2						
NB200	NORSAR Array S	74.69	337	eP	P	03 24 18.8	+0.6
NOA	NORSAR Array B	74.69	337	P	P	03 24 18.8	+0.6
	comp=Z,1.2nm,0.9s,baz=54,slow=6.8,SNR=2.8						
NVAR	Mina Array Bea	76.83	52	P	P	03 24 33.3	+2.2
	comp=Z,0.9nm,0.8s,baz=276,slow=7.8,SNR=4.5						
NV01	Mina Array Sit	76.83	52	eP	P	03 24 33.3	+2.2
GATR	Gnd/Air Tx Cnt	77.61	56	eP	P	03 24 32.7	-2.6
BR101	Keskin Array S	78.54	311	eP	P	03 24 40.4	-0.1
BRTR	Keskin Array B	78.54	311	P	P	03 24 40.4	-0.1
	comp=Z,0.9nm,0.9s,baz=78,slow=2.9,SNR=4.7						
BRTR	Keskin Array B	78.54	311	ceP	P	03 24 40.9	+0.5
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
BR231	Keskin MP Arra	79.00	311	eP	P	03 24 40.7	-2.2
PD31	Pinedale Array	79.50	44	eP	P	03 24 46.5	+0.7
PDAR	Pinedale Array	79.50	44	P	P	03 24 46.5	+0.7
	comp=Z,0.2nm,0.4s,baz=307,slow=3.3,SNR=2.0						
BBSC	Beaumont Base	80.34	55	eP	P	03 24 50.8	+0.6
GERES	GERESS Array B	82.93	327	P	P	03 25 03.3	-0.3
	comp=Z,0.2nm,0.4s,baz=77,slow=5.2,SNR=2.6						
IDI	Anoyia	86.71	312	LR	LR	04 10 34.9	
	comp=Z,107nm,19.1s,baz=279,slow=40						
TOA1	Torodi Ar. Sit	117.10	313	ePKPdf	PKPdf	03 31 23.1	-0.7
TORD	Torodi Ar. Bea	117.10	313	PKP	PKPdf	03 31 23.1	-0.7
	comp=Z,0.4nm,0.6s,baz=22,slow=1.6,SNR=11						
KOWA	Kowa	119.24	319	PKP	PKPdf	03 31 27.4	-0.5
	comp=Z,0.9nm,0.5s,baz=18,slow=3.6,SNR=6.2						

*SJA **03** 03:44:55.9±0.7, 33°.09S×68°.95W, h14^{km}±3^{km}, ML3.4, MW3.5*
*GUC **03** 03:44:57.8±0.4, 33°.07S×69°.03W, h21^{km}±64^{km}, ML3.0*
ISC 03 03:44:56.0±1.4**, 33°.09S**±0°.03×**68°.99W**±0°.03**, h3**^{km}±13^{km}**,**
n24, σ1^{s}25/41**, 4D, Mendoza Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AUSP	Uspallata	0.93	339	i P	Pb	03 45 14.4	-0.5
FCH	Farellones	1.12	257	⇓eP	Pb	03 45 17.6	-0.6
FCH				eS	Sg	03 45 33.3	+1.3
LMEL	Las Melosas	1.27	233	⇓iP	Pn	03 45 20.1	-0.7
LMEL				eS	Sg	03 45 37.6	+0.8
LMEL				IAML		03 45 37.9	
	comp=N,1μm,0.3s						
RTCV	Cerro Valdivia	1.28	17	i P	Pb	03 45 20.5	-0.3
RTCV				i S	Sg	03 45 37.6	+0.4
RTLS	Leoncito	1.31	348	i P	Pg	03 45 21.6	+0.5
	comp=Z,299nm,0.3s						
RTLS				IAML		03 45 43.6	
	comp=Z,299nm,0.3s						
CLCH	Cerro Calan	1.33	256	⇓iP	Pb	03 45 21.4	-0.3
CLCH				eS	Sb	03 45 39.0	-0.2
CLCH				IAML		03 45 42.4	
	comp=N,928nm,0.3s						
PEL	Peldehue	1.43	267	eP	Pb	03 45 22.8	-0.5
PEL				eS	Sb	03 45 41.6	-0.2
PEL				IAML		03 45 42.5	
	comp=N,87nm,0.3s						
ZON	Zonda	1.56	10	i P	Pb	03 45 24.9	-0.7
ZON				i S	Sg	03 45 46.4	+0.3
SJA	San Juan	1.60	13	i P	Pb	03 45 25.7	-0.5
SJA				i S	Sg	03 45 47.6	+0.2
	comp=Z,416nm,0.2s						
SJA				IAML		03 45 47.7	
	comp=Z,416nm,0.2s						
ROCH	El Roble	1.71	273	⇓iP	Pb	03 45 27.9	-0.2
ROCH				eS	Sg	03 45 50.6	-0.1
ROCH				IAML		03 45 53.7	
	comp=N,367nm,0.6s						
ROC1	El Roble	1.71	273	i P	Pb	03 45 28.0	-0.2
ROC1				i S	Sg	03 45 51.7	+0.8
ACAN	Cantantal	1.72	62	i P	Pb	03 45 27.6	-0.6
ACAN				i S	Sb	03 45 49.9	-0.4
RFA	San Rafael	1.73	166	i P	Pn	03 45 25.6	-1.4
RFA				i S	Sb	03 45 50.9	+0.3
RFA				IAML		03 45 54.8	
	comp=Z,715nm,0.3s						
RTLL	Cerro Villicun	1.81	14	i P	Pb	03 45 28.6	-1.2
RTLL				i S	Sb	03 45 52.9	0.0
RTLL				IAML		03 45 54.5	
	comp=Z,445nm,0.4s						
AMOG	MOGNA	2.19	11	i P	Pn	03 45 34.0	+0.7
AMOG				i S	Sb	03 46 04.3	+0.5
ACDV	Cuesta del Vie	2.91	358	i P	Pb	03 45 45.8	-2.9
ACDV				i S	Sg	03 46 27.4	-2.2
ACDV				IAML		03 46 28.0	
	comp=Z,68nm,0.6s						
AROD	Rodeo	2.94	352	i P	Pb	03 45 46.1	-3.2
AROD				i S	Sb	03 46 24.4	-1.4
APLL	PUNTA DE LOS L	3.41	39	i P	Pn	03 45 50.9	+0.8
	comp=Z,52nm,0.3s						
APLL				i S	Sb	03 46 40.8	+1.9
APLL				IAML		03 46 48.9	
	comp=Z,52nm,0.3s						
SUCO	SUCO	3.45	95	IAML		03 46 49.7	
	comp=Z,106nm,0.4s						
AGUA	GUANDACOL	3.62	7	i P	Pn	03 45 54.7	+1.7
TCA	Tanti	4.11	66	i P	Pn	03 45 59.1	-0.7
TCA				i S	Sb	03 47 02.1	+2.8
TCA				IAML		03 47 09.4	
	comp=Z,47nm,0.5s						
LCO	Las Campanas	4.32	340	i P	Pn	03 46 03.2	+0.4
LCO				i S	Sn	03 46 54.5	+0.5
VCA	Vinchina	4.39	9	i P	Pn	03 46 06.1	+2.4
VCA				IAML		03 47 18.7	
	comp=Z,51nm,0.2s						
CYA	Choya	5.38	31	i P	Pn	03 46 16.5	-0.7
CYA				IAML		03 47 57.3	
	comp=Z,23nm,0.5s						

IDC 03 04:08:56.2±3.7**, 5°.68S**×**150°.68E, h0**^{km}**, mb3.0**/2**,**
mb1 3.4/2**, mb1mx3.0**/52**, mbtmp3.1**/2**, MS3.4**/1**, Ms1 3.4**/1**,**
ms1mx2.9/16**, Error ellipse: s-maj=150.2km**
s-min=48.7km az=117.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	5.08	223	LR	LR	04 11 26.4	
	comp=Z,364nm,19.0s,baz=94,slow=30						
WRA	Warramunga Arr	21.29	227	P	P	04 13 44.9	+0.2
	0.3nm,0.6s,baz=53,slow=11,SNR=6.2						
ASAR	Alice Springs	24.09	220	P	P	04 14 13.9	+0.2
	0.5nm,0.5s,baz=52,slow=9.3,SNR=5.8						
TORD	Torodi Ar. Bea	148.54	286	PKPbc	PKPbc	04 28 45.3	-0.9
	0.3nm,0.7s,baz=59,slow=1.9,SNR=3.9						

*IDC **03** 04:14:42.0±2.7, 37°.57N×141°.80E, h0^{km}, mb3.3/3, mb1 3.3/4, mb1mx3.1/67, mbtmp3.1/4, ML2.5/1, Error ellipse: s-maj=65.6km s-min=32.8km az=65.0*
*ISCJB **03** 04:14:43.3±1.1, 37°.35N±0°.05×141°.73E±0°.08, h10^{km}, mb3.2/3, Error ellipse: s-maj=9.3km s-min=6.8km az=171.0*
*JMA **03** 04:14:45.4±0.1, 37°.36N×141°.63E, h23^{km}±2^{km}, M3.1*
ISC 03 04:14:44.0±1.4**, 37°.38N**±0°.05×**141°.70E**±0°.08**, h10**^{km}**, n20,**
σ1^{s}36/20**, mb3.3**/3**, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JFK	Kawauchi	0.66	269	P	Pg	04 14 57.3	+0.6
ONAJ	Iwakimizuishiy	0.77	249	P	Pg	04 14 59.0	+0.1
JMM	Marumori	0.87	304	P	Pg	04 15 00.7	0.0
JMM				S	Sg	04 15 11.4	-0.6
JFT	Otama	1.09	278	P	Pg	04 15 04.8	-0.2
JFT				S	Sg	04 15 18.3	-0.9
JIO	Ouri	1.11	346	P	Pb	04 15 05.3	+0.1
JHO	Hitachi	1.19	230	P	Pb	04 15 05.6	-1.0
JOU	Okura	1.28	320	P	Pn	04 15 08.3	+0.4
JOU				S	Sb	04 15 24.7	0.0
JYS	Shirataka	1.54	303	P	Pn	04 15 12.4	+0.9
JYS				S	Sn	04 15 31.7	+0.1
JFY	Yanaizu	1.59	272	P	Pn	04 15 12.7	+0.5
MJAR	Matsushiro Arr	2.92	254	Pn	Pn	04 15 31.9	+1.4
	0.6nm,0.3s,baz=75,slow=13,SNR=4.3						
MJAR				Sn	Sn	04 16 09.5	+3.9
	0.6nm,0.3s,baz=77,slow=26,SNR=4.0						
MAT	Matsushiro	2.92	254	P	Pn	04 15 29.2	-1.3
MAT				eS	Sn	04 16 05.9	+0.3
SONM	Songino Array	27.78	303	P	P	04 20 30.3	-2.8
	0.2nm,0.5s,baz=99,slow=8.9,SNR=2.3						
H11N2	WAKE ISLAND Hy	28.13	122	T	T	04 50 04.0	
	baz=314,slow=75,SNR=27						
H11N1	WAKE ISLAND Hy	28.14	122	T	T	04 50 04.7	
	baz=314,slow=75,SNR=26						
H11N3	WAKE ISLAND Hy	28.15	122	T	T	04 50 07.2	
	baz=314,slow=75,SNR=26						
H11S1	WAKE ISLAND Hy	28.86	124	T	T	04 50 59.4	
	baz=316,slow=76,SNR=19						
H11S3	WAKE ISLAND Hy	28.86	124	T	T	04 50 59.4	
	baz=316,slow=76,SNR=21						
H11S2	WAKE ISLAND Hy	28.88	124	T	T	04 51 00.5	
	baz=316,slow=76,SNR=18						
KURBB	Kurchatov Arra	45.97	308	P	P	04 23 07.3	+0.3
	0.2nm,0.4s,baz=80,slow=6.9,SNR=3.6						
WRA	Warramunga Arr	57.44	188	P	P	04 24 33.6	+0.7
	0.2nm,0.7s,baz=2.6,slow=7.2,SNR=5.0						

*IDC **03** 04:19:46.9±1.5, 27°.52N×54°.35E, h0km, mb3.7/6, mb1 3.7/7, mb1mx3.3/75, mbtmp3.7/7, ML3.5/1, Error ellipse: s-maj=30.2km s-min=26.5km az=177.0*
*TEH **03** 04:19:48.4, 27°.36N×54°.36E, h26km, ML3.5*
*THR **03** 04:19:48.4±0.4, 27°.28N×54°.39E, h14km±13km, ML3.8*
*ISCJB **03** 04:19:50.3±0.3, 27°.41N±0°.03×54°.35E±0°.03, h25km, mb3.6/6, Error ellipse: s-maj=4.0km s-min=3.7km az=157.0*
*CSEM **03** 04:19:50.9±0.2, 27°.42N×54°.36E, h15km, ML3.5, Error ellipse: s-maj=7.7km s-min=4.2km az=64.0*
*DSN **03** 04:19:52.9±0.7, 27°.41N×54°.66E, h15km, ML3.6/7, Error ellipse: s-maj=8.8km s-min=5.5km az=43.0*
*OMAN **03** 04:19:55.1±99.0, 27°.35N×54°.67E, h30km, Error ellipse: s-maj=132.9km s-min=10.3km az=331.0*
ISC 03 04:19:50.9±0.7, **27°.42N**±0°.05×**54°.41E**±0°.04, **h25km, n70,** σ**1.63**/80, **mb3.6**/6, **Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHRM	**Jahrom**	**1.31**	**326**	*e*Pg	**Pn**	**04 20 15.1**	**+1.4**
JHRM	**Jahrom**	**1.31**	**326**	*e*Pg	**Pn**	**04 20 15.1**	**+1.4**
GHIR	**Ghir-Karzin**	**1.53**	**305**	*e*Pg	**Pn**	**04 20 17.6**	**+0.8**
GHIR				*e*Sg	**Sb**	**04 20 39.6**	**+1.9**
GHIR	**Ghir-Karzin**	**1.53**	**305**	*e*Pg	**Pn**	**04 20 17.6**	**+0.8**
GHIR				*e*Sg	**Sb**	**04 20 39.3**	**+1.6**
GHIR				AML	AML	04 20 41.3	
	comp=N,1µm,0.5s						
GHIR				AML	AML	04 20 42.5	
	comp=E,1µm,0.5s						
GENO	**Geno**	**1.56**	**90**	*e*Pn	**Pn**	**04 20 17.9**	**+0.6**
GENO	**Geno**	**1.56**	**90**	*e*Pn	**Pn**	**04 20 17.9**	**+0.6**
SHME	**Shamm**	**2.06**	**131**	P	**Pn**	**04 20 24.6**	**+0.5**
NIAN	**Nian**	**2.16**	**86**	*e*Pn	**Pn**	**04 20 25.7**	**+0.4**
NIAN				*e*AMB	AMB	04 21 10.8	
	comp=Z,7µm,0.2s						
NIAN	**Nian**	**2.16**	**86**	*e*Pn	**Pn**	**04 20 25.7**	**+0.4**
BANOM	**Banah**	**2.25**	**131**	P	**Pn**	**04 20 27.7**	**+1.0**
	SNR=29						
BANOM	**Banah**	**2.25**	**131**	P	**Pn**	**04 20 27.7**	**+1.0**
	SNR=29						
BANOM				S	**Sn**	**04 20 54.2**	**+0.5**
BANOM	**Banah**	**2.25**	**131**	*e*P	**Pn**	**04 20 27.4**	**+0.8**
	SNR=16						
BANOM				S	**Sn**	**04 20 54.2**	**+0.5**
ISRV	**Sarvestan**	**2.26**	**330**	*e*Pn	**Pn**	**04 20 28.2**	**+1.1**
ISRV				*e*AMB	AMB	04 21 17.8	
	comp=Z,3µm,0.5s						
ISRV	**Sarvestan**	**2.26**	**330**	*e*Pn	**Pn**	**04 20 28.2**	**+1.1**
KHSK	**Kohestak**	**2.44**	**105**	*e*Pn	**Pn**	**04 20 29.9**	**+0.7**
KHSK				*e*AMB	AMB	04 21 02.7	
	comp=Z,4µm,0.1s						
KHSK	**Kohestak**	**2.44**	**105**	*e*Pn	**Pn**	**04 20 29.9**	**+0.7**
NAZ	**Nazwa, Dubai**	**2.67**	**155**	P	**Pn**	**04 20 35.0**	**+2.6**
	SNR=14						
NAZ	**Nazwa, Dubai**	**2.67**	**155**	P	**Pn**	**04 20 34.9**	**+2.6**
	SNR=14						
NAZ	**Nazwa, Dubai**	**2.67**	**155**	*e*P	**Pn**	**04 20 34.9**	**+2.6**
	SNR=14						
MDH	**Madha**	**2.71**	**141**	P	**Pn**	**04 20 34.1**	**+1.3**
FAQ	**Al Faqa, Dubai**	**2.87**	**158**	P	**Pn**	**04 20 37.4**	**+2.3**
FAQ	**Al Faqa, Dubai**	**2.87**	**158**	P	**Pn**	**04 20 37.4**	**+2.3**
UOSS	**Minazif**	**2.94**	**146**	P	**Pn**	**04 20 37.7**	**+1.5**
	SNR=16						
UOSS	**Minazif**	**2.94**	**146**	P	**Pn**	**04 20 37.7**	**+1.5**
	SNR=16						
UOSS	**Minazif**	**2.94**	**146**	*e*P	**Pn**	**04 20 37.6**	**+1.5**
	SNR=12						
NGRK	**Negar Kerman**	**3.01**	**42**	*e*Pn	**Pn**	**04 20 38.2**	**+0.8**
NGRK				*e*AMB	AMB	04 21 19.2	
	comp=Z,99nm,0.1s						
NGRK	**Negar Kerman**	**3.01**	**42**	*e*Pn	**Pn**	**04 20 38.2**	**+0.8**
HATD	**Hatta, Dubai**	**3.01**	**149**	P	**Pn**	**04 20 40.0**	**+2.9**
	SNR=5.4						
HATD	**Hatta, Dubai**	**3.01**	**149**	P	**Pn**	**04 20 39.1**	**+2.0**
	SNR=5.3						
HATD	**Hatta, Dubai**	**3.01**	**149**	*e*P	**Pn**	**04 20 39.1**	**+2.0**
	SNR=5.3						
ASHO	**Ashiyiah**	**3.10**	**151**	P	**Pn**	**04 20 40.0**	**+1.7**
	SNR=52						
ASHO	**Ashiyiah**	**3.10**	**151**	P	**Pn**	**04 20 40.0**	**+1.7**
	SNR=52						
ASHO				S	**Sn**	**04 21 16.6**	**+1.9**
ASHO	**Ashiyiah**	**3.10**	**151**	*i* P	**Pn**	**04 20 39.9**	**+1.5**
	SNR=52						
ASHO				S	**Sn**	**04 21 16.6**	**+1.9**
KRBR	**Kerman**	**3.28**	**38**	*e*Pn	**Pn**	**04 20 43.5**	**+2.5**
KRBR	**Kerman**	**3.28**	**38**	*e*Pn	**Pn**	**04 20 43.5**	**+2.5**
KHGB	**Koh Gabri**	**3.46**	**31**	*e*AMB	AMB		
	comp=Z,99nm,0.0s						
KHGB				*e*Pn	**Pn**	**04 20 45.0**	**+1.6**
ALNE	**Al Ain**	**3.56**	**160**	P	**Pn**	**04 20 46.7**	**+2.1**
	SNR=6.1						
ALNE	**Al Ain**	**3.56**	**160**	*i* P	**Pn**	**04 20 46.0**	**+1.3**
	SNR=6.4						
CHMN	**Cheshme madani**	**3.67**	**48**	*e*Pn	**Pn**	**04 20 48.9**	**+2.5**
CHMN				*e*AMB	AMB	04 20 53.2	
	comp=Z,99nm,0.1s						
CHMN	**Cheshme madani**	**3.67**	**48**	*e*Pn	**Pn**	**04 20 48.9**	**+2.5**
IMEH	**Mehriz**	**3.96**	**2**	*e*Pn	**Pn**	**04 20 51.4**	**+1.1**
IMEH				*e*AMB	AMB	04 21 60.0	
	comp=Z,406nm,0.2s						
IMEH	**Mehriz**	**3.96**	**2**	*e*Pn	**Pn**	**04 20 51.4**	**+1.1**
IBAF	**Bafgh**	**4.28**	**13**	*e*Pn	**Pn**	**04 20 55.4**	**+0.8**
IBAF				*e*AMB	AMB	04 21 26.3	
	comp=Z,323nm,0.1s						
IBAF	**Bafgh**	**4.28**	**13**	*e*Pn	**Pn**	**04 20 55.4**	**+0.8**
SLWS		**4.28**	**233**	P	**Pn**	**04 20 55.6**	**+1.1**
SLWS				S	**Sn**	**04 21 44.4**	**+0.8**
BTHS		**4.65**	**225**	P	**Pn**	**04 21 00.4**	**+0.8**
BTHS				S	**Sn**	**04 21 51.6**	**-1.2**
IRAM	**Ramesheh**	**4.72**	**338**	*e*Pn	**Pn**	**04 21 01.1**	**+0.4**
IRAM				*e*AMB	AMB	04 21 59.4	
	comp=Z,267nm,0.2s						
IRAM	**Ramesheh**	**4.72**	**338**	*e*Pn	**Pn**	**04 21 01.1**	**+0.4**
BOQSS		**4.76**	**252**	P	**Pn**	**04 21 02.3**	**+1.1**
BOQSS				S	**Sn**	**04 21 56.1**	**+0.5**
NASN	**Na'in**	**5.54**	**346**	*e*Pn	**Pn**	**04 21 14.6**	**+2.5**
NASN	**Na'in**	**5.54**	**346**	*e*Pn	**Pn**	**04 21 14.6**	**+2.5**
WSAR	**Wadi Sarin**	**5.65**	**137**	Pn	**Pn**	**04 21 14.6**	**+1.3**
	comp=Z,1.3nm,0.3s,baz=318,slow=10,SNR=9.9						
WSAR				Sn	**Sn**	**04 22 15.2**	**-2.3**
	comp=Z,3.4nm,0.3s,baz=145,slow=21,SNR=9.6						
CHBR	**Chabahar**	**5.73**	**107**	*e*Pn	**Pn**	**04 21 15.2**	**+0.7**
CHBR	**Chabahar**	**5.73**	**107**	*e*Pn	**Pn**	**04 21 15.2**	**+0.7**
KFJS		**5.78**	**279**	P	**Pn**	**04 21 15.8**	**+0.6**
ZHSF	**Zahedan**	**6.01**	**67**	*e*Pn	**Pn**	**04 21 20.7**	**+2.3**
ZHSF	**Zahedan**	**6.01**	**67**	*e*Pn	**Pn**	**04 21 20.2**	**+1.8**
TABS	**Tabas**	**6.63**	**20**	*e*Pn	**Pn**	**04 21 29.6**	**+2.7**
TABS	**Tabas**	**6.63**	**20**	*e*Pn	**Pn**	**04 21 29.6**	**+2.7**
MHTO	**MHTO**	**7.18**	**152**	P	**Pn**	**04 21 35.0**	**+0.6**
	SNR=27						
SHRT	**Shahrakht**	**8.01**	**38**	*e*Pn	**Pn**	**04 21 48.3**	**+2.5**
SHRT	**Shahrakht**	**8.01**	**38**	*e*Pn	**Pn**	**04 21 48.3**	**+2.5**
SHAO	**Shalim**	**9.42**	**173**	P	**Pn**	**04 22 06.7**	**+1.6**
	SNR=6.0						
SHAO	**Shalim**	**9.42**	**173**	P	**Pn**	**04 22 06.7**	**+1.6**
	SNR=6.0						
BRTR	**Keskin Array B**	**21.16**	**311**	P	**P**	**04 24 34.2**	**-0.2**
	comp=Z,1.9nm,0.7s,baz=131,slow=13,SNR=19						
AKTO	**Aktyubinsk**	**23.15**	**6**	P	**P**	**04 24 53.6**	**-1.6**
	comp=Z,0.7nm,0.5s,baz=174,slow=13,SNR=3.4						
MKAR	**Makanchi Array**	**29.23**	**41**	P	**P**	**04 25 50.4**	**-0.2**
	comp=Z,0.5nm,0.6s,baz=234,slow=8.6,SNR=3.4						
ZALV	**Zalesovo Beam**	**34.65**	**32**	P	**P**	**04 26 36.5**	**-1.6**
	comp=Z,0.6nm,0.3s,baz=233,slow=10,SNR=3.7						
FINES	**FINESS Array B**	**38.95**	**339**	P	**P**	**04 27 13.2**	**-1.4**
	comp=Z,1.4nm,0.7s,baz=136,slow=10,SNR=5.8						
TORD	**Torodi Ar. Bea**	**51.09**	**265**	P	**P**	**04 28 50.5**	**-1.3**
	comp=Z,0.3nm,0.7s,baz=63,slow=8.3,SNR=6.5						

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*KRNET **03** 04:20:28.7±0.1, 39°.93N×75°.27E, mb3.6*
*SOME **03** 04:20:28.4, 39°.87N×75°.37E, h5km*
*ISCJB **03** 04:20:29.8±0.9, 39°.81N±0°.05×75°.29E±0°.05, h10km, Error ellipse: s-maj=7.8km s-min=4.9km az=161.3*
*NNC **03** 04:20:30.5±1.7, 39°.96N×75°.22E, h0km, mb3.6, mpv3.3, Error ellipse: s-maj=17.6km s-min=5.2km az=154.0*
ISC 03 04:20:31.0±1.4, **39°.99N**±0°.06×**75°.27E**±0°.03, **h10km, n45,** σ**1.89**/77, **32C-18D, Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**1.36**	**272**	⇓P	**Pn**	**04 20 54.6**	**-1.6**
	10nm,0.2s						
SFK				⇑S	**Sb**	**04 21 13.3**	**-0.9**
	62nm,0.3s						
SFK	**Sufi-Kurgan**	**1.36**	**272**	⇓*i*P	**Pn**	**04 20 54.6**	**-1.6**
	baz=74						
SFK				⇓*i*S	**Sb**	**04 21 13.4**	**-0.8**
	baz=74						
NRN	**Naryn**	**1.55**	**21**	⇓*i*P	**Pn**	**04 20 58.5**	**-0.4**
	baz=20						
NRN				⇓*i*S	**Sb**	**04 21 20.1**	**+0.3**
	baz=20						
KZA	**Kyzart**	**2.09**	**360**	P	**Pb**	**04 21 08.0**	**-1.3**
	SNR=38						
KZA	**Kyzart**	**2.09**	**360**	⇑*i*P	**Pb**	**04 21 07.9**	**-1.3**
	baz=60						
KZA				⇑*i*S	**Sg**	**04 21 37.0**	**-1.2**
	baz=60						
ARSB	**Arslanbob**	**2.20**	**308**	⇑*i*P	**Pn**	**04 21 08.8**	**+1.1**
	baz=9.0						
ARSB				⇑*i*S	**Sb**	**04 21 38.8**	**+0.6**
	baz=9.0						
UCH	**Uchtor**	**2.31**	**346**	P	**Pb**	**04 21 11.6**	**-1.4**
	SNR=70						
UCH	**Uchtor**	**2.31**	**346**	⇑*i*P	**Pb**	**04 21 11.4**	**-1.6**
	baz=46						
UCH				⇑*i*S	**Sb**	**04 21 42.4**	**+0.5**
	baz=46						
ULHL	**Ulahol**	**2.38**	**18**	P	**Pb**	**04 21 13.3**	**-0.6**
	SNR=69						
ULHL	**Ulahol**	**2.38**	**18**	⇑*i*P	**Pn**	**04 21 11.6**	**+1.4**
	baz=17						
ULHL				⇑*i*S	**Sb**	**04 21 43.3**	**-0.1**
	baz=17						
AML	**Almayashu**	**2.45**	**331**	P	**Pb**	**04 21 13.6**	**-1.9**
	SNR=36						
AML	**Almayashu**	**2.45**	**331**	⇑*i*P	**Pn**	**04 21 13.2**	**+1.8**
	baz=32						
AML				⇑*i*S	**Sb**	**04 21 45.5**	**-0.4**
	baz=32						
BOOM	**Boomskoye usch**	**2.55**	**11**	⇓*i*P	**Pn**	**04 21 14.5**	**+1.9**
	baz=11						
BOOM				⇓*e*S	**Sb**	**04 21 48.0**	**-0.5**
	baz=11						
KDJ	**Kajisay**	**2.58**	**33**	⇑*i*P	**Pn**	**04 21 14.6**	**+1.6**
	baz=33						
KDJ				⇑*i*S	**Sb**	**04 21 48.1**	**-1.3**
	baz=33						
TARG	**Taragay, Kyrgy**	**2.59**	**47**	⇑*i*P	**Pn**	**04 21 14.8**	**+1.4**
	baz=46						
TARG				⇑*i*S	**Sb**	**04 21 48.6**	**-1.3**
	baz=46						
KBK	**Karagaybulak**	**2.68**	**355**	P	**Pb**	**04 21 16.9**	**-2.2**
	SNR=82						
KBK	**Karagaybulak**	**2.68**	**355**	⇑*i*P	**Pn**	**04 21 16.3**	**+1.9**
	baz=55						
KBK				⇑*i*S	**Sb**	**04 21 50.5**	**-1.7**
	baz=55						
AAK	**Ala-Archa**	**2.71**	**348**	⇑Pn	**Pb**	**04 21 17.6**	**-2.1**
	17nm,0.4s						
AAK				⇑Lg	Lg	04 21 54.6	
	28nm,0.8s						
AAK	**Ala-Archa**	**2.71**	**348**	P	**Pb**	**04 21 17.6**	**-2.1**
	SNR=31						
AAK	**Ala-Archa**	**2.71**	**348**	⇑*i*P	**Pn**	**04 21 16.8**	**+2.0**
	baz=48						
AAK				⇑*i*S	**Sb**	**04 21 51.1**	**-2.0**
	baz=48						
EKS2	**Erkin-Say**	**2.90**	**338**	P	**Pn**	**04 21 19.7**	**+2.4**
	SNR=8.0						
EKS2	**Erkin-Say**	**2.90**	**338**	⇓*i*P	**Pn**	**04 21 19.2**	**+1.9**
	baz=38						
EKS2				⇓*i*S	**Sb**	**04 21 56.0**	**-2.5**
	baz=38						
TKM2	**Tokmak 2**	**2.94**	**5**	⇑Pn	**Pn**	**04 21 20.2**	**+2.2**
	7.4nm,0.5s						
TKM2				⇑Pg	**Pb**	**04 21 24.5**	**+0.8**
	14nm,0.2s						
TKM2				⇓Lg	Lg	04 21 59.3	
	28nm,0.8s						
TKM2	**Tokmak 2**	**2.94**	**5**	P	**Pn**	**04 21 20.4**	**+2.4**
	SNR=22						
CHMS	**Chumysh**	**3.04**	**353**	P	**Pn**	**04 21 21.7**	**+2.6**
	SNR=14						
CHMS	**Chumysh**	**3.04**	**353**	⇓*i*P	**Pn**	**04 21 21.1**	**+2.0**
	baz=53						
CHMS				⇓*i*S	**Sb**	**04 21 59.1**	**-3.2**
	baz=53						
KST	**Kastek**	**3.10**	**9**	*e*P	**Pb**	**04 21 26.8**	**+0.5**
	3.1nm,0.2s						
KST				*e*S	**Sg**	**04 22 08.7**	**-1.8**
	123nm,0.7s						
MRKS	**Merke**	**3.16**	**331**	*e*P	**Pb**	**04 21 28.6**	**+1.4**
	41nm,0.7s						
MRKS				*e*S	**Sg**	**04 22 12.2**	**-0.2**
	24nm,0.4s						
IZV	**Izvestkoviy**	**3.21**	**18**	*e*P	**Pb**	**04 21 29.2**	**+1.0**
	54nm,0.6s						
IZV				*e*S	**Sg**	**04 22 13.1**	**-1.0**
	148nm,0.7s						
MNAS	**Manas**	**3.26**	**321**	⇓Pn	**Pn**	**04 21 25.1**	**+2.9**
	1.1nm,0.4s						
MNAS				⇑Pg	**Pb**	**04 21 29.9**	**+1.0**
	7.6nm,0.6s						
MNAS				⇑Lg	Lg	04 22 16.1	
	7.0nm,0.7s						
DGS	**Degeres**	**3.28**	**6**	*e*P	**Pb**	**04 21 30.4**	**+1.2**
	13nm,0.5s						
DGS				*e*S	**Sg**	**04 22 15.2**	**-1.0**
	57nm,0.8s						
TNSS	**Tian-Shan**	**3.30**	**22**	*e*P	**Pb**	**04 21 30.5**	**+0.7**
	32nm,0.5s						
TNSS				*e*S	**Sg**	**04 22 15.2**	**-1.7**
	75nm,0.8s						
USP	**Ospenovka**	**3.33**	**350**	P	**Pn**	**04 21 25.3**	**+2.1**
	SNR=5.2						
USP	**Ospenovka**	**3.33**	**350**	⇑*i*P	**Pn**	**04 21 25.1**	**+1.9**
	baz=50						
USP				⇑*i*S	**Sn**	**04 22 06.1**	**+3.3**
	baz=50						
MDOK	**Medeo**	**3.44**	**22**	⇑Pn	**Pn**	**04 21 26.0**	**+1.1**
	5.3nm,0.4s						
MDOK				⇓Pg	**Pb**	**04 21 32.4**	**+0.3**
	8.4nm,0.6s						
MDOK				⇓Lg	Lg	04 22 19.5	
	35nm,0.6s						
MDOK	**Medeo**	**3.44**	**22**	*e*P	**Pb**	**04 21 32.2**	**+0.1**
	12nm,0.6s						
MDOK				*e*S	**Sg**	**04 22 18.6**	**-3.0**
	72nm,0.8s						
KOTS	**Kotyrbulak**	**3.53**	**22**	*e*P	**Pb**	**04 21 33.6**	**0.0**
	11nm,0.5s						
KOTS				*e*S	**Sg**	**04 22 20.6**	**-3.6**
	87nm,0.9s						
KTBS	**Karatobe**	**3.87**	**15**	*e*P	**Pb**	**04 21 40.7**	**+1.4**
	12nm,0.5s						
KTBS				*e*S	**Sg**	**04 22 33.2**	**-2.0**
	75nm,0.5s						
KUU	**Kurty**	**3.99**	**11**	*e*P	**Pb**	**04 21 42.8**	**+1.5**
	7.6nm,1.0s						
KUU				*e*S	**Sg**	**04 22 36.8**	**-2.2**
	58nm,0.8s						
CHKK	**Chushkaly**	**4.07**	**18**	*e*P	**Pb**	**04 21 44.2**	**+1.4**
	9.9nm,0.6s						
CHKK				*e*S	**Sg**	**04 22 38.6**	**-3.1**
	53nm,0.5s						
KURS	**Kuram**	**4.12**	**31**	*e*P	**Pb**	**04 21 43.9**	**+0.3**
	2.7nm,0.9s						
KURS				*e*S	**Sg**	**04 22 38.3**	**-4.8**
	14nm,1.1s						
PDGK	**Podgornoye**	**4.60**	**42**	⇓Pn	**Pn**	**04 21 41.0**	**+0.3**
	1.8nm,0.6s						
PDGK				⇑Pg	**Pb**	**04 21 54.9**	**+3.1**
	4.7nm,0.7s						
PDGK				⇓Lg	Lg	04 22 53.0	
	22nm,0.9s						
ARXS	**Arharly**	**4.63**	**23**	*e*P	**Pb**	**04 21 54.4**	**+2.0**
	8.1nm,0.7s						
ARXS				*e*S	**Sg**	**04 22 56.4**	**-3.3**
	18nm,0.6s						
KK31	**Karatay Array**	**4.74**	**313**	⇑Pn	**Pn**	**04 21 42.9**	**+0.5**
	0.1nm,0.2s,baz=121,slow=12,SNR=6.8						
KK31				⇓Pg	**Pb**	**04 21 57.3**	**+3.2**
	1.5nm,0.5s,baz=133,slow=17,SNR=14						
KK31				⇑Lg	Lg	04 23 03.4	
	2.4nm,0.6s,baz=119,slow=28,SNR=3.9						
OTUK	**Ortayu**	**8.52**	**347**	⇑Lg	Lg	04 25 00.8	
	4.4nm,0.9s						

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*NEIC **03** 04:23:12.6±0.8, 44°.09S×37°.94E, h10km, mb4.4/9, Error ellipse: s-maj=26.4km s-min=14.3km az=84.0*
*IDC **03** 04:23:12.9±0.8, 43°.99S×37°.28E, h0km, mb4.2/9, mb1 4.2/10, mb1mx3.9/51, mbtmp4.1/10, ML3.0/1, MS3.7/14, Ms1 3.7/14, ms1mx3.4/46, Error ellipse: s-maj=29.9km s-min=17.8km az=76.0*
*ISCJB **03** 04:23:13.0±0.7, 43°.98S±0°.09×37°.3E±0°.2, h10km, mb4.1/9, MS3.7/13, Error ellipse: s-maj=23.7km s-min=12.1km az=163.3*
ISC 03 04:23:14.3±0.7, **44°.0S**±0°.1×**37°.5E**±0°.2, **h10km, n35,** σ**1.48**/30, **mb4.2**/9, **MS3.7**/13, **Prince Edward Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SUR	**Sutherland**	**17.44**	**306**	P	**P**	**04 27 21.6**	**+2.5**
	0.0nm,0.3s,baz=132,slow=14,SNR=6.4						
SUR				LR	LR	04 32 58.5	
	comp=Z,11nm,19.4s,baz=148,slow=34						
SUR	**Sutherland**	**17.44**	**306**	*e*Pn	**P**	**04 27 21.6**	**+2.5**
	15nm,0.9s						
BOSA	**Boshof**	**18.19**	**323**	P	**Pn**	**04 27 27.1**	**+0.1**
	0.0nm,0.3s,baz=146,slow=16,SNR=2.5						
BOSA				LR	LR	04 33 32.1	
	comp=Z,182nm,20.8s,baz=161,slow=34						
BOSA	**Boshof**	**18.19**	**323**	*e*Pn	**Pn**	**04 27 27.1**	**+0.1**
	41nm,1.8s						
LBTB	**Lobatse**	**21.26**	**329**	P	**P**	**04 28 01.0**	**+0.2**
	4.5nm,0.6s,baz=164,slow=12,SNR=9.0						
LBTB				LR	LR	04 35 22.1	
	comp=Z,230nm,19.0s,baz=150,slow=34						
LBTB	**Lobatse**	**21.26**	**329**	*e*P	**P**	**04 28 01.0**	**+0.2**
	6.3nm,0.8s						
OPO	**Ambohidratompo**	**26.63**	**21**	P	**P**	**04 28 52.4**	**-0.8**
	1.7nm,0.6s,baz=198,slow=5.8,SNR=3.1						
MAW	**Mawson**	**27.24**	**159**	P	**P**	**04 29 00.1**	**+2.1**
	3.6nm,0.9s,baz=295,slow=7.3,SNR=3.6						
MAW				LR	LR	04 38 11.8	
	comp=Z,157nm,18.6s,baz=58,slow=33						
LSZ	**Lusaka**	**29.69**	**342**	P	**P**	**04 29 19.1**	**-1.3**
	1.6nm,0.5s,baz=184,slow=10,SNR=4.5						
LSZ				LR	LR	04 40 20.7	
	comp=Z,132nm,19.1s,baz=200,slow=35						
LSZ	**Lusaka**	**29.69**	**342**	*e*P	**P**	**04 29 19.1**	**-1.3**
	5.6nm,1.1s						
TSUM	**Tsumeb**	**29.80**	**320**	LR	LR	04 40 24.2	
	comp=Z,128nm,19.9s,baz=158,slow=35						
SNAA	**Sanae**	**33.82**	**202**	P	**P**	**04 29 54.5**	**-1.7**
	4.9nm,0.9s,baz=63,slow=6.9,SNR=6.4						
SNAA				LR	LR	04 40 56.3	
	comp=Z,95nm,19.0s,baz=86,slow=32						
SNAA	**Sanae**	**33.82**	**202**	*e*P	**P**	**04 29 54.5**	**-1.7**
	7.6nm,1.0s						
KMBO	**Kilima Mbogo**	**42.68**	**360**	LR	LR	04 46 50.7	
	comp=Z,109nm,20.1s,baz=109,slow=33						
VNDA	**Vanda**	**54.07**	**167**	LR	LR	04 52 55.5	
	comp=Z,82nm,20.8s,baz=271,slow=33						
DBIC	**Dimbokro**	**63.24**	**312**	LR	LR	04 58 11.8	
	comp=Z,40nm,19.4s,baz=162,slow=33						
TOA0	**Torodi Ar. Sit**	**65.54**	**321**	*e*P	**P**	**04 33 59.6**	**+1.6**
TORD	**Torodi Ar. Bea**	**65.54**	**321**	P	**P**	**04 33 59.3**	**+1.4**
	1.1nm,0.9s,baz=150,slow=6.2,SNR=5.9						
TORD				LR	LR	05 01 28.5	
	comp=Z,51nm,19.7s,baz=205,slow=35						
TOA1	**Torodi Ar. Sit**	**65.54**	**321**	*e*P	**P**	**04 33 59.4**	**+1.3**
KOWA	**Kowa**	**69.41**	**317**	LR	LR	05 02 26.3	
	comp=Z,48nm,18.6s,baz=192,slow=34						
PLCA	**Paso Flores**	**73.72**	**229**	P	**P**	**04 34 48.5**	**0.0**
	1.2nm,1.0s,baz=108,slow=13,SNR=3.0						
PLCA				LR	LR	05 01 35.7	
	comp=Z,112nm,20.1s,baz=213,slow=31						
PLCA	**Paso Flores**	**73.72**	**229**	*e*P	**P**	**04 34 48.5**	**0.0**
	22nm,1.8s						
CPUP	**Villa Florida**	**75.45**	**248**	P	**P**	**04 34 57.6**	**-0.9**
	1.8nm,0.8s,baz=112,slow=4.7,SNR=4.7						
CPUP	**Villa Florida**	**75.45**	**248**	*e*P	**P**	**04 34 57.6**	**-0.9**
	17nm,1.8s						
STKA	**Stephens Creek**	**77.66**	**122**	P	**P**	**04 35 12.7**	**+1.7**
	4.7nm,0.8s,baz=207,slow=6.8,SNR=1.9						
STKA	**Stephens Creek**	**77.66**	**122**	*e*P	**P**	**04 35 12.7**	**+1.7**
	7.9nm,1.8s						
KEST	**Kesra**	**83.36**	**337**	LR	LR	05 11 59.8	
	comp=Z,84nm,20.8s,baz=236,slow=35						
GNI	**Garni**	**84.02**	**6**	LR	LR	05 13 49.2	
	comp=Z,38nm,18.7s,baz=114,slow=36						
LTX	**Lajitas**	**145.89**	**258**	*e*PKPdf	**PKPdf**	**04 42 52.7**	**-0.6**
TXAR	**Lajitas Array**	**145.89**	**258**	PKPbc	**PKPdf**	**04 42 52.7**	**-0.6**
	3.1nm,0.8s,baz=140,slow=6.5,SNR=11						
ULM	**Lac du Bonnet**	**148.06**	**298**	PKPbc	**PKPdf**	**04 42 57.0**	**+0.9**
	2.8nm,0.8s,baz=21,slow=1.3,SNR=8.3						
YKA	**Yellowknife Ar**	**155.38**	**329**	PKP	**PKPdf**	**04 43 04.1**	**-2.7**
	0.3nm,0.8s,baz=37,slow=0.9,SNR=7.4						
YKA				PKPab	**PKPab**	**04 43 31.9**	**-0.4**
	0.3nm,0.7s,baz=54,slow=4.3,SNR=6.0						
YKB5	**Yellowknife Ar**	**155.38**	**329**	*e*PKPdf	**PKPdf**	**04 43 04.1**	**-2.7**
YKB5				*e*PKPab	**PKPab**	**04 43 31.9**	**-0.4**
PD31	**Pinedale Array**	**156.08**	**279**	*e*PKPab	**PKPab**	**04 43 37.1**	**+0.9**
PDAR	**Pinedale Array**	**156.08**	**279**	PKPab	**PKPab**	**04 43 37.1**	**+0.9**
	0.3nm,0.7s,baz=91,slow=7.2,SNR=3.2						

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*ISCJB **03** 04:25:46.0±0.8, 7°.90S±0°.05×120°.22E±0°.07, h10km, Error ellipse: s-maj=9.7km s-min=7.0km az=12.3*
*DJA **03** 04:25:48.3±0.7, 8°S±4°×12°0E±°, h21km±6km, M3.1/5, MLv3.1/5*
*IDC **03** 04:26:29.8±2.6, 10°.64S×122°.67E, h0km, mb3.8/1, mb1 3.6/3, mb1mx3.3/52, mbtmp3.5/3, ML3.2/2, Error ellipse: s-maj=238.2km s-min=33.2km az=52.0*
ISC 03 04:25:48.5±1.0, **7°.89S**±0°.06×**120°.14E**±0°.08, **h10km, n8,** σ**3.01**/10, **Flores Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EDFI	**Ende, Flores**	**1.75**	**119**	P	**Pg**	**04 26 24.7**	**+2.5**
EDFI				S	**Sn**	**04 26 38.5**	**-3.1**
BSSI	**Bau Bau, Buton**	**1.77**	**11**	P	**Pn**	**04 26 18.8**	**-0.4**
BSSI				S	**Sn**	**04 26 38.5**	**-3.3**
WSI	**Waingapu**	**1.77**	**175**	P	Pn	04 26 12.6	-6.7
WBSI	**Waikabubak, Su**	**1.89**	**203**	P	**Pn**	**04 26 20.1**	**-0.9**
WBSI				S	**Sn**	**04 26 43.5**	**-1.5**
PLAI	**Plampang**	**2.52**	**248**	P	**Pn**	**04 26 28.4**	**-1.2**
KMSI	**Cibinong**	**9.24**	**25**	P	**Pn**	**04 28 06.4**	**+4.5**
WRA	**Warramunga Arr**	**18.24**	**133**	Pn	**Pn**	**04 29 58.8**	**-3.2**
	0.1nm,0.3s,baz=306,slow=13,SNR=5.1						
ASAR	**Alice Springs**	**20.50**	**141**	Pn	**P**	**04 30 25.6**	**-1.4**
	0.3nm,0.3s,baz=320,slow=10,SNR=12						

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*MOS **03** 04:25:47.3±0.8, 8°.29N×126°.42E, h38km, mb4.9/37, Error ellipse: s-maj=12.8km s-min=6.5km az=120.1*
*ISCJB **03** 04:25:52.6±0.3, 8°.25N±0°.02×126°.52E±0°.03, h87km±3km, mb4.6/113, Error ellipse: s-maj=4.8km s-min=2.7km az=164.9*
*BJI **03** 04:25:52.3, 8°.30N×126°.60E, h79km, mb4.7/25, mB5.0/17, Ms4.7/10, Ms7 4.6/5*
*IDC **03** 04:25:52.3±0.4, 8°.36N×126°.61E, h68km±3km, mb4.3/36, mb1 4.4/37, mb1mx4.3/61, mbtmp4.6/37, MS3.6/23, Ms1 3.6/23, ms1mx3.4/55, Error ellipse: s-maj=10.3km s-min=5.4km az=110.0*
*MAN **03** 04:25:53, 8°.27N×126°.47E, h41km, mb5.3, ML4.3, MS4.5*
*NEIC **03** 04:25:54.5±0.7, 8°.27N×126°.50E, h88km±7km, mb4.8/54, Error ellipse: s-maj=6.2km s-min=4.0km az=55.0*
NEIC Felt [III PIVS] at Bislig and Lingig; [II PIVS] at Butuan. Also felt at Bugo.
*DJA **03** 04:25:56.1±0.6, 8°N±4°×12°7E±°, h69km±7km, M5.0/21, mb5.1/21, mB5.2/13, MLv5.8/2, Mw(mB)4.6/13*
ISC 03 04:25:52.2±0.3, **8°.26N**±0°.03×**126°.57E**±0°.04, **h67km**±2km, **h68km:pP-P, n335,** σ**1.64**/403, **mb4.7**/113, **8C-16D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIPH	**Bislig**	**0.22**	**251**	⇓*e*P	**Pn**	**04 26 02.5**	**-0.1**
BIPH				*e*S	**Sn**	**04 26 09.1**	**-1.1**
BUTP	**Butuan**	**1.18**	**307**	*e*P	**Pn**	**04 26 13.9**	**+1.1**
BUTP				*e*S	**Sn**	**04 26 30.2**	**+2.0**
DAV	**Davao City (W)**	**1.53**	**220**	P	**Pn**	**04 26 19.7**	**+2.2**
	483nm,0.3s,baz=71,slow=9.1,SNR=101						

DAV S Sn 04 26 40.1 +3.5
831nm,0.3s,baz=288,slow=19,SNR=18
DAV Davao City (W) 1.53 220 *e*Pn Pn 04 26 19.4 +1.9
DAV *e*Sn Sn 04 26 35.9 -0.8
BUKP Musuan 1.54 256 *e*P Pn 04 26 18.3 +0.6
BUKP *e*S Sn 04 26 37.0 +0.1
SCPH Surigao 1.85 325⇓ *e*P Pn 04 26 23.4 +1.6
SCPH *e*S Sn 04 26 47.3 +3.0
KCP Kidapawan 1.92 230⇓ *i*P Pn 04 26 23.1 +0.3
KCP *i*S Sn 04 26 45.8 -0.2
MSLP Maasin 2.52 318 *e*P Pn 04 26 31.9 +1.1
MSLP *e*S Sn 04 26 60.0 -0.4
CTBH Cotabato--PC H 2.52 246⇓ *i*P Pn 04 26 31.2 +0.3
CTBH *i*S Sn 04 27 01.5 +1.0
GSPH General Santos 2.69 217⇑ *i*P Pn 04 26 33.5 +0.3
GSPH *i*S Sn 04 26 59.8 -5.0
TBP Tagbilaran 3.03 298 *e*P Pn 04 26 39.0 +1.2
TBP *i*S Sn 04 27 13.4 +0.4
PAGZ Pagadian 3.18 263 *e*P Pn 04 26 41.0 +1.1
DCPH Dipolog City 3.20 276⇑ *e*P Pn 04 26 41.2 +1.1
DCPH *e*S Sn 04 27 17.4 +0.3
LLP Lapu-Lapu 3.29 309⇓ *e*P Pn 04 26 43.0 +1.6
LLP *e*S Sn 04 27 21.1 +1.9
PLP Palo 3.29 332⇑ *i*P Pn 04 26 42.1 +0.8
PLP *i*S Sn 04 27 22.5 +3.2
SNPH Sibulan 3.47 288 *e*P Pn 04 26 44.5 +0.7
BESP Borongan 3.51 342 *e*P Pn 04 26 46.9 +2.6
GUIM Jordan 4.58 301 *e*P Pn 04 27 00.7 +1.7
CNP Catarman 4.62 336 *e*P Pn 04 26 58.7 -0.9
CNP *e*S Sn 04 27 52.0 0.0
SGSI Sangihe 4.66 193 P Pn 04 27 02.6 +2.5
SGSI S Sn 04 27 55.0 +2.2
RCP Roxas 5.00 311⇑ *e*P Pn 04 27 07.0 +2.3
JAP San Jose, Anti 5.19 299⇓ *e*P Pn 04 27 12.4 +5.1
OTRP Odiongan 6.06 313 *e*P Pn 04 27 22.4 +3.2
TNTI Ternate 7.48 174 *e*Pn Pn 04 27 42.6 +3.9
TNTI *e*Sn Sn 04 29 01.8 -0.3
TGY Tagaytay City 8.02 317 LR LR 04 31 10.0
comp=Z,451nm,21.3s,baz=52,slow=40
MYLDM Lahad Datu 8.58 250 *e*Pn Pn 04 27 57.7 +4.0
LBMI Labuha 8.88 174 P Pn 04 28 01.5 +3.6
LBMI S Sn 04 29 37.1 +0.6
MRSI Marisa 9.00 211 P Pn 04 28 00.4 +0.9
MRSI S Sn 04 29 37.2 -2.1
LUWI Luwuk 9.98 202 P Pn 04 28 16.3 +3.4
LUWI S Sn 04 30 07.0 +3.6
LUWI Luwuk 9.98 202 *e*Pn Pn 04 28 16.6 +3.7
LUWI *e*Sn Sn 04 30 02.6 -0.7
SWI Sorong 10.19 152 P Pn 04 28 16.3 +0.5
SWI S Sn 04 30 01.8 -6.8
SANI Sanana 10.25 183 P Pn 04 28 15.4 -1.2
SANI S Sn 04 30 00.6 -9.4
MPSI Mapaga 10.30 221 P Pn 04 28 25.5 +8.3
APSI Ampana 10.34 209 P Pn 04 28 21.4 +3.6
APSI S Sn 04 30 14.0 +1.8
KKM Kota Kinabalu 10.51 259 *e*Pn Pn 04 28 20.0 -0.2
PCI Palu 11.31 217 P Pn 04 28 32.9 +1.9
NLAI Namlea 11.43 177 P Pn 04 28 33.4 +0.7
MSAI Masohi 11.76 168 P Pn 04 28 40.3 +3.1
12nm,0.5s,4μm
FAKI Fak Fak 12.46 153 P Pn 04 28 48.0 +1.2
FAKI Fak Fak 12.46 153 *e*Pn Pn 04 28 48.1 +1.3
FAKI *e*Sn Sn 04 31 00.8 -3.2
SGKI Sangatta, Kali 12.49 226 P Pn 04 28 37.5 -10
SMKI Samarinda 12.72 228 P Pn 04 28 48.3 -2.0
TTSI Tana Toraja 13.09 211 P Pn 04 28 59.1 +3.8
SBUM Sibu 15.40 249 *e*Pn Pn 04 29 26.9 +1.2
90nm,0.9s
KBKI Kotabaru 15.47 223 P P 04 29 29.6 -0.1
YULB Yu-li 15.88 342 *e*Pn Pn 04 29 28.6 -3.0
34nm,1.4s
BBKI Banjar Baru 16.50 226 P Pn 04 29 38.7 -0.8
SAUI Saumlaki 16.81 164 P P 04 29 45.4 +1.0
YHNB Yeheng 17.06 344 *e*Pn Pn 04 29 45.7 -0.7
103nm,1.5s
STKI Sintang 17.10 242 P P 04 29 50.4 +2.7
GENI Genyem 17.32 128 P P 04 29 54.2 +4.0
KSM Kuching 17.54 248 *e*Pn P 04 29 54.0 +1.4
36nm,1.1s
JAY Jayapura 17.70 127 P P 04 29 57.1 +2.7
SOEI Soe 18.04 187 P Pn 04 30 01.7 +3.2
SOEI Soe 18.04 187 *e*P P 04 29 57.5 -0.6
46nm,0.8s
SOEI *e*Sn S 04 33 32.6 +12
BATI Baumata 18.57 189 P Pn 04 30 05.3 +0.5
5.8nm,0.3s,baz=14,slow=18,SNR=6.6
BATI LR LR 04 38 38.1
comp=Z,124nm,19.4s,baz=258,slow=41
BATI Baumata 18.57 189 P Pn 04 30 06.5 +1.7
GUMO Guam 18.73 72 LR LR 04 37 03.1
comp=Z,84nm,18.9s,baz=287,slow=36
PLAI Plampang 19.10 207 P Pn 04 30 11.3 +0.2
QIZ Qiongzhong 19.44 305 P P 04 30 14.1 +0.7
QIZ S S 04 33 49.2 -0.7
QIZ pmax pmax
comp=Z,200nm,4.7s
QIZ Qiongzhong 19.44 305 *e*P P 04 30 14.1 +0.7
19nm,0.8s
MTN Manton Dam 21.45 168 *e*P P 04 30 35.2 +0.1
45nm,0.8s
MANU Manus Island 23.12 115 *e*P P 04 30 53.8 +0.9
136nm,1.2s
MYKOM Kota Tinggi 23.51 255 *e*P P 04 30 58.6 +2.1
61nm,1.4s
SKNT Sakolnakorn 23.66 294 P P 04 30 58.0 +0.2
14nm,1.0s
CBIJ Chichi jima 23.88 36 *e*P P 04 31 00.1 +0.5
316nm,1.5s
JCJ Chichijima 23.88 36 P P 04 31 00.1 +0.5
47nm,0.5s,baz=209,slow=19,SNR=4.5
LEM Lembang 24.11 232 LR LR 04 42 05.1
comp=Z,200nm,19.1s,baz=24,slow=40
NJ2 Nanjing 24.74 344 *e*P P 04 31 06.7 -0.7
NJ2 pmax pmax
comp=Z,20nm,0.6s
CHAI Chaiyaphum 25.19 290 P P 04 31 12.6 +0.9
16nm,1.0s,152nm
NAYO Nakonayok 25.47 286 P P 04 31 16.6 +2.4
19nm,1.3s
IPM Ipoh 25.66 263 *e*P P 04 31 17.2 +1.2
103nm,1.3s
SKLT Songkhla 25.74 269 P P 04 31 18.1 +1.4
26nm,1.3s
KULM Kulim 25.90 265 *e*P P 04 31 19.3 +1.1
KULM *e*pP P 04 31 19.9 +1.7
PBKT Sadao Pong 26.30 291 P P 04 31 21.4 -0.4
47nm,1.2s
TRTT Trang 26.61 271 P P 04 31 27.6 +3.0
5.5nm,1.5s,205nm
BKNI Bangkinang 26.63 254 *e*P P 04 31 25.7 +1.0
60nm,0.4s
PHET Kaeng Krachan 26.87 282 P P 04 31 29.9 +3.0
7.0nm,1.0s,168nm
PMG Port Moresby 26.99 130 P P 04 31 27.9 0.0
26nm,0.7s,baz=324,slow=14,SNR=8.1
PMG LR LR 04 44 17.7
comp=Z,84nm,18.2s,baz=331,slow=41
PMG Port Moresby 26.99 130 *e*P P 04 31 28.4 +0.5
31nm,0.8s
PMG Port Moresby 26.99 130 *de*P P 04 31 28.2 +0.3
PMG pmax pmax
comp=Z,105nm,0.8s
NANT Nan 27.21 295 P P 04 31 34.6 +4.7
comp=Z,7.2nm,1.1s,comp=Z,163nm
COEN Coen 27.54 143 *e*P P 04 31 32.9 0.0
comp=Z,57nm,1.1s
SRDT SRDT 27.57 285 P P 04 31 34.1 +0.9
comp=Z,12nm,0.9s
PSI Prapat 28.03 260 P P 04 31 37.5 0.0
comp=Z,16nm,1.1s,baz=52,slow=5.1
PSI Prapat 28.03 260 *e*P P 04 31 36.7 -0.8
comp=Z,52nm,1.4s
PSI Prapat 28.03 260 *e*P P 04 31 36.7 -0.8
PSI pmax pmax
comp=Z,52nm,1.4s
PAYA Payao 28.13 296 P P 04 31 41.8 +3.6
comp=Z,10nm,1.1s
KMI Kunming 28.24 309 P P 04 31 42.0 +2.7
KMI pmax pmax
comp=Z,7.0nm,0.5s
KMI LR LR
comp=Z,240nm,5.0s
KMI LR LR
comp=Z,200nm,6.0s

CM01 Chiang Mai Arr 28.66 293 *e*P P 04 31 45.2 +2.3
CM31 Chiang Mai Arr 28.68 294 *e*P P 04 31 44.0 +0.9
CMAR Chiang Mai Arr 28.68 294 P P 04 31 44.0 +0.9
comp=Z,1.0nm,0.3s,baz=113,slow=7.1,SNR=10
CMAR pP pP 04 32 00.1 +0.8
comp=Z,4.4nm,0.7s,baz=96,slow=6.9,SNR=4.9
CMAR LR LR 04 44 27.8
comp=Z,150nm,18.1s,baz=345,slow=39
CMMT Chiang Mai 28.79 294 P P 04 31 50.1 +6.1
CHTO Chiang Mai 28.79 294 P P 04 31 51.1 +7.1
CHTO Chiang Mai 28.79 294 *e*P P 04 31 43.3 -0.7
comp=Z,13nm,1.2s
CHTO Chiang Mai 28.79 294 *e*P P 04 31 43.3 -0.7
CHTO pmax pmax
comp=Z,13nm,1.2s
WR1 Warramunga Arr 29.05 165 *e*P P 04 31 45.2 -1.0
comp=Z,12nm,0.6s
WR1 *e*PcP PcP 04 34 53.5 +0.2
WR1 *e*S S 04 36 26.9 -6.2
WR1 *e*ScP ScP 04 38 26.6 -2.5
WR1 *e* 04 46 05.9
WRA Warramunga Arr 29.05 165 P P 04 31 45.2 -1.0
comp=Z,7.3nm,0.6s,baz=350,slow=9.7,SNR=45
WRA PcP PcP 04 34 53.5 +0.2
comp=Z,2.2nm,0.7s,baz=336,slow=2.9,SNR=4.1
WRA S S 04 36 26.9 -6.2
comp=Z,2.1nm,0.9s,baz=342,slow=14,SNR=5.1
WRA ScP ScP 04 38 26.6 -2.5
comp=Z,1.9nm,0.9s,baz=342,slow=3.5,SNR=4.5
WRA LR LR 04 46 05.9
comp=Z,110nm,18.7s,baz=265,slow=42
WB2 Warramunga Arr 29.05 165 *e*P P 04 31 45.3 -0.9
CMAI Chiengmai2 29.05 296 P P 04 31 49.6 +3.0
comp=Z,115nm,1.6s
KS15 Wonju Array Si 29.08 2 *e*P P 04 31 46.2 -0.1
KS15 *e* 04 43 31.0
KSRS Korea Array 29.09 2 P P 04 31 46.2 -0.2
comp=Z,1.3nm,0.6s,baz=190,slow=10.0,SNR=2.9
KSRS LR LR 04 43 31.0
comp=Z,55nm,21.0s,baz=180,slow=36
GSI Gunungsitoli 29.69 258 *e*P P 04 31 50.8 -1.3
comp=Z,34nm,1.1s
MBWA Marble Bar 29.99 193 *e*P P 04 31 55.2 +0.6
comp=Z,11nm,0.7s
MAJO Matsushiro 30.09 19 *e*P P 04 31 54.5 -0.8
MAJO *e*pP pP 04 32 13.2 +1.7
MAJO *e* 04 44 05.2
MAJO Matsushiro 30.09 19 *e*P P 04 31 54.5 -0.8
MAJO *e**PP pP 04 32 13.2 +1.7
MJAR Matsushiro Arr 30.09 19 P P 04 31 54.5 -0.8
comp=Z,2.1nm,0.7s,baz=192,slow=9.3,SNR=4.5
MJAR pP pP 04 32 13.2 +1.7
comp=Z,1.4nm,0.4s,baz=199,slow=11,SNR=2.5
MJAR LR LR 04 44 05.2
comp=Z,60nm,20.2s,baz=120,slow=36
CD2 Chengdu 31.01 320 *e*P P 04 32 04.0 +0.4
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,160nm,5.2s
AS31 Alice Springs 32.53 167 *e*P P 04 32 15.3 -1.6
AS31 *e*PcP PcP 04 35 02.5 0.0
AS31 *e*ScP ScP 04 38 37.6 -3.0
ASAR Alice Springs 32.53 167 P P 04 32 16.5 -0.4
comp=Z,3.1nm,0.4s,baz=14,slow=9.3,SNR=57
ASAR PcP PcP 04 35 02.5 0.0
comp=Z,2.3nm,0.7s,baz=343,slow=1.9,SNR=5.1
ASAR S S 04 37 22.9 -4.5
comp=Z,3.0nm,0.9s,baz=356,slow=21,SNR=6.8
ASAR ScP ScP 04 38 37.6 -3.0
comp=Z,1.5nm,0.6s,baz=342,slow=3.5,SNR=5.1
AS01 Alice Springs 32.53 167 *e*P P 04 32 15.8 -1.2
AS01 *e*PcP PcP 04 35 01.6 -0.8
PBA Port Blair 33.47 279 *e*P P 04 32 24.0 -1.3
comp=Z,23nm,0.4s
CTAO Charters Tower 34.19 146 *e*P P 04 32 31.6 +0.2
comp=Z,15nm,0.9s
CTAO Charters Tower 34.19 146 *e*P P 04 32 31.6 +0.2
CTAO pmax pmax
comp=Z,15nm,0.9s
LZH Lanzhou 34.60 327 *e*P P 04 32 42.2 +7.2
LZH pP sP 04 32 59.0 -0.3
LZH sP pP 04 33 10.0 +19
LZH pmax pmax
comp=Z,31nm,0.8s
LZH pmax pmax
comp=Z,180nm,6.2s
HHC Hu-ho-hao-te 35.10 340 *e*P P 04 32 41.6 +2.5
HHC pmax pmax
comp=Z,20nm,0.7s
HHC pmax pmax
comp=Z,160nm,5.0s
USRK Ussuriysk Ar. 36.12 7 P P 04 32 48.5 +0.9
comp=Z,4.0nm,0.8s,baz=183,slow=8.7,SNR=4.3
USRK pP pP 04 33 04.4 +0.2
comp=Z,7.1nm,0.7s,baz=198,slow=9.1,SNR=7.1
SHL Shillong 37.22 302 *e*P P 04 32 57.5 -0.1
SHL Shillong 37.22 302 *e*P P 04 32 55.6 -2.0
comp=Z,28nm,0.8s
SHL Shillong 37.22 302 *e*P P 04 32 55.6 -2.0
SHL pmax pmax
comp=Z,28nm,0.8s
HNR Honiara 37.60 117 LR LR 04 47 20.7
comp=Z,108nm,21.4s,baz=327,slow=34
ASAJ Asahikawa 38.36 19 P P 04 33 06.7 0.0
comp=Z,4.2nm,0.5s,baz=236,slow=20,SNR=3.6
ASAJ Asahikawa 38.36 19 *e*P P 04 33 06.7 0.0
comp=Z,8.9nm,1.0s
FORT Forrest 38.84 178 *e*P P 04 33 11.1 +0.3
comp=Z,1μm,0.6s
H11S3 WAKE ISLAND Hy 40.25 71 T T 05 16 34.6
baz=262,slow=70,SNR=240
H11S1 WAKE ISLAND Hy 40.26 71 T T 05 16 35.7
baz=262,slow=70,SNR=137
H11S2 WAKE ISLAND Hy 40.26 71 T T 05 16 43.5
baz=262,slow=70,SNR=115
H11N1 WAKE ISLAND Hy 40.64 69 T T 05 17 19.6
baz=265,slow=74,SNR=63
H11N2 WAKE ISLAND Hy 40.65 69 T T 05 17 18.2
baz=265,slow=74,SNR=56
H11N3 WAKE ISLAND Hy 40.66 69 T T 05 17 20.9
baz=265,slow=74,SNR=69
KLR Kul'dur 41.07 5 P P 04 33 29.4 +0.3
comp=Z,0.1nm,0.5s,baz=166,slow=10,SNR=4.6
ODAN Odare 41.45 302 *e*P P 04 33 32.9 0.0
comp=Z,33nm,0.4s
BBOO Buckleboo 41.83 168 *e*P P 04 33 35.9 +0.4
comp=Z,48nm,0.9s
NWAO Narrogin (SRO) 41.91 192 P P 04 33 37.2 +1.1
comp=Z,33nm,0.9s,baz=236,slow=8.6,SNR=7.6
RAMN Ramite 42.15 301 *e*P P 04 33 38.9 +0.3
comp=Z,24nm,0.5s
STKA Stephens Creek 42.41 161 P P 04 33 40.3 0.0
comp=Z,34nm,0.7s,baz=338,slow=8.4,SNR=61
STKA Stephens Creek 42.41 161 *e*P P 04 33 40.5 +0.3
comp=Z,6.9nm,0.8s
STKA Stephens Creek 42.41 161 *e*P P 04 33 40.6 +0.3
STKA pmax pmax
comp=Z,7.0nm,0.8s
JIRN Jiri 42.72 302 *e*P P 04 33 43.3 -0.1
comp=Z,83nm,0.4s
ULN Ulaanbaatar 42.81 341⇓ *e*P P 04 33 42.3 -1.2
ULN pmax pmax
comp=Z,1.0nm,0.8s
SONA0 Songino Array 43.00 340 *e*P P 04 33 44.9 -0.1
SONM Songino Array 43.00 340 P P 04 33 44.9 -0.1
comp=Z,0.4nm,0.4s,baz=153,slow=10.0,SNR=3.1
SONM LR LR 04 51 45.1
comp=Z,72nm,18.9s,baz=134,slow=36
GUN Gumba 43.06 302 *e*P P 04 33 46.1 0.0
comp=Z,29nm,0.4s
PKI Pulchoki 43.35 302 *e*P P 04 33 47.8 -0.6
comp=Z,13nm,0.4s
PKIN Phulchoki 43.36 302 *e*P P 04 33 48.3 -0.2
comp=Z,12nm,0.4s
KKN Kakani 43.53 302 *e*P P 04 33 49.7 0.0
DMN Daman 43.62 302 *e*P P 04 33 50.0 -0.5
GKN Gorkha 44.13 302 *e*P P 04 33 53.7 -0.8
KOLN Koldanda 44.94 301 *e*P P 04 34 00.6 -0.4
comp=Z,18nm,0.3s
PYUN Piuthan 45.55 301 *e*P P 04 34 05.7 -0.1
comp=Z,22nm,0.5s
NKL Nikolayevsk 46.21 12 *e*P P 04 34 11.2 +0.9
NKL pmax pmax
comp=Z,13nm,0.9s
TLY Talaya 47.22 341 *e*P P 04 34 20.7 +2.4

comp=Z,3.5nm,0.7s
TLY Talaya 47.22 341 *e*P P 04 34 20.7 +2.4
TLY pmax pmax
comp=Z,4.0nm,0.7s
HYB Hyderabad 47.58 286 *i*P P 04 34 22.0 +0.3
HYB *e*pP pP 04 34 42.0 +3.3
CAN Canberra 48.24 155 *e*P P 04 34 27.4 +1.1
comp=Z,27nm,1.1s
CAN Canberra 48.24 155 *e*P P 04 34 27.5 +1.1
CAN pmax pmax
comp=Z,27nm,1.1s
WMQ Urumqi 48.99 323 P P 04 34 33.5 +1.3
WMQ pP sP 04 34 54.1 -2.9
WMQ sP pP 04 35 00.0 +11
DZM Mont Dzumac 49.36 128 P P 04 34 36.3 +1.0
comp=Z,5.8nm,0.7s,baz=266,slow=16,SNR=5.8
DZM Mont Dzumac 49.36 128 *e*P P 04 34 36.3 +1.0
comp=Z,32nm,1.4s
PETK Petropavlovsk- 51.35 24 LR LR 04 54 03.3
comp=Z,14nm,21.4s,baz=173,slow=33
DGZ Jazzator, Alta 52.63 329 *de*P P 04 35 00.6 +1.1
DGZ pmax pmax
comp=Z,1.0nm,1.0s
MK01 Makanchi Array 53.79 324 *e*P P 04 35 05.0 -2.9
MK31 Makanchi Array 53.81 324 *e*P P 04 35 07.6 -0.5
MK31 Makanchi Array 53.81 324 *e*P P 04 35 07.6 -0.5
MK32 Makanchi Array 53.81 324 *e*P P 04 35 07.5 -0.6
MK32 *e*PcP PcP 04 36 13.3 +0.2
MKAR Makanchi Array 53.81 324 P P 04 35 07.5 -0.6
comp=Z,6.3nm,0.9s,baz=119,slow=7.5,SNR=22
MKAR PcP PcP 04 36 13.3 +0.2
comp=Z,2.1nm,0.6s,baz=121,slow=5.1,SNR=2.4
MKAR ScP ScP 04 40 04.4 -1.0
comp=Z,0.5nm,0.6s,baz=122,slow=5.4,SNR=4.1
MKAR LR LR 05 00 03.8
comp=Z,74nm,18.2s,baz=154,slow=38
MKAR Makanchi Array 53.81 324 *e*P P 04 35 07.6 -0.5
comp=Z,25nm,0.6s
MKAR Makanchi Array 53.81 324 *ce*P P 04 35 07.8 -0.3
MKAR pmax pmax
comp=Z,6.0nm,0.9s
PDGK Podgornoye 53.89 319 *i*P P 04 35 07.9 -1.0
PDGK pmax pmax
comp=Z,6.0nm,0.7s
MAKZ Makanchi 54.00 323 *e*P P 04 35 09.4 -0.1
comp=Z,13nm,1.4s
MAKZ Makanchi 54.00 323 *e*P P 04 35 09.4 -0.1
MAKZ pmax pmax
comp=Z,13nm,1.4s
MA2 Magadan 54.39 15⇑ *e*P P 04 35 13.5 +1.5
KSH Kashi 54.80 313 *e*P P 04 35 17.3 +1.7
KSH pmax pmax
comp=Z,6.0nm,0.5s
KDJ Kajisay 54.93 316 *e*P P 04 35 16.5 0.0
comp=Z,13nm,0.5s
KDJ Kajisay 54.93 316 *e*P P 04 35 16.5 0.0
KDJ pmax pmax
comp=Z,13nm,0.5s
NIL Nilore 55.12 305 *e*P P 04 35 17.7 -0.1
comp=Z,158nm,0.8s
NIL Nilore 55.12 305 *e*P P 04 35 17.7 -0.1
NIL pmax pmax
comp=Z,158nm,0.8s
ULHL Ulahol 55.62 316 P P 04 35 22.5 +1.0
SNR=9.4
KZA Kyzart 56.24 316 P P 04 35 26.6 +0.4
SNR=11
TKM2 Tokmak 2 56.32 317 P P 04 35 26.3 -0.1
SNR=6.5
TKM2 Tokmak 2 56.32 317 P P 04 35 25.6 -0.9
TKM2 pmax pmax
comp=Z,5.0nm,0.8s
ZAA0 Zalesovo Array 56.53 332 *e*P P 04 35 27.1 -0.4
comp=Z,5.2nm,1.1s
ZALV Zalesovo Beam 56.53 332 P P 04 35 27.3 -0.1
comp=Z,4.2nm,0.3s,baz=124,slow=6.3,SNR=23
ZALV pP pP 04 35 45.2 +0.2
comp=Z,3.3nm,0.7s,baz=134,slow=8.4,SNR=3.5
ZALV LR LR 05 00 04.2
comp=Z,46nm,19.9s,baz=70,slow=36
ZALV Zalesovo Beam 56.53 332 *e*P P 04 35 26.7 -0.8
ZALV Zalesovo Beam 56.53 332 *e*P P 04 35 26.7 -0.8
ZAA1 Zalesovo Array 56.53 332 *e*P P 04 35 27.3 -0.2
ZAA1 *e*pP pP 04 35 45.2 +0.2
SFK Sufi-Kurgan 56.76 313 P P 04 35 29.5 -0.2
SFK pmax pmax
comp=Z,2.0nm,0.4s
UCH Uchtor 56.80 316 P P 04 35 30.4 +0.1
SNR=15
AAK Ala-Archa 56.96 316 P P 04 35 30.5 -0.5
comp=Z,1.6nm,0.4s,baz=113,slow=4.9,SNR=5.1
AAK LR LR 05 02 46.0
comp=Z,88nm,18.9s,baz=128,slow=39
AAK Ala-Archa 56.96 316 *e*P P 04 35 31.0 0.0
AAK Ala-Archa 56.96 316 P P 04 35 30.6 -0.4
AAK pmax pmax
comp=Z,2.0nm,0.6s
AML Almayashu 57.34 315 P P 04 35 34.0 0.0
SNR=9.2
EKS2 Erkin-Say 57.47 316 P P 04 35 34.3 -0.2
SNR=7.2
SEY Seymchan 57.69 14⇓ *e*P P 04 35 36.9 +1.4
KURK Kurchatov 57.89 326 *e*P P 04 35 36.5 -0.6
KURK *e*pP pP 04 35 55.2 +0.5
KURK Kurchatov 57.89 326 *de*P P 04 35 36.0 -1.1
KURK pmax pmax
comp=Z,54nm,1.2s
KURBB Kurchatov Arra 57.89 326 P P 04 35 36.4 -0.8
comp=Z,6.5nm,0.4s,baz=125,slow=7.5,SNR=76
KURBB pP pP 04 35 55.2 +0.5
comp=Z,3.6nm,0.6s,baz=124,slow=6.5,SNR=4.7
MNAS Manas 58.29 315 P P 04 35 40.0 -0.3
MNAS pmax pmax
comp=Z,4.0nm,0.7s
KK06 Karatay Array 59.86 315 *e*P P 04 35 50.2 -0.8
KK05 Karatay Array 59.87 315 *e*P P 04 35 50.3 -0.8
KK02 Karatay Array 59.88 315 *e*P P 04 35 50.4 -0.8
KK31 Karatay Array 59.88 315 *e*P P 04 35 50.6 -0.5
KK31 Karatay Array 59.88 315 *e*P P 04 35 50.1 -1.0
KK31 pmax pmax
comp=Z,3.0nm,0.5s
KKAR Karatay Array 59.88 315 *e*P P 04 35 50.6 -0.5
KKAR Karatay Array 59.88 315 *e*P P 04 35 50.6 -0.5
KK07 Karatay Array 59.88 315 *e*P P 04 35 50.3 -0.8
KK01 Karatay Array 59.88 315 *e*P P 04 35 50.6 -0.5
KK04 Karatay Array 59.88 315 *e*P P 04 35 50.4 -0.8
KK03 Karatay Array 59.88 315 *e*P P 04 35 50.4 -0.8
KK09 Karatay Array 59.89 315 *e*P P 04 35 50.4 -0.8
KK09 *e*pP pP 04 36 08.5 -0.4
KK08 Karatay Array 59.89 315 *e*P P 04 35 50.4 -0.8
OTUK Ortayu 60.47 321 P P 04 35 54.5 -0.6
OTUK pmax pmax
comp=Z,4.0nm,0.5s
TIXI Tiksi 63.35 1 P P 04 36 14.0 +0.1
comp=Z,2.2nm,0.5s,baz=216,slow=4.6,SNR=9.7
TIXI Tiksi 63.35 1 *e*P P 04 36 14.2 +0.3
TIXI Tiksi 63.35 1⇑ *e*P P 04 36 14.0 +0.1
TIXI pmax pmax
comp=Z,4.0nm,0.8s
BVA0 Borovoye Array 63.48 326 P P 04 36 14.9 -0.3
BVA0 pmax pmax
comp=Z,3.0nm,0.4s
BVAR Borovoye Array 63.48 326 P P 04 36 14.9 -0.2
comp=Z,4.5nm,0.4s,baz=128,slow=7.7,SNR=31
BVAR pP pP 04 36 31.0 -2.0
comp=Z,2.5nm,0.7s,baz=79,slow=7.9,SNR=4.3
BRVK Borovoye 63.56 326 *e*P P 04 36 16.2 +0.6
comp=Z,5.2nm,0.6s
BRVK Borovoye 63.56 326 *ce*P P 04 36 15.7 +0.1
BRVK pmax pmax
comp=Z,20nm,1.2s
AFI Afiamalu 65.02 109 LR LR 04 59 10.1
comp=Z,78nm,21.6s,baz=304,slow=31
BILL Bilibino 65.25 15⇓ *i*P P 04 36 26.5 +0.1
BILL *e* 04 38 49.4
BILL *e*SS SS 04 49 27.3 +9.1
BILL pmax pmax
comp=Z,2.0nm,1.0s
BILL pmax pmax
comp=Z,117nm,19.0s
LBZ Lake Benmore 65.52 147 *e*P P 04 36 29.7 +1.2
comp=Z,40nm,1.0s
RPZ Rata Peaks 65.56 146 *e*P P 04 36 29.7 +0.9
comp=Z,26nm,0.7s
BKZ Black Stump Fm 66.07 139 *e*P P 04 36 33.3 +1.0

comp=Z,37nm,1.2s
GEYT Alibeck 67.99 308 P P 04 36 40.5 -4.1
comp=Z,2.5nm,0.4s,baz=90,slow=1.4,SNR=5.0
AB06 Akbulak array 68.57 320 eP P 04 36 46.9 -1.0
AB07 Akbulak array 68.58 320 eP P 04 36 46.9 -1.0
AB02 Akbulak array 68.59 320 eP P 04 36 47.2 -0.8
AB03 Akbulak array 68.59 320 eP P 04 36 47.0 -1.0
AB01 Akbulak array 68.59 320 eP P 04 36 47.2 -0.8
AB31 Akbulak array 68.59 320 eP P 04 36 46.8 -1.2
AB31 Akbulak array 68.59 320 P P 04 36 46.6 -1.4
AB31 pmax pmax
comp=Z,2.0nm,0.5s
ABKAR Akbulak array 68.59 320 eP P 04 36 46.8 -1.2
comp=Z,40nm,0.4s
AB04 Akbulak array 68.59 320 eP P 04 36 47.2 -0.8
AB05 Akbulak array 68.59 320 eP P 04 36 47.2 -0.8
AB08 Akbulak array 68.60 320 eP P 04 36 47.7 -0.3
AB08 epP pP 04 37 04.7 -1.4
AB09 Akbulak array 68.61 320 eP P 04 36 47.8 -0.3
AB09 epP pP 04 37 04.7 -1.4
AKTO Aktyubinsk 70.06 321 P P 04 36 56.0 -1.0
comp=Z,2.0nm,0.5s,baz=91,slow=15,SNR=7.6
AKTO Aktyubinsk 70.06 321 P P 04 36 55.3 -1.7
AKTO pmax pmax
comp=Z,2.0nm,0.6s
ARU Arti 71.06 327 P P 04 37 01.9 -1.1
comp=Z,7.2nm,0.2s,baz=108,slow=8.2,SNR=8.9
ARU Arti 71.06 327 eP P 04 37 01.9 -1.1
comp=Z,8.0nm,0.5s
ARU Arti 71.06 327 eP P 04 37 01.9 -1.1
ARU pmax pmax
comp=Z,8.0nm,0.5s
KDAK Kodiak Island 78.18 33 i P P 04 37 45.5 +1.3
IM3 Indian Mountai 78.30 24 eP P 04 37 45.6 +0.9
IM3 epP pP 04 38 02.8 -0.3
RAYN Ar Rayn 78.60 292 eP P 04 37 46.6 -0.7
RAYN epP pP 04 38 03.3 -2.4
RAYN Ar Rayn 78.60 292 eP P 04 37 46.6 -0.7
RAYN e*PP pP 04 38 03.3 -2.4
CAST Castle Rocks 78.79 27 eP P 04 37 48.8 +1.3
comp=Z,16nm,1.6s
ZEI Tsey 79.07 312 eP P 04 37 48.2 -1.5
ZEI pmax pmax
comp=Z,3.0nm,0.6s
BPAW Bear Paw Mtn. 79.32 26 eP P 04 37 51.7 +1.3
comp=Z,33nm,1.9s
MLY Manley 79.48 25 eP P 04 37 52.5 +1.2
comp=Z,8.4nm,1.2s
KBZ Khabaz 79.78 313 P P 04 37 52.3 -0.9
comp=Z,1.9nm,0.7s,baz=173,slow=13,SNR=3.9
KBZ LR LR 05 18 54.3
comp=Z,32nm,18.3s,baz=106,slow=40
COLD Coldfoot 79.81 23 eP P 04 37 54.8 +1.8
comp=Z,4.7nm,1.1s
KVAR Kislovodsk Arr 79.92 313 P P 04 37 52.6 -1.6
comp=Z,4.8nm,0.6s,baz=90,slow=4.0,SNR=3.5
KVAR LR LR 05 17 04.2
comp=Z,33nm,19.9s,baz=150,slow=38
PMR Palmer 80.08 29 eP P 04 37 54.8 +0.3
comp=Z,5.7nm,0.8s
PMR Palmer 80.08 29 eP P 04 37 54.8 +0.3
PMR pmax pmax
comp=Z,6.0nm,0.8s
TOLK Toolik Lake Re 80.12 22 eP P 04 37 56.1 +1.4
comp=Z,6.0nm,0.8s
MCK McKinley 80.21 27 eP P 04 37 55.9 +0.7
comp=Z,30nm,1.6s
MCK McKinley 80.21 27 eP P 04 37 55.9 +0.7
MCK pmax pmax
comp=Z,30nm,1.6s
CCB Clear Creek Bu 80.72 26 eP P 04 37 58.0 +0.1
comp=Z,14nm,1.6s
IL1 Eielson Array 81.11 26 eP P 04 37 59.4 -0.6
ILAR Eielson Array 81.11 26 P P 04 37 59.5 -0.5
comp=Z,1.4nm,0.7s,baz=245,slow=4.4,SNR=20
ILAR pP pP 04 38 18.0 -0.5
comp=Z,1.5nm,0.8s,baz=242,slow=5.3,SNR=4.8
ILB Eielson Array 81.11 26 eP P 04 38 00.2 +0.3
ILB epP pP 04 38 18.0 -0.5
KLMR Klimovskoe 81.41 330 eP P 04 38 01.0 -0.6
KLMR AMP 04 38 03.9
comp=Z,12nm,1.3s
KLMR Klimovskoe 81.41 330 eP P 04 38 01.0 -0.6
KLMR pmax pmax
comp=Z,12nm,1.3s
PAX Paxson 81.78 27 eP P 04 38 04.9 +1.3
comp=Z,6.5nm,0.9s
PAX Paxson 81.78 27 eP P 04 38 04.9 +1.3
PAX pmax pmax
comp=Z,7.0nm,0.9s
RIDG Independ'e Rid 82.03 27 eP P 04 38 05.7 +0.8
comp=Z,9.3nm,0.8s
DOT Dot Lake 82.39 27 eP P 04 38 07.6 +0.8
comp=Z,69nm,1.8s
OBN Obninsk 83.30 325 eP P 04 38 11.2 -0.3
OBN e 04 41 28.8
OBN pmax pmax
comp=Z,3.0nm,0.9s
EGAK Eagle 83.56 26 eP P 04 38 14.0 +1.2
comp=Z,4.7nm,0.9s
DAWY Dawson 84.41 26 eP P 04 38 16.8 -0.4
comp=Z,4.0nm,1.0s
DAWY epP pP 04 38 36.5 +0.8
SPITS Spitsbergen Ar 86.04 349 P P 04 38 25.4 +0.4
comp=Z,3.3nm,0.6s,baz=69,slow=7.9,SNR=14
INK Inuvik 86.04 22 P P 04 38 25.2 +0.1
comp=Z,0.6nm,0.4s,baz=309,slow=5.5,SNR=6.9
INK Inuvik 86.04 22 eP P 04 38 25.2 +0.1
comp=Z,23nm,1.9s
INK Inuvik 86.04 22 eP P 04 38 25.2 +0.1
INK pmax pmax
comp=Z,23nm,1.9s
ARA0 ARCESS Array S 86.17 340 eP P 04 38 24.8 -1.0
ARCES ARCESS Array B 86.17 340 P P 04 38 24.8 -1.0
comp=Z,5.4nm,0.9s,baz=78,slow=6.9,SNR=11
MMAI Mount Meron Ar 86.53 303 P P 04 38 27.9 -0.5
comp=Z,0.6nm,0.3s,baz=82,slow=10,SNR=2.9
PPT Papeete 86.66 108 LR LR 05 13 14.6
comp=Z,39nm,18.6s,baz=272,slow=33
BR101 Keskin Array S 87.03 310 eP P 04 38 29.1 -1.7
BR101 epP pP 04 38 48.0 -1.5
BR101 esP sP 04 38 57.7 +0.9
BRTR Keskin Array B 87.03 310 P P 04 38 29.1 -1.7
comp=Z,1.0nm,0.5s,baz=133,slow=4.3,SNR=8.6
BRTR pP pP 04 38 48.0 -1.5
comp=Z,1.0nm,0.8s,baz=96,slow=5.6,SNR=3.4
BRTR sP sP 04 38 57.7 +0.9
comp=Z,0.8nm,0.7s,baz=112,slow=7.4,SNR=2.8
FIA0 FINESS Array S 87.79 332 eP P 04 38 32.5 -1.2
FIA0 epP pP 04 38 50.9 -1.5
FIA0 FINESS Array S 87.79 332 eP P 04 38 32.5 -1.2
FIA0 e*PP pP 04 38 50.9 -1.5
FINES FINESS Array B 87.79 332 P P 04 38 32.5 -1.2
comp=Z,4.6nm,0.4s,baz=78,slow=4.3,SNR=66
FINES pP pP 04 38 50.9 -1.5
comp=Z,2.3nm,0.6s,baz=126,slow=4.9,SNR=2.9
VNDA Vanda 87.91 173 P P 04 38 34.0 +0.1
comp=Z,9.3nm,0.8s,baz=313,slow=6.1,SNR=38
VNDA Vanda 87.91 173 eP P 04 38 34.4 +0.5
comp=Z,9.8nm,0.8s
VNDA Vanda 87.91 173 eP P 04 38 34.4 +0.5
VNDA pmax pmax
comp=Z,10.0nm,0.8s
AKASG Malin Array Be 88.30 321 P P 04 38 34.6 -1.8
comp=Z,0.7nm,0.5s,baz=63,slow=5.4,SNR=9.2
AKASG pP pP 04 38 53.3 -1.8
comp=Z,1.3nm,0.6s,baz=69,slow=4.7,SNR=3.3
AKASG LR LR 05 20 21.3
comp=Z,27nm,20.7s,baz=350,slow=37
AKBB Malin Array Si 88.30 321 eP P 04 38 34.6 -1.8
comp=Z,4.1nm,1.0s
AKBB epP pP 04 38 53.3 -1.8
AKBB e 05 20 21.3
AKBB Malin Array Si 88.30 321 eP P 04 38 34.6 -1.8
AKBB e*PP pP 04 38 53.3 -1.8
AKBB pmax pmax
comp=Z,4.0nm,1.0s
AK11 Malin Array Si 88.34 321 eP P 04 38 37.0 +0.4
KMBO Kilima Mbogo 89.48 269 LR LR 05 16 43.4
comp=Z,47nm,20.2s,baz=94,slow=34
BUR04 Bucovina Ar. S 91.54 318 eP P 04 38 51.5 -0.2
BUR08 Bucovina Ar. S 91.54 318 eP P 04 38 52.2 +0.5
HFS Hagfors 93.96 332 P P 04 39 01.8 -0.7
comp=Z,1.8nm,0.4s,baz=72,slow=4.7,SNR=13
NB2 NORSAR Subarra 94.68 334 P P 04 39 05.1 -0.8
comp=Z,0.6nm,0.5s,baz=56,slow=5.6
NB200 NORSAR Array S 94.68 334 eP P 04 39 05.0 -0.9
NOA NORSAR Array B 94.68 334 P P 04 39 05.0 -0.9
comp=Z,0.3nm,0.4s,baz=66,slow=4.5,SNR=5.3
NOA LR LR 05 24 05.7
comp=Z,27nm,21.9s,baz=80,slow=37
YKA Yellowknife Ar 95.46 24 P P 04 39 09.3 0.0
comp=Z,1.4nm,0.8s,baz=300,slow=4.4,SNR=26
YKA pP pP 04 39 26.7 -1.4
comp=Z,1.2nm,0.7s,baz=299,slow=4.6,SNR=9.5
YKA PKiKP PKiKP 04 43 50.4 +1.1
comp=Z,0.1nm,0.5s,baz=311,slow=2.0,SNR=4.5
YKB5 Yellowknife Ar 95.46 24 eP P 04 39 09.3 0.0
YKB5 epP pP 04 39 26.7 -1.4
YKB5 ePKiKP PKiKP 04 43 50.4 +1.1
GERES GERESS Array B 98.45 322 P P 04 39 22.6 -0.6
comp=Z,0.4nm,0.5s,baz=88,slow=7.3,SNR=3.9
GERES pP pP 04 39 41.3 -0.8
comp=Z,0.2nm,0.3s,baz=70,slow=5.7,SNR=2.6
YBH Yreka Blue Hor 99.64 45 LR LR 05 20 42.4
comp=Z,59nm,18.7s,baz=340,slow=33
GDL2 Guadalupe Moun 116.95 48 ePKPdf PKPdf 04 44 30.8 +0.7
LTX Lajitas 118.90 50 ePKPdf PKPdf 04 44 34.5 +0.6
LTX Lajitas 118.90 50 ePKIKP PKPdf 04 44 34.5 +0.6
TXAR Lajitas Array 118.90 50 PKP PKPdf 04 44 34.5 +0.6
comp=Z,1.0nm,0.8s,baz=199,slow=1.9,SNR=3.3
JCT Junction City 121.17 47 ePKPdf PKPdf 04 44 38.8 +0.7
JCT Junction City 121.17 47 ePKIKP PKPdf 04 44 38.8 +0.7
TORD Torodi Ar. Bea 121.27 291 PKP PKPdf 04 44 37.4 -1.2
comp=Z,0.6nm,0.4s,baz=41,slow=2.0,SNR=28
TORD pPKP pPKPdf 04 44 56.4 -1.7
comp=Z,0.8nm,0.6s,baz=79,slow=1.7,SNR=3.4
TORD PKKPab PKKPab 04 54 41.2 -0.4
comp=Z,0.8nm,0.8s,baz=285,slow=3.7,SNR=5.5
TOA1 Torodi Ar. Sit 121.27 291 ePKPdf PKPdf 04 44 37.4 -1.2
TOA1 epPKPdf pPKPdf 04 44 56.4 -1.7
TOA1 ePKKPbc PKKPab 04 54 41.2 -0.4
KOWA Kowa 126.03 295 PKP PKPdf 04 44 46.6 -1.2
comp=Z,0.5nm,0.3s,baz=68,slow=5.4,SNR=4.4
DBIC Dimbokro 129.35 286 PKP PKPdf 04 44 54.1 0.0
comp=Z,2.4nm,0.9s,baz=56,slow=3.6,SNR=2.4
APG El Apazote 136.62 58 PKP PKPdf 04 45 08.7 +0.6
comp=Z,2.9nm,0.8s,baz=338,slow=16,SNR=2.7
PLCA Paso Flores 144.25 157 PKP PKPbc 04 45 19.9 +0.7
comp=Z,8.7nm,0.9s,baz=243,slow=4.1,SNR=17
PLCA Paso Flores 144.25 157 ePKPdf PKPdf 04 45 20.5 -0.5
PLCA Paso Flores 144.25 157 ePKIKP PKPdf 04 45 20.5 -0.5
TRQA Tornquist 149.34 167 ePKPbc PKPbc 04 45 34.4 +0.5
TRQA Tornquist 149.34 167 ePKP2 PKPbc 04 45 34.4 +0.5
AUSP Uspallata 151.92 150 eP PKPbc 04 45 39.8 -0.7
AUSP eS pPKPdf 04 45 56.4 +2.8
RTLS Leoncito 152.31 150 eP PKPdf 04 45 36.2 +1.6
RTLS eS PKPab 04 45 50.4 -1.1
RTLS IAML 04 45 51.4
comp=Z,42nm,0.2s
RTCV Cerro Valdivia 152.63 151 eP PKPdf 04 45 33.9 -0.9
RTCV ⇓eS PKiKP 04 45 46.0 +4.0
SJA San Juan 152.89 151 eP PKPdf 04 45 32.5 -2.7
ACAN Cantantal 152.90 154 eP PKPbc 04 45 45.1 +2.7
RTLL Cerro Villicun 153.10 151⇓eP PKPdf 04 45 32.5 -3.0
RTLL IAML 04 45 32.6
comp=Z,130nm,0.2s
RTLL eS PKPbc 04 45 43.5 +0.6
AMOG MOGNA 153.41 150⇓eP PKPdf 04 45 33.9 -2.1
AROD Rodeo 153.52 148⇓eP PKPbc 04 45 44.0 -0.2
AROD eS PKPab 04 46 03.5 +6.8
ACDV Cuesta del Vie 153.71 148 eP PKPbc 04 45 42.1 -2.3
ACDV eS PKPab 04 46 00.7 +3.5
AGUA GUANDACOL 154.58 148 eP PKPbc 04 45 50.0 +3.8
APLL PUNTA DE LOS L154.79 153 eP PKPbc 04 45 51.4 +4.8
APLL IAML 04 45 52.1
comp=Z,5.7nm,0.2s
APLL eS pPKPab 04 46 17.4 -3.1
VCA Vinchina 155.33 148 eP PKPab 04 46 00.1 -4.1
VCA eS sPKPab 04 46 32.1 +1.8
CPUP Villa Florida 161.65 169 PKP PKPdf 04 45 47.2 +0.9
comp=Z,1.6nm,1.0s,baz=327,slow=5.5,SNR=3.5
CPUP PKPab PKPab 04 46 31.6 +0.4
comp=Z,5.3nm,0.9s,baz=197,slow=3.9,SNR=11
CPUP Villa Florida 161.65 169 ePKPdf PKPdf 04 45 47.2 +0.9
CPUP ePKPab PKPab 04 46 32.1 +0.9
LPAZ La Paz 163.58 120 PKP PKPdf 04 45 49.5 +0.3
comp=Z,2.5nm,0.8s,baz=270,slow=1.0,SNR=11
LPAZ PKPab PKPab 04 46 42.5 +1.6
comp=Z,3.3nm,0.9s,baz=249,slow=8.6,SNR=8.1
LPAZ La Paz 163.58 120 ePKPdf PKPdf 04 45 50.4 +1.2
LPAZ La Paz 163.58 120 ePKIKP PKPdf 04 45 50.4 +1.2

IDC 03 04:39:55.2±2.9**, 53.̊99N**×**86.̊59E, h0**km**, mb1 2.4**/2**, mb1mx2.4**/62**, mbtmp2.4**/2**, ML2.1**/2**, Error ellipse: s-maj=25.4km s-min=14.7km az=51.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.05**	**269**	*i*		04 45 40.0	
	baz=88,slow=330,SNR=1.3						
ZALV	**Zalesovo Beam**	**1.05**	**269**	Pg	Pg	04 40 14.8	-0.5
	0.5nm,0.3s,baz=85,slow=18,SNR=5.0						
ZALV				Lg	Lg	04 40 30.2	
	1.3nm,0.3s,baz=84,slow=26,SNR=8.8						
KURBB	**Kurchatov Arra**	**5.98**	**239**	Pn	Pn	04 41 25.3	+0.3
	0.0nm,0.3s,baz=56,slow=13,SNR=2.5						
MKAR	**Makanchi Array**	**7.71**	**203**	Pn	Pn	04 41 49.9	+1.3
	0.0nm,0.3s,baz=22,slow=13,SNR=2.4						

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*IDC **03** 04:50:18.6±1.8, 39.̊57N×75.̊80E, h0km, mb3.7/3, mb1 3.8/5, mb1mx3.4/63, mbtmp3.7/5, ML3.2/3, Error ellipse: s-maj=34.9km s-min=23.5km az=92.0*
*BJI **03** 04:50:21.5, 40.̊04N×75.̊11E, h10km, ML3.4/4*
*KRNET **03** 04:50:25.0±0.1, 39.̊92N×75.̊28E, mb3.7*
*SOME **03** 04:50:24.2, 39.̊90N×75.̊35E, h0km*
*NNC **03** 04:50:25.7±1.7, 39.̊90N×75.̊31E, h0km, mb3.8, mpv3.5, Error ellipse: s-maj=16.8km s-min=6.8km az=154.0*
ISC 03 04:50:24.8±1.2**, 39.̊89N**±0.̊04×**75.̊34E**±0.̊03**, h9**km±9km**, n57, σ2.̊27**/87**, mb3.6**/3**, 31C-13D, Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**0.62**	**127**	Pg	**Pg**	**04 50 37.8**	**+1.1**
KSH				Sg	**Sb**	**04 50 47.5**	**+0.9**
KSH				smax	smax		
	comp=N,2μm,0.5s						
KSH				smax	smax		
	comp=E,2μm,0.5s						
SFK	**Sufi-Kurgan**	**1.42**	**275**	⇓P	**Pn**	**04 50 51.0**	**+0.1**
	24nm,0.3s						
SFK				⇑S	**Sg**	**04 51 10.3**	**-0.1**
	124nm,0.3s						
SFK	**Sufi-Kurgan**	**1.42**	**275**	⇑*i*P	**Pn**	**04 50 50.9**	**0.0**
	baz=75						
SFK				⇑*i*S	**Sb**	**04 51 09.8**	**0.0**
	baz=75						
NRN	**Naryn**	**1.62**	**18**	⇑*i*P	**Pn**	**04 50 54.5**	**+0.7**
	baz=19						
NRN				⇑*i*S	**Sb**	**04 51 16.7**	**+1.0**
	baz=19						
KZA	**Kyzart**	**2.19**	**358**	P	**Pb**	**04 51 04.4**	**-0.4**
	SNR=106						
KZA	**Kyzart**	**2.19**	**358**	⇑*e*P	**Pn**	**04 51 03.7**	**+2.0**
	baz=59						
KZA				⇑*i*S	**Sb**	**04 51 32.9**	**+0.8**
	baz=59						
ARSB	**Arslanbob**	**2.29**	**309**	⇑*i*P	**Pn**	**04 51 05.0**	**+2.1**
	baz=10.0						
ARSB				⇑*i*S	**Sb**	**04 51 34.9**	**-0.1**
	baz=10.0						
UCH	**Uchtor**	**2.42**	**345**	P	**Pb**	**04 51 08.1**	**-0.6**
	SNR=55						
UCH	**Uchtor**	**2.42**	**345**	⇑*i*P	**Pn**	**04 51 07.2**	**+2.3**
	baz=46						
UCH				⇑*i*S	**Sb**	**04 51 37.9**	**-0.8**
	baz=46						
ULHL	**Ulahol**	**2.45**	**16**	P	**Pb**	**04 51 08.0**	**-1.1**
	SNR=40						
ULHL	**Ulahol**	**2.45**	**16**	⇓*i*P	**Pb**	**04 51 07.9**	**-1.1**
	baz=17						
ULHL				⇓*i*S	**Sb**	**04 51 39.0**	**-0.4**
	baz=17						
AML	**Almayashu**	**2.56**	**331**	P	**Pb**	**04 51 09.8**	**-1.3**
	SNR=21						
AML	**Almayashu**	**2.56**	**331**	⇑*i*P	**Pn**	**04 51 09.2**	**+2.4**
	baz=32						
AML				⇑*i*S	**Sb**	**04 51 41.2**	**-1.6**
	baz=32						
TARG	**Taragay, Kyrgy**	**2.62**	**45**	⇑*i*P	**Pn**	**04 51 10.8**	**+3.1**
	baz=46						
TARG				⇑*i*S	**Sb**	**04 51 44.3**	**-0.3**
	baz=46						
KDJ	**Kajisay**	**2.63**	**31**	⇑*i*P	**Pn**	**04 51 10.6**	**+3.0**
	baz=33						
KDJ				⇑*i*S	**Sb**	**04 51 43.8**	**-1.0**
	baz=33						
KBK	**Karagaybulak**	**2.78**	**354**	P	**Pb**	**04 51 13.2**	**-1.5**
	SNR=86						
KBK	**Karagaybulak**	**2.78**	**354**	⇑*i*P	**Pn**	**04 51 12.1**	**+2.5**
	baz=55						
KBK				⇑*i*S	**Sn**	**04 51 46.4**	**+3.1**
	baz=55						
AAK	**Ala-Archa**	**2.82**	**347**	Pn	**Pb**	**04 51 14.1**	**-1.2**
	7.8nm,0.3s,baz=155,slow=8.3,SNR=92						
AAK				Sn	**Sb**	**04 51 52.8**	**+2.8**
	7.6nm,0.3s,baz=18,slow=18,SNR=9.8						
AAK	**Ala-Archa**	**2.82**	**347**	⇑Pn	**Pb**	**04 51 13.4**	**-1.9**
	22nm,0.4s						
AAK				⇑Lg	Lg	04 51 52.8	
	104nm,0.8s						
AAK	**Ala-Archa**	**2.82**	**347**	P	**Pb**	**04 51 14.1**	**-1.2**
	SNR=7.2						
AAK	**Ala-Archa**	**2.82**	**347**	⇑*i*P	**Pn**	**04 51 12.7**	**+2.6**
	baz=48						
AAK				⇑*i*S	**Sn**	**04 51 47.4**	**+3.1**
	baz=48						
EKS2	**Erkin-Say**	**3.01**	**337**	P	**Pb**	**04 51 16.6**	**-2.0**
	SNR=6.6						
EKS2	**Erkin-Say**	**3.01**	**337**	⇓*i*P	**Pn**	**04 51 15.0**	**+2.3**
	baz=38						
EKS2				⇓*i*S	**Sn**	**04 51 51.8**	**+2.9**
	baz=38						
TKM2	**Tokmak 2**	**3.03**	**4**	⇓Pn	**Pn**	**04 51 16.5**	**+3.3**
	20nm,0.2s						
TKM2				⇑Lg	Lg	04 52 01.4	
	55nm,0.6s						
TKM2	**Tokmak 2**	**3.03**	**4**	P	**Pn**	**04 51 16.6**	**+3.4**
	SNR=41						
TKM2	**Tokmak 2**	**3.03**	**4**	⇑*i*P	**Pn**	**04 51 16.0**	**+2.9**
	baz=5.0						
TKM2				⇑*i*S	**Sn**	**04 51 52.8**	**+3.1**
	baz=5.0						
CHMS	**Chumysh**	**3.13**	**352**	P	**Pn**	**04 51 18.0**	**+3.6**
	SNR=25						
KST	**Kastek**	**3.18**	**8**	*e*P	**Pb**	**04 51 23.6**	**+2.0**
	6.3nm,0.4s						
KST				*e*S	**Sg**	**04 52 06.3**	**-0.7**
	154nm,0.6s						
ARK	**Arkit**	**3.19**	**308**	⇑*e*P	**Pn**	**04 51 17.0**	**+1.8**
	baz=8.0						
ARK				⇑*i*S	**Sn**	**04 51 55.1**	**+1.6**
	baz=8.0						
MRKS	**Merke**	**3.27**	**332**	*e*P	**Pb**	**04 51 24.6**	**+1.7**
	65nm,0.6s						
MRKS				*e*S	**Sg**	**04 52 08.0**	**-1.6**
	40nm,0.5s						
IZV	**Izvestkoviy**	**3.28**	**17**	*e*P	**Pb**	**04 51 25.5**	**+2.2**
	66nm,0.6s						
IZV				*e*S	**Sg**	**04 52 09.5**	**-0.8**
	191nm,0.9s						
MNAS	**Manas**	**3.36**	**321**	⇓Pn	**Pn**	**04 51 21.2**	**+3.6**
	12nm,0.7s						
MNAS				⇑Lg	Lg	04 52 13.8	
	12nm,0.4s						
MNAS	**Manas**	**3.36**	**321**	⇓*e*P	**Pn**	**04 51 19.9**	**+2.3**
	baz=22						
MNAS				⇓*i*S	**Sn**	**04 51 59.9**	**+2.2**
	baz=22						
DGS	**Degeres**	**3.36**	**5**	*e*P	**Pb**	**04 51 26.5**	**+1.9**
	17nm,0.3s						
DGS				*e*S	**Sg**	**04 52 11.2**	**-1.6**
	80nm,0.5s						
TNSS	**Tian-Shan**	**3.37**	**21**	*e*P	**Pb**	**04 51 27.0**	**+2.1**
	34nm,0.5s						
TNSS				*e*S	**Sg**	**04 52 12.0**	**-0.9**
	218nm,1.0s						
USP	**Ospenovka**	**3.43**	**350**	P	**Pn**	**04 51 21.7**	**+3.2**
	SNR=17						
MDOK	**Medeo**	**3.51**	**21**	Pn	**Pn**	**04 51 22.8**	**+3.1**
	8.2nm,0.4s						
MDOK				⇓Lg	Lg	04 52 15.6	
	116nm,0.8s						
MDOK	**Medeo**	**3.51**	**21**	*e*P	**Pb**	**04 51 28.6**	**+1.4**
	18nm,0.6s						
MDOK				*e*S	**Sg**	**04 52 14.8**	**-2.7**
	97nm,0.8s						
KNDC	**Almaty**	**3.54**	**20**	⇓Lg	Lg	04 52 17.1	
	124nm,0.8s						
KOTS	**Kotyrbulak**	**3.59**	**21**	*e*P	**Pb**	**04 51 30.4**	**+1.9**
	13nm,0.5s						
KOTS				*e*S	**Sg**	**04 52 18.1**	**-2.1**
	128nm,0.7s						
KTBS	**Karatobe**	**3.95**	**14**	*e*P	**Pb**	**04 51 37.3**	**+2.7**
	14nm,0.5s						
KTBS				*e*S	**Sg**	**04 52 29.4**	**-2.1**
	97nm,0.5s						
KUU	**Kurty**	**4.07**	**10**	*e*P	**Pb**	**04 51 39.1**	**+2.5**
	6.2nm,0.5s						
KUU				*e*S	**Sg**	**04 52 32.8**	**-2.5**
	72nm,1.1s						
CHKK	**Chushkaly**	**4.14**	**17**	*e*P	**Pb**	**04 51 40.4**	**+2.5**
	12nm,0.5s						
CHKK				*e*S	**Sg**	**04 52 35.1**	**-2.8**
	71nm,0.6s						
KURS	**Kuram**	**4.17**	**30**	*e*P	**Pb**	**04 51 40.7**	**+2.4**
KURS				*e*S	**Sg**	**04 52 35.6**	**-3.1**
IUG	**Iuzhnay**	**4.60**	**301**	*e*P	**Pb**	**04 51 49.7**	**+3.9**
	12nm,0.3s						
IUG				*e*S	**Sg**	**04 52 50.8**	**-1.9**
	33nm,1.0s						
PDGK	**Podgornoye**	**4.63**	**41**	⇓Pn	**Pn**	**04 51 36.3**	**+1.3**
	3.0nm,0.7s						
PDGK				⇓Pg	**Pb**	**04 51 47.1**	**+0.8**
	3.8nm,0.5s						
PDGK				⇑Lg	Lg	04 52 50.6	
	18nm,0.7s						
ARXS	**Arharly**	**4.70**	**22**	*e*P	**Pb**	**04 51 50.7**	**+3.4**
	11nm,0.5s						
ARXS				*e*S	**Sg**	**04 52 52.9**	**-2.7**
	23nm,0.8s						
KK31	**Karatay Array**	**4.84**	**313**	Pn	**Pn**	**04 51 38.9**	**+1.1**
	0.3nm,0.3s,baz=122,slow=13,SNR=13						
KK31				Pg	**Pb**	**04 51 54.1**	**+4.4**
	4.2nm,0.6s,baz=144,slow=17,SNR=15						
KK31				⇑Lg	Lg	04 53 00.3	
	6.3nm,0.6s,baz=123,slow=27,SNR=5.0						
BRLS	**Borolday**	**5.19**	**309**	*e*P	**Pb**	**04 51 59.8**	**+4.1**
	0.5nm,0.2s						
BRLS				*e*S	**Sg**	**04 53 07.8**	**-3.5**
	8.6nm,0.7s						
MKAR	**Makanchi Array**	**8.55**	**34**	Pn	Pn	04 52 24.4	-4.3
	0.1nm,0.3s,baz=217,slow=14,SNR=4.0						
WMQ	**Urumqi**	**10.02**	**63**	*e*P	**Pn**	**04 52 47.8**	**-1.1**
KURBB	**Kurchatov Arra**	**10.96**	**11**	Lg	Lg	04 56 12.2	
	0.0nm,0.3s,baz=202,slow=30,SNR=5.9						
BVAR	**Borovoye Array**	**13.57**	**347**	Lg	Lg	04 57 32.0	
	0.1nm,0.3s,baz=229,slow=38,SNR=3.3						
ZALV	**Zalesovo Beam**	**15.46**	**21**	Pn	**Pn**	**04 54 01.1**	**-1.8**
	0.3nm,0.3s,baz=214,slow=12,SNR=2.7						
ARCES	**ARCESS Array B**	**39.42**	**335**	P	**P**	**04 57 53.3**	**-1.3**
	3.1nm,1.0s,baz=106,slow=9.5,SNR=5.3						
TORD	**Torodi Ar. Bea**	**69.18**	**270**	P	**P**	**05 01 29.0**	**-3.0**
	0.2nm,0.5s,baz=41,slow=5.8,SNR=4.4						
YKA	**Yellowknife Ar**	**77.65**	**5**	P	**P**	**05 02 18.6**	**-2.4**
	0.2nm,0.7s,baz=348,slow=5.9,SNR=7.6						

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*IDC **03** 05:21:49.2±1.8, 39.̊61N×75.̊07E, h0km, mb3.6/3, mb1 3.8/5, mb1mx3.4/66, mbtmp3.6/5, ML3.3/2, Error ellipse: s-maj=33.8km s-min=21.5km az=102.0*
*SOME **03** 05:21:51.8, 39.̊85N×75.̊37E, h5km*
*NNC **03** 05:21:53.0±2.4, 39.̊74N×75.̊30E, h0km, mb3.5, mpv3.3, Error ellipse: s-maj=19.9km s-min=8.1km az=150.0*
*KRNET **03** 05:21:53.4±0.1, 39.̊93N×75.̊26E, mb3.4*
ISC 03 05:21:54.5±1.7**, 39.̊72N**±0.̊07×**75.̊28E**±0.̊04**, h27**km±11km**, n48, σ1.̊68**/78**, mb3.5**/3**, 22C-18D, Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**1.40**	**283**	⇓P	**Pb**	**05 22 19.5**	**-0.6**
	19nm,0.3s						
SFK				⇑S	**Sb**	**05 22 38.4**	**+0.9**
	88nm,0.4s						
SFK	**Sufi-Kurgan**	**1.40**	**283**	⇑*i*P	**Pb**	**05 22 19.3**	**-0.8**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	baz=74						
SFK				⇑iS	Sb	05 22 38.0	+0.4
	baz=74						
NRN	**Naryn**	**1.80**	**18**	⇓iP	**Pn**	**05 22 23.0**	**-1.1**
	baz=20						
NRN				⇓iS	**Sn**	**05 22 44.9**	**-1.3**
	baz=20						
KZA	**Kyzart**	**2.36**	**360**	P	**Pn**	**05 22 32.5**	**+0.7**
	SNR=53						
KZA	**Kyzart**	**2.36**	**360**	⇓iP	**Pn**	**05 22 32.3**	**+0.5**
	baz=60						
KZA				⇓iS	**Sn**	**05 23 01.4**	**+1.3**
	baz=60						
ARSB	**Arslanbob**	**2.37**	**313**	⇓eP	**Pn**	**05 22 33.3**	**+1.5**
	baz=9.0						
ARSB				⇓iS	**Sb**	**05 23 03.1**	**-2.5**
	baz=9.0						
UCH	**Uchtor**	**2.57**	**347**	P	**Pn**	**05 22 36.2**	**+1.4**
	SNR=48						
UCH	**Uchtor**	**2.57**	**347**	⇓iP	**Pn**	**05 22 35.5**	**+0.7**
	baz=46						
UCH				⇓iS	**Sn**	**05 23 06.3**	**+0.9**
	baz=46						
ULHL	**Ulahol**	**2.63**	**16**	P	**Pb**	**05 22 38.0**	**-3.1**
	SNR=30						
ULHL	**Ulahol**	**2.63**	**16**	⇓iP	**Pn**	**05 22 36.5**	**+1.1**
	baz=17						
ULHL				⇓iS	**Sn**	**05 23 07.7**	**+1.2**
	baz=17						
AML	**Almayashu**	**2.69**	**334**	P	**Pn**	**05 22 38.3**	**+1.9**
	SNR=33						
AML	**Almayashu**	**2.69**	**334**	⇑iP	**Pn**	**05 22 37.3**	**+0.9**
	baz=32						
AML				⇑iS	**Sn**	**05 23 09.5**	**+1.2**
	baz=32						
TARG	**Taragay, Kyrgy**	**2.78**	**43**	⇑eP	**Pn**	**05 22 39.1**	**+1.5**
	baz=46						
TARG				⇑iS	**Sn**	**05 23 12.6**	**+2.1**
	baz=46						
KDJ	**Kajisay**	**2.81**	**30**	⇑iP	**Pn**	**05 22 39.2**	**+1.4**
	baz=33						
KDJ				⇑iS	**Sn**	**05 23 12.7**	**+1.9**
	baz=33						
BOOM	**Boomskoye usch**	**2.81**	**10**	⇑eP	**Pn**	**05 22 38.7**	**+0.8**
	baz=11						
BOOM				⇑iS	**Sn**	**05 23 11.8**	**+0.8**
	baz=11						
KBK	**Karagaybulak**	**2.94**	**355**	P	**Pn**	**05 22 42.0**	**+2.3**
	SNR=5.5						
KBK	**Karagaybulak**	**2.94**	**355**	⇑iP	**Pn**	**05 22 40.7**	**+1.0**
	baz=55						
KBK				⇑iS	**Sn**	**05 23 14.7**	**+0.5**
	baz=55						
AAK	**Ala-Archa**	**2.98**	**349**	Pn	**Pn**	**05 22 42.5**	**+2.4**
	2.3nm,0.3s,baz=155,slow=8.0,SNR=20						
AAK				Sn	**Sb**	**05 23 19.8**	**-3.0**
	5.8nm,0.3s,baz=59,slow=22,SNR=9.3						
AAK	**Ala-Archa**	**2.98**	**349**	⇑Pn	**Pn**	**05 22 42.0**	**+1.9**
	13nm,0.5s						
AAK				⇓Sn	**Sb**	**05 23 19.5**	**-3.3**
	50nm,0.8s						
AAK	**Ala-Archa**	**2.98**	**349**	P	**Pn**	**05 22 42.3**	**+2.2**
	SNR=25						
EKS2	**Erkin-Say**	**3.15**	**339**	P	**Pn**	**05 22 45.0**	**+2.5**
	SNR=7.0						
EKS2	**Erkin-Say**	**3.15**	**339**	⇑eP	**Pn**	**05 22 43.9**	**+1.4**
	baz=38						
EKS2				⇑iS	**Sn**	**05 23 20.0**	**+0.8**
	baz=38						
TKM2	**Tokmak 2**	**3.21**	**4**	⇓Pn	**Pn**	**05 22 44.6**	**+1.3**
	5.8nm,0.3s						
TKM2				⇑Sn	**Sn**	**05 23 23.3**	**+2.5**
	18nm,0.6s						
TKM2	**Tokmak 2**	**3.21**	**4**	P	**Pn**	**05 22 45.0**	**+1.6**
	SNR=14						
ARK	**Arkit**	**3.26**	**311**	⇓eP	**Pn**	**05 22 45.6**	**+1.6**
	baz=8.0						
ARK				⇓iS	**Sn**	**05 23 23.5**	**+1.5**
	baz=8.0						
CHMS	**Chumysh**	**3.30**	**353**	P	**Pn**	**05 22 46.4**	**+2.0**
	SNR=9.0						
MRKS	**Merke**	**3.40**	**334**	eP	**Pb**	**05 22 52.5**	**-1.6**
	31nm,0.6s						
MRKS				eS	**Sb**	**05 23 36.0**	**+1.1**
	18nm,0.5s						
IZV	**Izvestkoviy**	**3.46**	**16**	eP	**Pb**	**05 22 53.6**	**-1.7**
	33nm,0.6s						
IZV				eS	**Sb**	**05 23 37.9**	**+1.0**
	89nm,0.8s						
MNAS	**Manas**	**3.47**	**324**	⇓Pn	**Pn**	**05 22 48.9**	**+2.1**
	5.9nm,0.6s						
MNAS				⇑Lg	Lg	05 23 42.0	
	11nm,0.6s						
MNAS	**Manas**	**3.47**	**324**	⇑eP	**Pn**	**05 22 47.8**	**+0.9**
	baz=22						
MNAS				⇑eS	**Sn**	**05 23 28.3**	**+1.2**
	baz=22						
DGS	**Degeres**	**3.54**	**6**	eP	**Pb**	**05 22 54.9**	**-1.6**
	9.7nm,0.5s						
DGS				eS	**Sb**	**05 23 40.0**	**+1.0**
	33nm,0.7s						
TNSS	**Tian-Shan**	**3.54**	**20**	eP	**Pb**	**05 22 55.0**	**-1.8**
	19nm,0.5s						
TNSS				eS	**Sb**	**05 23 40.8**	**+1.3**
	47nm,0.8s						
USP	**Ospenovka**	**3.59**	**351**	P	**Pn**	**05 22 50.0**	**+1.5**
	SNR=5.9						
MDOK	**Medeo**	**3.69**	**21**	eP	**Pb**	**05 22 56.4**	**-2.7**
	6.3nm,0.6s						
MDOK				eS	**Sb**	**05 23 42.7**	**-0.7**
	44nm,0.9s						
KOTS	**Kotyrbulak**	**3.77**	**21**	eP	**Pb**	**05 22 59.1**	**-1.4**
	6.4nm,0.5s						
KOTS				eS	**Sb**	**05 23 47.4**	**+1.6**
	50nm,0.7s						
KTBS	**Karatobe**	**4.13**	**14**	eP	**Pb**	**05 23 05.3**	**-1.2**
	7.0nm,0.6s						
KTBS				eS	**Sb**	**05 23 58.2**	**+2.4**
	46nm,0.8s						
KUU	**Kurty**	**4.25**	**10**	eP	**Pb**	**05 23 07.0**	**-1.5**
	4.3nm,0.6s						
KUU				eS	**Sb**	**05 24 00.9**	**+1.7**
	39nm,0.9s						
CHKK	**Chushkaly**	**4.33**	**17**	eP	**Pb**	**05 23 08.9**	**-0.9**
	6.9nm,0.6s						
CHKK				eS	**Sb**	**05 24 03.9**	**+2.3**
	32nm,0.9s						
KURS	**Kuram**	**4.35**	**29**	eP	**Pb**	**05 23 08.8**	**-1.4**
	2.2nm,0.5s						
KURS				eS	**Sb**	**05 24 04.1**	**+1.9**
	11nm,1.2s						
PDGK	**Podgornoye**	**4.80**	**40**	⇓Pg	**Pb**	**05 23 18.5**	**+0.6**
	3.5nm,0.9s						
PDGK				⇓Lg	Lg	05 24 22.8	
	6.7nm,0.7s						
ARXS	**Arharly**	**4.88**	**22**	eP	**Pb**	**05 23 17.8**	**-1.4**
	5.6nm,0.6s						
ARXS				eS	**Sb**	**05 24 19.4**	**+2.0**
	11nm,0.8s						
KK31	**Karatay Array**	**4.93**	**315**	⇑Pn	**Pn**	**05 23 07.5**	**+0.7**
	0.2nm,0.3s,baz=125,slow=13,SNR=5.3						
KK31				Pg	**Pb**	**05 23 22.4**	**+2.4**
	1.6nm,0.5s,baz=135,slow=16,SNR=13						
KK31				⇑Lg	Lg	05 24 27.8	
	3.3nm,0.6s,baz=135,slow=28,SNR=4.9						
MNBS	**Baschi**	**4.94**	**27**	eP	**Pb**	**05 23 18.9**	**-1.4**
	2.7nm,0.7s						
MNBS				eS	**Sb**	**05 24 21.5**	**+2.1**
	7.4nm,0.5s						
MKAR	**Makanchi Array**	**8.72**	**34**	Pn	**Pn**	**05 24 00.7**	**+1.8**
	0.6nm,0.3s,baz=222,slow=15,SNR=20						
MKAR				Lg	Lg	05 26 20.9	
	baz=218,slow=26,SNR=1.4						
KURBB	**Kurchatov Arra**	**11.14**	**11**	Lg	Lg	05 27 42.6	
	0.0nm,0.3s,baz=199,slow=29,SNR=6.3						
ARCES	**ARCESS Array B**	**39.55**	**335**	P	**P**	**05 29 22.3**	**-0.5**
	3.8nm,0.9s,baz=104,slow=9.4,SNR=4.7						
TORD	**Torodi Ar. Bea**	**69.13**	**270**	P	**P**	**05 32 57.2**	**-1.4**
	0.4nm,0.9s,baz=52,slow=5.3,SNR=2.8						
YKA	**Yellowknife Ar**	**77.82**	**5**	P	**P**	**05 33 47.1**	**-1.8**
	0.2nm,0.7s,baz=346,slow=5.4,SNR=4.9						

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*ISCJB **03** 05:27:48.2±1.0, 10°.87S±0°.09×161°.9E±0°.1, h35^{km}, mb3.6/5, MS3.2/2, Error ellipse: s-maj=19.0km s-min=7.5km az=144.4*

*IDC **03** 05:27:52.1±2.8, 10°.70S×161°.66E, h46^{km}±26^{km}, mb3.5/5, mb1 3.9/8, mb1mx3.6/50, mbtmp3.9/8, ML4.1/3, MS3.3/5, Ms1 3.3/5, ms1mx3.0/29, Error ellipse: s-maj=29.0km s-min=24.0km az=119.0*

ISC 03 05:27:50.9±0.9**, 10°.8S**±0°.1×**161°.8E**±0°.1**, h35**^{km}**, n18,** σ1^{s}**72**/12**, mb3.7**/5**, Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.30**	**307**	eP	**Pn**	**05 28 25.0**	**-1.3**
HNR				eS	**Sn**	**05 28 56.0**	**+2.6**
HNR	**Honiara**	**2.30**	**307**	P	**Pn**	**05 28 25.3**	**-1.0**
	172nm,0.3s,baz=164,slow=7.1,SNR=16						
HNR				S	**Sn**	**05 28 54.4**	**+1.0**
	369nm,0.3s,baz=184,slow=22,SNR=8.7						
HNR				LR	LR	05 29 27.5	
	comp=Z,549nm,19.2s,baz=202,slow=45						
DZM	**Mont Dzumac**	**12.04**	**159**	P	**Pn**	**05 30 42.1**	**+2.0**
	0.6nm,0.3s,baz=41,slow=7.9,SNR=10						
DZM				S	**Sn**	**05 32 51.3**	**-1.9**
	0.3nm,0.3s,baz=37,slow=20,SNR=2.4						
DZM				LR	LR	05 34 27.8	
	comp=Z,123nm,18.2s,baz=20,slow=32						
PMG	**Port Moresby**	**14.50**	**274**	LR	LR	05 36 10.1	
	comp=Z,196nm,18.9s,baz=96,slow=35						
CTA	**Charters Tower**	**17.59**	**237**	P	**Pn**	**05 31 53.8**	**+0.4**
	0.3nm,0.3s,baz=64,slow=13,SNR=11						
AFI	**Afiamalu**	**25.97**	**100**	LR	LR	05 41 51.6	
	comp=Z,73nm,18.5s,baz=284,slow=32						
WRA	**Warramunga Arr**	**27.96**	**248**	P	**P**	**05 33 38.0**	**-0.5**
	1.1nm,0.7s,baz=77,slow=10,SNR=15						
ASAR	**Alice Springs**	**29.49**	**241**	P	**P**	**05 33 51.6**	**-0.4**
	0.5nm,0.8s,baz=67,slow=9.6,SNR=4.0						
GUMO	**Guam**	**29.51**	**325**	LR	LR	05 45 06.5	
	comp=Z,54nm,19.1s,baz=122,slow=35						
H11S2	**WAKE ISLAND Hy**	**29.52**	**9**	T	T	06 04 49.5	
	baz=189,slow=76,SNR=15						
H11S3	**WAKE ISLAND Hy**	**29.52**	**9**	T	T	06 04 48.8	
	baz=189,slow=76,SNR=14						
H11S1	**WAKE ISLAND Hy**	**29.54**	**9**	T	T	06 04 51.0	
	baz=189,slow=76,SNR=6.3						
H11N1	**WAKE ISLAND Hy**	**30.75**	**9**	T	T	06 06 14.9	
	baz=189						
H11N3	**WAKE ISLAND Hy**	**30.76**	**9**	T	T	06 06 12.5	
	baz=189						
H11N2	**WAKE ISLAND Hy**	**30.77**	**9**	T	T	06 06 24.8	
	baz=189						
SONM	**Songino Array**	**76.24**	**325**	P	**P**	**05 39 34.2**	**-1.8**
	0.7nm,0.6s,baz=117,slow=2.3,SNR=3.8						
ILAR	**Eielson Array**	**84.56**	**20**	P	**P**	**05 40 19.0**	**-1.1**
	0.4nm,0.9s,baz=260,slow=5.4,SNR=3.2						
NVAR	**Mina Array Bea**	**88.85**	**51**	P	**P**	**05 40 43.9**	**+2.0**
	0.4nm,0.6s,baz=223,slow=6.2,SNR=4.0						

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*ISCJB **03** 05:35:16.9±0.3, 16°.60N±0°.03×98°.18W±0°.02, h10^{km}, mb4.7/161, MS3.6/7, Error ellipse: s-maj=4.5km s-min=2.7km az=11.6*

*IDC **03** 05:35:16.6±0.8, 16°.54N×98°.35W, h0^{km}, mb4.4/18, mb1 4.5/22, mb1mx4.3/49, mbtmp4.3/22, ML4.0/3, MS3.7/9, Ms1 3.7/9, ms1mx3.3/39, Error ellipse: s-maj=21.7km s-min=11.9km az=50.0*

*MEX **03** 05:35:17.6±0.9, 16°.33N×98°.50W, h8^{km}±14^{km}, MD4.2*

*NEIC **03** 05:35:17.6±0.0, 16°.34N×98°.50W, h7^{km}, mb4.8/180, MD4.2(MEX), After MEX.*

ISC 03 05:35:16.6±1.2**, 16°.50N**±0°.04×**98°.52W**±0°.03**, h3**^{km}±7^{km}**, n615,** σ1^{s}**46**/625**, mb4.8**/161**, MS3.7**/7**, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.39**	**105**	eP	**Pg**	**05 35 24.3**	**+0.2**
PNIG				eS	**Sg**	**05 35 29.5**	**+0.3**
PNIG	**Pinotepa**	**0.39**	**105**	ePg	**Pg**	**05 35 24.3**	**+0.2**
PNIG				eSg	**Sg**	**05 35 29.7**	**+0.4**
TLIG	**Tlapa**	**1.06**	**358**	eP	**Pg**	**05 35 37.2**	**+0.2**
TLIG				eS	**Sb**	**05 35 52.0**	**0.0**
TLIG	**Tlapa**	**1.06**	**358**	eP	**Pg**	**05 35 37.2**	**+0.2**
TLIG				eS	**Sb**	**05 35 52.0**	**0.0**
HMTT	**Tlapaneco**	**1.29**	**358**	eP	**Pg**	**05 35 40.9**	**-0.5**
HMTT				eS	**Sg**	**05 35 58.8**	**+0.5**
ACP2	**Acapulco**	**1.36**	**286**	eP	**Pn**	**05 35 40.4**	**-2.1**
ACP2				eS	**Sg**	**05 35 58.0**	**-2.4**
CAIG	**El Cayaco**	**1.76**	**288**	eP	**Pn**	**05 35 45.7**	**-2.3**
CAIG				eS	**Sn**	**05 36 08.0**	**-3.0**
CAIG	**El Cayaco**	**1.76**	**288**	ePn	**Pn**	**05 35 45.7**	**-2.3**
CAIG				eSn	**Sn**	**05 36 08.0**	**-3.0**
VHO	**Vista Hermosa**	**1.81**	**71**	eP	**Pn**	**05 35 48.4**	**-0.4**
VHO				eS	**Sn**	**05 36 10.5**	**-1.9**
VHO	**Vista Hermosa**	**1.81**	**71**	ePn	**Pn**	**05 35 48.4**	**-0.4**
VHO				eSn	**Sn**	**05 36 10.5**	**-1.9**
HUIG	**Huatulco**	**2.43**	**107**	eP	**Pn**	**05 35 54.0**	**-3.3**
HUIG				eS	**Sn**	**05 36 21.8**	**-5.8**
HUIG	**Huatulco**	**2.43**	**107**	ePn	**Pn**	**05 35 55.1**	**-2.2**
HUIG				eSn	**Sn**	**05 36 21.8**	**-5.8**
UNM	**Universidad Na**	**2.88**	**348**	ePn	**Pb**	**05 36 06.7**	**-2.2**
CMIG	**Matias Romero**	**3.53**	**80**	Pn	**Pn**	**05 36 11.6**	**-0.8**
	25nm,0.3s,baz=261,slow=10,SNR=108						
CMIG				Pg	**Pb**	**05 36 21.3**	**+1.5**
	54nm,0.3s,baz=260,slow=17,SNR=69						
CMIG				Lg	Lg	05 37 07.0	
	389nm,0.3s,baz=217,slow=5.6,SNR=14						
LVIG	**Laguna Verde**	**3.78**	**32**	ePn	**Pn**	**05 36 14.7**	**-1.1**
MOIG	**Morelia**	**4.05**	**322**	ePn	**Pn**	**05 36 22.4**	**+2.6**
JRQG	**Juriquilla Cam**	**4.56**	**337**	ePn	**Pn**	**05 36 29.5**	**+2.6**
ZAIG	**Zacatecas**	**7.31**	**329**	ePn	**Pn**	**05 37 08.2**	**+3.5**
APG	**El Apazote**	**7.90**	**100**	Pn	**Pn**	**05 37 12.9**	**+0.3**
	1.1nm,0.3s,baz=298,slow=14,SNR=25						
APG				Sn	**Sn**	**05 38 47.3**	**+4.6**
	5.4nm,0.3s,baz=19,slow=4.7,SNR=5.4						
APG				Lg	Lg	05 39 22.6	
	2.5nm,0.3s,baz=351,slow=21,SNR=4.5						
LNIG	**Linares**	**8.41**	**354**	ePn	**Pn**	**05 37 22.6**	**+3.2**
TGUH	**Tegucigalpa,Un**	**11.12**	**101**	ePn	**Pn**	**05 37 58.1**	**+1.5**
833A	**Chaparral WMA,**	**11.80**	**356**	P	**Pn**	**05 38 08.5**	**+2.6**
	baz=176,SNR=13						
H06E1	**SOCORRO T-PHAS**	**12.04**	**283**	T	T	05 50 19.9	
	SNR=6.9						
HPIG		**12.32**	**329**	ePn	**Pn**	**05 38 16.3**	**+3.0**
HKT	**Hockley**	**13.62**	**10**	ePn	**Pn**	**05 38 32.8**	**+2.1**
LTX	**Lajitas**	**13.62**	**341**	ePn	**Pn**	**05 38 33.4**	**+2.5**
LTX				e		05 42 30.7	
TXAR	**Lajitas Array**	**13.62**	**341**	Pn	**Pn**	**05 38 33.4**	**+2.5**
	baz=158,slow=17,SNR=8.6						
TXAR				Lg	Lg	05 42 30.7	
	0.0nm,0.3s,baz=174,slow=25,SNR=3.7						
TXAR				LR	LR	05 44 14.7	
	comp=Z,269nm,20.8s,baz=0.0,slow=40						
TX31	**Lajitas Ar. Si**	**13.62**	**341**	ePn	**Pn**	**05 38 33.3**	**+2.4**
TX31				ePn	P	05 38 33.5	-6.6
JCT	**Junction City**	**13.97**	**355**	P	**Pn**	**05 38 36.2**	**+0.6**
	baz=175						
JCT	**Junction City**	**13.97**	**355**	ePn	**Pn**	**05 38 37.2**	**+1.6**
435B	**Jarrell**	**14.25**	**3**	ePn	**Pn**	**05 38 41.2**	**+1.9**
JTS	**JuntasAbangare**	**14.57**	**113**	Pn	**Pn**	**05 38 46.1**	**+2.3**
	2.3nm,0.3s,baz=14,slow=7.2,SNR=12						
HDC	**Heredia**	**15.43**	**113**	ePn	**Pn**	**05 38 56.8**	**+1.2**
	28nm,0.9s						
WHTX	**Lake Whitney,**	**15.46**	**3**	P	**Pn**	**05 38 57.1**	**+1.5**
	baz=184,SNR=9.6						
WHTX	**Lake Whitney,**	**15.46**	**3**	ePn	**Pn**	**05 38 57.3**	**+1.7**
	128nm,1.2s						
NATX	**Nacogdoches**	**15.60**	**12**	P	**Pn**	**05 38 58.5**	**+1.1**
	baz=194,SNR=7.3						
NATX	**Nacogdoches**	**15.60**	**12**	ePn	**Pn**	**05 38 59.0**	**+1.5**
	121nm,1.1s						
342A	**Flagon Creek P**	**15.85**	**20**	P	**Pn**	**05 39 01.3**	**+0.6**
	baz=202,SNR=8.2						
ABTX	**Abilene, Hawle**	**16.09**	**357**	P	**Pn**	**05 39 05.1**	**+1.2**
	baz=176,SNR=23						
ABTX	**Abilene, Hawle**	**16.09**	**357**	ePn	**P**	**05 39 05.9**	**-1.5**
	58nm,0.9s						
241A	**Mo Tay, Goldon**	**16.27**	**17**	P	**Pn**	**05 39 05.6**	**-0.6**
	baz=199,SNR=8.0						
MNTX	**Cornudas Mount**	**16.37**	**339**	P	**P**	**05 39 09.1**	**-1.4**
	baz=156,SNR=21						
MNTX	**Cornudas Mount**	**16.37**	**339**	ePn	**P**	**05 39 09.0**	**-1.4**
	13nm,1.0s						
344A	**Westbrook Farm**	**16.49**	**24**	P	**Pn**	**05 39 07.8**	**-1.2**
	baz=207						
GDL2	**Guadalupe Moun**	**16.51**	**342**	ePn	**P**	**05 39 11.1**	**-1.0**
242A	**Grayson**	**16.54**	**19**	P	**Pn**	**05 39 07.9**	**-1.7**
	baz=202						
345A	**Thompson Farm,**	**16.65**	**26**	P	**Pn**	**05 39 10.2**	**-0.9**
	baz=209						
SRIG	**Santa Rosalia**	**16.66**	**313**	ePn	**P**	**05 39 14.6**	**+0.9**
	25nm,0.8s						
140A	**Cam and Jess,**	**16.69**	**15**	P	**Pn**	**05 39 11.7**	**+0.2**
	baz=196,SNR=10						
FSCY	**Frank Sound, G**	**16.74**	**78**	ePn	**Pn**	**05 39 12.3**	**+0.1**
	148nm,1.1s						
EPT	**El Paso**	**16.85**	**336**	ePn	**Pn**	**05 39 14.3**	**+0.6**
	11nm,0.9s						
346A	**Big Creek Wild**	**16.96**	**27**	P	**Pn**	**05 39 14.1**	**-0.9**
	baz=211						
244A	**Avery, Jackson**	**17.03**	**23**	P	**Pn**	**05 39 14.8**	**-1.1**
	baz=206						
VBMS	**Vicksburg**	**17.25**	**23**	P	**Pn**	**05 39 17.3**	**-1.4**
	baz=206						
VBMS	**Vicksburg**	**17.25**	**23**	ePn	**Pn**	**05 39 18.3**	**-0.3**
	41nm,0.9s						
Z40A	**Long Farm, Mag**	**17.32**	**15**	P	**Pn**	**05 39 19.7**	**+0.2**
	baz=196,SNR=23						
245A	**Little AP, Sta**	**17.34**	**25**	P	**Pn**	**05 39 18.4**	**-1.3**
	baz=208						
143A	**Socs Landing,**	**17.38**	**20**	P	**Pn**	**05 39 20.2**	**+0.1**
	baz=203,SNR=7.9						
347A	**Saraland**	**17.40**	**30**	P	**Pn**	**05 39 19.7**	**-0.8**
	baz=213						
Z41A	**Richland Creek**	**17.47**	**16**	P	**P**	**05 39 22.5**	**-0.1**
	baz=198,SNR=13						
Z41A	**Richland Creek**	**17.47**	**16**	ePn	**P**	**05 39 22.2**	**-0.4**
	150nm,1.1s						
Z42A	**Norrel Spur, H**	**17.73**	**18**	P	**Pn**	**05 39 24.7**	**+0.1**
	baz=201						
319A	**Douglas**	**17.76**	**328**	ePn	**P**	**05 39 27.3**	**+1.3**
	33nm,1.1s						
MSTX	**Muleshoe**	**17.82**	**348**	P	**P**	**05 39 26.4**	**-0.1**
	baz=167,SNR=8.5						
MSTX	**Muleshoe**	**17.82**	**348**	ePn	**P**	**05 39 26.5**	**0.0**
	24nm,0.9s						
145A	**Houston Renfro**	**17.82**	**24**	P	**Pn**	**05 39 25.5**	**-0.3**
	baz=208						
247A	**Quitman**	**17.91**	**28**	P	**Pn**	**05 39 25.8**	**-1.1**
	baz=212						
349A	**Repton**	**18.03**	**33**	P	**Pn**	**05 39 26.5**	**-1.8**
	baz=217						
121A	**Cookes Peak, D**	**18.04**	**334**	P	**P**	**05 39 30.5**	**+1.4**
	baz=150,SNR=8.4						
Y40A	**Okolona**	**18.07**	**14**	P	**Pn**	**05 39 28.1**	**-0.6**
	baz=196						
Y41A	**Eaglette Beard**	**18.11**	**16**	P	**Pn**	**05 39 29.1**	**-0.1**
	baz=198,SNR=7.1						
WMOK	**Wichita Mounta**	**18.17**	**359**	P	**Pn**	**05 39 29.9**	**-0.1**
	baz=179						
WMOK	**Wichita Mounta**	**18.17**	**359**	ePn	**Pn**	**05 39 29.5**	**-0.5**
146A	**Union**	**18.21**	**26**	P	**Pn**	**05 39 28.9**	**-1.6**
	baz=210						
Y42A	**Garnett, Star**	**18.30**	**18**	P	**Pn**	**05 39 30.4**	**-1.2**
	baz=201						
248A	**Dixon Mills**	**18.36**	**30**	P	**Pn**	**05 39 31.2**	**-1.1**
	baz=214,SNR=10						
X39A	**Fountain Ranch**	**18.37**	**12**	P	**Pn**	**05 39 31.6**	**-0.9**
	baz=193						
MIAR	**Mount Ida**	**18.51**	**13**	P	**P**	**05 39 33.1**	**-1.0**
	baz=195,SNR=27						
MIAR	**Mount Ida**	**18.51**	**13**	eP	**P**	**05 39 33.3**	**-0.8**
	43nm,1.1s						
AMTX	**Amarillo**	**18.53**	**352**	P	**P**	**05 39 34.3**	**-0.1**
	baz=170						
AMTX	**Amarillo**	**18.53**	**352**	eP	**Pn**	**05 39 34.6**	**+0.1**
	19nm,0.8s						
350A	**Dozier**	**18.54**	**35**	P	**P**	**05 39 33.1**	**-1.4**
	baz=219						
249A	**Camden**	**18.56**	**32**	P	**P**	**05 39 33.7**	**-1.0**
	baz=216,SNR=6.9						
147A	**Livingston**	**18.59**	**28**	P	**P**	**05 39 33.7**	**-1.2**
	baz=212						
Z45A	**Winona**	**18.59**	**24**	P	**P**	**05 39 33.1**	**-1.9**
	baz=207						
X41A	**Kaden, Bauxite**	**18.72**	**16**	P	**P**	**05 39 35.4**	**-0.9**
	baz=198						
058A	**Arcadia**	**18.73**	**53**	P	**P**	**05 39 34.5**	**-2.0**
	baz=239						
Z46A	**Louisville**	**18.74**	**26**	P	**P**	**05 39 34.8**	**-1.8**
	baz=209						
553A	**Crawfordville**	**18.76**	**41**	P	**P**	**05 39 34.8**	**-2.1**
	baz=226						
351A	**Pinckard**	**18.84**	**36**	P	**P**	**05 39 36.1**	**-1.6**
	baz=221						
148A	**Greensboro**	**18.89**	**30**	P	**P**	**05 39 36.8**	**-1.4**
	baz=214,SNR=8.1						
Y44A	**Strider, Charl**	**18.93**	**22**	P	**P**	**05 39 37.8**	**-0.9**
	baz=205						
UALR	**University of**	**19.03**	**16**	eP	**P**	**05 39 40.1**	**+0.4**
	62nm,1.3s						
BNM	**Barren Site**	**19.03**	**339**	eP	**Pn**	**05 39 42.2**	**+1.5**
857A	**Zephyrhills**	**19.06**	**49**	P	**P**	**05 39 37.4**	**-2.8**
	baz=235						
Y22D	**IRIS PASSCAL I**	**19.06**	**338**	eP	**Pn**	**05 39 42.3**	**+1.3**
	48nm,1.3s						
Y45A	**Yeager Farm, C**	**19.09**	**23**	P	**P**	**05 39 40.2**	**-0.2**
	baz=207,SNR=11						
W39A	**Magazine**	**19.10**	**12**	P	**P**	**05 39 40.4**	**-0.1**
	baz=194,SNR=17						
W39A	**Magazine**	**19.10**	**12**	eP	**Pn**	**05 39 41.7**	**+0.4**
	30nm,1.0s						
Z47A	**Carrollton**	**19.12**	**28**	P	**P**	**05 39 39.8**	**-0.9**
	baz=212						
LPM	**Los Pinos Moun**	**19.18**	**339**	eP	**Pn**	**05 39 44.3**	**+1.9**
X43A	**Marvell**	**19.21**	**19**	P	**P**	**05 39 40.2**	**-1.5**
	baz=202,SNR=7.7						
X43A	**Marvell**	**19.21**	**19**	eP	**Pn**	**05 39 43.0**	**+0.3**
	224nm,1.5s						
149A	**Jones**	**19.23**	**31**	P	**P**	**05 39 40.2**	**-1.8**
	baz=216,SNR=14						
W40A	**Ferguson Farm,**	**19.25**	**14**	P	**P**	**05 39 41.7**	**-0.4**
	baz=196						
W40A	**Ferguson Farm,**	**19.25**	**14**	eP	**Pn**	**05 39 43.0**	**0.0**
	67nm,1.3s						
TUC	**Tucson**	**19.27**	**327**	P	**Pn**	**05 39 44.3**	**+0.8**
	baz=142						
TUC	**Tucson**	**19.27**	**327**	eP	**Pn**	**05 39 45.2**	**+1.7**
	22nm,1.3s						
453A	**Whigham**	**19.29**	**40**	P	**P**	**05 39 40.6**	**-2.1**
	baz=225						
Y46A	**Houston**	**19.37**	**25**	P	**P**	**05 39 42.3**	**-1.2**
	baz=209,SNR=26						
352A	**Blakely**	**19.38**	**37**	P	**P**	**05 39 42.4**	**-1.2**
	baz=222						
W41B	**Gary Mavity, V**	**19.43**	**16**	P	**P**	**05 39 43.7**	**-0.4**
	baz=198,SNR=6.9						
W41B	**Gary Mavity, V**	**19.43**	**16**	eP	**Pn**	**05 39 45.0**	**-0.3**
	76nm,1.8s						
LAZ	**Ladron**	**19.44**	**338**	eP	**Pn**	**05 39 45.8**	**+0.2**
LRAL	**Lakeview Retre**	**19.48**	**30**	P	**P**	**05 39 43.0**	**-1.7**
	baz=215,SNR=12						
LRAL	**Lakeview Retre**	**19.48**	**30**	eP	**P**	**05 39 45.1**	**+0.3**
	29nm,0.9s						
LRAL				eS	**Sn**	**05 43 22.1**	**-2.9**
TUL1	**Leonard**	**19.49**	**7**	P	**P**	**05 39 43.9**	**-0.9**
	baz=188,SNR=26						
TUL1	**Leonard**	**19.49**	**7**	eP	**P**	**05 39 44.5**	**-0.3**
	52nm,0.7s						
Z48A	**Northport**	**19.50**	**28**	P	**P**	**05 39 44.1**	**-0.8**
	baz=213,SNR=17						
DWPF	**Disney Wildern**	**19.56**	**51**	eP	**P**	**05 39 45.0**	**-0.6**
	62nm,1.4s						
757A	**Oxford**	**19.56**	**48**	P	**P**	**05 39 43.9**	**-1.8**
	baz=234						
251A	**Midway**	**19.56**	**35**	P	**P**	**05 39 44.0**	**-1.7**
	baz=220						
454A	**Quitman**	**19.63**	**41**	P	**P**	**05 39 44.2**	**-2.2**
	baz=227						
150A	**Eclectic**	**19.63**	**33**	P	**P**	**05 39 45.0**	**-1.4**
	baz=218,SNR=9.2						
ANMO	**Albuquerque**	**19.70**	**340**	P	**Pn**	**05 39 48.7**	**0.0**
	0.5nm,0.3s,baz=335,slow=11,SNR=32						
ANMO				LR	LR	05 48 00.1	
	comp=Z,395nm,19.9s,baz=338,slow=39						
ANMO	**Albuquerque**	**19.70**	**340**	P	**Pn**	**05 39 48.7**	**0.0**
	baz=157						
ANMO	**Albuquerque**	**19.70**	**340**	eP	**Pn**	**05 39 48.9**	**+0.1**
	24nm,1.1s						
353A	**Camilla**	**19.70**	**39**	P	**P**	**05 39 44.4**	**-2.8**
	baz=224						
OXF	**Oxford**	**19.71**	**23**	P	**P**	**05 39 45.3**	**-2.0**
	baz=206						
OXF	**Oxford**	**19.71**	**23**	eP	**P**	**05 39 47.5**	**+0.2**
	58nm,1.0s						
V39A	**Pettigrew**	**19.75**	**12**	P	**P**	**05 39 47.4**	**-0.3**
	baz=194,SNR=40						
Y47A	**UCPARC, Winfie**	**19.82**	**27**	P	**P**	**05 39 47.6**	**-0.8**

baz=211,SNR=14
Z49A Columbiana 19.84 31 P P 05 39 48.0 -0.6
baz=216,SNR=21
V40A Witts Springs 19.89 14 P P 05 39 48.6 -0.6
baz=196,SNR=22
V40A Witts Springs 19.89 14 eP P 05 39 49.1 -0.1
58nm,1.0s
151A Opelika 19.94 34 P P 05 39 48.8 -0.9
baz=220,SNR=15
556A Lake Butler 19.96 45 P P 05 39 48.3 -1.8
baz=231
V41A Mountainview 20.03 15 P P 05 39 50.1 -0.7
baz=198,SNR=21
455A Stateville 20.03 42 P P 05 39 49.1 -1.7
baz=228
X46A Booneville 20.07 25 P P 05 39 50.5 -0.7
baz=208,SNR=9.8
657A Interlachen 20.08 47 P P 05 39 48.0 -3.3
baz=233
Y48A Jasper 20.13 28 P P 05 39 49.4 -2.4
baz=213,SNR=11
214A Organ Pipe Nat 20.13 322 P Pn 05 39 55.6 +1.9
baz=137,SNR=9.8
TIGA Tifton 20.15 40 eP P 05 39 50.9 -1.2
26nm,0.6s
Z50A Ashland 20.19 32 P P 05 39 50.7 -1.8
baz=217,SNR=22
V42A Cord 20.25 17 P P 05 39 52.2 -1.0
baz=200,SNR=8.5
U39A Green Forest 20.31 12 P P 05 39 52.7 -1.1
baz=194,SNR=21
X47A Russelville 20.34 26 P P 05 39 52.8 -1.3
baz=210,SNR=10
U40A Yellville 20.41 13 P P 05 39 54.2 -0.7
baz=196,SNR=30
Y49A Blount Mountai 20.44 30 P P 05 39 54.1 -1.1
baz=215,SNR=8.9
U41A Viola 20.62 15 P P 05 39 56.3 -0.8
baz=198,SNR=17
X48A Hartselle 20.63 28 P P 05 39 56.2 -1.1
baz=212,SNR=9.3
PLAL Pickwick Lake 20.65 25 eP P 05 39 56.6 -0.8
163nm,1.6s
456A Hilliard 20.68 44 P P 05 39 54.9 -2.9
baz=230
X18A Snowflake 20.68 332 eP Pn 05 40 01.1 +0.8
47nm,1.2s
254A Abbeville 20.68 39 P P 05 39 56.0 -1.9
baz=225
Y50A Piedmont 20.79 31 P P 05 39 57.8 -1.3
baz=216
T38A Diamond 20.80 10 P P 05 39 58.3 -0.8
baz=191,SNR=12
U42A Revenden 20.81 17 P P 05 39 57.9 -1.3
baz=200,SNR=39
T39A Clever 20.95 12 P P 05 39 59.5 -1.2
baz=194,SNR=16
X49A Woodville 21.01 29 P P 05 40 00.0 -1.4
baz=214,SNR=9.7
W47A Westpoint 21.08 26 P P 05 40 00.6 -1.5
baz=210,SNR=12
W18A Petrified Fore 21.08 334 P P 05 40 03.2 +0.8
baz=149
W18A Petrified Fore 21.08 334 eP P 05 40 05.0 +2.6
32nm,1.2s
T25A Trinidad 21.21 347 P P 05 40 05.4 +1.6
baz=164,SNR=29
T25A Trinidad 21.21 347 eP P 05 40 06.2 +2.4
70nm,1.2s
T40A Mansfield 21.25 13 P P 05 40 02.7 -1.3
baz=196,SNR=34
W48A Pulaski 21.26 27 P P 05 40 02.6 -1.5
baz=212,SNR=14
MHTCO State Highway 21.26 346 eP P 05 40 05.4 +1.1
31nm,1.1s
154A Montrose 21.27 38 P P 05 40 02.6 -1.6
baz=224
113A Mohawk Valley, 21.28 322 eP P 05 40 07.0 +2.7
18nm,1.0s
X16A Lo Mia Camp, P 21.28 329 eP P 05 40 07.1 +2.5
35nm,1.0s
X50A Fort Payne 21.29 30 P P 05 40 03.0 -1.5
baz=216,SNR=11
T41A Mountain View 21.32 15 P P 05 40 03.7 -1.1
baz=198,SNR=27
V46A Holladay 21.34 24 P P 05 40 03.2 -1.7
baz=208,SNR=27
PBMO Poplar Bluff 21.44 18 eP P 05 40 05.5 -0.4
28nm,0.7s
S38A Stockton 21.44 10 P P 05 40 04.9 -1.1
baz=192
T42A Van Buren 21.48 16 P P 05 40 05.4 -1.1
baz=200,SNR=26
UTMT University of 21.55 22 eP P 05 40 07.0 -0.1
340nm,1.1s
U45A Rockin P Farm, 21.59 22 P P 05 40 06.1 -1.5
baz=206,SNR=10
S39A Bolivar 21.61 11 P P 05 40 06.5 -1.3
baz=194,SNR=23
V47A Nunnelly 21.61 25 P P 05 40 05.9 -1.9
baz=210,SNR=18
GOGA Godfrey 21.63 36 P P 05 40 06.7 -1.4
baz=222,SNR=14
GOGA Godfrey 21.63 36 eP P 05 40 07.2 -0.8
43nm,1.0s
155A Kite 21.66 39 P P 05 40 05.8 -2.5
baz=226
S40A Lebanon 21.68 13 P P 05 40 07.4 -1.2
baz=196,SNR=21
Y14A Wickenburg 21.71 326 eP P 05 40 11.1 +2.1
23nm,1.0s
WVT Waverly 21.75 24 P P 05 40 07.3 -2.0
baz=208
WVT Waverly 21.75 24 eP P 05 40 08.9 -0.4
68nm,1.1s
T43A Greenville 21.76 18 P P 05 40 07.7 -1.7
baz=202,SNR=24
U46A Springville 21.81 23 P P 05 40 08.3 -1.7
baz=207,SNR=8.7
V48A Smith Brothers 21.82 26 P P 05 40 08.0 -2.1
baz=211,SNR=13
S41A Jillco Farms, 21.84 15 P P 05 40 09.3 -1.0
baz=198,SNR=34
T44A Benton 21.98 19 P P 05 40 10.6 -1.2
baz=203
R38A Fenwick Farm, 21.99 10 P P 05 40 10.9 -0.9
baz=192,SNR=12
SDCO Great Sand Dun 22.04 345 eP P 05 40 13.7 +0.9
18nm,1.3s
GLA Glamis 22.11 321 P P 05 40 15.3 +2.0
baz=135,SNR=9.0
GLA Glamis 22.11 321 eP P 05 40 13.9 +0.7
44nm,1.3s
WUAZ Wupatki 22.14 331 P P 05 40 16.0 +2.3
baz=146,SNR=26
WUAZ Wupatki 22.14 331 eP P 05 40 16.3 +2.5
58nm,1.1s
U47A Clarksville 22.23 25 P P 05 40 12.8 -1.6
baz=209,SNR=20
CBKS Cedar Bluff 22.26 357 eP P 05 40 15.5 +0.6
67nm,0.4s
S42A Caledonia 22.26 16 P P 05 40 13.7 -1.1
baz=200,SNR=34
R39A Chumby, Stover 22.26 11 P P 05 40 13.2 -1.6
baz=194,SNR=26
S43A Fulton Ridge, 22.28 18 P P 05 40 13.7 -1.3
baz=202
R40A Maddies Statio 22.40 13 P P 05 40 15.1 -1.1
baz=196,SNR=22
S22A 4UR Ranch, Cre 22.40 343 P P 05 40 17.4 +0.7
baz=159,SNR=15
S22A 4UR Ranch, Cre 22.40 343 eP P 05 40 18.2 +1.5
11nm,0.9s
CCM Cathedral Cave 22.41 15 P P 05 40 14.8 -1.6
baz=198
CCM Cathedral Cave 22.41 15 eP P 05 40 15.0 -1.4
32nm,0.8s
Y12C Blythe 22.42 323 P P 05 40 18.0 +1.4
baz=136
Y12C Blythe 22.42 323 eP P 05 40 18.5 +1.9
14nm,1.1s
MVCO Mesa Verde 22.44 339 P P 05 40 17.8 +0.8
baz=154,SNR=31
MVCO Mesa Verde 22.44 339 eP P 05 40 18.4 +1.4
66nm,1.1s
T46A Princeton 22.52 23 P P 05 40 16.7 -0.9
baz=207,SNR=14
FVM French Village 22.56 17 eP P 05 40 16.6 -1.4
24nm,0.9s
Q37A Longview Farm, 22.58 8 P P 05 40 17.5 -0.7
baz=190
KSU1 Kansas State U 22.58 4 P P 05 40 17.6 -0.6
baz=185
KSU1 Kansas State U 22.58 4 eP P 05 40 18.0 -0.2
18nm,0.8s
U48A Cassie Pea, Po 22.59 26 P P 05 40 17.9 -0.5
baz=211,SNR=11
PDMCI Parker Dam,Lak 22.61 325 P P 05 40 20.1 +1.6
baz=138
R41A Rosebud 22.61 15 P P 05 40 17.6 -0.9
baz=198,SNR=12
IKP In-Ko-Pah, Jac 22.63 319 P P 05 40 20.4 +1.6
baz=132
SWSC Sam W. Stewart 22.63 320 P P 05 40 20.4 +1.6
baz=133
S44A Carbondale 22.64 19 P P 05 40 17.5 -1.4
baz=203,SNR=10
SIUC Southern Illin 22.67 19 eP P 05 40 19.3 +0.1
30nm,0.8s
KSCO Kaye Shedlock' 22.72 352 P P 05 40 20.1 +0.2
baz=170
KSCO Kaye Shedlock' 22.72 352 eP P 05 40 20.6 +0.8
53nm,1.1s
R42A Luebbering 22.74 16 P P 05 40 18.8 -1.1
baz=199
T47A Sharon Grove 22.78 24 P P 05 40 19.4 -0.9
baz=209,SNR=25
Q38A Cooks Store, C 22.79 10 P P 05 40 19.6 -0.8
baz=192
S45A Carrier Mills 22.85 21 P P 05 40 20.7 -0.4
baz=205
BC3 Big Chuckawall 22.90 321 P P 05 40 22.9 +1.1
baz=134
R43A Red Bud 22.97 18 P P 05 40 20.6 -1.7
baz=201,SNR=8.5
Q39A Willow Grove F 22.98 11 P P 05 40 20.9 -1.6
baz=194
W13A Hualapai Mount 23.06 326 eP P 05 40 25.9 +2.3
42nm,1.8s
IRM Iron Mountain 23.07 323 P P 05 40 24.6 +1.1
baz=136,SNR=10
Q40A Laux Farm, Aux 23.11 13 P P 05 40 22.3 -1.5
baz=196,SNR=10
S46A Don Dixon Farm 23.16 22 P P 05 40 22.6 -1.7
baz=207
T48A Bowling Green 23.17 25 P P 05 40 22.3 -2.0
baz=210,SNR=17
TKL Tuckaleechee C 23.18 32 P P 05 40 22.3 -2.2
32nm,1.0s,baz=204,slow=9.9,SNR=17
TKL LR LR 05 52 23.0
comp=Z,46nm,18.1s,baz=338,slow=44
TKL Tuckaleechee C 23.18 32 eP P 05 40 23.0 -1.5
19nm,1.7s
R44A Waltonville 23.20 19 P P 05 40 23.3 -1.4
baz=203
SLM Saint Louis 23.22 17 eP P 05 40 24.0 -0.9
68nm,1.4s
BORC Borrego Spring 23.23 319 eP P 05 40 28.7 +3.6
BORC eSn Sn 05 45 04.3 +9.3
Q41A Truxton 23.27 15 P P 05 40 23.6 -1.8
baz=198,SNR=8.4
P37A Lathrop 23.29 8 P P 05 40 24.2 -1.5
baz=190,SNR=8.2
PV01 Paradox Valley 23.30 340 eP P 05 40 27.6 +1.6
U15A North Rim 23.32 331 eP P 05 40 28.2 +2.0
87nm,1.8s
Q42A Golden Eagle 23.40 16 P P 05 40 25.3 -1.4
baz=199
NHSC New Hope 23.41 42 P P 05 40 24.5 -2.3
baz=229
NHSC New Hope 23.41 42 eP P 05 40 27.4 +0.6
219nm,1.1s
USIN University of 23.43 22 eP P 05 40 27.6 +0.6
184nm,1.3s
PV05 Paradox Valley 23.43 339 eP P 05 40 28.6 +1.4
P38A Dawn 23.45 10 P P 05 40 26.3 -0.9
baz=192,SNR=5.9
P39B Salisbury 23.45 11 P P 05 40 25.7 -1.5
baz=194,SNR=9.9
BELC Belle Mtn. Jos 23.47 321 P P 05 40 28.2 +0.6
baz=134
PFO Pinyon Flats O 23.48 320 P P 05 40 29.5 +1.7
baz=132
PFO Pinyon Flats O 23.48 320 ePcP PcP 05 44 14.8 +0.9
R45A Skylar, Fairfi 23.50 21 P P 05 40 26.1 -1.6
baz=205
O33A Hebron 23.51 2 P P 05 40 27.3 -0.5
baz=182
SNDA J Saunders Pla 23.54 320 eSn Sn 05 45 11.8 +9.1
P40A Paris 23.63 13 P P 05 40 28.4 -0.6
baz=196,SNR=23
O34A Beatrice 23.66 3 P P 05 40 28.4 -0.9
baz=184,SNR=12
Q43A New Douglas 23.66 17 P P 05 40 28.2 -1.1
baz=201
PV10 Paradox Valley 23.68 339 eP P 05 40 30.6 +0.8
R46A Gibon Southern 23.70 22 P P 05 40 29.0 -0.7
baz=207
LDFC Landfair 23.72 324 eP P 05 40 33.2 +3.1
22nm,1.1s
S48A Wiedeman Farm, 23.77 25 P P 05 40 28.9 -1.5
baz=211,SNR=10
SMCO Snowmass 23.77 344 eP P 05 40 32.8 +1.9
37nm,1.2s
O35A Humboldt 23.79 5 P P 05 40 29.7 -0.9
baz=186
GMRC Granite Mounta 23.82 323 P P 05 40 32.7 +1.6
baz=136,SNR=6.4
PV09 Paradox Valley 23.82 339 eP P 05 40 32.7 +1.5
Q44A Meyer Farm, Va 23.82 19 P P 05 40 30.3 -0.6
baz=203
O37A Wren Farm, M 23.89 8 P P 05 40 30.3 -1.2
baz=190
MURC Murrieta 23.94 319 P P 05 40 33.4 +1.3
baz=131
O38A Galt 23.95 10 P P 05 40 31.2 -0.8
baz=192,SNR=8.0
OLIL Olney 23.96 20 eP P 05 40 32.2 -0.1
30nm,1.0s
TZTN Tazewell 23.98 31 P P 05 40 31.5 -1.0
baz=217,SNR=10
TZTN Tazewell 23.98 31 eP P 05 40 32.7 +0.2
87nm,1.3s
P41A Barry, Barry 23.99 14 P P 05 40 31.1 -1.4
baz=198
ISCO Idaho Springs 24.03 346 P P 05 40 33.9 +0.7
baz=163,SNR=32
ISCO Idaho Springs 24.03 346 eP P 05 40 34.7 +1.5
66nm,1.5s
KNB Kanab 24.04 331 eP P 05 40 35.6 +2.4
30nm,1.1s
P42A Winchester 24.09 16 P P 05 40 32.0 -1.4
baz=199,SNR=6.3
Q45A Warren Harvey, 24.09 20 P P 05 40 32.7 -0.7
baz=205,SNR=8.4
KMSC Kings Mountain 24.10 36 P P 05 40 32.4 -1.2
baz=224,SNR=8.4
KMSC Kings Mountain 24.10 36 eP P 05 40 32.8 -0.7
28nm,0.9s
R47A Wooly Knot Far 24.14 24 P P 05 40 33.4 -0.5
baz=209,SNR=34
WCI Wyandotte Cave 24.17 24 P P 05 40 33.6 -0.6
baz=210
WCI Wyandotte Cave 24.17 24 eP P 05 40 33.8 -0.4
93nm,1.2s
N33A J Bar K, Exete 24.17 2 P P 05 40 33.8 -0.4
baz=182
LCMT Little Creek M 24.24 330 eP P 05 40 36.7 +1.7
4.1nm,1.0s
O39A Kirksville 24.24 11 P P 05 40 33.9 -0.8
baz=194,SNR=7.4
O40A La Belle 24.24 12 P P 05 40 33.8 -1.0
baz=196,SNR=26
HEC Hector,Ludlow 24.24 322 P P 05 40 36.9 +1.9
baz=135,SNR=5.8
N34A Lincoln 24.32 4 P P 05 40 35.1 -0.4
baz=185
DSCC Desert Studies 24.33 323 eP P 05 40 36.0 +0.3
P43A Skaggs, Pawnee 24.36 17 P P 05 40 35.1 -0.8
baz=201
N35A Tabor 24.41 5 P P 05 40 35.7 -0.7
baz=187
N36A Muff Farm, Cla 24.43 7 P P 05 40 35.8 -0.7
baz=188
TUQ Turquoise Moun 24.43 324 P P 05 40 37.8 +1.0
baz=136,SNR=5.2
O41A Passleys Farm, 24.45 14 P P 05 40 36.2 -0.5
baz=198,SNR=20
N37A Lee Faris, Mou 24.46 8 P P 05 40 36.3 -0.5
baz=190
P44A Sand Creek, Wi 24.46 19 P P 05 40 35.9 -0.9
baz=203
R48A Northridge Ran 24.49 25 P P 05 40 36.4 -0.7
baz=210,SNR=10
OGNE Ogallala 24.55 354 P P 05 40 38.3 +0.5
baz=172,SNR=8.9
OGNE Ogallala 24.55 354 eP P 05 40 39.0 +1.2
95nm,1.1s
MTPU Mount Pierson 24.60 333 eP P 05 40 40.9 +2.3
37nm,0.9s
SZCU Shurtz Canyon 24.64 331 eP P 05 40 40.8 +2.1
26nm,1.5s
N38A Joes South For 24.64 10 P P 05 40 37.7 -0.7
baz=192,SNR=14
BFSC Mount Baldy Ra 24.64 319 P P 05 40 39.2 +0.5
baz=131
CCUT Cedar City 24.73 331 eP P 05 40 42.0 +2.5
9.4nm,1.3s
O42A Bath 24.73 16 P P 05 40 37.7 -1.5
baz=200
Q47A Bedord North L 24.74 23 P P 05 40 38.2 -1.1
baz=208,SNR=5.7
P45A Graceland, Par 24.80 20 P P 05 40 38.0 -1.8
baz=205
SHPR Sheep Range 24.80 327 eP P 05 40 42.0 +1.8
13nm,1.2s
GSC Goldstone, Bar 24.85 322 P P 05 40 41.7 +1.2
baz=135
GSC Goldstone, Bar 24.85 322 eP P 05 40 42.8 +2.3
28nm,1.4s
N39A Derby Farms, D 24.85 11 P P 05 40 39.4 -0.9
baz=194,SNR=27
SRU San Rafael Swe 24.86 337 eP P 05 40 42.5 +1.8
40nm,1.2s
BLO Bloomington 24.91 23 eP P 05 40 40.8 -0.1
60nm,1.4s
PASC Pasadena Art C 24.93 319 eP P 05 40 43.1 +1.9
49nm,1.6s
Q16A Castle Valley 24.93 336 eP P 05 40 43.4 +2.0
26nm,0.9s
M34A Aspy Farms, Fr 24.98 3 P P 05 40 41.5 0.0
baz=184
MSU Marysvale 24.99 334 eP P 05 40 44.1 +2.2
M35A Neola 25.00 5 P P 05 40 41.6 -0.1
baz=186
M33A Taylor Creek F 25.02 2 P P 05 40 41.8 -0.1
baz=183
N41A Harden Midland 25.02 14 P P 05 40 41.5 -0.4
baz=197
O20A White River Ci 25.02 342 P P 05 40 42.5 +0.3
baz=158,SNR=11
O20A White River Ci 25.02 342 eP P 05 40 44.0 +1.9
23nm,1.2s
N40A Mertquake, Sal 25.03 12 P P 05 40 41.3 -0.6
baz=196
P46A Rosedale 25.06 21 P P 05 40 41.4 -0.8
baz=206
M37A Trindle Farm, 25.12 8 P P 05 40 42.2 -0.5
baz=190,SNR=18
O44A Mansfield 25.14 18 P P 05 40 42.1 -0.9
baz=203
N23A Red Feather La 25.15 347 P P 05 40 44.0 +0.6
baz=163,SNR=9.3
N23A Red Feather La 25.15 347 eP P 05 40 44.6 +1.3
23nm,1.2s
TCRU Three Creeks R 25.19 334 eP P 05 40 45.0 +1.3
12nm,0.5s
P18A Preston Nutter 25.21 338 eP P 05 40 45.9 +1.9
41nm,1.0s
SNCC San Nicolas Is 25.24 315 P P 05 40 45.6 +1.6
baz=127
P17A Butcher Ranch, 25.25 337 eP P 05 40 46.4 +2.2
17nm,1.0s
M38A Pleasantville 25.26 9 P P 05 40 43.3 -0.7
baz=192,SNR=20
HDIL Hopedale 25.27 17 P P 05 40 43.6 -0.5
baz=201,SNR=7.5
HDIL Hopedale 25.27 17 eP P 05 40 44.5 +0.4
65nm,1.1s
EDW2 Edwards Air Fo 25.27 320 P P 05 40 45.6 +1.3
baz=132
TMUT Trail Mountain 25.28 336 eP P 05 40 46.1 +1.6
22nm,1.0s
P47A Martinsville 25.28 23 P P 05 40 43.5 -0.8
baz=208
N42A Yates City 25.34 15 P P 05 40 43.8 -0.9
baz=199,SNR=5.9
PHWY Pilot Hill 25.43 348 eP P 05 40 41.2 -4.8
17nm,1.0s
L34A Svendsen Farm, 25.45 4 P P 05 40 45.5 -0.3
baz=185
O45A Potomac 25.46 19 P P 05 40 45.2 -0.7
baz=204,SNR=7.3
LRMC Laurel Mtn Rad 25.49 322 P P 05 40 48.0 +1.7
baz=133
M39A Webster 25.49 11 P P 05 40 45.1 -1.0
baz=194,SNR=12
M40A Post Highland 25.55 12 P P 05 40 45.4 -1.2
baz=196,SNR=8.4
N43A Stutzman Famil 25.66 17 P P 05 40 47.0 -0.7
baz=201,SNR=9.3
FURC Furnace Creek, 25.70 324 P P 05 40 49.3 +1.3
baz=136
TPNV Topopah Spring 25.72 326 P P 05 40 49.5 +1.0
baz=138,SNR=11
TPNV Topopah Spring 25.72 326 eP P 05 40 51.0 +2.6
22nm,1.2s
M41A Milan 25.73 14 P P 05 40 47.3 -1.0
baz=198,SNR=6.3
SCIA State Center 25.73 9 P P 05 40 48.0 -0.3
baz=192
SCIA State Center 25.73 9 eP P 05 40 48.3 0.0
45nm,0.8s
MPMC Manual Prospec 25.77 323 P P 05 40 50.3 +1.3
baz=134
SFIN Lafayette 25.78 20 P P 05 40 48.0 -0.7
baz=206
SFIN Lafayette 25.78 20 eP P 05 40 48.3 -0.5
40nm,1.1s
N44A Piper City 25.83 18 P P 05 40 48.6 -0.6
baz=203
L37A Phoenix Point, 25.87 8 P P 05 40 48.5 -1.0
baz=190,SNR=7.0
O47A Sheridan 25.97 22 P P 05 40 48.9 -1.6
baz=208,SNR=7.5
DAC Darwin (Calif) 25.98 323 eP P 05 40 52.9 +2.0
27nm,1.8s
M42A Sheffield 25.99 15 P P 05 40 49.7 -1.0
baz=199
L38A Oak Wood Farm, 26.00 9 P P 05 40 50.5 -0.3
baz=192,SNR=11
SDDR Presa de Saban 26.05 80 eP P 05 40 52.8 +1.3
27nm,1.1s
MPU Maple Canyon 26.06 337 eP P 05 40 52.7 +1.1
15nm,1.1s
ISA Isabella, Lake 26.09 321 eP P 05 40 54.7 +2.9
20nm,1.5s
BLA Blacksburg 26.11 34 P P 05 40 50.4 -1.4
baz=222
BLA Blacksburg 26.11 34 eP P 05 40 51.4 -0.5
50nm,1.5s
L39A Vinton 26.15 11 P P 05 40 51.6 -0.5
baz=194,SNR=14
NLU North Lily Min 26.18 336 eP P 05 40 54.7 +2.0
30nm,1.4s
M43A Waltham Townsh 26.19 16 P P 05 40 51.5 -0.9
baz=201
RWWY Rawlins 26.20 345 eP P 05 40 54.5 +1.7
53nm,1.4s
CNNC Cliffs of the 26.23 41 eP P 05 40 53.0 +0.1
70nm,1.1s
L40A Anamosa 26.24 12 P P 05 40 52.0 -0.9
baz=196,SNR=11
N46A Monticello 26.36 20 P P 05 40 52.9 -1.1
baz=206
M44A Midewin, Midew 26.40 18 P P 05 40 53.2 -1.2
baz=203
L41A Preston 26.41 14 P P 05 40 53.2 -1.3
baz=197,SNR=12
R11A Troy Canyon, C 26.43 329 P P 05 40 55.7 +0.8
baz=141
R11A Troy Canyon, C 26.43 329 eP P 05 40 57.0 +2.1
20nm,1.5s
K37A Belmond 26.51 8 P P 05 40 54.1 -1.3
baz=190,SNR=8.3

K38A	Parkersburg baz=192	26.52	10	P	P	05 40 54.2	-1.3
L42A	Oliver, Polo baz=199,SNR=14	26.54	15	P	P	05 40 54.4	-1.2
VES	Vestal, Richgr baz=131	26.58	320	P	P	05 40 57.6	+1.6
DUG	Dugway, Tooele baz=148,SNR=10	26.68	335	P	P	05 40 58.6	+1.5
DUG	Dugway, Tooele 22nm,1.3s	26.68	335	*e*P	P	05 40 58.9	+1.8
CTU	Camp Tracy 6.6nm,0.9s	26.70	337	*e*P	P	05 40 58.8	+1.5
K39A	Oelwein baz=194,SNR=9.9	26.73	11	P	P	05 40 55.8	-1.6
K40A	Colesburg baz=196,SNR=12	26.87	12	P	P	05 40 56.7	-1.9
L43A	Garden Prairie baz=201,SNR=5.2	26.94	16	P	P	05 40 57.6	-1.6
TCUT	Toone Canyon 25nm,1.0s	26.94	338	*e*P	P	05 41 01.5	+1.9
K22A	Casper baz=163,SNR=11	26.95	347	P	P	05 40 59.0	-0.5
K22A	Casper 24nm,1.0s	26.95	347	*e*P	P	05 41 00.9	+1.4
K41A	Shullsburg baz=197	26.96	13	P	P	05 40 57.2	-2.1
J36A	Seneca 1, Swea baz=189,SNR=6.6	26.98	7	P	P	05 40 58.2	-1.4
RUSC	La Rusia 4.4nm,1.1s	27.05	110	*e*P	P	05 41 02.6	+1.6
J37A	Redenius Farm, baz=190	27.06	8	P	P	05 40 58.5	-1.8
L44A	Lake County Fo baz=203	27.17	17	P	P	05 40 59.5	-1.8
ECSD	EROS Data Cent baz=184	27.20	3	P	P	05 40 59.6	-2.0
ECSD	EROS Data Cent 19nm,1.2s	27.20	3	*e*P	P	05 41 02.1	+0.6
J38A	Wedel Dairy, R baz=193	27.23	10	P	P	05 40 59.7	-2.1
ACSO	Alum Creek Sta baz=214,SNR=5.8	27.23	27	P	P	05 41 00.2	-1.7
ACSO	Alum Creek Sta	27.23	27	*e*P	P	05 41 01.5	-0.4
JFWS	Jewell Farm baz=197	27.26	13	P	P	05 40 59.9	-2.2
JFWS	Jewell Farm 18nm,0.9s	27.26	13	*e*P	P	05 41 02.2	0.0
K42A	Prairie Point, baz=199	27.34	15	P	P	05 41 00.8	-2.0
J39A	Decorah baz=194,SNR=8.7	27.37	11	P	P	05 41 01.7	-1.4
BGU	Big Grassy Mou 38nm,1.5s	27.39	336	*e*P	P	05 41 05.3	+1.8
HWUT	Hardware Ranch	27.43	338	*e*P	P	05 41 05.1	+1.2
J40A	Soldiers Grove baz=196	27.62	12	P	P	05 41 03.9	-1.4
I36A	Fitzsimmons Fa baz=189	27.70	7	P	P	05 41 04.8	-1.2
J41A	Loganville baz=198,SNR=9.1	27.74	13	P	P	05 41 05.3	-1.1
I37A	Lemond, Waseca baz=190	27.77	8	P	P	05 41 04.5	-2.2
MDPB	Devils Postpil 6.3nm,1.1s	27.78	323	*e*P	P	05 41 08.9	+1.7
NV11	Mina Array Sit 2.6nm,1.8s	27.83	326	*e*P	P	05 41 10.2	+2.7
BW06	Boulder Array baz=157,SNR=22	27.83	342	P	P	05 41 08.1	+0.6
BW06	Boulder Array 30nm,1.3s	27.83	342	*e*P	P	05 41 08.8	+1.3
PD31	Pinedale Array	27.83	342	*e*P	P	05 41 08.8	+1.3
PDAR	Pinedale Array 14nm,1.1s,baz=132,slow=8.2,SNR=33	27.83	342	P	P	05 41 08.8	+1.3
PDAR				LR	LR	05 53 09.7	
	comp=Z,208nm,20.3s,baz=170,slow=38						
PDAR	Pinedale Array	27.83	342	*e*P	P	05 41 08.1	+0.6
J42A	Columbus baz=199,SNR=11	27.91	15	P	P	05 41 06.2	-1.7
NV01	Mina Array Sit	27.91	325	*e*P	P	05 41 10.5	+2.2
NVAR	Mina Array Bea 4.1nm,0.9s,baz=151,slow=10,SNR=26	27.91	325	P	P	05 41 10.7	+2.5
I39A	Houston baz=194,SNR=8.1	27.91	11	P	P	05 41 06.5	-1.4
RSSD	Black Hills baz=169	27.93	352	P	P	05 41 07.5	-0.9
RSSD	Black Hills 31nm,1.6s	27.93	352	*e*P	P	05 41 09.7	+1.3
H32A	Carlson Farm, baz=182	27.93	2	P	P	05 41 07.1	-1.1
I38A	Scanlan Farm, baz=193,SNR=13	27.95	10	P	P	05 41 06.7	-1.7
URVA	University of	27.99	37	*e*P	P	05 41 08.0	-0.6
HVU	Hansel Valley 14nm,1.1s	28.02	337	*e*P	P	05 41 10.9	+1.7
I40A	Norwalk baz=196	28.12	12	P	P	05 41 08.1	-1.7
J43A	Natural Harves baz=201	28.14	16	P	P	05 41 08.5	-1.5
RYN	Ryan 13nm,1.4s	28.17	325	*e*P	P	05 41 12.4	+1.8
SDV	Santo Domingo 6.9nm,0.8s,baz=298,slow=4.7,SNR=13	28.21	102	P	P	05 41 12.0	+0.8
SDV	Santo Domingo 7.6nm,0.8s	28.21	102	*e*P	P	05 41 12.5	+1.3
MCWV	Mont Chateau baz=220	28.24	31	P	P	05 41 08.7	-2.2
KVN	Kaiserville 4.3nm,1.0s	28.25	327	*e*P	P	05 41 13.3	+2.0
H36A	Jessenland, He baz=189,SNR=7.1	28.26	7	P	P	05 41 10.2	-0.8
AHID	Auburn Hatcher 31nm,1.7s	28.30	340	*e*P	P	05 41 12.3	+0.6
H37A	Dierke Farm, C baz=191	28.39	8	P	P	05 41 10.4	-1.8
I41A	Arkdale baz=198	28.44	13	P	P	05 41 11.4	-1.2
I42A	Draeger Farm, baz=199	28.50	15	P	P	05 41 12.1	-1.0
I42A	Draeger Farm, 58nm,1.4s	28.50	15	*e*P	P	05 41 12.9	-0.3
H38A	Maiden Rock baz=192	28.58	9	P	P	05 41 13.2	-0.7
I43A	Langenfeld Bro baz=201	28.68	16	P	P	05 41 13.9	-0.9
AAM	Ann Arbor 24nm,0.9s	28.70	23	*e*P	P	05 41 14.8	-0.2
H39A	Augusta baz=194	28.75	11	P	P	05 41 14.4	-1.1
REDW	Red Top Meadow 25nm,1.3s	28.76	341	*e*P	P	05 41 17.5	+1.7
YERR	Yerington 11nm,1.5s	28.82	325	*e*P	P	05 41 18.2	+1.9
SNOW	Snow King Moun 25nm,1.1s	28.82	341	*e*P	P	05 41 18.0	+1.6
H40A	Chili baz=196,SNR=7.6	28.86	12	P	P	05 41 15.4	-1.1
TPAW	Teton Pass 41nm,1.5s	28.91	341	*e*P	P	05 41 18.9	+1.8
LOHW	Long Hollow 18nm,1.1s	28.91	342	*e*P	P	05 41 18.5	+1.3
H41A	Junction City baz=198	29.01	13	P	P	05 41 16.5	-1.2
H41A	Junction City 39nm,1.1s	29.01	13	*e*P	P	05 41 17.5	-0.2
SPMN	Marine on St. baz=191	29.04	8	P	P	05 41 16.7	-1.3
SPMN	Marine on St. 30nm,1.3s	29.04	8	*e*P	P	05 41 17.5	-0.5
FXWY	Fox Creek 12nm,1.1s	29.07	341	*e*P	P	05 41 20.1	+1.6
MOOW	Moose Ponds 10nm,1.1s	29.08	342	*e*P	P	05 41 20.1	+1.5
G38A	Ridgeland baz=193	29.13	10	P	P	05 41 17.4	-1.4
H42A	Shiocton baz=200	29.17	15	P	P	05 41 17.5	-1.6
N54A	Moraine State baz=218	29.17	30	P	P	05 41 17.1	-2.1
WI02	Reinke Road, C 29nm,1.3s	29.20	14	*e*P	P	05 41 19.3	0.0
IMW	Indian Meadow 32nm,1.9s	29.27	341	*e*P	P	05 41 22.0	+1.6
G39A	Holcombe baz=194,SNR=9.4	29.36	11	P	P	05 41 19.7	-1.1
RUBR	Rubicon Trail 15nm,0.9s	29.37	324	*e*P	P	05 41 23.9	+2.6
G40A	Rib Lake baz=196,SNR=6.2	29.52	12	P	P	05 41 21.2	-1.1
F37A	Hinrichs Farm, baz=191	29.55	8	P	P	05 41 21.5	-1.0
F36A	Milaca baz=190	29.57	7	P	P	05 41 21.9	-0.8
H17A	Grant Village 15nm,1.4s	29.62	342	*e*P	P	05 41 25.7	+2.2
H17A				*e*S	S	05 46 21.1	+1.4
G41A	Antigo baz=198	29.68	13	P	P	05 41 23.1	-0.7
YFT	Old Faithful 16nm,1.4s	29.75	342	*e*P	P	05 41 26.2	+1.7
M54A	Oil Creek Stat baz=218	29.75	29	P	P	05 41 22.8	-1.6
M54A	Oil Creek Stat 17nm,1.0s	29.75	29	*e*P	P	05 41 23.5	-0.9
G42A	Mountain baz=200	29.89	14	P	P	05 41 24.6	-0.8
G42A	Mountain 37nm,1.4s	29.89	14	*e*P	P	05 41 25.6	+0.1
F38A	Pierce - Schro baz=193	29.89	9	P	P	05 41 24.3	-1.2
RLMT	Red Lodge baz=159,SNR=13	29.93	345	P	P	05 41 26.3	+0.1
RLMT	Red Lodge 33nm,1.4s	29.93	345	*e*P	P	05 41 27.7	+1.5
YMR	Madison River 18nm,1.2s	29.98	342	*e*P	P	05 41 26.4	-0.2
F39A	Loretta baz=195	30.01	11	P	P	05 41 25.0	-1.6
BEKR	Beckworth 10nm,1.1s	30.05	325	*e*P	P	05 41 26.8	-0.4
YHH	Holmes Hill 14nm,1.3s	30.06	342	*e*P	P	05 41 29.5	+2.2
ERPA	Erie baz=217	30.08	28	P	P	05 41 25.2	-2.0
G43A	Wallace baz=201	30.08	15	P	P	05 41 26.2	-1.0
G43A	Wallace 19nm,1.3s	30.08	15	*e*P	P	05 41 26.8	-0.5
F40A	Park Falls baz=196	30.16	12	P	P	05 41 26.8	-1.1
E35A	Pequot Lakes baz=188	30.17	6	P	P	05 41 27.4	-0.6
HLID	Hailey baz=149	30.17	337	P	P	05 41 28.7	+0.4
HLID	Hailey 5.5nm,1.0s	30.17	337	*e*P	P	05 41 30.1	+1.8
F41A	Three Lakes baz=198	30.20	13	P	P	05 41 26.9	-1.3
E36A	McGregor baz=190	30.25	7	P	P	05 41 28.0	-0.7
F42A	Maple Grove Fa baz=200	30.44	14	P	P	05 41 29.5	-0.9
ORV	Oroville 8.1nm,1.3s	30.48	323	*e*P	P	05 41 31.9	+1.1
E39A	Mellen baz=195	30.52	11	P	P	05 41 30.2	-0.9
COWI	Conover 23nm,1.3s	30.54	13	*e*P	P	05 41 30.9	-0.3
GLMI	Grayling baz=207	30.57	20	P	P	05 41 30.3	-1.3
GLMI	Grayling 31nm,0.8s	30.57	20	*e*P	P	05 41 31.1	-0.5
E38A	The Farm, Brul baz=193	30.58	9	P	P	05 41 30.7	-0.9
MFID	Camas Ranch 23nm,1.4s	30.61	335	*e*P	P	05 41 34.0	+1.9
E40A	Wakefield baz=196,SNR=7.5	30.71	12	P	P	05 41 32.3	-0.5
MCMT	McKenzie Canyo	30.71	340	*e*P	P	05 41 34.3	+1.2
D35A	Remer baz=188	30.72	6	P	P	05 41 31.8	-1.0
F43A	Flat Rock, Esc baz=202,SNR=5.2	30.75	16	P	P	05 41 31.6	-1.5
LAO	LASA Array baz=166	30.78	350	P	P	05 41 33.2	-0.3
LAO	LASA Array 30nm,1.4s	30.78	350	*e*P	P	05 41 34.4	+1.0
D36A	Goodland baz=190	30.91	7	P	P	05 41 33.6	-0.9
E41A	Kenton baz=198	30.92	13	P	P	05 41 33.6	-1.1
SJG	San Juan 5.1nm,0.6s,baz=54,slow=0.3,SNR=4.2	30.93	82	P	P	05 41 34.1	-0.9
SJG	San Juan	30.93	82	*e*P	P	05 41 34.1	-0.9
SJG				*e*P	P	05 41 34.3	-0.7
D37A	Cotton baz=191	30.99	8	P	P	05 41 34.4	-0.8
BOZ	Bozeman (W) baz=155,SNR=9.8	31.02	342	P	P	05 41 36.6	+0.9
BOZ	Bozeman (W) 17nm,1.4s	31.02	342	*e*P	P	05 41 37.1	+1.4
WVOR	Wild Horse Val 31nm,1.5s	31.06	330	*e*P	P	05 41 38.0	+1.9
F44A	Big Bay de Noc baz=203	31.08	16	P	P	05 41 35.4	-0.6
DLMT	Dillon 32nm,1.3s	31.11	341	*e*P	P	05 41 38.5	+2.0
E42A	Champion baz=200	31.13	14	P	P	05 41 35.5	-1.0
CBYP	Canovanas	31.20	82	*e*P	P	05 41 35.5	-2.0
C31A	Landman Farms, baz=181	31.21	1	P	P	05 41 36.4	-0.8
MDND	Maddock baz=178	31.28	359	P	P	05 41 37.0	-0.7
MDND	Maddock 90nm,1.4s	31.28	359	*e*P	P	05 41 38.3	+0.6
E43A	Lone Tree Farm baz=202	31.30	15	P	P	05 41 36.8	-1.2
C35A	Jirik Farms, M baz=188	31.34	6	P	P	05 41 37.1	-1.2
F46A	Macaw City C baz=206	31.38	19	P	P	05 41 36.7	-2.0
LRM	Limekiln Ridge	31.47	341	*e*P	P	05 41 42.0	+2.2
MOD	Modoc Plateau 7.9nm,0.9s	31.48	328	*e*P	P	05 41 40.8	+1.0
C36A	Pine Crest Far baz=190	31.52	7	P	P	05 41 38.4	-1.5
MMNY	Mt. Morris Dam 27nm,1.2s	31.53	30	*e*P	P	05 41 39.5	-0.5
D41A	Chassel baz=198	31.57	13	P	P	05 41 38.9	-1.5
C37A	Embarrass baz=192	31.58	8	P	P	05 41 38.9	-1.5
C38A	Sawbill Land. baz=193	31.70	9	P	P	05 41 39.7	-1.8
J08A	Circle Bar Ran 13nm,0.9s	31.70	332	*e*P	P	05 41 43.6	+2.0
B33A	Robert and Kas baz=185	31.78	4	P	P	05 41 41.0	-1.2
E45A	Wooded Hills, baz=205	31.78	18	P	P	05 41 41.2	-1.0
AGMN	Agassiz Nation baz=185	31.79	3	P	P	05 41 41.7	-0.6
AGMN	Agassiz Nation 7.4nm,0.7s	31.79	3	*e*P	P	05 41 42.0	-0.2
B32A	Ashes, Strandq baz=184,SNR=7.8	31.85	3	P	P	05 41 42.0	-0.8
EYMN	Ely baz=193	31.89	9	P	P	05 41 42.1	-1.1
C39A	Grand Marais baz=195	31.99	11	P	P	05 41 43.1	-0.9
B35A	Bob, Littlefor baz=189	32.02	6	P	P	05 41 43.0	-1.2
STVI	Saint Thomas 11nm,0.9s	32.06	82	*e*P	P	05 41 45.6	+0.7
B34A	Aery, Baudette baz=187	32.06	5	P	P	05 41 43.5	-1.2
HRY	Holter Researc	32.09	343	*e*P	P	05 41 46.8	+1.7
A32A	Rocking H Ranc baz=184	32.38	2	P	P	05 41 45.4	-1.9
A33A	Warroad baz=186	32.45	4	P	P	05 41 46.3	-1.7
SADO	Sadowa 5.7nm,0.8s,baz=264,slow=9.5,SNR=4.9	32.57	26	P	P	05 41 46.7	-2.4
SADO	Sadowa 31nm,1.5s	32.57	26	*e*P	P	05 41 47.9	-1.3
F10A	Beach Ranch, E 13nm,0.9s	33.28	336	*e*P	P	05 41 56.7	+1.2
G08A	Pilot Rock 8.8nm,1.0s	33.44	333	*e*P	P	05 41 58.3	+1.4
ULM	Lac du Bonnet 2.6nm,0.8s,baz=182,slow=7.0,SNR=5.9	33.74	3	P	P	05 41 58.2	-1.1
ULM	Lac du Bonnet 25nm,1.7s	33.74	3	*e*P	P	05 41 60.0	+0.7
JTMT	Jette 14nm,1.4s	33.76	341	*e*P	P	05 42 00.9	+1.2
H04A	Detroit Lake	34.45	330	*e*P	P	05 42 07.0	+1.4
	35nm,1.1s						
WALA	Waterton Lakes 34nm,1.5s	34.82	342	*e*P	P	05 42 10.4	+1.6
NEW	Newport baz=148	35.16	338	P	P	05 42 10.5	-1.2
C09A	Chrisman Ranch 13nm,1.1s	35.20	337	*e*P	P	05 42 13.0	+1.0
TRQ	Mont Tremblant	35.73	29	*e*P	P	05 42 17.0	+0.3
B05A	Bryant baz=141	37.11	334	P	P	05 42 27.9	-0.4
FFC	Flin Flon 105nm,1.8s	38.24	357	*e*P	P	05 42 37.9	+0.1
EDM	Edmonton 78nm,1.5s	38.45	346	*e*P	P	05 42 40.4	+0.8
FCC	Fort Churchill 47nm,1.8s	42.33	3	*e*P	P	05 43 12.0	+0.4
LPAZ	La Paz comp=Z,65nm,18.6s,baz=182,slow=35	44.27	136	LR	LR	06 01 00.3	
SCHQ	Schefferville 11nm,0.9s,baz=218,slow=5.5,SNR=7.2	45.37	25	P	P	05 43 35.5	-0.7
SCHQ				LR	LR	06 05 21.4	
	comp=Z,58nm,18.6s,baz=293,slow=40						
SCHQ	Schefferville 19nm,1.1s	45.37	25	*e*P	P	05 43 35.9	-0.3
YKA	Yellowknife Ar 3.4nm,0.9s,baz=158,slow=7.2,SNR=46	47.32	350	P	P	05 43 51.1	-0.2
YKB5	Yellowknife Ar	47.32	350	*e*P	P	05 43 50.9	-0.4
SIV	San Ignacio 1.1nm,0.7s,baz=300,slow=9.7,SNR=9.2	49.06	129	P	P	05 44 05.4	0.0
HYT	Haines Junctio 26nm,1.6s	52.31	337	*e*P	P	05 44 32.8	+3.3
EGAK	Eagle 6.0nm,1.0s	56.12	340	*e*P	P	05 44 58.5	+1.4
INK	Inuvik 3.5nm,0.8s,baz=135,slow=9.3,SNR=19	56.35	345	P	P	05 44 59.1	+0.5
INK	Inuvik 40nm,1.8s	56.35	345	*e*P	P	05 44 59.4	+0.7
SCRK	Sand Creek 5.6nm,1.1s	56.63	338	*e*P	P	05 45 03.2	+2.3
RIDG	Independ'e Rid 15nm,1.1s	56.81	337	*e*P	P	05 45 03.9	+1.8
IL1	Eielson Array	58.12	338	*e*P	P	05 45 11.1	-0.2
ILAR	Eielson Array 3.8nm,1.0s,baz=132,slow=4.6,SNR=17	58.12	338	P	P	05 45 11.8	+0.6
ILAR				LR	LR	06 11 00.4	
	comp=Z,104nm,20.3s,baz=184,slow=37						
ILB	Eielson Array	58.12	338	*e*P	P	05 45 12.1	+0.8
RND	Reindeer 24nm,1.4s	58.15	336	*e*P	P	05 45 13.3	+1.7
RES	Resolute Bay 18nm,1.8s	58.23	1	*e*P	P	05 45 11.5	-0.3
MCK	McKinley 13nm,1.4s	58.35	336	*e*P	P	05 45 16.7	+3.8
CPUP	Villa Florida 1.2nm,0.7s,baz=327,slow=8.1,SNR=5.0	58.44	136	P	P	05 45 13.3	-0.7
CPUP	Villa Florida 14nm,1.9s	58.44	136	*e*P	P	05 45 13.3	-0.7
SKT	Skwentna 48nm,2.0s	58.58	334	*e*P	P	05 45 16.1	+1.6
TRF	Thorofare Moun 14nm,0.9s	58.74	336	*e*P	P	05 45 17.0	+1.2
SFJD	Kangerlussuaq comp=Z,74nm,18.5s,baz=262,slow=38	59.18	20	LR	LR	06 12 51.9	
CAST	Castle Rocks 12nm,1.1s	59.44	335	*e*P	P	05 45 21.0	+0.5
MLY	Manley 8.3nm,1.0s	59.67	337	*e*P	P	05 45 23.2	+1.1
COLD	Coldfoot 14nm,1.8s	60.56	339	*e*P	P	05 45 29.7	+1.6
TOLK	Toolik Lake Re baz=122	61.08	341	P	P	05 45 29.5	-2.2
PLCA	Paso Flores 3.7nm,0.9s,baz=342,slow=8.2,SNR=7.1	62.59	156	P	P	05 45 41.6	-0.5
PLCA	Paso Flores 28nm,1.8s	62.59	156	*e*P	P	05 45 41.6	-0.5
SUMG	Summit 11nm,1.1s	65.59	17	*e*P	P	05 46 01.5	-0.4
SPITS	Spitsbergen Ar comp=Z,50nm,19.8s,baz=310,slow=36	78.88	11	LR	LR	06 23 06.2	
ESDC	Sonseca Array 0.8nm,0.8s,baz=268,slow=3.8,SNR=3.5	83.07	51	P	P	05 47 44.1	+0.1
NB200	NORSAR Array S	84.90	27	*e*P	P	05 47 54.3	+1.5
NOA	NORSAR Array B 1.8nm,1.0s,baz=301,slow=5.2,SNR=2.4	84.90	27	P	P	05 47 54.3	+1.5
TIXI	Tiksi 9.5nm,1.3s	86.45	346	*e*P	P	05 48 00.4	+0.1
FIA0	FINESS Array S	90.82	23	*e*P	P	05 48 21.0	-0.2
FINES	FINESS Array B 3.3nm,0.9s,baz=288,slow=10,SNR=3.5	90.82	23	P	P	05 48 21.0	-0.2
TOA1	Torodi Ar. Sit	95.85	75	*e*P	P	05 48 43.5	-1.8
TORD	Torodi Ar. Bea 0.5nm,0.8s,baz=303,slow=5.0,SNR=3.5	95.85	75	P	P	05 48 43.5	-1.8
HHC	Hu-ho-hao-te	116.48	335	*e*PKP	PKPdf	05 54 05.1	+2.6
WMQ	Urumqi	119.71	355	*e*PKP	PKPdf	05 54 10.1	+1.6
NJ2	Nanjing	119.89	324	*e*PKP	PKPdf	05 54 10.6	+1.5
CD2	Chengdu	128.22	335	PKP	PKPdf	05 54 25.0	-0.2
WR1	Warramunga Arr	129.84	258	*e*PKPdf	PKPdf	05 54 28.4	0.0
WRA	Warramunga Arr 0.8nm,0.8s,baz=85,slow=2.5,SNR=9.2	129.84	258	PKP	PKPdf	05 54 28.4	0.0
AS31	Alice Springs	130.47	253	*e*PKPdf	PKPdf	05 54 29.9	+0.4
ASAR	Alice Springs 0.4nm,0.6s,baz=112,slow=1.0,SNR=4.9	130.47	253	PKP	PKPdf	05 54 29.9	+0.4
HYB	Hyderabad	146.18	5	*i* PKP	PKPdf	05 54 57.0	-1.4

ISCJB ***03*** *05:38:06.2±1.3, 43°.39N±0°.07×146°.39E±0°.08, h49km±12km, Error ellipse: s-maj=13.2km s-min=7.0km az=143.3*

SKHL ***03*** *05:38:07.6±0.1, 43°.45N×146°.44E, h51km±5km, mb4.3/3*

JMA ***03*** *05:38:07.1±0.2, 43°.34N×146°.32E, h54km±1km, M3.0*

ISC 03 05:38:06.4±2.2, 43°.36N±0°.08×146°.43E±0°.08, h44km±23km, n11, σ0°.72/19, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NEM2	Nemuro 2	0.50	270	P	Pn	05 38 17.7	+0.4
NEM2				*e*S	Sn	05 38 25.3	+0.3
SHO	Shikotan	0.58	30	*i* P	Pn	05 38 18.5	+0.1
SHO				AMB	AMB	05 38 18.8	
	99nm,0.1s						
SHO				*e*S	Sn	05 38 26.7	-0.2
SHO				A	A	05 38 27.8	
	560nm,0.1s						
SHO				A	A	05 38 27.8	
	640nm,0.1s						
YUK	Yuzh-Kuril'sk	0.79	329	*i* P	Pn	05 38 21.4	+0.3
YUK				AMB	AMB	05 38 22.0	
	110nm,0.2s						
YUK				*e*S	Sn	05 38 31.7	0.0
YUK				A	A	05 38 34.7	
	216nm,0.2s						
YUK				A	A	05 38 34.7	
	570nm,0.2s						
LAGR	Lagunnoye	0.83	326	*e*P	Pn	05 38 21.0	-0.7
LAGR				AMB	AMB	05 38 23.5	
	114nm,0.2s						
LAGR				*i* S	Sn	05 38 31.1	-1.8
LAGR				A	A	05 38 31.6	
	290nm,0.2s						
LAGR				A	A	05 38 31.6	
	600nm,0.2s						
JRA	Rausu	1.11	302	P	Pn	05 38 25.8	+0.4
JRA				*e*S	Sn	05 38 39.8	+0.3
JNK	Nakash	1.27	281	P	Pn	05 38 27.3	-0.3
JNK				*e*S	Sn	05 38 42.8	-0.6
JAK	Akkeshi	1.32	254	P	Pn	05 38 28.0	-0.3
JAK				*e*S	Sn	05 38 43.6	-1.1
JTKR	Abashiri--Toko	1.93	289	P	Pn	05 38 37.3	+0.7
JAR	Ashorobuto	1.94	269	P	Pn	05 38 37.3	+0.4
JAR				*e*S	Sn	05 39 00.2	+0.2
JOB	Onbets	1.96	257	*e*S	Sn	05 39 00.1	-0.2
YSS	Yuzh-Sakhalins	4.43	325	*e*P	Pn	05 39 12.0	+1.0

IDC 03 05:53:44.3±6.9, 19.72S×176.70W, h0km, mb3.3/2, mb1 3.6/2, mb1mx3.4/43, mbtmp3.3/2, Error ellipse: s-maj=338.8km s-min=104.7km az=154.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	Alice Springs	45.89	256	P	P	06 02 08.8	-0.2
	0.4nm,0.5s,baz=98,slow=7.8,SNR=5.6						
WRA	Warramunga Arr	45.92	261	P	P	06 02 09.1	-0.1
	0.1nm,0.3s,baz=96,slow=8.3,SNR=7.9						
AKASG	Malin Array Be	142.91	333	PKP	PKPdf	06 13 19.1	-0.6

0.4nm,0.4s,baz=42,slow=4.0,SNR=6.3

IDC 03 06:14:43.9±2.2**, 11°.01S×124°.20E, h0km, mb3.6**/1, **mb1 3.7**/3, **mb1mx3.4**/48, **mbtmp3.5**/3, **ML3.4**/2, **Error ellipse: s-maj=173.3km s-min=20.4km az=53.0, South of Timor**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	Baumata	0.96	326	Pg	Pg	06 15 01.9	-0.4
	50nm,0.3s,baz=142,slow=4.9,SNR=18						
BATI				Sn	Sb	06 15 16.6	-0.1
	29nm,0.3s,baz=323,slow=20,SNR=26						
WRA	Warramunga Arr	13.20	134	Pn	Pn	06 17 51.3	-1.4
	0.2nm,0.3s,baz=304,slow=13,SNR=7.1						
WRA				Sn	Sn	06 20 17.6	-2.7
	0.1nm,0.3s,baz=305,slow=23,SNR=3.7						
ASAR	Alice Springs	15.62	145	Pn	Pn	06 18 26.0	+0.5
	0.2nm,0.3s,baz=329,slow=13,SNR=7.7						
MKAR	Makanchi Array	68.64	330	P	P	06 25 49.4	+0.5
	0.6nm,0.8s,baz=123,slow=8.0,SNR=5.1						

ISCJB ***03*** *06:30:24.1±0.8, 21°.17S±0°.04×68°.8W±0°.1, h129km±8km, mb3.2/2, Error ellipse: s-maj=19.2km s-min=6.9km az=4.0*
GUC ***03*** *06:30:24.1±0.7, 21°.14S×68°.79W, h126km±4km, ML3.5*
IDC ***03*** *06:30:32.5±6.5, 20°.54S×68°.11W, h169km±46km, mb3.1/2, mb1 3.3/4, mb1mx3.1/36, mbtmp3.7/4, Error ellipse: s-maj=70.5km s-min=32.0km az=29.0*
ISC 03 06:30:24.2±1.0**, 21°.13S**±0°.05×**68°.6W**±0°.1**, h118**km±9km**, n15,** σ**1ˢ.44**/25**, 6C, Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB01	IPOC Station P	0.82	276	⇑iP	Pn	06 30 44.2	-0.2
PB01				eS	Sn	06 30 59.2	-0.5
PB01				IAML		06 31 00.7	
	comp=E,2μm,0.2s						
PB09	IPOC Station P	0.89	221	⇑iP	Pn	06 30 45.3	+0.2
PB09				eS	Sn	06 31 01.4	+0.4
PB09				IAML		06 31 02.2	
	comp=E,3μm,0.3s						
PB08	IPOC Station P	1.10	332	⇑iP	Pn	06 30 48.7	+1.2
PB08				eS	Sn	06 31 06.5	+1.4
PB08				IAML		06 31 07.9	
	comp=E,361nm,0.3s						
PB02	IPOC Station P	1.22	261	⇑iP	Pn	06 30 48.2	-0.2
PB02				eS	Sn	06 31 05.8	-0.9
PB02				IAML		06 31 07.8	
	comp=E,3μm,0.4s						
PB07	IPOC Station P	1.33	243	⇑iP	Pn	06 30 49.3	-0.4
PB07				eS	Sn	06 31 08.3	-0.7
PB07				IAML		06 31 09.7	
	comp=E,998nm,0.4s						
PB11	IPOC Station P	1.68	324	eP	Pn	06 30 53.9	+0.2
PB11				eS	Sn	06 31 16.7	+0.5
PB06	IPOC Station P	1.81	209	⇑iP	Pn	06 30 55.0	-0.3
PB06				eS	Sn	06 31 18.2	-0.8
PB06				IAML		06 31 18.4	
	comp=N,412nm,0.3s						
PB04	IPOC Station P	1.87	230	eP	Pn	06 30 55.5	-0.6
PB04				i S	Sn	06 31 19.4	-1.0
PB04				IAML		06 31 24.1	
	comp=E,476nm,0.2s						
PSGC	Pisagua	2.08	317	i P	Pn	06 30 58.2	-0.4
PSGC				i S	Sn	06 31 24.5	-0.5
PSGC				IAML		06 31 26.5	
	comp=E,194nm,0.4s						
LPAZ	La Paz	4.83	5	P	Pn	06 31 38.5	+3.1
	comp=E,0.7nm,0.3s,baz=189,slow=5.7,SNR=20						
LPAZ				S	Sn	06 32 26.4	-4.4
	baz=195,slow=20,SNR=1.2						
SIV	San Ignacio	8.78	56	P	Pn	06 32 26.4	-2.0
	comp=E,5.1nm,0.3s,baz=257,slow=11,SNR=133						
TORD	Torodi Ar. Bea	76.97	70	P	P	06 42 03.6	-0.8
	comp=E,0.3nm,0.5s,baz=253,slow=5.9,SNR=7.9						
YKA	Yellowknife Ar	90.93	340	P	P	06 43 15.0	+0.8
	comp=E,0.1nm,0.4s,baz=136,slow=4.1,SNR=6.7						
WRA	Warramunga Arr	133.42	210	PKP	PKPdf	06 49 28.0	+0.6
	comp=E,0.4nm,0.8s,baz=157,slow=1.6,SNR=2.3						
MKAR	Makanchi Array	145.17	36	PKP	PKPbc	06 49 48.4	+0.7
	comp=E,0.5nm,0.7s,baz=310,slow=3.4,SNR=6.2						

IDC ***03*** *06:44:16.8±0.9, 6°.62N×72°.78W, h170km±10km, mb2.7/1, mb1 3.0/3, mb1mx2.7/49, mbtmp3.3/3, Error ellipse: s-maj=61.7km s-min=7.9km az=132.0*
ISCJB ***03*** *06:44:17.0±0.7, 6°.86N±0°.04×73°.12W±0°.04, h153km±6km, mb3.0/1, Error ellipse: s-maj=8.3km s-min=5.5km az=39.1*
RSNC ***03*** *06:44:19.0±0.8, 6°.83N×73°.15W, h142km±5km, ML2.9*
ISC 03 06:44:17.1±0.9**, 6°.86N**±0°.04×**73°.11W**±0°.05**, h152**km±7km**, n22,** σ**0ˢ.87**/33**, Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	Barichara	0.27	195	i P	Pn	06 44 38.3	+0.2
BARC				eS	Sn	06 44 53.0	-1.1
BARC				i		06 44 54.4	
	comp=Z,291nm,0.3s						
PAMC	Pamplona, Colo	0.63	40	eP	Pn	06 44 41.0	+1.0
PAMC				eS	Sn	06 44 57.7	+0.4
PAMC				i		06 45 00.3	
	comp=Z,130nm,0.5s						
BRRC	Barranca, Sant	0.65	293	eP	Pn	06 44 40.0	+0.6
BRRC				i		06 45 00.3	
	comp=Z,182nm,0.2s						
RUSC	La Rusia	0.96	178	eP	Pn	06 44 42.2	-0.1
RUSC				eS	Sn	06 45 00.7	-0.8
RUSC				i		06 45 02.8	
	comp=Z,123nm,0.2s						
OCAC	Ocana	1.39	351	eP	Pn	06 44 46.8	+0.9
YOPC	Yopal, Colombi	1.64	155	i P	Pn	06 44 49.0	+0.6
YOPC				i		06 44 50.9	
	comp=Z,40nm,0.2s						
YOPC				eS	Sn	06 45 12.7	+0.2
ZARC	Zaragoza, Cauc	1.84	290	eP	Pn	06 44 51.0	+0.4
ZARC				eS	Sn	06 45 16.1	-0.2
ZARC				i		06 45 22.5	
	comp=Z,121nm,0.5s						
NORC	Norcasia	2.17	234	eP	Pn	06 44 54.4	0.0
NORC				eS	Sn	06 45 22.1	-0.9
CHIC	Chingaza	2.30	196	eP	Pn	06 44 56.6	+0.3
CHIC				i		06 45 29.8	
	comp=Z,42nm,0.8s						
ROSC	El Rosal	2.33	211	P	Pn	06 44 58.3	+1.6
	comp=Z,5.4nm,0.3s,baz=123,slow=20,SNR=34						
ROSC				S	Sn	06 45 29.0	+1.8
	comp=Z,14nm,0.3s,baz=119,slow=15,SNR=9.7						
ROSC	El Rosal	2.33	211	eP	Pn	06 44 57.9	+1.2
ROSC				i		06 45 33.3	
	comp=Z,98nm,0.5s						
HELC	Santa Helena	2.49	255	eP	Pn	06 44 59.2	+0.6
HELC				eS	Sn	06 45 30.2	-0.3
HELC				i		06 45 36.7	
	comp=Z,73nm,0.4s						
RREF	El Recreo	2.95	229	eP	Pn	06 45 04.9	+0.4
RREF				i		06 45 46.7	
	comp=Z,42nm,0.7s						
CODC	Agustˆ›n Codaz	3.08	354	eP	Pn	06 45 06.2	+0.7
CODC				i		06 45 47.5	
	comp=Z,28nm,0.3s						
DBBC	Dabeiba	3.08	273	eP	Pn	06 45 06.2	+0.6
TOLC	Tolima	3.15	224	eP	Pn	06 45 08.4	+1.7
TOLC				eS	Sn	06 45 45.1	0.0
SDV	Santo Domingo	3.18	50	P	Pn	06 45 07.9	+0.9
	comp=Z,4.4nm,0.3s,baz=240,slow=9.4,SNR=20						
SDV				S	Sn	06 45 44.7	-0.9
	comp=Z,8.1nm,0.3s,baz=253,slow=19,SNR=11						
SDV	Santo Domingo	3.18	50	eP	Pn	06 45 07.8	+0.9
PRAC	Prado	3.59	210	eP	Pn	06 45 12.6	+0.4
PRAC				eS	Sn	06 45 54.2	-0.6
YKA	Yellowknife Ar	63.23	340	P	P	06 54 29.0	0.0
	comp=Z,0.1nm,0.5s,baz=133,slow=6.7,SNR=6.4						
ASAR	Alice Springs	149.14	234	PKPbc	PKPdf	07 03 44.1	0.0
	comp=Z,0.2nm,0.5s,baz=134,slow=4.0,SNR=2.4						
WRA	Warramunga Arr	150.36	241	PKPbc	PKPbc	07 03 50.0	-1.4
	comp=Z,0.2nm,0.8s,baz=107,slow=3.1,SNR=5.4						

IDC ***03*** *06:53:40.9±4.7, 42°.93N×14°.50W, h0km, mb3.5/2, mb1 3.9/4, mb1mx3.2/71, mbtmp3.7/4, ML4.7/2, MS3.1/1, Ms1 3.1/1, ms1mx2.3/56, Error ellipse: s-maj=85.0km s-min=35.6km az=103.0*
NEIC ***03*** *06:53:41.8±0.9, 43°.07N×14°.46W, h10km, mb4.5/2, Error ellipse: s-maj=11.4km s-min=7.2km az=96.0*
BGS ***03*** *06:53:43.0±2.3, 43°.07N×14°.46W, h10km, mb4.5(NEIC)*
CSEM ***03*** *06:53:44.7±0.3, 43°.01N×14°.37W, h30km, mb4.5, Error ellipse: s-maj=7.5km s-min=3.1km az=91.0*
IGIL ***03*** *06:53:46.5, 42°.87N×14°.46W, h24km, ML4.1*
MDD ***03*** *06:53:46.5±1.1, 42°.93N×14°.36W, h82km±34km, mb4.5/49, Error ellipse: s-maj=10.3km s-min=8.0km az=98.0, PRXIMO*
LDG ***03*** *06:53:47.2±0.5, 43°.03N×14°.34W, h30km, Ml4.6/24, Error ellipse: s-maj=9.7km s-min=5.5km az=94.0*
ISCJB ***03*** *06:53:47.3±0.4, 43°.00N±0°.02×13°.41W±0°.04, h10km, mb4.9/3, Error ellipse: s-maj=4.0km s-min=2.7km az=165.6*
INMG ***03*** *06:53:49.2±1.3, 42°.85N×14°.46W, h10km, MD3.7, ML4.0, Error ellipse: s-maj=6.6km s-min=4.4km az=87.0*
ISC 03 06:53:44.0±1.1**, 42°.93N**±0°.06×**13°.91W**±0°.08**, h10**km**, n342,** σ**3ˢ.02**/560**, mb5.2**/3**, 8C-7D, North Atlantic Ocean**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMAZ	Mazaricos	3.62	88	⇑P	Pn	06 54 44.3	+4.1
	16nm,0.1s,SNR=18						
EMAZ				S	Sn	06 55 25.8	+2.8
	77nm,0.1s,SNR=7.9						
EMAZ	Mazaricos	3.62	88	P	Pn	06 54 44.3	+4.1
	16nm,0.1s,SNR=18						
EMAZ				S	Sn	06 55 25.8	+2.8
	77nm,0.1s,SNR=7.9						
EAGO	Agolada(Pontev	4.28	90	⇑P	Pn	06 54 53.4	+4.2
	15nm,0.1s,SNR=18						
EAGO				S	Sn	06 55 41.7	+2.5
	64nm,0.1s,SNR=7.9						
EAGO	Agolada(Pontev	4.28	90	P	Pn	06 54 53.4	+4.2
	15nm,0.1s,SNR=18						
EAGO				S	Sn	06 55 41.7	+2.5
	64nm,0.1s,SNR=7.9						
PGAV	Gavieira, Arco	4.28	101	⇑ePn	Pn	06 54 53.8	+4.5
PGAV				eSn	Sn	06 55 42.5	+3.1
PGAV				A	A	06 55 45.1	
	166nm,0.8s						
PGAV	Gavieira, Arco	4.28	101	⇑ePn	Pn	06 54 53.8	+4.5
PGAV				eSn	Sn	06 55 42.5	+3.1
	166nm,0.8s						
PTO	Porto	4.34	113	ePn	Pn	06 54 53.9	+3.9
PTO				eSn	Sn	06 55 42.6	+2.1
PTO				A	A	06 55 46.7	
	241nm,0.1s						
PTO	Porto	4.34	113	P	Pn	06 54 53.9	+3.9
PTO				S	Sn	06 55 42.6	+2.1
	120nm,0.1s						
PTO	Porto	4.34	113	P	Pn	06 54 53.9	+3.9
PTO				eSn	Sn	06 55 42.6	+2.1
	241nm,0.1s						
ELOB	Lobios	4.46	102	⇓P	Pn	06 54 56.0	+4.3
	13nm,0.1s,SNR=18						
ELOB				S	Sn	06 55 46.4	+2.7
	80nm,0.2s,SNR=14						
ELOB	Lobios	4.46	102	P	Pn	06 54 56.0	+4.3
	13nm,0.1s,SNR=18						
ELOB				S	Sn	06 55 46.4	+2.7
	80nm,0.2s,SNR=14						
PCAB	Cabril	4.53	104	ePn	Pn	06 54 57.2	+4.6
PCAB				eSn	Sn	06 55 48.5	+3.2
PCAB				A	A	06 55 52.9	
	140nm,0.4s						
PCAB	Cabril	4.53	104	P	Pn	06 54 57.2	+4.6
PCAB				S	Sn	06 55 48.5	+3.2
	70nm,0.4s						
PCAB	Cabril	4.53	104	ePn	Pn	06 54 57.2	+4.6
PCAB				eSn	Sn	06 55 48.5	+3.2
	140nm,0.4s						
POLO	Lamas de Olo	4.80	107	ePn	Pn	06 55 00.7	+4.2
POLO				eSn	Sn	06 55 54.9	+2.7
POLO				A	A	06 55 59.3	
	24nm,0.4s						
POLO	Lamas de Olo	4.80	107	ePn	Pn	06 55 00.7	+4.2
POLO				eSn	Sn	06 55 54.9	+2.7
	24nm,0.4s						
PVRL	Vila Real	4.89	108	ePn	Pn	06 55 01.8	+4.1
PVRL				eSn	Sn	06 55 56.3	+1.9
PVRL				A	A	06 55 57.9	
	152nm,0.1s						
PVRL	Vila Real	4.89	108	P	Pn	06 55 01.8	+4.1
PVRL				S	Sn	06 55 56.3	+1.9
	76nm,0.1s						
PVRL	Vila Real	4.89	108	P	Pn	06 55 01.8	+4.1
PVRL				eSn	Sn	06 55 56.3	+1.9
	152nm,0.1s						
COI	Coimbra	4.94	122	P	Pn	06 55 01.5	+3.3
COI				S	Sn	06 55 56.0	+0.7
	59nm,0.5s						
COI	Coimbra	4.94	122	P	Pn	06 55 01.5	+3.3
COI				S	Sn	06 55 56.0	+0.7
	59nm,0.5s						
EPON	Pontenova	4.96	83	⇓P	Pn	06 55 02.6	+4.0
	40nm,0.2s,SNR=18						
EPON				S	Sn	06 55 58.3	+2.3
	148nm,0.2s,SNR=12						
EPON	Pontenova	4.96	83	P	Pn	06 55 02.6	+4.0
	40nm,0.2s,SNR=18						
EPON				S	Sn	06 55 58.3	+2.3
	148nm,0.2s,SNR=12						
PCAS	Casmilo, Conde	4.97	123	⇓ePn	Pn	06 55 01.8	+3.0
PCAS				eSn	Sn	06 55 56.5	+0.2
PCAS				A	A	06 55 59.6	
	87nm,0.4s						
PCAS	Casmilo, Conde	4.97	123	⇓ePn	Pn	06 55 01.8	+3.0
PCAS				eSn	Sn	06 55 56.5	+0.2
	87nm,0.4s						
PVIS	Viseu	5.01	114	ePn	Pn	06 55 02.5	+3.3
PVIS				eSn	Sn	06 55 58.2	+1.0
PVIS				A	A	06 56 00.6	
	66nm,0.3s						
PVIS	Viseu	5.01	114	P	Pn	06 55 02.5	+3.3
PVIS				S	Sn	06 55 58.2	+1.0
	33nm,0.3s						
PVIS	Viseu	5.01	114	P	Pn	06 55 02.5	+3.3
PVIS				S	Sn	06 55 58.2	+1.0
	33nm,0.3s						
PMAFR	Mafra	5.29	137	ePn	Pn	06 55 05.7	+2.6
PMAFR				eSn	Sn	06 56 02.4	-1.7
PMAFR				A	A	06 56 07.9	
	357nm,0.2s						
PMAFR	Mafra	5.29	137	P	Pn	06 55 05.7	+2.6
	28nm,0.1s,SNR=42						
PMAFR				S	Sn	06 56 03.1	-1.0
	600nm,0.3s,SNR=14						
PMAFR	Mafra	5.29	137	P	Pn	06 55 05.7	+2.6
	28nm,0.1s,SNR=42						
PMAFR				eSn	Sn	06 56 02.4	-1.7
	357nm,0.2s						
PMAFR				S	Sn	06 56 03.1	-1.0
	600nm,0.3s,SNR=14						
PTOM	Tomar	5.30	127	⇓ePn	Pn	06 55 05.8	+2.6
PTOM				eSn	Sn	06 56 03.3	-1.0
PTOM				A	A	06 56 06.3	
	179nm,0.3s						
PTOM	Tomar	5.30	127	P	Pn	06 55 05.8	+2.6
PTOM				S	Sn	06 56 03.3	-1.0
	89nm,0.3s						
PTOM	Tomar	5.30	127	P	Pn	06 55 05.8	+2.6
PTOM				S	Sn	06 56 03.3	-1.0
	89nm,0.3s						
MTE	Manteigas	5.39	116	ePn	Pn	06 55 07.6	+3.1
MTE				eSn	Sn	06 56 07.0	+0.3
MTE				A	A	06 56 21.4	
	97nm,0.3s						
MTE	Manteigas	5.39	116	P	Pn	06 55 07.6	+3.1
MTE				S	Sn	06 56 07.0	+0.3
	48nm,0.3s						
MTE	Manteigas	5.39	116	ePn	Pn	06 55 07.7	+3.1
MTE	Manteigas	5.39	116	P	Pn	06 55 07.6	+3.1
MTE				S	Sn	06 56 07.0	+0.3
	48nm,0.3s						
ECAL	Calabor	5.40	98	⇓P	Pn	06 55 08.9	+4.3
	16nm,0.2s,SNR=18						
ECAL				S	Sn	06 56 08.7	+1.8
	134nm,0.3s,SNR=9.2						
ECAL	Calabor	5.40	98	P	Pn	06 55 08.9	+4.3
	16nm,0.2s,SNR=18						
ECAL				S	Sn	06 56 08.7	+1.8
	134nm,0.3s,SNR=9.2						
MVO	Moncorvo	5.42	107	ePn	Pn	06 55 08.7	+3.8
MVO				eSn	Sn	06 56 08.5	+1.2
MVO				A	A	06 56 10.4	
	82nm,0.1s						
MVO	Moncorvo	5.42	107	⇑P	Pn	06 55 08.7	+3.8
	14nm,0.1s,SNR=18						
MVO				S	Sn	06 56 08.7	+1.4
	92nm,0.3s,SNR=23						
MVO	Moncorvo	5.42	107	P	Pn	06 55 08.7	+3.8
	14nm,0.1s,SNR=18						
MVO				S	Sn	06 56 08.7	+1.4
	92nm,0.3s,SNR=23						
PBRG	Braganca	5.43	99	ePn	Pn	06 55 09.8	+4.8
PBRG				eSn	Sn	06 56 10.0	+2.5
PBRG				A	A	06 56 26.5	
	35nm,0.7s						
PBRG	Braganca	5.43	99	P	Pn	06 55 09.8	+4.8
PBRG				S	Sn	06 56 10.0	+2.5
	18nm,0.7s						
PBRG	Braganca	5.43	99	ePn	Pn	06 55 09.8	+4.8
PBRG				eSn	Sn	06 56 10.0	+2.5
	35nm,0.7s						
PMST	Lisbon--Monsan	5.51	138	ePn	Pn	06 55 08.8	+2.7
PMST				eSn	Sn	06 56 07.8	-1.7
PMST				A	A	06 56 13.2	
	266nm,0.2s						
PMST	Lisbon--Monsan	5.51	138	ePn	Pn	06 55 08.8	+2.7
PMST				eSn	Sn	06 56 07.8	-1.7
	266nm,0.2s						
ALMR	Almeirim	5.51	131	eP	Pn	06 55 09.0	+2.8
ALMR				eS	Sn	06 56 08.7	-1.0
ALMR				AML	AML	06 56 09.9	
	comp=E,277nm,0.3s						
ALMR	Almeirim	5.51	131	ePn	Pn	06 55 08.8	+2.6
ALMR				eSn	Sn	06 56 08.3	-1.3
ALMR				A	A	06 56 12.5	
	comp=E,298nm,0.2s						
ALMR	Almeirim	5.51	131	P	Pn	06 55 08.8	+2.6
ALMR				S	Sn	06 56 08.7	-1.0
	comp=E,138nm,0.3s						
ALMR	Almeirim	5.51	131	P	Pn	06 55 08.8	+2.6
ALMR				eSn	Sn	06 56 08.3	-1.3
	comp=E,298nm,0.2s						
ALMR				S	Sn	06 56 08.7	-1.0
	comp=E,138nm,0.3s						
LIS	Lisbon	5.54	138	eP	Pn	06 55 09.1	+2.6
LIS				eS	Sn	06 56 08.9	-1.3
LIS				AML	AML	06 56 09.6	
	comp=N,272nm,0.3s						
LIS	Lisbon	5.54	138	ePn	Pn	06 55 09.1	+2.6
LIS				eSn	Sn	06 56 08.9	-1.3
LIS				A	A	06 56 15.4	
	comp=N,182nm,0.6s						
LIS	Lisbon	5.54	138	P	Pn	06 55 09.1	+2.6
LIS				S	Sn	06 56 08.9	-1.3
	comp=N,272nm,0.3s						
LIS	Lisbon	5.54	138	ePn	Pn	06 55 09.1	+2.6
LIS				eSn	Sn	06 56 08.9	-1.3
	comp=N,182nm,0.6s						
PCBR	Castelo Branco	5.73	120	ePn	Pn	06 55 12.0	+2.8
PCBR				eSn	Sn	06 56 14.2	-0.8
PCBR				A	A	06 56 19.3	
	comp=N,59nm,0.5s						
PCBR	Castelo Branco	5.73	120	P	Pn	06 55 12.0	+2.8
PCBR				S	Sn	06 56 14.2	-0.8
	comp=N,29nm,0.5s						
PCBR	Castelo Branco	5.73	120	P	Pn	06 55 12.0	+2.8
PCBR				S	Sn	06 56 14.2	-0.8
	comp=N,29nm,0.5s						
PMTG	Montargil	5.77	130	ePn	Pn	06 55 12.1	+2.4
PMTG				eSn	Sn	06 56 13.1	-2.9
PMTG				A	A	06 56 18.4	
	comp=N,44nm,0.4s						
PMTG	Montargil	5.77	130	ePn	Pn	06 55 12.1	+2.4
PMRV	Marv??o	6.03	123	ePn	Pn	06 55 15.8	+2.5
PMRV				eSn	Sn	06 56 21.4	-1.0
PMRV				A	A	06 56 28.0	
	comp=N,61nm,0.6s						
PMRV	Marv??o	6.03	123	P	Pn	06 55 15.8	+2.5
PMRV				S	Sn	06 56 21.4	-1.0
	comp=N,61nm,0.6s						
PMRV	Marv??o	6.03	123	P	Pn	06 55 15.8	+2.5
PMRV				S	Sn	06 56 21.4	-1.0
	comp=N,61nm,0.6s						
PESTR	Estremoz	6.27	128	ePn	Pn	06 55 18.6	+2.0
PESTR				eSn	Sn	06 56 26.3	-2.0
PESTR				A	A	06 56 32.7	
	comp=N,50nm,0.4s						
PESTR	Estremoz	6.27	128	ePn	Pn	06 55 18.9	+2.3
PESTR				eSn	Sn	06 56 26.1	-2.2
PESTR	Estremoz	6.27	128	ePn	Pn	06 55 18.9	+2.3
PESTR				eSn	Sn	06 56 26.3	-2.0
	comp=N,50nm,0.4s						
PNCL	Nicolau / Gran	6.32	138	ePn	Pn	06 55 19.2	+2.0
PNCL				eSn	Sn	06 56 26.9	-2.5
PNCL				A	A	06 56 33.6	
	comp=N,68nm,0.4s						
PNCL	Nicolau / Gran	6.32	138	ePn	Pn	06 55 19.2	+2.0
EARI	Arriondas	6.38	84	⇓P	Pn	06 55 22.5	+4.4
	comp=N,17nm,0.1s,SNR=18						
EARI				S	Sn	06 56 32.0	+1.0
	comp=N,28nm,0.3s						
EARI	Arriondas	6.38	84	P	Pn	06 55 22.5	+4.4
	comp=N,17nm,0.1s,SNR=18						
EARI				S	Sn	06 56 32.0	+1.0
	comp=N,28nm,0.3s						
EPLA	Plasencia	6.53	113	P	Pn	06 55 23.8	+3.6
	comp=N,5.8nm,0.1s,SNR=25						
EPLA				S	Sn	06 56 34.9	+0.1
	comp=N,29nm,0.2s,SNR=16						
EPLA	Plasencia	6.53	113	P	Pn	06 55 23.8	+3.6
	comp=N,5.8nm,0.1s,SNR=25						
EPLA				S	Sn	06 56 34.9	+0.1
	comp=N,29nm,0.2s,SNR=16						
PTEO	Sao Teotonio	6.68	142	ePn	Pn	06 55 24.0	+1.9
PTEO				eSn	Sn	06 56 34.9	-3.3
PTEO				A	A	06 56 41.8	
	comp=N,130nm,0.6s						
PTEO	Sao Teotonio	6.68	142	P	Pn	06 55 24.0	+1.9
PTEO				S	Sn	06 56 34.9	-3.3
	comp=N,65nm,0.6s						
PTEO	Sao Teotonio	6.68	142	P	Pn	06 55 24.0	+1.9
PTEO				S	Sn	06 56 34.9	-3.3
	comp=N,65nm,0.6s						
MESJ	Messejana	6.68	138	eP	Pn	06 55 24.1	+1.9
MESJ				eS	Sn	06 56 35.0	-3.3
MESJ				AML	AML	06 56 37.9	
	comp=N,85nm,0.4s						
MESJ	Messejana	6.68	138	P	Pn	06 55 24.1	+1.9
MESJ				S	Sn	06 56 35.0	-3.3
	comp=N,85nm,0.4s						
MESJ	Messejana	6.68	138	P	Pn	06 55 24.1	+1.9
MESJ				S	Sn	06 56 35.0	-3.3
	comp=N,85nm,0.4s						
EBAD	Badajoz	6.68	126	P	Pn	06 55 24.4	+2.2
	comp=N,4.5nm,0.2s,SNR=38						
EBAD				S	Sn	06 56 36.5	-1.9
	comp=N,73nm,0.2s,SNR=9.9						
EBAD	Badajoz	6.68	126	P	Pn	06 55 24.4	+2.2
	comp=N,4.5nm,0.2s,SNR=38						
EBAD				S	Sn	06 56 36.5	-1.9
	comp=N,73nm,0.2s,SNR=9.9						
PBEJ	Beja	6.72	135	ePn	Pn	06 55 25.2	+2.5
PBEJ				eSn	Sn	06 56 36.0	-3.3
PBEJ				A	A	06 56 41.4	
	comp=N,57nm,0.5s						
PBEJ	Beja	6.72	135	P	Pn	06 55 25.2	+2.5
PBEJ				S	Sn	06 56 36.0	-3.3
	comp=N,29nm,0.5s						
PBEJ	Beja	6.72	135	P	Pn	06 55 25.2	+2.5
PBEJ				S	Sn	06 56 36.0	-3.3
	comp=N,29nm,0.5s						
MORF	Marmelete	6.91	143	eP	Pn	06 55 26.7	+1.4
MORF				eS	Sn	06 56 39.3	-4.7
MORF				AML	AML	06 56 43.0	
	comp=E,128nm,0.3s						
MORF	Marmelete	6.91	143	ePn	Pn	06 55 26.9	+1.6
MORF				eSn	Sn	06 56 39.7	-4.3
MORF				A	A	06 56 45.7	
	comp=E,129nm,0.1s						
MORF	Marmelete	6.91	143	P	Pn	06 55 26.9	+1.6
MORF				S	Sn	06 56 39.7	-4.3
	comp=E,129nm,0.1s						
MORF	Marmelete	6.91	143	P	Pn	06 55 26.9	+1.6
MORF				S	Sn	06 56 39.7	-4.3

comp=E,129nm,0.1s
PCVE Castro Verde 6.93 138 *e*Pn **Pn 06 55 28.0 +2.3**
PCVE *e*Sn **Sn 06 56 41.5 -3.1**
PCVE A A 06 56 47.0
comp=E,45nm,0.4s
PCVE Castro Verde 6.93 138 P **Pn 06 55 28.0 +2.3**
PCVE S **Sn 06 56 41.5 -3.1**
comp=E,45nm,0.4s
PCVE Castro Verde 6.93 138 P **Pn 06 55 28.0 +2.3**
PCVE S **Sn 06 56 41.5 -3.1**
comp=E,45nm,0.4s
PFVI Vila Bisbo 6.97 144 *e*Pn **Pn 06 55 27.8 +1.5**
PFVI *e*Sn **Sn 06 56 40.4 -5.2**
PFVI A A 06 56 48.1
comp=E,54nm,0.3s
PFVI Vila Bisbo 6.97 144 P **Pn 06 55 27.7 +1.5**
comp=E,9.0nm,0.1s,SNR=13
PFVI S **Sn 06 56 41.8 -3.8**
comp=E,88nm,0.2s,SNR=8.4
PFVI Vila Bisbo 6.97 144 *e*Pn **Pn 06 55 28.6 +2.4**
PFVI *e*Sn **Sn 06 56 43.1 -2.5**
PFVI Vila Bisbo 6.97 144 P **Pn 06 55 27.7 +1.5**
comp=E,9.0nm,0.1s,SNR=13
PFVI Vila Bisbo 6.97 144 *e*Pn **Pn 06 55 28.6 +2.4**
PFVI S **Sn 06 56 41.8 -3.8**
comp=E,88nm,0.2s,SNR=8.4
PBAR Barrancos 7.06 130 *e*Pn **Pn 06 55 29.7 +2.3**
PBAR *e*Sn **Sn 06 56 45.4 -2.3**
PBAR A A 06 56 51.3
comp=E,101nm,0.3s
PBAR Barrancos 7.06 130 P **Pn 06 55 29.7 +2.3**
PBAR S **Sn 06 56 45.4 -2.3**
comp=E,101nm,0.3s
PBAR Barrancos 7.06 130 P **Pn 06 55 29.7 +2.3**
PBAR S **Sn 06 56 45.4 -2.3**
comp=E,101nm,0.3s
PVAQ Vaqueiros 7.27 137 *e*Pn **Pn 06 55 32.4 +2.1**
PVAQ *e*Sn **Sn 06 56 49.5 -3.4**
PVAQ A A 06 56 55.1
comp=E,90nm,0.4s
PVAQ Vaqueiros 7.27 137 P **Pn 06 55 32.4 +2.1**
PVAQ S **Sn 06 56 49.5 -3.4**
comp=E,90nm,0.4s
PVAQ Vaqueiros 7.27 137 P **Pn 06 55 32.4 +2.1**
PVAQ S **Sn 06 56 49.5 -3.4**
comp=E,90nm,0.4s
EGRO El Granado 7.29 135 P **Pn 06 55 33.2 +2.7**
comp=E,7.4nm,0.1s,SNR=12
EGRO S **Sn 06 56 51.1 -2.2**
comp=E,35nm,0.2s,SNR=12
EGRO El Granado 7.29 135 P **Pn 06 55 33.2 +2.7**
comp=E,7.4nm,0.1s,SNR=12
EGRO S **Sn 06 56 51.1 -2.2**
comp=E,35nm,0.2s,SNR=12
PBDV Barranco-do-Ve 7.29 139 *e*Pn **Pn 06 55 33.3 +2.7**
PBDV *e*Sn **Sn 06 56 50.1 -3.4**
PBDV A A 06 56 59.1
comp=E,57nm,0.3s
PBDV Barranco-do-Ve 7.29 139 P **Pn 06 55 33.3 +2.7**
PBDV S **Sn 06 56 50.1 -3.4**
comp=E,57nm,0.3s
PBDV Barranco-do-Ve 7.29 139 P **Pn 06 55 33.3 +2.7**
PBDV S **Sn 06 56 50.1 -3.4**
comp=E,57nm,0.3s
EMIN Mina Concepcio 7.55 131 P **Pn 06 55 36.8 +2.6**
comp=E,51nm,0.4s,SNR=107
EMIN S **Sn 06 56 56.4 -3.4**
comp=E,18nm,0.2s,SNR=14
EMIN Mina Concepcio 7.55 131 P **Pn 06 55 36.8 +2.6**
comp=E,51nm,0.4s,SNR=107
EMIN S **Sn 06 56 56.4 -3.4**
comp=E,18nm,0.2s,SNR=14
GUD Guadarrama 7.64 104 ⇑P **Pn 06 55 39.5 +4.1**
comp=E,8.4nm,0.2s,SNR=18
GUD S **Sn 06 57 01.4 -0.7**
comp=E,32nm,0.3s,SNR=6.5
GUD Guadarrama 7.64 104 P **Pn 06 55 39.5 +4.1**
comp=E,8.4nm,0.2s,SNR=18
GUD S **Sn 06 57 01.4 -0.7**
comp=E,32nm,0.3s,SNR=6.5
ELAN Lanestosa 7.67 84 P **Pn 06 55 40.1 +4.2**
comp=E,10nm,0.2s,SNR=62
ELAN S **Sn 06 57 02.5 -0.4**
comp=E,54nm,0.3s,SNR=6.2
ELAN Lanestosa 7.67 84 P **Pn 06 55 40.1 +4.2**
comp=E,10nm,0.2s,SNR=62
ELAN S **Sn 06 57 02.5 -0.4**
comp=E,54nm,0.3s,SNR=6.2
PAB San Pablo 7.95 112 P **Pn 06 55 43.2 +3.5**
comp=E,2.7nm,0.1s,SNR=7.9
PAB S **Sn 06 57 09.1 -0.7**
comp=E,3.8nm,0.3s,SNR=7.9
PAB San Pablo 7.95 112 *e*Pn **Pn 06 55 42.9 +3.1**
PAB *e*Sn **Sn 06 57 09.2 -0.6**
PAB San Pablo 7.95 112 *e*Pn **Pn 06 55 42.9 +3.1**
PAB San Pablo 7.95 112 P **Pn 06 55 43.2 +3.5**
comp=E,2.7nm,0.1s,SNR=7.9
PAB S **Sn 06 57 09.1 -0.7**
comp=E,3.8nm,0.3s,SNR=7.9
ECAB El Cabril 8.08 124 ⇑P **Pn 06 55 43.3 +1.9**
comp=E,9.3nm,0.2s,SNR=18
ECAB S **Sn 06 57 10.2 -2.6**
comp=E,33nm,0.3s,SNR=12
ECAB El Cabril 8.08 124 P **Pn 06 55 43.3 +1.9**
comp=E,9.3nm,0.2s,SNR=18
ECAB S **Sn 06 57 10.2 -2.6**
comp=E,33nm,0.3s,SNR=12
ESDC Sonseca Array 8.16 110 Pn **Pn 06 55 46.2 +3.6**
comp=E,2.7nm,0.3s,baz=294,slow=13,SNR=26
ESDC Sn **Sn 06 57 12.8 -2.0**
comp=E,17nm,0.3s,baz=288,slow=23,SNR=22
ESDC Sonseca Array 8.16 110 P **Pn 06 55 45.7 +3.2**
comp=E,0.8nm,0.3s,baz=294,slow=13,SNR=34
ESDC S **Sn 06 57 14.1 -0.7**
comp=E,9.6nm,0.2s,baz=292,slow=23,SNR=18
ESDC Sonseca Array 8.16 110 P **Pn 06 55 45.7 +3.2**
comp=E,0.8nm,0.3s,SNR=34
ESDC Sonseca Array 8.16 110 *e*Pn **Pn 06 55 46.2 +3.6**
ESDC *e*Sn **Sn 06 57 12.9 -2.0**
ESDC S **Sn 06 57 14.1 -0.7**
comp=E,9.6nm,0.2s,SNR=18
ESLA Sonseca Array 8.16 110 *e*Pn **Pn 06 55 46.6 +4.0**
ESLA *e*Sn **Sn 06 57 14.2 -0.6**
ESLA Sonseca Array 8.16 110 *e*Pn **Pn 06 55 46.6 +4.0**
ESLA *e*Sn **Sn 06 57 14.2 -0.6**
ES19 SONSECA Array 8.19 110 *e*Pn **Pn 06 55 46.0 +3.0**
ES19 SONSECA Array 8.19 110 *e*Pn **Pn 06 55 46.0 +3.0**
EADA Adamuz 8.54 121 P **Pn 06 55 50.4 +2.6**
comp=E,9.5nm,0.1s,SNR=58
EADA S **Sn 06 57 21.3 -2.9**
comp=E,12nm,0.1s,SNR=7.9
EADA Adamuz 8.54 121 P **Pn 06 55 50.4 +2.6**
comp=E,9.5nm,0.1s,SNR=58
EADA S **Sn 06 57 21.3 -2.9**
comp=E,12nm,0.1s,SNR=7.9
ESPR Espera 8.65 132 P **Pn 06 55 52.2 +3.0**
comp=E,5.8nm,0.2s,SNR=12
ESPR S **Sn 06 57 23.9 -2.9**
comp=E,48nm,0.3s,SNR=5.2
ESPR Espera 8.65 132 P **Pn 06 55 52.2 +3.0**
comp=E,5.8nm,0.2s,SNR=12
ESPR S **Sn 06 57 23.9 -2.9**
comp=E,48nm,0.3s,SNR=5.2
QUIF Quistinic 9.05 53 *e*Pn **Pn 06 55 55.2 +0.5**
SNR=1.0
QUIF *e*Sn Sn 06 57 26.2 -10
comp=E,18nm,0.3s,SNR=1.0
QUIF Quistinic 9.05 53 P **Pn 06 55 55.2 +0.5**
QUIF Quistinic 9.05 53 *e*Pn **Pn 06 55 55.2 +0.5**
QUIF *e*Sn Sn 06 57 26.2 -10
QUIF Quistinic 9.05 53 P **Pn 06 55 55.2 +0.5**
EARA Aranguren 9.06 87 P **Pn 06 55 58.8 +4.0**
comp=E,9.1nm,0.5s,SNR=7.9
EARA S **Sn 06 57 35.2 -1.7**
comp=E,49nm,7.1s,SNR=7.9
EARA Aranguren 9.06 87 P **Pn 06 55 58.8 +4.0**
comp=E,9.1nm,0.5s,SNR=7.9
EARA S **Sn 06 57 35.2 -1.7**
comp=E,49nm,7.1s,SNR=7.9
EALK Alkurruntz 9.08 84 P **Pn 06 55 59.4 +4.2**
comp=E,8.0nm,0.2s,SNR=21
EALK S **Sn 06 57 36.1 -1.4**
comp=E,27nm,0.3s,SNR=5.2
EALK Alkurruntz 9.08 84 P **Pn 06 55 59.4 +4.2**
comp=E,8.0nm,0.2s,SNR=21
EALK S **Sn 06 57 36.1 -1.4**
comp=E,27nm,0.3s,SNR=5.2
ETOR Torete 9.09 99 P **Pn 06 55 59.3 +4.0**
comp=E,2.3nm,0.4s,SNR=5.6
ETOR Torete 9.09 99 P **Pn 06 55 59.3 +4.0**
comp=E,2.3nm,0.4s,SNR=5.6
EJIF Jimena Fronter 9.17 132 P **Pn 06 55 59.0 +2.7**
comp=E,4.1nm,1.4s,SNR=7.9
EJIF S **Sn 06 57 36.5 -3.0**
SNR=7.9
EJIF Jimena Fronter 9.17 132 P **Pn 06 55 59.0 +2.7**
comp=E,4.1nm,1.4s,SNR=7.9
EJIF S **Sn 06 57 36.5 -3.0**
SNR=7.9
ROSF Rostrenen 9.20 50 *e*Pn **Pn 06 55 57.2 +0.4**
baz=245,SNR=1.0
ROSF *e*Sn Sn 06 57 29.7 -11
comp=E,13nm,0.3s,SNR=1.0
ROSF Rostrenen 9.20 50 P **Pn 06 55 57.2 +0.4**
ROSF Rostrenen 9.20 50 *e*Pn **Pn 06 55 57.2 +0.4**
ROSF *e*Sn Sn 06 57 29.7 -11
ROSF Rostrenen 9.20 50 P **Pn 06 55 57.2 +0.4**
EORO Oroz-Betelu 9.25 86 P **Pn 06 56 01.4 +3.9**
comp=E,9.0nm,0.6s,SNR=15
EORO S **Sn 06 57 39.8 -1.7**
comp=E,25nm,0.4s,SNR=5.5
EORO Oroz-Betelu 9.25 86 P **Pn 06 56 01.4 +3.9**
comp=E,9.0nm,0.6s,SNR=15
EORO S **Sn 06 57 39.8 -1.7**
comp=E,25nm,0.4s,SNR=5.5
OSSF Osses 9.26 84 P **Pn 06 56 01.4 +3.8**
SJPF Ste Jean 9.29 85 *e*Pn **Pn 06 56 02.6 +4.5**
SNR=1.0
SJPF *e*Sn **Sn 06 57 43.4 +0.8**
comp=E,16nm,0.3s
SJPF Ste Jean 9.29 85 P **Pn 06 56 02.6 +4.5**
SJPF Ste Jean 9.29 85 *e*Pn **Pn 06 56 02.6 +4.5**
SJPF *e*Sn **Sn 06 57 43.4 +0.8**
SJPF Ste Jean 9.29 85 P **Pn 06 56 02.6 +4.5**
IELO Elcoad 9.30 86 P **Pn 06 56 02.0 +3.8**
comp=E,7.1nm,0.2s,SNR=7.9
IELO S **Sn 06 57 41.8 -1.2**
comp=E,12nm,0.2s,SNR=7.9
IELO Elcoad 9.30 86 P **Pn 06 56 02.0 +3.8**
comp=E,7.1nm,0.2s,SNR=7.9
IELO S **Sn 06 57 41.8 -1.2**
comp=E,12nm,0.2s,SNR=7.9
CCA1 Carnmenellis 9.40 36 *e*P **Pn 06 55 59.7 +0.2**
CCA1 Carnmenellis 9.40 36 *e*P **Pn 06 55 59.7 +0.2**
EMIJ Mijas 9.47 129 P **Pn 06 56 03.7 +3.1**
comp=E,5.9nm,0.5s,SNR=4.9
EMIJ S **Sn 06 57 44.4 -2.7**
comp=E,7.8nm,0.3s,SNR=7.9
EMIJ Mijas 9.47 129 P **Pn 06 56 03.7 +3.1**
comp=E,5.9nm,0.5s,SNR=4.9
EMIJ S **Sn 06 57 44.4 -2.7**
comp=E,7.8nm,0.3s,SNR=7.9
EGOR Sierra Gorda, 9.49 124 P **Pn 06 56 04.2 +3.3**
comp=E,2.7nm,0.4s,SNR=7.9
EGOR S **Sn 06 57 44.6 -3.1**
comp=E,25nm,0.5s,SNR=7.9
EGOR Sierra Gorda, 9.49 124 P **Pn 06 56 04.2 +3.3**
comp=E,2.7nm,0.4s,SNR=7.9
EGOR S **Sn 06 57 44.6 -3.1**
comp=E,25nm,0.5s,SNR=7.9
SGMF Saint Gilles 9.57 52 *e*Pn **Pn 06 56 02.2 +0.4**
SNR=1.0
SGMF *e*Sn **Sn 06 57 40.7 -8.7**
comp=E,13nm,0.3s,SNR=1.0
SGMF Saint Gilles 9.57 52 P **Pn 06 56 02.2 +0.4**
SGMF Saint Gilles 9.57 52 *e*Pn **Pn 06 56 02.2 +0.4**
SGMF *e*Sn **Sn 06 57 40.7 -8.7**
SGMF Saint Gilles 9.57 52 P **Pn 06 56 02.2 +0.4**
ATE Arette 9.68 85 P **Pn 06 56 07.5 +4.2**
comp=E,7.5nm,0.4s,SNR=7.9
ATE S **Sn 06 57 49.8 -2.3**
comp=E,17nm,0.5s,SNR=7.9
ATE Arette 9.68 85 P **Pn 06 56 07.5 +4.2**
comp=E,7.5nm,0.4s,SNR=7.9
ATE S **Sn 06 57 49.8 -2.3**
comp=E,17nm,0.5s,SNR=7.9
EQES Quesada 9.72 118 P **Pn 06 56 07.2 +3.2**
comp=E,1.5nm,0.2s,SNR=7.9
EQES S **Sn 06 57 50.8 -2.5**
comp=E,6.5nm,0.2s,SNR=7.9
EQES Quesada 9.72 118 P **Pn 06 56 07.2 +3.2**
comp=E,1.5nm,0.2s,SNR=7.9
EQES S **Sn 06 57 50.8 -2.5**
comp=E,6.5nm,0.2s,SNR=7.9
ETSF Etsaut 9.80 86 *e*Pn **Pn 06 56 09.6 +4.6**
SNR=1.0
ETSF *e*Sn **Sn 06 57 55.3 +0.3**
comp=E,18nm,0.4s,SNR=1.0
ETSF Etsaut 9.80 86 P **Pn 06 56 09.6 +4.6**
ETSF Etsaut 9.80 86 *e*Pn **Pn 06 56 09.6 +4.6**
ETSF *e*Sn **Sn 06 57 55.3 +0.3**
ETSF Etsaut 9.80 86 P **Pn 06 56 09.6 +4.6**
EQUE Quentar 9.85 122 ⇑P **Pn 06 56 09.0 +3.3**
comp=E,18nm,0.3s,SNR=18
EQUE S **Sn 06 57 53.1 -3.2**
comp=E,10.0nm,0.3s,SNR=4.6
EQUE Quentar 9.85 122 P **Pn 06 56 09.0 +3.3**
comp=E,18nm,0.3s,SNR=18
EQUE S **Sn 06 57 53.1 -3.2**
comp=E,10.0nm,0.3s,SNR=4.6
SESP Santiago Espad 9.89 115 P **Pn 06 56 09.9 +3.6**
comp=E,9.5nm,0.4s,SNR=7.9
SESP S **Sn 06 57 55.3 -2.2**
comp=E,18nm,0.4s,SNR=7.9
SESP Santiago Espad 9.89 115 P **Pn 06 56 09.9 +3.6**
comp=E,9.5nm,0.4s,SNR=7.9
SESP S **Sn 06 57 55.3 -2.2**
comp=E,18nm,0.4s,SNR=7.9
GORA Gorafe 9.93 120 P **Pn 06 56 09.5 +2.7**
comp=E,22nm,0.9s,SNR=7.9
GORA S **Sn 06 57 56.2 -2.1**
comp=E,29nm,0.3s,SNR=4.0
GORA Gorafe 9.93 120 P **Pn 06 56 09.5 +2.7**
comp=E,22nm,0.9s,SNR=7.9
GORA S **Sn 06 57 56.2 -2.1**
comp=E,29nm,0.3s,SNR=4.0
ELGU Los Guajares, 9.95 124 P **Pn 06 56 10.2 +3.2**
comp=E,6.7nm,0.4s,SNR=4.0
ELGU S **Sn 06 57 55.9 -2.8**
comp=E,22nm,0.3s,SNR=7.9
ELGU Los Guajares, 9.95 124 P **Pn 06 56 10.2 +3.2**
comp=E,6.7nm,0.4s,SNR=4.0
ELGU S **Sn 06 57 55.9 -2.8**
comp=E,22nm,0.3s,SNR=7.9
ESAC San Caprasio 10.03 92 P **Pn 06 56 11.5 +3.4**
comp=E,9.1nm,0.2s,SNR=6.3
ESAC S **Sn 06 57 58.7 -2.0**
comp=E,38nm,0.4s,SNR=7.9
ESAC San Caprasio 10.03 92 P **Pn 06 56 11.5 +3.4**
comp=E,9.1nm,0.2s,SNR=6.3
ESAC S **Sn 06 57 58.7 -2.0**
comp=E,38nm,0.4s,SNR=7.9
DYA Yadsworthy 10.16 39 *e*P **Pn 06 56 09.4 -0.5**
VIEF Viey 10.22 85 P **Pn 06 56 15.6 +4.7**
ETOB Tobarra 10.30 110 P **Pn 06 56 15.1 +3.2**
comp=E,6.0nm,0.6s,SNR=14
ETOB S **Sn 06 58 04.6 -2.8**
comp=E,3.1nm,0.2s,SNR=6.2
ETOB Tobarra 10.30 110 P **Pn 06 56 15.1 +3.2**
comp=E,6.0nm,0.6s,SNR=14
ETOB S **Sn 06 58 04.6 -2.8**
comp=E,3.1nm,0.2s,SNR=6.2
HTL Hartland 10.32 35 *e*P **Pn 06 56 11.7 -0.3**
HTL Hartland 10.32 35 *e*P **Pn 06 56 11.7 -0.3**
ECHI Chisagues Biel 10.37 87 P **Pn 06 56 16.4 +3.6**
comp=E,9.6nm,0.6s,SNR=7.9
ECHI S **Sn 06 58 06.4 -2.9**
comp=E,3.6nm,1.8s,SNR=7.9
ECHI Chisagues Biel 10.37 87 P **Pn 06 56 16.5 +3.6**
comp=E,9.6nm,0.6s,SNR=7.9
ECHI S **Sn 06 58 06.4 -2.9**
comp=E,3.6nm,1.8s,SNR=7.9
EMOS Mosqueruela 10.38 100 P **Pn 06 56 16.6 +3.6**
comp=E,7.4nm,1.0s,SNR=7.9
EMOS S **Sn 06 58 06.9 -2.6**
comp=E,6.0nm,0.4s,SNR=7.9
EMOS Mosqueruela 10.38 100 P **Pn 06 56 16.6 +3.6**
comp=E,7.4nm,1.0s,SNR=7.9
EMOS S **Sn 06 58 06.9 -2.6**
comp=E,6.0nm,0.4s,SNR=7.9
EBER Berja 10.38 122 P **Pn 06 56 16.9 +3.8**
comp=E,17nm,0.4s,SNR=20
EBER S **Sn 06 58 06.7 -2.9**
comp=E,21nm,0.3s,SNR=7.9
PMOZ Porto Moniz, M 10.41 196 P **Pn 06 56 11.5 -2.0**
comp=E,68nm,1.0s,SNR=7.9
PMOZ S Sn 06 57 58.2 -12
comp=E,49nm,3.0s,SNR=7.9
PMOZ Porto Moniz, M 10.41 196 P **Pn 06 56 11.5 -2.0**
comp=E,68nm,1.0s,SNR=7.9
PMOZ S Sn 06 57 58.2 -12
comp=E,49nm,3.0s,SNR=7.9
EPF Esparros 10.44 85 *e*Pn **Pn 06 56 18.1 +4.3**
SNR=1.0
EPF *e*Sn **Sn 06 58 11.8 +0.9**
comp=E,7.3nm,0.3s
EPF Esparros 10.44 85 P **Pn 06 56 18.1 +4.3**
EPF Esparros 10.44 85 *e*Pn **Pn 06 56 18.1 +4.3**
EPF *e*Sn **Sn 06 58 11.8 +0.9**
EPF Esparros 10.44 85 P **Pn 06 56 18.1 +4.3**
MFF Saint Martin d 10.45 65 *e*Pn **Pn 06 56 15.2 +1.3**
SNR=1.0
MFF *e*Sn **Sn 06 58 04.2 -6.8**
comp=E,30nm,0.4s
MFF Saint Martin d 10.45 65 P **Pn 06 56 15.2 +1.3**
MFF Saint Martin d 10.45 65 *e*Pn **Pn 06 56 15.2 +1.3**
MFF *e*Sn **Sn 06 58 04.2 -6.8**
MFF Saint Martin d 10.45 65 P **Pn 06 56 15.2 +1.3**
GRR Gorron 10.64 55 *e*Pn **Pn 06 56 17.2 +0.8**
SNR=1.0
GRR *e*Sn **Sn 06 58 08.1 -7.4**
comp=E,16nm,0.3s
GRR Gorron 10.64 55 P **Pn 06 56 17.2 +0.8**
GRR Gorron 10.64 55 *e*Pn **Pn 06 56 17.2 +0.8**
GRR *e*Sn **Sn 06 58 08.1 -7.4**
GRR Gorron 10.64 55 P **Pn 06 56 17.2 +0.8**
LFF La Frestale 10.76 74 *e*Pn **Pn 06 56 20.4 +2.4**
SNR=1.0
LFF *e*Sn Sn 06 58 07.4 -11
comp=E,22nm,0.2s,SNR=1.0
LFF La Frestale 10.76 74 P **Pn 06 56 20.4 +2.4**
LFF La Frestale 10.76 74 *e*Pn **Pn 06 56 20.4 +2.4**
LFF *e*Sn Sn 06 58 07.4 -11
LFF La Frestale 10.76 74 P **Pn 06 56 20.4 +2.4**
ENIJ Nijar 10.77 120 P **Pn 06 56 21.5 +3.3**
comp=E,27nm,1.9s,SNR=7.9
ENIJ S **Sn 06 58 15.4 -3.4**
comp=E,27nm,0.4s,SNR=7.9
ENIJ Nijar 10.77 120 P **Pn 06 56 21.5 +3.3**
comp=E,27nm,1.9s,SNR=7.9
ENIJ S **Sn 06 58 15.4 -3.4**
comp=E,27nm,0.4s,SNR=7.9
ERTA Horta de San J 10.79 96 P **Pn 06 56 22.0 +3.4**
comp=E,15nm,0.9s,SNR=7.9
ERTA S **Sn 06 58 16.5 -2.9**
comp=E,15nm,10.0s,SNR=7.9
ERTA Horta de San J 10.79 96 P **Pn 06 56 22.0 +3.4**
comp=E,15nm,0.9s,SNR=7.9
ERTA S **Sn 06 58 16.5 -2.9**
comp=E,15nm,10.0s,SNR=7.9
EMUR La Murta 10.91 113 S **Sn 06 58 18.8 -3.5**
comp=E,7.5nm,1.9s,SNR=7.9
EMUR La Murta 10.91 113 S **Sn 06 58 18.8 -3.5**
comp=E,7.5nm,1.9s,SNR=7.9
AFON Font Roja 10.99 108 P **Pn 06 56 24.5 +3.2**
comp=E,8.1nm,0.6s,SNR=7.9
AFON S **Sn 06 58 21.1 -3.2**
comp=E,6.9nm,0.5s,SNR=7.9
AFON Font Roja 10.99 108 P **Pn 06 56 24.5 +3.2**
comp=E,8.1nm,0.6s,SNR=7.9
AFON S **Sn 06 58 21.1 -3.2**
comp=E,6.9nm,0.5s,SNR=7.9
FLN La Foliniere 11.03 53 *e*Pn **Pn 06 56 22.4 +0.7**
baz=240,SNR=1.0
FLN *e*Sn **Sn 06 58 18.4 -6.7**
comp=E,15nm,0.4s
FLN La Foliniere 11.03 53 P **Pn 06 56 22.4 +0.7**
FLN S **Sn 06 58 18.4 -6.7**
comp=E,7.6nm,0.4s
FLN La Foliniere 11.03 53 *e*Pn **Pn 06 56 22.4 +0.7**
FLN *e*Sn **Sn 06 58 18.4 -6.7**
SALF Salau 11.09 86 P Pn 06 56 27.6 +4.9
CSOR Sort 11.10 88 P **Pn 06 56 26.6 +3.8**
comp=E,3.4nm,0.2s,SNR=7.9
CSOR S **Sn 06 58 23.6 -3.4**
comp=E,6.4nm,0.7s,SNR=7.9
CSOR Sort 11.10 88 P **Pn 06 56 26.6 +3.8**
comp=E,3.4nm,0.2s,SNR=7.9
CSOR S **Sn 06 58 23.6 -3.4**
comp=E,6.4nm,0.7s,SNR=7.9
LDF La Druitiere 11.17 55 *e*Pn **Pn 06 56 24.2 +0.5**
SNR=1.0
LDF *e*Sn **Sn 06 58 22.8 -5.7**
comp=E,9.3nm,0.3s
LDF La Druitiere 11.17 55 *e*Pn **Pn 06 56 24.2 +0.5**
LDF *e*Sn **Sn 06 58 22.8 -5.7**
LDF La Druitiere 11.17 55 *e*Pn **Pn 06 56 24.2 +0.5**
SNR=1.0
EPOB Poblet 11.24 93 P **Pn 06 56 28.4 +3.6**
comp=E,6.6nm,0.5s,SNR=7.9
EPOB S **Sn 06 58 27.4 -3.1**
comp=E,2.4nm,1.9s,SNR=7.9
EPOB Poblet 11.24 93 P **Pn 06 56 28.4 +3.6**
comp=E,6.6nm,0.5s,SNR=7.9
EPOB S **Sn 06 58 27.4 -3.1**
comp=E,2.4nm,1.9s,SNR=7.9
LPW Lampeter 11.34 32 *e*P **Pn 06 56 26.5 +0.6**
LPW Lampeter 11.34 32 *e*P **Pn 06 56 26.5 +0.6**
RJF Les Rejaudoux 11.34 73 *e*Pn **Pn 06 56 28.5 +2.4**
SNR=1.0
RJF *e*Sn **Sn 06 58 26.5 -6.3**
comp=E,35nm,0.2s,SNR=1.0
RJF Les Rejaudoux 11.34 73 P **Pn 06 56 28.5 +2.4**
RJF Les Rejaudoux 11.34 73 *e*Pn **Pn 06 56 28.5 +2.4**
RJF *e*Sn **Sn 06 58 26.5 -6.3**
EMIR Miracle 11.46 90 P **Pn 06 56 30.9 +3.2**
comp=E,2.8nm,0.1s,SNR=5.8
EMIR S **Sn 06 58 32.4 -3.4**
comp=E,13nm,0.4s,SNR=7.9
EMIR Miracle 11.46 90 P **Pn 06 56 30.9 +3.2**
comp=E,2.8nm,0.1s,SNR=5.8
EMIR S **Sn 06 58 32.3 -3.4**
comp=E,13nm,0.4s,SNR=7.9
HGH Gray Hill 11.51 37 *e*P **Pn 06 56 29.2 +0.9**
HGH Gray Hill 11.51 37 *e*P **Pn 06 56 29.2 +0.9**
BATH Bath 11.59 39 *e*P **Pn 06 56 30.9 +1.5**
BATH Bath 11.59 39 *e*P **Pn 06 56 30.9 +1.5**
MONM Monmouth 11.66 36 *e*P **Pn 06 56 31.3 +1.0**
MONM Monmouth 11.66 36 *e*P **Pn 06 56 31.3 +1.0**
MCH1 Michaelchurch 11.69 35 *e*P **Pn 06 56 31.1 +0.4**
MCH1 Michaelchurch 11.69 35 *e*P **Pn 06 56 31.1 +0.4**
CAF Calviac 11.69 75 *e*Pn **Pn 06 56 33.0 +2.1**
SNR=1.0
CAF *e*Sn **Sn 06 58 34.8 -6.6**
comp=E,27nm,0.3s
CAF Calviac 11.69 75 P **Pn 06 56 33.0 +2.1**
CAF Calviac 11.69 75 *e*Pn **Pn 06 56 33.0 +2.1**
CAF *e*Sn **Sn 06 58 34.8 -6.6**
CAF Calviac 11.69 75 P **Pn 06 56 33.0 +2.1**
CLLI Llivia 11.70 87 P **Pn 06 56 34.2 +3.1**
comp=E,3.8nm,0.4s,SNR=9.5
CLLI S **Sn 06 58 38.2 -3.5**
comp=E,1.3nm,0.2s,SNR=7.9
CLLI Llivia 11.70 87 P **Pn 06 56 34.2 +3.1**
comp=E,3.8nm,0.4s,SNR=9.5
CLLI S **Sn 06 58 38.2 -3.5**
comp=E,1.3nm,0.2s,SNR=7.9
VALF Valcebollere 11.74 87 P **Pn 06 56 36.1 +4.4**
MTLF Montolieu 11.79 82 *e*Pn **Pn 06 56 35.9 +3.7**
SNR=1.0
MTLF *e*Sn **Sn 06 58 40.2 -3.7**
comp=E,15nm,0.4s
MTLF Montolieu 11.79 82 P **Pn 06 56 35.9 +3.7**
MTLF S **Sn 06 58 40.2 -3.7**
comp=E,7.6nm,0.4s
MTLF Montolieu 11.79 82 *e*Pn **Pn 06 56 35.9 +3.7**
MTLF *e*Sn **Sn 06 58 40.2 -3.7**
MTLF Montolieu 11.79 82 P **Pn 06 56 35.9 +3.7**
MTLF S **Sn 06 58 40.2 -3.7**
comp=E,7.6nm,0.4s
STRD Stroud 11.89 38 *e*P **Pn 06 56 35.1 +1.5**
STRD Stroud 11.89 38 *e*P **Pn 06 56 35.1 +1.5**
TCF Toulx Ste Croi 11.97 68 *e*Pn **Pn 06 56 37.0 +2.3**
SNR=1.0
TCF *e*Sn **Sn 06 58 40.4 -7.8**

	comp=E,32nm,0.4s						
TCF	**Toulx Ste Croi**	**11.97**	**68**	P	**Pn**	**06 56 37.0**	**+2.3**
TCF	**Toulx Ste Croi**	**11.97**	**68**	*e*Pn	**Pn**	**06 56 37.0**	**+2.3**
TCF				*e*Sn	**Sn**	**06 58 40.4**	**-7.8**
TCF	**Toulx Ste Croi**	**11.97**	**68**	P	**Pn**	**06 56 37.0**	**+2.3**
LLW	**Llanuwychllyn**	**12.06**	**31**	*e*P	**Pn**	**06 56 36.9**	**+1.0**
LLW	**Llanuwychllyn**	**12.06**	**31**	*e*P	**Pn**	**06 56 36.9**	**+1.0**
HLM1	**Long Mynd**	**12.12**	**34**	*e*P	**Pn**	**06 56 37.5**	**+0.8**
HLM1	**Long Mynd**	**12.12**	**34**	*e*P	**Pn**	**06 56 37.5**	**+0.8**
CFON	**Fontmartina**	**12.15**	**90**	P	**Pn**	**06 56 41.0**	**+3.8**
	comp=E,4.3nm,0.4s,SNR=23						
CFON				S	**Sn**	**06 58 49.1**	**-3.7**
	comp=E,9.3nm,0.3s,SNR=7.9						
CFON	**Fontmartina**	**12.15**	**90**	P	**Pn**	**06 56 41.0**	**+3.8**
	comp=E,4.3nm,0.4s,SNR=23						
CFON				S	**Sn**	**06 58 49.1**	**-3.7**
	comp=E,9.3nm,0.3s,SNR=7.9						
EIBI	**Ibiza**	**12.17**	**104**	P	**Pn**	**06 56 40.2**	**+2.9**
	comp=E,5.6nm,0.7s,SNR=7.9						
EIBI				S	**Sn**	**06 58 49.6**	**-3.4**
	comp=E,8.7nm,1.3s,SNR=7.9						
EIBI	**Ibiza**	**12.17**	**104**	P	**Pn**	**06 56 40.2**	**+2.9**
	comp=E,5.6nm,0.7s,SNR=7.9						
EIBI				S	**Sn**	**06 58 49.6**	**-3.4**
	comp=E,8.7nm,1.3s,SNR=7.9						
SJAF	**Saint Jean de**	**12.36**	**86**	P	**Pn**	**06 56 43.6**	**+3.5**
	comp=E,5.8nm,0.6s,SNR=7.9						
SJAF				S	**Sn**	**06 58 53.5**	**-4.3**
	comp=E,27nm,15.5s,SNR=7.9						
SJAF	**Saint Jean de**	**12.36**	**86**	P	**Pn**	**06 56 43.6**	**+3.5**
	comp=E,5.8nm,0.6s,SNR=7.9						
SJAF				S	**Sn**	**06 58 53.5**	**-4.3**
	comp=E,27nm,15.5s,SNR=7.9						
EJON	**La Jonquera**	**12.37**	**86**	P	**Pn**	**06 56 43.8**	**+3.6**
	comp=E,7.9nm,1.0s,SNR=7.9						
EJON				S	**Sn**	**06 58 53.3**	**-4.8**
	comp=E,2.1nm,0.3s,SNR=7.9						
EJON	**La Jonquera**	**12.37**	**86**	P	**Pn**	**06 56 43.8**	**+3.6**
	comp=E,7.9nm,1.0s,SNR=7.9						
EJON				S	**Sn**	**06 58 53.3**	**-4.8**
	comp=E,2.1nm,0.3s,SNR=7.9						
PYM	**Petit Puy Mans**	**12.44**	**71**	P	**Pn**	**06 56 43.4**	**+2.3**
PYM				S	Sn	06 58 49.9	-10
BGF	**Bois d'Agland**	**12.45**	**67**	*e*Pn	**Pn**	**06 56 42.9**	**+1.7**
	SNR=1.0						
BGF				*e*Sn	**Sn**	**06 58 51.1**	**-8.9**
	comp=E,52nm,0.4s						
BGF	**Bois d'Agland**	**12.45**	**67**	P	**Pn**	**06 56 42.9**	**+1.7**
BGF	**Bois d'Agland**	**12.45**	**67**	*e*Pn	**Pn**	**06 56 42.9**	**+1.7**
BGF				*e*Sn	**Sn**	**06 58 51.1**	**-8.9**
BGF	**Bois d'Agland**	**12.45**	**67**	P	**Pn**	**06 56 42.9**	**+1.7**
LBL	**Lubilhac**	**12.55**	**74**	P	**Pn**	**06 56 45.3**	**+2.6**
LBL				S	Sn	06 58 52.5	-10
AVF	**Avril sur Loir**	**12.84**	**67**	*e*Pn	**Pn**	**06 56 48.1**	**+1.6**
	SNR=1.0						
AVF				*e*Sn	Sn	06 58 59.4	-10
	comp=E,21nm,0.6s						
AVF	**Avril sur Loir**	**12.84**	**67**	P	**Pn**	**06 56 48.1**	**+1.6**
AVF	**Avril sur Loir**	**12.84**	**67**	*e*Pn	**Pn**	**06 56 48.1**	**+1.6**
AVF				*e*Sn	Sn	06 58 59.4	-10
AVF	**Avril sur Loir**	**12.84**	**67**	P	**Pn**	**06 56 48.1**	**+1.6**
LASF	**Ste Croix**	**12.95**	**79**	*e*Pn	**Pn**	**06 56 50.6**	**+2.5**
	SNR=1.0						
LASF				*e*Sn	**Sn**	**06 59 08.8**	**-3.4**
	comp=E,28nm,0.4s						
LASF	**Ste Croix**	**12.95**	**79**	P	**Pn**	**06 56 50.6**	**+2.5**
LASF				S	**Sn**	**06 59 08.8**	**-3.4**
	comp=E,14nm,0.4s						
LASF	**Ste Croix**	**12.95**	**79**	*e*Pn	**Pn**	**06 56 50.6**	**+2.5**
LASF				*e*Sn	**Sn**	**06 59 08.8**	**-3.4**
LASF	**Ste Croix**	**12.95**	**79**	P	**Pn**	**06 56 50.6**	**+2.5**
LASF				S	**Sn**	**06 59 08.8**	**-3.4**
	comp=E,14nm,0.4s						
SSF	**Saint Saulge**	**13.00**	**65**	*e*Pn	**Pn**	**06 56 48.6**	**-0.1**
	SNR=1.0						
SSF				*e*Sn	Sn	06 59 01.8	-11
	comp=E,16nm,0.4s						
SSF	**Saint Saulge**	**13.00**	**65**	*e*Pn	**Pn**	**06 56 48.6**	**-0.1**
SSF				*e*Sn	Sn	06 59 01.8	-11
SSF	**Saint Saulge**	**13.00**	**65**	*e*Pn	**Pn**	**06 56 48.6**	**-0.1**
	SNR=1.0						
SMF	**Signal de Mont**	**13.14**	**67**	*e*Pn	**Pn**	**06 56 52.1**	**+1.4**
	SNR=1.0						
SMF				*e*Sn	Sn	06 59 06.1	-11
	comp=E,12nm,0.5s						
SMF	**Signal de Mont**	**13.14**	**67**	P	**Pn**	**06 56 52.1**	**+1.4**
SMF	**Signal de Mont**	**13.14**	**67**	*e*Pn	**Pn**	**06 56 52.1**	**+1.4**
SMF				*e*Sn	Sn	06 59 06.1	-11
SMF	**Signal de Mont**	**13.14**	**67**	P	**Pn**	**06 56 52.1**	**+1.4**
LBWR	**Ladybower, Pea**	**13.24**	**33**	*e*P	**Pn**	**06 56 53.3**	**+1.3**
LOR	**Lormes**	**13.28**	**65**	*e*Pn	**Pn**	**06 56 53.4**	**+0.9**
	baz=250,SNR=1.0						
LOR				*e*Sn	Sn	06 59 07.7	-12
	comp=E,6.6nm,0.2s						
LOR	**Lormes**	**13.28**	**65**	P	**Pn**	**06 56 53.4**	**+0.9**
LOR	**Lormes**	**13.28**	**65**	*e*Pn	**Pn**	**06 56 53.4**	**+0.9**
LOR				*e*Sn	Sn	06 59 07.7	-12
LOR	**Lormes**	**13.28**	**65**	P	**Pn**	**06 56 53.4**	**+0.9**
SSB	**Saint Sauveur**	**13.47**	**74**	*e*Pn	**Pn**	**06 56 57.4**	**+2.3**
SSB				*e*Sn	**Sn**	**06 59 23.4**	**-1.4**
SSB	**Saint Sauveur**	**13.47**	**74**	*e*Pn	**Pn**	**06 56 57.4**	**+2.3**
SSB				*e*Sn	**Sn**	**06 59 23.4**	**-1.4**
VIVF	**Saint-Julien-l**	**13.54**	**75**	*e*Pn	**Pn**	**06 56 58.5**	**+2.4**
	SNR=1.0						
VIVF				*e*Sn	**Sn**	**06 59 21.6**	**-5.0**
	comp=E,9.1nm,0.2s						
VIVF	**Saint-Julien-l**	**13.54**	**75**	P	**Pn**	**06 56 58.5**	**+2.4**
VIVF				S	**Sn**	**06 59 21.6**	**-5.0**
	comp=E,4.6nm,0.2s						
VIVF	**Saint-Julien-l**	**13.54**	**75**	*e*Pn	**Pn**	**06 56 58.5**	**+2.4**
VIVF				*e*Sn	**Sn**	**06 59 21.6**	**-5.0**
VIVF	**Saint-Julien-l**	**13.54**	**75**	P	**Pn**	**06 56 58.5**	**+2.4**
VIVF				S	**Sn**	**06 59 21.6**	**-5.0**
	comp=E,4.6nm,0.2s						
KESW	**Keswick, Cumbr**	**13.65**	**28**	*e*P	**Pn**	**06 56 58.2**	**+0.6**
HPK	**Haverah Park**	**13.70**	**32**	*e*P	**Pn**	**06 56 59.4**	**+1.3**
EKA	**Eskdalemuir Ar**	**14.25**	**26**	Pn	**Pn**	**06 57 06.2**	**+0.6**
	baz=203,slow=13,SNR=16						
EKA				Sn	Sn	06 59 33.1	-11
	baz=216,slow=22,SNR=2.8						
SFTF	**Sexfontaines**	**14.27**	**62**	*e*Pn	**P**	**06 57 14.4**	**+1.0**
	baz=241						
SFTF	**Sexfontaines**	**14.27**	**62**	*e*P	**P**	**06 57 14.4**	**+1.0**
BAIF	**Baives**	**14.35**	**54**	*e*Pn	**Pn**	**06 57 08.1**	**+0.9**
	SNR=1.0						
BAIF	**Baives**	**14.35**	**54**	P	**Pn**	**06 57 08.1**	**+0.9**
BAIF	**Baives**	**14.35**	**54**	*e*Pn	**Pn**	**06 57 08.1**	**+0.9**
BAIF	**Baives**	**14.35**	**54**	*e*Pn	**Pn**	**06 57 08.1**	**+0.9**
	SNR=1.0						
CABF	**La Chapelle**	**14.67**	**69**	*e*Pn	**Pn**	**06 57 13.6**	**+2.0**
	SNR=1.0						
CABF	**La Chapelle**	**14.67**	**69**	P	**Pn**	**06 57 13.6**	**+2.0**
CABF	**La Chapelle**	**14.67**	**69**	*e*Pn	**Pn**	**06 57 13.6**	**+2.0**
GIVF	**Givet**	**14.74**	**54**	*e*Pn	**Pn**	**06 57 13.1**	**+0.7**
	SNR=1.0						
GIVF	**Givet**	**14.74**	**54**	P	**Pn**	**06 57 13.1**	**+0.7**
GIVF	**Givet**	**14.74**	**54**	*e*Pn	**Pn**	**06 57 13.1**	**+0.7**
PAGF	**Fort de Pagny**	**14.80**	**61**	*e*Pn	**Pn**	**06 57 13.7**	**+0.4**
	baz=248						
PAGF	**Fort de Pagny**	**14.80**	**61**	*e*Pn	**Pn**	**06 57 13.7**	**+0.4**
PAGF	**Fort de Pagny**	**14.80**	**61**	*e*Pn	**Pn**	**06 57 13.7**	**+0.4**
LPG	**La Plagne**	**15.03**	**73**	*e*Pn	**P**	**06 57 20.7**	**-1.5**
	SNR=1.0						
LPG	**La Plagne**	**15.03**	**73**	*e*Pn	**P**	**06 57 20.7**	**-1.5**
MBDF	**Montbardon**	**15.03**	**76**	*e*Pn	**P**	**06 57 20.4**	**-1.6**
MBDF	**Montbardon**	**15.03**	**76**	*e*Pn	**P**	**06 57 20.4**	**-1.6**
HAU	**Haudompre**	**15.08**	**63**	*e*Pn	**Pn**	**06 57 17.2**	**+0.1**
	SNR=1.0						
HAU				*e*Sn	Sn	06 59 52.8	-11
	comp=E,13nm,0.5s						
HAU	**Haudompre**	**15.08**	**63**	*e*Pn	**Pn**	**06 57 17.2**	**+0.1**
HAU				*e*Sn	Sn	06 59 52.8	-11
PGF	**Pioggiola**	**16.83**	**83**	*e*Pn	**P**	**06 57 45.2**	**+3.3**
	SNR=1.0						
PGF	**Pioggiola**	**16.83**	**83**	*e*Pn	**P**	**06 57 45.2**	**+3.3**
GEC2	**GERESS Array S**	**20.05**	**63**	*e*P	Pn	06 58 19.8	+0.8
	comp=E,2.9nm,0.8s						
GERES	**GERESS Array B**	**20.05**	**63**	P	Pn	06 58 19.8	+0.8
	comp=E,0.2nm,0.3s,baz=270,slow=12,SNR=3.5						
BBTS	**Babate**	**28.26**	**185**	LR	LR	07 09 38.6	
	comp=E,38nm,20.9s,baz=203,slow=34						
TOA1	**Torodi Ar. Sit**	**32.59**	**151**	*e*P	**P**	**07 00 16.0**	**+0.4**
TORD	**Torodi Ar. Bea**	**32.59**	**151**	P	**P**	**07 00 16.0**	**+0.3**
	comp=E,0.7nm,0.4s,baz=339,slow=8.6,SNR=12						
F10A	**Beach Ranch, E**	**68.39**	**313**	*e*P	P	07 04 40.3	-5.5
	comp=E,37nm,2.0s						
HMDM	**Hanimaadhoo**	**83.31**	**87**	*e*P	**P**	**07 06 12.2**	**+0.8**
	comp=E,120nm,1.0s						

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*IDC **03** 07:01:48.5±3.2, 15°.71N×98°.75W, h0km, mb3.5/5, mb1 3.8/7, mb1mx3.7/53, mbtmp3.5/7, ML2.8/2, Error ellipse: s-maj=60.3km s-min=15.9km az=7.0*
*ISCJB **03** 07:01:52.3±2.0, 16°.13N±0°.09×98°.76W±0°.05, h15km±10km, mb3.4/4, Error ellipse: s-maj=15.2km s-min=8.5km az=6.1*
*MEX **03** 07:01:52.9±0.7, 16°.00N×98°.83W, h16km±999km, MD4.2*
*NEIC **03** 07:01:53.0±0.0, 16°.00N×98°.83W, h16km, mb4.0/1, MD4.2(MEX), After MEX.*
ISC 03 07:01:53.6±1.8**, 16°.3N**±0°.1×**98°.76W**±0°.06**, h7**km±10km**, n20, σ1s13**/28**, mb3.6**/4**, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.61**	**81**	*e*P	**Pg**	**07 02 05.2**	**-0.2**
PNIG				*e*S	**Sb**	**07 02 15.1**	**-0.4**
PNIG	**Pinotepa**	**0.61**	**81**	*e*P	**Pg**	**07 02 05.2**	**-0.2**
PNIG				*e*S	**Sb**	**07 02 15.1**	**-0.4**
TLIG	**Tlapa**	**1.27**	**8**	*e*P	**Pn**	**07 02 16.7**	**-1.1**
TLIG				*e*S	**Sn**	**07 02 35.5**	**+0.3**
TLIG	**Tlapa**	**1.27**	**8**	*e*P	**Pn**	**07 02 16.7**	**-1.1**
TLIG				*e*S	**Sn**	**07 02 35.5**	**+0.3**
VHO	**Vista Hermosa**	**2.09**	**68**	*e*P	**Pn**	**07 02 27.8**	**-1.4**
VHO				*e*S	**Sn**	**07 02 53.4**	**-2.1**
VHO	**Vista Hermosa**	**2.09**	**68**	*e*P	**Pn**	**07 02 27.8**	**-1.4**
VHO				*e*S	**Sn**	**07 02 55.7**	**+0.2**
HUIG	**Huatulco**	**2.60**	**101**	*e*P	**Pb**	**07 02 40.6**	**+0.1**
HUIG				*i* S	**Sb**	**07 03 13.2**	**+0.5**
HUIG	**Huatulco**	**2.60**	**101**	*e*P	**Pb**	**07 02 40.6**	**+0.1**
HUIG				*i* S	**Sb**	**07 03 13.2**	**+0.5**
CMIG	**Matias Romero**	**3.79**	**77**	Pn	**Pn**	**07 02 50.7**	**-1.8**
	1.1nm,0.3s,baz=247,slow=14,SNR=22						
CMIG				Pg	**Pb**	**07 03 02.6**	**+1.7**
	2.8nm,0.3s,baz=251,slow=12,SNR=21						
CMIG				Sn	**Sn**	**07 03 36.8**	**-0.5**
	4.2nm,0.3s,baz=249,slow=14,SNR=6.0						
CMIG				Lg	Lg	07 03 55.0	
	10nm,0.3s,baz=231,slow=6.5,SNR=10.0						
MOIG	**Morelia**	**4.08**	**326**	*e*Pn	**Pb**	**07 03 04.4**	**-1.6**
MOIG				*e*Sg	**Sg**	**07 04 05.8**	**+1.1**
APG	**El Apazote**	**8.09**	**98**	Pn	Pn	07 03 46.0	-5.8
	0.1nm,0.3s,baz=246,slow=20,SNR=1.6						
APG				Lg	Lg	07 06 02.6	
	0.1nm,0.3s,baz=61,slow=19,SNR=2.4						
H06E1	**SOCORRO T-PHAS**	**11.87**	**284**	T	T	07 16 45.1	
	SNR=130						
H06S1	**SOCORRO T**	**11.89**	**284**	T	T	07 16 46.4	
	SNR=9.5						
TXAR	**Lajitas Array**	**13.74**	**342**	Pn	**P**	**07 05 19.3**	**+1.6**
	0.1nm,0.3s,baz=166,slow=12,SNR=4.7						
ABTX	**Abilene, Hawle**	**16.27**	**357**	*e*P	**P**	**07 05 46.8**	**+1.1**
	11nm,0.9s						
ANMO	**Albuquerque**	**19.81**	**341**	P	**Pn**	**07 06 26.0**	**-0.4**
	1.4nm,0.7s,baz=332,slow=14,SNR=9.6						
NVAR	**Mina Array Bea**	**27.94**	**326**	P	**P**	**07 07 46.6**	**+1.8**
	0.2nm,0.4s,baz=158,slow=10,SNR=4.0						
PDAR	**Pinedale Array**	**27.95**	**343**	P	**P**	**07 07 46.0**	**+1.1**
	1.1nm,0.8s,baz=142,slow=9.2,SNR=8.0						
YKA	**Yellowknife Ar**	**47.47**	**350**	P	**P**	**07 10 28.1**	**-0.6**
	0.3nm,0.6s,baz=156,slow=7.4,SNR=7.4						
ILAR	**Eielson Array**	**58.22**	**338**	P	**P**	**07 11 48.2**	**0.0**
	0.5nm,0.9s,baz=127,slow=5.8,SNR=3.3						

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*NIED **03** 07:05:00, 38°.40N×142°.80E, h8km, Mw4.1 Best double couple: Mo1.50000×10[15] NP1:φs110.00000°, δ42.00000°, λ-65.00000°. NP2:φs258.00000°, δ52.00000°, λ-111.00000°.*
*IDC **03** 07:05:52.3±0.6, 38°.34N×142°.80E, h0km, mb4.0/19, mb1 4.1/23, mb1mx4.0/73, mbtmp4.1/23, ML3.8/4, MS2.9/4, Ms1 2.9/4, ms1mx2.6/60, Error ellipse: s-maj=16.8km s-min=13.4km az=97.0*
*JMA **03** 07:05:53.8±0.1, 38°.43N×142°.80E, h22km±2km, M4.3*
*ISCJB **03** 07:05:54.2±0.3, 38°.36N±0°.03×142°.81E±0°.04, h23km, mb4.3/33, MS3.5/2, Error ellipse: s-maj=4.8km s-min=4.1km az=161.7*
*NEIC **03** 07:05:58.7±0.5, 38°.40N×142°.79E, h42km±4km, mb4.6/13, Error ellipse: s-maj=4.9km s-min=4.1km az=115.0*
ISC 03 07:05:56.2±0.5**, 38°.39N**±0°.05×**142°.77E**±0°.06**, h23**km**, n112, σ1s29**/115**, mb4.3**/33**, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**1.11**	**309**	P	**Pn**	**07 06 13.9**	**-2.4**
JIO	**Ouri**	**1.12**	**274**	P	**Pn**	**07 06 14.4**	**-2.0**
JIO				S	**Sn**	**07 06 29.0**	**-2.1**
JMK	**Ichinoseki**	**1.34**	**295**	P	**Pn**	**07 06 17.5**	**-2.0**
JMK				*e*S	**Sn**	**07 06 35.1**	**-1.5**
JOM	**Ohasama**	**1.59**	**314**	P	**Pn**	**07 06 21.3**	**-1.6**
JMM	**Marumori**	**1.65**	**252**	P	**Pn**	**07 06 21.8**	**-1.9**
JOU	**Okura**	**1.66**	**270**	P	**Pn**	**07 06 22.9**	**-1.0**
JOU				*e*S	**Sn**	**07 06 44.3**	**-0.2**
JFK	**Kawauchi**	**1.81**	**236**	P	**Pn**	**07 06 24.9**	**-1.1**
JRG	**Rokugo**	**1.95**	**302**	P	**Pn**	**07 06 28.2**	**+0.3**
JYK	**Kaneyama**	**1.96**	**286**	P	**Pn**	**07 06 27.0**	**-1.1**
JFT	**Otama**	**2.11**	**247**	P	**Pn**	**07 06 29.5**	**-0.6**
JYS	**Shirataka**	**2.14**	**266**	P	**Pn**	**07 06 29.6**	**-0.8**
JANG	**Nango**	**2.21**	**334**	P	**Pn**	**07 06 30.1**	**-1.4**
ERM	**Erimo**	**3.64**	**5**	*e*Pn	**Pn**	**07 06 49.9**	**-1.2**
MAJO	**Matsushiro**	**4.07**	**245**	*e*Pn	**Pn**	**07 06 59.7**	**+2.7**
MAT	**Matsushiro**	**4.07**	**245**	P	**Pn**	**07 06 59.5**	**+2.4**
MAT				*e*S	**Sn**	**07 07 47.7**	**+3.7**
MJAR	**Matsushiro Arr**	**4.07**	**245**	Pn	**Pn**	**07 06 59.5**	**+2.5**
	4.2nm,0.3s,baz=53,slow=10,SNR=21						
MJAR				LR	LR	07 08 17.0	
	comp=Z,62nm,21.5s,baz=260,slow=36						
MJB9	**Matsu-Tunnel**	**4.07**	**245**	*e*Pn	**Pn**	**07 06 59.6**	**+2.6**
INU	**Inuyama**	**5.52**	**238**	*e*Pn	**Pn**	**07 07 19.3**	**+2.3**
ASAJ	**Asahikawa**	**5.73**	**359**	Pn	**Pn**	**07 07 18.8**	**-0.9**
	1.9nm,0.3s,baz=257,slow=9.6,SNR=8.6						
ASAJ	**Asahikawa**	**5.73**	**359**	*e*Pn	**Pn**	**07 07 20.3**	**+0.5**
JHJ2	**Mitsune**	**5.79**	**205**	*e*Pn	**Pn**	**07 07 22.1**	**+1.5**
JHJ	**Hachijo jima 2**	**5.79**	**206**	Pn	**Pn**	**07 07 20.3**	**-0.4**
	13nm,0.3s,baz=22,slow=19,SNR=2.4						
JHJ				Sn	**Sn**	**07 08 23.1**	**-3.3**
	33nm,0.3s,baz=17,slow=20,SNR=3.1						
USRK	**Ussuriysk Ar.**	**9.98**	**309**	Pn	Pn	07 08 23.0	+4.9
	0.9nm,0.3s,baz=117,slow=14,SNR=10						
JNU	**Nakatsue**	**11.00**	**245**	Pn	**Pn**	**07 08 31.7**	**-0.4**
	0.3nm,0.3s,baz=48,slow=19,SNR=1.7						
JNU				Sn	**Sn**	**07 10 29.7**	**-4.7**
	2.4nm,0.3s,baz=32,slow=19,SNR=16						
CBIJ	**Chichi jima**	**11.27**	**183**	*e*Pn	**Pn**	**07 08 38.8**	**+3.0**
CBIJ				Sn	Sn	07 10 27.9	-13
JCJ	**Chichijima**	**11.27**	**183**	Pn	**Pn**	**07 08 34.4**	**-1.4**
	2.9nm,0.3s,baz=346,slow=19,SNR=2.6						
JCJ				Sn	Sn	07 10 27.9	-13
	1.8nm,0.3s,baz=348,slow=20,SNR=2.3						
KLR	**Kul'dur**	**13.43**	**327**	Pn	**Pn**	**07 09 06.6**	**+1.3**
	0.0nm,0.3s,baz=144,slow=17,SNR=2.9						
KLR				LR	LR	07 14 27.7	
	comp=Z,8.7nm,20.0s,baz=149,slow=38						
SEY	**Seymchan**	**25.27**	**10**	P	**P**	**07 11 21.3**	**+1.0**
	7.3nm,0.6s,baz=189,slow=6.7,SNR=31						
SONA1	**Songino Array**	**27.96**	**302**	*e*P	**P**	**07 11 45.4**	**+0.4**
SONA0	**Songino Array**	**27.96**	**302**	*e*P	**P**	**07 11 44.9**	**-0.1**
SONM	**Songino Array**	**27.96**	**302**	P	**P**	**07 11 44.9**	**-0.1**
	1.0nm,0.5s,baz=94,slow=9.4,SNR=5.6						
H11N2	**WAKE ISLAND Hy**	**27.97**	**125**	T	T	07 40 55.8	
	baz=317,slow=75						
H11N1	**WAKE ISLAND Hy**	**27.98**	**125**	T	T	07 40 56.5	
	baz=317,slow=75						
H11N3	**WAKE ISLAND Hy**	**27.99**	**125**	T	T	07 40 59.2	
	baz=317,slow=75						
H11S1	**WAKE ISLAND Hy**	**28.75**	**127**	T	T	07 41 56.4	
	baz=318,slow=75						
H11S3	**WAKE ISLAND Hy**	**28.75**	**127**	T	T	07 41 55.7	
	baz=318,slow=75						
H11S2	**WAKE ISLAND Hy**	**28.76**	**127**	T	T	07 41 52.6	
	baz=318,slow=75						
TIXI	**Tiksi**	**34.09**	**352**	LR	LR	07 29 07.6	
	comp=Z,52nm,18.1s,baz=169,slow=41						
PATS	**Pohnpei**	**34.41**	**152**	*e*P	**P**	**07 12 38.5**	**-3.3**
	350nm,1.9s						
ZAA1	**Zalesovo Array**	**41.82**	**311**	*e*P	**P**	**07 13 43.8**	**-0.1**
ZAA1				*e*PcP	**PcP**	**07 15 40.0**	**+0.4**
ZALV	**Zalesovo Beam**	**41.82**	**311**	P	**P**	**07 13 43.8**	**-0.1**
	1.7nm,0.4s,baz=90,slow=7.4,SNR=6.4						
ZALV				PcP	**PcP**	**07 15 40.0**	**+0.4**
	0.4nm,0.4s,baz=90,slow=3.2,SNR=2.2						
ZALV	**Zalesovo Beam**	**41.82**	**311**	*e*P	**P**	**07 13 44.3**	**+0.4**
ZALV				PcP	**PcP**	**07 15 40.0**	**+0.4**
MK01	**Makanchi Array**	**44.33**	**301**	*e*P	**P**	**07 14 05.1**	**+0.8**
MK31	**Makanchi Array**	**44.33**	**301**	*e*P	**P**	**07 14 05.2**	**+0.8**
MK31				*e*S	**S**	**07 20 37.6**	**+0.5**
MK32	**Makanchi Array**	**44.33**	**301**	*e*P	**P**	**07 14 04.0**	**-0.3**
MKAR	**Makanchi Array**	**44.33**	**301**	P	**P**	**07 14 04.0**	**-0.3**
	1.2nm,0.5s,baz=83,slow=9.5,SNR=13						
MKAR	**Makanchi Array**	**44.33**	**301**	*e*P	**P**	**07 14 05.4**	**+1.1**
	20nm,0.8s						
MKAR				*e*S	**S**	**07 20 37.6**	**+0.5**
MAKZ	**Makanchi**	**44.54**	**301**	*e*P	**P**	**07 14 06.7**	**+0.7**
	3.4nm,1.0s						
PPLA	**Purkeypile**	**45.45**	**36**	*e*P	**P**	**07 14 14.9**	**+1.8**
	22nm,1.6s						
CAST	**Castle Rocks**	**45.50**	**35**	*e*P	**P**	**07 14 14.8**	**+1.4**
	7.2nm,1.4s						
KURK	**Kurchatov**	**45.96**	**307**	*e*P	**P**	**07 14 17.6**	**+0.5**
KURBB	**Kurchatov Arra**	**46.03**	**307**	P	**P**	**07 14 17.6**	**-0.1**
	5.1nm,0.5s,baz=80,slow=8.2,SNR=33						
SUA	**Susitna One**	**46.13**	**38**	*e*P	**P**	**07 14 19.4**	**+0.8**
MLY	**Manley**	**46.13**	**33**	*e*P	**P**	**07 14 20.1**	**+1.6**
	3.6nm,1.4s						
SML	**Sawmill**	**47.27**	**37**	*e*P	**P**	**07 14 25.9**	**-1.4**
	19nm,1.6s						
IL1	**Eielson Array**	**47.78**	**33**	*e*P	**P**	**07 14 32.0**	**+0.8**
ILAR	**Eielson Array**	**47.78**	**33**	P	**P**	**07 14 30.9**	**-0.3**
	0.3nm,0.7s,baz=269,slow=5.4,SNR=6.5						
ILB	**Eielson Array**	**47.78**	**33**	*e*P	**P**	**07 14 30.9**	**-0.3**
BVAR	**Borovoye Array**	**50.47**	**312**	P	**P**	**07 14 51.5**	**-0.5**
	0.7nm,0.3s,baz=79,slow=7.1,SNR=5.9						
COEN	**Coen**	**52.07**	**180**	*e*P	**P**	**07 15 04.8**	**+0.5**
	4.3nm,0.9s						
INK	**Inuvik**	**52.69**	**28**	P	**P**	**07 15 07.9**	**-0.5**
	1.0nm,0.8s,baz=294,slow=5.8,SNR=5.3						
INK	**Inuvik**	**52.69**	**28**	*e*P	**P**	**07 15 08.6**	**+0.3**
	10nm,1.6s						
KK05	**Karatay Array**	**53.38**	**300**	*e*P	**P**	**07 15 14.1**	**+0.3**
KK06	**Karatay Array**	**53.38**	**300**	*e*P	**P**	**07 15 14.5**	**+0.6**
KK02	**Karatay Array**	**53.39**	**300**	*e*P	**P**	**07 15 14.7**	**+0.8**
KK31	**Karatay Array**	**53.39**	**300**	*e*P	**P**	**07 15 14.0**	**+0.1**
KKAR	**Karatay Array**	**53.39**	**300**	*e*P	**P**	**07 15 14.0**	**+0.1**
KK04	**Karatay Array**	**53.39**	**300**	*e*P	**P**	**07 15 14.3**	**+0.4**
KK01	**Karatay Array**	**53.39**	**300**	*e*P	**P**	**07 15 14.4**	**+0.5**
KK03	**Karatay Array**	**53.40**	**300**	*e*P	**P**	**07 15 14.3**	**+0.3**
KK07	**Karatay Array**	**53.40**	**300**	*e*P	**P**	**07 15 13.7**	**-0.3**
KK08	**Karatay Array**	**53.40**	**300**	*e*P	**P**	**07 15 13.3**	**-0.7**
AB06	**Akbulak array**	**57.88**	**310**	*e*P	**P**	**07 15 46.1**	**+0.1**
AB05	**Akbulak array**	**57.89**	**310**	*e*P	**P**	**07 15 45.9**	**-0.2**
AB07	**Akbulak array**	**57.89**	**310**	*e*P	**P**	**07 15 46.4**	**+0.2**
AB02	**Akbulak array**	**57.90**	**310**	*e*P	**P**	**07 15 46.3**	**+0.2**
AB01	**Akbulak array**	**57.90**	**310**	*e*P	**P**	**07 15 46.1**	**0.0**
AB31	**Akbulak array**	**57.90**	**310**	*e*P	**P**	**07 15 46.1**	**0.0**
ABKAR	**Akbulak array**	**57.90**	**310**	*e*P	**P**	**07 15 46.3**	**+0.1**
	37nm,0.6s						
AB03	**Akbulak array**	**57.90**	**310**	*e*P	**P**	**07 15 46.4**	**+0.3**
AB04	**Akbulak array**	**57.90**	**310**	*e*P	**P**	**07 15 46.4**	**+0.2**
AB09	**Akbulak array**	**57.91**	**310**	*e*P	**P**	**07 15 46.4**	**+0.2**
AB08	**Akbulak array**	**57.91**	**310**	*e*P	**P**	**07 15 46.5**	**+0.3**
WB2	**Warramunga Arr**	**58.55**	**189**	*e*P	**P**	**07 15 50.5**	**-0.5**
	6.0nm,0.8s						
WR1	**Warramunga Arr**	**58.56**	**189**	*e*P	**P**	**07 15 49.7**	**-1.3**
	5.5nm,0.8s						
WR1				*e*PcP	**PcP**	**07 16 40.4**	**-0.8**
WRA	**Warramunga Arr**	**58.56**	**189**	P	**P**	**07 15 49.7**	**-1.3**
	6.1nm,0.8s,baz=8.6,slow=7.3,SNR=16						
WRA				PcP	**PcP**	**07 16 40.4**	**-0.8**
	0.9nm,0.7s,baz=0.2,slow=3.3,SNR=2.4						
WRA				LR	LR	07 39 45.9	
	comp=Z,65nm,20.9s,baz=255,slow=35						
AKTO	**Aktyubinsk**	**58.58**	**312**	P	**P**	**07 15 51.5**	**+0.6**
	2.2nm,0.8s,baz=66,slow=10,SNR=7.3						
RES	**Resolute Bay**	**61.02**	**15**	*e*P	**P**	**07 16 07.1**	**-0.2**
YKA	**Yellowknife Ar**	**62.10**	**31**	P	**P**	**07 16 14.4**	**-0.3**
	0.3nm,0.7s,baz=302,slow=6.3,SNR=9.5						
YKB5	**Yellowknife Ar**	**62.10**	**31**	*e*P	**P**	**07 16 14.4**	**-0.3**
AS01	**Alice Springs**	**62.27**	**189**	*e*P	**P**	**07 16 16.0**	**-0.4**
AS31	**Alice Springs**	**62.28**	**189**	*e*P	**P**	**07 16 16.1**	**-0.3**
	3.4nm,1.6s						
ASAR	**Alice Springs**	**62.28**	**189**	P	**P**	**07 16 16.1**	**-0.3**
	2.1nm,0.7s,baz=10,slow=6.2,SNR=12						
GEYT	**Alibeck**	**64.13**	**299**	P	**P**	**07 16 32.7**	**+4.0**
	2.2nm,0.6s,baz=57,slow=5.3,SNR=4.6						
FIA1	**FINESS Array S**	**68.12**	**332**	*e*P	**P**	**07 16 54.7**	**+0.9**
FIA0	**FINESS Array S**	**68.12**	**332**	*e*P	**P**	**07 16 53.6**	**-0.2**
FINES	**FINESS Array B**	**68.12**	**332**	P	**P**	**07 16 53.6**	**-0.2**
	1.7nm,0.7s,baz=29,slow=9.5,SNR=3.7						
HFS	**Hagfors**	**73.30**	**336**	P	**P**	**07 17 26.5**	**+1.1**
	1.8nm,0.7s,baz=64,slow=6.6,SNR=4.3						
NV01	**Mina Array Sit**	**73.32**	**54**	*e*P	**P**	**07 17 25.5**	**-0.7**
NVAR	**Mina Array Bea**	**73.32**	**54**	P	**P**	**07 17 26.7**	**+0.5**
	0.7nm,0.8s,baz=302,slow=5.2,SNR=4.7						
NB200	**NORSAR Array S**	**73.35**	**338**	*e*P	**P**	**07 17 25.4**	**-0.4**
NOA	**NORSAR Array B**	**73.35**	**338**	P	**P**	**07 17 25.4**	**-0.4**
	0.8nm,0.7s,baz=39,slow=5.7,SNR=3.2						
AKASG	**Malin Array Be**	**73.88**	**323**	P	**P**	**07 17 28.0**	**-1.0**
	1.9nm,0.6s,baz=44,slow=5.9,SNR=6.7						
PDAR	**Pinedale Array**	**75.95**	**46**	P	**P**	**07 17 41.3**	**-0.1**
	0.3nm,0.5s,baz=281,slow=0.8,SNR=4.2						
PDAR	**Pinedale Array**	**75.95**	**46**	*e*P	**P**	**07 17 41.6**	**+0.1**
BR101	**Keskin Array S**	**78.76**	**312**	*e*P	P	07 18 03.8	+6.7
BRTR	**Keskin Array B**	**78.76**	**312**	P	P	07 18 03.8	+6.7
	0.5nm,0.6s,baz=53,slow=5.6,SNR=2.7						
WMOK	**Wichita Mounta**	**87.56**	**46**	*e*P	**P**	**07 18 42.3**	**-0.2**
	8.5nm,1.4s						
LTX	**Lajitas**	**88.45**	**53**	*e*P	**P**	**07 18 46.4**	**-0.5**
TX31	**Lajitas Ar. Si**	**88.45**	**53**	*e*P	**P**	**07 18 46.7**	**-0.1**
TXAR	**Lajitas Array**	**88.45**	**53**	P	**P**	**07 18 46.4**	**-0.4**
	0.5nm,0.6s,baz=296,slow=2.7,SNR=5.3						
SIV	**San Ignacio**	**149.39**	**50**	PKPbc	**PKPbc**	**07 25 43.4**	**-0.3**
	0.6nm,0.5s,baz=258,slow=0.8,SNR=6.3						

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*IDC **03** 07:07:40.5±2.7, 4°.40S×153°.76E, h84km±22km, mb3.9/14, mb1 4.1/15, mb1mx3.8/53, mbtmp4.3/15, MS3.6/13, Ms1 3.6/13, ms1mx3.3/45, Error ellipse: s-maj=24.9km s-min=12.5km az=117.0*
*ISCJB **03** 07:07:41.7±0.4, 4°.44S±0°.05×153°.66E±0°.07, h100km, mb4.5/31, Error ellipse: s-maj=10.9km s-min=5.7km az=32.5*
*BJI **03** 07:07:43.8, 4°.45S×153°.77E, h126km, mb4.7/15, mB5.1/8*
*NEIC **03** 07:07:45.4±0.6, 4°.36S×153°.45E, h118km±5km, mb4.7/15, Error ellipse: s-maj=7.8km s-min=6.4km az=110.0*
ISC 03 07:07:43.6±0.5**, 4°.34S**±0°.06×**153°.58E**±0°.07**, h100**km**, n67, σ1s55**/59**, mb4.5**/32**, New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.42**	**276**	*e*Pn	**Pn**	**07 08 09.2**	**+0.2**
RABL				*e*Sn	**Sn**	**07 08 31.5**	**+3.3**
HNR	**Honiara**	**8.09**	**129**	*e*Sn	**Sn**	**07 11 13.4**	**+5.2**
PMG	**Port Moresby**	**8.12**	**231**	P	**Pn**	**07 09 38.8**	**0.0**
	12nm,0.3s,baz=58,slow=8.4,SNR=24						
PMG				S	**Sn**	**07 11 07.9**	**-1.1**
	5.4nm,0.3s,baz=102,slow=20,SNR=11						
PMG				LR	LR	07 13 01.6	
	comp=Z,291nm,21.4s,baz=50,slow=39						
PMG	**Port Moresby**	**8.12**	**231**	*e*Pn	**Pn**	**07 09 39.3**	**+0.5**
PMG				*e*Sn	**Sn**	**07 11 08.3**	**-0.7**
PATS	**Pohnpei**	**12.07**	**23**	*e*Pn	**Pn**	**07 10 32.0**	**-0.3**
PATS				*e*Sn	**Sn**	**07 12 42.3**	**-2.8**
COEN	**Coen**	**14.02**	**226**	*e*Pn	**Pn**	**07 10 58.2**	**+0.2**
EIDS	**Eidsvold**	**21.04**	**186**	*e*P	**P**	**07 12 19.7**	**+0.1**
	16nm,1.3s						
DZM	**Mont Dzumac**	**21.59**	**146**	LR	LR	07 19 11.1	
	comp=Z,143nm,20.3s,baz=32,slow=32						
WB2	**Warramunga Arr**	**24.32**	**229**	*e*P	**P**	**07 12 51.2**	**-1.0**
	11nm,0.6s						
WRA	**Warramunga Arr**	**24.33**	**229**	P	**P**	**07 12 51.3**	**-1.0**
	9.2nm,0.6s,baz=54,slow=10.0,SNR=108						
WRA				PcP	**PcP**	**07 16 28.5**	**-1.1**
	0.9nm,0.7s,baz=52,slow=2.3,SNR=2.7						
WRA				S	**S**	**07 17 07.0**	**+2.5**
	1.4nm,0.9s,baz=49,slow=16,SNR=3.9						
WRA				LR	LR	07 22 46.4	
	comp=Z,116nm,18.0s,baz=185,slow=37						
AS01	**Alice Springs**	**26.98**	**223**	*e*P	**P**	**07 13 15.0**	**-1.2**
ASAR	**Alice Springs**	**27.01**	**223**	P	**P**	**07 13 14.9**	**-1.6**
	1.5nm,0.6s,baz=53,slow=8.7,SNR=16						
ASAR				LR	LR	07 25 25.2	
	comp=Z,110nm,18.0s,baz=65,slow=39						
STKA	**Stephens Creek**	**29.61**	**201**	P	**P**	**07 13 38.0**	**-1.5**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	3.1nm,0.6s,baz=27,slow=12,SNR=11						
STKA	**Stephens Creek**	**29.61**	**201**	*e*P	**P**	**07 13 38.0**	**-1.5**
	6.3nm,1.8s						
BATI	**Baumata**	**30.23**	**257**	LR	LR	07 26 44.7	
	comp=Z,190nm,19.3s,baz=60,slow=38						
AFI	**Afiamalu**	**35.45**	**108**	LR	LR	07 25 01.7	
	comp=Z,67nm,21.1s,baz=248,slow=30						
FORT	**Forrest**	**35.63**	**220**	*e*P	**P**	**07 14 30.5**	**-1.5**
	2µm,2.0s						
MBWA	**Marble Bar**	**36.87**	**240**	*e*P	**P**	**07 14 42.7**	**-0.1**
	55nm,2.0s						
TAU	**Tasmania Unive**	**38.80**	**187**	*e*P	**P**	**07 14 58.9**	**+0.3**
	196nm,1.8s						
KHZ	**Kahutara**	**41.87**	**158**	*e*P	**P**	**07 15 22.0**	**-1.9**
	58nm,1.4s						
KSRS	**Korea Array**	**47.95**	**332**	LR	LR	07 34 42.9	
	comp=Z,18nm,18.7s,baz=98,slow=34						
NJ2	**Nanjing**	**48.99**	**320**	*e*P	**P**	**07 16 19.0**	**-1.3**
NJ2				pmax	pmax		
	comp=Z,15nm,0.5s						
PSI	**Prapat**	**55.08**	**276**	LR	LR	07 45 26.7	
	comp=Z,154nm,18.4s,baz=170,slow=41						
PETK	**Petropavlovsk-**	**57.34**	**3**	LR	LR	07 38 28.0	
	comp=Z,15nm,21.5s,baz=139,slow=32						
KMI	**Kunming**	**57.38**	**303**	P	**P**	**07 17 24.5**	**+2.2**
KMI				pmax	pmax		
	comp=Z,3.0nm,0.5s						
CMAR	**Chiang Mai Arr**	**58.39**	**295**	P	**P**	**07 17 30.1**	**+0.9**
	1.6nm,0.4s,baz=110,slow=5.4,SNR=5.6						
CD2	**Chengdu**	**59.04**	**310**	*e*P	**P**	**07 17 33.0**	**-0.5**
HHC	**Hu-ho-hao-te**	**59.14**	**324**	*e*P	**P**	**07 17 36.0**	**+1.9**
HHC				pmax	pmax		
	comp=Z,13nm,1.1s						
HHC				pmax	pmax		
	comp=Z,230nm,6.8s						
LZH	**Lanzhou**	**61.45**	**315**	*e*P	**P**	**07 17 53.1**	**+3.1**
LZH				pP	pP	07 18 20.4	+5.6
LZH				sP	PcP	07 18 33.6	+2.4
LZH				pmax	pmax		
	comp=Z,19nm,0.8s						
GTA	**Gaotai**	**65.86**	**317**	*e*P	**P**	**07 18 20.7**	**+1.8**
GTA				pmax	pmax		
	comp=Z,3.0nm,0.6s						
SONM	**Songino Array**	**66.36**	**327**	P	**P**	**07 18 22.5**	**+0.6**
	0.7nm,0.6s,baz=133,slow=5.0,SNR=3.9						
SONM				LR	LR	07 47 51.1	
	comp=Z,29nm,18.6s,baz=62,slow=36						
VNDA	**Vanda**	**73.26**	**178**	P	**P**	**07 19 02.0**	**-1.5**
	1.3nm,0.6s,baz=337,slow=5.3,SNR=10.0						
VNDA	**Vanda**	**73.26**	**178**	*e*P	**P**	**07 19 03.4**	**-0.1**
	17nm,2.0s						
WMQ	**Urumqi**	**75.94**	**317**	P	**P**	**07 19 21.3**	**+1.6**
SUA	**Susitna One**	**78.23**	**24**	*e*P	**P**	**07 19 32.3**	**+0.1**
	41nm,2.0s						
RC01	**Rabbit Creek A**	**78.44**	**24**	*e*P	**P**	**07 19 33.6**	**+0.4**
	44nm,1.8s						
PPLA	**Purkeypile**	**78.46**	**22**	*e*P	**P**	**07 19 34.9**	**+1.4**
	36nm,1.7s						
CAST	**Castle Rocks**	**78.79**	**22**	*e*P	**P**	**07 19 35.7**	**+0.6**
	12nm,1.6s						
SML	**Sawmill**	**79.39**	**24**	*e*P	**P**	**07 19 39.0**	**+0.5**
	51nm,2.0s						
BPAW	**Bear Paw Mtn.**	**79.58**	**22**	*e*P	**P**	**07 19 39.5**	**0.0**
	18nm,1.9s						
IM3	**Indian Mountai**	**79.70**	**19**	*e*P	**P**	**07 19 40.6**	**+0.6**
MLY	**Manley**	**80.18**	**21**	*e*P	**P**	**07 19 43.0**	**+0.3**
	14nm,1.8s						
MK01	**Makanchi Array**	**80.48**	**319**	*e*P	**P**	**07 19 44.5**	**-0.2**
MK31	**Makanchi Array**	**80.50**	**319**	*e*P	**P**	**07 19 45.1**	**+0.4**
MKAR	**Makanchi Array**	**80.50**	**319**	P	**P**	**07 19 44.7**	**-0.1**
	1.2nm,0.8s,baz=98,slow=7.5,SNR=7.4						
MKAR	**Makanchi Array**	**80.50**	**319**	*e*P	**P**	**07 19 45.1**	**+0.4**
	14nm,0.6s						
ZALV	**Zalesovo Beam**	**81.21**	**326**	P	**P**	**07 19 46.2**	**-2.1**
	0.8nm,0.4s,baz=110,slow=6.6,SNR=1.8						
IL1	**Eielson Array**	**81.45**	**22**	*e*P	**P**	**07 19 48.4**	**-1.0**
ILAR	**Eielson Array**	**81.45**	**22**	P	**P**	**07 19 47.7**	**-1.7**
	0.6nm,0.6s,baz=238,slow=5.5,SNR=13						
DOT	**Dot Lake**	**82.00**	**24**	*e*pP	pP	07 20 23.6	+5.3
H08N1	**Diego Carcia H**	**82.16**	**264**	T	T	08 51 10.3	
	baz=109						
H08N2	**Diego Garcia H**	**82.17**	**264**	T	T	08 51 03.4	
	baz=109						
H08N3	**Diego Garcia H**	**82.18**	**264**	T	T	08 51 01.8	
	baz=109						
KURK	**Kurchatov**	**83.89**	**322**	P	**P**	**07 20 01.8**	**-0.5**
KURBB	**Kurchatov Arra**	**83.92**	**322**	P	**P**	**07 20 01.8**	**-0.7**
	1.7nm,0.7s,baz=114,slow=4.1,SNR=7.9						
NIL	**Nilore**	**84.36**	**304**	*e*P	**P**	**07 20 04.9**	**-0.3**
AAK	**Ala-Archa**	**84.92**	**313**	P	**P**	**07 20 08.0**	**0.0**
	2.3nm,0.6s,baz=108,slow=5.6,SNR=7.8						
YBH	**Yreka Blue Hor**	**88.17**	**48**	LR	LR	07 59 16.8	
	comp=Z,51nm,18.3s,baz=324,slow=35						
BVAR	**Borovoye Array**	**89.35**	**323**	P	**P**	**07 20 27.4**	**-1.5**
	1.6nm,0.7s,baz=100,slow=4.4,SNR=5.3						
NVAR	**Mina Array Bea**	**91.19**	**52**	LR	LR	07 57 16.3	
	comp=Z,41nm,18.1s,baz=104,slow=33						
YKA	**Yellowknife Ar**	**94.66**	**28**	P	**P**	**07 20 53.4**	**+0.2**
	0.2nm,0.6s,baz=265,slow=4.7,SNR=6.4						
GEYT	**Alibeck**	**96.96**	**308**	P	**P**	**07 21 03.1**	**-1.2**
	1.1nm,0.5s,baz=98,slow=6.0,SNR=2.6						
PDAR	**Pinedale Array**	**97.97**	**48**	LR	LR	07 57 18.9	
	comp=Z,26nm,19.9s,baz=303,slow=30						
AKASG	**Malin Array Be**	**114.58**	**325**	PKP	PKPdf	07 26 10.3	-1.8
	0.5nm,0.3s,baz=63,slow=1.9,SNR=4.2						
GERES	**GERESS Array B**	**124.07**	**329**	PKP	**PKPdf**	**07 26 30.3**	**-0.4**
	0.4nm,0.6s,baz=66,slow=3.3,SNR=3.0						
TOA0	**Torodi Ar. Sit**	**150.90**	**289**	*e*PKPbc	**PKPbc**	**07 27 24.4**	**-1.3**
TORD	**Torodi Ar. Bea**	**150.90**	**289**	PKPbc	**PKPdf**	**07 27 23.9**	**+3.9**
	2.7nm,0.7s,baz=60,slow=2.6,SNR=18						

IDC 03 07:16:35.2±2.7**, 53°.49N**×**87°.65E, h0**km**, mb1 3.4**/2**, mb1mx3.0**/70**, mbtmp3.4**/2**, ML3.1**/2**, 1C-1D, Error ellipse: s-maj=22.8km s-min=13.8km az=60.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.75**	**286**	*i*		07 28 00.0	
	baz=102,slow=326,SNR=15						
ZALV	**Zalesovo Beam**	**1.75**	**286**	Pg	Pn	07 17 06.0	-0.7
	5.6nm,0.3s,baz=107,slow=14,SNR=53						
ZALV				Lg	Lg	07 17 30.3	
	6.8nm,0.3s,baz=105,slow=27,SNR=14						
KURBB	**Kurchatov Arra**	**6.32**	**247**	Pn	Pn	07 18 10.3	+0.9
	0.4nm,0.3s,baz=61,slow=14,SNR=30						
KURBB				Sn	Sn	07 19 21.6	-0.6
	0.1nm,0.3s,baz=64,slow=24,SNR=7.1						
KURBB				Lg	Lg	07 19 55.2	
	0.1nm,0.3s,baz=66,slow=30,SNR=7.1						
MK31	**Makanchi Array**	**7.53**	**209**	Pn	Pn	07 18 27.5	+1.3
	0.1nm,0.3s,baz=29,slow=14,SNR=16						
MK31				⇑Sn	Sn	07 19 54.0	+1.7
	0.9nm,0.7s,baz=33,slow=27,SNR=8.0						
MK31				⇓Lg	Lg	07 20 33.5	
	1.9nm,0.7s,baz=28,slow=31,SNR=3.6						
MKAR	**Makanchi Array**	**7.53**	**209**	Pn	Pn	07 18 27.4	+1.1
	0.3nm,0.3s,baz=29,slow=14,SNR=15						
MKAR				Sn	Sn	07 19 52.4	+0.1
	0.1nm,0.3s,baz=26,slow=28,SNR=5.5						
MKAR				Lg	Lg	07 20 32.1	
	0.3nm,0.3s,baz=28,slow=33,SNR=5.6						

IDC 03 07:17:53.3±1.6**, 8°.52S**×**124°.33E, h0**km**, mb4.0**/3**, mb1 3.9**/5**, mb1mx3.5**/55**, mbtmp3.7**/5**, ML3.4**/2**, Error ellipse: s-maj=99.3km s-min=29.0km az=56.0, Timor region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.93**	**141**	Pn	Pn	07 21 24.9	-0.9
	0.1nm,0.3s,baz=320,slow=12,SNR=6.9						
ASAR	**Alice Springs**	**17.63**	**150**	P	Pn	07 21 59.5	-1.1
	0.2nm,0.3s,baz=332,slow=11,SNR=11						
MKAR	**Makanchi Array**	**66.56**	**330**	P	P	07 28 44.6	-0.6
	0.6nm,0.4s,baz=123,slow=7.6,SNR=15						
KURBB	**Kurchatov Arra**	**70.99**	**331**	P	P	07 29 12.7	0.0
	1.0nm,0.6s,baz=127,slow=6.2,SNR=7.1						
ILAR	**Eielson Array**	**97.13**	**26**	P	Pdif	07 31 28.9	+1.5
	0.3nm,0.9s,baz=258,slow=4.3,SNR=3.0						

IDC 03 07:18:52.9±15.0**, 0°.85S**×**127°.13E, h0**km**, mb4.0**/3**, mb1 4.2**/3**, mb1mx3.5**/56**, mbtmp4.0**/3**, MS3.3**/2**, Ms1 3.3**/2**, ms1mx2.6**/56**, Error ellipse: s-maj=236.6km s-min=151.8km az=151.0, Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**20.25**	**160**	P	P	07 23 30.6	+0.5
	3.1nm,0.5s,baz=338,slow=12,SNR=32						
GUMO	**Guam**	**22.69**	**50**	LR	LR	07 31 39.0	
	comp=Z,35nm,21.2s,baz=126,slow=34						
ASAR	**Alice Springs**	**23.62**	**164**	P	P	07 24 06.4	+0.6
	1.6nm,0.4s,baz=345,slow=12,SNR=30						
STKA	**Stephens Creek**	**33.76**	**158**	P	P	07 25 35.4	-1.0
	1.4nm,0.3s,baz=331,slow=8.8,SNR=5.3						
WSAR	**Wadi Sarin**	**70.65**	**295**	LR	LR	08 03 59.0	
	comp=Z,35nm,18.6s,baz=78,slow=38						

IDC 03 07:20:30.0±10.0**, 4°.37S**×**153°.38E, h141**km±69km**, mb3.4**/3**, mb1 3.6**/4**, mb1mx3.1**/50**, mbtmp3.9**/4**, Error ellipse: s-maj=107.6km s-min=60.0km az=89.0, New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.95**	**231**	P	Pn	07 22 22.8	0.0
	4.3nm,0.3s,baz=45,slow=11,SNR=7.2						
WRA	**Warramunga Arr**	**24.16**	**229**	P	P	07 25 33.5	+0.3
	2.6nm,0.6s,baz=54,slow=10.0,SNR=11						
ASAR	**Alice Springs**	**26.86**	**223**	P	P	07 25 57.1	-0.6
	0.3nm,0.6s,baz=55,slow=9.9,SNR=2.3						
STKA	**Stephens Creek**	**29.52**	**201**	P	P	07 26 21.2	+0.1
	1.3nm,0.6s,baz=30,slow=11,SNR=3.1						
TORD	**Torodi Ar. Bea**	**150.72**	**289**	PKPbc	PKPbc	07 40 06.3	-0.3
	0.7nm,0.7s,baz=85,slow=2.7,SNR=1.6						

*ISCJB **03** 07:21:42.1±0.8, 4°.5S±0°.1×153°.7E±0°.2, h100km, mb3.6/9, Error ellipse: s-maj=28.3km s-min=10.4km az=40.8*
*IDC **03** 07:21:46.2±5.3, 4°.48S×153°.54E, h122km±44km, mb3.5/9, mb1 3.7/10, mb1mx3.5/51, mbtmp3.9/10, MS3.4/2, Ms1 3.4/2, ms1mx2.8/29, Error ellipse: s-maj=40.6km s-min=22.3km az=99.0*
ISC 03 07:21:43.6±0.9**, 4°.5S**±0°.2×**153°.7E**±0°.2**, h100**km**, n13, σ1**s**01**/13**, mb3.6**/9**, New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**7.94**	**129**	LR	LR	07 27 14.4	
	comp=Z,79nm,18.9s,baz=359,slow=41						
PMG	**Port Moresby**	**8.15**	**232**	P	**Pn**	**07 23 41.2**	**+2.1**
	5.9nm,0.3s,baz=55,slow=6.7,SNR=6.8						
PMG				S	**Sn**	**07 25 08.5**	**-1.1**
	2.9nm,0.3s,baz=324,slow=17,SNR=5.9						
WRA	**Warramunga Arr**	**24.35**	**229**	P	**P**	**07 26 52.1**	**-0.2**
	5.3nm,0.8s,baz=53,slow=9.8,SNR=18						
ASAR	**Alice Springs**	**27.01**	**223**	P	**P**	**07 27 15.2**	**-1.3**
	0.9nm,0.8s,baz=57,slow=8.6,SNR=6.8						
ASAR				PcP	**PcP**	**07 30 36.0**	**+0.2**
	0.6nm,0.8s,baz=56,slow=3.5,SNR=4.2						
STKA	**Stephens Creek**	**29.56**	**201**	P	**P**	**07 27 38.1**	**-0.8**
	1.9nm,0.6s,baz=23,slow=13,SNR=5.5						
URZ	**Urewera**	**39.85**	**151**	LR	LR	07 43 44.0	
	comp=Z,156nm,20.2s,baz=5.0,slow=33						
VNDA	**Vanda**	**73.15**	**178**	P	**P**	**07 33 03.3**	**+0.4**
	0.9nm,0.7s,baz=347,slow=7.6,SNR=3.7						
MKAR	**Makanchi Array**	**80.65**	**319**	P	**P**	**07 33 45.7**	**+0.2**
	0.9nm,1.0s,baz=103,slow=5.4,SNR=4.2						
ILAR	**Eielson Array**	**81.50**	**22**	P	**P**	**07 33 49.2**	**-0.4**
	0.5nm,0.8s,baz=240,slow=6.9,SNR=4.8						
KURBB	**Kurchatov Arra**	**84.08**	**322**	P	**P**	**07 34 03.0**	**-0.2**
	0.8nm,0.9s,baz=93,slow=3.7,SNR=5.4						
BVAR	**Borovoye Array**	**89.50**	**323**	P	**P**	**07 34 28.7**	**-0.8**
	0.5nm,0.5s,baz=98,slow=2.9,SNR=4.7						
YKA	**Yellowknife Ar**	**94.70**	**28**	P	**P**	**07 34 54.3**	**+0.9**
	0.1nm,0.7s,baz=283,slow=4.5,SNR=3.6						
TORD	**Torodi Ar. Bea**	**151.04**	**289**	PKPbc	**PKPbc**	**07 41 25.5**	**-0.6**
	1.1nm,0.7s,baz=76,slow=2.7,SNR=3.9						

*SCB **03** 07:25:06.5±1.2, 19°.65S×69°.10W, h95km, Ml4.5/1, Error ellipse: s-maj=40.0km s-min=5.4km az=62.0*
*ISCJB **03** 07:25:06.8±0.2, 19°.58S±0°.02×69°.02W±0°.03, h123km±2km, mb5.1/160, Error ellipse: s-maj=5.5km s-min=2.8km az=161.1*
*BJI **03** 07:25:08.0, 19°.60S×69°.10W, h107km, mB5.2/7*
*NEIC **03** 07:25:08.0±0.0, 19°.64S×69°.09W, h117km, mb5.2/141, ML5.5(GUC), After GUC.*
NEIC Felt [IV] at Camina; [III] at La Tirana and Pica; [II] at Alto Hospicio, Cuya, Iquique, Pozo Almonte and Quillagua.
*MOS **03** 07:25:08.1±1.5, 19°.56S×68°.90W, h125km, mb5.1/23, Error ellipse: s-maj=14.6km s-min=6.3km az=104.6*
*GCMT **03** 07:25:08.0±0.3, 19°.64S×69°.22W, h139km±4km, MW5.0/76, Moment Tensor Solution. s15,c16; s76,c97; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr-1.13±.16; Mθθ0.71±.19; Mφφ0.42±.24; Mrθ1.54±.09; Mθφ-0.68±.15; Mφr-2.92±.14; Best double couple: M0 3.51300×10^16^ NP1:φs331.00000°, δ81.00000°, λ-82.00000°. NP2: φs110.00000°, δ12.00000°, λ-130.00000°. Principal axes: T 3.4840, Plg35.0000°, Azm54.0000°; N 0.0550, Plg8.0000°, Azm149.0000°; P -3.5420, Plg54.0000°, Azm250.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*GUC **03** 07:25:08.0±0.7, 19°.65S×69°.09W, h114km±3km, ML5.5*
*IDC **03** 07:25:09.2±0.3, 19°.48S×68°.76W, h120km±2km, mb4.5/21, mb1 4.6/23, mb1mx4.4/42, mbtmp4.9/23, MS3.7/13, Ms1 3.7/13, ms1mx3.5/38, Error ellipse: s-maj=12.4km s-min=8.2km az=73.0*
ISC 03 07:25:08.8±0.3**, 19°.61S**±0°.03×**69°.02W**±0°.04**, h119**km±2km**, h119**km**:pP-P, n691, σ1**s**26**/734**, mb5.2**/160**, 19C-6D, Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO01	**Chusmiza**	**0.17**	**251**	⇑*i*P	**Pn**	**07 25 24.7**	**-1.2**
GO01				*e*S	**Sn**	**07 25 37.3**	**-1.4**
GO01				IAML		07 25 37.8	
	comp=E,351µm,0.6s						
PB08	**IPOC Station P**	**0.54**	**193**	⇑*i*P	**Pn**	**07 25 26.6**	**-0.9**
PB08				*e*S	**Sn**	**07 25 40.0**	**-1.4**
PB08				IAML		07 25 40.6	
	comp=E,168µm,0.3s						
PB11	**IPOC Station P**	**0.61**	**256**	*e*Pn	**Pn**	**07 25 26.4**	**-1.2**
PB11				*e*Sn	**Sn**	**07 25 40.2**	**-1.5**
PB11	**IPOC Station P**	**0.61**	**256**	⇑*i*P	**Pn**	**07 25 26.3**	**-1.2**
PB11				*e*S	**Sn**	**07 25 40.3**	**-1.5**
MNMC	**Minye Minye**	**0.72**	**311**	*e*Pn	**Pn**	**07 25 28.0**	**-0.6**
MNMC				*e*Sn	**Sn**	**07 25 42.5**	**-1.0**
MNMC	**Minye Minye**	**0.72**	**311**	⇑*i*P	**Pn**	**07 25 27.8**	**-0.8**
MNMC				*i* S	**Sn**	**07 25 42.1**	**-1.4**
MNMC				IAML		07 25 42.9	
	comp=E,177µm,0.5s						
PSGC	**Pisagua**	**1.04**	**271**	⇑*i*P	**Pn**	**07 25 30.0**	**-1.2**
PSGC				*e*S	**Sn**	**07 25 46.3**	**-1.9**
PB01	**IPOC Station P**	**1.49**	**197**	*e*Pn	**Pn**	**07 25 35.4**	**-0.7**
PB01				*e*Sn	**Sn**	**07 25 55.7**	**-1.3**
PB01	**IPOC Station P**	**1.49**	**197**	⇑*i*P	**Pn**	**07 25 35.3**	**-0.9**
PB01				*e*S	**Sn**	**07 25 55.3**	**-1.6**
PB01				IAML		07 25 56.3	
	comp=N,69µm,0.1s						
PB12	**IPOC Station P**	**1.58**	**309**	⇑*i*P	**Pn**	**07 25 36.1**	**-1.2**
PB12				*i* S	**Sn**	**07 25 56.8**	**-2.1**
PB12				IAML		07 26 00.4	
	comp=E,68µm,0.3s						
ARCH	**Arica**	**1.64**	**313**	*e*P	**Pn**	**07 25 37.0**	**-0.8**
ARCH				*i* S	**Sn**	**07 25 58.6**	**-1.3**
ARCH				IAML		07 26 03.1	
	comp=E,56µm,0.4s						
PB02	**IPOC Station P**	**1.89**	**206**	⇑*i*P	**Pn**	**07 25 39.8**	**-1.2**
PB02				*e*S	**Sn**	**07 26 04.3**	**-1.2**
PB09	**IPOC Station P**	**2.18**	**185**	*e*P	**Pn**	**07 25 44.4**	**-0.3**
PB09				*e*S	**Sn**	**07 26 11.5**	**-0.7**
PB07	**IPOC Station P**	**2.25**	**201**	*e*P	**Pn**	**07 25 44.7**	**-0.9**
BBOJ	**La Paz, Jacaqu**	**2.74**	**17**	⇑*i*Pn	**Pn**	**07 25 54.3**	**+2.1**
PB04	**IPOC Station P**	**2.91**	**201**	*e*Pn	**Pn**	**07 25 53.4**	**-0.6**
PB04	**IPOC Station P**	**2.91**	**201**	*e*P	**Pn**	**07 25 52.5**	**-1.5**
PB04				*i* S	**Sn**	**07 26 26.9**	**-1.9**
PB04				IAML		07 26 40.3	
	comp=E,9µm,0.5s						
BBOE	**La Paz, Chanca**	**2.96**	**20**	⇓*i*Pn	**Pn**	**07 25 57.0**	**+1.9**
BBOD	**La Paz, Gloria**	**2.99**	**8**	⇑*i*Pn	**Pn**	**07 25 57.6**	**+2.1**
PB06	**IPOC Station P**	**3.12**	**189**	⇓*i*P	**Pn**	**07 25 55.2**	**-1.6**
PB06				*i* S	**Sn**	**07 26 29.9**	**-3.9**
PB06				IAML		07 26 34.7	
	comp=N,11µm,0.4s						
LPAZ	**La Paz**	**3.41**	**15**	P	**Pn**	**07 26 02.9**	**+1.7**
	comp=N,132nm,0.3s,baz=192,slow=4.3,SNR=4312						
LPAZ				S	**Sn**	**07 26 40.7**	**-0.8**
	comp=N,22nm,0.3s,baz=48,slow=24,SNR=0.9						
LPAZ	**La Paz**	**3.41**	**15**	*e*Pn	**Pn**	**07 26 03.3**	**+2.1**
LPAZ				S	**Sn**	**07 26 40.7**	**-0.8**
LPAZ	**La Paz**	**3.41**	**15**	*e*P	**Pn**	**07 26 02.8**	**+1.7**
LPAZ	**La Paz**	**3.41**	**15**	⇑*i*Pn	**Pn**	**07 26 02.7**	**+1.5**
LPAZ	**La Paz**	**3.41**	**15**	⇑*i*P	**Pn**	**07 26 02.9**	**+1.7**
LPAZ				*i* S	**Sn**	**07 26 40.5**	**-1.0**
BBOB	**La Paz, Bander**	**3.56**	**14**	⇑*i*Pn	**Pn**	**07 26 04.2**	**+1.3**
BBOB				⇑*i*Sn	**Sn**	**07 26 47.6**	**+2.9**
	comp=N,488nm,0.6s						
MOCB	**Mochara**	**3.57**	**118**	*e*Pn	**Pn**	**07 26 05.0**	**+2.0**
MOCB				*e*Sn	**Sn**	**07 26 47.7**	**+2.8**
ARE	**Arequipa**	**3.92**	**323**	⇑*i*P	**Pn**	**07 26 06.2**	**-1.3**
ARE				*i* S	**Sn**	**07 26 48.5**	**-4.5**
ARE	**Arequipa**	**3.92**	**323**	⇑*i*P	**Pn**	**07 26 06.2**	**-1.3**
ARE				*i* S	**Sn**	**07 26 48.5**	**-4.5**
PB10	**IPOC Station P**	**4.13**	**200**	*e*Pn	**Pn**	**07 26 08.1**	**-2.1**
PB10	**IPOC Station P**	**4.13**	**200**	*e*P	**Pn**	**07 26 07.8**	**-2.4**
YJA	**Yavi**	**4.16**	**128**	*e*P	**Pn**	**07 26 12.2**	**+1.4**
YJA				IAML		07 26 14.6	
	comp=Z,128nm,0.7s						
HJA	**Humahuaca**	**4.91**	**137**	*e*P	**Pn**	**07 26 22.5**	**+1.6**
HJA				IAML		07 26 24.4	
	comp=Z,523nm,0.5s						
PB14	**IPOC Station P**	**5.15**	**194**	*e*P	**Pn**	**07 26 21.9**	**-2.2**
AZAP	**Zapla**	**5.88**	**142**	*e*P	**Pn**	**07 26 33.4**	**-0.5**
AZAP				IAML		07 26 35.5	
	comp=Z,150nm,0.6s						
SLA	**San Lorenzo**	**6.04**	**148**	*e*P	**Pn**	**07 26 36.3**	**+0.4**
SLA				IAML		07 26 37.2	
	comp=Z,266nm,0.6s						
ASTB	**Santa Barbara**	**6.05**	**136**	*e*P	**Pn**	**07 26 35.7**	**-0.4**
ASTB				⇓*e*S	**Sn**	**07 27 41.1**	**-3.1**
ALOL	**LOMAS DE OLMED**	**6.28**	**133**	*e*P	**Pn**	**07 26 37.8**	**-1.3**
ALOL				⇓*e*S	**Sn**	**07 27 45.5**	**-4.0**
FSA	**Cafayete**	**7.05**	**157**	IAML		07 26 54.0	
	comp=Z,22nm,0.5s						
AHML	**Horco Molle**	**7.90**	**155**	*e*P	**Pn**	**07 26 59.4**	**-1.6**
AHML				IAML		07 27 02.8	
	comp=Z,39nm,0.5s						
SIV	**San Ignacio**	**8.39**	**66**	P	**Pn**	**07 27 04.7**	**-2.9**
	comp=Z,72nm,0.3s,baz=266,slow=11,SNR=1728						
SIV				S	**Sn**	**07 28 34.0**	**-6.7**
	baz=61,slow=17,SNR=1.4						
SIV	**San Ignacio**	**8.39**	**66**	*e*P	**Pn**	**07 27 04.4**	**-3.2**
VCA	**Vinchina**	**9.11**	**175**	*e*P	**Pn**	**07 27 14.4**	**-3.1**
VCA				IAML		07 30 08.7	
	comp=Z,92nm,0.7s						
CYA	**Choya**	**9.27**	**162**	*e*P	**Pn**	**07 27 17.0**	**-2.4**
CYA				IAML		07 27 22.6	
	comp=Z,20nm,0.7s						
LCO	**Las Campanas**	**9.48**	**189**	*e*Pn	**Pn**	**07 27 18.1**	**-4.4**
ACDV	**Cuesta del Vie**	**10.51**	**180**	*e*P	**Pn**	**07 27 32.5**	**-3.9**
AROD	**Rodeo**	**10.52**	**182**	*e*P	**Pn**	**07 27 32.8**	**-3.8**
NNA	**Nana**	**10.68**	**314**	*e*Pn	**Pn**	**07 27 37.1**	**-1.5**
NNA	**Nana**	**10.68**	**314**	*e*P	**Pn**	**07 27 37.1**	**-1.5**
APLL	**PUNTA DE LOS L**	**10.97**	**169**	IAML		07 27 54.1	
	comp=Z,17nm,0.5s						
AMOG	**MOGNA**	**11.29**	**178**	*e*P	Pn	07 27 41.6	-5.1
RTLL	**Cerro Villicun**	**11.68**	**178**	IAML		07 28 18.4	
	comp=Z,48nm,0.8s						
SJA	**San Juan**	**11.87**	**178**	IAML		07 28 05.0	
	comp=Z,41nm,0.6s						
RTLS	**Leoncito**	**12.14**	**181**	IAML		07 28 08.3	
	comp=Z,34nm,0.5s						
RTCV	**Cerro Valdivia**	**12.21**	**178**	*e*P	Pn	07 27 53.3	-5.5
TCA	**Tanti**	**12.34**	**162**	*e*P	Pn	07 27 54.6	-5.9
AUSP	**Uspallata**	**12.56**	**181**	*e*P	**Pn**	**07 28 03.5**	**-0.2**
CPUP	**Villa Florida**	**12.67**	**124**	P	**Pn**	**07 28 02.2**	**-2.6**
	comp=Z,2.1nm,0.3s,baz=312,slow=12,SNR=57						
CPUP				LR	LR	07 34 29.0	
	comp=Z,112nm,18.8s,baz=232,slow=45						
CPUP	**Villa Florida**	**12.67**	**124**	*e*P	**Pn**	**07 28 01.5**	**-3.3**
ASAL	**Salagasta**	**12.93**	**179**	*e*P	**Pn**	**07 28 08.4**	**+0.2**
ARCO	**CERRO ARCO**	**13.18**	**180**	IAML		07 28 20.8	
	comp=Z,66nm,0.5s						
AAGR	**Agrelo**	**13.42**	**179**	*e*P	**Pn**	**07 28 14.8**	**+0.2**
ROC1	**El Roble**	**13.43**	**187**	*e*Pn	**Pn**	**07 28 13.7**	**-1.1**
ROC1	**El Roble**	**13.43**	**187**	*e*P	**Pn**	**07 28 12.6**	**-2.3**
PEL	**Peldehue**	**13.56**	**186**	*e*Pn	**Pn**	**07 28 15.4**	**-0.9**
PEL	**Peldehue**	**13.56**	**186**	*e*P	**Pn**	**07 28 15.4**	**-0.9**
GO05	**HualaæØ**	**15.55**	**189**	*e*Pn	**Pn**	**07 28 40.1**	**-1.5**
	comp=Z,70nm,0.8s						
SPB	**Sao Paulo**	**20.46**	**105**	*e*P	**P**	**07 29 35.2**	**-1.9**
	comp=Z,170nm,1.4s						
PLCA	**Paso Flores**	**21.09**	**183**	P	**P**	**07 29 44.0**	**+0.2**
	comp=Z,102nm,0.8s,baz=24,slow=12,SNR=95						
PLCA				pP	**pP**	**07 30 09.4**	**+3.6**
	comp=Z,17nm,0.8s,baz=7.0,slow=9.4,SNR=8.7						
PLCA	**Paso Flores**	**21.09**	**183**	*e*P	**P**	**07 29 44.2**	**+0.4**
	comp=Z,143nm,0.9s						
PLCA				pP	**pP**	**07 30 09.4**	**+3.6**
OTAV	**Otavalo**	**21.79**	**334**	*e*P	**P**	**07 29 54.3**	**+2.5**
	comp=Z,50nm,1.1s						
OTAV	**Otavalo**	**21.79**	**334**	*e*P	**P**	**07 29 54.2**	**+2.4**
FLOC	**Florencia**	**22.05**	**342**	*e*P	**P**	**07 29 51.7**	**-2.4**
CMBC	**Cumbal**	**22.18**	**336**	*e*P	**P**	**07 29 57.4**	**+1.5**
GCUF	**Volcan Galeras**	**22.26**	**338**	*e*P	**P**	**07 29 58.4**	**+1.6**
CRUC	**La Cruz**	**22.44**	**339**	*e*P	**P**	**07 30 00.3**	**+1.8**
SOTA	**Rioblanco**	**22.86**	**340**	*e*P	**P**	**07 30 02.2**	**-0.5**
PCON	**Cinco Dias**	**22.98**	**341**	*e*P	**P**	**07 30 02.3**	**-1.6**
SJAC	**San Juan de Ar**	**23.25**	**347**	*e*P	**P**	**07 30 04.5**	**-1.4**
POPC	**Popayan, Colom**	**23.26**	**340**	*e*P	**P**	**07 30 06.7**	**+0.5**
TUMC	**Tumaco**	**23.34**	**335**	*e*P	**P**	**07 30 09.0**	**+2.4**
	comp=Z,119nm,1.1s						
PRAC	**Prado**	**23.89**	**345**	*e*P	**P**	**07 30 10.7**	**-0.9**
	comp=Z,14nm,0.7s						
VILC	**Villavicencio,**	**24.02**	**348**	*e*P	**P**	**07 30 12.8**	**-0.2**
HORQ	**Saladito**	**24.14**	**341**	*e*P	**P**	**07 30 13.9**	**-0.3**
YOTC	**Yotoco, Valle**	**24.53**	**342**	*e*P	**P**	**07 30 17.1**	**-0.5**
ROSC	**El Rosal**	**24.85**	**347**	P	**P**	**07 30 20.1**	**-0.7**
	comp=Z,7.3nm,0.5s,baz=131,slow=9.6,SNR=7.6						
ROSC				LR	LR	07 41 49.4	
	comp=Z,83nm,18.5s,baz=254,slow=40						
ROSC	**El Rosal**	**24.85**	**347**	*e*P	**P**	**07 30 21.4**	**+0.7**
	comp=Z,12nm,0.6s						
ROSC	**El Rosal**	**24.85**	**347**	*e*P	**P**	**07 30 20.9**	**+0.1**
YOPC	**Yopal, Colombi**	**25.03**	**352**	*e*P	**P**	**07 30 19.0**	**-3.1**
RREF	**El Recreo**	**25.14**	**345**	*e*P	**P**	**07 30 23.6**	**-0.1**
PLMC	**San Jos˜' del**	**25.39**	**343**	*e*P	**P**	**07 30 24.8**	**-0.5**
RUSC	**La Rusia**	**25.66**	**351**	*e*P	**P**	**07 30 28.1**	**-0.1**
	comp=Z,48nm,0.9s						
RUSC	**La Rusia**	**25.66**	**351**	*e*P	**P**	**07 30 28.1**	**-0.1**
NORC	**Norcasia**	**25.67**	**346**	*e*P	**P**	**07 30 26.9**	**-1.0**
NORC	**Norcasia**	**25.67**	**346**	*e*S	**P**	**07 30 27.1**	**-0.7**
BARC	**Barichara**	**26.36**	**351**	*e*P	**P**	**07 30 34.1**	**-0.2**
HELC	**Santa Helena**	**26.43**	**345**	*e*P	**P**	**07 30 34.1**	**-0.9**
	comp=Z,46nm,0.7s						
HELC	**Santa Helena**	**26.43**	**345**	*e*P	**P**	**07 30 33.8**	**-1.2**
PAMC	**Pamplona, Colo**	**27.03**	**352**	*e*P	**P**	**07 30 40.2**	**-0.3**
ZARC	**Zaragoza, Cauc**	**27.54**	**347**	*e*P	**P**	**07 30 42.9**	**-1.7**
CHRN	**Cochrane**	**27.72**	**185**	*e*P	**P**	**07 30 46.6**	**+0.7**
	comp=Z,18nm,0.8s						
OCAC	**Ocana**	**28.00**	**351**	*e*P	**P**	**07 30 46.3**	**-2.5**
SDV	**Santo Domingo**	**28.36**	**357**	P	**P**	**07 30 50.4**	**-1.6**
	comp=Z,9.9nm,0.4s,baz=175,slow=7.9,SNR=21						
SDV				LR	LR	07 44 08.4	
	comp=Z,108nm,18.2s,baz=246,slow=40						
SDV	**Santo Domingo**	**28.36**	**357**	*e*P	**P**	**07 30 50.5**	**-1.6**
	comp=Z,22nm,0.9s						
MOTC	**Monteria, Cord**	**28.96**	**346**	*e*P	P	07 30 47.2	-10
PCRV	**Puerto La Cruz**	**29.91**	**9**	P	**P**	**07 31 04.8**	**-0.8**
	comp=Z,34nm,0.5s,baz=201,slow=5.5,SNR=52						
BCIP	**Isla Barro Col**	**30.52**	**339**	*e*P	**P**	**07 31 13.0**	**+2.1**
	comp=Z,26nm,0.8s						
TOSP	**Speyside**	**31.83**	**16**	*e*P	**P**	**07 31 21.8**	**-0.7**
GRGR	**Grenville**	**32.37**	**14**	*e*P	**P**	**07 31 25.7**	**-1.4**
	comp=Z,206nm,0.8s						
GRGR	**Grenville**	**32.37**	**14**	*e*P	**P**	**07 31 25.8**	**-1.4**
EFI	**East Falkland**	**33.14**	**167**	*e*P	**P**	**07 31 33.8**	**+0.3**
	comp=Z,66nm,0.9s						
EFI	**East Falkland**	**33.14**	**167**	*e*P	**P**	**07 31 32.8**	**-0.7**
EFI				pmax	pmax		
	comp=Z,58nm,0.9s						
SVB	**Belmont**	**33.56**	**14**	*e*P	**P**	**07 31 35.7**	**-1.9**
	comp=Z,145nm,0.5s						
SVB	**Belmont**	**33.56**	**14**	*e*P	**P**	**07 31 35.6**	**-1.9**
JTS	**JuntasAbangare**	**33.60**	**331**	LR	LR	07 46 16.6	

comp=Z,74nm,18.9s,baz=224,slow=38
MCLT **Moule a Chique** 34.05 14 eP P 07 31 39.6 -2.2
BIM **Bigot** 34.81 14 eP P 07 31 46.2 -2.2
TRMF **Trois Ilets** 34.83 14 eP P 07 31 46.2 -2.3
ZAM **Aeronautique** 34.87 14 eP P 07 31 46.8 -2.1
LPMF **Morne Lapointe** 34.88 14 eP P 07 31 46.8 -2.2
FDF **Fort de France** 35.00 13 eP P 07 31 47.6 -2.4
comp=Z,123nm,0.6s
FDF **Fort de France** 35.00 13 eP P 07 31 47.3 -2.7
FDF **Fort de France** 35.00 13 eP P 07 31 47.6 -2.4
FDF pmax pmax
comp=Z,123nm,0.6s
RCBR **Riachuelo** 35.00 71 eP P 07 31 48.6 -1.6
comp=Z,66nm,1.0s
PML **Morne Lenard** 35.04 13 eP P 07 31 47.7 -2.6
PCM **Pelee Case Pet** 35.06 13 eP P 07 31 47.7 -2.8
PCM **Pelee Case Pet** 35.06 13 eP P 07 31 48.0 -2.5
CXM **Morne La Croix** 35.07 13 eP P 07 31 48.8 -2.0
BAMF **Morne Balai** 35.08 13 eP P 07 31 48.7 -2.0
GDHS **Morne Mazeau,** 36.37 12 eP P 07 31 58.8 -2.9
comp=Z,37nm,0.7s
CRPR **Cabo Rojo, PR** 37.43 3 eP P 07 32 09.3 -1.3
comp=Z,136nm,1.1s
SABA **Saba** 37.43 9 eP P 07 32 08.2 -2.5
comp=Z,74nm,0.8s
SABA **Saba** 37.43 9 eP P 07 32 08.2 -2.5
SJG **San Juan** 37.59 4 eP P 07 32 10.0 -2.0
comp=Z,91nm,1.0s
SJG **San Juan** 37.59 4 eP P 07 32 10.0 -2.0
SJG pmax pmax
comp=Z,91nm,1.0s
RPN **Rapa Nui** 37.63 251 eP P 07 32 16.0 +3.7
RPN **Rapa Nui** 37.63 251 eP P 07 32 16.0 +3.7
MPR **Mayaguez** 37.63 3 eP P 07 32 10.3 -2.0
comp=Z,65nm,1.3s
ANWB **Willy Bob** 37.73 11 eP P 07 32 09.1 -4.0
comp=Z,84nm,0.6s
ANWB **Willy Bob** 37.73 11 eP P 07 32 08.3 -4.7
ANWB **Willy Bob** 37.73 11 eP P 07 32 09.3 -3.7
CBYP **Canovanas** 37.78 5 eP P 07 32 11.2 -2.4
comp=Z,144nm,1.0s
AOPR **Arecibo Observ** 37.79 4 eP P 07 32 12.1 -1.5
comp=Z,40nm,0.5s
AGP **Aguadilla** 37.83 3 eP P 07 32 13.1 -0.8
comp=Z,125nm,1.4s
SMRT **St. Maarten** 37.88 9 eP P 07 32 10.6 -3.9
comp=Z,104nm,0.9s
SMRT **St. Maarten** 37.88 9 eP P 07 32 10.6 -3.9
STVI **Saint Thomas** 37.94 6 eP P 07 32 11.8 -3.0
comp=Z,33nm,1.0s
LGNH **LÖogne** 38.05 354 eP P 07 32 15.1 -0.7
comp=Z,172nm,1.3s
ABVI **Anegada Island** 38.38 7 eP P 07 32 15.8 -2.7
comp=Z,75nm,0.7s
SDDR **Presa de Saban** 38.42 357 eP P 07 32 17.8 -1.2
comp=Z,49nm,1.7s
MTDJ **Mount Denham** 38.52 347 eP P 07 32 19.7 -0.2
comp=Z,48nm,0.8s
GTBY **Guantanamo Bay** 39.74 351 eP P 07 32 28.2 -1.7
comp=Z,25nm,0.8s
APG **El Apazote** 40.35 327 P P 07 32 37.0 +1.7
comp=Z,8.4nm,0.7s,baz=147,slow=11,SNR=8.5
FSCY **Frank Sound, G** 40.48 342 eP P 07 32 36.3 +0.3
comp=Z,72nm,0.7s
WBCY **West Bay, Gran** 40.60 342 eP P 07 32 37.6 +0.7
comp=Z,131nm,1.1s
GRTK **Grand Turk** 40.92 357 eP P 07 32 37.7 -1.9
comp=Z,135nm,1.5s
HOPE **Hope Point** 42.58 152 eP P 07 32 54.3 +1.5
comp=Z,385nm,1.8s
CMIG **Matias Romero** 44.45 323 P P 07 33 10.0 +1.8
comp=Z,2.5nm,0.7s,baz=157,slow=8.5,SNR=2.9
059Z **Ave Maria** 47.24 345 P P 07 33 29.7 -0.3
baz=164
060A **Indiantown** 47.66 346 P P 07 33 32.9 -0.2
baz=166
059A **Moore Haven** 47.77 345 P P 07 33 33.9 -0.1
baz=165
058A **Arcadia** 48.02 345 P P 07 33 36.1 +0.1
baz=164,SNR=5.6
959A **Okeechobee** 48.24 346 P P 07 33 37.7 0.0
baz=165
958A **Wauchula** 48.51 345 P P 07 33 39.7 0.0
baz=164
957A **Wimauma** 48.71 344 P P 07 33 41.4 +0.1
baz=164
859A **Kempfer Cattle** 48.76 346 P P 07 33 41.6 0.0
baz=165
DWPF **Disney Wildern** 48.94 345 P P 07 33 43.0 +0.1
baz=165
DWPF **Disney Wildern** 48.94 345 eP P 07 33 43.3 +0.4
comp=Z,36nm,0.6s
858A **St. Cloud** 49.02 346 P P 07 33 43.6 0.0
baz=165
857A **Zephyrhills** 49.28 345 P P 07 33 45.5 -0.1
baz=164
758A **Lake Helen** 49.70 346 P P 07 33 48.9 +0.2
baz=165
757A **Oxford** 49.89 345 P P 07 33 50.5 +0.3
baz=164
658A **Bunnell** 50.16 346 P P 07 33 53.0 +0.8
baz=165
656A **Willston** 50.41 345 P P 07 33 54.3 +0.2
baz=164,SNR=7.9
657A **Interlachen** 50.45 345 P P 07 33 54.5 +0.1
baz=164
655A **Horseshoe Beac** 50.73 344 P P 07 33 56.6 +0.1
baz=163,SNR=6.2
557A **Orange Park** 50.84 346 P P 07 33 57.5 +0.2
baz=165
556A **Lake Butler** 50.98 345 P P 07 33 58.6 +0.2
baz=164
555A **McAlpin** 51.24 344 P P 07 34 00.3 +0.1
baz=163,SNR=7.8
554A **Perry** 51.39 344 P P 07 34 01.7 +0.3
baz=162,SNR=7.1
456A **Hilliard** 51.59 346 P P 07 34 03.2 +0.3
baz=164
553A **Crawfordville** 51.69 343 P P 07 34 04.4 +0.7
baz=162,SNR=9.3
455A **Stateville** 51.84 345 P P 07 34 04.9 +0.1
baz=163,SNR=6.1
BBSR **BB Station** 51.85 5 eP P 07 34 04.0 -0.8
comp=Z,310nm,1.8s
552A **Lynn Haven** 51.88 342 P P 07 34 05.4 +0.3
baz=161
454A **Quitman** 51.97 344 P P 07 34 06.0 +0.3
baz=163,SNR=10.0
357A **Townsend** 52.13 346 P P 07 34 06.9 0.0
baz=165
356A **Blackshear** 52.19 346 P P 07 34 07.3 0.0
baz=164,SNR=6.5
453A **Whigham** 52.29 343 P P 07 34 08.4 +0.3
baz=162,SNR=12
355A **Pearson** 52.38 345 P P 07 34 09.0 +0.2
baz=164
451A **Vernon** 52.47 342 P P 07 34 09.6 +0.2
baz=160
452A **Marianna** 52.52 342 P P 07 34 09.9 +0.1
baz=161
257A **Skidaway Islan** 52.57 347 P P 07 34 10.1 0.0
baz=166
TIGA **Tifton** 52.65 344 P P 07 34 10.7 -0.1
baz=163
TIGA **Tifton** 52.65 344 eP P 07 34 10.4 -0.4
comp=Z,27nm,0.7s
353A **Camilla** 52.73 344 P P 07 34 11.3 0.0
baz=162,SNR=9.0
256A **Glennville** 52.76 346 P P 07 34 11.6 0.0
baz=165
450A **Crestview** 52.89 341 P P 07 34 12.6 +0.1
baz=159
351A **Pinckard** 53.04 342 P P 07 34 13.6 0.0
baz=160,SNR=6.0
352A **Blakely** 53.04 343 P P 07 34 13.5 -0.1
baz=161,SNR=8.2
449A **Pace** 53.05 340 P P 07 34 13.7 0.0
baz=159
254A **Abbeville** 53.06 345 P P 07 34 13.6 -0.1
baz=163,SNR=6.8
BRAL **Brewton** 53.38 341 P P 07 34 16.1 0.0
baz=159
BRAL **Brewton** 53.38 341 eP P 07 34 16.6 +0.5
comp=Z,51nm,1.0s
253A **Americus** 53.38 344 P P 07 34 15.8 -0.4
baz=162
350A **Dozier** 53.39 342 P P 07 34 16.1 -0.1
baz=160
448A **Bay Minette** 53.41 340 P P 07 34 16.2 -0.2
baz=158
252A **Lumpkin** 53.48 343 P P 07 34 16.4 -0.4
baz=162
NHSC **New Hope** 53.49 348 P P 07 34 16.4 -0.5
baz=167
NHSC **New Hope** 53.49 348 eP P 07 34 17.4 +0.4
comp=Z,252nm,1.5s
155A **Kite** 53.51 346 P P 07 34 16.9 -0.1
baz=164
349A **Repton** 53.59 341 P P 07 34 17.6 -0.1
baz=159,SNR=5.7
154A **Montrose** 53.65 345 P P 07 34 17.8 -0.2
baz=164,SNR=6.9
251A **Midway** 53.76 343 P P 07 34 18.4 -0.5
baz=161,SNR=12
544A **White Castle** 53.84 336 P P 07 34 19.3 -0.2
baz=154
153A **Fort Valley** 53.86 345 P P 07 34 19.3 -0.3
baz=163
348A **Jackson** 53.87 340 P P 07 34 19.6 -0.2
baz=158
250A **Grady** 53.89 342 P P 07 34 19.6 -0.3
baz=160
347A **Saraland** 54.07 339 P P 07 34 21.0 -0.2
baz=157
543A **St. Martinvill** 54.08 335 P P 07 34 20.8 -0.4
baz=153
445A **Amite** 54.09 337 P P 07 34 20.8 -0.5
baz=155
151A **Opelika** 54.14 343 P P 07 34 21.1 -0.5
baz=161
249A **Camden** 54.15 341 P P 07 34 21.6 -0.1
baz=159,SNR=7.1
150A **Eclectic** 54.41 342 P P 07 34 23.1 -0.5
baz=160,SNR=5.6
248A **Dixon Mills** 54.45 340 P P 07 34 23.6 -0.3
baz=158
GOGA **Godfrey** 54.50 345 P P 07 34 23.6 -0.6
baz=163
GOGA **Godfrey** 54.50 345 eP P 07 34 23.6 -0.6
comp=Z,9.2nm,0.8s
GOGA **Godfrey** 54.50 345 eP P
GOGA pmax pmax
comp=Z,9.0nm,0.8s
149A **Jones** 54.63 342 P P 07 34 24.5 -0.7
baz=160
247A **Quitman** 54.69 340 P P 07 34 25.2 -0.4
baz=157
148A **Greensboro** 54.91 341 P P 07 34 26.5 -0.7
baz=159
Z50A **Ashland** 54.99 343 P P 07 34 27.3 -0.5
baz=161,SNR=11
LRAL **Lakeview Retre** 55.10 342 P P 07 34 27.9 -0.6
baz=159
LRAL **Lakeview Retre** 55.10 342 eP P 07 34 28.0 -0.6
comp=Z,76nm,2.0s
Z49A **Columbiana** 55.11 342 P P 07 34 27.9 -0.7
baz=160,SNR=6.5
245A **Little AP, Sta** 55.11 338 P P 07 34 28.4 -0.3
baz=156
146A **Union** 55.38 339 P P 07 34 30.3 -0.2
baz=157
Y50A **Piedmont** 55.54 343 P P 07 34 30.8 -0.9
baz=161,SNR=6.8
Z47A **Carrollton** 55.58 341 P P 07 34 31.3 -0.7
baz=158
Z48A **Northport** 55.58 341 P P 07 34 31.1 -0.9
baz=159,SNR=5.6
HKT **Hockley** 55.63 332 eP P 07 34 34.0 +1.6
comp=Z,76nm,1.5s
HKT **Hockley** 55.63 332 eP P 07 34 34.0 +1.6
HKT pmax pmax
comp=Z,75nm,1.5s
145A **Houston Renfro** 55.64 339 P P 07 34 32.2 -0.3
baz=156
KMSC **Kings Mountain** 55.69 348 P P 07 34 32.6 -0.2
baz=166,SNR=8.8
KMSC **Kings Mountain** 55.69 348 eP P 07 34 32.7 0.0
comp=Z,30nm,0.8s
Y49A **Blount Mountai** 55.70 342 P P 07 34 32.0 -0.8
baz=160
Y48A **Jasper** 55.97 342 P P 07 34 33.8 -1.0
baz=159
833A **Chaparral WMA,** 55.98 327 P P 07 34 34.0 -0.9
baz=145
X50A **Fort Payne** 56.05 343 P P 07 34 34.5 -0.9
baz=161,SNR=5.3
Y47A **UCPARC, Winfie** 56.16 341 P P 07 34 35.3 -0.8
baz=159,SNR=7.1
X49A **Woodville** 56.29 343 P P 07 34 36.2 -0.8
baz=160
Z44A **Pea Ridge, Bel** 56.43 338 P P 07 34 37.9 -0.1
baz=156
X48A **Hartselle** 56.43 342 P P 07 34 37.3 -0.7
baz=160,SNR=8.7
Y46A **Houston** 56.46 340 P P 07 34 37.4 -0.9
baz=158
Y45A **Yeager Farm, C** 56.66 340 P P 07 34 39.2 -0.5
baz=157
TKL **Tuckaleechee C** 56.72 346 P P 07 34 39.4 -0.7
comp=Z,19nm,0.7s,baz=160,slow=8.8,SNR=24
TKL **Tuckaleechee C** 56.72 346 eP P 07 34 39.5 -0.7
comp=Z,27nm,0.8s
X47A **Russelville** 56.73 341 P P 07 34 39.1 -1.1
baz=159,SNR=7.5
X46A **Booneville** 56.99 341 P P 07 34 41.3 -0.7
baz=158
W48A **Pulaski** 57.04 343 P P 07 34 41.8 -0.6
baz=160,SNR=9.0
X45A **UM Field Stati** 57.13 340 P P 07 34 42.1 -0.8
baz=157
OXF **Oxford** 57.21 340 P P 07 34 42.5 -1.0
baz=157
OXF **Oxford** 57.21 340 eP P 07 34 42.5 -1.0
comp=Z,26nm,0.9s
OXF **Oxford** 57.21 340 eP P
OXF pmax pmax
comp=Z,26nm,0.9s
PLAL **Pickwick Lake** 57.23 341 eP P 07 34 42.5 -1.2
comp=Z,20nm,1.1s
W47A **Westpoint** 57.34 342 P P 07 34 43.4 -1.0
baz=159,SNR=7.3
URVA **University of** 57.44 352 eP P 07 34 44.7 -0.4
W46A **Michie** 57.46 341 P P 07 34 44.1 -1.2
baz=158
VWCC **Virginia Weste** 57.49 350 eP P 07 34 45.7 +0.2
TZTN **Tazewell** 57.52 346 P P 07 34 45.0 -0.7
baz=164
TZTN **Tazewell** 57.52 346 eP P 07 34 45.1 -0.5
comp=Z,14nm,0.9s
BLA **Blacksburg** 57.53 349 P P 07 34 45.2 -0.7
baz=167
BLA **Blacksburg** 57.53 349 eP P 07 34 46.4 +0.6
comp=Z,53nm,1.6s
BLA **Blacksburg** 57.53 349 eP P 07 34 46.4 +0.6
BLA pmax pmax
comp=Z,53nm,1.6s
V48A **Smith Brothers** 57.58 343 P P 07 34 45.5 -0.6
baz=160,SNR=13
JSRW **J. Sargeant Re** 57.61 352 eP P 07 34 46.6 +0.4
IP05 **Hopewell Churc** 57.72 352 eP P 07 34 47.2 +0.2
comp=Z,51nm,1.8s
W45A **Hickory Valley** 57.73 340 P P 07 34 46.2 -1.0
baz=158
IP07 **Quail** 57.85 352 eP P 07 34 48.2 +0.3
comp=Z,11nm,0.6s
IP06 **Yanceyville** 57.86 352 eP P 07 34 48.1 +0.1
comp=Z,13nm,1.2s
V47A **Nunnelly** 57.86 342 P P 07 34 46.8 -1.2
baz=160,SNR=5.7
IP01 **Cuckoo** 57.87 352 eP P 07 34 48.2 +0.1
comp=Z,24nm,1.3s
SPRD **Spring Road, M** 57.93 352 eP P 07 34 48.7 +0.2
comp=Z,12nm,0.8s
IP03 **Louisa** 57.95 352 eP P 07 34 48.7 +0.1
comp=Z,20nm,0.8s
CVRD **Centerville Ro** 57.97 352 eP P 07 34 48.9 +0.2
comp=Z,10nm,0.6s
V46A **Holladay** 58.01 342 P P 07 34 47.9 -1.2
baz=159
CBN **Corbin Frederi** 58.04 352 P P 07 34 48.2 -1.1
baz=171
V45A **Humboldt** 58.20 341 P P 07 34 49.5 -1.0
baz=158
U48A **Cassie Pea, Po** 58.22 343 P P 07 34 49.9 -0.7
baz=161,SNR=11
WVT **Waverly** 58.23 342 P P 07 34 49.5 -1.1
baz=159
WVT **Waverly** 58.23 342 eP P 07 34 49.7 -0.9
comp=Z,23nm,0.8s
WVT **Waverly** 58.23 342 eP P 07 34 49.7 -0.9
WVT pmax pmax
comp=Z,23nm,0.8s
U47A **Clarksville** 58.36 343 P P 07 34 50.6 -1.0
baz=160,SNR=14
U46A **Springville** 58.54 342 P P 07 34 52.0 -0.8
baz=159
U45A **Rockin P Farm,** 58.70 341 P P 07 34 53.1 -0.8
baz=158
T48A **Bowling Green** 58.75 344 P P 07 34 53.5 -0.8
baz=161,SNR=10
T47A **Sharon Grove** 58.83 343 P P 07 34 54.0 -0.8
baz=160,SNR=15
U44B **Burton Farm, H** 58.88 341 P P 07 34 54.5 -0.6
baz=158
TXAR **Lajitas Array** 59.03 325 P P 07 34 57.3 +0.8
comp=Z,0.5nm,0.6s,baz=154,slow=7.8,SNR=7.3
TXAR pP pP 07 35 24.6 -0.6
comp=Z,1.5nm,0.7s,baz=148,slow=9.0,SNR=8.1
TXAR LR LR 07 59 23.4
comp=Z,69nm,18.2s,baz=0.0,slow=35
TX31 **Lajitas Ar. Si** 59.03 325 eP P 07 34 57.9 +1.5
T46A **Princeton** 59.10 342 P P 07 34 55.9 -0.7
baz=159
SDMD **Soldier's Deli** 59.17 353 eP P 07 34 56.7 -0.3
comp=Z,4.7nm,0.8s
S48A **Wiedeman Farm,** 59.18 344 P P 07 34 56.0 -1.2
baz=161,SNR=15
T45A **Paducah** 59.29 342 P P 07 34 57.3 -0.7
baz=159
PBMO **Poplar Bluff** 59.62 340 eP P 07 34 59.9 -0.4
comp=Z,21nm,0.4s
T44A **Benton** 59.64 341 P P 07 34 59.7 -0.7
baz=158
S46A **Don Dixon Farm** 59.65 343 P P 07 34 59.4 -1.0
baz=160
MVL **Millersville** 59.69 353 eP P 07 35 00.7 0.0
comp=Z,10nm,0.7s
WCI **Wyandotte Cave** 59.78 344 P P 07 35 00.3 -1.0
baz=161
WCI **Wyandotte Cave** 59.78 344 eP P 07 35 00.4 -0.9
comp=Z,21nm,0.8s
WCI **Wyandotte Cave** 59.78 344 eP P 07 35 00.4 -0.9
WCI pmax pmax
comp=Z,21nm,0.8s
MCWV **Mont Chateau** 59.82 350 eP P 07 35 01.8 +0.2
comp=Z,25nm,0.9s
R48A **Northridge Ran** 59.84 345 P P 07 35 00.8 -0.9
baz=162,SNR=5.6
S45A **Carrier Mills** 59.88 342 P P 07 35 01.2 -0.8
baz=159
R46A **Gibon Southern** 60.08 343 P P 07 35 02.4 -1.0
baz=160
S44A **Carbondale** 60.10 342 P P 07 35 02.8 -0.7
baz=158
SIUC **Southern Illin** 60.11 342 eP P 07 35 03.0 -0.6
comp=Z,32nm,0.9s
BRNJ **Basking Ridge** 60.20 355 eP P 07 35 04.3 +0.1
comp=Z,116nm,1.8s
O56A **Blue Knob Stat** 60.23 352 P P 07 35 04.0 -0.5
baz=170
O56A **Blue Knob Stat** 60.23 352 eP P 07 35 04.7 +0.3
comp=Z,26nm,1.0s
S43A **Fulton Ridge,** 60.23 341 P P 07 35 03.6 -0.9
baz=157
R45A **Skylar, Fairfi** 60.37 343 P P 07 35 04.3 -1.0
baz=159
PAL **Palisades** 60.48 356 P P 07 35 04.9 -1.1
baz=175
PAL **Palisades** 60.48 356 eP P 07 35 05.5 -0.5
comp=Z,55nm,1.5s
PAL **Palisades** 60.48 356 eP P 07 35 05.5 -0.5
PAL pmax pmax
comp=Z,55nm,1.5s
Q47A **Bedord North L** 60.48 344 P P 07 35 05.0 -1.0
baz=161
SSPA **Standing Stone** 60.50 352 P P 07 35 05.8 -0.4
baz=170
SSPA **Standing Stone** 60.50 352 eP P 07 35 06.2 0.0
comp=Z,8.2nm,0.6s
N59A **State Game Lan** 60.54 354 eP P 07 35 07.0 +0.5
comp=Z,40nm,1.6s
R44A **Waltonville** 60.56 342 P P 07 35 05.7 -0.9
baz=158
ODNJ **Ogdensburg** 60.61 355 eP P 07 35 06.7 -0.2
comp=Z,68nm,1.8s
FVM **French Village** 60.72 341 eP P 07 35 07.5 -0.2
comp=Z,34nm,0.8s
FVM **French Village** 60.72 341 eP P 07 35 07.5 -0.2
FVM pmax pmax
comp=Z,34nm,0.8s
BLO **Bloomington** 60.73 344 eP P 07 35 07.0 -0.7
comp=Z,47nm,1.2s
BLO **Bloomington** 60.73 344 eP P 07 35 07.0 -0.7
BLO pmax pmax
comp=Z,47nm,1.2s
R43A **Red Bud** 60.84 341 P P 07 35 07.7 -0.8
baz=158
Q45A **Warren Harvey,** 60.90 343 P P 07 35 07.8 -1.1
baz=159
ACSO **Alum Creek Sta** 60.94 348 P P 07 35 08.5 -0.6
baz=165,SNR=13
ACSO **Alum Creek Sta** 60.94 348 eP P 07 35 08.7 -0.4
comp=Z,65nm,1.0s
P47A **Martinsville** 60.96 345 P P 07 35 08.3 -1.0
baz=162,SNR=10
CCM **Cathedral Cave** 61.05 340 P P 07 35 09.3 -0.6
baz=156
CCM **Cathedral Cave** 61.05 340 eP P 07 35 09.6 -0.3
comp=Z,17nm,0.6s
CCM **Cathedral Cave** 61.05 340 eP P 07 35 09.6 -0.3
CCM pmax pmax
comp=Z,17nm,0.6s
R42A **Luebbering** 61.11 341 P P 07 35 10.0 -0.3
baz=157
N54A **Moraine State** 61.12 351 P P 07 35 10.5 +0.1
baz=168
N54A **Moraine State** 61.12 351 eP P 07 35 10.8 +0.4
comp=Z,39nm,0.9s
Q44A **Meyer Farm, Va** 61.15 342 P P 07 35 09.6 -1.0
baz=159
BRYW **Bryant College** 61.26 358 eP P 07 35 11.3 0.0
comp=Z,32nm,0.8s
R41A **Rosebud** 61.31 340 P P 07 35 11.0 -0.7
baz=156
P46A **Rosedale** 61.32 344 P P 07 35 10.5 -1.2
baz=161
P45A **Graceland, Par** 61.38 344 P P 07 35 10.9 -1.2
baz=160
Q43A **New Douglas** 61.38 342 P P 07 35 11.2 -1.0
baz=158
P44A **Sand Creek, Wi** 61.56 343 P P 07 35 12.2 -1.2
baz=159
M54A **Oil Creek Stat** 61.60 351 P P 07 35 13.5 -0.2
baz=169,SNR=9.2
M54A **Oil Creek Stat** 61.60 351 eP P 07 35 13.6 0.0
comp=Z,39nm,0.9s
Q42A **Golden Eagle** 61.61 341 P P 07 35 13.0 -0.7
baz=157
O47A **Sheridan** 61.65 345 P P 07 35 12.7 -1.2
baz=162,SNR=9.3
QUA2 **Belchertown** 61.66 357 eP P 07 35 13.6 -0.3
comp=Z,48nm,1.6s
MNTX **Cornudas Mount** 61.79 325 P P 07 35 13.9 -1.2
baz=141
MNTX **Cornudas Mount** 61.79 325 eP P 07 35 15.8 +0.7
comp=Z,2.4nm,0.9s
ALLY **Alegheny Colle** 61.81 351 eP P 07 35 15.1 0.0
comp=Z,88nm,0.9s
BINY **Binghamton** 61.84 354 P P 07 35 15.1 -0.1
baz=173
BINY **Binghamton** 61.84 354 eP P 07 35 15.3 +0.1
comp=Z,48nm,1.2s
HRV **Adam Dziewonsk** 61.85 358 eP P 07 35 15.4 +0.2
comp=Z,19nm,0.8s
HRV **Adam Dziewonsk** 61.85 358 eP P 07 35 15.4 +0.2
HRV pmax pmax
comp=Z,19nm,0.8s
BBTS **Babate** 61.86 61 LR LR 08 00 41.9
comp=Z,40nm,21.9s,baz=228,slow=35
Q41A **Truxton** 61.86 340 P P 07 35 14.8 -0.6
baz=156
VNA3 **Neumayer Olymp** 61.89 162 P P 07 35 15.7 +0.5
P43A **Skaggs, Pawnee** 61.98 342 P P 07 35 15.1 -1.0

baz=158
SFIN **Lafayette** 62.01 344 P P 07 35 15.1 -1.3
baz=161
SFIN **Lafayette** 62.01 344 *e*P P 07 35 15.1 -1.3
comp=Z,36nm,0.7s
O45A **Potomac** 62.05 344 P P 07 35 15.3 -1.3
baz=160
VNA1 **Neumayer--Stat** 62.09 161 P P 07 35 17.7 +1.1
O44A **Mansfield** 62.16 343 P P 07 35 16.0 -1.3
baz=159
P42A **Winchester** 62.17 341 P P 07 35 16.4 -1.0
baz=157
TRY **Troy** 62.18 356 *e*P P 07 35 17.6 +0.2
comp=Z,35nm,0.9s
MSTX **Muleshoe** 62.23 329 *e*P P 07 35 18.0 -0.1
comp=Z,193nm,0.8s
ERPA **Erie** 62.25 351 P P 07 35 17.9 0.0
baz=168,SNR=20
ERPA **Erie** 62.25 351 *e*P P 07 35 18.0 0.0
comp=Z,123nm,0.6s
N46A **Monticello** 62.41 345 P P 07 35 17.7 -1.3
baz=161,SNR=11
VNA2 **Neumayer--Watz** 62.46 161 P P 07 35 19.8 +0.8
baz=301,slow=7.8
O43A **Sugar Creek Fa** 62.52 343 P P 07 35 18.4 -1.3
baz=158
N45A **Kentland** 62.56 344 P P 07 35 18.6 -1.4
baz=160
MMNY **Mt. Morris Dam** 62.57 353 *e*P P 07 35 20.1 +0.1
comp=Z,115nm,1.6s
O42A **Bath** 62.65 342 P P 07 35 19.5 -1.1
baz=158
N44A **Piper City** 62.67 344 P P 07 35 19.2 -1.5
baz=160
HDIL **Hopedale** 62.76 343 P P 07 35 20.1 -1.2
baz=159
HDIL **Hopedale** 62.76 343 *e*P P 07 35 20.3 -1.1
comp=Z,33nm,0.6s
HDIL *e*pP pP 07 35 49.8 -0.5
M46A **Old House Fiel** 62.80 345 P P 07 35 20.4 -1.2
baz=162
O41A **Passleys Farm,** 62.82 341 P P 07 35 20.6 -1.1
baz=157
AAM **Ann Arbor** 63.07 348 P P 07 35 22.3 -1.0
baz=165
N43A **Stutzman Famil** 63.09 343 P P 07 35 22.6 -0.9
baz=159
O40A **La Belle** 63.13 340 P P 07 35 22.9 -0.9
baz=156
TYNO **Tyneside** 63.19 351 P P 07 35 23.8 -0.3
baz=169,SNR=5.4
N42A **Yates City** 63.23 342 P P 07 35 23.4 -1.0
baz=158
NCB **Newcomb** 63.45 356 *e*P P 07 35 25.8 -0.1
comp=Z,51nm,1.8s
M43A **Waltham Townsh** 63.49 343 P P 07 35 25.1 -1.0
baz=159
ELFO **Elginfield** 63.51 350 P P 07 35 25.5 -0.8
baz=167,SNR=8.1
LBNH **Lisbon** 63.59 358 *e*P P 07 35 27.7 +0.9
comp=Z,18nm,0.8s
LBNH **Lisbon** 63.59 358 *e*P P 07 35 27.7 +0.9
LBNH pmax pmax
comp=Z,18nm,0.8s
VT1 **Waterbury** 63.72 357 *e*P P 07 35 27.9 +0.3
comp=Z,18nm,1.0s
N40A **Mertquake, Sal** 63.74 341 P P 07 35 26.9 -0.9
baz=156
WVL **Waterville** 63.87 359 *e*P P 07 35 28.9 +0.3
comp=Z,65nm,1.4s
M41A **Milan** 63.88 342 P P 07 35 27.6 -1.1
baz=158
L44A **Lake County Fo** 63.91 344 P P 07 35 27.7 -1.2
baz=160
PKRO **Pickering** 63.93 352 P P 07 35 28.7 -0.2
baz=170,SNR=11
N39A **Derby Farms, D** 64.02 340 P P 07 35 28.9 -0.7
baz=156
EMMW **East Machias** 64.03 1 *e*P P 07 35 29.2 -0.3
SNAA **Sanae** 64.09 161 P P 07 35 30.3 +0.5
SNAA **Sanae** 64.09 161 P P 07 35 30.6 +0.8
comp=Z,19nm,0.8s,baz=280,slow=7.1,SNR=43
SNAA pP pP 07 35 59.7 +0.7
comp=Z,27nm,0.8s,baz=277,slow=6.7,SNR=12
SNAA **Sanae** 64.09 161 *e*P P 07 35 30.6 +0.8
comp=Z,28nm,0.9s
SNAA pP pP 07 35 59.7 +0.7
SNAA **Sanae** 64.09 161 *e*P P 07 35 29.5 -0.4
LONY **Lake Ozonia** 64.12 356 P P 07 35 30.1 -0.1
baz=174,SNR=7.1
LONY **Lake Ozonia** 64.12 356 *e*P P 07 35 30.2 0.0
comp=Z,21nm,0.8s
L43A **Garden Prairie** 64.13 344 P P 07 35 29.6 -0.7
baz=159
M40A **Post Highland** 64.19 341 P P 07 35 29.9 -0.9
baz=157
L42A **Oliver, Polo** 64.21 343 P P 07 35 30.0 -0.9
baz=158
FRNY **Flat Rock** 64.27 356 *e*P P 07 35 31.2 0.0
comp=Z,31nm,1.2s
DELO **Deloro Mine** 64.30 353 P P 07 35 31.0 -0.4
baz=171,SNR=7.1
BASO **Ashfield** 64.36 350 P P 07 35 31.4 -0.4
baz=167,SNR=16
M39A **Webster** 64.46 341 P P 07 35 31.6 -0.9
baz=156
L41A **Preston** 64.51 342 P P 07 35 31.9 -0.9
baz=158
K43A **Burlington** 64.51 344 P P 07 35 32.0 -0.8
baz=160
BRCO **Bruce Peninsul** 64.55 350 P P 07 35 32.7 -0.4
baz=167,SNR=12
PKME **Peaks-Kenny Pk** 64.56 360 P P 07 35 32.7 -0.4
baz=180
PKME **Peaks-Kenny Pk** 64.56 360 *e*P P 07 35 33.1 +0.1
comp=Z,16nm,0.8s
L40A **Anamosa** 64.71 342 P P 07 35 33.5 -0.6
baz=157
M38A **Pleasantville** 64.73 340 P P 07 35 33.7 -0.5
baz=155
SADO **Sadowa** 64.73 352 P P 07 35 33.6 -0.5
comp=Z,16nm,0.7s,baz=180,slow=2.1,SNR=16
SADO **Sadowa** 64.73 352 *e*P P 07 35 33.7 -0.5
comp=Z,20nm,0.9s
PLVO **Plevna** 64.76 354 P P 07 35 34.0 -0.3
baz=172,SNR=6.6
PLVO **Plevna** 64.76 354 *e*P P 07 35 34.5 +0.1
comp=Z,52nm,1.5s
K42A **Prairie Point,** 64.85 344 P P 07 35 34.2 -0.8
baz=159
BMRO **Meriville Lake** 64.86 350 P P 07 35 34.6 -0.4
baz=167,SNR=24
ANMO **Albuquerque** 64.87 327 *e*P P 07 35 36.6 +1.0
comp=Z,1.1nm,0.7s
ANMO **Albuquerque** 64.87 327 *e*P P 07 35 36.0 +0.4
ANMO pmax pmax
comp=Z,1.0nm,1.0s
K41A **Shullsburg** 64.95 343 P P 07 35 35.0 -0.7
baz=158
L39A **Vinton** 65.00 341 P P 07 35 35.2 -0.7
baz=156
ALFO **Alfred** 65.15 355 P P 07 35 36.4 -0.4
baz=174,SNR=5.5
J43A **Natural Harves** 65.17 345 P P 07 35 36.5 -0.6
baz=160
SCIA **State Center** 65.17 340 P P 07 35 36.7 -0.4
baz=155
SCIA **State Center** 65.17 340 *e*P P 07 35 37.0 -0.2
comp=Z,21nm,0.8s
JFWS **Jewell Farm** 65.22 343 P P 07 35 37.0 -0.4
baz=158
JFWS **Jewell Farm** 65.22 343 *e*P P 07 35 36.9 -0.4
comp=Z,17nm,0.6s
JFWS **Jewell Farm** 65.22 343 *e*P P 07 35 36.9 -0.4
JFWS pmax pmax
comp=Z,17nm,0.6s
K40A **Colesburg** 65.27 342 P P 07 35 37.1 -0.7
baz=157
M36A **Felix, Anita** 65.29 339 P P 07 35 37.3 -0.6
baz=153
J42A **Columbus** 65.29 344 P P 07 35 37.0 -0.8
baz=159
L38A **Oak Wood Farm,** 65.31 341 P P 07 35 37.3 -0.7
baz=155
KLBO **Killbear Provi** 65.45 351 P P 07 35 38.4 -0.4
baz=168,SNR=15
K39A **Oelwein** 65.49 342 P P 07 35 38.3 -0.8
baz=156
TOBO **Tobermory, Bru** 65.52 350 P P 07 35 38.6 -0.7
baz=167,SNR=22
J41A **Loganville** 65.57 343 P P 07 35 39.0 -0.6
baz=158
I43A **Langenfeld Bro** 65.57 345 P P 07 35 39.0 -0.6
baz=160
GLMI **Grayling** 65.69 348 P P 07 35 39.7 -0.7
baz=164,SNR=5.5
GLMI **Grayling** 65.69 348 *e*P P 07 35 39.3 -1.1
comp=Z,59nm,0.9s
K38A **Parkersburg** 65.71 341 P P 07 35 39.9 -0.6
baz=156
TRQ **Mont Tremblant** 65.71 356 *e*P P 07 35 40.3 -0.3
TRQ *e*S S 07 44 18.4 +1.3
I42A **Draeger Farm,** 65.77 344 P P 07 35 40.4 -0.5
baz=160
I42A **Draeger Farm,** 65.77 344 *e*P P 07 35 40.6 -0.3
comp=Z,60nm,1.4s
J40A **Soldiers Grove** 65.80 343 P P 07 35 40.5 -0.6
baz=158
PQI **Presque Isle** 65.98 1 *e*P P 07 35 42.0 -0.2
comp=Z,12nm,0.8s
J39A **Decorah** 66.02 342 P P 07 35 41.8 -0.7
baz=157
H43A **Windswept, Lux** 66.03 345 P P 07 35 41.9 -0.6
baz=161
H43A **Windswept, Lux** 66.03 345 *e*P P 07 35 42.1 -0.5
comp=Z,21nm,0.6s
K37A **Belmond** 66.09 340 P P 07 35 42.3 -0.7
baz=155
L35A **Bielow Farm, R** 66.13 339 P P 07 35 42.9 -0.3
baz=153
I41A **Arkdale** 66.18 344 P P 07 35 42.9 -0.6
baz=159
I40A **Norwalk** 66.22 343 P P 07 35 43.4 -0.5
baz=158
J38A **Wadel Dairy, R** 66.23 341 P P 07 35 43.2 -0.6
baz=156
K36A **Gilmore City** 66.23 340 P P 07 35 43.7 -0.2
baz=154
H42A **Shiocton** 66.25 345 P P 07 35 43.4 -0.6
baz=160,SNR=5.3
H42A **Shiocton** 66.25 345 *e*P P 07 35 43.6 -0.3
comp=Z,53nm,1.2s
I39A **Houston** 66.44 342 P P 07 35 44.7 -0.6
baz=157
J37A **Redenius Farm,** 66.55 341 P P 07 35 45.4 -0.5
baz=155
SDCO **Great Sand Dun** 66.58 329 *e*P P 07 35 48.0 +1.4
comp=Z,10.0nm,1.3s
F46A **Macinaw City C** 66.62 348 P P 07 35 45.5 -0.8
baz=164,SNR=5.2
H41A **Junction City** 66.64 344 P P 07 35 45.9 -0.5
baz=159
H41A **Junction City** 66.64 344 *e*P P 07 35 46.0 -0.5
comp=Z,12nm,0.6s
F45A **CMU Biological** 66.69 347 P P 07 35 45.8 -0.9
baz=163
G43A **Wallace** 66.76 346 P P 07 35 46.4 -0.7
baz=161
G43A **Wallace** 66.76 346 *e*P P 07 35 47.1 -0.1
comp=Z,35nm,1.4s
J36A **Seneca 1, Swea** 66.81 340 P P 07 35 47.0 -0.6
baz=154
H40A **Chili** 66.84 344 P P 07 35 47.2 -0.6
baz=158
I38A **Scanlan Farm,** 66.84 342 P P 07 35 47.2 -0.6
baz=156
G42A **Mountain** 66.92 345 P P 07 35 47.6 -0.5
baz=160
G42A **Mountain** 66.92 345 *e*P P 07 35 47.7 -0.5
comp=Z,99nm,2.0s
G41A **Antigo** 67.08 345 P P 07 35 48.7 -0.5
baz=160
H39A **Augusta** 67.13 343 P P 07 35 49.1 -0.5
baz=157
I37A **Lemond, Waseca** 67.14 341 P P 07 35 49.4 -0.3
baz=155
F43A **Flat Rock, Esc** 67.18 346 P P 07 35 49.0 -0.9
baz=162,SNR=5.8
X16A **Lo Mia Camp, P** 67.19 323 *e*P P 07 35 51.0 +0.5
comp=Z,27nm,1.2s
E45A **Wooded Hills,** 67.27 348 P P 07 35 49.9 -0.5
baz=164,SNR=5.8
I36A **Fitzsimmons Fa** 67.33 341 P P 07 35 50.4 -0.5
baz=155
Q24A **Divide** 67.38 330 P P 07 35 50.7 -0.9
baz=143
G40A **Rib Lake** 67.39 344 P P 07 35 50.7 -0.5
baz=158
H38A **Maiden Rock** 67.41 342 P P 07 35 50.8 -0.5
baz=156
H37A **Dierke Farm, C** 67.51 342 P P 07 35 51.6 -0.3
baz=156
F41A **Three Lakes** 67.55 345 P P 07 35 51.7 -0.5
baz=160,SNR=7.5
E43A **Lone Tree Farm** 67.66 347 P P 07 35 52.2 -0.6
baz=162
G39A **Holcombe** 67.66 343 P P 07 35 52.4 -0.5
baz=158,SNR=5.5
E44A **Grand Marais A** 67.67 347 P P 07 35 52.4 -0.5
baz=163
J33A **Davis** 67.68 338 P P 07 35 52.8 -0.3
baz=152
G38A **Ridgeland** 67.74 343 P P 07 35 52.9 -0.5
baz=157
H36A **Jessenland, He** 67.81 341 P P 07 35 53.6 -0.2
baz=155
COWI **Conover** 67.90 345 *e*P P 07 35 53.5 -0.9
comp=Z,16nm,1.3s
E42A **Champion** 67.92 346 P P 07 35 53.9 -0.6
baz=161
ECSD **EROS Data Cent** 67.93 339 P P 07 35 54.4 -0.3
baz=152
ECSD **EROS Data Cent** 67.93 339 *e*P P 07 35 54.7 +0.1
comp=Z,16nm,1.4s
F40A **Park Falls** 67.97 344 P P 07 35 54.6 -0.2
baz=159,SNR=15
LIC **Lamto** 67.98 75⇑ *i*P P 07 35 54.1 -1.5
comp=Z,113nm,0.4s
J32A **Parkston** 68.04 338 P P 07 35 54.9 -0.4
baz=151
SPMN **Marine on St.** 68.06 342 P P 07 35 54.9 -0.5
baz=156
SPMN **Marine on St.** 68.06 342 *e*P P 07 35 55.0 -0.5
comp=Z,20nm,0.3s
TIC **Toumodi** 68.15 74⇑ *i*P P 07 35 55.2 -1.5
F39A **Loretta** 68.18 344 P P 07 35 55.7 -0.4
baz=158
E41A **Kenton** 68.19 345 P P 07 35 55.6 -0.6
baz=160
H35A **Sunnyside Ranc** 68.20 340 P P 07 35 56.1 -0.2
baz=154
KIC **Kosan Boka** 68.29 75⇑ *i*P P 07 35 56.3 -1.3
comp=Z,385nm,0.7s
DBIC **Dimbokro** 68.31 74 P P 07 35 56.5 -1.1
comp=Z,172nm,0.7s,baz=222,slow=6.4,SNR=325
DBIC LR LR 08 05 26.1
comp=Z,40nm,18.8s,baz=216,slow=36
DBIC **Dimbokro** 68.31 74 *e*P P 07 35 56.4 -1.2
comp=Z,151nm,0.8s
DBIC **Dimbokro** 68.31 74 *e*P P 07 35 56.4 -1.2
DBIC pmax pmax
comp=Z,151nm,0.8s
G36A **St. Michael** 68.35 341 P P 07 35 57.2 0.0
baz=155
E40A **Wakefield** 68.41 345 P P 07 35 57.4 -0.1
baz=159,SNR=8.5
F37A **Hinrichs Farm,** 68.47 342 P P 07 35 57.7 -0.3
baz=156
F38A **Pierce - Schro** 68.47 343 P P 07 35 57.8 -0.2
baz=157
H34A **Spellman Lake,** 68.48 340 P P 07 35 57.8 -0.2
baz=153
E39A **Mellen** 68.51 344 P P 07 35 58.0 -0.2
baz=158,SNR=6.2
G35A **Watkins** 68.56 341 P P 07 35 58.4 -0.1
baz=154
NVL **N'lazarevskaya** 68.63 159 *e*P P 07 35 58.8 +0.2
NVL pmax pmax
comp=Z,27nm,0.9s
D41A **Chassel** 68.66 346 P P 07 35 59.2 +0.1
baz=160
H33A **Prehn Over Nor** 68.81 339 P P 07 36 00.0 -0.1
baz=152
F36A **Milaca** 68.85 342 P P 07 36 00.1 -0.2
baz=155
F35A **Swanville** 69.16 341 P P 07 36 02.0 -0.2
baz=154
E37A **Wrenshall** 69.18 343 P P 07 36 02.2 -0.1
baz=157
IRM **Iron Mountain** 69.19 320 P P 07 36 02.3 -0.4
baz=134
F34A **Alexandria** 69.32 341 P P 07 36 03.2 0.0
baz=154
E36A **McGregor** 69.37 342 P P 07 36 03.3 -0.2
baz=156
G32A **Webster** 69.57 339 P P 07 36 03.7 -1.1
baz=152
F33A **5 Mile Ranch,** 69.69 340 P P 07 36 05.0 -0.4
baz=153
D37A **Cotton** 69.73 343 P P 07 36 05.2 -0.5
baz=157
C39A **Grand Marais** 69.74 345 P P 07 36 05.3 -0.4
baz=159
E35A **Pequot Lakes** 69.74 342 P P 07 36 05.0 -0.8
baz=155
E34A **Wadena** 69.93 341 P P 07 36 06.7 -0.3
baz=154,SNR=5.1
C38A **Sawbill Land.** 69.94 344 P P 07 36 06.2 -0.8
baz=158
C37A **Embarrass** 70.19 344 P P 07 36 08.1 -0.4
baz=157
EYMN **Ely** 70.20 344 P P 07 36 07.9 -0.7
baz=158
EYMN **Ely** 70.20 344 *e*P P 07 36 07.9 -0.7
comp=Z,31nm,1.5s
MTPU **Mount Pierson** 70.23 325 *e*P P 07 36 09.9 +0.4
comp=Z,1.9nm,0.7s
F31A **Hecla** 70.35 339 P P 07 36 09.5 -0.1
baz=151
C36A **Pine Crest Far** 70.39 343 P P 07 36 09.3 -0.4
baz=156
QSPA **South Pole Qui** 70.57 180 P P 07 36 12.3 +1.5
comp=Z,23nm,0.8s,baz=160,slow=5.1,SNR=35
QSPA pP pP 07 36 40.9 +0.5
comp=Z,6.4nm,0.5s,baz=148,slow=6.4,SNR=4.3
QSPA **South Pole Qui** 70.57 180 *e*P P 07 36 11.5 +0.7
comp=Z,33nm,1.0s
QSPA pP pP 07 36 40.9 +0.5
C35A **Jirik Farms, M** 70.65 342 P P 07 36 11.1 -0.3
baz=155
SHPR **Sheep Range** 70.81 322 *e*P P 07 36 15.0 +2.3
comp=Z,7.7nm,1.8s
C34A **RKJ Ranch, Bem** 70.88 342 P P 07 36 12.2 -0.5
baz=154
RSSD **Black Hills** 71.06 334 P P 07 36 14.0 -0.1
baz=145
RSSD **Black Hills** 71.06 334 *e*P P 07 36 15.3 +1.1
comp=Z,5.8nm,0.8s
RSSD **Black Hills** 71.06 334 *e*P P 07 36 15.3 +1.1
RSSD pmax pmax
comp=Z,6.0nm,0.8s
B35A **Bob, Littlefor** 71.18 343 P P 07 36 14.0 -0.5
baz=156,SNR=7.6
C33A **Trail** 71.23 341 P P 07 36 14.4 -0.5
baz=154
B34A **Aery, Baudette** 71.56 342 P P 07 36 16.3 -0.4
baz=155,SNR=5.2
B33A **Robert and Kas** 71.64 342 P P 07 36 16.7 -0.6
baz=154
JLU **Jordanelle** 71.73 327 *e*P P 07 36 20.2 +1.9
comp=Z,4.4nm,0.8s
AGMN **Agassiz Nation** 71.74 341 P P 07 36 17.6 -0.3
baz=154,SNR=5.7
AGMN **Agassiz Nation** 71.74 341 *e*P P 07 36 17.5 -0.3
comp=Z,11nm,1.1s
C31A **Landman Farms,** 71.87 340 P P 07 36 18.4 -0.3
baz=152,SNR=6.0
B32A **Ashes, Strandq** 72.03 341 P P 07 36 19.4 -0.2
baz=153,SNR=11
DUG **Dugway, Tooele** 72.14 326 *e*P P 07 36 24.2 +3.6
comp=Z,7.4nm,1.5s
DUG **Dugway, Tooele** 72.14 326 *e*P P 07 36 24.2 +3.6
DUG pmax pmax
comp=Z,7.0nm,1.5s
A33A **Warroad** 72.18 342 P P 07 36 20.4 0.0
baz=154,SNR=11
ISA **Isabella, Lake** 72.22 319 *e*P P 07 36 23.7 +2.6
comp=Z,1.4nm,0.8s
ISA **Isabella, Lake** 72.22 319 *e*P P 07 36 23.7 +2.6
ISA pmax pmax
comp=Z,1.0nm,0.8s
R11A **Troy Canyon, C** 72.33 323 *e*P P 07 36 23.8 +2.0
comp=Z,10nm,1.8s
KOWA **Kowa** 72.38 67 P P 07 36 21.2 -1.2
comp=Z,10nm,0.4s,baz=237,slow=7.1,SNR=31
KOWA LR LR 08 07 43.2
comp=Z,109nm,18.1s,baz=214,slow=35
KOWA **Kowa** 72.38 67 *e*P P 07 36 21.1 -1.2
comp=Z,127nm,1.8s
B31A **Greenbush Farm** 72.40 340 P P 07 36 21.4 -0.3
baz=152
PDAR **Pinedale Array** 72.43 330 P P 07 36 22.5 +0.1
comp=Z,1.8nm,0.7s,baz=138,slow=11,SNR=10.0
PDAR pP pP 07 36 52.7 +0.6
comp=Z,0.7nm,0.6s,baz=121,slow=8.5,SNR=2.4
MDND **Maddock** 72.54 339 P P 07 36 23.2 +0.6
baz=150,SNR=7.6
MDND **Maddock** 72.54 339 *e*P P 07 36 23.4 +0.8
comp=Z,114nm,1.4s
ULM **Lac du Bonnet** 73.49 342 P P 07 36 27.6 -0.5
comp=Z,4.6nm,0.4s,baz=151,slow=6.4,SNR=18
ULM pP pP 07 36 57.7 -0.3
comp=Z,4.7nm,0.5s,baz=153,slow=7.3,SNR=4.3
ULM **Lac du Bonnet** 73.49 342 *e*P P 07 36 27.9 -0.3
comp=Z,9.3nm,0.8s
ULM pP pP 07 36 57.7 -0.3
TPAW **Teton Pass** 73.64 330 *e*P P 07 36 31.2 +1.6
comp=Z,27nm,2.0s
IMW **Indian Meadow** 73.94 330 *e*P P 07 36 33.0 +1.6
comp=Z,7.1nm,1.1s
NVAR **Mina Array Bea** 73.95 322 P P 07 36 31.1 -0.3
comp=Z,0.6nm,0.7s,baz=162,slow=5.7,SNR=6.9
NVAR pP pP 07 37 02.7 +1.5
comp=Z,4.1nm,0.8s,baz=141,slow=5.8,SNR=14
LAO **LASA Array** 74.04 334 P P 07 36 32.6 +1.0
baz=144
LAO **LASA Array** 74.04 334 *e*P P 07 36 32.8 +1.2
comp=Z,14nm,1.3s
RLMT **Red Lodge** 74.11 332 P P 07 36 33.1 +0.9
baz=141
RLMT **Red Lodge** 74.11 332 *e*P P 07 36 32.9 +0.7
comp=Z,14nm,1.4s
SCHQ **Schefferville** 74.17 1 P P 07 36 31.3 -0.7
comp=Z,19nm,0.8s,baz=196,slow=3.4,SNR=12
SCHQ **Schefferville** 74.17 1 *e*P P 07 36 31.7 -0.3
comp=Z,18nm,0.8s
YHH **Holmes Hill** 74.58 330 *e*P P 07 36 37.1 +2.1
comp=Z,10nm,1.1s
GCMT **Greycliff** 74.81 332 *e*P P 07 36 37.6 +1.5
HLID **Hailey** 75.40 328 P P 07 36 41.5 +1.9
baz=136
HLID **Hailey** 75.40 328 *e*P P 07 36 41.5 +1.9
PAHR **Pah Rah Range** 75.43 322 *e*P P 07 36 42.4 +2.6
comp=Z,7.0nm,0.9s
BOZ **Bozeman (W)** 75.55 331 P P 07 36 41.7 +1.4
baz=139
BOZ **Bozeman (W)** 75.55 331 *e*P P 07 36 41.8 +1.4
comp=Z,5.9nm,1.2s
BOZ **Bozeman (W)** 75.55 331 *e*P P 07 36 41.8 +1.4
BOZ pmax pmax
comp=Z,6.0nm,1.2s
MCMT **McKenzie Canyo** 75.55 329 *e*P P 07 36 42.2 +1.6
TOA0 **Torodi Ar. Sit** 76.83 71 *e*P P 07 36 46.7 -1.4
TOA0 *e*S S 07 46 21.6 -4.7
TORD **Torodi Ar. Bea** 76.83 71 P P 07 36 46.7 -1.4
comp=Z,27nm,0.5s,baz=254,slow=5.4,SNR=217
TORD pP pP 07 37 17.2 -0.9
comp=Z,14nm,0.9s,baz=253,slow=5.6,SNR=3.1
TORD sP sP 07 37 31.0 +0.1
comp=Z,10nm,0.7s,baz=254,slow=5.1,SNR=2.6
TORD LR LR 08 09 22.4
comp=Z,88nm,20.0s,baz=225,slow=35
MSO **Missoula** 77.54 330 P P 07 36 52.8 +1.3
baz=137
SYO **Syowa Base** 78.30 160‖ *e*X P 07 37 06.0 +11
SYO **Syowa Base** 78.30 160‖ *i*pP pP 07 37 25.0 -0.4
VNDA **Vanda** 78.68 190 P P 07 36 59.0 +1.7
comp=Z,3.6nm,0.8s,baz=126,slow=5.0,SNR=14
VNDA pP pP 07 37 28.9 +1.4
comp=Z,1.5nm,0.7s,baz=134,slow=5.9,SNR=2.5
VNDA **Vanda** 78.68 190 *e*P P 07 36 59.4 +2.1
comp=Z,1.0nm,0.8s
VNDA pP pP 07 37 28.9 +1.4
SUR **Sutherland** 79.62 121 *e*P P 07 37 04.4 +0.8

	comp=Z,57nm,1.8s						
PBDV	Barranco-do-Ve	80.64	45	eP	P	07 37 09.3	+0.8
PBDV				epP	pP	07 37 39.2	+0.4
TSUM	Tsumeb	80.69	107	eP	P	07 37 09.6	+0.2
	comp=Z,9.7nm,0.6s						
PNCL	Nicolau / Gran	80.73	44	eP	P	07 37 09.5	+0.6
FCC	Fort Churchill	80.78	347	eP	P	07 37 08.8	+0.1
	comp=Z,8.6nm,0.6s						
FCC	Fort Churchill	80.78	347	eP	P	07 37 08.8	+0.1
FCC				pmax	pmax		
	comp=Z,9.0nm,0.6s						
PCVE	Castro Verde	80.78	45	eP	P	07 37 09.9	+0.7
PCVE				epP	pP	07 37 40.7	+1.2
PVAQ	Vaqueiros	80.87	45	eP	P	07 37 10.5	+0.8
PBEJ	Beja	81.11	44	eP	P	07 37 11.7	+0.7
PMTG	Montargil	81.45	43	eP	P	07 37 13.5	+0.7
PMTG				epP	pP	07 37 43.3	+0.2
PBAR	Barrancos	81.74	45	eP	P	07 37 14.4	+0.1
PBAR				epP	pP	07 37 45.7	+1.0
PESTR	Estremoz	81.76	44	eP	P	07 37 15.5	+1.1
EDM	Edmonton	82.02	335	eP	P	07 37 15.4	0.0
	comp=Z,36nm,1.3s						
EDM	Edmonton	82.02	335	eP	P	07 37 15.4	0.0
EDM				pmax	pmax		
	comp=Z,36nm,1.3s						
B05A	Bryant	82.52	327	P	P	07 37 19.4	+1.3
	baz=131						
PVIS	Viseu	82.58	42	eP	P	07 37 19.0	+0.3
MVO	Moncorvo	83.37	42	eP	P	07 37 23.0	+0.2
	comp=Z,36nm,1.3s						
RAR	Rarotonga	83.77	250	LR	LR	08 06 42.2	
	comp=Z,84nm,19.9s,baz=201,slow=30						
PBRG	Braganca	83.90	42	eP	P	07 37 25.6	+0.2
	comp=Z,26nm,1.6s						
TAM	Tamanrasset	84.07	63	eP	P	07 37 26.6	-0.2
	comp=Z,15nm,1.1s						
TAM	Tamanrasset	84.07	63	eP	P	07 37 26.7	-0.2
TAM				pmax	pmax		
	comp=Z,15nm,1.1s						
PAB	San Pablo	84.25	45	eP	P	07 37 27.3	0.0
	comp=Z,18nm,1.1s						
PAB	San Pablo	84.25	45	eP	P	07 37 27.3	0.0
PAB				pmax	pmax		
	comp=Z,18nm,1.1s						
BOSA	Boshof	84.43	118	P	P	07 37 27.8	-0.9
	comp=Z,2.5nm,0.5s,baz=271,slow=6.2,SNR=9.6						
BOSA				pP	pP	07 37 59.7	+0.5
	comp=Z,8.3nm,1.0s,baz=234,slow=5.6,SNR=4.8						
BOSA				LR	LR	08 11 40.7	
	comp=Z,56nm,19.1s,baz=202,slow=33						
BOSA	Boshof	84.43	118	eP	P	07 37 28.3	-0.3
	comp=Z,18nm,1.4s						
BOSA				pP	pP	07 37 59.7	+0.5
ESDC	Sonseca Array	84.57	45	P	P	07 37 28.6	-0.2
	comp=Z,3.3nm,0.7s,baz=244,slow=5.4,SNR=22						
ESDC				pP	pP	07 38 00.1	+0.7
	comp=Z,6.8nm,0.9s,baz=248,slow=5.9,SNR=5.1						
ES19	SONSECA Array	84.63	45	eP	P	07 37 29.1	-0.1
MAW	Mawson	86.16	163	P	P	07 37 37.3	+1.0
	comp=Z,4.6nm,0.8s,baz=212,slow=9.0,SNR=4.6						
MAW				pP	pP	07 38 07.2	+0.4
	comp=Z,3.9nm,0.6s,baz=215,slow=3.3,SNR=3.4						
MAW				LR	LR	08 17 38.5	
	comp=Z,106nm,18.1s,baz=71,slow=36						
MAW	Mawson	86.16	163	eP	P	07 37 37.3	+1.0
	comp=Z,1.2nm,0.9s						
MAW				pP	pP	07 38 07.2	+0.4
MAW	Mawson	86.16	163	eP	P	07 37 37.3	+1.0
MAW				*PP	pP	07 38 07.2	+0.4
MAW				pmax	pmax		
	comp=Z,1.0nm,0.9s						
ANGG	Ammassalik, Gr	88.25	12	eP	P	07 37 46.0	0.0
	comp=Z,35nm,1.5s						
YKA	Yellowknife Ar	89.38	341	P	P	07 37 52.1	+0.6
	comp=Z,5.9nm,0.5s,baz=131,slow=4.7,SNR=292						
YKA				pP	pP	07 38 22.3	0.0
	comp=Z,10nm,0.7s,baz=135,slow=4.8,SNR=10						
YKA				sP	sP	07 38 36.4	+1.6
	comp=Z,4.5nm,0.7s,baz=136,slow=4.8,SNR=3.2						
SUMG	Summit	94.22	9	eP	P	07 38 15.4	+1.2
	comp=Z,7.4nm,0.9s						
SUMG	Summit	94.22	9	eP	P	07 38 15.4	+1.2
SUMG				pmax	pmax		
	comp=Z,7.0nm,0.9s						
GERES	GERESS Array B	99.88	42	LR	LR	08 20 28.2	
	comp=Z,24nm,20.6s,baz=298,slow=33						
CLL	Collm	100.23	39	ePP	PP	07 42 44.0	-5.0
BRTR	Keskin Array B	111.83	54	PP	PP	07 44 03.0	-12
	comp=Z,1.1nm,0.7s,baz=237,slow=6.2,SNR=5.7						
OBN	Obninsk	114.75	38	ePKIKP	PKPdf	07 43 33.7	-1.2
OBN				e		07 44 31.9	
OBN				pmax	pmax		
	comp=Z,4.0nm,0.9s						
VSR	Storozhevoye	116.39	42	ePKIKP	PKPdf	07 43 40.2	+2.0
VSR				pmax	pmax		
	comp=Z,40nm,0.9s						
KIV	Kislovodsk	118.86	50	ePKIKP	PKPdf	07 43 42.4	-0.9
KIV				pmax	pmax		
	comp=Z,7.0nm,1.1s						
TIXI	Tiksi	126.92	353	i PKIKP	PKPdf	07 43 58.5	+0.7
FORT	Forrest	127.28	199	ePKPdf	PKPdf	07 43 60.0	+0.1
SEY	Seymchan	128.33	337	ePKIKP	PKPdf	07 44 01.9	+1.1
AS01	Alice Springs	131.50	209	ePKPdf	PKPdf	07 44 08.0	-0.2
ASAR	Alice Springs	131.52	208	PKhKP	PKPpre	07 43 58.5	
	comp=Z,0.4nm,0.8s,baz=132,slow=2.8,SNR=3.8						
ASAR				PKP	PKPdf	07 44 08.1	-0.1
	comp=Z,3.1nm,0.7s,baz=131,slow=1.6,SNR=23						
ASAR				pPKP	pPKPdf	07 44 39.5	-0.9
	comp=Z,1.5nm,0.5s,baz=126,slow=1.4,SNR=6.5						
ASAR				SKPbc	SKPab	07 47 22.9	-0.5
	comp=Z,2.9nm,0.9s,baz=139,slow=4.3,SNR=9.7						
AS31	Alice Springs	131.52	208	ePKPdf	PKPdf	07 44 08.5	+0.3
COEN	Coen	133.99	226	ePKPdf	PKPdf	07 44 13.2	+0.2
BVAR	Borovoye Array	134.29	33	PKP	PKPdf	07 44 12.7	+0.3
	comp=Z,0.9nm,0.7s,baz=302,slow=2.7						
BVAR				pPKP	pPKPdf	07 44 45.1	+0.4
	comp=Z,1.3nm,0.9s,baz=298,slow=3.1,SNR=2.6						
WB2	Warramunga Arr	134.50	212	ePKPpre	PKPpre	07 44 03.6	
WB2				ePKPdf	PKPdf	07 44 14.3	+0.4
WRA	Warramunga Arr	134.51	212	PKhKP	PKPpre	07 44 01.8	
	comp=Z,0.4nm,0.6s,baz=174,slow=2.4,SNR=12						
WRA				PKP	PKPdf	07 44 14.1	+0.2
	comp=Z,4.2nm,0.7s,baz=156,slow=1.7,SNR=34						
WRA				pPKP	pPKPdf	07 44 46.8	+0.7
	comp=Z,1.1nm,0.4s,baz=143,slow=1.6,SNR=3.6						
WRA				SKPbc	SKPbc	07 47 32.9	-0.1
	comp=Z,4.1nm,1.0s,baz=140,slow=2.4,SNR=11						
KURK	Kurchatov	139.80	32	PKP	PKPdf	07 44 21.3	-1.3
KURK				pPKP	pPKPdf	07 44 55.6	+0.8
KURK	Kurchatov	139.80	32	PKIKP	PKPdf	07 44 21.3	-1.3
KURK						07 44 55.7	
KURBB	Kurchatov Arra	139.81	32	PKP	PKPdf	07 44 21.3	-1.4
	comp=Z,1.1nm,0.8s,baz=312,slow=2.2						
KURBB				pPKP	pPKPdf	07 44 55.6	+0.8
	comp=Z,1.1nm,0.8s,baz=311,slow=2.0,SNR=2.3						
ZALV	Zalesovo Beam	140.29	24	PKhKP	PKPpre	07 44 19.3	
	comp=Z,1.7nm,0.4s,baz=298,slow=2.3,SNR=4.6						
ZALV				pPKP	pPKPdf	07 44 57.1	+1.5
	comp=Z,3.8nm,0.7s,baz=297,slow=2.1,SNR=4.0						
ZALV				SKPbc	SKPbc	07 47 49.1	+0.4
	comp=Z,1.6nm,0.8s,baz=318,slow=4.1,SNR=3.7						
MTN	Manton Dam	142.13	213	ePKPpre	PKPpre	07 44 23.9	
KSH	Kashi	143.97	49	PKP	PKPbc	07 44 29.2	+0.4
MAKZ	Makanchi	143.98	34	ePKPdf	PKPbc	07 44 28.3	-0.1
MAKZ	Makanchi	143.98	34	ePKIKP	PKPbc	07 44 28.3	-0.1
MK31	Makanchi Array	144.16	34	ePKPdf	PKPbc	07 44 28.9	-0.1
MK31	Makanchi Array	144.16	34	ePKIKP	PKPbc	07 44 28.9	-0.1
MKAR	Makanchi Array	144.16	34	PKP	PKPab	07 44 28.6	+0.1
	comp=Z,2.9nm,0.6s,baz=340,slow=2.5,SNR=16						
MKAR				pPKP	pPKPdf	07 45 02.0	-0.8
	comp=Z,3.7nm,0.7s,baz=316,slow=2.8,SNR=5.9						
MKAR				SKPbc	SKPbc	07 47 56.8	-1.9
	comp=Z,1.8nm,0.8s,baz=303,slow=2.9,SNR=4.8						
MK01	Makanchi Array	144.18	34	ePKPdf	PKPab	07 44 28.7	+0.1
KLR	Kul'dur	146.07	335	i PKP2	PKPdf	07 44 33.7	0.0
MOY	Mondy	147.06	11	ePKP2	PKPab	07 44 38.7	-0.8
MOY				pmax	pmax		
	comp=Z,19nm,1.4s						
KNGR	Kungurtug, Tuv	147.28	16	i PKIKP	PKPdf	07 44 36.2	+0.3
TLY	Talaya	147.48	9	ePKPbc	PKPbc	07 44 38.3	-0.5
TLY	Talaya	147.48	9	ePKP2	PKPab	07 44 40.6	-0.4
TLY				pmax	pmax		
	comp=Z,12nm,1.1s						
WMQ	Urumqi	148.98	34	ePKPbc	PKPdf	07 44 39.0	+0.2
HYB	Hyderabad	149.20	89	i PKP	PKPab	07 44 47.0	-2.1
FAKI	Fak Fak	149.37	225	ePKPbc	PKPbc	07 44 46.2	+1.4
USRK	Ussuriysk Ar.	149.85	329	PKPbc	PKPbc	07 44 46.1	+1.1
	baz=42,slow=4.5						
USRK				pPKPbc	pPKPbc	07 45 17.5	+0.4
	comp=Z,7.0nm,0.8s,baz=39,slow=1.7,SNR=4.2						
MJAR	Matsushiro Arr	150.79	311	PKPbc	PKPbc	07 44 48.5	+0.9
	comp=Z,2.0nm,0.6s,baz=240,slow=2.0,SNR=6.0						
MJAR				pPKPbc	pPKPbc	07 45 19.7	+0.1
	comp=Z,4.2nm,0.7s,baz=89,slow=1.5,SNR=4.4						
MAJO	Matsushiro	150.79	311	ePKPab	PKPab	07 44 55.8	+0.7
MJB9	Matsu-Tunnel	150.79	311	ePKPab	PKPab	07 44 55.4	+0.4
SONA1	Songino Array	151.59	6	ePKPbc	PKPbc	07 44 49.9	+0.7
SONM	Songino Array	151.60	6	PKPbc	PKPbc	07 44 49.9	+0.7
	comp=Z,8.3nm,0.6s,baz=306,slow=1.1,SNR=40						
SONM				pPKPbc	pPKPbc	07 45 20.8	-0.5
	comp=Z,6.8nm,0.6s,baz=321,slow=1.7,SNR=7.3						
HHC	Hu-ho-hao-te	158.83	359	ePKP	PKPdf	07 44 51.7	-1.2
LZH	Lanzhou	162.43	19	ePKP	PKPdf	07 44 55.6	-1.4
LZH				pPKP	pPKPdf	07 45 21.5	-7.9
LZH				sPKP		07 45 35.0	
LZH				LR	LR		
	comp=Z,110nm,15.0s						
LZH				LR	LR		
	comp=Z,130nm,16.7s						
LZH				LR	LR		
	comp=Z,160nm,19.2s						
NJ2	Nanjing	165.74	332	ePKP	PKPdf	07 44 59.4	-0.4
CD2	Chengdu	167.00	29	PKP	PKPdf	07 44 59.5	-1.5
CMAR	Chiang Mai Arr	168.56	94	PKPab	PKPab	07 46 11.0	-1.7
	comp=Z,1.4nm,0.4s,baz=259,slow=5.9,SNR=8.7						
CMAR	Chiang Mai Arr	168.56	94	PKP2	PKPab	07 46 11.0	-1.7
KMI	Kunming	170.61	53	PKP	PKPdf	07 45 00.0	-3.7
GYA	Guiyang	172.11	29	ePKP	PKPdf	07 45 02.0	-2.2
GYA				pPKP	pPKPdf	07 45 34.4	-2.3
GYA				sPKP		07 45 46.0	
GYA				PKPab	PKPab	07 46 28.2	+0.2
GYA				PKS	PKSdf	07 48 33.6	-3.2
GYA				PP	PP	07 50 20.0	+1.5
GYA				AMB	AMB		
	comp=Z,130nm,8.2s						

RSNC 03 07:29:25.4±0.8**, 6.75°N**×**73.17°W, h144**km±6km**, ML1.8, Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	Barichara	0.16	186	eP	Pn	07 29 44.8	-0.4
BARC				eS	Sn	07 29 60.0	-0.3
BARC				i		07 30 01.2	
	comp=Z,10nm,0.2s						
BRRC	Barranca, Sant	0.65	303	eP	Pn	07 29 46.6	-0.3
BRRC				eS	Sn	07 30 03.4	+0.1
BRRC				i		07 30 05.2	
	comp=Z,19nm,0.1s						
PAMC	Pamplona, Colo	0.74	38	eP	Pn	07 29 47.7	-0.4
PAMC				eS	Sn	07 30 04.8	-0.7
PAMC				i		07 30 07.1	
	comp=Z,9.8nm,0.6s						
RUSC	La Rusia	0.86	175	eP	Pn	07 29 49.1	0.0
RUSC				eS	Sn	07 30 06.4	-0.6
RUSC				i		07 30 08.9	
	comp=Z,10nm,0.2s						
ZARC	Zaragoza, Cauc	1.83	294	eP	Pn	07 29 57.4	-0.9
ZARC				i		07 30 01.0	
	comp=Z,4.2nm,0.1s						
ZARC				eS	Sn	07 30 22.6	-0.9
NORC	Norcasia	2.06	235	eP	Pn	07 30 00.4	-0.6
CHIC	Chingaza	2.18	195	eP	Pn	07 30 02.4	-0.5
HELC	Santa Helena	2.41	257	eP	Pn	07 30 05.5	-0.1

*IDC **03** 07:33:58.8±0.8, 34.69°N×95.94°W, h0km, mb3.3/3, mb1 3.9/9, mb1mx3.6/61, mbtmp3.6/9, ML3.4/5, Error ellipse: s-maj=14.4km s-min=9.0km az=154.0*

*NEIC **03** 07:34:00.0±0.0, 34.64°N×95.88°W, h5km, mb4.1/4, MN4.1, After TUL.*

NEIC Felt [IV] at Atoka, Bristow, Eufaula, Fort Gibson, Gore, McAlester, Paden and Stuart; [III] north to Tulsa, northeast to Stigler, south to Hendrix and west to Oklahoma City; [II] as far as Norman, Owasso, Sallisaw and Tishomingo. Felt [III] at Fayetteville and Garfield and [II] at Bella Vista, Fort Smith and Siloam Springs, Arkansas. Felt in much of eastern and central Oklahoma and in parts of southeastern Kansas, southwestern Missouri, northwestern Arkansas and northern Texas.

ISC 03 07:33:57.7±1.0**, 34.70°N**±0.03×**95.84°W**±0.02**, h5**km±8km**, n360,** σ1.50/417**, mb3.1**/3**, Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TUL1	Leonard	1.21	2	P	Pn	07 34 22.8	+1.5
	baz=183,SNR=1000						
TUL1				S	Sn	07 34 39.5	+1.4
	baz=183						
TUL1	Leonard	1.21	2	ePn	Pn	07 34 22.8	+1.5
TUL1				eSn	Sn	07 34 39.5	+1.4
OK002	Wilshire Harra	1.40	308	ePn	Pg	07 34 25.8	+1.3
OK002				eSn	Sn	07 34 45.2	+2.4
X39A	Fountain Ranch	1.44	97	P	Pg	07 34 26.3	+1.0
	baz=279,SNR=1000						
X39A				S	Sg	07 34 45.9	+1.9
	baz=279						
OK005	Luther M Schoo	1.46	311	ePn	Pg	07 34 26.6	+0.9
OK005				eSn	Sg	07 34 46.3	+1.6
W39A	Magazine	1.76	73	P	Pb	07 34 30.9	+0.3
	baz=255,SNR=1000						
MIAR	Mount Ida	1.88	94	P	Pb	07 34 32.8	+0.4
	baz=276,SNR=1000						
MIAR	Mount Ida	1.88	94	ePn	Pb	07 34 32.9	+0.4
MIAR				eSn	Sg	07 34 59.4	+1.4
V39A	Pettigrew	2.13	57	P	Pn	07 34 35.9	+1.9
	baz=239,SNR=883						
V39A				S	Sn	07 35 03.1	+2.2
	baz=239						
Y40A	Okolona	2.23	107	P	Pn	07 34 37.3	+2.0
	baz=289,SNR=392						
Y40A				S	Sn	07 35 05.0	+1.8
	baz=289						
W40A	Ferguson Farm,	2.33	77	P	Pn	07 34 38.8	+2.1
	baz=259,SNR=299						
W40A	Ferguson Farm,	2.33	77	ePn	Pn	07 34 38.7	+2.0
WMOK	Wichita Mounta	2.42	272	P	Pn	07 34 39.4	+1.4
	baz=90						
WMOK	Wichita Mounta	2.42	272	ePn	Pn	07 34 39.4	+1.4
WMOK				eSn	Sb	07 35 10.3	-1.7
Z40A	Long Farm, Mag	2.49	125	P	Pn	07 34 40.7	+1.9
	baz=306,SNR=33						
X40A	Basin Creek Fa	2.49	94	P	Pn	07 34 40.5	+1.6
	baz=276,SNR=128						
U39A	Green Forest	2.56	48	P	Pn	07 34 41.6	+1.8
	baz=230,SNR=312						
U39A				S	Sn	07 35 13.5	+2.2
	baz=230						
T38A	Diamond	2.65	28	P	Pn	07 34 43.0	+1.9
	baz=209,SNR=87						
T38A				S	Sn	07 35 15.6	+2.0
	baz=209						
V40A	Witts Springs	2.71	65	P	Pn	07 34 43.7	+1.8
	baz=247,SNR=368						
X41A	Kaden, Bauxite	2.75	93	P	Pn	07 34 44.2	+1.7
	baz=276,SNR=70						
140A	Cam and Jess,	2.79	137	P	Pn	07 34 44.4	+1.4
	baz=318,SNR=21						
140A				S	Sn	07 35 18.2	+1.1
	baz=318						
Y41A	Eaglette Beard	2.80	106	P	Pn	07 34 45.0	+1.9
	baz=288,SNR=98						
Y41A				S	Sn	07 35 18.5	+1.3
	baz=288						
UALR	University of	2.88	87	ePn	Pn	07 34 46.6	+2.3
UALR				ePg	Pb	07 34 52.4	+2.8
Z41A	Richland Creek	2.91	119	P	Pn	07 34 46.2	+1.6
	baz=301,SNR=25						
Z41A				S	Sn	07 35 20.9	+1.0
	baz=301						
U40A	Yellville	2.95	55	P	Pn	07 34 47.2	+2.0
	baz=237,SNR=757						
W41B	Gary Mavity, V	2.99	80	P	Pn	07 34 47.8	+2.1
	baz=262,SNR=246						
WHTX	Lake Whitney,	3.02	207	P	Pn	07 34 47.2	+1.0
	baz=26,SNR=29						
WHTX	Lake Whitney,	3.02	207	ePn	Pn	07 34 47.0	+0.9
T39A	Clever	3.07	40	P	Pn	07 34 49.0	+2.2
	baz=222,SNR=179						
T39A				S	Sn	07 35 25.7	+1.8
	baz=222						
NATX	Nacogdoches	3.09	161	P	Pn	07 34 48.1	+0.9
	baz=341						
NATX				S	Sn	07 35 24.5	0.0
	baz=341						
NATX	Nacogdoches	3.09	161	ePn	Pn	07 34 48.1	+0.9
NATX				ePg	Pg	07 34 58.0	+1.0
240A	Hunter Patters	3.17	146	P	Pn	07 34 49.4	+1.1
	baz=327						
240A				S	Sn	07 35 26.5	0.0
	baz=327						
V41A	Mountainview	3.21	69	P	Pn	07 34 50.4	+1.6
	baz=252,SNR=29						
141A	Papa Simpson,	3.22	130	P	Pn	07 34 50.4	+1.5
	baz=311						
141A				S	Sn	07 35 28.7	+1.0
	baz=311						
S38A	Stockton	3.32	28	P	Pn	07 34 52.0	+1.7
	baz=209,SNR=66						
Y42A	Garnett, Star	3.47	103	P	Pn	07 34 54.3	+1.9
	baz=286,SNR=144						
X42A	Stuttgart	3.48	91	P	Pn	07 34 54.0	+1.5
	baz=274,SNR=12						
Z42A	Norrel Spur, H	3.53	113	P	Pn	07 34 55.0	+1.7
	baz=295						
Z42A				S	Sn	07 35 37.1	+1.7
	baz=295						
W42A	Bald Knob	3.59	80	P	Pn	07 34 55.8	+1.7
	baz=262						
U41A	Viola	3.60	62	P	Pn	07 34 55.8	+1.7
	baz=244,SNR=175						
S39A	Bolivar	3.62	34	P	Pn	07 34 56.4	+2.0
	baz=215,SNR=167						
241A	Mo Tay, Goldon	3.62	137	P	Pn	07 34 55.8	+1.4
	baz=318						
T40A	Mansfield	3.64	47	P	Pn	07 34 56.6	+1.9
	baz=229,SNR=38						
ABTX	Abilene, Hawle	3.78	238	P	Pn	07 34 57.3	+0.6
	baz=55						
ABTX	Abilene, Hawle	3.78	238	ePn	Pn	07 34 57.3	+0.6
ABTX				ePb	Pb	07 35 06.5	+1.5
V42A	Cord	3.81	72	P	Pn	07 34 59.0	+2.0
	baz=255,SNR=28						
R38A	Fenwick Farm,	3.82	24	P	Pn	07 34 58.6	+1.4
	baz=205,SNR=247						
142A	Monroe	3.89	122	P	Pn	07 34 59.7	+1.5
	baz=305,SNR=11						
S40A	Lebanon	3.96	42	P	Pn	07 35 01.2	+2.1
	baz=224,SNR=23						
341A	Kurthwood	4.04	145	P	Pn	07 35 01.8	+1.6
	baz=327						
242A	Grayson	4.05	129	P	Pn	07 35 01.6	+1.2
	baz=312						
T41A	Mountain View	4.06	54	P	Pn	07 35 02.2	+1.8
	baz=236,SNR=171						
X43A	Marvell	4.10	91	P	Pn	07 35 03.0	+2.1
	baz=274,SNR=29						
Z43A	Armstrong Fami	4.10	110	P	Pn	07 35 02.6	+1.6
	baz=293						
U42A	Revenden	4.10	65	P	Pn	07 35 02.5	+1.5
	baz=248,SNR=23						
Y43A	Makayla and Ka	4.14	100	P	Pn	07 35 03.1	+1.5
	baz=283,SNR=42						
435B	Jarrell	4.17	201	P	Pn	07 35 02.9	+0.8
	baz=20						
143A	Socs Landing,	4.20	117	P	Pn	07 35 03.8	+1.4
	baz=300						
W43A	Forest City	4.24	83	P	Pn	07 35 05.0	+2.1
	baz=266,SNR=11						
R39A	Chumby, Stover	4.26	31	P	Pn	07 35 04.8	+1.6
	baz=213,SNR=98						
Q37A	Longview Farm,	4.32	15	P	Pn	07 35 05.0	+0.9
	baz=196,SNR=32						
S41A	Jillco Farms,	4.39	48	P	Pn	07 35 07.2	+2.1
	baz=230,SNR=51						
KSU1	Kansas State U	4.44	352	P	Pn	07 35 06.4	+0.7
	baz=172						
KSU1	Kansas State U	4.44	352	ePn	Pn	07 35 06.8	+1.1
KSU1				ePb	Pb	07 35 17.8	+1.7
KSU1				ePg	Pg	07 35 23.8	+1.0
KSU1				eSg	Sg	07 36 17.9	-2.4
V43A	Jonesboro	4.47	74	P	Pn	07 35 08.5	+2.4
	baz=258						
T42A	Van Buren	4.50	58	P	Pn	07 35 08.5	+1.9
	baz=241,SNR=17						
441A	DeRidder	4.53	150	P	Pn	07 35 08.8	+1.9
	baz=331						
R40A	Maddies Statio	4.60	38	P	Pn	07 35 10.1	+2.2
	baz=220,SNR=11						
243A	Waterproof	4.61	126	P	Pn	07 35 10.0	+2.0
	baz=309						
Q38A	Cooks Store, C	4.61	22	P	Pn	07 35 09.1	+1.0
	baz=204						
X44A	Crenshaw	4.70	91	P	Pn	07 35 10.8	+1.4
	baz=274,SNR=22						
Z44A	Pea Ridge, Bel	4.71	106	P	Pn	07 35 10.8	+1.3
	baz=289,SNR=34						
Y44A	Strider, Charl	4.72	97	P	Pn	07 35 10.7	+1.2
	baz=281,SNR=19						
HKT	Hockley	4.73	180	ePn	Pn	07 35 10.2	+0.5
U43A	Rector	4.74	68	P	Pn	07 35 11.9	+2.1
	baz=251,SNR=48						
AMTX	Amarillo	4.81	274	P	Pn	07 35 12.1	+1.2
	baz=90						
AMTX	Amarillo	4.81	274	ePn	Pn	07 35 11.4	+0.6
PBMO	Poplar Bluff	4.87	63	ePn	Pn	07 35 13.2	+1.6
PBMO				eSn	Sn	07 36 09.3	+1.0
PBMO				eSg	Sg	07 36 31.8	-2.3
MET	Memphis--Engin	4.87	83	ePn	Pn	07 35 13.5	+1.8
Q39A	Willow Grove F	4.91	27	P	Pn	07 35 13.7	+1.5
	baz=209						
144A	Alexander Plac	4.97	113	P	Pn	07 35 14.7	+1.7
	baz=296						
W44A	Shelby Farms P	4.97	83	P	Pn	07 35 14.4	+1.4
	baz=267,SNR=7.7						
V44A	Blytheville	5.00	75	P	Pn	07 35 15.1	+1.7
	baz=259,SNR=12						
CCM	Cathedral Cave	5.00	47	P	Pn	07 35 14.9	+1.5
	baz=230						
CCM	Cathedral Cave	5.00	47	ePn	Pn	07 35 14.9	+1.5
CCM				eSn	Sn	07 36 11.4	-0.1
CCM				eSg	Sg	07 36 37.7	-0.6
P37A	Lathrop	5.03	13	P	Pn	07 35 14.5	+0.8
	baz=194						
244A	Avery, Jackson	5.06	120	P	Pn	07 35 15.7	+1.4
	baz=303						
R41A	Rosebud	5.08	44	P	Pn	07 35 16.0	+1.4
	baz=227,SNR=14						
VBMS	Vicksburg	5.09	118	P	Pn	07 35 15.8	+1.2
	baz=301						
VBMS	Vicksburg	5.09	118	ePn	Pn	07 35 16.2	+1.5
VBMS				ePb	Pb	07 35 24.9	-2.4
T43A	Greenville	5.10	61	P	Pn	07 35 15.6	+0.8
	baz=244,SNR=13						
S42A	Caledonia	5.10	52	P	Pn	07 35 15.6	+0.8
	baz=235,SNR=6.9						
CBKS	Cedar Bluff	5.16	324	P	Pn	07 35 16.8	+1.1
	baz=142						
CBKS	Cedar Bluff	5.16	324	ePn	Pn	07 35 17.0	+1.4
CBKS				eSg	Sg	07 36 44.8	+1.2
Q40A	Laux Farm, Aux	5.25	34	P	Pn	07 35 18.2	+1.4
	baz=217,SNR=11						
P38A	Dawn	5.25	20	P	Pn	07 35 18.2	+1.3
	baz=202,SNR=26						
Z45A	Winona	5.28	103	P	Pn	07 35 18.6	+1.4
	baz=286,SNR=46						
Y45A	Yeager Farm, C	5.28	97	P	Pn	07 35 18.1	+0.9
	baz=281,SNR=35						
OXF	Oxford	5.31	90	P	Pn	07 35 18.8	+1.1
	baz=274,SNR=26						
OXF	Oxford	5.31	90	ePn	Pn	07 35 18.8	+1.1
OXF				ePg	Pg	07 35 36.8	-2.7
X45A	UM Field Stati	5.33	91	P	Pn	07 35 18.9	+1.0
	baz=275,SNR=33						
U44A	Portageville	5.33	68	P	Pn	07 35 19.8	+1.8
	baz=252,SNR=34						
145A	Houston Renfro	5.36	111	P	Pn	07 35 20.1	+1.8
	baz=295						
JCT	Junction City	5.37	220	P	Pn	07 35 18.8	+0.3
	baz=37						
JCT	Junction City	5.37	220	ePn	Pn	07 35 18.6	+0.1
JCT				ePg	Pg	07 35 39.1	-1.6
JCT				eSg	Sg	07 36 51.5	+1.3
344A	Westbrook Farm	5.37	126	P	Pn	07 35 20.5	+2.0
	baz=309						

P39B Salisbury 5.38 26 P Pn 07 35 19.7 +1.1
baz=208,SNR=11
R42A Luebbering 5.42 47 P Pn 07 35 20.6 +1.5
baz=230,SNR=12
FVM French Village 5.46 52 *e*Pn Pn 07 35 20.9 +1.1
FVM *e*Sn Sn 07 36 22.1 -1.0
FVM *e*Sg Sg 07 36 52.1 -1.1
S43A Fulton Ridge, 5.48 57 P Pn 07 35 20.9 +0.9
baz=240,SNR=12
W45A Hickory Valley 5.49 83 P Pn 07 35 21.2 +1.1
baz=267,SNR=39
O34A Beatrice 5.52 353 P Pn 07 35 21.1 +0.6
baz=173
U44B Burton Farm, H 5.54 71 P Pn 07 35 22.3 +1.4
baz=255,SNR=79
O33A Hebron 5.54 346 P Pn 07 35 21.7 +0.8
baz=165
O35A Humboldt 5.56 359 P Pn 07 35 22.3 +1.2
baz=180,SNR=12
T44A Benton 5.61 63 P Pn 07 35 23.3 +1.5
baz=247
O37A Wolven Farm, M 5.62 13 P Pn 07 35 23.3 +1.3
baz=195
Q41A Truxton 5.63 40 P Pn 07 35 23.5 +1.5
baz=223,SNR=13
245A Little AP, Sta 5.64 116 P Pn 07 35 23.7 +1.5
baz=300
P40A Paris 5.70 31 P Pn 07 35 24.4 +1.4
baz=214,SNR=18
V45A Humboldt 5.73 78 P Pn 07 35 24.6 +1.1
baz=262,SNR=55
O38A Galt 5.73 19 P Pn 07 35 24.7 +1.2
baz=200,SNR=8.7
MSTX Muleshoe 5.78 265 P Pn 07 35 24.6 +0.3
baz=81,SNR=8.2
MSTX Muleshoe 5.78 265 *e*Pn Pn 07 35 24.8 +0.5
MSTX *e*Pb Pb 07 35 43.7 +4.6
Y46A Houston 5.84 96 P Pn 07 35 25.6 +0.6
baz=280,SNR=24
UTMT University of 5.92 72 *e*Pn Pn 07 35 27.5 +1.4
UTMT *e*Sg Sg 07 37 06.5 -1.4
Z46A Louisville 5.93 103 P Pn 07 35 27.6 +1.4
baz=287
345A Thompson Farm, 5.94 123 P Pn 07 35 27.5 +1.2
baz=306
R43A Red Bud 5.95 51 P Pn 07 35 27.6 +1.1
baz=235,SNR=6.0
SLM Saint Louis 5.98 47 *e*Sn Sn 07 36 34.3 -1.4
SLM *e*Sg Sg 07 37 07.4 -2.3
Q42A Golden Eagle 5.99 44 P Pn 07 35 28.0 +1.0
baz=227,SNR=7.4
X46A Booneville 5.99 89 P Pn 07 35 27.8 +0.8
baz=274
U45A Rockin P Farm, 6.00 72 P Pn 07 35 28.1 +0.9
baz=256,SNR=19
146A Union 6.02 108 P Pn 07 35 28.6 +1.2
baz=292,SNR=7.4
S44A Carbondale 6.11 59 P Pn 07 35 29.6 +1.0
baz=243,SNR=6.1
O39A Kirksville 6.13 24 P Pn 07 35 29.6 +0.6
baz=206,SNR=10
SIUC Southern Illin 6.14 59 *e*Pn Pn 07 35 30.3 +1.2
N36A Muff Farm, Cla 6.15 6 P Pn 07 35 30.1 +1.0
baz=187,SNR=12
W46A Michie 6.15 84 P Pn 07 35 30.2 +1.0
baz=268,SNR=28
N34A Lincoln 6.15 355 P Pn 07 35 30.1 +0.8
baz=175,SNR=8.1
N35A Tabor 6.16 1 P Pn 07 35 30.2 +0.9
baz=182,SNR=16
N33A J Bar K, Exete 6.16 349 P Pn 07 35 30.7 +1.3
baz=168
N37A Lee Faris, Mou 6.19 12 P Pn 07 35 30.9 +1.2
baz=193,SNR=18
P41A Barry, Barry 6.26 36 P Pn 07 35 32.4 +1.6
baz=219,SNR=12
O40A La Belle 6.27 29 P Pn 07 35 31.8 +1.0
baz=212,SNR=7.4
T45A Paducah 6.29 66 P Pn 07 35 32.2 +1.1
baz=251,SNR=6.0
PLAL Pickwick Lake 6.39 85 *e*Pn Pn 07 35 33.6 +1.1
PLAL *e*Pb Pb 07 35 54.0 +4.6
V46A Holladay 6.42 78 P Pn 07 35 33.7 +0.8
baz=263,SNR=88
N38A Joes South For 6.43 18 P Pn 07 35 33.8 +0.8
baz=200
U46A Springville 6.47 73 P Pn 07 35 34.4 +0.9
baz=258,SNR=18
Q43A New Douglas 6.50 48 P Pn 07 35 34.9 +1.0
baz=231
R44A Waltonville 6.50 55 P Pn 07 35 34.8 +0.8
baz=239
P42A Winchester 6.56 40 P Pn 07 35 36.4 +1.5
baz=224,SNR=7.8
S45A Carrier Mills 6.58 61 P Pn 07 35 36.6 +1.5
baz=246
X47A Russelville 6.59 89 P Pn 07 35 36.1 +0.9
baz=274,SNR=20
247A Quitman 6.60 112 P Pn 07 35 36.7 +1.3
baz=296
147A Livingston 6.63 106 P Pn 07 35 37.2 +1.4
baz=290
Z47A Carrollton 6.63 101 P Pn 07 35 37.0 +1.2
baz=285,SNR=10.0
Y47A UCPARC, Winfie 6.66 95 P Pn 07 35 37.2 +1.0
baz=279,SNR=18
O41A Passleys Farm, 6.70 35 P Pn 07 35 38.2 +1.5
baz=218
WVT Waverly 6.70 75 P Pn 07 35 37.3 +0.6
baz=260
WVT Waverly 6.70 75 *e*Pn Pn 07 35 37.6 +0.9
WVT *e*Pg Pb 07 36 01.3 +6.7
446A Poplarville 6.70 124 P Pn 07 35 37.6 +0.8
baz=307
N39A Derby Farms, D 6.71 22 P Pn 07 35 37.7 +0.8
baz=204,SNR=7.2
M35A Neola 6.76 1 P Pn 07 35 39.1 +1.5
baz=181
W47A Westpoint 6.79 83 P Pn 07 35 38.8 +0.8
baz=268,SNR=25
M34A Aspy Farms, Fr 6.82 355 P Pn 07 35 40.0 +1.6
baz=175
M37A Trindle Farm, 6.84 11 P Pn 07 35 40.0 +1.3
baz=193
T46A Princeton 6.86 68 P Pn 07 35 40.1 +1.1
baz=253,SNR=12
Q44A Meyer Farm, Va 6.90 51 P Pn 07 35 40.5 +1.1
baz=235,SNR=12
V47A Nunnelly 6.90 78 P Pn 07 35 40.4 +0.8
baz=263,SNR=28
KSCO Kaye Shedlock' 6.94 310 P Pn 07 35 41.8 +1.7
baz=126
KSCO Kaye Shedlock' 6.94 310 *e*Pn Pn 07 35 42.1 +2.0
KSCO *e*Sg Sg 07 37 39.4 -1.0
BGNE Belgrade 6.94 345 *e*Pn Pn 07 35 41.5 +1.4
BGNE *e*Sg Sg 07 37 41.1 +0.5
M33A Taylor Creek F 6.95 352 P Pn 07 35 41.4 +1.3
baz=171
Z48A Northport 7.00 99 P Pn 07 35 41.6 +0.6
baz=283,SNR=14
M38A Pleasantville 7.03 16 P Pn 07 35 41.8 +0.6
baz=198,SNR=9.0
N40A Mertquake, Sal 7.04 27 P Pn 07 35 42.1 +0.8
baz=210,SNR=5.5
833A Chaparral WMA, 7.04 206 P Pn 07 35 41.9 +0.5
baz=24
P43A Skaggs, Pawnee 7.06 44 P Pn 07 35 42.7 +1.1
baz=228,SNR=7.6
R45A Skylar, Fairfi 7.07 57 P Pn 07 35 42.8 +1.0
baz=242,SNR=10
N41A Harden Midland 7.18 32 P Pn 07 35 44.4 +1.0
baz=215
U47A Clarksville 7.18 74 P Pn 07 35 44.1 +0.7
baz=259,SNR=30
148A Greensboro 7.19 104 P Pn 07 35 44.6 +1.0
baz=289,SNR=7.9
S46A Don Dixon Farm 7.21 63 P Pn 07 35 44.8 +1.0
baz=248
Y48A Jasper 7.22 94 P Pn 07 35 44.8 +0.9
baz=279,SNR=25
248A Dixon Mills 7.26 109 P Pn 07 35 45.5 +1.1
baz=293
X48A Hartselle 7.26 89 P Pn 07 35 45.4 +0.9
baz=275
L34A Svendsen Farm, 7.27 357 P Pn 07 35 45.7 +1.2
baz=177
W48A Pulaski 7.33 84 P Pn 07 35 46.0 +0.5
baz=269,SNR=13
USIN University of 7.36 61 *e*Pn Pn 07 35 47.3 +1.4
USIN *e*Sg Sg 07 37 50.8 -3.2
M39A Webster 7.36 22 P Pn 07 35 46.6 +0.8
baz=204
T25A Trinidad 7.37 292 P Pn 07 35 46.3 +0.2
baz=107
T25A Trinidad 7.37 292 *e*Pn Pn 07 35 46.8 +0.6
L35A Bielow Farm, R 7.41 2 P Pn 07 35 48.0 +1.5
baz=182
OLIL Olney 7.41 55 *e*Pn Pn 07 35 48.4 +1.9
OLIL *e*Sg Sg 07 37 55.1 -0.4
348A Jackson 7.43 114 P Pn 07 35 47.5 +0.8
baz=298,SNR=7.2
Q45A Warren Harvey, 7.45 54 P Pn 07 35 48.7 +1.6
baz=238,SNR=9.0
T47A Sharon Grove 7.45 70 P Pn 07 35 48.3 +1.2
baz=255,SNR=22
V48A Smith Brothers 7.46 79 P Pn 07 35 48.0 +0.8
baz=265
P44A Sand Creek, Wi 7.48 48 P Pn 07 35 48.8 +1.4
baz=233,SNR=5.7
SCIA State Center 7.49 15 P Pn 07 35 48.8 +1.2
baz=197
SCIA State Center 7.49 15 *e*Pn Pn 07 35 48.6 +1.1
SCIA *e*Sg Sg 07 37 54.6 -3.5
M40A Post Highland 7.52 26 P Pn 07 35 49.3 +1.3
baz=208,SNR=10
LRAL Lakeview Retre 7.54 100 P Pn 07 35 49.0 +0.7
baz=285,SNR=32
LRAL Lakeview Retre 7.54 100 *e*Pn Pn 07 35 49.2 +0.9
GDL2 Guadalupe Moun 7.54 253 *e*Pn Pn 07 35 48.5 0.0
GDL2 *e*Pb Pb 07 36 07.9 -1.3
GDL2 *e*Sg Sg 07 37 56.5 -3.4
MHTCO State Highway 7.58 291 *e*Pn Pn 07 35 49.7 +0.7
MHTCO *e*Pg Pg 07 36 22.1 -0.7
MHTCO *e*Sg Sg 07 37 58.6 -2.4
L37A Phoenix Point, 7.59 12 P Pn 07 35 50.3 +1.3
baz=193
N42A Yates City 7.66 35 P Pn 07 35 51.0 +1.2
baz=213,SNR=7.8
L38A Oak Wood Farm, 7.77 16 P Pn 07 35 52.5 +1.1
baz=198,SNR=5.2
U48A Cassie Pea, Po 7.79 74 P Pn 07 35 52.3 +0.6
baz=259,SNR=6.9
HDIL Hopedale 7.82 40 P Pn 07 35 53.0 +0.9
baz=224,SNR=7.4
HDIL Hopedale 7.82 40 *e*Pn Pn 07 35 53.0 +0.9
HDIL *e*Sn Sn 07 37 20.5 -0.5
HDIL *e*Sg Sg 07 38 06.0 -2.7
149A Jones 7.83 103 P Pn 07 35 52.7 +0.4
baz=288,SNR=8.4
X49A Woodville 7.85 89 P Pn 07 35 53.2 +0.7
baz=274,SNR=11
Y49A Blount Mountai 7.85 93 P Pn 07 35 53.0 +0.4
baz=279,SNR=7.8
M41A Milan 7.87 31 P Pn 07 35 53.5 +0.7
baz=214
Z49A Columbiana 7.88 98 P Pn 07 35 53.4 +0.5
baz=284,SNR=6.6
OGNE Ogallala 7.93 324 P Pn 07 35 54.0 +0.3
baz=140
OGNE Ogallala 7.93 324 *e*Pn Pn 07 35 55.2 +1.5
OGNE *e*Sg Sg 07 38 10.9 -1.3
K33A Hardington 7.95 354 P Pn 07 35 54.6 +0.7
baz=173
K34A Le Mars 7.98 359 P Pn 07 35 55.0 +0.7
baz=179
K36A Gilmore City 8.00 7 P Pn 07 35 55.8 +1.2
baz=188,SNR=5.2
L39A Vinton 8.00 21 P Pn 07 35 55.1 +0.5
baz=204
O44A Mansfield 8.00 45 P Pn 07 35 55.1 +0.5
baz=230,SNR=5.2
K35A Storm Lake 8.03 3 P Pn 07 35 56.1 +1.1
baz=184
T48A Bowling Green 8.04 70 P Pn 07 35 55.6 +0.6
baz=256
P45A Graceland, Par 8.07 51 P Pn 07 35 56.6 +1.1
baz=236,SNR=7.9
K32A Verdigre 8.12 349 P Pn 07 35 56.8 +0.5
baz=168
N43A Stutzman Famil 8.16 38 P Pn 07 35 58.0 +1.2
baz=222,SNR=8.1
BRAL Brewton 8.19 113 P Pn 07 35 58.0 +0.8
baz=298
BRAL Brewton 8.19 113 *e*Pn Pn 07 35 58.3 +1.1
L40A Anamosa 8.20 25 P Pn 07 35 58.3 +1.0
baz=208
K37A Belmond 8.24 11 P Pn 07 35 58.8 +0.9
baz=193,SNR=5.3
M42A Sheffield 8.28 34 P Pn 07 35 59.4 +1.0
baz=218
K38A Parkersburg 8.29 16 P Pn 07 35 59.3 +0.7
baz=198
R47A Wooly Knot Far 8.32 62 P Pn 07 35 59.2 +0.3
baz=247
Z50A Ashland 8.37 97 P Pn 07 35 60.0 +0.3
baz=283,SNR=5.1
SDCO Great Sand Dun 8.38 294 P Pn 07 36 00.7 +0.7
baz=108
SDCO Great Sand Dun 8.38 294 *e*Pn Pn 07 36 01.3 +1.2
SDCO *e*Sg Sg 07 38 26.9 +0.2
Y50A Piedmont 8.40 93 P Pn 07 36 00.7 +0.5
baz=278
X50A Fort Payne 8.41 89 P Pn 07 36 00.9 +0.6
baz=275,SNR=9.5
150A Eclectic 8.45 102 P Pn 07 36 01.8 +1.1
baz=287,SNR=18
250A Grady 8.46 106 P Pn 07 36 01.3 +0.4
baz=292,SNR=8.8
WCI Wyandotte Cave 8.46 63 P Pn 07 36 01.5 +0.6
baz=248
WCI Wyandotte Cave 8.46 63 *e*Pn Pn 07 36 02.2 +1.3
WCI *e*Sg Sg 07 38 23.9 -5.4
P46A Rosedale 8.46 52 P Pn 07 36 02.0 +1.1
baz=237,SNR=5.3
L41A Preston 8.47 28 P Pn 07 36 01.7 +0.6
baz=212
O45A Potomac 8.50 47 P Pn 07 36 02.2 +0.7
baz=232,SNR=18
TX31 Lajitas Ar. Si 8.53 233 *e*Pn Pn 07 36 02.8 +0.8
TXAR Lajitas Array 8.53 233 Pn Pn 07 36 01.1 -0.8
0.6nm,0.3s,baz=56,slow=11,SNR=23
TXAR Pg 07 36 32.3
3.0nm,0.3s,baz=56,slow=16,SNR=6.9
TXAR Sn Sn 07 37 32.8 -5.8
1.7nm,0.3s,baz=53,slow=24,SNR=2.9
TXAR Lg Lg 07 38 23.0
4.9nm,0.3s,baz=58,slow=31,SNR=3.4
MNTX Cornudas Mount 8.54 252 P Pn 07 36 01.8 -0.2
baz=67
MNTX Cornudas Mount 8.54 252 *e*Pn Pn 07 36 02.2 +0.2
K39A Oelwein 8.57 20 P Pn 07 36 03.2 +0.8
baz=202,SNR=8.0
J34A George 8.57 359 P Pn 07 36 03.5 +1.0
baz=180
Q24A Divide 8.59 302 P Pn 07 36 03.8 +0.8
baz=117
Q24A Divide 8.59 302 *e*Pn Pn 07 36 04.5 +1.5
N44A Piper City 8.62 43 P Pn 07 36 03.9 +0.9
baz=228
350A Dozier 8.62 110 P Pn 07 36 03.6 +0.4
baz=295
M43A Waltham Townsh 8.64 37 P Pn 07 36 04.3 +0.9
baz=221,SNR=5.4
J35A Milford 8.67 3 P Pn 07 36 04.2 +0.5
baz=184
BLO Bloomington 8.70 56 *e*Pn Pn 07 36 05.7 +1.6
J36A Seneca 1, Swea 8.70 7 P Pn 07 36 04.7 +0.5
baz=188
450A Crestview 8.71 114 P Pn 07 36 04.7 +0.4
baz=299
ANMO Albuquerque 8.73 275 Pn Pn 07 36 04.9 0.0
0.4nm,0.3s,baz=269,slow=14,SNR=10
ANMO Pg Pg 07 36 35.6 -9.3
1.7nm,0.3s,baz=274,slow=17,SNR=7.6
ANMO Lg Lg 07 38 33.5
4.5nm,0.3s,baz=8.2,slow=11,SNR=4.2
ANMO Albuquerque 8.73 275 P Pn 07 36 04.8 0.0
baz=88
ANMO Albuquerque 8.73 275 *e*Pn Pn 07 36 05.7 +0.8
ANMO Pg Pg 07 36 35.6 -9.3
ANMO Lg Lg 07 38 33.5
L42A Oliver, Polo 8.76 32 P Pn 07 36 05.3 +0.3
baz=216
J37A Redenius Farm, 8.78 11 P Pn 07 36 05.6 +0.3
baz=193,SNR=6.4
K40A Colesburg 8.79 23 P Pn 07 36 05.9 +0.4
baz=206
R48A Northridge Ran 8.83 62 P Pn 07 36 06.4 +0.4
baz=248
BNM Barren Site 8.93 270 *e*Pn Pn 07 36 09.7 +2.1
SFIN Lafayette 8.96 48 P Pn 07 36 08.7 +0.9
baz=234,SNR=12
SFIN Lafayette 8.96 48 *e*Pn Pn 07 36 09.0 +1.2
K41A Shullsburg 9.01 27 P Pn 07 36 08.9 +0.5
baz=211,SNR=5.5
P47A Martinsville 9.02 55 P Pn 07 36 09.0 +0.4
baz=241
151A Opelika 9.03 101 P Pn 07 36 08.9 +0.1
baz=287
ECSD EROS Data Cent 9.04 356 P Pn 07 36 09.0 +0.1
baz=176
ECSD EROS Data Cent 9.04 356 *e*Pn Pn 07 36 09.3 +0.4
251A Midway 9.10 104 P Pn 07 36 10.3 +0.6
baz=290,SNR=12
J39A Decorah 9.21 19 P Pn 07 36 11.1 0.0
baz=202,SNR=13
351A Pinckard 9.25 109 P Pn 07 36 11.8 0.0
baz=294
JFWS Jewell Farm 9.29 26 P Pn 07 36 12.9 +0.6
baz=210,SNR=6.3
JFWS Jewell Farm 9.29 26 *e*Pn Pn 07 36 13.5 +1.2
ISCO Idaho Springs 9.30 306 P Pn 07 36 13.4 +0.6
baz=120
ISCO Idaho Springs 9.30 306 *e*Pn Pn 07 36 14.4 +1.7
L43A Garden Prairie 9.32 35 P Pn 07 36 13.0 +0.3
baz=219,SNR=7.9
LAZ Ladron 9.32 271 Pn Pn 07 36 12.8 -0.2
I34A Hadley 9.33 360 P Pn 07 36 13.1 +0.2
baz=180
I36A Fitzsimmons Fa 9.42 8 P Pn 07 36 14.0 0.0
baz=189
O47A Sheridan 9.46 51 P Pn 07 36 15.0 +0.4
baz=237
I37A Lemond, Waseca 9.49 11 P Pn 07 36 15.4 +0.3
baz=192
J40A Soldiers Grove 9.55 23 P Pn 07 36 15.9 +0.1
baz=206,SNR=7.1
I38A Scanlan Farm, 9.72 15 P Pn 07 36 17.7 -0.4
baz=198,SNR=12
I39A Houston 9.74 19 P Pn 07 36 18.1 -0.3
baz=202,SNR=9.1
J41A Loganville 9.77 26 P Pn 07 36 18.5 -0.3
baz=210,SNR=6.5
K43A Burlington 9.91 34 P Pn 07 36 20.4 -0.5
baz=219,SNR=5.3
TKL Tuckaleechee C 9.93 81 Pn Pn 07 36 21.7 +0.7
1.1nm,0.3s,baz=265,slow=12,SNR=12
TKL Pg 07 37 00.9
2.4nm,0.3s,baz=265,slow=13,SNR=5.6
TKL Sn Sn 07 38 16.1 +3.2
1.4nm,0.3s,baz=163,slow=15,SNR=1.8
TKL Lg Lg 07 39 07.8
6.0nm,0.3s,baz=254,slow=18,SNR=5.8
H36A Jessenland, He 9.98 8 P Pn 07 36 21.5 -0.2
baz=189,SNR=5.7
I40A Norwalk 10.03 22 P Pn 07 36 21.6 -0.8
baz=206
PHWY Pilot Hill 10.05 314 *e*Pn Pn 07 36 23.8 +0.8
N23A Red Feather La 10.10 311 *e*Pn Pn 07 36 26.0 +2.3
TZTN Tazewell 10.18 76 *e*Pn Pn 07 36 26.3 +1.8
GOGA Godfrey 10.35 94 P Pn 07 36 26.3 -0.5
baz=281
GOGA Godfrey 10.35 94 *e*Pn Pn 07 36 26.8 0.0
J43A Natural Harves 10.41 31 P Pn 07 36 27.1 -0.5
baz=216,SNR=6.6
G34A Benson 10.53 1 P Pn 07 36 28.7 -0.6
baz=181
I42A Draeger Farm, 10.63 28 P Pn 07 36 30.6 0.0
baz=213,SNR=5.1
I42A Draeger Farm, 10.63 28 *e*Pn Pn 07 36 30.8 +0.1
H40A Chili 10.76 21 P Pn 07 36 32.5 +0.1
baz=205,SNR=7.7
SPMN Marine on St. 10.77 12 P Pn 07 36 32.7 +0.2
baz=194
SPMN Marine on St. 10.77 12 *e*Pn Pn 07 36 33.9 +1.3
I43A Langenfeld Bro 10.94 31 P Pn 07 36 34.6 -0.2
baz=216
H41A Junction City 10.99 24 P Pn 07 36 35.1 -0.4
baz=208
H41A Junction City 10.99 24 *e*Pn Pn 07 36 35.7 +0.1
454A Quitman 11.03 108 P Pn 07 36 36.1 0.0
baz=294,SNR=14
G39A Holcombe 11.16 17 P Pn 07 36 38.1 +0.1
baz=200
F35A Swanville 11.19 5 P Pn 07 36 38.3 0.0
baz=186
H42A Shiocton 11.30 28 *e*Pn Pn 07 36 40.2 +0.4
RSSD Black Hills 11.34 329 *e*Pn Pn 07 36 41.1 +0.6
RWWY Rawlins 11.34 311 *e*Pn Pn 07 36 42.1 +1.5
K22A Casper 11.51 317 *e*Pn Pn 07 36 42.7 -0.2
H43A Windswept, Lux 11.57 30 P Pn 07 36 42.6 -0.9
baz=215
H43A Windswept, Lux 11.57 30 *e*Pn Pn 07 36 43.0 -0.5
ACSO Alum Creek Sta 11.61 58 *e*Pn Pn 07 36 44.3 +0.2
ACSO *e*Sn Sn 07 38 54.6 +0.5
555A McAlpin 11.80 109 P Pn 07 36 45.4 -1.2
baz=296
F39A Loretta 11.81 17 P Pn 07 36 46.2 -0.6
baz=200
KMSC Kings Mountain 11.92 84 *e*Pn Pn 07 36 48.4 +0.1
G42A Mountain 11.96 26 P Pn 07 36 47.3 -1.5
baz=211
G42A Mountain 11.96 26 *e*Pn Pn 07 36 47.5 -1.3
356A Blackshear 11.99 102 P Pn 07 36 48.2 -1.1
baz=290
G43A Wallace 12.25 28 P Pn 07 36 51.2 -1.7
baz=214
G43A Wallace 12.25 28 *e*Pn Pn 07 36 51.5 -1.3
COWI Conover 12.48 22 *e*Pn Pn 07 36 54.9 -1.0
COWI *e*Sn Sn 07 39 08.4 -6.8
BLA Blacksburg 12.75 74 *e*Pn Pn 07 37 00.4 +0.7
C34A RKJ Ranch, Bem 12.96 3 P Pn 07 37 00.7 -1.7
baz=184
GLMI Grayling 13.28 37 *e*Pn Pn 07 37 06.0 -0.9
PDAR Pinedale Array 13.39 311 Pn Pn 07 37 10.6 +2.0
baz=118,slow=11,SNR=1.8
PDAR Pg P 07 38 06.0 +48
0.8nm,0.3s,baz=105,slow=18,SNR=4.0
PDAR Lg Lg 07 41 00.6
1.2nm,0.3s,baz=118,slow=29,SNR=7.9
AGMN Agassiz Nation 13.59 360 *e*Pn Pn 07 37 10.2 -0.9
EYMN Ely 13.63 12 *e*Pn Pn 07 37 09.2 -2.4
LAO LASA Array 14.32 330 *e*Pn Pn 07 37 22.9 +1.8
IP04 Greensprings 14.69 72 *e*Pn Pn 07 37 27.6 +1.4
IP07 Quail 14.72 72 *e*Pn Pn 07 37 26.3 -0.2
IP06 Yanceyville 14.76 72 *e*Pn Pn 07 37 26.7 -0.3
GCMT Greyclift 15.28 321 *e*Pn P 07 37 40.3 +1.2
ULM Lac du Bonnet 15.54 360 Pn Pn 07 37 33.9 -3.5
0.7nm,0.3s,baz=176,slow=14,SNR=3.6
ULM Sn Sn 07 40 14.2 -16
0.4nm,0.3s,baz=90,slow=18,SNR=2.1
ULM Lg Lg 07 42 00.7
0.6nm,0.3s,baz=102,slow=19,SNR=2.1
ULM Lac du Bonnet 15.54 360 *e*Pn Pn 07 37 38.9 +1.4
7.2nm,0.6s
ULM Sn Sn 07 40 14.2 -16
ULM Lg Lg 07 42 00.7
R11A Troy Canyon, C 16.28 289 *e*Pn P 07 37 53.8 +3.4
9.9nm,1.5s
SADO Sadowa 16.29 47 Sn Sn 07 40 40.2 -7.8
0.5nm,0.3s,baz=272,slow=16,SNR=1.7
SADO Lg Lg 07 42 25.8
1.4nm,0.3s,baz=249,slow=2.5,SNR=6.8
NVAR Mina Array Bea 18.41 288 P P 07 38 16.5 +2.5
baz=103,slow=12,SNR=3.4
DECC Green Verdugo 18.55 275 *e*P P 07 38 11.6 -3.7
NCB Newcomb 19.07 55 *e*P P 07 38 22.1 +1.1
15nm,1.2s
TRQ Mont Tremblant 19.80 48 *e*P P 07 38 29.6 +0.6
APG El Apazote 20.20 165 P Pn 07 38 35.9 +0.4
3.0nm,0.7s,baz=346,slow=15,SNR=2.8
APG S S 07 42 09.4 -12
3.2nm,0.7s,baz=335,slow=17,SNR=3.6
FCC Fort Churchill 24.10 2 *e*P P 07 39 15.2 +1.2
4.0nm,0.8s
YKA Yellowknife Ar 30.22 343 P P 07 40 09.1 +0.2
0.1nm,0.5s,baz=140,slow=8.8,SNR=1.1
ILAR Eielson Array 42.78 331 P P 07 41 57.6 +1.7
0.3nm,0.7s,baz=96,slow=6.6,SNR=5.5
HHC Hu-ho-hao-te 100.70 339 *e*P Pdif 07 47 49.1 +1.8

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HHC				pmax	pmax		
	comp=Z,22nm,0.7s						
HHC				pmax	pmax		
	comp=Z,220nm,5.4s						
WMQ	Urumqi	101.79	357	eP	Pdif	07 47 54.7	+2.7

MEX 03 07:35:06.3±1.2, 16°.22N×98°.52W, h18km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.41	65	i P	Pg	07 35 13.5	-1.3
PNIG				i S	Sg	07 35 19.0	-1.6
TLIG	Tlapa	1.34	358	eP	Pn	07 35 26.3	-4.0
TLIG				eS	Sn	07 35 42.8	-4.9
VHO	Vista Hermosa	1.91	63	eP	Pn	07 35 37.6	-0.6
VHO				eS	Sn	07 36 02.2	+0.3
HUIG	Huatulco	2.36	101	eP	Pn	07 35 44.8	+0.6
HUIG				eS	Sg	07 36 21.3	-0.9

TIR 03 07:46:08.9, 42°.30N×19°.45E, h20km, ML2.5/2
ISCJB 03 07:46:10.9±0.4, 42°.33N±0°.02×19°.44E±0°.03, h16km±6km, Error ellipse: s-maj=3.8km s-min=3.0km az=164.4
PDG 03 07:46:10.3±0.1, 42°.36N×19°.44E, h19km, MD2.2/1, ML2.1/12, Error ellipse: s-maj=0.1km s-min=0.2km az=0.0
CSEM 03 07:46:10.4±0.2, 42°.37N×19°.45E, h15km, ML2.7/4, Error ellipse: s-maj=4.5km s-min=3.7km az=159.0
BEO 03 07:46:12.1±0.6, 42°.38N×19°.46E, h4km±9km
ISC 03 07:46:10.5±0.9, 42°.36N±0°.02×19°.44E±0°.02, h15km±8km, n43, σ0ˢ.52/82, 12C-9D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PDG	Podgorica	0.15	296	ePg	Pb	07 46 14.7	-0.3
	22nm,0.1s						
PDG				eSg	Sb	07 46 18.1	+0.1
	351nm,0.2s						
PDG	Podgorica	0.15	296	ePg	Pb	07 46 14.7	-0.3
	22nm,0.1s,baz=4.0						
PDG				eSg	Sb	07 46 17.9	-0.1
TTG	Podgorica	0.15	296	⇑ iPg	Pb	07 46 14.8	-0.3
TTG				eSg	Sb	07 46 18.1	+0.1
DRME	Dracevica, Mon	0.26	227	⇑ iPg	Pg	07 46 16.0	-0.1
DRME				eSg	Sb	07 46 20.9	-0.2
DRME	Dracevica, Mon	0.26	227	⇑ iPg	Pg	07 46 16.0	-0.1
DRME				eSg	Sb	07 46 20.9	-0.2
BUM	Brajici-Budva	0.41	261	⇓ iPg	Pg	07 46 18.6	-0.2
BUM				eSg	Sb	07 46 25.5	0.0
BUM	Brajici-Budva	0.41	261	⇓ iPg	Pg	07 46 18.6	-0.2
BUM				eSg	Sb	07 46 25.5	0.0
ULC	Ulcinj	0.42	200	⇑ iPg	Pg	07 46 18.7	-0.3
ULC				eSg	Sb	07 46 25.8	-0.1
ULC	Ulcinj	0.42	200	P	Pg	07 46 18.9	-0.1
ULC				eSg	Sb	07 46 25.8	-0.1
CEME	Cevo	0.43	296	⇑ iPg	Pg	07 46 18.7	-0.4
CEME				eSg	Sb	07 46 25.9	-0.2
CEME	Cevo	0.43	296	⇑ iPg	Pg	07 46 18.7	-0.4
CEME				eSg	Sb	07 46 25.9	-0.2
PVY	Plav	0.45	59	⇓ iPg	Pg	07 46 19.3	-0.2
PVY				eSg	Sb	07 46 26.9	+0.2
PUK	Puka	0.46	133	i Pg	Pg	07 46 19.4	-0.3
	baz=138						
PUK				i Sg	Sb	07 46 27.1	0.0
	baz=138						
PUK	Puka	0.46	133	i PG	Pg	07 46 19.4	-0.3
PUK				i SG	Sb	07 46 27.1	+0.1
BCI	Bajram Curri	0.47	89	i Pg	Pg	07 46 19.4	-0.3
	baz=79						
BCI				i Sg	Sb	07 46 27.4	+0.3
	baz=79						
BCI	Bajram Curri	0.47	89	i PG	Pg	07 46 19.4	-0.3
BCI				i SG	Sb	07 46 27.4	+0.3
KOME	Kolasin	0.49	6	⇑ iPg	Pg	07 46 20.3	0.0
KOME				eSg	Sb	07 46 28.1	+0.2
KOME	Kolasin	0.49	6	⇑ iPg	Pg	07 46 20.3	0.0
KOME				eSg	Sb	07 46 28.1	+0.2
NKME	Niksic	0.54	318	⇑ iPg	Pg	07 46 20.6	-0.6
NKME				eSg	Sb	07 46 29.7	+0.4
NKME	Niksic	0.54	318	⇑ iPg	Pg	07 46 20.6	-0.6
NKME				eSg	Sb	07 46 29.7	+0.4
NKY	Niksic	0.56	324	⇓ iPg	Pg	07 46 21.2	-0.3
NKY				eSg	Sb	07 46 30.2	+0.4
NKY	Niksic	0.56	324	⇓ iPg	Pg	07 46 21.2	-0.3
NKY				eSg	Sb	07 46 30.2	+0.4
BEY	Berane	0.61	33	⇓ iPg	Pg	07 46 22.3	-0.2
BEY	Berane	0.61	33	P	Pg	07 46 22.6	+0.1
BEY				eSg	Sb	07 46 32.1	+0.8
IVA	Berane	0.61	33	⇓ iPg	Pg	07 46 22.3	-0.2
IVA				eSg	Sb	07 46 32.1	+0.8
PEJK	Peje	0.68	65	P	Pg	07 46 23.5	-0.3
PEJK				S	Sn	07 46 34.6	-1.4
HCY	Herceg Novi	0.71	277	⇑ iPg	Pg	07 46 23.9	-0.3
HCY				eSg	Sb	07 46 35.1	+1.1
HCY	Herceg Novi	0.71	277	⇑ iPg	Pg	07 46 23.9	-0.3
HCY				eSg	Sb	07 46 34.5	+0.5
TREB	Trebinje	0.88	294	ePg	Pb	07 46 27.2	-0.2
TREB				eSg	Sn	07 46 40.4	-0.4
PLE	Pljevlja	0.97	358	⇓ iPg	Pb	07 46 28.6	-0.4
PLE				eSg	Sn	07 46 44.1	+0.9
PLE	Pljevlja	0.97	358	⇓ iPg	Pb	07 46 28.6	-0.4
PLE				eSg	Sn	07 46 44.1	+0.9
SJES	Sjenica	0.98	23	ePg	Pb	07 46 28.9	-0.3
	4.5nm,0.4s						
SJES				eSg	Sg	07 46 42.7	+0.4
	33nm,0.6s						
SJES	Sjenica	0.98	23	ePg	Pb	07 46 28.9	-0.3
	4.5nm,0.4s,baz=3.0						
SJES				eSg	Sg	07 46 42.7	+0.4
	33nm,0.6s,baz=1.0						
TIR	Tirane	1.06	162	eSg	Sn	07 46 46.8	+1.5
	7.9nm,0.3s						
TIR	Tirane	1.06	162	eSg	Sn	07 46 46.8	+1.5
	7.9nm,0.3s,baz=4.0						
SMRK	Smrekonice	1.22	65	P	Pn	07 46 32.0	-1.0
IVAS	Ivanjica	1.32	23	ePg	Pb	07 46 34.8	-0.2
	0.2nm,0.3s						
IVAS				eSg	Sg	07 46 53.3	+0.2
	11nm,0.5s						
IVAS	Ivanjica	1.32	23	ePg	Pb	07 46 34.8	-0.2
	0.2nm,0.3s,baz=6.0						
IVAS				eSg	Sg	07 46 53.3	+0.2
	11nm,0.5s,baz=1.0						
STON	Ston	1.38	292	ePn	Pn	07 46 35.2	0.0
STON				Sn	Sg	07 46 55.1	+0.1
STON	Ston	1.38	292	ePn	Pn	07 46 35.1	0.0
STON				Sn	Sg	07 46 55.1	+0.1
BBLS	Lazići	1.50	359	ePg	Pg	07 46 38.8	-0.6
	9.4nm,0.4s						
BBLS				eSg	Sg	07 47 00.0	+1.1
	29nm,0.9s						
BBLS	Lazići	1.50	359	ePg	Pg	07 46 38.8	-0.6
	9.4nm,0.4s						
BBLS				eSg	Sg	07 47 00.0	+1.1
	29nm,0.9s,baz=8.0						
DIVS	Divibare	1.78	13	ePn	Pn	07 46 40.6	-0.2
DIVS				eSn	Sb	07 47 04.0	-1.0

IDC 03 07:46:27.8±3.1, 77°.61S×146°.22W, h0km, mb3.5/2, mb1 3.7/3, mb1mx3.6/31, mbtmp3.4/3, ML3.2/1, Error ellipse: s-maj=109.8km s-min=68.8km az=163.0, Antarctica

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VNDA	Vanda	10.89	245	Pn	Pn	07 49 04.1	-0.5
	0.1nm,0.3s,baz=108,slow=17,SNR=14						
VNDA				Sn	Sn	07 50 57.5	-9.4
	baz=168,slow=19,SNR=1.0						
ASAR	Alice Springs	64.88	275	P	P	07 57 09.6	+1.2
	0.3nm,0.7s,baz=158,slow=7.5,SNR=5.4						
WRA	Warramunga Arr	68.39	276	P	P	07 57 30.1	-0.7
	0.7nm,0.8s,baz=162,slow=6.0,SNR=5.5						
KURBB	Kurchatov Arra	148.25	238	PKPbc	PKPbc	08 06 13.1	-1.0
	0.3nm,0.5s,baz=153,slow=2.2,SNR=6.7						

CSEM 03 07:47:55.4, 44°.23N×21°.91E, h0km, ML1.5, Mining explosion.
BEO 03 07:47:55.4±0.3, 44°.23N×21°.91E, h0km, Mining explosion., Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KUBS	Kucevo	0.25	317	ePg	Pg	07 47 58.6	-1.6
KUBS				eSg	Sg	07 48 02.6	-0.9
	135nm,0.2s						
KUBS	Kucevo	0.25	317	ePg	Pg	07 47 58.6	-1.6
KUBS				eSg	Sg	07 48 02.6	-0.9
	135nm,0.2s						
ZAGS	Zajecar	0.47	151	eSg	Sg	07 48 10.8	+0.2
	1.2nm,0.4s						
ZAGS	Zajecar	0.47	151	eSg	Sg	07 48 10.8	+0.2
	1.2nm,0.4s						
BOVS	Bovan	0.61	194	ePg	Pg	07 48 06.8	-0.3
BOVS	Bovan	0.61	194	ePg	Pg	07 48 06.8	-0.3
GRUS	Gruza	0.93	249	ePg	Pg	07 48 12.2	-1.0
GRUS	Gruza	0.93	249	ePg	Pg	07 48 12.2	-1.0
TRUS	Trudelj	1.08	270	ePg	Pg	07 48 15.9	-0.3
TRUS	Trudelj	1.08	270	ePg	Pg	07 48 15.9	-0.3
ZAPS	Zavoj	1.09	151	ePg	Pg	07 48 15.6	-0.6
ZAPS				eSg	Sg	07 48 30.1	-0.2
	2.8nm,0.3s						
DIVS	Divibare	1.39	265	ePg	Pg	07 48 20.5	-1.5
DIVS	Divibare	1.39	265	ePg	Pg	07 48 20.5	-1.5
BZS	Buzias	1.41	351	ePg	Pn	07 48 21.4	-0.9
BZS				eSg	Sg	07 48 40.3	-0.2
	7.5nm,0.3s						
BZS	Buzias	1.41	351	ePg	Pn	07 48 21.4	-0.9
BZS				eSg	Sg	07 48 40.3	-0.2
	7.5nm,0.3s						
IVAS	Ivanjica	1.43	244	ePg	Pn	07 48 21.3	-1.4
IVAS				eSg	Sg	07 48 39.8	-1.5
	13nm,0.9s						
IVAS	Ivanjica	1.43	244	ePg	Pn	07 48 21.3	-1.4
IVAS				eSg	Sg	07 48 39.8	-1.5
	13nm,0.9s						
SJES	Sjenica	1.71	236	eSg	Sg	07 48 50.2	0.0
	8.3nm,0.5s						

ISCJB 03 07:50:43.8±0.5, 37°.03N±0°.03×28°.49E±0°.05, h0km, Error ellipse: s-maj=6.7km s-min=3.7km az=143.7
CSEM 03 07:50:43.9±0.2, 37°.02N×28°.53E, h1km, ML2.3, Error ellipse: s-maj=7.2km s-min=4.0km az=52.0, Suspected Mining explosion.
ISK 03 07:50:43.6, 36°.99N×28°.51E, h15km, ML2.3/7
DDA 03 07:50:44.0, 37°.03N×28°.51E, h7km, Ml2.5, Suspected Mining explosion.
ISC 03 07:50:44.8±1.0, 37°.07N±0°.02×28°.54E±0°.03, h0km, n23, σ1ˢ.86/35, Turkey

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TURN	Turunc	0.21	165	PG	Pg	07 50 50.2	+1.5
TURN				SG	Sg	07 50 55.1	+3.8
TURN	Turunc	0.21	165	i P	Pg	07 50 50.5	+1.8
TURN				i S	Sg	07 50 56.1	+4.7
TURN	Turunc	0.21	165	P	Pg	07 50 50.5	+1.8
TURN				S	Sg	07 50 56.1	+4.7
YER	Yerkesik	0.21	287	PG	Pg	07 50 48.9	+0.1
YER	Yerkesik	0.21	287	ePg	Pg	07 50 48.9	+0.1
DALY	Dalyan (Mu˜la	0.27	160	PG	Pg	07 50 48.8	-1.1
DALY				SG	Sg	07 50 52.3	-1.1
DALY	Dalyan (Mu˜la	0.27	160	i P	Pg	07 50 49.1	-0.8
DALY				i S	Sg	07 50 53.2	-0.2
DALY	Dalyan (Mu˜la	0.27	160	ePg	Pg	07 50 48.8	-1.1
DALY	Dalyan (Mu˜la	0.27	160	P	Pg	07 50 49.1	-0.8
DALY				eSg	Sg	07 50 52.3	-1.1
DALY				S		07 50 53.2	
TAVA	DENIZLI_Tavas	0.49	37	i P	Pg	07 50 54.3	0.0
TAVA				i S	Sg	07 51 03.0	+2.3
TAVA	DENIZLI_Tavas	0.49	37	P	Pg	07 50 54.3	0.0
TAVA				S	Sg	07 51 03.0	+2.3
FETY	Fethiye	0.62	135	PG	Pg	07 50 54.6	-2.0
FETY	Fethiye	0.62	135	P	Pg	07 50 54.6	-2.0
FETY				S	Sg	07 51 03.8	-0.8
DATC	Datca-Mugla	0.77	246	PG	Pg	07 50 57.9	-1.6
DATC	Datca-Mugla	0.77	246	ePg	Pg	07 50 57.9	-1.6
AYDN	Tasoluk	0.79	319	i P	Pg	07 50 59.4	-0.5
AYDN				i S	Sg	07 51 10.3	+0.2
AYDN	Tasoluk	0.79	319	P	Pg	07 50 59.3	-0.5
AYDN				S	Sg	07 51 10.3	+0.2
AYDB	Zeytinkoy-Aydi	1.01	330	PG	Pb	07 51 04.7	-0.6
AYDB	Zeytinkoy-Aydi	1.01	330	ePg	Pb	07 51 04.7	-0.6
AKAS	Kas	1.20	134	PN	Pg	07 51 05.8	-2.0
AKAS	Kas	1.20	134	i P	Pg	07 51 06.6	-1.2
AKAS				i S	Sn	07 51 26.3	+0.3
AKAS	Kas	1.20	134	ePn	Pg	07 51 05.8	-2.0
AKAS	Kas	1.20	134	P	Pg	07 51 06.6	-1.2

IDC 03 08:01:18.5±2.8, 53°.72N×86°.78E, h0km, mb1 2.7/2, mb1mx2.6/70, mbtmp2.7/2, ML2.3/2, Error ellipse: s-maj=24.9km s-min=12.7km az=71.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.19	282	i		08 09 20.5	
	baz=102,slow=321,SNR=3.1						
ZALV	Zalesovo Beam	1.19	282	Pg	Pg	08 01 40.5	-0.7
	1.4nm,0.3s,baz=102,slow=18,SNR=10						
ZALV				Lg	Lg	08 01 57.7	
	0.9nm,0.3s,baz=103,slow=26,SNR=6.8						
KURBB	Kurchatov Arra	5.95	242	Pn	Pn	08 02 48.0	+0.3
	0.1nm,0.3s,baz=58,slow=14,SNR=3.8						
MKAR	Makanchi Array	7.50	204	Pn	Pn	08 03 10.2	+1.1
	0.1nm,0.3s,baz=24,slow=12,SNR=5.5						
MKAR				Sn	Sn	08 04 35.8	+0.9
	0.0nm,0.3s,baz=18,slow=28,SNR=2.6						
MKAR				Lg	Lg	08 05 17.9	
	0.0nm,0.3s,baz=33,slow=33,SNR=2.3						

ISCJB 03 08:04:23.7±0.5, 39°.67N±0°.03×29°.42E±0°.04, h0km, Error ellipse: s-maj=4.3km s-min=3.7km az=41.0
CSEM 03 08:04:23.5±0.3, 39°.66N×29°.45E, h1km, ML2.5, Error ellipse: s-maj=6.6km s-min=5.5km az=114.0, Suspected Mining explosion.
ISK 03 08:04:23.0, 39°.61N×29°.55E, h18km, ML2.5/7
DDA 03 08:04:24.0, 39°.64N×29°.42E, h7km, Ml2.7, Suspected Mining explosion.
ISC 03 08:04:23.0±0.8, 39°.71N±0°.04×29°.46E±0°.03, h0km, n26, σ0ˢ.46/39, Turkey

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TVSB	Tavsanli	0.26	179	PG	Pg	08 04 27.8	-0.1
TVSB				SG	Sg	08 04 31.3	0.0
TVSB	Tavsanli	0.26	179	ePg	Pg	08 04 27.8	-0.1
TVSB				eSg	Sg	08 04 31.3	0.0
CAVI	Cavuskoy	0.57	31	PG	Pb	08 04 36.0	+0.1
CAVI				SG	Sb	08 04 45.1	+0.4
CAVI	Cavuskoy	0.57	31	ePg	Pb	08 04 36.0	+0.1
CAVI				eSg	Sb	08 04 45.1	+0.4
GDZ	Gediz	0.62	178	i P	Pg	08 04 34.8	0.0
GDZ				i S	Sg	08 04 43.1	+0.2
GDZ	Gediz	0.62	178	P	Pg	08 04 34.8	0.0
GDZ				S	Sg	08 04 43.1	+0.2
DURS	Dursunbey	0.77	262	i P	Pg	08 04 38.0	+0.3
DURS				i S	Sb	08 04 49.2	-1.1
DURS	Dursunbey	0.77	262	P	Pg	08 04 38.0	+0.3
DURS				S	Sb	08 04 49.2	-1.1
BORA	Eskisehir	0.79	77	i P	Pb	08 04 40.2	+0.6
BORA				i S	Sn	08 04 53.0	-0.9
BORA	Eskisehir	0.79	77	P	Pb	08 04 40.2	+0.6
BORA				S	Sn	08 04 53.0	-0.9
MDNY	Mudanya-Bursa	0.79	326	PG	Pn	08 04 41.6	+0.2
MDNY	Mudanya-Bursa	0.79	326	ePg	Pn	08 04 41.6	+0.2
DEMI	Demirci	0.88	221	i P	Pg	08 04 39.9	+0.1
DEMI				i S	Sn	08 04 57.6	+1.4
DEMI	Demirci	0.88	221	P	Pg	08 04 39.9	+0.1
ARMT	Armutlu	0.97	332	PN	Pn	08 04 43.9	0.0
ARMT	Armutlu	0.97	332	ePn	Pn	08 04 43.9	0.0
GULT	Gulveren	1.09	48	PN	Pb	08 04 44.6	-0.1
GULT	Gulveren	1.09	48	ePn	Pb	08 04 44.6	-0.1
BUY	Buyukada	1.17	347	PN	Pn	08 04 46.6	0.0
BUY	Buyukada	1.17	347	ePn	Pn	08 04 46.6	0.0
BALB	Balikesir	1.22	267	PN	Pb	08 04 47.0	+0.1
BALB	Balikesir	1.22	267	ePn	Pb	08 04 47.0	+0.1
GONE	Gonen-Balikesi	1.40	284	PN	Pn	08 04 49.8	0.0
GONE	Gonen-Balikesi	1.40	284	ePn	Pn	08 04 49.8	0.0
BALY	Balya	1.42	272	i P	Pn	08 04 50.1	0.0
BALY				i S	Sn	08 05 09.3	-0.2
BALY	Balya	1.42	272	P	Pn	08 04 50.1	0.0
BALY				S	Sn	08 05 09.3	-0.2

IDC 03 08:22:06.5±2.7, 53°.59N×87°.02E, h0km, mb1 2.8/2, mb1mx2.6/71, mbtmp2.8/2, ML2.2/2, Error ellipse: s-maj=24.7km s-min=15.7km az=74.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.35	286	i		08 31 10.0	
	baz=106,slow=325,SNR=11						
ZALV	Zalesovo Beam	1.35	286	Pg	Pg	08 22 31.4	-1.0
	0.5nm,0.3s,baz=100,slow=16,SNR=6.1						
ZALV				Lg	Lg	08 22 49.7	
	0.4nm,0.3s,baz=105,slow=28,SNR=5.6						
KURBB	Kurchatov Arra	6.01	244	Pn	Pn	08 23 37.2	+0.6
	0.1nm,0.3s,baz=60,slow=14,SNR=4.2						
KURBB				Lg	Lg	08 25 18.9	
	0.1nm,0.3s,baz=62,slow=34,SNR=3.6						
MKAR	Makanchi Array	7.45	206	Pn	Pn	08 23 57.7	+1.3
	0.1nm,0.3s,baz=20,slow=11,SNR=4.1						
MKAR				Lg	Lg	08 26 02.4	
	0.0nm,0.3s,baz=16,slow=37,SNR=4.4						

IDC 03 08:50:56.0±5.3, 36°.30N×70°.79E, h159km±47km, mb3.1/6, mb1 3.1/11, mb1mx3.0/69, mbtmp3.6/11, Error ellipse: s-maj=38.5km s-min=24.5km az=27.0
ISCJB 03 08:50:58.4±0.8, 36°.52N±0°.07×70°.8E±0°.1, h188km, mb3.1/5, Error ellipse: s-maj=14.2km s-min=8.0km az=28.0
NNC 03 08:51:03.5±2.2, 36°.85N×70°.72E, h184km±34km, mb2.7, mpv3.7, Error ellipse: s-maj=24.1km s-min=18.8km az=60.0
ISC 03 08:50:59.8±1.1, 36°.56N±0°.10×70°.8E±0°.1, h188km, n18, σ1ˢ.37/24, mb3.2/5, 5C-6D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SFK	Sufi-Kurgan	4.06	31	⇑ P	Pn	08 52 02.8	+0.8
	6.5nm,0.3s						
SFK				⇓ S	Sn	08 52 50.4	-0.6
	21nm,0.4s						
MNAS	Manas	6.07	12	⇓ P	Pn	08 52 28.2	+0.4
	4.7nm,0.3s						
MNAS				⇑ S	Sn	08 53 34.7	-2.7
	28nm,0.5s						
KK31	Karatay Array	6.54	358	P	Pn	08 52 34.0	+0.2
	2.3nm,0.3s,baz=174,slow=12,SNR=97						
KK31				⇓ S	Sn	08 53 44.9	-3.4
	14nm,0.5s,baz=187,slow=20,SNR=18						
AAK	Ala-Archa	6.72	24	P	Pn	08 52 36.7	+0.5
	1.0nm,0.3s,baz=103,slow=2.3,SNR=9.1						
AAK				S	Sn	08 53 51.0	-1.6
	1.5nm,0.3s,baz=6.5,slow=24,SNR=22						
AAK	Ala-Archa	6.72	24	⇓ P	Pn	08 52 36.1	-0.2
	1.2nm,0.3s						
AAK				⇑ S	Sn	08 53 51.8	-0.8
	16nm,0.6s						
TKM2	Tokmak 2	7.36	29	⇓ P	Pn	08 52 45.1	+0.4
	2.2nm,0.5s						
TKM2				⇓ S	Sn	08 54 06.9	-1.1
	3.4nm,0.8s						
MKAR	Makanchi Array	13.35	36	P	Pn	08 54 02.2	+0.2
	0.2nm,0.3s,baz=216,slow=12,SNR=7.0						
AB31	Akbulak array	14.95	331	⇑ P	P	08 54 24.3	+1.7
	0.4nm,0.3s,baz=149,slow=13,SNR=30						
KURBB	Kurchatov Arra	15.13	19	P	Pn	08 54 24.6	+0.8
	0.1nm,0.3s,baz=210,slow=11,SNR=6.0						
BVAR	Borovoye Array	16.47	359	P	Pn	08 54 41.6	+1.5
	0.4nm,0.3s,baz=162,slow=7.8,SNR=5.3						
AKTO	Aktyubinsk	16.64	330	P	Pn	08 54 43.1	+1.0
	0.2nm,0.3s,baz=174,slow=6.5,SNR=4.6						
AKTO	Aktyubinsk	16.64	330	⇑ P	P	08 54 41.6	+0.3
	3.1nm,0.9s						
ZALV	Zalesovo Beam	19.94	25	P	P	08 55 18.2	+1.2
	3.5nm,0.3s,baz=216,slow=11,SNR=8.7						
NOA	NORSAR Array B	44.23	323	P	P	08 58 50.2	+0.2
	0.9nm,0.8s,baz=94,slow=8.1,SNR=3.2						
TORD	Torodi Ar. Bea	65.54	268	P	P	09 01 22.2	-1.2
	0.2nm,0.4s,baz=56,slow=4.9,SNR=3.1						
YKA	Yellowknife Ar	81.20	3	P	P	09 02 55.0	+1.0
	0.1nm,0.5s,baz=346,slow=5.2,SNR=3.1						
WRA	Warramunga Arr	82.17	122	P	P	09 02 58.4	-1.4
	0.2nm,0.5s,baz=324,slow=5.0,SNR=6.6						
ASAR	Alice Springs	84.43	125	P	P	09 03 10.0	-1.3
	0.5nm,1.1s,baz=324,slow=4.6,SNR=2.8						

TIR 03 09:02:37.1, 42°.35N×19°.46E, h18km, ML2.0/5
CSEM 03 09:02:37.5±0.2, 42°.36N×19°.46E, h20km, ML1.9, Error ellipse: s-maj=4.4km s-min=3.5km az=171.0
PDG 03 09:02:37.6±0.1, 42°.36N×19°.45E, h20km, ML1.9/7, 14C-4D, Error ellipse: s-maj=0.1km s-min=0.2km az=0.0, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PDG	Podgorica	0.16	295	⇓ iPg	Pb	09 02 42.3	-0.7
PDG				eSg	Sb	09 02 45.8	-0.9
TTG	Podgorica	0.16	295	⇓ iPg	Pb	09 02 42.3	-0.7
TTG				eSg	Sb	09 02 45.8	-0.9
DRME	Dracevica, Mon	0.26	228	⇑ iPg	Pb	09 02 43.6	-0.2
DRME				eSg	Sb	09 02 48.7	+0.7
DRME	Dracevica, Mon	0.26	228	⇑ iPg	Pb	09 02 43.6	-0.2
DRME				eSg	Sb	09 02 48.7	+0.7
BUM	Brajici-Budva	0.41	261	⇑ iPg	Pb	09 02 46.1	-0.1
BUM				eSg	Sb	09 02 53.2	+1.2
BUM	Brajici-Budva	0.41	261	⇑ iPg	Pb	09 02 46.1	-0.1
BUM				eSg	Sb	09 02 53.2	+1.2
ULC	Ulcinj	0.43	201	⇓ iPg	Pb	09 02 46.1	-0.3
ULC				eSg	Sb	09 02 53.5	+1.1
ULC	Ulcinj	0.43	201	⇓ iPg	Pb	09 02 46.1	-0.3
ULC				eSg	Sb	09 02 53.5	+1.1
CEME	Cevo	0.43	295	⇑ iPg	Pb	09 02 46.4	-0.1
CEME				eSg	Sb	09 02 53.6	+1.0
CEME	Cevo	0.43	295	⇑ iPg	Pb	09 02 46.4	-0.1
CEME				eSg	Sb	09 02 53.6	+1.0
PVY	Plav	0.44	59	⇑ iPg	Pb	09 02 46.5	-0.3
PVY				eSg	Sb	09 02 54.1	+1.1
PVY	Plav	0.44	59	⇑ iPg	Pb	09 02 46.5	-0.3
PVY				eSg	Sb	09 02 54.1	+1.1
BCI	Bajram Curri	0.46	89	i Pg	Pb	09 02 46.0	-1.0
	baz=22						
BCI				i Sg	Sb	09 02 54.5	+1.1
	baz=22						
BCI	Bajram Curri	0.46	89	i PG	Pb	09 02 46.0	-1.0
BCI				i SG	Sb	09 02 54.5	+1.2
PUK	Puka	0.46	134	i Pg	Pb	09 02 47.0	0.0
	baz=22						
PUK				i Sg	Sb	09 02 54.8	+1.4
	baz=22						
PUK	Puka	0.46	134	i PG	Pb	09 02 47.0	0.0
PUK				i SG	Sb	09 02 54.8	+1.4
KOME	Kolasin	0.49	6	ePg	Pb	09 02 47.2	-0.4
KOME				eSg	Sb	09 02 55.5	+1.2
KOME	Kolasin	0.49	6	ePg	Pb	09 02 47.2	-0.4
KOME				eSg	Sb	09 02 55.5	+1.2
NKME	Niksic	0.54	318	⇑ iPg	Pb	09 02 48.1	-0.4
NKME				eSg	Sb	09 02 57.1	+1.1
NKME	Niksic	0.54	318	⇑ iPg	Pb	09 02 48.1	-0.4
NKME				eSg	Sb	09 02 57.1	+1.1
BEY	Berane	0.60	33	⇑ iPg	Pb	09 02 49.7	+0.1
BEY				eSg	Sn	09 02 59.2	-1.2
IVA	Berane	0.60	33	⇑ iPg	Pb	09 02 49.7	+0.1
IVA				eSg	Sn	09 02 59.2	-1.2
HCY	Herceg Novi	0.71	277	⇑ iPg	Pb	09 02 51.2	-0.1
HCY				eSg	Sn	09 03 02.6	-0.2
HCY	Herceg Novi	0.71	277	⇑ iPg	Pb	09 02 51.2	-0.1
HCY				eSg	Sn	09 03 02.6	-0.2
STON	Ston	1.39	292	i Pn	Pn	09 03 01.4	-0.4
STON				Sn	Sb	09 03 22.2	+2.2
STON	Ston	1.39	292	i Pn	Pn	09 03 01.3	-0.4
STON				Sn	Sb	09 03 22.1	+2.1

NIED 03 09:10:00, 32°.20N×132°.10E, h20km, Mw4.1 Best double couple: $M_0$1.72000×10^15 NP1:ϕ_s281.00000°, δ19.00000°,

λ153.00000°. NP2:φs36.00000°,δ81.00000°,λ73.00000°.
JMA 03 09:10:21.6±0.1,32°.23N×132°.08E,h20km±2km,M4.1
Broadband fault plane solution: P waves. NP1: φs52.00000°,δ65.00000°,λ98.00000°. NP2:φs213.00000°, δ27.00000°,λ73.00000°. Principal axes: T Plg69.0000°, Azm339.0000°; N Plg8.0000°, Azm229.0000°; P Plg19.0000°, Azm136.0000°;
JMA Felt II J1.
IDC 03 09:10:27.4±1.5,32°.23N×131°.78E,h76km±11km,mb3.5/12, mb1 3.6/14,mb1mx3.4/71,mbtmp3.8/14,MS3.4/13, Ms1 3.4/13,ms1mx3.1/64 Error ellipse: s-maj=24.6km s-min=13.9km az=70.0
ISC 03 09:10:22.3±1.2,32°.24N±0°.04×132°.05E±0°.04,h31km±8km, n42,σ1§23/42,mb3.7/13,MS3.4/11,1C-5D,Shikoku

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JTSN	Tsuno	0.46	271	⇓P	Pb	09 10 31.0	-1.2
JTSN				S	Sb	09 10 37.9	-1.1
JKIT	Kitakata	0.63	307	⇓P	Pb	09 10 34.3	-0.7
JKIT				S	Sn	09 10 43.7	-0.4
JUS	Usuki	0.86	343	⇓P	Pb	09 10 37.9	-0.9
JUS				eS	Sb	09 10 50.5	+0.5
JTZ	Takazaki	0.88	248	⇓P	Pn	09 10 38.2	-0.4
JTZ				eS	Sb	09 10 52.3	+1.7
JTO	Tosashimizu	0.89	46	P	Pn	09 10 37.5	-1.1
JTO				eS	Sn	09 10 50.4	0.0
JNAR	Kushima--Naru	0.97	223	P	Pn	09 10 40.5	+0.7
JNAR				eS	Sb	09 10 55.0	+1.9
UWA2	Uwa jima 2	1.08	26	⇑P	Pn	09 10 41.0	-0.4
UWA2				eS	Sb	09 10 56.3	-0.1
JIU2	Izumi 2	1.09	287	⇓P	Pb	09 10 41.9	-0.7
JIU2				S	Sb	09 10 58.8	+2.4
JNU	Nakatsue	1.32	312	P	Pb	09 10 46.7	+0.1
	387nm,0.3s,baz=88,slow=3.5,SNR=2506						
JNU				LR	LR	09 10 57.1	
	comp=Z,128nm,20.3s,baz=118,slow=25						
JNU				S	Sb	09 11 04.5	+1.3
	81nm,0.3s,baz=327,slow=18,SNR=12						
JNA	Nagahama	1.36	15	P	Pn	09 10 45.5	+0.3
JNA				S	Sb	09 11 05.8	+1.5
JKU	Kubokawa	1.37	38	P	Pn	09 10 45.0	-0.2
JKU				S	Sn	09 11 01.7	-0.6
KSRS	Korea Array	6.21	328	P	Pn	09 11 53.6	+1.9
	1.5nm,0.3s,baz=147,slow=14,SNR=17						
KSRS				S	Sn	09 13 02.7	+1.1
	baz=146,slow=26,SNR=2.7						
JOW	Kunigami	6.31	212	LR	LR	09 14 56.6	
	comp=Z,260nm,19.6s,baz=338,slow=44						
MAT	Matsushiro	6.66	48	P	Pn	09 11 59.7	+1.7
MJAR	Matsushiro Arr	6.66	48	P	Pn	09 12 00.8	+2.8
	0.6nm,0.3s,baz=244,slow=15,SNR=8.0						
USRK	Ussuriysk Ar.	11.94	360	LR	LR	09 17 32.8	
	comp=Z,124nm,20.9s,baz=201,slow=36						
KLR	Kul'dur	16.97	359	P	P	09 14 20.3	+1.4
	0.1nm,0.3s,baz=170,slow=8.7,SNR=35						
KLR				LR	LR	09 20 39.8	
	comp=Z,7.4nm,18.2s,baz=182,slow=36						
SONM	Songino Array	24.91	316	P	P	09 15 42.2	-0.3
	3.3nm,0.8s,baz=129,slow=9.7,SNR=13						
SONM				LR	LR	09 27 00.8	
	comp=Z,82nm,18.2s,baz=82,slow=40						
PETK	Petropavlovsk-	27.86	34	LR	LR	09 28 42.6	
	comp=Z,40nm,18.5s,baz=195,slow=39						
CMAR	Chiang Mai Arr	32.77	253	LR	LR	09 31 27.3	
	comp=Z,55nm,19.1s,baz=170,slow=39						
H11N2	WAKE ISLAND Hy	33.56	103	T	T	09 52 54.9	
	baz=299						
H11N1	WAKE ISLAND Hy	33.57	103	T	T	09 52 59.7	
	baz=299						
H11N3	WAKE ISLAND Hy	33.58	103	T	T	09 52 58.2	
	baz=299						
TIXI	Tiksi	39.50	358	LR	LR	09 34 28.9	
	comp=Z,56nm,18.2s,baz=177,slow=36						
ZALV	Zalesovo Beam	39.79	317	LR	LR	09 35 17.4	
	comp=Z,67nm,18.8s,baz=70,slow=38						
MKAR	Makanchi Array	40.37	306	P	P	09 17 56.6	-0.6
	0.5nm,0.6s,baz=91,slow=12,SNR=6.1						
MKAR				LR	LR	09 36 01.5	
	comp=Z,55nm,20.8s,baz=170,slow=38						
KURBB	Kurchatov Arra	43.09	311	P	P	09 18 18.0	-1.3
	0.4nm,0.5s,baz=93,slow=8.9,SNR=2.9						
KURBB				PcP	PcP	09 20 08.1	-0.7
	0.2nm,0.3s,baz=86,slow=3.6,SNR=4.2						
BVAR	Borovoye Array	48.23	315	P	P	09 18 58.6	-1.4
	2.0nm,0.5s,baz=109,slow=9.5,SNR=9.5						
BVAR				PcP	PcP	09 20 26.0	-0.7
	1.0nm,0.7s,baz=66,slow=3.6,SNR=3.6						
WRA	Warramunga Arr	51.93	177	P	P	09 19 27.8	-0.5
	0.8nm,0.9s,baz=357,slow=8.2,SNR=10						
ASAR	Alice Springs	55.62	178	P	P	09 19 55.6	+0.4
	0.8nm,1.0s,baz=12,slow=14,SNR=7.6						
AKTO	Aktyubinsk	56.13	312	P	P	09 19 58.4	-0.3
	2.0nm,0.7s,baz=80,slow=12,SNR=6.8						
ILAR	Eielson Array	57.58	30	P	P	09 20 10.1	+1.4
	0.2nm,0.5s,baz=277,slow=7.1,SNR=5.4						
DZM	Mont Dzumac	63.24	144	LR	LR	09 48 11.6	
	comp=Z,61nm,18.1s,baz=151,slow=36						
STKA	Stephens Creek	64.41	171	P	P	09 20 56.0	+0.7
	1.0nm,0.6s,baz=314,slow=10,SNR=4.5						
GNI	Garni	68.19	304	LR	LR	09 56 46.6	
	comp=Z,22nm,19.5s,baz=132,slow=41						
FINES	FINESS Array B	69.29	330	P	P	09 21 24.2	-1.9
	0.6nm,0.6s,baz=67,slow=5.0,SNR=3.9						
YKA	Yellowknife Ar	71.68	27	P	P	09 21 41.1	+0.4
	0.3nm,0.7s,baz=303,slow=5.7,SNR=8.8						
AKASG	Malin Array Be	73.13	320	P	P	09 21 48.1	-1.4
	0.9nm,0.4s,baz=58,slow=6.2,SNR=5.7						
BRTR	Keskin Array B	75.97	308	LR	LR	10 02 32.2	
	comp=Z,22nm,18.8s,baz=101,slow=41						
MLR	Muntele Rosu	77.76	316	LR	LR	10 00 19.8	
	comp=Z,16nm,18.7s,baz=35,slow=39						
MMAI	Mount Meron Ar	78.14	301	LR	LR	10 02 04.9	
	comp=Z,22nm,20.0s,baz=195,slow=40						
NVAR	Mina Array Bea	83.98	48	P	P	09 22 51.4	+1.5
	0.1nm,0.5s,baz=308,slow=5.8,SNR=3.8						

ISCJB 03 09:17:19.8±0.2,5°.24S±0°.02×76°.57W±0°.04,h35km, mb4.4/46,MS3.5/5,Error ellipse: s-maj=5.1km s-min=2.7km az=167.3
NEIC 03 09:17:21.4±0.6,5°.28S×76°.57W,h36km±6km,mb4.4/36, Error ellipse: s-maj=8.7km s-min=4.3km az=75.0
IGQ 03 09:17:22.1±0.4,5°S±6°×7°7W±2°4,h175km±19km,M4.8/27, mb4.8/7,mB4.9/6,MLv5.2/27,Mw(mB)4.2/6,Mwp5.6/1
IDC 03 09:17:22.5±1.7,5°.32S×76°.64W,h47km±18km,mb3.8/13, mb1 4.0/19,mb1mx3.9/48,mbtmp4.1/19,ML3.7/6,MS3.3/8, Ms1 3.4/8,ms1mx3.1/45,Error ellipse: s-maj=15.2km s-min=11.9km az=77.0
ISC 03 09:17:21.2±0.4,5°.29S±0°.04×76°.55W±0°.07,h35km,n231, σ1§43/235,mb4.4/46,MS3.5/5,Northern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ATAH	Atahualpa	2.60	225	P	Pn	09 18 02.2	+1.1
	84nm,0.3s,baz=39,slow=13,SNR=383						
ATAH				S	Sn	09 18 31.2	-0.4
	139nm,0.3s,baz=155,slow=22,SNR=6.3						
ATAH				LR	LR	09 18 50.1	
	comp=Z,162nm,19.3s,baz=46,slow=35						
BPAT	Tungurahua Vol	4.21	333	P	Pn	09 18 22.6	-0.7
BPAT				S	Sn	09 19 10.7	-0.8
BPAT	Tungurahua Vol	4.21	333	P	Pn	09 18 22.6	-0.7
BPAT				S	Sn	09 19 10.7	-0.8
BMAS	Trigal station	4.23	333	P	Pn	09 18 22.3	-1.2
BMAS				S	Sn	09 19 11.5	-0.4
BMAS	Trigal station	4.23	333	P	Pn	09 18 22.3	-1.2
BMAS				S	Sn	09 19 11.5	-0.4
BULB	Ulba Tungurahu	4.25	334	P	Pn	09 18 22.4	-1.5
BULB	Ulba Tungurahu	4.25	334	P	Pn	09 18 22.4	-1.5
RETU	Refugio	4.26	333	P	Pn	09 18 23.2	-0.9
RETU	Refugio	4.26	333	P	Pn	09 18 23.2	-0.9
BBIL	Ulba Tungurahu	4.28	333	P	Pn	09 18 23.2	-1.0
BBIL				S	Sn	09 19 11.8	-1.2
BBIL	Ulba Tungurahu	4.28	333	P	Pn	09 18 23.2	-1.0
BBIL				S	Sn	09 19 11.8	-1.2
RUN5	Runtun	4.28	334	P	Pn	09 18 22.9	-1.3
RUN5	Runtun	4.28	334	P	Pn	09 18 22.9	-1.3
POND	Pondoa	4.29	334	P	Pn	09 18 23.1	-1.3
POND				S	Sn	09 19 11.7	-1.7
POND	Pondoa	4.29	334	P	Pn	09 18 23.1	-1.3
POND				S	Sn	09 19 11.7	-1.7
JUI6	Juive	4.29	333	P	Pn	09 18 23.2	-1.2
JUI6	Juive	4.29	333	P	Pn	09 18 23.2	-1.2
BTAM	Cotopaxi Volca	4.94	338	P	Pn	09 18 33.2	-0.3
BTAM	Cotopaxi Volca	4.94	338	P	Pn	09 18 33.2	-0.3
BREF	Cotopaxi Volca	4.96	338	P	Pn	09 18 34.0	+0.1
BREF	Cotopaxi Volca	4.96	338	P	Pn	09 18 34.0	+0.1
BVC2	Cotopaxi Volca	4.96	338	P	Pn	09 18 33.6	-0.2
BVC2	Cotopaxi Volca	4.96	338	P	Pn	09 18 33.6	-0.2
VC1	Cotopaxi 1	4.97	338	P	Pn	09 18 33.9	0.0
VC1	Cotopaxi 1	4.97	338	P	Pn	09 18 33.9	0.0
BNAS	Cotopaxi Volca	4.98	337	P	Pn	09 18 34.2	+0.2
BNAS	Cotopaxi Volca	4.98	337	P	Pn	09 18 34.2	+0.2
CAMI	Rancho Maria	4.98	337	P	Pn	09 18 34.3	+0.4
CAMI	Rancho Maria	4.98	337	P	Pn	09 18 34.3	+0.4
NAS2	Nasa	5.00	337	P	Pn	09 18 34.6	+0.4
NAS2	Nasa	5.00	337	P	Pn	09 18 34.6	+0.4
ANTM	Antisana-La Mi	5.01	340	P	Pn	09 18 33.2	-1.2
ANTM	Antisana-La Mi	5.01	340	P	Pn	09 18 33.2	-1.2
ANTS	Antisana-Sarah	5.03	341	P	Pn	09 18 33.3	-1.4
ANTS	Antisana-Sarah	5.03	341	P	Pn	09 18 33.3	-1.4
ILLI	Illinizas Sur	5.04	334	P	Pn	09 18 35.4	+0.6
ILLI	Illinizas Sur	5.04	334	P	Pn	09 18 35.4	+0.6
CAYA	Cayambe	5.51	345	P	Pn	09 18 41.0	-0.4
	468nm,0.4s,12μm27μm2.9nm						
IMBA	Imbabura, San	5.77	343	P	Pn	09 18 44.4	-0.4
	115nm,0.6s,3μm0.9nm						
IMBA	Imbabura, San	5.77	343	P	Pn	09 18 44.4	-0.4
OTAV	Otavalo	5.81	341	ePn	Pn	09 18 44.8	-0.5
OTAV				eSn	Sn	09 19 48.8	-2.2
OTAV	Otavalo	5.81	341	eP	Pn	09 18 46.6	+1.3
OTAV	Otavalo	5.81	341	P	Pn	09 18 46.7	+1.4
	47nm,0.7s,674nm0.2nm						
OTAV	Otavalo	5.81	341	eP	Pn	09 18 46.6	+1.3
OTAV	Otavalo	5.81	341	P	Pn	09 18 46.7	+1.4
YAHU	Yahuarcocha	5.82	345	P	Pn	09 18 46.6	+1.1
	69nm,0.5s,1μm0.3nm						
YAHU	Yahuarcocha	5.82	345	P	Pn	09 18 46.6	+1.1
CUIC	Cuicocha-Domo	5.84	342	P	Pn	09 18 47.1	+1.4
CUIC	Cuicocha-Domo	5.84	342	P	Pn	09 18 47.1	+1.4
COTA	Cotacachi	5.87	342	P	Pn	09 18 48.9	+2.7
COTA	Cotacachi	5.87	342	P	Pn	09 18 48.9	+2.7
URCU	Urcuqui	5.94	343	P	Pn	09 18 48.9	+1.8
URCU	Urcuqui	5.94	343	P	Pn	09 18 48.9	+1.8
LITE1	Lita	6.31	343	P	Pn	09 18 53.0	+1.1
LITE1	Lita	6.31	343	P	Pn	09 18 53.0	+1.1
CMBC	Cumbal	6.32	348	eP	Pn	09 18 53.5	+1.1
CMBC	Cumbal	6.32	348	eP	Pn	09 18 53.5	+1.1
CPAS2	Pasto	6.50	354	eP	Pn	09 18 53.0	-1.8
CPAS2	Pasto	6.50	354	eP	Pn	09 18 53.0	-1.8
GCUF	Volcan Galeras	6.52	353	eP	Pn	09 18 55.6	+0.5
GCUF	Volcan Galeras	6.52	353	eP	Pn	09 18 55.6	+0.5
NNA	Nana	6.66	182	ePn	Pn	09 18 56.8	+0.1
NNA				eSn	Sn	09 20 09.6	-2.0
NNA	Nana	6.66	182	P	Pn	09 18 57.7	+0.9
	164nm,0.8s,3μm0.8nm						
NNA	Nana	6.66	182	P	Pn	09 18 57.7	+0.9
CRUC	La Cruz	6.82	357	eP	Pn	09 18 59.7	+0.5
CRUC	La Cruz	6.82	357	eP	Pn	09 18 59.7	+0.5
FLOC	Florencia	6.88	7	eP	Pn	09 18 59.9	+0.1
FLOC	Florencia	6.88	7	eP	Pn	09 18 59.9	+0.1
CFLOR	Florencia	6.88	7	eP	Pn	09 19 01.2	+1.4
CFLOR	Florencia	6.88	7	eP	Pn	09 19 01.2	+1.4
SOTA	Rioblanco	7.37	360	eP	Pn	09 19 07.7	+0.8
SOTA	Rioblanco	7.37	360	eP	Pn	09 19 07.7	+0.8
TUMC	Tumaco	7.39	343	ePn	Pn	09 19 07.7	+1.0
TUMC				eSn	Sn	09 20 28.3	-1.1
PCON	Cinco Dias	7.57	1	eP	Pn	09 19 09.2	-0.4
PCON	Cinco Dias	7.57	1	eP	Pn	09 19 09.2	-0.4
POPC	Popayan, Colom	7.78	359	eP	Pn	09 19 12.3	+0.1
POPC	Popayan, Colom	7.78	359	eP	Pn	09 19 12.3	+0.1
BETC	Betania	7.99	8	eP	Pn	09 19 16.6	+1.6
BETC	Betania	7.99	8	eP	Pn	09 19 16.6	+1.6
MARP	Paez Belalcaza	8.10	4	eP	Pn	09 19 16.8	+0.2
MARP	Paez Belalcaza	8.10	4	eP	Pn	09 19 16.8	+0.2
GRGC	Isla de Gorgon	8.39	349	eP	Pn	09 19 20.6	+0.2
GRGC	Isla de Gorgon	8.39	349	eP	Pn	09 19 20.6	+0.2
GUVC	San Jose del G	8.71	27	eP	Pn	09 19 27.1	+2.3
GUVC	San Jose del G	8.71	27	eP	Pn	09 19 27.1	+2.3
HORQ	Saladito	8.71	359	eP	Pn	09 19 25.9	+0.8
HORQ	Saladito	8.71	359	eP	Pn	09 19 25.9	+0.8
SJAC	San Juan de Ar	8.89	17	eP	Pn	09 19 29.0	+1.6
SJAC	San Juan de Ar	8.89	17	eP	Pn	09 19 29.0	+1.6
PRAC	Prado	9.09	11	ePn	Pn	09 19 30.9	+0.7
PRAC				eSn	Sn	09 21 10.7	-0.7
PRAC	Prado	9.09	11	eP	Pn	09 19 31.0	+0.9
PRAC	Prado	9.09	11	eP	Pn	09 19 31.0	+0.9
YOTC	Yotoco, Valle	9.21	1	eP	Pn	09 19 32.2	+0.4
YOTC	Yotoco, Valle	9.21	1	eP	Pn	09 19 32.2	+0.4
MALC	Bahia Malaga	9.27	355	eP	Pn	09 19 33.8	+1.3
MALC	Bahia Malaga	9.27	355	eP	Pn	09 19 33.8	+1.3
VILC	Villavicencio,	9.76	17	eP	Pn	09 19 41.5	+2.1
VILC	Villavicencio,	9.76	17	eP	Pn	09 19 41.5	+2.1
ANIL	Santa Ana	9.78	7	eP	Pn	09 19 38.5	-1.3
ANIL	Santa Ana	9.78	7	eP	Pn	09 19 38.5	-1.3
PLMC	San Jos˜' del	10.13	1	eP	Pn	09 19 44.2	-0.1
PLMC	San Jos˜' del	10.13	1	eP	Pn	09 19 44.2	-0.1
RREF	El Recreo	10.19	7	eP	Pn	09 19 49.1	+3.4
RREF	El Recreo	10.19	7	eP	Pn	09 19 49.1	+3.4
CHIC	Chingaza	10.24	16	eP	Pn	09 19 47.5	+1.3
CHIC	Chingaza	10.24	16	eP	Pn	09 19 47.5	+1.3
ROSC	El Rosal	10.30	13	P	Pn	09 19 49.8	+2.7
	3.7nm,0.3s,baz=220,slow=17,SNR=8.4						
ROSC				S	Sn	09 22 02.0	+20
	2.8nm,0.3s,baz=17,slow=19,SNR=1.9						
ROSC	El Rosal	10.30	13	eP	Pn	09 20 02.8	+16
ROSC	El Rosal	10.30	13	eP	Pn	09 20 02.8	+16
MAPC	Malpelo	10.52	331	eP	Pn	09 19 46.5	-3.2
MAPC	Malpelo	10.52	331	eP	Pn	09 19 46.5	-3.2
NORC	Norcasia	10.91	9	eP	Pn	09 19 55.4	+0.4
NORC	Norcasia	10.91	9	eP	Pn	09 19 55.4	+0.4
YOPC	Yopal, Colombi	11.35	21	eP	Pn	09 20 03.2	+2.2
YOPC	Yopal, Colombi	11.35	21	eP	Pn	09 20 03.2	+2.2
HELC	Santa Helena	11.45	5	ePn	Pn	09 20 02.0	-0.6
HELC				eSn	Sn	09 22 09.7	+0.1
RUSC	La Rusia	11.63	17	ePn	Pn	09 20 06.3	+1.0
RUSC				eSn	Sn	09 22 13.6	-0.7
RUSC	La Rusia	11.63	17	eP	Pn	09 20 06.4	+1.0
RUSC	La Rusia	11.63	17	eP	Pn	09 20 06.4	+1.0
BARC	Barichara	12.27	16	eP	Pn	09 20 14.3	+0.6
BARC	Barichara	12.27	16	eP	Pn	09 20 14.3	+0.6
BRRC	Barranca, Sant	12.63	13	eP	Pn	09 20 15.2	-3.3
BRRC	Barranca, Sant	12.63	13	eP	Pn	09 20 15.2	-3.3
ZARC	Zaragoza, Cauc	12.81	8	eP	Pn	09 20 19.2	-1.7
ZARC	Zaragoza, Cauc	12.81	8	eP	Pn	09 20 19.2	-1.7
PAMC	Pamplona, Colo	13.12	17	eP	Pn	09 20 26.5	+0.8
PAMC	Pamplona, Colo	13.12	17	eP	Pn	09 20 26.5	+0.8
LPAZ	La Paz	13.70	144	P	Pn	09 20 34.5	+0.8
	0.3nm,0.3s,baz=352,slow=16,SNR=8.6						
LPAZ				S	Sn	09 23 01.6	-3.4
	0.1nm,0.3s,baz=209,slow=19,SNR=2.4						
LPAZ				LR	LR	09 26 45.2	
	comp=Z,178nm,20.4s,baz=320,slow=41						
LPAZ	La Paz	13.70	144	P	Pn	09 20 35.8	+2.2
LPAZ	La Paz	13.70	144	P	Pn	09 20 35.8	+2.2
MOTC	Monteria, Cord	14.00	4	eP	Pn	09 20 38.1	+0.9
MOTC	Monteria, Cord	14.00	4	eP	Pn	09 20 38.1	+0.9
PB12	IPOC Station P	14.57	156	P	Pn	09 20 43.2	-1.8
PB12	IPOC Station P	14.57	156	P	Pn	09 20 43.2	-1.8
BCIP	Isla Barro Col	14.73	347	ePn	Pn	09 20 46.6	-0.5
BCIP	Isla Barro Col	14.73	347	eP	Pn	09 20 44.5	-2.6
BCIP	Isla Barro Col	14.73	347	eP	Pn	09 20 44.5	-2.6
SDV	Santo Domingo	15.27	23	P	Pn	09 20 54.8	+0.3
	1.7nm,0.3s,baz=203,slow=6.3,SNR=14						
SDV				S	Sn	09 23 37.6	-4.9
	2.3nm,0.3s,baz=3.6,slow=16,SNR=3.4						
SDV	Santo Domingo	15.27	23	ePn	Pn	09 20 54.9	+0.5
	15nm,1.1s						
SDV				eSn	Sn	09 23 37.6	-4.9
SDV	Santo Domingo	15.27	23	eP	Pn	09 20 53.6	-0.9
SDV	Santo Domingo	15.27	23	eP	Pn	09 20 53.6	-0.9
MNMC	Minye Minye	15.34	154	ePn	Pn	09 20 55.7	+0.3
	37nm,0.7s						
MNMC	Minye Minye	15.34	154	P	P	09 20 59.4	-0.4
MNMC	Minye Minye	15.34	154	P	P	09 20 59.5	-0.4
PB11	IPOC Station P	15.87	156	ePn	Pn	09 21 01.5	-0.8
	22nm,0.7s						
PB11	IPOC Station P	15.87	156	P	P	09 21 06.2	+0.6
PB11	IPOC Station P	15.87	156	P	P	09 21 06.2	+0.6
HDC	Heredia	16.96	334	ePn	Pn	09 21 15.1	-0.9
	49nm,1.3s						
PB01	IPOC Station P	17.09	157	P	Pn	09 21 08.9	-8.8
PB01	IPOC Station P	17.09	157	P	Pn	09 21 08.9	-8.8
PB02	IPOC Station P	17.19	159	P	Pn	09 21 12.6	-6.3
PB02	IPOC Station P	17.19	159	P	Pn	09 21 12.6	-6.3
PB07	IPOC Station P	17.57	159	P	Pn	09 21 12.5	-11
PB07	IPOC Station P	17.57	159	P	Pn	09 21 12.5	-11
JTS	JuntasAbangare	17.59	332	P	Pn	09 21 24.2	+0.4
	0.2nm,0.3s,baz=165,slow=12,SNR=5.3						
JTS				LR	LR	09 27 30.5	
	comp=Z,93nm,20.7s,baz=218,slow=35						
PB04	IPOC Station P	18.04	161	eP	Pn	09 21 29.4	-0.1
	17nm,0.8s						
PB05	IPOC Station P	18.51	161	P	P	09 21 35.6	+0.9
PB05	IPOC Station P	18.51	161	P	P	09 21 35.6	+0.9
SIV	San Ignacio	18.54	126	P	P	09 21 35.8	+0.8
	0.2nm,0.3s,baz=318,slow=12,SNR=7.8						
SIV				S	Sn	09 24 54.7	-7.1
	0.4nm,0.3s,baz=203,slow=21,SNR=5.2						
ESPN	Las Esperanzas	19.00	336	P	Pn	09 21 48.6	+7.7
ESPN	Las Esperanzas	19.00	336	P	Pn	09 21 48.6	+7.7
PB10	IPOC Station P	19.02	163	eP	P	09 21 41.7	+1.4
	48nm,1.2s						
LGNH	LØogne	23.96	9	eP	P	09 22 29.9	-2.6
	180nm,1.2s						
LCO	Las Campanas	24.24	167	eP	P	09 22 35.9	+0.7
	17nm,0.8s						
APG	El Apazote	24.43	326	LR	LR	09 31 32.1	
	comp=Z,60nm,18.9s,baz=141,slow=35						
SDD	Santo Domingo	24.48	15	eP	P	09 22 35.4	-1.8
	66nm,0.7s						
SDDR	Presa de Saban	24.67	12	eP	P	09 22 39.9	+0.9
	17nm,1.2s						
FSCY	Frank Sound, G	24.87	350	eP	P	09 22 37.6	-3.2
	255nm,1.4s						
MPR	Mayaguez	25.13	21	eP	P	09 22 42.5	-0.6
	17nm,1.3s						
AGP	Aguadilla	25.31	21	eP	P	09 22 45.5	+0.7
	46nm,1.0s						
SJG	San Juan	25.41	24	P	P	09 22 46.5	+0.8
	13nm,0.2s,baz=350,slow=11,SNR=3.9						
CBYP	Canovanas	25.68	24	eP	P	09 22 49.3	+1.2
	20nm,1.0s						
STVI	Saint Thomas	26.12	26	eP	P	09 22 52.1	0.0
	4.6nm,0.7s						
SABA	Saba	26.28	30	eP	P	09 22 54.9	+1.3
	40nm,1.4s						
ANWB	Willy Bob	27.07	32	eP	P	09 23 03.1	+2.4
	44nm,1.4s						
CPUP	Villa Florida	27.84	141	P	P	09 23 07.7	+0.2
	3.7nm,0.7s,baz=319,slow=10,SNR=14						
CPUP	Villa Florida	27.84	141	eP	P	09 23 07.5	0.0
	4.3nm,0.8s						
TEIG	Tepich	27.85	336	eP	P	09 23 06.6	-1.0
	0.2nm,0.9s						
ROC1	El Roble	28.03	170	eP	P	09 23 10.0	+0.6
	10nm,0.7s						
MYIG	MØrida	29.12	334	eP	P	09 23 19.2	+0.3
	157nm,1.2s						
LVIG	Laguna Verde	31.62	322	eP	P	09 23 41.0	-0.1
	22nm,1.2s						
DWPF	Disney Wildern	33.54	352	eP	P	09 23 57.2	-0.5
	118nm,1.4s						
PLCA	Paso Flores	35.70	172	P	P	09 24 16.3	-0.1
	2.9nm,0.5s,baz=0.7,slow=10,SNR=23						
PLCA	Paso Flores	35.70	172	eP	P	09 24 16.7	+0.2
	5.1nm,0.7s						
LRAL	Lakeview Retre	39.38	346	eP	P	09 24 46.8	-0.8
	8.5nm,1.3s						
LTX	Lajitas	43.17	324	eP	P	09 25 19.3	+0.4
TXAR	Lajitas Array	43.17	324	P	P	09 25 19.3	+0.4
	0.3nm,0.4s,baz=147,slow=8.6,SNR=13						
TXAR				LR	LR	09 41 40.0	
	comp=Z,17nm,18.3s,baz=0.0,slow=34						
TX31	Lajitas Ar. Si	43.17	324	eP	P	09 25 19.3	+0.3
WCI	Wyandotte Cave	44.23	349	eP	P	09 25 25.3	-1.9
	8.6nm,1.3s						
WMOK	Wichita Mounta	44.99	334	eP	P	09 25 33.2	-0.1
	5.5nm,1.4s						
MNTX	Cornudas Mount	45.92	325	eP	P	09 25 41.0	+0.3
	3.5nm,1.3s						
M54A	Oil Creek Stat	46.66	357	eP	P	09 25 45.0	-1.4
	13nm,1.5s						
ANMO	Albuquerque	48.94	327	eP	P	09 26 04.4	0.0
	2.3nm,0.8s						
T25A	Trinidad	49.57	331	eP	P	09 26 10.6	+1.4
	3.8nm,0.9s						
W18A	Petrified Fore	50.90	325	eP	P	09 26 18.7	-0.6
	2.9nm,1.0s						
X16A	Lo Mia Camp, P	51.41	323	eP	P	09 26 23.5	+0.3
	2.2nm,0.9s						
ECSD	EROS Data Cent	52.05	342	eP	P	09 26 27.6	+0.1
	1.0nm,0.8s						
WUAZ	Wupatki	52.13	324	eP	P	09 26 27.2	-1.2
	1.9nm,0.9s						
LCMT	Little Creek M	54.25	324	eP	P	09 26 46.4	+2.4
	3.3nm,1.2s						
PD31	Pinedale Array	56.43	331	eP	P	09 26 56.7	-3.0
PDAR	Pinedale Array	56.43	331	P	P	09 26 59.6	-0.1
	0.8nm,1.0s,baz=154,slow=8.6,SNR=3.0						
PDAR				LR	LR	09 56 40.6	
	comp=Z,36nm,18.0s,baz=257,slow=42						
PDAR	Pinedale Array	56.43	331	eP	P	09 27 00.7	+1.0
ULM	Lac du Bonnet	57.79	345	P	P	09 27 09.1	+0.2
	0.5nm,0.3s,baz=139,slow=6.4,SNR=2.7						
NVAR	Mina Array Bea	58.21	322	P	P	09 27 11.9	-0.4
	0.3nm,0.5s,baz=127,slow=6.9,SNR=3.0						
GCMT	Greycliff	58.79	333	eP	P	09 27 10.6	-5.6
MFID	Camas Ranch	60.07	328	eP	P	09 27 25.8	+0.8
	2.6nm,0.8s						
ORV	Oroville	60.87	321	eP	P	09 27 32.9	+2.4
	1.9nm,0.8s						
EDM	Edmonton	66.03	337	eP	P	09 28 08.1	+3.8
	7.7nm,0.9s						
LIC	Lamto	72.31	82	ePKIKP	P	09 28 46.5	+2.5
TIC	Toumodi	72.37	81	ePKIKP	P	09 28 47.0	+2.6
DBIC	Dimbokro	72.53	81	P	P	09 28 46.0	+0.7
	3.4nm,0.5s,baz=226,slow=4.5,SNR=5.1						
DBIC				LR	LR	09 59 16.8	
	comp=Z,59nm,19.2s,baz=212,slow=35						
DBIC	Dimbokro	72.53	81	eP	P	09 28 46.0	+0.7
	4.7nm,0.6s						
KIC	Kosan Boka	72.61	82	ePKIKP	P	09 28 46.9	+1.1
	12nm,0.8s						
YKA	Yellowknife Ar	73.56	343	P	P	09 28 49.6	-0.7
	0.5nm,0.3s,baz=140,slow=6.3,SNR=31						
YKB5	Yellowknife Ar	73.56	343	eP	P	09 28 49.5	-0.9
KOWA	Kowa	74.53	73	P	P	09 28 57.9	+0.8
	3.4nm,0.5s,baz=260,slow=6.1,SNR=8.8						
TOA1	Torodi Ar. Sit	79.80	76	eP	P	09 29 27.2	+0.6
TOA0	Torodi Ar. Sit	79.81	76	eP	P	09 29 27.2	+0.5
TORD	Torodi Ar. Bea	79.81	76	P	P	09 29 27.2	+0.5
	0.9nm,0.4s,baz=277,slow=5.8,SNR=15						
TORD				LR	LR	10 03 41.9	
	comp=Z,44nm,18.4s,baz=165,slow=35						
SNAA	Sanae	79.91	162	P	P	09 29 26.5	+0.3
	3.2nm,0.8s,baz=296,slow=6.8,SNR=4.7						
SNAA	Sanae	79.91	162	eP	P	09 29 26.5	+0.3
	5.9nm,1.1s						
INK	Inuvik	83.29	342	P	P	09 29 43.7	-0.2
	0.7nm,0.7s,baz=98,slow=3.1,SNR=4.3						
ILAR	Eielson Array	86.51	336	P	P	09 30 00.1	-0.2
	0.4nm,0.9s,baz=116,slow=4.1,SNR=3.8						
ILB	Eielson Array	86.51	336	eP	P	09 30 00.1	-0.2
KURK	Kurchatov	130.18	20	ePKPdf	PKPdf	09 36 27.5	-0.2
KURBB	Kurchatov Arra	130.23	21	PKP	PKPdf	09 36 27.5	-0.3
	0.6nm,0.5s,baz=309,slow=2.4,SNR=5.4						
MK32	Makanchi Array	134.79	20	ePKPdf	PKPdf	09 36 36.4	-0.2
MKAR	Makanchi Array	134.79	20	PKP	PKPdf	09 36 36.4	-0.2
	0.3nm,0.7s,baz=325,slow=2.3,SNR=3.4						
ASAR	Alice Springs	138.64	225	PKhKP	PKPpre	09 36 36.3	
	0.3nm,0.8s,baz=116,slow=2.2,SNR=2.9						
WR1	Warramunga Arr	140.62	230	ePKPpre	PKPpre	09 36 42.9	
WR1				ePKPdf	PKPdf	09 36 48.6	+0.5
WRA	Warramunga Arr	140.62	230	PKhKP	PKPpre	09 36 42.8	
	0.4nm,0.9s,baz=114,slow=2.4,SNR=4.6						
WRA				PKP	PKPdf	09 36 48.6	+0.5
	0.2nm,0.5s,baz=117,slow=2.2,SNR=7.7						

MEX 03 09:20:15.8±0.5,18°.15N×100°.48W,h52km±6km,MD3.6, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ARIG	Puente Sto Nin	0.18	44	iP	Pn	09 20 22.8	-1.6
ARIG				eS	Sn	09 20 28.7	-1.8
PLIG	Platanillo	0.96	75	eP	Pn	09 20 31.8	-1.4
PLIG				eS	Sn	09 20 44.0	-2.0
ZIIG	Zihuatanejo	1.08	240	eP	Pn	09 20 33.9	-0.8

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ZIIG				i S	Sn	09 20 46.5	-2.1
CAIG	El Cayaco	1.11	169	eP	Pn	09 20 33.5	-1.6
CAIG				eS	Sn	09 20 47.0	-2.4

ARO 03 09:24:11.3, 12°N±2°×43°.6E±0°.5, h4km±2km, Ml3.4

ISC 03 09:24:08.8±2.6, 11°.8N±0°.1×43°.6E±0°.2, h10km, n9, σ0.32/11, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OBO	Obock	0.37	301	eP	Pb	09 24 17.4	-0.1
MCAD	Moucha	0.40	261	eP	Pb	09 24 18.1	+0.2
TDD	Tadjoura Ara	0.69	271	eP	Pb	09 24 22.9	-0.1
ATD	Arta Tunnel	0.80	251	eP	Pb	09 24 24.8	+0.1
ATD	Arta Tunnel	0.80	251	eP	Pb	09 24 24.8	+0.1
ATD				eS	Sb	09 24 35.9	+0.3
SGH	Sud-Ghoubbet	1.02	250	eP	Pg	09 24 28.6	+0.1
LDLD	Lac de Lave	1.11	259	eP	Pb	09 24 29.5	-0.6
MAOD	Malaho	1.39	283	eP	Pn	09 24 34.1	-0.2
UDYN	Al ‘Udayn	2.19	9	i P	Pb	09 24 48.4	-0.2
UDYN				e		09 24 48.6	
	baz=220,slow=10						
UDYN				i S	Sb	09 25 16.3	+0.5
UDYN				AML	AML	09 25 22.0	
	comp=E,293nm,0.5s						

ISK 03 09:29:25.1, 36°.87N×29°.29E, h5km, ML2.5/11
DDA 03 09:29:26.2, 36°.90N×29°.28E, h7km, Ml2.6
CSEM 03 09:29:26.2±0.1, 36°.88N×29°.31E, h5km, ML2.5, Error ellipse: s-maj=3.4km s-min=2.8km az=6.0

ISC 03 09:29:26.4±1.1, 36°.89N±0°.03×29°.27E±0°.02, h4km±10km, n31, σ0.81/44, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FETY	Fethiye	0.29	212	PG	Pg	09 29 31.1	-1.0
FETY				SG	Sg	09 29 36.8	+0.9
FETY	Fethiye	0.29	212	ePg	Pg	09 29 31.1	-1.0
FETY				eSg	Sg	09 29 36.8	+0.9
DALY	Dalyan (Mu˜la	0.50	262	PG	Pg	09 29 35.9	-0.2
DALY				SG	Sb	09 29 44.5	-1.0
DALY	Dalyan (Mu˜la	0.50	262	i P	Pg	09 29 35.9	-0.2
DALY				i S	Sb	09 29 44.2	-1.3
DALY	Dalyan (Mu˜la	0.50	262	P	Pg	09 29 35.9	-0.2
DALY				S	Sb	09 29 44.2	-1.3
ELL	Elmali	0.53	105	PG	Pg	09 29 35.9	-0.7
ELL	Elmali	0.53	105	ePg	Pg	09 29 35.9	-0.7
TURN	Turunc	0.54	269	PG	Pn	09 29 42.4	+1.5
TAVA	DENIZLI_Tavas	0.65	334	eP	Pg	09 29 38.7	-0.2
TAVA				i S	Sg	09 29 47.8	+0.5
TAVA	DENIZLI_Tavas	0.65	334	P	Pg	09 29 38.7	-0.2
TAVA				S	Sg	09 29 47.8	+0.5
AKAS	Kas	0.70	158	PG	Pg	09 29 39.5	-0.4
AKAS	Kas	0.70	158	i P	Pg	09 29 39.9	0.0
AKAS				i S	Sn	09 29 55.3	+0.6
AKAS	Kas	0.70	158	ePg	Pg	09 29 39.5	-0.4
AKAS	Kas	0.70	158	P	Pg	09 29 39.9	0.0
KORT	Korkueli	0.87	82	PG	Pg	09 29 43.1	-0.1
KORT	Korkueli	0.87	82	ePg	Pg	09 29 43.1	-0.1
BRDR	BURDUR-Merkez	1.03	38	i P	Pg	09 29 44.8	-1.3
BRDR				i S	Sb	09 30 00.5	-0.2
BRDR	BURDUR-Merkez	1.03	38	P	Pg	09 29 44.8	-1.3
BRDR				S	Sb	09 30 00.5	-0.2
MLSB	Milas	1.27	289	PN	Pb	09 29 50.8	-0.1
MLSB	Milas	1.27	289	ePn	Pb	09 29 50.8	-0.1
DATC	Datca-Mugla	1.30	265	PN	Pg	09 29 51.4	0.0
DATC	Datca-Mugla	1.30	265	ePn	Pg	09 29 51.4	0.0
AYDN	Tasoluk	1.35	305	i P	Pn	09 29 51.8	-0.4
AYDN				i S	Sn	09 30 11.4	+0.7
AYDN	Tasoluk	1.35	305	P	Pn	09 29 51.8	-0.4
AYDN				S	Sn	09 30 11.4	+0.7
SUTC	Sutluce-Ispart	1.50	66	PN	Pn	09 29 54.1	-0.2
SUTC	Sutluce-Ispart	1.50	66	ePn	Pn	09 29 54.1	-0.2
AYDB	Zeytinkoy-Aydi	1.53	314	PN	Pn	09 29 54.6	-0.1
AYDB	Zeytinkoy-Aydi	1.53	314	ePn	Pn	09 29 54.6	-0.1
BODT	Bodrum	1.58	277	PN	Pb	09 29 55.7	-0.6
BODT	Bodrum	1.58	277	ePn	Pb	09 29 55.7	-0.6
BAGO	Egridir - ISPA	1.64	47	i P	Pb	09 29 57.0	-0.2
BAGO				i S	Sg	09 30 21.8	+2.8

IDC 03 09:33:54.5±1.5, 5°.50S×124°.17E, h0km, mb3.5/3, mb1 3.7/4, mb1mx3.3/58, mbtmp3.5/4, ML3.3/1, Error ellipse: s-maj=179.8km s-min=24.1km az=60.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	17.43	146	P	Pn	09 37 59.1	-0.3
	0.1nm,0.3s,baz=317,slow=13,SNR=6.9						
ASAR	Alice Springs	20.35	154	P	P	09 38 33.0	+0.3
	0.8nm,0.6s,baz=332,slow=12,SNR=20						
STKA	Stephens Creek	30.90	150	P	P	09 40 12.8	-0.1
	1.6nm,0.8s,baz=325,slow=13,SNR=3.4						
MKAR	Makanchi Array	63.89	329	P	P	09 44 29.2	0.0
	0.3nm,0.8s,baz=131,slow=6.6,SNR=3.5						

IDC 03 09:37:22.6±2.9, 54°.48N×86°.97E, h0km, mb1 2.8/2, mb1mx2.7/68, mbtmp2.8/2, ML2.5/2, Error ellipse: s-maj=23.7km s-min=17.8km az=59.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.37	248	i		09 44 14.7	
	baz=69,slow=324,SNR=4.8						
ZALV	Zalesovo Beam	1.37	248	Pg	Pg	09 37 46.3	-2.6
	1.5nm,0.3s,baz=69,slow=11,SNR=12						
ZALV				Lg	Lg	09 38 06.7	
	1.1nm,0.3s,baz=65,slow=26,SNR=5.8						
KURBB	Kurchatov Arra	6.44	237	Pn	Pn	09 38 59.2	+0.7
	0.1nm,0.3s,baz=54,slow=14,SNR=9.2						
KURBB				Sn	Sn	09 40 12.0	-0.6
	0.0nm,0.3s,baz=57,slow=20,SNR=3.0						
KURBB				Lg	Lg	09 40 46.5	
	0.0nm,0.3s,baz=46,slow=31,SNR=2.9						
MKAR	Makanchi Array	8.25	203	Pn	Pn	09 39 25.2	+1.8
	0.1nm,0.3s,baz=20,slow=11,SNR=4.3						
MKAR				Sn	Sn	09 40 56.5	-0.8
	0.2nm,0.3s,baz=25,slow=27,SNR=6.0						
MKAR				Lg	Lg	09 41 46.0	
	0.0nm,0.3s,baz=23,slow=30,SNR=2.9						

SOME 03 09:44:01.5, 43°.70N×69°.72E

NNC 03 09:44:03.4±5.7, 43°.62N×69°.65E, h0km, mb3.6, mpv2.7, 5C-1D, Error ellipse: s-maj=35.7km s-min=18.0km az=123.0, Suspected Mining explosion., Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KK31	Karatay Array	0.81	129	⇑P	Pg	09 44 17.8	-1.2
	1.3nm,0.2s,baz=313,slow=17,SNR=110						
KK31				S	Sg	09 44 29.4	-0.2
	7.0nm,0.3s,baz=308,slow=27,SNR=78						
MNAS	Manas	2.38	117	⇓P	Pb	09 44 46.0	-1.2
	1.4nm,0.3s						
MNAS				⇑S	Sb	09 45 18.5	+1.3
	6.4nm,0.6s						
AAK	Ala-Archa	3.68	104	⇑Pg	Pb	09 45 10.5	+1.1
	2.6nm,0.4s						
AAK				⇑Lg	Lg	09 45 59.4	
	4.2nm,0.7s						
MAKZ	Makanchi	9.27	66	⇑Pn	Pn	09 46 15.3	-2.9
	1.3nm,0.6s						
MK31	Makanchi Array	9.47	66	Pn	Pn	09 46 18.7	-2.3
	0.9nm,0.4s,baz=247,slow=15,SNR=22						

NNC 03 09:57:48.8±2.5, 53°.56N×87°.98E, h0km, mb3.6, mpv3.2, Error ellipse: s-maj=18.4km s-min=16.7km az=44.0

IDC 03 09:57:47.6±2.4, 53°.61N×88°.03E, h0km, mb1 3.4/3, mb1mx3.0/73, mbtmp3.4/3, ML3.1/3, 5C-4D, Error ellipse: s-maj=21.2km s-min=13.7km az=61.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.94	281	i		10 09 46.8	
	baz=95,slow=328,SNR=23						
ZALV	Zalesovo Beam	1.94	281	Pn	Pn	09 58 20.7	-1.0
	7.4nm,0.3s,baz=94,slow=15,SNR=81						
ZALV				Lg	Lg	09 58 47.5	
	19nm,0.3s,baz=98,slow=25,SNR=20						
KURK	Kurchatov	6.47	247	⇑Pn	Pn	09 59 24.0	-0.1
	3.3nm,0.8s						
KURK				⇑Sn	Sn	10 00 40.3	+1.7
	3.0nm,0.6s						
KURK				⇑Lg	Lg	10 01 11.9	
	8.8nm,0.7s						
KURBB	Kurchatov Arra	6.57	247	Pn	Pn	09 59 25.7	+0.3
	0.3nm,0.3s,baz=62,slow=14,SNR=29						
KURBB				Sn	Sn	10 00 39.6	-1.3
	0.2nm,0.3s,baz=345,slow=17,SNR=7.4						
KURBB				Lg	Lg	10 01 17.8	
	0.2nm,0.3s,baz=61,slow=31,SNR=6.9						
MK31	Makanchi Array	7.75	211	⇓Pn	Pn	09 59 42.7	+1.0
	0.6nm,0.6s,baz=28,slow=13,SNR=11						
MK31				⇓Sn	Sn	10 01 10.7	+0.6
	1.2nm,0.6s,baz=32,slow=28,SNR=6.9						
MK31				⇓Lg	Lg	10 01 54.0	
	2.0nm,0.6s,baz=36,slow=28,SNR=4.1						
MKAR	Makanchi Array	7.75	211	Pn	Pn	09 59 42.8	+1.1
	0.2nm,0.3s,baz=29,slow=14,SNR=13						
MKAR				Sn	Sn	10 01 09.4	-0.7
	0.4nm,0.3s,baz=26,slow=18,SNR=10						
MKAR				Lg	Lg	10 01 54.1	
	0.2nm,0.3s,baz=30,slow=28,SNR=3.3						
MAKZ	Makanchi	7.84	212	⇓Pn	Pn	09 59 43.8	+1.0
	0.6nm,0.5s						
MAKZ				⇑Sn	Sn	10 01 12.8	+0.6
	2.0nm,0.5s						
MAKZ				⇑Lg	Lg	10 01 58.0	
	5.7nm,1.1s						
BVAR	Borovoye Array	10.57	274	Pn	Pn	10 00 20.1	-0.1
	0.3nm,0.3s,baz=82,slow=14,SNR=3.7						
BVAR				Sn	Sn	10 02 15.6	-3.7
	0.2nm,0.3s,baz=72,slow=26,SNR=3.3						

SJA 03 10:06:47.7±0.8, 21°.36S×68°.85W, h152km±31km, ML3.5, MW3.6
ISCJB 03 10:06:54.2±0.3, 21°.98S±0°.04×68°.77W±0°.04, h116km±4km, mb3.9/9, Error ellipse: s-maj=7.3km s-min=5.0km az=145.5
GUC 03 10:06:54.4±0.6, 21°.94S×68°.78W, h108km±5km, ML4.3
IDC 03 10:06:55.6±0.7, 21°.91S×68°.44W, h112km±5km, mb3.7/9, mb1 3.8/13, mb1mx3.7/42, mbtmp4.1/13, MS3.0/1, Ms1 3.0/1, ms1mx2.6/43, Error ellipse: s-maj=21.0km s-min=15.4km az=55.0

ISC 03 10:06:55.4±0.6, 21°.91S±0°.04×68°.76W±0°.04, h109km±4km, n36, σ1.46/52, mb4.0/9, 6C-1D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PB09	IPOC Station P	0.47	284	⇑i P	Pn	10 07 11.3	-0.8
PB09				eS	Sn	10 07 24.1	-0.5
PB09				IAML		10 07 24.4	
	comp=N,26μm,0.6s						
PB07	IPOC Station P	1.06	280	⇑i P	Pn	10 07 16.9	-0.5
PB07				eS	Sn	10 07 33.8	-0.2
PB07				IAML		10 07 34.0	
	comp=N,10μm,0.5s						
PB06	IPOC Station P	1.09	224	⇑i P	Pn	10 07 16.9	-0.7
PB06				eS	Sn	10 07 33.9	-0.5
PB06				IAML		10 07 34.6	
	comp=E,5μm,0.4s						
PB01	IPOC Station P	1.10	322	⇑i P	Pn	10 07 16.9	-0.8
PB01				eS	Sn	10 07 34.4	-0.1
PB02	IPOC Station P	1.21	299	⇑i P	Pn	10 07 18.2	-0.7
PB02				eS	Sn	10 07 36.3	-0.4
PB02				IAML		10 07 37.2	
	comp=E,7μm,0.3s						
PB04	IPOC Station P	1.36	252	⇑i P	Pn	10 07 19.8	-0.8
PB04				eS	Sn	10 07 39.6	-0.1
PB04				IAML		10 07 46.4	
	comp=E,3μm,0.8s						
PB08	IPOC Station P	1.80	348	⇓i P	Pn	10 07 26.7	+0.5
PB08				eS	Sn	10 07 51.3	+1.7
GO01	Chusmiza	2.27	350	eP	Pn	10 07 32.7	+0.4
GO01				eS	Sn	10 08 02.0	+1.5
PB10	IPOC Station P	2.30	226	eP	Pn	10 07 31.9	-0.3
PB10				eS	Sn	10 08 04.2	+3.8
PB14	IPOC Station P	3.10	209	eP	Pn	10 07 42.2	-0.7
PB14				eS	Sn	10 08 23.4	+3.9
HJA	Humahuaca	3.35	113	eP	Pn	10 07 46.2	-0.2
HJA				IAML		10 07 48.6	
	comp=Z,33nm,0.5s						
HJA				i S	Sn	10 08 28.4	+2.6
SLA	San Lorenzo	4.09	134	eP	Pn	10 07 56.8	+0.7
SLA				IAML		10 08 00.0	
	comp=Z,17nm,0.5s						
AZAP	Zapla	4.11	125	i P	Pn	10 07 55.5	-0.9
AZAP				IAML		10 07 57.4	
	comp=Z,38nm,0.4s						
AZAP				eS	Sn	10 08 47.0	+3.4
ASTB	Santa Barbara	4.46	118	i P	Pn	10 07 59.5	-1.5
ASTB				eS	Sn	10 08 53.2	+1.2
ALOL	LOMAS DE OLMED	4.79	114	i P	Pn	10 08 03.4	-2.0
FSA	Cafayete	4.89	149	i P	Pn	10 08 05.8	-1.1
LPAZ	La Paz	5.63	6	P	Pn	10 08 18.5	+1.2
	comp=Z,4.0nm,0.3s,baz=199,slow=5.6,SNR=87						
LPAZ				S	Sn	10 09 06.8	-14
	comp=Z,0.6nm,0.3s,baz=173,slow=13,SNR=7.2						
LPAZ	La Paz	5.63	6	eP	Pn	10 08 18.7	+1.4
AHML	Horco Molle	5.77	148	eP	Pn	10 08 17.9	-0.7
VCA	Vinchina	6.81	176	IAML		10 09 22.3	
	comp=Z,18nm,0.4s						
SIV	San Ignacio	9.36	52	P	Pn	10 09 02.7	-4.7
	comp=Z,11nm,0.3s,baz=244,slow=12,SNR=144						
SIV				S	Sn	10 10 41.0	-10
	comp=Z,0.5nm,0.3s,baz=131,slow=19,SNR=4.0						
CPUP	Villa Florida	11.32	115	P	Pn	10 09 30.1	-3.8
	comp=Z,0.1nm,0.3s,baz=289,slow=11,SNR=5.3						
ATAH	Atahualpa	17.39	326	LR	LR	10 18 50.3	
	comp=Z,50nm,21.2s,baz=82,slow=41						
PLCA	Paso Flores	18.82	184	P	P	10 11 06.4	-0.2
	comp=Z,0.1nm,0.3s,baz=14,slow=12,SNR=4.1						
APG	El Apazote	42.42	328	P	P	10 14 41.2	+1.5
	comp=Z,2.9nm,0.7s,baz=117,slow=11,SNR=4.4						
TXAR	Lajitas Array	61.05	325	P	P	10 16 58.2	+0.3
	comp=Z,0.2nm,0.5s,baz=151,slow=8.1,SNR=6.0						
SNAA	Sanae	61.84	161	P	P	10 17 02.1	-0.6
	comp=Z,0.9nm,0.6s,baz=297,slow=4.5,SNR=5.7						
DBIC	Dimbokro	68.72	73	P	P	10 17 45.8	-2.1
	comp=Z,1.8nm,0.3s,baz=217,slow=7.9,SNR=6.9						
PDAR	Pinedale Array	74.54	330	P	P	10 18 23.0	+0.6
	comp=Z,0.4nm,0.5s,baz=134,slow=6.4,SNR=4.9						
ULM	Lac du Bonnet	75.75	342	P	P	10 18 28.5	-0.4
	comp=Z,0.9nm,0.5s,baz=133,slow=5.8,SNR=4.2						
NVAR	Mina Array Bea	75.90	322	P	P	10 18 31.5	+1.1
	comp=Z,0.4nm,0.7s,baz=167,slow=8.4,SNR=4.8						
TORD	Torodi Ar. Bea	77.36	70	P	P	10 18 37.2	-1.6
	comp=Z,2.9nm,0.5s,baz=254,slow=5.6,SNR=26						
TORD				pP	pP	10 19 05.5	-1.1
	comp=Z,2.7nm,0.8s,baz=250,slow=5.1,SNR=5.7						
YKA	Yellowknife Ar	91.62	341	P	P	10 19 49.7	+0.1
	comp=Z,0.8nm,0.6s,baz=134,slow=4.5,SNR=29						
YKA				pP	pP	10 20 18.4	+0.3
	comp=Z,0.6nm,0.8s,baz=134,slow=4.3,SNR=5.0						
YKA				sP	sP	10 20 30.9	+1.3
	comp=Z,0.2nm,0.6s,baz=138,slow=4.3,SNR=2.5						
ASAR	Alice Springs	129.61	207	PKP	PKPdf	10 25 52.0	-0.4
	comp=Z,0.2nm,0.6s,baz=116,slow=2.2,SNR=3.7						
ASAR				pPKP	pPKPdf	10 26 22.8	+0.7
	comp=Z,0.4nm,1.0s,baz=107,slow=1.0,SNR=1.9						
WRA	Warramunga Arr	132.67	210	PKP	PKPdf	10 25 57.8	-0.4
	comp=Z,0.3nm,0.6s,baz=157,slow=1.5,SNR=7.1						
WRA				pPKP	pPKPdf	10 26 28.8	+0.9
	comp=Z,0.3nm,0.9s,baz=155,slow=1.7,SNR=2.1						
MKAR	Makanchi Array	145.88	36	PKPbc	PKPdf	10 26 21.8	+0.5
	comp=Z,0.5nm,0.6s,baz=316,slow=2.5,SNR=8.3						
MKAR				pPKPbc	pPKPdf	10 26 51.3	+0.3
	comp=Z,1.0nm,0.8s,baz=328,slow=4.3,SNR=5.9						

IDC 03 10:10:41.2±41.0, 16°.18S×173°.05W, h0km, mb4.2/3, mb1 4.3/3, mb1mx3.7/49, mbtmp4.2/3, Error ellipse: s-maj=800.5km s-min=175.3km az=79.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	Stephens Creek	43.95	241	P	P	10 18 50.7	+0.5
	0.7nm,0.5s,baz=108,slow=9.8,SNR=4.6						
WRA	Warramunga Arr	50.00	257	P	P	10 19 37.2	-0.5
	0.8nm,0.5s,baz=96,slow=7.0,SNR=41						
ASAR	Alice Springs	50.20	253	P	P	10 19 39.1	-0.1
	7.2nm,0.5s,baz=88,slow=8.4,SNR=206						

IDC 03 10:26:52.3±1.5, 18°.35N×147°.37E, h0km, mb3.5/4, mb1 3.8/4, mb1mx3.4/58, mbtmp3.5/4, Error ellipse: s-maj=278.8km s-min=22.0km az=112.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	40.14	199	P	P	10 34 30.1	-0.1
	0.9nm,0.6s,baz=22,slow=8.7,SNR=31						
ASAR	Alice Springs	43.78	198	P	P	10 34 59.8	-0.2
	0.2nm,0.4s,baz=8.5,slow=7.5,SNR=7.5						
ILAR	Eielson Array	63.26	26	P	P	10 37 22.4	0.0
	0.2nm,0.7s,baz=280,slow=5.0,SNR=3.3						
YKA	Yellowknife Ar	77.56	28	P	P	10 38 49.9	+0.1
	0.2nm,0.5s,baz=286,slow=5.3,SNR=6.1						

JMA 03 10:31:15.4±0.1, 38°.30N×142°.15E, h36km±1km, M3.6, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JIO	Ouri	0.65	284	P	Pn	10 31 28.2	+0.1
JIO				S	Sn	10 31 36.8	-0.3
OFUJ	Ofunato	0.86	334	P	Pn	10 31 31.1	+0.1
JMK	Ichinoseki	0.98	312	P	Pn	10 31 33.1	+0.6
JMM	Marumori	1.16	248	P	Pn	10 31 34.9	-0.1
JMM				S	Sn	10 31 49.0	-0.5
JOU	Okura	1.17	274	P	Pn	10 31 36.2	+1.0
JOU				eS	Sn	10 31 51.3	+1.3
JOM	Ohasama	1.35	331	P	Pn	10 31 38.6	+0.9
JOM				S	Sn	10 31 55.6	+1.3
JFK	Kawauchi	1.37	228	P	Pn	10 31 37.7	-0.4
JFK				S	Sn	10 31 53.3	-1.7
JYK	Kaneyama	1.53	294	P	Pn	10 31 41.3	+1.1
JRG	Rokugo	1.61	313	P	Pn	10 31 43.5	+2.2
JFT	Otama	1.63	242	P	Pn	10 31 42.4	+0.8
JFT				S	Sn	10 32 02.4	+1.0
JYS	Shirataka	1.64	268	P	Pn	10 31 42.8	+1.1
MAT	Matsushiro	3.60	242	P	Pn	10 32 14.2	+5.6
MAT				eS	Sn	10 32 55.2	+5.4

IDC 03 10:34:41.1±8.9, 4°.56S×153°.53E, h139km±63km, mb3.4/3, mb1 3.6/4, mb1mx3.1/57, mbtmp3.9/4, Error ellipse: s-maj=75.2km s-min=52.0km az=94.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	7.95	232	P	Pn	10 36 34.3	+0.5
	3.9nm,0.3s,baz=47,slow=9.1,SNR=12						
PMG				S	Sn	10 38 02.0	-0.3
	0.9nm,0.3s,baz=136,slow=18,SNR=9.0						
WRA	Warramunga Arr	24.15	229	P	P	10 39 45.0	+0.5
	2.7nm,0.5s,baz=54,slow=10,SNR=46						
ASAR	Alice Springs	26.82	223	P	P	10 40 08.7	+0.1
	0.3nm,0.7s,baz=60,slow=8.6,SNR=5.3						
STKA	Stephens Creek	29.39	201	P	P	10 40 30.8	-0.5
	1.1nm,0.6s,baz=28,slow=13,SNR=5.0						
TORD	Torodi Ar. Bea	150.92	289	PKPbc	PKPbc	10 54 17.9	-0.5
	0.8nm,0.6s,baz=55,slow=2.7,SNR=5.3						

ATA 03 10:39:33.3±1.6, 39°.62N×44°.48E, h39km±18km, ML2.7, MW2.8
ISCJB 03 10:39:35.7±0.7, 39°.70N±0°.04×43°.58E±0°.06, h10km, Error ellipse: s-maj=6.5km s-min=5.8km az=159.7
DDA 03 10:39:36.4, 39°.67N×43°.64E, h7km, Ml2.1

ISC 03 10:39:35.3±0.9, 39°.80N±0°.04×43°.63E±0°.04, h10km, n14, σ1.60/17, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DYDN	Diyadin	0.26	170	eP	Pn	10 39 46.1	+0.7
DYDN				eS	Sb	10 39 57.6	+11
DYDN				IAML		10 40 05.7	
	comp=Z,33nm,0.4s						
DYDN	Diyadin	0.26	170	eP	Pn	10 39 46.2	+0.7
DYDN				eS	Sb	10 39 58.0	+11
DYDN				IAML		10 40 05.7	
	comp=Z,33nm,0.4s						
DYDN	Diyadin	0.26	170	i P	Pn	10 39 45.9	+0.5
IGDI	IGDIR	0.35	79	eP	Pb	10 39 44.2	+0.6
IGDI	IGDIR	0.35	79	eP	Pb	10 39 44.1	+0.4
IGDI				eS	Sb	10 39 50.5	+1.2
IGDI				IAML		10 40 06.8	
	comp=Z,28nm,0.5s						
IGDI	IGDIR	0.35	79	i P	Pb	10 39 44.3	+0.6
IGDI				i S	Sb	10 39 50.3	+1.0
DIGO	Kars	0.64	342	eP	Pg	10 39 48.0	+0.2
DIGO				eS	Sn	10 40 00.2	-0.9
DIGO	Kars	0.64	342	eP	Pn	10 39 56.1	+5.4
CLDR	Caldiran	0.69	161	i P	Pg	10 39 46.9	-1.9
CLDR				i S	Sg	10 39 56.5	-1.4
TUTA	Tutak	0.75	238	eP	Pb	10 39 51.0	+0.5
TUTA	Tutak	0.75	238	i P	Pg	10 39 50.1	+0.4
EATA	Eleskirt	0.88	274	eP	Pg	10 39 51.3	-1.0
EKAR	Karacoban	1.33	246	eP	Pn	10 39 57.1	-3.0
EKAR	Karacoban	1.33	246	eP	Pg	10 40 04.7	+3.9

BJI 03 10:42:30.8, 4°.82S×153°.79E, h112km, mb4.8/36, mB5.2/21
ISCJB 03 10:42:32.7±0.7, 4°.43S±0°.03×153°.53E±0°.03, h102km±5km, mb4.8/95, Error ellipse: s-maj=5.2km s-min=4.5km az=179.3
MOS 03 10:42:33.0±1.0, 4°.43S×153°.64E, h107km, mb4.8/20, Error ellipse: s-maj=11.2km s-min=8.6km az=94.6
IDC 03 10:42:34.1±0.5, 4°.46S×153°.53E, h103km±4km, mb4.3/26, mb1 4.5/28, mb1mx4.3/58, mbtmp4.7/28, MS4.0/25, Ms1 4.0/25, ms1mx3.8/41, Error ellipse: s-maj=11.5km s-min=8.1km az=101.0
GCMT 03 10:42:34.3±0.1, 4°.58S×153°.51E, h99km±1km, MW5.3/120, Moment Tensor Solution. s111,c163; s120,c200; Duration: 1.1s Moment tensor: Scale 10^{17}Nm; M_{rr}1.14±.02; $M_{\theta\theta}$-0.40±.02; $M_{\phi\phi}$-0.74±.02; $M_{r\theta}$-0.33±.02; $M_{\theta\phi}$0.60±.02; $M_{\phi r}$0.44±.02; Best double couple: $M_0$1.28800×10^{17} NP1:ϕ_s323.00000°, δ58.00000°, λ90.00000°. NP2:ϕ_s143.00000°, δ32.00000°, λ90.00000°. Principal axes: T 1.2620, Plg77.0000°, Azm232.0000°; N 0.0530, Plg0.0000°, Azm323.0000°; P -1.3140, Plg13.0000°, Azm53.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.
NEIC 03 10:42:34.3±0.7, 4°.40S×153°.44E, h104km±6km, mb4.9/50 Error ellipse: s-maj=6.0km s-min=5.2km az=99.0
DJA 03 10:42:38.5±0.8, 4°S±4°×15°4E±°, h161km±8km, M4.8/30, mb4.8/30, mB5.3/4, Mw(mB)4.8/4

ISC 03 10:42:33.9±0.4, 4°.37S±0°.04×153°.56E±0°.04, h104km±3km, h104km:pP-P, n282, σ1.46/300, mb4.8/96, 9C-2D, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RABL	Rabaul	1.41	277	ePn	Pn	10 42 59.5	+0.2
RABL				eSn	Sn	10 43 19.3	+0.9
MANU	Manus Island	6.60	290	ePn	Pn	10 44 05.0	-3.5
MANU				eSn	Sn	10 45 19.5	-2.8
HNR	Honiara	8.09	129	eP	Pn	10 44 47.0	+18
HNR				eS	Sn	10 45 57.0	-1.6
HNR	Honiara	8.09	129	P	Pn	10 44 29.9	+1.2
	baz=254,slow=4.9,SNR=2.5						
HNR				S	Sn	10 45 57.3	-1.2
	99nm,0.3s,baz=334,slow=21,SNR=11						
HNR	Honiara	8.09	129	ePn	Pn	10 44 29.1	+0.4
HNR				eSn	Sn	10 46 00.1	+1.5
HNR	Honiara	8.09	129	eP	Pn	10 44 29.1	+0.4
HNR				e		10 46 00.1	
PMG	Port Moresby	8.09	231	P	Pn	10 44 29.3	+0.6
	34nm,0.3s,baz=53,slow=8.0,SNR=89						
PMG				S	Sn	10 45 59.0	+0.4
	19nm,0.3s,baz=134,slow=23,SNR=23						
PMG				LR	LR	10 47 51.9	
	comp=Z,2μm,21.1s,baz=54,slow=40						

PMG Port Moresby 8.09 231 ePn Pn 10 44 29.0 +0.2
PMG eSn Sn 10 45 57.2 -1.4
PMG Port Moresby 8.09 231 ceP Pn 10 44 29.1 +0.4
PMG pmax pmax
comp=Z,2μm,1.0s
PATS Pohnpei 12.10 23 P Pn 10 45 21.3 -1.5
baz=12,SNR=4.5
PATS Pohnpei 12.10 23 ePn Pn 10 45 23.6 +0.8
PATS eSn Sn 10 47 32.6 -3.4
JAY Jayapura 12.97 278 P P 10 45 41.3 +0.3
GENI Genyem 13.49 277 P P 10 45 47.3 +0.6
COEN Coen 13.99 226 P Pn 10 45 49.6 +1.8
baz=14,SNR=75
COEN Coen 13.99 226 ePn Pn 10 45 49.6 +1.8
COEN eSn Sn 10 48 20.5 -1.4
MTSU Mount Surprise 16.41 213 P P 10 46 20.7 +1.6
baz=17,SNR=48
CTA Charters Tower 17.17 204 P P 10 46 29.3 +1.8
comp=Z,0.6nm,0.3s,baz=28,slow=14,SNR=14
CTA LR LR 10 52 43.4
comp=Z,1μm,18.6s,baz=20,slow=36
CTAO Charters Tower 17.17 204 eP Pn 10 46 25.4 -2.1
comp=Z,159nm,2.0s
CTAO eSn Sn 10 49 37.3 -1.4
CTAO Charters Tower 17.17 204 eP Pn 10 46 25.5 -2.1
CTAO e 10 49 37.3
CTAO pmax pmax
comp=Z,159nm,2.0s
GUMO Guam 19.82 334 LR LR 10 53 29.5
comp=Z,130nm,20.1s,baz=145,slow=33
TARA Tarawa 20.16 74 eP Pn 10 47 02.9 -0.2
comp=Z,294nm,1.5s
EIDS Eidsvold 21.02 186 P P 10 47 10.3 +0.9
baz=21,SNR=8.1
EIDS Eidsvold 21.02 186 eP P 10 47 09.4 +0.1
comp=Z,75nm,1.4s
QIS Mount Isa 21.06 219 P P 10 47 10.1 +0.2
baz=21,SNR=18
FAKI Fak Fak 21.32 273 P P 10 47 12.2 -0.5
FAKI Fak Fak 21.32 273 eP P 10 47 12.4 -0.3
comp=Z,34nm,1.0s
DZM Mont Dzumac 21.58 146 P P 10 47 16.0 +0.5
comp=Z,11nm,0.6s,baz=186,slow=18,SNR=11
DZM Mont Dzumac 21.58 146 eP P 10 47 19.1 +3.6
comp=Z,58nm,1.1s
DZM epP pP 10 47 39.5 +4.1
comp=Z,118nm,1.2s
DZM eS S 10 51 04.8 -4.0
comp=Z,357nm,21.6s
DZM eLQ LQ 10 51 42.8
comp=Z,1μm,31.9s
DZM eLR LR 10 52 40.6
comp=Z,2μm,29.2s
DZM Mont Dzumac 21.58 146 eP P 10 47 15.9 +0.4
comp=Z,92nm,1.3s
ANA2 Anatahan 21.99 339 eP P 10 47 17.8 -2.0
SARN Sarigan 22.30 340 eP P 10 47 18.8 -4.3
SAUI Saumlaki 22.42 260 eP P 10 47 20.9 -3.4
comp=Z,163nm,0.9s
RMQ Roma 22.47 191 P P 10 47 25.3 +0.6
baz=23,SNR=12
SWI Sorong 22.55 278 P P 10 47 25.5 -0.1
MTN Manton Dam 23.70 248 P P 10 47 36.8 +0.2
baz=24,SNR=5.0
MTN Manton Dam 23.70 248 eP P 10 47 35.5 -1.1
comp=Z,20nm,0.7s
QLP Quilpie 23.83 201 P P 10 47 37.8 +0.2
baz=24,SNR=46
WR9 Warramunga Arr 24.18 229 P P 10 47 41.0 +0.2
baz=24
WB2 Warramunga Arr 24.29 229 eP P 10 47 39.9 -1.9
comp=Z,55nm,0.6s
WR1 Warramunga Arr 24.30 229 eP P 10 47 41.6 -0.3
comp=Z,55nm,0.8s
WR1 ePcP PcP 10 51 19.7 +0.3
WR1 eS S 10 51 52.8 -1.0
WRA Warramunga Arr 24.30 229 P P 10 47 41.6 -0.3
comp=Z,36nm,0.5s,baz=54,slow=10.0,SNR=190
WRA PcP PcP 10 51 19.7 +0.3
comp=Z,3.4nm,0.8s,baz=47,slow=2.2,SNR=5.2
WRA S S 10 51 52.8 -1.0
comp=Z,1.1nm,0.8s,baz=55,slow=14,SNR=4.0
WRA ScP ScP 10 54 48.9 +0.1
comp=Z,0.8nm,0.8s,baz=54,slow=2.7,SNR=3.4
WRA LR LR 10 57 27.9
comp=Z,616nm,19.9s,baz=55,slow=37
WRA Warramunga Arr 24.30 229 iP P 10 47 41.5 -0.5
WRA pmax pmax
comp=Z,40nm,0.5s
ARMA Armidale 25.98 184 P P 10 47 58.2 +1.0
baz=26,SNR=15
ARMA Armidale 25.98 184 eP P 10 47 57.6 +0.4
comp=Z,29nm,0.8s
LBMI Labuha 26.30 277 P P 10 48 01.6 +1.5
WAKE Wake Island 26.80 28 eP P 10 47 59.8 -4.7
comp=Z,181nm,0.6s
KNRA Kununurra 26.84 243 P P 10 48 04.6 -0.4
baz=27,SNR=11
AS17 Alice Springs 26.92 223 P P 10 48 05.2 -0.5
baz=27
AS01 Alice Springs 26.95 223 eP P 10 48 04.1 -1.8
AS31 Alice Springs 26.98 223 eP P 10 48 05.8 -0.4
comp=Z,6.0nm,0.8s
ASAR Alice Springs 26.98 223 P P 10 48 05.7 -0.5
comp=Z,4.7nm,0.7s,baz=57,slow=8.7,SNR=57
ASAR PcP PcP 10 51 26.0 +0.4
comp=Z,2.3nm,0.8s,baz=54,slow=2.2,SNR=5.5
ASAR S S 10 52 33.9 -2.3
comp=Z,2.3nm,1.1s,baz=29,slow=21,SNR=4.6
ASAR LR LR 11 00 15.3
comp=Z,299nm,18.4s,baz=58,slow=40
MSVF Nonsavu 27.41 121 eP P 10 48 07.8 -2.3
comp=Z,77nm,1.5s
MSVF Nonsavu 27.41 121 eP P 10 48 07.8 -2.3
MSVF pmax pmax
comp=Z,77nm,1.5s
LHI Lord Howe Isla 27.50 170 eP P 10 48 09.2 -1.5
comp=Z,132nm,1.1s
CMSA Cobar Meteorol 28.02 194 P P 10 48 15.1 -0.3
baz=28,SNR=20
STKA Stephens Creek 29.59 201 P P 10 48 28.6 -0.6
comp=Z,13nm,0.6s,baz=34,slow=12,SNR=41
STKA LR LR 11 00 34.5
comp=Z,606nm,18.2s,baz=18,slow=37
STKA Stephens Creek 29.59 201 P P 10 48 28.6 -0.6
baz=30,SNR=30
STKA Stephens Creek 29.59 201 eP P 10 48 28.6 -0.6
comp=Z,3.7nm,0.7s
STKA Stephens Creek 29.59 201 eP P 10 48 28.6 -0.6
STKA pmax pmax
comp=Z,4.0nm,0.7s
BATI Baumata 30.21 257 LR LR 11 03 08.5
comp=Z,773nm,19.5s,baz=92,slow=41
FITZ Fitzroy Crossi 30.53 241 P P 10 48 37.2 -0.5
comp=Z,16nm,0.7s
LUWI Luwuk 30.93 275 eP P 10 48 38.4 -2.9
comp=Z,36nm,0.7s
CNB Canberra Magne 31.04 187 P P 10 48 42.5 +0.4
baz=31,SNR=9.2
CAN Canberra 31.09 187 eP P 10 48 42.9 +0.4
comp=Z,10nm,0.7s
CAN Canberra 31.09 187 eP P 10 48 42.9 +0.4
CAN pmax pmax
comp=Z,11nm,0.7s
WRKA Warakurna 31.81 227 P P 10 48 47.9 -1.0
baz=32,SNR=48
HTT Hallett 31.98 204 P P 10 48 50.0 -0.3
baz=32,SNR=35
APSI Ampana 32.06 275 P P 10 48 52.0 +0.8
BBOO Buckleboo 32.69 208 P P 10 48 56.2 -0.3
baz=33,SNR=9.7
BBOO Buckleboo 32.69 208 eP P 10 48 55.1 -1.4
comp=Z,24nm,0.8s
MILA Mila 32.78 187 P P 10 48 57.7 +0.4
baz=33,SNR=7.1
TOO Toolangi 33.87 192 P P 10 49 07.5 +0.8
baz=34,SNR=6.4
MPSI Mapaga 33.96 277 P P 10 49 06.8 -1.0
ARPS Mount Arapiles 34.00 197 P P 10 49 08.6 +0.8
baz=34,SNR=12
WBSI Waikabubak, Su 34.30 259 P P 10 49 09.9 -0.9
KNTN Kanton 34.68 89 eP P 10 49 14.1 +0.1
comp=Z,62nm,0.9s
AFI Afiamalu 35.46 108 LR LR 11 01 11.6
comp=Z,274nm,18.2s,baz=280,slow=32
FORT Forrest 35.60 220 P P 10 49 21.6 -0.1
baz=36,SNR=52
FORT Forrest 35.60 220 eP P 10 49 21.2 -0.5
comp=Z,98nm,0.7s
MYLDM Lahad Datu 36.28 285 eP P 10 49 26.7 -1.0
comp=Z,22nm,1.1s
MBWA Marble Bar 36.84 240 eP P 10 49 32.2 -0.2
comp=Z,42nm,1.1s
MOO Moorlands 38.34 188 P P 10 49 45.2 +0.5
baz=39,SNR=4.3
TAU Tasmania Unive 38.78 187 eP P 10 49 48.6 +0.2
comp=Z,157nm,1.6s
TAU Tasmania Unive 38.78 187 eP P 10 49 48.6 +0.2
TAU pmax pmax
comp=Z,157nm,1.6s
JOW Kunigami 39.50 323 LR LR 11 04 39.9
comp=Z,180nm,19.7s,baz=218,slow=34
JOW Kunigami 39.50 323 eP P 10 49 54.6 0.0
comp=Z,492nm,1.9s
MEEK Meekatharra 40.07 233 P P 10 49 58.7 -0.8
baz=40,SNR=29
KMBL Kambalda 40.09 224 P P 10 49 59.0 -0.5
baz=40,SNR=23
SBUM Sibu 41.86 279 eP P 10 50 13.8 -0.5
comp=Z,94nm,2.0s
RPZ Rata Peaks 42.13 161 P P 10 50 15.9 -0.1
comp=Z,13nm,0.6s,baz=298,slow=5.1,SNR=11
RPZ LR LR 11 04 05.1
comp=Z,446nm,21.7s,baz=330,slow=31
JNU Nakatsue 43.03 332 P P 10 50 24.5 +1.0
comp=Z,23nm,0.8s,baz=164,slow=2.5,SNR=5.2
JNU Nakatsue 43.03 332 eP P 10 50 23.5 0.0
comp=Z,151nm,1.6s
MJAR Matsushiro Arr 43.15 342 LR LR 11 06 35.8
comp=Z,42nm,19.4s,baz=200,slow=33
KLBR Kellerberrin 43.16 227 P P 10 50 23.5 -1.0
baz=43,SNR=16
MORW Morawa 43.21 231 P P 10 50 24.1 -0.8
baz=43,SNR=6.9
BLDU Ballidu 43.43 229 P P 10 50 25.6 -1.2
baz=44,SNR=15
KSM Kuching 43.61 277 eP P 10 50 28.2 -0.2
comp=Z,108nm,1.9s
NWAO Narrogin (SRO) 44.23 226 LR LR 11 08 52.2
comp=Z,211nm,20.2s,baz=282,slow=36
RKGY Rocky Gully 45.32 224 P P 10 50 42.2 +0.5
baz=46,SNR=5.7
KSRS Korea Array 47.96 332 P P 10 51 03.8 +1.6
comp=Z,4.3nm,0.8s,baz=147,slow=8.5,SNR=8.2
KSRS LR LR 11 10 02.5
comp=Z,48nm,19.8s,baz=166,slow=34
KS15 Wonju Array Si 47.97 332 eP P 10 51 03.3 +1.0
RAR Rarotonga 48.26 115 LR LR 11 09 09.8
comp=Z,59nm,19.0s,baz=282,slow=33
NJ2 Nanjing 48.99 320 eP P 10 51 09.7 -0.5
NJ2 pmax pmax
comp=Z,14nm,0.6s
MDSI Maura Dua 49.23 268 P P 10 51 10.6 -1.8
RGRI Rengat 51.33 273 P P 10 51 33.0 +4.8
PDSI Padang 53.14 272 P P 10 51 40.3 -1.4
IPM Ipoh 53.22 279 eP P 10 51 39.4 -2.8
comp=Z,23nm,1.3s
SKNT Sakolnakorn 53.36 295 P P 10 51 45.8 +2.6
comp=Z,13nm,0.9s
KULM Kulim 53.71 280 eP P 10 51 45.5 -0.3
comp=Z,22nm,1.0s
SKLT Songkhla 54.06 282 P P 10 51 50.1 +1.8
comp=Z,18nm,0.9s,comp=Z,850nm
MNSI Mandailing Nat 54.18 274 P P 10 51 48.4 -0.8
SISI Saibi 54.48 271 P P 10 51 51.1 -0.3
GYA Guiyang 54.74 307⇑iP P 10 51 55.4 +2.2
GYA pP pP 10 52 22.0 +3.7
GYA sP sP 10 52 34.6 +4.8
GYA PP PP 10 54 00.2 +3.2
GYA S S 10 59 25.5 -0.7
GYA sS sS 11 00 12.0 +2.8
GYA pmax pmax
comp=Z,20nm,0.9s
CHAI Chaiyaphum 54.85 293 P P 10 51 57.5 +3.5
comp=Z,3.3nm,0.9s
NAYO Nakonayok 55.02 291 P P 10 51 59.3 +4.1
comp=Z,7.9nm,1.6s,comp=Z,764nm
PSI Prapat 55.06 276 P P 10 51 54.7 -1.0
comp=Z,5.4nm,0.7s,baz=65,slow=11,SNR=5.9
PSI Prapat 55.06 276 eP P 10 51 56.6 +0.9
comp=Z,9.5nm,1.0s
PSI Prapat 55.06 276 eP P 10 51 56.6 +0.9
PSI pmax pmax
comp=Z,10.0nm,1.0s
TRTT Trang 55.09 283 P P 10 51 57.1 +1.3
comp=Z,8.9nm,1.0s
PBKT Sadao Pong 55.98 293 P P 10 52 03.8 +1.7
comp=Z,17nm,1.0s,comp=Z,1μm
GSI Gunungsitoli 56.23 274 P P 10 52 02.7 -1.2
GSI Gunungsitoli 56.23 274 eP P 10 52 02.8 -1.1
comp=Z,170nm,2.0s
PKDT Phuket 56.42 282 P P 10 52 06.8 +1.5
comp=Z,13nm,0.7s,comp=Z,9μm
KLR Kul'dur 56.65 343 P P 10 52 07.1 +0.9
comp=Z,0.1nm,0.6s,baz=161,slow=3.5,SNR=6.5
KLR Kul'dur 56.65 343 iP P 10 52 08.4 +2.2
PHIT Phitsanulok 56.67 294 P P 10 52 09.6 +2.6
comp=Z,10.0nm,0.8s,comp=Z,510nm
NANT Nan 56.90 296 P P 10 52 10.0 +1.4
comp=Z,5.1nm,0.9s,comp=Z,178nm
SRDT SRDT 57.09 290 P P 10 52 12.5 +2.6
comp=Z,16nm,1.3s
PPT2 Papeete2 57.13 108 eS S 10 59 58.2 +0.1
comp=Z,163nm,23.8s
PPT2 eLR LR 11 09 06.1
comp=Z,633nm,36.0s
PETK Petropavlovsk- 57.37 3 P P 10 52 13.3 +2.0
comp=Z,7.3nm,0.8s,baz=151,slow=6.4,SNR=16
PETK LR LR 11 13 08.0
comp=Z,95nm,21.5s,baz=180,slow=32
PEA1 Petropavlovsk- 57.37 3 eP P 10 52 13.3 +2.0
KMI Kunming 57.38 303 P P 10 52 14.2 +2.1
KMI pmax pmax
comp=Z,13nm,0.9s
PAYA Payao 57.83 296 P P 10 52 17.3 +2.2
comp=Z,4.5nm,0.8s
CM01 Chiang Mai Arr 58.36 295 eP P 10 52 19.8 +0.9
CM31 Chiang Mai Arr 58.38 295 eP P 10 52 19.9 +0.8
CMAR Chiang Mai Arr 58.38 295 P P 10 52 20.3 +1.3
comp=Z,5.9nm,0.8s,baz=111,slow=5.2,SNR=28
CMAR pP pP 10 52 44.5 +0.2
comp=Z,3.6nm,1.0s,baz=114,slow=5.5,SNR=2.4
CMAR Chiang Mai Arr 58.38 295 ceP P 10 52 20.8 +1.8
CMAR pmax pmax
comp=Z,6.0nm,0.8s
CMMT Chiang Mai 58.49 295 P P 10 52 22.8 +3.1
comp=Z,19nm,1.6s,comp=Z,519nm
CHTO Chiang Mai 58.49 295 P P 10 52 23.9 +4.1
comp=Z,37nm,1.0s
CHTO Chiang Mai 58.49 295 eP P 10 52 17.6 -2.1
comp=Z,8.4nm,1.1s
CHTO Chiang Mai 58.49 295 eP P 10 52 17.6 -2.1
CHTO pmax pmax
comp=Z,8.0nm,1.1s
CMAI Chiengmai2 58.74 296 P P 10 52 24.1 +2.4
comp=Z,81nm,1.6s,comp=Z,4μm
CD2 Chengdu 59.04 310 P P 10 52 24.0 +0.6
CD2 pP pP 10 52 50.6 +1.8
CD2 sP sP 10 53 03.0 +2.8
CD2 S S 11 00 22.8 +0.4
CD2 pmax pmax
comp=Z,30nm,0.4s
CD2 pmax pmax
comp=Z,220nm,4.8s
HHC Hu-ho-hao-te 59.14 324 eP P 10 52 25.4 +1.4
HHC pmax pmax
comp=Z,11nm,1.2s
HHC pmax pmax
comp=Z,190nm,6.2s
MA2 Magadan 63.78 358 P P 10 52 55.5 +0.8
comp=Z,5.8nm,0.7s,baz=163,slow=6.8,SNR=7.3
MA2 Magadan 63.78 358 ceP P 10 52 55.2 +0.5
GTA Gaotai 65.86 317 eP P 10 53 09.9 +1.1
GTA pP PcP 10 53 37.0 -2.0
GTA sP sP 10 53 49.2 +3.2
GTA pmax pmax
comp=Z,4.0nm,0.8s
TAOE Nuku Hiva Isla 65.93 98 eS S 11 01 46.3 -3.2
comp=Z,278nm,25.6s
TAOE Nuku Hiva Isla 65.93 98 eLR LR 11 12 39.1
comp=Z,576nm,35.6s
ULN Ulaanbaatar 66.03 328 ceP P 10 53 12.1 +2.3
ULN pmax pmax
comp=Z,4.0nm,0.8s
SONA0 Songino Array 66.37 327 eP P 10 53 12.8 +0.9
SONM Songino Array 66.37 327 P P 10 53 12.8 +0.9
comp=Z,1.7nm,0.7s,baz=140,slow=6.0,SNR=7.4
SONM LR LR 11 21 26.2
comp=Z,79nm,20.8s,baz=156,slow=35
SONA1 Songino Array 66.37 327 eP P 10 53 09.8 -2.1
SEY Seymchan 67.12 359 P P 10 53 16.6 +0.5
comp=Z,1.3nm,0.3s,baz=192,slow=5.4,SNR=11
SEY pP pP 10 53 42.8 +0.7
comp=Z,2.3nm,0.8s,baz=287,slow=0.6,SNR=4.2
SEY Seymchan 67.12 359 ceP P 10 53 17.2 +1.1
ZAK Zakamensk 69.52 328 eP P 10 53 32.2 +0.7
ZAK pmax pmax
comp=Z,4.0nm,1.1s
ODAN Odare 70.98 300 eP P 10 53 42.2 +1.1
RKT Rikitea 71.25 113 eLR LR 11 15 42.5
comp=Z,302nm,34.2s
JIRN Jiri 72.22 301 eP P 10 53 49.8 +1.1
comp=Z,39nm,0.8s
GUN Gumba 72.55 301 eP P 10 53 51.7 +1.1
comp=Z,82nm,0.9s
GAMB Gambell 72.76 15 eP P 10 53 52.2 +1.6
comp=Z,7.1nm,1.1s
BILL Bilibino 72.79 5⇓iP P 10 53 51.9 +1.1
BILL e 10 56 44.1
BILL ePPP PPP 10 58 17.9
BILL pmax pmax
comp=Z,4.0nm,0.8s
BILL pmax pmax
comp=Z,113nm,18.0s
PKI Pulchoki 72.87 300 eP P 10 53 53.0 +0.5
PKIN Phulchoki 72.88 300 eP P 10 53 53.1 +0.6
KKN Kakani 73.03 301 eP P 10 53 54.1 +0.8
comp=Z,23nm,0.5s
DMN Daman 73.14 300 eP P 10 53 55.1 +1.1
VNDA Vanda 73.24 178 P P 10 53 53.3 +0.1
comp=Z,4.5nm,0.6s,baz=92,slow=3.2,SNR=12
VNDA Vanda 73.24 178 eP P 10 53 53.4 +0.1
comp=Z,8.5nm,0.8s
VNDA Vanda 73.24 178 eP P 10 53 53.4 +0.1
VNDA pmax pmax
comp=Z,9.0nm,0.8s
PALK Pallekele 73.62 279 eP P 10 53 58.2 +1.4
comp=Z,9.4nm,0.8s
PALK Pallekele 73.62 279 iP P 10 53 59.9 +3.1
GKN Gorkha 73.64 301 eP P 10 53 57.5 +0.7
DANN Dangsing 74.47 301 eP P 10 54 02.4 +0.6
KOLN Koldanda 74.47 300 eP P 10 54 02.3 +0.6
comp=Z,32nm,0.9s
MIR Mirnyy 74.60 201⇓iP P 10 54 03.0 +1.6
MIR pmax pmax
comp=Z,81nm,1.5s
PYUN Piuthan 75.07 300 eP P 10 54 05.6 +0.4
comp=Z,62nm,0.9s
WMQ Urumqi 75.94 317 P P 10 54 12.2 +2.6
HYB Hyderabad 77.07 289 iP P 10 54 15.0 -1.5
TIXI Tiksi 77.57 352 ceP P 10 54 18.3 +0.2
TIXI pmax pmax
comp=Z,4.0nm,1.7s
DGZ Jazzator, Alta 78.20 323 iP P 10 54 23.1 +0.8
DGZ pmax pmax
comp=Z,4.0nm,0.9s
CAST Castle Rocks 78.82 22 eP P 10 54 25.8 +0.6
comp=Z,39nm,2.0s
SML Sawmill 79.42 24 eP P 10 54 29.6 +1.1
comp=Z,101nm,1.9s
SML Sawmill 79.42 24 eP P 10 54 29.6 +1.1
SML pmax pmax
comp=Z,101nm,1.9s
IM3 Indian Mountai 79.72 19 eP P 10 54 30.9 +0.9
RND Reindeer 80.03 23 eP P 10 54 33.7 +1.8
comp=Z,7.6nm,0.9s
MCK McKinley 80.17 22 eP P 10 54 33.0 +0.5
comp=Z,16nm,1.2s
MCK McKinley 80.17 22 eP P 10 54 33.0 +0.5
MCK pmax pmax
comp=Z,16nm,1.2s
MLY Manley 80.21 21 eP P 10 54 33.5 +0.8
comp=Z,9.7nm,1.2s
DHY Denali Highway 80.44 23 eP P 10 54 37.5 +3.3
comp=Z,45nm,1.9s
MK01 Makanchi Array 80.49 319 eP P 10 54 35.1 +0.6
MK31 Makanchi Array 80.50 319 eP P 10 54 34.9 +0.2
MK31 Makanchi Array 80.50 319 eP P 10 54 34.9 +0.2
MK32 Makanchi Array 80.50 319 eP P 10 54 35.3 +0.6
MKAR Makanchi Array 80.50 319 P P 10 54 35.3 +0.6
comp=Z,3.7nm,0.7s,baz=100,slow=5.5,SNR=24
MKAR Makanchi Array 80.50 319 eP P 10 54 35.6 +0.9
comp=Z,34nm,1.0s
MKAR Makanchi Array 80.50 319 iP P 10 54 35.5 +0.9
MKAR pmax pmax
comp=Z,4.0nm,0.7s
MAKZ Makanchi 80.71 319 eP P 10 54 36.4 +0.6
comp=Z,8.1nm,0.9s
MAKZ Makanchi 80.71 319 eP P 10 54 36.4 +0.6
MAKZ pmax pmax
comp=Z,8.0nm,0.9s
ZAA0 Zalesovo Array 81.22 326 eP P 10 54 37.9 -0.3
comp=Z,4.1nm,0.8s
ZALV Zalesovo Beam 81.22 326 P P 10 54 38.1 -0.1
comp=Z,4.6nm,0.7s,baz=114,slow=5.9,SNR=13
ZALV LR LR 11 32 06.8
comp=Z,24nm,18.7s,baz=70,slow=37
ZALV Zalesovo Beam 81.22 326 eP P 10 54 37.6 -0.7
ZALV Zalesovo Beam 81.22 326 eP P 10 54 37.6 -0.7
ZAA1 Zalesovo Array 81.22 326 eP P 10 54 38.1 -0.2
ILAR Eielson Array 81.47 22 P P 10 54 39.1 -0.2
comp=Z,2.5nm,0.9s,baz=240,slow=4.8,SNR=27
ILAR pP pP 10 55 05.7 -0.5
comp=Z,1.6nm,0.6s,baz=241,slow=5.9,SNR=4.0
ILAR LR LR 11 32 17.7
comp=Z,46nm,18.4s,baz=232,slow=37
ILB Eielson Array 81.47 22 eP P 10 54 39.0 -0.4
IL1 Eielson Array 81.47 22 eP P 10 54 38.6 -0.8
NVS Novosibirsk 82.39 327 eP P 10 54 41.8 -2.5
NVS pmax pmax
comp=N,5.0nm,1.0s
NVS pmax pmax
comp=E,7.0nm,1.0s
NVS pmax pmax
comp=Z,9.0nm,1.0s
TOLK Toolik Lake Re 82.57 18 eP P 10 54 46.1 +1.0
comp=Z,4.1nm,0.8s
KDJ Kajisay 82.87 313 eP P 10 54 48.8 +1.3
comp=Z,16nm,0.8s
KDJ Kajisay 82.87 313 eP P 10 54 48.8 +1.3
KDJ pmax pmax
comp=Z,16nm,0.8s
KSH Kashi 83.23 310 P P 10 54 47.6 -1.7
KSH sP sP 10 55 28.8 +1.6
KSH S S 11 05 02.3 +0.8
KSH pmax pmax
comp=Z,7.0nm,0.4s
KSH pmax pmax
comp=Z,140nm,3.6s
KSH LR LR
comp=Z,130nm,5.6s
KSH LR LR
comp=Z,140nm,5.4s
KSH LR LR
comp=Z,220nm,7.4s
NRN Naryn 83.59 312 eP P 10 54 52.1 +0.7
comp=Z,9.9nm,1.4s
KURK Kurchatov 83.90 322 eP P 10 54 52.0 -0.2
comp=Z,8.1nm,0.9s
KURK Kurchatov 83.90 322 iP P 10 54 52.7 +0.5
KURK pmax pmax
comp=Z,10.0nm,0.9s
KURBB Kurchatov Arra 83.93 322 P P 10 54 52.3 -0.1
comp=Z,3.9nm,0.8s,baz=110,slow=4.3,SNR=19
TKM2 Tokmak 2 84.18 314 P P 10 54 55.2 +1.1
SNR=14
KZA Kyzart 84.27 313 P P 10 54 56.9 +2.0
SNR=26
NIL Nilore 84.36 304 eP P 10 54 56.1 +1.0
comp=Z,27nm,0.8s
NIL Nilore 84.36 304 eP P 10 54 56.1 +1.0
NIL pmax pmax
comp=Z,27nm,0.8s
KBK Karagaybulak 84.60 313 P P 10 54 57.8 +1.5
SNR=7.3
CHMS Chumysh 84.80 314 P P 10 54 58.4 +1.3
SNR=7.9
AAK Ala-Archa 84.92 313 P P 10 54 58.0 +0.2
comp=Z,13nm,0.8s,baz=109,slow=4.9,SNR=22
AAK pP pP 10 55 24.3 -0.5

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,5.0nm,0.8s,baz=137,slow=2.5,SNR=2.2						
AAK	Ala-Archa	84.92	313	P	P	10 54 59.2	+1.3
	SNR=14						
AAK	Ala-Archa	84.92	313	eP	P	10 54 58.6	+0.8
AAK				epP	pP	10 55 24.3	-0.5
AAK	Ala-Archa	84.92	313	eP	P	10 54 58.6	+0.8
AAK				e*PP	pP	10 55 24.3	-0.5
USP	Ospenovka	85.03	314	P	P	10 54 59.2	+1.0
	SNR=8.3						
AML	Almayashu	85.42	313	P	P	10 55 02.2	+1.6
	SNR=20						
EKS2	Erkin-Say	85.45	313	P	P	10 55 03.3	+2.9
	SNR=11						
QSPA	South Pole Qui	85.59	180	P	P	10 55 00.1	-0.5
	comp=Z,4.0nm,0.5s,baz=2.9,slow=0.6,SNR=14						
QSPA	South Pole Qui	85.59	180	eP	P	10 55 00.2	-0.4
MAW	Mawson	86.26	203	P	P	10 55 03.3	-0.4
	comp=Z,11nm,0.7s,baz=98,slow=8.0,SNR=22						
MAW				LR	LR	11 31 13.1	
	comp=Z,136nm,18.6s,baz=64,slow=34						
MAW	Mawson	86.26	203	P	P	10 55 03.5	-0.1
	baz=86,SNR=15						
MAW	Mawson	86.26	203	eP	P	10 55 03.6	-0.1
	comp=Z,3.0nm,0.8s						
MAW	Mawson	86.26	203	eP	P	10 55 03.6	-0.1
MAW				pmax	pmax		
	comp=Z,3.0nm,0.8s						
KK05	Karatay Array	87.88	313	eP	P	10 55 11.9	-0.2
KK31	Karatay Array	87.89	313	eP	P	10 55 11.8	-0.3
KK31	Karatay Array	87.89	313	eP	P	10 55 11.8	-0.3
KKAR	Karatay Array	87.89	313	eP	P	10 55 11.8	-0.4
KKAR	Karatay Array	87.89	313	eP	P	10 55 11.8	-0.4
KK01	Karatay Array	87.89	313	eP	P	10 55 12.3	+0.1
KK04	Karatay Array	87.89	313	eP	P	10 55 12.0	-0.1
KK03	Karatay Array	87.89	313	eP	P	10 55 11.8	-0.3
KK09	Karatay Array	87.90	313	eP	P	10 55 12.3	+0.1
KK08	Karatay Array	87.91	313	eP	P	10 55 12.5	+0.3
YBH	Yreka Blue Hor	88.20	48	LR	LR	11 26 47.1	
	comp=Z,137nm,21.8s,baz=271,slow=30						
GATR	Gnd/Air Tx Cnt	89.10	55	eP	P	10 55 21.2	+3.1
BVAR	Borovoye Array	89.35	323	P	P	10 55 18.5	-0.3
	comp=Z,7.7nm,0.9s,baz=106,slow=5.3,SNR=18						
BVAR				pP	pP	10 55 44.0	-2.0
	comp=Z,5.1nm,0.8s,baz=101,slow=6.2,SNR=5.8						
BVAR				LR	LR	11 35 05.6	
	comp=Z,58nm,21.8s,baz=96,slow=35						
BRVK	Borovoye	89.42	323	eP	P	10 55 18.9	-0.2
	comp=Z,5.7nm,0.9s						
BRVK	Borovoye	89.42	323	i P	P	10 55 18.7	-0.4
BRVK				pmax	pmax		
	comp=Z,6.0nm,0.9s						
NV01	Mina Array Sit	91.22	52	eP	P	10 55 29.1	+1.0
NVAR	Mina Array Bea	91.22	52	P	P	10 55 28.7	+0.6
	comp=Z,0.6nm,0.8s,baz=248,slow=6.0,SNR=5.4						
NVAR				pP	pP	10 55 54.7	-0.6
	comp=Z,1.0nm,0.8s,baz=249,slow=6.3,SNR=3.1						
NVAR				LR	LR	11 32 42.4	
	comp=Z,148nm,18.4s,baz=90,slow=33						
SYO	Syowa Base	94.33	199⇑	eP	P	10 55 39.7	-1.7
YKA	Yellowknife Ar	94.69	28	P	P	10 55 44.2	+1.0
	comp=Z,0.7nm,0.7s,baz=269,slow=4.7,SNR=16						
YKA				pP	pP	10 56 11.5	+1.0
	comp=Z,1.3nm,1.0s,baz=272,slow=4.6,SNR=3.7						
YKA				PKKP	PKKPdf	11 12 38.9	-3.3
	comp=Z,0.2nm,0.6s,baz=83,slow=2.6,SNR=9.0						
YKA	Yellowknife Ar	94.69	28c	eP	P	10 55 48.9	+5.7
YKA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
AB06	Akbulak array	95.63	319	eP	P	10 55 47.6	-0.2
AB31	Akbulak array	95.64	319	eP	P	10 55 47.7	-0.2
AB31	Akbulak array	95.64	319	eP	P	10 55 47.7	-0.2
ABKAR	Akbulak array	95.64	319	eP	P	10 55 47.7	-0.2
AKTO	Aktyubinsk	96.88	320	LR	LR	11 39 16.2	
	comp=Z,43nm,21.1s,baz=83,slow=35						
GEYT	Alibeck	96.96	308	P	P	10 55 54.6	+0.4
	comp=Z,1.3nm,0.5s,baz=119,slow=1.8,SNR=2.5						
GEYT				LR	LR	11 43 42.6	
	comp=Z,34nm,18.7s,baz=35,slow=38						
PD31	Pinedale Array	98.00	48	eP	P	10 55 59.0	-0.1
PDAR	Pinedale Array	98.00	48	LR	LR	11 36 27.9	
	comp=Z,85nm,18.4s,baz=275,slow=33						
KLMR	Klimovskoe	105.36	332	ePdif	Pdif	10 56 26.9	-4.1
KLMR				AMP		10 56 28.8	
	comp=Z,6.0nm,1.3s						
KLMR	Klimovskoe	105.36	332	eP	Pdif	10 56 26.9	-4.1
KLMR				pmax	pmax		
	comp=Z,6.0nm,1.3s						
OBN	Obninsk	108.78	327	i P	Pdif	10 56 49.8	+3.5
OBN				e		11 01 21.1	
OBN				ePPP	PPP	11 03 35.7	
OBN				pmax	pmax		
	comp=Z,6.0nm,0.9s						
BR101	Keskin Array S	115.58	312	ePKPdf	PKPdf	11 01 04.0	-0.5
BRTR	Keskin Array B	115.58	312	PKP	PKPdf	11 01 04.0	-0.5
	comp=Z,0.4nm,0.3s,baz=51,slow=2.6,SNR=1.7						
KMBO	Kilima Mbogo	116.13	267	i PKIKP	PKPdf	11 01 03.4	-3.0
KMBO				pmax	pmax		
	comp=Z,1.0nm,0.4s						
NB200	NORSAR Array S	116.76	341	ePKPdf	PKPdf	11 01 05.8	-0.2
NOA	NORSAR Array B	116.76	341	PKP	PKPdf	11 01 05.8	-0.2
	comp=Z,0.8nm,0.7s,baz=47,slow=1.5,SNR=3.2						
PLCA	Paso Flores	119.66	143	PKP	PKPdf	11 01 11.9	-0.4
	comp=Z,1.3nm,0.9s,baz=104,slow=4.2,SNR=3.1						
BOSA	Boshof	120.49	233	PKP	PKPdf	11 01 14.4	+0.1
	comp=Z,2.7nm,0.9s,baz=149,slow=2.9,SNR=3.2						
MORC	Moravsky Berou	121.52	328	ePdif	Pdif	10 57 42.8	-0.4
MORC				ePKPdf	PKPdf	11 01 15.3	-0.2
MORC	Moravsky Berou	121.52	328	ePKIKP	PKPdf	11 01 15.3	-0.2
GERES	GERESS Array B	124.08	329	PKP	PKPdf	11 01 20.6	+0.1
	comp=Z,0.6nm,0.5s,baz=46,slow=3.9,SNR=4.2						
SDV	Santo Domingo	135.89	82	PKP	PKPdf	11 01 44.8	+0.8
	comp=Z,2.4nm,0.5s,baz=265,slow=14,SNR=3.7						
TAM	Tamanrasset	144.08	304	ePKPdf	PKPbc	11 01 57.6	+0.8
TAM	Tamanrasset	144.08	304	ePKIKP	PKPbc	11 01 57.6	+0.8
TOA0	Torodi Ar. Sit	150.89	289	ePKPbc	PKPbc	11 02 15.0	-0.5
TORD	Torodi Ar. Bea	150.89	289	PKPbc	PKPbc	11 02 15.0	-0.5
	comp=Z,11nm,0.7s,baz=82,slow=2.0,SNR=53						
TORD				pPKPbc	pPKPbc	11 02 43.6	-0.2
	comp=Z,12nm,0.8s,baz=70,slow=2.3,SNR=8.4						
TOA1	Torodi Ar. Sit	150.89	289	ePKPbc	PKPbc	11 02 15.0	-0.5
TOA1				epPKPdf	pPKPbc	11 02 43.6	-0.2
DBIC	Dimbokro	158.40	277	PKPab	PKPab	11 02 56.7	+1.5
	comp=Z,3.0nm,0.6s,baz=37,slow=4.9,SNR=5.7						

*ISK **03** 10:52:24.9, 40.°73N×39.°55E, h5km, MD2.8/4*
*ISCJB **03** 10:52:25.4±0.6, 40.°71N±0.°03×39.°52E±0.°04, h0km, Error ellipse: s-maj=4.8km s-min=4.0km az=35.0*
*CSEM **03** 10:52:25.6±0.1, 40.°71N×39.°52E, h1km, MD2.8, Error ellipse: s-maj=2.8km s-min=2.5km az=129.0, Suspected Mining explosion.*
*DDA **03** 10:52:25.7, 40.°68N×39.°54E, h7km, Md2.4, Suspected Mining explosion.*
*ATA **03** 10:52:26.0±1.2, 40.°64N×39.°53E, h7km±55km, ML2.5, MW2.6*
ISC 03 10:52:25.9±1.0, **40.°71N**±0.°02×**39.°53E**±0.°03, **h0**km, **n28**, σ**0.s49**/40, **Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GUMT	Gumushane	0.25	188	PG	Pg	10 52 30.5	-0.1
GUMT	Gumushane	0.25	188	ePg	Pg	10 52 30.5	-0.1
MACK	Trabzon	0.30	38	i P	Pg	10 52 32.2	+0.5
MACK				i S	Sg	10 52 36.9	+1.3
MACK	Trabzon	0.30	38	P	Pg	10 52 32.2	+0.5
MACK				S	Sg	10 52 36.9	+1.3
KTUT	Trabzon	0.34	33	PG	Pg	10 52 31.8	-0.6
KTUT	Trabzon	0.34	33	ePg	Pg	10 52 31.8	-0.6
BAYT	Ayd˜–ntepe-Bay	0.56	123	PG	Pg	10 52 36.4	-0.3
BAYT				SG	Sg	10 52 44.5	+0.5
BAYT	Ayd˜–ntepe-Bay	0.56	123	ePg	Pg	10 52 36.4	-0.3
BAYT				eSg	Sg	10 52 44.5	+0.5
KELT	Kelkit	0.59	200	eP	Pg	10 52 37.2	0.0
KELT				eS	Sg	10 52 45.5	+0.6
KELT				IAML		10 52 46.8	
	comp=Z,20nm,0.4s						
KELT	Kelkit	0.59	200	i P	Pg	10 52 37.2	0.0
KELT				i S	Sg	10 52 45.5	+0.6
KELT	Kelkit	0.59	200	P	Pg	10 52 37.2	0.0
KELT				S	Sg	10 52 45.5	+0.6
ESPY	Espiye-Giresun	0.64	290	PG	Pg	10 52 37.8	-0.4
ESPY	Espiye-Giresun	0.64	290	ePg	Pg	10 52 37.8	-0.4
BAYB	BAYBURT	0.71	128	eP	Pg	10 52 39.6	0.0
BAYB				eS	Sg	10 52 49.3	+0.4
BAYB				IAML		10 52 50.2	
	comp=Z,15nm,0.2s						
BAYB	BAYBURT	0.71	128	i P	Pg	10 52 39.6	0.0
BAYB				i S	Sg	10 52 49.1	+0.3
BAYB	BAYBURT	0.71	128	P	Pg	10 52 39.6	0.0
BAYB				S	Sg	10 52 49.1	+0.3
KOPT	Kop Dagi	1.01	132	eP	Pg	10 52 45.5	+0.2
KOPT				eS	Sb	10 53 00.6	+0.2
KOPT				IAML		10 53 06.6	
	comp=Z,10nm,0.5s						
KOPT	Kop Dagi	1.01	132	i P	Pg	10 52 45.5	+0.2
KOPT				i S	Sb	10 53 00.0	-0.4
KOPT	Kop Dagi	1.01	132	P	Pg	10 52 45.5	+0.2
KOPT				S	Sb	10 53 00.0	-0.4
CHOM	Cayeli-Rize	1.02	67	ePg	Pg	10 52 44.4	-1.0
CHOM				eSg	Sg	10 52 58.4	-0.1
REFA	Refahiye_ERZ˜	1.43	204	eP	Pn	10 52 44.0	-9.2
REFA				eS	Sg	10 52 58.4	-13
REFA				IAML		10 53 06.1	
	comp=Z,5.1nm,0.5s						
REFA	Refahiye_ERZ˜	1.43	204	i P	Pn	10 52 44.3	-9.0
PTK	Pertek	1.81	183	PN	Pn	10 52 58.1	-0.5
PTK	Pertek	1.81	183	ePn	Pn	10 52 58.1	-0.5
SVSK	Karacayir	2.09	249	PN	Pn	10 53 02.1	0.0
SVSK	Karacayir	2.09	249	ePn	Pn	10 53 02.1	0.0
SVAN	Silvan-Diyarba	2.86	153	PN	Pn	10 53 12.5	-0.3
SVAN	Silvan-Diyarba	2.86	153	ePn	Pn	10 53 12.5	-0.3

*ISCJB **03** 10:56:54.9±0.8, 15.°2S±0.°2×66.°9E±0.°1, h16km, mb3.7/12, MS3.9/8, Error ellipse: s-maj=22.6km s-min=18.0km az=176.1*
*IDC **03** 10:56:54.2±0.8, 15.°20S×66.°86E, h0km, mb3.7/12, mb1 3.8/12, mb1mx3.6/73, mbtmp3.7/12, MS3.9/8, Ms1 3.9/8, ms1mx3.3/62, Error ellipse: s-maj=25.3km s-min=20.2km az=6.0*
ISC 03 10:56:56.7±0.9, **15.°2S**±0.°2×**66.°9E**±0.°2, **h16**km, **n28**, σ**0.s46**/14, **mb3.8**/12, **MS3.9**/8, **Mid-Indian Ridge**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
H08S1	Diego Carcia H	9.32	37	T	T	11 08 27.1	
	baz=217,slow=76,SNR=624						
H08S2	Diego Garcia H	9.33	37	T	T	11 08 33.3	
	baz=217,slow=76,SNR=975						
H08S3	Diego Garcia H	9.34	37	T	T	11 08 30.3	
	baz=217,slow=76,SNR=489						
H08N3	Diego Garcia H	9.70	25	T	T	11 08 51.7	
	baz=204,slow=75,SNR=2215						
H08N1	Diego Carcia H	9.71	25	T	T	11 08 50.7	
	baz=204,slow=75,SNR=1774						
H08N2	Diego Garcia H	9.72	25	T	T	11 08 50.0	
	baz=204,slow=75,SNR=2029						
PALK	Pallekele	26.22	33	LR	LR	11 10 22.4	
	comp=Z,245nm,21.6s,baz=115,slow=31						
KMBO	Kilima Mbogo	32.40	293	LR	LR	11 13 46.3	
	comp=Z,139nm,19.6s,baz=92,slow=31						
ATD	Arta Tunnel	35.65	317	LR	LR	11 17 16.5	
	comp=Z,110nm,19.4s,baz=136,slow=34						
BOSA	Boshof	40.63	244	P	P	11 04 36.7	+0.3
	1.6nm,0.8s,baz=83,slow=8.1,SNR=3.1						
BOSA				LR	LR	11 18 59.7	
	comp=Z,165nm,18.3s,baz=80,slow=33						
CMAR	Chiang Mai Arr	46.02	44	P	P	11 05 20.1	+0.2
	0.5nm,0.4s,baz=235,slow=8.4,SNR=5.1						
CMAR				LR	LR	11 22 17.3	
	comp=Z,141nm,19.0s,baz=186,slow=33						
H01W3	Cape Leeuwin H	46.62	124	T	T	11 55 28.2	
	baz=282,slow=75,SNR=5.9						
H01W2	Cape Leeuwin H	46.62	124	T	T	11 55 26.7	
	baz=282,slow=75,SNR=6.2						
H01W1	Cape Leeuwin H	46.63	124	T	T	11 55 28.8	
	baz=282,slow=75,SNR=6.4						
BRTR	Keskin Array B	62.81	332	P	P	11 07 22.1	+0.3
	0.2nm,0.3s,baz=135,slow=5.1,SNR=2.5						
MKAR	Makanchi Array	63.26	12	P	P	11 07 24.5	0.0
	0.7nm,0.9s,baz=198,slow=7.4,SNR=3.3						
ASAR	Alice Springs	63.30	109	P	P	11 07 25.0	-0.4
	1.3nm,1.0s,baz=270,slow=6.3,SNR=5.7						
ASAR				LR	LR	11 32 40.6	
	comp=Z,175nm,18.0s,baz=226,slow=34						
WRA	Warramunga Arr	64.14	105	P	P	11 07 30.8	-0.1
	1.4nm,0.9s,baz=270,slow=6.1,SNR=9.7						
BVAR	Borovoye Array	68.02	2	P	P	11 07 54.2	-0.8
	0.3nm,0.4s,baz=176,slow=4.3,SNR=2.6						
TORD	Torodi Ar. Bea	70.36	290	P	P	11 08 10.6	+0.2
	0.6nm,1.0s,baz=121,slow=2.9,SNR=2.8						
ZALV	Zalesovo Beam	70.58	11	P	P	11 08 11.4	+0.5
	0.7nm,0.4s,baz=238,slow=4.6,SNR=2.1						
SONM	Songino Array	72.00	27	P	P	11 08 20.4	+0.5
	0.5nm,0.9s,baz=224,slow=5.4,SNR=2.3						
AKASG	Malin Array Be	73.44	336	P	P	11 08 27.4	-0.8
	0.2nm,0.3s,baz=136,slow=5.0,SNR=2.0						
PMG	Port Moresby	78.30	97	LR	LR	11 44 01.2	
	comp=Z,86nm,18.9s,baz=235,slow=36						
ESDC	Sonseca Array	85.47	313	P	P	11 09 33.6	-0.4
	0.1nm,0.3s,baz=106,slow=3.6,SNR=1.8						
HFS	Hagfors	86.33	336	LR	LR	11 49 33.4	
	comp=Z,55nm,19.5s,baz=44,slow=37						
PDAR	Pinedale Array	152.37	354	PKPbc	PKPbc	11 16 52.6	0.0
	0.4nm,0.8s,baz=59,slow=2.3,SNR=3.5						
TXAR	Lajitas Array	163.44	330	PKPab	PKPab	11 17 50.5	0.0
	0.3nm,0.9s,baz=98,slow=2.7,SNR=2.8						

*ISCJB **03** 11:03:17.0±0.5, 15.°0S±0.°1×67.°0E±0.°1, h16km, mb4.0/16, Error ellipse: s-maj=16.4km s-min=14.4km az=174.6*
*IDC **03** 11:03:16.4±0.7, 14.°98S×66.°93E, h0km, mb3.9/16, mb1 4.0/16, mb1mx3.8/72, mbtmp3.9/16, Error ellipse: s-maj=23.2km s-min=17.9km az=39.0*
ISC 03 11:03:18.9±0.6, **15.°0S**±0.°1×**66.°9E**±0.°1, **h16**km, **n30**, σ**0.s59**/21, **mb4.0**/16, **Mid-Indian Ridge**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
H08S1	Diego Carcia H	9.13	37	T	T	11 14 49.5	
	baz=217,slow=76						
H08S2	Diego Garcia H	9.14	37	T	T	11 14 49.3	
	baz=217,slow=76,SNR=135						
H08S3	Diego Garcia H	9.15	37	T	T	11 14 49.9	
	baz=217,slow=76,SNR=108						
H08N3	Diego Garcia H	9.50	25	T	T	11 15 12.5	
	baz=204,slow=75						
H08N1	Diego Carcia H	9.51	25	T	T	11 15 12.0	
	baz=204,slow=75						
H08N2	Diego Garcia H	9.52	25	T	T	11 15 14.1	
	baz=204,slow=75						
LSZ	Lusaka	37.35	264	P	P	11 10 32.3	+1.0
	1.6nm,0.6s,baz=94,slow=7.1,SNR=4.1						
CMAR	Chiang Mai Arr	45.85	45	P	P	11 11 41.7	+1.1
	0.7nm,0.5s,baz=238,slow=9.0,SNR=4.9						
H01W3	Cape Leeuwin H	46.67	124	T	T	12 01 46.4	
	baz=280						
H01W2	Cape Leeuwin H	46.68	124	T	T	12 01 47.5	
	baz=280						
H01W1	Cape Leeuwin H	46.69	124	T	T	12 01 48.9	
	baz=280						
BRTR	Keskin Array B	62.67	332	P	P	11 13 42.3	-0.7
	0.3nm,0.5s,baz=173,slow=11,SNR=3.7						
MKAR	Makanchi Array	63.06	12	P	P	11 13 44.5	-0.8
	0.4nm,0.6s,baz=209,slow=8.1,SNR=5.0						
ASAR	Alice Springs	63.31	109	P	P	11 13 47.5	-0.2
	0.8nm,0.7s,baz=271,slow=6.2,SNR=11						
WRA	Warramunga Arr	64.13	105	P	P	11 13 53.0	-0.1
	1.2nm,0.7s,baz=270,slow=6.0,SNR=11						
KURBB	Kurchatov Arra	66.15	8	P	P	11 14 05.2	-0.2
	0.6nm,0.7s,baz=212,slow=6.6,SNR=5.6						
BVAR	Borovoye Array	67.83	2	P	P	11 14 15.6	-0.4
	0.6nm,0.6s,baz=157,slow=8.0,SNR=4.7						
STKA	Stephens Creek	69.36	119	P	P	11 14 26.2	0.0
	1.0nm,0.9s,baz=216,slow=19,SNR=2.1						
ZALV	Zalesovo Beam	70.38	11	P	P	11 14 31.4	-0.4
	0.6nm,0.4s,baz=206,slow=9.5,SNR=2.8						
VNA2	Neumayer--Watz	70.79	200	P	P	11 14 34.2	-0.1
	baz=68,slow=6.0						
VNA3	Neumayer Olymp	71.57	199	P	P	11 14 38.1	-0.9
SONM	Songino Array	71.81	27	P	P	11 14 41.7	+0.9
	0.5nm,0.6s,baz=210,slow=4.6,SNR=2.1						
AKASG	Malin Array Be	73.29	336	P	P	11 14 48.7	-0.7
	1.0nm,0.6s,baz=122,slow=6.0,SNR=4.4						
QSPA	South Pole Qui	75.06	180	P	P	11 14 59.9	+0.1
	3.7nm,0.9s,baz=252,slow=6.2,SNR=5.3						
KOWA	Kowa	76.01	289	P	P	11 15 06.4	+0.4
	5.2nm,1.1s,baz=178,slow=1.9,SNR=5.1						
ESDC	Sonseca Array	85.38	313	P	P	11 15 55.9	+0.2
	0.9nm,0.6s,baz=112,slow=4.0,SNR=6.2						
HFS	Hagfors	86.18	336	P	P	11 15 58.8	-0.3
	2.9nm,0.8s,baz=184,slow=4.3,SNR=4.4						
YKA	Yellowknife Ar	132.57	1	PKP	PKPdf	11 22 32.2	-0.2
	0.1nm,0.7s,baz=350,slow=2.6,SNR=4.1						
PDAR	Pinedale Array	152.18	354	PKPbc	PKPbc	11 23 14.0	-0.3
	0.8nm,0.6s,baz=49,slow=1.9,SNR=8.9						
TXAR	Lajitas Array	163.31	330	PKPab	PKPab	11 24 12.0	0.0
	0.5nm,0.8s,baz=84,slow=4.7,SNR=5.5						

*IDC **03** 11:03:38.6±1.5, 15.°00S×66.°90E, h0km, mb3.6/7, mb1 3.9/7, mb1mx3.5/71, mbtmp3.6/7, MS3.8/4, Ms1 3.8/4, ms1mx3.1/65, Error ellipse: s-maj=52.5km s-min=30.0km az=42.0*
*ISCJB **03** 11:03:39.9±1.5, 14.°9S±0.°3×67.°0E±0.°3, h16km, mb3.7/7, MS3.9/4, Error ellipse: s-maj=45.6km s-min=24.1km az=136.1*
ISC 03 11:03:41.2±1.5, **15.°0S**±0.°3×**66.°9E**±0.°3, **h16**km, **n23**, σ**0.s85**/10, **mb3.7**/7, **MS3.8**/4, **Mid-Indian Ridge**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
H08S1	Diego Carcia H	9.14	37	T	T	11 15 09.4	
	baz=217						
H08S2	Diego Garcia H	9.15	37	T	T	11 15 10.6	
	baz=217						
H08S3	Diego Garcia H	9.16	37	T	T	11 15 10.6	
	baz=217						
H08N3	Diego Garcia H	9.51	25	T	T	11 15 36.6	
	baz=204						
H08N1	Diego Carcia H	9.52	26	T	T	11 15 35.0	
	baz=204						
H08N2	Diego Garcia H	9.53	25	T	T	11 15 35.6	
	baz=204						
CMAR	Chiang Mai Arr	45.86	45	P	P	11 12 03.3	+0.3
	0.4nm,0.4s,baz=225,slow=10,SNR=3.6						
H01W3	Cape Leeuwin H	46.68	124	T	T	12 02 08.9	
H01W2	Cape Leeuwin H	46.69	124	T	T	12 02 13.5	
H01W1	Cape Leeuwin H	46.70	124	T	T	12 02 14.2	
BATI	Baumata	55.48	92	LR	LR	11 33 06.4	
	comp=Z,181nm,20.1s,baz=34,slow=32						
TGY	Tagaytay City	60.77	64	LR	LR	11 39 35.3	
	comp=Z,81nm,18.7s,baz=286,slow=36						
DAV	Davao City (W)	62.15	74	LR	LR	11 37 16.1	
	comp=Z,68nm,21.1s,baz=236,slow=32						
MKAR	Makanchi Array	63.07	12	P	P	11 14 07.2	-0.4
	0.2nm,0.6s,baz=203,slow=8.3,SNR=2.4						
ASAR	Alice Springs	63.32	109	P	P	11 14 10.0	0.0
	0.4nm,0.8s,baz=280,slow=6.1,SNR=3.1						
WRA	Warramunga Arr	64.14	105	P	P	11 14 15.6	+0.2
	2.4nm,1.1s,baz=271,slow=6.1,SNR=3.8						
KURBB	Kurchatov Arra	66.15	8	P	P	11 14 28.1	+0.5
	0.4nm,0.7s,baz=204,slow=6.4,SNR=2.9						
BVAR	Borovoye Array	67.83	2	P	P	11 14 37.3	-1.0
	0.3nm,0.4s,baz=180,slow=5.0,SNR=3.3						
AKASG	Malin Array Be	73.29	336	LR	LR	11 48 54.1	
	comp=Z,39nm,20.4s,baz=65,slow=37						
ESDC	Sonseca Array	85.37	313	P	P	11 16 18.9	+0.9
	0.4nm,0.5s,baz=114,slow=3.6,SNR=3.1						
YKA	Yellowknife Ar	132.58	1	PKP	PKPdf	11 22 53.1	-1.6
	0.1nm,0.6s,baz=337,slow=1.4,SNR=3.8						
PDAR	Pinedale Array	152.18	354	PKPbc	PKPbc	11 23 37.0	+0.4
	0.4nm,0.6s,baz=62,slow=2.1,SNR=3.2						
TXAR	Lajitas Array	163.31	330	PKPab	PKPab	11 24 33.8	-0.4
	0.3nm,0.8s,baz=39,slow=5.8,SNR=2.7						

IDC 03 11:04:53.1±3.8, **4.°89S**×**129.°41E**, **h276**km±36km, **mb3.0**/2, **mb1 3.1**/5, **mb1mx2.9**/54, **mbtmp3.7**/5, **Error ellipse: s-maj=56.8km s-min=13.0km az=69.0**, **Banda Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BATI	Baumata	7.77	227	P	Pn	11 06 44.0	+0.3
	3.9nm,0.3s,baz=40,slow=7.9,SNR=4.5						
WRA	Warramunga Arr	15.72	163	P	P	11 08 17.7	-1.7
	0.3nm,0.3s,baz=345,slow=12,SNR=30						
WRA				S	S	11 11 07.7	-3.2
	0.2nm,0.3s,baz=337,slow=24,SNR=6.5						
ASAR	Alice Springs	19.17	167	P	P	11 08 57.0	+0.3
	0.4nm,0.3s,baz=350,slow=12,SNR=44						
ASAR				S	S	11 12 20.4	+1.3
	0.0nm,0.3s,baz=347,slow=20,SNR=4.7						
MKAR	Makanchi Array	66.15	327	P	P	11 15 10.8	-0.4
	0.5nm,0.7s,baz=126,slow=7.9,SNR=3.8						
KURBB	Kurchatov Arra	70.41	328	P	P	11 15 37.8	+0.3
	0.2nm,0.4s,baz=124,slow=5.2,SNR=4.2						

*SOME **03** 11:15:12.4, 40.°98N×71.°05E, h20km*
*KRNET **03** 11:15:14.3±0.1, 41.°37N×70.°85E, h29km, mb2.6*
*NNC **03** 11:15:16.4±2.7, 41.°23N×71.°00E, h0km, mb3.0, mpv2.7, Error ellipse: s-maj=23.7km s-min=12.7km az=59.0*
ISC 03 11:15:15.4±1.5, **41.°26N**±0.°04×**71.°00E**±0.°03, **h2**km±12km, **n18**, σ**1.s12**/34, **19C-9D**, **Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ARK	Arkit	0.90	53⇑	i P	Pg	11 15 32.3	-0.4
	baz=64						
ARK			⇑	i S	Sb	11 15 45.7	-0.6
	baz=64						
IUG	Iuzhnay	1.14	321	eP	Pb	11 15 37.7	-0.2
	14nm,0.2s						
IUG				eS	Sn	11 15 55.6	+0.8
	35nm,0.2s						
BTK	Batken	1.21	187⇑	i P	Pn	11 15 38.5	-0.9
	baz=81						
BTK			⇑	i S	Sb	11 15 56.3	+1.2
	baz=81						
ARSB	Arslanbob	1.50	87⇑	i P	Pn	11 15 43.1	-0.3
	baz=91						
ARSB			⇑	i S	Sg	11 16 04.2	+0.7
	baz=91						
MNAS	Manas	1.66	42 ⇑	P	Pn	11 15 45.0	-0.6
	1.2nm,0.2s						
MNAS			⇓	S	Sg	11 16 10.8	+2.0
	4.7nm,0.4s						
MNAS	Manas	1.66	42⇑	i P	Pn	11 15 44.3	-1.4
	baz=47						
MNAS			⇑	i S	Sn	11 16 06.3	-1.3
	baz=47						
KK31	Karatay Array	1.88	349 ⇑	P	Pn	11 15 48.3	-0.2
	4.9nm,0.3s,baz=170,slow=17,SNR=43						
KK31			⇑	S	Sg	11 16 17.1	+1.5
	7.0nm,0.4s,baz=171,slow=34,SNR=20						
BRLS	Boroldаy	1.97	334	eP	Pn	11 15 49.0	-0.8
	1.3nm,0.3s						
BRLS				eS	Sn	11 16 14.6	-0.3
	20nm,0.3s						
AML	Almayashu	2.20	66⇓	i P	Pn	11 15 53.2	0.0
	baz=69						
AML			⇓	i S	Sn	11 16 21.7	+0.5
	baz=69						
MRKS	Merke	2.23	48	eP	Pb	11 15 55.0	-1.3
	8.3nm,0.4s						
MRKS				eS	Sb	11 16 25.4	+1.0
	10nm,0.6s						
SFK	Sufi-Kurgan	2.28	122 ⇑	P	Pn	11 15 54.6	+0.4
	0.4nm,0.2s						
SFK			⇓	S	Sb	11 16 26.3	+0.3
	3.2nm,0.3s						
SFK	Sufi-Kurgan	2.28	122⇑	eP	Pn	11 15 55.8	+1.6
	baz=23						
SFK			⇑	i S	Sb	11 16 25.5	-0.5
	baz=23						
UCH	Uchtor	2.80	69⇑	i P	Pn	11 16 01.1	-0.5
	baz=71						
UCH			⇑	i S	Sn	11 16 36.3	+0.1
	baz=71						
AAK	Ala-Archa	2.95	61 ⇓	Pn	Pb	11 16 07.2	-1.5
	2.6nm,0.5s						
AAK			⇑	Lg	Lg	11 16 46.0	
	3.1nm,0.5s						
AAK	Ala-Archa	2.95	61⇓	i P	Pn	11 16 03.5	+0.2
	baz=64						
AAK			⇓	i S	Sn	11 16 39.6	+0.2
	baz=64						
KZA	Kyzart	3.29	74⇓	i P	Pn	11 16 08.3	+0.1
	baz=76						
KZA			⇓	i S	Sn	11 16 47.9	-0.2
	baz=76						
TKM2	Tokmak 2	3.80	63 ⇑	Pg	Pg	11 16 27.1	-1.2
	0.4nm,0.3s						
TKM2			⇑	Lg	Lg	11 17 12.9	

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	2.1nm,0.6s						
KST	Kastek	4.10	63	eP	Pb	11 16 28.1	-0.2
	2.7nm,0.2s						
KST				eS	Sb	11 17 21.8	+3.5
	3.3nm,0.5s						

*ISCJB **03** 11:18:26.9±0.8, 4.°3S±0.°1×153.°6E±0.°2, h85km, mb3.8/10, Error ellipse: s-maj=29.2km s-min=9.6km az=36.2*
*IDC **03** 11:18:31.5±5.0, 4.°40S×153.°56E, h113km±41km, mb3.7/10, mb1 3.8/12, mb1mx3.6/48, mbtmp4.1/12, MS3.4/1, Ms1 3.4/1, ms1mx2.7/51, Error ellipse: s-maj=40.6km s-min=22.6km az=107.0*
ISC 03 11:18:28.1±1.0, **4.°3S**±0.°2×**153.°7E**±0.°2, **h85**km, **n14**, σ**1.s22**/16, **mb3.9**/10, **New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	8.24	232	P	Pn	11 20 26.7	+1.7
	14nm,0.3s,baz=39,slow=5.5,SNR=35						
PMG				S	Sn	11 21 55.4	-1.1
	4.3nm,0.3s,baz=132,slow=21,SNR=11						
CTA	Charters Tower	17.29	204	P	P	11 22 25.3	+0.9
	0.1nm,0.3s,baz=45,slow=7.1,SNR=2.3						
DZM	Mont Dzumac	21.56	146	LR	LR	11 30 52.4	
	comp=Z,97nm,18.9s,baz=100,slow=34						
WRA	Warramunga Arr	24.45	229	P	P	11 23 39.0	-0.2
	6.4nm,0.5s,baz=54,slow=10.0,SNR=96						
WRA				S	S	11 27 55.6	+2.2
	0.4nm,0.7s,baz=47,slow=16,SNR=3.3						
ASAR	Alice Springs	27.13	223	P	P	11 24 02.2	-1.2
	0.6nm,0.4s,baz=56,slow=8.9,SNR=27						
ASAR				PcP	PcP	11 27 22.5	+0.1
	0.5nm,1.0s,baz=58,slow=2.5,SNR=4.1						
STKA	Stephens Creek	29.70	201	P	P	11 24 25.2	-0.9
	2.3nm,0.6s,baz=23,slow=13,SNR=10						
FITZ	Fitzroy Crossi	30.69	241	P	P	11 24 33.6	-1.5
	1.5nm,0.4s,baz=8.5,slow=19						
MKAR	Makanchi Array	80.54	319	P	P	11 30 32.4	+1.2
	0.5nm,0.8s,baz=93,slow=8.7,SNR=6.1						
ILAR	Eielson Array	81.36	22	P	P	11 30 36.0	+0.9
	0.4nm,0.8s,baz=250,slow=5.2,SNR=5.2						
KURBB	Kurchatov Arra	83.96	322	P	P	11 30 48.9	0.0
	0.4nm,0.5s,baz=101,slow=3.9,SNR=4.4						
BVAR	Borovoye Array	89.38	323	P	P	11 31 15.6	+0.4
	1.2nm,0.9s,baz=96,slow=5.8,SNR=5.0						
YKA	Yellowknife Ar	94.57	28	P	P	11 31 38.9	-0.1
	0.3nm,0.9s,baz=273,slow=5.0,SNR=4.4						
AKTO	Aktyubinsk	96.92	320	P	P	11 31 48.4	-1.6
	0.8nm,0.3s,baz=81,slow=4.2,SNR=4.7						
TORD	Torodi Ar. Bea	151.00	289	PKPbc	PKPbc	11 38 11.9	-0.3
	1.9nm,0.7s,baz=63,slow=2.2,SNR=12						

*BJI **03** 11:26:53.5, 7.°65S×125.°78E, h477km, mb4.7/54, mB4.8/33*
*MOS **03** 11:26:58.5±1.0, 7.°00S×125.°34E, h471km, mb4.8/49, Error ellipse: s-maj=10.2km s-min=6.0km az=113.4*
*NEIC **03** 11:26:59.6±0.3, 7.°04S×125.°37E, h473km±3km, mb5.0/90, Error ellipse: s-maj=4.5km s-min=3.1km az=53.0*
*DJA **03** 11:26:59.9±0.1, 7.°S±1.°×12.°5E±.°, h474km±2km, M5.0/50, mb5.2/50, mB5.4/31, MLv5.7/23, Mw(mB)4.8/31, Mwp6.5/1*
*ISCJB **03** 11:26:59.7±0.2, 7.°08S±0.°02×125.°35E±0.°02, h489km±2km, mb4.8/161, Error ellipse: s-maj=3.5km s-min=2.8km az=156.6*
*IDC **03** 11:27:00.6±0.5, 7.°09S×125.°36E, h482km±5km, mb4.2/41, mb1 4.2/45, mb1mx4.2/56, mbtmp5.1/45, Error ellipse: s-maj=7.6km s-min=4.9km az=67.0*
ISC 03 11:26:59.9±0.4, **7.°11S**±0.°03×**125.°37E**±0.°04, **h480**km±3km, **n814**, σ**1.s40**/927, **mb4.8**/160, **11C-3D**, **Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	Soe	2.84	202	P	P	11 28 09.6	+1.2
SOEI				S	S	11 29 03.6	-0.4
SOEI	Soe	2.84	202	eP	P	11 28 09.8	+1.4
BBSI	Bau Bau	3.21	300	P	P	11 28 13.6	+2.7
MMRI	Maumere	3.45	244	P	P	11 28 12.6	0.0
MMRI				S	S	11 29 12.4	+0.7
MMRI	Maumere	3.45	244	eP	P	11 28 11.8	-0.8
BATI	Baumata	3.50	209	P	P	11 28 14.7	+1.6
BATI				S	S	11 29 13.4	+0.8
	619nm,0.3s,baz=343,slow=22,SNR=10						
BATI	Baumata	3.50	209	P	P	11 28 14.5	+1.4
BATI				S	S	11 29 11.1	-1.5
EDFI	Ende, Flores	3.99	246	P	P	11 28 16.9	-0.1
EDFI				S	S	11 29 18.8	-1.0
NLAI	Namlea	4.22	24	P	P	11 28 20.4	+1.5
NLAI				S	S	11 29 23.4	+0.2
AAI	Ambon	4.42	40	P	P	11 28 22.0	+1.4
AAI				S	S	11 29 27.8	+1.5
BSSI	Bau Bau, Buton	4.94	281	P	P	11 28 27.5	+2.2
SANI	Sanana	5.07	7	P	P	11 28 27.5	+1.0
SANI				S	S	11 29 36.3	-0.8
MSAI	Masohi	5.16	44	P	P	11 28 26.3	-1.0
MSAI				S	S	11 29 35.7	-2.9
BNDI	Bandanaira	5.20	61	P	P	11 28 28.4	+0.7
WSI	Waingapu	5.62	243	P	P	11 28 30.9	-0.8
WSI				S	S	11 29 41.7	-5.0
BASI	Baing, Sumba	5.65	237	P	P	11 28 31.7	-0.3
BASI				S	S	11 29 42.8	-4.4
BNSI	Bone	5.89	297	P	P	11 28 36.1	+1.8
SAUI	Saumlaki	5.95	99	P	P	11 28 35.8	+0.9
SAUI				S	S	11 29 50.2	-2.3
SAUI	Saumlaki	5.95	99	eP	P	11 28 34.7	-0.2
SAUI				eS	S	11 29 47.9	-4.6
KAPI	Kappang	5.96	290	P	P	11 28 37.9	+2.8
	SNR=60						
WBSI	Waikabubak, Su	6.42	247	P	P	11 28 37.4	-2.3
	1μm,0.8s,13μm11nm						
WBSI				S	S	11 29 54.5	-6.8
	1μm,0.8s,13μm11nm						
LUWI	Luwuk	6.56	337	P	P	11 28 43.0	+2.0
LUWI	Luwuk	6.56	337	eP	P	11 28 43.1	+2.1
LBMI	Labuha	6.78	18	P	P	11 28 44.4	+1.2
LBMI				S	S	11 30 07.9	+0.1
TTSI	Tana Toraja	6.85	306	P	P	11 28 46.0	+2.1
APSI	Ampana	7.19	329	P	P	11 28 49.6	+2.1
PLAI	Plampang	7.71	257	P	P	11 28 51.2	-1.6
PLAI				S	S	11 30 18.4	-7.0
KMSI	Cibinong	7.76	350	P	P	11 28 55.5	+2.1
FAKI	Fak Fak	8.02	59	P	P	11 28 54.6	-1.5
FAKI				S	S	11 30 23.9	-7.6
FAKI	Fak Fak	8.02	59	eP	P	11 28 54.7	-1.5
MTN	Manton Dam	8.04	136	P	P	11 28 57.3	+1.0
	baz=8.1,SNR=907						
MTN	Manton Dam	8.04	136	eP	P	11 28 57.4	+1.1
TNTI	Ternate	8.08	14	eP	P	11 28 56.5	-0.3
PCI	Palu	8.27	318	P	P	11 29 01.5	+2.7
PCI				S	S	11 30 41.0	+4.6
MRSI	Marisa	8.28	335	P	P	11 29 00.6	+1.8
MRSI				S	S	11 30 37.7	+1.3
SWI	Sorong	8.55	44	P	P	11 29 02.4	+0.7
KNRA	Kununurra	9.14	159	P	P	11 29 09.1	+1.3
	baz=9.2,SNR=242						
MPSI	Mapaga	9.20	323	P	P	11 29 10.4	+1.8
MPSI				S	S	11 30 57.9	+3.6
SRBI	Singaraja	10.11	264	P	P	11 29 18.7	+0.4
SGKI	Sangatta, Kali	10.13	310	P	P	11 29 30.0	+11
DNP	Denpasar	10.18	261	P	P	11 29 21.4	+2.3
DNP				S	S	11 31 08.4	-5.2
BKB	Balikpapan	10.25	304	P	P	11 29 24.1	+4.2
IGBI	Denpasar	10.26	260	P	P	11 29 20.1	+0.1
IGBI				S	S	11 31 10.0	-5.3
SMKI	Samarinda	10.49	309	P	P	11 29 26.6	+4.1
SGSI	Sangihe	10.73	1	P	P	11 29 25.5	+0.5
FITZ	Fitzroy Crossi	10.92	179	P	P	11 29 28.2	+1.3
	baz=360,slow=8.2						
KMMI	Kalianget	11.31	270	P	P	11 29 32.0	+0.8
BLJI	Banyuglugur	11.69	266	P	P	11 29 35.8	+0.5
BAKI	Biak	12.22	62	P	P	11 29 42.7	+1.7
PWJI	Pagerwojo	13.48	265	P	P	11 29 52.8	-1.6
MYLDM	Lahad Datu	14.00	331	eP	P	11 30 01.6	+1.6
DAV	Davao City (W)	14.09	1	P	P	11 30 00.3	-0.6
	67nm,0.3s,baz=39,slow=9.0,SNR=2.1						
DAV				S	S	11 32 31.4	+1.1
	27nm,0.3s,baz=212,slow=20,SNR=1.6						
PCJI	Pacitan	14.11	265	P	P	11 29 59.0	-2.1
UGM	Wanagama	14.74	266	P	P	11 30 07.0	-0.8
UGM	Wanagama	14.74	266	eP	P	11 30 07.8	0.0
MBWA	Marble Bar	14.99	201	eP	P	11 30 10.6	+0.3
	107nm,0.6s						
MBWA	Marble Bar	14.99	201	P	P	11 30 11.0	+0.7
	SNR=10						
MBWA	Marble Bar	14.99	201	P	P	11 30 11.0	+0.7
	SNR=10						
GENI	Genyem	15.41	74	P	P	11 30 15.6	+0.7
WR1	Warramunga Arr	15.44	147	eP	P	11 30 15.0	-0.1
	131nm,1.4s						
WR1				eS	S	11 32 54.6	-1.7
WR1				eScP	ScP	11 37 33.2	-1.2
WRA	Warramunga Arr	15.44	147	P	P	11 30 15.0	-0.1
	12nm,0.3s,baz=323,slow=11,SNR=498						
WRA				S	S	11 32 54.6	-1.7
	baz=328,slow=16,SNR=13						
WRA				ScP	ScP	11 37 33.2	-1.2
	0.3nm,0.3s,baz=314,slow=2.3,SNR=7.1						
WRA	Warramunga Arr	15.44	147	iP	P	11 30 14.8	-0.3
WRA				pmax	pmax		
	comp=Z,21nm,0.4s						
WB2	Warramunga Arr	15.45	147	eP	P	11 30 13.7	-1.5
WB2				eS	S	11 32 56.3	-0.1
STKI	Sintang	15.58	297	P	P	11 30 21.8	+5.1
KKM	Kota Kinabalu	15.95	325	eP	P	11 30 20.1	-0.5
	comp=Z,72nm,0.9s						
JAY	Jayapura	15.95	74	P	P	11 30 20.6	0.0
SBUM	Sibu	16.20	305	eP	P	11 30 23.4	+0.3
	comp=Z,20nm,0.8s						
KPJI	Karang Pucung	16.31	268	P	P	11 30 23.6	-0.7
CMJI	Cimerak	16.79	267	P	P	11 30 29.3	-0.1
PALU	Palau	16.99	32	P	P	11 30 31.0	-0.5
	baz=17,SNR=22						
KSM	Kuching	17.28	299	eP	P	11 30 33.5	-0.9
	comp=Z,32nm,0.6s						
CISI	Cisompet, Garu	17.41	267	P	P	11 30 34.1	-1.7
CISI	Cisompet, Garu	17.41	267	eP	P	11 30 34.1	-1.7
	comp=Z,205nm,0.4s						
LEM	Lembang	17.62	270	P	P	11 30 37.6	-0.3
	comp=Z,4.1nm,0.3s,baz=45,slow=8.0,SNR=8.6						
LEM	Lembang	17.62	270	P	P	11 30 37.7	-0.2
WRKA	Warakurna	18.04	171	P	P	11 30 42.1	+0.4
	baz=18,SNR=391						
AS31	Alice Springs	18.39	154	eP	P	11 30 45.8	+0.9
	comp=Z,30nm,0.5s						
AS31				eS	S	11 33 48.0	-0.6
AS31				ePcP	PcP	11 34 51.1	+0.5
AS31				eScP	ScP	11 37 39.4	-1.1
ASAR	Alice Springs	18.39	154	P	P	11 30 45.7	+0.8
	comp=Z,20nm,0.3s,baz=329,slow=8.4,SNR=1533						
ASAR				S	S	11 33 48.1	-0.6
	comp=Z,2.4nm,0.3s,baz=340,slow=20,SNR=48						
ASAR				PcP	PcP	11 34 51.1	+0.5
	comp=Z,0.4nm,0.3s,baz=6.7,slow=1.5,SNR=3.6						
ASAR				ScP	ScP	11 37 39.4	-1.1
	comp=Z,0.6nm,0.3s,baz=343,slow=2.3,SNR=13						
AS01	Alice Springs	18.41	154	eP	P	11 30 45.0	-0.1
SKJI	Sukabumi	18.67	269	P	P	11 30 46.9	-0.7
COEN	Coen	18.77	113	P	P	11 30 48.8	+0.3
	baz=19,SNR=189						
COEN	Coen	18.77	113	eP	P	11 30 48.8	+0.3
	comp=Z,131nm,0.8s						
GIRL	Giralia	18.80	214	P	P	11 30 50.2	+1.5
	baz=19,SNR=19						
QIS	Mount Isa	19.20	136	P	P	11 30 52.7	+0.3
	baz=19,SNR=115						
CGJI	Cibinong	19.54	270	P	P	11 30 53.6	-1.9
MEEK	Meekatharra	20.45	198	P	P	11 31 04.0	+0.3
	baz=21,SNR=381						
MTSU	Mount Surprise	21.47	122	P	P	11 31 13.9	+0.9
	baz=22,SNR=34						
PMG	Port Moresby	21.68	98	P	P	11 31 15.4	+0.4
	comp=Z,19nm,0.5s,baz=199,slow=3.7,SNR=10						
PMG				ScP	ScP	11 37 49.1	+0.7
	comp=Z,9.1nm,0.8s,baz=190,slow=6.1,SNR=5.4						
PMG	Port Moresby	21.68	98	eP	P	11 31 15.1	+0.1
	comp=Z,46nm,1.0s						
PMG				eScP	ScP	11 37 49.1	+0.7
PMG	Port Moresby	21.68	98	ceP	P	11 31 15.4	+0.4
PMG				pmax	pmax		
	comp=Z,163nm,1.0s						
MORW	Morawa	23.54	201	P	P	11 31 31.9	+0.3
	baz=24,SNR=21						
FORT	Forrest	23.68	174	P	P	11 31 33.4	+0.7
	baz=24,SNR=93						
FORT	Forrest	23.68	174	eP	P	11 31 33.2	+0.6
	comp=Z,3μm,0.6s						
CTA	Charters Tower	24.01	125	P	P	11 31 37.2	+1.4
	comp=Z,8.4nm,0.7s,baz=302,slow=12,SNR=16						
CTA				PcP	PcP	11 35 02.6	+0.8
	comp=Z,9.7nm,0.6s,baz=277,slow=2.6,SNR=9.0						
CTA				S	S	11 35 18.8	+0.4
	comp=Z,1.6nm,0.4s,baz=148,slow=16,SNR=4.6						
CTA				ScP	ScP	11 37 54.1	-0.5
	comp=Z,5.0nm,0.5s,baz=311,slow=5.3,SNR=9.0						
CTAO	Charters Tower	24.01	125	eP	P	11 31 35.4	-0.5
	comp=Z,14nm,1.0s						
CTAO	Charters Tower	24.01	125	eP	P	11 31 35.4	-0.5
CTAO				pmax	pmax		
	comp=Z,14nm,1.0s						
KMBL	Kambalda	24.35	187	P	P	11 31 39.3	+0.6
	baz=24,SNR=13						
BLDU	Ballidu	24.75	198	P	P	11 31 42.6	+0.4
	baz=25,SNR=73						
KLBR	Kellerberrin	25.37	195	P	P	11 31 48.0	+0.3
	baz=26,SNR=22						
MUN	Mundaring	26.17	198	P	P	11 31 55.3	+0.4
	baz=26,SNR=16						
QLP	Quilpie	26.40	139	P	P	11 31 58.3	+1.3
	baz=26,SNR=21						
NWAO	Narrogin (SRO)	26.77	195	P	P	11 32 00.8	+0.6
	comp=Z,54nm,0.6s,baz=254,slow=7.9,SNR=51						
NWAO				ScP	ScP	11 38 01.6	-0.7
	comp=Z,14nm,0.8s,baz=129,slow=3.6,SNR=3.1						
NWAO	Narrogin (SRO)	26.77	195	P	P	11 32 00.7	+0.5
	baz=27,SNR=37						
NWAO				P	P	11 32 00.7	+0.5
	baz=27,SNR=37						
NWAO	Narrogin (SRO)	26.77	195	eP	P	11 32 00.6	+0.5
	comp=Z,58nm,0.6s						
NWAO				eScP	ScP	11 38 01.6	-0.7
NWAO	Narrogin (SRO)	26.77	195	eP	P	11 32 00.6	+0.5
NWAO				pmax	pmax		
	comp=Z,58nm,0.6s						
RABL	Rabaul	26.82	85	eP	P	11 31 57.2	-3.7
	comp=Z,215nm,0.6s						
BBOO	Buckleboo	27.43	160	P	P	11 32 06.7	+0.8
	baz=28,SNR=74						
BBOO	Buckleboo	27.43	160	eP	P	11 32 06.7	+0.8
	comp=Z,51nm,0.9s						
KULM	Kulim	27.57	296	eP	P	11 32 07.5	+0.1
	comp=Z,8.5nm,0.8s						
PSI	Prapat	28.17	290	P	P	11 32 12.7	-0.1
	comp=Z,20nm,0.8s,baz=166,slow=4.9,SNR=7.9						
PSI				ScP	ScP	11 38 05.8	-1.3
	comp=Z,16nm,0.9s,baz=190,slow=15,SNR=5.7						
PSI	Prapat	28.17	290	eP	P	11 32 12.9	+0.1
	comp=Z,30nm,1.0s						
PSI				eScP	ScP	11 38 05.8	-1.3
PSI	Prapat	28.17	290	eP	P	11 32 12.9	+0.1
PSI				pmax	pmax		
	comp=Z,30nm,1.0s						
GUMO	Guam	28.25	43	P	P	11 32 12.7	-0.6
	comp=Z,80nm,0.8s,baz=178,slow=6.1,SNR=2.9						
RKGY	Rocky Gully	28.43	195	P	P	11 32 16.7	+2.0
	baz=29,SNR=25						
STKA	Stephens Creek	28.92	151	P	P	11 32 20.1	+1.1
	comp=Z,17nm,0.6s,baz=330,slow=8.2,SNR=57						
STKA				pP	pP	11 33 41.0	-0.5
	comp=Z,19nm,0.8s,baz=330,slow=9.6,SNR=5.0						
STKA				PcP	PcP	11 35 13.5	+0.2
	comp=Z,3.5nm,0.3s,baz=352,slow=6.6,SNR=4.4						
STKA				S	S	11 36 35.7	+0.7
	comp=Z,6.4nm,0.8s,baz=130,slow=17,SNR=3.8						
STKA				ScP	ScP	11 38 07.4	-1.6
	comp=Z,5.1nm,0.6s,baz=11,slow=4.5,SNR=4.7						
STKA	Stephens Creek	28.92	151	P	P	11 32 20.1	+1.1
	baz=29,SNR=43						
STKA	Stephens Creek	28.92	151	eP	P	11 32 20.1	+1.1
	comp=Z,13nm,1.2s						
STKA				ePcP	PcP	11 35 13.5	+0.2
STKA				eS	S	11 36 35.7	+0.7
STKA				eScP	ScP	11 38 07.4	-1.6
STKA	Stephens Creek	28.92	151	eP	P	11 32 20.1	+1.1
STKA				e		11 35 13.5	
STKA				eS	S	11 36 35.7	+0.7
STKA				pmax	pmax		
	comp=Z,13nm,1.2s						
HTT	Hallett	29.05	156	P	P	11 32 21.5	+1.4
	baz=29,SNR=55						
CHBT	CHBT	30.23	311	P	P	11 32 31.8	+1.2
	comp=Z,840nm,0.9s,comp=Z,358μm						
YULB	Yu-li	30.58	353	eP	P	11 32 31.5	-2.0
	comp=Z,87nm,1.7s						
TPUB	Ta-pu	30.58	351	eP	P	11 32 32.6	-1.0
	comp=Z,88nm,0.7s						
CMSA	Cobar Meteorol	30.84	145	P	P	11 32 37.0	+1.4
	baz=31,SNR=84						
LHMI	Lhok Sumawe	30.90	293	eP	P	11 32 34.2	-2.2
	comp=Z,108nm,0.8s						
SSLB	Suanglung	31.01	352	eP	P	11 32 35.2	-2.1
	comp=Z,31nm,0.8s						
SSLB				eS	S	11 37 04.0	-3.6
YOJ	Yonaguni jima	31.47	356	eP	P	11 32 38.6	-2.5
	comp=Z,679nm,1.7s						
YOJ	Yonaguni jima	31.47	356	eP	P	11 32 38.6	-2.5
YOJ				pmax	pmax		
	comp=Z,679nm,1.7s						
YHNB	Yeheng	31.83	353	eP	P	11 32 43.3	-1.1
	comp=Z,232nm,1.9s						
SKNT	Sakolnakorn	31.94	319	P	P	11 32 44.7	-0.6
	comp=Z,9.2nm,0.9s						
PHET	Kaeng Krachan	32.40	308	P	P	11 32 51.1	+1.8
	comp=Z,5.5nm,0.7s						
CHAI	Chaiyaphum	32.54	315	P	P	11 32 51.0	+0.5
	comp=Z,11nm,0.8s,comp=Z,112nm						
ARPS	Mount Arapiles	33.12	155	P	P	11 32 56.7	+1.6
	baz=33,SNR=40						
SRDT	SRDT	33.66	309	P	P	11 32 59.9	0.0
	comp=Z,24nm,1.0s						
PBKT	Sadao Pong	33.71	314	P	P	11 32 59.9	-0.4
	comp=Z,10nm,0.9s,comp=Z,954nm						
ARMA	Armidale	33.82	137	P	P	11 33 03.6	+2.2
	baz=34,SNR=10						
ARMA	Armidale	33.82	137	eP	P	11 33 03.5	+2.2
	comp=Z,32nm,1.5s						
HNR	Honiara	34.29	96	P	P	11 33 05.6	+0.2
	comp=Z,182nm,0.8s,baz=206,slow=10,SNR=4.6						
HNR	Honiara	34.29	96	eP	P	11 33 04.9	-0.4
	comp=Z,246nm,0.9s						
HNR	Honiara	34.29	96	eP	P	11 33 04.9	-0.4
HNR				pmax	pmax		
	comp=Z,246nm,0.9s						
YNG	Young	34.40	145	P	P	11 33 08.1	+2.1
	baz=35,SNR=11						
PHIT	Phitsanulok	34.52	315	P	P	11 33 08.0	+0.8
	comp=Z,32nm,0.9s,comp=Z,353nm						
TOO	Toolangi	35.40	152	P	P	11 33 16.7	+2.3
	baz=36,SNR=9.9						
CAN	Canberra	35.48	146	eP	P	11 33 13.4	-1.7
	comp=Z,13nm,0.6s						
CAN	Canberra	35.48	146	eP	P	11 33 13.4	-1.7
CAN				pmax	pmax		
	comp=Z,13nm,0.6s						
CNB	Canberra Magne	35.68	145	P	P	11 33 19.0	+2.2
	baz=36,SNR=10						
CM01	Chiang Mai Arr	36.37	315	eP	P	11 33 22.7	+0.1
CM01				ePcP	PcP	11 35 35.7	+1.2
PAYA	Payao	36.37	317	P	P	11 33 23.7	+1.0
	comp=Z,4.8nm,0.8s						
CM31	Chiang Mai Arr	36.40	315	eP	P	11 33 24.0	+1.1
CM31				ePcP	PcP	11 35 36.2	+1.6
CM31				eS	S	11 38 35.5	+5.8
CMAR	Chiang Mai Arr	36.40	315	P	P	11 33 24.0	+1.1
	comp=Z,9.8nm,0.7s,baz=145,slow=6.6,SNR=46						
CMAR				PcP	PcP	11 35 36.2	+1.6
	comp=Z,8.4nm,0.8s,baz=170,slow=3.0,SNR=19						
CMAR				ScP	ScP	11 38 35.5	+0.1
	comp=Z,2.3nm,0.7s,baz=168,slow=2.8,SNR=8.6						
CMMT	Chiang Mai	36.64	315	P	P	11 33 24.5	-0.4
	comp=Z,18nm,0.8s						
CHTO	Chiang Mai	36.64	315	P	P	11 33 25.6	+0.7
	comp=Z,81nm,0.9s						
CHTO	Chiang Mai	36.64	315	eP	P	11 33 25.8	+0.9
	comp=Z,13nm,0.8s						
CHTO				ePcP	PcP	11 35 36.8	+1.4
CHTO	Chiang Mai	36.64	315	P	P	11 33 26.2	+1.3
	SNR=5.5						
CHTO	Chiang Mai	36.64	315	P	P	11 33 26.2	+1.3
	SNR=5.5						
CHTO	Chiang Mai	36.64	315	eP	P	11 33 25.8	+0.9
CHTO				e		11 35 36.8	
CHTO				pmax	pmax		
	comp=Z,13nm,0.8s						
MILA	Mila	36.84	147	P	P	11 33 28.1	+1.7
	baz=37,SNR=4.9						
CMAI	Chiengmai2	37.33	317	P	P	11 33 31.2	+0.5
	comp=Z,150nm,0.8s						
CBIJ	Chichi jima	37.71	25	eP	P	11 33 32.4	-1.2
	comp=Z,230nm,1.1s						
JCJ	Chichijima	37.71	25	P	P	11 33 32.4	-1.2
	comp=Z,37nm,0.4s,baz=287,slow=21,SNR=5.1						
GYA	Guiyang	37.99	332	⇑iP	P	11 33 36.9	+0.9
GYA				pP	pP	11 35 06.2	+3.5
GYA				PP	PP	11 35 19.0	+1.9
GYA				PcP	PcP	11 35 41.2	+1.6
GYA				S	S	11 38 57.7	+4.5
GYA				sS	sS	11 41 33.0	+1.0
GYA				pmax	pmax		
	comp=Z,20nm,0.8s						
GYA				pmax	pmax		
	comp=Z,120nm,5.2s						
KMI	Kunming	38.88	326	P	P	11 33 44.6	+1.1
KMI				pmax	pmax		
	comp=Z,12nm,0.5s						
WHN	Wuhan	38.91	345	⇑P	P	11 33 44.4	+1.2
WHN				pmax	pmax		
	comp=Z,82nm,1.1s						
NJ2	Nanjing	39.44	351	eP	P	11 33 48.4	+0.9
NJ2				pmax	pmax		
	comp=Z,48nm,0.7s						
ENH	Enshi	40.18	338	eP	P	11 33 54.0	+0.4
	comp=Z,17nm,0.8s						
JNU	Nakatsue	40.35	7	P	P	11 33 54.6	-0.4
	comp=Z,14nm,0.8s,baz=359,slow=12,SNR=3.3						
JNU	Nakatsue	40.35	7	eP	P	11 33 54.6	-0.4
	comp=Z,178nm,1.7s						
DZM	Mont Dzumac	42.28	115	P	P	11 34 11.4	+0.8
	comp=Z,12nm,0.8s,baz=288,slow=8.4,SNR=8.7						
DZM	Mont Dzumac	42.28	115	eP	P	11 34 11.4	+0.8
	comp=Z,34nm,1.3s						
CD2	Chengdu	43.10	332	eP	P	11 34 17.5	+0.6
CD2				pP	pP	11 35 46.4	+0.1
CD2				sP	sP	11 36 40.5	+0.1
CD2				S	S	11 40 09.7	+2.2
CD2				pmax	pmax		
	comp=Z,20nm,0.4s						
CD2				pmax	pmax		
	comp=Z,220nm,4.6s						
TJN	Taejon	43.30	2	ceP	P	11 34 20.0	+1.8
XAN	Xi'an	43.80	340	P	P	11 34 21.9	-0.3
XAN				pmax	pmax		
	comp=Z,24nm,1.1s						
KS15	Wonju Array Si	44.39	3	eP	P	11 34 27.8	+1.1
KS15				epP	PcP	11 36 01.1	+0.7
KSRS	Korea Array	44.40	3	P	P	11 34 27.8	+1.0
	comp=Z,17nm,1.0s,baz=178,slow=9.1,SNR=22						
KSRS				PcP	PcP	11 36 01.1	+0.7
	comp=Z,6.7nm,0.8s,baz=182,slow=3.4,SNR=9.8						
KS01	Wonju Array Si	44.42	3	eP	P	11 34 26.9	0.0
KS01				epP	PcP	11 36 00.9	+0.4
MAJO	Matsushiro	45.07	15	eP	P	11 34 31.7	-0.3
MAJO				epP	PcP	11 36 03.4	+0.5
MAJO				eScP	ScP	11 39 09.6	+0.4
MAJO	Matsushiro	45.07	15	eP	P	11 34 30.3	-1.7
MAJO				pmax	pmax		
	comp=Z,25nm,0.9s						
MAT	Matsushiro	45.07	15	P	P	11 34 31.5	-0.5
MJAR	Matsushiro Arr	45.07	15	P	P	11 34 31.7	-0.3
	comp=Z,21nm,0.8s,baz=194,slow=9.0,SNR=27						
MJAR				PcP	PcP	11 36 03.4	+0.5
	comp=Z,3.5nm,0.8s,baz=175,slow=5.0,SNR=3.9						
MJAR				ScP	ScP	11 39 09.6	+0.4
	comp=Z,1.5nm,0.9s,baz=318,slow=37,SNR=3.2						
PALK	Pallekele	46.78	287	P	P	11 34 46.0	+0.4
	comp=Z,2.2nm,0.4s,baz=111,slow=8.6,SNR=2.8						
PALK				PcP	PcP	11 36 10.5	+1.0
	comp=Z,1.2nm,0.3s,baz=300,slow=1.6,SNR=3.9						
PALK				ScP	ScP	11 39 18.2	+1.1
	comp=Z,1.8nm,0.5s,baz=124,slow=4.4,SNR=3.1						
LZH	Lanzhou	47.49	336	eP	P	11 34 51.0	+0.3
LZH				pP	pP	11 36 22.6	+0.1
LZH				PP	PP	11 36 51.7	+3.6
LZH				sP	sP	11 37 14.5	-1.4
LZH				S	S	11 41 11.1	+1.6
LZH				sS	sS	11 43 57.1	+1.9

LZH SS **SS** **11 44 54.0 +8.6**
LZH pmax pmax
comp=Z,74nm,0.8s
LZH pmax pmax
comp=Z,400nm,7.4s
BJI Beijing 47.68 350 P **P** **11 34 51.6 -0.2**
BJI pmax pmax
comp=Z,33nm,0.9s
LSA Lhasa 49.20 320 *e*P **P** **11 35 05.2 +1.3**
comp=Z,31nm,1.2s
LSA Lhasa 49.20 320 *e*P **P** **11 35 05.3 +1.3**
LSA pmax pmax
comp=Z,31nm,1.2s
HHC Hu-ho-hao-te 49.39 346 *e*P **P** **11 35 06.8 +2.1**
HHC pmax pmax
comp=Z,15nm,1.0s
HHC pmax pmax
comp=Z,310nm,6.0s
ODAN Odare 49.94 314 *e*P **P** **11 35 09.5 +0.3**
RAMN Ramite 50.56 314 *e*P **P** **11 35 14.3 +0.5**
comp=Z,145nm,1.0s
JIRN Jiri 51.28 314 *e*P **P** **11 35 19.3 +0.2**
USRK Ussuriysk Ar. 51.42 6 P **P** **11 35 20.0 +0.6**
comp=Z,16nm,0.7s,baz=180,slow=6.5,SNR=20
MDJ Mudanjiang 51.63 4 P **P** **11 35 20.1 -0.8**
MDJ pP pP 11 36 54.5 -0.3
MDJ sP sP 11 37 47.2 -0.4
MDJ ScP **ScP** **11 39 34.1 -2.9**
MDJ PcS **PcS** **11 40 23.0 -2.3**
MDJ S **S** **11 42 09.2 +3.9**
MDJ ScS **ScS** **11 44 19.0 -0.8**
MDJ sS sS 11 44 57.9 +3.7
MDJ pmax pmax
comp=Z,84nm,0.9s
MDJ pmax pmax
comp=Z,2µm,5.3s
MDJ Mudanjiang 51.63 4 *e*P **P** **11 35 21.9 +0.9**
comp=Z,71nm,1.0s
GUN Gumba 51.65 314 *e*P **P** **11 35 22.0 +0.2**
comp=Z,34nm,0.4s
PKI Pulchoki 51.78 313 *e*P **P** **11 35 22.6 -0.2**
comp=Z,24nm,0.4s
PKIN Phulchoki 51.80 313 *e*P **P** **11 35 22.6 -0.2**
comp=Z,21nm,0.4s
GTA Gaotai 51.99 335 *e*P **P** **11 35 24.6 +0.8**
GTA pP pP 11 36 58.8 +1.0
GTA sP sP 11 37 49.7 -0.9
GTA pmax pmax
comp=Z,24nm,1.0s
KKN Kakani 52.00 314 *e*P **P** **11 35 24.1 -0.1**
DMN Daman 52.02 313 *e*P **P** **11 35 24.6 +0.2**
HYB Hyderabad 52.28 298 *i*P **P** **11 35 25.0 -1.2**
GKN Gorkha 52.59 313 *e*P **P** **11 35 28.6 +0.2**
comp=Z,43nm,0.3s
KOLN Koldanda 53.21 313 *e*P **P** **11 35 33.1 +0.2**
comp=Z,18nm,0.3s
ASAJ Asahikawa 53.32 15 P **P** **11 35 34.0 +0.9**
comp=Z,12nm,0.6s,baz=218,slow=10,SNR=11
ASAJ Asahikawa 53.32 15 *e*P **P** **11 35 33.8 +0.7**
comp=Z,13nm,0.6s
DANN Dangsing 53.42 313 *e*P **P** **11 35 34.5 0.0**
PYUN Piuthan 53.84 312 *e*P **P** **11 35 37.5 +0.1**
comp=Z,155nm,1.0s
H08N1 Diego Garcia H 53.96 267 P **P** **11 35 35.4 -2.4**
baz=118,slow=3.5,SNR=5.6
H08N2 Diego Garcia H 53.97 267 P **P** **11 35 35.4 -2.6**
baz=118,slow=3.5,SNR=3.8
H08N3 Diego Garcia H 53.98 267 P **P** **11 35 35.3 -2.7**
baz=118,slow=3.5,SNR=5.0
RPZ Rata Peaks 54.03 140 P **P** **11 35 39.4 +1.2**
comp=Z,39nm,0.6s,baz=281,slow=2.6,SNR=26
RPZ Rata Peaks 54.03 140 *e*P **P** **11 35 39.1 +0.9**
comp=Z,42nm,0.7s
URZ Urewera 55.97 132 P **P** **11 35 52.4 +0.4**
comp=Z,14nm,0.7s,baz=124,slow=1.0,SNR=6.0
YSS Yuzh-Sakhalins 56.00 14⇑ *e*P **P** **11 35 52.5 +0.6**
YSS pmax pmax
comp=Z,10.0nm,0.7s
KLR Kul'dur 56.38 5 P **P** **11 35 54.9 +0.4**
comp=Z,0.5nm,0.7s,baz=215,slow=3.7,SNR=15
KLR PcP **PcP** **11 36 44.9 +0.1**
comp=Z,0.4nm,0.7s,baz=233,slow=4.7,SNR=5.8
KLR Kul'dur 56.38 5 *e*P **P** **11 35 53.9 -0.6**
ULN Ulaanbaatar 57.08 345 *e*P **P** **11 36 00.5 +0.9**
comp=Z,31nm,0.9s
ULN Ulaanbaatar 57.08 345 P **P** **11 36 00.4 +0.9**
SNR=7.9
ULN Ulaanbaatar 57.08 345 P **P** **11 36 00.4 +0.9**
SNR=7.9
ULN Ulaanbaatar 57.08 345*ce*P **P** **11 36 00.2 +0.6**
ULN pmax pmax
comp=Z,31nm,1.0s
SONA0 Songino Array 57.22 345 *e*P **P** **11 36 01.2 +0.7**
SONA0 *e*PcP **PcP** **11 36 48.7 +0.3**
SONA0 *e*ScP **ScP** **11 40 01.9 +0.2**
SONM Songino Array 57.22 345 P **P** **11 36 01.2 +0.7**
comp=Z,18nm,0.8s,baz=164,slow=8.3,SNR=57
SONM PcP **PcP** **11 36 48.7 +0.3**
comp=Z,3.7nm,0.7s,baz=159,slow=3.2,SNR=4.7
SONM ScP **ScP** **11 40 01.9 +0.2**
comp=Z,0.6nm,0.4s,baz=27,slow=41,SNR=3.4
SONA1 Songino Array 57.23 345 *e*P **P** **11 36 00.7 +0.1**
GRNR Gornyy 58.44 8 *e*P **P** **11 36 09.0 +0.4**
GRNR pmax pmax
comp=Z,31nm,0.7s
TYV Tymovskoe 59.65 13 *e*P **P** **11 36 17.8 +1.1**
TYV pmax pmax
comp=Z,14nm,1.3s
ZAK Zakamensk 60.38 344 *e*P **P** **11 36 20.2 -1.5**
ZAK pmax pmax
comp=Z,10.0nm,1.1s
ZEA Zeya 60.64 1 *e*P **P** **11 36 23.6 +0.4**
ZEA pmax pmax
comp=Z,35nm,1.0s
ZEA MLR MLR
comp=Z,2µm,13.0s
ZEA MLR MLR
comp=E,1µm,14.0s
ZEA MLR MLR
comp=N,900nm,13.0s
WMQ Urumqi 61.07 330 P **P** **11 36 26.5 +0.1**
WMQ pmax pmax
comp=N,71nm,1.1s
WMQ pmax pmax
comp=N,220nm,3.7s
NKL Nikolayevsk 61.43 10 *i*P **P** **11 36 29.8 +1.4**
NKL pmax pmax
comp=E,21nm,0.9s
NKL pmax pmax
comp=Z,82nm,0.9s
TLY Talaya 61.46 345 *e*P **P** **11 36 30.0 +1.2**
TLY pmax pmax
comp=Z,10.0nm,0.9s
AFI Afiamalu 62.03 102 P **P** **11 36 33.8 +0.5**
comp=Z,12nm,1.0s,baz=49,slow=18,SNR=3.9
AFI Afiamalu 62.03 102 *e*P **P** **11 36 33.8 +0.5**
comp=Z,32nm,1.0s
AFI Afiamalu 62.03 102 *e*P **P** **11 36 33.8 +0.5**
AFI pmax pmax
comp=Z,32nm,1.0s
MOY Mondy 62.18 343 *e*P **P** **11 36 34.2 +0.6**
MOY pmax pmax
comp=Z,38nm,3.2s
NIL Nilore 63.87 313 *e*P **P** **11 36 44.5 -0.2**
comp=Z,67nm,0.8s
NIL Nilore 63.87 313 *e*P **P** **11 36 44.5 -0.2**
NIL pmax pmax
comp=Z,67nm,0.8s
HVS Khovu-Aksy 64.11 338 *e*P **P** **11 36 46.1 +0.1**
HVS pmax pmax
comp=Z,44nm,0.9s
KSH Kashi 65.06 320 P **P** **11 36 53.1 +0.8**
KSH sP sP 11 39 22.2 -1.0
KSH S **S** **11 44 51.8 -4.9**
KSH pmax pmax
comp=Z,24nm,0.7s
KSH pmax pmax
comp=Z,43nm,3.6s
PDGK Podgornoye 65.16 325 *i*P **P** **11 36 52.9 0.0**
PDGK pmax pmax
comp=Z,28nm,0.9s
TARG Taragay, Kyrgy 65.19 323 *e*P **P** **11 36 53.6 +0.1**
comp=Z,16nm,0.9s
BOD Bodaibo 65.37 353 *e*P **P** **11 36 53.7 0.0**
BOD pmax pmax
comp=Z,39nm,0.9s
KDJ Kajisay 65.80 323 *e*P **P** **11 36 57.7 +0.7**
comp=Z,14nm,0.8s
MK01 Makanchi Array 65.86 329 *e*P **P** **11 36 55.6 -1.4**
MK31 Makanchi Array 65.88 329 *e*P **P** **11 36 57.2 0.0**
MK31 Makanchi Array 65.88 329 *i*P **P** **11 36 56.9 -0.3**
MK31 pmax pmax
comp=Z,45nm,0.9s
MK32 Makanchi Array 65.88 329 *e*P **P** **11 36 57.4 +0.2**
MK32 *e*S **S** **11 45 04.3 -1.6**
MKAR Makanchi Array 65.88 329 P **P** **11 36 57.4 +0.1**
comp=Z,30nm,0.7s,baz=130,slow=7.7,SNR=240
MKAR S **S** **11 45 04.3 -1.6**
comp=Z,1.2nm,0.9s,baz=117,slow=15,SNR=5.3
MKAR Makanchi Array 65.88 329 *e*P **P** **11 36 57.3 +0.1**
comp=Z,170nm,0.8s
PEA0B Petropavlovsk- 65.96 21 *e*P **P** **11 36 58.9 +1.4**
comp=Z,40nm,0.8s
PETK Petropavlovsk- 65.96 21 P **P** **11 36 58.4 +0.8**
comp=Z,36nm,0.8s,baz=199,slow=1.8,SNR=53
PETK PcP **PcP** **11 37 23.6 -0.1**
comp=Z,9.0nm,0.7s,baz=170,slow=1.9,SNR=7.3
PEA1 Petropavlovsk- 65.96 21 *e*P **P** **11 36 58.4 +0.8**
PEA1 *e*PcP **PcP** **11 37 23.6 -0.2**
MAKZ Makanchi 66.05 329 *e*P **P** **11 36 58.3 0.0**
comp=Z,20nm,0.8s
MAKZ Makanchi 66.05 329 *e*P **P** **11 36 58.3 0.0**
MAKZ pmax pmax
comp=Z,20nm,0.8s
NRN Naryn 66.12 321 *e*P **P** **11 36 59.3 +0.1**
comp=Z,11nm,0.9s
NRN Naryn 66.12 321 *e*P **P** **11 36 59.3 +0.1**
NRN pmax pmax
comp=Z,11nm,0.9s
PET Petropavlovsk 66.23 21 *e*P **P** **11 37 00.4 +1.2**
PET pmax pmax
comp=Z,25nm,1.0s
SFK Sufi-Kurgan 66.93 319 P **P** **11 37 03.7 -0.5**
SFK pmax pmax
comp=Z,9.0nm,0.6s
KZA Kyzart 66.95 322 P **P** **11 37 05.5 +1.1**
SNR=15
TKM2 Tokmak 2 67.21 323 P **P** **11 37 06.4 +0.6**
SNR=15
TKM2 Tokmak 2 67.21 323 P **P** **11 37 05.5 -0.3**
TKM2 pmax pmax
comp=Z,13nm,0.9s
KBL Kabul 67.37 312 *e*P **P** **11 37 07.0 +0.1**
comp=Z,29nm,0.8s
KBL Kabul 67.37 312 *e*P **P** **11 37 07.0 +0.1**
KBL pmax pmax
comp=Z,29nm,0.8s
UCH Uchtor 67.48 321 P **P** **11 37 08.9 +1.1**
SNR=18
AAK Ala-Archa 67.72 322 P **P** **11 37 09.6 +0.6**
SNR=19
AAK Ala-Archa 67.72 322 *e*P **P** **11 37 09.5 +0.6**
comp=Z,19nm,0.8s
AAK Ala-Archa 67.72 322 P **P** **11 37 09.1 +0.2**
AAK pmax pmax
comp=Z,13nm,0.7s
AML Almayashu 67.94 321 P **P** **11 37 11.2 +0.7**
SNR=33
USP Ospenovka 68.07 322 P **P** **11 37 11.5 +0.6**
SNR=12
EKS2 Erkin-Say 68.18 321 P **P** **11 37 12.5 +0.9**
SNR=9.3
MNAS Manas 68.88 321 P **P** **11 37 16.0 +0.1**
MNAS pmax pmax
comp=Z,12nm,0.8s
YAK Yakutsk 69.02 2 P **P** **11 37 16.5 +0.4**
comp=Z,89nm,0.8s,baz=345,slow=0.5,SNR=27
YAK PcP **PcP** **11 37 36.7 +0.3**
comp=Z,8.4nm,0.3s,baz=118,slow=0.6,SNR=2.7
YAK Yakutsk 69.02 2 *e*P **P** **11 37 16.3 +0.2**
comp=Z,93nm,0.8s
YAK *e*PcP **PcP** **11 37 36.7 +0.3**
YAK Yakutsk 69.02 2*d i*P **P** **11 37 16.1 0.0**
YAK *e* 11 37 34.6
YAK *e* 11 39 55.3
YAK *e*S **S** **11 45 39.9 -2.1**
YAK *e* 11 46 22.6
YAK *e*SS **SS** **11 50 19.2 -0.9**
YAK pmax pmax
comp=Z,81nm,0.9s
YAK pmax pmax
comp=N,21nm,1.1s
YAK pmax pmax
comp=E,4.0nm,1.2s
YAK pmax pmax
comp=Z,221nm,5.0s
YAK pmax pmax
comp=N,123nm,5.5s
YAK pmax pmax
comp=E,193nm,4.8s
YAK smax smax
comp=E,259nm,5.5s
YAK smax smax
comp=N,108nm,5.5s
MA2 Magadan 69.49 13 P **P** **11 37 19.7 +0.7**
comp=N,47nm,0.9s,baz=188,slow=6.0,SNR=33
MA2 PcP **PcP** **11 37 39.2 +0.7**
comp=N,14nm,0.8s,baz=156,slow=2.9,SNR=6.4
MA2 Magadan 69.49 13*ce*P **P** **11 37 19.9 +0.9**
ZAA0 Zalesovo Array 69.73 336 *e*P **P** **11 37 19.9 -0.7**
comp=N,55nm,1.1s
ZALV Zalesovo Beam 69.73 336 P **P** **11 37 20.1 -0.5**
comp=N,18nm,0.5s,baz=131,slow=4.3,SNR=78
ZALV S **S** **11 45 45.6 -4.9**
comp=N,2.5nm,0.7s,baz=134,slow=12,SNR=8.6
ZALV Zalesovo Beam 69.73 336 *e*P **P** **11 37 19.6 -1.0**
ZALV Zalesovo Beam 69.73 336 *e*P **P** **11 37 19.6 -1.0**
ZAA1 Zalesovo Array 69.73 336 *e*P **P** **11 37 20.1 -0.5**
ZAA1 *e*S **S** **11 45 45.6 -4.9**
KURBB Kurchatov Arra 70.27 330 P **P** **11 37 24.0 +0.2**
comp=N,24nm,0.9s,baz=137,slow=5.1,SNR=188
KURBB PcP **PcP** **11 37 41.9 -0.1**
comp=N,3.0nm,0.6s,baz=126,slow=4.4,SNR=5.1
KURK Kurchatov 70.29 331 *e*P **P** **11 37 24.0 +0.1**
comp=N,40nm,0.9s
KURK *e*PcP **PcP** **11 37 41.9 -0.1**
KURK Kurchatov 70.29 331 P **P** **11 37 24.3 +0.4**
SNR=15
KURK Kurchatov 70.29 331 P **P** **11 37 24.3 +0.4**
SNR=15
KURK Kurchatov 70.29 331 P **P** **11 37 22.9 -1.1**
KURK pmax pmax
comp=Z,13nm,1.1s
KK06 Karatay Array 70.44 321 *e*P **P** **11 37 24.8 -0.3**
KK05 Karatay Array 70.45 321 *e*P **P** **11 37 24.8 -0.4**
KK07 Karatay Array 70.45 321 *e*P **P** **11 37 24.9 -0.2**
KK02 Karatay Array 70.45 321 *e*P **P** **11 37 24.7 -0.5**
KK31 Karatay Array 70.45 321 *e*P **P** **11 37 25.2 0.0**
KK31 Karatay Array 70.45 321 *e*P **P** **11 37 25.2 0.0**
KKAR Karatay Array 70.45 321 *e*P **P** **11 37 25.2 0.0**
KKAR Karatay Array 70.45 321 *e*P **P** **11 37 25.2 0.0**
KK01 Karatay Array 70.45 321 *e*P **P** **11 37 24.8 -0.4**
KK03 Karatay Array 70.46 321 *e*P **P** **11 37 24.9 -0.3**
KK04 Karatay Array 70.46 321 *e*P **P** **11 37 24.9 -0.3**
KK08 Karatay Array 70.47 321 *e*P **P** **11 37 25.1 -0.2**
KK09 Karatay Array 70.47 321 *e*P **P** **11 37 24.9 -0.4**
NVS Novosibirsk 71.01 336 *e*P **P** **11 37 27.8 -0.4**
NVS *e*S **S** **11 46 00.9 -4.2**
NVS pmax pmax
comp=N,18nm,1.1s
NVS pmax pmax
comp=E,20nm,1.1s
NVS pmax pmax
comp=Z,37nm,1.1s
NVS smax smax
comp=N,15nm,1.9s
NVS smax smax
comp=E,31nm,1.9s
WSAR Wadi Sarin 71.80 297 P **P** **11 37 33.9 +0.4**
comp=E,7.6nm,0.8s,baz=147,slow=7.2,SNR=9.9
OTUK Ortayu 72.09 326 P **P** **11 37 39.0 +4.3**
OTUK pmax pmax
comp=Z,27nm,0.9s
SEY Seymchan 72.84 13*ce*P **P** **11 37 39.3 +0.6**
VNDA Vanda 72.92 172 P **P** **11 37 39.7 +0.7**
comp=Z,2.0nm,0.5s,baz=325,slow=7.0,SNR=24
VNDA Vanda 72.92 172 *e*P **P** **11 37 39.8 +0.8**
comp=Z,16nm,1.8s
VNDA Vanda 72.92 172 *e*P **P** **11 37 39.8 +0.8**
VNDA pmax pmax
comp=Z,16nm,1.8s
MAW Mawson 73.19 201 P **P** **11 37 41.9 +1.3**
comp=Z,1.6nm,0.4s,baz=60,slow=5.6,SNR=9.0
MAW PP **PP** **11 40 29.8 -2.0**
comp=Z,4.2nm,0.6s,baz=90,slow=11,SNR=7.4
MAW Mawson 73.19 201 P **P** **11 37 41.6 +0.9**
baz=73,SNR=9.1
SHAO Shalim 73.19 291 P **P** **11 37 41.6 -0.1**
UOSS Minazif 74.40 298 *e*P **P** **11 37 48.1 -0.3**
comp=Z,9.2nm,0.8s
HATD Hatta, Dubai 74.44 298 *i*P **P** **11 37 48.7 +0.1**
SNR=5.7
ASHO Ashiyiah 74.46 298 *i*P **P** **11 37 48.9 +0.1**
SNR=8.0
BANOM Banah 74.59 299 *i*P **P** **11 37 49.8 +0.3**
SNR=11
SHME Shamm 74.76 299 *i*P **P** **11 37 50.6 +0.1**
SNR=10
BVAR Borovoye Array 75.76 329 P **P** **11 37 56.0 +0.6**
comp=Z,17nm,0.6s,baz=134,slow=6.4,SNR=95
BRVK Borovoye 75.83 329 *e*P **P** **11 37 56.1 +0.3**
comp=Z,49nm,1.0s
BRVK Borovoye 75.83 329 P **P** **11 37 56.4 +0.5**
SNR=17
BRVK Borovoye 75.83 329 P **P** **11 37 56.4 +0.5**
SNR=17
BRVK Borovoye 75.83 329*ce*P **P** **11 37 55.7 -0.1**
BRVK pmax pmax
comp=Z,39nm,1.0s
OPO Ambohidratompo 76.60 253 P **P** **11 38 01.7 +0.6**
comp=Z,2.7nm,0.5s,baz=69,slow=3.7,SNR=5.0
GYB1 ALIBECK ARRAY 76.80 311 *e*P **P** **11 38 02.7 +1.1**
comp=Z,31nm,0.9s
GYB2 ALIBECK ARRAY 76.81 312 *e*P **P** **11 38 02.8 +1.1**
comp=Z,29nm,0.9s
GYA1 ALIBECK ARRAY 76.81 311 *e*P **P** **11 38 02.5 +0.8**
comp=Z,30nm,1.0s
GYA2 ALIBECK ARRAY 76.81 312 *e*P **P** **11 38 02.7 +1.0**
comp=Z,29nm,0.9s
GEYT Alibeck 76.81 311 P **P** **11 38 02.4 +0.7**
comp=Z,21nm,0.8s,baz=156,slow=4.0,SNR=37
GYA0 ALIBECK ARRAY 76.81 311 *e*P **P** **11 38 02.7 +1.1**
comp=Z,29nm,1.0s
GYA0B ALIBECK ARRAY 76.81 311 *e*P **P** **11 38 02.7 +1.1**
comp=Z,30nm,1.0s
GYB5 ALIBECK ARRAY 76.81 311 *e*P **P** **11 38 02.7 +1.0**
comp=Z,37nm,1.1s
GYB3 ALIBECK ARRAY 76.82 312 *e*P **P** **11 38 02.8 +1.1**
comp=Z,28nm,0.9s
GYB4 ALIBECK ARRAY 76.83 311 *e*P **P** **11 38 02.7 +1.0**
comp=Z,28nm,0.9s
TIXI Tiksi 78.64 1 *e*P **P** **11 38 10.3 -0.4**
comp=Z,23nm,0.7s
TIXI Tiksi 78.64 1*ce*P **P** **11 38 10.0 -0.7**
TIXI pmax pmax
comp=Z,27nm,1.0s
AB07 Akbulak array 79.76 323 *e*P **P** **11 38 16.9 -0.4**
AB06 Akbulak array 79.76 323 *e*P **P** **11 38 16.9 -0.3**
AB03 Akbulak array 79.78 323 *e*P **P** **11 38 17.0 -0.3**
AB02 Akbulak array 79.78 323 *e*P **P** **11 38 16.9 -0.4**
AB01 Akbulak array 79.78 323 *e*P **P** **11 38 16.9 -0.3**
AB31 Akbulak array 79.78 323 *e*P **P** **11 38 17.1 -0.2**
AB31 Akbulak array 79.78 323 *i*P **P** **11 38 16.7 -0.6**
AB31 pmax pmax
comp=Z,5.0nm,0.6s
ABKAR Akbulak array 79.78 323 *e*P **P** **11 38 17.0 -0.3**
comp=Z,82nm,0.6s
AB08 Akbulak array 79.78 323 *e*P **P** **11 38 16.9 -0.4**
AB04 Akbulak array 79.78 323 *e*P **P** **11 38 16.9 -0.4**
AB05 Akbulak array 79.78 323 *e*P **P** **11 38 16.9 -0.4**
AB09 Akbulak array 79.79 323 *e*P **P** **11 38 17.0 -0.4**
BILL Bilibino 80.32 14⇓ *e*P **P** **11 38 19.5 -0.3**
BILL *e* 11 41 35.0
BILL *e*PPP PPP 11 43 19.9
BILL pmax pmax
comp=Z,4.0nm,1.1s
AKTO Aktyubinsk 81.38 323 P **P** **11 38 26.2 +0.5**
comp=Z,18nm,0.6s,baz=111,slow=6.5,SNR=63
SYO Syowa Base 81.89 201⇑ *e*P **P** **11 38 29.0 +1.1**
SVE Sverdlovsk 82.52 330 *e*P **P** **11 38 31.4 +0.1**
SVE pmax pmax
comp=Z,41nm,1.3s
QSPA South Pole Qui 82.86 180 P **P** **11 38 33.5 +0.3**
comp=Z,5.7nm,0.6s,baz=202,slow=0.2,SNR=21
ARU Arti 83.41 329 *e*P **P** **11 38 35.5 -0.3**
comp=Z,70nm,1.6s
ARU Arti 83.41 329*d i*P **P** **11 38 35.2 -0.6**
ARU *PP **pP** **11 40 19.9 -2.0**
ARU S **S** **11 48 08.4 -8.0**
ARU pmax pmax
comp=Z,50nm,1.7s
RAYN Ar Rayn 83.60 295 *e*P **P** **11 38 37.9 +0.3**
comp=Z,26nm,0.9s
AKUT Akutan 83.62 34 *e*P **P** **11 38 37.2 +0.4**
comp=Z,99nm,1.0s
GAMB Gambell 84.81 23 *e*P **P** **11 38 43.3 +0.8**
comp=Z,73nm,1.8s
FALS False Pass 85.16 33 *e*P **P** **11 38 44.4 -0.1**
comp=Z,53nm,1.0s
SDPT Sand Point 86.92 33 *e*P **P** **11 38 52.6 -0.2**
comp=Z,70nm,0.6s
TBLG Delisi 87.74 312 *e*P **P** **11 38 58.3 +1.2**
comp=Z,33nm,1.1s
TBLG Delisi 87.74 312 *e*P **P** **11 38 58.3 +1.2**
TBLG pmax pmax
comp=Z,33nm,1.1s
KMBO Kilima Mbogo 87.99 269 P **P** **11 38 59.4 +0.3**
comp=Z,1.5nm,0.5s,baz=51,slow=2.8,SNR=7.0
KMBO Kilima Mbogo 87.99 269 *e*P **P** **11 38 59.5 +0.3**
comp=Z,9.3nm,1.4s
KMBO Kilima Mbogo 87.99 269 *e*P **P** **11 38 59.5 +0.3**
KMBO pmax pmax
comp=Z,9.0nm,1.4s
ZEI Tsey 88.56 313 *e*P **P** **11 39 00.6 -0.5**
ZEI pmax pmax
comp=Z,10.0nm,0.6s
KBZ Khabaz 89.45 314 P **P** **11 39 05.0 +0.1**
comp=Z,4.4nm,0.8s,baz=160,slow=1.8,SNR=13
NEY Neytrino 89.49 314 *e*P **P** **11 39 05.8 +0.4**
NEY pmax pmax
comp=Z,1.0nm,1.0s
KIV Kislovodsk 89.64 314 *e*P **P** **11 39 06.0 0.0**
KIV pmax pmax
comp=Z,7.0nm,1.1s
VRH Novokhopyorsk 91.52 321 *e*P **P** **11 39 13.5 -0.8**
VRH pmax pmax
comp=Z,20nm,0.7s
KDAK Kodiak Island 91.74 32 P **P** **11 39 15.3 +0.1**
comp=Z,18nm,1.1s,baz=255,slow=4.0,SNR=4.0
KDAK Kodiak Island 91.74 32 *e*P **P** **11 39 15.3 +0.1**
comp=Z,300nm,2.0s
KDAK Kodiak Island 91.74 32 *e*P **P** **11 39 15.3 +0.1**
KDAK pmax pmax
comp=Z,300nm,2.0s
IM3 Indian Mountai 92.75 24 *e*P **P** **11 39 18.9 -0.8**
VSR Storozhevoye 93.11 321 *e*P **P** **11 39 19.9 -1.8**
VSR pmax pmax
comp=Z,10.0nm,0.8s
SUA Susitna One 93.28 29 *e*P **P** **11 39 21.4 -1.0**
comp=Z,15nm,0.8s
LPSR Galich'ya Gora 93.43 322 *e*P **P** **11 39 19.9 -3.2**
LPSR pmax pmax
comp=Z,10.0nm,0.9s
BPAW Bear Paw Mtn. 93.57 26 *e*P **P** **11 39 23.2 -0.4**
comp=Z,4.5nm,0.9s
RC01 Rabbit Creek A 93.71 29 *e*P **P** **11 39 23.4 -0.8**
comp=Z,9.9nm,0.7s
MLY Manley 93.82 25 *e*P **P** **11 39 24.1 -0.6**
comp=Z,9.1nm,0.8s
KLMR Klimovskoe 94.14 331 *e*P **P** **11 39 22.2 -3.9**
KLMR AMP 11 39 30.2
comp=Z,10.0nm,1.2s
KLMR Klimovskoe 94.14 331 *e*P **P** **11 39 22.1 -4.0**
KLMR pmax pmax
comp=Z,10.0nm,1.2s
COLD Coldfoot 94.35 23 *e*P **P** **11 39 27.4 +0.4**
comp=Z,11nm,0.9s
RND Reindeer 94.42 27 *e*P **P** **11 39 26.3 -1.2**
comp=Z,13nm,0.8s
RND Reindeer 94.42 27 *e*P **P** **11 39 26.3 -1.2**
RND pmax pmax
comp=Z,13nm,0.8s
MCK McKinley 94.42 26 *e*P **P** **11 39 26.4 -1.0**
comp=Z,8.8nm,1.0s
MCK McKinley 94.42 26 *e*P **P** **11 39 26.4 -1.0**
MCK pmax pmax
comp=Z,9.0nm,1.0s
SNAA Sanae 94.44 194 P **P** **11 39 28.4 +0.9**

comp=Z,1.2nm,0.5s,baz=201,slow=6.2,SNR=19
SNAA Sanae 94.44 194 *e*P **P 11 39 28.4 +0.9**
comp=Z,19nm,1.5s
SNAA Sanae 94.44 194 *e*P **P 11 39 28.4 +0.9**
SNAA pmax pmax
comp=Z,19nm,1.5s
TOLK Toolik Lake Re 94.77 21 P **P 11 39 29.2 +0.3**
baz=263
TOLK Toolik Lake Re 94.77 21 *e*P **P 11 39 29.4 +0.4**
comp=Z,15nm,1.0s
MDM Murphy Dome 94.87 25 *e*P **P 11 39 28.5 -1.0**
comp=Z,6.5nm,1.1s
WRH Wood River Hil 94.87 26 *e*P **P 11 39 28.3 -1.1**
comp=Z,14nm,1.0s
CCB Clear Creek Bu 95.01 26 *e*P **P 11 39 28.6 -1.4**
comp=Z,12nm,0.8s
DHY Denali Highway 95.05 27 *e*P **P 11 39 29.9 -0.5**
comp=Z,6.6nm,0.7s
OBN Obninsk 95.09 325 *e*P **P 11 39 28.4 -2.2**
OBN *e* 11 43 26.4
OBN pmax pmax
comp=Z,5.0nm,0.9s
IL1 Eielson Array 95.42 25 *e*P **P 11 39 29.4 -2.5**
ILAR Eielson Array 95.42 25 P **P 11 39 29.9 -2.1**
comp=Z,2.8nm,0.8s,baz=264,slow=4.2,SNR=32
ILAR PP **PP 11 43 29.1 -1.4**
comp=Z,0.7nm,1.0s,baz=266,slow=7.2,SNR=4.9
ILB Eielson Array 95.42 25 *e*P **P 11 39 30.2 -1.7**
ILB *e*PP **PP 11 43 29.1 -1.4**
BOSA Boshof 95.43 240 P **P 11 39 32.6 -0.4**
comp=Z,1.9nm,0.7s,baz=115,slow=6.4,SNR=6.5
BR101 Keskin Array S 95.82 309 *e*P **P 11 39 33.5 -1.0**
BR131 Keskin Array S 95.82 309 *e*P **P 11 39 33.5 -1.0**
BRTR Keskin Array B 95.82 309 P **P 11 39 33.5 -1.0**
comp=Z,3.3nm,0.8s,baz=124,slow=5.1,SNR=16
BRTR Keskin Array B 95.82 309 *i* P **P 11 39 33.5 -1.0**
BRTR pmax pmax
comp=Z,4.0nm,0.8s
PAX Paxson 95.90 27 *e*P **P 11 39 33.9 -0.3**
comp=Z,20nm,1.7s
PAX Paxson 95.90 27 *e*P **P 11 39 33.9 -0.3**
PAX pmax pmax
comp=Z,20nm,1.7s
RIDG Independ'e Rid 96.23 27 *e*P **P 11 39 35.1 -0.5**
comp=Z,31nm,1.8s
FYU Fort Yukon 96.23 24 *e*P **P 11 39 36.1 +0.6**
comp=Z,26nm,1.3s
DOT Dot Lake 96.58 27 *e*P **P 11 39 37.1 -0.1**
comp=Z,25nm,0.8s
SCRK Sand Creek 96.62 26 *e*P **P 11 39 37.5 -0.1**
comp=Z,22nm,2.0s
AKASG Malin Array Be 99.35 320 P **Pdif 11 39 48.8 -1.0**
comp=Z,1.0nm,0.4s,baz=73,slow=4.9,SNR=9.4
AKASG PP **PP 11 44 05.9 +5.4**
comp=Z,0.2nm,0.3s,baz=87,slow=5.8,SNR=4.1
AKBB Malin Array Si 99.35 320 *e*Pdif **Pdif 11 39 48.8 -1.0**
comp=Z,17nm,1.8s
AKBB *e*PP **PP 11 44 05.9 +5.4**
AKBB Malin Array Si 99.35 320 *e*P **Pdif 11 39 48.8 -1.0**
AKBB *e* 11 44 05.9
AKBB pmax pmax
comp=Z,17nm,1.8s
KIEV Kiev 99.36 320 *e*P **Pdif 11 39 48.3 -1.5**
KIEV pmax pmax
comp=Z,2.0nm,0.8s
ARA0 ARCESS Array S 100.08 339 *e*Pdif **Pdif 11 39 52.1 -0.6**
ARA0 *e*PKKPbc **PKKPbc 11 56 09.8 -2.2**
ARCES ARCESS Array B 100.08 339 P **Pdif 11 39 52.1 -0.6**
comp=Z,2.1nm,0.7s,baz=57,slow=4.5,SNR=4.2
ARCES PKKPbc **PKKPbc 11 56 09.8 -2.2**
comp=Z,6.5nm,1.1s,baz=273,slow=2.3,SNR=5.8
FIA0 FINESS Array S 100.65 331 *e*PKiKP **PKiKP 11 44 18.6 +0.2**
FINES FINESS Array B 100.65 331 PKiKP **PKiKP 11 44 18.6 +0.2**
comp=Z,1.2nm,0.6s,baz=117,slow=3.0,SNR=5.3
INK Inuvik 100.68 22 P **Pdif 11 39 55.1 -0.2**
comp=Z,2.8nm,1.2s,baz=305,slow=4.7,SNR=5.9
INK PKiKP **PKiKP 11 44 18.9 +0.6**
comp=Z,0.7nm,0.6s,baz=296,slow=4.4,SNR=6.8
INK PKKPbc **PKKPbc 11 56 07.2 -3.0**
comp=Z,1.1nm,1.0s,baz=83,slow=3.1,SNR=5.4
INK PKKP **PKKPdf 11 56 13.9 -0.5**
comp=Z,0.4nm,0.5s,baz=27,slow=4.0,SNR=3.1
SPITS Spitsbergen Ar 100.78 349 P **Pdif 11 39 55.2 -0.5**
comp=Z,13nm,1.0s,baz=44,slow=4.9,SNR=6.8
MLR Muntele Rosu 101.64 315 PP PP 11 44 20.7 +2.8
comp=Z,0.6nm,0.7s,baz=88,slow=10,SNR=3.7
NB200 NORSAR Array S 107.76 332 *e*PKiKP **PKiKP 11 44 31.8 +0.2**
NOA NORSAR Array B 107.76 332 PKiKP **PKiKP 11 44 31.8 +0.2**
comp=Z,1.9nm,0.9s,baz=261,slow=3.1,SNR=3.0
RES Resolute Bay 108.65 10 Pdiff **Pdif 11 40 31.4 +0.8**
comp=Z,1.8nm,0.8s,baz=325,slow=7.8,SNR=9.0
RES PKiKP **PKiKP 11 44 32.9 0.0**
comp=Z,1.1nm,0.9s,baz=232,slow=4.1,SNR=6.3
YKA Yellowknife Ar 109.85 25 Pdiff **Pdif 11 40 38.3 +2.1**
comp=Z,0.1nm,0.8s,baz=292,slow=4.7,SNR=4.0
YKA PKiKP **PKiKP 11 44 35.0 -0.5**
comp=Z,1.2nm,0.6s,baz=306,slow=1.7,SNR=32
YKA PP **PP 11 45 14.2 -2.5**
comp=Z,0.4nm,1.0s,baz=298,slow=5.0,SNR=5.0
YKA PKKPbc **PKKPbc 11 55 39.5 -2.9**
comp=Z,0.4nm,0.5s,baz=116,slow=3.6,SNR=11
YKA PKKP **PKKPdf 11 55 56.4 -0.8**
comp=Z,0.0nm,0.4s,baz=90,slow=4.2,SNR=3.7
YKB5 Yellowknife Ar 109.85 25 *e*Pdif **Pdif 11 40 38.3 +2.1**
YKB5 *e*PKiKP **PKiKP 11 44 35.0 -0.5**
YKB5 *e*PP **PP 11 45 14.2 -2.5**
YKB5 *e*PKKPbc **PKKPbc 11 55 39.5 -2.9**
YKB5 *e*PKKPab **PKKPdf 11 55 56.4 -0.8**
B05A Bryant 110.22 41 P **PKiKP 11 44 37.1 +0.6**
baz=282
N02D Trinity Center 111.16 49 P **PKiKP 11 44 39.1 +0.3**
baz=279
K04D Chiloquin, OR 111.58 47 P **PKiKP 11 44 39.9 +0.4**
baz=281
J05D Fort Rock, OR 111.83 46 P **PKiKP 11 44 40.7 +0.7**
baz=281
NEW Newport 113.44 40 PKiKP **PKiKP 11 44 43.9 +1.1**
comp=Z,1.6nm,0.6s,baz=248,slow=5.4,SNR=3.1
NEW Newport 113.44 40 P **PKiKP 11 44 44.3 +1.5**
baz=286
SMMC Simmler 114.15 55 P PKPdf 11 44 45.7 +1.2
baz=279
PKM Mcpherson Peak 114.36 55 P PKPdf 11 44 46.0 +0.8
baz=279
VES Vestal, Richgr 114.80 54 P PKPdf 11 44 45.8 +0.1
baz=280
SNCC San Nicolas Is 114.84 57 P PKPdf 11 44 45.8 -0.1
baz=278
NV01 Mina Array Sit 114.95 51 *e*PKPdf PKPdf 11 44 47.0 +0.8
NV01 *e*PP **PP 11 45 51.7 -2.1**
NVAR Mina Array Bea 114.95 51 PKP PKPdf 11 44 47.1 +0.9
comp=Z,1.5nm,0.7s,baz=241,slow=2.3,SNR=13
NVAR PP **PP 11 45 51.7 -2.1**
comp=Z,1.5nm,1.2s,baz=289,slow=4.5,SNR=4.3
ARVC Arvin 115.12 55 P **PKPdf 11 44 47.2 +0.8**
baz=279
ISA Isabella, Lake 115.32 54 P **PKPdf 11 44 47.3 +0.5**
baz=280
ISA Isabella, Lake 115.32 54 *e*Pdif **Pdif 11 41 00.6 -0.7**
ISA Isabella, Lake 115.32 54 *e*P **Pdif 11 41 00.6 -0.7**
CWC Cottonwood Cre 115.50 53 P **PKPdf 11 44 47.6 +0.4**
baz=280
PASC Pasadena Art C 115.80 56 *e*PKPdf **PKPdf 11 44 47.3 -0.5**
EDW2 Edwards Air Fo 115.84 55 P **PKPdf 11 44 49.0 +1.2**
baz=280,SNR=5.4
MSO Missoula 115.93 41 P **PKPdf 11 44 47.6 -0.2**
baz=288
GRAC Grapevine Rang 115.96 52 P **PKPdf 11 44 48.4 +0.4**
baz=281
LRMC Laurel Mtn Rad 115.99 54 P **PKPdf 11 44 48.8 +0.6**
baz=280
MPMC Manual Prospec 116.04 53 P **PKPdf 11 44 49.5 +1.1**
baz=281,SNR=5.7
BFSC Mount Baldy Ra 116.22 55 P **PKPdf 11 44 49.0 +0.3**
baz=280
FURC Furnace Creek, 116.46 53 P **PKPdf 11 44 49.9 +1.0**
baz=281
HLID Hailey 116.59 45 P **PKPdf 11 44 50.3 +1.1**
baz=287
HLID Hailey 116.59 45 *e*PKPdf **PKPdf 11 44 50.6 +1.4**
GSC Goldstone, Bar 116.72 54 P **PKPdf 11 44 50.6 +1.0**
baz=281
GSC Goldstone, Bar 116.72 54 *e*PKPdf **PKPdf 11 44 51.0 +1.4**
GSC Goldstone, Bar 116.72 54 *e*PKiKP **PKPdf 11 44 51.0 +1.4**
TPNV Topopah Spring 116.84 52 P **PKPdf 11 44 50.6 +0.7**
baz=282
R11A Troy Canyon, C 117.06 51 P **PKPdf 11 44 51.0 +0.8**
baz=283
R11A Troy Canyon, C 117.06 51 *e*PKPdf **PKPdf 11 44 51.4 +1.1**
PFO Pinyon Flats O 117.31 56 P **PKPdf 11 44 51.7 +0.9**
baz=280
TUQ Turquoise Moun 117.41 54 P **PKPdf 11 44 51.4 +0.5**
baz=282
MONP2 Monument Peak 117.46 57 P **PKPdf 11 44 51.8 +0.5**
baz=280
BELC Belle Mtn. Jos 117.62 55 P **PKPdf 11 44 52.3 +0.9**
baz=281
GMRC Granite Mounta 117.75 54 P **PKPdf 11 44 52.5 +0.9**
baz=281
IKP In-Ko-Pah, Jac 117.77 57 P **PKPdf 11 44 52.6 +1.0**
baz=280
SHPR Sheep Range 117.79 52 *e*PKPdf **PKPdf 11 44 53.4 +1.6**
BOZ Bozeman (W) 117.85 42 P **PKPdf 11 44 52.1 +0.6**
baz=290
BC3 Big Chuckawall 118.13 56 P **PKPdf 11 44 53.7 +1.4**
baz=281,SNR=5.5
IRM Iron Mountain 118.28 55 P **PKPdf 11 44 53.5 +1.0**
baz=281
YMR Madison River 118.61 43 *e*PKPdf **PKPdf 11 44 55.0 +1.9**
DUG Dugway, Tooele 118.68 48 P **PKPdf 11 44 54.1 +0.8**
baz=286
Y12C Blythe 118.87 55 P **PKPdf 11 44 54.3 +0.7**
baz=282
IMW Indian Meadow 118.88 43 *e*PKPdf **PKPdf 11 44 55.2 +1.4**
H17A Grand Village 118.96 43 P **PKPdf 11 44 55.3 +1.4**
baz=290
TPAW Teton Pass 119.01 44 *e*PKPdf **PKPdf 11 44 55.1 +1.1**
MOOW Moose Ponds 119.06 43 *e*PKPdf **PKPdf 11 44 54.9 +0.9**
PDMCI Parker Dam,Lak 119.07 55 P **PKPdf 11 44 54.5 +0.5**
baz=282
W13A Hualapai Mount 119.11 54 *e*PKPdf **PKPdf 11 44 55.7 +1.4**
REDW Red Top Meadow 119.12 44 *e*PKPdf **PKPdf 11 44 55.3 +1.1**
SNOW Snow King Moun 119.15 44 *e*PKPdf **PKPdf 11 44 54.7 +0.5**
HWUT Hardware Ranch 119.17 46 *e*PKPdf **PKPdf 11 44 54.0 -0.2**
LCMT Little Creek M 119.18 51 *e*PKPdf **PKPdf 11 44 55.8 +1.5**
LOHW Long Hollow 119.20 44 *e*PKPdf **PKPdf 11 44 55.3 +1.0**
FFC Flin Flon 119.36 29 *e*PKPdf **PKPdf 11 44 53.9 0.0**
FFC Flin Flon 119.36 29 *e*PKiKP **PKPdf 11 44 53.9 0.0**
RLMT Red Lodge 119.57 42 P **PKPdf 11 44 55.5 +0.5**
baz=292
MSU Marysvale 119.61 50 *e*PKPdf **PKPdf 11 44 56.8 +1.6**
MSU Marysvale 119.61 50 *e*PKiKP **PKPdf 11 44 56.8 +1.6**
MTPU Mount Pierson 119.73 50 *e*PKPdf **PKPdf 11 44 57.4 +1.8**
U15A North Rim 120.06 52 *e*PKPdf **PKPdf 11 44 58.0 +1.7**
TMUT Trail Mountain 120.12 48 *e*PKPdf **PKPdf 11 44 56.6 +0.3**
BW06 Boulder Array 120.21 44 P **PKPdf 11 44 56.6 +0.3**
baz=290
BW06 Boulder Array 120.21 44 *e*PKPdf **PKPdf 11 44 56.5 +0.3**
PD31 Pinedale Array 120.21 44 *e*PKPdf **PKPdf 11 44 56.5 +0.2**
PD31 *e*PKKPbc **PKKPab 11 55 08.3 +0.1**
PDAR Pinedale Array 120.21 44 PKP **PKPdf 11 44 56.5 +0.2**
comp=Z,1.7nm,0.6s,baz=189,slow=0.7,SNR=21
PDAR PKKPbc **PKKPab 11 55 08.3 +0.1**
comp=Z,0.5nm,0.5s,baz=109,slow=6.4,SNR=6.4
PDAR Pinedale Array 120.21 44 *e*PKPdf **PKPdf 11 44 55.9 -0.3**
Q16A Castle Valley 120.25 49 *e*PKPdf **PKPdf 11 44 57.6 +1.2**
FCC Fort Churchill 120.29 23 *e*PKPdf **PKPdf 11 44 55.1 -0.4**
FCC Fort Churchill 120.29 23 *e*PKiKP **PKPdf 11 44 55.1 -0.4**
P17A Butcher Ranch, 120.41 48 *e*PKPdf **PKPdf 11 44 57.6 +1.0**
214A Organ Pipe Nat 120.64 57 P **PKPdf 11 44 57.5 +0.4**
baz=282
SRU San Rafael Swe 120.68 49 *e*PKPdf **PKPdf 11 44 58.0 +0.8**
SRU San Rafael Swe 120.68 49 *e*PKiKP **PKPdf 11 44 58.0 +0.8**
LAO LASA Array 120.91 39 P **PKPdf 11 44 58.5 +1.3**
baz=295
LAO LASA Array 120.91 39 *e*PKPdf **PKPdf 11 44 58.4 +1.1**
WUAZ Wupatki 121.01 53 P **PKPdf 11 44 59.2 +1.3**
baz=285,SNR=9.3
WUAZ Wupatki 121.01 53 *e*PKPdf **PKPdf 11 44 59.1 +1.2**
X16A Lo Mia Camp, P 121.22 54 *e*PKPdf **PKPdf 11 44 59.8 +1.4**
PV09 Paradox Valley 121.90 49 *e*PKPdf **PKPdf 11 45 00.9 +1.2**
PV10 Paradox Valley 122.01 49 *e*PKPdf **PKPdf 11 45 00.9 +1.0**
O20A White River Ci 122.03 47 P **PKPdf 11 45 00.8 +1.1**
baz=290,SNR=12
O20A White River Ci 122.03 47 *e*PKPdf **PKPdf 11 45 00.9 +1.1**
RWWY Rawlins 122.22 45 *e*PKPdf **PKPdf 11 44 59.7 -0.5**
TUC Tucson 122.24 56 P **PKPdf 11 45 01.0 +0.7**
baz=283
TUC Tucson 122.24 56 *e*PKPdf **PKPdf 11 45 01.4 +1.1**
TUC Tucson 122.24 56 *e*PKiKP **PKPdf 11 45 01.4 +1.1**
K22A Casper 122.34 43 P **PKPdf 11 45 00.3 0.0**
baz=293
K22A Casper 122.34 43 *e*PKPdf **PKPdf 11 45 00.3 0.0**
X18A Snowflake 122.39 54 *e*PKPdf **PKPdf 11 45 02.2 +1.6**
W18A Petrified Fore 122.41 53 P **PKPdf 11 45 01.5 +0.9**
baz=286
PV01 Paradox Valley 122.44 49 *e*PKPdf **PKPdf 11 45 01.4 +0.7**
MVCO Mesa Verde 122.77 50 P **PKPdf 11 45 02.6 +1.2**
baz=288,SNR=7.4
MVCO Mesa Verde 122.77 50 *e*PKPdf **PKPdf 11 45 02.7 +1.4**
SMCO Snowmass 123.28 47 *e*PKPdf **PKPdf 11 45 03.8 +1.3**
RSSD Black Hills 123.40 41 P **PKPdf 11 45 02.4 0.0**
baz=296
RSSD Black Hills 123.40 41 *e*PKPdf **PKPdf 11 45 02.1 -0.2**
RSSD Black Hills 123.40 41 *e*PKiKP **PKPdf 11 45 02.1 -0.2**
N23A Red Feather La 123.40 45 P **PKPdf 11 45 02.6 +0.1**
baz=292
319A Douglas 123.70 57 *e*PKPdf **PKPdf 11 45 04.6 +1.4**
S22A 4UR Ranch, Cre 123.86 49 P **PKPdf 11 45 05.1 +1.5**
baz=289,SNR=11
S22A 4UR Ranch, Cre 123.86 49 *e*PKPdf **PKPdf 11 45 04.8 +1.3**
ISCO Idaho Springs 124.04 46 P **PKPdf 11 45 04.2 +0.4**
baz=292
ISCO Idaho Springs 124.04 46 *e*PKPdf **PKPdf 11 45 04.7 +0.9**
ISCO Idaho Springs 124.04 46 *e*PKiKP **PKPdf 11 45 04.7 +0.9**
ES19 SONSECA Array 124.25 314 *e*PKPdf **PKPdf 11 45 04.4 +0.5**
ESDC Sonseca Array 124.31 314 PKP **PKPdf 11 45 04.5 +0.5**
comp=Z,1.2nm,0.6s,baz=8.0,slow=3.6,SNR=6.2
TOA0 Torodi Ar. Sit 124.32 281 *e*PKPdf **PKPdf 11 45 04.2 -0.4**
TOA0 *e*PKPdf **PKPdf 11 45 04.3 -0.4**
TORD Torodi Ar. Bea 124.32 281 PKP **PKPdf 11 45 04.5 -0.1**
comp=Z,9.2nm,0.7s,baz=70,slow=2.1,SNR=59
TOA1 Torodi Ar. Sit 124.32 281 *e*PKPdf **PKPdf 11 45 04.5 -0.1**
121A Cookes Peak, D 124.65 55 P **PKPdf 11 45 05.7 +0.7**
baz=285
SDCO Great Sand Dun 124.85 49 P **PKPdf 11 45 06.6 +1.2**
baz=290,SNR=8.3
SDCO Great Sand Dun 124.85 49 *e*PKPdf **PKPdf 11 45 06.5 +1.1**
ULM Lac du Bonnet 124.99 31 PKP **PKPdf 11 45 04.6 -0.3**
comp=Z,6.2nm,0.8s,baz=314,slow=2.4,SNR=15
ULM Lac du Bonnet 124.99 31 *e*PKPdf **PKPdf 11 45 04.8 -0.1**
ULM Lac du Bonnet 124.99 31 *e*PKiKP **PKPdf 11 45 04.8 -0.1**
ANMO Albuquerque 125.03 52 PKP **PKPdf 11 45 07.1 +1.4**
comp=Z,4.8nm,0.8s,baz=12,slow=2.7,SNR=19
ANMO Albuquerque 125.03 52 P **PKPdf 11 45 06.5 +0.8**
baz=288
ANMO Albuquerque 125.03 52 *e*PKPdf **PKPdf 11 45 06.9 +1.2**
ANMO Albuquerque 125.03 52 *e*PKiKP **PKPdf 11 45 06.9 +1.2**
B31A Greenbush Farm 125.11 34 P **PKPdf 11 45 05.2 0.0**
baz=304
BNM Barren Site 125.14 53 *e*PKPdf **PKPdf 11 45 07.4 +1.4**
C31A Landman Farms, 125.41 34 P **PKPdf 11 45 05.7 -0.1**
baz=304
NRS Narsarsuaq 125.63 355 *e*PKPdf **PKPdf 11 45 04.8 -0.9**
NRS Narsarsuaq 125.63 355 *e*PKiKP **PKPdf 11 45 04.8 -0.9**
MHTCO State Highway 125.67 49 *e*PKPdf **PKPdf 11 45 08.3 +1.4**
B32A Ashes, Strandq 125.73 33 P **PKPdf 11 45 06.3 0.0**
baz=305
T25A Trinidad 125.88 49 P **PKPdf 11 45 08.0 +0.7**
baz=291
T25A Trinidad 125.88 49 *e*PKPdf **PKPdf 11 45 08.4 +1.1**
A33A Warroad 126.03 32 P **PKPdf 11 45 06.5 -0.4**
baz=307
AGMN Agassiz Nation 126.16 33 P **PKPdf 11 45 06.5 -0.7**
baz=306
F31A Hecla 126.16 37 P **PKPdf 11 45 07.0 -0.3**
baz=302
B34A Aery, Baudette 126.69 32 P **PKPdf 11 45 07.9 -0.3**
baz=307
MNTX Cornudas Mount 126.84 56 P **PKPdf 11 45 09.5 +0.5**
baz=286
MNTX Cornudas Mount 126.84 56 *e*PKPdf **PKPdf 11 45 10.1 +1.0**
G32A Webster 126.93 37 P **PKPdf 11 45 08.7 -0.1**
baz=302
C34A RKJ Ranch, Bem 127.05 33 P **PKPdf 11 45 08.7 -0.3**
baz=307
E33A Westby DABS, E 127.11 35 P **PKPdf 11 45 08.8 -0.3**
baz=305
B35A Bob, Littlefor 127.25 32 P **PKPdf 11 45 09.2 -0.1**
baz=308
F33A 5 Mile Ranch, 127.32 36 P **PKPdf 11 45 09.6 +0.2**
baz=304
H32A Carlson Farm, 127.37 38 P **PKPdf 11 45 09.8 +0.2**
baz=302
K31A O'Neill 127.50 40 P **PKPdf 11 45 10.0 0.0**
baz=300
C35A Jirik Farms, M 127.53 33 P **PKPdf 11 45 09.5 -0.3**
baz=308
H33A Prehn Over Nor 127.69 37 P **PKPdf 11 45 10.8 +0.5**
baz=303
HPIG 127.78 61 *e*PKPdf **PKPdf 11 45 12.2 +1.0**
D35A Remer 127.86 33 P **PKPdf 11 45 10.1 -0.4**
baz=307
MSTX Muleshoe 128.23 52 P **PKPdf 11 45 12.1 +0.3**
baz=290
MSTX Muleshoe 128.23 52 *e*PKPdf **PKPdf 11 45 13.0 +1.3**
H34A Spellman Lake, 128.28 37 P **PKPdf 11 45 11.8 +0.5**
baz=304
ECSD EROS Data Cent 128.28 38 P **PKPdf 11 45 11.6 +0.2**
baz=302
ECSD EROS Data Cent 128.28 38 *e*PKPdf **PKPdf 11 45 11.6 +0.2**
D36A Goodland 128.28 33 P **PKPdf 11 45 11.1 -0.2**
baz=308
F35A Swanville 128.30 35 P **PKPdf 11 45 11.3 0.0**
baz=306
D37A Cotton 128.69 32 P **PKPdf 11 45 12.2 +0.1**
baz=309
G35A Watkins 128.72 35 P **PKPdf 11 45 12.2 0.0**
baz=306
AMTX Amarillo 128.75 50 *e*PKPdf **PKPdf 11 45 13.9 +1.2**
H35A Sunnyside Ranc 128.82 36 P **PKPdf 11 45 12.5 +0.1**
baz=305
F36A Milaca 128.89 34 P **PKPdf 11 45 12.5 +0.1**
baz=307
TX31 Lajitas Ar. Si 128.91 58 *e*PKPdf **PKPdf 11 45 14.3 +1.2**
TX31 *e*PKPdf **PKiKP 11 45 14.4 +0.6**
LTX Lajitas 128.91 58 *e*PKPdf **PKPdf 11 45 14.2 +1.0**
LTX Lajitas 128.91 58 *e*PKiKP **PKPdf 11 45 14.2 +1.0**
TXAR Lajitas Array 128.91 58 PKP **PKPdf 11 45 14.2 +1.0**
comp=Z,1.4nm,0.5s,baz=203,slow=2.7,SNR=23
TXAR SKPbc SKPbc 11 47 49.1
comp=Z,4.3nm,0.9s,baz=270,slow=3.8,SNR=21
M33A Taylor Creek F 129.03 41 P **PKPdf 11 45 13.0 +0.1**
baz=300
G36A St. Michael 129.13 35 P **PKPdf 11 45 13.0 0.0**
baz=306
H36A Jessenland, He 129.41 36 P **PKPdf 11 45 13.4 -0.1**
baz=306
M34A Aspy Farms, Fr 129.47 41 P **PKPdf 11 45 13.9 +0.2**
baz=301
F37A Hinrichs Farm, 129.47 34 P **PKPdf 11 45 13.7 +0.2**
baz=308
E38A The Farm, Brul 129.50 32 P **PKPdf 11 45 13.7 +0.1**
baz=310
O33A Hebron 129.51 43 P **PKPdf 11 45 13.9 0.0**
baz=299
SPMN Marine on St. 129.67 35 P **PKPdf 11 45 14.1 +0.1**
baz=307
F38A Pierce - Schro 129.74 33 P **PKPdf 11 45 14.4 +0.3**
baz=309
KOWA Kowa 129.83 283 PKP **PKPdf 11 45 15.9 +0.9**
comp=Z,5.1nm,0.4s,baz=40,slow=1.7,SNR=12
KOWA SKPbc SKPbc 11 47 52.0 -0.4
comp=Z,14nm,0.7s,baz=59,slow=3.5,SNR=30
KOWA Kowa 129.83 283 *e*PKPdf **PKPdf 11 45 15.4 +0.3**
KOWA *e*PKPdf **PKPdf 11 45 15.9 +0.9**
N34A Lincoln 129.86 41 P **PKPdf 11 45 14.7 +0.2**
baz=300
J36A Seneca 1, Swea 129.88 37 P **PKPdf 11 45 14.8 +0.3**
baz=304
I37A Lemond, Waseca 130.05 36 P **PKPdf 11 45 15.0 +0.3**
baz=306
O34A Beatrice 130.06 42 P **PKPdf 11 45 14.8 -0.1**
baz=300
E39A Mellen 130.18 32 P **PKPdf 11 45 15.1 +0.2**
baz=310
PLCA Paso Flores 130.19 164 PKP **PKPdf 11 45 16.1 +0.9**
comp=Z,2.1nm,1.0s,baz=144,slow=2.5,SNR=6.1
PLCA SKPbc **SKPbc 11 47 53.1 0.0**
comp=Z,8.9nm,0.8s,baz=235,slow=3.6,SNR=18
K36A Gilmore City 130.20 38 P **PKPdf 11 45 15.6 +0.6**
baz=304
G38A Ridgeland 130.24 34 P **PKPdf 11 45 15.0 -0.1**
baz=308
F39A Loretta 130.28 33 P **PKPdf 11 45 15.1 0.0**
baz=310
L36A Harm Buss Farm 130.37 39 P **PKPdf 11 45 15.6 +0.2**
baz=309
KIC Kosan Boka 130.47 272 *e*PKIKP **PKPdf 11 45 17.2 +0.8**
comp=Z,46nm,1.3s
E40A Wakefield 130.48 32 P **PKPdf 11 45 15.8 +0.3**
baz=311
G39A Holcombe 130.54 34 P **PKPdf 11 45 15.9 +0.3**
baz=309
DBIC Dimbokro 130.60 273 PKP **PKPdf 11 45 17.0 +0.4**
comp=Z,7.3nm,0.7s,baz=80,slow=2.9,SNR=11
DBIC SKPbc **SKPbc 11 47 55.2 -0.2**
comp=Z,7.1nm,0.5s,baz=77,slow=4.2,SNR=12
DBIC Dimbokro 130.60 273 *e*PKIKP **PKPdf 11 45 17.0 +0.4**
K37A Belmond 130.63 38 P **PKPdf 11 45 16.1 +0.2**
baz=305
KSU1 Kansas State U 130.64 43 P **PKPdf 11 45 16.5 +0.5**
baz=299
I38A Scanlan Farm, 130.66 36 P **PKPdf 11 45 16.0 +0.1**
baz=307
F40A Park Falls 130.71 32 P **PKPdf 11 45 16.2 +0.3**
baz=311
LIC Lamto 130.74 272 *e*PKIKP **PKPdf 11 45 17.7 +0.8**
comp=Z,32nm,0.6s
TIC Toumodi 130.76 273 *e*PKIKP **PKPdf 11 45 17.7 +0.8**
E41A Kenton 130.95 31 P **PKPdf 11 45 16.9 +0.6**
baz=312
G40A Rib Lake 131.08 33 P **PKPdf 11 45 17.1 +0.4**
baz=310
M37A Trindle Farm, 131.13 39 P **PKPdf 11 45 17.3 +0.5**
baz=303
K38A Parkersburg 131.22 37 P **PKPdf 11 45 17.5 +0.5**
baz=306
I39A Houston 131.23 35 P **PKPdf 11 45 17.5 +0.5**
baz=308
F41A Three Lakes 131.36 32 P **PKPdf 11 45 17.7 +0.5**
baz=312
H40A Chili 131.39 34 P **PKPdf 11 45 18.1 +0.8**
baz=310
SCHQ Schefferville 131.42 9 PKP **PKPdf 11 45 17.4 +0.4**
comp=Z,2.6nm,0.4s,baz=250,slow=7.3,SNR=3.8
SCHQ SKPbc **SKPbc 11 47 56.4 -0.7**
comp=Z,3.7nm,0.9s,baz=32,slow=4.7,SNR=3.8
E42A Champion 131.50 30 P **PKPdf 11 45 18.3 +0.8**
baz=314
M38A Pleasantville 131.66 39 P **PKPdf 11 45 18.6 +0.7**
baz=304
K39A Oelwein 131.71 37 P **PKPdf 11 45 18.6 +0.7**
baz=307
O37A Wolven Farm, M 131.74 41 P **PKPdf 11 45 18.8 +0.8**
baz=302
JCT Junction City 131.77 55 P **PKPdf 11 45 19.4 +1.0**
baz=290
JCT Junction City 131.77 55 *e*PKPdf **PKPdf 11 45 18.9 +0.4**
JCT Junction City 131.77 55 *e*PKiKP **PKPdf 11 45 18.9 +0.4**
H41A Junction City 131.80 33 P **PKPdf 11 45 18.9 +0.9**
baz=310
P37A Lathrop 131.91 42 P **PKPdf 11 45 19.0 +0.6**
baz=302
N38A Joes South For 131.98 40 P **PKPdf 11 45 19.0 +0.5**
baz=304
L39A Vinton 131.99 37 P **PKPdf 11 45 19.1 +0.7**
baz=306
E43A Lone Tree Farm 132.00 30 P **PKPdf 11 45 19.2 +0.9**
baz=314
I41A Arkdale 132.04 34 P **PKPdf 11 45 19.3 +0.9**
baz=310
G42A Mountain 132.05 32 P **PKPdf 11 45 18.9 +0.5**
baz=312
K40A Colesburg 132.16 36 P **PKPdf 11 45 19.2 +0.5**
baz=307
M39A Webster 132.26 38 P **PKPdf 11 45 19.6 +0.7**
baz=305
F43A Flat Rock, Esc 132.29 31 P **PKPdf 11 45 19.7 +0.8**
baz=314
J41A Loganville 132.40 35 P **PKPdf 11 45 19.6 +0.4**
baz=309
P38A Dawn 132.43 41 P **PKPdf 11 45 20.2 +0.9**
baz=303
K41A Shullsburg 132.70 36 P **PKPdf 11 45 20.4 +0.6**
baz=308
M40A Post Highland 132.70 38 P **PKPdf 11 45 20.5 +0.6**
baz=306
Q38A Cooks Store, C 132.72 42 P **PKPdf 11 45 20.5 +0.6**
baz=302

R38A	**Fenwick Farm,** baz=301	132.93	43	P	PKPdf	11 45 20.8	+0.4
N40A	**Mertquake, Sal** baz=306	132.96	39	P	PKPdf	11 45 21.2	+0.9
P39B	**Salisbury** baz=303	133.01	41	P	PKPdf	11 45 21.3	+0.8
Q39A	**Willow Grove F** baz=303	133.10	41	P	PKPdf	11 45 21.4	+0.8
K42A	**Prairie Point,** baz=309	133.15	35	P	PKPdf	11 45 21.3	+0.7
S38A	**Stockton** baz=301	133.22	44	P	PKPdf	11 45 21.7	+0.7
O40A	**La Belle** baz=305	133.22	40	P	PKPdf	11 45 21.7	+0.9
T38A	**Diamond** baz=300	133.25	45	P	PKPdf	11 45 21.6	+0.7
P40A	**Paris** baz=304	133.44	40	P	PKPdf	11 45 22.2	+0.9
R39A	**Chumby, Stover** baz=302,SNR=5.4	133.45	42	P	PKPdf	11 45 22.1	+0.8
S39A	**Bolivar** baz=301,SNR=15	133.58	43	P	PKPdf	11 45 22.6	+1.0
Q40A	**Laux Farm, Aux** baz=304	133.72	41	P	PKPdf	11 45 23.0	+1.2
K43A	**Burlington** baz=310	133.77	34	P	PKPdf	11 45 22.8	+1.0
O41A	**Passleys Farm,** baz=306	133.84	39	P	PKPdf	11 45 22.9	+0.9
L43A	**Garden Prairie** baz=310	133.87	35	P	PKPdf	11 45 23.0	+1.0
T39A	**Clever** baz=301	133.89	44	P	PKPdf	11 45 23.3	+1.1
N42A	**Yates City** baz=307	133.94	38	P	PKPdf	11 45 23.3	+1.1
R40A	**Maddies Statio** baz=303	133.97	42	P	PKPdf	11 45 23.3	+1.0
P41A	**Barry, Barry** baz=305	133.99	40	P	PKPdf	11 45 23.4	+1.1
U39A	**Green Forest** baz=300	134.14	45	P	PKPdf	11 45 23.4	+0.7
S40A	**Lebanon** baz=302	134.19	43	P	PKPdf	11 45 23.7	+1.0
M43A	**Waltham Townsh** baz=309	134.21	36	P	PKPdf	11 45 23.7	+1.0
Q41A	**Truxton** baz=304	134.29	40	P	PKPdf	11 45 23.9	+1.0
V39A	**Pettigrew** baz=299	134.29	46	P	PKPdf	11 45 24.0	+1.0
T40A	**Mansfield** baz=302	134.41	43	P	PKPdf	11 45 24.1	+1.0
P42A	**Winchester** baz=306	134.49	39	P	PKPdf	11 45 24.3	+1.1
W39A	**Magazine** baz=299	134.50	46	P	PKPdf	11 45 24.3	+0.9
R41A	**Rosebud** baz=304,SNR=8.0	134.56	41	P	PKPdf	11 45 24.7	+1.3
X39A	**Fountain Ranch** baz=298	134.58	47	P	PKPdf	11 45 24.5	+0.9
U40A	**Yellville** baz=301,SNR=5.4	134.59	45	P	PKPdf	11 45 24.5	+1.0
S41A	**Jillco Farms,** baz=303	134.70	42	P	PKPdf	11 45 24.8	+1.0
O43A	**Sugar Creek Fa** baz=308	134.71	38	P	PKPdf	11 45 24.7	+1.1
M44A	**Midewin, Midew** baz=310	134.78	36	P	PKPdf	11 45 25.1	+1.4
CCM	**Cathedral Cave** baz=304	134.78	42	P	PKPdf	11 45 24.9	+1.1
V40A	**Witts Springs** baz=300	134.89	45	P	PKPdf	11 45 25.3	+1.2
R42A	**Luebbering** baz=304	134.95	41	P	PKPdf	11 45 25.3	+1.2
MIAR	**Mount Ida** baz=298	134.96	47	P	PKPdf	11 45 25.2	+0.9
P43A	**Skaggs, Pawnee** baz=307	134.97	39	P	PKPdf	11 45 25.1	+1.0
T41A	**Mountain View** baz=302	134.98	43	P	PKPdf	11 45 25.5	+1.2
S42A	**Caledonia** baz=304	135.23	42	P	PKPdf	11 45 25.9	+1.2
U41A	**Viola** baz=302,SNR=5.4	135.24	44	P	PKPdf	11 45 25.8	+1.1
Q43A	**New Douglas** baz=306	135.27	40	P	PKPdf	11 45 26.0	+1.3
T42A	**Van Buren** baz=303	135.44	43	P	PKPdf	11 45 26.3	+1.2
R43A	**Red Bud** baz=305	135.51	40	P	PKPdf	11 45 26.4	+1.2
P44A	**Sand Creek, Wi** baz=308	135.63	38	P	PKPdf	11 45 26.9	+1.6
Z40A	**Long Farm, Mag** baz=297	135.68	49	P	PKPdf	11 45 27.0	+1.3
O45A	**Potomac** baz=309	135.69	37	P	PKPdf	11 45 26.9	+1.5
U42A	**Revenden** baz=302	135.71	44	P	PKPdf	11 45 26.8	+1.3
Q44A	**Meyer Farm, Va** baz=307	135.72	39	P	PKPdf	11 45 26.8	+1.2
M46A	**Old House Fiel** baz=312	135.73	35	P	PKPdf	11 45 27.0	+1.5
S43A	**Fulton Ridge,** baz=304	135.82	41	P	PKPdf	11 45 26.8	+1.0
140A	**Cam and Jess,** baz=297	135.83	50	P	PKPdf	11 45 27.1	+1.2
V42A	**Cord** baz=302	135.89	44	P	PKPdf	11 45 27.2	+1.2
T43A	**Greenville** baz=304	135.95	42	P	PKPdf	11 45 27.0	+1.0
Y41A	**Eaglette Beard** baz=299	135.98	47	P	PKPdf	11 45 27.8	+1.6
P45A	**Graceland, Par** baz=309	136.13	38	P	PKPdf	11 45 27.6	+1.3
U43A	**Rector** baz=303	136.26	43	P	PKPdf	11 45 28.1	+1.5
Q45A	**Warren Harvey,** baz=308	136.26	39	P	PKPdf	11 45 28.2	+1.7
P46A	**Rosedale** baz=309	136.40	37	P	PKPdf	11 45 28.0	+1.3
OLIL	**Olney**	136.40	39	*e*PKPdf	PKPdf	11 45 28.1	+1.4
T44A	**Benton** baz=305	136.41	42	P	PKPdf	11 45 28.4	+1.5
R45A	**Skylar, Fairfi** baz=307	136.55	39	P	PKPdf	11 45 28.9	+1.8
S45A	**Carrier Mills** baz=306	136.73	40	P	PKPdf	11 45 29.0	+1.5
Z42A	**Norrel Spur, H** baz=299	136.75	48	P	PKPdf	11 45 28.8	+1.2
SADO	**Sadowa** comp=Z,1.7nm,0.2s,baz=311,slow=1.4,SNR=4.6	136.85	26	PKP	PKPdf	11 45 27.6	+0.2
X43A	**Marvell** baz=301	136.91	46	P	PKPdf	11 45 29.1	+1.2
R46A	**Gibon Southern** baz=308	137.08	39	P	PKPdf	11 45 29.5	+1.5
Q47A	**Bedord North L** baz=310	137.29	37	P	PKPdf	11 45 30.2	+1.7
342A	**Flagon Creek P** baz=297	137.34	51	P	PKPdf	11 45 30.5	+1.8
T46A	**Princeton** baz=306	137.54	41	P	PKPdf	11 45 31.0	+2.1
R47A	**Wooly Knot Far** baz=309	137.64	38	P	PKPdf	11 45 30.8	+1.7
U46A	**Springville** baz=306	137.76	42	P	PKPdf	11 45 31.1	+1.7
WCI	**Wyandotte Cave** baz=309	137.82	38	P	PKPdf	11 45 31.5	+2.1
OXF	**Oxford** baz=302	137.95	45	P	PKPdf	11 45 31.7	+1.9
R48A	**Northridge Ran** baz=310	137.97	37	P	PKPdf	11 45 31.8	+2.1
443A	**Delano Plantat** baz=296	138.03	51	P	PKPdf	11 45 31.9	+1.9
T47A	**Sharon Grove** baz=307	138.08	40	P	PKPdf	11 45 32.1	+2.1
V46A	**Holladay** baz=305	138.12	42	P	PKPdf	11 45 31.8	+1.7
WVT	**Waverly** baz=306	138.12	42	P	PKPdf	11 45 31.5	+1.5
244A	**Avery, Jackson** baz=299	138.28	49	P	PKPdf	11 45 32.0	+1.6
U47A	**Clarksville** baz=307	138.29	41	P	PKPdf	11 45 32.0	+1.7
S48A	**Wiedeman Farm,** baz=309	138.33	38	P	PKPdf	11 45 32.4	+2.0
T48A	**Bowling Green** baz=308	138.46	39	P	PKPdf	11 45 32.5	+1.9
V47A	**Nunnelly** baz=306	138.50	42	P	PKPdf	11 45 32.2	+1.4
PLAL	**Pickwick Lake**	138.61	43	*e*PKPdf	PKPdf	11 45 29.8	-1.2
Y46A	**Houston** baz=302	138.67	45	P	PKPdf	11 45 32.8	+1.7
U48A	**Cassie Pea, Po** baz=308	138.73	40	P	PKPdf	11 45 32.9	+1.8
W47A	**Westpoint** baz=305	138.78	43	P	PKPdf	11 45 32.8	+1.5
LONY	**Lake Ozonia** baz=303	138.79	22	P	PKPdf	11 45 32.9	+1.9
V48A	**Smith Brothers** baz=306	139.01	41	P	PKPdf	11 45 33.5	+1.8
X47A	**Russelville** baz=304	139.02	44	P	PKPdf	11 45 33.6	+1.9
M54A	**Oil Creek Stat** baz=320	139.16	29	P	PKPdf	11 45 33.8	+2.0
W48A	**Pulaski** baz=306	139.29	42	P	PKPdf	11 45 34.4	+2.2
Y47A	**UCPARC, Winfie** baz=304	139.36	44	P	PKPdf	11 45 34.4	+2.0
N54A	**Moraine State** baz=319	139.42	30	P	PKPdf	11 45 34.8	+2.5
CMIG	**Matias Romero** comp=Z,3.0nm,0.6s,baz=23,slow=8.1,SNR=3.5	139.49	72	PKhKP	PKPpre	11 45 25.2	
CMIG				PKP	PKPdf	11 45 33.7	+0.7
	comp=Z,4.7nm,0.9s,baz=0.5,slow=6.0,SNR=5.6						
CMIG				SKPbc	SKPbc	11 48 22.9	-0.2
	comp=Z,3.0nm,0.9s,baz=164,slow=11,SNR=3.6						
247A	**Quitman** baz=301	139.80	47	P	PKPdf	11 45 35.5	+2.3
Z48A	**Northport** baz=303	139.85	45	P	PKPdf	11 45 35.3	+2.0
LRAL	**Lakeview Retre** baz=304	140.43	45	P	PKPdf	11 45 36.6	+2.3
LRAL	**Lakeview Retre**	140.43	45	*e*PKPpre	PKPpre	11 45 29.2	
TZTN	**Tazewell** baz=311	140.58	38	P	PKPdf	11 45 37.0	+2.5
Z49A	**Columbiana** baz=304,SNR=6.4	140.67	44	P	PKPdf	11 45 37.2	+2.4
SSPA	**Standing Stone** baz=322	140.69	28	P	PKPdf	11 45 37.0	+2.4
Y50A	**Piedmont** baz=306	140.82	43	P	PKPdf	11 45 37.4	+2.4
149A	**Jones** baz=304,SNR=6.5	140.82	45	P	PKPdf	11 45 37.4	+2.3
LCO	**Las Campanas**	140.89	157	*e*PKPpre	PKPpre	11 45 30.4	
TKL	**Tuckaleechee C** comp=Z,3.3nm,0.7s,baz=128,slow=4.5,SNR=3.3	141.01	39	PKhKP	PKPpre	11 45 28.3	
TKL				PKP	PKPdf	11 45 36.3	+1.0
	comp=Z,5.5nm,0.7s,baz=61,slow=3.3,SNR=8.5						
TKL				SKPbc	SKPbc	11 48 24.6	-2.0
	comp=Z,2.1nm,0.7s,baz=141,slow=0.4,SNR=3.7						
Z50A	**Ashland** baz=305,SNR=6.5	141.06	44	P	PKPdf	11 45 37.8	+2.3
251A	**Midway** baz=304,SNR=5.7	142.07	45	P	PKPdf	11 45 40.2	+2.9
PSUB	**Penn St. - Bra**	142.37	27	*e*PKPpre	PKPpre	11 45 33.9	
KMSC	**Kings Mountain**	142.85	38	*e*PKPpre	PKPpre	11 45 35.8	
452A	**Marianna** baz=303,SNR=10	142.92	46	P	PKPdf	11 45 36.6	-2.2
552A	**Lynn Haven** baz=302	143.23	48	P	PKPbc	11 45 37.8	+0.4
URVA	**University of**	143.23	31	*e*PKPdf	PKPbc	11 45 37.3	+0.1
353A	**Camilla** baz=305,SNR=9.9	143.33	45	P	PKPbc	11 45 37.7	+0.1
154A	**Montrose** baz=308,SNR=5.7	143.34	42	P	PKPbc	11 45 37.7	0.0
453A	**Whigham** baz=304,SNR=6.5	143.53	46	P	PKPbc	11 45 38.6	+0.2
254A	**Abbeville** baz=307,SNR=12	143.62	43	P	PKPab	11 45 38.4	0.0
TIGA	**Tifton** baz=306,SNR=14	143.71	44	P	PKPbc	11 45 39.0	+0.1
TIGA	**Tifton**	143.71	44	*e*PKPdf	PKPbc	11 45 39.4	+0.5
155A	**Kite** baz=309,SNR=22	143.76	42	P	PKPbc	11 45 39.4	+0.4
553A	**Crawfordville** baz=304,SNR=12	143.82	47	P	PKPbc	11 45 39.7	+0.4
APG	**El Apazote** comp=Z,62nm,1.0s,baz=326,slow=14,SNR=32	144.01	74	PKP	PKPdf	11 45 41.1	-0.3
APG				SKPbc	SKPbc	11 48 33.8	-0.9
	comp=Z,8.4nm,0.9s,baz=335,slow=14,SNR=3.9						
454A	**Quitman** baz=305,SNR=6.1	144.10	45	P	PKPab	11 45 40.4	+0.2
355A	**Pearson** baz=307	144.28	44	P	PKPbc	11 45 40.7	0.0
554A	**Perry** baz=304,SNR=6.4	144.42	46	P	PKPdf	11 45 41.4	0.0
455A	**Stateville** baz=306,SNR=15	144.51	45	P	PKPab	11 45 41.8	0.0
256A	**Glennville** baz=309	144.55	42	P	PKPab	11 45 41.8	-0.1
356A	**Blackshear** baz=308	144.79	43	P	PKPbc	11 45 42.4	+0.1
555A	**McAlpin** baz=305,SNR=13	144.91	46	P	PKPbc	11 45 43.0	+0.3
NHSC	**New Hope** baz=312	144.93	39	P	PKPab	11 45 43.1	-0.2
655A	**Horseshoe Beac** baz=304	145.05	47	P	PKPab	11 45 44.3	+0.5
357A	**Townsend** baz=308	145.16	43	P	PKPab	11 45 43.9	-0.3
456A	**Hilliard** baz=307	145.22	44	P	PKPab	11 45 44.2	-0.2
556A	**Lake Butler** baz=306,SNR=16	145.38	45	P	PKPbc	11 45 44.5	+0.4
656A	**Willston** baz=305	145.65	46	P	PKPbc	11 45 45.2	+0.2
557A	**Orange Park** baz=307	145.84	45	P	PKPbc	11 45 45.8	+0.4
657A	**Interlachen** baz=306	146.00	45	P	PKPbc	11 45 46.1	+0.2
757A	**Oxford** baz=305	146.22	47	P	PKPbc	11 45 46.6	+0.1
857A	**Zephyrhills** baz=304,SNR=10	146.49	48	P	PKPbc	11 45 47.5	+0.2
658A	**Bunnell** baz=306	146.53	45	P	PKPbc	11 45 47.7	+0.3
CPUP	**Villa Florida** comp=Z,21nm,0.8s,baz=182,slow=2.0,SNR=53	146.65	176	PKPbc	PKPbc	11 45 48.0	+0.2
CPUP				SKPbc	SKPbc	11 48 40.0	-0.1
	comp=Z,0.7nm,0.5s,baz=157,slow=1.0,SNR=4.0						
CPUP	**Villa Florida**	146.65	176	*e*PKPdf	PKPdf	11 45 46.4	+1.0
CPUP	**Villa Florida**	146.65	176	*e*PKIKP	PKPdf	11 45 46.4	+1.0
957A	**Wimauma** baz=303	146.81	49	P	PKPbc	11 45 48.7	+0.5
758A	**Lake Helen** baz=306	146.84	46	P	PKPbc	11 45 48.3	+0.1
PB04	**IPOC Station P**	147.02	153	*e*PKPbc	PKPbc	11 45 50.5	+1.3
858A	**St. Cloud** baz=305	147.15	47	P	PKPbc	11 45 49.4	+0.2
DWPF	**Disney Wildern** baz=305	147.16	47	P	PKPbc	11 45 49.2	+0.1
958A	**Wauchula** baz=304,SNR=5.5	147.21	48	P	PKPbc	11 45 49.6	+0.3
TGUH	**Tegucigalpa,Un**	147.21	75	*e*PKPbc	PKPbc	11 45 50.6	+1.0
058A	**Arcadia** baz=303	147.46	49	P	PKPbc	11 45 50.3	+0.4
859A	**Kempfer Cattle** baz=305	147.57	47	P	PKPbc	11 45 50.6	+0.4
959A	**Okeechobee** baz=305	147.89	48	P	PKPbc	11 45 51.3	+0.3
059A	**Moore Haven** baz=304	148.00	49	P	PKPbc	11 45 51.6	+0.3
059Z	**Ave Maria** baz=302	148.12	50	P	PKPbc	11 45 52.2	+0.6
PB01	**IPOC Station P**	148.44	153	*e*PKPbc	PKPbc	11 45 53.6	+0.8
060A	**Indiantown** baz=305	148.54	48	P	PKPbc	11 45 53.1	+0.4
SACV	**Santiago Islan**	148.60	287	*e*PKPdf	PKPdf	11 45 49.0	+0.2
PB11	**IPOC Station P**	149.47	151	*e*PKPdf	PKPdf	11 45 50.5	+0.2
JTS	**JuntasAbangare** comp=Z,35nm,0.8s,baz=50,slow=3.2,SNR=36	149.87	82	PKPbc	PKPbc	11 45 56.8	+0.5
JTS				PKPab	PKPab	11 46 05.1	+1.2
	comp=Z,6.9nm,0.5s,baz=107,slow=23,SNR=7.3						
MNMC	**Minye Minye**	150.04	151	*e*PKPdf	PKPdf	11 45 52.7	+1.3
NNA	**Nana**	150.88	131	*e*PKPbc	PKPbc	11 45 59.4	+0.7
NNA	**Nana**	150.88	131	*e*PKIKP	PKPbc	11 45 59.4	+0.7
WBCY	**West Bay, Gran**	151.29	62	*e*PKPbc	PKPbc	11 46 00.3	+0.9
LPAZ	**La Paz** comp=Z,2.3nm,1.0s,baz=255,slow=1.8,SNR=5.1	153.18	150	PKP	PKPdf	11 45 57.9	+1.3
LPAZ				PKPbc	PKiKP	11 46 05.3	+0.8
	comp=Z,3.0nm,0.4s,baz=168,slow=2.1,SNR=16						
LPAZ				PKPab	PKPab	11 46 19.5	+1.2
	comp=Z,10nm,0.6s,baz=196,slow=3.5,SNR=16						
RUSC	**La Rusia**	161.63	93	*e*PKPdf	PKPdf	11 46 06.6	-0.3
SDV	**Santo Domingo** comp=Z,7.8nm,0.7s,baz=288,slow=4.9,SNR=10	164.06	83	PKPab	PKPab	11 47 06.6	+1.1
SDV	**Santo Domingo**	164.06	83	*e*PKPdf	PKPdf	11 46 08.5	-0.3
SDV				*e*PKPab	PKPab	11 47 06.5	+1.1

TAP 03 11:32:30.1,23.92N×121.51E,h20km±1km,ML1.6,B, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ENLB	**Shoufeng** baz=102	0.09	103	*e*P		Pb	11 32 34.3	+0.4
ENLB				*e*S		Sb	11 32 37.8	+1.2
ESL	**Shilin** baz=207	0.13	211	*e*P		Pb	11 32 34.7	+0.8
ESL				*e*S		Sb	11 32 37.6	+1.2
TWD	**Chiawan** baz=30	0.18	28	P		Pb	11 32 35.5	+0.8
TWD				S		Sb	11 32 39.3	+1.4
NACB	**Ninganchiao** baz=18	0.26	18	*e*P		Pb	11 32 36.8	+0.6
NACB				*e*S		Sb	11 32 41.2	+0.9
NACB	**Ninganchiao** 47nm,1.0s	0.26	18	*e*P		Pb	11 32 36.5	+0.3
EGFH	**Guangfu** baz=195	0.26	196	*e*P		Pb	11 32 37.1	+0.9
EGFH				*e*S		Sb	11 32 40.9	+0.6
OWD	**Renai** baz=275	0.30	276	P		Pb	11 32 37.6	+0.7
OWD				*e*S		Sb	11 32 43.0	+1.5
CHGB	**Renai** baz=294	0.33	294	*e*P		Pb	11 32 38.2	+0.7
NNSB	**Datong** baz=347	0.51	347	*e*P		Pb	11 32 41.0	+0.4
NNSB				S		Sb	11 32 48.7	+1.1
NNSH	**Datong** baz=347	0.51	348	*e*P		Pb	11 32 41.0	+0.5
NNSH				*e*S		Sb	11 32 48.8	+1.1
SSLB	**Suanglung** baz=254	0.52	255	*e*S		Sb	11 32 48.7	+0.9
NNS	**Nan Shan** baz=347	0.53	347	*e*P		Pb	11 32 41.3	+0.5
YULB	**Yu-li** baz=199	0.56	200	*e*S		Sb	11 32 49.9	+1.0

NIED ***03*** *11:52:00,40.20N×142.50E,h8km,Mw4.8 Best double couple: M₀1.52000×10¹⁶ NP1:φ₈245.00000°,δ43.00000°, λ-139.00000°. NP2:φ₈123.00000°,δ64.00000°, λ-55.00000°.*

ISCJB ***03*** *11:52:19.5±0.5,40.36N±0.02×142.42E±0.02,h18km±3km, mb4.8/273,MS4.1/49,Error ellipse: s-maj=3.6km s-min=2.4km az=144.9*

JMA ***03*** *11:52:19.5±0.1,40.23N×142.53E,h28km±1km,M4.7*

JMA Felt II J1.

MOS ***03*** *11:52:20.7±0.9,40.41N×142.40E,h27km,mb5.0/94,Error ellipse: s-maj=6.1km s-min=3.9km az=87.8*

GCMT ***03*** *11:52:21.6±0.3,40.29N×142.84E,h24km±1km,MW5.0/65, Moment Tensor Solution. s18,c20; s65,c88; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr=2.86±.30; Mθθ=3.17±.17; Mφφ=0.31±.18; Mrθ=0.59±.17; Mφθ=0.15±.10; Mφr=1.45±.31; Best double couple: M₀3.39800×10¹⁶ NP1:φ₈70.00000°,δ55.00000°,λ-120.00000°. NP2: φ₈294.00000°,δ45.00000°,λ-55.00000°. Principal axes: T 3.2270, Plg5.0000°, Azm180.0000°; N 0.3420, Plg24.0000°, Azm88.0000°; P -3.5690, Plg65.0000°, Azm282.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***03*** *11:52:21.6±1.0,40.33N×142.37E,h22km±6km,mb4.9/182 Error ellipse: s-maj=3.3km s-min=2.3km az=154.0*

NEIC Felt at Misawa. Recorded [2 JMA] in Aomori and Iwate.

BJI ***03*** *11:52:22.0,40.40N×142.50E,h28km,mb4.6/56,mB5.1/39, Ms4.6/40,Ms7 4.3/40*

IDC ***03*** *11:52:24.3±1.4,40.31N×142.44E,h44km±12km,mb4.3/41, mb1 4.4/49,mb1mx4.3/77,mbtmp4.5/49,ML3.2/5,MS3.9/39, Ms1 3.9/39,ms1mx3.7/74,Error ellipse: s-maj=11.0km s-min=8.1km az=118.0*

ISC 03 11:52:20.6±0.5,40.29N±0.03×142.53E±0.04,h19km±2km, n857,σ1$19/841,mb4.9/275,MS4.0/49,21C-6D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JTH	**Tanohata**	0.62	236	P		Pb	11 52 31.3	-1.5
JTH				*e*S		Sb	11 52 39.4	-1.7
JANG	**Nango**	0.78	276	P		Pb	11 52 34.1	-1.5
JANG				*e*S		Sb	11 52 44.7	-1.1
MIYJ	**Miyakonagasawa**	0.90	218	P		Pb	11 52 34.9	-2.7
JKZ	**Kuzumaki**	0.97	252	P		Pb	11 52 36.8	-2.1
JTM	**Tenmabayashi**	1.22	294	P		Pn	11 52 41.6	-1.0
JTM				*e*S		Sb	11 52 57.1	-1.3
JOM	**Ohasama**	1.26	230	P		Pn	11 52 41.1	-2.1
JOM				*e*S		Sb	11 52 57.0	-2.5
JAH	**Hinai**	1.46	266	P		Pn	11 52 44.9	-1.0
JOT	**Ohata**	1.56	314	P		Pn	11 52 46.7	-0.7
JMK	**Ichinoseki**	1.68	218	P		Pn	11 52 47.2	-1.8
ERM	**Erimo**	1.78	15	*e*Pn		Pn	11 52 50.9	+0.5
ERM				*e*Sn		Sn	11 53 13.3	+0.9
ERM	**Erimo**	1.78	15	*ce*P		Pn	11 52 50.6	+0.2
ERM				pmax	pmax			
	comp=Z,411nm,0.7s							
ASAJ	**Asahikawa** comp=Z,66nm,0.3s,baz=219,slow=12,SNR=151	3.82	1	P		Pn	11 53 20.5	+2.1
ASAJ				S		Sn	11 54 04.0	+1.2
	comp=Z,31nm,0.3s,baz=210,slow=21,SNR=4.0							
ASAJ				LR		LR	11 55 08.7	
	comp=Z,5.4nm,18.7s,baz=184,slow=43							
ASAJ	**Asahikawa**	3.82	1	*e*Pn		Pn	11 53 19.3	+1.0
ASAJ				*e*Sg		Sn	11 54 02.1	-0.6
GLVR	**Golovnino**	4.10	32	*e*P		Pn	11 53 22.3	+0.1
GLVR				*i* S		Sn	11 54 08.5	-1.1
GLVR				pmax	pmax			
	comp=E,400nm,0.6s							
GLVR				pmax	pmax			
	comp=Z,651nm,0.6s							
GLVR				pmax	pmax			
	comp=N,136nm,0.3s							
GLVR				smax	smax			
	comp=E,3μm,0.8s							
GLVR				smax	smax			
	comp=N,2μm,0.4s							
GRPR	**Tuman**	4.41	32	*ij*P		Pn	11 53 26.6	+0.1
GRPR				*i* S		Sn	11 54 14.4	-2.9
GRPR				pmax	pmax			
	comp=Z,708nm,0.3s							
GRPR				pmax	pmax			
	comp=N,273nm,0.2s							
GRPR				pmax	pmax			
	comp=E,293nm,0.2s							
GRPR				smax	smax			
	comp=N,402nm,0.3s							
GRPR				smax	smax			
	comp=E,2μm,0.4s							
LAGR	**Lagunnoye**	4.47	32	*ij*P		Pn	11 53 27.6	+0.3
LAGR				*i* S		Sn	11 54 17.6	-1.1
LAGR				pmax	pmax			
	comp=Z,994nm,0.6s							
LAGR				pmax	pmax			
	comp=N,965nm,0.3s							
LAGR				pmax	pmax			
	comp=E,850nm,0.3s							
LAGR				smax	smax			
	comp=E,4μm,0.6s							
LAGR				smax	smax			
	comp=N,4μm,0.5s							
YUK	**Yuzh-Kuril'sk**	4.48	32	*d i*P		Pn	11 53 27.7	+0.2
YUK				*i* S		Sn	11 54 17.2	-1.8
YUK				pmax	pmax			
	comp=Z,594nm,0.4s							
YUK				pmax	pmax			
	comp=N,320nm,0.5s							
YUK				pmax	pmax			
	comp=E,323nm,0.4s							
YUK				smax	smax			
	comp=E,2μm,0.6s							
YUK				smax	smax			

comp=N,1.0nm,0.3s
SHO Shikotan 4.79 40*c i*P **Pn 11 53 29.7 -2.1**
SHO *i* S **Sn 11 54 21.1 -5.6**
SHO pmax pmax
comp=Z,212nm,0.3s
SHO pmax pmax
comp=N,63nm,0.2s
SHO pmax pmax
comp=E,111nm,0.2s
SHO smax smax
comp=E,2μm,0.3s
SHO smax smax
comp=N,1μm,0.2s
MJAR Matsushiro Arr 5.05 224 P **Pn 11 53 37.7 +2.3**
comp=N,14nm,0.3s,baz=31,slow=12,SNR=78
MJAR S **Sn 11 54 35.1 +1.9**
baz=57,slow=12,SNR=2.1
MJB9 Matsu-Tunnel 5.05 224 *e*Pn **Pn 11 53 36.2 +0.8**
MAJO Matsushiro 5.06 224 *e*Pn **Pn 11 53 36.2 +0.8**
MAJO *e*Sn **Sn 11 54 35.1 +1.9**
MAJO Matsushiro 5.06 224 *i* P **Pn 11 53 37.2 +1.8**
MAT Matsushiro 5.06 224 P **Pn 11 53 36.1 +0.7**
MAT *e*S **Sn 11 54 34.4 +1.1**
KUR Kuril'sk 6.31 37*d i*P **Pn 11 53 53.0 +0.5**
KUR *i* S **Sn 11 55 02.1 -1.8**
KUR pmax pmax
comp=Z,250nm,0.4s
KUR pmax pmax
comp=N,77nm,0.3s
KUR pmax pmax
comp=E,67nm,0.3s
KUR smax smax
comp=E,2μm,2.5s
KUR smax smax
comp=N,1μm,1.3s
KUR smax smax
comp=N,471nm,0.7s
KUR smax smax
comp=E,403nm,0.3s
TEY Ternei 6.45 319 *e*P Pn 11 53 59.8 +5.4
TEY pmax pmax
comp=N,55nm,1.1s
TEY pmax pmax
comp=Z,66nm,1.1s
TEY MLR MLR
comp=Z,2μm,12.0s
INU Inuyama 6.59 223 *e*Pn **Pn 11 53 58.5 +2.1**
INU *e*Sn **Sn 11 55 11.1 +0.1**
YSS Yuzh-Sakhalins 6.66 1 *e*Pn **Pn 11 53 58.5 +1.2**
YSS *e*Sn **Sn 11 55 08.4 -4.3**
YSS Yuzh-Sakhalins 6.66 1*αe*P **Pn 11 53 58.8 +1.4**
YSS *e*S **Sn 11 55 13.0 +0.4**
YSS pmax pmax
comp=N,100nm,1.0s
YSS pmax pmax
comp=Z,110nm,1.0s
YSS pmax pmax
comp=Z,400nm,4.9s
YSS pmax pmax
comp=E,400nm,5.5s
YSS MLR MLR
comp=Z,1μm,15.0s
YSS MLR MLR
comp=N,2μm,14.0s
JHJ2 Mitsune 7.49 198 *e*Pn **Pn 11 54 08.8 0.0**
JHJ2 *e*Sn **Sn 11 55 29.8 -3.5**
JHJ Hachijo jima 2 7.49 198 P **Pn 11 54 09.3 +0.5**
comp=N,42nm,0.3s,baz=100,slow=22,SNR=2.6
USRK Ussuriysk Ar. 8.74 300 P **Pn 11 54 27.8 +1.9**
comp=N,2.5nm,0.3s,baz=101,slow=16,SNR=14
USRK LR LR 11 57 39.5
comp=N,538nm,20.6s,baz=103,slow=36
MDJ Mudanjiang 10.49 299 P **Pn 11 54 53.5 +3.6**
MDJ pP 11 54 59.7
MDJ sP 11 55 04.2
MDJ S **Sn 11 56 47.9 +1.1**
MDJ sS 11 56 57.3
MDJ pmax pmax
comp=N,23nm,1.9s
MDJ pmax pmax
comp=N,680nm,4.8s
MDJ LR LR
comp=N,2μm,7.2s
MDJ LR LR
comp=N,2μm,5.2s
MDJ LR LR
comp=N,2μm,5.4s
MDJ Mudanjiang 10.49 299 *e*Pn **Pn 11 54 49.1 -0.8**
TYV Tymovskoe 10.57 0 *e*P **Pn 11 54 51.6 +0.7**
TYV *e*S **Sn 11 56 50.2 +1.5**
TYV pmax pmax
comp=Z,16nm,1.0s
TYV smax smax
comp=E,8.0nm,1.3s
GRNR Gornyy 11.31 340 *e*P **Pn 11 55 02.2 +1.1**
GRNR pmax pmax
comp=Z,16nm,1.0s
KSRS Korea Array 11.74 261 P **Pn 11 55 09.9 +2.9**
comp=Z,0.5nm,0.3s,baz=64,slow=14,SNR=5.5
KSRS LR LR 11 59 16.6
comp=Z,770nm,19.0s,baz=68,slow=35
KS01 Wonju Array Si 11.75 261 *e*Pn **Pn 11 55 04.4 -2.8**
KLR Kul'dur 11.76 323 P **Pn 11 55 10.2 +2.9**
comp=Z,0.0nm,0.3s,baz=132,slow=14,SNR=14
KLR LR LR 11 59 35.0
comp=Z,18nm,19.0s,baz=139,slow=37
KLR Kul'dur 11.76 323‖ *e*P **Pn 11 55 09.1 +1.9**
KS15 Wonju Array Si 11.77 261 *e*Pn **Pn 11 55 05.1 -2.3**
JNU Nakatsue 11.77 236 P **Pn 11 55 07.5 0.0**
comp=Z,0.3nm,0.3s,baz=197,slow=6.2,SNR=2.7
JNU LR LR 12 00 31.4
comp=Z,420nm,19.0s,baz=299,slow=42
NKL Nikolayevsk 12.92 355 *e*P **Pn 11 55 23.6 +0.5**
NKL pmax pmax
comp=N,13nm,0.9s
NKL pmax pmax
comp=Z,26nm,0.9s
CBIJ Chichi jima 13.17 181 *e*Pn **Pn 11 55 24.9 -1.7**
CN2 Changchun 13.17 291 *e*P **P 11 55 35.3 -1.2**
PETK Petropavlovsk- 16.46 34 P **Pn 11 56 10.5 +0.1**
comp=Z,0.2nm,0.3s,baz=197,slow=10,SNR=3.3
PETK LR LR 12 02 44.0
comp=Z,441nm,21.3s,baz=218,slow=38
PEA1 Petropavlovsk- 16.46 34 *e*Pn **Pn 11 56 10.5 +0.1**
ZEA Zeya 16.96 328 *e*P **Pn 11 56 16.8 +0.2**
ZEA pmax pmax
comp=Z,36nm,1.2s
JOW Kunigami 17.90 226 LR LR 12 03 34.7
comp=Z,486nm,20.2s,baz=72,slow=38
JOW Kunigami 17.90 226 *e*Pn **Pn 11 56 28.4 0.0**
comp=Z,118nm,1.2s
MA2 Magadan 19.99 12 P **P 11 56 51.4 -0.3**
comp=Z,1.2nm,0.3s,baz=194,slow=8.5,SNR=17
MA2 LR LR 12 05 43.0
comp=Z,233nm,18.4s,baz=164,slow=40
MA2 Magadan 19.99 12*ce*P **P 11 56 51.8 +0.1**
BJI Beijing 20.12 278 P **P 11 56 53.0 -0.3**
BJI pmax pmax
comp=Z,21nm,0.8s
BJT Baijiatuau 20.13 278 *e*P **P 11 56 51.8 -1.6**
comp=Z,26nm,0.9s
BJT Baijiatuau 20.13 278 *e*P **P 11 56 51.8 -1.6**
BJT pmax pmax
comp=Z,27nm,0.9s
CLNS Chul'man 20.15 331 *e*P **P 11 56 52.5 -1.1**
CLNS pmax pmax
comp=Z,18nm,1.1s
CLNS pmax pmax
comp=N,14nm,1.3s
CLNS pmax pmax
comp=E,10.0nm,1.0s
CLNS MLR MLR
comp=N,432nm,13.0s
CLNS MLR MLR
comp=Z,718nm,14.0s
CLNS MLR MLR
comp=E,608nm,13.0s
TIA Tai'an 20.34 267 P **P 11 56 56.1 +0.4**
TIA pmax pmax
comp=E,8.0nm,0.6s
NJ2 Nanjing 20.77 254 *e*P Pn 11 57 02.6 -0.2
NJ2 pmax pmax
comp=E,12nm,0.5s
YAK Yakutsk 23.12 345 P **P 11 57 22.7 -2.4**
comp=E,30nm,0.6s,baz=277,slow=0.7,SNR=12
YAK Yakutsk 23.12 345 *e*P **P 11 57 22.1 -3.1**
comp=E,73nm,1.1s
YAK Yakutsk 23.12 345 *e*P **P 11 57 22.1 -3.1**
YAK *e**PP **pP 11 57 30.2 -0.6**
YAK *e*S **S 12 01 28.7 -6.6**
YAK *e**SS **sS 12 01 43.0 -2.0**
YAK *e* 12 08 33.3
YAK pmax pmax
comp=Z,54nm,1.1s
YAK pmax pmax
comp=E,6.0nm,1.2s
YAK pmax pmax
comp=N,8.0nm,1.2s
YAK pmax pmax
comp=Z,38nm,0.9s
YAK pmax pmax
comp=N,12nm,1.0s
YAK smax smax
comp=N,151nm,2.6s
YAK smax smax
comp=E,152nm,2.3s
YAK MLR MLR
comp=Z,398nm,15.0s
YAK MLR MLR
comp=N,346nm,14.0s
YAK MLR MLR
comp=E,163nm,15.0s
SEY Seymchan 23.43 11 P **P 11 57 26.6 -1.7**
comp=E,18nm,0.8s,baz=187,slow=8.0,SNR=48
SEY Seymchan 23.43 11*ce*P **P 11 57 27.1 -1.1**
HHC Hu-ho-hao-te 23.47 281 *e*P **P 11 57 27.8 -1.3**
HHC sP sP 11 57 41.4 +4.1
HHC S **S 12 01 35.0 -6.7**
HHC pmax pmax
comp=E,21nm,0.9s
HHC pmax pmax
comp=E,250nm,4.0s
HHC LR LR
comp=E,2μm,12.3s
HHC LR LR
comp=E,3μm,11.7s
HHC LR LR
comp=E,2μm,11.6s
SARN Sarigan 23.68 172 *e*P **P 11 57 33.5 +2.4**
SSLB Suanglung 24.51 234 *e*P **P 11 57 38.9 +0.1**
comp=E,12nm,0.8s
BOD Bodaibo 25.34 323 *e*P **P 11 57 44.7 -1.3**
BOD pmax pmax
comp=Z,26nm,1.2s
ULN Ulaanbaatar 26.41 299 *e*P **P 11 57 56.2 +0.2**
comp=Z,13nm,1.0s
ULN Ulaanbaatar 26.41 299*ce*P **P 11 57 56.3 +0.3**
ULN pmax pmax
comp=Z,12nm,2.5s
SONA1 Songino Array 26.84 298 *e*P **P 11 57 59.4 -0.5**
SONA0 Songino Array 26.85 298 *e*P **P 11 57 60.0 0.0**
SONM Songino Array 26.85 298 P **P 11 57 60.0 +0.1**
comp=Z,2.1nm,0.6s,baz=95,slow=10,SNR=8.5
SONM LR LR 12 09 05.5
comp=Z,161nm,18.2s,baz=80,slow=37
SONM Songino Array 26.85 298 P **P 11 58 00.0 +0.1**
SONM pmax pmax
comp=Z,2.0nm,0.6s
SONM MLR MLR
comp=Z,161nm,18.2s
XAN Xi'an 27.39 268 P **P 11 58 12.0 +7.1**
XAN pP sP 11 58 20.8 +7.6
XAN pmax pmax
comp=Z,10.0nm,1.2s
TLY Talaya 28.98 306 P **P 11 58 18.0 -0.8**
comp=Z,2.5nm,0.3s,baz=13,slow=20,SNR=2.3
TLY LR LR 12 09 15.1
comp=Z,84nm,19.3s,baz=90,slow=35
TLY Talaya 28.98 306 *e*P P 11 58 25.3 +6.5
TLY *e*SS SS 12 04 57.5 -14
TLY pmax pmax
comp=Z,21nm,1.7s
TLY MLR MLR
comp=Z,292nm,13.0s
ZAK Zakamensk 29.07 304 *e*P **P 11 58 19.4 -0.3**
ZAK pmax pmax
comp=Z,14nm,1.3s
H11N2 WAKE ISLAND Hy 29.25 127 T T 12 29 12.0
baz=319,slow=75,SNR=821
H11N1 WAKE ISLAND Hy 29.25 127 T T 12 29 20.1
baz=319,slow=75,SNR=1033
H11N3 WAKE ISLAND Hy 29.26 127 T T 12 29 15.9
baz=319,slow=75,SNR=664
H11S1 WAKE ISLAND Hy 30.07 129 T T 12 30 09.2
baz=321,slow=76,SNR=238
H11S3 WAKE ISLAND Hy 30.07 129 T T 12 30 03.9
baz=321,slow=76,SNR=189
H11S2 WAKE ISLAND Hy 30.08 129 T T 12 30 13.9
baz=321,slow=76,SNR=188
LZH Lanzhou 30.53 275 *e*P **P 11 58 36.3 +3.4**
LZH pP sP 11 58 44.1 +2.9
LZH sP pP 11 58 48.4 +10
LZH PP **PnPn 11 59 30.8 -1.1**
LZH S **S 12 03 37.7 +4.1**
LZH SS **ScP 12 05 13.1 +0.2**
LZH pmax pmax
comp=Z,25nm,0.8s
LZH pmax pmax
comp=Z,160nm,5.3s
LZH LR LR
comp=Z,900nm,15.7s
LZH LR LR
comp=Z,670nm,16.4s
LZH LR LR
comp=Z,930nm,17.1s
BILL Bilibino 30.66 17*c i*P **P 11 58 34.2 +0.8**
BILL *e* 11 59 35.8
BILL pmax pmax
comp=Z,7.0nm,1.1s
TIXI Tiksi 32.17 352 P **P 11 58 45.8 -1.0**
comp=Z,2.4nm,0.5s,baz=139,slow=3.4,SNR=7.4
TIXI Tiksi 32.17 352*ce*P **P 11 58 45.4 -1.3**
TIXI pmax pmax
comp=Z,12nm,1.7s
GTA Gaotai 32.58 283 *e*P **P 11 58 51.5 +0.7**
GTA pP sP 11 58 59.1 -0.1
GTA sP pP 11 59 02.2 +5.5
GTA S **S 12 04 05.8 +0.4**
GTA sS sS 12 04 17.4 +2.2
GTA SS **SnSn 12 06 01.7 +1.9**
GTA pmax pmax
comp=Z,5.0nm,1.0s
GTA pmax pmax
comp=Z,110nm,6.2s
GTA LR LR
comp=Z,320nm,13.1s
GTA LR LR
comp=Z,300nm,12.6s
GTA LR LR
comp=Z,370nm,13.8s
CD2 Chengdu 32.67 266 *e*P **P 11 58 52.0 +0.4**
CD2 pP sP 11 59 00.3 +0.4
CD2 sP pP 11 59 03.9 +6.4
CD2 S **S 12 04 06.4 -0.5**
CD2 sS sS 12 04 20.6 +4.0
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,120nm,5.0s
CD2 LR LR
comp=Z,660nm,8.2s
CD2 LR LR
comp=Z,490nm,10.3s
CD2 LR LR
comp=Z,560nm,11.9s
GYA Guiyang 32.74 256‖ *i*P **P 11 58 53.2 +0.9**
GYA pP sP 11 59 02.4 +1.7
GYA PP **PP 12 00 03.8 -2.6**
GYA S **S 12 04 08.2 0.0**
GYA sS sS 12 04 21.0 +3.0
GYA SS **SnSn 12 06 05.5 +1.4**
GYA pmax pmax
comp=Z,20nm,0.8s
GYA pmax pmax
comp=Z,120nm,5.2s
GYA LR LR
comp=Z,500nm,17.2s
GYA LR LR
comp=Z,430nm,17.8s
GYA LR LR
comp=Z,450nm,17.6s
KNGR Kungurtug, Tuv 32.75 304 *i*P **P 11 58 53.1 +0.9**
QIZ Qiongzhong 35.14 243 P **P 11 59 14.0 +0.9**
QIZ S **S 12 04 48.8 +3.7**
QIZ pmax pmax
comp=Z,180nm,3.3s
QIZ LR LR
comp=Z,310nm,10.3s
QIZ LR LR
comp=Z,360nm,10.3s
QIZ LR LR
comp=Z,260nm,11.3s
DAV Davao City (W) 36.40 209 LR LR 12 12 26.8
comp=Z,146nm,20.3s,baz=5.5,slow=33
KMI Kunming 36.41 258 P **P 11 59 25.3 +1.1**
KMI pmax pmax
comp=Z,11nm,0.6s
KMI LR LR
comp=Z,530nm,15.3s
KMI LR LR
comp=Z,370nm,13.8s
KMI LR LR
comp=Z,510nm,18.2s
DGZ Jazzator, Alta 39.28 303 *e*P **P 11 59 49.0 +0.9**
DGZ pmax pmax
comp=Z,16nm,0.7s
WMQ Urumqi 40.24 294 P **P 11 59 58.6 +2.5**
WMQ LR LR
comp=Z,250nm,18.1s
WMQ LR LR
comp=Z,190nm,16.7s
WMQ LR LR
comp=Z,190nm,21.1s
ZAA0 Zalesovo Array 40.44 310 *e*P **P 11 59 57.6 +0.1**
comp=Z,11nm,0.6s
ZAA1 Zalesovo Array 40.44 310 *e*P **P 11 59 57.5 +0.1**
ZAA1 *e*PcP **PcP 12 02 00.1 +0.1**
ZALV Zalesovo Beam 40.44 310 P **P 11 59 57.5 0.0**
comp=Z,5.0nm,0.4s,baz=95,slow=8.6,SNR=27
ZALV PcP **PcP 12 02 00.1 +0.1**
comp=Z,1.5nm,0.6s,baz=90,slow=2.4,SNR=3.5
ZALV LR LR 12 17 26.5
comp=Z,166nm,18.5s,baz=68,slow=37
ZALV Zalesovo Beam 40.44 310 *e*P **P 11 59 56.5 -1.0**
ZALV Zalesovo Beam 40.44 310 *e*P **P 11 59 56.5 -1.0**
SKNT Sakolnakorn 40.59 246 P P 12 00 06.4 +7.2
comp=Z,5.3nm,1.2s
MYLDM Lahad Datu 41.10 218 *e*P **P 12 00 05.3 +2.0**
comp=Z,40nm,1.3s
NVS Novosibirsk 41.29 311 *e*P **P 12 00 04.3 -0.2**
NVS pmax pmax
comp=N,5.0nm,1.3s
NVS pmax pmax
comp=E,20nm,1.3s
NVS pmax pmax
comp=Z,25nm,1.3s
CMAI Chiengmai2 42.23 254 P **P 12 00 15.5 +2.7**
comp=Z,125nm,1.1s
SVW2 Sparrevohn 42.43 39 *e*P **P 12 00 15.5 +1.8**
comp=Z,15nm,1.0s
CHAI Chaiyaphum 42.72 247 P **P 12 00 17.9 +1.3**
comp=Z,8.5nm,0.9s
PHIT Phitsanulok 42.98 250 P P 12 00 24.1 +5.4
comp=Z,12nm,1.2s
PBKT Sadao Pong 42.99 249 P **P 12 00 20.2 +1.4**
comp=Z,15nm,1.2s,comp=Z,709nm
CMMT Chiang Mai 43.01 253 P **P 12 00 21.1 +2.2**
comp=Z,22nm,0.9s
CHTO Chiang Mai 43.01 253 P **P 12 00 22.2 +3.3**
comp=Z,67nm,1.2s
CHTO Chiang Mai 43.01 253 *e*P **P 12 00 18.2 -0.7**
comp=Z,20nm,1.3s
CHTO Chiang Mai 43.01 253 P **P 12 00 21.5 +2.6**
SNR=7.2
CHTO Chiang Mai 43.01 253 P **P 12 00 21.5 +2.6**
SNR=7.2
CHTO Chiang Mai 43.01 253 *e*P **P 12 00 18.2 -0.7**
CHTO pmax pmax
comp=Z,20nm,1.3s
MK01 Makanchi Array 43.21 299 *e*P **P 12 00 19.9 -0.3**
MK31 Makanchi Array 43.21 299 *e*P **P 12 00 20.0 -0.2**
MK31 Makanchi Array 43.21 299 *i* P **P 12 00 18.7 -1.6**
MK31 pmax pmax
comp=Z,21nm,0.7s
MK32 Makanchi Array 43.21 299 *e*P **P 12 00 21.1 +0.9**
MKAR Makanchi Array 43.21 299 P **P 12 00 21.1 +0.9**
comp=Z,5.8nm,0.8s,baz=84,slow=8.6,SNR=34
MKAR LR LR 12 19 02.8
comp=Z,113nm,18.8s,baz=78,slow=37
MKAR Makanchi Array 43.21 299 *e*P **P 12 00 20.1 -0.1**
comp=Z,162nm,0.6s
CMAR Chiang Mai Arr 43.23 253 P **P 12 00 21.6 +0.8**
comp=Z,0.9nm,0.5s,baz=50,slow=8.4,SNR=7.1
CMAR LR LR 12 18 53.1
comp=Z,113nm,18.4s,baz=57,slow=37
CM01 Chiang Mai Arr 43.24 253 *e*P **P 12 00 21.2 +0.4**
MAKZ Makanchi 43.41 299 *e*P **P 12 00 21.6 -0.3**
comp=Z,34nm,1.1s
MAKZ Makanchi 43.41 299 *e*P **P 12 00 21.6 -0.3**
MAKZ pmax pmax
comp=Z,34nm,1.1s
IM3 Indian Mountai 43.42 32 *e*P **P 12 00 22.8 +1.2**
PPLA Purkeypile 44.02 37 *e*P **P 12 00 28.0 +1.3**
comp=Z,31nm,1.4s
CAST Castle Rocks 44.06 36 *e*P **P 12 00 27.6 +0.8**
comp=Z,4.9nm,0.8s
KDAK Kodiak Island 44.12 44 P **P 12 00 27.6 +0.2**
comp=Z,21nm,0.7s,baz=262,slow=6.1,SNR=19
KDAK LR LR 12 18 22.8
comp=Z,192nm,20.2s,baz=272,slow=35
BPAW Bear Paw Mtn. 44.54 35 *e*P **P 12 00 31.8 +1.1**
comp=Z,9.4nm,1.2s
MLY Manley 44.64 34 *e*P **P 12 00 33.0 +1.4**
comp=Z,9.7nm,1.0s
CHBT CHBT 44.66 244 P P 12 00 38.7 +6.5
KURK Kurchatov 44.68 306 *e*P **P 12 00 32.5 +0.6**
KURK Kurchatov 44.68 306 P **P 12 00 32.3 +0.4**
SNR=25
KURK Kurchatov 44.68 306*ce*P **P 12 00 31.9 0.0**
KURK pmax pmax
comp=Z,54nm,0.8s
SUA Susitna One 44.75 39 *e*P **P 12 00 33.1 +0.5**
comp=Z,21nm,1.0s
KURBB Kurchatov Arra 44.75 306 P **P 12 00 32.5 -0.1**
comp=Z,11nm,0.7s,baz=79,slow=8.7,SNR=36
TRF Thorofare Moun 44.86 36 *e*P **P 12 00 34.5 +1.0**
comp=Z,9.9nm,1.0s
COLD Coldfoot 44.89 31 *e*P **P 12 00 34.4 +0.9**
comp=Z,5.1nm,0.8s
TOLK Toolik Lake Re 45.18 29 P **P 12 00 37.0 +1.1**
baz=268
TOLK Toolik Lake Re 45.18 29 *e*P **P 12 00 35.6 -0.3**
comp=Z,15nm,1.4s
RC01 Rabbit Creek A 45.26 39 *e*P **P 12 00 36.8 +0.3**
comp=Z,15nm,0.7s
MCK McKinley 45.46 36 *e*P **P 12 00 38.9 +0.8**
comp=Z,12nm,1.0s
MCK McKinley 45.46 36 *e*P **P 12 00 38.9 +0.8**
MCK pmax pmax
comp=Z,12nm,1.0s
PMR Palmer 45.51 39 *e*P **P 12 00 39.0 +0.6**
comp=Z,20nm,1.2s
PMR Palmer 45.51 39 *e*P **P 12 00 39.0 +0.6**
PMR pmax pmax
comp=Z,20nm,1.2s
RND Reindeer 45.51 36 *e*P **P 12 00 38.9 +0.4**
comp=Z,17nm,1.1s
RND Reindeer 45.51 36 *e*P **P 12 00 38.9 +0.4**
RND pmax pmax
comp=Z,17nm,1.1s
GHO Glory Hole Cre 45.59 38 *e*P **P 12 00 40.1 +0.9**
MDM Murphy Dome 45.71 34 *e*P **P 12 00 41.1 +1.1**
comp=Z,8.2nm,0.8s
WRH Wood River Hil 45.79 34 *e*P **P 12 00 41.2 +0.6**
comp=Z,4.6nm,0.9s
SRDT SRDT 45.80 248 P P 12 00 48.6 +7.4
comp=Z,11nm,1.3s
SML Sawmill 45.87 38 *e*P **P 12 00 42.3 +0.9**
comp=Z,16nm,0.8s
SML Sawmill 45.87 38 *e*P **P 12 00 42.3 +0.9**
SML pmax pmax
comp=Z,16nm,0.8s
COLA College 45.87 34 *e*P **P 12 00 42.3 +1.1**
comp=Z,14nm,0.7s
COLA College 45.87 34 *e*P **P 12 00 42.3 +1.1**
COLA pmax pmax
comp=Z,14nm,0.7s
CCB Clear Creek Bu 45.90 34 *e*P **P 12 00 42.2 +0.7**

comp=Z,3.1nm,0.7s
PDGK Podgornoye 46.09 295 *i* P **P** **12 00 44.5 +1.0**
PDGK pmax pmax
comp=Z,24nm,1.0s
DHY Denali Highway 46.20 36 *e*P **P** **12 00 44.6 +0.5**
comp=Z,12nm,1.0s
IL1 Eielson Array 46.29 34 *e*P **P** **12 00 44.8 +0.3**
ILAR Eielson Array 46.29 34 P **P** **12 00 45.4 +0.8**
comp=Z,5.9nm,0.8s,baz=264,slow=5.9,SNR=108
ILB Eielson Array 46.29 34 *e*P **P** **12 00 45.3 +0.8**
PHET Kaeng Krachan 46.42 246 P **P** **12 00 49.1 +2.9**
comp=Z,24nm,0.8s,comp=Z,236nm
FYU Fort Yukon 46.86 31 *e*P **P** **12 00 51.2 +2.3**
comp=Z,16nm,1.0s
KLU Klutina 47.05 38 *e*P **P** **12 00 51.8 +1.2**
comp=Z,10nm,0.7s
DIV Divide 47.17 39 *e*P **P** **12 00 52.7 +1.1**
comp=Z,20nm,1.0s
RIDG Independ'e Rid 47.27 35 *e*P **P** **12 00 52.6 +0.2**
comp=Z,6.2nm,1.0s
HARP HAARP 47.29 37 *e*P **P** **12 00 54.3 +1.9**
comp=Z,23nm,0.8s
SCRK Sand Creek 47.62 35 *e*P **P** **12 00 55.8 +0.7**
comp=Z,12nm,0.6s
JIRN Jiri 47.66 273 *e*P **P** **12 00 57.4 +1.2**
BMRM Bremner River 47.76 39 *e*P **P** **12 00 57.5 +1.4**
comp=Z,24nm,1.3s
GUN Gumba 47.77 273 *e*P **P** **12 00 57.3 +0.2**
comp=Z,68nm,0.6s
TARG Taragay, Kyrgy 47.81 294 *e*P **P** **12 00 57.0 -0.3**
comp=Z,33nm,1.5s
MENT Mentasta 47.87 36 *e*P **P** **12 00 58.9 +1.9**
comp=Z,13nm,1.0s
KDJ Kajisay 48.10 295 *e*P **P** **12 00 59.9 +0.7**
comp=Z,14nm,0.8s
KKN Kakani 48.29 274 *e*P **P** **12 01 01.7 +0.8**
PKI Pulchoki 48.31 273 *e*P **P** **12 01 01.7 +0.6**
PKIN Phulchoki 48.31 273 *e*P **P** **12 01 02.0 +0.9**
EGAK Eagle 48.73 34 *e*P **P** **12 01 03.7 +0.2**
comp=Z,6.9nm,1.0s
BALM Baldy 48.83 39 *e*P **P** **12 01 05.6 +1.1**
comp=Z,16nm,1.0s
BALM Baldy 48.83 39 *e*P **P** **12 01 05.6 +1.1**
BALM pmax pmax
comp=Z,16nm,1.0s
TKM2 Tokmak 2 48.91 296 P **P** **12 01 09.0 +3.5**
SNR=14
TKM2 Tokmak 2 48.91 296 P **P** **12 01 04.4 -1.1**
TKM2 pmax pmax
comp=Z,9.0nm,0.8s
BVA0 Borovoye Array 49.08 310 P **P** **12 01 05.7 -0.6**
BVA0 pmax pmax
comp=Z,3.0nm,0.5s
BVAR Borovoye Array 49.08 310 P **P** **12 01 06.6 +0.3**
comp=Z,5.9nm,0.4s,baz=71,slow=8.9,SNR=34
BVAR LR LR 12 22 22.6
comp=Z,130nm,19.0s,baz=76,slow=37
BRVK Borovoye 49.13 311 *ce*P **P** **12 01 06.6 -0.1**
SNR=6.1
BRVK Borovoye 49.13 311 *ce*P **P** **12 01 06.6 -0.1**
BRVK pmax pmax
comp=Z,5.0nm,0.4s
DANN Dangsing 49.17 275 *e*P **P** **12 01 08.4 +0.7**
comp=Z,13nm,0.9s
NRN Naryn 49.18 294 *e*P **P** **12 01 08.8 +1.1**
comp=Z,14nm,1.3s
NRN Naryn 49.18 294 *e*P **P** **12 01 08.8 +1.1**
NRN pmax pmax
comp=Z,14nm,1.3s
OTUK Ortayu 49.28 304 P **P** **12 01 07.1 -0.9**
OTUK pmax pmax
comp=Z,20nm,1.2s
KBK Karagaybulak 49.45 296 P P 12 01 19.1 +10
SNR=6.6
KZA Kyzart 49.46 295 P P 12 01 18.7 +8.8
SNR=11
USP Ospenovka 49.54 297 P P 12 01 18.0 +7.9
SNR=6.0
KOLN Koldanda 49.59 275 *e*P **P** **12 01 12.0 +1.2**
comp=Z,34nm,0.8s
FRU Bishkek 49.62 297 *e*P P 12 01 18.0 +7.3
FRU *e* 12 01 26.0
FRU pmax pmax
comp=Z,40nm,1.4s
AAK Ala-Archa 49.77 296 LR LR 12 23 19.7
comp=Z,118nm,19.3s,baz=64,slow=37
AAK Ala-Archa 49.77 296 P **P** **12 01 16.1 +4.1**
SNR=6.0
AAK Ala-Archa 49.77 296 *e*P **P** **12 01 12.3 +0.3**
comp=Z,28nm,1.4s
AAK Ala-Archa 49.77 296 *e*P **P** **12 01 12.3 +0.3**
AAK pmax pmax
comp=Z,28nm,1.4s
PYUN Piuthan 49.88 275 *e*P **P** **12 01 13.9 +0.8**
comp=Z,165nm,1.1s
KSH Kashi 49.94 292 *e*P P 12 01 21.7 +8.4
KSH pmax pmax
comp=Z,12nm,0.7s
TRTT Trang 49.99 242 P P 12 01 20.4 +6.7
comp=Z,5.4nm,1.1s
EKS2 Erkin-Say 50.25 297 P P 12 01 24.7 +9.1
SNR=6.0
AML Almayashu 50.51 296 P **P** **12 01 18.6 +0.7**
SNR=6.4
PKDT Phuket 50.87 243 P P 12 01 28.5 +8.1
comp=Z,15nm,0.9s,comp=Z,1jm
INK Inuvik 51.10 28 P **P** **12 01 22.7 +1.3**
comp=Z,5.7nm,0.4s,baz=287,slow=6.5,SNR=105
INK Inuvik 51.10 28 *e*P **P** **12 01 22.6 +1.3**
comp=Z,9.3nm,0.6s
INK Inuvik 51.10 28 *e*P **P** **12 01 22.6 +1.2**
INK pmax pmax
comp=Z,9.0nm,0.6s
MNAS Manas 51.19 297 P **P** **12 01 22.1 -0.6**
MNAS pmax pmax
comp=Z,32nm,1.1s
SFK Sufi-Kurgan 51.48 294 P **P** **12 01 25.2 +0.2**
SFK pmax pmax
comp=Z,28nm,0.9s
HNR Honiara 52.03 158 LR LR 12 19 56.5
comp=Z,90nm,21.9s,baz=345,slow=32
KK05 Karatay Array 52.29 298 *e*P **P** **12 01 30.2 -0.5**
KK06 Karatay Array 52.30 298 *e*P **P** **12 01 28.4 -2.4**
KK02 Karatay Array 52.30 298 *e*P **P** **12 01 30.5 -0.3**
KK09 Karatay Array 52.30 298 *e*P **P** **12 01 30.3 -0.5**
KK31 Karatay Array 52.30 298 *e*P **P** **12 01 30.9 0.0**
KK31 Karatay Array 52.30 298 *i* P **P** **12 01 30.2 -0.6**
KK31 pmax pmax
comp=Z,4.0nm,0.7s
KKAR Karatay Array 52.30 298 *e*P **P** **12 01 30.9 +0.1**
KKAR Karatay Array 52.30 298 *e*P **P** **12 01 30.9 +0.1**
KK04 Karatay Array 52.30 298 *e*P **P** **12 01 30.5 -0.4**
KK01 Karatay Array 52.30 298 *e*P **P** **12 01 30.7 -0.2**
KK03 Karatay Array 52.31 298 *e*P **P** **12 01 30.7 -0.2**
KK07 Karatay Array 52.31 298 *e*P **P** **12 01 30.6 -0.3**
KK08 Karatay Array 52.32 298 *e*P **P** **12 01 30.8 -0.2**
BATI Baumata 53.20 203 LR LR 12 26 47.4
comp=Z,75nm,18.7s,baz=140,slow=39
SVE Sverdlovsk 53.32 317 *e*P **P** **12 01 38.9 +0.8**
SVE pmax pmax
comp=Z,19nm,0.8s
SVE MLR MLR
comp=Z,523nm,14.0s
MTN Manton Dam 53.91 194 *e*P **P** **12 01 44.1 +1.3**
comp=Z,46nm,1.4s
COEN Coen 53.98 179 *e*P **P** **12 01 45.6 +2.3**
comp=Z,9.3nm,0.8s
PSI Prapat 54.24 238 LR LR 12 27 31.7
comp=Z,163nm,18.4s,baz=128,slow=39
PSI Prapat 54.24 238 *e*P **P** **12 01 47.7 +2.2**
comp=Z,12nm,0.9s
PSI Prapat 54.24 238 *e*P **P** **12 01 47.7 +2.2**
PSI pmax pmax
comp=Z,12nm,0.9s
NIL Nilore 54.48 287 *e*P **P** **12 01 46.4 -0.6**
comp=Z,17nm,0.8s
NIL Nilore 54.48 287 *e*P **P** **12 01 46.4 -0.6**
NIL pmax pmax
comp=Z,17nm,0.8s
ARU Arti 54.53 317 LR LR 12 27 37.9
comp=Z,363nm,18.3s,baz=66,slow=39
ARU Arti 54.53 317 *c i*P **P** **12 01 47.4 +0.4**
ARU 12 02 43.8
ARU 12 03 46.7
ARU S **S** **12 09 26.3 +1.4**
ARU SS **SS** **12 13 04.7 -2.2**

ARU pmax pmax
comp=Z,15nm,1.7s
ARU MLR MLR
comp=Z,465nm,15.0s
DZET Dzherino 55.27 294 P **P** **12 01 50.6 -2.1**
DZET pmax pmax
comp=Z,23nm,1.0s
GSI Gunungsitoli 56.24 238 *e*P **P** **12 02 00.7 +0.9**
comp=Z,36nm,1.1s
AB06 Akbulak array 56.53 309 *e*P **P** **12 02 01.2 -0.2**
AB05 Akbulak array 56.54 309 *e*P **P** **12 02 01.4 -0.1**
AB02 Akbulak array 56.54 309 *e*P **P** **12 02 01.4 -0.1**
AB07 Akbulak array 56.54 309 *e*P **P** **12 02 01.4 -0.1**
AB01 Akbulak array 56.55 309 *e*P **P** **12 02 00.9 -0.7**
AB31 Akbulak array 56.55 309 *e*P **P** **12 02 01.1 -0.4**
AB31 Akbulak array 56.55 309 *e*P **P** **12 02 01.2 -0.4**
ABKAR Akbulak array 56.55 309 *e*P **P** **12 02 01.1 -0.4**
AB03 Akbulak array 56.55 309 *e*P **P** **12 02 01.4 -0.1**
AB04 Akbulak array 56.55 309 *e*P **P** **12 02 01.4 -0.2**
AB09 Akbulak array 56.56 309 *e*P **P** **12 02 01.5 -0.1**
AB08 Akbulak array 56.56 309 *e*P **P** **12 02 01.5 -0.2**
KBL Kabul 57.11 290 *e*P **P** **12 02 05.8 -0.3**
comp=Z,26nm,1.0s
KBL Kabul 57.11 290 *e*P **P** **12 02 05.8 -0.3**
KBL pmax pmax
comp=Z,26nm,1.0s
AKTO Aktyubinsk 57.18 311 P **P** **12 02 06.2 +0.2**
comp=Z,4.2nm,0.5s,baz=69,slow=8.6,SNR=10
AKTO LR LR 12 28 46.8
comp=Z,86nm,20.7s,baz=61,slow=38
SPA0 Spitsbergen Ar 57.50 349 *e*P **P** **12 02 08.3 +0.3**
SPITS Spitsbergen Ar 57.50 349 P **P** **12 02 08.6 +0.6**
comp=Z,10nm,1.1s,baz=38,slow=13,SNR=3.3
SPITS LR LR 12 31 24.4
comp=Z,140nm,18.4s,baz=25,slow=41
SPITS Spitsbergen Ar 57.50 349 P **P** **12 02 08.6 +0.6**
SPITS pmax pmax
comp=Z,11nm,1.1s
SPITS MLR MLR
comp=Z,140nm,18.4s
HYB Hyderabad 59.20 267 *i* P P 12 02 27.0 +6.3
RES Resolute Bay 59.23 15 *e*P **P** **12 02 20.1 +0.1**
comp=Z,6.1nm,0.8s
RES Resolute Bay 59.23 15 *e*P **P** **12 02 20.1 +0.1**
RES pmax pmax
comp=Z,6.0nm,0.8s
CTA Charters Tower 60.17 176 P **P** **12 02 28.8 +1.8**
comp=Z,0.8nm,0.5s,baz=0.0,slow=6.1,SNR=2.0
TMCR Tamitsa 60.32 331 *e*P **P** **12 02 29.5 +1.9**
WB2 Warramunga Arr 60.41 189 *e*P **P** **12 02 27.9 -0.8**
WR1 Warramunga Arr 60.41 189 *e*P **P** **12 02 27.9 -0.8**
comp=Z,18nm,0.9s
WRA Warramunga Ar 60.41 189 P **P** **12 02 27.9 -0.8**
comp=Z,3.2nm,0.6s,baz=7.4,slow=7.0,SNR=49
WRA LR LR 12 28 05.1
comp=Z,57nm,21.1s,baz=215,slow=35
WRA Warramunga Arr 60.41 189 *i* P **P** **12 02 27.8 -0.9**
WRA pmax pmax
comp=Z,3.0nm,0.6s
YKA Yellowknife Ar 60.56 31 P **P** **12 02 29.7 +0.4**
comp=Z,3.1nm,0.6s,baz=301,slow=6.5,SNR=69
ARA0 ARCESS Array S 61.26 339 *e*P **P** **12 02 32.9 -1.1**
ARCES ARCESS Array B 61.26 339 P **P** **12 02 32.9 -1.1**
comp=Z,2.1nm,0.5s,baz=59,slow=8.1,SNR=14
KLMR Klimovskoe 61.48 327 *e*P **P** **12 02 34.5 -1.1**
KLMR AMP 12 02 36.6
comp=Z,17nm,1.3s
KLMR *e*PP **PP** **12 04 49.1 -1.4**
KLMR LQ LQ 12 24 35.7
KLMR LQ LQ 12 24 35.7
KLMR Klimovskoe 61.48 327 *e*P **P** **12 02 34.4 -1.1**
KLMR *e* 12 04 49.0
KLMR pmax pmax
comp=Z,17nm,1.3s
TULEG Thule 61.76 8 *e*P **P** **12 02 36.9 -0.3**
comp=Z,5.2nm,0.8s
DAG Danmarks Havn 62.60 355 *i* P **P** **12 02 42.4 -0.5**
comp=Z,3.2nm,0.7s
DAG Danmarks Havn 62.60 355 *i* P **P** **12 02 42.4 -0.5**
DAG pmax pmax
comp=Z,3.0nm,0.7s
GEYT Alibeck 63.05 298 P **P** **12 02 46.6 +0.1**
comp=Z,4.1nm,0.6s,baz=42,slow=4.6,SNR=6.7
GEYT LR LR 12 30 52.3
comp=Z,65nm,18.3s,baz=70,slow=37
AS01 Alice Springs 64.13 189 *e*P **P** **12 02 53.1 -0.5**
AS31 Alice Springs 64.14 189 *e*P **P** **12 02 53.2 -0.4**
comp=Z,3.7nm,1.1s
ASAR Alice Springs 64.14 189 P **P** **12 02 52.9 -0.8**
comp=Z,2.4nm,0.6s,baz=6.0,slow=5.5,SNR=32
B05A Bryant 64.44 48 P **P** **12 02 56.7 +1.3**
baz=303
VRH Novokhopyorsk 65.77 317 *e*P **P** **12 03 03.4 -0.6**
VRH pmax pmax
comp=Z,10.0nm,0.9s
DZM Mont Dzumac 65.92 156 LR LR 12 28 35.0
comp=Z,100nm,21.5s,baz=27,slow=33
B08A Colville Reser 65.93 46 *e*P **P** **12 03 05.9 +0.7**
comp=Z,23nm,1.4s
OBN Obninsk 66.02 323 *e*P **P** **12 03 06.1 +0.5**
OBN *e* 12 03 38.1
OBN *e* 12 05 30.3
OBN *e*PPP PPP 12 07 06.4
OBN pmax pmax
comp=Z,8.0nm,0.9s
OBN MLR MLR
comp=Z,298nm,15.0s
I03D Drain, OR 66.19 52 P **P** **12 03 08.0 +1.1**
baz=304
EDM Edmonton 66.26 40 *e*P **P** **12 03 07.6 +0.3**
comp=Z,23nm,1.2s
EDM Edmonton 66.26 40 *e*P **P** **12 03 07.6 +0.3**
EDM pmax pmax
comp=Z,23nm,1.2s
FIA1 FINESS Array S 66.34 332 *e*P **P** **12 03 07.5 -0.1**
H04A Detroit Lake 66.34 51 *e*P **P** **12 03 09.3 +1.4**
comp=Z,20nm,1.0s
FIA0 FINESS Array S 66.35 332 *e*P **P** **12 03 07.5 -0.1**
FIA0 FINESS Array S 66.35 332 *e*P **P** **12 03 07.5 -0.1**
FINES FINESS Array B 66.35 332 P **P** **12 03 07.5 -0.1**
comp=Z,10.0nm,0.7s,baz=40,slow=7.2,SNR=28
FINES LR LR 12 32 46.4
comp=Z,103nm,20.4s,baz=46,slow=36
LPSR Galich'ya Gora 66.38 320 *e*P **P** **12 03 07.9 0.0**
LPSR pmax pmax
comp=Z,10.0nm,0.6s
G05D Wamic, OR 66.55 50 P **P** **12 03 10.3 +1.1**
baz=304
I04A Tendick Farm, 66.71 52 P **P** **12 03 11.1 +0.8**
baz=304
C09A Chrisman Ranch 66.83 46 *e*P **P** **12 03 12.2 +1.3**
comp=Z,13nm,0.8s
D08A Wollman Farm, 66.90 47 *e*P **P** **12 03 12.3 +0.9**
comp=Z,11nm,0.7s
I05D Terrebonne, OR 67.04 51 P **P** **12 03 13.1 +0.7**
baz=304
VSR Storozhevoye 67.07 318 *e*P **P** **12 03 11.5 -0.9**
VSR pmax pmax
comp=Z,9.0nm,0.5s
JMIC Jan Mayen 67.09 350 LR LR 12 32 46.9
comp=Z,63nm,21.3s,baz=50,slow=36
MAK Makhachkala 67.16 307 *e*P **P** **12 03 13.0 0.0**
MAK *e*S **S** **12 12 06.0 -0.3**
MAK pmax pmax
comp=Z,26nm,0.3s
J04D Umpqua Nationa 67.20 52 P **P** **12 03 14.7 +1.1**
baz=304
NEW Newport 67.20 45 P **P** **12 03 14.6 +1.2**
comp=Z,8.7nm,0.9s,baz=314,slow=5.7,SNR=10
NEW LR LR 12 30 30.1
comp=Z,46nm,19.3s,baz=326,slow=34
NEW Newport 67.20 45 P **P** **12 03 14.2 +0.9**
baz=306,SNR=6.4
NEW Newport 67.20 45 *e*P **P** **12 03 14.1 +0.8**
comp=Z,14nm,1.0s
NEW Newport 67.20 45 *e*P **P** **12 03 14.1 +0.8**
NEW pmax pmax
comp=Z,14nm,1.0s
PINE Pine Mountain 67.59 51 *e*P **P** **12 03 17.7 +1.7**
comp=Z,30nm,0.9s
YBH Yreka Blue Hor 67.68 54 P **P** **12 03 18.8 +2.2**
comp=Z,15nm,1.3s,baz=1.3,slow=2.5,SNR=6.7
J05D Fort Rock, OR 67.70 52 P **P** **12 03 18.5 +1.8**
baz=305,SNR=5.1
M02C Callahan 67.79 54 P **P** **12 03 18.4 +1.2**
baz=305

N02D Trinity Center 68.12 54 P **P** **12 03 20.7 +1.4**
baz=305
M04C Macdoel 68.19 53 P **P** **12 03 21.3 +1.5**
baz=305,SNR=5.8
K05A Summer Lake 68.22 52 *e*P **P** **12 03 21.7 +1.6**
comp=Z,42nm,1.0s
WALA Waterton Lakes 68.45 43 *e*P **P** **12 03 22.3 +1.0**
comp=Z,17nm,1.0s
GOF Gofitskoye 68.59 311⇑ *e*P P 12 03 30.2 +8.1
GOF pmax pmax
comp=Z,49nm,0.8s
AFI Afiamalu 68.60 132 LR LR 12 29 01.7
comp=Z,74nm,21.5s,baz=319,slow=32
JTMT Jette 69.05 45 *e*P **P** **12 03 26.3 +1.2**
comp=Z,23nm,0.9s
MOD Modoc Plateau 69.06 52 *e*P **P** **12 03 26.2 +1.0**
comp=Z,11nm,0.9s
O03D Paynes Creek 69.07 55 P **P** **12 03 26.2 +0.9**
baz=306
BMO Blue Mountains 69.09 49 *e*P **P** **12 03 25.9 +0.6**
comp=Z,11nm,1.0s
BMO Blue Mountains 69.09 49 *e*P **P** **12 03 25.9 +0.6**
BMO pmax pmax
comp=Z,11nm,1.0s
J08A Circle Bar Ran 69.30 50 *e*P **P** **12 03 28.1 +1.4**
comp=Z,19nm,1.0s
ZEI Tsey 69.42 309 *e*P **P** **12 03 26.0 -1.5**
ZEI pmax pmax
comp=Z,7.0nm,0.6s
KIV Kislovodsk 69.44 311 *e*P **P** **12 03 28.3 +0.8**
comp=Z,47nm,1.0s
KIV Kislovodsk 69.44 311 pP pP 12 03 36.8 +3.0
SNR=7.7
KIV Kislovodsk 69.44 311 P P 12 03 36.8 +9.3
SNR=7.7
KIV Kislovodsk 69.44 311 *i* P P 12 03 36.7 +9.2
SNR=6.4
KIV Kislovodsk 69.44 311 *e*P **P** **12 03 28.6 +1.1**
KIV pmax pmax
comp=Z,49nm,1.1s
KIV MLR MLR
comp=Z,201nm,17.0s
KBZ Khabaz 69.46 310 P **P** **12 03 27.9 +0.5**
comp=Z,3.5nm,0.5s,baz=54,slow=4.9,SNR=13
ORV Oroville 69.69 55 *e*P **P** **12 03 29.3 +0.3**
comp=Z,9.1nm,1.2s
ORV Oroville 69.69 55 *e*P **P** **12 03 29.3 +0.3**
ORV pmax pmax
comp=Z,9.0nm,1.2s
WVOR Wild Horse Val 69.75 51 *e*P **P** **12 03 30.2 +0.7**
comp=Z,16nm,1.0s
WVOR Wild Horse Val 69.75 51 *e*P **P** **12 03 30.2 +0.7**
WVOR pmax pmax
comp=Z,16nm,1.0s
MSO Missoula 69.79 45 P **P** **12 03 30.4 +0.8**
baz=308,SNR=9.5
MSO Missoula 69.79 45 *e*P **P** **12 03 30.0 +0.4**
comp=Z,11nm,0.9s
NEY Neytrino 69.84 310 *i* P **P** **12 03 30.7 +0.6**
NEY pmax pmax
comp=Z,1.0nm,0.5s
HMDM Hanimaadhoo 69.92 262 *e*P **P** **12 03 28.0 -2.7**
comp=Z,2.5nm,0.7s
BEKR Beckworth 70.22 54 *e*P **P** **12 03 33.2 +0.8**
comp=Z,13nm,1.0s
AFDM Forest Hills D 70.38 55 *e*P **P** **12 03 34.5 +1.3**
comp=Z,6.6nm,1.2s
GNI Garni 70.47 306 LR LR 12 36 52.9
comp=Z,90nm,20.1s,baz=74,slow=38
FFC Flin Flon 70.50 34 *e*P **P** **12 03 34.3 +0.6**
FFC Flin Flon 70.50 34 *e*P **P** **12 03 34.3 +0.6**
FCC Fort Churchill 70.70 27 *e*P **P** **12 03 35.1 +0.3**
comp=Z,21nm,1.1s
FCC Fort Churchill 70.70 27 *e*P **P** **12 03 35.1 +0.3**
FCC pmax pmax
comp=Z,21nm,1.1s
MFID Camas Ranch 70.81 49 *e*P **P** **12 03 36.9 +1.0**
comp=Z,16nm,1.3s
RUBR Rubicon Trail 70.83 55 *e*P **P** **12 03 38.0 +1.7**
comp=Z,13nm,1.2s
PAHR Pah Rah Range 70.92 54 *e*P **P** **12 03 37.5 +0.8**
comp=Z,13nm,0.9s
VCNR Virginia City 71.00 54 *e*P **P** **12 03 38.7 +1.5**
comp=Z,13nm,1.2s
HRY Holter Researc 71.00 44 *e*P **P** **12 03 37.8 +0.8**
BANOM Banah 71.01 288 P P 12 03 45.8 +8.4
SNR=5.3
BANOM Banah 71.01 288 *i* P P 12 03 45.1 +7.8
SNR=5.6
SHME Shamm 71.06 288 *i* P P 12 03 45.6 +8.0
SNR=6.2
LRM Limekiln Ridge 71.22 46 *e*P **P** **12 03 39.4 +0.9**
CMB Columbia Colle 71.29 56 *e*P **P** **12 03 40.2 +1.4**
comp=Z,10nm,1.1s
CMB Columbia Colle 71.29 56 *e*P **P** **12 03 40.3 +1.4**
CMB pmax pmax
comp=Z,10.0nm,1.1s
NC405 NORSAR Array S 71.31 337 *e*P **P** **12 03 37.7 -0.8**
DLMT Dillon 71.43 46 *e*P **P** **12 03 40.9 +1.2**
comp=Z,33nm,1.1s
YERR Yerington 71.44 54 *e*P **P** **12 03 41.1 +1.2**
comp=Z,19nm,1.0s
MSFE Esma-Masafi 71.45 288 P P 12 03 47.6 +7.6
NC204 NORSAR Array S 71.46 338 *e*P **P** **12 03 39.7 +0.2**
HFS Hagfors 71.48 336 P **P** **12 03 39.5 0.0**
comp=Z,6.2nm,0.3s,baz=42,slow=6.8,SNR=69
HFS LR LR 12 37 56.7
comp=Z,182nm,18.5s,baz=39,slow=38
NB201 NORSAR Array S 71.49 337 *e*P **P** **12 03 38.9 -0.7**
NB2 NORSAR Subarra 71.52 337 P **P** **12 03 39.4 -0.4**
comp=Z,5.1nm,0.7s,baz=37,slow=6.2
NB200 NORSAR Array S 71.52 337 *e*P **P** **12 03 39.8 0.0**
NOA NORSAR Array B 71.52 337 P **P** **12 03 39.8 0.0**
comp=Z,4.4nm,0.6s,baz=37,slow=6.1,SNR=23
NOA LR LR 12 40 01.6
comp=Z,208nm,18.8s,baz=45,slow=40
HLID Hailey 71.53 48 P **P** **12 03 41.7 +1.3**
baz=308,SNR=10
HLID Hailey 71.53 48 *e*P **P** **12 03 41.8 +1.4**
comp=Z,7.4nm,1.0s
WAKR Walker 71.61 55 *e*P **P** **12 03 42.2 +1.3**
comp=Z,12nm,1.3s
NBO02 NORSAR Array S 71.62 337 *e*P **P** **12 03 40.5 +0.1**
MCMT McKenzie Canyo 71.62 47 *e*P **P** **12 03 41.8 +0.8**
UOSS Minazif 71.66 287 *e*P **P** **12 03 41.0 -0.2**
UOSS Minazif 71.66 287 P P 12 03 48.2 +7.0
HATD Hatta, Dubai 71.78 287 P P 12 03 51.0 +9.0
SNR=7.3
HATD Hatta, Dubai 71.78 287 *i* P P 12 03 50.3 +8.3
SNR=6.1
BMN Battle Mountai 71.80 52 *e*P **P** **12 03 43.4 +1.4**
comp=Z,17nm,1.1s
BMN Battle Mountai 71.80 52 *e*P **P** **12 03 43.4 +1.4**
BMN pmax pmax
comp=Z,17nm,1.1s
BOZ Bozeman (W) 71.81 45 P **P** **12 03 43.1 +1.1**
baz=309,SNR=32
BOZ Bozeman (W) 71.81 45 *e*P **P** **12 03 43.0 +1.0**
comp=Z,21nm,0.8s
BOZ Bozeman (W) 71.81 45 *e*P **P** **12 03 43.0 +1.0**
BOZ pmax pmax
comp=Z,21nm,0.8s
STKA Stephens Creek 71.81 181 P **P** **12 03 42.3 +0.6**
comp=Z,0.8nm,0.5s,baz=320,slow=16,SNR=2.1
STKA Stephens Creek 71.81 181 *e*P **P** **12 03 42.3 +0.6**
comp=Z,1.9nm,1.4s
STKA Stephens Creek 71.81 181 *e*P **P** **12 03 42.3 +0.6**
STKA pmax pmax
comp=Z,2.0nm,1.4s
ANN Anapa 71.91 314 *e*P **P** **12 03 40.8 -1.5**
ANN *e*S **S** **12 13 00.9 -1.3**
ANN pmax pmax
comp=Z,118nm,2.0s
ASHO Ashiyiah 71.92 287 pP pP 12 03 51.8 +2.6
SNR=5.3
ASHO Ashiyiah 71.92 287 P P 12 03 51.8 +8.9
SNR=5.3
RYN Ryan 72.10 54 *e*P **P** **12 03 44.7 +0.9**
comp=Z,7.6nm,1.0s
KVN Kaiserville 72.11 54 *e*P **P** **12 03 45.1 +1.2**
comp=Z,16nm,1.0s
KVN Kaiserville 72.11 54 *e*P **P** **12 03 45.1 +1.2**
KVN pmax pmax
comp=Z,16nm,1.0s
AKASG Malin Array Be 72.26 322 P **P** **12 03 44.1 -0.2**
comp=Z,2.6nm,0.5s,baz=44,slow=5.9,SNR=18
AKBB Malin Array Si 72.26 322 *e*P **P** **12 03 44.4 0.0**

comp=Z,9.2nm,0.8s
AKBB Malin Array Si 72.26 322 *e*P **P** 12 03 44.4 0.0
AKBB pmax pmax
comp=Z,9.0nm,0.8s
KIEV Kiev 72.27 322 *e*P **P** 12 03 44.3 -0.1
comp=Z,8.9nm,0.8s
KIEV Kiev 72.27 322 *i* P **P** 12 03 44.6 +0.2
KIEV pmax pmax
comp=Z,6.0nm,0.9s
AK11 Malin Array Si 72.30 322 *e*P **P** 12 03 44.4 -0.2
MDPB Devils Postpil 72.36 56 *e*P **P** 12 03 46.9 +1.4
comp=Z,3.7nm,0.9s
NV01 Mina Array Sit 72.36 54 *e*P **P** 12 03 46.3 +0.8
NVAR Mina Array Bea 72.36 54 P **P** 12 03 46.8 +1.3
comp=Z,8.9nm,1.0s,baz=289,slow=6.2,SNR=39
NVAR LR LR 12 38 51.7
comp=Z,14nm,18.4s,baz=98,slow=38
QLMT Earthquake Lak 72.41 46 *e*P **P** 12 03 47.2 +1.5
NV11 Mina Array Sit 72.45 54 *e*P **P** 12 03 47.0 +1.1
comp=Z,0.9nm,1.2s
ALNE Al Ain 72.52 287 P P 12 03 53.9 +7.6
SFJD Kangerlussuaq 72.56 5 LR LR 12 38 38.4
comp=Z,66nm,19.0s,baz=340,slow=38
SFJD Kangerlussuaq 72.56 5 *i* P P 12 03 32.3 -14
YHB Horse Butte 72.59 46 *e*P **P** 12 03 48.0 +1.2
comp=Z,19nm,0.9s
GCMT Greycliff 72.74 44 *e*P **P** 12 03 48.8 +1.2
YHH Holmes Hill 72.75 46 *e*P **P** 12 03 48.6 +0.8
comp=Z,12nm,1.1s
YMR Madison River 72.77 46 *e*P **P** 12 03 49.1 +1.3
comp=Z,16nm,1.1s
YFT Old Faithful 72.97 46 *e*P **P** 12 03 52.0 +3.0
comp=Z,11nm,0.9s
YPP Pitchstone Pla 73.11 46 *e*P **P** 12 03 52.3 +2.4
comp=Z,6.3nm,1.0s
H17A Grant Village 73.15 46 P **P** 12 03 52.8 +2.6
baz=310,SNR=19
H17A Grant Village 73.15 46 *e*P **P** 12 03 52.9 +2.8
comp=Z,27nm,1.0s
TIN Tinemaha, Big 73.25 56 P **P** 12 03 52.1 +1.5
baz=308
IMW Indian Meadow 73.27 46 *e*P **P** 12 03 52.6 +1.7
comp=Z,12nm,0.9s
FXWY Fox Creek 73.39 47 *e*P **P** 12 03 53.1 +1.6
comp=Z,9.2nm,0.9s
RLMT Red Lodge 73.39 45 P **P** 12 03 52.5 +1.0
baz=311,SNR=7.8
RLMT Red Lodge 73.39 45 *e*P **P** 12 03 52.7 +1.2
comp=Z,7.5nm,0.8s
VES Vestal, Richgr 73.45 57 P **P** 12 03 52.0 +0.3
baz=308,SNR=5.7
MOOW Moose Ponds 73.48 46 *e*P **P** 12 03 53.6 +1.6
comp=Z,13nm,1.1s
TPAW Teton Pass 73.53 47 *e*P **P** 12 03 54.1 +1.7
comp=Z,23nm,1.4s
HVU Hansel Valley 73.59 49 *e*P **P** 12 03 54.1 +1.4
comp=Z,12nm,1.0s
HVU Hansel Valley 73.59 49 *e*P **P** 12 03 54.1 +1.4
HVU pmax pmax
comp=Z,12nm,1.0s
LOHW Long Hollow 73.64 46 *e*P **P** 12 03 54.6 +1.6
comp=Z,4.6nm,1.0s
SNOW Snow King Moun 73.66 47 *e*P **P** 12 03 54.8 +1.7
comp=Z,12nm,1.2s
REDW Red Top Meadow 73.67 47 *e*P **P** 12 03 54.6 +1.5
comp=Z,14nm,1.1s
CWC Cottonwood Cre 73.72 56 P **P** 12 03 54.2 +0.7
baz=308
GRAC Grapevine Rang 73.83 55 P **P** 12 03 55.3 +1.4
baz=309,SNR=7.4
AHID Auburn Hatcher 73.91 47 *e*P **P** 12 03 55.5 +0.9
comp=Z,8.4nm,1.1s
ISA Isabella, Lake 73.95 57 P **P** 12 03 54.9 +0.2
baz=308
ISA Isabella, Lake 73.95 57 *e*P **P** 12 03 52.8 -1.9
comp=Z,6.2nm,1.1s
ISA Isabella, Lake 73.95 57 *e*P **P** 12 03 52.8 -1.9
ISA pmax pmax
comp=Z,6.0nm,1.1s
LAO LASA Array 73.95 42 P **P** 12 03 55.5 +1.0
baz=312,SNR=9.9
LAO LASA Array 73.95 42 *e*P **P** 12 03 55.1 +0.6
comp=Z,23nm,0.9s
ARVC Arvin 74.05 57 P **P** 12 03 56.4 +1.2
baz=308
R11A Troy Canyon, C 74.08 53 P **P** 12 03 56.6 +0.9
baz=309,SNR=16
R11A Troy Canyon, C 74.08 53 *e*P **P** 12 03 56.7 +1.1
comp=Z,9.9nm,1.0s
DAC Darwin (Calif) 74.13 56 *e*P **P** 12 03 56.8 +0.9
comp=Z,5.5nm,0.8s
DAC Darwin (Calif) 74.13 56 *e*P **P** 12 03 56.8 +0.9
DAC pmax pmax
comp=Z,6.0nm,0.8s
MPMC Manual Prospec 74.33 56 P **P** 12 03 57.9 +0.8
baz=309,SNR=8.3
HWUT Hardware Ranch 74.40 48 *e*P **P** 12 03 58.7 +1.3
comp=Z,16nm,1.1s
FURC Furnace Creek, 74.47 55 P **P** 12 03 58.7 +1.1
baz=309,SNR=12
BLG Laguna Peak, P 74.52 58 P **P** 12 03 59.2 +1.1
baz=308
TPNV Topopah Spring 74.55 55 P **P** 12 03 59.5 +1.1
baz=309,SNR=10
TPNV Topopah Spring 74.55 55 *e*P **P** 12 03 59.5 +1.1
comp=Z,11nm,0.9s
TPNV Topopah Spring 74.55 55 *e*P **P** 12 03 59.5 +1.1
TPNV pmax pmax
comp=Z,11nm,0.9s
LRMC Laurel Mtn Rad 74.57 57 P **P** 12 03 58.9 +0.5
baz=309
DUG Dugway, Tooele 74.58 50 P **P** 12 03 59.8 +1.4
baz=310,SNR=6.9
DUG Dugway, Tooele 74.58 50 *e*P **P** 12 03 59.7 +1.3
comp=Z,19nm,1.2s
DUG Dugway, Tooele 74.58 50 *e*P **P** 12 03 59.7 +1.3
DUG pmax pmax
comp=Z,19nm,1.2s
EDW2 Edwards Air Fo 74.74 57 P **P** 12 04 00.4 +1.0
baz=309,SNR=6.8
BW06 Boulder Array 74.77 47 P **P** 12 04 00.2 +0.5
baz=311,SNR=8.1
BW06 Boulder Array 74.77 47 *e*P **P** 12 04 00.1 +0.5
comp=Z,9.8nm,1.3s
PD31 Pinedale Array 74.78 47 *e*P **P** 12 04 00.0 +0.4
PDAR Pinedale Array 74.78 47 P **P** 12 04 00.2 +0.6
comp=Z,2.5nm,0.5s,baz=296,slow=0.5,SNR=47
PDAR Pinedale Array 74.78 47 *e*P **P** 12 03 59.9 +0.3
JLU Jordanelle 75.11 49 *e*P **P** 12 04 02.5 +0.9
comp=Z,11nm,1.2s
NLU North Lily Min 75.17 50 *e*P **P** 12 04 03.0 +1.1
comp=Z,7.4nm,0.9s
SHOC Shoshone, Teco 75.19 55 P **P** 12 04 02.9 +1.0
baz=309
GSC Goldstone, Bar 75.23 56 P **P** 12 04 03.2 +0.9
baz=309
BFSC Mount Baldy Ra 75.36 58 P **P** 12 04 04.1 +1.1
baz=309
MPU Maple Canyon 75.39 50 *e*P **P** 12 04 04.0 +0.8
comp=Z,17nm,1.1s
SHPR Sheep Range 75.51 54 *e*P **P** 12 04 05.3 +1.4
comp=Z,10nm,1.0s
TUQ Turquoise Moun 75.71 56 P **P** 12 04 06.0 +1.0
baz=310,SNR=12
BBRC Big Bear Solar 75.81 57 P **P** 12 04 06.6 +0.9
baz=309
HEC Hector,Ludlow 75.83 56 P **P** 12 04 06.7 +1.0
baz=310
CCUT Cedar City 75.95 53 *e*P **P** 12 04 07.4 +0.9
comp=Z,10nm,1.3s
MSU Marysvale 76.04 51 *e*P **P** 12 04 08.7 +1.7
MSU Marysvale 76.04 51 *e*P **P** 12 04 08.7 +1.7
MURC Murrieta 76.06 58 P **P** 12 04 07.9 +1.0
baz=309
SZCU Shurtz Canyon 76.09 52 *e*P **P** 12 04 08.3 +1.1
comp=Z,8.2nm,1.2s
TMUT Trail Mountain 76.10 50 *e*P **P** 12 04 08.6 +1.2
comp=Z,15nm,1.4s
P17A Butcher Ranch, 76.26 50 *e*P **P** 12 04 09.5 +1.3
comp=Z,22nm,1.1s
BUR08 Bucovina Ar. S 76.28 322 *e*P **P** 12 04 08.3 +0.3
GMRC Granite Mounta 76.29 56 P **P** 12 04 09.4 +1.1
baz=310,SNR=6.7
BUR04 Bucovina Ar. S 76.30 322 *e*P **P** 12 04 08.4 +0.3
BURAR Bucovina Array 76.30 322 ⇑*i*P **P** 12 04 08.9 +0.8
ULM Lac du Bonnet 76.31 34 P **P** 12 04 07.8 -0.1
comp=Z,4.0nm,0.6s,baz=315,slow=6.3,SNR=7.2

MTPU Mount Pierson 76.34 52 *e*P **P** 12 04 10.6 +1.7
comp=Z,7.2nm,0.8s
LCMT Little Creek M 76.37 53 *e*P **P** 12 04 10.1 +1.4
comp=Z,8.4nm,0.9s
Q16A Castle Valley 76.37 50 *e*P **P** 12 04 10.1 +1.2
comp=Z,6.6nm,1.0s
MDND Maddock 76.39 38 P **P** 12 04 09.1 +0.6
baz=316,SNR=5.1
MDND Maddock 76.39 38 *e*P **P** 12 04 09.5 +1.0
comp=Z,39nm,1.0s
P18A Preston Nutter 76.45 49 *e*P **P** 12 04 11.4 +2.1
comp=Z,12nm,1.1s
K22A Casper 76.52 45 P **P** 12 04 09.9 +0.4
baz=313,SNR=6.2
K22A Casper 76.52 45 *e*P **P** 12 04 10.1 +0.5
comp=Z,17nm,1.1s
PFO Pinyon Flats O 76.52 57 P **P** 12 04 10.4 +0.8
baz=310
BELC Belle Mtn. Jos 76.57 57 P **P** 12 04 10.5 +0.5
baz=310
KNB Kanab 76.62 53 *e*P **P** 12 04 11.5 +1.3
comp=Z,10nm,1.0s
KNB Kanab 76.62 53 *e*P **P** 12 04 11.5 +1.3
KNB pmax pmax
comp=Z,10.0nm,1.0s
SRU San Rafael Swe 76.63 50 *e*P **P** 12 04 11.2 +0.9
comp=Z,21nm,1.0s
SRU San Rafael Swe 76.63 50 *e*P **P** 12 04 11.2 +0.9
SRU pmax pmax
comp=Z,21nm,1.0s
STHS Stebnicka Huta 76.80 325 *e*P **P** 12 04 12.5 +1.8
STHS Stebnicka Huta 76.80 325 *e*P **P** 12 04 12.6 +1.8
STHS pmax pmax
comp=Z,5.0nm,0.8s
VRI Vrincioaia 76.81 320 ⇑*i*P **P** 12 04 11.0 +0.1
OJC Ojcow 76.82 326 *e*P **P** 12 04 11.8 +0.9
OJC Ojcow 76.82 326 *e*P **P** 12 04 11.1 +0.2
comp=Z,13nm,1.0s
OJC Ojcow 76.82 326 *e*P **P** 12 04 11.1 +0.2
OJC pmax pmax
comp=Z,13nm,1.0s
RSSD Black Hills 76.83 43 P **P** 12 04 11.7 +0.4
baz=314
RSSD Black Hills 76.83 43 *e*P **P** 12 04 11.7 +0.4
comp=Z,11nm,0.9s
RSSD Black Hills 76.83 43 *e*P **P** 12 04 11.7 +0.4
RSSD pmax pmax
comp=Z,11nm,0.9s
B31A Greenbush Farm 76.87 36 P **P** 12 04 11.3 +0.2
baz=317
IRM Iron Mountain 77.02 56 P **P** 12 04 13.2 +0.9
baz=310,SNR=6.7
A32A Rocking H Ranc 77.03 35 P **P** 12 04 12.2 +0.1
baz=318
BC3 Big Chuckawall 77.14 57 P **P** 12 04 13.8 +0.6
baz=310
W13A Hualapai Mount 77.21 55 *e*P **P** 12 04 14.6 +1.0
comp=Z,5nm,1.0s
O20A White River Ci 77.26 48 P **P** 12 04 14.3 +0.5
baz=312,SNR=6.2
O20A White River Ci 77.26 48 *e*P **P** 12 04 14.1 +0.3
comp=Z,18nm,1.3s
C31A Landman Farms, 77.30 37 P **P** 12 04 13.7 +0.1
baz=317
U15A North Rim 77.33 53 *e*P **P** 12 04 15.7 +1.4
comp=Z,18nm,1.0s
BR101 Keskin Array S 77.35 312 *e*P **P** 12 04 14.6 +0.4
BR131 Keskin Array S 77.35 312 *e*P **P** 12 04 14.6 +0.4
BRTR Keskin Array B 77.35 312 P **P** 12 04 14.6 +0.4
comp=Z,0.7nm,0.5s,baz=90,slow=3.7,SNR=5.7
BRTR LR LR 12 42 56.2
comp=Z,45nm,18.1s,baz=3.5,slow=39
B32A Ashes, Strandq 77.39 36 P **P** 12 04 13.9 -0.2
baz=318,SNR=8.5
MLR Muntele Rosu 77.46 320 P **P** 12 04 15.6 +0.9
comp=Z,0.4nm,0.7s,baz=301,slow=17,SNR=3.4
MLR LR LR 12 40 55.9
comp=Z,27nm,18.8s,baz=46,slow=38
MLR Muntele Rosu 77.46 320 *e*P **P** 12 04 15.5 +0.8
comp=Z,7.9nm,1.2s
MLR Muntele Rosu 77.46 320 *e*P **P** 12 04 15.5 +0.8
MLR pmax pmax
comp=Z,8.0nm,1.2s
A33A Warroad 77.50 35 P **P** 12 04 14.6 -0.1
baz=319
PDMCI Parker Dam,Lak 77.56 56 P **P** 12 04 16.0 +0.7
baz=311
Y12C Blythe 77.67 56 P **P** 12 04 16.6 +0.7
baz=310
Y12C Blythe 77.67 56 *e*P **P** 12 04 16.4 +0.4
comp=Z,14nm,0.9s
BR231 Keskin MP Arra 77.76 312 *e*P **P** 12 04 14.9 -1.6
AGMN Agassiz Nation 77.77 36 P **P** 12 04 16.1 -0.1
baz=318
AGMN Agassiz Nation 77.77 36 *e*P **P** 12 04 16.1 -0.1
comp=Z,8.0nm,0.9s
PV09 Paradox Valley 77.84 50 *e*P **P** 12 04 18.5 +1.3
B33A Robert and Kas 77.91 35 P **P** 12 04 16.9 -0.1
baz=319
GLA Glamis 77.93 57 P **P** 12 04 17.9 +0.4
baz=310
GLA Glamis 77.93 57 *e*P **P** 12 04 17.4 0.0
comp=Z,9.4nm,0.8s
GLA Glamis 77.93 57 *e*P **P** 12 04 17.4 0.0
GLA pmax pmax
comp=Z,9.0nm,0.8s
VOIR 77.94 320 ⇓*i*P **P** 12 04 18.6 +1.3
PV10 Paradox Valley 77.98 50 *e*P **P** 12 04 19.4 +1.5
PHWY Pilot Hill 78.02 46 *e*P **P** 12 04 18.3 +0.2
comp=Z,9.4nm,1.3s
N23A Red Feather La 78.03 46 P **P** 12 04 19.3 +1.1
baz=314,SNR=9.3
N23A Red Feather La 78.03 46 *e*P **P** 12 04 19.0 +0.8
comp=Z,12nm,0.9s
DRGR 78.07 322 ⇓*i*P P 12 04 27.1 +9.1
MORC Moravsky Berou 78.10 327 ⇑*i*P **P** 12 04 19.2 +1.1
MORC Moravsky Berou 78.10 327 *e*P **P** 12 04 19.0 +0.9
comp=Z,27nm,0.9s
MORC Moravsky Berou 78.10 327 *e*P **P** 12 04 19.0 +0.9
MORC pmax pmax
comp=Z,27nm,0.9s
E31A Nome 78.13 38 P **P** 12 04 18.5 +0.2
baz=317
PV05 Paradox Valley 78.15 50 *e*P **P** 12 04 20.1 +1.3
DPC Dobruska-Polom 78.16 328 *e*P **P** 12 04 19.7 +1.3
DPC *e*pP **sP** 12 04 26.6 -0.5
DPC *ex* x 12 04 33.8
DPC Dobruska-Polom 78.16 328 *e*P **P** 12 04 19.7 +1.3
DPC *e* 12 04 26.6
DPC *e* 12 04 33.8
B34A Aery, Baudette 78.16 35 P **P** 12 04 18.0 -0.4
baz=319
ARR Arges 78.19 320 ⇑*i*P **P** 12 04 21.4 +2.7
C33A Trail 78.21 36 P **P** 12 04 18.7 0.0
baz=318
PV01 Paradox Valley 78.42 50 *e*P **P** 12 04 21.4 +1.0
F31A Hecla 78.47 38 P **P** 12 04 20.4 +0.2
baz=317
WUAZ Wupatki 78.49 53 P **P** 12 04 21.9 +1.3
baz=312,SNR=15
WUAZ Wupatki 78.49 53 *e*P **P** 12 04 21.5 +0.9
comp=Z,16nm,0.9s
Y14A Wickenburg 78.51 55 *e*P **P** 12 04 21.8 +1.1
comp=Z,15nm,1.1s
SMCO Snowmass 78.63 48 *e*P **P** 12 04 22.6 +0.9
comp=Z,5.2nm,0.9s
B35A Bob, Littlefor 78.66 34 P **P** 12 04 21.0 -0.1
baz=320,SNR=6.5
CLL Collm 78.70 330 *e*(P) **P** 12 04 20.0 -1.3
CLL epP **sP** 12 04 29.0 -1.0
CLL Collm 78.70 330 *e*P **P** 12 04 20.0 -1.3
CLL *e* 12 04 29.0
PVCC Panska Ves 78.72 329 AMS AMS 12 43 00.0
comp=Z,300nm,16.0s
113A Mohawk Valley, 78.79 57 *e*P **P** 12 04 23.4 +1.2
comp=Z,9.9nm,1.1s
G31A Conde 78.95 39 P **P** 12 04 23.2 +0.4
baz=317
ISCO Idaho Springs 78.97 47 P **P** 12 04 24.4 +1.0
baz=314,SNR=9.5
ISCO Idaho Springs 78.97 47 *e*P **P** 12 04 24.3 +0.9
comp=Z,9.4nm,1.2s
ISCO Idaho Springs 78.97 47 *e*P **P** 12 04 24.3 +0.9
ISCO pmax pmax
comp=Z,9.0nm,1.2s
D34A Park Rapids 78.98 36 P **P** 12 04 23.3 +0.3
baz=319

E33A Westby DABS, E 79.04 37 P **P** 12 04 23.4 +0.1
baz=319
C35A Jirik Farms, M 79.05 35 P **P** 12 04 22.9 -0.4
baz=320,SNR=5.1
MVCO Mesa Verde 79.08 50 P **P** 12 04 24.9 +0.9
baz=313,SNR=6.6
MVCO Mesa Verde 79.08 50 *e*P **P** 12 04 24.8 +0.9
comp=Z,13nm,1.1s
PRU Pruhonice 79.16 329 AMS AMS 12 44 10.0
comp=Z,300nm,12.9s
X16A Lo Mia Camp, P 79.17 54 *e*P **P** 12 04 26.0 +1.5
comp=Z,12nm,1.1s
F33A 5 Mile Ranch, 79.41 37 P **P** 12 04 25.4 +0.1
baz=318,SNR=5.9
D35A Remer 79.49 35 P **P** 12 04 25.3 -0.4
baz=320
C36A Pine Crest Far 79.50 34 P **P** 12 04 25.8 0.0
baz=320
S22A 4UR Ranch, Cre 79.69 49 P **P** 12 04 28.5 +1.1
baz=314,SNR=9.1
S22A 4UR Ranch, Cre 79.69 49 *e*P **P** 12 04 28.7 +1.3
comp=Z,8.8nm,1.1s
E35A Pequot Lakes 79.73 36 P **P** 12 04 27.1 0.0
baz=320
W18A Petrified Fore 79.75 53 P **P** 12 04 28.4 +0.8
baz=312
Q24A Divide 79.81 47 P **P** 12 04 28.9 +0.9
baz=314
C37A Embarrass 79.81 34 P **P** 12 04 27.3 -0.1
baz=321
D36A Goodland 79.81 35 P **P** 12 04 27.3 -0.2
baz=320
G33A Ortonville 79.82 38 P **P** 12 04 27.8 +0.2
baz=318
F34A Alexandria 79.92 37 P **P** 12 04 28.4 +0.3
baz=319
214A Organ Pipe Nat 79.93 57 P **P** 12 04 29.4 +0.9
baz=312,SNR=5.9
X18A Snowflake 80.01 53 *e*P **P** 12 04 29.8 +0.7
comp=Z,4.7nm,0.9s
H33A Prehn Over Nor 80.06 39 P **P** 12 04 29.1 +0.2
baz=318,SNR=6.4
OGNE Ogallala 80.11 44 P **P** 12 04 29.9 +0.5
baz=316
OGNE Ogallala 80.11 44 *e*P **P** 12 04 30.1 +0.8
comp=Z,30nm,0.9s
D37A Cotton 80.14 35 P **P** 12 04 29.2 -0.1
baz=321
G34A Benson 80.16 38 P **P** 12 04 29.8 +0.4
baz=319
F35A Swanville 80.19 37 P **P** 12 04 29.6 +0.1
baz=320
C38A Sawbill Land. 80.20 34 P **P** 12 04 29.7 +0.1
baz=321
KHC Kasperske Hory 80.22 329 *e*P **P** 12 04 30.6 +0.9
KHC *e*pP **sP** 12 04 37.8 -0.6
KHC *ex* x 12 04 48.8
KHC AMS AMS 12 46 10.0
comp=Z,200nm,15.7s
KHC Kasperske Hory 80.22 329 *e*P **P** 12 04 30.6 +0.9
KHC *e* 12 04 37.8
KHC MLR MLR
comp=Z,200nm,15.7s
RAYN Ar Rayn 80.23 292 *e*P **P** 12 04 30.0 -0.2
comp=Z,12nm,1.0s
CONA Conrad Observa 80.24 327 P **P** 12 04 30.6 +0.7
comp=Z,6.6nm,1.2s
E36A McGregor 80.27 35 P **P** 12 04 30.1 +0.1
baz=320
EKA Eskdalemuir Ar 80.35 341 P **P** 12 04 30.7 +0.5
comp=Z,1.3nm,0.4s,baz=32,slow=4.6,SNR=3.9
GEC2 GERESS Array S 80.40 329 *e*P **P** 12 04 30.4 -0.4
comp=Z,3.9nm,1.1s
GEC2 GERESS Array S 80.40 329 *e*P **P** 12 04 30.4 -0.4
GEC2 pmax pmax
comp=Z,4.0nm,1.1s
GERES GERESS Array B 80.40 329 P **P** 12 04 30.6 -0.2
comp=Z,1.0nm,0.5s,baz=54,slow=6.8,SNR=6.5
GERES LR LR 12 44 04.2
comp=Z,124nm,18.4s,baz=34,slow=39
GEA0 GERESS Array S 80.41 329 *e*P **P** 12 04 30.4 -0.3
SDCO Great Sand Dun 80.45 48 P **P** 12 04 32.4 +0.9
baz=314,SNR=9.9
SDCO Great Sand Dun 80.45 48 *e*P **P** 12 04 31.0 -0.4
comp=Z,8.0nm,1.2s
J32A Parkston 80.50 40 P **P** 12 04 31.4 +0.2
baz=318
H34A Spellman Lake, 80.53 38 P **P** 12 04 31.7 +0.4
baz=319
K31A O'Neill 80.59 41 P **P** 12 04 32.1 +0.3
baz=317
F36A Milaca 80.66 36 P **P** 12 04 31.6 -0.4
baz=320
MMAI Mount Meron Ar 80.79 306 P **P** 12 04 33.4 +0.3
comp=Z,0.6nm,0.2s,baz=275,slow=40,SNR=5.2
ECSD EROS Data Cent 80.83 39 P **P** 12 04 33.2 +0.2
baz=318,SNR=8.9
ECSD EROS Data Cent 80.83 39 *e*P **P** 12 04 33.0 0.0
comp=Z,7.6nm,0.8s
ARSA Arzberg 80.91 327 *e*P **P** 12 04 33.5 0.0
comp=Z,1.4nm,0.4s
VTS Vitosha 80.92 319 ⇑*i*P **P** 12 04 35.1 +1.4
VTS Vitosha 80.92 319 *e*P **P** 12 04 31.6 -2.2
comp=Z,7.7nm,1.0s
VTS Vitosha 80.92 319 *e*P **P** 12 04 31.6 -2.2
VTS pmax pmax
comp=Z,8.0nm,1.0s
C40A Isle Royale Na 80.93 32 P **P** 12 04 33.6 +0.1
baz=323
H35A Sunnyside Ranc 80.94 37 P **P** 12 04 33.9 +0.3
baz=320
E38A The Farm, Brul 80.95 34 P **P** 12 04 33.6 0.0
baz=321
I34A Hadley 80.96 38 P **P** 12 04 34.3 +0.6
baz=319
MOA Molln 80.96 328 *e*pP P 12 04 40.5 +6.8
comp=Z,7.8nm,1.4s
TUC Tucson 80.98 55 P **P** 12 04 35.4 +1.3
baz=312
TUC Tucson 80.98 55 *e*P **P** 12 04 35.1 +0.9
comp=Z,6.6nm,1.0s
TUC Tucson 80.98 55 *e*P **P** 12 04 35.1 +0.9
TUC pmax pmax
comp=Z,7.0nm,1.0s
KSCO Kaye Shedlock' 81.17 46 P **P** 12 04 35.2 +0.1
baz=316
F38A Pierce - Schro 81.31 35 P **P** 12 04 35.9 +0.3
baz=321,SNR=5.2
MHTCO State Highway 81.34 48 *e*P **P** 12 04 37.8 +1.6
comp=Z,16nm,1.1s
RAR Rarotonga 81.39 127 LR LR 12 36 02.8
comp=Z,109nm,19.2s,baz=286,slow=32
T25A Trinidad 81.50 48 P **P** 12 04 37.8 +0.8
baz=315,SNR=14
T25A Trinidad 81.50 48 *e*P **P** 12 04 37.8 +0.8
comp=Z,21nm,1.0s
E39A Mellen 81.56 34 P **P** 12 04 36.9 +0.1
baz=322
SOKA Soboth 81.57 326 *e*P **P** 12 04 37.7 +0.7
comp=Z,4.8nm,0.5s
F39A Loretta 81.77 35 P **P** 12 04 38.0 +0.1
baz=322
E40A Wakefield 81.79 34 P **P** 12 04 38.4 +0.3
baz=322
LAZ Ladron 81.80 52 *e*P **P** 12 04 40.5 +1.8
ANMO Albuquerque 81.83 51 P **P** 12 04 40.2 +1.4
comp=Z,8.0nm,1.0s,baz=132,slow=8.1,SNR=21
ANMO Albuquerque 81.83 51 P **P** 12 04 40.1 +1.4
baz=314
ANMO Albuquerque 81.83 51 *e*P **P** 12 04 40.4 +1.7
comp=Z,17nm,1.2s
ANMO Albuquerque 81.83 51 *ce*P **P** 12 04 40.5 +1.7
ANMO pmax pmax
comp=Z,17nm,1.2s
OBKA Obir 81.91 327 *e*P **P** 12 04 38.0 -0.8
comp=Z,3.0nm,0.5s
G38A Ridgeland 81.94 36 P **P** 12 04 38.7 -0.1
baz=321
KBA Koelnbreinsper 81.95 328 *e*P **P** 12 04 40.2 +1.1
comp=Z,8.0nm,0.7s
SCHQ Schefferville 81.97 17 P **P** 12 04 39.1 +0.3
comp=Z,3.2nm,0.6s,baz=241,slow=2.6,SNR=4.2
SCHQ Schefferville 81.97 17 *e*P **P** 12 04 39.1 +0.3
comp=Z,8.1nm,1.0s
I37A Lemond, Waseca 82.13 37 P **P** 12 04 40.2 +0.3
baz=320
M33A Taylor Creek F 82.15 41 P **P** 12 04 40.2 +0.1
baz=318

E41A Kenton 82.16 33 P **P** 12 04 40.2 +0.1
baz=323
LPM Los Pinos Moun 82.17 51 *e*P **P** 12 04 41.6 +1.1
MYKA Terra Mystica 82.19 327 *e*PcP **P** 12 04 43.3 +3.0
comp=Z,5.3nm,0.7s
BNM Barren Site 82.28 51 *e*P **P** 12 04 42.4 +1.2
WATA Walderalm 82.46 329 P P 12 04 49.9 +8.1
comp=Z,5.6nm,0.4s
WTTA Wattenberg 82.50 329 P P 12 04 50.3 +8.3
comp=Z,7.2nm,0.6s
M34A Aspy Farms, Fr 82.51 41 P **P** 12 04 41.7 -0.3
baz=319
319A Douglas 82.56 55 *e*P **P** 12 04 43.6 +1.1
comp=Z,19nm,0.9s
H39A Augusta 82.57 35 P **P** 12 04 41.9 -0.3
baz=322
G40A Rib Lake 82.59 35 P **P** 12 04 41.4 -0.8
baz=322
I38A Scanlan Farm, 82.60 36 P **P** 12 04 41.9 -0.4
baz=321
E42A Champion 82.63 33 P **P** 12 04 42.2 -0.3
baz=324
MOTA Moosalm 82.64 329 *e*P **P** 12 04 42.3 -0.4
comp=Z,6.3nm,0.8s
RETA Reutte 82.66 329 *e*P **P** 12 04 42.4 -0.3
comp=Z,6.8nm,0.7s
F41A Three Lakes 82.68 34 P **P** 12 04 42.7 -0.1
baz=323
121A Cookes Peak, D 82.69 53 P **P** 12 04 44.6 +1.3
baz=314,SNR=10
CBKS Cedar Bluff 82.87 44 P **P** 12 04 43.9 -0.1
baz=317
K37A Belmond 82.98 38 P **P** 12 04 44.2 -0.1
baz=320
H40A Chili 83.01 35 P **P** 12 04 44.3 -0.1
baz=322
E43A Lone Tree Farm 83.05 32 P **P** 12 04 44.2 -0.4
baz=324
N34A Lincoln 83.05 41 P **P** 12 04 44.6 -0.1
baz=319
FETA Feichten 83.05 329 *e*P **P** 12 04 43.1 -1.8
comp=Z,8.7nm,1.2s
O33A Hebron 83.07 42 P **P** 12 04 44.9 0.0
baz=318
I39A Houston 83.11 36 P **P** 12 04 44.7 -0.3
baz=322
DAVA Damuels 83.16 330 P **P** 12 04 45.9 +0.5
comp=Z,8.2nm,0.8s
F43A Flat Rock, Esc 83.42 32 P **P** 12 04 46.0 -0.5
baz=324
L37A Phoenix Point, 83.42 39 P **P** 12 04 46.2 -0.5
baz=320
J39A Decorah 83.43 37 P **P** 12 04 46.2 -0.5
baz=322
O34A Beatrice 83.44 41 P **P** 12 04 46.4 -0.4
baz=319
N35A Tabor 83.46 40 P **P** 12 04 47.0 +0.1
baz=319
K38A Parkersburg 83.48 38 P **P** 12 04 47.0 0.0
baz=321
FUORN Ofenpass-Fuorn 83.56 329 *e*P **P** 12 04 47.9 +0.3
comp=Z,10nm,0.8s
L38A Oak Wood Farm, 83.78 38 P **P** 12 04 48.5 0.0
baz=321
N36A Muff Farm, Cla 83.83 40 P **P** 12 04 48.8 +0.1
baz=320
K39A Oelwein 83.84 37 P **P** 12 04 48.5 -0.3
baz=322
J41A Loganville 84.17 36 P **P** 12 04 50.2 -0.2
baz=323
K40A Colesburg 84.19 37 P **P** 12 04 50.5 0.0
baz=322
F45A CMU Biological 84.21 32 P **P** 12 04 50.3 -0.2
baz=325
M38A Pleasantville 84.23 39 P **P** 12 04 51.2 +0.4
baz=321,SNR=5.6
L39A Vinton 84.24 38 P **P** 12 04 50.9 0.0
baz=322,SNR=5.8
N37A Lee Faris, Mou 84.24 40 P **P** 12 04 51.3 +0.4
baz=320
J42A Columbus 84.60 35 P **P** 12 04 52.4 -0.3
baz=323
K41A Shullsburg 84.64 36 P **P** 12 04 52.6 -0.3
baz=322
L40A Anamosa 84.65 37 P **P** 12 04 52.7 -0.2
baz=322
AMTX Amarillo 84.65 48 P **P** 12 04 54.3 +1.1
baz=316
AMTX Amarillo 84.65 48 *e*P **P** 12 04 54.3 +1.1
comp=Z,25nm,1.2s
M39A Webster 84.67 38 P **P** 12 04 53.2 +0.3
baz=321,SNR=5.9
MSTX Muleshoe 84.68 49 P **P** 12 04 54.0 +0.7
baz=316
MSTX Muleshoe 84.68 49 *e*P **P** 12 04 54.2 +0.9
comp=Z,16nm,1.0s
N38A Joes South For 84.69 39 P **P** 12 04 53.6 +0.4
baz=321
PMOR Pomariorio Ree 84.71 115 *e*T T 13 38 27.2
comp=Z,21nm,0.2s
O37A Wolven Farm, M 84.73 40 P **P** 12 04 54.0 +0.7
baz=320
MNTX Cornudas Mount 84.74 52 P **P** 12 04 54.5 +0.9
baz=315,SNR=11
MNTX Cornudas Mount 84.74 52 *e*P **P** 12 04 54.1 +0.5
comp=Z,11nm,1.0s
SENIN Lac Senin/Sane 84.91 331 *e*P **P** 12 04 53.5 -0.9
comp=Z,3.6nm,0.9s
K42A Prairie Point, 84.94 36 P **P** 12 04 54.4 +0.1
baz=323
L41A Preston 84.97 37 P **P** 12 04 54.6 0.0
baz=322
N39A Derby Farms, D 84.97 39 P **P** 12 04 54.8 +0.3
baz=321
GDL2 Guadalupe Moun 85.00 52 *e*P **P** 12 04 56.2 +1.2
M40A Post Highland 85.03 38 P **P** 12 04 55.1 +0.3
baz=322
P37A Lathrop 85.07 41 P **P** 12 04 55.4 +0.3
baz=320
O38A Galt 85.09 40 P **P** 12 04 55.7 +0.5
baz=321
PPT2 Papeete2 85.35 118 *e*LR LR 12 32 11.9
comp=Z,184nm,22.2s
PPT2 Papeete2 85.35 118 *e*T T 13 39 11.3
comp=Z,8.9nm,0.3s
IDI Anoyia 85.40 313 P **P** 12 04 55.8 -1.1
comp=Z,5.9nm,0.8s,baz=40,slow=13,SNR=3.8
IDI Anoyia 85.40 313 *e*P **P** 12 04 56.1 -0.8
comp=Z,22nm,1.1s
N40A Mertquake, Sal 85.41 38 P **P** 12 04 57.1 +0.3
baz=322
L42A Oliver, Polo 85.41 36 P **P** 12 04 57.0 +0.3
baz=323
O39A Kirksville 85.44 39 P **P** 12 04 57.2 +0.3
baz=321
P38A Dawn 85.44 40 P **P** 12 04 57.4 +0.4
baz=321
TIAR Tiarei 85.48 117 *e*T T 13 39 20.4
comp=Z,2.5nm,0.3s
M41A Milan 85.51 37 P **P** 12 04 57.5 +0.3
baz=322
O40A La Belle 85.86 39 P **P** 12 04 58.9 -0.1
baz=322
N41A Harden Midland 85.89 38 P **P** 12 04 58.9 -0.2
baz=322
Q38A Cooks Store, C 85.91 40 P **P** 12 04 59.3 0.0
baz=321
P39B Salisbury 85.93 40 P **P** 12 04 59.3 0.0
baz=321
TAOE Nuku Hiva Isla 86.13 105 *e*LR LR 12 32 56.6
comp=Z,120nm,20.8s,baz=307
Q39A Willow Grove F 86.17 40 P **P** 12 05 00.4 -0.2
baz=321
N42A Yates City 86.17 37 P **P** 12 05 00.7 +0.2
baz=323
M43A Waltham Townsh 86.18 36 P **P** 12 05 00.7 +0.2
baz=323
P40A Paris 86.24 39 P **P** 12 05 00.8 -0.1
baz=322
O41A Passleys Farm, 86.34 38 P **P** 12 05 01.3 -0.1
baz=322
R38A Fenwick Farm, 86.37 41 P **P** 12 05 00.9 -0.7
baz=320,SNR=5.1
WMOK Wichita Mounta 86.39 46 P **P** 12 05 02.2 +0.4
baz=318
WMOK Wichita Mounta 86.39 46 *e*P **P** 12 05 01.8 +0.1
comp=Z,7.4nm,1.0s
WMOK Wichita Mounta 86.39 46 *e*P **P** 12 05 01.8 +0.1
WMOK pmax pmax
comp=Z,7.0nm,1.0s
N43A Stutzman Famil 86.48 37 P **P** 12 05 02.3 +0.3
baz=323
P41A Barry, Barry 86.60 38 P **P** 12 05 02.9 +0.3
baz=322
M44A Midewin, Midew 86.63 36 P **P** 12 05 03.0 +0.2
baz=324
Q40A Laux Farm, Aux 86.65 40 P **P** 12 05 03.2 +0.3
baz=322
R39A Chumby, Stover 86.70 41 P **P** 12 05 02.9 -0.2
baz=321,SNR=8.9
S38A Stockton 86.79 42 P **P** 12 05 03.5 -0.1
baz=321
P42A Winchester 87.01 38 P **P** 12 05 04.7 0.0
baz=323
S39A Bolivar 87.04 41 P **P** 12 05 04.3 -0.5
baz=321,SNR=9.4
T38A Diamond 87.05 42 P **P** 12 05 05.0 +0.1
baz=320,SNR=12
N44A Piper City 87.07 36 P **P** 12 05 04.9 0.0
baz=324
Q41A Truxton 87.09 39 P **P** 12 05 05.5 +0.5
baz=322,SNR=6.6
TUL1 Leonard 87.13 44 P **P** 12 05 05.8 +0.5
baz=320
TX31 Lajitas Ar. Si 87.45 53 *e*P **P** 12 05 07.9 +0.8
LTX Lajitas 87.45 53 *e*P **P** 12 05 08.0 +0.9
LTX Lajitas 87.45 53 *e*P **P** 12 05 08.0 +0.9
TXAR Lajitas Array 87.45 53 P **P** 12 05 08.0 +0.9
comp=Z,4.1nm,0.8s,baz=295,slow=3.5,SNR=35
TXAR Lajitas Array 87.45 53 P **P** 12 05 08.0 +0.9
TXAR pmax pmax
comp=Z,4.0nm,0.8s
Q42A Golden Eagle 87.45 39 P **P** 12 05 07.2 +0.4
baz=322
ABTX Abilene, Hawle 87.46 48 P **P** 12 05 07.9 +0.9
baz=318
ABTX Abilene, Hawle 87.46 48 *e*P **P** 12 05 08.3 +1.4
comp=Z,30nm,1.4s
S40A Lebanon 87.52 41 P **P** 12 05 07.1 -0.1
baz=321,SNR=6.0
T39A Clever 87.53 42 P **P** 12 05 07.5 +0.3
baz=321
R41A Rosebud 87.53 40 P **P** 12 05 07.2 0.0
baz=322,SNR=6.1
O45A Potomac 87.69 36 P **P** 12 05 08.4 +0.5
baz=324
CCM Cathedral Cave 87.79 40 *e*P **P** 12 05 08.8 +0.4
comp=Z,23nm,1.0s
CCM Cathedral Cave 87.79 40 *e*P **P** 12 05 08.8 +0.4
CCM pmax pmax
comp=Z,23nm,1.0s
R42A Luebbering 87.83 39 P **P** 12 05 09.3 +0.6
baz=322
T40A Mansfield 87.86 41 P **P** 12 05 08.6 -0.2
baz=321
SFIN Lafayette 87.87 36 P **P** 12 05 08.9 +0.2
baz=325
HPIG 87.90 56 *e*P **P** 12 05 09.6 +0.1
comp=Z,5.7nm,0.9s
S41A Jillco Farms, 87.91 40 P **P** 12 05 08.9 -0.1
baz=322,SNR=6.4
P44A Sand Creek, Wi 87.91 37 P **P** 12 05 09.2 +0.3
baz=324
U39A Green Forest 87.97 42 P **P** 12 05 09.4 0.0
baz=321,SNR=12
Q44A Meyer Farm, Va 88.18 38 P **P** 12 05 10.7 +0.5
baz=323
S42A Caledonia 88.23 39 P **P** 12 05 10.9 +0.3
baz=322,SNR=8.2
R43A Red Bud 88.25 39 P **P** 12 05 10.9 +0.3
baz=323
P45A Graceland, Par 88.26 37 P **P** 12 05 11.0 +0.4
baz=324
V39A Pettigrew 88.31 42 P **P** 12 05 11.0 0.0
baz=321,SNR=7.6
U40A Yellville 88.31 42 P **P** 12 05 11.1 +0.1
baz=321,SNR=15
T41A Mountain View 88.32 41 P **P** 12 05 10.9 -0.1
baz=322,SNR=9.3
O47A Sheridan 88.39 35 P **P** 12 05 11.2 0.0
baz=325
P46A Rosedale 88.44 36 P **P** 12 05 11.6 +0.2
baz=324
Q45A Warren Harvey, 88.58 37 P **P** 12 05 12.7 +0.5
baz=324
T42A Van Buren 88.67 40 P **P** 12 05 12.6 0.0
baz=322,SNR=7.3
R44A Waltonville 88.67 38 P **P** 12 05 12.7 +0.1
baz=323
W39A Magazine 88.73 43 P **P** 12 05 13.1 +0.2
baz=321
S43A Fulton Ridge, 88.73 39 P **P** 12 05 13.0 +0.1
baz=323,SNR=5.6
V40A Witts Springs 88.75 42 P **P** 12 05 13.2 +0.1
baz=321
U41A Viola 88.79 41 P **P** 12 05 13.4 +0.2
baz=322
JCT Junction City 88.94 50 P **P** 12 05 14.5 +0.5
baz=318
JCT Junction City 88.94 50 *e*P **P** 12 05 14.7 +0.6
comp=Z,8.9nm,0.9s
JCT Junction City 88.94 50 *e*P **P** 12 05 14.7 +0.6
JCT pmax pmax
comp=Z,9.0nm,0.9s
P47A Martinsville 88.96 36 P **P** 12 05 14.3 +0.4
baz=325
R45A Skylar, Fairfi 89.01 38 P **P** 12 05 14.5 +0.3
baz=324
T43A Greenville 89.02 40 P **P** 12 05 14.5 +0.3
baz=323
S44A Carbondale 89.03 39 P **P** 12 05 14.6 +0.3
baz=323,SNR=6.3
SIUC Southern Illin 89.03 39 *e*P **P** 12 05 15.1 +0.8
comp=Z,42nm,1.1s
X39A Fountain Ranch 89.08 44 P **P** 12 05 15.1 +0.5
baz=320,SNR=5.2
W40A Ferguson Farm, 89.10 43 P **P** 12 05 15.3 +0.6
baz=321
W40A Ferguson Farm, 89.10 43 *e*P **P** 12 05 15.5 +0.9
comp=Z,26nm,0.9s
V41A Mountainview 89.11 42 P **P** 12 05 14.7 0.0
baz=322,SNR=9.4
WHTX Lake Whitney, 89.17 47 P **P** 12 05 15.7 +0.7
baz=319
PBMO Poplar Bluff 89.19 40 *e*P **P** 12 05 15.7 +0.6
comp=Z,14nm,0.8s
MIAR Mount Ida 89.34 43 P **P** 12 05 16.4 +0.6
baz=321,SNR=8.7
MIAR Mount Ida 89.34 43 *e*P **P** 12 05 16.5 +0.6
comp=Z,21nm,1.0s
MIAR Mount Ida 89.34 43 *e*P **P** 12 05 16.5 +0.6
MIAR pmax pmax
comp=Z,21nm,1.0s
Q47A Bedord North L 89.34 36 P **P** 12 05 16.2 +0.5
baz=325
V42A Cord 89.48 41 P **P** 12 05 16.1 -0.3
baz=322,SNR=5.2
U43A Rector 89.53 40 P **P** 12 05 17.1 +0.4
baz=323
W41B Gary Mavity, V 89.54 42 P **P** 12 05 16.8 +0.1
baz=322,SNR=5.6
ACSO Alum Creek Sta 89.76 33 P **P** 12 05 18.3 +0.6
baz=327
X40A Basin Creek Fa 89.77 43 P **P** 12 05 18.7 +0.8
baz=321
R47A Wooly Knot Far 89.82 36 P **P** 12 05 18.7 +0.7
baz=325
Y40A Okolona 89.90 43 P **P** 12 05 19.3 +0.9
baz=321
WCI Wyandotte Cave 89.98 36 P **P** 12 05 19.5 +0.8
baz=325
M54A Oil Creek Stat 90.02 30 P **P** 12 05 19.7 +0.8
baz=329
T46A Princeton 90.20 38 P **P** 12 05 20.6 +0.8
baz=324,SNR=5.4
N54A Moraine State 90.36 31 P **P** 12 05 21.1 +0.6
baz=329
Z40A Long Farm, Mag 90.42 44 P **P** 12 05 21.3 +0.4
baz=321
S48A Wiedeman Farm, 90.55 37 P **P** 12 05 21.9 +0.4
baz=325
T47A Sharon Grove 90.61 38 P **P** 12 05 22.4 +0.7
baz=325
T48A Bowling Green 90.84 37 P **P** 12 05 23.3 +0.5
baz=325
WVT Waverly 90.97 39 P **P** 12 05 24.1 +0.7
baz=324
WVT Waverly 90.97 39 *e*P **P** 12 05 23.4 +0.1
comp=Z,17nm,1.4s
WVT Waverly 90.97 39 *e*P **P** 12 05 23.5 +0.1
WVT pmax pmax
comp=Z,17nm,1.4s
U47A Clarksville 90.97 38 P **P** 12 05 24.2 +0.8
baz=324
V46A Holladay 91.09 39 P **P** 12 05 24.7 +0.8
baz=324
240A Hunter Patters 91.17 45 P **P** 12 05 25.4 +1.0
baz=321
Z42A Norrel Spur, H 91.17 43 P **P** 12 05 25.4 +1.0
baz=322
V47A Nunnelly 91.36 39 P **P** 12 05 25.6 +0.4
baz=324
SSPA Standing Stone 91.45 30 P **P** 12 05 26.0 +0.5
baz=330
OXF Oxford 91.49 41 P **P** 12 05 26.6 +0.7
baz=323
O56A Blue Knob Stat 91.51 30 P **P** 12 05 26.3 +0.4
baz=330
V48A Smith Brothers 91.76 38 P **P** 12 05 27.6 +0.5
baz=325
W47A Westpoint 91.79 39 P **P** 12 05 27.7 +0.4
baz=324
Z44A Pea Ridge, Bel 91.96 42 P **P** 12 05 28.9 +0.9
baz=323
N59A State Game Lan 91.98 28 P **P** 12 05 28.7 +0.6
baz=332
W48A Pulaski 92.19 39 P **P** 12 05 29.3 +0.2
baz=325
Y46A Houston 92.27 41 P **P** 12 05 30.1 +0.6
baz=324
X48A Hartselle 92.70 39 P **P** 12 05 31.2 -0.2
baz=325
X49A Woodville 92.99 39 P **P** 12 05 33.0 +0.2
baz=325
541A Lake Charles 93.01 46 P **P** 12 05 33.1 +0.2
baz=321
Z47A Carrollton 93.21 40 P **P** 12 05 34.0 +0.2
baz=324
TKL Tuckaleechee C 93.23 36 P **P** 12 05 34.5 +0.6
comp=Z,5.7nm,0.9s,baz=201,slow=2.1,SNR=3.9
TKL LR LR 12 48 09.2
comp=Z,78nm,20.6s,baz=328,slow=36
TKL Tuckaleechee C 93.23 36 *e*P **P** 12 05 32.5 -1.4
comp=Z,18nm,1.4s
Z48A Northport 93.32 40 P **P** 12 05 34.5 +0.2
baz=324
Y49A Blount Mountai 93.49 39 P **P** 12 05 35.0 -0.1
baz=325
147A Livingston 93.53 41 P **P** 12 05 35.3 0.0
baz=324
Y50A Piedmont 93.78 38 P **P** 12 05 35.9 -0.5
baz=325
LRAL Lakeview Retre 93.87 40 P **P** 12 05 36.7 -0.2
baz=325
Z49A Columbiana 93.97 39 P **P** 12 05 37.0 -0.3
baz=325
Z50A Ashland 94.21 39 P **P** 12 05 38.6 +0.1
baz=325,SNR=8.2
149A Jones 94.33 40 P **P** 12 05 39.4 +0.4
baz=325
150A Eclectic 94.69 39 P **P** 12 05 40.6 0.0
baz=325
ES19 SONSECA Array 94.69 335 *e*P **P** 12 05 40.5 -0.1
ESDC Sonseca Array 94.74 335 P **P** 12 05 40.4 -0.4
comp=Z,0.4nm,0.5s,baz=24,slow=3.1,SNR=4.1
ESDC LR LR 12 52 20.5
comp=Z,90nm,18.7s,baz=335,slow=38
GOGA Godfrey 95.24 37 P **P** 12 05 43.3 +0.2
baz=327
251A Midway 95.41 39 P **P** 12 05 44.2 +0.3
baz=326
CMLA Cha da Macela 101.55 350 *i* P **Pdif** 12 06 13.7 +2.3
CMIG Matias Romero 101.88 55 P **Pdif** 12 06 13.3 +0.2
comp=Z,10nm,0.6s,baz=306,slow=4.9,SNR=7.5
TOA1 Torodi Ar. Sit 115.60 317 *e*PKPdf **PKPdf** 12 11 01.0 -0.9
TOA1 *e*PP **PP** 12 12 06.4 +3.1
TORD Torodi Ar. Bea 115.60 317 PKP **PKPdf** 12 11 01.0 -0.9
comp=Z,0.3nm,0.5s,baz=69,slow=2.1,SNR=3.2
TORD PP **PP** 12 12 06.4 +3.1
comp=Z,2.0nm,1.1s,baz=20,slow=7.3,SNR=5.4
SDV Santo Domingo 122.26 40 PKP **PKPdf** 12 11 15.0 +0.1
comp=Z,4.7nm,1.0s,baz=30,slow=8.6,SNR=3.6
PRAC Prado 124.39 47 *e*PKPdf **PKPdf** 12 11 19.6 +0.8
SNAA Sanae 144.12 198 PKP **PKPab** 12 11 51.2 -0.2
SNAA Sanae 144.12 198 PKP **PKPab** 12 11 51.3 -0.2
comp=Z,4.4nm,0.9s,baz=217,slow=5.0,SNR=17
SNAA Sanae 144.12 198 *e*PKPdf **PKPab** 12 11 51.7 +0.2
LPAZ La Paz 144.23 57 PKP PKPbc 12 11 54.8 +0.2
comp=Z,2.7nm,0.7s,baz=349,slow=2.5,SNR=6.5
LPAZ La Paz 144.23 57 *e*PKPdf PKPbc 12 11 55.4 +0.8
MNMC Minye Minye 145.31 62 *e*PKPbc **PKPdf** 12 11 58.3 +0.6
VNA2 Neumayer--Watz 145.69 197 PKP **PKPdf** 12 11 49.8 -6.6
baz=99,slow=1.3
PB11 IPOC Station P 145.71 63 *e*PKPdf **PKPab** 12 11 59.2 +0.3
VNA3 Neumayer Olymp 145.94 196 PKP PKPpre 12 11 46.5
PB01 IPOC Station P 146.69 64 *e*PKPdf **PKPbc** 12 12 00.8 -0.7
SIV San Ignacio 148.26 47 PKPbc **PKPbc** 12 12 06.0 +0.2
comp=Z,7.6nm,0.6s,baz=274,slow=2.4,SNR=30
LCO Las Campanas 150.60 78 *e*PKPbc **PKPbc** 12 12 11.8 +0.2
LCO *e*PKPab **sPKPbc** 12 12 20.1 -0.3

IDC 03 11:59:35.6±5.3**, 20°.58S**×**172°.89W, h0**km**, mb3.8**/4**, mb1 3.9**/4**, mb1mx3.6**/51**, mbtmp3.7**/4**, Error ellipse: s-maj=265.9km s-min=39.9km az=150.0, Tonga Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**38.24**	**263**	P	P	12 06 58.9	+1.1
	1.0nm,0.3s,baz=82,slow=14,SNR=2.6						
ASAR	**Alice Springs**	**49.16**	**256**	P	P	12 08 24.7	-1.0
	0.3nm,0.4s,baz=95,slow=7.3,SNR=11						
WRA	**Warramunga Arr**	**49.33**	**261**	P	P	12 08 26.6	-0.4
	0.3nm,0.4s,baz=96,slow=8.4,SNR=26						
YKA	**Yellowknife Ar**	**94.63**	**23**	P	P	12 12 57.9	-0.1
	0.3nm,1.0s,baz=235,slow=5.2,SNR=3.9						

ISCJB ***03*** *12:03:37.0±1.2, 4°.4N±0°.2×82°.6W±0°.1, h33km, mb3.6/4, Error ellipse: s-maj=27.9km s-min=8.0km az=30.7*
RSNC ***03*** *12:03:37.5±0.3, 4°.14N×82°.64W, h4km±13km, ML2.8, Mw3.4*
IDC ***03*** *12:03:37.5±3.2, 5°.32N×82°.15W, h0km, mb3.7/4, mb1 4.1/5, mb1mx3.7/44, mbtmp3.8/5, ML4.4/1, MS3.0/3, Ms1 3.0/3, ms1mx2.7/47, Error ellipse: s-maj=145.0km s-min=54.1km az=53.0*
ISC 03 12:03:38.6±1.3**, 4°.3N**±0°.2×**82°.6W**±0°.1**, h35**km**, n16, σ1**§**24**/13**, mb3.7**/4**, South of Panama**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAPC	**Malpelo**	**1.07**	**108**	*e*P	**Pn**	**12 03 55.6**	**-1.5**
MAPC				*e*S	**Sn**	**12 04 09.7**	**-1.1**
MAPC				*i*		12 04 12.1	
	comp=Z,188nm,0.3s						
GRGC	**Isla de Gorgon**	**4.65**	**106**	*e*P	**Pn**	**12 04 46.3**	**0.0**
MALC	**Bahia Malaga**	**5.29**	**93**	*e*P	**Pn**	**12 04 56.2**	**+1.0**
HORQ	**Saladito**	**6.05**	**98**	*e*P	**Pn**	**12 05 06.8**	**+0.9**
YOTC	**Yotoco, Valle**	**6.28**	**93**	*e*P	**Pn**	**12 05 09.7**	**+0.8**
JTS	**JuntasAbangare**	**6.35**	**339**	Pn	Pn	12 05 02.4	-7.3
	comp=Z,12nm,0.3s,baz=242,slow=7.5,SNR=33						
JTS				Sn	Sn	12 06 10.0	-11
	comp=Z,6.1nm,0.3s,baz=63,slow=22,SNR=8.3						
JTS				LR	LR	12 06 56.6	
	comp=Z,68nm,20.4s,baz=216,slow=35						
SOTA	**Rioblanco**	**6.40**	**110**	*e*P	**Pn**	**12 05 12.8**	**+1.9**
CAPC	**Capurgana**	**6.76**	**51**	*e*P	**Pn**	**12 05 15.5**	**0.0**
PRAC	**Prado**	**7.75**	**94**	*e*P	**Pn**	**12 05 30.9**	**+1.9**
ATAH	**Atahualpa**	**12.15**	**160**	LR	LR	12 11 06.1	
	comp=Z,120nm,20.1s,baz=56,slow=35						
SDV	**Santo Domingo**	**12.74**	**69**	LR	LR	12 12 14.1	
	comp=Z,87nm,18.1s,baz=44,slow=43						
NVAR	**Mina Array Bea**	**46.94**	**321**	P	**P**	**12 12 07.0**	**+0.7**
	comp=Z,2.0nm,0.9s,baz=133,slow=7.5,SNR=10						
YKA	**Yellowknife Ar**	**62.66**	**344**	P	**P**	**12 13 58.5**	**-0.9**
	comp=Z,0.4nm,0.8s,baz=139,slow=6.4,SNR=9.3						
INK	**Inuvik**	**72.33**	**342**	P	**P**	**12 15 00.9**	**+0.6**
	comp=Z,0.9nm,1.0s,baz=99,slow=3.5,SNR=3.2						
ILAR	**Eielson Array**	**75.32**	**336**	P	**P**	**12 15 17.3**	**-0.7**
	comp=Z,0.3nm,0.7s,baz=99,slow=4.1,SNR=4.5						
WRA	**Warramunga Arr**	**140.80**	**244**	PKhKP	PKPpre	12 23 07.2	

comp=Z,0.3nm,0.7s,baz=98,slow=2.1,SNR=8.0

*ISCJB **03** 12:11:27.2±0.6, 45°.39N±0°.07×151°.11E±0°.07, h42km, mb3.7/11, Error ellipse: s-maj=12.0km s-min=4.1km az=148.0*
*SKHL **03** 12:11:27.6±0.3, 45°.49N×151°.18E, h31km±1km, mb5.1/7*
*JMA **03** 12:11:28.5±0.7, 45°.59N×151°.05E, h30km, M4.5*
*MOS **03** 12:11:29.4±1.1, 45°.56N×150°.93E, h59km, mb4.1/5, Error ellipse: s-maj=17.2km s-min=10.5km az=140.6*
*IDC **03** 12:11:32.8±3.0, 45°.57N×150°.96E, h71km±27km, mb3.4/11, mb1 3.5/14, mb1mx3.3/74, mbtmp3.7/14, Error ellipse: s-maj=22.4km s-min=16.3km az=131.0*
ISC 03 12:11:28.7±0.8**, 45°.34N**±0°.09×**151°.13E**±0°.08**, h42**km**, n56, σ1.s90**/68**, mb3.7**/11**, 1D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**2.31**	**268**	*i* P	**Pn**	**12 12 04.0**	**-0.1**
KUR				AMB	AMB	12 12 06.5	
	150nm,0.2s						
KUR				*i* S	**Sn**	**12 12 30.9**	**-0.4**
KUR				A	A	12 12 35.0	
	603nm,0.3s						
KUR				A	A	12 12 35.0	
	117nm,0.3s						
KUR	**Kuril'sk**	**2.31**	**268**⇓	*i*PN	**Pn**	**12 12 03.8**	**-0.3**
KUR				*i* S	**Sn**	**12 12 31.4**	**+0.1**
KUR				pmax	pmax		
	comp=N,50nm,0.1s						
KUR				pmax	pmax		
	comp=E,60nm,0.1s						
KUR				pmax	pmax		
	comp=Z,148nm,0.1s						
KUR				smax	smax		
	comp=N,602nm,0.3s						
KUR				smax	smax		
	comp=E,260nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**3.98**	**253**	*e*P	**Pn**	**12 12 28.6**	**+1.5**
YUK				AMB	AMB	12 12 30.7	
	comp=E,224nm,0.4s						
YUK				*e*S	**Sn**	**12 13 14.4**	**+2.0**
YUK				A	A	12 13 16.4	
	comp=E,260nm,0.5s						
YUK				A	A	12 13 16.4	
	comp=E,240nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**3.98**	**253**	*e*PN	**Pn**	**12 12 28.6**	**+1.5**
YUK				S	**Sn**	**12 13 14.4**	**+2.0**
YUK				pmax	pmax		
	comp=Z,224nm,0.2s						
YUK				pmax	pmax		
	comp=N,53nm,0.1s						
YUK				pmax	pmax		
	comp=E,45nm,0.2s						
YUK				smax	smax		
	comp=E,263nm,0.5s						
YUK				smax	smax		
	comp=N,241nm,0.4s						
LAGR	**Lagunnoye**	**4.02**	**253**	*e*P	**Pn**	**12 12 29.2**	**+1.5**
LAGR				AMB	AMB	12 12 32.2	
	comp=N,130nm,0.3s						
LAGR				*e*S	**Sn**	**12 13 15.5**	**+2.0**
LAGR				A	A	12 13 18.8	
	comp=N,195nm,0.5s						
LAGR				A	A	12 13 18.8	
	comp=N,351nm,0.5s						
LAGR	**Lagunnoye**	**4.02**	**253**	*e*PN	**Pn**	**12 12 29.2**	**+1.5**
LAGR				*e*S	**Sn**	**12 13 15.5**	**+2.0**
LAGR				pmax	pmax		
	comp=N,41nm,0.1s						
LAGR				pmax	pmax		
	comp=E,61nm,0.1s						
LAGR				pmax	pmax		
	comp=Z,128nm,0.1s						
LAGR				smax	smax		
	comp=N,351nm,0.5s						
LAGR				smax	smax		
	comp=E,193nm,0.5s						
GRPR	**Tuman**	**4.05**	**252**	*e*P	**Pn**	**12 12 29.2**	**+1.0**
GRPR				AMB	AMB	12 12 32.5	
	comp=E,95nm,0.2s						
GRPR				*e*S	**Sn**	**12 13 15.4**	**+1.1**
GRPR				A	A	12 13 20.7	
	comp=E,120nm,0.3s						
GRPR				A	A	12 13 20.7	
	comp=E,180nm,0.3s						
GRPR	**Tuman**	**4.05**	**252**	PN	**Pn**	**12 12 29.2**	**+1.0**
GRPR				*e*S	**Sn**	**12 13 15.4**	**+1.1**
GRPR				pmax	pmax		
	comp=N,50nm,0.1s						
GRPR				pmax	pmax		
	comp=Z,95nm,0.1s						
GRPR				pmax	pmax		
	comp=E,61nm,0.3s						
GRPR				smax	smax		
	comp=N,118nm,0.3s						
GRPR				smax	smax		
	comp=E,183nm,0.5s						
GLVR	**Golovnino**	**4.32**	**250**	*e*P	**Pn**	**12 12 33.2**	**+1.4**
GLVR				AMB	AMB	12 12 35.1	
	comp=E,163nm,0.2s						
GLVR				*e*S	**Sn**	**12 13 22.6**	**+1.8**
GLVR				A	A	12 13 24.7	
	comp=E,275nm,0.5s						
GLVR				A	A	12 13 24.7	
	comp=E,205nm,0.5s						
GLVR	**Golovnino**	**4.32**	**250**	PN	**Pn**	**12 12 33.2**	**+1.4**
GLVR				*e*S	**Sn**	**12 13 22.6**	**+1.8**
GLVR				pmax	pmax		
	comp=N,34nm,0.2s						
GLVR				pmax	pmax		
	comp=E,92nm,0.2s						
GLVR				pmax	pmax		
	comp=Z,163nm,0.2s						
GLVR				smax	smax		
	comp=E,273nm,0.5s						
GLVR				smax	smax		
	comp=N,203nm,0.3s						
NEM2	**Nemuro 2**	**4.34**	**245**	P	**Pn**	**12 12 32.5**	**+0.4**
NEM2				*e*S	**Sn**	**12 13 19.8**	**-1.5**
JNK	**Nakash**	**4.91**	**251**	P	**Pn**	**12 12 41.4**	**+1.4**
JNK				*e*S	**Sn**	**12 13 36.2**	**+0.7**
JAK	**Akkeshi**	**5.19**	**245**	P	**Pn**	**12 12 44.1**	**+0.4**
JAK				*e*S	**Sn**	**12 13 40.3**	**-1.9**
JTKR	**Abashiri--Toko**	**5.33**	**258**	P	**Pn**	**12 12 47.7**	**+2.0**
JAR	**Ashorobuto**	**5.66**	**251**	P	**Pn**	**12 12 52.3**	**+2.0**
JAR				*e*S	**Sn**	**12 13 52.9**	**-1.1**
JMP	**Maruseppu**	**5.70**	**259**	P	**Pn**	**12 12 53.0**	**+2.2**
JOB	**Onbets**	**5.79**	**248**	P	**Pn**	**12 12 53.2**	**+1.2**
YSS	**Yuzh-Sakhalins**	**6.04**	**288**	*e*P	**Pn**	**12 12 56.8**	**+1.4**
YSS				AMB	AMB	12 12 57.7	
	comp=N,20nm,0.4s						
JKK2	**Kamakawa 2**	**6.16**	**259**	P	**Pn**	**12 12 59.7**	**+2.6**
ASAJ	**Asahikawa**	**6.20**	**262**	P	**Pn**	**12 13 01.0**	**+3.4**
	comp=N,1.9nm,0.3s,baz=69,slow=22,SNR=9.4						
ASAJ	**Asahikawa**	**6.20**	**262**	P	**Pn**	**12 13 01.1**	**+3.4**
JCH	**Churui**	**6.23**	**247**	P	**Pn**	**12 12 58.5**	**+0.4**
JCH				*e*S	**Sn**	**12 14 05.8**	**-2.1**
SKR	**Severo-Kuril's**	**6.30**	**30**	*e*P	**Pn**	**12 12 57.7**	**-1.3**
SKR				AMB	AMB	12 13 01.5	
	comp=N,63nm,0.9s						
SKR				*e*S	**Sn**	**12 14 04.8**	**-4.9**
JFR	**Furan**	**6.50**	**253**	P	**Pn**	**12 13 04.4**	**+2.6**
JEM	**Erimo**	**6.67**	**243**	*e*S	**Sn**	**12 14 16.7**	**-1.9**
JNBK	**Urakawa-nobuka**	**6.79**	**246**	P	**Pn**	**12 13 05.9**	**+0.2**
JNBK				*e*S	**Sn**	**12 14 18.7**	**-2.9**
JNB	**Noboribetsu**	**7.83**	**252**	P	**Pn**	**12 13 21.2**	**+1.2**
JNB				*e*S	**Sn**	**12 14 46.7**	**-0.6**
TYV	**Tymovskoe**	**7.92**	**317**	*e*P	**Pn**	**12 13 21.2**	**+0.1**
JKB	**Kayabe**	**8.10**	**248**	P	**Pn**	**12 13 24.1**	**+0.5**
JYM2	**Yakumo 2**	**8.43**	**251**	P	**Pn**	**12 13 28.8**	**+0.6**
JANG	**Nango**	**8.63**	**238**	P	**Pn**	**12 13 29.3**	**-1.7**
JANG				*e*S	Sn	12 14 59.8	-7.1
JTM	**Tenmabayashi**	**8.65**	**242**	P	**Pn**	**12 13 30.7**	**-0.6**
JTM				*e*S	**Sn**	**12 15 00.9**	**-6.6**
JSR	**Shiriuchi**	**8.67**	**248**	P	**Pn**	**12 13 31.6**	**+0.1**
JTH	**Tanohata**	**8.70**	**235**	*e*S	Sn	12 15 01.3	-7.4
PETK	**Petropavlovsk-**	**8.88**	**27**	P	**Pn**	**12 13 35.5**	**+1.1**
	comp=N,0.3nm,0.3s,baz=223,slow=14,SNR=10.0						
KLR	**Kul'dur**	**13.71**	**293**	P	**P**	**12 14 45.0**	**-3.1**
	comp=N,0.0nm,0.3s,baz=108,slow=13,SNR=3.9						
KSRS	**Korea Array**	**19.07**	**254**	P	**P**	**12 15 48.2**	**+0.9**
	comp=N,0.1nm,0.3s,baz=60,slow=11,SNR=5.6						
H11N2	**WAKE ISLAND Hy**	**28.68**	**148**	T	T	12 47 59.5	
	baz=337,slow=76,SNR=143						
H11N1	**WAKE ISLAND Hy**	**28.70**	**148**	T	T	12 48 06.4	
	baz=337,slow=76,SNR=86						
H11N3	**WAKE ISLAND Hy**	**28.70**	**148**	T	T	12 48 01.5	
	baz=337,slow=76,SNR=122						
H11S1	**WAKE ISLAND Hy**	**29.73**	**149**	T	T	12 49 16.4	
	baz=337,slow=76,SNR=144						
H11S3	**WAKE ISLAND Hy**	**29.74**	**149**	T	T	12 49 14.9	
	baz=337,slow=76,SNR=140						
H11S2	**WAKE ISLAND Hy**	**29.75**	**149**	T	T	12 49 22.2	
	baz=337,slow=76,SNR=127						
INK	**Inuvik**	**43.58**	**31**	P	**P**	**12 19 28.5**	**+0.4**
	comp=N,1.1nm,1.0s,baz=278,slow=4.8,SNR=3.6						
MKAR	**Makanchi Array**	**46.37**	**298**	P	**P**	**12 19 49.9**	**-0.7**
	comp=N,0.3nm,0.5s,baz=68,slow=8.2,SNR=5.4						
KURK	**Kurchatov**	**47.00**	**304**	P	**P**	**12 19 56.3**	**+0.9**
KURBB	**Kurchatov Arra**	**47.09**	**304**	P	**P**	**12 19 56.3**	**+0.2**
	comp=N,0.6nm,0.5s,baz=73,slow=8.3,SNR=4.2						
BVAR	**Borovoye Array**	**50.69**	**310**	P	**P**	**12 20 24.3**	**+0.6**
	comp=N,0.4nm,0.4s,baz=148,slow=18,SNR=11						
YKA	**Yellowknife Ar**	**52.88**	**35**	P	**P**	**12 20 40.3**	**+0.5**
	comp=N,0.1nm,0.4s,baz=300,slow=6.9,SNR=3.9						
FINES	**FINESS Array B**	**64.72**	**334**	P	**P**	**12 21 59.8**	**-2.2**
	comp=N,1.5nm,0.9s,baz=20,slow=6.1,SNR=3.9						
WRA	**Warramunga Arr**	**66.74**	**197**	P	**P**	**12 22 16.9**	**+1.4**
	comp=N,0.6nm,0.8s,baz=15,slow=6.8,SNR=6.1						
NOA	**NORSAR Array B**	**69.10**	**340**	P	**P**	**12 22 28.6**	**-1.4**
	comp=N,1.0nm,0.6s,baz=32,slow=6.6,SNR=3.9						
HFS	**Hagfors**	**69.28**	**339**	P	**P**	**12 22 29.2**	**-1.8**
	comp=N,1.0nm,0.6s,baz=76,slow=6.3,SNR=5.3						
ASAR	**Alice Springs**	**70.45**	**197**	P	**P**	**12 22 41.0**	**+2.4**
	comp=N,0.4nm,0.8s,baz=11,slow=6.1,SNR=6.7						
ASAR	**Alice Springs**	**70.45**	**197**	P	**P**	**12 22 41.0**	**+2.4**
TXAR	**Lajitas Array**	**79.40**	**59**	P	**P**	**12 23 31.6**	**+1.1**
	comp=N,0.4nm,0.5s,baz=293,slow=4.1,SNR=8.9						

MEX 03 12:12:34.3±0.4**, 16°.42N**×**98°.42W, h18**km±7km**, MD3.8, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.29**	**95**	*e*P	Pg	12 12 39.8	-0.8
PNIG				*e*S	Sg	12 12 43.7	-1.3
TLIG	**Tlapa**	**1.15**	**353**	*e*P	Pn	12 12 52.9	-2.7
TLIG				*e*S	Sb	12 13 05.7	-4.6
VHO	**Vista Hermosa**	**1.75**	**68**	*e*P	Pn	12 13 02.8	-1.1
VHO				*e*S	Sn	12 13 21.7	-4.1
CAIG	**El Cayaco**	**1.87**	**290**	*e*P	Pn	12 13 02.3	-3.2
CAIG				*i* S	Sn	12 13 24.6	-4.2
PLIG	**Platanillo**	**2.22**	**332**	*e*P	Pn	12 13 07.6	-2.7
PLIG				*e*S	Sn	12 13 33.3	-4.1
HUIG	**Huatulco**	**2.32**	**106**	*e*P	Pg	12 13 19.5	+0.7

MAN 03 12:13:51, 10°.11N×**123°.17E, h24**km**, mb4.0, ML2.7, MS2.3, 1D, Cebu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SNPH	**Sibulan**	**0.76**	**175**	*e*P	Pn	12 14 06.4	0.0
SNPH				*e*S	Sn	12 14 17.7	+0.5
GUIM	**Jordan**	**0.77**	**312**	*e*P	Pb	12 14 05.9	+0.1
GUIM				*e*S	Sn	12 14 17.9	+0.7
TBP	**Tagbilaran**	**0.80**	**121**	*e*P	Pb	12 14 05.3	-0.9
RCP	**Roxas**	**1.50**	**344**⇓	*e*P	Pb	12 14 18.6	+0.4
RCP				*e*S	Sb	12 14 40.7	+3.9
MSLP	**Maasin**	**1.66**	**89**	*e*P	Pn	12 14 19.0	+0.3
MSLP				*e*S	Sn	12 14 40.2	+1.0

IDC 03 12:23:13.3±2.3**, 54°.24N**×**86°.12E, h0**km**, mb1 3.3**/2**, mb1mx3.0**/74**, mbtmp3.3**/2**, ML3.0**/2**, Error ellipse: s-maj=17.2km s-min=11.1km az=53.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.82**	**250**	*i*		12 27 50.5	
	baz=68,slow=322,SNR=12						
ZALV	**Zalesovo Beam**	**0.82**	**250**	Pg	Pg	12 23 27.2	-1.8
	2.7nm,0.3s,baz=66,slow=17,SNR=14						
ZALV				Lg	Lg	12 23 41.3	
	7.1nm,0.3s,baz=71,slow=31,SNR=26						
KURBB	**Kurchatov Arra**	**5.89**	**235**	Pn	Pn	12 24 42.9	+1.2
	0.2nm,0.3s,baz=52,slow=14,SNR=17						
KURBB				Sn	Sn	12 25 48.5	-1.4
	baz=52,slow=27,SNR=2.1						
KURBB				Lg	Lg	12 26 22.1	
	0.1nm,0.3s,baz=55,slow=34,SNR=6.7						
MKAR	**Makanchi Array**	**7.84**	**200**	Pn	Pn	12 25 09.6	+1.0
	0.4nm,0.3s,baz=21,slow=13,SNR=17						
MKAR				Sn	Sn	12 26 37.4	-0.6
	0.1nm,0.3s,baz=22,slow=28,SNR=3.3						
MKAR				Lg	Lg	12 27 21.3	
	0.1nm,0.3s,baz=26,slow=30,SNR=4.4						
BVAR	**Borovoye Array**	**9.43**	**269**	Pn	Pn	12 25 32.6	+2.3
	0.2nm,0.3s,baz=72,slow=15,SNR=5.3						
BVAR				Sn	Sn	12 27 12.8	-4.1
	0.2nm,0.3s,baz=72,slow=23,SNR=3.6						

*IDC **03** 12:29:56.3±0.9, 11°.07N×125°.97E, h0km, mb3.8/10, mb1 3.9/10, mb1mx3.7/56, mbtmp3.8/10, MS3.0/2, Ms1 3.0/2, ms1mx2.6/56, Error ellipse: s-maj=65.2km s-min=15.1km az=65.0*
*MAN **03** 12:30:00, 11°.20N×125°.97E, h8km, mb4.7, ML3.6, MS3.5*
ISC 03 12:29:59.9±2.1**, 11°.21N**±0°.05×**126°.19E**±0°.09**, h25**km±15km**, n24, σ1.s49**/28**, mb4.0**/10**, 1C-2D, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BESP	**Borongan**	**0.83**	**298**	*e*P	**Pn**	**12 30 13.7**	**-2.3**
BESP				*e*S	**Sn**	**12 30 26.9**	**-0.5**
PLP	**Palo**	**1.19**	**268**⇓	*i*P	**Pn**	**12 30 18.9**	**-1.9**
PLP				*i* S	**Sn**	**12 30 34.7**	**-1.5**
SCPH	**Surigao**	**1.58**	**206**⇓	*e*P	**Pn**	**12 30 27.2**	**+1.0**
SCPH				*e*S	**Sb**	**12 30 47.9**	**+0.1**
MSLP	**Maasin**	**1.69**	**231**	*e*P	**Pn**	**12 30 28.1**	**+0.4**
MSLP				*e*S	**Sb**	**12 30 53.9**	**+2.9**
CNP	**Catarman**	**1.97**	**311**	*e*P	**Pn**	**12 30 31.7**	**0.0**
CNP				*e*S	**Sb**	**12 31 01.7**	**+2.4**
BUTP	**Butuan**	**2.29**	**194**	*e*P	**Pb**	**12 30 39.7**	**-0.9**
BUTP				*e*S	**Sb**	**12 31 06.7**	**-1.9**
RCP	**Roxas**	**3.39**	**276**⇑	*e*P	**Pn**	**12 30 53.1**	**+1.8**
BUKP	**Musuan**	**3.49**	**199**	*e*P	**Pn**	**12 30 54.9**	**+2.3**
BUKP				*e*S	**Sb**	**12 31 41.5**	**-1.6**
GUIM	**Jordan**	**3.58**	**261**	*e*P	**Pn**	**12 30 55.6**	**+1.7**
DAV	**Davao City (W)**	**4.16**	**188**	LR	LR	12 33 08.7	
	comp=Z,222nm,19.3s,baz=322,slow=48						
GUMO	**Guam**	**18.40**	**81**	LR	LR	12 39 27.9	
	comp=Z,47nm,20.8s,baz=14,slow=31						
CMAR	**Chiang Mai Arr**	**27.28**	**289**	P	**P**	**12 35 41.2**	**-1.4**
	0.8nm,0.7s,baz=101,slow=7.0,SNR=4.9						
WRA	**Warramunga Arr**	**31.98**	**165**	P	**P**	**12 36 22.9**	**-1.2**
	0.4nm,0.7s,baz=344,slow=9.1,SNR=7.9						
WRA				PcP	**PcP**	**12 39 13.3**	**-0.7**
	0.2nm,0.5s,baz=338,slow=2.8,SNR=4.6						
ASAR	**Alice Springs**	**35.47**	**168**	P	**P**	**12 36 54.1**	**-0.4**
	0.2nm,0.3s,baz=352,slow=7.6,SNR=14						
ASAR				PcP	**PcP**	**12 39 23.9**	**0.0**
	0.2nm,0.4s,baz=340,slow=3.1,SNR=3.6						
H11N1	**WAKE ISLAND Hy**	**40.05**	**73**	T	T	13 20 54.5	
	baz=265,slow=75,SNR=4.4						
H11N2	**WAKE ISLAND Hy**	**40.05**	**73**	T	T	13 20 57.6	
	baz=265,slow=75,SNR=4.2						
H11N3	**WAKE ISLAND Hy**	**40.06**	**73**	T	T	13 20 56.1	
	baz=265,slow=75,SNR=4.3						
SONM	**Songino Array**	**40.12**	**339**	P	**P**	**12 37 34.8**	**+1.1**
	0.3nm,0.3s,baz=169,slow=9.1,SNR=4.0						
STKA	**Stephens Creek**	**45.31**	**161**	P	**P**	**12 38 17.1**	**+1.2**
	1.2nm,0.7s,baz=341,slow=9.7,SNR=2.9						
MKAR	**Makanchi Array**	**51.24**	**322**	P	**P**	**12 39 01.9**	**+0.5**
	1.3nm,0.6s,baz=122,slow=8.3,SNR=18						
ZALV	**Zalesovo Beam**	**53.77**	**331**	P	**P**	**12 39 20.0**	**0.0**
	1.0nm,0.6s,baz=119,slow=5.6,SNR=6.6						
KURBB	**Kurchatov Arra**	**55.26**	**325**	P	**P**	**12 39 31.3**	**+0.4**
	1.4nm,0.6s,baz=124,slow=7.1,SNR=22						
BVAR	**Borovoye Array**	**60.85**	**325**	P	**P**	**12 40 11.0**	**+0.9**
	1.1nm,0.7s,baz=111,slow=7.9,SNR=6.1						
FINES	**FINESS Array B**	**85.03**	**332**	P	**P**	**12 42 32.7**	**-0.4**
	1.1nm,0.6s,baz=103,slow=6.1,SNR=4.6						

*ISCJB **03** 12:35:46.8±0.4, 40°.42N±0°.02×26°.19E±0°.03, h11km±3km, Error ellipse: s-maj=3.9km s-min=3.6km az=159.5*
*CSEM **03** 12:35:46.8±0.1, 40°.42N×26°.18E, h15km, MD2.5, Error ellipse: s-maj=2.0km s-min=2.0km az=148.0*
*ISK **03** 12:35:46.4, 40°.40N×26°.19E, h13km, MD2.5/5*
*THE **03** 12:35:47.9, 40°.44N×26°.11E, h17km±1km, ML1.9/6, Error ellipse: s-maj=1.4km s-min=0.5km az=309.0*
*ATH **03** 12:35:47.0, 40°.44N×26°.11E, h30km±4km, ML2.0/4, Error ellipse: s-maj=5.8km s-min=1.1km az=279.0*
*DDA **03** 12:35:47.9, 40°.38N×26°.33E, h7km, Ml2.7*
ISC 03 12:35:46.9±0.8**, 40°.42N**±0°.02×**26°.18E**±0°.02**, h16**km±6km**, n54, σ0.s43**/78**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GELI	**Tayfur-Gelibol**	**0.23**	**95**	PG	**Pg**	**12 35 51.8**	**-0.2**
GELI				SG	**Sg**	**12 35 55.3**	**-0.1**
GELI	**Tayfur-Gelibol**	**0.23**	**95**	*e*Pg	**Pg**	**12 35 51.8**	**-0.2**
GELI				*e*Sg	**Sg**	**12 35 55.3**	**-0.1**
GADA	**Gvkgeada**	**0.31**	**224**	PG	**Pg**	**12 35 52.6**	**-0.9**
GADA				SG	**Sg**	**12 35 58.4**	**+0.5**
GADA	**Gvkgeada**	**0.31**	**224**	*e*Pg	**Pg**	**12 35 52.6**	**-0.9**
GADA				*e*Sg	**Sg**	**12 35 58.4**	**+0.5**
ENEZ	**Enez**	**0.32**	**356**	PG	**Pg**	**12 35 53.9**	**+0.3**
ENEZ				SG	**Sg**	**12 35 58.8**	**+0.6**
ENEZ	**Enez**	**0.32**	**356**	*e*Pg	**Pg**	**12 35 53.9**	**+0.3**
ENEZ				*e*Sg	**Sg**	**12 35 58.8**	**+0.6**
ERIK	**Erikli-Kesan**	**0.36**	**45**	PG	**Pg**	**12 35 54.5**	**+0.2**
ERIK	**Erikli-Kesan**	**0.36**	**45**	*e*Pg	**Pg**	**12 35 54.5**	**+0.2**
LPK	**Lapseki**	**0.45**	**95**	PG	**Pg**	**12 35 55.4**	**-0.4**
LPK	**Lapseki**	**0.45**	**95**	*e*Pg	**Pg**	**12 35 55.4**	**-0.4**
ALN	**Alexandroupoli**	**0.49**	**348**	P	**Pg**	**12 35 57.0**	**+0.3**
ALN				S	**Sg**	**12 36 03.5**	**+0.2**
ALN	**Alexandroupoli**	**0.49**	**348**	P	**Pg**	**12 35 57.0**	**+0.3**
ALN				S	**Sg**	**12 36 03.5**	**+0.2**
SMTH	**Samothraki Isl**	**0.50**	**276**	P	**Pg**	**12 35 56.6**	**-0.2**
SMTH				S	**Sg**	**12 36 03.4**	**-0.1**
SMTH				AML	AML	12 36 04.4	
	comp=E,572µm,0.4s						
SMTH				AML	AML	12 36 04.9	
	comp=N,543µm,0.2s						
SMTH	**Samothraki Isl**	**0.50**	**276**	P	**Pg**	**12 35 56.8**	**0.0**
SMTH				S	**Sg**	**12 36 03.5**	**-0.1**
SMTH	**Samothraki Isl**	**0.50**	**276**	P	**Pg**	**12 35 56.8**	**0.0**
SMTH				S	**Sg**	**12 36 03.6**	**0.0**
KESN	**Edirne-Kesan**	**0.56**	**43**	*i* P	**Pg**	**12 35 57.6**	**-0.5**
KESN	**Edirne-Kesan**	**0.56**	**43**	P	**Pg**	**12 35 57.6**	**-0.5**
BOZC	**Bozcaada**	**0.58**	**190**	*i* P	**Pg**	**12 35 58.6**	**+0.2**
EZN	**Ezine**	**0.60**	**169**	PG	**Pg**	**12 35 57.8**	**-0.9**
EZN	**Ezine**	**0.60**	**169**	*e*Pg	**Pg**	**12 35 57.8**	**-0.9**
BAYC	**CANAKKALE_Bayr**	**0.73**	**157**	*i* P	**Pb**	**12 36 01.5**	**+0.2**
BAYC				*i* S	**Sg**	**12 36 10.9**	**+0.1**
BAYC	**CANAKKALE_Bayr**	**0.73**	**157**	P	**Pb**	**12 36 01.5**	**+0.2**
BAYC				S	**Sg**	**12 36 10.9**	**+0.1**
RKY	**Sarkoy-Tekirda**	**0.81**	**70**	PG	**Pg**	**12 36 02.6**	**0.0**
RKY	**Sarkoy-Tekirda**	**0.81**	**70**	*e*Pg	**Pg**	**12 36 02.6**	**0.0**
SART	**Tekirdag**	**0.81**	**70**	*i* P	**Pg**	**12 36 01.8**	**-0.9**
SART	**Tekirdag**	**0.81**	**70**	P	**Pg**	**12 36 01.8**	**-0.9**
KRBG	**Karabiga-Canak**	**0.85**	**91**	PG	**Pb**	**12 36 03.1**	**-0.3**
KRBG	**Karabiga-Canak**	**0.85**	**91**	*e*Pg	**Pb**	**12 36 03.1**	**-0.3**
RDO	**Rodhopi**	**0.88**	**326**	P	**Pb**	**12 36 03.8**	**0.0**
RDO				S	**Sb**	**12 36 14.8**	**-0.4**
RDO				AML	AML	12 36 18.2	
	comp=E,146µm,0.2s						
RDO				AML	AML	12 36 19.9	
	comp=N,94µm,0.1s						
RDO	**Rodhopi**	**0.88**	**326**	P	**Pb**	**12 36 03.5**	**-0.3**
RDO				S	**Sb**	**12 36 15.1**	**-0.2**
RDO	**Rodhopi**	**0.88**	**326**	P	**Pb**	**12 36 03.5**	**-0.3**
RDO				S	**Sb**	**12 36 15.1**	**-0.2**
LIA	**Limnos Island**	**0.92**	**236**	P	**Pb**	**12 36 04.8**	**+0.3**
LIA				S	**Sg**	**12 36 17.7**	**+0.8**
LIA				AML	AML	12 36 18.6	
	comp=E,119µm,0.3s						
LIA				AML	AML	12 36 21.5	
	comp=N,99µm,0.3s						
LIA	**Limnos Island**	**0.92**	**236**	P	**Pb**	**12 36 04.7**	**+0.1**
LIA				S	**Sb**	**12 36 16.8**	**+0.2**
LIA	**Limnos Island**	**0.92**	**236**	P	**Pb**	**12 36 04.7**	**+0.1**
LIA				S	**Sb**	**12 36 16.8**	**+0.2**
PRK	**Paraskevi**	**1.17**	**177**	P	**Pg**	**12 36 09.5**	**0.0**
PRK				S	**Sg**	**12 36 25.8**	**+1.0**
PRK				AML	AML	12 36 26.3	
	comp=N,378µm,0.5s						
PRK				AML	AML	12 36 26.7	
	comp=E,287µm,0.8s						
PRK	**Paraskevi**	**1.17**	**177**	P	**Pb**	**12 36 09.0**	**+0.2**
PRK				S	**Sn**	**12 36 24.7**	**+0.4**
PRK	**Paraskevi**	**1.17**	**177**	P	**Pb**	**12 36 09.0**	**+0.2**
PRK				S	**Sn**	**12 36 24.7**	**+0.4**
SIGR	**SIGRI**	**1.23**	**192**	P	**Pn**	**12 36 09.6**	**+0.1**
SIGR				S	**Sg**	**12 36 26.6**	**0.0**
SIGR	**SIGRI**	**1.23**	**192**	P	**Pn**	**12 36 09.6**	**+0.1**
SIGR				S	**Sg**	**12 36 26.6**	**0.0**
EDC	**Edincik**	**1.29**	**93**	PN	**Pn**	**12 36 10.5**	**+0.2**
EDC	**Edincik**	**1.29**	**93**	*e*Pn	**Pn**	**12 36 10.5**	**+0.2**
BALY	**Balya**	**1.29**	**121**	*i* P	**Pn**	**12 36 10.3**	**-0.1**
BALY	**Balya**	**1.29**	**121**	P	**Pn**	**12 36 10.3**	**-0.1**
KAVA	**Kavala**	**1.39**	**295**	P	**Pn**	**12 36 11.6**	**-0.1**
KAVA	**Kavala**	**1.39**	**295**	P	**Pn**	**12 36 11.3**	**-0.4**
KAVA	**Kavala**	**1.39**	**295**	P	**Pn**	**12 36 11.6**	**-0.1**
EDRB	**Edirne**	**1.49**	**16**	PN	**Pb**	**12 36 13.9**	**-0.4**
EDRB	**Edirne**	**1.49**	**16**	*e*Pn	**Pb**	**12 36 13.9**	**-0.4**
BALB	**Balikesir**	**1.52**	**120**	PN	**Pn**	**12 36 13.3**	**-0.1**
BALB	**Balikesir**	**1.52**	**120**	*e*Pn	**Pn**	**12 36 13.3**	**-0.1**
OUR	**Ouranopolis**	**1.68**	**268**	P	**Pn**	**12 36 14.8**	**-0.9**
OUR	**Ouranopolis**	**1.68**	**268**	P	**Pn**	**12 36 14.8**	**-0.9**
DURS	**Dursunbey**	**1.94**	**114**	*i* P	**Pn**	**12 36 20.1**	**+0.7**
DURS	**Dursunbey**	**1.94**	**114**	P	**Pn**	**12 36 20.1**	**+0.7**

IDC 03 12:42:19.1±1.6**, 2°.76S**×**139°.33E, h0**km**, mb3.5**/3**, mb1 3.8**/4**, mb1mx3.5**/44**, mbtmp3.5**/4**, ML3.8**/1**, Error ellipse: s-maj=73.9km s-min=26.4km az=96.0, Near north coast of Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.76**	**196**	P	Pn	12 46 26.9	-1.0
	0.3nm,0.3s,baz=15,slow=13,SNR=21						
ASAR	**Alice Springs**	**21.43**	**194**	P	P	12 47 09.3	+0.3
	1.0nm,0.6s,baz=21,slow=10,SNR=29						
MKAR	**Makanchi Array**	**70.21**	**322**	P	P	12 53 34.2	+0.2
	0.3nm,0.4s,baz=103,slow=6.5,SNR=6.9						
ILAR	**Eielson Array**	**85.62**	**24**	P	P	12 54 59.1	-0.1
	0.3nm,0.7s,baz=255,slow=4.0,SNR=5.3						

WEL 03 12:42:27.6, 38°S±4°×**17°9E**±°**, h5**km**, ML3.8**/14**, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PUZ	**Puketiti**	**0.36**	**303**	P	Pb	12 42 35.7	-0.7
PUZ	**Puketiti**	**0.36**	**303**	S	Sb	12 42 41.0	-1.3
CNGZ	**Carnagh Statio**	**0.40**	**237**	P	Pn	12 42 39.0	-1.0
WMGZ	**Waiomatatini S**	**0.48**	**339**	P	Pn	12 42 40.5	-0.5
WMGZ	**Waiomatatini S**	**0.48**	**339**	S	Sb	12 42 49.4	+3.6
TWGZ	**Tauwhareparae**	**0.53**	**280**	P	Pb	12 42 38.9	-0.4
TWGZ	**Tauwhareparae**	**0.53**	**280**	S	Sb	12 42 47.6	+0.4
PKGZ	**Pakihiroa**	**0.58**	**310**	P	Pb	12 42 40.5	+0.2
TKGZ	**Te Karaka**	**0.64**	**254**	P	Pb	12 42 41.8	+0.5
TKGZ	**Te Karaka**	**0.64**	**254**	P	Pb	12 42 41.8	+0.5
MXZ	**Matakaoa Point**	**0.75**	**340**	P	Pn	12 42 45.2	+0.4
MXZ	**Matakaoa Point**	**0.75**	**340**	S	Sn	12 42 57.6	+1.1
RIGZ	**Rimuhau**	**0.81**	**237**	P	Pn	12 42 45.2	-0.6
RIGZ	**Rimuhau**	**0.81**	**237**	S	Sn	12 42 58.2	0.0
RUGZ	**Raukumara Rang**	**0.81**	**291**	P	Pb	12 42 43.9	-0.3
RUGZ	**Raukumara Rang**	**0.81**	**291**	P	Pb	12 42 44.0	-0.3
RUGZ	**Raukumara Rang**	**0.81**	**291**	S	Sb	12 42 54.9	-0.7
HAZ	**Te Kaha**	**0.85**	**307**	P	Pb	12 42 44.7	0.0
HAZ	**Te Kaha**	**0.85**	**307**	S	Sb	12 42 56.3	-0.1
MWZ	**Matawai**	**0.88**	**265**	P	Pb	12 42 45.2	-0.1
MWZ	**Matawai**	**0.88**	**265**	S	Sb	12 42 57.8	+0.5
PRGZ	**Paritu Road**	**0.88**	**222**	P	Pn	12 42 46.4	-0.3
PRGZ	**Paritu Road**	**0.88**	**222**	P	Pn	12 42 46.4	-0.3
RAGZ	**Rawiri**	**0.99**	**256**	P	Pb	12 42 47.4	+0.2
MHGZ	**Mahia Peninsul**	**1.05**	**213**	P	Pn	12 42 48.8	-0.2
KNZ	**Kokohu**	**1.07**	**225**	P	Pg	12 42 48.2	+0.1
KNZ	**Kokohu**	**1.07**	**225**	S	Sn	12 43 05.2	+0.9
SNGZ	**Shannon Statio**	**1.14**	**243**	P	Pg	12 42 49.6	+0.1

URZ	**Urewera**	**1.20**	**270**	P	Pg	12 42 50.4	-0.2
URZ	**Urewera**	**1.20**	**270**	S	Sb	12 43 07.0	+0.4
RTZ	**Ruatahuna**	**1.35**	**255**	P	Pn	12 42 52.4	-0.7
RAHZ	**Arahi**	**1.38**	**241**	P	Pg	12 42 54.5	+0.6
MUGZ	**Murupara**	**1.48**	**261**	P	Pb	12 42 55.7	+0.1
EDRZ	**Edgecumbe**	**1.50**	**276**	P	Pg	12 42 56.3	-0.1
MTHZ	**Maungataniwha**	**1.52**	**247**	P	Pb	12 42 56.1	-0.2
MARZ	**Manawahe**	**1.57**	**280**	P	Pg	12 42 58.8	+1.0
NMHZ	**Naumai**	**1.66**	**239**	P	Pg	12 42 59.6	+0.3
RRRZ	**Republican Roa**	**1.67**	**267**	P	Pb	12 42 58.7	-0.2
TARZ	**Mount Tarawera**	**1.68**	**270**	P	Pn	12 42 58.2	+0.5
OPRZ	**Ohinepanea**	**1.70**	**284**	P	Pn	12 42 57.0	-0.9
PRRZ	**Plateau Road**	**1.78**	**262**	P	Pn	12 42 58.9	-0.1
OMRZ	**Omania**	**1.79**	**274**	P	Pg	12 43 02.0	+0.1
HLRZ	**Highlands Stat**	**1.80**	**270**	P	Pg	12 43 03.4	+1.3
ALRZ	**Allen Road**	**1.83**	**260**	P	Pn	12 42 59.3	-0.3
HRRZ	**Handcock Road**	**1.85**	**265**	P	Pn	12 42 58.2	-1.8
HSRZ	**Hossack Road**	**1.88**	**268**	P	Pg	12 43 03.6	-0.1
BKZ	**Black Stump Fm**	**1.90**	**241**	P	Pn	12 43 00.2	-0.6
KRHZ	**Kereru**	**2.24**	**231**	P	Pg	12 43 11.3	+0.8
BHHZ	**Black Hill Sta**	**2.35**	**238**	P	Pn	12 43 06.2	-0.7
TRVZ	**Turoa**	**2.62**	**246**	P	Pb	12 43 13.2	-2.0
HIZ	**Hauiti**	**2.98**	**264**	P	Pn	12 43 15.7	+0.2
VRZ	**Vera Road**	**3.15**	**253**	P	Pn	12 43 18.2	+0.4

IDC 03 12:46:33.0±1.5**, 12°09S×166°15E, h0**km**, mb3.5**/3**, mb1 3.9**/4**, mb1mx3.6**/45**, mbtmp3.6**/4**, ML3.7**/1**, Error ellipse: s-maj=52.8km s-min=29.9km az=130.0, Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**9.93**	**178**	Pn	Pn	12 48 58.9	+1.8
	0.6nm,0.3s,baz=286,slow=8.8,SNR=28						
DZM				Sn	Sn	12 50 35.2	-14
	0.3nm,0.3s,baz=323,slow=20,SNR=3.7						
WRA	**Warramunga Arr**	**31.51**	**252**	P	P	12 52 56.6	-0.4
	0.4nm,0.8s,baz=90,slow=8.5,SNR=2.4						
ASAR	**Alice Springs**	**32.69**	**245**	P	P	12 53 07.8	+0.4
	0.4nm,0.9s,baz=79,slow=9.7,SNR=3.8						
ILAR	**Eielson Array**	**84.37**	**18**	P	P	12 59 07.6	+0.8
	0.9nm,0.9s,baz=232,slow=6.1,SNR=6.1						
ARCES	**ARCESS Array B**	**117.44**	**345**	PKP	PKPdf	13 05 18.3	-1.8
	2.7nm,0.8s,baz=58,slow=2.1,SNR=6.1						

MEX 03 13:00:49.2±0.3**, 15°94N×98°61W, h20**km±15km**, MD3.8, Off coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.64**	**46**	*i* P	Pb	13 00 59.9	-1.9
PNIG				*e*S	Sb	13 01 07.8	-2.6
TLIG	**Tlapa**	**1.61**	**1**	*e*P	Pn	13 01 13.7	-2.9
TLIG				*e*S	Sn	13 01 32.7	-4.2
CAIG	**El Cayaco**	**1.93**	**305**	*e*P	Pn	13 01 21.1	+0.1
CAIG				*i* S	Sn	13 01 41.2	-3.5
VHO	**Vista Hermosa**	**2.12**	**58**	*e*P	Pn	13 01 18.5	-5.3
VHO				*e*S	Sn	13 01 46.0	-3.6
PLIG	**Platanillo**	**2.58**	**341**	*e*P	Pn	13 01 27.3	-2.6
PLIG				*i* S	Sn	13 01 57.9	-3.0

*CSEM **03** 13:02:36.3±0.2, 55°72N×13°35E, h2km, ML1.7, Error ellipse: s-maj=8.1km s-min=3.4km az=57.0, Mining explosion.*

UPP 03 13:02:36.4±0.1**, 55°71N×13°38E, h0**km**, ML1.7, Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LUNU	**Lund**	**0.08**	**152**	P	Pg	13 02 38.3	+0.3
LUNU				S	Sg	13 02 39.8	+0.8
LUNU	**Lund**	**0.08**	**152**	P	Pg	13 02 38.3	+0.3
LUNU				S	Sg	13 02 39.8	+0.7
BJUU	**Bjuv**	**0.42**	**332**	P	Pg	13 02 44.5	+0.1
BJUU	**Bjuv**	**0.42**	**332**	P	Pg	13 02 44.5	+0.1
DEL	**Delary**	**0.81**	**20**	P	Pg	13 02 51.7	-0.3
DEL	**Delary**	**0.81**	**20**	P	Pg	13 02 51.7	-0.3
BSD	**Bornholm Skovb**	**1.06**	**123**	*i* P	Pg	13 02 57.0	+0.3
BSD				*i* S	Sg	13 03 10.7	+0.3
BSD	**Bornholm Skovb**	**1.06**	**123**	*i* P	Pg	13 02 57.0	+0.3
BSD				*i* S	Sg	13 03 10.8	+0.4
	SNR=66						
FABU	**Falkenberg**	**1.35**	**345**	P	Pg	13 03 00.8	-1.5
FABU	**Falkenberg**	**1.35**	**345**	P	Pg	13 03 00.8	-1.4
VXJU	**Vaexsjoe**	**1.50**	**35**	P	Pn	13 03 04.0	-0.4
VXJU	**Vaexsjoe**	**1.50**	**35**	P	Pn	13 03 04.1	-0.4

*ISCJB **03** 13:08:49.4±0.3, 11°56N±0°03×86°93W±0°03, h58km±4km, mb4.1/16, MS3.1/5, Error ellipse: s-maj=7.1km s-min=2.8km az=41.6*
*UCR **03** 13:08:49.9±1.3, 11°60N×86°92W, h63km±14km, MD4.4, ML4.1, mb4.5(NEIC)*
*IDC **03** 13:08:50.5±1.7, 11°67N×86°75W, h55km±20km, mb3.5/8, mb1 3.9/11, mb1mx3.6/45, mbtmp3.9/11, ML4.3/3, MS3.2/7, Ms1 3.2/7, ms1mx3.0/31, Error ellipse: s-maj=42.0km s-min=11.6km az=43.0*
*NEIC **03** 13:08:51.1±0.6, 11°64N×86°81W, h55km±7km, mb4.5/11, Error ellipse: s-maj=12.8km s-min=5.3km az=213.0*
NEIC Felt [III] at Managua.

ISC 03 13:08:50.8±1.1**, 11°60N**±0°06×**86°90W**±0°06**, h56**km±10km**, n93, σ0§85**/96**, mb4.1**/16**, MS3.0**/5**, 8C-1D, Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
COPN	**Copaltepe**	**0.65**	**27**	⇑*i*P	**Pn**	**13 09 03.6**	**-0.8**
CRUN	**El Crucero**	**0.70**	**57**	*e*P	**Pn**	**13 09 04.6**	**-0.4**
CRUN				*e*S	**Sn**	**13 09 16.4**	**+1.0**
XAVN	**Gruta Xavier**	**0.78**	**46**	*e*P	**Pn**	**13 09 05.3**	**-0.6**
MGAN	**Managua**	**0.84**	**49**	*e*P	**Pn**	**13 09 06.1**	**-0.6**
MGAN				*e*S	**Sn**	**13 09 18.7**	**+0.4**
MOMN	**Momotombo**	**0.88**	**23**	⇓*i*P	**Pn**	**13 09 06.5**	**-0.7**
CNGN	**Cerro Negro**	**0.92**	**12**	*e*P	**Pn**	**13 09 06.8**	**-0.9**
CNGN				*e*S	**Sn**	**13 09 21.5**	**+1.3**
CRIN	**San Cristobal**	**1.10**	**352**	*e*P	**Pn**	**13 09 09.4**	**-0.9**
CRIN				*e*S	**Sn**	**13 09 24.4**	**-0.3**
CRIN				AML	AML	13 09 27.1	
	comp=N,19μm,0.4s						
CRZ1	**La Cruz**	**1.34**	**113**	⇑*i*P	**Pn**	**13 09 12.2**	**-1.2**
CSGN	**Cosiguina Volc**	**1.51**	**335**	*e*P	**Pn**	**13 09 15.6**	**-0.1**
ESTN	**Estel**	**1.58**	**19**	*e*P	**Pn**	**13 09 16.4**	**-0.3**
MATN	**Matagalpa**	**1.63**	**36**	*e*P	**Pn**	**13 09 16.8**	**-0.6**
GBS3	**Finca Las Imˆ¡**	**1.63**	**120**	*e*P	**Pn**	**13 09 16.2**	**-1.1**
NY14	**Universidad de**	**1.64**	**125**	⇑*i*P	**Pn**	**13 09 17.3**	**0.0**
LAPC	**Finca la Perla**	**1.66**	**120**	*e*P	**Pn**	**13 09 16.5**	**-1.2**
BUAI	**Buenos Aires**	**1.69**	**115**	⇑*e*P	**Pn**	**13 09 17.4**	**-0.8**
GPS3	**Bodega del ICE**	**1.72**	**119**	*e*P	**Pn**	**13 09 17.6**	**-0.9**
GPS1	**Guardaparques**	**1.73**	**118**	*e*P	**Pn**	**13 09 18.1**	**-0.5**
ACON	**Acoyapa**	**1.73**	**78**	*e*P	**Pn**	**13 09 17.6**	**-0.9**
ACON				*e*S	**Sn**	**13 09 39.7**	**+0.1**
ACON				AML	AML	13 09 43.6	
	comp=N,1μm,0.7s						
GPS2	**Hotel Rincˆ‡n**	**1.73**	**119**	*e*P	**Pn**	**13 09 18.0**	**-0.7**
CNCH	**Conchagua**	**1.90**	**331**	*e*P	**Pn**	**13 09 20.0**	**-1.0**
COLC	**Colonia**	**1.90**	**119**	⇑*e*P	**Pn**	**13 09 20.8**	**-0.2**
HORNC	**Hornillas**	**1.90**	**117**	*e*P	**Pn**	**13 09 20.8**	**-0.2**
CUI	**Cuipilapa**	**1.94**	**119**	*e*P	**Pn**	**13 09 21.1**	**-0.4**
LCND	**La Caˆ–ada**	**1.96**	**330**	*e*P	**Pn**	**13 09 20.7**	**-1.0**
ACAL	**Aguas Claras**	**2.06**	**117**	*e*P	**Pn**	**13 09 23.1**	**-0.2**
PTEN	**Parque Tenorio**	**2.07**	**115**	⇑*e*P	**Pn**	**13 09 23.2**	**-0.2**
AMAS	**Alto Masis**	**2.11**	**117**	*e*P	**Pn**	**13 09 23.5**	**-0.4**
VSM	**San Miguel**	**2.26**	**324**	*e*P	**Pn**	**13 09 25.8**	**-0.3**
LCY	**Lacayo**	**2.27**	**323**	*e*P	**Pn**	**13 09 24.9**	**-1.1**
JTS	**JuntasAbangare**	**2.31**	**124**	P	**Pn**	**13 09 26.0**	**-0.6**
	comp=N,58nm,0.3s,baz=57,slow=3.2,SNR=130						
JTS				S	**Sn**	**13 09 51.9**	**-1.9**
	comp=N,74nm,0.3s,baz=350,slow=18,SNR=5.8						
JTS	**JuntasAbangare**	**2.31**	**124**	*e*P	**Pn**	**13 09 25.9**	**-0.6**
PACA	**Pacayal**	**2.32**	**323**	*e*P	**Pn**	**13 09 26.7**	**-0.1**
CASO	**Castillo**	**2.42**	**118**	⇑*i*P	**Pn**	**13 09 28.1**	**0.0**
CEDE	**Laguna Cedeˆ–o**	**2.42**	**117**	⇑*e*P	**Pn**	**13 09 28.1**	**0.0**
TECA	**Tecapa**	**2.45**	**320**	*e*P	**Pn**	**13 09 27.2**	**-1.5**
TGUH	**Tegucigalpa,Un**	**2.47**	**352**	*e*Pn	**Pn**	**13 09 28.8**	**+0.1**
CAHU	**Cacacuatique**	**2.51**	**329**	*e*P	**Pn**	**13 09 29.0**	**-0.4**
ESPN	**Las Esperanzas**	**2.61**	**77**	*e*P	**Pn**	**13 09 30.4**	**-0.2**
SNVI	**San Vicente**	**2.76**	**317**	*e*P	**Pn**	**13 09 31.8**	**-1.0**
SRA1	**San Ramˆ‡n**	**2.81**	**122**	*e*P	**Pn**	**13 09 34.2**	**+0.7**
CGA2	**Cerro Gallo 2**	**2.86**	**123**	*e*P	**Pn**	**13 09 33.8**	**-0.4**
LFRS	**El Faro**	**2.92**	**314**	*e*P	**Pn**	**13 09 33.5**	**-1.4**
LFRS				*e*S	**Sn**	**13 10 09.2**	**+0.3**
LBRS	**Las Brisas**	**2.98**	**316**	*e*P	**Pn**	**13 09 35.2**	**-0.6**
LFU	**La Fuente**	**3.04**	**315**	*e*P	**Pn**	**13 09 36.0**	**-0.6**
SNET	**Serv Nac Est T**	**3.08**	**313**	*e*Pn	**Pn**	**13 09 35.5**	**-1.7**
COLS	**Colinas**	**3.12**	**312**	*e*P	**Pn**	**13 09 36.5**	**-1.2**
UEES	**San Salvador**	**3.12**	**313**	*e*P	**Pn**	**13 09 36.7**	**-1.0**
UEES				IAML		13 10 21.4	
	comp=Z,616nm,0.2s						
BOQS	**Boqueron**	**3.15**	**313**	*e*P	**Pn**	**13 09 37.5**	**-0.7**
HDC	**Heredia**	**3.16**	**120**	*e*Pn	**Pn**	**13 09 38.2**	**-0.1**
LCR2	**La Lucha 2**	**3.39**	**123**	*e*P	**Pn**	**13 09 41.7**	**+0.1**
LCR2				*e*S	**Sn**	**13 10 21.0**	**+0.4**
CVTR	**Volcan Turrial**	**3.46**	**117**	*e*P	**Pn**	**13 09 40.9**	**-1.8**
SBLS	**San Blas**	**3.47**	**310**	*e*P	**Pn**	**13 09 41.9**	**-0.7**
SNJE	**San Jose**	**3.47**	**311**	*e*P	**Pn**	**13 09 42.2**	**-0.4**
URSC	**Urasca**	**3.53**	**119**	*e*P	**Pn**	**13 09 43.8**	**+0.4**
MTO3	**Montecristo**	**3.68**	**320**	*e*P	**Pn**	**13 09 44.7**	**-0.8**
BUS	**Buena Vista**	**3.69**	**123**	*e*P	**Pn**	**13 09 46.2**	**+0.3**
DRK0	**Durika**	**4.28**	**123**	*e*P	**Pn**	**13 09 53.9**	**+0.2**
IXG	**Ixpaco**	**4.31**	**307**	*e*P	**Pn**	**13 09 53.0**	**-1.1**
PTJ1	**Puerto Jimˆ'ne**	**4.67**	**130**	*e*P	**Pn**	**13 10 00.1**	**+1.3**
APG	**El Apazote**	**4.85**	**315**	P	**Pn**	**13 10 02.5**	**+1.0**
	comp=Z,3.6nm,0.3s,baz=107,slow=4.2,SNR=25						
BRU2	**Volcan**	**4.99**	**124**	*e*P	**Pn**	**13 10 04.1**	**+0.7**
BCIP	**Isla Barro Col**	**7.35**	**109**	*e*Pn	**Pn**	**13 10 35.1**	**-0.5**
WBCY	**West Bay, Gran**	**9.38**	**34**	*e*Pn	**Pn**	**13 11 02.6**	**-0.7**
CMIG	**Matias Romero**	**9.47**	**306**	P	**Pn**	**13 11 05.2**	**+0.5**
	comp=Z,9.8nm,0.3s,baz=134,slow=7.2,SNR=72						
LVIG	**Laguna Verde**	**12.21**	**313**	*e*Pn	**Pn**	**13 11 43.5**	**+1.4**
ROSC	**El Rosal**	**14.14**	**117**	LR	LR	13 17 32.4	
	comp=Z,95nm,20.4s,baz=214,slow=37						
MOIG	**Morelia**	**15.93**	**302**	*e*P	**P**	**13 12 34.3**	**-0.1**
SDV	**Santo Domingo**	**16.23**	**98**	P	**Pn**	**13 12 35.4**	**-0.1**
	comp=Z,0.4nm,0.3s,baz=280,slow=6.4,SNR=9.7						
SDV				LR	LR	13 19 52.9	
	comp=Z,63nm,18.7s,baz=338,slow=41						
SDV	**Santo Domingo**	**16.23**	**98**	*e*Pn	**Pn**	**13 12 36.1**	**+0.6**
	comp=Z,9.1nm,0.9s						
BANI	**BANI**	**17.34**	**65**	*e*Pn	**Pn**	**13 12 47.8**	**-1.4**
LNIG	**Linares**	**17.80**	**320**	*e*Pn	**P**	**13 12 55.7**	**+0.9**
	comp=Z,43nm,1.0s						
HKT	**Hockley**	**20.06**	**337**	*e*P	**P**	**13 13 20.2**	**+0.7**
	comp=Z,17nm,1.1s						
ATAH	**Atahualpa**	**20.44**	**155**	LR	LR	13 20 39.9	
	comp=Z,74nm,20.8s,baz=340,slow=35						
SJG	**San Juan**	**21.06**	**70**	LR	LR	13 20 51.8	
	comp=Z,72nm,19.2s,baz=223,slow=34						
TXAR	**Lajitas Array**	**23.57**	**321**	P	**P**	**13 13 56.5**	**-0.1**
	comp=Z,2.0nm,0.4s,baz=140,slow=9.6,SNR=52						
MIAR	**Mount Ida**	**23.64**	**346**	*e*P	**P**	**13 13 56.8**	**-0.3**
	comp=Z,4.3nm,0.8s						
TKL	**Tuckaleechee C**	**24.12**	**6**	P	**P**	**13 14 01.9**	**+0.5**
	comp=Z,1.7nm,0.5s,baz=194,slow=4.2,SNR=3.2						
TKL				LR	LR	13 24 09.2	
	comp=Z,54nm,19.5s,baz=236,slow=38						
WMOK	**Wichita Mounta**	**25.45**	**337**	*e*P	**P**	**13 14 14.4**	**+0.9**
	comp=Z,22nm,1.1s						
MNTX	**Cornudas Mount**	**26.29**	**322**	*e*P	**P**	**13 14 22.7**	**+1.5**
	comp=Z,2.3nm,0.6s						
AMTX	**Amarillo**	**26.80**	**332**	*e*P	**P**	**13 14 27.0**	**+1.2**
	comp=Z,10nm,0.9s						
MCWV	**Mont Chateau**	**28.64**	**11**	*e*P	**P**	**13 14 42.5**	**+0.5**
	comp=Z,20nm,0.4s						
ANMO	**Albuquerque**	**29.26**	**326**	LR	LR	13 27 43.3	
	comp=Z,24nm,19.3s,baz=306,slow=39						
COWI	**Conover**	**34.44**	**357**	*e*P	**P**	**13 15 33.2**	**+0.2**
	comp=Z,15nm,1.3s						
MTPU	**Mount Pierson**	**34.70**	**324**	*e*P	**P**	**13 15 37.8**	**+2.0**
	comp=Z,15nm,1.8s						
PDAR	**Pinedale Array**	**36.77**	**332**	P	**P**	**13 15 52.8**	**-0.6**
	comp=Z,0.7nm,0.5s,baz=126,slow=10,SNR=7.8						
REDW	**Red Top Meadow**	**37.84**	**331**	*e*P	**P**	**13 16 02.7**	**+0.4**
	comp=Z,23nm,1.6s						
NVAR	**Mina Array Bea**	**38.70**	**319**	P	**P**	**13 16 10.3**	**+0.7**
	comp=Z,0.4nm,0.5s,baz=134,slow=7.7,SNR=5.8						
ULM	**Lac du Bonnet**	**39.24**	**351**	P	**P**	**13 16 11.4**	**-2.3**
	comp=Z,1.8nm,0.5s,baz=168,slow=7.6,SNR=7.9						
LRM	**Limekiln Ridge**	**40.45**	**332**	*e*P	**P**	**13 16 24.6**	**+0.5**
CPUP	**Villa Florida**	**47.41**	**143**	P	**P**	**13 17 19.6**	**-0.2**
	comp=Z,2.0nm,0.7s,baz=339,slow=9.8,SNR=7.3						
YKA	**Yellowknife Ar**	**54.57**	**345**	P	**P**	**13 18 12.5**	**-0.6**
	comp=Z,0.3nm,0.6s,baz=140,slow=7.6,SNR=9.8						
SFJD	**Kangerlussuaq**	**60.39**	**16**	LR	LR	13 44 18.1	
	comp=Z,54nm,20.3s,baz=238,slow=35						
ILAR	**Eielson Array**	**67.01**	**336**	P	**P**	**13 19 37.6**	**0.0**
	comp=Z,0.6nm,1.2s,baz=106,slow=5.3,SNR=4.1						

*IDC **03** 13:27:04.0±0.7, 54°07S×2°47W, h0km, mb4.1/8, mb1 4.2/9, mb1mx3.9/40, mbtmp4.1/9, ML4.0/1, MS3.7/17, Ms1 3.7/17, ms1mx3.6/36, Error ellipse: s-maj=38.1km s-min=18.4km az=92.0*
*NEIC **03** 13:27:05.4±0.5, 54°10S×2°53W, h10km, mb4.2/2, Error ellipse: s-maj=22.7km s-min=10.3km az=97.0*

ISC 03 13:27:05.4±0.7**, 54°1S**±0°1×**2°2W**±0°2**, h10**km**, n37, σ1§60**/21**, mb4.2**/9**, MS3.8**/16**, 1D, Southern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**16.79**	**187**	P	**P**	**13 31 03.8**	**+1.4**
VNA2	**Neumayer--Watz**	**17.01**	**186**	P	**P**	**13 31 06.4**	**+1.6**
	baz=1.0,slow=14						
VNA3	**Neumayer Olymp**	**17.48**	**188**	P	**P**	**13 31 11.9**	**+1.8**
SNAA	**Sanae**	**17.60**	**181**	P	**P**	**13 31 13.5**	**+2.0**
SNAA	**Sanae**	**17.60**	**181**	P	**P**	**13 31 13.1**	**+1.6**
	0.5nm,0.3s,baz=344,slow=13,SNR=24						
SNAA				LR	LR	13 36 26.3	
	comp=Z,265nm,20.8s,baz=2.0,slow=32						
SNAA	**Sanae**	**17.60**	**181**	*e*P	**P**	**13 31 11.2**	**-0.3**
SYO	**Syowa Base**	**24.16**	**144**	⇓*e*X	**P**	**13 32 16.8**	**-4.5**
SUR	**Sutherland**	**27.22**	**46**	LR	LR	13 40 56.3	
	comp=Z,25nm,21.0s,baz=211,slow=30						
SUR	**Sutherland**	**27.22**	**46**	P	**P**	**13 32 51.1**	**+1.6**
	5.4nm,0.8s						
BOSA	**Boshof**	**32.39**	**49**	LR	LR	13 44 26.7	
	comp=Z,168nm,18.2s,baz=208,slow=32						
QSPA	**South Pole Qui**	**36.10**	**180**	P	**P**	**13 34 07.7**	**+0.5**
	3.1nm,0.9s,baz=210,slow=5.0,SNR=4.5						
QSPA				LR	LR	13 48 02.3	
	comp=Z,167nm,18.3s,baz=204,slow=35						
TSUM	**Tsumeb**	**38.03**	**31**	P	**P**	**13 34 24.6**	**+0.8**
	2.2nm,0.6s,baz=191,slow=9.6,SNR=4.9						
TSUM				LR	LR	13 47 16.4	
	comp=Z,153nm,18.7s,baz=150,slow=32						
PLCA	**Paso Flores**	**46.34**	**258**	LR	LR	13 52 35.8	
	comp=Z,91nm,21.9s,baz=206,slow=33						
VNDA	**Vanda**	**48.23**	**175**	P	**P**	**13 35 46.8**	**+1.2**
	1.8nm,0.9s,baz=207,slow=7.1,SNR=5.9						
CPUP	**Villa Florida**	**48.82**	**282**	LR	LR	13 55 07.8	
	comp=Z,40nm,18.9s,baz=172,slow=35						
OPO	**Ambohidratompo**	**51.73**	**66**	LR	LR	13 53 38.2	
	comp=Z,168nm,21.2s,baz=180,slow=31						
DBIC	**Dimbokro**	**60.62**	**357**	P	**P**	**13 37 15.5**	**-0.8**
	2.2nm,0.6s,baz=175,slow=7.2,SNR=3.8						
DBIC				LR	LR	13 57 26.1	
	comp=Z,35nm,20.1s,baz=144,slow=30						
KMBO	**Kilima Mbogo**	**61.95**	**46**	LR	LR	14 02 09.8	
	comp=Z,161nm,19.1s,baz=312,slow=34						
LPAZ	**La Paz**	**62.90**	**280**	P	**P**	**13 37 31.3**	**-1.1**
	2.3nm,0.8s,baz=98,slow=8.7,SNR=5.9						
LPAZ				LR	LR	14 04 48.0	
	comp=Z,46nm,18.9s,baz=133,slow=36						
TORD	**Torodi Ar. Bea**	**67.10**	**4**	P	**P**	**13 37 58.6**	**-0.3**
	0.8nm,0.8s,baz=195,slow=6.1,SNR=4.0						
TORD				LR	LR	14 01 10.0	
	comp=Z,60nm,21.8s,baz=200,slow=30						
KOWA	**Kowa**	**68.38**	**358**	P	**P**	**13 38 07.5**	**+0.5**
	1.3nm,0.5s,baz=163,slow=8.7,SNR=5.1						
KOWA				LR	LR	14 02 09.0	
	comp=Z,59nm,18.8s,baz=212,slow=31						
H08N3	**Diego Garcia H**	**75.04**	**80**	T	T	15 01 13.9	
	baz=217,slow=76,SNR=119						
H08N1	**Diego Carcia H**	**75.06**	**80**	T	T	15 01 15.0	
	baz=217,slow=76,SNR=110						
H08N2	**Diego Garcia H**	**75.06**	**80**	T	T	15 01 15.6	
	baz=217,slow=76,SNR=128						
ATD	**Arta Tunnel**	**75.70**	**46**	LR	LR	14 12 21.7	
	comp=Z,86nm,18.1s,baz=78,slow=36						
H01W2	**Cape Leeuwin H**	**75.75**	**131**	T	T	15 03 01.8	
	baz=212,slow=75,SNR=18						
H01W1	**Cape Leeuwin H**	**75.76**	**131**	T	T	15 03 03.0	
	baz=212,slow=75,SNR=16						
H01W3	**Cape Leeuwin H**	**75.76**	**131**	T	T	15 03 05.4	
	baz=212,slow=75,SNR=16						
SDV	**Santo Domingo**	**84.87**	**293**	LR	LR	14 15 37.5	
	comp=Z,47nm,18.0s,baz=66,slow=34						
MMAI	**Mount Meron Ar**	**92.68**	**31**	LR	LR	14 21 09.1	
	comp=Z,53nm,18.9s,baz=135,slow=35						
ASAR	**Alice Springs**	**93.78**	**140**	P	**P**	**13 40 21.6**	**-1.0**
	0.3nm,0.9s,baz=200,slow=7.9,SNR=4.2						
BRTR	**Keskin Array B**	**98.44**	**27**	LR	LR	14 25 06.9	
	comp=Z,27nm,21.4s,baz=156,slow=35						
BVAR	**Borovoye Array**	**122.54**	**43**	PKP	**PKPdf**	**13 46 00.4**	**+0.6**
	0.4nm,0.5s,baz=267,slow=2.9,SNR=3.3						
MKAR	**Makanchi Array**	**123.27**	**55**	PKP	**PKPdf**	**13 46 02.7**	**+1.2**
	0.5nm,0.9s,baz=207,slow=1.3,SNR=4.1						
KURBB	**Kurchatov Arra**	**124.25**	**50**	PKP	**PKPdf**	**13 46 03.0**	**-0.2**
	0.1nm,0.3s,baz=231,slow=2.4,SNR=2.8						
KURK	**Kurchatov**	**124.36**	**49**	PKP	**PKPdf**	**13 46 03.0**	**-0.4**
YKA	**Yellowknife Ar**	**145.12**	**311**	PKP	**PKPbc**	**13 46 39.8**	**-1.3**
	3.7nm,0.9s,baz=107,slow=3.7,SNR=28						

*IDC **03** 13:33:57.6±0.8, 50°01N×158°10E, h0km, mb3.6/7, mb1 3.9/9, mb1mx3.6/71, mbtmp3.6/9, ML3.1/2, Error ellipse: s-maj=33.4km s-min=16.7km az=129.0*
*MOS **03** 13:34:03.9±0.7, 50°27N×157°69E, h66km, mb3.9/4, Error ellipse: s-maj=20.3km s-min=5.4km az=82.4*
*KRSC **03** 13:34:04.9±2.2, 50°48N×157°62E, h80km±27km, ML4.2*
*ISCJB **03** 13:34:05.5±1.0, 50°42N±0°08×157°5E±0°1, h78km±11km, mb3.4/7, Error ellipse: s-maj=18.5km s-min=6.0km az=44.5*

ISC 03 13:34:04.6±1.6**, 50°28N**±0°10×**157°71E**±0°07**, h53**km±17km**, n52, σ1§37**/68**, mb3.6**/7**, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.09**	**292**	*i* P	**Pn**	**13 34 23.9**	**+0.3**
SKR				*i* S	**Sn**	**13 34 36.4**	**-1.2**
SKR	**Severo-Kuril's**	**1.09**	**292**	PN	**Pn**	**13 34 23.9**	**+0.3**
SKR				S	**Sn**	**13 34 36.4**	**-1.2**
PAU	**Pauzhetka**	**1.31**	**335**	*i* P	**Pn**	**13 34 27.2**	**+0.6**
PAU				*e*S	**Sn**	**13 34 42.1**	**-0.9**
PAU	**Pauzhetka**	**1.31**	**335**	PN	**Pn**	**13 34 27.2**	**+0.6**
PAU				S	**Sn**	**13 34 42.1**	**-0.9**
KDTR	**Khodutka, Kamc**	**1.55**	**8**	*i* P	**Pn**	**13 34 30.7**	**+1.0**
KDTR				*e*S	**Sn**	**13 34 48.1**	**-0.5**
MIPR	**Malaya Ipel'ka**	**2.08**	**344**	*e*P	**Pn**	**13 34 37.4**	**+0.4**
MIPR				*e*S	**Sn**	**13 34 59.9**	**-1.9**
MIPR	**Malaya Ipel'ka**	**2.08**	**344**	PN	**Pn**	**13 34 37.4**	**+0.4**
MIPR				S	**Sn**	**13 34 59.9**	**-1.9**
RUS	**Russkaya**	**2.21**	**13**	*e*P	**Pn**	**13 34 39.4**	**+0.7**
RUS				*e*S	**Sn**	**13 35 03.4**	**-1.5**
RUS	**Russkaya**	**2.21**	**13**	PN	**Pn**	**13 34 39.4**	**+0.7**
RUS				S	**Sn**	**13 35 03.4**	**-1.5**
MTVR	**Mutnovka**	**2.22**	**7**	*e*P	**Pn**	**13 34 40.4**	**+1.3**
MTVR				*e*S	**Sn**	**13 35 04.9**	**-0.5**
MTVR	**Mutnovka**	**2.22**	**7**	PN	**Pn**	**13 34 40.4**	**+1.3**
MTVR				S	**Sn**	**13 35 04.9**	**-0.5**
KRMR	**Karymshinskiy**	**2.56**	**6**	*e*P	**Pn**	**13 34 45.2**	**+1.6**
KRMR				*e*S	**Sn**	**13 35 13.3**	**-0.2**
KRMR	**Karymshinskiy**	**2.56**	**6**	PN	**Pn**	**13 34 45.2**	**+1.6**
KRMR				S	**Sn**	**13 35 13.3**	**-0.2**
PET	**Petropavlovsk**	**2.81**	**12**	PN	**Pn**	**13 34 47.9**	**+1.0**
PET				S	**Sn**	**13 35 19.0**	**-0.5**
DALK	**Dalny**	**2.83**	**13**	*e*P	**Pn**	**13 34 48.2**	**+1.0**
DALK				*e*S	**Sn**	**13 35 19.0**	**-1.0**
DALK	**Dalny**	**2.83**	**13**	PN	**Pn**	**13 34 48.2**	**+1.0**
DALK				S	**Sn**	**13 35 19.0**	**-1.0**
PETK	**Petropavlovsk-**	**2.83**	**360**	Pn	**Pn**	**13 34 48.0**	**+0.7**
	3.9nm,0.3s,baz=178,slow=15,SNR=33						
PETK				Sn	Sn	13 35 28.6	+8.5
	3.0nm,0.3s,baz=154,slow=20,SNR=3.9						
PETK	**Petropavlovsk-**	**2.83**	**360**	PN	**Pn**	**13 34 48.0**	**+0.7**
PETK				pmax	pmax		
	comp=Z,4.0nm,0.3s						
UGLR	**Uglovaya**	**3.01**	**13**	*e*P	**Pn**	**13 34 51.3**	**+1.5**
UGLR	**Uglovaya**	**3.01**	**13**	PN	**Pn**	**13 34 51.3**	**+1.5**
AVH	**Avacha**	**3.05**	**12**	*e*P	**Pn**	**13 34 52.4**	**+2.0**
AVH				*e*S	**Sn**	**13 35 26.0**	**+0.3**
AVH	**Avacha**	**3.05**	**12**	PN	**Pn**	**13 34 52.4**	**+2.0**
AVH				S	**Sn**	**13 35 26.0**	**+0.3**
SMAR	**Somma**	**3.06**	**12**	*e*P	**Pn**	**13 34 52.0**	**+1.4**
SMAR	**Somma**	**3.06**	**12**	PN	**Pn**	**13 34 52.0**	**+1.4**
NLC	**Nalytchevo**	**3.07**	**19**	*e*P	**Pn**	**13 34 50.8**	**+0.4**
NLC				*e*S	**Sn**	**13 35 23.1**	**-2.7**
NLC	**Nalytchevo**	**3.07**	**19**	PN	**Pn**	**13 34 50.8**	**+0.4**
NLC				S	**Sn**	**13 35 23.1**	**-2.7**
SPN	**Mys Shipunski**	**3.17**	**26**	*e*P	**Pn**	**13 34 53.6**	**+1.8**
SPN				*e*S	**Sn**	**13 35 27.9**	**-0.4**
SPN	**Mys Shipunski**	**3.17**	**26**	PN	**Pn**	**13 34 53.6**	**+1.8**
SPN				S	**Sn**	**13 35 27.9**	**-0.4**
GNL	**Ganaly**	**3.42**	**2**	*e*P	**Pn**	**13 34 56.8**	**+1.4**
GNL	**Ganaly**	**3.42**	**2**	PN	**Pn**	**13 34 56.8**	**+1.4**
KZV	**Kizimen**	**5.09**	**17**	*e*P	**Pn**	**13 35 19.8**	**+1.5**
KZV	**Kizimen**	**5.09**	**17**	PN	**Pn**	**13 35 19.8**	**+1.5**
TUMR	**Tumrok**	**5.22**	**15**	*e*P	**Pn**	**13 35 21.9**	**+1.8**
TUMR	**Tumrok**	**5.22**	**15**	PN	**Pn**	**13 35 21.9**	**+1.8**
KBTR	**Krutoberegovo**	**6.68**	**25**	*e*P	**Pn**	**13 35 40.5**	**+0.6**
KBTR	**Krutoberegovo**	**6.68**	**25**	PN	**Pn**	**13 35 40.5**	**+0.6**
BKI	**Bering**	**7.03**	**42**	*e*S	**Sn**	**13 36 57.9**	**-5.2**
ASAJ	**Asahikawa**	**11.98**	**245**	Pn	**Pn**	**13 36 53.0**	**+0.5**
	comp=Z,0.3nm,0.3s,baz=64,slow=17,SNR=2.4						
ASAJ	**Asahikawa**	**11.98**	**245**	PN	**Pn**	**13 36 53.0**	**+0.5**
KSRS	**Korea Array**	**24.82**	**250**	P	**P**	**13 39 22.2**	**+0.6**
	comp=Z,1.1nm,0.6s,baz=49,slow=9.7,SNR=4.4						
H11N2	**WAKE ISLAND Hy**	**31.35**	**163**	T	T	14 14 20.3	
	baz=348,slow=76,SNR=29						
H11N3	**WAKE ISLAND Hy**	**31.36**	**163**	T	T	14 14 11.4	
	baz=348,slow=76,SNR=38						
H11N1	**WAKE ISLAND Hy**	**31.36**	**163**	T	T	14 14 15.8	
	baz=348,slow=76,SNR=20						
ILAR	**Eielson Array**	**31.88**	**42**	P	**P**	**13 40 23.5**	**-0.8**
	comp=Z,0.2nm,0.7s,baz=254,slow=7.0,SNR=4.9						
H11S1	**WAKE ISLAND Hy**	**32.51**	**164**	T	T	14 15 36.1	
	baz=350,slow=76						
H11S3	**WAKE ISLAND Hy**	**32.52**	**164**	T	T	14 15 38.5	
	baz=350						
H11S2	**WAKE ISLAND Hy**	**32.52**	**164**	T	T	14 15 38.2	
	baz=350,slow=76						
YKA	**Yellowknife Ar**	**46.26**	**40**	P	**P**	**13 42 23.7**	**-0.4**
	comp=Z,0.7nm,0.7s,baz=298,slow=7.6,SNR=12						
PDAR	**Pinedale Array**	**60.23**	**58**	P	**P**	**13 44 08.2**	**+0.9**
	comp=Z,0.4nm,0.6s,baz=300,slow=2.9,SNR=4.2						
WRA	**Warramunga Arr**	**72.91**	**203**	P	**P**	**13 45 27.2**	**-0.7**
	comp=Z,0.9nm,1.2s,baz=15,slow=5.9,SNR=3.2						
TXAR	**Lajitas Array**	**73.15**	**64**	P	**P**	**13 45 29.8**	**+0.2**
	comp=Z,0.7nm,0.6s,baz=298,slow=4.2,SNR=10.0						
ASAR	**Alice Springs**	**76.59**	**202**	P	**P**	**13 45 49.1**	**0.0**
	comp=Z,0.3nm,0.6s,baz=14,slow=5.9,SNR=6.7						

*ISN **03** 13:39:34.5±0.6, 39°09N×43°52E, h11km±95km, ML3.2*
*DDA **03** 13:39:37.6, 38°97N×43°67E, h5km, Ml3.0*
*ATA **03** 13:39:37.5±1.2, 38°90N×43°68E, h7km±25km, ML3.3, MW3.8*
*ISK **03** 13:39:37.9, 38°96N×43°71E, h9km, ML3.3/11*
*CSEM **03** 13:39:39.1±0.2, 38°98N×43°60E, h2km, ML3.0, Error ellipse: s-maj=6.3km s-min=4.8km az=147.0*

ISC 03 13:39:38.7±0.9**, 38°97N**±0°02×**43°64E**±0°02**, h7**km±7km**, n70, σ1§40**/83**, 5C-4D, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VMUR	**Van-Muradiye**	**0.06**	**290**	*i* P	**Pg**	**13 39 40.0**	**-0.5**
VMUR	**Van-Muradiye**	**0.06**	**290**	P	**Pg**	**13 39 40.0**	**-0.5**
CLDR	**Caldiran**	**0.28**	**51**	PG	**Pg**	**13 39 42.9**	**-1.3**
CLDR	**Caldiran**	**0.28**	**51**	*i* P	**Pg**	**13 39 43.1**	**-1.1**
CLDR	**Caldiran**	**0.28**	**51**	P	**Pg**	**13 39 43.1**	**-1.1**
VANB	**Van**	**0.42**	**208**	PG	**Pb**	**13 39 48.3**	**-0.3**
VANB	**Van**	**0.42**	**208**	*e*Pg	**Pb**	**13 39 48.3**	**-0.3**
TVAN	**Van**	**0.48**	**203**	*i* P	**Pb**	**13 39 48.3**	**-1.2**
TVAN	**Van**	**0.48**	**203**	P	**Pb**	**13 39 48.3**	**-1.2**
DYDN	**Diyadin**	**0.57**	**4**	*e*P	**Pb**	**13 39 49.9**	**-1.3**
DYDN	**Diyadin**	**0.57**	**4**	*i* P	**Pg**	**13 39 49.2**	**-0.6**
DYDN	**Diyadin**	**0.57**	**4**	P	**Pg**	**13 39 49.2**	**-0.6**
ADCV	**BITLIS_Adilcev**	**0.73**	**258**	*i* P	**Pg**	**13 39 52.7**	**-0.1**
ADCV	**BITLIS_Adilcev**	**0.73**	**258**	P	**Pg**	**13 39 52.7**	**-0.1**
TUTA	**Tutak**	**0.78**	**304**	*e*P	**Pb**	**13 39 53.6**	**-1.0**
TUTA	**Tutak**	**0.78**	**304**	*i* P	**Pb**	**13 39 53.7**	**-1.0**
TUTA	**Tutak**	**0.78**	**304**	P	**Pb**	**13 39 53.7**	**-1.0**
AGRB	**Hanur-Agry**	**0.79**	**320**	PG	**Pb**	**13 39 54.2**	**-0.7**
AGRB				SG	**Sb**	**13 40 06.4**	**+0.6**
AGRB	**Hanur-Agry**	**0.79**	**320**	*e*Pg	**Pb**	**13 39 54.2**	**-0.7**
AGRB				*e*Sg	**Sb**	**13 40 06.4**	**+0.6**

GEVA	Gevas	0.80	215	iP	Pg	13 39 53.2	-0.9
GEVA				eS	Sg	13 40 03.9	-0.5
GEVA				IAML		13 40 19.5	
	comp=Z,102nm,0.6s						
GEVA	Gevas	0.80	215	iP	Pg	13 39 51.3	-2.7
IGDI	IGDIR	0.96	20	iP	Pn	13 39 57.0	-1.6
IGDI				eS	Sn	13 40 12.7	+0.1
IGDI				IAML		13 40 16.6	
	comp=Z,28nm,0.4s						
IGDI	IGDIR	0.96	20	iP	Pn	13 39 57.1	-1.6
TASB	TASBURUN-IGDIR	1.11	24	PN	Pn	13 39 59.7	-1.1
TASB	TASBURUN-IGDIR	1.11	24	ePn	Pn	13 39 59.7	-1.1
HYR	Heyderabad	1.20	51	P	Pn	13 40 04.1	+2.1
	SNR=5.2						
EATA	Eleskirt	1.26	315	iP	Pn	13 40 02.7	-0.3
EATA	Eleskirt	1.26	315	iP	Pg	13 40 02.1	-0.8
EATA	Eleskirt	1.26	315	P	Pg	13 40 02.1	-0.8
EKAR	Karacoban	1.26	284	iP	Pb	13 40 03.9	+1.0
EKAR				eS	Sn	13 40 22.4	+2.1
EKAR				IAML		13 40 36.6	
	comp=Z,55nm,0.6s						
EKAR	Karacoban	1.26	284	iP	Pb	13 40 03.7	+0.7
EKAR	Karacoban	1.26	284	P	Pb	13 40 03.7	+0.7
GURO	Guroymak-BITLI	1.33	252	PN	Pb	13 40 03.4	-0.6
GURO				SN	Sn	13 40 22.3	+0.5
GURO	Guroymak-BITLI	1.33	252	ePn	Pb	13 40 03.4	-0.6
GURO				eSn	Sn	13 40 22.3	+0.5
HAKT	HAKKARI	1.41	178	iP	Pg	13 40 05.0	-0.7
HAKT	HAKKARI	1.41	178	P	Pg	13 40 05.0	-0.7
NAX	Nakhchivan	1.46	81	⇑P	Pg	13 40 07.9	+1.3
NAX				⇑S	Sg	13 40 28.6	+3.1
DIGO	Kars	1.46	352	iP	Pg	13 40 06.9	+0.3
DIGO				eS	Sg	13 40 29.6	+4.0
DIGO				IAML		13 40 44.5	
	comp=Z,14nm,0.7s						
SBZ	Shahbuz	1.54	73	P	Pg	13 40 08.4	+0.1
	SNR=16						
SBZ				⇑S	Sg	13 40 32.7	+4.4
SRTM	Siirt_Merkez	1.67	235	iP	Pg	13 40 09.7	-0.9
SRTM	Siirt_Merkez	1.67	235	P	Pg	13 40 09.7	-0.9
VRTB	Varto-Mus	1.71	277	PN	Pb	13 40 09.8	-0.8
VRTB	Varto-Mus	1.71	277	ePn	Pb	13 40 09.8	-0.8
EAK	Akyaka	1.71	359	iP	Pg	13 40 12.2	+0.6
HOMI	Horasan	1.72	309	iP	Pg	13 40 11.1	-0.6
HOMI	Horasan	1.72	309	iP	Pg	13 40 11.2	-0.4
SIRT	Sirnak	1.75	213	PN	Pb	13 40 09.9	-1.2
SIRT	Sirnak	1.75	213	ePn	Pb	13 40 09.9	-1.2
ORD	Ordubad	1.83	91	⇑P	Pg	13 40 12.3	-1.5
	SNR=16						
ORD				⇓S	Sg	13 40 40.3	+2.7
SENK	Senkaya-Erzuru	1.88	328	PN	Pb	13 40 11.8	-1.6
SENK	Senkaya-Erzuru	1.88	328	ePn	Pb	13 40 11.8	-1.6
ERZM	Erzurum	2.00	299	iP	Pb	13 40 15.4	0.0
ERZM	Erzurum	2.00	299	iP	Pg	13 40 15.9	-1.0
ERZM	Erzurum	2.00	299	P	Pg	13 40 15.9	-1.0
SVAN	Silvan-Diyarba	2.08	248	PN	Pb	13 40 14.8	-2.0
SVAN	Silvan-Diyarba	2.08	248	ePn	Pb	13 40 14.8	-2.0
BTMN	Batman	2.15	241	iP	Pb	13 40 17.8	-0.2
BTMN	Batman	2.15	241	P	Pb	13 40 17.8	-0.2
ECAT	Cat-ERZURUM	2.17	288	iP	Pb	13 40 18.4	+0.1
BNGB	Bingˆ¶l	2.31	271	PN	Pn	13 40 17.8	+0.5
BGOL	Bingol	2.32	271	iP	Pg	13 40 21.9	-1.2
GDB	GEDABAY	2.39	42	⇓P	Pb	13 40 20.4	-1.7
	SNR=12						
GDB				⇓S	Sg	13 40 54.2	-1.2
BINT	Bingol	2.46	269	ePn	Pn	13 40 17.8	-1.6
QZX	Qazax, Azerbai	2.47	32	⇑P	Pb	13 40 21.1	-2.4
	SNR=9.3						
QZX				⇓S	Sg	13 40 56.2	-1.9
ARTV	Artvin	2.57	330	iP	Pg	13 40 28.3	+0.3
EPOS	Posof	2.63	345	eP	Pg	13 40 27.3	-1.7
BAYB	BAYBURT	2.91	297	iP	Pg	13 40 34.3	-0.2
MAZI	Mazidag	2.93	240	PN	Pn	13 40 27.1	+1.2
MAZI	Mazidag	2.93	240	ePn	Pn	13 40 27.1	+1.2
KELT	Kelkit	3.59	291	iP	Pg	13 40 44.9	-2.5

IDC 03 13:58:43.3±327.0, 47°.90N×49°.27E, h0km, Error ellipse: s-maj=140.0km s-min=107.7km az=19.0, Western Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
I31KZ	AKTYUBINSK INF	6.27	63	i		14 35 40.0	
	baz=249,slow=325,SNR=11						
I43RU	DUBNA INFRASON	11.49	325	i		15 04 10.0	
	baz=137,slow=325,SNR=1.4						
I46RU	ZALESOVO INFRA	23.03	61	i		16 20 40.0	
	baz=274,slow=329,SNR=1.7						
I26DE	FREYUNG INFRAS	23.51	286	i		16 25 07.2	
	baz=83,slow=330,SNR=0.5						

IDC 03 14:00:15.6±1.2, 8°.41S×157°.18E, h0km, mb3.8/5, mb1 3.8/6, mb1mx3.6/46, mbtmp3.8/6, ML4.0/1, MS3.1/1, Ms1 3.1/1, ms1mx2.5/48, Error ellipse: s-maj=33.4km s-min=28.8km az=143.0

ISC 03 14:00:18.5±1.1, 8°.5S±0°.2×157°.24E±0°.08, h19km, n8, σ1s.25/11, mb3.8/5, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HNR	Honiara	2.84	110	eP	Pb	14 01 08.0	-0.6
HNR				eS	Sg	14 01 48.0	-1.9
HNR	Honiara	2.84	110	Pn	Pn	14 01 03.5	+0.6
	24nm,0.3s,baz=18,slow=20,SNR=6.6						
HNR				Sn	Sb	14 01 45.2	+2.2
	36nm,0.3s,baz=253,slow=19,SNR=4.4						
PMG	Port Moresby	10.01	264	LR	LR	14 06 34.5	
	comp=Z,110nm,19.3s,baz=162,slow=38						
WRA	Warramunga Arr	24.93	240	P	P	14 05 40.8	0.0
	1.3nm,0.6s,baz=68,slow=10,SNR=16						
WRA				PcP	PcP	14 09 15.8	-0.5
	0.3nm,0.8s,baz=69,slow=2.4,SNR=3.0						
ASAR	Alice Springs	26.98	233	P	P	14 05 58.7	-0.7
	0.6nm,0.9s,baz=61,slow=9.4,SNR=7.2						
ASAR				PcP	PcP	14 09 20.5	-0.5
	0.3nm,0.9s,baz=48,slow=1.4,SNR=3.0						
STKA	Stephens Creek	27.47	210	P	P	14 06 04.4	+0.8
	1.6nm,0.9s,baz=21,slow=8.6,SNR=3.8						
MKAR	Makanchi Array	85.97	318	P	P	14 12 56.8	-0.8
	0.5nm,0.7s,baz=108,slow=4.4,SNR=6.6						
ZALV	Zalesovo Beam	86.63	326	P	P	14 13 01.7	+1.1
	0.3nm,0.3s,baz=91,slow=6.5,SNR=2.3						

IDC 03 14:03:28.0±62.0, 16°.04S×173°.90W, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.6/46, mbtmp4.0/3, Error ellipse: s-maj=1181.0km s-min=188.4km az=79.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	Stephens Creek	43.31	240	P	P	14 11 31.9	0.0
	0.6nm,0.3s,baz=87,slow=10,SNR=4.3						
WRA	Warramunga Arr	49.24	257	P	P	14 12 18.5	-0.3
	0.5nm,0.6s,baz=93,slow=7.2,SNR=24						
ASAR	Alice Springs	49.46	252	P	P	14 12 20.4	-0.1
	5.1nm,0.6s,baz=90,slow=7.8,SNR=132						

IGQ 03 14:19:17.1±0.9, 3°S±11°×8°0W±°, h12km, MLv4.0/7, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RIOE1	Riobamba	1.47	42	S	Sn	14 20 01.9	-1.2
IGUA	Igualata	1.66	36	P	Pn	14 19 45.8	-0.8
BMAS	Trigal station	1.75	40	P	Pn	14 19 47.0	-0.7
BMAS				S	Sn	14 20 10.4	+0.3
ARRY	Arrayan	1.76	41	P	Pn	14 19 47.1	-0.8
BIL2	Estacion Bilba	1.77	39	P	Pn	14 19 48.2	+0.3
BPAT	Tungurahua Vol	1.78	41	P	Pn	14 19 47.6	-0.6
BPAT				S	Sn	14 20 10.6	-0.4
BBIL	Ulba Tungurahu	1.79	39	P	Pn	14 19 48.7	+0.5
BBIL				S	Sn	14 20 11.7	+0.8
POND	Pondoa	1.83	39	P	Pn	14 19 47.9	-0.9
BULB	Ulba Tungurahu	1.84	41	P	Pn	14 19 48.6	-0.4
BULB				S	Sn	14 20 12.6	+0.2
BRUN	Tungurahua Vol	1.85	40	P	Pn	14 19 48.6	-0.5
BRUN				S	Sn	14 20 12.8	+0.1
ILLI	Illinizas Sur	2.30	23	P	Pn	14 19 54.1	-1.2
CAMI	Rancho Maria	2.42	27	P	Pn	14 19 56.7	-0.4
BNAS	Cotopaxi Volca	2.44	28	P	Pn	14 19 57.4	+0.1
BREF	Cotopaxi Volca	2.46	28	P	Pn	14 19 57.6	0.0
NAS2	Nasa	2.47	28	P	Pn	14 19 58.3	+0.6
BTAM	Cotopaxi Volca	2.48	29	P	Pn	14 19 57.2	-0.6
BVC2	Cotopaxi Volca	2.48	29	P	Pn	14 19 57.0	-1.0
VC1	Cotopaxi 1	2.50	29	P	Pn	14 19 58.3	+0.1
COV1	Cotopaxi Volc	2.51	30	P	Pn	14 19 58.0	-0.4
ANTS	Antisana-Sarah	2.74	32	P	Pn	14 20 00.2	-1.3
MAG1	Magdalena	2.76	357	P	Pn	14 19 57.0	-4.3
TERV	Terraza Guagua	2.84	21	P	Pn	14 20 02.4	-0.5
PINO	Pino	2.85	21	P	Pn	14 20 02.2	-0.9
YANA	Yana	2.90	21	P	Pn	14 20 02.2	-1.5
CUIC	Cuicocha-Domo	3.37	22	P	Pn	14 20 09.1	-1.0
COTA	Cotacachi	3.41	22	P	Pn	14 20 10.9	+0.3
URCU	Urcuqui	3.54	23	P	Pn	14 20 13.0	+0.7
LITE1	Lita	3.83	19	P	Pn	14 20 13.9	-2.2

IDC 03 14:20:33.1±2.0, 0°.00N×125°.72E, h0km, mb3.1/3, mb1 3.4/3, mb1mx3.2/61, mbtmp3.2/3, Error ellipse: s-maj=180.7km s-min=27.2km az=64.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	21.55	157	P	P	14 25 23.6	-0.6
	0.4nm,0.4s,baz=335,slow=10,SNR=8.6						
ASAR	Alice Springs	24.83	162	P	P	14 25 57.9	+0.4
	0.2nm,0.5s,baz=344,slow=7.2,SNR=8.4						
MKAR	Makanchi Array	60.06	327	P	P	14 30 42.0	-0.1
	0.1nm,0.4s,baz=132,slow=7.5,SNR=4.1						

IDC 03 14:22:58.1±2.4, 39°.47N×51°.55E, h0km, mb3.4/4, mb1 3.6/7, mb1mx3.3/62, mbtmp3.6/7, ML3.7/3, Error ellipse: s-maj=37.9km s-min=24.9km az=15.0

ISCJB 03 14:23:03.8±2.0, 39°.9N±0°.2×52°.0E±0°.2, h33km, mb3.2/4, Error ellipse: s-maj=31.7km s-min=10.7km az=40.4

ISC 03 14:23:04.4±2.2, 39°.8N±0°.2×51°.8E±0°.2, h35km, n7, σ1s.32/8, mb3.2/4, Caspian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GEYT	Alibeck	5.25	108	Pn	Pn	14 24 21.3	+0.8
	2.7nm,0.3s,baz=288,slow=15,SNR=23						
GEYT				Sn	Sn	14 25 18.5	-1.3
	baz=276,slow=14,SNR=2.2						
AKTO	Aktyubinsk	11.53	20	Pn	Pn	14 25 46.1	-0.2
	0.4nm,0.3s,baz=202,slow=10,SNR=4.2						
AKTO				Sn	Sn	14 27 42.7	-11
	0.3nm,0.3s,baz=242,slow=17,SNR=3.4						
BVAR	Borovoye Array	18.36	38	Pn	P	14 27 15.3	-0.5
	0.2nm,0.3s,baz=230,slow=11,SNR=8.8						
KURBB	Kurchatov Arra	21.61	51	P	P	14 27 52.6	+1.4
	0.3nm,0.7s,baz=250,slow=10.0,SNR=3.8						
MKAR	Makanchi Array	23.17	62	P	P	14 28 07.9	+0.2
	0.2nm,0.5s,baz=250,slow=9.6,SNR=3.6						
FINES	FINESS Array B	26.82	332	P	P	14 28 42.7	+1.6
	0.7nm,0.4s,baz=133,slow=11,SNR=3.9						
HFS	Hagfors	31.23	323	P	P	14 29 19.0	-1.1
	0.8nm,0.6s,baz=139,slow=13,SNR=3.2						

JMA 03 14:23:35.0±0.1, 23°.13N×121°.58E, h3km±2km

ISCJB 03 14:23:37.2±0.4, 23°.14N±0°.02×121°.48E±0°.02, h20km±4km, Error ellipse: s-maj=4.0km s-min=2.9km az=20.5

TAP 03 14:23:38.1, 23°.19N×121°.36E, h18km, ML2.9, C

ISC 03 14:23:37.2±1.0, 23°.15N±0°.02×121°.47E±0°.03, h19km±2km, n51, σ0s.84/88, 2C-4D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CHKT	Chengkung	0.11	241	⇑P	Pg	14 23 42.1	+1.0
	baz=161						
CHKT				S	Sg	14 23 45.0	+1.2
	baz=161						
FULB	Fuli	0.17	286	⇑P	Pg	14 23 41.8	0.0
	baz=275						
FULB				eS	Sg	14 23 45.2	+0.2
	baz=275						
TWF1	Yuli	0.25	322	P	Pb	14 23 43.1	+0.1
	baz=337						
TWF1				eS	Sb	14 23 47.0	+0.1
	baz=337						
YULB	Yu-li	0.28	327	P	Pb	14 23 43.6	-0.2
	baz=335						
YULB				S	Sb	14 23 47.6	-0.4
	baz=335						
HGSD	Ruisui	0.34	353	P	Pb	14 23 45.8	+1.0
	baz=20						
HGSD				eS	Sn	14 23 52.8	-0.8
	baz=20						
EHY	Hungye	0.38	339	⇓P	Pg	14 23 45.1	0.0
	baz=340						
EHY				eS	Sg	14 23 50.2	-0.4
	baz=340						
ELDTW	Lidau	0.41	275	⇓iP	Pg	14 23 45.0	-0.9
	baz=269						
ELDTW				eS	Sg	14 23 49.6	-2.2
	baz=269						
TWH	Lutao	0.44	179	eP	Pn	14 23 48.3	-0.3
	baz=159						
TWGBT	Beinan	0.49	227	P	Pg	14 23 47.0	-0.1
	baz=226						
TWGBT				eS	Sg	14 23 53.4	-0.4
	baz=226						
TWG	Pinlang	0.49	228	P	Pg	14 23 47.1	-0.1
	baz=226						
TWG				S	Sg	14 23 53.9	0.0
	baz=226						
EGFH	Guangfu	0.52	356	eP	Pb	14 23 47.8	+0.1
	baz=351						
YUS	Yu-Shan	0.58	306	P	Pb	14 23 48.1	-0.8
	baz=301						
YUS				S	Sb	14 23 55.0	-1.9
	baz=301						
STYT	Tauyuan	0.65	271	⇓iP	Pb	14 23 49.3	-0.7
	baz=265						
STYT				eS	Sb	14 23 56.9	-1.8
	baz=265						
ESL	Shilin	0.66	357	eP	Pb	14 23 50.4	+0.4
	baz=6.0						
ALS	Alishan	0.70	301	⇓P	Pb	14 23 50.5	-0.5
	baz=301						
ALS				S	Sb	14 23 59.0	-1.4
	baz=301						
ECL	Taimali	0.73	221	eP	Pb	14 23 50.4	-0.8
	baz=212						
ECL				eS	Sb	14 23 59.3	-1.5
	baz=212						
ENLB	Shoufeng	0.76	9	eS	Sn	14 24 04.1	+0.3
	baz=2.0						
SLGT	Liugui	0.77	258	eP	Pb	14 23 51.8	-0.2
	baz=257						
SLGT				eS	Sb	14 24 01.1	-1.0
	baz=257						
TPUB	Ta-pu	0.78	281	P	Pb	14 23 51.9	-0.4
	baz=285						
TPUB				S	Sb	14 24 02.2	-0.3
	baz=285						
SSLB	Suanglung	0.79	323	P	Pb	14 23 51.6	-0.7
	baz=336						
SSLB				eS	Sb	14 24 01.1	-1.6
	baz=336						
WTP	Ta-pu	0.79	277	eP	Pb	14 23 52.3	-0.1
	baz=273						
WTP				eS	Sb	14 24 02.6	-0.2
	baz=273						
SGST	Jiashian	0.82	265	eP	Pb	14 23 52.6	-0.2
	baz=258						
SGST				eS	Sb	14 24 02.4	-1.1
	baz=258						
CHN4	Tsaushan	0.83	284	eP	Pb	14 23 52.9	-0.1
	baz=282						
CHN4				eS	Sb	14 24 03.7	-0.1
	baz=282						
OWD	Renai	0.84	342	eP	Pb	14 23 52.5	-0.9
	baz=347						
OWD				eS	Sb	14 24 03.2	-1.1
	baz=347						
CHN5	Tsauling	0.85	302	eP	Pb	14 23 53.4	0.0
	baz=302						
CHN5				eS	Sb	14 24 05.0	+0.5
	baz=302						
CHN1	Nanshi	0.86	272	eP	Pb	14 23 53.8	+0.2
	baz=268						
CHN1				eS	Sb	14 24 03.9	-0.9
	baz=268						
SSD	Sandimen	0.87	242	eP	Pb	14 23 52.9	-0.8
	baz=232						
SSD				eS	Sb	14 24 05.3	+0.4
	baz=232						
SMLT	Sun Moon Lake	0.89	325	eP	Pb	14 23 53.9	-0.3
	baz=334						
SMLT				eS	Sb	14 24 04.5	-1.3
	baz=334						
TWK	Hsinying	0.91	277	eP	Pb	14 23 54.3	-0.1
	baz=274						
TWK				eS	Sb	14 24 06.2	+0.1
	baz=274						
MASBT	Mashibuluo	0.94	235	eP	Pb	14 23 54.1	-0.8
	baz=224						
CHGB	Renai	0.94	344	eP	Pb	14 23 54.6	-0.5
	baz=346						
WJS	Zhushan	0.95	315	eP	Pn	14 23 55.7	+0.1
	baz=316						
WJS				eS	Sg	14 24 08.7	+0.3
	baz=316						
EAST	Anshuo	0.95	217	eP	Pb	14 23 54.3	-0.9
	baz=214						
WGK	Gukeng	0.99	303	eP	Pb	14 23 55.8	+0.1
	baz=303						
WGK				eS	Sg	14 24 09.7	+0.2
	baz=303						
WDLH	Douliu	1.01	302	P	Pn	14 23 56.8	+0.4
	baz=302						
WDLH				eS	Sg	14 24 10.7	+0.6
	baz=302						
WHF	Hehuan Shan	1.01	349	eP	Pb	14 23 55.7	-0.6
	baz=4.0						
DPDB	Guoxing	1.01	331	eP	Pb	14 23 55.9	-0.2
	baz=339						
TWM1	Shoushan	1.02	251	eP	Pg	14 23 58.4	+1.4
	baz=249						
CHN3	Shinhua	1.02	266	eS	Sg	14 24 12.6	+2.2
	baz=271						
CHY	Chiayi	1.02	290	eP	Pb	14 23 56.7	+0.5
	baz=278						
CHY				eS	Sg	14 24 10.8	+0.3
	baz=278						
WNT	Mingjian	1.02	315	eP	Pn	14 23 56.9	+0.4
	baz=316						
WNT				eS	Sg	14 24 10.9	+0.5
	baz=316						
SSPT	Xinbi	1.06	231	eP	Pb	14 23 57.0	0.0
	baz=224						
SCZT	Fangliau	1.10	225	eP	Pn	14 23 57.3	-0.3
	baz=216						
SCZT				eS	Sb	14 24 11.6	-0.1
	baz=216						
WLGB	Puzi	1.12	287	eS	Sg	14 24 14.0	+0.3
	baz=285						
WSSB	Gushan	1.22	246	P	Pg	14 24 01.2	+0.3
	baz=244						
WSSB				eS	Sg	14 24 19.9	+3.1
	baz=244						
WSF	Szhu	1.24	293	eP	Pb	14 24 00.2	+0.2
	baz=291						
WSF				eS	Sn	14 24 16.6	+0.8
	baz=291						
RLNB	Erlin	1.25	306	eP	Pb	14 24 00.5	+0.2
	baz=305						
RLNB				eS	Sb	14 24 15.9	-0.1
	baz=305						
WLCH	Liuqiu	1.28	232	eP	Pg	14 24 03.5	+1.4
	baz=228						
TWQ1	Liyutan	1.35	332	eP	Pb	14 24 02.0	+0.1
	baz=333						
TWQ1				eS	Sg	14 24 20.8	-0.2
	baz=333						
JIJ	Ishigaki jima	2.73	63	P	Pn	14 24 20.9	+0.8
JIJ				eS	Sn	14 24 52.2	-0.4
JISG	Ishigakijimahi	2.97	61	P	Pn	14 24 24.1	+0.8
JISG				S	Sn	14 24 57.8	-0.6

IDC 03 14:34:52.6±332.0, 47°.84N×48°.66E, h0km, Error ellipse: s-maj=144.3km s-min=110.3km az=12.0, Western Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
I31KZ	AKTYUBINSK INF	6.67	64	i		15 13 40.0	
	baz=250,slow=322,SNR=8.9						
I43RU	DUBNA INFRASON	11.31	326	i		15 45 50.0	
	baz=136,slow=328,SNR=0.8						
I26DE	FREYUNG INFRAS	23.13	286	i		16 56 00.0	
	baz=79,slow=332,SNR=0.5						
I46RU	ZALESOVO INFRA	23.42	61	i		17 00 10.0	
	baz=274,slow=329,SNR=2.2						

IDC 03 14:35:52.0±27.0, 21°.45S×173°.44W, h0km, mb4.0/4, mb1 4.1/4, mb1mx3.7/49, mbtmp4.0/4, Error ellipse: s-maj=495.0km s-min=159.0km az=75.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CTA	Charters Tower	37.64	265	P	P	14 43 09.8	+0.8
	3.1nm,0.3s,baz=94,slow=9.5,SNR=14						
STKA	Stephens Creek	41.25	246	P	P	14 43 37.6	-1.5
	1.3nm,0.6s,baz=99,slow=19,SNR=2.9						
ASAR	Alice Springs	48.45	257	P	P	14 44 36.0	-0.7
	0.9nm,0.9s,baz=89,slow=8.7,SNR=7.8						
WRA	Warramunga Arr	48.68	262	P	P	14 44 38.8	+0.3
	0.7nm,0.3s,baz=96,slow=8.3,SNR=113						

ISCJB 03 15:15:36.6±0.2, 33°.83N±0°.01×116°.14W±0°.01, h7km±2km, mb3.3/1, Error ellipse: s-maj=2.1km s-min=1.7km az=170.8

NEIC 03 15:15:37.4±0.0, 33°.86N×116°.16W, h2km, ML3.5(PAS), After PAS.

NEIC Felt [II] at Desert Hot Springs, Indio, La Quinta, Palm Desert and Palm Springs. Also felt at Cathedral City, Coachella, Indian Wells, Morongo Valley, Rancho Mirage, San Diego, Thousand Palms and Victorville.

IDC 03 15:15:39.2±2.1, 34°.12N×115°.60W, h0km, mb3.1/1, mb1 3.3/4, mb1mx3.2/61, mbtmp2.9/4, ML3.5/3, Error ellipse: s-maj=34.7km s-min=13.1km az=43.0

ISC 03 15:15:36.9±1.0, 33°.83N±0°.01×116°.12W±0°.01, h5km±8km, n116, σ0s.94/154, Southern California

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BELC	Belle Mtn. Jos	0.20	30	P	Pg	15 15 41.3	+0.5
	baz=227,SNR=1000						
BELC				S	Sg	15 15 44.4	+0.9
	baz=227						
CTW	Cottonwood Mou	0.25	127	ePg	Pg	15 15 43.5	+1.6
TPC	Twentynine Pal	0.28	11	ePg	Pg	15 15 42.5	+0.1
XPFO	Piæon Flat	0.36	232	ePg	Pg	15 15 44.0	+0.1
PFO	Pinyon Flats O	0.36	233	P	Pg	15 15 44.0	+0.1
	baz=43,SNR=482						
PFO				S	Sg	15 15 48.9	+0.2
	baz=43						
PFO	Pinyon Flats O	0.36	233	ePg	Pg	15 15 44.0	+0.1
HAY	Hayfield	0.38	109	ePg	Pb	15 15 46.3	+0.1
DEVC	Devers	0.40	286	ePg	Pg	15 15 45.2	+0.6
BATC	Bat Cave Butte	0.43	148	ePg	Pb	15 15 46.8	-0.3
DNR	Dunn Ranch,Anz	0.50	239	ePg	Pg	15 15 46.8	+0.2
FRD	Ford Ranch, An	0.53	231	ePg	Pg	15 15 47.2	+0.2
BC3	Big Chuckawall	0.58	107	P	Pb	15 15 49.5	-0.2
	baz=290,SNR=367						
BC3				S	Sb	15 15 57.8	-0.4
	baz=290						
CRY	Cary Ranch	0.58	243	ePg	Pg	15 15 48.1	0.0
FRK	Frink	0.58	137	ePg	Pb	15 15 49.3	-0.3
BBSC	Beaumont Base	0.72	277	ePg	Pg	15 15 51.3	+0.4
HMTC	Hemet	0.75	261	ePg	Pg	15 15 50.9	-0.4
ERRC	Elmore Ranch	0.75	161	ePg	Pb	15 15 53.1	+0.5
ERRC				eSg	Sn	15 16 04.9	-1.1
DGR	Domenigoni Val	0.77	257	ePg	Pg	15 15 51.3	-0.3
PLM	Palomar	0.78	233	ePg	Pg	15 15 52.1	+0.1
BBRC	Big Bear Solar	0.80	303	P	Pg	15 15 51.6	-0.7
	baz=122,SNR=104						
BBRC				S	Sg	15 16 02.0	-0.6
	baz=122						
BBRC	Big Bear Solar	0.80	303	ePg	Pg	15 15 52.9	+0.6
SVD	Seven Oaks Dam	0.86	289	eSg	Sg	15 16 04.5	-0.1
IRM	Iron Mountain	0.87	68	P	Pb	15 15 54.2	-0.4

	baz=251,SNR=388						
IRM				S	Sb	15 16 06.3	-0.3
	baz=251						
IRM	**Iron Mountain**	**0.87**	**68**	*e*Pg	**Pb**	**15 15 54.3**	**-0.3**
IRM				*e*Sg	**Sn**	**15 16 06.8**	**-2.3**
SWSC	**Sam W. Stewart**	**0.92**	**163**	P	**Pg**	**15 15 54.5**	**-0.1**
	baz=341,SNR=50						
SWSC				S	**Sb**	**15 16 07.5**	**-0.5**
	baz=341						
SWSC	**Sam W. Stewart**	**0.92**	**163**	*e*Pg	**Pb**	**15 15 55.1**	**-0.4**
MURC	**Murrieta**	**0.93**	**256**	P	**Pg**	**15 15 54.1**	**-0.7**
	baz=72,SNR=111						
MURC				S	**Sg**	**15 16 05.9**	**-0.9**
	baz=72						
CBKC	**Canebrake**	**0.94**	**187**	*e*Pg	**Pg**	**15 15 55.1**	**+0.3**
CRR	**Carrizo Plain**	**0.95**	**173**	*e*Pg	**Pg**	**15 15 55.1**	**0.0**
MONP2	**Monument Peak**	**0.97**	**195**	P	**Pg**	**15 15 55.9**	**+0.3**
	baz=12,SNR=130						
MONP2				S	**Sg**	**15 16 08.6**	**+0.5**
	baz=12						
HEC	**Hector,Ludlow**	**1.01**	**350**	P	**Pg**	**15 15 55.8**	**-0.6**
	baz=172,SNR=50						
HEC				S	**Sg**	**15 16 09.0**	**-0.5**
	baz=172						
HEC	**Hector,Ludlow**	**1.01**	**350**	*e*Pn	**Pb**	**15 15 57.1**	**0.0**
HEC				*e*Sn	**Sb**	**15 16 11.2**	**+0.4**
GMRC	**Granite Mounta**	**1.02**	**22**	P	**Pg**	**15 15 56.1**	**-0.5**
	baz=205,SNR=310						
GMRC				S	**Sg**	**15 16 09.6**	**-0.3**
	baz=205						
GMRC	**Granite Mounta**	**1.02**	**22**	*e*Sn	**Sn**	**15 16 11.8**	**-1.3**
RVR	**Riverside**	**1.06**	**279**	*e*Pg	**Pg**	**15 15 56.6**	**-0.6**
RVR				*e*Sn	**Sg**	**15 16 09.8**	**-1.2**
DPP	**Dos Picos Cty**	**1.08**	**220**	*e*Pg	**Pg**	**15 15 57.4**	**-0.3**
DPP				*e*Sn	**Sg**	**15 16 11.7**	**+0.1**
BTCC	**Brunts Corner**	**1.11**	**137**	*e*Pn	**Pn**	**15 15 60.0**	**+0.8**
IKP	**In-Ko-Pah, Jac**	**1.18**	**180**	P	**Pg**	**15 15 58.7**	**-0.8**
	baz=358,SNR=35						
IKP				S	**Sg**	**15 16 14.0**	**-0.7**
	baz=358						
BAR	**Barrett**	**1.24**	**202**	*e*Pn	**Pg**	**15 15 59.8**	**-0.9**
BAR				*e*Sg	**Sg**	**15 16 15.9**	**-0.8**
BAR				*e*Sn	**Sb**	**15 16 16.7**	**-0.4**
109C	**Camp Elliot, M**	**1.25**	**222**	P	**Pg**	**15 15 59.9**	**-1.0**
	baz=38,SNR=37						
109C				S	**Sg**	**15 16 16.1**	**-1.1**
	baz=38						
CPE	**Camp Elliot**	**1.25**	**222**	*e*Pn	**Pg**	**15 15 59.9**	**-1.0**
CPE				*e*Sn	**Sg**	**15 16 16.3**	**-0.9**
RRX	**Edison Barstow**	**1.27**	**325**	Pg	**Pg**	**15 16 00.6**	**-0.7**
	baz=146						
RRX				S	**Sg**	**15 16 16.3**	**-1.6**
	baz=146						
CHNC	**Chino**	**1.31**	**278**	*e*Sg	**Sg**	**15 16 17.4**	**-1.7**
GLA	**Glamis**	**1.33**	**125**	P	**Pg**	**15 16 01.2**	**-1.2**
	baz=306,SNR=154						
GLA				S	**Sn**	**15 16 19.5**	**-0.8**
	baz=306						
GLA	**Glamis**	**1.33**	**125**	*e*Pn	**Pg**	**15 16 01.2**	**-1.2**
BLYC	**Blythe**	**1.33**	**93**	*e*Pn	**Pn**	**15 16 03.5**	**+1.4**
Y12C	**Blythe**	**1.33**	**93**	P	**Pg**	**15 16 01.1**	**-1.4**
	baz=275,SNR=117						
Y12C				S	**Sn**	**15 16 19.6**	**-0.6**
	baz=275						
Y12C	**Blythe**	**1.33**	**93**	*e*Pn	**Pg**	**15 16 01.0**	**-1.4**
BFSC	**Mount Baldy Ra**	**1.34**	**288**	Pg	**Pn**	**15 16 01.8**	**-0.8**
	baz=106						
BFSC				S	**Sg**	**15 16 18.5**	**-1.7**
	baz=106						
SSK	**Sunset Peak**	**1.36**	**287**	*e*Pn	**Pn**	**15 16 01.7**	**-1.1**
EL2	**El Mirage 2**	**1.37**	**301**	*e*Pn	**Pn**	**15 16 03.6**	**+0.6**
PSRC	**Puddingstone R**	**1.43**	**281**	*e*Pn	**Pn**	**15 16 03.7**	**+0.1**
PSRC				*e*Sn	**Sn**	**15 16 20.6**	**-2.3**
LDFC	**Landfair**	**1.50**	**33**	*e*Pn	**Pg**	**15 16 05.2**	**-0.5**
LDFC				*e*Sn	**Sg**	**15 16 25.5**	**+0.4**
NEE2	**Needles Airpor**	**1.55**	**53**	Pg	**Pg**	**15 16 06.7**	**0.0**
	baz=235						
NEE2				Sb	**Sg**	**15 16 26.8**	**0.0**
	baz=235						
HOLC	**Holcomb Ridge**	**1.56**	**294**	*e*Pn	**Pn**	**15 16 05.1**	**-0.4**
GSC	**Goldstone, Bar**	**1.57**	**339**	Pg	**Pn**	**15 16 06.2**	**+0.5**
	baz=160						
GSC				Sb	**Sn**	**15 16 26.5**	**0.0**
	baz=160						
GSC	**Goldstone, Bar**	**1.57**	**339**	*e*Pn	**Pn**	**15 16 05.3**	**-0.4**
TUQ	**Turquoise Moun**	**1.61**	**6**	P	**Pn**	**15 16 05.3**	**-0.9**
	baz=188,SNR=70						
TUQ				Sb	**Sb**	**15 16 27.6**	**-0.3**
	baz=188						
TUQ	**Turquoise Moun**	**1.61**	**6**	*e*Pn	**Pb**	**15 16 06.9**	**-0.4**
TUQ				*e*Sn	**Sb**	**15 16 27.7**	**-0.3**
MWC	**Mount Wilson**	**1.66**	**284**	*e*Pn	**Pn**	**15 16 06.5**	**-0.5**
MWC				*e*Sn	**Sn**	**15 16 27.0**	**-1.7**
MWC				*e*Sg	**Sb**	**15 16 28.1**	**-1.3**
CHFC	**Chilao Flat St**	**1.66**	**288**	*e*Sn	**Sn**	**15 16 28.2**	**-0.6**
PDMCI	**Parker Dam,Lak**	**1.71**	**73**	Sb	**Sg**	**15 16 31.4**	**-0.4**
	baz=256						
PASC	**Pasadena Art C**	**1.75**	**282**	*e*Pn	**Pn**	**15 16 07.8**	**-0.3**
PASC				*e*Sn	**Sn**	**15 16 29.7**	**-1.1**
FMP	**Fort Macarthur**	**1.82**	**267**	Sb	**Sn**	**15 16 32.5**	**+0.2**
	baz=84						
EDW2	**Edwards Air Fo**	**1.87**	**305**	P	**Pn**	**15 16 08.4**	**-1.4**
	baz=124,SNR=149						
EDW2				Sb	**Sn**	**15 16 34.5**	**+0.6**
	baz=124						
EDW2	**Edwards Air Fo**	**1.87**	**305**	*e*Sn	**Sn**	**15 16 35.4**	**+1.5**
DECC	**Green Verdugo**	**1.89**	**284**	Pb	**Pn**	**15 16 10.8**	**+0.9**
	baz=102						
DECC				Sb	**Sn**	**15 16 34.7**	**+0.6**
	baz=102						
DECC	**Green Verdugo**	**1.89**	**284**	*e*Pn	**Pb**	**15 16 11.8**	**-0.2**
DECC				*e*Sn	**Sn**	**15 16 34.9**	**+0.7**
CIAC	**Catalina I. Ai**	**1.96**	**258**	*e*Sn	**Sn**	**15 16 37.0**	**+0.9**
CIS	**Catalina Islan**	**1.96**	**258**	Sb	**Sn**	**15 16 36.8**	**+0.8**
	baz=75						
IR2C	**Iron Canyon**	**1.98**	**287**	*e*Pn	**Pn**	**15 16 12.6**	**+1.5**
IR2C				*e*Sn	**Sn**	**15 16 37.4**	**+1.1**
SHOC	**Shoshone, Teco**	**2.07**	**356**	Sb	**Sb**	**15 16 41.1**	**+0.1**
	baz=178						
SCI2	**San Clemente I**	**2.20**	**248**	Sb	**Sn**	**15 16 44.3**	**+2.5**
	baz=65						
113A	**Mohawk Valley,**	**2.23**	**118**	*e*Pn	**Pn**	**15 16 13.3**	**-1.4**
113A				*e*Pg	**Pg**	**15 16 19.3**	**-0.5**
W13A	**Hualapai Mount**	**2.24**	**55**	*e*Pn	**Pn**	**15 16 15.4**	**+0.5**
OSI	**Osito Audit: C**	**2.30**	**291**	Sb	**Sn**	**15 16 46.4**	**+2.1**
	baz=109						
OSI	**Osito Audit: C**	**2.30**	**291**	*e*Pn	**Pb**	**15 16 18.5**	**-0.5**
BLG	**Laguna Peak, P**	**2.47**	**277**	Sb	**Sn**	**15 16 51.4**	**+2.9**
	baz=95						
MPMC	**Manual Prospec**	**2.49**	**333**	P	**Pn**	**15 16 17.4**	**-1.0**
	baz=153,SNR=26						
Y14A	**Wickenburg**	**2.59**	**87**	*e*Pn	**Pn**	**15 16 18.9**	**-0.7**
ISA	**Isabella, Lake**	**2.67**	**314**	P	**Pn**	**15 16 19.5**	**-1.2**
	baz=133,SNR=39						
ISA	**Isabella, Lake**	**2.67**	**314**	*e*Pn	**Pn**	**15 16 19.3**	**-1.4**
DAC	**Darwin (Calif)**	**2.73**	**334**	*e*Pn	**Pn**	**15 16 20.8**	**-0.9**
SHPR	**Sheep Range**	**2.78**	**16**	*e*Pn	**Pn**	**15 16 22.3**	**-0.1**
TPNV	**Topopah Spring**	**3.11**	**358**	P	**Pn**	**15 16 27.1**	**+0.1**
	baz=179,SNR=9.5						
TPNV	**Topopah Spring**	**3.11**	**358**	*e*Pn	**Pn**	**15 16 27.0**	**+0.1**
214A	**Organ Pipe Nat**	**3.35**	**123**	*e*Pn	**Pn**	**15 16 29.9**	**-0.2**
TIN	**Tinemaha, Big**	**3.65**	**332**	*e*Sg	**Sb**	**15 17 28.5**	**+1.8**
X16A	**Lo Mia Camp, P**	**3.92**	**80**	*e*Pn	**Pn**	**15 16 38.1**	**+0.1**
LCMT	**Little Creek M**	**3.95**	**36**	*e*Pn	**Pn**	**15 16 38.9**	**+0.5**
U15A	**North Rim**	**4.07**	**49**	*e*Pn	**Pn**	**15 16 40.9**	**+0.7**
KNB	**Kanab**	**4.17**	**39**	*e*Pn	**Pn**	**15 16 42.2**	**+0.8**
WUAZ	**Wupatki**	**4.25**	**65**	*e*Pn	**Pn**	**15 16 43.8**	**+1.2**
CCUT	**Cedar City**	**4.34**	**30**	*e*Pn	**Pn**	**15 16 45.3**	**+1.5**
MDPB	**Devils Postpil**	**4.50**	**328**	*e*Pn	**Pn**	**15 16 45.7**	**-0.3**
PMPB	**Monarch Peak**	**4.52**	**303**	*e*Pn	**Pn**	**15 16 46.6**	**+0.5**
R11A	**Troy Canyon, C**	**4.53**	**5**	*e*Pn	**Pn**	**15 16 45.6**	**-0.8**
TUC	**Tucson**	**4.73**	**107**	*e*Pn	**Pn**	**15 16 48.3**	**-0.7**
NV01	**Mina Array Sit**	**4.92**	**340**	*e*Pn	**Pn**	**15 16 52.3**	**+0.5**
NVAR	**Mina Array Bea**	**4.92**	**340**	Pn	**Pn**	**15 16 53.9**	**+2.1**
	baz=161,slow=15,SNR=18						
NVAR				Lg	Lg	15 18 10.8	
	baz=160,slow=35,SNR=1.9						
WAKR	**Walker**	**5.38**	**331**	*e*Pn	**Pn**	**15 16 58.2**	**+0.1**
W18A	**Petrified Fore**	**5.42**	**75**	*e*Pn	**Pn**	**15 16 59.8**	**+1.1**
KVN	**Kaiserville**	**5.45**	**344**	*e*Pn	**Pn**	**15 16 59.5**	**+0.4**
TCRU	**Three Creeks R**	**5.62**	**31**	*e*Pn	**Pn**	**15 17 01.8**	**+0.5**
MSU	**Marysvale**	**5.66**	**33**	*e*Pn	**Pn**	**15 16 59.4**	**-2.5**
YERR	**Yerington**	**5.73**	**335**	*e*Pn	**Pn**	**15 17 01.8**	**-1.1**
RDG13	**Poverty Ridge**	**5.82**	**310**	*e*Pn	**Pn**	**15 17 03.9**	**-0.2**
121A	**Cookes Peak, D**	**7.10**	**98**	P	**Pn**	**15 17 22.3**	**+0.6**
	baz=283,SNR=5.6						
121A	**Cookes Peak, D**	**7.10**	**98**	*e*Pn	**Pn**	**15 17 22.4**	**+0.6**
	5.9nm,0.6s						
PV10	**Paradox Valley**	**7.31**	**50**	*e*Pn	**Pn**	**15 17 24.4**	**-0.2**
GRTM	**Round Top Moun**	**7.34**	**316**	*e*Pg	**Pg**	**15 17 57.6**	**+0.1**
PV04	**Paradox Valley**	**7.40**	**50**	*e*Pn	**Pn**	**15 17 26.2**	**+0.4**
ANMO	**Albuquerque**	**8.06**	**79**	Pg	**Pb**	**15 17 59.4**	**+2.1**
	0.1nm,0.3s,baz=265,slow=11,SNR=2.1						
ANMO				Lg	Lg	15 19 50.2	
	0.3nm,0.3s,baz=198,slow=3.2,SNR=3.4						
PDAR	**Pinedale Array**	**10.30**	**28**	Pn	**Pn**	**15 18 05.3**	**-0.3**
	0.1nm,0.3s,baz=217,slow=16,SNR=2.6						
TXAR	**Lajitas Array**	**11.52**	**110**	Pn	**Pn**	**15 18 22.6**	**+0.4**
	0.1nm,0.3s,baz=292,slow=14,SNR=4.1						
ILAR	**Eielson Array**	**36.18**	**338**	P	**P**	**15 22 41.5**	**+1.4**
	0.2nm,0.5s,baz=153,slow=8.1,SNR=4.3						

NIED ***03*** *15:16:00,28°.10N×128°.10E,h17^{km},Mw3.7 Best double couple: M₀3.92000×10^{14} NP1:φs16.00000°,δ72.00000°, λ175.00000°. NP2:φs108.00000°,δ85.00000°,λ18.00000°.*
JMA 03 15:16:28.9±0.2**,28°.09N×128°.06E,h10**^{km}±2^{km}**,M3.6, Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JTK	**Tokunoshima**	**0.84**	**111**	P	Pg	15 16 44.9	-0.3
JTK				*e*S	Sg	15 16 56.2	0.0
JOKE	**Okinoerabujima**	**0.86**	**148**	P	Pg	15 16 45.1	-0.3
JOKE				*e*S	Sb	15 16 57.0	-0.4
JAMN	**Amaminishikomi**	**1.00**	**81**	P	Pg	15 16 47.6	-0.5
JAMN				*e*S	Sg	15 17 00.5	-0.5
JIH	**Iheya**	**1.05**	**185**	P	Pg	15 16 48.6	-0.6
JIH				*e*S	Sb	15 17 03.0	-0.1
JOW	**Kunigami**	**1.27**	**171**	P	Pn	15 16 51.8	-0.9
JOW				*e*S	Sb	15 17 09.2	0.0
JAM	**Amami Oshima**	**1.40**	**76**	P	Pn	15 16 54.7	+0.2
JAM				*e*S	Sn	15 17 12.1	-0.9
JNTH	**Nagotoyohara**	**1.57**	**181**	P	Pn	15 16 56.9	+0.1
JNTH				*e*S	Sn	15 17 17.0	-0.1
JJT3	**Tamagusuku3**	**1.95**	**187**	P	Pb	15 17 03.5	-1.1
JJT3				*e*S	Sn	15 17 27.8	+1.1

ATA ***03*** *15:20:43.9±1.1,38°.90N×43°.67E,h1^{km}±4^{km},ML3.5, MW4.2*
DDA ***03*** *15:20:44.9,38°.96N×43°.70E,h5^{km},Ml3.5*
ISN ***03*** *15:20:44.9±0.7,38°.98N×43°.57E,h11^{km}±82^{km},ML3.6*
ISK ***03*** *15:20:45.6,38°.98N×43°.69E,h5^{km},ML3.8/7*
CSEM ***03*** *15:20:46.3±0.2,38°.99N×43°.65E,h2^{km},ML3.5,Error ellipse: s-maj=5.6km s-min=4.3km az=139.0*
ISC 03 15:20:45.7±0.9**,38°.98N**±0°.02**×43°.66E**±0°.02**,h6**^{km}±6^{km}**, n95,**σ**1**^{s}**23**/107**,2C-5D,Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VMUR	**Van-Muradiye**	**0.07**	**279**	*i* P	**Pg**	**15 20 47.0**	**-0.5**
VMUR				*i* S	**Sg**	**15 20 50.4**	**+1.6**
VMUR	**Van-Muradiye**	**0.07**	**279**	P	**Pg**	**15 20 47.0**	**-0.5**
VMUR				S	**Sg**	**15 20 50.4**	**+1.6**
CLDR	**Caldiran**	**0.26**	**51**	PG	**Pg**	**15 20 50.9**	**0.0**
CLDR	**Caldiran**	**0.26**	**51**	*i* P	**Pg**	**15 20 49.9**	**-0.9**
CLDR				*i* S	**Sg**	**15 20 53.6**	**-0.7**
CLDR	**Caldiran**	**0.26**	**51**	P	**Pg**	**15 20 49.9**	**-0.9**
CLDR	**Caldiran**	**0.26**	**51**	*e*Pg	**Pg**	**15 20 50.9**	**0.0**
CLDR				S	**Sg**	**15 20 53.6**	**-0.7**
VANB	**Van**	**0.44**	**209**	PG	**Pb**	**15 20 56.1**	**+0.2**
VANB	**Van**	**0.44**	**209**	*e*Pg	**Pb**	**15 20 56.1**	**+0.2**
TVAN	**Van**	**0.49**	**204**	*i* P	**Pb**	**15 20 55.4**	**-1.5**
TVAN				*i* S	**Sb**	**15 21 05.3**	**+0.9**
TVAN	**Van**	**0.49**	**204**	P	**Pb**	**15 20 55.4**	**-1.5**
DYDN	**Diyadin**	**0.56**	**2**	*e*P	**Pb**	**15 20 57.0**	**-1.1**
DYDN	**Diyadin**	**0.56**	**2**	*i* P	**Pb**	**15 20 57.0**	**-1.1**
DYDN	**Diyadin**	**0.56**	**2**	P	**Pb**	**15 20 57.0**	**-1.1**
ADCV	**BITLIS_Adilcev**	**0.75**	**257**	*i* P	**Pg**	**15 20 59.9**	**-0.3**
ADCV	**BITLIS_Adilcev**	**0.75**	**257**	P	**Pg**	**15 20 59.8**	**-0.3**
TUTA	**Tutak**	**0.78**	**303**	⇓*i*P	**Pb**	**15 21 00.7**	**-1.2**
TUTA	**Tutak**	**0.78**	**303**	*i* P	**Pb**	**15 21 00.7**	**-1.2**
TUTA	**Tutak**	**0.78**	**303**	P	**Pb**	**15 21 00.7**	**-1.2**
AGRB	**Hanur-Agry**	**0.79**	**319**	PG	**Pb**	**15 21 01.3**	**-0.7**
AGRB	**Hanur-Agry**	**0.79**	**319**	*e*Pg	**Pb**	**15 21 01.3**	**-0.7**
GEVA	**Gevas**	**0.81**	**215**	*e*P	**Pg**	**15 20 60.0**	**-1.4**
GEVA				*e*S	**Sg**	**15 21 11.2**	**-0.7**
GEVA	**Gevas**	**0.81**	**215**	*i* P	**Pg**	**15 21 00.3**	**-1.0**
GEVA	**Gevas**	**0.81**	**215**	P	**Pg**	**15 21 00.3**	**-1.0**
IGDI	**IGDIR**	**0.95**	**20**	*e*P	**Pb**	**15 21 03.8**	**-0.8**
IGDI				*e*S	**Sn**	**15 21 20.5**	**+0.9**
IGDI				IAML		15 21 32.9	
	comp=Z,54nm,0.5s						
IGDI	**IGDIR**	**0.95**	**20**	*i* P	**Pn**	**15 21 04.5**	**-1.1**
TASB	**TASBURUN-IGDIR**	**1.10**	**24**	PN	**Pn**	**15 21 07.1**	**-0.7**
TASB	**TASBURUN-IGDIR**	**1.10**	**24**	*e*Pn	**Pn**	**15 21 07.1**	**-0.7**
HYR	**Heyderabad**	**1.18**	**51**	⇓P	**Pn**	**15 21 10.5**	**+1.6**
	SNR=16						
EATA	**Eleskirt**	**1.26**	**315**	*e*P	**Pn**	**15 21 09.8**	**-0.5**
EATA				*e*S	**Sn**	**15 21 30.7**	**+2.9**
EATA				IAML		15 21 41.1	
	comp=Z,34nm,0.6s						
EATA	**Eleskirt**	**1.26**	**315**	*i* P	**Pn**	**15 21 09.7**	**-0.5**
EATA	**Eleskirt**	**1.26**	**315**	P	**Pn**	**15 21 09.7**	**-0.5**
EKAR	**Karacoban**	**1.27**	**283**	*e*P	**Pn**	**15 21 10.6**	**+0.3**
EKAR	**Karacoban**	**1.27**	**283**	*i* P	**Pg**	**15 21 09.5**	**-0.6**
EKAR	**Karacoban**	**1.27**	**283**	P	**Pg**	**15 21 09.5**	**-0.6**
GURO	**Guroymak-BITLI**	**1.34**	**252**	PN	**Pg**	**15 21 10.9**	**-0.5**
GURO				SN	**Sn**	**15 21 30.8**	**+1.4**
HAKT	**HAKKARI**	**1.42**	**178**	*i* P	**Pg**	**15 21 12.0**	**-0.9**
HAKT	**HAKKARI**	**1.42**	**178**	P	**Pg**	**15 21 12.0**	**-0.9**
NAX	**Nakhchivan**	**1.44**	**82**	⇑P	**Pg**	**15 21 14.4**	**+1.0**
DIGO	**Kars**	**1.45**	**351**	*e*P	**Pg**	**15 21 13.8**	**+0.3**
DIGO	**Kars**	**1.45**	**351**	*i* P	**Pg**	**15 21 13.3**	**-0.2**
DIGO	**Kars**	**1.45**	**351**	P	**Pg**	**15 21 13.3**	**-0.2**
YOVA	**Hakkari_Yˆ…kse**	**1.48**	**160**	*i* P	**Pg**	**15 21 13.5**	**-0.5**
YOVA	**Hakkari_Yˆ…kse**	**1.48**	**160**	P	**Pg**	**15 21 13.5**	**-0.5**
SBZ	**Shahbuz**	**1.53**	**74**	P	**Pg**	**15 21 15.1**	**+0.1**
	SNR=86						
SRTM	**Siirt_Merkez**	**1.68**	**235**	*i* P	**Pg**	**15 21 17.4**	**-0.6**
SRTM	**Siirt_Merkez**	**1.68**	**235**	P	**Pg**	**15 21 17.4**	**-0.6**
EAK	**Akyaka**	**1.71**	**359**	*e*P	**Pg**	**15 21 19.8**	**+1.4**
EAK	**Akyaka**	**1.71**	**359**	*i* P	**Pg**	**15 21 18.8**	**+0.4**
EAK	**Akyaka**	**1.71**	**359**	P	**Pg**	**15 21 18.8**	**+0.4**
KARS	**Kars**	**1.71**	**345**	PN	**Pn**	**15 21 16.2**	**0.0**
KARS	**Kars**	**1.71**	**345**	*e*Pn	**Pn**	**15 21 16.2**	**0.0**
HOMI	**Horasan**	**1.72**	**309**	*e*P	**Pg**	**15 21 18.5**	**-0.2**
HOMI	**Horasan**	**1.72**	**309**	*i* P	**Pg**	**15 21 18.0**	**-0.8**
VRTB	**Varto-Mus**	**1.72**	**277**	PN	**Pb**	**15 21 17.6**	**-0.3**
VRTB				SN	**Sg**	**15 21 40.8**	**-0.3**
VRTB	**Varto-Mus**	**1.72**	**277**	*e*Pn	**Pb**	**15 21 17.6**	**-0.3**
VRTB				*e*Sn	**Sg**	**15 21 40.8**	**-0.3**
SIRT	**Sirnak**	**1.76**	**213**	PN	**Pb**	**15 21 17.9**	**-0.6**
ORD	**Ordubad**	**1.82**	**91**	⇑P	**Pg**	**15 21 20.0**	**-0.6**
	SNR=74						
SENK	**Senkaya-Erzuru**	**1.88**	**328**	PN	**Pb**	**15 21 19.5**	**-1.0**
SENK	**Senkaya-Erzuru**	**1.88**	**328**	*e*Pn	**Pb**	**15 21 19.5**	**-1.0**
ERZM	**Erzurum**	**2.00**	**298**	*e*P	**Pg**	**15 21 22.9**	**-1.2**
ERZM	**Erzurum**	**2.00**	**298**	*i* P	**Pg**	**15 21 22.9**	**-1.2**
ERZM	**Erzurum**	**2.00**	**298**	P	**Pg**	**15 21 22.9**	**-1.2**
SVAN	**Silvan-Diyarba**	**2.10**	**248**	PN	**Pb**	**15 21 22.7**	**-1.5**
SVAN	**Silvan-Diyarba**	**2.10**	**248**	*e*Pn	**Pb**	**15 21 22.7**	**-1.5**
BTMN	**Batman**	**2.17**	**241**	*i* P	**Pg**	**15 21 25.7**	**-1.5**
BTMN	**Batman**	**2.17**	**241**	P	**Pg**	**15 21 25.7**	**-1.5**
ECAT	**Cat-ERZURUM**	**2.17**	**288**	*e*P	**Pb**	**15 21 24.4**	**-1.2**
ECAT				IAML		15 22 13.9	
	comp=Z,15nm,0.5s						
ECAT	**Cat-ERZURUM**	**2.17**	**288**	*i* P	**Pb**	**15 21 25.7**	**+0.1**
ECAT	**Cat-ERZURUM**	**2.17**	**288**	P	**Pb**	**15 21 25.7**	**+0.1**
BNGB	**Bingˆ¶l**	**2.32**	**271**	PN	**Pb**	**15 21 26.1**	**-2.0**
BGOL	**Bingol**	**2.33**	**271**	*i* P	**Pb**	**15 21 28.4**	**+0.2**
GDB	**GEDABAY**	**2.37**	**42**	⇓P	**Pb**	**15 21 26.8**	**-2.2**
	SNR=32						
DDEM	**Demirkent**	**2.41**	**323**	*i* P	**Pg**	**15 21 31.5**	**-0.4**
QZX	**Qazax, Azerbai**	**2.46**	**32**	⇓P	**Pn**	**15 21 27.4**	**+1.0**
	SNR=16						
QZX				⇓S	**Sb**	**15 22 01.3**	**+0.4**
BINT	**Bingol**	**2.47**	**269**	*e*Pn	**Pn**	**15 21 26.1**	**-0.6**
ARTV	**Artvin**	**2.57**	**329**	*e*P	**Pb**	**15 21 30.0**	**-2.4**
EPOS	**Posof**	**2.62**	**345**	*e*P	**Pg**	**15 21 34.4**	**-1.5**
KOPT	**Kop Dagi**	**2.66**	**294**	*e*P	**Pb**	**15 21 31.1**	**-2.8**
DIY	**Diyarbakir**	**2.90**	**249**	*e*Pn	**Pb**	**15 21 34.9**	**-3.1**
BAYB	**BAYBURT**	**2.92**	**297**	*e*P	**Pb**	**15 21 38.6**	**+0.3**
BAYB				IAML		15 22 26.6	
	comp=Z,3.8nm,0.6s						
DYBB	**Diyarbakir**	**2.95**	**251**	PN	**Pn**	**15 21 34.9**	**+1.8**
MAZI	**Mazidag**	**2.95**	**240**	PN	**Pn**	**15 21 34.9**	**+1.7**
MAZI	**Mazidag**	**2.95**	**240**	*e*Pn	**Pn**	**15 21 34.9**	**+1.7**
BAYT	**Aydˆ–ntepe-Bay**	**3.06**	**299**	PN	**Pn**	**15 21 36.6**	**+1.8**
BAYT	**Aydˆ–ntepe-Bay**	**3.06**	**299**	*e*Pn	**Pn**	**15 21 36.6**	**+1.8**
ERZN	**Erzincan**	**3.12**	**282**	PN	**Pn**	**15 21 37.3**	**+1.8**
EUZM	**Uzumlu**	**3.16**	**285**	*e*P	**Pb**	**15 21 43.6**	**+1.3**
TNCL	**Tunceli-Merkez**	**3.21**	**274**	*e*P	**Pb**	**15 21 41.8**	**-1.4**
PTK	**Pertek**	**3.33**	**270**	PN	**Pn**	**15 21 39.9**	**+1.4**
PTK	**Pertek**	**3.33**	**270**	*e*Pn	**Pn**	**15 21 39.9**	**+1.4**
EZC	**Erzincan**	**3.42**	**284**	*e*Pn	**Pn**	**15 21 37.3**	**-2.5**
KELT	**Kelkit**	**3.60**	**290**	*e*P	**Pb**	**15 21 48.7**	**-1.1**
REFA	**Refahiye_ERZˆ**	**3.83**	**278**	*e*P	**Pb**	**15 21 50.5**	**-3.2**
KEMA	**Kemaliye**	**4.03**	**276**	*e*P	**Pb**	**15 21 54.6**	**-2.5**
RTB	**Rutbah**	**6.53**	**206**	*e*Pn	**Pn**	**15 22 23.0**	**+0.7**
	SNR=5.0						

IDC ***03*** *15:21:05.8±1.6,24°.81S×178°.59W,h334^{km}±13^{km}, mb4.0/18,mb1 4.1/20,mb1mx3.9/46,mbtmp4.8/20,Error ellipse: s-maj=14.4km s-min=12.4km az=88.0*
ISCJB ***03*** *15:21:06.3±0.5,24°.92S±0°.04×178°.7W±0°.1,h350^{km}, mb4.4/20,Error ellipse: s-maj=12.6km s-min=5.0km az=0.4*
NEIC ***03*** *15:21:07.3±1.5,24°.84S×178°.63W,h351^{km}±14^{km},mb4.7/3, Error ellipse: s-maj=11.7km s-min=10.1km az=115.0*
WEL ***03*** *15:21:11.6±1.2,25°S±12°×17°9W±6°8,h400^{km}±30^{km}*
ISC 03 15:21:07.5±0.4**,24°.79S**±0°.05**×178°.70W**±0°.08**,h350**^{km}**, n97,**σ**2**^{s}**21**/111**,mb4.3**/20**,12C-6D,South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**4.51**	**171**	P	**Pn**	**15 22 25.6**	**+3.8**
GLKZ	**Green Lake**	**4.51**	**171**	S	**S**	**15 23 26.9**	**+5.1**
AFI	**Afiamalu**	**12.64**	**32**	P	**P**	**15 23 56.6**	**+0.2**
	14nm,0.3s,baz=194,slow=3.3,SNR=25						
AFI				S	**S**	**15 26 07.3**	**-8.9**
	6.7nm,0.3s,baz=276,slow=10,SNR=6.4						
HAZ	**Te Kaha**	**13.27**	**192**	S	**S**	**15 26 24.1**	**-4.4**
HAZ	**Te Kaha**	**13.27**	**192**	P	**Pn**	**15 24 04.1**	**+0.1**
PUZ	**Puketiti**	**13.50**	**190**	S	**S**	**15 26 26.0**	**-7.0**
URZ	**Urewera**	**13.90**	**194**	P	**P**	**15 24 09.2**	**-0.7**
	3.6nm,0.3s,baz=283,slow=2.9,SNR=12						
URZ				S	**S**	**15 26 34.6**	**-6.5**
	3.3nm,0.3s,baz=63,slow=22,SNR=20						
DZM	**Mont Dzumac**	**13.90**	**278**	P	**Pn**	**15 24 14.3**	**+2.5**
	0.7nm,0.3s,baz=60,slow=21,SNR=9.2						
DZM	**Mont Dzumac**	**13.90**	**278**	*e*P	**P**	**15 24 09.9**	**-0.3**
PXZ	**Pawanui**	**15.65**	**193**	S	**S**	**15 27 11.6**	**-4.6**
TSZ	**Takapari Road**	**15.88**	**195**	S	**S**	**15 27 16.3**	**-4.5**
MRZ	**Mangatainoka R**	**16.54**	**195**	P	**P**	**15 24 36.5**	**-2.2**
QRZ	**Quartz Range**	**17.59**	**202**	P	**P**	**15 24 49.4**	**-0.6**
NNZ	**Nelson**	**17.67**	**200**	P	**P**	**15 24 47.5**	**-3.2**
TUWZ	**Tuamarina**	**17.69**	**198**	P	**P**	**15 24 48.3**	**-2.6**
THZ	**Tophouse**	**18.31**	**200**	P	**P**	**15 24 56.2**	**-1.5**
DSZ	**Denniston Nort**	**18.66**	**203**	P	**P**	**15 25 00.3**	**-1.0**
KHZ	**Kahutara**	**18.72**	**198**	P	**P**	**15 25 00.7**	**-1.2**
LTZ	**Lake Taylor**	**19.43**	**200**	P	**P**	**15 25 08.8**	**-0.7**
INZ	**Inchbonnie**	**19.65**	**202**	P	**P**	**15 25 11.1**	**-0.6**
OXZ	**Oxford**	**20.00**	**200**	P	**P**	**15 25 10.9**	**-4.3**
MQZ	**McQueen's Vall**	**20.16**	**198**	P	**P**	**15 25 15.2**	**-1.5**
WVZ	**Waitaha Valley**	**20.21**	**203**	P	**P**	**15 25 14.8**	**-2.4**
RPZ	**Rata Peaks**	**20.66**	**201**	P	**P**	**15 25 19.2**	**-2.2**
	3.8nm,0.5s,baz=344,slow=3.1,SNR=6.5						
RPZ	**Rata Peaks**	**20.66**	**201**	P	**P**	**15 25 20.4**	**-1.1**
EIDS	**Eidsvold**	**27.35**	**262**	*e*P	**P**	**15 26 22.3**	**+0.6**
	7.2nm,0.6s						
CTA	**Charters Tower**	**32.67**	**271**	P	**P**	**15 27 09.6**	**+1.2**
	64nm,0.5s,baz=94,slow=11,SNR=211						
CTAO	**Charters Tower**	**32.67**	**271**	*e*P	**P**	**15 27 09.2**	**+0.8**
	275nm,0.4s						
STKA	**Stephens Creek**	**35.50**	**249**	P	**P**	**15 27 32.7**	**+0.3**
	7.5nm,0.5s,baz=97,slow=10,SNR=44						
STKA				PcP	**PcP**	**15 29 53.8**	**+0.9**
	1.4nm,0.5s,baz=115,slow=6.2,SNR=4.2						
PMG	**Port Moresby**	**35.90**	**289**	P	**P**	**15 27 36.4**	**+0.5**
	38nm,0.8s,baz=126,slow=5.1,SNR=17						
PMG	**Port Moresby**	**35.90**	**289**	*e*P	**P**	**15 27 35.8**	**-0.1**
	48nm,0.8s						
ASAR	**Alice Springs**	**43.06**	**261**	P	**P**	**15 28 34.0**	**-0.5**
	7.4nm,0.4s,baz=91,slow=6.5,SNR=327						
ASAR				PcP	**PcP**	**15 30 16.2**	**-1.1**
	0.6nm,0.5s,baz=77,slow=4.1,SNR=3.9						
ASAR				ScP	**ScP**	**15 33 38.6**	**+4.0**
	1.7nm,0.8s,baz=109,slow=4.4,SNR=10						
ASAR				S	**S**	**15 34 28.5**	**-5.1**
	1.2nm,0.8s,baz=94,slow=15,SNR=8.6						
WRA	**Warramunga Arr**	**43.53**	**267**	P	**P**	**15 28 37.6**	**-0.5**
	21nm,0.4s,baz=102,slow=7.8,SNR=493						
WRA				PcP	**PcP**	**15 30 18.0**	**-0.9**
	0.8nm,0.4s,baz=98,slow=3.6,SNR=4.9						
WRA				ScP	**ScP**	**15 33 40.8**	**+4.4**
	6.2nm,0.7s,baz=100,slow=4.0,SNR=14						
WRA				S	**S**	**15 34 34.8**	**-5.7**
	4.4nm,0.5s,baz=113,slow=15,SNR=16						
FITZ	**Fitzroy Crossi**	**51.94**	**266**	P	**P**	**15 29 42.6**	**+0.6**
	16nm,0.7s						
GUMO	**Guam**	**52.13**	**313**	P	**P**	**15 29 43.5**	**+0.2**
	51nm,0.8s,baz=192,slow=20,SNR=2.5						
SOEI	**Soe**	**56.10**	**275**	*e*P	**P**	**15 30 12.9**	**+0.9**
	55nm,0.9s						
BATI	**Baumata**	**56.47**	**274**	P	**P**	**15 30 16.2**	**+1.7**
	38nm,0.5s,baz=183,slow=4.8,SNR=17						
QSPA	**South Pole Qui**	**65.30**	**180**	P	**P**	**15 31 13.6**	**+0.9**
	4.3nm,0.7s,baz=30,slow=2.6,SNR=9.1						
QSPA	**South Pole Qui**	**65.30**	**180**	*e*P	**P**	**15 31 13.2**	**+0.5**
	34nm,1.2s						
MJAR	**Matsushiro Arr**	**73.30**	**325**	P	**P**	**15 32 00.0**	**-1.5**
	1.9nm,0.7s,baz=146,slow=6.7,SNR=3.9						
KSM	**Kuching**	**73.42**	**280**	*e*P	**P**	**15 32 02.4**	**-0.3**
	14nm,0.8s						
MAW	**Mawson**	**77.33**	**200**	P	**P**	**15 32 24.4**	**+0.6**
	4.5nm,0.6s,baz=146,slow=5.0,SNR=12						
KSRS	**Korea Array**	**79.68**	**320**	P	**P**	**15 32 37.8**	**+0.9**
	1.5nm,0.6s,baz=130,slow=6.0,SNR=4.8						
KSAR	**Wonju Array Be**	**79.70**	**319**	P	**P**	**15 32 37.8**	**+0.8**
PETK	**Petropavlovsk-**	**80.24**	**346**	P	**P**	**15 32 40.6**	**+1.1**
	1.2nm,0.5s,baz=105,slow=4.9,SNR=5.5						
USRK	**Ussuriysk Ar.**	**82.15**	**327**	P	**P**	**15 32 51.4**	**+1.7**
	1.7nm,0.5s,baz=143,slow=4.3,SNR=7.0						
SYO	**Syowa Base**	**82.42**	**193**	⇑*e*P	**P**	**15 32 49.6**	**-1.2**
SNAA	**Sanae**	**83.76**	**179**	P	**P**	**15 32 57.3**	**-0.4**
	2.2nm,0.8s,baz=192,slow=12,SNR=9.8						
VNA3	**Neumayer Olymp**	**83.93**	**176**	P	**P**	**15 32 58.7**	**+0.2**
VNA2	**Neumayer--Watz**	**84.36**	**177**	P	**P**	**15 33 01.1**	**+0.5**
	baz=187,slow=3.9						
CMAR	**Chiang Mai Arr**	**90.94**	**290**	P	**P**	**15 33 34.5**	**+1.7**
	1.3nm,0.8s,baz=123,slow=3.1,SNR=10						
ILAR	**Eielson Array**	**92.62**	**13**	P	**P**	**15 33 39.4**	**-0.1**
	0.2nm,0.4s,baz=232,slow=4.4,SNR=3.0						
ZALV	**Zalesovo Beam**	**113.38**	**320**	PKiKP	**PKiKP**	**15 39 01.9**	**-1.8**
	0.5nm,0.3s,baz=182,slow=4.3,SNR=3.5						
MKAR	**Makanchi Array**	**113.62**	**312**	PKiKP	**PKiKP**	**15 39 03.5**	**-1.0**
	0.9nm,0.7s,baz=186,slow=0.9,SNR=12						
KURK	**Kurchatov**	**116.66**	**316**	*e*PKPdf	**PKPdf**	**15 39 09.1**	**-1.0**
KURK				PKP	**PKiKP**	**15 39 09.3**	**-0.8**
KURBB	**Kurchatov Arra**	**116.70**	**316**	PKP	**PKPdf**	**15 39 09.3**	**-0.9**
	1.3nm,0.7s,baz=101,slow=1.8,SNR=15						
KKAR	**Karatay Array**	**121.34**	**307**	*e*PKPdf	**PKPdf**	**15 39 18.6**	**-0.8**
BVAR	**Borovoye Array**	**121.88**	**318**	PKP	**PKPdf**	**15 39 20.0**	**-0.1**
	1.6nm,0.3s,baz=128,slow=1.0,SNR=15						
SPITS	**Spitsbergen Ar**	**126.08**	**356**	PKP	**PKPdf**	**15 39 27.6**	**+0.1**
	6.5nm,0.8s,baz=358,slow=4.2,SNR=8.7						
ARU	**Arti**	**128.29**	**323**	PKP	**PKPdf**	**15 39 32.9**	**+0.7**
	4.3nm,0.4s,baz=117,slow=2.9,SNR=6.7						
AKTO	**Aktyubinsk**	**129.75**	**316**	PKP	**PKPdf**	**15 39 35.9**	**+0.6**
	1.4nm,0.6s,baz=101,slow=7.6,SNR=6.7						
AKTO				SKPbc	SKPab	15 42 23.4	-0.6
	0.3nm,0.4s,baz=266,slow=2.8,SNR=4.0						
GEYT	**Alibeck**	**130.43**	**300**	PKP	**PKPdf**	**15 39 37.5**	**+0.5**
	1.5nm,0.6s,baz=228,slow=1.8,SNR=4.2						
GEYT				SKPbc	**SKPbc**	**15 42 26.8**	**-0.2**
	1.8nm,0.8s,baz=172,slow=1.0,SNR=4.0						
ARCES	**ARCESS Array B**	**132.99**	**349**	PKP	**PKPdf**	**15 39 41.1**	**+0.3**
	1.6nm,0.6s,baz=84,slow=1.5,SNR=7.9						
ARCES				SKPbc	**SKPbc**	**15 42 34.5**	**-0.6**
	5.5nm,1.0s,baz=2.9,slow=2.4,SNR=5.0						
FINES	**FINESS Array B**	**139.66**	**342**	PKhKP	PKPpre	15 39 44.6	
	0.6nm,0.3s,baz=63,slow=3.9,SNR=6.5						
FINES				SKP		15 42 53.5	
	2.0nm,1.0s,baz=42,slow=6.4,SNR=3.1						
FINES				SKPbc	**SKiKP**	**15 42 59.9**	**+1.9**
	1.5nm,0.9s,baz=21,slow=2.7,SNR=4.0						
NB2	**NORSAR Subarra**	**143.13**	**352**	PKP	PKPbc	15 39 57.0	-0.7

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=Z,3.0nm,0.6s,baz=10,slow=3.2						
NOA	NORSAR Array B	143.13	352	PKP	PKPbc	15 39 57.3	-0.4
	comp=Z,5.0nm,0.7s,baz=12,slow=2.3,SNR=21						
HFS	Hagfors	143.63	350	PKP	PKPbc	15 39 58.7	-0.3
	comp=Z,16nm,0.4s,baz=64,slow=3.4,SNR=176						
AKASG	Malin Array Be	146.35	327	PKPbc	PKPbc	15 40 06.9	-0.4
	comp=Z,2.3nm,0.3s,baz=45,slow=4.2,SNR=25						
KIEV	Kiev	146.36	327	ePKPbc	PKPbc	15 40 06.7	-0.6
SORM	Soroca	148.41	324	⇓iP	PKPbc	15 40 12.9	0.0
BRTR	Keskin Array B	149.05	307	PKPbc	PKPbc	15 40 14.8	-0.2
	comp=Z,2.3nm,0.5s,baz=140,slow=4.9,SNR=14						
MMAI	Mount Meron Ar	149.14	293	PKPbc	PKPbc	15 40 16.5	+1.2
	comp=Z,10nm,0.5s,baz=79,slow=5.5,SNR=16						
EKA	Eskdalemuir Ar	149.31	5	PKPbc	PKPbc	15 40 15.2	+0.3
	comp=Z,0.7nm,0.4s,baz=355,slow=3.6,SNR=2.7						
EIL	Elat	149.75	287	PKPab	PKPab	15 40 21.5	-2.0
	baz=180,slow=1.0						
TLCR		149.86	319	⇑iP	PKPbc	15 40 16.9	+0.4
CFR	Carcaliu	150.27	320	⇓iP	PKPbc	15 40 17.8	+0.3
BURAR	Bucovina Array	150.36	326	⇓iP	PKPbc	15 40 18.3	+0.5
TIRR	Tirgusor	150.50	318	⇑iP	PKPbc	15 40 18.0	0.0
TLB	Topalu	150.65	319	⇑iP	PKPbc	15 40 19.2	+0.8
VRI	Vrincioaia	150.67	322	⇓iP	PKPbc	15 40 19.1	+0.6
STHS	Stebnicka Huta	150.89	333	ePKP	PKPbc	15 40 20.1	+1.2
STHS				e		15 40 23.4	
STHS				e		15 40 26.1	
CRVS	Cervenica-Dubn	151.19	332	ePKP	PKPbc	15 40 21.4	+1.8
CRVS				e		15 40 24.4	
MLR	Muntele Rosu	151.33	322	PKPbc	PKPbc	15 40 20.1	0.0
	comp=Z,0.7nm,0.5s,baz=76,slow=6.3,SNR=5.7						
MLR	Muntele Rosu	151.33	322	⇑iP	PKPbc	15 40 20.1	0.0
MDB	Medias	151.77	325	⇓iP	PKPbc	15 40 19.2	-1.7
DPC	Dobruska-Polom	151.95	339	⇑ePKP	PKPbc	15 40 22.4	+1.1
DPC				ePKPAB	PKPab	15 40 33.7	+1.7
MTUR	Matau	151.99	323	⇑iP	PKPdf	15 40 14.8	+0.1
CLL	Collm	152.03	344	⇑iPKPbc	PKPbc	15 40 22.1	+0.8
	comp=Z,9.0nm,0.8s						
CLL				i		15 40 25.6	
	comp=Z,5.0nm,0.5s						
CLL				i PKPab	PKPab	15 40 32.9	+0.7
	comp=Z,6.0nm,0.7s						
CLL	Collm	152.03	344	i PKPbc	PKPbc	15 40 25.6	+4.3
	comp=Z,5.0nm,0.5s						
KRLC	Kraliky	152.03	338	⇑ePKP	PKPbc	15 40 22.4	+0.9
ARR	Arges	152.13	323	⇑iP	PKPbc	15 40 22.8	+0.9
DRGR		152.17	327	⇑iP	PKPbc	15 40 22.3	+0.4
BRG	Berggiesshubel	152.19	343	i PKP	PKPbc	15 40 22.4	+0.7
	comp=Z,7.8nm,0.9s						
KHC	Kasperske Hory	153.86	342	⇑ePKP	PKPbc	15 40 28.9	+3.4
KHC				ePKPAB	PKPab	15 40 41.4	+1.2
KHC				ex	x	15 40 44.3	
GERES	GERESS Array B	154.08	341	PKP	PKPdf	15 40 15.7	-1.9
	comp=Z,0.2nm,0.3s,baz=86,slow=4.1,SNR=4.6						
GERES				PKPbc	PKiKP	15 40 26.3	+0.2
	comp=Z,0.4nm,0.6s,baz=90,slow=2.7,SNR=4.2						
GERES				PKPab	PKPab	15 40 41.0	-0.2
	comp=Z,0.2nm,0.4s,baz=318,slow=3.8,SNR=3.6						
MATE	Matera	159.60	325	⇓iP	PKPdf	15 40 13.8	-11
TORD	Torodi Ar. Bea	168.42	182	PKP	PKPdf	15 40 33.0	-0.4
	comp=Z,1.2nm,0.9s,baz=335,slow=1.6,SNR=5.6						
TORD				PKPab	PKPab	15 41 44.2	-0.2
	comp=Z,0.7nm,0.5s,baz=164,slow=4.0,SNR=6.1						

IDC 03 15:30:32.5±9.1, 4°.32S×153°.38E, h120km±64km, mb3.2/3, mb1 3.5/4, mb1mx3.1/51, mbtmp3.7/4, Error ellipse: s-maj=83.1km s-min=53.2km az=103.0, New Ireland region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	7.97	230	P	Pn	15 32 26.1	+0.4
	2.9nm,0.3s,baz=46,slow=7.4,SNR=11						
PMG				S	Sn	15 33 54.0	-0.2
	0.3nm,0.3s,baz=135,slow=20,SNR=3.7						
WRA	Warramunga Arr	24.19	229	P	P	15 35 38.8	+0.8
	1.2nm,0.5s,baz=53,slow=9.7,SNR=4.7						
ASAR	Alice Springs	26.89	223	P	P	15 36 02.4	-0.1
	0.2nm,0.4s,baz=56,slow=9.0,SNR=4.7						
STKA	Stephens Creek	29.56	201	P	P	15 36 25.6	-0.4
	1.0nm,0.8s,baz=19,slow=12,SNR=3.0						
TORD	Torodi Ar. Bea	150.70	289	PKPbc	PKPbc	15 50 11.2	-0.5
	0.4nm,0.7s,baz=90,slow=4.3,SNR=3.0						

ISCJB 03 15:31:39.3±1.1, 17°.3S±0°.4×178°.7W±0°.3, h547km, mb3.5/9, Error ellipse: s-maj=64.3km s-min=12.6km az=151.2

IDC 03 15:31:44.1±2.3, 17°.52S×178°.49W, h595km±27km, mb3.1/9, mb1 3.3/9, mb1mx3.1/48, mbtmp4.0/9, Error ellipse: s-maj=61.1km s-min=11.6km az=153.0

ISC 03 15:31:39.9±1.1, 17°.3S±0°.4×178°.6W±0°.2, h547km, n11, σ1§32/16, mb3.5/9, Fiji Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	38.75	240	P	P	15 38 18.3	+0.6
	1.2nm,0.6s,baz=97,slow=8.3,SNR=4.1						
WRA	Warramunga Arr	44.56	259	P	P	15 39 05.7	+2.0
	0.4nm,0.4s,baz=94,slow=7.2,SNR=20						
WRA				PcP	PcP	15 40 34.5	-0.5
	0.3nm,0.3s,baz=91,slow=3.8,SNR=7.0						
WRA				S	S	15 44 58.0	-2.0
	0.3nm,0.9s,baz=93,slow=7.1,SNR=3.4						
ASAR	Alice Springs	44.77	254	P	P	15 39 07.0	+1.7
	1.0nm,0.4s,baz=91,slow=8.1,SNR=49						
ASAR				PcP	PcP	15 40 34.8	-1.0
	0.5nm,0.4s,baz=103,slow=4.0,SNR=14						
ASAR				ScP	ScP	15 43 33.1	-3.0
	0.4nm,1.0s,baz=128,slow=4.1,SNR=3.1						
ASAR				S	S	15 45 02.3	-0.7
	0.5nm,0.7s,baz=90,slow=14,SNR=7.9						
NWAO	Narrogin (SRO)	59.32	242	P	P	15 40 49.5	-0.2
	9.1nm,0.8s,baz=104,slow=5.7,SNR=3.3						
NVAR	Mina Array Bea	79.14	44	P	P	15 42 48.9	+0.4
	0.6nm,0.6s,baz=223,slow=6.8,SNR=5.0						
ILAR	Eielson Array	85.37	13	P	P	15 43 18.9	-0.1
	0.3nm,0.4s,baz=218,slow=5.2,SNR=8.5						
TXAR	Lajitas Array	85.84	58	P	P	15 43 21.9	-0.3
	1.3nm,0.7s,baz=223,slow=5.6,SNR=16						
PDAR	Pinedale Array	87.06	44	P	P	15 43 27.6	-0.3
	0.4nm,0.5s,baz=202,slow=3.2,SNR=4.1						
YKA	Yellowknife Ar	93.89	25	P	P	15 43 58.8	+0.2
	0.2nm,0.5s,baz=235,slow=4.4,SNR=3.8						
BRTR	Keskin Array B	144.25	315	PKP	PKPab	15 50 14.6	+0.4
	0.5nm,0.6s,baz=100,slow=1.5,SNR=3.7						
GERES	GERESS Array B	147.01	345	PKPbc	PKPbc	15 50 21.8	+0.3
	0.6nm,0.4s,baz=35,slow=4.9,SNR=5.1						

IDC 03 15:45:05.8±1.0, 39°.62N×75°.29E, h0km, mb3.5/7, mb1 3.7/11, mb1mx3.4/67, mbtmp3.5/11, ML2.9/5, MS2.6/2, Ms1 2.6/2, ms1mx2.2/54, Error ellipse: s-maj=25.0km s-min=14.3km az=80.0

BJI 03 15:45:07.0, 39°.95N×75°.21E, h6km, ML3.6/4

SOME 03 15:45:10.4, 39°.87N×75°.33E, h10km

KRNET 03 15:45:11.4±0.1, 40°.00N×75°.22E, mb3.8

NNC 03 15:45:11.7±1.6, 39°.92N×75°.32E, h0km, mb3.9, mpv3.6, Error ellipse: s-maj=15.6km s-min=9.0km az=146.0

ISCJB 03 15:45:11.8±1.0, 39°.83N±0°.05×75°.30E±0°.04, h13km±9km, mb3.4/7, Error ellipse: s-maj=8.6km s-min=4.7km az=153.0

ISC 03 15:45:10.3±1.2, 39°.98N±0°.03×75°.32E±0°.03, h15km±8km, n67, σ1§75/101, mb3.5/7, 31C-20D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KSH	Kashi	0.69	132	Pg	Pg	15 45 23.5	-0.2
KSH				smax	smax		
	comp=N,3μm,0.5s						
KSH				smax	smax		
	comp=E,3μm,0.5s						
SFK	Sufi-Kurgan	1.40	272	⇑P	Pn	15 45 36.6	+1.1
	42nm,0.3s						
SFK				⇓S	Sg	15 45 56.3	+0.9
	228nm,0.4s						
SFK	Sufi-Kurgan	1.40	272	⇓iP	Pn	15 45 36.7	+1.2
	baz=72						
SFK				⇓iS	Sn	15 45 54.7	+0.9
	baz=72						
NRN	Naryn	1.54	19	⇑iP	Pg	15 45 40.1	+0.1
	baz=22						
NRN				⇑iS	Sg	15 46 01.2	+1.1
	baz=22						
KZA	Kyzart	2.10	359	P	Pg	15 45 50.0	-0.6
	SNR=150						
KZA	Kyzart	2.10	359	⇓iP	Pg	15 45 49.6	-1.0
	baz=1.0						
KZA				⇓iS	Sg	15 46 17.8	0.0
	baz=1.0						
ARSB	Arslanbob	2.23	308	⇓iP	Pb	15 45 50.4	0.0
	baz=9.0						
ARSB				⇓iS	Sb	15 46 18.9	+1.0
	baz=9.0						
UCH	Uchtor	2.33	345	P	Pg	15 45 53.7	-1.3
	SNR=72						
UCH	Uchtor	2.33	345	⇑iP	Pb	15 45 52.4	+0.1
	baz=47						
UCH				⇑iS	Sg	15 46 22.8	-2.4
	baz=47						
ULHL	Ulahol	2.37	17	P	Pb	15 45 53.4	+0.6
	SNR=126						
ULHL	Ulahol	2.37	17	⇑iP	Pb	15 45 53.5	+0.6
	baz=19						
ULHL				⇑iS	Sg	15 46 24.6	-1.9
	baz=19						
AML	Almayashu	2.48	331	P	Pb	15 45 55.4	+0.6
	SNR=28						
AML	Almayashu	2.48	331	⇓iP	Pb	15 45 54.5	-0.3
	baz=32						
AML				⇓iS	Sb	15 46 25.7	+0.5
	baz=32						
BOOM	Boomskoye usch	2.55	10	⇑iP	Pb	15 45 55.7	-0.2
	baz=12						
BOOM				⇑iS	Sb	15 46 28.5	+1.3
	baz=12						
KDJ	Kajisay	2.57	33	⇑iP	Pb	15 45 56.9	+0.7
	baz=34						
KDJ				⇑iS	Sb	15 46 29.5	+1.8
	baz=34						
TARG	Taragay, Kyrgy	2.57	46	⇑iP	Pb	15 45 57.1	+0.7
	baz=48						
TARG				⇑iS	Sg	15 46 30.5	-2.5
	baz=48						
KBK	Karagaybulak	2.69	354	P	Pb	15 45 58.7	+0.4
	SNR=121						
KBK	Karagaybulak	2.69	354	⇓iP	Pb	15 45 58.0	-0.3
	baz=56						
KBK				⇓iS	Sb	15 46 31.6	+0.5
	baz=56						
AAK	Ala-Archa	2.73	347	Pn	Pb	15 45 59.4	+0.5
	8.9nm,0.3s,baz=153,slow=8.3,SNR=230						
AAK				Sn	Sg	15 46 37.0	-0.9
	11nm,0.3s,baz=150,slow=20,SNR=10						
AAK				LR	LR	15 47 25.3	
	comp=Z,115nm,21.8s,baz=134,slow=45						
AAK	Ala-Archa	2.73	347	⇑Pn	Pb	15 45 59.5	+0.6
	28nm,0.3s						
AAK				⇑Lg	Lg	15 46 37.8	
	198nm,1.1s						
AAK	Ala-Archa	2.73	347	P	Pb	15 45 59.3	+0.4
	SNR=83						
AAK	Ala-Archa	2.73	347	⇑iP	Pb	15 45 58.3	-0.6
	baz=49						
AAK				⇑iS	Sb	15 46 32.0	-0.2
	baz=49						
EKS2	Erkin-Say	2.92	337	P	Pb	15 46 02.0	-0.2
	SNR=25						
EKS2	Erkin-Say	2.92	337	⇓iP	Pb	15 46 00.3	-1.9
	baz=38						
EKS2				⇓iS	Sb	15 46 36.7	-1.0
	baz=38						
TKM2	Tokmak 2	2.94	4	⇑Pn	Pb	15 46 02.3	-0.4
	26nm,0.5s						
TKM2				⇑Lg	Lg	15 46 47.0	
	57nm,0.5s						
TKM2	Tokmak 2	2.94	4	P	Pb	15 46 02.3	-0.4
	SNR=35						
CHMS	Chumysh	3.05	352	P	Pb	15 46 03.7	-0.6
	SNR=42						
CHMS	Chumysh	3.05	352	⇑iP	Pb	15 46 02.8	-1.5
	baz=54						
CHMS				⇑iS	Sb	15 46 40.0	-1.3
	baz=54						
KST	Kastek	3.10	9	eP	Pg	15 46 09.3	-0.4
	8.1nm,0.4s						
KST				eS	Sg	15 46 51.5	+1.6
	207nm,0.5s						
ARK	Arkit	3.12	307	⇑iP	Pn	15 46 02.8	+3.6
	baz=7.0						
ARK				⇑iS	Sn	15 46 40.0	+3.7
	baz=7.0						
MRKS	Merke	3.18	331	eP	Pg	15 46 11.2	0.0
	104nm,0.5s						
MRKS				eS	Sg	15 46 54.4	+2.0
	63nm,0.5s						
IZV	Izvestkoviy	3.20	17	eP	Pg	15 46 11.2	-0.5
	94nm,0.5s						
IZV				eS	Sg	15 46 55.0	+1.8
	202nm,0.6s						
MTBS	Maitube	3.25	14	eP	Pg	15 46 12.0	-0.7
	24nm,0.3s						
MTBS				eS	Sg	15 46 55.9	+1.1
	118nm,0.4s						
DGS	Degeres	3.28	6	eP	Pg	15 46 12.7	-0.4
	23nm,0.5s						
DGS				eS	Sg	15 46 57.7	+2.1
	131nm,0.5s						
MNAS	Manas	3.28	321	⇑Pn	Pb	15 46 06.1	-2.3
	4.1nm,0.4s						
MNAS				⇑Lg	Lg	15 46 58.8	
	16nm,0.4s						
TNSS	Tian-Shan	3.29	21	eP	Pg	15 46 12.7	-0.7
	55nm,0.6s						
TNSS				eS	Sg	15 46 57.0	+0.9
	143nm,0.4s						
USP	Ospenovka	3.34	350	P	Pb	15 46 07.3	-2.0
	SNR=30						
USP	Ospenovka	3.34	350	⇓iP	Pb	15 46 06.6	-2.7
	baz=51						
USP				⇓iS	Sb	15 46 47.2	-2.6
	baz=51						
MDOK	Medeo	3.43	22	Pn	Pb	15 46 08.6	-2.4
	14nm,0.5s						
MDOK				⇑Lg	Lg	15 47 01.4	
	130nm,0.8s						
AAA	Alma-Ata	3.44	20	eP	Pg	15 46 15.2	-1.0
	36nm,0.1s						
AAA				eS	Sg	15 47 01.9	+1.1
	131nm,0.4s						
BTK	Batken	3.46	273	⇑iP	Pn	15 46 07.8	+4.1
	baz=72						
BTK				⇑iS	Sn	15 46 48.6	+4.1
	baz=72						
KNDC	Almaty	3.46	20	⇑Pn	Pn	15 46 07.4	+3.6
	23nm,0.4s						
KNDC				⇓Lg	Lg	15 47 02.9	
	148nm,0.7s						
KOTS	Kotyrbulak	3.52	22	eP	Pg	15 46 16.6	-1.2
	14nm,0.4s						
KOTS				eS	Sg	15 47 03.7	+0.4
	204nm,0.8s						
KTBS	Karatobe	3.87	15	eP	Pg	15 46 22.8	-1.6
	16nm,0.5s						
KTBS				eS	Sg	15 47 14.8	+0.3
	141nm,0.7s						
CHKK	Chushkaly	4.07	17	eP	Pg	15 46 26.2	-2.0
	13nm,0.6s						
CHKK				eS	Sg	15 47 20.3	-0.5
	102nm,0.6s						
KURS	Kuram	4.10	30	eP	Pg	15 46 25.8	-3.1
	6.1nm,1.4s						
KURS				eS	Sg	15 47 19.7	-2.3
	25nm,0.9s						
PDGK	Podgornoye	4.58	42	⇓Pn	Pn	15 46 22.1	+2.9
	5.5nm,0.9s						
PDGK				⇓Lg	Lg	15 47 33.6	
	26nm,0.7s						
ARXS	Arharly	4.62	23	eP	Pg	15 46 36.4	-2.4
	16nm,0.5s						
ARXS				eS	Sg	15 47 38.1	-0.6
	34nm,0.9s						
MNBS	Baschi	4.70	28	eP	Pg	15 46 37.1	-3.1
	9.2nm,0.6s						
MNBS				eS	Sg	15 47 39.4	-1.6
	47nm,0.8s						
KK31	Karatay Array	4.77	312	⇓Pn	Pn	15 46 24.6	+2.9
	1.4nm,0.6s,baz=121,slow=13,SNR=16						
KK31				Pg	Pg	15 46 39.8	-1.8
	7.2nm,0.6s,baz=144,slow=17,SNR=17						
KK31				⇓Lg	Lg	15 47 46.2	
	12nm,0.5s,baz=125,slow=28,SNR=5.0						
BRLS	Borolday	5.12	308	eP	Pg	15 46 46.0	-2.3
	24nm,0.5s						
BRLS				eS	Sg	15 47 54.1	-0.6
	14nm,0.7s						
CHCP	Chirah Chowk	6.52	195	P	Pn	15 46 47.2	+1.4
CEP	Cherat	6.72	205	P	Pn	15 46 49.8	+1.1
MK31	Makanchi Array	8.49	34	Pn	Pn	15 47 15.9	+3.2
	0.5nm,0.6s,baz=206,slow=13,SNR=7.3						
MK31				Pg	Pb	15 47 40.3	+3.3
	0.7nm,0.5s,baz=221,slow=12,SNR=4.3						
MK31				⇑Lg	Lg	15 49 42.9	
	5.6nm,0.9s						
MKAR	Makanchi Array	8.49	34	Pn	Pn	15 47 15.9	+3.2
	0.1nm,0.3s,baz=208,slow=14,SNR=9.3						
MKAR				Lg	Lg	15 49 40.9	
	0.1nm,0.3s,baz=208,slow=20,SNR=4.3						
MKAR				LR	LR	15 50 53.9	
	comp=Z,44nm,20.7s,baz=162,slow=40						
OTUK	Ortayu	8.54	346	⇑Lg	Lg	15 49 41.0	
	18nm,0.8s						
WMQ	Urumqi	9.99	63	eP	Pn	15 47 35.7	+2.3
KURBB	Kurchatov Arra	10.88	11	Pn	Pn	15 47 45.3	-0.1
	0.0nm,0.3s,baz=201,slow=13,SNR=2.6						
KURBB				Lg	Lg	15 50 57.0	
	0.1nm,0.3s,baz=180,slow=30,SNR=6.7						
BVAR	Borovoye Array	13.48	347	Pn	Pn	15 48 21.6	+0.7
	0.1nm,0.3s,baz=157,slow=8.0,SNR=5.6						
BVAR				Lg	Lg	15 52 15.7	
	0.1nm,0.3s,baz=148,slow=22,SNR=5.0						
ZALV	Zalesovo Beam	15.38	22	Pn	Pn	15 48 46.8	+0.1
	0.1nm,0.3s,baz=212,slow=11,SNR=4.1						
FINES	FINESS Array B	36.65	322	P	P	15 52 16.1	+0.2
	1.1nm,0.8s,baz=98,slow=10.0,SNR=2.7						
ARCES	ARCESS Array B	39.33	335	P	P	15 52 38.1	-0.4
	0.9nm,0.5s,baz=102,slow=8.9,SNR=8.4						
TORD	Torodi Ar. Bea	69.17	270	P	P	15 56 14.2	-2.3
	0.2nm,0.6s,baz=46,slow=6.2,SNR=2.6						
ILAR	Eielson Array	70.47	18	P	P	15 56 22.3	-1.5
	0.2nm,0.7s,baz=330,slow=5.2,SNR=2.9						
YKA	Yellowknife Ar	77.56	5	P	P	15 57 04.4	-0.8
	0.2nm,0.5s,baz=350,slow=5.9,SNR=9.1						
WRA	Warramunga Arr	81.08	125	P	P	15 57 22.5	-2.5
	0.2nm,0.6s,baz=326,slow=5.1,SNR=3.6						
ASAR	Alice Springs	83.58	128	P	P	15 57 35.4	-2.6
	0.2nm,0.6s,baz=316,slow=3.8,SNR=5.8						

IDC 03 16:02:54.9±563.0, 47°.71N×49°.01E, h0km, Error ellipse: s-maj=205.6km s-min=127.7km az=52.0, Western Kazakhstan

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
I31KZ	AKTYUBINSK INF	6.52	62	i		16 39 40.0	
	baz=247,slow=326,SNR=2.7						
I43RU	DUBNA INFRASON	11.55	326	i		17 13 10.0	
	baz=135,slow=330,SNR=0.8						
I46RU	ZALESOVO INFRA	23.28	61	i		18 28 20.0	
	baz=273,slow=332,SNR=1.1						

IDC 03 16:08:31.7±7.0, 32°.89S×179°.58W, h97km±59km, mb3.7/4, mb1 3.9/5, mb1mx3.6/45, mbtmp4.1/5, ML3.7/1, MS3.6/2, Ms1 3.6/2, ms1mx2.9/43, Error ellipse: s-maj=49.1km s-min=29.0km az=33.0

ISC 03 16:08:24.9±1.2, 32°.5S±0°.1×179°.5W±0°.2, h35km, n13, σ1§66/12, mb4.0/4, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
URZ	Urewera	6.36	205	P	Pn	16 09 58.5	+2.4
	1.8nm,0.3s,baz=305,slow=1.2,SNR=6.7						
URZ				S	Sn	16 11 05.3	-2.2
	1.6nm,0.3s,baz=72,slow=20,SNR=1.8						
DZM	Mont Dzumac	16.26	306	LR	LR	16 16 52.2	
	comp=Z,305nm,19.3s,baz=141,slow=30						
STKA	Stephens Creek	32.82	260	P	P	16 14 55.0	-0.1
	1.2nm,0.7s,baz=94,slow=12,SNR=3.8						
CTA	Charters Tower	32.97	284	P	P	16 14 56.5	-0.1
	0.9nm,0.8s,baz=130,slow=12,SNR=2.3						
PMG	Port Moresby	38.45	299	LR	LR	16 31 35.3	
	comp=Z,65nm,18.3s,baz=164,slow=36						
ASAR	Alice Springs	41.78	270	P	P	16 16 11.6	+0.3
	3.5nm,0.7s,baz=108,slow=7.5,SNR=76						
WRA	Warramunga Arr	42.97	275	P	P	16 16 20.7	-0.2
	2.6nm,0.5s,baz=115,slow=7.9,SNR=57						
VNA3	Neumayer Olymp	76.27	177	P	P	16 20 10.0	+0.4
VNA2	Neumayer--Watz	76.69	177	P	P	16 20 12.7	+0.9
	baz=171,slow=3.8						
FINES	FINESS Array B	146.67	338	PKPbc	PKPdf	16 28 00.5	+0.1
	1.6nm,0.7s,baz=122,slow=2.9,SNR=4.1						
NOA	NORSAR Array B	150.63	349	PKPbc	PKPbc	16 28 11.3	-1.2
	0.5nm,0.8s,baz=8.5,slow=5.1,SNR=2.6						
HFS	Hagfors	151.04	346	PKPbc	PKPbc	16 28 14.7	+1.3
	1.8nm,0.9s,baz=349,slow=2.9,SNR=2.4						
TORD	Torodi Ar. Bea	160.68	183	PKPab	PKPab	16 29 00.2	-3.2
	0.7nm,0.6s,baz=169,slow=2.8,SNR=4.4						

MEX 03 16:23:40.4±0.5, 16°.39N×98°.42W, h17km±8km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.28	89	i P	Pg	16 23 45.4	-1.1
PNIG				eS	Sg	16 23 50.0	-0.7
TLIG	Tlapa	1.18	353	i P	Pn	16 23 58.7	-3.6
TLIG				eS	Sb	16 24 12.4	-5.1
VHO	Vista Hermosa	1.75	67	eP	Pn	16 24 07.4	-2.8
VHO				eS	Sn	16 24 27.4	-4.8
CAIG	El Cayaco	1.89	291	eP	Pn	16 24 09.0	-2.9
CAIG				eS	Sn	16 24 30.9	-4.5
PLIG	Platanillo	2.25	333	eP	Pn	16 24 12.9	-4.1
PLIG				i S	Sn	16 24 40.3	-4.1

TRN 03 16:24:34.2, 17°.94N×64°.87W, h19km

ISCJB 03 16:24:35.6±0.5, 17°.89N±0°.03×64°.90W±0°.02, h21km±4km, Error ellipse: s-maj=6.0km s-min=3.4km az=19.0

NEIC 03 16:24:36.4±0.0, 17°.94N×64°.91W, h8km, MD3.7(RSPR), After RSPR.

RSPR 03 16:24:36.4, 17°.94N×64°.91W, h8km±5km, MD3.7/12

ISC 03 16:24:35.0±1.1, 17°.88N±0°.04×64°.90W±0°.02, h13km±9km, n67, σ1§13/89, 23C-16D, Virgin Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CDVI	St. Croix	0.18	137	⇓iP	Pb	16 24 41.1	+0.9
CDVI	St. Croix	0.18	137	eS	Sb	16 24 44.6	+0.9
CDVI	St. Croix	0.18	137	⇓iP	Pb	16 24 41.1	+0.9
CDVI				eS	Sb	16 24 44.6	+0.9
CDVI	St. Croix	0.18	137	⇓iP	Pb	16 24 41.1	+0.9
CDVI				eS	Sb	16 24 44.6	+0.9
STVI	Saint Thomas	0.47	353	⇓eP	Pg	16 24 44.4	+0.1
STVI	Saint Thomas	0.47	353	eS	Sg	16 24 50.4	-0.2
STVI	Saint Thomas	0.47	353	⇓eP	Pg	16 24 44.4	+0.1
STVI				eS	Sg	16 24 50.4	-0.2
STVI	Saint Thomas	0.47	353	⇓eP	Pg	16 24 44.4	+0.1
STVI				eS	Sg	16 24 50.4	-0.2
CUPR	Culebra, Puert	0.56	319	⇓iP	Pg	16 24 45.9	-0.2
CUPR	Culebra, Puert	0.56	319	eS	Sg	16 24 52.9	-0.6
CUPR	Culebra, Puert	0.56	319	⇓iP	Pg	16 24 45.9	-0.2
CUPR				eS	Sg	16 24 52.9	-0.6
TBVI	Tortola	0.59	26	⇑iP	Pg	16 24 46.5	-0.1
TBVI	Tortola	0.59	26	i Pu	Pg	16 24 46.5	-0.1
TBVI	Tortola	0.59	26	⇑iP	Pg	16 24 46.5	-0.1
CBYP	Canovanas	0.99	293	⇑eP	Pb	16 24 53.6	-0.5
CBYP	Canovanas	0.99	293	⇑eP	Pb	16 24 53.6	-0.5
CBYP	Canovanas	0.99	293	⇑eP	Pb	16 24 53.6	-0.5
ABV	Anegada	1.00	32	⇓eP	Pb	16 24 54.1	-0.1
ABV	Anegada	1.00	32	eS	Sn	16 25 08.0	-0.6
ABV	Anegada	1.00	32	⇓eP	Pb	16 24 54.1	-0.1
ABV				eS	Sn	16 25 08.0	-0.6
ABVI	Anegada Island	1.00	32	⇓eP	Pb	16 24 54.1	0.0
ABVI				eS	Sn	16 25 08.0	-0.6
SJG	San Juan	1.22	281	⇑eP	Pn	16 24 57.8	+0.1
SJG	San Juan	1.22	281	⇑eP	Pn	16 24 57.8	+0.1
SJG	San Juan	1.22	281	⇑eP	Pn	16 24 57.8	+0.1
SABA	Saba	1.60	99	eS	Sn	16 25 23.3	-0.2
SABA	Saba	1.60	99	⇑eP	Pb	16 25 04.4	0.0
SABA	Saba	1.60	99	⇑eP	Pb	16 25 04.4	0.0
SABA				eS	Sn	16 25 23.3	-0.2
SABA	Saba	1.60	99	eP	Pn	16 25 03.1	+0.1
SABA				eS	Sb	16 25 24.7	+0.3
CELP	Cerrillos	1.61	277	⇑eP	Pn	16 25 04.0	+0.7
CELP	Cerrillos	1.61	277	⇑eP	Pn	16 25 04.0	+0.7

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
CELP	Cerrillos	1.61	277	⇑eP	Pn	16 25 04.0	+0.7
EMPR	Esperanza - Ma	1.66	291	⇓eP	Pb	16 25 05.4	-0.1
EMPR	Esperanza - Ma	1.66	291	⇓eP	Pb	16 25 05.4	-0.1
SMRT	St. Maarten	1.74	84	eS	Sn	16 25 27.1	0.0
SMRT	St. Maarten	1.74	84	⇑eP	Pn	16 25 05.5	+0.5
SMRT	St. Maarten	1.74	84	⇑eP	Pn	16 25 05.5	+0.5
SMRT				eS	Sn	16 25 27.1	0.0
SMRT	St. Maarten	1.74	84	eP	Pn	16 25 05.8	+0.8
SMRT				eS	Sn	16 25 27.6	+0.5
AOPR	Arecibo Observ	1.83	285	⇑eP	Pb	16 25 07.7	-0.7
AOPR	Arecibo Observ	1.83	285	⇑eP	Pb	16 25 07.7	-0.7
AOPR	Arecibo Observ	1.83	285	⇑eP	Pb	16 25 07.7	-0.7
SEUS	St. Eustatius	1.86	102	eP	Pb	16 25 08.9	-0.1
SEUS				eS	Sn	16 25 29.5	-0.6
SEUS	St. Eustatius	1.86	102	eP	Pn	16 25 06.8	+0.1
SEUS				eS	Sn	16 25 30.7	+0.6
CRPR	Cabo Rojo, PR	2.11	274	⇑eP	Pn	16 25 09.5	-0.6
CRPR	Cabo Rojo, PR	2.11	274	⇑eP	Pn	16 25 09.5	-0.6
CRPR	Cabo Rojo, PR	2.11	274	⇑eP	Pn	16 25 09.5	-0.6
AGPR	Aguadilla, PR	2.19	286	⇓eP	Pn	16 25 12.7	+1.6
AGPR	Aguadilla, PR	2.19	286	eS	Sn	16 25 38.6	+0.6
AGPR	Aguadilla, PR	2.19	286	⇓eP	Pn	16 25 12.7	+1.6
AGPR				eS	Sn	16 25 38.6	+0.6
AGPR	Aguadilla, PR	2.19	286	⇓eP	Pn	16 25 12.7	+1.6
AGPR				eS	Sn	16 25 38.6	+0.6
IDE	Isla Desecheo	2.50	282	⇑eP	Pn	16 25 16.9	+1.4
IDE	Isla Desecheo	2.50	282	⇑eP	Pn	16 25 16.9	+1.4
IDE	Isla Desecheo	2.50	282	⇑eP	Pn	16 25 16.9	+1.4
MBWH		2.82	113	eP	Pn	16 25 20.9	+1.1
ANWB	Willy Bob	2.97	94	ePn	Pn	16 25 22.5	+0.7
ANWB				eS	Sn	16 25 57.0	-0.4
ANWB	Willy Bob	2.97	94	eP	Pn	16 25 22.6	+0.8
ANWB				eS	Sn	16 25 57.0	-0.4
BPA	Boggy Peak	3.02	106	eP	Pn	16 25 23.4	+0.8
BPA				eS	Sn	16 25 55.5	-3.1
BPA	Boggy Peak	3.02	106	eP	Pn	16 25 23.4	+0.8
BPA				eS	Sn	16 25 58.8	+0.2
GDHS	Morne Mazeau,	3.40	118	eP	Pn	16 25 28.6	+0.8
GDHS				eS	Sn	16 26 04.9	-3.1
TBG	Guadaloupe-3	3.71	123	eP	Pn	16 25 32.7	+0.7
MGG	Marie-Galante	3.94	119	eP	Pn	16 25 35.0	-0.3
MGG				eS	Sn	16 26 14.4	-7.0
MGG	Marie-Galante	3.94	119	eP	Pn	16 25 36.4	+1.1
MGG				eS	Sn	16 26 20.4	-1.0
DEG	La Desirade	3.99	113	eP	Pn	16 25 35.4	-0.6
DEG	La Desirade	3.99	113	eP	Pn	16 25 37.0	+1.1
BBL	Barber's Block	4.03	125	eP	Pn	16 25 37.2	+0.7
BBL	Barber's Block	4.03	125	eP	Pn	16 25 37.2	+0.7
SDDR	Presa de Saban	6.17	281	ePn	Pn	16 26 06.9	+1.0
	18nm,0.6s						
GRTK	Grand Turk	6.89	303	ePn	Pn	16 26 16.2	+0.3

*ISCJB **03** 16:34:57.5±0.8, 21°.82S±0°.05×68°.6W±0°.1, h130^{km}±8^{km}, mb3.1/3, Error ellipse: s-maj=20.4km s-min=6.5km az=12.0*
*GUC **03** 16:34:57.9±0.6, 21°.80S×68°.64W, h123^{km}±4^{km}, ML3.6*
*IDC **03** 16:34:58.6±2.9, 21°.76S×68°.16W, h126^{km}±24^{km}, mb3.2/3, mb1 3.4/6, mb1mx3.2/40, mbtmp3.6/6, Error ellipse: s-maj=35.0km s-min=21.8km az=80.0*
ISC 03 16:34:57.7±1.1, **21°.80S**±0°.06×**68°.5W**±0°.1, **h121**^{km}±10^{km}, **n16**, σ1^s**10**/26, **mb3.4**/3, **3C-6D, Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PB09	IPOC Station P	0.69	270	⇑iP	Pn	16 35 17.5	+0.2
PB09				iS	Sn	16 35 31.9	-0.1
PB09				IAML		16 35 33.8	
	comp=N,3µm,0.2s						
PB01	IPOC Station P	1.19	309	⇓iP	Pn	16 35 21.6	-0.2
PB01				iS	Sn	16 35 39.9	-0.3
PB01				IAML		16 35 41.4	
	comp=E,2µm,0.2s						
PB07	IPOC Station P	1.29	273	⇓iP	Pn	16 35 22.9	-0.1
PB07				eS	Sn	16 35 41.7	-0.4
PB07				IAML		16 35 42.6	
	comp=N,1µm,0.1s						
PB06	IPOC Station P	1.34	228	⇑iP	Pn	16 35 23.5	0.0
PB06				iS	Sn	16 35 42.9	-0.2
PB06				IAML		16 35 43.7	
	comp=E,1µm,0.2s						
PB02	IPOC Station P	1.38	290	⇓iP	Pn	16 35 23.8	-0.2
PB02				eS	Sn	16 35 43.2	-0.7
PB02				IAML		16 35 43.8	
	comp=E,1µm,0.3s						
PB04	IPOC Station P	1.61	251	⇑iP	Pn	16 35 26.3	-0.4
PB04				iS	Sn	16 35 47.8	-0.9
PB04				IAML		16 35 51.1	
	comp=N,489nm,0.2s						
PB08	IPOC Station P	1.76	340	⇓iP	Pn	16 35 29.6	+0.9
PB08				iS	Sn	16 35 53.3	+1.0
PB08				IAML		16 35 54.9	
	comp=E,635nm,0.3s						
GO01	Chusmiza	2.22	343	⇓iP	Pn	16 35 35.1	+0.6
GO01				eS	Sn	16 36 03.2	+0.7
PB11	IPOC Station P	2.30	332	⇓iP	Pn	16 35 34.8	-0.4
PB11				iS	Sn	16 36 03.1	-0.8
LPAZ	La Paz	5.50	4	P	Pn	16 36 20.1	+2.2
	comp=E,1.0nm,0.3s,baz=172,slow=6.4,SNR=17						
LPAZ				S	Sn	16 37 19.7	-0.7
	comp=E,0.1nm,0.3s,baz=252,slow=20,SNR=2.2						
SIV	San Ignacio	9.10	52	P	Pn	16 37 02.7	-3.4
	comp=E,0.6nm,0.3s,baz=247,slow=11,SNR=10						
PLCA	Paso Flores	18.95	185	P	P	16 39 10.2	+0.9
	comp=E,0.1nm,0.3s,baz=26,slow=9.1,SNR=4.1						
PDAR	Pinedale Array	74.56	330	P	P	16 46 24.6	+1.1
	comp=E,0.1nm,0.6s,baz=144,slow=3.2,SNR=2.6						
TORD	Torodi Ar. Bea	77.10	70	P	P	16 46 37.2	-1.0
	comp=E,0.3nm,0.4s,baz=262,slow=4.8,SNR=5.0						
YKA	Yellowknife Ar	91.60	340	P	P	16 47 50.8	+0.5
	comp=E,0.3nm,0.5s,baz=131,slow=4.2,SNR=8.6						
MKAR	Makanchi Array	145.66	36	PKPbc	PKPdf	16 54 20.7	-1.0
	comp=E,0.3nm,0.7s,baz=308,slow=4.7,SNR=5.0						

MEX 03 16:36:41.6±0.4, **16°.04N**×**98°.69W**, **h10**^{km}±8^{km}, **MD3.8, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.64	57	iP	Pg	16 36 52.9	-1.2
PNIG				eS	Sg	16 37 01.3	-1.2
TLIG	Tlapa	1.52	4	eP	Pn	16 37 05.4	-3.6
TLIG				eS	Sn	16 37 24.1	-4.8
CAIG	El Cayaco	1.82	304	eP	Pn	16 37 09.3	-3.7
CAIG				eS	Sn	16 37 31.6	-4.5
VHO	Vista Hermosa	2.14	61	eP	Pn	16 37 14.2	-3.3
VHO				eS	Sn	16 37 39.9	-4.3
PLIG	Platanillo	2.47	342	eP	Pn	16 37 19.1	-2.9
PLIG				eS	Sn	16 37 48.3	-4.0

MEX 03 16:45:15.1±0.6, **16°.37N**×**98°.43W**, **h8**^{km}±12^{km}, **MD3.8, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.29	85	eP	Pg	16 45 20.1	-0.7
PNIG				eS	Sg	16 45 25.0	+0.3
TLIG	Tlapa	1.20	354	eP	Pb	16 45 34.7	-3.4
TLIG				eS	Sg	16 45 49.1	-4.6
VHO	Vista Hermosa	1.77	66	eP	Pn	16 45 44.3	-1.9
VHO				eS	Sn	16 46 04.0	-4.9
CAIG	El Cayaco	1.89	291	eP	Pn	16 45 44.0	-3.7
CAIG				eS	Sn	16 46 07.1	-4.6
PLIG	Platanillo	2.26	333	eP	Pn	16 45 51.8	-1.0
PLIG				eS	Sn	16 46 16.6	-4.4

*ISCJB **03** 16:49:21.3±0.6, 32°.23N±0°.04×115°.28W±0°.05, h15^{km}±6^{km}, Error ellipse: s-maj=7.9km s-min=5.2km az=141.7*
*ECX **03** 16:49:22.2±0.6, 32°.23N×115°.26W, h8^{km}, MD2.7, ML2.9*
*MEX **03** 16:49:22.9±0.6, 32°.25N×115°.17W, h12^{km}±77^{km}, MD3.7*
ISC 03 16:49:20.9±0.9, **32°.22N**±0°.04×**115°.29W**±0°.04, **h16**^{km}±10^{km}, **n16**, σ0^s**61**/26, **3C-2D, California-Baja California border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CPBX	Cerro Prieto	0.20	356	eP	Pg	16 49 25.7	0.0
CPBX				eS	Sg	16 49 28.8	-0.1
CPBX				⇓e		16 49 32.6	
CPBX				IAML		16 49 32.6	
	comp=N,5µm,0.2s						
MBIG	Mexicali	0.20	22	eP	Pg	16 49 26.3	+0.5
MBIG				eS	Sg	16 49 28.8	-0.2
COA	Coachella	0.66	12	eP	Pg	16 49 34.1	+0.2
YUH	Yuha Desert	0.69	309	⇑iP	Pg	16 49 34.9	+0.4
YMD	Yuma Desert	0.71	62	⇓iP	Pg	16 49 34.7	-0.2
ECBX	El Chinero	0.77	165	eP	Pg	16 49 36.0	+0.1
ECBX				eS	Sg	16 49 46.2	+0.1
RMX	La Rumorosa	0.77	300	⇑eP	Pg	16 49 35.6	-0.5
RMX				eS	Sg	16 49 45.0	-1.3
RMX				e		16 49 47.5	
RMX				IAML		16 49 47.5	
	comp=E,414nm,0.1s						
IKP	In-Ko-Pah, Jac	0.82	302	eP	Pg	16 49 37.1	+0.2
ZAX	El Zacaton	1.09	230	eP	Pb	16 49 41.3	-0.3
ZAX				eS	Sb	16 49 57.0	+1.4
CBX	Cerro Bola	1.17	275	iP	Pn	16 49 42.7	-0.1
CBX				iS	Sb	16 49 58.0	+0.1
CBX	Cerro Bola	1.17	275	eP	Pn	16 49 43.0	+0.2
CBX				eS	Sb	16 49 59.2	+1.3
CBX				IAML		16 50 00.1	
	comp=N,516nm,0.3s						
CBX				⇑e		16 50 00.1	
SPIG	San Pedro Mart	1.18	187	eP	Pb	16 49 42.9	-0.2
SPIG				eS	Sb	16 49 57.3	-1.0
SPIG	San Pedro Mart	1.18	187	eP	Pb	16 49 42.7	-0.4
SPIG				eS	Sb	16 49 59.0	+0.7
TJIG	Tijuana	1.19	281	iP	Pn	16 49 43.0	0.0
TJIG				eS	Sb	16 49 58.3	-0.1
ECNX	Esteban Cantu	1.25	244	eP	Pn	16 49 43.9	+0.1
BAR	Barrett	1.26	292	eP	Pn	16 49 44.2	+0.3

*IDC **03** 16:54:09.6±0.8, 8°.11N×93°.62E, h0^{km}, mb3.8/12, mb1 3.9/13, mb1mx3.6/73, mbtmp3.8/13, ML4.4/1, MS3.1/2, Ms1 3.1/2, ms1mx2.6/61, Error ellipse: s-maj=38.4km s-min=16.0km az=51.0*
ISC 03 16:54:15.7±0.8, **8°.1N**±0°.1×**93°.51E**±0°.10, **h46**^{km}, **n19**, σ1^s**65**/15, **mb3.9**/13, **Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	11.59	27	Pn	Pn	16 56 56.5	-2.1
	0.8nm,0.3s,baz=212,slow=15,SNR=41						
PALK	Pallekele	12.71	267	Sn	Sn	16 59 31.5	-2.7
	0.2nm,0.3s,baz=113,slow=13,SNR=2.0						
PALK				LR	LR	17 01 57.8	
	comp=Z,93nm,19.4s,baz=116,slow=36						
LEM	Lembang	20.43	136	LR	LR	17 08 02.4	
	comp=Z,63nm,22.0s,baz=185,slow=41						
H08S3	Diego Garcia H	26.13	234	T	T	17 26 42.1	
	baz=53,slow=75,SNR=12						
H08S2	Diego Garcia H	26.13	234	T	T	17 26 43.3	
	baz=53,slow=75,SNR=18						
H08S1	Diego Carcia H	26.14	234	T	T	17 26 42.3	
	baz=53,slow=75,SNR=12						
MKAR	Makanchi Array	39.76	348	P	P	17 01 43.5	-0.5
	0.3nm,0.7s,baz=183,slow=9.7,SNR=3.7						
GEYT	Alibeck	43.63	318	P	P	17 02 18.2	+2.4
	1.8nm,0.5s,baz=138,slow=9.1,SNR=6.0						
ZALV	Zalesovo Beam	46.28	353	P	P	17 02 37.6	+1.2
	0.7nm,0.4s,baz=183,slow=9.8,SNR=6.1						
WRA	Warramunga Arr	48.89	125	P	P	17 02 57.0	-0.4
	0.2nm,0.4s,baz=310,slow=8.5,SNR=11						
ASAR	Alice Springs	50.53	130	P	P	17 03 10.4	+0.6
	0.6nm,1.0s,baz=251,slow=7.8,SNR=5.4						
ASAR				PcP	PcP	17 04 29.8	+2.5
	0.2nm,0.9s,baz=311,slow=3.4,SNR=3.0						
STKA	Stephens Creek	60.70	133	P	P	17 04 20.7	-1.9
	0.7nm,0.4s,baz=316,slow=11,SNR=4.6						
BRTR	Keskin Array B	61.82	311	P	P	17 04 30.4	0.0
	0.4nm,0.6s,baz=108,slow=7.4,SNR=2.3						
TIXI	Tiksi	67.16	11	P	P	17 05 03.2	-1.2
	0.6nm,0.5s,baz=206,slow=3.7,SNR=7.7						
FINES	FINESS Array B	72.24	332	P	P	17 05 36.5	+0.6
	2.3nm,1.0s,baz=128,slow=9.0,SNR=2.5						
GERES	GERESS Array B	77.26	318	P	P	17 06 06.2	+0.8
	0.2nm,0.2s,baz=91,slow=4.4,SNR=2.2						
HFS	Hagfors	77.97	330	P	P	17 06 09.2	+0.3
	1.2nm,0.8s,baz=130,slow=4.5,SNR=2.7						
NB2	NORSAR Subarra	79.25	331	P	P	17 06 22.9	+6.9
	comp=Z,1.1nm,0.6s,baz=93,slow=5.9						
ILAR	Eielson Array	94.79	22	P	P	17 07 32.7	+0.5
	comp=Z,0.1nm,0.4s,baz=324,slow=4.5,SNR=2.7						

*IDC **03** 16:54:50.6±0.8, 41°.45N×123°.17E, h0^{km}, mb3.7/10, mb1 3.9/12, mb1mx3.6/75, mbtmp3.7/12, ML2.5/3, MS3.3/5, Ms1 3.3/5, ms1mx2.8/64, Error ellipse: s-maj=18.3km s-min=14.3km az=74.0*
*BJI **03** 16:54:52.2, 41°.48N×123°.21E, h9^{km}, ML4.3/15*
ISC 03 16:54:52.2±0.6, **41°.54N**±0°.05×**123°.12E**±0°.07, **h10**^{km}, **n24**, σ1^s**82**/23, **mb3.7**/10, **MS3.1**/4, **Northeastern China**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SNY	Shenyang	0.45	50	Pg	Pg	16 55 00.2	-0.7
SNY				Sg	Sg	16 55 06.1	-0.7
SNY				smax	smax		
	comp=N,11µm,0.6s						
SNY				smax	smax		
	comp=E,4µm,0.6s						
CN2	Changchun	2.84	36	Pn	Pn	16 55 36.0	-1.5
CN2				Pg	Pb	16 55 42.6	-0.3
CN2				smax	smax		
	comp=N,1µm,0.9s						
CN2				smax	smax		
	comp=E,1µm,0.9s						
DL2	Dalian	2.87	204	Pg	Pb	16 55 43.9	+0.4
DL2				Sg	Sg	16 56 20.8	-3.6
DL2				smax	smax		
	comp=N,760nm,0.6s						
DL2				smax	smax		
	comp=E,1µm,0.7s						
KSRS	Korea Array	5.52	136	Pn	Pn	16 56 14.0	-0.4
	0.6nm,0.3s,baz=320,slow=13,SNR=7.3						
KSRS				Pg	Pb	16 56 31.1	+2.5
	2.2nm,0.3s,baz=320,slow=17,SNR=16						
KSRS				Lg	Lg	16 57 42.3	
	15nm,0.3s,baz=317,slow=29,SNR=13						
MDJ	Mudanjiang	5.65	55	Pg	Pb	16 56 32.9	+2.1
MDJ				Sg	Sg	16 57 49.0	-4.4
MDJ				smax	smax		
	comp=N,310nm,0.9s						
MDJ				smax	smax		
	comp=E,360nm,0.6s						
USRK	Ussuriysk Ar.	7.04	65	Pn	Pn	16 56 35.7	+0.6
	1.3nm,0.3s,baz=306,slow=26,SNR=17						
USRK				Pg	Pb	16 56 59.6	+5.3
	2.0nm,0.3s,baz=243,slow=16,SNR=12						
USRK				Lg	Lg	16 58 23.4	
	1.5nm,0.3s,baz=255,slow=20,SNR=4.7						
USRK				LR	LR	16 59 25.3	
	comp=Z,177nm,21.8s,baz=242,slow=39						
KLR	Kul'dur	9.79	35	Pn	Pn	16 57 13.2	+0.3
	0.0nm,0.3s,baz=207,slow=16,SNR=3.1						
KLR				Lg	Lg	16 59 59.3	
	0.1nm,0.3s,baz=156,slow=22,SNR=9.5						
JNU	Nakatsue	10.43	141	Lg	Lg	17 00 18.1	
	0.4nm,0.3s,baz=333,slow=4.5,SNR=3.1						
SONM	Songino Array	13.45	304	Lg	Lg	17 01 59.6	
	0.2nm,0.3s,baz=134,slow=16,SNR=2.8						
TLY	Talaya	16.74	314	Lg	Lg	17 03 44.7	
	0.0nm,0.3s,baz=186,slow=4.0,SNR=4.6						
MA2	Magadan	24.89	34	P	P	17 00 13.4	-1.4
	1.4nm,0.5s,baz=204,slow=18,SNR=2.9						
WMQ	Urumqi	26.02	287	P	P	17 00 28.0	+2.6
SEY	Seymchan	27.49	29	P	P	17 00 39.4	+1.1
	1.5nm,0.9s						
MKAR	Makanchi Array	29.51	294	P	P	17 00 57.0	+0.5
	0.3nm,0.8s,baz=92,slow=10,SNR=2.2						
TIXI	Tiksi	30.32	4	LR	LR	17 12 37.1	
	comp=Z,34nm,19.1s,baz=177,slow=35						
CMAR	Chiang Mai Arr	30.91	229	LR	LR	17 16 22.5	
	comp=Z,35nm,18.3s,baz=70,slow=42						
KURBB	Kurchatov Arra	31.81	302	P	P	17 01 16.9	+0.2
	0.3nm,0.4s,baz=90,slow=9.4,SNR=4.3						
ILAR	Eielson Array	53.35	32	P	P	17 04 11.9	+0.7
	0.8nm,0.8s,baz=284,slow=6.1,SNR=10						
FINES	FINESS Array B	57.64	326	P	P	17 04 43.8	+1.7
	1.7nm,0.9s,baz=72,slow=6.0,SNR=3.5						
FINES				LR	LR	17 32 11.6	
	comp=Z,63nm,20.2s,baz=36,slow=39						
WRA	Warramunga Arr	62.05	168	P	P	17 05 11.1	-1.8
	0.4nm,0.8s,baz=351,slow=7.7,SNR=4.2						
NOA	NORSAR Array B	63.84	330	LR	LR	17 34 47.2	
	comp=Z,17nm,18.8s,baz=350,slow=38						
ASAR	Alice Springs	65.64	169	P	P	17 05 36.2	-0.2
	0.5nm,0.9s,baz=350,slow=4.7,SNR=4.5						
YKA	Yellowknife Ar	66.48	25	P	P	17 05 42.0	+0.6
	0.6nm,0.8s,baz=315,slow=6.8,SNR=11						
STKA	Stephens Creek	75.02	164	P	P	17 06 32.4	-1.3
	2.1nm,0.8s,baz=331,slow=16,SNR=5.2						

*MOS **03** 17:02:11.9±1.1, 43°.97N×148°.30E, h77^{km}, mb4.3/8, Error ellipse: s-maj=13.8km s-min=10.2km az=76.7*
*ISCJB **03** 17:02:12.4±0.9, 43°.96N±0°.06×148°.23E±0°.08, h80^{km}±7^{km}, mb3.6/13, Error ellipse: s-maj=11.9km s-min=5.8km az=44.7*
*IDC **03** 17:02:13.7±2.5, 43°.99N×148°.24E, h73^{km}±22^{km}, mb3.4/11, mb1 3.7/16, mb1mx3.4/71, mbtmp3.7/16, Error ellipse: s-maj=23.2km s-min=15.9km az=136.0*
*SKHL **03** 17:02:14.1±0.2, 43°.92N×148°.28E, h53^{km}±7^{km}, mb4.8/4*
*JMA **03** 17:02:14.7±0.3, 43°.72N×148°.15E, h65^{km}, M4.3*
ISC 03 17:02:12.2±1.4, **43°.92N**±0°.07×**148°.31E**±0°.08, **h66**^{km}±11^{km}, **n49**, σ1^s**37**/59, **mb3.6**/13, **1D, East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KUR	Kuril'sk	1.35	347	eP	Pn	17 02 35.7	+0.6
KUR				AMB	AMB	17 02 36.9	
	58nm,0.1s						
KUR				eS	Sn	17 02 51.7	-0.5
KUR				A	A	17 02 54.0	
	690nm,0.2s						
KUR				A	A	17 02 54.0	
	2µm,0.2s						
KUR	Kuril'sk	1.35	347	d iPN	Pn	17 02 36.1	+1.0
KUR				iS	Sn	17 02 52.5	+0.3
KUR				pmax	pmax		
	comp=Z,192nm,0.3s						
KUR				pmax	pmax		
	comp=N,89nm,0.2s						
KUR				pmax	pmax		
	comp=E,131nm,0.2s						
KUR				smax	smax		
	comp=N,2µm,0.2s						
KUR				smax	smax		
	comp=E,1µm,0.2s						
YUK	Yuzh-Kuril'sk	1.77	275	eP	Pn	17 02 41.1	+0.5
YUK				AMB	AMB	17 02 41.9	
	comp=E,223nm,0.2s						
YUK				eS	Sn	17 03 01.4	-0.8
YUK				A	A	17 03 02.9	
	comp=E,790nm,0.5s						
YUK				A	A	17 03 02.9	
	comp=E,2µm,0.5s						
YUK	Yuzh-Kuril'sk	1.77	275	ePN	Pn	17 02 41.1	+0.5
YUK				eS	Sn	17 03 01.4	-0.8
YUK				pmax	pmax		
	comp=E,85nm,0.2s						
YUK				pmax	pmax		
	comp=Z,223nm,0.2s						
YUK				pmax	pmax		
	comp=N,44nm,0.1s						
YUK				smax	smax		
	comp=N,790nm,0.5s						
YUK				smax	smax		
	comp=E,2µm,0.5s						
GRPR	Tuman	1.83	273	eP	Pn	17 02 41.9	+0.4
GRPR				AMB	AMB	17 02 42.9	
	comp=E,90nm,0.2s						
GRPR				eS	Sn	17 03 02.6	-1.1
GRPR				A	A	17 03 03.4	
	comp=E,480nm,0.3s						
GRPR				A	A	17 03 03.4	
	comp=E,2µm,0.3s						
GRPR	Tuman	1.83	273	ePN	Pn	17 02 41.9	+0.4
GRPR				eS	Sn	17 03 02.6	-1.1
GRPR				pmax	pmax		
	comp=N,46nm,0.2s						
GRPR				pmax	pmax		
	comp=Z,90nm,0.2s						
GRPR				pmax	pmax		
	comp=E,40nm,0.1s						
GRPR				smax	smax		
	comp=N,483nm,0.3s						
GRPR				smax	smax		
	comp=E,2µm,0.4s						
NEM2	Nemuro 2	1.94	254	P	Pn	17 02 43.9	+1.0
NEM2				eS	Sn	17 03 05.1	-1.2
GLVR	Golovnino	2.03	266	eP	Pn	17 02 45.3	+1.3
GLVR				AMB	AMB	17 02 46.3	
	comp=E,195nm,0.2s						
GLVR				eS	Sn	17 03 08.7	+0.4
GLVR				A	A	17 03 10.6	
	comp=E,2µm,0.6s						
GLVR				A	A	17 03 10.6	
	comp=E,2µm,0.6s						
GLVR	Golovnino	2.03	266	ePN	Pn	17 02 45.3	+1.3
GLVR				eS	Sn	17 03 08.7	+0.4
GLVR				pmax	pmax		
	comp=Z,193nm,0.2s						
GLVR				smax	smax		
	comp=E,2µm,0.6s						
GLVR				smax	smax		
	comp=N,2µm,0.3s						
JRA	Rausu	2.30	272	P	Pn	17 02 49.8	+2.0
JRA				eS	Sn	17 03 16.2	+1.2
JNK	Nakash	2.62	264	P	Pn	17 02 53.3	+1.1
JNK				eS	Sn	17 03 22.6	-0.2
JAK	Akkeshi	2.79	252	P	Pn	17 02 55.4	+1.0
JAK				eS	Sn	17 03 26.2	-0.6
JTKR	Abashiri--Toko	3.18	273	P	Pn	17 03 01.4	+1.7
JAR	Ashorobuto	3.35	261	P	Pn	17 03 03.6	+1.5
JAR				eS	Sn	17 03 41.4	+0.7
JCH	Churui	3.84	252	P	Pn	17 03 10.5	+1.7
JCH				eS	Sn	17 03 52.0	-0.6
JKK2	Kamakawa 2	4.02	271	P	Pn	17 03 13.6	+2.4
ASAJ	Asahikawa	4.12	275	P	Pn	17 03 15.2	+2.5
	comp=N,1.3nm,0.3s,baz=79,slow=15,SNR=6.7						
ASAJ				S	Sn	17 04 10.1	+10
	comp=N,2.4nm,0.3s,baz=1.2,slow=19,SNR=6.7						
JFR	Furan	4.22	262	eS	Sn	17 04 03.1	+1.1
JSE	Soyaes	4.23	286	P	Pn	17 03 16.3	+2.2
JNBK	Urakawa-nobuka	4.38	250	eS	Sn	17 04 04.5	-1.5
YSS	Yuzh-Sakhalins	4.95	310	eP	Pn	17 03 26.7	+2.8
YSS				eS	Sn	17 04 20.2	+0.4
JKB	Kayabe	5.71	252	P	Pn	17 03 35.8	+1.4
JKB				eS	Sn	17 04 35.5	-3.1
MJAR	Matsushiro Arr	10.66	230	P	Pn	17 04 42.7	+0.6
	comp=N,0.4nm,0.3s,baz=23,slow=14,SNR=3.4						
PETK	Petropavlovsk-	11.10	31	P	Pn	17 04 48.1	+0.2
	comp=N,0.3nm,0.3s,baz=199,slow=11,SNR=3.6						
MA2	Magadan	15.76	5	P	Pn	17 05 49.0	-0.7
	comp=N,0.3nm,0.3s,baz=210,slow=13,SNR=4.3						
SEY	Seymchan	19.20	6	P	P	17 06 29.4	-0.9
YAK	Yakutsk	21.19	335	P	P	17 06 48.8	-3.1
	comp=N,8.1nm,0.5s,baz=59,slow=3.1,SNR=6.1						
H11N2	WAKE ISLAND Hy	28.69	141	T	T	17 39 00.7	
	baz=332,slow=76,SNR=55						
H11N1	WAKE ISLAND Hy	28.70	141	T	T	17 39 04.6	
	baz=332,slow=76,SNR=53						
H11N3	WAKE ISLAND Hy	28.71	141	T	T	17 39 04.5	
	baz=332,slow=76,SNR=71						
TIXI	Tiksi	29.37	348	P	P	17 08 04.4	-4.1
	comp=N,0.6nm,0.6s,baz=140,slow=4.7,SNR=4.8						
H11S1	WAKE ISLAND Hy	29.68	143	T	T	17 40 10.4	
	baz=333,slow=76,SNR=101						
H11S3	WAKE ISLAND Hy	29.68	143	T	T	17 40 10.6	
	baz=333,slow=76,SNR=68						
H11S2	WAKE ISLAND Hy	29.70	143	T	T	17 40 11.4	
	baz=333,slow=76,SNR=76						
ILAR	Eielson Array	40.86	36	P	P	17 09 48.2	+1.1
	comp=N,0.6nm,0.5s,baz=273,slow=8.0,SNR=10						
MKAR	Makanchi Array	45.25	298	P	P	17 10 23.2	+0.4
	comp=N,0.2nm,0.6s,baz=86,slow=8.3,SNR=3.6						
INK	Inuvik	45.84	30	P	P	17 10 27.8	+0.7
	comp=N,2.3nm,0.8s,baz=294,slow=7.4,SNR=9.3						
KURK	Kurchatov	46.13	304	P	P	17 10 30.5	+0.8
KURBB	Kurchatov Arra	46.22	304	P	P	17 10 30.5	+0.2
	comp=N,0.2nm,0.3s,baz=72,slow=8.0,SNR=3.0						
YKA	Yellowknife Ar	55.20	34	P	P	17 11 38.0	+0.3
	comp=N,0.3nm,0.7s,baz=300,slow=7.0,SNR=4.8						
YKA	Yellowknife Ar	55.20	34	P	P	17 11 38.0	+0.3
WRA	Warramunga Arr	64.82	195	P	P	17 12 44.7	+0.7
	comp=N,0.2nm,0.7s,baz=11,slow=6.5,SNR=2.9						

FINES	**FINESS Array B**	**65.11**	**333**	P	**P**	**17 12 45.0**	**-0.4**
	comp=N,3.4nm,0.6s,baz=40,slow=7.0,SNR=13						
FINES	**FINESS Array B**	**65.11**	**333**	P	**P**	**17 12 45.0**	**-0.4**
FINES				pmax	pmax		
	comp=Z,3.0nm,0.6s						
NB2	**NORSAR Subarra**	**69.75**	**339**	P	**P**	**17 13 14.4**	**-0.4**
	comp=Z,0.6nm,0.5s,baz=29,slow=6.5						
NOA	**NORSAR Array B**	**69.75**	**339**	P	**P**	**17 13 14.7**	**-0.1**
	comp=Z,0.8nm,0.5s,baz=32,slow=6.6,SNR=7.4						
HFS	**Hagfors**	**69.86**	**338**	P	**P**	**17 13 15.2**	**-0.2**
	comp=Z,1.4nm,0.5s,baz=19,slow=4.9,SNR=10.0						
KBZ	**Khabaz**	**70.31**	**312**	P	**P**	**17 13 19.9**	**+1.4**
	comp=Z,1.2nm,0.8s,baz=51,slow=3.7,SNR=4.3						
TXAR	**Lajitas Array**	**81.86**	**57**	P	**P**	**17 14 25.6**	**+1.1**
	comp=Z,0.1nm,0.5s,baz=343,slow=2.8,SNR=2.6						

*NEIC **03** 17:05:50.0±0.0, 43˚.62S×172˚.67E, h16km, ML3.8(WEL), After WEL.*
NEIC Felt at Christchurch.
WEL 03 17:05:48.7,±1˚×**172˚.7E**±0˚.7, **h16**km, **ML3.8**/7, **1C-2D, South Island**

Note: WEL line reads: **WEL 03 17:05:48.7, 44˚S**±1˚×**172˚.7E**±0˚.7, **h16**km, **ML3.8**/7, **1C-2D, South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRLZ	**Canterbury Las**	**0.06**	**324**	⇓P*	Pg	17 05 53.3	+1.7
CRLZ	**Canterbury Las**	**0.06**	**324**	P	Pg	17 05 53.3	+1.7
CRLZ	**Canterbury Las**	**0.06**	**324**	S	Sg	17 05 55.2	+1.7
MQZ	**McQueen's Vall**	**0.09**	**187**	⇑eP*	Pg	17 05 53.1	+1.2
MQZ				S*	Sg	17 05 55.2	+1.1
MQZ	**McQueen's Vall**	**0.09**	**187**	P	Pg	17 05 53.0	+1.0
MQZ	**McQueen's Vall**	**0.09**	**187**	S	Sg	17 05 55.4	+1.4
EYCZ	**Eyrewell**	**0.30**	**311**	P	Pb	17 05 56.5	+0.7
OKCZ	**Okains Bay**	**0.30**	**110**	P	Pb	17 05 56.5	+0.7
AKCZ	**Akaroa Harbour**	**0.31**	**145**	P	Pb	17 05 56.7	+0.8
OXZ	**Oxford**	**0.54**	**302**	⇓P*	Pb	17 06 00.5	+0.6
OXZ	**Oxford**	**0.54**	**302**	P	Pb	17 06 00.6	+0.7
LTZ	**Lake Taylor**	**0.89**	**341**	P*	Pg	17 06 06.0	+0.1
LTZ	**Lake Taylor**	**0.89**	**341**	P	Pg	17 06 06.1	+0.1
RPZ	**Rata Peaks**	**1.18**	**265**	Pn	Pb	17 06 10.9	+0.2
RPZ	**Rata Peaks**	**1.18**	**265**	P	Pb	17 06 10.9	+0.2
RPZ	**Rata Peaks**	**1.18**	**265**	P	Pb	17 06 10.9	+0.2
INZ	**Inchbonnie**	**1.27**	**315**	P	Pb	17 06 12.3	+0.1
KHZ	**Kahutara**	**1.36**	**28**	Pn	Pn	17 06 11.9	-1.1
KHZ	**Kahutara**	**1.36**	**28**	P	Pn	17 06 12.1	-1.0
WVZ	**Waitaha Valley**	**1.51**	**290**	Pn	Pb	17 06 15.9	-0.5
WVZ	**Waitaha Valley**	**1.51**	**290**	P	Pb	17 06 15.9	-0.5
THZ	**Tophouse**	**1.86**	**5**	Pn	Pn	17 06 19.6	-0.5
THZ	**Tophouse**	**1.86**	**5**	P	Pn	17 06 19.7	-0.4
LBZ	**Lake Benmore**	**1.95**	**246**	Pn	Pn	17 06 22.0	+0.8
LBZ	**Lake Benmore**	**1.95**	**246**	P	Pn	17 06 22.1	+0.9
DSZ	**Denniston Nort**	**1.98**	**341**	Pn	Pn	17 06 22.5	+0.9
DSZ	**Denniston Nort**	**1.98**	**341**	P	Pn	17 06 22.7	+1.0
ODZ	**Otahua Downs**	**2.03**	**225**	Pn	Pn	17 06 22.5	+0.1
ODZ	**Otahua Downs**	**2.03**	**225**	P	Pn	17 06 22.5	+0.1
FOZ	**Fox Glacier**	**2.08**	**271**	Pn	Pb	17 06 24.9	-1.1
FOZ	**Fox Glacier**	**2.08**	**271**	P	Pb	17 06 24.9	-1.1
BSWZ	**Blackbirch Sta**	**2.10**	**25**	Pn	Pn	17 06 22.9	-0.3
BSWZ	**Blackbirch Sta**	**2.10**	**25**	P	Pn	17 06 23.0	-0.3
TUWZ	**Tuamarina**	**2.38**	**24**	Pn	Pn	17 06 26.4	-0.7
TUWZ	**Tuamarina**	**2.38**	**24**	P	Pn	17 06 26.4	-0.7
NNZ	**Nelson**	**2.46**	**13**	Pn	Pn	17 06 28.2	0.0
NNZ	**Nelson**	**2.46**	**13**	P	Pn	17 06 28.4	+0.2
TCW	**Tory Channel**	**2.69**	**27**	Pn	Pn	17 06 30.5	-0.8
TCW	**Tory Channel**	**2.69**	**27**	P	Pn	17 06 30.6	-0.7
HHSZ	**Highcliff Hill**	**2.70**	**212**	P	Pn	17 06 31.6	0.0
BHW	**Baring Head**	**2.75**	**37**	P	Pn	17 06 31.2	-0.9
QRZ	**Quartz Range**	**2.79**	**358**	P	Pn	17 06 33.1	+0.3
WEL	**Wellington**	**2.80**	**34**	Pn	Pn	17 06 31.9	-1.0
JCZ	**Jackson Bay**	**2.84**	**259**	Pn	Pn	17 06 34.7	+1.1
JCZ	**Jackson Bay**	**2.84**	**259**	P	Pn	17 06 34.5	+0.9
JCZ	**Jackson Bay**	**2.84**	**259**	P	Pn	17 06 35.1	+1.5
WKZ	**Wanaka**	**2.89**	**244**	Pn	Pn	17 06 34.8	+0.7
WKZ	**Wanaka**	**2.89**	**244**	P	Pn	17 06 34.6	+0.5
EAZ	**Earnscleugh**	**2.90**	**235**	Pn	Pn	17 06 34.5	+0.3
EAZ	**Earnscleugh**	**2.90**	**235**	P	Pn	17 06 34.6	+0.4
MSWZ	**Moikau Station**	**2.91**	**42**	Pn	Pn	17 06 32.9	-1.6
MSWZ	**Moikau Station**	**2.91**	**42**	P	Pn	17 06 33.0	-1.5
DUWZ	**D'Urville Isla**	**2.97**	**19**	P	Pb	17 06 40.2	-1.0
PAWZ	**Paruwai Farm**	**3.03**	**43**	P	Pn	17 06 34.5	-1.6
CAW	**Cannon Point**	**3.08**	**36**	Pn	Pn	17 06 35.2	-1.5
CAW	**Cannon Point**	**3.08**	**36**	P	Pn	17 06 35.3	-1.4
TRWZ	**Traveller**	**3.15**	**46**	P	Pn	17 06 36.1	-1.6
TUZ	**Tuapeka**	**3.18**	**222**	Pn	Pn	17 06 38.3	+0.2
TUZ	**Tuapeka**	**3.18**	**222**	P	Pn	17 06 38.3	+0.2
KIW	**Kapiti Island**	**3.22**	**32**	Pn	Pn	17 06 37.8	-0.9
KIW	**Kapiti Island**	**3.22**	**32**	P	Pn	17 06 37.9	-0.7
MTW	**Mount Morrison**	**3.23**	**41**	Pn	Pn	17 06 37.1	-1.8
MTW	**Mount Morrison**	**3.23**	**41**	P	Pn	17 06 37.2	-1.7
OGWZ	**Otaki Gorge**	**3.36**	**34**	Pn	Pn	17 06 39.1	-1.5
OGWZ	**Otaki Gorge**	**3.36**	**34**	P	Pn	17 06 39.5	-1.1
HOWZ	**Holdsworth Sta**	**3.44**	**39**	Pn	Pn	17 06 40.6	-1.2
HOWZ	**Holdsworth Sta**	**3.44**	**39**	P	Pn	17 06 40.6	-1.2
MSZ	**Milford Sound**	**3.57**	**251**	Pn	Pn	17 06 44.2	+0.7
MSZ	**Milford Sound**	**3.57**	**251**	P	Pn	17 06 43.9	+0.5
MRZ	**Mangatainoka R**	**3.66**	**37**	Pn	Pn	17 06 42.9	-1.9
MRZ	**Mangatainoka R**	**3.66**	**37**	P	Pn	17 06 42.9	-1.8
MLZ	**Mavora Lakes**	**3.69**	**240**	Pn	Pn	17 06 45.3	+0.1
MLZ	**Mavora Lakes**	**3.69**	**240**	P	Pn	17 06 45.3	+0.1
MLZ	**Mavora Lakes**	**3.69**	**240**	P	Pn	17 06 45.4	+0.2
SYZ	**Scrubby Hill**	**3.84**	**219**	Pn	Pn	17 06 47.5	+0.4
SYZ	**Scrubby Hill**	**3.84**	**219**	P	Pn	17 06 47.5	+0.4
BFZ	**Birch Farm**	**3.96**	**43**	Pn	Pn	17 06 46.9	-2.0
BFZ	**Birch Farm**	**3.96**	**43**	P	Pn	17 06 46.9	-1.9
WHZ	**Wether Hill Ro**	**4.06**	**234**	Pn	Pn	17 06 49.5	-0.7
WHZ	**Wether Hill Ro**	**4.06**	**234**	P	Pn	17 06 49.5	-0.7
WAZ	**Wanganui**	**4.23**	**25**	P	Pn	17 06 54.2	+1.6
ANWZ	**Angora Road**	**4.24**	**43**	P	Pn	17 06 51.2	-1.5
TSZ	**Takapari Road**	**4.33**	**36**	P	Pn	17 06 53.2	-0.7
LREZ	**Lake Rotokare**	**4.36**	**18**	P	Pn	17 06 56.4	+2.2
PNHZ	**Pukenui**	**4.55**	**37**	P	Pn	17 06 54.9	-2.1
APZ	**The Paps**	**4.61**	**224**	Pn	Pn	17 06 58.4	+0.7
APZ	**The Paps**	**4.61**	**224**	P	Pn	17 06 58.4	+0.7
VRZ	**Vera Road**	**4.76**	**20**	Pn	Pn	17 07 00.3	+0.5
VRZ	**Vera Road**	**4.76**	**20**	P	Pn	17 07 00.4	+0.6
MOVZ	**Moawhango**	**4.80**	**30**	P	Pn	17 07 00.1	-0.4
WNVZ	**Wahianoa**	**4.82**	**28**	*e*Pn	Pn	17 07 00.2	-0.6
KRHZ	**Kereru**	**4.84**	**36**	P	Pn	17 06 59.5	-1.5
WHVZ	**Whangaehu Hut**	**4.86**	**28**	P	Pn	17 07 01.9	+0.5
TUVZ	**Tukino**	**4.89**	**28**	P	Pn	17 07 02.2	+0.4
KAHZ	**Kahuranaki**	**4.95**	**41**	P	Pn	17 07 02.2	-0.3
WTVZ	**West Tongariro**	**5.01**	**27**	P	Pn	17 06 60.0	-3.4
MCHZ	**McNeill Hill**	**5.15**	**37**	P	Pn	17 07 03.9	-1.3
BKZ	**Black Stump Fm**	**5.30**	**34**	P	Pn	17 07 05.7	-1.6
HIZ	**Hauiti**	**5.36**	**19**	Pn	Pn	17 07 07.2	-0.9
HIZ	**Hauiti**	**5.36**	**19**	P	Pn	17 07 07.9	-0.2

*IDC **03** 17:11:16.2±1.8, 0˚.64N×96˚.97E, h0km, mb3.8/4, mb1 3.9/5, mb1mx3.4/60, mbtmp3.7/5, ML2.5/1, MS2.5/1, Ms1 2.5/1, ms1mx2.3/55, Error ellipse: s-maj=39.8km s-min=26.4km az=59.0*
ISC 03 17:11:20.6±1.5, **0˚.8N**±0˚.1×**97˚.2E**±0˚.2, **h23**km, **n12**, σ**0^{s}39**/7, **mb3.9**/4, **Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.66**	**41**	Pn	**Pn**	**17 12 02.8**	**+0.6**
	0.7nm,0.3s,baz=259,slow=16,SNR=3.6						
PSI				Sn	**Sb**	**17 12 39.5**	**-0.4**
	1.1nm,0.3s,baz=146,slow=0.9,SNR=5.7						
PSI				LR	LR	17 13 08.1	
	comp=Z,85nm,19.1s,baz=124,slow=40						
CMAR	**Chiang Mai Arr**	**17.65**	**6**	P	**Pn**	**17 15 25.0**	**-0.1**
	baz=195,slow=10,SNR=6.2						
H08S2	**Diego Garcia H**	**26.00**	**251**	T	T	17 43 56.6	
	baz=71,slow=75,SNR=81						
H08S3	**Diego Garcia H**	**26.00**	**251**	T	T	17 43 56.6	
	baz=71,slow=75,SNR=76						
H08S1	**Diego Carcia H**	**26.02**	**251**	T	T	17 43 56.6	
	baz=71,slow=75,SNR=76						
H08N1	**Diego Carcia H**	**27.05**	**254**	T	T	17 45 58.4	
	baz=114						
H08N2	**Diego Garcia H**	**27.06**	**255**	T	T	17 45 58.5	
	baz=114						
H08N3	**Diego Garcia H**	**27.08**	**254**	T	T	17 46 00.8	
	baz=114						
WRA	**Warramunga Arr**	**41.84**	**122**	P	**P**	**17 19 09.0**	**-0.1**
	1.6nm,0.3s,baz=304,slow=9.0,SNR=8.5						
MKAR	**Makanchi Array**	**47.64**	**346**	P	**P**	**17 19 54.9**	**0.0**
	0.5nm,0.6s,baz=162,slow=8.1,SNR=6.5						
KURBB	**Kurchatov Arra**	**52.12**	**345**	P	**P**	**17 20 28.9**	**0.0**
	0.2nm,0.5s,baz=166,slow=6.2,SNR=3.5						
ZALV	**Zalesovo Beam**	**53.96**	**351**	P	**P**	**17 20 42.2**	**-0.3**
	0.5nm,0.3s,baz=165,slow=6.0,SNR=3.0						

IDC 03 17:22:41.0±2.0, **0˚.26N**×**126˚.26E**, **h0**km, **mb3.2**/3, **mb1 3.5**/3, **mb1mx3.1**/56, **mbtmp3.3**/3, **MS3.5**/1, **Ms1 3.5**/1, **ms1mx2.7**/18, **Error ellipse: s-maj=190.8km s-min=25.3km az=65.0, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.58**	**159**	P	P	17 27 32.0	-0.5
	0.5nm,0.3s,baz=338,slow=10,SNR=4.6						
ASAR	**Alice Springs**	**24.91**	**163**	P	P	17 28 06.3	+0.3
	0.3nm,0.8s,baz=341,slow=7.1,SNR=7.9						
PSI	**Prapat**	**27.44**	**276**	LR	LR	17 40 35.1	
	comp=Z,97nm,18.2s,baz=160,slow=39						
MKAR	**Makanchi Array**	**60.15**	**327**	P	P	17 32 50.5	-0.1
	0.1nm,0.4s,baz=137,slow=7.2,SNR=3.3						

*NIED **03** 17:30:00, 28˚.10N×128˚.00E, h17km, Mw3.7 Best double couple: M0 4.05000×10^14 NP1:φs16.00000°, δ82.00000°, λ175.00000°. NP2:φs107.00000°, δ85.00000°, λ8.00000°.*
*JMA **03** 17:30:54.0±0.1, 28˚.09N×128˚.05E, h15km±1km, M3.6*
*ISCJB **03** 17:30:55.1±1.2, 28˚.07N±0˚.05×128˚.09E±0˚.07, h27km±8km, mb3.4/7, MS2.8/1, Error ellipse: s-maj=10.9km s-min=5.8km az=32.0*
*IDC **03** 17:30:59.8±1.2, 27˚.88N×128˚.22E, h63km±13km, mb3.1/7, mb1 3.4/8, mb1mx3.1/59, mbtmp3.5/8, MS2.9/1, Ms1 2.9/1, ms1mx2.5/17, Error ellipse: s-maj=30.2km s-min=14.4km az=82.0*
ISC 03 17:30:56.4±1.6, **28˚.00N**±0˚.06×**128˚.18E**±0˚.07, **h29**km±12km, **n18**, σ**0^{s}85**/24, **mb3.4**/7, **Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTK	**Tokunoshima**	**0.71**	**107**	P	**Pb**	**17 31 10.0**	**-0.3**
JTK				*e*S	**Sn**	**17 31 21.2**	**+0.7**
JOKE	**Okinoerabujima**	**0.72**	**152**	P	**Pb**	**17 31 10.2**	**-0.3**
JOKE				*e*S	**Sn**	**17 31 21.5**	**+0.7**
JAMN	**Amaminishikomi**	**0.91**	**74**	P	**Pb**	**17 31 12.7**	**-0.9**
JAMN				*e*S	**Sn**	**17 31 26.0**	**+0.6**
JIH	**Iheya**	**0.98**	**191**	P	**Pn**	**17 31 13.3**	**-0.9**
JIH				*e*S	**Sn**	**17 31 27.6**	**+0.5**
JOW	**Kunigami**	**1.17**	**176**	P	**Pn**	**17 31 17.0**	**+0.2**
	215nm,0.3s,baz=161,slow=14,SNR=84						
JOW				S	**Sb**	**17 31 32.8**	**+0.1**
	99nm,0.3s,baz=90,slow=27,SNR=13						
JOW	**Kunigami**	**1.17**	**176**	P	**Pn**	**17 31 17.0**	**+0.2**
JOW				*e*S	**Sb**	**17 31 33.6**	**+0.9**
JAM	**Amami Oshima**	**1.32**	**72**	P	**Pn**	**17 31 19.0**	**+0.1**
JAM				*e*S	**Sb**	**17 31 37.6**	**+0.6**
JNTH	**Nagotoyohara**	**1.48**	**186**	P	**Pn**	**17 31 21.6**	**+0.5**
JNTH				*e*S	**Sb**	**17 31 41.8**	**+0.1**
JJT3	**Tamagusuku3**	**1.88**	**191**	P	**Pn**	**17 31 27.4**	**+0.7**
JNU	**Nakatsue**	**5.61**	**24**	P	Pn	17 32 23.6	+5.7
	1.6nm,0.3s,baz=333,slow=7.2,SNR=11						
GUMO	**Guam**	**21.15**	**129**	LR	LR	17 41 57.6	
	comp=Z,40nm,21.6s,baz=339,slow=31						
SONM	**Songino Array**	**26.06**	**325**	P	**P**	**17 36 28.6**	**+1.2**
	0.4nm,0.4s,baz=120,slow=8.5,SNR=3.0						
MKAR	**Makanchi Array**	**40.34**	**310**	P	**P**	**17 38 30.8**	**-0.6**
	0.2nm,0.8s,baz=108,slow=9.3,SNR=2.8						
ZALV	**Zalesovo Beam**	**40.83**	**322**	P	**P**	**17 38 37.2**	**+2.0**
	0.4nm,0.3s,baz=114,slow=13,SNR=2.5						
WRA	**Warramunga Arr**	**48.03**	**172**	P	**P**	**17 39 32.1**	**-1.0**
	0.6nm,0.7s,baz=353,slow=8.4,SNR=5.4						
ASAR	**Alice Springs**	**51.66**	**173**	P	**P**	**17 39 59.4**	**-1.3**
	0.4nm,0.9s,baz=356,slow=8.8,SNR=3.3						
ILAR	**Eielson Array**	**62.91**	**29**	P	**P**	**17 41 19.3**	**-0.4**
	0.5nm,1.1s,baz=291,slow=7.7,SNR=4.7						
YKA	**Yellowknife Ar**	**76.94**	**25**	P	**P**	**17 42 45.3**	**-0.5**
	0.1nm,0.3s,baz=308,slow=5.4,SNR=4.1						

MEX 03 17:32:02.4±0.3, **15˚.90N**×**98˚.58W**, **h10**km±10km, **MD3.7, Off coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.65**	**41**	*i* P	Pg	17 32 13.6	-1.5
PNIG				*i* S	Sg	17 32 22.5	-1.1
TLIG	**Tlapa**	**1.65**	**0**	*e*P	Pn	17 32 28.0	-3.6
TLIG				*e*S	Sn	17 32 48.2	-4.8
CAIG	**El Cayaco**	**1.98**	**305**	*e*P	Pn	17 32 33.3	-2.7
CAIG				*e*S	Sn	17 32 56.6	-4.4
VHO	**Vista Hermosa**	**2.12**	**56**	*e*P	Pn	17 32 36.0	-2.1
VHO				*e*S	Sn	17 33 00.0	-4.6
PLIG	**Platanillo**	**2.63**	**340**	*e*P	Pn	17 32 45.6	+0.5
PLIG				*e*S	Sn	17 33 12.8	-4.4

MAN 03 17:45:23, 10˚.14N×**123˚.30E, h5**km**, mb4.5, ML3.4, MS3.2, 3C, Cebu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LLP	**Lapu-Lapu**	**0.68**	**75**	⇑*e*P	Pb	17 45 36.9	-0.5
LLP				*e*S	Sb	17 45 46.7	-0.4
TBP	**Tagbilaran**	**0.71**	**129**	*e*P	Pb	17 45 38.2	+0.3
TBP				*i* S	Sn	17 45 51.4	+0.4
SNPH	**Sibulan**	**0.79**	**185**	*e*P	Pb	17 45 39.4	+0.1
SNPH				*e*S	Sb	17 45 50.6	+0.2
GUIM	**Jordan**	**0.85**	**305**	*e*P	Pg	17 45 39.5	+0.1
GUIM				*e*S	Sb	17 45 51.8	-0.3
RCP	**Roxas**	**1.52**	**339**	⇑*e*P	Pb	17 45 51.5	-0.1
MSLP	**Maasin**	**1.53**	**90**	*e*P	Pb	17 45 51.7	-0.2
MSLP				*e*S	Sg	17 46 12.1	-0.3
DCPH	**Dipolog City**	**1.54**	**178**	⇑*e*P	Pn	17 45 51.0	-0.2
DCPH				*e*S	Sb	17 46 12.2	+0.2
IPIL	**Ipil**	**2.44**	**197**	*e*P	Pb	17 46 06.1	-1.3
IPIL				*e*S	Sb	17 46 36.0	-1.9

MAN 03 17:49:29, 10˚.12N×**123˚.18E, h22**km**, mb4.3, ML3.2, MS2.9, Cebu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIM	**Jordan**	**0.77**	**311**	*e*P	Pb	17 49 44.0	+0.3
GUIM				*e*S	Sn	17 49 56.3	+0.9
SNPH	**Sibulan**	**0.78**	**176**	*e*P	Pb	17 49 43.9	+0.1
MSLP	**Maasin**	**1.65**	**89**	*e*P	Pn	17 49 56.5	-0.2
MSLP				*e*S	Sb	17 50 18.4	-0.8

*IDC **03** 18:06:58.7±0.8, 4˚.97N×96˚.16E, h0km, mb3.8/13, mb1 3.9/14, mb1mx3.7/64, mbtmp3.8/14, ML3.7/1, MS3.2/4, Ms1 3.3/4, ms1mx2.8/60, Error ellipse: s-maj=38.1km s-min=14.0km az=49.0*
*DJA **03** 18:07:00.8±0.5, 5˚N±3˚×9˚6E±˚, h12km±4km, M4.4/11, mb4.6/1, MLv4.2/11*
*ISCJB **03** 18:07:02.0±0.5, 4˚.84N±0˚.03×96˚.10E±0˚.03, h44km±5km, mb4.3/45, MS3.4/2, Error ellipse: s-maj=6.7km s-min=4.2km az=43.9*
*NEIC **03** 18:07:04.3±0.8, 4˚.88N×96˚.13E, h46km±7km, mb4.4/27, Error ellipse: s-maj=9.5km s-min=4.7km az=52.0*
ISC 03 18:07:02.0±1.4, **4˚.84N**±0˚.04×**96˚.09E**±0˚.04, **h26**km±10km, **n108**, σ**1^{s}31**/117, **mb4.4**/44, **Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLSI	**Meulaboh, Aceh**	**0.65**	**151**	P	**Pb**	**18 07 13.8**	**-1.1**
MLSI				S	**Sb**	**18 07 22.5**	**-1.1**
LHMI	**Lhok Sumawe**	**0.94**	**66**	P	**Pn**	**18 07 18.9**	**-0.6**
LHMI				S	**Sn**	**18 07 32.2**	**+0.1**
LHMI	**Lhok Sumawe**	**0.94**	**66**	*e*Pn	**Pn**	**18 07 19.1**	**-0.5**
LHMI				*e*Sn	**Sb**	**18 07 30.8**	**-0.8**
BSI	**Banda Aceh**	**1.02**	**309**	P	**Pn**	**18 07 19.9**	**-0.8**
BSI				S	**Sn**	**18 07 34.3**	**0.0**
TPTI		**1.91**	**145**	P	**Pn**	**18 07 33.8**	**+0.8**
KCSI	**Kotacane, Aceh**	**2.13**	**128**	P	**Pn**	**18 07 35.8**	**-0.2**
KCSI				S	**Sb**	**18 08 08.5**	**+2.5**
TSI	**Tuntungan**	**2.81**	**118**	P	**Pn**	**18 07 45.8**	**+0.5**
PSI	**Prapat**	**3.48**	**126**	Pn	**Pn**	**18 07 57.2**	**+2.6**
	6.6nm,0.3s,baz=306,slow=13,SNR=23						
PSI				LR	LR	18 09 36.4	
	comp=Z,239nm,21.2s,baz=272,slow=44						
PSI	**Prapat**	**3.48**	**126**	*e*Pn	**Pn**	**18 07 57.8**	**+3.1**
PSI				*e*Sn	**Sn**	**18 08 37.5**	**+2.4**
GSI	**Gunungsitoli**	**3.82**	**157**	P	**Pn**	**18 08 00.0**	**+0.8**
GSI	**Gunungsitoli**	**3.82**	**157**	*e*Pn	**Pn**	**18 07 59.6**	**+0.4**
GSI				*e*Sn	**Sn**	**18 08 43.8**	**+0.5**
KULM	**Kulim**	**4.56**	**84**	*e*Pn	**Pn**	**18 08 10.3**	**+0.8**
KULM				*e*Sn	**Sn**	**18 09 01.6**	**-0.1**
IPM	**Ipoh**	**4.93**	**94**	*e*Pn	**Pn**	**18 08 15.6**	**+1.0**
IPM				*e*Sn	**Sn**	**18 09 11.5**	**+0.7**
MNSI	**Mandailing Nat**	**5.32**	**139**	P	**Pn**	**18 08 18.3**	**-1.6**
MNSI				S	**Sn**	**18 09 18.0**	**-2.4**
MYKOM	**Kota Tinggi**	**8.32**	**111**	*e*Pn	**Pn**	**18 09 00.7**	**-0.4**
MYKOM				*e*Sn	**Sn**	**18 10 29.5**	**-4.8**
MNAI	**Manna**	**11.43**	**143**	*e*Pn	**Pn**	**18 09 40.6**	**-3.1**
CM01	**Chiang Mai Arr**	**13.78**	**12**	*e*Pn	**P**	**18 10 24.6**	**+0.5**
CM31	**Chiang Mai Arr**	**13.81**	**11**	*e*Pn	**Pn**	**18 10 17.7**	**+1.4**
CMAR	**Chiang Mai Arr**	**13.81**	**11**	Pn	**Pn**	**18 10 19.4**	**+3.1**
	0.1nm,0.3s,baz=196,slow=13,SNR=3.5						
CMAR				Lg	Lg	18 14 16.0	
	0.0nm,0.3s,baz=188,slow=31,SNR=4.9						
CMAR				LR	LR	18 16 09.1	
	comp=Z,111nm,18.2s,baz=194,slow=40						
CHTO	**Chiang Mai**	**14.16**	**11**	*e*Pn	**P**	**18 10 26.1**	**-2.2**
KSM	**Kuching**	**14.58**	**103**	*e*Pn	**P**	**18 10 35.0**	**+1.9**
PALK	**Pallekele**	**15.49**	**280**	Pn	**P**	**18 10 42.1**	**-1.1**
	0.2nm,0.3s,baz=115,slow=19,SNR=2.1						
PALK				Sn	Sn	18 13 17.7	-12
	0.2nm,0.3s,baz=119,slow=14,SNR=2.3						
PALK	**Pallekele**	**15.49**	**280**	*e*Pn	**P**	**18 10 45.1**	**+1.9**
	16nm,1.4s						
PALK				Sn	Sn	18 13 17.7	-12
SHL	**Shillong**	**21.00**	**349**	*e*P	**P**	**18 11 43.2**	**-0.6**
	10nm,0.6s						
KMI	**Kunming**	**21.15**	**17**	P	**P**	**18 11 46.4**	**+0.9**
KMI				pmax	pmax		
	comp=Z,11nm,0.5s						
HYB	**Hyderabad**	**21.24**	**307**	*i* P	**P**	**18 11 48.0**	**+1.7**
LSA	**Lhasa**	**25.16**	**350**	*e*P	**P**	**18 12 26.2**	**+0.4**
	comp=Z,2.8nm,0.9s						
LZH	**Lanzhou**	**31.90**	**12**	*e*P	**P**	**18 13 28.1**	**+2.5**
LZH				pP	pP	18 13 32.7	-0.6
LZH				sP	sP	18 13 35.4	-1.0
LZH				pmax	pmax		
	comp=Z,19nm,0.7s						
NJ2	**Nanjing**	**34.45**	**36**	*e*P	**P**	**18 13 46.7**	**-1.1**
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.7s						
GTA	**Gaotai**	**34.58**	**5**	*e*P	**P**	**18 13 49.8**	**+0.9**
GTA				pP	pP	18 13 54.2	-2.4
GTA				sP	sP	18 13 57.3	-2.4
GTA				pmax	pmax		
	comp=Z,2.0nm,1.0s						
NIL	**Nilore**	**35.68**	**326**	*e*P	**P**	**18 13 57.6**	**-0.7**
	comp=Z,6.0nm,0.6s						
HHC	**Hu-ho-hao-te**	**38.45**	**19**	*e*P	**P**	**18 14 23.3**	**+1.4**
HHC				pmax	pmax		
	comp=Z,10.0nm,0.9s						
HHC				pmax	pmax		
	comp=Z,120nm,5.3s						
WMQ	**Urumqi**	**39.52**	**350**	P	**P**	**18 14 31.8**	**+1.1**
WSAR	**Wadi Sarin**	**40.49**	**301**	P	**P**	**18 14 41.0**	**+1.9**
	comp=Z,1.8nm,0.6s,baz=142,slow=6.9,SNR=5.5						
KDJ	**Kajisay**	**40.77**	**338**	*e*P	**P**	**18 14 42.1**	**+0.8**
	comp=Z,2.2nm,1.1s						
MK01	**Makanchi Array**	**43.44**	**346**	*e*P	**P**	**18 15 02.5**	**-0.3**
MK31	**Makanchi Array**	**43.46**	**346**	*e*P	**P**	**18 15 04.2**	**+1.2**
MK32	**Makanchi Array**	**43.46**	**346**	*e*P	**P**	**18 15 03.0**	**0.0**
MKAR	**Makanchi Array**	**43.46**	**346**	P	**P**	**18 15 03.0**	**0.0**
	comp=Z,0.5nm,0.7s,baz=158,slow=7.8,SNR=4.9						
MKAR	**Makanchi Array**	**43.46**	**346**	*e*P	**P**	**18 15 02.6**	**-0.4**
	comp=Z,5.4nm,0.4s						
KS15	**Wonju Array Si**	**43.54**	**38**	*e*P	**P**	**18 15 05.0**	**+1.3**
MAKZ	**Makanchi**	**43.55**	**346**	*e*P	**P**	**18 15 04.1**	**+0.4**
	comp=Z,1.9nm,1.2s						
KS01	**Wonju Array Si**	**43.57**	**37**	*e*P	**P**	**18 15 04.6**	**+0.6**
SONA0	**Songino Array**	**43.74**	**10**	*e*P	**P**	**18 15 06.6**	**+1.2**
SONM	**Songino Array**	**43.74**	**10**	P	**P**	**18 15 06.6**	**+1.2**
	comp=Z,0.6nm,0.5s,baz=193,slow=10,SNR=2.8						
SONA1	**Songino Array**	**43.75**	**10**	*e*P	**P**	**18 15 05.0**	**-0.4**
KK07	**Karatay Array**	**44.32**	**333**	*e*P	**P**	**18 15 08.5**	**-1.4**
KK02	**Karatay Array**	**44.32**	**333**	*e*P	**P**	**18 15 08.2**	**-1.7**
KK31	**Karatay Array**	**44.32**	**333**	*e*P	**P**	**18 15 08.8**	**-1.2**
KKAR	**Karatay Array**	**44.32**	**333**	*e*P	**P**	**18 15 08.9**	**-1.0**
KK01	**Karatay Array**	**44.33**	**333**	*e*P	**P**	**18 15 08.3**	**-1.7**
KK04	**Karatay Array**	**44.33**	**333**	*e*P	**P**	**18 15 08.5**	**-1.6**
WR1	**Warramunga Arr**	**44.95**	**124**	*e*P	**P**	**18 15 15.6**	**+0.3**
	comp=Z,11nm,1.6s						
WRA	**Warramunga Arr**	**44.95**	**124**	P	**P**	**18 15 15.6**	**+0.3**
	comp=Z,0.8nm,0.5s,baz=301,slow=9.2,SNR=16						
WB2	**Warramunga Arr**	**44.96**	**124**	*e*P	**P**	**18 15 13.8**	**-1.5**
WC3	**Warramunga Arr**	**44.98**	**124**	*e*P	**P**	**18 15 15.2**	**-0.3**
	comp=Z,10.0nm,1.4s						
ASAR	**Alice Springs**	**46.50**	**129**	P	**P**	**18 15 28.1**	**+0.5**
	comp=Z,2.0nm,0.4s,baz=301,slow=7.7,SNR=51						
AS31	**Alice Springs**	**46.50**	**129**	*e*P	**P**	**18 15 27.8**	**+0.2**
	comp=Z,1.0nm,0.8s						
AS01	**Alice Springs**	**46.54**	**129**	*e*P	**P**	**18 15 28.1**	**+0.3**
FORT	**Forrest**	**46.78**	**141**	*e*P	**P**	**18 15 30.4**	**+0.9**
	comp=Z,833nm,1.8s						
GYB1	**ALIBECK ARRAY**	**47.73**	**319**	*e*P	**P**	**18 15 36.0**	**-0.9**
	comp=Z,2.7nm,0.8s						
GYA1	**ALIBECK ARRAY**	**47.73**	**319**	*e*P	**P**	**18 15 35.4**	**-1.6**
	comp=Z,3.6nm,0.7s						
GYB2	**ALIBECK ARRAY**	**47.74**	**319**	*e*P	**P**	**18 15 37.0**	**0.0**
	comp=Z,4.8nm,0.7s						
GEYT	**Alibeck**	**47.74**	**319**	P	**P**	**18 15 38.0**	**+0.9**
	comp=Z,3.6nm,0.8s,baz=151,slow=9.4,SNR=10						
GYA0	**ALIBECK ARRAY**	**47.74**	**319**	*e*P	**P**	**18 15 37.6**	**+0.5**
	comp=Z,3.3nm,0.6s						
GYA0B	**ALIBECK ARRAY**	**47.74**	**319**	*e*P	**P**	**18 15 37.5**	**+0.4**
	comp=Z,3.3nm,0.6s						
GYA2	**ALIBECK ARRAY**	**47.74**	**319**	*e*P	**P**	**18 15 37.9**	**+0.8**
	comp=Z,3.4nm,0.8s						
GYB5	**ALIBECK ARRAY**	**47.74**	**319**	*e*P	**P**	**18 15 37.0**	**0.0**
	comp=Z,2.5nm,0.6s						
GYA3	**ALIBECK ARRAY**	**47.74**	**319**	*e*P	**P**	**18 15 38.0**	**+1.0**
	comp=Z,2.1nm,1.6s						
GYB3	**ALIBECK ARRAY**	**47.75**	**319**	*e*P	**P**	**18 15 37.9**	**+0.8**
	comp=Z,3.4nm,0.6s						
GYB4	**ALIBECK ARRAY**	**47.75**	**319**	*e*P	**P**	**18 15 37.8**	**+0.7**
	comp=Z,3.1nm,0.8s						
KURBB	**Kurchatov Arra**	**47.95**	**345**	P	**P**	**18 15 38.2**	**-0.2**
	comp=Z,0.2nm,0.6s,baz=163,slow=6.8,SNR=2.7						
KURK	**Kurchatov**	**48.01**	**345**	*e*P	**P**	**18 15 38.2**	**-0.6**
ZALV	**Zalesovo Beam**	**49.81**	**351**	P	**P**	**18 15 50.5**	**-2.0**
	comp=Z,0.5nm,0.6s,baz=187,slow=10,SNR=2.6						
ZALV	**Zalesovo Beam**	**49.81**	**351**	*e*P	**P**	**18 15 52.7**	**+0.1**
ZAA1	**Zalesovo Array**	**49.81**	**351**	*e*P	**P**	**18 15 50.5**	**-2.1**
ANA2	**Anatahan**	**49.97**	**73**	*e*P	**P**	**18 15 53.3**	**-1.1**
SARN	**Sarigan**	**50.08**	**72**	*e*P	**P**	**18 15 54.8**	**-0.5**
RAYN	**Ar Rayn**	**52.12**	**296**	*e*P	**P**	**18 16 11.1**	**+0.5**
	comp=Z,4.5nm,1.3s						
BVAR	**Borovoye Array**	**52.47**	**341**	P	**P**	**18 16 12.1**	**-0.5**
	comp=Z,0.3nm,0.6s,baz=134,slow=8.3,SNR=3.0						
BRVK	**Borovoye**	**52.53**	**341**	*e*P	**P**	**18 16 12.4**	**-0.6**
	comp=Z,7.5nm,1.8s						
PMG	**Port Moresby**	**52.83**	**106**	*e*P	**P**	**18 16 15.0**	**-0.8**
	comp=Z,22nm,1.3s						
BBOO	**Buckleboo**	**53.28**	**138**	*e*P	**P**	**18 16 18.2**	**-0.8**
AB07	**Akbulak array**	**53.78**	**331**	*e*P	**P**	**18 16 21.5**	**-0.8**
AB06	**Akbulak array**	**53.79**	**331**	*e*P	**P**	**18 16 21.1**	**-1.2**
AB08	**Akbulak array**	**53.80**	**331**	*e*P	**P**	**18 16 21.4**	**-1.0**
AB03	**Akbulak array**	**53.80**	**331**	*e*P	**P**	**18 16 21.9**	**-0.6**
AB01	**Akbulak array**	**53.80**	**331**	*e*P	**P**	**18 16 21.2**	**-1.2**
AB02	**Akbulak array**	**53.80**	**331**	*e*P	**P**	**18 16 21.5**	**-1.0**
AB31	**Akbulak array**	**53.80**	**331**	*e*P	**P**	**18 16 21.6**	**-0.8**
ABKAR	**Akbulak array**	**53.80**	**331**	*e*P	**P**	**18 16 21.3**	**-1.1**
	comp=Z,9.4nm,0.9s						
AB04	**Akbulak array**	**53.81**	**331**	*e*P	**P**	**18 16 21.4**	**-1.1**
AB05	**Akbulak array**	**53.81**	**331**	*e*P	**P**	**18 16 21.7**	**-0.8**
AB09	**Akbulak array**	**53.82**	**331**	*e*P	**P**	**18 16 21.5**	**-1.1**
ASAJ	**Asahikawa**	**56.48**	**39**	*e*P	**P**	**18 16 39.6**	**-2.3**
	comp=Z,19nm,1.3s						
STKA	**Stephens Creek**	**56.63**	**133**	P	**P**	**18 16 43.7**	**+0.5**
	comp=Z,1.7nm,0.7s,baz=310,slow=7.2,SNR=4.9						
STKA	**Stephens Creek**	**56.63**	**133**	*e*P	**P**	**18 16 43.2**	**+0.1**
	comp=Z,2.3nm,1.4s						
YSS	**Yuzh-Sakhalins**	**58.02**	**36**	*e*P	**P**	**18 16 50.6**	**-2.2**
	comp=Z,165nm,1.9s						
YAK	**Yakutsk**	**62.27**	**17**	*e*P	**P**	**18 17 20.4**	**-1.2**
	comp=Z,13nm,0.3s						
CSS	**Mathiatis**	**65.01**	**306**	*e*P	**P**	**18 17 40.0**	**-0.2**
	comp=Z,4.6nm,1.7s						
BR101	**Keskin Array S**	**65.87**	**311**	*e*P	**P**	**18 17 45.1**	**-0.8**
BRTR	**Keskin Array B**	**65.87**	**311**	P	**P**	**18 17 45.1**	**-0.8**
	comp=Z,0.5nm,0.7s,baz=130,slow=8.6,SNR=4.1						
FIA0	**FINESS Array S**	**76.28**	**332**	*e*P	**P**	**18 18 47.7**	**-0.6**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FINES	FINESS Array B	76.28	332	P	P	18 18 47.7	-0.6
	comp=Z,2.1nm,1.0s,baz=59,slow=5.4,SNR=2.7						
HFS	Hagfors	82.03	330	LR	LR	18 57 34.1	
	comp=Z,21nm,18.1s,baz=72,slow=37						
NOA	NORSAR Array B	83.30	331	LR	LR	19 01 18.0	
	comp=Z,9.6nm,19.7s,baz=330,slow=39						
TORD	Torodi Ar. Bea	93.18	283	P	P	18 20 16.3	+1.5
	comp=Z,0.2nm,0.5s,baz=88,slow=4.6,SNR=2.3						
TOA1	Torodi Ar. Sit	93.18	283	eP	P	18 20 16.3	+1.4

IDC 03 18:09:25.4±8.5, 4°.27S×153°.11E, h140km±58km, mb3.1/3, mb1 3.4/4, mb1mx3.0/49, mbtmp3.7/4, Error ellipse: s-maj=109.9km s-min=55.5km az=123.0, New Ireland region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	7.81	229	P	Pn	18 11 16.6	+0.3
	2.2nm,0.3s,baz=50,slow=7.8,SNR=9.1						
PMG				S	Sn	18 12 43.2	-0.1
	0.5nm,0.3s,baz=324,slow=19,SNR=3.4						
WRA	Warramunga Arr	24.03	228	P	P	18 14 28.3	+0.7
	1.4nm,0.5s,baz=53,slow=10.0,SNR=25						
ASAR	Alice Springs	26.75	222	P	P	18 14 51.8	-0.3
	0.2nm,0.6s,baz=57,slow=8.9,SNR=5.4						
FITZ	Fitzroy Crossi	30.19	241	P	P	18 15 22.4	-0.2
	0.8nm,0.7s,baz=90,slow=9.4						
TORD	Torodi Ar. Bea	150.43	289	PKPbc	PKPbc	18 29 00.9	-0.5
	0.2nm,0.6s,baz=96,slow=3.4,SNR=2.8						

IDC 03 18:20:43.0±1.6, 27°.00S×113°.78W, h0km, mb3.8/2, mb1 4.2/2, mb1mx3.7/34, mbtmp3.8/2, MS3.7/7, Ms1 3.7/7, ms1mx3.3/39, Error ellipse: s-maj=99.0km s-min=58.5km az=100.0, Easter Island region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PPT	Papeete	34.33	278	LR	LR	18 36 15.8	
	comp=Z,91nm,21.0s,baz=144,slow=27						
RAR	Rarotonga	42.20	268	LR	LR	18 41 06.4	
	comp=Z,111nm,21.6s,baz=96,slow=29						
LPAZ	La Paz	43.54	85	LR	LR	18 43 18.9	
	comp=Z,54nm,19.2s,baz=259,slow=31						
CPUP	Villa Florida	50.08	103	LR	LR	18 46 58.8	
	comp=Z,95nm,18.8s,baz=220,slow=32						
SDV	Santo Domingo	54.97	56	LR	LR	18 50 38.5	
	comp=Z,45nm,18.7s,baz=88,slow=33						
URZ	Urewera	58.07	240	LR	LR	18 50 28.6	
	comp=Z,104nm,19.5s,baz=96,slow=31						
PCRV	Puerto La Cruz	60.31	59	LR	LR	18 55 59.0	
	comp=Z,88nm,18.9s,baz=219,slow=35						
NVAR	Mina Array Bea	65.23	356	P	P	18 31 27.1	+0.7
	1.4nm,0.9s,baz=184,slow=9.6,SNR=7.2						
YKA	Yellowknife Ar	89.19	360	P	P	18 33 39.0	-1.0
	0.2nm,0.6s,baz=175,slow=5.2,SNR=5.3						
H11S2	WAKE ISLAND Hy	89.33	291	T	T	20 12 09.6	
	baz=119,slow=76,SNR=14						
H11S1	WAKE ISLAND Hy	89.34	291	T	T	20 12 14.3	
	baz=119,slow=76,SNR=50						
H11S3	WAKE ISLAND Hy	89.35	291	T	T	20 12 08.4	
	baz=119,slow=76,SNR=23						
H11N3	WAKE ISLAND Hy	89.75	292	T	T	20 12 50.1	
	baz=121						
H11N1	WAKE ISLAND Hy	89.76	292	T	T	20 12 49.9	
	baz=121,SNR=6.1						
H11N2	WAKE ISLAND Hy	89.76	292	T	T	20 12 56.3	
	baz=121						
H01W1	Cape Leeuwin H	103.55	219	T	T	20 30 19.8	
	baz=133,slow=76,SNR=11						
H01W2	Cape Leeuwin H	103.55	219	T	T	20 30 20.2	
	baz=133,slow=76,SNR=11						
H01W3	Cape Leeuwin H	103.56	219	T	T	20 30 21.4	
	baz=133,slow=76,SNR=11						
CMAR	Chiang Mai Arr	148.72	261	PKPbc	PKPbc	18 40 32.9	-0.1
	0.8nm,0.9s,baz=150,slow=0.7,SNR=6.2						
ZALV	Zalesovo Beam	149.78	338	PKPbc	PKPbc	18 40 33.5	-1.1
	0.9nm,0.5s,baz=32,slow=2.9,SNR=6.2						
BRTR	Keskin Array B	150.15	57	PKPbc	PKPbc	18 40 36.0	-0.2
	0.8nm,1.0s,baz=247,slow=3.0,SNR=3.6						
BVAR	Borovoye Array	153.82	354	PKPbc	PKPbc	18 40 43.7	-0.1
	0.5nm,0.6s,baz=31,slow=0.8,SNR=4.5						

*DDA **03** 18:37:55.3, 39°.23N×29°.09E, h7km, Md2.5*
*ISK **03** 18:37:56.3, 39°.12N×29°.20E, h5km, ML2.1/3*
*CSEM **03** 18:37:57.1±0.2, 39°.16N×29°.11E, h2km, ML2.1, Error ellipse: s-maj=4.5km s-min=3.6km az=161.0*
ISC 03 18:37:56.2±1.0, 39°.14N±0°.04×29°.13E±0°.02, h16km±8km, n18, σ0s.80/32, Turkey

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SIMA	Simav-Kutahya	0.13	243	PG	Pg	18 38 00.2	+0.1
SIMA	Simav-Kutahya	0.13	243	ePg	Pg	18 38 00.2	+0.1
GDZ	Gediz	0.28	101	i P	Pg	18 38 02.7	+0.3
GDZ				i S	Sg	18 38 07.0	+0.4
GDZ	Gediz	0.28	101	P	Pg	18 38 02.7	+0.3
GDZ				S	Sg	18 38 07.0	+0.4
DEMI	Demirci	0.34	253	i P	Pg	18 38 03.8	+0.5
DEMI				i S	Sg	18 38 07.9	-0.2
DEMI	Demirci	0.34	253	P	Pg	18 38 03.8	+0.5
DEMI				S	Sg	18 38 07.9	-0.2
TVSB	Tavsanli	0.40	40	PG	Pb	18 38 04.5	-0.5
TVSB				SG	Sb	18 38 10.3	-0.7
TVSB	Tavsanli	0.40	40	ePg	Pb	18 38 04.5	-0.5
TVSB				eSg	Sb	18 38 10.3	-0.7
DURS	Dursunbey	0.68	312	i P	Pb	18 38 10.2	+0.4
DURS				i S	Sg	18 38 17.2	-1.6
DURS	Dursunbey	0.68	312	P	Pb	18 38 10.2	+0.4
DURS				S	Sg	18 38 17.2	-1.6
KULA	Kula-Manisa	0.72	210	PG	Pg	18 38 10.8	+0.4
KULA	Kula-Manisa	0.72	210	ePg	Pg	18 38 10.8	+0.4
STEP	BALIKESIR_Sava	1.12	283	i P	Pg	18 38 19.2	+1.3
STEP				i S	Sb	18 38 31.0	-0.5
STEP	BALIKESIR_Sava	1.12	283	P	Pg	18 38 19.2	+1.3
STEP				S	Sb	18 38 31.0	-0.5
BALY	Balya	1.31	298	i P	Pg	18 38 21.3	-0.3
BALY				i S	Sb	18 38 36.8	-0.3
BALY	Balya	1.31	298	P	Pg	18 38 21.3	-0.3
BALY				S	Sb	18 38 36.8	-0.3
ARMT	Armutlu	1.44	352	PN	Pg	18 38 24.2	+0.3
ARMT				SN	Sg	18 38 44.3	+1.7
ARMT	Armutlu	1.44	352	ePn	Pg	18 38 24.2	+0.3
ARMT				eSn	Sg	18 38 44.3	+1.7

*ISK **03** 18:41:13.6, 38°.58N×44°.03E, h5km, ML2.8/4*
*CSEM **03** 18:41:14.4±0.4, 38°.56N×44°.08E, h2km, MD2.8, Error ellipse: s-maj=8.0km s-min=5.1km az=105.0*
*ATA **03** 18:41:14.3±1.7, 38°.54N×44°.00E, h15km±14km, ML3.2, MW3.3*
*DDA **03** 18:41:15.3, 38°.55N×44°.01E, h7km, Md2.8*
ISC 03 18:41:14.2±1.5, 38°.53N±0°.03×44°.06E±0°.05, h7km±11km, n37, σ0s.93/56, Turkey-Iran border region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TVAN	Van	0.52	270	i P	Pb	18 41 24.7	-1.0
TVAN				i S	Sb	18 41 32.1	-1.4
TVAN	Van	0.52	270	P	Pb	18 41 24.7	-1.0
TVAN				S	Sb	18 41 32.1	-1.4
VANB	Van	0.53	277	PG	Pg	18 41 24.4	-0.1
VANB				SG	Sb	18 41 32.4	-1.5
VANB	Van	0.53	277	ePg	Pg	18 41 24.4	-0.1
VANB				eSg	Sb	18 41 32.4	-1.5
VMUR	Van-Muradiye	0.59	320	i P	Pg	18 41 25.9	+0.2
VMUR				i S	Sb	18 41 36.6	+0.8
VMUR	Van-Muradiye	0.59	320	P	Pg	18 41 25.9	+0.2
CLDR	Caldiran	0.62	349	PG	Pg	18 41 25.7	-0.5
CLDR				SG	Sb	18 41 34.9	-1.6
CLDR	Caldiran	0.62	349	i P	Pg	18 41 25.6	-0.6
CLDR				i S	Sb	18 41 36.2	-0.3
CLDR	Caldiran	0.62	349	ePg	Pg	18 41 25.7	-0.5
CLDR				eSg	Sb	18 41 34.9	-1.6
GEVA	Gevas	0.82	255	eP	Pg	18 41 29.5	-0.5
GEVA				eS	Sb	18 41 42.0	-0.3
GEVA				IAML		18 41 46.6	
	comp=Z,90nm,0.6s						
GEVA	Gevas	0.82	255	i P	Pg	18 41 29.6	-0.3
GEVA				i S	Sb	18 41 42.1	-0.1
GEVA	Gevas	0.82	255	P	Pg	18 41 29.6	-0.3
GEVA				S	Sb	18 41 42.1	-0.1
HAKT	HAKKARI	1.01	196	i P	Pb	18 41 34.2	0.0
HAKT				i S	Sn	18 41 49.9	+0.2
HAKT	HAKKARI	1.01	196	P	Pb	18 41 34.2	0.0
HAKT				S	Sn	18 41 49.9	+0.2
DYDN	Diyadin	1.05	344	eP	Pg	18 41 33.8	-0.6
DYDN				i Pg	Pb	18 41 34.7	-0.1
DYDN				eS	Sb	18 41 49.3	+0.4
DYDN				IAML		18 41 56.6	
	comp=Z,21nm,0.5s						
ADCV	BITLIS_Adilcev	1.08	285	i P	Pn	18 41 35.5	-0.5
ADCV				i S	Sb	18 41 49.5	-0.3
ADCV	BITLIS_Adilcev	1.08	285	P	Pn	18 41 35.5	-0.5
ADCV				S	Sb	18 41 49.5	-0.3
TUTA	Tutak	1.30	312	eP	Pg	18 41 38.7	-0.5
IGDI	IGDIR	1.33	0	eP	Pn	18 41 39.0	-0.3
IGDI				eS	Sn	18 42 01.1	+3.7
IGDI				IAML		18 42 03.8	
	comp=Z,16nm,0.5s						
AGRB	Hanur-Agry	1.33	322	PN	Pb	18 41 39.3	-0.3
AGRB	Hanur-Agry	1.33	322	ePn	Pb	18 41 39.3	-0.3
TASB	TASBURUN-IGDIR	1.45	5	PN	Pg	18 41 41.5	-0.6
TASB	TASBURUN-IGDIR	1.45	5	ePn	Pg	18 41 41.5	-0.6
GURO	Guroymak-BITLI	1.59	271	PN	Pb	18 41 43.7	-0.3
GURO	Guroymak-BITLI	1.59	271	ePn	Pb	18 41 43.7	-0.3
SIRT	Sirnak	1.65	232	PN	Pb	18 41 44.8	-0.1
SIRT	Sirnak	1.65	232	ePn	Pb	18 41 44.8	-0.1
EKAR	Karacoban	1.72	295	eP	Pb	18 41 45.6	-0.7
EKAR	Karacoban	1.72	295	i P	Pg	18 41 47.5	+0.4
EKAR	Karacoban	1.72	295	P	Pg	18 41 47.5	+0.4
SRTM	Siirt_Merkez	1.77	253	i P	Pg	18 41 47.8	-0.3
SRTM				i S	Sg	18 42 13.6	+2.5
SRTM	Siirt_Merkez	1.77	253	P	Pg	18 41 47.8	-0.3
EATA	Eleskirt	1.80	318	eP	Pg	18 41 48.2	-0.5
DIGO	Kars	1.95	344	eP	Pg	18 41 51.4	-0.2
EAK	Akyaka	2.18	351	eP	Pg	18 41 55.4	-0.6
HOMI	Horasan	2.25	313	eP	Pb	18 41 55.1	-0.2
ERZM	Erzurum	2.50	304	eP	Pb	18 41 58.1	-1.5

IDC 03 18:56:35.8±1.7, 1°.55N×126°.08E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.4/60, mbtmp3.6/4, Error ellipse: s-maj=172.7km s-min=20.6km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	22.84	160	P	P	19 01 40.4	-0.4
	1.3nm,0.4s,baz=338,slow=11,SNR=21						
WRA				S	S	19 05 33.7	-18
	0.2nm,0.3s,baz=156,slow=12,SNR=9.2						
ASAR	Alice Springs	26.19	164	P	P	19 02 12.7	+0.3
	0.2nm,0.4s,baz=344,slow=7.6,SNR=12						
MKAR	Makanchi Array	58.98	326	P	P	19 06 37.1	-0.2
	0.2nm,0.4s,baz=123,slow=7.2,SNR=6.6						
KURBB	Kurchatov Arra	63.23	328	P	P	19 07 06.1	+0.1
	0.5nm,0.6s,baz=127,slow=6.1,SNR=5.1						

*ISCJB **03** 19:06:59.6±0.5, 26°.00N±0°.10×124°.42E±0°.08, h185km±10km, mb3.3/4, Error ellipse: s-maj=19.2km s-min=5.7km az=146.1*
*JMA **03** 19:07:01.3±0.3, 26°.01N×124°.37E, h173km, M3.4*
*IDC **03** 19:07:02.8±6.4, 26°.21N×124°.83E, h213km±83km, mb3.0/4, mb1 3.1/5, mb1mx2.8/63, mbtmp3.6/5, Error ellipse: s-maj=105.1km s-min=18.6km az=62.0*
ISC 03 19:07:00.1±1.0, 26°.1N±0°.1×124°.40E±0°.08, h179km±13km, n23, σ1s.22/37, mb3.4/4, Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JIKM	Ikemajima	1.37	146	P	Pn	19 07 31.9	+1.1
JIKM				eS	Sn	19 07 54.8	+0.4
JIRB	Irabujima	1.41	150	P	Pn	19 07 31.7	+0.5
JTJ	Tarama	1.44	169	P	Pn	19 07 32.1	+0.7
JTJ				S	Sn	19 07 55.3	-0.4
JISG	Ishigakijimahi	1.47	183	P	Pn	19 07 32.0	+0.3
JISG				S	Sn	19 07 55.5	-0.7
JMJ	Miyako jima 2	1.48	147	P	Pn	19 07 32.8	+1.0
JMJ				eS	Sn	19 07 55.9	-0.4
JOGS	Gusukube	1.58	145	P	Pn	19 07 34.0	+1.2
JOGS				S	Sn	19 07 58.6	+0.5
JIJ	Ishigaki jima	1.71	188	P	Pn	19 07 33.7	-0.4
JIJ				S	Sn	19 07 58.0	-2.3
IRIF	Iriomote-Funau	1.82	200	P	Pn	19 07 35.2	0.0
IRIF				S	Sn	19 08 01.3	-1.1
JKRS	Kuro-shima	1.85	191	P	Pn	19 07 35.5	0.0
JKRS				S	Sn	19 08 01.5	-1.5
YOJ	Yonaguni jima	2.03	219	P	Pn	19 07 38.6	+1.2
HATJ	Hateruma jima	2.07	195	P	Pn	19 07 39.1	+1.2
HATJ				S	Sn	19 08 05.3	-1.8
JKE	Kume jima 2	2.16	82	P	Pn	19 07 40.4	+1.6
JJT3	Tamagusuku3	3.04	88	P	Pn	19 07 50.7	+1.5
JJT3				S	Sn	19 08 27.4	-0.1
JNTH	Nagotoyohara	3.28	81	P	Pn	19 07 52.9	+0.7
JIH	Iheya	3.34	72	P	Pn	19 07 53.6	+0.8
JIH				S	Sn	19 08 32.6	-1.4
JOW	Kunigami	3.56	77	P	Pn	19 07 55.5	-0.1
	5.4nm,0.3s,baz=305,slow=26,SNR=6.2						
JOW				S	Sn	19 08 35.9	-3.0
	20nm,0.3s,baz=130,slow=29,SNR=17						
JOW	Kunigami	3.56	77	P	Pn	19 07 55.8	+0.2
JOW				S	Sn	19 08 35.7	-3.2
JOKE	Okinoerabujima	3.95	70	P	Pn	19 08 01.4	+0.9
JOKE				S	Sn	19 08 47.7	-0.1
JTK	Tokunoshima	4.41	66	P	Pn	19 08 06.3	-0.1
SONM	Songino Array	25.94	332	P	P	19 12 16.2	+0.2
	0.3nm,0.4s,baz=148,slow=7.3,SNR=2.7						
MKAR	Makanchi Array	39.11	313	P	P	19 14 10.7	+0.7
	0.5nm,0.4s,baz=103,slow=9.2,SNR=13						
ZALV	Zalesovo Beam	40.34	324	P	P	19 14 20.4	+0.3
	0.4nm,0.3s,baz=109,slow=9.9,SNR=3.7						
WRA	Warramunga Arr	46.74	167	P	P	19 15 11.2	-0.3
	0.2nm,0.5s,baz=349,slow=8.9,SNR=6.3						

IDC 03 19:17:40.5±3.4, 16°.12S×66°.08E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.2/68, mbtmp3.4/3, Error ellipse: s-maj=128.0km s-min=38.7km az=52.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
H08S1	Diego Carcia H	10.49	37	T	T	19 29 17.6	
	baz=216,slow=75,SNR=154						
H08S2	Diego Garcia H	10.50	37	T	T	19 29 18.3	
	baz=216,slow=75,SNR=138						
H08S3	Diego Garcia H	10.51	37	T	T	19 29 19.8	
	baz=216,slow=75,SNR=106						
H08N3	Diego Garcia H	10.84	27	T	T	19 29 42.9	
	baz=204,slow=76,SNR=12						
H08N1	Diego Carcia H	10.85	27	T	T	19 29 46.2	
	baz=204,slow=76,SNR=46						
H08N2	Diego Garcia H	10.86	27	T	T	19 29 46.1	
	baz=204,slow=76,SNR=12						
ASAR	Alice Springs	63.72	109	P	P	19 28 14.2	-0.4
	0.3nm,0.8s,baz=266,slow=6.2,SNR=4.5						
MKAR	Makanchi Array	64.30	12	P	P	19 28 17.8	+0.1
	0.3nm,0.7s,baz=201,slow=7.7,SNR=4.3						
WRA	Warramunga Arr	64.63	105	P	P	19 28 20.8	+0.3
	0.3nm,0.8s,baz=278,slow=10,SNR=2.9						
PDAR	Pinedale Array	153.18	353	PKPbc	PKPbc	19 37 40.7	-0.2
	0.3nm,0.7s,baz=5.7,slow=0.9,SNR=3.7						

IDC 03 19:19:29.9±1.8, 11°.50S×164°.75E, h0km, mb3.6/3, mb1 4.0/4, mb1mx3.6/47, mbtmp3.8/4, ML4.1/1, MS2.9/2, Ms1 2.9/2, ms1mx2.6/34, Error ellipse: s-maj=49.4km s-min=33.1km az=129.0, Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HNR	Honiara	5.15	293	LR	LR	19 22 25.9	
	comp=Z,43nm,18.2s,baz=176,slow=34						
DZM	Mont Dzumac	10.64	171	Pn	Pn	19 22 04.0	+0.2
	1.3nm,0.3s,baz=126,slow=19,SNR=12						
DZM				Sn	Sn	19 24 01.1	-2.6
	0.3nm,0.3s,baz=127,slow=20,SNR=2.9						
DZM				LR	LR	19 25 29.9	
	comp=Z,124nm,18.1s,baz=282,slow=34						
H11S2	WAKE ISLAND Hy	29.86	4	T	T	19 56 00.4	
	baz=181,slow=76,SNR=5.0						
H11S3	WAKE ISLAND Hy	29.86	4	T	T	19 56 01.7	
	baz=181,slow=76,SNR=3.5						
H11S1	WAKE ISLAND Hy	29.88	4	T	T	19 55 59.1	
	baz=181,slow=76,SNR=4.0						
WRA	Warramunga Arr	30.41	250	P	P	19 25 44.5	+0.3
	1.3nm,0.7s,baz=82,slow=9.2,SNR=12						
H11N1	WAKE ISLAND Hy	31.09	4	T	T	19 57 31.9	
	baz=182,slow=76,SNR=4.7						
H11N3	WAKE ISLAND Hy	31.09	4	T	T	19 57 22.8	
	baz=182,slow=76,SNR=4.8						
H11N2	WAKE ISLAND Hy	31.10	4	T	T	19 57 18.3	
	baz=182,slow=76,SNR=3.3						
ASAR	Alice Springs	31.72	243	P	P	19 25 55.4	-0.4
	0.4nm,0.7s,baz=66,slow=10,SNR=7.8						
ILAR	Eielson Array	84.25	19	P	P	19 32 03.0	0.0
	0.2nm,0.6s,baz=248,slow=5.5,SNR=4.5						

IDC 03 19:20:36.3±1.1, 14°.60S×66°.39E, h0km, mb3.6/5, mb1 3.8/5, mb1mx3.4/68, mbtmp3.6/5, Error ellipse: s-maj=32.7km s-min=29.3km az=22.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
H08S1	Diego Carcia H	9.13	41	T	T	19 32 08.4	
	baz=217						
H08S2	Diego Garcia H	9.14	42	T	T	19 32 09.3	
	baz=217						
H08S3	Diego Garcia H	9.15	41	T	T	19 32 09.9	
	baz=217						
H08N3	Diego Garcia H	9.37	29	T	T	19 32 32.9	
	baz=204,slow=76,SNR=1290						
H08N1	Diego Carcia H	9.38	29	T	T	19 32 33.3	
	baz=204,slow=76,SNR=964						
H08N2	Diego Garcia H	9.39	29	T	T	19 32 35.7	
	baz=204,slow=76,SNR=1166						
LBTB	Lobatse	39.62	248	P	P	19 28 10.2	+0.1
	2.5nm,0.7s,baz=56,slow=3.6,SNR=4.8						
MKAR	Makanchi Array	62.76	12	P	P	19 31 03.1	-0.1
	0.2nm,0.5s,baz=212,slow=7.3,SNR=2.9						
ASAR	Alice Springs	63.93	109	P	P	19 31 11.2	-0.5
	0.5nm,0.9s,baz=258,slow=6.7,SNR=5.1						
WRA	Warramunga Arr	64.73	105	P	P	19 31 17.4	+0.5
	0.9nm,1.0s,baz=267,slow=6.3,SNR=4.2						
KURBB	Kurchatov Arra	65.81	8	P	P	19 31 23.5	+0.3
	0.3nm,0.7s,baz=206,slow=6.3,SNR=3.0						
PDAR	Pinedale Array	151.72	354	PKPbc	PKPbc	19 40 32.5	-0.9
	0.4nm,0.7s,baz=17,slow=0.9,SNR=3.9						

*IDC **03** 19:22:57.8±0.5, 15°.05S×66°.97E, h0km, mb4.0/22, mb1 4.1/23, mb1mx3.9/74, mbtmp4.0/23, ML3.6/1, MS3.8/30, Ms1 3.9/30, ms1mx3.8/48, Error ellipse: s-maj=16.1km s-min=14.2km az=162.0*
*ISCJB **03** 19:22:58.4±0.3, 15°.00S±0°.06×66°.94E±0°.06, h16km, mb4.4/44, MS3.9/29, Error ellipse: s-maj=8.5km s-min=7.6km az=40.3*
*NEIC **03** 19:22:59.2±0.2, 15°.07S×66°.90E, h10km, mb4.8/27, Error ellipse: s-maj=6.1km s-min=5.8km az=181.0*
*GCMT **03** 19:22:59.2±0.4, 15°.09S×66°.97E, h20km±1km, MW4.9/71, Moment Tensor Solution. s14,c15; s71,c90; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-3.00±.27; $M_{\theta\theta}$1.29±.15; $M_{\phi\phi}$1.72±.17; $M_{r\theta}$-0.64±.32; $M_{\theta\phi}$-1.05±.09; $M_{\phi r}$-1.38±.34; Best double couple: $M_0$3.10500×10^{16} NP1:ϕ_s341.00000°, δ55.00000°, λ-68.00000°. NP2: ϕ_s126.00000°, δ40.00000°, λ-119.00000°. Principal axes: T 2.6690, Plg8.0000°, Azm56.0000°; N 0.8840, Plg18.0000°, Azm148.0000°; P -3.5420, Plg70.0000°, Azm303.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 03 19:23:00.5±0.5, 15°.08S±0°.10×66°.93E±0°.09, h16km, n123, σ0s.92/96, mb4.5/44, MS3.9/29, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
H08S1	Diego Carcia H	9.17	37	T	T	19 34 33.6	
	baz=216,slow=76,SNR=40						
H08S2	Diego Garcia H	9.18	37	T	T	19 34 34.4	
	baz=216,slow=76,SNR=44						
H08S3	Diego Garcia H	9.19	37	T	T	19 34 34.9	
	baz=216,slow=76,SNR=87						
H08N3	Diego Garcia H	9.55	25	T	T	19 35 03.0	
	baz=204,slow=76,SNR=44						
H08N1	Diego Carcia H	9.56	25	T	T	19 35 04.4	
	baz=204,slow=76,SNR=30						
H08N2	Diego Garcia H	9.57	25	T	T	19 34 53.7	
	baz=204,slow=76,SNR=44						
OPO	Ambohidratompo	19.21	257	P	Pn	19 27 26.2	+1.1
	0.2nm,0.3s,baz=33,slow=6.8,SNR=3.1						
OPO				LR	LR	19 33 00.4	
	comp=Z,1μm,19.8s,baz=103,slow=31						
MNCI	Minicoy	23.99	15	eP	P	19 28 13.6	-0.9
	101nm,1.7s						
PALK	Pallekele	26.07	33	LR	LR	19 36 26.2	
	comp=Z,495nm,21.1s,baz=296,slow=31						
PALK	Pallekele	26.07	33	eP	P	19 28 36.4	+2.9
	13nm,1.2s						
KMBO	Kilima Mbogo	32.42	293	P	P	19 29 31.4	+1.1
	1.4nm,0.8s,baz=86,slow=6.8,SNR=4.4						
KMBO				LR	LR	19 39 40.9	
	comp=Z,222nm,21.1s,baz=89,slow=31						
KMBO	Kilima Mbogo	32.42	293	eP	P	19 29 30.3	0.0
	11nm,1.7s						
ATD	Arta Tunnel	35.61	317	LR	LR	19 42 42.4	
	comp=Z,161nm,19.7s,baz=132,slow=33						
PSI	Prapat	36.31	63	LR	LR	19 42 22.3	
	comp=Z,476nm,19.9s,baz=241,slow=32						
LSZ	Lusaka	37.36	264	P	P	19 30 13.6	+0.8
	6.4nm,1.1s,baz=104,slow=7.6,SNR=5.4						
LSZ	Lusaka	37.36	264	eP	P	19 30 13.5	+0.6
	15nm,1.3s						
LBTB	Lobatse	39.93	249	P	P	19 30 34.6	+0.2
	4.3nm,0.6s,baz=79,slow=7.0,SNR=7.6						
LBTB	Lobatse	39.93	249	eP	P	19 30 34.0	-0.4
	51nm,1.8s						
LEM	Lembang	40.72	83	LR	LR	19 44 46.4	
	comp=Z,267nm,19.3s,baz=230,slow=32						
BOSA	Boshof	40.75	244	P	P	19 30 40.9	-0.2
	2.7nm,0.7s,baz=108,slow=9.6,SNR=4.3						
BOSA				LR	LR	19 44 45.2	
	comp=Z,343nm,18.6s,baz=84,slow=32						
CM01	Chiang Mai Arr	45.86	45	eP	P	19 31 23.6	+1.2
CM31	Chiang Mai Arr	45.88	44	eP	P	19 31 23.3	+0.8
CMAR	Chiang Mai Arr	45.88	44	P	P	19 31 22.6	+0.2
	1.7nm,1.0s,baz=238,slow=8.3,SNR=12						
CMAR				LR	LR	19 48 31.9	
	comp=Z,299nm,19.8s,baz=202,slow=34						
CHTO	Chiang Mai	46.13	44	eP	P	19 31 24.9	+0.5
	15nm,2.0s						
H01W3	Cape Leeuwin H	46.63	124	T	T	20 21 23.6	
	baz=282,slow=75,SNR=18						
H01W2	Cape Leeuwin H	46.63	124	T	T	20 21 23.3	
	baz=282,slow=75,SNR=19						
H01W1	Cape Leeuwin H	46.65	124	T	T	20 21 27.3	
	baz=282,slow=75,SNR=16						
SHL	Shillong	47.15	31	eP	P	19 31 32.9	+0.4
	11nm,0.3s						
LSA	Lhasa	50.27	28	eP	P	19 31 57.5	+0.7
	3.2nm,1.1s						
MAW	Mawson	52.56	182	LR	LR	19 48 57.8	
	comp=Z,145nm,21.3s,baz=60,slow=30						
GEYT	Alibeck	53.37	351	LR	LR	19 53 08.0	
	comp=Z,41nm,18.1s,baz=125,slow=34						
MMAI	Mount Meron Ar	56.52	328	LR	LR	19 54 11.2	
	comp=Z,70nm,20.1s,baz=185,slow=33						
KDJ	Kajisay	57.70	9	eP	P	19 32 50.8	+0.3
	13nm,1.9s						
AAK	Ala-Archa	57.85	7	eP	P	19 32 51.4	-0.1
	10nm,2.0s						
KK07	Karatay Array	57.97	3	eP	P	19 32 51.6	-0.6
KK06	Karatay Array	57.98	3	eP	P	19 32 52.3	+0.1
KK03	Karatay Array	57.98	3	eP	P	19 32 52.2	-0.1
KK02	Karatay Array	57.98	3	eP	P	19 32 53.3	+1.0
KK08	Karatay Array	57.98	3	eP	P	19 32 52.0	-0.4
KK31	Karatay Array	57.98	3	eP	P	19 32 51.7	-0.6
KKAR	Karatay Array	57.98	3	eP	P	19 32 51.4	-0.9
KK01	Karatay Array	57.99	3	eP	P	19 32 52.2	-0.1
KK04	Karatay Array	57.99	3	eP	P	19 32 52.0	-0.4
KK05	Karatay Array	58.00	3	eP	P	19 32 51.5	-0.9
KK09	Karatay Array	58.00	3	eP	P	19 32 51.8	-0.6
GNI	Garni	58.69	340	LR	LR	19 56 00.9	
	comp=Z,65nm,20.4s,baz=126,slow=34						
GNI	Garni	58.69	340	eP	P	19 32 58.5	+1.0
	34nm,2.0s						
TGY	Tagaytay City	60.77	64	LR	LR	19 55 38.0	

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,87nm,21.9s,baz=136,slow=32						
DAV	**Davao City (W)**	**62.14**	**73**	LR	LR	19 59 32.3	
	comp=Z,78nm,19.5s,baz=298,slow=35						
KBZ	**Khabaz**	**62.51**	**341**	LR	LR	19 59 59.7	
	comp=Z,45nm,19.2s,baz=145,slow=36						
BRTR	**Keskin Array B**	**62.73**	**332**	P	**P**	**19 33 26.1**	**+1.2**
	0.4nm,0.8s,baz=155,slow=8.4,SNR=3.9						
BRTR				LR	LR	19 59 41.0	
	comp=Z,23nm,18.3s,baz=86,slow=35						
BR101	**Keskin Array S**	**62.73**	**332**	*e*P	**P**	**19 33 26.1**	**+1.2**
MAKZ	**Makanchi**	**63.07**	**12**	*e*P	**P**	**19 33 27.0**	**0.0**
	8.8nm,1.8s						
MK01	**Makanchi Array**	**63.09**	**12**	*e*P	**P**	**19 33 26.4**	**-0.8**
MK31	**Makanchi Array**	**63.11**	**12**	*e*P	**P**	**19 33 26.3**	**-1.0**
MK32	**Makanchi Array**	**63.11**	**12**	*e*P	**P**	**19 33 26.6**	**-0.7**
MKAR	**Makanchi Array**	**63.11**	**12**	P	**P**	**19 33 26.6**	**-0.7**
	0.8nm,0.6s,baz=209,slow=8.1,SNR=9.2						
MKAR				LR	LR	20 00 10.2	
	comp=Z,95nm,20.4s,baz=194,slow=35						
MKAR	**Makanchi Array**	**63.11**	**12**	*e*P	**P**	**19 33 26.3**	**-1.0**
	7.2nm,0.6s						
ASAR	**Alice Springs**	**63.28**	**109**	P	**P**	**19 33 28.9**	**-0.1**
	1.0nm,0.7s,baz=271,slow=6.1,SNR=23						
AS31	**Alice Springs**	**63.28**	**109**	*e*P	**P**	**19 33 27.9**	**-1.1**
	1.7nm,1.3s						
AS01	**Alice Springs**	**63.32**	**109**	*e*P	**P**	**19 33 28.4**	**-0.9**
ILGA	**Ilgaz**	**63.76**	**332**	*e*P	**P**	**19 33 32.2**	**+0.3**
	32nm,1.8s						
WRA	**Warramunga Arr**	**64.10**	**105**	P	**P**	**19 33 34.7**	**+0.3**
	1.2nm,0.7s,baz=271,slow=5.8,SNR=19						
WR1	**Warramunga Arr**	**64.10**	**105**	*e*P	**P**	**19 33 34.7**	**+0.2**
	25nm,1.8s						
WB2	**Warramunga Arr**	**64.11**	**105**	*e*P	**P**	**19 33 34.4**	**-0.1**
	3.9nm,0.8s						
AB07	**Akbulak array**	**64.33**	**355**	*e*P	**P**	**19 33 34.4**	**-0.8**
AB08	**Akbulak array**	**64.33**	**355**	*e*P	**P**	**19 33 34.2**	**-1.0**
AB03	**Akbulak array**	**64.34**	**355**	*e*P	**P**	**19 33 34.0**	**-1.2**
AB01	**Akbulak array**	**64.34**	**355**	*e*P	**P**	**19 33 34.5**	**-0.8**
AB31	**Akbulak array**	**64.34**	**355**	*e*P	**P**	**19 33 34.4**	**-0.8**
ABKAR	**Akbulak array**	**64.34**	**355**	*e*P	**P**	**19 33 34.4**	**-0.8**
	8.8nm,0.7s						
AB02	**Akbulak array**	**64.35**	**355**	*e*P	**P**	**19 33 34.1**	**-1.2**
AB04	**Akbulak array**	**64.35**	**355**	*e*P	**P**	**19 33 34.1**	**-1.2**
AB06	**Akbulak array**	**64.35**	**355**	*e*P	**P**	**19 33 34.8**	**-0.5**
AB09	**Akbulak array**	**64.35**	**355**	*e*P	**P**	**19 33 34.5**	**-0.8**
AB05	**Akbulak array**	**64.36**	**355**	*e*P	**P**	**19 33 34.3**	**-1.1**
SANT	**Santorini**	**64.43**	**324**	*e*P	**P**	**19 33 34.1**	**-2.1**
	87nm,1.1s						
AKTO	**Aktyubinsk**	**65.69**	**354**	LR	LR	20 02 16.7	
	comp=Z,32nm,18.3s,baz=181,slow=36						
KURBB	**Kurchatov Arra**	**66.20**	**8**	P	**P**	**19 33 47.2**	**-0.1**
	0.7nm,0.6s,baz=212,slow=6.8,SNR=5.7						
KURK	**Kurchatov**	**66.31**	**8**	*e*P	**P**	**19 33 47.2**	**-0.7**
BVAR	**Borovoye Array**	**67.89**	**2**	P	**P**	**19 33 57.2**	**-0.8**
	0.9nm,0.6s,baz=144,slow=5.4,SNR=8.7						
BVAR				LR	LR	20 01 35.0	
	comp=Z,73nm,21.7s,baz=190,slow=34						
BRVK	**Borovoye**	**67.91**	**2**	*e*P	**P**	**19 33 56.8**	**-1.3**
	1.9nm,0.7s						
AGG	**Agios Georgios**	**68.06**	**324**	*e*P	**P**	**19 33 57.8**	**-1.6**
	40nm,1.4s						
STKA	**Stephens Creek**	**69.32**	**119**	P	**P**	**19 34 07.9**	**+0.4**
	1.2nm,0.8s,baz=335,slow=10.0,SNR=3.3						
STKA	**Stephens Creek**	**69.32**	**119**	*e*P	**P**	**19 34 07.1**	**-0.4**
	4.7nm,1.8s						
SNAA	**Sanae**	**69.46**	**198**	P	**P**	**19 34 07.0**	**-0.7**
	1.5nm,0.8s,baz=337,slow=7.7,SNR=6.3						
SNAA	**Sanae**	**69.46**	**198**	*e*P	**P**	**19 34 06.5**	**-1.3**
	34nm,2.0s						
VTS	**Vitosha**	**70.05**	**327**	*e*P	**P**	**19 34 10.9**	**-1.0**
	6.9nm,1.5s						
TOA0	**Torodi Ar. Sit**	**70.38**	**290**	*e*P	**P**	**19 34 13.7**	**-0.6**
TORD	**Torodi Ar. Bea**	**70.38**	**290**	P	**P**	**19 34 13.9**	**-0.3**
	1.6nm,1.2s,baz=90,slow=4.9,SNR=4.9						
TORD				LR	LR	20 03 05.9	
	comp=Z,82nm,19.3s,baz=190,slow=34						
TOA1	**Torodi Ar. Sit**	**70.39**	**290**	*e*P	**P**	**19 34 13.9**	**-0.4**
ZAA0	**Zalesovo Array**	**70.43**	**11**	*e*P	**P**	**19 34 13.1**	**-0.6**
	2.1nm,0.8s						
ZALV	**Zalesovo Beam**	**70.43**	**11**	P	**P**	**19 34 12.9**	**-0.8**
	0.6nm,0.5s,baz=208,slow=5.0,SNR=5.6						
ZALV				LR	LR	20 02 43.2	
	comp=Z,64nm,20.4s,baz=250,slow=34						
ZALV	**Zalesovo Beam**	**70.43**	**11**	*e*P	**P**	**19 34 12.5**	**-1.3**
ZAA1	**Zalesovo Array**	**70.44**	**11**	*e*P	**P**	**19 34 12.9**	**-0.8**
VNA2	**Neumayer--Watz**	**70.74**	**200**	P	**P**	**19 34 16.2**	**+0.7**
	baz=74,slow=5.3						
MLR	**Muntele Rosu**	**70.78**	**331**	LR	LR	20 03 01.5	
	comp=Z,13nm,21.9s,baz=94,slow=34						
MLR	**Muntele Rosu**	**70.78**	**331**	*e*P	**P**	**19 34 16.4**	**+0.2**
	26nm,2.0s						
VNA3	**Neumayer Olymp**	**71.52**	**199**	P	**P**	**19 34 20.3**	**0.0**
SONA0	**Songino Array**	**71.85**	**27**	*e*P	**P**	**19 34 22.3**	**-0.3**
SONM	**Songino Array**	**71.85**	**27**	P	**P**	**19 34 22.3**	**-0.3**
	0.8nm,0.8s,baz=197,slow=4.6,SNR=3.7						
SONA1	**Songino Array**	**71.86**	**27**	*e*P	**P**	**19 34 22.0**	**-0.7**
VAE	**Valguarnera**	**71.88**	**318**	LR	LR	20 03 11.4	
	comp=Z,29nm,18.5s,baz=148,slow=34						
AKASG	**Malin Array Be**	**73.35**	**336**	P	**P**	**19 34 30.6**	**-0.7**
	0.2nm,0.3s,baz=140,slow=5.0,SNR=5.3						
AKBB	**Malin Array Si**	**73.35**	**336**	*e*P	**P**	**19 34 29.9**	**-1.4**
	13nm,1.5s						
KEST	**Kesra**	**74.27**	**314**	LR	LR	20 08 47.1	
	comp=Z,72nm,18.1s,baz=270,slow=37						
DBIC	**Dimbokro**	**74.33**	**281**	LR	LR	20 05 40.9	
	comp=Z,94nm,20.5s,baz=98,slow=34						
QSPA	**South Pole Qui**	**75.01**	**180**	P	**P**	**19 34 40.8**	**-0.2**
	3.4nm,0.9s,baz=125,slow=20,SNR=3.8						
KOWA	**Kowa**	**76.05**	**289**	LR	LR	20 06 56.9	
	comp=Z,78nm,18.0s,baz=116,slow=35						
VSL	**Villasalto**	**76.27**	**318**	*e*P	**P**	**19 34 48.9**	**+0.4**
	15nm,1.2s						
FIA0	**FINESS Array S**	**82.85**	**342**	*e*P	**P**	**19 35 23.4**	**-0.3**
FINES	**FINESS Array B**	**82.85**	**342**	P	**P**	**19 35 23.5**	**-0.3**
	1.7nm,0.9s,baz=165,slow=6.5,SNR=2.8						
FINES				LR	LR	20 13 42.3	
	comp=Z,40nm,19.1s,baz=121,slow=37						
MAJO	**Matsushiro**	**84.46**	**50**	*e*P	**P**	**19 35 33.8**	**+1.1**
MJAR	**Matsushiro Arr**	**84.46**	**50**	P	**P**	**19 35 33.7**	**+1.0**
	2.7nm,0.9s,baz=256,slow=4.9,SNR=2.5						
MJAR				LR	LR	20 14 06.1	
	comp=Z,91nm,18.3s,baz=25,slow=36						
ES19	**SONSECA Array**	**85.40**	**313**	*e*P	**P**	**19 35 37.3**	**-0.1**
ESDC	**Sonseca Array**	**85.43**	**313**	P	**P**	**19 35 37.8**	**+0.2**
	1.4nm,0.7s,baz=106,slow=4.1,SNR=9.0						
ESDC				LR	LR	20 13 30.0	
	comp=Z,40nm,19.0s,baz=345,slow=36						
HFS	**Hagfors**	**86.24**	**336**	P	**P**	**19 35 40.8**	**-0.2**
	1.6nm,0.6s,baz=170,slow=9.0,SNR=5.0						
SPITS	**Spitsbergen Ar**	**97.26**	**351**	LR	LR	20 22 50.2	
	comp=Z,36nm,19.3s,baz=305,slow=37						
YKA	**Yellowknife Ar**	**132.63**	**1**	PKP	**PKPdf**	**19 42 12.0**	**-2.0**
	0.1nm,0.3s,baz=353,slow=2.7,SNR=2.8						
TKL	**Tuckaleechee C**	**146.73**	**313**	PKPbc	**PKPab**	**19 42 46.7**	**+3.4**
	9.0nm,0.3s,baz=108,slow=8.7,SNR=14						
PDAR	**Pinedale Array**	**152.24**	**354**	PKPbc	**PKPbc**	**19 42 55.8**	**-0.3**
	1.3nm,0.6s,baz=58,slow=1.6,SNR=15						
LTX	**Lajitas**	**163.37**	**330**	*e*PKPab	**PKPab**	**19 43 53.7**	**-0.2**
TXAR	**Lajitas Array**	**163.37**	**330**	PKPab	**PKPab**	**19 43 53.7**	**-0.2**
	0.4nm,0.7s,baz=43,slow=5.4,SNR=2.9						

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*NEIC **03** 19:40:51.5±2.8, 19.̊14N×146.̊92E, h228km±16km, mb4.1/3, Error ellipse: s-maj=60.3km s-min=8.6km az=81.0*

*IDC **03** 19:40:52.6±5.7, 19.̊14N×146.̊67E, h230km±37km, mb3.3/6, mb1 3.5/7, mb1mx3.0/60, mbtmp3.9/7, MS4.1/1, Ms1 4.1/1, ms1mx2.7/22, Error ellipse: s-maj=117.7km s-min=16.9km az=81.0*

*ISCJB **03** 19:40:55.5±1.8, 18.̊95N±0.̊07×145.̊9E±0.̊5, h250km, mb3.9/9, Error ellipse: s-maj=67.1km s-min=8.3km az=174.9*

ISC 03 19:40:56.2±2.6**, 18.̊91N**±0.̊10×**146.̊0E**±0.̊7**, h250**km**, n19,** σ**1.̊20**/19**, mb3.6**/9**, Mariana Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**5.41**	**192**	P	**Pn**	**19 42 17.5**	**+0.5**
	11nm,0.3s,baz=327,slow=14,SNR=9.1						
GUMO				S	**S**	**19 43 19.4**	**-2.2**
	9.9nm,0.3s,baz=198,slow=20,SNR=3.2						
JHJ	**Hachijo jima 2**	**15.21**	**340**	LR	LR	19 48 33.9	
	comp=Z,870nm,21.9s,baz=100,slow=30						
WB2	**Warramunga Arr**	**40.27**	**197**	*e*P	**P**	**19 48 09.2**	**-0.2**
WR1	**Warramunga Arr**	**40.28**	**197**	*e*P	**P**	**19 48 10.7**	**+1.3**
	6.1nm,0.7s						
WRA	**Warramunga Arr**	**40.28**	**197**	P	**P**	**19 48 10.7**	**+1.3**
	2.6nm,0.4s,baz=18,slow=8.9,SNR=120						
AS01	**Alice Springs**	**43.93**	**196**	*e*P	**P**	**19 48 39.5**	**+0.7**
AS31	**Alice Springs**	**43.94**	**196**	*e*P	**P**	**19 48 40.2**	**+1.4**
	1.4nm,0.4s						
ASAR	**Alice Springs**	**43.94**	**196**	P	**P**	**19 48 40.1**	**+1.3**
	1.0nm,0.5s,baz=16,slow=7.4,SNR=33						
FORT	**Forrest**	**52.34**	**200**	*e*P	**P**	**19 49 44.2**	**+1.5**
	885nm,1.6s						
MK01	**Makanchi Array**	**58.53**	**314**	*e*P	**P**	**19 50 27.6**	**+0.9**
MK31	**Makanchi Array**	**58.54**	**314**	*e*P	**P**	**19 50 27.0**	**+0.3**
MK32	**Makanchi Array**	**58.54**	**314**	*e*P	**P**	**19 50 27.4**	**+0.7**
MKAR	**Makanchi Array**	**58.54**	**314**	P	**P**	**19 50 27.3**	**+0.6**
	0.1nm,0.5s,baz=86,slow=9.2,SNR=3.1						
MKAR	**Makanchi Array**	**58.54**	**314**	*e*P	**P**	**19 50 27.0**	**+0.3**
	13nm,1.6s						
KURK	**Kurchatov**	**61.32**	**318**	*e*P	**P**	**19 50 46.1**	**+0.7**
KURBB	**Kurchatov Arra**	**61.37**	**318**	P	**P**	**19 50 46.1**	**+0.4**
	0.2nm,0.3s,baz=94,slow=7.4,SNR=5.2						
BVAR	**Borovoye Array**	**66.51**	**320**	P	**P**	**19 51 18.7**	**-0.4**
	0.5nm,0.4s,baz=95,slow=7.8,SNR=4.0						
FIA0	**FINESS Array S**	**86.82**	**335**	*e*P	**P**	**19 53 10.6**	**-1.6**
FINES	**FINESS Array B**	**86.82**	**335**	P	**P**	**19 53 10.6**	**-1.6**
	0.5nm,0.4s,baz=66,slow=3.5,SNR=8.7						

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*ISCJB **03** 19:52:48.6±0.9, 75.̊65N±0.̊06×9.̊2E±0.̊3, h10km, mb2.9/3, MS3.1/3, Error ellipse: s-maj=11.5km s-min=8.3km az=1.2*

*BER **03** 19:52:50.3±3.8, 75.̊72N×8.̊95E, h0km±24km, ML2.1, ML3.0(NAO)*

*IDC **03** 19:52:50.1±1.4, 75.̊68N×8.̊84E, h0km, mb3.0/3, mb1 3.4/6, mb1mx3.1/70, mbtmp3.2/6, ML3.1/3, MS3.0/5, Ms1 3.0/5, ms1mx2.7/27, Error ellipse: s-maj=29.7km s-min=13.5km az=66.0*

*NAO **03** 19:52:51.0±2.2, 75.̊71N×9.̊77E, ML3.0*

ISC 03 19:52:50.5±1.1**, 75.̊67N**±0.̊07×**9.̊4E**±0.̊1**, h10**km**, n18,** σ**2.̊18**/22**, mb2.9**/3**, MS3.1**/3**, Greenland Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HSPB	**Hornsund (broa**	**1.99**	**45**	*e*P	**Pn**	**19 53 24.4**	**+0.3**
HSPB				Lg	Lg	19 53 49.6	
HSP	**Hornsund**	**2.00**	**45**	Pn	**Pn**	**19 53 24.4**	**+0.2**
HSP				Lg	Lg	19 53 49.6	
SPA0	**Spitsbergen Ar**	**2.99**	**29**	Pn	**Pn**	**19 53 37.6**	**-0.2**
	baz=222,slow=14						
SPA0				Sn	**Sn**	**19 54 12.4**	**-1.2**
SPA0	**Spitsbergen Ar**	**2.99**	**29**	Pn	**Pn**	**19 53 37.6**	**-0.2**
	baz=222,slow=14						
SPA0				Sn	**Sn**	**19 54 12.4**	**-1.2**
SPITS	**Spitsbergen Ar**	**2.99**	**29**	Pn	**Pn**	**19 53 37.7**	**-0.1**
	baz=220,slow=13,SNR=407						
SPITS				Sn	**Sn**	**19 54 12.6**	**-1.0**
	baz=175,slow=22,SNR=2.1						
SPITS				LR	LR	19 54 57.1	
	comp=Z,113nm,20.6s,baz=170,slow=42						
KBS	**Kingsbay**	**3.33**	**9**	Pn	**Pn**	**19 53 39.7**	**-2.8**
KBS	**Kingsbay**	**3.33**	**9**	*e*P	**Pn**	**19 53 40.0**	**-2.5**
HOPEN	**Hopen**	**3.87**	**70**	*e*P	**Pn**	**19 53 52.0**	**+2.1**
HOPEN				*e*S	**Sn**	**19 54 37.0**	**+1.6**
HOPEN				IAML		19 54 43.4	
	comp=Z,9.6nm,0.5s						
JMIC	**Jan Mayen**	**6.93**	**236**	LR	LR	19 56 15.5	
	comp=Z,73nm,19.1s,baz=78,slow=30						
ARA0	**ARCESS Array S**	**7.80**	**134**	Pn	**Pn**	**19 54 43.8**	**0.0**
	baz=333,slow=12						
ARA0				Sn	**Sn**	**19 56 08.3**	**-3.7**
	baz=330,slow=22						
ARA0	**ARCESS Array S**	**7.80**	**134**	Pn	**Pn**	**19 54 43.8**	**0.0**
	baz=333,slow=12						
ARA0				Sn	**Sn**	**19 56 08.3**	**-3.7**
	baz=330,slow=22						
ARCES	**ARCESS Array B**	**7.80**	**134**	Pn	**Pn**	**19 54 43.6**	**-0.2**
	comp=Z,0.8nm,0.3s,baz=330,slow=11,SNR=26						
ARCES				Sn	**Sn**	**19 56 07.8**	**-4.2**
	comp=Z,0.9nm,0.3s,baz=328,slow=17,SNR=8.9						
FINES	**FINESS Array B**	**15.42**	**149**	Pn	**Pn**	**19 56 28.4**	**+0.7**
	comp=Z,0.1nm,0.3s,baz=15,slow=5.8,SNR=3.1						
FRB	**Frobisher Bay**	**27.04**	**287**	LR	LR	20 07 51.5	
	comp=Z,60nm,20.3s,baz=16,slow=34						
AKTO	**Aktyubinsk**	**31.81**	**114**	LR	LR	20 11 28.1	
	comp=Z,22nm,20.5s,baz=11,slow=35						
YKA	**Yellowknife Ar**	**37.52**	**321**	P	**P**	**20 00 05.8**	**+2.0**
	comp=Z,0.1nm,0.5s,baz=3.3,slow=9.0,SNR=4.0						
ILAR	**Eielson Array**	**38.99**	**344**	P	**P**	**20 00 15.0**	**-1.2**
	comp=Z,0.1nm,0.4s,baz=12,slow=9.2,SNR=2.6						
MKAR	**Makanchi Array**	**41.07**	**91**	P	**P**	**20 00 37.6**	**+3.8**
	comp=Z,0.1nm,0.4s,baz=350,slow=7.3,SNR=2.7						
MKAR				LR	LR	20 21 38.3	
	comp=Z,54nm,18.5s,baz=50,slow=42						

IDC 03 19:56:31.2±13.0**, 14.̊95S**×**165.̊48E, h0**km**, mb3.7**/3**, mb1 3.8**/4**, mb1mx3.5**/49**, mbtmp3.7**/4**, ML3.4**/1**, Error ellipse: s-maj=238.1km s-min=35.9km az=54.0, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.14**	**173**	Pn	Pn	19 58 17.2	+0.2
	0.7nm,0.3s,baz=101,slow=12,SNR=13						
DZM				Sn	Sn	19 59 40.1	+1.2
	0.2nm,0.3s,baz=331,slow=19,SNR=4.0						
STKA	**Stephens Creek**	**27.55**	**228**	P	P	20 02 19.1	-0.7
	1.7nm,0.9s,baz=55,slow=12,SNR=3.6						
WRA	**Warramunga Arr**	**30.10**	**256**	P	P	20 02 43.1	+0.4
	0.1nm,0.3s,baz=82,slow=7.7,SNR=11						
ASAR	**Alice Springs**	**30.98**	**249**	P	P	20 02 50.5	0.0
	0.3nm,0.3s,baz=72,slow=9.3,SNR=11						

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*IDC **03** 19:59:12.7±1.3, 11.̊60N×85.̊43W, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.5/47, mbtmp3.6/3, Error ellipse: s-maj=111.2km s-min=13.0km az=68.0*

*UCR **03** 19:59:14.0±2.3, 10.̊73N×86.̊29W, h0km±5km, MD4.1*

ISC 03 19:59:14.0±1.8**, 10.̊68N**±0.̊07×**86.̊33W**±0.̊07**, h16**km±10km**, n35,** σ**0.̊96**/41**, mb3.6**/3**, 7C-4D, Off coast of Costa Rica**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NY14	**Universidad de**	**0.78**	**92**⇓	*e*P	**Pb**	**19 59 29.8**	**+0.7**
NY14				*e*S	**Sn**	**19 59 42.1**	**+0.5**
CRZ1	**La Cruz**	**0.78**	**60**	*e*P	**Pb**	**19 59 29.2**	**0.0**
GBS3	**Finca Las Imˆ¡**	**0.86**	**83**	*e*P	**Pb**	**19 59 30.4**	**-0.1**
GBS3				*e*S	**Sn**	**19 59 42.5**	**-1.3**
LAPC	**Finca la Perla**	**0.88**	**84**	*e*P	**Pb**	**19 59 30.8**	**-0.1**
LAPC				*e*S	**Sn**	**19 59 43.2**	**-1.1**
BUEV	**Buena Vista**	**0.91**	**82**	*e*P	**Pb**	**19 59 31.5**	**+0.1**
BUEV				*e*S	**Sn**	**19 59 44.2**	**-0.8**
GB1A	**Borinquen Arri**	**0.92**	**81**⇑	*e*P	**Pg**	**19 59 31.9**	**0.0**
GPS3	**Bodega del ICE**	**0.95**	**85**	*e*P	**Pb**	**19 59 32.0**	**0.0**
GPS2	**Hotel Rincˆ‡n**	**0.96**	**85**⇓	*e*P	**Pb**	**19 59 32.2**	**0.0**
GPS1	**Guardaparques**	**0.96**	**84**	*e*P	**Pb**	**19 59 32.4**	**+0.1**
BUAI	**Buenos Aires**	**0.99**	**78**⇓	*e*P	**Pg**	**19 59 33.1**	**-0.2**
LIM1	**Limonal**	**1.05**	**89**⇓	*e*P	**Pb**	**19 59 33.8**	**-0.1**
GUAB	**Guayabo de Bag**	**1.08**	**88**⇑	*e*P	**Pb**	**19 59 34.1**	**-0.2**
COLC	**Colonia**	**1.10**	**91**⇑	*e*P	**Pb**	**19 59 34.4**	**-0.3**
MESS	**Mesas**	**1.11**	**87**⇑	*e*P	**Pb**	**19 59 34.7**	**-0.2**
CONN	**Concepcion**	**1.12**	**38**	*e*P	**Pn**	**19 59 35.2**	**+0.3**
CUI	**Cuipilapa**	**1.14**	**91**⇑	*i*P	**Pb**	**19 59 35.2**	**-0.2**
ACAL	**Aguas Claras**	**1.27**	**92**⇑	*i*P	**Pn**	**19 59 37.2**	**+0.1**
AMAS	**Alto Masis**	**1.31**	**93**	*e*P	**Pn**	**19 59 37.6**	**-0.1**
JTS	**JuntasAbangare**	**1.40**	**106**	Pg	**Pn**	**19 59 38.3**	**-0.6**
	68nm,0.3s,baz=1.1,slow=10,SNR=136						
JTS				Lg	Lg	19 59 57.3	
	45nm,0.3s,baz=45,slow=20,SNR=11						
JTS	**JuntasAbangare**	**1.40**	**106**	*e*P	**Pn**	**19 59 38.2**	**-0.8**
JCR	**Jicaral**	**1.45**	**124**	*e*P	**Pn**	**19 59 38.2**	**-1.4**
TISN	**Laguna Tiscapa**	**1.46**	**2**	*e*P	**Pn**	**19 59 40.0**	**+0.3**
COPN	**Copaltepe**	**1.52**	**350**	*e*P	**Pn**	**19 59 40.7**	**+0.2**
COPN				*e*S	**Sg**	**20 00 03.0**	**+0.1**
CEDE	**Laguna Cedeˆ–o**	**1.60**	**97**⇑	*e*P	**Pn**	**19 59 42.1**	**+0.3**
ACON	**Acoyapa**	**1.71**	**41**	*e*P	**Pn**	**19 59 43.4**	**+0.3**
MOMN	**Momotombo**	**1.73**	**353**	*e*P	**Pn**	**19 59 44.1**	**+0.7**
SRA1	**San Ramˆ‡n**	**1.91**	**108**	*e*P	**Pb**	**19 59 48.6**	**+0.1**
SRA1				*e*S	**Sg**	**20 00 14.8**	**-0.7**
LCR2	**La Lucha 2**	**2.47**	**112**	*e*P	**Pn**	**19 59 55.7**	**+1.9**
LCR2				*e*S	**Sb**	**20 00 30.6**	**+2.2**
VTR0	**Volcan Turrial**	**2.61**	**104**	*e*P	**Pn**	**19 59 57.6**	**+1.8**
CVTR	**Volcan Turrial**	**2.61**	**104**	*e*P	**Pb**	**20 00 00.1**	**-0.5**
URSC	**Urasca**	**2.64**	**108**	*e*P	**Pn**	**19 59 57.2**	**+1.1**
TXAR	**Lajitas Array**	**24.64**	**321**	P	**P**	**20 04 34.8**	**+0.7**
	0.8nm,0.5s,baz=147,slow=9.0,SNR=9.6						
ULM	**Lac du Bonnet**	**40.23**	**351**	P	P	20 06 45.3	-4.5
	2.1nm,0.9s,baz=189,slow=13,SNR=3.0						
ILAR	**Eielson Array**	**68.08**	**336**	P	**P**	**20 10 10.1**	**-2.6**
	0.2nm,0.6s,baz=135,slow=5.0,SNR=4.6						
ASAR	**Alice Springs**	**139.60**	**246**	PKP	**PKPdf**	**20 18 44.1**	**+2.3**
	0.4nm,1.0s,baz=102,slow=2.5,SNR=4.1						

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*IDC **03** 20:04:36.7±0.9, 11.̊69N×85.̊17W, h0km, mb3.7/4, mb1 4.1/6, mb1mx3.8/43, mbtmp3.8/6, ML3.6/2, MS3.1/7, Ms1 3.1/7, ms1mx2.9/44, Error ellipse: s-maj=44.6km s-min=12.4km az=73.0*

*UCR **03** 20:04:38.4±2.2, 10.̊76N×86.̊28W, h0km±6km, MD4.4*

*ISCJB **03** 20:04:40.1±0.7, 10.̊69N±0.̊06×86.̊33W±0.̊05, h33km±14km, mb3.7/4, MS3.1/4, Error ellipse: s-maj=10.6km s-min=6.3km az=35.2*

ISC 03 20:04:37.1±1.6**, 10.̊50N**±0.̊06×**86.̊34W**±0.̊05**, h14**km±10km**, n50,** σ**1.̊48**/51**, mb3.8**/4**, MS3.0**/4**, 9C-6D, Off coast of Costa Rica**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NY14	**Universidad de**	**0.81**	**80**⇓	*e*P	**Pb**	**20 04 54.1**	**+1.2**
NY14				*e*S	**Sb**	**20 05 06.5**	**+2.8**
CRZ1	**La Cruz**	**0.90**	**51**	*e*P	**Pg**	**20 04 52.9**	**-1.6**
GBS3	**Finca Las Imˆ¡**	**0.92**	**72**	*e*P	**Pg**	**20 04 54.7**	**-0.2**
LAPC	**Finca la Perla**	**0.93**	**73**⇓	*e*P	**Pg**	**20 04 55.0**	**-0.2**
LAPC				*e*S	**Sg**	**20 05 08.1**	**+0.6**
GPS3	**Bodega del ICE**	**0.99**	**75**⇓	*e*P	**Pg**	**20 04 56.3**	**-0.1**
GPS3				*e*S	**Sg**	**20 05 10.0**	**+0.7**
GPS2	**Hotel Rincˆ‡n**	**1.01**	**76**⇓	*e*P	**Pg**	**20 04 56.5**	**0.0**
GPS1	**Guardaparques**	**1.01**	**74**⇑	*i*P	**Pg**	**20 04 56.7**	**-0.1**
GPS1				*e*S	**Sg**	**20 05 10.2**	**+0.2**
BUAI	**Buenos Aires**	**1.06**	**69**⇓	*e*P	**Pb**	**20 04 57.4**	**+0.2**
LIM1	**Limonal**	**1.09**	**80**⇓	*e*P	**Pb**	**20 04 58.0**	**+0.3**
GUAB	**Guayabo de Bag**	**1.11**	**79**⇑	*e*P	**Pb**	**20 04 58.5**	**+0.4**
COLC	**Colonia**	**1.13**	**82**⇑	*e*P	**Pb**	**20 04 58.7**	**+0.3**
MESS	**Mesas**	**1.15**	**78**⇑	*e*P	**Pn**	**20 04 59.2**	**+0.3**
HORNC	**Hornillas**	**1.16**	**80**⇑	*e*P	**Pn**	**20 04 59.1**	**+0.1**
CUI	**Cuipilapa**	**1.17**	**82**	*e*P	**Pn**	**20 04 59.4**	**+0.4**
CUI				*e*S	**Sb**	**20 05 14.6**	**+0.4**
CONN	**Concepcion**	**1.27**	**34**	*e*P	**Pn**	**20 04 59.1**	**-1.3**
ACAL	**Aguas Claras**	**1.29**	**84**⇑	*e*P	**Pn**	**20 05 01.5**	**+0.8**
AMAS	**Alto Masis**	**1.33**	**85**⇑	*e*P	**Pn**	**20 05 01.9**	**+0.6**
PTEN	**Parque Tenorio**	**1.35**	**81**⇑	*e*P	**Pn**	**20 05 02.4**	**+0.8**
JCR	**Jicaral**	**1.37**	**118**	*e*P	**Pg**	**20 05 02.8**	**-0.8**
JTS	**JuntasAbangare**	**1.38**	**99**	Pg	**Pb**	**20 05 02.6**	**-0.1**
	112nm,0.3s,baz=8.1,slow=17,SNR=77						
JTS				Lg	Lg	20 05 22.3	
	102nm,0.3s,baz=245,slow=17,SNR=11						
CEDE	**Laguna Cedeˆ–o**	**1.61**	**90**⇑	*e*P	**Pb**	**20 05 06.4**	**-0.3**
TISN	**Laguna Tiscapa**	**1.63**	**3**	*e*P	**Pn**	**20 05 04.7**	**-0.7**
XAVN	**Gruta Xavier**	**1.64**	**1**	*e*P	**Pn**	**20 05 04.9**	**-0.6**
ACON	**Acoyapa**	**1.85**	**38**	*e*P	**Pn**	**20 05 07.1**	**-1.4**
ACON				*e*S	**Sn**	**20 05 30.5**	**-1.2**
SRA1	**San Ramˆ‡n**	**1.88**	**103**	*e*P	**Pg**	**20 05 12.0**	**-1.2**
MOMN	**Momotombo**	**1.91**	**354**	*e*P	**Pn**	**20 05 08.0**	**-1.2**
LCR2	**La Lucha 2**	**2.42**	**108**	*e*P	**Pb**	**20 05 20.1**	**-0.6**
VTR0	**Volcan Turrial**	**2.59**	**100**	*e*P	**Pb**	**20 05 22.3**	**-1.2**
CVTR	**Volcan Turrial**	**2.59**	**100**	*e*P	**Pb**	**20 05 21.0**	**-2.5**
URSC	**Urasca**	**2.61**	**104**	*e*P	**Pb**	**20 05 21.0**	**-2.7**
BUS	**Buena Vista**	**2.71**	**110**	*e*P	**Pb**	**20 05 25.9**	**+0.2**
EDPN	**Palmar Norte**	**3.23**	**118**	*e*P	**Pb**	**20 05 33.3**	**-0.9**
DRK0	**Durika**	**3.29**	**112**	*e*P	**Pb**	**20 05 32.4**	**-3.0**
APG	**El Apazote**	**6.02**	**318**	Pn	**Pn**	**20 06 09.3**	**+3.4**
	0.7nm,0.3s,baz=122,slow=12,SNR=6.0						
CMIG	**Matias Romero**	**10.57**	**309**	Pn	**Pn**	**20 07 11.0**	**+2.9**
	1.0nm,0.3s,baz=124,slow=14,SNR=7.5						
CMIG				LR	LR	20 11 31.7	
	comp=Z,100nm,21.6s,baz=182,slow=38						
ROSC	**El Rosal**	**13.17**	**114**	LR	LR	20 12 23.2	
	comp=Z,62nm,19.6s,baz=112,slow=37						
SDV	**Santo Domingo**	**15.57**	**95**	LR	LR	20 13 51.1	
	comp=Z,57nm,19.2s,baz=238,slow=38						
SJG	**San Juan**	**20.96**	**67**	LR	LR	20 15 36.4	
	comp=Z,24nm,18.0s,baz=226,slow=34						
TXAR	**Lajitas Array**	**24.76**	**322**	P	**P**	**20 09 59.0**	**+0.4**
	2.6nm,0.6s,baz=139,slow=12,SNR=7.5						
TXAR				PcP	**PcP**	**20 13 36.1**	**+0.9**
	0.5nm,0.8s,baz=134,slow=2.6,SNR=3.8						
TKL	**Tuckaleechee C**	**25.15**	**5**	LR	LR	20 19 28.6	
	comp=Z,62nm,18.4s,baz=324,slow=37						
LPIG	**La Paz**	**26.52**	**304**	LR	LR	20 21 13.3	
	comp=Z,34nm,21.4s,baz=294,slow=37						
NVAR	**Mina Array Bea**	**39.88**	**320**	P	**P**	**20 12 12.2**	**+1.4**
	0.5nm,0.5s,baz=133,slow=6.8,SNR=5.4						
YKA	**Yellowknife Ar**	**55.77**	**345**	P	**P**	**20 14 10.2**	**-3.0**
	0.5nm,0.6s,baz=140,slow=7.5,SNR=8.4						
SFJD	**Kangerlussuaq**	**61.29**	**15**	LR	LR	20 40 37.4	
	comp=Z,59nm,20.6s,baz=224,slow=36						
ILAR	**Eielson Array**	**68.23**	**336**	P	**P**	**20 15 35.1**	**-1.9**
	0.5nm,0.7s,baz=131,slow=4.3,SNR=11						
KURBB	**Kurchatov Arra**	**117.72**	**11**	PKP	**PKPdf**	**20 23 22.2**	**-0.8**
	0.3nm,0.6s,baz=350,slow=1.7,SNR=4.1						
MKAR	**Makanchi Array**	**122.06**	**9**	PKP	**PKPdf**	**20 23 29.8**	**-1.8**
	0.2nm,0.4s,baz=303,slow=3.0,SNR=5.2						
ASAR	**Alice Springs**	**139.51**	**246**	PKP	**PKPdf**	**20 24 08.3**	**+3.2**
	0.4nm,0.6s,baz=92,slow=1.9,SNR=6.2						
WRA	**Warramunga Arr**	**139.73**	**252**	PKP	**PKPdf**	**20 24 07.4**	**+1.8**
	0.7nm,0.7s,baz=92,slow=2.6,SNR=58						
CMAR	**Chiang Mai Arr**	**150.76**	**350**	PKPbc	**PKPbc**	**20 24 29.4**	**-0.6**
	1.3nm,0.8s,baz=329,slow=2.7,SNR=9.0						

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*IDC **03** 20:06:57.9±2.2, 43.̊29N×105.̊09W, h0km, mb3.1/2, mb1 3.6/4, mb1mx3.3/60, mbtmp3.5/4, ML3.6/2, Error ellipse: s-maj=47.3km s-min=9.2km az=155.0*

*ISCJB **03** 20:07:00.4±0.6, 43.̊74N±0.̊05×105.̊29W±0.̊07, h0km, mb3.6/1, Error ellipse: s-maj=7.9km s-min=7.3km az=141.7*

*NEIC **03** 20:07:01.5±0.8, 43.̊74N×105.̊27W, h0km, ML3.2, Error ellipse: s-maj=11.5km s-min=9.9km az=147.0, Suspected Mining explosion.*

NEIC 64 km [40 miles] SSE of Gillette.

ISC 03 20:07:00.8±1.0**, 43.̊74N**±0.̊06×**105.̊23W**±0.̊07**, h0**km**, n25,** σ**1.̊69**/23**, Wyoming**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.94**	**65**	*e*Pg	**Pb**	**20 07 19.8**	**-0.4**
K22A	**Casper**	**1.44**	**222**	*e*Pn	**Pn**	**20 07 27.4**	**-1.0**
LAO	**LASA Array**	**3.04**	**347**	*e*Pn	**Pn**	**20 07 52.5**	**+2.3**
RLMT	**Red Lodge**	**3.21**	**297**	*e*Pn	**Pn**	**20 07 52.6**	**-0.1**
BW06	**Boulder Array**	**3.31**	**254**	*e*Pn	**Pn**	**20 07 54.4**	**+0.3**
PDAR	**Pinedale Array**	**3.31**	**254**	Pn	**Pn**	**20 07 54.5**	**+0.3**
	5.7nm,0.3s,baz=75,slow=14,SNR=56						
PDAR				Lg	Lg	20 08 41.6	
	21nm,0.3s,baz=84,slow=31,SNR=10						
OGNE	**Ogallala**	**3.66**	**139**	*e*Pn	**Pn**	**20 08 01.2**	**+2.4**
GCMT	**Greycliff**	**3.77**	**305**	*e*Pn	**Pn**	**20 08 00.6**	**+0.2**
H17A	**Grant Village**	**3.91**	**282**	*e*Pn	**Pn**	**20 08 03.8**	**+1.4**
ISCO	**Idaho Springs**	**3.94**	**184**	*e*Pn	**Pn**	**20 08 04.7**	**+1.8**
YMR	**Madison River**	**4.23**	**285**	*e*Pn	Pn	20 08 01.8	-5.0
QLMT	**Earthquake Lak**	**4.59**	**286**	*e*Pn	**Pn**	**20 08 09.0**	**-2.7**
BOZ	**Bozeman (W)**	**4.93**	**294**	*e*Pn	**Pn**	**20 08 16.9**	**+0.6**
HWUT	**Hardware Ranch**	**5.13**	**248**	*e*Pn	**Pn**	**20 08 19.4**	**+0.3**
	10nm,0.4s						
TCUT	**Toone Canyon**	**5.27**	**242**	*e*Pn	**Pn**	**20 08 21.1**	**0.0**
	23nm,0.4s						
HRY	**Holter Researc**	**5.53**	**305**	*e*Pn	**Pn**	**20 08 28.9**	**+4.3**
	14nm,0.4s						
MCMT	**McKenzie Canyo**	**5.58**	**284**	*e*Pn	**Pn**	**20 08 28.2**	**+2.8**
	1.9nm,0.4s						
HVU	**Hansel Valley**	**5.89**	**253**	*e*Pn	**Pn**	**20 08 29.8**	**+0.2**
	4.8nm,0.4s						
PV04	**Paradox Valley**	**6.02**	**209**	*e*Pn	**Pn**	**20 08 32.3**	**+1.1**
SRU	**San Rafael Swe**	**6.10**	**223**	*e*Pn	**Pn**	**20 08 32.1**	**-0.3**
	12nm,0.4s						
BGU	**Big Grassy Mou**	**6.43**	**247**	*e*Pn	**Pn**	**20 08 37.3**	**+0.4**
	1.9nm,0.3s						
I10CA	**LAC DU BONNET**	**9.02**	**41**	*i*		21 02 50.0	
	baz=224,slow=322,SNR=1.8						
ULM	**Lac du Bonnet**	**9.12**	**41**	Pn	**Pn**	**20 09 12.7**	**-0.9**
	1.0nm,0.3s,baz=230,slow=12,SNR=9.6						
ULM				Lg	Lg	20 11 47.6	
	1.0nm,0.3s,baz=138,slow=15,SNR=4.0						
YKA	**Yellowknife Ar**	**19.58**	**347**	P	**P**	**20 11 30.5**	**+0.4**
	0.2nm,0.3s,baz=156,slow=11,SNR=2.5						
MKAR	**Makanchi Array**	**89.61**	**355**	P	**P**	**20 19 58.7**	**-1.5**
	0.2nm,0.5s,baz=7.6,slow=4.1,SNR=2.7						

*ATA **03** 20:10:14.6±1.9, 38.°71N×43.°39E, h7km±296km, ML2.7, MW2.9*
*DDA **03** 20:10:16.0, 38.°71N×43.°30E, h7km, Md2.6*
*ISK **03** 20:10:15.3, 38.°70N×43.°36E, h7km, ML2.5/3*
*CSEM **03** 20:10:16.0±0.2, 38.°72N×43.°38E, h8km, ML2.5, Error ellipse: s-maj=4.3km s-min=3.3km az=134.0*
ISC 03 20:10:16.3±0.8**, 38.°71N**±0.°02×**43.°38E**±0.°03**, h13**km±7km**, n33,** σ**0.s85**/58**, 1C, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	Van	0.11	175	PG	Pg	20 10 19.7	+0.1
VANB	Van	0.11	175	ePg	Pg	20 10 19.7	+0.1
TVAN	Van	0.18	173	iP	Pg	20 10 19.9	-0.7
TVAN				iS	Sg	20 10 23.8	+0.3
TVAN	Van	0.18	173	P	Pg	20 10 19.9	-0.7
TVAN				S	Sg	20 10 23.8	+0.3
VMUR	Van-Muradiye	0.32	28	iP	Pg	20 10 23.2	+0.2
VMUR				iS	Sb	20 10 29.2	0.0
VMUR	Van-Muradiye	0.32	28	P	Pg	20 10 23.2	+0.2
VMUR				S	Sb	20 10 29.2	0.0
GEVA	Gevas	0.47	212	eP	Pg	20 10 24.2	-1.4
GEVA				eS	Sg	20 10 31.5	-0.3
GEVA				IAML		20 10 37.8	
	comp=Z,40nm,0.5s						
GEVA	Gevas	0.47	212	iP	Pg	20 10 23.0	-2.6
GEVA				iS	Sg	20 10 30.6	-1.2
ADCV	BITLIS_Adilcev	0.52	281	iP	Pg	20 10 26.2	-0.4
ADCV				iS	Sg	20 10 32.0	-1.5
ADCV	BITLIS_Adilcev	0.52	281	P	Pg	20 10 26.2	-0.4
ADCV				S	Sg	20 10 32.0	-1.5
CLDR	Caldiran	0.60	44	PG	Pg	20 10 27.4	-0.8
CLDR				SG	Sb	20 10 37.1	-0.4
CLDR	Caldiran	0.60	44	iP	Pg	20 10 27.1	-1.1
CLDR				iS	Sg	20 10 35.7	-0.6
CLDR	Caldiran	0.60	44	P	Pg	20 10 27.1	-1.1
CLDR	Caldiran	0.60	44	ePg	Pg	20 10 27.4	-0.8
CLDR				S	Sg	20 10 35.7	-0.6
CLDR				eSg	Sb	20 10 37.1	-0.4
TUTA	Tutak	0.82	328⇑	eP	Pg	20 10 31.4	-0.8
TUTA				eS	Sg	20 10 43.1	+0.1
TUTA				IAML		20 10 45.2	
	comp=Z,54nm,0.2s						
TUTA	Tutak	0.82	328	iP	Pg	20 10 31.4	-0.8
TUTA				iS	Sg	20 10 41.9	-1.2
TUTA	Tutak	0.82	328	P	Pg	20 10 31.4	-0.8
TUTA				S	Sg	20 10 41.9	-1.2
DYDN	Diyadin	0.87	16	eP	Pg	20 10 31.8	-1.4
DYDN				eS	Sb	20 10 44.8	-0.2
DYDN				IAML		20 10 46.2	
	comp=Z,13nm,0.6s						
AGRB	Hanur-Agry	0.92	341	PG	Pg	20 10 33.5	-0.6
AGRB				SG	Sb	20 10 46.3	-0.1
AGRB	Hanur-Agry	0.92	341	ePg	Pg	20 10 33.5	-0.6
AGRB				eSg	Sb	20 10 46.3	-0.1
GURO	Guroymak-BITLI	1.06	262	PG	Pg	20 10 36.2	-0.6
GURO	Guroymak-BITLI	1.06	262	ePg	Pg	20 10 36.2	-0.6
EKAR	Karacoban	1.16	299	eP	Pn	20 10 39.0	+0.5
EKAR	Karacoban	1.16	299	iP	Pn	20 10 38.9	+0.5
EKAR				iS	Sn	20 10 56.0	+1.7
EKAR	Karacoban	1.16	299	P	Pn	20 10 38.9	+0.5
EKAR				S	Sn	20 10 56.0	+1.7
EATA	Eleskirt	1.34	329	eP	Pn	20 10 41.5	+0.4
EATA				eS	Sn	20 11 00.3	+1.4
EATA				IAML		20 11 04.4	
	comp=Z,3.1nm,0.4s						
EATA	Eleskirt	1.34	329	iP	Pb	20 10 41.7	+0.2
EATA				iS	Sb	20 10 59.1	+0.4
EATA	Eleskirt	1.34	329	P	Pb	20 10 41.7	+0.2
EATA				S	Sb	20 10 59.1	+0.4
SRTM	Siirt_Merkez	1.35	238	iP	Pg	20 10 42.4	+0.2
SRTM				iS	Sn	20 10 59.6	+0.8
SRTM	Siirt_Merkez	1.35	238	P	Pg	20 10 42.4	+0.2
SRTM				S	Sn	20 10 59.6	+0.8
TASB	TASBURUN-IGDIR	1.44	27	PN	Pn	20 10 42.4	+0.2
TASB	TASBURUN-IGDIR	1.44	27	ePn	Pn	20 10 42.4	+0.2
DIGO	Kars	1.71	360	eP	Pb	20 10 47.4	-0.3

MEX 03 20:17:27.8±0.3**, 15.°76N×94.°66W, h22**km±25km**, MD3.8, Near coast of Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		1.39	92	eP	Pn	20 17 49.0	-2.9
PCIG				eS	Sn	20 18 05.4	-4.0
TGIG		1.79	55	eP	Pn	20 17 54.7	-2.7
TGIG				eS	Sn	20 18 15.8	-3.7
CCIG	Comitan	2.48	78	eP	Pn	20 18 03.8	-3.2
CCIG				eS	Sn	20 18 33.5	-3.2

*ATH **03** 20:23:38.4, 42.°16N×20.°59E, h14km±2km, ML2.3/2, Error ellipse: s-maj=4.3km s-min=2.4km az=222.0*
*CSEM **03** 20:23:39.2±0.1, 42.°10N×20.°58E, h2km, ML2.7/15, Error ellipse: s-maj=3.1km s-min=2.4km az=34.0*
*BEO **03** 20:23:39.9±0.3, 42.°04N×20.°58E, h11km±2km*
*PDG **03** 20:23:39.5±0.4, 42.°10N×20.°54E, h14km, ML2.6/9, Error ellipse: s-maj=0.6km s-min=0.6km az=90.0*
*THE **03** 20:23:39.1, 42.°12N×20.°57E, h0km±3km, ML2.5/1, Error ellipse: s-maj=4.1km s-min=1.5km az=336.0*
*SKO **03** 20:23:40.1, 42.°08N×20.°56E, h12km, M1.6, ML2.3*
ISC 03 20:23:39.4±1.1**, 42.°09N**±0.°01×**20.°57E**±0.°01**, h4**km±9km**, n105,** σ**0.s98**/175**, 14C-14D, Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PHP	Peshkopia	0.42	193	P	Pg	20 23 47.3	-0.2
PHP	Peshkopia	0.42	193	P	Pg	20 23 47.3	-0.2
PHP	Peshkopia	0.42	193	iPG	Pg	20 23 47.3	-0.1
PHP				iSG	Sg	20 23 53.8	+1.0
BCI	Bajram Curri	0.46	307	iPG	Pg	20 23 47.4	-0.9
BCI				iSG	Sg	20 23 54.8	+0.5
PUK	Puka	0.50	265	iPG	Pg	20 23 48.7	-0.4
PUK				iSG	Sb	20 23 58.3	-0.4
SKO	Skopje	0.66	100	ePg	Pg	20 23 51.6	-0.5
	2.1nm,0.3s						
SKO				eSg	Sg	20 24 01.5	+0.8
	4.8nm,0.3s						
SKO	Skopje	0.66	100	P	Pg	20 23 52.2	+0.1
SKO	Skopje	0.66	100	ePg	Pg	20 23 51.6	-0.5
	2.1nm,0.3s						
SKO	Skopje	0.66	100	P	Pg	20 23 52.2	+0.1
SKO				eSg	Sg	20 24 01.5	+0.8
	4.8nm,0.3s						
SKO	Skopje	0.66	100⇑	iPg	Pg	20 23 52.2	+0.1
SKO				iSg	Sb	20 24 02.6	-0.6
SKO				eLg	Lg	20 24 04.0	
	comp=E,7.8nm,0.4s						
SKO				eLg	Lg	20 24 04.2	
	comp=N,20nm,0.4s						
PVY	Plav	0.68	318⇑	iPg	Pg	20 23 51.6	-0.8
PVY				eSg	Sg	20 24 02.3	+1.1
PVY	Plav	0.68	318⇑	iPg	Pg	20 23 51.6	-0.8
PVY				eSg	Sg	20 24 02.3	+1.1
KRUS	Krusevo	0.88	144⇑	iPg	Pg	20 23 55.9	-0.5
KRUS				iSg	Sb	20 24 08.5	-1.1
KRUS				eLg	Lg	20 24 09.4	
	comp=E,22nm,0.2s						
KRUS				eLg	Lg	20 24 09.5	
	comp=N,21nm,0.2s						
TIR	Tirane	0.91	216	ePg	Pg	20 23 56.4	-0.5
	comp=N,6.9nm,0.7s						
TIR				eSg	Sg	20 24 08.4	-0.2
	comp=N,14nm,0.4s						
TIR	Tirane	0.91	216	P	Pb	20 23 57.7	-0.1
TIR	Tirane	0.91	216	P	Pg	20 23 57.2	+0.3
TIR	Tirane	0.91	216	ePg	Pg	20 23 56.4	-0.5
	comp=N,6.9nm,0.7s						
TIR	Tirane	0.91	216	P	Pg	20 23 57.2	+0.3
TIR				eSg	Sg	20 24 08.4	-0.2
	comp=N,14nm,0.4s						
TIR	Tirane	0.91	216	iPG	Pn	20 23 58.6	-0.4
BEY	Berane	0.93	328⇑	iPg	Pg	20 23 56.2	-1.0
BEY				eSg	Sb	20 24 10.7	-0.2
IVA	Berane	0.93	328⇑	iPg	Pg	20 23 56.2	-1.0
IVA				eSg	Sb	20 24 10.7	-0.2
ULC	Ulcinj	0.99	263⇓	iPg	Pg	20 23 58.1	-0.4
ULC				eSg	Sn	20 24 13.3	-1.5
ULC	Ulcinj	0.99	263⇓	iPg	Pg	20 23 58.1	-0.4
ULC				eSg	Sn	20 24 13.3	-1.5
OHR	Ohrid	0.99	170⇑	iPg	Pg	20 23 58.0	-0.5
OHR				iSg	Sg	20 24 11.6	+0.2
OHR				eLg	Lg	20 24 15.1	
	comp=E,126nm,0.6s						
OHR				eLg	Lg	20 24 15.3	
	comp=N,97nm,0.7s						
PDG	Podgorica	1.03	290	ePg	Pg	20 23 57.9	-1.3
	comp=N,11nm,0.9s						
PDG				eSg	Sb	20 24 13.2	-0.6
	comp=N,74nm,0.5s						
PDG	Podgorica	1.03	290	P	Pg	20 23 57.9	-1.3
PDG	Podgorica	1.03	290⇓	iPg	Pg	20 23 58.0	-1.3
PDG				eSg	Sb	20 24 13.2	-0.6
	comp=N,74nm,0.5s						
TTG	Podgorica	1.03	290⇓	iPg	Pg	20 23 58.0	-1.3
TTG				eSg	Sn	20 24 14.6	-1.0
DRME	Dracevica, Mon	1.03	276⇓	iPg	Pg	20 23 58.5	-0.7
DRME				eSg	Sn	20 24 14.7	-1.0
DRME	Dracevica, Mon	1.03	276⇓	iPg	Pg	20 23 58.5	-0.7
DRME				eSg	Sn	20 24 14.7	-1.0
KOME	Kolasin	1.09	315⇑	iPg	Pg	20 23 59.1	-1.2
KOME				eSg	Sn	20 24 16.0	-1.2
KOME	Kolasin	1.09	315⇑	iPg	Pg	20 23 59.1	-1.2
KOME				eSg	Sn	20 24 16.0	-1.2
BARS	Barje	1.18	51	ePg	Pn	20 24 02.4	-0.3
	comp=N,6.7nm,0.2s						
BARS				eSg	Sb	20 24 17.5	-0.5
	comp=N,41nm,0.5s						
BARS	Barje	1.18	51	ePg	Pn	20 24 02.4	-0.3
	comp=N,6.7nm,0.2s						
BARS				eSg	Sb	20 24 17.5	-0.5
	comp=N,41nm,0.5s						
SELS	Selova	1.20	20	ePg	Pg	20 24 02.3	-0.2
	comp=N,0.9nm,0.2s						
SELS				eSg	Sn	20 24 20.0	+0.1
	comp=N,34nm,0.9s						
BIA	Bitola	1.21	152	P	Pb	20 24 01.7	-1.3
BIA	Bitola	1.21	152	P	Pb	20 24 01.7	-1.3
SJES	Sjenica	1.25	340	ePg	Pn	20 24 02.5	-1.4
	comp=N,15nm,0.7s						
SJES				eSg	Sn	20 24 21.2	0.0
	comp=N,95nm,0.7s						
BUM	Brajici-Budva	1.26	280⇓	iPg	Pn	20 24 02.8	-1.2
BUM				eSg	Sn	20 24 22.4	+1.0
BUM	Brajici-Budva	1.26	280⇓	iPg	Pn	20 24 02.8	-1.2
BUM				eSg	Sn	20 24 22.4	+1.0
CEME	Cevo	1.30	291⇓	iPg	Pn	20 24 03.0	-1.6
CEME				eSg	Sn	20 24 23.7	+1.2
CEME	Cevo	1.30	291⇓	iPg	Pn	20 24 03.0	-1.6
CEME				eSg	Sn	20 24 23.7	+1.2
NKY	Niksic	1.37	302⇑	iPg	Pn	20 24 04.4	-1.1
NKY				eSg	Sg	20 24 25.5	+2.0
NKY	Niksic	1.37	302⇑	iPg	Pn	20 24 04.4	-1.1
NKY				eSg	Sg	20 24 25.5	+2.0
NKME	Niksic	1.37	300⇑	iPg	Pn	20 24 04.5	-1.0
NKME				eSg	Sg	20 24 25.4	+1.8
NKME	Niksic	1.37	300⇑	iPg	Pn	20 24 04.5	-1.0
NKME				eSg	Sg	20 24 25.4	+1.8
FNA	Florina	1.44	155	P	Pn	20 24 05.6	-0.8
FNA				S	Sg	20 24 28.5	+2.8
FNA				AML	AML	20 24 32.7	
	comp=N,199µm,0.4s						
FNA				AML	AML	20 24 32.9	
	comp=E,307µm,0.5s						
FNA	Florina	1.44	155	P	Pn	20 24 05.8	-0.6
FNA				S	Sg	20 24 26.7	+1.0
FNA	Florina	1.44	155	P	Pn	20 24 06.1	-0.3
FNA				S	Sg	20 24 26.7	+1.0
PLE	Pljevlja	1.51	325⇓	iPg	Pn	20 24 07.2	-0.3
PLE				eSg	Sg	20 24 28.5	+0.4
PLE	Pljevlja	1.51	325⇓	iPg	Pn	20 24 07.2	-0.3
PLE				eSg	Sg	20 24 28.5	+0.4
IVAS	Ivanjica	1.52	349	ePg	Pg	20 24 08.7	+0.2
	comp=E,0.4nm,0.2s						
IVAS				eSg	Sg	20 24 30.0	+1.8
	comp=E,84nm,0.7s						
IVAS	Ivanjica	1.52	349	ePg	Pg	20 24 08.7	+0.2
	comp=E,0.4nm,0.2s						
IVAS				eSg	Sg	20 24 30.0	+1.8
	comp=E,84nm,0.7s						
HCY	Herceg Novi	1.58	284⇓	iPg	Pn	20 24 08.1	-0.2
HCY				eSg	Sg	20 24 30.7	+0.5
HCY	Herceg Novi	1.58	284⇓	iPg	Pn	20 24 08.1	-0.2
HCY				eSg	Sg	20 24 30.7	+0.5
VAY	Valandovo	1.69	116	ePg	Pb	20 24 10.0	-1.1
	comp=E,5.9nm,0.3s						
VAY				eSg	Sb	20 24 31.7	-0.9
	comp=E,2.8nm,0.7s						
VAY	Valandovo	1.69	116	P	Pb	20 24 09.9	-1.1
VAY	Valandovo	1.69	116	P	Pb	20 24 09.9	-1.1
VAY				eSg	Sb	20 24 31.7	-0.9
	comp=E,2.8nm,0.7s						
VAY	Valandovo	1.69	116⇑	iPg	Pb	20 24 10.6	-0.4
VAY				iSg	Sg	20 24 33.8	+0.2
VAY				eLg	Lg	20 24 37.7	
	comp=E,20nm,0.7s						
VAY				eLg	Lg	20 24 37.8	
	comp=N,11nm,0.5s						
NEST	Nestorio	1.71	168	P	Pb	20 24 10.9	-0.7
NEST	Nestorio	1.71	168	P	Pn	20 24 10.3	+0.1
NEST	Nestorio	1.71	168	P	Pn	20 24 10.3	+0.1
BOVS	Bovan	1.76	28	ePn	Pb	20 24 11.5	-0.8
	comp=N,0.4nm,0.6s						
BOVS				eSg	Sg	20 24 37.4	+1.5
	comp=N,1.5nm,0.5s						
BOVS	Bovan	1.76	28	ePn	Pb	20 24 11.5	-0.8
	comp=N,0.4nm,0.6s						
BOVS				eSg	Sg	20 24 37.4	+1.5
	comp=N,1.5nm,0.5s						
GRG	Griva	1.78	129	P	Pb	20 24 11.9	-0.8
GRG	Griva	1.78	129	P	Pn	20 24 11.2	+0.1
GRG	Griva	1.78	129	P	Pn	20 24 11.2	+0.1
GRUS	Gruza	1.80	3	ePn	Pn	20 24 10.9	-0.4
	comp=N,1.2nm,0.9s						
GRUS				eSn	Sb	20 24 35.6	-0.4
	comp=N,6.2nm,0.8s						
GRUS	Gruza	1.80	3	ePn	Pn	20 24 10.9	-0.4
	comp=N,1.2nm,0.9s						
GRUS				eSn	Sb	20 24 35.6	-0.4
	comp=N,6.2nm,0.8s						
KKB	Krupnik	1.89	96	eP	Pb	20 24 14.7	+0.2
ZAPS	Zavoj	1.93	51	ePn	Pn	20 24 13.1	0.0
	comp=N,0.5nm,0.5s						
ZAPS				eSn	Sn	20 24 36.6	-1.3
	comp=N,4.4nm,0.5s						
ZAPS	Zavoj	1.93	51	ePn	Pn	20 24 13.1	0.0
	comp=N,0.5nm,0.5s						
ZAPS				eSn	Sn	20 24 36.6	-1.3
	comp=N,4.4nm,0.5s						
KNT	Kendrikon	1.98	117	P	Pn	20 24 13.7	-0.1
KNT	Kendrikon	1.98	117	P	Pn	20 24 13.9	+0.1
KNT	Kendrikon	1.98	117	P	Pn	20 24 13.9	+0.1
VTS	Vitosha	2.02	75	ePg	Pb	20 24 16.0	-0.9
	comp=N,1.7nm,0.5s						
VTS	Vitosha	2.02	75	eP	Pb	20 24 15.9	-0.9
VTS	Vitosha	2.02	75	ePg	Pb	20 24 16.0	-0.9
	comp=N,1.7nm,0.5s						
DIVS	Divibare	2.05	348	ePn	Pn	20 24 14.2	-0.7
	comp=N,2.1nm,0.6s						
DIVS				eSn	Sn	20 24 40.2	-0.8
	comp=N,5.5nm,0.8s						
DIVS	Divibare	2.05	348	ePn	Pn	20 24 14.2	-0.7
	comp=N,2.1nm,0.6s						
DIVS				eSn	Sn	20 24 40.2	-0.8
	comp=N,5.5nm,0.8s						
ZAGS	Zajecar	2.11	35	ePn	Pn	20 24 15.6	0.0
	comp=N,0.6nm,0.1s						
ZAGS				eSg	Sg	20 24 47.3	0.0
	comp=N,13nm,0.6s						
ZAGS	Zajecar	2.11	35	ePn	Pn	20 24 15.6	0.0
	comp=N,0.6nm,0.1s						
ZAGS				eSg	Sg	20 24 47.3	0.0
	comp=N,13nm,0.6s						
TRUS	Trudelj	2.13	357	ePn	Pn	20 24 15.9	0.0
	comp=N,1.1nm,0.3s						
TRUS	Trudelj	2.13	357	ePn	Pn	20 24 15.9	0.0
	comp=N,1.1nm,0.3s						
SVIS	Svilajnac	2.23	12	ePg	Pb	20 24 20.5	+0.3
	comp=N,8.1nm,0.7s						
SVIS				eSn	Sn	20 24 45.4	+0.3
	comp=N,10nm,0.3s						
STON	Ston	2.26	291	ePn	Pb	20 24 19.5	-1.3
STON				Sn	Sb	20 24 50.0	+0.9
STON	Ston	2.26	291	ePn	Pb	20 24 19.5	-1.3
STON				Sn	Sb	20 24 50.0	+0.9
HAPS	Han Pijesak,Bl	2.32	330	ePn	Pn	20 24 18.7	+0.1
	comp=N,2.1nm,0.7s						
HAPS				eSn	Sn	20 24 47.5	-0.1
	comp=N,12nm,0.5s						
HAPS	Han Pijesak,Bl	2.32	330	ePn	Pn	20 24 18.7	+0.1
	comp=N,2.1nm,0.7s						
HAPS				eSn	Sn	20 24 47.5	-0.1
	comp=N,12nm,0.5s						
MMB	Musomiste	2.41	101	eP	Pg	20 24 24.4	-1.3
KUBS	Kucevo	2.46	19	ePn	Pn	20 24 21.6	+1.2
	comp=N,0.2nm,0.1s						
KUBS				eSn	Sn	20 24 51.4	+0.5
	comp=N,12nm,0.7s						
KUBS	Kucevo	2.46	19	ePn	Pn	20 24 21.6	+1.2
	comp=N,0.2nm,0.1s						
KUBS				eSn	Sn	20 24 51.4	+0.5
	comp=N,12nm,0.7s						
SRS	Serrai	2.47	112	P	Pn	20 24 20.4	-0.1
SRS	Serrai	2.47	112	P	Pn	20 24 20.6	+0.1
NVR	Nevrokopi	2.58	106	P	Pn	20 24 23.3	+1.3
NVR	Nevrokopi	2.58	106	P	Pn	20 24 21.9	-0.1
NVR	Nevrokopi	2.58	106	P	Pn	20 24 21.9	-0.1
THL	Klokotos Trika	2.75	156	P	Pn	20 24 25.4	+1.0
THL				S	Sn	20 24 59.3	+1.2
THL				AML	AML	20 25 00.3	
	comp=N,44µm,0.7s						
THL				AML	AML	20 25 01.4	
	comp=E,29µm,0.5s						
THL	Klokotos Trika	2.75	156	P	Pn	20 24 25.4	+1.0
THL				S	Sn	20 24 59.5	+1.4
AGG	Agios Georgios	3.35	156	P	Pn	20 24 33.5	+0.9
AGG	Agios Georgios	3.35	156	P	Pn	20 24 33.7	+1.1
UDBI	Udbina	4.27	306	ePn	Pn	20 24 47.1	+1.8
UDBI				Sn	Sn	20 25 38.4	+2.7
UDBI	Udbina	4.27	306	ePn	Pn	20 24 47.1	+1.8
UDBI				Sn	Sn	20 25 38.3	+2.7
NVLJ	Novalja	4.83	303	ePn	Pn	20 24 54.5	+1.5
NVLJ				Sn	Sn	20 25 51.2	+1.8
NVLJ	Novalja	4.83	303	ePn	Pn	20 24 54.5	+1.5
NVLJ				Sn	Sn	20 25 51.2	+1.8

*IDC **03** 20:28:34.6±2.2, 13.°62S×167.°28E, h184km±18km, mb4.0/13, mb1 4.1/13, mb1mx3.7/47, mbtmp4.4/13, Error ellipse: s-maj=23.1km s-min=14.2km az=120.0*
*ISCJB **03** 20:28:35.4±0.4, 13.°56S±0.°06×167.°11E±0.°08, h200km, mb4.5/36, Error ellipse: s-maj=12.0km s-min=6.6km az=29.5*
*NEIC **03** 20:28:35.9±0.9, 13.°58S×167.°19E, h194km±8km, mb4.7/27, Error ellipse: s-maj=9.7km s-min=6.0km az=129.0*
ISC 03 20:28:36.6±0.5**, 13.°54S**±0.°06×**167.°2E**±0.°1**, h200**km**, n73,** σ**0.s89**/82**, mb4.5**/37**, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	8.52	185	P	Pn	20 30 38.1	+1.3
	0.7nm,0.3s,baz=58,slow=15,SNR=6.8						
DZM				S	Sn	20 32 14.0	+1.4
	baz=65,slow=17,SNR=2.4						
DZM	Mont Dzumac	8.52	185	ePn	Pn	20 30 38.2	+1.5
DZM				eSn	Sn	20 32 12.7	+0.1
CTA	Charters Tower	21.08	249	P	P	20 33 05.5	-0.1
	9.9nm,0.5s,baz=73,slow=11,SNR=19						
CTAO	Charters Tower	21.08	249	eP	P	20 33 05.2	-0.4
	10.0nm,0.6s						
PATS	Pohnpei	22.09	336	eP	P	20 33 15.8	-0.1
	525nm,2.0s						
ARMA	Armidale	22.11	218	eP	P	20 33 16.6	+0.6
	6.8nm,0.8s						
COEN	Coen	23.35	266	eP	P	20 33 28.4	+1.1
	8.2nm,0.6s						
STKA	Stephens Creek	29.73	228	P	P	20 34 24.6	+0.3
	8.4nm,0.4s,baz=50,slow=9.6,SNR=54						
STKA				ScP	ScP	20 40 47.2	+0.8
	1.5nm,0.6s,baz=59,slow=3.3,SNR=6.6						
STKA	Stephens Creek	29.73	228	eP	P	20 34 24.4	+0.1
	2.1nm,0.4s						
STKA				eScP	ScP	20 40 48.2	+1.9
RPZ	Rata Peaks	30.25	174	P	P	20 34 27.8	-0.9
	13nm,0.3s,baz=221,slow=9.1,SNR=5.7						
WC3	Warramunga Arr	32.05	254	eP	P	20 34 43.3	-1.5
	10nm,1.5s						
WB2	Warramunga Arr	32.06	254	eP	P	20 34 43.0	-2.0
WR1	Warramunga Arr	32.07	254	eP	P	20 34 43.6	-1.4
	6.7nm,1.1s						
WR1				ePcP	PcP	20 37 29.6	-0.1
WR1				eScP	ScP	20 40 55.4	+1.0
WRA	Warramunga Arr	32.07	254	P	P	20 34 43.6	-1.4
	2.7nm,0.6s,baz=85,slow=9.5,SNR=87						
WRA				PcP	PcP	20 37 29.6	-0.1
	0.8nm,0.6s,baz=85,slow=3.1,SNR=7.4						
WRA				ScP	ScP	20 40 55.4	+1.0
	1.2nm,0.9s,baz=75,slow=3.8,SNR=7.5						
AS01	Alice Springs	33.01	247	eP	P	20 34 51.8	-1.5
AS31	Alice Springs	33.05	247	eP	P	20 34 52.3	-1.3
	4.4nm,0.4s						
ASAR	Alice Springs	33.06	247	P	P	20 34 52.2	-1.4
	7.2nm,0.5s,baz=75,slow=9.2,SNR=191						
ASAR				PcP	PcP	20 37 32.0	-0.4
	0.8nm,0.7s,baz=83,slow=2.7,SNR=7.0						
ASAR				ScP	ScP	20 40 59.1	+1.4
	1.7nm,0.9s,baz=84,slow=2.9,SNR=13						
BBOO	Buckleboo	34.27	231	eP	P	20 35 03.5	-0.4
	71nm,1.7s						
FORT	Forrest	39.86	238	eP	P	20 35 50.2	-0.8
MCQ	Macquarie Isla	41.38	187	eP	P	20 36 02.6	-0.3
	148nm,1.1s						
MBWA	Marble Bar	45.81	254	eP	P	20 36 39.2	+0.3
	14nm,1.3s						
NWAO	Narrogin (SRO)	49.31	238	eP	P	20 37 04.6	-1.1
	180nm,1.9s						
MAJO	Matsushiro	56.83	332	eP	P	20 38 01.4	+1.1
	68nm,1.5s						
MJB9	Matsu-Tunnel	56.83	332	eP	P	20 38 01.5	+1.1
	67nm,1.5s						
PETK	Petropavlovsk-	66.88	354	P	P	20 39 08.0	+1.0
	2.7nm,0.8s,baz=126,slow=7.3,SNR=3.9						
PETK	Petropavlovsk-	66.88	354	eP	P	20 39 08.3	+1.3
PEA1	Petropavlovsk-	66.88	354	eP	P	20 39 08.0	+1.0
CM01	Chiang Mai Arr	74.39	294	eP	P	20 39 53.9	+0.9
CM31	Chiang Mai Arr	74.42	294	eP	P	20 39 52.7	-0.5
CMAR	Chiang Mai Arr	74.42	294	P	P	20 39 54.6	+1.4
	1.8nm,1.0s,baz=122,slow=4.7,SNR=12						
HIA	Hailar	75.23	330	eP	P	20 39 57.0	-0.3
	14nm,1.2s						
OHAK	Old Harbor	77.70	21	eP	P	20 40 11.5	+0.6
	130nm,1.7s						
KDAK	Kodiak Island	78.38	21	eP	P	20 40 15.5	+0.9
	180nm,1.8s						
GAMB	Gambell	78.77	9	eP	P	20 40 17.2	+0.6
	10nm,1.6s						
SONA0	Songino Array	81.51	324	eP	P	20 40 32.1	+0.2
SONM	Songino Array	81.51	324	P	P	20 40 32.1	+0.2
	0.7nm,0.6s,baz=123,slow=5.5,SNR=4.6						
SONA1	Songino Array	81.51	324	eP	P	20 40 32.4	+0.6
SUA	Susitna One	81.79	19	eP	P	20 40 33.1	+0.1
	68nm,2.0s						
CAST	Castle Rocks	82.88	17	eP	P	20 40 39.5	+1.0
	22nm,1.9s						
MAW	Mawson	82.96	202	P	P	20 40 38.4	-0.5
	2.8nm,0.7s,baz=56,slow=3.6,SNR=4.0						
MAW	Mawson	82.96	202	eP	P	20 40 38.9	+0.1
	3.5nm,1.5s						
RND	Reindeer	83.83	18	eP	P	20 40 43.7	+0.4
	21nm,1.8s						
BALM	Baldy	84.36	22	eP	P	20 40 46.4	+0.2
	54nm,2.0s						
IM3	Indian Mountai	84.44	15	eP	P	20 40 46.0	-0.3
MLY	Manley	84.50	17	eP	P	20 40 46.1	-0.5
	9.1nm,1.6s						
WRH	Wood River Hil	84.84	18	eP	P	20 40 48.5	+0.2
	19nm,1.9s						
CCB	Clear Creek Bu	85.06	18	eP	P	20 40 49.0	-0.3
	20nm,1.9s						
IL1	Eielson Array	85.42	18	eP	P	20 40 51.3	+0.1
ILAR	Eielson Array	85.42	18	P	P	20 40 51.0	-0.2
	0.8nm,0.6s,baz=238,slow=5.0,SNR=13						
ILB	Eielson Array	85.42	18	eP	P	20 40 50.9	-0.2
VTV	Victorville	85.98	53	eP	P	20 40 59.4	+4.7
PINE	Pine Mountain	86.62	44	eP	P	20 40 56.9	-1.0
	19nm,1.0s						
NIHS	Ingelmoor High	87.32	40	eP	P	20 41 01.1	+0.3
MK01	Makanchi Array	96.29	316	eP	P	20 41 42.1	-0.4
MK31	Makanchi Array	96.31	316	eP	P	20 41 42.2	-0.2

MK32	**Makanchi Array**	**96.31**	**316**	*e*P	**P**	**20 41 43.0**	**+0.5**
MKAR	**Makanchi Array**	**96.31**	**316**	P	**P**	**20 41 43.0**	**+0.5**
	1.0nm,0.5s,baz=91,slow=6.4,SNR=17						
MKAR	**Makanchi Array**	**96.31**	**316**	*e*P	**P**	**20 41 42.7**	**+0.2**
	7.1nm,0.8s						
ZALV	**Zalesovo Beam**	**96.40**	**324**	P	**P**	**20 41 42.1**	**-0.5**
	0.7nm,0.6s,baz=129,slow=4.0,SNR=3.7						
ZAA1	**Zalesovo Array**	**96.40**	**324**	*e*P	**P**	**20 41 42.1**	**-0.5**
YKA	**Yellowknife Ar**	**96.52**	**27**	P	**P**	**20 41 41.9**	**-1.1**
	0.1nm,0.4s,baz=252,slow=2.7,SNR=2.9						
BLA	**Blacksburg**	**115.82**	**55**	*e*PKPdf	**PKPdf**	**20 46 53.8**	**-2.0**
ARA0	**ARCESS Array S**	**119.09**	**346**	*e*PKPdf	**PKPdf**	**20 47 00.5**	**-0.6**
ARCES	**ARCESS Array B**	**119.09**	**346**	PKP	**PKPdf**	**20 47 00.5**	**-0.6**
	3.1nm,0.9s,baz=50,slow=2.0,SNR=12						
FIA0	**FINESS Array S**	**124.60**	**339**	*e*PKPdf	**PKPdf**	**20 47 11.3**	**-0.5**
FINES	**FINESS Array B**	**124.60**	**339**	PKP	**PKPdf**	**20 47 11.3**	**-0.5**
	1.4nm,0.7s,baz=349,slow=7.8,SNR=5.2						
BR101	**Keskin Array S**	**131.69**	**312**	*e*SKPbc	**SKPab**	**20 50 35.2**	**+1.3**
BRTR	**Keskin Array B**	**131.69**	**312**	SKPbc	**SKPab**	**20 50 35.2**	**+1.3**
	0.8nm,0.6s,baz=103,slow=3.8,SNR=6.4						
GERES	**GERESS Array B**	**138.56**	**334**	PKP	**PKPdf**	**20 47 38.5**	**-0.2**
	0.4nm,0.7s,baz=32,slow=4.6,SNR=3.9						
KEST	**Kesra**	**150.25**	**322**	PKPbc	**PKPbc**	**20 48 05.1**	**+0.5**
	5.3nm,0.6s,baz=281,slow=3.5,SNR=9.9						
ESDC	**Sonseca Array**	**152.83**	**345**	PKPbc	**PKPbc**	**20 48 09.2**	**-1.1**
	0.3nm,0.6s,baz=348,slow=3.3,SNR=3.7						
TORD	**Torodi Ar. Bea**	**165.90**	**270**	PKP	**PKPdf**	**20 48 17.9**	**-0.6**
	0.8nm,1.0s,baz=107,slow=1.5,SNR=3.1						
TOA1	**Torodi Ar. Sit**	**165.90**	**270**	*e*PKPdf	**PKPdf**	**20 48 17.9**	**-0.6**

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*IDC **03** 20:41:21.4±0.7, 5.°29N×127.°28E, h0km, mb4.2/19, mb1 4.3/19, mb1mx4.1/52, mbtmp4.2/19, MS3.6/1, Ms1 3.6/1, ms1mx2.6/53, Error ellipse: s-maj=25.7km s-min=14.1km az=72.0*

*MOS **03** 20:41:30.6±0.9, 5.°20N×127.°22E, h89km, mb4.5/26, Error ellipse: s-maj=12.0km s-min=6.6km az=122.6*

*ISCJB **03** 20:41:31.7±0.4, 5.°12N±0.°02×127.°25E±0.°04, h104km±3km, mb4.5/78, Error ellipse: s-maj=6.2km s-min=3.3km az=163.0*

*NEIC **03** 20:41:32.8±0.6, 5.°16N×127.°27E, h96km±5km, mb4.6/49, Error ellipse: s-maj=5.2km s-min=3.5km az=65.0*

*BJI **03** 20:41:32.4, 5.°16N×127.°30E, h104km, mb4.5/15, mB5.0/11*

*MAN **03** 20:41:35, 5.°24N×127.°11E, h129km, mb5.1, ML4.0, MS4.1*

*DJA **03** 20:41:36.4±1.1, 4°N±4°×12°7E±°, h13km±11km, M4.6/7, mB5.2/2, mb4.5/6, MLv4.6/7, Mw(mB)4.6/2*

ISC 03 20:41:32.5±0.7**, 5.°14N**±0.°03×**127.°25E**±0.°05**, h94**km±7km**, n198,** σ1.°33/213**, mb4.5**/78**, 12C-1D, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**2.24**	**230**	P	**Pn**	**20 42 08.1**	**+0.1**
SGSI				S	**Sn**	**20 42 34.0**	**-1.2**
GSPH	**General Santos**	**2.48**	**293⇑**	*i*P	**Pn**	**20 42 09.5**	**-1.8**
GSPH				*i* S	**Sn**	**20 42 40.1**	**-0.9**
DAV	**Davao City (W)**	**2.54**	**319**	Pn	**Pn**	**20 42 12.1**	**+0.2**
	76nm,0.3s,baz=266,slow=14,SNR=3.7						
DAV				Sn	**Sn**	**20 42 43.9**	**+1.6**
	133nm,0.3s,baz=321,slow=21,SNR=3.9						
DAV	**Davao City (W)**	**2.54**	**319**	*e*Pn	**Pn**	**20 42 11.2**	**-0.7**
DAV				*e*Sn	**Sn**	**20 42 42.5**	**+0.2**
KCP	**Kidapawan**	**2.84**	**311⇑**	*e*P	**Pn**	**20 42 18.1**	**+2.1**
KCP				*i* S	**Sn**	**20 42 51.9**	**+2.3**
BIPH	**Bislig**	**3.15**	**344⇑**	*e*P	**Pn**	**20 42 21.1**	**+0.9**
BIPH				*e*S	**Sn**	**20 42 53.1**	**-3.9**
BUKP	**Musuan**	**3.48**	**322**	*e*P	**Pn**	**20 42 25.8**	**+1.1**
BUKP				*e*S	**Sn**	**20 43 06.4**	**+1.4**
CTBH	**Cotabato--PC H**	**3.63**	**305⇑**	*e*P	**Pn**	**20 42 27.6**	**+0.9**
CTBH				*i* S	**Sn**	**20 43 00.7**	**-7.8**
BUTP	**Butuan**	**4.14**	**337**	*e*P	**Pn**	**20 42 36.2**	**+2.7**
BUTP				*e*S	**Sn**	**20 43 22.9**	**+2.1**
TNTI	**Ternate**	**4.34**	**178**	*e*Pn	**Pn**	**20 42 37.5**	**+1.3**
TNTI				*e*Sn	**Sn**	**20 43 26.4**	**+0.7**
SCPH	**Surigao**	**4.93**	**339⇓**	*e*P	**Pn**	**20 42 44.9**	**+0.6**
SCPH				*e*S	**Sn**	**20 43 41.9**	**+1.8**
IPIL	**Ipil**	**5.34**	**300**	*e*P	**Pn**	**20 42 52.9**	**+3.1**
IPIL				*e*S	**Sn**	**20 43 51.2**	**+1.1**
KMSI	**Cibinong**	**5.58**	**216**	P	**Pn**	**20 42 49.9**	**-3.3**
LBMI	**Labuha**	**5.74**	**177**	P	Pn	20 42 46.5	-8.8
LBMI				S	**Sn**	**20 44 00.4**	**+0.5**
MRSI	**Marisa**	**7.04**	**229**	P	**Pn**	**20 43 13.9**	**+1.0**
MRSI				S	**Sn**	**20 44 28.3**	**-3.2**
SANI	**Sanana**	**7.25**	**190**	P	**Pn**	**20 43 13.6**	**-2.2**
	15nm,0.9s						
SANI				S	Sn	20 44 27.5	-9.1
	15nm,0.9s						
LUWI	**Luwuk**	**7.59**	**216**	*e*Pn	**Pn**	**20 43 25.0**	**+4.5**
LUWI				*e*Sn	**Sn**	**20 44 41.8**	**-3.3**
APSI	**Ampana**	**8.21**	**223**	P	**Pn**	**20 43 26.5**	**-2.4**
MYLDM	**Lahad Datu**	**8.71**	**271**	*e*Pn	**Pn**	**20 43 34.9**	**-0.9**
MYLDM				*e*Sn	**Sn**	**20 45 19.1**	**+6.7**
FAKI	**Fak Fak**	**9.43**	**148**	*e*Pn	**Pn**	**20 43 44.7**	**-0.9**
KKM	**Kota Kinabalu**	**11.02**	**275**	*e*Pn	**Pn**	**20 44 09.4**	**+2.1**
MTKI	**Muara Teweh, K**	**13.74**	**244**	P	**P**	**20 44 46.9**	**-1.9**
MMRI	**Maumere**	**14.56**	**200**	*e*Pn	**Pn**	**20 44 52.8**	**-1.3**
SOEI	**Soe**	**15.09**	**191**	*e*Pn	**Pn**	**20 45 00.5**	**-0.4**
	18nm,0.5s						
SBUM	**Sibu**	**15.23**	**260**	*e*P	**P**	**20 45 06.1**	**+0.7**
	18nm,0.8s						
KSM	**Kuching**	**17.30**	**258**	*e*P	**Pn**	**20 45 29.3**	**+1.1**
	19nm,0.7s						
MTN	**Manton Dam**	**18.27**	**168**	*e*P	**P**	**20 45 38.8**	**-0.2**
	10nm,1.1s						
TWG	**Pinlang**	**18.57**	**342**	*e*P	**P**	**20 45 41.7**	**-0.4**
	110nm,1.1s						
YULB	**Yu-li**	**19.04**	**343**	*e*P	**Pn**	**20 45 48.9**	**-0.1**
	128nm,1.8s						
TPUB	**Ta-pu**	**19.16**	**341**	*e*P	**P**	**20 45 48.2**	**-0.4**
	273nm,2.0s						
GUMO	**Guam**	**19.29**	**63**	*e*P	**Pn**	**20 45 52.3**	**+0.2**
	102nm,0.9s						
GUMO	**Guam**	**19.29**	**63**	*e*P	**Pn**	**20 45 52.3**	**+0.2**
GUMO				pmax	pmax		
	comp=Z,102nm,0.9s						
SSLB	**Suanglung**	**19.51**	**342**	*e*P	**Pn**	**20 45 53.2**	**-1.4**
	comp=Z,61nm,1.7s						
NACB	**Ninganchiao**	**19.70**	**345**	*e*P	**P**	**20 45 54.2**	**-0.3**
	comp=Z,141nm,1.9s						
YHNB	**Yeheng**	**20.23**	**344**	*e*P	Pn	20 46 03.1	+0.1
	comp=Z,80nm,1.5s						
ANA2	**Anatahan**	**21.26**	**57**	*e*P	**P**	**20 46 09.5**	**-1.9**
MYKOM	**Kota Tinggi**	**23.59**	**263**	*e*P	**P**	**20 46 35.7**	**+0.6**
	comp=Z,16nm,0.9s						
PMG	**Port Moresby**	**24.55**	**126**	LR	LR	20 56 51.5	
	comp=Z,120nm,18.3s,baz=220,slow=38						
COEN	**Coen**	**24.69**	**140**	*e*P	**P**	**20 46 46.6**	**+1.5**
	comp=Z,22nm,1.8s						
WR1	**Warramunga Arr**	**25.88**	**165**	*e*P	**P**	**20 46 56.8**	**+1.1**
	comp=Z,6.6nm,0.8s						
WRA	**Warramunga Arr**	**25.88**	**165**	P	**P**	**20 46 56.8**	**+1.0**
	comp=Z,4.7nm,0.7s,baz=342,slow=10,SNR=154						
WB2	**Warramunga Arr**	**25.88**	**165**	*e*P	**P**	**20 46 56.0**	**+0.2**
CBIJ	**Chichi jima**	**26.07**	**32**	*e*P	**P**	**20 46 58.7**	**+1.3**
	comp=Z,364nm,1.3s						
IPM	**Ipoh**	**26.14**	**270**	*e*P	**P**	**20 46 58.2**	**0.0**
	comp=Z,11nm,0.9s						
KULM	**Kulim**	**26.49**	**272**	*e*P	**P**	**20 47 00.9**	**-0.4**
	comp=Z,20nm,1.3s						
RABL	**Rabaul**	**26.56**	**110**	*e*P	**P**	**20 47 00.1**	**-1.8**
	comp=Z,54nm,0.4s						
MBWA	**Marble Bar**	**27.15**	**196**	*e*P	**P**	**20 47 06.4**	**-0.8**
	comp=Z,51nm,1.9s						
NJ2	**Nanjing**	**27.91**	**345**	*e*P	**P**	**20 47 13.4**	**-0.4**
NJ2				pmax	pmax		
	comp=Z,20nm,0.5s						
JNU	**Nakatsue**	**28.05**	**6**	*e*P	**P**	**20 47 14.0**	**-1.1**
	comp=Z,184nm,1.8s						
PSI	**Prapat**	**28.35**	**266**	P	**P**	**20 47 18.0**	**-0.2**
	comp=Z,3.1nm,0.4s,baz=22,slow=5.4,SNR=4.1						
PSI	**Prapat**	**28.35**	**266**	*e*P	**P**	**20 47 17.9**	**-0.2**
	comp=Z,20nm,1.5s						
PSI	**Prapat**	**28.35**	**266**	*e*P	**P**	**20 47 17.9**	**-0.2**
PSI				pmax	pmax		
	comp=Z,20nm,1.5s						
AS31	**Alice Springs**	**29.35**	**167**	*e*P	**P**	**20 47 27.7**	**+0.9**
	comp=Z,1.1nm,0.9s						
ASAR	**Alice Springs**	**29.36**	**167**	P	**P**	**20 47 28.1**	**+1.4**
	comp=Z,0.6nm,0.6s,baz=355,slow=7.8,SNR=13						
AS01	**Alice Springs**	**29.36**	**167**	*e*P	**P**	**20 47 27.5**	**+0.7**
GSI	**Gunungsitoli**	**29.86**	**264**	*e*P	**P**	**20 47 29.4**	**-2.1**
	comp=Z,30nm,0.9s						
CM01	**Chiang Mai Arr**	**30.61**	**298**	*e*P	**P**	**20 47 37.1**	**-0.9**
CM31	**Chiang Mai Arr**	**30.64**	**298**	*e*P	**P**	**20 47 37.0**	**-1.3**
CMAR	**Chiang Mai Arr**	**30.64**	**298**	P	**P**	**20 47 38.4**	**+0.1**
	comp=Z,0.6nm,0.6s,baz=110,slow=7.2,SNR=6.5						
KMI	**Kunming**	**30.79**	**313**	P	**P**	**20 47 40.4**	**+0.7**
KMI				pmax	pmax		
	comp=Z,6.0nm,0.6s						
TJN	**Taejon**	**31.09**	**0**	*e*P	**P**	**20 47 43.0**	**+1.1**
KS15	**Wonju Array Si**	**32.16**	**1**	*e*P	**P**	**20 47 49.9**	**-1.4**
KSAR	**Wonju Array Be**	**32.16**	**1**	P	**P**	**20 47 50.1**	**-1.2**
KSAR	**Wonju Array Be**	**32.16**	**1**	P	**P**	**20 47 50.1**	**-1.2**
KSRS	**Korea Array**	**32.17**	**1**	P	**P**	**20 47 50.1**	**-1.3**
	comp=Z,1.0nm,0.6s,baz=177,slow=10,SNR=3.2						
CD2	**Chengdu**	**33.84**	**322**	*e*P	**P**	**20 48 07.0**	**+0.9**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,120nm,5.0s						
COCO	**West Island**	**34.80**	**240**	*e*P	**P**	**20 48 16.2**	**+1.7**
	comp=Z,146nm,0.9s						
COCO	**West Island**	**34.80**	**240**	*e*P	**P**	**20 48 16.2**	**+1.7**
COCO				pmax	pmax		
	comp=Z,146nm,0.9s						
FORT	**Forrest**	**35.72**	**179**	*e*P	**P**	**20 48 22.5**	**+0.3**
	comp=Z,280nm,0.7s						
MSHR	**Mys Shultsa**	**37.45**	**5*c***	*e*P	**P**	**20 48 37.3**	**+0.6**
LZH	**Lanzhou**	**37.57**	**328**	*e*P	**P**	**20 48 39.8**	**+1.7**
LZH				pP	pP	20 49 05.1	+5.3
LZH				sP	sP	20 49 18.0	+7.4
LZH				pmax	pmax		
	comp=Z,24nm,1.0s						
LZH				pmax	pmax		
	comp=Z,110nm,5.1s						
HHC	**Hu-ho-hao-te**	**38.24**	**341**	*e*P	**P**	**20 48 46.2**	**+2.6**
HHC				pmax	pmax		
	comp=Z,10.0nm,0.9s						
HHC				pmax	pmax		
	comp=Z,150nm,5.6s						
BBOO	**Buckleboo**	**38.66**	**168**	*e*P	**P**	**20 48 48.1**	**+1.1**
	comp=Z,44nm,1.4s						
NWAO	**Narrogin (SRO)**	**39.03**	**193**	*e*P	**P**	**20 48 51.1**	**+1.0**
	comp=Z,100nm,1.4s						
NWAO	**Narrogin (SRO)**	**39.03**	**193**	*e*P	**P**	**20 48 51.1**	**+1.0**
NWAO				pmax	pmax		
	comp=Z,100nm,1.4s						
STKA	**Stephens Creek**	**39.27**	**161**	P	**P**	**20 48 53.2**	**+1.1**
	comp=Z,2.4nm,0.4s,baz=338,slow=8.1,SNR=8.5						
STKA	**Stephens Creek**	**39.27**	**161**	*e*P	**P**	**20 48 52.5**	**+0.4**
	comp=Z,5.4nm,1.9s						
ERM	**Erimo**	**39.36**	**19**	*e*P	**P**	**20 48 52.2**	**-0.6**
	comp=Z,317nm,1.6s						
ERM	**Erimo**	**39.36**	**19**	*e*P	**P**	**20 48 52.2**	**-0.6**
ERM				pmax	pmax		
	comp=Z,317nm,1.6s						
SHL	**Shillong**	**39.48**	**305**	*e*P	**P**	**20 48 54.5**	**+0.2**
SHL	**Shillong**	**39.48**	**305**	*e*P	**P**	**20 48 53.9**	**-0.4**
	comp=Z,24nm,0.6s						
SHL	**Shillong**	**39.48**	**305**	*e*P	**P**	**20 48 53.9**	**-0.4**
SHL				pmax	pmax		
	comp=Z,24nm,0.6s						
LSA	**Lhasa**	**41.92**	**310**	*e*P	**P**	**20 49 15.5**	**+0.8**
	comp=Z,8.5nm,1.8s						
LSA	**Lhasa**	**41.92**	**310**	*e*P	**P**	**20 49 15.5**	**+0.8**
LSA				pmax	pmax		
	comp=Z,8.0nm,1.8s						
ARMA	**Armidale**	**42.36**	**148**	*e*P	**P**	**20 49 18.1**	**+0.3**
	comp=Z,18nm,1.3s						
ODAN	**Odare**	**43.70**	**304**	*e*P	**P**	**20 49 28.5**	**-0.3**
RAMN	**Ramite**	**44.38**	**304**	*e*P	**P**	**20 49 34.3**	**0.0**
	comp=Z,21nm,0.6s						
JIRN	**Jiri**	**44.99**	**305**	*e*P	**P**	**20 49 39.0**	**-0.2**
	comp=Z,37nm,0.6s						
GUN	**Gumba**	**45.34**	**305**	*e*P	**P**	**20 49 41.6**	**-0.4**
	comp=Z,26nm,0.5s						
PKI	**Pulchoki**	**45.60**	**304**	*e*P	**P**	**20 49 43.1**	**-0.9**
PKIN	**Phulchoki**	**45.61**	**304**	*e*P	**P**	**20 49 43.1**	**-0.9**
	comp=Z,4.5nm,0.4s						
KKN	**Kakani**	**45.78**	**304**	*e*P	**P**	**20 49 44.7**	**-0.6**
	comp=Z,8.2nm,0.5s						
DMN	**Daman**	**45.86**	**304**	*e*P	**P**	**20 49 45.6**	**-0.4**
	comp=Z,4.6nm,0.3s						
ULN	**Ulaanbaatar**	**45.96**	**341*c***	*e*P	**P**	**20 49 46.3**	**0.0**
ULN				pmax	pmax		
	comp=Z,2.0nm,1.0s						
SONA0	**Songino Array**	**46.15**	**341**	*e*P	**P**	**20 49 47.2**	**-0.5**
SONM	**Songino Array**	**46.15**	**341**	P	**P**	**20 49 47.2**	**-0.5**
	comp=Z,1.2nm,0.9s,baz=159,slow=9.6,SNR=5.1						
SONA1	**Songino Array**	**46.15**	**341**	*e*P	**P**	**20 49 46.9**	**-1.0**
PALK	**Pallekele**	**46.31**	**275**	*e*P	**P**	**20 49 47.9**	**-1.5**
	comp=Z,17nm,1.5s						
PALK	**Pallekele**	**46.31**	**275**	*e*P	**P**	**20 49 47.9**	**-1.5**
PALK				pmax	pmax		
	comp=Z,17nm,1.5s						
GKN	**Gorkha**	**46.39**	**304**	*e*P	**P**	**20 49 49.3**	**-0.7**
	comp=Z,7.9nm,0.4s						
DZM	**Mont Dzumac**	**46.94**	**127**	*e*P	**P**	**20 49 54.1**	**-0.1**
	comp=Z,70nm,1.7s						
KOLN	**Koldanda**	**47.17**	**303**	*e*P	**P**	**20 49 55.9**	**-0.3**
	comp=Z,38nm,0.3s						
DANN	**Dangsing**	**47.24**	**304**	*e*P	**P**	**20 49 56.5**	**-0.3**
	comp=Z,2.0nm,0.6s						
PYUN	**Piuthan**	**47.79**	**304**	*e*P	**P**	**20 50 00.9**	**-0.1**
	comp=Z,26nm,0.5s						
WMQ	**Urumqi**	**51.88**	**324**	P	**P**	**20 50 33.4**	**+1.8**
PEA0B	**Petropavlovsk-**	**53.94**	**22**	*e*P	**P**	**20 50 46.2**	**-0.2**
	comp=Z,79nm,1.6s						
PETK	**Petropavlovsk-**	**53.94**	**22**	P	**P**	**20 50 46.7**	**+0.3**
	comp=Z,2.4nm,0.7s,baz=201,slow=2.8,SNR=6.6						
PEA1	**Petropavlovsk-**	**53.94**	**22**	*e*P	**P**	**20 50 46.7**	**+0.2**
DGZ	**Jazzator, Alta**	**55.64**	**330**	*e*P	**P**	**20 50 59.6**	**+0.6**
DGZ				pmax	pmax		
	comp=Z,1.0nm,1.1s						
MK01	**Makanchi Array**	**56.69**	**324**	*e*P	**P**	**20 51 07.0**	**+0.6**
MK31	**Makanchi Array**	**56.71**	**324**	*e*P	**P**	**20 51 07.3**	**+0.8**
MK31	**Makanchi Array**	**56.71**	**324*c***	*e*P	**P**	**20 51 06.8**	**+0.3**
MK31				pmax	pmax		
	comp=Z,5.0nm,0.5s						
MK32	**Makanchi Array**	**56.71**	**324**	*e*P	**P**	**20 51 07.1**	**+0.6**
MKAR	**Makanchi Array**	**56.71**	**324**	P	**P**	**20 51 07.1**	**+0.7**
	comp=Z,7.8nm,0.6s,baz=124,slow=8.1,SNR=120						
MKAR	**Makanchi Array**	**56.71**	**324**	*e*P	**P**	**20 51 07.2**	**+0.7**
	comp=Z,52nm,0.5s						
MAKZ	**Makanchi**	**56.90**	**324**	*e*P	**P**	**20 51 08.5**	**+0.7**
	comp=Z,7.4nm,0.8s						
MAKZ	**Makanchi**	**56.90**	**324**	*e*P	**P**	**20 51 08.5**	**+0.7**
MAKZ				pmax	pmax		
	comp=Z,7.0nm,0.8s						
NIL	**Nilore**	**57.49**	**307**	*e*P	**P**	**20 51 12.4**	**+0.2**
	comp=Z,4.7nm,0.6s						
NIL	**Nilore**	**57.49**	**307**	*e*P	**P**	**20 51 12.4**	**+0.2**
NIL				pmax	pmax		
	comp=Z,5.0nm,0.6s						
KDJ	**Kajisay**	**57.66**	**318**	*e*P	**P**	**20 51 14.3**	**+0.9**
	comp=Z,2.6nm,0.6s						
KDJ	**Kajisay**	**57.66**	**318**	*e*P	**P**	**20 51 14.3**	**+0.9**
KDJ				pmax	pmax		
	comp=Z,3.0nm,0.6s						
NRN	**Naryn**	**58.17**	**316**	*e*P	**P**	**20 51 17.9**	**+0.8**
	comp=Z,1.6nm,0.5s						
NRN	**Naryn**	**58.17**	**316**	*e*P	**P**	**20 51 18.0**	**+0.8**
NRN				pmax	pmax		
	comp=Z,2.0nm,0.5s						
TKM2	**Tokmak 2**	**59.05**	**318**	*i* P	**P**	**20 51 23.3**	**+0.1**
TKM2				pmax	pmax		
	comp=Z,2.0nm,0.6s						
ZAA0	**Zalesovo Array**	**59.58**	**332**	*e*P	**P**	**20 51 26.0**	**-0.3**
	comp=Z,12nm,1.9s						
ZALV	**Zalesovo Beam**	**59.58**	**332**	P	**P**	**20 51 26.1**	**-0.2**
	comp=Z,1.4nm,0.4s,baz=121,slow=7.2,SNR=9.7						
ZAA1	**Zalesovo Array**	**59.59**	**332**	*e*P	**P**	**20 51 26.1**	**-0.2**
AAK	**Ala-Archa**	**59.68**	**317**	*i* P	**P**	**20 51 27.6**	**+0.2**
AAK				pmax	pmax		
	comp=Z,1.0nm,0.7s						
KURK	**Kurchatov**	**60.85**	**327**	*e*P	**P**	**20 51 35.3**	**+0.3**
KURK	**Kurchatov**	**60.85**	**327*c***	*e*P	**P**	**20 51 35.2**	**+0.3**
KURK				pmax	pmax		
	comp=Z,7.0nm,0.9s						
KURBB	**Kurchatov Arra**	**60.85**	**327**	P	**P**	**20 51 35.3**	**+0.3**
	comp=Z,6.9nm,0.6s,baz=127,slow=6.6,SNR=102						
MNAS	**Manas**	**60.98**	**316**	*i* P	**P**	**20 51 36.7**	**+0.4**
MNAS				pmax	pmax		
	comp=Z,4.0nm,1.1s						
KBL	**Kabul**	**61.09**	**307**	*e*P	**P**	**20 51 36.8**	**-0.5**
	comp=Z,3.4nm,0.9s						
KBL	**Kabul**	**61.09**	**307**	*e*P	**P**	**20 51 36.8**	**-0.5**
KBL				pmax	pmax		
	comp=Z,3.0nm,0.9s						
KK06	**Karatay Array**	**62.56**	**316**	*e*P	**P**	**20 51 47.0**	**+0.3**
LBZ	**Lake Benmore**	**62.56**	**147**	*e*P	**P**	**20 51 46.8**	**+0.2**
	comp=Z,57nm,1.7s						
KK05	**Karatay Array**	**62.57**	**316**	*e*P	**P**	**20 51 47.1**	**+0.3**
KK02	**Karatay Array**	**62.57**	**316**	*e*P	**P**	**20 51 47.0**	**+0.2**
KK31	**Karatay Array**	**62.57**	**316**	*e*P	**P**	**20 51 47.2**	**+0.5**
KK31	**Karatay Array**	**62.57**	**316*c***	*e*P	**P**	**20 51 45.9**	**-0.9**
KK31				pmax	pmax		
	comp=Z,3.0nm,0.8s						
KKAR	**Karatay Array**	**62.57**	**316**	*e*P	**P**	**20 51 47.2**	**+0.4**
KKAR	**Karatay Array**	**62.57**	**316**	*e*P	**P**	**20 51 47.2**	**+0.4**
KK07	**Karatay Array**	**62.57**	**316**	*e*P	**P**	**20 51 47.1**	**+0.3**
KK01	**Karatay Array**	**62.57**	**316**	*e*P	**P**	**20 51 46.9**	**+0.1**
KK04	**Karatay Array**	**62.58**	**316**	*e*P	**P**	**20 51 47.1**	**+0.3**
KK03	**Karatay Array**	**62.58**	**316**	*e*P	**P**	**20 51 47.1**	**+0.2**
KK09	**Karatay Array**	**62.58**	**316**	*e*P	**P**	**20 51 47.2**	**+0.3**
KK08	**Karatay Array**	**62.59**	**316**	*e*P	**P**	**20 51 47.2**	**+0.3**
SNZO	**South Karori**	**63.33**	**142**	*e*P	**P**	**20 51 52.6**	**+0.9**
	comp=Z,175nm,1.3s						
BVAR	**Borovoye Array**	**66.44**	**327**	P	**P**	**20 52 12.2**	**+0.4**
	comp=Z,3.1nm,0.6s,baz=127,slow=8.2,SNR=21						
TIXI	**Tiksi**	**66.44**	**1**	*e*P	**P**	**20 52 10.6**	**-0.8**
	comp=Z,3.7nm,1.4s						
TIXI	**Tiksi**	**66.44**	**1**	*e*P	**P**	**20 52 10.6**	**-0.8**
TIXI				pmax	pmax		
	comp=Z,4.0nm,1.4s						
BRVK	**Borovoye**	**66.51**	**327**	*e*P	**P**	**20 52 12.4**	**+0.2**
	comp=Z,4.8nm,0.6s						
BRVK	**Borovoye**	**66.51**	**327*c***	*e*P	**P**	**20 52 12.0**	**-0.2**
BRVK				pmax	pmax		
	comp=Z,10.0nm,0.6s						
GYB1	**ALIBECK ARRAY**	**70.42**	**308**	*e*P	**P**	**20 52 38.2**	**+1.3**
	comp=Z,2.2nm,0.9s						
GYA1	**ALIBECK ARRAY**	**70.43**	**308**	*e*P	**P**	**20 52 36.9**	**0.0**
	comp=Z,2.2nm,0.6s						
GEYT	**Alibeck**	**70.43**	**308**	P	**P**	**20 52 37.4**	**+0.4**
	comp=Z,0.9nm,0.6s,baz=152,slow=6.7,SNR=4.1						
GYA0	**ALIBECK ARRAY**	**70.43**	**308**	*e*P	**P**	**20 52 36.3**	**-0.7**
	comp=Z,4.7nm,1.2s						
GYA0B	**ALIBECK ARRAY**	**70.43**	**308**	*e*P	**P**	**20 52 36.8**	**-0.2**
	comp=Z,4.4nm,1.1s						
GYB3	**ALIBECK ARRAY**	**70.43**	**308**	*e*P	**P**	**20 52 36.2**	**-0.8**
	comp=Z,3.0nm,0.9s						
AB06	**Akbulak array**	**71.38**	**320**	*e*P	**P**	**20 52 42.4**	**-0.1**
AB07	**Akbulak array**	**71.39**	**320**	*e*P	**P**	**20 52 42.5**	**0.0**
AB02	**Akbulak array**	**71.40**	**320**	*e*P	**P**	**20 52 42.8**	**+0.3**
AB03	**Akbulak array**	**71.40**	**320**	*e*P	**P**	**20 52 42.7**	**+0.1**
AB01	**Akbulak array**	**71.40**	**320**	*e*P	**P**	**20 52 42.8**	**+0.2**
AB31	**Akbulak array**	**71.40**	**320**	*e*P	**P**	**20 52 42.7**	**+0.1**
AB31	**Akbulak array**	**71.40**	**320*c***	*e*P	**P**	**20 52 42.4**	**-0.2**
AB31				pmax	pmax		
	comp=Z,7.0nm,0.8s						
ABKAR	**Akbulak array**	**71.40**	**320**	*e*P	**P**	**20 52 42.6**	**+0.1**
	comp=Z,41nm,0.8s						
AB04	**Akbulak array**	**71.40**	**320**	*e*P	**P**	**20 52 42.8**	**+0.2**
AB05	**Akbulak array**	**71.40**	**320**	*e*P	**P**	**20 52 42.8**	**+0.2**
AB08	**Akbulak array**	**71.41**	**320**	*e*P	**P**	**20 52 42.9**	**+0.3**
AB09	**Akbulak array**	**71.42**	**320**	*e*P	**P**	**20 52 42.9**	**+0.2**
AKUT	**Akutan**	**72.47**	**35**	*e*P	**P**	**20 52 48.7**	**-0.2**
	comp=Z,565nm,2.0s						
AKTO	**Aktyubinsk**	**72.89**	**321**	P	**P**	**20 52 51.2**	**-0.2**
	comp=Z,2.9nm,0.7s,baz=96,slow=10,SNR=15						
AKTO	**Aktyubinsk**	**72.89**	**321**	*i* P	**P**	**20 52 51.0**	**-0.5**
AKTO				pmax	pmax		
	comp=Z,4.0nm,0.9s						
ARU	**Arti**	**74.03**	**327**	*e*P	**P**	**20 52 57.8**	**-0.2**
	comp=Z,22nm,1.9s						
ARU	**Arti**	**74.03**	**327*c***	*i*P	**P**	**20 52 57.0**	**-1.0**
ARU						20 53 11.3	
ARU				*PP	**pP**	**20 53 23.3**	**+1.1**
ARU				S	**S**	**21 02 24.0**	**+0.9**
ARU				pmax	pmax		
	comp=Z,5.0nm,1.7s						
RAYN	**Ar Rayn**	**80.41**	**293**	*e*P	**P**	**20 53 34.1**	**-0.4**
	comp=Z,4.9nm,0.8s						
RAYN	**Ar Rayn**	**80.41**	**293**	*e*P	**P**	**20 53 34.1**	**-0.4**
RAYN				pmax	pmax		
	comp=Z,5.0nm,0.8s						
KDAK	**Kodiak Island**	**80.43**	**32**	*i* P	**P**	**20 53 33.9**	**+0.2**
GNI	**Garni**	**80.99**	**310**	*e*P	**P**	**20 53 35.7**	**-1.6**
GNI				pmax	pmax		
	comp=Z,8.0nm,1.1s						
AKH	**Akhalkalaki**	**81.95**	**311**	*e*P	**P**	**20 53 43.0**	**+0.6**
	comp=Z,8.6nm,1.3s						
AKH	**Akhalkalaki**	**81.95**	**311**	*e*P	**P**	**20 53 43.0**	**+0.6**
AKH				pmax	pmax		
	comp=Z,9.0nm,1.3s						
MLY	**Manley**	**81.99**	**25**	*e*P	**P**	**20 53 41.7**	**-0.3**
	comp=Z,16nm,1.8s						
OPO	**Ambohidratompo**	**82.25**	**251**	P	**P**	**20 53 45.3**	**+1.0**
	comp=Z,1.2nm,0.4s,baz=243,slow=2.3,SNR=4.3						
KIV	**Kislovodsk**	**82.55**	**314**	*e*P	**P**	**20 53 44.8**	**-0.6**
KIV				pmax	pmax		
	comp=Z,3.0nm,0.9s						
ILAR	**Eielson Array**	**83.62**	**25**	P	**P**	**20 53 49.5**	**-0.8**
	comp=Z,0.6nm,0.5s,baz=245,slow=5.6,SNR=12						
ILB	**Eielson Array**	**83.62**	**25**	*e*P	**P**	**20 53 49.6**	**-0.8**
OBN	**Obninsk**	**86.22**	**325**	*e*P	**P**	**20 54 05.3**	**+1.8**
OBN				*e*		20 57 25.7	
OBN				*e*PPP	PPP	20 59 20.0	
OBN				pmax	pmax		
	comp=Z,4.0nm,0.8s						
ARA0	**ARCESS Array S**	**89.31**	**340**	*e*P	**P**	**20 54 16.7**	**-1.3**
ARCES	**ARCESS Array B**	**89.31**	**340**	P	**P**	**20 54 16.7**	**-1.3**
	comp=Z,3.6nm,0.9s,baz=81,slow=6.6,SNR=3.6						
BR101	**Keskin Array S**	**89.53**	**310**	*e*P	**P**	**20 54 19.4**	**-0.5**
BRTR	**Keskin Array B**	**89.53**	**310**	P	**P**	**20 54 19.4**	**-0.5**
	comp=Z,0.8nm,0.7s,baz=132,slow=4.5,SNR=6.2						
BRTR	**Keskin Array B**	**89.53**	**310**	*i* P	**P**	**20 54 19.7**	**-0.2**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
BR231	**Keskin MP Arra**	**90.17**	**310**	*e*P	**P**	**20 54 19.4**	**-3.5**
FIA0	**FINESS Array S**	**90.84**	**332**	*e*P	**P**	**20 54 24.3**	**-1.0**
FIA0	**FINESS Array S**	**90.84**	**332**	*e*P	**P**	**20 54 24.3**	**-1.0**
FINES	**FINESS Array B**	**90.84**	**332**	P	**P**	**20 54 24.3**	**-1.0**
	comp=Z,2.1nm,1.0s,baz=38,slow=7.0,SNR=2.4						

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*NEIC **03** 21:12:01.0±0.0, 16.°22N×98.°38W, h18km, MD4.0(MEX), After MEX.*

MEX 03 21:12:01.0±1.3**, 16.°22N×98.°38W, h18**km**, MD4.0, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.30**	**55**	*e*P	Pg	21 12 06.5	-1.1
PNIG				*i* S	Sg	21 12 10.9	-1.2
PNIG	**Pinotepa**	**0.30**	**55**	*e*P	Pg	21 12 06.5	-1.1
PNIG				*i* S	Sg	21 12 10.9	-1.2
TLIG	**Tlapa**	**1.35**	**353**	*i* P	Pn	21 12 21.1	-4.0
TLIG				*i* S	Sn	21 12 36.5	-6.1
TLIG	**Tlapa**	**1.35**	**353**	*i* P	Pn	21 12 21.1	-4.0
TLIG				*i* S	Sn	21 12 36.5	-6.1
VHO	**Vista Hermosa**	**1.80**	**61**	*e*P	Pn	21 12 31.6	+0.3
VHO				*e*S	Sn	21 12 54.3	+0.5
VHO	**Vista Hermosa**	**1.80**	**61**	*e*P	Pn	21 12 31.6	+0.3
VHO				*e*S	Sn	21 12 54.3	+0.5
HUIG	**Huatulco**	**2.23**	**101**	*e*P	Pb	21 12 41.7	+0.9
HUIG				*e*S	Sn	21 13 04.1	-0.1
HUIG	**Huatulco**	**2.23**	**101**	*e*P	Pb	21 12 41.7	+0.9
HUIG				*e*S	Sn	21 13 04.1	-0.1
MOIG	**Morelia**	**4.36**	**323**	Pn	Pn	21 13 08.3	+1.8
MOIG				*e*S	Sn	21 13 56.5	-0.5

MAN 03 21:31:14, 9.°81N×123.°19E, h32km**, mb4.1, ML2.9, MS2.6, 1C, Negros**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SNPH	**Sibulan**	**0.47**	**174**	*e*P	Pn	21 31 25.6	+1.1
SNPH				*e*S	Sn	21 31 33.2	+1.4
LLP	**Lapu-Lapu**	**0.92**	**57⇑**	*e*P	Pn	21 31 30.9	+0.2
LLP				*e*S	Sn	21 31 42.9	+0.1
GUIM	**Jordan**	**1.00**	**324**	*e*P	Pn	21 31 31.6	-0.3
GUIM				*e*S	Sn	21 31 44.9	+0.1
MSLP	**Maasin**	**1.68**	**79**	*e*P	Pb	21 31 44.5	+0.3
MSLP				*e*S	Sb	21 32 07.1	+2.0

MAN 03 21:48:47, 8.°22N×126.°57E, h47km**, mb4.5, ML3.4, MS3.2, 2C, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIPH	**Bislig**	**0.21**	**260**	⇑eP	Pn	21 48 58.8	+3.7
BIPH				i S	Sn	21 49 05.2	+4.4
BUTP	**Butuan**	**1.20**	**308**	eP	Pn	21 49 08.6	+1.2
BUTP				eS	Sn	21 49 24.6	+2.0
BUKP	**Musuan**	**1.53**	**257**	eP	Pn	21 49 12.9	+1.0
BUKP				eS	Sn	21 49 32.5	+1.7
SCPH	**Surigao**	**1.88**	**325**	⇑eP	Pn	21 49 19.1	+2.3
SCPH				eS	Sn	21 49 41.1	+1.8
MSLP	**Maasin**	**2.54**	**318**	eP	Pn	21 49 26.8	+1.0
MSLP				eS	Sn	21 49 56.6	+1.0
TBP	**Tagbilaran**	**3.05**	**299**	eP	Pn	21 49 33.4	+0.7

*NNC **03** 21:51:27.9±5.6, 37°.34N×71°.59E, h141^{km}±89^{km}, mb2.9, mpv3.9, Error ellipse: s-maj=52.5km s-min=47.0km az=74.0*

ISC 03 21:51:23.5±3.3**, 37°.1N**±0°.2×**71°.5E**±0°.1**, h109^{km}, n16, σ1s.48**/21**, 9C-2D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**3.34**	**28**	⇑P	**Pn**	**21 52 16.2**	**+2.0**
	36nm,0.5s						
SFK				⇑S	**Sn**	**21 52 53.4**	**+0.1**
	19nm,0.4s						
AML	**Almayashu**	**5.33**	**18**	P	**Pn**	**21 52 41.9**	**+0.7**
	SNR=100						
MNAS	**Manas**	**5.46**	**8**	⇑P	**Pn**	**21 52 44.0**	**+1.3**
	9.7nm,0.5s						
MNAS				⇓S	**Sn**	**21 53 42.8**	**-1.5**
	13nm,0.5s						
UCH	**Uchtor**	**5.66**	**24**	P	**Pn**	**21 52 46.0**	**+0.4**
	SNR=34						
KZA	**Kyzart**	**5.79**	**29**	P	**Pn**	**21 52 46.6**	**-0.7**
	SNR=8.1						
EKS2	**Erkin-Say**	**5.85**	**17**	P	**Pn**	**21 52 48.8**	**+0.8**
	SNR=16						
AAK	**Ala-Archa**	**6.02**	**22**	⇑P	**Pn**	**21 52 50.8**	**+0.5**
	5.8nm,0.3s						
AAK				⇑S	**Sn**	**21 53 55.5**	**-2.4**
	6.3nm,0.8s						
AAK	**Ala-Archa**	**6.02**	**22**	P	**Pn**	**21 52 50.9**	**+0.7**
	SNR=32						
KK31	**Karatay Array**	**6.06**	**353**	⇑P	**Pn**	**21 52 52.7**	**+2.0**
	2.3nm,0.3s,baz=174,slow=16,SNR=66						
KK31				⇑S	**Sn**	**21 53 57.5**	**-1.2**
	4.2nm,0.3s,baz=164,slow=21,SNR=16						
KBK	**Karagaybulak**	**6.18**	**25**	P	**Pn**	**21 52 53.6**	**+1.1**
	SNR=7.5						
ULHL	**Ulahol**	**6.34**	**34**	P	**Pn**	**21 52 53.9**	**-0.7**
	SNR=5.9						
CHMS	**Chumysh**	**6.43**	**22**	P	**Pn**	**21 52 55.5**	**-0.1**
	SNR=9.0						
USP	**Ospenovka**	**6.60**	**20**	P	**Pn**	**21 52 58.2**	**+0.1**
	SNR=5.9						
TKM2	**Tokmak 2**	**6.64**	**27**	⇑P	**Pn**	**21 52 58.5**	**-0.3**
	4.1nm,0.7s						
TKM2				⇓S	**Sn**	**21 54 16.9**	**+3.9**
	2.2nm,0.9s						
TKM2	**Tokmak 2**	**6.64**	**27**	P	**Pn**	**21 52 58.4**	**-0.4**
	SNR=6.7						
AB31	**Akbulak array**	**14.77**	**329**	⇑P	**Pn**	**21 54 45.9**	**-0.9**
	0.2nm,0.6s						

*NAO **03** 21:56:00.1±1.4, 57°.16N×10°.80E, ML1.6*
*BER **03** 21:56:01.6±2.7, 57°.16N×10°.72E, h15^{km}±46^{km}, ML1.2, ML1.6(NAO)*
*CSEM **03** 21:56:01.7±0.2, 57°.12N×10°.61E, h30^{km}, ML1.6, Error ellipse: s-maj=5.1km s-min=4.0km az=64.0*
*UPP **03** 21:56:01.6±0.9, 57°.06N×10°.60E, h32^{km}±3^{km}, ML1.6*
*IDC **03** 21:56:05.5±3.5, 57°.54N×10°.73E, h0^{km}, mb1 3.2/4, mb1mx2.9/73, mbtmp3.1/4, ML2.6/4, Error ellipse: s-maj=34.7km s-min=21.1km az=10.0*

ISC 03 21:55:59.8±1.5**, 57°.15N**±0°.03×**10°.61E**±0°.04**, h29^{km}**±14^{km}**, n56, σ2s.07**/87**, 3C, Denmark**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONSU	**Onsala**	**0.76**	**70**	P	**Pn**	**21 56 16.3**	**+1.8**
ONSU	**Onsala**	**0.76**	**70**	⇑P	**Pn**	**21 56 16.3**	**+1.8**
MUD	**Monsted U'grnd**	**1.05**	**229**	⇑iP	**Pn**	**21 56 20.3**	**+1.7**
MUD	**Monsted U'grnd**	**1.05**	**229**	⇑iP	**Pn**	**21 56 20.3**	**+1.7**
VANU	**Vaenersborg**	**1.56**	**29**	P	**Pb**	**21 56 28.5**	**+0.6**
VANU				S	**Sb**	**21 56 47.3**	**+0.1**
VANU	**Vaenersborg**	**1.56**	**29**	P	**Pb**	**21 56 28.5**	**+0.6**
VANU				S	**Sb**	**21 56 47.3**	**+0.1**
HOMB	**Homborsund**	**1.59**	**316**	i P	**Pn**	**21 56 28.2**	**+2.2**
	SNR=92						
HOMB				eS	**Sn**	**21 56 46.6**	**+1.0**
	SNR=92						
HOMB	**Homborsund**	**1.59**	**316**	eP	**Pn**	**21 56 28.1**	**+2.0**
BJUU	**Bjuv**	**1.71**	**128**	P	**Pn**	**21 56 28.9**	**+1.2**
BJUU				S	**Sn**	**21 56 48.9**	**+0.4**
BJUU	**Bjuv**	**1.71**	**128**	P	**Pn**	**21 56 28.9**	**+1.2**
BJUU				S	**Sn**	**21 56 48.9**	**+0.4**
GNOU	**Gnosjoe**	**1.71**	**84**	P	**Pn**	**21 56 29.7**	**+2.0**
GNOU				S	**Sn**	**21 56 50.2**	**+1.6**
GNOU	**Gnosjoe**	**1.71**	**84**	P	**Pn**	**21 56 29.7**	**+2.0**
GNOU				S	**Sn**	**21 56 50.2**	**+1.6**
STRU	**Stroemstad**	**1.91**	**9**	P	**Pn**	**21 56 33.4**	**+3.0**
STRU	**Stroemstad**	**1.91**	**9**	P	**Pn**	**21 56 33.4**	**+3.0**
DEL	**Delary**	**1.92**	**109**	P	**Pn**	**21 56 32.2**	**+1.8**
DEL				S	**Sn**	**21 56 53.7**	**+0.1**
DEL	**Delary**	**1.92**	**109**	P	**Pn**	**21 56 32.2**	**+1.8**
DEL				S	**Sn**	**21 56 53.7**	**+0.1**
FKPU	**Falk**	**1.95**	**58**	P	**Pb**	**21 56 34.0**	**-0.7**
FKPU				S	**Sb**	**21 56 57.8**	**-0.9**
FKPU	**Falk**	**1.95**	**58**	P	**Pb**	**21 56 34.0**	**-0.7**
FKPU				S	**Sb**	**21 56 57.8**	**-0.9**
LLD	**Lille Linde**	**2.03**	**153**	i P	**Pn**	**21 56 32.8**	**+0.8**
LLD	**Lille Linde**	**2.03**	**153**	i P	**Pn**	**21 56 32.9**	**+0.9**
	SNR=92						
SNART	**Snartemo**	**2.18**	**305**	eS	**Sn**	**21 57 01.1**	**+1.1**
SNART				IAML		21 57 03.0	
	comp=Z,3.1nm,0.1s						
LUNU	**Lund**	**2.19**	**133**	P	**Pn**	**21 56 35.4**	**+1.2**
LUNU	**Lund**	**2.19**	**133**	P	**Pn**	**21 56 35.4**	**+1.2**
NASU	**Vaermlandsnaes**	**2.25**	**36**	P	**Pn**	**21 56 37.9**	**+2.9**
NASU				S	**Sn**	**21 57 03.4**	**+1.7**
NASU	**Vaermlandsnaes**	**2.25**	**36**	P	**Pn**	**21 56 37.9**	**+2.9**
NASU				S	**Sn**	**21 57 03.4**	**+1.7**
VXJU	**Vaexsjoe**	**2.38**	**94**	P	**Pn**	**21 56 38.6**	**+1.9**
VXJU				S	**Sn**	**21 57 05.8**	**+0.9**
VXJU	**Vaexsjoe**	**2.38**	**94**	P	**Pn**	**21 56 38.6**	**+1.9**
VXJU				S	**Sn**	**21 57 05.8**	**+0.9**
KONO	**Kongsberg**	**2.56**	**348**	eP	**Pn**	**21 56 41.7**	**+2.4**
KONO				eS	**Sn**	**21 57 11.0**	**+1.4**
EKSU	**Eksjoe**	**2.58**	**79**	P	**Pn**	**21 56 41.8**	**+2.3**
EKSU	**Eksjoe**	**2.58**	**79**	P	**Pn**	**21 56 41.8**	**+2.3**
ASKU	**Askersund**	**2.84**	**50**	P	**Pn**	**21 56 46.4**	**+3.2**
ASKU				S	**Sn**	**21 57 18.7**	**+2.3**
ASKU	**Askersund**	**2.84**	**50**	P	**Pn**	**21 56 46.4**	**+3.2**
ASKU				S	**Sn**	**21 57 18.7**	**+2.3**
OSKU	**Oskarshamn**	**2.99**	**87**	P	**Pn**	**21 56 47.2**	**+2.1**
OSKU	**Oskarshamn**	**2.99**	**87**	P	**Pn**	**21 56 47.2**	**+2.1**
BSD	**Bornholm Skovb**	**3.15**	**128**	i P	**Pn**	**21 56 49.9**	**+2.4**
BSD	**Bornholm Skovb**	**3.15**	**128**	i P	**Pn**	**21 56 49.9**	**+2.4**
VSTU	**Vaestervik**	**3.25**	**78**	P	**Pn**	**21 56 50.9**	**+2.2**
VSTU	**Vaestervik**	**3.25**	**78**	P	**Pn**	**21 56 50.9**	**+2.2**
HFS	**Hagfors**	**3.40**	**27**	Pn	**Pn**	**21 56 53.4**	**+2.6**
	baz=210,slow=16						
HFS				Sn	**Sn**	**21 57 30.1**	**-0.1**
	baz=207,slow=22						
HFS	**Hagfors**	**3.40**	**27**	Pn	**Pn**	**21 56 53.4**	**+2.6**
	comp=Z,0.4nm,0.3s,baz=207,slow=15,SNR=24						
HFS				Sn	**Sn**	**21 57 29.1**	**-1.0**
	comp=Z,0.8nm,0.3s,baz=215,slow=28,SNR=11						
HFS	**Hagfors**	**3.40**	**27**	Pn	**Pn**	**21 56 53.4**	**+2.6**
	SNR=7.9						
HFS				Sn	**Sn**	**21 57 30.0**	**-0.1**
	SNR=0.2						
HFS	**Hagfors**	**3.40**	**27**	Pn	**Pn**	**21 56 53.4**	**+2.6**
	baz=210,slow=16						
HFS				Sn	**Sn**	**21 57 30.1**	**-0.1**
	baz=207,slow=22						
NRA0	**NORESS Array S**	**3.63**	**7**	Pn	**Pn**	**21 56 55.1**	**+1.1**
	baz=184,slow=14						
NRA0				Sn	**Sn**	**21 57 33.2**	**-2.6**
	baz=182,slow=22						
NRA0	**NORESS Array S**	**3.63**	**7**	Pn	**Pn**	**21 56 55.1**	**+1.1**
	SNR=259						
NRA0	**NORESS Array S**	**3.63**	**7**	Pn	**Pn**	**21 56 55.1**	**+1.1**
	baz=184,slow=14						
NRA0				Sn	**Sn**	**21 57 33.2**	**-2.6**
	baz=182,slow=22						
NB2	**NORSAR Subarra**	**3.92**	**4**	Pn	**Pn**	**21 57 00.1**	**+2.1**
	baz=184,slow=16						
NB2				Sn	**Sn**	**21 57 42.0**	**-0.9**
	baz=188,slow=28						
NB2	**NORSAR Subarra**	**3.92**	**4**	Pn	**Pn**	**21 57 00.1**	**+2.1**
	SNR=4.8						
NB2				Sn	**Sn**	**21 57 42.0**	**-0.9**
	SNR=3.7						
NB2	**NORSAR Subarra**	**3.92**	**4**	Pn	**Pn**	**21 57 00.1**	**+2.1**
	baz=184,slow=16						
NB2				Sn	**Sn**	**21 57 42.0**	**-0.9**
	baz=188,slow=28						
NOA	**NORSAR Array B**	**3.92**	**4**	Pn	**Pn**	**21 57 00.1**	**+2.1**
	comp=Z,0.3nm,0.3s,baz=180,slow=13,SNR=10						
NOA				Sn	**Sn**	**21 57 35.9**	**-7.1**
	comp=Z,0.3nm,0.3s,baz=262,slow=19,SNR=2.3						
FIA0	**FINESS Array S**	**9.00**	**55**	Pn	**Pn**	**21 58 08.4**	**+0.8**
	baz=243,slow=14						
FIA0				Sn	**Sn**	**21 59 43.4**	**-4.4**
	baz=242,slow=22						
FIA0	**FINESS Array S**	**9.00**	**55**	Pn	**Pn**	**21 58 08.4**	**+0.8**
	SNR=8.9						
FIA0	**FINESS Array S**	**9.00**	**55**	Pn	**Pn**	**21 58 08.4**	**+0.8**
	baz=243,slow=14						
FIA0				Sn	**Sn**	**21 59 43.4**	**-4.4**
	baz=242,slow=22						
FINES	**FINESS Array B**	**9.00**	**55**	Pn	**Pn**	**21 58 09.7**	**+2.1**
	comp=Z,0.2nm,0.3s,baz=245,slow=12,SNR=9.5						
FINES				Sn	**Sn**	**21 59 45.7**	**-2.1**
	comp=Z,0.1nm,0.3s,baz=236,slow=22,SNR=4.2						
ARA0	**ARCESS Array S**	**14.04**	**22**	Pn	**Pn**	**21 59 14.8**	**-1.7**
	baz=208,slow=14						
ARA0	**ARCESS Array S**	**14.04**	**22**	Pn	**Pn**	**21 59 14.8**	**-1.7**
	baz=208,slow=14						
ARCES	**ARCESS Array B**	**14.04**	**22**	Pn	**Pn**	**21 59 13.9**	**-2.6**
	comp=Z,0.1nm,0.3s,baz=210,slow=13,SNR=5.2						

*IDC **03** 22:01:02.9±4.5, 21°.14S×175°.88W, h58^{km}±39^{km}, mb4.1/13, mb1 4.4/13, mb1mx4.1/44, mbtmp4.4/13, ML6.1/1, MS3.8/2, Ms1 3.8/2, ms1mx2.9/47, Error ellipse: s-maj=23.7km s-min=17.6km az=148.0*
*NEIC **03** 22:01:05.5±2.2, 21°.26S×175°.82W, h85^{km}±19^{km}, mb4.8/8, Error ellipse: s-maj=17.4km s-min=12.5km az=163.0*

ISC 03 22:01:03.5±0.8**, 21°.2S**±0°.1×**175°.6W**±0°.2**, h100^{km}, n90, σ3s.36**/58**, mb4.4**/21**, 13C-10D, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**6.87**	**299**	ePn	Pn	22 02 21.0	-21
RAO	**Raoul Island**	**8.32**	**194**	P	**Pn**	**22 02 59.4**	**-2.0**
	266nm,0.3s,baz=72,slow=19,SNR=4.5						
RAO				LR	LR	22 05 53.7	
	comp=Z,2μm,20.5s,baz=204,slow=35						
DZM	**Mont Dzumac**	**16.70**	**264**	P	**P**	**22 04 54.2**	**+1.9**
	0.4nm,0.3s,baz=58,slow=22,SNR=7.4						
DZM	**Mont Dzumac**	**16.70**	**264**	eLR	LR	22 09 08.6	
	165nm,25.3s						
PPT2	**Papeete2**	**24.82**	**86**	eLR	LR	22 12 23.0	
	153nm,25.0s						
PPT	**Papeete**	**24.82**	**86**	LR	LR	22 13 13.1	
	comp=Z,68nm,20.7s,baz=205,slow=29						
CTA	**Charters Tower**	**35.64**	**265**	P	P	22 07 54.4	+2.3
	6.1nm,0.7s,baz=93,slow=11,SNR=10						
CTAO	**Charters Tower**	**35.64**	**265**	eP	P	22 07 54.5	+2.4
ASAR	**Alice Springs**	**46.53**	**257**	P	P	22 09 22.5	+1.1
	5.6nm,0.9s,baz=92,slow=7.9,SNR=9.9						
ASAR				PcP	**PcP**	**22 10 57.2**	**+2.9**
	0.5nm,0.5s,baz=107,slow=3.1,SNR=3.9						
WRA	**Warramunga Arr**	**46.71**	**262**	P	P	22 09 25.0	+2.2
	1.6nm,0.8s,baz=98,slow=8.0,SNR=7.9						
WRA				PcP	**PcP**	**22 10 58.0**	**+3.1**
	0.6nm,1.0s,baz=96,slow=2.8,SNR=2.8						
VNDA	**Vanda**	**57.46**	**186**	P	P	22 10 45.9	+4.3
	1.4nm,0.8s,baz=11,slow=4.8,SNR=6.6						
PETK	**Petropavlovsk-**	**77.50**	**344**	P	P	22 12 51.2	+3.3
	5.3nm,0.8s,baz=118,slow=12,SNR=5.5						
ISA	**Isabella, Lake**	**78.23**	**44**	P	P	22 12 58.9	+6.5
	7.9nm,1.1s						
NVAR	**Mina Array Bea**	**80.00**	**42**	P	P	22 13 08.2	+5.9
	2.6nm,0.7s,baz=224,slow=9.4,SNR=17						
MAW	**Mawson**	**81.69**	**199**	P	P	22 13 13.6	+3.1
	2.4nm,0.7s,baz=166,slow=8.3,SNR=3.5						
GAMB	**Gambell**	**84.71**	**2**	eP	P	22 13 30.1	+4.4
	15nm,1.2s						
TMUT	**Trail Mountain**	**85.04**	**45**	eP	P	22 13 34.3	+5.8
	22nm,0.9s						
MNTX	**Cornudas Mount**	**85.34**	**54**	eP	P	22 13 35.8	+6.0
	11nm,1.3s						
HLID	**Hailey**	**85.39**	**40**	eP	P	22 13 35.3	+5.3
	3.1nm,0.9s						
TXAR	**Lajitas Array**	**85.55**	**56**	P	P	22 13 37.1	+6.1
	9.2nm,1.1s,baz=212,slow=5.9,SNR=19						
ANMO	**Albuquerque**	**86.10**	**50**	eP	P	22 13 38.6	+4.9
	2.0nm,1.0s						
TRF	**Thorofare Moun**	**86.65**	**11**	eP	P	22 13 39.0	+3.4
	8.5nm,0.7s						
MCK	**McKinley**	**87.15**	**12**	eP	P	22 13 41.6	+3.7
	31nm,1.5s						
PDAR	**Pinedale Array**	**87.94**	**42**	P	P	22 13 47.0	+4.5
	0.8nm,0.8s,baz=222,slow=2.0,SNR=6.5						
ILAR	**Eielson Array**	**88.48**	**12**	P	P	22 13 48.0	+3.8
	2.6nm,1.1s,baz=212,slow=4.3,SNR=10						
APG	**El Apazote**	**90.93**	**74**	P	P	22 14 02.8	+5.8
	5.5nm,0.9s,baz=4.1,slow=6.9,SNR=4.0						
CMAR	**Chiang Mai Arr**	**92.43**	**289**	P	P	22 14 08.7	+5.0
	0.7nm,0.4s,baz=94,slow=2.7,SNR=4.7						
YKA	**Yellowknife Ar**	**96.19**	**24**	P	P	22 14 23.9	+4.1
	0.7nm,0.7s,baz=242,slow=4.4,SNR=17						
MKAR	**Makanchi Array**	**113.27**	**313**	PKiKP	**PKiKP**	**22 19 31.8**	**+2.3**
	0.5nm,0.6s,baz=75,slow=1.6,SNR=7.5						
KURK	**Kurchatov**	**115.99**	**317**	PKP	**PKPdf**	**22 19 37.4**	**+2.9**
KURBB	**Kurchatov Arra**	**116.04**	**317**	PKP	**PKPdf**	**22 19 37.4**	**+2.8**
	0.6nm,0.6s,baz=98,slow=1.9,SNR=9.6						
BVAR	**Borovoye Array**	**121.01**	**320**	PKP	**PKPdf**	**22 19 47.4**	**+3.3**
	0.9nm,0.6s,baz=72,slow=1.1,SNR=11						
ARCES	**ARCESS Array B**	**129.95**	**350**	PKP	PKPdf	22 20 05.2	+4.4
	2.6nm,0.8s,baz=296,slow=3.9,SNR=4.9						
FINES	**FINESS Array B**	**137.01**	**345**	PKP	**PKPdf**	**22 20 17.5**	**+3.3**
	2.5nm,0.8s,baz=18,slow=8.0,SNR=4.2						
NB2	**NORSAR Subarra**	**139.87**	**355**	PKP	PKPpre	22 20 16.3	
	comp=Z,7.8nm,1.4s,baz=34,slow=2.5						
NOA	**NORSAR Array B**	**139.87**	**355**	PKP	**PKPdf**	**22 20 21.6**	**+2.0**
	comp=Z,0.7nm,0.7s,baz=22,slow=2.6,SNR=3.3						
AKASG	**Malin Array Be**	**144.65**	**332**	PKP	**PKPdf**	**22 20 30.4**	**+2.2**
	comp=Z,8.2nm,0.7s,baz=42,slow=4.6,SNR=51						
KIEV	**Kiev**	**144.66**	**333**	ePKPdf	**PKPdf**	**22 20 30.1**	**+1.9**
EKA	**Eskdalemuir Ar**	**145.41**	**8**	PKPbc	**PKPab**	**22 20 33.5**	**+3.7**
	comp=Z,5.4nm,0.8s,baz=346,slow=2.7,SNR=6.2						
SORM	**Soroca**	**146.91**	**330**	⇑iP	**PKPab**	**22 20 37.9**	**+2.1**
BURAR	**Bucovina Array**	**148.70**	**332**	⇓iP	**PKPab**	**22 20 43.9**	**+0.7**
STHS	**Stebnicka Huta**	**148.77**	**339**	ePKP	**PKPab**	**22 20 46.7**	**+3.4**
TESR	**Tescani**	**148.88**	**330**	⇑iP	**PKPab**	**22 20 40.9**	**-2.9**
BRTR	**Keskin Array B**	**148.92**	**313**	PKPbc	**PKPab**	**22 20 43.6**	**-0.7**
	comp=Z,5.5nm,0.7s,baz=136,slow=4.8,SNR=42						
CFR	**Carcaliu**	**149.08**	**326**	⇑iP	**PKPab**	**22 20 44.0**	**-0.6**
CRVS	**Cervenica-Dubn**	**149.13**	**338**	ePKP	**PKPab**	**22 20 45.8**	**+1.0**
CLL	**Collm**	**149.16**	**349**	⇑iPKPbc	**PKPab**	**22 20 44.4**	**-0.3**
	comp=Z,16nm,0.8s						
VRI	**Vrincioaia**	**149.31**	**329**	⇓iP	**PKPab**	**22 20 45.0**	**-0.6**
UPC	**Upice**	**149.31**	**345**	⇑ePKP	**PKPab**	**22 20 45.6**	**+0.2**
OKC	**Ostrava-Krasne**	**149.37**	**342**	⇑ePKP	**PKPab**	**22 20 45.7**	**+0.1**
DPC	**Dobruska-Polom**	**149.38**	**345**	⇑ePKP	**PKPab**	**22 20 45.8**	**+0.1**
DPC				ePKPAB	pPKPdf	22 20 50.9	-13
DPC				ex	x	22 20 58.3	
BRG	**Berggiesshubel**	**149.41**	**348**	ePKP	**PKPab**	**22 20 42.1**	**-3.7**
	comp=Z,4.6nm,1.1s						
BRG				i		22 20 45.4	
	comp=Z,8.9nm,0.8s						
BRG				e		22 20 51.5	
	comp=Z,8.3nm,1.1s						
ANTO	**Ankara**	**149.42**	**314**	ePKPbc	**PKPab**	**22 20 44.7**	**-1.7**
LANS	**Liptovska Anna**	**149.59**	**340**	ePKP	**PKPab**	**22 20 46.8**	**+0.2**
MORC	**Moravsky Berou**	**149.59**	**343**	⇓iP	**PKPab**	**22 20 45.9**	**-0.7**
PVCC	**Panska Ves**	**149.61**	**347**	⇑ePKP	**PKPab**	**22 20 46.4**	**-0.2**
KECS	**Kecovo**	**149.83**	**338**	ePKP	**PKPab**	**22 20 44.5**	**-3.1**
KECS				e		22 20 52.6	
DOPR	**Dopca**	**149.87**	**330**	⇓iP	**PKPab**	**22 20 46.6**	**-1.3**
MMAI	**Mount Meron Ar**	**150.07**	**300**	PKPbc	**PKPab**	**22 20 47.6**	**-1.7**
	comp=Z,12nm,0.7s,baz=73,slow=4.9,SNR=39						
PRU	**Pruhonice**	**150.13**	**347**	⇑ePKP	**PKPab**	**22 20 47.2**	**-1.5**
GOPC	**GO Pecny, Ondr**	**150.14**	**346**	⇑ePKP	**PKPab**	**22 20 47.5**	**-1.3**
VRAC	**Vranov**	**150.27**	**344**	⇓iP	**PKPab**	**22 20 47.6**	**-1.8**
NKC	**Novy Kostel**	**150.29**	**350**	⇑ePKP	**PKPab**	**22 20 47.6**	**-1.9**
VYHS	**Vyhne**	**150.36**	**340**	ePKP	**PKPab**	**22 20 47.6**	**-2.2**
VYHS				e		22 20 54.7	
DRGR		**150.40**	**334**	⇓iP	**PKPab**	**22 20 47.8**	**-2.3**
PSZ	**Piszkesteto**	**150.52**	**339**	⇓iP	**PKPab**	**22 20 48.0**	**-2.5**
ARR	**Arges**	**150.67**	**330**	⇓iP	**PKPab**	**22 20 49.3**	**-2.0**
SMOL	**Smolenice**	**150.77**	**342**	ePKP	PKPab	22 20 56.3	+4.8
MODS	**Modra-Piesok**	**150.94**	**342**	ePKP	**PKPab**	**22 20 49.6**	**-2.6**
CSS	**Mathiatis**	**151.11**	**305**	ePKPbc	**PKPab**	**22 20 48.5**	**-4.9**
KHC	**Kasperske Hory**	**151.14**	**347**	⇑ePKP	**PKPab**	**22 20 49.9**	**-3.1**
KHC				ePKPAB	**pPKPdf**	**22 20 57.8**	**-8.8**
GERES	**GERESS Array B**	**151.39**	**347**	PKP	**PKPbc**	**22 20 43.9**	**-1.8**
	comp=Z,2.7nm,0.7s,baz=108,slow=3.5,SNR=4.7						
GERES				PKPbc	**PKPab**	**22 20 50.1**	**-4.0**
	comp=Z,3.5nm,0.8s,baz=38,slow=2.4,SNR=22						
CONA	**Conrad Observa**	**151.74**	**344**	ePKiKP	**PKPab**	**22 20 51.1**	**-4.5**
	comp=Z,5.2nm,0.8s						
BZS	**Buzias**	**151.80**	**334**	⇑iP	**PKPab**	**22 20 50.6**	**-5.2**
HERR	**Herculane**	**152.05**	**332**	⇓iP	**PKPab**	**22 20 51.0**	**-5.9**
MOA	**Molln**	**152.20**	**346**	ePKiKP	**PKPab**	**22 20 51.9**	**-5.6**
	comp=Z,1.2nm,0.8s						
ARSA	**Arzberg**	**152.45**	**343**	ePKiKP	**PKPab**	**22 20 53.0**	**-5.6**
	comp=Z,1.4nm,0.8s						
SOKA	**Soboth**	**153.11**	**344**	ePKiKP	PKPab	22 20 53.3	-8.1
	comp=Z,2.9nm,0.9s						
KBA	**Koelnbreinsper**	**153.14**	**346**	ePKiKP	PKPab	22 20 53.9	-7.7
	comp=Z,2.3nm,0.8s						
RETA	**Reutte**	**153.23**	**350**	ePKiKP	**PKPab**	**22 20 54.7**	**-7.2**
	comp=Z,3.1nm,0.9s						
WTTA	**Wattenberg**	**153.30**	**349**	ePKiKP	PKPab	22 20 54.7	-7.6
	comp=Z,2.7nm,0.7s						
OBKA	**Obir**	**153.39**	**344**	ePKiKP	**PKPab**	**22 20 55.3**	**-7.2**
	comp=Z,1.7nm,0.8s						
VTS	**Vitosha**	**153.43**	**328**	⇓iP	**PKPbc**	**22 20 46.7**	**-3.8**
MYKA	**Terra Mystica**	**153.50**	**346**	ePKPbc	PKPab	22 20 54.1	-9.0
	comp=Z,1.9nm,0.4s						
DAVA	**Damuels**	**153.56**	**352**	ePKiKP	PKPab	22 20 55.7	-7.7
	comp=Z,6.1nm,1.1s						
ABTA	**Abfaltersbach**	**153.63**	**347**	ePKPbc	PKPab	22 20 54.4	-9.2
	comp=Z,3.3nm,0.7s						
FETA	**Feichten**	**153.69**	**350**	ePKiKP	PKPab	22 20 55.5	-8.4
	comp=Z,6.5nm,1.4s						
ESDC	**Sonseca Array**	**160.21**	**19**	PKPab	**PKPab**	**22 21 34.6**	**+2.5**
	comp=Z,0.7nm,0.7s,baz=326,slow=4.9,SNR=5.2						
KEST	**Kesra**	**164.84**	**344**	PKPab	**PKPab**	**22 21 55.7**	**+3.2**
	comp=Z,3.8nm,0.9s,baz=41,slow=2.1,SNR=4.8						
TORD	**Torodi Ar. Bea**	**171.63**	**162**	PKPab	**PKPab**	**22 22 27.2**	**+4.4**
	comp=Z,1.1nm,0.9s,baz=196,slow=2.3,SNR=5.5						

IDC 03 22:01:19.7±6.6**, 19°.92S**×**174°.10E, h0^{km}, mb4.1**/5**, mb1 4.3**/5**, mb1mx3.9**/40**, mbtmp4.1**/5**, MS3.5**/6**, Ms1 3.5**/6**, ms1mx3.1**/49**, Error ellipse: s-maj=149.9km s-min=70.5km az=123.0, Vanuatu Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.46**	**252**	Pn	Pn	22 03 15.2	+5.2
	0.5nm,0.3s,baz=88,slow=18,SNR=7.4						
DZM				LR	LR	22 05 40.4	
	comp=Z,173nm,21.4s,baz=111,slow=35						
AFI	**Afiamalu**	**14.78**	**68**	LR	LR	22 09 05.8	
	comp=Z,123nm,21.7s,baz=142,slow=32						
CTA	**Charters Tower**	**26.15**	**265**	P	P	22 06 55.5	-0.4
	1.3nm,0.5s,baz=49,slow=9.3,SNR=2.8						
STKA	**Stephens Creek**	**31.45**	**241**	P	P	22 07 43.0	0.0
	3.0nm,1.0s,baz=59,slow=12,SNR=3.7						
STKA				LR	LR	22 19 57.3	
	comp=Z,153nm,18.2s,baz=170,slow=36						
WRA	**Warramunga Arr**	**37.31**	**263**	P	P	22 08 33.6	-0.4
	1.7nm,0.8s,baz=96,slow=8.6,SNR=13						
ASAR	**Alice Springs**	**37.42**	**257**	P	P	22 08 35.4	+0.5
	5.8nm,0.9s,baz=89,slow=8.8,SNR=36						
ASAR				LR	LR	22 23 07.7	
	comp=Z,118nm,19.6s,baz=201,slow=35						
CMAR	**Chiang Mai Arr**	**82.98**	**292**	P	P	22 13 47.3	0.0
	0.5nm,0.3s,baz=97,slow=2.9,SNR=4.4						
NVAR	**Mina Array Bea**	**85.87**	**47**	LR	LR	22 48 01.2	
	comp=Z,37nm,20.3s,baz=274,slow=33						
TXAR	**Lajitas Array**	**93.10**	**60**	LR	LR	22 49 17.2	
	comp=Z,22nm,19.0s,baz=0.0,slow=31						

IDC 03 22:07:30.1±3.2**, 13°.04S**×**98°.77W, h0^{km}, mb3.5**/5**, mb1 4.0**/5**, mb1mx3.7**/37**, mbtmp3.5**/5**, MS3.1**/1**, Ms1 3.1**/1**, ms1mx2.6**/23**, Error ellipse: s-maj=217.6km s-min=75.4km az=76.0, Southwest of Galapagos Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATAH	**Atahualpa**	**20.89**	**76**	LR	LR	22 18 12.6	
	comp=Z,58nm,21.0s,baz=2.6,slow=31						
TXAR	**Lajitas Array**	**42.39**	**354**	P	P	22 15 27.1	+0.6
	0.6nm,0.8s,baz=169,slow=10,SNR=4.6						
NVAR	**Mina Array Bea**	**54.37**	**341**	P	P	22 16 58.7	-0.2
	0.5nm,0.6s,baz=166,slow=8.8,SNR=3.2						
PDAR	**Pinedale Array**	**56.40**	**350**	P	P	22 17 12.9	-0.7
	0.5nm,0.8s,baz=193,slow=7.1,SNR=3.7						
YKA	**Yellowknife Ar**	**76.30**	**353**	P	P	22 19 20.0	-0.4
	0.2nm,0.8s,baz=154,slow=5.1,SNR=3.4						
ILAR	**Eielson Array**	**85.62**	**341**	P	P	22 20 10.7	+0.5
	1.0nm,0.9s,baz=144,slow=4.6,SNR=7.2						
KURBB	**Kurchatov Arra**	**142.45**	**3**	PKP	PKPdf	22 27 05.6	+0.6
	0.2nm,0.7s,baz=329,slow=1.6,SNR=4.4						
MKAR	**Makanchi Array**	**146.34**	**359**	PKPbc	PKPdf	22 27 12.0	+0.1
	0.6nm,0.7s,baz=16,slow=2.4,SNR=7.4						

JMA 03 22:11:04.8±0.2**, 38°.17N**×**144°.47E, h43^{km}, M3.6, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**2.38**	**293**	P	Pn	22 11 42.8	+1.6
OFUJ				eS	Sn	22 12 10.7	+1.6
JIO	**Ouri**	**2.47**	**278**	P	Pn	22 11 44.0	+1.5
JIO				eS	Sn	22 12 12.9	+1.4
MIYJ	**Miyakonagasawa**	**2.50**	**305**	P	Pn	22 11 44.2	+1.2
JMK	**Ichinoseki**	**2.67**	**288**	P	Pn	22 11 47.0	+1.8
JMK				eS	Sn	22 12 18.3	+2.1
JOM	**Ohasama**	**2.80**	**299**	P	Pn	22 11 49.1	+2.0
JRG	**Rokugo**	**3.24**	**293**	eS	Sn	22 12 33.6	+3.2
JYK	**Kaneyama**	**3.31**	**284**	P	Pn	22 11 56.8	+2.7
JYK				eS	Sn	22 12 35.4	+3.3
JFT	**Otama**	**3.34**	**260**	eS	Sn	22 12 35.2	+2.4
JTM	**Tenmabayashi**	**3.71**	**316**	eS	Sn	22 12 42.2	+0.2
JCH	**Churui**	**4.52**	**350**	P	Pn	22 12 10.5	-0.2
JCH				eS	Sn	22 12 59.8	-2.1
JKB	**Kayabe**	**4.55**	**326**	P	Pn	22 12 10.3	-0.8
JKB				eS	Sn	22 13 01.9	-0.9
JRY	**Ryogami san**	**4.94**	**246**	P	Pn	22 12 17.7	+1.2
JTKR	**Abashiri--Toko**	**5.81**	**356**	P	Pn	22 12 27.9	-0.5
JTKR				eS	Sn	22 13 29.8	-3.9

IDC 03 22:30:14.9±2.2**, 4°.07N**×**62°.45E, h0^{km}, mb3.6**/4**, mb1 3.8**/4**, mb1mx3.3**/66**, mbtmp3.6**/4**, MS3.7**/28**, Ms1 3.7**/28**, ms1mx3.5**/63**, Error ellipse: s-maj=82.3km s-min=29.6km az=54.0, Carlsberg Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08N2	**Diego Garcia H**	**13.40**	**140**	T	T	22 47 02.1	
	baz=322,slow=76,SNR=471						
H08N3	**Diego Garcia H**	**13.41**	**140**	T	T	22 47 01.5	
	baz=322,slow=76,SNR=503						
H08N1	**Diego Carcia H**	**13.42**	**140**	T	T	22 47 02.2	
	baz=322,slow=76,SNR=536						
PALK	**Pallekele**	**18.44**	**79**	LR	LR	22 39 53.1	
	comp=Z,307nm,21.2s,baz=296,slow=31						
WSAR	**Wadi Sarin**	**19.41**	**349**	LR	LR	22 40 36.7	
	comp=Z,205nm,19.5s,baz=181,slow=32						
ATD	**Arta Tunnel**	**20.78**	**292**	LR	LR	22 41 35.7	
	comp=Z,88nm,20.0s,baz=52,slow=33						
KMBO	**Kilima Mbogo**	**25.70**	**259**	LR	LR	22 45 12.5	
	comp=Z,118nm,19.9s,baz=95,slow=35						
GEYT	**Alibeck**	**33.93**	**354**	LR	LR	22 50 26.7	
	comp=Z,48nm,18.4s,baz=55,slow=36						
MMAI	**Mount Meron Ar**	**38.31**	**322**	LR	LR	22 52 47.8	
	comp=Z,91nm,18.5s,baz=160,slow=35						
KBZ	**Khabaz**	**43.11**	**339**	LR	LR	22 56 31.3	
	comp=Z,41nm,19.2s,baz=128,slow=37						
BRTR	**Keskin Array B**	**44.03**	**328**	P	P	22 38 24.6	0.0

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
	0.9nm,1.0s,baz=142,slow=4.9,SNR=4.3						
BRTR				LR	LR	22 57 15.8	
	comp=Z,49nm,19.3s,baz=118,slow=37						
MKAR	Makanchi Array	45.90	19	P	P	22 38 39.1	-0.2
	0.3nm,0.9s,baz=206,slow=6.3,SNR=3.5						
MKAR				LR	LR	22 56 52.8	
	comp=Z,63nm,21.2s,baz=189,slow=35						
AKTO	Aktyubinsk	46.35	356	LR	LR	22 58 20.0	
	comp=Z,70nm,20.9s,baz=162,slow=36						
BOSA	Boshof	48.31	225	LR	LR	22 57 09.2	
	comp=Z,105nm,20.5s,baz=76,slow=33						
BVAR	Borovoye Array	49.23	6	LR	LR	23 00 26.9	
	comp=Z,162nm,20.0s,baz=184,slow=37						
MLR	Muntele Rosu	52.11	328	LR	LR	23 02 12.6	
	comp=Z,12nm,19.8s,baz=120,slow=37						
ZALV	Zalesovo Beam	52.98	16	LR	LR	23 02 53.4	
	comp=Z,82nm,18.4s,baz=248,slow=37						
AKASG	Malin Array Be	54.20	335	LR	LR	23 04 05.7	
	comp=Z,26nm,21.4s,baz=225,slow=38						
SONM	Songino Array	57.59	34	LR	LR	23 04 52.1	
	comp=Z,145nm,22.0s,baz=229,slow=36						
TORD	Torodi Ar. Bea	60.62	283	LR	LR	23 07 40.6	
	comp=Z,53nm,18.6s,baz=190,slow=37						
GERES	GERESS Array B	60.83	325	LR	LR	23 07 21.1	
	comp=Z,26nm,18.4s,baz=93,slow=37						
KOWA	Kowa	66.22	284	LR	LR	23 11 28.0	
	comp=Z,48nm,18.2s,baz=100,slow=37						
DBIC	Dimbokro	67.02	275	LR	LR	23 10 32.0	
	comp=Z,27nm,20.1s,baz=90,slow=36						
KSRS	Korea Array	68.15	51	LR	LR	23 13 33.5	
	comp=Z,54nm,18.6s,baz=240,slow=38						
JNU	Nakatsue	69.75	56	LR	LR	23 12 58.9	
	comp=Z,37nm,21.3s,baz=108,slow=37						
WRA	Warramunga Arr	74.47	112	P	P	22 41 56.0	+0.2
	1.6nm,1.1s,baz=284,slow=4.5,SNR=5.4						
WRA				LR	LR	23 11 06.1	
	comp=Z,112nm,20.4s,baz=215,slow=33						
ASAR	Alice Springs	74.77	116	P	P	22 41 57.4	-0.1
	0.8nm,1.0s,baz=267,slow=6.5,SNR=5.5						
MJAR	Matsushiro Arr	76.15	54	LR	LR	23 16 49.0	
	comp=Z,64nm,19.7s,baz=320,slow=37						
SPITS	Spitsbergen Ar	77.78	351	LR	LR	23 20 10.8	
	comp=Z,70nm,19.0s,baz=195,slow=38						
SNAA	Sanae	86.27	197	LR	LR	23 14 51.2	
	comp=Z,85nm,19.9s,baz=127,slow=31						
PETK	Petropavlovsk-	89.93	37	LR	LR	23 24 50.1	
	comp=Z,55nm,18.2s,baz=270,slow=36						
VNDA	Vanda	95.98	168	LR	LR	23 20 10.6	
	comp=Z,120nm,20.5s,baz=298,slow=31						

IDC 03 22:35:22.0±3.1, 3°.91S×135°.64E, h0km, mb3.3/1, mb1 3.4/3, mb1mx3.1/49, mbtmp3.2/3, ML3.1/2, Error ellipse: s-maj=137.8km s-min=30.6km az=80.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	15.99	184	Pn	Pn	22 39 06.7	-1.8
	0.1nm,0.3s,baz=6.0,slow=12,SNR=3.1						
ASAR	Alice Springs	19.72	185	P	Pn	22 39 54.0	-0.6
	0.1nm,0.3s,baz=12,slow=11,SNR=10						
MKAR	Makanchi Array	68.90	324	P	P	22 46 28.7	0.0
	0.2nm,0.6s,baz=120,slow=7.8,SNR=3.2						

*NIED **03** 22:40:00, 41°.30N×142°.70E, h35km, Mw3.9 Best double couple: M0 9.30000×10^14 NP1:φs103.00000°, δ37.00000°, λ125.00000°. NP2:φs242.00000°, δ61.00000°, λ67.00000°.*
*JMA **03** 22:40:51.8±0.1, 41°.27N×142°.69E, h23km±3km, M4.0*
JMA Felt I J1.
*IDC **03** 22:40:57.1±2.0, 41°.27N×142°.53E, h74km±17km, mb3.4/13, mb1 3.6/16, mb1mx3.4/64, mbtmp3.7/16, MS4.0/1, Ms1 4.0/1, ms1mx2.6/46, Error ellipse: s-maj=19.2km s-min=12.9km az=118.0*
ISC 03 22:40:50.6±1.3, 41°.28N±0°.04×142°.68E±0°.04, h16km±9km, n37, σ1s26/41, mb3.8/13, 2C-2D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JEM	Erimo	0.82	26	P	Pb	22 41 07.0	+0.5
JEM				eS	Sb	22 41 18.2	+0.8
JNBK	Urakawa-nobuka	1.00	3	⇓P	Pn	22 41 10.2	+0.1
JNBK				eS	Sb	22 41 23.4	+0.7
JOT	Ohata	1.23	275	⇑P	Pb	22 41 13.6	+0.1
JOT				eS	Sb	22 41 29.5	+0.3
JANG	Nango	1.26	225	P	Pg	22 41 14.8	-0.1
JANG				eS	Sg	22 41 30.4	-1.0
JTM	Tenmabayashi	1.31	249	⇑P	Pg	22 41 15.6	-0.3
JTM				eS	Sg	22 41 32.3	-0.7
JKB	Kayabe	1.38	297	P	Pn	22 41 15.5	+0.3
JKB				eS	Sn	22 41 32.9	-0.2
JCH	Churui	1.43	21	P	Pb	22 41 16.9	0.0
JCH				eS	Sb	22 41 36.0	+1.1
JBT2	Biratori 2	1.52	351	P	Pb	22 41 18.3	-0.1
JNB	Noboribetsu	1.71	315	⇓P	Pn	22 41 20.0	+0.2
JNB				eS	Sn	22 41 40.5	-0.8
JSR	Shiriuchi	1.72	279	eS	Sb	22 41 43.6	+0.4
JEW	Eniwo	1.81	330	P	Pn	22 41 22.4	+1.2
JEW				eS	Sn	22 41 44.9	+1.1
JOB	Onbets	1.84	28	P	Pb	22 41 22.9	-1.0
JFR	Furan	1.89	358	P	Pb	22 41 23.9	-0.8
JOM	Ohasama	2.09	211	P	Pb	22 41 27.6	-0.6
JOM				eS	Sb	22 41 52.6	-1.3
ASAJ	Asahikawa	2.84	359	P	Pb	22 41 39.2	-1.7
	25nm,0.3s,baz=227,slow=9.6,SNR=92						
ASAJ				S	Sb	22 42 14.2	-1.2
	15nm,0.3s,baz=320,slow=32,SNR=22						
MJAR	Matsushiro Arr	5.87	218	P	Pn	22 42 20.6	+3.6
	0.6nm,0.3s,baz=32,slow=12,SNR=9.7						
KLR	Kul'dur	11.06	320	P	Pn	22 43 32.3	+4.2
	0.0nm,0.3s,baz=117,slow=16,SNR=3.9						
KLR				LR	LR	22 48 32.8	
	comp=Z,11nm,18.1s,baz=130,slow=41						
SONM	Songino Array	26.49	297	P	P	22 46 26.0	-1.3
	1.0nm,1.0s,baz=64,slow=7.1,SNR=4.1						
H11N2	WAKE ISLAND Hy	29.76	129	T	T	23 18 24.9	
	baz=322,SNR=3.7						
H11N1	WAKE ISLAND Hy	29.77	129	T	T	23 18 21.4	
	baz=322,slow=74,SNR=6.7						
H11N3	WAKE ISLAND Hy	29.78	129	T	T	23 18 23.1	
	baz=322,slow=74,SNR=3.6						
H11S1	WAKE ISLAND Hy	30.61	131	T	T	23 19 36.8	
	baz=330						
H11S3	WAKE ISLAND Hy	30.61	131	T	T	23 19 33.3	
	baz=330,slow=74,SNR=3.3						
H11S2	WAKE ISLAND Hy	30.63	131	T	T	23 19 35.0	
	baz=330,slow=74,SNR=4.0						
ZALV	Zalesovo Beam	39.91	309	P	P	22 48 23.4	-0.2
	1.1nm,0.4s,baz=84,slow=8.6,SNR=7.0						
MKAR	Makanchi Array	42.83	299	P	P	22 48 47.3	-0.4
	0.4nm,0.5s,baz=80,slow=9.5,SNR=8.6						
KURBB	Kurchatov Arra	44.28	305	P	P	22 48 58.5	-0.8
	2.1nm,0.2s,baz=72,slow=9.1,SNR=9.6						
ILAR	Eielson Array	45.42	35	P	P	22 49 08.4	+0.2
	1.0nm,0.9s,baz=272,slow=6.3,SNR=9.3						
INK	Inuvik	50.18	29	P	P	22 49 46.9	+1.8
	0.7nm,0.5s,baz=260,slow=8.6,SNR=3.7						
RES	Resolute Bay	58.25	15	P	P	22 50 42.4	-1.3
	1.4nm,0.7s,baz=310,slow=7.8,SNR=4.4						
YKA	Yellowknife Ar	59.67	32	P	P	22 50 53.7	-0.1
	0.2nm,0.7s,baz=302,slow=5.8,SNR=3.2						
WRA	Warramunga Arr	61.40	189	P	P	22 51 04.5	-1.5
	0.4nm,0.9s,baz=9.7,slow=6.9,SNR=4.6						
ASAR	Alice Springs	65.12	189	P	P	22 51 30.6	-0.1
	0.4nm,0.6s,baz=10,slow=7.6,SNR=4.5						
FINES	FINESS Array B	65.53	332	P	P	22 51 31.2	-1.6
	1.4nm,0.7s,baz=48,slow=6.1,SNR=10						
NEW	Newport	66.44	46	LR	LR	23 20 05.0	
	comp=Z,107nm,21.5s,baz=271,slow=35						
NVAR	Mina Array Bea	71.70	55	P	P	22 52 11.9	-0.2
	0.3nm,0.5s,baz=288,slow=6.6,SNR=4.0						
PDAR	Pinedale Array	74.02	47	P	P	22 52 25.7	-0.2
	0.2nm,0.6s,baz=246,slow=6.7,SNR=3.1						

MAN 03 22:53:38, 9°.86N×123°.20E, h32km, mb3.9, ML2.7, MS2.3, 1D, Negros

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SNPH	Sibulan	0.51	176	eP	Pn	22 53 51.0	+1.8
SNPH				eS	Sn	22 53 58.4	+1.5
LLP	Lapu-Lapu	0.88	59	eP	Pn	22 53 54.3	+0.2
LLP				eS	Sn	22 54 05.7	-0.1
GUIM	Jordan	0.98	322	eP	Pn	22 53 55.5	0.0
GUIM				eS	Sn	22 54 08.6	+0.3
MSLP	Maasin	1.65	80	eP	Pb	22 54 08.2	+0.3
MSLP				eS	Sb	22 54 31.6	+3.3
RCP	Roxas	1.75	345	⇓eP	Pb	22 54 08.9	-0.7

*IDC **03** 22:56:48.8±2.6, 13°.89N×93°.28W, h0km, mb3.8/5, mb1 4.0/8, mb1mx3.7/56, mbtmp3.8/8, ML3.8/3, MS2.5/1, Ms1 2.5/1, ms1mx2.2/53, Error ellipse: s-maj=57.4km s-min=24.5km az=16.0*
*ISCJB **03** 22:56:54.5±1.4, 14°.25N±0°.08×93°.21W±0°.07, h39km±12km, mb4.1/6, Error ellipse: s-maj=15.6km s-min=8.2km az=41.6*
*MEX **03** 22:56:56.2±1.0, 14°.14N×93°.17W, h20km±119km, MD4.1*
*NEIC **03** 22:56:56.5±0.0, 14°.26N×93°.25W, h17km, MD4.1(MEX), After MEX.*
ISC 03 22:56:53.8±3.3, 14°.15N±0°.08×93°.18W±0°.07, h26km±23km, n19, σ2s41/30, mb4.1/6, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
THIG		1.17	50	eP	Pn	22 57 13.9	-0.5
THIG				i S	Sn	22 57 28.0	-1.5
THIG		1.17	50	eP	Pn	22 57 13.9	-0.5
THIG				i S	Sn	22 57 28.0	-1.5
PCIG		1.55	359	eP	Pn	22 57 16.9	-2.8
PCIG				eS	Sn	22 57 34.9	-4.0
PCIG		1.55	359	eP	Pn	22 57 16.9	-2.8
PCIG				eS	Sn	22 57 34.9	-4.0
CCIG	Comitan	2.35	25	eP	Pn	22 57 32.0	+1.1
CCIG				eS	Sn	22 57 59.4	+0.4
CCIG	Comitan	2.35	25	eP	Pn	22 57 32.3	+1.4
CCIG				eS	Sn	22 58 01.6	+2.5
TGIG		2.62	1	eP	Pn	22 57 34.6	+0.2
TGIG				eS	Sn	22 58 03.5	-1.9
TGIG		2.62	1	eP	Pn	22 57 34.6	+0.2
TGIG				eS	Sn	22 58 03.5	-1.9
APG	El Apazote	2.77	72	Pn	Pn	22 57 38.4	+1.7
	12nm,0.3s,baz=292,slow=9.2,SNR=36						
APG				Sn	Sb	22 58 15.4	-0.8
	27nm,0.3s,baz=320,slow=16,SNR=8.0						
APG				LR	LR	22 58 42.3	
	comp=Z,89nm,20.2s,baz=254,slow=39						
CMIG	Matias Romero	3.35	331	Pn	Pn	22 57 44.4	-0.2
	13nm,0.3s,baz=148,slow=12,SNR=72						
CMIG				Sn	Sn	22 58 21.6	-1.9
	16nm,0.3s,baz=80,slow=9.2,SNR=7.7						
SNET	Serv Nac Est T	3.86	96	Pn	Pn	22 57 50.4	-1.3
SNET				Sn	Sn	22 58 29.3	-7.0
JTS	JuntasAbangare	8.91	115	Pn	Pn	22 59 04.7	+3.7
	0.5nm,0.3s,baz=53,slow=20,SNR=2.4						
JTS				Lg	Lg	23 01 21.4	
	0.4nm,0.3s,baz=0.0,slow=20,SNR=2.8						
TXAR	Lajitas Array	17.96	329	P	P	23 01 04.2	+1.9
	0.1nm,0.3s,baz=148,slow=12,SNR=7.1						
NVAR	Mina Array Bea	32.84	322	P	P	23 03 27.6	+2.0
	0.8nm,0.8s,baz=135,slow=9.0,SNR=3.8						
YKA	Yellowknife Ar	50.62	347	P	P	23 05 50.1	-0.2
	1.4nm,0.7s,baz=154,slow=7.3,SNR=22						
INK	Inuvik	59.97	344	P	P	23 06 58.3	+0.7
	1.1nm,0.5s,baz=131,slow=9.3,SNR=3.4						
RES	Resolute Bay	60.54	359	P	P	23 07 01.2	-0.2
	1.0nm,0.7s,baz=186,slow=8.6,SNR=6.5						
ILAR	Eielson Array	62.25	337	P	P	23 07 13.2	0.0
	0.3nm,0.7s,baz=151,slow=6.6,SNR=4.6						
DBIC	Dimbokro	86.78	84	P	P	23 09 36.2	-0.3
	14nm,1.2s,baz=288,slow=9.8,SNR=3.5						

IDC 03 23:02:15.6±1.9, 5°.85S×130°.67E, h0km, mb3.7/2, mb1 3.7/4, mb1mx3.3/52, mbtmp3.5/4, ML3.4/2, Error ellipse: s-maj=130.8km s-min=28.9km az=72.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	14.46	166	Pn	Pn	23 05 41.5	-0.2
	0.1nm,0.3s,baz=348,slow=13,SNR=11						
WRA				Sn	Sn	23 08 07.5	-15
	0.2nm,0.3s,baz=338,slow=23,SNR=7.1						
ASAR	Alice Springs	17.99	170	P	Pn	23 06 27.2	-0.1
	0.2nm,0.3s,baz=355,slow=10,SNR=9.5						
MKAR	Makanchi Array	67.64	326	P	P	23 13 15.7	+1.3
	0.3nm,0.4s,baz=114,slow=8.4,SNR=6.4						
ZALV	Zalesovo Beam	70.85	333	P	P	23 13 33.1	-1.1
	0.3nm,0.3s,baz=120,slow=8.5,SNR=2.5						

IDC 03 23:20:51.3±318.0, 34°.00N×118°.77W, h0km, Error ellipse: s-maj=131.3km s-min=48.0km az=102.0, Southern California

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
I57US	PINON FLAT INF	1.96	101	i		23 34 20.0	
	baz=282,slow=325,SNR=1.7						
I10CA	LAC DU BONNET	23.24	39	i		01 40 30.0	
	baz=232,slow=330,SNR=0.4						
I59US	HAWAII INFRASO	35.90	256	i		03 00 50.0	
	baz=62,slow=324,SNR=0.4						

IDC 03 23:20:58.5±3.1, 33°.08S×178°.99W, h0km, mb3.5/2, mb1 3.8/3, mb1mx3.6/46, mbtmp3.6/3, ML3.6/1, Error ellipse: s-maj=71.5km s-min=46.6km az=117.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	Urewera	6.07	210	Pn	Pn	23 22 28.9	-0.6
	1.4nm,0.3s,baz=107,slow=14,SNR=6.8						
URZ				Sn	Sn	23 23 35.1	-4.4
	0.6nm,0.3s,baz=72,slow=20,SNR=3.4						
ASAR	Alice Springs	42.20	270	P	P	23 28 53.5	+0.1
	0.7nm,1.0s,baz=103,slow=7.7,SNR=4.1						
WRA	Warramunga Arr	43.43	276	P	P	23 29 03.2	-0.2
	0.3nm,0.4s,baz=115,slow=7.7,SNR=10						
FINES	FINESS Array B	147.33	338	PKPbc	PKPbc	23 40 42.6	-0.7
	1.6nm,0.8s,baz=28,slow=4.5,SNR=4.9						

IDC 03 23:28:41.2±8.1, 18°.69N×148°.23E, h0km, mb3.4/5, mb1 3.6/5, mb1mx3.3/58, mbtmp3.4/5, MS2.6/1, Ms1 2.6/1, ms1mx2.2/39, Error ellipse: s-maj=309.8km s-min=23.0km az=82.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GUMO	Guam	6.01	213	LR	LR	23 32 16.7	
	comp=Z,52nm,18.9s,baz=92,slow=36						
WRA	Warramunga Arr	40.74	200	P	P	23 36 23.9	-0.1
	0.3nm,0.5s,baz=23,slow=8.5,SNR=15						
ASAR	Alice Springs	44.36	199	P	P	23 36 53.4	-0.2
	0.4nm,0.5s,baz=17,slow=6.2,SNR=6.2						
MKAR	Makanchi Array	60.20	314	P	P	23 38 51.3	+0.2
	0.1nm,0.5s,baz=76,slow=6.1,SNR=2.3						
KURBB	Kurchatov Arra	62.93	318	P	P	23 39 08.9	-0.6
	0.4nm,0.5s,baz=95,slow=7.4,SNR=4.0						
BVAR	Borovoye Array	68.00	320	P	P	23 39 42.6	+0.3
	0.3nm,0.5s,baz=90,slow=7.2,SNR=3.7						

*ISCJB **03** 23:30:32.7±0.6, 24°.46N±0°.05×122°.42E±0°.02, h72km±6km, Error ellipse: s-maj=8.0km s-min=3.3km az=175.9*
*TAP **03** 23:30:32.9, 24°.51N×122°.37E, h79km, ML2.7, C*
*JMA **03** 23:30:32.2±0.3, 24°.55N×122°.40E, h79km±4km, M2.3*
ISC 03 23:30:32.7±1.5, 24°.50N±0°.06×122°.41E±0°.03, h76km±11km, n30, σ0s80/57, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EOS1	EOS1	0.26	282	eP	Pn	23 30 44.9	+0.7
	baz=286						
EOS1				eS	Sn	23 30 54.0	+1.3
	baz=286						
TWC	Suao	0.52	283	eP	Pn	23 30 46.2	0.0
	baz=285						
TWC				eS	Sn	23 30 55.7	-0.5
	baz=285						
YOJ	Yonaguni jima	0.55	93	P	Pn	23 30 46.8	+0.3
YOJ				S	Sn	23 30 57.0	+0.3
NANB	Nanao	0.60	264	eP	Pn	23 30 47.3	+0.3
	baz=259						
NANB				eS	Sn	23 30 58.0	+0.3
	baz=259						
ENA	Nanau	0.61	264	eP	Pn	23 30 47.3	+0.2
	baz=259						
ENA				eS	Sn	23 30 58.4	+0.6
	baz=259						
TIPB	Shuangxi	0.71	312	eP	Pn	23 30 45.6	-2.6
	baz=310						
TIPB				eS	Sn	23 30 57.8	-1.9
	baz=310						
TWE	Neicheng	0.71	289	eP	Pn	23 30 48.4	+0.3
	baz=290						
TWE				eS	Sn	23 30 59.1	-0.5
	baz=290						
ENTT	Nioudou	0.78	281	eP	Pn	23 30 49.6	+0.7
	baz=284						
ENTT				eS	Sn	23 31 01.8	+0.9
	baz=284						
NACB	Ninganchiao	0.81	247	eP	Pn	23 30 48.8	-0.4
	baz=240						
NACB				eS	Sn	23 31 00.3	-1.2
	baz=240						
TWD	Chiawan	0.85	241	eP	Pn	23 30 49.6	-0.1
	baz=232						
TWD				eS	Sn	23 31 01.2	-1.1
	baz=232						
NWLT	Wulai	0.87	289	eP	Pn	23 30 50.4	+0.4
	baz=293						
NWLT				eS	Sn	23 31 02.8	-0.1
	baz=293						
NNSB	Datong	0.94	266	eP	Pn	23 30 50.9	+0.1
	baz=259						
NNSB				eS	Sn	23 31 04.4	+0.1
	baz=259						
NNS	Nan Shan	0.95	267	eP	Pn	23 30 51.2	+0.2
	baz=258						
NNS				eS	Sn	23 31 04.3	-0.2
	baz=258						
YHNB	Yeheng	0.96	281	eP	Pn	23 30 51.5	+0.5
	baz=280						
YHNB				eS	Sn	23 31 04.8	+0.1
	baz=280						
WHF	Hehuan Shan	1.10	252	eP	Pn	23 30 53.2	0.0
	baz=250						
WHF				eS	Sn	23 31 07.9	-0.5
	baz=250						
ESL	Shilin	1.12	233	eP	Pn	23 30 52.8	-0.1
	baz=225						
ESL				eS	Sn	23 31 06.9	-1.2
	baz=225						
TDCB	Techi	1.17	258	eP	Pn	23 30 54.3	+0.6
	baz=257						
TDCB				eS	Sn	23 31 09.4	0.0
	baz=257						
CHGB	Renai	1.21	249	eP	Pn	23 30 54.6	+0.3
	baz=241						
CHGB				eS	Sn	23 31 10.4	-0.1
	baz=241						
IRIF	Iriomote-Funau	1.22	97	P	Pn	23 30 54.0	-0.1
IRIF				S	Sn	23 31 10.2	0.0
LIOB	Emei	1.28	277	eP	Pn	23 30 55.4	+0.5
	baz=276						
LIOB				eS	Sn	23 31 11.9	+0.2
	baz=276						
NSTT	Nanjuang	1.29	276	eP	Pn	23 30 55.7	+0.6
	baz=275						
NSTT				eS	Sn	23 31 12.0	+0.1
	baz=275						
HATJ	Hateruma jima	1.35	109	S	Sn	23 31 12.6	-0.7
JKRS	Kuro-shima	1.48	100	P	Pn	23 30 58.3	+0.7
JKRS				S	Sn	23 31 16.9	+0.5
YULB	Yu-li	1.50	223	eP	Pn	23 30 57.1	-0.7
	baz=230						
YULB				eS	Sn	23 31 14.9	-1.9
	baz=230						
SMLT	Sun Moon Lake	1.51	246	eP	Pn	23 30 59.1	+1.1
	baz=240						
SMLT				eS	Sn	23 31 17.8	+0.7
	baz=240						
TYC	Yuchr	1.54	248	eP	Pn	23 30 59.8	+1.5
	baz=241						
TYC				eS	Sn	23 31 19.2	+1.6
	baz=241						
JIJ	Ishigaki jima	1.59	94	P	Pn	23 30 58.9	0.0
JIJ				S	Sn	23 31 18.1	-0.7
FULB	Fuli	1.65	219	eP	Pn	23 30 59.5	-0.3
	baz=211						
FULB				eS	Sn	23 31 19.8	-0.5
	baz=211						
JISG	Ishigakijimahi	1.73	87	P	Pn	23 31 00.9	0.0
JTJ	Tarama	2.09	86	P	Pn	23 31 06.2	+0.5

IDC 03 23:41:17.8±29.0, 20°.38N×145°.10E, h579km±216km, mb3.1/9, mb1 3.2/9, mb1mx2.7/69, mbtmp4.0/9, Error ellipse: s-maj=326.1km s-min=30.8km az=173.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SONM	Songino Array	41.49	321	P	P	23 48 15.0	-0.4
	0.6nm,0.4s,baz=132,slow=7.9,SNR=4.3						
ZALV	Zalesovo Beam	56.35	322	P	P	23 50 04.7	+0.1
	0.4nm,0.4s,baz=129,slow=6.3,SNR=4.8						
MKAR	Makanchi Array	56.90	313	P	P	23 50 08.6	0.0
	0.8nm,0.5s,baz=90,slow=7.8,SNR=14						
KURBB	Kurchatov Arra	59.70	317	P	P	23 50 27.1	-0.1
	2.5nm,0.4s,baz=95,slow=7.4,SNR=23						
ILAR	Eielson Array	62.40	27	P	P	23 50 44.5	-0.2
	0.3nm,0.5s,baz=240,slow=6.3,SNR=5.6						
BVAR	Borovoye Array	64.83	320	P	P	23 51 00.6	+0.2
	1.6nm,0.5s,baz=97,slow=7.5,SNR=22						
YKA	Yellowknife Ar	76.78	28	P	P	23 52 10.6	+0.3
	0.2nm,0.4s,baz=284,slow=4.9,SNR=4.3						
ARCES	ARCESS Array B	80.73	342	P	P	23 52 31.8	+0.6
	3.9nm,1.0s,baz=347,slow=5.0,SNR=3.7						
FINES	FINESS Array B	85.13	335	P	P	23 52 52.3	-0.9
	0.5nm,0.3s,baz=68,slow=5.0,SNR=10						

*BJI **03** 23:42:14.3, 6°.00S×134°.18E, h10km, mb5.6/75, mB5.6/60, Ms5.1/66, Ms7 4.8/64*
*ISCJB **03** 23:42:16.9±0.7, 5°.68S±0°.02×133°.83E±0°.02, h5km±4km, mb5.6/218, MS4.9/179, Error ellipse: s-maj=3.3km s-min=2.9km az=141.2*
*IDC **03** 23:42:17.9±0.3, 5°.64S×133°.89E, h0km, mb5.4/43, mb1 5.4/47, mb1mx5.3/55, mbtmp5.4/47, ML3.0/1, MS4.7/38, Ms1 4.7/38, ms1mx4.6/49, Error ellipse: s-maj=11.8km s-min=8.6km az=69.0*
*GCMT **03** 23:42:19.4±0.1, 5°.66S×133°.80E, h12km, MW5.4/112, Moment Tensor Solution. s93,c177; s112,c265; Duration: 1s3 Moment tensor: Scale 10^17Nm; M_{rr}-1.26±.02; $M_{\theta\theta}$0.36±.02; $M_{\phi\phi}$0.89±.02; $M_{r\theta}$0.48±.05; $M_{\theta\phi}$1.09±.02; $M_{\phi r}$0.71±.05; Best double couple: $M_0$1.73100×10^17 NP1:φs215.00000°, δ60.00000°, λ-94.00000°. NP2:φs43.00000°, δ30.00000°, λ-83.00000°. Principal axes: T 1.9730, Plg15.0000°, Azm308.0000°; N -0.4900, Plg3.0000°, Azm217.0000°; P -1.4890, Plg75.0000°, Azm114.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*NEIC **03** 23:42:19.4±0.1, 5°.65S×133°.88E, h10km, mb5.7/112, MS5.0/128 Error ellipse: s-maj=3.2km s-min=2.8km az=216.0*
*MOS **03** 23:42:21.4±1.0, 5°.61S×133°.86E, h33km, mb6.0/64, MS4.8/23, Error ellipse: s-maj=8.7km s-min=4.8km az=115.0*
*DJA **03** 23:42:22.4±0.4, 6°S±1°×13°4E±°, h32km±3km, M5.7/89, mb5.7/89, mB6.0/61, MLv6.2/12, Mw(mB)5.7/61*
ISC 03 23:42:20.1±0.5, 5°.72S±0°.03×133°.89E±0°.03, h15km±2km, h16km:pP-P, n1071, σ1s60/1064, mb5.7/234, MS5.0/182, 21C-25D, Aru Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KMPI	Kaimana, Papua	2.05	355	P	Pn	23 42 51.7	-2.3
KMPI				S	Sn	23 43 16.8	-2.5
FAKI	Fak Fak	3.23	329	P	Pn	23 43 07.7	-2.5
FAKI				S	Sn	23 43 43.6	-4.8
FAKI	Fak Fak	3.23	329	ePn	Pn	23 43 07.9	-2.3
FAKI				ePg	Pb	23 43 19.2	+2.1
FAKI				eSn	Sn	23 43 45.2	-3.2

SAUI **Saumlaki** 3.42 229 P Pn 23 43 15.6 +2.8
SAUI **Saumlaki** 3.42 229 *e*Pn Pn 23 43 15.2 +2.3
BNDI **Bandanaira** 4.14 286 P Pn 23 43 23.1 +0.3
BNDI S Sn 23 44 10.0 -1.0
RKPI **Ransiki, Papua** 4.19 4 P Pn 23 43 24.5 +1.1
SRPI **Serui, Papua** 4.48 32 P Pn 23 43 27.8 +0.3
SRPI S Sn 23 44 17.9 -1.5
BAKI **Biak** 5.01 26 P Pn 23 43 35.6 +0.9
MSAI **Masohi** 5.48 295 P Pn 23 43 40.8 -0.4
543nm,0.5s,6µm3.4nm
SWI **Sorong** 5.49 331 P Pn 23 43 38.4 -2.9
SWI S Sn 23 44 39.3 -5.0
AAI **Ambon** 6.03 289 P Pn 23 43 48.2 -0.5
1µm,0.5s,21µm7.8nm
GENI **Genyem** 6.99 64 P Pn 23 44 06.0 +4.1
971nm,1.0s,14µm10nm
MMPI **Merauke** 7.00 113 P Pn 23 44 08.3 +6.3
3µm,0.5s,87µm109nm
NLAI **Namlea** 7.20 290 P Pn 23 44 06.3 +1.4
711nm,0.5s,11µm4.9nm
NLAI S Sn 23 45 25.5 -1.0
711nm,0.5s,11µm4.9nm
JAY **Jayapura** 7.50 65 P Pn 23 44 11.1 +2.0
3µm,1.3s,34µm22nm
MTN **Manton Dam** 7.58 201 P Pn 23 44 10.6 +0.5
baz=7.7,SNR=956
MTN **Manton Dam** 7.58 201 *e*Pn Pn 23 44 10.4 +0.3
LBMI **Labuha** 8.13 308 P Pn 23 44 16.9 -0.8
901nm,0.5s,16µm7.2nm
LBMI S Sn 23 45 44.6 -4.8
901nm,0.5s,16µm7.2nm
SANI **Sanana** 8.69 294 P Pn 23 44 21.8 -3.4
406nm,0.6s,5µm
TNTI **Ternate** 9.16 314 *e*Pn Pn 23 44 31.4 -0.4
TNTI *e*Sn Sn 23 46 09.7 -5.1
SOEI **Soe** 10.34 247 P Pn 23 44 47.9 -0.2
886nm,0.6s,12µm
SOEI S Sn 23 46 44.5 +0.6
886nm,0.6s,12µm
SOEI **Soe** 10.34 247 *e*Pn Pn 23 44 46.7 -1.4
SOEI *e*Sn Sn 23 46 39.4 -4.6
BATI **Baumata** 11.07 246 Pn Pn 23 44 56.1 -1.8
129nm,0.3s,baz=154,slow=5.0,SNR=104
BATI Sn Sn 23 46 55.5 -6.0
30nm,0.3s,baz=143,slow=20,SNR=4.9
BATI **Baumata** 11.07 246 P Pn 23 44 57.2 -0.7
324nm,0.6s,4µm
KNRA **Kununurra** 11.10 207 P Pn 23 44 57.7 -0.6
baz=11,SNR=950
BBSI **Bau Bau** 11.27 271 P Pn 23 45 01.5 +0.8
76nm,1.2s,2µm
KMSI **Cibinong** 11.70 302 P Pn 23 45 04.7 -1.9
600nm,0.5s,10µm
MMRI **Maumere** 11.92 255 P Pn 23 45 09.0 -0.6
361nm,0.5s,7µm
MMRI **Maumere** 11.92 255 *e*Pn Pn 23 45 08.7 -0.9
LUWI **Luwuk** 12.03 292 P Pn 23 45 09.6 -1.5
851nm,1.4s,10µm
LUWI **Luwuk** 12.03 292 *e*Pn Pn 23 45 09.0 -2.1
LUWI *e*Sn Sn 23 47 23.0 -2.1
COEN **Coen** 12.27 133 P Pn 23 45 12.7 -1.8
baz=12,SNR=65
COEN **Coen** 12.27 133 *e*Pn Pn 23 45 12.6 -1.8
COEN *e*Sn Sn 23 47 21.9 -9.1
COEN *e*Lg Lg 23 48 44.2
SGSI **Sangihe** 12.53 318 P Pn 23 45 18.4 +0.5
574nm,1.7s,8µm
PALU **Palau** 12.99 3 P Pn 23 45 22.7 -1.5
baz=13,SNR=6.2
APSI **Ampana** 13.12 291 P Pn 23 45 25.5 -0.5
402nm,0.6s,7µm
BSSI **Bau Bau, Buton** 13.34 268 P Pn 23 45 30.9 +2.0
MRSI **Marisa** 13.43 297 P Pn 23 45 27.2 -3.0
169nm,0.7s,2µm
MRSI S Sn 23 47 48.9 -10
169nm,0.7s,2µm
PMG **Port Moresby** 13.65 106 Pn Pn 23 45 32.6 -0.7
2.8nm,0.3s,baz=291,slow=12,SNR=13
PMG Sn Sn 23 47 59.4 -5.4
4.1nm,0.3s,baz=210,slow=20,SNR=5.1
PMG LR LR 23 52 14.0
comp=Z,9µm,19.1s,baz=336,slow=44
PMG **Port Moresby** 13.65 106 *e*Pn Pn 23 45 33.6 +0.3
PMG Sn Sn 23 47 59.4 -5.4
PMG **Port Moresby** 13.65 106 *ce*P Pn 23 45 32.2 -1.1
PMG pmax pmax
comp=Z,787nm,2.5s
BNSI **Bone** 13.79 275 P Pn 23 45 36.5 +1.3
BASI **Baing, Sumba** 13.92 250 P Pn 23 45 37.1 +0.2
MANU **Manus Island** 13.93 75 *e*Pn Pn 23 45 35.0 -2.1
WSI **Waingapu** 14.03 253 P Pn 23 45 36.4 -2.0
comp=Z,1µm,0.5s,comp=Z,36µm
KAPI **Kappang** 14.10 272 *e*Pn Pn 23 45 38.7 -0.6
comp=Z,188nm,1.1s
KAPI **Kappang** 14.10 272 P Pn 23 45 41.8 +2.4
SNR=26
KAPI **Kappang** 14.10 272 Pn Pn 23 45 41.8 +2.4
SNR=26
I07AU **WARRAMUNGA INF** 14.14 178 Lg Lg 23 49 40.0
baz=10,slow=31,SNR=0.7
WB2 **Warramunga Arr** 14.15 178 *e*Pn Pn 23 45 36.1 -3.9
WRA **Warramunga Arr** 14.15 178 Pn Pn 23 45 35.9 -4.2
comp=Z,6.1nm,0.3s,baz=13,slow=13,SNR=274
WRA Sn Sn 23 48 07.0 -10
comp=Z,22nm,0.3s,baz=357,slow=22,SNR=7.5
WRA Lg Lg 23 49 41.1
comp=Z,7.7nm,0.3s,baz=3.2,slow=23,SNR=4.7
WRA LR LR 23 50 54.9
comp=Z,1µm,22.0s,baz=0.0,slow=36
TTSI **Tana Toraja** 14.28 280 P Pn 23 45 40.8 -1.0
comp=Z,132nm,1.1s,comp=Z,3µm
PCI **Palu** 14.82 288 P Pn 23 45 48.5 -0.7
WBSI **Waikabubak, Su** 14.89 254 P Pn 23 45 46.2 -4.0
DAV **Davao City (W)** 15.17 327 Pn Pn 23 45 53.5 -0.4
comp=Z,46nm,0.3s,baz=45,slow=4.3,SNR=2.5
DAV LR LR 23 52 20.1
comp=Z,2µm,21.4s,baz=142,slow=40
DAV **Davao City (W)** 15.17 327⇑ *e*P Pn 23 45 49.0 -4.9
DAV **Davao City (W)** 15.17 327 P P 23 46 00.3 +1.3
SNR=6.8
MPSI **Mapaga** 15.21 293 P Pn 23 45 52.8 -1.7
MTSU **Mount Surprise** 16.00 141 P Pn 23 46 02.0 -2.7
baz=16,SNR=18
BUKP **Musuan** 16.12 327 *e*P Pn 23 46 08.7 +2.3
PLAI **Plampang** 16.28 258 P Pn 23 46 03.8 -4.5
BUTP **Butuan** 16.76 330 *e*P P 23 46 16.5 -0.1
SGKI **Sangatta, Kali** 17.05 287 P P 23 46 23.3 +3.4
SMKI **Samarinda** 17.46 287 P Pn 23 46 23.6 +0.4
KBKI **Kotabaru** 17.83 277 P Pn 23 46 27.4 -0.4
AS01 **Alice Springs** 17.84 180 *e*Pn Pn 23 46 23.7 -4.2
AS31 **Alice Springs** 17.84 180 *e*Pn Pn 23 46 24.6 -3.3
comp=Z,203nm,1.2s
ASAR **Alice Springs** 17.85 180 P Pn 23 46 24.4 -3.6
comp=Z,22nm,0.3s,baz=2.1,slow=12,SNR=520
ASAR S Sn 23 49 39.0 -7.8
comp=Z,5.5nm,0.3s,baz=4.2,slow=26,SNR=4.4
ASAR LR LR 23 54 03.0
comp=Z,8µm,20.1s,baz=4.5,slow=39
RABL **Rabaul** 18.27 86 *e*Pn Pn 23 46 33.1 -0.1
comp=Z,661nm,1.6s
CTA **Charters Tower** 18.67 141 P Pn 23 46 39.3 +1.3
comp=Z,4.3nm,0.3s,baz=321,slow=12,SNR=34
CTA S Sn 23 50 07.0 +0.3
comp=Z,1.0nm,0.3s,baz=238,slow=18,SNR=2.3
CTA Lg Lg 23 52 12.4
comp=Z,2.6nm,0.3s,baz=60,slow=18,SNR=6.4
CTA LR LR 23 53 59.6
comp=Z,7µm,20.6s,baz=325,slow=38
CTAO **Charters Tower** 18.67 141 *e*P Pn 23 46 39.5 +1.5
comp=Z,279nm,1.4s
CTAO *e*S Sn 23 50 06.4 -0.3
CTAO **Charters Tower** 18.67 141 *e*P Pn 23 46 39.5 +1.5
CTAO *e*S Sn 23 50 06.4 -0.3
CTAO pmax pmax
comp=Z,279nm,1.4s
SRBI **Singaraja** 18.69 262 P P 23 46 34.5 -3.4
LLP **Lapu-Lapu** 18.75 328⇓ *e*P P 23 46 38.6 0.0
LLP *e*S S 23 50 25.3 +14
MYLDM **Lahad Datu** 18.80 305 *e*P Pn 23 46 40.4 +0.8
comp=Z,800nm,1.4s
MTKI **Muara Teweh, K** 19.54 283 P P 23 46 47.7 +0.4
KMMI **Kalianget** 19.84 265 P P 23 46 51.7 +1.1
WRKA **Warakurna** 19.95 195 P P 23 46 51.0 -0.7
baz=20,SNR=1000
BLJI **Banyuglugur** 20.25 263 P P 23 46 51.7 -3.4
CNP **Catarman** 20.30 333 *e*P P 23 46 54.9 -0.7

RCP **Roxas** 20.43 327⇑ *e*P P 23 46 57.6 +0.6
MBWA **Marble Bar** 20.59 220 *e*P P 23 46 59.1 +0.4
comp=Z,915nm,1.3s
MBWA LR LR
comp=Z,11µm,18.0s
MBWA **Marble Bar** 20.59 220 P P 23 46 59.6 +0.9
SNR=44
MBWA **Marble Bar** 20.59 220 P P 23 46 59.6 +0.9
SNR=44
BWJI **Bawean** 21.12 269 P P 23 47 09.9 +5.4
KKM **Kota Kinabalu** 21.16 303 *e*P P 23 47 04.6 -0.4
comp=Z,702nm,1.3s
KKM LR LR
comp=Z,2µm,19.0s
GRJI **Gresik** 21.31 266 P P 23 47 06.1 -0.4
OTRP **Odiongan** 21.49 327 *e*P P 23 47 11.2 +2.8
TBJI **Tambak Boyo** 21.94 266 P P 23 47 19.6 +6.3
AUQP **San Andres** 21.95 330 *e*P P 23 47 14.8 +1.5
PWJI **Pagerwojo** 22.05 263 P P 23 47 15.3 +0.9
GUMO **Guam** 22.06 30 P P 23 47 13.2 -1.3
comp=Z,216nm,0.9s,baz=192,slow=4.4,SNR=7.7
GUMO **Guam** 22.06 30 *e*P P 23 47 14.5 0.0
comp=Z,740nm,1.2s
GUMO LR LR
comp=Z,2µm,19.0s
GUMO **Guam** 22.06 30 *e*P P 23 47 14.5 0.0
GUMO pmax pmax
comp=Z,740nm,1.2s
GUMO MLR MLR
comp=Z,2µm,19.0s
SJMP **San Jose** 22.08 325 *e*P P 23 47 13.7 -1.0
ENPP **El Nido** 22.13 319 *e*P P 23 47 14.4 -0.9
PBKI **Pangkalan Bun** 22.36 277 P P 23 47 16.5 -1.3
BOAC **Boac** 22.50 328 *e*P P 23 47 20.8 +1.6
PCJI **Pacitan** 22.68 262 P P 23 47 27.9 +6.7
QLP **Quilpie** 22.98 156 P P 23 47 25.4 +1.3
baz=23,SNR=62
STKI **Sintang** 23.10 284 P P 23 47 25.5 -0.1
SBUM **Sibu** 23.11 290 *e*P P 23 47 26.4 +0.6
comp=Z,336nm,1.3s
UGM **Wanagama** 23.30 263 P P 23 47 29.3 +1.6
SMRI **Semarang** 23.34 265 *e*P P 23 47 28.0 0.0
comp=Z,44nm,0.7s
TGY **Tagaytay City** 23.52 327 P P 23 47 29.8 +0.1
comp=Z,212nm,0.3s,baz=202,slow=3.8,SNR=12
TGY LR LR 23 58 36.1
comp=Z,1µm,18.6s,baz=146,slow=42
LUBP **Lubang** 23.60 325 *e*P P 23 47 29.0 -1.5
BALP **Baler** 24.56 330 *e*P P 23 47 38.1 -1.4
KSM **Kuching** 24.61 286 *e*P P 23 47 40.6 +0.6
comp=Z,1µm,1.7s
KSM LR LR
comp=Z,1µm,21.0s
KPJI **Karang Pucung** 24.85 265 P P 23 47 34.3 -7.9
RMQ **Roma** 25.06 147 P P 23 47 45.3 +1.4
baz=25,SNR=17
CMJI **Cimerak** 25.35 264 P P 23 47 46.3 -0.4
GIRL **Giralia** 25.36 227 P P 23 47 48.2 +1.5
baz=26,SNR=41
MEEK **Meekatharra** 25.40 213 P P 23 47 46.8 -0.3
baz=26,SNR=56
CAUP **Cauayan** 25.48 332 *e*P P 23 47 48.8 +1.0
FORT **Forrest** 25.53 192 P P 23 47 48.6 +0.5
baz=26,SNR=119
FORT **Forrest** 25.53 192 *e*P P 23 47 48.5 +0.3
EIDS **Eidsvold** 25.55 142 P P 23 47 49.1 +0.6
baz=26,SNR=20
EIDS **Eidsvold** 25.55 142 *e*P P 23 47 49.1 +0.6
comp=Z,337nm,1.3s
CISI **Cisompet, Garu** 25.96 265 P P 23 47 51.2 -1.2
CISI **Cisompet, Garu** 25.96 265 *e*P P 23 47 50.7 -1.7
comp=Z,174nm,1.0s
HNR **Honiara** 26.09 100 *e*P P 23 47 54.0 +0.6
HNR **Honiara** 26.09 100 P P 23 47 53.6 +0.2
comp=Z,64nm,0.4s,baz=182,slow=3.3,SNR=9.1
HNR **Honiara** 26.09 100 *e*P P 23 47 52.7 -0.7
comp=Z,316nm,1.0s
HNR LR LR
comp=Z,3µm,19.0s
HNR **Honiara** 26.09 100 *e*P P 23 47 52.7 -0.7
HNR pmax pmax
comp=Z,316nm,1.0s
HNR MLR MLR
comp=Z,3µm,19.0s
LEM **Lembang** 26.14 266 P P 23 47 55.1 +1.1
comp=Z,46nm,0.8s,baz=116,slow=11,SNR=11
APYP **Conner** 26.55 332 *e*P P 23 47 55.4 -2.1
STKA **Stephens Creek** 27.01 165 P P 23 48 02.6 +1.1
comp=Z,48nm,0.4s,baz=340,slow=11,SNR=247
STKA S S 23 52 47.7 +9.1
comp=Z,8.0nm,0.8s,baz=234,slow=19,SNR=2.0
STKA LR LR 00 00 39.0
comp=Z,6µm,18.6s,baz=339,slow=41
STKA **Stephens Creek** 27.01 165 P P 23 48 02.0 +0.5
baz=27,SNR=134
STKA **Stephens Creek** 27.01 165 *e*P P 23 48 02.0 +0.5
comp=Z,44nm,1.2s
STKA S S 23 52 47.7 +9.1
STKA **Stephens Creek** 27.01 165 *e*P P 23 48 02.0 +0.5
STKA S S 23 52 47.7 +9.1
STKA pmax pmax
comp=Z,44nm,1.2s
BBOO **Buckleboo** 27.03 176 P P 23 48 01.9 +0.1
baz=27,SNR=38
BBOO **Buckleboo** 27.03 176 *e*P P 23 48 01.9 +0.1
comp=Z,189nm,1.2s
KMBL **Kambalda** 27.89 202 P P 23 48 08.5 -0.9
baz=28,SNR=5.0
PPBI **Pangkal Pinang** 27.91 276 P P 23 48 10.6 +0.8
CMSA **Cobar Meteorol** 27.97 158 P P 23 48 10.8 +0.7
baz=28,SNR=26
HTT **Hallett** 27.97 171 P P 23 48 10.8 +0.6
baz=28,SNR=27
CGJI **Cibinong** 28.05 267 P P 23 48 08.4 -2.7
MORW **Morawa** 28.71 214 P P 23 48 16.8 0.0
baz=29,SNR=22
PMBI **Palembang** 29.16 274 P P 23 48 22.7 +1.7
KASI **Kota Agung** 29.25 269 P P 23 48 17.8 -4.0
BLDU **Ballidu** 29.57 211 P P 23 48 24.8 +0.4
baz=30,SNR=25
MDSI **Maura Dua** 29.62 271 P P 23 48 23.9 -1.1
ARMA **Armidale** 29.71 148 P P 23 48 26.4 +0.6
baz=30,SNR=5.5
ARMA **Armidale** 29.71 148 *e*P P 23 48 26.3 +0.6
comp=Z,181nm,1.6s
LWLI **Liwa** 29.71 270 P P 23 48 22.9 -3.1
KLBR **Kellerberrin** 29.85 208 P P 23 48 27.3 +0.4
baz=30,SNR=33
TPRI **Tanjung Pinang** 30.05 282 P P 23 48 29.8 +0.9
MNAI **Manna** 30.84 271 *e*P P 23 48 35.1 -0.8
MYKOM **Kota Tinggi** 30.91 283 *e*P P 23 48 36.4 -0.1
comp=Z,293nm,1.5s
MUN **Mundaring** 30.92 210 P P 23 48 36.9 +0.5
baz=31,SNR=6.0
NWAO **Narrogin (SRO)** 31.20 208 P P 23 48 39.6 +0.8
comp=Z,36nm,1.1s,baz=278,slow=7.9,SNR=6.6
NWAO **Narrogin (SRO)** 31.20 208 P P 23 48 40.1 +1.2
baz=31,SNR=5.7
NWAO P P 23 48 40.1 +1.2
baz=31,SNR=5.7
NWAO **Narrogin (SRO)** 31.20 208 P P 23 48 39.6 +0.8
NWAO LR LR
comp=Z,6µm,20.0s
NWAO **Narrogin (SRO)** 31.20 208 P P 23 48 39.7 +0.8
NWAO MLR MLR
comp=Z,6µm,20.0s
YNG **Young** 31.45 157 P P 23 48 40.1 -1.0
baz=32,SNR=7.4
TPUB **Ta-pu** 31.62 336 *e*P P 23 48 41.4 -1.2
comp=Z,58nm,1.1s
MASI **Maura Aman, Be** 31.66 273 P P 23 48 42.6 -0.5
ARPS **Mount Arapiles** 31.75 168 P P 23 48 45.0 +1.4
baz=32,SNR=55
SSLB **Suanglung** 31.93 337 *e*P P 23 48 42.5 -2.8
comp=Z,56nm,1.0s
NACB **Ninganchiao** 32.04 338 *e*P P 23 48 45.9 -0.4
comp=Z,88nm,1.3s
YHNB **Yeheng** 32.57 339 PFAKE 23 49 00.0 +9.0
YHNB LR LR
comp=Z,1µm,20.0s
CAN **Canberra** 32.59 157 *e*P P 23 48 52.4 +1.3
comp=Z,164nm,1.5s
CAN **Canberra** 32.59 157 *e*P P 23 48 52.4 +1.3
CAN pmax pmax
comp=Z,164nm,1.5s
RKGY **Rocky Gully** 32.73 206 P P 23 48 53.1 +0.9
baz=33,SNR=4.9
TATO **Taipei** 32.81 339 PFAKE 23 49 00.0 +7.0
TATO LR LR
comp=Z,1µm,19.0s
JOW **Kunigami** 32.81 351 LR LR 00 01 28.4
comp=Z,3µm,21.8s,baz=137,slow=35
BKNI **Bangkinang** 33.34 279 P P 23 48 57.8 -0.1
BKNI **Bangkinang** 33.34 279 *e*P P 23 48 58.6 +0.7
comp=Z,238nm,1.0s
TOO **Toolangi** 33.42 163 P P 23 48 58.9 +0.5
baz=34,SNR=7.2
PDSI **Padang** 33.70 277 P P 23 48 59.5 -1.5
PPSI **Pulau Pagai** 33.91 274 P P 23 49 13.2 +10
QZH **Quanzhou** 33.92 335⇑ *i*P P 23 49 02.5 -0.2
QZH S S 23 54 22.9 -4.0
QZH pmax pmax
comp=Z,140nm,1.0s
QZH LR LR
comp=Z,900nm,11.8s
QZH LR LR
comp=Z,1µm,14.7s
MCO **Taipa Grande** 34.09 325 P P 23 49 05.0 +0.8
QIZ **Qiongzhong** 34.15 317 P P 23 49 04.9 +0.1
QIZ S S 23 54 26.3 -4.4
QIZ LR LR
comp=Z,730nm,20.6s
QIZ LR LR
comp=Z,740nm,25.0s
QIZ LR LR
comp=Z,2µm,41.2s
QIZ **Qiongzhong** 34.15 317 *e*P P 23 49 03.3 -1.5
comp=Z,113nm,1.6s
QIZ LR LR
comp=Z,1µm,20.0s
IPM **Ipoh** 34.35 286 *e*P P 23 49 06.7 +0.1
comp=Z,130nm,0.9s
MNSI **Mandailing Nat** 34.87 280 P P 23 49 10.4 -0.7
KULM **Kulim** 34.94 288 *e*P P 23 49 11.8 0.0
comp=Z,189nm,1.2s
KULM LR LR
comp=Z,707nm,19.0s
SISI **Saibi** 35.00 276 P P 23 49 10.4 -1.8
DZM **Mont Dzumac** 35.41 121 P P 23 49 16.3 +0.5
comp=Z,13nm,0.6s,baz=309,slow=14,SNR=9.8
DZM **Mont Dzumac** 35.41 121 *e*P P 23 49 16.2 +0.4
comp=Z,236nm,1.4s
DZM *e*S S 23 54 47.6 -2.8
comp=Z,2µm,29.6s
DZM *e*LR LR 23 58 46.4
comp=Z,4µm,23.6s
DZM **Mont Dzumac** 35.41 121 *e*P P 23 49 16.2 +0.4
comp=Z,159nm,1.4s
SKLT **Songkhla** 35.58 291 P P 23 49 16.9 -0.3
comp=Z,67nm,1.1s,comp=Z,1µm
PSI **Prapat** 35.93 283 P P 23 49 19.5 -0.9
comp=Z,223nm,1.2s,baz=107,slow=4.3,SNR=79
PSI LR LR 00 08 09.2
comp=Z,586nm,18.2s,baz=125,slow=43
PSI **Prapat** 35.93 283 *e*P P 23 49 19.5 -0.9
comp=Z,374nm,1.3s
PSI **Prapat** 35.93 283 *e*P P 23 49 19.5 -0.9
PSI pmax pmax
comp=Z,374nm,1.3s
TSI **Tuntungan** 36.45 284 P P 23 49 24.5 -0.2
TRTT **Trang** 36.67 291 P P 23 49 25.8 -0.8
comp=Z,47nm,1.2s,comp=Z,627nm
GSI **Gunungsitoli** 36.93 280 P P 23 49 27.7 -1.1
GSI **Gunungsitoli** 36.93 280 *e*P P 23 49 27.1 -1.7
comp=Z,156nm,0.8s
COCO **West Island** 37.13 257 *e*P P 23 49 30.5 0.0
comp=Z,664nm,0.6s
COCO LR LR
comp=Z,2µm,19.0s
COCO **West Island** 37.13 257 *i* P P 23 49 31.1 +0.6
SKNT **Sakolnakorn** 37.18 308 P P 23 49 29.2 -1.7
comp=Z,55nm,1.6s,comp=Z,1µm
TPTI **37.73 283** P P 23 49 34.4 -1.2
KHON **Khomkaen** 37.75 306 P P 23 49 35.6 -0.1
comp=Z,142nm,1.1s,comp=Z,1µm
PKDT **Phuket** 37.95 291 P P 23 49 36.9 -0.6
comp=Z,42nm,1.0s,comp=Z,869nm
CHAI **Chaiyaphum** 38.20 305 P P 23 49 38.7 -0.8
comp=Z,60nm,1.1s,comp=Z,492nm
LHMI **Lhok Sumawe** 38.46 286 P P 23 49 41.6 -0.1
LHMI **Lhok Sumawe** 38.46 286 *e*P P 23 49 40.9 -0.8
comp=Z,396nm,1.1s
SSE **Sheshan** 38.57 342 P P 23 49 43.8 +1.5
SSE S S 23 55 37.9 0.0
SSE sS sS 23 55 51.8 +6.0
SSE pmax pmax
comp=Z,21nm,0.9s
SSE pmax pmax
comp=Z,370nm,3.6s
SSE LR LR
comp=Z,330nm,15.3s
MLSI **Meulaboh, Aceh** 38.73 284 P P 23 49 42.8 -1.2
JNU **Nakatsue** 38.73 356 P P 23 49 43.6 -0.2
comp=Z,304nm,1.0s,baz=160,slow=5.4,SNR=42
JNU LR LR 00 04 19.1
comp=Z,1µm,21.6s,baz=158,slow=34
JNU **Nakatsue** 38.73 356 *e*P P 23 49 43.9 +0.1
comp=Z,383nm,1.0s
PHET **Kaeng Krachan** 38.74 299 P P 23 49 44.8 +0.7
comp=Z,34nm,1.1s,comp=Z,288nm
TAU **Tasmania Unive** 38.90 164 PFAKE 23 50 00.0 +15
TAU LR LR
comp=Z,3µm,19.0s
JHJ **Hachijo jima 2** 39.03 8 LR LR 00 03 42.0
comp=Z,2µm,21.2s,baz=277,slow=33
PBKT **Sadao Pong** 39.38 305 P P 23 49 47.8 -1.5
comp=Z,81nm,1.2s,comp=Z,984nm
TARA **Tarawa** 39.61 81 *e*P P 23 49 51.9 +0.5
comp=Z,468nm,1.7s
TARA LR LR
comp=Z,129nm,19.0s
SRDT **SRDT** 39.84 300 P P 23 49 52.9 -0.3
comp=Z,138nm,1.2s,comp=Z,2µm
PHIT **Phitsanulok** 40.15 305 P P 23 49 55.7 -0.1
comp=Z,190nm,1.0s,comp=Z,2µm
NJ2 **Nanjing** 40.20 340 *e*P P 23 49 57.5 +1.5
NJ2 pP sP 23 50 01.2 -1.5
NJ2 sP pP 23 50 05.8 +5.0
NJ2 S S 23 56 01.5 -0.9
NJ2 sS sS 23 56 17.1 +6.8
NJ2 pmax pmax
comp=Z,95nm,1.1s
NJ2 pmax pmax
comp=Z,1µm,3.5s
NJ2 LR LR
comp=Z,710nm,19.5s
NJ2 LR LR
comp=Z,770nm,16.3s
NJ2 LR LR
comp=Z,1µm,21.1s
WHN **Wuhan** 40.62 334 ⇓P P 23 50 00.5 +1.0
WHN LR LR
comp=Z,4µm,34.0s
WAKE **Wake Island** 40.72 52 PFAKE 23 50 10.0 +10
WAKE LR LR
comp=Z,1µm,19.0s
NANT **Nan** 40.78 307 P P 23 50 01.8 +0.7
comp=Z,59nm,0.9s,comp=Z,469nm
INU **Inuyama** 40.95 4 *e*P P 23 50 01.5 -0.7
comp=Z,94nm,1.1s
GYA **Guiyang** 41.47 322⇑ *i*P P 23 50 05.9 -0.8
GYA PP PnPn 23 51 48.0 +0.6
GYA PcP PcP 23 52 06.8 +2.3
GYA S S 23 56 29.7 +7.9
GYA SS SS 23 59 23.0 -3.5
GYA pmax pmax
comp=Z,100nm,1.1s
GYA pmax pmax
comp=Z,140nm,5.2s
GYA LR LR
comp=Z,4µm,17.2s
GYA LR LR
comp=Z,4µm,17.8s
GYA LR LR
comp=Z,3µm,17.6s
PAYA **Payao** 41.75 308 P P 23 50 08.7 -0.3
comp=Z,70nm,1.0s,comp=Z,574nm
CM31 **Chiang Mai Arr** 42.01 306 *e*P P 23 50 11.7 +0.5
CMAR **Chiang Mai Arr** 42.01 306 P P 23 50 11.6 +0.4
comp=Z,96nm,1.0s,baz=133,slow=6.7,SNR=227
CMAR PcP PcP 23 52 07.2 +0.9
comp=Z,20nm,1.2s,baz=166,slow=2.9,SNR=4.9

CMAR ScP ScP 23 55 56.6 +0.3
comp=Z,8.0nm,1.1s,baz=141,slow=2.5,SNR=7.1
CMAR LR LR 00 11 13.3
comp=Z,256nm,18.9s,baz=106,slow=41
CMMT Chiang Mai 42.19 306 P **P 23 50 11.3 -1.3**
comp=Z,170nm,1.3s,comp=Z,2µm
CHTO Chiang Mai 42.19 306 P **P 23 50 12.3 -0.3**
comp=Z,766nm,1.4s,comp=Z,9µm
CHTO Chiang Mai 42.19 306 *e*P **P 23 50 12.6 0.0**
comp=Z,315nm,1.4s
CHTO *e*ScP **ScP 23 55 57.2 +0.1**
CHTO LR LR
comp=Z,622nm,20.0s
CHTO Chiang Mai 42.19 306 P **P 23 50 12.9 +0.3**
SNR=86
CHTO Chiang Mai 42.19 306 P **P 23 50 12.9 +0.3**
SNR=86
CHTO Chiang Mai 42.19 306 *e*P **P 23 50 12.6 0.0**
CHTO pmax pmax
comp=Z,315nm,1.4s
CHTO pmax pmax
comp=Z,622nm,20.0s
MJAR Matsushiro Arr 42.23 5 P **P 23 50 11.2 -1.4**
comp=Z,40nm,0.9s,baz=193,slow=10,SNR=42
MJAR PcP **PcP 23 52 05.6 -1.0**
comp=Z,6.4nm,0.9s,baz=195,slow=3.6,SNR=5.5
MJAR LR LR 00 06 33.5
comp=Z,1µm,20.6s,baz=160,slow=34
MAJO Matsushiro 42.23 5 *e*P **P 23 50 11.5 -1.2**
comp=Z,66nm,0.8s
MAJO LR LR
comp=Z,2µm,19.0s
MAJO Matsushiro 42.23 5 *e*P **P 23 50 11.1 -1.6**
MAJO pmax pmax
comp=Z,83nm,1.0s
MAT Matsushiro 42.23 5 P **P 23 50 11.1 -1.6**
MJB9 Matsu-Tunnel 42.23 5 *e*P **P 23 50 11.5 -1.2**
comp=Z,67nm,0.8s
TJN Taejon 42.32 352 *ce*P **P 23 50 13.9 +0.6**
CMAI Chiengmai2 42.71 308 P **P 23 50 16.5 -0.5**
comp=Z,1µm,0.9s,comp=Z,61µm
ENH Enshi 42.75 328 *e*P **P 23 50 16.3 -0.7**
comp=Z,103nm,0.9s
ENH *e*PcP **PcP 23 52 08.7 +0.1**
ENH *e*ScP **ScP 23 55 58.2 -0.9**
ENH LR LR
comp=Z,687nm,21.0s
KMI Kunming 43.10 317 P **P 23 50 21.1 +1.0**
KMI PP **PP 23 52 00.0 -0.4**
KMI PcP **PcP 23 52 11.2 +1.2**
KMI S **S 23 56 50.2 +4.1**
KMI pmax pmax
comp=Z,61nm,1.2s
KMI pmax pmax
comp=Z,360nm,3.1s
KMI LR LR
comp=Z,360nm,22.0s
KMI LR LR
comp=Z,540nm,20.9s
KMI LR LR
comp=Z,560nm,19.9s
KS15 Wonju Array Si 43.30 353 *e*P **P 23 50 22.1 +0.8**
KSAR Wonju Array Be 43.30 353 P **P 23 50 21.5 +0.2**
KSAR PcP **PcP 23 52 10.7 +0.5**
KSAR Wonju Array Be 43.30 353 P **P 23 50 21.5 +0.2**
KSAR 23 52 10.7
KSRS Korea Array 43.31 353 P **P 23 50 21.5 +0.2**
comp=Z,37nm,1.0s,baz=172,slow=9.7,SNR=65
KSRS PcP **PcP 23 52 10.7 +0.5**
comp=Z,6.6nm,0.9s,baz=180,slow=3.1,SNR=4.9
KSRS LR LR 00 07 21.9
comp=Z,1µm,21.7s,baz=175,slow=35
KS01 Wonju Array Si 43.33 353 *e*P **P 23 50 21.8 +0.2**
INCN Inchon 43.51 352 PFAKE 23 50 30.0 +7.0
INCN LR LR
comp=Z,3µm,21.0s
PBA Port Blair 44.42 293 *e*P P 23 50 27.6 -3.1
TIA Tai'an 44.58 341 P **P 23 50 31.6 0.0**
TIA S **S 23 57 05.8 -1.1**
TIA pmax pmax
comp=Z,59nm,1.0s
TIA pmax pmax
comp=Z,910nm,7.2s
TIA LR LR
comp=Z,550nm,6.9s
TIA LR LR
comp=Z,680nm,12.0s
TIA LR LR
comp=Z,700nm,21.2s
MSVF Nonsavu 44.74 109 PFAKE 23 50 50.0 +17
MSVF LR LR
comp=Z,2µm,19.0s
MSVF Nonsavu 44.74 109 *e*P **P 23 50 31.5 -1.8**
MSVF pmax pmax
comp=Z,16nm,1.1s
DGPR DIGLIPUR 44.80 295 *e*P **P 23 50 31.0 -2.7**
DGPR IAmb IAmb 23 50 35.8
comp=Z,32nm,0.5s
FUNA Funafuti 45.02 96 *e*P **P 23 50 36.3 +0.8**
comp=Z,484nm,1.4s
FUNA LR LR
comp=Z,5µm,19.0s
DL2 Dalian 45.83 347 P P 23 50 35.6 -5.9
DL2 S S 23 57 14.4 -11
DL2 pmax pmax
comp=Z,54nm,1.2s
DL2 pmax pmax
comp=Z,900nm,6.4s
DL2 LR LR
comp=N,2µm,21.2s
DL2 LR LR
comp=E,2µm,17.2s
DL2 LR LR
comp=Z,1µm,21.8s
XAN Xi'an 46.06 331 P **P 23 50 42.6 -0.8**
XAN pP sP 23 50 55.2 +5.0
XAN S **S 23 57 25.3 -3.2**
XAN pmax pmax
comp=Z,130nm,1.2s
XAN LR LR
comp=Z,690nm,24.9s
XAN LR LR
comp=Z,480nm,26.9s
XAN LR LR
comp=Z,1µm,26.9s
CD2 Chengdu 46.44 323 P **P 23 50 46.4 -0.1**
CD2 pP pP 23 50 49.6 -1.8
CD2 sP sP 23 50 50.9 -2.4
CD2 PcS **PcS 23 56 15.4 -0.6**
CD2 S **S 23 57 35.6 +1.5**
CD2 pmax pmax
comp=Z,150nm,0.7s
CD2 pmax pmax
comp=Z,360nm,5.6s
CD2 LR LR
comp=Z,2µm,22.8s
CD2 LR LR
comp=Z,2µm,25.8s
CD2 LR LR
comp=Z,2µm,25.8s
MSHR Mys Shultsa 48.13 357 *ce*P **P 23 51 00.5 +1.1**
SNY Shenyang 48.25 350 ⇓P **P 23 51 01.2 +0.9**
SNY S **S 23 57 57.8 -1.5**
SNY pmax pmax
comp=Z,47nm,2.0s
SNY pmax pmax
comp=Z,2µm,8.1s
SNY LR LR
comp=Z,2µm,15.3s
SNY LR LR
comp=Z,1µm,15.3s
SNY LR LR
comp=Z,3µm,18.0s
BJT Baijiatuau 48.35 342 *e*P **P 23 51 01.5 +0.3**
comp=Z,123nm,1.2s
BJT LR LR
comp=Z,854nm,21.0s
BJT Baijiatuau 48.35 342 *e*P **P 23 51 01.5 +0.3**
BJT pmax pmax
comp=Z,123nm,1.2s
BJT MLR MLR
comp=Z,854nm,21.0s
BJI Beijing 48.37 342 P **P 23 51 01.4 +0.1**
BJI S **S 23 57 58.4 -2.7**
BJI pmax pmax
comp=Z,120nm,1.2s
BJI LR LR
comp=Z,1µm,23.0s
BJI LR LR
comp=Z,2µm,21.6s
BJI LR LR
comp=Z,2µm,51.1s
VLA Vladivostok 48.64 358 *e*P **P 23 51 03.6 +0.3**
VLA pmax pmax
comp=Z,135nm,1.1s
WHZ Wether Hill Ro 49.71 149 *e*P **P 23 51 13.1 +1.5**
comp=Z,120nm,1.8s
USRK Ussuriysk Ar. 49.72 358 P **P 23 51 11.4 -0.2**
comp=Z,23nm,0.8s,baz=181,slow=7.0,SNR=20
USRK PcP **PcP 23 52 30.0 -2.6**
comp=Z,11nm,0.9s,baz=132,slow=2.1,SNR=3.0
USRK LR LR 00 09 47.4
comp=Z,906nm,21.1s,baz=174,slow=33
CN2 Changchun 49.88 352 *e*P **P 23 51 12.5 -0.3**
CN2 pmax pmax
comp=Z,40nm,1.0s
LBZ Lake Benmore 49.91 146 *e*P **P 23 51 13.9 +0.8**
comp=Z,115nm,1.2s
RPZ Rata Peaks 49.97 145 P **P 23 51 15.0 +1.4**
comp=Z,10nm,0.5s,baz=348,slow=2.2,SNR=9.0
RPZ Rata Peaks 49.97 145 *e*P **P 23 51 16.6 +3.0**
comp=Z,45nm,1.0s
LTZ Lake Taylor 50.11 143 *e*P **P 23 51 15.5 +0.8**
comp=Z,174nm,1.6s
ASAJ Asahikawa 50.22 8 P **P 23 51 14.6 -0.8**
comp=Z,20nm,0.9s,baz=228,slow=14,SNR=8.7
ASAJ Asahikawa 50.22 8 *e*P **P 23 51 15.7 +0.4**
comp=Z,30nm,0.9s
LZH Lanzhou 50.23 328 *e*P **P 23 51 16.8 +1.0**
LZH pP sP 23 51 20.9 -1.7
LZH sP pP 23 51 24.0 +3.3
LZH PcP **PcP 23 52 36.2 +1.3**
LZH S **S 23 58 30.1 +2.3**
LZH sS sS 23 58 40.7 +4.9
LZH pmax pmax
comp=Z,160nm,1.1s
LZH pmax pmax
comp=Z,1µm,6.4s
LZH LR LR
comp=Z,1µm,14.5s
LZH LR LR
comp=Z,1µm,15.8s
LZH LR LR
comp=Z,2µm,16.4s
MDJ Mudanjiang 50.25 356 P **P 23 51 14.2 -1.4**
MDJ ScP **ScP 23 56 26.8 -3.2**
MDJ PcS **PcS 23 56 28.2 -3.3**
MDJ S **S 23 58 31.2 +3.8**
MDJ pmax pmax
comp=Z,100nm,1.1s
MDJ pmax pmax
comp=Z,560nm,4.1s
MDJ LR LR
comp=Z,1µm,5.3s
MDJ LR LR
comp=Z,2µm,6.0s
MDJ LR LR
comp=Z,2µm,5.2s
MDJ Mudanjiang 50.25 356 *e*P **P 23 51 15.7 +0.1**
comp=Z,94nm,1.0s
MDJ LR LR
comp=Z,852nm,19.0s
HHC Hu-ho-hao-te 50.67 338 *e*P **P 23 51 19.9 +0.9**
HHC sP sP 23 51 27.7 +1.9
HHC S **S 23 58 32.6 -1.0**
HHC pmax pmax
comp=Z,71nm,1.2s
HHC pmax pmax
comp=Z,750nm,6.7s
HHC LR LR
comp=Z,6µm,18.5s
HHC LR LR
comp=Z,6µm,19.7s
HHC LR LR
comp=Z,7µm,19.7s
SNZO South Karori 50.77 141 PFAKE 23 51 30.0 +10
SNZO LR LR
comp=Z,6µm,20.0s
URZ Urewera 50.81 136 P **P 23 51 20.0 0.0**
comp=Z,12nm,0.4s,baz=248,slow=6.2,SNR=7.4
BKZ Black Stump Fm 50.83 137 *e*P **P 23 51 20.7 +0.5**
comp=Z,141nm,1.4s
MQZ McQueen's Vall 50.89 144 *e*P **P 23 51 21.7 +1.2**
comp=Z,257nm,1.9s
BTO Baotou 51.05 337 *e*P **P 23 51 21.2 -0.6**
RAO Raoul Island 51.11 123 LR LR 00 11 00.8
comp=Z,758nm,21.8s,baz=6.0,slow=34
SHL Shillong 51.29 309 *e*P **P 23 51 23.0 -1.0**
SHL IAmb IAmb 23 51 25.7
comp=Z,107nm,0.7s
YSS Yuzh-Sakhalins 53.03 8 *e*P **P 23 51 35.8 -0.5**
comp=Z,45nm,0.8s
YSS LR LR
comp=Z,976nm,22.0s
YSS Yuzh-Sakhalins 53.03 8 ⇑*e*P **P 23 51 36.7 +0.4**
YSS *e* 23 51 47.2
YSS pmax pmax
comp=Z,50nm,1.0s
LSA Lhasa 54.05 313 *e*P **P 23 51 45.2 +0.5**
comp=Z,151nm,1.3s
LSA LR LR
comp=Z,469nm,20.0s
LSA Lhasa 54.05 313 P **P 23 51 45.5 +0.8**
LSA Lhasa 54.05 313 *e*P **P 23 51 45.2 +0.5**
LSA pmax pmax
comp=Z,151nm,1.3s
LSA MLR MLR
comp=Z,469nm,20.0s
AFI Afiamalu 54.05 103 LR LR 00 15 53.9
comp=Z,614nm,18.3s,baz=291,slow=37
PALK Pallekele 54.62 283 P **P 23 51 48.6 0.0**
comp=Z,46nm,1.2s,baz=116,slow=6.9,SNR=17
PALK Pallekele 54.62 283 *e*P **P 23 51 48.2 -0.4**
comp=Z,168nm,1.7s
PALK Pallekele 54.62 283 P **P 23 51 49.6 +0.9**
SNR=10
PALK Pallekele 54.62 283 P **P 23 51 49.6 +0.9**
SNR=10
PALK Pallekele 54.62 283 *i* P **P 23 51 48.7 0.0**
SNR=16
PALK Pallekele 54.62 283 *i* P **P 23 51 49.1 +0.5**
KLR Kul'dur 54.75 358 P **P 23 51 49.2 +0.4**
comp=Z,2.9nm,0.9s,baz=197,slow=4.2,SNR=54
KLR Kul'dur 54.75 358 *d i*P **P 23 51 48.6 -0.3**
GTA Gaotai 54.83 328 ⇓P **P 23 51 50.7 +0.8**
GTA pP sP 23 51 55.0 -1.7
GTA sP pP 23 51 58.1 +3.3
GTA PcP **PcP 23 52 53.2 +1.1**
GTA S **S 23 59 31.2 +0.6**
GTA sS sS 23 59 40.0 +1.3
GTA pmax pmax
comp=Z,100nm,1.1s
GTA pmax pmax
comp=Z,310nm,5.5s
GTA LR LR
comp=Z,510nm,15.9s
GTA LR LR
comp=Z,420nm,16.9s
GTA LR LR
comp=Z,510nm,16.4s
VIS Vishakhapatnam 55.07 296 *e*P **P 23 51 51.3 -0.5**
BOK Bokaro 55.24 304 *e*P **P 23 51 51.5 -1.4**
BOK IAmb IAmb 23 51 55.8
comp=Z,243nm,2.4s
ODAN Odare 55.43 308 *e*P **P 23 51 54.6 +0.1**
comp=Z,199nm,1.0s
RAMN Ramite 56.09 308 *e*P **P 23 51 59.6 +0.3**
comp=Z,664nm,1.3s
HIA Hailar 56.13 349 *e*P **P 23 51 59.1 +0.2**
comp=Z,22nm,1.1s
HIA LR LR
comp=Z,2µm,20.0s
HIA Hailar 56.13 349 *e*P **P 23 51 58.5 -0.4**
HIA pmax pmax
comp=Z,18nm,1.1s
GRNR Gornyy 56.30 2 *e*P **P 23 52 01.2 +1.2**
GRNR pmax pmax
comp=Z,92nm,1.0s
PVM Polavaram 56.44 295 *e*P **P 23 52 01.8 +0.2**
PVM IAmb IAmb 23 52 03.4
comp=Z,157nm,1.3s
PVM IVMs_BB IVMs_BB 00 13 24.0
comp=Z,171nm,18.2s
MDRS Chennai 56.46 290 *e*P **P 23 52 01.9 +0.1**
JIRN Jiri 56.75 308 *e*P **P 23 52 04.1 0.0**
GUN Gumba 57.11 308 *e*P **P 23 52 06.7 +0.1**
SKHT Srikalahasti 57.14 290 *e*P **P 23 52 06.1 -0.6**
SKHT IAmb IAmb 23 52 07.5
comp=Z,50nm,1.1s
PKIN Phulchoki 57.33 308 *e*P **P 23 52 07.7 -0.4**
comp=Z,176nm,1.4s
ADKI Addanki 57.51 293 *e*P **P 23 52 08.7 -0.6**
ADKI IAmb IAmb 23 52 10.9
comp=Z,145nm,1.5s
ADKI IVMs_BB IVMs_BB 00 15 31.8
comp=Z,289nm,19.0s
KKN Kakani 57.52 308 *e*P **P 23 52 09.3 -0.1**
comp=Z,242nm,1.3s
DMN Daman 57.57 308 *e*P **P 23 52 09.9 +0.1**
comp=Z,332nm,1.2s
GKN Gorkha 58.12 308 *e*P **P 23 52 13.6 0.0**
comp=Z,386nm,1.2s
NJS Nagarjunasagar 58.33 293 *e*P **P 23 52 14.5 -0.5**
NJS IAmb IAmb 23 52 16.1
comp=Z,155nm,1.4s
NJS IVMs_BB IVMs_BB 00 12 06.7
comp=Z,162nm,4.7s
ULN Ulaanbaatar 58.35 339 *e*P **P 23 52 15.3 +0.5**
comp=Z,114nm,1.7s
ULN LR LR
comp=Z,765nm,22.0s
ULN Ulaanbaatar 58.35 339 P **P 23 52 15.8 +1.0**
SNR=17
ULN Ulaanbaatar 58.35 339 P **P 23 52 15.8 +1.0**
SNR=17
ULN Ulaanbaatar 58.35 339 *e*P **P 23 52 15.3 +0.5**
ULN pmax pmax
comp=Z,115nm,1.7s
ULN MLR MLR
comp=Z,765nm,22.0s
TRD Trivandrum 58.50 284 *e*P **P 23 52 16.9 +0.7**
SONM Songino Array 58.56 339 P **P 23 52 16.6 +0.4**
comp=Z,10nm,1.0s,baz=152,slow=7.6,SNR=45
SONM LR LR 00 21 27.9
comp=Z,435nm,18.1s,baz=138,slow=40
SONA1 Songino Array 58.57 339 *e*P **P 23 52 16.6 +0.3**
SRLM Srisailam 58.57 293 *e*P **P 23 52 15.7 -1.1**
SRLM IAmb IAmb 23 52 17.7
comp=Z,152nm,1.4s
SRLM IVMs_BB IVMs_BB 00 16 02.5
comp=Z,281nm,20.7s
KOLN Koldanda 58.84 307 *e*P **P 23 52 18.9 +0.3**
comp=Z,253nm,1.3s
NKL Nikolayevsk 58.93 5 *i* P **P 23 52 19.2 +0.8**
NKL *e*S **S 00 00 30.0 +6.2**
NKL pmax pmax
comp=N,25nm,1.0s
NKL pmax pmax
comp=Z,150nm,1.0s
NKL pmax pmax
comp=Z,1µm,6.0s
NKL smax smax
comp=N,500nm,9.0s
NKL smax smax
comp=E,800nm,9.0s
DANN Dangsing 58.97 308 *e*P **P 23 52 20.0 +0.4**
comp=E,19nm,1.2s
RPR Rampur 59.06 296 *e*P **P 23 52 19.1 -1.0**
RPR IAmb IAmb 23 52 21.3
comp=Z,165nm,1.4s
RPR IVMs_BB IVMs_BB 00 16 39.1
comp=Z,266nm,29.8s
HYB Hyderabad 59.28 294 ⇓*i*P **P 23 52 20.0 -1.7**
HYB Hyderabad 59.28 294 *e*P **P 23 52 19.9 -1.7**
HYB IAmb IAmb 23 52 22.3
comp=Z,180nm,1.4s
HYBB Hyderabad (bro 59.28 294 *e*P **P 23 52 20.7 -0.9**
HYBB IAmb IAmb 23 52 22.6
comp=Z,145nm,1.3s
HYBB IVMs_BB IVMs_BB 00 15 43.5
comp=Z,214nm,18.0s
PYUN Piuthan 59.47 307 *e*P **P 23 52 23.3 +0.3**
comp=Z,758nm,1.2s
ZEA Zeya 59.50 355 *e*P **P 23 52 22.1 -0.3**
ZEA pmax pmax
comp=N,72nm,1.2s
ZEA pmax pmax
comp=Z,100nm,1.2s
URV Uravakonda 59.76 291 *e*P **P 23 52 23.8 -1.2**
URV IAmb IAmb 23 52 25.1
comp=Z,44nm,1.1s
URV IVMs_BB IVMs_BB 00 14 41.7
comp=Z,233nm,24.9s
SRSP Sriramsagar 59.94 296 *e*P **P 23 52 25.4 -0.7**
SRSP IAmb IAmb 23 52 26.9
comp=Z,162nm,1.4s
SRSP IVMs_BB IVMs_BB 00 16 47.8
comp=Z,253nm,24.7s
NGP Nagpur 60.04 298 *e*P **P 23 52 26.4 -0.4**
H08S2 Diego Garcia H 60.97 264 P **P 23 52 34.8 +1.8**
baz=49,slow=8.6,SNR=26
H08S3 Diego Garcia H 60.98 264 P **P 23 52 34.3 +1.2**
baz=49,slow=8.6,SNR=16
H08S1 Diego Carcia H 60.99 264 P **P 23 52 34.4 +1.4**
baz=49,slow=8.6,SNR=23
DGAR Diego Garcia 61.02 265 *e*P **P 23 52 34.9 +1.4**
comp=Z,2µm,1.7s
DGAR LR LR
comp=Z,429nm,22.0s
DGAR Diego Garcia 61.02 265 P **P 23 52 35.4 +1.8**
SNR=14
DGAR Diego Garcia 61.02 265 P **P 23 52 35.4 +1.8**
SNR=14
DGAR Diego Garcia 61.02 265 *d i*P **P 23 52 35.0 +1.4**
KLRI Killari 61.25 294 *e*P **P 23 52 34.1 -1.1**
KLRI IAmb IAmb 23 52 35.6
comp=Z,107nm,1.5s
KLRI IVMs_BB IVMs_BB 00 15 32.9
comp=Z,419nm,38.0s
ZAK Zakamensk 61.82 338 *e*P **P 23 52 38.6 +0.2**
ZAK *e* 23 53 19.1
ZAK pmax pmax
comp=Z,17nm,1.4s
ZAK pmax pmax
comp=Z,32nm,1.3s
PETK Petropavlovsk- 61.97 16 P **P 23 52 39.9 +0.6**
comp=Z,15nm,0.9s,baz=204,slow=3.3,SNR=12
PETK LR LR 00 17 41.3
comp=Z,498nm,21.9s,baz=199,slow=34
PETK Petropavlovsk- 61.97 16 *e*P **P 23 52 39.5 +0.2**
PETK Petropavlovsk- 61.97 16 *e*P **P 23 52 39.5 +0.2**
PET Petropavlovsk 62.16 17 *e*P **P 23 52 41.2 +0.6**
comp=Z,57nm,1.2s
PET LR LR
comp=Z,621nm,20.0s
PET Petropavlovsk 62.16 17 *e*P **P 23 52 41.1 +0.6**
PET *e*S **S 00 01 03.1 -2.2**
PET *e*PS **PnS 00 01 19.5 -1.4**
PET pmax pmax
comp=Z,46nm,1.2s
PET pmax pmax
comp=Z,600nm,15.4s
BHPL Bhopal 62.17 300 *e*P **P 23 52 40.0 -1.3**
MNCY Minicoy 62.26 282 *e*P **P 23 52 41.7 -0.3**
H08N1 Diego Carcia H 62.50 266 P **P 23 52 40.4 -2.8**
baz=122,slow=3.7,SNR=34
H08N2 Diego Garcia H 62.51 266 P **P 23 52 40.7 -2.6**
baz=122,slow=3.7,SNR=32
H08N3 Diego Garcia H 62.52 266 P **P 23 52 40.8 -2.6**
baz=122,slow=3.7,SNR=38
CASY Casey 62.61 190 *e*P **P 23 52 42.9 -0.5**
comp=Z,35nm,0.6s
CASY LR LR
comp=Z,552nm,19.0s
TLY Talaya 62.76 339 P **P 23 52 45.2 +0.5**
comp=Z,4.2nm,0.7s,baz=168,slow=4.3,SNR=14
TLY Talaya 62.76 339 *e*P **P 23 52 45.1 +0.5**
comp=Z,85nm,2.0s
TLY LR LR
comp=Z,594nm,20.0s
TLY Talaya 62.76 339 P **P 23 52 46.6 +2.0**
SNR=12
TLY Talaya 62.76 339 P **P 23 52 46.6 +2.0**
SNR=12
TLY Talaya 62.76 339 *e*P **P 23 52 45.6 +1.0**
TLY *e*S **S 00 01 20.0 +7.0**
TLY *e*SSS SSS 00 08 05.8
TLY pmax pmax
comp=Z,37nm,1.9s

TLY MLR MLR
comp=Z,503nm,19.0s
CLNS Chul'man 62.77 354 *e*P **P** **23 52 45.1 +0.5**
CLNS *e**PP **sP** **23 52 53.9 +2.4**
CLNS *e* 23 53 23.5
CLNS *e* 23 55 05.8
CLNS *e*S **S** **00 01 18.9 +5.9**
CLNS *e*SS **SS** **00 05 11.4 -6.8**
CLNS pmax pmax
comp=Z,55nm,1.1s
CLNS pmax pmax
comp=N,33nm,1.1s
CLNS pmax pmax
comp=E,20nm,1.1s
CLNS pmax pmax
comp=E,10.0nm,1.2s
CLNS pmax pmax
comp=N,12nm,1.1s
CLNS pmax pmax
comp=Z,9.0nm,1.2s
CLNS smax smax
comp=N,261nm,11.3s
CLNS smax smax
comp=E,378nm,13.6s
CLNS MLR MLR
comp=E,278nm,14.0s
CLNS MLR MLR
comp=N,496nm,18.0s
CLNS MLR MLR
comp=Z,394nm,17.0s
GOA Goa 63.10 290 *ex* P 23 52 42.0 -5.5
MOY Mondy 63.71 338 *e*P **P** **23 52 51.8 +0.8**
MOY pmax pmax
comp=Z,164nm,3.3s
POO Poona 63.88 294 *e*P **P** **23 52 52.0 -0.7**
POO IAmb IAmb 23 52 53.2
comp=Z,39nm,0.9s
KNGR Kungurtug, Tuv 64.26 335 *i*P **P** **23 52 55.9 +1.2**
DDI Dehra Dun 64.31 307 *e*P **P** **23 52 51.7 -3.7**
DDI IAmb IAmb 23 52 58.9
WMQ Urumqi 64.51 325 P **P** **23 52 57.5 +1.1**
WMQ sP sP 23 53 06.7 +3.4
WMQ pmax pmax
comp=Z,440nm,1.5s
WMQ pmax pmax
comp=Z,1μm,3.7s
WMQ LR LR
comp=Z,1μm,22.5s
WMQ LR LR
comp=Z,1μm,28.1s
WMQ LR LR
comp=Z,2μm,29.5s
SMLA Simla 65.34 308 *e*P **P** **23 53 02.5 +0.5**
RAR Rarotonga 65.90 111 LR LR 00 19 11.5
comp=Z,395nm,22.0s,baz=270,slow=34
HVS Khovu-Aksy 66.29 334*d* *i*P **P** **23 53 08.8 +1.0**
HVS pmax pmax
comp=Z,183nm,1.1s
MA2 Magadan 66.46 9 P **P** **23 53 08.7 +0.1**
comp=Z,14nm,0.8s,baz=209,slow=5.4,SNR=17
DHRM DHARAMSHALA 66.46 309 *e*P **P** **23 53 08.5 -1.0**
MIR Mirnyy 66.93 197⇓ *i*P **P** **23 53 13.0 +1.5**
MIR *i* 23 53 35.0
MIR pmax pmax
comp=Z,135nm,1.5s
YAK Yakutsk 67.63 358 *e*P **P** **23 53 16.0 0.0**
comp=Z,238nm,0.9s
YAK LR LR
comp=Z,821nm,22.0s
YAK Yakutsk 67.63 358 *e*P **P** **23 53 15.4 -0.5**
YAK *e**PP **pP** **23 53 20.6 -0.4**
YAK *e*S **S** **00 02 11.4 -0.9**
YAK *e* 00 02 28.9
YAK *e* 00 03 11.6
YAK pmax pmax
comp=Z,247nm,1.0s
YAK pmax pmax
comp=N,77nm,1.0s
YAK pmax pmax
comp=Z,7.0nm,0.6s
YAK smax smax
comp=N,273nm,4.1s
YAK smax smax
comp=E,106nm,2.7s
ZSN Zaisan 68.27 327⇓ *i*P **P** **23 53 20.9 +0.5**
comp=E,253nm,1.2s
ZSN *i* PcP **PcP** **23 53 45.6 -0.4**
ZSN *e*S **S** **00 02 21.7 +1.1**
DGZ Jazzator, Alta 68.30 330*d* *i*P **P** **23 53 21.0 +0.4**
DGZ pmax pmax
comp=Z,94nm,1.2s
PAF Port-aux-Franc 68.69 219 PFAKE 23 53 40.0 +17
PAF LR LR
comp=Z,2μm,20.0s
BHJ Bhuj 68.96 297 *e*P **P** **23 53 25.3 +0.1**
BHJ IAmb IAmb 23 53 26.7
comp=Z,156nm,1.3s
PDGK Podgornoye 69.20 321 *i*P **P** **23 53 26.5 +0.1**
PDGK pmax pmax
comp=Z,182nm,1.3s
MK01 Makanchi Array 69.33 325 *e*P **P** **23 53 26.5 -0.4**
MK31 Makanchi Array 69.34 325 *e*P **P** **23 53 27.7 +0.6**
MK31 Makanchi Array 69.34 325 *i*P **P** **23 53 27.4 +0.3**
MK31 pmax pmax
comp=Z,278nm,1.1s
MKAR Makanchi Array 69.34 325 P **P** **23 53 27.6 +0.6**
comp=Z,83nm,0.8s,baz=120,slow=7.4,SNR=415
MKAR LR LR 00 24 44.1
comp=Z,310nm,21.6s,baz=116,slow=37
MKAR Makanchi Array 69.34 325 *e*P **P** **23 53 27.7 +0.6**
comp=Z,851nm,1.0s
MKAR Makanchi Array 69.34 325 *e*P **P** **23 53 27.7 +0.6**
MKAR pmax pmax
comp=Z,851nm,1.0s
NIL Nilore 69.37 309 *e*P **P** **23 53 27.5 0.0**
comp=Z,245nm,1.0s
NIL LR LR
comp=Z,150nm,20.0s
NIL Nilore 69.37 309 *e*P **P** **23 53 27.5 0.0**
NIL pmax pmax
comp=Z,245nm,1.0s
NIL MLR MLR
comp=Z,150nm,20.0s
UZB Uzynbulak 69.41 320⇓ *i*P **P** **23 53 28.4 +0.7**
comp=Z,1μm,1.2s
UZB *i* S **S** **00 02 34.2 -0.4**
MAKZ Makanchi 69.53 325 *e*P **P** **23 53 28.8 +0.6**
MAKZ Makanchi 69.53 325 *i*P **P** **23 53 28.5 +0.3**
MAKZ pmax pmax
comp=Z,289nm,1.2s
SATY Saty 69.76 320⇓ *i*P **P** **23 53 30.8 +0.9**
comp=Z,2μm,1.2s
KPKS Kokpek 69.78 320 *i*P **P** **23 53 30.8 +0.8**
comp=Z,294nm,1.3s
KPKS *e*S **S** **00 02 38.6 -0.3**
SEY Seymchan 69.90 9 P **P** **23 53 30.5 +0.4**
comp=Z,32nm,1.1s,baz=194,slow=4.8,SNR=36
SEY Seymchan 69.90 9*ce*P **P** **23 53 30.7 +0.6**
KRAR Krasnoyarsk 70.14 337 *e*P **P** **23 53 32.0 +0.3**
MDOK Medeo 70.68 320 *i*P **P** **23 53 36.4 +0.8**
comp=Z,691nm,1.2s
MDOK *i* S **S** **00 02 49.3 -0.3**
TDK Taldyqorghan 70.72 322 *i*P **P** **23 53 36.3 +0.8**
comp=Z,3μm,1.2s
TDK *e*S **S** **00 02 49.5 -0.1**
TDK LR LR 00 26 43.0
comp=Z,351nm,10.6s
ULHL Ulahol 70.79 318 P **P** **23 53 36.7 +0.4**
SNR=36
AAA Alma-Ata 70.79 320⇓ *e*P **P** **23 53 37.1 +0.9**
comp=Z,382nm,1.2s
AAA Alma-Ata 70.79 320 *i*P **P** **23 53 37.0 +0.9**
AAA pmax pmax
comp=Z,200nm,2.2s
AAA MLR MLR
comp=Z,200nm,14.0s
KZA Kyzart 71.37 318 P **P** **23 53 41.5 +1.4**
SNR=110
KUU Kurty 71.48 320⇓ *i*P **P** **23 53 40.7 +0.5**
comp=Z,1μm,1.4s
KUU *i* S **S** **00 02 57.9 -0.6**
TKM2 Tokmak 2 71.52 319 P **P** **23 53 41.3 +0.6**
SNR=76
TKM2 Tokmak 2 71.52 319 *i*P **P** **23 53 41.1 +0.4**
TKM2 pmax pmax
comp=Z,95nm,1.3s
BMNS Besmoynak 71.56 319⇓ *i*P **P** **23 53 41.4 +0.5**
comp=Z,651nm,1.3s
BMNS *e*S **S** **00 02 58.9 -0.7**
SFK Sufi-Kurgan 71.68 315 *i*P **P** **23 53 42.4 +0.6**
SFK pmax pmax
comp=Z,87nm,1.3s
KBK Karagaybulak 71.83 318 P **P** **23 53 43.4 +0.9**
SNR=36
UCH Uchtor 71.93 318 P **P** **23 53 44.6 +1.2**
SNR=126
CHMS Chumysh 72.11 319 P **P** **23 53 44.4 +0.4**
SNR=36
AAK Ala-Archa 72.12 318 P **P** **23 53 45.1 +0.8**
comp=Z,70nm,1.2s,baz=118,slow=4.6,SNR=76
AAK Ala-Archa 72.12 318 P **P** **23 53 45.2 +0.9**
SNR=72
AAK Ala-Archa 72.12 318 *i*P **P** **23 53 44.9 +0.6**
AAK pmax pmax
comp=Z,94nm,1.4s
FRU Bishkek 72.12 318 *e*P **P** **23 53 44.0 -0.1**
FRU *e* 23 53 54.0
FRU pmax pmax
comp=Z,100nm,1.6s
ZAA0 Zalesovo Array 72.21 332 *e*P **P** **23 53 43.0 -1.3**
ZALV Zalesovo Beam 72.21 332 P **P** **23 53 43.6 -0.7**
comp=Z,74nm,0.9s,baz=108,slow=4.8,SNR=218
ZALV Zalesovo Beam 72.21 332 *e*P **P** **23 53 43.0 -1.3**
ZALV Zalesovo Beam 72.21 332 *e*P **P** **23 53 43.0 -1.3**
USP Ospenovka 72.39 319 P **P** **23 53 46.4 +0.7**
SNR=95
AML Almayashu 72.44 317 P **P** **23 53 47.5 +1.0**
SNR=130
SEM Semipalatinsk 72.46 327⇓ *i*P **P** **23 53 45.7 -0.5**
comp=Z,1μm,1.3s
SEM *i* S **S** **00 03 08.3 -1.6**
EKS2 Erkin-Say 72.61 318 P **P** **23 53 48.2 +1.1**
SNR=94
KBL Kabul 72.95 309 *e*P **P** **23 53 49.4 0.0**
comp=Z,71nm,1.1s
KBL Kabul 72.95 309 *e*P **P** **23 53 49.4 0.0**
KBL pmax pmax
comp=Z,71nm,1.1s
VNDA Vanda 73.27 174 P **P** **23 53 51.0 +0.7**
comp=Z,35nm,1.0s,baz=325,slow=6.3,SNR=74
VNDA LR LR 00 24 24.8
comp=Z,2μm,20.5s,baz=352,slow=34
VNDA Vanda 73.27 174 *e*P **P** **23 53 51.0 +0.7**
comp=Z,56nm,1.1s
VNDA Vanda 73.27 174 *e*P **P** **23 53 51.0 +0.7**
VNDA pmax pmax
comp=Z,56nm,1.1s
MNAS Manas 73.39 317 *i*P **P** **23 53 52.4 +0.6**
MNAS pmax pmax
comp=Z,143nm,1.2s
BTLS Baital 73.47 320⇓ *i*P **P** **23 53 52.3 +0.3**
comp=Z,708nm,1.4s
BTLS *e*S **S** **00 03 20.4 -0.6**
NVS Novosibirsk 73.49 332⇑ *i*P **P** **23 53 51.5 -0.4**
NVS *e*S **S** **00 03 15.7 -5.2**
NVS pmax pmax
comp=N,96nm,1.2s
NVS pmax pmax
comp=E,132nm,1.2s
NVS pmax pmax
comp=Z,246nm,1.2s
NVS smax smax
comp=N,14nm,1.5s
NVS smax smax
comp=E,10.0nm,1.5s
KURBB Kurchatov Arra 73.50 327 P **P** **23 53 52.1 +0.1**
comp=E,154nm,1.1s,baz=125,slow=4.8,SNR=328
KURK Kurchatov 73.50 327 *e*P **P** **23 53 52.2 +0.2**
comp=E,256nm,1.1s
KURK LR LR
comp=Z,702nm,20.0s
KURK Kurchatov 73.50 327 P **P** **23 53 52.4 +0.4**
SNR=78
KURK Kurchatov 73.50 327 P **P** **23 53 52.4 +0.4**
SNR=78
KURK Kurchatov 73.50 327*ce*P **P** **23 53 52.0 0.0**
KURK pmax pmax
comp=Z,1μm,1.2s
SBA Scott Base 74.11 173 *e*P **P** **23 53 57.0 +1.8**
comp=Z,98nm,1.2s
SBA LR LR
comp=Z,1μm,19.0s
SBA Scott Base 74.11 173 *e*P **P** **23 53 57.0 +1.8**
SBA pmax pmax
comp=Z,98nm,1.2s
SBA MLR MLR
comp=Z,1μm,19.0s
DZA Taraz 74.34 317⇓ *i*P **P** **23 53 58.0 +0.7**
comp=Z,914nm,1.5s
DZA *i* S **S** **00 03 30.5 -0.7**
IUG Iuzhnay 74.94 316 *i*P **P** **23 54 01.5 +0.7**
comp=Z,1μm,1.4s
IUG *i* PcP **PcP** **23 54 14.8 +0.2**
IUG *i* S **S** **00 03 37.6 -0.4**
KK31 Karatay Array 74.98 317 *i*P **P** **23 54 00.9 0.0**
KK31 pmax pmax
comp=Z,69nm,1.1s
KKAR Karatay Array 74.98 317 *e*P **P** **23 54 01.2 +0.4**
KKAR Karatay Array 74.98 317 *e*P **P** **23 54 01.3 +0.4**
MRIV Mauritius Mete 75.29 251 *e*P **P** **23 54 03.3 +0.1**
CHM Chimkent 75.30 316⇓ *i*P **P** **23 54 03.8 +1.1**
comp=Z,1μm,1.4s
CHM *i* S **S** **00 03 41.8 0.0**
BRLS Boroldaу 75.41 317 *i*P **P** **23 54 04.0 +0.7**
comp=Z,38nm,1.3s
BRLS *e*S **S** **00 03 42.7 -0.3**
PPT2 Papeete2 75.48 107 *e*S **S** **00 03 38.6 -6.2**
comp=Z,319nm,28.8s
PPT2 *e*SS **SS** **00 08 30.8 -4.8**
comp=Z,598nm,28.0s
PPT2 *e*LR LR 00 17 09.0
comp=Z,2μm,33.2s
PPT Papeete 75.48 107 LR LR 00 24 43.1
comp=Z,265nm,20.4s,baz=274,slow=34
BRZS Berezniki 76.48 324⇓ *i*P **P** **23 54 09.5 +0.2**
comp=Z,171nm,1.2s
RER Riviere de l'E 76.92 250 *e*P **P** **23 54 13.2 +0.7**
comp=Z,158nm,1.1s
BILL Bilibino 77.03 12⇑ *i*P **P** **23 54 11.7 -0.3**
BILL *e* 23 57 09.2
BILL *e*PPP PPP 23 58 48.5
BILL *e*S **S** **00 04 02.3 +2.5**
BILL pmax pmax
comp=Z,13nm,1.4s
BILL pmax pmax
comp=Z,639nm,23.0s
TIXI Tiksi 77.28 358 P **P** **23 54 12.3 -1.1**
comp=Z,47nm,0.9s,baz=161,slow=4.1,SNR=77
TIXI LR LR 00 27 14.3
comp=Z,655nm,21.7s,baz=220,slow=35
TIXI Tiksi 77.28 358 *e*P **P** **23 54 11.8 -1.5**
comp=Z,50nm,0.9s
TIXI Tiksi 77.28 358*d* *i*P **P** **23 54 12.3 -1.1**
TIXI pmax pmax
comp=Z,57nm,1.1s
MAW Mawson 77.56 202 P **P** **23 54 16.0 +1.0**
comp=Z,77nm,1.0s,baz=74,slow=8.2,SNR=42
MAW LR LR 00 25 44.7
comp=Z,2μm,20.9s,baz=64,slow=34
MAW Mawson 77.56 202 P **P** **23 54 16.5 +1.5**
SNR=9.0
baz=78,SNR=24
MAW Mawson 77.56 202 *e*P **P** **23 54 16.5 +1.5**
comp=Z,30nm,1.2s
MAW Mawson 77.56 202 *e*P **P** **23 54 16.5 +1.5**
MAW pmax pmax
comp=Z,30nm,1.2s
WBK Wadi Bani Khal 78.38 294 P **P** **23 54 23.0 +2.4**
SNR=9.0
WBK Wadi Bani Khal 78.38 294 P **P** **23 54 23.0 +2.4**
SNR=9.0
WSAR Wadi Sarin 78.81 295 P **P** **23 54 23.0 +0.1**
comp=Z,80nm,1.1s,baz=117,slow=7.9,SNR=58
WSAR LR LR 00 33 59.6
comp=Z,198nm,19.5s,baz=116,slow=39
BVAR Borovoye Array 79.09 327 P **P** **23 54 23.9 +0.1**
comp=Z,135nm,1.0s,baz=128,slow=6.3,SNR=319
BVAR LR LR 00 31 02.3
comp=Z,134nm,20.7s,baz=119,slow=37
JMDO Jabal Madar 79.12 294 P P 23 54 30.0 +5.4
SNR=8.8
JMDO Jabal Madar 79.12 294 P P 23 54 30.0 +5.4
SNR=8.8
BRVK Borovoye 79.16 327 *e*P **P** **23 54 24.1 -0.1**
comp=Z,201nm,1.1s
BRVK LR LR
comp=Z,317nm,22.0s
BRVK Borovoye 79.16 327 P **P** **23 54 24.5 +0.3**
SNR=71
BRVK Borovoye 79.16 327 P **P** **23 54 24.5 +0.3**
SNR=71
BRVK Borovoye 79.16 327*ce*P **P** **23 54 24.0 -0.1**
BRVK pmax pmax
comp=Z,182nm,1.1s
SMDO Samad 79.30 295 P **P** **23 54 28.0 +2.3**
SNR=17
SMDO Samad 79.30 295 P **P** **23 54 28.0 +2.3**
SNR=17
BIDO Bidbid 79.32 295 P **P** **23 54 27.0 +1.3**
SNR=72
BIDO Bidbid 79.32 295 P **P** **23 54 27.0 +1.3**
SNR=72
FALS False Pass 79.44 32 *e*P **P** **23 54 26.2 +0.6**
comp=Z,102nm,1.0s
BSY Bisya 80.01 294 P P 23 54 36.0 +6.5
SNR=12
BSY Bisya 80.01 294 P P 23 54 36.0 +6.5
SNR=12
HOQ Hoqain 80.07 295 P **P** **23 54 32.0 +2.2**
SNR=17
HOQ Hoqain 80.07 295 P **P** **23 54 32.0 +2.2**
SNR=17
GAMB Gambell 80.29 22 *e*P **P** **23 54 30.7 +0.7**
comp=Z,29nm,1.1s
SHAO Shalim 80.67 289 P **P** **23 54 33.7 +0.6**
SNR=11
SHAO Shalim 80.67 289 P **P** **23 54 33.7 +0.6**
SNR=11
SHAO Shalim 80.67 289 *i*P **P** **23 54 33.1 0.0**
SNR=11
SOHO SOHO 80.87 295 *i*P **P** **23 54 34.0 0.0**
SNR=91
SDPT Sand Point 81.18 32 *e*P **P** **23 54 34.8 -0.2**
comp=Z,171nm,1.0s
MDH Madha 81.29 297 *i*P **P** **23 54 35.3 -1.0**
SNR=9.6
NRIK Noril'sk 81.30 345 LR LR 00 32 06.2
comp=Z,418nm,21.3s,baz=61,slow=37
UOSS Minazif 81.31 296 *e*P **P** **23 54 36.0 -0.4**
comp=Z,60nm,1.0s
UOSS Minazif 81.31 296 *i*P **P** **23 54 35.9 -0.5**
SNR=12
HATD Hatta, Dubai 81.35 296 P **P** **23 54 37.0 +0.4**
SNR=26
HATD Hatta, Dubai 81.35 296 P **P** **23 54 37.0 +0.4**
SNR=26
HATD Hatta, Dubai 81.35 296 *i*P **P** **23 54 36.6 0.0**
SNR=27
ASHO Ashiyiah 81.39 296 P **P** **23 54 37.7 +0.9**
SNR=29
ASHO Ashiyiah 81.39 296 P **P** **23 54 37.7 +0.9**
SNR=29
ASHO Ashiyiah 81.39 296 *i*P **P** **23 54 37.0 +0.1**
SNR=45
BANOM Banah 81.40 297 P **P** **23 54 37.8 +0.9**
SNR=42
BANOM Banah 81.40 297 P **P** **23 54 37.8 +0.9**
SNR=42
BANOM Banah 81.40 297 *i*P **P** **23 54 37.3 +0.4**
SNR=79
MSFE Esma-Masafi 81.42 297 *i*P **P** **23 54 37.4 +0.4**
SNR=48
ALNE Al Ain 81.56 295 *i*P **P** **23 54 37.9 +0.2**
SNR=24
SHME Shamm 81.56 297 *i*P **P** **23 54 38.2 +0.4**
SNR=42
NAZ Nazwa, Dubai 81.80 296 P **P** **23 54 39.1 +0.2**
SNR=28
NAZ Nazwa, Dubai 81.80 296 P **P** **23 54 39.1 +0.2**
SNR=28
NAZ Nazwa, Dubai 81.80 296 *i*P **P** **23 54 39.0 0.0**
SNR=24
UMQ Umm Al-Quwin 81.89 297 *i*P **P** **23 54 40.2 +0.8**
SNR=8.1
RBK Rabkut 81.93 289 P **P** **23 54 41.0 +1.1**
SNR=17
RBK Rabkut 81.93 289 P **P** **23 54 41.0 +1.1**
SNR=17
AJN Ajban 82.33 296 *i*P **P** **23 54 42.5 +0.7**
SNR=13
GEYT Alibeck 82.37 309 P **P** **23 54 42.3 +0.6**
comp=Z,34nm,1.0s,baz=128,slow=2.4,SNR=96
GEYT LR LR 00 36 37.9
comp=Z,130nm,19.6s,baz=120,slow=40
WHFO Wadi Hawf 82.40 289 P **P** **23 54 42.4 +0.1**
SNR=12
WHFO Wadi Hawf 82.40 289 P **P** **23 54 42.4 +0.1**
SNR=12
CHGN Chignik 82.63 31 *e*P **P** **23 54 42.4 -0.2**
comp=Z,46nm,1.0s
ABTO Aybut 82.76 288 P **P** **23 54 45.0 +0.8**
SNR=14
ABTO Aybut 82.76 288 P **P** **23 54 45.0 +0.8**
SNR=14
AB31 Akbulak array 83.94 321 *i*P **P** **23 54 48.9 -0.6**
AB31 pmax pmax
comp=Z,1.0nm,0.3s
ABKAR Akbulak array 83.94 321 *e*P **P** **23 54 49.1 -0.4**
comp=Z,17nm,0.4s
QSPA South Pole Qui 84.25 180 *e*P **P** **23 54 51.6 +0.6**
comp=Z,120nm,1.1s,baz=330,slow=2.6,SNR=84
QSPA South Pole Qui 84.25 180 *e*P **P** **23 54 51.1 +0.1**
QSPA LR LR
comp=Z,2μm,20.0s
ABPO Ambohimpanom 85.02 251 *e*P **P** **23 54 55.8 -0.1**
comp=Z,67nm,1.2s
ABPO LR LR
comp=Z,188nm,19.0s
ABPO Ambohimpanom 85.02 251 *e*P **P** **23 54 55.8 -0.1**
ABPO pmax pmax
comp=Z,67nm,1.2s
ABPO MLR MLR
comp=Z,188nm,19.0s
OPO Ambohidratompo 85.09 252 P **P** **23 54 57.0 +0.8**
comp=Z,73nm,1.1s,baz=82,slow=6.1,SNR=27
TAOE Nuku Hiva Isla 85.16 98 *e*SS SS 00 10 49.7 -11
comp=Z,237nm,26.4s
TAOE Nuku Hiva Isla 85.16 98 *e*LR LR 00 21 49.3
comp=Z,631nm,21.1s
AKTO Aktyubinsk 85.46 322 P **P** **23 54 57.0 -0.2**
comp=Z,76nm,1.1s,baz=118,slow=5.7,SNR=105
AKTO LR LR 00 36 38.1
comp=Z,210nm,19.4s,baz=118,slow=38
AKTO Aktyubinsk 85.46 322 *i*P **P** **23 54 56.3 -0.9**
AKTO pmax pmax
comp=Z,160nm,1.2s
OHAK Old Harbor 85.59 31 *e*P **P** **23 54 57.8 +0.1**
comp=Z,63nm,1.0s
SVE Sverdlovsk 85.70 328*ce*P **P** **23 54 57.8 -0.4**
SVE *e*S S 00 05 20.2 -10
SVE pmax pmax
comp=Z,108nm,1.3s
SVW2 Sparrevohn 85.72 27 *e*P **P** **23 54 59.3 +1.0**
comp=Z,51nm,1.4s
KDAK Kodiak Island 86.12 31 P **P** **23 55 00.2 -0.1**
comp=Z,39nm,1.0s,baz=248,slow=1.4,SNR=11
KDAK Kodiak Island 86.12 31 *e*P **P** **23 55 00.9 +0.6**
comp=Z,94nm,1.1s
KDAK LR LR
comp=Z,278nm,22.0s
KDAK Kodiak Island 86.12 31 *e*P **P** **23 55 00.9 +0.6**
KDAK pmax pmax
comp=Z,95nm,1.1s
KDAK MLR MLR
comp=Z,278nm,22.0s
SYO Syowa Base 86.25 201⇑ *i*P **P** **23 55 00.0 -0.7**
SYO Syowa Base 86.25 201⇓ *i*PcP **PcP** **23 55 04.2 +0.9**
ARU Arti 86.69 327 *e*P **P** **23 55 01.5 -1.6**
comp=Z,65nm,1.2s
ARU LR LR
comp=Z,242nm,20.0s
ARU Arti 86.69 327 *e*P **P** **23 55 01.5 -1.6**
ARU pmax pmax
comp=Z,65nm,1.2s
ARU MLR MLR
comp=Z,242nm,20.0s
SPU Mount Spurr 87.37 28 *e*P **P** **23 55 05.2 -1.2**
BRLK Bradley Lake 87.53 29 *e*P **P** **23 55 07.4 +0.2**
comp=Z,42nm,1.1s
PPLA Purkeypile 87.81 26 *e*P **P** **23 55 08.5 -0.1**
comp=Z,86nm,1.5s
CAST Castle Rocks 88.01 26 *e*P **P** **23 55 09.4 +0.1**

comp=Z,26nm,1.2s
SUA Susitna One 88.06 28 *e*P P **23 55 09.1 -0.6**
comp=Z,55nm,1.0s
IM3 Indian Mountai 88.10 23 *e*P P **23 55 08.5 -1.2**
RC01 Rabbit Creek A 88.43 28 *e*P P **23 55 11.3 -0.1**
comp=Z,96nm,1.1s
KTH Kantishna Hill 88.54 26 *e*P P **23 55 11.4 -0.5**
comp=Z,38nm,1.5s
BPAW Bear Paw Mtn. 88.67 25 *e*P P **23 55 13.2 +0.7**
comp=Z,66nm,1.9s
TRF Thorofare Moun 88.79 26 *e*P P **23 55 12.8 -0.5**
comp=Z,52nm,1.7s
RKT Rikitea 88.83 113 *e*LR LR 00 23 29.7
comp=Z,740nm,36.8s
PMR Palmer 88.84 28 *e*P P **23 55 13.1 -0.1**
comp=Z,162nm,1.8s
PMR Palmer 88.84 28 *e*P P **23 55 13.1 -0.1**
PMR pmax pmax
comp=Z,162nm,1.8s
MLY Manley 89.02 24 *e*P P **23 55 14.0 -0.2**
comp=Z,14nm,1.0s
SML Sawmill 89.26 28 *e*P P **23 55 15.8 +0.5**
comp=Z,15nm,1.2s
SML Sawmill 89.26 28 *e*P P **23 55 15.8 +0.5**
SML pmax pmax
comp=Z,15nm,1.2s
RND Reindeer 89.40 26 *e*P P **23 55 15.5 -0.5**
comp=Z,24nm,1.1s
RND Reindeer 89.40 26 *e*P P **23 55 15.5 -0.5**
RND pmax pmax
comp=Z,24nm,1.1s
MCK McKinley 89.45 26 *e*P P **23 55 14.9 -1.2**
comp=Z,93nm,1.8s
MCK McKinley 89.45 26 *e*P P **23 55 14.9 -1.2**
MCK pmax pmax
comp=Z,93nm,1.8s
SCM Sheep Creek Mo 89.73 28 *e*P P **23 55 18.6 +1.0**
comp=Z,115nm,1.6s
SCM Sheep Creek Mo 89.73 28 *e*P P **23 55 18.6 +1.0**
SCM pmax pmax
comp=Z,115nm,1.6s
LKRN Lenkeran, Azer 89.73 309 P P **23 55 17.3 -0.7**
COLD Coldfoot 89.82 22 *e*P P **23 55 18.1 +0.3**
comp=Z,9.7nm,1.1s
DHY Denali Highway 89.98 27 *e*P P **23 55 19.2 +0.4**
comp=Z,18nm,1.0s
WRH Wood River Hil 89.98 25 *e*P P **23 55 17.4 -1.2**
comp=Z,25nm,1.2s
CCB Clear Creek Bu 90.14 25 *e*P P **23 55 18.0 -1.3**
comp=Z,21nm,1.1s
COLA College 90.17 25 PFAKE **23 55 30.0 +11**
COLA LR LR
comp=Z,625nm,22.0s
DIV Divide 90.31 29 *e*P P **23 55 21.1 +0.8**
comp=Z,166nm,2.0s
KLU Klutina 90.31 28 *e*P P **23 55 21.8 +1.5**
comp=Z,83nm,2.0s
TOLK Toolik Lake Re 90.41 21 P P **23 55 20.1 -0.5**
baz=255
TOLK Toolik Lake Re 90.41 21 *e*P P **23 55 20.6 0.0**
HDA Harding Lake 90.45 25 *e*P P **23 55 17.3 -3.5**
comp=Z,21nm,1.1s
ILAR Eielson Array 90.55 25 P P **23 55 20.1 -1.2**
comp=Z,2.1nm,1.1s,baz=267,slow=4.6,SNR=4.4
ILAR PKKP **PKKPdf 00 12 47.8 +0.1**
comp=Z,0.6nm,0.5s,baz=299,slow=1.2,SNR=10
ILAR LR LR 00 31 30.8
comp=Z,187nm,20.4s,baz=278,slow=33
ILB Eielson Array 90.55 25 *e*P P **23 55 19.4 -1.9**
RAYN Ar Rayn 90.78 293 *e*P P **23 55 23.1 -0.2**
comp=Z,80nm,1.2s
RAYN LR LR
comp=Z,319nm,20.0s
PAX Paxson 90.81 27 *e*P P **23 55 24.6 +2.0**
comp=Z,41nm,2.0s
PAX Paxson 90.81 27 *e*P P **23 55 24.6 +2.0**
PAX pmax pmax
comp=Z,41nm,2.0s
BMRM Bremner River 90.84 29 *e*P P **23 55 23.9 +1.2**
comp=Z,26nm,1.1s
AKT Akhty 90.87 311 *e*P P **23 55 22.9 -0.5**
AKT *e* 23 58 59.9
AKT pmax pmax
comp=Z,39nm,1.2s
DAMY Dhamar 90.94 284 *e*P P **23 55 26.1 +1.6**
comp=Z,107nm,1.3s
MAK Makhachkala 91.21 313 *e*P P **23 55 23.3 -1.5**
MAK *e* 23 59 00.1
MAK *e*PPP PPP 00 01 04.4
MAK *e*S **SKSac 00 05 52.8 -3.9**
MAK *e*SS SS 00 12 38.8 +11
MAK *e*SSS SSS 00 16 00.9
MAK pmax pmax
comp=Z,105nm,0.9s
RIDG Independ'e Rid 91.23 26 *e*P P **23 55 24.2 -0.3**
SEKA Sheki 91.24 311 P P **23 55 24.0 -1.1**
MNGR Mingechevir, A 91.28 311 P P **23 55 24.5 -0.6**
DOT Dot Lake 91.55 26 *e*P P **23 55 26.1 +0.2**
FYU Fort Yukon 91.58 23 *e*P P **23 55 26.1 +0.1**
comp=Z,42nm,1.3s
ZKTA Zakatala 91.72 311 P P **23 55 26.5 -0.7**
GANJ Ganja 91.84 310 P P **23 55 27.1 -0.7**
BALM Baldy 91.94 29 *e*P P **23 55 28.8 +0.9**
comp=Z,17nm,1.0s
BALM Baldy 91.94 29 *e*P P **23 55 28.8 +0.9**
BALM pmax pmax
comp=Z,17nm,1.0s
DDFL Dedoflistskaro 92.07 311 P P **23 55 30.5 +1.6**
ATD Arta Tunnel 92.14 281 P P **23 55 29.9 +0.1**
comp=Z,30nm,1.0s,baz=36,slow=4.3,SNR=7.2
ATD LR LR 00 35 42.5
comp=Z,161nm,20.8s,baz=81,slow=35
NAX Nakhchivan 92.33 309 P P **23 55 29.3 -0.9**
GROC Groznyy 92.48 313 *e*P P **23 55 26.7 -4.0**
GROC *e* 00 06 32.6
GROC pmax pmax
comp=Z,42nm,1.3s
DGRG David-gareji 92.63 311 P P **23 55 31.0 -0.5**
DGRG David-gareji 92.63 311 *e*P P **23 55 31.0 -0.5**
EGAK Eagle 92.97 25 *e*P P **23 55 32.2 -0.3**
comp=Z,12nm,1.1s
GNI Garni 92.99 310 P P **23 55 33.2 -0.2**
comp=Z,3.7nm,0.7s,baz=164,slow=9.6,SNR=6.2
GNI LR LR 00 45 23.3
comp=Z,114nm,18.2s,baz=92,slow=41
GNI Garni 92.99 310 *e*P P **23 55 34.0 +0.6**
comp=Z,34nm,1.2s
GNI Garni 92.99 310 *ce*P P **23 55 33.4 0.0**
GNI pmax pmax
comp=Z,31nm,1.2s
BTNK Botanikuri 93.08 311 P P **23 55 33.3 -0.2**
TBLG Delisi 93.13 311 P P **23 55 33.1 -0.6**
TBLG Delisi 93.13 311 *e*P P **23 55 33.8 +0.1**
comp=Z,36nm,1.1s
TBLG Delisi 93.13 311 *e*P P **23 55 33.1 -0.6**
DUS Dusheti 93.19 312 P P **23 55 33.5 -0.6**
DUS Dusheti 93.19 312 *e*P P **23 55 33.5 -0.6**
GUDG Gudauri 93.38 312 P P **23 55 34.9 -0.3**
DAWY Dawson 93.66 26 *e*P P **23 55 35.8 +0.1**
ZEI Tsey 93.83 312 *e*P P **23 55 33.2 -4.0**
ZEI pmax pmax
comp=Z,35nm,1.3s
AKH Akhalkalaki 94.04 311 P P **23 55 38.2 0.0**
AKH Akhalkalaki 94.04 311 *e*P P **23 55 38.7 +0.5**
comp=Z,37nm,1.1s
AKH Akhalkalaki 94.04 311 *e*P P **23 55 38.7 +0.5**
AKH pmax pmax
comp=Z,37nm,1.1s
NCK Nalchik 94.11 313 *e*P P **23 55 36.8 -1.4**
NCK pmax pmax
comp=Z,21nm,1.1s
ONI Oni 94.15 312 P P **23 55 36.6 -1.9**
ONI Oni 94.15 312 *e*P P **23 55 36.6 -1.9**
GOF Gofitskoye 94.60 315‖ *e*P P **23 55 37.4 -3.0**
GOF pmax pmax
comp=Z,28nm,1.3s
KBZ Khabaz 94.63 313 P P **23 55 39.4 -1.1**
comp=Z,8.1nm,1.1s,baz=139,slow=1.2,SNR=16
KBZ PKKPbc **PKKPdf 00 12 39.8 0.0**
comp=Z,2.1nm,0.9s,baz=130,slow=4.1,SNR=5.3
KBZ LR LR 00 46 23.7
comp=Z,112nm,18.3s,baz=64,slow=41
NVL N'lazarevskaya 94.68 196‖ *i*P P **23 55 36.9 -3.4**
NVL *e* 00 01 36.5
NVL *e* 00 06 18.0
NVL pmax pmax

comp=Z,25nm,0.8s
NEY Neytrino 94.73 313 *e*P P **23 55 40.5 -0.8**
NEY pmax pmax
comp=Z,5.0nm,1.1s
KVAR Kislovodsk Arr 94.79 314 LR LR 00 44 26.3
comp=Z,104nm,20.6s,slow=39
KIV Kislovodsk 94.79 314 *e*P P **23 55 40.6 -0.9**
comp=Z,22nm,1.3s
KIV LR LR
comp=Z,272nm,20.0s
KIV Kislovodsk 94.79 314 *e*P P **23 55 40.3 -1.2**
KIV *e* 23 59 29.3
KIV pmax pmax
comp=Z,11nm,1.1s
KIV MLR MLR
comp=Z,284nm,20.0s
VRH Novokhopyorsk 95.78 321 *e*P P **23 55 43.1 -2.5**
VRH pmax pmax
comp=Z,30nm,1.2s
INK Inuvik 96.23 22 P P **23 55 45.9 -1.4**
comp=Z,7.0nm,1.2s,baz=293,slow=4.5,SNR=9.3
INK PP PP **23 59 38.0 -2.5**
comp=Z,3.3nm,1.1s,baz=240,slow=7.8,SNR=3.3
INK PKKPbc **PKKPbc 00 12 34.4 -2.2**
comp=Z,2.8nm,0.5s,baz=64,slow=3.0,SNR=17
KMBO Kilima Mbogo 96.49 268 P P **23 55 50.2 +0.1**
comp=Z,9.1nm,1.1s,baz=66,slow=4.4,SNR=14
KMBO LR LR 00 36 58.1
comp=Z,303nm,21.6s,baz=94,slow=34
KMBO Kilima Mbogo 96.49 268 *e*P P **23 55 50.6 +0.5**
comp=Z,26nm,1.4s
KMBO Kilima Mbogo 96.49 268 P P **23 55 51.1 +1.0**
SNR=7.5
KMBO Kilima Mbogo 96.49 268 *i*P P **23 55 50.8 +0.7**
SNR=9.1
KMBO Kilima Mbogo 96.49 268 *e*P P **23 55 50.6 +0.5**
KMBO pmax pmax
comp=Z,26nm,1.4s
SOC Sochi 96.93 313 *e*P P **23 55 48.5 -2.5**
SOC *e* 23 59 47.2
SOC *e*S **SKSac 00 06 21.7 -6.1**
SOC pmax pmax
comp=Z,12nm,0.4s
SOC MLR MLR
comp=Z,238nm,10.0s
KLMR Klimovskoe 97.09 331 *e*P P **23 55 47.6 -3.7**
KLMR AMP 23 55 51.1
comp=Z,81nm,1.3s
KLMR *e*PP PP **23 59 45.5 -1.8**
KLMR LQ LQ 00 34 22.5
KLMR LQ LQ 00 34 22.5
KLMR Klimovskoe 97.09 331 *e*P P **23 55 47.6 -3.7**
KLMR *e* 23 59 45.4
KLMR pmax pmax
comp=Z,81nm,1.3s
VSR Storozhevoye 97.38 321 *e*P P **23 55 49.8 -3.1**
VSR pmax pmax
comp=Z,20nm,0.9s
LPSR Galich'ya Gora 97.52 322 *e*P P **23 55 51.6 -1.9**
LPSR pmax pmax
comp=Z,70nm,1.0s
TMCR Tamitsa 97.67 334 *e*P P **23 55 51.9 -2.0**
TMCR pmax pmax
comp=Z,36nm,1.0s
SNAA Sanae 97.78 193 P P **23 55 54.7 +0.3**
SNAA Sanae 97.78 193 P P **23 55 55.1 +0.7**
comp=Z,18nm,1.1s,baz=123,slow=6.9,SNR=15
SNAA LR LR 00 40 40.2
comp=Z,1μm,18.7s,baz=118,slow=36
SNAA Sanae 97.78 193 *e*P P **23 55 54.2 -0.2**
comp=Z,17nm,1.0s
SNAA Sanae 97.78 193 *e*P P **23 55 54.3 -0.2**
SNAA pmax pmax
comp=Z,17nm,1.0s
MOS Moscow 98.22 325 *e*P P **23 55 53.8 -2.8**
MOS *e* 23 59 53.8
MOS pmax pmax
comp=Z,53nm,1.4s
LVZ Lovozero 98.75 338 PFAKE **23 56 10.0 +11**
LVZ LR LR
comp=Z,541nm,21.0s
OBN Obninsk 98.85 325 LR LR 00 44 43.4
comp=Z,297nm,19.4s,baz=94,slow=38
OBN Obninsk 98.85 325 *e*P P **23 55 58.1 -1.3**
OBN Obninsk 98.85 325 *ce*P P **23 55 57.3 -2.1**
OBN *e* 23 59 56.4
OBN pmax pmax
comp=Z,42nm,1.3s
APA Apatity 99.26 338‖ *i*P **Pdif 23 55 58.9 -2.1**
APA pmax pmax
comp=Z,9.0nm,1.0s
APA MLR MLR
comp=Z,1μm,25.0s
VNA2 Neumayer--Watz 99.31 192 P **Pdif 23 56 01.8 +0.6**
baz=133,slow=4.1
VNA3 Neumayer Olymp 99.52 191 P **Pdif 23 56 02.6 +0.4**
KEV Kevo 101.15 340 PFAKE **23 56 20.0 +11**
KEV LR LR
comp=Z,1μm,21.0s
KBS Kingsbay 101.47 350 PFAKE **23 56 20.0 +9.4**
KBS LR LR
comp=Z,665nm,22.0s
BRTR Keskin Array B 101.51 309 P **Pdif 23 56 10.3 -1.5**
comp=Z,2.1nm,1.0s,baz=97,slow=3.9,SNR=9.5
BRTR PP PP **00 00 19.6 -2.2**
comp=Z,3.1nm,1.1s,baz=107,slow=6.7,SNR=5.0
BRTR PKiKP **PKiKP 00 00 36.0 +0.2**
comp=Z,4.2nm,1.1s,baz=107,slow=4.0,SNR=5.5
ARCES ARCESS Array B 101.71 340 P **Pdif 23 56 11.0 -0.9**
comp=Z,31nm,1.1s,baz=85,slow=5.1,SNR=16
CSS Mathiatis 101.90 304 *e*P **Pdif 23 56 12.4 -1.1**
comp=Z,2.1nm,1.1s
CSS LR LR
comp=Z,141nm,19.0s
ANTO Ankara 102.16 309 PFAKE **23 56 30.0 +15**
ANTO LR LR
comp=Z,313nm,20.0s
MBAR Mbarara 103.03 268 PFAKE **23 56 30.0 +11**
MBAR LR LR
comp=Z,229nm,19.0s
BOSA Boshof 103.44 239 Pdiff **Pdif 23 56 20.5 -0.2**
comp=Z,1.8nm,0.8s,baz=139,slow=9.3,SNR=3.1
FINES FINESS Array B 103.48 332 Pdiff **Pdif 23 56 18.5 -1.3**
comp=Z,15nm,1.1s,baz=92,slow=4.6,SNR=17
FINES PKiKP **PKiKP 00 00 38.6 +0.1**
comp=Z,4.3nm,0.9s,baz=115,slow=6.3,SNR=6.0
LSZ Lusaka 103.53 253 *e*Pdif **Pdif 23 56 21.6 +0.3**
comp=Z,6.1nm,1.1s
LSZ LR LR
comp=Z,536nm,19.0s
LSZ Lusaka 103.53 253 *e*P **Pdif 23 56 21.6 +0.3**
LSZ pmax pmax
comp=Z,6.0nm,1.1s
LSZ MLR MLR
comp=Z,536nm,19.0s
AKASG Malin Array Be 103.69 321 Pdiff **Pdif 23 56 19.0 -2.0**
comp=Z,0.5nm,0.5s,baz=67,slow=4.8,SNR=14
AKASG PP PP **00 00 32.4 -5.1**
comp=Z,0.1nm,0.2s,baz=68,slow=7.2,SNR=4.1
KIEV Kiev 103.70 321 PFAKE **23 56 30.0 +8.9**
KIEV LR LR
comp=Z,401nm,21.0s
ISP Isparta 104.04 307 PFAKE **23 56 30.0 +6.9**
ISP LR LR
comp=Z,183nm,20.0s
YKA Yellowknife Ar 104.89 27 Pdiff **Pdif 23 56 25.6 -0.5**
comp=Z,1.1nm,0.9s,baz=289,slow=4.6,SNR=10
YKA PKiKP **PKiKP 00 00 39.9 -1.2**
comp=Z,0.3nm,0.5s,baz=298,slow=1.7,SNR=5.5
YKA PKKPbc **PKKPbc 00 12 08.4 -3.0**
comp=Z,0.7nm,0.4s,baz=114,slow=3.4,SNR=16
RES Resolute Bay 105.64 12 Pdiff **Pdif 23 56 28.9 -0.3**
comp=Z,2.2nm,0.8s,baz=293,slow=7.2,SNR=7.7
RES PKiKP **PKiKP 00 00 42.0 -0.2**
comp=Z,1.3nm,0.8s,baz=128,slow=4.4,SNR=4.7
RES PKKPbc **PKKPbc 00 12 06.2 -3.2**
comp=Z,4.2nm,1.1s,baz=95,slow=3.9,SNR=9.2
RES Resolute Bay 105.64 12 *e*P **Pdif 23 56 29.0 -0.3**
MLR Muntele Rosu 106.62 316 Pdiff **Pdif 23 56 33.6 -0.8**
comp=Z,1.4nm,1.0s,baz=100,slow=6.1,SNR=6.3
BUR08 Bucovina Ar. S 106.77 318 *e*Pdif **Pdif 23 56 35.0 +0.1**
NEW Newport 106.86 41 PFAKE 00 01 00.0
NEW LR LR
comp=Z,430nm,20.0s
BMO Blue Mountains 107.32 45 PFAKE 00 01 00.0
BMO LR LR

comp=Z,494nm,19.0s
NVAR Mina Array Bea 107.47 52 Pdiff **Pdif 23 56 40.9 +2.4**
comp=Z,3.3nm,1.1s,baz=265,slow=6.9,SNR=8.1
NVAR PKiKP **PKiKP 00 00 48.5 +1.6**
comp=Z,0.5nm,0.7s,baz=225,slow=2.4,SNR=3.7
NVAR PKKPab **PKKPab 00 12 17.2 +0.9**
comp=Z,2.2nm,0.9s,baz=111,slow=5.9,SNR=11
SANT Santorini 108.20 306 PFAKE 00 01 00.0
SANT LR LR
comp=Z,316nm,20.0s
UZH Uzhgorod 108.48 319 *e*P **Pdif 23 56 41.8 -0.6**
IDI Anoyia 108.78 305 PKiKP **PKiKP 00 00 49.9 +0.6**
comp=Z,7.0nm,0.5s,baz=90,slow=5.1,SNR=20
CRVS Cervenica-Dubn 108.96 320 *e*PDIFF **Pdif 23 56 44.2 -0.4**
CRVS Cervenica-Dubn 108.96 320 *e*P **Pdif 23 56 44.2 -0.4**
STHS Stebnicka Huta 108.98 320 *e*PDIFF **Pdif 23 56 44.7 0.0**
STHS Stebnicka Huta 108.98 320 *e*P **Pdif 23 56 44.7 0.0**
PFO Pinyon Flats O 109.50 56 PFAKE 00 01 00.0
PFO LR LR
comp=Z,588nm,19.0s
NIE Niedzica 109.57 321 *e*P **Pdif 23 56 47.9 +0.6**
NIE Niedzica 109.57 321 *e*P **Pdif 23 56 47.9 +0.6**
HLID Hailey 109.59 46 P **PKiKP 00 00 51.5 +0.8**
baz=281
GMRC Granite Mounta 110.02 55 P **PKiKP 00 00 53.2 +1.5**
baz=277
LANS Liptovska Anna 110.17 320 *e* **PKKPbc 00 11 54.7 +0.2**
PSZ Piszkesteto 110.21 319 *e*PKP **PKiKP 00 00 51.5 -0.1**
PSZ LR LR
comp=Z,213nm,20.0s
NOA NORSAR Array B 110.36 334 Pdiff **Pdif 23 56 49.5 -1.0**
comp=Z,4.6nm,1.2s,baz=69,slow=4.8,SNR=3.1
BOZ Bozeman (W) 111.10 43 PFAKE 00 01 10.0
BOZ LR LR
comp=Z,309nm,20.0s
MORC Moravsky Berou 111.20 321 *e*PKP **PKiKP 00 00 53.6 +0.2**
MORC Moravsky Berou 111.20 321 *e*PKIKP **PKiKP 00 00 53.6 +0.2**
DUG Dugway, Tooele 111.41 49 P **PKiKP 00 00 53.9 -0.3**
baz=281
DUG Dugway, Tooele 111.41 49 PFAKE 00 01 10.0
DUG LR LR
comp=Z,548nm,19.0s
KSP Ksiaz 111.64 323 *e*P **Pdif 23 56 56.8 +0.4**
TIR Tirane 111.73 312 PFAKE 00 01 10.0
TIR LR LR
comp=Z,429nm,21.0s
HWUT Hardware Ranch 112.05 47 PFAKE 00 01 10.0
HWUT LR LR
comp=Z,340nm,21.0s
AHID Auburn Hatcher 112.13 46 PFAKE 00 01 10.0
AHID LR LR
comp=Z,390nm,19.0s
LKWY Lake 112.20 44 PFAKE 00 01 10.0
LKWY LR LR
comp=Z,421nm,21.0s
TSUM Tsumeb 112.61 247 PFAKE 00 01 10.0
TSUM LR LR
comp=Z,520nm,20.0s
CONA Conrad Observa 112.81 320 *e*PKiKP **PKiKP 00 00 56.1 -0.4**
comp=Z,3.6nm,0.7s
BRG Berggiesshubel 113.04 323 *e*P **Pdif 23 57 03.0 +0.4**
comp=Z,8.6nm,1.3s
BRG Berggiesshubel 113.04 323 *e*PKP **PP 00 01 44.7 -0.9**
comp=Z,24nm,1.6s
BRG *e* 00 11 17.0
comp=N,364nm,17.7s
comp=E,194nm,14.1s
comp=Z,499nm,22.3s
BW06 Boulder Array 113.23 46 P **PKiKP 00 00 58.1 +0.4**
baz=284
BW06 Boulder Array 113.23 46 PFAKE 00 01 10.0
BW06 LR LR
comp=Z,433nm,19.0s
PDAR Pinedale Array 113.23 46 PKiKP **PKiKP 00 00 58.0 +0.3**
comp=Z,1.4nm,0.9s,baz=222,slow=2.0,SNR=9.1
PDAR PKKPbc **PKKPbc 00 11 43.2 -1.2**
comp=Z,0.4nm,0.4s,baz=73,slow=4.4,SNR=6.5
ARSA Arzberg 113.24 319 *e*PKiKP **PKiKP 00 00 57.7 +0.4**
comp=Z,3.9nm,1.0s
WUAZ Wupatki 113.39 54 PFAKE 00 01 10.0
WUAZ LR LR
comp=Z,406nm,22.0s
CLL Collm 113.43 324 *e*Pdif **Pdif 23 57 04.0 -0.4**
CLL *i* PKiKP **PKiKP 00 00 56.6 -0.9**
comp=Z,11nm,1.2s
CLL *e*PP **PP 00 01 46.0 -2.4**
comp=Z,13nm,1.3s
CLL *e*SP SP 00 11 17.0 -5.1
CLL *e*PKKPab **PKKPab 00 11 51.0 +1.6**
comp=Z,10.0nm,1.5s
CLL *e*PPS PPS 00 12 30.0
CLL *e*SS **SS 00 17 30.0 -4.1**
CLL *e*SSS SSS 00 21 48.0
CLL LmV 00 54 00.0
comp=Z,400nm,20.7s
PERS Pernice 113.69 319 *i* PKPdf **PKiKP 00 00 57.9 -0.4**
SOKA Soboth 113.73 319 *e*PKiKP **PKiKP 00 00 58.2 -0.1**
comp=Z,7.7nm,0.9s
MOA Molln 113.86 320 *e*PKiKP **PKiKP 00 00 58.1 -0.3**
comp=Z,3.4nm,0.6s
FFC Flin Flon 113.86 32 *e*PKP **PKiKP 00 00 58.0 -0.2**
FFC LR LR
comp=Z,490nm,22.0s
FFC Flin Flon 113.86 32 *e*PKIKP **PKiKP 00 00 58.0 -0.2**
FFC MLR MLR
comp=Z,490nm,22.0s
KHC Kasperske Hory 113.86 322 *e*PKiKP **PKiKP 00 00 58.0 -0.5**
GERES GERESS Array B 113.88 321 PKiKP **PKiKP 00 00 58.6 0.0**
comp=Z,2.2nm,0.5s,baz=76,slow=1.7,SNR=33
GERES PKKPab **PKKPab 00 11 46.0 -1.6**
comp=Z,0.6nm,0.8s,baz=224,slow=3.5,SNR=5.1
BOJS Bojanci 113.94 318 *i* PKPdf **PKiKP 00 00 59.0 +0.3**
OBKA Obir 114.10 319 *e*PKiKP PKPdf 00 00 59.0 0.0
comp=Z,4.8nm,1.3s
TUC Tucson 114.40 57 P PKPdf 00 01 00.6 +0.5
baz=279
TUC Tucson 114.40 57 PFAKE 00 01 10.0 +10
TUC LR LR
comp=Z,660nm,22.0s
LAO LASA Array 114.40 41 PFAKE 00 01 10.0 +10
LAO LR LR
comp=Z,363nm,20.0s
TIP Timpagrande 114.52 311 *e*PKP PKPdf 00 01 00.1 +0.1
TIP LR LR
comp=Z,540nm,20.0s
JAVS Javornik 114.61 318 *i* PKPdf PKPdf 00 00 59.8 -0.3
MYKA Terra Mystica 114.66 319 *i* PKPdf PKPdf 00 00 58.6 -1.5
comp=Z,0.7nm,0.4s
KBA Koelnbreinsper 114.70 320 *i* PKPdf PKPdf 00 00 59.2 -1.1
comp=Z,1.9nm,0.5s
O20A White River Ci 114.84 48 P PKPdf 00 01 01.6 +0.8
baz=284
CUC Castrocucco 115.03 312 PFAKE 00 01 10.0 +9.0
CUC LR LR
comp=Z,242nm,19.0s
MVCO Mesa Verde 115.33 52 P **PKPdf 00 01 02.5 +0.6**
baz=283
MVCO Mesa Verde 115.33 52 PFAKE 00 01 10.0 +8.1
MVCO LR LR
comp=Z,516nm,20.0s
ABTA Abfaltersbach 115.35 319 *e*PKPdf **PKPdf 00 01 00.4 -1.1**
comp=Z,11nm,0.8s,SNR=6.6
CEL Celeste 115.39 310 *e*PKPdf **PKPdf 00 01 01.7 0.0**
CEL LR LR
comp=Z,184nm,19.0s
K22A Casper 115.42 45 P **PKPdf 00 01 02.0 +0.1**
baz=287
FCC Fort Churchill 115.57 25 *e*PKPdf **PKPdf 00 01 00.4 -0.9**
FCC Fort Churchill 115.57 25 *e*PKiKP **PKiKP 00 01 00.4 -0.9**
WTTA Wattenberg 115.73 320 *i* PKiKP **PKiKP 00 01 02.2 -0.1**
comp=Z,10nm,0.5s,SNR=8.0
WATA Walderalm 115.74 320 *e*PKiKP **PKiKP 00 01 02.1 -0.1**
comp=Z,2.9nm,0.4s,SNR=8.1
MOTA Moosalm 116.04 320 *e*PKiKP **PKiKP 00 01 02.7 -0.2**
comp=Z,3.7nm,0.5s,SNR=11
AQU L'Aquila 116.15 315 *e*PKPdf **PKPdf 00 01 02.8 -0.3**
AQU LR LR
comp=Z,285nm,22.0s
AQU L'Aquila 116.15 315 *e*PKIKP **PKPdf 00 01 02.8 -0.3**
AQU MLR MLR
comp=Z,285nm,22.0s
RETA Reutte 116.20 321 *e*PKiKP **PKPdf 00 01 02.9 -0.1**
comp=Z,9.9nm,1.2s
N23A Red Feather La 116.33 47 P **PKPdf 00 01 03.4 -0.4**
baz=286
FETA Feichten 116.40 320 *e*PKiKP **PKPdf 00 01 03.4 -0.1**

comp=Z,17nm,1.2s,SNR=6.7
S22A 4UR Ranch, Cre 116.50 51 P **PKPdf 00 01 04.6 +0.3**
baz=284
STU Stuttgart 116.68 323 *e*PKPdf **PKPdf 00 01 01.9 -1.9**
STU Stuttgart 116.68 323 *e*PKIKP **PKPdf 00 01 01.9 -1.9**
RSSD Black Hills 116.69 43 P **PKPdf 00 01 03.5 -0.8**
baz=289
VAE Valguarnera 116.71 309 PKP **PKPdf 00 01 05.0 +0.7**
comp=Z,13nm,1.0s,baz=45,slow=10.0,SNR=3.9
DAVA Damuels 116.83 321 *e*PKiKP **PKPdf 00 01 04.6 +0.2**
comp=Z,6.5nm,0.5s,SNR=9.4
ISCO Idaho Springs 116.88 48 P **PKPdf 00 01 05.1 +0.2**
baz=286
ISCO Idaho Springs 116.88 48 PFAKE 00 01 20.0 +15
ISCO LR LR
comp=Z,546nm,20.0s
WDD Wied Dalam 117.01 307 PFAKE 00 01 20.0 +15
WDD LR LR
comp=Z,130nm,19.0s
BFO Black Forest 117.38 322 PFAKE 00 01 20.0 +15
BFO LR LR
comp=Z,193nm,20.0s
ANMO Albuquerque 117.44 54 PKKPab PKKPab 00 11 33.0 +0.7
comp=Z,0.7nm,0.5s,baz=149,slow=10,SNR=3.8
ANMO Albuquerque 117.44 54 P **PKPdf 00 01 06.9 +0.9**
baz=283
ANMO Albuquerque 117.44 54 PKKPab PKKPab 00 11 33.0 +0.7
ANMO LR LR
comp=Z,414nm,20.0s
TUE Stuetta 117.48 320 PFAKE 00 01 20.0 +14
TUE LR LR
comp=Z,374nm,20.0s
SDCO Great Sand Dun 117.51 50 P **PKPdf 00 01 06.8 +0.6**
baz=285
SDCO Great Sand Dun 117.51 50 PFAKE 00 01 20.0 +14
SDCO LR LR
comp=Z,641nm,19.0s
CLTB Caltabellotta 117.61 310 PFAKE 00 01 20.0 +14
CLTB LR LR
comp=Z,145nm,20.0s
VLC Villacollemand 117.65 317 *e*PKPdf **PKPdf 00 01 05.6 -0.3**
VLC LR LR
comp=Z,469nm,20.0s
MEM Membach 117.75 325 ⇑PKP **PKPdf 00 01 06.0 +0.2**
WLF Walferdange 118.10 324 ⇓PKP **PKPdf 00 01 07.3 +0.8**
WLF Walferdange 118.10 324 *e*PKPdf **PKPdf 00 01 07.1 +0.6**
WLF LR LR
comp=Z,435nm,19.0s
WLF Walferdange 118.10 324 *e*PKIKP **PKPdf 00 01 07.1 +0.6**
WLF MLR MLR
comp=Z,435nm,19.0s
ECH Echery 118.14 323 PFAKE 00 01 20.0 +13
ECH LR LR
comp=Z,310nm,19.0s
BCLA Clavier 118.24 325 ⇑PKP **PKPdf 00 01 07.0 +0.3**
T25A Trinidad 118.51 51 P **PKPdf 00 01 08.5 +0.4**
baz=286
MNTX Cornudas Mount 119.02 57 P **PKPdf 00 01 09.5 +0.6**
baz=282
MNTX Cornudas Mount 119.02 57 PFAKE 00 01 20.0 +11
MNTX LR LR
comp=Z,663nm,19.0s
B31A Greenbush Farm 119.08 37 P **PKPdf 00 01 08.3 -0.2**
baz=297
OGNE Ogallala 119.14 46 PFAKE 00 01 20.0 +11
OGNE LR LR
comp=Z,573nm,22.0s
ULM Lac du Bonnet 119.24 34 PKP **PKPdf 00 01 07.1 -1.6**
comp=Z,6.1nm,1.0s,baz=352,slow=2.0,SNR=7.7
ULM PKKPab **PKKPbc 00 11 22.8 -0.5**
comp=Z,1.7nm,0.4s,baz=137,slow=5.3,SNR=5.5
C31A Landman Farms, 119.32 37 P **PKPdf 00 01 08.7 -0.2**
baz=297
A32A Rocking H Ranc 119.53 36 P **PKPdf 00 01 08.5 -0.8**
baz=298
B32A Ashes, Strandq 119.75 36 P **PKPdf 00 01 09.2 -0.5**
baz=298
BNI Bardonecchia 119.76 319 *e*PKPdf **PKPdf 00 01 09.5 -0.5**
BNI LR LR
comp=Z,411nm,20.0s
BNI Bardonecchia 119.76 319 *e*PKIKP **PKPdf 00 01 09.5 -0.5**
BNI MLR MLR
comp=Z,411nm,20.0s
VSL Villasalto 119.93 313 PFAKE 00 01 20.0 +10
VSL LR LR
comp=Z,199nm,19.0s
A33A Warroad 120.16 35 P **PKPdf 00 01 09.8 -0.8**
baz=299
AGMN Agassiz Nation 120.20 36 P **PKPdf 00 01 09.8 -0.8**
baz=299
AGMN Agassiz Nation 120.20 36 PFAKE 00 01 20.0 +9.4
AGMN LR LR
comp=Z,622nm,20.0s
B33A Robert and Kas 120.37 36 P **PKPdf 00 01 10.5 -0.5**
baz=299
MSTX Muleshoe 120.63 54 P **PKPdf 00 01 12.5 +0.5**
baz=285
B34A Aery, Baudette 120.81 35 P **PKPdf 00 01 11.2 -0.6**
baz=300
K31A O'Neill 120.82 43 P **PKPdf 00 01 11.8 -0.2**
baz=293
TXAR Lajitas Array 120.95 59 PKP **PKPdf 00 01 13.2 +0.4**
comp=Z,4.2nm,1.0s,baz=303,slow=1.3,SNR=19
TXAR PKKPab **PKKPbc 00 11 17.1 +0.6**
comp=Z,4.4nm,1.1s,baz=121,slow=6.3,SNR=17
SSB Saint Sauveur 121.03 320 PFAKE 00 01 20.0 +7.6
SSB LR LR
comp=Z,194nm,19.0s
F33A 5 Mile Ranch, 121.08 39 P **PKPdf 00 01 12.0 -0.4**
baz=297
KEST Kesra 121.11 308 PKP **PKPdf 00 01 13.5 +0.6**
comp=Z,17nm,0.8s,baz=125,slow=1.7,SNR=37
D34A Park Rapids 121.17 37 P **PKPdf 00 01 12.1 -0.4**
baz=299
G33A Ortonville 121.28 40 P **PKPdf 00 01 12.5 -0.3**
baz=296
K32A Verdigre 121.34 43 P **PKPdf 00 01 12.4 -0.6**
baz=294
B35A Bob, Littlefor 121.41 35 P **PKPdf 00 01 12.2 -0.7**
baz=301
E34A Wadena 121.46 38 P **PKPdf 00 01 13.1 0.0**
baz=298
CBKS Cedar Bluff 121.52 48 PFAKE 00 01 30.0 +16
CBKS LR LR
comp=Z,488nm,22.0s
C35A Jirik Farms, M 121.59 36 P **PKPdf 00 01 12.1 -1.2**
baz=300
ECSD EROS Data Cent 121.80 41 P **PKPdf 00 01 13.4 -0.5**
baz=296
ECSD EROS Data Cent 121.80 41 PFAKE 00 01 30.0 +16
ECSD LR LR
comp=Z,579nm,20.0s
D35A Remer 121.86 37 P **PKPdf 00 01 13.1 -0.8**
baz=300
E35A Pequot Lakes 121.90 37 P **PKPdf 00 01 13.7 -0.3**
baz=299
H34A Spellman Lake, 121.93 40 P **PKPdf 00 01 13.9 -0.2**
baz=297
C36A Pine Crest Far 122.23 36 P **PKPdf 00 01 13.6 -1.0**
baz=301
D36A Goodland 122.33 36 P **PKPdf 00 01 14.3 -0.5**
baz=301
G35A Watkins 122.49 39 P **PKPdf 00 01 15.4 +0.3**
baz=298
H35A Sunnyside Ranc 122.52 39 P **PKPdf 00 01 15.2 0.0**
baz=298
E36A McGregor 122.61 37 P **PKPdf 00 01 15.2 -0.2**
baz=300
O33A Hebron 122.62 45 P **PKPdf 00 01 15.2 -0.3**
baz=293
F36A Milaca 122.78 38 P **PKPdf 00 01 15.5 -0.2**
baz=300
D37A Cotton 122.78 36 P **PKPdf 00 01 15.3 -0.3**
baz=301
EYMN Ely 122.90 35 P **PKPdf 00 01 15.9 +0.1**
baz=303
EYMN Ely 122.90 35 PFAKE 00 01 30.0 +14
EYMN LR LR
comp=Z,908nm,21.0s
G36A St. Michael 122.94 38 P **PKPdf 00 01 15.9 0.0**
baz=299
H36A Jessenland, He 123.14 39 P **PKPdf 00 01 16.9 +0.5**
baz=298
O34A Beatrice 123.21 45 P **PKPdf 00 01 16.1 -0.5**
baz=293
F37A Hinrichs Farm, 123.39 37 P **PKPdf 00 01 16.9 0.0**
baz=300

ABTX Abilene, Hawle 123.52 54 P **PKPdf 00 01 18.1 +0.6**
baz=286
E38A The Farm, Brul 123.58 36 P **PKPdf 00 01 16.8 -0.4**
baz=302
WMOK Wichita Mounta 123.58 52 P **PKPdf 00 01 17.8 +0.3**
baz=288
WMOK Wichita Mounta 123.58 52 PFAKE 00 01 30.0 +12
WMOK LR LR
comp=Z,473nm,21.0s
KSU1 Kansas State U 123.69 46 P **PKPdf 00 01 17.6 0.0**
baz=293
KSU1 Kansas State U 123.69 46 PFAKE 00 01 30.0 +12
KSU1 LR LR
comp=Z,444nm,19.0s
K36A Gilmore City 123.70 42 P **PKPdf 00 01 17.3 -0.2**
baz=297
F38A Pierce - Schro 123.72 37 P **PKPdf 00 01 17.6 +0.2**
baz=301
I37A Lemond, Waseca 123.75 40 P **PKPdf 00 01 17.8 +0.2**
baz=299
H37A Dierke Farm, C 123.78 39 P **PKPdf 00 01 17.4 -0.2**
baz=299
JCT Junction City 123.96 57 P **PKPdf 00 01 18.9 +0.4**
baz=285
JCT Junction City 123.96 57 PFAKE 00 01 30.0 +12
JCT LR LR
comp=Z,501nm,22.0s
J37A Redenius Farm, 123.98 40 P **PKPdf 00 01 16.7 -1.3**
baz=296
H38A Maiden Rock 124.12 38 P **PKPdf 00 01 18.0 -0.3**
baz=300
G38A Ridgeland 124.14 38 P **PKPdf 00 01 17.6 -0.7**
baz=301
N36A Muff Farm, Cla 124.15 44 P **PKPdf 00 01 17.9 -0.6**
baz=295
C40A Isle Royale Na 124.23 34 P **PKPdf 00 01 18.5 +0.2**
baz=305
E39A Mellen 124.28 36 P **PKPdf 00 01 19.2 +0.7**
baz=303
F39A Loretta 124.31 37 P **PKPdf 00 01 18.5 -0.1**
baz=302
I38A Scanlan Farm, 124.41 39 P **PKPdf 00 01 18.5 -0.3**
baz=300
G39A Holcombe 124.49 37 P **PKPdf 00 01 18.9 -0.1**
baz=301
E40A Wakefield 124.63 36 P **PKPdf 00 01 19.4 +0.1**
baz=303
J38A Wedel Dairy, R 124.67 40 P **PKPdf 00 01 18.8 -0.6**
baz=299
H39A Augusta 124.74 38 P **PKPdf 00 01 19.1 -0.3**
baz=301
F40A Park Falls 124.78 36 P **PKPdf 00 01 19.4 -0.1**
baz=303
833A Chaparral WMA, 124.83 59 P **PKPdf 00 01 21.3 +1.2**
baz=284
L38A Oak Wood Farm, 124.91 41 P **PKPdf 00 01 19.3 -0.6**
baz=298
O37A Wolven Farm, M 124.99 44 P **PKPdf 00 01 19.9 -0.2**
baz=296
I39A Houston 125.01 39 P **PKPdf 00 01 19.3 -0.7**
baz=300
G40A Rib Lake 125.08 37 P **PKPdf 00 01 20.4 +0.3**
baz=302
M38A Pleasantville 125.09 42 P **PKPdf 00 01 20.2 0.0**
baz=297
P37A Lathrop 125.10 45 P **PKPdf 00 01 19.5 -0.8**
baz=295
J39A Decorah 125.15 40 P **PKPdf 00 01 19.6 -0.6**
baz=300
E41A Kenton 125.15 35 P **PKPdf 00 01 19.7 -0.5**
baz=304
COWI Conover 125.26 36 PFAKE 00 01 30.0 +10
COWI LR LR
comp=Z,590nm,21.0s
H40A Chili 125.31 38 P **PKPdf 00 01 20.3 -0.3**
baz=302
K39A Oelwein 125.34 40 P **PKPdf 00 01 19.5 -1.2**
baz=299
WHTX Lake Whitney, 125.47 55 P **PKPdf 00 01 22.0 +0.8**
baz=288
F41A Three Lakes 125.48 36 P **PKPdf 00 01 20.7 -0.2**
baz=304
O38A Galt 125.48 44 P **PKPdf 00 01 20.7 -0.3**
baz=296
TUL1 Leonard 125.48 49 P **PKPdf 00 01 21.7 +0.6**
baz=291
L39A Vinton 125.55 41 P **PKPdf 00 01 20.7 -0.4**
baz=299
I40A Norwalk 125.55 39 P **PKPdf 00 01 20.4 -0.6**
baz=301
P38A Dawn 125.65 44 P **PKPdf 00 01 21.5 +0.2**
baz=296
435B Jarell 125.72 56 P **PKPdf 00 01 22.1 +0.4**
baz=287
M39A Webster 125.74 42 P **PKPdf 00 01 21.4 0.0**
baz=298
H41A Junction City 125.76 37 P **PKPdf 00 01 21.2 -0.2**
baz=302
E42A Champion 125.77 35 P **PKPdf 00 01 21.5 +0.1**
baz=305
K40A Colesburg 125.83 40 P **PKPdf 00 01 20.9 -0.7**
baz=300
EMHD Djebel Mahouad 125.84 311 P **PKPdf 00 01 22.5 +0.5**
Q38A Cooks Store, C 125.88 45 P **PKPdf 00 01 21.3 -0.4**
baz=295
R38A Fenwick Farm, 125.99 46 P **PKPdf 00 01 21.6 -0.5**
baz=294
O39A Kirksville 126.06 43 P **PKPdf 00 01 22.2 +0.1**
baz=297
G42A Mountain 126.15 36 P **PKPdf 00 01 21.2 -1.0**
baz=304
T38A Diamond 126.18 48 P **PKPdf 00 01 22.5 +0.1**
baz=293
J41A Loganville 126.20 39 P **PKPdf 00 01 21.6 -0.7**
baz=301
M40A Post Highland 126.21 42 P **PKPdf 00 01 22.5 +0.1**
baz=299
S38A Stockton 126.22 47 P **PKPdf 00 01 22.2 -0.3**
baz=294
P39B Salisbury 126.25 44 P **PKPdf 00 01 22.1 -0.4**
baz=296
JFWS Jewell Farm 126.28 39 P **PKPdf 00 01 21.5 -1.0**
baz=301
JFWS Jewell Farm 126.28 39 PFAKE 00 01 30.0 +7.5
JFWS LR LR
comp=Z,703nm,20.0s
Q39A Willow Grove F 126.29 45 P **PKPdf 00 01 22.7 +0.1**
baz=296
E43A Lone Tree Farm 126.32 34 P **PKPdf 00 01 22.4 0.0**
baz=306
K41A Shullsburg 126.40 40 P **PKPdf 00 01 22.2 -0.5**
baz=301
N40A Mertquake, Sal 126.41 42 P **PKPdf 00 01 22.6 -0.2**
baz=298
F43A Flat Rock, Esc 126.54 35 P **PKPdf 00 01 23.1 +0.3**
baz=306
L41A Preston 126.55 40 P **PKPdf 00 01 22.4 -0.5**
baz=300
R39A Chumby, Stover 126.56 46 P **PKPdf 00 01 23.2 +0.1**
baz=295
O40A La Belle 126.57 43 P **PKPdf 00 01 23.0 -0.1**
baz=298
I42A Draeger Farm, 126.60 38 P **PKPdf 00 01 22.5 -0.5**
baz=303
S39A Bolivar 126.62 46 P **PKPdf 00 01 22.6 -0.7**
baz=295
P40A Paris 126.72 44 P **PKPdf 00 01 23.5 +0.1**
baz=297
J42A Columbus 126.78 38 P **PKPdf 00 01 22.8 -0.6**
baz=302
M41A Milan 126.86 41 P **PKPdf 00 01 23.3 -0.3**
baz=300
F44A Big Bay de Noc 126.88 34 P **PKPdf 00 01 23.8 +0.3**
baz=307
K42A Prairie Point, 126.92 39 P **PKPdf 00 01 23.4 -0.3**
baz=302
Q40A Laux Farm, Aux 126.94 45 P **PKPdf 00 01 24.2 +0.3**
baz=297
U39A Green Forest 127.03 48 P **PKPdf 00 01 23.9 -0.2**
baz=294
R40A Maddies Statio 127.12 45 P **PKPdf 00 01 24.2 0.0**
baz=296
L42A Oliver, Polo 127.12 40 P **PKPdf 00 01 23.7 -0.4**
baz=301
V39A Pettigrew 127.12 49 P **PKPdf 00 01 24.2 -0.2**
baz=293
O41A Passleys Farm, 127.25 43 P **PKPdf 00 01 24.4 0.0**
baz=298

S40A Lebanon 127.25 46 P **PKPdf 00 01 24.4 -0.1**
baz=295
W39A Magazine 127.27 50 P **PKPdf 00 01 24.9 +0.3**
baz=293
X39A Fountain Ranch 127.27 50 P **PKPdf 00 01 25.0 +0.4**
baz=292
EANR `Ain N'Sour 127.33 312 P **PKPdf 00 01 25.4 +0.7**
P41A Barry, Barry 127.33 43 P **PKPdf 00 01 23.9 -0.7**
baz=298
T40A Mansfield 127.42 47 P **PKPdf 00 01 24.9 0.0**
baz=295
TAM Tamanrasset 127.45 294 *e*PKPdf **PKPdf 00 01 26.3 +0.9**
TAM LR LR
comp=Z,157nm,21.0s
TAM Tamanrasset 127.45 294 *e*PKIKP **PKPdf 00 01 26.3 +0.9**
TAM MLR MLR
comp=Z,157nm,21.0s
N42A Yates City 127.47 42 P **PKPdf 00 01 24.4 -0.4**
baz=300
U40A Yellville 127.51 48 P **PKPdf 00 01 25.1 +0.1**
baz=294
Q41A Truxton 127.55 44 P **PKPdf 00 01 25.4 +0.4**
baz=297
F45A CMU Biological 127.56 34 P **PKPdf 00 01 25.2 +0.4**
baz=307
MIAR Mount Ida 127.67 50 P **PKPdf 00 01 26.2 +0.9**
baz=292
MIAR Mount Ida 127.67 50 PFAKE 00 01 40.0 +15
MIAR LR LR
comp=Z,703nm,20.0s
R41A Rosebud 127.74 45 P **PKPdf 00 01 26.0 +0.6**
baz=297
V40A Witts Springs 127.75 48 P **PKPdf 00 01 25.7 +0.2**
baz=294
S41A Jillco Farms, 127.80 46 P **PKPdf 00 01 25.6 +0.1**
baz=296
NATX Nacogdoches 127.80 54 PFAKE 00 01 40.0 +14
NATX LR LR
comp=Z,489nm,20.0s
W40A Ferguson Farm, 127.81 49 P **PKPdf 00 01 26.1 +0.5**
baz=293
P42A Winchester 127.86 43 P **PKPdf 00 01 25.8 +0.3**
baz=299
M43A Waltham Townsh 127.86 40 P **PKPdf 00 01 25.7 +0.1**
baz=301
CCM Cathedral Cave 127.94 45 P **PKPdf 00 01 26.2 +0.4**
baz=297
T41A Mountain View 128.02 47 P **PKPdf 00 01 26.0 0.0**
baz=296
Q42A Golden Eagle 128.05 44 P **PKPdf 00 01 26.3 +0.4**
baz=298
HDIL Hopedale 128.09 41 P **PKPdf 00 01 26.1 +0.1**
baz=300
HDIL Hopedale 128.09 41 PFAKE 00 01 40.0 +14
HDIL LR LR
comp=Z,452nm,21.0s
Y40A Okolona 128.10 51 P **PKPdf 00 01 27.0 +0.9**
baz=292
R42A Luebbering 128.16 45 P **PKPdf 00 01 27.1 +0.9**
baz=297
U41A Viola 128.20 47 P **PKPdf 00 01 26.2 -0.1**
baz=295
O43A Sugar Creek Fa 128.22 42 P **PKPdf 00 01 26.5 +0.3**
baz=300
V41A Mountainview 128.26 48 P **PKPdf 00 01 26.5 0.0**
baz=294
SCHQ Schefferville 128.26 15 PKP **PKPdf 00 01 26.4 +0.5**
comp=Z,13nm,1.1s,baz=42,slow=8.7,SNR=3.5
S42A Caledonia 128.39 45 P **PKPdf 00 01 26.8 +0.2**
baz=297
W41B Gary Mavity, V 128.44 49 P **PKPdf 00 01 25.9 -0.9**
baz=294
M44A Midewin, Midew 128.48 40 P **PKPdf 00 01 26.6 -0.1**
baz=302
T42A Van Buren 128.51 46 P **PKPdf 00 01 27.2 +0.3**
baz=296
GLMI Grayling 128.58 35 P **PKPdf 00 01 27.3 +0.5**
baz=308
GLMI Grayling 128.58 35 PFAKE 00 01 40.0 +13
GLMI LR LR
comp=Z,893nm,19.0s
PLCA Paso Flores 128.62 156 PKP **PKPdf 00 01 28.4 +1.2**
comp=Z,27nm,1.0s,baz=224,slow=3.1,SNR=24
Y41A Eaglette Beard 128.66 51 P **PKPdf 00 01 27.8 +0.5**
baz=293
U42A Revenden 128.69 47 P **PKPdf 00 01 27.2 0.0**
baz=296
R43A Red Bud 128.76 44 P **PKPdf 00 01 27.2 -0.1**
baz=298
V42A Cord 128.81 48 P **PKPdf 00 01 27.4 -0.1**
baz=295
S43A Fulton Ridge, 128.99 45 P **PKPdf 00 01 27.7 -0.1**
baz=297
T43A Greenville 129.06 46 P **PKPdf 00 01 27.8 -0.1**
baz=297
P44A Sand Creek, Wi 129.08 42 P **PKPdf 00 01 28.2 +0.3**
baz=300
ESDC Sonseca Array 129.22 318 PKP **PKPdf 00 01 29.0 +0.8**
comp=Z,1.4nm,0.7s,baz=13,slow=2.6,SNR=13
ESDC PP PP 00 03 25.8 -11
comp=Z,0.2nm,0.5s,baz=246,slow=12,SNR=3.3
ESDC SKPbc SKPab 00 04 47.8 -0.5
comp=Z,0.6nm,0.8s,baz=39,slow=3.4,SNR=4.1
O45A Potomac 129.28 41 P **PKPdf 00 01 29.0 +0.7**
baz=302
PAB San Pablo 129.54 318 PFAKE 00 01 40.0 +11
PAB LR LR
comp=Z,358nm,19.0s
P45A Graceland, Par 129.64 42 P **PKPdf 00 01 29.6 +0.6**
baz=301
Q45A Warren Harvey, 129.68 43 P **PKPdf 00 01 29.0 -0.1**
baz=300
P46A Rosedale 129.95 41 P **PKPdf 00 01 30.3 +0.7**
baz=302
S45A Carrier Mills 129.99 44 P **PKPdf 00 01 30.1 +0.4**
baz=299
MVO Moncorvo 130.40 321 *e*PKPdf **PKPdf 00 01 32.3 +1.8**
MVO *i* P **SKPdf 00 05 12.0 +6.6**
AAM Ann Arbor 130.67 37 PFAKE 00 01 40.0 +9.2
AAM LR LR
comp=Z,541nm,20.0s
PGAV Gavieira, Arco 130.69 323 *e*PKPdf **PKPdf 00 01 32.4 +1.4**
POLO Lamas de Olo 130.75 322 *e*PKPdf **PKPdf 00 01 30.9 -0.3**
POLO *i* P **SKPdf 00 05 00.2 -5.9**
PVRL Vila Real 130.76 322 *e*PKPdf **PKPdf 00 01 31.9 +0.8**
T46A Princeton 130.77 45 P **PKPdf 00 01 32.3 +1.1**
baz=299
Q47A Bedord North L 130.82 42 P **PKPdf 00 01 31.7 +0.5**
baz=302
MTE Manteigas 131.15 321 *e*PKPdf **PKPdf 00 01 34.7 +2.8**
MTE *i* P **SKPab 00 05 00.4 +3.9**
MTE Manteigas 131.15 321 PFAKE 00 01 40.0 +8.1
MTE LR LR
comp=Z,421nm,22.0s
PVIS Viseu 131.19 321 *e*PKPdf **PKPdf 00 01 32.4 +0.4**
WVT Waverly 131.25 46 P **PKPdf 00 01 32.4 +0.3**
baz=298
WCI Wyandotte Cave 131.28 43 P **PKPdf 00 01 32.5 +0.4**
baz=302
T47A Sharon Grove 131.35 44 P **PKPdf 00 01 33.3 +1.0**
baz=300
PCBR Castelo Branco 131.43 320 *e*PKPdf **PKPdf 00 01 33.0 +0.7**
U47A Clarksville 131.49 45 P **PKPdf 00 01 33.2 +0.7**
baz=299
SADO Sadowa 131.58 31 PKP **PKPdf 00 01 32.1 -0.4**
comp=Z,7.4nm,1.0s,baz=272,slow=7.8
PMRV Marv??o 131.60 320 *e*PKPdf **PKPdf 00 01 34.2 +1.5**
V47A Nunnelly 131.62 46 P **PKPdf 00 01 33.1 +0.2**
baz=298
PCAS Casmilo, Conde 131.95 321 *i* P **SKPbc 00 05 03.9 +4.9**
X47A Russelville 131.98 48 P **PKPdf 00 01 33.8 +0.3**
baz=297
U48A Cassie Pea, Po 131.98 45 P **PKPdf 00 01 33.7 +0.2**
baz=300
PBAR Barrancos 132.05 318 *e*PKPdf **PKPdf 00 01 34.9 +1.3**
PBAR *i* P **SKPbc 00 05 01.9 +2.5**
V48A Smith Brothers 132.16 46 P **PKPdf 00 01 34.1 +0.3**
baz=299
ACSO Alum Creek Sta 132.31 38 PFAKE 00 01 50.0 +16
ACSO LR LR
comp=Z,713nm,20.0s
TORD Torodi Ar. Bea 132.33 283 PKhKP PKPpre 00 01 20.2
comp=Z,1.0nm,0.9s,baz=72,slow=4.6,SNR=7.9
TORD PKP **PKPdf 00 01 34.9 +0.2**
comp=Z,18nm,1.0s,baz=58,slow=1.4,SNR=38
TORD PP **PP 00 03 52.4 -5.2**
comp=Z,2.2nm,1.0s,baz=82,slow=2.0,SNR=3.6

TORD SKPbc **SKPbc** **00 05 00.9 -0.2**
comp=Z,8.1nm,1.1s,baz=77,slow=4.0,SNR=6.6
W48A Pulaski 132.37 46 P **PKPdf 00 01 33.8 -0.5**
baz=298
EVO Evora 132.50 319 *e*PKPdf **PKPdf 00 01 35.5 +1.1**
PVAQ Vaqueiros 132.92 318 *i* P **PP 00 04 06.6 +6.4**
PCVE Castro Verde 133.01 318 *e*PKPdf **PKPdf 00 01 37.3 +1.9**
PCVE *i* P PP 00 04 23.4 +23
MESJ Messejana 133.02 318 *e*PKPdf **PKPdf 00 01 35.0 -0.4**
PNCL Nicolau / Gran 133.07 319 *e*PKPdf **PKPdf 00 01 36.0 +0.5**
PNCL *i* P **SKPbc 00 05 06.5 +3.6**
PMAFR Mafra 133.08 320 *i* P **SKPab 00 05 09.7 +5.0**
X49A Woodville 133.10 47 P **PKPdf 00 01 35.5 -0.1**
baz=299
PBDV Barranco-do-Ve 133.15 317 *i* P PP 00 04 10.2 +8.5
LRAL Lakeview Retre 133.28 49 P **PKPdf 00 01 34.2 -1.8**
baz=297
M54A Oil Creek Stat 133.49 35 P **PKPdf 00 01 36.0 -0.2**
baz=311
Z49A Columbiana 133.56 49 P **PKPdf 00 01 36.8 +0.2**
baz=297
MORF Marmelete 133.59 318 *e*PKPdf **PKPdf 00 01 36.2 -0.4**
MORF Marmelete 133.59 318 *e*PKPdf **PKPdf 00 01 34.5 -2.1**
MORF *i* P **SKPbc 00 05 09.8 +5.0**
PFVI Vila Bisbo 133.81 318 *i* P **PP 00 04 13.3 +7.4**
LONY Lake Ozonia 133.94 28 PFAKE 00 01 50.0 +13
LONY LR LR
comp=Z,452nm,19.0s
Z50A Ashland 133.99 48 P **PKPdf 00 01 37.4 0.0**
baz=298
TRQA Tornquist 134.01 163 *e*PKPdf **PKPdf 00 01 38.1 +0.8**
TRQA LR LR
comp=Z,897nm,19.0s
BRAL Brewton 134.05 51 PFAKE 00 01 50.0 +12
BRAL LR LR
comp=Z,500nm,19.0s
250A Grady 134.31 50 P **PKPdf 00 01 38.8 +0.8**
baz=296
TKL Tuckaleechee C 134.34 44 PKP **PKPdf 00 01 38.4 +0.4**
comp=Z,15nm,1.0s,baz=136,slow=2.7,SNR=13
RFA San Rafael 134.54 154 IAmb IAmb 00 01 39.3
comp=Z,19nm,1.0s
251A Midway 134.91 49 P **PKPdf 00 01 39.7 +0.6**
baz=297
O56A Blue Knob Stat 134.93 35 P **PKPdf 00 01 40.1 +1.1**
baz=311
BINY Binghamton 135.02 32 P **PKPdf 00 01 39.3 +0.2**
baz=316
BINY Binghamton 135.02 32 PFAKE 00 01 50.0 +11
BINY LR LR
comp=Z,646nm,21.0s
SSPA Standing Stone 135.07 35 P **PKPdf 00 01 38.9 -0.3**
baz=312
APG El Apazote 135.48 74 PKP **PKPdf 00 01 41.4 +0.5**
comp=Z,12nm,1.0s,baz=337,slow=4.2,SNR=8.8
BLA Blacksburg 135.71 40 PFAKE 00 01 50.0 +9.5
BLA LR LR
comp=Z,721nm,19.0s
GOGA Godfrey 135.71 47 PFAKE 00 01 50.0 +9.4
GOGA LR LR
comp=Z,579nm,20.0s
ASAL Salagasta 136.20 152 *e*P PKPpre 00 01 33.9
AUSP Uspallata 136.24 151 *e*P PKPpre 00 01 33.1
CBN Corbin Frederi 136.98 37 P **PKPdf 00 01 43.1 +0.4**
baz=311
CBN Corbin Frederi 136.98 37 PFAKE 00 01 50.0 +7.2
CBN LR LR
comp=Z,494nm,19.0s
555A McAlpin 137.67 51 P **PKPdf 00 01 46.0 +1.7**
baz=298
KOWA Kowa 137.72 285 PKP **PKPdf 00 01 45.0 +0.2**
comp=Z,8.6nm,0.4s,baz=127,slow=2.1,SNR=25
AROD Rodeo 137.87 149 *e*P PKPpre 00 01 36.1
LCO Las Campanas 138.14 147 *e*PKPdf **PKPdf 00 01 46.7 +1.1**
NHSC New Hope 138.22 45 PFAKE 00 02 00.0 +15
NHSC LR LR
comp=Z,538nm,19.0s
CNNC Cliffs of the 138.53 41 PFAKE 00 02 00.0 +14
CNNC LR LR
comp=Z,529nm,19.0s
KIC Kosan Boka 138.86 273 *e*P PKPpre 00 01 37.9
comp=Z,152nm,1.5s
AGUA GUANDACOL 138.92 150 *e*P PKPpre 00 01 38.4
DBIC Dimbokro 138.99 274 PKhKP PKPpre 00 01 37.5
comp=Z,20nm,1.3s,baz=66,slow=7.6,SNR=5.1
DBIC PKP **PKPdf 00 01 46.7 -0.4**
comp=Z,46nm,1.3s,baz=55,slow=2.4,SNR=8.2
TCA Tanti 139.14 155 *e*P PKPpre 00 01 39.7
LIC Lamto 139.15 273 *e*P PKPpre 00 01 38.2
comp=Z,74nm,1.1s
TIC Toumodi 139.15 274 *e*P PKPpre 00 01 39.9
VCA Vinchina 139.67 149 *e*P PKPpre 00 01 42.3
CYA Choya 141.09 152 *e*P PKPpre 00 01 44.6
JTS JuntasAbangare 141.29 81 PKP **PKPdf 00 01 50.0 -1.3**
comp=Z,11nm,0.9s,baz=288,slow=6.4,SNR=4.0
JTS JuntasAbangare 141.29 81 *e*PKPdf **PKPdf 00 01 51.5 +0.1**
JTS LR LR
comp=Z,585nm,21.0s
JTS JuntasAbangare 141.29 81 *e*PKIKP **PKPdf 00 01 51.5 +0.1**
JTS MLR MLR
comp=Z,585nm,21.0s
AHML Horco Molle 142.71 151 *i* P PKPpre 00 01 49.8
AHML *i* P PKPpre 00 01 50.3
FSA Cafayete 142.95 150 *i* P PKPpre 00 01 50.1
SLA San Lorenzo 144.34 149 *i* P **PKPab 00 01 55.6 +0.9**
MAPC Malpelo 144.59 91 *e*P **PKPab 00 01 56.3 +0.5**
NNA Nana 144.74 120 *e*PKPdf **PKPab 00 01 57.1 +0.9**
NNA LR LR
comp=Z,387nm,19.0s
NNA Nana 144.74 120 *i* PKIKP **PKPdf 00 01 58.1 +0.6**
AZAP Zapla 144.97 149 *i* P **PKPab 00 01 57.5 +0.4**
ASTB Santa Barbara 145.51 149 *i* P **PKPbc 00 01 59.6 +0.9**
ASCN Ascension 145.55 247 *e*PKPbc **PKPab 00 02 00.3 +1.1**
HJA Humahuaca 145.62 147 *i* P **PKPbc 00 02 00.6 +1.2**
ALOL LOMAS DE OLMED145.86 150 *i* P **PKPbc 00 02 00.7 +1.0**
CPUP Villa Florida 146.34 162 PKPbc **PKPdf 00 02 00.6 +0.7**
comp=Z,100nm,1.0s,baz=213,slow=2.0,SNR=171
YJA Yavi 146.39 146 *i* P **PKPbc 00 02 02.6 +0.8**
BCIP Isla Barro Col 146.39 82 *e*PKPbc **PKPdf 00 02 01.5 +1.3**
BCIP LR LR
comp=Z,466nm,22.0s
BCIP Isla Barro Col 146.39 82 *e*P **PKPdf 00 01 59.2 -1.0**
MTDJ Mount Denham 146.91 65 PFAKE 00 02 10.0 +5.6
MTDJ LR LR
comp=Z,317nm,20.0s
TUMC Tumaco 147.23 95 *e*P **PKPdf 00 02 02.1 +0.4**
OTAV Otavalo 147.26 98 *e*PKPbc **PKPdf 00 02 03.5 +1.2**
OTAV LR LR
comp=Z,401nm,19.0s
OTAV Otavalo 147.26 98 *e*P **PKPab 00 02 06.8 +0.4**
GRGC Isla de Gorgon 147.93 93 *e*P **PKPbc 00 02 05.9 +0.1**
GTBY Guantanamo Bay 148.47 61 PFAKE 00 02 20.0 +10
GTBY LR LR
comp=Z,424nm,21.0s
GCUF Volcan Galeras 148.51 97 *e*P **PKPdf 00 02 05.2 +0.7**
CAPC Capurgana 148.87 83 *e*P **PKPbc 00 02 08.2 -0.1**
LPAZ La Paz 149.13 135 PKP **PKPdf 00 02 07.0 +1.5**
comp=Z,44nm,0.7s,baz=27,slow=1.4,SNR=34
LPAZ PKPbc **pPKPdf 00 02 10.2 -0.6**
comp=Z,44nm,0.7s,baz=278,slow=2.5,SNR=73
LPAZ La Paz 149.13 135 *i* P **PKPdf 00 02 06.6 +1.1**
HORQ Saladito 149.51 93 *e*P **PKPdf 00 02 05.6 -0.2**
BBTS Babate 149.60 289 PKPbc **PKPbc 00 02 10.3 +0.2**
comp=Z,33nm,0.4s,baz=232,slow=0.4,SNR=8.8
YOTC Yotoco, Valle 149.83 92 *e*P **PKPdf 00 02 06.5 +0.4**
PLMC San Jos˜' del 149.95 90 *e*P **PKPdf 00 02 06.5 +0.3**
FLOC Florencia 150.24 97 *e*P **PKPdf 00 02 07.3 +0.7**
MOTC Monteria, Cord 150.53 82 *e*P **PKPbc 00 02 11.8 -0.6**
BETC Betania 150.60 95 *e*P **PKPbc 00 02 14.4 +1.7**
HELC Santa Helena 150.74 88 *e*P **PKPbc 00 02 12.6 -0.7**
ANIL Santa Ana 150.80 91 *e*P **PKPdf 00 02 09.0 +1.1**
SPB Sao Paulo 150.84 178 PFAKE 00 02 20.0 +0.2
SPB LR LR
comp=Z,1µm,22.0s
GUYC Guyana, Colomb 150.85 90 *e*P **PKPbc 00 02 14.3 +0.5**
RREF El Recreo 150.88 90 *e*P **PKPdf 00 02 08.6 +0.2**
GRTK Grand Turk 151.13 55 PFAKE 00 02 20.0 -1.2
GRTK LR LR
comp=Z,393nm,21.0s
PRAC Prado 151.25 93 *e*P **PKPbc 00 02 14.6 +0.4**
NORC Norcasia 151.38 89 *e*P **PKPbc 00 02 14.0 -0.5**
ZARC Zaragoza, Cauc 151.39 85 *e*P **PKPdf 00 02 08.3 0.0**
PTBC PUERTO BERRIO,151.81 87 *e*P **PKPdf 00 02 12.1 +3.1**
ROSC El Rosal 151.90 90 PKP **PKPdf 00 02 10.9 +1.3**
comp=Z,13nm,0.8s,baz=285,slow=20,SNR=9.1
ROSC PKPbc **PKPbc 00 02 16.9 +0.8**
comp=Z,24nm,0.6s,baz=174,slow=1.9,SNR=20
ROSC El Rosal 151.90 90 *e*P **PKPdf 00 02 10.6 +1.0**
SDDR Presa de Saban 152.15 60 PFAKE 00 02 20.0 +3.9
SDDR LR LR
comp=Z,335nm,19.0s
CHIC Chingaza 152.47 91 *e*P **PKPbc 00 02 16.3 -1.1**
VILC Villavicencio, 152.47 92 *e*P **PKPbc 00 02 17.1 +0.1**
BRRC Barranca, Sant 152.54 86 *e*P **PKPbc 00 02 14.6 -2.4**
CODC Agust˜›n Codaz 152.60 79 *e*P **PKPdf 00 02 11.6 +1.5**
OCAC Ocana 152.88 83 *e*P **PKPdf 00 02 11.2 +0.5**
BARC Barichara 153.07 87 *e*P **PKPbc 00 02 17.6 -0.9**
RUSC La Rusia 153.16 88 *e*P **PKPdf 00 02 11.4 -0.2**
PAMC Pamplona, Colo 153.53 85 *e*P **PKPdf 00 02 12.3 +0.2**
URIC Uribia, Colomb 153.75 75 *e*P **PKPdf 00 02 15.2 +3.5**
YOPC Yopal, Colombi 153.81 89 *e*P **PKPab 00 02 31.5 -1.5**
SDV Santo Domingo 155.48 81 PKP **PKPdf 00 02 14.7 +0.3**
comp=Z,26nm,0.9s,baz=220,slow=1.3,SNR=27
SDV Santo Domingo 155.48 81 PKP **PKPdf 00 02 14.7 +0.3**
SDV LR LR
comp=Z,430nm,19.0s
SDV Santo Domingo 155.48 81 *e*P **PKPdf 00 02 14.3 -0.2**
SACV Santiago Islan 156.06 294 PFAKE 00 02 30.0 -12
SACV LR LR
comp=Z,205nm,21.0s
SJG San Juan 156.88 56 PFAKE 00 02 30.0 +14
SJG LR LR
comp=Z,306nm,20.0s
ANWB Willy Bob 160.61 51 PFAKE 00 02 30.0 +10
ANWB LR LR
comp=Z,331nm,20.0s
FDF Fort de France 162.71 58 PFAKE 00 02 30.0 +7.3
FDF LR LR
comp=Z,449nm,20.0s
GRGR Grenville 163.38 66 PFAKE 00 02 30.0 +6.7
GRGR LR LR
comp=Z,336nm,21.0s

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*ISCJB **03** 23:45:16.4±0.2, 45°.37N±0°.01×7°.35E±0°.03, h14km±2km, Error ellipse: s-maj=3.2km s-min=1.9km az=14.1*
*CSEM **03** 23:45:16.6±0.1, 45°.37N×7°.38E, h10km, ML2.4/22, Error ellipse: s-maj=3.2km s-min=2.0km az=95.0*
*LDG **03** 23:45:17.3±0.0, 45°.38N×7°.35E, h14km, Md2.7/3, Ml2.4/17, Error ellipse: s-maj=0.9km s-min=0.6km az=107.0*
*GEN **03** 23:45:17.5, 45°.39N×7°.33E, h16km, ML1.9*
*ROM **03** 23:45:17.1±0.1, 45°.37N×7°.34E, h13km±3km, Md2.2/10, Ml2.0/11, Error ellipse: s-maj=1.5km s-min=1.0km az=113.0*
*ZUR **03** 23:45:17.6, 45°.39N×7°.35E, h16km±2km, ML2.7/9*
*STR **03** 23:45:18.1±0.8, 45°.42N±0°.04×7°.5E±0°.1, h5km, MLv2.4/8*
ISC 03 23:45:16.9±0.8**, 45°.35N**±0°.01×**7°.45E**±0°.02**, h17**km±6km**,**
n122, σ1§**53**/188**, 6C-3D, Northern Italy**

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

RSP Reno Superiore 0.24 213⇑*i*Pg **Pg 23 45 23.0 +0.5**
2µm,0.1s
RSP Reno Superiore 0.24 213 P **Pg 23 45 23.0 +0.5**
RSP S **Sg 23 45 26.5 +0.2**
RSP Reno Superiore 0.24 213 Pg **Pg 23 45 22.9 +0.5**
RSP Sg **Sg 23 45 26.5 +0.2**
411nm,0.1s
LSD Lago del Serru 0.25 296⇓*i*Pg **Pg 23 45 22.1 -0.6**
3µm,0.1s
LSD *i* Sg **Sg 23 45 24.7 -1.9**
3µm,0.1s
LSD Lago del Serru 0.25 296 Pg **Pg 23 45 22.1 -0.6**
LSD Sg **Sg 23 45 24.7 -1.9**
740nm,0.2s
CIRO Champorcher 0.26 18⇑*i*Pg **Pb 23 45 23.8 +0.4**
3µm,0.1s
CIRO Champorcher 0.26 18 P **Pb 23 45 23.6 +0.2**
CIRO S **Sb 23 45 27.6 -0.2**
CIRO Champorcher 0.26 18 Pg **Pb 23 45 23.8 +0.4**
CIRO Sg **Sb 23 45 27.7 -0.1**
TRAV Traversella 0.26 52⇑*i*Pg **Pb 23 45 24.3 +1.0**
4µm,0.1s
TRAV Traversella 0.26 52 P **Pb 23 45 24.3 +1.0**
TRAV S **Sb 23 45 28.5 +1.0**
TRAV Traversella 0.26 52 Pg **Pb 23 45 24.3 +1.0**
TRAV Sg **Sb 23 45 28.5 +1.0**
288nm,0.1s
MRGE Morge 0.50 327⇑*i*Pg **Pg 23 45 26.4 -0.6**
428nm,0.1s
MRGE Morge 0.50 327⇑*i*Pg **Pg 23 45 26.4 -0.6**
MRGE Sg **Sg 23 45 32.1 -1.7**
76nm,0.1s
MRGE Morge 0.50 327 Pg **Pg 23 45 26.4 -0.6**
MRGE Sg **Sg 23 45 32.1 -1.7**
76nm,0.1s
LPG La Plagne 0.51 287 *e*Pg **Pg 23 45 26.4 -0.9**
LPG La Plagne 0.51 287 *e*Pn **Pb 23 45 27.7 +0.1**
SNR=1.0
LPG *e*Sg **Sg 23 45 32.5 -1.8**
34nm,0.3s
LPG La Plagne 0.51 287 *e*Pg **Pg 23 45 26.4 -0.9**
LPG La Plagne 0.51 287 *e*Pn **Pb 23 45 27.7 +0.1**
SNR=1.0
LPG *e*Sg **Sg 23 45 32.5 -1.8**
17nm,0.3s
BHB Bricherasio 0.53 195 P **Pb 23 45 27.8 +0.1**
BHB Bricherasio 0.53 195 Pg **Pb 23 45 28.1 +0.4**
BHB S **Sb 23 45 35.1 +0.1**
BHB Bricherasio 0.53 195 Pg **Pb 23 45 28.1 +0.4**
BHB Sg **Sb 23 45 35.2 +0.2**
93nm,0.1s
LPL La Plagne 0.53 288 *e*Pg **Pg 23 45 26.8 -0.8**
SNR=1.0
LPL *e*Sg **Sg 23 45 32.7 -2.1**
101nm,0.3s
LPL La Plagne 0.53 288 *e*Pg **Pg 23 45 26.8 -0.8**
SNR=1.0
LPL *e*Sg **Sg 23 45 32.7 -2.1**
50nm,0.3s
SATI Passo dei Sala 0.60 29 *e*Pg **Pg 23 45 28.6 -0.3**
782nm,0.1s
SATI Passo dei Sala 0.60 29 P **Pb 23 45 29.6 +0.4**
SATI S **Sb 23 45 37.7 +0.3**
SATI Passo dei Sala 0.60 29 Pg **Pb 23 45 29.6 +0.4**
SATI Sg **Sb 23 45 37.8 +0.3**
73nm,0.2s
BNI Bardonecchia 0.62 242 Pg **Pg 23 45 28.6 -0.6**
BNI Sg **Sg 23 45 36.1 -1.5**
23nm,0.4s
BNI Bardonecchia 0.62 242 Pg **Pg 23 45 28.6 -0.6**
BNI Sg **Sg 23 45 36.1 -1.5**
23nm,0.4s
RRL Rocca Remolon 0.64 228 P **Pg 23 45 29.0 -0.5**
RRL S **Sg 23 45 36.8 -1.2**
RRL Sg **Sg 23 45 37.1 -0.9**
27nm,0.3s
RRL Rocca Remolon 0.64 228 Pg **Pg 23 45 29.1 -0.5**
RRL Sg **Sg 23 45 37.1 -0.9**
27nm,0.3s
DIX Grande Dixence 0.73 358⇑*i*Pg **Pg 23 45 29.6 -1.7**
129nm,0.2s
DIX Grande Dixence 0.73 358 Pg **Pg 23 45 30.7 -0.6**
31nm,0.2s
DIX Grande Dixence 0.73 358 Pg **Pg 23 45 30.7 -0.6**
31nm,0.2s
MMK Mattmark 0.79 27 *e*Pn **Pg 23 45 30.7 -1.6**
103nm,0.1s
MMK Mattmark 0.79 27 Pg **Pb 23 45 32.8 +0.5**
21nm,0.4s
MMK Mattmark 0.79 27 Pg **Pb 23 45 32.8 +0.5**
21nm,0.4s
MBDF Montbardon 0.79 218 *e*Pg **Pg 23 45 32.1 -0.2**
SNR=1.0
MBDF *e*Sg **Sg 23 45 42.5 -0.3**
23nm,0.2s,SNR=1.0
MBDF Montbardon 0.79 218 *e*Pg **Pg 23 45 32.1 -0.2**
SNR=1.0
MBDF *e*Sg **Sg 23 45 42.5 -0.3**
11nm,0.2s,SNR=1.0
PZZ Stroppo 0.88 196 Pg **Pg 23 45 33.3 -0.7**
PZZ Sg **Sb 23 45 45.5 +0.3**
46nm,0.3s
PZZ Stroppo 0.88 196 Pg **Pg 23 45 33.3 -0.7**
PZZ Sg **Sb 23 45 45.5 +0.3**
46nm,0.3s
EMBD Embd, Matterta 0.91 17⇓*i*Pn **Pg 23 45 32.6 -1.9**
33nm,0.4s
EMBD Embd, Matterta 0.91 17⇓*i*P **Pg 23 45 34.4 -0.1**
STV Sant Anna di V 1.11 185 P **Pg 23 45 36.3 -2.1**
PCP Piancastagn 1.12 136 P **Pn 23 45 39.0 +1.1**
ENR Entracque 1.12 181 P **Pg 23 45 36.8 -1.9**
GBOS Grotte di Boss 1.14 166 P **Pg 23 45 38.4 -0.6**
ORIF Oris-en-Rattie 1.19 249 *e*Pg **Pg 23 45 38.9 -1.1**
SNR=1.0
ORIF *e*Sg **Sg 23 45 53.8 -1.8**
13nm,0.3s,SNR=1.0
ORIF Oris-en-Rattie 1.19 249 *e*Pg **Pg 23 45 38.9 -1.1**
SNR=1.0
ORIF *e*Sg **Sg 23 45 53.8 -1.8**
6.6nm,0.3s,SNR=1.0
SBF Sospel 1.49 180 *e*Pn **Pn 23 45 42.3 -0.6**
SNR=1.0
SBF Sospel 1.49 180 *e*P **Pb 23 45 44.4 +0.3**
SNR=1.0
SBF Sospel 1.49 180 *e*Pg **Pg 23 45 46.1 +0.6**
SBF *e*Sn **Sn 23 46 00.6 -1.3**
17nm,0.2s,SNR=1.0
SBF *e*Sg **Sg 23 46 06.1 +1.2**
20nm,0.3s
SBF Sospel 1.49 180 *e*Pn **Pn 23 45 42.3 -0.6**
SNR=1.0
SBF Sospel 1.49 180 *e*P **Pb 23 45 44.4 +0.3**
SNR=1.0
SBF Sospel 1.49 180 *e*Pg **Pg 23 45 46.1 +0.6**
SBF *e*Sn **Sn 23 46 00.6 -1.3**
8.4nm,0.2s,SNR=1.0
SBF *e*Sg **Sg 23 46 06.1 +1.2**
9.8nm,0.3s
NEGI Seborga 1.51 173 P **Pn 23 45 43.5 +0.3**
CABF La Chapelle 1.58 323 *e*P **Pn 23 45 44.4 +0.2**
SNR=1.0
CABF La Chapelle 1.58 323 *e*Pg **Pb 23 45 45.9 +0.2**
CABF *e*Sg **Sn 23 46 05.5 +1.2**
5.4nm,0.2s,SNR=1.0
CABF La Chapelle 1.58 323 *e*P **Pn 23 45 44.4 +0.2**
SNR=1.0
CABF La Chapelle 1.58 323 *e*Pg **Pb 23 45 45.9 +0.2**
CABF *e*Sg **Sn 23 46 05.5 +1.2**
2.7nm,0.2s,SNR=1.0
FRF La Foret Royal 1.88 198 *e*P **Pn 23 45 49.6 +1.4**
SNR=1.0
FRF La Foret Royal 1.88 198 *e*Pg **Pg 23 45 52.6 -0.4**
FRF *e*Sg **Sg 23 46 16.5 -0.9**
5.2nm,0.2s,SNR=1.0
FRF La Foret Royal 1.88 198 *e*P **Pn 23 45 49.6 +1.4**
SNR=1.0
FRF La Foret Royal 1.88 198 *e*Pg **Pg 23 45 52.6 -0.4**
FRF *e*Sg **Sg 23 46 16.5 -0.9**
2.6nm,0.2s,SNR=1.0
SMRF Simiane la Rot 1.92 225 *e*P **Pn 23 45 48.8 0.0**
SNR=1.0
SMRF Simiane la Rot 1.92 225 *e*Pg **Pb 23 45 52.5 +1.1**
SNR=1.0
SMRF *e*Sg **Sg 23 46 17.2 -1.5**
3.8nm,0.4s,SNR=1.0
SMRF Simiane la Rot 1.92 225 *e*P **Pn 23 45 48.8 0.0**
SNR=1.0
SMRF Simiane la Rot 1.92 225 *e*Pg **Pb 23 45 52.5 +1.1**
SNR=1.0
SMRF *e*Sg **Sg 23 46 17.2 -1.5**
1.9nm,0.4s,SNR=1.0
VIVF Saint-Julien-l 2.03 257 *e*P **Pn 23 45 50.9 +0.6**
SNR=1.0
VIVF Saint-Julien-l 2.03 257 *e*Pg **Pb 23 45 53.9 +0.6**
VIVF *e*Sg **Sb 23 46 19.3 +1.0**
1.5nm,0.2s
VIVF Saint-Julien-l 2.03 257 *e*P **Pn 23 45 50.9 +0.6**
SNR=1.0
VIVF Saint-Julien-l 2.03 257 *e*Pg **Pb 23 45 53.9 +0.6**
VIVF *e*Sg **Sb 23 46 19.3 +1.0**
0.8nm,0.2s
LOMF Lomont 2.05 348 Pn **Pn 23 45 50.6 0.0**
LOMF Lomont 2.05 348 Pg **Pg 23 45 55.8 -0.4**
LOMF Sg **Sg 23 46 23.5 +0.7**
LOMF Lomont 2.05 348 Pn **Pn 23 45 50.6 0.0**
LOMF Lomont 2.05 348 Pg **Pg 23 45 55.9 -0.4**
LMR La Mourre 2.13 199 *e*P **Pn 23 45 53.2 +1.6**
SNR=1.0
LMR La Mourre 2.13 199 *e*Pg **Pg 23 45 57.1 -0.6**
LMR *e*Sn **Sn 23 46 15.2 -2.4**
SNR=1.0
LMR *e*Sg **Sg 23 46 24.6 -0.7**
3.7nm,0.3s,SNR=1.0
LMR La Mourre 2.13 199 *e*P **Pn 23 45 53.2 +1.6**
SNR=1.0
LMR La Mourre 2.13 199 *e*Pg **Pg 23 45 57.1 -0.6**
LMR *e*Sn **Sn 23 46 15.2 -2.4**
SNR=1.0
LMR *e*Sg **Sg 23 46 24.6 -0.7**
1.9nm,0.3s,SNR=1.0
HINF Hinteralfeld 2.50 351 *e*P **Pn 23 45 58.1 +1.3**
SNR=1.0
HINF Hinteralfeld 2.50 351 *e*Pg **Pb 23 46 03.0 +1.6**
HINF *e*Sg **Sb 23 46 34.8 +2.9**
1.7nm,0.3s
HINF Hinteralfeld 2.50 351 *e*P **Pn 23 45 58.1 +1.3**
SNR=1.0
HINF Hinteralfeld 2.50 351 *e*Pg **Pb 23 46 03.0 +1.6**
HINF *e*Sg **Sb 23 46 34.8 +2.9**
0.9nm,0.3s
MOF Molkenrain 2.51 355 Pn **Pn 23 45 56.4 -0.6**
MOF Molkenrain 2.51 355 Pg **Pg 23 46 03.7 -1.3**
MOF Sg **Sg 23 46 37.2 -0.4**
MOF Molkenrain 2.51 355 Pn **Pn 23 45 56.4 -0.6**
MOF Molkenrain 2.51 355 Pg **Pg 23 46 03.7 -1.3**
FELD Feldberg im Sc 2.56 8 Pn **Pn 23 45 58.4 +0.8**
FELD Feldberg im Sc 2.56 8 Pg **Pg 23 46 05.0 -0.9**
FELD Feldberg im Sc 2.56 8 Pn **Pn 23 45 58.4 +0.8**
FELD Feldberg im Sc 2.56 8 Pg **Pg 23 46 05.1 -0.9**
DAVA Damuels 2.57 40 Pn **Pg 23 46 05.5 -0.6**
0.3nm,0.2s
DAVA Sn **Sb 23 46 36.6 +2.7**
2.9nm,0.3s
HAU Haudompre 2.76 344 *e*P **Pn 23 46 01.3 +0.9**
HAU Haudompre 2.76 344 *e*Pg **Pb 23 46 07.8 +2.0**
HAU *e*Sg **Sg 23 46 43.0 -2.6**
2.3nm,0.2s
HAU Haudompre 2.76 344 *e*P **Pn 23 46 01.3 +0.9**
HAU Haudompre 2.76 344 *e*Pg **Pb 23 46 07.8 +2.0**
HAU *e*Sg **Sg 23 46 43.0 -2.6**
1.1nm,0.2s
SMF Signal de Mont 2.83 299 *e*P **Pn 23 46 01.0 -0.3**
SNR=1.0
SMF *e*Sn **Sn 23 46 29.7 -5.3**
SNR=1.0
SMF *e*Sg **Sb 23 46 44.1 +2.8**
3.0nm,0.4s,SNR=1.0
SMF Signal de Mont 2.83 299 *e*P **Pn 23 46 01.0 -0.3**
SNR=1.0
SMF *e*Sn **Sn 23 46 29.7 -5.3**
SNR=1.0
SMF *e*Sg **Sb 23 46 44.1 +2.8**
1.5nm,0.4s,SNR=1.0
LASF Ste Croix 2.86 245 *e*P **Pn 23 46 03.2 +1.4**
SNR=1.0
LASF Ste Croix 2.86 245 *e*P **Pn 23 46 03.2 +1.4**
SNR=1.0
PGF Pioggiola 3.02 158 *e*Pn **Pn 23 46 04.1 +0.1**
SNR=1.0
PGF *e*Sn **Sn 23 46 37.8 -1.9**
1.2nm,0.3s,SNR=1.0
PGF Pioggiola 3.02 158 *e*Pn **Pn 23 46 04.1 +0.1**
SNR=1.0
PGF *e*Sn **Sn 23 46 37.8 -1.9**
0.6nm,0.3s,SNR=1.0
CDF Champ du Feu 3.06 358 *e*P **Pn 23 46 05.9 +1.3**
CDF Champ du Feu 3.06 358 *e*Pg **Pb 23 46 13.5 +2.5**
CDF Champ du Feu 3.06 358 *e*P **Pn 23 46 05.9 +1.3**
CDF Champ du Feu 3.06 358 *e*Pg **Pb 23 46 13.5 +2.5**
RETA Reutte 3.13 46 Pn **Pn 23 46 05.4 -0.1**
RETA Reutte 3.13 46 *e*Pn **Pn 23 46 05.4 -0.1**
LOR Lormes 3.14 309 *e*P **Pn 23 46 06.8 +1.2**
SNR=1.0
LOR *e*Sg **Sb 23 46 53.3 +3.0**
3.0nm,0.4s,SNR=1.0
LOR Lormes 3.14 309 *e*P **Pn 23 46 06.8 +1.2**
SNR=1.0
LOR *e*Sg **Sb 23 46 53.3 +3.0**
1.5nm,0.4s,SNR=1.0
AVF Avril sur Loir 3.20 298 *e*P **Pn 23 46 07.5 +1.2**
SNR=1.0
AVF *e*Sg **Sb 23 46 55.7 +3.9**
1.3nm,0.3s,SNR=1.0

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
AVF	Avril sur Loir	3.20	298	eP	Pn	23 46 07.5	+1.2
	SNR=1.0						
AVF				eSg	Sb	23 46 55.7	+3.9
	0.6nm,0.3s,SNR=1.0						
SSF	Saint Saulge	3.23	303	eP	Pn	23 46 08.2	+1.4
	SNR=1.0						
SSF				eSg	Sb	23 46 56.1	+3.3
	1.6nm,0.3s,SNR=1.0						
SSF	Saint Saulge	3.23	303	eP	Pn	23 46 08.2	+1.4
	SNR=1.0						
SSF				eSg	Sb	23 46 56.1	+3.3
	0.8nm,0.3s,SNR=1.0						
BGF	Bois d'Agland	3.43	292	eP	Pn	23 46 10.5	+0.9
	SNR=1.0						
BGF				eSg	Sb	23 47 02.9	+4.3
	2.2nm,0.3s						
BGF	Bois d'Agland	3.43	292	eP	Pn	23 46 10.5	+0.9
	SNR=1.0						
BGF				eSg	Sb	23 47 02.9	+4.3
	1.1nm,0.3s						
TCF	Toulx Ste Croi	3.78	286	eP	Pn	23 46 15.4	+1.0
	SNR=1.0						
TCF	Toulx Ste Croi	3.78	286	eP	Pn	23 46 15.4	+1.0
	SNR=1.0						
CAF	Calviac	3.83	266	ePn	Pn	23 46 12.6	-2.5
	SNR=1.0						
CAF	Calviac	3.83	266	eP	Pn	23 46 16.8	+1.7
CAF	Calviac	3.83	266	ePn	Pn	23 46 12.6	-2.5
	SNR=1.0						
CAF	Calviac	3.83	266	eP	Pn	23 46 16.8	+1.7

IDC 03 23:55:44.5±4.5, 5°.73S×134°.06E, h0km, mb3.7/3, mb1 3.9/5, mb1mx3.6/45, mbtmp3.7/5, ML3.5/2, MS4.0/1, Ms1 4.0/1, ms1mx3.1/54, Error ellipse: s-maj=279.3km s-min=29.5km az=80.0, Aru Islands region

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
WRA	Warramunga Arr	14.13	179	Pn	Pn	23 59 05.2	-1.1
	0.3nm,0.3s,baz=356,slow=13,SNR=4.9						
WRA				Sn	Sn	00 01 36.3	-7.7
	0.2nm,0.3s,baz=356,slow=23,SNR=3.0						
ASAR	Alice Springs	17.84	180	P	P	23 59 55.0	-0.2
	0.1nm,0.3s,baz=6.0,slow=10.0,SNR=2.9						
JNU	Nakatsue	38.75	356	LR	LR	00 19 51.0	
	comp=Z,213nm,19.6s,baz=163,slow=37						
MKAR	Makanchi Array	69.45	325	P	P	00 06 54.7	-0.1
	0.4nm,0.6s,baz=110,slow=7.3,SNR=5.6						
ZALV	Zalesovo Beam	72.30	332	P	P	00 07 11.4	-0.5
	0.6nm,0.6s,baz=101,slow=7.6,SNR=3.2						
KURBB	Kurchatov Arra	73.60	327	P	P	00 07 20.2	+0.6
	0.5nm,0.7s,baz=125,slow=4.9,SNR=5.9						

*ISCJB **03** 23:59:22.1±0.9, 4°.4S±0°.2×153°.7E±0°.2, h85km, mb3.5/7, Error ellipse: s-maj=31.0km s-min=11.7km az=42.3*
*IDC **03** 23:59:25.7±5.8, 4°.35S×153°.61E, h104km±48km, mb3.5/7, mb1 3.7/8, mb1mx3.4/50, mbtmp3.9/8, Error ellipse: s-maj=45.5km s-min=25.0km az=101.0*
ISC 03 23:59:23.5±1.0, 4°.3S±0°.2×153°.7E±0°.2, h85km, n9, σ0s.90/10, mb3.7/7, New Ireland region

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
PMG	Port Moresby	8.25	232	P	Pn	00 01 21.9	+1.4
	2.2nm,0.3s,baz=8.5,slow=7.0,SNR=4.6						
PMG				S	Sn	00 02 51.1	-1.0
	2.3nm,0.3s,baz=129,slow=20,SNR=6.7						
WRA	Warramunga Arr	24.45	229	P	P	00 04 34.3	-0.4
	3.4nm,0.6s,baz=54,slow=9.9,SNR=9.5						
ASAR	Alice Springs	27.12	223	P	P	00 04 58.1	-0.7
	0.8nm,0.7s,baz=48,slow=7.5,SNR=4.3						
STKA	Stephens Creek	29.68	201	P	P	00 05 21.0	-0.4
	3.1nm,0.7s,baz=24,slow=12,SNR=4.5						
VNDA	Vanda	73.27	178	P	P	00 10 45.6	+0.5
	1.1nm,0.9s,baz=350,slow=8.3,SNR=3.9						
MKAR	Makanchi Array	80.59	319	P	P	00 11 27.4	+0.6
	0.3nm,0.7s,baz=104,slow=5.1,SNR=3.5						
ILAR	Eielson Array	81.38	22	P	P	00 11 30.7	0.0
	0.2nm,0.6s,baz=241,slow=5.0,SNR=3.2						
BVAR	Borovoye Array	89.42	323	P	P	00 12 10.4	-0.4
	0.5nm,0.8s,baz=76,slow=6.1,SNR=3.7						
TORD	Torodi Ar. Bea	151.04	289	PKPbc	PKPbc	00 19 06.8	-1.0
	1.4nm,0.8s,baz=72,slow=2.5,SNR=7.9						

*CSEM **04** 00:01:44.9±0.1, 38°.55N×43°.13E, h2km, MD3.0, Error ellipse: s-maj=3.5km s-min=3.3km az=166.0*
*ISK **04** 00:01:44.1, 38°.56N×43°.11E, h5km, ML2.9/7*
*DDA **04** 00:01:44.9, 38°.58N×43°.14E, h7km, Md3.0*
*ATA **04** 00:01:44.4±1.1, 38°.56N×43°.12E, h15km±8km, ML3.5, MW3.2*
ISC 04 00:01:45.3±0.9, 38°.57N±0°.02×43°.11E±0°.02, h10km±7km, n77, σ0s.95/101, 1D, Turkey

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
VANB	Van	0.22	82	PG	Pg	00 01 49.9	+0.1
VANB				SG	Sg	00 01 54.2	+1.3
VANB	Van	0.22	82	ePg	Pg	00 01 49.9	+0.1
VANB				eSg	Sg	00 01 54.2	+1.3
TVAN	Van	0.23	99	i P	Pg	00 01 50.1	0.0
TVAN				i S	Sg	00 01 53.1	-0.3
TVAN	Van	0.23	99	P	Pg	00 01 50.1	0.0
TVAN				S	Sg	00 01 53.1	-0.3
GEVA	Gevas	0.26	190	i P	Pg	00 01 50.4	-0.2
GEVA				eS	Sg	00 01 54.9	+0.8
GEVA				IAML		00 01 56.5	
	comp=Z,730nm,0.3s						
GEVA	Gevas	0.26	190	i P	Pg	00 01 50.4	-0.2
GEVA				i S	Sg	00 01 52.7	-1.4
GEVA	Gevas	0.26	190	P	Pg	00 01 50.4	-0.2
GEVA				S	Sg	00 01 52.7	-1.4
ADCV	BITLIS_Adilcev	0.39	309	i P	Pb	00 01 54.1	-0.4
ADCV	BITLIS_Adilcev	0.39	309	P	Pb	00 01 54.1	-0.4
ERCV	ERCIS-VAN	0.49	21	PG	Pg	00 01 54.8	0.0
ERCV	ERCIS-VAN	0.49	21	ePg	Pg	00 01 54.8	0.0
VMUR	Van-Muradiye	0.55	40	i P	Pn	00 02 02.1	+2.6
VMUR	Van-Muradiye	0.55	40	P	Pn	00 02 02.1	+2.6
GURO	Guroymak-BITLI	0.85	269	PG	Pg	00 02 00.9	-0.7
GURO	Guroymak-BITLI	0.85	269	ePg	Pg	00 02 00.9	-0.7
CLDR	Caldiran	0.85	47	PG	Pb	00 02 01.7	-0.6
CLDR	Caldiran	0.85	47	i P	Pg	00 02 00.4	-1.3
CLDR				i S	Sg	00 02 11.4	-1.4
CLDR	Caldiran	0.85	47	P	Pg	00 02 00.4	-1.3
CLDR	Caldiran	0.85	47	ePg	Pb	00 02 01.7	-0.6
CLDR				S	Sg	00 02 11.4	-1.4
TUTA	Tutak	0.87	344	⇓eP	Pg	00 02 01.9	-0.1
TUTA				eS	Sb	00 02 14.2	-0.2
TUTA				IAML		00 02 18.1	
	comp=Z,113nm,0.3s						
TUTA	Tutak	0.87	344	i P	Pg	00 02 01.9	-0.1
TUTA				i S	Sg	00 02 10.2	-3.2
TUTA	Tutak	0.87	344	P	Pg	00 02 01.9	-0.1
TUTA				S	Sg	00 02 10.2	-3.2
AGRB	Hanur-Agry	1.01	355	PG	Pg	00 02 04.7	-0.1
AGRB	Hanur-Agry	1.01	355	ePg	Pg	00 02 04.7	-0.1
EKAR	Karacoban	1.07	310	eP	Pg	00 02 05.9	0.0
EKAR				eS	Sn	00 02 22.1	+0.4
EKAR				IAML		00 02 27.0	
	comp=Z,68nm,0.4s						
EKAR	Karacoban	1.07	310	i P	Pg	00 02 05.5	-0.4
EKAR				i S	Sn	00 02 21.8	+0.1
EKAR	Karacoban	1.07	310	P	Pg	00 02 05.5	-0.4
EKAR				S	Sn	00 02 21.8	+0.1
DYDN	Diyadin	1.07	24	i P	Pg	00 01 49.8	-16
DYDN	Diyadin	1.07	24	P	Pg	00 01 49.8	-16
SRTM	Siirt_Merkez	1.10	239	i P	Pb	00 02 06.6	+0.1
SRTM				i S	Sn	00 02 22.5	+0.3
SRTM	Siirt_Merkez	1.10	239	P	Pb	00 02 06.6	+0.1
SRTM				S	Sn	00 02 22.5	+0.3
HAKT	HAKKARI	1.11	155	i P	Pg	00 02 04.7	-1.9
HAKT				i S	Sn	00 02 24.0	+1.4
HAKT	HAKKARI	1.11	155	P	Pg	00 02 04.7	-1.9
HAKT				S	Sn	00 02 24.0	+1.4
SIRT	Sirnak	1.19	207	PN	Pb	00 02 07.8	-0.2
SIRT	Sirnak	1.19	207	ePn	Pb	00 02 07.8	-0.2
YOVA	Hakkari_Yˆ…kse	1.35	136	i P	Pn	00 02 09.9	-0.5
YOVA				i S	Sn	00 02 29.5	+1.0
YOVA	Hakkari_Yˆ…kse	1.35	136	P	Pn	00 02 09.9	-0.5
YOVA				S	Sn	00 02 29.5	+1.0
EATA	Eleskirt	1.38	340	eP	Pn	00 02 11.1	+0.1
EATA	Eleskirt	1.38	340	i P	Pn	00 02 11.2	+0.2
EATA				i S	Sn	00 02 30.2	+0.7
EATA	Eleskirt	1.38	340	P	Pn	00 02 11.2	+0.2
EATA				S	Sn	00 02 30.2	+0.7
VRTB	Varto-Mus	1.43	295	PN	Pg	00 02 12.7	+0.1
VRTB	Varto-Mus	1.43	295	i P	Pb	00 02 12.1	0.0
VRTB				i S	Sg	00 02 31.4	+0.3
VRTB	Varto-Mus	1.43	295	P	Pb	00 02 12.1	0.0
VRTB	Varto-Mus	1.43	295	ePn	Pg	00 02 12.7	+0.1
VRTB				S	Sg	00 02 31.4	+0.3
IGDI	IGDIR	1.50	30	eP	Pg	00 02 13.6	-0.5
IGDI	IGDIR	1.50	30	i P	Pb	00 02 12.9	-0.4
SVAN	Silvan-Diyarba	1.56	255	PN	Pb	00 02 14.1	-0.2
SVAN	Silvan-Diyarba	1.56	255	ePn	Pb	00 02 14.1	-0.2
BTMN	Batman	1.60	246	i P	Pb	00 02 14.9	-0.1
BTMN	Batman	1.60	246	P	Pb	00 02 14.9	-0.1
TASB	TASBURUN-IGDIR	1.66	31	PN	Pb	00 02 15.6	-0.5
TASB	TASBURUN-IGDIR	1.66	31	ePn	Pb	00 02 15.6	-0.5
HOMI	Horasan	1.75	328	eP	Pb	00 02 17.5	-0.2
HOMI	Horasan	1.75	328	i P	Pb	00 02 17.6	0.0
DIGO	Kars	1.86	6	eP	Pn	00 02 18.4	+0.9
DIGO	Kars	1.86	6	i P	Pn	00 01 56.4	-21
DIGO	Kars	1.86	6	P	Pn	00 01 56.4	-21
ERZM	Erzurum	1.91	315	eP	Pb	00 02 20.0	-0.4
ERZM				eS	Sg	00 02 46.3	-0.3
ERZM	Erzurum	1.91	315	i P	Pb	00 02 19.8	-0.6
ERZM	Erzurum	1.91	315	P	Pb	00 02 19.8	-0.6
BNGB	Bingˆ¶l	1.95	283	PN	Pn	00 02 19.8	+1.2
BGOL	Bingol	1.96	283	i P	Pg	00 02 22.7	-0.1
BGOL	Bingol	1.96	283	P	Pg	00 02 22.7	-0.1
ECAT	Cat-ERZURUM	1.96	303	i P	Pb	00 02 21.9	+0.6
ECAT				eS	Sg	00 02 49.8	+1.4
ECAT				IAML		00 02 58.9	
	comp=Z,9.2nm,0.7s						
ECAT	Cat-ERZURUM	1.96	303	i P	Pn	00 02 18.2	-0.7
ECAT	Cat-ERZURUM	1.96	303	P	Pn	00 02 18.2	-0.7
KARS	Kars	2.06	359	PN	Pn	00 02 21.2	+1.1
KARS	Kars	2.06	359	ePn	Pn	00 02 21.2	+1.1
BINT	Bingol	2.08	279	ePn	Pn	00 02 19.8	-0.6
SENK	Senkaya-Erzuru	2.08	344	PN	Pn	00 02 21.7	+1.2
SENK	Senkaya-Erzuru	2.08	344	ePn	Pn	00 02 21.7	+1.2
EAK	Akyaka	2.15	10	i P	Pg	00 02 25.7	-0.8
EAK	Akyaka	2.15	10	P	Pg	00 02 25.7	-0.8
MAZI	Mazidag	2.38	243	PN	Pn	00 02 25.9	+1.4
MAZI	Mazidag	2.38	243	ePn	Pn	00 02 25.9	+1.4
KOPT	Kop Dagi	2.50	306	eP	Pn	00 02 27.5	+1.3
KOPT				i P	Pg	00 02 32.6	-0.6
BAYB	BAYBURT	2.79	308	eP	Pb	00 02 35.1	-0.2

*NIED **04** 00:12:00, 36°.90N×141°.90E, h26km, Mw4.4 Best double couple: M0 4.49000×10^15 NP1:φs350.00000°, δ24.00000°, λ-104.00000°. NP2:φs185.00000°, δ67.00000°, λ-84.00000°.*
*IDC **04** 00:12:53.5±0.5, 36°.82N×142°.11E, h0km, mb4.3/31, mb1 4.4/36, mb1mx4.3/70, mbtmp4.3/36, ML4.1/5, MS3.8/2, Ms1 3.8/2, ms1mx3.0/81, Error ellipse: s-maj=14.1km s-min=11.3km az=124.0*
*BJI **04** 00:12:55.4, 36°.66N×142°.28E, h33km, mb4.7/47, mB5.1/30, Ms4.5/15, Ms7 4.2/15*
*ISCJB **04** 00:12:56.1±0.8, 36°.84N±0°.02×142°.02E±0°.03, h22km±5km, mb4.5/131, MS4.3/2, Error ellipse: s-maj=4.1km s-min=3.6km az=29.2*
*MOS **04** 00:12:56.5±1.0, 36°.82N×142°.07E, h30km, mb4.7/42, Error ellipse: s-maj=7.4km s-min=5.1km az=112.9*
*JMA **04** 00:12:57.8±0.3, 36°.88N×141°.93E, h43km, M4.4*
JMA Felt I J1.
*NEIC **04** 00:12:58.1±1.4, 36°.87N×142°.00E, h24km±10km, mb4.6/64, Error ellipse: s-maj=4.9km s-min=3.4km az=132.0*
NEIC Recorded [1 JMA] in Fukushima and Tochigi.
ISC 04 00:12:59.2±0.8, 36°.88N±0°.04×142°.06E±0°.05, h33km±3km, n268, σ1s.39/282, mb4.5/131, 11C-4D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
ONAJ	Iwakimizuishiy	1.03	283	P	Pn	00 13 14.6	-2.7
JFK	Kawauchi	1.06	297	P	Pn	00 13 14.9	-2.8
JFK				eS	Sn	00 13 27.3	-4.0
JHO	Hitachi	1.23	258	P	Pn	00 13 17.2	-2.7
JMM	Marumori	1.41	315	P	Pn	00 13 20.4	-2.0
JMM				eS	Sn	00 13 37.2	-2.6
JFT	Otama	1.51	295	P	Pn	00 13 22.5	-1.4
JIO	Ouri	1.67	341	P	Pn	00 13 24.1	-1.9
JIO				eS	Sn	00 13 45.4	-0.8
JOU	Okura	1.85	324	P	Pn	00 13 28.0	-0.5
JOU				eS	Sn	00 13 50.2	-0.5
JFY	Yanaizu	1.95	286	P	Pn	00 13 29.3	-0.6
JFY				eS	Sn	00 13 51.4	-1.9
JYS	Shirataka	2.07	311	P	Pn	00 13 30.8	-0.8
JYS				eS	Sn	00 13 55.1	-1.1
JAG	Ashikaga	2.14	258	P	Pn	00 13 30.7	-1.9
JMK	Ichinoseki	2.17	343	P	Pn	00 13 32.4	-0.5
JMK				eS	Sn	00 13 58.8	+0.2
BSO1	Boso 1	2.39	202	P	Pn	00 13 35.1	-0.4
JYK	Kaneyama	2.43	327	P	Pn	00 13 36.2	-0.4
JYK				eS	Sn	00 14 07.0	+1.8
MJAR	Matsushiro Arr	3.11	265	Pn	Pn	00 13 45.6	-0.2
	84nm,0.3s,baz=99,slow=11,SNR=277						
MJAR				LR	LR	00 15 15.3	
	comp=Z,2μm,18.8s,baz=130,slow=45						
MAJO	Matsushiro	3.11	265	ePn	Pn	00 13 46.0	0.0
MAJO	Matsushiro	3.11	265	c iP	Pn	00 13 45.9	0.0
MAT	Matsushiro	3.11	265	P	Pn	00 13 45.9	0.0
MAT				S	Sn	00 14 24.7	+2.8
MJB9	Matsu-Tunnel	3.11	265	ePn	Pn	00 13 46.0	+0.1
JHJ2	Mitsune	4.19	207	ePn	Pn	00 13 58.8	-1.9
JHJ2				eSn	Sn	00 14 45.9	-2.5
JHJ	Hachijo jima 2	4.19	207	Pn	Pn	00 13 58.0	-2.8
	56nm,0.3s,baz=228,slow=19,SNR=6.2						
INU	Inuyama	4.36	251	ePn	Pn	00 14 03.9	+0.9
ERM	Erimo	5.20	9	ePn	Pn	00 14 15.9	+1.4
ERM	Erimo	5.20	9	eP	Pn	00 14 15.9	+1.4
ASAJ	Asahikawa	7.24	3	Pn	Pn	00 14 41.7	-0.9
	4.4nm,0.3s,baz=223,slow=11,SNR=11						
ASAJ	Asahikawa	7.24	3	ePn	Pn	00 14 41.3	-1.2
ASAJ				eSn	Sn	00 16 01.6	-1.9
TEY	Ternei	9.13	335	eP	Pn	00 15 14.0	+5.6
CBIJ	Chichi jima	9.76	179	ePn	Pn	00 15 17.1	-0.1
JNU	Nakatsue	9.91	251	Pn	Pn	00 15 18.6	-0.6
	0.6nm,0.3s,baz=90,slow=13,SNR=6.5						
JNU	Nakatsue	9.91	251	ePn	Pn	00 15 20.2	+1.0
VLA	Vladivostok	9.98	312	eP	Pn	00 15 21.0	+0.9
VLA				pmax	pmax		
	comp=Z,44nm,0.9s						
YSS	Yuzh-Sakhalins	10.08	3	eP	Pn	00 15 22.9	+1.5
YSS				pmax	pmax		
	comp=Z,43nm,0.9s						
MSHR	Mys Shultsa	10.14	307	ceP	Pn	00 15 23.7	+1.4
USRK	Ussuriysk Ar.	10.58	317	Pn	Pn	00 15 31.5	+3.1
	comp=Z,0.8nm,0.3s,baz=130,slow=13,SNR=22						
KSRS	Korea Array	11.29	277	Pn	Pn	00 15 41.5	+3.3
	comp=Z,0.8nm,0.3s,baz=93,slow=14,SNR=22						
KSRS				LR	LR	00 19 44.0	
	comp=Z,382nm,20.2s,baz=165,slow=36						
KSAR	Wonju Array Be	11.32	277	Pn	Pn	00 15 41.5	+2.9
KSAR	Wonju Array Be	11.32	277	P	Pn	00 15 41.5	+2.9
TJN	Taejon	11.82	272	ceP	Pn	00 15 46.3	+1.0
MDJ	Mudanjiang	12.20	313	ePn	Pn	00 15 49.5	-1.0
	comp=Z,9.4nm,0.6s						
TYV	Tymovskoe	13.98	2	eP	Pn	00 16 17.1	+2.3
TYV				pmax	pmax		
	comp=Z,9.0nm,1.0s						
KLR	Kul'dur	14.44	332	Pn	Pn	00 16 18.5	-2.5
	comp=Z,0.0nm,0.3s,baz=146,slow=10,SNR=4.7						
KLR	Kul'dur	14.44	332	eP	Pn	00 16 23.1	+2.1
SNY	Shenyang	15.12	295	⇑P	Pn	00 16 30.2	+0.1
SNY				pmax	pmax		
	comp=Z,11nm,0.5s						
SNY				LR	LR		
	comp=Z,910nm,5.7s						
SNY				LR	LR		
	comp=Z,870nm,10.0s						
SNY				LR	LR		
	comp=Z,1μm,15.0s						
NKL	Nikolayevsk	16.30	357	eP	P	00 16 47.0	-0.9
NKL				pmax	pmax		
	comp=Z,11nm,0.9s						
PETK	Petropavlovsk-	19.56	29	P	P	00 17 22.3	-1.7
	comp=Z,0.9nm,0.3s,baz=192,slow=12,SNR=3.2						
NJ2	Nanjing	19.71	263	eP	P	00 17 25.6	-0.1
NJ2				pmax	pmax		
	comp=Z,24nm,0.6s						
ZEA	Zeya	19.74	333	eP	Pn	00 17 30.8	+3.3
TIA	Tai'an	20.03	276	P	Pn	00 17 34.7	+3.6
TIA				pmax	pmax		
	comp=Z,22nm,1.0s						
HIA	Hailar	20.38	314	eP	P	00 17 33.5	+0.6
HIA				pmax	pmax		
	comp=Z,5.0nm,1.0s						
BJI	Beijing	20.49	287	⇓eP	P	00 17 34.2	+0.1
BJI				pP	pP	00 17 42.5	-0.5
BJI				pmax	pmax		
	comp=Z,16nm,0.5s						
BJI				pmax	pmax		
	comp=Z,370nm,5.0s						
BJT	Baijiatuau	20.49	287	eP	P	00 17 34.2	0.0
	comp=Z,20nm,0.7s						
BJT	Baijiatuau	20.49	287	eP	P	00 17 34.2	0.0
BJT				pmax	pmax		
	comp=Z,20nm,0.7s						
YHNB	Yeheng	21.49	241	eP	P	00 17 44.8	-0.3
	comp=Z,14nm,0.5s						
SSLB	Suanglung	22.34	240	eP	P	00 17 52.9	-1.4
	comp=Z,10.0nm,0.6s						
YULB	Yu-li	22.37	239	eP	P	00 17 55.4	+0.9
TPUB	Ta-pu	22.89	240	eP	P	00 17 59.5	-0.5
	comp=Z,14nm,0.4s						
MA2	Magadan	23.40	11	P	P	00 18 04.2	-0.6
	comp=Z,15nm,0.8s,baz=192,slow=8.1,SNR=18						
MA2	Magadan	23.40	11	ceP	P	00 18 03.4	-1.4
WHN	Wuhan	23.85	263	⇓P	P	00 18 11.7	+2.3
HHC	Hu-ho-hao-te	24.01	289	eP	P	00 18 12.0	+1.1
HHC				PP	PnPn	00 18 44.8	+4.6
HHC				S	S	00 22 21.6	-4.2
HHC				pmax	pmax		
	comp=Z,16nm,0.7s						
HHC				pmax	pmax		
	comp=Z,270nm,4.2s						
HHC				LR	LR		
	comp=Z,670nm,12.6s						
HHC				LR	LR		
	comp=Z,530nm,12.3s						
HHC				LR	LR		
	comp=Z,650nm,11.8s						
YAK	Yakutsk	26.33	347	eP	P	00 18 26.8	-4.8
YAK				pmax	pmax		
	comp=Z,24nm,0.9s						
SEY	Seymchan	26.84	10	P	P	00 18 36.6	+0.4
	comp=Z,7.7nm,0.9s,baz=194,slow=6.3,SNR=34						
SEY	Seymchan	26.84	10	eP	P	00 18 35.5	-0.7
XAN	Xi'an	27.06	274	P	P	00 18 39.5	+0.9
XAN				pmax	pmax		
	comp=Z,6.0nm,0.5s						
H11N2	WAKE ISLAND Hy	27.63	121	T	T	00 47 43.2	
	baz=314,slow=75,SNR=86						
H11N1	WAKE ISLAND Hy	27.64	121	T	T	00 47 45.5	
	baz=314,slow=75,SNR=77						
H11N3	WAKE ISLAND Hy	27.65	121	T	T	00 47 43.9	
	baz=314,slow=75,SNR=36						
ENH	Enshi	27.83	266	eP	P	00 18 44.8	-0.7
	comp=Z,21nm,0.6s						
ULN	Ulaanbaatar	27.86	304	eP	P	00 18 46.3	+0.5
	comp=Z,8.3nm,0.7s						
ULN	Ulaanbaatar	27.86	304	ceP	P	00 18 44.5	-1.3
ULN				pmax	pmax		
	comp=Z,7.0nm,1.2s						
BOD	Bodaibo	27.93	328	eP	P	00 18 45.2	-0.8
BOD				pmax	pmax		
	comp=Z,9.0nm,1.5s						
SONA1	Songino Array	28.29	304	eP	P	00 18 49.8	+0.2
SONM	Songino Array	28.30	304	P	P	00 18 50.1	+0.5
	comp=Z,7.3nm,0.7s,baz=104,slow=8.3,SNR=36						
SONM				PcP	PcP	00 22 01.5	-0.5
	comp=Z,2.2nm,1.0s,baz=201,slow=1.1,SNR=4.9						
H11S1	WAKE ISLAND Hy	28.35	124	T	T	00 48 34.9	
	baz=316,slow=76,SNR=35						
H11S3	WAKE ISLAND Hy	28.35	124	T	T	00 48 34.5	
	baz=316,slow=76,SNR=29						
H11S2	WAKE ISLAND Hy	28.36	124	T	T	00 48 37.6	
	baz=316,slow=76,SNR=43						
LZH	Lanzhou	30.60	280	eP	P	00 19 14.6	+4.4
LZH				pP	sP	00 19 24.4	+0.5
LZH				sP	pP	00 19 28.8	+9.0
LZH				pmax	pmax		
	comp=Z,23nm,0.8s						
LZH				pmax	pmax		
	comp=Z,130nm,6.2s						
ZAK	Zakamensk	30.77	308	eP	P	00 19 10.7	-0.7
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.0s						
TLY	Talaya	30.82	311	eP	P	00 19 17.2	+5.4
TLY				pmax	pmax		
	comp=Z,2.0nm,0.6s						
GYA	Guiyang	31.70	261	⇓P	P	00 19 18.8	-1.1
GYA				pP	sP	00 19 32.5	-1.1
GYA				PP	PnPn	00 20 27.6	+3.2
GYA				PcP	PcP	00 22 13.3	+2.1
GYA				S	S	00 24 27.8	+0.3
GYA				sS	sS	00 24 46.0	+2.5
GYA				SS	SnSn	00 26 19.2	+3.7
GYA				pmax	pmax		
	comp=Z,20nm,0.8s						
GYA				pmax	pmax		
	comp=Z,110nm,4.9s						
GYA				LR	LR		
	comp=Z,460nm,17.2s						
GYA				LR	LR		
	comp=Z,430nm,17.8s						
GYA				LR	LR		
	comp=Z,450nm,17.6s						
CD2	Chengdu	32.19	271	eP	P	00 19 23.5	-0.6
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,120nm,5.0s						
GTA	Gaotai	33.10	288	eP	P	00 19 32.3	+0.2
GTA				pP	pP	00 19 41.9	+0.2
GTA				sP	sP	00 19 45.8	0.0
GTA				pmax	pmax		
	comp=Z,6.0nm,1.0s						
BILL	Bilibino	34.03	16	i P	P	00 19 39.0	-0.6
BILL				i		00 19 47.1	
BILL				pmax	pmax		
	comp=Z,4.0nm,1.0s						
KNGR	Kungurtug, Tuv	34.44	308	eP	P	00 19 43.3	-0.2
KMI	Kunming	35.45	262	P	P	00 19 54.1	+1.5
KMI				pmax	pmax		
	comp=Z,16nm,0.6s						
KMI				pmax	pmax		
	comp=Z,230nm,5.9s						
TIXI	Tiksi	35.50	353	P	P	00 19 50.7	-1.6
	comp=Z,0.8nm,0.4s,baz=140,slow=4.6,SNR=5.7						
TIXI	Tiksi	35.50	353	eP	P	00 19 51.0	-1.2
	comp=Z,3.2nm,1.1s						
TIXI	Tiksi	35.50	353	ceP	P	00 19 51.4	-0.9
TIXI				pmax	pmax		
	comp=Z,7.0nm,2.5s						
HVS	Khovu-Aksy	36.89	308	eP	P	00 20 05.0	+0.5
HVS				pmax	pmax		
	comp=Z,4.0nm,0.8s						
SKNT	Sakolnakorn	38.98	250	P	P	00 20 31.2	+8.8
DGZ	Jazzator, Alta	40.90	306	d iP	P	00 20 39.1	+0.9
DGZ				pmax	pmax		
	comp=Z,6.0nm,0.8s						
CMAI	Chiengmai2	41.05	258	P	P	00 20 41.4	+1.6
	comp=Z,325nm,0.7s,comp=Z,34μm						
CHAI	Chaiyaphum	41.14	250	P	P	00 20 41.2	+0.9
	comp=Z,4.6nm,0.9s						
WMQ	Urumqi	41.37	297	P	P	00 20 44.3	+2.3
WMQ				pP	pP	00 20 48.7	-3.2
WMQ				sP	sP	00 20 54.7	-1.2
WMQ				pmax	pmax		
	comp=Z,35nm,0.9s						
WMQ				pmax	pmax		
	comp=Z,230nm,3.7s						
WMQ				LR	LR		
	comp=Z,250nm,17.9s						
WMQ				LR	LR		
	comp=Z,340nm,15.3s						
WMQ				LR	LR		
	comp=Z,450nm,17.9s						
PBKT	Sadao Pong	41.50	252	P	P	00 20 43.5	+0.2
	comp=Z,8.8nm,0.8s						
CMMT	Chiang Mai	41.75	256	P	P	00 20 46.6	+1.2
	comp=Z,9.7nm,1.3s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
CHTO	Chiang Mai	41.76	256	P	P	00 20 47.6	+2.2
	comp=Z,61nm,1.3s						
CHTO	Chiang Mai	41.76	256	eP	P	00 20 44.9	-0.5
	comp=Z,4.7nm,0.6s						
CHTO	Chiang Mai	41.76	256	eP	P	00 20 44.9	-0.5
CHTO				pmax	pmax		
	comp=Z,5.0nm,0.6s						
CMAR	Chiang Mai Arr	41.96	256	P	P	00 20 47.1	+0.1
	comp=Z,2.7nm,0.5s,baz=48,slow=6.3,SNR=15						
ZAA0	Zalesovo Array	42.40	313	eP	P	00 20 52.0	+1.8
	comp=Z,9.2nm,0.9s						
ZALV	Zalesovo Beam	42.40	313	P	P	00 20 50.3	+0.2
	comp=Z,5.3nm,0.7s,baz=90,slow=7.1,SNR=19						
ZALV				PcP	PcP	00 22 42.1	-0.8
	comp=Z,2.0nm,0.7s,baz=92,slow=3.4,SNR=3.8						
ZALV	Zalesovo Beam	42.40	313	eP	P	00 20 50.2	0.0
ZALV				ePcP	PcP	00 22 42.5	-0.4
ZALV	Zalesovo Beam	42.40	313	eP	P	00 20 50.2	0.0
ZALV				e		00 22 42.5	
NVS	Novosibirsk	43.31	314	eP	P	00 21 00.6	+3.0
NVS				pmax	pmax		
	comp=N,5.0nm,1.3s						
NVS				pmax	pmax		
	comp=E,11nm,1.3s						
NVS				pmax	pmax		
	comp=Z,13nm,1.3s						
SRDT	SRDT	44.27	251	P	P	00 21 15.1	+9.4
MK01	Makanchi Array	44.63	302	eP	P	00 21 08.0	-0.3
MK31	Makanchi Array	44.63	302	eP	P	00 21 08.4	0.0
MK31	Makanchi Array	44.63	302	i P	P	00 21 07.4	-1.0
MK31				pmax	pmax		
	comp=Z,5.0nm,0.7s						
MKAR	Makanchi Array	44.63	302	P	P	00 21 08.2	-0.2
	comp=Z,5.7nm,0.9s,baz=87,slow=9.9,SNR=31						
MKAR	Makanchi Array	44.63	302	eP	P	00 21 08.4	0.0
	comp=Z,34nm,0.6s						
PHET	Kaeng Krachan	44.79	249	P	P	00 21 16.9	+7.0
	comp=Z,6.0nm,0.8s						
MAKZ	Makanchi	44.84	302	eP	P	00 21 10.2	+0.1
	comp=Z,6.0nm,0.8s						
MAKZ	Makanchi	44.84	302	P	P	00 21 09.5	-0.5
MAKZ				pmax	pmax		
	comp=Z,8.0nm,1.1s						
KURK	Kurchatov	46.43	308	eP	P	00 21 22.4	-0.1
	comp=Z,36nm,0.6s						
KURK	Kurchatov	46.43	308c	eP	P	00 21 22.6	+0.2
KURK				pmax	pmax		
	comp=Z,43nm,0.8s						
KURBB	Kurchatov Arra	46.50	308	P	P	00 21 23.0	0.0
	comp=Z,6.1nm,0.6s,baz=83,slow=8.3,SNR=30						
IM3	Indian Mountai	46.52	31	eP	P	00 21 22.8	-0.2
KDAK	Kodiak Island	46.87	42	i P	P	00 21 25.6	-0.1
CAST	Castle Rocks	47.06	34	eP	P	00 21 28.8	+1.5
	comp=Z,4.9nm,0.6s						
RAMN	Ramite	47.53	275	eP	P	00 21 31.7	0.0
	comp=Z,37nm,0.6s						
JIRN	Jiri	47.54	276	eP	P	00 21 32.9	+1.0
	comp=Z,49nm,0.7s						
BPAW	Bear Paw Mtn.	47.57	33	eP	P	00 21 32.3	+1.1
	comp=Z,19nm,1.6s						
GUN	Gumba	47.68	276	eP	P	00 21 33.9	+0.9
	comp=Z,39nm,0.7s						
MLY	Manley	47.70	32	eP	P	00 21 33.7	+1.4
	comp=Z,8.2nm,1.0s						
TRF	Thorofare Moun	47.87	34	eP	P	00 21 33.9	+0.2
	comp=Z,28nm,1.7s						
COLD	Coldfoot	48.03	29	eP	P	00 21 35.0	+0.3
	comp=Z,1.3nm,0.6s						
KKN	Kakani	48.21	276	eP	P	00 21 38.2	+1.3
	comp=Z,35nm,0.6s						
PKIN	Phulchoki	48.21	276	eP	P	00 21 37.4	+0.4
	comp=Z,27nm,0.7s						
TOLK	Toolik Lake Re	48.37	27	eP	P	00 21 38.6	+1.2
	comp=Z,6.8nm,0.9s						
DMN	Daman	48.43	276	eP	P	00 21 38.6	0.0
MCK	McKinley	48.47	34	eP	P	00 21 38.3	+0.1
	comp=Z,5.3nm,0.9s						
MCK	McKinley	48.47	34	eP	P	00 21 38.3	+0.1
MCK				pmax	pmax		
	comp=Z,5.0nm,0.9s						
RND	Reindeer	48.51	34	eP	P	00 21 37.8	-0.8
	comp=Z,7.9nm,0.7s						
RND	Reindeer	48.51	34	eP	P	00 21 37.8	-0.8
RND				pmax	pmax		
	comp=Z,8.0nm,0.7s						
GKN	Gorkha	48.63	277	eP	P	00 21 40.2	+0.1
	comp=Z,56nm,0.7s						
MDM	Murphy Dome	48.77	32	eP	P	00 21 41.7	+1.3
	comp=Z,9.5nm,0.8s						
SML	Sawmill	48.81	36	eP	P	00 21 40.9	+0.1
	comp=Z,48nm,1.7s						
SML	Sawmill	48.81	36	eP	P	00 21 40.9	+0.1
SML				pmax	pmax		
	comp=Z,48nm,1.7s						
WRH	Wood River Hil	48.83	33	eP	P	00 21 41.4	+0.5
WRH				ePcP	PcP	00 23 05.3	+0.2
DANN	Dangsing	49.18	278	eP	P	00 21 45.2	+0.8
KULM	Kulim	49.19	240	eP	P	00 21 44.8	+0.5
	comp=Z,15nm,1.2s						
HDA	Harding Lake	49.33	33	eP	P	00 21 43.9	-0.8
	comp=Z,40nm,1.0s						
IL1	Eielson Array	49.35	32	eP	P	00 21 44.6	-0.3
ILAR	Eielson Array	49.35	32	P	P	00 21 44.9	+0.1
	comp=Z,4.9nm,0.7s,baz=265,slow=6.4,SNR=61						
ILB	Eielson Array	49.35	32	eP	P	00 21 45.0	+0.2
KOLN	Koldanda	49.56	277	eP	P	00 21 46.9	-0.3
PYUN	Piuthan	49.90	278	eP	P	00 21 50.4	+0.6
	comp=Z,80nm,0.9s						
KLU	Klutina	49.98	37	eP	P	00 21 50.5	+0.7
	comp=Z,19nm,1.3s						
TKM2	Tokmak 2	50.15	299	P	P	00 21 53.7	+2.1
TKM2				pmax	pmax		
	comp=Z,7.0nm,0.6s						
MTN	Manton Dam	50.52	194	eP	P	00 21 55.6	+1.4
	comp=Z,28nm,1.5s						
COEN	Coen	50.58	179	eP	P	00 21 54.5	-0.1
	comp=Z,8.2nm,0.8s						
DOT	Dot Lake	50.64	34	eP	P	00 21 54.9	+0.1
	comp=Z,78nm,1.9s						
SCRK	Sand Creek	50.65	33	eP	P	00 21 55.3	+0.4
	comp=Z,6.1nm,0.8s						
KSH	Kashi	50.94	294	eP	P	00 22 01.4	+4.0
KSH				pmax	pmax		
	comp=Z,4.0nm,0.6s						
AAK	Ala-Archa	51.01	299	eP	P	00 21 57.7	-0.3
	comp=Z,3.9nm,0.7s						
AAK	Ala-Archa	51.01	299	P	P	00 22 01.0	+3.0
AAK				pmax	pmax		
	comp=Z,6.0nm,1.2s						
BVA0	Borovoye Array	51.05	313	i P	P	00 21 57.8	-0.1
BVA0				pmax	pmax		
	comp=Z,3.0nm,0.7s						
BVAR	Borovoye Array	51.05	313	P	P	00 21 57.9	0.0
	comp=Z,1.0nm,0.5s,baz=69,slow=8.2,SNR=8.6						
BRVK	Borovoye	51.11	313	eP	P	00 21 58.9	+0.6
	comp=Z,5.2nm,0.6s						
BRVK	Borovoye	51.11	313c	eP	P	00 21 57.6	-0.7
BRVK				pmax	pmax		
	comp=Z,7.0nm,0.7s						
EGAK	Eagle	51.79	32	eP	P	00 22 03.1	-0.2
	comp=Z,1.5nm,0.6s						
PSI	Prapat	52.16	240	P	P	00 22 05.8	-1.0
	comp=Z,3.5nm,0.6s,baz=64,slow=6.6,SNR=4.0						
KK31	Karatay Array	53.64	300	i P	P	00 22 22.0	+4.7
KK31				pmax	pmax		
	comp=Z,3.0nm,0.6s						
KKAR	Karatay Array	53.64	300	eP	P	00 22 18.5	+1.2
KKAR	Karatay Array	53.64	300	eP	P	00 22 18.5	+1.2
GSI	Gunungsitoli	54.17	240	eP	P	00 22 21.6	+0.1
	comp=Z,20nm,0.6s						
INK	Inuvik	54.29	27	eP	P	00 22 22.2	+0.7
	comp=Z,5.5nm,0.7s						
INK	Inuvik	54.29	27	eP	P	00 22 22.3	+0.7
INK				pmax	pmax		
	comp=Z,6.0nm,0.7s						
NIL	Nilore	55.15	289	eP	P	00 22 28.7	+0.3
	comp=Z,20nm,0.6s						
NIL	Nilore	55.15	289	eP	P	00 22 28.7	+0.3
NIL				pmax	pmax		
	comp=Z,20nm,0.6s						
ARU	Arti	56.81	319	eP	P	00 22 40.0	+0.1
	comp=Z,6.5nm,1.0s						
ARU	Arti	56.81	319c	iP	P	00 22 39.4	-0.5
ARU						00 23 35.2	
ARU						00 24 45.1	
ARU				S	S	00 30 30.5	-0.2
ARU				SS	SS	00 34 14.0	-4.4
ARU				pmax	pmax		
	comp=Z,19nm,2.5s						
WB2	Warramunga Arr	56.98	189	eP	P	00 22 40.5	-0.9
	comp=Z,12nm,1.1s						
WRA	Warramunga Arr	56.99	189	P	P	00 22 40.2	-1.3
	comp=Z,6.6nm,0.8s,baz=8.0,slow=7.1,SNR=40						
DLBC	Dease Lake	58.43	38	eP	P	00 22 52.5	+1.1
	comp=Z,3.1nm,0.8s						
AB31	Akbulak array	58.43	310	i P	P	00 22 50.7	-0.7
AB31				pmax	pmax		
	comp=Z,2.0nm,0.5s						
ABKAR	Akbulak array	58.43	310	eP	P	00 22 51.2	-0.1
	comp=Z,2.9nm,0.5s						
AKTO	Aktyubinsk	59.16	312	P	P	00 22 55.9	-0.5
	comp=Z,1.7nm,0.8s,baz=70,slow=13,SNR=5.4						
AKTO	Aktyubinsk	59.16	312	P	P	00 22 55.5	-1.0
AKTO				pmax	pmax		
	comp=Z,4.0nm,0.9s						
AS01	Alice Springs	60.71	189	eP	P	00 23 06.2	-1.1
AS31	Alice Springs	60.71	189	eP	P	00 23 07.2	-0.2
	comp=Z,1.3nm,0.8s						
ASAR	Alice Springs	60.71	189	P	P	00 23 06.7	-0.6
	comp=Z,3.7nm,0.8s,baz=10,slow=7.2,SNR=37						
RES	Resolute Bay	62.62	15	eP	P	00 23 19.8	+0.2
	comp=Z,5.2nm,1.1s						
RES	Resolute Bay	62.62	15	eP	P	00 23 19.8	+0.2
RES				pmax	pmax		
	comp=Z,5.0nm,1.1s						
PALK	Pallekele	62.84	258	P	P	00 23 21.6	-0.4
	comp=Z,9.5nm,1.2s,baz=114,slow=5.2,SNR=3.8						
YKA	Yellowknife Ar	63.68	30	P	P	00 23 26.7	-0.1
	comp=Z,1.5nm,0.7s,baz=302,slow=6.7,SNR=24						
ARCES	ARCESS Array B	64.32	340	P	P	00 23 31.9	+1.1
	comp=Z,3.3nm,0.8s,baz=338,slow=5.2,SNR=3.8						
ARCES	ARCESS Array B	64.32	340	P	P	00 23 32.0	+1.1
GEYT	Alibeck	64.36	299	P	P	00 23 31.3	-0.5
	comp=Z,1.2nm,0.7s,baz=58,slow=3.9,SNR=4.1						
VRH	Novokhopyorsk	68.03	318	eP	P	00 23 54.0	-1.0
VRH				pmax	pmax		
	comp=Z,5.0nm,0.7s						
STKA	Stephens Creek	68.41	180	P	P	00 23 56.1	-1.2
	comp=Z,1.8nm,0.7s,baz=4.6,slow=5.7,SNR=4.4						
FINES	FINESS Array B	69.19	332	P	P	00 24 01.2	-0.7
	comp=Z,2.6nm,0.8s,baz=39,slow=7.3,SNR=6.8						
FINES	FINESS Array B	69.19	332	i P	P	00 24 02.5	+0.5
FINES				pmax	pmax		
	comp=Z,3.0nm,0.8s						
VSR	Storozhevoye	69.38	319	eP	P	00 24 02.0	-1.4
VSR				pmax	pmax		
	comp=Z,5.0nm,0.7s						
BBOO	Buckleboo	69.56	185	eP	P	00 24 04.3	-0.2
	comp=Z,6.0nm,0.8s						
SUMG	Summit	70.83	0	eP	P	00 24 13.0	+0.6
	comp=Z,5.3nm,0.9s						
SUMG	Summit	70.83	0	eP	P	00 24 13.0	+0.6
SUMG				pmax	pmax		
	comp=Z,5.0nm,0.9s						
KBZ	Khabaz	71.39	311	P	P	00 24 16.4	+0.6
	comp=Z,2.5nm,0.9s,baz=60,slow=2.5,SNR=10						
KIV	Kislovodsk	71.39	311	eP	P	00 24 16.7	+0.8
	comp=Z,6.9nm,0.9s						
KIV	Kislovodsk	71.39	311	eP	P	00 24 16.5	+0.5
KIV				pmax	pmax		
	comp=Z,6.0nm,1.1s						
MOD	Modoc Plateau	71.45	51	eP	P	00 24 17.5	+1.1
	comp=Z,4.8nm,0.8s						
BMO	Blue Mountains	71.65	47	eP	P	00 24 18.1	+0.6
	comp=Z,2.0nm,0.6s						
BMO	Blue Mountains	71.65	47	eP	P	00 24 18.1	+0.6
BMO				pmax	pmax		
	comp=Z,2.0nm,0.6s						
NEY	Neytrino	71.76	311	eP	P	00 24 18.6	+0.3
NEY				pmax	pmax		
	comp=Z,1.0nm,0.9s						
GNI	Garni	72.21	307	eP	P	00 24 20.9	-0.1
GNI				pmax	pmax		
	comp=Z,7.0nm,1.1s						
FFC	Flin Flon	73.55	33	eP	P	00 24 28.5	0.0
	comp=Z,2.5nm,0.6s						
FFC	Flin Flon	73.55	33	eP	P	00 24 28.5	0.0
FFC				pmax	pmax		
	comp=Z,3.0nm,0.6s						
LRM	Limekiln Ridge	73.89	45	eP	P	00 24 31.5	+0.5
	comp=Z,13nm,1.2s						
HFS	Hagfors	74.44	336	P	P	00 24 34.0	+0.5
	comp=Z,3.6nm,1.0s,baz=1.6,slow=10,SNR=3.9						
NB2	NORSAR Subarra	74.52	338	P	P	00 24 33.9	-0.2
	comp=Z,3.5nm,0.8s,baz=40,slow=5.9						
NOA	NORSAR Array B	74.52	338	P	P	00 24 34.2	+0.1
	comp=Z,1.4nm,0.8s,baz=39,slow=5.8,SNR=5.0						
NV01	Mina Array Sit	74.67	53	eP	P	00 24 36.2	+0.7
NVAR	Mina Array Bea	74.67	53	P	P	00 24 35.0	-0.5
	comp=Z,3.3nm,0.8s,baz=287,slow=5.9,SNR=16						
AKASG	Malin Array Be	74.73	323	P	P	00 24 35.1	-0.3
	comp=Z,0.7nm,0.4s,baz=44,slow=6.3,SNR=4.9						
KIEV	Kiev	74.74	323	eP	P	00 24 35.2	-0.3
	comp=Z,3.1nm,0.6s						
KIEV	Kiev	74.74	323	eP	P	00 24 36.4	+0.9
KIEV				pmax	pmax		
	comp=Z,3.0nm,0.8s						
SIM	Simferopol’	75.79	316	eP	P	00 24 42.3	+0.6
SIM				pmax	pmax		
	comp=Z,8.0nm,0.9s						
SIM				MLR	MLR		
	comp=Z,100nm,16.9s						
H17A	Grant Village	75.81	45	eP	P	00 24 44.9	+2.8
	comp=Z,12nm,1.4s						
IMW	Indian Meadow	75.91	45	eP	P	00 24 44.6	+1.8
	comp=Z,4.3nm,1.0s						
R11A	Troy Canyon, C	76.45	52	eP	P	00 24 46.5	+0.7
	comp=Z,2.6nm,0.9s						
TPNV	Topopah Spring	76.85	54	eP	P	00 24 49.0	+1.0
TPNV	Topopah Spring	76.85	54	eP	P	00 24 49.0	+1.0
DUG	Dugway, Tooele	77.06	49	eP	P	00 24 50.1	+1.0
	comp=Z,3.0nm,0.9s						
DUG	Dugway, Tooele	77.06	49	eP	P	00 24 50.2	+1.0
DUG				pmax	pmax		
	comp=Z,3.0nm,0.9s						
PDAR	Pinedale Array	77.40	46	P	P	00 24 50.6	-0.5
	comp=Z,1.2nm,0.7s,baz=272,slow=2.4,SNR=12						
NLU	North Lily Min	77.66	49	eP	P	00 24 53.8	+1.2
	comp=Z,4.3nm,1.1s						
SHPR	Sheep Range	77.82	53	eP	P	00 24 54.9	+1.4
	comp=Z,3.0nm,1.0s						
MPU	Maple Canyon	77.89	49	eP	P	00 24 55.1	+1.3
	comp=Z,4.9nm,1.1s						
LCMT	Little Creek M	78.73	52	eP	P	00 24 59.9	+1.4
	comp=Z,21nm,0.6s						
BUR04	Bucovina Ar. S	78.75	322	eP	P	00 24 58.8	+0.5
MTPU	Mount Pierson	78.77	51	eP	P	00 25 00.7	+1.7
	comp=Z,4.2nm,0.9s						
P18A	Preston Nutter	78.97	49	eP	P	00 25 02.0	+2.0
	comp=Z,52nm,1.2s						
KNB	Kanab	79.00	52	eP	P	00 25 01.7	+1.7
	comp=Z,5.2nm,0.8s						
KNB	Kanab	79.00	52	eP	P	00 25 01.7	+1.7
KNB				pmax	pmax		
	comp=Z,5.0nm,0.8s						
SRU	San Rafael Swe	79.12	49	eP	P	00 25 00.8	+0.2
	comp=Z,6.4nm,0.8s						
SRU	San Rafael Swe	79.12	49	eP	P	00 25 00.8	+0.2
SRU				pmax	pmax		
	comp=Z,6.0nm,0.8s						
BRTR	Keskin Array B	79.33	312	P	P	00 25 01.9	+0.2
	comp=Z,0.9nm,0.9s,baz=115,slow=8.7,SNR=5.5						
ULM	Lac du Bonnet	79.34	34	P	P	00 25 01.1	-0.3
	comp=Z,1.3nm,0.7s,baz=150,slow=3.3,SNR=3.9						
STHS	Stebnicka Huta	79.38	325	eP	P	00 25 03.1	+1.5
STHS	Stebnicka Huta	79.38	325	eP	P	00 25 03.1	+1.5
U15A	North Rim	79.70	52	eP	P	00 25 05.0	+1.1
	comp=Z,3.6nm,0.8s						
BR231	Keskin MP Arra	79.77	312	eP	P	00 25 03.1	-1.0
PV09	Paradox Valley	80.35	49	eP	P	00 25 09.1	+1.6
PV10	Paradox Valley	80.49	49	eP	P	00 25 09.6	+1.5
PV05	Paradox Valley	80.64	49	eP	P	00 25 10.3	+1.4
Y14A	Wickenburg	80.78	54	eP	P	00 25 10.4	+0.9
	comp=Z,4.7nm,0.9s						
WUAZ	Wupatki	80.85	52	eP	P	00 25 11.4	+1.4
	comp=Z,6.3nm,0.9s						
PV01	Paradox Valley	80.92	49	eP	P	00 25 11.5	+1.1
VYHS	Vyhne	81.14	326	eP	P	00 25 11.1	0.0
VYHS	Vyhne	81.14	326	eP	P	00 25 11.1	0.0
RAYN	Ar Rayn	81.19	293	eP	P	00 25 11.4	-0.5
	comp=Z,2.8nm,0.9s						
SMCO	Snowmass	81.20	47	eP	P	00 25 13.2	+1.1
	comp=Z,14nm,1.8s						
CLL	Collm	81.48	330	eP	P	00 25 13.0	+0.2
CLL				ePcP	PcP	00 25 18.0	-0.8
CLL				i (sP)	pP	00 25 21.8	-1.6
CLL	Collm	81.48	330	eP	P	00 25 13.0	+0.2
X16A	Lo Mia Camp, P	81.49	53	eP	P	00 25 14.9	+1.4
	comp=Z,4.1nm,0.9s						
S22A	4UR Ranch, Cre	82.22	48	eP	P	00 25 18.9	+1.5
	comp=Z,4.7nm,1.0s						
MMAI	Mount Meron Ar	82.47	306	P	P	00 25 17.4	-1.1
	comp=Z,2.0nm,0.7s,baz=53,slow=7.4,SNR=3.3						
KHC	Kasperske Hory	82.94	329	eP	P	00 25 20.9	+0.3
KHC	Kasperske Hory	82.94	329	eP	P	00 25 20.9	+0.3
GERES	GERESS Array B	83.11	329	P	P	00 25 20.7	-0.9
	comp=Z,0.3nm,0.5s,baz=35,slow=3.3,SNR=4.9						
T25A	Trinidad	84.06	47	eP	P	00 25 27.9	+1.1
	comp=Z,4.7nm,0.8s						
ANMO	Albuquerque	84.29	50	eP	P	00 25 29.3	+1.3
	comp=Z,4.9nm,1.1s						
ANMO	Albuquerque	84.29	50c	eP	P	00 25 26.6	-1.4
ANMO				pmax	pmax		
	comp=Z,3.0nm,0.8s						
AMTX	Amarillo	87.22	48	eP	P	00 25 43.4	+1.0
	comp=Z,8.1nm,1.0s						
TX31	Lajitas Ar. Si	89.80	53	eP	P	00 25 55.1	+0.4
TXAR	Lajitas Array	89.80	53	P	P	00 25 55.0	+0.3
	comp=Z,2.8nm,0.7s,baz=298,slow=3.4,SNR=34						
HPIG		90.12	56	eP	P	00 25 54.6	-1.8
	comp=Z,12nm,0.7s						
LPAZ	La Paz	146.32	61	PKPbc	PKPbc	00 32 37.6	0.0
	comp=Z,3.1nm,0.6s,baz=347,slow=1.7,SNR=17						

MAN 04 00:22:14, 10°.02N×123°.14E, h25km, mb4.3, ML3.1, MS2.8, Cebu

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SNPH	Sibulan	0.68	172	eP	Pn	00 22 28.0	-0.1
SNPH				eS	Sn	00 22 39.3	+1.3
GUIM	Jordan	0.81	318	eP	Pn	00 22 29.7	-0.1
MSLP	Maasin	1.69	86	eP	Pn	00 22 42.6	+0.6

IDC 04 00:28:15.7±2.4, 5°.59S×135°.48E, h0km, mb3.7/2, mb1 3.9/4, mb1mx3.4/60, mbtmp3.7/4, ML3.8/2, MS3.5/2, Ms1 3.5/2, ms1mx2.9/47, Error ellipse: s-maj=99.9km s-min=30.1km az=81.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	12.18	109	LR	LR	00 35 52.4	
	comp=Z,201nm,19.6s,baz=160,slow=38						
WRA	Warramunga Arr	14.31	184	Pn	Pn	00 31 39.6	-0.1
	0.5nm,0.3s,baz=6.0,slow=13,SNR=30						
WRA				Sn	Sn	00 34 08.4	-11
	0.4nm,0.3s,baz=356,slow=23,SNR=4.8						
ASAR	Alice Springs	18.03	185	P	Pn	00 32 27.9	-0.1
	0.3nm,0.3s,baz=1.2,slow=11,SNR=15						
MKAR	Makanchi Array	70.16	324	P	P	00 39 30.5	+0.3
	0.5nm,0.6s,baz=114,slow=7.4,SNR=8.0						
KURBB	Kurchatov Arra	74.27	326	P	P	00 39 54.4	-0.2
	0.4nm,0.5s,baz=124,slow=4.3,SNR=5.0						
KVAR	Kislovodsk Arr	95.85	314	LR	LR	01 31 37.5	
	comp=Z,25nm,19.9s,slow=40						

ISCJB 04 00:30:56.0±0.7, 5°.0S±0°.1×153°.5E±0°.1, h56km, mb3.8/10, MS3.7/1, Error ellipse: s-maj=18.3km s-min=10.7km az=139.2
IDC 04 00:30:58.3±4.9, 4°.99S×153°.49E, h63km±41km, mb3.7/10, mb1 3.8/11, mb1mx3.5/64, mbtmp4.0/11, ML2.4/1, MS3.8/1, Ms1 3.8/1, ms1mx2.8/48, Error ellipse: s-maj=28.6km s-min=21.3km az=69.0
ISC 04 00:30:57.5±0.8, 5°.0S±0°.1×153°.6E±0°.1, h56km, n13, σ0s.81/14, mb3.9/10, New Ireland region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	7.71	235	P	Pn	00 32 47.8	+0.5
	3.1nm,0.3s,baz=31,slow=8.8,SNR=6.8						
PMG				S	Sn	00 34 13.5	+0.2
	3.7nm,0.3s,baz=58,slow=19,SNR=9.1						
DZM	Mont Dzumac	21.05	145	P	P	00 35 37.1	0.0
	4.6nm,0.6s,baz=254,slow=10,SNR=6.3						
WRA	Warramunga Arr	23.89	230	P	P	00 36 06.3	+0.1
	3.3nm,0.7s,baz=51,slow=8.9,SNR=9.2						
ASAR	Alice Springs	26.52	224	P	P	00 36 29.9	-0.2
	0.6nm,0.6s,baz=64,slow=8.0,SNR=4.1						
STKA	Stephens Creek	28.99	201	P	P	00 36 51.1	-0.9
	0.6nm,0.3s,baz=347,slow=14,SNR=3.2						
URZ	Urewera	39.43	150	LR	LR	00 52 52.4	
	comp=Z,115nm,19.4s,baz=122,slow=33						
VNDA	Vanda	72.60	178	P	P	00 42 19.1	+0.7
	1.3nm,0.6s,baz=340,slow=7.1,SNR=9.9						
MKAR	Makanchi Array	80.98	319	P	P	00 43 06.6	+0.3
	0.8nm,0.9s,baz=103,slow=5.5,SNR=4.2						
MKAR				pP	pP	00 43 22.9	+0.8
	1.2nm,0.9s,baz=94,slow=7.1,SNR=5.4						
ZALV	Zalesovo Beam	81.75	326	P	P	00 43 09.3	-0.8
	0.5nm,0.5s,baz=107,slow=4.8,SNR=3.1						
ILAR	Eielson Array	82.06	22	P	P	00 43 12.5	+0.9
	0.3nm,0.6s,baz=244,slow=6.4,SNR=6.2						
QSPA	South Pole Qui	84.96	180	P	P	00 43 26.7	+0.1
	2.7nm,0.5s,baz=113,slow=0.7,SNR=6.8						
BVAR	Borovoye Array	89.86	323	P	P	00 43 48.7	-1.6
	0.4nm,0.5s,baz=100,slow=6.1,SNR=3.8						
TORD	Torodi Ar. Bea	151.10	288	PKPbc	PKPbc	00 50 44.6	-0.8
	1.7nm,0.7s,baz=95,slow=1.5,SNR=13						

IDC 04 00:32:59.4±0.7, 37°.92N×29°.48E, h0km, mb4.1/21, mb1 4.1/30, mb1mx3.9/89, mbtmp4.1/30, ML3.6/7, Error ellipse: s-maj=14.0km s-min=10.8km az=173.0
MOS 04 00:32:59.9±1.2, 37°.92N×29°.59E, h10km, mb4.3/8, Error ellipse: s-maj=6.4km s-min=4.6km az=78.6
ISCJB 04 00:33:00.5±0.4, 37°.91N±0°.01×29°.48E±0°.01, h13km±3km, mb4.1/31, Error ellipse: s-maj=2.0km s-min=1.7km az=34.3
THE 04 00:33:00.2, 38°.03N×29°.46E, h0km±1km, ML4.0/3, Error ellipse: s-maj=3.2km s-min=0.9km az=352.0
NEIC 04 00:33:00.6±0.0, 37°.90N×29°.43E, h9km, mb4.0/12, ML4.3(ISK), After ISK.
NEIC Felt at Denizli.
ISK 04 00:33:00.6, 37°.90N×29°.42E, h9km, ML4.3/36
DDA 04 00:33:00.3, 37°.92N×29°.45E, h23km, Ml4.3
CSEM 04 00:33:01.4±0.1, 37°.90N×29°.47E, h10km, mb4.2/11, Error ellipse: s-maj=1.9km s-min=1.7km az=37.0
NIC 04 00:33:03.3±0.3, 37°.68N×29°.34E, h5km, mb4.7, ML4.3
HLW 04 00:33:03.2, 37°.61N×29°.42E, h6km±31km, Md4.3
GII 04 00:33:06.1±0.0, 37°.62N×29°.87E, h1km, mb4.0/1, MD3.7/5
ISC 04 00:33:00.7±1.1, 37°.89N±0°.02×29°.47E±0°.02, h5km±7km, n523, σ1s.25/591, mb4.2/31, 28C-31D, Turkey

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DENT	Denizli	0.37	248	PG	Pg	00 33 08.5	+0.6
DENT	Denizli	0.37	248	Pg	Pg	00 33 08.5	+0.6
DENT	Denizli	0.37	248	ePg	Pg	00 33 08.5	+0.6
KHL	Karahalli	0.43	6	PG	Pg	00 33 09.2	+0.2
KHL	Karahalli	0.43	6	Pg	Pg	00 33 09.2	+0.2
KHL	Karahalli	0.43	6	ePg	Pg	00 33 09.2	+0.2
BRDR	BURDUR-Merkez	0.51	113	i P	Pg	00 33 10.4	-0.1
BRDR				i S	Sb	00 33 20.0	0.0
BRDR	BURDUR-Merkez	0.51	113	P	Pg	00 33 10.4	-0.1
BRDR				S	Sb	00 33 20.0	0.0
TAVA	DENIZLI_Tavas	0.61	226	⇑iP	Pg	00 33 12.3	-0.2
TAVA				i S	Sb	00 33 22.1	-0.8
TAVA	DENIZLI_Tavas	0.61	226	P	Pg	00 33 12.3	-0.2
TAVA				S	Sb	00 33 22.1	-0.8
KZIL	AFYON_Kizioren	0.64	55	⇑iP	Pg	00 33 13.0	-0.1
KZIL				i S	Sb	00 33 23.5	-0.4
KZIL	AFYON_Kizioren	0.64	55	P	Pg	00 33 13.0	-0.1
KZIL				S	Sb	00 33 23.5	-0.4
ISP	Isparta	0.84	95	PG	Pb	00 33 17.9	+0.1
ISP				SG	Sn	00 33 30.8	-1.3
ISP	Isparta	0.84	95	⇓iP	Pg	00 33 16.5	-0.3
ISP				S	Sn	00 33 31.6	-0.5
ISP	Isparta	0.84	95	ePg	Pg	00 33 16.5	-0.3
ISP				ePn	Pn	00 33 19.1	-0.2
ISP				eSn	Sb	00 33 30.4	+1.0
ISP	Isparta	0.84	95	P	Pg	00 33 16.5	-0.3
ISP				S	Sn	00 33 31.1	-1.0

ISP	Isparta	0.84	95	P	Pg	00 33 16.5	-0.3
ISP	Isparta	0.84	95	ePg	Pb	00 33 17.9	+0.1
ISP	Isparta	0.84	95	ePn	Pn	00 33 19.1	-0.2
ISP				eS	Sb	00 33 30.4	+1.0
ISP	Isparta	0.84	95	Pg	Pg	00 33 16.7	-0.1
ISP	Isparta	0.84	95	eP	Pg	00 33 16.5	-0.3
ISP				e		00 33 30.4	
KULA	Kula-Manisa	0.89	315	PG	Pg	00 33 17.7	0.0
KULA	Kula-Manisa	0.89	315	Pg	Pg	00 33 17.7	0.0
KULA	Kula-Manisa	0.89	315	ePg	Pg	00 33 17.7	0.0
BCK	Bucak	0.99	116	PG	Pb	00 33 20.7	+0.3
BCK	Bucak	0.99	116	Pg	Pb	00 33 20.7	+0.3
BCK	Bucak	0.99	116	ePg	Pb	00 33 20.7	+0.3
BCK	Bucak	0.99	116	P	Pb	00 33 20.7	+0.3
BAGO	Egridir - ISPA	1.05	84⇑	iP	Pg	00 33 20.2	-0.6
BAGO				iS	Sb	00 33 35.0	-0.5
SHUT	Suhut-Afyon	1.08	52	PN	Pb	00 33 21.8	-0.1
SHUT	Suhut-Afyon	1.08	52	Pn	Pb	00 33 21.8	-0.1
SHUT	Suhut-Afyon	1.08	52	ePn	Pb	00 33 21.8	-0.1
KORT	Korkueli	1.14	141	PN	Pn	00 33 23.4	0.0
KORT	Korkueli	1.14	141	iP	Pg	00 33 20.8	-1.7
KORT				iS	Sn	00 33 40.1	+0.7
KORT	Korkueli	1.14	141	Pn	Pn	00 33 23.4	0.0
KORT	Korkueli	1.14	141	P	Pg	00 33 20.8	-1.7
KORT	Korkueli	1.14	141	ePn	Pn	00 33 23.4	0.0
KORT				S	Sn	00 33 40.1	+0.7
GDZ	Gediz	1.19	1⇑	iP	Pg	00 33 22.0	-1.6
GDZ				iS	Sb	00 33 39.5	-0.2
GDZ	Gediz	1.19	1	P	Pg	00 33 22.0	-1.6
GDZ				S	Sb	00 33 39.5	-0.2
ELL	Elmali	1.20	163	PN	Pn	00 33 24.4	+0.2
ELL	Elmali	1.20	163	Pn	Pn	00 33 24.4	+0.2
ELL	Elmali	1.20	163	ePn	Pn	00 33 24.4	+0.2
ELL	Elmali	1.20	163	P	Pn	00 33 24.4	+0.2
YER	Yerkesik	1.21	232	PN	Pg	00 33 23.5	-0.4
YER	Yerkesik	1.21	232	Pn	Pg	00 33 23.5	-0.4
YER	Yerkesik	1.21	232	P	Pg	00 33 23.5	-0.4
YER				S	Sn	00 33 42.9	+1.8
YER	Yerkesik	1.21	232	P	Pg	00 33 23.5	-0.4
YER				S	Sn	00 33 42.9	+1.8
YER	Yerkesik	1.21	232	P	Pg	00 33 23.5	-0.4
TURN	Turunc	1.23	214	PN	Pn	00 33 28.0	+3.4
TURN	Turunc	1.23	214⇑	iP	Pn	00 33 27.9	+3.4
TURN				iS	Sn	00 33 49.9	+8.4
TURN	Turunc	1.23	214	P	Pn	00 33 27.9	+3.4
SIMA	Simav-Kutahya	1.25	342	PN	Pg	00 33 24.3	-0.3
SIMA	Simav-Kutahya	1.25	342	ePn	Pg	00 33 24.3	-0.3
AYDB	Zeytinkoy-Aydi	1.25	273	PN	Pg	00 33 24.1	-0.5
AYDB	Zeytinkoy-Aydi	1.25	273	ePn	Pg	00 33 24.1	-0.5
DALY	Dalyan (Mu˜la	1.25	211	PN	Pg	00 33 24.2	-0.5
DALY	Dalyan (Mu˜la	1.25	211⇑	iP	Pg	00 33 24.1	-0.7
DALY				iS	Sn	00 33 42.1	0.0
DALY	Dalyan (Mu˜la	1.25	211	ePn	Pg	00 33 24.2	-0.5
DALY				S	Sn	00 33 42.1	0.0
AYDN	Tasoluk	1.28	260⇑	iP	Pg	00 33 24.9	-0.3
AYDN				iS	Sb	00 33 42.2	+0.1
AYDN	Tasoluk	1.28	260	P	Pg	00 33 25.0	-0.3
AYDN				S	Sb	00 33 42.2	+0.1
SUTC	Sutluce-Ispart	1.28	108	PN	Pb	00 33 25.7	+0.3
SUTC	Sutluce-Ispart	1.28	108	Pn	Pg	00 33 24.4	-0.9
SUTC	Sutluce-Ispart	1.28	108	ePn	Pb	00 33 25.7	+0.3
DEMI	Demirci	1.29	333⇓	iP	Pg	00 33 24.9	-0.5
DEMI				iS	Sg	00 33 41.8	-0.4
DEMI	Demirci	1.29	333	P	Pg	00 33 24.9	-0.5
DEMI				S	Sg	00 33 41.8	-0.4
FETY	Fethiye	1.29	194	PN	Pn	00 33 25.4	-0.1
FETY	Fethiye	1.29	194	Pn	Pn	00 33 25.4	-0.1
FETY	Fethiye	1.29	194	P	Pn	00 33 25.3	-0.2
FETY				S	Sn	00 33 45.8	+2.6
FETY	Fethiye	1.29	194	ePn	Pn	00 33 25.4	-0.1
FETY				S	Sn	00 33 45.0	+1.8
ANTB	Antalya	1.37	136	PN	Pg	00 33 27.0	+0.1
ANTB	Antalya	1.37	136	ePn	Pg	00 33 27.0	+0.1
BOLV	Bolvadin	1.43	54⇑	eP	Pn	00 33 27.2	-0.2
BOLV				iS	Sn	00 33 49.2	+2.5
BOLV	Bolvadin	1.43	54	P	Pn	00 33 27.2	-0.2
BOLV				S	Sn	00 33 49.2	+2.5
MLSB	Milas	1.47	247	PN	Pn	00 33 27.8	-0.1
MLSB	Milas	1.47	247	Pn	Pn	00 33 27.8	-0.1
MLSB	Milas	1.47	247	ePn	Pn	00 33 27.8	-0.1
TVSB	Tavsanli	1.55	360	PN	Pn	00 33 29.1	0.0
TVSB	Tavsanli	1.55	360	Pn	Pn	00 33 29.1	0.0
TVSB	Tavsanli	1.55	360	ePn	Pn	00 33 29.1	0.0
AKHS	Akhisar	1.63	308⇓	iP	Pn	00 33 29.4	-0.7
AKHS	Akhisar	1.63	308	P	Pn	00 33 29.4	-0.7
AKS	Akhisar	1.63	308	PN	Pn	00 33 29.9	-0.2
AKS	Akhisar	1.63	308	Pn	Pn	00 33 29.9	-0.2
AKS	Akhisar	1.63	308	ePn	Pn	00 33 29.9	-0.2
AKAS	Kas	1.66	176	PN	Pn	00 33 31.1	+0.5
AKAS	Kas	1.66	176⇑	iP	Pn	00 33 30.8	+0.1
AKAS				iS	Sg	00 33 54.9	+0.7
AKAS	Kas	1.66	176	Pn	Pn	00 33 31.1	+0.5
AKAS	Kas	1.66	176	P	Pn	00 33 30.8	+0.1
AKAS	Kas	1.66	176	ePn	Pn	00 33 31.1	+0.5
AKAS				S	Sg	00 33 54.8	+0.7
KSL	Kastellorizon	1.74	177	P	Pb	00 33 33.1	-0.1
DOGA	KONYA_Doganhis	1.75	82	iP	Pn	00 33 31.5	-0.4
DOGA	KONYA_Doganhis	1.75	82	P	Pn	00 33 31.5	-0.4
GCAM	G?zelcaml?	1.78	264	PN	Pn	00 33 31.7	-0.4
GCAM	G?zelcaml?	1.78	264	iP	Pn	00 33 31.3	-0.8
GCAM	G?zelcaml?	1.78	264	P	Pn	00 33 31.3	-0.8
GCAM	G?zelcaml?	1.78	264	ePn	Pn	00 33 31.7	-0.4
BDRM	Kayabasi	1.81	243	iP	Pn	00 33 32.4	-0.2
BDRM				iS	Sb	00 33 58.0	+0.7
BDRM	Kayabasi	1.81	243	P	Pn	00 33 32.4	-0.2
BDRM				S	Sb	00 33 58.0	+0.7
DATC	Datca-Mugla	1.83	232	PN	Pn	00 33 32.9	+0.1
DATC	Datca-Mugla	1.83	232	ePn	Pn	00 33 32.9	+0.1
DURS	Dursunbey	1.87	336⇓	iP	Pn	00 33 33.1	-0.4
DURS	Dursunbey	1.87	336	P	Pn	00 33 33.1	-0.4
MNVG	Manavgat-Antal	1.90	125	ePn	Pn	00 33 34.7	+0.9
YKAV	Yalikavak-Bodr	1.90	247	PN	Pn	00 33 33.7	-0.1
YKAV	Yalikavak-Bodr	1.90	247	ePn	Pn	00 33 33.7	-0.1
BODT	Bodrum	1.91	245	PN	Pn	00 33 33.5	-0.4
BODT	Bodrum	1.91	245	Pn	Pn	00 33 33.5	-0.4
BODT	Bodrum	1.91	245	P	Pn	00 33 32.9	-1.0
BODT				S	Sb	00 33 59.3	-0.8
BODT	Bodrum	1.91	245	P	Pn	00 33 32.9	-1.0
BODT	Bodrum	1.91	245	ePn	Pn	00 33 33.5	-0.4
BODT				S	Sb	00 33 59.3	-0.8
ESKT	Eskisehir	1.95	33	PN	Pn	00 33 34.9	+0.3
ESKT	Eskisehir	1.95	33	iP	Pn	00 33 31.5	-3.1
ESKT	Eskisehir	1.95	33	Pn	Pn	00 33 35.0	+0.3
ESKT	Eskisehir	1.95	33	ePn	Pn	00 33 34.9	+0.3
SEYT	Eskypehyr	1.95	33	P	Pn	00 33 31.5	-3.1
KEPZ	Antalya-Kepez	1.97	120	iP	Pn	00 33 34.5	-0.3
KEPZ	Antalya-Kepez	1.97	120	P	Pn	00 33 34.5	-0.3
ARG	Arkhangelos	1.99	213	P	Pn	00 33 36.1	+1.1
ARG				S	Sb	00 34 02.7	+0.3
ARG	Arkhangelos	1.99	213	P	Pn	00 33 36.1	+1.1
ARG				S	Sb	00 34 02.7	+0.3
STEP	BALIKESIR_Sava	2.02	318⇓	iP	Pn	00 33 35.3	-0.1
STEP	BALIKESIR_Sava	2.02	318	P	Pn	00 33 35.3	-0.1
GMLD	Gumuldur	2.02	276	PN	Pn	00 33 35.1	-0.4
GMLD	Gumuldur	2.02	276	ePn	Pn	00 33 35.1	-0.4
DGB	˜zmir	2.05	275	iP	Pn	00 33 35.1	-0.7
AUBOZ	BOZOYUK	2.06	12	iP	Pn	00 33 35.7	-0.4
AUBOZ	BOZOYUK	2.06	12	P	Pn	00 33 35.7	-0.4
SMG	Samos	2.09	266	P	Pn	00 33 35.8	-0.6
SMG				S	Sn	00 34 02.8	-0.1
SMG	Samos	2.09	266	P	Pn	00 33 35.8	-0.6
SMG				S	Sn	00 34 02.8	-0.1
AUKUT	KUTAHYA	2.10	12	iP	Pn	00 33 28.7	-8.0
BORA	Eskisehir	2.13	21	iP	Pn	00 33 36.4	-0.6
BORA	Eskisehir	2.13	21	P	Pn	00 33 36.4	-0.6
BALB	Balikesir	2.14	325	PN	Pn	00 33 37.3	+0.2
BALB	Balikesir	2.14	325	Pn	Pn	00 33 37.3	+0.2
BALB	Balikesir	2.14	325	ePn	Pn	00 33 37.3	+0.2
KDHN	Kadinhani	2.18	72	iP	Pn	00 33 37.7	0.0
KDHN	Kadinhani	2.18	72	P	Pn	00 33 37.7	0.0
ORLT	Orhaneli	2.19	348	PN	Pn	00 33 38.4	+0.5
ORLT	Orhaneli	2.19	348	ePn	Pn	00 33 38.4	+0.5
SVRH	Sivrihisar-ESK	2.23	45	PN	Pn	00 33 39.6	+1.1
SVRH	Sivrihisar-ESK	2.23	45	Pn	Pn	00 33 39.6	+1.1
SVRH	Sivrihisar-ESK	2.23	45	ePn	Pn	00 33 39.6	+1.1
AUSIV	SIVRIHISAR	2.24	46	iP	Pn	00 33 37.9	-0.7
AUSIV	SIVRIHISAR	2.24	46	P	Pn	00 33 37.9	-0.7
NISR	Nisiros	2.26	236	P	Pn	00 33 39.1	+0.3
NISR				S	Sn	00 34 08.2	+1.2
NISR	Nisiros	2.26	236	P	Pn	00 33 39.1	+0.3
NISR				S	Sn	00 34 08.2	+1.2
KMER	Konya-Meram	2.30	92	iP	Pn	00 33 39.6	+0.2
KMER	Konya-Meram	2.30	92	P	Pn	00 33 39.6	+0.2
FOCM	Fo˜§a	2.30	292	PN	Pn	00 33 40.2	+0.9
FOCM	Fo˜§a	2.30	292	ePn	Pn	00 33 40.2	+0.9
LADK	Ladik-KONYA	2.31	82	PN	Pn	00 33 40.4	+0.9
LADK	Ladik-KONYA	2.31	82	Pn	Pn	00 33 40.4	+0.9
LADK	Ladik-KONYA	2.31	82	ePn	Pn	00 33 40.4	+0.9
URLA	Izmir	2.31	282	PN	Pn	00 33 39.4	-0.1
URLA	Izmir	2.31	282	iP	Pn	00 33 38.1	-1.4
URLA	Izmir	2.31	282	P	Pn	00 33 38.1	-1.4
URLA	Izmir	2.31	282	ePn	Pn	00 33 39.4	-0.1
CAVI	Cavuskoy	2.32	7	PN	Pn	00 33 40.0	+0.4
CAVI	Cavuskoy	2.32	7	ePn	Pn	00 33 40.0	+0.4
DKL	Dikili	2.33	301	PN	Pn	00 33 39.8	+0.1
DKL	Dikili	2.33	301	ePn	Pn	00 33 39.8	+0.1
BALY	Balya	2.34	323⇓	iP	Pn	00 33 38.9	-1.1
BALY	Balya	2.34	323	P	Pn	00 33 38.8	-1.1
ZEY	˜zmir	2.37	279	iP	Pn	00 33 39.4	-0.8
IGD	Bursa	2.38	355	iP	Pn	00 33 39.3	-1.0
GPA	Golpazari	2.48	15	PN	Pn	00 33 42.3	+0.5
GPA	Golpazari	2.48	15	ePn	Pn	00 33 42.3	+0.5
MDNY	Mudanya-Bursa	2.51	350	PN	Pn	00 33 42.9	+0.7
MDNY	Mudanya-Bursa	2.51	350	ePn	Pn	00 33 42.9	+0.7
AUMIH	MIHALICIK	2.52	38	iP	Pn	00 33 43.0	+0.5
AUMIH	MIHALICIK	2.52	38	P	Pn	00 33 43.0	+0.5
ADVT	Abdulvahap	2.54	5	PN	Pn	00 33 43.1	+0.4
ADVT	Abdulvahap	2.54	5	Pn	Pn	00 33 43.1	+0.4
ADVT	Abdulvahap	2.54	5	ePn	Pn	00 33 43.1	+0.4
GEMT	Gemlik	2.55	355	PN	Pn	00 33 43.1	+0.4
GEMT	Gemlik	2.55	355	ePn	Pn	00 33 43.1	+0.4
GONE	Gonen-Balikesi	2.56	328	PN	Pn	00 33 43.7	+0.9
GONE	Gonen-Balikesi	2.56	328	Pn	Pn	00 33 43.7	+0.9
GONE	Gonen-Balikesi	2.56	328	ePn	Pn	00 33 43.7	+0.9
AYVA	Ayvalik	2.59	304⇓	iP	Pn	00 33 43.2	-0.1
AYVA	Ayvalik	2.59	304	P	Pn	00 33 43.2	-0.1
GULT	Gulveren	2.66	17	PN	Pn	00 33 44.8	+0.4
GULT	Gulveren	2.66	17	ePn	Pn	00 33 44.8	+0.4
GEYV	SAKARYA_Geyve	2.67	14	iP	Pn	00 33 45.3	+1.0
GEYV	SAKARYA_Geyve	2.67	14	P	Pn	00 33 45.3	+1.0
ARMT	Armutlu	2.71	350	PN	Pn	00 33 45.5	+0.6
ARMT	Armutlu	2.71	350	Pn	Pn	00 33 45.5	+0.6
ARMT	Armutlu	2.71	350	ePn	Pn	00 33 45.5	+0.6
CHOS	Chios island	2.73	281	PN	Pn	00 33 45.8	+0.5
CHOS	Chios island	2.73	281	ePn	Pn	00 33 45.8	+0.5
EDC	Edincik	2.75	334	PN	Pn	00 33 46.3	+0.8
EDC	Edincik	2.75	334	Pn	Pn	00 33 46.3	+0.8
EDC	Edincik	2.75	334	ePn	Pn	00 33 46.3	+0.8
EDC	Edincik	2.75	334	P	Pn	00 33 46.3	+0.8
SPNC	Sapanca-Adapaz	2.86	13	PN	Pn	00 33 47.9	+0.9
SPNC	Sapanca-Adapaz	2.86	13	ePn	Pn	00 33 47.9	+0.9
BTAS	Taskesti	2.93	24	iP	Pn	00 33 48.3	+0.3
BTAS	Taskesti	2.93	24	P	Pn	00 33 48.3	+0.3
HRT	Hereke	2.93	3	PN	Pn	00 33 48.5	+0.5
HRT	Hereke	2.93	3	ePn	Pn	00 33 48.5	+0.5
BAYC	CANAKKALE_Bayr	2.93	310⇓	iP	Pn	00 33 47.9	-0.1
BAYC	CANAKKALE_Bayr	2.93	310	P	Pn	00 33 47.9	-0.1
BUY	Buyukada	2.97	355	PN	Pn	00 33 49.2	+0.8
BUY	Buyukada	2.97	355	ePn	Pn	00 33 49.2	+0.8
KKUL	Konya-Kulu	2.99	64	iP	Pn	00 33 49.7	+0.8
KKUL	Konya-Kulu	2.99	64	P	Pn	00 33 49.7	+0.8
KRBG	Karabiga-Canak	3.01	327	PN	Pn	00 33 49.0	-0.1
KRBG	Karabiga-Canak	3.01	327	ePn	Pn	00 33 49.0	-0.1
EZN	Ezine	3.12	309	PN	Pn	00 33 50.8	+0.3
EZN	Ezine	3.12	309	ePn	Pn	00 33 50.8	+0.3
SIGR	SIGRI	3.12	296	PN	Pn	00 33 50.6	0.0
SIGR	SIGRI	3.12	296	ePn	Pn	00 33 50.6	0.0
SAHE	Sakarya_HENDEK	3.14	20	iP	Pn	00 33 50.8	-0.1
SAHE	Sakarya_HENDEK	3.14	20	P	Pn	00 33 50.8	-0.1
BR231	Keskin MP Arra	3.23	52	ePn	Pn	00 33 53.0	+0.8
BR231	Keskin MP Arra	3.23	52	ePn	Pn	00 33 53.0	+0.8
APE	Apeiranthos	3.24	256	PN	Pn	00 33 52.8	+0.6
APE	Apeiranthos	3.24	256⇓	iP	Pn	00 33 53.9	+1.7
APE	Apeiranthos	3.24	256	ePn	Pn	00 33 52.8	+0.6
APE	Apeiranthos	3.24	256	eP	Pn	00 33 53.3	+1.1
APE	Apeiranthos	3.24	256	eP	Pn	00 33 53.3	+1.1
APE	Apeiranthos	3.24	256	S	Pn	00 33 54.0	+1.7
APE	Apeiranthos	3.24	256	S	Pn	00 33 54.0	+1.7
KAND	Kocaeli-Kandir	3.25	10	iP	Pn	00 33 52.2	-0.1
KAND	Kocaeli-Kandir	3.25	10	P	Pn	00 33 52.2	-0.1
ANTO	Ankara	3.26	52	ePn	Pn	00 33 53.4	+0.8
ANTO				ePg	Pg	00 34 03.4	+0.2
ANTO	Ankara	3.26	52	eP	Pn	00 33 53.4	+0.8
ANTO	Ankara	3.26	52	eP	Pn	00 33 53.4	+0.8
BBAL	Bala	3.30	59	iP	Pn	00 33 54.2	+1.1
BBAL	Bala	3.30	59	P	Pn	00 33 54.2	+1.1
BOZC	Bozcaada	3.30	307	PN	Pn	00 33 53.4	+0.4
BOZC	Bozcaada	3.30	307	iP	Pn	00 33 52.0	-1.0
BOZC	Bozcaada	3.30	307	Pn	Pn	00 33 53.4	+0.4
BOZC	Bozcaada	3.30	307	ePn	Pn	00 33 53.4	+0.4
CMDR	Camlidere-ANKA	3.49	41	iP	Pn	00 33 56.0	+0.2
CMDR	Camlidere-ANKA	3.49	41	P	Pn	00 33 56.0	+0.2
BCAM	Yenicaga	3.54	34	iP	Pn	00 33 56.7	+0.2
BCAM	Yenicaga	3.54	34	P	Pn	00 33 56.7	+0.2
SANT	Santorini	3.54	246	ePn	Pn	00 33 58.5	+2.0
SANT				ePg	Pg	00 34 09.9	+1.3
SANT	Santorini	3.54	246	ePn	Pn	00 33 58.5	+2.0
KESN	Edirne-Kesan	3.64	324	iP	Pn	00 33 57.8	-0.2
KESN	Edirne-Kesan	3.64	324	P	Pn	00 33 57.8	-0.2
ALFC	Alefka	3.72	136	P	Pn	00 33 59.8	+1.0
	baz=314						
ALFC				S	Sn	00 34 44.7	+1.7
ALFC	Alefka	3.72	136	P	Pn	00 33 59.8	+1.0
ALFC				S	Sn	00 34 44.7	+1.7
BRTR	Keskin Array B	3.74	59	Pn	Pn	00 33 59.5	+0.3
	6.5nm,0.3s,baz=237,slow=16,SNR=237						
BRTR				Sn	Sn	00 34 42.5	-1.1
	16nm,0.3s,baz=229,slow=25,SNR=17						
BR131	Keskin Array S	3.74	59	ePn	Pn	00 33 59.5	+0.3
BR131	Keskin Array S	3.74	59	ePn	Pn	00 33 59.5	+0.3
PPCY	Paphos	3.80	141	P	Pn	00 34 01.3	+1.5
	baz=319						
PPCY	Paphos	3.80	141	P	Pn	00 34 01.3	+1.5
KIZK	Mersin	3.99	109	iP	Pn	00 34 02.3	-0.2
KIZK				iS	Sn	00 34 50.5	+0.8
KIZK	Mersin	3.99	109	P	Pn	00 34 02.3	-0.2
KIZK				S	Sn	00 34 50.5	+0.8
MAMC	Mammari	4.06	131	P	Pn	00 34 05.1	+1.6
	baz=309						
MAMC	Mammari	4.06	131	P	Pn	00 34 05.1	+1.6
SZAC	Souni	4.17	138	P	Pn	00 34 06.5	+1.4
	baz=316						
SZAC				S	Sn	00 34 55.7	+1.5
SZAC	Souni	4.17	138	P	Pn	00 34 06.5	+1.4
SZAC				S	Sn	00 34 55.7	+1.5
CDAG	Cicekdag	4.21	64	iP	Pn	00 34 06.2	+0.6
CDAG	Cicekdag	4.21	64	P	Pn	00 34 06.2	+0.6
CSS	Mathiatis	4.27	132	ePn	Pn	00 34 07.2	+0.8
CSS				eSn	Sn	00 34 56.4	-0.3
CSS	Mathiatis	4.27	132	P	Pn	00 34 08.7	+2.3
	baz=311						
CSS				S	Sn	00 34 58.9	+2.2
CSS	Mathiatis	4.27	132	Pn	Pn	00 34 06.1	-0.3
CSS	Mathiatis	4.27	132	P	Pn	00 34 08.7	+2.3
CSS				eSn	Sn	00 34 56.4	-0.3
CSS				S	Sb	00 34 58.9	-9.3
CSS	Mathiatis	4.27	132	Pn	Pn	00 34 06.1	-0.3
AVNS	Nevsehir-Avano	4.33	76	iP	Pn	00 34 08.2	+1.0
AVNS	Nevsehir-Avano	4.33	76	P	Pn	00 34 08.2	+1.0
IDI	Anoyia	4.51	236	Pn	Pn	00 34 09.9	+0.2
	4.6nm,0.3s,baz=58,slow=12,SNR=10						
IDI	Anoyia	4.51	236	ePn	Pn	00 34 10.8	+1.1
IDI	Anoyia	4.51	236	ePn	Pn	00 34 10.8	+1.1
KDZ	Kurdzhali	4.88	322	iP	Pn	00 34 15.1	+0.3
JMB	Yambol	5.07	335	iP	Pn	00 34 18.0	+0.6
DIM	Dimitrovgrad	5.13	325	iP	Pn	00 34 18.4	+0.2
SAIM	ADANA	5.23	87	iP	Pn	00 34 20.5	+0.8
SAIM	ADANA	5.23	87	P	Pn	00 34 20.5	+0.8
RZN	Rozhen	5.27	317	iP	Pn	00 34 20.7	+0.5
SRS	Serrai	5.57	307	ePn	Pn	00 34 24.4	+0.2
PLD	Plovdiv	5.57	320	iP	Pn	00 34 24.9	+0.6
PLD	Plovdiv	5.57	320⇓	iPn	Pn	00 34 23.7	-0.6
YAYL	Yayladag	5.63	107	iP	Pn	00 34 26.1	+0.9
YAYL	Yayladag	5.63	107	P	Pn	00 34 26.1	+0.9
AGG	Agios Georgios	5.71	284	ePn	Pn	00 34 27.6	+1.4
AGG	Agios Georgios	5.71	284	eP	Pn	00 34 27.6	+1.4
AGG	Agios Georgios	5.71	284	eP	Pn	00 34 27.6	+1.4
MMB	Musomiste	5.76	312	iP	Pn	00 34 26.9	0.0
SZH	Strazhica	6.00	334	iP	Pn	00 34 30.0	-0.2
PGB	Panagyurishte	6.17	321	iP	Pn	00 34 32.5	0.0
KKB	Krupnik	6.31	311	iP	Pn	00 34 34.9	+0.5
VAY	Valandovo	6.33	305	iPn	Pn	00 34 36.7	+2.0
HWQ	Hawqa	6.37	123	eP	Pn	00 34 36.2	+0.9
BHL	Bhannes	6.41	127	eP	Pn	00 34 36.8	+0.9
DQRL	Deir Qamar	6.48	128	eP	Pn	00 34 36.4	-0.4
TIRR	Tirgusor	6.61	353⇓	iP	Pn	00 34 38.5	+0.1
TIRR	Tirgusor	6.61	353	ePn	Pn	00 34 38.7	+0.3
TIRR	Tirgusor	6.61	353	eP	Pn	00 34 38.7	+0.3
HNTI	Hanita	6.69	134	Pn	Pn	00 34 39.5	-0.1
HNTI	Hanita	6.69	134	Pn	Pn	00 34 39.5	-0.1
VTS	Vitosha	6.70	316⇓	iP	Pn	00 34 40.3	+0.4
VTS	Vitosha	6.70	316	ePn	Pn	00 34 40.5	+0.6
VTS	Vitosha	6.70	316	iP	Pn	00 34 40.8	+0.9
VTS	Vitosha	6.70	316	eP	Pn	00 34 40.5	+0.6
VTS	Vitosha	6.70	316	eP	Pn	00 34 40.5	+0.6
TLB	Topalu	6.77	351⇑	iP	Pn	00 34 40.9	+0.2
RCY	Rachaya	6.79	128	eP	Pn	00 34 41.7	+0.6
SHBL	Chebaa	6.83	130	eP	Pn	00 34 42.4	+0.7
MMAI	Mount Meron Ar	6.87	133	Pn	Pn	00 34 42.2	+0.1
	28nm,0.3s,baz=321,slow=12,SNR=197						
MMAI				Sn	Sn	00 35 58.5	-2.2
	13nm,0.3s,baz=307,slow=27,SNR=8.5						
FNA	Florina	6.90	297⇑	iPn	Pn	00 34 44.4	+1.8
OFRI	‘Ofer	6.93	138	Pn	Pn	00 34 42.7	-0.3
OFRI	‘Ofer	6.93	138	Pn	Pn	00 34 42.7	-0.3
BLGI	Bet Lehem HaGe	6.96	136	Pn	Pn	00 34 43.4	+0.1
BLGI	Bet Lehem HaGe	6.96	136	Pn	Pn	00 34 43.4	+0.1
KSHT	Keshet	7.13	132	Pn	Pn	00 34 46.8	+1.1
KSHT	Keshet	7.13	132	Pn	Pn	00 34 46.8	+1.1
KRUS	Krusevo	7.23	301	ePn	Pn	00 34 45.2	-1.9
SLTI	Sal’it	7.26	139	Pn	Pn	00 34 47.6	+0.2
SLTI	Sal’it	7.26	139	Pn	Pn	00 34 47.6	+0.2
SLTI				Sn	Sn	00 36 06.3	-3.9
SLUM	Salum	7.28	210	P	Pn	00 34 46.8	-1.0
	baz=211						
SLUM				S	Sn	00 36 02.2	-8.7
	baz=211						
SLUM	Salum	7.28	210	P	Pn	00 34 46.8	-1.0
TLCR		7.30	356⇑	iP	Pn	00 34 48.0	0.0
MMLI	Mount Malkishu	7.31	136	Pn	Pn	00 34 48.3	+0.2
MMLI	Mount Malkishu	7.31	136	Pn	Pn	00 34 48.3	+0.2
CFR	Carcaliu	7.35	353⇓	iP	Pn	00 34 48.2	-0.4
SEV	Sevastopol’	7.36	24	eP	Pn	00 34 47.1	-1.7
SEV				eS	Sn	00 36 08.4	-4.2
YAL	Yalta	7.47	27	eP	Pn	00 34 51.2	+0.9
YAL				eS	Sn	00 36 14.8	-0.6
YAL	Yalta	7.47	27	eP	Pn	00 34 51.2	+0.9
YAL				e		00 36 14.8	
HMDT	Nahal Hemdat	7.50	137	Pn	Pn	00 34 51.4	+0.6
HMDT				Sn	Sn	00 36 13.6	-2.7
HMDT	Nahal Hemdat	7.50	137	Pn	Pn	00 34 51.4	+0.6
HMDT				Sn	Sn	00 36 13.6	-2.7
ALU	Alushta	7.73	27	eP	Pn	00 34 53.3	-0.6
ALU				eS	Sn	00 36 19.5	-2.3
ALU	Alushta	7.73	27	eP	Pn	00 34 53.3	-0.6
ALU				eS	Sn	00 36 19.5	-2.3
RSH		7.76	152	P	Pn	00 34 53.7	-0.6
	baz=150						
RSH		7.76	152	P	Pn	00 34 53.7	-0.6
AMAZ	Amatzia	7.77	143	Pn	Pn	00 34 54.0	-0.5
AMAZ				Sn	Sn	00 36 20.2	-2.7
AMAZ	Amatzia	7.77	143	Pn	Pn	00 34 54.0	-0.5
AMAZ				Sn	Sn	00 36 20.2	-2.7
SIM	Simferopol’	7.87	25	eP	Pn	00 34 56.5	+0.8
	43nm,0.2s						
SIM				eS	Sn	00 36 25.4	+0.3
	9.0nm,0.3s						
SIM	Simferopol’	7.87	25	eP	Pn	00 34 56.5	+0.8
SIM				eS	Sn	00 36 25.4	+0.3
SIM				pmax	pmax		
	comp=Z,43nm,0.2s						
SIM				smax	smax		
	comp=N,9.0nm,0.3s						
SIM				smax	smax		
	comp=E,15nm,0.5s						
DSI	Dead Sea	7.97	141	Pn	Pn	00 34 57.2	+0.1
DSI				Sn	Sn	00 36 25.1	-2.6
DSI	Dead Sea	7.97	141	Pn	Pn	00 34 57.2	+0.1
DSI				Sn	Sn	00 36 25.1	-2.6
MLR	Muntele Rosu	8.03	342	Pn	Pn	00 34 59.2	+1.1
	comp=E,0.3nm,0.3s,baz=308,slow=2.3,SNR=41						
MLR	Muntele Rosu	8.03	342⇓	iP	Pn	00 34 57.5	-0.7
MTUR	Matau	8.03	337⇓	iP	Pn	00 34 58.4	+0.3
ZAGS	Zajecar	8.06	319⇓	iPn	Pn	00 34 58.0	-0.4
ODBI	Odobesti	8.07	348⇑	iP	Pn	00 35 00.3	+1.8
KZIT	Kziot	8.07	148	Pn	Pn	00 34 59.1	+0.5
KZIT	Kziot	8.07	148	Pn	Pn	00 34 59.1	+0.5
SUDU	Sudak	8.13	29	eP	Pn	00 34 59.5	+0.2
SUDU				eS	Sn	00 36 33.4	+1.8
SUDU	Sudak	8.13	29	eP	Pn	00 34 59.5	+0.2
SUDU				eS	Sn	00 36 33.4	+1.8
MZDA	Masada	8.17	142	Pn	Pn	00 34 59.9	0.0
MZDA				Sn	Sn	00 36 30.1	-2.5
MZDA	Masada	8.17	142	Pn	Pn	00 34 59.9	0.0
MZDA				Sn	Sn	00 36 30.1	-2.5
BOVS	Bovan	8.22	317⇓	iPn	Pn	00 35 01.5	+0.9
PLOR	Plostina	8.22	346⇑	iP	Pn	00 35 01.7	+1.0
VRI	Vrincioaia	8.22	346⇓	iP	Pn	00 35 01.7	+1.0
VOIR		8.23	338⇓	iP	Pn	00 35 01.2	+0.4
SRE	Strehaia	8.24	327⇑	iP	Pn	00 35 01.5	+0.6
ARR	Arges	8.30	336⇑	iP	Pn	00 35 02.5	+0.8
GLL	Jalalah	8.50	167	P	Pn	00 35 03.4	-1.1
	baz=166						
GLL	Jalalah	8.50	167	P	Pn	00 35 03.4	-1.1
DOPR	Dopca	8.62	341⇑	iP	Pn	00 35 07.6	+1.5
ZFRI	Zfri	8.71	145	Pn	Pn	00 35 07.6	+0.2
ZFRI	Zfri	8.71	145	Pn	Pn	00 35 07.6	+0.2
HERR	Herculane	8.76	325⇓	iP	Pn	00 35 07.9	-0.1
KUBS	Kucevo	8.77	320	ePn	Pn	00 35 06.4	-1.7
PRNI	Paran	8.81	147	Pn	Pn	00 35 09.3	+0.5
PRNI	Paran	8.81	147	Pn	Pn	00 35 09.3	+0.5
TESR	Tescani	8.86	347⇓	iP	Pn	00 35 08.7	-0.7
GRUS	Gruza	8.93	315	ePn	Pn	00 35 11.2	+0.9
MILM	Milestii Mici	9.03	357⇑	iP	Pn	00 35 11.5	-0.2
TTG	Podgorica	9.03	303	ePn	Pn	00 35 15.6	+3.9
TTG	Podgorica	9.03	303	eP	Pn	00 35 15.6	+3.9
IVAS	Ivanjica	9.06	312	ePn	Pn	00 35 13.8	+1.6
MDB	Medias	9.07	337⇓	iP	Pn	00 35 14.4	+2.2
HRFI	Mount Harif	9.10	148	Pn	Pn	00 35 13.3	+0.6
HRFI	Mount Harif	9.10	148	Pn	Pn	00 35 13.3	+0.6
SWA2		9.25	202	P	Pn	00 35 13.8	-1.0
	baz=203						
SWA2		9.25	202	P	Pn	00 35 13.8	-1.0
MBRI	Mt Berech	9.26	149	Pn	Pn	00 35 15.9	+0.9
MBRI	Mt Berech	9.26	149	Pn	Pn	00 35 15.9	+0.9
DEV	Deva	9.36	331⇓	iP	Pn	00 35 17.3	+1.1
DEV	Deva	9.36	331⇓	iP	Pn	00 35 17.3	+1.1
EIL	Elat	9.38	149	Pn	Pn	00 35 22.3	+5.7
	comp=E,1.2nm,0.3s,baz=320,slow=6.6,SNR=10						
EIL				Sn	Sn	00 37 06.1	+3.5
	comp=E,1.2nm,0.3s,baz=93,slow=23,SNR=5.1						
EIL	Elat	9.38	149	Pn	Pn	00 35 16.1	-0.5
EIL	Elat	9.38	149	Pn	Pn	00 35 16.1	-0.5
DIVS	Divibare	9.47	314	ePn	Pn	00 35 18.2	+0.4
DIVS	Divibare	9.47	314	ePn	Pn	00 35 18.2	+0.4
BZS	Buzias	9.69	325⇑	iP	Pn	00 35 19.3	-1.4
BZS	Buzias	9.69	325⇑	iP	Pn	00 35 19.3	-1.4
BZS	Buzias	9.69	325⇓	iPn	Pn	00 35 20.0	-0.7
ARCR	ARCALIA	9.93	339⇑	iP	Pn	00 35 22.8	-1.2
ARCR	ARCALIA	9.93	339⇑	iP	Pn	00 35 22.8	-1.2
TEKS	Tekeris	10.01	315	ePn	Pn	00 35 26.2	+1.1
TIP	Timpagrande	10.04	281⇓	iP	Pn	00 35 27.9	+2.3
TIP	Timpagrande	10.04	281	ePn	Pn	00 35 27.2	+1.6
	comp=E,11nm,0.8s						
DRGR		10.20	333⇑	iP	Pn	00 35 28.1	+0.4
DRGR		10.20	333⇑	iP	Pn	00 35 28.1	+0.4
BURAR	Bucovina Array	10.20	344⇑	iP	Pn	00 35 29.3	+1.4
BURAR	Bucovina Array	10.20	344⇑	iP	Pn	00 35 29.3	+1.4
BUR04	Bucovina Ar. S	10.21	344	ePn	Pn	00 35 28.9	+1.0
BUR04	Bucovina Ar. S	10.21	344	ePn	Pn	00 35 28.9	+1.0
BUR08	Bucovina Ar. S	10.23	344	ePn	Pn	00 35 29.7	+1.4
BUR08	Bucovina Ar. S	10.23	344	ePn	Pn	00 35 29.7	+1.4
TAMRE	El Minia	10.26	173	P	Pn	00 35 28.0	-0.6
	baz=172						
SORM	Soroca	10.27	356⇓	iP	Pn	00 35 28.4	-0.2
SORM	Soroca	10.27	356⇓	iP	Pn	00 35 28.4	-0.2
BMR	Baia Mare	10.71	338⇓	iP	Pn	00 35 34.5	-0.2
BMR	Baia Mare	10.71	338⇓	iP	Pn	00 35 34.5	-0.2
SH2	Sharm el Sheik	10.71	157	P	Pn	00 35 34.5	-0.3
	baz=156						

SH2	Sharm el Sheik	10.71	157	P	Pn	00 35 34.5	-0.3
HFRF	Wahat Farafira	10.76	186	P	Pn	00 35 33.9	-1.5
	baz=186						
HFRF	Wahat Farafira	10.76	186	P	Pn	00 35 33.9	-1.5
CUC	Castrocucco	10.84	285	ePn	Pn	00 35 39.0	+2.5
CUC	Castrocucco	10.84	285	ePn	Pn	00 35 39.0	+2.5
NEY	Neytrino	11.41	58	eP	Pn	00 35 44.3	-0.1
NEY	Neytrino	11.41	58	eP	Pn	00 35 44.3	-0.1
MORH	Mˆ‡rˆ¡gy, Hung	11.56	319⇓	eS	Pn	00 35 46.6	+0.3
KIV	Kislovodsk	11.68	55	ePn	Pn	00 35 49.9	+1.8
KIV	Kislovodsk	11.68	55	eP	Pn	00 35 47.6	-0.5
	comp=E,109nm,10.0s						
KIV	Kislovodsk	11.68	55	ePn	Pn	00 35 49.9	+1.8
KIV	Kislovodsk	11.68	55	eP	Pn	00 35 47.6	-0.5
KIV				pmax	pmax		
	comp=Z,7.0nm,1.1s						
KIV				MLR	MLR		
	comp=Z,109nm,10.0s						
KVAR	Kislovodsk Arr	11.69	55	Pn	Pn	00 35 51.2	+3.0
	baz=188,slow=7.1,SNR=5.2						
KBZ	Khabaz	11.72	56	Pn	Pn	00 35 50.3	+1.8
	comp=Z,0.1nm,0.3s,baz=224,slow=11,SNR=5.1						
GNI	Garni	12.09	75	ePn	Pn	00 35 53.7	-0.1
GNI	Garni	12.09	75	ePn	Pn	00 35 53.7	-0.1
GNI	Garni	12.09	75	eP	Pn	00 35 51.4	-2.4
KECS	Kecovo	12.44	331	ePN	Pn	00 36 08.4	+10
KECS	Kecovo	12.44	331	eP	Pn	00 36 08.4	+10
KIEV	Kiev	12.80	359	eP	Pn	00 36 06.4	+3.2
AKASG	Malin Array Be	12.81	359	Pn	Pn	00 36 00.4	-2.9
	comp=Z,0.5nm,0.3s,baz=180,slow=13,SNR=4.5						
VYHS	Vyhne	13.12	327	eP	Pn	00 36 10.2	+2.6
VYHS	Vyhne	13.12	327	ePN	Pn	00 36 10.2	+2.6
VYHS	Vyhne	13.12	327	eP	Pn	00 36 10.2	+2.6
CONA	Conrad Observa	14.12	320	P	Pn	00 36 21.3	-0.1
	comp=Z,1.7nm,0.8s						
CONA	Conrad Observa	14.12	320	Pn	Pn	00 36 21.3	-0.1
	comp=Z,1.7nm,0.8s						
OKC	Ostrava-Krasne	14.44	329	eP	P	00 36 33.9	+1.2
OKC	Ostrava-Krasne	14.44	329	eP	P	00 36 33.9	+1.2
MOA	Molln	14.91	317	P	P	00 36 36.2	-1.7
	comp=Z,0.8nm,0.5s						
MOA	Molln	14.91	317	eP	P	00 36 36.2	-1.7
	comp=Z,0.8nm,0.5s						
VSR	Storozhevoye	14.99	24	eP	P	00 36 36.4	-2.3
VSR				pmax	pmax		
	comp=Z,6.0nm,0.7s						
KBA	Koelnbreinsper	15.00	313	eP	P	00 36 36.5	-2.6
	comp=Z,1.0nm,0.6s						
DPC	Dobruska-Polom	15.59	327	eP	P	00 36 46.8	+1.3
DPC	Dobruska-Polom	15.59	327	eP	P	00 36 46.8	+1.3
DPC	Dobruska-Polom	15.59	327	eP	P	00 36 46.8	+1.3
GERES	GERESS Array B	15.82	319	Pn	Pn	00 36 46.0	+1.9
	comp=Z,0.2nm,0.3s,baz=126,slow=11,SNR=21						
UPC	Upice	15.84	327	AMS	AMS	00 43 50.0	
	comp=Z,300nm,10.1s						
VRH	Novokhopyorsk	15.88	29	eP	Pn	00 36 45.3	+0.4
VRH				pmax	pmax		
	comp=Z,7.0nm,1.4s						
KHC	Kasperske Hory	16.06	319	eP	P	00 36 51.7	+1.1
KHC				ex	x	00 36 54.4	
KHC				AMS	AMS	00 43 30.0	
	comp=Z,500nm,10.9s						
KHC	Kasperske Hory	16.06	319	eP	P	00 36 51.7	+1.1
	comp=Z,500nm,10.9s						
KHC	Kasperske Hory	16.06	319	eP	P	00 36 51.7	+1.1
KHC				MLR	MLR		
	comp=Z,500nm,10.9s						
WTTA	Wattenberg	16.10	311	P	P	00 36 52.4	+1.1
	comp=Z,1.9nm,0.5s						
WTTA	Wattenberg	16.10	311	epP	P	00 36 52.4	+1.1
	comp=Z,1.9nm,0.5s						
KEST	Kesra	16.26	269	Pn	Pn	00 36 51.1	+1.2
	baz=347,slow=13,SNR=2.2						
MOTA	Moosalm	16.45	311	P	P	00 36 57.0	+1.8
	comp=Z,2.9nm,0.7s						
MOTA	Moosalm	16.45	311	epP	P	00 36 57.0	+1.8
	comp=Z,2.9nm,0.7s						
FETA	Feichten	16.53	309	P	P	00 36 56.5	+0.4
	comp=Z,6.4nm,1.0s						
FETA	Feichten	16.53	309	eP	P	00 36 56.5	+0.4
	comp=Z,6.4nm,1.0s						
RETA	Reutte	16.73	311	P	P	00 36 59.7	+1.6
	comp=Z,3.8nm,0.9s						
RETA	Reutte	16.73	311	epP	P	00 36 59.7	+1.6
	comp=Z,3.8nm,0.9s						
OBN	Obninsk	17.89	13⇑	eP	P	00 37 11.9	+1.1
OBN				pmax	pmax		
	comp=Z,19nm,2.2s						
OBN				MLR	MLR		
	comp=Z,328nm,19.0s						
BNI	Bardonecchia	18.48	300	eP	Pn	00 37 18.3	+0.7
	comp=Z,2.8nm,0.6s						
BNI	Bardonecchia	18.48	300	eP	Pn	00 37 18.3	+0.7
BNI				pmax	pmax		
	comp=Z,3.0nm,0.6s						
BFO	Black Forest	18.57	311	eP	Pn	00 37 20.0	+1.5
	comp=Z,9.1nm,0.9s						
BFO	Black Forest	18.57	311	eP	Pn	00 37 20.0	+1.5
	comp=Z,9.1nm,0.9s						
BFO	Black Forest	18.57	311	i P	Pn	00 37 21.2	+2.7
ECH	Echery	19.23	310	eP	Pn	00 37 27.5	+1.0
	comp=Z,8.2nm,1.0s						
ECH	Echery	19.23	310	eP	Pn	00 37 27.5	+1.0
	comp=Z,8.2nm,1.0s						
ECH	Echery	19.23	310	eP	Pn	00 37 27.5	+1.0
ECH				pmax	pmax		
	comp=Z,8.0nm,1.0s						
RAYN	Ar Rayn	19.84	132	eP	P	00 37 32.3	-0.2
	comp=Z,2.2nm,0.7s						
RAYN	Ar Rayn	19.84	132	eP	P	00 37 32.3	-0.2
	comp=Z,2.2nm,0.7s						
WLF	Walferdange	20.45	313	eP	Pn	00 37 40.5	-0.4
	comp=Z,6.1nm,0.9s						
WLF	Walferdange	20.45	313	eP	Pn	00 37 40.5	-0.4
	comp=Z,6.1nm,0.9s						
WLF	Walferdange	20.45	313	eP	Pn	00 37 40.5	-0.4
WLF				pmax	pmax		
	comp=Z,6.0nm,0.9s						
GEYT	Alibeck	22.57	81	P	P	00 38 02.8	+0.9
	comp=Z,2.1nm,0.7s,baz=268,slow=14,SNR=5.2						
FINES	FINESS Array B	23.67	356	P	P	00 38 11.4	-1.4
	comp=Z,2.9nm,0.6s,baz=159,slow=9.8,SNR=16						
FIA1	FINESS Array S	23.67	356	eP	P	00 38 13.5	+0.7
KLMR	Klimovskoe	23.84	12	eP	P	00 38 11.6	-3.0
KLMR				AMP		00 38 22.3	
	comp=Z,13nm,1.4s						
KLMR	Klimovskoe	23.84	12	eP	P	00 38 11.5	-3.0
KLMR				pmax	pmax		
	comp=Z,13nm,1.4s						
AKTO	Aktyubinsk	23.85	49	P	P	00 38 13.2	-1.6
	comp=Z,2.0nm,0.8s,baz=256,slow=8.1,SNR=6.8						
HFS	Hagfors	24.42	341	P	P	00 38 17.5	-2.4
	comp=Z,2.8nm,0.7s,baz=134,slow=11,SNR=6.0						
ABKAR	Akbulak array	24.66	53	eP	P	00 38 21.6	-0.6
	comp=Z,1.2nm,0.6s						
SHME	Shamm	25.43	110	i P	P	00 38 28.4	-1.0
	SNR=6.5						
TAM	Tamanrasset	25.46	241	eP	P	00 38 31.1	+1.2
	comp=Z,6.0nm,1.2s						
TAM	Tamanrasset	25.46	241	eP	P	00 38 31.1	+1.2
	comp=Z,6.0nm,1.2s						
TAM	Tamanrasset	25.46	241	eP	P	00 38 31.1	+1.2
TAM				pmax	pmax		
	comp=Z,6.0nm,1.2s						
BANOM	Banah	25.62	110	P	P	00 38 30.7	-0.5
BANOM	Banah	25.62	110	P	P	00 38 30.7	-0.5
NAZ	Nazwa, Dubai	25.69	112	P	P	00 38 31.7	-0.1
	SNR=9.9						
NAZ	Nazwa, Dubai	25.69	112	i P	P	00 38 31.7	-0.1
	SNR=9.9						
NB2	NORSAR Subarra	25.84	340	P	P	00 38 32.0	-0.9
	comp=Z,1.8nm,0.9s,baz=145,slow=9.3						
NOA	NORSAR Array B	25.84	340	P	P	00 38 33.0	+0.1
	comp=Z,1.1nm,0.7s,baz=148,slow=8.9,SNR=4.4						
ESDC	Sonseca Array	26.04	284	P	P	00 38 34.7	-0.2
	comp=Z,1.7nm,0.8s,baz=81,slow=10,SNR=8.3						
UOSS	Minazif	26.11	112	eP	P	00 38 35.1	-0.5
	comp=Z,4.1nm,0.8s						
UOSS	Minazif	26.11	112	P	P	00 38 34.8	-0.8
HATD	Hatta, Dubai	26.13	112	P	P	00 38 35.3	-0.5
	SNR=7.0						
HATD	Hatta, Dubai	26.13	112	i P	P	00 38 35.3	-0.5
	SNR=7.0						
ARU	Arti	26.80	37	P	P	00 38 42.1	+0.6
	comp=Z,4.4nm,0.6s,baz=258,slow=7.9,SNR=9.9						
ARU	Arti	26.80	37	eP	P	00 38 42.5	+1.0
	comp=Z,4.6nm,0.7s						
ARU	Arti	26.80	37c	iP	P	00 38 42.8	+1.3
ARU						00 39 20.9	
ARU				S	S	00 43 22.9	+5.1
ARU				SS	SnSn	00 44 26.9	+5.6
ARU				pmax	pmax		
	comp=Z,4.0nm,0.6s						
TMCR	Tamitsa	26.80	8	eP	P	00 38 45.6	+4.2
TMCR				pmax	pmax		
	comp=Z,24nm,1.3s						
SOHO	SOHO	26.83	113	P	P	00 38 42.0	-0.1
	SNR=10						
SOHO	SOHO	26.83	113	i P	P	00 38 42.0	-0.1
	SNR=10						
KKAR	Karatay Array	31.41	67	eP	P	00 39 23.0	+0.3
KKAR	Karatay Array	31.41	67	eP	P	00 39 23.0	+0.3
ARCES	ARCESS Array B	31.77	357	P	P	00 39 24.6	-1.0
	comp=Z,2.8nm,0.7s,baz=160,slow=7.6,SNR=9.0						
BRVK	Borovoye	31.89	48	eP	P	00 39 25.7	-1.1
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.8s						
AAK	Ala-Archa	34.37	68	P	P	00 39 48.9	+0.1
	comp=Z,2.7nm,0.6s,baz=237,slow=8.1,SNR=11						
AAK	Ala-Archa	34.37	68	eP	P	00 39 49.2	+0.5
	comp=Z,2.6nm,0.6s						
TOA0	Torodi Ar. Sit	34.90	232	eP	P	00 39 53.3	0.0
	comp=Z,6.1nm,0.8s						
TORD	Torodi Ar. Bea	34.90	232	P	P	00 39 52.5	-0.9
	comp=Z,5.1nm,0.6s,baz=35,slow=8.9,SNR=55						
KURBB	Kurchatov Arra	36.71	54	P	P	00 40 07.9	-0.6
	comp=Z,2.9nm,0.6s,baz=276,slow=8.8,SNR=8.9						
KURK	Kurchatov	36.77	53	eP	P	00 40 08.8	-0.2
	comp=Z,2.5nm,0.8s						
KURK	Kurchatov	36.77	53	eP	P	00 40 07.4	-1.6
KURK				pmax	pmax		
	comp=Z,2.0nm,0.8s						
MK31	Makanchi Array	39.39	60	eP	P	00 40 31.1	-0.1
MK31	Makanchi Array	39.39	60	eP	P	00 40 31.1	-0.1
MKAR	Makanchi Array	39.39	60	P	P	00 40 31.0	-0.1
	comp=Z,2.4nm,0.5s,baz=279,slow=7.5,SNR=43						
MKAR	Makanchi Array	39.39	60	eP	P	00 40 31.1	-0.1
	comp=Z,24nm,0.5s						
MKAR	Makanchi Array	39.39	60	eP	P	00 40 31.1	-0.1
MKAR				pmax	pmax		
	comp=Z,24nm,0.5s						
MK01	Makanchi Array	39.40	60	eP	P	00 40 30.7	-0.6
ZALV	Zalesovo Beam	40.60	48	P	P	00 40 40.4	-0.8
	comp=Z,1.4nm,0.5s,baz=265,slow=8.8,SNR=10						
SPITS	Spitsbergen Ar	40.77	356	P	P	00 40 40.5	-1.7
	comp=Z,6.4nm,0.9s,baz=150,slow=8.6,SNR=6.4						
WMQ	Urumqi	43.65	63	P	P	00 41 07.1	+0.8
DBIC	Dimbokro	43.98	234	P	P	00 41 08.9	-0.2
	comp=Z,9.2nm,1.0s,baz=78,slow=13,SNR=3.9						
SONM	Songino Array	55.07	53	P	P	00 42 33.0	-0.6
	comp=Z,0.3nm,0.4s,baz=286,slow=8.0,SNR=5.0						
FRB	Frobisher Bay	60.08	329	P	P	00 43 07.4	-1.0
	comp=Z,2.4nm,1.0s,baz=90,slow=19,SNR=3.6						
HHC	Hu-ho-hao-te	61.25	59	eP	P	00 43 18.9	+2.0
HHC				pmax	pmax		
	comp=Z,12nm,1.2s						
HHC				pmax	pmax		
	comp=Z,280nm,7.2s						
CMAR	Chiang Mai Arr	62.89	87	P	P	00 43 26.8	-1.3
	comp=Z,0.5nm,0.3s,baz=317,slow=8.6,SNR=4.6						
BILL	Bilibino	69.53	16	i P	P	00 44 09.0	-0.9
BILL				i		00 44 33.8	
BILL				i		00 46 46.6	
BILL				pmax	pmax		
	comp=Z,2.0nm,1.3s						
SEY	Seymchan	69.68	24	P	P	00 44 10.5	-0.5
	comp=Z,1.0nm,0.2s,baz=323,slow=12,SNR=4.1						
PSI	Prapat	72.12	101	P	P	00 44 25.1	-1.6
	comp=Z,3.4nm,0.4s,baz=132,slow=9.7,SNR=2.8						
YKA	Yellowknife Ar	75.86	344	P	P	00 44 46.6	-1.1
	comp=Z,0.3nm,0.8s,baz=36,slow=5.3,SNR=7.0						

*CSEM **04** 00:33:19.7, 36.07N×25.14E, h13^{km}, ML1.8/8*

THE 04 00:33:19.7, 36.07N×25.14E, h13^{km}±1^{km}, ML1.8/8, Error ellipse: s-maj=1.2km s-min=0.3km az=50.0, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THR9	Santorini-Faro	0.34	31	P	Pg	00 33 26.8	+0.2
THR9	Santorini-Faro	0.34	31	P	Pg	00 33 26.8	+0.2
THR6	Thira Island,	0.36	36	P	Pg	00 33 27.3	+0.4
THR6	Thira Island,	0.36	36	P	Pg	00 33 27.3	+0.4
THR5	Thira Island,	0.39	26	P	Pg	00 33 27.6	+0.1
THR5	Thira Island,	0.39	26	P	Pg	00 33 27.6	+0.1
THT1	Athinios (Pele	0.40	36	P	Pg	00 33 27.5	-0.1
THT1				S	Sg	00 33 33.5	+0.5
THT1	Athinios (Pele	0.40	36	P	Pg	00 33 27.5	-0.1
THT1				S	Sg	00 33 33.5	+0.5
SANT	Santorini	0.40	40	P	Pg	00 33 27.3	-0.4
SANT				S	Sb	00 33 34.0	-0.7
SANT	Santorini	0.40	40	P	Pg	00 33 27.3	-0.4
SANT				S	Sb	00 33 34.0	-0.7
THR3	Thira Island,	0.40	32	P	Pg	00 33 27.8	+0.1
THR3	Thira Island,	0.40	32	P	Pg	00 33 27.8	+0.1
SAP3	Santorini-Thir	0.40	24	P	Pg	00 33 27.7	-0.1
SAP3				S	Sb	00 33 34.1	-0.7
SAP3	Santorini-Thir	0.40	24	P	Pg	00 33 27.7	-0.1
SAP3				S	Sb	00 33 34.1	-0.7
THR7	Fira-Santorini	0.42	33	P	Pg	00 33 28.2	0.0
THR7	Fira-Santorini	0.42	33	P	Pg	00 33 28.2	0.0
THR2	Thira island,	0.45	32	P	Pg	00 33 28.5	-0.1
THR2	Thira island,	0.45	32	P	Pg	00 33 28.5	-0.1
NPS	Neapolis	0.89	154	P	Pg	00 33 36.1	-0.8
NPS				S	Sb	00 33 49.4	+0.6
NPS	Neapolis	0.89	154	P	Pg	00 33 36.1	-0.8
NPS				S	Sb	00 33 49.4	+0.6
LAST	Lasithi	0.94	163	P	Pg	00 33 37.3	-0.7
LAST				S	Sb	00 33 50.7	+0.2
LAST	Lasithi	0.94	163	P	Pg	00 33 37.3	-0.7
LAST				S	Sb	00 33 50.7	+0.2
VAM	Vamos	1.01	230	P	Pb	00 33 38.1	-0.9
VAM				S	Sg	00 33 52.8	+0.5
VAM	Vamos	1.01	230	P	Pb	00 33 38.1	-0.9
VAM				S	Sg	00 33 52.8	+0.5
APE	Apeiranthos	1.05	17	P	Pb	00 33 38.5	-1.3
APE	Apeiranthos	1.05	17	P	Pb	00 33 38.5	-1.3
SIVA	Sivas	1.08	194	P	Pb	00 33 39.4	-0.8
SIVA				S	Sg	00 33 54.6	0.0
SIVA	Sivas	1.08	194	P	Pb	00 33 39.4	-0.8
SIVA				S	Sg	00 33 54.6	0.0
IMMV	Iera Moni Meta	1.12	238	P	Pb	00 33 40.1	-0.8
IMMV				S	Sb	00 33 55.2	-0.2
IMMV	Iera Moni Meta	1.12	238	P	Pb	00 33 40.1	-0.8
IMMV				S	Sb	00 33 55.2	-0.2

IDC 04 00:41:25.2±7.1, 51.14N×178.90W, h0^{km}, mb3.3/3, mb1 3.8/4, mb1mx3.2/87, mbtmp3.5/4, ML3.1/1, Error ellipse: s-maj=146.1km s-min=76.7km az=100.0, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	Kodiak Island	16.61	56	Pn	Pn	00 45 18.5	-0.6
	0.1nm,0.3s,baz=288,slow=20,SNR=3.7						
YKA	Yellowknife Ar	35.45	46	P	P	00 48 22.0	-0.7
	0.3nm,0.5s,baz=280,slow=7.9,SNR=8.6						
PDAR	Pinedale Array	46.44	72	P	P	00 49 53.8	0.0
	0.3nm,0.6s,baz=305,slow=3.2,SNR=4.7						
TXAR	Lajitas Array	58.75	81	P	P	00 51 25.1	+0.1
	0.1nm,0.5s,baz=318,slow=5.3,SNR=2.9						

MAN 04 00:42:42, 10.04N×123.24E, h1^{km}, mb4.3, ML3.1, MS2.9, 1C-3D, Cebu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNPH	Sibulan	0.70	181	eP	Pb	00 42 57.2	+0.2
SNPH				eS	Sb	00 43 07.9	+0.8
LLP	Lapu-Lapu	0.76	69⇓	eP	Pg	00 42 56.6	0.0
LLP				eS	Sg	00 43 07.0	+0.4
GUIM	Jordan	0.86	312	eP	Pg	00 42 58.4	-0.2
JAP	San Jose, Anti	1.45	299⇓	eP	Pg	00 43 12.7	+2.8
DCPH	Dipolog City	1.46	176⇑	eP	Pn	00 43 09.0	-0.5
DCPH				eS	Sn	00 43 29.2	0.0
RCP	Roxas	1.58	342⇓	eP	Pg	00 43 12.4	0.0
RCP				eS	Sg	00 43 33.4	+0.4
MSLP	Maasin	1.59	87	eP	Pn	00 43 10.6	-0.7
MSLP				eS	Sg	00 43 34.1	+0.8

GUC 04 00:52:43.1±0.7, 20.90S×69.42W, h65^{km}±3^{km}, ML3.7, 4C-5D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB01	IPOC Station P	0.15	203⇑	iP	Pn	00 52 53.2	+0.2
PB01				eS	Sn	00 53 00.6	+0.4
PB01				IAML		00 53 01.0	
	comp=E,14μm,0.2s						
PB02	IPOC Station P	0.61	226⇑	iP	Pn	00 52 57.2	+0.5
PB02				eS	Sn	00 53 07.6	+0.9
PB02				IAML		00 53 08.3	
	comp=N,4μm,0.1s						
PB08	IPOC Station P	0.80	19⇑	iP	Pn	00 52 59.9	+0.7
PB08				i S	Sn	00 53 12.1	+1.1
PB08				IAML		00 53 12.4	
	comp=E,5μm,0.3s						
PB09	IPOC Station P	0.91	169⇓	iP	Pn	00 53 01.0	+0.6
PB09				eS	Sn	00 53 14.4	+1.3
PB09				IAML		00 53 17.4	
	comp=E,6μm,0.3s						
PB07	IPOC Station P	0.93	208⇑	iP	Pn	00 53 00.9	+0.3
PB07				eS	Sn	00 53 14.1	+0.5
PB07				IAML		00 53 14.4	
	comp=E,2μm,0.2s						
PB11	IPOC Station P	1.15	349⇓	iP	Pn	00 53 04.2	+0.7
PB11				eS	Sn	00 53 20.2	+1.5
GO01	Chusmiza	1.24	10	eP	Pn	00 53 06.0	+1.0
GO01				i S	Sn	00 53 22.7	+1.5
PSGC	Pisagua	1.45	333⇓	iP	Pn	00 53 07.7	+0.3
PB04	IPOC Station P	1.58	205	eP	Pn	00 53 09.4	+0.2
PB04				i S	Sn	00 53 29.4	+0.6
MNMC	Minye Minye	1.77	355⇓	iP	Pn	00 53 12.7	+0.9
MNMC				i S	Sn	00 53 34.7	+1.2
MNMC				IAML		00 53 42.4	
	comp=N,1μm,0.5s						
PB06	IPOC Station P	1.80	184⇓	iP	Pn	00 53 12.6	+0.5
PB06				i S	Sn	00 53 34.6	+0.5
PB06				IAML		00 53 37.7	
	comp=N,1μm,0.3s						
PB12	IPOC Station P	2.43	339	eP	Pn	00 53 20.7	+0.1

*ISCJB **04** 01:12:08.2±0.2, 33.83N±0.01×116.16W±0.01, h3^{km}±2^{km}, Error ellipse: s-maj=1.9km s-min=1.5km az=174.7*

*NEIC **04** 01:12:09.0±0.0, 33.86N×116.16W, h2^{km}, ML3.5(PAS), After PAS.*

NEIC Felt [III] at Indio and Palm Desert; [II] at Cathedral City, Palm Springs, Rancho Mirage and Thousand Palms. Also felt at Coachella, Indian Wells, La Quinta, San Jacinto and Twentynine Palms.

ISC 04 01:12:09.0±1.0, 33.84N±0.01×116.16W±0.01, h1^{km}±8^{km}, n129, σ1^{s}40/191, Southern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BELC	Belle Mtn. Jos	0.21	40	P	Pg	01 12 13.0	0.0
	baz=226						
BELC				S	Sg	01 12 16.0	+0.3
	baz=226						
CTW	Cottonwood Mou	0.29	124	ePg	Pg	01 12 15.2	+0.7
XPFO	Piæon Flat	0.34	227	ePg	Pg	01 12 15.2	-0.3
XPFO				eSg	Sg	01 12 19.1	-0.8
PFO	Pinyon Flats O	0.34	228	P	Pg	01 12 15.7	+0.2
	baz=44,SNR=495						
PFO				S	Sg	01 12 20.6	+0.8
	baz=44						
PFO	Pinyon Flats O	0.34	228	ePg	Pg	01 12 15.1	-0.3
PFO				eSg	Sg	01 12 19.1	-0.8
DEVC	Devers	0.36	285	ePg	Pg	01 12 16.5	+0.6
HAY	Hayfield	0.42	108	ePg	Pg	01 12 18.0	+1.0
BATC	Bat Cave Butte	0.46	145	ePg	Pg	01 12 18.5	+0.7
SNDA	J Saunders Pla	0.47	233	ePg	Pg	01 12 18.4	+0.3
DNR	Dunn Ranch,Anz	0.48	235	ePg	Pg	01 12 18.6	+0.4
FRD	Ford Ranch, An	0.51	227	ePg	Pg	01 12 18.9	+0.3
CRY	Cary Ranch	0.56	241	ePg	Pg	01 12 19.8	+0.2
BORC	Borrego Spring	0.61	201	ePg	Pg	01 12 21.2	+0.6
BC3	Big Chuckawall	0.62	107	P	Pg	01 12 15.4	-5.4
	baz=289						
BC3				P	Pb	01 12 21.2	-1.5
	baz=289,SNR=194						
BC3				S	Sg	01 12 29.7	+1.0
	baz=289						
FRK	Frink	0.62	135	ePg	Pg	01 12 21.0	+0.2
BBSC	Beaumont Base	0.69	277	ePg	Pg	01 12 22.2	0.0
BBSC				eSg	Sg	01 12 31.7	+0.6
HMTC	Hemet	0.72	260	ePg	Pg	01 12 22.6	-0.1
DGR	Domenigoni Val	0.73	255	ePg	Pg	01 12 22.9	-0.1
BBRC	Big Bear Solar	0.76	304	P	Pg	01 12 23.1	-0.5
	baz=122,SNR=27						
BBRC				S	Sg	01 12 33.6	+0.2
	baz=122						
BBRC	Big Bear Solar	0.76	304	ePg	Pb	01 12 24.8	-0.4
PLM	Palomar	0.76	231	ePg	Pg	01 12 23.8	+0.2
PLM				eSg	Sg	01 12 34.2	+0.8
ERRC	Elmore Ranch	0.77	159	ePn	Pb	01 12 26.2	+1.0
ERRC				eSg	Sb	01 12 36.5	+0.3
SVD	Seven Oaks Dam	0.82	289	ePg	Pg	01 12 25.2	+0.4
SVD				eSg	Sg	01 12 36.2	+0.7
MURC	Murrieta	0.90	255	P	Pg	01 12 25.8	-0.4
	baz=73,SNR=146						
MURC				S	Sg	01 12 37.6	-0.1
	baz=73						
IRM	Iron Mountain	0.90	69	P	Pg	01 12 20.3	-5.9
	baz=251						
IRM				P	Pb	01 12 25.8	-1.6
	baz=251,SNR=404						
IRM				S	Sg	01 12 38.0	+0.1
	baz=251						
IRM	Iron Mountain	0.90	69	eSg	Sg	01 12 38.2	+0.3
CBKC	Canebrake	0.94	185	ePg	Pg	01 12 26.8	-0.3
SWSC	Sam W. Stewart	0.94	161	P	Pg	01 12 26.2	-0.8
	baz=342,SNR=21						
SWSC				S	Sg	01 12 39.1	-0.2
	baz=342						
SWSC	Sam W. Stewart	0.94	161	ePg	Pg	01 12 26.7	-0.4
SWSC				eSg	Sg	01 12 39.1	-0.2
CRR	Carrizo Plain	0.96	170	ePg	Pg	01 12 27.0	-0.5
MONP2	Monument Peak	0.97	193	P	Pg	01 12 27.6	0.0
	baz=12,SNR=38						
MONP2				S	Sg	01 12 40.5	+0.3
	baz=12						
HEC	Hector,Ludlow	1.00	352	P	Pg	01 12 27.4	-0.7
	baz=172,SNR=67						
HEC				S	Sg	01 12 40.6	-0.4
	baz=172						
RVR	Riverside	1.02	279	ePg	Pg	01 12 28.3	-0.3
RVR				eSg	Sg	01 12 41.4	-0.4
DANC	Danby, Needles	1.02	39	eSg	Sn	01 12 44.0	-1.6
GMRC	Granite Mounta	1.03	24	P	Pg	01 12 27.7	-1.0
	baz=205,SNR=369						
GMRC				S	Sg	01 12 41.5	-0.6
	baz=205						
HWB	Hans Werner Br	1.05	220	eSg	Sg	01 12 42.9	+0.1
DPP	Dos Picos Cty	1.06	218	ePg	Pg	01 12 29.0	-0.4
DPP				eSn	Sg	01 12 43.5	+0.3
EML	El Monte Cty P	1.11	211	ePg	Pg	01 12 29.6	-0.6
EML				eSn	Sg	01 12 44.7	+0.1
BTCC	Brunts Corner	1.14	136	ePg	Pg	01 12 31.3	+0.5
CRNC	Corona	1.17	272	eSg	Sg	01 12 45.6	-0.8
IKP	In-Ko-Pah, Jac	1.19	178	P	Pg	01 12 30.3	-1.4
	baz=358,SNR=25						
IKP				S	Sg	01 12 45.6	-1.5
	baz=358						
DREC	Desert Rsrch C	1.19	150	eSn	Sb	01 12 48.6	+0.3
BAR	Barrett	1.23	201	ePg	Pg	01 12 31.5	-1.1
BAR				ePn	Pb	01 12 32.1	-1.0
BAR				eSg	Sg	01 12 48.0	-0.6
BAR				eSn	Sb	01 12 48.4	-1.2
109C	Camp Elliot, M	1.24	220	P	Pg	01 12 31.6	-1.0
	baz=38,SNR=34						
109C				S	Sg	01 12 48.0	-0.7
	baz=38						
CPE	Camp Elliot	1.24	220	ePg	Pg	01 12 31.5	-1.1
CPE				eSg	Sg	01 12 48.1	-0.6
RRX	Edison Barstow	1.24	326	Pg	Pg	01 12 32.2	-0.7
	baz=146,SNR=51						
DSCC	Desert Studies	1.30	2	ePn	Pg	01 12 33.7	-0.2
BFSC	Mount Baldy Ra	1.31	288	Pg	Pg	01 12 33.1	-0.9

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	baz=106,SNR=256						
BFSC				Sb	Sg	01 12 50.1	-0.9
	baz=106						
BFSC	Mount Baldy Ra	1.31	288	ePn	Pg	01 12 33.1	-0.9
BFSC				eSn	Sg	01 12 50.4	-0.6
SSK	Sunset Peak	1.33	287	ePn	Pg	01 12 33.7	-0.7
EL2	El Mirage 2	1.34	301	ePn	Pb	01 12 35.2	+0.3
GLA	Glamis	1.36	125	P	Pn	01 12 32.8	-2.4
	baz=306,SNR=76						
GLA				S	Sg	01 12 51.1	-1.7
	baz=306						
GLA	Glamis	1.36	125	ePn	Pn	01 12 32.9	-2.3
GLA				ePg	Pg	01 12 35.2	+0.1
GLA				eSg	Sg	01 12 52.8	+0.1
GLA				eSn	Sn	01 12 54.6	+0.6
BLYC	Blythe	1.36	93	ePn	Pn	01 12 34.7	-0.5
BLYC				eSn	Sn	01 12 54.4	+0.4
Y12C	Blythe	1.36	93	P	Pn	01 12 32.7	-2.5
	baz=275,SNR=207						
Y12C				S	Sg	01 12 51.4	-1.4
	baz=275						
Y12C	Blythe	1.36	93	ePn	Pn	01 12 31.3	-3.9
PSRC	Puddingstone R	1.39	281	ePn	Pn	01 12 34.2	-1.5
PSRC				eSn	Sg	01 12 52.6	-1.1
PEM	Pine Mountain	1.46	283	ePn	Pn	01 12 35.7	-0.8
PEM				eSn	Sb	01 12 54.8	-1.2
LDFC	Landfair	1.51	35	ePn	Pn	01 12 36.0	-1.4
LDFC				eSn	Sn	01 12 57.6	-0.2
LDFC				eSg	Sg	01 12 58.2	+0.7
BLKC	Black Mountain	1.52	325	ePn	Pn	01 12 36.6	-0.9
HOLC	Holcomb Ridge	1.53	294	ePn	Pn	01 12 36.8	-0.8
GSC	Goldstone, Bar	1.55	340	Pg	Pb	01 12 38.0	-0.7
	baz=160						
GSC				Sb	Sn	01 12 57.5	-1.2
	baz=160						
GSC	Goldstone, Bar	1.55	340	ePn	Pn	01 12 36.2	-1.7
GSC				eSn	Sg	01 12 59.4	+0.4
NEE2	Needles Airpor	1.57	54	Pg	Pb	01 12 38.3	-0.6
	baz=235						
NEE2				Sb	Sn	01 12 58.4	-0.8
	baz=235						
TUQ	Turquoise Moun	1.60	7	P	Pn	01 12 36.6	-2.1
	baz=187,SNR=91						
TUQ				Sb	Sn	01 12 59.0	-1.1
	baz=187						
TUQ	Turquoise Moun	1.60	7	ePn	Pb	01 12 39.0	-0.6
JNH	Juniper Hills	1.61	293	ePn	Pn	01 12 38.8	+0.1
MWC	Mount Wilson	1.62	284	ePn	Pn	01 12 38.6	-0.4
MWC				eSn	Sn	01 12 59.6	-1.0
MWC				eSg	Sb	01 13 00.3	-0.7
CHFC	Chilao Flat St	1.63	288	ePn	Pn	01 12 39.0	0.0
CHFC				eSn	Sb	01 13 00.7	-0.3
GVRC	Garvey Reservo	1.64	278	eSn	Sg	01 13 01.6	-0.2
PASC	Pasadena Art C	1.72	282	ePn	Pn	01 12 40.0	-0.1
PASC				eSn	Sn	01 13 01.7	-1.0
PASC				eSg	Sb	01 13 02.4	-1.1
PDMCI	Parker Dam,Lak	1.74	74	Pg	Pb	01 12 41.1	-0.6
	baz=256						
PDMCI				Sb	Sn	01 13 03.1	-0.1
	baz=256						
FMP	Fort Macarthur	1.78	267	Sb	Sn	01 13 04.4	+0.2
	baz=84						
EDW2	Edwards Air Fo	1.84	305	P	Pn	01 12 39.6	-2.2
	baz=124,SNR=146						
EDW2				Sb	Sn	01 13 05.9	+0.1
	baz=124						
DECC	Green Verdugo	1.85	283	Pg	Pb	01 12 43.4	-0.3
	baz=102						
DECC				Sb	Sn	01 13 06.3	+0.3
	baz=102						
DECC	Green Verdugo	1.85	283	eSn	Sn	01 13 06.0	0.0
DJJ	Donna J Jenkin	1.93	279	eSn	Sn	01 13 08.2	+0.3
CIAC	Catalina I. Ai	1.93	258	eSn	Sn	01 13 08.4	+0.4
CIS	Catalina Islan	1.93	258	Sb	Sn	01 13 08.2	+0.2
	baz=76						
IR2C	Iron Canyon	1.94	287	ePn	Pb	01 12 44.1	-1.0
IR2C				eSn	Sb	01 13 09.6	-0.3
CCCA	Chr Cany lake	1.95	330	ePn	Pg	01 12 45.6	-0.8
CCAC	Calif City Air	2.02	311	ePn	Pb	01 12 46.5	0.0
SCI2	San Clemente I	2.17	247	Sb	Sn	01 13 15.2	+1.2
	baz=65						
W13A	Hualapai Mount	2.26	56	ePn	Pn	01 12 46.4	-1.4
W13A				eSn	Sn	01 13 15.1	-1.3
OSI	Osito Audit: C	2.26	291	Sb	Sb	01 13 18.5	-0.7
	baz=109						
OSI	Osito Audit: C	2.26	291	ePn	Pn	01 12 46.7	-0.9
113A	Mohawk Valley,	2.27	117	ePn	Pn	01 12 46.1	-1.5
113A				eSn	Sn	01 13 16.4	0.0
BLG	Laguna Peak, P	2.43	277	Sb	Sb	01 13 23.4	-0.6
	baz=95						
Y14A	Wickenburg	2.62	87	ePn	Pn	01 12 51.5	-1.1
Y14A				eSn	Sn	01 13 24.3	-0.9
ISA	Isabella, Lake	2.63	314	ePn	Pn	01 12 51.9	-0.9
ISA				eSn	Sn	01 13 24.1	-1.3
DAC	Darwin (Calif)	2.70	335	ePn	Pn	01 12 53.7	-0.1
SHPR	Sheep Range	2.78	17	ePn	Pn	01 12 55.1	+0.3
TPNV	Topopah Spring	3.10	359	ePn	Pn	01 12 59.1	-0.2
X16A	Lo Mia Camp, P	3.96	80	ePn	Pn	01 13 10.2	-0.9
LCMT	Little Creek M	3.96	36	ePn	Pn	01 13 10.8	-0.3
U15A	North Rim	4.09	50	ePn	Pn	01 13 13.1	+0.1
KNB	Kanab	4.18	40	ePn	Pn	01 13 14.4	+0.3
WUAZ	Wupatki	4.28	66	ePn	Pn	01 13 17.6	+2.1
CCUT	Cedar City	4.35	31	ePn	Pn	01 13 17.6	+1.2
EKU	East Kanab	4.40	42	ePn	Pn	01 13 17.1	0.0
SZCU	Shurtz Canyon	4.50	33	ePn	Pn	01 13 19.8	+1.2
R11A	Troy Canyon, C	4.52	6	ePg	Pb	01 13 29.8	+0.4
PKCU	Pink Cliffs	4.77	40	ePn	Pn	01 13 24.8	+2.5
NV11	Mina Array Sit	4.86	341	ePn	Pn	01 13 25.2	+1.8
NV01	Mina Array Sit	4.90	340	ePn	Pn	01 13 25.5	+1.5
RYN	Ryan	5.15	339	ePn	Pn	01 13 30.0	+2.6
X18A	Snowflake	5.19	81	ePn	Pn	01 13 28.2	+0.2
MTPU	Mount Pierson	5.29	36	ePn	Pn	01 13 32.2	+2.7
WAKR	Walker	5.36	331	ePg	Pb	01 13 43.5	-0.1
CMB	Columbia Colle	5.41	322	ePn	Pn	01 13 33.6	+2.7
CMB				eSn	Sn	01 14 39.7	+5.8
KVN	Kaiserville	5.43	344	ePn	Pn	01 13 32.6	+1.3
JECB	Eureka Canyon	5.61	306	eSg	Sb	01 14 54.5	-1.0
CCOB	Coe Ranch Numb	5.64	309	eSn	Sn	01 14 37.3	-2.2
CCOB				eSg	Sb	01 15 00.3	+3.9
CCOB				eLg	Lg	01 15 10.8	
DBD	Des Bee Dove	6.81	35	ePg	Pb	01 14 12.4	+4.0
DBD				eSn	Sn	01 15 07.5	-1.3
BEKR	Beckworth	6.89	332	ePn	Pn	01 13 52.0	+0.6
SRU	San Rafael Swe	6.95	39	ePg	Pg	01 14 21.7	-0.4
MVCO	Mesa Verde	7.09	60	ePg	Pb	01 14 15.7	+2.6
MVCO				eLg	Lg	01 15 59.4	
121A	Cookes Peak, D	7.14	98	eSn	Sn	01 15 14.6	-2.1
PV10	Paradox Valley	7.33	50	ePg	Pg	01 14 29.0	-0.3
PV10				eLg	Lg	01 16 04.7	
PV09	Paradox Valley	7.34	49	ePn	Pn	01 14 00.9	+3.3
PV09				ePg	Pg	01 14 29.3	-0.4
P18A	Preston Nutter	7.47	38	ePg	Pg	01 14 32.7	+0.5
P18A				eLg	Lg	01 16 08.5	
PV01	Paradox Valley	7.50	53	ePg	Pg	01 14 32.5	-0.1
PV01				eSg	Sg	01 16 06.3	-3.4
SNOW	Snow King Moun	10.49	22	ePn	Pn	01 14 39.7	-1.1
YMS	Mount Sheridan	11.29	21	ePn	Pn	01 14 54.0	+2.2
YMS				eSn	Sn	01 16 53.4	-5.4
HPIG		11.37	124	eSn	Sn	01 17 01.8	+1.1
YHB	Horse Butte	11.55	18	ePn	Pn	01 14 58.6	+3.3
YHB				eSn	Sn	01 17 08.6	+3.6
MONO	Monmouth DOGAM	12.28	336	eSn	Sn	01 17 17.4	-5.1
F07A	Phinny Hill Vi	12.38	348	eSn	Sn	01 17 24.6	-0.4
NIHS	Ingelmoor High	14.62	344	ePn	Pn	01 15 39.5	+2.6

*IDC **04** 01:16:40.6±1.1, 27°.30N×126°.93E, h0km, mb3.5/4, mb1 3.6/4, mb1mx3.3/68, mbtmp3.5/4, MS3.5/3, Ms1 3.6/3, ms1mx3.0/40, Error ellipse: s-maj=37.5km s-min=17.4km az=41.0*

*JMA **04** 01:16:41.5±0.4, 27°.48N×126°.86E, h22km, M3.1*

ISC 04 01:16:42.0±2.0**, 27°.34N**±0°.08×**126°.94E**±0°.07**, h10**km±12km**, n15,** σ0s.**36**/18**, mb3.5**/4**, MS3.5**/3**, Northwest of Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAGN	Aguni-jima	0.80	160	P	Pn	01 16 59.1	-0.2
JAGN				S	Sn	01 17 12.0	+0.7
JIH	Iheya	0.97	108	P	Pb	01 17 00.8	-0.1
JIH				S	Sn	01 17 15.1	-0.3
JKE	Kume jima 2	1.02	188	P	Pn	01 17 02.2	-0.2
JKE				S	Sn	01 17 16.7	-0.1
JNTH	Nagotoyohara	1.27	130	P	Pg	01 17 06.4	0.0
JOW	Kunigami	1.29	113	Pn	Pb	01 17 06.2	-0.3
	66nm,0.3s,baz=124,slow=13,SNR=53						
JOW				Sn	Sg	01 17 24.2	+0.5
	32nm,0.3s,baz=131,slow=20,SNR=7.9						
JOW	Kunigami	1.29	113	P	Pb	01 17 06.2	-0.3
JOW				S	Sb	01 17 23.5	+0.3
JJT3	Tamagusuku3	1.41	147	P	Pg	01 17 09.1	-0.1
JOKE	Okinoerabujima	1.45	89	P	Pb	01 17 08.9	-0.3
JOKE				S	Sn	01 17 27.5	0.0
SONM	Songino Array	26.00	327	P	P	01 22 15.5	+0.4
	0.6nm,0.6s,baz=146,slow=9.0,SNR=5.0						
CMAR	Chiang Mai Arr	27.21	257	LR	LR	01 35 44.2	
	comp=Z,79nm,18.3s,baz=189,slow=42						
KURBB	Kurchatov Arra	43.25	316	P	P	01 24 43.8	+0.3
	0.3nm,0.7s,baz=102,slow=9.6,SNR=2.9						
TIXI	Tiksi	44.36	1	LR	LR	01 45 55.4	
	comp=Z,64nm,20.7s,baz=40,slow=40						
WRA	Warramunga Arr	47.55	171	P	P	01 25 17.8	-0.1
	1.1nm,1.1s,baz=354,slow=8.3,SNR=2.5						
ASAR	Alice Springs	51.16	172	P	P	01 25 44.9	-0.5
	0.2nm,0.3s,baz=354,slow=7.5,SNR=3.3						
GNI	Garni	67.29	305	LR	LR	02 01 47.8	
	comp=Z,42nm,18.4s,baz=265,slow=40						

*IDC **04** 01:19:46.6±3.6, 36°.04N×71°.22E, h70km±30km, mb3.5/8, mb1 3.5/14, mb1mx3.3/73, mbtmp3.8/14, Error ellipse: s-maj=28.4km s-min=22.0km az=1.0*

*ISCJB **04** 01:19:49.0±0.5, 36°.29N±0°.04×71°.05E±0°.06, h100km, mb3.6/7, Error ellipse: s-maj=7.7km s-min=5.1km az=147.5*

*NNC **04** 01:19:57.6±2.6, 36°.86N×70°.84E, h112km±50km, mb3.4, mpv4.1, Error ellipse: s-maj=24.9km s-min=20.8km az=96.0*

ISC 04 01:19:49.6±0.8**, 36°.30N**±0°.08×**71°.07E**±0°.06**, h100**km**, n38,** σ**2s.01**/43**, mb3.7**/7**, 6C-9D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	Dzherino	3.08	325	⇓P	Pn	01 20 37.7	+1.2
	28nm,0.3s						
DZET				⇑S	Sn	01 21 11.0	-1.6
	128nm,0.4s						
SFK	Sufi-Kurgan	4.18	27	⇓P	Pn	01 20 54.3	+2.9
	26nm,0.3s						
SFK				⇓S	Sn	01 21 39.6	+0.4
	33nm,0.3s						
AML	Almayashu	6.17	18	P	Pn	01 21 19.7	+1.1
	SNR=57						
MNAS	Manas	6.28	10	⇓P	Pn	01 21 20.7	+0.9
	9.3nm,0.6s						
MNAS				⇓S	Sn	01 22 26.2	-4.0
	21nm,0.4s						
UCH	Uchtor	6.50	23	P	Pn	01 21 23.8	+0.8
	SNR=15						
KZA	Kyzart	6.62	28	P	Pn	01 21 25.6	+0.9
	SNR=19						
EKS2	Erkin-Say	6.69	17	P	Pn	01 21 26.5	+1.1
	SNR=10						
KK31	Karatay Array	6.81	357	P	Pn	01 21 27.5	+0.6
	6.2nm,0.3s,baz=186,slow=15,SNR=166						
KK31				⇑S	Sn	01 22 38.5	-4.5
	4.5nm,0.3s,baz=190,slow=27,SNR=8.4						
AAK	Ala-Archa	6.86	22	P	Pn	01 21 29.2	+1.4
	5.3nm,0.3s,baz=156,slow=6.2,SNR=75						
AAK				S	Sn	01 22 41.6	-2.8
	2.7nm,0.3s,baz=2.8,slow=19,SNR=12						
AAK	Ala-Archa	6.86	22	⇓P	Pn	01 21 28.9	+1.2
	9.4nm,0.5s						
AAK				⇓S	Sn	01 22 41.1	-3.3
	31nm,0.9s						
AAK	Ala-Archa	6.86	22	P	Pn	01 21 29.3	+1.5
	SNR=37						
CHMS	Chumysh	7.27	22	P	Pn	01 21 34.7	+1.5
	SNR=13						
USP	Ospenovka	7.45	20	P	Pn	01 21 36.7	+1.2
	SNR=8.2						
TKM2	Tokmak 2	7.48	26	⇑P	Pn	01 21 37.4	+1.2
	7.1nm,0.5s						
TKM2				⇑S	Sn	01 22 56.9	-2.5
	8.4nm,0.8s						
TKM2	Tokmak 2	7.48	26	P	Pn	01 21 37.5	+1.4
	SNR=24						
GEYT	Alibeck	10.48	283	P	Pn	01 22 16.8	0.0
	0.3nm,0.3s,baz=129,slow=11,SNR=2.7						
GEYT				S	Sn	01 24 08.6	-3.5
	1.2nm,0.3s,baz=127,slow=24,SNR=6.9						
PYUN	Piuthan	12.97	126	eP	P	01 22 49.3	-7.8
	7.2nm,0.3s						
DANN	Dangsing	13.33	123	eP	P	01 22 55.4	-5.7
	3.1nm,1.1s						
MK31	Makanchi Array	13.42	35	⇑P	P	01 23 02.6	+0.9
	0.5nm,0.5s,baz=203,slow=9.6,SNR=9.6						
MKAR	Makanchi Array	13.42	35	P	Pn	01 22 56.2	+0.2
	0.1nm,0.3s,baz=216,slow=14,SNR=5.7						
KOLN	Koldanda	13.60	125	eP	P	01 22 58.6	-5.4
	4.9nm,0.3s						
DMN	Daman	14.71	122	eP	P	01 23 12.9	-3.6
KKN	Kakani	14.72	121	eP	P	01 23 13.8	-2.7
PKIN	Phulchoki	14.93	122	eP	P	01 23 16.9	-2.0
	11nm,0.4s						
AB31	Akbulak array	15.29	331	⇓P	Pn	01 23 18.9	-0.9
	1.6nm,0.3s,baz=152,slow=12,SNR=55						
AB31				⇑S	Sn	01 25 58.4	-10
	2.7nm,0.6s,baz=157,slow=23,SNR=6.5						
KURBB	Kurchatov Arra	15.30	18	P	Pn	01 23 19.7	-0.2
	0.1nm,0.3s,baz=204,slow=11,SNR=7.6						
JIRN	Jiri	15.43	120	eP	P	01 23 23.1	-1.5
	23nm,0.4s						
BVAR	Borovoye Array	16.73	359	P	Pn	01 23 37.6	-0.2
	0.2nm,0.3s,baz=159,slow=12,SNR=6.2						
AKTO	Aktyubinsk	16.99	330	P	Pn	01 23 41.2	+0.3
	0.2nm,0.3s,baz=137,slow=13,SNR=9.2						
AKTO	Aktyubinsk	16.99	330	⇓P	Pn	01 23 42.0	+1.1
	3.2nm,0.8s						
ZALV	Zalesovo Beam	20.08	24	P	P	01 24 14.7	-0.2
	4.7nm,0.3s,baz=210,slow=10,SNR=28						
FINES	FINESS Array B	37.69	326	P	P	01 26 57.2	+2.3
	2.0nm,1.0s,baz=113,slow=6.5,SNR=5.2						
ARCES	ARCESS Array B	41.36	338	P	P	01 27 27.5	+2.3
	2.8nm,1.0s,baz=115,slow=5.6,SNR=6.1						
HFS	Hagfors	43.26	322	P	P	01 27 43.0	+2.2
	0.7nm,0.4s,baz=113,slow=11,SNR=5.4						
NOA	NORSAR Array B	44.58	323	P	P	01 27 53.5	+2.1
	0.6nm,0.7s,baz=100,slow=8.0,SNR=3.0						
TORD	Torodi Ar. Bea	65.77	269	P	P	01 30 24.8	+0.5
	0.3nm,0.5s,baz=55,slow=5.2,SNR=5.4						
INK	Inuvik	74.10	9	P	P	01 31 17.1	+2.8
	0.7nm,0.5s,baz=6.7,slow=5.6,SNR=3.8						
WRA	Warramunga Arr	81.83	122	P	P	01 31 56.9	-1.0
	0.2nm,0.8s,baz=326,slow=4.7,SNR=2.9						

*ISCJB **04** 01:25:36.1±1.3, 82°.30N±0°.09×58°.1W±0°.5, h10km, Error ellipse: s-maj=13.0km s-min=8.6km az=11.0*

*OTT **04** 01:25:39.3±1.0, 82°.58N×57°.92W, h18km, ML3.0/2, 65km east from Alert, Nu*

ISC 04 01:25:37.9±1.7**, 82°.4N**±0°.1×**58°.24W**±0°.08**, h10**km**, n7,** σ**1s.49**/12**, Near north coast of Kalaallit Nunaat**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EUNU	Eureka	4.85	256	PN	Pn	01 26 51.4	+0.6
EUNU				SN	Sn	01 27 46.2	-0.8
EUNU				Trac		01 27 53.3	
	comp=Z,3.1nm,0.2s						
TULEG	Thule	6.17	204	PN	Pn	01 27 11.3	+2.4
TULEG				SN	Sn	01 28 19.3	0.0
TULEG				Trac		01 28 55.4	
	comp=Z,9.7nm,0.3s						
KULLO	Kullorsuaq	7.85	178	PN	Pn	01 27 33.1	+1.2
KULLO				SN	Sn	01 28 59.8	-0.8
KULLO				Trac		01 29 33.9	
	comp=Z,9.7nm,0.4s						
KULLO	Kullorsuaq	7.85	178	iP	Pn	01 27 33.1	+1.2
KULLO				iS	Sn	01 28 59.2	-1.4
DAG	Danmarks Havn	8.85	107	iP	Pn	01 27 45.1	-0.4
DAG				eS	Sn	01 29 14.9	-10
RES	Resolute Bay	10.30	243	PN	Pn	01 28 07.0	+1.5
RES				SN	Sn	01 29 58.5	-2.3
RES				Trac		01 30 04.8	
	comp=Z,1.0nm,0.5s						
SUMG	Summit	10.63	146	iP	Pn	01 28 10.8	+0.5
SUMG				eS	Sn	01 29 59.4	-10

MAN 04 01:32:35, 8°.62N×126°.98E, h1km, mb4.1, ML2.9, MS2.6, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIPH	Bislig	0.75	235	⇑eP	Pb	01 32 51.0	+0.2
BIPH				eS	Sg	01 32 57.8	-1.3
BUTP	Butuan	1.39	285	eP	Pn	01 33 00.8	-0.7
BUTP				eS	Sn	01 33 21.5	+0.9
BUKP	Musuan	2.04	249	eP	Pn	01 33 11.5	+1.0
BUKP				eS	Sn	01 33 37.5	+0.9

MEX 04 01:32:35.7±0.5**, 16°.45N×98°.46W, h5**km±24km**, MD3.5, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.32	100	iP	Pg	01 32 41.4	-0.6
PNIG				eS	Sg	01 32 46.5	+0.4
TLIG	Tlapa	1.11	355	eP	Pg	01 32 54.4	-2.6
TLIG				eS	Sg	01 33 08.2	-3.3
VHO	Vista Hermosa	1.76	69	eP	Pn	01 33 03.6	-3.6
VHO				eS	Sn	01 33 25.4	-4.7

JMA 04 01:35:27.1±0.3**, 41°.26N×142°.99E, h11**km±3km**, M3.7, 1D, Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JEM	Erimo	0.77	9	P	Pg	01 35 41.7	-0.2
JEM				eS	Sg	01 35 52.2	+0.3
JNBK	Urakawa-nobuka	1.03	350	⇓P	Pg	01 35 46.7	-0.3
JNBK				eS	Sb	01 36 00.6	0.0
JCH	Churui	1.38	11	P	Pb	01 35 52.7	-0.2
JCH				eS	Sn	01 36 10.3	-0.3
JOT	Ohata	1.47	275	P	Pn	01 35 53.4	-0.1
JOT				eS	Sn	01 36 12.6	-0.1
JTM	Tenmabayashi	1.53	253	P	Pn	01 35 54.8	+0.5
JTM				eS	Sb	01 36 14.9	+0.1
JBT2	Biratori 2	1.59	343	P	Pb	01 35 56.2	-0.2
JBT2				eS	Sg	01 36 17.9	-0.3
JKB	Kayabe	1.60	294	P	Pn	01 35 55.3	0.0
JKB				eS	Sn	01 36 15.2	-0.7
JNB	Noboribetsu	1.89	310	eS	Sn	01 36 22.5	-0.7
JFR	Furan	1.93	351	P	Pn	01 36 00.5	+0.7
JEW	Eniwo	1.95	325	P	Pn	01 36 01.2	+1.0

IDC 04 01:38:33.1±5.3**, 5°.90S×133°.23E, h0**km**, mb3.3**/1**, mb1 3.3**/3**, mb1mx3.2**/53**, mbtmp3.1**/3**, ML3.1**/2**, MS3.2**/1**, Ms1 3.4**/1**, ms1mx2.6**/21**, Error ellipse: s-maj=317.1km s-min=32.0km az=77.0, Aru Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	14.00	176	Pn	Pn	01 41 52.9	0.0
	0.1nm,0.3s,baz=352,slow=14,SNR=7.2						
ASAR	Alice Springs	17.68	178	P	Pn	01 42 40.8	-0.1
	0.1nm,0.3s,baz=11,slow=10,SNR=6.4						
CMAR	Chiang Mai Arr	41.58	306	LR	LR	02 06 38.3	
	comp=Z,28nm,18.2s,baz=275,slow=40						
MKAR	Makanchi Array	69.11	325	P	P	01 49 41.2	+0.1
	0.2nm,0.6s,baz=113,slow=7.4,SNR=2.7						

NNC 04 01:40:08.7±5.0**, 36°.91N×70°.27E, h0**km**, mb4.0, mpv3.7, 3C-4D, Error ellipse: s-maj=42.1km s-min=36.5km az=133.0, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	Sufi-Kurgan	4.01	38	⇑P	Pn	01 41 12.5	+0.9
	9.4nm,0.6s						
SFK				⇓S	Sn	01 42 01.7	+2.3
	16nm,0.5s						
MNAS	Manas	5.83	17	⇓P	Pn	01 41 37.3	+0.7
	3.0nm,0.5s						
MNAS				⇓S	Sn	01 42 45.5	+1.3
	2.6nm,0.5s						
AML	Almayashu	5.85	26	P	Pn	01 41 36.3	-0.7
	SNR=39						
KK31	Karatay Array	6.19	2	P	Pn	01 41 42.6	+1.3
	0.8nm,0.3s,baz=191,slow=14,SNR=30						
KK31				⇑S	Sn	01 42 54.6	+1.7
	0.7nm,0.3s						
UCH	Uchtor	6.24	30	P	Pn	01 41 41.0	-1.5
	SNR=35						
EKS2	Erkin-Say	6.35	24	P	Pn	01 41 43.5	-0.2
	SNR=6.9						
KZA	Kyzart	6.44	35	P	Pn	01 41 42.6	-2.6
	SNR=7.5						
AAK	Ala-Archa	6.58	28	⇑P	Pn	01 41 45.3	-1.6
	4.1nm,0.3s						
AAK				S	Sn	01 43 00.9	-1.8
	6.0nm,0.8s						
AAK	Ala-Archa	6.58	28	P	Pn	01 41 45.5	-1.4
	SNR=15						
ULHL	Ulahol	7.05	39	P	Pn	01 41 50.0	-3.4
	SNR=6.0						
TKM2	Tokmak 2	7.27	33	⇓P	Pn	01 41 53.4	-2.9
	2.6nm,0.4s						
TKM2	Tokmak 2	7.27	33	P	Pn	01 41 53.7	-2.6
	SNR=9.4						

IDC 04 01:44:08.9±1.9**, 6°.89S×128°.53E, h0**km**, mb3.2**/1**, mb1 3.7**/3**, mb1mx3.4**/52**, mbtmp3.4**/3**, ML3.9**/2**, Error ellipse: s-maj=105.9km s-min=30.9km az=66.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	Baumata	5.83	235	Sn	Sn	01 46 48.5	+4.0
	5.9nm,0.3s,baz=300,slow=20,SNR=7.5						
WRA	Warramunga Arr	14.15	157	Pn	Pn	01 47 30.1	-0.7
	0.5nm,0.3s,baz=337,slow=13,SNR=7.8						
WRA				Sn	Sn	01 49 53.5	-15
	1.2nm,0.3s,baz=335,slow=23,SNR=13						
ASAR	Alice Springs	17.47	163	P	Pn	01 48 14.1	0.0
	0.4nm,0.3s,baz=335,slow=10,SNR=22						
ASAR				S	Sn	01 51 13.0	-16
	0.4nm,0.3s,baz=348,slow=26,SNR=7.6						
MKAR	Makanchi Array	67.34	327	P	P	01 55 05.9	+0.1
	0.2nm,0.6s,baz=114,slow=6.8,SNR=2.4						

*IDC **04** 01:45:29.6±1.6, 37°.95N×21°.51E, h0km, mb3.6/3, mb1 3.4/6, mb1mx3.2/66, mbtmp3.3/6, ML2.7/3, Error ellipse: s-maj=32.0km s-min=21.5km az=111.0*

*ATH **04** 01:45:30.7, 38°.07N×21°.58E, h19km, ML3.4/30, Error ellipse: s-maj=0.9km s-min=0.5km az=230.0*

*IASPEI **04** 01:45:31.0±0.8, 38°.06N±0°.01×21°.57E±0°.01, h17km±4km, mb3.6/3, Error ellipse: s-maj=2.0km s-min=2.0km az=0.4, GT5 selection from ISC bulletin GT5 identified by Bondˆ¡r and McLaughlin (2009) selection criteria Bondˆ¡r and McLaughlin, A new ground truth data set for seismic studies, <i>Seism. Res. Let.</i>, 80, 465-472, 2009*

*THE **04** 01:45:30.9, 38°.06N×21°.56E, h18km, ML3.5/10, Error ellipse: s-maj=0.7km s-min=0.4km az=187.0*

*ISCJB **04** 01:45:31.3±0.3, 38°.08N±0°.01×21°.57E±0°.02, h11km±2km, mb3.5/3, Error ellipse: s-maj=2.3km s-min=2.0km az=154.2*

*CSEM **04** 01:45:31.6±0.1, 38°.06N×21°.56E, h15km, ML3.5, Error ellipse: s-maj=3.8km s-min=2.9km az=57.0*

ISC 04 01:45:31.2±0.7**, 38°.07N**±0°.01×**21°.56E**±0°.01**, h17**km±4km**, n216,** σ**1s.29**/297**, mb3.6**/3**, Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RLS	Riolos of Patr	0.08	264	P	Pg	01 45 34.1	-0.4
RLS				S	Sg	01 45 36.5	-0.2
RLS				AML	AML	01 45 37.0	
	comp=E,48805μm,0.1s						
RLS				AML	AML	01 45 37.0	
	comp=N,78100μm,0.1s						
RLS	Riolos of Patr	0.08	264	P	Pg	01 45 34.1	-0.4

RLS				S	Sg	01 45 36.9	+0.2
RLS	Riolos of Patr	0.08	264	P	Pg	01 45 34.1	-0.4
RLS				S	Sg	01 45 36.7	0.0
DRO	Drossia	0.16	134	P	Pg	01 45 35.0	-0.5
DRO				S	Sg	01 45 38.2	-0.2
DRO				AML	AML	01 45 38.6	
DRO				AML	AML	01 45 38.7	
DRO	Drossia	0.16	134	P	Pg	01 45 35.0	-0.5
DRO				S	Sg	01 45 38.5	+0.1
DRO	Drossia	0.16	134	P	Pg	01 45 35.0	-0.5
DRO				S	Sg	01 45 38.2	-0.2
UPR	University Cam	0.28	39	P	Pb	01 45 38.4	+0.6
UPR				S	Sb	01 45 42.5	+0.3
UPR	University Cam	0.28	39	P	Pg	01 45 37.6	+0.3
UPR				S	Sb	01 45 43.2	+0.9
UPR	University Cam	0.28	39	P	Pg	01 45 37.1	-0.2
UPR				S	Sg	01 45 41.8	+0.3
VTN	Vitineika	0.33	244	P	Pb	01 45 38.6	-0.1
VTN				S	Sb	01 45 45.0	+1.2
VTN	Vitineika	0.33	244	P	Pg	01 45 38.2	0.0
VTN	Vitineika	0.33	244	P	Pg	01 45 38.2	0.0
VTN				S	Sb	01 45 44.1	+0.3
EFP	Efpalio	0.45	37	P	Pg	01 45 40.0	-0.3
EFP				S	Sg	01 45 46.3	-0.2
EFP				AML	AML	01 45 48.3	
	comp=N,25255µm,0.4s						
EFP				AML	AML	01 45 49.0	
	comp=E,19861µm,0.3s						
EFP	Efpalio	0.45	37	P	Pg	01 45 39.8	-0.5
EFP				S	Sb	01 45 47.4	+0.2
EFP	Efpalio	0.45	37	P	Pg	01 45 39.8	-0.5
EFP				S	Sg	01 45 46.2	-0.2
KLV	Kalavryta, Ach	0.46	92	P	Pg	01 45 39.5	-1.1
KLV				S	Sg	01 45 46.4	-0.5
KLV				AML	AML	01 45 48.5	
	comp=N,9313µm,0.4s						
KLV				AML	AML	01 45 49.2	
	comp=E,10102µm,0.3s						
KLV	Kalavryta, Ach	0.46	92	P	Pg	01 45 39.9	-0.7
KLV				S	Sg	01 45 47.0	+0.1
KLV	Kalavryta, Ach	0.46	92	P	Pg	01 45 39.9	-0.7
KLV				S	Sg	01 45 46.5	-0.4
SERG	Sergoula	0.52	48	P	Pg	01 45 41.2	-0.4
SERG				S	Sb	01 45 49.4	+0.1
SERG				AML	AML	01 45 50.9	
	comp=N,14046µm,0.2s						
SERG				AML	AML	01 45 51.0	
	comp=E,15877µm,0.2s						
SERG	Sergoula	0.52	48	P	Pg	01 45 41.0	-0.6
SERG	Sergoula	0.52	48	P	Pg	01 45 41.1	-0.6
SERG				S	Sg	01 45 48.8	+0.1
AMT	Artemida-Makis	0.54	168	P	Pg	01 45 41.3	-0.8
AMT				S	Sb	01 45 50.0	+0.2
AMT				AML	AML	01 45 52.8	
	comp=N,18106µm,0.3s						
AMT				AML	AML	01 45 53.1	
	comp=E,13188µm,0.2s						
AMT	Artemida-Makis	0.54	168	P	Pg	01 45 41.4	-0.6
AMT				S	Sb	01 45 50.6	+0.7
AMT	Artemida-Makis	0.54	168	P	Pg	01 45 41.2	-0.8
AMT				S	Sg	01 45 49.7	+0.4
PVO	Paravola	0.55	357	P	Pg	01 45 42.1	-0.1
PVO				S	Sb	01 45 51.1	+1.0
PVO				AML	AML	01 45 54.6	
	comp=E,6886µm,0.4s						
PVO				AML	AML	01 45 54.7	
	comp=N,4590µm,0.3s						
PVO	Paravola	0.55	357	P	Pg	01 45 41.8	-0.4
PVO				S	Sb	01 45 50.6	+0.5
PVO	Paravola	0.55	357	P	Pg	01 45 41.8	-0.4
PVO				S	Sb	01 45 50.2	+0.1
KALE	Kalithea	0.56	54	P	Pg	01 45 41.7	-0.6
KALE				S	Sb	01 45 50.6	+0.2
KALE				AML	AML	01 45 51.9	
	comp=E,14048µm,0.3s						
KALE				AML	AML	01 45 52.2	
	comp=N,10956µm,0.2s						
KALE	Kalithea	0.56	54	P	Pg	01 45 41.5	-0.8
KALE				S	Sb	01 45 50.7	+0.4
KALE	Kalithea	0.56	54	P	Pg	01 45 41.6	-0.8
KALE				S	Sg	01 45 50.0	+0.2
ANX	Ano Chora	0.60	28	P	Pg	01 45 42.5	-0.5
ANX				AML	AML	01 45 53.3	
	comp=E,10466µm,0.6s						
ANX				AML	AML	01 45 54.2	
	comp=N,14052µm,0.5s						
ANX	Ano Chora	0.60	28	P	Pg	01 45 42.3	-0.8
ANX				S	Sb	01 45 52.1	+0.6
ANX	Ano Chora	0.60	28	P	Pg	01 45 42.4	-0.7
ANX				S	Sb	01 45 52.1	+0.6
PDO	Prodromos	0.61	331	P	Pg	01 45 43.4	+0.1
PDO				S	Sg	01 45 51.6	+0.2
PDO				AML	AML	01 45 56.0	
	comp=N,14722µm,0.3s						
PDO				AML	AML	01 45 58.8	
	comp=E,10501µm,0.3s						
PDO	Prodromos	0.61	331	P	Pg	01 45 42.7	-0.6
PDO	Prodromos	0.61	331	P	Pg	01 45 43.0	-0.3
PDO				S	Sg	01 45 51.5	0.0
KFL	Anninata	0.61	274	P	Pg	01 45 42.6	-0.7
KFL				S	Sb	01 45 53.0	+1.2
KFL	Anninata	0.61	274	P	Pg	01 45 42.7	-0.6
KFL	Anninata	0.61	274	P	Pg	01 45 42.7	-0.6
KFL				S	Sb	01 45 52.4	+0.5
GUR	Goura	0.63	102	P	Pg	01 45 42.1	-1.6
GUR				S	Sg	01 45 52.2	+0.2
GUR				AML	AML	01 45 53.9	
	comp=N,48551µm,0.4s						
GUR				AML	AML	01 45 54.8	
	comp=E,23245µm,0.5s						
GUR	Goura	0.63	102	P	Pg	01 45 42.5	-1.1
GUR				S	Sg	01 45 52.0	0.0
GUR	Goura	0.63	102	P	Pg	01 45 42.5	-1.1
GUR				S	Sg	01 45 51.4	-0.6
TRIP	Tripoli	0.78	134	P	Pg	01 45 45.0	-1.4
TRIP	Tripoli	0.78	134	P	Pg	01 45 45.3	-1.1
VLS	Valsamata	0.78	279	P	Pb	01 45 44.1	-2.2
VLS				S	Sb	01 45 57.5	+1.0
VLS				AML	AML	01 45 59.6	
	comp=E,3016µm,0.2s						
VLS				AML	AML	01 46 00.2	
	comp=N,5839µm,0.2s						
VLS	Valsamata	0.78	279	P	Pb	01 45 45.1	-1.2
VLS				S	Sb	01 45 57.1	+0.5
VLS	Valsamata	0.78	279	P	Pb	01 45 45.1	-1.2
VLS				S	Sb	01 45 57.1	+0.5
MES3	Kyparissia	0.82	174	P	Pb	01 45 46.6	-0.4
MES3				S	Sn	01 46 00.8	+1.1
MES3	Kyparissia	0.82	174	P	Pb	01 45 46.6	-0.4
MES3				S	Sn	01 45 59.4	-0.3
DSF	Desfina	0.83	65	P	Pb	01 45 45.6	-1.7
DSF				AML	AML	01 46 00.8	
	comp=N,3582µm,0.2s						
DSF				AML	AML	01 46 02.1	
	comp=E,3617µm,0.3s						
DSF	Desfina	0.83	65	P	Pb	01 45 46.1	-1.2
DSF				S	Sg	01 45 59.0	+0.5
DSF	Desfina	0.83	65	P	Pb	01 45 46.1	-1.2
DSF				S	Sg	01 45 59.0	+0.5
DLFA	Delphi	0.84	60	P	Pb	01 45 45.5	-1.9
DLFA				S	Sb	01 45 57.5	-0.9
DLFA	Delphi	0.84	60	P	Pb	01 45 46.1	-1.3
DLFA				S	Sb	01 45 57.9	-0.6
MGNA	Meganis„„	0.85	314	P	Pb	01 45 45.7	-1.7
MGNA				S	Sb	01 45 58.8	+0.2
MGNA	Meganis„„	0.85	314	P	Pb	01 45 46.4	-1.1
MGNA				S	Sb	01 45 58.8	+0.2
THAL	Thalero	0.87	92	P	Pb	01 45 46.5	-1.3
THAL	Thalero	0.87	92	P	Pb	01 45 46.8	-1.0
THAL				S	Sg	01 45 59.7	+0.1
THAL	Thalero	0.87	92	P	Pb	01 45 46.8	-1.0
THAL				S	Sg	01 45 59.7	+0.1
EVR	Evrytania	0.87	13	P	Pb	01 45 47.3	-0.7
EVR				S	Sb	01 45 59.6	+0.1
EVR				AML	AML	01 46 04.4	
	comp=E,2470µm,0.4s						
EVR				AML	AML	01 46 04.7	
	comp=N,1794µm,0.3s						
EVR	Evrytania	0.87	13	P	Pb	01 45 47.3	-0.7
EVR	Evrytania	0.87	13	P	Pb	01 45 47.3	-0.7
EVR				S	Sb	01 45 59.5	+0.1
FSK	Fiskardo	0.88	297	P	Pb	01 45 47.0	-1.1
FSK				S	Sn	01 46 01.7	+0.4
ITM	Ithomi	0.93	162	P	Pb	01 45 47.7	-1.2
ITM				S	Sn	01 46 02.3	-0.2
ITM				AML	AML	01 46 06.2	
	comp=N,2923µm,0.4s						
ITM				AML	AML	01 46 09.4	
	comp=E,3128µm,0.4s						
ITM	Ithomi	0.93	162	P	Pb	01 45 47.9	-1.0
ITM				S	Sn	01 46 03.2	+0.7
ITM	Ithomi	0.93	162	P	Pb	01 45 48.1	-0.8
ITM				S	Sg	01 46 01.9	+0.4
VLX	Vlachokerasia	0.95	137	P	Pb	01 45 47.8	-1.4
VLX				S	Sn	01 46 03.9	+0.8
VLX				AML	AML	01 46 05.8	
	comp=N,10529µm,0.5s						
VLX				AML	AML	01 46 05.9	
	comp=E,6998µm,0.4s						
VLX	Vlachokerasia	0.95	137	P	Pb	01 45 48.0	-1.3
VLX				S	Sg	01 46 02.8	+0.7
VLX	Vlachokerasia	0.95	137	P	Pb	01 45 48.3	-1.0
VLX				S	Sg	01 46 02.8	+0.7
LKD2	Lefkada island	1.01	316	P	Pb	01 45 48.4	-2.0
LKD2	Lefkada island	1.01	316	P	Pb	01 45 49.3	-1.1
LKD2	Lefkada island	1.01	316	P	Pb	01 45 49.3	-1.1
PROD	Prodromos	1.07	79	P	Pb	01 45 51.0	-0.4
PROD	Prodromos	1.07	79	P	Pb	01 45 50.8	-0.5
PROD	Prodromos	1.07	79	P	Pb	01 45 50.9	-0.4
AXAR	Agios Charalam	1.11	51	P	Pg	01 45 52.7	0.0
AXAR	Agios Charalam	1.11	51	P	Pb	01 45 52.1	+0.1
LTK	Loutraki	1.11	92	P	Pb	01 45 50.7	-1.2
LTK				S	Sg	01 46 07.7	+0.5
LTK				AML	AML	01 46 17.6	
	comp=N,1741µm,0.4s						
LTK				AML	AML	01 46 18.7	
	comp=E,1800µm,0.6s						
LTK	Loutraki	1.11	92	P	Pb	01 45 51.2	-0.8
LTK				S	Sg	01 46 07.3	+0.1
LOUT	Loutraki	1.12	94	P	Pb	01 45 51.0	-1.1
LOUT	Loutraki	1.12	94	P	Pb	01 45 51.4	-0.7
DSL	Palaion Diasel	1.13	341	P	Pb	01 45 50.6	-1.7
DSL				AML	AML	01 46 14.4	
	comp=N,2100µm,0.4s						
DSL				AML	AML	01 46 18.8	
	comp=E,2614µm,0.4s						
DSL	Palaion Diasel	1.13	341	P	Pb	01 45 51.5	-0.8
DSL	Palaion Diasel	1.13	341	P	Pb	01 45 51.5	-0.8
AGG	Agios Georgios	1.13	32	P	Pb	01 45 52.5	+0.2
AGG	Agios Georgios	1.13	32	P	Pb	01 45 52.1	-0.2
AGG				AML	AML	01 46 14.8	
	comp=E,3983µm,0.4s						
AGG				AML	AML	01 46 16.4	
	comp=N,5305µm,0.6s						
AGG	Agios Georgios	1.13	32	P	Pb	01 45 51.4	-0.9
AGG	Agios Georgios	1.13	32	P	Pb	01 45 52.1	-0.2
PYL	PYLOS	1.18	173	P	Pn	01 45 51.2	-1.7
PYL				S	Sg	01 46 09.5	+0.1
PYL				AML	AML	01 46 17.3	
	comp=E,1924µm,0.7s						
PYL				AML	AML	01 46 17.4	
	comp=N,1786µm,0.6s						
PYL	PYLOS	1.18	173	P	Pn	01 45 51.9	-1.0
PYL	PYLOS	1.18	173	P	Pn	01 45 52.1	-0.8
PYL				S	Sg	01 46 09.4	+0.1
MES2	Methoni	1.24	175	P	Pn	01 45 53.3	-0.5
MES2				S	Sg	01 46 12.0	+0.6
MES2				AML	AML	01 46 19.4	
	comp=N,2243µm,0.3s						
MES2				AML	AML	01 46 20.7	
	comp=E,3429µm,0.4s						
MES2	Methoni	1.24	175	P	Pn	01 45 53.8	0.0
MES2				S	Sg	01 46 11.7	+0.3
LKR	Lokris	1.27	62	P	Pn	01 45 53.4	-0.8
LKR				S	Sg	01 46 12.4	+0.1
LKR				AML	AML	01 46 17.3	
	comp=E,1314µm,0.3s						
LKR				AML	AML	01 46 17.5	
	comp=N,2093µm,0.3s						
LKR	Lokris	1.27	62	P	Pn	01 45 54.0	-0.2
LKR				S	Sg	01 46 12.2	-0.1
KRND	KRANIDI	1.43	118	P	Pn	01 45 56.9	+0.5
KRND				AML	AML	01 46 22.7	
	comp=N,2206µm,0.5s						
KRND				AML	AML	01 46 23.3	
	comp=E,2504µm,0.4s						
KRND	KRANIDI	1.43	118	P	Pb	01 45 57.2	-0.2
DID	Didima	1.44	112	P	Pn	01 45 56.3	-0.2
DID				S	Sg	01 46 17.3	-0.4
DID				AML	AML	01 46 21.0	
	comp=E,4202µm,0.5s						
DID				AML	AML	01 46 21.9	
	comp=N,2924µm,0.3s						
DID	Didima	1.44	112	P	Pn	01 45 57.0	+0.5
DYR	Agios Nikonas	1.44	155	P	Pn	01 45 56.0	-0.6
DYR				S	Sg	01 46 18.3	+0.6
DYR				AML	AML	01 46 24.2	
	comp=E,662µm,0.4s						
DYR				AML	AML	01 46 25.1	
	comp=N,566µm,0.4s						
DYR	Agios Nikonas	1.44	155	P	Pn	01 45 56.9	+0.4
DYR				S	Sg	01 46 17.9	+0.3
THL	Klokotos Trika	1.54	13	P	Pb	01 46 00.2	+0.9
THL				S	Sb	01 46 19.9	+1.4
THL				AML	AML	01 46 28.8	
	comp=N,472µm,0.5s						
THL				AML	AML	01 46 34.7	
	comp=E,510µm,1.1s						
THL	Klokotos Trika	1.54	13	P	Pb	01 45 59.7	+0.4
THL				S	Sg	01 46 20.0	-0.8
YDRA	Hydra	1.67	115	P	Pg	01 46 02.7	-0.6
YDRA	Hydra	1.67	115	P	Pb	01 46 01.9	+0.4
JAN	Janina	1.68	341	P	Pb	01 46 01.4	-0.4
JAN	Janina	1.68	341	P	Pb	01 46 01.4	-0.4
ATH	Athens Observa	1.70	92	P	Pb	01 46 01.7	-0.4
ATH				S	Sg	01 46 24.9	-1.2
ATH				AML	AML	01 46 28.9	
	comp=E,2120µm,0.6s						
ATH				AML	AML	01 46 29.1	
	comp=N,1879µm,0.5s						
ATH	Athens Observa	1.70	92	P	Pb	01 46 01.6	-0.4
ATH				S	Sb	01 46 24.5	+1.3
VLI	Veliai	1.73	140	P	Pb	01 46 03.3	+0.8
VLI				S	Sg	01 46 26.5	-0.6
VLI				AML	AML	01 46 30.9	
	comp=N,1585µm,0.8s						
VLI				AML	AML	01 46 31.4	
	comp=E,1064µm,0.7s						
VLI	Veliai	1.73	140	P	Pb	01 46 02.7	+0.1
VLY	Voula,Athens	1.78	96	P	Pn	01 46 00.9	-0.2
VLY				AML	AML	01 46 30.6	
	comp=E,1822µm,0.5s						
VLY				AML	AML	01 46 30.9	
	comp=N,1742µm,0.5s						
VLY	Voula,Athens	1.78	96	P	Pn	01 46 01.7	+0.5
NEO	Neokhori	1.80	46	P	Pn	01 46 01.5	+0.1
NEO	Neokhori	1.80	46	P	Pn	01 46 02.2	+0.7
MNVA	Monemvasia	1.81	139	P	Pg	01 46 05.9	-0.1
MNVA	Monemvasia	1.81	139	P	Pb	01 46 04.5	+0.6
PTL	Penteli	1.82	90	P	Pn	01 46 03.0	+1.3
PTL				AML	AML	01 46 31.2	
	comp=E,1086µm,0.4s						
PTL				AML	AML	01 46 32.0	
	comp=N,1617µm,0.5s						
PTL	Penteli	1.82	90	P	Pn	01 46 03.0	+1.3
XOR	Xorichti	1.82	44	P	Pn	01 46 00.9	-0.9
XOR	Xorichti	1.82	44	P	Pn	01 46 02.0	+0.2
SGD	Sagiada	1.86	327	P	Pb	01 46 03.8	-1.0
SGD	Sagiada	1.86	327	P	Pb	01 46 03.8	-1.0
KPRO	Kipourio	1.89	355	P	Pg	01 46 07.5	-0.1
KPRO	Kipourio	1.89	355	P	Pb	01 46 05.9	+0.5
KEK	Kerkira	2.15	321	P	Pn	01 46 07.0	+0.7
KEK	Kerkira	2.15	321	P	Pn	01 46 07.4	+1.1
PENT	Pentalofos	2.15	351	P	Pg	01 46 12.3	-0.2
PENT	Pentalofos	2.15	351	P	Pb	01 46 10.1	+0.3
SRN	Sarande	2.18	327	*i* PN	Pn	01 46 07.7	+1.0
KZN	Kozani	2.24	4	P	Pb	01 46 11.1	-0.2
KZN	Kozani	2.24	4	P	Pb	01 46 10.1	-1.3
NEST	Nestorio	2.38	350	P	Pb	01 46 13.9	+0.2
NEST	Nestorio	2.38	350	P	Pb	01 46 12.5	-1.2
PAIG	Paliouri	2.48	41	P	Pn	01 46 08.9	-2.0
PAIG	Paliouri	2.48	41	P	Pn	01 46 10.8	-0.1
SERI	Serifos	2.49	110	P	Pn	01 46 09.6	-1.4
SERI	Serifos	2.49	110	P	Pn	01 46 11.1	+0.1
ANKY	Antikythira Is	2.60	147	P	Pb	01 46 15.2	-2.2
ANKY	Antikythira Is	2.60	147	P	Pn	01 46 14.7	+2.2
KBN	Korca	2.62	347	*i* PN	Pb	01 46 15.8	-2.0
MHLO	Agia Marina, M	2.65	120	P	Pb	01 46 17.1	-1.0
MHLO	Agia Marina, M	2.65	120	P	Pb	01 46 16.0	-2.1
FNA	Florina	2.72	357	P	Pn	01 46 16.4	+2.2
FNA	Florina	2.72	357	P	Pb	01 46 17.2	-2.2
FNA	Florina	2.72	357	*e*Pn	Pn	01 46 16.4	+2.2
PLG	Polygyros	2.73	32	P	Pn	01 46 15.8	+1.5
PLG	Polygyros	2.73	32	P	Pn	01 46 15.9	+1.6
HORT	Hortiatis	2.80	25	*e*P	Pn	01 46 16.5	+1.2
HORT	Hortiatis	2.80	25	P	Pb	01 46 18.5	-2.3
HORT	Hortiatis	2.80	25	P	Pn	01 46 17.7	+2.4
OUR	Ouranopolis	2.94	39	*e*P	Pn	01 46 18.3	+1.1
GRG	Griva	2.96	12	*e*P	Pn	01 46 19.8	+2.3
GRG	Griva	2.96	12	P	Pn	01 46 20.6	+3.1
GRG	Griva	2.96	12	P	Pn	01 46 19.9	+2.4
SOH	Sokhos	3.08	26	P	Pn	01 46 20.3	+1.1
SOH	Sokhos	3.08	26	P	Pn	01 46 20.6	+1.4
OHR	Ohrid	3.10	349	*e*Pn	Pb	01 46 24.6	-1.3
OHR				*e*Sn	Sg	01 47 07.7	-3.0
IMMV	Iera Moni Meta	3.24	143	P	Pb	01 46 26.1	-2.2
IMMV	Iera Moni Meta	3.24	143	P	Pn	01 46 24.7	+3.3
KNT	Kendrikon	3.26	18	*e*P	Pn	01 46 23.7	+2.1
KNT	Kendrikon	3.26	18	P	Pn	01 46 24.7	+3.1
KNT	Kendrikon	3.26	18	P	Pn	01 46 24.0	+2.4
APE	Apeiranthos	3.31	106	*e*P	Pn	01 46 21.2	-1.0
APE	Apeiranthos	3.31	106	P	Pn	01 46 23.0	+0.7
APE	Apeiranthos	3.31	106	P	Pn	01 46 23.5	+1.3
KRUS	Krusevo	3.31	356	*e*Pn	Pn	01 46 23.8	+1.5
KRUS				*e*Sn	Sb	01 47 11.1	+1.6
VAY	Valandovo	3.34	13	*i* Pn	Pn	01 46 25.1	+2.4
VAY				*e*Sn	Sb	01 47 08.1	-2.3
LIA	Limnos Island	3.36	56	P	Pn	01 46 22.1	-0.9
LIA	Limnos Island	3.36	56	P	Pn	01 46 23.4	+0.5
VAM	Vamos	3.39	141	P	Pb	01 46 29.2	-1.8
VAM	Vamos	3.39	141	P	Pn	01 46 27.3	+3.9
SRS	Serrai	3.43	27	P	Pn	01 46 25.8	+2.0
SRS	Serrai	3.43	27	P	Pn	01 46 25.7	+1.8
SRS	Serrai	3.43	27	*e*Pn	Pn	01 46 26.7	+2.8
SRS				*e*Sn	Sn	01 47 05.7	+1.6
TIR	Tirane	3.53	339	*e*Pn	Pn	01 46 27.5	+2.2
SIGR	SIGRI	3.55	70	*e*P	Pn	01 46 25.9	+0.4
CHOS	Chios island	3.55	83	*e*P	Pn	01 46 24.9	-0.7
CHOS	Chios island	3.55	83	P	Pn	01 46 25.3	-0.3
CHOS	Chios island	3.55	83	P	Pn	01 46 26.4	+0.8
NVR	Nevrokopi	3.73	28	P	Pn	01 46 30.5	+2.4
NVR	Nevrokopi	3.73	28	P	Pn	01 46 30.2	+2.2
IDI	Anoyia	3.85	135	Pn	Pn	01 46 30.5	+0.7
	comp=N,0.4nm,0.3s,baz=233,slow=20,SNR=6.1						
IDI				Sn	Sn	01 47 17.5	+2.8
	comp=N,1.4nm,0.3s,baz=53,slow=20,SNR=2.6						
PRK	Paraskevi	3.87	71	P	Pn	01 46 30.4	+0.5
PRK	Paraskevi	3.87	71	P	Pn	01 46 31.2	+1.3
URLA	Izmir	3.97	84	*e*P	Pn	01 46 31.3	-0.1
GADA	Gvkgeada	3.98	56	*e*P	Pn	01 46 32.6	+1.1
SIVA	Sivas	4.01	138	P	Pn	01 46 36.2	+4.3
SIVA	Sivas	4.01	138	P	Pn	01 46 35.1	+3.2
PUK	Puka	4.17	343	*i* PN	Pn	01 46 15.8	-18
SMG	Samos	4.19	93	P	Pn	01 46 33.9	-0.4
SMG	Samos	4.19	93	P	Pn	01 46 35.2	+0.9
LAST	Lasithi	4.28	131	P	Pn	01 46 38.2	+2.5
LAST	Lasithi	4.28	131	P	Pn	01 46 38.0	+2.3
NPS	Neapolis	4.29	129	P	Pn	01 46 37.6	+1.9
NPS	Neapolis	4.29	129	P	Pn	01 46 37.8	+2.0
GELI	Tayfur-Gelibol	4.47	57	*e*P	Pn	01 46 39.5	+1.4
ALN	Alexandroupoli	4.47	49	*e*P	Pn	01 46 39.9	+1.7
ALN	Alexandroupoli	4.47	49	P	Pn	01 46 38.8	+0.6
ALN	Alexandroupoli	4.47	49	P	Pn	01 46 39.7	+1.5
ERIK	Erikli-Kesan	4.63	54	*e*P	Pn	01 46 41.9	+1.5
PDG	Podgorica	4.70	339	*e*Pn	Pn	01 46 43.3	+1.9
KRBG	Karabiga-Canak	5.02	61	*e*P	Pn	01 46 47.6	+1.8
SJES	Sjenica	5.33	347	*e*Pn	Pn	01 46 51.1	+1.0
STON	Ston	5.63	330	*e*Pn	Pn	01 46 52.5	-1.6
STON				Sn	Sn	01 47 52.4	-6.0
DIVS	Divibare	6.14	349	*e*Pn	Pn	01 47 01.5	+0.3
TEKS	Tekeris	6.66	347	*e*Pn	Pn	01 47 08.4	+0.2
MLR	Muntele Rosu	8.11	22	Pn	Pn	01 47 32.8	+4.6
	comp=N,0.0nm,0.3s,baz=99,slow=19,SNR=3.3						
NVLJ	Novalja	8.21	324	*i* Pn	Pn	01 47 29.4	-0.2
NVLJ				Sn	Sn	01 48 57.9	-4.0
NVLJ	Novalja	8.21	324	*i* Pn	Pn	01 47 29.3	-0.2
OZLJ	Ozalj	8.81	331	*e*Pn	Pn	01 47 37.1	-0.6
OZLJ	Ozalj	8.81	331	*e*Pn	Pn	01 47 37.1	-0.6
BRTR	Keskin Array B	9.56	76	Pn	Pn	01 47 51.4	+3.2
	comp=N,0.1nm,0.3s,baz=264,slow=13,SNR=4.5						
TORD	Torodi Ar. Bea	30.47	221	P	P	01 51 43.1	-0.1
	comp=N,0.4nm,0.6s,baz=37,slow=9.3,SNR=4.3						
MKAR	Makanchi Array	44.66	59	P	P	01 53 44.8	+1.9
	comp=N,0.3nm,0.4s,baz=279,slow=6.4,SNR=7.5						
ZALV	Zalesovo Beam	45.15	48	P	P	01 53 47.2	+0.6
	comp=N,0.8nm,0.5s,baz=267,slow=8.9,SNR=4.2						

*IDC **04** 01:46:01.9±1.2, 63°.21N×151°.15W, h108km±12km, mb3.5/16, mb1 3.5/20, mb1mx3.4/76, mbtmp3.8/20, Error ellipse: s-maj=14.2km s-min=9.8km az=111.0*

*ISCJB **04** 01:46:03.0±0.2, 63°.21N±0°.02×150°.73W±0°.05, h138km±2km, mb3.7/16, Error ellipse: s-maj=3.9km s-min=3.1km az=3.7*

*NEIC **04** 01:46:04.6±0.0, 63°.21N×150°.73W, h129km, ML3.6(AEIC), After AEIC.*

ISC 04 01:46:04.3±0.7**, 63°.20N**±0°.03×**150°.76W**±0°.03**,**
h134km±5km**, n96, σ0.90**/119**, mb3.9**/16**, Central Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TRF	Thorofare Moun	0.33	40	P	Pn	01 46 23.2	0.0
TRF				S	Sn	01 46 36.9	-0.7
KTH	Kantishna Hill	0.36	348	P	Pn	01 46 23.2	0.0
KTH				S	Sn	01 46 36.6	-1.1
CAST	Castle Rocks	0.64	291	P	Pn	01 46 24.5	-0.2
CAST				S	Sn	01 46 38.9	-1.3
PPLA	Purkeypile	0.72	245	P	Pn	01 46 25.5	+0.1
PPLA				S	Sn	01 46 41.2	-0.1
RND	Reindeer	0.89	76	P	Pn	01 46 26.3	-0.3
RND				S	Sn	01 46 42.2	-1.3
BPAW	Bear Paw Mtn.	0.91	354	P	Pn	01 46 26.5	-0.2
BPAW				S	Sn	01 46 42.7	-1.1
MCK	McKinley	0.98	56	P	Pn	01 46 27.3	-0.1
MCK				S	Sn	01 46 43.8	-1.0
SKT	Skwentna	1.28	197	P	Pn	01 46 30.1	-0.2
DHY	Denali Highway	1.54	93	P	Pn	01 46 33.0	-0.2
DHY				S	Sn	01 46 55.6	+0.3
GHO	Glory Hole Cre	1.67	148	P	Pn	01 46 34.5	-0.1
GHO				S	Sn	01 46 57.6	-0.2
WRH	Wood River Hil	1.74	42	P	Pn	01 46 35.0	-0.3
WRH				S	Sn	01 46 57.6	-1.4
SUA	Susitna One	1.75	180	P	Pn	01 46 35.4	-0.1
SUA				S	Sn	01 46 59.4	0.0
STLK	Strandline Lak	1.78	197	P	Pn	01 46 36.0	0.0
PMR	Palmer	1.79	154	P	Pn	01 46 35.3	-0.6
PMR				S	Sn	01 46 59.1	-0.8
SML	Sawmill	1.80	140	P	Pn	01 46 35.5	-0.6
SML				S	Sn	01 46 59.8	-0.5
MLY	Manley	1.84	0	P	Pn	01 46 36.3	-0.2
CCB	Clear Creek Bu	1.95	41	P	Pn	01 46 37.4	-0.3
SPCP	Crater Peak Br	2.05	199	P	Pn	01 46 39.2	0.0
SPCP				S	Sn	01 47 06.0	+0.1
FIB	Fire Island	2.06	172	P	Pn	01 46 39.6	+0.5
FIB				S	Sn	01 47 07.4	+1.6
HDA	Harding Lake	2.08	53	P	Pn	01 46 38.9	-0.5
HDA				S	Sn	01 47 04.9	-1.4
MDM	Murphy Dome	2.08	31	P	Pn	01 46 39.2	-0.3
KNK	Knik Glacier	2.09	148	P	Pn	01 46 39.1	-0.5
KNK				S	Sn	01 47 06.6	-0.1
SCM	Sheep Creek Mo	2.10	129	P	Pn	01 46 38.9	-0.8
SCM				S	Sn	01 47 07.2	+0.3
COLA	College	2.11	36	P	Pn	01 46 39.5	-0.2
SPWE	Spurr West	2.11	204	P	Pn	01 46 40.3	+0.4
CKL	Chakachamna La	2.15	201	P	Pn	01 46 40.5	+0.2
RC01	Rabbit Creek A	2.17	167	P	Pn	01 46 40.5	-0.1
RC01				S	Sn	01 47 07.7	-0.7
PS08	TAPS Pump Stn8	2.20	51	P	Pn	01 46 40.4	-0.4
PS10	TAPS Pump St10	2.26	82	P	Pn	01 46 42.7	+1.1
ILAR	Eielson Array	2.32	46	P	Pn	01 46 41.9	-0.5
	12nm,0.3s,baz=227,slow=13,SNR=1092						
ILAR				S	Sn	01 47 10.7	-1.0
	11nm,0.3s,baz=208,slow=13,SNR=11						
ILB	Eielson Array	2.32	46	P	Pn	01 46 41.9	-0.5
GLM	Gilmore Dome	2.32	38	P	Pn	01 46 42.3	-0.1

TT01	Tatalina	2.42	265	P	Pn	01 46 43.4	-0.1
PAX	Paxson	2.42	93	P	Pn	01 46 43.5	-0.1
PAX				S	Sn	01 47 13.4	-0.5
PS11	TAPS Pump St11	2.69	112	P	Pn	01 46 47.1	+0.2
HARP	HAARP	2.69	105	P	Pn	01 46 46.9	-0.1
PS06	TAPS Pump Stn6	2.70	9	P	Pn	01 46 47.2	+0.2
RIDG	Independ'e Rid	2.71	76	P	Pn	01 46 47.3	0.0
SLKM	Skilak Lake	2.72	174	P	Pn	01 46 47.2	-0.1
RDJH	Redoubt Jeurge	2.79	201	P	Pn	01 46 48.7	+0.2
KLU	Klutina	2.83	125	P	Pn	01 46 47.8	-1.1
RDWB	Redoubt West	2.90	201	P	Pn	01 46 49.9	+0.1
JPK	Jack Peak	2.91	136	P	Pn	01 46 48.6	-1.2
DOT	Dot Lake	3.04	79	P	Pn	01 46 51.0	-0.6
IM3	Indian Mountai	3.08	337	P	Pn	01 46 51.8	-0.1
SVW2	Sparrevohn	3.10	229	P	Pn	01 46 52.0	-0.2
SCRK	Sand Creek	3.13	73	P	Pn	01 46 52.5	-0.2
DIV	Divide	3.13	129	ePn	Pn	01 46 50.8	-1.9
DIV				eSn	Sn	01 47 28.5	-1.6
MENT	Mentasta	3.21	92	P	Pn	01 46 53.6	-0.2
PRP	Porcupine Dome	3.25	42	P	Pn	01 46 53.8	-0.5
BRLK	Bradley Lake	3.45	181	P	Pn	01 46 56.7	-0.1
EYAK	Cordova Ski Ar	3.57	136	P	Pn	01 46 57.8	-0.4
PS05	TAPS Pump Stn5	3.62	1	P	Pn	01 46 59.4	+0.4
BMRM	Bremner River	3.66	125	P	Pn	01 46 58.2	-1.5
VRDI	Verde Repeater	3.95	117	P	Pn	01 47 02.6	-1.0
COLD	Coldfoot	4.05	3	P	Pn	01 47 04.7	0.0
BCA3	Beaver Creek A	4.08	88	P	Pn	01 47 04.2	-0.8
FYU	Fort Yukon	4.12	32	P	Pn	01 47 05.5	0.0
NICHA	Nichawak Mount	4.39	130	P	Pn	01 47 08.4	-0.8
BALM	Baldy	4.51	115	P	Pn	01 47 09.8	-1.0
KHIT	Khitrov Hills	4.51	124	P	Pn	01 47 09.8	-1.0
EGAK	Eagle	4.51	65	P	Pn	01 47 10.1	-0.7
KIAG	Kiagna River	4.56	116	P	Pn	01 47 10.7	-1.0
ISLE	Juniper Island	4.76	119	P	Pn	01 47 13.1	-1.2
BARN	Barnard Glacie	4.78	113	P	Pn	01 47 14.3	-0.2
KULT	Kultieth River	4.84	124	P	Pn	01 47 14.3	-0.9
BAGL	Bagley Icefiel	4.92	120	P	Pn	01 47 15.4	-0.8
BM3	Burnt Mountain	4.96	29	P	Pn	01 47 16.4	-0.3
KARR	Katmai Rainbow	5.10	204	P	Pn	01 47 19.0	+0.3
DAWY	Dawson	5.14	75	P	Pn	01 47 18.8	-0.4
MESA	MESA	5.17	122	P	Pn	01 47 19.2	-0.7
TOLK	Toolik Lake Re	5.48	5	P	Pn	01 47 25.2	+1.5
KDAK	Kodiak Island	5.51	190	P	Pn	01 47 21.8	-2.3
	1.6nm,0.3s,baz=62,slow=5.3,SNR=38						
KDAK				S	Sn	01 48 21.6	-4.8
	7.9nm,0.3s,baz=136,slow=23,SNR=17						
BCPM	Bancas Point	6.23	117	P	Pn	01 47 33.4	-0.4
YUK5	Granite Creek	6.39	103	P	Pn	01 47 34.8	-1.3
PNL	Peninsula	6.50	118	P	Pn	01 47 36.7	-0.6
PLBC	Pleasant Camp	7.87	112	P	Pn	01 47 55.4	-0.4
INK	Inuvik	8.72	47	P	Pn	01 48 06.6	-0.5
	0.3nm,0.3s,baz=239,slow=15,SNR=10						
YKA	Yellowknife Ar	16.38	76	P	Pn	01 49 45.6	-0.5
	0.1nm,0.3s,baz=285,slow=9.4,SNR=6.1						
RES	Resolute Bay	22.04	36	P	P	01 50 48.7	+1.3
	0.5nm,0.4s,baz=266,slow=12,SNR=6.8						
SEY	Seymchan	25.04	295	P	P	01 51 15.0	-0.5
	1.5nm,0.4s,baz=77,slow=14,SNR=7.0						
PDAR	Pinedale Array	31.33	111	P	P	01 52 14.1	+2.2
	0.3nm,0.6s,baz=342,slow=4.8,SNR=2.6						
NVAR	Mina Array Bea	31.55	126	P	P	01 52 15.6	+1.8
	0.4nm,0.6s,baz=304,slow=11,SNR=4.2						
TXAR	Lajitas Array	45.26	116	P	P	01 54 09.9	+1.8
	0.2nm,0.6s,baz=335,slow=6.1,SNR=4.1						
ARCES	ARCESS Array B	47.52	2	P	P	01 54 24.2	-0.9
	1.8nm,0.8s,baz=20,slow=7.3,SNR=6.6						
MJAR	Matsushiro Arr	49.68	273	P	P	01 54 40.7	-1.4
	0.8nm,0.3s,baz=38,slow=14,SNR=3.3						
SONM	Songino Array	53.79	305	P	P	01 55 13.1	+0.6
	0.9nm,0.7s,baz=6.0,slow=8.1,SNR=4.9						
ZALV	Zalesovo Beam	55.42	324	P	P	01 55 23.9	-0.2
	1.1nm,0.5s,baz=27,slow=5.0,SNR=6.7						
FINES	FINESS Array B	55.65	2	P	P	01 55 25.7	+0.2
	0.6nm,0.6s,baz=354,slow=5.6,SNR=5.6						
HFS	Hagfors	56.42	9	P	P	01 55 30.8	-0.2
	1.5nm,0.8s,baz=38,slow=7.3,SNR=4.0						
BVAR	Borovoye Array	59.72	333	P	P	01 55 54.2	0.0
	1.5nm,0.6s,baz=56,slow=7.8,SNR=9.3						
KURK	Kurchatov	59.97	326	P	P	01 55 55.7	-0.1
KURBB	Kurchatov Arra	60.08	326	P	P	01 55 55.7	-0.8
	0.9nm,0.5s,baz=28,slow=7.2,SNR=7.3						
MKAR	Makanchi Array	62.58	322	P	P	01 56 12.9	-0.6
	1.0nm,0.5s,baz=46,slow=7.1,SNR=13						
AKTO	Aktyubinsk	64.45	340	P	P	01 56 25.6	-0.1
	1.1nm,0.5s,baz=50,slow=7.9,SNR=6.1						
AKASG	Malin Array Be	66.44	0	P	P	01 56 38.0	-0.5
	0.7nm,0.4s,baz=358,slow=6.1,SNR=5.0						

*TRN **04** 01:46:47.8, 18°.24N×63°.63W, h88km, MD3.6*
*ISCJB **04** 01:46:48.3±0.7, 18°.15N±0°.08×63°.73W±0°.04, h90km±8km, Error ellipse: s-maj=14.3km s-min=3.1km az=23.0*
*NEIC **04** 01:46:50.3±0.0, 18°.10N×63°.76W, h79km, MD3.4(RSPR), After RSPR.*
*RSPR **04** 01:46:50.3, 18°.10N×63°.76W, h79km±1km, MD3.4/8*
ISC 04 01:46:48.7±1.4**, 18°.20N**±0°.08×**63°.71W**±0°.04**, h89**km±9km**, n49,** σ0s53/74**, 18C-6D, Leeward Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SMRT	St. Maarten	0.62	104	eS	Sn	01 47 16.2	+0.1
SMRT	St. Maarten	0.62	104	⇑eP	Pn	01 47 04.5	+0.2
SMRT	St. Maarten	0.62	104	⇑eP	Pn	01 47 04.5	+0.2
SMRT				eS	Sn	01 47 16.2	+0.1
SMRT				eS	Sn	01 47 16.5	+0.4
SMRT	St. Maarten	0.62	104	⇓iP	Pn	01 47 04.5	+0.2
SMRT				eS	Sn	01 47 16.5	+0.4
SABA	Saba	0.73	142	eS	Sn	01 47 17.2	-0.7
SABA	Saba	0.73	142	⇑eP	Pn	01 47 05.1	-0.3
SABA	Saba	0.73	142	⇑eP	Pn	01 47 05.1	-0.3
SABA				eS	Sn	01 47 17.2	-0.7
SABA	Saba	0.73	142	eP	Pn	01 47 05.4	0.0
SABA				eS	Sn	01 47 18.3	+0.5
ABV	Anegada	0.79	312	⇑iP	Pn	01 47 06.9	+0.9
ABVI	Anegada Island	0.79	312	i Pu	Pn	01 47 06.9	+0.9
TBVI	Tortola	0.89	284	⇑iP	Pn	01 47 06.9	-0.1
TBVI				eS	Sn	01 47 20.1	-0.7
TBVI	Tortola	0.89	284	i Pu	Pn	01 47 06.9	-0.1
SEUS	St. Eustatius	0.99	135	eP	Pn	01 47 08.4	+0.3
SEUS				eS	Sn	01 47 22.5	-0.2
SEUS	St. Eustatius	0.99	135	eP	Pn	01 47 08.4	+0.3
SEUS				eS	Sn	01 47 22.5	-0.2
STVI	Saint Thomas	1.19	277	⇓eP	Pn	01 47 10.6	+0.2
STVI				eS	Sn	01 47 26.5	-0.4
STVI	Saint Thomas	1.19	277	⇓eP	Pn	01 47 10.7	+0.2
STVI	Saint Thomas	1.19	277	⇓eP	Pn	01 47 10.6	+0.2
STVI				eS	Sn	01 47 26.1	-0.8
CUPR	Culebra, Puert	1.50	274	⇑eP	Pn	01 47 14.1	-0.2
CUPR	Culebra, Puert	1.50	274	eS	Sn	01 47 32.7	-1.0
CUPR	Culebra, Puert	1.50	274	⇑eP	Pn	01 47 14.1	-0.2
CUPR				eS	Sn	01 47 32.7	-1.0
NEV	Hard Times	1.52	134	i P	Pn	01 47 15.7	+1.0
NEV				eS	Sn	01 47 34.7	+0.4
NEV	Hard Times	1.52	134	⇑iP	Pn	01 47 15.7	+1.0
NEV				eS	Sn	01 47 34.7	+0.4
ANWB	Willy Bob	1.91	106	i P	Pn	01 47 18.8	-0.8
ANWB				eS	Sn	01 47 42.4	-0.8
ANWB	Willy Bob	1.91	106	⇑iP	Pn	01 47 18.8	-0.8
ANWB				eS	Sn	01 47 42.4	-0.8
CBYP	Canovanas	2.04	272	⇑eP	Pn	01 47 21.5	+0.1
CBYP	Canovanas	2.04	272	eS	Sn	01 47 46.4	0.0
CBYP	Canovanas	2.04	272	⇑eP	Pn	01 47 21.5	+0.1
CBYP				eS	Sn	01 47 46.4	0.0
MBWH		2.05	135	eP	Pn	01 47 21.2	-0.4
MLYT	Lee's Yard	2.07	135	eP	Pn	01 47 21.6	-0.1
MLYT				eS	Sn	01 47 47.4	+0.4
BPA	Boggy Peak	2.11	123	eP	Pn	01 47 22.1	-0.2
BPA				eS	Sn	01 47 47.6	-0.4
BPA	Boggy Peak	2.11	123	eP	Pn	01 47 22.1	-0.2
BPA				eS	Sn	01 47 47.6	-0.4
SJG	San Juan	2.32	268	⇑eP	Pn	01 47 25.2	+0.2
SJG	San Juan	2.32	268	eS	Sn	01 47 52.8	-0.1
SJG	San Juan	2.32	268	⇑eP	Pn	01 47 25.2	+0.2
SJG				eS	Sn	01 47 52.8	-0.1
GDHS	Morne Mazeau,	2.67	136	eP	Pn	01 47 29.4	-0.4
GDHS				eS	Sn	01 48 00.3	-1.1
EMPR	Esperanza - Ma	2.69	276	⇑eP	Pn	01 47 30.5	+0.5
EMPR	Esperanza - Ma	2.69	276	eS	Sn	01 48 01.8	0.0
EMPR	Esperanza - Ma	2.69	276	⇑eP	Pn	01 47 30.5	+0.5
EMPR				eS	Sn	01 48 01.8	0.0
CELP	Cerrillos	2.73	268	⇓eP	Pn	01 47 30.7	+0.2
CELP	Cerrillos	2.73	268	⇓eP	Pn	01 47 30.7	+0.2
AOPR	Arecibo Observ	2.90	273	⇑eP	Pn	01 47 33.4	+0.6
AOPR	Arecibo Observ	2.90	273	⇑eP	Pn	01 47 33.4	+0.6
TBG	Guadaloupe-3	3.06	139	eP	Pn	01 47 35.9	+0.9
TBG				eS	Sn	01 48 10.3	-0.4
DEG	La Desirade	3.15	126	eP	Pn	01 47 37.1	+0.8
DEG	La Desirade	3.15	126	eP	Pn	01 47 37.1	+0.8
MGG	Marie-Galante	3.23	134	eP	Pn	01 47 38.0	+0.8
MGG				eS	Sn	01 48 14.3	-0.4
MGG	Marie-Galante	3.23	134	eP	Pn	01 47 38.0	+0.8
MGG				eS	Sn	01 48 14.3	-0.4
CRPR	Cabo Rojo, PR	3.24	267	⇑eP	Pn	01 47 37.7	+0.4
CRPR	Cabo Rojo, PR	3.24	267	⇑eP	Pn	01 47 37.7	+0.4

MEX 04 02:08:24.2±0.4**, 16°.34N×98°.44W, h10**km±5km**, MD3.7, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.30	81	i P	Pg	02 08 29.7	-0.6
PNIG				i S	Sg	02 08 34.7	+0.2
TLIG	Tlapa	1.22	354	i P	Pn	02 08 43.8	-3.7
TLIG				eS	Sb	02 08 58.7	-4.6
VHO	Vista Hermosa	1.79	66	eP	Pn	02 08 52.1	-3.2
VHO				eS	Sn	02 09 13.4	-4.9
HUIG	Huatulco	2.31	104	eP	Pn	02 09 03.8	+1.4

*IDC **04** 02:28:01.2±1.0, 20°.19N×92°.55W, h0km, mb3.7/5, mb1 4.0/8, mb1mx3.7/45, mbtmp3.7/8, ML3.8/3, Error ellipse: s-maj=30.7km s-min=17.4km az=71.0*
*ISCJB **04** 02:28:03.3±0.4, 20°.35N±0°.03×92°.87W±0°.04, h10km, mb4.0/14, Error ellipse: s-maj=5.8km s-min=5.0km az=171.8*
*NEIC **04** 02:28:04.6±0.6, 20°.29N×92°.80W, h10km, mb4.2/16, MD3.9(MEX), Error ellipse: s-maj=9.4km s-min=8.7km az=204.0*
NEIC Felt at Campeche, Mexico.
*MEX **04** 02:28:10.8±0.3, 20°.03N×93°.03W, h13km±22km, MD3.9*
ISC 04 02:28:04.4±0.6**, 20°.28N**±0°.05×**92°.88W**±0°.04**, h10**km**, n52,** σ**2s02**/64**, mb4.2**/14**, Bay of Campeche**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SCIG	Sabancuy	2.06	129	i P	Pb	02 28 41.5	-0.5
SCIG				eS	Sn	02 29 05.5	+0.5
SCIG	Sabancuy	2.06	129	Pn	Pb	02 28 41.5	-0.5
SCIG				Sn	Sn	02 29 05.5	+0.5
MYIG	MØrida	3.02	77	eP	Pn	02 28 51.1	-1.1
MYIG				eSn	Sb	02 29 36.5	+1.3
LVIG	Laguna Verde	3.37	261	eP	Pn	02 28 58.2	+1.0
LVIG				eS	Sn	02 29 36.8	-0.5
LVIG	Laguna Verde	3.37	261	eP	Pn	02 28 55.8	-1.4
LVIG				eSn	Sn	02 29 34.8	-2.4
CMIG	Matias Romero	3.70	211	Pn	Pn	02 29 02.7	+1.0
	8.0nm,0.3s,baz=31,slow=9.3,SNR=69						
CMIG				Sn	Sn	02 29 46.7	+1.4
	4.5nm,0.3s,baz=212,slow=22,SNR=14						
APG	El Apazote	5.73	156	Pn	Pn	02 29 25.4	-4.4
	0.4nm,0.3s,baz=324,slow=19,SNR=3.1						
APG				Sn	Sn	02 30 29.9	-5.8
	2.5nm,0.3s,baz=237,slow=23,SNR=5.9						
LNIG	Linares	7.62	308	ePn	Pn	02 29 57.7	+2.1
LNIG				eSn	Sn	02 31 18.3	-3.9
HKT	Hockley	9.99	345	ePn	Pn	02 30 30.3	+2.3
JCT	Junction City	11.92	330	ePn	Pn	02 30 56.5	+1.9
JCT				eSn	Sn	02 33 00.5	-7.3
WHTX	Lake Whitney,	12.36	342	ePn	Pn	02 31 01.2	+0.6
WHTX				eSn	Sn	02 33 17.1	-1.3
LTX	Lajitas	13.30	315	ePn	Pn	02 31 16.4	+2.9
TXAR	Lajitas Array	13.30	315	Pn	Pn	02 31 16.4	+2.9
	0.3nm,0.3s,baz=138,slow=14,SNR=17						
TX31	Lajitas Ar. Si	13.30	315	ePn	Pn	02 31 14.0	+0.5
TX31				eSn	Sn	02 33 37.4	-4.2
ABTX	Abilene, Hawle	13.70	335	ePn	Pn	02 31 19.4	+0.6
ABTX				eSn	Sn	02 33 45.6	-5.5
MIAR	Mount Ida	14.22	358	ePn	Pn	02 31 26.4	+0.5
MIAR				eSn	Sn	02 34 03.4	-0.5
OXF	Oxford	14.51	12	ePn	Pn	02 31 27.5	-2.3
WMOK	Wichita Mounta	15.32	341	ePn	Pn	02 31 40.8	0.0
	6.5nm,0.6s						
WMOK				eSn	Sn	02 34 16.3	-14
GOGA	Godfrey	15.53	31	ePn	Pn	02 31 41.1	-2.4
	11nm,1.4s						
TUL1	Leonard	15.78	351	ePn	Pn	02 31 46.4	-0.4
	8.3nm,0.8s						
MSTX	Muleshoe	16.22	329	ePn	Pn	02 31 53.2	+0.6
	7.3nm,0.8s						
NHSC	New Hope	17.07	39	ePn	Pn	02 32 01.9	-1.3
	135nm,1.8s						
TKL	Tuckaleechee C	17.29	26	ePn	Pn	02 32 05.0	-0.9
	24nm,1.5s						
MVCO	Mesa Verde	21.68	324	eP	P	02 32 57.0	+1.5
	24nm,1.9s						
JFWS	Jewell Farm	22.68	5	eP	P	02 33 06.6	+0.6
	8.2nm,1.0s						
DBD	Des Bee Dove	24.61	324	eP	P	02 33 23.0	-2.2
DBD				ePcP	PcP	02 37 03.5	+0.6
SPMN	Marine on St.	24.88	0	eP	P	02 33 27.6	+0.3
	9.2nm,0.8s						
DSCC	Desert Studies	25.25	311	eP	P	02 33 29.8	-0.9
O16A	Springville	25.46	325	eP	P	02 33 29.9	-3.0
TPNV	Topopah Spring	26.29	314	eP	P	02 33 40.2	-0.2
	2.4nm,0.7s						
PD31	Pinedale Array	26.45	332	eP	P	02 33 43.6	+1.8
PDAR	Pinedale Array	26.45	332	P	P	02 33 43.6	+1.8
	0.2nm,0.3s,baz=138,slow=9.6,SNR=4.3						
SBI	Santa Barbara	26.69	305	eP	P	02 33 41.9	-1.9
SPUT	South Promonto	26.75	326	eP	P	02 33 45.0	+0.5
	4.3nm,1.1s						
REDW	Red Top Meadow	27.50	331	eP	P	02 33 53.5	+2.2
	22nm,2.0s						
BCW	Bitter Crk WRg	27.57	308	eP	P	02 33 53.0	+1.2
H17A	Grant Village	28.19	333	eP	P	02 33 58.4	+0.9
	13nm,2.0s						
GATR	Gnd/Air Tx Cnt	28.23	306	eP	P	02 33 59.6	+1.9
NV01	Mina Array Sit	28.46	315	eP	P	02 33 59.0	-0.8
NVAR	Mina Array Bea	28.46	315	P	P	02 33 59.0	-0.8
	0.3nm,0.9s,baz=114,slow=9.0,SNR=2.6						
YHB	Horse Butte	28.75	332	eP	P	02 34 05.0	+2.6
YHB				ePcP	PcP	02 37 16.1	+3.6
YHB				eS	S	02 38 54.6	+2.8
BOZ	Bozeman (W)	29.60	333	eP	P	02 34 13.2	+3.4
	3.7nm,0.9s						
RDG13	Poverty Ridge	30.34	310	eP	P	02 34 15.7	-0.8
	29nm,1.5s						
NIHS	Ingelmoor High	36.24	326	eP	P	02 35 08.0	+0.4
YKA	Yellowknife Ar	44.76	346	P	P	02 36 17.7	-0.1
	0.7nm,0.8s,baz=147,slow=7.9,SNR=13						
YKB5	Yellowknife Ar	44.76	346	eP	P	02 36 17.7	-0.1
PLCA	Paso Flores	64.16	161	P	P	02 38 35.5	-3.7
	1.3nm,0.9s,baz=346,slow=4.2,SNR=2.8						
PLCA	Paso Flores	64.16	161	eP	P	02 38 35.5	-3.7
	6.3nm,1.2s						
KOWA	Kowa	84.05	77	P	P	02 40 32.8	-3.1
	1.5nm,0.8s,baz=260,slow=6.1,SNR=3.8						
KOWA	Kowa	84.05	77	P	P	02 40 35.7	-0.2
WR1	Warramunga Arr	135.78	262	ePKPdf	PKPdf	02 47 26.0	-0.2
WRA	Warramunga Arr	135.78	262	PKP	PKPdf	02 47 26.0	-0.2
	0.2nm,0.6s,baz=76,slow=2.6,SNR=4.7						

MEX 04 02:35:15.8±0.5**, 16°.26N×98°.19W, h15**km±2km**, MD3.7, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.14	24	i P	Pg	02 35 18.8	-0.9
PNIG				i S	Sg	02 35 21.8	-0.4
TLIG	Tlapa	1.34	344	eP	Pn	02 35 36.6	-3.5
TLIG				i S	Sn	02 35 51.4	-6.4
VHO	Vista Hermosa	1.61	60	eP	Pn	02 35 40.5	-3.3
VHO				eS	Sn	02 35 59.6	-4.8
HUIG	Huatulco	2.06	104	eP	Pb	02 35 51.8	-1.1
HUIG				eS	Sn	02 36 16.2	+0.9

JMA 04 03:05:44.3±0.1**, 39°.78N×142°.30E, h21**km±1km**, M3.8, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JTH	Tanohata	0.37	295	P	Pb	03 05 52.2	+0.1
JTH				eS	Sb	03 05 57.6	+0.2
MIYJ	Miyakonagasawa	0.42	241	P	Pb	03 05 53.0	0.0
MIYJ				S	Sb	03 05 58.8	0.0
JKZ	Kuzumaki	0.77	286	P	Pb	03 05 59.1	0.0
JKZ				eS	Sb	03 06 09.0	-0.2
JOM	Ohasama	0.84	249	P	Pb	03 05 59.9	-0.2
JOM				eS	Sb	03 06 10.9	0.0
JANG	Nango	0.84	315	P	Pb	03 05 59.5	-0.8
JANG				eS	Sb	03 06 10.4	-0.8
OFUJ	Ofunato	0.85	215	P	Pb	03 05 59.9	-0.5
OFUJ				eS	Sb	03 06 10.8	-0.6
JMK	Ichinoseki	1.18	226	P	Pn	03 06 05.4	-0.1
JMK				eS	Sb	03 06 20.5	-0.2

IDC 04 03:09:52.5±1.1**, 15°.06S×66°.90E, h0**km**, mb3.7**/8**, mb1 3.9**/8**, mb1mx3.6**/61**, mbtmp3.7**/8**, MS3.7**/19**, Ms1 3.7**/19**, ms1mx3.4**/63**, Error ellipse: s-maj=40.5km s-min=24.9km az=22.0, Mid-Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
H08S1	Diego Carcia H	9.17	37	T	T	03 21 30.1	
	baz=216,slow=75,SNR=655						
H08S2	Diego Garcia H	9.19	37	T	T	03 21 30.9	
	baz=216,slow=75,SNR=717						
H08S3	Diego Garcia H	9.19	37	T	T	03 21 31.6	
	baz=216,slow=75,SNR=513						
H08N3	Diego Garcia H	9.55	25	T	T	03 21 57.0	
	baz=204,slow=76,SNR=2501						
H08N1	Diego Carcia H	9.56	25	T	T	03 21 51.2	
	baz=204,slow=76,SNR=1499						
H08N2	Diego Garcia H	9.57	25	T	T	03 21 58.6	
	baz=204,slow=76,SNR=2352						
OPO	Ambohidratompo	19.18	257	LR	LR	03 20 06.3	
	comp=Z,279nm,19.2s,baz=62,slow=32						
PALK	Pallekele	26.07	33	LR	LR	03 23 20.1	
	comp=Z,185nm,20.1s,baz=296,slow=31						
KMBO	Kilima Mbogo	32.38	293	LR	LR	03 27 08.9	
	comp=Z,61nm,19.3s,baz=92,slow=32						
LSZ	Lusaka	37.33	264	LR	LR	03 31 05.0	
	comp=Z,227nm,20.1s,baz=76,slow=34						
BOSA	Boshof	40.73	244	LR	LR	03 30 56.5	
	comp=Z,133nm,18.6s,baz=40,slow=31						
CMAR	Chiang Mai Arr	45.89	45	P	P	03 18 16.8	-0.3
	0.6nm,0.3s,baz=238,slow=5.0,SNR=5.0						
CMAR				LR	LR	03 35 25.5	
	comp=Z,120nm,19.4s,baz=190,slow=33						
H01W3	Cape Leeuwin H	46.67	124	T	T	04 08 14.4	
	baz=282,slow=75,SNR=11						
H01W2	Cape Leeuwin H	46.67	124	T	T	04 08 21.3	
	baz=282,slow=75,SNR=11						
H01W1	Cape Leeuwin H	46.69	124	T	T	04 08 18.1	
	baz=282,slow=75,SNR=9.7						
MAW	Mawson	52.57	182	LR	LR	03 35 54.1	
	comp=Z,113nm,21.8s,baz=57,slow=30						
AAK	Ala-Archa	57.83	7	LR	LR	03 42 31.9	
	comp=Z,67nm,20.5s,baz=208,slow=34						
GNI	Garni	58.67	340	LR	LR	03 44 01.5	
	comp=Z,25nm,20.8s,baz=106,slow=35						
MKAR	Makanchi Array	63.10	12	P	P	03 20 21.4	-0.4
	0.2nm,0.6s,baz=205,slow=6.4,SNR=3.6						
MKAR				LR	LR	03 45 15.8	
	comp=Z,49nm,19.1s,baz=174,slow=34						
ASAR	Alice Springs	63.32	109	P	P	03 20 23.6	-0.3
	0.1nm,0.4s,baz=261,slow=7.0,SNR=4.1						
WRA	Warramunga Arr	64.14	105	P	P	03 20 29.8	+0.5
	0.8nm,1.0s,baz=270,slow=5.4,SNR=4.8						
KURBB	Kurchatov Arra	66.19	8	P	P	03 20 42.3	+0.5
	0.5nm,0.9s,baz=204,slow=6.4,SNR=3.1						
BVAR	Borovoye Array	67.87	2	LR	LR	03 48 54.4	
	comp=Z,31nm,21.9s,baz=168,slow=34						
TORD	Torodi Ar. Bea	70.34	290	P	P	03 21 08.8	+0.2
	0.4nm,0.9s,baz=127,slow=2.2,SNR=3.0						
ZALV	Zalesovo Beam	70.42	11	LR	LR	03 49 49.6	
	comp=Z,31nm,20.2s,baz=68,slow=34						
JOW	Kunigami	72.69	55	LR	LR	03 52 10.3	
	comp=Z,38nm,20.3s,baz=349,slow=35						
DBIC	Dimbokro	74.29	281	LR	LR	03 52 34.9	
	comp=Z,34nm,19.2s,baz=112,slow=34						
KOWA	Kowa	76.01	289	LR	LR	03 53 37.7	
	comp=Z,38nm,18.4s,baz=199,slow=34						
KSRS	Korea Array	77.52	45	LR	LR	03 56 32.6	
	comp=Z,17nm,18.2s,baz=188,slow=36						
JNU	Nakatsue	77.57	51	LR	LR	03 57 07.9	
	comp=Z,48nm,18.3s,baz=114,slow=37						
ESDC	Sonseca Array	85.39	313	P	P	03 22 31.9	-0.2
	0.6nm,0.7s,baz=107,slow=4.0,SNR=3.8						
ESDC				LR	LR	04 01 15.5	
	comp=Z,31nm,18.4s,baz=115,slow=36						
HFS	Hagfors	86.21	336	P	P	03 22 35.8	+0.3
	4.2nm,0.9s,baz=182,slow=5.3,SNR=4.0						
MA2	Magadan	99.77	31	LR	LR	04 12 34.7	
	comp=Z,42nm,18.3s,baz=152,slow=38						
PDAR	Pinedale Array	152.22	354	PKPbc	PKPbc	03 29 49.9	-0.8
	0.3nm,0.5s,baz=57,slow=5.5,SNR=3.9						

*SCB **04** 03:15:14.8±0.6, 16°.03S×69°.40W, h200km, Ml3.5/2, Error ellipse: s-maj=18.0km s-min=9.6km az=112.0*
*ISCJB **04** 03:15:15.1±1.3, 15°.9S±0°.2×69°.6W±0°.2, h213km, mb3.2/2, Error ellipse: s-maj=24.8km s-min=15.8km az=43.2*
*IDC **04** 03:15:17.4±1.8, 15°.53S×69°.07W, h215km±21km, mb3.0/2, mb1 3.1/2, mb1mx2.9/43, mbtmp3.5/2, Error ellipse: s-maj=102.5km s-min=41.2km az=20.0*
ISC 04 03:15:15.7±1.3**, 16°.0S**±0°.1×**69°.5W**±0°.2**, h213**km**, n11,** σ**1s00**/15**, 8C-1D, Peru-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BBOD	La Paz, Gloria	1.05	127	⇑iPn	Pn	03 15 48.4	+0.7
BBOD				⇑iSn	S	03 16 11.9	-0.7
	220nm,0.6s						
BBOB	La Paz, Bander	1.30	96	⇑iPn	Pn	03 15 50.5	+1.0
BBOB				⇑iSn	S	03 16 16.5	+1.0
	224nm,0.4s						
LPAZ	La Paz	1.32	102	P	Pn	03 15 50.9	+1.1
	11nm,0.3s,baz=307,slow=7.0,SNR=308						
LPAZ				S	S	03 16 16.7	+0.6
	6.5nm,0.3s,baz=169,slow=23,SNR=37						
LPAZ	La Paz	1.32	102	⇑iPn	Pn	03 15 50.7	+0.9
BBOJ	La Paz, Jacaqu	1.56	128	⇑iPn	Pn	03 15 52.7	+1.1
BBOJ				⇑iSn	S	03 16 20.3	+0.9
BBOE	La Paz, Chanca	1.64	119	⇓iPn	Pn	03 15 53.9	+1.5
MOCB	Mochara	6.35	146	⇑iP	Pn	03 16 47.7	-0.4
SIV	San Ignacio	8.08	91	eP	Pn	03 17 09.5	-0.5
TORD	Torodi Ar. Bea	76.09	72	P	P	03 26 39.1	-1.3
	0.8nm,0.6s,baz=268,slow=5.9,SNR=10						
YKA	Yellowknife Ar	85.86	341	P	P	03 27 30.9	0.0
	0.1nm,0.5s,baz=140,slow=5.8,SNR=3.1						
ZALV	Zalesovo Beam	137.16	22	PKP	PKPdf	03 34 13.4	+0.1
	0.6nm,0.3s,baz=289,slow=4.4,SNR=3.7						

GUC 04 03:17:03.5±0.6**, 21°.39S×70°.29W, h41**km±1km**, ML3.7, 1C-2D, Near coast of northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PB02	IPOC Station P	0.37	80	⇓iP	Pn	03 17 12.8	0.0
PB02				eS	Sn	03 17 19.2	0.0
PB02				IAML		03 17 19.6	
	comp=N,21μm,0.2s						
PB07	IPOC Station P	0.50	133	eP	Pn	03 17 14.7	+0.1
PB07				eS	Sn	03 17 22.5	+0.2
PB07				IAML		03 17 22.9	
	comp=E,9μm,0.2s						
PB01	IPOC Station P	0.82	66	⇓iP	Pn	03 17 19.3	+0.7
PB01				eS	Sn	03 17 30.6	+0.9
PB01				IAML		03 17 31.6	
	comp=N,5μm,0.3s						
PB04	IPOC Station P	0.95	172	⇑iP	Pn	03 17 21.0	+0.4
PB04				eS	Sn	03 17 33.8	+0.7
PB04				IAML		03 17 35.6	
	comp=N,3μm,0.0s						
PB09	IPOC Station P	1.05	113	eP	Pn	03 17 23.7	+1.7
PB09				eS	Sn	03 17 38.4	+2.8
PB09				IAML		03 17 41.3	
	comp=E,5μm,0.1s						
PB06	IPOC Station P	1.47	153	eP	Pn	03 17 29.2	+1.5
PB06				eS	Sn	03 17 48.6	+2.7
PB08	IPOC Station P	1.63	41	eP	Pn	03 17 32.1	+2.1
PB08				eS	Sn	03 17 53.3	+3.3
PB08				IAML		03 17 56.2	

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=N,928nm,0.1s						
PB11	**IPOC Station P**	**1.72**	**20**	eP	Pn	03 17 32.5	+1.4
PB11				i S	Sn	03 17 54.8	+2.8
PB11				IAML		03 17 58.4	
	comp=N,1µm,0.3s						
PB10	**IPOC Station P**	**2.13**	**187**	eP	Pn	03 17 36.2	-0.5
MNMC	**Minye Minye**	**2.33**	**16**	eP	Pn	03 17 40.9	+1.2
MNMC				i S	Sn	03 18 09.6	+2.3
MNMC				IAML		03 18 20.2	
	comp=N,650nm,0.5s						

*IDC **04** 03:20:31.8±1.3, 5°.84S×133°.59E, h0km, mb4.0/6, mb1 4.1/8, mb1mx3.8/45, mbtmp4.0/8, ML4.0/2, MS3.3/1, Ms1 3.3/1, ms1mx2.6/44, Error ellipse: s-maj=93.0km s-min=19.8km az=70.0*

ISC 04 03:20:33.9±1.5**, 6°.1S**±0°.2×**133°.3E**±0°.5**, h10**km**, n10, σ1°.50**/10**, mb4.2**/6**, Aru Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.79**	**176**	Pn	**Pn**	**03 23 50.5**	**+0.8**
	0.6nm,0.3s,baz=355,slow=13,SNR=48						
WRA				Sn	**Sn**	**03 26 20.8**	**-2.2**
	0.3nm,0.3s,baz=358,slow=23,SNR=7.2						
ASAR	**Alice Springs**	**17.47**	**178**	P	**Pn**	**03 24 39.3**	**+1.4**
	0.8nm,0.3s,baz=359,slow=8.2,SNR=14						
HNR	**Honiara**	**26.61**	**99**	LR	LR	03 36 33.2	
	comp=Z,58nm,18.6s,baz=309,slow=36						
STKA	**Stephens Creek**	**26.79**	**164**	P	**P**	**03 26 15.6**	**+1.3**
	0.8nm,0.4s,baz=324,slow=10,SNR=3.7						
CMAR	**Chiang Mai Arr**	**41.76**	**306**	P	**P**	**03 28 24.6**	**+0.9**
	0.4nm,0.3s,baz=131,slow=6.3,SNR=4.3						
MKAR	**Makanchi Array**	**69.32**	**325**	P	**P**	**03 31 41.1**	**-0.6**
	1.5nm,0.8s,baz=120,slow=7.7,SNR=16						
ZALV	**Zalesovo Beam**	**72.28**	**332**	P	**P**	**03 31 57.9**	**-1.6**
	1.6nm,0.7s,baz=132,slow=4.4,SNR=5.9						
KURBB	**Kurchatov Arra**	**73.50**	**327**	P	**P**	**03 32 05.4**	**-1.4**
	1.5nm,0.7s,baz=123,slow=4.7,SNR=17						
BVAR	**Borovoye Array**	**79.09**	**327**	P	**P**	**03 32 37.5**	**-1.0**
	1.6nm,0.7s,baz=115,slow=6.8,SNR=8.4						
CPUP	**Villa Florida**	**146.15**	**163**	PKPbc	**PKPab**	**03 40 15.6**	**-0.2**
	1.7nm,0.8s,baz=109,slow=5.2,SNR=5.7						

PRE 04 03:33:06.4±1.4**, 22°.07S×33°.42E, h5**km**, ML3.7, Mozambique**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSNA	**Messina**	**3.16**	**264**	eP	Pn	03 33 58.4	+1.5
MSNA				eS	Sn	03 34 35.3	+0.2
MSNA				AML	AML	03 34 48.5	
	comp=Z,145nm,0.2s						
PRYS	**Parys**	**7.34**	**228**	eP	Pn	03 34 55.2	+0.7
PRYS				eS	Sn	03 36 15.7	-2.6
PRYS				AML	AML	03 37 02.9	
	comp=Z,6.2nm,0.3s						
LBTB	**Lobatse**	**7.76**	**246**	eP	Pn	03 35 00.5	+0.3
LBTB				eS	Sn	03 36 24.0	-4.5
LBTB				AML	AML	03 37 21.5	
	comp=Z,16nm,0.6s						

*ISK **04** 03:45:07.3, 38°.69N×43°.06E, h4km, ML2.8/3*
*ATA **04** 03:45:07.0±1.6, 38°.68N×43°.11E, h1km±7km, ML3.0, MW2.7*
*ISCJB **04** 03:45:08.5±0.4, 38°.68N±0°.02×43°.05E±0°.03, h10km±4km, Error ellipse: s-maj=3.9km s-min=3.9km az=151.7*
*CSEM **04** 03:45:08.2±0.1, 38°.68N×43°.06E, h10km, ML2.8, Error ellipse: s-maj=3.4km s-min=2.9km az=148.0*
*DDA **04** 03:45:08.1, 38°.66N×43°.07E, h7km, Md2.7*

ISC 04 03:45:08.3±0.9**, 38°.67N**±0°.02×**43°.07E**±0°.02**, h13**km±8km**, n44, σ0°.71**/65**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.27**	**107**	PG	**Pb**	**03 45 14.5**	**-0.6**
VANB				SG	**Sb**	**03 45 19.6**	**0.0**
VANB	**Van**	**0.27**	**107**	ePg	**Pb**	**03 45 14.5**	**-0.6**
VANB				eSg	**Sb**	**03 45 19.6**	**0.0**
ADCV	**BITLIS_Adilcev**	**0.30**	**297**	i P	**Pb**	**03 45 15.2**	**-0.6**
ADCV				i S	**Sg**	**03 45 19.6**	**+0.8**
ADCV	**BITLIS_Adilcev**	**0.30**	**297**	P	**Pb**	**03 45 15.1**	**-0.6**
ADCV				S	**Sg**	**03 45 19.6**	**+0.8**
TVAN	**Van**	**0.30**	**118**	i P	**Pg**	**03 45 14.6**	**0.0**
TVAN				i S	**Sg**	**03 45 19.7**	**+0.8**
TVAN	**Van**	**0.30**	**118**	P	**Pg**	**03 45 14.6**	**0.0**
TVAN				S	**Sg**	**03 45 19.7**	**+0.8**
GEVA	**Gevas**	**0.36**	**181**	eP	**Pg**	**03 45 14.9**	**-0.7**
GEVA				eS	**Sb**	**03 45 22.0**	**-0.4**
GEVA				IAML		03 45 22.3	
	comp=Z,108nm,0.3s						
GEVA	**Gevas**	**0.36**	**181**	i P	**Pg**	**03 45 15.1**	**-0.6**
GEVA				i S	**Sg**	**03 45 20.7**	**+0.2**
GEVA	**Gevas**	**0.36**	**181**	P	**Pg**	**03 45 15.1**	**-0.6**
GEVA				S	**Sg**	**03 45 20.7**	**+0.2**
VMUR	**Van-Muradiye**	**0.51**	**51**	i P	**Pb**	**03 45 18.8**	**-0.5**
VMUR				i S	**Sb**	**03 45 26.4**	**-0.3**
VMUR	**Van-Muradiye**	**0.51**	**51**	P	**Pb**	**03 45 18.8**	**-0.5**
VMUR				S	**Sb**	**03 45 26.4**	**-0.3**
TUTA	**Tutak**	**0.76**	**345**	eP	**Pg**	**03 45 22.8**	**-0.2**
TUTA				eS	**Sb**	**03 45 33.6**	**-0.3**
TUTA	**Tutak**	**0.76**	**345**	i P	**Pg**	**03 45 23.0**	**-0.1**
TUTA				i S	**Sb**	**03 45 33.3**	**-0.6**
TUTA	**Tutak**	**0.76**	**345**	P	**Pg**	**03 45 23.0**	**-0.1**
TUTA				S	**Sb**	**03 45 33.3**	**-0.6**
CLDR	**Caldiran**	**0.81**	**54**	PG	**Pg**	**03 45 23.5**	**-0.7**
CLDR	**Caldiran**	**0.81**	**54**	i P	**Pg**	**03 45 23.3**	**-0.9**
CLDR				i S	**Sb**	**03 45 34.9**	**-0.7**
CLDR	**Caldiran**	**0.81**	**54**	P	**Pg**	**03 45 23.3**	**-0.9**
CLDR	**Caldiran**	**0.81**	**54**	ePg	**Pg**	**03 45 23.5**	**-0.7**
CLDR				S	**Sb**	**03 45 34.9**	**-0.7**
GURO	**Guroymak-BITLI**	**0.82**	**262**	PG	**Pg**	**03 45 23.4**	**-0.8**
GURO	**Guroymak-BITLI**	**0.82**	**262**	ePg	**Pg**	**03 45 23.4**	**-0.8**
AGRB	**Hanur-Agry**	**0.91**	**356**	PG	**Pg**	**03 45 25.0**	**-0.9**
AGRB	**Hanur-Agry**	**0.91**	**356**	ePg	**Pg**	**03 45 25.0**	**-0.9**
EKAR	**Karacoban**	**0.97**	**307**	eP	**Pg**	**03 45 26.7**	**-0.5**
EKAR				eS	**Sn**	**03 45 43.6**	**+1.7**
DYDN	**Diyadin**	**1.00**	**29**	eP	**Pg**	**03 45 27.2**	**-0.5**
SRTM	**Siirt_Merkez**	**1.13**	**233**	i P	**Pg**	**03 45 29.9**	**-0.2**
SRTM				i S	**Sg**	**03 45 43.8**	**-0.9**
SRTM	**Siirt_Merkez**	**1.13**	**233**	P	**Pg**	**03 45 29.9**	**-0.2**
SRTM				S	**Sg**	**03 45 43.8**	**-0.9**
HAKT	**HAKKARI**	**1.22**	**155**	i P	**Pg**	**03 45 31.1**	**-0.8**
HAKT				i S	**Sg**	**03 45 47.6**	**-0.2**
HAKT	**HAKKARI**	**1.22**	**155**	P	**Pg**	**03 45 31.1**	**-0.8**
HAKT				S	**Sg**	**03 45 47.6**	**-0.2**
SIRT	**Sirnak**	**1.27**	**203**	PN	**Pn**	**03 45 32.6**	**+0.7**
SIRT	**Sirnak**	**1.27**	**203**	ePn	**Pn**	**03 45 32.6**	**+0.7**
EATA	**Eleskirt**	**1.27**	**340**	eP	**Pg**	**03 45 32.1**	**-0.7**
VRTB	**Varto-Mus**	**1.35**	**292**	PN	**Pb**	**03 45 33.7**	**+0.1**
VRTB	**Varto-Mus**	**1.35**	**292**	ePn	**Pb**	**03 45 33.7**	**+0.1**
SVAN	**Silvan-Diyarba**	**1.56**	**251**	PN	**Pn**	**03 45 36.5**	**+0.7**
SVAN	**Silvan-Diyarba**	**1.56**	**251**	ePn	**Pn**	**03 45 36.5**	**+0.7**
TASB	**TASBURUN-IGDIR**	**1.60**	**34**	PN	**Pn**	**03 45 37.1**	**+0.7**
TASB	**TASBURUN-IGDIR**	**1.60**	**34**	ePn	**Pn**	**03 45 37.1**	**+0.7**
HOMI	**Horasan**	**1.64**	**327**	eP	**Pn**	**03 45 38.0**	**+0.8**
DIGO	**Kars**	**1.76**	**8**	eP	**Pg**	**03 45 41.5**	**-0.7**
BNGB	**Bingˆ¶l**	**1.89**	**280**	PN	**Pn**	**03 45 41.4**	**+0.9**
BINT	**Bingol**	**2.02**	**277**	ePn	**Pn**	**03 45 41.4**	**-0.9**
MAZI	**Mazidag**	**2.40**	**240**	PN	**Pn**	**03 45 48.8**	**+1.4**
MAZI	**Mazidag**	**2.40**	**240**	ePn	**Pn**	**03 45 48.8**	**+1.4**
KOPT	**Kop Dagi**	**2.40**	**305**	eP	**Pb**	**03 45 50.6**	**-1.0**

KRSC 04 03:45:33.5±1.0**, 51°.95N×158°.82E, h51**km±12km**, ML4.1, Near east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDTR	**Khodutka, Kamc**	**0.48**	**254**	i P	Pn	03 45 46.0	+1.5
KDTR				i S	Sn	03 45 53.7	+1.3
RUS	**Russkaya**	**0.52**	**339**	i P	Pn	03 45 46.3	+1.3
RUS				eS	Sn	03 45 54.2	+0.9
MTVR	**Mutnovka**	**0.66**	**324**	i P	Pn	03 45 48.3	+1.4
MTVR				i S	Sn	03 45 57.8	+1.2
ASAK	**Asacha**	**0.71**	**308**	eP	Pn	03 45 49.2	+1.7
ASAK				eS	Sn	03 45 58.9	+1.2
KRMR	**Karymshinskiy**	**0.98**	**335**	eP	Pn	03 45 52.5	+1.6
KRMR				eS	Sn	03 46 05.1	+1.4
DALK	**Dalny**	**1.09**	**358**	eP	Pn	03 45 53.6	+1.3
DALK				eS	Sn	03 46 07.0	+0.7
UGLR	**Uglovaya**	**1.26**	**0**	eP	Pn	03 45 56.3	+1.5
NLC	**Nalytchevo**	**1.27**	**14**	eP	Pn	03 45 55.0	+0.3
NLC				eS	Sn	03 46 09.7	-0.9
MIPR	**Malaya Ipel'ka**	**1.31**	**285**	i P	Pn	03 45 56.4	+1.0
SMAR	**Somma**	**1.32**	**359**	eP	Pn	03 45 57.7	+2.0
SMAR				eS	Sn	03 46 14.9	+2.7
AVH	**Avacha**	**1.32**	**358**	eP	Pn	03 45 57.4	+1.8
PAU	**Pauzhetka**	**1.34**	**250**	eP	Pn	03 45 57.4	+1.7
PAU				eS	Sn	03 46 14.3	+1.9
SPN	**Mys Shipunski**	**1.37**	**32**	eP	Pn	03 45 58.0	+1.9
SPN				eS	Sn	03 46 15.1	+2.0
KRX	**Arik**	**1.42**	**356**	eP	Pn	03 45 59.3	+2.3
GNL	**Ganaly**	**1.83**	**343**	eP	Pn	03 46 04.4	+1.8
SKR	**Severo-Kuril's**	**2.12**	**234**	eP	Pn	03 46 07.9	+1.6
SKR				eS	Sn	03 46 31.9	+0.5
KII	**Karymskiy**	**2.13**	**10**	eP	Pn	03 46 08.9	+2.3
KZV	**Kizimen**	**3.29**	**15**	eP	Pn	03 46 26.7	+4.1
TUMR	**Tumrok**	**3.43**	**13**	eP	Pn	03 46 28.7	+4.2
TUMR				eS	Sn	03 47 08.2	+4.2
KMNR	**Kamenistaya**	**3.91**	**12**	eP	Pn	03 46 34.8	+3.8
BZMR	**Bezymyannaya**	**4.12**	**13**	eP	Pn	03 46 38.1	+4.2
BZWR	**Bezymyannyi-We**	**4.14**	**13**	eP	Pn	03 46 38.2	+3.9
BDR	**Baidarnaya**	**4.84**	**16**	eP	Pn	03 46 48.4	+4.7
KBTR	**Krutoberegovo**	**4.87**	**27**	eP	Pn	03 46 47.2	+3.1
SMKR	**Semkarok**	**4.90**	**17**	eP	Pn	03 46 49.2	+4.7
SRKR	**Sorokina**	**4.91**	**15**	eP	Pn	03 46 48.5	+3.8
BKI	**Bering**	**5.37**	**50**	eP	Pn	03 46 54.8	+4.0

IDC 04 04:24:09.1±3.2**, 17°.39S×174°.95W, h82**km±37km**, mb3.9**/4**, mb1 4.0**/5**, mb1mx3.5**/50**, mbtmp4.2**/5**, Error ellipse: s-maj=51.4km s-min=20.0km az=127.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**4.62**	**42**	P	Pn	04 25 18.5	+2.0
	3.5nm,0.3s,baz=14,slow=23,SNR=3.7						
AFI				S	Sn	04 26 08.7	-0.2
	22nm,0.3s,baz=55,slow=22,SNR=17						
RPZ	**Rata Peaks**	**28.79**	**201**	P	P	04 29 59.2	0.0
	2.8nm,0.4s,baz=9.5,slow=12,SNR=3.8						
WRA	**Warramunga Arr**	**47.97**	**259**	P	P	04 32 39.7	-0.3
	0.6nm,0.4s,baz=97,slow=7.1,SNR=27						
ASAR	**Alice Springs**	**48.11**	**254**	P	P	04 32 40.8	-0.3
	3.9nm,0.6s,baz=88,slow=8.2,SNR=42						
ILAR	**Eielson Array**	**84.68**	**12**	P	P	04 36 33.7	+0.3
	0.5nm,0.5s,baz=228,slow=6.2,SNR=23						

*ISCJB **04** 04:27:03.9±0.3, 23°.92N±0°.01×121°.83E±0°.02, h48km±3km, Error ellipse: s-maj=2.9km s-min=2.0km az=40.5*
*TAP **04** 04:27:03.8, 23°.94N×121°.78E, h52km, ML3.4, C*
*JMA **04** 04:27:03.4±0.1, 23°.90N×121°.78E, h50km±2km, M3.0*

ISC 04 04:27:04.5±1.2**, 23°.92N**±0°.02×**121°.81E**±0°.02**, h45**km±6km**, n82, σ0°.83**/140**, Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENLB	**Shoufeng**	**0.19**	**265**	eP	**Pn**	**04 27 12.4**	**+0.2**
	baz=257						
ENLB				eS	**Sn**	**04 27 19.1**	**+1.5**
	baz=257						
HWA	**Hwalien**	**0.20**	**286**	eP	**Pn**	**04 27 12.6**	**+0.3**
	baz=282						
HWA				S	**Sn**	**04 27 19.4**	**+1.7**
	baz=282						
TWD	**Chiawan**	**0.25**	**308**	P	Pn	04 27 12.3	-0.4
	baz=312						
TWD				S	**Sn**	**04 27 18.8**	**+0.3**
	baz=312						
NACB	**Ninganchiao**	**0.32**	**322**	P	Pn	04 27 12.8	-0.5
	baz=324						
NACB				eS	**Sn**	**04 27 19.5**	**-0.1**
	baz=324						
ESL	**Shilin**	**0.36**	**253**	P	Pn	04 27 13.4	-0.4
	baz=256						
ESL				S	**Sn**	**04 27 20.1**	**-0.3**
	baz=256						
EGFH	**Guangfu**	**0.43**	**235**	P	**Pn**	**04 27 14.1**	**-0.6**
	baz=238						
EGFH				eS	**Sn**	**04 27 21.6**	**-0.2**
	baz=238						
NANB	**Nanao**	**0.51**	**353**	P	**Pn**	**04 27 15.0**	**-0.6**
	baz=357						
NANB				eS	**Sn**	**04 27 23.2**	**-0.2**
	baz=357						
ENA	**Nanau**	**0.51**	**353**	eP	**Pn**	**04 27 14.9**	**-0.6**
	baz=357						
ENA				eS	**Sn**	**04 27 23.2**	**-0.2**
	baz=357						
ENAH	**Nanao**	**0.53**	**360**	eP	**Pn**	**04 27 15.4**	**-0.3**
	baz=360						
ENAH				eS	**Sn**	**04 27 23.8**	**+0.1**
	baz=360						
WHF	**Hehuan Shan**	**0.55**	**294**	P	**Pn**	**04 27 15.6**	**-0.8**
	baz=288						
WHF				eS	**Sn**	**04 27 23.8**	**-1.2**
	baz=288						
HGSD	**Ruisui**	**0.56**	**220**	eP	**Pn**	**04 27 15.9**	**-0.2**
	baz=216						
OWD	**Renai**	**0.58**	**273**	P	**Pn**	**04 27 16.1**	**-0.5**
	baz=271						
OWD				S	**Sn**	**04 27 24.8**	**-0.5**
	baz=271						
CHGB	**Renai**	**0.60**	**283**	P	**Pn**	**04 27 16.5**	**-0.5**
	baz=279						
CHGB				eS	**Sn**	**04 27 25.2**	**-0.6**
	baz=279						
EHY	**Hungye**	**0.61**	**227**	eP	**Pn**	**04 27 15.9**	**-1.0**
	baz=223						
EHY				eS	**Sn**	**04 27 25.0**	**-0.7**
	baz=223						
NNSB	**Datong**	**0.64**	**322**	P	**Pn**	**04 27 16.8**	**-0.6**
	baz=324						
NNSB				eS	**Sn**	**04 27 25.8**	**-0.8**
	baz=324						
NNSH	**Datong**	**0.64**	**322**	eP	**Pn**	**04 27 16.8**	**-0.6**
	baz=323						
NNS	**Nan Shan**	**0.65**	**322**	P	**Pn**	**04 27 16.9**	**-0.7**
	baz=324						
NNS				eS	**Sn**	**04 27 26.5**	**-0.5**
	baz=324						
TWT	**Tachien**	**0.67**	**300**	eP	**Pn**	**04 27 17.6**	**-0.2**
	baz=296						
TWT				eS	**Sn**	**04 27 27.2**	**-0.2**
	baz=296						
TDCB	**Techi**	**0.68**	**299**	eP	**Pn**	**04 27 17.6**	**-0.4**
	baz=296						
TWC	**Suao**	**0.69**	**3**	P	**Pn**	**04 27 17.7**	**-0.2**
	baz=6.0						
TWC				eS	**Sn**	**04 27 27.6**	**+0.2**
	baz=6.0						
EOS1	**EOS1**	**0.69**	**25**	eP	**Pn**	**04 27 18.2**	**+0.4**
	baz=39						
EOS1				eS	**Sn**	**04 27 28.9**	**+1.4**
	baz=39						
YULB	**Yu-li**	**0.71**	**222**	eP	**Pn**	**04 27 17.1**	**-1.1**
	baz=226						
YULB				eS	**Sn**	**04 27 26.6**	**-1.5**
	baz=226						
TWF1	**Yuli**	**0.74**	**220**	P	**Pn**	**04 27 17.6**	**-1.0**
	baz=224						
TWF1				eS	**Sn**	**04 27 27.9**	**-0.9**
	baz=224						
ENTT	**Nioudou**	**0.75**	**343**	P	**Pn**	**04 27 18.2**	**-0.6**
	baz=338						
ENTT				eS	**Sn**	**04 27 28.7**	**-0.3**
	baz=338						
SSLB	**Suanglung**	**0.80**	**261**	P	**Pn**	**04 27 18.9**	**-0.5**
	baz=260						
SSLB				eS	**Sn**	**04 27 29.1**	**-1.1**
	baz=260						
TWE	**Neicheng**	**0.81**	**351**	P	**Pn**	**04 27 19.1**	**-0.4**
	baz=346						
TWE				eS	**Sn**	**04 27 30.6**	**+0.2**
	baz=346						
DPDB	**Guoxing**	**0.82**	**278**	P	**Pn**	**04 27 19.5**	**-0.2**
	baz=274						
SMLT	**Sun Moon Lake**	**0.84**	**268**	eP	**Pn**	**04 27 20.5**	**+0.5**
	baz=260						
ILA	**Ilan**	**0.84**	**356**	eS	**Sn**	**04 27 32.5**	**+1.2**
	baz=359						
YHNB	**Yeheng**	**0.84**	**332**	P	**Pn**	**04 27 19.6**	**-0.5**
	baz=334						
YHNB				eS	**Sn**	**04 27 30.6**	**-0.9**
	baz=334						
FULB	**Fuli**	**0.86**	**214**	eP	**Pn**	**04 27 19.8**	**-0.5**
	baz=221						
TYC	**Yuchr**	**0.88**	**269**	eP	**Pn**	**04 27 20.2**	**-0.2**
	baz=266						
TYC				eS	**Sn**	**04 27 31.9**	**-0.1**
	baz=266						
NWLT	**Wulai**	**0.90**	**342**	P	**Pn**	**04 27 20.2**	**-0.5**
	baz=337						
NWLT				eS	**Sn**	**04 27 32.1**	**-0.6**
	baz=337						
CHKT	**Chengkung**	**0.92**	**207**	eP	**Pn**	**04 27 20.8**	**-0.1**
	baz=197						
NTC	**Toucheng**	**0.93**	**1**	eP	**Pn**	**04 27 20.9**	**-0.3**
	baz=10.0						
WJS	**Zhushan**	**1.00**	**264**	eP	**Pn**	**04 27 22.5**	**+0.4**
	baz=262						
WJS				eS	**Sn**	**04 27 36.3**	**+1.2**
	baz=262						
ALS	**Alishan**	**1.01**	**246**	eP	**Pn**	**04 27 22.7**	**+0.2**
	baz=236						
NSTT	**Nanjuang**	**1.02**	**314**	eP	**Pn**	**04 27 22.6**	**+0.2**
	baz=318						
NSTT				eS	**Sn**	**04 27 35.9**	**+0.3**
	baz=318						
LIOB	**Emei**	**1.02**	**315**	eP	**Pn**	**04 27 22.9**	**+0.4**
	baz=315						
ELDTW	**Lidau**	**1.03**	**225**	eP	**Pn**	**04 27 21.6**	**-1.1**
	baz=219						
ELDTW				eS	**Sn**	**04 27 35.1**	**-0.9**
	baz=219						
WNT	**Mingjian**	**1.03**	**268**	eP	**Pn**	**04 27 23.2**	**+0.6**
	baz=265						
WNT				eS	**Sn**	**04 27 37.0**	**+1.1**
	baz=265						
TWQ1	**Liyutan**	**1.04**	**294**	eP	**Pn**	**04 27 22.7**	**0.0**
	baz=294						
TWQ1				eS	**Sn**	**04 27 36.6**	**+0.6**
	baz=294						
TIPB	**Shuangxi**	**1.04**	**1**	eP	**Pn**	**04 27 22.9**	**+0.1**
	baz=355						
TIPB				eS	**Sn**	**04 27 37.0**	**+0.7**
	baz=355						
WLTB	**Daxi**	**1.06**	**331**	eP	**Pn**	**04 27 23.0**	**+0.1**
	baz=339						
WLTB				eS	**Sn**	**04 27 37.2**	**+0.7**
	baz=339						
TCU	**Taichung**	**1.06**	**282**	eP	**Pn**	**04 27 23.4**	**+0.4**
	baz=281						
TCU				eS	**Sn**	**04 27 37.7**	**+1.1**
	baz=281						
TWA	**Mucha**	**1.07**	**349**	eP	**Pn**	**04 27 23.0**	**-0.2**
	baz=343						
TWA				eS	**Sn**	**04 27 37.1**	**+0.1**
	baz=343						
NSY	**Sanyi**	**1.08**	**297**	eP	**Pn**	**04 27 23.6**	**+0.4**
	baz=297						
NSY				eS	**Sn**	**04 27 38.3**	**+1.3**
	baz=297						
CHN5	**Tsauling**	**1.09**	**253**	eP	**Pn**	**04 27 24.6**	**+1.1**
	baz=250						
CHN5				eS	**Sn**	**04 27 38.3**	**+0.9**
	baz=250						
TATO	**Taipei**	**1.09**	**344**	eP	**Pn**	**04 27 23.4**	**+0.1**
	baz=347						
TATO				eS	**Sn**	**04 27 36.8**	**-0.5**
	baz=347						
NMLH	**Miaoli**	**1.12**	**303**	eP	**Pn**	**04 27 24.1**	**+0.4**
	baz=303						
NMLH				eS	**Sn**	**04 27 39.0**	**+1.1**
	baz=303						
PTSB	**Yuanli**	**1.14**	**298**	eP	**Pn**	**04 27 24.2**	**+0.2**
	baz=297						
PTSB				eS	**Sn**	**04 27 39.0**	**+0.6**
	baz=297						
NWF	**Wu-fen Shan**	**1.14**	**359**	eS	**Sn**	**04 27 38.8**	**0.0**
	baz=351						
WFSB	**Wu-fen Shan**	**1.14**	**359**	eS	**Sn**	**04 27 39.0**	**+0.3**
	baz=351						
WCHH	**Zhanghua**	**1.16**	**278**	eS	**Sn**	**04 27 40.2**	**+1.2**
	baz=287						
WDLH	**Douliu**	**1.19**	**259**	eP	**Pn**	**04 27 25.2**	**+0.5**
	baz=256						
WDLH				eS	**Sn**	**04 27 41.1**	**+1.4**
	baz=256						
TWS1	**Kuangyinshan**	**1.23**	**343**	eP	**Pn**	**04 27 25.3**	**+0.1**
	baz=346						
TWS1				eS	**Sn**	**04 27 40.6**	**0.0**
	baz=346						
STYT	**Tauyuan**	**1.23**	**232**	eP	**Pn**	**04 27 25.5**	**+0.2**
	baz=228						
STYT				eS	**Sn**	**04 27 41.2**	**+0.4**
	baz=228						
TWH	**Lutao**	**1.25**	**194**	eS	**Sn**	**04 27 39.8**	**-1.3**
	baz=184						
TPUB	**Ta-pu**	**1.25**	**241**	eP	**Pn**	**04 27 26.2**	**+0.7**
	baz=237						
TPUB				eS	**Sn**	**04 27 41.7**	**+0.5**
	baz=237						
CHN4	**Tsaushan**	**1.25**	**243**	eP	**Pn**	**04 27 26.5**	**+0.9**
	baz=232						
CHN4				eS	**Sn**	**04 27 43.4**	**+2.0**
	baz=232						
YM07	**YM07**	**1.26**	**352**	eP	**Pn**	**04 27 24.5**	**-1.2**
	baz=342						
TWGBT	**Beinan**	**1.29**	**212**	eP	**Pn**	**04 27 24.8**	**-1.3**
	baz=204						
WTP	**Ta-pu**	**1.29**	**239**	eP	**Pn**	**04 27 26.7**	**+0.6**
	baz=236						
TWG	**Pinlang**	**1.29**	**212**	eP	**Pn**	**04 27 25.8**	**-0.3**
	baz=209						
TWG				eS	**Sn**	**04 27 40.3**	**-1.8**
	baz=209						
RLNB	**Erlin**	**1.33**	**269**	eP	**Pn**	**04 27 27.3**	**+0.7**
	baz=277						
RLNB				eS	**Sn**	**04 27 44.8**	**+1.7**
	baz=277						
CHY	**Chiayi**	**1.34**	**252**	eS	**Sn**	**04 27 44.9**	**+1.5**
	baz=248						
TWK	**Hsinying**	**1.38**	**242**	eP	**Pn**	**04 27 27.3**	**-0.1**
	baz=238						
TWK				eS	**Sn**	**04 27 44.6**	**+0.2**
	baz=238						
CHN1	**Nanshi**	**1.39**	**238**	eP	**Pn**	**04 27 27.9**	**+0.5**
	baz=234						
CHN1				eS	**Sn**	**04 27 45.9**	**+1.3**
	baz=234						
SLGT	**Liugui**	**1.42**	**229**	eP	**Pn**	**04 27 28.9**	**+1.1**
	baz=233						
SLGT				eS	**Sn**	**04 27 47.7**	**+2.5**
	baz=233						
MASBT	**Mashibuluo**	**1.70**	**220**	eP	**Pn**	**04 27 32.7**	**+1.1**
	baz=218						
IRIF	**Iriomote-Funau**	**1.80**	**76**	P	**Pn**	**04 27 33.2**	**+0.2**
IRIF				S	**Sn**	**04 27 55.1**	**+0.4**
HATJ	**Hateruma jima**	**1.83**	**85**	P	**Pn**	**04 27 33.7**	**+0.3**
HATJ				S	**Sn**	**04 27 55.5**	**+0.2**
SCZT	**Fangliau**	**1.89**	**216**	eP	**Pn**	**04 27 35.2**	**+0.9**
	baz=213						
SCZT				eS	**Sn**	**04 27 58.5**	**+1.4**
	baz=213						
JKRS	**Kuro-shima**	**2.03**	**81**	P	**Pn**	**04 27 36.7**	**+0.5**
JKRS				S	**Sn**	**04 28 01.4**	**+1.0**
PHUB	**P'eng-hu**	**2.09**	**259**	eP	**Pn**	**04 27 36.7**	**-0.3**
	baz=268						
PHUB				eS	**Sn**	**04 28 01.6**	**-0.3**
	baz=268						
PNG	**Penghu**	**2.10**	**261**	eS	**Sn**	**04 28 01.3**	**-0.8**
	baz=257						
JIJ	**Ishigaki jima**	**2.17**	**78**	P	**Pn**	**04 27 37.9**	**-0.3**
JIJ				S	**Sn**	**04 28 02.6**	**-1.3**
JISG	**Ishigakijimahi**	**2.37**	**73**	P	**Pn**	**04 27 40.6**	**-0.3**
JISG				S	**Sn**	**04 28 07.6**	**-1.2**
VWUC	**VWUC**	**2.40**	**297**	eP	**Pn**	**04 27 41.2**	**-0.1**
	baz=295						
VWUC				eS	**Sn**	**04 28 08.8**	**-0.7**
	baz=295						
JTJ	**Tarama**	**2.73**	**74**	P	**Pn**	**04 27 46.5**	**+0.7**
JTJ				S	**Sn**	**04 28 17.9**	**+0.3**
MATB	**Ma-tsu**	**2.79**	**323**	eP	**Pn**	**04 27 46.8**	**+0.1**
	baz=336						
MATB				eS	**Sn**	**04 28 18.6**	**-0.5**
	baz=336						
KNMB	**Chin-men Tao**	**3.17**	**280**	eP	**Pn**	**04 27 50.5**	**-1.4**
	baz=277						
KNMB				eS	**Sn**	**04 28 25.9**	**-2.6**
	baz=277						

ISCJB ***04*** *04:28:48.1±0.2, 18.°80N±0.°02×103.°45W±0.°02, h10km, mb4.7/152, MS4.1/32, Error ellipse: s-maj=3.7km s-min=2.4km az=40.7*

MEX ***04*** *04:28:50.9±0.5, 18.°45N×103.°84W, h15km±7km, MD4.5*

GCMT ***04*** *04:28:50.0±0.7, 18.°50N×103.°76W, h31km±1km, MW4.9/62, Moment Tensor Solution. s31,c33; s62,c72; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.55±.17; $M_{\theta\theta}$-1.59±.13; $M_{\phi\phi}$-0.95±.10; $M_{r\theta}$0.50±.14; $M_{\theta\phi}$0.71±.07; $M_{\phi r}$-1.56±.11; Best double couple: $M_0$2.78400×10^{16} NP1:ϕ_s142.00000°,δ62.00000°,λ104.00000°. NP2: ϕ_s294.00000°,δ31.00000°,λ65.00000°. Principal axes: T 3.1530, Plg69.0000°, Azm82.0000°; N -0.7380, Plg13.0000°, Azm316.0000°; P -2.4140, Plg16.0000°, Azm222.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***04*** *04:28:50.0±0.0, 18.°46N×103.°84W, h12km, mb4.6/170, MD4.8(MEX), After MEX.*

NEIC Felt [IV] at Colima and [III] at Manzanillo and Puerto Vallarta. Also felt at Chavinda, Ciudad Guzman, Cuyutlan, Leon, Suchitlan, Tecoman, Uruapan, Villa de Alvarez and Zapopan.

IDC ***04*** *04:28:55.2±2.4, 18.°75N×103.°55W, h62km±19km, mb4.3/22, mb1 4.4/28, mb1mx4.2/56, mbtmp4.5/28, MS4.0/35, Ms1 4.0/35, ms1mx3.9/50, Error ellipse: s-maj=22.0km s-min=11.3km az=51.0*

MOS ***04*** *04:28:55.6±1.1, 18.°81N×103.°43W, h74km, mb5.0/34, Error ellipse: s-maj=9.5km s-min=5.0km az=92.3*

ISC 04 04:28:49.3±0.9**, 18.°57N**±0.°04×**103.°78W**±0.°04**, h18**km±4km**, n622, σ1.s86**/574**, mb4.7**/151**, MS4.1**/32**, 5C, Near coast of Michoacan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MMIG	Aquila	0.49	124	eP	Pg	04 28 59.2	0.0
MMIG				eS	Sg	04 29 06.2	+0.3
EZ5V		0.92	10	eP	Pg	04 29 07.2	-0.1
EZ5V				i S	Sg	04 29 20.4	+0.9
CJM	Chamela	1.52	308	eP	Pn	04 29 14.4	-1.1
CJM				eS	Sn	04 29 33.0	-1.8
ZIIG	Zihuatanejo	2.40	113	eP	Pn	04 29 26.6	-1.0
ZIIG				eS	Sn	04 29 54.5	-2.1
MOIG	Morelia	2.68	65	eP	Pn	04 29 33.1	+1.3
MOIG				eS	Sn	04 30 04.9	+0.9
MOIG	Morelia	2.68	65	ePn	Pn	04 29 33.1	+1.3
MOIG				eSn	Sn	04 29 59.7	-4.3
ARIG	Puente Sto Nin	3.27	94	eP	Pn	04 29 40.1	+0.5
ARIG				eS	Sn	04 30 18.1	0.0
JRQG	Juriquilla Cam	3.79	55	ePn	Pn	04 29 49.3	+2.3
ZAIG	Zacatecas	4.33	15	ePn	Pn	04 29 56.1	+1.5
ZAIG				eSn	Sn	04 30 43.6	-1.1
UNM	Universidad Na	4.42	79	ePn	Pb	04 30 03.8	-2.7
UNM				eSn	Sn	04 30 54.6	+7.8
UNM	Universidad Na	4.42	79	eP	Pb	04 30 03.8	-2.7
H06E1	SOCORRO T-PHAS	6.78	273	T	T	04 37 19.1	
	SNR=2198						
H06S1	SOCORRO T	6.81	273	T	T	04 37 19.4	
	SNR=166						
H06N1	SOCORRO T-PHAS	6.84	274	T	T	04 37 24.9	
	SNR=6.8						
LVIG	Laguna Verde	7.05	79	ePn	Pn	04 30 40.5	+8.8
LNIG	Linares	7.46	32	ePn	Pn	04 30 39.7	+2.4
LPIG	La Paz	8.21	313	P	Pn	04 30 52.0	+4.5
	baz=159,slow=8.6,SNR=3.1						
LPIG				S	Sn	04 32 19.2	-0.7
	baz=227,slow=9.2,SNR=1.9						
HPIG		8.51	349	ePn	Pn	04 30 56.5	+4.6
CMIG	Matias Romero	8.60	98	P	Pn	04 30 54.8	+2.0
	1.2nm,0.3s,baz=279,slow=10,SNR=34						
CMIG				LR	LR	04 34 36.6	
	comp=Z,1μm,19.9s,baz=278,slow=41						
LTX	Lajitas	10.72	1	ePn	Pn	04 31 25.4	+3.3
LTX	Lajitas	10.72	1	eP	Pn	04 31 25.4	+3.3
TXAR	Lajitas Array	10.72	1	P	Pn	04 31 25.4	+3.3
	0.4nm,0.3s,baz=176,slow=14,SNR=41						
TXAR				LR	LR	04 36 12.6	
	comp=Z,815nm,19.0s,baz=0.0,slow=42						
TX31	Lajitas Ar. Si	10.72	1	ePn	Pn	04 31 25.7	+3.6
SRIG	Santa Rosalia	11.69	320	ePn	Pn	04 31 34.7	-0.5
JCT	Junction City	12.40	16	P	Pn	04 31 51.6	+6.7
	baz=198						
JCT	Junction City	12.40	16	ePn	Pn	04 31 51.1	+6.2
JCT	Junction City	12.40	16	eP	Pn	04 31 51.1	+6.2
MNTX	Cornudas Mount	13.16	354	P	Pn	04 31 59.1	+3.8
	baz=174						
MNTX	Cornudas Mount	13.16	354	ePn	Pn	04 31 59.3	+4.0
APG	El Apazote	13.23	104	P	Pn	04 31 58.5	+2.0
	0.4nm,0.3s,baz=315,slow=16,SNR=6.7						
435B	Jarrell	13.40	24	P	Pn	04 32 04.5	+5.9
	baz=206						
HKT	Hockley	13.44	31	ePn	Pn	04 32 05.8	+6.7
HKT	Hockley	13.44	31	eP	Pn	04 32 05.8	+6.7
GDL2	Guadalupe Moun	13.59	358	ePn	Pn	04 32 02.7	+1.5
319A	Douglas	13.69	340	ePn	Pn	04 32 06.5	+3.8
121A	Cookes Peak, D	14.37	346	P	Pn	04 32 16.2	+4.1
	baz=165						
ABTX	Abilene, Hawle	14.48	14	P	Pn	04 32 19.6	+6.2
	baz=196						
ABTX	Abilene, Hawle	14.48	14	ePn	Pn	04 32 17.9	+4.4
WHTX	Lake Whitney,	14.53	22	P	P	04 32 20.5	-0.1
	baz=205						
WHTX	Lake Whitney,	14.53	22	ePn	Pn	04 32 18.1	+4.1
TUC	Tucson	15.07	337	ePn	P	04 32 27.1	+0.4
TUC	Tucson	15.07	337	eP	P	04 32 27.1	+0.4
MSTX	Muleshoe	15.37	3	P	Pn	04 32 27.4	+2.1
	baz=184						
MSTX	Muleshoe	15.37	3	ePn	Pn	04 32 28.9	+3.6
	58nm,1.1s						
441A	DeRidder	15.47	36	P	P	04 32 32.3	+1.3
	baz=221						
NATX	Nacogdoches	15.50	30	eP	P	04 32 32.2	+0.9
	58nm,0.8s						
214A	Organ Pipe Nat	15.63	330	P	P	04 32 33.3	+0.6
	baz=147						
214A	Organ Pipe Nat	15.63	330	ePn	Pn	04 32 30.2	+1.5
	52nm,1.0s						
BNM	Barren Site	15.73	351	ePn	Pn	04 32 32.1	+1.9
442A	Mamou	15.88	38	P	Pn	04 32 36.2	+4.3
	baz=223						
LPM	Los Pinos Moun	15.89	351	ePn	Pn	04 32 34.7	+2.5
341A	Kurthwood	15.93	35	P	Pn	04 32 35.8	+3.3
	baz=219						
LAZ	Ladron	16.05	350	ePn	Pn	04 32 36.0	+1.6
LAZ				ePcP	PcP	04 37 33.2	+2.6
AMTX	Amarillo	16.36	6	P	Pn	04 32 40.5	+2.4
	baz=187						
AMTX	Amarillo	16.36	6	ePn	Pn	04 32 40.8	+2.6
	50nm,1.0s						
342A	Flagon Creek P	16.43	37	P	Pn	04 32 42.1	+3.2
	baz=222						
TGUH	Tegucigalpa,Un	16.46	103	ePn	Pn	04 32 42.6	+3.2
	124nm,1.0s						
ANMO	Albuquerque	16.49	352	P	Pn	04 32 42.6	+2.7
	0.2nm,0.3s,baz=340,slow=12,SNR=27						
ANMO	Albuquerque	16.49	352	P	Pn	04 32 43.5	+3.6
	baz=171						
ANMO	Albuquerque	16.49	352	ePn	Pn	04 32 42.9	+3.0
	19nm,1.1s						
ANMO	Albuquerque	16.49	352	ceP	Pn	04 32 42.6	+2.7
ANMO				pmax	pmax		
	comp=Z,17nm,1.2s						
241A	Mo Tay, Goldon	16.59	34	P	Pn	04 32 43.7	+2.7
	baz=219						
WMOK	Wichita Mounta	16.71	14	ePn	Pn	04 32 38.5	-4.0
	comp=Z,21nm,1.0s						
WMOK	Wichita Mounta	16.71	14	eP	Pn	04 32 38.5	-4.0
WMOK				pmax	pmax		
	comp=Z,21nm,1.0s						
113A	Mohawk Valley,	16.75	330	ePn	P	04 32 47.4	+2.2
	comp=Z,8.8nm,1.0s						
X18A	Snowflake	16.82	342	ePn	P	04 32 48.0	+1.8
	comp=Z,19nm,1.3s						
X16A	Lo Mia Camp, P	17.20	338	ePn	Pn	04 32 51.6	+2.7
	comp=Z,7.2nm,0.8s						
Y14A	Wickenburg	17.39	333	ePn	P	04 32 55.1	+2.8
	comp=Z,34nm,1.6s						
Y12C	Blythe	17.92	330	eP	P	04 33 01.7	+3.6
	comp=Z,10.0nm,1.0s						
143A	Socs Landing,	17.94	36	P	Pn	04 32 58.5	+0.7
	baz=221						
X39A	Fountain Ranch	18.06	27	P	Pn	04 32 58.6	-0.7
	baz=211						
VBMS	Vicksburg	18.09	39	eP	Pn	04 32 59.2	-0.5
	comp=Z,75nm,1.1s						
WUAZ	Wupatki	18.18	340	P	Pn	04 33 03.2	+2.3
	baz=157						
WUAZ	Wupatki	18.18	340	ePn	P	04 33 03.9	+2.7
	comp=Z,25nm,1.1s						
Y41A	Eaglette Beard	18.22	31	P	Pn	04 33 00.7	-0.6
	baz=216						
MIAR	Mount Ida	18.32	28	P	P	04 33 01.1	-1.5
	baz=212						
MIAR	Mount Ida	18.32	28	eP	P	04 32 59.9	-2.7
	comp=Z,41nm,1.4s						
MIAR	Mount Ida	18.32	28	eP	P	04 32 59.9	-2.7
MIAR				pmax	pmax		
	comp=Z,41nm,1.4s						
MHTCO	State Highway	18.51	358	eP	P	04 33 06.8	+1.9
MHTCO				ePn	Pn	04 33 06.9	+1.9
T25A	Trinidad	18.51	358	P	P	04 33 05.9	+1.1
	baz=178						
T25A	Trinidad	18.51	358	eP	P	04 33 05.4	+0.6
	comp=Z,13nm,0.9s						
TUL1	Leonard	18.66	21	P	P	04 33 05.1	-1.2
	baz=204						
TUL1	Leonard	18.66	21	eP	P	04 33 04.9	-1.4
	comp=Z,33nm,0.7s						
W13A	Hualapai Mount	18.75	333	eP	P	04 33 10.1	+2.5
	comp=Z,6.5nm,1.1s						
X41A	Kaden, Bauxite	18.77	30	P	P	04 33 05.9	-1.5
	baz=215						
TPFO	Pinon Flats	18.79	325	P	Pn	04 33 10.5	+2.1
	baz=140						
W39A	Magazine	18.79	26	P	P	04 33 06.7	-1.0
	baz=211						
XPFO	Piæon Flat	18.79	325	eP	P	04 33 08.7	+0.8
	comp=Z,25nm,1.3s						
PFO	Pinyon Flats O	18.79	325	P	P	04 33 09.4	+1.5
	baz=140						
PFO	Pinyon Flats O	18.79	325	eP	P	04 33 07.0	-0.9
	comp=Z,24nm,1.3s						
PFO				ePn	Pn	04 33 10.8	+2.4
PFO	Pinyon Flats O	18.79	325	eP	P	04 33 07.0	-0.9
PFO				pmax	pmax		
	comp=Z,24nm,1.3s						
MVCO	Mesa Verde	19.03	348	P	P	04 33 12.0	+1.4
	baz=166						
MVCO	Mesa Verde	19.03	348	eP	P	04 33 12.3	+1.7
	comp=Z,16nm,1.1s						
UALR	University of	19.08	30	eP	P	04 33 10.1	-0.8
	comp=Z,20nm,0.9s						
W40A	Ferguson Farm,	19.09	28	P	P	04 33 11.7	+0.7
	baz=212						
W40A	Ferguson Farm,	19.09	28	eP	P	04 33 12.0	+1.0
	comp=Z,97nm,1.6s						
247A	Quitman	19.16	43	P	P	04 33 13.1	+1.3
	baz=229						
SDCO	Great Sand Dun	19.17	356	P	P	04 33 13.4	+1.2
	baz=175						
SDCO	Great Sand Dun	19.17	356	eP	P	04 33 13.4	+1.2
	comp=Z,21nm,1.3s						
MURC	Murrieta	19.19	324	P	Pn	04 33 16.2	+3.1
	baz=138						
LDFC	Landfair	19.28	331	eP	Pn	04 33 17.9	+3.6
	comp=Z,23nm,1.1s						
S22A	4UR Ranch, Cre	19.30	353	P	P	04 33 15.1	+1.5
	baz=172						
S22A	4UR Ranch, Cre	19.30	353	eP	P	04 33 15.5	+2.0
	comp=Z,19nm,1.2s						
U15A	North Rim	19.31	339	eP	P	04 33 16.6	+2.9
	comp=Z,16nm,1.3s						
V39A	Pettigrew	19.40	25	P	P	04 33 12.7	-1.8
	baz=210						
Z45A	Winona	19.40	38	P	P	04 33 13.6	-0.8
	baz=224						
W41B	Gary Mavity, V	19.45	29	P	P	04 33 14.1	-0.8
	baz=215						
RVR	Riverside	19.58	324	eP	P	04 33 17.7	+1.3
RVR	Riverside	19.58	324	eP	P	04 33 17.7	+1.3
X43A	Marvell	19.60	33	P	P	04 33 16.1	-0.5
	baz=219						
BRAL	Brewton	19.66	47	P	P	04 33 16.4	-0.8
	baz=234						
BRAL	Brewton	19.66	47	eP	P	04 33 16.8	-0.4
	comp=Z,59nm,0.8s						
349A	Repton	19.67	47	P	P	04 33 16.4	-0.9
	baz=233						
V40A	Witts Springs	19.71	27	P	P	04 33 17.7	-0.1
	baz=212						
Z46A	Louisville	19.72	40	P	P	04 33 18.1	+0.2
	baz=226						
248A	Dixon Mills	19.75	44	P	P	04 33 17.6	-0.7
	baz=231						
450A	Crestview	19.78	49	P	P	04 33 17.1	-1.4
	baz=236						
147A	Livingston	19.78	42	P	P	04 33 17.6	-1.0
	baz=228						
DSCC	Desert Studies	19.81	329	eP	P	04 33 17.5	-1.3
DSCC				ePn	Pn	04 33 21.8	+1.4
DSCC				epP	pP	04 33 24.1	+0.2
Y45A	Yeager Farm, C	19.84	37	P	P	04 33 18.3	-1.0
	baz=223						
BFSC	Mount Baldy Ra	19.92	324	P	P	04 33 23.1	+2.8
	baz=138						
U39A	Green Forest	19.93	25	P	P	04 33 18.7	-1.6
	baz=210						
PV01	Paradox Valley	19.94	349	eP	P	04 33 22.0	+1.5
TUQ	Turquoise Moun	19.96	330	P	Pn	04 33 27.3	+4.9
	baz=145						
X44A	Crenshaw	19.98	35	P	P	04 33 19.3	-1.3
	baz=221						
JTS	JuntasAbangare	19.98	112	P	P	04 33 21.4	+0.4
	comp=Z,0.6nm,0.3s,baz=5.1,slow=7.4,SNR=8.6						
JTS				LR	LR	04 40 44.7	
	comp=Z,186nm,18.8s,baz=1.5,slow=36						
PV05	Paradox Valley	19.99	348	eP	P	04 33 22.5	+1.4
V41A	Mountainview	20.00	29	P	P	04 33 19.7	-1.2
	baz=214						
KNB	Kanab	20.03	338	eP	P	04 33 23.4	+2.0
	comp=Z,15nm,1.1s						
249A	Camden	20.09	45	P	P	04 33 20.8	-1.2
	baz=232						
MWC	Mount Wilson	20.13	324	eP	Pn	04 33 25.8	+1.3
	comp=Z,22nm,1.1s						
U40A	Yellville	20.17	26	P	P	04 33 20.8	-2.0
	baz=211						
LCMT	Little Creek M	20.17	338	eP	P	04 33 24.6	+1.6
	comp=Z,28nm,1.8s						
T38A	Diamond	20.20	22	P	P	04 33 21.3	-1.8
	baz=207						
148A	Greensboro	20.21	43	P	P	04 33 21.9	-1.4
	baz=230						
PKCU	Pink Cliffs	20.24	340	eP	Pn	04 33 27.7	+1.8
	comp=Z,26nm,1.2s						
Y46A	Houston	20.25	38	P	P	04 33 22.7	-1.0
	baz=225						
PV04	Paradox Valley	20.25	348	eP	P	04 33 24.7	+0.8
Z47A	Carrollton	20.26	41	P	P	04 33 22.4	-1.3
	baz=228						
PV10	Paradox Valley	20.27	348	eP	P	04 33 23.9	-0.2
451A	Vernon	20.28	50	P	P	04 33 23.0	-1.0
	baz=238						
GSC	Goldstone, Bar	20.28	328	P	P	04 33 26.8	+2.8
	baz=142						
GSC	Goldstone, Bar	20.28	328	eP	P	04 33 26.9	+2.8
	comp=Z,15nm,0.8s						
350A	Dozier	20.30	48	P	P	04 33 22.7	-1.6
	baz=235						
X45A	UM Field Stati	20.34	36	P	P	04 33 23.1	-1.5
	baz=222						
Q24A	Divide	20.36	357	eP	Pn	04 33 30.1	+2.8
	comp=Z,25nm,1.4s						
552A	Lynn Haven	20.37	52	P	P	04 33 24.1	-0.9
	baz=240						
V42A	Cord	20.37	30	P	P	04 33 23.6	-1.3
	baz=216						
OXF	Oxford	20.39	36	P	P	04 33 22.5	-2.7
	baz=222						
OXF	Oxford	20.39	36	eP	P	04 33 23.2	-2.0
	comp=Z,75nm,1.1s						
OXF	Oxford	20.39	36	eP	P	04 33 23.2	-2.0
OXF				pmax	pmax		
	comp=Z,75nm,1.1s						
KSCO	Kaye Shedlock'	20.40	3	eP	Pn	04 33 29.2	+1.8
	comp=Z,45nm,1.1s						
PV09	Paradox Valley	20.40	348	eP	P	04 33 26.5	+0.9
CBKS	Cedar Bluff	20.48	9	P	P	04 33 25.2	-0.9
	baz=191						
SHPR	Sheep Range	20.49	333	eP	P	04 33 28.4	+1.9
	comp=Z,16nm,1.3s						
SHOC	Shoshone, Teco	20.50	330	P	P	04 33 28.4	+2.0
	baz=144						
T39A	Clever	20.53	24	P	P	04 33 25.0	-1.8
	baz=209						
U41A	Viola	20.57	28	P	P	04 33 25.4	-1.7
	baz=214						
EDW2	Edwards Air Fo	20.58	325	P	P	04 33 28.7	+1.4
	baz=139						
SZCU	Shurtz Canyon	20.64	339	eP	Pn	04 33 32.0	+1.6
	comp=Z,17nm,1.4s						
250A	Grady	20.67	46	P	P	04 33 26.7	-1.6
	baz=234						
149A	Jones	20.69	44	P	P	04 33 27.0	-1.4
	baz=231						
CCUT	Cedar City	20.70	338	eP	Pn	04 33 33.2	+2.1
	comp=Z,6.5nm,1.2s						
Z48A	Northport	20.70	41	P	P	04 33 27.2	-1.3
	baz=228						
SMCO	Snowmass	20.73	353	eP	P	04 33 30.6	+1.4
	comp=Z,18nm,1.1s						
351A	Pinckard	20.74	49	P	P	04 33 27.1	-1.8
	baz=236						
MTPU	Mount Pierson	20.75	341	eP	P	04 33 31.4	+1.9
	comp=Z,20nm,0.9s						
452A	Marianna	20.82	51	P	P	04 33 28.7	-1.1
	baz=238						
LRAL	Lakeview Retre	20.83	43	P	P	04 33 28.6	-1.4
	baz=230						
LRAL	Lakeview Retre	20.83	43	eP	P	04 33 28.2	-1.7
	comp=Z,24nm,0.8s						
S38A	Stockton	20.87	22	P	P	04 33 28.6	-1.7
	baz=207						
Y47A	UCPARC, Winfie	20.87	40	P	P	04 33 29.0	-1.3
	baz=227						
U42A	Revenden	20.88	29	P	P	04 33 29.0	-1.5
	baz=215						
X46A	Booneville	20.89	37	P	P	04 33 28.7	-1.9
	baz=224						
T40A	Mansfield	20.99	26	P	P	04 33 29.6	-2.0
	baz=211						
W45A	Hickory Valley	20.99	35	P	P	04 33 29.8	-1.9
	baz=222						
553A	Crawfordville	21.04	53	P	P	04 33 30.5	-1.8
	baz=241						
S39A	Bolivar	21.14	24	P	P	04 33 31.9	-1.3
	baz=208						
MSU	Marysvale	21.18	342	eP	P	04 33 35.5	+1.6
MSU	Marysvale	21.18	342	eP	P	04 33 35.5	+1.6
150A	Eclectic	21.21	45	P	P	04 33 32.7	-1.4
	baz=233						
T41A	Mountain View	21.22	27	P	P	04 33 32.6	-1.5
	baz=213						
ISCO	Idaho Springs	21.22	356	eP	P	04 33 36.7	+2.2
	comp=Z,11nm,1.1s						
ISCO	Idaho Springs	21.22	356	eP	P	04 33 36.7	+2.2
ISCO				pmax	pmax		
	comp=Z,11nm,1.1s						
MPMC	Manual Prospec	21.22	328	P	P	04 33 36.1	+1.8
	baz=142						
ARVC	Arvin	21.23	324	P	P	04 33 36.7	+2.5
	baz=138						
Z49A	Columbiana	21.23	43	P	P	04 33 33.0	-1.4
	baz=231						
Q16A	Castle Valley	21.27	344	eP	P	04 33 36.1	+1.2
	comp=Z,16nm,1.0s						
X47A	Russelville	21.29	39	P	P	04 33 33.3	-1.6
	baz=226						
SRU	San Rafael Swe	21.29	345	eP	P	04 33 36.8	+1.7
	comp=Z,8.1nm,0.9s						
SRU	San Rafael Swe	21.29	345	eP	P	04 33 36.8	+1.7
SRU				pmax	pmax		
	comp=Z,8.0nm,0.9s						
U43A	Rector	21.29	31	P	P	04 33 33.9	-1.1
	baz=217						
Y48A	Jasper	21.29	41	P	P	04 33 32.6	-2.3
	baz=228						
251A	Midway	21.33	47	P	P	04 33 33.2	-2.2
	baz=235						
352A	Blakely	21.34	49	P	P	04 33 33.5	-1.9
	baz=237						
TPNV	Topopah Spring	21.34	332	P	P	04 33 37.9	+2.2
	baz=146						
TPNV	Topopah Spring	21.34	332	eP	P	04 33 37.9	+2.2
	comp=Z,17nm,0.9s						
TPNV	Topopah Spring	21.34	332	eP	P	04 33 37.9	+2.2
TPNV				pmax	pmax		
	comp=Z,17nm,0.9s						
R38A	Fenwick Farm,	21.36	22	P	P	04 33 34.5	-1.1
	baz=206						
S40A	Lebanon	21.38	25	P	P	04 33 34.5	-1.3
	baz=210						
KSU1	Kansas State U	21.39	15	P	P	04 33 35.0	-0.9
	baz=199						
KSU1	Kansas State U	21.39	15	eP	P	04 33 35.5	-0.5
	comp=Z,21nm,0.8s						
W46A	Michie	21.42	37	P	P	04 33 34.4	-1.9
	baz=223						
ISA	Isabella, Lake	21.43	326	P	P	04 33 38.6	+2.1
	baz=139						
ISA	Isabella, Lake	21.43	326	eP	P	04 33 38.7	+2.1
	comp=Z,15nm,0.8s						
ISA	Isabella, Lake	21.43	326	eP	P	04 33 38.7	+2.2
ISA				pmax	pmax		
	comp=Z,15nm,0.8s						
DAC	Darwin (Calif)	21.44	328	eP	P	04 33 38.9	+2.1
	comp=Z,11nm,1.2s						
DAC	Darwin (Calif)	21.44	328	eP	P	04 33 38.9	+2.1
DAC				pmax	pmax		
	comp=Z,11nm,1.2s						
453A	Whigham	21.45	52	P	P	04 33 34.9	-1.9
	baz=240						
PLAL	Pickwick Lake	21.49	37	eP	P	04 33 35.1	-1.9
	comp=Z,22nm,0.9s						
T42A	Van Buren	21.50	29	P	P	04 33 35.9	-1.3
	baz=214						
PBMO	Poplar Bluff	21.61	30	eP	P	04 33 36.9	-1.4
	comp=Z,16nm,0.8s						
PKM	Mcpherson Peak	21.62	322	P	P	04 33 43.0	+4.4
	baz=135						
151A	Opelika	21.64	46	P	P	04 33 36.2	-2.5
	baz=234						
TMUT	Trail Mountain	21.64	344	eP	P	04 33 40.5	+1.6
	comp=Z,23nm,1.2s						
Z50A	Ashland	21.67	44	P	P	04 33 37.2	-1.8
	baz=232						
S41A	Jillco Farms,	21.68	27	P	P	04 33 37.7	-1.4
	baz=212						
P17A	Butcher Ranch,	21.69	345	eP	P	04 33 41.1	+1.8
	comp=Z,17nm,1.3s						
P18A	Preston Nutter	21.72	346	eP	P	04 33 46.1	+6.3
	comp=Z,25nm,1.5s						
X48A	Hartselle	21.73	40	P	P	04 33 37.5	-2.2
	baz=227						
Y49A	Blount Mountai	21.73	42	P	P	04 33 38.0	-1.7
	baz=230						
252A	Lumpkin	21.75	48	P	P	04 33 37.5	-2.4
	baz=236						
353A	Camilla	21.78	51	P	P	04 33 38.2	-2.0
	baz=239						
R39A	Chumby, Stover	21.79	23	P	P	04 33 38.1	-2.1
	baz=208						
GATR	Gnd/Air Tx Cnt	21.80	320	eP	P	04 33 39.2	-1.2
GATR				eSn	Sn	04 38 01.8	+11
O20A	White River Ci	21.84	351	P	P	04 33 42.3	+1.4
	baz=169						
O20A	White River Ci	21.84	351	eP	P	04 33 42.2	+1.3
	comp=Z,18nm,1.2s						
VES	Vestal, Richgr	21.89	325	P	P	04 33 44.5	+3.1
	baz=138						
454A	Quitman	21.90	53	P	P	04 33 39.8	-1.8
	baz=241						
058A	Arcadia	21.92	63	P	P	04 33 44.0	+2.3
	baz=252						
T43A	Greenville	21.92	30	P	P	04 33 39.8	-1.9
	baz=216						
W47A	Westpoint	21.96	38	P	P	04 33 39.6	-2.4
	baz=225						
V46A	Holladay	22.05	36	P	P	04 33 40.3	-2.8
	baz=223						
R40A	Maddies Statio	22.07	25	P	P	04 33 41.1	-2.1
	baz=210						
U45A	Rockin P Farm,	22.11	34	P	P	04 33 41.3	-2.4
	baz=221						
555A	McAlpin	22.13	55	P	P	04 33 41.8	-2.3
	baz=243						
X49A	Woodville	22.21	41	P	P	04 33 42.9	-2.0
	baz=229						

253A	Americus	22.22	49	P	P	04 33 42.1	-2.8
	baz=237						
R11A	Troy Canyon, C	22.24	335	*e*P	P	04 33 46.9	+1.6
	comp=Z,4.7nm,0.9s						
S42A	Caledonia	22.25	28	P	P	04 33 43.4	-1.8
	baz=214						
T44A	Benton	22.26	31	P	P	04 33 43.4	-1.9
	baz=218						
W48A	Pulaski	22.27	39	P	P	04 33 42.8	-2.6
	baz=226						
CCM	Cathedral Cave	22.29	27	P	P	04 33 43.0	-2.6
	baz=213						
CCM	Cathedral Cave	22.29	27	*e*P	P	04 33 43.6	-2.0
	comp=Z,14nm,0.9s						
CCM	Cathedral Cave	22.29	27	*e*P	P	04 33 43.6	-2.0
CCM				pmax	pmax		
	comp=Z,14nm,0.9s						
TIGA	Tifton	22.29	51	P	P	04 33 43.1	-2.6
	baz=239						
TIGA	Tifton	22.29	51	*e*P	P	04 33 43.2	-2.4
	comp=Z,77nm,0.8s						
OGNE	Ogallala	22.35	3	P	P	04 33 46.9	+0.5
	baz=184						
OGNE	Ogallala	22.35	3	*e*P	P	04 33 47.0	+0.7
	comp=Z,36nm,1.0s						
455A	Stateville	22.37	53	P	P	04 33 44.0	-2.6
	baz=242						
V47A	Nunnelly	22.41	37	P	P	04 33 44.1	-2.8
	baz=224						
U46A	Springville	22.43	35	P	P	04 33 44.2	-3.0
	baz=222						
R41A	Rosebud	22.44	26	P	P	04 33 44.5	-2.7
	baz=212						
WVT	Waverly	22.45	36	P	P	04 33 44.3	-3.0
	baz=223						
WVT	Waverly	22.45	36	*e*P	P	04 33 44.4	-3.0
	comp=Z,30nm,1.0s						
WVT	Waverly	22.45	36	*e*P	P	04 33 44.4	-3.0
WVT				pmax	pmax		
	comp=Z,30nm,1.0s						
PAGB	Antelope Grade	22.46	323	*e*P	P	04 33 51.3	+3.8
	comp=Z,25nm,1.1s						
P37A	Lathrop	22.48	19	P	P	04 33 46.6	-1.0
	baz=204						
556A	Lake Butler	22.52	56	P	P	04 33 45.5	-2.7
	baz=244						
DWPF	Disney Wildern	22.57	61	P	P	04 33 48.7	-0.1
	baz=250						
DWPF	Disney Wildern	22.57	61	*e*P	P	04 33 48.6	-0.1
	comp=Z,93nm,1.2s						
FVM	French Village	22.59	28	*e*P	P	04 33 46.8	-2.0
	comp=Z,24nm,0.9s						
FVM	French Village	22.59	28	*e*P	P	04 33 46.8	-2.0
FVM				pmax	pmax		
	comp=Z,24nm,0.9s						
X50A	Fort Payne	22.61	42	P	P	04 33 46.1	-3.0
	baz=230						
PHWY	Pilot Hill	22.71	357	*e*P	P	04 33 51.2	+0.8
	comp=Z,11nm,1.0s						
V48A	Smith Brothers	22.75	38	P	P	04 33 47.3	-3.2
	baz=226						
Q40A	Laux Farm, Aux	22.75	24	P	P	04 33 48.0	-2.5
	baz=210						
254A	Abbeville	22.77	50	P	P	04 33 47.4	-3.4
	baz=239						
S44A	Carbondale	22.90	31	P	P	04 33 49.6	-2.5
	baz=218						
DUG	Dugway, Tooele	22.92	342	*e*P	P	04 33 54.0	+1.5
	comp=Z,11nm,1.1s						
DUG	Dugway, Tooele	22.92	342	*e*P	P	04 33 54.0	+1.5
DUG				pmax	pmax		
	comp=Z,11nm,1.1s						
SIUC	Southern Illin	22.94	31	*e*P	P	04 33 50.9	-1.6
	comp=Z,39nm,1.3s						
SIUC				*e*sP	sP	04 34 16.1	+16
U47A	Clarksville	22.98	36	P	P	04 33 49.8	-3.2
	baz=223						
Q41A	Truxton	23.05	26	P	P	04 33 51.3	-2.4
	baz=212						
R43A	Red Bud	23.05	29	P	P	04 33 51.3	-2.4
	baz=215						
N34A	Lincoln	23.06	14	P	P	04 33 52.3	-1.4
	baz=198						
T46A	Princeton	23.09	34	P	P	04 33 52.1	-2.0
	baz=221						
CTU	Camp Tracy	23.09	344	*e*P	P	04 33 54.8	+0.5
	comp=Z,10nm,1.0s						
S45A	Carrier Mills	23.22	32	P	P	04 33 53.2	-2.2
	baz=219						
P40A	Paris	23.23	23	P	P	04 33 53.1	-2.3
	baz=209						
MDPB	Devils Postpil	23.24	328	*e*P	P	04 33 58.3	+2.4
	comp=Z,12nm,0.9s						
154A	Montrose	23.25	49	P	P	04 33 52.3	-3.4
	baz=238						
O38A	Galt	23.25	20	P	P	04 33 53.6	-2.0
	baz=205						
Q42A	Golden Eagle	23.31	27	P	P	04 33 54.1	-2.2
	baz=213						
GOGA	Godfrey	23.43	47	P	P	04 33 54.5	-2.9
	baz=236						
GOGA	Godfrey	23.43	47	*e*P	P	04 33 54.6	-2.9
	comp=Z,32nm,0.6s						
GOGA	Godfrey	23.43	47	*e*P	P	04 33 54.6	-2.9
GOGA				pmax	pmax		
	comp=Z,32nm,0.6s						
NV11	Mina Array Sit	23.43	331	*e*P	P	04 33 59.8	+2.2
	comp=Z,1.4nm,1.0s						
R44A	Waltonville	23.43	30	P	P	04 33 55.2	-2.2
	baz=217						
U48A	Cassie Pea, Po	23.45	37	P	P	04 33 54.6	-3.1
	baz=225						
T47A	Sharon Grove	23.48	35	P	P	04 33 55.3	-2.6
	baz=223						
NV01	Mina Array Sit	23.49	330	*e*P	P	04 33 59.7	+1.4
NV01				*e*PcP	PcP	04 37 45.2	+1.2
NVAR	Mina Array Bea	23.49	330	P	P	04 33 59.8	+1.4
	comp=Z,6.5nm,0.7s,baz=157,slow=11,SNR=40						
NVAR				PcP	PcP	04 37 45.2	+1.1
	comp=Z,0.5nm,0.6s,baz=144,slow=3.2,SNR=3.9						
NVAR				LR	LR	04 43 18.6	
	comp=Z,418nm,18.5s,baz=259,slow=37						
M33A	Taylor Creek F	23.61	12	P	P	04 33 57.0	-2.2
	baz=196						
BGU	Big Grassy Mou	23.66	342	*e*P	P	04 34 01.4	+1.6
	comp=Z,26nm,1.9s						
S46A	Don Dixon Farm	23.67	33	P	P	04 33 57.1	-2.7
	baz=221						
O39A	Kirksville	23.68	22	P	P	04 33 58.0	-1.9
	baz=207						
Q43A	New Douglas	23.70	28	P	P	04 33 57.6	-2.5
	baz=215						
155A	Kite	23.71	50	P	P	04 33 57.1	-3.1
	baz=239						
P41A	Barry, Barry	23.74	25	P	P	04 33 57.7	-2.7
	baz=211						
RYN	Ryan	23.75	330	*e*P	P	04 34 03.3	+2.4
	comp=Z,19nm,1.5s						
O40A	La Belle	23.81	23	P	P	04 33 59.0	-2.2
	baz=209						
256A	Glennville	23.82	52	P	P	04 33 58.1	-3.2
	baz=241						
R45A	Skylar, Fairfi	23.85	31	P	P	04 33 59.4	-2.1
	baz=219						
KVN	Kaiserville	23.90	332	*e*P	P	04 34 03.8	+1.5
	comp=Z,7.7nm,0.7s						
KVN	Kaiserville	23.90	332	*e*P	P	04 34 03.8	+1.5
KVN				pmax	pmax		
	comp=Z,8.0nm,0.7s						
USIN	University of	23.91	33	*e*P	P	04 34 00.6	-1.4
	comp=Z,45nm,0.8s						
HWUT	Hardware Ranch	23.91	345	*e*P	P	04 34 02.8	+0.4
	comp=Z,7.0nm,1.0s						
N38A	Joes South For	23.93	20	P	P	04 34 00.1	-2.2
	baz=205						
P42A	Winchester	23.95	26	P	P	04 33 59.9	-2.6
	baz=213						
T48A	Bowling Green	23.96	36	P	P	04 34 00.4	-2.2
	baz=224						
Q44A	Meyer Farm, Va	23.98	29	P	P	04 34 00.9	-1.9
	baz=216						
WAKR	Walker	24.10	329	*e*P	P	04 34 06.8	+2.7
	comp=Z,8.2nm,0.8s						
L33A	Hoskins	24.17	12	P	P	04 34 03.7	-0.8
	baz=195						
R46A	Gibon Southern	24.17	33	P	P	04 34 02.5	-2.0
	baz=220						
O41A	Passleys Farm,	24.18	25	P	P	04 34 02.4	-2.2

	baz=211						
ELK	Elko	24.20	338	LR	LR	04 44 31.3	
	comp=Z,202nm,18.4s,baz=214,slow=39						
CMB	Columbia Colle	24.22	327	*e*P	P	04 34 06.2	+1.1
	comp=Z,5.4nm,0.8s						
N39A	Derby Farms, D	24.25	21	P	P	04 34 03.3	-2.0
	baz=207						
OLIL	Olney	24.28	31	*e*P	P	04 34 03.3	-2.2
	comp=Z,26nm,0.8s						
P43A	Skaggs, Pawnee	24.35	27	P	P	04 34 04.0	-2.2
	baz=214						
HVU	Hansel Valley	24.38	344	*e*P	P	04 34 07.0	+0.4
	comp=Z,6.4nm,0.9s						
Q45A	Warren Harvey,	24.38	31	P	P	04 34 03.8	-2.7
	baz=218						
M38A	Pleasantville	24.51	19	P	P	04 34 06.5	-1.1
	baz=205						
S48A	Wiedeman Farm,	24.54	36	P	P	04 34 05.2	-2.8
	baz=224						
TKL	Tuckaleechee C	24.55	42	P	P	04 34 05.5	-2.6
	comp=Z,10nm,0.7s,baz=202,slow=9.9,SNR=28						
TKL				LR	LR	04 45 44.0	
	comp=Z,204nm,20.5s,baz=236,slow=42						
TKL	Tuckaleechee C	24.55	42	*e*P	P	04 34 05.9	-2.2
	comp=Z,66nm,1.6s						
TKL	Tuckaleechee C	24.55	42	*e*P	P	04 34 05.9	-2.2
TKL				pmax	pmax		
	comp=Z,66nm,1.6s						
N40A	Mertquake, Sal	24.58	23	P	P	04 34 06.2	-2.0
	baz=209						
P44A	Sand Creek, Wi	24.62	29	P	P	04 34 06.5	-2.1
	baz=216						
PD31	Pinedale Array	24.62	350	*e*P	P	04 34 09.5	+0.6
PD31				*e*PcP	PcP	04 37 45.5	-0.9
PDAR	Pinedale Array	24.62	350	P	P	04 34 08.8	-0.1
	comp=Z,1.9nm,0.8s,baz=164,slow=9.1,SNR=16						
PDAR				PcP	PcP	04 37 45.5	-0.9
	comp=Z,0.8nm,0.8s,baz=130,slow=3.6,SNR=4.1						
PDAR				LR	LR	04 44 21.9	
	comp=Z,326nm,19.9s,baz=186,slow=38						
PDAR	Pinedale Array	24.62	350	*e*P	P	04 34 08.1	-0.8
BMN	Battle Mountai	24.67	335	*e*P	P	04 34 10.6	+1.3
	comp=Z,6.0nm,0.9s						
N41A	Harden Midland	24.70	24	P	P	04 34 06.9	-2.5
	baz=210						
R47A	Wooly Knot Far	24.75	34	P	P	04 34 08.1	-1.7
	baz=222						
VCNR	Virginia City	24.82	330	*e*P	P	04 34 13.0	+2.3
	comp=Z,15nm,1.0s						
WCI	Wyandotte Cave	24.82	34	P	P	04 34 08.0	-2.5
	baz=223						
WCI	Wyandotte Cave	24.82	34	*e*P	P	04 34 08.7	-1.8
	comp=Z,27nm,0.6s						
WCI	Wyandotte Cave	24.82	34	*e*P	P	04 34 08.7	-1.8
WCI				pmax	pmax		
	comp=Z,27nm,0.6s						
MTDJ	Mount Denham	24.90	87	*e*P	P	04 34 12.7	+1.2
	comp=Z,130nm,1.1s						
L37A	Phoenix Point,	24.98	18	P	P	04 34 10.3	-1.6
	baz=203						
PAHR	Pah Rah Range	25.02	331	*e*P	P	04 34 14.9	+2.5
	comp=Z,11nm,1.1s						
BCIP	Isla Barro Col	25.02	109	*e*P	P	04 34 13.4	+1.0
	comp=Z,27nm,1.3s						
M40A	Post Highland	25.07	22	P	P	04 34 09.9	-2.8
	baz=208						
HDIL	Hopedale	25.21	27	P	P	04 34 11.5	-2.4
	baz=214						
HDIL	Hopedale	25.21	27	*e*P	P	04 34 11.6	-2.4
	comp=Z,32nm,0.8s						
AFDM	Forest Hills D	25.21	327	*e*P	P	04 34 15.7	+1.7
	comp=Z,28nm,1.9s						
J32A	Parkston	25.23	10	P	P	04 34 12.6	-1.5
	baz=193						
TZTN	Tazewell	25.25	41	P	P	04 34 12.7	-1.7
	baz=230						
TZTN	Tazewell	25.25	41	*e*P	P	04 34 13.1	-1.3
	comp=Z,16nm,0.9s						
K36A	Gilmore City	25.27	16	P	P	04 34 12.2	-2.3
	baz=201						
Q47A	Bedord North L	25.28	33	P	P	04 34 12.0	-2.6
	baz=221						
BLO	Bloomington	25.41	33	*e*P	P	04 34 13.9	-1.9
	comp=Z,21nm,0.6s						
BLO	Bloomington	25.41	33	*e*P	P	04 34 13.9	-1.9
BLO				pmax	pmax		
	comp=Z,21nm,0.6s						
REDW	Red Top Meadow	25.43	348	*e*P	P	04 34 18.8	+2.5
	comp=Z,12nm,1.1s						
RSSD	Black Hills	25.48	360	*e*P	P	04 34 16.9	+0.3
	comp=Z,4.9nm,0.8s						
RSSD	Black Hills	25.48	360	*e*P	P	04 34 16.9	+0.3
RSSD				pmax	pmax		
	comp=Z,5.0nm,0.8s						
SNOW	Snow King Moun	25.51	348	*e*P	P	04 34 19.3	+2.3
	comp=Z,14nm,1.0s						
L39A	Vinton	25.53	21	P	P	04 34 15.8	-1.1
	baz=207						
TPAW	Teton Pass	25.57	348	*e*P	P	04 34 19.4	+1.8
	comp=Z,17nm,1.1s						
BEKR	Beckworth	25.61	329	*e*P	P	04 34 20.2	+2.4
	comp=Z,24nm,1.2s						
NHSC	New Hope	25.62	51	P	P	04 34 15.9	-1.9
	baz=241						
NHSC	New Hope	25.62	51	*e*P	P	04 34 15.9	-1.9
	comp=Z,100nm,0.8s						
LOHW	Long Hollow	25.62	348	*e*P	P	04 34 18.6	+0.6
	comp=Z,7.4nm,1.0s						
O45A	Potomac	25.66	29	P	P	04 34 15.5	-2.5
	baz=217						
FXWY	Fox Creek	25.73	348	*e*P	P	04 34 21.3	+2.4
	comp=Z,12nm,1.5s						
P47A	Martinsville	25.77	32	P	P	04 34 16.7	-2.4
	baz=221						
MOOW	Moose Ponds	25.78	348	*e*P	P	04 34 21.6	+2.2
	comp=Z,10nm,1.4s						
ECSD	EROS Data Cent	25.81	12	*e*P	P	04 34 18.5	-0.8
	comp=Z,10nm,1.0s						
KMSC	Kings Mountain	25.86	46	P	P	04 34 17.1	-2.8
	baz=236						
KMSC	Kings Mountain	25.86	46	*e*P	P	04 34 17.5	-2.4
	comp=Z,20nm,0.9s						
ORV	Oroville	25.93	327	*e*P	P	04 34 22.8	+2.3
	comp=Z,12nm,1.4s						
ORV	Oroville	25.93	327	*e*P	P	04 34 22.8	+2.3
ORV				pmax	pmax		
	comp=Z,12nm,1.4s						
SFIN	Lafayette	26.05	30	P	P	04 34 19.3	-2.3
	baz=218						
SFIN	Lafayette	26.05	30	*e*P	P	04 34 19.5	-2.1
	comp=Z,38nm,1.3s						
YMS	Mount Sheridan	26.24	349	*e*P	P	04 34 27.9	+4.2
K40A	Colesburg	26.34	21	P	P	04 34 21.3	-2.9
	baz=208						
H32A	Carlson Farm,	26.40	10	P	P	04 34 22.7	-2.0
	baz=194						
MFID	Camas Ranch	26.78	340	*e*P	P	04 34 29.7	+1.4
	comp=Z,13nm,1.4s						
YHB	Horse Butte	26.84	348	*e*P	P	04 34 28.2	-0.8
YHB				*e*PcP	PcP	04 37 48.8	-2.6
JFWS	Jewell Farm	26.84	22	P	P	04 34 26.0	-2.7
	baz=209						
JFWS	Jewell Farm	26.84	22	*e*P	P	04 34 27.9	-0.8
	comp=Z,17nm,0.8s						
JFWS	Jewell Farm	26.84	22	*e*P	P	04 34 27.9	-0.8
JFWS				pmax	pmax		
	comp=Z,17nm,0.8s						
WVOR	Wild Horse Val	26.93	335	*e*P	P	04 34 30.9	+1.2
	comp=Z,15nm,1.5s						
WVOR	Wild Horse Val	26.93	335	*e*P	P	04 34 30.9	+1.2
WVOR				pmax	pmax		
	comp=Z,15nm,1.5s						
J40A	Soldiers Grove	27.09	21	P	P	04 34 28.4	-2.6
	baz=208						
H35A	Sunnyside Ranc	27.11	14	P	P	04 34 28.9	-2.2
	baz=199						
I38A	Scanlan Farm,	27.16	18	P	P	04 34 29.1	-2.5
	baz=204						
MOD	Modoc Plateau	27.19	332	*e*P	P	04 34 34.0	+1.9
	comp=Z,11nm,1.4s						
I39A	Houston	27.24	20	P	P	04 34 30.0	-2.3
	baz=206						
BLA	Blacksburg	27.64	43	*e*P	P	04 34 35.6	-0.5
	comp=Z,14nm,0.8s						
BLA	Blacksburg	27.64	43	*e*P	P	04 34 35.6	-0.5
BLA				pmax	pmax		
	comp=Z,14nm,0.8s						
J08A	Circle Bar Ran	27.66	337	*e*P	P	04 34 37.5	+1.3

	comp=Z,35nm,1.9s						
J08A				*e*S	S	04 39 13.4	-4.0
YBH	Yreka Blue Hor	28.18	329	LR	LR	04 45 39.7	
	comp=Z,178nm,19.3s,baz=166,slow=36						
G38A	Ridgeland	28.33	18	P	P	04 34 38.4	-3.6
	baz=204						
F36A	Milaca	28.52	15	P	P	04 34 40.7	-2.9
	baz=201						
E33A	Westby DABS, E	28.59	11	P	P	04 34 41.2	-3.1
	baz=196						
G39A	Holcombe	28.64	19	P	P	04 34 42.1	-2.7
	baz=206						
MOTC	Monteria, Cord	28.95	106	*e*P	P	04 34 48.9	+1.0
D33A	AnnSam, Waubun	29.23	11	P	P	04 34 47.5	-2.6
	baz=196						
G08A	Pilot Rock	29.49	338	*e*P	P	04 34 53.7	+1.2
	comp=Z,8.7nm,1.2s						
F10A	Beach Ranch, E	29.52	341	*e*P	P	04 34 53.6	+0.9
	comp=Z,27nm,1.8s						
F40A	Park Falls	29.53	20	P	P	04 34 50.5	-2.2
	baz=207						
D35A	Remer	29.54	14	P	P	04 34 50.4	-2.4
	baz=199						
C31A	Landman Farms,	29.57	8	P	P	04 34 50.9	-2.1
	baz=192						
I05D	Terrebonne, OR	29.61	334	P	P	04 34 54.3	+0.8
	baz=145						
E39A	Mellen	29.81	19	P	P	04 34 52.4	-2.8
	baz=206						
D37A	Cotton	30.00	16	P	P	04 34 54.1	-2.7
	baz=202						
E40A	Wakefield	30.07	19	P	P	04 34 55.2	-2.2
	baz=207						
C35A	Jirik Farms, M	30.14	13	P	P	04 34 55.7	-2.4
	baz=199						
HELC	Santa Helena	30.15	110	*e*P	P	04 35 01.3	+2.4
	comp=Z,22nm,1.2s						
ZARC	Zaragoza, Cauc	30.19	108	*e*P	P	04 34 59.6	+0.7
B31A	Greenbush Farm	30.20	8	P	P	04 34 56.7	-1.9
	baz=192						
AGMN	Agassiz Nation	30.35	10	P	P	04 34 57.8	-2.1
	baz=195						
AGMN	Agassiz Nation	30.35	10	*e*P	P	04 34 58.1	-1.8
	comp=Z,16nm,0.8s						
B33A	Robert and Kas	30.37	11	P	P	04 34 58.2	-1.9
	baz=196						
C36A	Pine Crest Far	30.46	15	P	P	04 34 58.0	-2.8
	baz=201						
YOTC	Yotoco, Valle	30.48	115	*e*P	P	04 35 01.3	-0.3
SDDR	Presa de Saban	30.74	84	*e*P	P	04 35 04.7	+0.9
	comp=Z,14nm,0.8s						
B34A	Aery, Baudette	30.75	12	P	P	04 35 01.1	-2.3
	baz=197						
M54A	Oil Creek Stat	30.77	37	P	P	04 35 01.0	-2.7
	baz=229						
C38A	Sawbill Land.	30.82	17	P	P	04 35 00.9	-3.2
	baz=204						
B35A	Bob, Littlefor	30.82	13	P	P	04 35 01.5	-2.6
	baz=199						
OTAV	Otavalo	30.83	123	*e*P	P	04 35 06.9	+1.9
	comp=Z,11nm,0.9s						
OTAV	Otavalo	30.83	123	*e*P	P	04 35 06.4	+1.4
OTAV	Otavalo	30.83	123	*e*P	P	04 35 06.9	+1.9
OTAV				pmax	pmax		
	comp=Z,11nm,0.9s						
A32A	Rocking H Ranc	30.84	9	P	P	04 35 02.1	-2.2
	baz=194						
F44A	Big Bay de Noc	30.88	24	P	P	04 35 01.8	-2.8
	baz=213						
RREF	El Recreo	30.90	113	*e*P	P	04 35 09.0	+3.1
CMBC	Cumbal	30.91	122	*e*P	P	04 35 07.8	+2.2
PTBC	PUERTO BERRIO,	30.95	109	*e*P	P	04 35 06.9	+1.2
POPC	Popayan, Colom	30.95	118	*e*P	P	04 35 07.1	+1.2
EYMN	Ely	30.97	16	P	P	04 35 02.6	-2.8
	baz=203						
EYMN	Ely	30.97	16	*e*P	P	04 35 03.0	-2.4
	comp=Z,6.4nm,0.8s						
A33A	Warroad	31.05	11	P	P	04 35 03.9	-2.2
	baz=196						
GCUF	Volcan Galeras	31.13	121	*e*P	P	04 35 09.8	+2.0
SOTA	Rioblanco	31.23	118	*e*P	P	04 35 09.1	+0.4
CRUC	La Cruz	31.26	120	*e*P	P	04 35 07.8	-0.9
PCON	Cinco Dias	31.30	118	*e*P	P	04 35 08.1	-1.2
NEW	Newport	31.55	343	LR	LR	04 47 30.5	
	comp=Z,257nm,18.6s,baz=165,slow=36						
ROSC	El Rosal	31.83	112	LR	LR	04 49 44.3	
	comp=Z,84nm,18.5s,baz=36,slow=39						
PAMC	Pamplona, Colo	32.22	106	*e*P	P	04 35 19.2	+1.9
ULM	Lac du Bonnet	32.24	10	P	P	04 35 13.9	-2.6
	comp=Z,4.3nm,0.9s,baz=185,slow=10,SNR=6.4						
ULM				LR	LR	04 49 06.7	
	comp=Z,654nm,18.6s,baz=188,slow=38						
ULM	Lac du Bonnet	32.24	10	*e*P	P	04 35 14.2	-2.3
	comp=Z,15nm,1.5s						
ULM	Lac du Bonnet	32.24	10	*e*P	P	04 35 14.2	-2.3
ULM				pmax	pmax		
	comp=Z,15nm,1.5s						
FLOC	Florencia	32.33	118	*e*P	P	04 35 19.2	+1.4
CHIC	Chingaza	32.45	112	*e*P	P	04 35 21.6	+2.4
RUSC	La Rusia	32.46	109	*e*P	P	04 35 20.7	+1.2
	comp=Z,10nm,1.3s						
RUSC	La Rusia	32.46	109	*e*P	P	04 35 20.7	+1.2
SJAC	San Juan de Ar	32.90	114	*e*P	P	04 35 25.0	+2.1
SDV	Santo Domingo	33.55	102	LR	LR	04 50 21.0	
	comp=Z,83nm,19.9s,baz=310,slow=38						
SDV	Santo Domingo	33.55	102	*e*P	P	04 35 29.9	+1.3
	comp=Z,22nm,0.8s						
SDV				*e*PcP	PcP	04 38 10.1	+0.8
SDV	Santo Domingo	33.55	102	*e*P	P	04 35 29.4	+0.8
AOPR	Arecibo Observ	35.08	84	*e*P	P	04 35 41.8	+0.1
	comp=Z,38nm,1.3s						
SJG	San Juan	35.67	85	P	P	04 35 46.2	-0.5
	comp=Z,48nm,1.0s,baz=265,slow=6.1,SNR=22						
SJG	San Juan	35.67	85	*e*P	P	04 35 46.4	-0.3
	comp=Z,44nm,0.9s						
SJG	San Juan	35.67	85	*e*P	P	04 35 45.8	-0.9
SJG	San Juan	35.67	85	*e*P	P	04 35 46.4	-0.3
SJG				pmax	pmax		
	comp=Z,44nm,0.9s						
CBYP	Canovanas	35.93	84	*e*P	P	04 35 48.2	-0.8
	comp=Z,24nm,1.0s						
FFC	Flin Flon	36.12	2	*e*P	P	04 35 48.6	-1.5
	comp=Z,6.9nm,1.1s						
FFC	Flin Flon	36.12	2	*e*P	P	04 35 48.6	-1.5
FFC				pmax	pmax		
	comp=Z,7.0nm,1.1s						
STVI	Saint Thomas	36.78	84	*e*P	P	04 35 55.9	-0.3
	comp=Z,20nm,0.8s						
SMRT	St. Maarten	38.59	84	*e*P	P	04 36 10.1	-1.5
	comp=Z,36nm,1.0s						
ANWB	Willy Bob	39.85	84	*e*P	P	04 36 20.3	-1.8
	comp=Z,139nm,1.5s						
GDHS	Morne Mazeau,	40.09	87	*e*P	P	04 36 23.7	-0.4
	comp=Z,79nm,1.2s						
FCC	Fort Churchill	40.76	8	*e*P	P	04 36 27.4	-1.6
	comp=Z,5.5nm,0.9s						
FCC	Fort Churchill	40.76	8	*e*P	P	04 36 27.5	-1.6
FCC				pmax	pmax		
	comp=Z,6.0nm,0.9s						
YKA	Yellowknife Ar	44.53	353	P	P	04 36 57.4	-2.2
	comp=Z,0.9nm,0.7s,baz=163,slow=7.9,SNR=17						
YKA				PcP	PcP	04 38 42.0	-0.5
	comp=Z,0.9nm,0.6s,baz=159,slow=3.2,SNR=9.4						
YKB5	Yellowknife Ar	44.53	353	*e*P	P	04 36 57.4	-2.2
YKB5				*e*PcP	PcP	04 38 42.0	-0.5
TAOE	Nuku Hiva Isla	45.06	236	*e*S	S	04 43 23.8	-19
	comp=Z,109nm,25.0s						
TAOE				*e*LR	LR	04 49 29.3	
	comp=Z,322nm,26.3s						
TAOE	Nuku Hiva Isla	45.06	236	*e*T	T	05 25 06.0	
	comp=Z,237nm,0.2s						
RPN	Rapa Nui	45.74	187	LR	LR	04 51 53.2	
	comp=Z,131nm,19.9s,baz=84,slow=30						
SCHQ	Schefferville	45.83	29	LR	LR	04 57 34.9	
	comp=Z,227nm,19.3s,baz=311,slow=38						
LPAZ	La Paz	49.30	132	P	P	04 37 38.5	+0.2
	comp=Z,6.7nm,0.9s,baz=334,slow=4.8,SNR=16						
LPAZ				PcP	PcP	04 39 01.1	+0.1
	comp=Z,1.9nm,0.7s,baz=170,slow=0.2,SNR=3.7						
LPAZ				LR	LR	04 56 43.0	
	comp=Z,112nm,18.9s,baz=320,slow=34						
LPAZ	La Paz	49.30	132	*e*P	P	04 37 38.4	+0.2
	comp=Z,11nm,1.1s						
LPAZ				*e*PcP	PcP	04 39 01.1	+0.1
LPAZ	La Paz	49.30	132	*e*P	P	04 37 38.4	+0.2
LPAZ				*e*		04 39 01.1	
LPAZ				pmax	pmax		

comp=Z,11nm,1.1s
MNMC Minye Minye 50.30 136 *e*P **P** 04 37 45.8 +0.5
comp=Z,13nm,1.1s
PB11 IPOC Station P 50.71 137 *e*P **P** 04 37 49.2 +0.9
comp=Z,26nm,1.2s
RKT Rikitea 51.43 218 *e*LR LR 04 52 41.3
comp=Z,360nm,26.2s
RKT Rikitea 51.43 218 *e*T T 05 33 07.9
comp=Z,24nm,0.2s
KLU Klutina 52.04 336 *e*P **P** 04 37 59.5 +1.8
comp=Z,5.6nm,0.8s
EGAK Eagle 52.49 341 *e*P **P** 04 38 01.1 +0.2
comp=Z,4.4nm,0.8s
DOT Dot Lake 52.69 339 *e*P **P** 04 38 03.0 +0.6
comp=Z,67nm,1.9s
PAX Paxson 52.76 338 *e*P **P** 04 38 03.8 +0.7
comp=Z,6.9nm,0.7s
PAX Paxson 52.76 338 *e*P **P** 04 38 03.8 +0.7
PAX pmax pmax
comp=Z,7.0nm,0.7s
SCRK Sand Creek 52.87 339 *e*P **P** 04 38 05.0 +1.1
comp=Z,18nm,1.7s
RIDG Independ'e Rid 53.02 339 *e*P **P** 04 38 05.8 +0.9
comp=Z,26nm,1.0s
INK Inuvik 53.13 347 *e*P **P** 04 38 05.1 -0.4
comp=Z,28nm,1.6s
INK Inuvik 53.13 347 *e*P **P** 04 38 05.1 -0.4
INK pmax pmax
comp=Z,28nm,1.6s
BRLK Bradley Lake 53.15 332 *e*P **P** 04 38 07.4 +1.5
comp=Z,122nm,1.9s
SML Sawmill 53.16 335 *e*P **P** 04 38 06.8 +0.8
comp=Z,20nm,1.0s
SML Sawmill 53.16 335 *e*P **P** 04 38 06.8 +0.8
SML pmax pmax
comp=Z,20nm,1.0s
PMR Palmer 53.36 335 *e*P **P** 04 38 08.2 +0.9
comp=Z,10nm,0.6s
PMR Palmer 53.36 335 *e*P **P** 04 38 08.2 +0.9
PMR pmax pmax
comp=Z,11nm,0.6s
GHO Glory Hole Cre 53.38 335 *e*P **P** 04 38 08.5 +0.8
comp=Z,16nm,0.7s
DHY Denali Highway 53.52 337 *e*P **P** 04 38 09.3 +0.6
comp=Z,22nm,1.7s
SUA Susitna One 53.95 334 *e*P **P** 04 38 13.0 +1.1
comp=Z,5.6nm,0.6s
RND Reindeer 54.26 337 *e*P **P** 04 38 14.7 +0.6
comp=Z,29nm,1.4s
IL1 Eielson Array 54.36 339 *e*P **P** 04 38 14.4 -0.2
ILAR Eielson Array 54.36 339 P **P** 04 38 14.3 -0.3
comp=Z,4.2nm,0.8s,baz=152,slow=5.7,SNR=51
ILAR PcP **PcP** 04 39 18.8 +0.4
comp=Z,1.8nm,0.6s,baz=149,slow=2.7,SNR=11
ILAR LR LR 05 04 21.0
comp=Z,90nm,18.8s,baz=120,slow=39
ILB Eielson Array 54.36 339 *e*P **P** 04 38 14.9 +0.3
ILB *e*PcP **PcP** 04 39 18.8 +0.4
SPU Mount Spurr 54.36 334 *e*P **P** 04 38 15.6 +0.8
MCK McKinley 54.48 337 *e*P **P** 04 38 16.3 +0.8
comp=Z,14nm,1.2s
MCK McKinley 54.48 337 *e*P **P** 04 38 16.3 +0.8
MCK pmax pmax
comp=Z,14nm,1.2s
SKT Skwentna 54.54 335 *e*P **P** 04 38 16.5 +0.5
comp=Z,16nm,0.8s
WRH Wood River Hil 54.59 338 *e*P **P** 04 38 16.9 +0.6
comp=Z,18nm,1.6s
CCB Clear Creek Bu 54.60 338 *e*P **P** 04 38 16.2 -0.2
comp=Z,3.4nm,0.8s
PMOR Pomariorio Ree 54.78 235 *e*T T 05 37 14.8
comp=Z,6.2nm,0.2s
TRF Thorofare Moun 54.82 336 *e*P **P** 04 38 18.6 +0.4
comp=Z,32nm,0.7s
MDM Murphy Dome 54.93 339 *e*P **P** 04 38 18.8 0.0
comp=Z,5.5nm,1.1s
FYU Fort Yukon 54.94 341 *e*P **P** 04 38 19.4 +0.6
comp=Z,28nm,1.2s
KTH Kantishna Hill 55.12 336 *e*P **P** 04 38 20.1 -0.1
comp=Z,23nm,1.3s
PPLA Purkeypile 55.27 335 *e*P **P** 04 38 22.0 +0.6
comp=Z,31nm,1.2s
BPAW Bear Paw Mtn. 55.44 337 *e*P **P** 04 38 22.3 -0.2
comp=Z,34nm,2.0s
CAST Castle Rocks 55.49 336 *e*P **P** 04 38 22.7 -0.2
comp=Z,12nm,0.7s
SVW2 Sparrevohn 55.83 333 *e*P **P** 04 38 25.3 -0.1
comp=Z,18nm,0.8s
MLY Manley 55.85 338 *e*P **P** 04 38 25.6 +0.2
comp=Z,6.6nm,0.8s
COLD Coldfoot 56.90 340 *e*P **P** 04 38 33.8 +0.9
comp=Z,7.3nm,0.8s
TIAR Tiarei 57.41 234 *e*T T 05 40 31.8
comp=Z,3.5nm,0.3s
IM3 Indian Mountai 57.42 338 *e*P **P** 04 38 35.1 -1.4
TVO Taravao 57.47 234 *e*T T 05 40 36.8
comp=Z,1.9nm,0.3s
TOLK Toolik Lake Re 57.54 342 P **P** 04 38 37.5 +0.1
baz=126
TOLK Toolik Lake Re 57.54 342 *e*P **P** 04 38 37.8 +0.4
comp=Z,7.4nm,0.8s
PPT Papeete 57.59 234 LR LR 04 56 38.2
comp=Z,135nm,21.7s,baz=70,slow=29
PPT2 Papeete2 57.61 234 *e*LR LR 04 55 31.6
comp=Z,300nm,25.2s
SFJD Kangerlussuaq 59.03 22 LR LR 05 05 00.8
comp=Z,244nm,18.8s,baz=239,slow=37
CPUP Villa Florida 63.45 133 P **P** 04 39 18.2 -0.1
comp=Z,6.8nm,0.9s,baz=328,slow=7.4,SNR=16
CPUP Villa Florida 63.45 133 *e*P **P** 04 39 18.2 -0.1
comp=Z,11nm,1.1s
CPUP Villa Florida 63.45 133 *e*P **P** 04 39 18.3 0.0
CPUP pmax pmax
comp=Z,11nm,1.1s
GAMB Gambell 63.77 333 *e*P **P** 04 39 20.7 +0.8
comp=Z,6.0nm,1.0s
SUMG Summit 65.09 18 *i*P **P** 04 39 28.0 -0.9
comp=Z,8.9nm,0.9s
SUMG Summit 65.09 18 *e*P **P** 04 39 28.3 -0.6
comp=Z,9.4nm,0.9s
SUMG Summit 65.09 18 *i*P **P** 04 39 28.0 -0.9
SUMG pmax pmax
comp=Z,9.0nm,0.9s
PLCA Paso Flores 66.59 153 P **P** 04 39 39.4 +0.8
comp=Z,3.2nm,0.9s,baz=342,slow=9.0,SNR=3.4
PLCA Paso Flores 66.59 153 *e*P **P** 04 39 39.4 +0.8
comp=Z,15nm,1.4s
PLCA Paso Flores 66.59 153 *e*P **P** 04 39 39.4 +0.8
PLCA pmax pmax
comp=Z,15nm,1.4s
SCO Scoresbysund 69.92 21 *i*P **P** 04 39 58.1 -0.8
SCO Scoresbysund 69.92 21 *e*P **P** 04 39 58.1 -0.8
BORG Borgarnes 70.16 27 LR LR 05 10 46.9
comp=Z,127nm,19.2s,baz=210,slow=36
DAG Danmarks Havn 70.94 14 *i*P **P** 04 40 03.5 -1.6
comp=Z,4.3nm,0.7s
DAG Danmarks Havn 70.94 14 *i*P **P** 04 40 03.5 -1.6
DAG pmax pmax
comp=Z,4.0nm,0.7s
BILL Bilibino 72.93 337 *i*P **P** 04 40 16.0 -1.2
BILL *i* 04 40 35.0
BILL *i* 04 43 02.5
BILL *i*SS SS 04 54 15.5 -7.1
BILL pmax pmax
comp=Z,6.0nm,1.1s
BILL pmax pmax
comp=Z,103nm,16.0s
JMIC Jan Mayen 74.31 20 LR LR 05 15 18.5
comp=Z,127nm,18.4s,baz=338,slow=38
AFI Afiamalu 74.37 249 LR LR 05 05 48.4
comp=Z,131nm,20.8s,baz=101,slow=30
SPA0 Spitsbergen Ar 77.79 11 *e*P **P** 04 40 44.9 -0.1
SPITS Spitsbergen Ar 77.79 11 P **P** 04 40 44.9 -0.1
comp=Z,2.8nm,0.6s,baz=318,slow=3.9,SNR=7.3
SPITS LR LR 05 15 32.3
comp=Z,143nm,19.4s,baz=315,slow=36
SEY Seymchan 79.77 333 *c*e P **P** 04 40 56.4 +0.3
PEA1 Petropavlovsk- 80.34 323 *e*P **P** 04 40 59.9 +0.5
PETK Petropavlovsk- 80.34 323 P **P** 04 40 59.9 +0.5
comp=Z,7.2nm,0.6s,baz=73,slow=10,SNR=8.1
EKA Eskdalemuir Ar 80.80 35 P **P** 04 41 01.1 -0.6
comp=Z,1.2nm,0.6s,baz=289,slow=5.1,SNR=3.9
MA2 Magadan 81.73 330 *c*e P **P** 04 41 07.1 +0.4
POLO Lamas de Olo 82.30 49 *e*P **P** 04 41 09.9 -0.2
PMTG Montargil 82.69 51 *e*P **P** 04 41 11.9 -0.2
MTE Manteigas 82.78 50 *e*P **P** 04 41 12.2 -0.4
PTEO Sao Teotonio 82.78 53 *e*P P 04 41 09.6 -3.0

BBTS Babate 82.89 77 LR LR 05 11 30.4
comp=Z,105nm,21.2s,baz=282,slow=31
MVO Moncorvo 82.91 49 *e*P **P** 04 41 12.8 -0.5
comp=Z,24nm,1.6s
PBRG Braganca 82.92 48 *e*P **P** 04 41 14.5 +1.2
PCBR Castelo Branco 83.00 50 *e*P **P** 04 41 13.9 +0.2
EVO Evora 83.01 52 *e*P **P** 04 41 14.1 +0.3
MESJ Messejana 83.07 53 *e*P **P** 04 41 14.3 +0.2
MESJ AMb AMB 04 41 15.1
comp=Z,18nm,0.7s
MESJ Messejana 83.07 53 *e*P **P** 04 41 14.2 +0.2
MESJ pmax pmax
comp=Z,18nm,0.7s
PMRV Marv??o 83.19 51 *e*P **P** 04 41 14.4 -0.3
comp=Z,36nm,1.3s
PESTR Estremoz 83.22 51 *e*P **P** 04 41 15.2 +0.3
PESTR Estremoz 83.22 51 *e*P **P** 04 41 14.7 -0.1
comp=Z,7.3nm,0.9s
TIXI Tiksi 83.23 345 *c*e P **P** 04 41 13.0 -1.2
TIXI pmax pmax
comp=Z,29nm,1.2s
PCVE Castro Verde 83.27 53 *e*P **P** 04 41 15.4 +0.3
PBAR Barrancos 83.85 52 *e*P **P** 04 41 18.6 +0.5
MSVF Nonsavu 84.87 249 *e*P **P** 04 41 26.4 +2.8
MSVF pmax pmax
comp=Z,11nm,1.0s
ARA0 ARCESS Array S 85.12 16 *e*P **P** 04 41 23.2 -0.7
ARCES ARCESS Array B 85.12 16 P **P** 04 41 23.2 -0.7
comp=Z,3.1nm,0.6s,baz=323,slow=3.2,SNR=8.1
ARCES LR LR 05 19 33.5
comp=Z,151nm,20.4s,baz=270,slow=36
NBO02 NORSAR Array S 85.17 26 *e*P **P** 04 41 24.2 -0.1
KONO Kongsberg 85.32 28 *e*P **P** 04 41 25.3 +0.2
comp=Z,21nm,0.9s
KONO Kongsberg 85.32 28 *c*e P **P** 04 41 25.0 -0.1
KONO pmax pmax
comp=Z,83nm,0.7s
NB2 NORSAR Subarra 85.33 26 P **P** 04 41 24.7 -0.5
comp=Z,8.7nm,1.0s,baz=298,slow=4.8
NB200 NORSAR Array S 85.33 26 *e*P **P** 04 41 24.7 -0.5
NOA NORSAR Array B 85.33 26 P **P** 04 41 24.7 -0.5
comp=Z,5.9nm,0.9s,baz=300,slow=4.7,SNR=12
NOA LR LR 05 20 14.2
comp=Z,60nm,19.4s,baz=315,slow=36
PAB San Pablo 85.38 50 *e*P **P** 04 41 26.3 +0.4
comp=Z,22nm,1.0s
PAB San Pablo 85.38 50 *e*P **P** 04 41 26.3 +0.4
PAB pmax pmax
comp=Z,22nm,1.0s
ESDC Sonseca Array 85.61 50 P **P** 04 41 26.8 -0.3
comp=Z,7.5nm,1.0s,baz=311,slow=4.8,SNR=23
ESLA Sonseca Array 85.61 50 *e*P **P** 04 41 27.3 +0.2
comp=Z,6.4nm,1.0s
ES19 SONSECA Array 85.65 50 *e*P **P** 04 41 26.6 -0.6
HFS Hagfors 86.85 26 P **P** 04 41 31.1 -1.5
comp=Z,3.7nm,0.9s,baz=297,slow=6.3,SNR=4.7
HFS LR LR 05 21 10.7
comp=Z,91nm,18.8s,baz=256,slow=36
YAK Yakutsk 89.27 338 *e*P **P** 04 41 44.4 +0.3
YAK pmax pmax
comp=Z,15nm,0.8s
FIA0 FINESS Array S 90.83 22 *e*P **P** 04 41 50.5 -0.9
FIA0 FINESS Array S 90.83 22 *e*P **P** 04 41 50.5 -0.9
FINES FINESS Array B 90.83 22 P **P** 04 41 50.5 -0.9
comp=Z,3.4nm,0.9s,baz=236,slow=2.1,SNR=5.3
FINES LR LR 05 23 05.5
comp=Z,96nm,19.7s,baz=316,slow=36
GEC2 GERESS Array S 92.95 36 *e*P **P** 04 42 01.0 -0.6
comp=Z,12nm,1.6s
GEC2 GERESS Array S 92.95 36 *e*P **P** 04 42 01.0 -0.6
GEC2 pmax pmax
comp=Z,12nm,1.6s
GERES GERESS Array B 92.95 36 P **P** 04 42 01.0 -0.6
comp=Z,0.9nm,0.7s,baz=308,slow=4.9,SNR=6.7
GERES LR LR 05 24 40.3
comp=Z,94nm,19.3s,baz=282,slow=36
GEA0 GERESS Array S 92.96 36 *e*P **P** 04 42 00.8 -0.9
KOWA Kowa 94.42 73 P **P** 04 42 08.6 -0.2
comp=Z,4.4nm,0.9s,baz=312,slow=4.5,SNR=7.9
KOWA LR LR 05 20 44.6
comp=Z,94nm,21.1s,baz=216,slow=33
MODS Modra-Piesok 95.19 35 *e*P **P** 04 42 12.0 +0.2
MODS Modra-Piesok 95.19 35 *e*P **P** 04 42 12.0 +0.2
KLMR Klimovskoe 95.53 17 *e*P P 04 42 10.5 -2.5
KLMR AMP 04 42 13.6
comp=Z,12nm,1.5s
KLMR Klimovskoe 95.53 17 *e*P P 04 42 10.4 -2.6
KLMR pmax pmax
comp=Z,12nm,1.5s
VYHS Vyhne 95.95 34 *e*P **P** 04 42 15.2 -0.1
VYHS Vyhne 95.95 34 *e*P **P** 04 42 15.2 -0.1
DBIC Dimbokro 96.29 81 LR LR 05 21 31.2
comp=Z,66nm,21.2s,baz=239,slow=33
DZM Mont Dzumac 96.60 249 *e*LR LR 05 13 29.9
comp=Z,273nm,22.5s
DZM Mont Dzumac 96.60 249 LR LR 05 17 43.3
comp=Z,177nm,19.2s,baz=72,slow=30
KEST Kesra 96.84 49 P **P** 04 42 18.6 -1.1
comp=Z,8.5nm,1.1s,baz=180,slow=2.0,SNR=6.1
KEST LR LR 05 28 18.8
comp=Z,44nm,18.3s,baz=298,slow=37
KEST Kesra 96.84 49 *e*P **P** 04 42 19.7 0.0
comp=Z,9.8nm,1.0s
PSZ Piszkesteto 96.87 34 *e*P **P** 04 42 19.3 -0.2
comp=Z,16nm,1.1s
PSZ Piszkesteto 96.87 34 *e*P **P** 04 42 19.3 -0.2
PSZ pmax pmax
comp=Z,16nm,1.1s
HNR Honiara 98.85 263 LR LR 05 17 58.8
comp=Z,98nm,18.9s,baz=9.5,slow=30
OBN Obninsk 99.24 22 LR LR 05 27 37.8
comp=Z,118nm,20.1s,baz=274,slow=36
AKASG Malin Array Be 99.62 28 LR LR 05 29 32.2
comp=Z,59nm,18.5s,baz=25,slow=37
TOA1 Torodi Ar. Sit 100.07 72 *e*Pdif **Pdif** 04 42 33.0 -1.4
TORD Torodi Ar. Bea 100.08 72 P **Pdif** 04 42 33.0 -1.5
comp=Z,0.7nm,0.9s,baz=265,slow=1.3,SNR=2.9
KIV Kislovodsk 110.62 25 *i*PKIKP **PKiKP** 04 47 19.9 -1.3
KIV pmax pmax
comp=Z,4.0nm,0.9s
MK32 Makanchi Array 114.72 355 *e*PKiKP **PKiKP** 04 47 27.5 -1.4
MKAR Makanchi Array 114.72 355 PKP PKPdf 04 47 27.5 -1.4
comp=Z,0.6nm,0.8s,baz=345,slow=1.6,SNR=4.5
CD2 Chengdu 124.13 331 PKP **PKPdf** 04 47 47.0 -0.4
WR1 Warramunga Arr 125.36 258 *e*PKPdf **PKPdf** 04 47 50.1 +0.2
WRA Warramunga Arr 125.36 258 PKP **PKPdf** 04 47 50.1 +0.2
comp=Z,1.8nm,0.9s,baz=78,slow=2.5,SNR=23
AS31 Alice Springs 126.25 254 *e*PKPdf **PKPdf** 04 47 50.7 -0.9
ASAR Alice Springs 126.25 254 PKP **PKPdf** 04 47 50.7 -0.9
comp=Z,0.7nm,0.6s,baz=78,slow=2.1,SNR=7.6
CM31 Chiang Mai Arr 136.97 328 *e*PKPdf **PKPdf** 04 48 11.8 -0.2
CMAR Chiang Mai Arr 136.97 328 PKP **PKPdf** 04 48 11.8 -0.2
comp=Z,1.0nm,0.5s,baz=18,slow=2.0,SNR=6.4
HYB Hyderabad 144.17 356 *i*PKP **PKPab** 04 48 22.0 -0.6

ISN ***04*** *04:33:05.3±1.1,38.°69N×43.°48E, h0km, ML3.8*
ISK ***04*** *04:33:17.4, 38.°74N×43.°46E, h5km, ML3.8/6*
ATA ***04*** *04:33:17.8±1.6, 38.°71N×43.°39E, h15km±19km, ML4.5, MW4.3*
DDA ***04*** *04:33:17.6, 38.°69N×43.°48E, h20km, MI3.7*
IDC ***04*** *04:33:18.7±1.9, 38.°81N×43.°48E, h0km, mb3.6/2, mb1 3.3/5, mb1mx3.1/64, mbtmp3.3/5, ML3.0/3, MS2.8/1, Ms1 2.9/1, ms1mx2.1/54, Error ellipse: s-maj=27.7km s-min=12.4km az=158.0*
CSEM ***04*** *04:33:19.1±0.2, 38.°72N×43.°47E, h10km, ML3.8, Error ellipse: s-maj=6.0km s-min=4.5km az=140.0*
ISC 04 04:33:19.0±0.8, 38.°71N±0.°02×43.°49E±0.°02, h12km±6km, n119, σ1°50/144, 7C-4D, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.14**	**213**		PG	**Pg**		**04 33 22.7**	**+0.2**
VANB					SG	**Sg**		**04 33 27.4**	**+2.4**
VANB	**Van**	**0.14**	**213**	*e*	Pg	**Pg**		**04 33 22.7**	**+0.2**
TVAN	**Van**	**0.20**	**199**	*i*	P	**Pg**		**04 33 22.6**	**-0.8**
TVAN				*i*	S	**Sg**		**04 33 26.2**	**-0.3**
TVAN	**Van**	**0.20**	**199**		P	**Pg**		**04 33 22.6**	**-0.8**
TVAN					S	**Sg**		**04 33 26.2**	**-0.3**
VMUR	**Van-Muradiye**	**0.28**	**13**	*i*	P	**Pg**		**04 33 24.0**	**-1.0**
VMUR				*i*	S	**Sb**		**04 33 29.9**	**-1.1**
VMUR	**Van-Muradiye**	**0.28**	**13**		P	**Pg**		**04 33 24.0**	**-1.0**
VMUR					S	**Sb**		**04 33 29.9**	**-1.1**
ERCV	**ERCIS-VAN**	**0.33**	**339**		PG	**Pg**		**04 33 24.4**	**-1.3**

ERCV ERCIS-VAN 0.33 339 *e*Pg **Pg** 04 33 24.4 -1.3
GEVA Gevas 0.52 220 *i*P **Pg** 04 33 28.0 -1.2
GEVA IAML 04 33 44.1
comp=Z,1μm,0.5s
GEVA Gevas 0.52 220 *i*P **Pg** 04 33 28.1 -1.2
GEVA *i*S **Sb** 04 33 37.5 -0.4
GEVA Gevas 0.52 220 P **Pg** 04 33 28.1 -1.2
GEVA S **Sb** 04 33 37.5 -0.4
CLDR Caldiran 0.54 38 PG **Pg** 04 33 28.2 -1.5
CLDR Caldiran 0.54 38 *i*P **Pg** 04 33 27.4 -2.3
CLDR *i*S **Sb** 04 33 37.7 -0.8
CLDR Caldiran 0.54 38 P **Pg** 04 33 27.4 -2.3
CLDR Caldiran 0.54 38 *e*Pg **Pg** 04 33 28.2 -1.5
CLDR S **Sb** 04 33 37.7 -0.8
ADCV BITLIS_Adilcev 0.60 279 *i*P **Pb** 04 33 30.0 -1.7
ADCV *i*S **Sb** 04 33 38.7 -1.6
ADCV BITLIS_Adilcev 0.60 279 P **Pb** 04 33 30.0 -1.7
ADCV S **Sb** 04 33 38.7 -1.6
DYDN Diyadin 0.84 11 *e*P **Pg** 04 33 33.9 -1.4
DYDN *e*S **Sb** 04 33 47.3 +0.1
DYDN Diyadin 0.84 11 *i*P **Pg** 04 33 34.0 -1.4
DYDN *i*S **Sb** 04 33 47.3 +0.1
DYDN Diyadin 0.84 11 P **Pg** 04 33 34.0 -1.4
DYDN S **Sb** 04 33 47.3 +0.1
TUTA Tutak 0.86 323 *e*P **Pg** 04 33 34.1 -1.8
TUTA *e*S **Sb** 04 33 47.7 -0.2
TUTA IAML 04 33 50.6
comp=Z,2μm,0.4s
TUTA Tutak 0.86 323 *i*P **Pg** 04 33 34.0 -1.8
TUTA *i*S **Sb** 04 33 47.1 -0.6
TUTA Tutak 0.86 323 P **Pg** 04 33 34.0 -1.8
TUTA S **Sb** 04 33 47.2 -0.6
AGRB Hanur-Agry 0.94 336 PG **Pg** 04 33 35.8 -1.5
AGRB Hanur-Agry 0.94 336 *e*Pg **Pg** 04 33 35.8 -1.5
GURO Guroymak-BITLI 1.15 262 PN **Pb** 04 33 39.6 -1.4
GURO Guroymak-BITLI 1.15 262 *e*Pn **Pb** 04 33 39.6 -1.4
HAKT HAKKARI 1.17 171 *i*P **Pb** 04 33 39.3 -2.0
HAKT *i*S **Sn** 04 34 00.1 +2.7
HAKT HAKKARI 1.17 171 P **Pb** 04 33 39.3 -2.0
HAKT S **Sn** 04 34 00.1 +2.7
EKAR Karacoban 1.23 296 *i*P **Pb** 04 33 40.5 -2.0
EKAR IAML 04 34 12.9
comp=Z,410nm,0.5s
EKAR Karacoban 1.23 296 *i*P **Pb** 04 33 40.6 -1.9
EKAR Karacoban 1.23 296 P **Pb** 04 33 40.6 -1.9
IGDI IGDIR 1.24 21 *e*P **Pg** 04 33 41.9 -1.0
IGDI *i*Pg **Pb** 04 33 43.2 +0.8
IGDI *e*S **Sn** 04 34 01.8 +2.8
IGDI IGDIR 1.24 21 *i*P **Pg** 04 33 41.8 -1.1
YOVA Hakkari_Y˜…kse 1.29 150 *i*P **Pn** 04 33 41.7 -1.4
YOVA Hakkari_Y˜…kse 1.29 150 P **Pn** 04 33 41.7 -1.4
EATA Eleskirt 1.38 326 *e*P **Pn** 04 33 43.6 -1.0
EATA Eleskirt 1.38 326 *i*P **Pn** 04 33 43.5 -1.0
EATA Eleskirt 1.38 326 P **Pn** 04 33 43.5 -1.0
TASB TASBURUN-IGDIR 1.40 24 PN **Pg** 04 33 45.2 -0.6
TASB TASBURUN-IGDIR 1.40 24 *e*Pn **Pg** 04 33 45.2 -0.6
SRTM Siirt_Merkez 1.43 240 *i*P **Pg** 04 33 45.6 -0.8
SRTM Siirt_Merkez 1.43 240 P **Pg** 04 33 45.6 -0.8
HYR Heyderabad 1.46 46 ⇑P **Pg** 04 33 46.2 -0.9
SNR=207
HYR ⇓S **Sg** 04 34 08.0 +2.0
SIRT Sirnak 1.47 215 PN **Pg** 04 33 46.4 -0.8
SIRT Sirnak 1.47 215 *e*Pn **Pg** 04 33 46.4 -0.8
VRTB Varto-Mus 1.65 286 PN **Pb** 04 33 48.5 -0.9
VRTB Varto-Mus 1.65 286 *i*P **Pg** 04 33 48.8 -1.9
VRTB Varto-Mus 1.65 286 *e*Pn **Pb** 04 33 48.5 -0.9
VRTB Varto-Mus 1.65 286 P **Pg** 04 33 48.8 -1.9
DIGO Kars 1.70 357 *e*P **Pb** 04 33 49.2 -1.2
DIGO Kars 1.70 357 *i*P **Pb** 04 33 48.8 -1.6
DIGO Kars 1.70 357 P **Pb** 04 33 48.8 -1.6
GNI Garni 1.73 34 Pg **Pb** 04 33 50.1 -0.7
comp=Z,43nm,0.3s,baz=244,slow=3.3,SNR=84
GNI Lg Lg 04 34 16.9
comp=Z,39nm,0.3s,baz=262,slow=21,SNR=33
SBZ Shahbuz 1.75 66 P **Pb** 04 33 50.4 -0.7
SNR=157
SBZ ⇓S **Sg** 04 34 14.7 -0.5
HOMI Horasan 1.81 318 *e*P **Pb** 04 33 50.4 -1.9
HOMI IAML 04 34 38.1
comp=Z,204nm,0.7s
HOMI Horasan 1.81 318 *i*P **Pb** 04 33 50.6 -1.6
SVAN Silvan-Diyarba 1.88 253 PN **Pb** 04 33 51.7 -1.7
SVAN Silvan-Diyarba 1.88 253 *i*P **Pb** 04 33 52.5 -0.9
SVAN Silvan-Diyarba 1.88 253 *e*Pn **Pb** 04 33 51.7 -1.7
SVAN Silvan-Diyarba 1.88 253 P **Pb** 04 33 52.5 -0.9
BTMN Batman 1.93 245 *i*P **Pb** 04 33 53.1 -1.1
BTMN Batman 1.93 245 P **Pb** 04 33 53.1 -1.1
KARS Kars 1.94 351 PN **Pb** 04 33 52.4 -2.0
KARS Kars 1.94 351 *e*Pn **Pb** 04 33 52.4 -2.0
ORD Ordubad 1.97 83 P **Pb** 04 33 53.6 -1.3
SNR=156
ORD ⇓S **Sg** 04 34 20.4 -1.9
EAK Akyaka 1.97 3 *i*P **Pg** 04 33 55.7 -1.1
EAK Akyaka 1.97 3 P **Pg** 04 33 55.7 -1.1
ERZM Erzurum 2.03 307 *e*P **Pb** 04 33 54.3 -1.7
ERZM Erzurum 2.03 307 *i*P **Pb** 04 33 54.0 -2.1
ERZM Erzurum 2.03 307 P **Pb** 04 33 54.0 -2.1
SENK Senkaya-Erzuru 2.04 335 PN **Pb** 04 33 53.8 -2.4
SENK Senkaya-Erzuru 2.04 335 *e*Pn **Pb** 04 33 53.8 -2.4
ECAT Cat-ERZURUM 2.15 295 *e*P **Pb** 04 33 56.0 -2.0
ECAT Cat-ERZURUM 2.15 295 *i*P **Pb** 04 33 57.8 -0.2
ECAT Cat-ERZURUM 2.15 295 P **Pb** 04 33 57.8 -0.2
BNGB Bing˜‖ 2.21 278 PN **Pb** 04 33 56.6 -2.4
BINT Bingol 2.35 275 *e*Pn **Pn** 04 33 56.6 -1.0
GDB GEDABAY 2.66 40 P **Pb** 04 34 03.9 -2.8
SNR=5.0
GDB ⇓S **Sb** 04 34 39.2 -0.2
KOPT Kop Dagi 2.66 300 *e*P **Pb** 04 34 06.8 0.0
AKH Akhalkalaki 2.69 0 PN **Pn** 04 34 03.6 +1.2
AKH Akhalkalaki 2.69 0 P **Pg** 04 34 14.1 +3.5
AKH Akhalkalaki 2.69 0 *e*Pn **Pn** 04 34 03.6 +1.2
DIY Diyarbakir 2.69 253 *e*Pn **Pb** 04 34 04.3 -2.9
MAZI Mazidag 2.71 243 PN **Pn** 04 34 03.8 +1.3
MAZI Mazidag 2.71 243 *e*Pn **Pn** 04 34 03.8 +1.3
DYBB Diyarbakir 2.74 255 PN **Pn** 04 34 04.3 +1.4
ARTV Artvin 2.74 335 *e*P **Pn** 04 34 04.1 +1.0
QZX Qazax, Azerbai 2.75 31 ⇑P **Pb** 04 34 04.9 -3.3
SNR=27
QZX ⇑S **Sb** 04 34 41.8 -0.1
BAYB BAYBURT 2.94 303 *e*P **Pb** 04 34 11.8 +0.3
BAYB *e*S **Sb** 04 34 45.1 -2.4
ERZN Erzincan 3.06 288 PN **Pn** 04 34 08.5 +1.2
BAYT Ayd¨–ntepe-Bay 3.08 304 PN **Pn** 04 34 08.7 +1.0
BAYT Ayd¨–ntepe-Bay 3.08 304 *e*Pn **Pn** 04 34 08.7 +1.0
DGRG David-gareji 3.09 27 P **Pb** 04 34 14.5 +0.5
TNCL Tunceli-Merkez 3.10 279 *e*P **Pb** 04 34 13.3 -1.0
BTNK Botanikuri 3.13 18 P **Pb** 04 34 14.1 -0.5
TBLG Delisi 3.16 17 PN **Pn** 04 34 10.3 +1.6
TBLG Delisi 3.16 17 *e*P **Pb** 04 34 15.1 0.0
TBLG Delisi 3.16 17 P **Pg** 04 34 18.0 -1.6
TBLG Delisi 3.16 17 *e*Pn **Pn** 04 34 10.3 +1.6
CHOM Cayeli-Rize 3.17 319 *e*Pn **Pn** 04 34 10.3 +1.5
PTK Pertek 3.21 274 PN **Pn** 04 34 10.6 +1.2
PTK Pertek 3.21 274 *e*Pn **Pn** 04 34 10.6 +1.2
DUS Dusheti 3.50 15 P **Pg** 04 34 23.5 -2.5
KELT Kelkit 3.58 295 *e*P **Pb** 04 34 23.3 +0.9
REFA Refahiye_ERZ¨ 3.74 282 *e*P **Pb** 04 34 25.3 +0.2
LRK Lerik 3.80 90 ⇑P **Pn** 04 34 18.4 +0.9
SNR=11
GLBA Clilabad 3.86 81 ⇑P **Pn** 04 34 19.1 +0.9
ONI Oni 3.87 360 P **Pg** 04 34 31.4 -1.8
XNQ Khinaliq 4.34 54 ⇑P **Pn** 04 34 26.4 +1.4
SNR=9.3
QSAR Qusar 4.61 51 ⇑P **Pn** 04 34 30.0 +1.5
SNR=3.5
KBZ Khabaz 5.03 355 Pg **Pb** 04 34 47.3 +0.4
comp=Z,0.1nm,0.3s,baz=163,slow=13,SNR=5.9
BHD Baghdad 5.48 172 *e*Pn Pn 04 34 30.7 -10
SNR=39
BHD *e*Sn Sn 04 35 28.4 -15
SNR=3.0
BRTR Keskin Array B 7.71 281 Pn **Pn** 04 35 14.0 +2.7
comp=Z,0.0nm,0.3s,baz=106,slow=12,SNR=3.0
AKTO Aktyubinsk 15.60 37 Pn **Pn** 04 36 56.9 -1.8
comp=Z,0.1nm,0.3s,baz=240,slow=14,SNR=3.8
AKASG Malin Array Be 15.66 325 Pn **Pn** 04 36 59.6 +0.1
comp=Z,0.3nm,0.3s,baz=131,slow=11,SNR=4.0
KURBB Kurchatov Arra 27.36 53 P **P** 04 39 05.3 +1.5
comp=Z,0.8nm,0.5s,baz=262,slow=8.9,SNR=4.3
MKAR Makanchi Array 29.37 61 P **P** 04 39 23.3 +1.4
comp=Z,0.2nm,0.5s,baz=267,slow=7.8,SNR=1.5
NOA NORSAR Array B 30.00 329 LR LR 04 51 13.2

comp=Z,18nm,19.2s,baz=0.0,slow=36

*ISK **04** 04:37:22.9, 38.°73N×43.°44E, h14km, ML2.6/4*
*ATA **04** 04:37:23.6±1.0, 38.°71N×43.°46E, h17km±9km, ML2.8, MW2.8*
*CSEM **04** 04:37:23.6±0.3, 38.°74N×43.°47E, h10km, ML2.6, Error ellipse: s-maj=10.2km s-min=5.3km az=127.0*
*DDA **04** 04:37:24.5, 38.°73N×43.°45E, h7km, Md2.6*
ISC 04 04:37:23.3±1.1**, 38.°65N**±0.°04×**43.°55E**±0.°04**, h24**km±6km**, n26, σ0.s93**/44**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VANB	Van	0.14	246	PG	Pb	04 37 28.4	0.0
VANB				SG	Sb	04 37 31.9	+0.1
VANB	Van	0.14	246	*e*Pg	Pb	04 37 28.4	0.0
VANB				*e*Sg	Sb	04 37 31.9	+0.1
TVAN	Van	0.17	223	*i* P	Pb	04 37 28.3	-0.4
TVAN				*i* S	Sb	04 37 33.0	+0.6
TVAN	Van	0.17	223	P	Pb	04 37 28.3	-0.4
TVAN				S	Sb	04 37 33.0	+0.6
VMUR	Van-Muradiye	0.34	2	*i* P	Pb	04 37 29.9	-1.1
VMUR				*i* S	Sb	04 37 35.5	-0.7
VMUR	Van-Muradiye	0.34	2	P	Pb	04 37 29.9	-1.1
VMUR				S	Sb	04 37 35.5	-0.7
GEVA	Gevas	0.52	229	*e*P	Pb	04 37 34.0	+0.1
GEVA				*e*S	Sn	04 37 42.8	-0.6
GEVA				IAML		04 37 54.6	
	comp=Z,39nm,0.4s						
GEVA	Gevas	0.52	229	*i* P	Pb	04 37 33.0	-0.8
GEVA				*i* S	Sn	04 37 43.4	0.0
GEVA	Gevas	0.52	229	P	Pb	04 37 33.0	-0.8
GEVA				S	Sn	04 37 43.4	0.0
CLDR	Caldiran	0.57	30	PG	Pb	04 37 33.9	-0.8
CLDR				SG	Sb	04 37 42.7	+0.2
CLDR	Caldiran	0.57	30	*i* P	Pb	04 37 33.3	-1.4
CLDR				*i* S	Sb	04 37 43.6	+1.1
CLDR	Caldiran	0.57	30	P	Pb	04 37 33.3	-1.4
CLDR	Caldiran	0.57	30	*e*Pg	Pb	04 37 33.9	-0.8
CLDR				*e*Sg	Sb	04 37 42.7	+0.2
CLDR				S	Sb	04 37 43.6	+1.1
ADCV	BITLIS_Adilcev	0.67	284	*i* P	Pb	04 37 35.6	-0.8
ADCV				*i* S	Sb	04 37 44.4	-0.9
ADCV	BITLIS_Adilcev	0.67	284	P	Pb	04 37 35.6	-0.8
ADCV				S	Sb	04 37 44.4	-0.9
DYDN	Diyadin	0.90	7	*e*P	Pb	04 37 40.3	0.0
DYDN				*e*S	Sn	04 37 54.2	+1.3
TUTA	Tutak	0.94	323	*e*P	Pb	04 37 40.3	-0.9
TUTA				*e*S	Sb	04 37 53.5	+0.2
TUTA				IAML		04 37 54.5	
	comp=Z,50nm,0.2s						
AGRB	Hanur-Agry	1.02	335	PG	Pb	04 37 41.1	-1.3
AGRB	Hanur-Agry	1.02	335	*e*Pg	Pb	04 37 41.1	-1.3
GURO	Guroymak-BITLI	1.20	266	PN	Pn	04 37 44.7	+0.1
GURO	Guroymak-BITLI	1.20	266	*e*Pn	Pn	04 37 44.7	+0.1
EKAR	Karacoban	1.31	298	*e*P	Pb	04 37 47.0	-0.3
EATA	Eleskirt	1.46	326	*e*P	Pb	04 37 49.8	-0.2
EATA				*e*S	Sb	04 38 11.5	+3.2
EATA				IAML		04 38 15.7	
	comp=Z,2.7nm,0.7s						
DIGO	Kars	1.77	356	*e*P	Pb	04 37 55.8	+0.7
HOMI	Horasan	1.89	318	*e*P	Pb	04 37 56.6	-0.6
ERZM	Erzurum	2.11	307	*e*P	Pb	04 38 00.8	-0.1

*ISCJB **04** 04:55:47.9±1.5, 38.°65N±0.°09×43.°6E±0.°2, h28km±6km, Error ellipse: s-maj=24.0km s-min=6.5km az=33.5*
*CSEM **04** 04:55:47.5±0.5, 38.°65N×43.°60E, h23km±2km, ML2.3, Error ellipse: s-maj=15.5km s-min=4.7km az=124.0*
*ISK **04** 04:55:47.5, 38.°70N×43.°52E, h19km, ML2.3/2*
*DDA **04** 04:55:48.1, 38.°69N×43.°64E, h7km, Ml2.8*
ISC 04 04:55:48.1±1.1**, 38.°72N**±0.°06×**43.°55E**±0.°06**, h18**km±4km**, n17, σ0.s68**/29**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VANB	Van	0.18	225	PG	Pg	04 55 53.1	+0.2
VANB				SG	Sg	04 55 56.9	+0.7
VANB	Van	0.18	225	*e*Pg	Pg	04 55 53.1	+0.2
VANB				*e*Sg	Sg	04 55 56.9	+0.7
TVAN	Van	0.22	210	*i* P	Pg	04 55 53.2	-0.4
TVAN				*i* S	Sg	04 55 57.9	+0.5
TVAN	Van	0.22	210	P	Pg	04 55 53.2	-0.4
TVAN				S	Sg	04 55 57.9	+0.5
VMUR	Van-Muradiye	0.27	4	*i* P	Pb	04 55 54.7	+0.3
VMUR				*i* S	Sn	04 56 01.6	-1.4
VMUR	Van-Muradiye	0.27	4	P	Pb	04 55 54.7	+0.3
VMUR				S	Sn	04 56 01.6	-1.4
CLDR	Caldiran	0.51	34	PG	Pb	04 55 58.7	+0.1
CLDR				SG	Sb	04 56 06.9	+1.1
CLDR	Caldiran	0.51	34	*i* P	Pb	04 55 58.8	+0.1
CLDR				*i* S	Sn	04 56 08.3	-0.7
CLDR	Caldiran	0.51	34	P	Pb	04 55 58.8	+0.1
CLDR				*e*Sg	Sb	04 56 06.9	+1.1
CLDR				S	Sn	04 56 08.3	-0.7
GEVA	Gevas	0.56	223	*i* P	Pg	04 55 59.3	-0.1
GEVA				*i* S	Sn	04 56 09.7	-0.6
GEVA	Gevas	0.56	223	P	Pg	04 55 59.3	-0.1
GEVA				S	Sn	04 56 09.7	-0.6
TUTA	Tutak	0.89	320	*i* P	Pb	04 56 05.5	+0.4
TUTA	Tutak	0.89	320	P	Pb	04 56 05.5	+0.4
AGRB	Hanur-Agry	0.96	333	PG	Pn	04 56 06.6	-0.2
AGRB	Hanur-Agry	0.96	333	*e*Pg	Pn	04 56 06.6	-0.2
GURO	Guroymak-BITLI	1.20	262	PN	Pn	04 56 09.5	-0.6
GURO	Guroymak-BITLI	1.20	262	*e*Pn	Pn	04 56 09.5	-0.6

JMA 04 04:57:33.3±0.3**, 40.°76N**×**145.°33E, h71**km**, M3.7, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JCH	Churui	2.37	322	P	Pn	04 58 11.0	+1.1
JNBK	Urakawa-nobuka	2.46	309	*e*S	Sn	04 58 40.6	+0.5
JAR	Ashorobuto	2.79	336	P	Pn	04 58 16.3	+0.7
JAR				*e*S	Sn	04 58 47.2	-0.9
JFR	Furan	3.15	321	P	Pn	04 58 21.8	+1.2
JFR				*e*S	Sn	04 58 55.8	-1.2
JTM	Tenmabayashi	3.24	272	*e*S	Sn	04 58 56.2	-2.9
JOT	Ohata	3.30	282	*e*S	Sn	04 58 57.4	-3.1
JOM	Ohasama	3.35	249	P	Pn	04 58 24.1	+0.8
JTKR	Abashiri--Toko	3.38	342	P	Pn	04 58 25.7	+2.1
JTKR				*e*S	Sn	04 59 02.6	+0.1
JEW	Eniwo	3.57	307	P	Pn	04 58 28.8	+2.6
JAH	Hinai	3.63	262	P	Pn	04 58 28.1	+1.1
JMK	Ichinoseki	3.64	242	P	Pn	04 58 28.0	+0.8
JMK				*e*S	Sn	04 59 05.7	-3.3

IDC 04 04:59:29.6±6.0**, 6.°14S**×**134.°58E, h0**km**, mb3.6**/1**, mb1 3.7**/3**, mb1mx3.5**/46**, mbtmp3.5**/3**, ML3.4**/2**, MS2.8**/1**, Ms1 2.8**/1**, ms1mx2.5**/39**, Error ellipse: s-maj=313.9km s-min=33.1km az=80.0, Aru Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	13.72	181	Pn	Pn	05 02 45.4	-0.2
	0.1nm,0.3s,baz=360,slow=13,SNR=11						
WRA				Sn	Sn	05 05 13.7	-5.2
	0.1nm,0.3s,baz=1.3,slow=23,SNR=3.7						
ASAR	Alice Springs	17.44	182	P	Pn	05 03 34.5	+0.1
	0.4nm,0.3s,baz=4.7,slow=12,SNR=13						
KSRS	Korea Array	43.81	352	LR	LR	05 25 10.6	
	comp=Z,14nm,21.5s,baz=50,slow=35						
MKAR	Makanchi Array	70.08	325	P	P	05 10 43.7	0.0
	0.3nm,0.5s,baz=116,slow=6.6,SNR=5.0						

IDC 04 05:16:30.3±2.5**, 54.°18N**×**86.°30E, h0**km**, mb1 2.9**/2**, mb1mx2.8**/74**, mbtmp2.9**/2**, ML2.9**/2**, Error ellipse: s-maj=19.9km s-min=12.0km az=55.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	0.91	256	*i*		05 22 40.0	
	baz=75,slow=323,SNR=1.9						
ZALV	Zalesovo Beam	0.91	256	Pg	Pg	05 16 46.3	-1.3
	3.6nm,0.3s,baz=75,slow=17,SNR=30						
ZALV				Lg	Lg	05 17 00.9	
	4.8nm,0.3s,baz=75,slow=28,SNR=19						
KURBB	Kurchatov Arra	5.94	236	Pn	Pn	05 18 00.3	+0.8
	0.1nm,0.3s,baz=53,slow=13,SNR=6.5						
MKAR	Makanchi Array	7.83	201	Pn	Pn	05 18 26.6	+1.2
	0.3nm,0.3s,baz=24,slow=14,SNR=13						

*KRSC **04** 05:21:30.3±1.1, 55.°75N×162.°97E, h22km±18km, ML4.8, FELT [III-IV] at Ust-Kamchatsk; [felt] at Krutoberegovo not.*
*ISCJB **04** 05:21:30.5±0.1, 55.°85N±0.°02×162.°81E±0.°03, h10km, mb4.5/105, MS3.4/9, Error ellipse: s-maj=3.3km s-min=1.7km az=141.7*
*BJI **04** 05:21:33.0, 55.°80N×162.°50E, h39km, mb4.8/13, mB5.2/6, Ms4.7/2, Ms7 4.4/2*
*MOS **04** 05:21:33.9±0.9, 55.°87N×162.°63E, h45km, mb4.8/28, Error ellipse: s-maj=7.1km s-min=3.9km az=76.1*
*IDC **04** 05:21:37.9±2.5, 55.°88N×162.°46E, h64km±24km, mb4.0/25, mb1 4.2/26, mb1mx3.9/76, mbtmp4.2/26, MS3.4/11, Ms1 3.4/11, ms1mx3.1/69, Error ellipse: s-maj=15.6km s-min=11.1km az=169.0*
*NEIC **04** 05:21:37.6±0.5, 55.°87N×162.°39E, h63km±5km, mb4.6/75, Error ellipse: s-maj=5.1km s-min=2.7km az=174.0*
ISC 04 05:21:31.8±1.2**, 55.°76N**±0.°03×**162.°72E**±0.°03**, h15**km±7km**, n308, σ1.s89**/352**, mb4.6**/105**, MS3.4**/9**, 5C-1D, Near east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KBTR	Krutoberegovo	0.46	7	*i* P	Pb	05 21 40.9	-0.7
KBTR	Krutoberegovo	0.46	7	PN	Pb	05 21 40.9	-0.7
KBG	Krutoberegovo	0.50	359	*i* P	Pb	05 21 41.6	-0.7
KBG				*i* S	Sb	05 21 49.4	0.0
KBG	Krutoberegovo	0.50	359	PN	Pb	05 21 41.6	-0.7
KBG				S	Sb	05 21 49.4	0.0
SMKR	Semkarok	1.09	320	*i* P	Pb	05 21 51.5	-0.9
SMKR	Semkarok	1.09	320	PN	Pb	05 21 51.5	-0.9
CIRR	Tsirk	1.17	289	*e*P	Pb	05 21 53.5	-0.3
CIRR	Tsirk	1.17	289	PN	Pb	05 21 53.5	-0.3
BDR	Baidarnaya	1.18	314	*e*P	Pb	05 21 53.3	-0.6
BDR				*e*S	Sn	05 22 10.7	+1.1
BDR	Baidarnaya	1.18	314	PN	Pb	05 21 53.3	-0.6
BDR				S	Sn	05 22 10.7	+1.1
LGNR	Loginova	1.19	287	*e*P	Pg	05 21 54.3	-0.5
LGNR	Loginova	1.19	287	PN	Pg	05 21 54.3	-0.5
SRKR	Sorokina	1.25	317	*i* P	Pn	05 21 54.4	-0.4
SRKR	Sorokina	1.25	317	PN	Pn	05 21 54.4	-0.4
BZMR	Bezymyannaya	1.27	279	*e*P	Pn	05 21 55.1	-0.1
BZMR	Bezymyannaya	1.27	279	PN	Pn	05 21 55.1	-0.1
BZWR	Bezymyannyi-We	1.27	280	*e*P	Pn	05 21 55.2	0.0
BZWR	Bezymyannyi-We	1.27	280	PN	Pn	05 21 55.2	0.0
KLY	Klyuchi	1.29	297	*i* P	Pn	05 21 53.6	-1.7
KLY	Klyuchi	1.29	297	PN	Pn	05 21 53.6	-1.7
KMNR	Kamenistaya	1.41	271	*i* P	Pb	05 21 57.7	-0.1
KMNR				*e*S	Sg	05 22 17.8	+0.6
KMNR	Kamenistaya	1.41	271	PN	Pb	05 21 57.7	-0.1
KMNR				S	Sg	05 22 17.8	+0.6
KPT	Kopyto	1.43	280	*e*P	Pg	05 21 58.3	-1.0
KPT				*e*S	Sg	05 22 18.7	+0.9
KPT	Kopyto	1.43	280	PN	Pg	05 21 58.3	-1.0
KPT				S	Sg	05 22 18.7	+0.9
TUMD	Tumrok D	1.44	248	*i* P	Pb	05 21 58.1	-0.2
TUMD				*i* S	Sg	05 22 18.7	+0.6
KZV	Kizimen	1.53	246	*e*P	Pb	05 21 59.8	-0.1
KZV				*e*S	Sg	05 22 21.9	+0.9
KZV	Kizimen	1.53	246	PN	Pb	05 21 59.8	-0.1
KZV				S	Sg	05 22 21.9	+0.9
TUMR	Tumrok	1.54	253	*i* P	Pg	05 22 00.5	-0.9
TUMR				*e*S	Sg	05 22 21.6	+0.1
TUMR	Tumrok	1.54	253	PN	Pn	05 21 58.1	-0.8
TUMR				S	Sn	05 22 18.7	+0.1
KOZ	Kozyrevsk	1.63	282	*i* P	Pb	05 22 01.6	0.0
KOZ				*e*S	Sg	05 22 24.0	-0.4
KOZ	Kozyrevsk	1.63	282	PN	Pb	05 22 01.6	0.0
KOZ				S	Sg	05 22 24.0	-0.4
BKI	Bering	1.93	105	*e*P	Pn	05 22 04.0	-0.1
BKI				*e*S	Sn	05 22 27.1	-0.9
BKI	Bering	1.93	105	PN	Pn	05 22 04.0	-0.1
BKI				S	Sn	05 22 27.1	-0.9
ESO	Esso	2.28	276	*e*P	Pn	05 22 10.2	+1.3
ESO				*e*S	Sb	05 22 41.2	+0.7
ESO	Esso	2.28	276	PN	Pn	05 22 10.2	+1.3
ESO				S	Sb	05 22 41.2	+0.7
KII	Karymskiy	2.56	229	*e*P	Pn	05 22 14.9	+2.1
KII				*e*S	Sn	05 22 46.3	+2.6
KII	Karymskiy	2.56	229	PN	Pn	05 22 14.9	+2.1
KII				S	Sn	05 22 46.3	+2.6
SPN	Mys Shipunski	3.10	212	*e*P	Pn	05 22 20.9	+0.8
SPN				*e*S	Sn	05 22 58.6	+1.8
SPN	Mys Shipunski	3.10	212	PN	Pn	05 22 20.9	+0.8
SPN				S	Sn	05 22 58.6	+1.8
NLC	Nalytchevo	3.25	219	*e*P	Pn	05 22 24.3	+2.0
NLC				*e*S	Sn	05 23 03.3	+2.6
NLC	Nalytchevo	3.25	219	PN	Pn	05 22 24.3	+2.0
NLC				S	Sn	05 23 03.3	+2.6
SDLR	Sedlovina	3.34	224	*e*P	Pn	05 22 25.7	+2.1
SDLR	Sedlovina	3.34	224	PN	Pn	05 22 25.7	+2.1
KRER	Koryakskii	3.38	225	*e*P	Pn	05 22 26.8	+2.6
KRER	Koryakskii	3.38	225	PN	Pn	05 22 26.8	+2.6
KRX	Arik	3.38	226	*e*P	Pn	05 22 26.5	+2.4
KRX	Arik	3.38	226	PN	Pn	05 22 26.5	+2.4
SMAR	Somma	3.39	224	*e*P	Pn	05 22 26.5	+2.2
SMAR	Somma	3.39	224	PN	Pn	05 22 26.5	+2.2
AVH	Avacha	3.41	225	*e*P	Pn	05 22 27.3	+2.8
AVH	Avacha	3.41	225	PN	Pn	05 22 27.3	+2.8
UGLR	Uglovaya	3.42	223	*e*P	Pn	05 22 27.0	+2.4
UGLR				*e*S	Sn	05 23 09.2	+4.3
UGLR	Uglovaya	3.42	223	PN	Pn	05 22 27.0	+2.4
UGLR				S	Sn	05 23 09.2	+4.3
KOK	Koryaka	3.43	226	*e*P	Pn	05 22 27.2	+2.4
KOK	Koryaka	3.43	226	PN	Pn	05 22 27.2	+2.4
GNL	Ganaly	3.46	235	*e*P	Pn	05 22 27.6	+2.4
GNL	Ganaly	3.46	235	PN	Pn	05 22 27.6	+2.4
OSSR	Ossora	3.51	3	*e*P	Pn	05 22 25.9	+0.2
OSSR				*e*S	Sn	05 23 07.3	+0.4
OSSR	Ossora	3.51	3	PN	Pn	05 22 25.9	+0.2
OSSR				S	Sn	05 23 07.3	+0.4
DALK	Dalny	3.58	222	*e*P	Pn	05 22 28.6	+1.8
DALK				*e*S	Sn	05 23 13.6	+4.8
DALK	Dalny	3.58	222	PN	Pn	05 22 28.6	+1.8
DALK				S	Sn	05 23 13.6	+4.8
INSR	Institute	3.61	223	*e*P	Pn	05 22 28.8	+1.6
INSR				*e*S	Sn	05 23 13.6	+4.1
INSR	Institute	3.61	223	PN	Pn	05 22 28.8	+1.6
INSR				S	Sn	05 23 13.6	+4.1
PET	Petropavlovsk	3.63	223	*e*Pn	Pn	05 22 29.2	+1.8
PET	Petropavlovsk	3.63	223	*i* P	Pn	05 22 30.2	+2.8
PET	Petropavlovsk	3.63	223	*e*PN	Pn	05 22 29.9	+2.5
PET				*e*S	Sn	05 23 14.3	+4.4
PET				pmax	pmax		
	comp=Z,339nm,0.5s						
PET				smax	smax		
	comp=E,519nm,0.4s						
PET				smax	smax		
	comp=N,885nm,0.7s						
PET				MLR	MLR		
	comp=Z,500nm,14.0s						
PET				MLR	MLR		
	comp=Z,700nm,9.0s						
PALN	Palana	3.66	337	*e*P	Pn	05 22 30.9	+3.1
PALN	Palana	3.66	337	PN	Pn	05 22 30.9	+3.1
PEA1	Petropavlovsk-	3.95	230	*e*Pn	Pn	05 22 34.7	+2.8
PEA1				*e*Sn	Sb	05 23 29.6	+0.9
PEA0B	Petropavlovsk-	3.96	230	*e*Pn	Pn	05 22 34.6	+2.7
PETK	Petropavlovsk-	3.96	230	P	Pn	05 22 34.7	+2.8
	comp=Z,7.0nm,0.3s,baz=63,slow=15,SNR=42						
PETK				S	Sb	05 23 29.6	+0.8
	comp=Z,7.3nm,0.3s,baz=270,slow=20,SNR=5.7						
PETK				LR	LR	05 24 23.4	
	comp=Z,572nm,18.5s,baz=59,slow=42						
KRMR	Karymshinskiy	3.98	224	*e*P	Pn	05 22 34.8	+2.6
KRMR				*e*S	Sn	05 23 23.8	+5.2
KRMR	Karymshinskiy	3.98	224	PN	Pn	05 22 34.8	+2.6
KRMR				S	Sn	05 23 23.8	+5.2
RUS	Russkaya	4.15	218	*e*P	Pn	05 22 36.9	+2.3
RUS				*e*S	Sn	05 23 27.3	+4.5
RUS	Russkaya	4.15	218	PN	Pn	05 22 36.9	+2.3
RUS				S	Sn	05 23 27.3	+4.5
MTVR	Mutnovka	4.23	221	*e*P	Pn	05 22 39.0	+3.2
MTVR				*e*S	Sn	05 23 29.1	+4.1
MTVR	Mutnovka	4.23	221	PN	Pn	05 22 39.0	+3.2
MTVR				S	Sn	05 23 29.1	+4.1
APC	Apacha	4.32	231	*e*P	Pn	05 22 40.3	+3.4
APC	Apacha	4.32	231	PN	Pn	05 22 40.3	+3.4
ASAK	Asacha	4.42	222	*e*P	Pn	05 22 41.6	+3.3
ASAK	Asacha	4.42	222	PN	Pn	05 22 41.6	+3.3
KDTR	Khodutka, Kamc	4.82	217	*e*P	Pn	05 22 45.8	+2.0
KDTR				*e*S	Sn	05 23 43.9	+4.7
MIPR	Malaya Ipel'ka	4.95	228	*e*P	Pn	05 22 49.0	+3.4
MIPR	Malaya Ipel'ka	4.95	228	PN	Pn	05 22 49.0	+3.4
TILK	Tilichiki	5.04	20	*e*P	Pn	05 22 47.7	+0.9
TILK				*e*S	Sn	05 23 45.2	+0.5
TILK	Tilichiki	5.04	20	PN	Pn	05 22 47.7	+0.9
TILK				S	Sn	05 23 45.2	+0.5
SKR	Severo-Kuril's	6.45	221	*e*PN	Pn	05 23 02.9	-3.2
SKR				*e*S	Sb	05 24 32.9	-7.4
SKR				MLR	MLR		
	comp=Z,500nm,15.0s						
KMSK	Kamenskaya	6.96	13	*e*P	Pn	05 23 16.4	+3.2
KMSK				*e*S	Sn	05 24 33.4	+1.4
KMSK	Kamenskaya	6.96	13	PN	Pn	05 23 16.4	+3.2
KMSK				S	Sn	05 24 33.4	+1.4
MA2	Magadan	7.46	306	LR	LR	05 26 32.9	
	comp=Z,135nm,21.5s,baz=106,slow=41						
SEY	Seymchan	8.92	328	P	Pn	05 23 42.9	+2.9
	comp=Z,0.1nm,0.3s,baz=178,slow=10.0,SNR=2.2						
BILL	Bilibino	12.44	6	*i* PN	Pn	05 24 31.3	+3.3
BILL				*i* S	Sn	05 26 55.0	+8.9
BILL				pmax	pmax		
	comp=Z,2.0nm,1.0s						
BILL				smax	smax		
	comp=Z,242nm,16.0s						
NKL	Nikolayevsk	13.08	268	*e*PN	P	05 24 52.0	+4.9
NKL				pmax	pmax		
	comp=E,32nm,1.4s						
NKL				pmax	pmax		
	comp=Z,63nm,1.4s						
SPIA	Saint Paul Isl	14.97	73	*e*Pn	P	05 25 10.0	+1.9
GAMB	Gambell	15.08	47	*e*Pn	Pn	05 25 05.6	+1.5
	comp=Z,9.3nm,1.2s						
GRNR	Gornyy	16.46	263	*i* P	P	05 25 26.2	+1.6
YAK	Yakutsk	18.04	304	*e*Pn	P	05 25 42.3	+0.4
	comp=Z,24nm,0.6s						
YAK	Yakutsk	18.04	304	*e*P	P	05 25 42.3	+0.4
YAK				pmax	pmax		
	comp=Z,24nm,0.6s						
KLR	Kul'dur	19.84	264	P	Pn	05 26 03.5	0.0
	comp=Z,0.0nm,0.3s,baz=70,slow=9.6,SNR=5.0						
KLR	Kul'dur	19.84	264	*i* P	P	05 26 00.0	-1.8
TIXI	Tiksi	21.39	331	P	P	05 26 18.0	-0.5
	comp=Z,22nm,0.7s,baz=115,slow=12,SNR=37						
TIXI				LR	LR	05 35 36.5	
	comp=Z,127nm,18.8s,baz=86,slow=40						
TIXI	Tiksi	21.39	331	*e*P	P	05 26 18.0	-0.5
TIXI				*e*P	P	05 26 18.5	+0.1
TIXI	Tiksi	21.39	331	*d i*P	P	05 26 18.1	-0.3
TIXI				pmax	pmax		
	comp=Z,32nm,1.0s						
IM3	Indian Mountai	23.02	46	*e*P	P	05 26 36.0	+0.1
CAST	Castle Rocks	23.66	53	*e*P	P	05 26 43.4	+1.0
	comp=Z,12nm,1.8s						
SPU	Mount Spurr	23.86	58	*e*P	P	05 26 45.5	+1.2
BPAW	Bear Paw Mtn.	24.13	51	*e*P	P	05 26 47.3	+0.5
MLY	Manley	24.23	49	*e*P	P	05 26 48.2	+0.6
	comp=Z,18nm,1.8s						
KDAK	Kodiak Island	24.24	67	P	P	05 26 48.2	+0.5
	comp=Z,3.6nm,0.5s,baz=283,slow=8.5,SNR=10.0						
KDAK				LR	LR	05 35 46.1	
	comp=Z,77nm,20.1s,baz=306,slow=35						
KDAK	Kodiak Island	24.24	67	*e*P	P	05 26 48.2	+0.5
	comp=Z,166nm,2.0s						
KDAK	Kodiak Island	24.24	67	*i* P	P	05 26 48.8	+1.0
SUA	Susitna One	24.45	57	*e*P	P	05 26 50.0	+0.2
	comp=Z,69nm,1.9s						
COLD	Coldfoot	24.54	43	*e*P	P	05 26 50.4	-0.1
	comp=Z,5.7nm,0.6s						
TOLK	Toolik Lake Re	24.92	40	*e*P	P	05 26 54.0	+0.1
	comp=Z,14nm,0.8s						
WRH	Wood River Hil	25.38	50	*e*P	P	05 26 58.6	+0.6
	comp=Z,10nm,1.0s						
MAJO	Matsushiro	25.41	231	*e*P	P	05 26 59.1	+0.5
MAJO	Matsushiro	25.41	231	*e*P	P	05 26 59.1	+0.5
MAT	Matsushiro	25.41	231	P	P	05 27 00.1	+1.5
MJAR	Matsushiro Arr	25.41	231	P	P	05 26 59.1	+0.5
	comp=Z,1.6nm,0.4s,baz=30,slow=6.9,SNR=5.1						
MJAR				LR	LR	05 37 12.5	
	comp=Z,56nm,21.9s,baz=55,slow=37						
CCB	Clear Creek Bu	25.49	50	*e*P	P	05 26 59.4	+0.4
	comp=Z,26nm,1.7s						
ILAR	Eielson Array	25.87	49	P	P	05 27 02.1	-0.4
	comp=Z,2.1nm,0.7s,baz=270,slow=10.0,SNR=32						
ILAR				LR	LR	05 37 28.0	
	comp=Z,104nm,18.1s,baz=270,slow=37						
ILB	Eielson Array	25.87	49	*e*P	P	05 27 02.5	-0.1
IL1	Eielson Array	25.88	49	*e*P	P	05 27 02.9	+0.4
SCM	Sheep Creek Mo	26.01	56	*e*P	P	05 27 04.3	+0.4
	comp=Z,57nm,1.8s						
SCM	Sheep Creek Mo	26.01	56	*e*P	P	05 27 04.3	+0.4
SCM				pmax	pmax		
	comp=Z,57nm,1.8s						
BOD	Bodaibo	26.31	295	*e*P	P	05 27 06.0	-0.5
BOD				pmax	pmax		
	comp=Z,7.0nm,2.5s						
FYU	Fort Yukon	26.48	45	*e*P	P	05 27 08.5	+0.6
	comp=Z,73nm,1.8s						
SCRK	Sand Creek	27.21	51	*e*P	P	05 27 14.0	-0.8
	comp=Z,5.8nm,1.0s						
EGAK	Eagle	28.31	49	*e*P	P	05 27 23.8	-0.6
	comp=Z,5.3nm,0.8s						
INK	Inuvik	30.83	41	P	P	05 27 47.0	+0.3
	comp=Z,4.7nm,0.5s,baz=292,slow=7.1,SNR=65						
INK	Inuvik	30.83	41	*e*P	P	05 27 46.9	+0.3
	comp=Z,5.2nm,0.6s						
INK	Inuvik	30.83	41	*e*P	P	05 27 46.9	+0.3
INK				pmax	pmax		
	comp=Z,5.0nm,0.6s						
H11N2	WAKE ISLAND Hy	36.10	173	T	T	06 07 04.4	
	baz=356,slow=76,SNR=39						
H11N3	WAKE ISLAND Hy	36.12	173	T	T	06 07 12.3	
	baz=356,slow=76,SNR=281						
H11N1	WAKE ISLAND Hy	36.12	173	T	T	06 07 12.4	
	baz=356,slow=76,SNR=240						
HHC	Hu-ho-hao-te	36.25	268	*e*P	P	05 28 34.8	+0.5
HHC				pmax	pmax		
	comp=Z,13nm,0.8s						
HHC				pmax	pmax		
	comp=Z,450nm,4.8s						
JOW	Kunigami	38.10	235	LR	LR	05 45 05.8	
	comp=Z,65nm,20.9s,baz=92,slow=37						
NJ2	Nanjing	38.58	251	*e*P	P	05 28 52.2	-1.7
NJ2				pmax	pmax		
	comp=Z,16nm,0.7s						
YKA	Yellowknife Ar	40.18	46	P	P	05 29 07.2	+0.3
	comp=Z,4.3nm,0.6s,baz=300,slow=8.0,SNR=64						
YKB5	Yellowknife Ar	40.18	46	*e*P	P	05 29 09.9	+3.0
RES	Resolute Bay	40.27	24	*e*P	P	05 29 07.8	+0.3
	comp=Z,3.5nm,0.8s						
RES	Resolute Bay	40.27	24	*e*P	P	05 29 07.8	+0.3
RES				pmax	pmax		
	comp=Z,3.0nm,0.8s						
LLLB	Lillooet	43.40	64	*e*P	P	05 29 34.8	+1.3
	comp=Z,8.2nm,0.9s						
GTA	Gaotai	43.86	276	*e*P	P	05 29 40.5	+3.1
GTA				pP	sP	05 29 47.7	+3.8
GTA				sP	pP	05 29 51.4	+9.3
GTA				pmax	pmax		
	comp=Z,4.0nm,1.0s						
DGZ	Jazzator, Alta	43.90	295	*i* P	P	05 29 37.1	-0.5
LZH	Lanzhou	43.91	269	*e*P	P	05 29 36.5	-1.4
LZH				pP	sP	05 29 47.7	+3.3
LZH				sP	pP	05 29 53.1	+11
LZH				pmax	pmax		
	comp=Z,30nm,1.2s						
LZH				pmax	pmax		
	comp=Z,160nm,4.8s						
SPA0	Spitsbergen Ar	44.76	351	*e*P	P	05 29 44.0	0.0
SPITS	Spitsbergen Ar	44.76	351	P	P	05 29 43.7	-0.3
	comp=Z,43nm,0.8s,baz=34,slow=10,SNR=43						
SPITS				LR	LR	05 48 18.1	
	comp=Z,42nm,18.6s,baz=340,slow=36						
EDM	Edmonton	45.97	56	*e*P	P	05 29 54.7	+0.8
	comp=Z,14nm,0.7s						
EDM	Edmonton	45.97	56	*e*P	P	05 29 54.7	+0.8
EDM				pmax	pmax		
	comp=Z,15nm,0.7s						

KULLO	Kullorsuaq	47.25	14	*i* P	P	05 30 03.1	-0.5
	comp=Z,22nm,0.8s						
KULLO	Kullorsuaq	47.25	14	*i* P	P	05 30 03.1	-0.5
KULLO				pmax	pmax		
	comp=Z,22nm,0.8s						
KKH	Kailua Kona	47.44	122	*e*P	P	05 30 06.9	+1.2
KKH	Kailua Kona	47.44	122	*e*P	P	05 30 06.9	+1.2
WMQ	Urumqi	47.56	289	P	P	05 30 08.7	+2.2
WMQ				sP	sP	05 30 21.7	+8.6
WMQ				pmax	pmax		
	comp=Z,12nm,0.7s						
KURK	Kurchatov	47.65	301	*e*P	P	05 30 05.1	-1.9
	comp=Z,4.2nm,0.4s						
KURK	Kurchatov	47.65	301⇑	*e*P	P	05 30 04.5	-2.5
KURK				pmax	pmax		
	comp=Z,6.0nm,0.6s						
DAG	Danmarks Havn	47.73	0	*i* P	P	05 30 06.8	-0.5
	comp=Z,6.6nm,0.7s						
DAG	Danmarks Havn	47.73	0	*i* P	P	05 30 06.8	-0.5
DAG				pmax	pmax		
	comp=Z,7.0nm,0.7s						
CD2	Chengdu	47.77	264	*e*P	P	05 30 07.0	-1.2
WALA	Waterton Lakes	48.37	61	*e*P	P	05 30 13.5	+0.7
	comp=Z,59nm,2.0s						
MK31	Makanchi Array	48.40	295	*e*P	P	05 30 10.6	-2.4
MK31	Makanchi Array	48.40	295	*e*P	P	05 30 10.6	-2.4
MK32	Makanchi Array	48.40	295	*e*P	P	05 30 10.9	-2.1
MKAR	Makanchi Array	48.40	295	P	P	05 30 10.9	-2.1
	comp=Z,0.9nm,0.4s,baz=53,slow=6.2,SNR=24						
MKAR	Makanchi Array	48.40	295	*e*P	P	05 30 10.6	-2.4
	comp=Z,11nm,0.5s						
MKAR	Makanchi Array	48.40	295	*ce*P	P	05 30 11.6	-1.3
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
MK01	Makanchi Array	48.41	295	*e*P	P	05 30 10.9	-2.1
JTMT	Jette	49.06	62	*e*P	P	05 30 19.1	+0.9
	comp=Z,8.2nm,0.8s						
BVAR	Borovoye Array	49.95	308	P	P	05 30 22.4	-2.3
	comp=Z,1.2nm,0.4s,baz=60,slow=7.0,SNR=7.5						
BRVK	Borovoye	49.97	308	*ce*P	P	05 30 23.0	-1.8
BRVK				pmax	pmax		
	comp=Z,15nm,2.5s						
SUMG	Summit	51.12	8	*i* P	P	05 30 32.7	-1.0
	comp=Z,8.3nm,0.7s						
SUMG	Summit	51.12	8	*e*P	P	05 30 33.6	-0.1
	comp=Z,8.2nm,0.7s						
SUMG	Summit	51.12	8	*i* P	P	05 30 32.7	-1.0
SUMG				pmax	pmax		
	comp=Z,8.0nm,0.7s						
ARA0	ARCESS Array S	51.23	342	*e*P	P	05 30 32.3	-1.8
ARCES	ARCESS Array B	51.23	342	P	P	05 30 32.3	-1.8
	comp=Z,2.5nm,0.8s,baz=23,slow=7.8,SNR=8.5						
YHB	Horse Butte	52.68	63	*e*P	P	05 30 46.2	+0.7
	comp=Z,5.3nm,0.8s						
YHH	Holmes Hill	52.83	63	*e*P	P	05 30 47.2	+0.5
	comp=Z,4.2nm,1.2s						
YMR	Madison River	52.85	63	*e*P	P	05 30 48.0	+1.2
	comp=Z,3.9nm,0.8s						
YFT	Old Faithful	53.07	63	*e*P	P	05 30 50.3	+1.9
	comp=Z,4.6nm,0.8s						
H17A	Grant Village	53.24	63	*e*P	P	05 30 51.5	+1.7
	comp=Z,3.4nm,0.8s						
RLMT	Red Lodge	53.38	62	*e*P	P	05 30 52.0	+1.3
	comp=Z,5.5nm,0.8s						
IMW	Indian Meadow	53.41	64	*e*P	P	05 30 51.6	+0.6
	comp=Z,16nm,1.9s						
NV01	Mina Array Sit	53.45	74	*e*P	P	05 30 52.7	+1.5
NVAR	Mina Array Bea	53.45	74	P	P	05 30 52.8	+1.6
	comp=Z,2.3nm,0.7s,baz=297,slow=7.1,SNR=18						
FXWY	Fox Creek	53.55	64	*e*P	P	05 30 53.0	+1.1
	comp=Z,2.5nm,0.7s						
MDPB	Devils Postpil	53.60	75	*e*P	P	05 30 53.0	+0.6
	comp=Z,24nm,1.2s						
TPAW	Teton Pass	53.70	64	*e*P	P	05 30 54.4	+1.3
	comp=Z,6.9nm,1.3s						
LOHW	Long Hollow	53.78	64	*e*P	P	05 30 55.1	+1.4
	comp=Z,2.5nm,0.7s						
SCO	Scoresbysund	54.02	2	*i* P	P	05 30 54.1	-0.6
	comp=Z,2.2nm,0.9s						
SCO	Scoresbysund	54.02	2	*i* P	P	05 30 54.1	-0.6
SCO				pmax	pmax		
	comp=Z,2.0nm,0.9s						
PD31	Pinedale Array	54.92	64	*e*P	P	05 31 02.7	+0.7
PDAR	Pinedale Array	54.92	64	P	P	05 31 03.0	+1.0
	comp=Z,2.2nm,0.6s,baz=315,slow=2.9,SNR=26						
PDAR	Pinedale Array	54.92	64	*e*P	P	05 31 02.4	+0.4
GATR	Gnd/Air Tx Cnt	55.08	79	*e*P	P	05 31 05.3	+2.4
DUG	Dugway, Tooele	55.11	68	*e*P	P	05 31 03.7	+0.5
	comp=Z,3.6nm,0.9s						
DUG	Dugway, Tooele	55.11	68	*e*P	P	05 31 03.7	+0.5
DUG				pmax	pmax		
	comp=Z,4.0nm,0.9s						
AAK	Ala-Archa	55.28	296	*e*P	P	05 31 03.3	-1.1
	comp=Z,2.2nm,0.8s						
AAK	Ala-Archa	55.28	296	*e*P	P	05 31 03.3	-1.1
AAK				pmax	pmax		
	comp=Z,2.0nm,0.8s						
KLMR	Klimovskoe	55.41	330	*e*P	P	05 31 02.0	-2.9
KLMR				AMP		05 31 18.2	
	comp=Z,13nm,1.4s						
KLMR	Klimovskoe	55.41	330	*e*P	P	05 31 02.0	-2.9
KLMR				pmax	pmax		
	comp=Z,13nm,1.4s						
TPNV	Topopah Spring	55.64	73	*e*P	P	05 31 08.8	+1.7
	comp=Z,11nm,1.4s						
TPNV	Topopah Spring	55.64	73	*e*P	P	05 31 08.8	+1.7
TPNV				pmax	pmax		
	comp=Z,11nm,1.4s						
NLU	North Lily Min	55.67	68	*e*P	P	05 31 08.8	+1.5
	comp=Z,3.3nm,0.8s						
MPU	Maple Canyon	55.85	68	*e*P	P	05 31 09.9	+1.2
	comp=Z,3.1nm,0.8s						
ULM	Lac du Bonnet	55.90	49	P	P	05 31 09.0	+0.5
	comp=Z,2.3nm,0.4s,baz=316,slow=6.5,SNR=9.3						
GSC	Goldstone, Bar	56.56	75	*e*P	P	05 31 15.0	+1.4
	comp=Z,6.9nm,0.9s						
GSC	Goldstone, Bar	56.56	75	*e*P	P	05 31 15.0	+1.4
GSC				pmax	pmax		
	comp=Z,7.0nm,0.9s						
TMUT	Trail Mountain	56.60	68	*e*P	P	05 31 14.8	+0.7
	comp=Z,6.0nm,0.7s						
P17A	Butcher Ranch,	56.72	68	*e*P	P	05 31 15.6	+0.8
	comp=Z,3.1nm,0.7s						
P18A	Preston Nutter	56.86	67	*e*P	P	05 31 16.5	+0.5
	comp=Z,3.9nm,0.9s						
Q16A	Castle Valley	56.90	68	*e*P	P	05 31 17.5	+1.4
	comp=Z,5.1nm,0.8s						
KK05	Karatay Array	56.91	299	*e*P	P	05 31 13.9	-2.1
KK04	Karatay Array	56.93	299	*e*P	P	05 31 14.0	-2.1
KK02	Karatay Array	56.93	299	*e*P	P	05 31 13.4	-2.7
KK06	Karatay Array	56.93	299	*e*P	P	05 31 14.0	-2.1
KK31	Karatay Array	56.93	299	*e*P	P	05 31 13.7	-2.4
KK31	Karatay Array	56.93	299	*e*P	P	05 31 13.7	-2.4
KKAR	Karatay Array	56.93	299	*e*P	P	05 31 13.7	-2.4
KKAR	Karatay Array	56.93	299	*e*P	P	05 31 13.7	-2.4
KK01	Karatay Array	56.93	299	*e*P	P	05 31 13.4	-2.7
KK03	Karatay Array	56.94	299	*e*P	P	05 31 14.0	-2.1
KK08	Karatay Array	56.94	299	*e*P	P	05 31 14.1	-2.1
KK07	Karatay Array	56.95	299	*e*P	P	05 31 14.0	-2.2
SRU	San Rafael Swe	57.10	68	*e*P	P	05 31 18.7	+1.2
	comp=Z,9.9nm,0.7s						
SRU	San Rafael Swe	57.10	68	*e*P	P	05 31 18.7	+1.2
SRU				pmax	pmax		
	comp=Z,10.0nm,0.7s						
LCMT	Little Creek M	57.22	71	*e*P	P	05 31 19.5	+1.2
	comp=Z,3.2nm,1.0s						
AB05	Akbulak array	57.22	311	*e*P	P	05 31 16.0	-1.9
AB02	Akbulak array	57.23	311	*e*P	P	05 31 16.0	-2.0
AB01	Akbulak array	57.23	311	*e*P	P	05 31 16.1	-2.0
AB31	Akbulak array	57.23	311	*e*P	P	05 31 16.2	-1.9
AB31	Akbulak array	57.23	311	*e*P	P	05 31 16.2	-1.9
ABKAR	Akbulak array	57.23	311	*e*P	P	05 31 16.2	-1.9
	comp=Z,14nm,0.6s						
AB04	Akbulak array	57.23	311	*e*P	P	05 31 16.1	-2.0
AB03	Akbulak array	57.24	311	*e*P	P	05 31 16.1	-2.0
AB07	Akbulak array	57.24	311	*e*P	P	05 31 16.1	-2.0
O20A	White River Ci	57.53	65	*e*P	P	05 31 21.6	+1.0
	comp=Z,11nm,0.8s						
LDFC	Landfair	57.65	74	*e*P	P	05 31 21.8	+0.4
	comp=Z,9.9nm,1.0s						
N23A	Red Feather La	58.13	63	*e*P	P	05 31 25.9	+1.1
	comp=Z,5.4nm,0.8s						
FIA0	FINESS Array S	58.27	337	*e*P	P	05 31 24.0	-1.2
FIA0	FINESS Array S	58.27	337	*e*P	P	05 31 24.0	-1.2
FINES	FINESS Array B	58.27	337	P	P	05 31 24.0	-1.2
	comp=Z,2.8nm,0.5s,baz=28,slow=8.2,SNR=21						
FINES				LR	LR	06 00 04.9	
	comp=Z,32nm,18.4s,baz=36,slow=40						
PV09	Paradox Valley	58.28	67	*e*P	P	05 31 28.0	+2.0
PV10	Paradox Valley	58.42	67	*e*P	P	05 31 27.4	+0.5
PV05	Paradox Valley	58.61	68	*e*P	P	05 31 29.8	+1.5
SMCO	Snowmass	58.89	65	*e*P	P	05 31 30.6	+0.2
	comp=Z,3.8nm,0.8s						
ISCO	Idaho Springs	59.12	64	*e*P	P	05 31 32.9	+1.1
	comp=Z,3.8nm,0.8s						
ISCO	Idaho Springs	59.12	64	*e*P	P	05 31 32.9	+1.1
ISCO				pmax	pmax		
	comp=Z,4.0nm,0.8s						
BTCC	Brunts Corner	59.14	76	*e*P	P	05 31 35.7	+4.1
EYMN	Ely	59.52	49	*e*P	P	05 31 34.1	0.0
	comp=Z,8.2nm,0.6s						
S22A	4UR Ranch, Cre	60.04	66	*e*P	P	05 31 40.1	+1.9
	comp=Z,2.6nm,0.8s						
X16A	Lo Mia Camp, P	60.13	72	*e*P	P	05 31 40.4	+1.7
	comp=Z,2.4nm,0.8s						
SDCO	Great Sand Dun	60.73	65	*e*P	P	05 31 44.1	+1.3
	comp=Z,8.6nm,1.7s						
X18A	Snowflake	60.84	71	*e*P	P	05 31 44.8	+1.2
	comp=Z,5.4nm,0.9s						
NB2	NORSAR Subarra	61.39	345	P	P	05 31 45.2	-1.6
	comp=Z,1.2nm,0.6s,baz=20,slow=6.9						
NB200	NORSAR Array S	61.39	345	*e*P	P	05 31 45.1	-1.6
NOA	NORSAR Array B	61.39	345	P	P	05 31 45.1	-1.6
	comp=Z,1.8nm,0.6s,baz=19,slow=6.9,SNR=7.2						
MHTCO	State Highway	61.62	65	*e*P	P	05 31 50.2	+1.4
	comp=Z,5.8nm,0.9s						
HFS	Hagfors	61.87	343	P	P	05 31 48.2	-1.6
	comp=Z,1.7nm,0.5s,baz=46,slow=6.2,SNR=12						
ANMO	Albuquerque	62.37	68	*e*P	P	05 31 54.8	+1.0
	comp=Z,1.9nm,0.9s						
ANMO	Albuquerque	62.37	68	*ce*P	P	05 31 55.3	+1.4
ANMO				pmax	pmax		
	comp=Z,7.0nm,2.5s						
SCHQ	Schefferville	62.57	30	P	P	05 31 54.0	-0.6
	comp=Z,6.7nm,0.6s,baz=348,slow=7.9,SNR=7.2						
H43A	Windswept, Lux	63.85	49	*e*P	P	05 32 03.2	-0.1
	comp=Z,14nm,0.6s						
MSTX	Muleshoe	65.05	66	*e*P	P	05 32 11.0	-0.4
	comp=Z,29nm,1.9s						
MNTX	Cornudas Mount	65.45	69	*e*P	P	05 32 15.0	+1.0
	comp=Z,8.7nm,1.4s						
WMOK	Wichita Mounta	66.48	63	*e*P	P	05 32 20.8	+0.3
	comp=Z,5.6nm,0.9s						
WMOK	Wichita Mounta	66.48	63	*e*P	P	05 32 20.8	+0.3
WMOK				pmax	pmax		
	comp=Z,6.0nm,0.9s						
AKASG	Malin Array Be	67.10	330	P	P	05 32 22.1	-2.0
	comp=Z,2.6nm,0.5s,baz=28,slow=6.7,SNR=10						
AKBB	Malin Array Si	67.10	330	*e*P	P	05 32 22.1	-2.0
	comp=Z,8.9nm,1.4s						
AKBB	Malin Array Si	67.10	330	*e*P	P	05 32 22.2	-2.0
AKBB				pmax	pmax		
	comp=Z,9.0nm,1.4s						
FVM	French Village	67.91	55	*e*P	P	05 32 29.3	-0.2
	comp=Z,11nm,0.6s						
FVM	French Village	67.91	55	*e*P	P	05 32 29.3	-0.2
FVM				pmax	pmax		
	comp=Z,11nm,0.6s						
LTX	Lajitas	68.22	70	*e*P	P	05 32 32.7	+0.9
LTX	Lajitas	68.22	70	*e*P	P	05 32 32.7	+0.9
TX31	Lajitas Ar. Si	68.22	70	*e*P	P	05 32 32.2	+0.5
TX31				*e*P	P	05 32 32.6	+0.8
TXAR	Lajitas Array	68.22	70	P	P	05 32 32.7	+0.9
	comp=Z,3.2nm,0.7s,baz=296,slow=4.2,SNR=37						
TXAR				LR	LR	06 02 28.1	
	comp=Z,36nm,18.2s,baz=0.0,slow=36						
KBZ	Khabaz	68.63	318	P	P	05 32 33.3	-0.6
	comp=Z,1.5nm,0.6s,baz=56,slow=5.3,SNR=6.9						
PBMO	Poplar Bluff	68.89	55	*e*P	P	05 32 35.3	-0.3
	comp=Z,5.5nm,0.8s						
JCT	Junction City	69.34	66	*e*P	P	05 32 38.8	+0.2
	comp=Z,5.2nm,0.7s						
JCT	Junction City	69.34	66	*e*P	P	05 32 38.8	+0.2
JCT				pmax	pmax		
	comp=Z,5.0nm,0.7s						
WVT	Waverly	70.62	54	*e*P	P	05 32 46.5	+0.2
	comp=Z,12nm,1.4s						
WVT	Waverly	70.62	54	*e*P	P	05 32 46.5	+0.2
WVT				pmax	pmax		
	comp=Z,12nm,1.4s						
GNI	Garni	70.94	314	LR	LR	06 07 29.2	
	comp=Z,39nm,18.3s,baz=70,slow=39						
BUR08	Bucovina Ar. S	70.99	331	*e*P	P	05 32 48.0	-0.5
LANS	Liptovska Anna	71.05	335	*e*P	P	05 32 49.4	+0.6
LANS	Liptovska Anna	71.05	335	*e*P	P	05 32 49.4	+0.6
OXF	Oxford	71.22	56	*e*P	P	05 32 50.3	+0.3
	comp=Z,15nm,0.9s						
OXF	Oxford	71.22	56	*e*P	P	05 32 50.3	+0.3
OXF				pmax	pmax		
	comp=Z,15nm,0.9s						
PLAL	Pickwick Lake	71.45	55	*e*P	P	05 32 51.2	-0.2
	comp=Z,8.0nm,0.8s						
VYHS	Vyhne	71.81	336	*e*P	P	05 32 50.2	-3.2
VYHS	Vyhne	71.81	336	*e*P	P	05 32 50.2	-3.2
GERES	GERESS Array B	72.60	339	P	P	05 32 57.3	-0.9
	comp=Z,0.6nm,0.5s,baz=37,slow=6.9,SNR=5.0						
MLR	Muntele Rosu	72.75	330	P	P	05 32 58.9	-0.3
	comp=Z,0.9nm,0.5s,baz=323,slow=5.1,SNR=14						
MLR	Muntele Rosu	72.75	330	*e*P	P	05 32 58.5	-0.7
	comp=Z,18nm,1.7s						
MLR	Muntele Rosu	72.75	330	*e*P	P	05 32 58.5	-0.7
MLR				pmax	pmax		
	comp=Z,18nm,1.7s						
LRAL	Lakeview Retre	73.56	55	*e*P	P	05 33 03.5	-0.5
	comp=Z,7.1nm,0.6s						
BR101	Keskin Array S	75.51	322	*e*P	P	05 33 13.9	-1.5
BR131	Keskin Array S	75.51	322	*e*P	P	05 33 14.5	-0.9
BRTR	Keskin Array B	75.51	322	P	P	05 33 13.9	-1.5
	comp=Z,1.6nm,0.6s,baz=55,slow=4.0,SNR=10						
BRTR	Keskin Array B	75.51	322	*ce*P	P	05 33 14.1	-1.3
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
BR231	Keskin MP Arra	75.70	322	*e*P	P	05 33 14.9	-1.6
WR1	Warramunga Arr	79.15	207	*e*P	P	05 33 34.8	-0.8
	comp=Z,22nm,1.8s						
WRA	Warramunga Arr	79.15	207	P	P	05 33 34.8	-0.8
	comp=Z,0.5nm,0.6s,baz=15,slow=5.8,SNR=4.6						
ASAR	Alice Springs	82.83	206	P	P	05 33 55.2	0.0
	comp=Z,0.7nm,0.6s,baz=19,slow=6.2,SNR=4.8						
ES19	SONSECA Array	84.23	350	*e*P	P	05 34 02.5	0.0
ESDC	Sonseca Array	84.26	350	P	P	05 34 02.2	-0.5
	comp=Z,0.5nm,0.6s,baz=7.1,slow=4.9,SNR=4.9						
RAYN	Ar Rayn	84.83	305	*e*P	P	05 34 04.0	-1.8
	comp=Z,4.7nm,0.6s						
RAYN	Ar Rayn	84.83	305	P	P	05 34 04.0	-1.8

IDC 04 05:25:08.3±9.3**, 6°.48S**×**100°.77W, h0**km**, mb3.7**/4**, mb1 4.0**/4**, mb1mx3.6**/42**, mbtmp3.7**/4**, Error ellipse: s-maj=424.1km s-min=121.3km az=105.0, Central East Pacific Rise**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TXAR	Lajitas Array	35.71	356	P	P	05 32 08.9	0.0
	0.4nm,0.9s,baz=179,slow=11,SNR=3.6						
YKA	Yellowknife Ar	69.59	353	P	P	05 36 18.9	-0.1
	0.7nm,0.9s,baz=163,slow=6.2,SNR=9.3						
INK	Inuvik	78.07	348	P	P	05 37 09.6	+1.0
	1.8nm,0.8s,baz=131,slow=4.9,SNR=4.6						
ILAR	Eielson Array	78.82	342	P	P	05 37 12.1	-0.7
	1.1nm,1.0s,baz=149,slow=4.4,SNR=7.0						

*IDC **04** 05:29:14.4±4.0, 32°.43S×179°.94E, h380km±43km, mb3.3/3, mb1 3.6/5, mb1mx3.2/44, mbtmp4.3/5, Error ellipse: s-maj=48.0km s-min=31.1km az=179.0*
*ISCJB **04** 05:29:15.5±0.9, 32°.32S±0°.06×179°.7E±0°.2, h372km, mb3.5/3, Error ellipse: s-maj=19.6km s-min=7.8km az=1.4*
*WEL **04** 05:29:15.4±0.7, 32°S±9°×17°9W±2°2, h307km±10km*
ISC 04 05:29:17.0±1.3**, 32°.47S**±0°.10×**179°.7E**±0°.2**, h372**km**, n74,** σ**1s.36**/75**, mb3.5**/3**, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	Green Lake	3.79	33	S	S	05 31 02.9	-18
MXZ	Matakaoa Point	5.21	192	P	Pn	05 30 41.6	+1.9
MXZ	Matakaoa Point	5.21	192	S	S	05 31 47.0	+0.1
WMGZ	Waiomatatini S	5.44	191	P	Pn	05 30 43.1	+0.9
HAZ	Te Kaha	5.51	196	P	Pn	05 30 42.1	-0.9
HAZ	Te Kaha	5.51	196	S	S	05 31 52.6	-0.2
PKGZ	Pakihiroa	5.57	194	P	Pn	05 30 43.6	-0.2
PKGZ	Pakihiroa	5.57	194	S	S	05 31 53.6	-0.7
PUZ	Puketiti	5.72	192	P	Pn	05 30 44.7	-0.6
PUZ	Puketiti	5.72	192	S	S	05 31 55.9	-1.2
RUGZ	Raukumara Rang	5.73	196	P	Pn	05 30 46.5	+0.9
RUGZ	Raukumara Rang	5.73	196	S	S	05 31 57.6	0.0
TWGZ	Tauwhareparae	5.87	194	P	Pn	05 30 49.9	+2.9
TWGZ	Tauwhareparae	5.87	194	S	S	05 32 01.1	+0.8
OPRZ	Ohinepanea	5.96	205	P	Pn	05 30 50.4	+2.5
MWZ	Matawai	6.12	196	P	Pn	05 30 50.2	+0.4
MWZ	Matawai	6.12	196	S	S	05 32 05.4	0.0
CNGZ	Carnagh Statio	6.13	191	P	Pn	05 30 51.2	+1.3
TKGZ	Te Karaka	6.15	194	P	Pn	05 30 49.9	-0.1
TKGZ	Te Karaka	6.15	194	S	S	05 32 04.5	-1.3
URZ	Urewera	6.16	200	P	Pn	05 30 49.4	-0.8
	28nm,0.3s,baz=355,slow=2.8,SNR=67						
URZ				S	S	05 32 05.7	-0.3
	20nm,0.3s,baz=257,slow=22,SNR=16						
URZ	Urewera	6.16	200	P	Pn	05 30 48.5	-1.7
URZ	Urewera	6.16	200	S	S	05 32 05.4	-0.6
KMRZ	Kaimai	6.19	209	P	Pn	05 30 51.6	+1.0
KARZ	Kaharoa	6.22	206	P	Pn	05 30 53.9	+2.9
HRRZ	Handcock Road	6.54	204	P	Pn	05 30 54.5	0.0
GRRZ	Galatos Road	6.56	206	P	P	05 30 58.0	+2.1
WPRZ	Whakapapatarin	6.70	205	P	P	05 30 58.6	+1.2
KNZ	Kokohu	6.75	194	P	P	05 30 58.2	+0.3
RAHZ	Arahi	6.78	198	P	P	05 30 58.3	-0.1
MTHZ	Maungataniwha	6.79	199	P	P	05 30 59.2	+0.8
KUTZ	Kaahu Road	6.79	207	P	P	05 31 00.8	+2.3
MHGZ	Mahia Peninsul	6.83	192	P	P	05 31 00.4	+1.5
MRHZ	Matea Rd	6.89	202	P	P	05 30 60.0	+0.3
WHHZ	Waihua	6.89	196	P	P	05 31 00.0	+0.4
WATZ	Wairara	7.02	206	P	P	05 31 02.4	+1.3
NMHZ	Naumai	7.02	199	P	Pn	05 31 00.3	+0.2
ARHZ	Aropaoanui	7.13	197	P	P	05 31 02.3	0.0
RATZ	Rangitukua	7.14	206	P	P	05 31 03.7	+1.2
BKZ	Black Stump Fm	7.18	201	P	Pn	05 31 00.6	-1.3
RITZ	Rihia Road	7.21	205	P	P	05 31 04.4	+1.1
HIZ	Hauiti	7.22	212	P	P	05 31 06.5	+3.2
MCHZ	McNeill Hill	7.38	199	P	P	05 31 05.4	+0.3
KWHZ	Kaweka Forest	7.44	200	P	Pn	05 31 05.3	+0.5
TWVZ	Taurewa	7.45	207	P	P	05 31 07.0	+1.0
CKHZ	Cape Kidnapper	7.49	196	P	P	05 31 07.0	+0.6
TUVZ	Tukino	7.54	205	P	P	05 31 07.5	+0.3
FWVZ	Far West T-bar	7.57	205	P	P	05 31 08.1	+0.6
WHVZ	Whangaehu Hut	7.58	205	P	P	05 31 07.5	-0.1
BHHZ	Black Hill Sta	7.61	202	P	Pn	05 31 06.8	0.0
MOVZ	Moawhango	7.63	204	P	Pn	05 31 06.8	-0.3
KRHZ	Kereru	7.65	200	P	Pn	05 31 07.2	-0.2
KAHZ	Kahuranaki	7.66	197	P	P	05 31 08.6	+0.2
VRZ	Vera Road	7.77	210	P	P	05 31 11.5	+2.0
PXZ	Pawanui	7.89	196	P	Pn	05 31 10.5	+0.5
WPHZ	Waipukurau	8.03	198	P	Pn	05 31 12.2	+0.6
DREZ	Durham Road	8.06	212	P	P	05 31 18.3	+4.6
TSZ	Takapari Road	8.16	201	P	Pn	05 31 13.1	-0.1
PRHZ	Porangahau	8.17	197	P	Pn	05 31 14.1	+0.8
WAZ	Wanganui	8.21	206	P	Pn	05 31 14.7	+0.8
ANWZ	Angora Road	8.39	197	P	Pn	05 31 16.8	+0.9
POWZ	Post Office Ro	8.52	201	P	Pn	05 31 17.1	-0.3
PRWZ	Pori Road	8.61	199	P	Pn	05 31 18.4	-0.1
BFZ	Birch Farm	8.66	198	P	Pn	05 31 18.7	-0.3
RPZ	Rata Peaks	13.13	209	P	P	05 32 10.2	+0.2
	2.2nm,0.3s,baz=314,slow=2.8,SNR=5.8						
RPZ				S	S	05 34 29.8	-3.4
	2.5nm,0.3s,baz=122,slow=22,SNR=9.8						
STKA	Stephens Creek	32.16	261	P	P	05 35 11.8	+0.2
	0.9nm,0.4s,baz=96,slow=10,SNR=3.9						
ASAR	Alice Springs	41.11	270	P	P	05 36 24.3	-2.1
	0.7nm,0.3s,baz=108,slow=7.3,SNR=9.4						
WRA	Warramunga Arr	42.29	276	P	P	05 36 33.4	-2.5
	1.9nm,0.3s,baz=111,slow=8.1,SNR=31						
SNAA	Sanae	76.13	179	P	P	05 40 24.9	+0.5
VNA3	Neumayer Olymp	76.36	177	P	P	05 40 25.8	+0.2
VNA2	Neumayer--Watz	76.77	178	P	P	05 40 28.5	+0.6
	baz=159,slow=3.4						
FINES	FINESS Array B	146.36	337	PKPbc	PKPdf	05 48 10.1	-1.8
	3.1nm,0.5s,baz=50,slow=2.4,SNR=18						
NB2	NORSAR Subarra	150.45	349	PKP	PKPdf	05 48 20.0	+1.4
	comp=Z,0.8nm,0.5s,baz=16,slow=2.6						
HFS	Hagfors	150.82	346	PKPbc	PKPdf	05 48 20.8	+1.6
	comp=Z,2.9nm,0.8s,baz=2.9,slow=2.9,SNR=4.2						

*NEIC **04** 05:41:35.8±3.3, 6°.25N×82°.70W, h2km±22km, mb4.3/23, Error ellipse: s-maj=11.4km s-min=6.3km az=209.0*
*IDC **04** 05:41:36.5±2.5, 6°.63N×82°.72W, h0km, mb3.7/7, mb1 4.1/11, mb1mx3.9/43, mbtmp4.0/11, ML3.2/3, MS3.4/19, Ms1 3.5/19, ms1mx3.2/48, Error ellipse: s-maj=67.5km s-min=20.1km az=23.0*
*UCR **04** 05:41:36.9±2.0, 6°.33N×82°.65W, h26km±32km, MD4.6, mb4.3(NEIC)*
ISC 04 05:41:39.0±3.4**, 6°.29N**±0°.07×**82°.68W**±0°.05**, h31**km±27km**, n144,** σ**1s.55**/148**, mb4.2**/24**, MS3.5**/12**, 10C-5D, South of Panama**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTJ1	Puerto Jimˆ'ne	2.31	345⇑	*e*P	Pn	05 42 12.5	-2.6
PTJ1				*e*S	Sn	05 42 41.8	-0.7
TBS2		2.48	0	*e*P	Pn	05 42 15.8	-1.8
TBS2				*e*S	Sn	05 42 46.9	-0.1
BRU2	Volcan	2.49	360⇑	*i*P	Pn	05 42 15.2	-2.4
BRU2				*e*S	Sn	05 42 45.4	-1.5
MAPC	Malpelo	2.51	155	*e*P	Pn	05 42 11.0	-6.8
EDSV	San Vito	2.53	353	*e*P	Pn	05 42 16.0	-2.1
EDSV				*e*S	Sn	05 42 47.3	-0.7
EDPN	Palmar Norte	2.76	344	*e*P	Pn	05 42 19.0	-2.3
EDPN				*e*S	Sn	05 42 51.6	-1.9
AZU	Azuero	2.81	58⇓	*i*P	Pn	05 42 19.1	-2.8
AZU				*e*S	Sn	05 42 51.8	-3.0
EDBA	Buenos Aires	2.91	348	*e*P	Pn	05 42 21.9	-1.5
EDBA				*e*S	Sn	05 42 56.0	-1.3
DRK0	Durika	3.00	349	*e*P	Pn	05 42 21.5	-3.2
EDLM	Las Mercedes	3.10	343⇑	*e*P	Pn	05 42 23.9	-2.0
EDLM				*e*S	Sn	05 43 01.0	-1.1
EDDO	Dominical	3.17	338	*e*P	Pn	05 42 23.1	-3.7
EDDO				*e*S	Sn	05 43 00.1	-3.4
BUS	Buena Vista	3.42	342⇑	*e*P	Pn	05 42 28.5	-2.1
BUS				*e*S	Sn	05 43 09.7	-0.6
LCR2	La Lucha 2	3.67	339⇑	*e*P	Pn	05 42 31.9	-2.0
LCR2				*e*S	Sn	05 43 14.7	-1.6
URSC	Urasca	3.69	343⇓	*e*P	Pn	05 42 32.6	-1.5
ZANG	Zanguenga, Cho	3.84	46	*e*P	Pn	05 42 34.5	-1.6
ZANG				*e*S	Sn	05 43 19.5	-0.7
CVTR	Volcan Turrial	3.86	344	*e*P	Pn	05 42 34.7	-2.0
CVTR				*e*S	Sn	05 43 21.2	+0.1
SJS	Escuela Geolog	3.87	339	*e*P	Pn	05 42 34.7	-2.0
SJS				*e*S	Sn	05 43 20.4	-0.8
HDC	Heredia	3.95	339	*e*Pn	Pn	05 42 36.0	-1.7
HDC	Heredia	3.95	339⇑	*i*P	Pn	05 42 36.2	-1.5
HDC				*e*S	Sn	05 43 22.9	-0.2
BCIP	Isla Barro Col	4.01	44	*e*Pn	Pn	05 42 36.8	-1.6
BCIP	Isla Barro Col	4.01	44	*e*P	Pn	05 42 36.5	-1.9
BCIP				*e*S	Sn	05 43 24.2	-0.1
BCIP	Isla Barro Col	4.01	44	*e*P	Pn	05 42 36.2	-2.1
FLAM	Flamenco Islan	4.06	50	*e*P	Pn	05 42 37.7	-1.4
FLAM				*e*S	Sn	05 43 24.1	-1.5
CGA2	Cerro Gallo 2	4.10	335⇓	*e*P	Pn	05 42 37.6	-2.2
CGA2				*e*S	Sn	05 43 23.7	-3.2
UPA	Univ. de Panam	4.10	49⇓	*i*P	Pn	05 42 38.0	-1.7
UPA				*e*S	Sn	05 43 24.4	-2.3
FRIJ	El Hiral	4.13	45	*e*P	Pn	05 42 37.3	-2.7
SRA1	San Ramˆ‡n	4.17	335	*e*P	Pn	05 42 38.0	-2.8
JTS	JuntasAbangare	4.57	331	Pn	Pn	05 42 43.7	-2.4
	72nm,0.3s,baz=155,slow=18,SNR=216						
JTS				Sn	Sn	05 43 37.4	-0.8
	19nm,0.3s,baz=317,slow=23,SNR=6.4						
JTS				LR	LR	05 43 44.8	
	comp=Z,116nm,18.1s,baz=218,slow=30						
JTS	JuntasAbangare	4.57	331	*e*P	Pn	05 42 44.2	-1.9
JTS				*e*S	Sn	05 43 37.0	-1.2
CASO	Castillo	4.59	334⇑	*e*P	Pn	05 42 45.6	-0.8
CEDE	Laguna Cedeˆ–o	4.62	334⇑	*e*P	Pn	05 42 45.9	-1.1
AMAS	Alto Masis	4.87	332	*e*P	Pn	05 42 48.6	-1.7
ACAL	Aguas Claras	4.90	332	*e*P	Pn	05 42 49.3	-1.5
PTEN	Parque Tenorio	4.95	333	*e*P	Pn	05 42 50.5	-0.9
CUI	Cuipilapa	4.99	331	*e*P	Pn	05 42 50.5	-1.4
CUI				*e*S	Sn	05 43 48.9	+0.3
COLC	Colonia	5.01	330	*e*P	Pn	05 42 51.2	-1.0
HORNC	Hornillas	5.04	331	*e*P	Pn	05 42 51.4	-1.2

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
GUAB	**Guayabo de Bag**	**5.06**	**330**	*e*P	**Pn**	**05 42 52.8**	**-0.1**
LIM1	**Limonal**	**5.07**	**330**	*e*P	**Pn**	**05 42 52.5**	**-0.5**
MESS	**Mesas**	**5.07**	**331**	*e*P	**Pn**	**05 42 51.9**	**-1.2**
GPS2	**Hotel Rincˆ‡n**	**5.16**	**329**	*e*P	**Pn**	**05 42 53.2**	**-1.1**
NY14	**Universidad de**	**5.17**	**327**	*e*P	**Pn**	**05 42 53.4**	**-0.9**
GPS3	**Bodega del ICE**	**5.17**	**329**	⇑*i*P	**Pn**	**05 42 54.5**	**+0.1**
BUEV	**Buena Vista**	**5.23**	**329**	*e*P	**Pn**	**05 42 54.7**	**-0.6**
SOLC	**Bahia Solano**	**5.24**	**90**	*e*P	**Pn**	**05 42 53.3**	**-2.0**
GBS3	**Finca Las Imˆ¡**	**5.24**	**329**	⇓*e*P	**Pn**	**05 42 54.5**	**-0.9**
GB1A	**Borinquen Arri**	**5.24**	**329**	*e*P	**Pn**	**05 42 55.2**	**-0.2**
GB1A				*e*S	**Sn**	**05 43 53.9**	**-1.0**
BUAI	**Buenos Aires**	**5.26**	**330**	⇑*e*P	**Pn**	**05 42 55.7**	**+0.1**
GRGC	**Isla de Gorgon**	**5.56**	**126**	*e*P	**Pn**	**05 42 56.4**	**-3.3**
CRZ1	**La Cruz**	**5.58**	**329**	*e*P	**Pn**	**05 42 58.8**	**-1.2**
CAPC	**Capurgana**	**5.77**	**66**	*e*P	**Pn**	**05 43 02.8**	**+0.2**
DBBC	**Dabeiba**	**6.46**	**83**	*e*P	**Pn**	**05 43 12.5**	**+0.2**
PLMC	**San Josˆ' del**	**6.51**	**102**	*e*P	**Pn**	**05 43 11.3**	**-1.6**
HORQ	**Saladito**	**6.64**	**115**	*e*P	**Pn**	**05 43 12.4**	**-2.5**
YOTC	**Yotoco, Valle**	**6.71**	**110**	*e*P	**Pn**	**05 43 12.9**	**-2.7**
POPC	**Popayan, Colom**	**7.05**	**122**	*e*P	**Pn**	**05 43 17.7**	**-2.7**
HELC	**Santa Helena**	**7.11**	**90**	*e*Pn	**Pn**	**05 43 20.9**	**-0.4**
HELC	**Santa Helena**	**7.11**	**90**	*e*P	**Pn**	**05 43 20.8**	**-0.4**
CMBC	**Cumbal**	**7.19**	**137**	*e*P	**Pn**	**05 43 19.7**	**-2.8**
GCUF	**Volcan Galeras**	**7.32**	**133**	*e*P	**Pn**	**05 43 23.4**	**-0.9**
SOTA	**Rioblanco**	**7.33**	**124**	*e*P	**Pn**	**05 43 23.7**	**-0.7**
SOTA				*e*P	**Pn**	**05 43 25.5**	**+1.0**
OTAV	**Otavalo**	**7.35**	**145**	*e*Pn	**Pn**	**05 43 23.1**	**-1.6**
OTAV	**Otavalo**	**7.35**	**145**	*e*P	**Pn**	**05 43 22.4**	**-2.3**
CPAS1	**Pasto**	**7.36**	**133**	*e*P	**Pn**	**05 43 24.7**	**-0.2**
MOTC	**Monteria, Cord**	**7.38**	**70**	*e*P	**Pn**	**05 43 25.5**	**+0.8**
CRUC	**La Cruz**	**7.39**	**129**	*e*P	**Pn**	**05 43 25.0**	**-0.3**
PCON	**Cinco Dias**	**7.40**	**122**	*e*P	**Pn**	**05 43 25.0**	**-0.5**
RREF	**El Recreo**	**7.42**	**100**	*e*P	**Pn**	**05 43 26.4**	**+0.4**
ANIL	**Santa Ana**	**7.46**	**104**	*e*P	**Pn**	**05 43 25.8**	**-0.3**
TOLC	**Tolima**	**7.52**	**103**	*e*P	**Pn**	**05 43 27.4**	**+0.5**
MARP	**Paez Belalcaza**	**7.53**	**117**	*e*P	**Pn**	**05 43 27.1**	**+0.1**
NORC	**Norcasia**	**7.80**	**95**	*e*P	**Pn**	**05 43 30.1**	**-0.4**
ZARC	**Zaragoza, Cauc**	**7.85**	**81**	*e*P	**Pn**	**05 43 31.6**	**+0.3**
BETC	**Betania**	**8.05**	**116**	*e*P	**Pn**	**05 43 34.6**	**+0.5**
PRAC	**Prado**	**8.17**	**108**	*e*Pn	**Pn**	**05 43 35.4**	**-0.2**
PRAC	**Prado**	**8.17**	**108**	*e*P	**Pn**	**05 43 35.7**	**0.0**
PTBC	**PUERTO BERRIO,**	**8.17**	**88**	*e*P	**Pn**	**05 43 36.8**	**+1.1**
CFLOR	**Florencia**	**8.42**	**123**	*e*P	**Pn**	**05 43 40.7**	**+1.6**
FLOC	**Florencia**	**8.42**	**123**	*e*P	**Pn**	**05 43 38.6**	**-0.5**
ROSC	**El Rosal**	**8.44**	**99**	Pn	Pn	05 43 42.7	+3.0
	3.8nm,0.3s,baz=115,slow=19,SNR=12						
ROSC				LR	LR	05 46 25.2	
	comp=Z,159nm,20.8s,baz=284,slow=34						
ROSC	**El Rosal**	**8.44**	**99**	*e*Pn	**Pn**	**05 43 40.2**	**+0.5**
ROSC	**El Rosal**	**8.44**	**99**	*e*P	Pn	05 43 43.3	+3.6
BRRC	**Barranca, Sant**	**8.94**	**84**	*e*P	**Pn**	**05 43 47.4**	**+1.3**
CHIC	**Chingaza**	**9.06**	**100**	*e*P	**Pn**	**05 43 50.3**	**+2.1**
SJAC	**San Juan de Ar**	**9.20**	**109**	*e*P	**Pn**	**05 43 49.6**	**-0.2**
VILC	**Villavicencio,**	**9.21**	**103**	*e*P	**Pn**	**05 43 50.7**	**+0.8**
BARC	**Barichara**	**9.44**	**88**	*e*P	**Pn**	**05 43 55.0**	**+1.8**
OCAC	**Ocana**	**9.48**	**78**	*e*P	Pn	05 44 10.9	+17
RUSC	**La Rusia**	**9.55**	**92**	*e*Pn	**Pn**	**05 43 56.2**	**+1.3**
RUSC	**La Rusia**	**9.55**	**92**	*e*P	**Pn**	**05 43 56.3**	**+1.3**
SNET	**Serv Nac Est T**	**9.78**	**319**	*e*Pn	**Pn**	**05 43 59.7**	**+1.9**
CODC	**Agustˆ›n Codaz**	**9.83**	**68**	*e*P	**Pn**	**05 43 58.9**	**+0.5**
PAMC	**Pamplona, Colo**	**9.96**	**83**	*e*P	**Pn**	**05 44 01.0**	**+0.4**
YOPC	**Yopal, Colombi**	**10.25**	**95**	*e*P	**Pn**	**05 44 04.0**	**-0.2**
APG	**El Apazote**	**11.55**	**319**	Pn	**Pn**	**05 44 24.3**	**+2.2**
	3.0nm,0.3s,baz=118,slow=9.8,SNR=21						
SDV	**Santo Domingo**	**12.21**	**77**	Pn	**Pn**	**05 44 32.4**	**+1.2**
	0.4nm,0.3s,baz=270,slow=15,SNR=14						
SDV				LR	LR	05 49 16.7	
	comp=Z,178nm,20.2s,baz=252,slow=38						
SDV	**Santo Domingo**	**12.21**	**77**	*e*P	**Pn**	**05 44 32.7**	**+1.5**
ATAH	**Atahualpa**	**14.01**	**162**	LR	LR	05 49 41.8	
	comp=Z,448nm,20.4s,baz=338,slow=34						
CMIG	**Matias Romero**	**16.05**	**313**	Pn	**P**	**05 45 25.3**	**-0.4**
	1.0nm,0.3s,baz=144,slow=12,SNR=15						
CMIG				LR	LR	05 50 53.6	
	comp=Z,90nm,18.2s,baz=148,slow=35						
MYIG	**MØrida**	**16.11**	**336**	*e*Pn	**P**	**05 45 24.4**	**-1.9**
	229nm,1.3s						
SDDR	**Presa de Saban**	**16.80**	**40**	*e*Pn	**P**	**05 45 33.3**	**-0.8**
	65nm,1.8s						
PCRV	**Puerto La Cruz**	**18.27**	**77**	LR	LR	05 53 38.0	
	comp=Z,150nm,20.1s,baz=264,slow=40						
CRPR	**Cabo Rojo, PR**	**19.14**	**51**	*e*P	**Pn**	**05 46 00.7**	**-0.2**
	22nm,0.9s						
AOPR	**Arecibo Observ**	**19.61**	**51**	*e*P	**Pn**	**05 46 06.2**	**-0.4**
	17nm,0.5s						
SJG	**San Juan**	**19.95**	**52**	P	**Pn**	**05 46 10.3**	**-0.2**
	0.5nm,0.3s,baz=246,slow=13,SNR=6.0						
SJG				LR	LR	05 53 00.7	
	comp=Z,76nm,21.1s,baz=231,slow=35						
SJG	**San Juan**	**19.95**	**52**	*e*P	**Pn**	**05 46 10.3**	**-0.2**
	10.0nm,0.8s						
CBYP	**Canovanas**	**20.27**	**53**	*e*P	Pn	05 46 13.8	-0.6
	13nm,1.0s						
STVI	**Saint Thomas**	**21.03**	**54**	*e*P	**P**	**05 46 22.0**	**+1.6**
	9.3nm,0.8s						
SMRT	**St. Maarten**	**22.41**	**57**	*e*P	**P**	**05 46 36.7**	**+1.3**
	14nm,1.0s						
LPAZ	**La Paz**	**26.66**	**147**	LR	LR	05 58 46.6	
	comp=Z,229nm,20.1s,baz=298,slow=38						
TKL	**Tuckaleechee C**	**29.24**	**358**	LR	LR	05 58 50.8	
	comp=Z,61nm,18.8s,baz=234,slow=36						
TXAR	**Lajitas Array**	**30.29**	**322**	P	**P**	**05 47 47.9**	**+0.1**
	0.3nm,0.8s,baz=143,slow=9.1,SNR=3.3						
SDCO	**Great Sand Dun**	**37.56**	**330**	*e*P	**P**	**05 48 52.8**	**+1.7**
	2.2nm,0.9s						
X16A	**Lo Mia Camp, P**	**38.59**	**320**	*e*P	**P**	**05 49 01.7**	**+2.1**
	2.2nm,0.9s						
ISCO	**Idaho Springs**	**39.22**	**332**	*e*P	**P**	**05 49 06.0**	**+1.0**
	8.4nm,1.7s						
WUAZ	**Wupatki**	**39.26**	**322**	*e*P	**P**	**05 49 07.2**	**+2.0**
	3.3nm,0.8s						
CPUP	**Villa Florida**	**40.70**	**144**	LR	LR	06 09 07.6	
	comp=Z,68nm,21.1s,baz=291,slow=40						
O20A	**White River Ci**	**40.77**	**330**	*e*P	**P**	**05 49 19.1**	**+1.5**
	5.7nm,1.1s						
RPN	**Rapa Nui**	**42.06**	**217**	LR	LR	06 02 18.2	
	comp=Z,100nm,18.5s,baz=62,slow=29						
MPU	**Maple Canyon**	**42.46**	**327**	*e*P	**P**	**05 49 32.9**	**+1.3**
	2.6nm,0.9s						
PDAR	**Pinedale Array**	**43.40**	**331**	P	**P**	**05 49 39.0**	**-0.2**
	0.7nm,0.9s,baz=120,slow=10,SNR=4.2						
PDAR				LR	LR	06 09 22.7	
	comp=Z,45nm,19.5s,baz=134,slow=39						
HWUT	**Hardware Ranch**	**43.55**	**328**	*e*P	**P**	**05 49 41.5**	**+1.1**
	4.1nm,0.8s						
REDW	**Red Top Meadow**	**44.47**	**331**	*e*P	**P**	**05 49 48.8**	**+1.0**
	4.2nm,1.0s						
TPAW	**Teton Pass**	**44.62**	**331**	*e*P	**P**	**05 49 50.5**	**+1.6**
	4.6nm,1.1s						
IMW	**Indian Meadow**	**44.91**	**331**	*e*P	**P**	**05 49 52.9**	**+1.6**
	20nm,2.0s						
RLMT	**Red Lodge**	**45.07**	**333**	*e*P	**P**	**05 49 53.1**	**+0.6**
	16nm,1.9s						
ULM	**Lac du Bonnet**	**45.19**	**348**	P	**P**	**05 49 50.9**	**-2.2**
	3.2nm,0.7s,baz=144,slow=8.2,SNR=9.3						
NVAR	**Mina Array Bea**	**45.41**	**320**	P	**P**	**05 49 56.9**	**+1.6**
	1.1nm,0.7s,baz=132,slow=7.9,SNR=9.1						
NVAR				LR	LR	06 08 52.3	
	comp=Z,46nm,18.1s,baz=278,slow=36						
YMR	**Madison River**	**45.50**	**332**	*e*P	**P**	**05 49 57.3**	**+1.4**
	3.7nm,0.8s						
BOZ	**Bozeman (W)**	**46.51**	**332**	*e*P	**P**	**05 50 04.9**	**+1.1**
	2.7nm,0.9s						
YBH	**Yreka Blue Hor**	**50.07**	**321**	LR	LR	06 12 48.2	
	comp=Z,58nm,19.4s,baz=160,slow=38						
NEW	**Newport**	**51.04**	**331**	LR	LR	06 13 34.5	
	comp=Z,46nm,21.1s,baz=144,slow=38						
EDM	**Edmonton**	**53.05**	**337**	*e*P	**P**	**05 50 52.9**	**-0.4**
	6.0nm,0.8s						
YKA	**Yellowknife Ar**	**60.78**	**344**	P	**P**	**05 51 46.8**	**-1.0**
	0.7nm,0.7s,baz=138,slow=6.9,SNR=17						
INK	**Inuvik**	**70.46**	**342**	*e*P	**P**	**05 52 50.9**	**+0.7**
	3.7nm,0.8s						
ILAR	**Eielson Array**	**73.52**	**336**	P	**P**	**05 53 08.3**	**-0.3**
	0.5nm,0.9s,baz=116,slow=4.2,SNR=4.7						
TORD	**Torodi Ar. Bea**	**83.13**	**78**	P	**P**	**05 54 04.6**	**+1.9**
	0.9nm,1.0s,baz=268,slow=7.3,SNR=3.2						
HFS	**Hagfors**	**87.76**	**30**	LR	LR	06 34 58.4	
	comp=Z,15nm,18.3s,baz=252,slow=37						
GERES	**GERESS Array B**	**89.50**	**41**	LR	LR	06 32 40.6	
	comp=Z,14nm,18.5s,baz=294,slow=34						
ARCES	**ARCESS Array B**	**90.41**	**20**	LR	LR	06 32 12.4	
	comp=Z,28nm,19.8s,baz=144,slow=34						
FINES	**FINESS Array B**	**93.33**	**27**	LR	LR	06 36 22.3	
	comp=Z,23nm,18.3s,baz=292,slow=35						
H11S1	**WAKE ISLAND Hy**	**107.33**	**292**	T	T	07 55 55.1	
	baz=77,slow=75,SNR=14						
H11S2	**WAKE ISLAND Hy**	**107.33**	**291**	T	T	07 56 01.3	
	baz=77,slow=75,SNR=14						
H11S3	**WAKE ISLAND Hy**	**107.34**	**292**	T	T	07 55 55.5	
	baz=77,slow=75,SNR=17						

IDC 04 05:59:30.2±9.9**, 6°.83S×129°.82E, h129**km±99km**, mb3.6**/1**, mb1 3.9**/4**, mb1mx3.3**/55**, mbtmp4.3**/4**, ML4.2**/3**, Error ellipse: s-maj=107.5km s-min=31.8km az=45.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**6.95**	**241**	P	Pn	06 01 10.1	+0.6
	14nm,0.3s,baz=80,slow=5.0,SNR=11						
BATI				S	Sn	06 02 21.7	-5.5
	3.0nm,0.3s,baz=120,slow=4.6,SNR=5.2						
WRA	**Warramunga Arr**	**13.75**	**162**	P	Pn	06 02 38.1	-1.7
	0.7nm,0.3s,baz=339,slow=13,SNR=38						
WRA				S	Sn	06 05 02.0	-10
	1.4nm,0.3s,baz=334,slow=22,SNR=8.4						
ASAR	**Alice Springs**	**17.19**	**167**	P	Pn	06 03 23.4	+0.8
	0.9nm,0.3s,baz=344,slow=11,SNR=70						
ASAR				S	Sn	06 06 26.5	-8.1
	0.3nm,0.3s,baz=352,slow=25,SNR=5.0						
MKAR	**Makanchi Array**	**67.99**	**327**	P	P	06 10 15.4	-0.1
	0.6nm,0.4s,baz=120,slow=8.5,SNR=10						

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*IDC **04** 06:06:14.4±2.7, 39°.81N×143°.80E, h0km, mb3.7/4, mb1 3.8/5, mb1mx3.4/75, mbtmp3.7/5, ML3.4/1, MS3.4/1, Ms1 3.4/1, ms1mx2.4/69, Error ellipse: s-maj=72.5km s-min=28.2km az=72.0*

*ISCJB **04** 06:06:16.3±1.7, 39°.70N±0°.04×143°.58E±0°.08, h17km±11km, mb3.7/4, MS3.5/1, Error ellipse: s-maj=10.5km s-min=6.4km az=25.6*

*JMA **04** 06:06:16.8±0.3, 39°.74N×143°.52E, h17km±4km, M3.9*

ISC 04 06:06:16.8±2.3**, 39°.73N**±0°.05×**143°.42E**±0°.08**, h6**km±13km**, n21, σ0s.88**/25**, mb3.7**/4**, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**1.22**	**280**	P	**Pg**	**06 06 39.9**	**-0.2**
JTH				S	**Sb**	**06 06 56.4**	**+0.2**
MIYJ	**Miyakonagasawa**	**1.25**	**264**	P	**Pg**	**06 06 40.6**	**-0.1**
MIYJ				S	**Sn**	**06 06 58.0**	**+0.1**
JANG	**Nango**	**1.60**	**294**	P	**Pn**	**06 06 45.2**	**-0.4**
JOM	**Ohasama**	**1.67**	**262**	P	**Pn**	**06 06 47.1**	**+0.6**
JOM				S	**Sn**	**06 07 08.6**	**+0.4**
JMK	**Ichinoseki**	**1.88**	**246**	P	**Pn**	**06 06 48.7**	**-0.7**
JMK				S	**Sn**	**06 07 13.8**	**+0.4**
JIO	**Ouri**	**2.05**	**232**	P	**Pn**	**06 06 51.6**	**-0.2**
JTM	**Tenmabayashi**	**2.09**	**301**	P	**Pn**	**06 06 52.9**	**+0.6**
JTM				S	**Sb**	**06 07 20.7**	**-0.6**
JOT	**Ohata**	**2.45**	**313**	P	**Pn**	**06 06 57.8**	**+0.5**
JYK	**Kaneyama**	**2.51**	**252**	P	**Pn**	**06 06 59.6**	**+1.5**
JYK				S	**Sb**	**06 07 32.1**	**-1.3**
JNBK	**Urakawa-nobuka**	**2.60**	**349**	P	**Pn**	**06 07 00.7**	**+1.4**
JNBK				S	**Sn**	**06 07 32.1**	**+0.9**
JKB	**Kayabe**	**2.82**	**321**	S	**Sn**	**06 07 37.0**	**+0.4**
JCH	**Churui**	**2.88**	**359**	P	**Pn**	**06 07 03.7**	**+0.4**
JCH				S	**Sn**	**06 07 36.9**	**-1.4**
MJAR	**Matsushiro Arr**	**5.20**	**234**	Pn	**Pn**	**06 07 37.2**	**+2.2**
	1.1nm,0.3s,baz=44,slow=12,SNR=4.3						
H11N2	**WAKE ISLAND Hy**	**28.36**	**128**	T	T	06 41 51.1	
	baz=326						
H11N1	**WAKE ISLAND Hy**	**28.37**	**128**	T	T	06 41 48.6	
	baz=326						
H11N3	**WAKE ISLAND Hy**	**28.38**	**128**	T	T	06 41 50.6	
	baz=326						
ZALV	**Zalesovo Beam**	**41.33**	**310**	P	**P**	**06 14 03.2**	**+0.2**
	0.7nm,0.4s,baz=103,slow=6.2,SNR=3.7						
MKAR	**Makanchi Array**	**44.08**	**300**	P	**P**	**06 14 25.6**	**0.0**
	0.8nm,0.8s,baz=78,slow=11,SNR=4.5						
KURBB	**Kurchatov Arra**	**45.64**	**306**	P	**P**	**06 14 37.4**	**-0.4**
	1.5nm,0.8s,baz=79,slow=8.3,SNR=5.9						
AKTO	**Aktyubinsk**	**58.07**	**311**	LR	LR	06 44 03.7	
	comp=Z,32nm,19.6s,baz=350,slow=39						
WRA	**Warramunga Arr**	**59.96**	**190**	P	**P**	**06 16 23.3**	**-0.6**
	0.4nm,0.8s,baz=7.1,slow=6.7,SNR=3.8						

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*ISCJB **04** 06:09:18.8±0.3, 23°.77N±0°.01×121°.67E±0°.02, h27km±2km, Error ellipse: s-maj=2.9km s-min=2.0km az=136.2*

*JMA **04** 06:09:18.6±0.1, 23°.77N×121°.64E, h35km±3km, M2.8*

*TAP **04** 06:09:19.1, 23°.78N×121°.62E, h36km, ML3.6, B*

ISC 04 06:09:19.3±0.9**, 23°.78N**±0°.02×**121°.64E**±0°.02**, h32**km±6km**, n96, σ0s.83**/147**, 1C-18D, Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENLB	**Shoufeng**	**0.13**	**344**	⇑*i*P	**Pn**	**06 09 25.5**	**+0.3**
	baz=348						
ENLB				S	**Sb**	**06 09 30.9**	**+1.9**
	baz=348						
ESL	**Shilin**	**0.19**	**280**	*e*P	**Pn**	**06 09 25.6**	**-0.4**
	baz=280						
HWA	**Hwalien**	**0.20**	**351**	*e*P	**Pn**	**06 09 26.0**	**-0.2**
	baz=5.0						
TWD	**Chiawan**	**0.30**	**353**	*e*P	**Pb**	**06 09 26.9**	**0.0**
	baz=348						
TWD				*e*S	**Sb**	**06 09 33.0**	**+0.9**
	baz=348						
HGSD	**Ruisui**	**0.35**	**214**	⇓P	**Pb**	**06 09 27.9**	**+0.3**
	baz=210						
HGSD				*e*S	**Sn**	**06 09 35.4**	**+1.3**
	baz=210						
NACB	**Ninganchiao**	**0.39**	**354**	⇓*i*P	**Pb**	**06 09 27.7**	**-0.5**
	baz=345						
NACB				*i* S	**Sb**	**06 09 34.4**	**0.0**
	baz=345						
EHY	**Hungye**	**0.40**	**227**	*e*P	**Pb**	**06 09 27.6**	**-0.7**
	baz=231						
OWD	**Renai**	**0.46**	**292**	*e*P	**Pb**	**06 09 29.0**	**-0.3**
	baz=298						
OWD				*e*S	**Sb**	**06 09 35.6**	**-0.6**
	baz=298						
WHF	**Hehuan Shan**	**0.50**	**317**	⇓P	**Pb**	**06 09 29.4**	**-0.7**
	baz=311						
WHF				S	**Sb**	**06 09 36.9**	**-0.7**
	baz=311						
YULB	**Yu-li**	**0.50**	**219**	⇓P	**Pb**	**06 09 28.9**	**-0.9**
	baz=226						
CHGB	**Renai**	**0.51**	**303**	⇓P	**Pb**	**06 09 29.8**	**-0.3**
	baz=309						
CHGB				S	**Sb**	**06 09 36.9**	**-0.6**
	baz=309						
TWF1	**Yuli**	**0.53**	**216**	⇓*i*P	**Pb**	**06 09 29.5**	**-0.9**
	baz=226						
TWF1				*e*S	**Sb**	**06 09 36.2**	**-1.7**
	baz=226						
SSLB	**Suanglung**	**0.63**	**271**	⇓P	**Pn**	**06 09 31.2**	**-0.9**
	baz=270						
SSLB				*e*S	**Sb**	**06 09 39.7**	**-0.9**
	baz=270						
TWT	**Tachien**	**0.63**	**318**	⇓P	**Pn**	**06 09 31.9**	**-0.4**
	baz=312						
TWT				S	**Sb**	**06 09 40.1**	**-0.8**
	baz=312						
TDCB	**Techi**	**0.64**	**317**	⇓P	**Pn**	**06 09 31.9**	**-0.5**
	baz=312						
TDCB				S	**Sb**	**06 09 40.3**	**-0.8**
	baz=312						
ENA	**Nanau**	**0.65**	**8**	*e*P	**Pn**	**06 09 31.7**	**-0.7**
	baz=16						
NANB	**Nanao**	**0.65**	**9**	⇓P	**Pn**	**06 09 31.6**	**-0.8**
	baz=17						
NANB				*e*S	**Sb**	**06 09 40.2**	**-1.0**
	baz=17						
FULB	**Fuli**	**0.66**	**209**	*e*P	**Pn**	**06 09 31.8**	**-0.7**
	baz=218						
ENAH	**Nanao**	**0.68**	**13**	*e*P	**Pn**	**06 09 32.3**	**-0.5**
	baz=18						
SMLT	**Sun Moon Lake**	**0.68**	**279**	⇓*i*P	**Pn**	**06 09 32.5**	**-0.5**
	baz=282						
SMLT				S	**Sb**	**06 09 42.4**	**+0.1**
	baz=282						
NNSB	**Datong**	**0.69**	**340**	P	**Pn**	**06 09 32.1**	**-0.9**
	baz=340						
NNSB				S	**Sb**	**06 09 40.9**	**-1.4**
	baz=340						
NNSH	**Datong**	**0.69**	**340**	*e*P	**Pn**	**06 09 32.1**	**-0.9**
	baz=340						
NNSH				*e*S	**Sb**	**06 09 41.0**	**-1.3**
	baz=340						
DPDB	**Guoxing**	**0.70**	**291**	⇓*i*P	**Pn**	**06 09 32.7**	**-0.4**
	baz=291						
DPDB				*e*S	**Sb**	**06 09 41.9**	**-0.7**
	baz=291						
NNS	**Nan Shan**	**0.70**	**340**	*e*P	**Pn**	**06 09 32.5**	**-0.6**
	baz=340						
NNS				*e*S	**Sb**	**06 09 41.7**	**-1.0**
	baz=340						
TYC	**Yuchr**	**0.73**	**280**	⇓*i*P	**Pn**	**06 09 32.8**	**-0.6**
	baz=284						
TYC				S	**Sn**	**06 09 42.2**	**-1.2**
	baz=284						
ALS	**Alishan**	**0.81**	**251**	*e*P	**Pn**	**06 09 34.6**	**-0.3**
	baz=250						
ALS				*e*S	**Sn**	**06 09 45.2**	**-0.8**
	baz=250						
ELDTW	**Lidau**	**0.82**	**224**	*e*P	**Pn**	**06 09 33.1**	**-1.7**
	baz=218						
WJS	**Zhushan**	**0.83**	**273**	*e*P	**Pn**	**06 09 35.5**	**+0.6**
	baz=273						
TWC	**Suao**	**0.85**	**13**	*e*P	**Pn**	**06 09 34.8**	**-0.3**
	baz=19						
ENTT	**Nioudou**	**0.86**	**356**	*e*P	**Pn**	**06 09 34.5**	**-0.8**
	baz=346						
ENTT				*e*S	**Sn**	**06 09 45.7**	**-1.1**
	baz=346						
WNT	**Mingjian**	**0.88**	**276**	*e*P	**Pn**	**06 09 36.0**	**+0.5**
	baz=277						
EOS1	**EOS1**	**0.89**	**30**	*e*P	**Pb**	**06 09 37.4**	**+1.1**
	baz=43						
CHN5	**Tsauling**	**0.90**	**258**	⇓*i*P	**Pn**	**06 09 36.2**	**+0.3**
	baz=258						
CHN5				S	**Sn**	**06 09 48.3**	**+0.4**
	baz=258						
YHNB	**Yeheng**	**0.92**	**345**	⇓P	**Pn**	**06 09 35.7**	**-0.4**
	baz=352						
YHNB				S	**Sn**	**06 09 47.0**	**-1.3**
	baz=352						
TWE	**Neicheng**	**0.94**	**2**	*e*P	**Pn**	**06 09 35.6**	**-0.7**
	baz=353						
TCU	**Taichung**	**0.95**	**293**	*e*P	**Pn**	**06 09 37.6**	**+1.1**
	baz=293						
TWQ1	**Liyutan**	**0.97**	**306**	⇓*i*P	**Pn**	**06 09 37.6**	**+0.8**
	baz=304						
TWQ1				S	**Sn**	**06 09 50.2**	**+0.6**
	baz=304						
WGK	**Gukeng**	**0.99**	**265**	*e*P	**Pn**	**06 09 37.4**	**+0.3**
	baz=264						
WGK				*e*S	**Sn**	**06 09 51.2**	**+1.2**
	baz=264						
NWLT	**Wulai**	**1.00**	**353**	*e*P	**Pn**	**06 09 37.4**	**+0.2**
	baz=353						
WDLH	**Douliu**	**1.01**	**265**	*e*P	**Pn**	**06 09 38.2**	**+0.8**
	baz=265						
STYT	**Tauyuan**	**1.02**	**233**	*e*P	**Pn**	**06 09 37.6**	**+0.1**
	baz=229						
STYT				*e*S	**Sn**	**06 09 51.2**	**+0.5**
	baz=229						
NSY	**Sanyi**	**1.02**	**308**	*e*P	**Pn**	**06 09 38.3**	**+0.8**
	baz=307						
NSY				*e*S	**Sb**	**06 09 52.3**	**+0.7**
	baz=307						
NSTT	**Nanjuang**	**1.03**	**326**	⇓*i*P	**Pn**	**06 09 38.3**	**+0.7**
	baz=311						
NSTT				*e*S	**Sn**	**06 09 50.8**	**-0.1**
	baz=311						
LIOB	**Emei**	**1.03**	**327**	⇓P	**Pn**	**06 09 38.5**	**+0.8**
	baz=313						
LIOB				*e*S	**Sn**	**06 09 51.3**	**+0.2**
	baz=313						
WCHH	**Zhanghua**	**1.03**	**287**	*e*P	**Pn**	**06 09 38.5**	**+0.9**
	baz=287						
TPUB	**Ta-pu**	**1.04**	**243**	*e*P	**Pn**	**06 09 38.3**	**+0.5**
	baz=243						
TPUB				*e*S	**Sn**	**06 09 52.4**	**+1.0**
	baz=243						
CHN4	**Tsaushan**	**1.05**	**246**	*e*P	**Pn**	**06 09 38.6**	**+0.7**
	baz=246						
CHN4				*e*S	**Sb**	**06 09 53.5**	**+1.0**
	baz=246						
TWH	**Lutao**	**1.08**	**188**	*e*P	**Pn**	**06 09 37.1**	**-1.1**
	baz=179						
NMLH	**Miaoli**	**1.08**	**314**	*e*P	**Pn**	**06 09 39.1**	**+0.8**
	baz=314						
PTSB	**Yuanli**	**1.08**	**308**	*e*P	**Pn**	**06 09 38.7**	**+0.4**
	baz=306						
PTSB				*e*S	**Sb**	**06 09 53.6**	**+0.3**
	baz=306						
WTP	**Ta-pu**	**1.08**	**241**	*e*P	**Pn**	**06 09 39.0**	**+0.7**
	baz=246						
WTP				*e*S	**Sn**	**06 09 53.6**	**+1.4**
	baz=246						
NTC	**Toucheng**	**1.08**	**9**	*e*P	**Pn**	**06 09 39.5**	**+1.1**
	baz=358						
TWGBT	**Beinan**	**1.09**	**208**	*e*P	**Pn**	**06 09 36.7**	**-1.7**
	baz=197						
TWG	**Pinlang**	**1.09**	**209**	*e*P	**Pn**	**06 09 36.7**	**-1.7**
	baz=197						
EGS		**1.09**	**14**	*e*P	**Pb**	**06 09 40.5**	**+0.8**
	baz=14						
CHN2	**Minshiung**	**1.10**	**257**	*e*P	**Pn**	**06 09 39.5**	**+1.0**
	baz=257						
WLTB	**Daxi**	**1.12**	**342**	*e*P	**Pn**	**06 09 40.1**	**+1.2**
	baz=344						
WLTB				*e*S	**Sb**	**06 09 54.7**	**+0.2**
	baz=344						
CHY	**Chiayi**	**1.15**	**256**	*e*P	**Pn**	**06 09 39.8**	**+0.5**
	baz=256						
SBCB	**Hsinchu**	**1.17**	**329**	*e*P	**Pn**	**06 09 40.4**	**+0.8**
	baz=329						
TWK	**Hsinying**	**1.17**	**244**	*e*P	**Pn**	**06 09 40.3**	**+0.7**
	baz=244						
TWK				*e*S	**Sn**	**06 09 55.7**	**+1.1**
	baz=244						
RLNB	**Erlin**	**1.18**	**276**	*e*P	**Pn**	**06 09 40.2**	**+0.6**
	baz=268						
RLNB				*e*S	**Sn**	**06 09 56.1**	**+1.5**
	baz=268						
CHN1	**Nanshi**	**1.18**	**240**	*e*P	**Pn**	**06 09 40.7**	**+1.0**
	baz=241						
HSN	**Hsinchu**	**1.19**	**329**	*e*P	**Pn**	**06 09 39.9**	**+0.2**
	baz=329						
HSN				*e*S	**Sb**	**06 09 57.5**	**+1.3**
	baz=329						
SGST	**Jiashian**	**1.19**	**235**	*e*P	**Pn**	**06 09 40.8**	**+1.0**
	baz=228						
SGST				*e*S	**Sb**	**06 09 57.7**	**+1.1**
	baz=228						
TATO	**Taipei**	**1.20**	**353**	*e*P	**Pn**	**06 09 39.5**	**-0.4**
	baz=351						
TATO				*e*S	**Sn**	**06 09 55.3**	**+0.2**
	baz=351						
TIPB	**Shuangxi**	**1.20**	**8**	*e*P	**Pn**	**06 09 39.2**	**-0.8**
	baz=356						
TIPB				*e*S	**Sn**	**06 09 56.6**	**+1.4**
	baz=356						
SLGT	**Liugui**	**1.20**	**229**	*e*P	**Pn**	**06 09 40.9**	**+0.9**
	baz=223						
WTCT	**Ta-ch’eng**	**1.25**	**274**	*e*P	**Pn**	**06 09 41.2**	**+0.7**
	baz=273						
WTCT				*e*S	**Sb**	**06 09 58.4**	**+0.4**
	baz=273						
NCUH	**Zhongli**	**1.25**	**341**	*e*P	**Pn**	**06 09 41.2**	**+0.5**
	baz=340						
NCU	**National Centr**	**1.25**	**341**	*e*P	**Pn**	**06 09 40.9**	**+0.2**
	baz=325						
NCU				*e*S	**Sb**	**06 09 58.5**	**+0.3**
	baz=325						
NWF	**Wu-fen Shan**	**1.29**	**6**	*e*P	**Pn**	**06 09 41.6**	**+0.3**
	baz=353						
WFSB	**Wu-fen Shan**	**1.29**	**6**	*e*P	**Pn**	**06 09 41.5**	**+0.3**
	baz=354						
WSF	**Szhu**	**1.31**	**264**	*e*P	**Pn**	**06 09 42.0**	**+0.6**
	baz=264						
WSF				*e*S	**Sn**	**06 09 59.2**	**+1.4**
	baz=264						
TWS1	**Kuangyinshan**	**1.33**	**351**	*e*P	**Pn**	**06 09 42.4**	**+0.7**
	baz=350						
JYNG	**Yonagunijimaku**	**1.37**	**61**	P	**Pn**	**06 09 43.1**	**+0.9**
JYNG				S	**Sn**	**06 09 59.3**	**0.0**
YM04	**YM04**	**1.37**	**356**	*e*P	**Pn**	**06 09 42.9**	**+0.6**
	baz=354						
YM10	**YM10**	**1.37**	**357**	*e*P	**Pn**	**06 09 42.1**	**-0.2**
	baz=356						
YM07	**YM07**	**1.39**	**359**	*e*P	**Pn**	**06 09 41.3**	**-1.3**
	baz=358						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
YOJ	Yonaguni jima	1.43	61	eP	Pn	06 09 43.2	+0.2
	baz=65						
YOJ				eS	Sn	06 10 00.1	-0.7
	baz=65						
YOJ	Yonaguni jima	1.43	61	P	Pn	06 09 43.3	+0.2
YOJ				S	Sn	06 10 01.0	+0.3
MASBT	Mashibuluo	1.49	219	eP	Pn	06 09 43.5	-0.4
	baz=220						
TWY	Chenhua	1.49	359	eP	Pn	06 09 44.6	+0.7
	baz=357						
EAST	Anshuo	1.57	208	eP	Pn	06 09 47.1	+2.0
	baz=202						
WDGT	Dungji	1.89	254	eP	Pn	06 09 49.0	-0.4
	baz=255						
PHUB	P'eng-hu	1.91	262	eP	Pn	06 09 49.8	+0.1
	baz=251						
PHUB				eS	Sn	06 10 12.4	-0.4
	baz=251						
PNG	Penghu	1.92	264	eP	Pn	06 09 49.7	-0.2
	baz=264						
TWKBT	Hengchun	1.98	203	eP	Pn	06 09 51.3	+0.6
	baz=194						
IRIF	Iriomote-Funau	1.99	74	P	Pn	06 09 51.3	+0.5
IRIF				S	Sn	06 10 14.7	+0.1
HATJ	Hateruma jima	2.00	82	P	Pn	06 09 51.0	0.0
HATJ				S	Sn	06 10 14.9	0.0
JKRS	Kuro-shima	2.21	78	P	Pn	06 09 54.5	+0.6
JKRS				S	Sn	06 10 20.7	+0.5
VWUC	VWUC	2.33	302	eP	Pn	06 09 54.5	-1.0
	baz=301						
JIJ	Ishigaki jima	2.36	75	P	Pn	06 09 55.6	-0.3
JIJ				S	Sn	06 10 23.1	-0.7
JISG	Ishigakijimahi	2.57	71	P	Pn	06 09 58.7	-0.1
JISG				S	Sn	06 10 27.8	-1.1
MATB	Ma-tsu	2.82	327	eP	Pn	06 10 01.3	-0.9
	baz=325						
JTJ	Tarama	2.92	72	P	Pn	06 10 03.9	+0.2
KNMB	Chin-men Tao	3.05	284	eP	Pn	06 10 04.3	-1.1
	baz=283						

MEX 04 06:09:36.7±0.4, 16.°57N×98.°48W, h3^{km}±46^{km}, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.38	118	eP	Pg	06 09 43.8	-0.2
PNIG				eS	Sg	06 09 49.1	+0.1
TLIG	Tlapa	0.99	355	eP	Pg	06 09 53.4	-2.3
TLIG				eS	Sg	06 10 06.0	-2.5
VHO	Vista Hermosa	1.74	73	eP	Pn	06 10 04.9	-3.2
VHO				eS	Sn	06 10 27.6	-3.3
HUIG	Huatulco	2.41	109	eP	Pn	06 10 16.9	-0.2
HUIG				eS	Sb	06 10 50.7	-0.2

*IDC **04** 06:10:51.0±1.0, 18.°32N×92.°89W, h0^{km}, mb4.1/7, mb1 4.2/10, mb1mx3.8/56, mbtmp4.0/10, ML3.4/3, MS3.0/6, Ms1 3.0/6, ms1mx2.7/49, Error ellipse: s-maj=26.2km s-min=17.6km az=42.0*
*MEX **04** 06:10:54.9±11.0, 19.°53N×92.°94W, h5^{km}, MD4.0*
*NEIC **04** 06:11:06.1±0.6, 19.°51N×93.°03W, h10^{km}, mb4.0/11, MD4.0(MEX), Error ellipse: s-maj=13.4km s-min=7.5km az=47.0*
NEIC Felt at Champoton and Carmen, Mexico.
ISC 04 06:10:54.1±0.6, 18.°44N±0.°06×92.°62W±0.°05, h10^{km}, n52, σ1^{s}76/45, mb4.2/13, MS3.3/3, Bay of Campeche

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCIG	Sabancuy	1.46	69	eP	Pb	06 11 22.2	+0.9
	baz=232,slow=14						
SCIG				eS	Sg	06 11 44.2	+3.1
TUIG	Tuzandepetl	1.76	257	eP	Pg	06 11 27.7	-0.1
CMIG	Matias Romero	2.54	238	Pn	Pn	06 11 29.0	-6.3
	8.2nm,0.3s,baz=56,slow=13,SNR=14						
CMIG				Sn	Sn	06 11 56.0	-10
	28nm,0.3s,baz=196,slow=23,SNR=10						
CMIG				LR	LR	06 12 38.2	
	comp=Z,124nm,20.6s,baz=10,slow=47						
MYIG	MØrida	3.70	47	eP	Pb	06 11 58.6	-0.9
APG	El Apazote	3.99	148	Pn	Pn	06 11 53.5	-2.1
	0.5nm,0.3s,baz=338,slow=18,SNR=16						
APG				Sn	Sn	06 12 41.9	-0.7
	10nm,0.3s,baz=197,slow=12,SNR=6.8						
APG				LR	LR	06 13 53.4	
	comp=Z,173nm,21.9s,baz=273,slow=45						
SNET	Serv Nac Est T	5.74	145	ePn	Pg	06 12 47.1	+3.1
TGUH	Tegucigalpa,Un	6.74	130	ePn	Pg	06 12 59.7	-3.5
LNIG	Linares	9.04	316	ePn	Pn	06 13 00.8	-3.9
JCT	Junction City	13.65	333	ePn	Pn	06 14 06.0	-1.8
JCT				eSn	Sn	06 16 27.0	-13
WHTX	Lake Whitney,	14.18	343	ePn	Pn	06 14 12.1	-3.0
WHTX				eSn	Sn	06 16 36.3	-16
HPIG		14.70	307	ePn	Pn	06 14 25.4	+3.0
TX31	Lajitas Ar. Si	14.81	319	ePn	Pn	06 14 22.7	-1.0
TXAR	Lajitas Array	14.81	319	Pn	Pn	06 14 22.4	-1.4
	0.1nm,0.3s,baz=143,slow=15,SNR=6.3						
W40A	Ferguson Farm,	16.69	359	ePn	Pn	06 14 47.0	-1.1
	6.4nm,0.9s						
WMOK	Wichita Mounta	17.14	343	ePn	Pn	06 14 54.8	+1.1
	6.7nm,1.1s						
WMOK				eSn	Sn	06 17 48.8	-16
MSTX	Muleshoe	17.93	332	ePn	Pn	06 15 03.5	-0.1
	5.2nm,0.8s						
TKL	Tuckaleechee C	18.86	23	LR	LR	06 24 51.4	
	comp=Z,70nm,18.3s,baz=204,slow=44						
ZARC	Zaragoza, Cauc	20.42	120	eP	P	06 15 30.9	-0.7
WCI	Wyandotte Cave	20.48	14	eP	P	06 15 33.2	+1.1
	23nm,0.9s						
ANMO	Albuquerque	20.53	326	P	P	06 15 33.3	+0.4
	1.3nm,0.8s,baz=338,slow=8.9,SNR=7.6						
OLIL	Olney	20.60	10	eP	P	06 15 34.2	+0.8
	23nm,1.1s						
T25A	Trinidad	21.31	333	eP	P	06 15 42.1	+0.7
	5.3nm,0.9s						
BLO	Bloomington	21.33	13	eP	P	06 15 43.6	+2.4
	8.6nm,0.8s						
TUC	Tucson	21.40	314	eP	P	06 15 44.2	+2.0
	3.0nm,1.0s						
PAMC	Pamplona, Colo	22.31	117	eP	P	06 15 53.6	+1.1
SOTA	Rioblanco	22.56	134	eP	P	06 15 56.2	+1.0
RUSC	La Rusia	22.78	121	eP	P	06 15 56.9	-0.6
OTAV	Otavalo	22.83	141	eP	P	06 16 00.2	+2.3
CHIC	Chingaza	23.00	124	eP	P	06 15 59.5	-0.2
SDV	Santo Domingo	23.36	111	P	P	06 16 04.8	+1.7
	7.6nm,0.7s,baz=285,slow=3.7,SNR=12						
SDV	Santo Domingo	23.36	111	eP	P	06 16 04.9	+1.7
113A	Mohawk Valley,	23.75	311	eP	P	06 16 06.2	-0.4
	2.9nm,0.8s						
WUAZ	Wupatki	23.77	319	eP	P	06 16 07.5	+0.4
	12nm,1.1s						
PV09	Paradox Valley	24.62	328	eP	P	06 16 15.5	+0.4
BTCC	Brunts Corner	24.93	310	ePcP	PcP	06 20 02.5	+9.5
SJG	San Juan	25.14	87	P	P	06 16 19.8	+0.3
	3.9nm,0.5s,baz=235,slow=3.3,SNR=5.1						
PHWY	Pilot Hill	25.30	337	eP	P	06 16 21.9	+0.8
	4.6nm,0.8s						
MWC	Mount Wilson	27.58	310	eP	P	06 16 49.4	+7.7
CCCA	Chr Cany lake	27.73	313	eP	P	06 16 45.5	+2.6
PDAR	Pinedale Array	28.18	333	LR	LR	06 28 34.4	
	comp=Z,12nm,20.9s,baz=202,slow=38						
SADO	Sadowa	28.57	20	LR	LR	06 30 35.6	
	comp=Z,69nm,18.0s,baz=217,slow=41						
GATR	Gnd/Air Tx Cnt	29.53	308	ePcP	PcP	06 20 12.5	+8.4
NVAR	Mina Array Bea	29.94	317	P	P	06 17 02.2	-0.5
	0.6nm,0.7s,baz=124,slow=9.4,SNR=4.4						
BGC	Bolinger Road	32.15	313	ePcP	PcP	06 20 24.2	+13
BGC				eS	S	06 22 35.5	+0.8
CPIM	Pinole Ridge	32.34	313	eP	P	06 17 26.6	+3.0
NLHM	Lake Herman	32.35	313	eP	P	06 17 31.1	+7.4
YKA	Yellowknife Ar	46.59	346	P	P	06 19 20.4	-1.6
	2.7nm,0.8s,baz=148,slow=7.6,SNR=42						
RES	Resolute Bay	56.28	359	P	P	06 20 33.1	-1.2
	1.7nm,0.7s,baz=191,slow=7.0,SNR=11						
ESDC	Sonseca Array	77.47	52	P	P	06 22 50.1	+0.1
	0.3nm,0.4s,baz=299,slow=5.5,SNR=5.2						
NOA	NORSAR Array B	80.55	29	LR	LR	06 58 12.7	
	comp=Z,14nm,19.9s,baz=295,slow=35						
ARCES	ARCESS Array B	82.13	18	P	P	06 23 14.5	-0.3
	3.2nm,0.9s,baz=306,slow=6.2,SNR=4.2						
WRA	Warramunga Arr	135.73	260	PKP	PKPdf	06 30 14.2	-1.6
	0.5nm,0.8s,baz=68,slow=2.6,SNR=5.5						

*ISCJB **04** 06:19:15.9±1.2, 39.°71N±0.°04×142.°35E±0.°09, h21^{km}±7^{km}, mb3.5/6, Error ellipse: s-maj=11.2km s-min=5.9km az=8.7*
*JMA **04** 06:19:16.4, 39.°73N×142.°32E, h22^{km}±1^{km}, M3.8*
*IDC **04** 06:19:25.5±4.4, 39.°61N×142.°01E, h84^{km}±39^{km}, mb3.3/6, mb1 3.4/7, mb1mx3.1/72, mbtmp3.5/7, Error ellipse: s-maj=33.8km s-min=19.4km az=77.0*
ISC 04 06:19:17.3±1.7, 39.°72N±0.°04×142.°27E±0.°08, h17^{km}±8^{km}, n23, σ1^{s}22/26, mb3.6/6, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIYJ	Miyakonagasawa	0.38	248	P	Pg	06 19 25.1	0.0
MIYJ				S	Sg	06 19 30.9	+0.6
JTH	Tanohata	0.38	305	P	Pg	06 19 24.9	-0.3
JTH				S	Sg	06 19 31.0	+0.4
JKZ	Kuzumaki	0.77	290	P	Pb	06 19 31.5	-0.8
JKZ				S	Sb	06 19 42.0	-0.5
OFUJ	Ofunato	0.79	216	P	Pb	06 19 31.5	-1.0
OFUJ				S	Sb	06 19 42.0	-0.9
JOM	Ohasama	0.80	252	P	Pb	06 19 32.1	-0.5
JOM				S	Sb	06 19 43.0	-0.1
JANG	Nango	0.88	319	P	Pb	06 19 32.4	-1.6
JANG				S	Sb	06 19 44.1	-1.3
JMK	Ichinoseki	1.12	227	P	Pn	06 19 37.2	-0.9
JMK				S	Sb	06 19 51.6	-0.8
JRG	Rokugo	1.31	256	P	Pn	06 19 41.3	+0.6
JRG				S	Sb	06 19 59.0	+1.2
JIO	Ouri	1.45	210	P	Pn	06 19 41.9	-0.8
JIO				eS	Sn	06 19 59.8	-1.5
MAT	Matsushiro	4.51	227	P	Pn	06 20 29.6	+4.8
MAT				eS	Sn	06 21 16.9	+0.1
MJAR	Matsushiro Arr	4.51	227	P	Pn	06 20 28.2	+3.5
	1.3nm,0.3s,baz=37,slow=12,SNR=7.9						
H11N2	WAKE ISLAND Hy	29.06	126	T	T	06 55 48.6	
	baz=319,slow=75,SNR=217						
H11N1	WAKE ISLAND Hy	29.07	126	T	T	06 55 49.4	
	baz=319,slow=75,SNR=266						
H11N3	WAKE ISLAND Hy	29.08	126	T	T	06 55 49.9	
	baz=319,slow=75,SNR=185						
H11S1	WAKE ISLAND Hy	29.86	128	T	T	06 56 46.4	
	baz=320,slow=76,SNR=18						
H11S3	WAKE ISLAND Hy	29.87	128	T	T	06 57 01.3	
	baz=320,slow=76,SNR=21						
H11S2	WAKE ISLAND Hy	29.88	128	T	T	06 56 44.6	
	baz=320,slow=76,SNR=20						
ZALV	Zalesovo Beam	40.65	310	P	P	06 26 56.5	+0.3
	0.5nm,0.4s,baz=96,slow=7.4,SNR=2.3						
MKAR	Makanchi Array	43.32	300	P	P	06 27 17.9	-0.2
	0.4nm,0.5s,baz=80,slow=9.3,SNR=6.4						
KURBB	Kurchatov Arra	44.93	306	P	P	06 27 30.4	-0.5
	0.3nm,0.3s,baz=80,slow=8.6,SNR=5.3						
ILAR	Eielson Array	46.88	34	P	P	06 27 48.3	+2.2
	0.3nm,0.7s,baz=269,slow=6.6,SNR=5.3						
WRA	Warramunga Arr	59.81	189	P	P	06 29 20.6	-1.0
	0.5nm,0.5s,baz=6.8,slow=7.0,SNR=19						
ASAR	Alice Springs	63.54	189	P	P	06 29 46.7	0.0
	0.3nm,0.6s,baz=359,slow=4.1,SNR=4.5						

IDC 04 06:29:50.5±2.6, 54.°30N×85.°95E, h0^{km}, mb1 2.6/2, mb1mx2.5/67, mbtmp2.6/2, ML2.3/2, Error ellipse: s-maj=19.2km s-min=10.9km az=53.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	0.75	243	i		06 35 20.0	
	baz=61,slow=318,SNR=1.0						
ZALV	Zalesovo Beam	0.75	243	Pg	Pg	06 30 03.5	-1.4
	0.5nm,0.3s,baz=58,slow=17,SNR=5.4						
ZALV				Lg	Lg	06 30 15.9	
	1.9nm,0.3s,baz=65,slow=30,SNR=12						
KURBB	Kurchatov Arra	5.84	234	Pn	Pn	06 31 19.4	+1.1
	0.0nm,0.3s,baz=50,slow=13,SNR=2.7						
MKAR	Makanchi Array	7.86	199	Pn	Pn	06 31 47.2	+1.1
	0.1nm,0.3s,baz=28,slow=14,SNR=7.0						

*VIE **04** 06:36:09.1±0.8, 50.°79N×15.°17E, h0^{km}, mb2.3/4, ML2.6/6, Error ellipse: s-maj=7.3km s-min=4.4km az=33.0, Suspected Mining explosion.*
*CSEM **04** 06:36:10.0±1.1, 50.°84N×15.°11E, h2^{km}, ML2.9/4, Error ellipse: s-maj=17.1km s-min=11.2km az=151.0, Suspected Mining explosion.*
ISC 04 06:36:06.5±2.8, 51.°0N±0.°1×14.°90E±0.°07, h0^{km}, n15, σ1^{s}04/20, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VRAC	Vranov	2.05	147	ePn	Pn	06 36 42.6	+0.4
VRAC				eSg	Sn	06 37 07.7	-0.7
MORC	Moravsky Berou	2.11	126	ePn	Pn	06 36 43.7	+0.6
MORC				eSg	Sn	06 37 08.6	-1.5
MODS	Modra-Piesok	3.08	149	eSg	Sg	06 37 45.3	-0.2
MODS	Modra-Piesok	3.08	149	eSG	Sg	06 37 45.3	-0.2
CONA	Conrad Observa	3.18	168	Sg	Sb	06 37 44.6	+1.5
	8.9nm,0.5s						
CONA	Conrad Observa	3.18	168	Sg	Sb	06 37 44.6	+1.5
	8.9nm,0.5s						
MOA	Molln	3.22	188	Pg	Pg	06 37 07.2	-1.0
	1.0nm,0.3s						
MOA				Sg	Sg	06 37 49.4	-0.4
	19nm,0.8s						
MOA	Molln	3.22	188	Pg	Pg	06 37 07.2	-1.0
	1.0nm,0.3s						
MOA				Sg	Sg	06 37 49.4	-0.4
	19nm,0.8s						
LANS	Liptovska Anna	3.50	121	eSg	Sg	06 37 57.8	-1.0
LANS	Liptovska Anna	3.50	121	eSG	Sg	06 37 57.8	-1.0
LANS				e		07 16 53.9	
VYHS	Vyhne	3.61	133	eSg	Sb	06 37 56.7	+1.3
VYHS	Vyhne	3.61	133	eSG	Sb	06 37 56.7	+1.3
ARSA	Arzberg	3.81	174	Pg	Pb	06 37 15.4	+0.7
	1.8nm,0.3s						
ARSA				Sg	Sg	06 38 07.6	-1.4
	6.0nm,0.6s						
KBA	Koelnbreinsper	4.09	195	Sg	Sg	06 38 17.4	-0.5
	2.3nm,0.4s						
KBA	Koelnbreinsper	4.09	195	Sg	Sg	06 38 17.4	-0.5
	2.3nm,0.4s						

*IDC **04** 06:44:28.9±2.4, 7.°47S×119.°52E, h0^{km}, mb3.5/2, mb1 3.8/3, mb1mx3.4/60, mbtmp3.5/3, ML3.8/1, MS3.1/1, Ms1 3.1/1, ms1mx2.6/32, Error ellipse: s-maj=242.8km s-min=25.6km az=53.0*
*ISCJB **04** 06:44:31.6±0.9, 7.°79S±0.°05×119.°02E±0.°07, h33^{km}, mb3.5/2, MS3.1/1, Error ellipse: s-maj=9.8km s-min=6.9km az=9.4*
*DJA **04** 06:44:31.3±1.0, 8.°S±2.°×11.°9E±.°, h21^{km}±10^{km}, M3.5/7, MLv3.5/7*
ISC 04 06:44:33.1±1.2, 7.°80S±0.°06×119.°02E±0.°08, h35^{km}, n9, σ0^{s}65/11, Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLAI	Plampang	1.60	230	P	Pn	06 44 58.4	-0.5
WBSI	Waikabubak, Su	1.86	169	P	Pn	06 45 02.2	-0.3
WBSI				S	Sn	06 45 25.3	+0.4
BSSI	Bau Bau, Buton	2.20	42	P	Pn	06 45 07.0	-0.2
BSSI				S	Sn	06 45 33.3	+0.1
WSI	Waingapu	2.24	146	P	Pn	06 45 07.4	-0.3
WSI				S	Sn	06 45 35.3	+1.2
EDFI	Ende, Flores	2.80	110	S	Sn	06 45 48.0	-0.2
WRA	Warramunga Arr	19.13	131	P	P	06 48 52.4	-0.9
	0.3nm,0.3s,baz=307,slow=12,SNR=21						
ASAR	Alice Springs	21.27	140	P	P	06 49 16.4	-0.2
	1.3nm,0.6s,baz=319,slow=9.7,SNR=21						
MJAR	Matsushiro Arr	47.65	21	LR	LR	07 13 35.9	
	comp=Z,19nm,19.8s,baz=0.0,slow=37						
MKAR	Makanchi Array	63.41	333	P	P	06 54 59.8	+0.7
	0.2nm,0.5s,baz=162,slow=7.2,SNR=3.0						

*IDC **04** 06:52:32.3±0.9, 5.°68S×103.°72E, h0^{km}, mb4.3/18, mb1 4.4/18, mb1mx4.1/65, mbtmp4.3/18, MS3.3/5, Ms1 3.3/5, ms1mx2.9/58, Error ellipse: s-maj=33.6km s-min=14.0km az=48.0*
*ISCJB **04** 06:52:36.7±0.5, 5.°6S±0.°1×103.°83E±0.°09, h45^{km}, mb4.4/24, MS3.3/5, Error ellipse: s-maj=19.5km s-min=6.5km az=37.1*
*NEIC **04** 06:52:40.9±0.7, 5.°65S×103.°78E, h66^{km}±5^{km}, mb4.8/10, Error ellipse: s-maj=13.0km s-min=4.4km az=221.0*
ISC 04 06:52:38.6±0.7, 5.°7S±0.°2×103.°8E±0.°1, h45^{km}, n101, σ0^{s}96/96, mb4.4/24, MS3.1/5, 1C, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNAI	Manna	1.54	327	ePn	Pn	06 53 07.0	+3.3
CISI	Cisompet, Garu	4.41	115	ePn	Pn	06 53 47.0	+3.9
CISI				eSn	Sn	06 54 30.6	-2.7
GSI	Gunungsitoli	9.30	318	ePn	Pn	06 54 51.0	+0.7
JAGI	Jajag, Banyuwa	10.64	106	ePn	Pn	06 55 10.2	+1.5
BATI	Baumata	20.18	104	P	P	06 57 10.7	+1.0
	19nm,0.3s,baz=312,slow=5.6,SNR=5.6						
SOEI	Soe	20.68	103	eP	P	06 57 16.5	+1.3
	38nm,0.6s						
CMAR	Chiang Mai Arr	24.44	349	P	P	06 57 53.2	-0.2
	4.1nm,0.7s,baz=181,slow=9.1,SNR=18						
CMAR				LR	LR	07 08 42.7	
	comp=Z,58nm,18.4s,baz=174,slow=40						
H08S2	Diego Garcia H	31.16	265	T	T	07 32 39.3	
	baz=88,slow=76,SNR=5.1						
H08S3	Diego Garcia H	31.16	265	T	T	07 32 28.5	
	baz=88,slow=76,SNR=4.2						
H08S1	Diego Carcia H	31.17	265	T	T	07 32 33.8	
	baz=88,slow=76,SNR=5.2						
WR1	Warramunga Arr	32.90	118	eP	P	06 59 08.3	-0.6
	9.5nm,1.4s						
WRA	Warramunga Arr	32.90	118	P	P	06 59 08.3	-0.6
	0.9nm,0.8s,baz=303,slow=9.0,SNR=21						
ASAR	Alice Springs	34.05	125	P	P	06 59 18.6	-0.3
	1.2nm,0.7s,baz=302,slow=8.1,SNR=16						
ASAR				PcP	PcP	07 01 56.4	+0.4
	0.9nm,0.8s,baz=335,slow=3.2,SNR=6.4						
JOW	Kunigami	40.06	35	LR	LR	07 16 52.0	
	comp=Z,26nm,20.8s,baz=142,slow=36						
PMG	Port Moresby	43.12	98	LR	LR	07 20 40.3	
	comp=Z,76nm,19.4s,baz=167,slow=39						
STKA	Stephens Creek	43.90	131	P	P	07 00 41.5	+0.4
	1.7nm,0.6s,baz=319,slow=6.5,SNR=5.7						
STKA	Stephens Creek	43.90	131	eP	P	07 00 41.5	+0.4
	0.7nm,0.8s						
KSAR	Wonju Array Be	48.41	26	P	P	07 01 17.0	+0.6
KSRS	Korea Array	48.44	26	P	P	07 01 17.0	+0.4
	2.5nm,0.6s,baz=223,slow=7.9,SNR=7.6						
NIL	Nilore	48.64	326	eP	P	07 01 17.9	-0.4
	15nm,0.8s						
SONA0	Songino Array	53.32	2	eP	P	07 01 53.8	+0.5
SONM	Songino Array	53.32	2	P	P	07 01 53.8	+0.5
	1.6nm,0.6s,baz=168,slow=7.6,SNR=4.1						
NRN	Naryn	53.32	334	eP	P	07 01 53.5	-0.3
	4.7nm,0.9s						
KDJ	Kajisay	53.40	335	eP	P	07 01 54.8	+0.7
	8.6nm,0.8s						
MK01	Makanchi Array	55.58	342	eP	P	07 02 08.7	-0.9
MK31	Makanchi Array	55.60	342	eP	P	07 02 09.4	-0.4
MK32	Makanchi Array	55.60	342	eP	P	07 02 09.4	-0.4
MKAR	Makanchi Array	55.60	342	P	P	07 02 09.4	-0.4
	5.8nm,0.7s,baz=146,slow=8.1,SNR=57						
MKAR	Makanchi Array	55.60	342	eP	P	07 02 09.4	-0.4
	31nm,0.6s						
USRK	Ussuriysk Ar.	55.75	24	P	P	07 02 10.6	-0.3
	6.6nm,0.8s,baz=203,slow=6.1,SNR=5.3						
TLY	Talaya	57.12	360	P	P	07 02 20.5	-0.1
	0.6nm,0.3s,baz=270,slow=6.1,SNR=6.4						
TLY	Talaya	57.12	360	eP	P	07 02 20.4	-0.1
	2.4nm,0.8s						
KURBB	Kurchatov Arra	60.16	342	P	P	07 02 41.4	-0.2
	3.6nm,0.6s,baz=159,slow=6.1,SNR=21						
KURK	Kurchatov	60.21	342	eP	P	07 02 41.4	-0.6
KURK				eP	P	07 02 41.8	-0.2
GEYT	Alibeck	60.67	320	P	P	07 02 45.8	+0.3
	1.0nm,0.4s,baz=126,slow=2.0,SNR=3.8						
ZAA0	Zalesovo Array	61.50	347	eP	P	07 02 50.0	-0.7
	7.2nm,0.8s						
ZALV	Zalesovo Beam	61.50	347	P	P	07 02 50.1	-0.6
	6.6nm,0.6s,baz=164,slow=4.0,SNR=24						
ZALV				LR	LR	07 32 54.7	
	comp=Z,38nm,18.8s,baz=66,slow=39						
ZAA1	Zalesovo Array	61.50	347	eP	P	07 02 50.1	-0.6
AB07	Akbulak array	66.65	330	eP	P	07 03 24.1	-0.5
AB06	Akbulak array	66.66	330	eP	P	07 03 24.1	-0.5
AB08	Akbulak array	66.66	330	eP	P	07 03 24.2	-0.5
AB03	Akbulak array	66.66	330	eP	P	07 03 24.2	-0.5
AB01	Akbulak array	66.67	330	eP	P	07 03 24.1	-0.6
AB02	Akbulak array	66.67	330	eP	P	07 03 24.1	-0.6
AB31	Akbulak array	66.67	330	eP	P	07 03 24.5	-0.2
ABKAR	Akbulak array	66.67	330	eP	P	07 03 24.5	-0.2
AB04	Akbulak array	66.67	330	eP	P	07 03 24.2	-0.6
AB05	Akbulak array	66.68	330	eP	P	07 03 24.2	-0.6
AB09	Akbulak array	66.68	330	eP	P	07 03 24.3	-0.5
KBZ	Khabaz	73.54	319	P	P	07 04 06.7	-0.2
	1.5nm,0.7s,baz=129,slow=4.2,SNR=4.8						
SYO	Syowa Base	75.67	200⇑	eX	P	07 04 27.4	+8.6
SEY	Seymchan	77.64	21	P	P	07 04 30.0	0.0
	0.8nm,0.5s,baz=227,slow=2.2,SNR=4.7						
BR101	Keskin Array S	78.58	312	eP	P	07 04 36.1	+0.2
BR131	Keskin Array S	78.58	312	eP	P	07 04 35.3	-0.6
BRTR	Keskin Array B	78.58	312	P	P	07 04 36.1	+0.2
	1.7nm,0.8s,baz=130,slow=6.7,SNR=10						
BR231	Keskin MP Arra	79.25	312	eP	P	07 04 36.9	-2.6
AKASG	Malin Array Be	84.69	322	P	P	07 05 07.8	+0.1
	0.7nm,0.6s,baz=86,slow=5.0,SNR=5.2						
AKBB	Malin Array Si	84.69	322	eP	P	07 05 07.8	+0.1
	9.1nm,1.5s						
MLR	Muntele Rosu	85.55	316	LR	LR	07 48 40.4	
	comp=Z,8.0nm,20.1s,baz=73,slow=39						
MLR	Muntele Rosu	85.55	316	eP	P	07 05 13.2	+0.9
	25nm,1.8s						
BUR04	Bucovina Ar. S	86.50	318	eP	P	07 05 18.1	+1.1
BUR08	Bucovina Ar. S	86.52	318	eP	P	07 05 18.6	+1.6
FIA0	FINESS Array S	89.10	332	eP	P	07 05 29.9	+0.9
FINES	FINESS Array B	89.10	332	P	P	07 05 29.9	+0.9
	3.4nm,0.9s,baz=92,slow=4.8,SNR=3.4						
CLL	Collm	94.88	321	epP	pP	07 06 12.0	+2.6
GATR	Gnd/Air Tx Cnt	130.03	49	ePKPdf	PKPdf	07 11 43.8	-0.4
S39A	Bolivar	144.51	24	P	PKPab	07 12 07.8	-1.2
	baz=330						
N54A	Moraine State	144.69	5	P	PKPab	07 12 08.6	-1.0
	baz=354						
S40A	Lebanon	144.91	23	P	PKPab	07 12 09.4	-1.1
	baz=331						
TUL1	Leonard	144.92	28	P	PKPab	07 12 09.9	-0.7
	baz=325						
TX31	Lajitas Ar. Si	144.96	45	ePKPbc	PKPab	07 12 10.7	-0.4
TX31				ePKPbc	PKPbc	07 12 11.3	+0.2
LTX	Lajitas	144.97	45	ePKPbc	PKPdf	07 12 11.6	-0.3
TXAR	Lajitas Array	144.97	45	PKPbc	PKPdf	07 12 11.6	-0.2
	2.2nm,0.7s,baz=289,slow=1.5,SNR=24						
CCM	Cathedral Cave	144.97	21	P	PKPab	07 12 09.6	-1.1
	baz=333						
ACSO	Alum Creek Sta	145.05	9	P	PKPbc	07 12 10.0	-0.9
	baz=348						
T39A	Clever	145.06	24	P	PKPbc	07 12 09.4	-1.7
	baz=329						
P47A	Martinsville	145.12	14	P	PKPbc	07 12 10.3	-0.8
	baz=342						
SSPA	Standing Stone	145.15	2	P	PKPbc	07 12 10.7	-0.5
	baz=357						
Q45A	Warren Harvey,	145.19	16	P	PKPbc	07 12 10.9	-0.5
	baz=339						
S41A	Jillco Farms,	145.20	22	P	PKPbc	07 12 10.5	-1.0
	baz=332						
R43A	Red Bud	145.22	19	P	PKPbc	07 12 10.7	-0.8
	baz=336						
T40A	Mansfield	145.29	23	P	PKPbc	07 12 10.3	-1.5
	baz=331						
S42A	Caledonia	145.39	21	P	PKPbc	07 12 10.6	-1.5
	baz=334						
O56A	Blue Knob Stat	145.48	3	P	PKPdf	07 12 11.5	-0.7
	baz=356						
O56A	Blue Knob Stat	145.48	3	ePKPdf	PKPdf	07 12 11.6	-0.7
U39A	Green Forest	145.56	25	P	PKPdf	07 12 11.6	-1.0
	baz=329						
Q47A	Bedord North L	145.61	14	P	PKPdf	07 12 11.8	-0.7
	baz=342						
T41A	Mountain View	145.68	22	P	PKPdf	07 12 12.3	-0.5
	baz=332						
R45A	Skylar, Fairfi	145.71	17	P	PKPdf	07 12 12.0	-0.7
	baz=338						
U40A	Yellville	145.84	24	P	PKPdf	07 12 12.4	-0.6
	baz=330						
T42A	Van Buren	145.94	22	P	PKPdf	07 12 12.8	-0.3
	baz=333						

V39A	Pettigrew baz=328	145.95	26	P	PKPdf	07 12 12.7	-0.5
U41A	Viola baz=331	146.23	23	P	PKPdf	07 12 13.3	-0.3
PBMO	Poplar Bluff	146.40	21	*e*PKPdf	PKPdf	07 12 14.0	+0.1
JCT	Junction City	146.80	39	*e*PKPdf	PKPdf	07 12 15.1	+0.3
S48A	Wiedeman Farm, baz=342	146.91	14	P	PKPdf	07 12 15.5	+0.7
T48A	Bowling Green baz=341	147.34	15	P	PKPdf	07 12 16.5	+1.0
WVT	Waverly baz=338	147.85	18	P	PKPbc	07 12 18.6	-0.7
WVT	Waverly	147.85	18	*e*PKPbc	PKPbc	07 12 18.7	-0.6
W47A	Westpoint baz=338	148.74	18	P	PKPbc	07 12 20.9	-0.7
251A	Midway baz=340	152.33	17	P	PKPbc	07 12 30.1	-0.2

IDC 04 07:04:44.9±19.0, 18°70S×179°87W, h383km±204km, mb3.0/5, mb1 3.4/5, mb1mx3.1/47, mbtmp3.8/5, Error ellipse: s-maj=131.4km s-min=49.1km az=165.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	43.13	261	P	P	07 12 09.3	-0.3
	0.3nm,0.7s,baz=93,slow=5.8,SNR=4.5						
ASAR	Alice Springs	43.24	255	P	P	07 12 10.4	-0.1
	1.0nm,0.5s,baz=89,slow=8.3,SNR=10						
ILAR	Eielson Array	86.97	14	P	P	07 16 47.4	+0.1
	0.5nm,0.7s,baz=220,slow=3.9,SNR=7.6						
TXAR	Lajitas Array	87.59	58	P	P	07 16 51.3	+0.1
	0.6nm,0.7s,baz=222,slow=5.0,SNR=5.9						
PDAR	Pinedale Array	88.88	44	P	P	07 16 56.7	-0.3
	0.7nm,0.6s,baz=224,slow=4.1,SNR=6.8						
GERES	GERESS Array B	147.99	343	PKPbc	PKPbc	07 23 45.2	-0.6
	0.2nm,0.3s,baz=354,slow=3.9,SNR=3.6						

*ISCJB **04** 07:08:50.3±0.2, 43°.47N±0°.01×13°.56E±0°.02, h35km, Error ellipse: s-maj=2.3km s-min=1.8km az=146.7*
*LDG **04** 07:08:50.3, 43°.43N×13°.50E, h43km*
*ROM **04** 07:08:50.8±0.1, 43°.41N×13°.50E, h35km, Ml3.4/49, Error ellipse: s-maj=1.6km s-min=1.2km az=81.0*
*CSEM **04** 07:08:51.2±0.1, 43°.43N×13°.49E, h40km, ML3.8/27, Error ellipse: s-maj=2.5km s-min=2.0km az=163.0*
*PRU **04** 07:08:53.8, 43°.83N×13°.53E, h0km*
*BEO **04** 07:08:53.5±0.8, 43°.57N×13°.82E, h20km*

ISC 04 07:08:50.3±1.1, 43°.43N±0°.02×13°.51E±0°.02, h35km, n232, σ1s75/322, 22C-4D, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AOI	Ancona	0.13	31	⇓*i* Pg	Pn	07 08 57.7	+1.0
AOI	4µm,0.3s			Sg	Sn	07 09 02.6	+1.6
AOI	Ancona	0.13	31	⇓*i* Pg	Pn	07 08 57.7	+1.0
AOI	4µm,0.3s			Sg	Sn	07 09 02.6	+1.6
CING	Cingoli	0.23	256	⇑*i* Pg	Pn	07 08 57.8	+0.3
CING	4µm,0.4s			Sg	Sn	07 09 03.2	+0.7
CING	Cingoli	0.23	256	⇑*i* Pg	Pn	07 08 57.8	+0.3
CING	4µm,0.4s			Sg	Sn	07 09 03.2	+0.7
SENI	Senigallia	0.34	324	Pg	Pn	07 09 00.0	+1.3
SENI	3µm,0.4s			Sg	Sn	07 09 07.5	+3.1
SENI	Senigallia	0.34	324	Pg	Pn	07 09 00.0	+1.3
SENI	3µm,0.4s			Sg	Sn	07 09 07.5	+3.1
ARVD	Arcevia	0.42	279	⇑*i* Pg	Pn	07 09 00.1	+0.3
ARVD	2µm,0.4s			Sg	Sn	07 09 07.2	+0.8
ARVD	Arcevia	0.42	279	⇑*i* Pg	Pn	07 09 00.1	+0.3
ARVD	2µm,0.4s			Sg	Sn	07 09 07.2	+0.8
SNTG	Esanatoglia	0.45	247	⇑*i* Pg	Pn	07 09 00.3	0.0
SNTG	1µm,0.2s			Sg	Sn	07 09 07.9	+0.7
SNTG	Esanatoglia	0.45	247	⇑*i* Pg	Pn	07 09 00.3	0.0
SNTG	1µm,0.2s			Sg	Sn	07 09 07.9	+0.7
GUMA	Gualdo di Mace	0.48	140	⇑*i* Pg	Pn	07 08 59.9	-0.9
GUMA	Gualdo di Mace	0.48	140	⇑*i* Pg	Pn	07 08 59.9	-0.9
GUMA	15µm,0.3s			Sg	Sn	07 09 06.9	-1.1
FRON	Frontone	0.57	279	⇑*i* Pg	Pn	07 09 02.6	+0.6
FRON	5µm,0.3s			Sg	Sn	07 09 11.7	+1.4
FRON	Frontone	0.57	279	⇑*i* Pg	Pn	07 09 02.6	+0.6
FRON	5µm,0.3s			Sg	Sn	07 09 11.7	+1.4
MPAG	Monte Paganucc	0.58	290	Pg	Pn	07 09 02.7	+0.6
MPAG	3µm,0.5s			Sg	Sn	07 09 11.8	+1.4
MPAG	Monte Paganucc	0.58	290	Pg	Pn	07 09 02.7	+0.6
MPAG	3µm,0.5s			Sg	Sn	07 09 11.8	+1.4
FSSB	Fossombrone	0.59	296	Pg	Pn	07 09 03.0	+0.8
FSSB	6µm,0.5s			Sg	Sn	07 09 12.7	+2.0
FSSB	Fossombrone	0.59	296	Pg	Pn	07 09 03.0	+0.8
FSSB	6µm,0.5s			Sg	Sn	07 09 12.7	+2.0
CESI	CESI - Serrava	0.61	226	⇑*i* Pg	Pn	07 09 02.7	+0.1
CESI	882nm,0.3s			Sg	Sn	07 09 11.9	+0.6
CESI	CESI - Serrava	0.61	226	⇑*i* Pg	Pn	07 09 02.7	+0.1
CESI	882nm,0.3s			Sg	Sn	07 09 11.9	+0.6
NRCA	Norcia	0.67	206	⇑*i* Pg	Pn	07 09 03.4	+0.1
NRCA	2µm,0.1s			Sg	Sn	07 09 13.3	+0.7
NRCA	Norcia	0.67	206	⇑*i* Pg	Pn	07 09 03.4	+0.1
NRCA	2µm,0.1s			Sg	Sn	07 09 13.3	+0.7
ATCC	AVT- Casa Cast	0.68	249	⇑*i* Pg	Pn	07 09 03.9	+0.4
ATCC	6µm,0.4s			Sg	Sn	07 09 14.6	+1.7
ATCC	AVT- Casa Cast	0.68	249	⇑*i* Pg	Pn	07 09 03.9	+0.4
ATCC	6µm,0.4s			Sg	Sn	07 09 14.6	+1.7
TRTR	Tortoreto Alta	0.69	154	Pg	Pn	07 09 05.5	+1.9
TRTR	Tortoreto Alta	0.69	154	Pg	Pn	07 09 05.5	+1.9
PESA	Pesaro	0.70	317	⇓*i* Pg	Pn	07 09 04.9	+1.2
PESA	1µm,0.2s Pesaro	0.70	317	⇓*i* Pg	Pn	07 09 04.9	+1.2
PIEI	1µm,0.2s Pieia	0.71	279	Pg	Pn	07 09 04.5	+0.5
PIEI				Sg	Sn	07 09 15.0	+1.2
PIEI	Pieia	0.71	279	Pg	Pn	07 09 04.5	+0.5
PIEI				Sg	Sn	07 09 15.0	+1.2
MURB	Monte Urbino	0.74	257	⇑*i* Pg	Pn	07 09 05.0	+0.7
MURB	8µm,0.2s			Sg	Sn	07 09 16.2	+1.9
MURB	Monte Urbino	0.74	257	⇑*i* Pg	Pn	07 09 05.0	+0.7
MURB	8µm,0.2s			Sg	Sn	07 09 16.2	+1.9
ATPC	Poggio Castell	0.77	274	Pg	Pn	07 09 05.7	+1.0
ATPC	2µm,0.3s			Sg	Sn	07 09 17.1	+2.1
ATPC	Poggio Castell	0.77	274	Pg	Pn	07 09 05.7	+1.0
ATPC	2µm,0.3s			Sg	Sn	07 09 17.1	+2.1
ATVO	AVT- Monte Val	0.80	267	⇑*i* Pg	Pn	07 09 06.0	+0.8
ATVO	2µm,0.4s			Sg	Sn	07 09 17.7	+1.8
ATVO	AVT- Monte Val	0.80	267	⇑*i* Pg	Pn	07 09 06.0	+0.8
ATVO	2µm,0.4s			Sg	Sn	07 09 17.7	+1.8
SMA1	SAN MARTINO	0.81	189	Pg	Pn	07 09 05.7	+0.3
SMA1	3µm,0.6s			Sg	Sn	07 09 17.6	+1.3
SMA1	SAN MARTINO	0.81	189	Pg	Pn	07 09 05.7	+0.3
SMA1	3µm,0.6s			Sg	Sn	07 09 17.6	+1.3
TERO	Teramo	0.81	175	Pg	Pn	07 09 05.6	+0.3
TERO	697nm,0.4s Teramo	0.81	175	Pg	Pn	07 09 05.6	+0.3
ATTE	697nm,0.4s AVT- Monte Tez	0.88	255	⇑*i* Pg	Pn	07 09 07.1	+0.9
	611nm,0.3s						
ATTE	AVT- Monte Tez	0.88	255	⇑*i* Pg	Pn	07 09 07.1	+0.9
	611nm,0.3s						
LNSS	Leonessa	0.90	203	Pg	Pn	07 09 07.1	+0.6
LNSS	1µm,0.5s Leonessa	0.90	203	Pg	Pn	07 09 07.1	+0.6
BADI	1µm,0.5s Badiali	0.92	275	Pg	Pn	07 09 08.2	+1.4
BADI	1µm,0.3s Badiali	0.92	275	Pg	Pn	07 09 08.2	+1.4
CPGN	1µm,0.3s Carpegna, Ital	0.94	293	Pg	Pn	07 09 08.8	+1.7
CPGN	1µm,0.3s Carpegna, Ital	0.94	293	Pg	Pn	07 09 08.8	+1.7
PARC	1µm,0.3s Parchiule	0.95	284	Pg	Pn	07 09 08.5	+1.4
PARC	751nm,0.3s Parchiule	0.95	284	Pg	Pn	07 09 08.5	+1.4
ATMC	751nm,0.3s Monte Cedrone	0.96	271	Pg	Pn	07 09 08.7	+1.4
ATMC	Monte Cedrone	0.96	271	Pg	Pn	07 09 08.7	+1.4
VCEL	Villa Celiera	1.07	167	Pg	Pn	07 09 09.7	+0.8
VCEL	411nm,0.4s Villa Celiera	1.07	167	Pg	Pn	07 09 09.7	+0.8
CESX	411nm,0.4s Cesi	1.07	220	Pg	Pn	07 09 09.6	+0.8
CESX	1µm,0.4s Cesi	1.07	220	Pg	Pn	07 09 09.6	+0.8
AQU	1µm,0.4s L'Aquila	1.08	184	*e*Pn	Pn	07 09 09.9	+0.9
CAFI	Castiglion Fio	1.13	265	Pg	Pn	07 09 11.1	+1.5
CAFI	511nm,0.5s Castiglion Fio	1.13	265	Pg	Pn	07 09 11.1	+1.5
MGAB	511nm,0.5s Montegabbione	1.15	243	Pg	Pn	07 09 11.1	+1.2
MGAB	728nm,0.4s Montegabbione	1.15	243	Pg	Pn	07 09 11.1	+1.2
FIAM	728nm,0.4s Fiamignano	1.20	194	Pg	Pn	07 09 12.1	+1.4
FIAM	233nm,0.5s Fiamignano	1.20	194	Pg	Pn	07 09 12.1	+1.4
SFI	233nm,0.5s Santa Sofia	1.29	292	Pg	Pn	07 09 13.8	+1.9
SFI	145nm,0.4s Santa Sofia	1.29	292	Pg	Pn	07 09 13.8	+1.9
ASQU	145nm,0.4s Asqua	1.30	287	Pg	Pn	07 09 14.0	+2.0
ASQU	319nm,0.3s Asqua	1.30	287	Pg	Pn	07 09 14.0	+2.0
SACS	319nm,0.3s San Casciano d	1.31	244	Pg	Pn	07 09 13.0	+0.9
INTR	316nm,0.9s Introdacqua	1.45	168	Pg	Pn	07 09 14.9	+0.8
INTR	250nm,0.5s Introdacqua	1.45	168	Pg	Pn	07 09 14.9	+0.8
NVLJ	250nm,0.5s Novalja	1.50	41	*i* Pg	Pn	07 09 15.7	+1.1
NVLJ				Sg	Sn	07 09 33.8	+0.8
NVLJ	Novalja	1.50	41	*i* Pg	Pn	07 09 15.7	+1.1
NVLJ				Sg	Sn	07 09 33.7	+0.8
ARCI	Arcidosso	1.60	249	Pg	Pn	07 09 17.7	+1.6
ARCI	Arcidosso	1.60	249	Pg	Pn	07 09 17.7	+1.6
BRIS	BRISIGHELLA	1.61	297	Pg	Pn	07 09 16.5	+0.2
BRIS	23µm,12.0s BRISIGHELLA	1.61	297	Pg	Pn	07 09 16.5	+0.2
SEI	23µm,12.0s Scarperia	1.68	292	Pg	Pn	07 09 19.8	+2.6
SEI	Scarperia	1.68	292	Pg	Pn	07 09 19.8	+2.6
FROS	Frosini	1.73	263	Pg	Pn	07 09 18.5	+0.6
FROS	141nm,0.7s Frosini	1.73	263	Pg	Pn	07 09 18.5	+0.6
CRMI	141nm,0.7s Carmignano	1.88	282	Pg	Pn	07 09 21.1	+1.2
CRMI	57nm,0.6s Carmignano	1.88	282	Pg	Pn	07 09 21.1	+1.2
UDBI	57nm,0.6s Udbina	1.96	55	*i* Pn	Pn	07 09 23.4	+2.2
UDBI				Sn	Sn	07 09 46.1	+1.5
UDBI	Udbina	1.96	55	*i* Pn	Pn	07 09 23.3	+2.2
UDBI				Sn	Sn	07 09 46.0	+1.5
CASP	Castiglione de	2.04	253	Pg	Pn	07 09 22.9	+0.8
CASP	Castiglione de	2.04	253	Pg	Pn	07 09 22.9	+0.8
TEOL	Teolo	2.33	326	Pg	Pn	07 09 26.5	+0.3
TEOL	198nm,0.4s Teolo	2.33	326	Pg	Pn	07 09 26.5	+0.3
VLC	198nm,0.4s Villacollemand	2.37	289	Pg	Pn	07 09 27.7	+1.0
VLC	40nm,1.0s Villacollemand	2.37	289	Pg	Pn	07 09 27.7	+1.0
BOJS	40nm,1.0s Bojanci	2.42	31	*e*Pn	Pn	07 09 28.6	+1.3
BOJS	11nm,0.2s			*e*Sn	Sn	07 09 55.7	0.0
BOJS	Bojanci	2.42	31	*i* Pn	Pn	07 09 28.8	+1.4
BOJS	48nm,0.2s Bojanci	2.42	31	*e*Pn	Pn	07 09 28.6	+1.3
BOJS	11nm,0.2s			*e*Sn	Sn	07 09 55.7	0.0
JAVS	48nm,0.2s Javornik	2.49	9	*i* Pn	Pn	07 09 28.9	+0.5
JAVS	Javornik	2.49	9	*i* Pn	Pn	07 09 28.9	+0.5
SABO	M.te Sabotino	2.55	1	Pg	Pn	07 09 29.8	+0.7
SABO	139nm,0.3s M.te Sabotino	2.55	1	Pg	Pn	07 09 29.8	+0.7
VISS	139nm,0.3s Visnje	2.55	21	*i* Pn	Pn	07 09 30.3	+1.1
VISS	Visnje	2.55	21	*i* Pn	Pn	07 09 30.3	+1.1
OZLJ	Ozalj	2.59	32	*e*Pn	Pn	07 09 31.3	+1.6
OZLJ				Sn	Sn	07 09 59.2	-0.7
OZLJ	Ozalj	2.59	32	*e*Pn	Pn	07 09 31.2	+1.6
OZLJ				Sn	Sn	07 09 59.2	-0.7
POLC	Polcenigo	2.69	345	Pg	Pn	07 09 32.3	+1.3
POLC	152nm,0.4s Polcenigo	2.69	345	Pg	Pn	07 09 32.3	+1.3
LJU	152nm,0.4s Ljubljana	2.71	15	*e*Pn	Pn	07 09 33.2	+1.9
LJU	7.2nm,0.2s			*e*Sn	Sn	07 10 03.8	+0.9
LJU	Ljubljana	2.71	15	*e*Pn	Pn	07 09 33.2	+1.9
LJU	7.2nm,0.2s			*e*Sn	Sn	07 10 03.8	+0.9
CGRP	174nm,0.2s Cima Grappa	2.73	334	Pg	Pn	07 09 32.3	+0.5
CGRP	63nm,0.5s Cima Grappa	2.73	334	Pg	Pn	07 09 32.3	+0.5
CRES	63nm,0.5s Cresnjev	2.77	30	*e*Pn	Pn	07 09 33.4	+1.3
ROVR	Rover˙¤ Verone	2.81	323	Pg	Pn	07 09 33.1	+0.2
ROVR	88nm,0.1s Rover˙¤ Verone	2.81	323	Pg	Pn	07 09 33.1	+0.2
VINO	88nm,0.1s Villanova	2.83	357	Pg	Pn	07 09 33.5	+0.5
VINO	58nm,0.2s Villanova	2.83	357	Pg	Pn	07 09 33.5	+0.5
STAL	58nm,0.2s STALIGIAL	2.88	349	Pg	Pn	07 09 34.3	+0.6
STAL	137nm,0.2s STALIGIAL	2.88	349	Pg	Pn	07 09 34.3	+0.6
BLY	137nm,0.2s Banja Luka	2.96	62	*e*Pn	Pn	07 09 36.9	+2.2
MSSA	Maissana	3.02	288	Pg	Pn	07 09 36.7	+1.1
MSSA	30nm,0.5s Maissana	3.02	288	Pg	Pn	07 09 36.7	+1.1
MAGA	30nm,0.5s Magasa	3.12	320	Pg	Pn	07 09 37.1	+0.1
MAGA	142nm,0.6s Magasa	3.12	320	Pg	Pn	07 09 37.1	+0.1
STON	142nm,0.6s Ston	3.12	99	*e*Pn	Pn	07 09 37.1	+0.2
STON				Sn	Sn	07 10 12.4	-0.6
STON	Ston	3.12	99	*e*Pn	Pn	07 09 37.1	+0.2
STON				Sn	Sn	07 10 12.3	-0.6
OBKA	Obir	3.16	13	Pn	Pn	07 09 39.0	+1.3
OBKA	3.1nm,0.2s 65nm,0.5s			Sn	Sn	07 10 16.1	+1.9
OBKA	Obir	3.16	13	*e*Pn	Pn	07 09 39.0	+1.3
OBKA	3.1nm,0.2s 65nm,0.5s			*e*Sn	Sn	07 10 16.1	+1.9
MYKA	Terra Mystica	3.20	2	Pn	Pn	07 09 39.3	+1.2
MYKA	2.4nm,0.2s 7.5nm,0.3s			Sn	Sn	07 10 15.6	+0.6
MYKA	Terra Mystica	3.20	2	*e*Pn	Pn	07 09 39.3	+1.2
MYKA	2.4nm,0.2s			*e*Sn	Sn	07 10 15.6	+0.6
FVI	7.5nm,0.3s Forni Avoltri	3.20	351	Pg	Pn	07 09 39.1	+0.9
FVI	49nm,0.2s Forni Avoltri	3.20	351	Pg	Pn	07 09 39.1	+0.9
MABI	49nm,0.2s Malga Bissina	3.38	322	Pg	Pn	07 09 41.2	+0.5
MABI	43nm,0.1s Malga Bissina	3.38	322	Pg	Pn	07 09 41.2	+0.5
ABTA	43nm,0.1s Abfaltersbach	3.39	348	Pn	Pn	07 09 42.3	+1.6
ABTA	8.3nm,0.1s,SNR=15 1.7nm,0.1s			Sn	Sn	07 10 19.5	-0.2
ABTA	Abfaltersbach	3.39	348	*i* Pn	Pn	07 09 42.3	+1.6
SOKA	8.3nm,0.1s,SNR=15 Soboth	3.42	18	*e*Sn	Sn	07 10 19.5	-0.2
SOKA	1.7nm,0.1s Soboth	3.42	18	Sn	Sn	07 10 21.5	+1.0
PGF	8.8nm,0.3s Pioggiola	3.42	257	*e*P	Pn	07 09 43.1	+1.8
PGF	SNR=1.0 3.8nm,0.3s,SNR=1.0			*e*Sn	Sn	07 10 18.2	-2.5
PGF	Pioggiola	3.42	257	*e*P	Pn	07 09 43.1	+1.8
APPI	SNR=1.0 1.9nm,0.3s,SNR=1.0 Appiano	3.45	333	Pg	Pn	07 09 42.3	+0.7
APPI	51nm,0.3s Appiano	3.45	333	Pg	Pn	07 09 42.3	+0.7
MDI	51nm,0.3s Monti di Nese	3.58	312	Pg	Pn	07 09 43.8	+0.4
MDI	10.0nm,0.2s Monti di Nese	3.58	312	Pg	Pn	07 09 43.8	+0.4
KBA	10.0nm,0.2s Koelnbreinsper	3.65	358	Pn	Pn	07 09 45.8	+1.5
KBA	0.5nm,0.1s 26nm,0.5s			Sn	Sn	07 10 25.9	-0.3
KBA	Koelnbreinsper	3.65	358	*e*Pn	Pn	07 09 45.8	+1.5
WTTA	0.5nm,0.1s 26nm,0.5s Wattenberg	4.05	342	Pn	Pn	07 09 51.5	+1.6
WTTA	2.5nm,0.1s Wattenberg	4.05	342	*e*Pn	Pn	07 09 51.5	+1.6
ARSA	2.5nm,0.1s Arzberg	4.07	20	Pn	Pn	07 09 51.0	+0.9
ARSA	0.7nm,0.2s 6.5nm,0.3s			Sn	Sn	07 10 34.7	-1.8
ARSA	Arzberg	4.07	20	*e*Pn	Pn	07 09 51.0	+0.9
ARSA	0.7nm,0.2s 6.5nm,0.3s			*e*Sn	Sn	07 10 34.7	-1.8
FETA	Feichten	4.09	332	Pn	Pn	07 09 52.3	+1.9
FETA	3.6nm,0.3s 2.7nm,0.2s			Sn	Sn	07 10 37.0	-0.1
FETA	Feichten	4.09	332	*e*Pn	Pn	07 09 52.3	+1.9
FETA	3.6nm,0.3s 2.7nm,0.2s			*e*Sn	Sn	07 10 37.0	-0.1
WATA	Walderalm	4.13	341	Pn	Pn	07 09 53.3	+2.3
WATA	6.5nm,0.2s,SNR=5.4 Walderalm	4.13	341	*e*Pn	Pn	07 09 53.3	+2.3
MOTA	6.5nm,0.2s,SNR=5.4 Moosalm	4.26	337	Pn	Pn	07 09 54.9	+2.1
MOTA	3.5nm,0.2s Moosalm	4.26	337	*e*Pn	Pn	07 09 54.9	+2.1
BBLS	3.5nm,0.2s Lazići	4.30	82	*e*Pn	Pn	07 09 54.7	+1.4
BBLS	6.6nm,0.2s 5.3nm,0.2s			*e*Sn	Sn	07 10 40.8	-1.4
BBLS	Lazići	4.30	82	*e*Pn	Pn	07 09 54.7	+1.4
BBLS	6.6nm,0.2s 5.3nm,0.2s			*e*Sn	Sn	07 10 40.8	-1.4
PDG	Podgorica	4.34	101	*e*Pn	Pn	07 09 55.6	+1.9
PDG	2.8nm,0.2s 6.5nm,0.1s			*e*Sn	Sn	07 10 42.3	-0.7
PDG	Podgorica	4.34	101	*e*Pn	Pn	07 09 55.6	+1.9
DRME	2.8nm,0.2s 6.5nm,0.1s Dracevica, Mon	4.36	105	*e*Pn	Pn	07 09 55.7	+1.7
SBF	Sospel	4.43	278	*e*Pn	Pn	07 09 54.6	-0.4
SBF	Sospel	4.43	278	*e*P	Pn	07 09 56.8	+1.8
SBF	SNR=1.0 14nm,0.5s,SNR=1.0			*e*Sn	Sn	07 10 42.8	-2.6
SBF	Sospel	4.43	278	*e*Pn	Pn	07 09 54.6	-0.4
SBF	Sospel	4.43	278	*e*P	Pn	07 09 56.8	+1.8
SBF	SNR=1.0 7.2nm,0.5s,SNR=1.0			*e*Sn	Sn	07 10 42.8	-2.6
MOA	Molln	4.45	7	Pn	Pn	07 09 57.3	+2.1
MOA	0.7nm,0.1s 9.9nm,0.4s			Sn	Sn	07 10 45.5	-0.3
MOA	Molln	4.45	7	*e*Pn	Pn	07 09 57.3	+2.1
MOA	0.7nm,0.1s 9.9nm,0.4s			*e*Sn	Sn	07 10 45.5	-0.3
TEKS	Tekeris	4.49	74	*e*Pn	Pn	07 09 57.2	+1.4
TEKS	0.7nm,0.3s Tekeris	4.49	74	*e*Pn	Pn	07 09 57.2	+1.4
DAVA	0.7nm,0.3s Damuels	4.62	328	Pn	Pn	07 09 59.5	+1.7
DAVA	3.8nm,0.2s Damuels	4.62	328	*e*Pn	Pn	07 09 59.5	+1.7
SJES	3.8nm,0.2s Sjenica	4.72	90	*e*Pn	Pn	07 10 00.5	+1.5
SJES	3.3nm,0.3s 4.6nm,0.6s			*e*Sn	Sn	07 10 50.0	-2.6
DIVS	Divibare	4.74	80	*e*Pn	Pn	07 10 00.8	+1.4
DIVS	0.7nm,0.6s Divibare	4.74	80	*e*Pn	Pn	07 10 00.8	+1.4
CONA	0.7nm,0.6s Conrad Observa	4.79	19	Pn	Pn	07 10 00.5	+0.5
CONA	1.5nm,0.2s 4.7nm,0.2s			Sn	Sn	07 10 54.0	-0.2
CONA	Conrad Observa	4.79	19	*e*Pn	Pn	07 10 00.5	+0.5
CONA	1.5nm,0.2s 4.7nm,0.2s			*e*Sn	Sn	07 10 54.0	-0.2
IVAS	Ivanjica	4.83	86	*e*Pn	Pn	07 10 01.9	+1.3
IVAS	0.4nm,0.2s 2.1nm,0.2s			*e*Sn	Sn	07 10 53.3	-2.1
IVAS	Ivanjica	4.83	86	*e*Pn	Pn	07 10 01.9	+1.3
IVAS	0.4nm,0.2s 2.1nm,0.2s			*e*Sn	Sn	07 10 53.3	-2.1
FGSL	Fruska Gora	4.84	67	*e*Pn	Pn	07 10 01.4	+0.8
FRGS	2.7nm,0.2s Fruska Gora	4.84	67	*e*Pn	Pn	07 10 01.4	+0.8
FRF	2.7nm,0.2s La Foret Royal	4.99	274	*e*P	Pn	07 10 04.4	+1.7
FRF	SNR=1.0 6.0nm,0.3s			*e*Sn	Sn	07 10 55.7	-3.5
FRF	La Foret Royal	4.99	274	*e*P	Pn	07 10 04.4	+1.7
FRF	SNR=1.0 3.0nm,0.3s			*e*Sn	Sn	07 10 55.7	-3.5
MBDF	Montbardon	5.02	287	*e*Pn	Pn	07 10 02.9	-0.4
MBDF	SNR=1.0 5.2nm,0.3s			*e*Sn	Sn	07 10 56.0	-4.1
MBDF	Montbardon	5.02	287	*e*Pn	Pn	07 10 02.9	-0.4
MBDF	SNR=1.0 2.6nm,0.3s			*e*Sn	Sn	07 10 56.0	-4.1
TRUS	Trudelj	5.05	79	*e*Pn	Pn	07 10 04.4	+0.9
TRUS	0.4nm,0.5s Trudelj	5.05	79	*e*Pn	Pn	07 10 04.4	+0.9
LMR	0.4nm,0.5s La Mourre	5.10	271	*e*Pn	Pn	07 10 03.5	-0.7
LMR	La Mourre	5.10	271	*e*P	Pn	07 10 06.5	+2.3
LMR	SNR=1.0			*e*Sn	Sn	07 10 58.0	-3.8

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	2.7nm,0.2s						
LMR	La Mourre	5.10	271	ePn	Pn	07 10 03.5	-0.7
LMR	La Mourre	5.10	271	eP	Pn	07 10 06.5	+2.3
	SNR=1.0						
LMR				eSn	Sn	07 10 58.0	-3.8
	1.4nm,0.2s						
GRUS	Gruza	5.25	83	ePn	Pn	07 10 07.8	+1.6
	1.2nm,0.3s						
GRUS	Gruza	5.25	83	ePn	Pn	07 10 07.8	+1.6
	1.2nm,0.3s						
LPG	La Plagne	5.26	295	ePn	Pn	07 10 05.7	-0.9
LPG	La Plagne	5.26	295	eP	Pn	07 10 08.9	+2.3
	SNR=1.0						
LPG				eSn	Sn	07 11 01.7	-4.4
	9.6nm,0.4s,SNR=1.0						
LPG	La Plagne	5.26	295	ePn	Pn	07 10 05.7	-0.9
LPG	La Plagne	5.26	295	eP	Pn	07 10 08.9	+2.3
	SNR=1.0						
LPG				eSn	Sn	07 11 01.7	-4.4
	4.8nm,0.4s,SNR=1.0						
LPL	La Plagne	5.28	296	ePn	Pn	07 10 05.8	-1.0
LPL	La Plagne	5.28	296	eP	Pn	07 10 09.1	+2.3
	SNR=1.0						
LPL				eSn	Sn	07 11 01.9	-4.6
	8.9nm,0.3s,SNR=1.0						
LPL	La Plagne	5.28	296	ePn	Pn	07 10 05.8	-1.0
LPL	La Plagne	5.28	296	eP	Pn	07 10 09.1	+2.3
	SNR=1.0						
SELS	Selova	5.56	90	ePn	Pn	07 10 12.2	+1.7
	0.8nm,0.2s						
SELS	Selova	5.56	90	ePn	Pn	07 10 12.2	+1.7
	0.8nm,0.2s						
MODS	Modra-Piesok	5.60	27	eSN	Sn	07 11 11.5	-2.5
ORIF	Oris-en-Rattie	5.68	288	ePn	Pn	07 10 12.6	+0.3
	SNR=1.0						
ORIF				eSn	Sn	07 11 11.8	-4.5
	4.5nm,0.4s						
ORIF	Oris-en-Rattie	5.68	288	ePn	Pn	07 10 12.6	+0.3
	SNR=1.0						
KHC	Kasperske Hory	5.70	0	ePN	Pn	07 10 12.9	+0.5
KHC				ex	x	07 10 20.9	
KHC				eSN	Sn	07 11 12.8	-3.8
KHC	Kasperske Hory	5.70	0	Pn	Pn	07 10 12.9	+0.5
SMOL	Smolenice	5.77	27	eSN	Sn	07 11 21.9	+3.7
SMRF	Simiane la Rot	5.78	278	eP	Pn	07 10 15.4	+1.9
	SNR=1.0						
SMRF	Simiane la Rot	5.78	278	eP	Pn	07 10 15.4	+1.9
	SNR=1.0						
CABF	La Chapelle	6.14	304	ePn	Pn	07 10 18.4	-0.2
	SNR=1.0						
CABF	La Chapelle	6.14	304	ePn	Pn	07 10 18.4	-0.2
	SNR=1.0						
ZAGS	Zajecar	6.34	84	ePn	Pn	07 10 22.4	+1.1
	0.7nm,0.2s						
ZAGS	Zajecar	6.34	84	ePn	Pn	07 10 22.4	+1.1
	0.7nm,0.2s						
HINF	Hinteralfeld	6.40	316	ePn	Pn	07 10 21.6	-0.5
	SNR=1.0						
HINF				eSn	Sn	07 11 27.7	-6.2
	6.1nm,0.2s,SNR=1.0						
VIVF	Saint-Julien-l	6.51	286	ePn	Pn	07 10 23.7	+0.1
	SNR=1.0						
VIVF				eSn	Sn	07 11 31.7	-5.0
	1.4nm,0.2s						
VIVF	Saint-Julien-l	6.51	286	ePn	Pn	07 10 23.7	+0.1
	SNR=1.0						
PRU	Pruhonice	6.59	6	eSN	Sn	07 11 34.8	-3.8
CDF	Champ du Feu	6.61	321	ePn	Pn	07 10 24.7	-0.2
	SNR=1.0						
CDF				eSn	Sn	07 11 32.5	-6.5
	2.8nm,0.2s						
CDF	Champ du Feu	6.61	321	ePn	Pn	07 10 24.7	-0.2
	SNR=1.0						
ZAPS	Zavoj	6.66	88	ePn	Pn	07 10 27.9	+2.3
	1.5nm,0.4s						
ZAPS				eSn	Sn	07 11 36.8	-3.4
	0.9nm,0.5s						
HAU	Haudompre	6.78	315	ePn	Pn	07 10 25.0	-2.3
	SNR=1.0						
HAU				eSn	Sn	07 11 36.7	-6.5
	9.9nm,0.2s,SNR=1.0						
PAGF	Fort de Pagny	7.45	316	ePn	Pn	07 10 37.0	+0.5
PAGF	Fort de Pagny	7.45	316	ePn	Pn	07 10 37.0	+0.5
SMF	Signal de Mont	7.56	298	ePn	Pn	07 10 37.0	-1.0
SFTF	Sexfontaines	7.60	312	ePn	Pn	07 10 37.7	-0.8
	baz=126						
SFTF	Sexfontaines	7.60	312	ePn	Pn	07 10 37.7	-0.8
MEZF	Maizieres J'vi	7.77	314	ePn	Pn	07 10 39.4	-1.4
MEZF	Maizieres J'vi	7.77	314	ePn	Pn	07 10 39.4	-1.4
LOR	Lormes	7.80	303	ePn	Pn	07 10 40.0	-1.3
	baz=123,SNR=1.0						
LOR				eSn	Sn	07 12 02.1	-6.2
	4.1nm,0.3s						
AVF	Avril sur Loir	7.93	299	ePn	Pn	07 10 42.0	-1.0
	SNR=1.0						
SSF	Saint Saulge	7.93	301	ePn	Pn	07 10 41.5	-1.6
	SNR=1.0						
SSF				eSn	Sn	07 12 04.3	-7.2
	2.7nm,0.2s,SNR=1.0						
BGF	Bois d'Agland	8.18	296	ePn	Pn	07 10 44.4	-2.0
CAF	Calviac	8.36	284	ePn	Pn	07 10 47.5	-1.4
CAF	Calviac	8.36	284	ePn	Pn	07 10 47.5	-1.4
HYF	Humbligny	8.56	300	ePn	Pn	07 10 50.8	-0.8
HYF	Humbligny	8.56	300	ePn	Pn	07 10 50.8	-0.8

*KRNET **04** 07:17:53.4±0.1, 40.°98N×79.°90E, mb2.5*
*SOME **04** 07:17:57.5, 41.°10N×79.°83E, h10km*
ISC 04 07:17:56.4±2.1**, 41.°08N**±0.°09×**79.°86E**±0.°07**, h10km, n23, σ1.s89**/46**, 6C-8D, Kyrgyzstan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TARG	Taragay, Kyrgy	1.68	294	⇑iP	Pb	07 18 26.2	-1.4
	baz=96						
TARG				⇑iS	Sg	07 18 50.2	-0.1
	baz=96						
PRZ	Przheval'sk	1.78	323	⇓eP	Pb	07 18 27.9	-1.3
	baz=24						
PRZ				⇓iS	Sg	07 18 53.7	+0.1
	baz=24						
UZB	Uzynbulak	2.16	344	eP	Pg	07 18 36.8	-1.1
	4.5nm,0.3s						
UZB				eS	Sg	07 19 05.2	-0.7
	15nm,0.4s						
KDJ	Kajisay	2.27	299	⇑iP	Pb	07 18 35.4	-2.1
	baz=0.0						
KDJ				⇑iS	Sb	07 19 06.4	+0.7
	baz=0.0						
PDGK	Podgornoye	2.27	353	⇓eP	Pb	07 18 35.8	-1.7
	baz=53						
PDGK				⇓iS	Sb	07 19 07.1	+1.4
	baz=53						
KTMS	Ketmen	2.40	9	eP	Pg	07 18 41.3	-1.0
	6.2nm,0.5s						
KTMS				eS	Sg	07 19 12.7	-0.8
	21nm,0.3s						
KPKS	Kokpek	2.54	340	eP	Pg	07 18 44.0	-1.1
	10nm,0.6s						
KPKS				eS	Sg	07 19 17.2	-0.9
	42nm,0.6s						
KURS	Kuram	2.72	333	eP	Pb	07 18 45.4	+0.3
	1.5nm,0.5s						
KURS				eS	Sb	07 19 19.8	+1.3
	12nm,0.6s						
TNSS	Tian-Shan	2.92	313	eP	Pg	07 18 50.5	-1.8
	4.5nm,0.7s						
TNSS				eS	Sg	07 19 28.5	-1.8
	13nm,0.5s						
NRN	Naryn	2.93	278	⇓iP	Pn	07 18 43.7	+0.4
	baz=80						
NRN				⇓iS	Sn	07 19 21.2	+2.5
	baz=80						
ULHL	Ulahol	2.95	295	⇑iP	Pn	07 18 44.1	+0.6
	baz=96						
ULHL				⇑iS	Sb	07 19 22.6	-2.8
	baz=96						
MDOK	Medeo	2.95	316	eP	Pb	07 18 50.5	+1.3
	3.0nm,0.4s						
MDOK				eS	Sg	07 19 28.9	-2.3
	14nm,0.6s						
KOTS	Kotyrbulak	2.97	317	eP	Pg	07 18 52.3	-1.0
	2.2nm,0.3s						
KOTS				eS	Sg	07 19 31.5	-0.3
	10nm,0.6s						
IZV	Izvestkoviy	3.11	310	eP	Pg	07 18 54.6	-1.3
	2.3nm,0.2s						
IZV				eS	Sg	07 19 36.0	-0.3
	22nm,0.5s						
MNBS	Baschi	3.19	341	eP	Pg	07 18 56.0	-1.4
	4.0nm,0.4s						
MNBS				eS	Sg	07 19 38.2	-0.6
	26nm,0.4s						
BOOM	Boomskoye usch	3.25	297	⇓eP	Pn	07 18 48.9	+1.3
	baz=98						
BOOM				⇓iS	Sn	07 19 29.3	+2.8
	baz=98						
MTBS	Maitube	3.27	310	eP	Pg	07 18 56.6	-2.5
	3.2nm,0.2s						
MTBS				eS	Sg	07 19 38.9	-2.6
	10nm,0.4s						
ARXS	Arharly	3.47	335	eP	Pg	07 19 01.1	-1.9
	1.7nm,0.5s						
ARXS				eS	Sg	07 19 46.9	-1.1
	7.8nm,0.4s						
CHKK	Chushkaly	3.49	324	eP	Pg	07 19 01.3	-2.0
	1.6nm,0.4s						
CHKK				eS	Sg	07 19 47.5	-1.1
	19nm,0.5s						
KST	Kastek	3.50	305	eP	Pb	07 18 59.9	+1.3
	1.6nm,0.3s						
KST				eS	Sb	07 19 44.8	+3.6
	6.9nm,1.1s						
KTBS	Karatobe	3.53	319	eP	Pg	07 19 01.1	-2.9
	1.0nm,0.7s						
KTBS				eS	Sg	07 19 46.8	-2.9
	2.0nm,0.4s						
DGS	Degeres	3.73	307	eP	Pb	07 19 04.2	+1.8
	1.5nm,0.4s						
DGS				eS	Sb	07 19 52.2	+4.5
	6.8nm,0.6s						
KUU	Kurty	3.83	318	eP	Pg	07 19 07.2	-2.6
	1.0nm,0.3s						
KUU				eS	Sg	07 19 57.4	-2.0
	5.8nm,0.5s						

MEX 04 07:29:33.2±0.5**, 16.°21N×98.°33W, h2km, MD3.7, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.26	47	eP	Pg	07 29 37.8	-0.4
PNIG				i S	Sg	07 29 42.0	+0.4
TLIG	Tlapa	1.36	350	eP	Pg	07 29 55.7	-3.7
TLIG				eS	Sg	07 30 12.9	-4.1
VHO	Vista Hermosa	1.75	61	eP	Pn	07 30 01.5	-3.3
VHO				eS	Sn	07 30 26.3	-1.5
HUIG	Huatulco	2.18	101	eP	Pn	07 30 09.4	-1.1
HUIG				eS	Sn	07 30 31.1	-7.0

MEX 04 07:39:51.8±0.3**, 16.°47N×98.°49W, h20km**±27km**, MD3.9, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.36	102	i P	Pb	07 39 58.3	-1.2
PNIG				eS	Sb	07 40 03.3	-1.4
TLIG	Tlapa	1.09	356	eP	Pn	07 40 08.8	-3.3
TLIG				eS	Sb	07 40 21.7	-4.3
VHO	Vista Hermosa	1.79	70	eP	Pn	07 40 19.1	-2.6
HUIG	Huatulco	2.40	107	eP	Pn	07 40 28.4	-1.5
HUIG				i S	Sb	07 41 03.2	-0.2

WEL 04 07:51:06.1±1.4**, 32°S**±12°×**17°8W**±4°0**, h33km, ML5.2**/6**, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GLKZ	Green Lake	2.38	4	P	Pn	07 51 43.7	+0.9
GLKZ	Green Lake	2.38	4	S	Sn	07 52 08.3	-2.5
HAZ	Te Kaha	6.97	208	P	Pn	07 52 47.2	+1.3
HAZ	Te Kaha	6.97	208	S	Sn	07 54 03.9	-0.1
PKGZ	Pakihiroa	6.98	206	P	Pn	07 52 46.3	+0.3
PKGZ	Pakihiroa	6.98	206	S	Sn	07 54 02.7	-1.5
RUGZ	Raukumara Rang	7.20	208	P	Pn	07 52 50.0	+1.0
TWGZ	Tauwhareparae	7.27	205	P	Pn	07 52 49.9	-0.1
TWGZ	Tauwhareparae	7.27	205	S	Sn	07 54 10.0	-1.3
CNGZ	Carnagh Statio	7.46	203	P	Pn	07 52 52.3	-0.2
MWZ	Matawai	7.58	207	P	Pn	07 52 55.9	+1.7
MWZ	Matawai	7.58	207	S	Sn	07 54 17.1	-1.7
URZ	Urewera	7.68	209	P	Pn	07 52 54.8	-0.7
MUGZ	Murupara	8.01	210	P	Pn	07 53 01.0	+1.0
BKZ	Black Stump Fm	8.70	209	P	Pn	07 53 09.4	-0.2
HIZ	Hauiti	8.96	218	P	Pn	07 53 17.2	+4.2

PGC 04 08:03:29.2±0.0**, 62.°52N×125.°12W, h1km, ML3.7**/5**, 217km west of Fort Simpson, Nt Nw Territories - Nunavut, Canada, Northwest Territories**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FNBB	Fort Nelson	3.79	163	Pn	Pn	08 04 27.4	-1.2
FNBB				Sn	Sn	08 05 12.4	-1.4
FNBB				Sg	Sb	08 05 26.2	+3.1
LDBN	Lake De Bois	4.22	1	Pn	Pn	08 04 34.6	+0.1
DLBC	Dease Lake	4.76	213	Pn	Pn	08 04 41.5	-0.6
DLBC				Sn	Sn	08 05 35.2	-2.6
DLBC				Sg	Sb	08 05 55.5	+4.4
YKW3	Yellowknife Ar	4.87	85	Pn	Pn	08 04 41.7	-1.6
YKW3				Sn	Sn	08 05 36.2	-4.1
YKW1	Yellowknife Ar	4.92	86	Pn	Pn	08 04 43.3	-0.9
YKW1				Sn	Sn	08 05 38.9	-2.7
YKW1				Sg	Sg	08 06 01.4	-5.6
WHY	Whitehorse	5.02	253	Pn	Pn	08 04 44.2	-1.4
WHY				Sg	Sb	08 06 04.1	+5.5
DHRN	Dharma Camp	5.13	25	Pn	Pn	08 04 46.1	-0.8
DHRN				Sn	Sn	08 05 42.6	-4.1
HPLN	Hepburn Lake,	5.72	44	Pn	Pn	08 04 53.6	-1.6
HPLN				Sn	Sn	08 05 56.1	-5.3
SMPN	Simpson Lake	5.75	354	Pn	Pn	08 04 54.2	-1.3
SMPN				Sn	Sn	08 05 56.9	-5.1
HYT	Haines Junctio	6.13	259	Pn	Pn	08 04 59.5	-1.5
HYT				Sn	Sn	08 06 06.5	-5.2
HYT				Sg	Sg	08 06 38.9	-7.1
YUK5	Granite Creek	6.19	263	Pn	Pn	08 05 00.1	-1.7
BESE	Bessie Mountai	6.21	235	Pn	Pn	08 05 01.6	-0.4
BESE				Sn	Sn	08 06 09.6	-4.0
BESE				Sg	Sg	08 06 41.2	-7.4
PLBC	Pleasant Camp	6.27	246	Pn	Pn	08 05 02.1	-0.6
PLBC				Sn	Sn	08 06 10.7	-4.2
YUK7	Dusty Glacier	6.54	258	Pn	Pn	08 05 05.3	-1.2
YUK7				Sn	Sn	08 06 16.9	-4.9
YUK7				Sg	Sg	08 06 52.2	-6.7
DAWY	Dawson	6.62	290	Pn	Pn	08 05 05.9	-1.5
INK	Inuvik	6.78	333	Pn	Pn	08 05 08.3	-1.3
KUKN	Kugluktuk,NWT	6.79	34	Pn	Pn	08 05 08.7	-1.0
KUKN				Sn	Sn	08 06 23.8	-3.7
FSMA	Fort Smith	6.90	106	Sn	Sn	08 06 25.0	-5.3
RDEA	Red Earth Cree	7.78	136	Sn	Sn	08 06 45.2	-6.7
WHFN	White Fish Lak	8.33	82	Pn	Pn	08 05 29.5	-1.4
WHFN				Sn	Sn	08 06 56.6	-9.0
MNB	Mounoet Dainar	10.96	158	Pn	Pn	08 06 04.3	-2.9
EDM	Edmonton	11.21	141	Pn	Pn	08 06 07.3	-3.1
EDM				Sn	Sn	08 08 08.0	-8.3

NNC 04 08:04:18.5±2.0**, 53.°62N×88.°39E, h0km, mb3.6, mpv3.2, 5C-3D, Error ellipse: s-maj=15.4km s-min=8.8km az=61.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ZAA0	Zalesovo Array	2.14	280	⇑P	Pn	08 04 55.2	-0.3
	20nm,0.7s						
ZAA0				⇓S	Sb	08 05 24.2	-1.1
	45nm,0.8s						
KURK	Kurchatov	6.67	248	⇑Sn	Sn	08 07 14.3	-0.1
	1.0nm,0.4s						
KURK				⇑Lg	Lg	08 07 48.7	
	13nm,1.3s						
MK31	Makanchi Array	7.87	212	⇑Pn	Pn	08 06 15.1	+1.0
	0.4nm,0.5s,baz=39,slow=10,SNR=9.4						
MK31				⇓Sn	Sn	08 07 45.3	+1.5
	0.8nm,0.5s,baz=33,slow=27,SNR=2.9						
MK31				Lg	Lg	08 08 27.7	
	3.9nm,0.9s,baz=35,slow=30,SNR=6.0						
MAKZ	Makanchi	7.96	214	⇓Sn	Sn	08 07 48.1	+2.1
	3.0nm,1.0s						
MAKZ				⇑Lg	Lg	08 08 30.2	
	7.7nm,1.6s						

TRN 04 08:05:26.1, 17.°53N×61.°56W, h23km, MD3.9, 2C-1D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ANWB	Willy Bob	0.25	303	⇑iP	Pn	08 05 33.7	-0.8
ANWB				eS	Sn	08 05 39.5	-0.2
BPA	Boggy Peak	0.56	210	eP	Pn	08 05 38.6	-0.1
BPA				eS	Sn	08 05 48.7	+1.5
MLYT	Lee's Yard	1.00	217	⇑iP	Pb	08 05 46.3	+1.4
MLYT				eS	Sn	08 06 01.6	+3.3
NEV	Hard Times	1.04	248	eP	Pb	08 05 46.5	+1.0
NEV				eS	Sn	08 06 02.6	+3.4
SEG	Port Louis	1.12	177	eP	Pb	08 05 47.2	+0.4
DEG	La Desirade	1.30	158	eP	Pb	08 05 50.1	+0.2
DEG				eS	Sb	08 06 08.2	+2.0
SEUS	St. Eustatius	1.35	269	eP	Pb	08 05 51.6	+0.8
SEUS				eS	Sb	08 06 10.5	+2.7
LZG	Guadaloupe-1	1.40	188	⇓eP	Pb	08 05 51.4	-0.1
SSG	Sans Toucher	1.44	184	eP	Pb	08 05 52.0	-0.3
FNG	Fond-Bernard	1.47	185	eP	Pb	08 05 52.8	0.0
MLG	Mont-d'or	1.47	186	eP	Pb	08 05 52.5	-0.3
CRG	Carmichael	1.47	184	eP	Pb	08 05 52.7	-0.2
ECG	Echelle	1.48	183	eP	Pb	08 05 52.9	-0.2
TAG	Tarade	1.48	184	eP	Pb	08 05 52.8	-0.3
TAG				eS	Sb	08 06 14.6	+3.1
DOG	Dongo Capester	1.49	182	eP	Pb	08 05 53.2	0.0
SCG	Saint Claude	1.50	184	eP	Pb	08 05 53.4	+0.1
PHG	Guadaloupe-2	1.51	183	eP	Pb	08 05 53.7	+0.2
SMRT	St. Maarten	1.53	290	eP	Pb	08 05 53.1	-0.8
SMRT				eS	Sb	08 06 13.4	+0.6
HMG	Houelmont	1.54	185	eP	Pb	08 05 55.0	+0.9
SABA	Saba	1.61	273	eP	Pb	08 05 54.4	-0.7
SABA				eS	Sb	08 06 15.3	+0.3
MGG	Marie-Galante	1.62	172	eP	Pb	08 05 55.6	+0.2
MGG				eS	Sb	08 06 16.1	+0.7
TBG	Guadaloupe-3	1.67	183	eP	Pb	08 05 55.8	-0.4
TBG				eS	Sb	08 06 17.9	+1.1
MDVC	Dominica, Viel	1.91	175	eP	Pb	08 05 59.9	-0.4
MDVC				eS	Sb	08 06 24.1	+0.4
MDMP	Dominica, Moor	1.93	176	eP	Pb	08 05 59.9	-0.7
MDMP				eS	Sb	08 06 24.2	0.0
MDPO	Dominica; Chan	1.95	177	eP	Pb	08 05 59.6	-1.3
MDPO				eS	Sb	08 06 23.2	-1.5
BBL	Barber's Block	2.00	177	eP	Pb	08 06 01.0	-0.8

*ISCJB **04** 08:17:15.3±0.9, 4.°4S±0.°1×153.°7E±0.°2, h85km, mb3.7/8, Error ellipse: s-maj=28.6km s-min=10.9km az=40.0*
*IDC **04** 08:17:19.2±5.6, 4.°38S×153.°56E, h104km±45km, mb3.6/8, mb1 3.9/9, mb1mx3.5/57, mbtmp4.1/9, MS3.4/1, Ms1 3.4/1, ms1mx2.7/37, Error ellipse: s-maj=43.8km s-min=23.1km az=95.0*
ISC 04 08:17:16.7±1.0**, 4.°4S**±0.°2×**153.°7E**±0.°2**, h85km, n11, σ0.s69**/13**, mb3.7**/8**, New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	8.21	232	P	Pn	08 19 14.3	+1.1
	9.4nm,0.3s,baz=28,slow=6.3,SNR=18						
PMG				S	Sn	08 20 43.9	-0.5
	2.0nm,0.3s,baz=302,slow=23,SNR=12						
WRA	Warramunga Arr	24.42	229	P	P	08 22 27.2	-0.3
	5.9nm,0.5s,baz=54,slow=10.0,SNR=100						
WRA				PcP	PcP	08 26 04.5	-0.2
	0.6nm,0.7s,baz=51,slow=2.2,SNR=4.6						
ASAR	Alice Springs	27.09	223	P	P	08 22 50.8	-0.8
	1.0nm,0.7s,baz=58,slow=8.5,SNR=12						
ASAR				PcP	PcP	08 26 10.7	-0.1
	0.4nm,0.7s,baz=87,slow=1.7,SNR=4.2						
STKA	Stephens Creek	29.64	201	P	P	08 23 13.8	-0.4
	2.1nm,0.5s,baz=32,slow=15,SNR=6.9						
JNU	Nakatsue	43.10	332	LR	LR	08 39 48.2	
	comp=Z,57nm,21.8s,baz=128,slow=31						
VNDA	Vanda	73.24	178	P	P	08 28 38.7	+0.6
	0.6nm,0.6s,baz=330,slow=7.8,SNR=5.2						
MKAR	Makanchi Array	80.59	319	P	P	08 29 20.5	+0.5
	0.7nm,0.9s,baz=109,slow=6.1,SNR=3.9						
ILAR	Eielson Array	81.41	22	P	P	08 29 24.4	+0.4
	0.4nm,0.8s,baz=238,slow=5.0,SNR=5.1						
KURBB	Kurchatov Arra	84.02	322	P	P	08 29 37.9	+0.1
	0.3nm,0.3s,baz=105,slow=3.8,SNR=4.9						
BVAR	Borovoye Array	89.43	323	P	P	08 30 03.2	-0.9
	0.9nm,0.8s,baz=79,slow=2.3,SNR=4.3						
TORD	Torodi Ar. Bea	151.03	289	PKPbc	PKPbc	08 37 00.0	-0.9
	2.3nm,0.8s,baz=64,slow=2.2,SNR=12						

*NNC **04** 08:29:26.0±1.9, 53.°51N×87.°90E, h0km, mb3.8, mpv3.4, Error ellipse: s-maj=15.5km s-min=7.2km az=58.0*
IDC 04 08:29:28.2±2.6**, 53.°52N×87.°68E, h0km, mb1 3.8**/2**, mb1mx3.1**/72**, mbtmp3.8**/2**, ML3.4**/2**, 7C-2D, Error ellipse: s-maj=22.7km s-min=14.8km az=62.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ZAA0	Zalesovo Array	1.75	285	⇑P	Pn	08 29 58.8	-1.1
	14nm,0.3s						
ZAA0				⇑S	Sg	08 30 24.9	+0.4
	90nm,0.4s						
ZALV	Zalesovo Beam	1.75	285	Pn	Pn	08 29 58.8	-1.0
	16nm,0.3s,baz=102,slow=16,SNR=104						
ZALV				Lg	Lg	08 30 23.7	
	11nm,0.3s,baz=106,slow=32,SNR=7.7						
I46RU	ZALESOVO INFRA	1.75	285	i		08 40 50.0	
	baz=103,slow=329,SNR=5.0						
KURK	Kurchatov	6.25	247	⇑Sn	Sn	08 32 13.9	+0.3
	4.2nm,0.7s						
KURK				⇑Lg	Lg	08 32 46.7	
	37nm,1.5s						
KURBB	Kurchatov Arra	6.34	246	Pn	Pn	08 31 03.7	+0.8
	0.6nm,0.3s,baz=62,slow=14,SNR=12						
KURBB				Sn	Sn	08 32 14.9	-1.2
	0.1nm,0.3s,baz=66,slow=24,SNR=2.8						
KURBB				Lg	Lg	08 32 49.9	
	0.2nm,0.3s,baz=64,slow=33,SNR=7.8						
MK31	Makanchi Array	7.57	209	⇓Pn	Pn	08 31 19.5	-0.3
	0.8nm,0.5s,baz=30,slow=13,SNR=44						
MK31				⇑Sn	Sn	08 32 46.1	-0.2
	1.9nm,0.7s,baz=32,slow=26,SNR=7.0						
MK31				Lg	Lg	08 33 28.2	
	7.4nm,0.7s,baz=36,slow=29,SNR=5.9						
MKAR	Makanchi Array	7.57	209	Pn	Pn	08 31 21.1	+1.3
	0.9nm,0.3s,baz=30,slow=14,SNR=39						
MKAR				Sn	Sn	08 32 46.2	-0.1
	0.4nm,0.3s,baz=32,slow=27,SNR=13						
MKAR				Lg	Lg	08 33 24.8	
	0.4nm,0.3s,baz=35,slow=33,SNR=9.1						
MAKZ	Makanchi	7.65	211	⇓Pn	Pn	08 31 20.4	-0.5
	2.5nm,0.8s						
MAKZ				⇑Sn	Sn	08 32 49.2	+0.9
	5.7nm,0.8s						
MAKZ				⇑Lg	Lg	08 33 30.7	
	8.3nm,0.9s						
BVAR	Borovoye Array	10.37	274	Pn	Pn	08 31 59.7	+1.6
	0.4nm,0.3s,baz=84,slow=15,SNR=6.9						
BVAR				Sn	Sn	08 33 47.3	-7.7
	0.4nm,0.3s,baz=80,slow=16,SNR=4.1						

IDC 04 08:29:37.1±0.9**, 18.°53N×144.°96E, h0km, mb3.8**/10**, mb1 4.0**/10**, mb1mx3.8**/64**, mbtmp3.8**/10**, MS3.4**/8**, Ms1 3.5**/8**, ms1mx3.0**/52**, Error ellipse: s-maj=35.0km s-min=17.3km az=89.0, Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GUMO	Guam	4.91	181	LR	LR	08 32 38.7	
	comp=Z,162nm,18.2s,baz=4.5,slow=37						
JOW	Kunigami	17.46	301	LR	LR	08 39 11.2	
	comp=Z,170nm,19.9s,baz=107,slow=33						
H11S3	WAKE ISLAND Hy	20.60	87	T	T	08 55 46.8	
	baz=274,slow=75,SNR=60						
H11S1	WAKE ISLAND Hy	20.61	87	T	T	08 55 46.0	
	baz=274,slow=75,SNR=43						
H11S2	WAKE ISLAND Hy	20.62	87	T	T	08 55 44.7	
	baz=274,slow=75,SNR=52						
H11N1	WAKE ISLAND Hy	20.75	83	T	T	08 56 55.2	
	baz=267,slow=74,SNR=18						
H11N2	WAKE ISLAND Hy	20.76	83	T	T	08 56 55.9	

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	baz=267,slow=74,SNR=11						
H11N3	**WAKE ISLAND Hy**	**20.77**	**83**	T	T	08 56 51.3	
	baz=267,slow=74,SNR=14						
DAV	**Davao City (W)**	**22.04**	**241**	LR	LR	08 41 52.5	
	comp=Z,85nm,21.1s,baz=181,slow=33						
TGY	**Tagaytay City**	**23.47**	**263**	LR	LR	08 41 46.5	
	comp=Z,107nm,21.3s,baz=170,slow=31						
KSRS	**Korea Array**	**24.05**	**325**	P	P	08 34 53.6	-0.3
	2.0nm,0.8s,baz=147,slow=9.0,SNR=4.3						
HNR	**Honiara**	**31.47**	**151**	LR	LR	08 48 03.4	
	comp=Z,76nm,19.9s,baz=328,slow=35						
KLR	**Kul'dur**	**32.43**	**344**	P	P	08 36 08.5	-0.3
	0.2nm,0.7s,baz=125,slow=10,SNR=6.3						
WRA	**Warramunga Arr**	**39.63**	**196**	P	P	08 37 10.4	-0.4
	1.5nm,0.8s,baz=16,slow=9.3,SNR=16						
WRA				PcP	PcP	08 39 17.8	-0.1
	0.3nm,0.7s,baz=7.7,slow=3.2,SNR=4.8						
WRA				LR	LR	08 51 44.6	
	comp=Z,75nm,21.8s,baz=205,slow=34						
ASAR	**Alice Springs**	**43.31**	**195**	P	P	08 37 40.8	-0.1
	1.1nm,0.7s,baz=15,slow=9.4,SNR=23						
CMAR	**Chiang Mai Arr**	**43.55**	**278**	LR	LR	08 56 10.4	
	comp=Z,93nm,19.2s,baz=178,slow=37						
SEY	**Seymchan**	**44.66**	**5**	P	P	08 37 51.8	+0.6
	0.5nm,0.2s,baz=179,slow=8.0,SNR=3.8						
AFI	**Afiamalu**	**53.45**	**124**	LR	LR	08 55 21.6	
	comp=Z,37nm,21.1s,baz=288,slow=29						
MKAR	**Makanchi Array**	**58.08**	**314**	P	P	08 39 32.7	+0.5
	1.0nm,0.8s,baz=92,slow=9.7,SNR=7.4						
KURBB	**Kurchatov Arra**	**60.98**	**318**	P	P	08 39 52.1	0.0
	3.4nm,0.8s,baz=96,slow=7.5,SNR=30						
ILAR	**Eielson Array**	**64.10**	**26**	P	P	08 40 11.9	-0.9
	0.3nm,0.8s,baz=248,slow=5.2,SNR=4.2						
BVAR	**Borovoye Array**	**66.16**	**320**	P	P	08 40 26.4	0.0
	2.9nm,0.7s,baz=92,slow=7.6,SNR=16						
NVAR	**Mina Array Bea**	**83.79**	**52**	P	P	08 42 09.6	+0.7
	1.1nm,0.8s,baz=280,slow=6.1,SNR=3.8						

IDC 04 08:39:00.0±2.1**, 5.°65N×93.°01E, h0km, mb3.7**/4**, mb1 4.1**/5**, mb1mx3.5**/63**, mbtmp3.8**/5**, ML4.6**/1**, Error ellipse: s-maj=86.3km s-min=21.5km az=62.0, Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**13.99**	**24**	Pn	Pn	08 42 21.2	+1.6
	0.8nm,0.3s,baz=214,slow=15,SNR=14						
H08S3	**Diego Garcia H**	**24.36**	**237**	T	T	09 09 42.7	
	baz=58,slow=76,SNR=316						
H08S2	**Diego Garcia H**	**24.36**	**237**	T	T	09 09 47.3	
	baz=58,slow=76,SNR=328						
H08S1	**Diego Carcia H**	**24.37**	**237**	T	T	09 09 44.3	
	baz=58,slow=76,SNR=296						
MKAR	**Makanchi Array**	**42.02**	**349**	P	P	08 46 53.5	+0.3
	0.2nm,0.5s,baz=167,slow=7.2,SNR=3.7						
WRA	**Warramunga Arr**	**47.94**	**123**	P	P	08 47 40.5	-0.2
	2.8nm,0.7s,baz=303,slow=9.0,SNR=30						
ZALV	**Zalesovo Beam**	**48.61**	**354**	P	P	08 47 44.3	-1.1
	0.5nm,0.4s,baz=156,slow=6.6,SNR=2.6						
ASAR	**Alice Springs**	**49.40**	**128**	P	P	08 47 51.7	-0.3
	1.0nm,0.7s,baz=301,slow=7.9,SNR=14						
ASAR				PcP	PcP	08 49 14.9	+0.4
	0.1nm,0.4s,baz=316,slow=3.6,SNR=4.1						

*ISCJB **04** 09:00:45.4±1.3, 36.°03N±0.°07×141.°1E±0.°1, h35km, mb3.7/3, Error ellipse: s-maj=14.9km s-min=9.3km az=155.9*
*JMA **04** 09:00:47.6±0.1, 35.°90N×140.°84E, h41km±1km, M3.0*
*IDC **04** 09:00:56.4±4.8, 35.°58N×139.°91E, h96km±23km, mb3.3/3, mb1 3.4/4, mb1mx3.1/63, mbtmp3.7/4, Error ellipse: s-maj=101.0km s-min=12.2km az=70.0*
ISC 04 09:00:46.9±1.5**, 35.°98N**±0.°07×**141.°0E**±0.°1**, h35km, n9,** σ**1.°87**/13**, mb3.6**/3**, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.30**	**202**	P	**Pn**	**09 00 54.8**	**0.0**
CHOJ				*e*S	**Sn**	**09 01 00.6**	**+0.4**
JYT	**Yasato**	**0.70**	**291**	P	**Pn**	**09 00 59.9**	**-0.3**
JYT				*e*S	**Sn**	**09 01 07.9**	**-1.9**
JHO	**Hitachi**	**0.72**	**331**	P	**Pn**	**09 01 01.8**	**+1.3**
MJAR	**Matsushiro Arr**	**2.32**	**285**	P	**Pn**	**09 01 23.4**	**+0.8**
	6.3nm,0.3s,baz=115,slow=7.5,SNR=30						
MAT	**Matsushiro**	**2.32**	**285**	P	**Pn**	**09 01 23.4**	**+0.7**
MAT				S	**Sn**	**09 01 53.0**	**+3.0**
JHJ	**Hachijo jima 2**	**3.03**	**200**	P	**Pn**	**09 01 35.7**	**+3.4**
	16nm,0.3s,baz=153,slow=23,SNR=3.8						
JHJ				S	**Sn**	**09 02 04.9**	**-2.5**
	14nm,0.3s,baz=57,slow=22,SNR=4.1						
MKAR	**Makanchi Array**	**44.40**	**303**	P	**P**	**09 08 53.9**	**-0.1**
	0.6nm,0.6s,baz=90,slow=9.9,SNR=9.3						
KURBB	**Kurchatov Arra**	**46.39**	**309**	P	**P**	**09 09 09.4**	**-0.2**
	0.8nm,0.5s,baz=84,slow=7.7,SNR=4.9						
WRA	**Warramunga Arr**	**55.98**	**188**	P	**P**	**09 10 20.5**	**-1.3**
	0.2nm,0.3s,baz=2.5,slow=7.7,SNR=14						

IDC 04 09:16:20.3±3.9**, 6.°24S×132.°17E, h0km, mb3.3**/1**, mb1 3.4**/3**, mb1mx3.2**/46**, mbtmp3.2**/3**, ML3.0**/2**, Error ellipse: s-maj=251.7km s-min=31.8km az=74.0, Tanimbar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.78**	**171**	Pn	Pn	09 19 36.8	-0.4
	0.1nm,0.3s,baz=355,slow=13,SNR=9.7						
WRA				Sn	Sn	09 22 06.6	-4.4
	0.1nm,0.3s,baz=358,slow=23,SNR=4.3						
ASAR	**Alice Springs**	**17.41**	**175**	P	Pn	09 20 25.1	+0.3
	0.0nm,0.3s,baz=356,slow=9.2,SNR=4.1						
MKAR	**Makanchi Array**	**68.80**	**326**	P	P	09 27 26.4	0.0
	0.2nm,0.5s,baz=124,slow=7.8,SNR=2.7						

KRSC 04 09:18:04.2±1.5**, 49.°35N×156.°71E, h50km**±24km**, ML3.7, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.39**	**344**	*e*P	Pn	09 18 27.1	-0.1
SKR				*e*S	Sn	09 18 45.3	+1.0
KDTR	**Khodutka, Kamc**	**2.61**	**19**	*e*P	Pn	09 18 47.3	+3.4
KDTR				*e*S	Sn	09 19 18.9	+4.6
MTVR	**Mutnovka**	**3.27**	**16**	*e*P	Pn	09 18 57.3	+4.2
RUS	**Russkaya**	**3.29**	**20**	*e*P	Pn	09 18 56.6	+3.4
RUS				*e*S	Sn	09 19 35.9	+4.9
DALK	**Dalny**	**3.90**	**18**	*e*P	Pn	09 19 05.3	+3.7
DALK				*e*S	Sn	09 19 51.2	+5.2
UGLR	**Uglovaya**	**4.08**	**18**	*e*P	Pn	09 19 08.2	+4.0
AVH	**Avacha**	**4.12**	**17**	*e*P	Pn	09 19 08.8	+4.1
SMAR	**Somma**	**4.13**	**18**	*e*P	Pn	09 19 09.1	+4.2
SDLR	**Sedlovina**	**4.16**	**18**	*e*P	Pn	09 19 08.1	+2.8
NLC	**Nalytchevo**	**4.17**	**22**	*e*S	Sn	09 19 55.6	+3.1
SPN	**Mys Shipunski**	**4.29**	**28**	*e*P	Pn	09 19 11.1	+4.2
SPN				*e*S	Sn	09 19 59.7	+4.1
GNL	**Ganaly**	**4.42**	**10**	*e*P	Pn	09 19 13.2	+4.4
KBTR	**Krutoberegovo**	**7.80**	**26**	*e*P	Pn	09 19 58.7	+3.7

IDC 04 09:33:42.3±2.0**, 26.°74N×143.°61E, h0km, mb3.4**/3**, mb1 3.7**/4**, mb1mx3.3**/64**, mbtmp3.5**/4**, ML4.0**/1**, Error ellipse: s-maj=45.8km s-min=21.4km az=54.0, Bonin Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**1.32**	**286**	Pn	Pb	09 34 08.0	-0.1
	17nm,0.3s,baz=296,slow=18,SNR=4.8						
JCJ				Sn	Sn	09 34 27.3	+0.8
	51nm,0.3s,baz=273,slow=22,SNR=10						
MJAR	**Matsushiro Arr**	**10.80**	**336**	Pn	Pn	09 36 16.4	-1.9
	1.2nm,0.3s,baz=152,slow=7.6,SNR=11						
USRK	**Ussuriysk Ar.**	**19.79**	**335**	P	Pn	09 38 17.3	+1.7
	0.3nm,0.3s,baz=137,slow=11,SNR=5.3						
WRA	**Warramunga Arr**	**47.27**	**192**	P	P	09 42 17.5	0.0
	0.3nm,0.5s,baz=13,slow=8.4,SNR=8.9						
ASAR	**Alice Springs**	**50.98**	**191**	P	P	09 42 45.4	-0.5
	0.1nm,0.3s,baz=4.4,slow=6.1,SNR=4.5						
KURBB	**Kurchatov Arra**	**54.20**	**315**	P	P	09 43 10.2	+0.7
	0.5nm,0.7s,baz=90,slow=8.5,SNR=4.3						

*SKHL **04** 09:35:22.4±0.2, 43.°17N×146.°56E, h65km±6km, mb4.4/4*
*JMA **04** 09:35:23.2±0.2, 43.°19N×146.°39E, h62km±2km, M3.0*
ISC 04 09:35:21.8±2.5**, 43.°1N**±0.°1×**146.°54E**±0.°10**, h55km**±24km**, n11,** σ**0.°66**/22**, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**0.62**	**292**	P	**Pn**	**09 35 35.3**	**+0.6**
NEM2				*e*S	**Sn**	**09 35 44.1**	**-0.1**
SHO	**Shikotan**	**0.76**	**16**	*e*P	**Pn**	**09 35 36.6**	**+0.1**
SHO				AMB	AMB	09 35 36.9	
	22nm,0.1s						
SHO				*e*S	**Sn**	**09 35 47.1**	**-0.2**
SHO				A	A	09 35 47.9	
	170nm,0.2s						
SHO				A	A	09 35 47.9	
	790nm,0.2s						
GLVR	**Golovnino**	**0.95**	**309**	*e*P	**Pn**	**09 35 39.3**	**+0.3**
GLVR				AMB	AMB	09 35 39.9	
	240nm,0.2s						
GLVR				*e*S	**Sn**	**09 35 52.0**	**+0.3**
GLVR				A	A	09 35 52.3	
	770nm,0.3s						
GLVR				A	A	09 35 52.3	
	810nm,0.3s						
GRPR	**Tuman**	**1.02**	**327**	*e*P	**Pn**	**09 35 39.4**	**-0.5**
GRPR				AMB	AMB	09 35 40.2	
	133nm,0.2s						
GRPR				*e*S	**Sn**	**09 35 52.3**	**-0.9**
GRPR				A	A	09 35 53.3	
	280nm,0.2s						
GRPR				A	A	09 35 53.3	
	490nm,0.2s						
YUK	**Yuzh-Kuril'sk**	**1.02**	**332**	*e*P	**Pn**	**09 35 40.2**	**+0.3**
YUK				AMB	AMB	09 35 40.9	
	118nm,0.2s						
YUK				*e*S	**Sn**	**09 35 53.5**	**+0.2**
YUK				A	A	09 35 54.2	
	377nm,0.2s						
YUK				A	A	09 35 54.2	
	246nm,0.2s						
JRA	**Rausu**	**1.30**	**308**	P	**Pn**	**09 35 44.1**	**+0.5**
JRA				*e*S	**Sn**	**09 35 59.7**	**-0.3**
JAK	**Akkeshi**	**1.35**	**265**	P	**Pn**	**09 35 44.6**	**+0.3**
JAK				*e*S	**Sn**	**09 36 00.6**	**-0.7**
JNK	**Nakash**	**1.40**	**289**	P	**Pn**	**09 35 44.8**	**-0.1**
JNK				*e*S	**Sn**	**09 36 00.9**	**-1.5**
JOB	**Onbets**	**2.00**	**264**	P	**Pn**	**09 35 53.4**	**+0.4**
JOB				*e*S	**Sn**	**09 36 15.7**	**-1.1**
JAR	**Ashorobuto**	**2.03**	**275**	P	**Pn**	**09 35 54.3**	**+0.8**
JAR				*e*S	**Sn**	**09 36 17.4**	**-0.3**
JTKR	**Abashiri--Toko**	**2.08**	**294**	P	**Pn**	**09 35 55.2**	**+1.0**
JTKR				*e*S	**Sn**	**09 36 19.3**	**+0.3**

UCR 04 09:39:30.0±2.1**, 14.°37N×86.°78W, h0km**±8km**, MD3.5, ML2.9, 1C, Honduras**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGUH	**Tegucigalpa,Un**	**0.57**	**237**	⇑*e*P	Pg	09 39 41.7	+0.6
TGUH				*e*S	Sb	09 39 51.1	-0.6
ESTN	**Estel**	**1.33**	**163**	*e*P	Pg	09 39 54.6	-0.8
ESTN				*e*S	Sb	09 40 13.8	+0.4
CNCH	**Conchagua**	**1.50**	**223**	*e*P	Pn	09 39 58.3	0.0
CNCH				*e*S	Sn	09 40 20.3	+1.7
LCND	**La Caˆ–ada**	**1.51**	**226**	*e*P	Pn	09 39 57.9	-0.5
LCND				*e*S	Sn	09 40 19.7	+0.9
CAHU	**Cacacuatique**	**1.51**	**247**	*e*P	Pn	09 39 58.3	-0.3
CAHU				*e*S	Sn	09 40 20.1	+1.0
CSGN	**Cosiguina Volc**	**1.58**	**209**	*e*P	Pn	09 39 59.3	-0.2
MATN	**Matagalpa**	**1.66**	**150**	*e*P	Pn	09 39 59.9	-0.6
CRIN	**San Cristobal**	**1.69**	**189**	*e*P	Pn	09 40 00.4	-0.4
CRIN				*e*S	Sg	09 40 26.1	+1.9
CNGN	**Cerro Negro**	**1.86**	**178**	*e*P	Pn	09 40 03.5	+0.2
CNGN				*e*S	Sb	09 40 28.2	-0.7
CNGN				AML	AML	09 40 38.0	
	comp=N,151nm,0.3s						
TECA	**Tecapa**	**1.89**	**243**	*e*P	Pn	09 40 04.0	+0.3
TECA				*e*S	Sb	09 40 29.8	+0.1
MOMN	**Momotombo**	**1.97**	**173**	*e*P	Pn	09 40 04.9	+0.2
MOMN				*e*S	Sn	09 40 30.3	+0.2
COPN	**Copaltepe**	**2.19**	**175**	*e*P	Pn	09 40 07.6	-0.1
COPN				*e*S	Sn	09 40 35.5	0.0
MGAN	**Managua**	**2.27**	**167**	*e*P	Pn	09 40 08.8	0.0
MGAN				*e*S	Sg	09 40 41.9	-1.2
TISN	**Laguna Tiscapa**	**2.27**	**167**	*e*P	Pn	09 40 09.5	+0.7
UTEC	**San Salvador**	**2.45**	**254**	IAML		09 40 30.1	
	comp=Z,88nm,0.1s						
UEES	**San Salvador**	**2.48**	**255**	IAML		09 40 55.4	
	comp=Z,68nm,0.4s						
ACON	**Acoyapa**	**2.86**	**147**	*e*P	Pn	09 40 16.8	-0.1
ACON				*e*S	Sb	09 40 55.6	-1.8
ESPN	**Las Esperanzas**	**3.24**	**132**	*e*P	Pn	09 40 20.8	-1.4

*ATA **04** 09:41:38.6±0.8, 38.°81N×43.°53E, h12km±8km, ML5.1, MW4.9*
*ISN **04** 09:41:39.7±0.6, 38.°83N×43.°64E, h0km±29km, ML4.5*
*DDA **04** 09:41:39.7, 38.°86N×43.°58E, h15km, Ml4.4*
*ISK **04** 09:41:39.6, 38.°88N×43.°61E, h5km, ML4.6/17*
*TEH **04** 09:41:39.9, 38.°88N×43.°57E, h10km, ML4.2*
*IDC **04** 09:41:40.2±0.9, 38.°81N×43.°53E, h0km, mb4.1/14, mb1 4.1/18, mb1mx3.9/67, mbtmp4.0/18, ML3.3/4, MS3.7/27, Ms1 3.7/27, ms1mx3.4/62, Error ellipse: s-maj=16.3km s-min=11.3km az=159.0*
*NEIC **04** 09:41:40.3±0.0, 38.°88N×43.°57E, h3km, mb4.4/23, ML4.6(ISK), After ISK.*
*BJI **04** 09:41:40.3, 38.°90N×43.°60E, h5km, mb4.7/11, mB4.9/8, Ms5.1/3, Ms7 4.9/2*
*MOS **04** 09:41:41.3±1.4, 38.°73N×43.°71E, h10km, mb4.5/21, Error ellipse: s-maj=6.7km s-min=4.1km az=94.7*
*CSEM **04** 09:41:42.0±0.1, 38.°90N×43.°59E, h2km, mb4.4/20, Error ellipse: s-maj=4.0km s-min=3.0km az=170.0*
ISC 04 09:41:42.0±0.5**, 38.°88N**±0.°02×**43.°58E**±0.°01**, h6km**±3km**, n410,** σ**1.°98**/443**, mb4.4**/35**, MS3.5**/27**, 41C-42D, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VMUR	**Van-Muradiye**	**0.11**	**355**	⇑*i*P	**Pg**	**09 41 43.3**	**-1.1**
VMUR				*i* S	**Sg**	**09 41 46.3**	**+0.2**
VMUR	**Van-Muradiye**	**0.11**	**355**	P	**Pg**	**09 41 43.3**	**-1.1**
VMUR				S	**Sg**	**09 41 46.3**	**+0.2**
ERCV	**ERCIS-VAN**	**0.23**	**306**	PG	**Pg**	**09 41 44.7**	**-2.0**
ERCV				SG	**Sg**	**09 41 50.3**	**+0.5**
ERCV	**ERCIS-VAN**	**0.23**	**306**	*e*Pg	**Pg**	**09 41 44.7**	**-2.0**
ERCV				*e*Sg	**Sg**	**09 41 50.3**	**+0.5**
VANB	**Van**	**0.33**	**208**	PG	**Pg**	**09 41 48.1**	**-0.2**
VANB	**Van**	**0.33**	**208**	Pg	**Pg**	**09 41 48.1**	**-0.2**
VANB	**Van**	**0.33**	**208**	*e*Pg	**Pg**	**09 41 48.1**	**-0.2**
CLDR	**Caldiran**	**0.37**	**45**	PG	**Pg**	**09 41 47.5**	**-1.7**
CLDR				SG	**Sg**	**09 41 53.9**	**-0.2**
CLDR	**Caldiran**	**0.37**	**45**	⇑*i*P	**Pg**	**09 41 47.3**	**-1.9**
CLDR				*i* S	**Sg**	**09 41 54.0**	**-0.2**
CLDR	**Caldiran**	**0.37**	**45**	Pg	**Pg**	**09 41 47.4**	**-1.9**
CLDR	**Caldiran**	**0.37**	**45**	*e*Pg	**Pg**	**09 41 47.5**	**-1.7**
CLDR				*e*Sg	**Sg**	**09 41 53.9**	**-0.2**
TVAN	**Van**	**0.38**	**201**	⇑*i*P	**Pg**	**09 41 48.0**	**-1.4**
TVAN				*i* S	**Sg**	**09 41 54.5**	**+0.1**
TVAN				*i* S	**Sb**	**09 41 55.9**	**-1.6**
DYDN	**Diyadin**	**0.67**	**7**	*i* P	**Pg**	**09 41 53.1**	**-1.7**
DYDN	**Diyadin**	**0.67**	**7**	⇑*i*P	**Pg**	**09 41 53.3**	**-1.5**
DYDN				*i* S	**Sg**	**09 42 03.4**	**-0.1**
DYDN	**Diyadin**	**0.67**	**7**	P	**Pg**	**09 41 53.3**	**-1.5**
DYDN				S	**Sg**	**09 42 03.4**	**-0.1**
ADCV	**BITLIS_Adilcev**	**0.67**	**264**	⇑*i*P	**Pg**	**09 41 53.0**	**-1.9**
ADCV	**BITLIS_Adilcev**	**0.67**	**264**	P	**Pg**	**09 41 53.0**	**-1.9**
GEVA	**Gevas**	**0.70**	**216**	⇑*i*P	**Pg**	**09 41 52.8**	**-2.7**
TUTA	**Tutak**	**0.79**	**311**	*i* P	**Pg**	**09 41 54.8**	**-2.4**
TUTA				IAML		09 42 13.1	
	comp=Z,7µm,0.3s						
TUTA	**Tutak**	**0.79**	**311**	⇓*i*P	**Pg**	**09 41 54.8**	**-2.4**
TUTA	**Tutak**	**0.79**	**311**	P	**Pg**	**09 41 54.8**	**-2.4**
AGRB	**Hanur-Agry**	**0.83**	**327**	PG	**Pg**	**09 41 56.2**	**-1.8**
AGRB	**Hanur-Agry**	**0.83**	**327**	Pg	**Pg**	**09 41 56.0**	**-1.9**
AGRB	**Hanur-Agry**	**0.83**	**327**	*e*Pg	**Pg**	**09 41 56.2**	**-1.8**
IGDI	**IGDIR**	**1.06**	**21**	*i* P	**Pg**	**09 42 00.8**	**-1.4**
IGDI				*e*S	**Sn**	**09 42 17.7**	**-0.8**
IGDI	**IGDIR**	**1.06**	**21**	⇑*i*P	**Pg**	**09 42 00.8**	**-1.4**
IGDI				*i* S	**Sg**	**09 42 15.4**	**-0.6**
TASB	**TASBURUN-IGDIR**	**1.21**	**25**	PN	**Pg**	**09 42 03.8**	**-1.4**
TASB	**TASBURUN-IGDIR**	**1.21**	**25**	*e*Pn	**Pg**	**09 42 03.8**	**-1.4**
EKAR	**Karacoban**	**1.24**	**288**	*e*P	**Pg**	**09 42 02.8**	**-3.0**
EKAR	**Karacoban**	**1.24**	**288**	⇓*i*P	**Pg**	**09 42 02.3**	**-3.4**
EKAR				*i* S	**Sb**	**09 42 21.9**	**-0.4**
GURO	**Guroymak-BITLI**	**1.26**	**255**	PN	**Pg**	**09 42 03.3**	**-2.8**
GURO	**Guroymak-BITLI**	**1.26**	**255**	*e*Pn	**Pg**	**09 42 03.3**	**-2.8**
HYR	**Heyderabad**	**1.29**	**49**	⇑P	**Pn**	**09 42 05.2**	**-1.5**
	SNR=435						
HYR				⇓S	**Sn**	**09 42 23.9**	**-0.4**
EATA	**Eleskirt**	**1.29**	**320**	*i* P	**Pg**	**09 42 04.0**	**-2.8**
EATA				*e*S	**Sn**	**09 42 24.3**	**-0.4**
EATA				IAML		09 42 25.4	
	comp=Z,583nm,0.3s						
EATA	**Eleskirt**	**1.29**	**320**	⇓*i*P	**Pg**	**09 42 04.0**	**-2.8**
EATA				*i* S	**Sg**	**09 42 23.2**	**-0.4**
EATA	**Eleskirt**	**1.29**	**320**	P	**Pg**	**09 42 04.0**	**-2.8**
EATA				S	**Sg**	**09 42 23.2**	**-0.4**
HAKT	**HAKKARI**	**1.33**	**176**	⇓*i*P	**Pn**	**09 42 04.0**	**-3.3**
HAKT				*i* S	**Sn**	**09 42 25.8**	**+0.4**
YOVA	**Hakkari_Yˆ…kse**	**1.41**	**156**	⇓*i*P	**Pn**	**09 42 06.2**	**-2.2**
YOVA				*i* S	**Sn**	**09 42 29.7**	**+2.3**
DIGO	**Kars**	**1.54**	**354**	*i* P	**Pn**	**09 42 08.8**	**-1.4**
DIGO	**Kars**	**1.54**	**354**	⇓*i*P	**Pn**	**09 42 09.0**	**-1.3**
DIGO	**Kars**	**1.54**	**354**	P	**Pn**	**09 42 09.0**	**-1.3**
GNI	**Garni**	**1.55**	**35**	Pg	**Pn**	**09 42 10.1**	**-0.2**
	comp=Z,328nm,0.3s,baz=227,slow=3.3,SNR=316						
GNI				Lg	Lg	09 42 36.0	
	comp=Z,621nm,0.3s,baz=141,slow=22,SNR=16						
GNI				LR	LR	09 43 09.4	
	comp=Z,3µm,21.8s,baz=208,slow=55						
GNI	**Garni**	**1.55**	**35**	*e*P	**Pn**	**09 42 10.5**	**+0.2**
GNI	**Garni**	**1.55**	**35**	*ce*P	**Pn**	**09 42 10.5**	**+0.2**
SRTM	**Siirt_Merkez**	**1.58**	**236**	⇑*i*P	**Pn**	**09 42 08.6**	**-2.1**
SRTM				*i* S	**Sn**	**09 42 30.3**	**-1.1**
SBZ	**Shahbuz**	**1.62**	**71**	⇓P	**Pn**	**09 42 11.1**	**-0.1**
	SNR=865						
SBZ				⇑S	**Sg**	**09 42 35.2**	**+1.3**
SIRT	**Sirnak**	**1.65**	**214**	PN	**Pn**	**09 42 11.1**	**-0.5**
SIRT	**Sirnak**	**1.65**	**214**	*e*Pn	**Pn**	**09 42 11.1**	**-0.5**
SIRN	**S˜–rnak**	**1.66**	**214**	*i* P	**Pn**	**09 42 09.9**	**-1.8**
SIRN				*i* S	**Sg**	**09 42 39.6**	**+4.2**
IMRD	**Marand**	**1.67**	**95**	*e*Pn	**Pn**	**09 42 10.9**	**-1.0**
IMRD				*e*AMB	AMB	09 42 44.6	
	comp=Z,84µm,0.3s						
IMRD	**Marand**	**1.67**	**95**	*e*Pn	**Pn**	**09 42 10.9**	**-1.0**
VRTB	**Varto-Mus**	**1.68**	**280**	PN	**Pn**	**09 42 11.7**	**-0.4**
VRTB	**Varto-Mus**	**1.68**	**280**	*i* P	**Pn**	**09 42 10.4**	**-1.7**
VRTB				*i* S	**Sg**	**09 42 35.5**	**-0.5**
VRTB	**Varto-Mus**	**1.68**	**280**	P	**Pn**	**09 42 10.4**	**-1.7**
VRTB	**Varto-Mus**	**1.68**	**280**	*e*Pn	**Pn**	**09 42 11.7**	**-0.4**
VRTB				S	**Sg**	**09 42 35.5**	**-0.5**
ISHB	**Shabestar**	**1.70**	**110**	*e*Pn	**Pn**	**09 42 12.2**	**-0.3**
ISHB				*e*Sg	**Sg**	**09 42 38.2**	**+1.5**
ISHB				*e*AMB	AMB	09 42 42.3	
	comp=Z,33µm,0.4s						
HOMI	**Horasan**	**1.74**	**312**	*e*P	**Pn**	**09 42 11.1**	**-1.9**
HOMI				*i* Pg	**Pb**	**09 42 12.8**	**-1.8**
HOMI				IAML		09 42 44.4	
	comp=Z,892nm,0.6s						
HOMI	**Horasan**	**1.74**	**312**	⇓*i*P	**Pn**	**09 42 11.1**	**-1.9**
HOMI				*i* S	**Sg**	**09 42 38.8**	**+0.8**
KARS	**Kars**	**1.79**	**348**	PN	**Pn**	**09 42 12.7**	**-0.8**
KARS	**Kars**	**1.79**	**348**	*e*Pn	**Pn**	**09 42 12.7**	**-0.8**
EAK	**Akyaka**	**1.80**	**1**	*e*P	**Pn**	**09 42 14.4**	**+0.6**
EAK				*e*S	**Sg**	**09 42 43.8**	**+3.9**
EAK	**Akyaka**	**1.80**	**1**	*i* P	**Pn**	**09 42 14.1**	**+0.3**
EAK				*i* S	**Sg**	**09 42 43.8**	**+3.9**
EAK	**Akyaka**	**1.80**	**1**	P	**Pn**	**09 42 14.1**	**+0.3**
ORD	**Ordubad**	**1.88**	**88**	⇓P	**Pb**	**09 42 16.1**	**-0.7**
	SNR=891						
ORD				⇓S	**Sg**	**09 42 42.3**	**-0.1**
SENK	**Senkaya-Erzuru**	**1.93**	**331**	PN	**Pn**	**09 42 15.2**	**-0.3**
SENK	**Senkaya-Erzuru**	**1.93**	**331**	*e*Pn	**Pn**	**09 42 15.2**	**-0.3**
ERZM	**Erzurum**	**2.00**	**301**	*i* P	**Pn**	**09 42 15.3**	**-1.2**
ERZM	**Erzurum**	**2.00**	**301**	⇓*i*P	**Pn**	**09 42 15.3**	**-1.2**
ERZM	**Erzurum**	**2.00**	**301**	P	**Pn**	**09 42 15.3**	**-1.2**
SVAN	**Silvan-Diyarba**	**2.01**	**249**	PN	**Pn**	**09 42 16.4**	**-0.1**
SVAN	**Silvan-Diyarba**	**2.01**	**249**	⇑*i*P	**Pn**	**09 42 15.3**	**-1.2**
SVAN				*i* S	**Sb**	**09 42 43.6**	**-0.6**
SVAN	**Silvan-Diyarba**	**2.01**	**249**	P	**Pn**	**09 42 15.3**	**-1.2**
SVAN	**Silvan-Diyarba**	**2.01**	**249**	*e*Pn	**Pn**	**09 42 16.4**	**-0.1**
SVAN				S	**Sb**	**09 42 43.6**	**-0.6**
BTMN	**Batman**	**2.07**	**242**	⇑*i*P	**Pn**	**09 42 16.0**	**-1.4**
BTMN				*i* S	**Sb**	**09 42 45.2**	**-0.8**
ITBZ	**Tabriz**	**2.11**	**107**	*e*Pn	**Pn**	**09 42 18.9**	**+0.9**
ITBZ				*e*AMB	AMB	09 43 18.7	
	comp=Z,10µm,0.5s						
ITBZ	**Tabriz**	**2.11**	**107**	*e*Pn	**Pn**	**09 42 18.9**	**+0.9**
ECAT	**Cat-ERZURUM**	**2.15**	**290**	*e*P	**Pn**	**09 42 17.3**	**-1.3**
ECAT	**Cat-ERZURUM**	**2.15**	**290**	*i* P	**Pn**	**09 42 18.9**	**+0.4**
ECAT				*i* S	**Sb**	**09 42 49.1**	**+0.6**
ECAT	**Cat-ERZURUM**	**2.15**	**290**	P	**Pn**	**09 42 19.0**	**+0.4**
BNGB	**Bingˆ¶l**	**2.27**	**274**	PN	**Pn**	**09 42 20.0**	**-0.1**
BGOL	**Bingol**	**2.27**	**274**	*i* P	**Pn**	**09 42 21.3**	**+1.1**
BGOL				*i* S	**Sn**	**09 42 49.3**	**+0.7**
BGOL	**Bingol**	**2.27**	**274**	P	**Pn**	**09 42 21.3**	**+1.1**
BGOL				S	**Sn**	**09 42 49.3**	**+0.7**
BINT	**Bingol**	**2.42**	**271**	*e*Pn	**Pn**	**09 42 20.0**	**-2.2**
DDEM	**Demirkent**	**2.45**	**326**	*i* P	**Pn**	**09 42 22.6**	**0.0**
DDEM	**Demirkent**	**2.45**	**326**	P	**Pn**	**09 42 22.6**	**0.0**
GDB	**GEDABAY**	**2.48**	**42**	⇑P	**Pn**	**09 42 23.7**	**+0.6**
	SNR=694						
GDB				⇑S	**Sn**	**09 42 53.0**	**-0.9**
AKH	**Akhalkalaki**	**2.53**	**358**	PN	**Pn**	**09 42 23.7**	**0.0**
AKH	**Akhalkalaki**	**2.53**	**358**	P	**Pb**	**09 42 27.3**	**-0.6**
AKH	**Akhalkalaki**	**2.53**	**358**	⇓*i*P	**Pg**	**09 42 29.2**	**-1.2**
AKH	**Akhalkalaki**	**2.53**	**358**	*e*Pn	**Pb**	**09 42 26.1**	**-1.7**
AKH	**Akhalkalaki**	**2.53**	**358**	*e*Pn	**Pn**	**09 42 23.7**	**0.0**
AKH	**Akhalkalaki**	**2.53**	**358**	*e*P	**Pb**	**09 42 27.3**	**-0.6**
AKH	**Akhalkalaki**	**2.53**	**358**	*e*P	**Pb**	**09 42 27.3**	**-0.6**
HANI	**Diyarbakir_Han**	**2.54**	**260**	*i* P	**Pn**	**09 42 23.2**	**-0.6**
HANI	**Diyarbakir_Han**	**2.54**	**260**	P	**Pn**	**09 42 23.2**	**-0.6**
QZX	**Qazax, Azerbai**	**2.57**	**32**	⇓P	**Pn**	**09 42 23.9**	**-0.3**
	SNR=194						
QZX				⇑S	**Sn**	**09 42 54.5**	**-1.3**
KZR	**Kazreti**	**2.58**	**14**	P	**Pb**	**09 42 28.1**	**-0.6**
DBAD	**Bademkaya**	**2.58**	**326**	*i* P	**Pn**	**09 42 25.2**	**+0.8**
DBAD	**Bademkaya**	**2.58**	**326**	P	**Pn**	**09 42 25.2**	**+0.8**
ARTV	**Artvin**	**2.63**	**332**	*e*P	**Pn**	**09 42 23.9**	**-1.2**
ARTV	**Artvin**	**2.63**	**332**	*i* P	**Pn**	**09 42 24.5**	**-0.6**
ARTV	**Artvin**	**2.63**	**332**	P	**Pn**	**09 42 24.5**	**-0.6**
KOPT	**Kop Dagi**	**2.64**	**296**	*e*P	**Pn**	**09 42 24.9**	**-0.5**
KOPT				IAML		09 43 24.4	
	comp=Z,264nm,0.7s						
KOPT	**Kop Dagi**	**2.64**	**296**	*i* P	**Pn**	**09 42 24.4**	**-1.1**
KOPT	**Kop Dagi**	**2.64**	**296**	P	**Pn**	**09 42 24.4**	**-1.1**
EPOS	**Posof**	**2.70**	**346**	*e*P	**Pn**	**09 42 25.8**	**-0.3**
EPOS	**Posof**	**2.70**	**346**	*i* P	**Pn**	**09 42 24.6**	**-1.5**
EPOS	**Posof**	**2.70**	**346**	P	**Pn**	**09 42 24.6**	**-1.5**
MARD	**Mardin**	**2.71**	**236**	⇑*i*P	**Pn**	**09 42 23.7**	**-2.6**
IHRS	**Heris**	**2.77**	**101**	*e*Pn	**Pn**	**09 42 28.6**	**+1.5**
IHRS				*e*AMB	AMB	09 43 20.7	
	comp=E,25µm,0.5s						
IHRS	**Heris**	**2.77**	**101**	*e*Pn	**Pn**	**09 42 28.6**	**+1.5**
DIY	**Diyarbakir**	**2.81**	**251**	*e*Pn	**Pn**	**09 42 28.6**	**+1.0**
MAZI	**Mazidag**	**2.85**	**241**	PN	**Pn**	**09 42 28.1**	**0.0**
MAZI	**Mazidag**	**2.85**	**241**	*e*Pn	**Pn**	**09 42 28.1**	**0.0**
DYBB	**Diyarbakir**	**2.86**	**252**	PN	**Pn**	**09 42 28.6**	**+0.4**
IBST	**Bostanabad**	**2.86**	**113**	*e*Pn	**Pn**	**09 42 29.4**	**+1.0**
IBST				*e*AMB	AMB	09 43 15.4	
	comp=Z,3µm,0.3s						
IBST	**Bostanabad**	**2.86**	**113**	*e*Pn	**Pn**	**09 42 29.4**	**+1.0**
DBOC	**Borcka**	**2.87**	**330**	*i* P	**Pb**	**09 42 30.9**	**-2.7**
DBOC	**Borcka**	**2.87**	**330**	P	**Pb**	**09 42 30.9**	**-2.7**
DIYA	**Diyarbakir**	**2.88**	**252**	*i* P	**Pn**	**09 42 29.6**	**+1.0**
DIYA	**Diyarbakir**	**2.88**	**252**	P	**Pn**	**09 42 29.6**	**+1.0**
DGRG	**David-gareji**	**2.91**	**28**	P	**Pn**	**09 42 29.7**	**+0.8**
DGRG	**David-gareji**	**2.91**	**28**	*e*P	**Pn**	**09 42 29.7**	**+0.8**
DGRG	**David-gareji**	**2.91**	**28**	*e*P	**Pn**	**09 42 29.7**	**+0.8**
BAYB	**BAYBURT**	**2.91**	**299**	*e*P	**Pn**	**09 42 29.1**	**0.0**
BAYB	**BAYBURT**	**2.91**	**299**	*i* P	**Pn**	**09 42 31.0**	**+1.9**
BAYB	**BAYBURT**	**2.91**	**299**	P	**Pn**	**09 42 31.0**	**+1.9**
TBLG	**Delisi**	**2.98**	**17**	PN	**Pn**	**09 42 30.2**	**+0.4**
TBLG	**Delisi**	**2.98**	**17**	*e*P	**Pn**	**09 42 29.3**	**-0.5**
TBLG	**Delisi**	**2.98**	**17**	P	**Pn**	**09 42 31.0**	**+1.2**
TBLG	**Delisi**	**2.98**	**17**	*e*Pn	**Pb**	**09 42 33.2**	**-2.3**
TBLG				*e*Sn	**Sb**	**09 43 10.9**	**-1.3**
TBLG	**Delisi**	**2.98**	**17**	P	**Pn**	**09 42 29.7**	**-0.1**
TBLG	**Delisi**	**2.98**	**17**	*e*Pn	**Pn**	**09 42 30.2**	**+0.4**
TBLG				*e*S	**Sb**	**09 43 10.9**	**-1.3**
TBLG	**Delisi**	**2.98**	**17**	*e*P	**Pb**	**09 42 33.2**	**-2.3**
TBLG				*e*		09 43 10.9	

SEAG Tbilisi Sea 3.03 18 P Pb 09 42 36.1 -0.2
BAYT Ayd¯–ntepe-Bay 3.06 301 PN Pn 09 42 31.4 +0.4
BAYT Ayd¯–ntepe-Bay 3.06 301 *e*Pn Pn 09 42 31.4 +0.4
ERZN Erzincan 3.08 284 PN Pn 09 42 31.5 +0.2
CHOM Cayeli-Rize 3.10 316 *e*Pn Pn 09 42 31.9 +0.5
EUZM Uzumlu 3.12 286 *i* P Pb 09 42 35.2 -2.8
TNCL Tunceli-Merkez 3.16 275 *e*P Pn 09 42 30.9 -1.4
TNCL Tunceli-Merkez 3.16 275 *i* P Pb 09 42 36.0 -2.5
PTK Pertek 3.27 271 PN Pn 09 42 33.9 -0.1
PTK Pertek 3.27 271 *e*Pn Pn 09 42 33.9 -0.1
MNGR Mingechevir, A 3.29 54 ⇓P Pn 09 42 34.5 +0.4
SNR=15
MNGR ⇓S Sn 09 43 13.6 +0.1
MNGR Mingechevir, A 3.29 54 P Pn 09 42 34.4 +0.4
DUS Dusheti 3.32 15 P Pb 09 42 40.2 -1.1
DUS Dusheti 3.32 15 *e*P Pb 09 42 40.2 -1.1
DUS Dusheti 3.32 15 *e*P Pb 09 42 40.2 -1.1
EZC Erzincan 3.39 286 *e*Pn Pn 09 42 31.5 -4.1
ZRD Zardab 3.46 65 ⇓P Pn 09 42 37.4 +1.0
SNR=41
ZRD ⇓S Sn 09 43 18.8 +1.1
KELT Kelkit 3.58 292 *e*P Pn 09 42 39.4 +1.1
KELT Kelkit 3.58 292 *i* P Pb 09 42 44.1 -1.7
MACK Trabzon 3.58 306 *i* P Pb 09 42 44.6 -1.2
ZKTA Zakatala 3.60 39 P Pn 09 42 38.0 -0.4
ZKTA Zakatala 3.60 39 P Pn 09 42 38.0 -0.4
KTUT Trabzon 3.61 307 PN Pn 09 42 39.0 +0.6
KTUT Trabzon 3.61 307 *e*Pn Pn 09 42 39.0 +0.6
ELZG Elazig 3.62 265 *i* P Pb 09 42 45.5 -1.0
ONI Oni 3.71 359 P Pb 09 42 44.1 -3.8
ONI Oni 3.71 359 *e*P Pb 09 42 44.1 -3.8
ONI Oni 3.71 359 *e*P Pb 09 42 44.1 -3.8
LRK Lerik 3.73 92 ⇓S Sn 09 43 27.4 +2.9
GLBA Clilabad 3.76 83 ⇑P Pn 09 42 41.5 +1.0
SNR=147
REFA Refahiye_ERZ¯ 3.78 279 *e*P Pn 09 42 42.1 +1.2
REFA Refahiye_ERZ¯ 3.78 279 *i* P Pb 09 42 46.9 -2.3
KDMR Kurdemir 3.85 66 ⇓S Sn 09 43 28.4 +1.0
QBL Gabala 3.87 56 ⇑P Pn 09 42 42.2 +0.2
SNR=71
QBL ⇓S Sn 09 43 28.0 +0.2
SAAT Saatly 3.88 74 ⇑P Pn 09 42 42.8 +0.7
SNR=15
SAAT ⇑S Sn 09 43 28.8 +0.9
ZEI Tsey 3.91 3 *e*P Pn 09 42 45.9 +3.1
ZEI pmax pmax
comp=Z,77nm,0.6s
KEMA Kemaliye 3.98 277 *e*P Pn 09 42 42.4 -1.2
KEMA Kemaliye 3.98 277 *i* P Pb 09 42 49.2 -3.3
SANL SANLIURFA_Merk 4.01 246 *i* P Pn 09 42 45.3 +1.3
SANL SANLIURFA_Merk 4.01 246 P Pn 09 42 45.3 +1.3
LKRN Lenkeran, Azer 4.06 91 P Pn 09 42 45.9 +1.2
LKRN ⇑S Sn 09 43 35.5 +2.9
LKRN Lenkeran, Azer 4.06 91 P Pn 09 42 45.9 +1.2
AKT Akhty 4.10 49 *e*P Pn 09 42 47.2 +1.9
comp=Z,113nm,0.6s
AKT *e*S Sn 09 43 37.7 +4.0
comp=Z,88nm,0.7s
AKT Akhty 4.10 49 *e*P Pn 09 42 47.2 +1.9
AKT *e*S Sn 09 43 37.7 +4.0
AKT pmax pmax
comp=Z,113nm,0.6s
AKT smax smax
comp=N,88nm,0.7s
AKT smax smax
comp=E,142nm,0.6s
AKT smax smax
comp=E,196nm,1.1s
XNQ Khinaliq 4.18 55 ⇓P Pn 09 42 46.2 -0.3
SNR=24
XNQ ⇑S Sn 09 43 36.0 +0.2
SUSE Susehri 4.37 289 *i* P Pb 09 42 56.1 -3.1
HEKM Malatya_Hekimh 4.39 272 *i* P Pb 09 42 55.0 -4.7
ATAB Bozova 4.40 253 *i* P Pb 09 43 01.3 +1.6
NEY Neytrino 4.41 352 *i* P Pn 09 42 52.3 +2.7
NEY Neytrino 4.41 352 ⇑*i* P Pn 09 42 52.3 +2.7
SURC SANLIURFA_SURC 4.41 245 *i* P Pb 09 42 55.7 -4.2
QSAR Qusar 4.45 52 ⇑P Pn 09 42 49.7 -0.3
SNR=14
QSAR ⇓S Sn 09 43 42.1 0.0
AKCD Akcadag 4.47 264 *i* P Pb 09 42 59.1 -1.9
QUBA Quba, Azerbaij 4.50 55 ⇓P Pn 09 42 50.7 -0.1
GRSN GIRESUNGRSN 4.57 298 *i* P Pb 09 43 01.6 -1.0
CUZAR Zara_SIVAS 4.61 284 *i* P Pb 09 43 01.9 -1.5
GROC Groznyy 4.63 20 *e*P Pb 09 43 02.8 -0.8
comp=E,126nm,1.3s
GROC Groznyy 4.63 20 *e*P Pb 09 43 02.8 -0.8
GROC pmax pmax
comp=Z,126nm,1.3s
CUKAN kangal_SIVAS 4.78 277 *i* P Pb 09 43 04.4 -1.9
KBZ Khabaz 4.87 354 Pn Pn 09 42 59.9 +4.1
comp=Z,0.3nm,0.3s,baz=160,slow=10,SNR=12
KBZ LR LR 09 44 44.9
comp=Z,208nm,20.2s,baz=208,slow=37
MAK Makhachkala 5.04 35 *e*P Pn 09 42 56.9 -1.2
comp=Z,84nm,1.0s
MAK *e*S Sn 09 43 56.1 -0.6
comp=Z,2µm,15.0s
MAK Makhachkala 5.04 35 *e*P Pn 09 42 56.9 -1.2
MAK *e*S Sn 09 43 56.1 -0.6
MAK pmax pmax
comp=Z,84nm,1.0s
MAK MLR MLR
comp=Z,2µm,15.0s
IVIS Veis 5.08 148 *e*Pn Pn 09 42 58.6 -0.2
IVIS Veis 5.08 148 *e*Pn Pn 09 42 58.6 -0.2
ELBS KAHRAMANMARAS 5.08 266 *i* P Pb 09 43 12.6 +1.2
KIV Kislovodsk 5.11 353 *e*Pn Pn 09 42 58.5 -0.7
KIV Kislovodsk 5.11 353 PgPg Pg 09 43 20.6 +0.7
SNR=20
KIV Kislovodsk 5.11 353 P Pg 09 43 20.6 +0.7
SNR=20
KIV Kislovodsk 5.11 353 *e*Pn Pn 09 42 58.5 -0.7
KIV Kislovodsk 5.11 353 *e*P Pn 09 43 01.1 +1.9
comp=Z,74nm,8.0s
KIV Kislovodsk 5.11 353 Pg Pg 09 43 20.6 +0.7
SNR=20
KIV Kislovodsk 5.11 353 *e*P Pn 09 43 01.1 +1.9
KIV pmax pmax
comp=Z,13nm,1.1s
KIV MLR MLR
comp=Z,74nm,8.0s
IGHG Ghaleghazi 5.14 151 *e*Pn Pn 09 43 00.2 +0.5
IGHG *e*AMB AMB 09 45 08.6
comp=Z,9µm,0.9s
NDR Nardaran 5.22 69 ⇑P Pn 09 43 01.0 +0.4
CUALT Altinyayla-SIV 5.33 276 *i* P Pb 09 43 15.9 +0.4
SOC Sochi 5.53 329 *e*P Pn 09 43 07.3 +2.5
comp=Z,10.0nm,0.5s
SOC *e*S Sn 09 44 13.1 +4.5
comp=Z,515nm,11.0s
SOC Sochi 5.53 329 *e*P Pn 09 43 07.3 +2.5
SOC *e* 09 44 13.1
SOC pmax pmax
comp=Z,10.0nm,0.5s
SOC MLR MLR
comp=Z,515nm,11.0s
ERBA Erbaa 5.56 291 *i* P Pb 09 43 15.8 -3.6
ERBA *i* S Sg 09 44 48.6 +8.2
BHD Baghdad 5.64 173 *e*Pn Pn 09 43 06.0 -0.3
SNR=3.0
CUSAR Sarkisla-SIVAS 5.73 278 *i* P Pn 09 43 09.2 +1.5
CUSAR Sarkisla-SIVAS 5.73 278 P Pn 09 43 09.2 +1.5
RTB Rutbah 6.42 205 *e*Pn Pn 09 43 18.0 +0.9
SNR=3.0
BR131 Keskin Array S 7.76 279 *e*Pn Pn 09 43 37.8 +2.2
BRTR Keskin Array B 7.76 279 Pn Pn 09 43 39.5 +3.9
comp=Z,0.1nm,0.3s,baz=96,slow=12,SNR=13
BR231 Keskin MP Arra 8.43 280 *e*Pn Pn 09 43 43.3 -1.4
MMAI Mount Meron Ar 8.84 231 Pn Pn 09 43 51.9 +1.5
comp=Z,1.4nm,0.3s,baz=66,slow=14,SNR=4.2
MMAI LR LR 09 47 42.8
comp=Z,650nm,19.9s,baz=35,slow=41
SIM Simferopol' 9.30 314 P Pn 09 44 01.3 +4.8
comp=Z,42nm,0.4s
SIM Simferopol' 9.30 314 P Pn 09 44 01.3 +4.8
SIM pmax pmax
comp=Z,42nm,0.4s
GEYT Alibeck 11.45 90 Pn Pn 09 44 25.5 -0.5
comp=Z,0.3nm,0.3s,baz=284,slow=13,SNR=2.4
VRH Novokhopyorsk 12.39 355 *e*P Pn 09 44 42.4 +3.6
comp=Z,5.0nm,0.5s
VRH Novokhopyorsk 12.39 355 *e*P Pn 09 44 42.4 +3.6
VRH pmax pmax
comp=Z,5.0nm,0.5s
TIRR Tirgusor 12.63 301 *e*Pn Pn 09 44 41.1 -1.0
TIRR Tirgusor 12.63 301 *e*P Pn 09 44 41.1 -1.0
TIRR Tirgusor 12.63 301 *e*P Pn 09 44 41.1 -1.0
VSR Storozhevoye 12.72 347 *e*P Pn 09 44 45.1 +1.8
comp=Z,7.0nm,1.0s
VSR Storozhevoye 12.72 347 *e*P Pn 09 44 45.1 +1.8
VSR pmax pmax
comp=Z,7.0nm,1.0s
LPSR Galich'ya Gora 14.10 348 *e*P Pn 09 45 03.6 +1.5
comp=Z,10.0nm,0.8s
LPSR Galich'ya Gora 14.10 348 *e*P Pn 09 45 03.6 +1.5
LPSR pmax pmax
comp=Z,10.0nm,0.8s
PLOR Plostina 14.31 305 ⇓*i* P P 09 45 13.7 +1.3
SORM Soroca 14.39 315 ⇓*i* P P 09 45 13.8 +0.6
SORM Soroca 14.39 315 ⇓*i* P P 09 45 13.8 +0.6
SANT Santorini 14.58 266 *e*Pn Pn 09 45 09.5 +0.6
TESR Tescani 14.58 307 ⇓*i* P P 09 45 17.2 +1.8
TESR Tescani 14.58 307 ⇓*i* P P 09 45 17.2 +1.8
MLR Muntele Rosu 14.63 302 ⇑*i* P P 09 45 18.2 +2.1
MLR Muntele Rosu 14.63 302 *e*Pn P 09 45 13.4 -2.7
MLR Muntele Rosu 14.63 302 ⇑*i* P P 09 45 18.2 +2.1
MLR Muntele Rosu 14.63 302 *e*P P 09 45 13.4 -2.7
DOPR Dopca 15.17 304 ⇓*i* P P 09 45 24.3 +2.4
DOPR Dopca 15.17 304 ⇓*i* P P 09 45 24.3 +2.4
VOIR 15.21 301 ⇓*i* P P 09 45 25.4 +3.0
VOIR 15.21 301 ⇓*i* P P 09 45 25.4 +3.0
PRAR RASCA 15.22 309 ⇑*i* P P 09 45 25.3 +2.8
PRAR RASCA 15.22 309 ⇑*i* P P 09 45 25.3 +2.8
IDI Anoyia 15.34 262 LR LR 09 52 23.4
comp=Z,176nm,18.1s,baz=88,slow=42
IDI Anoyia 15.34 262 ⇓*i* P P 09 45 26.5 +2.5
IDI Anoyia 15.34 262 ⇓*i* P P 09 45 26.5 +2.5
RAYN Ar Rayn 15.40 173 *e*Pn Pn 09 45 14.0 -5.9
comp=Z,8.7nm,0.8s
AKTK Aktyubinsk 15.42 37 P Pn 09 45 18.0 -2.0
AKTO Aktyubinsk 15.42 37 Pn Pn 09 45 18.0 -2.0
comp=Z,0.2nm,0.3s,baz=224,slow=10,SNR=13
AKTO LR LR 09 52 57.7
comp=Z,390nm,18.2s,baz=219,slow=44
AKTO Aktyubinsk 15.42 37 P Pn 09 45 18.0 -2.0
ARR Arges 15.46 301 ⇓*i* P P 09 45 28.9 +3.6
AKASG Malin Array Be 15.57 324 Pn Pn 09 45 20.4 -1.5
comp=Z,0.3nm,0.3s,baz=131,slow=12,SNR=8.2
AKASG Malin Array Be 15.57 324 *e*P P 09 45 27.1 +0.8
comp=Z,7.0nm,0.9s
AKASG Malin Array Be 15.57 324 *ce*P P 09 45 27.1 +0.8
AKASG pmax pmax
comp=Z,7.0nm,0.9s
AKBB Malin Array Si 15.57 324 *e*Pn P 09 45 24.5 -1.8
comp=Z,13nm,1.0s
AKBB Malin Array Si 15.57 324 *e*P P 09 45 24.5 -1.8
comp=Z,13nm,1.0s
AKBB Malin Array Si 15.57 324 *e*P P 09 45 24.5 -1.8
AKBB pmax pmax
comp=Z,13nm,1.0s
KIEV Kiev 15.57 324 *e*Pn Pn 09 45 21.5 -0.5
comp=Z,13nm,1.0s
KIEV Kiev 15.57 324 ⇑*i* P P 09 45 27.2 +0.9
AK11 Malin Array Si 15.58 324 *e*Pn Pn 09 45 21.1 -1.0
ABKAR Akbulak array 15.64 43 *e*Pn Pn 09 45 19.4 -3.5
comp=Z,41nm,0.9s
VTS Vitosha 15.88 290 ⇓*i* P P 09 45 33.0 +3.0
VTS Vitosha 15.88 290 *e*Pn Pn 09 45 25.1 -1.0
comp=Z,11nm,1.2s
VTS Vitosha 15.88 290 ⇓*i* P P 09 45 33.0 +3.0
VTS Vitosha 15.88 290 *e*P Pn 09 45 25.1 -1.0
VTS pmax pmax
comp=Z,11nm,1.2s
BURAR Bucovina Array 15.95 309 ⇑*i* P P 09 45 34.0 +3.4
BUR04 Bucovina Ar. S 15.95 309 *e*Pn P 09 45 29.5 -1.2
BUR08 Bucovina Ar. S 15.97 309 *e*Pn P 09 45 30.2 -0.7
SHME Shamm 16.59 137 P Pn 09 45 35.6 +0.3
SNR=9.0
BANOM Banah 16.78 137 pPn Pn 09 45 36.8 -0.9
SNR=18
BANOM Banah 16.78 137 P Pn 09 45 36.8 -0.9
SNR=18
BANOM Banah 16.78 137 P Pn 09 45 36.8 -0.9
SNR=18
OBN Obninsk 16.91 346 LR LR 09 52 58.7
comp=Z,108nm,21.0s,baz=148,slow=40
OBN Obninsk 16.91 346 *e*P Pn 09 45 35.1 -4.0
comp=Z,49nm,1.1s
OBN Obninsk 16.91 346 *e*P P 09 45 42.8 +1.7
comp=Z,151nm,14.0s
OBN *e*S Sn 09 48 48.1 +1.0
OBN Obninsk 16.91 346 ⇑*e*P P 09 45 42.8 +1.7
OBN *e*S Sn 09 48 48.1 +1.0
OBN pmax pmax
comp=Z,35nm,0.8s
OBN MLR MLR
comp=Z,151nm,14.0s
DRGR 17.19 304 ⇓*i* P P 09 45 49.2 +4.8
NAZ Nazwa, Dubai 17.21 140 pP P 09 45 47.0 +2.4
SNR=6.8
NAZ Nazwa, Dubai 17.21 140 P P 09 45 47.0 +2.4
SNR=6.8
NAZ Nazwa, Dubai 17.21 140 P P 09 45 47.0 +2.4
SNR=6.8
UOSS Minazif 17.52 139 *e*Pn P 09 45 49.2 +1.1
comp=Z,21nm,1.3s
KWP Kalwaria Pacla 18.35 313 *e*P P 09 46 00.4 +3.3
KWP Kalwaria Pacla 18.35 313 *e*P P 09 45 59.1 +1.9
comp=Z,164nm,0.9s
KWP Kalwaria Pacla 18.35 313 *e*P P 09 46 00.4 +3.3
CRVS Cervenica-Dubn 18.77 309 *e*P Pn 09 46 06.0 +3.9
CRVS Cervenica-Dubn 18.77 309 *e*P Pn 09 46 06.0 +3.9
CRVS Cervenica-Dubn 18.77 309 *e*P Pn 09 46 06.0 +3.9
STHS Stebnicka Huta 19.11 311 *e*P Pn 09 46 08.9 +2.7
STHS Stebnicka Huta 19.11 311 *e*P Pn 09 46 08.9 +2.7
KECS Kecovo 19.20 307 *e*PN Pn 09 46 06.8 -0.5
KECS Kecovo 19.20 307 *e*P Pn 09 46 06.8 -0.5
PSZ Piszkesteto 19.38 305 ⇑*i* P Pn 09 46 13.4 +3.9
PSZ Piszkesteto 19.38 305 *e*P P 09 46 07.0 -1.5
comp=Z,24nm,1.4s
PSZ Piszkesteto 19.38 305 *e*P P 09 46 07.0 -1.5
comp=Z,24nm,1.4s
PSZ Piszkesteto 19.38 305 *e*P P 09 46 07.0 -1.5
PSZ pmax pmax
comp=Z,24nm,1.4s
NIE Niedzica 19.67 310 *e*P Pn 09 46 14.2 +1.2
NIE Niedzica 19.67 310 *e*P Pn 09 46 14.2 +1.2
ARU Arti 20.17 25 P P 09 46 16.9 0.0
comp=Z,8.5nm,0.7s,baz=223,slow=4.5,SNR=11
ARU LR LR 09 55 48.4
comp=Z,107nm,19.6s,baz=227,slow=42
ARU Arti 20.17 25 *e*P P 09 46 16.9 0.0
comp=Z,62nm,1.4s
ARU Arti 20.17 25 *d i*P P 09 46 17.0 +0.1
ARU 09 46 33.4
ARU S Sn 09 50 05.0 -0.8
ARU pmax pmax
comp=Z,23nm,1.2s
OJC Ojcow 20.30 312 *e*P Pn 09 46 20.6 +0.2
comp=Z,48nm,2.0s
OJC Ojcow 20.30 312 *e*P Pn 09 46 20.6 +0.2
comp=Z,48nm,2.0s
OJC Ojcow 20.30 312 *e*P Pn 09 46 20.6 +0.2
OJC pmax pmax
comp=Z,48nm,2.0s
SUW Suwalki 20.54 324 *e*P Pn 09 46 24.4 +1.2
SUW Suwalki 20.54 324 *e*P Pn 09 46 23.5 +0.4
comp=Z,59nm,0.9s
SUW Suwalki 20.54 324 *e*P Pn 09 46 24.3 +1.1
SUW Suwalki 20.54 324 *e*P Pn 09 46 24.3 +1.1
KKAR Karatay Array 20.72 70 *e*P P 09 46 23.1 0.0
KKAR Karatay Array 20.72 70 *e*P P 09 46 23.1 0.0
KKAR Karatay Array 20.72 70 *e*P P 09 46 23.1 0.0
TIP Timpagrande 20.82 279 *e*P Pn 09 46 26.1 -0.6
comp=Z,46nm,1.6s
MODS Modra-Piesok 21.18 305 *e*P P 09 46 34.7 +6.7
MODS Modra-Piesok 21.18 305 *e*P P 09 46 34.7 +6.7
MODS Modra-Piesok 21.18 305 *e*P P 09 46 34.7 +6.7
MORC Moravsky Berou 21.47 309 *e*P P 09 46 33.9 +2.8
comp=Z,64nm,1.6s
MORC Moravsky Berou 21.47 309 *e*P P 09 46 33.9 +2.8
MORC pmax pmax
comp=Z,64nm,1.6s
MHTO MHTO 21.71 141 P P 09 46 39.0 +5.2
SNR=8.7
VRAC Vranov 21.90 307 LR LR 09 57 20.9
comp=Z,106nm,18.2s,baz=130,slow=43
KLMR Klimovskoe 22.14 355 *e*P P 09 46 38.0 -0.1
KLMR AMP 09 46 49.5
comp=Z,34nm,0.9s
KLMR LQ LQ 09 53 31.6
KLMR LQ LQ 09 53 31.6
KLMR LR LR 09 56 07.9
KLMR Klimovskoe 22.14 355 *e*P P 09 46 38.0 -0.1
KLMR pmax pmax
comp=Z,34nm,0.9s
SOKR Solikamsk 22.37 18 ⇑*i* P P 09 46 40.3 -0.3
SOKR pmax pmax
comp=Z,11nm,0.8s
SOKR MLR MLR
comp=Z,128nm,18.0s
DPC Dobruska-Polom 22.41 310 *e*P P 09 46 43.7 +2.5
DPC *ex* x 09 46 49.6
DPC Dobruska-Polom 22.41 310 P P 09 46 43.7 +2.5
DPC Dobruska-Polom 22.41 310 *e*P P 09 46 43.7 +2.5
DPC *e* 09 46 49.6
VSU Vasula 22.41 336 ⇓*i* P P 09 46 44.0 +3.0
VSU pmax pmax
comp=Z,31nm,0.9s
BRVK Borovoye 23.18 44 *e*P P 09 46 48.7 -0.4
comp=Z,6.8nm,0.9s
BRVK Borovoye 23.18 44 ⇑*i* P P 09 46 51.0 +1.8
BRVK pmax pmax
comp=Z,8.0nm,1.3s
GOPC GO Pecny, Ondr 23.20 308 AMS AMS 09 57 50.0
comp=Z,200nm,10.6s
BVAR Borovoye Array 23.22 44 P P 09 46 49.8 +0.2
comp=Z,2.0nm,0.7s,baz=233,slow=12,SNR=11
BVAR LR LR 09 57 22.8
comp=Z,181nm,19.8s,baz=244,slow=40
SHAO Shalim 23.28 150 pP P 09 46 54.7 +4.2
SNR=7.7
SHAO Shalim 23.28 150 P P 09 46 54.7 +4.2
SNR=7.7
SHAO Shalim 23.28 150 P P 09 46 54.7 +4.2
SNR=7.7
DMTO DMTO 23.30 152 P P 09 46 55.0 +4.3
SNR=7.5
PRU Pruhonice 23.37 308 AMS AMS 09 59 20.0
comp=Z,200nm,13.1s
GEA0 GERESS Array S 23.59 305 *e*P P 09 46 54.1 +0.6
GEC2 GERESS Array S 23.60 305 *e*P P 09 46 56.0 +2.4
comp=Z,7.1nm,1.1s
GEC2 GERESS Array S 23.60 305 *e*P P 09 46 56.0 +2.4
comp=Z,7.0nm,1.1s
GEC2 GERESS Array S 23.60 305 *e*P P 09 46 56.0 +2.4
GEC2 pmax pmax
comp=Z,7.0nm,1.1s
GERES GERESS Array B 23.60 305 P P 09 46 53.9 +0.4
comp=Z,1.6nm,0.7s,baz=105,slow=8.8,SNR=11
GERES LR LR 09 58 10.0
comp=Z,87nm,19.0s,baz=86,slow=42
GERES GERESS Array B 23.60 305 *e*P P 09 46 56.0 +2.4
comp=Z,1.0nm,0.7s
GERES GERESS Array B 23.60 305 *e*P P 09 46 56.0 +2.4
GERES pmax pmax
comp=Z,1.0nm,0.7s
AAK Ala-Archa 23.64 71 P P 09 46 55.2 +1.0
comp=Z,1.8nm,0.7s,baz=249,slow=9.7,SNR=6.4
AAK LR LR 09 57 59.5
comp=Z,125nm,19.3s,baz=272,slow=41
FRU Bishkek 23.73 70 *e*P P 09 46 56.0 +1.1
FRU *e* 09 47 04.0
FRU *e* 09 47 31.0
FRU pmax pmax
comp=Z,70nm,2.2s
KHC Kasperske Hory 23.75 305 *e*P P 09 46 56.3 +1.4
KHC *ex* x 09 47 02.3
KHC Kasperske Hory 23.75 305 P P 09 46 56.3 +1.4
KHC Kasperske Hory 23.75 305 *e*P P 09 46 56.3 +1.4
KHC *e* 09 47 02.3
CLL Collm 24.71 310 *e*(sP) sP 09 47 15.0 +8.7
CLL *e* 09 47 20.0
CLL *e*S S 09 51 30.0 +4.1
CLL Lm MLR 09 57 00.0
comp=Z,100nm,21.4s
CLL Collm 24.71 310 *e*P P 09 47 15.0 +11
CLL *e* 09 47 20.0
CLL *e*S S 09 51 30.0 +4.1
KSH Kashi 25.04 78 *e*P P 09 47 05.4 -1.6
KSH S S 09 51 27.3 -4.4
KSH pmax pmax
comp=Z,130nm,4.3s
KSH LR LR
comp=Z,410nm,11.1s
KSH LR LR
comp=Z,260nm,8.7s
FINES FINESS Array B 25.05 340 P P 09 47 05.7 -1.1
comp=Z,1.8nm,0.4s,baz=143,slow=14,SNR=6.7
FINES LR LR 09 57 13.9
comp=Z,131nm,19.1s,baz=144,slow=37
FINES FINESS Array B 25.05 340 *i* P P 09 47 13.3 +6.6
FINES pmax pmax
comp=Z,7.0nm,0.8s
GRFO Grafenberg 25.37 306 *e*P P 09 47 12.3 +2.5
comp=Z,12nm,0.7s
GRFO Grafenberg 25.37 306 *e*P P 09 47 12.3 +2.5
comp=Z,12nm,0.7s
GRFO Grafenberg 25.37 306 *e*P P 09 47 12.3 +2.5
GRFO pmax pmax
comp=Z,12nm,0.7s
TMCR Tamitsa 25.53 354 *e*P P 09 47 11.6 +0.6
KURBB Kurchatov Arra 27.20 53 P P 09 47 26.8 +0.5
comp=Z,4.2nm,0.7s,baz=264,slow=9.0,SNR=32
ATD Arta Tunnel 27.25 182 LR LR 09 58 51.0
comp=Z,139nm,18.2s,baz=30,slow=38
KURK Kurchatov 27.27 53 *e*P P 09 47 27.6 +0.6
comp=Z,5.3nm,0.8s
KURK Kurchatov 27.27 53 ⇑*i* P P 09 47 27.8 +0.9
KURK *i* *PP sP 09 47 30.0 +0.6
KURK pmax pmax
comp=Z,5.0nm,0.9s
HFS Hagfors 28.37 328 P P 09 47 34.4 -2.2
comp=Z,6.6nm,0.9s,baz=126,slow=7.5,SNR=6.9
HFS LR LR 09 59 26.4
comp=Z,110nm,18.3s,baz=124,slow=38
MAKZ Makanchi 29.01 62 *e*P P 09 47 42.4 -0.1
comp=Z,15nm,1.8s
MAKZ Makanchi 29.01 62 *e*P P 09 47 42.4 -0.1
MAKZ pmax pmax
comp=Z,15nm,1.8s
MK31 Makanchi Array 29.23 62 *e*P P 09 47 44.6 +0.1
MK31 Makanchi Array 29.23 62 *e*P P 09 47 44.6 +0.1
MKAR Makanchi Array 29.23 62 P P 09 47 45.0 +0.5
comp=Z,1.9nm,0.7s,baz=270,slow=7.0,SNR=21
MKAR LR LR 10 01 13.7
comp=Z,153nm,18.9s,baz=253,slow=40
MKAR Makanchi Array 29.23 62 *e*P P 09 47 44.6 +0.1
comp=Z,13nm,0.7s
MKAR Makanchi Array 29.23 62 *i* P P 09 47 45.2 +0.7
MKAR pmax pmax
comp=Z,2.0nm,0.7s
MK01 Makanchi Array 29.23 62 *e*P P 09 47 44.6 +0.1
NOA NORSAR Array B 29.89 328 LR LR 10 01 07.8
comp=Z,97nm,18.5s,baz=120,slow=39
ZAA0 Zalesovo Array 31.66 48 *e*P P 09 48 05.0 -0.8
comp=Z,8.8nm,1.6s
ZALV Zalesovo Beam 31.66 48 P P 09 48 05.3 -0.5
comp=Z,1.8nm,0.6s,baz=260,slow=8.3,SNR=9.2
ZALV LR LR 10 03 04.9
comp=Z,192nm,18.6s,baz=248,slow=40
ZALV Zalesovo Beam 31.66 48 *e*P P 09 48 04.9 -0.9
DGZ Jazzator, Alta 32.76 56 *d i*P P 09 48 16.7 +0.9
DGZ *i* *PP sP 09 48 19.9 +1.6
DGZ pmax pmax
comp=Z,3.0nm,0.7s
WMQ Urumqi 33.18 67 P P 09 48 20.2 +0.8
WMQ pmax pmax
comp=Z,16nm,0.9s
TAM Tamanrasset 36.11 255 *e*P P 09 48 44.4 -0.6
comp=Z,4.2nm,0.9s
TAM Tamanrasset 36.11 255 *e*P P 09 48 44.4 -0.6
comp=Z,4.0nm,0.9s
TAM Tamanrasset 36.11 255 *e*P P 09 48 44.4 -0.6
TAM pmax pmax
comp=Z,4.0nm,0.9s
ES19 SONSECA Array 36.42 287 *e*P P 09 48 47.9 +0.5
ESDC Sonseca Array 36.47 287 P P 09 48 46.2 -1.7
comp=Z,2.4nm,0.6s,baz=67,slow=8.6,SNR=14
ESDC LR LR 10 05 27.6
comp=Z,46nm,18.9s,baz=60,slow=39
KMBO Kilima Mbogo 40.24 190 LR LR 10 05 05.4
comp=Z,179nm,18.6s,baz=316,slow=35
JMIC Jan Mayen 41.60 337 LR LR 10 06 15.6

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,64nm,20.0s,baz=107,slow=35						
TOA0	Torodi Ar. Sit	44.98	247	eP	P	09 49 55.8	-2.5
TORD	Torodi Ar. Bea	44.98	247	P	P	09 49 55.6	-2.7
	comp=Z,3.6nm,1.0s,baz=52,slow=9.2,SNR=11						
TORD				LR	LR	10 11 43.8	
	comp=Z,50nm,18.2s,baz=270,slow=40						
SONM	Songino Array	45.39	57	LR	LR	10 11 06.5	
	comp=Z,172nm,18.2s,baz=46,slow=39						
ULN	Ulaanbaatar	45.82	57⇑	iP	P	09 50 05.9	+1.2
ULN				pmax	pmax		
	comp=Z,3.0nm,1.0s						
LZH	Lanzhou	47.14	74	eP	P	09 50 13.7	-1.6
LZH				pP	pP	09 50 17.2	+0.1
LZH				sP	sP	09 50 20.0	+2.2
LZH				pmax	pmax		
	comp=Z,22nm,0.8s						
LZH				pmax	pmax		
	comp=Z,130nm,6.2s						
BOD	Bodaibo	48.08	43	eP	P	09 50 21.1	-1.0
BOD				pmax	pmax		
	comp=Z,5.0nm,1.6s						
CD2	Chengdu	49.22	80	eP	P	09 50 29.5	-1.8
HHC	Hu-ho-hao-te	51.00	65	eP	P	09 50 42.6	-2.2
HHC				pmax	pmax		
	comp=Z,9.0nm,1.2s						
HHC				pmax	pmax		
	comp=Z,240nm,6.6s						
CMAR	Chiang Mai Arr	51.84	97	P	P	09 50 50.3	-0.9
	comp=Z,0.7nm,0.5s,baz=294,slow=8.8,SNR=4.5						
CMAR				LR	LR	10 17 50.7	
	comp=Z,96nm,18.3s,baz=196,slow=42						
CMAR	Chiang Mai Arr	51.84	97	eP	P	09 50 56.0	+4.8
	comp=Z,2.0nm,1.0s						
CMAR	Chiang Mai Arr	51.84	97	eP	P	09 50 56.0	+4.8
CMAR				pmax	pmax		
	comp=Z,2.0nm,1.0s						
TIXI	Tiksi	52.17	24⇑	iP	P	09 50 53.6	+0.7
TIXI				i *PP	sP	09 50 55.9	+0.5
TIXI				pmax	pmax		
	comp=Z,2.0nm,1.0s						
BJI	Beijing	54.56	64	P	P	09 51 07.0	-3.9
BJI				pmax	pmax		
	comp=Z,12nm,0.5s						
SFJD	Kangerlussuaq	56.47	332	LR	LR	10 14 26.8	
	comp=Z,34nm,19.6s,baz=58,slow=35						
NJ2	Nanjing	60.09	71	eP	P	09 51 49.2	-0.9
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
SEY	Seymchan	63.84	29	P	P	09 52 15.8	+0.9
	comp=Z,4.1nm,0.8s,baz=286,slow=4.5,SNR=13						
SEY	Seymchan	63.84	29⇑	iP	P	09 52 16.3	+1.5
BILL	Bilibino	65.12	20	i P	P	09 52 24.8	+1.7
BILL				i		09 52 59.5	
BILL				i		09 54 51.7	
BILL				pmax	pmax		
	comp=Z,2.0nm,0.9s						
MJAR	Matsushiro Arr	71.34	58	LR	LR	10 27 09.6	
	comp=Z,108nm,18.5s,baz=320,slow=38						
CAST	Castle Rocks	77.28	7	eP	P	09 53 36.9	+0.1
	comp=Z,5.6nm,1.0s						
YKA	Yellowknife Ar	77.45	350	P	P	09 53 36.8	-0.9
	comp=Z,0.4nm,0.8s,baz=16,slow=5.8,SNR=8.4						
BATI	Baumata	88.72	104	LR	LR	10 41 59.7	
	comp=Z,190nm,18.8s,baz=244,slow=41						
PDAR	Pinedale Array	95.15	340	LR	LR	10 37 32.5	
	comp=Z,46nm,19.9s,baz=27,slow=35						
YBH	Yreka Blue Hor	98.80	350	LR	LR	10 41 40.3	
	comp=Z,42nm,18.4s,baz=358,slow=36						

*ISCJB **04** 09:44:28.5±0.7, 25°.65N±0°.09×123°.71E±0°.09, h215km±7km, mb3.1/4, Error ellipse: s-maj=18.6km s-min=7.6km az=141.7*
*JMA **04** 09:44:31.2±0.2, 25°.67N×123°.65E, h194km, M3.7*
*IDC **04** 09:44:32.8±6.4, 26°.00N×124°.30E, h262km±86km, mb2.9/4, mb1 3.1/5, mb1mx2.7/72, mbtmp3.7/5, Error ellipse: s-maj=110.8km s-min=15.4km az=61.0*
ISC 04 09:44:28.7±1.1**, 25°.8N**±0°.1×**123°.7E**±0°.1**, h210**km±11km**, n19,** σ1^{s}**48**/34**, mb3.2**/4**, Northeast of Taiwan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JISG	Ishigakijimahi	1.31	154	P	Pn	09 45 02.4	+0.7
JISG				S	S	09 45 26.2	-1.0
IRIF	Iriomote-Funau	1.43	178	P	Pn	09 45 02.8	+0.1
IRIF				S	S	09 45 26.8	-2.1
JTJ	Tarama	1.46	140	P	Pn	09 45 04.0	+1.1
JTJ				S	S	09 45 28.8	-0.5
JIJ	Ishigaki jima	1.46	163	P	Pn	09 45 03.2	+0.2
JIJ				S	S	09 45 27.0	-2.4
JKRS	Kuro-shima	1.56	169	P	Pn	09 45 04.4	+0.6
JKRS				S	S	09 45 29.4	-1.4
JIRB	Irabujima	1.65	124	P	Pn	09 45 05.5	+0.9
JIRB				S	S	09 45 31.4	-0.7
JIKM	Ikemajima	1.66	120	P	Pn	09 45 06.1	+1.5
JIKM				S	S	09 45 32.5	+0.3
HATJ	Hateruma jima	1.71	176	P	Pn	09 45 05.6	+0.4
HATJ				S	S	09 45 31.4	-1.8
JMJ	Miyako jima 2	1.75	123	P	Pn	09 45 06.9	+1.4
JMJ				eS	S	09 45 33.7	0.0
JOGS	Gusukube	1.86	122	P	Pn	09 45 08.2	+1.6
JOGS				S	S	09 45 36.8	+1.1
JKE	Kume jima 2	2.85	78	P	Pn	09 45 17.9	+0.8
JKE				eS	S	09 45 55.7	+1.1
JAGN	Aguni-jima	3.31	75	P	Pn	09 45 23.1	+0.7
JAGN				S	S	09 46 04.2	+0.1
JJT3	Tamagusuku3	3.72	83	P	Pn	09 45 28.4	+1.0
JJT3				eS	S	09 46 11.8	-1.2
JOW	Kunigami	4.26	75	P	Pn	09 45 34.0	-0.1
	4.7nm,0.3s,baz=130,slow=27,SNR=24						
JOW				S	S	09 46 21.4	-3.8
	20nm,0.3s,baz=300,slow=24,SNR=19						
JOW	Kunigami	4.26	75	P	Pn	09 45 33.9	-0.1
JOW				S	S	09 46 21.1	-4.1
MKAR	Makanchi Array	38.83	314	P	P	09 51 34.5	+1.1
	0.4nm,0.7s,baz=108,slow=7.9,SNR=6.2						
ZALV	Zalesovo Beam	40.20	325	P	P	09 51 44.8	+0.3
	0.5nm,0.5s,baz=113,slow=11,SNR=2.5						
WRA	Warramunga Arr	46.61	166	P	P	09 52 35.4	-0.6
	0.9nm,0.5s,baz=347,slow=8.7,SNR=16						
ASAR	Alice Springs	50.13	168	P	P	09 53 03.0	+0.1
	0.3nm,0.5s,baz=356,slow=15,SNR=6.0						

*IDC **04** 09:47:58.6±2.9, 23°.88S×179°.91E, h495km±30km, mb3.2/7, mb1 3.5/8, mb1mx3.1/46, mbtmp4.1/8, Error ellipse: s-maj=23.0km s-min=20.3km az=174.0*
*ISCJB **04** 09:48:00.6±0.8, 24°.1S±0°.1×179°.8E±0°.2, h526km, mb3.6/7, Error ellipse: s-maj=20.6km s-min=13.4km az=9.9*
ISC 04 09:48:01.1±0.7**, 24°.2S**±0°.1×**179°.9E**±0°.2**, h526**km**, n18,** σ1^{s}**42**/18**, mb3.8**/7**, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	12.85	39	S	S	09 52 54.4	-12
	1.7nm,0.3s,baz=206,slow=21,SNR=3.6						
URZ	Urewera	14.27	189	P	P	09 51 02.5	-0.6
	2.7nm,0.3s,baz=357,slow=17,SNR=11						
URZ				S	S	09 53 31.1	-2.2
	1.1nm,0.3s,baz=89,slow=20,SNR=9.3						
STKA	Stephens Creek	34.57	248	P	P	09 54 06.5	+0.6
	0.8nm,0.4s,baz=96,slow=11,SNR=5.2						
ASAR	Alice Springs	41.94	261	P	P	09 55 05.7	-0.2
	1.1nm,0.4s,baz=95,slow=7.1,SNR=28						
WRA	Warramunga Arr	42.33	266	P	P	09 55 08.2	-0.7
	2.4nm,0.5s,baz=97,slow=8.4,SNR=104						
WRA				ScP	ScP	09 59 54.5	+3.4
	0.1nm,0.6s,baz=93,slow=3.8,SNR=5.0						
VNDA	Vanda	54.13	185	P	P	09 56 38.1	+2.1
	0.4nm,0.5s,baz=358,slow=7.1,SNR=4.4						
MAW	Mawson	77.50	200	P	P	09 59 02.9	+1.1
	2.0nm,0.5s,baz=128,slow=5.1,SNR=8.8						
TXAR	Lajitas Array	90.61	58	P	P	10 00 08.3	+0.7
	0.8nm,0.7s,baz=220,slow=6.7,SNR=7.8						
PDAR	Pinedale Array	92.91	44	P	P	10 00 17.8	-0.3
	0.3nm,0.7s,baz=198,slow=2.7,SNR=2.9						
MKAR	Makanchi Array	112.28	313	PKiKP	PKiKP	10 05 35.5	-1.4
	0.2nm,0.4s,baz=118,slow=1.0,SNR=3.9						
BVAR	Borovoye Array	120.59	319	PKP	PKPdf	10 05 51.4	-1.2
	0.9nm,0.4s,baz=124,slow=3.6,SNR=4.6						
ARCES	ARCESS Array B	132.12	348	PKP	PKPdf	10 06 13.2	-1.0
	7.9nm,1.1s,baz=78,slow=2.5,SNR=7.7						
HFS	Hagfors	142.78	349	PKhKP	PKPpre	10 06 29.9	
	2.9nm,0.4s,baz=64,slow=3.4,SNR=26						
AKASG	Malin Array Be	145.15	327	PKP	PKPdf	10 06 37.9	-0.4
	1.1nm,0.5s,baz=44,slow=3.9,SNR=6.8						
BRTR	Keskin Array B	147.68	307	PKPbc	PKPbc	10 06 46.0	-0.7
	0.7nm,0.6s,baz=136,slow=4.4,SNR=4.9						
MMAI	Mount Meron Ar	147.75	294	PKPbc	PKPbc	10 06 47.8	+0.8
	2.6nm,0.4s,baz=74,slow=6.6,SNR=6.4						
EKA	Eskdalemuir Ar	148.77	3	PKPbc	PKPbc	10 06 47.8	-1.0
	0.4nm,0.3s,baz=331,slow=2.8,SNR=3.1						
BRG	Berggiesshubel	151.20	341	eP	PKPbc	10 06 54.2	-0.4
	3.8nm,0.4s						

MEX 04 09:54:33.5±0.3**, 16°.27N×98°.28W, h2**km**, MD3.6, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.20	50	eP	Pg	09 54 37.1	-0.2
PNIG				i S	Sg	09 54 40.1	+0.2
TLIG	Tlapa	1.32	348	i P	Pg	09 54 55.3	-3.5
TLIG				eS	Sg	09 55 12.2	-3.7
VHO	Vista Hermosa	1.69	61	eP	Pn	09 55 00.8	-3.5
VHO				eS	Sn	09 55 23.0	-3.6
HUIG	Huatulco	2.15	103	eP	Pn	09 55 07.4	-3.0
HUIG				eS	Sn	09 55 33.3	-4.4

DDA 04 10:06:44.1, 40°.72N×42°.01E, h23km**, Ml2.7, Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DDEM	Demirkent	0.26	311	i P	Pb	10 06 50.6	+0.2
DDEM				i S	Sb	10 06 55.3	+0.5
DBAD	Bademkaya	0.38	321	i P	Pb	10 06 53.0	+0.7
DBAD				i S	Sb	10 06 58.5	+0.7
ARTV	Artvin	0.47	352	i P	Pb	10 06 53.8	-0.1

*ISCJB **04** 10:16:24.2±0.5, 25°.43N±0°.09×123°.90E±0°.06, h169km±7km, mb3.3/5, Error ellipse: s-maj=15.4km s-min=5.9km az=155.3*
*IDC **04** 10:16:25.9±8.6, 25°.62N×124°.07E, h173km±102km, mb3.1/5, mb1 3.1/6, mb1mx2.9/56, mbtmp3.6/6, MS3.1/1, Ms1 3.1/1, ms1mx2.4/22, Error ellipse: s-maj=101.6km s-min=23.7km az=61.0*
*JMA **04** 10:16:26.1±0.2, 25°.40N×123°.88E, h158km±4km, M3.6*
ISC 04 10:16:25.2±0.8**, 25°.47N**±0°.10×**123°.89E**±0°.06**, h164**km±10km**, n22,** σ0^{s}**94**/36**, mb3.4**/5**, Northeast of Taiwan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JISG	Ishigakijimahi	0.96	157	P	Pn	10 16 50.7	-0.3
JISG				S	Sn	10 17 10.1	-0.6
JTJ	Tarama	1.10	138	P	Pn	10 16 52.4	+0.2
JTJ				S	Sn	10 17 12.6	-0.2
JIJ	Ishigaki jima	1.12	168	P	Pn	10 16 52.0	-0.4
JIJ				S	Sn	10 17 11.3	-1.9
IRIF	Iriomote-Funau	1.14	188	P	Pn	10 16 52.1	-0.4
IRIF				S	Sn	10 17 12.3	-1.1
JKRS	Kuro-shima	1.23	175	P	Pn	10 16 53.2	-0.1
JKRS				S	Sn	10 17 13.8	-1.1
YOJ	Yonaguni jima	1.28	219	P	Pn	10 16 53.8	0.0
YOJ				eS	Sn	10 17 14.9	-0.8
JIRB	Irabujima	1.32	119	P	Pn	10 16 54.3	+0.2
JIRB				S	Sn	10 17 15.9	-0.4
JYNG	Yonagunijimaku	1.33	221	P	Pn	10 16 54.3	+0.1
JYNG				eS	Sn	10 17 16.1	-0.3
JIKM	Ikemajima	1.34	114	P	Pn	10 16 54.9	+0.6
JIKM				S	Sn	10 17 17.1	+0.5
HATJ	Hateruma jima	1.41	183	P	Pn	10 16 55.0	0.0
HATJ				S	Sn	10 17 17.2	-0.6
JMJ	Miyako jima 2	1.43	117	P	Pn	10 16 55.8	+0.7
JMJ				S	Sn	10 17 17.9	-0.2
JOGS	Gusukube	1.54	117	P	Pn	10 16 57.1	+0.8
JOGS				eS	Sn	10 17 20.2	+0.1
JKE	Kume jima 2	2.74	71	P	Pn	10 17 10.1	+0.2
JKE				eS	Sn	10 17 44.9	+0.3
JJT3	Tamagusuku3	3.57	78	P	Pn	10 17 20.5	+0.2
JJT3				S	Sn	10 18 01.8	-1.4
JOW	Kunigami	4.17	70	P	Pn	10 17 26.8	-1.2
	6.1nm,0.3s,baz=127,slow=26,SNR=3.9						
JOW				S	Sn	10 18 13.7	-3.3
	7.2nm,0.3s,baz=301,slow=25,SNR=3.3						
TGY	Tagaytay City	11.64	194	LR	LR	10 23 17.5	
	comp=Z,96nm,20.3s,baz=200,slow=35						
KSRS	Korea Array	12.43	15	P	Pn	10 19 18.1	+1.5
	0.1nm,0.3s,baz=203,slow=12,SNR=2.0						
MKAR	Makanchi Array	39.18	314	P	P	10 23 36.9	-0.2
	0.3nm,0.3s,baz=96,slow=10.0,SNR=7.3						
ZALV	Zalesovo Beam	40.56	325	P	P	10 23 47.2	-1.2
	0.5nm,0.4s,baz=106,slow=9.2,SNR=2.2						
KURBB	Kurchatov Arra	42.76	318	P	P	10 24 05.9	-0.4
	0.3nm,0.3s,baz=91,slow=6.8,SNR=1.4						
WRA	Warramunga Arr	46.27	166	P	P	10 24 34.7	+0.3
	0.1nm,0.4s,baz=346,slow=8.8,SNR=1.6						
BVAR	Borovoye Array	48.27	319	P	P	10 24 49.5	-0.1
	0.3nm,0.3s,baz=93,slow=9.6,SNR=2.8						

*ISK **04** 10:21:01.6, 40°.13N×24°.04E, h4km, ML3.3/15*
*PDG **04** 10:21:02.3±0.5, 40°.16N×24°.09E, h9km, ML3.5/4, Error ellipse: s-maj=0.5km s-min=0.6km az=0.0*
*ATH **04** 10:21:02.1, 40°.17N×24°.01E, h24km, ML3.4/28, Error ellipse: s-maj=0.8km s-min=0.5km az=351.0*
*CSEM **04** 10:21:02.6±0.1, 40°.14N×24°.04E, h5km, ML3.4, Error ellipse: s-maj=1.6km s-min=1.4km az=92.0*
*ISCJB **04** 10:21:03.2±0.3, 40°.16N±0°.01×24°.04E±0°.02, h16km±3km, Error ellipse: s-maj=2.1km s-min=1.8km az=10.5*
*THE **04** 10:21:03.0, 40°.17N×23°.99E, h9km, ML3.5/15, Error ellipse: s-maj=0.7km s-min=0.3km az=337.0*
*BEO **04** 10:21:03.4±0.9, 40°.22N×24°.15E, h8km±5km*
*DDA **04** 10:21:23.0, 40°.25N×26°.06E, h6km, Ml2.6*
ISC 04 10:21:02.6±0.9**, 40°.15N**±0°.01×**24°.05E**±0°.01**, h7**km±7km**, n293,** σ1^{s}**01**/396**, 16C-21D, Aegean Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
OUR	Ouranopolis	0.19	344	P	Pg	10 21 06.6	+0.2
OUR				S	Sg	10 21 08.8	-0.3
OUR				AML	AML	10 21 10.0	
	comp=E,72544µm,0.4s						
OUR				AML	AML	10 21 10.4	
	comp=N,87102µm,0.4s						
OUR	Ouranopolis	0.19	344	P	Pg	10 21 06.8	+0.4
OUR				S	Sg	10 21 09.7	+0.6
OUR	Ouranopolis	0.19	344	P	Pg	10 21 06.8	+0.4
OUR				S	Sg	10 21 09.7	+0.6
PAIG	Paliouri	0.36	232	P	Pg	10 21 09.4	-0.2
PAIG				S	Sg	10 21 13.5	-0.9
PAIG				AML	AML	10 21 15.2	
	comp=E,27451µm,0.3s						
PAIG				AML	AML	10 21 16.7	
	comp=N,19488µm,0.2s						
PAIG	Paliouri	0.36	232	P	Pg	10 21 09.5	-0.2
PAIG				S	Sg	10 21 14.8	+0.4
PAIG	Paliouri	0.36	232	P	Pg	10 21 09.5	-0.2
PAIG				S	Sg	10 21 14.5	+0.1
PLG	Polygyros	0.52	296	P	Pg	10 21 12.4	-0.2
PLG				S	Sg	10 21 17.9	-1.4
PLG				AML	AML	10 21 18.8	
	comp=N,9462µm,0.4s						
PLG				AML	AML	10 21 21.0	
	comp=E,8331µm,0.3s						
PLG	Polygyros	0.52	296	P	Pg	10 21 12.1	-0.4
PLG				S	Sg	10 21 18.6	-0.7
PLG	Polygyros	0.52	296	P	Pg	10 21 12.2	-0.3
PLG				S	Sg	10 21 18.6	-0.7
KVLA	Kavala	0.83	18	P	Pb	10 21 19.2	-0.1
KVLA				S	Sg	10 21 27.8	-1.4
KVLA	Kavala	0.83	18	P	Pg	10 21 18.6	+0.2
KVLA				S	Sg	10 21 28.7	-0.5
HORT	Hortiatis	0.85	302	PG	Pg	10 21 18.3	-0.7
HORT	Hortiatis	0.85	302	P	Pg	10 21 18.1	-1.0
HORT				S	Sg	10 21 29.4	-0.8
HORT				AML	AML	10 21 33.6	
	comp=N,6106µm,0.4s						
HORT				AML	AML	10 21 34.2	
	comp=E,3722µm,0.6s						
HORT	Hortiatis	0.85	302	P	Pg	10 21 17.9	-1.1
HORT				S	Sg	10 21 29.8	-0.3
HORT	Hortiatis	0.85	302	P	Pg	10 21 18.0	-1.0
HORT	Hortiatis	0.85	302	ePg	Pg	10 21 18.3	-0.7
HORT				S	Sg	10 21 29.8	-0.3
SOH	Sokhos	0.86	322	P	Pg	10 21 19.1	0.0
SOH				S	Sg	10 21 29.5	-0.7
SOH				AML	AML	10 21 34.3	
	comp=N,9529µm,0.3s						
SOH				AML	AML	10 21 34.6	
	comp=E,12974µm,0.8s						
SOH	Sokhos	0.86	322	P	Pg	10 21 18.4	-0.6
SOH				S	Sg	10 21 29.7	-0.5
SOH	Sokhos	0.86	322	P	Pg	10 21 18.6	-0.4
SOH				S	Sg	10 21 29.7	-0.5
LIA	Limnos Island	0.90	106	P	Pb	10 21 21.3	+0.7
LIA				S	Sn	10 21 34.9	-0.1
LIA				AML	AML	10 21 35.3	
	comp=N,3901µm,0.4s						
LIA				AML	AML	10 21 35.8	
	comp=E,5026µm,0.5s						
LIA	Limnos Island	0.90	106	P	Pb	10 21 21.2	+0.7
LIA				S	Sn	10 21 34.5	-0.4
LIA	Limnos Island	0.90	106	P	Pb	10 21 20.7	+0.2
LIA				S	Sn	10 21 34.1	-0.8
KAVA	Kavala	0.92	22	P	Pn	10 21 21.5	-0.3
KAVA				S	Sb	10 21 33.2	+0.1
KAVA				AML	AML	10 21 34.4	
	comp=E,10841µm,0.6s						
KAVA				AML	AML	10 21 34.4	
	comp=N,7414µm,0.3s						
KAVA	Kavala	0.92	22	P	Pb	10 21 20.4	-0.4
KAVA				S	Sb	10 21 33.3	+0.1
KAVA	Kavala	0.92	22	P	Pb	10 21 20.6	-0.2
KAVA				S	Sb	10 21 32.8	-0.4
EFSA	Agios Efstrati	0.94	130	P	Pn	10 21 23.2	+1.0
EFSA				S	Sn	10 21 36.9	+0.9
EFSA	Agios Efstrati	0.94	130	P	Pn	10 21 22.1	-0.1
EFSA				S	Sn	10 21 35.8	-0.1
THE	Thessaloniki	0.96	300	P	Pg	10 21 19.4	-1.6
THE				S	Sg	10 21 32.0	-1.5
THE				AML	AML	10 21 36.5	
	comp=E,2450µm,0.3s						
THE				AML	AML	10 21 38.6	
	comp=N,2468µm,0.6s						
THE	Thessaloniki	0.96	300	P	Pg	10 21 19.9	-1.1
THE	Thessaloniki	0.96	300	P	Pg	10 21 19.9	-1.1
THE				S	Sg	10 21 32.5	-1.0
ALNA	Alonissos	1.01	188	P	Pg	10 21 22.0	0.0
ALNA				S	Sn	10 21 37.1	-0.5
ALNA				AML	AML	10 21 38.1	
	comp=E,6210µm,0.8s						
ALNA				AML	AML	10 21 42.3	
	comp=N,5524µm,0.7s						
ALNA	Alonissos	1.01	188	P	Pg	10 21 21.9	-0.1
ALNA				S	Sb	10 21 36.6	+0.7
XOR	Xorichti	1.03	221	P	Pb	10 21 22.9	+0.2
XOR				S	Sb	10 21 36.7	+0.3
XOR				AML	AML	10 21 37.6	
	comp=E,3795µm,0.5s						
XOR				AML	AML	10 21 38.4	
	comp=N,8618µm,0.4s						
XOR	Xorichti	1.03	221	P	Pg	10 21 21.8	-0.5
XOR				S	Sb	10 21 36.3	-0.1
XOR	Xorichti	1.03	221	P	Pg	10 21 21.8	-0.5
XOR				S	Sb	10 21 36.3	-0.1
SRS	Serrai	1.03	340	P	Pb	10 21 22.6	-0.1
SRS				S	Sb	10 21 36.6	+0.2
SRS				AML	AML	10 21 38.1	
	comp=E,4828µm,0.5s						
SRS				AML	AML	10 21 42.9	
	comp=N,3017µm,0.4s						
SRS	Serrai	1.03	340	P	Pg	10 21 21.6	-0.7
SRS				S	Sb	10 21 35.9	-0.5
SRS	Serrai	1.03	340	P	Pg	10 21 21.9	-0.4
SRS				S	Sb	10 21 35.8	-0.6
NEO	Neokhori	1.06	217	P	Pn	10 21 23.8	-0.1
NEO				S	Sg	10 21 36.1	-0.5
NEO				AML	AML	10 21 37.3	
	comp=E,5113µm,0.4s						
NEO				AML	AML	10 21 39.0	
	comp=N,8615µm,0.6s						
NEO	Neokhori	1.06	217	P	Pg	10 21 23.0	+0.1
NEO				S	Sg	10 21 37.1	+0.5
NEO	Neokhori	1.06	217	P	Pg	10 21 23.0	+0.1
NEO				S	Sg	10 21 36.6	0.0
SKIA	Skiathos	1.08	205	P	Pb	10 21 23.8	+0.2
SKIA				S	Sb	10 21 38.2	+0.3
SKIA				AML	AML	10 21 39.0	
	comp=E,6056µm,0.5s						
SKIA				AML	AML	10 21 39.1	
	comp=N,8648µm,0.4s						
SKIA	Skiathos	1.08	205	P	Pg	10 21 23.1	-0.2
SKIA				S	Sg	10 21 37.8	+0.4
SKIA	Skiathos	1.08	205	P	Pg	10 21 23.1	-0.2
SKIA				S	Sg	10 21 37.8	+0.4
FYTO	Fytoko, Volos	1.13	230	P	Pg	10 21 24.1	-0.2
FYTO	Fytoko, Volos	1.13	230	P	Pg	10 21 23.9	-0.4
FYTO				S	Sg	10 21 39.1	+0.1
FYTO	Fytoko, Volos	1.13	230	P	Pg	10 21 23.9	-0.4
FYTO				S	Sg	10 21 39.1	+0.1
SMTH	Samothraki Isl	1.17	74	P	Pg	10 21 24.1	-1.0
SMTH				S	Sb	10 21 40.6	0.0
SMTH				AML	AML	10 21 44.2	
	comp=E,2180µm,0.5s						
SMTH				AML	AML	10 21 45.0	
	comp=N,1281µm,0.4s						
SMTH	Samothraki Isl	1.17	74	P	Pg	10 21 24.2	-0.9
SMTH	Samothraki Isl	1.17	74	P	Pg	10 21 24.5	-0.6
SMTH				S	Sb	10 21 41.1	+0.5
SKY	Skiros Island	1.33	163	P	Pn	10 21 27.2	-0.3
SKY				S	Sg	10 21 45.9	+0.7
SKY				AML	AML	10 21 49.4	
	comp=N,2014µm,0.5s						
SKY				AML	AML	10 21 49.7	
	comp=E,3356µm,0.5s						
SKY	Skiros Island	1.33	163	P	Pn	10 21 27.4	-0.1
SKY				S	Sg	10 21 46.0	+0.7
KNT	Kendrikon	1.34	319	PN	Pg	10 21 27.9	-0.4
KNT				SN	Sn	10 21 47.1	+1.3
KNT	Kendrikon	1.34	319	P	Pn	10 21 27.2	-0.5
KNT				S	Sb	10 21 43.8	-1.6
KNT				AML	AML	10 21 47.3	
	comp=E,2811µm,0.7s						
KNT				AML	AML	10 21 50.3	
	comp=N,3251µm,0.5s						
KNT	Kendrikon	1.34	319	P	Pn	10 21 26.5	-1.2
KNT				S	Sb	10 21 44.9	-0.5
KNT	Kendrikon	1.34	319	P	Pn	10 21 27.0	-0.7
KNT	Kendrikon	1.34	319	ePn	Pg	10 21 27.9	-0.4
KNT				S	Sb	10 21 44.9	-0.5
KNT				eSn	Sn	10 21 47.1	+1.3
GADA	Gvkgeada	1.42	88	PN	Pn	10 21 28.8	+0.1
GADA	Gvkgeada	1.42	88	P	Pn	10 21 28.4	-0.3
GADA	Gvkgeada	1.42	88	P	Pn	10 21 28.4	-0.3
GADA	Gvkgeada	1.42	88	ePn	Pn	10 21 28.8	+0.1
SMIA	Simia	1.43	207	P	Pn	10 21 28.9	-0.1
SMIA				S	Sn	10 21 46.4	-1.6
SMIA				AML	AML	10 21 49.5	
	comp=E,7623µm,0.5s						
SMIA				AML	AML	10 21 50.2	
	comp=N,9536µm,0.4s						
SMIA	Simia	1.43	207	P	Pn	10 21 28.6	-0.3
SMIA				S	Sn	10 21 47.5	-0.4
SMIA	Simia	1.43	207	P	Pn	10 21 28.8	-0.1
SMIA				S	Sn	10 21 47.2	-0.7
GRG	Griva	1.49	303	PN	Pb	10 21 30.1	-0.6
GRG	Griva	1.49	303	P	Pb	10 21 30.5	-0.2
GRG				S	Sg	10 21 50.8	+0.2
GRG				AML	AML	10 21 54.5	
	comp=N,2570µm,0.4s						
GRG				AML	AML	10 21 56.0	
	comp=E,2130µm,0.3s						
GRG	Griva	1.49	303	P	Pn	10 21 29.8	-0.1
GRG	Griva	1.49	303	ePn	Pb	10 21 30.1	-0.6
GRG				S	Sg	10 21 49.8	-0.8
RDO	Rodhopi	1.50	48	P	Pn	10 21 28.7	-1.3
RDO				S	Sn	10 21 48.3	-1.6
RDO				AML	AML	10 21 54.9	
	comp=N,1094µm,0.4s						
RDO				AML	AML	10 21 59.6	
	comp=E,1515µm,0.5s						
RDO	Rodhopi	1.50	48	P	Pn	10 21 29.5	-0.5
RDO	Rodhopi	1.50	48	P	Pn	10 21 29.2	-0.8

RDO				S	Sn	10 21 49.1	-0.7
BOZC	**Bozcaada**	**1.57**	**101**	PN	**Pn**	**10 21 31.1**	**+0.3**
BOZC	**Bozcaada**	**1.57**	**101**	*i* P	**Pn**	**10 21 30.7**	**-0.1**
BOZC	**Bozcaada**	**1.57**	**101**	*e*Pn	**Pn**	**10 21 31.1**	**+0.3**
VAY	**Valandovo**	**1.62**	**317**	⇑*i*Pn	**Pn**	**10 21 31.6**	**0.0**
	comp=E,30nm,0.7s						
VAY				*e*Sn	**Sb**	**10 21 53.2**	**-0.3**
	comp=E,222nm,0.5s						
VAY	**Valandovo**	**1.62**	**317**	⇑*i*Pn	**Pn**	**10 21 31.6**	**0.0**
	comp=E,30nm,0.7s						
VAY				*e*Sn	**Sb**	**10 21 53.2**	**-0.3**
	comp=E,222nm,0.5s						
VAY	**Valandovo**	**1.62**	**317**	*i* Pn	**Pn**	**10 21 31.7**	**0.0**
VAY				*i* Sn	**Sb**	**10 21 53.3**	**-0.2**
THL	**Klokotos Trika**	**1.68**	**250**	P	**Pn**	**10 21 31.6**	**-0.6**
THL				S	**Sn**	**10 21 53.2**	**-0.7**
THL				AML	AML	10 21 57.8	
	comp=E,644µm,0.8s						
THL				AML	AML	10 21 58.1	
	comp=N,845µm,0.8s						
THL	**Klokotos Trika**	**1.68**	**250**	P	**Pn**	**10 21 31.5**	**-0.8**
THL				S	**Sn**	**10 21 53.3**	**-0.7**
THL	**Klokotos Trika**	**1.68**	**250**	P	**Pn**	**10 21 31.7**	**-0.6**
THL				S	**Sn**	**10 21 53.4**	**-0.6**
SIGR	**SIGRI**	**1.68**	**123**	PN	**Pn**	**10 21 32.4**	**+0.1**
SIGR	**SIGRI**	**1.68**	**123**	P	**Pn**	**10 21 32.6**	**+0.3**
SIGR	**SIGRI**	**1.68**	**123**	P	**Pn**	**10 21 32.5**	**+0.1**
SIGR	**SIGRI**	**1.68**	**123**	P	**Pn**	**10 21 32.6**	**+0.3**
ALN	**Alexandroupoli**	**1.69**	**63**	PN	**Pn**	**10 21 33.1**	**+0.6**
ALN	**Alexandroupoli**	**1.69**	**63**	P	**Pn**	**10 21 31.3**	**-1.2**
ALN				S	**Sn**	**10 21 52.7**	**-1.7**
ALN				AML	AML	10 22 00.4	
	comp=N,1259µm,1.0s						
ALN				AML	AML	10 22 01.5	
	comp=E,1014µm,0.9s						
ALN	**Alexandroupoli**	**1.69**	**63**	P	**Pn**	**10 21 31.9**	**-0.6**
ALN	**Alexandroupoli**	**1.69**	**63**	P	**Pn**	**10 21 32.0**	**-0.6**
ALN				S	**Sn**	**10 21 53.8**	**-0.6**
ENEZ	**Enez**	**1.71**	**69**	PN	**Pn**	**10 21 33.1**	**+0.4**
ENEZ	**Enez**	**1.71**	**69**	P	**Pn**	**10 21 32.1**	**-0.6**
LKR	**Lokris**	**1.71**	**209**	P	**Pn**	**10 21 31.6**	**-1.1**
LKR	**Lokris**	**1.71**	**209**	P	**Pn**	**10 21 32.0**	**-0.7**
LKR	**Lokris**	**1.71**	**209**	P	**Pn**	**10 21 32.1**	**-0.7**
EREA	**Eretria**	**1.73**	**183**	P	**Pn**	**10 21 32.7**	**-0.4**
EREA				S	**Sn**	**10 21 55.0**	**-0.5**
EREA				AML	AML	10 22 02.9	
	comp=E,1290µm,0.6s						
EREA				AML	AML	10 22 03.1	
	comp=N,1362µm,0.4s						
EREA	**Eretria**	**1.73**	**183**	P	**Pn**	**10 21 32.8**	**-0.3**
EREA	**Eretria**	**1.73**	**183**	P	**Pn**	**10 21 32.9**	**-0.2**
EREA				S	**Sn**	**10 21 55.4**	**0.0**
AGG	**Agios Georgios**	**1.74**	**230**	PN	**Pn**	**10 21 33.2**	**-0.1**
AGG	**Agios Georgios**	**1.74**	**230**	P	**Pn**	**10 21 33.0**	**-0.2**
AGG				S	**Sn**	**10 21 53.4**	**-2.4**
AGG				AML	AML	10 22 00.6	
	comp=E,4818µm,0.5s						
AGG				AML	AML	10 22 08.7	
	comp=N,2824µm,0.9s						
AGG	**Agios Georgios**	**1.74**	**230**	P	**Pn**	**10 21 32.6**	**-0.7**
AGG				S	**Sn**	**10 21 55.4**	**-0.4**
AGG	**Agios Georgios**	**1.74**	**230**	*e*Pn	**Pn**	**10 21 33.2**	**-0.1**
AGG				S	**Sn**	**10 21 55.4**	**-0.4**
AXAR	**Agios Charalam**	**1.75**	**218**	P	**Pb**	**10 21 35.3**	**+0.3**
AXAR	**Agios Charalam**	**1.75**	**218**	P	**Pb**	**10 21 34.3**	**-0.8**
KZN	**Kozani**	**1.75**	**276**	P	**Pb**	**10 21 34.2**	**-0.9**
KZN	**Kozani**	**1.75**	**276**	P	**Pn**	**10 21 33.4**	**-0.1**
EZN	**Ezine**	**1.77**	**100**	PN	**Pn**	**10 21 34.3**	**+0.6**
GELI	**Tayfur-Gelibol**	**1.87**	**82**	PN	**Pn**	**10 21 35.4**	**+0.5**
PRK	**Paraskevi**	**1.94**	**117**	P	**Pn**	**10 21 34.8**	**-1.1**
PRK	**Paraskevi**	**1.94**	**117**	P	**Pn**	**10 21 36.3**	**+0.4**
PRK	**Paraskevi**	**1.94**	**117**	P	**Pn**	**10 21 35.5**	**-0.4**
ERIK	**Erikli-Kesan**	**1.95**	**74**	PN	**Pn**	**10 21 36.8**	**+0.8**
BAYC	**CANAKKALE_Bayr**	**1.96**	**101**	⇓*i*P	**Pn**	**10 21 36.5**	**+0.3**
BAYC	**CANAKKALE_Bayr**	**1.96**	**101**	P	**Pn**	**10 21 36.5**	**+0.3**
VIL2	**Platees**	**2.03**	**198**	P	**Pn**	**10 21 36.8**	**-0.4**
VIL2				S	**Sn**	**10 22 03.8**	**+1.0**
DLFA	**Delphi**	**2.06**	**216**	P	**Pn**	**10 21 36.5**	**-1.1**
DLFA	**Delphi**	**2.06**	**216**	P	**Pn**	**10 21 37.0**	**-0.6**
VILL	**Villia**	**2.06**	**196**	P	**Pn**	**10 21 37.4**	**-0.3**
VILL	**Villia**	**2.06**	**196**	P	**Pn**	**10 21 37.4**	**-0.3**
VILL				S	**Sn**	**10 22 03.8**	**+0.1**
KPRO	**Kipourio**	**2.07**	**265**	P	**Pn**	**10 21 38.5**	**+0.7**
KPRO	**Kipourio**	**2.07**	**265**	P	**Pn**	**10 21 37.9**	**0.0**
LPK	**Lapseki**	**2.08**	**83**	PN	**Pn**	**10 21 38.6**	**+0.7**
PROD	**Prodromos**	**2.09**	**206**	P	**Pn**	**10 21 37.2**	**-0.8**
PROD	**Prodromos**	**2.09**	**206**	P	**Pn**	**10 21 37.6**	**-0.4**
DSF	**Desfina**	**2.10**	**215**	P	**Pn**	**10 21 36.7**	**-1.5**
DSF	**Desfina**	**2.10**	**215**	P	**Pn**	**10 21 37.4**	**-0.8**
PTL	**Penteli**	**2.10**	**184**	P	**Pn**	**10 21 39.7**	**+1.5**
PTL	**Penteli**	**2.10**	**184**	P	**Pn**	**10 21 39.0**	**+0.8**
KESN	**Edirne-Kesan**	**2.11**	**71**	*i* P	**Pn**	**10 21 37.4**	**-1.3**
KESN	**Edirne-Kesan**	**2.11**	**71**	P	**Pn**	**10 21 37.4**	**-1.3**
EVR	**Evrytania**	**2.13**	**235**	P	**Pn**	**10 21 39.5**	**+0.9**
EVR				S	**Sn**	**10 22 03.1**	**-2.3**
EVR				AML	AML	10 22 07.7	
	comp=E,490µm,0.9s						
EVR				AML	AML	10 22 10.4	
	comp=N,542µm,0.9s						
EVR	**Evrytania**	**2.13**	**235**	P	**Pn**	**10 21 38.9**	**+0.3**
EVR				S	**Sn**	**10 22 03.9**	**-1.5**
KARY	**Karystos**	**2.14**	**172**	P	**Pn**	**10 21 38.3**	**-0.3**
KARY	**Karystos**	**2.14**	**172**	P	**Pn**	**10 21 38.6**	**0.0**
KARY	**Karystos**	**2.14**	**172**	P	**Pn**	**10 21 38.6**	**0.0**
FNA	**Florina**	**2.14**	**288**	PN	**Pn**	**10 21 38.7**	**0.0**
FNA	**Florina**	**2.14**	**288**	P	**Pn**	**10 21 39.8**	**+1.1**
FNA	**Florina**	**2.14**	**288**	P	**Pn**	**10 21 38.9**	**+0.2**
ATH	**Athens Observa**	**2.19**	**187**	P	**Pn**	**10 21 40.5**	**+1.2**
ATH				S	**Sn**	**10 22 04.9**	**-1.8**
ATH				AML	AML	10 22 16.4	
	comp=E,711µm,0.6s						
ATH				AML	AML	10 22 18.1	
	comp=N,727µm,0.9s						
ATH	**Athens Observa**	**2.19**	**187**	P	**Pn**	**10 21 40.1**	**+0.7**
ATH				S	**Sn**	**10 22 05.9**	**-0.8**
ATHU	**Athens Univers**	**2.19**	**186**	P	**Pn**	**10 21 40.2**	**+0.8**
ATHU	**Athens Univers**	**2.19**	**186**	P	**Pn**	**10 21 39.9**	**+0.5**
AYVA	**Ayvalik**	**2.20**	**112**	*i* P	**Pn**	**10 21 39.2**	**-0.3**
AYVA	**Ayvalik**	**2.20**	**112**	P	**Pn**	**10 21 39.2**	**-0.3**
PENT	**Pentalofos**	**2.23**	**272**	P	**Pn**	**10 21 40.4**	**+0.3**
PENT	**Pentalofos**	**2.23**	**272**	P	**Pn**	**10 21 40.0**	**-0.1**
ANX	**Ano Chora**	**2.27**	**227**	P	**Pn**	**10 21 41.1**	**+0.5**
ANX	**Ano Chora**	**2.27**	**227**	P	**Pn**	**10 21 40.7**	**+0.1**
LTK	**Loutraki**	**2.29**	**202**	P	**Pn**	**10 21 39.0**	**-1.8**
LTK				S	**Sn**	**10 22 08.2**	**-1.0**
LTK				AML	AML	10 22 10.7	
	comp=E,618µm,0.6s						
LTK				AML	AML	10 22 21.9	
	comp=N,515µm,0.7s						
LTK	**Loutraki**	**2.29**	**202**	P	**Pn**	**10 21 39.9**	**-0.8**
LTK				S	**Sn**	**10 22 08.6**	**-0.5**
KALE	**Kalithea**	**2.30**	**221**	P	**Pn**	**10 21 41.0**	**+0.1**
KALE	**Kalithea**	**2.30**	**221**	P	**Pn**	**10 21 40.9**	**-0.1**
VLY	**Voula,Athens**	**2.30**	**185**	P	**Pn**	**10 21 40.0**	**-0.9**
VLY	**Voula,Athens**	**2.30**	**185**	P	**Pn**	**10 21 40.7**	**-0.2**
VLY	**Voula,Athens**	**2.30**	**185**	P	**Pn**	**10 21 40.7**	**-0.2**
NEST	**Nestorio**	**2.31**	**278**	P	**Pn**	**10 21 42.5**	**+1.3**
NEST	**Nestorio**	**2.31**	**278**	P	**Pn**	**10 21 41.6**	**+0.4**
LOUT	**Loutraki**	**2.32**	**202**	P	**Pn**	**10 21 40.6**	**-0.6**
LOUT	**Loutraki**	**2.32**	**202**	P	**Pn**	**10 21 40.9**	**-0.2**
SERG	**Sergoula**	**2.33**	**222**	P	**Pn**	**10 21 42.3**	**+1.0**
SERG	**Sergoula**	**2.33**	**222**	P	**Pn**	**10 21 41.7**	**+0.4**
CHOS	**Chios island**	**2.35**	**138**	PN	**Pn**	**10 21 41.9**	**+0.3**
CHOS	**Chios island**	**2.35**	**138**	P	**Pn**	**10 21 41.6**	**-0.1**
CHOS	**Chios island**	**2.35**	**138**	*e*Pn	**Pn**	**10 21 41.9**	**+0.3**
TRIZ	**Trizonia**	**2.35**	**221**	P	**Pn**	**10 21 41.3**	**-0.3**
TRIZ	**Trizonia**	**2.35**	**221**	P	**Pn**	**10 21 41.5**	**-0.1**
THAL	**Thalero**	**2.37**	**208**	P	**Pn**	**10 21 40.4**	**-1.4**
THAL				S	**Sn**	**10 22 09.6**	**-1.6**
THAL	**Thalero**	**2.37**	**208**	P	**Pn**	**10 21 41.2**	**-0.7**
THAL				S	**Sn**	**10 22 10.3**	**-0.9**
EFP	**Efpalio**	**2.40**	**225**	P	**Pn**	**10 21 43.1**	**+0.9**
EFP	**Efpalio**	**2.40**	**225**	P	**Pn**	**10 21 42.6**	**+0.4**
RKY	**Sarkoy-Tekirda**	**2.44**	**76**	PN	**Pn**	**10 21 43.7**	**+0.8**
RKY	**Sarkoy-Tekirda**	**2.44**	**76**	*e*Pn	**Pn**	**10 21 43.7**	**+0.8**
DKL	**Dikili**	**2.45**	**115**	PN	**Pn**	**10 21 43.5**	**+0.5**
KRUS	**Krusevo**	**2.45**	**301**	*i* Pn	**Pn**	**10 21 43.3**	**+0.2**
PVO	**Paravola**	**2.49**	**233**	P	**Pn**	**10 21 43.4**	**-0.1**
PVO	**Paravola**	**2.49**	**233**	P	**Pn**	**10 21 43.4**	**-0.1**
KRBG	**Karabiga-Canak**	**2.49**	**83**	PN	**Pn**	**10 21 44.3**	**+0.8**
KRBG	**Karabiga-Canak**	**2.49**	**83**	*e*Pn	**Pn**	**10 21 44.3**	**+0.8**

DSL	**Palaion Diasel**	**2.50**	**247**	P	**Pn**	**10 21 45.4**	**+1.7**
DSL				S	**Sn**	**10 22 15.6**	**+1.2**
DSL				AML	AML	10 22 24.1	
	comp=N,927µm,0.5s						
DSL				AML	AML	10 22 27.2	
	comp=E,814µm,0.7s						
DSL	**Palaion Diasel**	**2.50**	**247**	P	**Pn**	**10 21 44.4**	**+0.7**
DSL				S	**Sn**	**10 22 14.6**	**+0.2**
VTS	**Vitosha**	**2.52**	**346**	⇓*i*Pn	**Pn**	**10 21 44.7**	**+0.6**
	comp=E,3.4nm,0.4s						
VTS				*e*Sn	**Sn**	**10 22 14.7**	**-0.4**
	comp=E,113nm,0.5s						
VTS	**Vitosha**	**2.52**	**346**	⇓*i*P	**Pn**	**10 21 45.0**	**+0.9**
VTS	**Vitosha**	**2.52**	**346**	⇓*i*Pn	**Pn**	**10 21 44.7**	**+0.6**
	comp=E,3.4nm,0.4s						
VTS	**Vitosha**	**2.52**	**346**	⇓*i*P	**Pn**	**10 21 45.0**	**+0.9**
VTS				*e*Sn	**Sn**	**10 22 14.7**	**-0.4**
	comp=E,113nm,0.5s						
VTS				S	**Sb**	**10 22 15.2**	**-4.3**
KLV	**Kalavryta, Ach**	**2.57**	**216**	P	**Pn**	**10 21 44.0**	**-0.7**
KLV				S	**Sn**	**10 22 16.2**	**-0.1**
KLV	**Kalavryta, Ach**	**2.57**	**216**	P	**Pn**	**10 21 44.6**	**-0.1**
KLV	**Kalavryta, Ach**	**2.57**	**216**	P	**Pn**	**10 21 44.6**	**-0.1**
KLV				S	**Sn**	**10 22 16.0**	**-0.3**
GUR	**Goura**	**2.58**	**212**	P	**Pn**	**10 21 44.3**	**-0.5**
GUR				S	**Sn**	**10 22 14.8**	**-1.7**
GUR				AML	AML	10 22 16.6	
	comp=N,1022µm,0.5s						
GUR				AML	AML	10 22 17.6	
	comp=E,1092µm,0.4s						
GUR	**Goura**	**2.58**	**212**	P	**Pn**	**10 21 44.6**	**-0.3**
GUR				S	**Sn**	**10 22 15.5**	**-1.0**
EDRB	**Edirne**	**2.65**	**49**	PN	**Pn**	**10 21 46.6**	**+0.9**
EDRB	**Edirne**	**2.65**	**49**	*e*Pn	**Pn**	**10 21 46.6**	**+0.9**
URLA	**Izmir**	**2.66**	**131**	PN	**Pn**	**10 21 46.4**	**+0.5**
URLA	**Izmir**	**2.66**	**131**	*i* P	**Pn**	**10 21 45.1**	**-0.8**
URLA	**Izmir**	**2.66**	**131**	P	**Pn**	**10 21 45.1**	**-0.8**
URLA	**Izmir**	**2.66**	**131**	*e*Pn	**Pn**	**10 21 46.4**	**+0.5**
SKO	**Skopje**	**2.69**	**313**	*e*Pn	**Pn**	**10 21 48.0**	**+1.8**
	comp=E,2.5nm,0.4s						
SKO	**Skopje**	**2.69**	**313**	*e*Pn	**Pn**	**10 21 48.0**	**+1.8**
	comp=E,2.5nm,0.4s						
SKO	**Skopje**	**2.69**	**313**	*e*Pn	**Pn**	**10 21 46.6**	**+0.4**
PDO	**Prodromos**	**2.71**	**236**	P	**Pn**	**10 21 48.7**	**+2.1**
PDO	**Prodromos**	**2.71**	**236**	P	**Pn**	**10 21 47.6**	**+1.1**
DID	**Didima**	**2.72**	**194**	P	**Pn**	**10 21 45.5**	**-1.1**
DID	**Didima**	**2.72**	**194**	P	**Pn**	**10 21 46.2**	**-0.4**
BALY	**Balya**	**2.77**	**97**	*i* P	**Pn**	**10 21 46.7**	**-0.7**
BALY	**Balya**	**2.77**	**97**	P	**Pn**	**10 21 46.7**	**-0.7**
KRND	**KRANIDI**	**2.85**	**195**	P	**Pn**	**10 21 47.5**	**-1.0**
KRND	**KRANIDI**	**2.85**	**195**	P	**Pn**	**10 21 48.2**	**-0.3**
DRO	**Drossia**	**2.85**	**220**	P	**Pn**	**10 21 49.9**	**+1.3**
DRO	**Drossia**	**2.85**	**220**	P	**Pn**	**10 21 49.3**	**+0.8**
LKD2	**Lefkada island**	**2.96**	**244**	P	**Pn**	**10 21 51.4**	**+1.4**
LKD2	**Lefkada island**	**2.96**	**244**	P	**Pn**	**10 21 50.7**	**+0.7**
TRIP	**Tripoli**	**2.96**	**209**	P	**Pn**	**10 21 50.5**	**+0.4**
TRIP	**Tripoli**	**2.96**	**209**	P	**Pn**	**10 21 50.4**	**+0.3**
BALB	**Balikesir**	**2.99**	**99**	PN	**Pn**	**10 21 51.3**	**+1.0**
BALB	**Balikesir**	**2.99**	**99**	*e*Pn	**Pn**	**10 21 51.3**	**+1.0**
PHSR	**Pinarhisar**	**3.02**	**60**	PN	**Pn**	**10 21 51.7**	**+0.9**
PHSR	**Pinarhisar**	**3.02**	**60**	*e*Pn	**Pn**	**10 21 51.7**	**+0.9**
VLX	**Vlachokerasia**	**3.07**	**206**	P	**Pn**	**10 21 53.1**	**+1.6**
VLX	**Vlachokerasia**	**3.07**	**206**	P	**Pn**	**10 21 52.5**	**+0.9**
SBT3	**Marmara-Eregli**	**3.08**	**75**	PN	**Pn**	**10 21 52.5**	**+1.1**
SBT3	**Marmara-Eregli**	**3.08**	**75**	*e*Pn	**Pn**	**10 21 52.5**	**+1.1**
BARS	**Barje**	**3.15**	**328**	*e*Pn	**Pn**	**10 21 52.9**	**+0.3**
	comp=E,12nm,0.2s						
BARS	**Barje**	**3.15**	**328**	*e*Pn	**Pn**	**10 21 52.9**	**+0.3**
	comp=E,12nm,0.2s						
FSK	**Fiskardo**	**3.19**	**239**	P	**Pn**	**10 21 52.1**	**-1.0**
KFL	**Anninata**	**3.26**	**232**	P	**Pn**	**10 21 56.1**	**+2.1**
KFL	**Anninata**	**3.26**	**232**	P	**Pn**	**10 21 55.2**	**+1.2**
APE	**Apeiranthos**	**3.29**	**159**	⇑*i*P	**Pn**	**10 21 55.1**	**+0.6**
APE	**Apeiranthos**	**3.29**	**159**	P	**Pn**	**10 21 54.0**	**-0.5**
APE	**Apeiranthos**	**3.29**	**159**	P	**Pn**	**10 21 54.6**	**+0.1**
ZAPS	**Zavoj**	**3.30**	**342**	*e*Pn	**Pn**	**10 21 55.6**	**+1.0**
	comp=E,1.4nm,0.6s						
MES3	**Kyparissia**	**3.44**	**213**	P	**Pn**	**10 21 59.0**	**+2.4**
MES3	**Kyparissia**	**3.44**	**213**	P	**Pn**	**10 21 58.0**	**+1.4**
VLI	**Veliai**	**3.54**	**195**	P	**Pn**	**10 21 56.6**	**-1.3**
VLI	**Veliai**	**3.54**	**195**	P	**Pn**	**10 21 57.5**	**-0.4**
CTKS	**Kestanelik-??a**	**3.56**	**71**	PN	**Pn**	**10 21 59.6**	**+1.5**
CTKS	**Kestanelik-??a**	**3.56**	**71**	*i* Pn	**Pn**	**10 21 59.6**	**+1.5**
DYR	**Agios Nikonas**	**3.64**	**202**	P	**Pn**	**10 22 01.2**	**+1.8**
DYR	**Agios Nikonas**	**3.64**	**202**	P	**Pn**	**10 22 00.6**	**+1.2**
ARMT	**Armutlu**	**3.70**	**82**	PN	**Pn**	**10 22 01.6**	**+1.5**
ARMT	**Armutlu**	**3.70**	**82**	*i* Pn	**Pn**	**10 22 01.6**	**+1.5**
PYL	**PYLOS**	**3.72**	**210**	P	**Pn**	**10 22 00.1**	**-0.3**
PYL	**PYLOS**	**3.72**	**210**	P	**Pn**	**10 22 00.5**	**+0.1**
SELS	**Selova**	**3.77**	**325**	⇑*i*Pn	**Pn**	**10 22 00.9**	**-0.3**
	comp=E,2.0nm,0.6s						
BOVS	**Bovan**	**3.90**	**334**	*e*Pn	**Pn**	**10 22 02.9**	**0.0**
	comp=E,0.8nm,0.5s						
BOVS	**Bovan**	**3.90**	**334**	*e*Pn	**Pn**	**10 22 02.9**	**0.0**
	comp=E,0.8nm,0.5s						
ZAGS	**Zajecar**	**3.90**	**340**	*e*Pn	**Pn**	**10 22 02.5**	**-0.4**
	comp=E,0.8nm,0.9s						
ZAGS	**Zajecar**	**3.90**	**340**	*e*Pn	**Pn**	**10 22 02.5**	**-0.4**
	comp=E,0.8nm,0.9s						
ULC	**Ulcinj**	**4.06**	**298**	*e*Pn	**Pn**	**10 22 05.9**	**+0.8**
ULC				*e*Sn	**Sn**	**10 22 55.9**	**+2.9**
ULC	**Ulcinj**	**4.06**	**298**	*e*Pn	**Pn**	**10 22 05.9**	**+0.8**
ULC				*e*Sn	**Sn**	**10 22 55.9**	**+2.9**
BEY	**Berane**	**4.14**	**312**	⇓*i*Pn	**Pn**	**10 22 07.5**	**+1.2**
BEY				*e*Sn	**Sn**	**10 22 57.7**	**+2.7**
IVA	**Berane**	**4.14**	**312**	⇓*i*Pn	**Pn**	**10 22 07.5**	**+1.2**
IVA				*e*Sn	**Sn**	**10 22 57.7**	**+2.7**
DRME	**Dracevica, Mon**	**4.20**	**301**	*e*Pn	**Pn**	**10 22 08.3**	**+1.3**
DRME				*e*Sn	**Sn**	**10 22 59.4**	**+3.1**
DRME	**Dracevica, Mon**	**4.20**	**301**	*e*Pn	**Pn**	**10 22 08.3**	**+1.3**
DRME				*e*Sn	**Sn**	**10 22 59.4**	**+3.1**
TVSB	**Tavsanli**	**4.22**	**98**	PN	**Pn**	**10 22 09.0**	**+1.6**
TVSB	**Tavsanli**	**4.22**	**98**	*e*Pn	**Pn**	**10 22 09.0**	**+1.6**
PDG	**Podgorica**	**4.27**	**304**	⇓*i*P	**Pn**	**10 22 11.7**	**+3.7**
PDG	**Podgorica**	**4.27**	**304**	⇓*i*Pn	**Pn**	**10 22 09.7**	**+1.7**
PDG	**Podgorica**	**4.27**	**304**	⇓*i*P	**Pn**	**10 22 11.7**	**+3.7**
PDG				*e*Sn	**Sn**	**10 23 00.8**	**+2.7**
TTG	**Podgorica**	**4.27**	**304**	⇓*i*Pn	**Pn**	**10 22 09.7**	**+1.7**
TTG				*e*Sn	**Sn**	**10 23 00.8**	**+2.7**
KOME	**Kolasin**	**4.35**	**310**	*e*Pn	**Pn**	**10 22 10.3**	**+1.2**
KOME				*e*Sn	**Sn**	**10 23 02.7**	**+2.6**
KOME	**Kolasin**	**4.35**	**310**	*e*Pn	**Pn**	**10 22 10.3**	**+1.2**
KOME				*e*Sn	**Sn**	**10 23 02.7**	**+2.6**
SJES	**Sjenica**	**4.36**	**317**	*e*Pn	**Pn**	**10 22 10.3**	**+1.0**
	comp=E,3.9nm,0.4s						
GRUS	**Gruza**	**4.49**	**327**	⇑*i*Pn	**Pn**	**10 22 11.0**	**0.0**
	comp=E,8.7nm,0.3s						
GRUS	**Gruza**	**4.49**	**327**	⇑*i*Pn	**Pn**	**10 22 11.0**	**0.0**
	comp=E,8.7nm,0.3s						
IVAS	**Ivanjica**	**4.50**	**321**	*e*Pn	**Pn**	**10 22 11.2**	**+0.1**
	comp=E,1.4nm,0.8s						
IVAS	**Ivanjica**	**4.50**	**321**	*e*Pn	**Pn**	**10 22 11.2**	**+0.1**
	comp=E,1.4nm,0.8s						
CEME	**Cevo**	**4.55**	**303**	⇓*i*Pn	**Pn**	**10 22 13.3**	**+1.5**
CEME				*e*Sn	**Sn**	**10 23 06.6**	**+1.6**
CEME	**Cevo**	**4.55**	**303**	⇓*i*Pn	**Pn**	**10 22 13.3**	**+1.5**
CEME				*e*Sn	**Sn**	**10 23 06.6**	**+1.6**
KUBS	**Kucevo**	**4.61**	**338**	*e*Pn	**Pn**	**10 22 11.1**	**-1.6**
	comp=E,0.7nm,0.4s						
KUBS	**Kucevo**	**4.61**	**338**	*e*Pn	**Pn**	**10 22 11.1**	**-1.6**
	comp=E,0.7nm,0.4s						
TRUS	**Trudelj**	**4.89**	**328**	*e*Pn	**Pn**	**10 22 16.3**	**-0.2**
	comp=E,0.6nm,0.7s						
TRUS	**Trudelj**	**4.89**	**328**	*e*Pn	**Pn**	**10 22 16.3**	**-0.2**
	comp=E,0.6nm,0.7s						
DIVS	**Divibare**	**4.97**	**324**	⇑*i*Pn	**Pn**	**10 22 17.6**	**0.0**
	comp=E,6.1nm,0.6s						
DIVS	**Divibare**	**4.97**	**324**	⇑*i*Pn	**Pn**	**10 22 17.6**	**0.0**
	comp=E,6.1nm,0.6s						
BBLS	**Lazići**	**5.08**	**319**	*e*Pn	**Pn**	**10 22 19.9**	**+0.8**
	comp=E,18nm,0.8s						
BBLS	**Lazići**	**5.08**	**319**	*e*Pn	**Pn**	**10 22 19.9**	**+0.8**
	comp=E,18nm,0.8s						
TLB	**Topalu**	**5.33**	**32**	⇑*i*P	**Pn**	**10 22 23.0**	**+0.5**
TLB	**Topalu**	**5.33**	**32**	⇑*i*P	**Pn**	**10 22 23.0**	**+0.5**
VOIR		**5.33**	**8**	⇓*i*P	**Pn**	**10 22 23.6**	**+0.9**
VOIR		**5.33**	**8**	⇓*i*P	**Pn**	**10 22 23.6**	**+0.9**
TIRR	**Tirgusor**	**5.38**	**35**	⇓*i*P	**Pn**	**10 22 24.5**	**+1.3**
TIRR	**Tirgusor**	**5.38**	**35**	⇓*i*P	**Pn**	**10 22 24.5**	**+1.3**
HAPS	**Han Pijesak,BI**	**5.46**	**318**	*e*Pn	**Pn**	**10 22 24.6**	**+0.1**
	comp=E,1.1nm,0.2s						
HAPS	**Han Pijesak,BI**	**5.46**	**318**	*e*Pn	**Pn**	**10 22 24.6**	**+0.1**
	comp=E,1.1nm,0.2s						

MLR	**Muntele Rosu**	**5.52**	**14**	⇑*i*P	**Pn**	**10 22 26.5**	**+1.3**
MLR	**Muntele Rosu**	**5.52**	**14**	⇑*i*P	**Pn**	**10 22 26.5**	**+1.3**
BZS	**Buzias**	**5.75**	**343**	*e*Pn	**Pn**	**10 22 27.3**	**-1.0**
	comp=E,2.0nm,0.8s						
BZS	**Buzias**	**5.75**	**343**	*e*Pn	**Pn**	**10 22 27.3**	**-1.0**
	comp=E,2.0nm,0.8s						
VRI	**Vrincioaia**	**6.04**	**18**	⇑*i*P	**Pn**	**10 22 34.0**	**+1.7**
VRI	**Vrincioaia**	**6.04**	**18**	⇑*i*P	**Pn**	**10 22 34.0**	**+1.7**
DRGR		**6.71**	**352**	⇓*i*P	**Pn**	**10 22 43.3**	**+1.8**
DRGR		**6.71**	**352**	⇓*i*P	**Pn**	**10 22 43.3**	**+1.8**
BLY	**Banja Luka**	**6.85**	**314**	⇓*i*P	**Pn**	**10 22 45.4**	**+2.0**
BLY	**Banja Luka**	**6.85**	**314**	⇓*i*P	**Pn**	**10 22 45.4**	**+2.0**
BURAR	**Bucovina Array**	**7.51**	**6**	⇑*i*P	**Pn**	**10 22 53.4**	**+0.9**
BURAR	**Bucovina Array**	**7.51**	**6**	⇑*i*P	**Pn**	**10 22 53.4**	**+0.9**

ATA ***04*** *10:37:19.2±1.4, 38.76N×43.66E, h7km±84km, ML2.9, MW2.9*
ISCJB ***04*** *10:37:20.7±1.3, 38.69N±0.06×43.6E±0.1, h31km±5km, Error ellipse: s-maj=18.1km s-min=6.2km az=31.2*
DDA ***04*** *10:37:21.3, 38.72N×43.48E, h7km, Ml2.5*
CSEM ***04*** *10:37:21.4±0.3, 38.77N×43.40E, h10km, ML2.4, Error ellipse: s-maj=8.7km s-min=6.2km az=106.0*
ISK ***04*** *10:37:21.3, 38.78N×43.45E, h16km, ML2.4/4*
ISC 04 10:37:20.9±1.4**, 38.69N**±0.05×**43.63E**±0.07**, h25**km±7km**,**
n25, σ1.39/38**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.21**	**244**	PG	**Pb**	**10 37 26.6**	**-0.3**
VANB				SG	**Sb**	**10 37 32.6**	**+1.7**
VANB	**Van**	**0.21**	**244**	*e*Pg	**Pb**	**10 37 26.6**	**-0.3**
VANB				*e*Sg	**Sb**	**10 37 32.6**	**+1.7**
TVAN	**Van**	**0.24**	**228**	*i* P	**Pb**	**10 37 26.3**	**-1.0**
TVAN	**Van**	**0.24**	**228**	P	**Pb**	**10 37 26.3**	**-1.0**
VMUR	**Van-Muradiye**	**0.31**	**352**	*i* P	**Pb**	**10 37 27.3**	**-0.9**
VMUR				*i* S	**Sb**	**10 37 32.9**	**-0.3**
VMUR	**Van-Muradiye**	**0.31**	**352**	P	**Pb**	**10 37 27.3**	**-0.9**
VMUR				S	**Sb**	**10 37 32.9**	**-0.3**
CLDR	**Caldiran**	**0.51**	**26**	PG	**Pb**	**10 37 31.4**	**-0.1**
CLDR				SG	**Sb**	**10 37 40.1**	**+1.4**
CLDR	**Caldiran**	**0.51**	**26**	*i* P	**Pb**	**10 37 31.2**	**-0.3**
CLDR				*i* S	**Sb**	**10 37 40.0**	**+1.4**
CLDR	**Caldiran**	**0.51**	**26**	*e*Pg	**Pb**	**10 37 31.4**	**-0.1**
CLDR				S	**Sb**	**10 37 40.0**	**+1.4**
GEVA	**Gevas**	**0.58**	**230**	*e*P	**Pb**	**10 37 32.0**	**-0.7**
GEVA				*e*S	**Sb**	**10 37 42.2**	**+1.5**
GEVA				IAML		10 37 43.7	
	comp=Z,34nm,0.5s						
GEVA	**Gevas**	**0.58**	**230**	*i* P	**Pb**	**10 37 31.7**	**-1.0**
GEVA	**Gevas**	**0.58**	**230**	P	**Pb**	**10 37 31.7**	**-1.0**
TUTA	**Tutak**	**0.96**	**319**	*e*P	**Pn**	**10 37 37.6**	**-1.4**
TUTA				*e*S	**Sn**	**10 37 50.9**	**-1.0**
TUTA				IAML		10 37 53.3	
	comp=Z,33nm,0.4s						
TUTA	**Tutak**	**0.96**	**319**	*i* P	**Pn**	**10 37 37.5**	**-1.4**
TUTA				*i* S	**Sn**	**10 37 50.6**	**-1.3**
TUTA	**Tutak**	**0.96**	**319**	P	**Pn**	**10 37 37.5**	**-1.4**
TUTA				S	**Sn**	**10 37 50.6**	**-1.3**
AGRB	**Hanur-Agry**	**1.02**	**331**	PG	**Pn**	**10 37 39.2**	**-0.6**
AGRB	**Hanur-Agry**	**1.02**	**331**	*e*Pg	**Pn**	**10 37 39.2**	**-0.6**
GURO	**Guroymak-BITLI**	**1.26**	**264**	PN	**Pn**	**10 37 42.9**	**-0.2**
GURO	**Guroymak-BITLI**	**1.26**	**264**	*e*Pn	**Pn**	**10 37 42.9**	**-0.2**
EKAR	**Karacoban**	**1.35**	**295**	*e*P	**Pn**	**10 37 44.5**	**+0.1**
EKAR				*e*S	**Sb**	**10 38 06.0**	**+3.5**
EKAR				IAML		10 38 15.7	
	comp=Z,7.4nm,0.6s						
EKAR	**Karacoban**	**1.35**	**295**	*i* P	**Pn**	**10 37 42.4**	**-2.0**
EKAR	**Karacoban**	**1.35**	**295**	P	**Pn**	**10 37 42.4**	**-2.0**
EATA	**Eleskirt**	**1.47**	**323**	*e*P	**Pn**	**10 37 47.7**	**+1.6**
EATA				*e*S	**Sn**	**10 38 08.0**	**+3.3**
EATA	**Eleskirt**	**1.47**	**323**	*i* P	**Pn**	**10 37 46.0**	**-0.2**
EATA	**Eleskirt**	**1.47**	**323**	P	**Pn**	**10 37 46.0**	**-0.2**

ISCJB ***04*** *10:40:48.4±0.2, 23.85N±0.01×121.68E±0.01, h48km±3km, Error ellipse: s-maj=2.7km s-min=1.9km az=141.0*
JMA ***04*** *10:40:48.0±0.1, 23.83N×121.62E, h41km±1km, M3.2*
TAP ***04*** *10:40:48.4, 23.85N×121.62E, h48km, ML3.7, B*
ISC 04 10:40:49.0±1.2**, 23.85N**±0.02×**121.66E**±0.02**, h43**km±5km**,**
n108, σ0.93/171**, 4C-14D, Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENLB	**Shoufeng**	**0.07**	**315**	⇓P	**Pn**	**10 40 56.2**	**+0.3**
	baz=334						
ENLB				S	**Sn**	**10 41 02.7**	**+2.0**
	baz=334						
HWA	**Hwalien**	**0.13**	**339**	*e*P	**Pn**	**10 40 56.6**	**+0.4**
	baz=352						
HWA				*e*S	**Sn**	**10 41 03.0**	**+1.9**
	baz=352						
ESL	**Shilin**	**0.21**	**259**	⇓*i*P	**Pn**	**10 40 56.1**	**-0.6**
	baz=264						
ESL				*e*S	**Sn**	**10 41 01.1**	**-0.9**
	baz=264						
TWD	**Chiawan**	**0.23**	**346**	⇓*i*P	**Pn**	**10 40 56.7**	**-0.2**
	baz=347						
TWD				S	**Sn**	**10 41 02.5**	**+0.1**
	baz=347						
NACB	**Ninganchiao**	**0.32**	**350**	⇓P	**Pn**	**10 40 57.2**	**-0.6**
	baz=344						
NACB				S	**Sn**	**10 41 03.3**	**-0.6**
	baz=344						
HGSD	**Ruisui**	**0.42**	**211**	*e*P	**Pn**	**10 40 59.0**	**+0.2**
	baz=216						
HGSD				*e*S	**Sn**	**10 41 07.4**	**+1.6**
	baz=216						
OWD	**Renai**	**0.45**	**283**	*e*P	**Pn**	**10 40 59.0**	**-0.3**
	baz=288						
OWD				*e*S	**Sn**	**10 41 06.2**	**-0.5**
	baz=288						
WHF	**Hehuan Shan**	**0.46**	**309**	⇓*i*P	**Pn**	**10 40 59.2**	**-0.6**
	baz=309						
WHF				S	**Sn**	**10 41 06.6**	**-0.7**
	baz=309						
EHY	**Hungye**	**0.46**	**222**	*e*P	**Pn**	**10 40 58.1**	**-1.3**
	baz=224						
CHGB	**Renai**	**0.49**	**295**	⇓P	**Pn**	**10 40 59.7**	**-0.2**
	baz=297						
CHGB				S	**Sn**	**10 41 07.3**	**-0.3**
	baz=297						
YULB	**Yu-li**	**0.56**	**216**	*e*P	**Pn**	**10 40 59.3**	**-1.4**
	baz=218						
ENA	**Nanau**	**0.58**	**8**	⇓P	**Pn**	**10 41 00.4**	**-0.5**
	baz=3.0						
NANB	**Nanao**	**0.58**	**9**	⇓P	**Pn**	**10 41 00.4**	**-0.5**
	baz=2.0						
NANB				*e*S	**Sn**	**10 41 08.9**	**-0.5**
	baz=2.0						
TWT	**Tachien**	**0.59**	**312**	⇓P	**Pn**	**10 41 01.3**	**0.0**
	baz=313						
TWT				S	**Sn**	**10 41 09.7**	**-0.3**
	baz=313						
TWF1	**Yuli**	**0.60**	**213**	*e*P	**Pn**	**10 40 59.9**	**-1.3**
	baz=217						
TDCB	**Techi**	**0.60**	**311**	⇓P	**Pn**	**10 41 01.3**	**-0.1**
	baz=313						
TDCB				S	**Sn**	**10 41 09.7**	**-0.5**
	baz=313						
ENAH	**Nanao**	**0.61**	**13**	*e*P	**Pn**	**10 41 00.8**	**-0.5**
	baz=15						
NNSB	**Datong**	**0.62**	**337**	⇓P	**Pn**	**10 41 01.2**	**-0.5**
	baz=341						
NNSB				S	**Sn**	**10 41 09.9**	**-0.7**
	baz=341						
NNSH	**Datong**	**0.62**	**337**	*e*P	**Pn**	**10 41 01.1**	**-0.5**
	baz=341						
NNSH				*e*S	**Sn**	**10 41 09.8**	**-0.8**
	baz=341						
NNS	**Nan Shan**	**0.64**	**336**	⇓P	**Pn**	**10 41 01.4**	**-0.5**
	baz=341						
NNS				*e*S	**Sn**	**10 41 10.1**	**-0.9**
	baz=341						
SSLB	**Suanglung**	**0.65**	**264**	⇑P	**Pn**	**10 41 01.3**	**-0.5**
	baz=265						
SSLB				*e*S	**Sn**	**10 41 10.1**	**-1.0**
	baz=265						
DPDB	**Guoxing**	**0.69**	**285**	*e*P	**Pn**	**10 41 02.0**	**-0.4**
	baz=284						
SMLT	**Sun Moon Lake**	**0.69**	**273**	*e*P	**Pn**	**10 41 02.2**	**-0.3**
	baz=273						
SMLT				S	**Sn**	**10 41 11.7**	**-0.5**
	baz=273						

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
FULB	**Fuli**	**0.73**	**207**	*e*P	**Pn**	**10 41 01.8**	**-1.1**
	baz=214						
TYC	**Yuchr**	**0.73**	**274**	*e*P	**Pn**	**10 41 02.7**	**-0.2**
	baz=277						
TYC				*e*S	**Sn**	**10 41 12.4**	**-0.6**
	baz=277						
YUS	**Yu-Shan**	**0.74**	**241**	*e*P	**Pn**	**10 41 03.3**	**-0.2**
	baz=240						
TWC	**Suao**	**0.77**	**13**	*e*P	**Pn**	**10 41 03.5**	**0.0**
	baz=4.0						
TWC				*e*S	**Sn**	**10 41 15.2**	**+1.2**
	baz=4.0						
ENTT	**Nioudou**	**0.79**	**354**	⇓*i*P	**Pn**	**10 41 03.2**	**-0.5**
	baz=355						
ENTT				*e*S	**Sn**	**10 41 13.3**	**-1.1**
	baz=355						
CHKT	**Chengkung**	**0.80**	**200**	*e*P	**Pn**	**10 41 03.1**	**-0.7**
	baz=198						
CHKT				*e*S	**Sn**	**10 41 14.0**	**-0.5**
	baz=198						
EOS1	**EOS1**	**0.82**	**32**	*e*P	**Pn**	**10 41 04.8**	**+0.7**
	baz=45						
WJS	**Zhushan**	**0.85**	**268**	*e*P	**Pn**	**10 41 05.0**	**+0.4**
	baz=269						
WJS				*e*S	**Sn**	**10 41 17.0**	**+1.1**
	baz=269						
YHNB	**Yeheng**	**0.85**	**343**	⇓P	**Pn**	**10 41 04.5**	**-0.1**
	baz=349						
YHNB				S	**Sn**	**10 41 15.4**	**-0.7**
	baz=349						
TWE	**Neicheng**	**0.86**	**1**	*e*P	**Pn**	**10 41 04.3**	**-0.5**
	baz=356						
ELDTW	**Lidau**	**0.88**	**222**	*e*P	**Pn**	**10 41 03.8**	**-1.3**
	baz=217						
WNT	**Mingjian**	**0.89**	**272**	*e*P	**Pn**	**10 41 05.5**	**+0.5**
	baz=272						
WNT				*e*S	**Sn**	**10 41 18.0**	**+1.2**
	baz=272						
ILA	**Ilan**	**0.91**	**5**	*e*P	**Pn**	**10 41 06.6**	**+1.2**
	baz=359						
NWLT	**Wulai**	**0.93**	**351**	*e*P	**Pn**	**10 41 05.4**	**-0.3**
	baz=360						
CHN5	**Tsauling**	**0.93**	**254**	*e*P	**Pn**	**10 41 05.7**	**-0.1**
	baz=255						
CHN5				*e*S	**Sn**	**10 41 18.6**	**+0.6**
	baz=255						
TCU	**Taichung**	**0.94**	**288**	*e*P	**Pn**	**10 41 06.3**	**+0.5**
	baz=289						
TCU				*e*S	**Sn**	**10 41 20.3**	**+2.2**
	baz=289						
TWQ1	**Liyutan**	**0.94**	**302**	⇑*i*P	**Pn**	**10 41 06.1**	**+0.2**
	baz=303						
TWQ1				S	**Sn**	**10 41 19.0**	**+0.8**
	baz=303						
NSTT	**Nanjuang**	**0.98**	**322**	*e*P	**Pn**	**10 41 06.7**	**+0.4**
	baz=312						
NSTT				*e*S	**Sn**	**10 41 19.5**	**+0.5**
	baz=312						
LIOB	**Emei**	**0.98**	**324**	⇑*i*P	**Pn**	**10 41 06.9**	**+0.5**
	baz=313						
LIOB				*e*S	**Sn**	**10 41 20.1**	**+1.0**
	baz=313						
NSY	**Sanyi**	**0.99**	**305**	⇑P	**Pn**	**10 41 06.9**	**+0.4**
	baz=306						
NSY				*e*S	**Sn**	**10 41 20.6**	**+1.3**
	baz=306						
WGK	**Gukeng**	**1.01**	**261**	*e*P	**Pn**	**10 41 07.3**	**+0.5**
	baz=261						
WGK				*e*S	**Sn**	**10 41 21.5**	**+1.6**
	baz=261						
EGS		**1.02**	**14**	*e*P	**Pn**	**10 41 07.6**	**+0.7**
	baz=15						
WCHH	**Zhanghua**	**1.03**	**283**	*e*P	**Pn**	**10 41 07.4**	**+0.5**
	baz=295						
WCHH				*e*S	**Sn**	**10 41 22.2**	**+2.0**
	baz=295						
NMLH	**Miaoli**	**1.04**	**311**	*e*P	**Pn**	**10 41 07.5**	**+0.3**
	baz=312						
NMLH				*e*S	**Sn**	**10 41 21.6**	**+1.0**
	baz=312						
WLTB	**Daxi**	**1.06**	**340**	*e*P	**Pn**	**10 41 08.3**	**+0.9**
	baz=344						
WLTB				*e*S	**Sn**	**10 41 22.5**	**+1.5**
	baz=344						
STYT	**Tauyuan**	**1.07**	**230**	*e*P	**Pn**	**10 41 07.7**	**+0.1**
	baz=223						
TPUB	**Ta-pu**	**1.09**	**240**	*e*P	**Pn**	**10 41 07.8**	**0.0**
	baz=240						
TPUB				*e*S	**Sn**	**10 41 22.7**	**+0.9**
	baz=240						
CHN4	**Tsaushan**	**1.09**	**243**	*e*P	**Pn**	**10 41 08.4**	**+0.5**
	baz=236						
CHN4				*e*S	**Sn**	**10 41 23.1**	**+1.2**
	baz=236						
SBCB	**Hsinchu**	**1.12**	**327**	*e*P	**Pn**	**10 41 08.6**	**+0.4**
	baz=328						
TIPB	**Shuangxi**	**1.12**	**8**	*e*P	**Pn**	**10 41 07.4**	**-0.9**
	baz=359						
TIPB				*e*S	**Sn**	**10 41 22.6**	**0.0**
	baz=359						
TWA	**Mucha**	**1.12**	**357**	*e*P	**Pn**	**10 41 08.1**	**-0.2**
	baz=8.0						
TATO	**Taipei**	**1.13**	**352**	*e*P	**Pn**	**10 41 08.3**	**-0.1**
	baz=360						
TATO				*e*S	**Sn**	**10 41 22.6**	**0.0**
	baz=360						
CHN2	**Minshiung**	**1.13**	**254**	*e*P	**Pn**	**10 41 08.3**	**0.0**
	baz=254						
WTP	**Ta-pu**	**1.13**	**238**	*e*P	**Pn**	**10 41 08.3**	**-0.1**
	baz=237						
HSN	**Hsinchu**	**1.13**	**327**	*e*P	**Pn**	**10 41 08.7**	**+0.3**
	baz=329						
HSN				*e*S	**Sn**	**10 41 24.4**	**+1.6**
	baz=329						
TWH	**Lutao**	**1.15**	**188**	*e*P	**Pn**	**10 41 07.3**	**-1.3**
	baz=181						
TWGBT	**Beinan**	**1.16**	**207**	*e*P	**Pn**	**10 41 06.3**	**-2.5**
	baz=198						
TWG	**Pinlang**	**1.16**	**208**	*e*P	**Pn**	**10 41 06.6**	**-2.2**
	baz=198						
CHY	**Chiayi**	**1.18**	**253**	*e*P	**Pn**	**10 41 09.3**	**+0.2**
	baz=252						
RLNB	**Erlin**	**1.19**	**272**	P	**Pn**	**10 41 09.4**	**+0.3**
	baz=283						
RLNB				S	**Sn**	**10 41 25.8**	**+1.7**
	baz=283						
NCUH	**Zhongli**	**1.19**	**339**	*e*P	**Pn**	**10 41 09.3**	**+0.1**
	baz=339						
TWB1	**Santiao Chiao**	**1.19**	**15**	*e*P	**Pn**	**10 41 09.2**	**0.0**
	baz=26						
NCU	**National Centr**	**1.19**	**339**	*e*P	**Pn**	**10 41 09.7**	**+0.5**
	baz=339						
NCU				*e*S	**Sn**	**10 41 25.6**	**+1.3**
	baz=339						
TWK	**Hsinying**	**1.22**	**242**	*e*P	**Pn**	**10 41 10.0**	**+0.3**
	baz=241						
CHN1	**Nanshi**	**1.23**	**237**	*e*P	**Pn**	**10 41 10.1**	**+0.4**
	baz=238						
CHN1				*e*S	**Sn**	**10 41 26.1**	**+0.9**
	baz=238						
SGST	**Jiashian**	**1.25**	**232**	*e*P	**Pn**	**10 41 10.6**	**+0.6**
	baz=232						
SGST				*e*S	**Sn**	**10 41 26.5**	**+0.8**
	baz=232						
WTCT	**Ta-ch'eng**	**1.26**	**271**	*e*P	**Pn**	**10 41 10.4**	**+0.3**
	baz=272						
WTCT				*e*S	**Sn**	**10 41 27.3**	**+1.5**
	baz=272						
TWS1	**Kuangyinshan**	**1.26**	**350**	*e*P	**Pn**	**10 41 10.3**	**+0.1**
	baz=360						
TWS1				*e*S	**Sn**	**10 41 26.3**	**+0.3**
	baz=360						
SLGT	**Liugui**	**1.26**	**227**	*e*P	**Pn**	**10 41 10.8**	**+0.6**
	baz=228						
SLGT				*e*S	**Sn**	**10 41 27.3**	**+1.4**
	baz=228						
WLGB	**Puzi**	**1.30**	**254**	*e*P	**Pn**	**10 41 10.1**	**-0.5**
	baz=253						
YM04	**YM04**	**1.30**	**355**	*e*P	**Pn**	**10 41 10.4**	**-0.3**
	baz=356						
YM10	**YM10**	**1.30**	**356**	*e*P	**Pn**	**10 41 10.3**	**-0.5**
	baz=354						
YM10				*e*S	**Sn**	**10 41 26.0**	**-0.9**
	baz=354						
YM07	**YM07**	**1.32**	**359**	*e*P	**Pn**	**10 41 09.4**	**-1.5**
	baz=356						
YM07				*e*S	**Sn**	**10 41 25.6**	**-1.8**
	baz=356						
NTST	**Danshui**	**1.32**	**352**	*e*P	**Pn**	**10 41 10.3**	**-0.6**
	baz=4.0						
JYNG	**Yonagunijimaku**	**1.32**	**63**	P	**Pn**	**10 41 11.5**	**+0.5**
JYNG				*e*S	**Sn**	**10 41 27.6**	**+0.2**
YM03	**YM03**	**1.32**	**355**	*e*P	**Pn**	**10 41 10.6**	**-0.5**
	baz=355						
YM08	**YM08**	**1.33**	**357**	*e*P	**Pn**	**10 41 10.2**	**-1.0**
	baz=357						
WSF	**Szhu**	**1.33**	**261**	*e*P	**Pn**	**10 41 11.1**	**0.0**
	baz=262						
WSF				*e*S	**Sn**	**10 41 28.8**	**+1.2**
	baz=262						
YOJ	**Yonaguni jima**	**1.38**	**64**	*e*P	**Pn**	**10 41 11.8**	**+0.1**
	baz=64						
YOJ				*e*S	**Sn**	**10 41 29.2**	**+0.4**
	baz=64						
YOJ	**Yonaguni jima**	**1.38**	**64**	P	**Pn**	**10 41 12.3**	**+0.5**
YOJ				*e*S	**Sn**	**10 41 29.2**	**+0.4**
ECL	**Taimali**	**1.41**	**207**	*e*P	**Pn**	**10 41 10.4**	**-1.8**
	baz=201						
CHN8	**Yiju**	**1.42**	**249**	*e*P	**Pn**	**10 41 13.1**	**+0.8**
	baz=250						
CHN8				*e*S	**Sn**	**10 41 30.6**	**+0.8**
	baz=250						
SSD	**Sandimen**	**1.45**	**221**	*e*P	**Pn**	**10 41 13.3**	**+0.5**
	baz=220						
TWM1	**Shoushan**	**1.53**	**228**	*e*P	**Pn**	**10 41 16.4**	**+2.5**
	baz=228						
MASBT	**Mashibuluo**	**1.55**	**217**	*e*P	**Pn**	**10 41 14.5**	**+0.3**
	baz=218						
MASBT				*e*S	**Sn**	**10 41 34.7**	**+1.6**
	baz=218						
EAST	**Anshuo**	**1.64**	**207**	*e*P	**Pn**	**10 41 14.9**	**-0.6**
	baz=199						
SSPT	**Xinbi**	**1.69**	**216**	*e*P	**Pn**	**10 41 17.2**	**+1.2**
	baz=206						
WSSB	**Gushan**	**1.76**	**227**	*e*P	**Pn**	**10 41 15.8**	**-1.2**
	baz=228						
LAY	**Lan-yu**	**1.81**	**183**	*e*P	**Pn**	**10 41 15.8**	**-1.9**
	baz=176						
WDGT	**Dungji**	**1.92**	**253**	*e*P	**Pn**	**10 41 18.2**	**-1.0**
	baz=252						
PHUB	**P'eng-hu**	**1.94**	**260**	*e*P	**Pn**	**10 41 17.8**	**-1.7**
	baz=274						
PHUB				*e*S	**Sn**	**10 41 41.0**	**-1.7**
	baz=274						
PNG	**Penghu**	**1.95**	**262**	*e*P	**Pn**	**10 41 18.3**	**-1.3**
	baz=261						
IRIF	**Iriomote-Funau**	**1.96**	**75**	P	**Pn**	**10 41 20.1**	**+0.4**
IRIF				S	**Sn**	**10 41 43.7**	**+0.7**
HATJ	**Hateruma jima**	**1.98**	**84**	P	**Pn**	**10 41 20.2**	**+0.2**
HATJ				S	**Sn**	**10 41 43.6**	**+0.1**
TWKBT	**Hengchun**	**2.06**	**202**	*e*P	**Pn**	**10 41 21.0**	**-0.1**
	baz=195						
JKRS	**Kuro-shima**	**2.19**	**79**	P	**Pn**	**10 41 23.5**	**+0.7**
JKRS				S	**Sn**	**10 41 49.1**	**+0.4**
VWUC	**VWUC**	**2.31**	**300**	*e*P	**Pn**	**10 41 22.7**	**-1.9**
	baz=300						
JIJ	**Ishigaki jima**	**2.33**	**77**	P	**Pn**	**10 41 24.8**	**0.0**
JIJ				S	**Sn**	**10 41 51.2**	**-1.0**
JISG	**Ishigakijimahi**	**2.53**	**73**	P	**Pn**	**10 41 27.5**	**-0.1**
JISG				S	**Sn**	**10 41 56.3**	**-0.9**
MATB	**Ma-tsu**	**2.76**	**326**	*e*P	**Pn**	**10 41 29.2**	**-1.6**
	baz=316						
JTJ	**Tarama**	**2.89**	**74**	P	**Pn**	**10 41 32.7**	**+0.2**
JTJ				*e*S	**Sn**	**10 42 05.8**	**-0.2**
KNMB	**Chin-men Tao**	**3.04**	**282**	*e*P	**Pn**	**10 41 33.0**	**-1.6**
	baz=282						
JIRB	**Irabujima**	**3.35**	**72**	P	**Pn**	**10 41 39.1**	**+0.2**
JIRB				S	**Sn**	**10 42 17.2**	**-0.2**
JIKM	**Ikemajima**	**3.44**	**71**	*e*S	**Sn**	**10 42 20.2**	**+0.5**
JOGS	**Gusukube**	**3.54**	**74**	P	**Pn**	**10 41 42.6**	**+1.1**
JOGS				*e*S	**Sn**	**10 42 23.5**	**+1.4**

IDC 04 10:43:45.1±3.5**, 29°.89S**×**178°.48W, h101**^{km}±31^{km}**, mb3.4**/3**, mb1 3.6**/3**, mb1mx3.2**/40**, mbtmp3.8**/3**, Error ellipse: s-maj=123.3km s-min=53.6km az=156.0, Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.81**	**37**	P	Pn	10 44 04.2	+0.6
RAO				S	Sn	10 44 18.3	+0.8
	155nm,0.3s,baz=223,slow=24,SNR=2.1						
STKA	**Stephens Creek**	**34.19**	**256**	P	P	10 50 20.7	-0.2
	1.1nm,0.7s,baz=98,slow=15,SNR=3.2						
ASAR	**Alice Springs**	**42.72**	**267**	P	P	10 51 32.2	-0.3
	0.6nm,0.8s,baz=105,slow=7.2,SNR=8.8						
WRA	**Warramunga Arr**	**43.67**	**272**	P	P	10 51 40.1	0.0
	1.3nm,0.8s,baz=112,slow=7.8,SNR=14						
FINES	**FINESS Array B**	**144.53**	**340**	PKP	PKPbc	11 03 08.2	+0.4
	1.5nm,0.7s,baz=48,slow=2.8,SNR=5.3						

MEX 04 10:57:50.6±0.7**, 16°.56N**×**98°.49W, h3**^{km}±44^{km}**, MD3.7, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.38**	**116**	*i* P	Pg	10 57 57.8	-0.2
PNIG				*e*S	Sg	10 58 03.0	0.0
TLIG	**Tlapa**	**1.00**	**356**	*e*P	Pg	10 58 07.4	-2.5
TLIG				*e*S	Sg	10 58 20.9	-1.9
VHO	**Vista Hermosa**	**1.76**	**73**	*e*P	Pn	10 58 18.9	-3.3
VHO				*e*S	Sn	10 58 44.4	-0.8
HUIG	**Huatulco**	**2.42**	**109**	*e*S	Sn	10 58 53.0	-8.2

IDC 04 10:59:35.8±402.0**, 47°.81N**×**48°.93E, h0**^{km}**, Error ellipse: s-maj=152.9km s-min=130.0km az=31.0, Western Kazakhstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
I31KZ	**AKTYUBINSK INF**	**6.52**	**63**	*i*		11 40 50.0	
	baz=250,slow=317,SNR=3.8						
I43RU	**DUBNA INFRASON**	**11.44**	**326**	*i*		12 07 00.0	
	baz=137,slow=333,SNR=1.0						
I26DE	**FREYUNG INFRAS**	**23.32**	**286**	*i*		13 23 30.0	
	baz=81,slow=329,SNR=0.8						

*GII **04** 11:05:03.5±0.0, 38°.03N×37°.03E, h1^{km}*
*ISN **04** 11:05:09.1±1.1, 36°.49N×37°.83E, h0^{km}±11^{km}, ML4.3*
*NEIC **04** 11:05:16.2±0.0, 36°.93N×37°.05E, h8^{km}, mb4.0/6, ML4.2(ISK), After ISK.*
NEIC Felt at Gaziantep, Turkey.
*ISCJB **04** 11:05:16.9±0.4, 36°.95N±0°.02×37°.06E±0°.02, h14^{km}±3^{km}, mb3.9/11, MS3.0/6, Error ellipse: s-maj=2.9km s-min=2.4km az=137.7*
*IDC **04** 11:05:16.9±0.9, 36°.96N×37°.10E, h0^{km}, mb3.7/9, mb1 3.8/12, mb1mx3.6/61, mbtmp3.7/12, ML3.9/3, MS3.1/9, Ms1 3.1/9, ms1mx2.8/63, Error ellipse: s-maj=14.8km s-min=14.3km az=36.0*
*ISK **04** 11:05:16.3, 36°.96N×37°.03E, h8^{km}, ML4.3/27*
*DDA **04** 11:05:16.1, 36°.95N×37°.07E, h21^{km}, Ml4.7*
*GRAL **04** 11:05:17.8±0.3, 36°.94N×37°.10E, h0^{km}±2^{km}, MD4.5*
*CSEM **04** 11:05:17.3±0.1, 36°.94N×37°.05E, h10^{km}, ML4.7, Error ellipse: s-maj=3.4km s-min=2.5km az=161.0*

ISC 04 11:05:17.0±0.9**, 36°.98N**±0°.02×**37°.08E**±0°.02**, h9**^{km}±6^{km}**, n264,** σ**1ˢ33**/279**, mb3.8**/11**, MS3.1**/6**, 7C-6D, Jordan-Syria region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KUZU	**Kuzuini**	**0.20**	**181**	⇓*i*P	**Pg**	**11 05 21.6**	**+0.3**
KUZU				*i* S	**Sg**	**11 05 24.6**	**+0.5**
KUZU	**Kuzuini**	**0.20**	**181**	P	**Pg**	**11 05 21.6**	**+0.3**
KUZU				S	**Sg**	**11 05 24.6**	**+0.5**
GAZ	**Gaziantep**	**0.22**	**29**	PG	**Pg**	**11 05 22.3**	**+0.6**
GAZ	**Gaziantep**	**0.22**	**29**	*e*Pg	**Pg**	**11 05 22.3**	**+0.6**
GAZ	**Gaziantep**	**0.22**	**29**	*e*Pg	**Pg**	**11 05 22.3**	**+0.6**
KMRS	**Kahramanmaras**	**0.55**	**345**	PG	**Pg**	**11 05 27.4**	**-0.3**
KMRS	**Kahramanmaras**	**0.55**	**345**	*e*Pg	**Pg**	**11 05 27.4**	**-0.3**
KMRS	**Kahramanmaras**	**0.55**	**345**	*e*Pg	**Pg**	**11 05 27.4**	**-0.3**
DORT	**Dortyol-Hatay**	**0.72**	**258**	PG	**Pg**	**11 05 29.9**	**-1.1**
DORT	**Dortyol-Hatay**	**0.72**	**258**	*e*Pg	**Pg**	**11 05 29.9**	**-1.1**
ANDN	**Andirin**	**0.84**	**316**	⇓*i*P	**Pg**	**11 05 32.8**	**-0.4**
ANDN				*i* S	**Sg**	**11 05 43.4**	**-0.8**
ANDN	**Andirin**	**0.84**	**316**	*e*Pg	**Pg**	**11 05 32.9**	**-0.4**
ANDN	**Andirin**	**0.84**	**316**	*e*Pg	**Pg**	**11 05 32.9**	**-0.4**
ANDN				S	**Sg**	**11 05 43.4**	**-0.8**
ATAB	**Bozova**	**1.09**	**63**	⇑*i*P	**Pg**	**11 05 36.8**	**-1.2**
ATAB				*i* S	**Sb**	**11 05 52.1**	**-0.3**
ATAB	**Bozova**	**1.09**	**63**	P	**Pg**	**11 05 36.8**	**-1.2**
ATAB				S	**Sb**	**11 05 52.1**	**-0.3**
KOZT	**Kozan**	**1.12**	**297**	PN	**Pg**	**11 05 37.7**	**-0.8**
KOZT				SN	**Sg**	**11 05 52.4**	**-0.7**
KOZT	**Kozan**	**1.12**	**297**	*e*Pn	**Pg**	**11 05 37.7**	**-0.8**
KOZT				*e*Sn	**Sg**	**11 05 52.4**	**-0.7**
YURE	**YUREGIR**	**1.17**	**263**	⇑*i*P	**Pg**	**11 05 38.7**	**-0.8**
YURE	**YUREGIR**	**1.17**	**263**	P	**Pg**	**11 05 38.7**	**-0.8**
YAYL	**Yayladag**	**1.22**	**220**	PN	**Pg**	**11 05 39.3**	**-1.3**
YAYL	**Yayladag**	**1.22**	**220**	⇓*i*P	**Pg**	**11 05 39.2**	**-1.3**
YAYL				*i* S	**Sg**	**11 05 55.3**	**-1.1**
YAYL	**Yayladag**	**1.22**	**220**	P	**Pg**	**11 05 39.2**	**-1.3**
YAYL				S	**Sg**	**11 05 55.3**	**-1.1**
SURC	**SANLIURFA_SURC**	**1.23**	**94**	⇑*i*P	**Pg**	**11 05 39.8**	**-1.0**
SURC				*i* S	**Sn**	**11 05 57.6**	**+0.3**
SURC	**SANLIURFA_SURC**	**1.23**	**94**	P	**Pg**	**11 05 39.8**	**-1.0**
SURC				S	**Sn**	**11 05 57.6**	**+0.3**
SAIM	**ADANA**	**1.27**	**322**	*i* P	**Pg**	**11 05 40.5**	**-1.0**
SAIM				*i* S	**Sg**	**11 05 57.8**	**-0.3**
SAIM	**ADANA**	**1.27**	**322**	P	**Pg**	**11 05 40.5**	**-1.0**
SAIM				S	**Sg**	**11 05 57.8**	**-0.3**
ELBS	**KAHRAMANMARAS**	**1.35**	**2**	⇓*i*P	**Pb**	**11 05 42.7**	**+0.2**
ELBS	**KAHRAMANMARAS**	**1.35**	**2**	P	**Pb**	**11 05 42.7**	**+0.2**
KRTD	**Karatas-Adana**	**1.39**	**255**	PN	**Pn**	**11 05 42.7**	**+0.2**
KRTD	**Karatas-Adana**	**1.39**	**255**	*e*Pn	**Pn**	**11 05 42.7**	**+0.2**
KRTS	**Karatas**	**1.42**	**254**	PN	**Pn**	**11 05 43.1**	**+0.1**
KRTS	**Karatas**	**1.42**	**254**	*e*Pn	**Pn**	**11 05 43.1**	**+0.1**
URFA	**Urfa**	**1.47**	**71**	PN	**Pb**	**11 05 44.2**	**-0.3**
URFA	**Urfa**	**1.47**	**71**	*e*Pn	**Pb**	**11 05 44.2**	**-0.3**
URFA	**Urfa**	**1.47**	**71**	*e*Pn	**Pb**	**11 05 44.2**	**-0.3**
AKCD	**Akcadag**	**1.48**	**27**	*i* P	**Pb**	**11 05 44.4**	**-0.4**
AKCD	**Akcadag**	**1.48**	**27**	P	**Pb**	**11 05 44.4**	**-0.4**
SANL	**SANLIURFA_Merk**	**1.54**	**82**	⇑*i*P	**Pn**	**11 05 44.2**	**-0.5**
SANL	**SANLIURFA_Merk**	**1.54**	**82**	P	**Pn**	**11 05 44.2**	**-0.5**
DARE	**Darende-Malaty**	**1.62**	**11**	PN	**Pn**	**11 05 46.4**	**+0.5**
DARE	**Darende-Malaty**	**1.62**	**11**	*e*Pn	**Pn**	**11 05 46.4**	**+0.5**
KARA	**Karaisali**	**1.64**	**281**	PN	**Pn**	**11 05 45.4**	**-0.7**
KARA	**Karaisali**	**1.64**	**281**	*e*Pn	**Pn**	**11 05 45.4**	**-0.7**
CUGUR	**Gurin_S˜VAS**	**1.75**	**5**	*i* P	**Pb**	**11 05 48.9**	**-0.6**
CUGUR	**Gurin_S˜VAS**	**1.75**	**5**	P	**Pb**	**11 05 48.8**	**-0.6**
YAHY	**KAYSERI_Yahyal**	**1.76**	**310**	*i* P	**Pn**	**11 05 47.8**	**0.0**
YAHY	**KAYSERI_Yahyal**	**1.76**	**310**	P	**Pn**	**11 05 47.8**	**0.0**
HEKM	**Malatya_Hekimh**	**2.02**	**20**	⇓*i*P	**Pn**	**11 05 52.6**	**+1.1**
HEKM	**Malatya_Hekimh**	**2.02**	**20**	P	**Pn**	**11 05 52.6**	**+1.1**
BNN	**Bunyan**	**2.11**	**333**	PN	**Pn**	**11 05 53.5**	**+0.9**
BNN	**Bunyan**	**2.11**	**333**	*e*Pn	**Pn**	**11 05 53.5**	**+0.9**
BNN	**Bunyan**	**2.11**	**333**	*e*Pn	**Pn**	**11 05 53.5**	**+0.9**
ELZG	**Elazig**	**2.14**	**44**	⇑*i*P	**Pn**	**11 05 53.5**	**+0.4**
ELZG	**Elazig**	**2.14**	**44**	P	**Pn**	**11 05 53.5**	**+0.4**
NIG	**Nigde**	**2.27**	**301**	PN	**Pn**	**11 05 55.1**	**+0.2**
NIG	**Nigde**	**2.27**	**301**	*e*Pn	**Pn**	**11 05 55.1**	**+0.2**
CUALT	**Altinyayla-SIV**	**2.31**	**354**	⇓*i*P	**Pn**	**11 05 56.8**	**+1.4**
CUALT	**Altinyayla-SIV**	**2.31**	**354**	P	**Pn**	**11 05 56.8**	**+1.4**
CUKAN	**kangal_SIVAS**	**2.36**	**7**	*i* P	**Pn**	**11 05 57.2**	**+1.1**
CUKAN	**kangal_SIVAS**	**2.36**	**7**	P	**Pn**	**11 05 57.2**	**+1.1**
KERG	**Konya-Eregli**	**2.40**	**281**	⇑*i*P	**Pn**	**11 05 56.8**	**+0.2**
KERG	**Konya-Eregli**	**2.40**	**281**	P	**Pn**	**11 05 56.8**	**+0.2**
KIZK	**Mersin**	**2.41**	**259**	PN	**Pn**	**11 05 56.2**	**-0.4**
KIZK	**Mersin**	**2.41**	**259**	*i* P	**Pn**	**11 05 56.0**	**-0.6**
KIZK	**Mersin**	**2.41**	**259**	P	**Pn**	**11 05 56.0**	**-0.6**
CUSAR	**Sarkisla-SIVAS**	**2.53**	**345**	*i* P	**Pn**	**11 05 58.7**	**+0.3**
CUSAR	**Sarkisla-SIVAS**	**2.53**	**345**	P	**Pn**	**11 05 58.7**	**+0.3**
AVNS	**Nevsehir-Avano**	**2.54**	**317**	*i* P	**Pn**	**11 06 00.3**	**+1.8**
AVNS				*i* S	**Sb**	**11 06 34.3**	**+0.1**
AVNS	**Nevsehir-Avano**	**2.54**	**317**	P	**Pn**	**11 06 00.3**	**+1.8**
KEMA	**Kemaliye**	**2.55**	**26**	*i* P	**Pn**	**11 05 59.3**	**+0.7**
KEMA	**Kemaliye**	**2.55**	**26**	P	**Pn**	**11 05 59.3**	**+0.7**
DIYA	**Diyarbakir**	**2.60**	**68**	*i* P	**Pb**	**11 06 04.3**	**+0.5**
SILI	**Silifke-Mersin**	**2.61**	**257**	PN	**Pn**	**11 05 59.2**	**-0.1**
SILI	**Silifke-Mersin**	**2.61**	**257**	*e*Pn	**Pn**	**11 05 59.2**	**-0.1**
DYBB	**Diyarbakir**	**2.62**	**67**	PN	**Pn**	**11 06 00.5**	**+0.9**
PTK	**Pertek**	**2.65**	**43**	PN	**Pn**	**11 06 00.8**	**+0.7**
PTK	**Pertek**	**2.65**	**43**	*e*Pn	**Pn**	**11 06 00.8**	**+0.7**
DIY	**Diyarbakir**	**2.67**	**69**	*e*Pn	**Pn**	**11 06 00.5**	**+0.2**
MAZI	**Mazidag**	**2.73**	**79**	PN	**Pn**	**11 06 02.5**	**+1.3**
MAZI	**Mazidag**	**2.73**	**79**	*e*Pn	**Pn**	**11 06 02.5**	**+1.3**
ILIC	**ilic-Erzincan**	**2.74**	**25**	PN	**Pn**	**11 06 01.4**	**+0.2**
ILIC	**ilic-Erzincan**	**2.74**	**25**	*i* Pn	**Pn**	**11 06 01.4**	**+0.2**
EREN	**Erenkoy**	**2.76**	**239**	PN	**Pn**	**11 06 01.2**	**-0.2**
EREN	**Erenkoy**	**2.76**	**239**	*e*Pn	**Pn**	**11 06 01.2**	**-0.2**
HWQ	**Hawqa**	**2.84**	**199**	*e*Pn	**Pn**	**11 06 02.7**	**0.0**
HWQ				*e*Sn	**Sn**	**11 06 36.0**	**-1.1**
HWQ	**Hawqa**	**2.84**	**199**	*e*P	**Pn**	**11 06 02.7**	**0.0**
HWQ				*e*S	**Sn**	**11 06 36.0**	**-1.1**
HWQ	**Hawqa**	**2.84**	**199**	*e*P	**Pn**	**11 06 02.7**	**0.0**
HWQ				*e*S	**Sn**	**11 06 36.0**	**-1.1**
TNCL	**Tunceli-Merkez**	**2.89**	**42**	*i* P	**Pn**	**11 06 04.0**	**+0.7**
TNCL	**Tunceli-Merkez**	**2.89**	**42**	P	**Pn**	**11 06 04.0**	**+0.7**
TEPE	**Tepekoy-Mersin**	**2.93**	**256**	PN	**Pn**	**11 06 03.6**	**-0.2**
TEPE	**Tepekoy-Mersin**	**2.93**	**256**	*e*Pn	**Pn**	**11 06 03.6**	**-0.2**
SVSK	**Karacayir**	**2.94**	**359**	PN	**Pn**	**11 06 04.9**	**+1.1**
SVSK	**Karacayir**	**2.94**	**359**	*e*Pn	**Pn**	**11 06 04.9**	**+1.1**
GULN	**MERSIN_Gulnar**	**2.95**	**256**	⇑*i*P	**Pn**	**11 06 02.8**	**-1.2**
GULN				*i* S	**Sn**	**11 06 37.0**	**-2.5**
GULN	**MERSIN_Gulnar**	**2.95**	**256**	P	**Pn**	**11 06 02.8**	**-1.2**
AKKU	**Akkuyu-Mersin**	**2.95**	**255**	PN	**Pn**	**11 06 03.9**	**-0.2**
AKKU	**Akkuyu-Mersin**	**2.95**	**255**	*e*Pn	**Pn**	**11 06 03.9**	**-0.2**
CUZAR	**Zara_SIVAS**	**2.96**	**10**	*i* P	**Pn**	**11 06 06.7**	**+2.4**
CUZAR	**Zara_SIVAS**	**2.96**	**10**	P	**Pn**	**11 06 06.7**	**+2.4**
AKK2	**Akkuyu-Mersin**	**2.96**	**255**	PN	**Pn**	**11 06 04.2**	**0.0**
AKK2	**Akkuyu-Mersin**	**2.96**	**255**	*e*Pn	**Pn**	**11 06 04.2**	**0.0**
TEVE	**Tevekalti-Mers**	**2.97**	**261**	PN	**Pn**	**11 06 04.6**	**+0.2**
TEVE	**Tevekalti-Mers**	**2.97**	**261**	*e*Pn	**Pn**	**11 06 04.6**	**+0.2**
MARD	**Mardin**	**2.98**	**82**	*i* P	**Pn**	**11 06 03.1**	**-1.5**
YOZ	**Yozgat**	**3.00**	**333**	PN	**Pn**	**11 06 05.7**	**+0.9**
YOZ	**Yozgat**	**3.00**	**333**	*i* Pn	**Pn**	**11 06 05.7**	**+0.9**
SULT	**Sultanhani-AKS**	**3.08**	**294**	PN	**Pn**	**11 06 06.1**	**+0.2**
SULT	**Sultanhani-AKS**	**3.08**	**294**	*e*Pn	**Pn**	**11 06 06.1**	**+0.2**
AKSY	**AKSARAY - Alti**	**3.11**	**303**	*i* P	**Pn**	**11 06 05.9**	**-0.5**
AKSY				*i* S	**Sb**	**11 06 48.0**	**-2.7**
AKSY	**AKSARAY - Alti**	**3.11**	**303**	P	**Pn**	**11 06 05.9**	**-0.5**
BHL	**Bhannes**	**3.28**	**201**	*e*Pn	**Pn**	**11 06 08.5**	**-0.1**
BHL	**Bhannes**	**3.28**	**201**	*e*P	**Pn**	**11 06 08.8**	**+0.2**
BHL	**Bhannes**	**3.28**	**201**	*e*Pn	**Pn**	**11 06 08.5**	**-0.1**
BHL	**Bhannes**	**3.28**	**201**	*e*P	**Pn**	**11 06 08.8**	**+0.2**
TEKE	**Tekeli-Mersin**	**3.30**	**257**	PN	**Pn**	**11 06 08.9**	**+0.1**
TEKE	**Tekeli-Mersin**	**3.30**	**257**	*e*Pn	**Pn**	**11 06 08.9**	**+0.1**
BINT	**Bingol**	**3.30**	**54**	*e*Pn	**Pb**	**11 06 13.0**	**-2.8**
EZC	**Erzincan**	**3.30**	**32**	*e*Pn	**Pn**	**11 06 10.8**	**+1.8**
LFK	**Lefkose**	**3.33**	**241**	PN	**Pn**	**11 06 09.5**	**+0.2**
LFK	**Lefkose**	**3.33**	**241**	*e*Pn	**Pn**	**11 06 08.2**	**-1.1**
LFK	**Lefkose**	**3.33**	**241**	*e*Pn	**Pn**	**11 06 09.5**	**+0.2**
ERZN	**Erzincan**	**3.34**	**38**	PN	**Pn**	**11 06 10.8**	**+1.3**
SUSE	**Susehri**	**3.35**	**15**	*i* P	**Pn**	**11 06 09.8**	**+0.1**
SUSE	**Susehri**	**3.35**	**15**	P	**Pn**	**11 06 09.8**	**+0.1**
TOKT	**Tokat**	**3.37**	**353**	PN	**Pn**	**11 06 10.9**	**+1.1**
TOKT	**Tokat**	**3.37**	**353**	*e*Pn	**Pn**	**11 06 10.9**	**+1.1**
CDAG	**Cicekdag**	**3.39**	**322**	*i* P	**Pn**	**11 06 10.4**	**+0.2**
CDAG	**Cicekdag**	**3.39**	**322**	P	**Pn**	**11 06 10.4**	**+0.2**
SERE	**Sereflikochisa**	**3.40**	**306**	PN	**Pn**	**11 06 11.3**	**+0.9**
SERE	**Sereflikochisa**	**3.40**	**306**	*e*Pn	**Pn**	**11 06 11.3**	**+0.9**
RSDY	**Resadiye-TOKAT**	**3.42**	**3**	PN	**Pn**	**11 06 11.7**	**+1.1**
BTMN	**Batman**	**3.46**	**73**	*i* P	**Pn**	**11 06 10.5**	**-0.7**
BTMN	**Batman**	**3.46**	**73**	P	**Pn**	**11 06 10.5**	**-0.7**
BGOL	**Bingol**	**3.48**	**54**	*i* P	**Pg**	**11 06 21.5**	**-2.2**
SVAN	**Silvan-Diyarba**	**3.48**	**69**	PN	**Pn**	**11 06 13.7**	**+2.3**
SVAN	**Silvan-Diyarba**	**3.48**	**69**	*i* P	**Pn**	**11 06 10.6**	**-0.8**
SVAN	**Silvan-Diyarba**	**3.48**	**69**	P	**Pn**	**11 06 10.6**	**-0.8**
SVAN	**Silvan-Diyarba**	**3.48**	**69**	*e*Pn	**Pn**	**11 06 13.7**	**+2.3**
BNGB	**Bingˆ¶l**	**3.48**	**54**	PN	**Pn**	**11 06 13.0**	**+1.5**
DQRL	**Deir Qamar**	**3.49**	**201**	*e*P	**Pn**	**11 06 11.7**	**+0.2**
DQRL				*e*S	**Sn**	**11 06 51.6**	**-1.3**
KELT	**Kelkit**	**3.60**	**28**	*i* P	**Pn**	**11 06 13.9**	**+0.7**
KELT	**Kelkit**	**3.60**	**28**	P	**Pn**	**11 06 13.9**	**+0.7**
QRWL	**Qaraoun**	**3.60**	**199**	*e*P	**Pn**	**11 06 13.2**	**+0.1**
RCY	**Rachaya**	**3.62**	**197**	*e*P	**Pn**	**11 06 13.4**	**0.0**
CSS	**Mathiatis**	**3.64**	**238**	*e*Pn	**Pn**	**11 06 11.3**	**-2.3**
CSS	**Mathiatis**	**3.64**	**238**	*e*Pn	**Pn**	**11 06 11.3**	**-2.3**
CSS	**Mathiatis**	**3.64**	**238**	Pn	**Pn**	**11 06 10.0**	**-3.6**
COAL	**Corum-Alaca**	**3.66**	**334**	*i* P	**Pn**	**11 06 15.5**	**+1.6**
COAL	**Corum-Alaca**	**3.66**	**334**	P	**Pn**	**11 06 15.5**	**+1.6**
ERBA	**Erbaa**	**3.71**	**356**	*i* P	**Pn**	**11 06 14.6**	**+0.1**
ERBA	**Erbaa**	**3.71**	**356**	P	**Pn**	**11 06 14.6**	**+0.1**
SHBL	**Chebaa**	**3.78**	**197**	*e*P	**Pn**	**11 06 15.6**	**0.0**
BRTR	**Keskin Array B**	**3.85**	**316**	Pn	**Pn**	**11 06 18.7**	**+2.1**
	2.6nm,0.3s,baz=146,slow=16,SNR=27						
BRTR				Pg	**Pg**	**11 06 29.8**	**-1.1**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	4.3nm,0.3s,baz=138,slow=18,SNR=45						
BRTR				Lg	Lg	11 07 19.2	
	3.3nm,0.3s,baz=138,slow=33,SNR=7.3						
BR131	**Keskin Array S**	**3.85**	**316**	*e*Pn	**Pn**	**11 06 18.2**	**+1.6**
BR131	**Keskin Array S**	**3.85**	**316**	*e*Pn	**Pn**	**11 06 18.2**	**+1.6**
KKUL	**Konya-Kulu**	**3.95**	**305**	*i* P	**Pn**	**11 06 18.0**	**+0.1**
KKUL	**Konya-Kulu**	**3.95**	**305**	P	**Pn**	**11 06 18.0**	**+0.1**
SRTM	**Siirt_Merkez**	**3.98**	**74**	*i* P	**Pn**	**11 06 17.5**	**-0.9**
SRTM	**Siirt_Merkez**	**3.98**	**74**	P	**Pn**	**11 06 17.5**	**-0.9**
GRSN	**GIRESUNGRSN**	**4.05**	**13**	*i* P	**Pn**	**11 06 18.9**	**-0.3**
GRSN	**GIRESUNGRSN**	**4.05**	**13**	P	**Pn**	**11 06 18.9**	**-0.3**
KOPT	**Kop Dagi**	**4.05**	**40**	*i* P	**Pn**	**11 06 22.4**	**+2.9**
KOPT	**Kop Dagi**	**4.05**	**40**	P	**Pn**	**11 06 22.4**	**+2.9**
VRTB	**Varto-Mus**	**4.09**	**56**	*i* P	**Pb**	**11 06 31.1**	**+1.9**
BAYB	**BAYBURT**	**4.12**	**36**	*i* P	**Pb**	**11 06 25.8**	**-4.0**
KSHT	**Keshet**	**4.12**	**195**	Pn	**Pn**	**11 06 21.9**	**+1.7**
MMA0B	**Mount Meron ar**	**4.18**	**200**	Pn	**Pn**	**11 06 21.0**	**-0.1**
MMAI	**Mount Meron Ar**	**4.18**	**200**	Pn	**Pn**	**11 06 21.2**	**+0.1**
	7.6nm,0.3s,baz=357,slow=14,SNR=15						
MMAI				Pg	**Pg**	**11 06 34.6**	**-2.6**
	38nm,0.3s,baz=30,slow=16,SNR=34						
MMAI				Lg	Lg	11 07 28.1	
	62nm,0.3s,baz=14,slow=25,SNR=6.7						
MMAI				LR	LR	11 08 06.0	
	comp=Z,255nm,18.1s,baz=40,slow=40						
HNTI	**Hanita**	**4.18**	**202**	Pn	**Pn**	**11 06 21.3**	**+0.3**
HNTI				Sn	**Sb**	**11 07 23.4**	**+1.9**
KDHN	**Kadinhani**	**4.22**	**293**	*i* P	**Pn**	**11 06 22.2**	**+0.6**
KDHN	**Kadinhani**	**4.22**	**293**	P	**Pn**	**11 06 22.2**	**+0.6**
SIRN	**S˜–rnak**	**4.29**	**81**	*i* P	**Pn**	**11 06 22.4**	**-0.1**
SIRN	**S˜–rnak**	**4.29**	**81**	P	**Pn**	**11 06 22.4**	**-0.1**
KEPZ	**Antalya-Kepez**	**4.38**	**271**	*i* P	**Pn**	**11 06 25.1**	**+1.3**
KEPZ	**Antalya-Kepez**	**4.38**	**271**	P	**Pn**	**11 06 25.1**	**+1.3**
BR231	**Keskin MP Arra**	**4.43**	**312**	*e*Pn	Pn	11 06 19.2	-5.2
ANTO	**Ankara**	**4.43**	**312**	*e*Pn	**Pn**	**11 06 25.1**	**+0.6**
ANTO	**Ankara**	**4.43**	**312**	*e*Pn	**Pn**	**11 06 25.1**	**+0.6**
ERZM	**Erzurum**	**4.46**	**48**	*i* P	**Pn**	**11 06 25.6**	**+0.6**
ERZM	**Erzurum**	**4.46**	**48**	P	**Pn**	**11 06 25.6**	**+0.6**
BLGI	**Bet Lehem HaGe**	**4.51**	**201**	Pn	**Pn**	**11 06 26.9**	**+1.5**
EKAR	**Karacoban**	**4.54**	**58**	*i* P	**Pn**	**11 06 27.9**	**+1.7**
EKAR	**Karacoban**	**4.54**	**58**	P	**Pn**	**11 06 27.9**	**+1.7**
OFRI	**'Ofer**	**4.67**	**202**	Pn	**Pn**	**11 06 28.5**	**+0.7**
MMLI	**Mount Malkishu**	**4.73**	**197**	Pn	**Pn**	**11 06 30.0**	**+1.5**
RTB	**Rutbah**	**4.75**	**145**	*e*Pn	**Pn**	**11 06 25.0**	**-3.8**
	SNR=2.0						
BOYT	**Boyabat**	**4.75**	**340**	*i* P	**Pn**	**11 06 29.6**	**+0.7**
BOYT	**Boyabat**	**4.75**	**340**	P	**Pn**	**11 06 29.5**	**+0.7**
ILGA	**Ilgaz**	**4.84**	**328**	*i* P	**Pn**	**11 06 32.0**	**+1.8**
ILGA	**Ilgaz**	**4.84**	**328**	*e*Pn	**Pn**	**11 06 32.6**	**+2.4**
ILGA	**Ilgaz**	**4.84**	**328**	P	**Pn**	**11 06 32.0**	**+1.8**
ILGA	**Ilgaz**	**4.84**	**328**	*e*Pn	**Pn**	**11 06 32.6**	**+2.4**
HMDT	**Nahal Hemdat**	**4.88**	**196**	Pn	**Pn**	**11 06 32.1**	**+1.5**
HMDT				Sn	**Sb**	**11 07 41.5**	**0.0**
CMDR	**Camlidere-ANKA**	**5.03**	**316**	*i* P	**Pb**	**11 06 47.4**	**+2.2**
BAGO	**Egridir - ISPA**	**5.10**	**283**	*i* P	Pb	11 06 41.0	-5.6
TUTA	**Tutak**	**5.13**	**60**	*i* P	**Pn**	**11 06 34.8**	**+0.6**
TUTA	**Tutak**	**5.13**	**60**	P	**Pn**	**11 06 34.8**	**+0.6**
EATA	**Eleskirt**	**5.14**	**54**	*i* P	**Pg**	**11 06 51.9**	**-3.6**
HAKT	**HAKKARI**	**5.32**	**82**	*i* P	**Pn**	**11 06 36.5**	**-0.3**
HAKT	**HAKKARI**	**5.32**	**82**	P	**Pn**	**11 06 36.5**	**-0.3**
BCAM	**Yenicaga**	**5.48**	**316**	*i* P	**Pb**	**11 06 50.4**	**-2.5**
DSI	**Dead Sea**	**5.57**	**195**	Pn	**Pn**	**11 06 41.5**	**+1.4**
GNI	**Garni**	**6.79**	**60**	Pg	**Pg**	**11 07 23.7**	**-3.4**
	1.8nm,0.3s,baz=265,slow=5.5,SNR=3.7						
GNI	**Garni**	**6.79**	**60**	*e*Pn	**Pn**	**11 06 56.4**	**-0.6**
GNI				Pg	**Pg**	**11 07 23.7**	**-3.4**
GNI	**Garni**	**6.79**	**60**	*e*Pn	**Pn**	**11 06 56.4**	**-0.6**
PRNI	**Paran**	**6.83**	**195**	Pn	**Pn**	**11 06 59.2**	**+1.8**
EIL	**Elat**	**7.50**	**194**	Pn	**Pn**	**11 07 08.7**	**+2.1**
KBZ	**Khabaz**	**8.08**	**32**	LR	LR	11 10 32.7	
	comp=Z,122nm,18.1s,baz=212,slow=39						
IDI	**Anoyia**	**10.00**	**264**	Pn	**Pn**	**11 07 43.4**	**+2.4**
	2.2nm,0.3s,baz=154,slow=21,SNR=6.5						
DIVS	**Divibare**	**14.80**	**304**	*e*Pn	Pn	11 08 41.5	-4.9
KIEV	**Kiev**	**14.83**	**340**	*e*Pn	**Pn**	**11 08 45.0**	**-1.7**
AKBB	**Malin Array Si**	**14.83**	**340**	*e*Pn	**Pn**	**11 08 46.0**	**-0.8**
AKBB	**Malin Array Si**	**14.83**	**340**	*e*Pn	**Pn**	**11 08 46.0**	**-0.8**
RAYN	**Ar Rayn**	**15.25**	**149**	*e*Pn	**Pn**	**11 08 51.3**	**-1.3**
	3.4nm,0.9s						
RAYN	**Ar Rayn**	**15.25**	**149**	*e*Pn	**Pn**	**11 08 51.3**	**-1.3**
	3.4nm,0.9s						
GYA1	**ALIBECK ARRAY**	**16.74**	**80**	*e*Pn	**Pn**	**11 09 09.2**	**-2.5**
	4.1nm,0.9s						
OBN	**Obninsk**	**18.15**	**359**	LR	LR	11 17 59.3	
	comp=Z,28nm,19.7s,baz=277,slow=42						
AKTO	**Aktyubinsk**	**20.16**	**42**	P	Pn	11 09 54.1	+0.8
	1.2nm,0.5s,baz=246,slow=12,SNR=5.3						
AKTO				LR	LR	11 19 04.9	
	comp=Z,37nm,21.4s,baz=223,slow=41						
AB08	**Akbulak array**	**20.61**	**46**	*e*P	**P**	**11 09 57.4**	**+1.1**
AB09	**Akbulak array**	**20.61**	**46**	*e*P	**P**	**11 09 57.4**	**+1.0**
AB03	**Akbulak array**	**20.62**	**46**	*e*P	**P**	**11 09 57.5**	**+1.0**
AB04	**Akbulak array**	**20.62**	**46**	*e*P	**P**	**11 09 57.5**	**+1.0**
AB01	**Akbulak array**	**20.62**	**46**	*e*P	**P**	**11 09 57.2**	**+0.7**
AB01	**Akbulak array**	**20.62**	**46**	*e*P	**P**	**11 09 57.2**	**+0.7**
AB07	**Akbulak array**	**20.63**	**46**	*e*P	**P**	**11 09 57.2**	**+0.7**
AB07	**Akbulak array**	**20.63**	**46**	*e*P	**P**	**11 09 57.2**	**+0.7**
GERES	**GERESS Array B**	**20.74**	**312**	P	Pn	11 10 00.3	0.0
	1.0nm,0.7s,baz=119,slow=11,SNR=5.2						
VSL	**Villasalto**	**21.87**	**285**	*e*P	**P**	**11 10 16.5**	**+6.5**
	43nm,1.7s						
KEST	**Kesra**	**22.34**	**275**	P	**P**	**11 10 16.9**	**+1.7**
	6.3nm,0.8s,baz=226,slow=0.9,SNR=6.2						
KEST	**Kesra**	**22.34**	**275**	P	**P**	**11 10 16.9**	**+1.7**
	6.5nm,0.8s						
KEST	**Kesra**	**22.34**	**275**	P	**P**	**11 10 16.9**	**+1.7**
	6.5nm,0.8s						
GRFO	**Grafenberg**	**22.57**	**312**	*e*P	**P**	**11 10 14.1**	**-3.3**
	34nm,1.6s						
TUE	**Stuetta**	**22.67**	**303**	*e*P	**P**	**11 10 14.9**	**-3.8**
	2.1nm,0.8s						
FINES	**FINESS Array B**	**25.45**	**348**	P	**P**	**11 10 45.9**	**+1.0**
	2.3nm,0.9s,baz=168,slow=9.8,SNR=3.6						
KK08	**Karatay Array**	**26.18**	**66**	*e*P	**P**	**11 10 53.4**	**+1.6**
KK08	**Karatay Array**	**26.18**	**66**	*e*P	**P**	**11 10 53.4**	**+1.6**
KK07	**Karatay Array**	**26.19**	**66**	*e*P	**P**	**11 10 53.7**	**+1.8**
KK07	**Karatay Array**	**26.19**	**66**	*e*P	**P**	**11 10 53.7**	**+1.8**
KK03	**Karatay Array**	**26.20**	**66**	*e*P	**P**	**11 10 53.7**	**+1.8**
KK03	**Karatay Array**	**26.20**	**66**	*e*P	**P**	**11 10 53.7**	**+1.8**
KK01	**Karatay Array**	**26.20**	**66**	*e*P	**P**	**11 10 53.2**	**+1.3**
KK04	**Karatay Array**	**26.20**	**66**	*e*P	**P**	**11 10 53.0**	**+1.0**
KK02	**Karatay Array**	**26.20**	**66**	*e*P	**P**	**11 10 53.1**	**+1.1**
KK02	**Karatay Array**	**26.20**	**66**	*e*P	**P**	**11 10 53.1**	**+1.1**
KK31	**Karatay Array**	**26.20**	**66**	*e*P	**P**	**11 10 53.1**	**+1.1**
KK31	**Karatay Array**	**26.20**	**66**	*e*P	**P**	**11 10 53.1**	**+1.1**
KKAR	**Karatay Array**	**26.20**	**66**	*e*P	**P**	**11 10 53.3**	**+1.3**
KKAR	**Karatay Array**	**26.20**	**66**	*e*P	**P**	**11 10 53.3**	**+1.3**
KK05	**Karatay Array**	**26.21**	**66**	*e*P	**P**	**11 10 53.4**	**+1.3**
KK05	**Karatay Array**	**26.21**	**66**	*e*P	**P**	**11 10 53.3**	**+1.3**
KK06	**Karatay Array**	**26.21**	**66**	*e*P	**P**	**11 10 53.4**	**+1.3**
KK06	**Karatay Array**	**26.21**	**66**	*e*P	**P**	**11 10 53.3**	**+1.3**
HFS	**Hagfors**	**27.58**	**335**	P	**P**	**11 11 05.4**	**+1.3**
	1.2nm,0.7s,baz=108,slow=9.3,SNR=2.6						
BVAR	**Borovoye Array**	**28.17**	**45**	LR	LR	11 25 03.8	
	comp=Z,54nm,18.2s,baz=203,slow=42						
NOA	**NORSAR Array B**	**29.09**	**334**	LR	LR	11 25 26.0	
	comp=Z,23nm,20.2s,baz=130,slow=42						
ESDC	**Sonseca Array**	**32.11**	**288**	LR	LR	11 26 34.6	
	comp=Z,33nm,19.0s,baz=255,slow=40						
KURBB	**Kurchatov Arra**	**32.44**	**52**	P	**P**	**11 11 48.3**	**+1.1**
	0.9nm,0.7s,baz=267,slow=8.6,SNR=7.8						
KURK	**Kurchatov**	**32.51**	**52**	P	**P**	**11 11 48.3**	**+0.5**
MKAR	**Makanchi Array**	**34.64**	**59**	P	**P**	**11 12 07.8**	**+1.3**
	0.5nm,0.7s,baz=270,slow=8.1,SNR=6.1						
ZALV	**Zalesovo Beam**	**36.74**	**47**	P	**P**	**11 12 25.2**	**+0.9**
	0.6nm,0.3s,baz=257,slow=10,SNR=2.9						
ZALV				LR	LR	11 28 24.1	
	comp=Z,31nm,18.0s,baz=248,slow=38						
WMQ	**Urumqi**	**38.65**	**64**	P	**P**	**11 12 43.2**	**+2.4**
KOWA	**Kowa**	**42.82**	**250**	LR	LR	11 33 17.5	
	comp=Z,46nm,18.5s,baz=216,slow=39						
HHC	**Hu-ho-hao-te**	**56.45**	**61**	*e*P	**P**	**11 15 00.2**	**+1.0**
HHC				pmax	pmax		
	comp=Z,14nm,1.1s						
HHC				pmax	pmax		
	comp=Z,120nm,7.1s						
YKA	**Yellowknife Ar**	**78.28**	**347**	P	**P**	**11 17 18.6**	**+1.7**
	comp=Z,0.1nm,0.5s,baz=20,slow=5.1,SNR=4.8						

*DDA **04** 11:24:42.6,36.°99N×37.°11E,h7km,Ml2.6*
*ISCJB **04** 11:24:43.8±0.6,36.°95N±0.°04×37.°10E±0.°05,h10km±5km, Error ellipse: s-maj=7.7km s-min=5.0km az=33.2*
*CSEM **04** 11:24:43.4±0.3,36.°92N×37.°13E,h8km,ML2.6,Error ellipse: s-maj=8.9km s-min=6.8km az=139.0*
*ISK **04** 11:24:43.1,36.°91N×37.°22E,h6km,ML2.5/1*
ISC 04 11:24:43.7±0.9,**36.°94N**±0.°03×**37.°13E**±0.°03,**h14**km±6km, **n22**,σ**1§21**/30,**Jordan-Syria region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KUZU	**Kuzuini**	**0.17**	**196**	*i* P	**Pg**	**11 24 47.6**	**-0.2**
KUZU				*i* S	**Sg**	**11 24 50.6**	**0.0**
KUZU	**Kuzuini**	**0.17**	**196**	P	**Pg**	**11 24 47.6**	**-0.2**
KUZU				S	**Sg**	**11 24 50.6**	**0.0**
GAZ	**Gaziantep**	**0.24**	**15**	PG	**Pg**	**11 24 48.3**	**-0.8**
GAZ				SG	**Sg**	**11 24 52.2**	**-0.4**
GAZ	**Gaziantep**	**0.24**	**15**	*e*Pg	**Pg**	**11 24 48.3**	**-0.8**
GAZ				*e*Sg	**Sg**	**11 24 52.2**	**-0.4**
KMRS	**Kahramanmaras**	**0.60**	**342**	PG	**Pb**	**11 24 56.9**	**+0.9**
KMRS	**Kahramanmaras**	**0.60**	**342**	*e*Pg	**Pb**	**11 24 56.9**	**+0.9**
ANDN	**Andirin**	**0.90**	**316**	*i* P	**Pg**	**11 24 59.1**	**-2.1**
ANDN	**Andirin**	**0.90**	**316**	P	**Pg**	**11 24 59.1**	**-2.1**
ATAB	**Bozova**	**1.07**	**60**	*i* P	**Pg**	**11 25 02.6**	**-1.8**
ATAB	**Bozova**	**1.07**	**60**	P	**Pg**	**11 25 02.6**	**-1.8**
KOZT	**Kozan**	**1.18**	**298**	PN	**Pn**	**11 25 07.9**	**+2.1**
KOZT	**Kozan**	**1.18**	**298**	*e*Pn	**Pn**	**11 25 07.9**	**+2.1**
SURC	**SANLIURFA_SURC**	**1.19**	**92**	*i* P	**Pn**	**11 25 06.7**	**+0.7**
SURC				*i* S	**Sn**	**11 25 22.7**	**+0.7**
SURC	**SANLIURFA_SURC**	**1.19**	**92**	P	**Pn**	**11 25 06.7**	**+0.7**
SURC				S	**Sn**	**11 25 22.7**	**+0.7**
YAYL	**Yayladag**	**1.22**	**223**	PN	**Pn**	**11 25 06.6**	**0.0**
YAYL	**Yayladag**	**1.22**	**223**	*i* P	**Pg**	**11 25 06.0**	**-1.2**
YAYL				*i* S	**Sg**	**11 25 21.8**	**-1.5**
YAYL	**Yayladag**	**1.22**	**223**	P	**Pg**	**11 25 06.1**	**-1.2**
YAYL	**Yayladag**	**1.22**	**223**	*e*Pn	**Pn**	**11 25 06.6**	**0.0**
YAYL				S	**Sg**	**11 25 21.8**	**-1.5**
URFA	**Urfa**	**1.44**	**69**	PN	**Pn**	**11 25 09.9**	**+0.4**
URFA	**Urfa**	**1.44**	**69**	*e*Pn	**Pn**	**11 25 09.9**	**+0.4**
MALT	**Malatya**	**1.72**	**36**	PN	**Pn**	**11 25 14.2**	**+0.8**
MALT	**Malatya**	**1.72**	**36**	*e*Pn	**Pn**	**11 25 14.2**	**+0.8**

*NNC **04** 11:35:14.6±3.9,53.°47N×87.°82E,h0km,mb3.2,mpv2.9, Error ellipse: s-maj=30.7km s-min=14.3km az=64.0*
IDC 04 11:35:16.1±3.0,**53.°46N**×**87.°74E**,**h0**km,**mb1 3.0**/2, **mb1mx2.9**/66,**mbtmp3.0**/2,**ML2.7**/2,**5C-4D**,**Error ellipse: s-maj=24.7km s-min=14.8km az=61.0**,**Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.80**	**287**	*i*		11 47 05.0	
	baz=106,slow=339,SNR=16						
ZAA0	**Zalesovo Array**	**1.80**	**287**	⇑P	Pn	11 35 46.7	-1.7
	4.9nm,0.6s						
ZAA0				⇓S	Sb	11 36 12.7	-0.4
	46nm,0.8s						
ZALV	**Zalesovo Beam**	**1.80**	**287**	Pg	Pn	11 35 47.6	-0.7
	1.6nm,0.3s,baz=106,slow=14,SNR=25						
ZALV				Lg	Lg	11 36 13.1	
	3.0nm,0.3s,baz=111,slow=26,SNR=7.8						
KURK	**Kurchatov**	**6.26**	**248**	⇑Sn	Sn	11 38 00.4	-1.4
	2.9nm,0.8s						
KURK				⇓Lg	Lg	11 38 35.0	
	12nm,0.9s						
KURBB	**Kurchatov Arra**	**6.36**	**247**	Pn	Pn	11 36 51.5	+0.7
	0.2nm,0.3s,baz=63,slow=14,SNR=12						
KURBB				Sn	Sn	11 38 03.7	-0.4
	0.1nm,0.3s,baz=68,slow=24,SNR=4.1						
KURBB				Lg	Lg	11 38 40.1	
	0.1nm,0.3s,baz=64,slow=32,SNR=8.1						
MK31	**Makanchi Array**	**7.54**	**210**	⇓Pn	Pn	11 37 08.5	+1.3
	0.5nm,0.6s						
MK31				⇑Sn	Sn	11 38 34.1	+0.8
	1.1nm,0.8s						
MK31				⇑Lg	Lg	11 39 15.4	
	3.9nm,0.9s,baz=53,slow=34,SNR=4.1						
MKAR	**Makanchi Array**	**7.54**	**210**	Pn	Pn	11 37 08.7	+1.5
	0.1nm,0.3s,baz=29,slow=14,SNR=5.4						
MKAR				Sn	Sn	11 38 32.3	-1.0
	0.1nm,0.3s,baz=35,slow=24,SNR=5.9						
MKAR				Lg	Lg	11 39 15.9	
	0.1nm,0.3s,baz=34,slow=32,SNR=7.5						
MAKZ	**Makanchi**	**7.62**	**211**	⇓Sn	Sn	11 38 35.8	+0.4
	2.6nm,1.1s						
MAKZ				⇑Lg	Lg	11 39 18.5	
	5.3nm,1.1s						

*ISCJB **04** 11:36:13.2±0.5,2.°24N±0.°05×129.°11E±0.°08,h40km, mb4.0/13,MS2.7/1,Error ellipse: s-maj=12.1km s-min=6.9km az=174.7*
*DJA **04** 11:36:13.8±1.6,2°N±14°×12°9E±°,h41km±171km,M4.1/4, MLv4.1/4*
*IDC **04** 11:36:20.5±7.5,2.°23N×128.°90E,h89km±74km,mb3.7/13, mb1 3.8/13,mb1mx3.6/53,mbtmp4.0/13,MS2.7/1, Ms1 2.7/1,ms1mx2.4/49,Error ellipse: s-maj=28.3km s-min=15.3km az=76.0*
ISC 04 11:36:15.3±0.6,**2.°25N**±0.°07×**129.°07E**±0.°09,**h40**km,**n15**, σ**1§70**/17,**mb4.0**/13,**Halmahera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LBMI	**Labuha**	**3.27**	**209**	P	**Pn**	**11 37 03.8**	**-0.3**
LBMI				S	**Sn**	**11 37 41.3**	**-0.4**
SWI	**Sorong**	**3.79**	**145**	P	**Pn**	**11 37 10.0**	**-1.2**
SWI				S	**Sn**	**11 37 51.9**	**-2.7**
PMG	**Port Moresby**	**21.42**	**123**	P	**P**	**11 41 04.4**	**+4.3**
	8.3nm,0.8s,baz=240,slow=4.8,SNR=4.5						
WRA	**Warramunga Arr**	**22.65**	**167**	P	**P**	**11 41 13.2**	**0.0**
	3.4nm,0.7s,baz=347,slow=11,SNR=19						
ASAR	**Alice Springs**	**26.18**	**170**	P	**P**	**11 41 46.8**	**+0.4**
	1.0nm,0.9s,baz=348,slow=6.1,SNR=15						
CMAR	**Chiang Mai Arr**	**33.63**	**301**	P	**P**	**11 42 51.7**	**-0.7**
	1.1nm,0.4s,baz=112,slow=7.1,SNR=6.0						
KSRS	**Korea Array**	**35.05**	**358**	P	**P**	**11 43 05.1**	**+0.7**
	1.5nm,0.7s,baz=176,slow=9.8,SNR=5.1						
KSRS				LR	LR	11 58 21.1	
	comp=Z,12nm,18.7s,baz=5.0,slow=38						
MJAR	**Matsushiro Arr**	**35.16**	**13**	P	**P**	**11 43 04.6**	**-0.8**
	0.7nm,0.6s,baz=189,slow=9.2,SNR=3.1						
STKA	**Stephens Creek**	**35.96**	**162**	P	**P**	**11 43 13.8**	**+1.4**
	2.3nm,0.7s,baz=337,slow=8.8,SNR=8.3						
SONM	**Songino Array**	**49.46**	**340**	P	**P**	**11 45 02.2**	**+0.4**
	0.5nm,0.6s,baz=165,slow=6.0,SNR=3.0						
PETK	**Petropavlovsk-**	**55.96**	**20**	P	**P**	**11 45 51.2**	**+1.7**
	5.1nm,0.9s,baz=188,slow=5.8,SNR=2.9						
KURBB	**Kurchatov Arra**	**64.25**	**327**	P	**P**	**11 46 45.1**	**-1.2**
	0.9nm,0.5s,baz=138,slow=5.0,SNR=7.3						
BVAR	**Borovoye Array**	**69.83**	**327**	P	**P**	**11 47 21.8**	**0.0**
	0.5nm,0.4s,baz=85,slow=3.5,SNR=3.9						
ILAR	**Eielson Array**	**85.44**	**25**	P	**P**	**11 48 46.5**	**-2.0**
	0.2nm,0.7s,baz=246,slow=6.5,SNR=3.4						
ARCES	**ARCESS Array B**	**92.64**	**340**	P	**P**	**11 49 21.8**	**-0.8**
	4.5nm,1.0s,baz=74,slow=6.7,SNR=3.0						

IDC 04 11:36:45.7±386.0,**49.°39N**×**44.°36E**,**h0**km,**Error ellipse: s-maj=167.7km s-min=138.8km az=149.0**, **Ukraine-Moldova-Southwestern Russia region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
I43RU	**DUBNA INFRASON**	**8.51**	**332**	*i*		12 27 20.0	
	baz=148,slow=329,SNR=0.7						
I31KZ	**AKTYUBINSK INF**	**8.89**	**78**	*i*		12 30 50.0	
	baz=270,slow=320,SNR=0.4						
I26DE	**FREYUNG INFRAS**	**20.00**	**280**	*i*		13 44 20.0	
	baz=81,slow=329,SNR=0.5						

MEX 04 11:46:16.9±1.1,**16.°27N**×**98.°41W**,**h2**km,**MD3.7**,**Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.30**	**67**	*i* P	Pg	11 46 22.4	-0.2
PNIG				*i* S	Sg	11 46 26.7	+0.2
TLIG	**Tlapa**	**1.29**	**353**	*i* P	Pg	11 46 37.8	-3.9
TLIG				*e*S	Sg	11 46 54.2	-4.2
VHO	**Vista Hermosa**	**1.79**	**64**	*e*P	Pn	11 46 48.2	-0.9
VHO				*e*S	Sn	11 47 11.0	-1.5
HUIG	**Huatulco**	**2.27**	**102**	*i* P	Pb	11 46 57.9	-0.8
HUIG				*e*S	Sn	11 47 21.4	-2.7

*CSEM **04** 12:01:36.1,57.°87N×12.°05E,h0km,ML1.0,Mining explosion.*
UPP 04 12:01:36.1,57.°87N×**12.°05E,h0**km,**ML1.0,Mining explosion.,Sweden**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TJOU	**Tjoern**	**0.28**	**306**	P	Pg	12 01 41.6	+0.2
TJOU				S	Sg	12 01 45.3	+0.3
VANU	**Vaenersborg**	**0.62**	**1**	P	Pg	12 01 48.0	-0.1
VANU				S	Sg	12 01 55.9	-0.3
FKPU	**Falk**	**0.94**	**71**	P	Pg	12 01 53.6	-0.5
FKPU				S	Sg	12 02 06.2	-0.1
NASU	**Vaermlandsnaes**	**1.22**	**29**	P	Pg	12 01 58.6	-0.9
STRU	**Stroemstad**	**1.25**	**339**	P	Pg	12 01 59.2	-0.9

*CSEM **04** 12:01:38.5,57.°12N×12.°31E,h0km,ML0.7,Mining explosion.*
UPP 04 12:01:38.5,57.°12N×**12.°31E,h0**km,**ML0.7,Mining explosion.,Sweden**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FABU	**Falkenberg**	**0.25**	**117**	P	Pg	12 01 43.5	+0.2
FABU				S	Sg	12 01 47.0	+0.4
ONSU	**Onsala**	**0.35**	**324**	P	Pg	12 01 45.3	+0.1
ONSU	**Onsala**	**0.35**	**324**	P	Pg	12 01 45.3	+0.1
GNOU	**Gnosjoe**	**0.81**	**77**	P	Pg	12 01 53.9	-0.1
DEL	**Delary**	**1.08**	**126**	P	Pg	12 01 58.2	-0.9
BJUU	**Bjuv**	**1.12**	**159**	P	Pg	12 01 59.7	-0.2
VXJU	**Vaexsjoe**	**1.45**	**97**	P	Pn	12 02 04.7	-1.3

*MOS **04** 12:10:46.2±1.1,7.°37N×34.°68W,h10km,mb4.9/38,Error ellipse: s-maj=9.2km s-min=7.9km az=119.7*
*IDC **04** 12:10:46.5±0.5,7.°40N×34.°72W,h0km,mb4.5/25, mb1 4.6/26,mb1mx4.4/62,mbtmp4.5/26,ML4.7/1,MS4.1/46, Ms1 4.1/46,ms1mx4.1/53,Error ellipse: s-maj=17.2km s-min=11.4km az=159.0*
*ISCJB **04** 12:10:47.4±0.3,7.°52N±0.°07×34.°62W±0.°04,h12km, mb4.8/152,MS4.2/47,Error ellipse: s-maj=10.3km s-min=5.0km az=168.1*
*GCMT **04** 12:10:48.1±0.2,7.°39N×34.°55W,h12km,MW5.0/101, Moment Tensor Solution. s42,c48; s101,c148; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-3.32±.09; Mθθ-0.21±.10; Mφφ3.54±.08; Mrθ0.37±.35; Mθφ-1.12±.08; Mφr-0.33±.27; Best double couple: M0 3.62100×10^16 NP1:φs339.00000°,δ49.00000°,λ-97.00000°. NP2: φs170.00000°,δ42.00000°,λ-82.00000°. Principal axes: T 3.8730, Plg3.0000°, Azm74.0000°; N -0.4980, Plg5.0000°, Azm344.0000°; P -3.3690, Plg84.0000°, Azm196.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **04** 12:10:48.1±0.2,7.°41N×34.°59W,h10km,mb4.9/124 Error ellipse: s-maj=7.3km s-min=4.9km az=173.0*
ISC 04 12:10:48.1±0.4,**7.°37N**±0.°07×**34.°60W**±0.°07,**h12**km,**n304**, σ**1§27**/261,**mb4.9**/152,**MS4.2**/48,**9C-5D**,**Central Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SACV	**Santiago Islan**	**13.16**	**54**	*e*Pn	Pn	12 13 49.8	-5.2
	32nm,0.6s						
RCBR	**Riachuelo**	**13.18**	**186**	Pn	**Pn**	**12 13 54.1**	**-1.1**
	4.3nm,0.3s,baz=160,slow=0.5,SNR=11						
RCBR	**Riachuelo**	**13.18**	**186**	*e*Pn	**Pn**	**12 13 54.0**	**-1.3**
RCBR	**Riachuelo**	**13.18**	**186**	*e*P	**Pn**	**12 13 54.0**	**-1.3**
BBTS	**Babate**	**19.15**	**66**	LR	LR	12 20 40.2	
	comp=Z,1μm,21.4s,baz=231,slow=31						
H10N3	**ASCENSION HYDR**	**25.10**	**127**	T	T	12 42 28.1	
	baz=306,slow=75,SNR=167						
H10N2	**ASCENSION HYDR**	**25.11**	**127**	T	T	12 42 31.2	
	baz=306,slow=75,SNR=130						
H10N1	**ASCENSION HYDR**	**25.12**	**127**	T	T	12 42 29.6	
	baz=306,slow=75,SNR=180						
H10S3	**ASCENSION HYDR**	**25.65**	**129**	T	T	12 43 05.1	
	baz=308,slow=75,SNR=183						
H10S1	**ASCENSION HYDR**	**25.66**	**129**	T	T	12 43 05.4	
	baz=308,slow=75,SNR=120						
H10S2	**ASCENSION HYDR**	**25.67**	**129**	T	T	12 43 05.9	
	baz=308,slow=75,SNR=177						
H05S1	**Guadeloupe/Mar**	**26.68**	**287**	T	T	12 44 00.3	
	SNR=9.6						
H05N1	**Guadeloupe/Mar**	**27.34**	**291**	T	T	12 44 57.5	
	SNR=7.4						
DBIC	**Dimbokro**	**29.53**	**89**	P	**P**	**12 16 52.3**	**-0.5**
	6.5nm,0.8s,baz=256,slow=7.3,SNR=7.9						
DBIC				LR	LR	12 26 27.6	
	comp=Z,631nm,18.4s,baz=248,slow=32						
DBIC	**Dimbokro**	**29.53**	**89**	*e*P	**P**	**12 16 56.4**	**+3.6**
	38nm,1.8s						
PCRV	**Puerto La Cruz**	**29.80**	**278**	LR	LR	12 28 16.4	
	comp=Z,456nm,21.4s,baz=88,slow=35						
PMOZ	**Porto Moniz, M**	**30.04**	**30**	*e*T	T	12 47 57.1	
FUL	**Funchal**	**30.05**	**31**	*e*T	T	12 47 54.1	
PMAR	**Madeira**	**30.10**	**31**	*e*T	T	12 47 55.2	
PSMA	**Santa Maria**	**30.72**	**15**	*e*T	T	12 48 47.4	
PSMN	**Pico do Norte,**	**30.75**	**15**	*e*T	T	12 48 46.9	
KOWA	**Kowa**	**30.83**	**74**	P	**P**	**12 17 05.1**	**+0.8**
	9.9nm,0.9s,baz=257,slow=7.9,SNR=15						
KOWA				LR	LR	12 27 51.4	
	comp=Z,760nm,22.0s,baz=216,slow=33						
KOWA	**Kowa**	**30.83**	**74**	*e*P	**P**	**12 17 05.1**	**+0.8**
	20nm,1.1s						
CMLA	**Cha da Macela**	**31.35**	**14**	*e*T	T	12 50 45.9	
CBYP	**Canovanas**	**32.28**	**293**	*e*P	**P**	**12 17 18.4**	**+1.3**
	9.3nm,0.9s						
SJG	**San Juan**	**32.51**	**292**	P	**P**	**12 17 18.6**	**-0.4**
	9.2nm,0.3s,baz=140,slow=5.1,SNR=5.1						
SIV	**San Ignacio**	**35.01**	**228**	P	**P**	**12 17 40.9**	**0.0**
	8.2nm,1.0s,baz=74,slow=10,SNR=15						
SDV	**Santo Domingo**	**35.69**	**275**	P	**P**	**12 17 46.5**	**-0.5**
	6.8nm,1.0s,baz=54,slow=8.7,SNR=4.1						
SDV				LR	LR	12 31 31.0	
	comp=Z,320nm,21.9s,baz=58,slow=35						
SDV	**Santo Domingo**	**35.69**	**275**	*e*P	**P**	**12 17 46.6**	**-0.4**
	12nm,1.2s						
TOA0	**Torodi Ar. Sit**	**36.15**	**78**	*e*P	**P**	**12 17 50.6**	**-0.1**
TORD	**Torodi Ar. Bea**	**36.15**	**78**	P	**P**	**12 17 51.0**	**+0.3**
	8.9nm,0.7s,baz=272,slow=8.8,SNR=28						
TORD				LR	LR	12 30 59.5	
	comp=Z,1μm,20.3s,baz=250,slow=34						
SDDR	**Presa de Saban**	**37.45**	**292**	*e*P	**P**	**12 18 02.4**	**+0.6**
	31nm,1.0s						
PAMC	**Pamplona, Colo**	**37.77**	**272**	*e*P	**P**	**12 18 06.5**	**+1.4**
RUSC	**La Rusia**	**38.24**	**270**	*e*P	**P**	**12 18 10.7**	**+1.6**
	25nm,1.3s						
RUSC	**La Rusia**	**38.24**	**270**	*e*P	**P**	**12 18 12.4**	**+3.4**
BARC	**Barichara**	**38.29**	**271**	*e*P	**P**	**12 18 11.8**	**+2.6**
OCAC	**Ocana**	**38.36**	**274**	*e*P	**P**	**12 18 13.1**	**+3.5**
PTBC	**PUERTO BERRIO,**	**39.56**	**271**	*e*P	**P**	**12 18 19.1**	**-0.5**
ROSC	**El Rosal**	**39.56**	**269**	LR	LR	12 34 29.0	
	comp=Z,426nm,19.4s,baz=100,slow=36						
ROSC	**El Rosal**	**39.56**	**269**	*e*P	**P**	**12 18 21.5**	**+1.5**
	36nm,1.5s						
ZARC	**Zaragoza, Cauc**	**39.91**	**273**	*e*P	**P**	**12 18 21.7**	**-0.7**
NORC	**Norcasia**	**40.04**	**270**	*e*P	**P**	**12 18 23.1**	**-0.5**
CPUP	**Villa Florida**	**40.12**	**213**	P	**P**	**12 18 22.7**	**-1.2**
	5.3nm,1.1s,baz=40,slow=8.4,SNR=4.8						
CPUP				LR	LR	12 34 31.3	
	comp=Z,385nm,20.1s,baz=39,slow=36						
CPUP	**Villa Florida**	**40.12**	**213**	*e*P	**P**	**12 18 24.6**	**+0.7**
	7.3nm,1.1s						
CPUP	**Villa Florida**	**40.12**	**213**	P	**P**	**12 18 22.7**	**-1.2**
CPUP				pmax	pmax		
	comp=Z,4.0nm,1.0s						
CPUP				MLR	MLR		
	comp=Z,385nm,20.1s						
PRAC	**Prado**	**40.25**	**267**	*e*P	**P**	**12 18 26.1**	**+0.8**
	comp=Z,30nm,1.2s						
RREF	**El Recreo**	**40.57**	**269**	*e*P	**P**	**12 18 29.3**	**+0.6**
TOLC	**Tolima**	**40.58**	**268**	*e*P	**P**	**12 18 30.4**	**+2.0**
HELC	**Santa Helena**	**40.65**	**271**	*e*P	**P**	**12 18 29.0**	**+0.1**
	comp=Z,30nm,1.0s						
LPAZ	**La Paz**	**40.67**	**234**	P	**P**	**12 18 29.4**	**+0.1**
	comp=Z,8.1nm,1.0s,baz=50,slow=9.8,SNR=15						
LPAZ				LR	LR	12 34 49.8	
	comp=Z,610nm,19.7s,baz=58,slow=36						
LPAZ	**La Paz**	**40.67**	**234**	*e*P	**P**	**12 18 29.4**	**+0.1**
	comp=Z,14nm,1.1s						
BETC	**Betania**	**40.93**	**266**	*e*P	**P**	**12 18 31.0**	**+0.1**

SOTA **Rioblanco** 42.16 265 *eP* **P** 12 18 41.0 -0.6
ESDC **Sonseca Array** 42.30 36 P **P** 12 18 42.3 +0.5
comp=Z,0.1nm,0.3s,baz=244,slow=10,SNR=5.4
ESDC LR LR 12 33 02.0
comp=Z,195nm,20.2s,baz=230,slow=32
ES19 **SONSECA Array** 42.35 36 *eP* **P** 12 18 41.9 -0.3
OTAV **Otavalo** 44.29 263 *eP* **P** 12 19 00.3 +1.5
comp=Z,12nm,1.4s
OTAV **Otavalo** 44.29 263 *eP* **P** 12 19 00.3 +1.5
OTAV pmax pmax
comp=Z,12nm,1.4s
LCCY **Blossom Villag** 45.73 290 *eP* **P** 12 19 11.9 +2.3
comp=Z,243nm,1.2s
KEST **Kesra** 49.07 48 P **P** 12 19 37.5 +2.0
comp=Z,11nm,1.0s,baz=142,slow=2.9,SNR=6.4
KEST LR LR 12 40 11.2
comp=Z,555nm,19.7s,baz=202,slow=36
KEST **Kesra** 49.07 48 *eP* **P** 12 19 36.1 +0.5
comp=Z,17nm,1.1s
IP07 **Quail** 49.63 314 *eP* **P** 12 19 40.2 +0.6
comp=Z,23nm,1.3s
JTS **JuntasAbangare** 49.80 277 LR LR 12 41 30.9
comp=Z,230nm,19.5s,baz=158,slow=37
BLA **Blacksburg** 51.05 313 *eP* **P** 12 19 50.7 +0.2
comp=Z,24nm,0.6s
BLA **Blacksburg** 51.05 313 *eP* **P** 12 19 50.7 +0.2
BLA pmax pmax
comp=Z,24nm,0.6s
BNI **Bardonecchia** 51.81 37 *eP* **P** 12 19 57.9 +1.7
comp=Z,19nm,1.2s
BNI **Bardonecchia** 51.81 37 *eP* **P** 12 19 57.9 +1.7
BNI pmax pmax
comp=Z,19nm,1.2s
M54A **Oil Creek Stat** 52.38 318 *eP* **P** 12 20 00.6 +0.2
comp=Z,21nm,1.0s
TKL **Tuckaleechee C** 52.98 309 LR LR 12 39 48.9
comp=Z,76nm,20.2s,baz=152,slow=33
TZTN **Tazewell** 53.12 311 *eP* **P** 12 20 03.5 -2.3
comp=Z,24nm,0.6s
VAE **Valguarnera** 53.50 48 LR LR 12 41 50.4
comp=Z,327nm,21.7s,baz=263,slow=35
SCHQ **Schefferville** 53.88 338 P **P** 12 20 10.5 -0.7
comp=Z,3.8nm,0.7s,baz=110,slow=9.9,SNR=4.6
EKA **Eskdalemuir Ar** 53.98 22 LR LR 12 38 27.5
comp=Z,168nm,21.6s,baz=230,slow=31
ACSO **Alum Creek Sta** 54.10 315 *eP* **P** 12 20 09.3 -3.7
comp=Z,24nm,0.6s
APG **El Apazote** 55.20 283 LR LR 12 43 01.6
comp=Z,180nm,21.4s,baz=88,slow=35
AAM **Ann Arbor** 55.41 317 *eP* **P** 12 20 22.2 -0.2
AAM **Ann Arbor** 55.41 317 *eP* **P** 12 20 22.2 -0.2
CUC **Castrocucco** 55.45 46 *eP* **P** 12 20 22.9 +0.1
comp=Z,20nm,1.3s
PLAL **Pickwick Lake** 56.12 307 *eP* **P** 12 20 28.6 +0.9
comp=Z,18nm,1.2s
WVT **Waverly** 56.25 309 *eP* **P** 12 20 29.0 +0.4
comp=Z,10.0nm,1.1s
WVT **Waverly** 56.25 309 *eP* **P** 12 20 29.0 +0.4
WVT pmax pmax
comp=Z,10.0nm,1.1s
SFIN **Lafayette** 57.07 314 *eP* **P** 12 20 33.0 -1.3
comp=Z,29nm,1.3s
OLIL **Olney** 57.25 312 *eP* **P** 12 20 36.1 +0.4
comp=Z,28nm,1.0s
GEA0 **GERESS Array S** 57.89 36 *eP* **P** 12 20 40.2 +0.1
GERES **GERESS Array B** 57.89 36 P **P** 12 20 40.4 +0.2
comp=Z,0.4nm,0.5s,baz=226,slow=7.2,SNR=6.2
GERES LR LR 12 42 23.2
comp=Z,238nm,21.8s,baz=254,slow=33
BORG **Borgarnes** 58.04 7 LR LR 12 38 59.2
comp=Z,103nm,20.5s,baz=181,slow=29
PLCA **Paso Flores** 58.18 212 LR LR 12 46 11.3
comp=Z,1µm,18.3s,baz=76,slow=36
CLL **Collm** 58.73 33 *eS* **S** 12 28 50.0 -0.5
CLL *e* 12 31 54.0
CLL *e*SSS SSS 12 35 19.0
CLL Lm MLR 12 42 00.0
comp=Z,200nm,18.5s
H43A **Windswept, Lux** 59.02 318 *eP* **P** 12 20 48.6 +0.7
comp=Z,36nm,1.1s
BRG **Berggiesshubel** 59.02 34 *eP* P 12 20 40.0 -7.9
BRG **Berggiesshubel** 59.02 34 *eP* P 12 20 40.0 -7.9
BRG pmax pmax
comp=Z,17nm,1.7s
G43A **Wallace** 59.27 319 *eP* **P** 12 20 49.7 0.0
comp=Z,14nm,0.9s
CCM **Cathedral Cave** 59.41 310 *eP* **P** 12 20 51.1 +0.3
comp=Z,22nm,1.4s
CCM **Cathedral Cave** 59.41 310 *eP* **P** 12 20 51.1 +0.3
CCM pmax pmax
comp=Z,22nm,1.4s
I42A **Draeger Farm,** 59.57 317 *eP* **P** 12 20 51.4 -0.4
comp=Z,25nm,1.2s
G42A **Mountain** 59.74 319 *eP* **P** 12 20 52.3 -0.6
comp=Z,21nm,1.1s
VRAC **Vranov** 59.79 36 LR LR 12 43 31.9
comp=Z,175nm,21.2s,baz=254,slow=33
DIVS **Divibare** 59.84 43 *eP* **P** 12 20 54.5 +0.7
comp=Z,12nm,1.3s
W40A **Ferguson Farm,** 60.13 306 *eP* **P** 12 20 55.7 -0.1
comp=Z,38nm,1.3s
JFWS **Jewell Farm** 60.15 316 *eP* **P** 12 20 54.9 -0.9
comp=Z,13nm,0.8s
JFWS **Jewell Farm** 60.15 316 *eP* **P** 12 20 54.9 -0.9
JFWS pmax pmax
comp=Z,13nm,0.8s
H41A **Junction City** 60.33 318 *eP* **P** 12 20 56.3 -0.6
comp=Z,34nm,1.7s
COWI **Conover** 60.53 319 *eP* **P** 12 20 57.2 -1.1
comp=Z,12nm,1.1s
SFJD **Kangerlussuaq** 60.53 353 LR LR 12 42 27.3
comp=Z,56nm,20.7s,baz=162,slow=31
VYHS **Vyhne** 60.78 38 *eP* **P** 12 21 02.7 +2.7
VYHS **Vyhne** 60.78 38 *eP* **P** 12 21 02.7 +2.7
IDI **Anoyia** 60.97 54 LR LR 12 48 22.3
comp=Z,108nm,20.4s,baz=268,slow=37
KECS **Kecovo** 61.78 38 *eP* P 12 21 13.0 +2.4
KECS **Kecovo** 61.78 38 *eP* P 12 21 13.0 +6.2
DRGR 62.57 41 ⇓*iP* **P** 12 21 12.7 +0.5
DRGR 62.57 41 ⇓P **P** 12 21 12.7 +0.5
SPMN **Marine on St.** 62.64 317 *eP* **P** 12 21 11.0 -1.6
comp=Z,26nm,1.1s
ARR **Arges** 63.38 43 ⇑*iP* **P** 12 21 19.3 +1.7
NB2 **NORSAR Subarra** 63.40 23 P **P** 12 21 17.1 -0.3
comp=Z,5.6nm,1.0s,baz=233,slow=6.9
NOA **NORSAR Array B** 63.40 23 P **P** 12 21 17.2 -0.1
comp=Z,2.8nm,0.8s,baz=234,slow=6.6,SNR=5.2
NOA LR LR 12 44 38.9
comp=Z,173nm,21.3s,baz=230,slow=32
SCO **Scoresbysund** 63.56 5 *eP* **P** 12 21 18.2 0.0
comp=Z,53nm,1.9s
SCO **Scoresbysund** 63.56 5 *eP* **P** 12 21 18.2 0.0
SCO pmax pmax
comp=Z,53nm,1.9s
VOIR 63.68 43 ⇓*iP* **P** 12 21 19.0 -0.6
VOIR 63.68 43 ⇓P **P** 12 21 19.1 -0.6
HFS **Hagfors** 63.86 25 LR LR 12 47 43.5
comp=Z,143nm,18.7s,baz=251,slow=35
MLR **Muntele Rosu** 64.30 43 P **P** 12 21 24.9 +1.2
comp=Z,4.0nm,1.0s,baz=216,slow=8.7,SNR=13
MLR LR LR 12 48 20.7
comp=Z,31nm,19.6s,baz=251,slow=35
MLR **Muntele Rosu** 64.30 43 ⇑*iP* **P** 12 21 24.8 +1.1
MLR **Muntele Rosu** 64.30 43 *eP* **P** 12 21 24.1 +0.4
comp=Z,51nm,1.3s
MLR **Muntele Rosu** 64.30 43 ⇑P **P** 12 21 24.8 +1.1
WMOK **Wichita Mounta** 64.65 305 *eP* **P** 12 21 24.6 -1.5
comp=Z,7.1nm,1.3s
WMOK **Wichita Mounta** 64.65 305 *eP* **P** 12 21 24.6 -1.5
WMOK pmax pmax
comp=Z,7.0nm,1.3s
ECSD **EROS Data Cent** 64.83 315 *eP* **P** 12 21 26.4 -0.8
comp=Z,13nm,1.3s
VRI **Vrincioaia** 64.93 43 ⇑*iP* **P** 12 21 28.0 +0.3
VRI **Vrincioaia** 64.93 43 ⇑P **P** 12 21 28.0 +0.3
JCT **Junction City** 64.94 300 *eP* **P** 12 21 28.5 +0.4
comp=Z,11nm,1.1s
JCT **Junction City** 64.94 300 *eP* **P** 12 21 28.5 +0.4
JCT pmax pmax
comp=Z,11nm,1.1s
ABTX **Abilene, Hawle** 65.06 302 *eP* **P** 12 21 29.3 +0.4
comp=Z,17nm,1.2s
SUMG **Summit** 65.18 359 *eP* **P** 12 21 29.4 +0.1
comp=Z,24nm,1.2s
SUMG **Summit** 65.18 359 *eP* **P** 12 21 29.4 +0.1
SUMG pmax pmax
comp=Z,24nm,1.2s
BGNE **Belgrade** 65.39 312 *eP* **P** 12 21 30.4 -0.5
comp=Z,61nm,1.0s
AGMN **Agassiz Nation** 65.58 320 *eP* **P** 12 21 31.2 -0.7
comp=Z,14nm,1.4s
JMIC **Jan Mayen** 65.64 9 LR LR 12 44 01.2
comp=Z,50nm,19.3s,baz=248,slow=30
CBKS **Cedar Bluff** 66.08 309 *eP* **P** 12 21 33.0 -2.3
comp=Z,23nm,1.2s
CBKS **Cedar Bluff** 66.08 309 *eP* **P** 12 21 33.0 -2.3
CBKS pmax pmax
comp=Z,23nm,1.2s
ULM **Lac du Bonnet** 66.18 322 P **P** 12 21 35.0 -0.7
comp=Z,9.4nm,1.0s,baz=110,slow=7.0,SNR=13
ULM LR LR 12 45 53.1
comp=Z,94nm,20.2s,baz=156,slow=32
ULM **Lac du Bonnet** 66.18 322 *eP* **P** 12 21 35.0 -0.7
comp=Z,12nm,1.0s
ULM **Lac du Bonnet** 66.18 322 *eP* **P** 12 21 35.0 -0.7
ULM pmax pmax
comp=Z,12nm,1.0s
MSTX **Muleshoe** 67.83 304 *eP* **P** 12 21 47.4 +0.8
comp=Z,8.8nm,1.0s
BOSA **Boshof** 67.84 125 P **P** 12 21 49.1 +2.3
comp=Z,4.7nm,0.9s,baz=33,slow=2.3,SNR=4.4
BOSA LR LR 12 45 12.2
comp=Z,162nm,21.0s,baz=236,slow=30
KIEV **Kiev** 67.86 38 ⇑*iP* **P** 12 21 45.8 -0.5
KIEV *i**PP **pP** 12 21 48.7 -1.6
KIEV *e**SP **sP** 12 21 50.0 -1.7
KIEV pmax pmax
comp=Z,3.0nm,1.3s
AKASG **Malin Array Be** 67.88 38 P **P** 12 21 46.8 +0.4
comp=Z,1.7nm,0.6s,baz=255,slow=6.2,SNR=8.9
AKASG LR LR 12 50 14.6
comp=Z,61nm,20.1s,baz=275,slow=35
MDND **Maddock** 67.88 319 *eP* **P** 12 21 45.3 -1.3
comp=Z,53nm,1.1s
BR231 **Keskin MP Arra** 67.97 50 *eP* **P** 12 21 50.6 +3.2
TX31 **Lajitas Ar. Si** 68.19 299 *eP* **P** 12 21 49.0 +0.1
TXAR **Lajitas Array** 68.19 299 P **P** 12 21 48.7 -0.2
comp=Z,1.2nm,0.7s,baz=110,slow=7.2,SNR=10
TXAR LR LR 12 49 14.5
comp=Z,78nm,21.8s,baz=0.0,slow=34
FCC **Fort Churchill** 68.20 331 *eP* **P** 12 21 47.0 -1.3
comp=Z,9.8nm,0.8s
FCC **Fort Churchill** 68.20 331 *eP* **P** 12 21 47.0 -1.3
FCC pmax pmax
comp=Z,10.0nm,0.8s
BR131 **Keskin Array S** 68.61 50 *eP* **P** 12 21 51.8 +0.3
BRTR **Keskin Array B** 68.61 50 P **P** 12 21 52.2 +0.8
comp=Z,3.5nm,0.9s,baz=258,slow=6.3,SNR=14
BRTR LR LR 12 54 02.4
comp=Z,80nm,18.5s,baz=253,slow=38
BRTR **Keskin Array B** 68.61 50 *i* P **P** 12 21 53.0 +1.5
BRTR pmax pmax
comp=Z,4.0nm,0.9s
EIL **Elat** 68.63 61 LR LR 12 52 40.5
comp=Z,546nm,20.1s,baz=248,slow=37
MMAI **Mount Meron Ar** 69.26 58 LR LR 12 53 43.0
comp=Z,76nm,21.1s,baz=205,slow=37
T25A **Trinidad** 69.50 307 *eP* **P** 12 21 58.1 +1.0
comp=Z,13nm,1.3s
MHTCO **State Highway** 69.72 307 *eP* **P** 12 21 58.9 +0.4
comp=Z,25nm,1.8s
FINES **FINESS Array B** 69.81 27 P **P** 12 21 58.5 +0.2
comp=Z,2.7nm,0.8s,baz=207,slow=7.9,SNR=4.4
FINES LR LR 12 48 47.7
comp=Z,176nm,21.4s,baz=228,slow=33
MNTX **Cornudas Mount** 69.82 301 *eP* **P** 12 21 59.5 +0.5
comp=Z,5.7nm,1.1s
Q24A **Divide** 70.28 309 *eP* **P** 12 22 02.1 0.0
comp=Z,6.0nm,0.8s
Q24A *eS* **S** 12 31 15.1 +0.7
SDCO **Great Sand Dun** 70.43 307 *eP* **P** 12 22 03.8 +0.8
comp=Z,14nm,1.6s
ISCO **Idaho Springs** 70.73 309 *eP* **P** 12 22 05.1 +0.3
comp=Z,12nm,1.4s
ISCO **Idaho Springs** 70.73 309 *eP* **P** 12 22 05.1 +0.3
ISCO pmax pmax
comp=Z,12nm,1.4s
ANMO **Albuquerque** 70.94 304 *eP* **P** 12 22 06.9 +0.8
comp=Z,15nm,1.8s
ANMO **Albuquerque** 70.94 304 ⇑*iP* **P** 12 22 06.8 +0.8
ANMO pmax pmax
comp=Z,4.0nm,1.3s
FFC **Flin Flon** 71.02 326 *eP* **P** 12 22 05.2 -0.6
comp=Z,16nm,1.1s
FFC **Flin Flon** 71.02 326 *eP* **P** 12 22 05.2 -0.6
FFC pmax pmax
comp=Z,16nm,1.1s
BNM **Barren Site** 71.03 303 *eP* **P** 12 22 06.8 +0.2
N23A **Red Feather La** 71.11 311 *eP* **P** 12 22 08.9 +1.9
comp=Z,15nm,1.3s
LAZ **Ladron** 71.47 304 *eP* **P** 12 22 10.2 +1.0
S22A **4UR Ranch, Cre** 71.47 307 *eP* **P** 12 22 09.8 +0.5
comp=Z,8.6nm,1.4s
TULEG **Thule** 71.57 352 *eP* **P** 12 22 08.0 -0.8
comp=Z,20nm,1.5s
SMCO **Snowmass** 71.72 309 *eP* **P** 12 22 11.0 +0.1
comp=Z,12nm,1.4s
LAO **LASA Array** 72.07 317 *eP* **P** 12 22 13.3 +0.9
comp=Z,29nm,1.1s
KMBO **Kilima Mbogo** 72.16 94 LR LR 12 52 12.9
comp=Z,188nm,20.1s,baz=289,slow=34
MVCO **Mesa Verde** 72.76 307 *eP* **P** 12 22 17.5 +0.6
comp=Z,18nm,1.6s
O20A **White River Ci** 72.78 310 *eP* **P** 12 22 16.9 0.0
comp=Z,22nm,1.1s
PV01 **Paradox Valley** 72.88 308 *eP* **P** 12 22 19.3 +1.7
ARCES **ARCESS Array B** 72.95 19 P **P** 12 22 19.4 +2.3
comp=Z,5.4nm,1.0s,baz=41,slow=24,SNR=4.2
OBN **Obninsk** 73.25 35 ⇑*eP* **P** 12 22 19.9 +0.8
OBN *e* 12 24 58.8
OBN pmax pmax
comp=Z,8.0nm,1.0s
PV10 **Paradox Valley** 73.26 308 *eP* **P** 12 22 21.3 +1.4
PV05 **Paradox Valley** 73.29 307 *eP* **P** 12 22 20.6 +0.6
PV09 **Paradox Valley** 73.34 308 *eP* **P** 12 22 22.3 +1.8
X18A **Snowflake** 73.79 304 *eP* **P** 12 22 23.7 +0.6
comp=Z,9.5nm,1.2s
BW06 **Boulder Array** 73.99 312 *eP* **P** 12 22 23.5 -0.6
comp=Z,20nm,1.6s
PD31 **Pinedale Array** 73.99 312 *eP* **P** 12 22 23.5 -0.6
PDAR **Pinedale Array** 73.99 312 P **P** 12 22 23.8 -0.3
comp=Z,2.6nm,0.6s,baz=89,slow=6.1,SNR=15
PDAR LR LR 12 50 42.7
comp=Z,93nm,21.9s,baz=108,slow=32
RLMT **Red Lodge** 73.99 315 *eP* **P** 12 22 23.8 -0.2
comp=Z,9.8nm,1.0s
LPIG **La Paz** 74.00 293 LR LR 12 53 33.5
comp=Z,47nm,20.4s,baz=82,slow=35
P18A **Preston Nutter** 74.28 309 *eP* **P** 12 22 26.7 +0.8
comp=Z,27nm,1.4s
GCMT **Greycliff** 74.34 315 *eP* **P** 12 22 25.9 0.0
TUC **Tucson** 74.43 301 *eP* **P** 12 22 26.8 +0.2
comp=Z,5.5nm,1.0s
TUC **Tucson** 74.43 301 *eP* **P** 12 22 26.8 +0.2
TUC pmax pmax
comp=Z,5.0nm,1.0s
SRU **San Rafael Swe** 74.47 308 *eP* **P** 12 22 28.1 +1.2
comp=Z,16nm,1.3s
SRU **San Rafael Swe** 74.47 308 *eP* **P** 12 22 28.1 +1.2
SRU pmax pmax
comp=Z,16nm,1.3s
P17A **Butcher Ranch,** 74.65 309 *eP* **P** 12 22 28.5 +0.6
comp=Z,9.8nm,1.1s
LOHW **Long Hollow** 74.82 313 *eP* **P** 12 22 29.4 +0.6
comp=Z,12nm,1.1s
H17A **Grant Village** 74.86 314 *eP* **P** 12 22 28.8 -0.3
comp=Z,14nm,1.4s
APA **Apatity** 74.91 22 ⇓*iP* P 12 22 23.7 -4.9
APA pmax pmax
comp=Z,5.0nm,1.1s
SNOW **Snow King Moun** 74.92 313 *eP* **P** 12 22 29.3 -0.2
comp=Z,26nm,1.4s
MOOW **Moose Ponds** 74.93 313 *eP* **P** 12 22 29.4 -0.1
comp=Z,12nm,1.3s
REDW **Red Top Meadow** 74.98 313 *eP* **P** 12 22 29.8 0.0
comp=Z,13nm,1.1s
WUAZ **Wupatki** 74.99 305 *eP* **P** 12 22 30.5 +0.5
comp=Z,9.4nm,1.0s
TMUT **Trail Mountain** 75.00 309 *eP* **P** 12 22 30.5 +0.4
comp=Z,34nm,2.0s
YPP **Pitchstone Pla** 75.01 314 *eP* **P** 12 22 32.7 +2.6
comp=Z,7.6nm,1.2s
X16A **Lo Mia Camp, P** 75.02 304 *eP* **P** 12 22 31.6 +1.4
comp=Z,10nm,1.3s
YFT **Old Faithful** 75.05 314 *eP* **P** 12 22 30.6 +0.4
comp=Z,63nm,2.0s
TPAW **Teton Pass** 75.06 313 *eP* **P** 12 22 30.0 -0.3
comp=Z,16nm,1.1s
IMW **Indian Meadow** 75.08 313 *eP* **P** 12 22 30.9 +0.5
comp=Z,12nm,1.0s
YHH **Holmes Hill** 75.08 314 *eP* **P** 12 22 30.7 +0.2
comp=Z,15nm,1.3s
FXWY **Fox Creek** 75.12 313 *eP* **P** 12 22 31.2 +0.5
comp=Z,9.3nm,1.2s
YMR **Madison River** 75.16 314 *eP* **P** 12 22 31.8 +1.0
comp=Z,18nm,0.9s
JLU **Jordanelle** 75.25 310 *eP* **P** 12 22 32.9 +1.4
comp=Z,23nm,1.6s
RES **Resolute Bay** 75.31 346 *eP* **P** 12 22 30.8 0.0
comp=Z,6.3nm,0.9s
RES **Resolute Bay** 75.31 346 *eP* **P** 12 22 30.8 0.0
RES pmax pmax
comp=Z,6.0nm,0.9s
YHB **Horse Butte** 75.33 314 *eP* **P** 12 22 33.0 +1.2
comp=Z,13nm,1.2s
MPU **Maple Canyon** 75.37 309 *eP* **P** 12 22 32.6 +0.5
comp=Z,4.8nm,1.0s
MPU *eS* **S** 12 32 11.4 -0.7
HWUT **Hardware Ranch** 75.39 311 *eP* **P** 12 22 32.6 +0.4
comp=Z,10nm,0.9s
QLMT **Earthquake Lak** 75.50 314 *eP* **P** 12 22 35.6 +2.8
comp=Z,1.1nm,1.0s
BOZ **Bozeman (W)** 75.69 315 *eP* **P** 12 22 34.6 +0.8
comp=Z,7.9nm,1.1s
BOZ **Bozeman (W)** 75.69 315 *eP* **P** 12 22 34.6 +0.8
BOZ pmax pmax
comp=Z,8.0nm,1.1s
NLU **North Lily Min** 75.70 309 *eP* **P** 12 22 34.1 +0.1
comp=Z,19nm,1.6s
MTPU **Mount Pierson** 75.72 307 *eP* **P** 12 22 35.1 +0.7
comp=Z,10nm,1.0s
MSU **Marysvale** 75.73 308 *eP* **P** 12 22 35.9 +1.7
MSU **Marysvale** 75.73 308 *eP* **P** 12 22 35.9 +1.7
U15A **North Rim** 75.76 306 *eP* **P** 12 22 35.6 +1.1
comp=Z,19nm,1.8s
KIV **Kislovodsk** 75.77 47 *eP* **P** 12 22 35.3 +1.1
KIV pmax pmax
comp=Z,9.0nm,1.1s
KLMR **Klimovskoe** 75.88 29 *eP* **P** 12 22 31.2 -3.1
KLMR AMP 12 22 38.3
comp=Z,13nm,0.9s
KLMR **Klimovskoe** 75.88 29 *eP* **P** 12 22 31.1 -3.2
KLMR pmax pmax
comp=Z,13nm,0.9s
KBZ **Khabaz** 75.91 47 P **P** 12 22 37.6 +2.8
comp=Z,2.0nm,0.8s,baz=232,slow=3.8,SNR=6.3
HRY **Holter Researc** 75.91 316 *eP* **P** 12 22 34.9 -0.1
KNB **Kanab** 76.20 306 *eP* **P** 12 22 36.5 -0.4
comp=Z,14nm,1.6s
KNB **Kanab** 76.20 306 *eP* **P** 12 22 36.5 -0.4
KNB pmax pmax
comp=Z,14nm,1.6s
DUG **Dugway, Tooele** 76.28 309 *eP* **P** 12 22 37.7 +0.5
comp=Z,9.4nm,1.2s
LRM **Limekiln Ridge** 76.28 315 *eP* **P** 12 22 38.1 +0.8
HVU **Hansel Valley** 76.31 311 *eP* **P** 12 22 37.2 -0.2
comp=Z,13nm,1.5s
HVU **Hansel Valley** 76.31 311 *eP* **P** 12 22 37.2 -0.2
HVU pmax pmax
comp=Z,13nm,1.5s
ATD **Arta Tunnel** 76.32 80 LR LR 12 57 42.4
comp=Z,152nm,18.3s,baz=348,slow=37
DLMT **Dillon** 76.36 315 *eP* **P** 12 22 37.7 +0.1
comp=Z,21nm,1.3s
SZCU **Shurtz Canyon** 76.42 307 *eP* **P** 12 22 37.3 -0.9
comp=Z,23nm,1.6s
BGU **Big Grassy Mou** 76.47 310 *eP* **P** 12 22 39.2 +0.9
comp=Z,14nm,1.2s
MCMT **McKenzie Canyo** 76.50 314 *eP* **P** 12 22 39.1 +0.6
comp=Z,6.7nm,1.7s
CCUT **Cedar City** 76.64 307 *eP* **P** 12 22 41.0 +1.5
comp=Z,15nm,1.2s
W13A **Hualapai Mount** 77.04 304 *eP* **P** 12 22 41.6 -0.1
comp=Z,8.7nm,1.4s
MSO **Missoula** 77.37 316 *eP* **P** 12 22 42.2 -1.0
comp=Z,6.6nm,1.3s
EDM **Edmonton** 77.39 323 *eP* **P** 12 22 43.0 -0.1
comp=Z,30nm,1.0s
EDM **Edmonton** 77.39 323 *eP* **P** 12 22 43.0 -0.1
EDM pmax pmax
comp=Z,30nm,1.0s
WALA **Waterton Lakes** 77.46 319 *eP* **P** 12 22 43.2 -0.4
comp=Z,12nm,1.1s
Y12C **Blythe** 77.58 303 *eP* **P** 12 22 45.0 +0.5
comp=Z,8.6nm,1.0s
HLID **Hailey** 77.58 313 *eP* **P** 12 22 44.4 -0.1
comp=Z,8.9nm,1.3s
JTMT **Jette** 77.64 317 *eP* **P** 12 22 44.8 +0.1
comp=Z,15nm,1.4s
LDFC **Landfair** 78.05 304 *eP* **P** 12 22 46.8 -0.4
comp=Z,12nm,1.1s
RAYN **Ar Rayn** 78.05 68 *eP* **P** 12 22 47.6 +0.2
comp=Z,20nm,1.9s
RAYN **Ar Rayn** 78.05 68 *eP* **P** 12 22 47.6 +0.2
RAYN pmax pmax
comp=Z,20nm,1.9s
R11A **Troy Canyon, C** 78.40 308 *eP* **P** 12 22 50.9 +1.7
comp=Z,8.4nm,1.4s
YKA **Yellowknife Ar** 78.88 332 P **P** 12 22 49.6 -1.5
comp=Z,5.2nm,0.8s,baz=96,slow=5.6,SNR=75
TPNV **Topopah Spring** 78.94 306 *eP* **P** 12 22 51.9 -0.3
comp=Z,7.8nm,1.0s
TPNV **Topopah Spring** 78.94 306 *eP* **P** 12 22 51.9 -0.3
TPNV pmax pmax
comp=Z,8.0nm,1.0s
MAK **Makhachkala** 79.25 48 *eP* **P** 12 22 49.3 -4.2
MAK *eS* **S** 12 32 47.6 -6.0
MAK pmax pmax
comp=Z,208nm,1.5s
MAK MLR MLR
comp=Z,117nm,16.0s
NEW **Newport** 79.56 318 *eP* **P** 12 22 55.4 +0.2
comp=Z,20nm,1.7s
NEW **Newport** 79.56 318 *eP* **P** 12 22 55.4 +0.2
NEW pmax pmax
comp=Z,20nm,1.7s
BMN **Battle Mountai** 79.65 310 *eP* **P** 12 22 56.0 0.0
comp=Z,17nm,1.4s
BMN **Battle Mountai** 79.65 310 *eP* **P** 12 22 56.0 0.0
BMN pmax pmax
comp=Z,17nm,1.4s
RPN **Rapa Nui** 79.92 241 LR LR 12 55 00.4
comp=Z,111nm,18.5s,baz=68,slow=33
DAC **Darwin (Calif)** 80.04 305 *eP* **P** 12 22 57.9 -0.4
comp=Z,15nm,1.4s
DAC **Darwin (Calif)** 80.04 305 *eP* **P** 12 22 57.9 -0.4
DAC pmax pmax
comp=Z,15nm,1.4s
NV01 **Mina Array Sit** 80.54 308 *eP* **P** 12 23 00.4 -0.5
NVAR **Mina Array Bea** 80.54 308 P **P** 12 23 01.4 +0.5
comp=Z,2.3nm,0.9s,baz=80,slow=6.6,SNR=6.8
WVOR **Wild Horse Val** 80.67 312 *eP* **P** 12 23 01.4 0.0
comp=Z,59nm,0.6s
WVOR *eS* **S** 12 33 10.6 +1.5
WVOR **Wild Horse Val** 80.67 312 *eP* **P** 12 23 01.4 0.0
WVOR *eS* **S** 12 33 10.6 +1.5
WVOR pmax pmax
comp=Z,59nm,0.6s
ISA **Isabella, Lake** 80.78 305 *eP* **P** 12 23 01.7 -0.4
comp=Z,9.1nm,1.2s
ISA **Isabella, Lake** 80.78 305 *eP* **P** 12 23 01.7 -0.4
ISA pmax pmax
comp=Z,9.0nm,1.2s
SNAA **Sanae** 81.61 170 *eP* **P** 12 23 05.1 -0.6
SNAA **Sanae** 81.61 170 ⇑*eP* **P** 12 23 06.5 +0.8
SNAA pmax pmax
comp=Z,212nm,1.4s
MOD **Modoc Plateau** 81.93 311 *eP* **P** 12 23 12.6 +4.4
comp=Z,13nm,1.4s
YBH **Yreka Blue Hor** 83.74 311 LR LR 12 57 52.6
comp=Z,62nm,20.2s,baz=100,slow=34
OPO **Ambohidratompo** 84.61 109 LR LR 12 56 45.7
comp=Z,157nm,21.9s,baz=310,slow=33
AKTO **Aktyubinsk** 86.04 40 LR LR 13 03 19.9
comp=Z,58nm,18.3s,baz=270,slow=37
INK **Inuvik** 86.49 338 *eP* **P** 12 23 30.4 -0.2
comp=Z,9.8nm,1.3s
INK **Inuvik** 86.49 338 *eP* **P** 12 23 30.4 -0.2
INK pmax pmax
comp=Z,10.0nm,1.3s

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
DLBC	Dease Lake	86.61	328	eP	P	12 23 27.6	-3.9
	comp=Z,22nm,1.3s						
GEYT	Alibeck	87.66	52	LR	LR	13 05 07.8	
	comp=Z,40nm,21.5s,baz=140,slow=37						
DAWY	Dawson	89.82	335	eP	P	12 23 48.0	+1.4
	comp=Z,17nm,1.6s						
WSAR	Wadi Sarin	90.08	67	LR	LR	13 06 16.5	
	comp=Z,406nm,19.0s,baz=281,slow=37						
TOLK	Toolik Lake Re	91.99	341	eP	P	12 23 58.9	+2.3
	comp=Z,11nm,1.3s						
IL1	Eielson Array	92.64	337	eP	P	12 23 59.1	-0.5
ILAR	Eielson Array	92.64	337	P	P	12 23 59.5	-0.2
	comp=Z,1.7nm,1.1s,baz=83,slow=3.2,SNR=9.7						
ILAR				LR	LR	13 03 51.6	
	comp=Z,44nm,19.4s,baz=76,slow=34						
COLA	College	92.97	337	iP	P	12 24 01.0	-0.1
COLA				pmax	pmax		
	comp=Z,2.0nm,1.0s						
BVAR	Borovoye Array	93.06	36	LR	LR	13 03 48.4	
	comp=Z,89nm,21.6s,baz=290,slow=34						
RKT	Rikitea	102.36	248	eLR	LR	12 58 17.6	
	comp=Z,238nm,37.5s						
TAOE	Nuku Hiva Isla	106.39	263	eLR	LR	13 00 08.7	
	comp=Z,156nm,28.0s						
PPT2	Papeete2	115.96	254	eSS	SS	12 46 44.2	+5.5
	comp=Z,115nm,32.2s						
PPT2	Papeete2	115.96	254	eLR	LR	13 04 34.3	
	comp=Z,159nm,24.2s						
LZH	Lanzhou	121.77	39	ePKP	PKPdf	12 29 33.4	-9.5
LZH				pPKP	PKiKP	12 29 43.0	0.0
LZH				sPKP		12 29 47.1	
LZH				LR	LR		
	comp=N,67nm,14.1s						
LZH				LR	LR		
	comp=E,80nm,15.0s						
LZH				LR	LR		
	comp=Z,100nm,18.7s						
HHC	Hu-ho-hao-te	122.81	30	ePKP	PKPdf	12 29 45.7	+1.0
CD2	Chengdu	124.89	44	PKP	PKPdf	12 29 47.0	-1.9
GYA	Guiyang	129.57	47	ePdif	Pdif	12 26 44.0	-1.5
GYA				PKP	PKPdf	12 29 57.4	-0.6
GYA				PP	PP	12 32 10.3	+2.8
GYA				AMB	AMB		
	comp=Z,120nm,7.9s						
NJ2	Nanjing	133.32	31	ePKP	PKPdf	12 30 04.0	-0.8
SBUM	Sibu	145.49	75	ePKPdf	PKPdf	12 30 27.4	0.0
DZM	Mont Dzumac	155.00	232	eLR	LR	13 22 41.1	
	comp=Z,163nm,23.8s						
DZM	Mont Dzumac	155.00	232	ePKPdf	PKPdf	12 30 41.9	-0.2
DZM				ePKPab	PKPab	12 31 05.9	-0.3
ASAR	Alice Springs	160.40	147	PKP	PKPdf	12 30 48.4	-0.3
	comp=Z,0.7nm,1.0s,baz=225,slow=0.1,SNR=3.9						
WB2	Warramunga Arr	163.54	140	ePKPab	PKPab	12 31 43.3	+0.1

NIED 04 12:12:00, 36°.00N×141°.10E, h17km, Mw3.6 Best double couple: M0 2.88000×10^14 NP1: φs252.00000°, δ53.00000°, λ7.00000°. NP2: φs157.00000°, δ84.00000°, λ143.00000°.
IDC 04 12:12:03.6±1.1, 35°.73N×140°.99E, h0km, mb3.4/6, mb1 3.5/8, mb1mx3.4/70, mbtmp3.4/8, ML3.0/2, MS2.8/1, Ms1 2.8/1, ms1mx2.4/40, Error ellipse: s-maj=29.8km s-min=18.6km az=81.0
JMA 04 12:12:05.7±0.1, 35°.92N×141°.04E, h29km±1km, M3.5
JMA Felt I J1.
ISCJB 04 12:12:06.1±2.6, 35°.84N±0°.05×140°.94E±0°.09, h32km±20km, mb3.4/6, Error ellipse: s-maj=12.0km s-min=7.2km az=166.2
ISC 04 12:12:06.5±1.0, 35°.85N±0°.05×140°.93E±0°.09, h21km±2km, n20, σ1s.32/17, mb3.5/6, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CHOJ	Chosi	0.15	202	P	Pb	12 12 12.3	-0.1
CHOJ				S	Sb	12 12 16.8	+0.2
JYT	Yasato	0.71	303	P	Pb	12 12 19.6	-0.5
JHO	Hitachi	0.82	339	P	Pb	12 12 20.1	-1.9
BSO3	Boso 3	1.10	198	P	Pb	12 12 27.3	+0.7
MJAR	Matsushiro Arr	2.31	288	Pn	Pn	12 12 43.6	+0.4
	4.2nm,0.3s,baz=98,slow=8.5,SNR=56						
MJAR				Sn	Sn	12 13 11.1	0.0
	4.1nm,0.3s,baz=145,slow=12,SNR=5.4						
MJAR				LR	LR	12 13 18.5	
	comp=Z,48nm,19.4s,baz=15,slow=32						
MAT	Matsushiro	2.31	288	P	Pn	12 12 44.0	+0.7
MAT				S	Sn	12 13 09.5	-1.6
JHJ	Hachijo jima 2	2.88	200	Pn	Pn	12 12 49.2	-1.9
	4.8nm,0.3s,baz=26,slow=14,SNR=1.1						
JHJ				Sn	Sn	12 13 23.5	-1.6
	8.6nm,0.3s,baz=56,slow=21,SNR=1.9						
KSRS	Korea Array	10.57	283	LR	LR	12 18 45.6	
	comp=Z,54nm,19.1s,baz=156,slow=38						
H11N2	WAKE ISLAND Hy	27.90	118	T	T	12 46 52.8	
	baz=311,slow=75,SNR=43						
H11N1	WAKE ISLAND Hy	27.91	118	T	T	12 46 51.7	
	baz=311,slow=75,SNR=45						
H11N3	WAKE ISLAND Hy	27.92	118	T	T	12 46 52.5	
	baz=311,slow=75,SNR=42						
H11S1	WAKE ISLAND Hy	28.57	120	T	T	12 47 41.9	
	baz=313,slow=75,SNR=38						
H11S3	WAKE ISLAND Hy	28.57	120	T	T	12 47 41.7	
	baz=313,slow=75,SNR=32						
H11S2	WAKE ISLAND Hy	28.58	120	T	T	12 47 46.9	
	baz=313,slow=75,SNR=28						
ZALV	Zalesovo Beam	42.44	313	P	P	12 20 02.2	+2.8
	0.3nm,0.4s,baz=96,slow=7.2,SNR=2.9						
MKAR	Makanchi Array	44.43	303	P	P	12 20 16.2	+0.5
	0.5nm,0.7s,baz=88,slow=8.7,SNR=3.7						
KURBB	Kurchatov Arra	46.43	309	P	P	12 20 31.5	0.0
	0.5nm,0.6s,baz=85,slow=7.6,SNR=4.1						
ILAR	Eielson Array	50.70	32	P	P	12 21 04.8	+0.6
	0.2nm,0.6s,baz=279,slow=7.2,SNR=2.9						
WRA	Warramunga Arr	55.83	188	P	P	12 21 42.0	-0.3
	0.4nm,0.6s,baz=5.9,slow=7.5,SNR=8.0						
ASAR	Alice Springs	59.56	187	P	P	12 22 08.7	+0.2
	0.2nm,0.7s,baz=13,slow=11,SNR=5.1						

MAN 04 12:13:00, 16°.15N×124°.17E, h19km, mb4.9, ML3.8, MS3.8, 1C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CAUP	Cauayan	2.38	290	eP	Pn	12 13 39.6	+1.6
CAUP				eS	Sb	12 14 09.6	-1.8
BALP	Baler	2.53	261	eP	Pn	12 13 39.7	-0.4
BALP				eS	Sn	12 14 08.1	-2.3
PVCP	Virac	2.54	180	eP	Pn	12 13 40.6	+0.4
GQP	Guinayangan	2.79	217	⇑eP	Pn	12 13 45.8	+2.2
GQP				eS	Sn	12 14 18.5	+1.8
APYP	Conner	3.27	302	eP	Pn	12 13 51.5	+1.2
APYP				eS	Sn	12 14 30.9	+2.1
BOAC	Boac	3.50	220	eP	Pn	12 13 53.7	+0.3
ABRA	Dolores	3.63	295	eP	Pn	12 13 56.4	+1.2
CNP	Catarman	3.65	172	eP	Pn	12 13 56.8	+1.3
OTRP	Odiongan	4.31	209	eP	Pn	12 14 07.1	+2.6
SJMP	San Jose	4.71	219	eP	Pn	12 14 13.7	+3.6

DDA 04 12:36:18.7, 39°.99N×33°.06E, h9km, Ml2.5
ISK 04 12:36:18.6, 39°.86N×32°.96E, h26km, ML2.1/4
CSEM 04 12:36:19.7±0.2, 39°.87N×33°.11E, h8km, ML2.1, Error ellipse: s-maj=5.9km s-min=4.4km az=69.0
ISC 04 12:36:20.3±1.3, 39°.88N±0°.03×33°.09E±0°.04, h3km±16km, n16, σ0s.71/25, Turkey

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ANTO	Ankara	0.23	268	PG	Pg	12 36 24.0	-0.8
ANTO				SG	Sg	12 36 28.1	+0.3
ANTO	Ankara	0.23	268	ePg	Pg	12 36 24.0	-0.8
ANTO				eSg	Sg	12 36 28.1	+0.3
BBAL	Bala	0.34	176	iP	Pg	12 36 27.6	+0.8
BBAL				iS	Sb	12 36 34.8	-0.1
BBAL	Bala	0.34	176	P	Pg	12 36 27.6	+0.8
BBAL				S	Sb	12 36 34.8	-0.1
AFSR	Af¯ar-Bala (A	0.43	182	PG	Pg	12 36 27.9	-0.7
AFSR				SG	Sg	12 36 34.9	+0.7
AFSR	Af¯ar-Bala (A	0.43	182	ePg	Pg	12 36 27.9	-0.7
AFSR				eSg	Sg	12 36 34.9	+0.7
KKUL	Konya-Kulu	0.72	191	iP	Pg	12 36 33.4	-0.7
KKUL				iS	Sb	12 36 46.1	+0.3
KKUL	Konya-Kulu	0.72	191	P	Pg	12 36 33.4	-0.7
KKUL				S	Sb	12 36 46.2	+0.3
CANT	Cankiri	0.83	29	PG	Pg	12 36 35.7	-0.6
SERE	Sereflikochisa	1.00	158	PG	Pg	12 36 38.3	-1.2
SERE	Sereflikochisa	1.00	158	ePg	Pg	12 36 38.3	-1.2
CDAG	Cicekdag	1.02	104	iP	Pg	12 36 39.4	-0.5
CDAG	Cicekdag	1.02	104	P	Pg	12 36 39.4	-0.5
BCAM	Yenicaga	1.22	320	iP	Pg	12 36 43.5	-0.3
BCAM				iS	Sb	12 37 01.1	+0.7
BCAM	Yenicaga	1.22	320	P	Pg	12 36 43.5	-0.3
BCAM				S	Sb	12 37 01.1	+0.7
SVRH	Sivrihisar-ESK	1.29	251	PN	Pg	12 36 39.5	-5.5

ISCJB 04 12:53:48.0±1.0, 29°.40S±0°.09×178°.8W±0°.2, h350km, mb3.3/4, Error ellipse: s-maj=18.3km s-min=12.5km az=7.6
IDC 04 12:53:48.4±1.3, 29°.45S×178°.71W, h344km±12km, mb3.3/4, mb1 3.4/6, mb1mx3.1/43, mbtmp4.1/6, Error ellipse: s-maj=40.2km s-min=24.8km az=102.0
ISC 04 12:53:48.3±1.2, 29°.5S±0°.1×178°.7W±0°.2, h350km, n8, σ0s.82/10, mb3.4/4, Kermadec Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	0.71	69	P	Pn	12 54 33.3	+0.2
	329nm,0.3s,baz=98,slow=6.6,SNR=7.5						
RAO				S	S	12 55 08.2	-0.8
	130nm,0.3s,baz=87,slow=23,SNR=5.1						
URZ	Urewera	9.40	201	P	P	12 56 01.2	+0.3
	1.3nm,0.3s,baz=273,slow=5.4,SNR=28						
URZ				S	S	12 57 45.0	-0.9
	2.3nm,0.3s,baz=3.6,slow=23,SNR=17						
DZM	Mont Dzumac	15.30	296	P	Pn	12 57 07.5	-1.4
	0.6nm,0.3s,baz=140,slow=17,SNR=8.1						
CTA	Charters Tower	33.08	278	P	P	12 59 53.2	+0.5
	1.0nm,0.4s,baz=94,slow=11,SNR=5.1						
STKA	Stephens Creek	34.12	256	P	P	13 00 02.4	+1.0
	1.5nm,0.8s,baz=93,slow=12,SNR=3.3						
ASAR	Alice Springs	42.57	266	P	P	13 01 11.2	-0.1
	1.0nm,0.4s,baz=99,slow=6.8,SNR=12						
WRA	Warramunga Arr	43.48	272	P	P	13 01 18.4	-0.2
	1.4nm,0.6s,baz=109,slow=7.5,SNR=24						
FINES	FINESS Array B	144.11	340	PKP	PKPdf	13 12 41.9	0.0
	2.3nm,0.8s,baz=67,slow=3.6,SNR=7.0						

ISCJB 04 12:58:43.8±0.8, 40°.42N±0°.03×35°.06E±0°.07, h3km±8km, Error ellipse: s-maj=8.7km s-min=5.3km az=2.8
CSEM 04 12:58:43.9±0.3, 40°.42N×35°.01E, h2km, ML2.7, Error ellipse: s-maj=9.4km s-min=6.3km az=101.0
ISK 04 12:58:43.2, 40°.39N×35°.02E, h5km, ML2.6/5
DDA 04 12:58:43.8, 40°.41N×35°.03E, h7km, Ml2.7
ISC 04 12:58:43.9±1.0, 40°.43N±0°.02×35°.00E±0°.04, h10km±9km, n22, σ0s.82/30, Turkey

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
COAL	Corum-Alaca	0.17	184	iP	Pg	12 58 47.1	-0.6
COAL				iS	Sg	12 58 50.7	+0.3
COAL	Corum-Alaca	0.17	184	P	Pg	12 58 47.1	-0.6
COAL				S	Sg	12 58 50.7	+0.3
CTAK	Corum_Osmancik	0.27	324	iP	Pg	12 58 49.3	-0.2
CTAK				iS	Sb	12 58 55.4	-0.4
CTAK	Corum_Osmancik	0.27	324	P	Pg	12 58 49.3	-0.2
CTAK				S	Sb	12 58 55.4	-0.4
CORM	Corum	0.38	229	PG	Pg	12 58 50.9	-0.6
CORM				SG	Sb	12 58 58.2	-0.7
CORM	Corum	0.38	229	ePg	Pg	12 58 50.9	-0.6
CORM				eSg	Sb	12 58 58.2	-0.7
YOZ	Yozgat	0.82	163	PG	Pg	12 58 59.1	-0.7
YOZ	Yozgat	0.82	163	ePg	Pg	12 58 59.1	-0.7
HAVZ	Havza	0.84	40	iP	Pg	12 59 00.5	+0.3
HAVZ	Havza	0.84	40	P	Pg	12 59 00.5	+0.3
CDAG	Cicekdag	0.94	211	iP	Pg	12 59 01.3	-0.7
CDAG				iS	Sb	12 59 15.9	+1.0
CDAG	Cicekdag	0.94	211	P	Pg	12 59 01.3	-0.7
CDAG				S	Sb	12 59 15.9	+1.0
BOYT	Boyabat	0.99	356	iP	Pg	12 59 01.1	-2.0
BOYT	Boyabat	0.99	356	P	Pg	12 59 01.1	-2.0
ILGA	Ilgaz	1.16	303	iP	Pg	12 59 05.9	-0.3
ILGA	Ilgaz	1.16	303	P	Pg	12 59 05.9	-0.3
SNOP	Sinop	1.60	5	PN	Pb	12 59 13.9	+0.4
SNOP	Sinop	1.60	5	ePn	Pb	12 59 13.9	+0.4
SVSK	Karacayir	1.61	108	PN	Pb	12 59 13.9	+0.1
SVSK	Karacayir	1.61	108	ePn	Pb	12 59 13.9	+0.1
BZK	Bozkurt	1.71	334	PN	Pb	12 59 16.4	+1.0
BZK	Bozkurt	1.71	334	ePn	Pb	12 59 16.4	+1.0

IDC 04 13:07:35.8±1.8, 10°.56S×124°.49E, h0km, mb3.8/1, mb1 3.6/3, mb1mx3.3/57, mbtmp3.5/3, ML3.3/2, Error ellipse: s-maj=67.4km s-min=20.9km az=31.0, Timor region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BATI	Baumata	0.89	293	Pn	Pn	13 07 56.0	+0.4
	39nm,0.3s,baz=150,slow=4.3,SNR=24						
BATI				Sn	Sn	13 08 09.3	+0.1
	20nm,0.3s,baz=355,slow=23,SNR=5.6						
WRA	Warramunga Arr	13.31	136	Pn	Pn	13 10 45.4	-0.7
	0.2nm,0.3s,baz=306,slow=14,SNR=9.0						
WRA				Sn	Sn	13 13 07.9	-7.1
	0.1nm,0.3s,baz=304,slow=23,SNR=2.1						
ASAR	Alice Springs	15.82	147	Pn	Pn	13 11 20.9	+0.7
	0.1nm,0.3s,baz=323,slow=11,SNR=17						
ASAR				Sn	Sn	13 14 09.7	-6.7
	0.1nm,0.3s,baz=314,slow=22,SNR=3.0						
MKAR	Makanchi Array	68.40	330	P	P	13 18 39.2	-0.2
	0.7nm,0.7s,baz=139,slow=8.1,SNR=4.3						

IDC 04 13:14:51.5±0.9, 6°.99S×154°.80E, h0km, mb4.0/11, mb1 4.2/13, mb1mx4.0/50, mbtmp4.0/13, ML2.7/2, MS3.1/1, Ms1 3.1/1, ms1mx2.7/39, Error ellipse: s-maj=31.7km s-min=17.5km az=124.0
ISCJB 04 13:14:56.2±0.6, 7°.02S±0°.10×154°.66E±0°.07, h41km, mb3.9/11, Error ellipse: s-maj=14.8km s-min=8.9km az=155.1
ISC 04 13:14:58.1±0.7, 7°.0S±0°.1×154°.68E±0°.09, h41km, n15, σ1s.73/19, mb4.0/11, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HNR	Honiara	5.77	116	Pn	Pn	13 16 22.8	+1.5
	0.9nm,0.3s,baz=302,slow=13,SNR=1.9						
PMG	Port Moresby	7.83	251	Pn	Pn	13 16 49.7	+0.2
	1.2nm,0.3s,baz=69,slow=7.7,SNR=6.1						
PMG				Sn	Sn	13 18 18.7	+1.7
	2.1nm,0.3s,baz=70,slow=19,SNR=9.2						
PMG				LR	LR	13 19 24.0	
	comp=Z,146nm,21.0s,baz=58,slow=34						
CTA	Charters Tower	15.40	211	Pn	Pn	13 18 30.7	-2.0
	0.1nm,0.3s,baz=4.9,slow=5.5,SNR=2.8						
WRA	Warramunga Arr	23.58	235	P	P	13 20 04.1	-1.2
	4.9nm,1.0s,baz=60,slow=9.9,SNR=25						
WRA				PcP	PcP	13 23 50.5	+0.7
	0.4nm,0.8s,baz=67,slow=2.0,SNR=3.6						
ASAR	Alice Springs	25.96	228	P	P	13 20 25.7	-1.4
	1.8nm,0.8s,baz=60,slow=8.9,SNR=16						
ASAR				PcP	PcP	13 23 57.1	+2.1
	0.4nm,1.0s,baz=53,slow=3.6,SNR=3.2						
ASAR				ScP	ScP	13 27 35.9	+4.3
	1.4nm,1.1s,baz=85,slow=2.2,SNR=4.7						
STKA	Stephens Creek	27.64	205	P	P	13 20 40.5	-1.5
	1.6nm,0.8s,baz=18,slow=13,SNR=3.5						
CMAR	Chiang Mai Arr	60.48	296	P	P	13 25 05.6	+1.2
	1.1nm,0.6s,baz=108,slow=4.3,SNR=8.1						
SONM	Songino Array	69.13	327	P	P	13 26 00.9	+0.6
	0.4nm,0.4s,baz=150,slow=8.3,SNR=3.4						
MKAR	Makanchi Array	83.16	319	P	P	13 27 19.9	-0.1
	1.9nm,0.6s,baz=100,slow=5.1,SNR=28						
ILAR	Eielson Array	83.45	22	P	P	13 27 18.8	-2.2
	0.3nm,0.6s,baz=226,slow=5.0,SNR=5.0						
ZALV	Zalesovo Beam	83.97	326	P	P	13 27 23.9	0.0
	0.7nm,0.5s,baz=115,slow=6.5,SNR=3.7						
KURBB	Kurchatov Arra	86.63	322	P	P	13 27 36.0	-1.3
	0.2nm,0.3s,baz=95,slow=4.6,SNR=3.9						
NVAR	Mina Array Bea	91.94	52	P	P	13 28 03.2	+0.2
	1.2nm,0.7s,baz=245,slow=6.8,SNR=5.3						
YKA	Yellowknife Ar	96.45	28	P	P	13 28 21.9	-0.8
	0.7nm,0.9s,baz=266,slow=4.4,SNR=10						
GERES	GERESS Array B	126.85	329	PKP	PKPdf	13 33 57.2	-0.4
	0.9nm,0.6s,baz=116,slow=3.1,SNR=4.1						

ATH 04 13:58:20.5, 34°.44N×23°.97E, h19km±6km, ML2.8/3, Error ellipse: s-maj=9.9km s-min=2.7km az=40.0
CSEM 04 13:58:20.6±0.7, 34°.50N×23°.75E, h12km, ML2.6, Error ellipse: s-maj=13.5km s-min=11.1km az=16.0
THE 04 13:58:22.0, 34°.65N×23°.73E, h0km±5km, ML2.6/4, Error ellipse: s-maj=8.4km s-min=1.7km az=219.0
ISC 04 13:58:20.8±3.1, 34°.5N±0°.1×23°.82E±0°.07, h9km±13km, n17, σ0s.82/26, Crete

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GVD	Gavdhos	0.40	34	P	Pg	13 58 28.9	+0.2
GVD				S	Sg	13 58 34.9	+0.8
GVD				AML	AML	13 58 36.2	
	comp=N,5941µm,0.4s						
GVD				AML	AML	13 58 36.8	
	comp=E,7882µm,0.3s						
GVD	Gavdhos	0.40	34	P	Pg	13 58 29.1	+0.3
GVD				S	Sg	13 58 34.9	+0.8
GVD	Gavdhos	0.40	34	P	Pg	13 58 29.1	+0.3
GVD				S	Sg	13 58 34.9	+0.8
VAM	Vamos	0.95	19	P	Pb	13 58 40.2	+0.6
VAM	Vamos	0.95	19	P	Pg	13 58 37.9	-1.3
VAM				S	Sg	13 58 50.6	-1.0
VAM	Vamos	0.95	19	P	Pb	13 58 39.7	+0.1
VAM				S	Sg	13 58 50.6	-1.0
IMMV	Iera Moni Meta	0.96	8	P	Pg	13 58 39.2	-0.2
IMMV				AML	AML	13 58 56.8	
	comp=E,767µm,0.6s						
IMMV				AML	AML	13 58 57.4	
	comp=N,638µm,0.4s						
IMMV	Iera Moni Meta	0.96	8	P	Pg	13 58 38.0	-1.4
IMMV				S	Sg	13 58 51.5	-0.5
IMMV	Iera Moni Meta	0.96	8	P	Pg	13 58 39.6	+0.2
IMMV				S	Sg	13 58 51.5	-0.5
SIVA	Sivas	0.97	58	P	Pg	13 58 38.7	-0.7
SIVA				AML	AML	13 59 00.8	
	comp=N,849µm,0.6s						
SIVA				AML	AML	13 59 02.0	
	comp=E,1123µm,0.5s						
SIVA	Sivas	0.97	58	P	Pb	13 58 40.1	+0.4
SIVA				S	Sn	13 58 55.3	+0.9
SIVA	Sivas	0.97	58	P	Pb	13 58 40.1	+0.4
SIVA				S	Sn	13 58 55.3	+0.9
ANKY	Antikythira Is	1.42	343	P	Pb	13 58 48.9	+1.3
ANKY	Antikythira Is	1.42	343	P	Pn	13 58 46.4	-0.5
ANKY	Antikythira Is	1.42	343	P	Pn	13 58 46.4	-0.5
LAST	Lasithi	1.52	64	P	Pn	13 58 47.3	-0.9
LAST	Lasithi	1.52	64	P	Pn	13 58 47.5	-0.7

ISN 04 14:18:29.1±1.5, 39°.02N×41°.04E, h0km±4km, ML4.4
ISK 04 14:18:36.9, 39°.30N×41°.04E, h5km, ML4.2/21
ATA 04 14:18:36.5±1.5, 39°.33N×41°.05E, h15km±8km, ML5.1, MW4.5
MOS 04 14:18:37.3±1.9, 39°.20N×41°.06E, h10km, mb4.1/8, Error ellipse: s-maj=7.3km s-min=4.9km az=87.3
DDA 04 14:18:37.2, 39°.35N×41°.03E, h19km, Ml4.3
ISCJB 04 14:18:37.4±0.4, 39°.33N±0°.01×41°.06E±0°.02, h2km±3km, mb4.1/21, MS3.5/22, Error ellipse: s-maj=2.2km s-min=2.0km az=141.3
IDC 04 14:18:37.5±0.7, 39°.32N×41°.01E, h0km, mb3.9/12, mb1 3.9/18, mb1mx3.8/70, mbtmp3.9/18, ML3.3/5, MS3.4/31, Ms1 3.4/31, ms1mx3.3/62, Error ellipse: s-maj=14.0km s-min=9.4km az=162.0
NEIC 04 14:18:38.6±0.3, 39°.23N×41°.03E, h10km, mb4.4/6, ML4.3(ISK), Error ellipse: s-maj=6.1km s-min=4.7km az=179.0
CSEM 04 14:18:38.9±0.1, 39°.30N×41°.05E, h10km, mb4.1/7, Ms3.1, Error ellipse: s-maj=3.0km s-min=2.5km az=175.0
DSN 04 14:18:41.1±1.2, 39°.26N×41°.20E, h15km, mb4.3/1, Error ellipse: s-maj=24.1km s-min=7.6km az=82.0
ISC 04 14:18:38.1±1.0, 39°.32N±0°.01×41°.05E±0°.01, h6km±6km, n345, σ1s.55/400, mb4.1/25, MS3.3/22, 41C-46D, Turkey

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ECAT	Cat-ERZURUM	0.29	349	iP	Pg	14 18 43.0	-0.8
ECAT				eS	Sg	14 18 48.1	+0.3
ECAT				IAML		14 18 49.9	
	comp=Z,45µm,0.4s						
ECAT	Cat-ERZURUM	0.29	349	⇓iP	Pg	14 18 43.3	-0.5
ECAT				iS	Sg	14 18 48.0	+0.3
ECAT	Cat-ERZURUM	0.29	349	P	Pg	14 18 43.3	-0.5
ECAT				S	Sg	14 18 48.0	+0.3
VRTB	Varto-Mus	0.36	117	PG	Pg	14 18 45.3	+0.2
VRTB	Varto-Mus	0.36	117	⇓iP	Pg	14 18 45.4	+0.2
VRTB				iS	Sb	14 18 52.0	-0.9
VRTB	Varto-Mus	0.36	117	Pg	Pg	14 18 45.4	+0.2
VRTB	Varto-Mus	0.36	117	P	Pg	14 18 45.3	+0.2
VRTB				S	Sb	14 18 52.0	-0.9
BNGB	Bingˆ¶l	0.44	221	PG	Pg	14 18 46.0	-0.7
BNGB				SG	Sg	14 18 52.9	+0.5
BNGB	Bingˆ¶l	0.44	221	Pg	Pg	14 18 45.9	-0.7
BNGB	Bingˆ¶l	0.44	221	Pg	Pg	14 18 45.9	-0.7
BGOL	Bingol	0.45	221	⇑iP	Pg	14 18 46.0	-0.8
BGOL				iS	Sg	14 18 53.4	+0.8
BGOL	Bingol	0.45	221	P	Pg	14 18 46.0	-0.8
BGOL				S	Sg	14 18 53.4	+0.8
BINT	Bingol	0.62	224	ePg	Pg	14 18 46.0	-4.2
BINT				eSg	Sg	14 18 52.9	-5.4
ERZM	Erzurum	0.63	23	iP	Pg	14 18 48.6	-1.7
ERZM	Erzurum	0.63	23	⇑iP	Pg	14 18 48.7	-1.7
ERZM				iS	Sb	14 19 01.5	+0.6
ERZM	Erzurum	0.63	23	P	Pg	14 18 48.7	-1.7
ERZM				S	Sb	14 19 01.5	+0.6
EKAR	Karacoban	0.79	95	eP	Pg	14 18 52.4	-1.0
EKAR				eS	Sb	14 19 05.9	+0.3
EKAR				IAML		14 19 10.7	
	comp=Z,4µm,0.5s						
EKAR	Karacoban	0.79	95	⇑iP	Pg	14 18 52.4	-1.0
EKAR				iS	Sn	14 19 07.4	-0.9
EKAR	Karacoban	0.79	95	P	Pg	14 18 52.4	-1.0
KOPT	Kop Dagi	0.81	329	iP	Pg	14 18 53.3	-0.6
KOPT				eS	Sb	14 19 05.4	-0.8
KOPT				IAML		14 19 14.6	
	comp=Z,4µm,0.5s						
KOPT	Kop Dagi	0.81	329	⇓iP	Pg	14 18 53.2	-0.6
KOPT				iS	Sb	14 19 05.5	-0.8
KOPT	Kop Dagi	0.81	329	P	Pg	14 18 53.2	-0.6
KOPT				S	Sb	14 19 05.5	-0.7
HOMI	Horasan	0.98	42	iP	Pg	14 18 54.7	-2.2
HOMI	Horasan	0.98	42	⇑iP	Pg	14 18 54.8	-2.2
HOMI				iS	Sg	14 19 10.3	+0.6
HANI	Diyarbakir_Han	1.04	209	⇑iP	Pg	14 18 56.8	-1.3
HANI				iS	Sn	14 19 13.3	-0.9
HANI	Diyarbakir_Han	1.04	209	P	Pg	14 18 56.8	-1.3
HANI				S	Sn	14 19 13.3	-0.9
ERZN	Erzincan	1.06	285	PG	Pg	14 18 57.9	-0.6
ERZN	Erzincan	1.06	285	Pg	Pg	14 18 56.7	-1.8
ERZN	Erzincan	1.06	285	Pg	Pg	14 18 56.7	-1.8
GURO	Guroymak-BITLI	1.09	135	PN	Pg	14 18 58.0	-1.0
GURO				SN	Sb	14 19 14.3	+0.3
GURO	Guroymak-BITLI	1.09	135	ePn	Pg	14 18 58.0	-1.0
GURO				eSn	Sb	14 19 14.3	+0.3
EUZM	Uzumlu	1.11	291	iP	Pg	14 18 58.0	-1.6
EUZM				eS	Sg	14 19 13.2	-0.7
EUZM	Uzumlu	1.11	291	⇓iP	Pg	14 18 57.9	-1.6
EUZM				iS	Sg	14 19 13.5	-0.4
EUZM	Uzumlu	1.11	291	P	Pg	14 18 57.9	-1.6
EUZM				S	Sg	14 19 13.5	-0.4
BAYB	BAYBURT	1.11	327	iP	Pg	14 18 58.6	-0.9
BAYB				eS	Sb	14 19 15.3	+0.5
BAYB				IAML		14 19 25.3	
	comp=Z,1µm,0.6s						
BAYB	BAYBURT	1.11	327	⇓iP	Pg	14 18 58.6	-0.9
BAYB				iS	Sn	14 19 16.0	-0.3
BAYB	BAYBURT	1.11	327	P	Pg	14 18 58.6	-0.9
BAYB				S	Sn	14 19 16.0	-0.3
SVAN	Silvan-Diyarba	1.18	174	PN	Pg	14 19 00.1	-0.6
SVAN	Silvan-Diyarba	1.18	174	⇓iP	Pg	14 19 00.4	-0.3
SVAN				iS	Sn	14 19 17.0	-0.6
SVAN	Silvan-Diyarba	1.18	174	Pn	Pb	14 19 00.6	-0.3
SVAN	Silvan-Diyarba	1.18	174	P	Pg	14 19 00.4	-0.3

SVAN S Sn 14 19 17.0 -0.6
TNCL Tunceli-Merkez 1.19 260 *i* P Pg 14 18 59.5 -1.4
TNCL *e*S Sb 14 19 16.5 -0.3
TNCL IAML 14 19 19.6
comp=Z,4µm,0.4s
TNCL Tunceli-Merkez 1.19 260⇑ *i* P Pg 14 18 58.7 -2.2
TNCL *i* S Sg 14 19 16.2 -0.1
TNCL Tunceli-Merkez 1.19 260 P Pg 14 18 58.7 -2.2
TNCL S Sg 14 19 16.2 -0.1
EATA Eleskirt 1.24 64 *i* P Pg 14 19 00.3 -1.6
EATA *e*S Sb 14 19 18.4 -0.1
EATA Eleskirt 1.24 64⇑ *i* P Pg 14 19 00.3 -1.6
EATA *i* S Sn 14 19 19.4 -0.1
EATA Eleskirt 1.24 64 P Pg 14 19 00.3 -1.6
EATA S Sn 14 19 19.4 -0.1
BAYT Ayd¯–ntepe-Bay 1.27 327 PN Pg 14 19 02.4 -0.2
BAYT Ayd¯–ntepe-Bay 1.27 327 *e*Pn Pg 14 19 02.4 -0.2
PTK Pertek 1.36 252 PN Pn 14 19 03.4 -0.4
PTK Pertek 1.36 252 Pn Pn 14 19 01.6 -2.2
PTK Pertek 1.36 252 *e*Pn Pn 14 19 03.4 -0.4
TUTA Tutak 1.37 86 *i* P Pn 14 19 03.1 -0.9
TUTA *e*S Sn 14 19 23.3 +0.6
TUTA IAML 14 19 29.6
comp=Z,3µm,0.5s
TUTA Tutak 1.37 86⇑ *i* P Pn 14 19 02.2 -1.9
TUTA *i* S Sn 14 19 23.6 +0.9
TUTA Tutak 1.37 86 P Pn 14 19 02.2 -1.9
TUTA S Sn 14 19 23.5 +0.9
ADCV BITLIS_Adilcev 1.40 111⇓ *i* P Pn 14 19 02.9 -1.6
ADCV *i* S Sn 14 19 26.2 +2.8
ADCV BITLIS_Adilcev 1.40 111 P Pn 14 19 02.9 -1.6
BTMN Batman 1.44 173⇓ *i* P Pb 14 19 05.4 -0.1
BTMN *i* S Sg 14 19 25.7 +1.2
BTMN Batman 1.44 173 P Pb 14 19 05.4 -0.1
BTMN S Sg 14 19 25.7 +1.2
SRTM Siirt_Merkez 1.50 152⇓ *i* P Pn 14 19 05.6 -0.1
SRTM *i* S Sg 14 19 27.3 +1.1
SRTM Siirt_Merkez 1.50 152 P Pn 14 19 05.6 -0.1
SRTM S Sg 14 19 27.3 +1.1
AGRB Hanur-Agry 1.53 80 PN Pn 14 19 06.1 0.0
AGRB Hanur-Agry 1.53 80 Pn Pn 14 19 05.2 -0.9
AGRB Hanur-Agry 1.53 80 *e*Pn Pn 14 19 06.1 0.0
DYBB Diyarbakir 1.54 208 PN Pn 14 19 06.1 -0.1
DIY Diyarbakir 1.56 205 *e*Pn Pn 14 19 06.1 -0.5
DIYA Diyarbakir 1.58 208⇑ *i* P Pb 14 19 07.5 -0.2
DIYA *i* S Sg 14 19 29.8 +1.0
DIYA Diyarbakir 1.58 208 P Pb 14 19 07.5 -0.2
DIYA S Sg 14 19 29.8 +1.0
SENK Senkaya-Erzuru 1.59 39 PN Pn 14 19 07.3 +0.3
SENK Senkaya-Erzuru 1.59 39 *e*Pn Pn 14 19 07.3 +0.3
KELT Kelkit 1.61 301⇓ *i* P Pn 14 19 07.5 +0.3
KELT *e*S Sg 14 19 31.9 +2.1
KELT Kelkit 1.61 301⇓ *i* P Pn 14 19 06.6 -0.7
KELT *i* S Sg 14 19 32.5 +2.6
KELT Kelkit 1.61 301 P Pn 14 19 06.6 -0.7
GUMT Gumushane 1.66 314 PN Pn 14 19 08.4 +0.5
GUMT Gumushane 1.66 314 *e*Pn Pn 14 19 08.4 +0.5
DDEM Demirkent 1.66 19⇑ *i* P Pn 14 19 07.7 -0.1
DDEM *i* S Sn 14 19 29.4 -0.1
DDEM Demirkent 1.66 19 P Pn 14 19 07.7 -0.1
DDEM S Sn 14 19 29.4 -0.1
DBAD Bademkaya 1.76 16⇑ *i* P Pn 14 19 09.6 +0.3
DBAD *i* S Sb 14 19 33.5 +0.1
DBAD Bademkaya 1.76 16 P Pn 14 19 09.6 +0.3
DBAD S Sb 14 19 33.5 +0.1
REFA Refahiye_ERZ¯ 1.77 273 *e*P Pb 14 19 10.8 -0.3
REFA *e*S Sg 14 19 37.5 +2.4
REFA Refahiye_ERZ¯ 1.77 273⇑ *i* P Pb 14 19 10.8 -0.3
REFA *i* S Sg 14 19 38.1 +3.0
REFA Refahiye_ERZ¯ 1.77 273 P Pb 14 19 10.8 -0.3
CHAY Cayeli-Rize 1.78 352 PN Pn 14 19 10.1 +0.7
CHAY Cayeli-Rize 1.78 352 *e*Pn Pn 14 19 10.1 +0.7
CHOM Cayeli-Rize 1.78 353 *e*Pn Pn 14 19 10.1 +0.6
ELZG Elazig 1.81 243⇑ *i* P Pn 14 19 09.0 -1.0
ELZG *i* S Sg 14 19 40.0 +3.7
ELZG Elazig 1.81 243 P Pn 14 19 09.0 -1.0
GEVA Gevas 1.87 122 *i* P Pn 14 19 11.2 +0.4
GEVA Gevas 1.87 122⇓ *i* P Pn 14 19 11.2 +0.4
GEVA *i* S Sb 14 19 35.6 -0.8
GEVA Gevas 1.87 122 P Pn 14 19 11.2 +0.4
GEVA S Sb 14 19 39.7 -0.8
MACK Trabzon 1.89 329⇓ *i* P Pb 14 19 12.1 -1.0
MACK *i* S Sg 14 19 39.5 +0.6
MACK Trabzon 1.89 329 P Pb 14 19 12.1 -1.0
MAZI Mazidag 1.92 194 PN Pn 14 19 11.7 +0.2
MAZI Mazidag 1.92 194 *e*Pn Pn 14 19 11.7 +0.2
ILIC ilic-Erzincan 1.93 275 PN Pn 14 19 11.8 +0.2
ILIC ilic-Erzincan 1.93 275 *e*Pn Pn 14 19 11.8 +0.2
KTUT Trabzon 1.93 330 PN Pn 14 19 12.2 +0.7
KTUT Trabzon 1.93 330 *e*Pn Pn 14 19 12.2 +0.7
VANB Van 1.97 111 PN Pn 14 19 13.1 +1.0
VANB Van 1.97 111 *e*Pn Pn 14 19 13.1 +1.0
ARTV Artvin 1.98 20 *e*P Pn 14 19 11.9 -0.4
ARTV Artvin 1.98 20⇑ *i* P Pn 14 19 11.8 -0.6
ARTV *i* S Sb 14 19 39.7 +0.1
ARTV Artvin 1.98 20 P Pn 14 19 11.8 -0.6
ARTV S Sb 14 19 39.7 +0.1
KEMA Kemaliye 1.98 269 *i* P Pn 14 19 12.7 +0.4
KEMA *e*S Sb 14 19 39.8 +0.1
KEMA Kemaliye 1.98 269⇑ *i* P Pn 14 19 12.6 +0.4
KEMA *i* S Sg 14 19 43.0 +1.1
KEMA Kemaliye 1.98 269 P Pn 14 19 12.6 +0.3
VMUR Van-Muradiye 1.99 99⇓ *i* P Pn 14 19 13.2 +0.7
VMUR *i* S Sg 14 19 42.5 +0.4
VMUR Van-Muradiye 1.99 99 P Pn 14 19 13.2 +0.7
TVAN Van 2.00 113⇓ *i* P Pn 14 19 13.6 +0.9
TVAN *i* S Sg 14 19 43.5 +0.9
TVAN Van 2.00 113 P Pn 14 19 13.6 +0.9
MARD Mardin 2.02 186 *i* P Pn 14 19 12.4 -0.5
MARD *i* S Sb 14 19 40.4 -0.3
KARS Kars 2.03 50 PN Pn 14 19 13.7 +0.6
KARS Kars 2.03 50 *e*Pn Pn 14 19 13.7 +0.6
DYDN Diyadin 2.06 83 *e*P Pn 14 19 14.1 +0.6
DYDN *e*S Sg 14 19 43.5 -0.8
DYDN Diyadin 2.06 83 *i* P Pb 14 19 14.8 -1.2
DYDN *i* S Sb 14 19 41.8 -0.2
DYDN Diyadin 2.06 83 P Pb 14 19 14.8 -1.2
DYDN S Sb 14 19 41.8 -0.2
DIGO Kars 2.10 58 *i* P Pn 14 19 15.1 +1.0
DIGO Kars 2.10 58⇑ *i* P Pn 14 19 13.2 -0.8
DIGO *i* S Sb 14 19 43.1 0.0
DIGO Kars 2.10 58 P Pn 14 19 13.2 -0.8
DIGO S Sb 14 19 43.1 0.0
SIRN S¯–rnak 2.12 149⇓ *i* P Pn 14 19 14.6 +0.4
SIRN *i* S Sg 14 19 45.6 -0.5
SIRN S¯–rnak 2.12 149 P Pn 14 19 14.6 +0.4
SIRT Sirnak 2.12 149 PN Pn 14 19 14.4 +0.1
SIRT Sirnak 2.12 149 *e*Pn Pn 14 19 14.4 +0.1
CLDR Caldiran 2.24 94 PN Pn 14 19 16.5 +0.6
CLDR Caldiran 2.24 94 *e*Pn Pn 14 19 16.5 +0.6
MALT Malatya 2.28 245 PN Pn 14 19 16.9 +0.5
MALT Malatya 2.28 245 *e*Pn Pn 14 19 16.9 +0.5
SUSE Susehri 2.36 293⇑ *i* P Pn 14 19 17.2 -0.4
SUSE *i* S Sg 14 19 54.8 +0.7
SUSE Susehri 2.36 293 P Pn 14 19 17.2 -0.4
ESPY Espiye-Giresun 2.39 313 PN Pn 14 19 18.6 +0.8
ESPY Espiye-Giresun 2.39 313 *e*Pn Pn 14 19 18.6 +0.8
EAK Akyaka 2.39 55 *e*P Pn 14 19 18.5 +0.5
EAK Akyaka 2.39 55⇑ *i* P Pn 14 19 17.7 -0.3
EAK *i* S Sg 14 19 54.5 -0.4
EAK Akyaka 2.39 55 P Pn 14 19 17.7 -0.3
IGDI IGDIR 2.40 76 *e*P Pn 14 19 19.2 +1.1
HEKM Malatya_Hekimh 2.44 260 *i* P Pn 14 19 19.9 +1.1
HEKM Malatya_Hekimh 2.44 260 P Pn 14 19 19.9 +1.1
EPOS Posof 2.53 30 *e*P Pn 14 19 19.1 -0.8
EPOS IAML 14 20 21.4
comp=Z,52nm,0.7s
EPOS Posof 2.53 30 *i* P Pn 14 19 21.2 +1.3
EPOS *i* S Sb 14 19 53.7 -1.7
EPOS Posof 2.53 30 P Pn 14 19 21.2 +1.3
EPOS S Sb 14 19 53.7 -1.7
URFA Urfa 2.57 224 PN Pn 14 19 20.5 +0.1
URFA Urfa 2.57 224 *e*Pn Pn 14 19 20.5 +0.1
AKCD Akcadag 2.65 248 *i* P Pn 14 19 22.0 +0.5
AKCD Akcadag 2.65 248 P Pn 14 19 22.0 +0.5
SANL SANLIURFA_Merk 2.69 218 *i* P Pn 14 19 24.0 +2.0
SANL SANLIURFA_Merk 2.69 218 P Pn 14 19 24.0 +2.0
AKH Akhalkalaki 2.80 41 P Pb 14 19 26.2 -2.4
AKH Akhalkalaki 2.80 41 *e*Pn Pn 14 19 24.2 +0.6
AKH Akhalkalaki 2.80 41 *e*P Pn 14 19 24.2 +0.6
AKH Akhalkalaki 2.80 41 *e*P Pn 14 19 24.2 +0.6
DARE Darende-Malaty 2.88 256 PN Pn 14 19 25.5 +0.9
DARE Darende-Malaty 2.88 256 *e*Pn Pn 14 19 25.5 +0.9
GNI Garni 2.96 73 Pn Pn 14 19 27.6 +1.7
comp=Z,7.2nm,0.3s,baz=282,slow=2.7,SNR=27
GNI LR LR 14 20 51.3
comp=Z,850nm,18.2s,baz=258,slow=45
GNI Garni 2.96 73 *e*Pn Pn 14 19 26.5 +0.6
GNI Garni 2.96 73 Pn Pn 14 19 27.0 +1.1
SNR=142
GNI Garni 2.96 73 P Pn 14 19 26.1 +0.2
SNR=65
GNI Garni 2.96 73 *e*Pn Pn 14 19 26.5 +0.6
GNI Garni 2.96 73 *e*P Pn 14 19 26.1 +0.2
SNR=65
GNI Garni 2.96 73⇑ *i* P Pn 14 19 27.9 +2.0
HYR Heyderabad 2.97 81⇑ P Pn 14 19 26.3 +0.4
HYR ⇓ S Sn 14 19 59.4 -2.4
NAX Nakhchivan 3.46 91⇑ P Pn 14 19 33.0 +0.4
NAX ⇓ S Sn 14 20 10.9 -3.0
SBZ Shahbuz 3.49 87⇑ P Pn 14 19 33.4 +0.3
SBZ ⇓ S Sn 14 20 12.0 -2.8
TBLG Delisi 3.70 48 *e*P Pn 14 19 37.6 +1.8
TBLG Delisi 3.70 48 P Pn 14 19 36.6 +0.8
TBLG Delisi 3.70 48 P Pn 14 19 36.6 +0.8
TBLG Delisi 3.70 48 *e*Pn Pn 14 19 36.7 +0.8
TBLG Delisi 3.70 48 *e*P Pn 14 19 36.7 +0.8
TBLG Delisi 3.70 48 *e*P Pn 14 19 36.7 +0.8
ONI Oni 3.74 28 P Pn 14 19 38.9 +2.4
ONI Oni 3.74 28 P Pn 14 19 38.9 +2.4
ONI Oni 3.74 28 *e*P Pn 14 19 38.8 +2.4
ONI Oni 3.74 28 *e*P Pn 14 19 38.8 +2.4
QZX Qazax, Azerbai 3.74 61⇑ P Pn 14 19 37.5 +1.1
QZX ⇓ S Sn 14 20 19.1 -1.6
ORD Ordubad 3.87 94⇑ P Pn 14 19 38.5 +0.3
ORD ⇓ S Sn 14 20 20.8 -3.2
GDB GEDABAY 3.87 67⇑ P Pn 14 19 39.4 +1.0
GDB ⇓ S Sn 14 20 22.4 -1.9
DUS Dusheti 3.92 44 P Pn 14 19 42.2 +3.3
DUS Dusheti 3.92 44 P Pn 14 19 42.2 +3.3
DUS Dusheti 3.92 44 *e*P Pn 14 19 42.2 +3.3
DUS Dusheti 3.92 44 *e*P Pn 14 19 42.2 +3.3
ZEI Tsey 4.08 31 *e*P Pn 14 19 40.8 -0.4
ZEI pmax pmax
comp=Z,70nm,0.9s
NEY Neytrino 4.12 17 *i* P Pn 14 19 42.8 +1.0
NEY Neytrino 4.12 17⇑ *i* P Pn 14 19 42.8 +1.0
GANJ Ganja 4.26 70⇓ P Pn 14 19 44.4 +0.8
GANJ ⇑ S Sn 14 20 31.5 -2.2
SOC Sochi 4.37 347 *e*P Pn 14 19 45.5 +0.5
comp=Z,35nm,0.6s
SOC *e*S Sn 14 20 37.0 +0.7
comp=Z,467nm,12.0s
SOC Sochi 4.37 347 *e*P Pn 14 19 45.5 +0.5
SOC *e* 14 20 37.0
SOC pmax pmax
comp=Z,35nm,0.6s
SOC MLR MLR
comp=Z,467nm,12.0s
DDFL Dedoflistskaro 4.41 60 P Pb 14 19 57.9 +1.8
DDFL Dedoflistskaro 4.41 60 P Pb 14 19 57.9 +1.8
NCK Nalchik 4.59 24 *i* P Pn 14 19 49.8 +1.8
NCK Nalchik 4.59 24⇑ *i* P Pn 14 19 49.8 +1.8
KBZ Khabaz 4.61 17 Pn Pn 14 19 51.5 +3.1
comp=Z,0.5nm,0.3s,baz=179,slow=8.9,SNR=8.4
KBZ Lg Lg 14 21 03.4
comp=Z,0.4nm,0.3s,baz=101,slow=2.1,SNR=5.0
KBZ LR LR 14 21 57.5
comp=Z,412nm,19.2s,baz=188,slow=43
KIV Kislovodsk 4.79 14 *e*Pn Pn 14 19 52.8 +1.9
KIV Kislovodsk 4.79 14 *e*P Pn 14 19 52.7 +1.8
comp=Z,101nm,7.0s
KIV Kislovodsk 4.79 14 P Pn 14 19 53.5 +2.6
KIV Kislovodsk 4.79 14 *e*P Pn 14 19 52.7 +1.8
KIV pmax pmax
comp=Z,15nm,1.1s
KIV MLR MLR
comp=Z,101nm,7.0s
KVAR Kislovodsk Arr 4.79 14 Pn Pn 14 19 52.5 +1.6
baz=154,slow=4.1,SNR=6.8
KVAR LR LR 14 22 02.1
comp=Z,544nm,19.7s,baz=157,slow=43
BRDA Brd 4.81 77 P Pn 14 19 51.8 +0.7
BRDA ⇓ S Sn 14 20 44.7 -2.5
MNGR Mingechevir, A 4.85 71⇑ S Sn 14 20 45.9 -2.3
ZKT Zaqatala 4.88 60⇑ P Pn 14 19 52.8 +0.8
ZKT ⇓ S Sn 14 20 46.4 -2.4
SEKA Sheki 5.07 66⇓ P Pn 14 19 56.5 +1.8
SEKA ⇓ S Sn 14 20 53.2 -0.4
ZRD Zardab 5.20 77⇓ P Pn 14 19 57.0 +0.6
ZRD ⇓ S Sn 14 20 54.2 -2.5
GROC Groznyy 5.27 41 P Pb 14 20 07.9 -2.8
GROC pmax pmax
comp=Z,116nm,1.1s
QBL Gabala 5.45 71⇑ P Pn 14 20 00.7 +0.8
AKT Akhty 5.54 65 *e*P Pn 14 20 06.8 +5.6
AKT *e*S Sn 14 21 11.7 +6.5
AKT pmax pmax
comp=Z,17nm,0.7s
AKT smax smax
comp=E,17nm,0.7s
AKT smax smax
comp=E,23nm,0.8s
AKT smax smax
comp=N,9.0nm,0.6s
LRK Lerik 5.72 95⇓ P Pn 14 20 03.9 +0.1
XNQ Khinaliq 5.73 69⇓ P Pn 14 20 04.7 +0.7
BR131 Keskin Array S 5.74 276 *e*Pn Pn 14 20 05.0 +1.0
BR131 Keskin Array S 5.74 276 *e*Pn Pn 14 20 05.0 +1.0
BRTR Keskin Array B 5.74 276 Pn Pn 14 20 05.0 +1.0
comp=N,0.2nm,0.3s,baz=101,slow=14,SNR=28
BRTR Lg Lg 14 21 46.1
baz=87,slow=26,SNR=2.7
BRTR Keskin Array B 5.74 276 *e*P Pn 14 20 05.4 +1.4
BRTR Keskin Array B 5.74 276 *e*P Pn 14 20 05.4 +1.4
ILGA Ilgaz 5.87 289 *e*Pn Pn 14 20 07.3 +1.4
ILGA Ilgaz 5.87 289 *e*Pn Pn 14 20 07.3 +1.4
GOF Gofitskoye 5.92 14⇑ *e*P Pn 14 20 13.1 +6.8
GOF pmax pmax
comp=Z,9.0nm,0.5s
QSAR Qusar 5.92 66⇑ P Pn 14 20 07.4 +0.9
QUBA Quba, Azerbaij 6.04 68⇓ P Pn 14 20 08.8 +0.8
LKRN Lenkeran, Azer 6.05 93⇓ P Pn 14 20 08.4 +0.3
MAK Makhachkala 6.08 51 *e*P Pn 14 20 09.6 +1.1
comp=Z,208nm,1.2s
MAK Makhachkala 6.08 51 *e*P Pn 14 20 09.6 +1.1
MAK *e*S Sn 14 21 18.7 +0.4
MAK pmax pmax
comp=Z,208nm,1.2s
MAK MLR MLR
comp=Z,852nm,14.0s
ASTR Astara 6.08 95⇓ P Pn 14 20 08.9 +0.3
SIZA Siyzn 6.26 71⇓ P Pn 14 20 11.7 +0.6
ANTO Ankara 6.40 277 *e*Pn Pn 14 20 14.0 +1.0
ANTO Ankara 6.40 277 PnPn Pg 14 20 37.6 -3.0
SNR=7.9
ANTO Ankara 6.40 277 P Pg 14 20 37.6 -3.0
SNR=7.9
ANTO Ankara 6.40 277 *e*P Pn 14 20 14.0 +1.0
ANTO Ankara 6.40 277 *e*P Pn 14 20 14.0 +1.0
SUDU Sudak 7.15 323 *e*P Pn 14 20 29.6 +6.4
SUDU *e*S Sn 14 21 54.6 +10
SEV Sevastopol' 7.58 316 *e*P Pn 14 20 37.6 +8.5
SEV *e*S Sb 14 22 09.8 -11
SIM Simferopol' 7.62 320 P Pn 14 20 39.4 +10
SIM S Sn 14 22 08.5 +12
SIM pmax pmax
comp=Z,11nm,0.7s
SIM smax smax
comp=N,12nm,1.0s
SIM smax smax
comp=E,35nm,0.9s
MMAI Mount Meron Ar 7.77 218 Pn Pn 14 20 34.6 +2.7
comp=E,1.5nm,0.3s,baz=60,slow=14,SNR=9.1
MMAI Lg Lg 14 22 42.7
comp=E,1.1nm,0.3s,baz=33,slow=29,SNR=2.5
TIRR Tirgusor 10.72 303⇑ *i* P Pn 14 21 19.7 +7.6
TIRR Tirgusor 10.72 303 *e*Pn Pn 14 21 14.5 +2.4
TIRR Tirgusor 10.72 303 *e*P Pn 14 21 14.5 +2.4
TLCR 10.79 307⇑ *i* P Pn 14 21 18.0 +4.9
EIL Elat 10.86 209 Pn Pn 14 21 17.7 +3.6
comp=E,0.3nm,0.3s,baz=58,slow=13,SNR=2.5
EIL LR LR 14 25 34.8
comp=E,108nm,18.9s,baz=68,slow=38
TLB Topalu 11.02 303⇑ *i* P Pn 14 21 25.3 +9.1
CFR Carcaliu 11.21 306⇓ *i* P Pn 14 21 23.6 +4.8
VSR Storozhevoye 11.96 354 *e*P Pn 14 21 31.6 +2.5
VSR pmax pmax
comp=Z,7.0nm,0.5s
VRI Vrincioaia 12.40 306⇓ *i* P Pn 14 21 43.3 +8.1
PLOR Plostina 12.45 306⇓ *i* P Pn 14 21 43.7 +7.9
MLR Muntele Rosu 12.74 304⇑ *i* P Pn 14 21 48.7 +8.8
MLR Muntele Rosu 12.74 304 *e*Pn Pn 14 21 41.5 +1.6
MLR Muntele Rosu 12.74 304 *e*P Pn 14 21 41.5 +1.6
DOPR Dopca 13.29 305⇓ *i* P P 14 21 55.7 -1.5
VOIR 13.30 303⇓ *i* P P 14 21 54.5 -2.9
GEYT Alibeck 13.42 91 Pn Pn 14 21 51.9 +2.8
comp=Z,0.2nm,0.3s,baz=271,slow=18,SNR=5.0
GEYT LR LR 14 27 57.6
comp=Z,54nm,21.6s,baz=135,slow=42
IDI Anoyia 13.48 258 LR LR 14 28 08.4
comp=Z,53nm,19.8s,baz=73,slow=42
ARR Arges 13.55 302⇓ *i* P P 14 21 59.6 -0.5
AKASG Malin Array Be 14.10 328 Pn Pn 14 21 58.1 -0.1
comp=Z,0.7nm,0.3s,baz=131,slow=13,SNR=16
AKASG LR LR 14 28 32.3
comp=Z,81nm,19.4s,baz=125,slow=42
AKBB Malin Array Si 14.10 328 *e*Pn Pn 14 21 59.0 +0.8
AKBB Malin Array Si 14.10 328 *e*P Pn 14 21 59.0 +0.8
KIEV Kiev 14.10 328 *e*Pn Pn 14 21 58.5 +0.3
KIEV Kiev 14.10 328⇓ *i* P Pn 14 21 58.8 +0.6
KIEV pmax pmax
comp=Z,5.0nm,0.8s
AK11 Malin Array Si 14.10 327 *e*Pn Pn 14 21 58.2 -0.1
BURAR Bucovina Array 14.15 311⇓ *i* P P 14 22 06.2 -0.6
HERR Herculane 14.89 298⇓ *i* P P 14 22 17.9 +2.9
DRGR 15.32 305⇓ *i* P P 14 22 22.3 +2.5
DRGR 15.32 305⇓ *i* P P 14 22 22.3 +2.5
OBN Obninsk 16.08 351 LR LR 14 29 05.9
comp=Z,155nm,19.0s,baz=116,slow=39
OBN Obninsk 16.08 351⇑ *e*P P 14 22 27.6 -0.4
OBN pmax pmax
comp=Z,6.0nm,0.8s
OBN MLR MLR
comp=Z,121nm,18.0s
RAYN Ar Rayn 16.20 165 *e*Pn Pn 14 22 24.1 -2.4
comp=Z,3.3nm,0.9s
AKTO Aktyubinsk 16.33 42 Pn P 14 22 29.5 -1.4
comp=Z,0.3nm,0.3s,baz=226,slow=11,SNR=4.9
AKTO LR LR 14 30 09.8
comp=Z,64nm,18.3s,baz=242,slow=42
ABKAR Akbulak array 16.74 47 *e*Pn Pn 14 22 33.5 +0.4
comp=Z,25nm,0.8s
STHS Stebnicka Huta 17.34 312 *e*P P 14 22 44.1 +2.0
STHS Stebnicka Huta 17.34 312 *e*P P 14 22 44.1 +2.0
KECS Kecovo 17.37 309 *e*P P 14 22 46.7 +4.2
KECS Kecovo 17.37 309 *e*P P 14 22 46.7 +4.2
VYHS Vyhne 18.39 307 *e*P P 14 22 58.1 +4.4
VYHS Vyhne 18.39 307 *e*P P 14 22 58.1 +4.4
BANOM Banah 18.50 132 P P 14 22 54.5 -0.6
SNR=7.9
BANOM Banah 18.50 132 *i* P P 14 22 54.5 -0.6
SNR=7.9
UOSS Minazif 19.20 134 *e*P P 14 23 02.3 -0.4
comp=Z,18nm,1.1s
UOSS Minazif 19.20 134 *e*P P 14 23 02.3 -0.4
comp=Z,18nm,1.1s
HATD Hatta, Dubai 19.26 134 P Pn 14 23 07.0 +2.7
SNR=7.4
HATD Hatta, Dubai 19.26 134 P Pn 14 23 07.0 +2.7
SNR=7.4
HATD Hatta, Dubai 19.26 134 P Pn 14 23 05.6 +1.3
SNR=6.4
HATD Hatta, Dubai 19.26 134 *i* P Pn 14 23 05.6 +1.3
SNR=6.4
ASHO Ashiyiah 19.33 135 P Pn 14 23 07.7 +2.5
SNR=9.9
ASHO Ashiyiah 19.33 135 P Pn 14 23 07.7 +2.5
SNR=9.9
ASHO Ashiyiah 19.33 135 P Pn 14 23 04.6 -0.6
SNR=17
ASHO Ashiyiah 19.33 135 *i* P Pn 14 23 04.6 -0.6
SNR=17
MORC Moravsky Berou 19.66 310⇓ *i* P Pn 14 23 11.3 +2.3
VRAC Vranov 20.06 308 LR LR 14 33 23.0
comp=Z,39nm,18.9s,baz=104,slow=44
CONA Conrad Observa 20.09 304 P Pn 14 23 14.8 +0.6
comp=Z,9.9nm,1.1s
SOKA Soboth 20.34 300 P Pn 14 23 16.6 -0.5
comp=Z,4.0nm,0.9s
SOKA Soboth 20.34 300 *e*P Pn 14 23 16.6 -0.5
comp=Z,4.0nm,0.9s
ARU Arti 20.65 28 P Pn 14 23 20.0 -0.6
comp=Z,1.2nm,0.3s,baz=254,slow=6.4,SNR=4.9
ARU LR LR 14 32 35.8
comp=Z,113nm,21.5s,baz=227,slow=41
ARU Arti 20.65 28*d* *i* P P 14 23 18.3 0.0
ARU S S 14 27 10.0 +0.8
ARU SS SnSn 14 27 28.9 +0.7
ARU pmax pmax
comp=Z,11nm,2.5s
VAE Valguarnera 20.93 273 LR LR 14 31 57.4
comp=Z,140nm,21.7s,baz=147,slow=38
MOA Molln 21.11 303 P P 14 23 26.0 +2.6
comp=Z,7.5nm,1.0s
MOA Molln 21.11 303 P P 14 23 26.0 +2.6
comp=Z,7.5nm,1.0s
PRU Pruhonice 21.55 308 *e*P P 14 23 30.7 +2.7
PRU Pruhonice 21.55 308 *e*P P 14 23 30.7 +2.7
KBA Koelnbreinsper 21.55 300 *e*P P 14 23 30.9 +2.6
comp=Z,13nm,1.1s
KLMR Klimovskoe 21.57 358 *e*P P 14 23 27.4 -0.8
KLMR AMP 14 23 40.7
comp=Z,11nm,1.3s
KLMR Klimovskoe 21.57 358 *e*P P 14 23 27.3 -0.9
KLMR pmax pmax
comp=Z,11nm,1.3s
GEA0 GERESS Array S 21.72 305 *e*P P 14 23 26.5 -3.5
GERES GERESS Array B 21.73 305 *e*P P 14 23 31.1 +1.0
comp=Z,1.3nm,0.6s,baz=112,slow=9.3,SNR=7.5
GERES LR LR 14 33 03.1
comp=Z,51nm,21.9s,baz=107,slow=40
KHC Kasperske Hory 21.88 306 *e*P P 14 23 33.7 +2.0
KHC Kasperske Hory 21.88 306 *e*P P 14 23 33.7 +2.0
WSAR Wadi Sarin 21.91 132 P P 14 23 33.0 +0.8
comp=Z,5.3nm,0.9s,baz=321,slow=13,SNR=5.0
WSAR Wadi Sarin 21.91 132 P P 14 23 33.0 +0.8
ABTA Abfaltersbach 22.05 299 *e*pP P 14 23 38.0 +4.5
comp=Z,5.0nm,1.0s
KKAR Karatay Array 22.43 71 *e*P P 14 23 35.1 -2.5
KKAR Karatay Array 22.43 71 *e*P P 14 23 35.1 -2.5
WTTA Wattenberg 22.73 300 *e*pP P 14 23 43.0 +2.0
comp=Z,7.6nm,1.1s
MOTA Moosalm 23.10 300 *e*pP P 14 23 45.0 +0.3
comp=Z,11nm,1.1s
FETA Feichten 23.30 299 P P 14 23 44.4 -2.4
comp=Z,2.6nm,0.8s
RETA Reutte 23.35 300 pP P 14 23 46.5 -0.7
comp=Z,2.7nm,0.6s
GRFO Grafenberg 23.52 306 *e*P P 14 23 45.4 -3.4
comp=Z,16nm,0.9s
GRFO Grafenberg 23.52 306 *e*P P 14 23 45.4 -3.4
GRFO pmax pmax
comp=Z,16nm,0.9s
FINES FINESS Array B 24.00 342 P P 14 23 53.8 +0.6
comp=Z,2.3nm,0.7s,baz=148,slow=11,SNR=9.5
FINES LR LR 14 34 58.3
comp=Z,102nm,19.3s,baz=153,slow=41
FINES FINESS Array B 24.00 342 *e*P P 14 23 54.8 +1.6
FINES pmax pmax
comp=Z,2.0nm,0.6s
OTUK Ortayu 24.15 58 P P 14 23 51.6 -3.3
OTUK pmax pmax
comp=Z,4.0nm,0.6s
OTUK pmax pmax
comp=N,43nm,0.6s
BRVK Borovoye 24.25 46 *e*P P 14 23 52.4 -3.4
comp=N,6.1nm,0.8s
BRVK Borovoye 24.25 46⇑ *i* P P 14 23 57.4 +1.7
BRVK pmax pmax
comp=Z,3.0nm,0.9s
BVAR Borovoye Array 24.30 46 P P 14 23 56.3 +0.2
comp=Z,0.5nm,0.8s,baz=298,slow=6.2,SNR=3.9
BVAR LR LR 14 35 14.1
comp=Z,141nm,20.5s,baz=250,slow=41
DMTO DMTO 24.69 147 P P 14 24 01.1 +1.1
SNR=9.3
SHAO Shalim 24.71 145 P P 14 24 00.4 +0.2

KEST Kesra 25.33 272 P P 14 24 07.0 +1.3
comp=Z,9.1nm,0.9s,baz=183,slow=7.1,SNR=8.7
KEST Kesra 25.33 272 eP P 14 24 03.7 -2.0
comp=Z,18nm,1.0s
AAK Ala-Archa 25.37 72 LR LR 14 36 26.9
comp=Z,76nm,18.2s,baz=257,slow=42
HFS Hagfors 26.97 330 P P 14 24 20.1 -0.2
comp=Z,2.3nm,0.8s,baz=146,slow=10,SNR=3.1
HFS LR LR 14 35 23.2
comp=Z,76nm,21.8s,baz=138,slow=37
NOA NORSAR Array B 28.50 330 LR LR 14 37 10.2
comp=Z,59nm,20.4s,baz=125,slow=39
MKAR Makanchi Array 30.76 62 LR LR 14 40 00.7
comp=Z,28nm,19.4s,baz=247,slow=42
ZALV Zalesovo Beam 32.84 49 LR LR 14 40 28.1
comp=Z,56nm,18.9s,baz=250,slow=40
ESDC Sonseca Array 34.45 285 P P 14 25 25.2 -1.4
comp=Z,0.2nm,0.3s,baz=67,slow=9.4,SNR=4.2
WMQ Urumqi 34.82 67 P P 14 25 28.9 -0.9
WMQ pmax pmax
comp=Z,39nm,0.9s
SPITS Spitsbergen Ar 40.28 352 LR LR 14 43 33.5
comp=Z,48nm,19.5s,baz=305,slow=37
KMBO Kilima Mbogo 40.41 186 LR LR 14 42 15.1
comp=Z,136nm,18.2s,baz=67,slow=35
BORG Borgarnes 43.58 327 LR LR 14 46 28.0
comp=Z,33nm,18.8s,baz=104,slow=38
KOWA Kowa 46.56 251 P P 14 27 06.7 -0.1
comp=Z,5.6nm,0.7s,baz=49,slow=10.0,SNR=16
KOWA LR LR 14 47 45.0
comp=Z,50nm,18.5s,baz=33,slow=38
SONM Songino Array 46.81 57 LR LR 14 49 12.5
comp=Z,312nm,19.0s,baz=316,slow=39
DBIC Dimbokro 52.48 244 P P 14 27 51.4 -0.6
comp=Z,3.8nm,0.7s,baz=36,slow=11,SNR=4.1
HHC Hu-ho-hao-te 52.59 64 eP P 14 27 52.7 -0.1
HHC pmax pmax
comp=Z,10.0nm,1.2s
HHC pmax pmax
comp=Z,240nm,7.3s
CMAR Chiang Mai Arr 53.85 95 P P 14 28 03.5 +1.4
comp=Z,0.4nm,0.5s,baz=286,slow=7.4,SNR=4.2
CMAR Chiang Mai Arr 53.85 95 eP P 14 28 05.5 +3.4
SFJD Kangerlussuaq 55.15 331 LR LR 14 52 49.1
comp=Z,49nm,18.7s,baz=84,slow=37
KSRS Korea Array 65.43 61 LR LR 15 01 13.7
comp=Z,150nm,19.0s,baz=266,slow=39
JNU Nakatsue 69.81 63 LR LR 15 04 04.3
comp=Z,63nm,18.4s,baz=309,slow=39
MJAR Matsushiro Arr 72.77 57 LR LR 15 05 24.0
comp=Z,48nm,18.1s,baz=40,slow=38
ILAR Eielson Array 76.05 3 LR LR 15 08 43.6
comp=Z,23nm,19.2s,baz=301,slow=40
YKA Yellowknife Ar 76.65 349 P P 14 30 30.1 +0.8
comp=Z,0.2nm,0.5s,baz=17,slow=5.5,SNR=4.8
YKA Yellowknife Ar 76.65 349 eP P 14 30 35.2 +5.8
QUA2 Belchertown 78.79 316 eP P 14 30 38.4 -3.2
comp=Z,79nm,1.8s
PDAR Pinedale Array 94.05 339 LR LR 15 15 59.3
comp=Z,30nm,19.4s,baz=27,slow=37

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*IDC **04** 14:21:38.6±0.8, 41.°58N×79.°55E, h0km, mb3.9/13, mb1 4.0/19, mb1mx3.8/74, mbtmp3.9/19, ML3.7/6, MS3.0/3, Ms1 3.0/3, ms1mx2.6/66, Error ellipse: s-maj=16.7km s-min=13.2km az=24.0*
*BJI **04** 14:21:40.6, 41.°79N×79.°36E, h9km, mb4.2/5, ML4.0/9*
*KRNET **04** 14:21:42.6±0.1, 41.°76N×79.°40E, h21km, mb4.4*
*NNC **04** 14:21:42.3±1.1, 41.°87N×79.°70E, h0km, mb4.4, mpv4.1, Error ellipse: s-maj=9.7km s-min=5.8km az=157.0*
*MOS **04** 14:21:42.7±1.6, 41.°80N×79.°63E, h33km, mb4.2/7, Error ellipse: s-maj=10.6km s-min=7.0km az=98.8*
*SOME **04** 14:21:43.2, 41.°77N×79.°35E, h20km*
*NEIC **04** 14:21:46.4±1.4, 41.°85N×79.°42E, h53km±10km, mb4.3/2, Error ellipse: s-maj=15.1km s-min=7.6km az=173.0*
ISC 04 14:21:40.7±1.3**, 41.°63N**±0.°03×**79.°20E**±0.°03**, h17**km±8km**, n119, σ1.s91**/162**, mb3.9**/13**, 39C-31D, Kyrgyzstan-Xinjiang border region**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PRZ Przheval'sk 1.04 325 ⇓iP Pg 14 22 02.3 +1.4
baz=15
PRZ ⇓iS Sn 14 22 16.7 +1.7
baz=15
TARG Taragay, Kyrgy 1.05 276 ⇑iP Pn 14 22 03.9 +2.8
baz=69
TARG ⇑iS Sn 14 22 20.3 +4.7
baz=69
UZB Uzynbulak 1.52 355 eP Pb 14 22 08.4 -0.2
783nm,0.2s
UZB eS Sn 14 22 26.7 -0.1
2μm,0.3s
SATY Saty 1.55 338 eP Pb 14 22 09.8 +0.8
986nm,0.4s
SATY eS Sb 14 22 29.2 +0.9
6μm,0.1s
KDJ Kajisay 1.59 289 ⇓iP Pg 14 22 13.5 +2.2
baz=83
KDJ ⇓iS Sg 14 22 35.8 +3.7
baz=83
PDGK Podgornoye 1.71 7 ⇓iP Pn 14 22 11.0 +1.1
baz=2.0
PDGK ⇓iS Sn 14 22 31.7 +0.2
baz=2.0
KPKS Kokpek 1.88 348 eP Pb 14 22 15.2 +0.6
2μm,0.2s
KPKS eS Sb 14 22 38.5 +0.7
7μm,0.2s
KURS Kuram 2.01 338 ⇓eP Pb 14 22 17.9 +1.1
420nm,0.6s
KURS ⇑eS Sg 14 22 44.3 -1.1
3μm,0.5s
TNSS Tian-Shan 2.19 311 eP Pg 14 22 21.9 -0.7
360nm,0.3s
TNSS ⇑iS Sg 14 22 52.5 +1.5
2μm,0.4s
MDOK Medeo 2.21 315 ⇓Pn Pg 14 22 21.6 -1.5
305nm,0.5s
MDOK ⇑Sn Sg 14 22 52.2 +0.3
1μm,0.4s
MDOK Medeo 2.21 315 eP Pg 14 22 22.2 -1.0
518nm,0.4s
MDOK ⇓iS Sg 14 22 52.5 +0.6
4μm,0.5s
KOTS Kotyrbulak 2.23 317 eP Pg 14 22 22.4 -1.1
360nm,0.4s
KOTS eS Sg 14 22 51.6 -0.8
2μm,0.4s
KNDC Almaty 2.29 315 ⇑Pn Pg 14 22 23.3 -1.4
233nm,0.6s
KNDC ⇑Sn Sg 14 22 54.8 +0.4
2μm,0.7s
ULHL Ulahol 2.29 287 P Pg 14 22 23.8 -1.0
SNR=226
ULHL Ulahol 2.29 287 ⇑iP Pg 14 22 23.7 -1.0
baz=83
ULHL ⇑iS Sg 14 22 53.5 -1.0
baz=83
AAA Alma-Ata 2.31 314 eP Pg 14 22 24.3 -0.9
516nm,0.5s
AAA eS Sg 14 22 55.5 +0.3
4μm,0.5s
AAA Alma-Ata 2.31 314 ePN Pg 14 22 24.2 -0.9
AAA eS Sg 14 22 55.5 +0.3
AAA pmax pmax
comp=Z,516nm,0.5s
AAA smax smax
comp=E,4μm,0.5s
IZV Izvestkoviy 2.38 307 eP Pg 14 22 26.0 -0.4
comp=E,454nm,0.4s
IZV eS Sg 14 22 57.3 +0.1
comp=E,2μm,0.4s
NRN Naryn 2.41 266 ⇑iP Pg 14 22 25.8 -1.2
baz=64
NRN ⇑iS Sg 14 22 58.1 -0.2
baz=64
MNBS Baschi 2.52 347 eP Pb 14 22 25.4 -0.1
comp=E,327nm,0.2s
MNBS eS Sb 14 22 57.2 +0.9
comp=E,2μm,0.3s
MTBS Maitube 2.54 307 eP Pg 14 22 29.4 -0.1
comp=E,135nm,0.3s
MTBS eS Sg 14 23 02.0 -0.5
comp=E,908nm,0.2s
BOOM Boomskoye usch 2.58 291 ⇓iP Pb 14 22 27.2 +0.6
baz=87
BOOM ⇓iS Sg 14 23 00.2 -3.4
baz=87
DJR Jarkent 2.73 9 eP Pb 14 22 29.5 +0.3
comp=E,454nm,0.2s
DJR eS Sb 14 23 02.4 -0.2
comp=E,2μm,0.3s
CHKK Chushkaly 2.76 324 eP Pb 14 22 30.2 +0.7
comp=E,319nm,0.3s
CHKK eS Sg 14 23 06.7 -2.6
comp=E,5μm,0.3s
ARXS Arharly 2.77 339 eP Pb 14 22 30.2 +0.3
comp=E,329nm,0.6s
ARXS eS Sb 14 23 04.3 +0.8
comp=E,2μm,0.5s
KST Kastek 2.79 302 eP Pg 14 22 32.6 -1.6
comp=E,27nm,0.2s
KST eS Sg 14 23 10.6 +0.3
comp=E,899nm,0.8s
KTBS Karatobe 2.79 319 eP Pg 14 22 33.4 -0.8
comp=E,288nm,0.6s
KTBS eS Sg 14 23 08.9 -1.5
comp=E,460nm,0.6s
TKM2 Tokmak 2 2.97 297 ⇑Pn Pb 14 22 33.1 -0.2
comp=E,44nm,0.3s
TKM2 ⇓Sn Sg 14 23 15.8 -0.3
comp=E,408nm,0.5s
TKM2 Tokmak 2 2.97 297 P Pb 14 22 32.9 -0.5
SNR=84
TKM2 Tokmak 2 2.97 297 ⇓iP Pb 14 22 32.8 -0.5
baz=94
TKM2 ⇓iS Sb 14 23 08.6 -0.8
baz=94
TKM2 Tokmak 2 2.97 297 PN Pb 14 22 32.6 -0.7
TKM2 14 23 16.6
TKM2 pmax pmax
comp=Z,44nm,0.4s
TKM2 smax smax
comp=N,408nm,0.5s
KZA Kyzart 2.99 280 P Pb 14 22 33.8 +0.1
SNR=74
KZA Kyzart 2.99 280 ⇑iP Pb 14 22 34.1 +0.4
baz=77
KZA ⇑iS Sb 14 23 10.6 +0.5
baz=77
DGS Degeres 3.01 304 eP Pg 14 22 36.4 -1.9
comp=N,107nm,0.4s
DGS eS Sg 14 23 14.8 -2.5
comp=N,892nm,0.7s
KUU Kurty 3.09 318 ⇓iP Pg 14 22 38.0 -2.0
comp=N,80nm,0.6s
KUU ⇑iS Sg 14 23 17.8 -2.2
comp=N,1μm,0.5s
KBK Karagaybulak 3.33 289 P Pb 14 22 38.3 -1.1
SNR=24
KBK Karagaybulak 3.33 289 ⇓eP Pb 14 22 37.9 -1.4
baz=87
KBK ⇓iS Sb 14 23 17.2 -2.4
baz=87
TDK Taldyqorghan 3.42 350 eP Pb 14 22 40.8 0.0
comp=N,584nm,0.6s
TDK eS Sb 14 23 23.9 +1.8
comp=N,2μm,0.6s
UCH Uchtor 3.55 281 P Pb 14 22 41.4 -1.9
SNR=14
UCH Uchtor 3.55 281 ⇑iP Pb 14 22 41.6 -1.7
baz=79
UCH ⇑iS Sb 14 23 23.5 -2.8
baz=79
CHMS Chumysh 3.57 294 P Pg 14 22 50.6 +1.5
SNR=7.4
CHMS Chumysh 3.57 294 ⇑eP Pb 14 22 40.5 -3.0
baz=91
CHMS ⇑iS Sb 14 23 23.0 -3.6
baz=91
FRU1 Bishkek 3.59 291 ⇑iP Pb 14 22 41.1 -2.8
baz=88
FRU1 ⇑iS Sb 14 23 24.1 -3.1
baz=88
FRU Bishkek 3.61 291 ePN Pg 14 22 49.0 -0.9
FRU i 14 22 54.0
FRU eS Sg 14 23 38.0 +1.3
FRU pmax pmax
comp=E,750nm,1.9s
AAK Ala-Archa 3.64 288 Pn Pb 14 22 42.7 -2.0
comp=E,4.3nm,0.3s,baz=110,slow=7.6,SNR=40
AAK Pg Pg 14 22 51.6 +1.1
comp=E,32nm,0.3s,baz=90,slow=10,SNR=22
AAK Lg Lg 14 23 37.4
comp=E,34nm,0.3s,baz=259,slow=19,SNR=11
AAK LR LR 14 24 24.8
comp=E,160nm,19.6s,baz=110,slow=42
AAK Ala-Archa 3.64 288 ⇓Pn Pb 14 22 42.7 -2.0
comp=E,7.0nm,0.3s
AAK ⇓Pg Pg 14 22 53.8 +3.3
comp=E,36nm,0.3s
AAK ⇓Sn Sg 14 23 33.6 -4.2
comp=E,77nm,0.5s
AAK Ala-Archa 3.64 288 P Pb 14 22 42.2 -2.6
SNR=22
AAK Ala-Archa 3.64 288 ⇑iP Pb 14 22 42.1 -2.6
baz=85
AAK ⇑iS Sb 14 23 25.3 -3.4
baz=85
AAK Ala-Archa 3.64 288 PN Pb 14 22 42.6 -2.1
AAK pmax pmax
comp=Z,7.0nm,0.3s
USP Ospenovka 3.84 297 P Pb 14 22 44.4 -3.8
SNR=8.9
USP Ospenovka 3.84 297 ⇓iP Pb 14 22 44.3 -3.8
baz=94
USP ⇓iS Sb 14 23 29.3 -5.1
baz=94
AML Almayashu 4.14 279 P Pb 14 22 49.2 -4.2
SNR=10
EKS2 Erkin-Say 4.16 286 P Pg 14 23 00.8 +0.3
SNR=14
MRKS Merke 4.58 286 eP Pg 14 23 06.6 -1.8
comp=Z,54nm,0.5s
MRKS eS Sg 14 24 08.5 +0.8
comp=Z,154nm,0.4s
SFK Sufi-Kurgan 4.62 251 ⇓Pn Pb 14 23 00.3 -1.1
comp=Z,0.6nm,0.3s
SFK ⇓Pg Pg 14 23 13.6 +4.5
comp=Z,14nm,0.5s
SFK ⇑Lg Lg 14 24 22.8
comp=Z,80nm,0.8s
SFK Sufi-Kurgan 4.62 251 PN Pb 14 23 00.3 -1.1
SFK pmax pmax
comp=Z,1.0nm,0.3s
MAKZ Makanchi 5.55 20 ⇓Pn Pn 14 23 02.0 -0.5
comp=Z,10nm,0.5s
MAKZ Makanchi 5.55 20 ePn Pn 14 23 03.5 +1.0
MAKZ Makanchi 5.55 20 PN Pn 14 23 03.3 +0.8
MAKZ pmax pmax
comp=Z,11nm,0.5s
MK01 Makanchi Array 5.60 22 ePn Pn 14 23 04.0 +0.8
MK31 Makanchi Array 5.62 22 Pn Pn 14 23 03.8 +0.3
comp=Z,2.6nm,0.2s,baz=201,slow=12,SNR=203
MK31 ⇓Sn Sn 14 24 05.0 -2.6
comp=Z,32nm,0.8s,baz=195,slow=20,SNR=7.0
MK31 ⇑Lg Lg 14 24 29.7
comp=Z,28nm,0.5s
MK31 Makanchi Array 5.62 22 ePn Pn 14 23 04.5 +0.9
MK31 Makanchi Array 5.62 22 PN Pn 14 23 04.4 +0.9
MK31 14 24 28.3
MK31 pmax pmax
comp=Z,3.0nm,0.2s
MK31 pmax pmax
comp=N,28nm,0.5s
MKAR Makanchi Array 5.62 22 Pn Pn 14 23 04.6 +1.1
comp=N,7.9nm,0.3s,baz=202,slow=13,SNR=155
MKAR Sn Sn 14 24 02.9 -4.8
comp=N,4.5nm,0.3s,baz=215,slow=15,SNR=4.3
KK31 Karatay Array 6.60 286 ⇑Pg Pg 14 23 47.1 0.0
comp=N,4.6nm,0.3s,baz=93,slow=16,SNR=17
KK31 ⇓Lg Lg 14 25 19.8
comp=N,14nm,0.4s,baz=90,slow=27,SNR=5.9
WMQ Urumqi 6.63 68 Pn Pn 14 23 18.8 +1.4
WMQ Sn Sn 14 24 32.4 -0.1
WMQ Sg Sg 14 25 06.4 -6.9
WMQ smax smax
comp=N,180nm,0.9s
WMQ smax smax
comp=N,170nm,0.9s
OTUK Ortayu 8.21 326 ⇓Lg Lg 14 26 05.8
comp=N,43nm,0.6s
KURBB Kurchatov Arra 9.01 357 Pn Pn 14 23 52.0 +2.1
comp=N,0.1nm,0.3s,baz=182,slow=12,SNR=16
KURBB Lg Lg 14 26 20.0
comp=N,1.2nm,0.3s,baz=178,slow=27,SNR=13
KURK Kurchatov 9.10 358 ⇓Pn Pn 14 23 52.2 +1.1
comp=N,2.5nm,0.6s
KURK ⇑Pg 14 24 24.8
comp=N,8.6nm,0.9s
KURK ⇑Lg Lg 14 26 23.9
comp=N,73nm,0.9s
KURK Kurchatov 9.10 358 ePn Pn 14 23 52.2 +1.1
KURK Lg Lg 14 26 20.0
KURK Kurchatov 9.10 358 ⇑eP Pn 14 23 51.8 +0.7
CHCP Chirah Chowk 9.24 212 P Pn 14 23 59.6 +6.3
CHCP S 14 26 51.0
DGZ Jazzator, Alta 9.91 33 ⇑iP Pn 14 23 59.6 -2.8
BVA0 Borovoye Array 12.86 335 ⇓Lg Lg 14 28 28.9
comp=N,18nm,1.0s,baz=137,slow=27,SNR=4.9
BVAR Borovoye Array 12.86 335 Pn Pn 14 24 44.0 +1.4
comp=N,0.5nm,0.3s,baz=142,slow=15,SNR=9.8
BVAR Lg Lg 14 28 24.8
comp=N,1.1nm,0.3s,baz=141,slow=26,SNR=5.9
BVAR Borovoye Array 12.86 335 P Pn 14 24 44.0 +1.4
ZAA0 Zalesovo Array 12.88 15 ⇑Pn Pn 14 24 42.0 -0.9
comp=N,6.3nm,0.8s
ZAA0 ⇑Sn Sn 14 27 01.8 -4.0
comp=N,8.2nm,0.6s
ZAA0 ⇑Lg Lg 14 28 17.5
comp=N,17nm,0.9s
ZAA0 Zalesovo Array 12.88 15 ePn Pn 14 24 42.1 -0.9
ZALV Zalesovo Beam 12.88 15 Pn Pn 14 24 42.1 -0.8
comp=N,1.1nm,0.3s,baz=201,slow=12,SNR=18
ZALV Sn Sn 14 26 59.2 -6.6
comp=N,1.6nm,0.3s,baz=198,slow=22,SNR=10.0
ZALV LR LR 14 30 14.7
comp=N,40nm,20.4s,baz=252,slow=40
ZALV Zalesovo Beam 12.88 15 ePn Pn 14 24 41.8 -1.1
ZALV Sn Sn 14 26 59.2 -6.6
BRVK Borovoye 12.92 335 ePn Pn 14 24 44.8 +1.4
BRVK Borovoye 12.92 335 ⇑eP Pn 14 24 45.2 +1.8
NVS Novosibirsk 13.49 10 ⇑iP P 14 25 00.0 -0.3
PYUN Piuthan 13.85 166 eP Pn 14 24 56.0 -0.4
comp=N,8.3nm,0.3s
KOLN Koldanda 14.29 164 eP Pn 14 25 01.4 -1.1
comp=N,7.7nm,0.4s
GKN Gorkha 14.30 160 eP Pn 14 25 01.6 -1.0
comp=N,10nm,0.3s
DMN Daman 14.80 159 eP Pn 14 25 08.6 -0.9
PKIN Phulchoki 14.91 158 eP Pn 14 25 10.7 -0.3
comp=N,6.6nm,0.4s
JIRN Jiri 15.07 155 eP Pn 14 25 13.0 -0.2
comp=N,14nm,0.4s
AB31 Akbulak array 15.49 306 Pn P 14 25 23.7 +1.1
comp=N,1.0nm,0.4s,baz=111,slow=12,SNR=42
AB31 ⇑Lg Lg 14 29 59.0
comp=N,14nm,1.1s
ABKAR Akbulak array 15.49 306 ePn Pn 14 25 19.8 +1.5
comp=N,37nm,0.8s
GTA Gaotai 15.83 91 eP P 14 25 27.2 +0.6
GTA pP pP 14 25 30.7 -0.6
GTA sP sP 14 25 34.4 +0.9
GTA pmax pmax
comp=N,6.0nm,0.9s
AKTO Aktyubinsk 17.10 308 P P 14 25 40.2 -0.2
comp=N,0.5nm,0.3s,baz=116,slow=9.2,SNR=6.4
AKTO Aktyubinsk 17.10 308 ⇑Pn P 14 25 45.1 +4.6
comp=N,6.8nm,1.1s
ARU Arti 19.94 325 P Pn 14 26 12.7 -0.6
comp=N,2.8nm,0.3s,baz=100,slow=7.1,SNR=5.6
ARU Lg Lg 14 32 10.5
comp=N,1.2nm,0.3s,baz=312,slow=21,SNR=3.6
ARU Arti 19.94 325 eP P 14 26 12.2 +0.6
comp=N,6.8nm,0.8s
ARU Lg Lg 14 32 10.5
ARU Arti 19.94 325 c iP Pn 14 26 15.1 +1.8
ARU pmax pmax
comp=Z,16nm,1.7s
SONM Songino Array 20.23 63 P P 14 26 14.7 -0.3
comp=Z,1.5nm,0.4s,baz=263,slow=11,SNR=7.5
ULN Ulaanbaatar 20.67 63 ⇑iP P 14 26 18.2 -1.6
ULN i 14 26 35.2
ULN i 14 30 31.5
ULN pmax pmax
comp=Z,2.0nm,0.9s
CD2 Chengdu 22.43 111 eP P 14 26 39.0 +0.3
KIV Kislovodsk 26.76 287 eP P 14 27 20.9 +1.3
KIV pmax pmax
comp=Z,5.0nm,0.9s
KIV MLR MLR
comp=Z,39nm,15.0s
BRTR Keskin Array B 34.30 282 P P 14 28 29.2 +3.0
comp=Z,1.4nm,0.7s,baz=97,slow=8.5,SNR=8.7
KIEV Kiev 35.19 302 ⇓iP P 14 28 38.0 +4.4
KIEV pmax pmax
comp=Z,3.0nm,1.2s
FINES FINESS Array B 37.20 321 P P 14 28 51.5 +0.9
comp=Z,1.7nm,0.6s,baz=103,slow=8.2,SNR=6.9
FINES FINESS Array B 37.20 321 eP P 14 28 50.6 0.0
FINES pmax pmax
comp=Z,2.0nm,0.6s
MLR Muntele Rosu 38.20 294 P P 14 29 03.3 +3.8
comp=Z,0.3nm,0.5s,baz=90,slow=5.8,SNR=3.5
TIXI Tiksi 38.61 23 P P 14 29 01.9 -0.6
comp=Z,1.7nm,0.6s,baz=271,slow=5.8,SNR=9.8
ARCES ARCESS Array B 39.14 333 P P 14 29 07.8 +0.9
comp=Z,6.6nm,1.0s,baz=0.0,slow=6.7,SNR=5.6
ARCES ARCESS Array B 39.14 333 eP P 14 29 13.0 +6.1
ARCES pmax pmax
comp=Z,4.0nm,0.9s
HFS Hagfors 43.24 318 P P 14 29 42.4 +1.7
comp=Z,1.1nm,0.5s,baz=156,slow=11,SNR=4.7
NB2 NORSAR Subarra 44.37 320 P P 14 29 51.0 +1.2
comp=Z,0.7nm,0.5s,baz=82,slow=8.6
NOA NORSAR Array B 44.37 320 P P 14 29 51.1 +1.3
comp=Z,1.2nm,0.6s,baz=84,slow=8.1,SNR=4.4
GERES GERESS Array B 45.40 302 LR LR 14 52 40.2
comp=Z,34nm,18.4s,baz=110,slow=41
ILAR Eielson Array 67.97 19 P P 14 32 37.3 -1.0
comp=Z,0.8nm,0.8s,baz=316,slow=5.2,SNR=10
YKA Yellowknife Ar 75.63 7 P P 14 33 24.0 -0.3
comp=Z,0.6nm,0.6s,baz=344,slow=5.6,SNR=8.9
WRA Warramunga Arr 79.70 128 P P 14 33 47.7 +0.1
comp=Z,0.2nm,0.3s,baz=329,slow=5.4,SNR=16
WRA Warramunga Arr 79.70 128 eP P 14 33 48.1 +0.5
ASAR Alice Springs 82.36 131 P P 14 34 01.9 +0.3
comp=Z,0.5nm,0.5s,baz=324,slow=5.2,SNR=9.5
ASAR Alice Springs 82.36 131 eP P 14 34 01.5 -0.2
ASAR pmax pmax
comp=Z,1.0nm,0.5s

UCR 04 14:30:06.7±1.1**, 11.°95N×87.°84W, h26**km±25km**, MD3.5, ML2.8, Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CSGN	**Cosiguina Volc**	**1.06**	**15**	eP	Pb	14 30 26.3	-0.2
CSGN				eS	Sb	14 30 41.5	+1.5
COPN	**Copaltepe**	**1.24**	**79**	eP	Pn	14 30 28.4	0.0
COPN				AML	AML	14 30 51.2	
	comp=Z,164nm,0.5s						
CNGN	**Cerro Negro**	**1.24**	**64**	eP	Pn	14 30 28.6	+0.1
CNGN				eS	Sb	14 30 45.2	0.0
CNCH	**Conchagua**	**1.32**	**0**	eP	Pn	14 30 28.9	-0.7
CNCH				eS	Sn	14 30 46.9	+0.4
MOMN	**Momotombo**	**1.35**	**70**	eP	Pn	14 30 29.5	-0.4
LCND	**La Caˆ–ada**	**1.36**	**358**	eP	Pn	14 30 30.2	+0.2
LCND				eS	Sn	14 30 47.6	+0.5
TECA	**Tecapa**	**1.67**	**337**	eP	Pn	14 30 34.9	+0.4
TECA				eS	Sb	14 30 56.5	-1.2
ESTN	**Estel**	**1.84**	**51**	eP	Pn	14 30 36.3	-0.4

MEX 04 15:07:44.0±0.6**, 16.°37N×98.°45W, h10**km**, MD3.8, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.31**	**85**	i P	Pg	15 07 50.1	-0.1
PNIG				i S	Sg	15 07 55.0	+0.6
TLIG	**Tlapa**	**1.19**	**355**	i P	Pb	15 08 04.8	-2.0
TLIG				eS	Sb	15 08 18.4	-4.0
VHO	**Vista Hermosa**	**1.79**	**67**	eP	Pn	15 08 10.9	-4.2
VHO				eS	Sn	15 08 33.0	-5.0
CAIG	**El Cayaco**	**1.87**	**291**	eP	Pn	15 08 12.8	-3.3
CAIG				eS	Sn	15 08 35.3	-4.4
PLIG	**Platanillo**	**2.25**	**334**	eP	Pn	15 08 20.9	-0.5

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PLIG				*i* S	Sn	15 08 45.1	-4.2

*ISCJB **04** 15:16:40.3±1.0, 35°.25N±0°.05×141°.3E±0°.1, h50km±7km, mb3.5/5, Error ellipse: s-maj=13.9km s-min=7.3km az=171.2*
*JMA **04** 15:16:40.3±0.1, 35°.28N×141°.30E, h40km±2km, M2.8*
*IDC **04** 15:16:46.5±5.1, 35°.08N×140°.81E, h75km±34km, mb3.2/5, mb1 3.2/7, mb1mx3.0/59, mbtmp3.4/7, Error ellipse: s-maj=62.7km s-min=8.5km az=73.0*
ISC 04 15:16:40.8±1.6**, 35°.27N**±0°.05×**141°.3E**±0°.1**, h36**km±4km**, n23, σ0s.79**/22**, mb3.6**/5**, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.57**	**320**	P	**Pn**	**15 16 51.7**	**-0.9**
CHOJ				*e*S	**Sn**	**15 17 00.2**	**-0.5**
BSO1	**Boso 1**	**0.67**	**204**	P	**Pn**	**15 16 53.5**	**+0.1**
BSO3	**Boso 3**	**0.81**	**235**	P	**Pn**	**15 16 55.3**	**-0.1**
KTR	**Katsuura**	**0.83**	**262**	P	**Pn**	**15 16 55.5**	**-0.4**
KTR				S	**Sn**	**15 17 07.2**	**+0.3**
BSO4	**Boso 4**	**0.85**	**251**	P	**Pn**	**15 16 56.0**	**-0.1**
JCN	**Nagara**	**0.92**	**280**	P	**Pn**	**15 16 57.6**	**+0.4**
JYT	**Yasato**	**1.32**	**317**	P	**Pn**	**15 17 02.6**	**-0.1**
JHO	**Hitachi**	**1.47**	**336**	P	**Pn**	**15 17 04.8**	**0.0**
JIM2	**Oshima 3**	**1.64**	**251**	P	**Pn**	**15 17 06.2**	**-0.9**
JHJ	**Hachijo jima 2**	**2.49**	**211**	P	**Pn**	**15 17 20.3**	**+1.5**
	7.0nm,0.3s,baz=143,slow=24,SNR=8.7						
JHJ				S	**Sn**	**15 17 46.1**	**-1.8**
	20nm,0.3s,baz=49,slow=23,SNR=4.6						
MJAR	**Matsushiro Arr**	**2.82**	**298**	P	**Pn**	**15 17 24.5**	**+1.1**
	1.5nm,0.3s,baz=109,slow=8.0,SNR=17						
MJAR				S	**Sn**	**15 17 56.3**	**+0.1**
	1.2nm,0.3s,baz=281,slow=28,SNR=5.1						
MAT	**Matsushiro**	**2.82**	**298**	P	**Pn**	**15 17 24.7**	**+1.3**
MAT				*e*S	**Sn**	**15 17 55.7**	**-0.5**
H11N2	**WAKE ISLAND Hy**	**27.36**	**118**	T	T	15 51 31.2	
	baz=310,slow=75,SNR=5.6						
H11N1	**WAKE ISLAND Hy**	**27.36**	**118**	T	T	15 51 30.9	
	baz=310,slow=75,SNR=7.2						
H11N3	**WAKE ISLAND Hy**	**27.38**	**118**	T	T	15 51 32.4	
	baz=310,slow=75,SNR=6.0						
H11S1	**WAKE ISLAND Hy**	**28.01**	**120**	T	T	15 52 15.2	
H11S3	**WAKE ISLAND Hy**	**28.01**	**120**	T	T	15 52 13.7	
	baz=309,slow=74,SNR=21						
H11S2	**WAKE ISLAND Hy**	**28.02**	**120**	T	T	15 52 16.0	
	baz=260,slow=74,SNR=20						
ZALV	**Zalesovo Beam**	**43.06**	**314**	P	**P**	**15 24 37.0**	**+0.1**
	0.6nm,0.5s,baz=130,slow=6.8,SNR=2.3						
MKAR	**Makanchi Array**	**45.01**	**304**	P	**P**	**15 24 52.2**	**-0.4**
	0.2nm,0.6s,baz=84,slow=9.6,SNR=2.9						
KURBB	**Kurchatov Arra**	**47.04**	**309**	P	**P**	**15 25 08.6**	**+0.1**
	0.4nm,0.6s,baz=84,slow=7.6,SNR=4.3						
WRA	**Warramunga Arr**	**55.30**	**188**	P	**P**	**15 26 10.5**	**-0.3**
	0.5nm,0.5s,baz=3.7,slow=7.3,SNR=16						
ASAR	**Alice Springs**	**59.03**	**188**	P	**P**	**15 26 37.2**	**+0.1**
	0.2nm,0.7s,baz=355,slow=6.3,SNR=5.9						

*SKO **04** 15:39:17.0, 39°.88N×21°.03E, h2km*
*TIR **04** 15:39:20.4, 41°.22N×20°.68E, h35km, Md2.2/2*
*CSEM **04** 15:39:20.5±0.2, 40°.09N×21°.22E, h20km, ML2.1, Error ellipse: s-maj=6.0km s-min=4.5km az=89.0*
*THE **04** 15:39:20.5, 40°.05N×21°.23E, h12km, ML2.1/9, Error ellipse: s-maj=1.0km s-min=0.4km az=319.0*
ATH 04 15:39:20.0, 40°.06N×21°.25E, h17km±1km**, ML2.1**/10**, Error ellipse: s-maj=1.8km s-min=0.8km az=343.0, Greece**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KPRO	**Kipourio**	**0.14**	**139**	P	Pg	15 39 24.0	-0.1
KPRO				AML	AML	15 39 27.1	
	comp=E,11799μm,0.2s						
KPRO				AML	AML	15 39 27.1	
	comp=N,27985μm,0.2s						
KPRO				S	Sb	15 39 27.1	+0.2
KPRO	**Kipourio**	**0.14**	**139**	P	Pg	15 39 23.9	-0.1
KPRO				S	Sg	15 39 26.8	+0.1
KPRO	**Kipourio**	**0.14**	**139**	P	Pg	15 39 23.9	-0.1
KPRO				S	Sg	15 39 26.8	+0.1
PENT	**Pentalofos**	**0.16**	**329**	P	Pg	15 39 23.8	-0.6
PENT				S	Sg	15 39 27.1	-0.2
PENT				AML	AML	15 39 27.8	
	comp=E,2826μm,0.2s						
PENT				AML	AML	15 39 28.1	
	comp=N,3567μm,0.4s						
PENT	**Pentalofos**	**0.16**	**329**	P	Pg	15 39 24.0	-0.4
PENT				S	Sg	15 39 27.2	-0.1
PENT	**Pentalofos**	**0.16**	**329**	P	Pg	15 39 24.0	-0.4
PENT				S	Sg	15 39 27.2	-0.1
NEST	**Nestorio**	**0.39**	**337**	P	Pb	15 39 28.6	+0.2
NEST				S	Sb	15 39 35.1	+1.0
NEST				AML	AML	15 39 36.1	
	comp=E,620μm,0.3s						
NEST				AML	AML	15 39 37.0	
	comp=N,517μm,0.2s						
NEST	**Nestorio**	**0.39**	**337**	P	Pg	15 39 28.2	+0.2
NEST				S	Sb	15 39 34.3	+0.1
NEST	**Nestorio**	**0.39**	**337**	P	Pg	15 39 28.2	+0.2
NEST				S	Sb	15 39 34.3	+0.1
KZN	**Kozani**	**0.47**	**58**	P	Pg	15 39 29.4	-0.1
KZN				S	Sb	15 39 36.9	+0.3
KZN				AML	AML	15 39 40.8	
	comp=E,562μm,0.2s						
KZN				AML	AML	15 39 41.1	
	comp=N,372μm,0.3s						
KZN	**Kozani**	**0.47**	**58**	P	Pg	15 39 29.4	-0.1
KZN				S	Sb	15 39 37.6	+1.0
KZN	**Kozani**	**0.47**	**58**	P	Pg	15 39 29.5	0.0
KZN				S	Sb	15 39 36.6	0.0
JAN	**Janina**	**0.50**	**217**	P	Pg	15 39 30.1	+0.1
JAN				S	Sb	15 39 37.4	0.0
JAN				AML	AML	15 39 39.8	
	comp=E,505μm,0.3s						
JAN				AML	AML	15 39 40.8	
	comp=N,459μm,0.2s						
JAN	**Janina**	**0.50**	**217**	P	Pg	15 39 30.0	-0.1
JAN				S	Sb	15 39 37.5	+0.1
JAN	**Janina**	**0.50**	**217**	P	Pg	15 39 30.0	-0.1
JAN				S	Sb	15 39 37.3	-0.1
KBN	**Korca**	**0.66**	**328**	*i* Pg	Pb	15 39 33.4	+0.2
	baz=172						
KBN				*i* Sg	Sb	15 39 42.8	+0.7
	baz=172						
KBN	**Korca**	**0.66**	**328**	*i* PG	Pb	15 39 33.4	+0.3
KBN				*i* SG	Sb	15 39 42.8	+0.7
FNA	**Florina**	**0.73**	**8**	P	Pb	15 39 33.2	-1.1
FNA				AML	AML	15 39 47.7	
	comp=E,365μm,0.3s						
FNA				AML	AML	15 39 49.8	
	comp=N,376μm,0.2s						
FNA	**Florina**	**0.73**	**8**	P	Pg	15 39 34.5	+0.2
FNA				S	Sg	15 39 44.8	+0.8
FNA	**Florina**	**0.73**	**8**	P	Pg	15 39 34.5	+0.2
FNA				S	Sg	15 39 44.8	+0.8
KTI	**Kastanea**	**0.74**	**63**	P	Pg	15 39 34.9	+0.3
KTI	**Kastanea**	**0.74**	**63**	P	Pg	15 39 34.9	+0.3
THL	**Klokotos Trika**	**0.77**	**130**	P	Pb	15 39 34.2	-0.7
THL				S	Sb	15 39 44.8	-0.2
THL				AML	AML	15 39 49.6	
	comp=E,163μm,0.2s						
THL				AML	AML	15 39 49.9	
	comp=N,206μm,0.2s						
THL	**Klokotos Trika**	**0.77**	**130**	P	Pg	15 39 35.0	0.0
THL				S	Sn	15 39 46.2	-1.0
THL	**Klokotos Trika**	**0.77**	**130**	P	Pg	15 39 35.0	0.0
THL				S	Sg	15 39 45.2	0.0
SGD	**Sagiada**	**0.90**	**241**	P	Pb	15 39 36.9	-0.2
SGD	**Sagiada**	**0.90**	**241**	P	Pb	15 39 37.0	-0.1
SGD	**Sagiada**	**0.90**	**241**	P	Pb	15 39 37.0	-0.1
DSL	**Palaion Diasel**	**0.93**	**187**	P	Pn	15 39 38.2	0.0
DSL				S	Sg	15 39 50.3	0.0
DSL				AML	AML	15 39 54.5	
	comp=E,130μm,0.4s						
DSL				AML	AML	15 39 56.2	
	comp=N,171μm,0.5s						
DSL	**Palaion Diasel**	**0.93**	**187**	P	Pb	15 39 37.7	0.0
DSL				S	Sn	15 39 51.4	+0.2
DSL	**Palaion Diasel**	**0.93**	**187**	P	Pg	15 39 38.0	-0.1
DSL				S	Sg	15 39 50.5	+0.2
KEK	**Kerkira**	**1.17**	**253**	P	Pb	15 39 41.7	0.0
KEK	**Kerkira**	**1.17**	**253**	P	Pb	15 39 41.9	+0.2
EVR	**Evrytania**	**1.22**	**159**	P	Pn	15 39 41.9	-0.4
EVR				AML	AML	15 40 03.1	
	comp=E,79μm,0.2s						
EVR				AML	AML	15 40 03.7	
	comp=N,65μm,0.2s						
EVR	**Evrytania**	**1.22**	**159**	P	Pb	15 39 42.5	-0.1
GRG	**Griva**	**1.26**	**44**	P	Pb	15 39 43.6	+0.3
GRG	**Griva**	**1.26**	**44**	P	Pb	15 39 43.6	+0.4
KRUS	**Krusevo**	**1.31**	**0**	*i* Pn	Pn	15 39 43.0	-0.5
KRUS				*i* Sg	Sg	15 40 04.6	+2.2
AGG	**Agios Georgios**	**1.33**	**141**	P	Pg	15 39 45.3	-0.3
AGG				S	Sg	15 40 04.4	+1.4
AGG				AML	AML	15 40 09.4	
	comp=N,182μm,0.5s						
AGG				AML	AML	15 40 10.1	
	comp=E,221μm,0.2s						
AGG	**Agios Georgios**	**1.33**	**141**	P	Pb	15 39 44.9	+0.4
AGG				S	Sg	15 40 02.5	-0.5
AGG	**Agios Georgios**	**1.33**	**141**	P	Pb	15 39 44.9	+0.4
AGG				S	Sg	15 40 02.5	-0.5
PVO	**Paravola**	**1.46**	**171**	P	Pb	15 39 46.1	-0.5
PVO	**Paravola**	**1.46**	**171**	P	Pb	15 39 46.1	-0.5
PDO	**Prodromos**	**1.46**	**182**	P	Pg	15 39 48.5	+0.5
PDO	**Prodromos**	**1.46**	**182**	P	Pg	15 39 48.0	-0.1
ANX	**Ano Chora**	**1.55**	**160**	P	Pg	15 39 49.6	-0.3
ANX	**Ano Chora**	**1.55**	**160**	P	Pg	15 39 49.3	-0.6
KALE	**Kalithea**	**1.80**	**157**	P	Pb	15 39 52.5	0.0
KALE	**Kalithea**	**1.80**	**157**	P	Pb	15 39 52.5	-0.1

MEX 04 15:44:25.9±0.3**, 16°.55N**×**98°.13W, h26**km±4km**, MD3.8, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.16**	**178**	*i* P	Pb	15 44 30.1	-1.2
PNIG				*i* S	Sb	15 44 33.7	-1.3
TLIG	**Tlapa**	**1.09**	**338**	*i* P	Pn	15 44 44.5	-1.1
TLIG				*e*S	Sn	15 44 56.3	-3.6
VHO	**Vista Hermosa**	**1.44**	**69**	*e*P	Pn	15 44 48.0	-2.5
VHO				*e*S	Sn	15 45 05.4	-3.1
CAIG	**El Cayaco**	**2.10**	**284**	*e*P	Pn	15 44 57.4	-2.1
CAIG				*e*S	Sn	15 45 21.8	-2.9
PLIG	**Platanillo**	**2.25**	**325**	*e*P	Pn	15 45 01.7	+0.1
PLIG				*e*S	Sn	15 45 25.9	-2.6

KRSC 04 15:46:43.0±1.2**, 54°.76N**×**164°.32E, h48**km±30km**, ML3.5, Komandorsky Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**1.05**	**64**	*e*P	Pn	15 47 02.7	+1.4
BKI				*e*S	Sn	15 47 15.1	+0.3
KBTR	**Krutoberegovo**	**1.68**	**330**	*e*P	Pn	15 47 11.3	+1.4
KBTR				*e*S	Sn	15 47 30.8	+0.5
KZV	**Kizimen**	**2.35**	**280**	*e*P	Pn	15 47 23.1	+3.9
KZV				*e*S	Sn	15 47 50.4	+3.5
SMKR	**Semkarok**	**2.44**	**320**	*e*P	Pn	15 47 23.7	+3.4
SMKR				*e*S	Sn	15 47 51.1	+2.2
CIRR	**Tsirk**	**2.44**	**305**	*e*S	Sn	15 47 54.1	+4.9
LGNR	**Loginova**	**2.46**	**304**	*e*P	Pn	15 47 24.2	+3.4
TUMR	**Tumrok**	**2.46**	**284**	*e*P	Pn	15 47 24.1	+3.4
TUMR				*e*S	Sn	15 47 53.4	+3.9
BZMR	**Bezymyannaya**	**2.48**	**300**	*e*P	Pn	15 47 25.0	+4.0
BZWR	**Bezymyannyi-We**	**2.49**	**300**	*e*P	Pn	15 47 25.1	+3.9
BDR	**Baidarnaya**	**2.53**	**317**	*e*P	Pn	15 47 24.6	+3.0
KMNR	**Kamenistaya**	**2.54**	**295**	*e*P	Pn	15 47 25.9	+4.1
KMNR				*e*S	Sn	15 47 56.2	+4.7
KLY	**Klyuchi**	**2.60**	**308**	*e*P	Pn	15 47 24.7	+2.2
KLY				*e*S	Sn	15 47 53.2	+0.4
SRKR	**Sorokina**	**2.60**	**318**	*e*P	Pn	15 47 25.8	+3.2
SRKR				*e*S	Sn	15 47 55.4	+2.4
KOZ	**Kozyrevsk**	**2.85**	**299**	*e*P	Pn	15 47 29.9	+4.0
KOZ				*e*S	Sn	15 48 01.4	+2.5
SPN	**Mys Shipunski**	**3.04**	**238**	*e*P	Pn	15 47 31.6	+3.1
SPN				*e*S	Sn	15 48 04.8	+1.3
ESO	**Esso**	**3.41**	**292**	*e*P	Pn	15 47 36.6	+2.9
ESO				*e*S	Sn	15 48 16.0	+3.2
KRER	**Koryakskii**	**3.59**	**248**	*e*P	Pn	15 47 40.8	+4.5
UGLR	**Uglovaya**	**3.60**	**247**	*e*P	Pn	15 47 41.0	+4.7
AVH	**Avacha**	**3.62**	**248**	*e*P	Pn	15 47 40.8	+4.3
DALK	**Dalny**	**3.72**	**244**	*e*P	Pn	15 47 41.7	+3.9
DALK				*e*S	Sn	15 48 22.4	+2.1
GNL	**Ganaly**	**3.89**	**257**	*e*P	Pn	15 47 45.3	+5.0
KRMR	**Karymshinskiy**	**4.15**	**245**	*e*P	Pn	15 47 48.7	+5.0
KRMR				*e*S	Sn	15 48 33.6	+2.7
RUS	**Russkaya**	**4.17**	**238**	*e*P	Pn	15 47 48.1	+4.1
ASAK	**Asacha**	**4.51**	**241**	*e*P	Pn	15 47 53.7	+5.0

MEX 04 16:05:55.4±0.3**, 16°.41N**×**98°.44W, h5**km**, MD3.8, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.30**	**93**	*e*P	Pg	16 06 00.8	-0.4
PNIG				*e*S	Sg	16 06 05.2	+0.1
TLIG	**Tlapa**	**1.15**	**354**	*e*P	Pg	16 06 16.0	-1.5
TLIG				*e*S	Sg	16 06 29.2	-3.3
VHO	**Vista Hermosa**	**1.76**	**68**	*e*P	Pn	16 06 23.3	-3.4
VHO				*e*S	Sn	16 06 45.2	-4.4
CAIG	**El Cayaco**	**1.87**	**290**	*e*P	Pn	16 06 24.6	-3.5
CAIG				*e*S	Sn	16 06 47.7	-4.3
PLIG	**Platanillo**	**2.22**	**333**	*e*P	Pn	16 06 33.6	+0.6
PLIG				*e*S	Sn	16 06 56.3	-4.6

*NIED **04** 16:06:00, 35°.70N×140°.80E, h50km, Mw3.9 Best double couple: M0 7.62000×10^14 NP1:φs182.00000°, δ19.00000°, λ68.00000°. NP2:φs26.00000°, δ73.00000°, λ97.00000°.*
*ISCJB **04** 16:06:21.0±0.7, 35°.71N±0°.05×140°.89E±0°.10, h53km±6km, mb3.7/10, MS3.4/1, Error ellipse: s-maj=13.5km s-min=7.6km az=172.9*
*JMA **04** 16:06:22.5±0.1, 35°.73N×140°.68E, h44km±1km, M3.4 Broadband fault plane solution: P waves. NP1: φs59.00000°, δ78.00000°, λ98.00000°. NP2:φs206.00000°, δ14.00000°, λ57.00000°. Principal axes: T Plg56.0000°, Azm339.0000°; N Plg7.0000°, Azm238.0000°; P Plg33.0000°, Azm143.0000°;*
JMA Felt II J1.
*IDC **04** 16:06:22.6±2.0, 35°.72N×140°.72E, h43km±19km, mb3.5/10, mb1 3.7/13, mb1mx3.4/67, mbtmp3.7/13, ML3.7/3, MS3.2/2, Ms1 3.2/2, ms1mx2.6/44 Error ellipse: s-maj=27.4km s-min=11.6km az=86.0*
ISC 04 16:06:22.6±1.1**, 35°.71N**±0°.06×**140°.82E**±0°.09**, h46**km±10km**, n29, σ0s.89**/23**, mb3.7**/10**, 2C-2D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.04**	**108**	⇑P	**Pn**	**16 06 29.7**	**0.0**
JCN	**Nagara**	**0.58**	**240**	⇑P	**Pn**	**16 06 33.8**	**-0.8**
JYT	**Yasato**	**0.72**	**316**	⇓P	**Pn**	**16 06 35.2**	**-1.2**
BSO4	**Boso 4**	**0.82**	**209**	P	**Pn**	**16 06 37.3**	**-0.4**
JHO	**Hitachi**	**0.92**	**347**	⇓P	**Pn**	**16 06 38.6**	**-0.5**
BSO3	**Boso 3**	**0.94**	**196**	P	**Pn**	**16 06 38.6**	**-0.6**
MJAR	**Matsushiro Arr**	**2.27**	**292**	P	**Pn**	**16 06 57.3**	**-0.3**
	14nm,0.3s,baz=99,slow=14,SNR=101						
MAT	**Matsushiro**	**2.27**	**292**	P	**Pn**	**16 06 57.8**	**+0.2**
MAT				S	**Sn**	**16 07 26.3**	**+1.9**
JHJ	**Hachijo jima 2**	**2.73**	**199**	P	**Pn**	**16 07 03.2**	**-0.6**
	17nm,0.3s,baz=323,slow=19,SNR=14						
JHJ				S	**Sn**	**16 07 35.5**	**-0.1**
	68nm,0.3s,baz=66,slow=22,SNR=8.7						
ASAJ	**Asahikawa**	**8.50**	**9**	P	**Pn**	**16 08 21.6**	**-1.5**
	1.4nm,0.3s,baz=219,slow=20,SNR=15						
JNU	**Nakatsue**	**8.61**	**255**	LR	LR	16 12 03.4	
	comp=Z,92nm,20.1s,baz=115,slow=40						
H11N2	**WAKE ISLAND Hy**	**27.92**	**118**	T	T	16 41 19.9	
	baz=310,slow=75,SNR=13						
H11N1	**WAKE ISLAND Hy**	**27.93**	**118**	T	T	16 41 19.1	
	baz=310,slow=75,SNR=15						
H11N3	**WAKE ISLAND Hy**	**27.94**	**118**	T	T	16 41 21.1	
	baz=310,slow=75,SNR=15						
H11S1	**WAKE ISLAND Hy**	**28.58**	**120**	T	T	16 42 10.8	
	baz=312,slow=75,SNR=33						
H11S3	**WAKE ISLAND Hy**	**28.58**	**120**	T	T	16 42 04.0	
	baz=312,slow=75,SNR=22						
H11S2	**WAKE ISLAND Hy**	**28.60**	**120**	T	T	16 42 12.1	
	baz=312,slow=75,SNR=24						
ZALV	**Zalesovo Beam**	**42.46**	**313**	P	**P**	**16 14 12.6**	**-0.2**
	0.5nm,0.3s,baz=90,slow=6.2,SNR=3.8						
MKAR	**Makanchi Array**	**44.42**	**303**	P	**P**	**16 14 28.3**	**-0.6**
	0.8nm,0.6s,baz=84,slow=9.2,SNR=12						
KURBB	**Kurchatov Arra**	**46.45**	**309**	P	**P**	**16 14 43.7**	**-1.0**
	1.0nm,0.4s,baz=81,slow=7.7,SNR=13						
ILAR	**Eielson Array**	**50.87**	**32**	P	**P**	**16 15 19.6**	**+1.1**
	0.6nm,0.8s,baz=268,slow=6.3,SNR=7.2						
BVAR	**Borovoye Array**	**51.11**	**313**	P	**P**	**16 15 19.9**	**-0.6**
	0.6nm,0.6s,baz=74,slow=7.3,SNR=5.4						
WRA	**Warramunga Arr**	**55.69**	**187**	P	**P**	**16 15 53.7**	**-0.7**
	0.3nm,0.4s,baz=1.2,slow=7.8,SNR=16						
ASAR	**Alice Springs**	**59.42**	**187**	P	**P**	**16 16 21.8**	**+1.2**
	0.1nm,0.4s,baz=1.4,slow=6.1,SNR=5.7						
FINES	**FINESS Array B**	**69.76**	**332**	P	**P**	**16 17 27.3**	**-0.3**
	0.6nm,0.5s,baz=60,slow=9.1,SNR=4.3						
KBZ	**Khabaz**	**71.40**	**311**	P	**P**	**16 17 38.3**	**+0.4**
	1.0nm,0.8s,baz=80,slow=1.9,SNR=3.8						
AKASG	**Malin Array Be**	**75.05**	**322**	LR	LR	16 54 34.6	
	comp=Z,20nm,18.3s,baz=85,slow=39						
NB2	**NORSAR Subarra**	**75.22**	**337**	P	**P**	**16 17 59.6**	**-0.5**
	comp=Z,1.1nm,0.8s,baz=52,slow=5.6						
NOA	**NORSAR Array B**	**75.22**	**337**	P	**P**	**16 18 00.3**	**+0.1**
	comp=Z,0.5nm,0.5s,baz=41,slow=5.9,SNR=3.5						

TAP 04 16:07:46.9, 21°.80N×**121°.67E, h2**km±1km**, ML2.1, D, Taiwan region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LAY	**Lan-yu**	**0.26**	**335**	*i* P	Pg	16 07 52.4	+0.5
	baz=336						
LAY				*i* S	Sg	16 07 56.4	+1.1
	baz=336						
TWKBT	**Hengchun**	**0.81**	**280**	P	Pb	16 08 04.1	+0.4
	baz=279						
TWK1	**Hengchun**	**0.81**	**280**	*e*P	Pb	16 08 03.6	-0.1
	baz=279						
EAST	**Anshuo**	**0.95**	**307**	*e*P	Pn	16 08 07.0	-0.3
	baz=307						
SCZT	**Fangliau**	**1.12**	**300**	*e*P	Pn	16 08 09.7	0.0
	baz=300						
SCZT				S	Sn	16 08 25.7	0.0
	baz=300						
MASBT	**Mashibuluo**	**1.25**	**310**	*e*P	Pg	16 08 10.7	-0.2
	baz=309						
MASBT				*e*S	Sn	16 08 28.8	0.0
	baz=309						
WTP	**Ta-pu**	**1.73**	**326**	*e*P	Pn	16 08 18.7	+0.6
	baz=325						
WTP				*e*S	Sg	16 08 42.5	-0.3
	baz=325						
TPUB	**Ta-pu**	**1.77**	**327**	*e*P	Pn	16 08 19.3	+0.7
	baz=327						
ALS	**Alishan**	**1.88**	**335**	P	Pn	16 08 20.9	+0.7
	baz=335						

IDC 04 16:11:42.6±4.8**, 16°.20S**×**173°.07W, h0**km**, mb4.0**/3**, mb1 4.2**/4**, mb1mx3.7**/49**, mbtmp3.9**/4**, ML3.4**/1**, Error ellipse: s-maj=194.0km s-min=21.9km az=134.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.59**	**29**	Pn	Pn	16 12 25.4	-0.5
	7.1nm,0.3s,baz=34,slow=4.2,SNR=10.0						
AFI				Sn	Sn	16 12 58.8	+0.6
	18nm,0.3s,baz=24,slow=24,SNR=6.3						
WRA	**Warramunga Arr**	**49.98**	**257**	P	P	16 20 38.7	-0.2
	0.7nm,0.5s,baz=96,slow=7.0,SNR=41						
ASAR	**Alice Springs**	**50.17**	**253**	P	P	16 20 40.0	-0.4
	3.2nm,0.6s,baz=87,slow=8.8,SNR=90						
ILAR	**Eielson Array**	**83.16**	**11**	P	P	16 24 09.8	-0.3
	0.5nm,0.7s,baz=221,slow=6.3,SNR=5.9						
BRTR	**Keskin Array B**	**146.97**	**321**	PKPbc	PKPbc	16 31 28.1	+0.4
	0.6nm,0.9s,baz=35,slow=3.0,SNR=4.0						

*BJI **04** 16:20:50.3, 3°.47S×140°.01E, h128km, mb4.9/53, mB5.1/28*
*MOS **04** 16:20:52.7±0.8, 3°.13S×139°.79E, h125km, mb4.6/18, Error ellipse: s-maj=13.3km s-min=7.0km az=112.1*
*NEIC **04** 16:20:54.8±0.8, 3°.13S×139°.79E, h130km±8km, mb4.8/37, Error ellipse: s-maj=5.3km s-min=5.1km az=214.0*
*ISCJB **04** 16:20:55.3±0.2, 3°.22S±0°.03×139°.80E±0°.03, h150km, mb4.6/71, Error ellipse: s-maj=5.0km s-min=4.1km az=165.8*
*DJA **04** 16:20:55.4±0.2, 3°S±3°×14°0E±°, h105km±4km, M4.8/23, mb4.9/23, mB5.2/12, MLv5.0/5, Mw(mB)4.6/12*
*IDC **04** 16:20:56.6±3.0, 3°.20S×139°.75E, h144km±30km, mb4.2/19, mb1 4.2/23, mb1mx4.0/52, mbtmp4.7/23, MS3.2/1, Ms1 3.4/1, ms1mx2.6/43, Error ellipse: s-maj=14.8km s-min=12.2km az=79.0*
ISC 04 16:20:55.8±0.3**, 3°.23S**±0°.05×**139°.88E**±0°.05**, h150**km**, n181, σ1s.69**/183**, mb4.6**/71**, 8C-6D, Irian Jaya**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GENI	**Genyem**	**0.69**	**25**	P	Pn	16 21 13.9	-4.4
GENI				S	**Sn**	**16 21 28.7**	**-6.7**
JAY	**Jayapura**	**1.09**	**50**	P	Pn	16 21 17.0	-4.4
JAY				S	**Sn**	**16 21 34.2**	**-6.7**
BAKI	**Biak**	**4.27**	**298**	P	**Pn**	**16 21 56.4**	**-3.2**
MMPI	**Merauke**	**5.23**	**174**	P	**Pn**	**16 22 13.2**	**+0.9**
MMPI				S	**Sn**	**16 23 11.1**	**-0.9**
MANU	**Manus Island**	**7.57**	**81**	*e*Pn	**Pn**	**16 22 44.3**	**+0.7**
FAKI	**Fak Fak**	**7.62**	**272**	P	**Pn**	**16 22 42.9**	**-1.3**
FAKI				S	Sn	16 23 57.5	-12
FAKI	**Fak Fak**	**7.62**	**272**	*e*Pn	**Pn**	**16 22 41.3**	**-2.9**
SWI	**Sorong**	**8.92**	**285**	P	**Pn**	**16 22 59.9**	**-1.7**
SWI				S	**Sn**	**16 24 35.0**	**-5.7**
PMG	**Port Moresby**	**9.49**	**131**	P	**Pn**	**16 23 10.5**	**+1.5**
	5.3nm,0.3s,baz=327,slow=6.2,SNR=34						
PMG	**Port Moresby**	**9.49**	**131**	*e*Pn	**Pn**	**16 23 09.7**	**+0.7**
PMG	**Port Moresby**	**9.49**	**131**	⇓*i*P	**Pn**	**16 23 09.5**	**+0.4**
COEN	**Coen**	**11.15**	**163**	*e*Pn	**Pn**	**16 23 31.9**	**+0.9**
LBMI	**Labuha**	**12.63**	**281**	P	P	16 23 50.9	-4.9
NLAI	**Namlea**	**12.76**	**270**	P	**P**	**16 23 54.2**	**-2.9**
MTN	**Manton Dam**	**12.89**	**222**	*e*Pn	**Pn**	**16 23 50.1**	**-3.5**
SANI	**Sanana**	**13.92**	**274**	P	**Pn**	**16 24 04.6**	**-2.2**
KMSI	**Cibinong**	**16.33**	**283**	P	**P**	**16 24 35.4**	**-1.4**
SOEI	**Soe**	**16.80**	**247**	P	**Pn**	**16 24 43.5**	**+1.0**
SOEI	**Soe**	**16.80**	**247**	*e*Pn	**Pn**	**16 24 43.0**	**+0.5**
	100nm,1.0s						
LUWI	**Luwuk**	**17.23**	**277**	*e*P	**Pn**	**16 24 46.9**	**-0.6**
	88nm,0.8s						
BBSI	**Bau Bau**	**17.40**	**262**	P	**Pn**	**16 24 51.7**	**+2.1**
GUMO	**Guam**	**17.43**	**16**	*e*P	**P**	**16 24 46.5**	**-2.4**
	346nm,1.4s						
GUMO	**Guam**	**17.43**	**16**	*e*P	**P**	**16 24 46.5**	**-2.4**
GUMO				pmax	pmax		
	comp=Z,346nm,1.4s						
WB2	**Warramunga Arr**	**17.47**	**198**	*e*P	**Pn**	**16 24 49.8**	**-0.6**
WRA	**Warramunga Arr**	**17.47**	**198**	P	**Pn**	**16 24 49.9**	**-0.5**
	comp=Z,0.3nm,0.3s,baz=16,slow=12,SNR=25						
BATI	**Baumata**	**17.52**	**246**	P	**Pn**	**16 24 51.5**	**+0.4**
	comp=Z,11nm,0.3s,baz=139,slow=1.3,SNR=29						
BATI	**Baumata**	**17.52**	**246**	P	**Pn**	**16 24 52.0**	**+0.9**
CTA	**Charters Tower**	**17.88**	**160**	P	**Pn**	**16 24 57.8**	**+2.6**
	comp=Z,0.2nm,0.3s,baz=323,slow=9.6,SNR=6.4						
MRSI	**Marisa**	**18.30**	**281**	P	**Pn**	**16 24 58.7**	**-1.6**
MMRI	**Maumere**	**18.34**	**252**	*e*P	**Pn**	**16 24 59.6**	**-1.1**
	comp=Z,70nm,1.4s						
APSI	**Ampana**	**18.36**	**277**	P	**Pn**	**16 25 01.1**	**+0.1**
BSSI	**Bau Bau, Buton**	**19.54**	**261**	P	**Pn**	**16 25 13.9**	**-0.8**
BNSI	**Bone**	**19.76**	**266**	P	**Pn**	**16 25 16.8**	**-0.6**
TTSI	**Tana Toraja**	**20.03**	**270**	P	**Pn**	**16 25 20.1**	**-0.4**
PCI	**Palu**	**20.16**	**276**	P	Pn	16 25 21.2	-0.9
MPSI	**Mapaga**	**20.28**	**280**	P	Pn	16 25 21.4	-2.1
FITZ	**Fitzroy Crossi**	**20.32**	**222**	P	**P**	**16 25 20.4**	**+0.1**
	comp=Z,20nm,0.8s,baz=58,slow=12						
HNR	**Honiara**	**20.87**	**108**	P	Pn	16 25 29.1	-1.5
	comp=Z,62nm,0.7s,baz=225,slow=0.8,SNR=5.7						
HNR	**Honiara**	**20.87**	**108**	*e*P	**P**	**16 25 27.6**	**+1.4**
	comp=Z,67nm,0.8s						
HNR	**Honiara**	**20.87**	**108**	*e*P	**P**	**16 25 27.6**	**+1.4**
HNR				pmax	pmax		
	comp=Z,67nm,0.8s						
AS01	**Alice Springs**	**21.11**	**195**	*e*P	**P**	**16 25 28.6**	**-0.1**
AS31	**Alice Springs**	**21.12**	**195**	*e*P	**P**	**16 25 29.4**	**+0.5**
	comp=Z,5.4nm,0.6s						
ASAR	**Alice Springs**	**21.12**	**195**	P	**P**	**16 25 29.4**	**+0.5**

comp=Z,8.8nm,0.7s,baz=24,slow=10,SNR=73
WBSI Waikabubak, Su 21.32 252 P **P** **16 25 30.8 -0.3**
SGKI Sangatta, Kali 22.42 276 P **P** **16 25 47.6 +5.3**
SMKI Samarinda 22.82 276 P **P** **16 25 49.4 +3.3**
MYLDM Lahad Datu 22.93 291 *eP* **P** **16 25 49.1 +2.1**
comp=Z,46nm,0.8s
KBKI Kotabaru 23.67 269 P **P** **16 25 54.9 +1.0**
EIDS Eidsvold 24.51 155 *eP* **P** **16 26 05.0 +3.6**
comp=Z,54nm,1.6s
MTKI Muara Teweh, K 25.07 275 P **P** **16 26 10.2 +3.6**
TGY Tagaytay City 25.48 313 P **P** **16 26 11.3 +1.0**
comp=Z,107nm,0.4s,baz=141,slow=12,SNR=7.1
MBWA Marble Bar 26.49 226 *eP* **P** **16 26 20.2 +0.9**
comp=Z,22nm,0.8s
SBUM Sibu 28.21 281 *eP* **P** **16 26 35.5 +0.7**
comp=Z,31nm,1.4s
STKA Stephens Creek 28.55 177 P **P** **16 26 39.3 +1.9**
comp=Z,2.8nm,0.8s,baz=338,slow=10,SNR=9.0
FORT Forrest 29.59 201 *eP* **P** **16 26 48.4 +1.6**
comp=Z,737nm,0.7s
BBOO Buckleboo 29.65 187 *eP* **P** **16 26 48.8 +1.5**
comp=Z,20nm,0.8s
KSM Kuching 29.92 279 *eP* **P** **16 26 50.5 +0.6**
comp=Z,57nm,1.5s
YULB Yu-li 32.06 327 *eP* **P** **16 27 06.0 -2.6**
YHNB Yeheng 33.05 328 *eP* **P** **16 27 17.2 0.0**
MYKOM Kota Tinggi 36.35 277 *eP* **P** **16 27 46.2 +0.5**
comp=Z,67nm,1.6s
NWAO Narrogin (SRO) 36.37 213 P **P** **16 27 46.8 +1.3**
comp=Z,21nm,0.9s,baz=285,slow=6.4,SNR=5.5
IPM Ipoh 39.57 281 *eP* **P** **16 28 12.2 -0.5**
comp=Z,12nm,0.7s
KULM Kulim 40.09 282 *eP* **P** **16 28 15.8 -1.2**
comp=Z,36nm,1.5s
NJ2 Nanjing 40.37 332 *eP* **P** **16 28 17.3 -1.7**
NJ2 pmax pmax
comp=Z,16nm,0.8s
SKLT Songkhla 40.52 285 P **P** **16 28 20.5 0.0**
comp=Z,41nm,1.0s
PSI Prapat 41.37 278 P **P** **16 28 27.4 -0.2**
comp=Z,56nm,0.8s,baz=107,slow=4.6,SNR=40
PSI Prapat 41.37 278 *eP* **P** **16 28 26.9 -0.7**
comp=Z,83nm,1.0s
PSI Prapat 41.37 278 *eP* **P** **16 28 26.9 -0.7**
PSI pmax pmax
comp=Z,83nm,1.0s
TRTT Trang 41.57 286 P **P** **16 28 28.5 -0.6**
comp=Z,11nm,0.8s
KSAR Wonju Array Be 41.97 346 P **P** **16 28 33.2 +1.2**
KSAR Wonju Array Be 41.97 346 P **P** **16 28 33.2 +1.2**
KSRS Korea Array 41.97 346 P **P** **16 28 33.2 +1.2**
comp=Z,3.7nm,0.6s,baz=158,slow=8.8,SNR=20
GSI Gunungsitoli 42.52 275 *eP* **P** **16 28 35.5 -1.4**
comp=Z,29nm,0.6s
GYA Guiyang 43.61 315⇑ *i*P **P** **16 28 46.7 +1.2**
GYA pP pP 16 29 16.4 -2.5
GYA sP sP 16 29 30.0 -5.8
GYA PP **PcP** **16 30 32.2 +1.8**
GYA S **S** **16 35 05.6 +1.6**
GYA pmax pmax
comp=Z,10.0nm,1.0s
GYA pmax pmax
comp=Z,110nm,5.3s
ENH Enshi 44.19 321 *eP* **P** **16 28 50.0 +0.1**
comp=Z,20nm,0.7s
NANT Nan 44.33 301 P **P** **16 28 51.8 +0.5**
comp=Z,3.5nm,1.3s
TIA Tai'an 44.62 334 P **P** **16 28 54.0 +0.7**
TIA pmax pmax
comp=Z,10.0nm,0.8s
PAYA Payao 45.28 301 P **P** **16 28 59.4 +0.6**
comp=Z,7.1nm,0.8s
CM01 Chiang Mai Arr 45.67 300 *eP* **P** **16 29 01.5 -0.4**
CM31 Chiang Mai Arr 45.70 300 *eP* **P** **16 29 02.6 +0.5**
CMAR Chiang Mai Arr 45.70 300 P **P** **16 29 02.5 +0.4**
comp=Z,3.0nm,0.6s,baz=122,slow=6.3,SNR=19
CMAR LR LR 16 48 59.5
comp=Z,24nm,18.5s,baz=185,slow=37
KMI Kunming 45.74 310 P **P** **16 29 04.0 +1.4**
KMI pmax pmax
comp=Z,20nm,0.8s
KMI pmax pmax
comp=Z,110nm,4.2s
CMMT Chiang Mai 45.84 300 P **P** **16 29 03.5 +0.3**
CHTO Chiang Mai 45.85 300 *eP* **P** **16 29 03.0 -0.2**
comp=Z,20nm,1.5s
CHTO Chiang Mai 45.85 300 *eP* **P** **16 29 03.0 -0.2**
CHTO pmax pmax
comp=Z,20nm,1.5s
XAN Xi'an 47.17 324 P **P** **16 29 13.8 +0.5**
XAN pmax pmax
comp=Z,19nm,1.3s
USRK Ussuriysk Ar. 47.74 352 P **P** **16 29 19.5 +2.0**
comp=Z,2.9nm,0.7s,baz=181,slow=10,SNR=5.1
CD2 Chengdu 48.35 317 *eP* **P** **16 29 23.0 +0.5**
CN2 Changchun 48.58 346 *eP* **P** **16 29 24.8 +0.8**
CN2 pmax pmax
comp=Z,10.0nm,0.9s
HHC Hu-ho-hao-te 50.92 332 *eP* P 16 29 45.0 +3.1
HHC pmax pmax
comp=Z,17nm,1.0s
HHC pmax pmax
comp=Z,330nm,6.5s
LZH Lanzhou 51.59 323 *eP* **P** **16 29 49.0 +2.0**
LZH pP pP 16 30 20.9 -0.5
LZH sP sP 16 30 33.3 -4.8
LZH pmax pmax
comp=Z,18nm,0.8s
KLR Kul'dur 52.72 353 P **P** **16 29 56.3 +1.4**
comp=Z,0.7nm,0.6s,baz=183,slow=4.7,SNR=32
KLR Kul'dur 52.72 353 *c iP* **P** **16 29 56.5 +1.6**
SHL Shillong 54.58 305 *eP* **P** **16 30 10.0 +0.9**
HIA Hailar 55.12 344 *eP* **P** **16 30 15.3 +2.9**
HIA pmax pmax
comp=Z,6.0nm,0.8s
GTA Gaotai 56.18 323⇑ P **P** **16 30 20.7 +0.5**
GTA pP pP 16 30 57.0 +1.8
GTA pmax pmax
comp=Z,16nm,1.1s
LSA Lhasa 56.94 309 *eP* **P** **16 30 26.3 +0.1**
comp=Z,5.0nm,0.8s
LSA Lhasa 56.94 309 *eP* **P** **16 30 26.3 +0.1**
LSA pmax pmax
comp=Z,5.0nm,0.8s
ULN Ulaanbaatar 58.42 335 *eP* **P** **16 30 36.6 +0.7**
comp=Z,5.8nm,0.7s
ULN Ulaanbaatar 58.42 335⇑ *iP* **P** **16 30 37.4 +1.5**
ULN pmax pmax
comp=Z,6.0nm,0.7s
SONM Songino Array 58.68 334 P **P** **16 30 38.7 +1.1**
comp=Z,1.6nm,0.5s,baz=156,slow=7.8,SNR=8.8
SONA1 Songino Array 58.69 334 *eP* **P** **16 30 38.5 +0.8**
ODAN Odare 58.80 304 *eP* **P** **16 30 39.9 +0.9**
RAMN Ramite 59.49 304 *eP* **P** **16 30 44.7 +1.0**
comp=Z,51nm,1.1s
JIRN Jiri 60.09 304 *eP* **P** **16 30 48.8 +0.8**
GUN Gumba 60.44 305 *eP* **P** **16 30 51.2 +0.9**
comp=Z,21nm,0.7s
PKIN Phulchoki 60.71 304 *eP* **P** **16 30 53.5 +1.4**
comp=Z,7.6nm,0.5s
KKN Kakani 60.89 304 *eP* **P** **16 30 54.0 +0.8**
comp=Z,46nm,1.1s
DMN Daman 60.97 304 *eP* **P** **16 30 54.7 +0.9**
GKN Gorkha 61.49 304 *eP* **P** **16 30 58.1 +0.9**
comp=Z,36nm,0.8s
ZAK Zakamensk 61.95 334 *eP* **P** **16 31 00.2 +0.5**
ZAK pmax pmax
comp=Z,9.0nm,1.0s
KOLN Koldanda 62.27 304 *eP* **P** **16 31 03.4 +0.9**
comp=Z,24nm,0.8s
DANN Dangsing 62.34 304 *eP* **P** **16 31 04.0 +1.0**
TLY Talaya 62.76 336 *eP* **P** **16 31 07.0 +2.0**
TLY pmax pmax
comp=Z,5.0nm,0.6s
PYUN Piuthan 62.89 304 *eP* **P** **16 31 07.5 +0.9**
comp=Z,85nm,0.9s
MA2 Magadan 63.20 6 P **P** **16 31 09.5 +1.8**
comp=Z,1.0nm,0.5s,baz=175,slow=9.0,SNR=4.0
MA2 Magadan 63.20 6 *eP* **P** **16 31 09.1 +1.4**
MOY Mondy 63.88 334 *eP* **P** **16 31 14.2 +1.7**
MOY pmax pmax
comp=Z,11nm,1.1s
BOD Bodaibo 64.31 345 *eP* **P** **16 31 15.9 +0.9**
BOD pmax pmax
comp=Z,8.0nm,1.1s
YAK Yakutsk 65.55 355 P **P** **16 31 24.0 +1.2**
comp=Z,5.6nm,0.3s,baz=177,slow=2.0,SNR=9.1
YAK Yakutsk 65.55 355 *eP* **P** **16 31 23.6 +0.8**
comp=Z,16nm,0.8s
YAK Yakutsk 65.55 355 *eP* **P** **16 31 23.5 +0.6**
YAK pmax pmax
comp=Z,17nm,1.0s
YAK pmax pmax
comp=N,5.0nm,1.0s
YAK pmax pmax
comp=E,2.0nm,1.2s
WMQ Urumqi 66.14 321 P **P** **16 31 28.5 +1.3**
WMQ pP PcP 16 31 57.1 +0.8
WMQ sP sP 16 32 10.5 -8.9
WMQ pmax pmax
comp=E,38nm,0.9s
WMQ pmax pmax
comp=E,470nm,7.3s
SEY Seymchan 66.66 6⇑ *iP* **P** **16 31 31.4 +1.4**
HVS Khovu-Aksy 66.91 330⇑ *iP* **P** **16 31 34.1 +2.2**
HVS pmax pmax
comp=Z,21nm,0.9s
DGZ Jazzator, Alta 69.35 327 *c iP* **P** **16 31 48.5 +1.2**
DGZ *i* *PP sP 16 32 31.8 -8.0
DGZ pmax pmax
comp=Z,7.0nm,0.7s
MK01 Makanchi Array 70.89 322 *eP* **P** **16 31 57.3 +0.7**
MK31 Makanchi Array 70.91 322 *eP* **P** **16 31 57.5 +0.8**
MK31 Makanchi Array 70.91 322 *eP* **P** **16 31 57.5 +0.8**
MKAR Makanchi Array 70.91 322 P **P** **16 31 57.7 +1.0**
comp=Z,11nm,0.7s,baz=105,slow=8.0,SNR=94
MKAR Makanchi Array 70.91 322 *eP* **P** **16 31 57.5 +0.8**
comp=Z,48nm,0.9s
MAKZ Makanchi 71.11 322 *eP* **P** **16 31 58.4 +0.5**
comp=Z,13nm,0.6s
MAKZ Makanchi 71.11 322 *eP* **P** **16 31 58.4 +0.5**
MAKZ pmax pmax
comp=Z,13nm,0.6s
KSH Kashi 72.28 313 P **P** **16 32 07.8 +2.6**
KSH pP pP 16 32 39.6 -2.2
KSH S **S** **16 41 19.1 +2.8**
KSH ScS **ScS** **16 41 58.7 +0.6**
KSH pmax pmax
comp=Z,6.0nm,0.7s
KSH pmax pmax
comp=Z,78nm,4.2s
KSH LR LR
comp=Z,190nm,6.4s
KSH LR LR
comp=Z,120nm,5.0s
KSH LR LR
comp=Z,170nm,6.2s
ZAA0 Zalesovo Array 72.97 330 *eP* **P** **16 32 08.4 -0.3**
comp=Z,4.4nm,0.6s
ZALV Zalesovo Beam 72.97 330 P **P** **16 32 08.6 -0.2**
comp=Z,4.2nm,0.5s,baz=113,slow=5.9,SNR=21
ZALV Zalesovo Beam 72.97 330 *eP* **P** **16 32 08.4 -0.3**
ZALV Zalesovo Beam 72.97 330 *eP* **P** **16 32 08.4 -0.3**
KZA Kyzart 73.67 315 P **P** **16 32 15.7 +2.0**
SNR=27
TKM2 Tokmak 2 73.72 316 P **P** **16 32 14.9 +1.2**
SNR=15
KBK Karagaybulak 74.08 316 P **P** **16 32 17.0 +1.3**
SNR=6.8
NVS Novosibirsk 74.22 330⇓ *iP* **P** **16 32 16.2 +0.2**
NVS pmax pmax
comp=Z,9.0nm,1.1s
NVS pmax pmax
comp=N,4.0nm,1.2s
NVS pmax pmax
comp=E,5.0nm,1.2s
UCH Uchtor 74.23 315 P **P** **16 32 18.8 +1.8**
SNR=11
USP Ospenovka 74.59 316 P **P** **16 32 19.4 +0.9**
SNR=11
AML Almayashu 74.78 315 P **P** **16 32 21.7 +1.7**
SNR=10
KURK Kurchatov 74.81 325 *eP* **P** **16 32 19.7 +0.2**
comp=E,7.1nm,0.8s
KURK Kurchatov 74.81 325⇓ *iP* **P** **16 32 20.0 +0.5**
KURK *i* 16 32 33.4
KURK pmax pmax
comp=Z,8.0nm,0.8s
KURBB Kurchatov Arra 74.82 325 P **P** **16 32 20.0 +0.4**
comp=Z,5.7nm,0.9s,baz=115,slow=5.3,SNR=41
EKS2 Erkin-Say 74.89 316 P **P** **16 32 21.4 +1.0**
SNR=6.9
TIXI Tiksi 75.08 356 *eP* **P** **16 32 21.2 +0.6**
comp=Z,1.9nm,0.7s
TIXI Tiksi 75.08 356⇓ *iP* **P** **16 32 21.6 +0.9**
TIXI *i* *PP **pP** **16 33 02.7 +5.2**
TIXI pmax pmax
comp=Z,5.0nm,1.4s
KKAR Karatay Array 77.31 315 *eP* **P** **16 32 34.5 +0.6**
KKAR Karatay Array 77.31 315 *eP* **P** **16 32 34.5 +0.6**
BVAR Borovoye Array 80.40 325 P **P** **16 32 51.3 +0.8**
comp=Z,6.0nm,0.5s,baz=111,slow=7.5,SNR=74
BRVK Borovoye 80.47 325 *eP* **P** **16 32 51.7 +0.8**
comp=Z,11nm,0.9s
BRVK Borovoye 80.47 325 *eP* **P** **16 32 51.7 +0.8**
BRVK pmax pmax
comp=Z,11nm,0.9s
SML Sawmill 84.32 27 *eP* **P** **16 33 12.1 +1.3**
SML Sawmill 84.32 27 *eP* **P** **16 33 12.1 +1.3**
MLY Manley 84.34 24 *eP* **P** **16 33 12.3 +1.5**
comp=Z,22nm,1.9s
DHY Denali Highway 85.12 26 *eP* **P** **16 33 16.1 +1.2**
comp=Z,16nm,1.5s
WRH Wood River Hil 85.24 24 *eP* **P** **16 33 15.7 +0.5**
comp=Z,6.9nm,1.2s
COLD Coldfoot 85.30 22 *eP* **P** **16 33 17.3 +1.8**
comp=Z,5.6nm,1.3s
CCB Clear Creek Bu 85.41 24 *eP* **P** **16 33 16.3 +0.3**
comp=Z,9.1nm,1.2s
GEYT Alibeck 85.47 308 P **P** **16 33 18.7 +1.7**
comp=Z,6.9nm,1.0s,baz=119,slow=1.9,SNR=12
BMRM Bremner River 85.82 28 *eP* **P** **16 33 20.0 +1.8**
IL1 Eielson Array 85.82 24 *eP* **P** **16 33 18.1 0.0**
ILAR Eielson Array 85.82 24 P **P** **16 33 18.2 +0.1**
comp=Z,2.3nm,0.7s,baz=262,slow=4.4,SNR=28
ILB Eielson Array 85.82 24 *eP* **P** **16 33 17.9 -0.2**
ABKAR Akbulak array 85.86 320 *eP* **P** **16 33 18.1 -0.6**
comp=Z,2.9nm,0.8s
TOLK Toolik Lake Re 86.00 20 *eP* **P** **16 33 21.1 +2.1**
comp=Z,3.1nm,0.8s
FYU Fort Yukon 86.97 23 *eP* **P** **16 33 26.0 +2.3**
comp=Z,33nm,1.7s
ARU Arti 87.86 327 *d iP* **P** **16 33 27.4 -0.7**
ARU 16 36 51.8
ARU S **SKSac** **16 43 38.3 -3.9**
ARU pmax pmax
comp=Z,6.0nm,1.7s
DAWY Dawson 88.83 26 *eP* **P** **16 33 33.3 +0.7**
comp=Z,4.3nm,1.1s
SYO Syowa Base 90.69 201⇓ *eP* P **16 33 38.0 -3.1**
LVZ Lovozero 98.68 338⇑ *eP* Pdif 16 34 16.4 -1.3
KIC Kosan Boka 144.61 276 *e*PKP1 **PKPdf** **16 40 15.2 -0.5**
comp=Z,25nm,0.9s
DBIC Dimbokro 144.71 277 PKP **PKPdf** **16 40 16.0 +0.2**
comp=Z,12nm,0.8s,baz=61,slow=4.2,SNR=14
TIC Toumodi 144.87 277 *e*PKP1 **PKPdf** **16 40 16.1 0.0**
LIC Lamto 144.90 276 *e*PKP1 **PKPdf** **16 40 16.3 +0.1**
comp=Z,59nm,1.6s
LPAZ La Paz 146.20 126 PKPbc **PKPab** **16 40 22.9 +1.7**
comp=Z,1.3nm,0.6s,baz=232,slow=2.5,SNR=5.2
SDV Santo Domingo 149.16 78 PKPbc **PKPbc** **16 40 29.2 +1.4**
comp=Z,2.6nm,0.5s,baz=234,slow=8.0,SNR=4.8

*IDC **04** 16:28:33.8±5.1, 16°.11N×98°.47W, h0km, mb3.5/3, mb1 3.6/5, mb1mx3.5/44, mbtmp3.3/5, ML2.9/2, MS3.3/3, Ms1 3.2/3, ms1mx2.7/31, Error ellipse: s-maj=86.7km s-min=19.4km az=7.0*
*NEIC **04** 16:28:35.0±0.0, 16°.28N×98°.50W, h12km, mb4.1/8, MD3.9(MEX), After MEX.*
*MEX **04** 16:28:35.0±0.4, 16°.28N×98°.50W, h12km±10km, MD3.9*
ISC 04 16:28:36.1±1.3, **16°.35N**±0°.08×**98°.47W**±0°.04, **h16**km±8km, **n30**, σ2°85/41, **mb4.0**/9, **Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.33**	**83**	*eP*	**Pg**	**16 28 42.2**	**-0.9**
PNIG				*i* S	**Sg**	**16 28 47.6**	**-0.2**
PNIG	**Pinotepa**	**0.33**	**83**	*eP*	**Pg**	**16 28 42.2**	**-0.9**
PNIG				*i* S	**Sg**	**16 28 47.6**	**-0.2**
TLIG	**Tlapa**	**1.21**	**355**	*i* P	**Pn**	**16 28 57.1**	**-1.4**
TLIG				*e*S	**Sb**	**16 29 10.7**	**-3.5**
TLIG	**Tlapa**	**1.21**	**355**	*i* P	**Pn**	**16 28 57.1**	**-1.4**
TLIG				*e*S	**Sb**	**16 29 10.7**	**-3.5**
VHO	**Vista Hermosa**	**1.81**	**66**	*e*P	**Pn**	**16 29 03.2**	**-3.6**
VHO				*e*S	**Sn**	**16 29 25.9**	**-3.6**
VHO	**Vista Hermosa**	**1.81**	**66**	*e*P	**Pn**	**16 29 03.2**	**-3.6**
VHO				*e*S	**Sn**	**16 29 25.9**	**-3.6**
CAIG	**El Cayaco**	**1.86**	**292**	*e*P	**Pn**	**16 29 04.0**	**-3.3**
CAIG				*e*S	**Sn**	**16 29 25.6**	**-4.9**
CAIG	**El Cayaco**	**1.86**	**292**	*e*P	**Pn**	**16 29 04.0**	**-3.3**
CAIG				*e*S	**Sn**	**16 29 25.6**	**-4.9**
PLIG	**Platanillo**	**2.26**	**334**	*e*P	**Pn**	**16 29 14.2**	**+1.3**
PLIG				*e*S	**Sn**	**16 29 37.0**	**-3.5**
PLIG	**Platanillo**	**2.26**	**334**	*e*P	**Pn**	**16 29 14.2**	**+1.3**
PLIG				*e*S	**Sn**	**16 29 37.0**	**-3.5**
UNM	**Universidad Na**	**3.04**	**347**	*e*Pn	**Pb**	**16 29 29.5**	**-0.6**
CMIG	**Matias Romero**	**3.51**	**77**	Pn	**Pn**	**16 29 30.5**	**+0.4**
	0.6nm,0.3s,baz=251,slow=9.5,SNR=6.8						
CMIG				Pg	**Pb**	**16 29 39.8**	**+1.9**
	2.5nm,0.3s,baz=261,slow=12,SNR=32						
CMIG				Lg	Lg	16 30 27.0	
	20nm,0.3s,baz=298,slow=4.7,SNR=20						
LVIG	**Laguna Verde**	**3.88**	**30**	*e*Pn	**Pb**	**16 29 44.8**	**+0.6**
MOIG	**Morelia**	**4.20**	**322**	*e*Pn	**Pn**	**16 29 41.6**	**+1.8**
ZAIG	**Zacatecas**	**7.46**	**329**	*e*Pn	**Pn**	**16 30 25.6**	**+1.0**
TXAR	**Lajitas Array**	**13.78**	**341**	Pn	**Pn**	**16 31 55.6**	**+4.7**
	0.0nm,0.3s,baz=149,slow=13,SNR=3.1						
TXAR				LR	LR	16 37 38.0	
	comp=Z,100nm,20.9s,baz=0.0,slow=39						
TX31	**Lajitas Ar. Si**	**13.78**	**341**	*e*Pn	**Pn**	**16 31 53.8**	**+2.8**
ABTX	**Abilene, Hawle**	**16.24**	**356**	*e*Pn	**P**	**16 32 27.6**	**+1.0**
	7.9nm,0.6s						
LAZ	**Ladron**	**19.59**	**338**	*e*P	**P**	**16 33 04.0**	**+0.2**
ANMO	**Albuquerque**	**19.86**	**340**	P	**Pn**	**16 33 09.8**	**+1.5**
	1.4nm,0.7s,baz=84,slow=14,SNR=4.6						
ANMO				LR	LR	16 41 33.0	
	comp=Z,83nm,21.0s,baz=339,slow=39						
T25A	**Trinidad**	**21.37**	**347**	*e*P	**P**	**16 33 26.6**	**+3.6**
	6.9nm,0.8s						
X16A	**Lo Mia Camp, P**	**21.43**	**329**	*e*P	**P**	**16 33 26.6**	**+2.9**
	13nm,0.3s						
WUAZ	**Wupatki**	**22.30**	**331**	*e*P	**P**	**16 33 33.9**	**+0.9**
	6.6nm,1.0s						
S22A	**4UR Ranch, Cre**	**22.55**	**343**	*e*P	**P**	**16 33 39.1**	**+3.2**
	3.0nm,0.9s						
U15A	**North Rim**	**23.47**	**331**	*e*P	**P**	**16 33 48.3**	**+3.0**
	4.4nm,1.0s						
MTPU	**Mount Pierson**	**24.76**	**333**	*e*P	**P**	**16 34 00.4**	**+3.0**
	7.3nm,0.9s						
MSU	**Marysvale**	**25.15**	**334**	*e*P	**P**	**16 34 04.0**	**+3.2**
P18A	**Preston Nutter**	**25.37**	**338**	*e*P	**P**	**16 34 06.2**	**+3.4**
	3.9nm,0.8s						
PDAR	**Pinedale Array**	**27.99**	**342**	P	**P**	**16 34 29.3**	**+2.9**
	0.8nm,0.9s,baz=131,slow=8.9,SNR=3.4						
PDAR				LR	LR	16 47 03.9	
	comp=Z,62nm,19.7s,baz=183,slow=39						
YKA	**Yellowknife Ar**	**47.47**	**350**	P	**P**	**16 37 10.8**	**+0.9**
	0.5nm,0.8s,baz=158,slow=7.3,SNR=7.6						

*CSEM **04** 16:34:10.9±0.6, 35°.90N×2°.24E, h10km, mb3.8, Error ellipse: s-maj=15.1km s-min=8.6km az=154.0*
*CRAAG **04** 16:34:10.3, 35°.92N×2°.15E, Ml2.7*
*ISCJB **04** 16:34:11.8±0.9, 36°.04N±0°.05×2°.17E±0°.06, h16km, Error ellipse: s-maj=8.4km s-min=6.3km az=137.1*
*MDD **04** 16:34:11.8±1.0, 35°.83N×2°.24E, h17km±11km, mb3.8/6, Error ellipse: s-maj=17.2km s-min=6.7km az=158.0, PRXIMO*
ISC 04 16:34:11.1±1.4, **35°.92N**±0°.07×**2°.19E**±0°.05, **h16**km, **n29**, σ0°87/38, **1D, Northern Algeria**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EBNR	**Beni Rached**	**0.65**	**305**	P	**Pn**	**16 34 26.0**	**+0.3**
EBNR	**Beni Rached**	**0.65**	**305**	P	**Pn**	**16 34 26.0**	**+0.3**
EMHD	**Djebel Mahouad**	**0.68**	**65**	P	**Pb**	**16 34 24.6**	**0.0**
EMHD	**Djebel Mahouad**	**0.68**	**65**	P	**Pb**	**16 34 24.6**	**0.0**
EMHD	**Djebel Mahouad**	**0.68**	**65**	P	**Pb**	**16 34 24.6**	**0.0**
ECHA	**Ech Chlef**	**0.71**	**289**	P	**Pn**	**16 34 27.0**	**+0.6**
ECHA	**Ech Chlef**	**0.71**	**289**	P	**Pn**	**16 34 27.0**	**+0.6**
ECHF	**Ech Chlef**	**0.73**	**289**	P	**Pn**	**16 34 27.0**	**+0.3**
ECHF	**Ech Chlef**	**0.73**	**289**	P	**Pn**	**16 34 27.0**	**+0.3**
EANR	**'Ain N'Sour**	**0.89**	**272**	P	**Pb**	**16 34 27.7**	**-0.4**
EANR	**'Ain N'Sour**	**0.89**	**272**	P	**Pb**	**16 34 27.7**	**-0.4**
EANR	**'Ain N'Sour**	**0.89**	**272**	P	**Pb**	**16 34 27.7**	**-0.4**
ETRT	**Tiaret**	**0.90**	**234**	P	**Pb**	**16 34 28.0**	**-0.4**
ETRT	**Tiaret**	**0.90**	**234**	P	**Pb**	**16 34 28.0**	**-0.4**
ETRT	**Tiaret**	**0.90**	**234**	P	**Pb**	**16 34 28.0**	**-0.4**
EIBI	**Ibiza**	**3.17**	**348**	⇓P	**Pn**	**16 35 01.0**	**+0.6**
	2.5nm,0.2s,SNR=18						
EIBI				S	**Sn**	**16 35 36.9**	**-1.0**
	4.0nm,0.3s,SNR=7.9						
EIBI	**Ibiza**	**3.17**	**348**	P	**Pn**	**16 35 01.0**	**+0.6**
	2.5nm,0.2s,SNR=18						
EIBI				S	**Sn**	**16 35 36.9**	**-1.0**
	4.0nm,0.3s,SNR=7.9						
ETOS	**Mallorca**	**3.87**	**7**	P	**Pn**	**16 35 10.2**	**+0.2**
	2.2nm,0.4s,SNR=7.9						
ETOS				S	**Sn**	**16 35 54.2**	**-1.0**
	0.4nm,0.1s,SNR=7.9						
ETOS	**Mallorca**	**3.87**	**7**	P	**Pn**	**16 35 10.2**	**+0.2**
	2.2nm,0.4s,SNR=7.9						
ETOS				S	**Sn**	**16 35 54.2**	**-1.0**
	0.4nm,0.1s,SNR=7.9						
ETOB	**Tobarra**	**4.04**	**313**	P	**Pn**	**16 35 13.4**	**+1.1**
	1.7nm,0.6s,SNR=7.9						
ETOB				S	**Sn**	**16 36 00.1**	**+0.8**
	0.5nm,0.3s,SNR=7.9						
ETOB	**Tobarra**	**4.04**	**313**	P	**Pn**	**16 35 13.4**	**+1.1**
	1.7nm,0.6s,SNR=7.9						
ETOB				S	**Sn**	**16 36 00.1**	**+0.8**
	0.5nm,0.3s,SNR=7.9						
EBER	**Berja**	**4.21**	**285**	P	**Pn**	**16 35 14.3**	**-0.5**
	5.2nm,0.5s,SNR=7.9						
EBER	**Berja**	**4.21**	**285**	P	**Pn**	**16 35 14.3**	**-0.5**
	5.2nm,0.5s,SNR=7.9						
EQES	**Quesada**	**4.62**	**296**	P	**Pn**	**16 35 22.1**	**+1.8**
	2.1nm,0.3s,SNR=7.9						
EQES				S	**Sn**	**16 36 13.5**	**-0.2**
	2.1nm,0.2s,SNR=7.9						
EQES	**Quesada**	**4.62**	**296**	P	**Pn**	**16 35 22.1**	**+1.8**
	2.1nm,0.3s,SNR=7.9						
EQES				S	**Sn**	**16 36 13.5**	**-0.2**
	2.1nm,0.2s,SNR=7.9						
EQUE	**Quentar**	**4.71**	**287**	P	**Pn**	**16 35 22.6**	**+1.0**
	1.1nm,0.2s,SNR=6.6						
EQUE	**Quentar**	**4.71**	**287**	P	**Pn**	**16 35 22.6**	**+1.0**
	1.1nm,0.2s,SNR=6.6						
EMOS	**Mosqueruela**	**4.91**	**335**	P	**Pn**	**16 35 25.7**	**+1.3**
	2.1nm,0.3s,SNR=15						
EMOS				S	**Sn**	**16 36 18.9**	**-2.0**
	0.6nm,0.2s,SNR=7.9						
EMOS	**Mosqueruela**	**4.91**	**335**	P	**Pn**	**16 35 25.7**	**+1.3**
	2.1nm,0.3s,SNR=15						

MAN 04 16:56:00, 14°.14N×121°.23E, h4km, mb4.2, ML3.0, MS2.7, 2C, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TGY	**Tagaytay City**	**0.29**	**263**⇑	*e*P	Pb	16 56 07.3	-0.5
TGY				*i* S	Sb	16 56 12.8	-0.2
LQP	**Lukban**	**0.30**	**95**⇑	*e*P	Pg	16 56 04.8	-1.1
BOAC	**Boac**	**0.90**	**139**	*e*P	Pg	16 56 17.5	+0.2
BOAC				*e*S	Sb	16 56 30.2	-0.3
LUBP	**Lubang**	**1.04**	**247**	*e*P	Pg	16 56 20.0	+0.1
LUBP				*e*S	Sb	16 56 34.8	+0.3
BALP	**Baler**	**1.63**	**12**	*e*P	Pn	16 56 30.0	+0.5
BALP				*e*S	Sg	16 56 53.4	+0.9
SJMP	**San Jose**	**1.67**	**184**	*e*P	Pb	16 56 31.5	+0.2
SJMP				*e*S	Sg	16 56 54.2	+0.5
SCZP	**Santa Cruz**	**2.07**	**322**	*e*P	Pn	16 56 25.4	-10

*ISCJB **04** 17:01:45.7±0.3, 67°.07N±0°.02×21°.02E±0°.06, h0km, Error ellipse: s-maj=3.3km s-min=3.0km az=5.5*
*CSEM **04** 17:01:46.2±0.2, 67°.09N×20°.94E, h2km, ML2.1, Error ellipse: s-maj=4.5km s-min=3.9km az=85.0, Mining explosion.*
*UPP **04** 17:01:46.4±0.1, 67°.07N×20°.93E, h0km, ML2.1*
*HEL **04** 17:01:47.0±0.0, 67°.09N×20°.94E, h0km, ML2.2, ML2.1(UPP), Explosion*

IDC 04 17:01:47.6±0.9, 67°.07N×21°.29E, h0km, mb1 3.0/4, mb1mx2.9/68, mbtmp3.0/4, ML2.2/4, Error ellipse: s-maj=18.3km s-min=8.9km az=110.0
NAO 04 17:01:47.1±0.9, 67°.11N×21°.04E, ML2.5
BER 04 17:01:49.2±3.3, 67°.12N×20°.68E, h0km, ML1.7, ML2.5(NAO), Suspected explosion
ISC 04 17:01:46.5±0.7, 67°.09N±0°.02×20°.96E±0°.02, h0km, n90, σ0s87/113, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DUNU	Dundret	0.16	282	P	Pg	17 01 49.5	0.0
DUNU				S	Sg	17 01 52.1	+0.5
DUNU	Dundret	0.16	282	P	Pg	17 01 49.5	0.0
DUNU				S	Sg	17 01 52.1	+0.5
DUNU	Dundret	0.16	282	*i* P	Pg	17 01 49.5	0.0
DUNU				*i* S	Sg	17 01 52.1	+0.5
MASU	Masugnsbyn	0.55	47	P	Pg	17 01 57.2	+0.2
MASU	Masugnsbyn	0.55	47	P	Pg	17 01 57.2	+0.2
MASU	Masugnsbyn	0.55	47	*i* P	Pg	17 01 57.2	+0.2
ERTU	Ertsjaerv	0.72	137	P	Pg	17 01 59.9	-0.5
ERTU	Ertsjaerv	0.72	137	P	Pg	17 01 59.9	-0.5
ERTU	Ertsjaerv	0.72	137	*i* P	Pg	17 01 59.9	-0.5
PAJU	Pajala	0.84	93	P	Pg	17 02 02.3	-0.4
PAJU	Pajala	0.84	93	P	Pg	17 02 02.3	-0.4
PAJU	Pajala	0.84	93	*i* P	Pg	17 02 02.3	-0.4
RATU	Laukkuluspa	0.91	325	P	Pg	17 02 03.2	-0.7
RATU	Laukkuluspa	0.91	325	P	Pg	17 02 03.2	-0.7
RATU	Laukkuluspa	0.91	325	*e*P	Pg	17 02 03.2	-0.7
SALU	Saltoluokta	1.00	288	P	Pg	17 02 04.9	-0.8
SALU	Saltoluokta	1.00	288	P	Pg	17 02 04.9	-0.8
SALU	Saltoluokta	1.00	288	*e*P	Pg	17 02 04.9	-0.8
LANU	Lannavaara	1.04	22	P	Pg	17 02 05.8	-0.7
LANU	Lannavaara	1.04	22	P	Pg	17 02 05.8	-0.7
LANU	Lannavaara	1.04	22	*e*P	Pg	17 02 05.8	-0.7
NIKU	Nikkaluokta	1.08	317	P	Pg	17 02 06.3	-0.9
NIKU	Nikkaluokta	1.08	317	P	Pg	17 02 06.3	-0.9
NIKU	Nikkaluokta	1.08	317	*e*P	Pg	17 02 06.3	-0.9
KALU	Kalix	1.56	141	P	Pn	17 02 14.9	-0.6
KALU	Kalix	1.56	141	P	Pn	17 02 14.9	-0.6
KALU	Kalix	1.56	141	*e*P	Pn	17 02 14.9	-0.6
SJUU	Sjulsmark	1.61	170	P	Pn	17 02 15.5	-0.6
SJUU	Sjulsmark	1.61	170	P	Pn	17 02 15.5	-0.6
SJUU	Sjulsmark	1.61	170	*e*P	Pn	17 02 15.5	-0.6
HEF	Hetta	1.68	37	*e*P	Pn	17 02 16.8	-0.3
HEF				*e*Sn	Sn	17 02 39.5	+0.2
HEF	Hetta	1.68	37	*e*P	Pn	17 02 16.8	-0.3
	baz=216						
HEF				MSG		17 02 36.0	
	comp=Z,21nm,0.2s						
HEF				*e*SN	Sn	17 02 39.5	+0.2
HEF	Hetta	1.68	37	*e*P	Pn	17 02 17.0	-0.1
HEF				*e*S	Sn	17 02 39.3	+0.1
TOF	Tornio	1.68	126	*e*P	Pn	17 02 17.0	-0.1
TOF	Tornio	1.68	126	*e*P	Pn	17 02 17.0	-0.1
TOF				MSG		17 02 36.8	
	comp=Z,28nm,0.2s						
LILU	Lilltraesk	1.87	195	P	Pn	17 02 19.5	-0.2
LILU	Lilltraesk	1.87	195	P	Pn	17 02 19.5	-0.2
LILU	Lilltraesk	1.87	195	*e*P	Pn	17 02 19.5	-0.2
KIF	Kilpisjarvi	1.93	358	Pn	Pn	17 02 21.3	+0.8
KIF				Sn	Sg	17 02 48.7	+0.4
KIF	Kilpisjarvi	1.93	358	Pn	Pn	17 02 21.3	+0.8
KIF	Kilpisjarvi	1.93	358	*e*Pb	Pb	17 02 21.8	-0.6
KIF				Sn	Sg	17 02 48.7	+0.4
KIF	Kilpisjarvi	1.93	358	*e*PB	Pb	17 02 21.8	-0.6
KIF				MSG		17 02 45.4	
	comp=Z,21nm,0.2s						
KIF				*e*SG	Sg	17 02 48.6	+0.4
KIF	Kilpisjarvi	1.93	358	*e*P	Pn	17 02 21.3	+0.8
KIF				*e*Sg	Sg	17 02 48.0	-0.3
RNF	Rovaniemi	2.05	101	*e*Pb	Pn	17 02 22.9	+0.7
RNF	Rovaniemi	2.05	101	*e*PB	Pn	17 02 22.9	+0.7
KTK1	Kautokeino	2.11	23	*e*P	Pn	17 02 24.3	+1.2
KTK1				IAML		17 03 01.5	
	comp=Z,8.9nm,0.1s						
SGF	Sodankyl	2.19	78	*e*Pb	Pn	17 02 25.1	+1.0
SGF				*e*Sg	Sb	17 02 55.5	+0.9
SGF	Sodankyl	2.19	78	*e*PB	Pn	17 02 25.1	+1.0
SGF				*e*SG	Sb	17 02 55.5	+0.9
STEI	Steigen	2.36	294	*e*Pg	Pb	17 02 28.6	-1.1
BURU	Burvik	2.52	176	P	Pn	17 02 29.2	+0.5
BURU	Burvik	2.52	176	P	Pn	17 02 29.2	+0.5
BURU	Burvik	2.52	176	*e*P	Pn	17 02 29.2	+0.5
TRO	Tromso	2.66	344	*e*P	Pn	17 02 31.6	+1.0
MOR8	Moi Rana	2.76	253	*e*Pg	Pn	17 02 32.8	+0.9
MOR8				*e*Sg	Sn	17 03 07.1	+1.1
OUL	Oulu	2.84	133	*e*Pb	Pn	17 02 34.9	+1.8
OUL	Oulu	2.84	133	*e*PB	Pn	17 02 34.9	+1.8
ARA0	ARCESS Array S	2.98	32	Pn	Pn	17 02 35.3	+0.3
	baz=220,slow=14						
ARA0				Sn	Sn	17 03 12.2	+0.8
	baz=208,slow=28						
ARA0	ARCESS Array S	2.98	32	Pn	Pn	17 02 35.3	+0.3
	SNR=157						
ARA0				Sn	Sn	17 03 12.2	+0.8
	SNR=5.7						
ARA0	ARCESS Array S	2.98	32	Pn	Pn	17 02 35.3	+0.3
	baz=220,slow=14						
ARA0				Sn	Sn	17 03 12.2	+0.8
	baz=208,slow=28						
ARCES	ARCESS Array B	2.98	32	Pn	Pn	17 02 35.5	+0.4
	comp=Z,0.4nm,0.3s,baz=211,slow=13,SNR=49						
ARCES				Sn	Sn	17 03 12.2	+0.8
	comp=Z,0.4nm,0.3s,baz=210,slow=25,SNR=5.0						
ARE0	ARCESS Array S	2.98	32	*e*P	Pn	17 02 35.0	0.0
ARE0				*e*S	Sn	17 03 10.0	-1.4
ARE0	ARCESS Array S	2.98	32	*e*P	Pn	17 02 35.0	0.0
	baz=213						
ARE0				*e*S	Sn	17 03 10.0	-1.4
LOF	Lofoten	3.03	294	*e*P	Pn	17 02 35.5	-0.1
LOF				IAML		17 03 34.5	
	comp=Z,6.9nm,0.6s						
OUF	Merijarvi	3.15	149	*e*P	Pn	17 02 37.9	+0.6
OUF	Merijarvi	3.15	149	*e*P	Pn	17 02 37.9	+0.6
OUF				MSG		17 03 19.3	
	comp=Z,3.9nm,0.2s						
KONS	Konsvik	3.16	263	*e*P	Pn	17 02 38.5	+1.1
STOK	Stokkvaagen	3.25	260	*e*P	Pn	17 02 40.1	+1.4
VRF	Varrio	3.40	75	*e*P	Pn	17 02 41.4	+0.6
VRF	Varrio	3.40	75	*e*P	Pn	17 02 41.4	+0.6
	baz=262						
MSF	Maaselka	3.44	106	*e*Pb	Pb	17 02 46.8	-1.6
MSF	Maaselka	3.44	106	*e*PB	Pb	17 02 46.8	-1.6
HAMF	Hammerfest	3.70	14	*e*P	Pn	17 02 46.2	+1.3
KU6	Riekki	3.72	103	*e*P	Pn	17 02 46.0	+0.8
KU6	Riekki	3.72	103	*e*P	Pn	17 02 46.0	+0.8
VAF	Ylistaro	4.13	169	*e*P	Pn	17 02 51.5	+0.8
VAF	Ylistaro	4.13	169	*e*P	Pn	17 02 51.5	+0.8
NSS	Namsos	4.50	239	*e*P	Pn	17 02 57.1	+1.2
FIA0	FINESS Array S	6.09	156	Pn	Pn	17 03 18.5	+0.8
	baz=348,slow=16						
FIA0				Sn	Sn	17 04 29.4	+1.5
	baz=344,slow=22						
FIA0	FINESS Array S	6.09	156	Pn	Pn	17 03 18.5	+0.8
	SNR=7.1						
FIA0				Sn	Sn	17 04 29.4	+1.5
	SNR=4.3						
FIA0	FINESS Array S	6.09	156	Pn	Pn	17 03 18.5	+0.8
	baz=348,slow=16						
FIA0				Sn	Sn	17 04 29.4	+1.5
	baz=344,slow=22						
FINES	FINESS Array B	6.09	156	Pn	Pn	17 03 18.1	+0.4
	comp=Z,0.1nm,0.3s,baz=347,slow=12,SNR=11						
FINES				Sn	Sn	17 04 27.2	-0.7
	comp=Z,0.2nm,0.3s,baz=340,slow=22,SNR=7.4						
NB2	NORSAR Subarra	7.42	220	Pn	Pn	17 03 33.9	-2.0
	baz=23,slow=14						
NB2	NORSAR Subarra	7.42	220	Pn	Pn	17 03 33.9	-2.0
	baz=23,slow=14						
NOA	NORSAR Array B	7.42	220	Pn	Pn	17 03 36.1	+0.2
	comp=Z,0.1nm,0.3s,baz=43,slow=21,SNR=3.9						
NRA0	NORESS Array S	7.60	217	Pn	Pn	17 03 36.5	-1.9
	baz=34,slow=18						
NRA0	NORESS Array S	7.60	217	Pn	Pn	17 03 36.5	-1.9
NRA0	NORESS Array S	7.60	217	Pn	Pn	17 03 36.5	-1.9
	baz=34,slow=18						
HFS	Hagfors	7.69	208	Pn	Pn	17 03 39.5	-0.2
	baz=21,slow=14						
HFS	Hagfors	7.69	208	Pn	Pn	17 03 39.5	-0.2
	comp=Z,0.0nm,0.3s,baz=18,slow=13,SNR=5.4						
HFS	Hagfors	7.69	208	Pn	Pn	17 03 39.5	-0.2
	baz=21,slow=14						

IDC 04 17:03:59.1±4.6, 26°.16N×142°.54E, h91km±54km, mb3.2/3, mb1 3.5/3, mb1mx2.9/62, mbtmp3.5/3, Error ellipse: s-maj=170.7km s-min=24.9km az=105.0, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JCJ	Chichijima	0.98	341	P	Pn	17 04 19.2	+0.5
JCJ				S	Sn	17 04 33.7	+0.3
WRA	Warramunga Arr	46.51	191	P	P	17 12 17.1	-0.3
	0.8nm,0.5s,baz=12,slow=8.7,SNR=31						
ASAR	Alice Springs	50.23	190	P	P	17 12 46.0	0.0
	0.1nm,0.3s,baz=18,slow=13,SNR=5.3						
YKA	Yellowknife Ar	72.81	28	P	P	17 15 17.4	0.0
	0.2nm,0.5s,baz=294,slow=5.8,SNR=5.0						

MEX 04 17:08:54.4±0.6, 17°.40N×94°.62W, h150km±10km, MD3.9, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TUIG	Tuzandepetl	0.66	17	*e*P	Pn	17 09 14.7	-1.9
TUIG				*e*S	Sn	17 09 31.4	-2.2
TGIG		1.56	113	*i* P	Pn	17 09 23.4	-1.3
TGIG				*i* S	Sn	17 09 45.8	-2.0
VHO	Vista Hermosa	2.04	261	*e*P	Pn	17 09 29.1	-1.2
VHO				*i* S	Sn	17 09 57.9	+0.1
PCIG		2.16	141	*e*P	Pn	17 09 30.4	-1.0
PCIG				*i* S	Sn	17 09 57.8	-2.0
HUIG	Huatulco	2.16	221	*e*P	Pn	17 09 28.1	-3.4
HUIG				*e*S	Sn	17 09 57.4	-2.6
CCIG	Comitan	2.63	115	*i* P	Pn	17 09 35.9	-1.4
CCIG				*i* S	Sn	17 10 09.5	-0.8
TPIG	Tehuac#an	2.80	292	*e*P	Pn	17 09 39.0	-0.4
TPIG				*i* S	Sn	17 10 11.7	-2.4
LVIG	Laguna Verde	2.87	324	*i* P	Pn	17 09 36.9	-3.2
LVIG				*i* S	Sn	17 10 10.7	-4.7

NIED 04 17:27:00, 38°.30N×141°.90E, h65km, Mw3.9 Best double couple: M0 8.55000×10^14 NP1: φs 82.00000°, δ6.00000°, λ140.00000°. NP2: φs 212.00000°, δ86.00000°, λ85.00000°.
ISCJB 04 17:27:43.0±0.8, 38°.25N±0°.04×142°.02E±0°.08, h57km±7km, mb3.7/6, Error ellipse: s-maj=10.8km s-min=5.4km az=15.9
JMA 04 17:27:44.7, 38°.28N×141°.92E, h50km±1km, M3.8
JMA Felt I J1.
IDC 04 17:27:44.6±2.8, 38°.18N×141°.90E, h52km±22km, mb3.4/6, mb1 3.6/10, mb1mx3.3/67, mbtmp3.8/10, ML3.3/4, MS2.8/2, Ms1 2.8/2, ms1mx2.5/45, Error ellipse: s-maj=38.3km s-min=13.3km az=83.0
ISC 04 17:27:43.2±1.7, 38°.23N±0°.04×142°.08E±0°.10, h42km±17km, n30, σ1s04/37, mb3.8/6, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JIO	Ouri	0.61	291	P	Pn	17 27 55.7	+0.2
JIO				S	Sn	17 28 03.5	-0.8
OFUJ	Ofunato	0.90	339	P	Pn	17 28 00.1	+0.6
OFUJ				S	Sn	17 28 10.9	-0.5
JMK	Ichinoseki	0.98	317	P	Pn	17 28 01.0	+0.5
JMK				S	Sn	17 28 12.6	-0.7
JMM	Marumori	1.08	251	P	Pn	17 28 01.7	-0.1
JMM				S	Sn	17 28 14.2	-1.4
JOU	Okura	1.12	277	P	Pn	17 28 02.6	+0.2
JOU				S	Sn	17 28 15.7	-1.0
JFK	Kawauchi	1.29	228	P	Pn	17 28 05.3	+0.6
JFK				S	Sn	17 28 20.4	-0.4
JOM	Ohasama	1.38	334	P	Pn	17 28 06.7	+0.7
JOM				S	Sn	17 28 23.0	-0.1
JYK	Kaneyama	1.51	297	P	Pn	17 28 08.0	+0.2
JYK				S	Sn	17 28 25.6	-0.6
JFT	Otama	1.55	243	P	Pn	17 28 09.2	+0.9
JFT				S	Sn	17 28 27.1	-0.2
JYS	Shirataka	1.58	270	P	Pn	17 28 09.2	+0.4
JYS				S	Sn	17 28 27.5	-0.6
JRG	Rokugo	1.62	316	P	Pn	17 28 09.8	+0.5
JRG				S	Sn	17 28 28.6	-0.3
JYA	Atsumi	1.89	282	P	Pn	17 28 13.5	+0.5
JYA				S	Sn	17 28 35.7	+0.1
MJAR	Matsushiro Arr	3.51	242	P	Pn	17 28 36.3	+1.0
	2.8nm,0.3s,baz=60,slow=8.6,SNR=23						
MJAR				LR	LR	17 30 10.6	
	comp=Z,76nm,18.1s,baz=35,slow=44						
MAT	Matsushiro	3.51	242	P	Pn	17 28 37.6	+2.3
MAT				S	Sn	17 29 18.9	+3.3
JHJ	Hachijo jima 2	5.43	201	P	Pn	17 29 02.4	+0.7
	10nm,0.3s,baz=93,slow=14,SNR=3.9						
JHJ				S	Sn	17 30 00.7	-2.2
	19nm,0.3s,baz=74,slow=21,SNR=7.8						
ASAJ	Asahikawa	5.89	4	P	Pn	17 29 09.1	+1.2
	0.8nm,0.3s,baz=224,slow=9.8,SNR=9.5						
USRK	Ussuriysk Ar.	9.65	311	P	Pn	17 30 00.9	+1.4
	0.6nm,0.3s,baz=120,slow=14,SNR=7.7						
JNU	Nakatsue	10.44	244	LR	LR	17 34 19.7	
	comp=Z,90nm,20.2s,baz=122,slow=38						
H11N2	WAKE ISLAND Hy	28.34	124	T	T	18 03 51.2	
	baz=316,slow=75,SNR=114						
H11N1	WAKE ISLAND Hy	28.35	124	T	T	18 03 51.9	
	baz=316,slow=75,SNR=167						
H11N3	WAKE ISLAND Hy	28.36	124	T	T	18 03 52.6	
	baz=316,slow=75,SNR=101						
H11S1	WAKE ISLAND Hy	29.10	126	T	T	18 04 50.0	
	baz=318,slow=76,SNR=50						
H11S3	WAKE ISLAND Hy	29.10	126	T	T	18 04 49.0	
	baz=318,slow=76,SNR=61						
H11S2	WAKE ISLAND Hy	29.11	126	T	T	18 04 51.3	
	baz=318,slow=76,SNR=45						
ZALV	Zalesovo Beam	41.51	311	P	P	17 35 25.4	-0.6
	0.6nm,0.3s,baz=86,slow=8.4,SNR=3.7						
MKAR	Makanchi Array	43.94	301	P	P	17 35 45.1	-0.8
	0.7nm,0.7s,baz=84,slow=9.9,SNR=7.1						
KURBB	Kurchatov Arra	45.69	307	P	P	17 35 58.9	-0.8
	1.9nm,0.7s,baz=82,slow=8.2,SNR=16						
BVAR	Borovoye Array	50.16	312	P	P	17 36 34.0	-0.4
	0.2nm,0.3s,baz=58,slow=5.4,SNR=2.6						
WRA	Warramunga Arr	58.32	189	P	P	17 37 33.6	-0.3
	0.6nm,0.5s,baz=6.4,slow=7.1,SNR=17						
ASAR	Alice Springs	62.05	188	P	P	17 37 60.0	+0.5
	0.5nm,0.7s,baz=4.6,slow=4.3,SNR=9.3						

IDC 04 17:34:45.1±9.2, 4°.40S×153°.51E, h117km±63km, mb3.5/3, mb1 3.8/4, mb1mx3.3/49, mbtmp4.0/4, MS3.3/1, Ms1 3.3/1, ms1mx2.6/30, Error ellipse: s-maj=82.7km s-min=66.4km az=136.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	8.03	231	P	Pn	17 36 39.2	+0.1
	6.9nm,0.3s,baz=350,slow=4.0,SNR=19						
PMG				S	Sn	17 38 09.2	+0.9
	1.6nm,0.3s,baz=130,slow=22,SNR=9.9						
WRA	Warramunga Arr	24.24	229	P	P	17 39 51.5	+0.1
	3.3nm,0.5s,baz=54,slow=10.0,SNR=48						
WRA				LR	LR	17 50 21.3	
	comp=Z,71nm,19.6s,baz=155,slow=39						
ASAR	Alice Springs	26.92	223	P	P	17 40 15.3	-0.3
	0.3nm,0.4s,baz=55,slow=9.1,SNR=17						
ASAR				PcP	PcP	17 43 34.8	-0.2
	0.2nm,0.6s,baz=66,slow=1.5,SNR=4.7						
STKA	Stephens Creek	29.53	201	P	P	17 40 38.7	0.0
	1.4nm,0.7s,baz=39,slow=13,SNR=5.1						

ISCJB 04 17:38:58.7±0.4, 49°.84N±0°.03×18°.43E±0°.03, h0km, Error ellipse: s-maj=3.9km s-min=2.3km az=15.6
IPEC 04 17:38:59.9±0.2, 49°.82N×18°.53E, h0km, ML2.0/3, Error ellipse: s-maj=4.3km s-min=1.1km az=159.0
VIE 04 17:38:59.3±1.1, 49°.81N×18°.57E, h4km±4km, mb2.6/3, ML2.5/5, Error ellipse: s-maj=9.0km s-min=6.1km az=52.0
CSEM 04 17:39:00.0±0.2, 49°.82N×18°.45E, h2km, ML2.6/13, Error ellipse: s-maj=5.1km s-min=2.7km az=11.0
PRU 04 17:39:00.8, 49°.82N×18°.45E, h0km
ISC 04 17:38:59.6±0.7, 49°.81N±0°.03×18°.48E±0°.02, h0km, n44, σ0s73/82, 4D, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OKC	Ostrava-Krasne	0.22	277	⇓*i*PG	Pg	17 39 05.3	+1.5
OKC				*e*SG	Sg	17 39 08.6	+2.0
	comp=Z,120nm,0.6s						
OKC	Ostrava-Krasne	0.22	277	Pg	Pg	17 39 05.3	+1.5
OKC				Sg	Sg	17 39 08.6	+2.0
	120nm,0.6s						
RAC	Raciborz	0.33	326	*e*Sg	Sb	17 39 13.0	-1.2
MORC	Moravsky Berou	0.61	267	*e*Pg	Pb	17 39 12.2	-1.0
MORC				*e*Sg	Sg	17 39 20.1	+1.0
	21nm,0.3s						
LANS	Liptovska Anna	0.92	135	*e*Pg	Pg	17 39 17.8	+0.5
LANS	Liptovska Anna	0.92	135	*e*PG	Pg	17 39 17.8	+0.5
OJC	Ojcow	0.94	64	*e*Pg	Pg	17 39 17.5	-0.2
OJC				*e*Sg	Sg	17 39 30.1	+0.1
OJC	Ojcow	0.94	64	*e*Pg	Pg	17 39 17.5	-0.2
OJC				*e*Sg	Sg	17 39 30.1	+0.1
KRLC	Kraliky	1.13	284	*e*PG	Pg	17 39 20.8	-0.4
KRLC				*e*SG	Sb	17 39 37.2	-0.1
	comp=Z,8.5nm,0.6s						
KRLC	Kraliky	1.13	284	Pg	Pg	17 39 20.8	-0.4
KRLC				Sg	Sb	17 39 37.2	-0.1
	8.5nm,0.6s						
NIE	Niedzica	1.25	108	*e*Pg	Pg	17 39 23.7	+0.2
NIE				*e*Sg	Sb	17 39 40.8	+0.1
NIE	Niedzica	1.25	108	*e*Pg	Pg	17 39 23.7	+0.2
NIE				*e*Sg	Sb	17 39 40.8	+0.1
VRAC	Vranov	1.33	248	*e*Pg	Pn	17 39 25.4	0.0
VRAC				*e*Sg	Sb	17 39 42.4	-0.6
	29nm,0.5s						
VYHS	Vyhne	1.34	170	*e*PN	Pg	17 39 25.0	-0.3
VYHS				*e*SN	Sn	17 39 44.0	-0.1
VYHS				*e*LG	Lg	17 39 46.7	
SMOL	Smolenice	1.47	208	*e*Pn	Pn	17 39 27.4	0.0
SMOL				*e*Sn	Sn	17 39 47.6	+0.3
SMOL	Smolenice	1.47	208	*e*PN	Pn	17 39 27.4	0.0
SMOL				*e*SN	Sn	17 39 47.6	+0.3
DPC	Dobruska-Polom	1.49	292	*e*PG	Pn	17 39 27.7	0.0
DPC				*e*SG	Sn	17 39 48.3	+0.4
	comp=Z,15nm,0.7s						
DPC	Dobruska-Polom	1.49	292	Pg	Pn	17 39 27.7	0.0
DPC				Sg	Sn	17 39 48.3	+0.4
	15nm,0.7s						
KRUC	Moravsky	1.55	242	*e*Pg	Pn	17 39 28.6	+0.1
KRUC				*e*Sg	Sg	17 39 49.9	+0.4
	14nm,0.2s						
MODS	Modra-Piesok	1.64	209	*e*Pn	Pn	17 39 29.8	0.0
MODS				*e*Sn	Sg	17 39 52.5	+0.2
MODS	Modra-Piesok	1.64	209	*e*PN	Pn	17 39 29.8	0.0
MODS				*e*SN	Sg	17 39 52.5	+0.2
UPC	Upice	1.73	295	⇓*e*PG	Pb	17 39 31.9	-0.4
UPC				*e*SG	Sg	17 39 54.9	-0.4
	comp=Z,16nm,0.4s						
UPC	Upice	1.73	295	Pg	Pb	17 39 31.9	-0.4
UPC				Sg	Sg	17 39 54.9	-0.4
	16nm,0.4s						
KSP	Ksiaz	1.74	307	*e*Pg	Pg	17 39 33.8	+0.8
KSP				*e*Sg	Sg	17 39 55.4	-0.1
KSP	Ksiaz	1.74	307	*e*Pg	Pg	17 39 33.8	+0.8
KSP				*e*Sg	Sg	17 39 55.4	-0.1
STHS	Stebnicka Huta	1.84	101	*e*Pn	Pg	17 39 35.0	+0.1
STHS	Stebnicka Huta	1.84	101	*e*PN	Pg	17 39 35.0	+0.1
STHS				*e*SN	Sg	17 40 01.2	+2.4
STHS				*e*LG	Lg	17 40 04.6	
KECS	Kecovo	1.87	135	*e*Pn	Pn	17 39 33.0	+0.1
KECS				*e*Sn	Sb	17 39 58.3	-0.4
KECS	Kecovo	1.87	135	*e*PN	Pn	17 39 33.0	+0.1
KECS				*e*SN	Sb	17 39 58.2	-0.4
CRVS	Cervenica-Dubn	2.15	114	*e*Pn	Pb	17 39 39.1	-0.4
CRVS	Cervenica-Dubn	2.15	114	*e*PN	Pb	17 39 39.1	-0.4
GOPC	GO Pecny, Ondr	2.39	274	*e*PN	Pn	17 39 39.4	-0.7
GOPC				*e*PG	Pb	17 39 42.6	-0.9
GOPC				*e*SG	Sg	17 40 15.5	-0.9
GOPC	GO Pecny, Ondr	2.39	274	Pn	Pn	17 39 39.4	-0.7
GOPC				Sg	Sg	17 40 15.5	-0.9
PRU	Pruhonice	2.55	275	⇓*e*PG	Pb	17 39 47.0	+0.7
PRU				*e*SG	Sg	17 40 20.7	-0.9
	comp=Z,6.1nm,0.6s						
PRU	Pruhonice	2.55	275	Pg	Pb	17 39 47.0	+0.7
PRU				Sg	Sg	17 40 20.7	-0.9
	6.1nm,0.6s						
CONA	Conrad Observa	2.56	223	*e*Pn	Pn	17 39 42.0	-0.4
	0.8nm,0.2s						
CONA				Sn	Sn	17 40 13.4	-0.9
	2.2nm,0.5s						
PVCC	Panska Ves	2.61	287	⇓*e*SG	Sg	17 40 23.6	0.0
	comp=Z,12nm,0.5s						
PVCC	Panska Ves	2.61	287	Sg	Sg	17 40 23.6	0.0
	12nm,0.5s						
BRG	Berggiesshubel	3.09	292	PG	Pb	17 39 56.5	+1.0
BRG				SG	Sg	17 40 39.3	+0.3
	6.2nm,1.0s						
ARSA	Arzberg	3.23	219	Pn	Pn	17 39 51.2	-0.4
	0.4nm,0.2s						
ARSA				Sn	Sn	17 40 31.5	+0.8
	0.4nm,0.2s						
ARSA	Arzberg	3.23	219	*e*Pn	Pn	17 39 51.2	-0.4
	0.4nm,0.2s						
ARSA				*e*Sn	Sn	17 40 31.5	+0.8
	0.4nm,0.2s						
KHC	Kasperske Hory	3.27	260	*e*PN	Pn	17 39 51.5	-0.6
KHC				*e*PG	Pb	17 39 59.3	+0.8
KHC				*e*SG	Sg	17 40 43.3	-1.3
	comp=Z,6.4nm,0.6s						
KHC	Kasperske Hory	3.27	260	Pn	Pn	17 39 51.5	-0.6
KHC				Sg	Sg	17 40 43.3	-1.3
	6.4nm,0.6s						
MOA	Molln	3.41	236	*i* Pn	Pn	17 39 53.5	-0.5
	0.3nm,0.2s						
MOA				*e*Sn	Sn	17 40 34.2	-0.9
	2.5nm,0.5s						

IDC 04 17:49:15.3±1.9, 9°.38S×128°.76E, h0km, mb3.5/2, mb1 3.6/4, mb1mx3.4/47, mbtmp3.5/4, ML3.2/2, Error ellipse: s-maj=238.2km s-min=27.7km az=63.0, Timor Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	11.81	153	Pn	Pn	17 52 03.7	-1.4
	0.2nm,0.3s,baz=332,slow=13,SNR=14						
WRA				Sn	Sn	17 54 12.8	-4.9
	0.4nm,0.3s,baz=338,slow=23,SNR=6.8						
ASAR	Alice Springs	15.04	162	Pn	Pn	17 52 48.7	-0.6
	0.1nm,0.3s,baz=339,slow=9.9,SNR=12						
ASAR				Sn	Sn	17 55 31.9	-4.7
	0.1nm,0.3s,baz=344,slow=26,SNR=3.5						
STKA	Stephens Creek	25.36	154	P	P	17 54 45.0	+0.8
	1.0nm,0.7s,baz=338,slow=10,SNR=3.6						
MKAR	Makanchi Array	69.55	328	P	P	18 00 26.0	-0.1
	0.3nm,0.6s,baz=116,slow=8.9,SNR=3.7						

IDC 04 17:59:48.8±45.0, 16°.73S×173°.12W, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.6/52, mbtmp4.0/3, Error ellipse: s-maj=874.8km s-min=177.0km az=80.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	Stephens Creek	43.62	241	P	P	18 07 56.0	+0.8
	0.5nm,0.4s,baz=83,slow=12,SNR=4.4						
WRA	Warramunga Arr	49.82	258	P	P	18 08 43.2	-0.8
	0.6nm,0.5s,baz=97,slow=6.8,SNR=12						
ASAR	Alice Springs	49.97	253	P	P	18 08 45.0	-0.1
	3.0nm,0.5s,baz=89,slow=8.7,SNR=93						

IDC 04 18:05:40.1±0.8, 9°.63N×141°.78E, h0km, mb4.2/13, mb1 4.4/14, mb1mx4.0/69, mbtmp4.2/14, ML4.4/1, MS2.9/3, Ms1 2.9/3, ms1mx2.6/51, Error ellipse: s-maj=23.2km s-min=18.1km az=97.0
NEIC 04 18:05:41.8±0.3, 9°.64N×141°.78E, h10km, mb4.6/14, Error ellipse: s-maj=10.3km s-min=8.6km az=117.0
ISCJB 04 18:05:43.4±0.4, 9°.63N±0°.07×141°.72E±0°.08, h33km, mb4.5/27, MS2.9/2, Error ellipse: s-maj=11.7km s-min=9.6km az=24.6
ISC 04 18:05:45.7±0.7, 9°.7N±0°.1×141°.8E±0°.1, h35km, n53, σ1s01/46, mb4.4/27, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GUMO	Guam	4.89	37	Pn	Pn	18 06 57.1	+0.2
	14nm,0.3s,baz=97,slow=5.2,SNR=17						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
GUMO				Sn	Sn	18 07 50.4	-1.9
	9.9nm,0.3s,baz=198,slow=23,SNR=3.2						
GUMO				LR	LR	18 08 45.5	
	comp=Z,69nm,21.3s,baz=188,slow=37						
JNU	Nakatsue	25.42	338	LR	LR	18 21 19.1	
	comp=Z,29nm,18.8s,baz=123,slow=37						
H11S3	WAKE ISLAND Hy	25.62	67	T	T	18 37 57.5	
	baz=253,slow=75,SNR=321						
H11S1	WAKE ISLAND Hy	25.64	67	T	T	18 38 01.2	
	baz=253,slow=75,SNR=112						
H11S2	WAKE ISLAND Hy	25.64	67	T	T	18 37 58.6	
	baz=253,slow=75,SNR=331						
H11N1	WAKE ISLAND Hy	26.18	65	T	T	18 38 48.8	
	baz=250,slow=75,SNR=33						
H11N2	WAKE ISLAND Hy	26.18	65	T	T	18 38 47.9	
	baz=250,slow=75,SNR=22						
H11N3	WAKE ISLAND Hy	26.19	65	T	T	18 38 49.1	
	baz=250,slow=75,SNR=48						
WR1	Warramunga Arr	30.35	194	eP	P	18 11 53.1	-1.2
	7.1nm,0.9s						
WRA	Warramunga Arr	30.35	194	P	P	18 11 53.1	-1.2
	2.0nm,0.8s,baz=14,slow=9.1,SNR=6.9						
KSRS	Korea Array	30.37	338	LR	LR	18 22 32.9	
	comp=Z,34nm,21.5s,baz=162,slow=33						
AS31	Alice Springs	34.03	193	eP	P	18 12 26.7	0.0
	1.6nm,0.6s						
ASAR	Alice Springs	34.04	193	P	P	18 12 25.2	-1.5
	0.9nm,0.6s,baz=17,slow=12,SNR=7.5						
USRK	Ussuriysk Ar.	35.44	348	P	P	18 12 39.0	+0.5
	6.3nm,0.7s,baz=164,slow=9.3,SNR=12						
ENH	Enshi	36.45	309	eP	P	18 12 47.3	-0.2
	6.3nm,0.4s						
CM01	Chiang Mai Arr	42.40	287	eP	P	18 13 37.2	0.0
CMAR	Chiang Mai Arr	42.42	287	P	P	18 13 38.0	+0.6
	3.0nm,0.9s,baz=93,slow=6.6,SNR=18						
SONA0	Songino Array	48.34	328	eP	P	18 14 24.5	+0.4
SONM	Songino Array	48.34	328	P	P	18 14 24.5	+0.4
	1.5nm,0.6s,baz=136,slow=6.8,SNR=8.3						
SONA1	Songino Array	48.35	328	eP	P	18 14 24.6	+0.5
MK01	Makanchi Array	62.29	318	eP	P	18 16 04.0	-0.5
MK31	Makanchi Array	62.30	318	eP	P	18 16 04.1	-0.5
MK32	Makanchi Array	62.30	318	eP	P	18 16 04.0	-0.6
MKAR	Makanchi Array	62.30	318	P	P	18 16 04.0	-0.6
	1.1nm,0.8s,baz=98,slow=8.7,SNR=11						
MKAR	Makanchi Array	62.30	318	eP	P	18 16 03.8	-0.7
TIXI	Tiksi	62.43	355	eP	P	18 16 04.3	-0.5
	1.7nm,0.8s						
ZALV	Zalesovo Beam	63.12	326	P	P	18 16 08.8	-1.0
	1.7nm,0.7s,baz=105,slow=6.4,SNR=7.3						
ZAA1	Zalesovo Array	63.13	326	eP	P	18 16 08.8	-1.1
KURK	Kurchatov	65.70	321	eP	P	18 16 25.9	-0.9
	13nm,1.4s						
KURBB	Kurchatov Arra	65.74	321	P	P	18 16 26.4	-0.5
	1.0nm,0.4s,baz=110,slow=6.5,SNR=7.6						
BVAR	Borovoye Array	71.18	323	P	P	18 17 00.3	-0.7
	4.1nm,0.9s,baz=104,slow=6.3,SNR=13						
MLY	Manley	71.83	24	eP	P	18 17 05.2	+0.5
	3.9nm,1.0s						
COLD	Coldfoot	72.67	22	eP	P	18 17 10.9	+1.3
	3.4nm,1.0s						
WRH	Wood River Hil	72.77	25	eP	P	18 17 10.2	-0.1
	6.3nm,1.1s						
HDA	Harding Lake	73.24	25	eP	P	18 17 12.0	-1.1
	19nm,1.8s						
IL1	Eielson Array	73.35	25	eP	P	18 17 12.6	-1.1
ILAR	Eielson Array	73.35	25	P	P	18 17 12.9	-0.8
	1.6nm,0.7s,baz=246,slow=5.9,SNR=20						
ILB	Eielson Array	73.35	25	eP	P	18 17 12.9	-0.8
DOT	Dot Lake	74.34	26	eP	P	18 17 19.2	-0.3
	13nm,1.0s						
DAWY	Dawson	76.44	26	eP	P	18 17 33.0	+1.3
	6.3nm,1.1s						
INK	Inuvik	79.09	22	P	P	18 17 46.5	+0.3
	1.9nm,0.8s,baz=268,slow=8.3,SNR=8.3						
INK	Inuvik	79.09	22	eP	P	18 17 46.5	+0.3
	4.3nm,1.0s						
YKA	Yellowknife Ar	87.67	27	P	P	18 18 31.0	+0.6
	1.4nm,0.6s,baz=288,slow=5.2,SNR=22						
YKB5	Yellowknife Ar	87.67	27	eP	P	18 18 30.4	-0.1
LHEM	Herd Peak	88.05	48	eP	P	18 18 31.2	-1.9
MJ2	May Junction 2	89.04	43	eP	P	18 18 35.6	-1.7
MDPB	Devils Postpil	91.27	52	eP	P	18 18 48.0	-0.3
	14nm,0.7s						
NV01	Mina Array Sit	91.68	51	eP	P	18 18 51.6	+1.5
NVAR	Mina Array Bea	91.68	51	P	P	18 18 51.6	+1.5
	1.6nm,0.8s,baz=269,slow=7.0,SNR=3.3						
FULC	Fullerton	93.05	55	eP	P	18 18 58.2	+2.0
RLMT	Red Lodge	96.21	42	eP	P	18 19 12.9	+2.1
	5.9nm,0.8s						
Q16A	Castle Valley	96.91	49	eP	P	18 19 14.0	0.0
	36nm,1.2s						
LPAZ	La Paz	150.10	106	PKPbc	PKPbc	18 25 35.2	+0.6
	1.0nm,0.7s,baz=336,slow=4.2,SNR=4.2						

IDC 04 18:07:05.0±13.0**, 7°.42S**×**128°.92E, h146**^{km}±142^{km}**, mb3.4**/1**, mb1 3.6**/4**, mb1mx3.1**/58**, mbtmp4.0**/4**, ML3.7**/2**, Error ellipse: s-maj=171.2km s-min=30.6km az=45.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	Baumata	5.89	242	P	Pn	18 08 30.6	+0.3
	37nm,0.3s,baz=105,slow=2.6,SNR=67						
BATI				S	Sn	18 09 34.5	-2.4
	21nm,0.3s,baz=110,slow=3.3,SNR=8.8						
WRA	Warramunga Arr	13.52	158	P	Pn	18 10 09.3	-1.8
	0.3nm,0.3s,baz=327,slow=13,SNR=12						
WRA				S	Sn	18 12 30.5	-10
	0.8nm,0.3s,baz=335,slow=21,SNR=12						
ASAR	Alice Springs	16.85	164	P	Pn	18 10 53.4	+1.0
	0.5nm,0.3s,baz=338,slow=9.9,SNR=63						
ASAR				S	S	18 13 50.0	-10
	0.1nm,0.3s,baz=349,slow=28,SNR=3.8						
MKAR	Makanchi Array	67.99	327	P	P	18 17 48.4	0.0
	0.5nm,0.5s,baz=119,slow=7.8,SNR=6.4						

MEX 04 18:10:06.5±0.4**, 16°.39N**×**98°.38W, h5**^{km}±9^{km}**, MD3.9, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.24	88	eP	Pg	18 10 10.9	-0.4
PNIG				iS	Sg	18 10 14.5	+0.1
TLIG	Tlapa	1.19	351	eP	Pg	18 10 25.9	-3.3
TLIG				eS	Sg	18 10 38.7	-5.9
VHO	Vista Hermosa	1.72	66	eP	Pn	18 10 34.1	-3.2
VHO				eS	Sn	18 10 54.6	-5.2
CAIG	El Cayaco	1.93	290	eP	Pn	18 10 33.7	-6.2
CAIG				eS	Sn	18 11 00.0	-4.5
PLIG	Platanillo	2.27	332	eP	Pn	18 10 41.6	-3.2
PLIG				eS	Sn	18 11 07.1	-6.0

*ISCJB **04** 18:13:35.1±0.8, 36°.85N±0°.05×71°.2E±0°.1, h88^{km}, mb3.8/3, Error ellipse: s-maj=13.8km s-min=6.1km az=162.7*
*IDC **04** 18:13:38.2±8.3, 37°.00N×71°.23E, h93^{km}±54^{km}, mb3.5/3, mb1 3.6/7, mb1mx3.1/71, mbtmp3.9/7, ML3.6/4, Error ellipse: s-maj=70.4km s-min=39.8km az=171.0*
ISC 04 18:13:36.2±1.2**, 36°.84N**±0°.10×**71°.2E**±0°.1**, h88**^{km}**, n23,** σ**0s.83**/24**, mb4.0**/3**, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	Almayashu	5.62	19	P	Pn	18 14 57.9	+0.4
	SNR=13						
UCH	Uchtor	5.95	24	P	Pn	18 15 03.6	+1.5
	SNR=5.8						
KZA	Kyzart	6.08	29	P	Pn	18 15 04.8	+0.9
	SNR=5.3						
EKS2	Erkin-Say	6.13	18	P	Pn	18 15 05.4	+1.1
	SNR=7.8						
AAK	Ala-Archa	6.31	22	P	Pn	18 15 07.5	+0.7
	1.6nm,0.3s,baz=198,slow=8.0,SNR=17						
AAK				S	Sn	18 16 17.0	-0.5
	1.0nm,0.3s,baz=330,slow=22,SNR=10						
AAK	Ala-Archa	6.31	22	P	Pn	18 15 08.0	+1.3
	SNR=9.9						
CHMS	Chumysh	6.72	23	P	Pn	18 15 12.8	+0.6
	SNR=12						
USP	Ospenovka	6.89	20	P	Pn	18 15 14.5	-0.1
	SNR=5.3						
TKM2	Tokmak 2	6.94	28	P	Pn	18 15 16.3	+1.0
	SNR=18						
MKAR	Makanchi Array	12.90	36	P	Pn	18 16 35.6	-0.5
	0.1nm,0.3s,baz=228,slow=17,SNR=5.6						
PYUN	Piuthan	13.19	128	eP	Pn	18 16 39.9	-0.3
	7.5nm,0.4s						
KOLN	Koldanda	13.81	127	eP	Pn	18 16 47.7	-0.6
	4.0nm,0.3s						
GKN	Gorkha	14.33	124	eP	Pn	18 16 55.7	+0.7
	5.2nm,0.3s						
KURBB	Kurchatov Arra	14.74	19	P	P	18 17 03.0	-0.7
	0.1nm,0.3s,baz=208,slow=10,SNR=5.9						
KKN	Kakani	14.89	123	eP	Pn	18 17 02.6	+0.3
DMN	Daman	14.90	124	eP	Pn	18 17 02.5	+0.1
PKIN	Phulchoki	15.11	124	eP	Pn	18 17 05.7	+0.5
	5.1nm,0.5s						
RAMN	Ramite	16.33	123	eP	Pn	18 17 19.1	-1.3
	8.9nm,0.6s						
AKTO	Aktyubinsk	16.59	329	P	Pn	18 17 22.0	-1.2
	0.5nm,0.3s,baz=130,slow=7.5,SNR=9.9						
ZALV	Zalesovo Beam	19.53	25	P	P	18 17 56.0	-0.4
	1.3nm,0.3s,baz=213,slow=10,SNR=21						
FINES	FINESS Array B	37.31	326	P	P	18 20 39.8	+0.3
	1.6nm,0.9s,baz=99,slow=8.6,SNR=4.8						
ARCES	ARCESS Array B	40.91	337	P	P	18 21 09.7	+0.3
	3.0nm,0.9s,baz=121,slow=8.6,SNR=3.1						
YKA	Yellowknife Ar	80.90	3	P	P	18 25 40.9	+0.7
	0.3nm,0.6s,baz=350,slow=5.9,SNR=7.0						

IDC 04 18:23:06.3±12.0**, 6°.95S**×**129°.14E, h75**^{km}±130^{km}**, mb3.4**/1**, mb1 3.9**/4**, mb1mx3.3**/49**, mbtmp4.1**/4**, ML4.0**/3**, Error ellipse: s-maj=134.5km s-min=36.0km az=40.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	Baumata	6.31	239	P	Pn	18 24 36.9	+0.1
	11nm,0.3s,baz=86,slow=1.6,SNR=25						
BATI				S	Sn	18 25 37.9	-10
	16nm,0.3s,baz=100,slow=23,SNR=9.4						
WRA	Warramunga Arr	13.87	159	P	Pn	18 26 18.7	-0.8
	0.4nm,0.3s,baz=338,slow=11,SNR=26						
WRA				S	Sn	18 28 38.8	-13
	1.4nm,0.3s,baz=326,slow=24,SNR=11						
ASAR	Alice Springs	17.24	165	P	P	18 27 02.8	0.0
	1.0nm,0.3s,baz=337,slow=9.9,SNR=120						
ASAR				S	Sn	18 30 03.0	-11
	0.5nm,0.3s,baz=326,slow=17,SNR=7.1						
MKAR	Makanchi Array	67.72	327	P	P	18 33 55.8	0.0
	0.4nm,0.4s,baz=114,slow=8.0,SNR=12						

IDC 04 18:32:31.0±5.3**, 5°.93S**×**133°.29E, h0**^{km}**, mb3.4**/1**, mb1 3.5**/3**, mb1mx3.2**/44**, mbtmp3.3**/3**, ML3.3**/2**, Error ellipse: s-maj=312.4km s-min=33.3km az=77.0, Aru Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	13.97	176	Pn	Pn	18 35 49.4	-1.0
	0.1nm,0.3s,baz=354,slow=13,SNR=8.4						
WRA				Sn	Sn	18 38 20.1	-6.3
	0.1nm,0.3s,baz=359,slow=23,SNR=4.9						
ASAR	Alice Springs	17.65	178	P	P	18 36 39.1	-0.5
	0.1nm,0.3s,baz=2.3,slow=11,SNR=8.5						
MKAR	Makanchi Array	69.17	325	P	P	18 43 39.5	+0.1
	0.2nm,0.6s,baz=126,slow=7.1,SNR=3.9						

MAN 04 19:01:13, 9°.37N×**125°.56E, h14**^{km}**, mb4.7, ML3.6, MS3.5, 1C-3D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUTP	Butuan	0.41	171	eP	Pg	19 01 21.4	+0.2
BUTP				eS	Sb	19 01 28.9	+0.8
SCPH	Surigao	0.41	350⇓	eP	Pg	19 01 21.3	0.0
SCPH				eS	Sb	19 01 27.9	-0.3
MSLP	Maasin	1.02	318	eP	Pb	19 01 31.6	-0.9
MSLP				eS	Sn	19 01 50.6	+3.5
BUKP	Musuan	1.56	198	eP	Pn	19 01 40.5	0.0
BUKP				eS	Sg	19 02 06.5	+3.0
LLP	Lapu-Lapu	1.83	301⇓	eP	Pn	19 01 43.7	-0.3
LLP				eS	Sn	19 02 07.2	+0.2
PLP	Palo	1.87	342⇓	eP	Pn	19 01 44.8	+0.2
PLP				eS	Sb	19 02 09.4	-0.8
BESP	Borongan	2.22	357	eP	Pn	19 01 47.9	-1.5
SNPH	Sibulan	2.29	269	eP	Pn	19 01 52.0	+1.5
DCPH	Dipolog City	2.32	250⇑	eP	Pn	19 01 49.8	-1.0
DCPH				eS	Sn	19 02 20.1	+1.0
PAGZ	Pagadian	2.63	235	eP	Pn	19 01 56.7	+1.5
CNP	Catarman	3.24	344	eP	Pn	19 02 04.2	+0.7
CNP				eS	Sb	19 02 46.5	-3.1

*SJA **04** 19:08:34.5±0.8, 24°.25S×66°.50W, h25^{km}±21^{km}, ML4.2, MW4.5, Fault plane solution: NP1:φs355.90000°, δ45.20000°, λ-82.60000°.*
*ISCJB **04** 19:08:40.0±0.5, 24°.45S±0°.04×65°.5W±0°.1, h33^{km}, mb3.9/3, MS3.7/7, Error ellipse: s-maj=13.7km s-min=5.8km az=7.8*
*NEIC **04** 19:08:41.8±0.8, 24°.53S×65°.69W, h35^{km}, MD4.5(SJA), Error ellipse: s-maj=20.3km s-min=12.4km az=66.0*
NEIC Felt [III] at Salta.
*IDC **04** 19:08:41.4±6.3, 24°.58S×65°.70W, h35^{km}±44^{km}, mb3.8/3, mb1 4.1/6, mb1mx3.7/42, mbtmp4.0/6, ML4.3/3, MS3.6/10, Ms1 3.6/10, ms1mx3.3/40, Error ellipse: s-maj=58.0km s-min=22.0km az=37.0*
ISC 04 19:08:42.4±0.7**, 24°.40S**±0°.05×**65°.6W**±0°.1**, h35**^{km}**, n28,** σ**2s.12**/23**, mb3.9**/3**, MS3.6**/7**, 3C-4D, Salta Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HJA	Humahuaca	1.21	10	eP	Pn	19 09 01.7	-1.4
HJA				eS	Sn	19 09 22.3	+3.9
HJA				IAML		19 09 27.5	
	comp=Z,2µm,0.6s						
FSA	Cafayete	1.73	191⇑	eP	Pn	19 09 07.4	-2.7
FSA				IAML		19 09 35.2	
	comp=Z,1µm,0.3s						
AHML	Horco Molle	2.39	174	eP	Pn	19 09 20.1	+1.0
AHML				⇑eP	Pn	19 09 20.2	+1.2
AHML				eS	Sn	19 09 52.8	+5.7
AHML				IAML		19 09 53.8	
	comp=Z,2µm,0.4s						
CYA	Choya	4.03	182	eP	Pn	19 09 40.3	-1.3
CYA				⇑eP	Pn	19 09 41.3	-0.3
CYA				IAML		19 10 51.1	
	comp=Z,272nm,0.4s						
VCA	Vinchina	4.89	208	IAML		19 11 21.0	
	comp=Z,127nm,0.4s						
AGUA	GUANDACOL	5.67	206⇓	iP	Pn	19 10 06.0	+1.7
APLL	PUNTA DE LOS L	6.02	187⇓	eP	Pn	19 10 07.5	-1.6
APLL				IAML		19 12 04.3	
	comp=Z,72nm,0.5s						
TCA	Tanti	6.97	173⇓	iP	Pn	19 10 21.7	-0.4
CPUP	Villa Florida	7.75	106	Pn	Pn	19 10 33.2	+0.6
	comp=Z,2.3nm,0.3s,baz=280,slow=11,SNR=27						
CPUP				Lg	Lg	19 12 49.5	
	comp=Z,7.4nm,0.3s,baz=202,slow=20,SNR=4.0						
MRA	San Martin	7.99	181⇓	iP	Pn	19 10 34.8	-1.2
RTLS	Leoncito	8.05	203	IAML		19 11 29.8	
	comp=Z,22nm,0.2s						
LPAZ	La Paz	8.41	343	Pn	Pn	19 10 45.4	+3.1
	comp=Z,0.4nm,0.3s,baz=172,slow=11,SNR=9.6						
LPAZ				LR	LR	19 14 38.4	
	comp=Z,451nm,21.0s,baz=148,slow=42						
SIV	San Ignacio	9.40	28	Pn	Pn	19 10 56.3	+1.0
	comp=Z,6.1nm,0.3s,baz=223,slow=12,SNR=62						
SIV				Sn	Sn	19 12 39.2	-0.7
	comp=Z,1.9nm,0.3s,baz=285,slow=14,SNR=4.7						
SIV				LR	LR	19 15 15.2	
	comp=Z,165nm,20.7s,baz=200,slow=41						
TRQA	Tornquist	13.96	168	P	Pn	19 11 56.4	-1.3
	comp=Z,4.4nm,0.9s						
PLCA	Paso Flores	16.80	193	LR	LR	19 19 19.5	
	comp=Z,367nm,21.9s,baz=19,slow=38						
SDV	Santo Domingo	33.44	351	LR	LR	19 29 38.6	
	comp=Z,126nm,19.6s,baz=170,slow=37						
JTS	JuntasAbangare	39.31	329	LR	LR	19 31 39.1	
	comp=Z,66nm,19.5s,baz=166,slow=35						
APG	El Apazote	46.07	326	P	P	19 17 02.3	-1.0
	comp=Z,6.0nm,0.9s,baz=121,slow=5.9,SNR=4.6						
TKL	Tuckaleechee C	62.16	343	LR	LR	19 48 47.1	
	comp=Z,41nm,18.2s,baz=14,slow=39						
TXAR	Lajitas Array	64.74	323	P	P	19 19 18.3	+0.9
	comp=Z,0.2nm,0.7s,baz=151,slow=7.7,SNR=4.1						
DBIC	Dimbokro	66.75	71	LR	LR	19 47 19.4	
	comp=Z,37nm,19.8s,baz=173,slow=35						
KOWA	Kowa	71.48	64	LR	LR	19 51 04.2	
	comp=Z,53nm,18.8s,baz=211,slow=36						
TORD	Torodi Ar. Bea	75.55	68	P	P	19 20 22.7	-1.1
	comp=Z,85nm,0.7s,baz=249,slow=5.0,SNR=2.5						
PDAR	Pinedale Array	78.14	329	LR	LR	19 57 47.0	
	comp=Z,59nm,20.4s,baz=201,slow=38						
ULM	Lac du Bonnet	79.01	341	LR	LR	19 58 13.9	
	comp=Z,29nm,19.7s,baz=66,slow=38						
YKA	Yellowknife Ar	94.94	339	P	P	19 21 58.8	-1.7
	comp=Z,0.3nm,0.7s,baz=132,slow=4.7,SNR=5.9						
ASAR	Alice Springs	128.60	203	PKP	PKPdf	19 27 45.1	-1.4
	comp=Z,0.4nm,0.7s,baz=152,slow=2.2,SNR=6.2						
MKAR	Makanchi Array	146.02	41	PKPbc	PKPbc	19 28 17.9	-0.6
	comp=Z,1.9nm,0.8s,baz=311,slow=2.4,SNR=12						

IDC 04 19:10:41.0±1.9**, 9°.80S**×**117°.46E, h0**^{km}**, mb3.5**/2**, mb1 3.8**/4**, mb1mx3.4**/56**, mbtmp3.6**/4**, ML3.4**/2**, Error ellipse: s-maj=67.8km s-min=23.8km az=38.0, Sumbawa region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	Baumata	6.12	94	Pn	Pn	19 12 14.0	+1.1
	4.6nm,0.3s,baz=72,slow=8.0,SNR=5.7						
BATI				Sn	Sn	19 13 23.3	-0.3
	1.1nm,0.3s,baz=178,slow=23,SNR=3.2						
WRA	Warramunga Arr	19.16	124	P	P	19 15 05.3	-0.9
	0.1nm,0.3s,baz=298,slow=13,SNR=4.8						
ASAR	Alice Springs	20.89	133	P	P	19 15 25.7	+0.5
	1.7nm,0.8s,baz=311,slow=10,SNR=20						
MKAR	Makanchi Array	64.49	334	P	P	19 21 19.5	-0.1
	0.2nm,0.4s,baz=148,slow=5.8,SNR=7.2						

MEX 04 19:11:14.9±0.4**, 15°.89N**×**98°.71W, h16**^{km}±999^{km}**, MD3.8, Off coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.76	48	iP	Pb	19 11 27.2	-2.5
PNIG				eS	Sg	19 11 36.1	-3.6
TLIG	Tlapa	1.67	5	eP	Pn	19 11 40.2	-3.4
TLIG				eS	Sn	19 11 57.7	-7.1
CAIG	El Cayaco	1.89	308	eP	Pn	19 11 43.2	-3.3
CAIG				iS	Sn	19 12 05.2	-4.6
VHO	Vista Hermosa	2.24	58	eP	Pn	19 11 47.6	-3.9
VHO				eS	Sn	19 12 15.0	-3.8
PLIG	Platanillo	2.60	343	eP	Pn	19 11 54.0	-2.4
PLIG				eS	Sn	19 12 24.7	-3.0

SJA 04 19:22:49.0±0.6**, 24°.40S**×**65°.30W, h10**^{km}±9^{km}**, ML3.2, MW3.5, Salta Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLA	San Lorenzo	0.36	210	eP	Pb	19 22 57.3	-0.4
SLA				eS	Sb	19 23 03.0	-0.6
SLA				IAML		19 23 04.5	
	comp=Z,2µm,0.3s						
HJA	Humahuaca	1.20	355	eP	Pn	19 23 12.2	+0.1
HJA				IAML		19 23 42.0	
	comp=Z,336nm,0.4s						
FSA	Cafayete	1.81	200	eP	Pn	19 23 18.3	-2.1
FSA				IAML		19 23 45.6	
	comp=Z,276nm,0.2s						
YJA	Yavi	2.23	355	eP	Pb	19 23 29.6	-0.1
YJA				IAML		19 24 06.7	
	comp=Z,65nm,0.5s						
AHML	Horco Molle	2.37	181	eP	Pb	19 23 30.3	-1.6
AHML				IAML		19 24 04.3	
	comp=Z,287nm,0.4s						
CYA	Choya	4.05	186	IAML		19 24 52.3	
	comp=Z,38nm,0.7s						
VCA	Vinchina	5.04	210	IAML		19 25 36.0	
	comp=Z,19nm,0.6s						
APLL	PUNTA DE LOS L	6.07	190	IAML		19 26 14.8	
	comp=Z,7.2nm,0.4s						

*TEH **04** 19:36:35.8, 39°.12N×43°.24E, h10^{km}, ML3.4*
*ISK **04** 19:36:39.5, 38°.88N×43°.56E, h5^{km}, ML3.6/7*
*ATA **04** 19:36:40.5±1.7, 38°.89N×43°.50E, h14^{km}±20^{km}, ML3.8, MW3.8*
*DDA **04** 19:36:40.6, 38°.88N×43°.49E, h5^{km}, Ml3.5*
*CSEM **04** 19:36:41.2±0.2, 38°.89N×43°.53E, h2^{km}, ML3.5, Error ellipse: s-maj=4.5km s-min=3.4km az=126.0*
*ISN **04** 19:36:41.9±0.9, 38°.82N×43°.48E, h9^{km}±104^{km}, ML3.5*
ISC 04 19:36:41.5±0.9**, 38°.89N**±0°.01×**43°.51E**±0°.02**, h7**^{km}±6^{km}**, n105,** σ**1s.20**/148**, 8C-4D, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VMUR	Van-Muradiye	0.11	24	iP	Pg	19 36 43.8	-0.4
VMUR				iS	Sg	19 36 46.5	+0.5
VMUR	Van-Muradiye	0.11	24	P	Pg	19 36 43.8	-0.4
VMUR				S	Sg	19 36 46.5	+0.5
ERCV	ERCIS-VAN	0.19	315	PG	Pg	19 36 45.1	-0.3
ERCV	ERCIS-VAN	0.19	315	iPg	Pg	19 36 45.1	-0.3
VANB	Van	0.31	198	PG	Pb	19 36 48.4	-1.0
VANB	Van	0.31	198	iPg	Pb	19 36 48.4	-1.0
TVAN	Van	0.37	193	iP	Pg	19 36 48.4	-0.4
TVAN				iS	Sb	19 36 55.3	-1.2
TVAN	Van	0.37	193	P	Pg	19 36 48.4	-0.4
TVAN				S	Sb	19 36 55.3	-1.2
CLDR	Caldiran	0.41	51	PG	Pg	19 36 47.8	-1.7
CLDR				SG	Sg	19 36 55.0	+0.1
CLDR	Caldiran	0.41	51	iP	Pg	19 36 47.8	-1.7
CLDR				iS	Sg	19 36 55.2	+0.4
CLDR	Caldiran	0.41	51	P	Pg	19 36 47.8	-1.7
CLDR				iSg	Sg	19 36 55.0	+0.1
ADCV	BITLIS_Adilcev	0.62	263	iP	Pg	19 36 53.5	0.0
ADCV				iS	Sb	19 37 02.3	-1.4
ADCV	BITLIS_Adilcev	0.62	263	P	Pg	19 36 53.5	0.0
ADCV				S	Sb	19 37 02.3	-1.4
DYDN	Diyadin	0.67	12	eP	Pg	19 36 53.9	-0.6
DYDN				eS	Sb	19 37 04.4	-0.8
DYDN				IAML		19 37 09.9	
	comp=Z,378nm,0.3s						
DYDN	Diyadin	0.67	12	iP	Pg	19 36 54.1	-0.4
DYDN				iS	Sb	19 37 05.2	0.0
DYDN	Diyadin	0.67	12	P	Pg	19 36 54.1	-0.4
DYDN				S	Sb	19 37 05.2	0.0
GEVA	Gevas	0.68	212	iP	Pg	19 36 53.1	-1.4
GEVA				eS	Sb	19 37 05.7	+0.4
GEVA	Gevas	0.68	212	iP	Pg	19 36 53.2	-1.4
GEVA				iS	Sg	19 37 03.7	+0.4
GEVA	Gevas	0.68	212	P	Pg	19 36 53.2	-1.4
GEVA				S	Sg	19 37 03.7	+0.4
TUTA	Tutak	0.75	314	iP	Pg	19 36 55.1	-0.8
TUTA	Tutak	0.75	314	iP	Pg	19 36 55.1	-0.8
TUTA	Tutak	0.75	314	P	Pg	19 36 55.1	-0.8
AGRB	Hanur-Agry	0.80	330	PG	Pg	19 36 56.5	-0.4
AGRB	Hanur-Agry	0.80	330	iPg	Pg	19 36 56.5	-0.4
IGDI	IGDIR	1.07	24	eP	Pg	19 37 01.3	-0.9
IGDI				eS	Sn	19 37 18.4	+0.2
IGDI				IAML		19 37 23.9	
	comp=Z,82nm,0.6s						
IGDI	IGDIR	1.07	24	iP	Pg	19 37 01.6	-0.6
IGDI				iS	Sn	19 37 18.9	+0.7
EKAR	Karacoban	1.19	289	eP	Pg	19 37 03.1	-1.2
EKAR				IAML		19 37 36.3	
	comp=Z,168nm,0.4s						
EKAR	Karacoban	1.19	289	iP	Pg	19 37 03.2	-1.1
EKAR				iS	Sn	19 37 20.6	-0.6
EKAR	Karacoban	1.19	289	P	Pg	19 37 03.2	-1.1
EKAR				S	Sn	19 37 20.6	-0.6
GURO	Guroymak-BITLI	1.21	254	PN	Pb	19 37 03.5	-1.2
TASB	TASBURUN-IGDIR	1.23	27	PN	Pn	19 37 04.2	-1.0
TASB	TASBURUN-IGDIR	1.23	27	ePn	Pn	19 37 04.2	-1.0
EATA	Eleskirt	1.25	321	eP	Pb	19 37 04.5	-1.2
EATA				eS	Sn	19 37 24.1	+1.1
EATA	Eleskirt	1.25	321	iP	Pb	19 37 04.5	-1.2
EATA				iS	Sn	19 37 24.4	+1.4
EATA	Eleskirt	1.25	321	P	Pb	19 37 04.5	-1.2
HYR	Heyderabad	1.33	51	⇓P	Pn	19 37 06.1	-0.4
HYR				⇑S	Sg	19 37 25.4	+1.1
HAKT	HAKKARI	1.33	173	iP	Pn	19 37 04.6	-2.1
HAKT				iS	Sn	19 37 25.4	+0.6
HAKT	HAKKARI	1.33	173	P	Pn	19 37 04.6	-2.1

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HAKT				S	Sn	19 37 25.5	+0.6
YOVA	**Hakkari_Yˆ…kse**	**1.44**	**154**	*i* P	**Pn**	**19 37 07.6**	**-0.5**
YOVA				*i* S	**Sg**	**19 37 30.5**	**+2.9**
YOVA	**Hakkari_Yˆ…kse**	**1.44**	**154**	P	**Pn**	**19 37 07.6**	**-0.5**
DIGO	**Kars**	**1.53**	**356**	*i* P	**Pn**	**19 37 09.4**	**-0.1**
DIGO				*e*S	**Sg**	**19 37 30.7**	**0.0**
DIGO				IAML		19 37 32.7	
	comp=Z,35nm,0.5s						
DIGO	**Kars**	**1.53**	**356**	*i* P	**Pb**	**19 37 09.7**	**-0.6**
DIGO				*i* S	**Sg**	**19 37 31.7**	**+1.0**
DIGO	**Kars**	**1.53**	**356**	P	**Pb**	**19 37 09.7**	**-0.6**
DIGO				S	**Sg**	**19 37 31.7**	**+1.0**
SRTM	**Siirt_Merkez**	**1.54**	**235**	*i* P	**Pb**	**19 37 09.6**	**-0.7**
SRTM				*i* S	**Sg**	**19 37 33.0**	**+2.1**
SRTM	**Siirt_Merkez**	**1.54**	**235**	P	**Pb**	**19 37 09.6**	**-0.7**
NAX	**Nakhchivan**	**1.57**	**79**	⇑P	**Pb**	**19 37 10.8**	**-0.1**
SIRT	**Sirnak**	**1.62**	**212**	PN	**Pb**	**19 37 10.8**	**-1.0**
SIRT	**Sirnak**	**1.62**	**212**	*e*Pn	**Pb**	**19 37 10.8**	**-1.0**
SIRN	**S˜–rnak**	**1.64**	**212**	*i* P	**Pn**	**19 37 10.9**	**+0.2**
SIRN	**S˜–rnak**	**1.64**	**212**	P	**Pn**	**19 37 10.9**	**+0.2**
SBZ	**Shahbuz**	**1.67**	**72**	⇑P	**Pn**	**19 37 11.7**	**+0.5**
SBZ				⇓S	**Sg**	**19 37 37.9**	**+2.8**
HOMI	**Horasan**	**1.70**	**313**	*e*P	**Pb**	**19 37 12.1**	**-1.1**
HOMI				*e*S	**Sg**	**19 37 39.3**	**+3.2**
HOMI	**Horasan**	**1.70**	**313**	*i* P	**Pb**	**19 37 12.3**	**-0.9**
HOMI				*i* S	**Sg**	**19 37 35.5**	**-0.6**
IMRD	**Marand**	**1.72**	**95**	*e*Pn	**Pn**	**19 37 11.6**	**-0.4**
IMRD				*e*Sg	**Sg**	**19 37 42.0**	**+5.2**
IMRD				*e*AMB	AMB	19 37 45.6	
	comp=Z,7µm,0.3s						
ISHB	**Shabestar**	**1.76**	**109**	*e*Pn	**Pn**	**19 37 12.5**	**0.0**
ISHB				*e*AMB	AMB	19 37 19.6	
	comp=Z,4µm,0.2s						
KARS	**Kars**	**1.77**	**349**	PN	**Pn**	**19 37 12.9**	**+0.2**
KARS	**Kars**	**1.77**	**349**	*e*Pn	**Pn**	**19 37 12.9**	**+0.2**
EAK	**Akyaka**	**1.80**	**2**	*e*P	**Pb**	**19 37 14.9**	**+0.1**
EAK				*e*S	**Sg**	**19 37 41.8**	**+2.4**
EAK				IAML		19 37 54.6	
	comp=Z,56nm,0.6s						
EAK	**Akyaka**	**1.80**	**2**	*i* P	**Pg**	**19 37 15.8**	**-0.2**
EAK	**Akyaka**	**1.80**	**2**	P	**Pg**	**19 37 15.8**	**-0.2**
SENK	**Senkaya-Erzuru**	**1.90**	**332**	PN	**Pn**	**19 37 14.9**	**+0.4**
SENK	**Senkaya-Erzuru**	**1.90**	**332**	*i* Pn	**Pn**	**19 37 14.9**	**+0.4**
ORD	**Ordubad**	**1.94**	**88**	⇑P	**Pb**	**19 37 16.6**	**-0.6**
ERZM	**Erzurum**	**1.95**	**302**	*i* P	**Pb**	**19 37 16.1**	**-1.4**
ERZM	**Erzurum**	**1.95**	**302**	*i* P	**Pb**	**19 37 16.4**	**-1.1**
ERZM				*i* S	**Sn**	**19 37 38.6**	**-1.5**
ERZM	**Erzurum**	**1.95**	**302**	P	**Pb**	**19 37 16.4**	**-1.1**
ERZM				S	**Sn**	**19 37 38.6**	**-1.5**
SVAN	**Silvan-Diyarba**	**1.96**	**249**	PN	**Pb**	**19 37 15.8**	**-1.7**
SVAN	**Silvan-Diyarba**	**1.96**	**249**	*i* P	**Pb**	**19 37 16.8**	**-0.7**
SVAN				*i* S	**Sg**	**19 37 45.3**	**+0.9**
SVAN	**Silvan-Diyarba**	**1.96**	**249**	*e*Pn	**Pb**	**19 37 15.8**	**-1.7**
SVAN	**Silvan-Diyarba**	**1.96**	**249**	P	**Pb**	**19 37 16.8**	**-0.7**
BTMN	**Batman**	**2.02**	**241**	*i* P	**Pb**	**19 37 18.4**	**-0.2**
BTMN				*i* S	**Sb**	**19 37 44.2**	**+0.2**
BTMN	**Batman**	**2.02**	**241**	P	**Pb**	**19 37 18.4**	**-0.2**
BTMN				S	**Sb**	**19 37 44.2**	**+0.2**
ECAT	**Cat-ERZURUM**	**2.10**	**291**	*e*P	**Pb**	**19 37 19.5**	**-0.5**
ECAT	**Cat-ERZURUM**	**2.10**	**291**	*i* P	**Pb**	**19 37 19.8**	**-0.2**
ECAT				*i* S	**Sg**	**19 37 51.1**	**+2.2**
ECAT	**Cat-ERZURUM**	**2.10**	**291**	P	**Pb**	**19 37 19.8**	**-0.2**
ITBZ	**Tabriz**	**2.17**	**107**	*e*Pn	**Pn**	**19 37 19.4**	**+1.3**
ITBZ				*e*AMB	AMB	19 37 30.2	
	comp=Z,698nm,0.2s						
BNGB	**Bingˆ¶l**	**2.21**	**274**	PN	**Pn**	**19 37 19.5**	**+0.8**
BGOL	**Bingol**	**2.22**	**274**	*i* P	**Pb**	**19 37 22.4**	**+0.4**
BGOL				*i* S	**Sg**	**19 37 55.7**	**+2.9**
BINT	**Bingol**	**2.36**	**271**	*e*Pn	**Pn**	**19 37 19.5**	**-1.2**
GDB	**GEDABAY**	**2.52**	**43**	⇑P	**Pn**	**19 37 22.8**	**-0.2**
DBAD	**Bademkaya**	**2.55**	**327**	*i* P	**Pg**	**19 37 29.0**	**-1.4**
KOPT	**Kop Dagi**	**2.59**	**297**	*e*P	**Pb**	**19 37 26.1**	**-2.3**
KOPT	**Kop Dagi**	**2.59**	**297**	*i* P	**Pb**	**19 37 29.3**	**+0.8**
QZX	**Qazax, Azerbai**	**2.60**	**33**	⇓P	**Pn**	**19 37 22.3**	**-1.6**
ARTV	**Artvin**	**2.60**	**333**	*e*P	**Pn**	**19 37 24.9**	**+0.8**
EPOS	**Posof**	**2.68**	**347**	*e*P	**Pn**	**19 37 25.7**	**+0.5**
DIY	**Diyarbakir**	**2.77**	**250**	*e*Pn	**Pn**	**19 37 27.9**	**+1.6**
GANJ	**Ganja**	**2.79**	**50**	⇑P	**Pn**	**19 37 26.1**	**-0.5**
GANJ				⇑S	**Sb**	**19 38 03.2**	**-2.8**
MAZI	**Mazidag**	**2.81**	**240**	PN	**Pn**	**19 37 27.6**	**+0.8**
MAZI	**Mazidag**	**2.81**	**240**	*e*Pn	**Pn**	**19 37 27.6**	**+0.8**
DYBB	**Diyarbakir**	**2.81**	**252**	PN	**Pn**	**19 37 27.9**	**+1.1**
IHRS	**Heris**	**2.82**	**100**	*e*Pn	**Pn**	**19 37 28.4**	**+1.2**
IHRS				*e*AMB	AMB	19 37 42.5	
	comp=Z,832nm,0.2s						
DIYA	**Diyarbakir**	**2.83**	**251**	*i* P	**Pb**	**19 37 31.6**	**-0.8**
DIYA				*i* S	**Sg**	**19 38 12.3**	**-0.2**
BAYB	**BAYBURT**	**2.86**	**300**	*e*P	**Pb**	**19 37 34.0**	**+1.0**
BAYB	**BAYBURT**	**2.86**	**300**	*i* P	**Pg**	**19 37 34.7**	**-1.7**
IBST	**Bostanabad**	**2.91**	**113**	*e*Pn	**Pn**	**19 37 29.7**	**+1.3**
IBST				*e*AMB	AMB	19 37 42.4	
	comp=Z,356nm,0.2s						
TBLG	**Delisi**	**2.99**	**18**	*e*P	**Pg**	**19 37 38.6**	**-0.3**
EUZM	**Uzumlu**	**3.07**	**287**	*e*P	**Pb**	**19 37 35.9**	**-0.6**
TNCL	**Tunceli-Merkez**	**3.10**	**275**	*e*P	**Pn**	**19 37 32.8**	**+1.9**
KELT	**Kelkit**	**3.52**	**292**	*e*P	**Pb**	**19 37 44.8**	**+0.5**
KELT	**Kelkit**	**3.52**	**292**	*i* P	**Pb**	**19 37 45.6**	**+1.3**
LRK	**Lerik**	**3.78**	**92**	⇓P	**Pn**	**19 37 42.0**	**+1.7**
KEMA	**Kemaliye**	**3.92**	**277**	*e*P	**Pb**	**19 37 52.0**	**+1.0**
XNQ	**Khinaliq**	**4.22**	**56**	⇑P	**Pn**	**19 37 46.8**	**+0.4**
RTB	**Rutbah**	**6.40**	**205**	*e*Pn	**Pn**	**19 38 18.0**	**+1.9**
	SNR=5.0						

*TIR **04** 19:42:04.4, 42.10N×20.67E, h7km, Md2.2/3*
CSEM 04 19:42:08.9±0.3**, 42.07N×20.60E, h15km, ML2.2, Error ellipse: s-maj=7.1km s-min=4.9km az=115.0, Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PRZK	**Prizren**	**0.18**	**40**	P	Pb	19 42 13.7	-0.3
PRZK				S	Sb	19 42 17.5	+0.1
ZATK	**Zatriq**	**0.38**	**2**	P	Pg	19 42 16.3	-0.3
ZATK				S	Sb	19 42 22.8	-0.3
PHP	**Peshkopia**	**0.41**	**197**	*i* Pg	Pg	19 42 17.1	0.0
PHP				*i* Sg	Sb	19 42 23.5	-0.3
PHP	**Peshkopia**	**0.41**	**197**	*i* PG	Pg	19 42 17.1	0.0
PHP				*i* SG	Sb	19 42 23.5	-0.3
BCI	**Bajram Curri**	**0.49**	**307**	*i* Pg	Pg	19 42 18.1	-0.6
BCI				*i* Sg	Sg	19 42 25.8	+0.4
BCI	**Bajram Curri**	**0.49**	**307**	*i* PG	Pg	19 42 18.1	-0.7
BCI				*i* SG	Sg	19 42 25.8	+0.5
PUK	**Puka**	**0.53**	**267**	*i* Pg	Pg	19 42 19.1	-0.3
PUK				*i* Sg	Sb	19 42 28.5	+1.1
PUK	**Puka**	**0.53**	**267**	*i* PG	Pg	19 42 19.1	-0.3
PUK				*i* SG	Sb	19 42 28.5	+1.1
SMRK	**Smrekonice**	**0.84**	**17**	P	Pn	19 42 26.0	-0.2

*IDC **04** 19:43:51.4±1.4, 4.34S×152.73E, h0km, mb4.1/11, mb1 4.2/11, mb1mx3.9/47, mbtmp4.1/11, MS3.6/11, Ms1 3.6/11, ms1mx3.3/46, Error ellipse: s-maj=44.6km s-min=21.8km az=118.0*
*ISCJB **04** 19:43:57.8±0.3, 4.17S±0.07×152.19E±0.06, h33km, mb4.5/32, MS3.6/11, Error ellipse: s-maj=10.0km s-min=8.3km az=145.8*
*NEIC **04** 19:44:02.3±1.2, 4.24S×152.18E, h61km±12km, mb4.7/20, Error ellipse: s-maj=10.8km s-min=8.8km az=174.0*
ISC 04 19:43:59.9±0.6**, 4.02S**±0.09×**152.25E**±0.09**, h35km, n66, σ1.49/57, mb4.6/32, MS3.6/11, New Britain region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MANU	**Manus Island**	**5.26**	**292**	*e*Pn	**Pn**	**19 45 16.2**	**+0.1**
PMG	**Port Moresby**	**7.37**	**223**	Pn	**Pn**	**19 45 48.0**	**+3.0**
	0.4nm,0.3s,baz=28,slow=9.9,SNR=7.0						
PMG	**Port Moresby**	**7.37**	**223**	*e*Pn	**Pn**	**19 45 45.9**	**+0.9**
HNR	**Honiara**	**9.34**	**126**	*e*Pn	**Pn**	**19 46 14.5**	**+2.3**
WB2	**Warramunga Arr**	**23.56**	**226**	*e*P	**P**	**19 49 06.0**	**-1.5**
	18nm,1.3s						
WR1	**Warramunga Arr**	**23.57**	**226**	*e*P	**P**	**19 49 04.8**	**-2.7**
	21nm,1.3s						
WRA	**Warramunga Arr**	**23.57**	**226**	P	**P**	**19 49 04.8**	**-2.7**
	3.7nm,1.0s,baz=51,slow=10.0,SNR=18						
AS31	**Alice Springs**	**26.37**	**221**	*e*P	**P**	**19 49 30.9**	**-2.2**
	0.8nm,0.8s						
ASAR	**Alice Springs**	**26.37**	**221**	P	**P**	**19 49 30.9**	**-2.2**
	1.2nm,1.0s,baz=54,slow=8.8,SNR=11						
TGY	**Tagaytay City**	**35.90**	**301**	LR	LR	20 04 55.3	
	comp=Z,53nm,19.3s,baz=186,slow=35						
AFI	**Afiamalu**	**36.81**	**108**	LR	LR	20 02 28.4	
	comp=Z,94nm,20.0s,baz=252,slow=31						
RAO	**Raoul Island**	**37.81**	**135**	*e*P	**P**	**19 51 10.0**	**-3.2**
	844nm,0.4s						
JOW	**Kunigami**	**38.44**	**324**	LR	LR	20 04 50.2	
	comp=Z,58nm,21.2s,baz=156,slow=32						
KSM	**Kuching**	**42.27**	**277**	*e*P	**P**	**19 51 50.5**	**0.0**
	14nm,1.1s						
MJAR	**Matsushiro Arr**	**42.43**	**343**	LR	LR	20 07 16.9	
	comp=Z,38nm,22.0s,baz=185,slow=33						
RPZ	**Rata Peaks**	**42.89**	**160**	LR	LR	20 07 11.0	
	comp=Z,228nm,18.7s,baz=326,slow=33						
NWAO	**Narrogin (SRO)**	**43.55**	**224**	LR	LR	20 10 31.4	
	comp=Z,182nm,18.2s,baz=330,slow=37						
KSRS	**Korea Array**	**47.06**	**333**	P	**P**	**19 52 29.8**	**+1.6**
	1.9nm,0.9s,baz=153,slow=8.4,SNR=4.5						
KSRS				LR	LR	20 10 55.1	
	comp=Z,44nm,20.1s,baz=167,slow=34						
KSAR	**Wonju Array Be**	**47.07**	**333**	P	**P**	**19 52 29.8**	**+1.5**
CM01	**Chiang Mai Arr**	**57.03**	**295**	*e*P	**P**	**19 53 42.9**	**0.0**
CMAR	**Chiang Mai Arr**	**57.05**	**295**	P	**P**	**19 53 43.3**	**+0.2**
	1.1nm,0.7s,baz=111,slow=5.2,SNR=9.4						
SONA0	**Songino Array**	**65.38**	**328**	*e*P	**P**	**19 54 40.5**	**+1.5**
SONA0				*e*		20 21 25.7	
SONM	**Songino Array**	**65.38**	**328**	P	**P**	**19 54 40.5**	**+1.5**
	2.0nm,0.9s,baz=149,slow=6.0,SNR=8.2						
SONM				LR	LR	20 21 25.7	
	comp=Z,40nm,21.4s,baz=126,slow=34						
SONA1	**Songino Array**	**65.38**	**328**	*e*P	**P**	**19 54 40.9**	**+1.8**
TLY	**Talaya**	**69.13**	**330**	LR	LR	20 27 13.1	
	comp=Z,46nm,18.3s,baz=136,slow=37						
CAST	**Castle Rocks**	**78.99**	**22**	*e*P	**P**	**19 56 01.1**	**+1.1**
	6.1nm,1.0s						
MK01	**Makanchi Array**	**79.37**	**319**	*e*P	**P**	**19 56 01.8**	**-0.7**
MK31	**Makanchi Array**	**79.38**	**319**	*e*P	**P**	**19 56 02.8**	**+0.3**
MK32	**Makanchi Array**	**79.38**	**319**	*e*P	**P**	**19 56 01.6**	**-0.9**
MKAR	**Makanchi Array**	**79.38**	**319**	P	**P**	**19 56 01.6**	**-0.9**
	1.3nm,0.7s,baz=100,slow=6.3,SNR=13						
MKAR	**Makanchi Array**	**79.38**	**319**	*e*P	**P**	**19 56 02.4**	**-0.1**
	26nm,1.3s						
MAKZ	**Makanchi**	**79.59**	**319**	*e*P	**P**	**19 56 03.1**	**-0.5**
	21nm,1.8s						
SML	**Sawmill**	**79.64**	**25**	*e*P	**P**	**19 56 02.2**	**-1.4**
	11nm,0.8s						
IM3	**Indian Mountai**	**79.83**	**20**	*e*P	**P**	**19 56 04.7**	**+0.2**
ZALV	**Zalesovo Beam**	**80.20**	**326**	P	**P**	**19 56 05.9**	**-0.7**
	1.1nm,0.7s,baz=134,slow=6.4,SNR=6.4						
ZALV	**Zalesovo Beam**	**80.20**	**326**	*e*P	**P**	**19 56 06.0**	**-0.7**
ZAA1	**Zalesovo Array**	**80.20**	**326**	*e*P	**P**	**19 56 06.0**	**-0.8**
RND	**Reindeer**	**80.22**	**23**	*e*P	**P**	**19 56 08.1**	**+1.4**
	7.1nm,0.8s						
MLY	**Manley**	**80.35**	**21**	*e*P	**P**	**19 56 07.3**	**-0.1**
	7.7nm,0.7s						
MCK	**McKinley**	**80.36**	**23**	*e*P	**P**	**19 56 07.1**	**-0.3**
	11nm,0.8s						
KLU	**Klutina**	**80.51**	**25**	*e*P	**P**	**19 56 09.3**	**+1.0**
	9.1nm,1.0s						
DHY	**Denali Highway**	**80.65**	**24**	*e*P	**P**	**19 56 09.1**	**-0.1**
	29nm,1.9s						
WRH	**Wood River Hil**	**81.05**	**22**	*e*P	**P**	**19 56 12.0**	**+1.0**
	8.1nm,1.0s						
CCB	**Clear Creek Bu**	**81.24**	**22**	*e*P	**P**	**19 56 12.9**	**+0.9**
	5.0nm,0.8s						
HDA	**Harding Lake**	**81.45**	**23**	*e*P	**P**	**19 56 14.6**	**+1.5**
	5.0nm,0.6s						
ILAR	**Eielson Array**	**81.64**	**22**	P	**P**	**19 56 11.2**	**-3.0**
	4.1nm,0.7s,baz=248,slow=6.7,SNR=21						
ILB	**Eielson Array**	**81.64**	**22**	*e*P	**P**	**19 56 15.2**	**+1.0**
IL1	**Eielson Array**	**81.64**	**22**	*e*P	**P**	**19 56 14.7**	**+0.5**
KDJ	**Kajisay**	**81.68**	**313**	*e*P	**P**	**19 56 15.5**	**+0.4**
	4.0nm,0.9s						
DOT	**Dot Lake**	**82.24**	**24**	*e*P	**P**	**19 56 19.2**	**+1.8**
	14nm,0.8s						
TOLK	**Toolik Lake Re**	**82.65**	**18**	*e*P	**P**	**19 56 21.8**	**+2.3**
	21nm,1.9s						
KURK	**Kurchatov**	**82.82**	**322**	*e*P	**P**	**19 56 20.3**	**-0.3**
KURBB	**Kurchatov Arra**	**82.85**	**322**	P	**P**	**19 56 20.3**	**-0.5**
	1.3nm,0.8s,baz=103,slow=4.4,SNR=9.9						
AAK	**Ala-Archa**	**83.74**	**313**	LR	LR	20 35 10.0	
	comp=Z,31nm,18.2s,baz=124,slow=36						
AAK	**Ala-Archa**	**83.74**	**313**	*e*P	**P**	**19 56 27.4**	**+1.6**
	2.2nm,0.8s						
AAK				*e*		20 35 10.0	
HYT	**Haines Junctio**	**84.00**	**28**	*e*P	**P**	**19 56 27.1**	**+0.5**
	7.6nm,0.9s						
BVAR	**Borovoye Array**	**88.29**	**323**	P	**P**	**19 56 47.2**	**-0.6**
	5.2nm,0.6s,baz=108,slow=4.7,SNR=23						
JECB	**Eureka Canyon**	**89.15**	**53**	*e*P	**P**	**19 56 51.3**	**-1.0**
IR2C	**Iron Canyon**	**91.70**	**56**	*e*P	**P**	**19 57 02.9**	**-1.3**
DPP	**Dos Picos Cty**	**92.84**	**57**	*e*P	**P**	**19 57 12.5**	**+3.0**
CRY	**Cary Ranch**	**93.04**	**57**	*e*P	**P**	**19 57 11.4**	**+0.8**
HEC	**Hector,Ludlow**	**93.43**	**55**	*e*P	**P**	**19 57 10.9**	**-1.3**
AB31	**Akbulak array**	**94.53**	**319**	*e*P	**P**	**19 57 16.7**	**-0.2**
ABKAR	**Akbulak array**	**94.53**	**319**	*e*P	**P**	**19 57 16.6**	**-0.3**
YKA	**Yellowknife Ar**	**94.99**	**28**	P	**P**	**19 57 16.7**	**-2.0**
	0.1nm,0.3s,baz=270,slow=4.8,SNR=3.1						
ARU	**Arti**	**95.37**	**326**	LR	LR	20 40 55.2	
	comp=Z,27nm,18.4s,baz=194,slow=36						

UCR 04 19:45:20.9±1.6**, 12.40N×87.67W, h59km**±26km**, MD3.6, ML2.4, Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CSGN	**Cosiguina Volc**	**0.58**	**11**	*e*P	Pn	19 45 34.5	+0.7
CSGN				*e*S	Sn	19 45 43.8	+0.5
CRIN	**San Cristobal**	**0.68**	**64**	*e*P	Pn	19 45 35.4	+0.5
CRIN				*e*S	Sn	19 45 46.7	+1.6
CNCH	**Conchagua**	**0.89**	**350**	*e*P	Pn	19 45 37.5	-0.1
CNCH				*e*S	Sn	19 45 50.4	+0.6
LCND	**La Caˆ–ada**	**0.93**	**347**	*e*P	Pn	19 45 38.0	-0.1
CNGN	**Cerro Negro**	**0.95**	**84**	*e*P	Pn	19 45 38.0	-0.3
COPN	**Copaltepe**	**1.08**	**102**	*e*P	Pn	19 45 39.5	-0.4
MOMN	**Momotombo**	**1.10**	**89**	*e*P	Pn	19 45 40.1	-0.3
MOMN				*e*S	Sn	19 45 54.8	0.0
MOMN				AML	AML	19 45 58.0	
	comp=Z,55nm,0.3s						
VSM	**San Miguel**	**1.18**	**330**	*e*P	Pn	19 45 43.3	+1.8
LCY	**Lacayo**	**1.19**	**329**	*e*P	Pn	19 45 41.2	-0.3
LCY				*e*S	Sn	19 45 57.1	+0.3
PACA	**Pacayal**	**1.24**	**329**	*e*P	Pn	19 45 43.0	+0.8
PACA				*e*S	Sn	19 45 58.2	0.0
APYN	**Apoyeque**	**1.30**	**97**	*e*P	Pn	19 45 42.8	-0.1
TGUH	**Tegucigalpa,Un**	**1.69**	**13**	*e*P	Pn	19 45 48.7	+0.5
LFRS	**El Faro**	**1.82**	**312**	*e*P	Pn	19 45 50.7	+0.6
LFRS				*e*S	Sn	19 46 12.4	+0.2

*IDC **04** 19:50:28.6±1.7, 4.10S×152.66E, h0km, mb4.0/9, mb1 4.2/9, mb1mx3.9/50, mbtmp4.0/9, MS3.6/2, Ms1 3.6/2, ms1mx3.0/46, Error ellipse: s-maj=55.5km s-min=22.7km az=115.0*
*ISCJB **04** 19:50:33.2±0.7, 4.03S±0.08×152.5E±0.1, h33km, mb4.3/20, MS3.6/2, Error ellipse: s-maj=18.4km s-min=9.3km az=28.4*
*NEIC **04** 19:50:35.4±1.7, 4.07S×152.51E, h41km±13km, mb4.7/11, Error ellipse: s-maj=16.1km s-min=8.7km az=105.0*
ISC 04 19:50:35.5±1.1**, 3.9S**±0.1×**152.5E**±0.2**, h35km, n37, σ1.08/35, mb4.4/20, New Ireland region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MANU	**Manus Island**	**5.40**	**290**	*e*Pn	**Pn**	**19 51 53.7**	**0.0**
PMG	**Port Moresby**	**7.58**	**224**	Pn	**Pn**	**19 52 25.5**	**+1.8**
	1.0nm,0.3s,baz=37,slow=8.6,SNR=11						
PMG	**Port Moresby**	**7.58**	**224**	*e*Pn	**Pn**	**19 52 24.1**	**+0.4**
WB2	**Warramunga Arr**	**23.78**	**226**	*e*P	**P**	**19 55 43.2**	**-2.0**
	30nm,1.2s						
WR1	**Warramunga Arr**	**23.79**	**226**	*e*P	**P**	**19 55 43.1**	**-2.2**
	33nm,1.1s						
WRA	**Warramunga Arr**	**23.79**	**226**	P	**P**	**19 55 43.1**	**-2.2**
	13nm,0.9s,baz=50,slow=9.8,SNR=53						
AS01	**Alice Springs**	**26.56**	**221**	*e*P	**P**	**19 56 08.9**	**-1.5**
AS31	**Alice Springs**	**26.59**	**221**	*e*P	**P**	**19 56 09.1**	**-1.6**
	1.0nm,0.7s						
ASAR	**Alice Springs**	**26.59**	**221**	P	**P**	**19 56 09.1**	**-1.6**
	3.4nm,1.0s,baz=54,slow=8.3,SNR=20						
STKA	**Stephens Creek**	**29.64**	**199**	LR	LR	20 08 16.8	
	comp=Z,254nm,18.7s,baz=180,slow=36						
JNU	**Nakatsue**	**42.11**	**333**	LR	LR	20 13 05.3	
	comp=Z,36nm,20.4s,baz=121,slow=32						
KSM	**Kuching**	**42.45**	**276**	*e*P	**P**	**19 58 28.1**	**+0.5**
	14nm,1.1s						
CM01	**Chiang Mai Arr**	**57.16**	**295**	*e*P	**P**	**20 00 19.8**	**+0.4**
CMAR	**Chiang Mai Arr**	**57.19**	**295**	P	**P**	**20 00 20.2**	**+0.6**
	2.0nm,1.1s,baz=114,slow=6.1,SNR=3.4						
SONA0	**Songino Array**	**65.38**	**328**	*e*P	**P**	**20 01 15.1**	**+0.4**
SONM	**Songino Array**	**65.38**	**328**	P	**P**	**20 01 15.1**	**+0.4**
	0.4nm,0.5s,baz=153,slow=4.5,SNR=3.0						
SONA1	**Songino Array**	**65.39**	**328**	*e*P	**P**	**20 01 15.2**	**+0.5**
MK01	**Makanchi Array**	**79.41**	**319**	*e*P	**P**	**20 02 38.5**	**+0.2**
MK31	**Makanchi Array**	**79.42**	**319**	*e*P	**P**	**20 02 38.7**	**+0.4**
MK32	**Makanchi Array**	**79.42**	**319**	*e*P	**P**	**20 02 38.8**	**+0.4**
MKAR	**Makanchi Array**	**79.42**	**319**	P	**P**	**20 02 38.8**	**+0.4**
	1.1nm,0.9s,baz=101,slow=6.5,SNR=7.8						
MKAR	**Makanchi Array**	**79.42**	**319**	*e*P	**P**	**20 02 38.7**	**+0.4**
	10nm,1.0s						
MAKZ	**Makanchi**	**79.64**	**319**	*e*P	**P**	**20 02 39.9**	**+0.4**
	7.1nm,1.4s						
MCK	**McKinley**	**80.17**	**23**	*e*P	**P**	**20 02 42.7**	**+0.7**
	10nm,1.2s						
MLY	**Manley**	**80.18**	**21**	*e*P	**P**	**20 02 43.1**	**+1.0**
	26nm,2.0s						
ZALV	**Zalesovo Beam**	**80.22**	**326**	P	**P**	**20 02 42.3**	**-0.1**
	0.5nm,0.6s,baz=107,slow=7.8,SNR=3.3						
ZAA1	**Zalesovo Array**	**80.22**	**326**	*e*P	**P**	**20 02 42.3**	**-0.1**
IL1	**Eielson Array**	**81.46**	**22**	*e*P	**P**	**20 02 47.6**	**-1.3**
ILAR	**Eielson Array**	**81.46**	**22**	P	**P**	**20 02 48.2**	**-0.6**
	1.7nm,0.9s,baz=250,slow=5.8,SNR=12						
ILB	**Eielson Array**	**81.46**	**22**	*e*P	**P**	**20 02 47.1**	**-1.8**
KDJ	**Kajisay**	**81.75**	**313**	*e*P	**P**	**20 02 51.1**	**0.0**
	6.0nm,1.1s						
KURK	**Kurchatov**	**82.85**	**322**	*e*P	**P**	**20 02 56.8**	**+0.4**
KURBB	**Kurchatov Arra**	**82.88**	**322**	P	**P**	**20 02 56.8**	**+0.2**
	1.2nm,1.0s,baz=92,slow=4.1,SNR=4.0						
AAK	**Ala-Archa**	**83.80**	**313**	*e*P	**P**	**20 03 02.6**	**+0.9**
	2.1nm,1.0s						
HYT	**Haines Junctio**	**83.81**	**28**	*e*P	**P**	**20 03 01.6**	**+0.3**
	5.8nm,1.0s						
BVAR	**Borovoye Array**	**88.32**	**323**	P	**P**	**20 03 22.2**	**-1.3**
	1.6nm,0.7s,baz=114,slow=5.6,SNR=12						
BRVK	**Borovoye**	**88.39**	**323**	*e*P	**P**	**20 03 22.9**	**-1.0**
	5.0nm,0.9s						

KRSC 04 19:52:22.1±0.7**, 55.58N×164.56E, h11km**±28km**, ML3.8, Komandorsky Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.89**	**115**	*i* P	Pb	19 52 39.6	+0.1
BKI				*e*S	Sb	19 52 52.3	+1.0
KBTR	**Krutoberegovo**	**1.17**	**303**	*e*P	Pb	19 52 43.1	-1.1
KBTR				*e*S	Sb	19 52 58.9	-0.4
SMKR	**Semkarok**	**2.00**	**301**	*e*P	Pn	19 52 56.6	+0.7
SMKR				*e*S	Sb	19 53 22.5	-1.0
BDR	**Baidarnaya**	**2.12**	**299**	*e*P	Pn	19 52 58.5	+0.9
BDR				*e*S	Sb	19 53 26.0	-1.0
SRKR	**Sorokina**	**2.18**	**301**	*e*P	Pn	19 52 59.6	+1.2
SRKR				*e*S	Sb	19 53 27.6	-1.1
LGNR	**Loginova**	**2.24**	**285**	*e*P	Pn	19 53 00.9	+1.5
KLY	**Klyuchi**	**2.32**	**290**	*e*P	Pn	19 52 59.8	-0.3
KLY				*e*S	Sn	19 53 27.7	-0.9
BZMR	**Bezymyannaya**	**2.33**	**280**	*e*P	Pb	19 53 02.4	-1.7
BZWR	**Bezymyannyi-We**	**2.33**	**281**	*e*P	Pb	19 53 02.6	-1.5
KRSR	**Krestovskiy**	**2.34**	**287**	*e*P	Pn	19 53 01.8	+1.3
KMNR	**Kamenistaya**	**2.46**	**276**	*e*P	Pb	19 53 04.6	-1.7
KZV	**Kizimen**	**2.48**	**261**	*e*P	Pb	19 53 05.2	-1.5
TUMR	**Tumrok**	**2.53**	**265**	*e*P	Pb	19 53 06.0	-1.6
KOZ	**Kozyrevsk**	**2.69**	**282**	*e*P	Pb	19 53 08.3	-1.9
KOZ				*e*S	Sb	19 53 40.9	-2.2
ESO	**Esso**	**3.33**	**278**	*e*P	Pn	19 53 16.2	+2.1
SDLR	**Sedlovina**	**4.04**	**238**	*e*P	Pn	19 53 26.5	+2.6
UGLR	**Uglovaya**	**4.11**	**237**	P	Pn	19 53 28.2	+3.3
AVH	**Avacha**	**4.12**	**238**	P	Pn	19 53 29.4	+4.5
GNL	**Ganaly**	**4.29**	**247**	*e*P	Pn	19 53 31.2	+3.9
KRMR	**Karymshinskiy**	**4.67**	**237**	*e*P	Pn	19 53 36.1	+3.6
KRMR				*e*S	Sn	19 54 30.7	+4.0

IDC 04 19:54:38.5±2.3**, 9.40S×128.82E, h0km, mb3.2**/1**, mb1 3.3**/3**, mb1mx3.0**/51**, mbtmp3.1**/3**, ML3.0**/2**, Error ellipse: s-maj=231.0km s-min=32.6km az=64.0, Timor Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**11.76**	**154**	Pn	Pn	19 57 26.9	-0.8
	0.1nm,0.3s,baz=333,slow=13,SNR=3.9						
WRA				Sn	Sn	19 59 35.4	-4.4
	0.2nm,0.3s,baz=335,slow=22,SNR=5.7						
ASAR	**Alice Springs**	**15.00**	**162**	Pn	Pn	19 58 13.1	+1.1
	0.0nm,0.3s,baz=335,slow=11,SNR=2.9						
MKAR	**Makanchi Array**	**69.60**	**328**	P	P	20 05 49.6	0.0
	0.1nm,0.4s,baz=127,slow=7.9,SNR=4.1						

*JMA **04** 19:58:38.0±0.2, 37.27N×141.89E, h35km±5km, M3.5*
*IDC **04** 19:58:41.8±3.7, 36.17N×141.52E, h0km, mb3.3/2, mb1 3.3/3, mb1mx3.1/73, mbtmp3.1/3, ML2.3/1, Error ellipse: s-maj=97.8km s-min=34.7km az=51.0*
ISC 04 19:58:35.8±3.1**, 37.25N**±0.06×**141.93E**±0.09**, h14km**±17km**, n12, σ1.21/19, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.85**	**279**	P	**Pb**	**19 58 53.3**	**+0.9**
JFK				S	**Sg**	**19 59 03.6**	**+0.1**
ONAJ	**Iwakimizuishiy**	**0.92**	**261**	P	**Pb**	**19 58 54.2**	**+0.7**
ONAJ				*e*S	**Sb**	**19 59 05.6**	**0.0**
JMM	**Marumori**	**1.10**	**305**	P	**Pb**	**19 58 56.9**	**+0.3**
JMM				S	**Sb**	**19 59 10.2**	**-0.5**
JHO	**Hitachi**	**1.26**	**240**	P	**Pn**	**19 58 59.1**	**+0.1**
JIO	**Ouri**	**1.29**	**339**	P	**Pn**	**19 58 59.5**	**0.0**
JIO				S	**Sb**	**19 59 14.3**	**-2.1**
JFT	**Otama**	**1.30**	**283**	P	**Pn**	**19 59 00.5**	**+0.9**
JFT				S	**Sb**	**19 59 16.2**	**-0.4**
JOU	**Okura**	**1.50**	**318**	P	**Pn**	**19 59 03.3**	**+0.9**
JOU				S	**Sn**	**19 59 21.8**	**0.0**
JMK	**Ichinoseki**	**1.79**	**342**	P	**Pn**	**19 59 07.2**	**+0.8**
MJAR	**Matsushiro Arr**	**3.06**	**258**	Pn	**Pn**	**19 59 25.7**	**+1.8**
	0.5nm,0.3s,baz=88,slow=17,SNR=9.4						
MJAR				Sn	**Sb**	**20 00 05.2**	**-2.2**
	1.4nm,0.3s,baz=126,slow=11,SNR=6.9						
MAT	**Matsushiro**	**3.07**	**258**	P	**Pb**	**19 59 28.2**	**-2.0**
MAT				S	**Sb**	**20 00 06.3**	**-1.2**
MKAR	**Makanchi Array**	**44.36**	**302**	P	P	20 06 56.1	+11
	0.3nm,0.7s,baz=89,slow=9.0,SNR=4.1						
WRA	**Warramunga Arr**	**57.33**	**188**	P	**P**	**20 08 23.7**	**+0.2**
	0.2nm,0.4s,baz=8.2,slow=7.1,SNR=5.2						

IDC 04 20:03:58.6±1.9**, 4.23S×152.10E, h0km, mb3.7**/6**, mb1 3.9**/6**, mb1mx3.6**/52**, mbtmp3.7**/6**, Error ellipse: s-maj=67.8km s-min=23.9km az=115.0, New Britain region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.31**	**226**	P	P	20 09 08.3	-0.2
	1.4nm,0.9s,baz=51,slow=10.0,SNR=10.0						
ASAR	**Alice Springs**	**26.11**	**221**	P	P	20 09 34.5	+0.1
	0.4nm,0.6s,baz=56,slow=8.7,SNR=3.7						
SONM	**Songino Array**	**65.47**	**328**	P	P	20 14 43.3	-0.4
	0.3nm,0.4s,baz=145,slow=5.3,SNR=2.6						
MKAR	**Makanchi Array**	**79.44**	**319**	P	P	20 16 07.7	+0.7
	0.7nm,0.9s,baz=92,slow=6.6,SNR=5.7						
ILAR	**Eielson Array**	**81.90**	**22**	P	P	20 16 19.2	-0.5
	0.7nm,0.8s,baz=269,slow=5.5,SNR=6.6						
BVAR	**Borovoye Array**	**88.37**	**323**	P	P	20 16 52.8	+0.4
	1.1nm,0.6s,baz=110,slow=7.8,SNR=8.7						

IDC 04 20:05:13.9±37.0**, 19.66S×178.84W, h650km**±350km**, mb3.2**/3**, mb1 3.4**/3**, mb1mx2.7**/48**, mbtmp4.3**/3**, Error ellipse: s-maj=351.5km s-min=169.9km az=110.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**32.79**	**263**	P	P	20 10 57.6	+0.7
	3.7nm,0.6s,baz=90,slow=12,SNR=8.5						
WRA	**Warramunga Arr**	**43.94**	**261**	P	P	20 12 26.3	0.0
	1.3nm,0.3s,baz=96,slow=7.5,SNR=56						
ASAR	**Alice Springs**	**43.95**	**256**	P	P	20 12 26.1	-0.2
	1.9nm,0.5s,baz=95,slow=7.7,SNR=35						
AKASG	**Malin Array Be**	**141.90**	**331**	PKP	PKPdf	20 23 32.9	-0.4
	0.1nm,0.3s,baz=46,slow=4.5,SNR=7.6						

*BJI **04** 20:27:23.0, 4°.31S×152°.68E, h17km, mb5.1/46, mB5.5/57, Ms5.1/58, Ms7 4.8/55*
*IDC **04** 20:27:24.3±0.5, 3°.84S×152°.22E, h0km, mb4.7/22, mb1 4.7/23, mb1mx4.5/49, mbtmp4.6/23, ML3.5/1, MS4.7/30, Ms1 4.7/30, ms1mx4.6/38, Error ellipse: s-maj=21.0km s-min=12.1km az=84.0*
*NEIC **04** 20:27:26.4±0.2, 3°.82S×152°.17E, h10km, mb5.5/102, Error ellipse: s-maj=5.9km s-min=4.6km az=101.0*
NEIC Felt at Namatanai. Also felt at Rabaul, New Britain.
*GCMT **04** 20:27:26.4±0.1, 3°.81S×152°.10E, h12km, MW5.3/129, Moment Tensor Solution. s74,c104; s129,c235; Duration: 1s1 Moment tensor: Scale 10^{17}Nm; M_{rr}-1.07±.01; $M_{\theta\theta}$1.00±.01; $M_{\phi\phi}$0.06±.01; $M_{r\theta}$-0.20±.04; $M_{\theta\phi}$-0.31±.01; $M_{\phi r}$0.55±.05; Best double couple: $M_0$1.22300×10^{17} NP1:ϕ_s127.00000°, δ57.00000°, λ-67.00000°. NP2:ϕ_s269.00000°, δ39.00000°, λ-121.00000°. Principal axes: T 1.1530, Plg10.0000°, Azm201.0000°; N 0.1340, Plg19.0000°, Azm294.0000°; P -1.2930, Plg68.0000°, Azm85.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*MOS **04** 20:27:27.0±1.2, 3°.90S×152°.20E, h24km, mb5.6/34, MS4.9/4 Error ellipse: s-maj=9.7km s-min=6.4km az=103.2*
*ISCJB **04** 20:27:28.6±0.1, 3°.91S±0°.02×152°.22E±0°.03, h33km, mb5.2/153, MS4.8/46, Error ellipse: s-maj=4.0km s-min=3.4km az=0.1*
*DJA **04** 20:27:31.5±0.6, 4°S±4°×15°2E±°, h51km±7km, M5.5/25, mb5.2/25, mB5.9/14, MLv5.5/1, Mw(mB)5.5/14*
ISC 04 20:27:31.1±0.3**, 3°.99S**±0°.04×**152°.29E**±0°.05**, h35km, n398, σ2s.16**/409**, mb5.3**/163**, MS4.8**/48**, 15C-5D, New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MANU	Manus Island	5.28	291	ePn	Pn	20 28 47.7	+0.1
PMG	Port Moresby	7.41	223	Pn	Pn	20 29 17.6	+0.8
	1.0nm,0.3s,baz=42,slow=15,SNR=13						
PMG	Port Moresby	7.41	223	ePn	Pn	20 29 17.4	+0.6
PMG	Port Moresby	7.41	223d	iP	Pn	20 29 17.3	+0.5
PMG				iS	Sn	20 30 37.6	-2.1
HNR	Honiara	9.33	126	eP	Pn	20 29 46.0	+2.8
HNR				eS	Sn	20 31 31.0	+4.0
HNR	Honiara	9.33	126	Pn	Pn	20 29 46.2	+3.1
	13nm,0.3s,baz=260,slow=5.1,SNR=15						
HNR				LR	LR	20 33 30.2	
	comp=Z,7μm,21.1s,baz=292,slow=39						
HNR	Honiara	9.33	126	ePn	Pn	20 29 45.8	+2.6
HNR				e		20 33 30.2	
HNR	Honiara	9.33	126	eP	Pn	20 29 45.8	+2.6
JAY	Jayapura	11.66	277	P	Pn	20 30 11.7	-3.4
PATS	Pohnpei	12.32	29	P	Pn	20 30 21.4	-2.8
	baz=12,SNR=5.1						
PATS	Pohnpei	12.32	29	ePn	Pn	20 30 21.3	-2.9
COEN	Coen	13.38	222	P	Pn	20 30 39.2	+0.6
	baz=14,SNR=9.5						
COEN	Coen	13.38	222	ePn	Pn	20 30 40.0	+1.4
MTSU	Mount Surprise	16.08	208	P	P	20 31 16.8	-0.9
	baz=16,SNR=44						
CTA	Charters Tower	17.05	200	P	Pn	20 31 27.4	+0.6
	0.1nm,0.3s,baz=21,slow=15,SNR=4.4						
CTA				LR	LR	20 37 30.7	
	comp=Z,4μm,21.5s,baz=10.0,slow=35						
CTAO	Charters Tower	17.05	200	ePn	P	20 31 30.5	+2.1
	78nm,1.3s						
CTAO				eSn	Sn	20 34 18.6	-17
CTAO	Charters Tower	17.05	200	eP	P	20 31 30.5	+2.1
CTAO				pmax	pmax		
	comp=Z,78nm,1.3s						
GUMO	Guam	18.95	337	P	P	20 31 49.7	+0.3
	comp=Z,1.8nm,0.3s,baz=334,slow=0.7,SNR=6.2						
GUMO				LR	LR	20 39 38.4	
	comp=Z,1μm,18.6s,baz=152,slow=39						
GUMO	Guam	18.95	337	eP	P	20 31 47.9	-1.5
	comp=Z,807nm,1.6s						
GUMO	Guam	18.95	337	eP	P	20 31 47.9	-1.5
GUMO				pmax	pmax		
	comp=Z,807nm,1.6s						
FAKI	Fak Fak	20.03	272	P	P	20 32 01.1	-0.2
FAKI	Fak Fak	20.03	272	eP	P	20 31 59.2	-2.1
	comp=Z,537nm,1.8s						
QIS	Mount Isa	20.58	216	P	P	20 32 06.4	-0.8
	baz=21,SNR=40						
PALU	Palau	21.04	302	P	P	20 32 10.6	-1.7
	baz=21,SNR=5.2						
SWI	Sorong	21.23	278	P	P	20 32 14.1	-0.2
EIDS	Eidsvold	21.29	183	P	P	20 32 15.9	+1.2
	baz=22,SNR=3.7						
EIDS	Eidsvold	21.29	183	eP	P	20 32 15.3	+0.6
	comp=Z,91nm,1.4s						
TARA	Tarawa	21.30	76	eP	P	20 32 15.9	+1.0
	comp=Z,2μm,1.8s						
BNDI	Bandanaira	22.33	268	P	P	20 32 24.3	-1.7
DZM	Mont Dzumac	22.62	144	eP	P	20 32 31.2	+2.1
	comp=Z,138nm,1.2s						
DZM				eLQ	LQ	20 37 06.0	
	comp=Z,4μm,30.2s						
DZM				eLR	LR	20 38 05.1	
	comp=Z,7μm,26.9s						
DZM	Mont Dzumac	22.62	144	P	P	20 32 29.4	+0.2
	comp=Z,29nm,1.0s,baz=22,slow=5.4,SNR=5.6						
DZM				LR	LR	20 40 22.0	
	comp=Z,4μm,20.6s,baz=323,slow=34						
DZM	Mont Dzumac	22.62	144	eP	P	20 32 30.1	+1.0
	comp=Z,112nm,1.4s						
DZM				e		20 40 22.0	
RMQ	Roma	22.62	188	P	P	20 32 30.3	+1.2
	baz=23,SNR=19						
MTN	Manton Dam	22.68	246	P	P	20 32 30.6	+0.8
	baz=23,SNR=3.2						
MTN	Manton Dam	22.68	246	eP	P	20 32 27.1	-2.7
	comp=Z,27nm,0.9s						
WB2	Warramunga Arr	23.60	226	eP	P	20 32 36.5	-2.5
WR1	Warramunga Arr	23.61	226	eP	P	20 32 36.3	-2.8
	comp=Z,94nm,1.1s						
WR1				e		20 42 20.6	
WRA	Warramunga Arr	23.61	226	P	P	20 32 36.3	-2.8
	comp=Z,35nm,1.0s,baz=50,slow=9.8,SNR=91						
WRA				LR	LR	20 42 20.6	
	comp=Z,2μm,19.2s,baz=55,slow=38						
WRA	Warramunga Arr	23.61	226	iP	P	20 32 36.2	-2.9
WRA				pmax	pmax		
	comp=Z,35nm,1.0s						
QLP	Quilpie	23.75	198	P	P	20 32 40.5	+0.1
	baz=24,SNR=16						
AAI	Ambon	24.04	270	P	P	20 32 40.5	-2.7
LBMI	Labuha	24.99	277	P	P	20 32 52.7	+0.9
NLAI	Namlea	25.15	271	P	P	20 32 50.2	-3.1
TNTI	Ternate	25.35	280	eP	P	20 32 54.0	-1.2
	comp=Z,122nm,1.4s						
KNRA	Kununurra	25.89	242	P	P	20 32 57.7	-2.2
	baz=26,SNR=5.5						
ARMA	Armidale	26.29	181	P	P	20 33 04.7	+1.1
	baz=26,SNR=5.9						
ARMA	Armidale	26.29	181	eP	P	20 33 04.9	+1.3
	comp=Z,52nm,1.3s						
SANI	Sanana	26.33	273	P	P	20 33 03.0	-1.0
AS01	Alice Springs	26.38	220	eP	P	20 33 02.5	-2.0
AS31	Alice Springs	26.41	221	eP	P	20 33 03.9	-0.9
	comp=Z,8.2nm,0.9s						
ASAR	Alice Springs	26.41	221	P	P	20 33 03.0	-1.7
	comp=Z,8.9nm,0.9s,baz=54,slow=8.2,SNR=50						
ASAR				LR	LR	20 43 51.9	
	comp=Z,3μm,18.7s,baz=27,slow=37						
ASAR	Alice Springs	26.41	221	P	P	20 33 03.0	-1.7
H11S3	WAKE ISLAND Hy	26.47	32	T	T	21 00 55.2	
	baz=216,slow=74						
H11S2	WAKE ISLAND Hy	26.48	32	T	T	21 00 28.8	
	baz=216,slow=74						
H11S1	WAKE ISLAND Hy	26.49	32	T	T	21 00 50.0	
	baz=216						
H11N1	WAKE ISLAND Hy	27.59	31	T	T	21 02 26.3	
	baz=224,slow=74,SNR=16						
H11N3	WAKE ISLAND Hy	27.60	31	T	T	21 02 27.3	
	baz=224,slow=74,SNR=19						
H11N2	WAKE ISLAND Hy	27.61	31	T	T	21 02 26.6	
	baz=224,slow=74,SNR=20						
CMSA	Cobar Meteorol	28.09	192	P	P	20 33 19.9	+0.2
	baz=28,SNR=22						
SOEI	Soe	28.39	257	P	P	20 33 22.7	+0.1
KMSI	Cibinong	28.65	278	P	P	20 33 20.2	-4.6
BATI	Baumata	29.05	256	LR	LR	20 48 29.2	
	comp=Z,2μm,18.1s,baz=120,slow=44						
STKA	Stephens Creek	29.50	199	P	P	20 33 31.0	-1.2
	comp=Z,8.0nm,1.1s,baz=27,slow=6.7,SNR=9.1						
STKA				LR	LR	20 44 51.0	
	comp=Z,2μm,21.4s,baz=11,slow=35						
STKA	Stephens Creek	29.50	199	P	P	20 33 31.9	-0.3
	baz=30,SNR=7.7						
STKA	Stephens Creek	29.50	199	eP	P	20 33 31.6	-0.5
	comp=Z,5.7nm,1.3s						
STKA	Stephens Creek	29.50	199	eP	P	20 33 31.7	-0.5
STKA				pmax	pmax		
	comp=Z,6.0nm,1.3s						
LUWI	Luwuk	29.63	275	P	P	20 33 32.1	-1.4
LUWI	Luwuk	29.63	275	eP	P	20 33 32.4	-1.1
	comp=Z,69nm,0.9s						
BBSI	Bau Bau	29.65	266	P	P	20 33 33.3	-0.4
APSI	Ampana	30.76	275	P	P	20 33 42.7	-0.8
CAN	Canberra	31.32	185	eP	P	20 33 47.6	-0.7
	comp=Z,26nm,1.1s						
CAN	Canberra	31.32	185	eP	P	20 33 47.6	-0.7
CAN				pmax	pmax		
	comp=Z,26nm,1.1s						
BSSI	Bau Bau, Buton	31.74	265	P	P	20 33 49.9	-2.3
HTT	Hallett	31.84	201	P	P	20 33 52.0	-0.8
	baz=32,SNR=6.0						
BNSI	Bone	32.10	268	P	P	20 33 54.3	-1.0
BBOO	Buckleboo	32.44	206	P	P	20 33 57.6	-0.5
	baz=33,SNR=11						
BBOO	Buckleboo	32.44	206	eP	P	20 33 57.5	-0.6
	comp=Z,127nm,1.6s						
KAPI	Kappang	32.45	267	P	P	20 33 57.1	-1.3
	SNR=9.7						
KAPI	Kappang	32.45	267	P	P	20 33 57.1	-1.3
	SNR=9.7						
PCI	Palu	32.56	275	P	P	20 33 58.9	-0.5
TOO	Toolangi	34.00	190	P	P	20 34 13.2	+1.5
	baz=34,SNR=7.5						
ARPS	Mount Arapiles	34.01	195	P	P	20 34 11.5	-0.1
	baz=34,SNR=9.5						
MYLDM	Lahad Datu	34.96	285	eP	P	20 34 17.9	-2.3
	comp=Z,126nm,1.6s						
FORT	Forrest	35.10	218	eP	P	20 34 20.1	-1.1
	comp=Z,238nm,1.8s						
TGY	Tagaytay City	35.92	301	LR	LR	20 46 45.3	
	comp=Z,1μm,21.8s,baz=107,slow=32						
AFI	Afiamalu	36.79	108	LR	LR	20 48 03.6	
	comp=Z,604nm,18.1s,baz=278,slow=34						
KKM	Kota Kinabalu	37.38	285	eP	P	20 34 39.5	-1.5
	comp=Z,30nm,1.1s						
JOW	Kunigami	38.44	324	LR	LR	20 47 24.1	
	comp=Z,606nm,21.1s,baz=152,slow=31						
JOW	Kunigami	38.44	324	eP	P	20 34 49.4	-0.4
	comp=Z,156nm,1.8s						
MOO	Moorlands	38.55	186	P	P	20 34 52.8	+2.4
	baz=39,SNR=4.7						
JHJ	Hachijo jima 2	38.76	343	LR	LR	20 49 56.8	
	comp=Z,632nm,19.1s,baz=97,slow=35						
TAU	Tasmania Unive	39.01	186	eP	P	20 34 54.7	+0.5
	comp=Z,254nm,1.9s						
TAU	Tasmania Unive	39.01	186	eP	P	20 34 54.7	+0.5
TAU				pmax	pmax		
	comp=Z,254nm,1.9s						
MEEK	Meekatharra	39.29	232	P	P	20 34 55.9	-1.1
	baz=39,SNR=5.0						
SBUM	Sibu	40.55	278	eP	P	20 35 07.6	0.0
	comp=Z,161nm,1.8s						
THZ	Tophouse	41.89	157	eP	P	20 35 19.1	+1.0
	comp=Z,62nm,1.0s						
KSM	Kuching	42.30	277	eP	P	20 35 21.7	-0.2
	comp=Z,366nm,2.0s						
FOZ	Fox Glacier	42.33	161	eP	P	20 35 22.6	+1.0
	comp=Z,187nm,1.5s						
MORW	Morawa	42.46	230	P	P	20 35 21.7	-1.3
	baz=43,SNR=4.6						
LTZ	Lake Taylor	42.52	158	eP	P	20 35 24.7	+1.4
	comp=Z,120nm,1.3s						
KHZ	Kahutara	42.70	157	eP	P	20 35 25.0	+0.4
	comp=Z,119nm,1.3s						
BLDU	Ballidu	42.73	228	P	P	20 35 23.9	-1.3
	baz=43,SNR=5.6						
RPZ	Rata Peaks	42.90	160	P	P	20 35 27.1	+0.8
	comp=Z,34nm,0.9s,baz=34,slow=1.7,SNR=12						
OXZ	Oxford	42.91	159	eP	P	20 35 26.7	+0.4
	comp=Z,156nm,1.5s						
LBZ	Lake Benmore	43.21	161	eP	P	20 35 28.5	-0.3
	comp=Z,76nm,1.3s						
WKZ	Wanaka	43.24	163	eP	P	20 35 33.2	+4.1
	comp=Z,155nm,1.5s						
DCZ	Deep Cove	43.31	165	eP	P	20 35 30.4	+0.9
	comp=Z,45nm,1.0s						
CRLZ	Canterbury Las	43.34	158	eP	P	20 35 31.4	+1.6
	comp=Z,258nm,1.4s						
MQZ	McQueen's Vall	43.46	158	eP	P	20 35 31.5	+0.7
	comp=Z,293nm,1.7s						
MLZ	Mavora Lakes	43.48	164	eP	P	20 35 32.2	+1.2
	comp=Z,130nm,1.2s						
QZH	Quanzhou	43.57	313	eP	P	20 35 30.6	-1.4
QZH				eS	S	20 41 54.8	-4.3
QZH				LR	LR		
	comp=Z,520nm,12.3s						
QZH				LR	LR		
	comp=Z,620nm,19.0s						
QZH				LR	LR		
	comp=Z,690nm,18.0s						
WHZ	Wether Hill Ro	43.91	164	eP	P	20 35 39.1	+4.6
	comp=Z,44nm,1.1s						
ODZ	Otahua Downs	43.94	161	eP	P	20 35 38.5	+3.8
	comp=Z,114nm,1.5s						
SSE	Sheshan	45.80	322	P	P	20 35 49.9	+0.3
SSE				S	S	20 42 34.4	+3.2
SSE				pmax	pmax		
	comp=Z,19nm,1.2s						
SSE				pmax	pmax		
	comp=Z,180nm,5.4s						
SSE				LR	LR		
	comp=Z,270nm,16.0s						
SSE				LR	LR		
	comp=Z,330nm,15.7s						
TJN	Taejon	46.43	332⇓	iP	P	20 35 53.6	-0.9
KSRS	Korea Array	47.05	333	P	P	20 35 58.2	-1.2
	comp=Z,3.7nm,0.9s,baz=146,slow=8.3,SNR=8.7						
KSRS				LR	LR	20 54 17.4	
	comp=Z,496nm,19.7s,baz=140,slow=34						
KSAR	Wonju Array Be	47.06	333	P	P	20 35 58.2	-1.2
KSAR	Wonju Array Be	47.06	333	P	P	20 35 58.2	-1.2
KS01	Wonju Array Si	47.08	333	eP	P	20 35 58.1	-1.5
QIZ	Qiongzhong	47.62	300	P	P	20 36 04.4	+0.3
QIZ				S	S	20 43 02.0	+4.3
QIZ				SS	SS	20 46 28.9	+2.6
QIZ				LR	LR		
	comp=Z,440nm,16.7s						
QIZ				LR	LR		
	comp=Z,560nm,20.1s						
QIZ				LR	LR		
	comp=Z,770nm,21.6s						
NJ2	Nanjing	47.90	321	eP	P	20 36 07.7	+1.6
NJ2				S	S	20 43 02.0	+0.8
NJ2				pmax	pmax		
	comp=Z,24nm,1.0s						
NJ2				LR	LR		
	comp=Z,620nm,15.7s						
NJ2				LR	LR		
	comp=Z,490nm,14.6s						
NJ2				LR	LR		
	comp=Z,940nm,18.4s						
MYKOM	Kota Tinggi	48.75	276	eP	P	20 36 12.5	-0.4
	comp=Z,316nm,2.0s						
RAR	Rarotonga	49.58	114	LR	LR	20 55 26.6	
	comp=Z,127nm,19.8s,baz=292,slow=34						
WHN	Wuhan	49.92	316	P	P	20 36 23.9	+2.3
WHN				S	S	20 43 29.6	-0.1
WHN				LR	LR		
	comp=Z,2μm,23.3s						
DL2	Dalian	51.22	329	P	P	20 36 33.1	+1.8
DL2				S	S	20 43 54.8	+7.3
DL2				pmax	pmax		
	comp=Z,39nm,1.5s						
DL2				pmax	pmax		
	comp=Z,720nm,5.5s						
DL2				LR	LR		
	comp=Z,740nm,17.2s						
DL2				LR	LR		
	comp=Z,720nm,20.1s						
DL2				LR	LR		
	comp=Z,840nm,19.9s						
TIA	Tai'an	51.77	324	P	P	20 36 37.4	+2.0
IPM	Ipoh	51.90	279	eP	P	20 36 35.4	-1.5
	comp=Z,74nm,1.5s						
SKNT	Sakolnakorn	52.05	295	P	P	20 36 39.9	+2.0
	comp=Z,14nm,1.1s						
KULM	Kulim	52.40	280	eP	P	20 36 38.2	-2.2
	comp=Z,54nm,1.4s						
MDJ	Mudanjiang	52.49	340	P	P	20 36 41.5	+0.9
MDJ				pP	pP	20 36 46.9	-4.3
MDJ				sP	sP	20 36 49.2	-6.1
MDJ				PP	PP	20 38 42.0	+2.1
MDJ				S	S	20 44 11.7	+6.9
MDJ				SS	SS	20 47 50.7	+7.3
MDJ				pmax	pmax		
	comp=Z,23nm,1.7s						
MDJ				pmax	pmax		
	comp=Z,2μm,5.4s						
MDJ				LR	LR		
	comp=Z,1μm,30.4s						
MDJ				LR	LR		
	comp=Z,2μm,30.9s						
MDJ				LR	LR		
	comp=Z,2μm,31.4s						
KHON	Khomkaen	52.90	294	P	P	20 36 49.9	+5.7
	comp=Z,7.3nm,1.1s,comp=Z,1μm						
ENH	Enshi	53.23	313	eP	P	20 36 48.0	+1.6
	comp=Z,142nm,1.8s						
CN2	Changchun	53.36	336	eP	P	20 36 49.1	+2.1
CN2				eS	S	20 44 19.8	+3.2
CN2				pmax	pmax		
	comp=Z,10.0nm,1.0s						
CN2				pmax	pmax		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=Z,800nm,19.0s						
CN2				LR	LR		
	comp=Z,500nm,19.0s						
CN2				LR	LR		
	comp=Z,1μm,21.0s						
GYA	Guiyang	53.50	307⇑	iP	P	20 36 50.8	+2.2
GYA				PP	PP	20 38 52.2	+2.7
GYA				ScP	ScP	20 41 53.6	+3.0
GYA				S	S	20 44 20.0	+0.6
GYA				SS	SS	20 48 00.8	+0.6
GYA				pmax	pmax		
	comp=Z,30nm,1.0s						
GYA				pmax	pmax		
	comp=Z,140nm,5.8s						
GYA				LR	LR		
	comp=Z,810nm,21.2s						
GYA				LR	LR		
	comp=Z,780nm,22.8s						
GYA				LR	LR		
	comp=Z,850nm,22.6s						
CHAI	Chaiyaphum	53.54	293	P	P	20 36 52.8	+3.9
	comp=Z,4.9nm,1.3s						
PSI	Prapat	53.76	276	P	P	20 36 48.7	-2.0
	comp=Z,2.4nm,0.3s,baz=135,slow=3.9,SNR=8.7						
PSI	Prapat	53.76	276	eP	P	20 36 48.3	-2.4
	comp=Z,95nm,1.6s						
PSI	Prapat	53.76	276	eP	P	20 36 48.3	-2.4
PSI				pmax	pmax		
	comp=Z,95nm,1.6s						
TRTT	Trang	53.77	283	P	P	20 36 52.9	+2.3
	comp=Z,12nm,1.6s,comp=Z,266nm						
SKR	Severo-Kuril's	54.56	3	eP	P	20 37 06.2	+11
SKR				MLR	MLR		
	comp=Z,2μm,18.0s						
PBKT	Sadao Pong	54.67	293	P	P	20 36 57.5	+0.4
	comp=Z,23nm,1.4s,comp=Z,3μm						
PHET	Kaeng Krachan	54.92	289	P	P	20 37 04.5	+5.5
	comp=Z,6.1nm,1.3s						
GSI	Gunungsitoli	54.93	274	eP	P	20 36 57.0	-2.1
	comp=Z,154nm,1.5s						
BJI	Beijing	54.94	326⇑	eP	P	20 36 59.6	+0.9
BJI				S	S	20 44 45.9	+7.8
BJI				LR	LR		
	comp=Z,780nm,22.1s						
PKDT	Phuket	55.10	282	P	P	20 37 03.2	+2.9
	comp=Z,23nm,1.2s,comp=Z,305nm						
TYV	Tymovskoe	55.26	353	eP	P	20 37 01.1	+0.3
TYV				pmax	pmax		
	comp=Z,33nm,1.1s						
TYV				pmax	pmax		
	comp=Z,1μm,5.5s						
PHIT	Phitsanulok	55.36	294	P	P	20 37 06.9	+4.8
	comp=Z,16nm,1.1s,comp=Z,156nm						
XAN	Xi'an	55.69	316	P	P	20 37 02.7	-1.5
XAN				pmax	pmax		
	comp=Z,440nm,4.8s						
XAN				LR	LR		
	comp=Z,420nm,17.8s						
XAN				LR	LR		
	comp=Z,750nm,20.2s						
XAN				LR	LR		
	comp=Z,840nm,20.9s						
SRDT	SRDT	55.76	290	P	P	20 37 09.4	+4.4
	comp=Z,62nm,1.6s						
KLR	Kul'dur	55.93	344	P	P	20 37 04.6	-1.0
	comp=Z,0.4nm,1.0s,baz=194,slow=4.8,SNR=7.3						
KLR	Kul'dur	55.93	344⇑	iP	P	20 37 06.7	+1.1
KMI	Kunming	56.11	304	P	P	20 37 09.4	+1.7
KMI				pP	pP	20 37 14.3	-4.0
KMI				sP	sP	20 37 16.2	-6.2
KMI				PP	PP	20 39 16.5	+3.4
KMI				S	S	20 44 54.9	+0.1
KMI				SS	SS	20 48 40.0	-1.7
KMI				pmax	pmax		
	comp=Z,13nm,0.5s						
KMI				pmax	pmax		
	comp=Z,350nm,4.9s						
KMI				LR	LR		
	comp=Z,380nm,16.2s						
KMI				LR	LR		
	comp=Z,440nm,16.4s						
KMI				LR	LR		
	comp=Z,680nm,20.9s						
PAYA	Payao	56.52	296	P	P	20 37 12.5	+2.1
	comp=Z,10nm,1.1s,comp=Z,218nm						
CM01	Chiang Mai Arr	57.05	295	eP	P	20 37 13.7	-0.5
PETK	Petropavlovsk-	57.07	4	P	P	20 37 11.7	-2.0
	comp=Z,15nm,0.6s,baz=175,slow=6.6,SNR=8.2						
PETK				LR	LR	20 56 41.0	
	comp=Z,839nm,21.9s,baz=201,slow=31						
CM31	Chiang Mai Arr	57.08	295	eP	P	20 37 13.0	-1.4
CMAR	Chiang Mai Arr	57.08	295	P	P	20 37 13.6	-0.8
	comp=Z,4.8nm,0.8s,baz=122,slow=5.1,SNR=20						
CMAR				LR	LR	21 00 47.4	
	comp=Z,162nm,19.5s,baz=116,slow=35						
CMAR				PKP2bc		21 07 18.0	
	comp=Z,2.3nm,1.1s,baz=278,slow=4.1,SNR=6.6						
PEA1	Petropavlovsk-	57.08	4	eP	P	20 37 11.7	-2.0
PEA1				e		20 56 41.0	
CMMT	Chiang Mai	57.18	295	P	P	20 37 15.0	-0.1
	comp=Z,27nm,1.5s						
CHTO	Chiang Mai	57.18	295	P	P	20 37 16.1	+1.0
	comp=Z,123nm,1.5s,comp=Z,3μm						
CHTO	Chiang Mai	57.18	295	eP	P	20 37 14.6	-0.5
	comp=Z,54nm,1.4s						
CHTO	Chiang Mai	57.18	295	P	P	20 37 16.3	+1.2
	SNR=12						
CHTO	Chiang Mai	57.18	295	P	P	20 37 16.3	+1.2
	SNR=12						
CHTO	Chiang Mai	57.18	295	eP	P	20 37 14.6	-0.5
CHTO				pmax	pmax		
	comp=Z,54nm,1.4s						
CMAI	Chiengmai2	57.44	297	P	P	20 37 21.6	+4.5
	comp=Z,372nm,0.9s,comp=Z,80μm						
CD2	Chengdu	57.83	310	P	P	20 37 19.3	-0.2
CD2				pP	pP	20 37 24.6	-5.5
CD2				sP	sP	20 37 26.8	-7.5
CD2				PcS	PcS	20 42 13.0	-0.3
CD2				S	S	20 45 18.6	+1.7
CD2				sS	pS	20 45 27.7	-1.9
CD2				SS	SS	20 49 10.7	+2.6
CD2				pmax	pmax		
	comp=Z,40nm,0.6s						
CD2				pmax	pmax		
	comp=Z,670nm,6.2s						
CD2				LR	LR		
	comp=Z,800nm,19.4s						
CD2				LR	LR		
	comp=Z,990nm,20.9s						
CD2				LR	LR		
	comp=Z,800nm,23.8s						
HHC	Hu-ho-hao-te	58.10	324	eP	P	20 37 23.5	+2.2
HHC				PP	PP	20 39 33.7	+3.4

HHC S **S** **20 45 22.3 +2.1**
HHC SS **SS** **20 49 14.3 +2.1**
HHC pmax pmax
comp=Z,500nm,6.8s
HHC LR LR
comp=Z,2µm,16.5s
HHC LR LR
comp=Z,2µm,16.5s
HHC LR LR
comp=Z,2µm,16.3s
PPT **Papeete** **58.46 108** LR LR 20 58 30.5
comp=Z,235nm,20.6s,baz=280,slow=32
PPT2 **Papeete2** **58.46 108** *e*LR LR 20 54 39.3
comp=Z,312nm,22.0s
BTO **Baotou** **58.85 323** *e*P **P** **20 37 25.5 -1.0**
LZH **Lanzhou** **60.30 316** *e*P **P** **20 37 40.5 +3.8**
LZH pP pP 20 37 46.0 -1.4
LZH sP sP 20 37 49.4 -2.1
LZH PP **PP** **20 39 55.8 +5.8**
LZH S **S** **20 45 52.4 +3.4**
LZH sS pS 20 46 03.6 +1.8
LZH SS **SS** **20 49 50.2 +3.2**
LZH pmax pmax
comp=Z,57nm,1.6s
LZH pmax pmax
comp=Z,230nm,4.3s
LZH LR LR
comp=Z,1µm,10.7s
LZH LR LR
comp=Z,1µm,14.9s
LZH LR LR
comp=Z,1µm,15.7s
ZEA **Zeya** **61.23 343** *e*P **P** **20 37 41.9 -0.5**
ZEA pmax pmax
comp=N,64nm,1.8s
ZEA pmax pmax
comp=Z,80nm,1.8s
MA2 **Magadan** **63.38 359**⇑ *i*P **P** **20 37 56.0 -0.7**
GTA **Gaotai** **64.72 317** ⇑P **P** **20 38 05.8 -0.3**
GTA pP pP 20 38 09.8 -7.1
GTA S **S** **20 46 44.4 0.0**
GTA pmax pmax
comp=Z,160nm,4.5s
GTA LR LR
comp=Z,480nm,17.6s
GTA LR LR
comp=Z,620nm,19.0s
GTA LR LR
comp=Z,540nm,19.5s
ULN **Ulaanbaatar** **65.04 328** *e*P **P** **20 38 06.5 -1.6**
comp=Z,81nm,1.9s
ULN **Ulaanbaatar** **65.04 328** P **P** **20 38 12.3 +4.2**
SNR=15
ULN **Ulaanbaatar** **65.04 328** P **P** **20 38 12.3 +4.2**
SNR=15
ULN **Ulaanbaatar** **65.04 328**⇑ *i*P **P** **20 38 08.4 +0.3**
ULN pmax pmax
comp=Z,12nm,1.5s
SONA0 **Songino Array** **65.37 328** *e*P **P** **20 38 09.3 -0.9**
SONA0 *e* 21 04 25.1
SONA0 ⇑*e* 21 06 56.0
SONM **Songino Array** **65.37 328** P **P** **20 38 09.3 -0.9**
comp=Z,4.4nm,0.9s,baz=138,slow=5.6,SNR=12
SONM LR LR 21 04 25.1
comp=Z,652nm,22.0s,baz=116,slow=34
SONM PKP2bc 21 06 56.0
comp=Z,1.0nm,0.9s,baz=321,slow=1.9,SNR=5.2
SONA1 **Songino Array** **65.38 328** *e*P **P** **20 38 09.6 -0.7**
SHL **Shillong** **65.46 300** *e*P **P** **20 38 11.0 -0.3**
SHL **Shillong** **65.46 300** *e*P **P** **20 38 09.5 -1.8**
comp=Z,30nm,0.9s
SHL **Shillong** **65.46 300** *e*P **P** **20 38 09.5 -1.8**
SHL pmax pmax
comp=Z,30nm,0.9s
SEY **Seymchan** **66.74 0**⇓ *i*P **P** **20 38 20.8 +2.3**
LSA **Lhasa** **67.36 304** *e*P **P** **20 38 22.2 -1.5**
comp=Z,15nm,1.0s
LSA **Lhasa** **67.36 304** *e*P **P** **20 38 22.2 -1.5**
LSA pmax pmax
comp=Z,15nm,1.0s
YAK **Yakutsk** **68.09 349** P P 20 38 20.7 -6.3
comp=Z,6.0nm,0.3s,baz=116,slow=1.4,SNR=1.9
YAK **Yakutsk** **68.09 349** *e*P **P** **20 38 23.4 -3.6**
YAK *e**PP **pP** **20 38 35.8 -2.0**
YAK *e* 20 38 47.2
YAK *e*S **S** **20 47 19.8 -4.2**
YAK *e**SS sS 20 47 50.3 +8.4
YAK pmax pmax
comp=E,2.0nm,0.9s
YAK pmax pmax
comp=N,4.0nm,1.1s
YAK pmax pmax
comp=Z,14nm,1.1s
YAK pmax pmax
comp=Z,714nm,5.4s
YAK pmax pmax
comp=N,438nm,4.9s
YAK pmax pmax
comp=E,446nm,4.7s
YAK smax smax
comp=N,64nm,11.4s
YAK smax smax
comp=E,123nm,16.6s
ZAK **Zakamensk** **68.54 329** *e*P **P** **20 38 26.9 -3.4**
ZAK pmax pmax
comp=Z,16nm,1.7s
BOD **Bodaibo** **68.86 339** *e*P **P** **20 38 34.8 +2.9**
BOD pmax pmax
comp=Z,29nm,2.0s
TLY **Talaya** **69.13 330** *e*P **P** **20 38 33.6 -0.2**
comp=Z,13nm,1.4s
TLY **Talaya** **69.13 330** P **P** **20 38 35.5 +1.7**
SNR=8.6
TLY **Talaya** **69.13 330** P **P** **20 38 35.5 +1.7**
SNR=8.6
TLY **Talaya** **69.13 330** *e*P **P** **20 38 33.5 -0.2**
TLY *e*S **S** **20 47 41.5 +4.6**
TLY pmax pmax
comp=Z,18nm,1.8s
TLY MLR MLR
comp=Z,401nm,19.0s
IRK **Irkutsk** **69.16 331** *e*P **P** **20 38 35.5 +1.6**
IRK pmax pmax
comp=Z,51nm,2.9s
MOY **Mondy** **70.46 329** *e*P **P** **20 38 41.9 -0.2**
MOY pmax pmax
comp=Z,84nm,2.8s
CHLP **Challavanipeta** **70.78 291** *e*P **P** **20 38 48.4 +3.9**
CHLP IAmb IAmb 20 38 51.2
comp=Z,96nm,1.8s
KNGR **Kungurtug, Tuv** **71.73 327** *i* P **P** **20 38 49.8 -0.1**
CHGN **Chignik** **72.23 26** *e*P **P** **20 38 51.9 -0.6**
comp=Z,64nm,1.1s
PALK **Pallekele** **72.31 279** P **P** **20 38 52.8 -1.1**
comp=Z,3.5nm,0.8s,baz=118,slow=4.7,SNR=3.5
PALK **Pallekele** **72.31 279** *e*P **P** **20 38 52.8 -1.1**
comp=Z,16nm,1.2s
PALK **Pallekele** **72.31 279** *e*P **P** **20 38 52.8 -1.1**
PALK pmax pmax
comp=Z,16nm,1.2s
BILL **Bilibino** **72.54 5***d i*P **P** **20 38 50.8 -3.3**
BILL *i* 20 39 09.6
BILL *i* 20 41 31.1
BILL *i* S **S** **20 48 17.8 +1.9**
BILL *i* SS **SS** **20 52 55.1 -0.3**
BILL pmax pmax
comp=Z,34nm,1.4s
BILL pmax pmax
comp=Z,530nm,20.0s
RKT **Rikitea** **72.57 113** *e*LR LR 21 01 19.2
comp=Z,715nm,23.5s
PVM **Polavaram** **72.83 289** *e*P **P** **20 38 57.9 +1.1**
PVM IAmb IAmb 20 39 01.4
comp=Z,16nm,1.1s
VNDA **Vanda** **73.65 178** P **P** **20 39 00.7 +0.1**
comp=Z,5.9nm,1.0s,baz=349,slow=7.8,SNR=11
VNDA LR LR 21 10 07.2
comp=Z,226nm,18.2s,baz=345,slow=35
VNDA **Vanda** **73.65 178** *e*P **P** **20 39 01.1 +0.5**
VNDA *e*PcP **P** **20 39 01.6 +0.9**
VNDA **Vanda** **73.65 178** *e*P **P** **20 39 01.1 +0.5**
SKHT **Srikalahasti** **74.10 285** *e*P **P** **20 39 03.6 -0.8**
SKHT IAmb IAmb 20 39 11.8
comp=Z,252nm,3.6s
HVS **Khovu-Aksy** **74.10 326** *e*P **P** **20 39 04.6 +0.8**
ADKI **Addanki** **74.17 288** *e*P **P** **20 39 04.6 -0.1**
ADKI IAmb IAmb 20 39 09.2
comp=Z,12nm,1.1s
SBA **Scott Base** **74.21 177** *e*P **P** **20 39 05.6 +1.7**
comp=Z,164nm,1.8s
SBA **Scott Base** **74.21 177** *e*P **P** **20 39 05.6 +1.7**
SBA pmax pmax
comp=Z,164nm,1.8s
MIR **Mirnyy** **74.49 201**⇑ *i*P **P** **20 39 10.0 +4.3**
MIR *e* 20 39 23.0
MIR pmax pmax
comp=Z,81nm,1.5s
WMQ **Urumqi** **74.81 317** P **P** **20 39 08.2 +0.1**
WMQ sP pP 20 39 19.8 +0.8
WMQ S **S** **20 48 43.8 +1.2**
WMQ ScS **ScS** **20 49 17.0 -0.5**
WMQ pmax pmax
comp=Z,50nm,1.9s
WMQ pmax pmax
comp=Z,720nm,3.7s
WMQ LR LR
comp=Z,340nm,20.3s
WMQ LR LR
comp=Z,470nm,18.7s
WMQ LR LR
comp=Z,570nm,20.3s
NJS **Nagarjunasagar** **74.90 288** *e*P **P** **20 39 05.5 -3.5**
NJS IAmb IAmb 20 39 12.2
comp=Z,55nm,1.9s
OHAK **Old Harbor** **75.07 27** *e*P **P** **20 39 08.6 -0.6**
comp=Z,189nm,1.8s
SRLM **Srisailam** **75.23 288** *e*P **P** **20 39 13.2 +2.2**
SRLM IAmb IAmb 20 39 14.9
comp=Z,15nm,0.9s
RPR **Rampur** **75.28 291** *e*P **P** **20 39 12.1 +0.9**
RPR IAmb IAmb 20 39 15.2
comp=Z,34nm,1.5s
KDAK **Kodiak Island** **75.69 27** *i* P P 20 39 17.6 +4.9
HYBB **Hyderabad (bro** **75.75 289** *e*P **P** **20 39 15.4 +1.5**
HYBB IAmb IAmb 20 39 17.6
comp=Z,9.8nm,1.0s
SRSP **Sriramsagar** **76.18 290** *e*P **P** **20 39 17.0 +0.6**
SRSP IAmb IAmb 20 39 20.2
comp=Z,14nm,1.0s
SVW2 **Sparrevohn** **76.29 23** *e*P **P** **20 39 16.7 +0.6**
comp=Z,33nm,1.1s
URV **Uravakonda** **76.62 286** *e*P **P** **20 39 17.2 -1.7**
URV IAmb IAmb 20 39 22.2
comp=Z,54nm,1.9s
KRAR **Krasnoyarsk** **76.83 330** *e*P **P** **20 39 19.4 +0.2**
TIXI **Tiksi** **77.03 353** P **P** **20 39 17.8 -2.2**
comp=Z,2.6nm,0.7s,baz=131,slow=9.0,SNR=14
TIXI **Tiksi** **77.03 353** *e*P **P** **20 39 20.2 +0.1**
comp=Z,50nm,1.5s
TIXI **Tiksi** **77.03 353**⇑ *i*P **P** **20 39 20.7 +0.6**
TIXI pmax pmax
comp=Z,38nm,1.5s
DGZ **Jazzator, Alta** **77.14 323***c i*P **P** **20 39 21.9 +0.6**
DGZ pmax pmax
comp=Z,13nm,1.1s
BRLK **Bradley Lake** **77.49 26** *e*P **P** **20 39 22.2 -0.7**
comp=Z,196nm,2.0s
KLRI **Killari** **77.69 289** *e*P **P** **20 39 22.6 -2.3**
KLRI IAmb IAmb 20 39 28.4
comp=Z,147nm,2.5s
SPU **Mount Spurr** **77.75 24** *e*P **P** **20 39 24.1 -0.3**
SKT **Skwentna** **78.39 24** *e*P **P** **20 39 29.3 +1.4**
comp=Z,42nm,1.8s
SUA **Susitna One** **78.44 24** *e*P **P** **20 39 27.5 -0.8**
comp=Z,55nm,1.4s
PPLA **Purkeypile** **78.63 23** *e*P **P** **20 39 29.4 0.0**
comp=Z,82nm,1.5s
RC01 **Rabbit Creek A** **78.66 25** *e*P **P** **20 39 28.6 -0.7**
comp=Z,124nm,1.4s
CAST **Castle Rocks** **78.95 22** *e*P **P** **20 39 29.0 -2.0**
comp=Z,40nm,1.2s
PMR **Palmer** **79.17 25** *e*P **P** **20 39 31.0 -1.1**
comp=Z,71nm,1.5s
PMR **Palmer** **79.17 25** *e*P **P** **20 39 31.0 -1.1**
PMR pmax pmax
comp=Z,71nm,1.5s
GHO **Glory Hole Cre** **79.34 24** *e*P **P** **20 39 32.2 -1.0**
comp=Z,111nm,2.0s
MK01 **Makanchi Array** **79.37 319** *e*P **P** **20 39 30.8 -2.8**
MK31 **Makanchi Array** **79.39 319** *e*P **P** **20 39 31.8 -1.9**
MK31 **Makanchi Array** **79.39 319** *e*P **P** **20 39 31.8 -1.9**
MK32 **Makanchi Array** **79.39 319** *e*P **P** **20 39 31.2 -2.5**
MK32 *e* 21 14 12.4
MKAR **Makanchi Array** **79.39 319** P **P** **20 39 31.2 -2.5**
comp=Z,4.9nm,1.0s,baz=101,slow=6.4,SNR=23
MKAR LR LR 21 14 12.4
comp=Z,293nm,19.9s,baz=90,slow=35
MKAR **Makanchi Array** **79.39 319** *e*P **P** **20 39 31.8 -1.9**
comp=Z,322nm,1.8s
MKAR **Makanchi Array** **79.39 319***ce*P **P** **20 39 31.7 -1.9**
MKAR pmax pmax
comp=Z,6.0nm,0.9s
MAKZ **Makanchi** **79.59 319** *e*P **P** **20 39 32.9 -1.9**
comp=Z,110nm,1.5s
MAKZ **Makanchi** **79.59 319** *e*P **P** **20 39 32.9 -1.9**
MAKZ pmax pmax
comp=Z,110nm,1.5s
SML **Sawmill** **79.60 25** *e*P **P** **20 39 33.0 -1.5**
comp=Z,65nm,1.1s
SML **Sawmill** **79.60 25** *e*P **P** **20 39 33.0 -1.5**
SML pmax pmax
comp=Z,65nm,1.1s
TRF **Thorofare Moun** **79.65 23** *e*P **P** **20 39 34.2 -0.7**
comp=Z,24nm,1.2s
BPAW **Bear Paw Mtn.** **79.73 22** *e*P **P** **20 39 33.1 -2.1**
comp=Z,71nm,1.6s
IM3 **Indian Mountai** **79.80 20** *e*P **P** **20 39 32.6 -2.8**
SCM **Sheep Creek Mo** **80.03 25** *e*P **P** **20 39 35.3 -1.6**
comp=Z,81nm,1.4s
SCM **Sheep Creek Mo** **80.03 25** *e*P **P** **20 39 35.3 -1.6**
SCM pmax pmax
comp=Z,81nm,1.4s
RND **Reindeer** **80.19 23** *e*P **P** **20 39 35.4 -2.3**
comp=Z,37nm,1.0s
RND **Reindeer** **80.19 23** *e*P **P** **20 39 35.4 -2.3**
RND pmax pmax
comp=Z,37nm,1.0s
ZAA0 **Zalesovo Array** **80.20 326** *e*P **P** **20 39 36.5 -1.3**
comp=Z,57nm,1.8s
ZALV **Zalesovo Beam** **80.20 326** P **P** **20 39 34.7 -3.2**
comp=Z,4.3nm,0.9s,baz=104,slow=6.3,SNR=11
ZALV **Zalesovo Beam** **80.20 326** *e*P **P** **20 39 34.4 -3.5**
ZALV **Zalesovo Beam** **80.20 326** *e*P **P** **20 39 34.4 -3.5**
ZAA1 **Zalesovo Array** **80.20 326** *e*P **P** **20 39 34.7 -3.2**
MLY **Manley** **80.32 21** *e*P **P** **20 39 36.3 -2.1**
comp=Z,106nm,1.5s
MCK **McKinley** **80.32 23** *e*P **P** **20 39 35.8 -2.6**
comp=Z,75nm,1.1s
MCK **McKinley** **80.32 23** *e*P **P** **20 39 35.8 -2.6**
MCK pmax pmax
comp=Z,75nm,1.1s
DIV **Divide** **80.37 26** *e*P **P** **20 39 36.9 -1.8**
comp=Z,36nm,1.1s
KLU **Klutina** **80.47 25** *e*P **P** **20 39 38.2 -1.1**
comp=Z,46nm,1.1s
RAGM **Ragged Mountai** **80.52 27** *e*P **P** **20 39 37.7 -1.9**
comp=Z,52nm,1.2s
DHY **Denali Highway** **80.61 24** *e*P **P** **20 39 39.5 -0.6**
comp=Z,46nm,1.3s
BMRM **Bremner River** **80.81 26** *e*P **P** **20 39 39.8 -1.3**
comp=Z,61nm,1.4s
WRH **Wood River Hil** **81.01 22** *e*P **P** **20 39 39.0 -3.0**
comp=Z,61nm,1.3s
MDM **Murphy Dome** **81.20 22** *e*P **P** **20 39 40.0 -3.1**
comp=Z,40nm,1.3s
CCB **Clear Creek Bu** **81.20 22** *e*P **P** **20 39 39.9 -3.1**
comp=Z,85nm,1.5s
HARP **HAARP** **81.21 25** *e*P **P** **20 39 43.9 +0.8**
comp=Z,53nm,1.5s
COLA **College** **81.30 22** *e*P **P** **20 39 42.2 -1.3**
comp=Z,35nm,0.8s
COLA **College** **81.30 22** *e*P **P** **20 39 42.2 -1.3**
COLA pmax pmax
comp=Z,35nm,0.8s
PAX **Paxson** **81.33 24** *e*P **P** **20 39 44.2 +0.3**
comp=Z,29nm,1.5s
PAX **Paxson** **81.33 24** *e*P **P** **20 39 44.2 +0.3**
PAX pmax pmax
comp=Z,29nm,1.5s
NVS **Novosibirsk** **81.38 327**⇑ *i*P **P** **20 39 44.6 +0.5**
NVS pmax pmax
comp=Z,116nm,2.0s
NVS pmax pmax
comp=N,37nm,2.2s
NVS pmax pmax
comp=E,68nm,2.2s
HDA **Harding Lake** **81.41 23** *e*P **P** **20 39 43.2 -0.9**
comp=E,46nm,1.7s
IL1 **Eielson Array** **81.61 22** *e*P **P** **20 39 41.3 -3.9**
ILAR **Eielson Array** **81.61 22** P **P** **20 39 41.8 -3.4**
comp=E,7.1nm,0.7s,baz=247,slow=5.5,SNR=51
ILAR LR LR 21 13 16.5
comp=E,1µm,19.8s,baz=268,slow=34
ILB **Eielson Array** **81.61 22** *e*P **P** **20 39 42.0 -3.1**
COLD **Coldfoot** **81.67 19** *e*P **P** **20 39 44.8 -0.6**
comp=E,98nm,1.7s
KDJ **Kajisay** **81.69 313** *e*P **P** **20 39 45.0 -1.3**
comp=E,106nm,1.8s
BALM **Baldy** **81.84 27** *e*P **P** **20 39 45.4 -1.2**
comp=E,25nm,1.1s
BALM **Baldy** **81.84 27** *e*P **P** **20 39 45.4 -1.2**
BALM pmax pmax
comp=Z,25nm,1.1s
RIDG **Independ'e Rid** **81.93 24** *e*P **P** **20 39 46.3 -0.7**
comp=Z,49nm,1.2s
KSH **Kashi** **82.03 311** P **P** **20 39 49.8 +1.7**
KSH sP pP 20 39 57.4 -1.7
KSH PP **PP** **20 42 59.8 +3.5**
KSH S **S** **20 50 00.3 0.0**
KSH pmax pmax
comp=Z,55nm,1.7s
KSH pmax pmax
comp=Z,470nm,3.6s
KSH LR LR
comp=Z,160nm,7.0s
KSH LR LR
comp=Z,180nm,5.6s
KSH LR LR
comp=Z,360nm,14.7s
MENT **Mentasta** **82.03 25** *e*PcP **PcP** **20 39 51.2 -1.8**
DOT **Dot Lake** **82.20 24** *e*P **P** **20 39 46.3 -2.0**
comp=Z,96nm,1.1s
SCRK **Sand Creek** **82.37 24** *e*P **P** **20 39 48.4 -1.0**
comp=Z,50nm,1.5s
NRN **Naryn** **82.40 313** *e*P **P** **20 39 47.9 -2.4**
comp=Z,34nm,1.6s
NRN **Naryn** **82.40 313** *e*P **P** **20 39 47.9 -2.4**
NRN pmax pmax
comp=Z,34nm,1.6s
TOLK **Toolik Lake Re** **82.61 18** *e*P **P** **20 39 50.0 -0.4**
comp=Z,98nm,1.9s
KURK **Kurchatov** **82.82 322** *e*P **P** **20 39 49.3 -2.5**
KURK **Kurchatov** **82.82 322** P **P** **20 39 50.7 -1.1**
SNR=32
KURK **Kurchatov** **82.82 322** P **P** **20 39 50.7 -1.1**
SNR=32
KURK **Kurchatov** **82.82 322**⇑ *i*P **P** **20 39 49.6 -2.2**
KURK *i* 20 39 54.6
KURK pmax pmax
comp=Z,35nm,1.3s
KURBB **Kurchatov Arra** **82.85 322** P **P** **20 39 49.3 -2.6**
comp=Z,7.6nm,0.9s,baz=109,slow=4.1,SNR=19
TKM2 **Tokmak 2** **83.00 314** P **P** **20 39 53.4 +0.1**
SNR=14
FYU **Fort Yukon** **83.05 21** *e*P **P** **20 39 52.5 -0.1**
comp=Z,74nm,1.5s
KZA **Kyzart** **83.08 313** P **P** **20 39 55.7 +1.8**
SNR=15
NIL **Nilore** **83.10 304** *e*P **P** **20 39 52.0 -1.7**
comp=Z,52nm,1.3s
NIL **Nilore** **83.10 304** *e*P **P** **20 39 52.0 -1.7**
NIL pmax pmax
comp=Z,52nm,1.3s
CHMS **Chumysh** **83.63 314** P **P** **20 39 57.1 +0.8**
SNR=11
UCH **Uchtor** **83.65 313** P **P** **20 39 55.4 -1.5**
SNR=12
FRU **Bishkek** **83.69 314**⇓ *e*P **P** **20 39 59.0 +2.4**
FRU pmax pmax
comp=Z,200nm,2.0s
AAK **Ala-Archa** **83.74 313** P **P** **20 39 57.3 +0.3**
SNR=12
AAK **Ala-Archa** **83.74 313** *e*P **P** **20 39 55.6 -1.4**
comp=Z,87nm,1.8s
AAK **Ala-Archa** **83.74 313** *e*P **P** **20 39 55.6 -1.4**
AAK pmax pmax
comp=Z,87nm,1.8s
EGAK **Eagle** **83.82 23** *e*P **P** **20 39 55.5 -1.1**
comp=Z,30nm,1.3s
USP **Ospenovka** **83.86 314** P **P** **20 39 58.4 +0.9**
SNR=17
HYT **Haines Junctio** **83.96 28** *e*P **P** **20 39 55.5 -2.1**
comp=Z,36nm,1.0s
AML **Almayashu** **84.23 313** P **P** **20 39 58.9 -0.9**
SNR=22
DAWY **Dawson** **84.26 24** *e*P **P** **20 39 57.6 -1.4**
comp=Z,64nm,1.8s
EKS2 **Erkin-Say** **84.27 313** P **P** **20 39 58.0 -1.6**
SNR=12
BESE **Bessie Mountai** **84.54 30** *e*P **P** **20 40 00.5 -0.1**
comp=Z,54nm,1.4s
WHY **Whitehorse** **85.13 28** *e*P **P** **20 40 02.5 -1.0**
comp=Z,48nm,1.8s
QSPA **South Pole Qui** **85.96 180** P **P** **20 40 07.2 -0.5**
comp=Z,12nm,0.8s,baz=354,slow=2.0,SNR=10.0
KK06 **Karatay Array** **86.70 313** *e*P **P** **20 40 09.2 -2.4**
KK05 **Karatay Array** **86.70 313** *e*P **P** **20 40 09.9 -1.7**
KK02 **Karatay Array** **86.71 313** *e*P **P** **20 40 08.9 -2.8**
KK31 **Karatay Array** **86.71 313** *e*P **P** **20 40 09.7 -1.9**
KK31 **Karatay Array** **86.71 313** *e*P **P** **20 40 09.7 -1.9**
KKAR **Karatay Array** **86.71 313** *e*P **P** **20 40 09.7 -1.9**
KKAR **Karatay Array** **86.71 313** *e*P **P** **20 40 09.7 -1.9**
KK01 **Karatay Array** **86.71 313** *e*P **P** **20 40 09.0 -2.6**
KK04 **Karatay Array** **86.71 313** *e*P **P** **20 40 09.2 -2.5**
KK07 **Karatay Array** **86.71 313** *e*P **P** **20 40 09.8 -1.8**
KK03 **Karatay Array** **86.72 313** *e*P **P** **20 40 09.1 -2.6**
KK09 **Karatay Array** **86.72 313** *e*P **P** **20 40 09.9 -1.7**
KK08 **Karatay Array** **86.72 313** *e*P **P** **20 40 10.2 -1.5**
DLBC **Dease Lake** **86.96 31** *e*P **P** **20 40 12.4 -0.2**
comp=Z,88nm,1.9s
INK **Inuvik** **87.89 21** *e*P **P** **20 40 16.4 -0.3**
comp=Z,33nm,1.5s
INK **Inuvik** **87.89 21** *e*P **P** **20 40 16.4 -0.3**
INK pmax pmax
comp=Z,33nm,1.5s
BVAR **Borovoye Array** **88.29 323** P **P** **20 40 15.8 -3.2**
comp=Z,5.6nm,0.5s,baz=108,slow=6.1,SNR=46
BVAR LR LR 21 19 55.7
comp=Z,207nm,20.5s,baz=89,slow=36
BRVK **Borovoye** **88.36 323** *e*P **P** **20 40 16.2 -3.1**
comp=Z,22nm,0.8s
BRVK **Borovoye** **88.36 323** P **P** **20 40 18.3 -1.0**
SNR=18
BRVK **Borovoye** **88.36 323** P **P** **20 40 18.3 -1.0**
SNR=18
BRVK **Borovoye** **88.36 323**⇑ *i*P **P** **20 40 18.1 -1.2**
BRVK *i* 20 40 20.4
BRVK pmax pmax
comp=Z,28nm,1.2s
YBH **Yreka Blue Hor** **88.90 48** LR LR 21 13 49.6
comp=Z,2µm,20.1s,baz=240,slow=31
BEKR **Beckworth** **90.50 50** *e*P **P** **20 40 33.3 +3.4**
comp=Z,31nm,0.6s
YERR **Yerington** **91.29 51** *e*P **P** **20 40 31.3 -2.3**
comp=Z,7.1nm,0.8s
NVAR **Mina Array Bea** **91.99 52** LR LR 21 17 46.2
comp=Z,1µm,18.5s,baz=90,slow=33
AB06 **Akbulak array** **94.51 319** *e*P **P** **20 40 44.3 -3.7**
AB07 **Akbulak array** **94.52 319** *e*P **P** **20 40 43.9 -4.1**
AB02 **Akbulak array** **94.53 319** *e*P **P** **20 40 44.4 -3.6**
AB01 **Akbulak array** **94.53 319** *e*P **P** **20 40 44.8 -3.2**
AB03 **Akbulak array** **94.53 319** *e*P **P** **20 40 44.8 -3.3**
AB05 **Akbulak array** **94.53 319** *e*P **P** **20 40 44.4 -3.6**
AB31 **Akbulak array** **94.53 319** *e*P **P** **20 40 44.4 -3.7**
AB31 **Akbulak array** **94.53 319** *e*P **P** **20 40 44.4 -3.7**
ABKAR **Akbulak array** **94.53 319** *e*P **P** **20 40 44.3 -3.7**
AB04 **Akbulak array** **94.53 319** *e*P **P** **20 40 44.5 -3.6**
AB08 **Akbulak array** **94.54 319** *e*P **P** **20 40 44.5 -3.6**
AB09 **Akbulak array** **94.55 319** *e*P **P** **20 40 44.0 -4.1**
YKA **Yellowknife Ar** **94.95 28** P **P** **20 40 47.8 -1.9**
comp=Z,1.0nm,0.9s,baz=270,slow=4.4,SNR=10
YKA PP **PP** **20 44 34.7 -4.2**
comp=Z,0.3nm,0.7s,baz=265,slow=7.5,SNR=4.9
ARU **Arti** **95.37 326** P **P** **20 40 48.1 -3.6**
comp=Z,1.9nm,0.5s,baz=106,slow=6.5,SNR=3.2
ARU **Arti** **95.37 326** *e*P **P** **20 40 49.7 -2.0**
comp=Z,28nm,1.5s
ARU **Arti** **95.37 326** P **P** **20 40 49.0 -2.7**

ARU						20 44 38.8	
ARU				S	SKSac	20 51 21.8	-3.1
ARU				MLR	MLR		
	comp=Z,424nm,19.0s						
RPN	Rapa Nui	95.64	118	LR	LR	21 15 52.5	
	comp=Z,130nm,21.7s,baz=274,slow=30						
GEYT	Alibeck	95.72	308	LR	LR	21 26 17.3	
	comp=Z,126nm,19.9s,baz=90,slow=37						
AKTO	Aktyubinsk	95.78	320	P	P	20 40 50.4	-3.3
	comp=Z,3.7nm,0.7s,baz=78,slow=5.6,SNR=5.3						
AKTO				LR	LR	21 26 49.5	
	comp=Z,205nm,18.9s,baz=75,slow=37						
LPIG	La Paz	98.37	66	LR	LR	21 20 45.5	
	comp=Z,1µm,18.2s,baz=234,slow=32						
PDAR	Pinedale Array	98.68	48	PP	PP	20 45 08.6	0.0
	comp=Z,1.9nm,0.9s,baz=266,slow=5.9,SNR=6.8						
PDAR				LR	LR	21 19 50.7	
	comp=Z,897nm,20.2s,baz=270,slow=32						
MAK	Makhachkala	103.52	313	eP	Pdif	20 41 26.1	-2.4
MAK				i		20 45 45.6	
TXAR	Lajitas Array	104.19	61	PP	PP	20 45 51.3	+0.9
	comp=Z,0.9nm,1.1s,baz=258,slow=3.6,SNR=3.9						
APA	Apatity	104.41	340	⇑iP	Pdif	20 41 33.4	+1.5
APA				pmax	pmax		
	comp=Z,1.0nm,22.0s						
KLMR	Klimovskoe	104.44	332	ePdif	Pdif	20 41 29.4	-2.8
KLMR				AMP		20 41 35.1	
	comp=Z,17nm,1.5s						
KLMR				LQ	LQ	21 24 40.2	
KLMR				LQ	LQ	21 24 40.2	
KLMR				LR	LR	21 30 57.7	
KLMR	Klimovskoe	104.44	332	eP	Pdif	20 41 29.3	-2.9
KLMR				pmax	pmax		
	comp=Z,17nm,1.5s						
KVAR	Kislovodsk Arr	106.82	315	PP	PP	20 46 11.6	+2.2
	comp=Z,1.2nm,0.5s,baz=21,slow=15,SNR=5.2						
ULM	Lac du Bonnet	106.93	39	PP	PP	20 46 07.8	-2.0
	comp=Z,1.2nm,0.7s,baz=303,slow=7.3,SNR=4.0						
BRTR	Keskin Array B	114.39	312	PKKPbc	PKKPbc	20 56 43.9	-4.5
	comp=Z,0.4nm,0.8s,baz=256,slow=4.0,SNR=2.4						
STHS	Stebnicka Huta	118.70	326	ePKP	PKPdf	20 46 18.2	+2.5
STHS	Stebnicka Huta	118.70	326	ePKIKP	PKPdf	20 46 18.2	+2.5
GOGA	Godfrey	120.50	53	eSdif	Sdif	20 55 29.6	-7.0
CLL	Collm	121.90	331	ePKPdf	PKPdf	20 46 23.0	+1.3
CLL				ePPS	PPS	20 59 14.0	
CLL				eSS	SS	21 04 30.0	+0.1
CLL				eSSS	SSS	21 09 00.0	
CLL				eSSSS		21 12 30.0	
CLL				Lm	MLR	21 41 00.0	
	comp=N,300nm,21.4s						
CLL				Lm	MLR	21 41 00.0	
	comp=E,200nm,21.1s						
CLL				Lm	MLR	21 41 00.0	
	comp=Z,600nm,20.3s						
CLL	Collm	121.90	331	ePKIKP	PKPpre	20 46 16.0	
CLL				MLR	MLR		
	comp=Z,600nm,20.3s						
KHC	Kasperske Hory	122.99	329	ePKPdf	PKPdf	20 46 23.9	-0.1
KHC	Kasperske Hory	122.99	329	ePKIKP	PKPdf	20 46 23.9	-0.1
GEC2	GERESS Array S	123.10	329	ePKPdf	PKPdf	20 46 21.7	-2.6
GEC2	GERESS Array S	123.10	329	ePKIKP	PKPdf	20 46 21.7	-2.6
GERES	GERESS Array B	123.10	329	PKP	PKPdf	20 46 21.7	-2.6
	comp=Z,0.8nm,0.7s,baz=352,slow=2.0,SNR=3.0						
GERES				PKKPbc	PKKPab	20 56 15.3	-0.2
	comp=Z,0.3nm,0.7s,baz=148,slow=38,SNR=2.6						
GEA0	GERESS Array S	123.11	329	ePKPdf	PKPdf	20 46 22.0	-2.3
LPAZ	La Paz	135.25	118	PKP	PKPdf	20 46 48.9	0.0
	comp=Z,2.9nm,0.8s,baz=254,slow=0.9,SNR=5.0						
LPAZ	La Paz	135.25	118	ePKPdf	PKPdf	20 46 46.7	-2.2
LPAZ	La Paz	135.25	118	ePKIKP	PKPdf	20 46 46.7	-2.2
SDV	Santo Domingo	137.10	81	ePKPdf	PKPdf	20 46 49.5	-2.4
CPUP	Villa Florida	138.40	138	PKP	PKPdf	20 46 53.6	-0.2
	comp=Z,5.4nm,0.9s,baz=216,slow=2.0,SNR=4.6						
CPUP	Villa Florida	138.40	138	ePKPdf	PKPdf	20 46 51.6	-2.1
CPUP	Villa Florida	138.40	138	ePKIKP	PKPdf	20 46 51.6	-2.1
SPB	Sao Paulo	146.51	146	ePKPbc	PKPdf	20 47 08.6	+0.5
TOA0	Torodi Ar. Sit	149.57	289	ePKPdf	PKPdf	20 47 11.8	-1.6
TORD	Torodi Ar. Bea	149.57	289	PKPbc	PKPdf	20 47 14.5	+1.1
	comp=Z,76nm,0.8s,baz=80,slow=2.2,SNR=1.5						
TOA1	Torodi Ar. Sit	149.57	289	ePKPbc	PKPdf	20 47 14.5	+1.1

IDC ***04*** *20:32:31.2±0.9, 30°.56S×177°.53W, h0km, mb4.8/4, mb1 4.8/5, mb1mx4.1/44, mbtmp4.7/5, ML4.0/1, MS4.4/3, Ms1 4.4/3, ms1mx3.5/39, Error ellipse: s-maj=28.5km s-min=22.7km az=125.0*

ISCJB ***04*** *20:32:32.8±1.0, 30°.54S±0°.09×177°.3W±0°.2, h33km, mb4.7/10, MS4.5/3, Error ellipse: s-maj=20.6km s-min=12.3km az=14.1*

NEIC ***04*** *20:32:33.4±7.6, 30°.46S×177°.52W, h15km±44km, mb4.8/9, Error ellipse: s-maj=19.7km s-min=12.6km az=221.0*

ISC 04 20:32:35.4±0.7**, 30°.60S**±0°.09**×177°.4W**±0°.1**, h33km, n71, σ1s29**/60**, mb4.8**/10**, MS4.4**/3**, Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	1.41	342	Pn	Pn	20 32 57.2	-1.5
	381nm,0.3s,baz=105,slow=9.5,SNR=15						
RAO	Raoul Island	1.41	342	ePn	Pn	20 32 57.1	-1.6
URZ	Urewera	8.88	209	Pn	Pn	20 34 38.5	-2.9
	1.8nm,0.3s,baz=267,slow=4.7,SNR=7.6						
URZ				Sn	Sn	20 36 16.7	-3.5
	12nm,0.3s,baz=215,slow=22,SNR=9.8						
THZ	Tophouse	13.60	212	ePn	Pn	20 35 48.9	+3.0
OXZ	Oxford	15.23	211	ePn	Pn	20 36 06.8	-1.2
	29nm,0.9s						
PAE	Paea	28.39	69	eT	T	21 08 06.9	
	4.6nm,0.3s						
PPT2	Papeete2	28.43	69	eLR	LR	20 45 36.8	
	434nm,26.8s						
VAH	Vaihoa	31.28	67	eT	T	21 11 45.3	
	17nm,0.2s						
CTA	Charters Tower	34.33	279	P	P	20 39 20.0	+0.9
	15nm,0.7s,baz=105,slow=11,SNR=19						
CTAO	Charters Tower	34.33	279	eP	P	20 39 19.8	+0.6
	54nm,1.4s						
STKA	Stephens Creek	34.93	257	P	P	20 39 25.4	+1.2
	14nm,0.7s,baz=102,slow=12,SNR=28						
STKA	Stephens Creek	34.93	257	eP	P	20 39 25.4	+1.2
	4.2nm,0.9s						
BBOO	Buckleboo	39.40	254	eP	P	20 40 02.0	-0.1
	119nm,1.9s						
TAOE	Nuku Hiva Isla	40.92	66	eLR	LR	20 51 19.6	
	288nm,26.5s						
AS31	Alice Springs	43.60	267	eP	P	20 40 36.5	-0.2
	1.4nm,0.7s						
ASAR	Alice Springs	43.60	267	P	P	20 40 35.4	-1.3
	2.3nm,0.5s,baz=106,slow=7.3,SNR=31						
WB2	Warramunga Arr	44.60	272	eP	P	20 40 43.4	-1.4
	9.0nm,0.8s						
WR1	Warramunga Arr	44.61	272	eP	P	20 40 43.6	-1.2
	13nm,1.0s						
WRA	Warramunga Arr	44.61	272	P	P	20 40 43.6	-1.2
	4.8nm,0.3s,baz=110,slow=8.1,SNR=92						
WRA				LR	LR	20 57 27.9	
	comp=Z,432nm,20.7s,baz=170,slow=34						
CASY	Casey	55.20	208	eP	P	20 42 05.5	+0.9
	15nm,0.6s						
BATI	Baumata	58.18	277	LR	LR	21 05 12.2	
	comp=Z,247nm,21.7s,baz=108,slow=34						
SNAA	Sanae	77.95	178	P	P	20 44 39.1	+9.4
VNA3	Neumayer Olymp	78.08	176	P	P	20 44 41.0	+11
VNA2	Neumayer--Watz	78.52	177	P	P	20 44 43.5	+11
	baz=181,slow=3.5						
VNA1	Neumayer--Stat	78.74	176	P	P	20 44 42.7	+8.6
COA	Coachella	86.33	48	eP	P	20 45 13.1	-1.0
WVOR	Wild Horse Val	90.55	39	eP	P	20 45 30.3	-3.7
	3.5nm,0.5s						
TXAR	Lajitas Array	92.07	57	LR	LR	21 22 10.7	
	comp=Z,326nm,19.2s,baz=0.0,slow=32						
PDAR	Pinedale Array	95.93	43	PKKPbc	PKKPbc	21 02 49.3	+0.9
	0.3nm,0.6s,baz=72,slow=4.8,SNR=3.8						
YKA	Yellowknife Ar	105.40	25	PKKPbc	PKKPbc	21 02 20.8	-0.5
	0.1nm,0.3s,baz=50,slow=3.0,SNR=3.7						
MK31	Makanchi Array	118.29	310	ePKPdf	PKPdf	20 51 18.6	-0.5
MK32	Makanchi Array	118.29	310	ePKPdf	PKPdf	20 51 18.9	-0.1
MKAR	Makanchi Array	118.29	310	PKP	PKPdf	20 51 18.9	-0.1
	0.8nm,0.6s,baz=189,slow=0.7,SNR=9.5						
MKAR	Makanchi Array	118.29	310	ePKPdf	PKPdf	20 51 18.7	-0.3
NRN	Naryn	121.26	303	ePKPdf	PKPdf	20 51 26.6	+1.3
KURBB	Kurchatov Arra	121.59	314	PKP	PKPdf	20 51 25.0	-0.2
	2.2nm,0.6s,baz=107,slow=1.8,SNR=25						
AAK	Ala-Archa	122.64	304	ePKPdf	PKPdf	20 51 28.7	+1.0
KK06	Karatay Array	125.59	303	ePKPdf	PKPdf	20 51 33.8	+0.6
KK05	Karatay Array	125.60	303	ePKPdf	PKPdf	20 51 34.1	+0.9
KK02	Karatay Array	125.60	303	ePKPdf	PKPdf	20 51 33.8	+0.7
KK31	Karatay Array	125.60	303	ePKPdf	PKPdf	20 51 34.1	+1.0
KKAR	Karatay Array	125.60	303	ePKPdf	PKPdf	20 51 34.1	+0.9
KK01	Karatay Array	125.61	303	ePKPdf	PKPdf	20 51 34.1	+0.9
KK04	Karatay Array	125.61	303	ePKPdf	PKPdf	20 51 34.1	+1.0
KK07	Karatay Array	125.61	303	ePKPdf	PKPdf	20 51 33.8	+0.6
KK03	Karatay Array	125.61	303	ePKPdf	PKPdf	20 51 33.9	+0.7
BVAR	Borovoye Array	126.90	316	PKP	PKPdf	20 51 36.3	+1.0
	2.7nm,0.6s,baz=99,slow=1.3,SNR=16						
ARA0	ARCESS Array S	138.89	348	ePKPdf	PKPdf	20 51 58.6	+1.3
ARCES	ARCESS Array B	138.89	348	PKP	PKPdf	20 51 58.6	+1.3
	2.7nm,0.8s,baz=27,slow=4.2,SNR=4.0						
AKH	Akhalkalaki	145.48	300	ePKPdf	PKPab	20 52 11.4	+0.9
FIA1	FINESS Array S	145.50	340	ePKPdf	PKPdf	20 52 09.5	+0.2
FIA0	FINESS Array S	145.50	340	ePKPdf	PKPdf	20 52 09.7	+0.4
FINES	FINESS Array B	145.50	340	PKPbc	PKPdf	20 52 09.7	+0.4
	21nm,0.7s,baz=64,slow=3.4,SNR=122						
OBN	Obninsk	145.62	325	ePKPdf	PKPab	20 52 10.6	+0.3
KBZ	Khabaz	145.64	304	PKPbc	PKPab	20 52 11.0	+0.2
	1.8nm,0.8s,baz=200,slow=2.9,SNR=7.7						
NC303	NORSAR Array S	148.82	352	ePKPbc	PKPbc	20 52 19.7	+0.9
NB2	NORSAR Subarra	149.02	352	PKP	PKPbc	20 52 19.6	+0.2
	comp=Z,1.9nm,0.7s,baz=13,slow=2.6						
NB200	NORSAR Array S	149.02	352	ePKPbc	PKPbc	20 52 20.2	+0.9
NOA	NORSAR Array B	149.02	352	PKPbc	PKPbc	20 52 20.2	+0.9
	comp=Z,3.1nm,0.8s,baz=14,slow=4.2,SNR=8.7						
HFS	Hagfors	149.53	349	PKPbc	PKPbc	20 52 21.6	+1.0
	comp=Z,5.7nm,0.8s,baz=115,slow=2.1,SNR=8.3						
AKASG	Malin Array Be	151.76	323	PKPbc	PKPbc	20 52 26.6	+0.4
	comp=Z,8.6nm,0.7s,baz=49,slow=3.0,SNR=40						
AKBB	Malin Array Si	151.76	323	ePKPbc	PKPbc	20 52 26.9	+0.8
AK11	Malin Array Si	151.80	323	ePKPbc	PKPbc	20 52 26.9	+0.7
MMAI	Mount Meron Ar	152.07	284	PKPbc	PKPbc	20 52 29.2	+1.7
	comp=Z,3.0nm,0.5s,baz=75,slow=6.1,SNR=13						
ILGA	Ilgaz	152.82	301	ePKPbc	PKPbc	20 52 30.6	+1.4
BR101	Keskin Array S	153.14	298	ePKPbc	PKPbc	20 52 29.9	+0.1
BR131	Keskin Array S	153.14	298	ePKPbc	PKPbc	20 52 30.2	+0.4
BRTR	Keskin Array B	153.14	298	PKPbc	PKPbc	20 52 29.9	+0.1
	comp=Z,1.8nm,0.8s,baz=113,slow=2.8,SNR=10.0						
BR231	Keskin MP Arra	153.77	299	ePKPbc	PKPbc	20 52 30.7	-0.4
TORD	Torodi Ar. Bea	162.62	177	PKPab	PKPab	20 53 24.7	+2.0
	comp=Z,56nm,0.7s,baz=174,slow=4.1,SNR=1.8						
TOA1	Torodi Ar. Sit	162.62	177	ePKPab	PKPab	20 53 24.7	+2.0

JMA 04 20:33:59.5±0.5**, 40°.65N×145°.13E, h45km, M3.6, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JEM	Erimo	2.02	313	P	Pn	20 34 33.5	+2.5
JEM				eS	Sn	20 34 54.7	-0.3
JAK	Akkeshi	2.37	352	eS	Sn	20 35 02.5	-1.1
JCH	Churui	2.37	327	P	Pn	20 34 37.2	+1.4
JCH				eS	Sn	20 35 02.9	-0.7
JNBK	Urakawa-nobuka	2.42	313	eS	Sn	20 35 05.6	+0.7
JTH	Tanohata	2.60	255	P	Pn	20 34 40.5	+1.5
NEM2	Nemuro 2	2.75	9	P	Pn	20 34 42.0	+0.9
NEM2				eS	Sn	20 35 11.7	-1.3
JANG	Nango	2.77	265	P	Pn	20 34 43.1	+1.7
JANG				eS	Sn	20 35 12.3	-1.3
JAR	Ashorobuto	2.83	339	P	Pn	20 34 43.1	+0.9
JAR				eS	Sn	20 35 15.2	+0.1
JTM	Tenmabayashi	3.09	274	P	Pn	20 34 47.3	+1.6
JTM				eS	Sn	20 35 20.6	-0.8
JFR	Furan	3.15	324	P	Pn	20 34 48.2	+1.7
JFR				eS	Sn	20 35 21.5	-1.3
JOM	Ohasama	3.17	249	P	Pn	20 34 49.2	+2.3
JOM				eS	Sn	20 35 23.7	+0.3
JOT	Ohata	3.17	285	P	Pn	20 34 48.5	+1.6
JOT				S	Sn	20 35 22.7	-0.8
JKB	Kayabe	3.33	293	P	Pn	20 34 49.5	+0.5
JKB				eS	Sn	20 35 26.4	-0.8
JTKR	Abashiri--Toko	3.44	345	P	Pn	20 34 52.4	+1.9
JTKR				eS	Sn	20 35 29.6	-0.4
JMK	Ichinoseki	3.46	242	P	Pn	20 34 52.5	+1.7
JMK				eS	Sn	20 35 29.6	-0.8

IDC ***04*** *20:35:39.6±0.3, 14°.07N×120°.66E, h135km±3km, mb4.2/35, mb1 4.3/36, mb1mx4.2/67, mbtmp4.6/36, Error ellipse: s-maj=12.3km s-min=7.3km az=61.0*

NEIC ***04*** *20:35:39.3±0.1, 14°.07N×120°.68E, mb4.9/67, Error ellipse: s-maj=3.8km s-min=3.3km az=79.0*

MAN ***04*** *20:35:39, 14°.14N×120°.45E, h115km, mb5.4, ML4.4, MS4.6*

ISCJB ***04*** *20:35:39.1±0.2, 14°.16N±0°.02×120°.63E±0°.03, h139km±2km, mb4.7/125, Error ellipse: s-maj=4.5km s-min=3.1km az=179.2*

BJI ***04*** *20:35:40.0, 14°.10N×120°.84E, h162km, mb4.7/22, mB5.0/10*

MOS ***04*** *20:35:40.6±1.1, 14°.30N×120°.74E, h151km, mb4.6/29, Error ellipse: s-maj=14.5km s-min=6.7km az=114.4*

DJA ***04*** *20:35:44.3±0.7, 14°N±3°×12°1E±°, h179km±7km, M4.7/41, mb4.7/41, mB5.3/8, Mw(mB)4.8/8*

ISC 04 20:35:38.5±0.3**, 14°.15N**±0°.03**×120°.57E**±0°.04**, h122**km±2km**, h122km:pP-P, n345, σ1s77**/400**, mb4.8**/129**, 22C-22D, Luzon**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	Tagaytay City	0.36	98	P	Pn	20 35 58.9	+2.9
	2µm,0.3s,baz=264,slow=2.3,SNR=177						
TGY				S	Sn	20 36 13.5	+4.3
	4µm,0.3s,baz=202,slow=22,SNR=37						
TGY	Tagaytay City	0.36	98	⇓eP	Pn	20 35 58.7	+2.7
TGY				eS	Sn	20 36 14.2	+5.0
LUBP	Lubang	0.52	217	eP	Pn	20 35 58.4	+1.6
LUBP				eS	Sn	20 36 12.6	+2.1
LQP	Lukban	0.95	92	⇑eP	Pn	20 35 53.2	-7.2
BOAC	Boac	1.42	119	eP	Pn	20 36 08.0	+2.8
BOAC				eS	Sn	20 36 29.7	+4.3
PCPH	Palayan	1.49	20	⇑eP	Pn	20 36 07.7	+1.7
PCPH				eS	Sn	20 36 29.0	+2.1
SCZP	Santa Cruz	1.73	339	eP	Pn	20 36 10.5	+1.7
SCZP				eS	Sn	20 36 32.9	+1.0
SJMP	San Jose	1.77	162	eP	Pn	20 36 10.8	+1.6
SJMP				eS	Sn	20 36 33.4	+0.8
GQP	Guinayangan	1.84	97	⇓iP	Pn	20 36 13.2	+3.1
BALP	Baler	1.86	32	eP	Pn	20 36 13.2	+2.9
BALP				eS	Sn	20 36 36.6	+2.0
BUSP	Coron	2.17	190	eP	Pn	20 36 14.7	+0.5
BUSP				eS	Sn	20 36 40.7	-0.7
AUQP	San Andres	2.21	112	eP	Pn	20 36 19.3	+4.6
AUQP				eS	Sn	20 36 56.1	+14
OTRP	Odiongan	2.28	141	eP	Pn	20 36 17.5	+1.9
OTRP				eS	Sn	20 36 45.4	+1.5
BOLP	Bolinao	2.30	344	eP	Pn	20 36 17.6	+1.8
BOLP				eS	Sn	20 36 45.6	+1.1
ENPP	El Nido	3.13	201	eP	Pn	20 36 27.9	+1.2
ENPP				eS	Sn	20 37 03.8	+0.1
RCP	Roxas	3.34	140	⇑eP	Pn	20 36 32.1	+2.7
ABRA	Dolores	3.48	2	eP	Pn	20 36 32.5	+1.3
PVCP	Virac	3.53	99	eP	Pn	20 36 35.4	+3.6
JAP	San Jose, Anti	3.64	158	⇓eP	Pn	20 36 37.8	+4.4
PPR	Puerto Princes	4.71	203	⇓iP	Pn	20 36 49.7	+2.2
SNPH	Sibulan	5.45	151	eP	Pn	20 37 00.9	+3.3
MSLP	Maasin	5.79	133	eP	Pn	20 37 06.2	+3.9
KKM	Kota Kinabalu	9.12	208	ePn	Pn	20 37 49.5	+2.3
MYLDM	Lahad Datu	9.14	193	ePn	Pn	20 37 52.0	+4.5
MPSI	Mapaga	13.74	183	P	P	20 38 53.8	+1.0
SBUM	Sibu	14.25	216	ePn	P	20 38 56.8	-1.6
JOW	Kunigami	14.53	29	P	Pn	20 39 00.7	+2.4
	0.9nm,0.3s,baz=350,slow=12,SNR=7.2						
JOW	Kunigami	14.53	29	ePn	Pn	20 39 00.4	+2.1
SMKI	Samarinda	14.88	193	P	P	20 39 05.6	+0.2
MTKI	Muara Teweh, K	16.01	201	P	P	20 39 18.4	+0.4
KSM	Kuching	16.17	220	ePn	P	20 39 20.8	+1.0
	42nm,0.8s						
STKI	Sintang	16.64	213	P	P	20 39 27.5	+2.6
KHON	Khomkaen	17.26	280	P	Pn	20 39 36.7	+4.6
	12nm,0.9s,1µm						
CHBT	CHBT	17.79	268	P	Pn	20 39 42.5	+4.0
	30nm,1.1s						
KBKI	Kotabaru	17.88	194	P	Pn	20 39 40.7	+1.1
CHAI	Chaiyaphum	18.03	278	P	Pn	20 39 43.3	+1.9
	11nm,1.2s,137nm						
BNSI	Bone	18.44	181	P	Pn	20 39 47.7	+1.5
PBKI	Pangkalan Bun	18.93	208	P	Pn	20 39 51.9	-0.1
ENH	Enshi	19.02	329	eP	Pn	20 39 53.2	+0.2
	44nm,1.4s						
PBKT	Sadao Pong	19.05	280	P	Pn	20 39 56.0	+2.6
	16nm,1.4s						
BBSI	Bau Bau	19.61	174	P	P	20 39 59.5	+2.0
BSSI	Bau Bau, Buton	20.16	180	P	P	20 40 04.7	+1.3
PHET	Kaeng Krachan	20.39	269	P	Pn	20 40 10.2	+1.1
	6.3nm,1.1s,120nm						
PAYA	Payao	20.48	287	P	Pn	20 40 11.4	+1.3
	6.5nm,1.0s,178nm						
MYKOM	Kota Tinggi	20.59	235	eP	P	20 40 09.3	+1.3
	28nm,1.1s						
TPRI	Tanjung Pinang	20.61	232	P	P	20 40 08.9	+0.7
JNU	Nakatsue	21.09	25	P	P	20 40 14.6	+1.4
	8.7nm,0.7s,baz=162,slow=5.9,SNR=4.0						
JNU	Nakatsue	21.09	25	eP	P	20 40 14.6	+1.4
	48nm,1.3s						
CM01	Chiang Mai Arr	21.16	284	eP	P	20 40 16.2	+2.1
CM31	Chiang Mai Arr	21.18	285	eP	P	20 40 17.1	+2.8
CMAR	Chiang Mai Arr	21.18	285	P	P	20 40 16.6	+2.3
	9.7nm,0.9s,baz=97,slow=7.5,SNR=21						
CMAR				PcP	PcP	20 44 16.5	+1.2
	0.4nm,0.9s,baz=38,slow=1.5,SNR=4.7						
CMAR				ScP	ScP	20 47 39.1	-2.0
	0.6nm,0.7s,baz=138,slow=1.1,SNR=4.4						
CHTO	Chiang Mai	21.24	286	eP	P	20 40 16.4	+1.4
	10nm,1.0s						
CMAI	Chiengmai2	21.35	289	P	P	20 40 21.0	+4.6
	98nm,0.8s						
TRTT	Trang	21.42	255	P	P	20 40 18.3	+1.4
	11nm,1.0s						
KULM	Kulim	21.50	248	eP	P	20 40 17.5	-0.2
	12nm,0.8s						
IPM	Ipoh	21.52	245	eP	P	20 40 18.2	+0.2
	16nm,0.7s						
TIA	Tai'an	22.18	353	P	P	20 40 26.1	+1.4
TIA				pmax	pmax		
	comp=Z,33nm,0.9s						
GRJI	Gresik	22.41	201	P	P	20 40 27.9	+0.7
XAN	Xi'an	22.44	334	P	P	20 40 26.4	-1.0
XAN				pP	sP	20 40 59.5	-6.1
XAN				pmax	pmax		
	comp=Z,17nm,1.3s						
SRBI	Singaraja	22.72	194	P	P	20 40 31.0	+0.8
BLJI	Banyuglugur	22.83	198	P	P	20 40 32.6	+1.3
TJN	Taejon	22.95	14	eP	P	20 40 31.7	-0.6
PMBI	Palembang	23.09	224	P	P	20 40 34.1	+0.3
SOEI	Soe	24.04	171	eP	P	20 40 40.8	-1.7
	40nm,1.0s						
KS15	Wonju Array Si	24.09	14	eP	P	20 40 42.5	-0.2
KSAR	Wonju Array Be	24.09	14	P	P	20 40 42.5	-0.2
KSRS	Korea Array	24.11	14	P	P	20 40 42.5	-0.4
	6.6nm,1.0s,baz=192,slow=10,SNR=9.6						
TSI	Tuntungan	24.15	246	P	P	20 40 37.9	-5.5
PSI	Prapat	24.16	244	P	P	20 40 44.5	+0.8
	35nm,0.8s,baz=55,slow=5.3,SNR=30						
PSI	Prapat	24.16	244	eP	P	20 40 44.0	+0.3
	37nm,0.8s						
KPJI	Karang Pucung	24.27	209	P	P	20 40 46.6	+2.1
BATI	Baumata	24.39	173	P	P	20 40 44.4	-1.2
LEM	Lembang	24.48	212	P	P	20 40 48.8	+2.1
	30nm,0.9s,baz=335,slow=23,SNR=6.0						
MNSI	Mandailing Nat	24.64	239	P	P	20 40 47.9	0.0
MDSI	Maura Dua	24.64	222	P	P	20 40 48.3	+0.4
KCSI	Kotacane, Aceh	24.84	247	P	P	20 40 50.2	+0.4
CISI	Cisompet, Garu	25.00	211	P	P	20 40 52.9	+1.7
MASI	Maura Aman, Be	25.01	228	P	P	20 40 52.5	+1.2
LWLI	Liwa	25.12	222	P	P	20 40 53.2	+0.8
GENI	Genyem	25.58	129	P	P	20 40 57.0	+0.6
BJT	Baijiatuau	26.05	352	eP	P	20 41 01.8	+1.4
	53nm,1.2s						
GSI	Gunungsitoli	26.07	243	P	P	20 41 00.1	-0.8
GSI	Gunungsitoli	26.07	243	eP	P	20 41 00.3	-0.5
	42nm,0.9s						
PBA	Port Blair	27.23	268	eP	P	20 41 10.5	-0.7
	34nm,1.1s						
MAJO	Matsushiro	27.32	32	eP	P	20 41 09.6	-2.2
MAJO				pmax	pmax		
	comp=Z,12nm,1.1s						
SHL	Shillong	29.20	297	eP	P	20 41 29.3	+0.4
	comp=Z,16nm,1.1s						
GTA	Gaotai	31.09	328	⇓P	P	20 41 47.1	+1.8
GTA				pmax	pmax		
	comp=Z,18nm,1.3s						
GTA				pmax	pmax		
	comp=Z,140nm,5.7s						
GTA				LR	LR		
	comp=Z,480nm,17.3s						
GTA				LR	LR		
	comp=Z,620nm,19.2s						
GTA				LR	LR		
	comp=Z,540nm,18.1s						
LSA	Lhasa	31.25	305	eP	P	20 41 48.8	+1.6
	comp=Z,18nm,1.5s						
LSA				eS	S	20 46 46.9	+1.7
USRK	Ussuriysk Ar.	31.50	16	P	P	20 41 49.6	+0.9
	comp=Z,6.4nm,0.6s,baz=199,slow=5.4,SNR=10						
ODAN	Odare	33.44	297	eP	P	20 42 07.6	+1.4
	comp=Z,28nm,0.9s						
RAMN	Ramite	34.14	297	eP	P	20 42 13.8	+1.5
	comp=Z,20nm,0.7s						
JIRN	Jiri	34.68	298	eP	P	20 42 18.5	+1.4
	comp=Z,33nm,0.6s						
GUN	Gumba	35.01	299	eP	P	20 42 21.3	+1.4
	comp=Z,26nm,0.6s						
HIA	Hailar	35.02	359	i P	P	20 42 19.3	0.0
PMG	Port Moresby	35.27	130	P	P	20 42 21.3	-0.5
	comp=Z,27nm,0.8s,baz=316,slow=7.2,SNR=10						
PMG	Port Moresby	35.27	130	eP	P	20 42 21.3	-0.5
	comp=Z,41nm,1.0s						
PMG	Port Moresby	35.27	130	⇓iP	P	20 42 21.2	-0.5
PMG				pmax	pmax		
	comp=Z,173nm,1.2s						
PKIN	Phulchoki	35.34	298	eP	P	20 42 23.6	+1.0
	comp=Z,10nm,0.5s						
ULN	Ulaanbaatar	35.44	344	eP	P	20 42 24.0	+0.9
	comp=Z,49nm,1.4s						
ULN	Ulaanbaatar	35.44	344	d iP	P	20 42 24.6	+1.6
ULN				pmax	pmax		
	comp=Z,44nm,1.7s						
KKN	Kakani	35.49	298	eP	P	20 42 25.0	+1.2
	comp=Z,13nm,0.7s						
SONA0	Songino Array	35.59	344	eP	P	20 42 25.5	+1.3
SONM	Songino Array	35.59	344	P	P	20 42 25.5	+1.3
	comp=Z,12nm,0.5s,baz=164,slow=9.8,SNR=51						
DMN	Daman	35.59	298	eP	P	20 42 25.8	+1.0
	comp=Z,13nm,0.7s						
SONA1	Songino Array	35.60	344	eP	P	20 42 25.0	+0.6
COEN	Coen	35.79	140	eP	P	20 42 24.4	-1.8
	comp=Z,6.5nm,0.8s						
GKN	Gorkha	36.10	298	eP	P	20 42 29.7	+0.8
	comp=Z,43nm,1.2s						
KLR	Kul'dur	36.17	12	P	P	20 42 29.7	+0.7
	comp=Z,1.2nm,0.7s,baz=233,slow=7.3,SNR=44						
KLR				PcP	PcP	20 44 52.1	+0.1
	comp=Z,0.3nm,0.9s,baz=249,slow=2.4,SNR=4.5						
KLR	Kul'dur	36.17	12	⇓iP	P	20 42 28.7	-0.3
WR1	Warramunga Arr	36.49	158	eP	P	20 42 30.1	-2.0
	comp=Z,21nm,0.7s						
WR1				epP	pP	20 43 00.2	+1.0
WR1				eS	S	20 47 56.1	-9.2
WRA	Warramunga Arr	36.49	158	P	P	20 42 30.1	-2.0
	comp=Z,12nm,0.6s,baz=337,slow=9.4,SNR=30						
WRA				pP	pP	20 43 00.2	+1.0
	comp=Z,9.6nm,0.9s,baz=337,slow=9.4,SNR=5.0						
WRA				S	S	20 47 56.1	-9.2
	comp=Z,5.1nm,1.1s,baz=340,slow=15,SNR=9.0						
WB2	Warramunga Arr	36.49	158	eP	P	20 42 29.4	-2.7
WB2				eS	S	20 47 56.4	-9.0
KOLN	Koldanda	36.93	298	eP	P	20 42 37.1	+1.0
DANN	Dangsing	36.93	299	eP	P	20 42 37.5	+1.3
PYUN	Piuthan	37.53	298	eP	P	20 42 42.4	+1.3
	comp=Z,74nm,1.3s						
ZAK	Zakamensk	38.77	342	eP	P	20 42 50.5	-0.6
ZAK				pmax	pmax		
	comp=Z,8.0nm,1.0s						
AS31	Alice Springs	39.79	161	eP	P	20 42 58.5	-1.2
	comp=Z,3.9nm,0.6s						
AS31				eScP	ScP	20 48 37.6	-3.9
AS31				eS	S	20 48 48.6	-6.4
ASAR	Alice Springs	39.79	161	P	P	20 42 58.0	-1.7
	comp=Z,7.8nm,0.5s,baz=337,slow=6.7,SNR=83						
ASAR				pP	pP	20 43 29.3	+2.1
	comp=Z,7.9nm,0.7s,baz=335,slow=7.5,SNR=6.9						
ASAR				ScP	ScP	20 48 37.6	-3.9
	comp=Z,0.4nm,0.8s,baz=14,slow=2.6,SNR=4.6						

ASAR S S 20 48 48.1 -6.9
comp=Z,6.9nm,0.9s,baz=345,slow=19,SNR=28
AS01 Alice Springs 39.80 161 *eP* P 20 42 58.1 -1.8
TLY Talaya 39.83 344 *eP* P 20 43 01.0 +1.2
comp=Z,5.8nm,0.7s
TLY Talaya 39.83 344 *eP* P 20 43 00.9 +1.1
TLY pmax pmax
comp=Z,6.0nm,0.9s
MOY Mondy 40.60 341 *eP* P 20 43 07.5 +1.3
MOY pmax pmax
comp=Z,14nm,1.7s
CTA Charters Tower 42.38 143 P P 20 43 20.9 -0.1
comp=Z,12nm,0.7s,baz=314,slow=8.6,SNR=18
HVS Khovu-Aksy 42.79 335⇑ *iP* P 20 43 26.1 +2.1
DGZ Jazzator, Alta 44.58 330⇑ *iP* P 20 43 40.0 +1.5
DGZ pmax pmax
comp=Z,5.0nm,1.0s
FORT Forrest 45.25 171 *eP* P 20 43 42.6 -1.1
comp=Z,58nm,0.6s
MK01 Makanchi Array 45.57 323 *eP* P 20 43 47.3 +1.1
MK31 Makanchi Array 45.59 323 *eP* P 20 43 47.9 +1.5
MK32 Makanchi Array 45.59 323 *eP* P 20 43 47.6 +1.2
MK32 *ep*P **pP** 20 44 19.2 +4.7
MK32 *e*PcP **PcP** 20 45 22.8 0.0
MK32 *e*ScP **ScP** 20 49 02.1 -2.4
MKAR Makanchi Array 45.59 323 P P 20 43 47.6 +1.2
comp=Z,3.7nm,0.7s,baz=111,slow=7.7,SNR=33
MKAR pP **pP** 20 44 19.2 +4.7
comp=Z,4.9nm,1.0s,baz=122,slow=8.7,SNR=4.3
MKAR PcP **PcP** 20 45 22.8 0.0
comp=Z,4.6nm,0.9s,baz=123,slow=4.5,SNR=6.1
MKAR ScP **ScP** 20 49 02.1 -2.4
comp=Z,1.0nm,0.8s,baz=110,slow=5.3,SNR=5.1
MKAR Makanchi Array 45.59 323 *eP* P 20 43 47.9 +1.5
comp=Z,36nm,0.8s
MKAR pP **pP** 20 44 19.2 +4.7
MKAR PcP **PcP** 20 45 22.8 0.0
MKAR ScP **ScP** 20 49 02.1 -2.4
MAKZ Makanchi 45.78 323 *eP* P 20 43 48.9 +1.0
comp=Z,24nm,1.6s
TARG Taragay, Kyrgy 46.04 315 *eP* P 20 43 52.1 +1.7
comp=Z,12nm,1.1s
KDJ Kajisay 46.62 315 *eP* P 20 43 56.9 +2.2
comp=Z,13nm,0.8s
KRAR Krasnoyarsk 46.89 339⇓ *iP* P 20 43 57.6 +1.3
NRN Naryn 47.17 314 *eP* P 20 44 01.1 +2.0
comp=Z,18nm,0.8s
ULHL Ulahol 47.31 315 P P 20 44 01.9 +1.8
SNR=32
KZA Kyzart 47.93 315 P P 20 44 07.2 +2.1
SNR=19
TKM2 Tokmak 2 48.01 316 P P 20 44 07.5 +2.0
SNR=12
YAK Yakutsk 48.26 6 *eP* P 20 44 04.9 -1.8
YAK pmax pmax
comp=Z,18nm,1.0s
YAK pmax pmax
comp=E,2.0nm,1.1s
YAK pmax pmax
comp=N,6.0nm,1.1s
KBK Karagaybulak 48.35 315 P P 20 44 10.0 +1.9
SNR=21
UCH Uchtor 48.49 314 P P 20 44 11.6 +2.1
SNR=27
ZAA0 Zalesovo Array 48.60 333 *eP* P 20 44 09.5 0.0
comp=N,12nm,1.1s
ZALV Zalesovo Beam 48.60 333 P P 20 44 09.6 +0.1
comp=N,4.3nm,0.5s,baz=127,slow=6.2,SNR=23
ZALV pP **pP** 20 44 40.9 +3.0
comp=N,2.0nm,0.7s,baz=125,slow=6.8,SNR=2.9
ZALV Zalesovo Beam 48.60 333 *eP* P 20 44 09.3 -0.2
ZALV pP **pP** 20 44 40.9 +3.0
ZAA1 Zalesovo Array 48.60 333 *eP* P 20 44 09.6 +0.1
ZAA1 *ep*P **pP** 20 44 40.9 +3.0
CHMS Chumysh 48.61 315 P P 20 44 11.7 +1.7
SNR=13
AAK Ala-Archa 48.66 315 P P 20 44 12.3 +1.9
SNR=9.6
AAK Ala-Archa 48.66 315 *eP* P 20 44 11.8 +1.4
comp=N,8.2nm,0.9s
PETK Petropavlovsk- 48.69 29 P P 20 44 10.9 +0.6
comp=N,11nm,0.8s,baz=195,slow=4.0,SNR=5.9
PEA1 Petropavlovsk- 48.70 29 *eP* P 20 44 10.9 +0.6
USP Ospenovka 48.88 316 P P 20 44 13.3 +1.3
SNR=19
AML Almayashu 49.03 314 P P 20 44 15.8 +2.3
SNR=20
EKS2 Erkin-Say 49.16 315 P P 20 44 16.4 +2.2
SNR=12
KURBB Kurchatov Arra 49.74 326 P P 20 44 19.2 +0.9
comp=N,20nm,0.9s,baz=122,slow=7.9,SNR=75
KURBB pP **pP** 20 44 50.2 +3.5
comp=N,5.3nm,0.9s,baz=122,slow=8.0,SNR=3.6
KURBB PcP **PcP** 20 45 37.2 -0.3
comp=N,3.6nm,1.0s,baz=124,slow=6.2,SNR=4.3
KURK Kurchatov 49.74 326 *eP* P 20 44 19.2 +0.9
KURK *ep*P **pP** 20 44 50.2 +3.5
KURK *e*PcP **PcP** 20 45 37.2 -0.3
KURK Kurchatov 49.74 326 *c iP* P 20 44 19.6 +1.3
KURK pmax pmax
comp=Z,262nm,1.2s
NVS Novosibirsk 49.88 333⇓ *iP* P 20 44 19.9 +0.6
NVS pmax pmax
comp=Z,15nm,1.3s
NVS pmax pmax
comp=N,9.0nm,1.2s
NVS pmax pmax
comp=E,11nm,1.4s
STKA Stephens Creek 50.01 157 P P 20 44 19.5 -1.1
comp=E,5.7nm,0.7s,baz=339,slow=7.7,SNR=10
STKA Stephens Creek 50.01 157 *eP* P 20 44 19.5 -1.1
comp=E,2.6nm,1.0s
MA2 Magadan 50.52 19⇑ *eP* P 20 44 24.6 +0.6
KK06 Karatay Array 51.55 314 *eP* P 20 44 32.8 +0.7
KK05 Karatay Array 51.56 314 *eP* P 20 44 32.6 +0.5
KK02 Karatay Array 51.57 314 *eP* P 20 44 32.8 +0.6
KK31 Karatay Array 51.57 314 *eP* P 20 44 33.4 +1.2
KKAR Karatay Array 51.57 314 *eP* P 20 44 33.3 +1.2
KK07 Karatay Array 51.57 314 *eP* P 20 44 32.9 +0.7
KK01 Karatay Array 51.57 314 *eP* P 20 44 32.8 +0.6
KK04 Karatay Array 51.57 314 *eP* P 20 44 32.8 +0.6
KK03 Karatay Array 51.57 314 *eP* P 20 44 33.0 +0.7
KK09 Karatay Array 51.58 314 *eP* P 20 44 32.9 +0.6
KK08 Karatay Array 51.59 314 *eP* P 20 44 33.1 +0.8
SEY Seymchan 53.62 17⇑ *eP* P 20 44 47.3 +0.4
BVAR Borovoye Array 55.33 326 P P 20 44 59.9 +0.5
comp=E,11nm,0.7s,baz=112,slow=8.5,SNR=44
BVAR PcP **PcP** 20 45 58.0 -0.6
comp=E,2.5nm,0.7s,baz=114,slow=3.5,SNR=3.6
BRVK Borovoye 55.40 326 *eP* P 20 45 00.7 +0.8
comp=E,41nm,0.9s
BRVK Borovoye 55.40 326 *c iP* P 20 45 01.3 +1.4
BRVK pmax pmax
comp=Z,44nm,1.0s
DZM Mont Dzumac 57.61 128 P P 20 45 15.5 -0.7
comp=Z,15nm,0.7s,baz=242,slow=9.7,SNR=11
DZM Mont Dzumac 57.61 128 *eP* P 20 45 14.1 -2.0
comp=Z,85nm,1.7s
TIXI Tiksi 57.69 3 P P 20 45 15.2 -0.6
comp=Z,5.7nm,0.7s,baz=154,slow=4.6,SNR=26
TIXI PcP **PcP** 20 46 06.6 -0.8
comp=Z,3.3nm,0.7s,baz=174,slow=2.8,SNR=3.9
TIXI Tiksi 57.69 3 *eP* P 20 45 15.0 -0.9
comp=Z,35nm,1.7s
TIXI *e*PcP **PcP** 20 46 06.6 -0.8
TIXI Tiksi 57.69 3 *d iP* P 20 45 15.2 -0.6
TIXI pmax pmax
comp=Z,11nm,1.0s
GYB1 ALIBECK ARRAY 59.76 306 *eP* P 20 45 31.8 +0.9
comp=Z,14nm,1.1s
GYB2 ALIBECK ARRAY 59.76 306 *eP* P 20 45 31.6 +0.8
comp=Z,16nm,1.1s
GYA2 ALIBECK ARRAY 59.76 306 *eP* P 20 45 31.0 +0.1
comp=Z,15nm,1.0s
GYA1 ALIBECK ARRAY 59.77 306 *eP* P 20 45 31.7 +0.9
comp=Z,14nm,1.1s
GEYT Alibeck 59.77 306 P P 20 45 32.5 +1.6
comp=Z,8.4nm,1.0s,baz=108,slow=4.8,SNR=16
GYA0 ALIBECK ARRAY 59.77 306 *eP* P 20 45 32.0 +1.1
comp=Z,12nm,1.0s
GYA0B ALIBECK ARRAY 59.77 306 *eP* P 20 45 31.9 +1.0
comp=Z,12nm,1.0s
GYB3 ALIBECK ARRAY 59.77 306 *eP* P 20 45 32.6 +1.7
comp=Z,15nm,1.1s
GYB5 ALIBECK ARRAY 59.77 306 *eP* P 20 45 32.0 +1.1
comp=Z,21nm,1.4s

AB06 Akbulak array 60.29 319 *eP* P 20 45 34.3 +0.1
AB06 *ep*P **pP** 20 46 05.5 +1.8
AB07 Akbulak array 60.29 319 *eP* P 20 45 35.0 +0.8
AB07 *ep*P **pP** 20 46 05.6 +2.0
AB02 Akbulak array 60.31 319 *eP* P 20 45 34.9 +0.6
AB02 *ep*P **pP** 20 46 05.4 +1.7
AB03 Akbulak array 60.31 319 *eP* P 20 45 34.9 +0.6
AB03 *ep*P **pP** 20 46 05.7 +2.0
AB01 Akbulak array 60.31 319 *eP* P 20 45 35.1 +0.8
AB01 *ep*P **pP** 20 46 05.6 +1.8
AB31 Akbulak array 60.31 319 *eP* P 20 45 35.2 +0.9
AB31 *ep*P **pP** 20 46 05.7 +2.0
ABKAR Akbulak array 60.31 319 *eP* P 20 45 35.2 +0.9
ABKAR *ep*P **pP** 20 46 05.7 +2.0
AB04 Akbulak array 60.31 319 *eP* P 20 45 35.1 +0.8
AB04 *ep*P **pP** 20 46 05.8 +2.1
AB05 Akbulak array 60.31 319 *eP* P 20 45 34.9 +0.6
AB05 *ep*P **pP** 20 46 07.3 +3.5
AB08 Akbulak array 60.31 319 *eP* P 20 45 35.1 +0.8
AB08 *ep*P **pP** 20 46 05.8 +2.1
AB09 Akbulak array 60.33 319 *eP* P 20 45 35.2 +0.8
AB09 *ep*P **pP** 20 46 06.5 +2.6
BILL Bilibino 61.32 18 *i* P P 20 45 39.6 -1.2
BILL *i* *PP **sP** 20 46 19.6 -4.1
BILL *i* 20 46 27.9
BILL pmax pmax
comp=Z,11nm,0.9s
AKTO Aktyubinsk 61.79 320 P P 20 45 44.6 +0.4
comp=Z,3.2nm,0.6s,baz=87,slow=8.6,SNR=11
SVE Sverdlovsk 61.95 327 *eP* P 20 45 46.1 +0.8
SVE pmax pmax
comp=Z,51nm,1.0s
ARU Arti 62.94 327 *eP* P 20 45 51.9 +0.2
comp=Z,17nm,0.9s
ARU Arti 62.94 327 *d iP* P 20 45 52.0 +0.2
ARU *PP **PcP** 20 46 27.0 -1.8
ARU 20 48 07.8
ARU S S 20 54 10.2 -1.8
ARU SS **SS** 20 58 11.4 -7.9
ARU pmax pmax
comp=Z,35nm,1.7s
SOKR Solikamsk 64.71 330⇓ *iP* P 20 46 01.0 -2.3
SOKR pmax pmax
comp=Z,24nm,1.2s
MSVF Nonsavu 64.95 117 *eP* P 20 46 07.9 +2.2
GNI Garni 70.24 308 P P 20 46 39.9 +1.2
comp=Z,1.3nm,0.3s,baz=80,slow=4.2,SNR=5.1
GNI Garni 70.24 308 *ceP* P 20 46 40.8 +2.1
GNI pmax pmax
comp=Z,34nm,1.2s
ZEI Tsey 70.78 311 *eP* P 20 46 40.8 -1.3
ZEI pmax pmax
comp=Z,5.0nm,0.9s
RAYN Ar Rayn 70.98 290 *eP* P 20 46 44.0 +0.6
comp=Z,9.8nm,1.0s
AKH Akhalkalaki 71.14 309⇓ *iP* P 20 46 45.3 +1.1
AKH Akhalkalaki 71.14 309 *eP* P 20 46 44.9 +0.7
comp=Z,9.2nm,1.1s
KBZ Khabaz 71.48 312 P P 20 46 46.5 +0.5
comp=Z,5.0nm,1.0s,baz=175,slow=3.6,SNR=12
KVAR Kislovodsk Arr 71.62 312 P P 20 46 47.5 +0.5
comp=Z,8.7nm,0.9s,baz=234,slow=2.7,SNR=10
KIV Kislovodsk 71.63 312 *eP* P 20 46 47.1 +0.1
KIV pmax pmax
comp=Z,14nm,1.0s
VRH Novokhopyorsk 72.12 320 *eP* P 20 46 49.3 -0.3
VRH pmax pmax
comp=Z,20nm,0.7s
KLMR Klimovskoe 73.39 330 *eP* P 20 46 54.2 -2.8
KLMR AMP 20 46 57.2
comp=Z,15nm,0.8s
KLMR *ep*P sP 20 47 33.5 -7.1
KLMR *e*PP **PP** 20 49 39.8 -2.0
KLMR Klimovskoe 73.39 330 *eP* P 20 46 54.1 -2.9
KLMR *e**PP sP 20 47 33.5 -7.1
KLMR *e* 20 49 39.7
KLMR pmax pmax
comp=Z,15nm,0.8s
VSR Storozhevoye 73.73 320 *eP* P 20 46 57.9 -1.2
VSR pmax pmax
comp=Z,10.0nm,0.7s
LPSR Galich'ya Gora 73.82 321 *eP* P 20 46 58.3 -1.3
LPSR pmax pmax
comp=Z,20nm,0.9s
TMCR Tamitsa 74.12 333 *eP* P 20 47 00.5 -0.6
TMCR pmax pmax
comp=Z,14nm,0.6s
OBN Obninsk 75.10 324⇓ *eP* P 20 47 06.6 -0.3
OBN *e**PP **sP** 20 47 47.2 -3.4
OBN *e* 20 49 59.1
OBN *eS* **SKiKP** 20 56 21.9 +3.4
OBN *i* SS **SS** 21 01 19.0 -7.4
OBN pmax pmax
comp=Z,25nm,1.7s
ANN Anapa 75.33 313 *eP* P 20 47 07.2 -1.3
ANN *e**PP **sP** 20 47 47.3 -4.9
ANN *e* 20 50 01.2
ANN *eS* **S** 20 56 34.7 -3.5
ANN *e**SS **sS** 20 57 33.7 +2.8
ANN pmax pmax
comp=Z,27nm,1.6s
IM3 Indian Mountai 75.43 25 *eP* P 20 47 08.5 -0.2
CAST Castle Rocks 76.28 28 *eP* P 20 47 13.8 +0.2
comp=Z,81nm,0.6s
SPU Mount Spurr 76.47 30 *eP* P 20 47 14.7 0.0
KDAK Kodiak Island 76.48 33 *ceP* P 20 47 14.9 +0.1
KDAK *e**SP **sP** 20 47 54.3 -4.3
SKT Skwentna 76.65 29 *eP* P 20 47 15.4 -0.3
comp=Z,679nm,0.6s
BPAW Bear Paw Mtn. 76.72 27 *eP* P 20 47 16.8 +0.8
comp=Z,110nm,0.8s
MLY Manley 76.74 26 *eP* P 20 47 17.1 +0.9
comp=Z,34nm,0.5s
COLD Coldfoot 76.77 24 *eP* P 20 47 17.1 +0.9
comp=Z,10.0nm,0.5s
TOLK Toolik Lake Re 76.88 22 *eP* P 20 47 17.8 +0.8
comp=Z,5.4nm,0.6s
TRF Thorofare Moun 77.08 27 *eP* P 20 47 19.0 +0.7
comp=Z,116nm,0.7s
BRLK Bradley Lake 77.17 31 *eP* P 20 47 18.5 -0.2
comp=Z,86nm,0.7s
MCK McKinley 77.65 27 *eP* P 20 47 21.2 -0.1
comp=Z,351nm,1.4s
MDM Murphy Dome 77.81 26 *eP* P 20 47 22.2 +0.1
comp=Z,57nm,0.8s
WRH Wood River Hil 77.93 26 *eP* P 20 47 23.1 +0.4
comp=Z,82nm,0.8s
CCB Clear Creek Bu 78.03 26 *eP* P 20 47 22.7 -0.6
comp=Z,37nm,0.6s
ILB Eilson Array 78.40 26 *eP* P 20 47 24.5 -0.9
HDA Harding Lake 78.43 26 *eP* P 20 47 24.8 -0.7
comp=Z,91nm,0.7s
MMAI Mount Meron Ar 78.43 301 P P 20 47 27.5 +1.2
comp=Z,3.7nm,0.9s,baz=75,slow=7.8,SNR=3.8
ARA0 ARCESS Array S 78.62 339 *eP* P 20 47 26.5 0.0
ARCES ARCESS Array B 78.62 339 P P 20 47 26.5 0.0
comp=Z,6.5nm,0.8s,baz=77,slow=7.3,SNR=17
BR101 Keskin Array S 78.77 308 *eP* P 20 47 27.7 -0.4
BR131 Keskin Array S 78.77 308 *eP* P 20 47 28.4 +0.3
BRTR Keskin Array B 78.77 308 P P 20 47 27.7 -0.4
comp=Z,2.0nm,0.8s,baz=118,slow=5.0,SNR=11
BRTR Keskin Array B 78.77 308 *ceP* P 20 47 28.2 +0.1
BRTR pmax pmax
comp=Z,2.0nm,0.8s
CSS Mathiatis 79.80 304 *eP* P 20 47 34.2 +0.6
comp=Z,2.9nm,0.8s
FIA1 FINESS Array S 79.83 331 *eP* P 20 47 32.8 -0.3
FIA0 FINESS Array S 79.83 331 *eP* P 20 47 32.7 -0.4
FINES FINESS Array B 79.83 331 P P 20 47 32.7 -0.4
comp=Z,2.8nm,0.6s,baz=56,slow=5.6,SNR=20
AKASG Malin Array Be 80.03 320 P P 20 47 33.6 -0.8
comp=Z,2.8nm,0.7s,baz=67,slow=4.6,SNR=12
AKASG Malin Array Be 80.03 320 *ceP* P 20 47 33.7 -0.8
AKASG pmax pmax
comp=Z,4.0nm,0.7s
AKBB Malin Array Si 80.03 320 *eP* P 20 47 33.6 -0.8
comp=Z,5.8nm,0.8s
VSU Vasula 80.06 328 *d iP* P 20 47 34.4 0.0
VSU pmax pmax
comp=Z,51nm,0.9s
AK11 Malin Array Si 80.07 320 *eP* P 20 47 34.0 -0.6
EGAK Eagle 80.81 25 *eP* P 20 47 38.6 +0.2
comp=Z,33nm,0.8s
SORM Soroca 81.07 317⇓ *iP* P 20 47 39.3 -0.7

TLCR 81.33 314⇑ *iP* P 20 47 41.8 +0.3
DAWY Dawson 81.73 26 *eP* P 20 47 44.0 +0.7
comp=Z,20nm,0.7s
CFR Carcaliu 81.80 314⇑ *iP* P 20 47 43.6 -0.3
TESR Tescani 82.53 316⇑ *iP* P 20 47 47.0 -0.8
VRI Vrincioaia 82.62 315⇑ *iP* P 20 47 48.9 +0.6
PLOR Plostina 82.68 315⇓ *iP* P 20 47 48.8 +0.2
INK Inuvik 82.72 21 *eP* P 20 47 48.3 0.0
comp=Z,12nm,0.9s
SUW Suwalki 82.96 324 *e*PKP P 20 47 55.2 +5.4
SUW Suwalki 82.96 324 *eP* P 20 47 55.2 +5.4
BURAR Bucovina Array 83.24 317⇓ *iP* P 20 47 52.0 +0.4
MLR Muntele Rosu 83.24 315 P P 20 47 51.6 0.0
comp=Z,1.2nm,0.6s,baz=115,slow=10,SNR=19
MLR Muntele Rosu 83.24 315 *eP* P 20 47 51.6 0.0
comp=Z,7.8nm,0.8s
BUR04 Bucovina Ar. S 83.24 317 *eP* P 20 47 51.3 -0.3
BUR08 Bucovina Ar. S 83.24 317 *eP* P 20 47 52.0 +0.4
LVV L'vov 83.48 320 *eP* P 20 47 53.7 +1.1
KMBO Kilima Mbogo 83.79 267 *i* P P 20 47 58.0 +2.8
KMBO pmax pmax
comp=Z,1.0nm,0.6s
VOIR 83.86 315⇑ *iP* P 20 47 54.5 -0.3
HUMR Humele 84.13 314⇑ *iP* P 20 47 55.7 -0.3
ARR Arges 84.17 315⇓ *iP* P 20 47 56.1 -0.2
KWP Kalwaria Pacla 84.36 320 *e*PKP P 20 47 57.6 +0.5
KWP Kalwaria Pacla 84.36 320 *eP* P 20 47 57.6 +0.5
CJR Cluj-Napoca 84.53 317⇑ *iP* P 20 47 58.7 +0.6
WHY Whitehorse 84.76 29 *eP* P 20 47 59.6 +0.6
comp=Z,27nm,0.8s
UZH Uzhgorod 84.88 319⇑ *iP* P 20 48 00.1 +0.4
UZH *e* 20 48 37.2
SKAG Skagway 84.94 30 *eP* P 20 48 01.4 +1.6
comp=Z,33nm,0.9s
DRGR 85.10 317⇓ *iP* P 20 48 01.1 +0.2
STHS Stebnicka Huta 85.33 320 *eP* P 20 48 02.7 +0.7
STHS Stebnicka Huta 85.33 320 *eP* P 20 48 02.7 +0.7
STHS pmax pmax
comp=Z,4.0nm,0.8s
CRVS Cervenica-Dubn 85.34 319 *eP* P 20 48 02.7 +0.7
CRVS Cervenica-Dubn 85.34 319 *eP* P 20 48 02.7 +0.7
BESE Bessie Mountai 85.47 31 *eP* P 20 48 03.0 +0.5
comp=Z,17nm,0.9s
VTS Vitosha 85.86 313 *eP* P 20 48 04.7 -0.2
comp=Z,36nm,2.0s
NIE Niedzica 85.92 320 *e*PKP P 20 48 05.6 +0.7
NIE Niedzica 85.92 320 *eP* P 20 48 05.6 +0.7
OJC Ojcow 86.00 321 *e*PKP P 20 48 05.6 +0.3
OJC Ojcow 86.00 321 *eP* P 20 48 05.2 0.0
comp=Z,22nm,0.9s
OJC Ojcow 86.00 321 *eP* P 20 48 05.6 +0.3
HFS Hagfors 86.02 331 P P 20 48 03.9 -1.2
comp=Z,6.0nm,0.8s,baz=97,slow=4.5,SNR=10
KECS Kecovo 86.08 319 *eP* P 20 48 06.4 +0.7
KECS Kecovo 86.08 319 *eP* P 20 48 06.4 +0.7
KECS pmax pmax
comp=Z,5.0nm,0.8s
LANS Liptovska Anna 86.52 320 *eP* P 20 48 08.9 +1.0
LANS Liptovska Anna 86.52 320 *eP* P 20 48 08.9 +1.0
NC303 NORSAR Array S 86.66 333 *eP* P 20 48 07.8 -0.4
NB2 NORSAR Subarra 86.80 333 P P 20 48 07.5 -1.5
comp=Z,13nm,0.8s,baz=66,slow=4.8
NB2 NORSAR Subarra 86.80 333 P P 20 48 07.5 -1.5
baz=66,slow=4.8
NB200 NORSAR Array S 86.80 333 *eP* P 20 48 07.8 -1.2
NOA NORSAR Array B 86.80 333 P P 20 48 07.8 -1.2
comp=Z,9.2nm,0.8s,baz=67,slow=4.7,SNR=25
NC204 NORSAR Array S 86.91 333 *eP* P 20 48 09.1 -0.5
MORC Moravsky Berou 87.52 321⇑ *iP* P 20 48 12.4 -0.3
KSP Ksiaz 87.92 322 *e*PKP P 20 48 14.4 -0.1
KSP Ksiaz 87.92 322 *eP* P 20 48 14.4 -0.1
DPC Dobruska-Polom 88.07 322 *eP* P 20 48 15.5 +0.2
DPC Dobruska-Polom 88.07 322 *eP* P 20 48 15.5 +0.2
VRAC Vranov 88.26 321 P P 20 48 16.3 +0.2
comp=Z,3.9nm,0.8s,baz=337,slow=1.6,SNR=5.5
VRAC Vranov 88.26 321⇓ *iP* P 20 48 16.4 +0.2
RES Resolute Bay 88.61 9 *eP* P 20 48 17.2 -0.1
comp=Z,7.1nm,0.8s
PRU Pruhonice 89.27 322 *eP* P 20 48 20.7 -0.2
PRU Pruhonice 89.27 322 *eP* P 20 48 20.7 -0.2
BRG Berggiesshubel 89.30 323 *eP* P 20 48 21.1 +0.1
comp=Z,7.1nm,1.1s
comp=N,328nm,17.7s
comp=E,207nm,22.0s
comp=Z,589nm,21.3s
BRG Berggiesshubel 89.30 323 *eP* P 20 48 21.1 +0.1
BRG pmax pmax
comp=Z,7.0nm,1.1s
BRG MLR MLR
comp=N,328nm,17.7s
BRG MLR MLR
comp=E,207nm,22.0s
BRG MLR MLR
comp=Z,589nm,21.3s
CLL Collm 89.69 323 *eP* P 20 48 23.0 +0.2
comp=Z,9.0nm,1.3s
CLL Collm 89.69 323 *eP* P 20 48 23.0 +0.2
CLL pmax pmax
comp=Z,9.0nm,1.3s
KHC Kasperske Hory 90.17 321 *eP* P 20 48 22.9 -2.3
KHC Kasperske Hory 90.17 321 *eP* P 20 48 22.9 -2.3
GEC2 GERESS Array S 90.20 321 *eP* P 20 48 24.8 -0.6
comp=Z,3.6nm,0.9s
GERES GERESS Array B 90.20 321 P P 20 48 25.0 -0.4
comp=Z,2.3nm,0.8s,baz=58,slow=5.0,SNR=12
GERES GERESS Array B 90.20 321 P P 20 48 25.0 -0.4
GEA0 GERESS Array S 90.20 321 *eP* P 20 48 24.9 -0.5
MOA Molln 90.22 320 *e*PcP P 20 48 25.5 +0.1
comp=Z,3.0nm,0.7s,SNR=7.0
KBA Koelnbreinsper 91.08 319 *eP* P 20 48 28.6 -1.0
comp=Z,4.9nm,1.0s
ABTA Abfaltersbach 91.74 319 P P 20 48 30.2 -2.4
comp=Z,3.8nm,0.9s
WTTA Wattenberg 92.09 320 *eP* P 20 48 32.5 -1.8
comp=Z,7.9nm,1.0s
WATA Walderalm 92.10 320 *e*PcP P 20 48 34.1 -0.2
comp=Z,3.1nm,0.6s
YKW3 Yellowknife Ar 92.36 22 *ep*P pP 20 49 08.5 +2.0
MOTA Moosalm 92.39 320 PcP P 20 48 34.8 -0.8
comp=Z,5.8nm,0.8s,SNR=5.5
YKA Yellowknife Ar 92.41 22 P P 20 48 35.2 0.0
comp=Z,4.9nm,0.6s,baz=309,slow=4.4,SNR=99
FETA Feichten 92.75 320 *e*PcP P 20 48 36.9 -0.4
comp=Z,7.1nm,1.0s,SNR=5.5
HSO Harness Mounta 98.42 41 *eP* P 20 49 04.7 +1.6
LTX Lajitas 119.24 44 *e*PKPdf **PKPdf** 20 54 13.6 -0.4
TXAR Lajitas Array 119.24 44 PKP **PKPdf** 20 54 13.6 -0.4
comp=Z,1.0nm,0.8s,baz=256,slow=0.9,SNR=11
V40A Witts Springs 121.12 32 *e*PKPdf **PKPdf** 20 54 16.1 -1.3
WVT Waverly 123.24 27 *e*PKPdf **PKPdf** 20 54 20.3 -1.1
SDDR Presa de Saban 145.06 20 *e*PKPbc **PKPbc** 20 55 01.2 -0.8
PLCA Paso Flores 151.79 162 PKPbc **PKPbc** 20 55 18.2 -1.0
comp=Z,2.9nm,0.7s,baz=199,slow=2.4,SNR=7.1
SDV Santo Domingo 154.56 27 *e*PKPbc **PKPbc** 20 55 25.1 -1.1

ISCJB ***04*** *20:36:59.1±0.4,21˚.43S±0˚.05×66˚.90W±0˚.06, h200km, mb4.5/5, Error ellipse: s-maj=8.5km s-min=5.5km az=152.1*
NEIC ***04*** *20:36:59.3±0.8,21˚.48S×66˚.67W, h199km±7km, mb4.7/3, Error ellipse: s-maj=13.9km s-min=9.3km az=92.0*
SJA ***04*** *20:37:00.1±1.2,21˚.51S×66˚.90W, h213km±12km, ML3.7, MW3.9*
IDC ***04*** *20:37:00.7±2.0,21˚.52S×66˚.46W, h207km±22km, mb3.9/2, mb1 3.8/6, mb1mx3.4/39, mbtmp4.4/6, Error ellipse: s-maj=25.1km s-min=18.8km az=106.0*
ISC 04 20:36:59.7±0.6, 21˚.43S±0˚.07×66˚.91W±0˚.07, h200km, n46, σ1ŝ71/48, mb4.2/5, Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
YJA	**Yavi**	**1.49**	**120**	*eP*		**Pn**	**20 37 36.0**	**+2.1**
YJA				*eS*		**Sn**	**20 38 02.4**	**+2.1**
YJA				IAML			20 38 03.0	
comp=Z,182nm,0.4s								
HJA	**Humahuaca**	**2.25**	**142**	*eP*		**Pn**	**20 37 43.4**	**+2.2**
HJA				IAML			20 37 43.6	
comp=Z,901nm,0.2s								
PB01	**IPOC Station P**	**2.44**	**279**	*ePn*		**Pn**	**20 37 45.2**	**+2.2**
PB11	**IPOC Station P**	**3.06**	**302**	*ePn*		**Pn**	**20 37 52.3**	**+2.0**
AZAP	**Zapla**	**3.26**	**149**	*eP*		**Pn**	**20 37 53.3**	**+0.6**
AZAP				IAML			20 37 54.0	
comp=Z,100nm,0.3s								

ASTB	Santa Barbara	3.38	138	eP	Pn	20 37 54.9	+0.8
MNMC	Minye Minye	3.41	312	ePn	Pn	20 37 57.1	+2.6
SLA	San Lorenzo	3.52	159	eP	Pn	20 37 57.5	+1.8
ALOL	LOMAS DE OLMED	3.60	132	eP	Pn	20 37 56.5	0.0
PB10	IPOC Station P	3.96	238	ePn	Pn	20 38 02.3	+1.3
PB10	IPOC Station P	3.96	238	eP	Pn	20 38 01.9	+0.9
PB14	IPOC Station P	4.52	225	eP	Pn	20 38 08.9	+0.6
FSA	Cafayete	4.74	170	eP	Pn	20 38 11.7	+0.8
LPAZ	La Paz	5.25	347	P	Pn	20 38 20.4	+2.5
	comp=Z,28nm,0.3s,baz=144,slow=6.8,SNR=404						
LPAZ	La Paz	5.25	347	eP	Pn	20 38 20.4	+2.5
AHML	Horco Molle	5.52	165	eP	Pn	20 38 21.8	+1.0
AHML				IAML		20 38 24.7	
	comp=Z,34nm,0.7s						
ARE	Arequipa	6.58	318	eP	Pn	20 38 34.0	-0.8
ARE				eS	Sn	20 39 46.0	-4.1
SIV	San Ignacio	7.74	47	P	Pn	20 38 48.4	-1.3
	comp=Z,3.3nm,0.3s,baz=231,slow=13,SNR=56						
SIV				S	Sn	20 40 02.9	-14
	comp=Z,0.7nm,0.3s,baz=241,slow=15,SNR=11						
AGUA	GUANDACOL	8.15	190	eP	Pn	20 38 54.1	-0.8
LCO	Las Campanas	8.29	204	ePn	Pn	20 38 55.8	-1.2
LCO	Las Campanas	8.29	204	eP	Pn	20 38 55.2	-1.8
APLL	PUNTA DE LOS L	8.93	178	eP	Pn	20 39 02.9	-2.2
AMOG	MOGNA	9.57	188	eP	Pn	20 39 12.0	-1.5
CPUP	Villa Florida	10.03	121	P	Pn	20 39 21.4	+2.1
	comp=Z,0.4nm,0.3s,baz=284,slow=10.0,SNR=4.8						
ASAL	Salagasta	11.24	188	eP	Pn	20 39 33.7	-1.3
TRQA	Tornquist	17.11	167	eP	P	20 40 45.0	-0.8
	comp=Z,72nm,1.8s						
ATAH	Atahualpa	18.03	320	P	Pn	20 41 01.6	+2.9
	comp=Z,0.5nm,0.3s,baz=183,slow=18,SNR=4.7						
PLCA	Paso Flores	19.49	188	P	P	20 41 11.8	+0.2
	comp=Z,0.2nm,0.3s,baz=24,slow=9.6,SNR=5.8						
RUSC	La Rusia	27.82	347	eP	P	20 42 30.8	-0.4
	comp=Z,1.8nm,0.6s						
DBIC	Dimbokro	66.94	73	P	P	20 47 29.3	-1.8
	comp=Z,4.4nm,0.8s,baz=231,slow=5.6,SNR=5.1						
WESC	Westside Schoo	71.26	318	eP	P	20 47 59.4	+2.1
CIAC	Catalina I. Ai	73.38	317	eP	P	20 48 10.1	+0.2
RPV	Rancho Palos V	73.59	317	eP	P	20 48 14.5	+3.4
TCUT	Toone Canyon	74.69	327	eP	P	20 48 19.0	+1.4
	comp=Z,36nm,0.8s						
TOA1	Torodi Ar. Sit	75.58	69	eP	P	20 48 20.6	-2.4
TORD	Torodi Ar. Bea	75.58	69	P	P	20 48 20.6	-2.4
	comp=Z,70nm,0.8s,baz=252,slow=5.7,SNR=2.3						
BOSA	Boshof	81.83	117	P	P	20 48 55.9	-1.2
	comp=Z,1.2nm,0.3s,baz=229,slow=5.9,SNR=4.9						
WR1	Warramunga Arr	133.93	208	ePKPdf	PKPdf	20 55 54.2	+0.4
WRA	Warramunga Arr	133.93	208	PKP	PKPdf	20 55 54.2	+0.4
	comp=Z,0.1nm,0.4s,baz=155,slow=2.0,SNR=5.1						
MAKZ	Makanchi	144.28	37	ePKPdf	PKPab	20 56 10.3	0.0
MK31	Makanchi Array	144.47	37	ePKPdf	PKPab	20 56 11.1	+0.1
MK32	Makanchi Array	144.47	37	ePKPdf	PKPab	20 56 10.9	-0.1
MKAR	Makanchi Array	144.47	37	PKP	PKPab	20 56 10.9	-0.2
	comp=Z,4.5nm,0.9s,baz=317,slow=3.5,SNR=26						
MKAR	Makanchi Array	144.47	37	ePKPdf	PKPab	20 56 11.1	+0.1
MK01	Makanchi Array	144.49	37	ePKPdf	PKPab	20 56 10.9	-0.2
LEM	Lembang	151.41	169	ePKPab	PKPab	20 56 40.0	+0.4

*ATA **04** 20:48:22.8±2.1, 38°.76N×43°.65E, h7km±73km, ML2.7, MW2.9*
*ISCJB **04** 20:48:26.5±0.8, 38°.89N±0°.04×43°.69E±0°.06, h11km±5km, Error ellipse: s-maj=8.4km s-min=5.0km az=31.8*
*CSEM **04** 20:48:26.2, 38°.92N×43°.65E, h13km, ML2.7*
*DDA **04** 20:48:26.2, 38°.92N×43°.65E, h13km, Ml2.7*
ISC 04 20:48:26.0±1.0, **38°.92N**±0°.03×**43°.70E**±0°.03, **h13**km±6km, **n24**, σ**1.23**/43, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VMUR	Van-Muradiye	0.12	307	i P	Pg	20 48 28.8	-0.6
VMUR				i S	Sg	20 48 31.9	0.0
VMUR	Van-Muradiye	0.12	307	P	Pg	20 48 28.8	-0.6
VMUR				S	Sg	20 48 31.9	0.0
CLDR	Caldiran	0.28	37	i P	Pg	20 48 32.1	+0.1
CLDR				i S	Sb	20 48 38.0	+0.2
CLDR	Caldiran	0.28	37	P	Pg	20 48 32.1	+0.1
CLDR				S	Sb	20 48 38.0	+0.2
TVAN	Van	0.45	211	i P	Pg	20 48 34.6	-0.3
TVAN				i S	Sb	20 48 42.3	-0.3
TVAN	Van	0.45	211	P	Pg	20 48 34.6	-0.3
TVAN				S	Sb	20 48 42.3	-0.3
DYDN	Diyadin	0.63	359	eP	Pb	20 48 39.0	+0.1
DYDN				eS	Sn	20 48 49.7	-1.2
DYDN	Diyadin	0.63	359	i P	Pb	20 48 39.1	+0.1
DYDN				i S	Sn	20 48 49.5	-1.3
DYDN	Diyadin	0.63	359	P	Pb	20 48 39.1	+0.1
DYDN				S	Sn	20 48 49.5	-1.3
ADCV	BITLIS_Adilcev	0.77	262	i P	Pg	20 48 40.1	-0.8
ADCV				i S	Sb	20 48 51.5	-0.2
ADCV	BITLIS_Adilcev	0.77	262	P	Pg	20 48 40.1	-0.8
ADCV				S	Sb	20 48 51.5	-0.2
GEVA	Gevas	0.78	220	eP	Pg	20 48 34.4	-6.8
TUTA	Tutak	0.84	305	eP	Pg	20 48 41.4	-0.9
TUTA				eS	Sb	20 48 54.0	+0.1
TUTA				IAML		20 48 56.7	
	comp=Z,13nm,0.2s						
TUTA	Tutak	0.84	305	i P	Pg	20 48 41.4	-0.9
TUTA				i S	Sb	20 48 53.3	-0.6
TUTA	Tutak	0.84	305	P	Pg	20 48 41.4	-0.9
TUTA				S	Sb	20 48 53.3	-0.6
IGDI	IGDIR	0.99	17	eP	Pb	20 48 45.2	+0.1
EKAR	Karacoban	1.32	285	eP	Pn	20 48 49.7	-0.6
EKAR				eS	Sg	20 49 09.5	+1.0
EKAR	Karacoban	1.32	285	i P	Pg	20 48 50.9	-0.4
EKAR				i S	Sg	20 49 13.0	+4.6
EKAR	Karacoban	1.32	285	P	Pg	20 48 50.9	-0.4
EKAR				S	Sg	20 49 13.0	+4.6
EATA	Eleskirt	1.33	316	eP	Pb	20 48 50.8	-0.2
EATA				eS	Sg	20 49 10.8	+1.9
EATA	Eleskirt	1.33	316	i P	Pg	20 48 51.0	-0.5
EATA				i S	Sn	20 49 08.0	-0.3
EATA	Eleskirt	1.33	316	P	Pg	20 48 51.0	-0.5
EATA				S	Sn	20 49 08.0	-0.3
DIGO	Kars	1.52	351	eP	Pg	20 48 54.8	-0.4
HOMI	Horasan	1.79	310	eP	Pb	20 48 59.1	+0.3

WEL 04 20:49:13.6, **38°.9S**±0°.7×**177°.4E**±0°.9, **h29**km±1km, **ML4.0**/21, **North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNGZ	Shannon Statio	0.07	336	P	Pb	20 49 18.7	0.0
SNGZ	Shannon Statio	0.07	336	S	Sb	20 49 23.3	+1.1
RAHZ	Arahi	0.24	253	P	Pb	20 49 20.2	0.0
RAHZ	Arahi	0.24	253	S	Sb	20 49 26.1	+1.4
WHHZ	Waihua	0.26	206	P	Pb	20 49 20.7	+0.3
WHHZ	Waihua	0.26	206	S	Sn	20 49 27.5	+1.1
KNZ	Kokohu	0.29	127	P	Pb	20 49 21.1	+0.3
KNZ	Kokohu	0.29	127	S	Sn	20 49 28.1	+0.9
RIGZ	Rimuhau	0.33	65	P	Pn	20 49 22.1	-0.4
RIGZ	Rimuhau	0.33	65	S	Sn	20 49 29.7	+1.3
RAGZ	Rawiri	0.35	5	P	Pb	20 49 21.8	+0.1
RAGZ	Rawiri	0.35	5	S	Sn	20 49 28.7	-0.2
RTZ	Ruatahuna	0.39	307	P	Pb	20 49 22.0	-0.2
RTZ	Ruatahuna	0.39	307	S	Sn	20 49 29.1	-0.6
PRGZ	Paritu Road	0.40	101	P	Pn	20 49 23.0	-0.5
PRGZ	Paritu Road	0.40	101	S	Sn	20 49 31.6	+1.6
MTHZ	Maungataniwha	0.42	269	P	Pb	20 49 22.5	-0.2
NMHZ	Naumai	0.51	240	P	Pb	20 49 24.4	+0.2
ARHZ	Aropaoanui	0.51	215	P	Pn	20 49 24.6	-0.3
MHGZ	Mahia Peninsul	0.51	127	P	Pb	20 49 24.5	+0.3
MWZ	Matawai	0.53	13	P	Pb	20 49 24.4	0.0
TKGZ	Te Karaka	0.55	42	P	Pn	20 49 25.1	-0.3
MUGZ	Murupara	0.60	308	P	Pb	20 49 25.4	-0.2
URZ	Urewera	0.62	340	P	Pb	20 49 25.6	-0.4
CNGZ	Carnagh Statio	0.74	61	P	Pb	20 49 27.8	-0.2
MRHZ	Matea Rd	0.75	271	P	Pb	20 49 28.1	0.0
BKZ	Black Stump Fm	0.76	245	P	Pb	20 49 28.0	-0.3
MCHZ	McNeill Hill	0.80	221	P	Pb	20 49 29.0	+0.1
TWGZ	Tauwhareparae	0.82	36	P	Pn	20 49 29.0	-0.1
TWGZ	Tauwhareparae	0.82	36	P	Pn	20 49 29.2	0.0
RRRZ	Republican Roa	0.84	307	P	Pn	20 49 29.3	-0.2
PRRZ	Plateau Road	0.84	294	P	Pb	20 49 29.7	0.0
ALRZ	Allen Road	0.86	289	P	Pn	20 49 29.4	-0.2
RUGZ	Raukumara Rang	0.91	15	P	Pn	20 49 30.4	-0.1
TARZ	Mount Tarawera	0.92	312	P	Pn	20 49 30.6	0.0
KWHZ	Kaweka Forest	0.94	232	P	Pn	20 49 30.7	-0.1
HRRZ	Handcock Road	0.97	298	P	Pn	20 49 31.0	-0.3
HLRZ	Highlands Stat	1.00	306	P	Pn	20 49 31.5	-0.1
HATZ	Hinemaiaia	1.00	267	P	Pn	20 49 31.6	-0.1
HATZ	Hinemaiaia	1.00	267	P	Pb	20 49 32.2	-0.2
MKRZ	Makatiti	1.00	314	P	Pb	20 49 34.0	+1.5
WPRZ	Whakapapatarin	1.00	289	P	Pn	20 49 31.7	0.0
KAHZ	Kahuranaki	1.02	202	P	Pn	20 49 31.7	-0.3
HSRZ	Hossack Road	1.03	301	P	Pn	20 49 31.9	-0.2
PUZ	Puketiti	1.04	42	P	Pn	20 49 31.3	-0.8
OMRZ	Omania	1.08	313	P	Pn	20 49 32.3	-0.4
PKGZ	Pakihiroa	1.10	30	P	Pn	20 49 32.8	-0.3
GRRZ	Galatos Road	1.11	296	P	Pn	20 49 33.1	0.0
KRHZ	Kereru	1.11	224	P	Pn	20 49 32.6	-0.6
HAZ	Te Kaha	1.14	16	P	Pn	20 49 33.6	+0.1
UTU	Utuhina	1.14	305	P	Pn	20 49 33.9	+0.3
OPRZ	Ohinepanea	1.19	327	P	Pn	20 49 33.7	-0.6
RITZ	Rihia Road	1.19	263	P	Pn	20 49 34.5	+0.2
NGRZ	Ngongotaha	1.19	308	P	Pn	20 49 34.5	+0.2
BHHZ	Black Hill Sta	1.21	237	P	Pn	20 49 34.4	-0.1
KARZ	Kaharoa	1.21	313	P	Pn	20 49 34.0	-0.6
PXZ	Pawanui	1.25	198	P	Pn	20 49 33.6	-1.4
RATZ	Rangitukua	1.25	269	P	Pn	20 49 35.2	0.0
KUTZ	Kaahu Road	1.27	286	P	Pn	20 49 35.2	-0.1
WATZ	Wairara	1.29	276	P	Pn	20 49 35.4	-0.2
WMGZ	Waiomatatini S	1.31	39	P	Pn	20 49 35.1	-0.8
KATZ	Kakaramea	1.32	264	P	Pn	20 49 36.3	+0.2
MOVZ	Moawhango	1.38	246	P	Pn	20 49 36.8	-0.2
PNHZ	Pukenui	1.40	220	P	Pn	20 49 36.1	-1.1
TUVZ	Tukino	1.41	252	P	Pn	20 49 37.5	+0.2
WPHZ	Waipukurau	1.42	210	P	Pn	20 49 36.6	-0.8
TGRZ	Tauranga	1.42	321	P	Pb	20 49 39.8	+0.4
NGZ	Ngauruhoe	1.42	256	P	Pn	20 49 37.1	-0.5
WHVZ	Whangaehu Hut	1.46	252	P	Pn	20 49 38.2	+0.1
COVZ	Chateau Observ	1.47	256	P	Pn	20 49 38.2	0.0
COVZ	Chateau Observ	1.47	256	P	Pn	20 49 38.5	+0.3
DRZ	Dome Shelter	1.48	253	P	Pn	20 49 38.9	+0.4
FWVZ	Far West T-bar	1.48	253	P	Pn	20 49 38.4	0.0
MXZ	Matakaoa Point	1.48	30	P	Pn	20 49 39.0	+0.8
TWVZ	Taurewa	1.53	261	P	Pn	20 49 39.0	0.0
PRHZ	Porangahau	1.53	202	P	Pn	20 49 37.4	-1.5
TSZ	Takapari Road	1.63	222	P	Pn	20 49 39.0	-1.4
PKVZ	Pokaka	1.64	254	P	Pn	20 49 40.8	+0.3
DVHZ	Dannevirke	1.73	212	P	Pn	20 49 39.7	-1.9
TOZ	Tahuroa Road	1.85	306	P	Pn	20 49 44.0	+0.8
POWZ	Post Office Ro	1.98	218	P	Pn	20 49 43.7	-1.4
HIZ	Hauiti	2.00	279	P	Pn	20 49 45.8	+0.4
BFZ	Birch Farm	2.03	205	P	Pn	20 49 43.7	-2.1
VRZ	Vera Road	2.06	261	P	Pn	20 49 46.8	+0.7
WAZ	Wanganui	2.06	243	P	Pb	20 49 49.9	-0.4
TIWZ	Tintock	2.24	210	P	Pn	20 49 46.9	-1.8
MRZ	Mangatainoka R	2.28	217	P	Pn	20 49 46.8	-2.5
HOWZ	Holdsworth Sta	2.50	214	P	Pn	20 49 49.4	-2.9
TMWZ	Te Maipa	2.53	206	P	Pn	20 49 49.9	-2.8

IDC 04 20:52:47.4±1.9, **3°.96S**×**152°.39E**, **h0**km, **mb3.6**/5, **mb1 3.8**/5, **mb1mx3.5**/46, **mbtmp3.6**/5, **Error ellipse: s-maj=79.5km s-min=26.0km az=119.0**, **New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	23.71	226	P	P	20 58 01.4	+0.1
	1.6nm,0.9s,baz=52,slow=9.7,SNR=7.8						
ASAR	Alice Springs	26.51	221	P	P	20 58 27.2	+0.3
	0.3nm,0.5s,baz=55,slow=7.6,SNR=5.2						
MKAR	Makanchi Array	79.43	319	P	P	21 04 56.2	+0.5
	0.4nm,0.9s,baz=113,slow=7.0,SNR=4.1						
ILAR	Eielson Array	81.54	22	P	P	21 05 06.7	0.0
	0.7nm,1.0s,baz=240,slow=5.2,SNR=3.3						
BVAR	Borovoye Array	88.33	323	P	P	21 05 40.2	-0.8
	0.7nm,0.7s,baz=110,slow=7.8,SNR=6.8						

*ISCJB **04** 20:57:03.0±0.9, 31°.83S±0°.07×69°.61W±0°.08, h109km±8km, Error ellipse: s-maj=15.3km s-min=5.5km az=43.0*
*GUC **04** 20:57:02.7±1.1, 31°.74S×69°.79W, h85km±65km, ML2.9*
*SJA **04** 20:57:03.0±0.5, 31°.90S×69°.63W, h98km±2km, ML2.5, MW3.1*
ISC 04 20:57:04.3±1.6, **31°.86S**±0°.06×**69°.60W**±0°.07, **h100**km±11km, **n22**, σ**0.92**/27, **1C**, **San Juan Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTLS	Leoncito	0.27	77	eP	Pn	20 57 19.0	-0.1
RTLS				eS	Sn	20 57 30.8	+0.7
RTLS				IAML		20 57 31.5	
	comp=Z,197nm,0.2s						
AUSP	Uspallata	0.41	153	eP	Pn	20 57 19.5	-0.3
AUSP				eS	Sn	20 57 31.0	-0.4
ZON	Zonda	0.85	69	eP	Pn	20 57 22.9	-0.3
RTCV	Cerro Valdivia	0.91	90	eP	Pn	20 57 23.3	-0.4
ASAL	Salagasta	0.98	138	eP	Pn	20 57 24.0	-0.5
RTLL	Cerro Villicun	1.10	62	eP	Pn	20 57 25.7	-0.1
RTLL				IAML		20 57 27.0	
	comp=Z,65nm,0.3s						
ARCO	CERRO ARCO	1.13	150	eP	Pn	20 57 25.9	-0.4
ARCO				IAML		20 57 45.5	
	comp=Z,98nm,0.2s						
AMOG	MOGNA	1.32	46	eP	Pn	20 57 28.5	+0.1
AAGR	Agrelo	1.39	152	eP	Pn	20 57 28.8	-0.5
PEL	Peldehue	1.57	215	eP	Pn	20 57 30.6	-0.9
PEL				i S	Sn	20 57 51.7	-0.4
FCH	Farellones	1.57	201	eP	Pn	20 57 31.8	0.0
FCH				i S	Sn	20 57 54.0	+1.4
FCH				IAML		20 57 59.4	
	comp=E,143nm,0.2s						
ROCH	El Roble	1.63	227	eP	Pn	20 57 31.3	-1.0
ROCH				i S	Sn	20 57 53.0	-0.6
ROCH				IAML		20 57 54.9	
	comp=N,209nm,0.4s						
ROC1	El Roble	1.63	227	eP	Pn	20 57 31.6	-0.9
CLCH	Cerro Calan	1.72	207	eP	Pn	20 57 32.8	-0.6
CLCH				i S	Sn	20 57 56.0	+0.5
CLCH				IAML		20 57 56.9	
	comp=E,218nm,0.4s						
RCDM	Rinconada Maip	1.92	212	⇑iP	Pn	20 57 34.9	-0.9
RCDM				i S	Sn	20 57 59.6	-0.2
LMEL	Las Melosas	2.05	194	eP	Pn	20 57 39.7	+2.1
LMEL				eS	Sn	20 58 05.0	+2.0
ACAN	Cantantal	2.09	102	eP	Pn	20 57 37.0	-1.1
AGUA	GUANDACOL	2.55	22	eP	Pn	20 57 45.0	+0.8
APLL	PUNTA DE LOS L	3.01	62	eP	Pn	20 57 49.0	-1.2
APLL				IAML		20 58 27.9	
	comp=Z,7.6nm,0.2s						
VCA	Vinchina	3.34	22	IAML		20 58 38.9	
	comp=Z,11nm,0.2s						
MRA	San Martin	3.34	101	IAML		20 57 53.4	
	comp=Z,8.2nm,0.2s						
TCA	Tanti	4.30	84	IAML		20 58 06.3	
	comp=Z,2.7nm,0.3s						

*ISCJB **04** 20:59:12.7±0.3, 32°.64N±0°.02×115°.82W±0°.02, h14km±2km, Error ellipse: s-maj=2.8km s-min=2.5km az=3.4*
*MEX **04** 20:59:12.8±1.1, 32°.83N×115°.64W, h16km±406km, MD3.7*
*NEIC **04** 20:59:14.1±0.0, 32°.61N×115°.80W, h4km, ML2.8(ECX), ML3.0(PAS), After ECX.*
*ECX **04** 20:59:14.1±0.5, 32°.61N×115°.80W, h4km, MD2.8, ML3.0*
ISC 04 20:59:12.6±0.8, **32°.62N**±0°.02×**115°.80W**±0°.02, **h17**km±5km, **n65**, σ**0.75**/95, **10C-4D**, **California-Baja California border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGL	Mount Signal	0.07	64	⇑iP	Pg	20 59 16.0	+0.2
YUH	Yuha Desert	0.11	285	⇑iP	Pg	20 59 16.2	0.0
WESC	Westside Schoo	0.15	21	⇓eP	Pb	20 59 17.4	+0.4
COK	Cook Ranch	0.24	14	⇓iP	Pb	20 59 19.0	+0.5
RMX	La Rumorosa	0.24	266	⇑iP	Pb	20 59 18.0	-0.5
RMX				⇑iP	Pb	20 59 18.1	-0.5
RMX				eS	Sg	20 59 21.0	-1.0
IKP	In-Ko-Pah, Jac	0.27	277	P	Pg	20 59 18.9	+0.4
	baz=98,SNR=152						
IKP				S	Sg	20 59 22.4	-0.2
	baz=98						
IKP	In-Ko-Pah, Jac	0.27	277	⇑iP	Pg	20 59 18.9	+0.4
CRR	Carrizo Plain	0.30	331	ePg	Pg	20 59 19.6	+0.5
CRR	Carrizo Plain	0.30	331	⇓iP	Pg	20 59 19.6	+0.5
SWSC	Sam W. Stewart	0.33	360	P	Pb	20 59 20.0	+0.1
	baz=182,SNR=91						
SWSC				S	Sg	20 59 23.7	-0.5
	baz=182						
SWSC	Sam W. Stewart	0.33	360	ePg	Pb	20 59 20.0	+0.1
DREC	Desert Rsrch C	0.35	58	eP	Pb	20 59 21.1	+0.8
CPBX	Cerro Prieto	0.46	116	eP	Pb	20 59 22.2	-0.1
CPBX				eS	Sb	20 59 28.7	-0.1
CPBX				IAML		20 59 32.6	
	comp=E,4μm,0.2s						
CPBX				⇓e		20 59 32.6	
CBKC	Canebrake	0.47	306	ePg	Pb	20 59 22.9	+0.4
ERRC	Elmore Ranch	0.50	357	ePg	Pb	20 59 23.9	+1.1
MONP2	Monument Peak	0.59	297	P	Pg	20 59 24.7	+0.3
	baz=118,SNR=26						
MONP2				S	Sg	20 59 32.2	-0.2
	baz=118						
BTCC	Brunts Corner	0.62	51	eSg	Sn	20 59 35.1	-1.1
BAR	Barrett	0.74	275	ePg	Pg	20 59 27.3	+0.2
BAR				eSg	Sg	20 59 36.9	-0.1
BAR	Barrett	0.74	275	⇑iP	Pg	20 59 27.3	+0.2
TJIG	Tijuana	0.77	256	eP	Pb	20 59 27.5	+0.1
TJIG				eS	Sb	20 59 36.7	-0.8
TJIG	Tijuana	0.77	256	⇑iP	Pb	20 59 27.6	+0.1
FRK	Frink	0.79	10	ePg	Pg	20 59 28.3	+0.2
CBX	Cerro Bola	0.79	248	eP	Pb	20 59 28.2	+0.2
CBX				eS	Sb	20 59 38.3	-0.2
CBX	Cerro Bola	0.79	248	ePg	Pb	20 59 28.2	+0.2
CBX				eSg	Sb	20 59 38.3	-0.2
CBX	Cerro Bola	0.79	248	⇑eP	Pb	20 59 28.4	+0.4
CBX				eS	Sb	20 59 38.6	+0.1
CBX				⇑e		20 59 41.8	
CBX				IAML		20 59 41.8	
	comp=N,471nm,0.4s						
BATC	Bat Cave Butte	0.84	357	ePg	Pn	20 59 29.5	0.0
GLA	Glamis	0.92	62	P	Pb	20 59 30.1	-0.1
	baz=243,SNR=17						
GLA				S	Sb	20 59 41.9	-0.3
	baz=243						
EML	El Monte Cty P	0.93	287	ePg	Pb	20 59 30.3	+0.1
EML				eSn	Sb	20 59 42.1	-0.1
SDRC	San Diego Road	0.97	277	eP	Pb	20 59 31.1	+0.2
DPP	Dos Picos Cty	1.04	292	ePg	Pb	20 59 32.4	+0.3
DPP				eSn	Sb	20 59 45.5	+0.1
HWB	Hans Werner Br	1.06	293	ePg	Pb	20 59 32.7	+0.2
HWB				eSn	Sb	20 59 46.1	0.0
BC3	Big Chuckawall	1.07	15	P	Pb	20 59 32.4	-0.4
	baz=196						
BC3				S	Sb	20 59 45.5	-1.0
	baz=196						
FRD	Ford Ranch, An	1.10	322	eSg	Sb	20 59 46.8	-0.7
109C	Camp Elliot, M	1.14	284	P	Pn	20 59 33.8	+0.1
	baz=104,SNR=17						
109C				S	Sb	20 59 48.0	-0.2
	baz=104						
CPE	Camp Elliot	1.14	284	ePg	Pn	20 59 33.9	+0.3
PFO	Pinyon Flats O	1.14	331	P	Pn	20 59 32.9	-0.9
	baz=151,SNR=11						
PFO				S	Sb	20 59 47.4	-1.0
	baz=151						
PFO	Pinyon Flats O	1.14	331	eSg	Sb	20 59 49.1	+0.7
SNDA	J Saunders Pla	1.16	324	eSg	Sb	20 59 49.1	+0.1
PLM	Palomar	1.16	310	ePn	Pg	20 59 35.3	+0.3
ZAX	El Zacaton	1.17	200	eP	Pn	20 59 34.5	+0.2
ZAX				eS	Sb	20 59 50.1	+0.7
ZAX				IAML		20 59 51.5	
	comp=N,296nm,0.3s						
ZAX				⇑e		20 59 51.5	
DNR	Dunn Ranch,Anz	1.18	324	ePg	Pn	20 59 34.1	-0.2
ECNX	Esteban Cantu	1.18	216	eP	Pn	20 59 34.7	+0.3
PBX	Punta Banda	1.18	222	eP	Pn	20 59 34.6	+0.3
CRY	Cary Ranch	1.23	320	ePn	Pg	20 59 37.0	+0.6
CRY				eSn	Sn	20 59 51.8	+0.4
ECBX	El Chinero	1.31	151	eP	Pb	20 59 36.7	0.0
ECBX				eS	Sb	20 59 53.9	+0.8
BELC	Belle Mtn. Jos	1.39	353	P	Pn	20 59 36.8	-0.5
	baz=174,SNR=18						
BELC				S	Sn	20 59 54.0	-1.3
	baz=174						
DGR	Domenigoni Val	1.45	316	ePn	Pn	20 59 38.0	-0.1
DGR				ePg	Pg	20 59 40.5	0.0
DGR				eSn	Sb	20 59 58.5	+1.3
HMTC	Hemet	1.48	317	ePn	Pn	20 59 38.4	-0.2
HMTC				ePg	Pg	20 59 41.0	-0.2
HMTC				eSn	Sb	20 59 59.1	+0.8
TPC	Twentynine Pal	1.50	352	ePn	Pn	20 59 38.6	-0.1
TPC				ePg	Pb	20 59 40.8	+0.9
MURC	Murrieta	1.53	310	Sb	Sb	21 00 00.4	+0.9
	baz=130						
Y12C	Blythe	1.55	43	Pb	Pb	20 59 40.6	-0.3
	baz=224						
Y12C				S	Sn	20 59 59.5	+0.3
	baz=224						
Y12C	Blythe	1.55	43	ePn	Pb	20 59 40.4	-0.4
SPIG	San Pedro Mart	1.59	170	eP	Pn	20 59 40.9	+0.6
SPIG				eS	Sn	21 00 00.5	-0.1
SPIG	San Pedro Mart	1.59	170	eSn	Sn	21 00 00.5	-0.1
IRM	Iron Mountain	1.63	19	Pb	Pn	20 59 41.6	+1.0
	baz=200						
BBRC	Big Bear Solar	1.89	330	Sb	Sb	21 00 10.9	+0.8
	baz=150						
CLTC	Calectric	1.94	320	eSn	Sn	21 00 09.3	+0.4
BFSC	Mount Baldy Ra	2.24	317	Sb	Sb	21 00 21.2	+0.9
	baz=136						
CIAC	Catalina I. Ai	2.33	290	eSn	Sn	21 00 17.7	-0.8
CIS	Catalina Islan	2.33	290	S	Sn	21 00 17.8	-0.7
	baz=109						
PASC	Pasadena Art C	2.53	308	eSn	Sn	21 00 22.8	-0.5
DSCC	Desert Studies	2.53	354	eSn	Sn	21 00 20.7	-2.6
214A	Organ Pipe Nat	2.61	104	P	Pn	20 59 53.7	-0.4
	baz=285						
GATR	Gnd/Air Tx Cnt	4.38	297	ePn	Pn	21 00 19.4	+1.1
GATR				eSn	Sb	21 01 18.0	-3.5
GATR				eSg	Sg	21 01 23.9	-9.2
GATR				eLg	Lg	21 01 31.9	
TIN	Tinemaha, Big	4.86	336	ePg	Pb	21 00 39.5	+2.3

*ISCJB **04** 21:07:23.9±0.9, 19°.92S±0°.07×67°.03W±0°.07, h254km±12km, Error ellipse: s-maj=14.4km s-min=7.3km az=43.9*
*GUC **04** 21:07:24.5±0.5, 19°.89S×67°.35W, h272km±11km, ML3.9*
ISC 04 21:07:22.5±2.2, **19°.86S**±0°.09×**66°.99W**±0°.08, **h261**km±19km, **n18**, σ**1.37**/27, **4C-1D**, **Southern Bolivia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB08	IPOC Station P	2.05	262	⇓iP	Pn	21 08 08.2	+1.4
PB08				i S	S	21 08 41.8	0.0
PB08				IAML		21 08 47.3	
	comp=E,179nm,0.3s						
GO01	Chusmiza	2.08	275	eP	Pn	21 08 08.6	+1.4
GO01				i S	S	21 08 42.2	-0.3
PB11	IPOC Station P	2.51	272	eP	Pn	21 08 11.8	+1.0
PB11				i S	S	21 08 47.7	-1.4
MNMC	Minye Minye	2.56	286	⇑iP	Pn	21 08 12.9	+1.4
MNMC				eS	S	21 08 49.8	-0.5
PB01	IPOC Station P	2.62	243	⇑iP	Pn	21 08 12.3	+0.5
PB01				i S	S	21 08 49.3	-1.7
PB01				IAML		21 08 50.5	
	comp=N,354nm,0.3s						
YJA	Yavi	2.69	149	eP	Pn	21 08 13.8	+1.0
YJA				IAML		21 08 14.9	
	comp=Z,30nm,0.1s						
YJA				eS	S	21 08 51.1	-1.7
PB09	IPOC Station P	2.85	227	eP	Pn	21 08 16.0	+1.6
PB09				eS	S	21 08 55.0	-0.4
PSGC	Pisagua	2.96	275	⇑iP	Pn	21 08 15.9	+0.5
PSGC				i S	S	21 08 54.9	-2.5
PB12	IPOC Station P	3.39	291	⇑iP	Pn	21 08 20.5	+0.5
PB12				i S	S	21 09 03.0	-2.7
HJA	Humahuaca	3.64	156	eP	Pn	21 08 24.7	+1.6
HJA				IAML		21 08 25.5	
	comp=Z,246nm,0.5s						
LPAZ	La Paz	3.72	343	eP	Pn	21 08 26.2	+1.9
AZAP	Zapla	4.69	158	eP	Pn	21 08 35.8	+0.5
AZAP				IAML		21 08 37.5	
	comp=Z,36nm,0.2s						
ASTB	Santa Barbara	4.70	150	eP	Pn	21 08 35.8	+0.5
ALOL	LOMAS DE OLMED	4.83	145	eP	Pn	21 08 36.6	+0.1
PB10	IPOC Station P	4.92	222	eP	Pn	21 08 38.4	+0.8
SLA	San Lorenzo	5.03	164	eP	Pn	21 08 39.8	+0.7
PB14	IPOC Station P	5.70	213	eP	Pn	21 08 49.0	+1.6
FSA	Cafayete	6.29	172	eP	Pn	21 08 55.4	+0.7

IDC 04 21:10:35.1±1.7**, 4.13S**×**152.59E, h0**km**, mb3.9**/6**, mb1 4.1**/6**, mb1mx3.7**/43**, mbtmp3.9**/6**, MS3.4**/1**, Ms1 3.4**/1**, ms1mx2.8**/44**, Error ellipse: s-maj=56.3km s-min=24.5km az=118.0, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GUMO	Guam	19.20	337	LR	LR	21 22 05.7	
	comp=Z,108nm,18.4s,baz=51,slow=36						
WRA	Warramunga Arr	23.73	227	P	P	21 15 49.1	-0.1
	4.8nm,0.9s,baz=51,slow=9.8,SNR=29						
ASAR	Alice Springs	26.50	221	P	P	21 16 14.8	+0.2
	2.0nm,1.0s,baz=59,slow=8.5,SNR=11						
CMAR	Chiang Mai Arr	57.41	295	P	P	21 20 26.7	+0.6
	0.3nm,0.4s,baz=111,slow=5.1,SNR=3.7						
MKAR	Makanchi Array	79.69	319	P	P	21 22 44.8	-0.1
	0.5nm,0.8s,baz=100,slow=6.6,SNR=3.6						
ILAR	Eielson Array	81.62	22	P	P	21 22 54.9	0.0
	1.0nm,0.8s,baz=241,slow=6.1,SNR=9.3						
BVAR	Borovoye Array	88.58	323	P	P	21 23 29.1	-0.8
	0.8nm,0.7s,baz=81,slow=8.9,SNR=5.0						

IDC 04 21:14:27.6±2.0**, 6.89S**×**128.73E, h0**km**, mb3.2**/1**, mb1 3.2**/3**, mb1mx3.1**/45**, mbtmp3.1**/3**, ML3.3**/2**, MS3.3**/1**, Ms1 3.3**/1**, ms1mx2.8**/17**, Error ellipse: s-maj=123.9km s-min=31.6km az=67.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	14.07	158	Pn	Pn	21 17 48.0	-0.4
	0.2nm,0.3s,baz=336,slow=12,SNR=7.7						
WRA				Sn	Sn	21 20 11.1	-14
	0.3nm,0.3s,baz=333,slow=22,SNR=8.2						
ASAR	Alice Springs	17.41	164	P	Pn	21 18 32.4	+0.3
	0.1nm,0.3s,baz=342,slow=8.9,SNR=4.6						
TGY	Tagaytay City	22.24	340	LR	LR	21 29 38.0	
	comp=Z,77nm,18.2s,baz=213,slow=41						
MKAR	Makanchi Array	67.45	327	P	P	21 25 25.3	0.0
	0.1nm,0.4s,baz=114,slow=7.8,SNR=4.2						

*TEH **04** 21:56:44.1, 39.12N×43.25E, h10km, ML2.8*
*ISN **04** 21:56:44.5±1.6, 38.69N×43.58E, h0km±6km, ML3.0*
*ISK **04** 21:56:47.9, 38.89N×43.57E, h5km, ML3.2/8*
*ATA **04** 21:56:48.2±1.5, 38.87N×43.56E, h14km±10km, ML3.4, MW3.5*
*CSEM **04** 21:56:48.8±0.2, 38.89N×43.59E, h2km, MD3.0, Error ellipse: s-maj=6.0km s-min=3.8km az=99.0*
*DDA **04** 21:56:48.8, 38.87N×43.55E, h12km, Md3.0*
ISC 04 21:56:49.2±0.8**, 38.88N**±0.01×**43.56E**±0.02**, h11**km±6km**, n83,** σ**1.52**/123**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VMUR	Van-Muradiye	0.11	7	*i* P	Pg	21 56 51.8	-0.4
VMUR				*i* S	Sg	21 56 55.2	+0.8
VMUR	Van-Muradiye	0.11	7	P	Pg	21 56 51.8	-0.4
ERCV	ERCIS-VAN	0.22	309	PG	Pg	21 56 53.2	-0.7
ERCV	ERCIS-VAN	0.22	309	*e*Pg	Pg	21 56 53.2	-0.7
VANB	Van	0.32	204	PG	Pb	21 56 56.6	-0.4
VANB				SG	Sb	21 57 03.9	+1.7
VANB	Van	0.32	204	*e*Pg	Pb	21 56 56.6	-0.4
VANB				*e*Sg	Sb	21 57 03.9	+1.7
TVAN	Van	0.37	198	*i* P	Pg	21 56 56.5	-0.2
TVAN				*i* S	Sb	21 57 03.1	-0.8
TVAN	Van	0.37	198	P	Pg	21 56 56.5	-0.2
TVAN				S	Sb	21 57 03.1	-0.8
CLDR	Caldiran	0.38	47	PG	Pg	21 56 56.0	-0.9
CLDR	Caldiran	0.38	47	*i* P	Pg	21 56 55.9	-1.1
CLDR				*i* S	Sb	21 57 02.2	-2.1
CLDR	Caldiran	0.38	47	*e*Pg	Pg	21 56 56.0	-0.9
CLDR				S	Sb	21 57 02.2	-2.1
ADCV	BITLIS_Adilcev	0.65	264	*i* P	Pg	21 57 01.6	-0.3
ADCV				*i* S	Sb	21 57 11.3	-0.7
ADCV	BITLIS_Adilcev	0.65	264	P	Pg	21 57 01.6	-0.3
ADCV				S	Sb	21 57 11.3	-0.7
DYDN	Diyadin	0.67	9	*e*P	Pb	21 57 02.5	-0.6
DYDN				*e*S	Sb	21 57 12.8	+0.3
DYDN				IAML		21 57 16.8	
	comp=Z,91nm,0.4s						
DYDN	Diyadin	0.67	9	*i* P	Pb	21 57 02.5	-0.6
DYDN				*i* S	Sb	21 57 11.8	-0.7
DYDN	Diyadin	0.67	9	P	Pb	21 57 02.5	-0.6
DYDN				S	Sb	21 57 11.8	-0.7
GEVA	Gevas	0.69	215	*i* P	Pg	21 57 01.2	-1.3
GEVA				*e*S	Sb	21 57 12.8	-0.2
GEVA				IAML		21 57 19.9	
	comp=Z,149nm,0.5s						
GEVA	Gevas	0.69	215	*i* P	Pg	21 57 01.3	-1.3
GEVA				*i* S	Sg	21 57 11.1	-0.6
GEVA	Gevas	0.69	215	P	Pg	21 57 01.3	-1.3
GEVA				S	Sg	21 57 11.1	-0.6
TUTA	Tutak	0.78	312	*i* P	Pg	21 57 03.3	-1.0
TUTA				*e*S	Sb	21 57 15.6	0.0
AGRB	Hanur-Agry	0.82	328	PG	Pb	21 57 04.6	-1.0
AGRB	Hanur-Agry	0.82	328	*e*Pg	Pb	21 57 04.6	-1.0
IGDI	IGDIR	1.06	22	*i* P	Pn	21 57 09.6	-0.6
IGDI				IAML		21 57 31.7	
	comp=Z,32nm,0.5s						
IGDI	IGDIR	1.06	22	*i* P	Pn	21 57 09.3	-0.9
IGDI				*i* S	Sn	21 57 27.0	+1.9
EKAR	Karacoban	1.22	288	*e*P	Pn	21 57 11.6	-0.9
EKAR				*e*S	Sn	21 57 31.5	+2.3
EKAR				IAML		21 57 32.1	
	comp=Z,56nm,0.4s						
EKAR	Karacoban	1.22	288	*i* P	Pn	21 57 11.4	-1.1
EKAR				*i* S	Sg	21 57 28.1	-0.5
EKAR	Karacoban	1.22	288	P	Pn	21 57 11.4	-1.1
EKAR				S	Sg	21 57 28.0	-0.5
TASB	TASBURUN-IGDIR	1.22	25	PN	Pg	21 57 12.5	-0.2
TASB	TASBURUN-IGDIR	1.22	25	*e*Pn	Pg	21 57 12.5	-0.2
GURO	Guroymak-BITLI	1.24	255	PN	Pn	21 57 11.2	-1.4
GURO	Guroymak-BITLI	1.24	255	*e*Pn	Pn	21 57 11.2	-1.4
EATA	Eleskirt	1.28	320	*e*P	Pg	21 57 12.8	-1.1
EATA				*e*S	Sn	21 57 32.7	+1.9
EATA	Eleskirt	1.28	320	*i* P	Pg	21 57 12.8	-1.1
EATA				*i* S	Sn	21 57 32.7	+1.9
EATA	Eleskirt	1.28	320	P	Pg	21 57 12.8	-1.1
EATA				S	Sn	21 57 32.7	+1.9
HAKT	HAKKARI	1.33	175	*i* P	Pn	21 57 12.9	-1.1
HAKT				*i* S	Sg	21 57 34.1	+2.1
HAKT	HAKKARI	1.33	175	P	Pn	21 57 12.9	-1.1
HAKT				S	Sg	21 57 34.1	+2.1
YOVA	Hakkari_Yˆ…kse	1.42	156	*i* P	Pg	21 57 15.4	-1.1
YOVA				*i* S	Sg	21 57 39.8	+4.9
YOVA	Hakkari_Yˆ…kse	1.42	156	P	Pg	21 57 15.4	-1.1
DIGO	Kars	1.54	355	*e*P	Pg	21 57 17.6	-1.1
DIGO				*e*S	Sg	21 57 39.4	+0.7
DIGO				IAML		21 57 49.2	
	comp=Z,13nm,0.5s						
DIGO	Kars	1.54	355	*i* P	Pg	21 57 17.8	-1.0
DIGO				*i* S	Sg	21 57 43.1	+4.4
DIGO	Kars	1.54	355	P	Pg	21 57 17.8	-1.0
SRTM	Siirt_Merkez	1.56	236	*i* P	Pg	21 57 18.4	-0.8
SRTM				*i* S	Sg	21 57 41.1	+1.6
SRTM	Siirt_Merkez	1.56	236	P	Pg	21 57 18.4	-0.8
SRTM				S	Sg	21 57 41.1	+1.6
SIRT	Sirnak	1.64	213	PN	Pg	21 57 19.4	-1.2
SIRT	Sirnak	1.64	213	*e*Pn	Pg	21 57 19.4	-1.2
SIRN	S˜–rnak	1.65	213	*i* P	Pg	21 57 19.8	-1.1
SIRN				*i* S	Sg	21 57 43.4	+1.1
SIRN	S˜–rnak	1.65	213	P	Pg	21 57 19.8	-1.1
SIRN				S	Sg	21 57 43.4	+1.1
VRTB	Varto-Mus	1.66	280	PN	Pb	21 57 19.7	-0.2
VRTB	Varto-Mus	1.66	280	*e*Pn	Pb	21 57 19.7	-0.2
IMRD	Marand	1.69	95	*e*Pn	Pg	21 57 19.9	-1.7
IMRD				*e*Sg	Sg	21 57 49.9	+6.4
IMRD				*e*AMB	AMB	21 57 53.4	
	comp=Z,2µm,0.3s						
ISHB	Shabestar	1.72	110	*e*Pn	Pg	21 57 21.1	-1.2
ISHB				*e*AMB	AMB	21 57 25.8	
	comp=Z,1µm,0.3s						
HOMI	Horasan	1.73	313	*i* P	Pb	21 57 20.7	-0.4
HOMI				*e*S	Sg	21 57 48.2	+3.4
HOMI	Horasan	1.73	313	*i* P	Pb	21 57 20.7	-0.4
KARS	Kars	1.78	348	PN	Pb	21 57 20.3	-1.7
KARS	Kars	1.78	348	*e*Pn	Pb	21 57 20.3	-1.7
EAK	Akyaka	1.80	1	*e*P	Pg	21 57 24.3	+0.5
EAK				*e*S	Sg	21 57 49.3	+2.1
EAK				IAML		21 58 09.9	
	comp=Z,18nm,0.7s						
EAK	Akyaka	1.80	1	*i* P	Pg	21 57 23.9	+0.1
EAK				*i* S	Sn	21 57 42.5	-0.9
SENK	Senkaya-Erzuru	1.92	331	PN	Pb	21 57 23.2	-1.2
SENK	Senkaya-Erzuru	1.92	331	*e*Pn	Pb	21 57 23.2	-1.2
ERZM	Erzurum	1.98	302	*e*P	Pb	21 57 24.6	-0.8
ERZM				*e*S	Sg	21 57 52.9	0.0
ERZM	Erzurum	1.98	302	*i* P	Pb	21 57 24.3	-1.2
ERZM				*i* S	Sg	21 57 55.5	+2.6
ERZM	Erzurum	1.98	302	P	Pb	21 57 24.3	-1.2
SVAN	Silvan-Diyarba	1.99	249	PN	Pb	21 57 24.3	-1.2
SVAN	Silvan-Diyarba	1.99	249	*e*Pn	Pb	21 57 24.3	-1.2
BTMN	Batman	2.05	242	*i* P	Pb	21 57 26.3	-0.3
BTMN				*i* S	Sg	21 57 53.5	-1.6
BTMN	Batman	2.05	242	P	Pb	21 57 26.3	-0.3
BTMN				S	Sg	21 57 53.5	-1.6
ECAT	Cat-ERZURUM	2.13	291	*e*P	Pb	21 57 27.8	-0.2
ECAT	Cat-ERZURUM	2.13	291	*i* P	Pb	21 57 27.8	-0.2
ECAT	Cat-ERZURUM	2.13	291	P	Pb	21 57 27.8	-0.2
ITBZ	Tabriz	2.13	107	*e*Pn	Pb	21 57 27.2	-0.8
ITBZ				*e*AMB	AMB	21 57 39.0	
	comp=Z,220nm,0.3s						
BNGB	Bingˆ¶l	2.25	274	PN	Pb	21 57 28.0	-1.9
BINT	Bingol	2.39	271	*e*Pn	Pn	21 57 28.0	-0.5
DDEM	Demirkent	2.44	326	*i* P	Pg	21 57 34.7	-1.3
DBAD	Bademkaya	2.57	327	*i* P	Pg	21 57 37.3	-1.2
KOPT	Kop Dagi	2.62	297	*e*P	Pb	21 57 35.3	-1.2
IHRS	Heris	2.79	101	*e*Pn	Pb	21 57 36.6	-2.7
IHRS				*e*AMB	AMB	21 57 43.5	
	comp=Z,376nm,0.3s						
MAZI	Mazidag	2.83	241	PN	Pn	21 57 36.3	+1.7
MAZI	Mazidag	2.83	241	*e*Pn	Pn	21 57 36.3	+1.7
DBOC	Borcka	2.85	330	*i* P	Pg	21 57 42.2	-1.8
IBST	Bostanabad	2.88	113	*e*Pn	Pb	21 57 37.8	-3.0
IBST				*e*AMB	AMB	21 57 54.4	
	comp=Z,71nm,0.2s						
TNCL	Tunceli-Merkez	3.13	275	*e*P	Pb	21 57 46.1	+1.1
PTK	Pertek	3.25	271	PN	Pn	21 57 42.4	+2.0
PTK	Pertek	3.25	271	*e*Pn	Pn	21 57 42.4	+2.0

*IDC **04** 22:00:34.0±6.9, 6.50S×130.00E, h106km±64km, mb3.5/6, mb1 3.8/9, mb1mx3.5/50, mbtmp4.0/9, MS3.9/1, Ms1 3.9/1, ms1mx2.7/37, Error ellipse: s-maj=77.0km s-min=19.2km az=58.0*
*ISCJB **04** 22:00:36.0±0.7, 6.86S±0.07×129.60E±0.09, h146km, mb3.6/6, Error ellipse: s-maj=12.9km s-min=9.3km az=160.2*
ISC 04 22:00:37.6±0.9**, 6.91S**±0.09×**129.7E**±0.1**, h146**km**, n11,** σ**2.36**/12**, mb3.6**/6**, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BATI	Baumata	6.83	241	P	Pn	22 02 18.2	+2.8
	3.2nm,0.3s,baz=217,slow=2.2,SNR=7.1						
BATI				S	Sn	22 03 29.3	-2.7
	6.0nm,0.3s,baz=125,slow=15,SNR=5.4						
WRA	Warramunga Arr	13.71	161	P	Pn	22 03 46.3	+0.2
	1.7nm,0.3s,baz=343,slow=13,SNR=80						
WRA				S	Sn	22 06 13.9	-4.1
	1.8nm,0.3s,baz=333,slow=23,SNR=6.9						
ASAR	Alice Springs	17.14	167	P	Pn	22 04 31.2	+2.7
	1.2nm,0.3s,baz=338,slow=9.0,SNR=88						
STKA	Stephens Creek	27.20	157	P	P	22 06 10.7	+2.9
	0.9nm,0.5s,baz=331,slow=14,SNR=2.8						
DZM	Mont Dzumac	38.48	117	LR	LR	22 23 46.3	
	comp=Z,170nm,19.6s,baz=210,slow=36						
CMAR	Chiang Mai Arr	39.46	310	P	P	22 07 53.0	-0.9
	0.6nm,0.4s,baz=139,slow=7.4,SNR=5.5						
SONM	Songino Array	58.27	342	P	P	22 10 15.8	-1.1
	0.3nm,0.6s,baz=131,slow=4.0,SNR=2.8						
MKAR	Makanchi Array	68.00	327	P	P	22 11 21.1	+0.1
	0.7nm,0.4s,baz=116,slow=8.3,SNR=24						
ZALV	Zalesovo Beam	71.38	334	P	P	22 11 40.7	-0.8
	0.4nm,0.4s,baz=145,slow=3.6,SNR=3.7						
KURBB	Kurchatov Arra	72.29	329	P	P	22 11 46.3	-0.7
	0.6nm,0.6s,baz=126,slow=4.7,SNR=8.4						
CPUP	Villa Florida	146.26	169	PKPbc	PKPab	22 20 03.1	+0.4
	1.3nm,0.6s,baz=177,slow=1.4,SNR=3.8						

IDC 04 22:09:17.7±5.8**, 3.58S**×**151.76E, h0**km**, mb3.4**/3**, mb1 3.6**/3**, mb1mx3.2**/52**, mbtmp3.4**/3**, Error ellipse: s-maj=183.1km s-min=33.9km az=104.0, New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	23.52	225	P	P	22 14 28.1	-1.5
	1.0nm,1.0s,baz=52,slow=9.7,SNR=4.2						
ASAR	Alice Springs	26.39	219	P	P	22 14 57.6	+1.6
	0.3nm,0.5s,baz=58,slow=8.8,SNR=3.4						
MKAR	Makanchi Array	78.73	319	P	P	22 21 22.0	-0.2
	0.3nm,0.7s,baz=100,slow=7.5,SNR=3.3						

*IDC **04** 22:28:42.0±2.0, 62.74N×150.91W, h63km±30km, mb3.6/7, mb1 3.7/10, mb1mx3.3/79, mbtmp3.8/10, ML3.7/4, Error ellipse: s-maj=46.2km s-min=9.6km az=115.0*
*ISCJB **04** 22:28:43.1±0.2, 62.73N±0.02×150.54W±0.05, h98km±3km, mb3.8/7, Error ellipse: s-maj=3.9km s-min=2.7km az=20.2*
*NEIC **04** 22:28:44.3±0.0, 62.74N×150.56W, h87km, ML3.9(AEIC), After AEIC.*
ISC 04 22:28:44.6±0.8**, 62.75N**±0.03×**150.64W**±0.04**, h91**km±6km**, n88,** σ**1.69**/112**, mb3.8**/7**, Central Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TRF	Thorofare Moun	0.72	13	P	Pn	22 29 01.6	+0.1
PPLA	Purkeypile	0.72	282	P	Pn	22 29 01.6	0.0
PPLA				S	Sn	22 29 14.6	+0.4
KTH	Kantishna Hill	0.81	351	*e*Pn	Pn	22 29 02.5	+0.1
KTH				*e*S	Sn	22 29 16.1	+0.4
SKT	Skwentna	0.88	209	P	Pn	22 29 02.3	-0.7
SKT				S	Sn	22 29 16.0	-0.8
CAST	Castle Rocks	0.94	316	P	Pn	22 29 03.4	-0.2
CAST				S	Sn	22 29 17.0	-1.0
RND	Reindeer	1.05	50	P	Pn	22 29 04.8	-0.1
RND				S	Sn	22 29 20.0	-0.2
MCK	McKinley	1.25	37	P	Pn	22 29 07.4	+0.1
GHO	Glory Hole Cre	1.27	140	P	Pn	22 29 07.3	-0.2
SUA	Susitna One	1.29	182	P	Pn	22 29 07.3	-0.6
SUA				S	Sn	22 29 25.2	-0.3
PMR	Palmer	1.36	148	P	Pn	22 29 07.8	-0.8
BPAW	Bear Paw Mtn.	1.36	354	P	Pn	22 29 08.4	-0.2
BPAW				S	Sn	22 29 26.0	-0.8
STLK	Strandline Lak	1.38	205	P	Pn	22 29 08.2	-0.6
SML	Sawmill	1.44	130	*e*Pn	Pn	22 29 09.0	-0.6
SML				*e*S	Sn	22 29 28.4	-0.1
DHY	Denali Highway	1.53	76	P	Pn	22 29 10.2	-0.6
FIB	Fire Island	1.61	172	P	Pn	22 29 11.7	+0.1
SPCP	Crater Peak Br	1.65	206	P	Pn	22 29 11.8	-0.6
SPCP				S	Sn	22 29 33.0	-0.5
KNK	Knik Glacier	1.69	142	P	Pn	22 29 12.0	-0.8
RC01	Rabbit Creek A	1.72	165	*e*Pn	Pn	22 29 12.6	-0.6
RC01				*e*S	Sn	22 29 33.2	-1.7
SPWE	Spurr West	1.74	212	P	Pn	22 29 13.2	-0.2
CKL	Chakachamna La	1.75	208	P	Pn	22 29 13.1	-0.6
SCM	Sheep Creek Mo	1.80	119	P	Pn	22 29 13.5	-0.8
WRH	Wood River Hil	2.07	32	P	Pn	22 29 17.5	-0.2
WRH				S	Sn	22 29 41.2	-1.7
SLKM	Skilak Lake	2.26	175	P	Pn	22 29 19.5	-0.8
CCB	Clear Creek Bu	2.28	32	P	Pn	22 29 20.2	-0.3
CCB				S	Sn	22 29 46.1	-1.8
MLY	Manley	2.29	359	P	Pn	22 29 20.4	-0.2
PS10	TAPS Pump St10	2.32	71	P	Pn	22 29 21.6	+0.6
HDA	Harding Lake	2.34	43	P	Pn	22 29 21.2	-0.1
HDA				S	Sn	22 29 47.9	-1.6
PAX	Paxson	2.38	82	*e*Pn	Pn	22 29 22.1	+0.2
PAX				*e*S	Sn	22 29 45.5	-4.9
RDJH	Redoubt Jeurge	2.40	206	P	Pn	22 29 21.7	-0.5
NCT	North Crescent	2.45	207	P	Pn	22 29 22.5	-0.3
MDM	Murphy Dome	2.46	25	P	Pn	22 29 22.8	0.0
COLA	College	2.46	29	*e*Pn	Pn	22 29 22.7	-0.1
COLA				*e*S	Sn	22 29 50.9	-1.3
TT01	Tatalina	2.47	276	P	Pn	22 29 22.7	-0.3
PS08	TAPS Pump Stn8	2.48	42	P	Pn	22 29 22.8	-0.2
PS08				S	Sn	22 29 50.5	-2.0
PS11	TAPS Pump St11	2.50	103	P	Pn	22 29 23.5	+0.2
RSO	Redoubt South	2.51	205	*e*Pn	Pn	22 29 24.5	+0.8
RSO				*e*S	Sn	22 29 57.7	+4.0
KLU	Klutina	2.55	118	P	Pn	22 29 22.7	-1.4
JPK	Jack Peak	2.56	130	P	Pn	22 29 22.6	-1.7
HARP	HAARP	2.56	95	P	Pn	22 29 24.3	+0.1
ILAR	Eielson Array	2.63	38	P	Pn	22 29 24.8	-0.2
	99nm,0.3s,baz=221,slow=14,SNR=4090						
ILAR				S	Sn	22 29 54.8	-1.3
	59nm,0.3s,baz=222,slow=20,SNR=20						
ILB	Eielson Array	2.63	38	P	Pn	22 29 24.9	-0.2
GLM	Gilmore Dome	2.67	31	P	Pn	22 29 25.5	-0.1
RIDG	Independ'e Rid	2.81	67	P	Pn	22 29 27.8	+0.3
DIV	Divide	2.82	123	*e*Pn	Pn	22 29 25.6	-2.1
DIV				*e*S	Sn	22 30 07.2	+6.4
SVW2	Sparrevohn	2.87	237	P	Pn	22 29 27.9	-0.4
ILW	Iliamna West	2.96	205	P	Pn	22 29 29.9	+0.3
DOT	Dot Lake	3.11	70	P	Pn	22 29 31.3	-0.3
MENT	Mentasta	3.18	84	P	Pn	22 29 32.2	-0.3
EYAK	Cordova Ski Ar	3.21	131	P	Pn	22 29 31.8	-1.1
SCRK	Sand Creek	3.24	65	P	Pn	22 29 33.1	-0.3
BMRM	Bremner River	3.37	119	*e*Pn	Pn	22 29 32.8	-2.3
BMRM				*e*S	Sn	22 30 22.3	+8.1
IM3	Indian Mountai	3.52	339	P	Pn	22 29 37.1	+0.2
PRP	Porcupine Dome	3.57	37	P	Pn	22 29 37.8	-0.1
VRDI	Verde Repeater	3.72	111	P	Pn	22 29 37.8	-2.1
BCA3	Beaver Creek A	4.06	82	P	Pn	22 29 43.7	-0.7
NICHA	Nichawak Mount	4.07	125	P	Pn	22 29 42.1	-2.4
PS05	TAPS Pump Stn5	4.08	360	P	Pn	22 29 45.3	+0.8
CDD	Cape Douglas	4.11	202	P	Pn	22 29 45.4	+0.4
KHIT	Khitrov Hills	4.22	120	P	Pn	22 29 44.8	-1.9
FONW	Fourpeaked Sta	4.25	204	P	Pn	22 29 47.3	+0.3
BALM	Baldy	4.29	110	P	Pn	22 29 45.6	-1.9
KIAG	Kiagna River	4.33	111	P	Pn	22 29 46.2	-1.9
FYU	Fort Yukon	4.48	29	P	Pn	22 29 50.6	+0.6
COLD	Coldfoot	4.50	2	P	Pn	22 29 49.3	-0.9
ISLE	Juniper Island	4.50	115	P	Pn	22 29 48.2	-2.3
KULT	Kultieth River	4.55	120	P	Pn	22 29 49.5	-1.6
BARN	Barnard Glacie	4.57	108	P	Pn	22 29 50.3	-1.2
BAGL	Bagley Icefiel	4.67	115	P	Pn	22 29 50.5	-2.0
EGAK	Eagle	4.67	60	P	Pn	22 29 52.6	0.0
KARR	Katmai Rainbow	4.71	207	P	Pn	22 29 53.9	+0.6
KDAK	Kodiak Island	5.08	192	P	Pn	22 29 56.1	-2.0
	2.5nm,0.3s,baz=48,slow=17,SNR=91						
KDAK				S	Sn	22 30 51.6	-3.8
	9.3nm,0.3s,baz=316,slow=22,SNR=13						
KDAK	Kodiak Island	5.08	192	*e*Pn	Pn	22 29 56.1	-2.0
KDAK				*e*S	Sn	22 30 52.1	-3.3
DAWY	Dawson	5.22	70	P	Pn	22 29 59.6	-0.6
CHX	Chaix Hills	5.31	116	P	Pn	22 29 59.9	-1.5
BM3	Burnt Mountain	5.33	26	P	Pn	22 30 02.4	+0.8
OHAK	Old Harbor	5.70	195	*e*Pn	Pn	22 30 04.3	-2.4
	28nm,0.8s						
OHAK				*e*S	Sn	22 31 08.8	-1.9
BCPM	Bancas Point	5.99	113	P	Pn	22 30 08.6	-2.0
BESE	Bessie Mountai	8.80	111	P	Pn	22 30 46.6	-2.2
INK	Inuvik	9.00	44	P	Pn	22 30 51.9	+0.4
	1.1nm,0.3s,baz=233,slow=15,SNR=35						
INK	Inuvik	9.00	44	*e*Pn	Pn	22 30 52.0	+0.6
INK				*e*S	Sn	22 32 35.0	+4.1
YKA	Yellowknife Ar	16.44	75	P	P	22 32 28.7	-1.8
	0.1nm,0.3s,baz=283,slow=12,SNR=4.5						
RES	Resolute Bay	22.38	35	P	P	22 33 36.4	+1.7
	0.6nm,0.5s,baz=238,slow=11,SNR=6.0						
ZALV	Zalesovo Beam	55.82	324	P	P	22 38 11.0	-0.7
	0.4nm,0.4s,baz=15,slow=12,SNR=3.1						
FINES	FINESS Array B	56.10	2	P	P	22 38 14.2	+0.6
	2.9nm,0.9s,baz=347,slow=7.8,SNR=4.8						
BVAR	Borovoye Array	60.15	333	P	P	22 38 42.3	+0.3
	1.1nm,0.5s,baz=28,slow=6.5,SNR=7.2						
MKAR	Makanchi Array	62.97	322	P	P	22 39 00.7	-0.4
	0.5nm,0.4s,baz=36,slow=6.1,SNR=7.9						
AKASG	Malin Array Be	66.89	0	P	P	22 39 26.8	+0.4
	0.6nm,0.4s,baz=359,slow=6.4,SNR=5.8						
AAK	Ala-Archa	68.93	326	P	P	22 39 40.1	+0.6
	0.9nm,0.7s,baz=48,slow=3.9,SNR=3.8						

*ISCJB **04** 22:32:49.9±0.6, 32.02N±0.03×103.25E±0.05, h10km, mb3.5/5, MS4.2/1, Error ellipse: s-maj=6.7km s-min=4.8km az=171.6*
*IDC **04** 22:32:49.8±1.1, 31.67N×102.90E, h0km, mb3.5/6, mb1 3.6/7, mb1mx3.3/78, mbtmp3.5/7, MS4.2/1, Ms1 4.2/1, ms1mx2.7/57, Error ellipse: s-maj=41.8km s-min=18.6km az=55.0*
*BJI **04** 22:32:51.6, 31.99N×103.05E, h11km, mb3.3/1, ML3.8/15, Ms3.5/6, Ms7 3.2/5*
ISC 04 22:32:51.7±0.8**, 31.94N**±0.05×**103.03E**±0.06**, h10**km**, n15,** σ**2.54**/18**, mb3.6**/6**, 2C, Sichuan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CD2	Chengdu	1.21	149	⇑*i*Pg	Pn	22 33 13.4	-1.3
CD2				Sg	Sb	22 33 30.4	+0.1
CD2				smax	smax		
	comp=N,2µm,0.7s						
CD2				smax	smax		
	comp=E,2µm,0.4s						
LZH	Lanzhou	4.19	9	Pg	Pg	22 34 09.5	-2.4
LZH				Sg	Sg	22 35 06.0	-0.2
LZH				smax	smax		
	comp=N,230nm,1.1s						
LZH				smax	smax		
	comp=E,180nm,1.4s						
LZH				LR	LR		
	comp=N,760nm,6.4s						
LZH				LR	LR		
	comp=E,770nm,7.1s						
LZH				LR	LR		
	comp=Z,730nm,7.1s						
XAN	Xi'an	5.38	66	Pn	Pn	22 34 10.9	-1.1
XAN				Pg	Pb	22 34 28.2	+2.4
XAN				Sn	Sn	22 35 20.8	+6.8
XAN				Sg	Sg	22 35 41.4	-2.9
XAN				smax	smax		
	comp=N,140nm,0.6s						
XAN				smax	smax		
	comp=E,100nm,0.8s						
XAN				LR	LR		
	comp=N,240nm,5.3s						
XAN				LR	LR		
	comp=E,250nm,5.8s						
XAN				LR	LR		
	comp=Z,190nm,8.6s						
GTA	Gaotai	7.89	342	*e*P	Pn	22 34 52.0	+5.3
GTA				pP	Pb	22 34 55.0	-14
GTA				sP	Pg	22 34 58.0	-25
GTA				pmax	pmax		
	comp=Z,2.0nm,1.1s						
WHN	Wuhan	9.79	95	⇑P	Pn	22 35 19.6	+7.0
WHN				S	Sn	22 37 00.4	-2.2
CMAR	Chiang Mai Arr	13.93	196	Pn	Pn	22 36 11.2	+2.0
	baz=13,slow=12,SNR=4.3						
SONM	Songino Array	16.08	8	Pn	P	22 36 39.7	-1.6
	baz=179,slow=13,SNR=3.0						
WMQ	Urumqi	16.91	319	*e*P	Pn	22 36 48.2	-0.3
KSRS	Korea Array	21.17	68	P	P	22 37 38.6	+1.5
	2.2nm,0.7s,baz=253,slow=10,SNR=5.8						
MKAR	Makanchi Array	21.74	319	P	P	22 37 42.8	-0.5
	0.4nm,0.5s,baz=126,slow=12,SNR=8.8						
ZALV	Zalesovo Beam	25.57	335	P	P	22 38 22.6	+2.0
	1.0nm,0.6s,baz=150,slow=11,SNR=4.9						
KURBB	Kurchatov Arra	26.02	323	P	P	22 38 26.7	+1.9
	0.6nm,0.5s,baz=130,slow=9.0,SNR=7.3						
SEY	Seymchan	43.82	30	LR	LR	23 02 21.4	
	comp=Z,274nm,18.6s,baz=331,slow=40						
WRA	Warramunga Arr	59.68	146	P	P	22 42 55.2	-1.3
	0.5nm,0.6s,baz=339,slow=7.2,SNR=16						
ASAR	Alice Springs	62.69	148	P	P	22 43 15.0	-1.8
	0.3nm,0.5s,baz=335,slow=6.8,SNR=4.7						

*IDC **04** 22:41:18.4±1.0, 16.29S×177.98E, h0km, mb4.4/11, mb1 4.7/11, mb1mx4.3/47, mbtmp4.4/11, MS3.7/23, Ms1 3.7/23, ms1mx3.6/44, Error ellipse: s-maj=57.1km s-min=16.6km az=148.0*
*BJI **04** 22:41:18.8, 16.62S×177.93E, h10km, mb4.9/10, mB5.3/2, Ms5.2/3, Ms7 5.0/3*
*ISCJB **04** 22:41:20.6±0.2, 16.37S±0.05×177.81E±0.06, h21km, mb4.7/62, MS3.7/20, Error ellipse: s-maj=9.1km s-min=6.2km az=28.2*
*NEIC **04** 22:41:24.0±0.2, 16.36S×177.86E, h35km, mb4.8/46, Error ellipse: s-maj=11.4km s-min=5.7km az=145.0*
NEIC Felt at Lambasa, Savusavu and Suva.

ISC 04 22:41:22.0±0.5, 16°.43S±0°.07×178°.0E±0°.1, h21km, n132, σ1s.12/110, mb4.8/62, MS3.8/21, 2C, Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MSVF	Nonsavu	1.29	176	ePn	Pn	22 41 43.9	-1.1
MSVF				eS	Sn	22 42 02.9	+1.2
AFI	Afiamalu	10.23	77	LR	LR	22 46 51.8	
	comp=Z,419nm,19.2s,baz=253,slow=33						
DZM	Mont Dzumac	12.23	241	eLR	LR	22 47 10.3	
	594nm,24.3s						
DZM	Mont Dzumac	12.23	241	LR	LR	22 48 11.3	
	comp=Z,490nm,20.6s,baz=52,slow=34						
DZM	Mont Dzumac	12.23	241	ePn	Pn	22 44 12.6	-2.5
HNR	Honiara	18.87	289	LR	LR	22 52 09.8	
	comp=Z,214nm,19.0s,baz=132,slow=35						
RAR	Rarotonga	21.60	106	LR	LR	22 52 49.6	
	comp=Z,101nm,19.9s,baz=286,slow=32						
MLZ	Mavora Lakes	30.00	194	eP	P	22 47 31.0	+1.8
	32nm,1.2s						
CTA	Charters Tower	30.30	258	P	P	22 47 33.5	+1.4
	8.0nm,0.9s,baz=85,slow=10,SNR=5.7						
CTAO	Charters Tower	30.30	258	P	P	22 47 32.0	-0.1
	69nm,1.1s						
PMG	Port Moresby	30.79	279	LR	LR	22 59 02.8	
	comp=Z,125nm,18.9s,baz=110,slow=35						
PPT2	Papeete2	31.05	97	eLQ	LQ	22 54 29.8	
	395nm,25.2s						
PPT2				eLR	LR	22 55 48.7	
	452nm,29.8s						
PPT	Papeete	31.05	97	LR	LR	22 57 17.9	
	comp=Z,60nm,19.9s,baz=267,slow=31						
COEN	Coen	33.63	269	eP	P	22 48 00.2	-1.2
	9.3nm,1.0s						
STKA	Stephens Creek	36.37	238	P	P	22 48 26.0	+1.2
	7.8nm,0.8s,baz=68,slow=9.7,SNR=17						
STKA				LR	LR	23 02 56.0	
	comp=Z,161nm,18.3s,baz=204,slow=36						
STKA	Stephens Creek	36.37	238	eP	P	22 48 26.6	+1.8
	2.1nm,0.9s						
WB2	Warramunga Arr	41.49	258	eP	P	22 49 06.8	-1.1
WRA	Warramunga Arr	41.50	258	P	P	22 49 06.6	-1.5
	5.9nm,1.1s,baz=90,slow=8.6,SNR=21						
AS01	Alice Springs	41.83	253	eP	P	22 49 09.6	-1.1
AS31	Alice Springs	41.87	253	eP	P	22 49 11.0	-0.1
	3.7nm,0.9s						
ASAR	Alice Springs	41.87	253	P	P	22 49 10.4	-0.7
	13nm,1.0s,baz=83,slow=8.7,SNR=50						
GUMO	Guam	44.26	310	LR	LR	23 04 50.8	
	comp=Z,57nm,21.6s,baz=139,slow=32						
DAV	Davao City (W)	56.83	290	LR	LR	23 11 32.5	
	comp=Z,57nm,21.4s,baz=139,slow=32						
JOW	Kunigami	64.62	311	LR	LR	23 16 34.1	
	comp=Z,41nm,20.5s,baz=338,slow=33						
MJAR	Matsushiro Arr	64.69	325	LR	LR	23 15 07.1	
	comp=Z,51nm,21.9s,baz=120,slow=31						
JNU	Nakatsue	66.70	318	LR	LR	23 16 53.3	
	comp=Z,40nm,21.1s,baz=118,slow=32						
RPN	Rapa Nui	67.56	113	LR	LR	23 14 48.6	
	comp=Z,58nm,21.5s,baz=274,slow=30						
KSRS	Korea Array	71.32	320	LR	LR	23 18 25.0	
	comp=Z,73nm,21.1s,baz=106,slow=31						
USRK	Ussuriysk Ar.	73.47	327	LR	LR	23 19 43.3	
	comp=Z,90nm,21.5s,baz=96,slow=31						
NJ2	Nanjing	74.34	311	eP	P	22 53 00.5	+2.3
NJ2				pmax	pmax		
	comp=Z,11nm,0.6s						
CN2	Changchun	76.76	324	eP	P	22 53 14.8	+2.9
CN2				pmax	pmax		
	comp=Z,10.0nm,0.4s						
CMB	Columbia Colle	79.21	45	eP	P	22 53 26.3	+0.6
	8.6nm,1.1s						
ORV	Oroville	79.25	43	eP	P	22 53 26.0	+0.2
	4.4nm,1.0s						
AFDM	Forest Hills D	79.28	44	eP	P	22 53 26.8	+0.7
	6.8nm,1.0s						
YBH	Yreka Blue Hor	79.64	41	LR	LR	23 21 30.9	
	comp=Z,37nm,19.0s,baz=266,slow=30						
DAC	Darwin (Calif)	80.28	48	eP	P	22 53 32.1	+0.3
	17nm,1.8s						
PAHR	Pah Rah Range	80.73	44	eP	P	22 53 34.4	+0.4
	14nm,1.2s						
LPIG	La Paz	80.76	62	LR	LR	23 21 42.9	
	comp=Z,54nm,18.9s,baz=232,slow=30						
NV01	Mina Array Sit	80.83	46	eP	P	22 53 34.5	-0.2
NVAR	Mina Array Bea	80.83	46	P	P	22 53 34.7	0.0
	4.2nm,1.0s,baz=224,slow=8.4,SNR=10						
NVAR				LR	LR	23 22 52.8	
	comp=Z,46nm,20.0s,baz=80,slow=31						
NV11	Mina Array Sit	80.93	46	eP	P	22 53 35.4	+0.2
	1.0nm,1.1s						
MOD	Modoc Plateau	81.25	42	eP	P	22 53 37.0	+0.2
	6.5nm,0.8s						
K05A	Summer Lake	81.31	41	eP	P	22 53 37.7	+0.6
	12nm,0.9s						
SEY	Seymchan	81.61	348	P	P	22 53 37.3	-0.7
	2.4nm,0.8s,baz=158,slow=11,SNR=5.3						
PINE	Pine Mountain	81.84	40	eP	P	22 53 40.5	+0.6
	13nm,1.0s						
SHPR	Sheep Range	82.12	48	eP	P	22 53 42.1	+0.6
	6.5nm,1.2s						
BMN	Battle Mountai	82.53	44	eP	P	22 53 44.0	+0.4
	7.6nm,0.9s						
WVOR	Wild Horse Val	82.59	42	eP	P	22 53 44.1	+0.4
	7.4nm,0.9s						
CAST	Castle Rocks	82.94	13	eP	P	22 53 43.0	-1.9
	13nm,1.4s						
J08A	Circle Bar Ran	83.15	41	eP	P	22 53 46.9	+0.2
	12nm,1.0s						
TUC	Tucson	83.60	54	eP	P	22 53 50.2	+1.0
	6.3nm,1.1s						
RND	Reindeer	83.66	14	eP	P	22 53 47.4	-1.4
	9.5nm,0.8s						
HHC	Hu-ho-hao-te	83.78	316	eP	P	22 53 55.3	+5.4
HHC				pmax	pmax		
	comp=Z,13nm,1.4s						
HHC				pmax	pmax		
	comp=Z,110nm,7.9s						
CCUT	Cedar City	83.88	48	eP	P	22 53 51.5	+0.9
	7.1nm,1.1s						
MCK	McKinley	83.92	14	eP	P	22 53 49.3	-0.7
	6.7nm,1.0s						
U15A	North Rim	84.17	50	eP	P	22 53 52.8	+0.6
	12nm,0.9s						
WUAZ	Wupatki	84.46	51	eP	P	22 53 54.4	+0.7
	7.8nm,1.0s						
MLY	Manley	84.64	13	eP	P	22 53 52.5	-1.1
	3.9nm,1.0s						
WRH	Wood River Hil	84.75	14	eP	P	22 53 52.8	-1.3
	9.3nm,1.3s						
MFID	Camas Ranch	84.87	42	eP	P	22 53 55.5	0.0
	9.3nm,1.0s						
MTPU	Mount Pierson	84.93	48	eP	P	22 53 57.0	+0.8
	10.0nm,1.0s						
RIDG	Independ'e Rid	84.94	16	eP	P	22 53 54.4	-0.9
	9.2nm,1.0s						
CCB	Clear Creek Bu	84.96	14	eP	P	22 53 53.7	-1.5
	5.8nm,0.9s						
DOT	Dot Lake	85.07	16	eP	P	22 53 54.5	-1.3
	10nm,0.8s						
CMAR	Chiang Mai Arr	85.12	291	P	P	22 53 58.1	+1.0
	0.8nm,0.8s,baz=137,slow=2.1,SNR=6.4						
CMAR				LR	LR	23 31 11.0	
	comp=Z,29nm,20.1s,baz=155,slow=35						
MDM	Murphy Dome	85.13	14	eP	P	22 53 54.5	-1.6
	6.6nm,1.0s						
MSU	Marysvale	85.14	48	eP	P	22 53 58.1	+1.1
F10A	Beach Ranch, E	85.22	39	eP	P	22 53 56.7	-0.4
	8.3nm,0.9s						
IL1	Eielson Array	85.28	14	eP	P	22 53 54.9	-2.0
ILAR	Eielson Array	85.28	14	P	P	22 53 55.4	-1.4
	3.9nm,0.8s,baz=235,slow=6.3,SNR=28						
ILB	Eielson Array	85.28	14	eP	P	22 53 55.5	-1.4
SCRK	Sand Creek	85.36	16	eP	P	22 53 56.6	-0.8
	7.7nm,1.4s						
HLID	Hailey	85.85	42	eP	P	22 54 00.6	+0.2
	3.9nm,0.9s						
SPUT	South Promonto	86.15	45	eP	P	22 54 02.3	+0.4
	5.0nm,0.9s						
TMUT	Trail Mountain	86.15	47	eP	P	22 54 03.1	+1.0
	6.9nm,1.0s						
LZH	Lanzhou	87.25	309	eP	P	22 54 09.0	+1.6
LZH				pP	sP	22 54 14.8	-2.1
LZH				sP	pP	22 54 17.9	+3.5
LZH				pmax	pmax		
	comp=Z,16nm,0.6s						
AHID	Auburn Hatcher	87.68	44	eP	P	22 54 05.5	-3.9
	6.9nm,0.6s						
ANMO	Albuquerque	87.94	53	eP	P	22 54 10.8	0.0
	2.6nm,0.9s						
FXWY	Fox Creek	88.09	43	eP	P	22 54 12.3	+1.0
	5.2nm,1.0s						
REDW	Red Top Meadow	88.09	44	eP	P	22 54 11.7	+0.3
	29nm,1.5s						
TX31	Lajitas Ar. Si	88.18	59	eP	P	22 54 12.3	+0.4
TXAR	Lajitas Array	88.18	59	P	P	22 54 11.2	-0.8
	1.7nm,1.0s,baz=235,slow=4.4,SNR=7.7						
TXAR				LR	LR	23 26 09.0	
	comp=Z,45nm,19.2s,baz=0.0,slow=30						
MOOW	Moose Ponds	88.33	43	eP	P	22 54 12.7	+0.2
	5.7nm,1.2s						
PD31	Pinedale Array	88.72	45	eP	P	22 54 14.1	-0.3
PDAR	Pinedale Array	88.72	45	P	P	22 54 13.8	-0.6
	2.5nm,1.1s,baz=212,slow=5.3,SNR=10						
PDAR				LR	LR	23 30 28.8	
	comp=Z,47nm,19.1s,baz=256,slow=33						
PDAR	Pinedale Array	88.72	45	eP	P	22 54 13.5	-0.8
SMCO	Snowmass	89.13	49	eP	P	22 54 17.4	+0.8
	9.5nm,1.4s						
SYO	Syowa Base	89.78	194	⇑eX	P	22 54 39.5	+21
RWWY	Rawlins	89.90	46	eP	P	22 54 19.7	-0.3
	10nm,0.9s						
SONM	Songino Array	90.19	320	LR	LR	23 32 15.4	
	comp=Z,46nm,19.4s,baz=76,slow=34						
LNIG	Linares	90.30	64	eP	P	22 54 22.6	+0.7
	5.5nm,1.1s						
N23A	Red Feather La	90.49	47	eP	P	22 54 23.4	+0.6
	9.9nm,1.1s						
GTA	Gaotai	91.43	311	eP	P	22 54 35.7	+8.7
GTA				pP	sP	22 54 40.5	+4.0
GTA				sP	pP	22 54 42.8	+8.8
GTA				pmax	pmax		
	comp=Z,2.0nm,1.3s						
SNAA	Sanae	92.11	180	P	P	22 54 28.7	-0.9
VNA3	Neumayer Olymp	92.39	178	P	P	22 54 29.8	-0.9
VNA2	Neumayer--Watz	92.78	178	P	P	22 54 32.0	-0.5
	baz=178,slow=4.0						
RSSD	Black Hills	92.95	45	eP	P	22 54 34.1	+0.1
	comp=Z,21nm,0.6s						
VNA1	Neumayer--Stat	93.03	178	P	P	22 54 33.1	-0.5
YKA	Yellowknife Ar	94.48	25	P	P	22 54 39.0	-1.2
	comp=Z,0.8nm,1.0s,baz=249,slow=4.7,SNR=7.5						
PLCA	Paso Flores	94.84	135	LR	LR	23 31 43.4	
	comp=Z,63nm,18.5s,baz=242,slow=32						
WMQ	Urumqi	101.37	312	P	Pdif	22 55 11.7	-0.2
WMQ				LR	LR		
	comp=Z,88nm,19.9s						
WMQ				LR	LR		
	comp=Z,72nm,25.7s						
WMQ				LR	LR		
	comp=Z,100nm,29.7s						
BVAR	Borovoye Array	113.52	321	PKiKP	PKiKP	22 59 57.0	-1.4
	comp=Z,1.0nm,0.9s,baz=108,slow=4.8,SNR=5.2						
BRTR	Keskin Array B	141.27	314	PKP	PKPdf	23 00 53.2	+1.5
	comp=Z,0.5nm,0.8s,baz=225,slow=0.2,SNR=5.3						
CRVS	Cervenica-Dubn	142.37	334	ePKP	PKPdf	23 00 54.1	+1.0
VYHS	Vyhne	143.74	336	ePKP	PKPdf	23 00 58.1	+2.5
KHC	Kasperske Hory	144.99	342	ePKP	PKPdf	23 00 56.7	-1.0
KHC	Kasperske Hory	144.99	342	ePKPdf	PKPdf	23 00 56.9	-0.8
GEC2	GERESS Array S	145.21	342	ePKPbc	PKPdf	23 00 57.8	-0.4
GERES	GERESS Array B	145.21	342	PKPbc	PKPab	23 00 57.1	-0.9
	comp=Z,3.2nm,1.1s,baz=46,slow=3.9,SNR=13						
GEA0	GERESS Array S	145.22	342	ePKPbc	PKPbc	23 00 56.9	-1.0
CONA	Conrad Observa	145.31	339	i PKPdf	PKPdf	23 00 57.6	-0.8
	comp=Z,6.6nm,1.0s						
MOA	Molln	145.91	340	i PKPbc	PKPdf	23 00 58.5	-0.8
	comp=Z,8.4nm,1.4s						
ARSA	Arzberg	146.01	338	i PKPbc	PKPdf	23 00 58.6	-0.9
	comp=Z,4.3nm,0.9s						
WLF	Walferdange	146.19	350	⇑PKP	PKPab	23 01 00.5	-0.9
SOKA	Soboth	146.67	338	ePKPdf	PKPdf	23 00 60.0	-0.8
	comp=Z,4.1nm,0.9s						
PERS	Pernice	146.68	338	ePKPbc	PKPbc	23 01 01.4	-0.9
KBA	Koelnbreinsper	146.89	341	i PKPbc	PKPbc	23 01 01.9	-1.2
	comp=Z,4.6nm,1.1s						
OBKA	Obir	146.99	339	i PKPbc	PKPdf	23 01 01.4	+0.1
	comp=Z,3.6nm,1.1s						
BFO	Black Forest	147.07	347	ePKPbc	PKPbc	23 01 03.0	-0.3
MYKA	Terra Mystica	147.19	340	PKPbc	PKPbc	23 01 02.7	-1.1
	comp=Z,4.3nm,0.7s						
WTTA	Wattenberg	147.24	343	i PKPbc	PKPbc	23 01 02.8	-1.3
	comp=Z,5.6nm,0.7s						
RETA	Reutte	147.28	344	i PKPab	PKPbc	23 01 03.4	-0.7
	comp=Z,6.1nm,1.2s						
MOTA	Moosalm	147.31	343	i PKPab	PKPbc	23 01 04.0	-0.2
	comp=Z,3.5nm,0.7s						
ABTA	Abfaltersbach	147.44	341	i PKPbc	PKPbc	23 01 02.8	-1.7
	comp=Z,4.2nm,1.0s						
BOJS	Bojanci	147.59	337	i PKPbc	PKPbc	23 01 04.9	+0.1
JAVS	Javornik	147.69	339	i PKPbc	PKPbc	23 01 04.2	-1.0
DAVA	Damuels	147.69	345	i PKPab	PKPab	23 01 05.5	-2.0
	comp=Z,10nm,1.2s						
FETA	Feichten	147.71	344	ePKPbc	PKPbc	23 01 04.7	-0.6
	comp=Z,9.1nm,1.1s						
FUORN	Ofenpass-Fuorn	148.21	344	ePKPbc	PKPbc	23 01 06.9	+0.1
TUE	Stuetta	148.58	345	ePKPbc	PKPbc	23 01 07.4	-0.4
ES19	SONSECA Array	156.76	4	ePKPab	PKPab	23 01 46.1	+0.7
TORD	Torodi Ar. Bea	175.13	228	PKPab	PKPab	23 03 06.5	-0.3
	comp=Z,0.9nm,1.0s,baz=131,slow=5.1,SNR=4.8						

*NIED **04** 22:58:00, 40°.30N×142°.50E, h8km, Mw3.8 Best double couple: M₀4.99000×10^14 NP1:φs126.00000°, δ46.00000°, λ-13.00000°. NP2:φs225.00000°, δ80.00000°, λ-135.00000°.*
*JMA **04** 22:58:15.6±0.1, 40°.25N×142°.55E, h26km±2km, M3.8*
*IDC **04** 22:58:20.7±2.4, 40°.24N×142°.46E, h50km±22km, mb3.6/13, mb1 3.7/16, mb1mx3.5/68, mbtmp3.8/16, ML3.6/2, MS3.3/1, Ms1 3.3/1, ms1mx2.4/60, Error ellipse: s-maj=23.7km s-min=18.9km az=126.0*
ISC 04 22:58:16.4±1.7, 40°.24N±0°.04×142°.44E±0°.07, h14km±10km, n33, σ1s.19/33, mb4.0/13, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JTH	Tanohata	0.54	235	P	Pb	22 58 27.6	0.0
JTH				eS	Sb	22 58 35.9	+0.7
JANG	Nango	0.72	281	P	Pg	22 58 30.4	0.0
JANG				S	Sg	22 58 40.6	+0.7
MIYJ	Miyakonagasawa	0.82	216	P	Pg	22 58 31.3	-1.0
MIYJ				eS	Sb	22 58 44.2	+0.9
JKZ	Kuzumaki	0.89	253	P	Pg	22 58 33.1	-0.5
JKZ				eS	Sg	22 58 45.4	+0.1
JOM	Ohasama	1.17	229	P	Pn	22 58 37.5	-0.9
JTM	Tenmabayashi	1.18	298	P	Pn	22 58 37.7	-0.8
JTM				S	Sb	22 58 53.4	-0.3
JAH	Hinai	1.38	268	P	Pn	22 58 41.2	-0.1
JAH				S	Sn	22 58 59.9	+0.5
JOT	Ohata	1.55	318	P	Pn	22 58 42.6	-1.0
JMK	Ichinoseki	1.60	216	P	Pn	22 58 44.4	+0.1
JMK				S	Sn	22 59 05.2	+0.5
ASAJ	Asahikawa	3.87	2	P	Pn	22 59 16.4	+0.9
	5.6nm,0.3s,baz=202,slow=9.5,SNR=12						
MAT	Matsushiro	4.97	223	P	Pn	22 59 34.0	+3.3
MJAR	Matsushiro Arr	4.97	223	P	Pn	22 59 33.7	+3.1
	0.9nm,0.3s,baz=31,slow=12,SNR=11						
USRK	Ussuriysk Ar.	8.70	300	P	Pn	23 00 25.1	+3.2
	0.2nm,0.3s,baz=96,slow=15,SNR=5.6						
SEY	Seymchan	23.49	11	P	P	23 03 25.6	+0.1
	2.8nm,0.8s,baz=170,slow=7.3,SNR=6.7						
SONM	Songino Array	26.81	298	P	P	23 03 56.0	-0.3
	0.6nm,0.5s,baz=103,slow=10,SNR=3.6						
H11N2	WAKE ISLAND Hy	29.27	127	T	T	23 34 49.5	
	baz=320,slow=76,SNR=93						
H11N1	WAKE ISLAND Hy	29.28	127	T	T	23 34 49.3	
	baz=320,slow=76,SNR=83						
H11N3	WAKE ISLAND Hy	29.29	127	T	T	23 34 48.7	
	baz=320,slow=76,SNR=76						
H11S1	WAKE ISLAND Hy	30.09	129	T	T	23 35 56.8	
	baz=321,slow=76,SNR=17						
H11S3	WAKE ISLAND Hy	30.09	129	T	T	23 36 18.2	
	baz=321,slow=76,SNR=17						
H11S2	WAKE ISLAND Hy	30.11	129	T	T	23 36 06.0	
	baz=321,slow=76,SNR=15						
ZALV	Zalesovo Beam	40.41	310	P	P	23 05 53.7	-0.2
	1.3nm,0.4s,baz=95,slow=9.5,SNR=7.2						
MKAR	Makanchi Array	43.17	299	P	P	23 06 16.4	-0.3
	1.1nm,0.5s,baz=84,slow=8.4,SNR=17						
KURBB	Kurchatov Arra	44.72	306	P	P	23 06 28.4	-0.5
	2.9nm,0.8s,baz=80,slow=8.6,SNR=14						
ILAR	Eielson Array	46.37	34	P	P	23 06 41.9	+0.1
	0.6nm,0.9s,baz=262,slow=5.7,SNR=5.3						
BVAR	Borovoye Array	49.05	310	P	P	23 07 02.5	-0.4
	0.7nm,0.3s,baz=79,slow=7.7,SNR=12						
RES	Resolute Bay	59.30	15	LR	LR	23 35 39.6	
	comp=Z,24nm,20.4s,baz=98,slow=38						
WRA	Warramunga Arr	60.35	189	P	P	23 08 23.8	-1.1
	0.3nm,0.6s,baz=7.3,slow=7.0,SNR=5.1						
YKA	Yellowknife Ar	60.64	31	P	P	23 08 26.3	-0.3
	0.2nm,0.5s,baz=302,slow=6.6,SNR=5.4						
FINES	FINESS Array B	66.36	332	P	P	23 09 03.6	-0.7
	1.1nm,0.6s,baz=57,slow=6.5,SNR=8.9						
KBZ	Khabaz	69.43	310	P	P	23 09 24.7	+0.8
	0.9nm,0.6s,baz=26,slow=5.2,SNR=4.3						
HFS	Hagfors	71.50	336	P	P	23 09 36.0	-0.3
	2.8nm,0.9s,baz=52,slow=2.4,SNR=5.9						
NOA	NORSAR Array B	71.54	337	P	P	23 09 36.3	-0.3
	0.9nm,0.6s,baz=39,slow=5.9,SNR=3.0						

MEX 04 23:03:42.7±0.5, 16°.16N×98°.46W, h16km±4km, MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.40	54	i P	Pg	23 03 49.5	-1.3
PNIG				i S	Sg	23 03 55.3	-1.0
TLIG	Tlapa	1.40	356	eP	Pn	23 04 04.0	-3.7
TLIG				eS	Sn	23 04 18.0	-8.0
VHO	Vista Hermosa	1.89	61	eP	Pn	23 04 11.5	-3.0
VHO				eS	Sn	23 04 33.2	-4.9
CAIG	El Cayaco	1.95	297	eP	Pn	23 04 09.2	-5.9
CAIG				eS	Sn	23 04 34.7	-4.5
PLIG	Platanillo	2.44	336	eP	Pn	23 04 19.1	-2.8
PLIG				eS	Sn	23 04 48.2	-3.3

IDC 04 23:10:16.5±3.5, 4°.31S×153°.57E, h0km, mb3.9/4, mb1 4.1/4, mb1mx3.6/44, mbtmp3.9/4, MS3.3/2, Ms1 3.3/2, ms1mx2.8/41, Error ellipse: s-maj=105.3km s-min=32.6km az=98.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HNR	Honiara	8.12	129	LR	LR	23 15 47.2	
	comp=Z,68nm,19.4s,baz=195,slow=41						
WRA	Warramunga Arr	24.35	229	P	P	23 15 36.9	+0.5
	3.1nm,0.5s,baz=54,slow=10.0,SNR=64						
ASAR	Alice Springs	27.03	223	P	P	23 16 00.8	0.0
	0.4nm,0.4s,baz=56,slow=8.8,SNR=6.8						
STKA	Stephens Creek	29.64	201	P	P	23 16 23.6	-0.3
	1.7nm,0.6s,baz=36,slow=13,SNR=4.8						
PALK	Pallekele	73.62	279	LR	LR	23 56 22.1	
	comp=Z,59nm,19.1s,baz=116,slow=38						
MKAR	Makanchi Array	80.47	319	P	P	23 22 30.3	-0.1
	0.5nm,0.9s,baz=98,slow=6.5,SNR=3.1						

MEX 04 23:16:31.0±0.5, 16°.04N×98°.41W, h20km±56km, MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.44	38	i P	Pb	23 16 39.0	-1.2
PNIG				i S	Sb	23 16 44.8	-1.5
TLIG	Tlapa	1.52	355	i P	Pn	23 16 53.8	-3.3
TLIG				eS	Sn	23 17 08.9	-7.6
VHO	Vista Hermosa	1.91	57	eP	Pn	23 16 59.7	-2.9
VHO				eS	Sn	23 17 22.5	-3.7
CAIG	El Cayaco	2.04	300	i P	Pn	23 17 03.5	-0.7
CAIG				eS	Sn	23 17 25.5	-3.6
PLIG	Platanillo	2.56	336	eP	Pn	23 17 09.3	-2.1
PLIG				eS	Sn	23 17 37.8	-4.2

*ISCJB **04** 23:22:26.8±0.7, 50°.35N±0°.05×18°.79E±0°.03, h0km, Error ellipse: s-maj=6.7km s-min=2.6km az=3.7*
*CSEM **04** 23:22:27.5±0.4, 50°.37N×18°.80E, h2km, ML2.5/5, Error ellipse: s-maj=9.7km s-min=3.9km az=6.0*
*PRU **04** 23:22:27.9, 50°.36N×18°.82E, h0km*
*IPEC **04** 23:22:28.0±0.2, 50°.33N×18°.90E, h0km±2km, ML1.5/3, Error ellipse: s-maj=2.7km s-min=1.1km az=170.0*
*WAR **04** 23:22:28.3, 50°.36N×18°.92E, h1km, Mw2.3*
ISC 04 23:22:27.1±0.9, 50°.32N±0°.05×18°.80E±0°.02, h0km, n33, σ0s.71/59, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CHZP	Chorzow	0.12	103	ePg	Pg	23 22 29.9	+0.4
CHZP				eSg	Sg	23 22 31.5	+0.4
CHZP	Chorzow	0.12	103	ePg	Pg	23 22 29.9	+0.4
CHZP				eSg	Sg	23 22 31.5	+0.4
OKC	Ostrava-Krasne	0.64	221	ePG	Pb	23 22 41.3	+0.1
OKC				eSG	Sb	23 22 50.4	-0.3
	comp=Z,10nm,0.2s						
OKC	Ostrava-Krasne	0.64	221	Pg	Pb	23 22 41.3	+0.1
OKC				Sg	Sb	23 22 50.4	-0.3
	10nm,0.2s						
OJC	Ojcow	0.65	99	ePg	Pg	23 22 39.3	-0.2
OJC				eSg	Sg	23 22 47.2	-0.7
OJC	Ojcow	0.65	99	ePg	Pg	23 22 39.3	-0.2
OJC				eSg	Sg	23 22 47.2	-0.7
OJC	Ojcow	0.65	99	ePg	Pg	23 22 39.3	-0.2
MORC	Moravsky Berou	0.98	237	ePg	Pb	23 22 47.7	+0.7
MORC				eSg	Sb	23 23 00.4	0.0
	9.7nm,0.3s						
LANS	Liptovska Anna	1.25	159	ePg	Pb	23 22 51.9	+0.3
LANS				eSg	Sb	23 23 08.9	+0.7
LANS	Liptovska Anna	1.25	159	ePG	Pb	23 22 51.9	+0.3
LANS				eSG	Sb	23 23 08.9	+0.7
KRLC	Kraliky	1.32	260	ePG	Pb	23 22 52.9	+0.1
KRLC				eSG	Sb	23 23 10.6	+0.3
KRLC	Kraliky	1.32	260	Pg	Pb	23 22 52.9	+0.1
KRLC				Sg	Sb	23 23 10.6	+0.3
NIE	Niedzica	1.32	132	ePg	Pn	23 22 53.3	+0.3
NIE				eSg	Sn	23 23 11.6	+0.3
NIE	Niedzica	1.32	132	ePg	Pn	23 22 53.3	+0.3
NIE				eSg	Sn	23 23 11.6	+0.3
NIE	Niedzica	1.32	132	ePg	Pn	23 22 53.2	+0.3
NIE				eSg	Sn	23 23 11.6	+0.3
DPC	Dobruska-Polom	1.59	272	ePG	Pn	23 22 56.8	+0.2
DPC				eSG	Sg	23 23 19.3	+1.1
	comp=Z,3.6nm,0.2s						
DPC	Dobruska-Polom	1.59	272	Pg	Pn	23 22 56.8	+0.2
DPC				Sg	Sg	23 23 19.3	+1.1
	3.6nm,0.2s						
VRAC	Vranov	1.75	236	ePn	Pb	23 23 00.5	+0.3
VRAC				eSg	Sg	23 23 24.7	+1.3
	3.5nm,0.2s						
STHS	Stebnicka Huta	1.82	119	ePn	Pg	23 23 02.1	+0.1
STHS				eSn	Sg	23 23 26.1	+0.5
STHS	Stebnicka Huta	1.82	119	ePN	Pg	23 23 02.1	+0.1
STHS				eSN	Sg	23 23 26.1	+0.5
STHS				eLG	Lg	23 23 35.0	
VYHS	Vyhne	1.83	179	ePn	Pn	23 23 00.5	+0.7
VYHS				eSn	Sn	23 23 22.8	-0.9
VYHS	Vyhne	1.83	179	ePN	Pn	23 23 00.5	+0.7
VYHS				eSN	Sn	23 23 22.8	-0.9
KRUC	Moravsky	2.01	232	ePn	Pb	23 23 03.8	-0.7
KRUC				eSg	Sg	23 23 32.6	+1.0
	2.4nm,0.2s						
KECS	Kecovo	2.14	148	ePn	Pn	23 23 03.8	-0.3
KECS				eSn	Sn	23 23 29.2	-2.2
KECS	Kecovo	2.14	148	ePN	Pn	23 23 03.8	-0.3
KECS				eSN	Sn	23 23 29.2	-2.2
CRVS	Cervenica-Dubn	2.24	128	ePn	Pg	23 23 09.5	-0.5
CRVS				eSn	Sg	23 23 39.1	+0.1
CRVS	Cervenica-Dubn	2.24	128	ePN	Pg	23 23 09.5	-0.5
CRVS				eSN	Sg	23 23 39.1	+0.1
GOPC	GO Pecny, Ondr	2.62	263	eSG	Sg	23 23 51.6	+0.5
GOPC	GO Pecny, Ondr	2.62	263	Sg	Sg	23 23 51.6	+0.5
PRU	Pruhonice	2.76	265	eSG	Sg	23 23 54.6	-1.2
PRU	Pruhonice	2.76	265	Sg	Sg	23 23 54.6	-1.2
KHC	Kasperske Hory	3.59	253	eSG	Sg	23 24 21.7	-0.8
KHC	Kasperske Hory	3.59	253	Sg	Sg	23 24 21.7	-0.8

KRSC 04 23:36:17.4±0.8, 54°.52N×162°.77E, h41km±22km, ML3.8, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KZV	Kizimen	1.55	294	eP	Pn	23 36 44.5	+1.8
KZV				eS	Sn	23 37 03.9	+2.2

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KBTR	Krutoberegovo	1.69	1	eP	Pn	23 36 45.1	+0.6
KBTR				eS	Sn	23 37 04.7	-0.2
TUMR	Tumrok	1.70	298	eP	Pn	23 36 46.9	+2.2
TUMR				eS	Sn	23 37 08.1	+2.9
KMNR	Kamenistaya	1.91	311	i P	Pn	23 36 50.3	+2.7
KMNR				eS	Sn	23 37 13.4	+3.0
BZMR	Bezymyannaya	1.93	318	eP	Pn	23 36 50.1	+2.2
BZWR	Bezymyannyi-We	1.95	319	eP	Pn	23 36 50.7	+2.6
LGNR	Loginova	1.97	324	eP	Pn	23 36 50.9	+2.4
CIRR	Tsirk	1.97	325	eP	Pn	23 36 50.8	+2.3
BKI	Bering	1.98	68	eP	Pn	23 36 50.5	+2.2
BKI				eS	Sn	23 37 14.4	+2.6
KII	Karymskiy	2.01	257	eP	Pn	23 36 51.1	+2.3
KRSR	Krestovskiy	2.12	324	eP	Pn	23 36 52.1	+1.7
SPN	Mys Shipunski	2.16	230	eP	Pn	23 36 52.5	+1.6
SPN				eS	Sn	23 37 18.3	+1.8
KLY	Klyuchi	2.17	327	eP	Pn	23 36 52.5	+1.5
KLY				eS	Sn	23 37 17.7	+1.2
SMKR	Semkarok	2.20	341	eP	Pn	23 36 54.3	+2.8
KOZ	Kozyrevsk	2.26	314	eP	Pn	23 36 56.0	+3.7
SRKR	Sorokina	2.33	338	eP	Pn	23 36 56.5	+3.3
NLC	Nalytchevo	2.44	238	eP	Pn	23 36 56.9	+2.2
NLC				eS	Sn	23 37 25.7	+2.5
SDLR	Sedlovina	2.61	243	eP	Pn	23 37 00.5	+3.3
SMAR	Somma	2.66	243	eP	Pn	23 37 01.4	+3.4
SMAR				eS	Sn	23 37 32.7	+3.6
UGLR	Uglovaya	2.68	242	eP	Pn	23 37 02.0	+3.9
AVH	Avacha	2.70	244	i P	Pn	23 37 02.5	+4.2
KRX	Arik	2.70	246	eP	Pn	23 37 01.4	+3.0
ESO	Esso	2.72	303	eP	Pn	23 37 01.7	+3.0
DALK	Dalny	2.81	240	eP	Pn	23 37 03.0	+3.2
DALK				eS	Sn	23 37 35.6	+3.2
GNL	Ganaly	2.96	256	eP	Pn	23 37 05.7	+3.7
KRMR	Karymshinskiy	3.24	240	eP	Pn	23 37 09.3	+3.6
KRMR				eS	Sn	23 37 46.9	+4.0
MTVR	Mutnovka	3.41	235	eP	Pn	23 37 11.4	+3.2
ASAK	Asacha	3.61	236	eP	Pn	23 37 15.6	+4.7

*CNRM **04** 23:37:51.1, 32°.23N×2°.08W, h30km, MD3.8*
*INMG **04** 23:37:57.0±1.1, 32°.63N×2°.45W, h0km, ML2.5, Error ellipse: s-maj=13.3km s-min=6.4km az=122.0*
*MDD **04** 23:38:03.6±2.6, 32°.87N×2°.45W, h0km, mb3.7/14, Error ellipse: s-maj=24.4km s-min=18.8km az=2.0, PRXIMO*
*CSEM **04** 23:38:05.6±0.7, 32°.93N×2°.66W, h20km, MD3.8, Error ellipse: s-maj=14.0km s-min=8.9km az=166.0*
ISC 04 23:38:01.6±2.9**, 32°.8N**±0°.1×**2°.59W**±0°.08**, h10**km**, n41, σ1s.65**/63**, Morocco**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CZD	Col de Zad	2.08	277	i S	Sn	23 39 01.0	-1.9
RSA	Sarsar	3.40	308	i S	Sn	23 39 33.0	-2.1
EBER	Berja	4.09	357	P	Pn	23 39 05.0	+0.7
	1.5nm,0.4s,SNR=4.0						
EBER				S	Sn	23 39 50.9	-1.5
	0.6nm,0.2s,SNR=4.0						
EBER	Berja	4.09	357	P	Pn	23 39 05.0	+0.7
	1.5nm,0.4s,SNR=4.0						
EBER				S	Sn	23 39 50.9	-1.5
	0.6nm,0.2s,SNR=4.0						
ELGU	Los Guajares,	4.14	348	P	Pn	23 39 05.6	+0.6
	1.7nm,0.2s,SNR=7.9						
ELGU				S	Sn	23 39 52.8	-0.7
	0.5nm,0.1s,SNR=4.0						
ELGU	Los Guajares,	4.14	348	P	Pn	23 39 05.6	+0.6
	1.7nm,0.2s,SNR=7.9						
ELGU				S	Sn	23 39 52.8	-0.7
	0.5nm,0.1s,SNR=4.0						
EMIJ	Mijas	4.16	335	P	Pn	23 39 06.5	+1.4
	1.5nm,0.5s,SNR=7.9						
EMIJ				S	Sn	23 39 54.1	+0.2
	0.4nm,0.2s,SNR=7.9						
EMIJ	Mijas	4.16	335	P	Pn	23 39 06.5	+1.4
	1.5nm,0.5s,SNR=7.9						
EMIJ				S	Sn	23 39 54.1	+0.2
	0.4nm,0.2s,SNR=7.9						
ENIJ	Nijar	4.17	4	P	Pn	23 39 06.1	+0.8
	1.1nm,0.2s,SNR=7.9						
ENIJ				S	Sn	23 39 53.1	-1.0
	1.4nm,0.2s,SNR=4.0						
ENIJ	Nijar	4.17	4	P	Pn	23 39 06.1	+0.8
	1.1nm,0.2s,SNR=7.9						
ENIJ				S	Sn	23 39 53.1	-1.0
	1.4nm,0.2s,SNR=4.0						
EQUE	Quentar	4.45	351	P	Pn	23 39 10.8	+1.6
	5.2nm,0.8s,SNR=4.7						
EQUE				S	Sn	23 39 59.4	-1.6
	0.4nm,0.2s,SNR=5.2						
EQUE	Quentar	4.45	351	P	Pn	23 39 10.8	+1.6
	5.2nm,0.8s,SNR=4.7						
EQUE				S	Sn	23 39 59.4	-1.6
	0.4nm,0.2s,SNR=5.2						
EGOR	Sierra Gorda,	4.47	344	P	Pn	23 39 11.8	+2.2
	13nm,1.5s,SNR=4.0						
EGOR	Sierra Gorda,	4.47	344	P	Pn	23 39 11.8	+2.2
	13nm,1.5s,SNR=4.0						
EQES	Quesada	5.00	356	P	Pn	23 39 17.4	+0.6
	4.9nm,1.3s,SNR=7.9						
EQES				S	Sn	23 40 13.1	-1.6
	0.7nm,0.2s,SNR=7.9						
EQES	Quesada	5.00	356	P	Pn	23 39 17.4	+0.6
	4.9nm,1.3s,SNR=7.9						
EQES				S	Sn	23 40 13.1	-1.6
	0.7nm,0.2s,SNR=7.9						
EMUR	La Murta	5.14	12	P	Pn	23 39 19.3	+0.6
	2.5nm,0.6s,SNR=5.3						
EMUR				S	Sn	23 40 16.0	-2.1
	7.1nm,3.4s,SNR=7.9						
EMUR	La Murta	5.14	12	P	Pn	23 39 19.3	+0.6
	2.5nm,0.6s,SNR=5.3						
EMUR				S	Sn	23 40 16.0	-2.1
	7.1nm,3.4s,SNR=7.9						
EADA	Adamuz	5.59	344	P	Pn	23 39 26.5	+1.7
	2.7nm,1.0s,SNR=7.9						
EADA	Adamuz	5.59	344	P	Pn	23 39 26.5	+1.7
	2.7nm,1.0s,SNR=7.9						
ETOB	Tobarra	5.89	8	P	Pn	23 39 30.0	+1.0
	2.0nm,0.6s,SNR=7.9						
ETOB	Tobarra	5.89	8	P	Pn	23 39 30.0	+1.0
	2.0nm,0.6s,SNR=7.9						
EMIN	Mina Concepcio	5.97	327	P	Pn	23 39 31.6	+1.6
	2.4nm,0.8s,SNR=7.9						
EMIN				S	Sn	23 40 38.0	-0.5
	0.2nm,0.2s,SNR=7.9						
EMIN	Mina Concepcio	5.97	327	P	Pn	23 39 31.6	+1.6
	2.4nm,0.8s,SNR=7.9						
EMIN				S	Sn	23 40 38.0	-0.5
	0.2nm,0.2s,SNR=7.9						
AFON	Font Roja	6.08	15	P	Pn	23 39 33.0	+1.4
	5.6nm,4.1s,SNR=7.9						
AFON	Font Roja	6.08	15	P	Pn	23 39 33.0	+1.4
	5.6nm,4.1s,SNR=7.9						
EGRO	El Granado	6.19	321	P	Pn	23 39 35.3	+2.3
	6.9nm,1.4s,SNR=7.9						
EGRO				S	Sn	23 40 41.7	-2.2
	1.1nm,4.1s,SNR=7.9						
EGRO	El Granado	6.19	321	P	Pn	23 39 35.3	+2.3
	6.9nm,1.4s,SNR=7.9						
EGRO				S	Sn	23 40 41.7	-2.2
	1.1nm,4.1s,SNR=7.9						
PVAQ	Vaqueiros	6.22	319	ePn	Pn	23 39 32.3	-1.2
PVAQ				eSn	Sn	23 40 43.1	-1.6
PVAQ				A	A	23 40 59.6	
	3.1nm,0.4s						
PVAQ	Vaqueiros	6.22	319	ePn	Pn	23 39 32.3	-1.2
PVAQ				S	Sn	23 40 43.1	-1.6
	3.1nm,0.4s						
PBDV	Barranco-do-Ve	6.23	317	ePn	Pn	23 39 33.5	-0.1
PBDV				eSn	Sn	23 40 43.3	-1.6
PBDV	Barranco-do-Ve	6.23	317	ePn	Pn	23 39 33.5	-0.1
PBDV				S	Sn	23 40 43.3	-1.6
PBAR	Barrancos	6.47	327	ePn	Pn	23 39 40.7	+3.8
PBAR	Barrancos	6.47	327	P	Pn	23 39 40.7	+3.8
MESJ	Messejana	6.81	319	eSn	Sn	23 40 58.0	-1.2
MESJ				A	A	23 41 11.6	
	3.1nm,1.1s						
MESJ	Messejana	6.81	319	S	Sn	23 40 58.0	-1.2
	3.1nm,1.1s						
MESJ	Messejana	6.81	319	S	Sn	23 40 58.0	-1.2
	3.1nm,1.1s						
EBAD	Badajoz	6.94	330	P	Pn	23 39 46.3	+3.0
	4.1nm,1.7s,SNR=7.9						
EBAD	Badajoz	6.94	330	P	Pn	23 39 46.3	+3.0
	4.1nm,1.7s,SNR=7.9						
PNCL	Nicolau / Gran	7.18	319	ePn	Pn	23 39 48.0	+1.4
PNCL	Nicolau / Gran	7.18	319	ePn	Pn	23 39 48.0	+1.4

SJA 05 00:36:34.9±0.7**, 23°.68S**×**63°.82W, h18**km±5km**, ML3.1, MW3.5, Salta Province**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ALOL	LOMAS DE OLMED	0.20	229	eP	Pg	00 36 39.8	-0.1
ASTB	Santa Barbara	0.64	245	i P	Pb	00 36 48.1	+0.4
AZAP	Zapla	1.27	244	eP	Pg	00 36 59.8	+0.4
AZAP				eS	Sg	00 37 20.8	+4.8
AZAP				IAML		00 37 29.5	
	comp=Z,1µm,0.5s						
HJA	Humahuaca	1.54	287	eP	Pg	00 37 04.4	-0.2
HJA				IAML		00 37 33.1	
	comp=Z,153nm,0.4s						
SLA	San Lorenzo	1.86	236	eP	Pg	00 37 10.3	-0.4
SLA				IAML		00 37 48.0	
	comp=Z,207nm,0.5s						
YJA	Yavi	2.17	313	i P	Pb	00 37 13.9	+0.1
YJA				i S	Sb	00 37 41.9	+1.3
YJA				IAML		00 37 50.7	
	comp=Z,42nm,0.4s						
FSA	Cafayete	3.12	219	eP	Pn	00 37 26.4	+2.9
FSA				IAML		00 38 16.8	
	comp=Z,25nm,0.5s						
AHML	Horco Molle	3.38	204	eP	Pn	00 37 30.0	+3.0
AHML				IAML		00 38 27.0	
	comp=Z,53nm,0.6s						
CYA	Choya	5.07	200	IAML		00 39 30.8	
	comp=Z,14nm,0.5s						

KRSC 05 00:39:50.4±0.9**, 53°.68N**×**161°.12E, h41**km±17km**, ML3.9, Off east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SPN	Mys Shipunski	0.87	229	eP	Pn	00 40 07.4	+1.2
SPN				eS	Sn	00 40 18.4	+0.7
KII	Karymskiy	1.05	291	eP	Pn	00 40 09.5	+0.8
KII				eS	Sn	00 40 22.9	+0.7
NLC	Nalytchevo	1.17	245	eP	Pn	00 40 11.6	+1.3
NLC				eS	Sn	00 40 26.3	+1.2
SDLR	Sedlovina	1.39	254	i P	Pn	00 40 15.1	+1.6
SDLR				eS	Sn	00 40 32.4	+1.7
SMAR	Somma	1.44	254	i P	Pn	00 40 16.0	+1.8
SMAR				eS	Sn	00 40 33.9	+1.8
UGLR	Uglovaya	1.45	252	i P	Pn	00 40 16.1	+1.9
UGLR				eS	Sn	00 40 34.2	+2.2
AVH	Avacha	1.48	255	i P	Pn	00 40 16.8	+2.2
AVH				eS	Sn	00 40 35.2	+2.4
KRX	Arik	1.51	259	i P	Pn	00 40 16.8	+1.8
KRX				eS	Sn	00 40 35.2	+1.7
KZV	Kizimen	1.52	342	eP	Pn	00 40 17.1	+1.9
KZV				eS	Sn	00 40 35.5	+1.7
KOK	Koryaka	1.53	256	eP	Pn	00 40 17.1	+1.8
KOK				eS	Sn	00 40 35.9	+1.9
DALK	Dalny	1.56	246	eP	Pn	00 40 17.2	+1.6
DALK				eS	Sn	00 40 36.1	+1.6
TUMD	Tumrok D	1.59	345	eP	Pn	00 40 17.5	+1.5
TUMD				eS	Sn	00 40 36.6	+1.3
PET	Petropavlovsk	1.61	247	i P	Pn	00 40 18.3	+1.9
PET				eS	Sn	00 40 37.6	+1.7
TUMR	Tumrok	1.71	341	eP	Pn	00 40 19.8	+2.0
TUMR				eS	Sn	00 40 40.6	+2.2
GNL	Ganaly	1.89	272	i P	Pn	00 40 22.9	+2.7
KRMR	Karymshinskiy	1.98	246	eP	Pn	00 40 23.7	+2.3
KRMR				eS	Sn	00 40 47.1	+2.1
RUS	Russkaya	2.00	233	eP	Pn	00 40 23.4	+1.7
RUS				eS	Sn	00 40 46.6	+1.1
MTVR	Mutnovka	2.13	237	eP	Pn	00 40 26.3	+2.6
MTVR				eS	Sn	00 40 51.2	+2.2
KMNR	Kamenistaya	2.15	347	i P	Pn	00 40 27.1	+3.3
KMNR				eS	Sn	00 40 52.7	+3.5
BZMR	Bezymyannaya	2.29	351	eP	Pn	00 40 28.8	+3.0
BZMR				eS	Sn	00 40 55.8	+2.9
BZWR	Bezymyannyi-We	2.32	351	eP	Pn	00 40 29.8	+3.5
BZWR				eS	Sn	00 40 57.4	+3.8
ASAK	Asacha	2.33	238	eP	Pn	00 40 30.3	+4.0
ASAK				eS	Sn	00 40 58.6	+4.8
CIRR	Tsirk	2.45	355	eP	Pn	00 40 31.7	+3.6
CIRR				eS	Sn	00 41 00.9	+4.0
APC	Apacha	2.49	254	eP	Pn	00 40 31.9	+3.5
KOZ	Kozyrevsk	2.49	344	eP	Pn	00 40 32.3	+3.8
KOZ				eS	Sn	00 41 01.7	+4.1
KRSR	Krestovskiy	2.57	353	eP	Pn	00 40 32.4	+2.8
KRSR				eS	Sn	00 41 02.2	+2.6
KDTR	Khodutka, Kamc	2.63	226	eS	Sn	00 41 04.4	+3.5
ESO	Esso	2.65	329	eP	Pn	00 40 32.9	+2.2
KLY	Klyuchi	2.66	354	eP	Pn	00 40 34.2	+3.5
KLY				eS	Sn	00 41 05.1	+3.5
KBTR	Krutoberegovo	2.72	20	i P	Pn	00 40 35.1	+3.5
KBTR				eS	Sn	00 41 07.0	+3.8
SMKR	Semkarok	2.92	4	eP	Pn	00 40 37.6	+3.2
SMKR				eS	Sn	00 41 11.3	+3.1
SRKR	Sorokina	2.99	1	eP	Pn	00 40 38.2	+2.9
SRKR				eS	Sn	00 41 12.4	+2.6
BKI	Bering	3.22	60	eP	Pn	00 40 40.3	+1.9

*ISCJB **05** 00:47:20.1±0.6, 35°.4N±0°.1×136°.06E±0°.10, h350km±5km, mb2.9/5, Error ellipse: s-maj=17.7km s-min=12.4km az=166.3*
*JMA **05** 00:47:20.9±0.1, 35°.43N×135°.95E, h344km±1km, M3.0*
*IDC **05** 00:47:20.6±1.4, 35°.28N×136°.18E, h343km±14km, mb2.6/5, mb1 2.9/7, mb1mx2.6/60, mbtmp3.3/7, Error ellipse: s-maj=20.5km s-min=19.8km az=113.0*
ISC 05 00:47:20.9±0.8**, 35°.4N**±0°.1×**136°.04E**±0°.08**, h344**km±7km**, n19, σ0s.63**/22**, mb2.9**/5**, Western Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JFM	Mihama	0.17	344	P	Pn	00 48 04.5	+0.5
JFM				eS	S	00 48 38.2	-0.3
JWT	Wachi	0.53	262	P	Pn	00 48 04.4	-0.2
JWT				eS	S	00 48 38.7	-0.8
JIE	Ise	1.11	150	P	Pn	00 48 07.2	+0.6
JIE				eS	S	00 48 43.1	0.0
JWY	Kouya	1.20	198	P	Pn	00 48 07.3	+0.2
JWZ	Kozaga	1.84	189	P	Pn	00 48 10.9	+0.2
JAI	Aioi	2.04	220	P	Pn	00 48 12.2	+0.1
JYN	Shimob	2.05	85	P	Pn	00 48 12.3	+0.2
MAT	Matsushiro	2.12	55	P	Pn	00 48 12.2	-0.3
MJAR	Matsushiro Arr	2.12	56	P	Pn	00 48 12.4	-0.1
	3.4nm,0.3s,baz=239,slow=6.7,SNR=18						
JMN	Monobe	2.42	228	P	Pn	00 48 15.5	+0.5
JRY	Ryogami san	2.42	73	P	Pn	00 48 15.3	+0.5
JHS	Saijyo	2.42	262	P	Pn	00 48 14.7	-0.3
JOD2	Odawara 2	2.49	91	P	Pn	00 48 16.5	+1.0
KSRS	Korea Array	6.87	290	P	Pn	00 49 01.6	0.0
	0.2nm,0.3s,baz=106,slow=13,SNR=4.3						
SONM	Songino Array	25.27	309	P	P	00 52 18.0	+1.0
	0.5nm,0.5s,baz=128,slow=9.5,SNR=4.8						
MKAR	Makanchi Array	41.35	303	P	P	00 54 35.5	+1.2
	0.3nm,0.5s,baz=86,slow=11,SNR=5.3						
ILAR	Eielson Array	53.21	31	P	P	00 56 04.2	-0.2
	0.3nm,0.7s,baz=259,slow=5.5,SNR=6.9						
WRA	Warramunga Arr	55.02	182	P	P	00 56 17.0	-1.0
	0.2nm,0.4s,baz=0.2,slow=7.7,SNR=8.1						
YKA	Yellowknife Ar	67.39	28	P	P	00 57 38.9	-0.7
	0.1nm,0.3s,baz=301,slow=6.5,SNR=5.0						

IDC 05 01:14:35.0±2.2**, 2°.46N**×**129°.19E, h0**km**, mb3.2**/3**, mb1 3.4**/3**, mb1mx3.2**/51**, mbtmp3.2**/3**, Error ellipse: s-maj=142.2km s-min=25.1km az=69.0, Halmahera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	22.83	167	P	P	01 19 38.2	-1.7
	0.3nm,0.5s,baz=347,slow=11,SNR=7.7						
ASAR	Alice Springs	26.37	170	P	P	01 20 14.4	+1.2
	0.2nm,0.5s,baz=356,slow=11,SNR=3.4						
MKAR	Makanchi Array	60.00	325	P	P	01 24 43.5	0.0
	0.2nm,0.6s,baz=124,slow=7.1,SNR=3.3						

IDC 05 01:18:37.3±1.7**, 2°.51N**×**129°.32E, h0**km**, mb3.6**/5**, mb1 3.7**/5**, mb1mx3.4**/50**, mbtmp3.6**/5**, Error ellipse: s-maj=134.6km s-min=19.9km az=68.0, Halmahera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	22.85	168	P	P	01 23 41.4	-1.0
	0.9nm,0.7s,baz=348,slow=11,SNR=8.8						
ASAR	Alice Springs	26.39	171	P	P	01 24 16.2	+0.5
	0.3nm,0.4s,baz=342,slow=3.7,SNR=5.1						
STKA	Stephens Creek	36.13	162	P	P	01 25 41.3	0.0
	1.0nm,0.7s,baz=323,slow=10.0,SNR=4.1						
MKAR	Makanchi Array	60.04	325	P	P	01 28 46.6	+0.5
	0.4nm,0.6s,baz=122,slow=8.4,SNR=5.3						
KURBB	Kurchatov Arra	64.17	327	P	P	01 29 13.4	-0.3
	0.6nm,0.7s,baz=125,slow=6.1,SNR=7.1						

*TIR **05** 01:24:03.9, 41°.06N×19°.93E, h23km, Md2.4/4*
*SKO **05** 01:24:06.9, 41°.24N×19°.74E, h17km*
*CSEM **05** 01:24:07.7±1.1, 41°.22N×19°.77E, h20km, ML1.8, Error ellipse: s-maj=22.7km s-min=17.9km az=9.0*
BEO 05 01:24:09.5±0.6**, 41°.36N**×**20°.00E, h7**km±8km**, 2C, Albania**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TIR	Tirane	0.10	265	ePg	Pg	01 24 11.1	-0.7
	14nm,0.1s						
TIR				eSg	Sg	01 24 15.3	+2.0
	276nm,0.5s						
TIR	Tirane	0.10	265	i Pg	Pg	01 24 11.2	-0.6
TIR				i Sg	Sg	01 24 15.1	+1.8
TIR	Tirane	0.10	265	i PG	Pg	01 24 11.2	-0.5
TIR				i SG	Sg	01 24 15.1	+1.8
PHP	Peshkopia	0.47	45	i Sg	Sb	01 24 29.1	+1.8
PHP	Peshkopia	0.47	45	i PG	Pg	01 24 18.3	-0.3
PHP				i SG	Sb	01 24 29.1	+1.8
OHR	Ohrid	0.65	112⇑	i Pg	Pg	01 24 21.7	-0.4
OHR				i Sg	Sb	01 24 33.2	+0.6
PUK	Puka	0.69	354	i Sg	Sb	01 24 34.9	+1.2
PUK	Puka	0.69	354	i PG	Pg	01 24 22.2	-0.6
PUK				i SG	Sb	01 24 34.9	+1.2
KRUS	Krusevo	0.94	89⇑	i Pg	Pg	01 24 27.0	-0.6
KRUS				i Sg	Sn	01 24 43.7	+0.6
BCI	Bajram Curri	1.01	3	i Pg	Pg	01 24 28.4	-0.5
BCI				i Sg	Sn	01 24 47.7	+3.1
	baz=4.0						
BCI	Bajram Curri	1.01	3	i PG	Pg	01 24 28.4	-0.5
BCI				i SG	Sn	01 24 47.7	+3.0
PDG	Podgorica	1.21	333	ePg	Pg	01 24 30.4	-2.2
	2.8nm,0.2s						
PDG				eSg	Sg	01 24 48.1	-0.2
	8.5nm,0.4s						
PDG	Podgorica	1.21	333	ePg	Pg	01 24 30.4	-2.2
	2.8nm,0.2s						
PDG				eSg	Sg	01 24 48.1	-0.2
	8.5nm,0.4s						
SJES	Sjenica	1.90	360	ePg	Pb	01 24 43.8	-0.8
	1.7nm,0.3s						
SJES				eSg	Sg	01 25 09.7	-1.0
	5.1nm,0.5s						
SJES	Sjenica	1.90	360	ePg	Pb	01 24 43.8	-0.8
	1.7nm,0.3s						
SJES				eSg	Sg	01 25 09.7	-1.0
	5.1nm,0.5s						
SELS	Selova	2.04	24	ePn	Pn	01 24 44.7	+0.4
	0.1nm,0.3s						
IVAS	Ivanjica	2.22	3	ePn	Pn	01 24 46.8	0.0
	3.0nm,0.7s						
IVAS	Ivanjica	2.22	3	ePn	Pn	01 24 46.8	0.0
	3.0nm,0.7s						
ZAPS	Zavoj	2.74	45	ePn	Pn	01 24 54.6	+0.7
	0.1nm,0.3s						
ZAPS				eSn	Sn	01 25 27.7	+0.4
	0.3nm,0.4s						
ZAPS	Zavoj	2.74	45	ePn	Pn	01 24 54.6	+0.7
	0.1nm,0.3s						
ZAPS				eSn	Sn	01 25 27.7	+0.4
	0.3nm,0.4s						
ZAGS	Zajecar	2.96	33	ePn	Pn	01 24 55.6	-1.3
	0.3nm,0.6s						
ZAGS	Zajecar	2.96	33	ePn	Pn	01 24 55.6	-1.3
	0.3nm,0.6s						

*IDC **05** 01:30:22.7±2.6, 35°.63N×142°.00E, h0km, mb3.3/3, mb1 3.4/5, mb1mx3.2/65, mbtmp3.3/5, ML3.2/2, MS3.3/1, Ms1 3.3/1, ms1mx2.3/30, Error ellipse: s-maj=63.8km s-min=26.6km az=70.0*
*ISCJB **05** 01:30:27.8±1.3, 35°.58N±0°.05×141°.7E±0°.1, h47km±11km, mb3.3/3, MS3.3/1, Error ellipse: s-maj=15.3km s-min=7.5km az=169.2*
*JMA **05** 01:30:27.7±0.2, 35°.62N×141°.70E, h53km±3km, M2.9*
ISC 05 01:30:27.9±2.2**, 35°.59N**±0°.05×**141°.7E**±0°.1**, h30**km±14km**, n14, σ1s.24**/20**, mb3.4**/3**, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CHOJ	Chosi	0.69	279	P	Pb	01 30 41.5	0.0
CHOJ				S	Sn	01 30 51.8	+0.4
BSO1	Boso 1	1.11	212	P	Pn	01 30 47.4	+0.6
BSO3	Boso 3	1.25	231	P	Pb	01 30 50.4	-0.3
JAG	Ashikaga	2.00	295	P	Pn	01 30 59.9	+0.3
JAG				S	Sn	01 31 23.6	-0.1
JOD2	Odawara 2	2.16	262	P	Pn	01 31 02.0	+0.2
JOD2				S	Sn	01 31 28.0	+0.4
JFT	Otama	2.21	331	P	Pn	01 31 02.2	-0.4
JFT				S	Sn	01 31 28.6	-0.3
JKT	Katashina	2.30	301	P	Pn	01 31 04.3	+0.4
JKT				S	Sn	01 31 30.7	-0.6
JHJ	Hachijo jima 2	2.93	213	Pn	Pn	01 31 12.3	-0.1
	21nm,0.3s,baz=121,slow=23,SNR=7.7						
JHJ				Sn	Sn	01 31 45.7	-0.9
	36nm,0.3s,baz=83,slow=22,SNR=10						
MJAR	Matsushiro Arr	2.98	290	Pn	Pn	01 31 14.3	+1.2
	1.0nm,0.3s,baz=90,slow=13,SNR=4.6						
MAT	Matsushiro	2.98	290	P	Pn	01 31 14.7	+1.5
MAT				eS	Sn	01 31 43.7	-4.3
MKAR	Makanchi Array	45.09	303	P	P	01 38 41.8	+0.6
	0.1nm,0.5s,baz=73,slow=6.0,SNR=2.6						
KURBB	Kurchatov Arra	47.08	309	P	P	01 38 57.0	+0.3
	0.3nm,0.4s,baz=83,slow=8.0,SNR=4.4						
AAK	Ala-Archa	51.39	299	LR	LR	02 03 27.6	
	comp=Z,28nm,19.9s,baz=156,slow=38						
WRA	Warramunga Arr	55.67	188	P	P	01 40 01.3	0.0
	0.3nm,0.7s,baz=7.1,slow=7.3,SNR=4.7						

UCR 05 01:36:07.2±1.7**, 12°.52N**×**87°.78W, h41**km±31km**, MD3.8, ML3.5, 2C-2D, Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CSGN	Cosiguina Volc	0.51	25	i P	Pn	01 36 18.7	+0.5
CSGN				eS	Sn	01 36 26.8	+0.8
CRIN	San Cristobal	0.74	75⇑	i P	Pn	01 36 21.6	+0.4
CRIN				eS	Sn	01 36 33.9	+2.5
CRIN				AML	AML	01 36 39.4	
	comp=E,3µm,0.2s						
CNCH	Conchagua	0.76	356	eP	Pn	01 36 21.4	-0.2
CNCH				eS	Sn	01 36 31.2	-0.8
CNCH				AML	AML	01 36 34.9	
	comp=Z,2µm,0.2s						
LCND	La Ca˜–ada	0.80	352	eP	Pn	01 36 21.7	-0.3
LCND				eS	Sn	01 36 32.9	+0.1
TELN	Telica	0.93	84	eP	Pn	01 36 23.9	-0.1
TELN				eS	Sn	01 36 36.7	+0.6
VSM	San Miguel	1.03	332	eP	Pn	01 36 25.6	+0.2
LCY	Lacayo	1.03	331	eP	Pn	01 36 24.9	-0.4
CNGN	Cerro Negro	1.06	91	eP	Pn	01 36 25.5	-0.1
PACA	Pacayal	1.08	331	eP	Pn	01 36 26.1	0.0
PACA				eS	Sn	01 36 40.5	+0.5
TECA	Tecapa	1.20	324	eP	Pn	01 36 27.3	-0.4
COPN	Copaltepe	1.21	106	i P	Pn	01 36 27.5	-0.2
MOMN	Momotombo	1.22	95⇓	i P	Pn	01 36 27.6	-0.2
CAHU	Cacacuatique	1.32	342	eP	Pn	01 36 29.7	+0.4
BRAN	Las Pilas	1.41	82	eP	Pn	01 36 31.6	+1.1
BRAN				eS	Sn	01 36 49.1	+1.3
BRAN				AML	AML	01 36 54.4	
	comp=N,3µm,0.2s						
XAVN	Gruta Xavier	1.47	104	eP	Pn	01 36 31.4	+0.2
ESTN	Estel	1.50	67	i P	Pn	01 36 32.0	+0.3
ESTN				AML	AML	01 36 57.3	
	comp=E,88nm,0.6s						
TISN	Laguna Tiscapa	1.52	104⇓	i P	Pn	01 36 32.3	+0.3

MGAN	Managua	1.54	104	i P	Pn	01 36 32.4	+0.2
TGUH	Tegucigalpa,Un	1.61	18	eP	Pn	01 36 34.1	+1.0
LFRS	El Faro	1.66	312	eP	Pn	01 36 34.0	0.0
LFRS				eS	Sn	01 36 54.2	-0.1
MASN	Masaya	1.68	108	eP	Pn	01 36 34.4	+0.3
LBRS	Las Brisas	1.73	315	eP	Pn	01 36 35.9	+1.0
LFU	La Fuente	1.79	314	eP	Pn	01 36 36.4	+0.8
SNET	Serv Nac Est T	1.83	310	eP	Pn	01 36 37.3	+1.0
MATN	Matagalpa	1.86	77	eP	Pn	01 36 36.6	-0.1
COLS	Colinas	1.87	308	eP	Pn	01 36 37.1	+0.3
BOQS	Boqueron	1.90	310	eP	Pn	01 36 37.8	+0.5
BOQS				eS	Sn	01 37 01.3	+1.2
BOQS				AML	AML	01 37 02.3	
	comp=Z,475nm,0.2s						
SBLS	San Blas	2.22	306	eP	Pn	01 36 42.5	+0.7
MTO3	Montecristo	2.42	321	eP	Pn	01 36 45.2	+0.7
ACON	Acoyapa	2.61	102	eP	Pn	01 36 46.4	-0.5
GBS3	Finca Las Imˆ¡	2.86	127	eP	Pn	01 36 49.9	-0.4
GB1A	Borinquen Arri	2.88	126	eP	Pn	01 36 50.1	-0.6
GB1A				eS	Sn	01 37 21.9	-2.3
NY14	Universidad de	2.88	130	eP	Pn	01 36 52.3	+1.7
LAPC	Finca la Perla	2.88	127	eP	Pn	01 36 50.0	-0.7
BUEV	Buena Vista	2.88	126	eP	Pn	01 36 51.2	+0.4
BUAI	Buenos Aires	2.90	124	eP	Pn	01 36 50.5	-0.4
GPS3	Bodega del ICE	2.94	126	eP	Pn	01 36 51.9	+0.3
GPS2	Hotel Rincˆ‡n	2.96	126	eP	Pn	01 36 52.8	+1.1
LIM1	Limonal	3.07	126	eP	Pn	01 36 53.7	+0.5
MESS	Mesas	3.09	125	eP	Pn	01 36 53.4	-0.2
HORNC	Hornillas	3.12	125	eP	Pn	01 36 54.2	+0.2
COLC	Colonia	3.12	126	eP	Pn	01 36 55.0	+1.0
CUI	Cuipilapa	3.16	125	eP	Pn	01 36 54.3	-0.2
CUI				eS	Sn	01 37 30.9	-0.1
ACAL	Aguas Claras	3.28	124	⇑iP	Pn	01 36 56.9	+0.7
AMAS	Alto Masis	3.32	124	eP	Pn	01 36 57.1	+0.3
JTS	JuntasAbangare	3.55	128	eP	Pn	01 36 60.0	+0.1
CEDE	Laguna Cedeˆ–o	3.63	123	eP	Pn	01 37 02.1	+1.1
DRK0	Durika	5.50	126	eP	Pn	01 37 29.6	+2.7
DRK0				eS	Sn	01 38 28.9	-0.1

*BJI **05** 01:44:36.4, 10.°30S×123.°80E, h6km, mb4.7/36, mB5.0/23, Ms4.7/9, Ms7 4.4/9*
*ISCJB **05** 01:44:39.3±0.2, 10.°53S±0.°03×123.°86E±0.°02, h33km, mb4.7/61, MS3.8/11, Error ellipse: s-maj=4.5km s-min=3.4km az=17.5*
*NEIC **05** 01:44:41.1±0.8, 10.°21S×123.°71E, h19km±5km, mb4.7/28, Error ellipse: s-maj=8.8km s-min=6.0km az=221.0*
NEIC Felt [III] at Kupang.
*MOS **05** 01:44:41.1±1.0, 10.°17S×123.°75E, h33km, mb4.9/24, Error ellipse: s-maj=16.2km s-min=7.3km az=113.3*
*DJA **05** 01:44:41.8±0.2, 10°S±2°×12°4E±°, h10km, M4.8/30, mb4.9/30, mB5.3/14, MLv4.8/13, Mw(mB)4.8/14, Mwp7.7/1*
*IDC **05** 01:44:41.1±1.0, 10.°16S×123.°73E, h18km±7km, mb4.3/15, mb1 4.4/15, mb1mx4.1/45, mbtmp4.4/15, MS3.7/11, Ms1 3.7/11, ms1mx3.4/44, Error ellipse: s-maj=28.7km s-min=15.2km az=63.0*

ISC 05 01:44:41.5±0.7, **10.°35S**±0.°05×**123.°75E**±0.°04, **h26**km±4km, **n218**, σ1§**90**/222, **mb4.7**/61, **MS3.9**/11, **8C-5D, Timor region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BATI	Baumata	0.17	329	Pg	Pb	01 44 45.1	-1.9
BATI	Baumata	0.17	329	P	Pb	01 44 45.0	-1.9
SOEI	Soe	0.78	41	P	Pn	01 44 57.6	+0.7
SOEI				S	Sn	01 45 17.5	+10
SOEI	Soe	0.78	41	ePn	Pn	01 44 57.7	+0.7
SOEI				Sn	Sb	01 45 04.7	-2.1
MMRI	Maumere	2.27	319	P	Pb	01 45 19.5	-2.2
MMRI				S	Sb	01 45 49.9	+0.6
MMRI	Maumere	2.27	319	ePn	Pn	01 45 19.2	+2.0
MMRI				eSn	Sn	01 45 42.3	-2.1
EDFI	Ende, Flores	2.58	308	P	Pn	01 45 23.6	+1.9
EDFI				S	Sb	01 45 56.5	-2.0
BASI	Baing, Sumba	3.12	272	P	Pn	01 45 32.2	+3.1
WSI	Waingapu	3.47	281	P	Pn	01 45 35.9	+2.1
WBSI	Waikabubak, Su	4.35	279	P	Pn	01 45 46.6	+0.6
BBSI	Bau Bau	4.97	346	P	Pn	01 45 58.6	+4.1
BSSI	Bau Bau, Buton	5.28	322	P	Pn	01 46 01.7	+2.9
PLAI	Plampang	6.08	284	P	Pn	01 46 11.3	+1.5
PLAI				S	Sn	01 47 18.4	-0.2
KAPI	Kappang	6.62	323	ePn	Pn	01 46 18.8	+1.7
KAPI	Kappang	6.62	323	eP	Pn	01 46 18.8	+1.7
BNSI	Bone	6.93	328	P	Pn	01 46 25.9	+4.5
TWSI	Taliwang, Sumb	6.96	283	P	Pn	01 46 22.9	+1.0
TWSI				S	Sn	01 47 42.5	+2.2
MTN	Manton Dam	7.65	110	ePn	Pn	01 46 30.0	-1.2
MTN				eSn	Sn	01 47 54.3	-2.8
AAI	Ambon	7.95	34	P	Pn	01 46 38.2	+2.7
TTSI	Tana Toraja	8.24	331	P	Pn	01 46 43.8	+4.4
SANI	Sanana	8.54	15	P	Pn	01 46 47.1	+3.5
DNP	Denpasar	8.59	280	P	Pn	01 46 45.0	+0.8
APSI	Ampana	9.61	347	P	Pn	01 47 02.4	+4.2
JAGI	Jajag, Banyuwa	9.65	280	ePn	Pn	01 46 58.2	-0.6
JAGI				eSn	Sn	01 48 40.8	-5.7
PCI	Palu	10.16	337	P	Pn	01 47 10.9	+5.1
KMMI	Kalianget	10.21	288	P	Pn	01 47 09.7	+3.2
GMJI	Gumukmas	10.38	281	P	Pn	01 47 10.9	+2.1
FAKI	Fak Fak	11.21	49	P	Pn	01 47 20.6	+0.4
FAKI	Fak Fak	11.21	49	ePn	Pn	01 47 19.3	-0.9
FAKI				eSn	Sn	01 49 24.6	-0.1
MPSI	Mapaga	11.29	340	P	Pn	01 47 24.9	+3.7
MBWA	Marble Bar	11.42	199	ePn	Pn	01 47 20.1	-2.9
MBWA				eSn	Sn	01 49 20.0	-10
KMPI	Kaimana, Papua	11.90	57	P	Pn	01 47 33.0	+3.4
SWI	Sorong	12.02	39	P	Pn	01 47 34.5	+3.2
WRA	Warramunga Arr	13.97	134	Pn	Pn	01 47 52.0	-5.9
	1.4nm,0.3s,baz=313,slow=13,SNR=44						
WRA				Sn	Sn	01 50 20.6	-12
	4.4nm,0.3s,baz=307,slow=21,SNR=12						
WRA				LR	LR	01 54 20.5	
	comp=Z,382nm,19.9s,baz=315,slow=41						
WR1	Warramunga Arr	13.97	134	ePn	Pn	01 47 52.0	-5.9
WR1				eSn	Sn	01 50 20.6	-12
WRAB	Tennant Creek	13.97	134	ePn	Pn	01 47 52.1	-5.9
WRAB	Tennant Creek	13.97	134	eP	Pn	01 47 52.1	-5.8
WB2	Warramunga Arr	13.98	134	ePn	Pn	01 47 52.6	-5.4
WB2				eSn	Sn	01 50 20.9	-12
MYLDM	Lahad Datu	16.29	341	ePn	Pn	01 48 25.4	-3.2
	17nm,1.0s						
LEM	Lembang	16.33	281	Pn	P	01 48 35.7	+3.6
	5.7nm,0.3s,baz=47,slow=10,SNR=5.1						
LEM	Lembang	16.33	281	P	P	01 48 35.4	+3.3
AS31	Alice Springs	16.41	145	ePn	Pn	01 48 26.2	-3.9
	8.2nm,0.6s						
AS31				eSn	Sn	01 51 19.9	-12
ASAR	Alice Springs	16.41	145	Pn	Pn	01 48 26.0	-4.1
	1.1nm,0.3s,baz=320,slow=12,SNR=55						
ASAR				Sn	Sn	01 51 19.9	-12
	1.7nm,0.3s,baz=320,slow=22,SNR=8.2						
ASAR				LR	LR	01 55 45.7	
	comp=Z,168nm,21.7s,baz=319,slow=40						
AS01	Alice Springs	16.43	145	ePn	Pn	01 48 26.3	-4.2
CNJI	Cibinong	16.70	279	P	Pn	01 48 35.1	+1.3
SBUM	Sibu	17.13	317	ePn	P	01 48 42.1	+1.3
	13nm,0.8s						
KSM	Kuching	17.80	311	ePn	Pn	01 48 47.4	-0.2
	24nm,1.0s						
KKM	Kota Kinabalu	17.93	335	Pn	Pn	01 48 48.8	-0.5
	34nm,0.8s						
CGJI	Cibinong	18.24	280	P	P	01 48 53.9	+0.9
JAY	Jayapura	18.55	66	P	Pn	01 48 59.8	+3.0
COEN	Coen	19.32	103	eP	Pn	01 49 06.3	+0.2
	12nm,0.9s						
COEN				eSn	Sn	01 52 28.6	-14
KASI	Kota Agung	19.66	283	P	Pn	01 49 10.0	-0.1
LWLI	Liwa	20.21	284	P	Pn	01 49 17.0	+0.2
MDSI	Maura Dua	20.26	285	P	Pn	01 49 17.2	0.0
FORT	Forrest	20.72	169	eP	P	01 49 19.9	-0.1
	1μm,0.6s						
MNAI	Manna	21.46	285	eP	P	01 49 27.4	-0.7
	333nm,1.3s						
MASI	Maura Aman, Be	22.52	287	P	P	01 49 42.4	+2.8
PMG	Port Moresby	23.08	90	LR	LR	02 01 18.9	
	comp=Z,251nm,18.3s,baz=38,slow=43						
PMG	Port Moresby	23.08	90	eP	P	01 49 45.4	0.0
	25nm,1.0s						
PMG	Port Moresby	23.08	90	⇑iP	P	01 49 48.0	+2.6
PMG				i *PP	pP	01 49 52.8	+0.2
PMG				i		01 50 11.8	
PMG				pmax	pmax		
	comp=Z,46nm,0.9s						
MYKOM	Kota Tinggi	23.19	300	eP	P	01 49 44.2	-2.3
	comp=Z,16nm,0.9s						
CTA	Charters Tower	23.75	117	P	P	01 49 53.7	+1.8
	comp=Z,4.5nm,0.6s,baz=301,slow=12,SNR=4.7						
BKNI	Bangkinang	24.96	294	eP	P	01 50 04.4	+1.3
	comp=Z,44nm,0.5s						
BBOO	Buckleboo	25.07	155	eP	P	01 50 04.5	+0.6
	comp=Z,25nm,1.0s						
COCO	West Island	26.46	263	eP	P	01 50 17.7	+1.1
	comp=Z,314nm,0.4s						
COCO	West Island	26.46	263	eP	P	01 50 17.7	+1.1
COCO				pmax	pmax		
	comp=Z,314nm,0.4s						
STKA	Stephens Creek	27.05	145	P	P	01 50 22.7	+0.9
	comp=Z,3.5nm,0.6s,baz=319,slow=11,SNR=11						
STKA				LR	LR	02 03 23.8	
	comp=Z,276nm,18.2s,baz=305,slow=41						
STKA	Stephens Creek	27.05	145	eP	P	01 50 22.7	+0.9
	comp=Z,6.4nm,1.7s						
STKA	Stephens Creek	27.05	145	eP	P	01 50 22.7	+0.9
STKA				pmax	pmax		
	comp=Z,6.0nm,1.7s						
CHAI	Chaiyaphum	33.83	320	P	P	01 51 22.5	+0.6
	comp=Z,4.3nm,0.9s						
PHIT	Phitsanulok	35.79	320	P	P	01 51 39.1	+0.3
CM01	Chiang Mai Arr	37.63	319	eP	P	01 51 54.3	-0.2
CM31	Chiang Mai Arr	37.66	319	eP	P	01 51 54.1	-0.8
CM31				ePcP	PcP	01 54 14.4	+2.3
CMAR	Chiang Mai Arr	37.66	319	P	P	01 51 54.1	-0.8
	comp=Z,4.5nm,0.8s,baz=144,slow=6.4,SNR=10						
CMAR				PcP	PcP	01 54 14.4	+2.3
	comp=Z,1.3nm,0.3s,baz=175,slow=3.0,SNR=4.3						
CMAR				LR	LR	02 08 51.8	
	comp=Z,75nm,20.2s,baz=155,slow=39						
CMAR	Chiang Mai Arr	37.66	319	ceP	P	01 51 54.5	-0.3
CMAR				pmax	pmax		
	comp=Z,5.0nm,0.7s						
KMI	Kunming	40.78	330	P	P	01 52 23.7	+2.7
KMI				pmax	pmax		
	comp=Z,16nm,0.5s						
KMI				pmax	pmax		
	comp=Z,150nm,4.9s						
NJ2	Nanjing	42.42	354	eP	P	01 52 34.5	+0.4
NJ2				pmax	pmax		
	comp=Z,13nm,0.6s						
XAN	Xi'an	46.34	343	P	P	01 53 03.6	-1.9
XAN				pP	pP	01 53 08.9	-4.5
XAN				pmax	pmax		
	comp=Z,9.0nm,0.9s						
KS15	Wonju Array Si	47.70	4	eP	P	01 53 15.8	-0.2
KSAR	Wonju Array Be	47.70	4	P	P	01 53 15.8	-0.2
KSAR	Wonju Array Be	47.70	4	P	P	01 53 15.8	-0.2
KSRS	Korea Array	47.71	4	P	P	01 53 15.7	-0.3
	comp=Z,1.1nm,0.7s,baz=181,slow=8.6,SNR=5.5						
MJAR	Matsushiro Arr	48.59	16	P	P	01 53 21.4	-1.4
	comp=Z,3.4nm,0.7s,baz=195,slow=9.3,SNR=6.8						
MAJO	Matsushiro	48.59	16	eP	P	01 53 21.4	-1.5
MAJO	Matsushiro	48.59	16	eP	P	01 53 21.4	-1.5
LZH	Lanzhou	49.86	339	eP	P	01 53 35.7	+2.9
LZH				pP	pP	01 53 40.2	-0.6
LZH				sP	sP	01 53 42.8	-1.1
LZH				pmax	pmax		
	comp=Z,21nm,1.0s						
LZH				pmax	pmax		
	comp=Z,120nm,6.2s						
JIRN	Jiri	52.45	317	eP	P	01 53 51.8	-0.9
GUN	Gumba	52.83	317	eP	P	01 53 54.5	-0.9
	comp=Z,32nm,0.8s						
PKIN	Phulchoki	52.94	316	eP	P	01 53 55.5	-0.7
	comp=Z,10nm,0.5s						
MSHR	Mys Shultsa	53.11	7	⇓iP	P	01 53 56.1	-0.7
KKN	Kakani	53.15	316	eP	P	01 53 57.5	-0.2
DMN	Daman	53.15	316	eP	P	01 53 57.6	-0.2
GKN	Gorkha	53.72	316	eP	P	01 54 01.5	-0.3
CN2	Changchun	53.91	2	eP	P	01 54 05.9	+3.2
CN2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
GTA	Gaotai	54.28	337	eP	P	01 54 05.4	-0.2
GTA				pP	pP	01 54 10.0	-3.7
GTA				sP	sP	01 54 12.5	-4.3
GTA				pmax	pmax		
	comp=Z,6.0nm,1.2s						
KOLN	Koldanda	54.29	315	eP	P	01 54 06.1	+0.1
	comp=Z,9.7nm,0.6s						
USRK	Ussuriysk Ar.	54.80	7	P	P	01 54 09.2	+0.1
	comp=Z,4.1nm,0.6s,baz=190,slow=6.6,SNR=11						
MDJ	Mudanjiang	54.96	5	eP	P	01 54 10.3	0.0
	comp=Z,17nm,0.9s						
KLR	Kul'dur	59.74	6	⇑iP	P	01 54 43.6	-0.3
ULN	Ulaanbaatar	59.83	347	ceP	P	01 54 45.0	+0.2
ULN				pmax	pmax		
	comp=Z,2.0nm,0.9s						
SONA0	Songino Array	59.95	347	eP	P	01 54 44.8	-0.8
SONM	Songino Array	59.95	347	P	P	01 54 44.8	-0.8
	comp=Z,1.9nm,0.5s,baz=165,slow=8.2,SNR=12						
SONA1	Songino Array	59.95	347	eP	P	01 54 44.5	-1.1
ZAK	Zakamensk	63.06	345	eP	P	01 55 05.2	-1.3
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.0s						
WMQ	Urumqi	63.09	331	P	P	01 55 07.2	+0.4
WMQ				pP	pP	01 55 11.0	-4.0
WMQ				sP	sP	01 55 15.4	-2.7
WMQ				pmax	pmax		
	comp=Z,27nm,0.9s						
WMQ				pmax	pmax		
	comp=Z,360nm,4.9s						
WMQ				LR	LR		
	comp=Z,170nm,24.1s						
WMQ				LR	LR		
	comp=Z,140nm,19.5s						
WMQ				LR	LR		
	comp=Z,110nm,18.7s						
ZEA	Zeya	63.91	2	eP	P	01 55 12.5	+0.6
TLY	Talaya	64.18	346	eP	P	01 55 13.9	+0.1
TLY				pmax	pmax		
	comp=Z,7.0nm,1.5s						
TLY				MLR	MLR		
	comp=Z,48nm,12.0s						
MOY	Mondy	64.82	345	eP	P	01 55 18.6	+0.5
MOY				pmax	pmax		
	comp=Z,13nm,2.2s						
NIL	Nilore	64.94	315	eP	P	01 55 17.9	-1.2
	comp=Z,11nm,0.6s						
NIL	Nilore	64.94	315	eP	P	01 55 17.9	-1.2
NIL				pmax	pmax		
	comp=Z,11nm,0.6s						
KSH	Kashi	66.53	321	P	P	01 55 29.3	-0.1
KSH				sP	pP	01 55 37.2	-0.4
KSH				PP	PP	01 57 59.4	+3.2
KSH				S	S	02 04 16.7	-2.1
KSH				ScS	SKSac	02 05 17.7	-6.8
KSH				pmax	pmax		
	comp=Z,13nm,0.9s						
KSH				pmax	pmax		
	comp=Z,140nm,5.9s						
KSH				LR	LR		
	comp=Z,130nm,4.8s						
KSH				LR	LR		
	comp=Z,100nm,4.7s						
KSH				LR	LR		
	comp=Z,140nm,7.9s						
HVS	Khovu-Aksy	66.55	340	⇓iP	P	01 55 29.4	+0.2
HVS				i *SP	pP	01 55 36.8	-0.6
TARG	Taragay, Kyrgy	66.81	324	eP	P	01 55 32.8	+1.3
	comp=Z,17nm,1.5s						
KDJ	Kajisay	67.43	324	eP	P	01 55 35.2	+0.1
	comp=Z,4.0nm,0.9s						
KDJ	Kajisay	67.43	324	eP	P	01 55 35.2	+0.1
KDJ				pmax	pmax		
	comp=Z,4.0nm,0.9s						
DGZ	Jazzator, Alta	67.73	335	d iP	P	01 55 36.7	-0.1
DGZ				i *SP	pP	01 55 42.9	-2.2
DGZ				pmax	pmax		
	comp=Z,9.0nm,1.0s						
MK01	Makanchi Array	67.83	331	eP	P	01 55 36.8	-0.6
MK31	Makanchi Array	67.86	331	eP	P	01 55 37.1	-0.4
MK31	Makanchi Array	67.86	331	eP	P	01 55 37.1	-0.4
MK32	Makanchi Array	67.86	331	eP	P	01 55 37.1	-0.4
MKAR	Makanchi Array	67.86	331	P	P	01 55 37.1	-0.4
	comp=Z,11nm,0.6s,baz=136,slow=7.3,SNR=140						
MKAR	Makanchi Array	67.86	331	eP	P	01 55 37.1	-0.4
	comp=Z,85nm,0.9s						
MAKZ	Makanchi	68.02	330	eP	P	01 55 38.0	-0.5
	comp=Z,8.0nm,0.9s						
MAKZ	Makanchi	68.02	330	P	P	01 55 37.6	-0.9
MAKZ				pmax	pmax		
	comp=Z,9.0nm,1.0s						
KBL	Kabul	68.38	314	eP	P	01 55 40.7	-0.6
	comp=Z,11nm,0.6s						
KBL	Kabul	68.38	314	eP	P	01 55 40.7	-0.6
KBL				pmax	pmax		
	comp=Z,11nm,0.6s						
BOD	Bodaibo	68.40	354	eP	P	01 55 37.2	-3.4
BOD				pmax	pmax		
	comp=Z,6.0nm,1.1s						
PETK	Petropavlovsk-	69.53	21	P	P	01 55 48.0	+0.2
	comp=Z,11nm,0.8s,baz=225,slow=1.2,SNR=11						
PEA1	Petropavlovsk-	69.54	21	eP	P	01 55 48.0	+0.2
VNDA	Vanda	69.96	172	P	P	01 55 52.1	+2.0
	comp=Z,0.5nm,0.5s,baz=307,slow=7.3,SNR=5.9						
VNDA				LR	LR	02 25 40.0	
	comp=Z,102nm,19.6s,baz=320,slow=35						
MNAS	Manas	70.40	322	P	P	01 55 52.2	-1.4
MNAS				pmax	pmax		
	comp=Z,6.0nm,0.8s						
KK06	Karatay Array	71.94	322	eP	P	01 56 03.3	+0.5
KK31	Karatay Array	71.95	322	eP	P	01 56 04.5	+1.6
KK31	Karatay Array	71.95	322	i P	P	01 56 00.9	-1.9
KK31				pmax	pmax		
	comp=Z,1.0nm,0.7s						
KKAR	Karatay Array	71.95	322	eP	P	01 56 01.6	-1.2
ZAA0	Zalesovo Array	72.03	337	eP	P	01 56 01.7	-1.3
	comp=Z,14nm,0.8s						
ZALV	Zalesovo Beam	72.03	337	P	P	01 56 01.6	-1.4
	comp=Z,11nm,0.5s,baz=136,slow=4.8,SNR=45						
ZALV	Zalesovo Beam	72.03	337	eP	P	01 56 01.5	-1.5
ZALV	Zalesovo Beam	72.03	337	eP	P	01 56 01.5	-1.5
ZAA1	Zalesovo Array	72.04	337	eP	P	01 56 01.6	-1.4
YAK	Yakutsk	72.30	3	eP	P	01 56 03.3	-1.1
YAK				pmax	pmax		
	comp=Z,37nm,0.9s						
YAK				pmax	pmax		
	comp=N,10.0nm,1.1s						
KURBB	Kurchatov Arra	72.31	332	P	P	01 56 04.0	-0.8
	comp=N,6.7nm,1.1s,baz=135,slow=5.1,SNR=38						
KURK	Kurchatov	72.33	332	eP	P	01 56 04.2	-0.6
KURK	Kurchatov	72.33	332	P	P	01 56 03.9	-0.9
KURK				pmax	pmax		
	comp=Z,15nm,1.1s						
MA2	Magadan	73.00	14	⇑iP	P	01 56 09.6	+1.0
NVS	Novosibirsk	73.32	337	eP	P	01 56 08.2	-2.4
NVS				pmax	pmax		
	comp=N,10.0nm,1.5s						
NVS				pmax	pmax		
	comp=E,9.0nm,1.5s						
NVS				pmax	pmax		
	comp=Z,16nm,1.5s						
SOHO	SOHO	74.01	299	P	P	01 56 14.9	-0.4
UOSS	Minazif	74.56	299	eP	P	01 56 18.6	+0.1
	comp=Z,14nm,1.4s						
UOSS	Minazif	74.56	299	P	P	01 56 18.6	+0.1
	SNR=6.6						
UOSS	Minazif	74.56	299	P	P	01 56 18.6	+0.1
	SNR=6.6						
UOSS	Minazif	74.56	299	i P	P	01 56 18.3	-0.2
	SNR=6.7						
HATD	Hatta, Dubai	74.58	299	P	P	01 56 18.8	+0.2
ASHO	Ashiyiah	74.60	299	P	P	01 56 19.7	+0.9
	SNR=10.0						
ASHO	Ashiyiah	74.60	299	P	P	01 56 19.7	+0.9
	SNR=10.0						
ASHO	Ashiyiah	74.60	299	i P	P	01 56 19.1	+0.3
	SNR=9.8						
MSFE	Esma-Masafi	74.73	300	i P	P	01 56 20.5	+0.9
	SNR=6.9						
BANOM	Banah	74.80	300	P	P	01 56 21.7	+1.7
	SNR=6.3						
BANOM	Banah	74.80	300	P	P	01 56 21.7	+1.7
	SNR=6.3						
BANOM	Banah	74.80	300	i P	P	01 56 20.8	+0.8
	SNR=6.3						
SHME	Shamm	74.98	301	i P	P	01 56 21.6	+0.6
	SNR=6.6						
NAZ	Nazwa, Dubai	75.04	299	i P	P	01 56 21.6	+0.3
	SNR=7.1						
SEY	Seymchan	76.33	13	⇓iP	P	01 56 28.5	+0.6
BVA0	Borovoye Array	77.74	330	i P	P	01 56 34.7	-1.3
BVA0				pmax	pmax		
	comp=Z,6.0nm,1.3s						
BVAR	Borovoye Array	77.74	330	P	P	01 56 35.4	-0.7
	comp=Z,1.2nm,0.6s,baz=147,slow=6.9,SNR=7.9						
GYB1	ALIBECK ARRAY	77.77	313	eP	P	01 56 37.7	+1.1
	comp=Z,6.1nm,1.0s						
GEYT	Alibeck	77.78	313	P	P	01 56 37.2	+0.6
	comp=Z,2.9nm,0.8s,baz=134,slow=4.3,SNR=10						
GEYT				LR	LR	02 37 10.3	
	comp=Z,49nm,19.5s,baz=245,slow=41						
GYB5	ALIBECK ARRAY	77.78	313	eP	P	01 56 37.8	+1.1
	comp=Z,11nm,1.4s						
BRVK	Borovoye	77.81	330	eP	P	01 56 36.4	0.0
	comp=Z,9.7nm,1.5s						
BRVK	Borovoye	77.81	330	⇑iP	P	01 56 35.2	-1.2
BRVK				pmax	pmax		
	comp=Z,4.0nm,1.2s						
AB07	Akbulak array	81.37	324	eP	P	01 56 54.5	-1.4
AB06	Akbulak array	81.38	324	eP	P	01 56 55.1	-0.8
AB03	Akbulak array	81.39	324	eP	P	01 56 55.5	-0.4
AB01	Akbulak array	81.39	324	eP	P	01 56 55.2	-0.8
AB02	Akbulak array	81.39	324	eP	P	01 56 55.1	-0.9
AB31	Akbulak array	81.39	324	eP	P	01 56 55.3	-0.7
AB31	Akbulak array	81.39	324	i P	P	01 56 55.1	-0.9
AB31				pmax	pmax		
	comp=Z,2.0nm,0.7s						
ABKAR	Akbulak array	81.39	324	eP	P	01 56 55.3	-0.7
	comp=Z,46nm,1.4s						
AB08	Akbulak array	81.39	323	eP	P	01 56 55.2	-0.8
AB04	Akbulak array	81.39	324	eP	P	01 56 55.1	-0.9
AB05	Akbulak array	81.40	324	eP	P	01 56 55.2	-0.8
AB09	Akbulak array	81.41	324	eP	P	01 56 55.3	-0.8
TIXI	Tiksi	81.89	2	eP	P	01 56 57.1	-1.0
	comp=Z,6.6nm,0.8s						
TIXI	Tiksi	81.89	2	⇓iP	P	01 56 56.9	-1.2
TIXI				pmax	pmax		
	comp=Z,16nm,1.7s						
AKTO	Aktyubinsk	83.03	324	P	P	01 57 04.1	-0.4
	comp=Z,2.8nm,0.6s,baz=94,slow=7.2,SNR=9.5						
AKTO	Aktyubinsk	83.03	324	P	P	01 57 03.0	-1.5
AKTO				pmax	pmax		
	comp=Z,11nm,1.4s						
ATD	Arta Tunnel	83.28	283	LR	LR	02 32 30.3	
	comp=Z,55nm,18.7s,baz=110,slow=34						
RAYN	Ar Rayn	83.50	295	eP	P	01 57 09.0	+1.3
	comp=Z,4.6nm,0.8s						
RAYN	Ar Rayn	83.50	295	eP	P	01 57 09.0	+1.3
RAYN				pmax	pmax		
	comp=Z,5.0nm,0.8s						
SVE	Sverdlovsk	84.52	330	eP	P	01 57 12.6	+0.6
ARU	Arti	85.36	330	c iP	P	01 57 14.8	-1.4
ARU						02 00 29.9	
ARU				S	S	02 07 38.3	-7.0
ARU				SS	SS	02 13 12.8	-7.8
ARU				pmax	pmax		
	comp=Z,7.0nm,1.2s						
KMBO	Kilima Mbogo	86.36	270	LR	LR	02 32 00.4	
	comp=Z,46nm,18.9s,baz=95,slow=33						
KMBO	Kilima Mbogo	86.36	270	ceP	P	01 57 21.8	-0.7
KMBO				pmax	pmax		
	comp=Z,1.0nm,0.3s						
GNI	Garni	88.33	311	LR	LR	02 41 24.9	
	comp=Z,14nm,21.7s,baz=106,slow=39						
TBLG	Delisi	88.74	313	eP	P	01 57 35.9	+2.9
	comp=Z,25nm,1.4s						
TBLG	Delisi	88.74	313	eP	P	01 57 35.9	+2.9
TBLG				pmax	pmax		
	comp=Z,25nm,1.4s						
AKH	Akhalkalaki	89.56	312	eP	P	01 57 40.5	+3.4
	comp=Z,4.6nm,1.1s						
AKH	Akhalkalaki	89.56	312	eP	P	01 57 40.5	+3.4
AKH				pmax	pmax		
	comp=Z,5.0nm,1.1s						
ZEI	Tsey	89.61	314	eP	P	01 57 38.7	+1.4
ZEI				pmax	pmax		
	comp=Z,4.0nm,1.1s						
SNAA	Sanae	90.93	195	P	P	01 57 44.2	+1.4
VNA2	Neumayer--Watz	92.54	194	P	P	01 57 48.9	-1.2
VNA3	Neumayer Olymp	92.86	194	P	P	01 58 05.2	+14
VNA1	Neumayer--Stat	92.94	194	P	P	01 58 05.8	+14
BRTR	Keskin Array B	96.61	309	LR	LR	02 45 12.9	
	comp=Z,34nm,21.9s,baz=116,slow=38						

TORD	Torodi Ar. Bea	123.30	279	PKP	PKPdf	02 03 38.3	+1.2
	comp=Z,1.1nm,0.7s,baz=51,slow=2.3,SNR=6.7						
TOA1	Torodi Ar. Sit	123.31	279	ePKPdf	PKPdf	02 03 38.3	+1.2
TXAR	Lajitas Array	131.94	60	SKP	SKPdf	02 07 25.8	-1.3
	comp=Z,0.5nm,0.7s,baz=265,slow=2.7,SNR=5.9						
N59A	State Game Lan	145.01	26	ePKPdf	PKPdf	02 04 17.3	+0.5
PAGS	Pennsylvania G	145.14	28	ePKPbc	PKPdf	02 04 17.8	+0.8
MVL	Millersville	145.50	28	ePKPbc	PKPab	02 04 18.9	+1.0
BLA	Blacksburg	145.50	35	ePKPdf	PKPab	02 04 19.5	+1.4
BLA	Blacksburg	145.50	35	ePKIKP	PKPab	02 04 19.5	+1.4
BRNJ	Basking Ridge	145.72	25	ePKPdf	PKPab	02 04 20.0	+1.3
SDMD	Soldier's Deli	145.74	29	ePKPdf	PKPab	02 04 19.7	+0.9
PSUB	Penn St. - Bra	145.96	27	ePKPdf	PKPab	02 04 20.4	+0.7
KMSC	Kings Mountain	146.37	39	ePKPdf	PKPab	02 04 21.9	+0.5
LPAZ	La Paz	151.04	156	PKPbc	PKPbc	02 04 36.0	+2.1
	comp=Z,2.0nm,0.9s,baz=161,slow=10,SNR=4.2						
LPAZ	La Paz	151.04	156	ePKPbc	PKPbc	02 04 36.1	+2.2
LPAZ	La Paz	151.04	156	ePKIKP	PKPbc	02 04 36.2	+2.2

IDC 05 02:11:14.7±9.6, 4°.91S×153°.15E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.4/44, mbtmp3.7/3, MS3.0/1, Ms1 3.0/1, ms1mx2.6/40, Error ellipse: s-maj=156.9km s-min=96.9km az=19.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	8.10	124	LR	LR	02 16 23.8	
	comp=Z,114nm,20.1s,baz=190,slow=38						
WRA	Warramunga Arr	23.64	229	P	P	02 16 28.1	+0.3
	1.8nm,0.6s,baz=54,slow=10.0,SNR=27						
ASAR	Alice Springs	26.31	223	P	P	02 16 52.0	-0.3
	0.3nm,0.7s,baz=56,slow=9.3,SNR=4.2						
STKA	Stephens Creek	28.93	201	P	P	02 17 15.6	-0.1
	1.3nm,0.6s,baz=22,slow=14,SNR=3.5						

IDC 05 02:38:55.8±5.8, 7°.67N×127°.01E, h33km±43km, mb3.4/6, mb1 3.6/6, mb1mx3.3/52, mbtmp3.5/6, Error ellipse: s-maj=41.7km s-min=19.8km az=68.0
ISCJB 05 02:38:56.3±0.7, 7°.60N±0°.10×127°.0E±0°.1, h52km, mb3.6/7, Error ellipse: s-maj=19.6km s-min=9.6km az=141.9
ISC 05 02:38:58.2±0.8, 7°.66N±0°.09×127°.0E±0°.1, h52km, n11, σ1s.07/15, mb3.6/7, 2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIPH	Bislig	0.81	310⇓	eP	Pn	02 39 12.8	-0.7
BIPH				eS	Sn	02 39 23.9	-0.7
DAV	Davao City (W)	1.52	247	Pg	Pn	02 39 24.4	+1.4
	68nm,0.3s,baz=277,slow=19,SNR=3.8						
DAV				Lg	Lg	02 39 45.9	
	123nm,0.3s,baz=254,slow=19,SNR=30						
SCPH	Surigao	2.58	325⇓	eP	Pn	02 39 38.8	+1.3
WRA	Warramunga Arr	28.37	165	P	P	02 44 46.1	-1.5
	0.2nm,0.7s,baz=337,slow=11,SNR=8.4						
WRA				PcP	PcP	02 47 59.7	+0.2
	0.3nm,0.5s,baz=328,slow=2.9,SNR=6.7						
ASAR	Alice Springs	31.86	168	P	P	02 45 18.5	-0.1
	0.2nm,0.3s,baz=337,slow=7.6,SNR=4.4						
ASAR				PcP	PcP	02 48 08.4	0.0
	0.8nm,0.5s,baz=349,slow=2.6,SNR=12						
USRK	Ussuriysk Ar.	36.66	6	P	P	02 46 01.8	+2.0
	4.2nm,0.7s,baz=174,slow=5.3,SNR=7.9						
MKAR	Makanchi Array	54.53	324	P	P	02 48 20.3	-0.6
	0.3nm,0.5s,baz=122,slow=8.0,SNR=5.4						
MKAR				PcP	PcP	02 49 23.2	-0.5
	0.5nm,0.6s,baz=114,slow=4.7,SNR=4.4						
KURBB	Kurchatov Arra	58.62	326	P	P	02 48 49.1	-0.8
	0.5nm,0.7s,baz=116,slow=6.3,SNR=4.8						
ILAR	Eielson Array	81.47	26	P	P	02 51 10.4	+0.8
	0.3nm,0.5s,baz=244,slow=4.9,SNR=7.5						
YKA	Yellowknife Ar	95.83	24	P	P	02 52 18.0	-0.8
	0.2nm,0.7s,baz=302,slow=5.2,SNR=5.5						
TORD	Torodi Ar. Bea	121.86	291	PKP	PKPdf	02 57 47.0	-0.6
	131nm,1.0s,baz=61,slow=2.1,SNR=5.6						

MEX 05 02:49:38.3±0.5, 16°.21N×98°.02W, h3km, MD4.0, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.21	331	iP	Pg	02 49 42.0	-0.4
PNIG				iS	Sg	02 49 45.3	+0.1
TLIG	Tlapa	1.45	339	eP	Pn	02 50 02.1	-3.4
TLIG				iS	Sg	02 50 19.9	-4.9
VHO	Vista Hermosa	1.51	55	eP	Pn	02 50 02.6	-3.8
VHO				eS	Sb	02 50 22.0	-4.7
HUIG	Huatulco	1.89	103	eP	Pn	02 50 10.3	-1.2
HUIG				eS	Sn	02 50 28.6	-7.3

ATA 05 03:21:13.9±1.5, 39°.52N×44°.13E, h0km±16km, ML2.4, MW2.6
ISCJB 05 03:21:14.9±1.3, 39°.53N±0°.04×44°.18E±0°.08, h3km±9km, Error ellipse: s-maj=11.3km s-min=6.6km az=14.7
ISC 05 03:21:14.2±1.9, 39°.55N±0°.05×44°.11E±0°.07, h0km±16km, n8, σ0s.78/13, Iran-Armenia-Azerbaijan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGDI	IGDIR	0.32	355	eP	Pb	03 21 22.4	-0.4
IGDI				eS	Sb	03 21 27.5	-1.0
IGDI				IAML		03 21 28.8	
	comp=Z,25nm,0.2s						
DYDN	Diyadin	0.33	269	eP	Pb	03 21 22.1	-1.0
DYDN				eS	Sb	03 21 27.9	-1.1
DYDN				IAML		03 21 34.5	
	comp=Z,39nm,0.4s						
CLDR	Caldiran	0.44	200	PG	Pg	03 21 22.9	+0.3
CLDR				SG	Sb	03 21 31.2	-0.9
AGRB	Hanur-Agry	0.87	272	PG	Pb	03 21 32.0	-0.2
AGRB				SG	Sb	03 21 44.8	+0.3
TUTA	Tutak	1.02	262	eP	Pg	03 21 33.5	-0.2
TUTA				eS	Sn	03 21 51.5	+0.4
DIGO	Kars	1.03	327	eP	Pb	03 21 35.0	-0.1
EATA	Eleskirt	1.29	284	eP	Pn	03 21 40.6	+0.8
EKAR	Karacoban	1.61	260	eP	Pg	03 21 45.7	+0.5

CSEM 05 03:32:58.2±0.4, 50°.19N×18°.58E, h1km, Error ellipse: s-maj=9.3km s-min=4.4km az=6.0
PRU 05 03:32:59.1, 50°.19N×18°.58E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	Ostrava-Krasne	0.45	219	ePG	Pg	03 33 07.8	+0.1
OKC				eSG	Sg	03 33 14.2	+0.7
	comp=Z,6.3nm,0.4s						
OKC	Ostrava-Krasne	0.45	219	Pg	Pg	03 33 07.8	+0.1
OKC				Sg	Sg	03 33 14.2	+0.7
	6.3nm,0.4s						
OJC	Ojcow	0.78	87	ePg	Pg	03 33 13.5	-0.6
OJC				eSg	Sg	03 33 24.0	-0.3
OJC	Ojcow	0.78	87	ePg	Pg	03 33 13.5	-0.6
OJC				eSg	Sg	03 33 24.0	-0.2
MORC	Moravsky Berou	0.79	239	ePg	Pg	03 33 13.8	-0.4
MORC				eSg	Sg	03 33 25.4	+1.1
KRLC	Kraliky	1.16	265	ePG	Pg	03 33 19.9	-1.5
KRLC				eSG	Sg	03 33 35.6	-0.8
KRLC	Kraliky	1.16	265	Pg	Pg	03 33 19.9	-1.5
KRLC				Sg	Sg	03 33 35.6	-0.8
LANS	Liptovska Anna	1.19	151	ePg	Pg	03 33 21.8	-0.1
LANS				eSg	Sg	03 33 37.3	0.0
LANS	Liptovska Anna	1.19	151	ePG	Pg	03 33 21.8	-0.1
LANS				eSG	Sg	03 33 37.3	0.0
NIE	Niedzica	1.36	124	ePg	Pg	03 33 24.4	-0.6
NIE				eSg	Sb	03 33 43.2	0.0
NIE	Niedzica	1.36	124	ePg	Pg	03 33 24.4	-0.7
NIE				eSg	Sb	03 33 43.2	-0.1
DPC	Dobruska-Polom	1.46	277	ePG	Pn	03 33 26.6	-0.1
DPC				eSG	Sg	03 33 45.8	-0.1
DPC	Dobruska-Polom	1.46	277	Pg	Pn	03 33 26.6	-0.1
DPC				Sg	Sg	03 33 45.8	-0.1
VRAC	Vranov	1.56	236	ePg	Pn	03 33 27.4	-0.7
VYHS	Vyhne	1.71	174	ePg	Pn	03 33 28.9	-1.2
VYHS	Vyhne	1.71	174	ePG	Pn	03 33 28.9	-1.2

CSEM 05 03:34:04.3±0.3, 50°.24N×19°.23E, h1km, Error ellipse: s-maj=8.9km s-min=3.8km az=9.0
PRU 05 03:34:05.6, 50°.21N×19°.24E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	Ojcow	0.36	88	ePg	Pg	03 34 11.1	-1.4
OJC				eSg	Sg	03 34 15.4	-1.7
OJC	Ojcow	0.36	88	ePg	Pg	03 34 11.1	-1.4
OJC				eSg	Sg	03 34 15.4	-1.7
OKC	Ostrava-Krasne	0.80	243	eSG	Sg	03 34 32.0	+0.8
OKC	Ostrava-Krasne	0.80	243	Sg	Sg	03 34 32.0	+0.8
NIE	Niedzica	1.05	139	ePg	Pg	03 34 25.5	-0.2
NIE				eSg	Sg	03 34 38.5	-0.7
NIE	Niedzica	1.05	139	ePg	Pg	03 34 25.5	-0.2
NIE				eSg	Sg	03 34 38.5	-0.7
LANS	Liptovska Anna	1.07	172	ePg	Pg	03 34 24.9	-1.2
LANS				eSg	Sg	03 34 39.2	-0.8
LANS	Liptovska Anna	1.07	172	ePG	Pg	03 34 24.9	-1.2
LANS				eSG	Sg	03 34 39.2	-0.8
MORC	Moravsky Berou	1.18	249	ePg	Pg	03 34 27.6	-0.6
MORC				eSg	Sg	03 34 43.7	+0.3
STHS	Stebnicka Huta	1.52	121	ePn	Pn	03 34 34.1	0.0
STHS				eSn	Sn	03 34 55.4	+0.8
STHS	Stebnicka Huta	1.52	121	ePN	Pn	03 34 34.1	0.0
STHS				eSN	Sn	03 34 55.4	+0.8
STHS				eLG	Lg	03 34 57.8	
KRLC	Kraliky	1.59	266	ePG	Pn	03 34 33.6	-1.4
KRLC				eSG	Sn	03 34 55.7	-0.6
KRLC	Kraliky	1.59	266	Pg	Pn	03 34 33.6	-1.4
KRLC				Sg	Sn	03 34 55.7	-0.6
VYHS	Vyhne	1.74	189	ePn	Pn	03 34 35.2	-1.8
VYHS	Vyhne	1.74	189	ePN	Pn	03 34 35.2	-1.8
VYHS				e		03 34 54.0	
DPC	Dobruska-Polom	1.88	275	ePG	Pb	03 34 40.0	-0.8
DPC				eSG	Sb	03 35 04.9	+0.1
	comp=Z,3.3nm,0.6s						
DPC	Dobruska-Polom	1.88	275	Pg	Pb	03 34 40.0	-0.8
DPC				Sg	Sb	03 35 04.9	+0.1
	3.3nm,0.6s						

ISCJB 05 03:40:56.7±0.5, 37°.95N±0°.04×27°.63E±0°.04, h7km±7km, Error ellipse: s-maj=6.9km s-min=4.6km az=168.4
CSEM 05 03:40:56.6±0.2, 37°.96N×27°.62E, h12km, ML2.1, Error ellipse: s-maj=4.8km s-min=3.8km az=95.0
ISK 05 03:40:56.1, 37°.99N×27°.62E, h11km, ML2.1/8
DDA 05 03:40:57.1, 37°.98N×27°.63E, h7km, Ml2.7
ISC 05 03:40:56.6±0.9, 37°.98N±0°.03×27°.62E±0°.03, h15km±7km, n27, σ0s.47/38, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AYDB	Zeytinkoy-Aydi	0.22	98	PG	Pg	03 41 01.4	-0.2
AYDB				SG	Sg	03 41 04.8	-0.1
AYDB	Zeytinkoy-Aydi	0.22	98	ePg	Pg	03 41 01.4	-0.2
AYDB				eSg	Sg	03 41 04.8	-0.1
GCAM	G?zelcaml?	0.41	228	PG	Pb	03 41 05.4	-0.2
GCAM				SG	Sg	03 41 10.4	-0.1
GCAM	G?zelcaml?	0.41	228	iP	Pg	03 41 05.2	+0.3
GCAM				iS	Sg	03 41 10.4	-0.1
GCAM	G?zelcaml?	0.41	228	P	Pg	03 41 05.2	+0.3
GCAM				S	Sg	03 41 10.4	-0.1
DGB	˜zmir	0.59	278	iP	Pb	03 41 09.5	+0.9
DGB				iS	Sb	03 41 16.9	+0.1
MLSB	Milas	0.69	170	PG	Pg	03 41 10.1	0.0
MLSB	Milas	0.69	170	ePg	Pg	03 41 10.1	0.0
URLA	Izmir	0.89	296	PG	Pg	03 41 13.1	-0.9
URLA	Izmir	0.89	296	ePg	Pg	03 41 13.1	-0.9
AKHS	Akhisar	0.91	9	iP	Pb	03 41 14.5	+0.3
AKHS				iS	Sn	03 41 28.0	+0.1
AKHS	Akhisar	0.91	9	P	Pb	03 41 14.5	+0.3
AKHS				S	Sn	03 41 28.0	+0.1
ZEY	˜zmir	0.92	287	iP	Pn	03 41 15.0	0.0
ZEY				iS	Sn	03 41 28.2	+0.2
BODT	Bodrum	0.94	195	PG	Pg	03 41 14.1	-0.8
BODT	Bodrum	0.94	195	ePg	Pg	03 41 14.1	-0.8
KULA	Kula-Manisa	0.98	56	PG	Pg	03 41 14.9	-0.7
KULA	Kula-Manisa	0.98	56	ePg	Pg	03 41 14.9	-0.7
YER	Yerkesik	0.99	148	PG	Pb	03 41 16.2	+0.6
YER	Yerkesik	0.99	148	ePg	Pb	03 41 16.2	+0.6
DKL	Dikili	1.23	333	PN	Pb	03 41 19.9	+0.3
DKL	Dikili	1.23	333	ePn	Pb	03 41 19.9	+0.3
TURN	Turunc	1.35	144	PN	Pn	03 41 20.4	-0.6
TURN	Turunc	1.35	144	ePn	Pn	03 41 20.4	-0.6
STEP	BALIKESIR_Sava	1.40	3	iP	Pg	03 41 23.2	-0.4
STEP				iS	Sb	03 41 40.8	+0.6
STEP	BALIKESIR_Sava	1.40	3	P	Pg	03 41 23.2	-0.4
STEP				S	Sb	03 41 40.8	+0.6
DURS	Dursunbey	1.75	22	iP	Pg	03 41 30.4	+0.1
DURS	Dursunbey	1.75	22	P	Pg	03 41 30.4	+0.1

UCR 05 03:58:36.0±0.6, 15°.87N×92°.48W, h35km±999km, ML3.9, mb4.4(NEIC)
IDC 05 03:58:39.8±5.0, 14°.68N×92°.61W, h33km±39km, mb4.0/12, mb1 4.3/15, mb1mx4.0/47, mbtmp4.2/15, ML4.0/3, MS3.7/17, Ms1 3.7/17, ms1mx3.4/48, Error ellipse: s-maj=53.2km s-min=16.4km az=46.0
NEIC 05 03:58:40.7±0.7, 14°.46N×92°.85W, h44km±6km, mb4.4/72, MD4.5(MEX), Error ellipse: s-maj=10.4km s-min=4.0km az=216.0
MEX 05 03:58:42.4±1.1, 14°.56N×93°.32W, h9km±999km, MD4.5
ISC 05 03:58:40.1±0.6, 14°.38N±0°.07×92°.97W±0°.07, h51km, n356, σ1s.26/351, mb4.4/69, MS3.8/14, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		1.34	350	iP	Pn	03 59 00.1	-2.4
PCIG				eS	Sn	03 59 15.1	-4.0
CCIG	Comitan	2.06	23	eP	Pn	03 59 14.0	+1.6
CCIG				eS	Sn	03 59 44.2	+7.2
TGBT	Tuxtla Gutierr	2.39	357	eP	Pn	03 59 15.9	-0.8
TGBT				eS	Sn	03 59 45.7	+0.8
TGIG		2.39	357	eP	Pn	03 59 17.0	+0.1
TGIG				eS	Sn	03 59 42.3	-2.7
IXG	Ixpaco	2.45	94	eP	Pn	03 59 16.2	-1.6
IXG				eS	Sn	03 59 46.5	-0.1
APG	El Apazote	2.50	75	Pn	Pn	03 59 19.1	+0.5
	13nm,0.3s,baz=298,slow=8.6,SNR=191						
APG				LR	LR	04 00 23.1	
	comp=Z,655nm,19.5s,baz=244,slow=49						
CMIG	Matias Romero	3.27	326	Pn	Pn	03 59 26.4	-2.4
	18nm,0.3s,baz=137,slow=11,SNR=128						
SBLS	San Blas	3.29	99	eP	Pn	03 59 27.3	-2.1
SBLS				eS	Sn	04 00 08.1	+0.6
SNJE	San Jose	3.31	98	eP	Pn	03 59 27.4	-2.1
HUIG	Huatulco	3.33	295	eP	Pn	03 59 22.4	-7.3
BOQS	Boqueron	3.64	100	eP	Pn	03 59 32.3	-1.8
SNET	Serv Nac Est T	3.69	100	ePn	Pn	03 59 33.5	-1.2
SNET	Serv Nac Est T	3.69	100	IAML		04 00 50.0	
	comp=Z,420nm,0.2s						
LFRS	El Faro	3.87	101	eP	Pn	03 59 34.9	-2.3
TECA	Tecapa	4.43	101	eP	Pn	03 59 42.7	-2.3
TGUH	Tegucigalpa,Un	5.54	93	ePn	Pn	03 59 59.5	-0.4
LVIG	Laguna Verde	6.25	329	ePn	Pn	04 00 06.4	-3.4
MYIG	MØrida	7.23	25	ePn	Pn	04 00 21.2	-2.0
JTS	JuntasAbangare	8.82	117	Pn	Pn	04 00 44.0	-1.1
	comp=Z,0.6nm,0.3s,baz=15,slow=22,SNR=6.5						
JTS	JuntasAbangare	8.82	117	ePn	Pn	04 00 43.8	-1.3
	comp=Z,26nm,0.9s						
MOIG	Morelia	9.46	305	ePn	Pn	04 00 53.4	-0.6
LNIG	Linares	12.12	331	ePn	Pn	04 01 31.3	+1.2
ZAIG	Zacatecas	12.34	314	ePn	Pn	04 01 33.8	+0.4
833A	Chaparral WMA,	15.11	338	P	Pn	04 02 09.8	-0.5
	baz=155,SNR=12						
HKT	Hockley	15.72	351	ePn	Pn	04 02 18.1	0.0
	comp=Z,20nm,1.4s						
957A	Wimauma	16.58	35	P	Pn	04 02 26.9	-2.2
	baz=219						
435B	Jarrell	16.87	346	P	Pn	04 02 31.8	-0.9
	baz=164						
JCT	Junction City	17.21	340	P	Pn	04 02 37.2	+0.1
	baz=157,SNR=5.4						
JCT	Junction City	17.21	340	ePn	P	04 02 38.3	+0.3
	comp=Z,11nm,0.8s						
HPIG		17.22	318	ePn	P	04 02 38.9	+0.6
	comp=Z,13nm,1.2s						
242A	Grayson	17.62	2	P	Pn	04 02 41.3	-0.7
	baz=182						
349A	Repton	17.71	16	P	Pn	04 02 41.7	-1.3
	baz=198						
244A	Avery, Jackson	17.71	6	P	Pn	04 02 42.6	-0.4
	baz=187						
H06E1	SOCORRO T-PHAS	17.75	287	T	T	04 20 41.1	
	SNR=22						
TXAR	Lajitas Array	17.87	328	P	P	04 02 46.2	+0.9
	comp=Z,0.2nm,0.3s,baz=144,slow=9.7,SNR=36						
TXAR				LR	LR	04 10 44.4	
	comp=Z,101nm,19.5s,baz=0.0,slow=41						
LTX	Lajitas	17.87	328	ePn	P	04 02 46.2	+0.9
TX31	Lajitas Ar. Si	17.87	328	ePn	P	04 02 46.4	+1.0
WHTX	Lake Whitney,	18.01	348	P	P	04 02 46.6	0.0
	baz=165,SNR=5.7						
WHTX	Lake Whitney,	18.01	348	ePn	P	04 02 49.3	+2.7
	comp=Z,16nm,0.8s						
143A	Socs Landing,	18.30	4	P	P	04 02 49.8	-0.1
	baz=184						
Z40A	Long Farm, Mag	18.80	359	P	Pn	04 02 55.7	-0.6
	baz=178						
Z44A	Pea Ridge, Bel	18.96	7	P	P	04 02 56.5	-0.6
	baz=187						
HELC	Santa Helena	18.98	114	eP	P	04 02 58.7	+0.8
	comp=Z,26nm,1.2s						
HELC	Santa Helena	18.98	114	eP	P	04 02 57.0	-0.9
149A	Jones	18.99	16	P	P	04 02 56.5	-1.0
	baz=198						
LPIG	La Paz	18.99	303	LR	LR	04 10 56.3	
	comp=Z,203nm,18.8s,baz=62,slow=38						
TIGA	Tifton	19.04	25	P	P	04 02 57.1	-0.9
	baz=209						
TIGA	Tifton	19.04	25	eP	Pn	04 02 59.3	+0.2
	comp=Z,38nm,0.9s						
ZARC	Zaragoza, Cauc	19.05	109	eP	P	04 02 53.7	-4.5
252A	Lumpkin	19.09	22	P	P	04 02 57.7	-0.8
	baz=205						
Z46A	Louisville	19.09	10	P	P	04 02 57.7	-0.8
	baz=192						
Z45A	Winona	19.14	8	P	P	04 02 58.1	-1.0
	baz=189						
ABTX	Abilene, Hawle	19.16	343	P	P	04 02 59.5	+0.2
	baz=160						
ABTX	Abilene, Hawle	19.16	343	eP	Pn	04 03 01.2	+0.6
	comp=Z,12nm,0.8s						
150A	Eclectic	19.22	18	P	P	04 02 59.1	-0.9
	baz=200						
151A	Opelika	19.37	20	P	P	04 03 00.4	-1.1
	baz=202,SNR=5.1						
Z48A	Northport	19.54	14	P	P	04 03 01.9	-1.6
	baz=196						
Y40A	Okolona	19.55	359	P	P	04 03 02.6	-0.9
	baz=179						
GUYC	Guyana, Colomb	19.55	116	eP	Pn	04 03 06.3	+0.4
Z49A	Columbiana	19.63	16	P	P	04 03 03.4	-1.0
	baz=198						
Y45A	Yeager Farm, C	19.65	9	P	P	04 03 03.9	-0.7
	baz=190						
Y46A	Houston	19.77	10	P	P	04 03 05.7	-0.3
	baz=192,SNR=11						
PTBC	PUERTO BERRIO,	19.79	111	eP	P	04 03 04.7	-1.7
NORC	Norcasia	19.85	114	eP	P	04 03 08.1	+1.1
Z50A	Ashland	19.86	18	P	P	04 03 06.3	-0.6
	baz=200						
X41A	Kaden, Bauxite	20.03	1	P	P	04 03 09.0	+0.2
	baz=181						
X39A	Fountain Ranch	20.07	357	P	P	04 03 09.0	-0.2
	baz=176						
MIAR	Mount Ida	20.09	359	P	P	04 03 09.2	-0.3
	baz=178,SNR=7.0						
MIAR	Mount Ida	20.09	359	eP	P	04 03 09.5	+0.1
	comp=Z,14nm,0.9s						
256A	Glennville	20.24	28	P	P	04 03 09.2	-1.9
	baz=212						
154A	Montrose	20.26	25	P	P	04 03 09.1	-2.2
	baz=208						
UALR	University of	20.32	1	eP	Pn	04 03 13.1	-1.1
	comp=Z,20nm,0.9s						
155A	Kite	20.53	26	P	P	04 03 12.9	-1.3
	baz=210						
GDL2	Guadalupe Moun	20.57	332	eP	P	04 03 13.4	-1.4
X47A	Russelville	20.58	12	P	P	04 03 13.9	-0.9
	baz=194						
MNTX	Cornudas Mount	20.65	329	P	P	04 03 15.5	-0.1
	baz=144,SNR=25						
MNTX	Cornudas Mount	20.65	329	eP	P	04 03 16.0	+0.4
	comp=Z,10nm,0.8s						
ROSC	El Rosal	20.67	115	eP	Pn	04 03 18.8	-0.3
	comp=Z,14nm,1.1s						
X48A	Hartselle	20.69	14	P	P	04 03 14.4	-1.6
	baz=196						
W41B	Gary Mavity, V	20.72	2	P	P	04 03 14.8	-1.4
	baz=182						
W39A	Magazine	20.74	358	P	P	04 03 15.2	-1.3
	baz=177						
PRAC	Prado	20.75	119	eP	Pn	04 03 19.0	-0.6
	comp=Z,57nm,1.5s						
GOGA	Godfrey	20.82	23	P	P	04 03 16.5	-0.9
	baz=206						
GOGA	Godfrey	20.82	23	eP	P	04 03 18.0	+0.6
	comp=Z,15nm,1.0s						
BARC	Barichara	20.93	110	eP	P	04 03 20.5	+1.5
X49A	Woodville	20.93	16	P	P	04 03 17.7	-0.8
	baz=198						
WMOK	Wichita Mounta	20.94	347	P	P	04 03 18.8	+0.1
	baz=164						
WMOK	Wichita Mounta	20.94	347	eP	P	04 03 18.8	+0.1
	comp=Z,5.9nm,0.9s						
W46A	Michie	21.08	11	P	P	04 03 20.2	+0.1
	baz=192						
PAMC	Pamplona, Colo	21.09	107	eP	P	04 03 18.9	-2.0
CHIC	Chingaza	21.28	115	eP	P	04 03 23.8	+0.8
RUSC	La Rusia	21.30	111	eP	P	04 03 21.8	-1.4
	comp=Z,7.9nm,0.9s						
RUSC	La Rusia	21.30	111	eP	P	04 03 22.3	-0.9
FLOC	Florencia	21.32	125	eP	P	04 03 25.8	+2.9
V41A	Mountainview	21.33	2	P	P	04 03 22.5	-0.3
	baz=182,SNR=18						
V40A	Witts Springs	21.34	0	P	P	04 03 22.9	0.0
	baz=180						
W47A	Westpoint	21.34	12	P	P	04 03 21.9	-1.1
	baz=194						
W48A	Pulaski	21.38	14	P	P	04 03 23.1	-0.2
	baz=196						
V39A	Pettigrew	21.38	358	P	P	04 03 23.4	0.0
	baz=178,SNR=10.0						
V42A	Cord	21.39	4	P	P	04 03 23.3	-0.1
	baz=184						
MSTX	Muleshoe	21.43	337	P	P	04 03 24.1	+0.1
	baz=153						
MSTX	Muleshoe	21.43	337	eP	P	04 03 24.2	+0.1
	comp=Z,16nm,0.9s						
VILC	Villavicencio,	21.57	116	eP	P	04 03 26.1	+0.4
TUL1	Leonard	21.59	354	P	P	04 03 26.0	+0.5
	baz=172						
TUL1	Leonard	21.59	354	eP	P	04 03 27.1	+1.5
	comp=Z,15nm,1.0s						
SJAC	San Juan de Ar	21.77	119	eP	P	04 03 29.3	+1.4
V46A	Holladay	21.77	11	P	P	04 03 27.0	-0.5
	baz=192						
AMTX	Amarillo	21.88	340	P	P	04 03 29.0	+0.2
	baz=156						
AMTX	Amarillo	21.88	340	eP	P	04 03 28.8	+0.1
	comp=Z,51nm,0.6s						
U40A	Yellville	21.89	0	P	P	04 03 28.9	+0.1
	baz=180,SNR=17						
U41A	Viola	21.89	2	P	P	04 03 29.2	+0.3
	baz=182,SNR=14						
V47A	Nunnelly	21.91	12	P	P	04 03 28.6	-0.5
	baz=194						
U39A	Green Forest	21.92	359	P	P	04 03 28.7	-0.4
	baz=178,SNR=7.9						
U42A	Revenden	21.94	4	P	P	04 03 28.5	-0.7
	baz=184						
V48A	Smith Brothers	21.98	13	P	P	04 03 28.9	-0.9
	baz=196						
NHSC	New Hope	21.98	30	P	P	04 03 28.9	-0.9
	baz=215						
WVT	Waverly	22.15	11	P	P	04 03 30.1	-1.5
	baz=193						
WVT	Waverly	22.15	11	eP	P	04 03 31.3	-0.3
	comp=Z,6.9nm,1.0s						
U46A	Springville	22.31	10	P	P	04 03 30.7	-2.6
	baz=192						
PBMO	Poplar Bluff	22.42	5	eP	P	04 03 34.2	-0.3
	comp=Z,10nm,0.8s						
SDV	Santo Domingo	22.54	102	eP	P	04 03 36.3	0.0
	comp=Z,13nm,0.8s						
SDV	Santo Domingo	22.54	102	eP	P	04 03 33.0	-3.3
U47A	Clarksville	22.55	12	P	P	04 03 34.1	-1.8
	baz=194						
T39A	Clever	22.56	359	P	P	04 03 35.5	-0.5
	baz=179,SNR=18						

121A Cookes Peak, D 22.56 326 P P 04 03 37.6 +1.3
baz=140,SNR=29
121A Cookes Peak, D 22.56 326 eP P 04 03 36.7 +0.4
comp=Z,33nm,0.9s
319A Douglas 22.58 321 eP P 04 03 37.5 +1.1
comp=Z,14nm,0.9s
T38A Diamond 22.60 357 P P 04 03 36.0 -0.4
baz=176
T41A Mountain View 22.60 3 P P 04 03 36.2 -0.2
baz=183,SNR=13
T42A Van Buren 22.62 4 P P 04 03 35.8 -0.8
baz=184
T40A Mansfield 22.68 1 P P 04 03 36.1 -1.2
baz=181,SNR=6.5
T43A Greenville 22.74 6 P P 04 03 36.7 -1.2
baz=186,SNR=6.0
TKL Tuckaleechee C 22.75 20 P P 04 03 38.0 0.0
comp=Z,2.5nm,0.7s,baz=170,slow=8.5,SNR=4.5
TKL LR LR 04 14 27.5
comp=Z,167nm,18.4s,baz=210,slow=42
TKL Tuckaleechee C 22.75 20 eP P 04 03 38.0 0.0
comp=Z,11nm,0.9s
U48A Cassie Pea, Po 22.78 13 P P 04 03 37.9 -0.5
baz=196
T47A Sharon Grove 23.12 12 P P 04 03 41.3 -0.5
baz=194
S40A Lebanon 23.13 1 P P 04 03 41.1 -0.8
baz=181,SNR=13
S41A Jillco Farms, 23.14 2 P P 04 03 41.0 -0.9
baz=183,SNR=11
S38A Stockton 23.17 358 P P 04 03 41.0 -1.3
baz=177,SNR=10
KMSC Kings Mountain 23.18 25 P P 04 03 41.5 -0.9
baz=210
S39A Bolivar 23.22 359 P P 04 03 42.0 -0.8
baz=179,SNR=22
S43A Fulton Ridge, 23.24 6 P P 04 03 41.9 -1.1
baz=187
BNM Barren Site 23.24 330 eP P 04 03 45.0 +1.7
LPM Los Pinos Moun 23.38 330 eP P 04 03 46.0 +1.5
S42A Caledonia 23.38 4 P P 04 03 43.2 -1.0
baz=185
S44A Carbondale 23.46 7 P P 04 03 44.1 -0.9
baz=189
TZTN Tazewell 23.63 19 eP P 04 03 46.9 +0.2
comp=Z,39nm,1.4s
CCM Cathedral Cave 23.63 3 P P 04 03 45.3 -1.3
baz=184
CCM Cathedral Cave 23.63 3 eP P 04 03 45.4 -1.3
comp=Z,13nm,0.8s
LAZ Ladron 23.70 330 eP P 04 03 47.2 -0.3
R38A Fenwick Farm, 23.73 358 P P 04 03 47.0 -0.5
baz=178,SNR=24
ANMO Albuquerque 23.82 332 P P 04 03 49.7 +1.2
comp=Z,2.7nm,0.8s,baz=332,slow=9.9,SNR=6.0
ANMO LR LR 04 13 49.0
comp=Z,75nm,18.4s,baz=342,slow=38
ANMO Albuquerque 23.82 332 P P 04 03 49.8 +1.2
baz=146
ANMO Albuquerque 23.82 332 eP P 04 03 49.8 +1.2
comp=Z,12nm,1.3s
R40A Maddies Statio 23.83 1 P P 04 03 47.7 -0.8
baz=181,SNR=7.7
R39A Chumby, Stover 23.84 360 P P 04 03 48.4 -0.2
baz=180,SNR=8.3
R41A Rosebud 23.87 3 P P 04 03 47.2 -1.6
baz=184,SNR=7.9
R42A Luebbering 23.89 4 P P 04 03 47.9 -1.1
baz=185
R43A Red Bud 23.95 6 P P 04 03 48.9 -0.7
baz=187,SNR=5.3
TUC Tucson 24.14 321 P P 04 03 51.9 +0.4
baz=133
TUC Tucson 24.14 321 eP P 04 03 53.8 +2.3
comp=Z,6.0nm,0.9s
R45A Skylar, Fairfi 24.18 9 P P 04 03 50.8 -0.8
baz=191
WCI Wyandotte Cave 24.48 13 P P 04 03 53.5 -1.0
baz=196
WCI Wyandotte Cave 24.48 13 eP P 04 03 54.7 +0.3
comp=Z,11nm,0.7s
Q38A Cooks Store, C 24.49 359 P P 04 03 53.8 -0.7
baz=178,SNR=16
R47A Wooly Knot Far 24.50 12 P P 04 03 53.2 -1.3
baz=195
Q41A Truxton 24.53 3 P P 04 03 54.0 -0.8
baz=184,SNR=9.5
Q42A Golden Eagle 24.53 5 P P 04 03 54.0 -0.9
baz=185
Q40A Laux Farm, Aux 24.53 2 P P 04 03 54.1 -0.8
baz=182
Q39A Willow Grove F 24.57 360 P P 04 03 54.6 -0.6
baz=180,SNR=7.0
Q43A New Douglas 24.64 6 P P 04 03 54.9 -0.9
baz=187
Q44A Meyer Farm, Va 24.68 7 P P 04 03 55.5 -0.7
baz=189
R48A Northridge Ran 24.74 13 P P 04 03 56.4 -0.3
baz=196
Q45A Warren Harvey, 24.79 9 P P 04 03 57.1 -0.1
baz=191
KSU1 Kansas State U 24.84 353 P P 04 03 57.2 -0.4
baz=171,SNR=7.2
KSU1 Kansas State U 24.84 353 eP P 04 03 57.6 0.0
comp=Z,25nm,0.8s
T25A Trinidad 24.86 338 P P 04 03 59.7 +1.6
baz=153,SNR=16
T25A Trinidad 24.86 338 eP P 04 04 00.4 +2.3
comp=Z,13nm,0.8s
MHTCO State Highway 24.95 337 eP P 04 04 01.1 +2.1
comp=Z,18nm,0.9s
P39B Salisbury 25.01 0 P P 04 03 58.9 -0.3
baz=180
CBKS Cedar Bluff 25.06 347 P P 04 03 59.9 +0.2
baz=164
CBKS Cedar Bluff 25.06 347 eP P 04 04 00.6 +0.8
comp=Z,21nm,0.9s
P40A Paris 25.07 2 P P 04 03 58.9 -0.9
baz=182,SNR=13
Q47A Bedord North L 25.14 12 P P 04 03 59.7 -0.6
baz=195
P37A Lathrop 25.14 357 P P 04 03 60.0 -0.5
baz=177
P38A Dawn 25.16 359 P P 04 04 00.7 +0.2
baz=178
214A Organ Pipe Nat 25.20 317 P P 04 04 02.4 +1.4
baz=129
P42A Winchester 25.22 5 P P 04 04 00.4 -0.6
baz=186
X18A Snowflake 25.25 326 eP P 04 04 05.0 +3.2
comp=Z,6.1nm,0.9s
P41A Barry, Barry 25.26 3 P P 04 04 00.8 -0.6
baz=184
BLA Blacksburg 25.34 24 P P 04 04 01.9 -0.4
baz=209
O38A Galt 25.65 359 P P 04 04 05.9 +0.9
baz=179
O40A La Belle 25.66 2 P P 04 04 04.3 -0.8
baz=182
O41A Passleys Farm, 25.71 4 P P 04 04 04.9 -0.6
baz=184
O37A Wolven Farm, M 25.71 358 P P 04 04 05.6 0.0
baz=177
SDCO Great Sand Dun 25.80 337 P P 04 04 07.4 +0.6
baz=151,SNR=12
SDCO Great Sand Dun 25.80 337 eP P 04 04 08.2 +1.5
comp=Z,15nm,1.3s
O34A Beatrice 25.91 353 P P 04 04 06.6 -0.8
baz=172,SNR=15
O33A Hebron 25.92 352 P P 04 04 07.6 +0.1
baz=170
KSCO Kaye Shedlock' 25.97 343 P P 04 04 09.4 +1.3
baz=158
KSCO Kaye Shedlock' 25.97 343 eP P 04 04 09.2 +1.1
comp=Z,70nm,1.9s
SJG San Juan 26.01 78 LR LR 04 15 05.8
comp=Z,82nm,20.6s,baz=280,slow=38
X16A Lo Mia Camp, P 26.01 323 eP P 04 04 10.2 +1.6
comp=Z,3.4nm,0.8s
N37A Lee Faris, Mou 26.30 358 P P 04 04 11.4 +0.5
baz=177
N38A Joes South For 26.32 360 P P 04 04 10.2 -0.8
baz=179,SNR=6.2
S22A 4UR Ranch, Cre 26.33 335 P P 04 04 11.2 -0.3
baz=148
S22A 4UR Ranch, Cre 26.33 335 eP P 04 04 11.4 -0.1
comp=Z,12nm,1.5s
N39A Derby Farms, D 26.41 1 P P 04 04 11.5 -0.3
baz=181
N35A Tabor 26.49 355 P P 04 04 12.6 0.0
baz=174
Y14A Wickenburg 26.61 321 eP P 04 04 17.6 +3.7
comp=Z,3.0nm,1.0s
MVCO Mesa Verde 26.61 332 P P 04 04 14.1 0.0
baz=144
MVCO Mesa Verde 26.61 332 eP P 04 04 15.9 +1.8
comp=Z,7.2nm,1.0s
WUAZ Wupatki 26.77 325 P P 04 04 16.3 +0.9
baz=137
M38A Pleasantville 26.94 360 P P 04 04 16.4 -0.2
baz=179
M37A Trindle Farm, 26.94 358 P P 04 04 15.5 -1.1
baz=177
M40A Post Highland 26.96 2 P P 04 04 15.6 -1.2
baz=183
M41A Milan 26.98 4 P P 04 04 15.3 -1.7
baz=185
M39A Webster 27.01 1 P P 04 04 16.3 -1.0
baz=181
M36A Felix, Anita 27.02 357 P P 04 04 17.2 -0.2
baz=176
M35A Neola 27.09 356 P P 04 04 17.9 -0.2
baz=174
M43A Waltham Townsh 27.18 7 P P 04 04 19.3 +0.5
baz=188
M34A Aspy Farms, Fr 27.21 354 P P 04 04 19.0 -0.1
baz=172
M44A Midewin, Midew 27.25 8 P P 04 04 19.5 0.0
baz=190
PV01 Paradox Valley 27.40 333 eP P 04 04 24.1 +2.9
BTCC Brunts Corner 27.45 316 eP P 04 04 18.8 -2.5
PDMCI Parker Dam,Lak 27.56 320 P P 04 04 23.2 +0.9
baz=131
L40A Anamosa 27.63 3 P P 04 04 22.5 -0.3
baz=183
ISCO Idaho Springs 27.65 339 P P 04 04 24.1 +0.7
baz=153
ISCO Idaho Springs 27.65 339 eP P 04 04 25.0 +1.6
comp=Z,4.4nm,1.1s
L36A Harm Buss Farm 27.66 357 P P 04 04 22.9 -0.2
baz=176
PV04 Paradox Valley 27.77 332 eP P 04 04 25.1 +0.8
BC3 Big Chuckawall 28.00 317 P P 04 04 26.9 +0.6
baz=128
K36A Gilmore City 28.19 358 P P 04 04 27.4 -0.4
baz=177
K41A Shullsburg 28.22 4 P P 04 04 27.5 -0.6
baz=185
K40A Colesburg 28.27 3 P P 04 04 28.6 +0.1
baz=184
K35A Storm Lake 28.31 356 P P 04 04 29.0 +0.1
baz=175
K42A Prairie Point, 28.47 6 P P 04 04 29.5 -0.8
baz=187
K32A Verdigre 28.51 352 P P 04 04 30.8 +0.2
baz=170
JFWS Jewell Farm 28.53 4 P P 04 04 31.2 +0.3
baz=185
N23A Red Feather La 28.74 339 P P 04 04 33.2 +0.1
baz=153
GMRC Granite Mounta 28.83 319 P P 04 04 32.9 -0.8
baz=129
O20A White River Ci 28.94 335 P P 04 04 35.3 +0.5
baz=148
J41A Loganville 29.00 4 P P 04 04 35.3 +0.3
baz=186
J32A Parkston 29.20 353 P P 04 04 36.7 -0.1
baz=170
CCUT Cedar City 29.34 326 eP P 04 04 39.1 +0.7
comp=Z,4.1nm,1.0s
ECSD EROS Data Cent 29.42 355 P P 04 04 38.0 -0.8
baz=173,SNR=5.8
ECSD EROS Data Cent 29.42 355 eP P 04 04 38.2 -0.5
comp=Z,4.9nm,0.8s
I38A Scanlan Farm, 29.57 1 P P 04 04 38.9 -1.2
baz=181
I42A Draeger Farm, 29.62 6 P P 04 04 38.5 -2.0
baz=188
H36A Jessenland, He 30.11 359 P P 04 04 44.2 -0.6
baz=178
H38A Maiden Rock 30.20 1 P P 04 04 43.8 -1.8
baz=181
H39A Augusta 30.24 2 P P 04 04 45.7 -0.3
baz=183
H35A Sunnyside Ranc 30.26 357 P P 04 04 46.0 -0.2
baz=176
H32A Carlson Farm, 30.27 354 P P 04 04 45.2 -1.0
baz=171
H41A Junction City 30.27 5 P P 04 04 46.4 +0.1
baz=186
H33A Prehn Over Nor 30.37 355 P P 04 04 46.1 -1.0
baz=172
K22A Casper 30.50 340 P P 04 04 49.0 +0.4
baz=153
G38A Ridgeland 30.71 2 P P 04 04 48.9 -1.2
baz=182
SPMN Marine on St. 30.75 0 P P 04 04 50.0 -0.4
baz=180
G39A Holcombe 30.85 2 P P 04 04 49.4 -1.9
baz=183
G33A Ortonville 30.86 355 P P 04 04 49.9 -1.5
baz=173
RSSD Black Hills 31.11 344 P P 04 04 53.8 -0.2
baz=159
R11A Troy Canyon, C 31.15 324 P P 04 04 54.3 0.0
baz=134
BINY Binghamton 31.37 25 P P 04 04 54.8 -1.2
baz=213
F38A Pierce - Schro 31.49 1 P P 04 04 56.1 -0.9
baz=182
F40A Park Falls 31.53 4 P P 04 04 56.4 -1.0
baz=185
PDAR Pinedale Array 31.69 336 P P 04 04 59.9 +0.8
comp=Z,0.7nm,0.7s,baz=150,slow=6.7,SNR=7.7
E36A McGregor 32.04 360 P P 04 05 00.5 -1.4
baz=179
E40A Wakefield 32.07 4 P P 04 05 01.5 -0.6
baz=185
E35A Pequot Lakes 32.10 358 P P 04 05 02.0 -0.3
baz=177
E33A Westby DABS, E 32.13 356 P P 04 05 02.0 -0.6
baz=174
D35A Remer 32.62 359 P P 04 05 05.7 -1.1
baz=178
D37A Cotton 32.68 1 P P 04 05 06.4 -1.1
baz=181,SNR=5.9
D36A Goodland 32.70 360 P P 04 05 06.0 -1.6
baz=179
NV11 Mina Array Sit 32.70 322 eP P 04 05 10.1 +2.2
comp=Z,0.3nm,0.8s
REDW Red Top Meadow 32.71 336 eP P 04 05 09.6 +1.6
comp=Z,14nm,1.0s
D33A AnnSam, Waubun 32.75 356 P P 04 05 07.0 -1.1
baz=175
SNOW Snow King Moun 32.75 336 eP P 04 05 09.6 +1.2
comp=Z,14nm,0.8s
NV01 Mina Array Sit 32.79 322 eP P 04 05 10.5 +1.7
NVAR Mina Array Bea 32.79 322 P P 04 05 10.6 +1.9
comp=Z,3.6nm,0.7s,baz=141,slow=9.2,SNR=15
NVAR LR LR 04 21 10.2
comp=Z,181nm,18.4s,baz=110,slow=41
LOHW Long Hollow 32.82 336 eP P 04 05 10.6 +1.6
comp=Z,6.3nm,0.9s
TPAW Teton Pass 32.85 336 eP P 04 05 11.1 +1.8
comp=Z,6.6nm,0.9s
MOOW Moose Ponds 32.99 336 eP P 04 05 11.9 +1.5
comp=Z,3.3nm,0.9s
FXWY Fox Creek 33.01 336 eP P 04 05 11.5 +0.9
comp=Z,3.7nm,1.1s
IMW Indian Meadow 33.19 336 eP P 04 05 14.0 +1.7
comp=Z,3.6nm,0.8s
C35A Jirik Farms, M 33.23 359 P P 04 05 11.0 -1.3
baz=178,SNR=10
C38A Sawbill Land. 33.27 2 P P 04 05 11.3 -1.2
baz=183
C36A Pine Crest Far 33.28 0 P P 04 05 11.9 -0.8
baz=180,SNR=6.1
H17A Grant Village 33.47 337 eP P 04 05 15.9 +1.3
comp=Z,12nm,1.5s
BMN Battle Mountai 33.50 325 eP P 04 05 16.8 +1.9
comp=Z,4.4nm,0.9s
C31A Landman Farms, 33.55 354 P P 04 05 14.1 -0.9
baz=171,SNR=9.3
RLMT Red Lodge 33.61 339 P P 04 05 16.2 +0.4
baz=150
YMR Madison River 33.85 337 eP P 04 05 20.1 +2.3
comp=Z,4.5nm,0.9s
B35A Bob, Littlefor 33.89 359 P P 04 05 16.4 -1.5
baz=178,SNR=5.5
AGMN Agassiz Nation 33.91 357 P P 04 05 17.0 -1.1
baz=175
AGMN Agassiz Nation 33.91 357 eP P 04 05 17.2 -0.8
comp=Z,5.5nm,0.8s
B34A Aery, Baudette 34.04 358 P P 04 05 17.8 -1.4
baz=177
B32A Ashes, Strandq 34.05 356 P P 04 05 18.9 -0.4
baz=174
LAO LASA Array 34.07 344 P P 04 05 19.7 0.0
baz=156
B31A Greenbush Farm 34.17 354 P P 04 05 19.5 -0.8
baz=172,SNR=5.8
GCMT Greycliff 34.34 339 eP P 04 05 23.1 +1.1
HLID Hailey 34.40 332 P P 04 05 23.5 +0.9
baz=141,SNR=5.5
HLID Hailey 34.40 332 eP P 04 05 24.2 +1.5
comp=Z,3.8nm,0.9s
A33A Warroad 34.52 357 P P 04 05 21.6 -1.8
baz=176
A32A Rocking H Ranc 34.56 356 P P 04 05 22.7 -1.1
baz=174
MCMT McKenzie Canyo 34.73 335 eP P 04 05 28.1 +2.6
BOZ Bozeman (W) 34.88 337 P P 04 05 25.3 -1.5
baz=147
BOZ Bozeman (W) 34.88 337 eP P 04 05 28.2 +1.5
comp=Z,9.3nm,1.6s
NLHM Lake Herman 35.01 318 eP P 04 05 28.7 +0.9
DLMT Dillon 35.06 336 eP P 04 05 30.5 +2.1
comp=Z,7.1nm,0.8s
LRM Limekiln Ridge 35.39 336 eP P 04 05 32.9 +1.7
WVOR Wild Horse Val 35.66 327 eP P 04 05 35.3 +1.9
comp=Z,5.7nm,1.0s
ULM Lac du Bonnet 35.85 357 P P 04 05 33.7 -1.1
comp=Z,4.4nm,0.7s,baz=176,slow=9.3,SNR=14
ULM LR LR 04 22 07.9
comp=Z,62nm,19.5s,baz=353,slow=40
ULM Lac du Bonnet 35.85 357 eP P 04 05 33.9 -0.9
comp=Z,5.1nm,0.8s
J08A Circle Bar Ran 36.22 328 eP P 04 05 39.5 +1.2
comp=Z,6.9nm,0.6s
MSO Missoula 36.80 336 P P 04 05 42.9 -0.2
baz=144
MSO Missoula 36.80 336 eP P 04 05 44.4 +1.2
comp=Z,4.2nm,0.9s
YBH Yreka Blue Hor 37.49 322 LR LR 04 22 33.1
comp=Z,101nm,18.9s,baz=150,slow=38
F10A Beach Ranch, E 37.53 332 eP P 04 05 50.1 +0.8
comp=Z,9.5nm,0.8s
GULW Guler Mountain 39.60 328 eP P 04 06 07.5 +0.7
FFC Flin Flon 40.87 352 eP P 04 06 17.1 +0.2
comp=Z,5.0nm,1.0s
EDM Edmonton 41.98 342 eP P 04 06 25.7 -0.4
comp=Z,15nm,0.8s
SIV San Ignacio 43.64 133 P P 04 06 41.0 +1.0
comp=Z,1.3nm,0.7s,baz=313,slow=9.6,SNR=7.4
RPN Rapa Nui 44.21 201 LR LR 04 20 10.9
comp=Z,50nm,20.1s,baz=18,slow=29
FCC Fort Churchill 44.31 359 eP P 04 06 44.9 +0.1
comp=Z,6.9nm,0.7s
SCHQ Schefferville 45.20 21 PcP PcP 04 08 32.2 +0.8
comp=Z,3.9nm,0.8s,baz=245,slow=4.9,SNR=4.5
SCHQ LR LR 04 27 47.2
comp=Z,231nm,18.7s,baz=191,slow=39
YKA Yellowknife Ar 50.45 347 P P 04 07 32.7 +0.4
comp=Z,10nm,0.7s,baz=152,slow=7.4,SNR=183
YKA PcP PcP 04 08 49.9 -0.1
comp=Z,0.7nm,0.7s,baz=151,slow=4.1,SNR=7.4
YKB5 Yellowknife Ar 50.45 347 eP P 04 07 31.8 -0.5
YKB5 ePcP PcP 04 08 49.9 -0.1
SFJD Kangerlussuaq 59.44 18 LR LR 04 35 50.6
comp=Z,182nm,18.3s,baz=232,slow=38
INK Inuvik 59.81 344 eP P 04 08 40.5 +0.7
comp=Z,5.8nm,0.8s
KLU Klutina 60.22 334 eP P 04 08 44.8 +2.0
comp=Z,8.1nm,1.0s
RES Resolute Bay 60.31 359 eP P 04 08 43.2 +0.1
comp=Z,5.0nm,0.8s
IL1 Eielson Array 62.12 337 eP P 04 08 55.6 +0.1
ILAR Eielson Array 62.12 337 P P 04 08 55.8 +0.2
comp=Z,2.3nm,0.9s,baz=140,slow=4.8,SNR=23
ILAR LR LR 04 39 38.7
comp=Z,55nm,18.1s,baz=151,slow=40
ILB Eielson Array 62.12 337 eP P 04 08 56.6 +1.1
RND Reindeer 62.29 335 eP P 04 08 58.0 +1.2
comp=Z,10nm,1.0s
CAST Castle Rocks 63.63 334 eP P 04 09 05.4 -0.2
comp=Z,8.2nm,1.3s
MLY Manley 63.72 336 eP P 04 09 06.9 +0.7
comp=Z,4.1nm,0.8s
TOLK Toolik Lake Re 64.85 340 P P 04 09 14.1 +0.5
baz=116
TOLK Toolik Lake Re 64.85 340 eP P 04 09 14.8 +1.2
comp=Z,3.7nm,0.9s
SPITS Spitsbergen Ar 79.91 11 LR LR 04 47 24.4
comp=Z,94nm,19.7s,baz=220,slow=37
ESDC Sonseca Array 80.22 52 P P 04 10 44.6 -1.0
comp=Z,1.1nm,0.8s,baz=291,slow=5.8,SNR=6.5
ES19 SONSECA Array 80.27 52 eP P 04 10 44.2 -1.6
NB2 NORSAR Subarra 84.26 28 P P 04 11 06.4 +0.2
comp=Z,1.0nm,0.8s,baz=292,slow=5.1
NB200 NORSAR Array S 84.26 28 eP P 04 11 06.9 +0.6
NOA NORSAR Array B 84.26 28 P P 04 11 06.9 +0.6
comp=Z,0.7nm,0.9s,baz=295,slow=5.3,SNR=4.9
NOA LR LR 04 46 53.7
comp=Z,42nm,21.6s,baz=280,slow=34
HFS Hagfors 85.73 29 LR LR 04 49 37.6
comp=Z,63nm,19.3s,baz=248,slow=36
ARA0 ARCESS Array S 86.07 18 eP P 04 11 15.3 +0.2
ARCES ARCESS Array B 86.07 18 P P 04 11 15.3 +0.3
comp=Z,6.2nm,1.1s,baz=337,slow=5.5,SNR=4.8
FIA0 FINESS Array S 90.56 25 eP P 04 11 36.0 -0.5
FINES FINESS Array B 90.56 25 P P 04 11 36.0 -0.5
comp=Z,1.4nm,0.7s,baz=336,slow=4.2,SNR=4.5
FINES LR LR 04 53 53.1
comp=Z,46nm,18.2s,baz=216,slow=37
TOA1 Torodi Ar. Sit 91.20 76 eP P 04 11 39.6 -0.9
TORD Torodi Ar. Bea 91.20 76 P P 04 11 39.6 -0.9
comp=Z,1.5nm,1.2s,baz=300,slow=6.0,SNR=3.3
MK32 Makanchi Array 118.96 4 ePKPdf PKPdf 04 17 25.9 +2.6
MKAR Makanchi Array 118.96 4 PKP PKPdf 04 17 25.8 +2.6
comp=Z,0.3nm,0.7s,baz=72,slow=1.5,SNR=4.0
HYB Hyderabad 147.32 15 *i* PKP PKPbc 04 18 20.0 +1.0

ISCJB ***05*** *04:10:46.8±0.9, 5°.2S±0°.1×153°.3E±0°.1, h56km, mb4.0/7, MS3.6/2, Error ellipse: s-maj=19.0km s-min=11.2km az=40.6*

IDC ***05*** *04:10:48.4±5.1, 5°.18S×153°.33E, h55km±46km, mb3.8/7, mb1 3.9/8, mb1mx3.6/49, mbtmp4.1/8, ML2.5/1, MS3.6/2, Ms1 3.6/2, ms1mx2.8/45, Error ellipse: s-maj=33.8km s-min=24.6km az=47.0*

ISC 05 04:10:48.5±1.0**, 5°.2S**±0°.1×**153°.4E**±0°.1**, h56**km**, n10, σ0s.78**/11**, mb4.1**/7**, New Ireland region**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
PMG Port Moresby 7.45 235 P Pn 04 12 35.0 +0.4
4.1nm,0.3s,baz=57,slow=9.2,SNR=6.8
PMG S Sn 04 13 57.3 -0.4
6.5nm,0.3s,baz=95,slow=21,SNR=5.2
DZM Mont Dzumac 21.04 144 P P 04 15 28.1 +0.1
16nm,0.8s,baz=258,slow=8.5,SNR=17
DZM LR LR 04 21 45.1
comp=Z,130nm,18.5s,baz=271,slow=31
WRA Warramunga Arr 23.62 230 P P 04 15 54.1 -0.7
0.8nm,1.0s,baz=52,slow=10,SNR=5.8
WRA PcP PcP 04 19 39.4 +1.0
0.4nm,0.9s,baz=60,slow=2.3,SNR=4.8
JNU Nakatsue 43.64 332 P P 04 18 47.4 -0.4
6.3nm,0.7s,baz=68,slow=3.2,SNR=4.2
CMAR Chiang Mai Arr 58.53 295 P P 04 20 40.5 +0.8
2.5nm,0.8s,baz=109,slow=4.4,SNR=5.6
SONM Songino Array 66.93 328 P P 04 21 35.7 +0.5
0.8nm,0.5s,baz=154,slow=6.8,SNR=4.1
MKAR Makanchi Array 80.97 319 P P 04 22 57.3 +0.2
0.9nm,0.7s,baz=106,slow=6.8,SNR=5.5
ZALV Zalesovo Beam 81.77 326 P P 04 23 00.1 -1.1
0.6nm,0.3s,baz=119,slow=7.3,SNR=3.8
GEYT Alibeck 97.28 307 LR LR 05 10 41.7
comp=Z,31nm,20.7s,baz=340,slow=37
TORD Torodi Ar. Bea 150.94 288 PKPbc PKPbc 04 30 35.1 -1.0
1.3nm,0.6s,baz=61,slow=1.7,SNR=16

*ISCJB **05** 04:10:55.7±0.5, 25°.2S±0°.1×70°.3E±0°.1, h10km, mb4.4/19, MS3.5/1, Error ellipse: s-maj=16.9km s-min=11.6km az=43.4*
*IDC **05** 04:10:56.1±0.7, 25°.13S×70°.24E, h0km, mb3.9/11, mb1 4.0/11, mb1mx3.7/65, mbtmp3.9/11, MS3.6/1, Ms1 3.4/1, ms1mx2.7/55, Error ellipse: s-maj=25.7km s-min=19.9km az=71.0*
*NEIC **05** 04:10:57.6±0.3, 25°.15S×70°.26E, h10km, mb4.8/7, Error ellipse: s-maj=9.7km s-min=6.6km az=222.0*
ISC 05 04:10:57.7±0.6**, 25°.1S**±0°.1×**70°.3E**±0°.2**, h10km, n43, σ0.86**/39**, mb4.0**/19**, Mid-Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	Diego Carcia H	17.45	7	T	T	04 33 02.9	
	baz=188,slow=76,SNR=29						
H08S2	Diego Garcia H	17.46	7	T	T	04 33 03.7	
	baz=188,slow=76,SNR=27						
H08S3	Diego Garcia H	17.47	7	T	T	04 33 11.1	
	baz=188,slow=76,SNR=25						
HMDM	Hanimaadhoo	31.78	5	eP	P	04 17 18.9	-3.5
	42nm,0.7s						
BOSA	Boshof	40.16	255	LR	LR	04 32 34.5	
	comp=Z,76nm,20.9s,baz=119,slow=32						
CM31	Chiang Mai Arr	51.48	36	eP	P	04 20 05.0	+1.4
CMAR	Chiang Mai Arr	51.48	36	P	P	04 20 05.0	+1.4
	0.5nm,0.3s,baz=226,slow=7.2,SNR=4.2						
CMAR	Chiang Mai Arr	51.48	36	P	P	04 20 05.0	+1.4
ASAR	Alice Springs	57.48	103	P	P	04 20 47.4	+0.1
	1.1nm,0.7s,baz=250,slow=6.5,SNR=12						
AS31	Alice Springs	57.48	103	eP	P	04 20 47.4	+0.1
	2.0nm,1.6s						
AS01	Alice Springs	57.52	103	eP	P	04 20 47.3	-0.4
WR1	Warramunga Arr	58.93	99	eP	P	04 20 57.6	+0.1
	8.8nm,1.4s						
WRA	Warramunga Arr	58.93	99	P	P	04 20 57.6	+0.1
	0.8nm,0.7s,baz=256,slow=6.6,SNR=6.1						
WB2	Warramunga Arr	58.94	99	eP	P	04 20 57.8	+0.2
	16nm,1.9s						
SAUI	Saumlaki	60.44	85	eP	P	04 21 07.2	-0.7
	186nm,0.8s						
SNAA	Sanae	61.12	200	P	P	04 21 11.6	-0.2
	1.9nm,0.8s,baz=123,slow=8.3,SNR=5.5						
SNAA	Sanae	61.12	200	eP	P	04 21 11.6	-0.2
	3.3nm,0.9s						
VNDA	Vanda	66.05	166	P	P	04 21 44.0	-0.2
	0.9nm,0.8s,baz=289,slow=4.8,SNR=4.7						
VNDA	Vanda	66.05	166	eP	P	04 21 43.6	-0.6
MK01	Makanchi Array	72.32	9	eP	P	04 22 23.1	-0.2
MK32	Makanchi Array	72.35	9	eP	P	04 22 23.5	0.0
MKAR	Makanchi Array	72.35	9	P	P	04 22 23.5	0.0
	0.9nm,0.6s,baz=195,slow=6.1,SNR=10						
BR101	Keskin Array S	72.97	331	eP	P	04 22 28.2	+0.7
BR131	Keskin Array S	72.97	331	eP	P	04 22 28.6	+1.1
BRTR	Keskin Array B	72.97	331	P	P	04 22 28.2	+0.7
	1.0nm,0.7s,baz=153,slow=8.3,SNR=9.0						
BR231	Keskin MP Arra	73.44	331	eP	P	04 22 29.2	-1.1
AB31	Akbulak array	74.56	353	eP	P	04 22 37.0	+0.6
ABKAR	Akbulak array	74.56	353	eP	P	04 22 37.0	+0.6
	16nm,0.9s						
KURBB	Kurchatov Arra	75.71	5	P	P	04 22 43.6	+0.6
	1.1nm,0.7s,baz=200,slow=6.2,SNR=8.1						
KURK	Kurchatov	75.81	5	eP	P	04 22 43.6	0.0
TORD	Torodi Ar. Bea	76.86	291	P	P	04 22 50.7	+0.2
	80nm,0.8s,baz=100,slow=4.5,SNR=5.5						
TOA1	Torodi Ar. Sit	76.87	291	eP	P	04 22 50.7	+0.2
SONA0	Songino Array	79.50	24	eP	P	04 23 05.6	+1.1
SONM	Songino Array	79.50	24	P	P	04 23 05.6	+1.1
	0.8nm,0.7s,baz=184,slow=6.8,SNR=3.3						
ZALV	Zalesovo Beam	79.69	9	P	P	04 23 05.4	+0.2
	0.6nm,0.3s,baz=174,slow=3.0,SNR=4.6						
ZAA1	Zalesovo Array	79.69	9	eP	P	04 23 05.4	+0.2
AKASG	Malin Array Be	83.71	335	P	P	04 23 26.8	+0.3
	0.1nm,0.3s,baz=130,slow=4.4,SNR=5.7						
AKBB	Malin Array Si	83.71	335	eP	P	04 23 26.8	+0.3
	10.0nm,1.6s						
YKA	Yellowknife Ar	142.44	4	PKP	PKPdf	04 30 30.3	+0.2
	0.2nm,0.7s,baz=343,slow=3.3,SNR=4.3						
YKB5	Yellowknife Ar	142.44	4	ePKPdf	PKPdf	04 30 30.3	+0.2
ULM	Lac du Bonnet	152.67	340	PKPbc	PKPbc	04 30 53.7	-0.7
	2.6nm,0.6s,baz=62,slow=3.1,SNR=11						
PD31	Pinedale Array	162.35	360	ePKPab	PKPab	04 31 47.3	+0.1
PDAR	Pinedale Array	162.35	360	PKPab	PKPab	04 31 47.3	+0.1
	0.1nm,0.3s,baz=18,slow=3.1,SNR=3.9						

IDC 05 04:25:32.3±5.4**, 30°.29S×178°.30W, h54km**±45km**, mb3.5**/2**, mb1 3.7**/2**, mb1mx3.2**/46**, mbtmp3.8**/2**, Error ellipse: s-maj=84.8km s-min=39.1km az=133.0, Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	1.08	18	P	Pn	04 25 50.8	-0.4
	379nm,0.3s,baz=134,slow=20,SNR=12						
RAO				S	Sn	04 26 05.6	+0.3
	1μm,0.3s,baz=90,slow=20,SNR=6.2						
STKA	Stephens Creek	34.25	257	P	P	04 32 13.8	+0.7
	1.1nm,0.7s,baz=104,slow=6.3,SNR=3.7						
WRA	Warramunga Arr	43.83	272	P	P	04 33 32.7	-0.6
	0.6nm,0.5s,baz=111,slow=8.0,SNR=11						
FINES	FINESS Array B	144.95	340	PKP	PKPab	04 45 02.1	+0.1
	0.5nm,0.4s,baz=64,slow=3.2,SNR=5.6						

IDC 05 04:27:35.7±2.0**, 3°.68S×151°.55E, h0km, mb3.7**/5**, mb1 3.8**/5**, mb1mx3.5**/52**, mbtmp3.7**/5**, MS3.6**/1**, Ms1 3.6**/1**, ms1mx2.7**/40**, Error ellipse: s-maj=80.5km s-min=26.3km az=116.0, New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	23.30	225	P	P	04 32 46.5	+1.1
	1.0nm,0.9s,baz=52,slow=9.8,SNR=10						
DZM	Mont Dzumac	23.31	143	LR	LR	04 40 51.7	
	comp=Z,129nm,18.3s,baz=217,slow=34						
ASAR	Alice Springs	26.18	219	P	P	04 33 11.7	-0.4
	0.3nm,0.5s,baz=53,slow=8.7,SNR=5.3						
MKAR	Makanchi Array	78.66	319	P	P	04 39 39.8	0.0
	0.5nm,0.7s,baz=111,slow=5.7,SNR=5.2						
ILAR	Eielson Array	81.60	22	P	P	04 39 56.2	+1.0
	0.5nm,0.8s,baz=251,slow=5.5,SNR=4.2						
BVAR	Borovoye Array	87.60	323	P	P	04 40 24.6	-1.2
	1.8nm,0.6s,baz=74,slow=6.2,SNR=6.5						

IDC 05 04:28:52.0±7.4**, 24°.18N×139°.57E, h0km, mb3.5**/3**, mb1 3.7**/3**, mb1mx3.2**/67**, mbtmp3.5**/3**, Error ellipse: s-maj=304.8km s-min=28.3km az=72.0, Volcano Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	Songino Array	35.31	320	P	P	04 35 48.8	-0.2
	0.4nm,0.5s,baz=114,slow=7.1,SNR=2.8						
WRA	Warramunga Arr	44.16	187	P	P	04 37 02.5	-0.1
	0.2nm,0.3s,baz=8.3,slow=8.7,SNR=9.3						
MKAR	Makanchi Array	50.57	312	P	P	04 37 52.5	0.0
	0.5nm,0.4s,baz=91,slow=8.7,SNR=5.0						

*IDC **05** 04:40:16.4±1.1, 6°.08N×82°.54W, h0km, mb3.9/7, mb1 4.3/11, mb1mx4.0/44, mbtmp4.1/11, ML4.0/4, MS3.5/13, Ms1 3.5/13, ms1mx3.2/43, Error ellipse: s-maj=39.5km s-min=17.3km az=52.0*
*ISCJB **05** 04:40:17.6±0.3, 6°.06N±0°.03×82°.57W±0°.03, h14km, mb4.3/34, MS3.5/10, Error ellipse: s-maj=5.3km s-min=2.2km az=43.8*
*UCR **05** 04:40:17.4±1.7, 5°.84N×82°.94W, h35km±999km, MD4.5, mb4.5(NEIC)*
*NEIC **05** 04:40:19.4±0.6, 6°.10N×82°.53W, h10km, mb4.5/30, Error ellipse: s-maj=14.2km s-min=10.2km az=217.0*
ISC 05 04:40:18.7±0.6**, 5°.99N**±0°.06×**82°.65W**±0°.06**, h14km, n130, σ1.67**/129**, mb4.4**/34**, MS3.6**/10**, 5C, South of Panama**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAPC	Malpelo	2.23	152	eP	Pn	04 40 48.4	-6.9
PTJ1	Puerto Jimˆ'ne	2.61	346	eP	Pn	04 40 58.0	-2.6
PTJ1				eS	Sn	04 41 30.5	-1.6
BRU2	Volcan	2.79	359⇑	iP	Pn	04 41 01.2	-1.9
EDSV	San Vito	2.83	354	eP	Pn	04 41 02.5	-1.2
EDPN	Palmar Norte	3.06	345	eP	Pn	04 41 04.7	-2.1
EDPN				eS	Sn	04 41 41.5	-1.7
EDBA	Buenos Aires	3.21	349⇑	eP	Pn	04 41 07.5	-1.4
EDBA				eS	Sn	04 41 47.6	+0.6
DRK0	Durika	3.31	350⇑	eP	Pn	04 41 08.2	-2.1
DRK0				eS	Sn	04 41 49.9	+0.4
EDLM	Las Mercedes	3.40	344⇑	eP	Pn	04 41 10.1	-1.4
EDLM				eS	Sn	04 41 49.6	-2.1
EDDO	Dominical	3.46	340	eP	Pn	04 41 09.2	-3.0
EDDO				eS	Sn	04 41 50.5	-2.5
LCR2	La Lucha 2	3.96	340⇑	iP	Pn	04 41 17.5	-1.9
LCR2				eS	Sn	04 42 03.8	-2.0
CVTR	Volcan Turrial	4.15	345	eP	Pn	04 41 20.2	-2.0
CVTR				eS	Sn	04 42 09.9	-0.9
SJS	Escuela Geolog	4.17	341	eP	Pn	04 41 20.9	-1.2
SJS				eS	Sn	04 42 09.3	-1.4
BCIP	Isla Barro Col	4.21	41	ePn	Pn	04 41 21.8	-0.8
BCIP				eSn	Sn	04 42 09.7	-1.9
BCIP	Isla Barro Col	4.21	41	eP	Pn	04 41 21.5	-1.0
HDC	Heredia	4.24	340	ePn	Pn	04 41 21.9	-1.2
HDC				eSn	Sn	04 42 12.1	-0.5
SRA1	San Ramˆ‡n	4.46	336	eP	Pn	04 41 23.7	-2.3
JTS	JuntasAbangare	4.84	332	Pn	Pn	04 41 29.2	-2.1
	55nm,0.3s,baz=213,slow=6.9,SNR=178						
JTS				Sn	Sn	04 42 26.3	-1.0
	24nm,0.3s,baz=142,slow=24,SNR=10						
SOLC	Bahia Solano	5.22	87	eP	Pn	04 41 35.5	-0.9
CUI	Cuipilapa	5.26	332	eP	Pn	04 41 35.7	-1.4
GRGC	Isla de Gorgon	5.36	123	eP	Pn	04 41 34.9	-3.5
GB1A	Borinquen Arri	5.52	331	eP	Pn	04 41 40.2	-0.4
GB1A				eS	Sn	04 42 40.3	-3.7
CAPC	Capurgana	5.88	63	eP	Pn	04 41 46.1	+0.7
PLMC	San Josˆ' del	6.43	99	eP	Pn	04 41 51.8	-1.3
DBBC	Dabeiba	6.48	81	eP	Pn	04 41 54.6	+0.8
HORQ	Saladito	6.50	112	eP	Pn	04 41 52.3	-2.0
YOTC	Yotoco, Valle	6.59	107	eP	Pn	04 41 53.8	-1.6
POPC	Popayan, Colom	6.87	120	eP	Pn	04 41 57.2	-2.2
CMBC	Cumbal	6.95	136	eP	Pn	04 41 58.0	-2.6
HELC	Santa Helena	7.08	88	ePn	Pn	04 42 02.7	+0.3
HELC				eSn	Sn	04 43 19.8	-3.1
HELC	Santa Helena	7.08	88	eP	Pn	04 42 02.5	+0.1
OTAV	Otavalo	7.08	144	ePn	Pn	04 41 58.4	-4.1
OTAV				eSn	Sn	04 43 16.3	-6.8
OTAV	Otavalo	7.08	144	eP	Pn	04 41 59.2	-3.3
GCUF	Volcan Galeras	7.10	132	eP	Pn	04 42 02.0	-0.7
SOTA	Rioblanco	7.14	122	eP	Pn	04 42 02.7	-0.6
CPAS2	Pasto	7.17	131	eP	Pn	04 42 01.4	-2.1
CRUC	La Cruz	7.18	127	eP	Pn	04 42 02.6	-1.1
PCON	Cinco Dias	7.22	120	eP	Pn	04 42 04.0	-0.4
GUYC	Guyana, Colomb	7.26	96	eP	Pn	04 42 06.0	+1.0
RREF	El Recreo	7.35	98	eP	Pn	04 42 07.0	+0.7
ANIL	Santa Ana	7.37	101	eP	Pn	04 42 06.2	0.0
MARP	Paez Belalcaza	7.37	115	eP	Pn	04 42 06.6	+0.3
TOLC	Tolima	7.43	100	eP	Pn	04 42 07.3	+0.1
MOTC	Monteria, Cord	7.46	68	eP	Pn	04 42 09.1	+1.8
NORC	Norcasia	7.75	93	eP	Pn	04 42 13.1	+1.8
ZARC	Zaragoza, Cauc	7.88	79	eP	Pn	04 42 13.8	+0.8
BETC	Betania	7.90	114	eP	Pn	04 42 14.3	+0.9
PRAC	Prado	8.06	106	ePn	Pn	04 42 16.0	+0.5
PRAC				eSn	Sn	04 43 46.1	-0.5
PRAC	Prado	8.06	106	eP	Pn	04 42 16.1	+0.6
PTBC	PUERTO BERRIO,	8.16	86	eP	Pn	04 42 18.6	+1.7
CFLOR	Florencia	8.23	122	eP	Pn	04 42 18.2	+0.3
FLOC	Florencia	8.24	122	eP	Pn	04 42 17.2	-0.8
ROSC	El Rosal	8.37	97	Pn	Pn	04 42 23.0	+2.9
	2.8nm,0.3s,baz=283,slow=7.4,SNR=18						
ROSC				LR	LR	04 45 17.5	
	comp=Z,144nm,18.4s,baz=339,slow=36						
ROSC	El Rosal	8.37	97	eP	Pn	04 42 23.0	+2.9
BRRC	Barranca, Sant	8.95	82	eP	Pn	04 42 29.8	+2.1
CHIC	Chingaza	8.98	98	eP	Pn	04 42 30.8	+2.3
SJAC	San Juan de Ar	9.08	107	eP	Pn	04 42 30.0	+0.4
VILC	Villavicencio,	9.11	101	eP	Pn	04 42 32.7	+2.6
TGUH	Tegucigalpa,Un	9.22	331	ePn	Pn	04 42 34.6	+3.3
BARC	Barichara	9.43	86	eP	Pn	04 42 37.1	+2.6
RUSC	La Rusia	9.52	90	ePn	Pn	04 42 38.0	+2.1
RUSC	La Rusia	9.52	90	eP	Pn	04 42 38.0	+2.1
OCAC	Ocana	9.52	76	eP	Pn	04 42 36.8	+1.1
CODC	Agustˆ›n Codaz	9.92	66	eP	Pn	04 42 42.3	+1.3
PAMC	Pamplona, Colo	9.97	82	eP	Pn	04 42 43.4	+1.2
SNET	Serv Nac Est T	10.03	320	ePn	Pn	04 42 45.2	+2.7
YOPC	Yopal, Colombi	10.20	93	eP	Pn	04 42 45.6	+0.7
APG	El Apazote	11.80	320	Pn	Pn	04 43 10.6	+3.6
	1.4nm,0.3s,baz=117,slow=8.2,SNR=19						
APG				LR	LR	04 47 14.2	
	comp=Z,249nm,21.1s,baz=142,slow=35						
SDV	Santo Domingo	12.26	76	Pn	Pn	04 43 14.1	+0.9
	0.4nm,0.3s,baz=253,slow=9.5,SNR=11						
SDV	Santo Domingo	12.26	76	eP	Pn	04 43 13.9	+0.7
ATAH	Atahualpa	13.71	162	Pn	Pn	04 43 34.4	+1.2
	0.5nm,0.3s,baz=4.5,slow=13,SNR=3.5						
ATAH				LR	LR	04 48 17.2	
	comp=Z,287nm,21.6s,baz=337,slow=35						
CMIG	Matias Romero	16.28	314	Pn	Pn	04 44 05.3	-1.9
	0.1nm,0.3s,baz=153,slow=4.5,SNR=3.0						
SDDR	Presa de Saban	17.01	40	ePn	P	04 44 17.1	-1.2
	21nm,0.8s						
NNA	Nana	18.77	162	eP	P	04 44 39.1	+1.4
	29nm,1.1s						
SJG	San Juan	20.11	52	P	P	04 44 50.6	-1.8
	0.3nm,0.3s,baz=224,slow=5.8,SNR=6.0						
SJG	San Juan	20.11	52	eP	Pn	04 44 54.4	+0.3
CBYP	Canovanas	20.43	52	eP	P	04 44 53.2	-2.7
	46nm,1.2s						
LNIG	Linares	24.77	321	eP	P	04 45 41.3	+1.1
	14nm,1.0s						
LPAZ	La Paz	26.39	147	P	P	04 45 54.3	-1.3
	2.0nm,0.7s,baz=336,slow=9.2,SNR=6.5						
LPAZ				LR	LR	04 57 22.2	
	comp=Z,259nm,19.8s,baz=314,slow=39						
H06E1	SOCORRO T-PHAS	30.34	297	T	T	05 18 29.6	
	SNR=8.6						
LTX	Lajitas	30.55	322	eP	P	04 46 32.4	+0.3
TXAR	Lajitas Array	30.55	322	P	P	04 46 32.4	+0.3
	0.3nm,0.7s,baz=154,slow=6.7,SNR=4.9						
TXAR				LR	LR	04 58 26.0	
	comp=Z,60nm,19.4s,baz=0.0,slow=36						
LPIG	La Paz	32.10	307	LR	LR	04 57 07.5	
	comp=Z,60nm,18.9s,baz=236,slow=32						
CCM	Cathedral Cave	32.86	347	eP	P	04 46 51.5	-0.7
	6.8nm,1.0s						
MNTX	Cornudas Mount	33.27	323	eP	P	04 46 56.7	+0.8
	5.6nm,1.0s						
121A	Cookes Peak, D	35.31	322	eP	P	04 47 14.5	+0.8
	8.6nm,0.9s						
LAZ	Ladron	36.23	325	eP	P	04 47 23.1	+1.5
	3.1nm,1.1s						
ANMO	Albuquerque	36.23	326	eP	P	04 47 23.4	+1.7
	5.7nm,1.3s						
T25A	Trinidad	36.83	330	eP	P	04 47 28.5	+1.8
	9.2nm,1.1s						
MHTCO	State Highway	36.95	330	eP	P	04 47 30.3	+2.4
	28nm,2.0s						
SDCO	Great Sand Dun	37.84	330	eP	P	04 47 37.3	+1.8
	10nm,1.3s						
W18A	Petrified Fore	38.25	323	eP	P	04 47 41.4	+2.6
	13nm,1.0s						
S22A	4UR Ranch, Cre	38.52	329	eP	P	04 47 43.5	+2.4
	8.6nm,1.4s						
MVCO	Mesa Verde	39.01	326	eP	P	04 47 47.0	+1.7
	6.6nm,0.9s						
ISCO	Idaho Springs	39.50	332	eP	P	04 47 50.9	+1.5
	3.3nm,1.1s						
WUAZ	Wupatki	39.51	322	eP	P	04 47 52.1	+2.7
	5.7nm,1.0s						
ECSD	EROS Data Cent	39.55	344	eP	P	04 47 48.2	-1.2
	9.9nm,1.4s						
CPUP	Villa Florida	40.44	144	LR	LR	05 05 04.5	
	comp=Z,57nm,18.2s,baz=319,slow=37						
SRU	San Rafael Swe	41.48	327	eP	P	04 48 07.6	+1.9
	6.8nm,0.8s						
RPN	Rapa Nui	41.84	217	LR	LR	05 00 59.0	
	comp=Z,66nm,19.6s,baz=58,slow=30						
DSCC	Desert Studies	42.31	318	eP	P	04 48 13.5	+1.2
PD31	Pinedale Array	43.68	331	eP	P	04 48 23.3	-0.2
PDAR	Pinedale Array	43.68	331	P	P	04 48 23.3	-0.2
	0.7nm,0.7s,baz=92,slow=10,SNR=7.5						
PDAR				LR	LR	05 08 27.6	
	comp=Z,71nm,18.7s,baz=166,slow=39						
PDAR	Pinedale Array	43.68	331	eP	P	04 48 23.1	-0.4
HWUT	Hardware Ranch	43.83	328	eP	P	04 48 26.2	+1.5
	5.3nm,0.8s						
REDW	Red Top Meadow	44.75	331	eP	P	04 48 33.8	+1.7
	4.7nm,1.0s						
TPAW	Teton Pass	44.89	331	eP	P	04 48 36.0	+2.7
	16nm,1.6s						
GATR	Gnd/Air Tx Cnt	45.03	314	eP	P	04 48 35.7	+1.4
RLMT	Red Lodge	45.35	334	eP	P	04 48 37.5	+0.6
	4.9nm,1.0s						
ULM	Lac du Bonnet	45.49	348	P	P	04 48 35.7	-1.8
	4.7nm,0.7s,baz=158,slow=7.9,SNR=11						
NV01	Mina Array Sit	45.66	320	eP	P	04 48 40.6	+1.2
NVAR	Mina Array Bea	45.66	320	P	P	04 48 40.6	+1.2
	0.6nm,0.6s,baz=133,slow=4.9,SNR=5.0						
NVAR				LR	LR	05 10 05.0	
	comp=Z,73nm,18.9s,baz=260,slow=39						
YMR	Madison River	45.78	332	eP	P	04 48 42.9	+2.6
	8.1nm,1.1s						
YHH	Holmes Hill	45.82	332	eP	P	04 48 42.7	+2.0
	3.1nm,1.1s						
HLID	Hailey	46.70	328	eP	P	04 48 50.7	+3.3
	10nm,1.9s						
BOZ	Bozeman (W)	46.79	332	eP	P	04 48 49.1	+1.0
	5.0nm,1.0s						
WVOR	Wild Horse Val	48.28	324	eP	P	04 49 01.0	+1.3
	6.5nm,1.2s						
YBH	Yreka Blue Hor	50.32	321	LR	LR	05 11 34.1	
	comp=Z,64nm,18.1s,baz=136,slow=37						
YKA	Yellowknife Ar	61.08	344	P	P	04 50 31.3	-0.7
	1.9nm,0.8s,baz=140,slow=6.7,SNR=41						
YKB5	Yellowknife Ar	61.08	344	eP	P	04 50 31.9	-0.1
INK	Inuvik	70.76	342	eP	P	04 51 35.1	+0.9
	7.1nm,1.0s						
ILAR	Eielson Array	73.81	336	P	P	04 51 52.2	-0.3
	0.7nm,0.8s,baz=118,slow=4.3,SNR=7.7						
ILB	Eielson Array	73.81	336	eP	P	04 51 52.2	-0.3
TOA1	Torodi Ar. Sit	83.17	77	eP	P	04 52 45.4	+0.2
TORD	Torodi Ar. Bea	83.17	78	P	P	04 52 45.4	+0.2
	0.5nm,0.7s,baz=277,slow=4.8,SNR=3.3						
HFS	Hagfors	88.01	30	LR	LR	05 31 54.2	
	comp=Z,23nm,18.4s,baz=94,slow=35						
GERES	GERESS Array B	89.71	41	LR	LR	05 25 19.9	
	comp=Z,21nm,20.8s,baz=331,slow=30						
H11S2	WAKE ISLAND Hy	107.47	291	T	T	06 54 51.7	
	baz=77,slow=75,SNR=10						
H11S1	WAKE ISLAND Hy	107.47	291	T	T	06 54 51.1	
	baz=77,slow=75,SNR=11						
H11S3	WAKE ISLAND Hy	107.48	291	T	T	06 54 49.7	
	baz=77,slow=75,SNR=16						
WRA	Warramunga Arr	141.49	245	PKhKP	PKPpre	04 59 45.2	
	0.6nm,1.0s,baz=103,slow=3.3,SNR=3.6						

MAN 05 04:47:36, 10°.34N×123°.13E, h3km, mb4.5, ML3.3, MS3.1, 1C-2D, Cebu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIM	Jordan	0.60	298	eP	Pg	04 47 48.2	+0.7
GUIM				eS	Sb	04 47 57.4	-0.7
LLP	Lapu-Lapu	0.82	92⇓	eP	Pg	04 47 51.7	-0.1
LLP				eS	Sb	04 48 03.6	-0.9
SNPH	Sibulan	1.00	174	eP	Pb	04 47 56.2	+0.2
SNPH				eS	Sb	04 48 10.2	+0.6
RCP	Roxas	1.27	343⇓	eP	Pg	04 47 59.2	-1.2
MSLP	Maasin	1.71	97	eP	Pn	04 48 07.5	+0.7
MSLP				eS	Sb	04 48 29.9	-0.3
DCPH	Dipolog City	1.76	173⇑	eP	Pn	04 48 07.9	+0.5
DCPH				eS	Sb	04 48 31.1	-0.4

*BJI **05** 04:56:18.9, 36°.20N×4°.60E, h5km, mb4.6/16, mB5.1/9, Ms5.1/6, Ms7 5.0/6*
*CRAAG **05** 04:56:20.3, 36°.18N×4°.58E, Ml4.2*
*NEIC **05** 04:56:20.5±0.0, 36°.19N×4°.57E, h1km, mb4.6/18, ML4.2(ALG), After ALG.*
NEIC Felt at Bordj Bou Arreridj.
*ISCJB **05** 04:56:20.6±0.2, 36°.28N±0°.02×4°.53E±0°.02, h10km, mb4.4/39, MS3.4/9, Error ellipse: s-maj=2.8km s-min=1.8km az=3.7*
*IDC **05** 04:56:20.1±0.7, 36°.22N×4°.62E, h0km, mb4.1/19, mb1 4.3/23, mb1mx4.1/65, mbtmp4.1/23, ML4.1/4, MS3.3/11, Ms1 3.3/11, ms1mx2.9/65, Error ellipse: s-maj=17.0km s-min=14.0km az=144.0*
*LDG **05** 04:56:21.6, 35°.86N×4°.51E, h30km*
*IGIL **05** 04:56:21.1, 36°.08N×4°.62E, h10km*
*CSEM **05** 04:56:22.1±0.1, 36°.12N×4°.60E, h15km, mb4.6/18, Error ellipse: s-maj=3.7km s-min=2.2km az=176.0*
*MDD **05** 04:56:22.6±0.6, 36°.13N×4°.60E, h9km±7km, mb4.6/49, Error ellipse: s-maj=7.1km s-min=3.1km az=173.0, PRXIMO*
*MOS **05** 04:56:22.8±1.3, 36°.03N×4°.56E, h36km, mb4.6/14, Error ellipse: s-maj=12.2km s-min=4.8km az=62.3*
ISC 05 04:56:21.9±0.4**, 36°.21N**±0°.04×**4°.57E**±0°.02**, h10km, n536, σ1.79**/591**, mb4.5**/39**, MS3.2**/9**, 29C-13D, Northern Algeria**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATAF	Djebel Tarf	0.41	215	P	Pg	04 56 29.5	-0.5
ATAF	Djebel Tarf	0.41	215	P	Pg	04 56 29.5	-0.5
ATAF	Djebel Tarf	0.41	215	P	Pg	04 56 29.5	-0.5
AKET	Djebel Ketaf	0.58	254	P	Pg	04 56 33.2	+0.1
AKET	Djebel Ketaf	0.58	254	P	Pg	04 56 33.2	+0.1
AKET	Djebel Ketaf	0.58	254	P	Pg	04 56 33.3	+0.1
AKET	Djebel Ketaf	0.58	254	P	Pg	04 56 33.3	+0.1
SET	Setif	0.67	91	P	Pg	04 56 35.0	0.0
SET	Setif	0.67	91	P	Pg	04 56 35.0	0.0
SET	Setif	0.67	91	P	Pg	04 56 35.0	0.0
CKHR	Kef el Ahmar	0.79	104	P	Pg	04 56 36.2	-1.0
CKHR	Kef el Ahmar	0.79	104	P	Pg	04 56 36.2	-1.0
CKHR	Kef el Ahmar	0.79	104	P	Pg	04 56 36.2	-1.0
CKHR	Kef el Ahmar	0.79	104	P	Pg	04 56 36.2	-1.0
ADJB	Djebel Djouab	0.91	267	P	Pg	04 56 40.2	+0.7
ADJB	Djebel Djouab	0.91	267	P	Pg	04 56 40.2	+0.7
ADJB	Djebel Djouab	0.91	267	P	Pn	04 56 42.9	+2.0
ADJB	Djebel Djouab	0.91	267	P	Pg	04 56 40.2	+0.7
DFRA	Djebel Bou Aff	1.11	72	P	Pb	04 56 42.9	-0.4
DFRA	Djebel Bou Aff	1.11	72	P	Pb	04 56 42.9	-0.4
DFRA	Djebel Bou Aff	1.11	72	P	Pb	04 56 42.9	-0.4
EMHD	Djebel Mahouad	1.30	270	P	Pn	04 56 46.0	-0.3
EMHD	Djebel Mahouad	1.30	270	P	Pn	04 56 46.0	-0.3
EMHD	Djebel Mahouad	1.30	270	P	Pn	04 56 46.0	-0.3
EMHD	Djebel Mahouad	1.30	270	P	Pn	04 56 46.0	-0.3
ABA	Alger-Bouzarea	1.37	296	P	Pn	04 56 46.6	-0.5
ABA	Alger-Bouzarea	1.37	296	P	Pn	04 56 46.6	-0.5
ABA	Alger-Bouzarea	1.37	296	P	Pn	04 56 46.6	-0.5
CTEI	Djebel Teioual	1.50	95	P	Pn	04 56 48.7	-0.3
CTEI	Djebel Teioual	1.50	95	P	Pn	04 56 48.7	-0.3
CTEI	Djebel Teioual	1.50	95	P	Pn	04 56 48.7	-0.3
CTEI	Djebel Teioual	1.50	95	P	Pn	04 56 48.7	-0.3
CASM	Ain Smara	1.56	88	P	Pn	04 56 48.8	-0.9
CASM	Ain Smara	1.56	88	P	Pn	04 56 48.8	-0.9
CASM	Ain Smara	1.56	88	P	Pn	04 56 48.8	-0.9
CKFL	Kef-Lekhel	1.75	83	P	Pn	04 56 51.5	-0.9
CKFL	Kef-Lekhel	1.75	83	P	Pn	04 56 51.5	-0.9
CKFL	Kef-Lekhel	1.75	83	P	Pn	04 56 51.5	-0.9
CAEH	'Ain El Ouahch	1.93	72	P	Pn	04 56 53.7	-1.1
CAEH	'Ain El Ouahch	1.93	72	P	Pn	04 56 53.7	-1.1
CAEH	'Ain El Ouahch	1.93	72	P	Pn	04 56 53.7	-1.1
CMAH	Djebel Manchou	2.34	79	P	Pn	04 56 59.4	-1.1
CMAH	Djebel Manchou	2.34	79	P	Pn	04 56 59.4	-1.1
CMAH	Djebel Manchou	2.34	79	P	Pn	04 56 59.4	-1.1
ABSA	Djebel Ababsia	2.35	88	P	Pn	04 56 59.8	-0.9
ABSA	Djebel Ababsia	2.35	88	P	Pn	04 56 59.8	-0.9
CABS	Djebel Ababsia	2.35	88	P	Pn	04 56 59.8	-0.9
CABS	Djebel Ababsia	2.35	88	P	Pn	04 56 59.8	-0.9
EBNR	Beni Rached	2.46	273	P	Pn	04 57 02.0	-0.1
EBNR	Beni Rached	2.46	273	P	Pn	04 57 02.0	-0.1
ECHA	Ech Chlef	2.59	270	P	Pn	04 57 03.0	-0.8
ECHA	Ech Chlef	2.59	270	P	Pn	04 57 03.0	-0.8
ECHF	Ech Chlef	2.61	270	P	Pn	04 57 03.0	-1.2
ECHF	Ech Chlef	2.61	270	P	Pn	04 57 03.0	-1.2
ETRT	Tiaret	2.78	254	P	Pn	04 57 07.6	+1.0
ETRT	Tiaret	2.78	254	P	Pn	04 57 07.6	+1.0
ETRT	Tiaret	2.78	254	P	Pn	04 57 07.6	+1.0
EANR	'Ain N'Sour	2.82	266	P	Pn	04 57 06.0	-1.1
EANR	'Ain N'Sour	2.82	266	P	Pn	04 57 06.0	-1.1
EANR	'Ain N'Sour	2.82	266	P	Pn	04 57 06.0	-1.1
OJGS	Djebel Guires	3.18	258	P	Pn	04 57 12.0	-0.1
OJGS	Djebel Guires	3.18	258	P	Pn	04 57 12.0	-0.1
OJGS	Djebel Guires	3.18	258	P	Pn	04 57 12.0	-0.1
THTN	Thala	3.41	100	Pn	Pn	04 57 15.6	+0.3
THTN				Sn	Sn	04 57 54.9	-0.9
THTN	Thala	3.41	100	Pn	Pn	04 57 15.6	+0.3
THTN				Sn	Sn	04 57 54.9	-0.9

OJBR Djebel Berber 3.48 261 P Pn 04 57 21.0 +4.8
TAMR Tamra 3.75 76 Pn Pn 04 57 16.7 -3.1
TAMR Sn Sn 04 58 01.9 -2.1
TAMR Tamra 3.75 76 Pn Pn 04 57 16.7 -3.1
TAMR Sn Sn 04 58 01.9 -2.1
EIBI Ibiza 3.80 319 ⇑P Pn 04 57 22.1 +1.6
58nm,0.2s,SNR=18
EIBI S Sn 04 58 04.8 -0.4
36nm,0.4s,SNR=7.9
EIBI Ibiza 3.80 319 P Pn 04 57 22.1 +1.6
58nm,0.2s,SNR=18
EIBI S Sn 04 58 04.8 -0.4
36nm,0.4s,SNR=7.9
ETOS Mallorca 3.81 339 ⇑P Pn 04 57 21.8 +1.1
43nm,0.3s,SNR=18
ETOS S Sn 04 58 05.4 -0.1
45nm,0.4s,SNR=6.6
ETOS Mallorca 3.81 339 P Pn 04 57 21.8 +1.1
43nm,0.3s,SNR=18
ETOS S Sn 04 58 05.4 -0.1
45nm,0.4s,SNR=6.6
I48TN KESRA INFRASON 3.88 95 *i* 05 17 20.0
baz=274,slow=335,SNR=0.3
KEST Kesra 3.91 96 Pn Pn 04 57 22.5 +0.5
18nm,0.3s,baz=80,slow=15,SNR=62
KEST Sn Sn 04 58 07.3 -0.7
12nm,0.3s,baz=340,slow=14,SNR=3.8
ODJA Bouhanifia 3.94 258 P Pn 04 57 22.0 -0.4
ODJA Bouhanifia 3.94 258 P Pn 04 57 22.0 -0.4
ODJA Bouhanifia 3.94 258 P Pn 04 57 22.0 -0.4
CART Cartagena 4.67 289 P Pn 04 57 32.5 +0.1
CART S Sn 04 58 25.6 -1.0
CART Cartagena 4.67 289 *e*Pn Pn 04 57 32.6 +0.2
CART *e*Sn Sn 04 58 23.7 -2.9
CART Cartagena 4.67 289 *e*Pn Pn 04 57 32.6 +0.2
CART *e*Sn Sn 04 58 23.7 -2.9
CART S Sn 04 58 25.6 -1.0
EMUR La Murta 4.92 291 ⇓P Pn 04 57 36.7 +0.7
42nm,0.5s,SNR=18
EMUR S Sn 04 58 31.8 -1.2
28nm,0.5s,SNR=7.9
EMUR La Murta 4.92 291 P Pn 04 57 36.7 +0.7
42nm,0.5s,SNR=18
EMUR S Sn 04 58 31.8 -1.2
28nm,0.5s,SNR=7.9
VSL Villasalto 5.02 48 *e*Pn Pn 04 57 37.0 -0.3
VSL *e*Sn Sn 04 58 33.7 -1.8
VSL Villasalto 5.02 48 *e*Pn Pn 04 57 37.0 -0.3
VSL *e*Sn Sn 04 58 33.7 -1.8
ETOB Tobarra 5.44 298 ⇑P Pn 04 57 44.7 +1.6
29nm,0.6s,SNR=18
ETOB S Sn 04 58 43.2 -2.5
76nm,1.1s,SNR=7.9
ETOB Tobarra 5.44 298 P Pn 04 57 44.7 +1.6
29nm,0.6s,SNR=18
ENIJ Nijar 5.50 280 ⇑P Pn 04 57 43.1 -0.8
40nm,0.5s,SNR=18
ENIJ S Sn 04 58 44.2 -3.0
29nm,0.4s,SNR=7.9
ENIJ Nijar 5.50 280 P Pn 04 57 43.1 -0.8
40nm,0.5s,SNR=18
EBR Ebro Roquetas 5.60 326 P Pn 04 57 46.3 +1.1
41nm,0.3s,SNR=7.9
EBR S Sn 04 58 48.0 -1.6
115nm,1.1s,SNR=7.9
EBR Ebro Roquetas 5.60 326 P Pn 04 57 46.3 +1.1
41nm,0.3s,SNR=7.9
EMOS Mosqueruela 5.73 318 ⇑P Pn 04 57 48.2 +1.0
16nm,0.3s,SNR=18
EMOS S Sn 04 58 51.4 -1.7
43nm,0.8s,SNR=8.7
EMOS Mosqueruela 5.73 318 P Pn 04 57 48.2 +1.0
16nm,0.3s,SNR=18
ERTA Horta de San J 5.78 326 P Pn 04 57 48.5 +0.7
8.8nm,0.5s,SNR=22
ERTA S Sn 04 58 51.8 -2.4
11nm,0.7s,SNR=11
ERTA Horta de San J 5.78 326 P Pn 04 57 48.5 +0.7
8.8nm,0.5s,SNR=22
CFON Fontmartina 5.78 344 ⇑P Pn 04 57 48.4 +0.5
21nm,0.2s,SNR=18
CFON S Sn 04 58 52.4 -1.9
16nm,0.2s,SNR=7.8
CFON Fontmartina 5.78 344 P Pn 04 57 48.4 +0.5
21nm,0.2s,SNR=18
EPOB Poblet 5.81 333 P Pn 04 57 49.0 +0.8
6.6nm,0.3s,SNR=26
EPOB S Sn 04 58 51.7 -3.2
14nm,0.4s,SNR=10
EPOB Poblet 5.81 333 P Pn 04 57 49.0 +0.8
6.6nm,0.3s,SNR=26
SESP Santiago Espad 5.99 291 ⇓P Pn 04 57 52.5 +1.7
57nm,0.4s,SNR=18
SESP S Sn 04 58 57.7 -1.8
64nm,0.6s,SNR=7.9
SESP Santiago Espad 5.99 291 P Pn 04 57 52.5 +1.7
57nm,0.4s,SNR=18
EBER Berja 6.04 279 ⇓P Pn 04 57 51.0 -0.5
25nm,0.4s,SNR=18
EBER S Sn 04 58 58.0 -2.7
25nm,0.6s,SNR=7.9
EBER Berja 6.04 279 P Pn 04 57 51.0 -0.5
25nm,0.4s,SNR=18
EMIR Miracle 6.17 338 P Pn 04 57 54.0 +0.9
22nm,0.2s,SNR=34
EMIR S Sn 04 59 00.9 -2.8
5.6nm,0.2s
EMIR Miracle 6.17 338 P Pn 04 57 54.0 +0.9
22nm,0.2s,SNR=34
GORA Gorafe 6.23 284 P Pn 04 57 55.0 +1.0
25nm,0.4s,SNR=7.9
GORA S Sn 04 59 02.2 -3.1
43nm,0.4s,SNR=7.9
GORA Gorafe 6.23 284 P Pn 04 57 55.0 +1.0
25nm,0.4s,SNR=7.9
EQES Quesada 6.31 287 ⇑P Pn 04 57 56.3 +1.1
35nm,0.4s,SNR=18
EQES S Sn 04 59 04.2 -3.2
142nm,1.1s
EQES Quesada 6.31 287 P Pn 04 57 56.3 +1.1
35nm,0.4s,SNR=18
EJON La Jonquera 6.36 349 ⇑P Pn 04 57 56.5 +0.8
12nm,0.3s,SNR=18
EJON S Sn 04 59 05.5 -3.0
16nm,0.8s
EJON La Jonquera 6.36 349 P Pn 04 57 56.5 +0.8
12nm,0.3s,SNR=18
SJAF Saint Jean de 6.40 349 ⇑P Pn 04 57 57.1 +0.9
5.0nm,0.2s,SNR=18
SJAF S Sn 04 59 06.4 -2.9
24nm,0.8s,SNR=7.9
SJAF Saint Jean de 6.40 349 P Pn 04 57 57.1 +0.9
5.0nm,0.2s,SNR=18
VALF Valcebollere 6.49 343 P Pn 04 58 00.4 +2.8
EQUE Quentar 6.51 281 P Pn 04 57 58.3 +0.5
26nm,0.5s,SNR=91
EQUE Quentar 6.51 281 P Pn 04 57 58.3 +0.5
26nm,0.5s,SNR=91
CLLI Llivia 6.57 343 P Pn 04 58 00.1 +1.4
5.8nm,0.2s,SNR=105
CLLI S Sn 04 59 10.9 -2.8
7.8nm,0.5s,SNR=6.2
CLLI Llivia 6.57 343 P Pn 04 58 00.1 +1.4
5.8nm,0.2s,SNR=105
ELGU Los Guajares, 6.63 278 P Pn 04 57 59.0 -0.4
12nm,0.3s,SNR=7.9
ELGU Los Guajares, 6.63 278 P Pn 04 57 59.0 -0.4
12nm,0.3s,SNR=7.9
CSOR Sort 6.70 338 P Pn 04 58 02.0 +1.5
9.9nm,0.5s,SNR=28
CSOR S Sn 04 59 14.3 -2.7
21nm,0.8s,SNR=7.8
CSOR Sort 6.70 338 P Pn 04 58 02.0 +1.5
9.9nm,0.5s,SNR=28
ESAC San Caprasio 6.75 326 P Pn 04 58 02.4 +1.2
8.8nm,0.2s,SNR=12
ESAC San Caprasio 6.75 326 P Pn 04 58 02.4 +1.2
8.8nm,0.2s,SNR=12
CARF Carcanieres 6.77 344 P Pn 04 58 04.2 +2.8
ETOR Torete 6.93 314 P Pn 04 58 06.2 +2.5
1.9nm,0.2s,SNR=27
ETOR Torete 6.93 314 P Pn 04 58 06.2 +2.5
1.9nm,0.2s,SNR=27
EGOR Sierra Gorda, 7.03 280 P Pn 04 58 05.9 +0.9
13nm,0.5s,SNR=7.9
EGOR Sierra Gorda, 7.03 280 P Pn 04 58 05.9 +0.9
13nm,0.5s,SNR=7.9

SALF Salau 7.04 339 P Pn 04 58 08.2 +3.1
CLTB Caltabellotta 7.06 76 *e*Pn Pn 04 58 05.0 -0.4
CLTB Caltabellotta 7.06 76 *e*Pn Pn 04 58 05.0 -0.4
PGF Pioggiola 7.20 27 *e*Pn Pn 04 58 07.6 +0.3
SNR=1.0
PGF *e*Sn Sn 04 59 25.2 -3.9
20nm,0.6s
PGF Pioggiola 7.20 27 P Pn 04 58 07.6 +0.3
PGF S Sn 04 59 25.2 -3.9
9.9nm,0.6s
PGF Pioggiola 7.20 27 P Pn 04 58 07.6 +0.3
LMR La Mourre 7.27 11 *e*Pn Pn 04 58 06.6 -1.5
SNR=1.0
LMR *e*Sn Sn 04 59 24.9 -5.8
9.1nm,0.4s,SNR=1.0
LMR La Mourre 7.27 11 P Pn 04 58 06.6 -1.5
LMR S Sn 04 59 24.9 -5.8
4.6nm,0.4s
LMR La Mourre 7.27 11 P Pn 04 58 06.6 -1.5
ECHI Chisagues Biel 7.28 334 P Pn 04 58 09.0 +0.6
5.8nm,3.8s,SNR=7.9
ECHI S Sn 04 59 27.0 -4.1
13nm,9.1s,SNR=7.9
ECHI Chisagues Biel 7.28 334 P Pn 04 58 09.0 +0.6
5.8nm,3.8s,SNR=7.9
MTLF Montolieu 7.34 346 *e*Pn Pn 04 58 10.6 +1.4
SNR=1.0
MTLF Montolieu 7.34 346 *e*P Pn 04 58 12.9 +3.7
MTLF *e*Sn Sn 04 59 30.0 -2.6
14nm,0.6s
MTLF Montolieu 7.34 346 P Pn 04 58 10.6 +1.4
MTLF S Sn 04 59 30.0 -2.6
7.0nm,0.6s
MTLF Montolieu 7.34 346 P Pn 04 58 10.6 +1.4
RESF Ens 7.35 335 P Pn 04 58 11.3 +1.9
FRF La Foret Royal 7.51 12 *e*Pn Pn 04 58 11.1 -0.4
SNR=1.0
FRF *e*Sn Sn 04 59 32.6 -4.1
7.0nm,0.4s
FRF La Foret Royal 7.51 12 P Pn 04 58 11.1 -0.4
FRF S Sn 04 59 32.6 -4.1
3.5nm,0.4s
FRF La Foret Royal 7.51 12 P Pn 04 58 11.1 -0.4
ES19 SONSECA Array 7.54 300 *e*Pn Pn 04 58 13.0 +1.1
ES19 SONSECA Array 7.54 300 *e*Pn Pn 04 58 13.0 +1.1
EMIJ Mijas 7.54 275 P Pn 04 58 10.3 -1.6
6.8nm,0.7s,SNR=11
EMIJ Mijas 7.54 275 P Pn 04 58 10.3 -1.6
6.8nm,0.7s,SNR=11
EPF Esparros 7.55 336 *e*Pn Pn 04 58 14.1 +2.1
SNR=1.0
EPF *e*Sn Sn 04 59 34.5 -3.2
17nm,0.7s
EPF Esparros 7.55 336 P Pn 04 58 14.1 +2.1
EPF S Sn 04 59 34.5 -3.2
8.4nm,0.7s
EPF Esparros 7.55 336 P Pn 04 58 14.1 +2.1
EADA Adamuz 7.55 288 P Pn 04 58 12.3 +0.2
5.1nm,0.4s,SNR=19
EADA Adamuz 7.55 288 P Pn 04 58 12.3 +0.2
5.1nm,0.4s,SNR=19
ESDC Sonseca Array 7.57 300 Pn Pn 04 58 13.7 +1.3
2.5nm,0.3s,baz=114,slow=14,SNR=28
ESDC LR LR 05 01 05.8
comp=Z,148nm,20.5s,baz=110,slow=38
ESDC Sonseca Array 7.57 300 P Pn 04 58 13.6 +1.3
2.0nm,0.2s,baz=106,slow=14,SNR=47
ESDC Sonseca Array 7.57 300 P Pn 04 58 13.6 +1.2
2.0nm,0.2s,SNR=47
ESLA Sonseca Array 7.57 300 *e*Pn Pn 04 58 14.0 +1.6
ESLA Sonseca Array 7.57 300 *e*Pn Pn 04 58 14.0 +1.6
ETSF Etsaut 7.76 331 *e*Pn Pn 04 58 16.1 +1.1
SNR=1.0
ETSF *e*Sn Sn 04 59 38.6 -4.3
38nm,1.1s
ETSF Etsaut 7.76 331 P Pn 04 58 16.1 +1.1
ETSF S Sn 04 59 38.6 -4.3
19nm,1.1s
ETSF Etsaut 7.76 331 P Pn 04 58 16.1 +1.1
SMRF Simiane la Rot 7.79 5 *e*Pn Pn 04 58 16.1 +0.7
SNR=1.0
SMRF *e*Sn Sn 04 59 38.9 -4.8
4.1nm,0.4s,SNR=1.0
SMRF Simiane la Rot 7.79 5 P Pn 04 58 16.1 +0.7
SMRF S Sn 04 59 38.9 -4.8
4.1nm,0.4s
SMRF Simiane la Rot 7.79 5 P Pn 04 58 16.1 +0.7
PAB San Pablo 7.79 298 P Pn 04 58 16.5 +1.1
5.0nm,0.3s,SNR=7.9
PAB San Pablo 7.79 298 *e*Pn Pn 04 58 17.0 +1.5
PAB San Pablo 7.79 298 P Pn 04 58 16.5 +1.1
5.0nm,0.3s,SNR=7.9
PAB San Pablo 7.79 298 *e*Pn Pn 04 58 17.0 +1.5
PAB San Pablo 7.79 298 *e*P Pn 04 58 17.0 +1.5
LASF Ste Croix 7.87 356 *e*Pn Pn 04 58 15.6 -0.9
SNR=1.0
LASF Ste Croix 7.87 356 P Pn 04 58 15.6 -0.9
LASF Ste Croix 7.87 356 P Pn 04 58 15.6 -0.9
SBF Sospel 7.95 15 *e*Pn Pn 04 58 17.1 -0.5
SNR=1.0
SBF *e*Sn Sn 04 59 42.4 -5.2
12nm,0.5s,SNR=1.0
SBF Sospel 7.95 15 P Pn 04 58 17.1 -0.5
SBF S Sn 04 59 42.4 -5.2
5.8nm,0.5s
SBF Sospel 7.95 15 P Pn 04 58 17.1 -0.5
ATE Arette 7.97 331 P Pn 04 58 18.7 +0.8
3.6nm,0.4s,SNR=7.9
ATE S Sn 04 59 43.4 -4.7
6.2nm,0.3s,SNR=7.9
ATE Arette 7.97 331 P Pn 04 58 18.7 +0.8
3.6nm,0.4s,SNR=7.9
IELO Elcoad 7.99 328 P Pn 04 58 19.0 +0.8
2.9nm,0.2s,SNR=7.9
IELO S Sn 04 59 44.6 -4.0
4.4nm,0.4s,SNR=7.9
IELO Elcoad 7.99 328 P Pn 04 58 19.0 +0.8
2.9nm,0.2s,SNR=7.9
EORO Oroz-Betelu 8.07 328 P Pn 04 58 20.2 +1.0
3.2nm,0.2s,SNR=23
EORO S Sn 04 59 46.0 -4.4
10nm,0.8s,SNR=6.2
EORO Oroz-Betelu 8.07 328 P Pn 04 58 20.2 +1.0
3.2nm,0.2s,SNR=23
EARA Aranguren 8.09 326 P Pn 04 58 20.6 +1.1
2.1nm,0.2s,SNR=7.9
EARA Aranguren 8.09 326 P Pn 04 58 20.6 +1.1
2.1nm,0.2s,SNR=7.9
EJIF Jimena Fronter 8.10 275 P Pn 04 58 19.4 -0.2
8.2nm,0.6s,SNR=7.9
EJIF Jimena Fronter 8.10 275 P Pn 04 58 19.4 -0.2
8.2nm,0.6s,SNR=7.9
GUD Guadarrama 8.15 306 P Pn 04 58 22.2 +1.9
2.0nm,0.3s,SNR=7.9
GUD Guadarrama 8.15 306 P Pn 04 58 22.2 +1.9
2.0nm,0.3s,SNR=7.9
ECAB El Cabril 8.19 286 ⇓P Pn 04 58 20.8 0.0
3.9nm,0.6s,SNR=18
ECAB S Sn 04 59 48.8 -4.6
5.6nm,0.5s,SNR=7.9
ECAB El Cabril 8.19 286 P Pn 04 58 20.8 0.0
3.9nm,0.6s,SNR=18
SJPF Ste Jean 8.21 329 *e*Pn Pn 04 58 22.1 +1.0
SNR=1.0
SJPF *e*Sn Sn 04 59 48.9 -5.0
8.2nm,0.6s,SNR=1.0
SJPF Ste Jean 8.21 329 P Pn 04 58 22.1 +1.0
SJPF S Sn 04 59 48.9 -5.0
4.1nm,0.6s
SJPF Ste Jean 8.21 329 P Pn 04 58 22.1 +1.0
ESPR Espera 8.41 278 P Pn 04 58 24.2 +0.3
1.3nm,0.2s,SNR=7.9
ESPR Espera 8.41 278 P Pn 04 58 24.2 +0.3
1.3nm,0.2s,SNR=7.9
EALK Alkurruntz 8.42 328 P Pn 04 58 25.8 +1.8
5.2nm,0.2s,SNR=35
EALK S Sn 04 59 54.9 -4.2
14nm,0.8s,SNR=5.9
EALK Alkurruntz 8.42 328 P Pn 04 58 25.8 +1.8
5.2nm,0.2s,SNR=35
VIVF Saint-Julien-l 8.63 1 *e*Pn Pn 04 58 26.7 -0.2
SNR=1.0
VIVF *e*Sn Sn 04 59 58.0 -6.3
5.3nm,0.3s,SNR=1.0
VIVF Saint-Julien-l 8.63 1 P Pn 04 58 26.7 -0.2
VIVF S Sn 04 59 58.0 -6.3
2.7nm,0.3s

VIVF Saint-Julien-l 8.63 1 P Pn 04 58 26.7 -0.2
MBDF Montbardon 8.67 10 *e*Pn Pn 04 58 28.7 +1.2
SNR=1.0
MBDF *e*Sn Sn 05 00 02.2 -3.2
8.8nm,0.6s
MBDF Montbardon 8.67 10 P Pn 04 58 28.7 +1.2
MBDF S Sn 05 00 02.2 -3.2
4.4nm,0.6s
MBDF Montbardon 8.67 10 P Pn 04 58 28.7 +1.2
ORIF Oris-en-Rattie 8.75 6 *e*Sn Sn 05 00 04.1 -3.2
49nm,1.4s
ORIF Oris-en-Rattie 8.75 6 S Sn 05 00 04.1 -3.2
24nm,1.4s
CAF Calviac 8.91 348 *e*Pn Pn 04 58 31.2 +0.5
CAF Calviac 8.91 348 P Pn 04 58 31.2 +0.5
CAF Calviac 8.91 348 P Pn 04 58 31.2 +0.5
BNI Bardonecchia 8.97 10 *e*Pn Pn 04 58 33.7 +2.0
BNI Bardonecchia 8.97 10 *e*P Pn 04 58 33.7 +2.0
BNI Bardonecchia 8.97 10 *e*P Pn 04 58 33.7 +2.0
SSB Saint Sauveur 9.06 360 *e*Pn Pn 04 58 31.6 -1.1
SSB Saint Sauveur 9.06 360 *e*P Pn 04 58 31.6 -1.1
SSB Saint Sauveur 9.06 360 *e*P Pn 04 58 31.6 -1.1
EMIN Mina Concepcio 9.12 283 P Pn 04 58 33.9 +0.2
3.0nm,0.4s,SNR=18
EMIN S Sn 05 00 10.1 -6.3
8.5nm,1.0s,SNR=6.7
EMIN Mina Concepcio 9.12 283 P Pn 04 58 33.9 +0.2
3.0nm,0.4s,SNR=18
LFF La Frestale 9.19 343 *e*Pn Pn 04 58 35.9 +1.4
SNR=1.0
LFF La Frestale 9.19 343 P Pn 04 58 35.9 +1.4
LFF La Frestale 9.19 343 P Pn 04 58 35.9 +1.4
ELAN Lanestosa 9.33 321 P Pn 04 58 37.8 +1.3
1.4nm,0.2s,SNR=12
ELAN Lanestosa 9.33 321 P Pn 04 58 37.8 +1.3
1.4nm,0.2s,SNR=12
RJF Les Rejaudoux 9.37 347 *e*Pn Pn 04 58 37.1 +0.1
RJF Les Rejaudoux 9.37 347 *e*P Pn 04 58 41.9 +4.9
RJF Les Rejaudoux 9.37 347 P Pn 04 58 37.1 +0.1
RJF Les Rejaudoux 9.37 347 P Pn 04 58 37.1 +0.1
LPG La Plagne 9.42 9 *e*Pn Pn 04 58 39.2 +1.3
SNR=1.0
LPG La Plagne 9.42 9 P Pn 04 58 39.2 +1.3
LPG La Plagne 9.42 9 P Pn 04 58 39.2 +1.3
LPL La Plagne 9.44 9 *e*Pn Pn 04 58 39.7 +1.6
SNR=1.0
LPL *e*Sn Sn 05 00 21.2 -3.1
15nm,0.6s
LPL La Plagne 9.44 9 P Pn 04 58 39.7 +1.6
LPL La Plagne 9.44 9 P Pn 04 58 39.7 +1.6
PBAR Barrancos 9.46 285 *e*P Pn 04 58 38.8 +0.5
PBAR Barrancos 9.46 285 P Pn 04 58 38.8 +0.5
PBAR Barrancos 9.46 285 P Pn 04 58 38.8 +0.5
EBAD Badajoz 9.55 289 P Pn 04 58 39.4 0.0
1.6nm,0.3s,SNR=9.0
EBAD Badajoz 9.55 289 P Pn 04 58 39.4 0.0
1.6nm,0.3s,SNR=9.0
EGRO El Granado 9.74 281 P Pn 04 58 42.2 +0.1
3.9nm,0.6s,SNR=7.9
EGRO El Granado 9.74 281 P Pn 04 58 42.2 +0.1
3.9nm,0.6s,SNR=7.9
PVAQ Vaqueiros 9.92 281 *e*P Pn 04 58 44.5 -0.1
PVAQ *e*LQ LQ 05 01 21.7
PVAQ *e*LR LR 05 02 17.1
97nm,18.0s
PVAQ Vaqueiros 9.92 281 P Pn 04 58 44.5 -0.1
PVAQ Vaqueiros 9.92 281 P Pn 04 58 44.5 -0.1
PMRV Marv??o 9.99 292 *e*P Pn 04 58 46.8 +1.3
PMRV *e*LR LR 05 02 24.9
91nm,18.0s
PMRV Marv??o 9.99 292 P Pn 04 58 46.8 +1.3
PMRV Marv??o 9.99 292 P Pn 04 58 46.8 +1.3
PESTR Estremoz 10.01 289 *e*P Pn 04 58 46.4 +0.6
PBDV Barranco-do-Ve 10.09 280 *e*P Pn 04 58 47.0 +0.2
PBDV Barranco-do-Ve 10.09 280 P Pn 04 58 47.0 +0.2
PBDV Barranco-do-Ve 10.09 280 P Pn 04 58 47.0 +0.2
PBEJ Beja 10.09 284 *e*P Pn 04 58 47.5 +0.6
PBEJ Beja 10.09 284 P Pn 04 58 47.5 +0.6
PBEJ Beja 10.09 284 P Pn 04 58 47.5 +0.6
PCBR Castelo Branco 10.17 294 *e*P Pn 04 58 49.0 +1.1
PCBR Castelo Branco 10.17 294 P Pn 04 58 49.0 +1.1
PCBR Castelo Branco 10.17 294 P Pn 04 58 49.0 +1.1
PCVE Castro Verde 10.19 282 *e*P Pn 04 58 47.5 -0.8
PCVE Castro Verde 10.19 282 P Pn 04 58 47.5 -0.8
PCVE Castro Verde 10.19 282 P Pn 04 58 47.5 -0.8
TCF Toulx Ste Croi 10.22 351 *e*Pn Pn 04 58 48.4 -0.2
TCF Toulx Ste Croi 10.22 351 P Pn 04 58 48.4 -0.2
TCF Toulx Ste Croi 10.22 351 P Pn 04 58 48.4 -0.2
EVO Evora 10.28 287 *e*P Pn 04 58 49.1 -0.3
EVO Evora 10.28 287 P Pn 04 58 49.1 -0.3
EVO Evora 10.28 287 P Pn 04 58 49.1 -0.3
MVO Moncorvo 10.32 302 *e*P Pn 04 58 53.7 +3.6
MVO *e*LR LR 05 02 06.3
154nm,16.0s
MVO Moncorvo 10.32 302 P Pn 04 58 52.1 +2.0
1.1nm,0.3s,SNR=6.8
MVO Moncorvo 10.32 302 P Pn 04 58 52.1 +2.0
1.1nm,0.3s,SNR=6.8
EARI Arriondas 10.33 316 P Pn 04 58 52.5 +2.4
7.4nm,0.6s,SNR=15
EARI Arriondas 10.33 316 P Pn 04 58 52.5 +2.4
7.4nm,0.6s,SNR=15
SENIN Lac Senin/Sane 10.35 11 *e*Pn Pn 04 58 52.2 +1.7
SENIN Lac Senin/Sane 10.35 11 *e*Pn Pn 04 58 52.2 +1.7
MESJ Messejana 10.35 283 *e*P Pn 04 58 50.6 +0.2
MESJ Messejana 10.35 283 *e*P Pn 04 58 50.8 +0.4
MESJ Messejana 10.35 283 P Pn 04 58 50.6 +0.2
MESJ Messejana 10.35 283 P Pn 04 58 50.6 +0.2
MTE Manteigas 10.39 297 *e*LQ LQ 05 01 13.1
MTE *e*LR LR 05 02 29.5
MTE Manteigas 10.39 297 *e*Pn Pn 04 58 53.9 +2.9
MTE Manteigas 10.39 297 *e*Pn Pn 04 58 53.9 +2.9
BGF Bois d'Agland 10.42 353 *e*Pn Pn 04 58 51.0 -0.3
SNR=1.0
BGF Bois d'Agland 10.42 353 P Pn 04 58 51.0 -0.3
BGF Bois d'Agland 10.42 353 P Pn 04 58 51.0 -0.3
PBRG Braganca 10.42 306 *e*P Pn 04 58 53.8 +2.4
PBRG Braganca 10.42 306 P Pn 04 58 53.8 +2.4
PBRG Braganca 10.42 306 P Pn 04 58 53.8 +2.4
SMF Signal de Mont 10.44 357 *e*Pn Pn 04 58 51.7 +0.1
SNR=1.0
SMF Signal de Mont 10.44 357 P Pn 04 58 51.7 +0.1
SMF Signal de Mont 10.44 357 P Pn 04 58 51.7 +0.1
CABF La Chapelle 10.45 6 *e*Pn Pn 04 58 52.8 +0.9
SNR=1.0
CABF La Chapelle 10.45 6 P Pn 04 58 52.8 +0.9
CABF La Chapelle 10.45 6 P Pn 04 58 52.8 +0.9
ECAL Calabor 10.48 306 P Pn 04 58 53.5 +1.3
11nm,0.3s,SNR=23
ECAL S Sn 05 00 42.9 -6.8
1.4nm,3.5s,SNR=7.9
ECAL Calabor 10.48 306 P Pn 04 58 53.5 +1.3
11nm,0.3s,SNR=23
AVF Avril sur Loir 10.61 355 *e*Pn Pn 04 58 53.3 -0.6
SNR=1.0
AVF Avril sur Loir 10.61 355 P Pn 04 58 53.3 -0.6
AVF Avril sur Loir 10.61 355 P Pn 04 58 53.3 -0.6
PNCL Nicolau / Gran 10.62 284 *e*P Pn 04 58 55.0 +0.9
MORF Marmelete 10.66 280 *e*P Pn 04 58 54.8 +0.1
MORF Marmelete 10.66 280 P Pn 04 58 54.8 +0.1
MORF Marmelete 10.66 280 P Pn 04 58 54.8 +0.1
PFVI Vila Bisbo 10.80 279 P Pn 04 58 56.2 -0.3
8.0nm,0.5s,SNR=7.9
PFVI Vila Bisbo 10.80 279 *e*Pn Pn 04 58 55.2 -1.4
PFVI Vila Bisbo 10.80 279 *e*Pn Pn 04 58 55.2 -1.4
PFVI Vila Bisbo 10.80 279 P Pn 04 58 56.2 -0.3
8.0nm,0.5s,SNR=7.9
TUE Stuetta 10.86 18 *e*Pn Pn 04 59 01.5 +3.9
POLO Lamas de Olo 10.93 302 *e*P Pn 04 59 00.9 +2.4
MFF Saint Martin d 10.96 343 *e*Pn Pn 04 58 58.3 -0.5
SNR=1.0
MFF Saint Martin d 10.96 343 *e*P Pn 04 59 02.8 +4.0
MFF Saint Martin d 10.96 343 P Pn 04 58 58.3 -0.5
MFF Saint Martin d 10.96 343 P Pn 04 58 58.3 -0.5
PCAS Casmilo, Conde 10.98 294 *e*P Pn 04 59 01.4 +2.4
LOR Lormes 11.06 357 *e*Pg Pn 04 58 59.5 -0.6
LOR Lormes 11.06 357 P Pn 04 58 59.5 -0.6
LOR Lormes 11.06 357 P Pn 04 58 59.5 -0.6
FUORN Ofenpass-Fuorn 11.24 21 *e*Pn Pn 04 59 03.4 +0.6
FUORN Ofenpass-Fuorn 11.24 21 *e*Pn Pn 04 59 03.4 +0.6
ELOB Lobios 11.32 304 P Pn 04 59 05.9 +2.1
7.5nm,0.6s,SNR=6.0
ELOB Lobios 11.32 304 P Pn 04 59 05.9 +2.1

	7.5nm,0.6s,SNR=6.0						
EPON	Pontenova	11.47	312	P	Pn	04 59 07.9	+2.2
	15nm,0.8s,SNR=8.0						
EPON	Pontenova	11.47	312	P	Pn	04 59 07.9	+2.2
	15nm,0.8s,SNR=8.0						
FETA	Feichten	11.74	21	P	Pn	04 59 12.6	+3.1
	6.0nm,1.3s						
FETA	Feichten	11.74	21	P	Pn	04 59 12.6	+3.1
	6.0nm,1.3s						
DAVA	Damuels	11.75	18	P	Pn	04 59 14.7	+5.0
	5.1nm,0.8s						
EAGO	Agolada(Pontev	11.78	308	P	Pn	04 59 12.0	+2.1
	11nm,0.9s,SNR=7.9						
EAGO	Agolada(Pontev	11.78	308	P	Pn	04 59 12.0	+2.1
	11nm,0.9s,SNR=7.9						
HAU	Haudompre	11.86	6	*e*Pn	Pn	04 59 10.8	-0.2
	SNR=1.0						
HAU	Haudompre	11.86	6	P	Pn	04 59 10.8	-0.2
HAU	Haudompre	11.86	6	P	Pn	04 59 10.8	-0.2
ABTA	Abfaltersbach	12.09	27	*e*Pn	Pn	04 59 14.5	+0.3
	6.5nm,1.0s						
MOTA	Moosalm	12.14	22	*e*Pn	Pn	04 59 17.1	+2.1
	3.6nm,0.6s						
ECH	Echery	12.15	8	*e*Pn	Pn	04 59 13.9	-1.1
ECH	Echery	12.15	8	*e*P	Pn	04 59 13.9	-1.1
ECH	Echery	12.15	8	*e*P	Pn	04 59 13.9	-1.1
CDF	Champ du Feu	12.35	8	*e*Pn	Pn	04 59 17.8	-0.1
	SNR=1.0						
CDF	Champ du Feu	12.35	8	P	Pn	04 59 17.8	-0.1
CDF	Champ du Feu	12.35	8	P	Pn	04 59 17.8	-0.1
MYKA	Terra Mystica	12.43	30	P	Pn	04 59 21.6	+2.8
	2.3nm,0.9s						
MYKA	Terra Mystica	12.43	30	*e*P	Pn	04 59 21.6	+2.8
	2.3nm,0.9s						
KBA	Koelnbreinsper	12.68	28	*e*P	Pn	04 59 26.7	+4.3
	9.3nm,1.6s						
OBKA	Obir	12.72	33	Pn	Pn	04 59 23.1	+0.2
	6.2nm,1.2s						
LDF	La Druitiere	12.84	346	*e*Pn	Pn	04 59 25.5	+1.0
	SNR=1.0						
LDF	La Druitiere	12.84	346	*e*Pn	Pn	04 59 25.5	+1.0
	SNR=1.0						
QUIF	Quistinic	13.02	336	*e*Pn	Pn	04 59 28.4	+1.6
	SNR=1.0						
QUIF	Quistinic	13.02	336	P	Pn	04 59 28.4	+1.6
QUIF	Quistinic	13.02	336	P	Pn	04 59 28.4	+1.6
SGMF	Saint Gilles	13.13	339	*e*Pn	Pn	04 59 29.9	+1.5
	SNR=1.0						
SGMF	Saint Gilles	13.13	339	P	Pn	04 59 29.9	+1.5
SGMF	Saint Gilles	13.13	339	P	Pn	04 59 29.9	+1.5
TAM	Tamanrasset	13.40	176	*e*Pn	Pn	04 59 28.7	-3.6
TAM	Tamanrasset	13.40	176	*e*P	Pn	04 59 28.7	-3.6
TAM	Tamanrasset	13.40	176	*e*P	Pn	04 59 28.7	-3.6
ROSF	Rostrenen	13.42	337	*e*Pn	Pn	04 59 33.0	+0.6
	SNR=1.0						
ROSF	Rostrenen	13.42	337	P	Pn	04 59 33.0	+0.6
ROSF	Rostrenen	13.42	337	P	Pn	04 59 33.0	+0.6
MOA	Molln	13.67	29	P	Pn	04 59 40.2	+4.5
	10nm,1.4s						
MOA	Molln	13.67	29	*e*P	Pn	04 59 40.2	+4.5
	10nm,1.4s						
ARSA	Arzberg	13.71	33	P	Pn	04 59 39.1	+2.7
	5.4nm,0.7s						
ARSA	Arzberg	13.71	33	P	Pn	04 59 39.1	+2.7
	5.4nm,0.7s						
GEA0	GERESS Array S	14.29	25	*e*Pn	Pn	04 59 45.8	+1.6
GEA0	GERESS Array S	14.29	25	*e*Pn	Pn	04 59 45.8	+1.6
GEC2	GERESS Array S	14.29	25	*e*Pn	Pn	04 59 46.9	+2.6
GEC2	GERESS Array S	14.29	25	*e*Pn	Pn	04 59 46.9	+2.6
GEC2	GERESS Array S	14.29	25	*e*P	Pn	04 59 46.9	+2.6
GERES	GERESS Array B	14.29	25	Pn	Pn	04 59 45.8	+1.4
	0.1nm,0.3s,baz=203,slow=9.6,SNR=12						
GERES				LR	LR	05 04 43.4	
	comp=Z,77nm,21.3s,baz=242,slow=35						
CONA	Conrad Observa	14.38	32	Pn	Pn	04 59 47.0	+1.4
	4.2nm,0.7s						
CONA	Conrad Observa	14.38	32	Pn	Pn	04 59 47.0	+1.4
	4.2nm,0.7s						
KHC	Kasperske Hory	14.50	24	*e*P	Pn	04 59 49.0	+1.8
KHC				*e*pP	P	04 59 53.6	-0.2
KHC	Kasperske Hory	14.50	24	*e*Pn	Pn	04 59 48.9	+1.8
KHC	Kasperske Hory	14.50	24	*e*Pn	Pn	04 59 48.9	+1.8
KHC	Kasperske Hory	14.50	24	*e*P	Pn	04 59 48.9	+1.8
MODS	Modra-Piesok	15.34	34	*e*P	P	05 00 05.0	+1.8
MODS	Modra-Piesok	15.34	34	*e*P	P	05 00 05.0	+1.8
MODS	Modra-Piesok	15.34	34	*e*P	P	05 00 05.0	+1.8
PRU	Pruhonice	15.55	25	AMS	AMS	05 06 30.0	
	comp=Z,200nm,14.1s						
VTS	Vitosha	15.74	60	*e*Pn	P	05 00 07.4	-0.4
	4.4nm,0.9s						
VTS	Vitosha	15.74	60	*e*P	P	05 00 07.4	-0.4
	4.0nm,0.9s						
VTS	Vitosha	15.74	60	*e*P	P	05 00 07.4	-0.4
VTS				pmax	pmax		
	comp=Z,4.0nm,0.9s						
VRAC	Vranov	15.76	30	LR	LR	05 06 02.2	
	comp=Z,80nm,18.4s,baz=232,slow=37						
BRG	Berggiesshubel	16.13	22	*e*P	Pn	05 00 10.1	+1.5
	comp=Z,2.0nm,0.7s						
BRG				*e*		05 00 16.4	
	comp=Z,3.2nm,0.6s						
	comp=N,178nm,12.3s						
	comp=E,175nm,11.7s						
	comp=Z,161nm,15.3s						
BRG	Berggiesshubel	16.13	22	*e*P	Pn	05 00 10.1	+1.5
	comp=Z,161nm,15.3s						
BRG	Berggiesshubel	16.13	22	*e*P	Pn	05 00 10.1	+1.5
BRG				pmax	pmax		
	comp=Z,2.0nm,0.7s						
BRG				MLR	MLR		
	comp=N,178nm,12.3s						
BRG				MLR	MLR		
	comp=E,175nm,11.7s						
BRG				MLR	MLR		
	comp=Z,161nm,15.3s						
VYHS	Vyhne	16.15	36	*e*P	P	05 00 13.6	+1.5
VYHS	Vyhne	16.15	36	*e*P	P	05 00 13.6	+1.5
VYHS	Vyhne	16.15	36	*e*P	P	05 00 13.6	+1.5
CLL	Collm	16.25	19	*e*(PP)		05 00 15.0	
CLL	Collm	16.25	19	*e*P	P	05 00 15.0	+1.7
CLL	Collm	16.25	19	*e*P	P	05 00 15.0	+1.7
DPC	Dobruska-Polom	16.49	27	*e*P	Pn	05 00 14.3	+1.0
DPC	Dobruska-Polom	16.49	27	*e*P	Pn	05 00 14.3	+1.0
DPC	Dobruska-Polom	16.49	27	*e*P	Pn	05 00 14.3	+1.0
MORC	Moravsky Berou	16.51	31	⇓*i*P	Pn	05 00 16.0	+2.4
MORC	Moravsky Berou	16.51	31	*e*Pn	Pn	05 00 15.9	+2.4
	comp=Z,98nm,1.7s						
MORC	Moravsky Berou	16.51	31	P	Pn	05 00 16.0	+2.4
MORC	Moravsky Berou	16.51	31	⇓P	Pn	05 00 16.0	+2.4
IDI	Anoyia	16.53	87	⇑*i*P	Pn	05 00 15.5	+1.6
IDI	Anoyia	16.53	87	⇑*i*P	Pn	05 00 15.5	+1.6
KECS	Kecovo	16.95	39	*e*P	P	05 00 22.9	+1.9
KECS	Kecovo	16.95	39	*e*P	P	05 00 22.9	+1.9
KECS	Kecovo	16.95	39	*e*P	P	05 00 22.9	+1.9
DRGR		17.18	46	⇑*i*P	P	05 00 25.4	+1.8
DRGR		17.18	46	P	P	05 00 25.4	+1.8
DRGR		17.18	46	⇑P	P	05 00 25.4	+1.8
NIE	Niedzica	17.48	36	*e*P	P	05 00 30.8	+3.8
NIE	Niedzica	17.48	36	*e*P	P	05 00 30.8	+3.8
ARR	Arges	17.70	53	⇑*i*P	P	05 00 31.1	+1.7
ARR	Arges	17.70	53	⇑*i*P	P	05 00 31.1	+1.7
OJC	Ojcow	17.82	33	*e*P	P	05 00 36.0	+5.4
OJC	Ojcow	17.82	33	*e*P	P	05 00 36.0	+5.4
STHS	Stebnicka Huta	17.94	37	*e*P	P	05 00 33.4	+1.4
STHS	Stebnicka Huta	17.94	37	*e*P	P	05 00 33.4	+1.4
STHS	Stebnicka Huta	17.94	37	*e*P	P	05 00 33.4	+1.4
VOIR		17.99	53	⇓*i*P	P	05 00 34.2	+1.6
VOIR		17.99	53	P	P	05 00 34.2	+1.6
VOIR		17.99	53	⇓P	P	05 00 34.2	+1.6
MLR	Muntele Rosu	18.59	54	Pn	P	05 00 40.6	+1.3
	comp=Z,0.1nm,0.3s,baz=147,slow=10.0,SNR=8.5						
KWP	Kalwaria Pacla	18.81	39	*e*P	P	05 00 42.6	+1.1
	comp=Z,201nm,1.3s						
KWP	Kalwaria Pacla	18.81	39	*e*P	P	05 00 42.6	+1.1
	comp=Z,201nm,1.3s						
KWP	Kalwaria Pacla	18.81	39	*e*P	P	05 00 42.6	+1.1
KWP				pmax	pmax		
	comp=Z,201nm,1.3s						
BUR04	Bucovina Ar. S	19.07	47	*e*P	Pn	05 00 46.4	+1.2
BUR04	Bucovina Ar. S	19.07	47	*e*P	Pn	05 00 46.4	+1.2
BURAR	Bucovina Array	19.07	47	⇑*i*P	Pn	05 00 46.3	+1.1
BURAR	Bucovina Array	19.07	47	⇑*i*P	Pn	05 00 46.3	+1.1
BURAR	Bucovina Array	19.07	47	⇑P	Pn	05 00 46.3	+1.1
BUR08	Bucovina Ar. S	19.07	47	*e*P	P	05 00 45.2	+0.7
BUR08	Bucovina Ar. S	19.07	47	*e*P	P	05 00 45.2	+0.7
PLOR	Plostina	19.19	53	⇓*i*P	P	05 00 42.9	-2.8
PLOR	Plostina	19.19	53	⇓P	P	05 00 42.9	-2.8
VRI	Vrincioaia	19.24	53	⇑*i*P	P	05 00 47.1	+0.8
VRI	Vrincioaia	19.24	53	P	P	05 00 47.1	+0.8
VRI	Vrincioaia	19.24	53	⇑P	P	05 00 47.1	+0.8
EKA	Eskdalemuir Ar	19.84	347	Pn	Pn	05 00 55.1	+0.8
	baz=157,slow=11,SNR=5.0						
CFR	Carcaliu	19.93	56	⇓*i*P	P	05 00 54.2	+0.4
CFR	Carcaliu	19.93	56	⇓P	P	05 00 54.2	+0.4
SORM	Soroca	21.18	48	⇑*i*P	P	05 01 07.3	0.0
SORM	Soroca	21.18	48	P	P	05 01 07.3	0.0
SORM	Soroca	21.18	48	⇑P	P	05 01 07.3	0.0
BR231	Keskin MP Arra	22.48	72	*e*P	P	05 01 22.4	+1.0
BR231	Keskin MP Arra	22.48	72	*e*P	P	05 01 22.4	+1.0
ANTO	Ankara	22.49	72	*e*P	P	05 01 21.3	-0.2
	comp=Z,9.1nm,0.4s						
ANTO	Ankara	22.49	72	*e*P	P	05 01 21.3	-0.2
	comp=Z,9.1nm,0.4s						
ANTO	Ankara	22.49	72	*e*P	P	05 01 21.3	-0.2
ANTO				pmax	pmax		
	comp=Z,9.0nm,0.4s						
KIEV	Kiev	22.87	43	*e*P	P	05 01 24.0	-1.3
	comp=Z,13nm,0.9s						
KIEV	Kiev	22.87	43	*e*P	P	05 01 24.0	-1.3
KIEV				pmax	pmax		
	comp=Z,13nm,0.9s						
AKASG	Malin Array Be	22.88	43	P	P	05 01 23.5	-1.9
	comp=Z,7.4nm,0.7s,baz=241,slow=10,SNR=14						
AKBB	Malin Array Si	22.88	43	*e*P	P	05 01 24.6	-0.8
	comp=Z,12nm,0.8s						
AKBB	Malin Array Si	22.88	43	*e*P	P	05 01 24.6	-0.8
	comp=Z,12nm,0.8s						
AKBB	Malin Array Si	22.88	43	*e*P	P	05 01 24.6	-0.8
AKBB				pmax	pmax		
	comp=Z,12nm,0.8s						
KOWA	Kowa	22.95	202	P	P	05 01 26.0	-0.4
	comp=Z,3.3nm,0.7s,baz=14,slow=14,SNR=11						
TOA1	Torodi Ar. Sit	23.11	187	*e*P	P	05 01 26.9	-1.2
TOA0	Torodi Ar. Sit	23.11	187	*e*P	P	05 01 27.7	-0.4
	comp=Z,37nm,1.7s						
TORD	Torodi Ar. Bea	23.11	187	P	P	05 01 26.9	-1.2
	comp=Z,64nm,0.7s,baz=0.1,slow=9.6,SNR=27						
TORD				LR	LR	05 11 39.2	
	comp=Z,64nm,18.7s,baz=315,slow=40						
BR131	Keskin Array S	23.14	72	*e*P	P	05 01 29.6	+1.1
BR131	Keskin Array S	23.14	72	*e*P	P	05 01 29.6	+1.1
BRTR	Keskin Array B	23.14	72	P	P	05 01 29.4	+0.9
	comp=Z,1.3nm,0.7s,baz=251,slow=7.7,SNR=8.5						
BRTR	Keskin Array B	23.14	72	*ce*P	P	05 01 29.5	+1.1
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
BR101	Keskin Array S	23.14	72	*e*P	P	05 01 29.4	+0.9
BR101	Keskin Array S	23.14	72	*e*P	P	05 01 29.4	+0.9
HFS	Hagfors	24.65	11	P	P	05 01 41.0	-1.4
	comp=Z,4.0nm,0.7s,baz=185,slow=13,SNR=7.9						
HFS				LR	LR	05 11 30.3	
	comp=Z,51nm,18.0s,baz=240,slow=37						
NC602	NORSAR Array S	24.94	8	*e*P	P	05 01 43.6	-1.5
NB2	NORSAR Subarra	25.20	8	P	P	05 01 47.0	-0.5
	comp=Z,25nm,1.7s,baz=195,slow=9.3						
NB200	NORSAR Array S	25.20	8	*e*P	P	05 01 47.2	-0.3
NOA	NORSAR Array B	25.20	8	P	P	05 01 47.2	-0.3
	comp=Z,3.0nm,0.7s,baz=195,slow=9.0,SNR=8.0						
NOA				LR	LR	05 12 15.9	
	comp=Z,77nm,19.0s,baz=180,slow=38						
ANN	Anapa	26.28	61	*e*P	P	05 01 54.9	-2.4
ANN	Anapa	26.28	61	*e*P	P	05 01 54.9	-2.4
BBTS	Babate	28.58	227	LR	LR	05 15 10.8	
	comp=Z,71nm,21.9s,baz=343,slow=40						
FIA0	FINESS Array S	28.67	22	*e*P	P	05 02 18.2	-0.4
FIA0	FINESS Array S	28.67	22	*e*P	P	05 02 18.3	-0.4
FINES	FINESS Array B	28.67	22	P	P	05 02 18.2	-0.4
	comp=Z,2.2nm,0.8s,baz=212,slow=6.8,SNR=4.8						
FINES				LR	LR	05 13 02.7	
	comp=Z,41nm,19.0s,baz=176,slow=35						
FIA1	FINESS Array S	28.67	22	*e*P	P	05 02 17.4	-1.3
KLMR	Klimovskoe	33.13	31	*e*P	P	05 02 55.6	-2.4
KLMR				AMP		05 03 09.1	
	comp=Z,9.0nm,1.1s						
KLMR	Klimovskoe	33.13	31	*e*P	P	05 02 55.5	-2.4
KLMR				pmax	pmax		
	comp=Z,9.0nm,1.1s						
ARA0	ARCESS Array S	35.29	13	*e*P	P	05 03 15.4	-1.2
ARCES	ARCESS Array B	35.29	13	P	P	05 03 15.4	-1.2
	comp=Z,6.7nm,1.1s,baz=179,slow=6.1,SNR=6.2						
ARU	Arti	41.13	43	*e*P	P	05 04 05.1	-0.8
	comp=Z,8.8nm,0.6s						
ARU	Arti	41.13	43*c*	*i*P	P	05 04 05.0	-0.9
ARU				S	S	05 10 17.6	-1.2
ARU				SS	SS	05 13 11.3	-10
ARU				pmax	pmax		
	comp=Z,15nm,0.8s						
ABKAR	Akbulak array	41.80	54	*e*P	P	05 04 10.1	-1.4
	comp=Z,1.3nm,0.9s						
ATD	Arta Tunnel	42.35	116	LR	LR	05 21 24.4	
	comp=Z,41nm,18.7s,baz=84,slow=36						
SFJD	Kangerlussuaq	43.75	332	LR	LR	05 22 22.6	
	comp=Z,41nm,18.0s,baz=134,slow=36						
BRVK	Borovoye	47.95	48	*e*P	P	05 05 00.4	0.0
	comp=Z,20nm,1.4s						
BRVK	Borovoye	47.95	48	⇓*i*P	P	05 05 00.6	+0.1
BRVK				pmax	pmax		
	comp=Z,32nm,1.2s						
KMBO	Kilima Mbogo	48.01	133	*ce*P	P	05 05 05.5	+3.9
KMBO				pmax	pmax		
	comp=Z,1.0nm,0.4s						
BVAR	Borovoye Array	48.02	48	P	P	05 05 00.9	-0.1
	comp=Z,2.9nm,0.8s,baz=274,slow=7.1,SNR=9.4						
KURBB	Kurchatov Arra	53.44	50	P	P	05 05 41.1	-0.7
	comp=Z,6.3nm,0.8s,baz=290,slow=8.1,SNR=29						
KURK	Kurchatov	53.47	50	*e*P	P	05 05 41.6	-0.5
KURK	Kurchatov	53.47	50	*e*P	P	05 05 41.6	-0.5
KDJ	Kajisay	55.05	60	*e*P	P	05 05 56.9	+2.9
	comp=Z,3.0nm,0.9s						
NVS	Novosibirsk	55.13	44	*e*P	P	05 05 54.3	+0.2
ZAA1	Zalesovo Array	56.26	44	*e*P	P	05 06 01.5	-0.8
ZAA0	Zalesovo Array	56.26	44	*e*P	P	05 06 01.8	-0.5
	comp=Z,4.1nm,0.7s						
ZALV	Zalesovo Beam	56.26	44	P	P	05 06 01.5	-0.8
	comp=Z,3.7nm,0.6s,baz=282,slow=8.1,SNR=10						
ZALV	Zalesovo Beam	56.26	44	*e*P	P	05 06 01.4	-0.9
MAKZ	Makanchi	56.73	53	*e*P	P	05 06 05.3	-0.5
	comp=Z,8.8nm,1.4s						
MAKZ	Makanchi	56.73	53	*e*P	P	05 06 05.3	-0.5
MAKZ				pmax	pmax		
	comp=Z,9.0nm,1.4s						
MK31	Makanchi Array	56.94	53	*e*P	P	05 06 06.7	-0.6
MK31	Makanchi Array	56.94	53	*e*P	P	05 06 06.7	-0.6
MK32	Makanchi Array	56.94	53	*e*P	P	05 06 06.3	-0.9
MKAR	Makanchi Array	56.94	53	P	P	05 06 06.3	-0.9
	comp=Z,3.2nm,0.6s,baz=283,slow=6.1,SNR=24						
MKAR	Makanchi Array	56.94	53	*e*P	P	05 06 06.7	-0.6
	comp=Z,20nm,0.6s						
MK01	Makanchi Array	56.95	53	*e*P	P	05 06 06.4	-0.9
DGZ	Jazzator, Alta	59.16	49	⇑*e*P	P	05 06 23.5	+0.5
WMQ	Urumqi	61.58	55	P	P	05 06 42.0	+2.5
WMQ				LR	LR		
	comp=Z,190nm,19.9s						
WMQ				LR	LR		
	comp=Z,140nm,21.1s						
WMQ				LR	LR		
	comp=Z,170nm,18.9s						
TIXI	Tiksi	65.57	17	⇑*i*P	P	05 07 06.1	+0.8
TIXI				pmax	pmax		
	comp=Z,1.0nm,1.1s						
TLY	Talaya	67.61	42	*e*P	P	05 07 20.1	+1.4
TLY				pmax	pmax		
	comp=Z,2.0nm,1.3s						
ULM	Lac du Bonnet	69.09	317	P	P	05 07 27.4	-0.5
	comp=Z,3.4nm,0.8s,baz=63,slow=4.1,SNR=6.9						
ULM	Lac du Bonnet	69.09	317	*e*P	P	05 07 27.4	-0.5
	comp=Z,4.3nm,0.9s						
ULM	Lac du Bonnet	69.09	317	*e*P	P	05 07 27.4	-0.5
ULM				pmax	pmax		
	comp=Z,4.0nm,0.9s						
YKA	Yellowknife Ar	70.25	334	P	P	05 07 34.8	0.0
	comp=Z,2.1nm,0.7s,baz=50,slow=6.1,SNR=39						
YKA	Yellowknife Ar	70.25	334	*ce*P	P	05 07 34.7	-0.1
YKA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
YKB5	Yellowknife Ar	70.25	334	*e*P	P	05 07 34.9	0.0
SONA0	Songino Array	71.16	44	*e*P	P	05 07 40.9	0.0
SONM	Songino Array	71.16	44	P	P	05 07 40.9	0.0
	comp=Z,0.3nm,0.3s,baz=289,slow=4.4,SNR=3.8						
INK	Inuvik	71.20	345	P	P	05 07 40.4	0.0
	comp=Z,1.9nm,0.6s,baz=28,slow=8.0,SNR=14						
INK	Inuvik	71.20	345	*e*P	P	05 07 40.5	0.0
	comp=Z,13nm,1.5s						
INK	Inuvik	71.20	345	*e*P	P	05 07 40.5	0.0
INK				pmax	pmax		
	comp=Z,13nm,1.5s						
GTA	Gaotai	71.66	54	*e*P	P	05 07 44.4	+0.4
GTA				pP	pP	05 07 48.0	+0.7
GTA				sP	sP	05 07 50.8	+2.3
GTA				pmax	pmax		
	comp=Z,4.0nm,1.0s						
DAWY	Dawson	76.07	345	*e*P	P	05 08 10.5	+1.2
	comp=Z,6.6nm,1.1s						
LZH	Lanzhou	76.15	55	*e*P	P	05 08 11.3	+0.9
LZH				pP	sP	05 08 16.0	+1.1
LZH				sP	pP	05 08 18.4	+4.7
LZH				pmax	pmax		
	comp=Z,20nm,0.8s						
IM3	Indian Mountai	76.75	351	*e*P	P	05 08 13.9	+0.8
IL1	Eielson Array	76.88	348	*e*P	P	05 08 14.3	+0.5
ILAR	Eielson Array	76.88	348	P	P	05 08 14.3	+0.5
	comp=Z,1.0nm,0.8s,baz=6.4,slow=5.1,SNR=9.1						
ILB	Eielson Array	76.88	348	*e*P	P	05 08 14.3	+0.5
HHC	Hu-ho-hao-te	78.23	48	*e*P	P	05 08 22.1	+0.1
HHC				pmax	pmax		
	comp=Z,15nm,1.4s						
HHC				pmax	pmax		
	comp=Z,170nm,7.5s						
DHY	Denali Highway	78.53	347	*e*P	P	05 08 24.3	+1.0
	comp=Z,42nm,1.8s						
PD31	Pinedale Array	81.11	317	*e*P	P	05 08 37.7	0.0
PDAR	Pinedale Array	81.11	317	P	P	05 08 37.7	0.0
	comp=Z,0.9nm,0.8s,baz=31,slow=3.8,SNR=5.8						
PDAR	Pinedale Array	81.11	317	*e*P	P	05 08 37.5	-0.2
KLR	Kul'dur	82.89	32	⇑*e*P	P	05 08 46.4	-0.2
CPUP	Villa Florida	85.27	233	P	P	05 08 59.3	+0.4
	comp=Z,1.5nm,0.8s,baz=58,slow=9.5,SNR=4.2						
CPUP	Villa Florida	85.27	233	P	P	05 08 56.8	-2.2
CPUP	Villa Florida	85.27	233	P	P	05 08 56.8	-2.2
LTX	Lajitas	86.23	304	*e*P	P	05 09 05.0	+0.9
LTX	Lajitas	86.23	304	*e*P	P	05 09 05.0	+0.9
TXAR	Lajitas Array	86.23	304	P	P	05 09 05.0	+0.9
	comp=Z,0.5nm,1.0s,baz=76,slow=4.7,SNR=2.6						
TXAR	Lajitas Array	86.23	304	P	P	05 09 05.0	+0.9
NJ2	Nanjing	88.39	51	*e*P	P	05 09 15.7	+1.4
NJ2				pmax	pmax		
	comp=Z,17nm,0.6s						
NVAR	Mina Array Bea	88.89	319	LR	LR	05 46 38.4	
	comp=Z,19nm,18.2s,baz=275,slow=34						

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*KRSC **05** 05:14:14.7±1.4, 52°.84N×160°.78E, h41km±20km, ML4.6*
*BJI **05** 05:14:16.9, 53°.27N×160°.68E, h63km, mb4.4/11, mB5.0/6, Ms4.4/2, Ms7 4.1/2*
*MOS **05** 05:14:17.0±1.0, 52°.86N×160°.63E, h48km, mb4.6/23, Error ellipse: s-maj=6.7km s-min=4.3km az=87.7*
*NEIC **05** 05:14:19.9±0.6, 53°.13N×160°.35E, h52km±6km, mb4.5/53, Error ellipse: s-maj=7.5km s-min=3.2km az=155.0*
*IDC **05** 05:14:21.3±1.7, 53°.00N×160°.45E, h65km±15km, mb3.9/23, mb1 4.1/24, mb1mx3.8/72, mbtmp4.2/24, MS3.6/18, Ms1 3.6/18, ms1mx3.3/67, Error ellipse: s-maj=17.2km s-min=10.1km az=151.0*
ISC 05 05:14:16.9±0.7, **53°.03N**±0°.04×**160°.64E**±0°.03, **h29**km±5km, **n233**, σ1.64/253, **mb4.4**/85, **MS3.6**/18, **3C-2D, Near east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDLR	Sedlovina	1.09	284	*e*P	Pb	05 14 36.5	-0.6
SDLR	Sedlovina	1.09	284	PN	Pb	05 14 36.5	-0.6
UGLR	Uglovaya	1.11	280	*e*P	Pb	05 14 37.0	-0.5
UGLR	Uglovaya	1.11	280	PN	Pb	05 14 37.0	-0.5
SMAR	Somma	1.13	283	*e*P	Pn	05 14 37.0	+0.1
SMAR	Somma	1.13	283	PN	Pn	05 14 37.0	+0.1
DALK	Dalny	1.14	271	*e*P	Pn	05 14 36.7	-0.1
DALK				*e*S	Sn	05 14 51.1	-0.3
DALK	Dalny	1.14	271	PN	Pn	05 14 36.7	-0.1
DALK				S	Sn	05 14 51.1	-0.3
AVH	Avacha	1.17	282	*e*P	Pb	05 14 38.0	-0.5
AVH	Avacha	1.17	282	PN	Pb	05 14 38.0	-0.5
KRER	Koryakskii	1.17	284	*e*P	Pb	05 14 38.3	-0.3
KRER	Koryakskii	1.17	284	PN	Pb	05 14 38.3	-0.3
PET	Petropavlovsk	1.20	271	*e*Pn	Pn	05 14 37.9	+0.3
PET				*e*Sn	Sb	05 14 53.8	-0.2
PET	Petropavlovsk	1.20	271	*i* P	Pn	05 14 37.6	-0.1
PET	Petropavlovsk	1.20	271κ	*i*PN	Pn	05 14 37.5	-0.1
PET				*i* S	Sn	05 14 53.0	+0.1
PET				pmax	pmax		
	comp=Z,1μm,0.5s						
PET				pmax	pmax		
	comp=Z,1μm,0.5s						
PET				smax	smax		
	comp=N,5μm,0.6s						
PET				smax	smax		
	comp=E,6μm,0.7s						
KII	Karymskiy	1.23	325	*e*P	Pb	05 14 40.2	+0.6
KII				*e*S	Sb	05 14 57.2	+2.1
KII	Karymskiy	1.23	325	PN	Pb	05 14 40.2	+0.6
KII				S	Sb	05 14 57.2	+2.1
KOK	Koryaka	1.24	283	*e*P	Pb	05 14 39.2	-0.4
KOK	Koryaka	1.24	283	PN	Pb	05 14 39.2	-0.4
KRX	Arik	1.24	286	*e*P	Pn	05 14 38.8	+0.4
KRX	Arik	1.24	286	PN	Pn	05 14 38.8	+0.4
RUS	Russkaya	1.43	246	*e*P	Pn	05 14 39.8	-0.9
RUS				*e*S	Sn	05 14 57.8	-0.7
RUS	Russkaya	1.43	246	PN	Pn	05 14 39.8	-0.9
RUS				S	Sn	05 14 57.8	-0.7
MTVR	Mutnovka	1.59	251	*e*P	Pn	05 14 42.6	-0.6
MTVR				*e*S	Sn	05 15 02.1	-0.7
MTVR	Mutnovka	1.59	251	PN	Pn	05 14 42.6	-0.6
MTVR				S	Sn	05 15 02.1	-0.7
GNL	Ganaly	1.75	293	*e*P	Pb	05 14 47.5	-0.8
GNL				*e*S	Sb	05 15 09.5	-0.4
GNL	Ganaly	1.75	293	PN	Pb	05 14 47.5	-0.8
GNL				S	Sb	05 15 09.5	-0.4
PEA0B	Petropavlovsk-	1.78	274	*e*Pn	Pn	05 14 46.6	+1.0
PETK	Petropavlovsk-	1.78	274	P	Pn	05 14 46.4	+0.7
	comp=E,163nm,0.3s,baz=95,slow=17,SNR=377						
PETK				S	Sb	05 15 09.3	-1.3
	comp=E,134nm,0.3s,baz=66,slow=27,SNR=14						
PETK				LR	LR	05 15 31.9	
	comp=E,1μm,19.9s,baz=97,slow=42						
PETK	Petropavlovsk-	1.78	274	*e*Pn	Pn	05 14 46.3	+0.7
PETK				*e*Sn	Sn	05 15 04.5	-2.7
PETK	Petropavlovsk-	1.78	274	*e*PN	Pn	05 14 46.3	+0.7
PETK				*e*		05 15 04.5	
ASAK	Asacha	1.79	250	*e*P	Pn	05 14 45.9	+0.1
ASAK	Asacha	1.79	250	PN	Pn	05 14 45.9	+0.1
KDTR	Khodutka, Kamc	1.99	233	*e*P	Pn	05 14 48.1	-0.4
KDTR				*e*S	Sn	05 15 11.0	-1.4
KZV	Kizimen	2.10	355	*e*P	Pb	05 14 53.1	-1.2
KZV				*e*S	Sb	05 15 20.1	+0.1
KZV	Kizimen	2.10	355	PN	Pb	05 14 53.1	-1.2
KZV				S	Sb	05 15 20.1	+0.1
APC	Apacha	2.11	269	*e*P	Pn	05 14 51.9	+1.8
APC				*e*S	Sb	05 15 18.7	-1.4
APC	Apacha	2.11	269	PN	Pn	05 14 51.9	+1.8
APC				S	Sb	05 15 18.7	-1.4
TUMR	Tumrok	2.28	353	*e*P	Pb	05 14 56.5	-0.8
TUMR				*e*S	Sb	05 15 24.5	-0.6
TUMR	Tumrok	2.28	353	PN	Pb	05 14 56.5	-0.8
TUMR				S	Sb	05 15 24.5	-0.6
MIPR	Malaya Ipel'ka	2.48	254	*e*P	Pn	05 14 57.3	+2.0
MIPR	Malaya Ipel'ka	2.48	254	PN	Pn	05 14 57.3	+2.0
KMNR	Kamenistaya	2.74	355	*e*P	Pb	05 15 03.4	-1.8
KMNR				*e*S	Sb	05 15 36.3	-2.1
KMNR	Kamenistaya	2.74	355	PN	Pb	05 15 03.4	-1.8
KMNR				S	Sb	05 15 36.3	-2.1
PAU	Pauzhetka	2.83	238	*e*P	Pn	05 15 00.7	+0.7
PAU				*e*S	Sn	05 15 32.8	-0.2
PAU	Pauzhetka	2.83	238	PN	Pn	05 15 00.7	+0.7
PAU				S	Sn	05 15 32.8	-0.2
BZMR	Bezymyannaya	2.91	358	*e*P	Pb	05 15 05.5	-2.6
BZMR	Bezymyannaya	2.91	358	PN	Pb	05 15 05.5	-2.6
BZWR	Bezymyannyi-We	2.94	358	*e*P	Pb	05 15 06.6	-2.1
BZWR	Bezymyannyi-We	2.94	358	PN	Pb	05 15 06.6	-2.1
LGNR	Loginova	3.06	1	*e*P	Pb	05 15 08.1	-2.6
LGNR	Loginova	3.06	1	PN	Pb	05 15 08.1	-2.6
KOZ	Kozyrevsk	3.07	352	*e*P	Pb	05 15 07.6	-3.1
KOZ	Kozyrevsk	3.07	352	PN	Pb	05 15 07.6	-3.1
CIRR	Tsirk	3.09	1	*e*P	Pb	05 15 08.0	-3.2

CIRR Tsirk 3.09 1 PN Pb 05 15 08.0 -3.2
ESO Esso 3.12 339 eP Pb 05 15 08.1 -3.4
ESO Esso 3.12 339 PN Pb 05 15 08.1 -3.4
KRSR Krestovskiy 3.19 359 eP Pn 05 15 08.8 +3.6
KRSR Krestovskiy 3.19 359 PN Pn 05 15 08.8 +3.6
KLY Klyuchi 3.29 0 eP Pb 05 15 10.7 -3.8
KLY eS Sb 05 15 50.9 -3.1
KLY Klyuchi 3.29 0 PN Pb 05 15 10.7 -3.8
KLY S Sb 05 15 50.9 -3.1
KBTR Krutoberegovo 3.43 21 eP Pn 05 15 10.8 +2.6
KBTR eS Sb 05 15 54.3 -3.7
KBTR Krutoberegovo 3.43 21 PN Pn 05 15 10.8 +2.6
KBTR S Sb 05 15 54.3 -3.7
BDR Baidarnaya 3.56 5 eP Pb 05 15 15.9 -3.2
BDR Baidarnaya 3.56 5 PN Pb 05 15 15.9 -3.2
SMKR Semkarok 3.59 7 eP Pn 05 15 14.3 +3.7
SMKR Semkarok 3.59 7 PN Pn 05 15 14.3 +3.7
SRKR Sorokina 3.65 5 eP Pn 05 15 15.8 +4.5
SRKR Sorokina 3.65 5 PN Pn 05 15 15.8 +4.5
SKR Severo-Kuril's 3.66 232 eP Pn 05 15 12.3 +0.9
SKR eS Sn 05 15 54.8 +1.3
SKR Severo-Kuril's 3.66 232 ePN Pn 05 15 12.4 +1.0
SKR eS Sb 05 15 59.4 -5.2
SKR pmax pmax
comp=Z,193nm,0.6s
SKR smax smax
comp=N,727nm,0.7s
SKR smax smax
comp=E,890nm,0.8s
BKI Bering 3.82 53 eP Pn 05 15 14.4 +0.8
BKI eS Sn 05 15 55.4 -2.0
BKI Bering 3.82 53 PN Pn 05 15 14.4 +0.8
SMY Shemya 8.15 87 ePn Pn 05 16 13.4 +0.4
SMY Shemya 8.15 87 ePN Pn 05 16 13.4 +0.4
MA2 Magadan 8.55 324 LR LR 05 20 11.8
comp=E,106nm,18.2s,baz=296,slow=41
MA2 Magadan 8.55 324⇑ iPN Pn 05 16 18.3 -0.2
NKL Nikolayevsk 12.00 279 ePN P 05 17 19.8 +1.4
NKL pmax pmax
comp=E,12nm,1.0s
NKL pmax pmax
comp=Z,25nm,1.0s
YSS Yuzh-Sakhalins 13.00 249 ePn Pn 05 17 20.6 +1.2
YSS Yuzh-Sakhalins 13.00 249 ePN Pn 05 17 20.6 +1.2
ASAJ Asahikawa 14.87 240 P Pn 05 17 44.5 -0.4
comp=Z,2.0nm,0.3s,baz=54,slow=22,SNR=11
GRNR Gornyy 15.10 271 eP P 05 17 52.8 -0.1
GRNR pmax pmax
comp=Z,21nm,0.6s
BILL Bilibino 15.30 8 iP P 05 17 53.6 -1.4
BILL pmax pmax
comp=Z,8.0nm,1.0s
BILL pmax pmax
comp=Z,178nm,20.0s
GAMB Gambell 17.88 42 eP P 05 18 25.6 +2.2
comp=Z,9.7nm,1.2s
KLR Kul'dur 18.46 270⇑ iP P 05 18 29.8 -0.3
USRK Ussuriysk Ar. 20.78 256 P P 05 18 54.1 -1.3
comp=Z,10nm,0.7s,baz=51,slow=12,SNR=12
USRK LR LR 05 27 32.9
comp=Z,231nm,18.6s,baz=34,slow=38
FALS False Pass 21.09 71 eP P 05 19 01.1 +2.6
comp=Z,407nm,0.7s
MJB9 Matsu-Tunnel 22.77 233 eP P 05 19 16.6 -0.1
comp=Z,33nm,0.9s
MAJO Matsushiro 22.77 233 eP P 05 19 16.6 -0.1
comp=Z,34nm,0.9s
MAJO Matsushiro 22.77 233 eP P 05 19 16.6 -0.1
MAJO pmax pmax
comp=Z,34nm,0.9s
MAT Matsushiro 22.77 233 P P 05 19 16.6 -0.1
MJAR Matsushiro Arr 22.77 233 P P 05 19 16.8 +0.1
comp=Z,16nm,0.9s,baz=20,slow=11,SNR=26
MJAR LR LR 05 29 20.3
comp=Z,70nm,20.0s,baz=280,slow=40
TIXI Tiksi 23.28 335 eP P 05 19 19.7 -1.9
comp=Z,14nm,1.6s
TIXI Tiksi 23.28 335 iP P 05 19 20.5 -1.1
TIXI pmax pmax
comp=Z,3.0nm,1.4s
INU Inuyama 24.30 233 eP P 05 19 31.6 +0.1
comp=Z,67nm,1.6s
CN2 Changchun 24.89 262 eP P 05 19 36.3 -0.6
CN2 pmax pmax
comp=Z,10.0nm,0.6s
HIA Hailar 25.68 278 iP P 05 19 42.7 -1.3
HIA pmax pmax
comp=Z,7.0nm,0.9s
IM3 Indian Mountai 25.83 42 eP P 05 19 44.2 -1.0
CAST Castle Rocks 26.34 48 eP P 05 19 51.8 +1.8
comp=Z,12nm,1.3s
SPU Mount Spurr 26.41 53 eP P 05 19 51.8 +1.3
BOD Bodaibo 26.47 299 eP P 05 19 47.2 -3.8
BOD pmax pmax
comp=Z,5.0nm,1.4s
BPAW Bear Paw Mtn. 26.85 47 eP P 05 19 56.0 +1.6
comp=Z,5.6nm,1.0s
KTH Kantishna Hill 26.87 48 eP P 05 19 56.5 +1.8
comp=Z,12nm,1.1s
MLY Manley 26.99 45 eP P 05 19 56.3 +0.6
comp=Z,25nm,1.9s
TRF Thorofare Moun 27.15 48 eP P 05 19 58.9 +1.5
comp=Z,12nm,1.2s
COLD Coldfoot 27.39 40 eP P 05 20 00.7 +1.4
comp=Z,4.6nm,1.0s
KS01 Wonju Array Si 27.50 249 eP P 05 19 58.4 -2.1
KSRS Korea Array 27.50 249 P P 05 20 01.5 +1.0
comp=Z,3.7nm,0.8s,baz=40,slow=9.8,SNR=9.8
KSRS LR LR 05 32 01.5
comp=Z,100nm,18.0s,baz=101,slow=39
KSAR Wonju Array Be 27.53 249 P P 05 20 01.5 +0.7
KSAR Wonju Array Be 27.53 249 P P 05 20 01.5 +0.7
MCK McKinley 27.75 47 eP P 05 20 03.8 +1.2
comp=Z,13nm,1.4s
MCK McKinley 27.75 47 eP P 05 20 03.8 +1.2
MCK pmax pmax
comp=Z,13nm,1.4s
RND Reindeer 27.80 48 eP P 05 20 03.5 +0.5
comp=Z,9.9nm,1.0s
RND Reindeer 27.80 48 eP P 05 20 03.5 +0.5
RND pmax pmax
comp=Z,10.0nm,1.0s
TOLK Toolik Lake Re 27.82 37 eP P 05 20 04.0 +0.9
comp=Z,5.8nm,0.6s
MDM Murphy Dome 28.05 45 eP P 05 20 06.8 +1.5
comp=Z,20nm,1.9s
WRH Wood River Hil 28.11 46 eP P 05 20 07.0 +1.3
comp=Z,16nm,1.2s
SML Sawmill 28.14 52 eP P 05 20 07.0 +0.9
comp=Z,13nm,0.7s
SML Sawmill 28.14 52 eP P 05 20 07.0 +0.9
SML pmax pmax
comp=Z,13nm,0.7s
COLA College 28.21 45 eP P 05 20 07.6 +1.0
comp=Z,6.3nm,0.9s
COLA College 28.21 45 eP P 05 20 07.6 +1.0
COLA pmax pmax
comp=Z,6.0nm,0.9s
CCB Clear Creek Bu 28.23 45 eP P 05 20 07.6 +0.8
comp=Z,4.2nm,0.8s
DHY Denali Highway 28.48 49 eP P 05 20 09.5 +0.3
comp=Z,34nm,1.8s
HDA Harding Lake 28.61 46 eP P 05 20 11.1 +0.9
comp=Z,6.3nm,1.1s
ILAR Eielson Array 28.62 45 P P 05 20 10.9 +0.7
comp=Z,2.1nm,0.8s,baz=262,slow=8.6,SNR=22
ILAR LR LR 05 33 15.2
comp=Z,83nm,18.4s,baz=290,slow=40
ILAR Eielson Array 28.62 45 P P 05 20 11.0 +0.7
ILB Eielson Array 28.62 45 eP P 05 20 10.8 +0.5
ILB epP sP 05 20 23.1 +0.8
IL1 Eielson Array 28.63 45 eP P 05 20 09.7 -0.6
IL1 epP sP 05 20 22.3 -0.1
JNU Nakatsue 29.14 239 LR LR 05 32 38.8
comp=Z,38nm,21.4s,baz=116,slow=38
RIDG Independ'e Rid 29.57 47 eP P 05 20 19.4 +0.6
comp=Z,36nm,2.0s
EGAK Eagle 31.07 45 eP P 05 20 32.0 +0.1
comp=Z,4.5nm,0.8s
HYT Haines Junctio 33.45 52 eP P 05 20 54.0 +1.1
comp=Z,4.3nm,0.9s
H11N2 WAKE ISLAND Hy 33.59 169 T T 05 56 18.8
baz=353,slow=76,SNR=136
H11N3 WAKE ISLAND Hy 33.60 169 T T 05 56 20.0
baz=353,slow=76,SNR=88
H11N1 WAKE ISLAND Hy 33.60 169 T T 05 56 16.7
baz=353,slow=76,SNR=118
INK Inuvik 33.72 38 P P 05 20 56.6 +1.6
comp=Z,3.0nm,0.9s,baz=290,slow=8.0,SNR=14
INK Inuvik 33.72 38 eP P 05 20 56.4 +1.4
comp=Z,14nm,1.5s
INK Inuvik 33.72 38 eP P 05 20 56.4 +1.4
INK pmax pmax
comp=Z,14nm,1.5s
ULN Ulaanbaatar 33.84 283 iP P 05 20 57.2 +0.7
ULN pmax pmax
comp=Z,1.0nm,1.0s
SONA1 Songino Array 34.23 284 eP P 05 20 59.0 -0.8
SONM Songino Array 34.24 284 P P 05 20 59.0 -1.0
comp=Z,0.9nm,0.5s,baz=61,slow=6.9,SNR=4.8
SONM PcP PcP 05 23 36.2 +0.3
comp=Z,0.5nm,0.4s,baz=70,slow=1.7,SNR=4.5
H11S1 WAKE ISLAND Hy 34.77 170 T T 05 57 47.7
baz=352,slow=76,SNR=26
H11S3 WAKE ISLAND Hy 34.79 170 T T 05 57 43.9
baz=352,slow=76,SNR=40
H11S2 WAKE ISLAND Hy 34.79 170 T T 05 57 50.5
baz=352,slow=76,SNR=20
HHC Hu-ho-hao-te 34.97 270 eP P 05 21 06.3 0.0
HHC pmax pmax
comp=Z,18nm,0.9s
HHC pmax pmax
comp=Z,170nm,5.4s
GTA Gaotai 42.94 277 eP P 05 22 12.8 -0.2
GTA pmax pmax
comp=Z,5.0nm,0.9s
YKA Yellowknife Ar 42.98 43 P P 05 22 14.1 +1.2
comp=Z,2.1nm,0.8s,baz=299,slow=8.0,SNR=30
ZALV Zalesovo Beam 43.09 303 LR LR 05 40 29.4
comp=Z,92nm,21.2s,baz=70,slow=36
RES Resolute Bay 43.26 22 P P 05 22 16.6 +1.6
comp=Z,1.2nm,0.7s,baz=309,slow=6.8,SNR=8.6
RES Resolute Bay 43.26 22 eP P 05 22 15.1 +0.1
comp=Z,3.0nm,0.8s
RES Resolute Bay 43.26 22 eP P 05 22 15.1 +0.1
RES pmax pmax
comp=Z,3.0nm,0.8s
DGZ Jazzator, Alta 43.99 296 iP P 05 22 20.7 -0.7
DGZ pmax pmax
comp=Z,1.0nm,0.9s
CD2 Chengdu 46.29 265 eP P 05 22 37.5 -2.2
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,120nm,5.0s
WMQ Urumqi 47.30 290 P P 05 22 47.6 +0.1
WMQ LR LR
comp=Z,190nm,22.9s
WMQ LR LR
comp=Z,140nm,18.7s
WMQ LR LR
comp=Z,180nm,18.7s
KURK Kurchatov 48.05 302 eP P 05 22 51.0 -2.1
comp=Z,0.9nm,0.6s
KURK Kurchatov 48.05 302 iP P 05 22 51.3 -1.8
KURK pmax pmax
comp=Z,2.0nm,0.3s
KURBB Kurchatov Arra 48.15 302 P P 05 22 52.6 -1.3
comp=Z,1.4nm,0.6s,baz=60,slow=7.5,SNR=8.8
MK31 Makanchi Array 48.48 296 eP P 05 22 54.7 -1.9
MK31 Makanchi Array 48.48 296 eP P 05 22 54.7 -1.9
MKAR Makanchi Array 48.48 296 P P 05 22 54.9 -1.7
comp=Z,0.7nm,0.6s,baz=55,slow=6.4,SNR=7.4
MKAR Makanchi Array 48.48 296 eP P 05 22 55.0 -1.6
comp=Z,7.7nm,0.6s
MKAR Makanchi Array 48.48 296 eP P 05 22 55.0 -1.6
MKAR pmax pmax
comp=Z,8.0nm,0.6s
MK01 Makanchi Array 48.49 296 eP P 05 22 54.9 -1.8
EDM Edmonton 48.54 53 eP P 05 22 58.3 +1.4
comp=Z,7.8nm,0.7s
EDM Edmonton 48.54 53 eP P 05 22 58.3 +1.4
EDM pmax pmax
comp=Z,8.0nm,0.7s
BVAR Borovoye Array 50.69 309 P P 05 23 12.7 -0.6
comp=Z,0.6nm,0.5s,baz=66,slow=7.0,SNR=4.8
BVAR LR LR 05 46 56.9
comp=Z,112nm,18.4s,baz=60,slow=39
BRVK Borovoye 50.72 309 iP P 05 23 11.8 -1.6
BRVK pmax pmax
comp=Z,1.0nm,0.8s
YBH Yreka Blue Hor 50.73 70 LR LR 05 41 12.4
comp=Z,56nm,21.7s,baz=309,slow=32
WALA Waterton Lakes 50.81 58 eP P 05 23 14.9 +0.5
comp=Z,8.2nm,1.0s
JTMT Jette 51.46 59 eP P 05 23 20.3 +1.0
comp=Z,9.3nm,1.0s
FCC Fort Churchill 53.32 39 eP P 05 23 33.6 +0.9
comp=Z,6.9nm,1.3s
FCC Fort Churchill 53.32 39 eP P 05 23 33.6 +0.9
FCC pmax pmax
comp=Z,7.0nm,1.3s
HRY Holter Researc 53.40 59 eP P 05 23 34.0 +0.3
ARU Arti 53.67 318 iP P 05 23 34.9 -0.4
ARU 05 25 33.8
ARU S S 05 31 07.7 +0.9
ARU SS SS 05 34 42.8 -4.0
ARU pmax pmax
comp=Z,3.0nm,1.0s
BOZ Bozeman (W) 54.24 60 eP P 05 23 41.5 +1.6
comp=Z,2.9nm,0.9s
BOZ Bozeman (W) 54.24 60 eP P 05 23 41.5 +1.6
BOZ pmax pmax
comp=Z,3.0nm,0.9s
YHH Holmes Hill 55.20 60 eP P 05 23 48.5 +1.5
comp=Z,3.5nm,0.8s
YMR Madison River 55.22 60 eP P 05 23 48.5 +1.5
comp=Z,4.8nm,0.9s
NV01 Mina Array Sit 55.45 70 eP P 05 23 50.5 +1.6
NVAR Mina Array Bea 55.45 70 P P 05 23 50.4 +1.6
comp=Z,2.1nm,0.7s,baz=301,slow=7.7,SNR=8.5
H17A Grant Village 55.61 60 eP P 05 23 53.0 +3.1
comp=Z,4.1nm,0.9s
IMW Indian Meadow 55.76 61 eP P 05 23 52.7 +1.7
comp=Z,3.2nm,0.9s
RLMT Red Lodge 55.79 59 eP P 05 23 53.2 +2.0
comp=Z,5.8nm,0.9s
FXWY Fox Creek 55.89 61 eP P 05 23 53.5 +1.6
comp=Z,2.4nm,0.9s
MOOW Moose Ponds 55.96 61 eP P 05 23 54.7 +2.3
comp=Z,1.5nm,0.9s
LOHW Long Hollow 56.13 61 eP P 05 23 55.3 +1.8
comp=Z,5.8nm,1.4s
LAO LASA Array 56.27 56 eP P 05 23 55.5 +1.2
comp=Z,9.1nm,1.1s
KSH Kashi 56.73 293 eP P 05 23 58.9 +1.1
KKAR Karatay Array 57.20 299 eP P 05 24 00.4 -0.6
comp=Z,1.0nm,0.6s
KKAR Karatay Array 57.20 299 eP P 05 24 00.4 -0.6
KKAR pmax pmax
comp=Z,1.0nm,0.6s
BW06 Boulder Array 57.26 61 eP P 05 24 03.0 +1.3
comp=Z,7.8nm,1.1s
PD31 Pinedale Array 57.27 61 eP P 05 24 03.0 +1.3
PDAR Pinedale Array 57.27 61 P P 05 24 03.1 +1.5
comp=Z,2.9nm,0.8s,baz=304,slow=3.2,SNR=22
PDAR Pinedale Array 57.27 61 eP P 05 24 03.0 +1.3
SFJD Kangerlussuaq 58.00 14 LR LR 05 50 30.9
comp=Z,27nm,20.1s,baz=342,slow=37
CMAR Chiang Mai Arr 58.49 259 P P 05 24 10.8 +0.6
comp=Z,0.9nm,0.4s,baz=25,slow=7.4,SNR=7.8
ULM Lac du Bonnet 58.62 47 P P 05 24 12.0 +1.2
comp=Z,2.1nm,0.5s,baz=320,slow=8.6,SNR=8.2
ULM LR LR 05 51 39.9
comp=Z,82nm,18.2s,baz=348,slow=38
Q16A Castle Valley 59.10 65 eP P 05 24 15.8 +1.2
comp=Z,17nm,0.9s
RSSD Black Hills 59.16 57 eP P 05 24 16.0 +1.1
comp=Z,9.4nm,0.8s
RSSD Black Hills 59.16 57 eP P 05 24 16.0 +1.1
RSSD pmax pmax
comp=Z,9.0nm,0.8s
LCMT Little Creek M 59.30 68 eP P 05 24 17.6 +1.8
comp=Z,3.9nm,0.9s
FINES FINESS Array B 60.31 337 P P 05 24 22.8 +0.6
comp=Z,0.9nm,0.5s,baz=34,slow=8.9,SNR=8.1
PV10 Paradox Valley 60.65 64 eP P 05 24 27.6 +2.3
ISCO Idaho Springs 61.46 61 eP P 05 24 33.0 +2.2
comp=Z,7.2nm,1.3s
ISCO Idaho Springs 61.46 61 eP P 05 24 33.0 +2.2
ISCO pmax pmax
comp=Z,7.0nm,1.3s
X16A Lo Mia Camp, P 62.19 69 eP P 05 24 37.8 +2.1
comp=Z,2.3nm,0.8s
S22A 4UR Ranch, Cre 62.31 63 eP P 05 24 37.8 +1.3
comp=Z,3.5nm,1.1s
OBN Obninsk 62.75 328 eP P 05 24 36.7 -2.0
OBN pmax pmax
comp=Z,6.0nm,1.4s
PMG Port Moresby 63.25 195 LR LR 05 54 32.4
comp=Z,80nm,18.0s,baz=158,slow=38
NB2 NORSAR Subarra 63.70 344 P P 05 24 45.3 +0.2
comp=Z,3.3nm,1.2s,baz=22,slow=6.5
NOA NORSAR Array B 63.70 344 P P 05 24 45.2 +0.2
comp=Z,0.6nm,0.6s,baz=23,slow=6.7,SNR=3.3
NOA LR LR 05 54 30.1
comp=Z,23nm,20.0s,baz=60,slow=38
MHTCO State Highway 63.91 62 eP P 05 24 48.1 +1.0
comp=Z,5.0nm,1.0s
SCHQ Schefferville 65.55 28 P P 05 24 58.2 +1.0
comp=Z,4.5nm,0.7s,baz=266,slow=6.0,SNR=4.3
GEYT Alibeck 67.40 303 LR LR 05 57 03.0
comp=Z,108nm,19.3s,baz=200,slow=38
MNTX Cornudas Mount 67.60 67 eP P 05 25 11.5 +0.8
comp=Z,2.6nm,1.0s
AKASG Malin Array Be 68.84 329 P P 05 25 17.9 -0.1
comp=Z,1.4nm,0.3s,baz=29,slow=6.9,SNR=9.3
AKASG Malin Array Be 68.84 329 P P 05 25 18.0 -0.1
WMOK Wichita Mounta 68.85 60 eP P 05 25 19.1 +0.7
comp=Z,5.2nm,0.9s
WMOK Wichita Mounta 68.85 60 eP P 05 25 19.2 +0.7
WMOK pmax pmax
comp=Z,5.0nm,0.9s
KBZ Khabaz 69.81 317 P P 05 25 25.1 +0.9
comp=Z,3.0nm,0.8s,baz=64,slow=4.1,SNR=8.7
ZEI Tsey 70.16 316 eP P 05 25 24.6 -2.0
ZEI pmax pmax
comp=Z,3.0nm,0.9s
TX31 Lajitas Ar. Si 70.36 67 eP P 05 25 28.9 +1.0
TXAR Lajitas Array 70.36 67 P P 05 25 28.9 +1.1
comp=Z,2.1nm,0.6s,baz=302,slow=4.5,SNR=46
TXAR Lajitas Array 70.36 67 P P 05 25 29.0 +1.1
TKL Tuckaleechee C 75.51 49 LR LR 06 02 24.9
comp=Z,71nm,18.4s,baz=327,slow=38
CVRD Centerville Ro 76.12 44 eP P 05 26 01.9 +0.3
comp=Z,24nm,1.0s
WRA Warramunga Arr 76.16 205 P P 05 26 01.2 -0.7
comp=Z,2.2nm,0.9s,baz=16,slow=5.9,SNR=12
BRTR Keskin Array B 76.88 321 LR LR 06 05 57.5
comp=Z,34nm,18.1s,baz=44,slow=40
ASAR Alice Springs 79.84 205 P P 05 26 22.5 +0.2
comp=Z,1.6nm,0.8s,baz=19,slow=5.5,SNR=14
IDI Anoyia 84.01 325 LR LR 06 08 47.6
comp=Z,20nm,18.0s,baz=79,slow=39
RAYN Ar Rayn 85.37 304 eP P 05 26 50.2 -1.1
comp=Z,4.3nm,0.8s
RPZ Rata Peaks 96.78 172 LR LR 06 02 54.4
comp=Z,251nm,21.5s,baz=202,slow=30

SJA ***05*** *05:18:06.7±0.6, 20°.85S×66°.58W, h259km±9km, ML2.8*
ISCJB ***05*** *05:18:08.0±0.5, 21°.00S±0°.05×66°.77W±0°.06, h243km, mb3.4/2, Error ellipse: s-maj=8.6km s-min=5.9km az=158.9*
IDC ***05*** *05:18:10.0±1.4, 20°.79S×66°.55W, h240km±15km, mb3.3/2, mb1 3.3/5, mb1mx3.0/39, mbtmp3.7/5, Error ellipse: s-maj=24.5km s-min=15.3km az=84.0*
ISC 05 05:18:07.8±0.9, **20°.96S**±0°.06×**66°.75W**±0°.07, **h243**km, **n15, σ2s 40/22, Southern Bolivia**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
YJA	**Yavi**	**1.67**	**137**	*i* P		**Pn**		**05 18 48.2**	**+0.9**
YJA					*e*S	**S**		**05 19 16.4**	**-2.0**
YJA					IAML			05 19 19.4	
comp=Z,72nm,0.3s									
HJA	**Humahuaca**	**2.56**	**151**	*i* P		**Pn**		**05 18 56.8**	**+1.2**
HJA				*i* S		**S**		**05 19 33.7**	**+0.5**
AZAP	**Zapla**	**3.60**	**155**	*i* P		**Pn**		**05 19 07.2**	**+0.4**
AZAP				*i* S		**S**		**05 19 53.0**	**-0.6**
AZAP				IAML				05 19 53.3	
comp=Z,13nm,0.3s									
ASTB	**Santa Barbara**	**3.65**	**145**	*i* P		**Pn**		**05 19 08.0**	**+0.6**
ALOL	**LOMAS DE OLMED**	**3.82**	**139**	*i* P		**Pn**		**05 19 09.2**	**0.0**
ALOL				*e*S		**S**		**05 19 55.0**	**-3.0**
PB10	**IPOC Station P**	**4.35**	**234**	*i* P		**Pn**		**05 19 15.7**	**+0.2**
PB10				*e*S		**S**		**05 20 06.0**	**-3.2**
LPAZ	**La Paz**	**4.83**	**344**	P		**Pn**		**05 19 23.6**	**+1.6**
comp=Z,0.5nm,0.3s,baz=129,slow=8.3,SNR=14									
LPAZ				S		**S**		**05 20 20.1**	**-0.7**
comp=Z,0.6nm,0.3s,baz=280,slow=21,SNR=12									
PB14	**IPOC Station P**	**4.97**	**222**	*e*P		**Pn**		**05 19 23.6**	**+0.3**
PB14				*e*S		**S**		**05 20 19.4**	**-4.0**
FSA	**Cafayete**	**5.18**	**172**	*i* P		**Pn**		**05 19 26.8**	**+1.1**
FSA				IAML				05 19 28.1	
comp=Z,1.0nm,0.5s									
SIV	**San Ignacio**	**7.31**	**48**	P		**Pn**		**05 19 52.2**	**-0.2**
comp=Z,1.2nm,0.3s,baz=242,slow=10,SNR=52									
SIV				S		**S**		**05 21 09.1**	**-7.3**
baz=253,slow=18,SNR=3.3									
CPUP	**Villa Florida**	**10.15**	**124**	P		**Pn**		**05 20 29.3**	**+0.9**
comp=Z,0.1nm,0.3s,baz=298,slow=9.3,SNR=3.3									
PLCA	**Paso Flores**	**19.98**	**188**	P		Pn		05 22 26.5	-0.5
comp=Z,4.6nm,0.9s,baz=20,slow=10,SNR=8.5									
TORD	**Torodi Ar. Bea**	**75.28**	**70**	P		**P**		**05 29 25.7**	**+1.0**
comp=Z,0.4nm,0.3s,baz=248,slow=5.7,SNR=12									
YKA	**Yellowknife Ar**	**91.36**	**340**	P		**P**		**05 30 48.2**	**+2.6**
comp=Z,0.3nm,0.6s,baz=129,slow=4.5,SNR=9.9									
MKAR	**Makanchi Array**	**144.00**	**37**	PKP		**PKPdf**		**05 37 15.4**	**+1.1**
comp=Z,0.3nm,0.7s,baz=90,slow=1.4,SNR=3.7									

ISCJB ***05*** *05:25:53.8±0.6, 20°.43S±0°.04×69°.2W±0°.1, h113km±5km, mb3.2/2, Error ellipse: s-maj=16.6km s-min=5.8km az=180.0*
GUC ***05*** *05:25:54.2±0.6, 20°.41S×69°.15W, h104km±3km, ML3.6*
IDC ***05*** *05:26:22.3±3.5, 17°.29S×67°.78W, h250km±14km, mb2.7/1, mb1 3.0/1, mb1mx2.6/36, mbtmp3.2/1, Error ellipse: s-maj=116.4km s-min=47.2km az=25.0*
ISC 05 05:25:54.3±1.0, **20°.42S**±0°.04×**69°.2W**±0°.1, **h106**km±7km, **n13, σ0s 66/21, 3C-1D, Northern Chile**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PB08	**IPOC Station P**	**0.28**	**5**	*e*P		**Pn**		**05 26 09.7**	**-0.5**
PB08				*i* S		**Sn**		**05 26 21.4**	**-0.4**
PB08				IAML				05 26 22.4	
comp=E,2μm,0.3s									
PB01	**IPOC Station P**	**0.68**	**205**⇑	*i* P		**Pn**		**05 26 12.5**	**+0.2**
PB01				*i* S		**Sn**		**05 26 26.3**	**+0.4**
PB01				IAML				05 26 28.3	
comp=E,2μm,0.3s									
GO01	**Chusmiza**	**0.75**	**359**⇑	*e*P		**Pn**		**05 26 13.1**	**-0.2**
GO01				*i* S		**Sn**		**05 26 27.7**	**+0.1**
GO01				IAML				05 26 29.2	
comp=N,4μm,0.2s									
PB11	**IPOC Station P**	**0.80**	**326**⇑	*i* P		**Pn**		**05 26 13.5**	**+0.1**
PB11				*i* S		**Sn**		**05 26 28.2**	**+0.4**
PSGC	**Pisagua**	**1.21**	**313**	*e*P		**Pn**		**05 26 17.8**	**+0.1**
PSGC				*i* S		**Sn**		**05 26 35.7**	**+0.5**
PSGC				IAML				05 26 36.7	
comp=N,865nm,0.3s									
MNMC	**Minye Minye**	**1.34**	**343**	*e*P		**Pn**		**05 26 19.7**	**+0.3**
MNMC				*i* S		**Sn**		**05 26 39.2**	**+0.9**
MNMC				IAML				05 26 40.6	
comp=N,2μm,0.4s									
PB09	**IPOC Station P**	**1.37**	**182**	*e*P		**Pn**		**05 26 20.0**	**+0.5**
PB09				*i* S		**Sn**		**05 26 39.8**	**+1.1**
PB12	**IPOC Station P**	**2.10**	**329**⇓	*i* P		**Pn**		**05 26 28.1**	**-0.5**
PB04	**IPOC Station P**	**2.11**	**205**	*e*P		**Pn**		**05 26 29.5**	**+0.8**
PB04				*i* S		**Sn**		**05 26 53.9**	**-1.0**
PB04				IAML				05 27 00.5	
comp=N,441nm,0.1s									
PB06	**IPOC Station P**	**2.30**	**189**	*e*P		**Pn**		**05 26 31.2**	**0.0**
PB06				IAML				05 27 05.4	
comp=E,326nm,0.3s									
LPAZ	**La Paz**	**4.23**	**14**	P		**Pn**		**05 26 58.5**	**+1.1**
comp=E,1.1nm,0.3s,baz=186,slow=4.2,SNR=36									
TORD	**Torodi Ar. Bea**	**77.23**	**71**	P		**P**		**05 37 36.4**	**-0.9**
comp=E,0.2nm,0.4s,baz=253,slow=5.3,SNR=4.9									
YKA	**Yellowknife Ar**	**90.09**	**341**	P		**P**		**05 38 41.9**	**+0.1**
comp=E,0.1nm,0.5s,baz=138,slow=4.1,SNR=3.5									

IDC 05 05:44:40.0±2.8, **0°.48S×135°.15E, h0**km, **mb3.4**/2,

mb1 3.6/3,mb1mx3.4/52,mbtmp3.4/3,ML3.4/1,Error ellipse: s-maj=162.0km s-min=28.0km az=82.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	19.36	182	P	P	05 49 06.1	-1.2
	0.1nm,0.3s,baz=1.6,slow=12,SNR=12						
ASAR	Alice Springs	23.08	183	P	P	05 49 48.4	+1.0
	0.4nm,0.4s,baz=4.4,slow=11,SNR=8.2						
SONM	Songino Array	54.23	336	P	P	05 54 07.5	-0.2
	0.7nm,0.8s,baz=116,slow=9.8,SNR=3.5						

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*BJI **05** 05:45:29.6,36.°56N×70.°75E,h150km,mb4.5/9,mB4.6/2*
*IDC **05** 05:45:34.0±3.0,36.°40N×71.°40E,h145km±27km,mb3.8/12, mb1 4.0/19,mb1mx3.6/66,mbtmp4.4/19,MS3.1/1, Ms1 3.1/1,ms1mx2.3/59,Error ellipse: s-maj=21.2km s-min=14.3km az=19.0*
*ISCJB **05** 05:45:35.5±0.2,36.°71N±0.°02×71.°37E±0.°02,h150km, mb4.2/26,Error ellipse: s-maj=2.9km s-min=2.5km az=151.5*
*MOS **05** 05:45:36.7±1.0,36.°68N×71.°43E,h168km,mb4.4/9,Error ellipse: s-maj=10.8km s-min=5.4km az=91.0*
*NEIC **05** 05:45:37.0±0.5,36.°67N×71.°29E,h163km±5km,mb4.3/10, Error ellipse: s-maj=6.2km s-min=4.7km az=139.0*
*NNC **05** 05:45:40.5±1.9,37.°07N×71.°26E,h199km±14km,mb3.6, mpv4.6,Error ellipse: s-maj=19.1km s-min=8.2km az=158.0*
ISC 05 05:45:36.0±0.4,**36.°73N**±0.°04×**71.°39E**±0.°04,**h150**km,**n145**, σ**2.s13**/182,**mb4.3**/26,**18C-9D,Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	Kabul	2.90	222	ePn	Pn	05 46 22.8	+0.4
KBL				eSn	Sn	05 46 56.8	-1.4
KBL	Kabul	2.90	222	ePN	Pn	05 46 22.8	+0.4
DZET	Dzherino	2.91	316	⇑P	Pn	05 46 25.6	+3.3
	542nm,0.7s						
DZET				⇓S	Sn	05 47 01.8	+3.7
	5μm,0.8s						
DZET	Dzherino	2.91	316	PN	Pn	05 46 25.5	+3.3
DZET				S	Sn	05 47 01.7	+3.7
DZET				pmax	pmax		
	comp=Z,542nm,0.7s						
DZET				smax	smax		
	comp=N,5μm,0.8s						
CEP	Cherat	2.93	172	P	Pn	05 46 25.5	+2.8
CEP				S	Sn	05 47 00.0	+1.3
CHCP	Chirah Chowk	3.42	153	P	Pn	05 46 32.0	+3.1
NIL	Nilore	3.43	153	ePn	Pn	05 46 32.4	+3.5
NIL				eSn	Sn	05 47 10.2	+0.4
NIL	Nilore	3.43	153	ePN	Pn	05 46 32.4	+3.5
NIL				e		05 47 10.3	
SFK	Sufi-Kurgan	3.67	26	⇑P	Pn	05 46 35.8	+3.6
	comp=N,46nm,0.3s						
SFK				⇑S	Sn	05 47 18.1	+2.3
	comp=N,624nm,0.5s						
SFK	Sufi-Kurgan	3.67	26	PN	Pn	05 46 35.8	+3.6
SFK				S	Sn	05 47 18.1	+2.3
SFK				pmax	pmax		
	comp=Z,46nm,0.3s						
SFK				smax	smax		
	comp=N,624nm,0.5s						
KSH	Kashi	4.56	51	P	Pn	05 46 41.9	-1.8
KSH				S	Sn	05 47 24.7	-12
KSH				smax	smax		
	comp=N,1μm,0.4s						
KSH				smax	smax		
	comp=N,1μm,0.6s						
AML	Almayashu	5.68	18	P	Pn	05 47 01.0	+2.2
	SNR=160						
MNAS	Manas	5.81	8	⇑P	Pn	05 47 02.3	+2.0
	comp=N,40nm,0.6s						
MNAS				⇓S	Sn	05 48 05.4	-0.9
	comp=N,265nm,0.7s						
MNAS	Manas	5.81	8	PN	Pn	05 47 02.3	+2.0
MNAS				pmax	pmax		
	comp=Z,40nm,0.6s						
UCH	Uchtor	6.00	23	P	Pn	05 47 05.2	+2.2
	SNR=118						
DHRM	DHARAMSHALA	6.03	136	eP	Pn	05 47 04.1	+0.7
DHRM				eS	Sn	05 48 09.0	-2.6
DHRM				IAML		05 48 11.4	
	comp=N,626nm,0.1s						
DHRM				IAML		05 48 12.0	
	comp=E,872nm,0.6s						
KZA	Kyzart	6.12	28	P	Pn	05 47 06.1	+1.5
	SNR=23						
EKS2	Erkin-Say	6.20	16	P	Pn	05 47 07.8	+2.3
	SNR=30						
AAK	Ala-Archa	6.37	21	P	Pn	05 47 10.0	+2.3
	comp=E,7.7nm,0.3s,baz=164,slow=7.8,SNR=44						
AAK				S	Sn	05 48 19.5	0.0
	comp=E,3.1nm,0.3s,baz=348,slow=18,SNR=14						
AAK	Ala-Archa	6.37	21	⇑P	Pn	05 47 09.6	+1.9
	comp=E,23nm,0.7s						
AAK				⇓S	Sn	05 48 18.7	-0.7
	comp=E,104nm,0.7s						
AAK	Ala-Archa	6.37	21	P	Pn	05 47 10.0	+2.3
	SNR=36						
AAK	Ala-Archa	6.37	21	ePn	Pn	05 47 09.9	+2.2
	comp=E,28nm,0.6s						
AAK				eSn	Sn	05 48 19.5	0.0
AAK	Ala-Archa	6.37	21	PN	Pn	05 47 09.6	+1.9
AAK				pmax	pmax		
	comp=Z,23nm,0.7s						
KK07	Karatay Array	6.39	354	ePn	Pn	05 47 10.2	+2.3
KK07				eSn	Sn	05 48 17.2	-2.7
KK06	Karatay Array	6.39	354	ePn	Pn	05 47 10.2	+2.3
KK06				eSn	Sn	05 48 17.1	-2.8
KK02	Karatay Array	6.40	354	ePn	Pn	05 47 10.3	+2.3
KK02				eSn	Sn	05 48 18.2	-1.9
KK31	Karatay Array	6.40	354	P	Pn	05 47 10.3	+2.3
	comp=Z,46nm,0.6s,baz=173,slow=12,SNR=416						
KK31				⇓S	Sn	05 48 18.4	-1.8
	comp=Z,232nm,0.8s,baz=173,slow=22						
KK31	Karatay Array	6.40	354	ePn	Pn	05 47 10.4	+2.4
KK31				eSn	Sn	05 48 18.1	-2.0
KK31	Karatay Array	6.40	354	ePN	Pn	05 47 10.3	+2.3
KK31				pmax	pmax		
	comp=Z,46nm,0.6s						
KKAR	Karatay Array	6.40	354	ePn	Pn	05 47 10.4	+2.4
KKAR				eSn	Sn	05 48 18.1	-2.0
KKAR	Karatay Array	6.40	354	ePN	Pn	05 47 10.4	+2.4
KK03	Karatay Array	6.40	354	ePn	Pn	05 47 10.3	+2.3
KK03				eSn	Sn	05 48 17.7	-2.4
KK01	Karatay Array	6.41	354	ePn	Pn	05 47 10.4	+2.3
KK01				eSn	Sn	05 48 18.7	-1.5
KK08	Karatay Array	6.41	354	ePn	Pn	05 47 10.2	+2.1
KK08				eSn	Sn	05 48 17.6	-2.6
KK04	Karatay Array	6.41	354	ePn	Pn	05 47 10.4	+2.3
KK04				eSn	Sn	05 48 18.6	-1.7
KK05	Karatay Array	6.42	354	ePn	Pn	05 47 10.4	+2.2
KK05				eSn	Sn	05 48 18.9	-1.5
KBK	Karagaybulak	6.52	24	P	Pn	05 47 12.6	+2.8
	SNR=18						
FRU	Bishkek	6.58	21	ePN	Pn	05 47 12.0	+1.5
FRU				pmax	pmax		
	comp=Z,30nm,2.0s						
ULHL	Ulahol	6.66	33	P	Pn	05 47 14.6	+2.9
	SNR=8.6						
CHMS	Chumysh	6.77	21	P	Pn	05 47 15.3	+2.3
	SNR=12						
USP	Ospenovka	6.95	19	P	Pn	05 47 18.7	+3.4
	SNR=13						
TKM2	Tokmak 2	6.98	26	⇑P	Pn	05 47 17.6	+1.7
	comp=Z,14nm,0.5s						
TKM2				⇓S	Sn	05 48 33.8	-0.4
	comp=Z,35nm,0.8s						
TKM2	Tokmak 2	6.98	26	P	Pn	05 47 20.2	+4.3
	SNR=33						
TKM2	Tokmak 2	6.98	26	PN	Pn	05 47 17.6	+1.7
TKM2				pmax	pmax		
	comp=Z,15nm,0.5s						
SMLA	Simla	7.36	138	eP	Pn	05 47 21.6	+0.7
SMLA				eS	Sn	05 48 39.3	-3.9
SMLA				IAML		05 48 42.8	
	comp=N,149nm,0.3s						
SMLA				IAML		05 48 43.0	
	comp=E,232nm,0.3s						
DDI	Dehra Dun	8.47	137	eP	Pn	05 47 35.8	0.0
DDI				eS	Sn	05 49 04.7	-5.2
GYB1	ALIBECK ARRAY	10.63	280	ePn	Pn	05 48 03.4	-1.0
GYB2	ALIBECK ARRAY	10.63	280	ePn	Pn	05 48 03.5	-0.8
GYA2	ALIBECK ARRAY	10.64	280	ePn	Pn	05 48 03.3	-1.1
GYA2				eSn	Sn	05 50 03.1	+1.0
GEYT	Alibeck	10.64	280	P	Pn	05 48 03.4	-1.1
	comp=E,1.7nm,0.3s,baz=106,slow=11,SNR=21						
GYA0	ALIBECK ARRAY	10.64	280	ePn	Pn	05 48 03.5	-1.0
GYA0				eSn	Sn	05 50 03.8	+1.6
GYA0B	ALIBECK ARRAY	10.64	280	ePn	Pn	05 48 03.5	-1.0
GYA0B				eSn	Sn	05 50 03.8	+1.6
GYA1	ALIBECK ARRAY	10.64	280	ePn	Pn	05 48 03.5	-1.0
GYA1				eSn	Sn	05 50 02.6	+0.4
GYB3	ALIBECK ARRAY	10.64	281	ePn	Pn	05 48 03.4	-1.1
GYB5	ALIBECK ARRAY	10.65	280	ePn	Pn	05 48 03.5	-1.1
GYB5				eSn	Sn	05 50 03.8	+1.4
GYB4	ALIBECK ARRAY	10.66	280	ePn	Pn	05 48 03.6	-1.1
GYB4				eSn	Sn	05 50 06.1	+3.6
MAKZ	Makanchi	12.79	35	ePn	Pn	05 48 33.0	+0.7
MAKZ	Makanchi	12.79	35	eP	Pn	05 48 33.0	+0.7
MK01	Makanchi Array	12.91	36	ePn	Pn	05 48 35.1	+1.2
MK31	Makanchi Array	12.92	36	ePn	Pn	05 48 37.0	+2.9
MK31	Makanchi Array	12.92	36	eP	Pn	05 48 37.0	+2.9
MKAR	Makanchi Array	12.92	36	P	Pn	05 48 36.0	+2.0
	comp=E,0.2nm,0.3s,baz=211,slow=11,SNR=17						
MKAR	Makanchi Array	12.92	36	ePn	Pn	05 48 35.1	+1.1
MKAR	Makanchi Array	12.92	36	c eP	Pn	05 48 37.7	+3.6
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.8s						
PYUN	Piuthan	13.03	128	eP	Pn	05 48 33.5	-2.3
	comp=Z,36nm,0.3s						
KOLN	Koldanda	13.64	127	eP	Pn	05 48 41.5	-2.2
	comp=Z,24nm,0.3s						
GKN	Gorkha	14.16	124	eP	Pn	05 48 48.4	-1.8
	comp=Z,29nm,0.3s						
WMQ	Urumqi	14.31	55	P	Pn	05 48 52.8	+1.1
BHPL	Bhopal	14.42	157	eP	P	05 48 56.1	+0.3
KKN	Kakani	14.73	123	eP	Pn	05 48 57.2	-0.1
	comp=Z,62nm,0.8s						
DMN	Daman	14.73	124	eP	Pn	05 48 57.2	-0.2
	comp=Z,32nm,0.3s						
KURBB	Kurchatov Arra	14.81	18	P	P	05 49 01.1	+1.3
	comp=Z,0.2nm,0.3s,baz=209,slow=11,SNR=14						
KURK	Kurchatov	14.91	18	ePn	Pn	05 49 00.3	+1.1
KURK	Kurchatov	14.91	18	⇑iP	Pn	05 49 01.8	+2.6
KURK				pmax	pmax		
	comp=Z,32nm,1.2s						
PKIN	Phulchoki	14.95	124	eP	Pn	05 49 00.1	0.0
	comp=Z,53nm,0.6s						
AB07	Akbulak array	15.02	330	ePn	Pn	05 49 00.5	0.0
AB08	Akbulak array	15.03	330	ePn	Pn	05 49 00.7	0.0
AB08				eSn	Sn	05 51 41.3	-6.2
AB06	Akbulak array	15.04	330	ePn	Pn	05 49 00.7	0.0
AB03	Akbulak array	15.04	330	ePn	Pn	05 49 00.8	+0.1
AB01	Akbulak array	15.04	330	ePn	Pn	05 49 00.5	-0.2
AB31	Akbulak array	15.04	330	⇓P	Pn	05 49 00.5	-0.3
	comp=Z,6.5nm,0.6s,baz=147,slow=12,SNR=135						
AB31				⇓S	Sn	05 51 39.2	-8.5
	comp=Z,5.2nm,0.6s,baz=146,slow=23,SNR=6.5						
AB31	Akbulak array	15.04	330	ePn	Pn	05 49 00.8	0.0
AB31	Akbulak array	15.04	330	i P	Pn	05 49 00.4	-0.4
AB31				pmax	pmax		
	comp=Z,7.0nm,0.6s						
ABKAR	Akbulak array	15.04	330	ePn	Pn	05 49 00.8	0.0
	comp=Z,104nm,0.6s						
AB02	Akbulak array	15.04	330	ePn	Pn	05 49 00.8	0.0
AB04	Akbulak array	15.05	330	ePn	Pn	05 49 00.8	0.0
AB05	Akbulak array	15.06	330	ePn	Pn	05 49 00.9	0.0
AB09	Akbulak array	15.06	330	ePn	Pn	05 49 01.1	+0.1
GUN	Gumba	15.06	122	eP	Pn	05 49 01.2	-0.4
	comp=Z,40nm,0.3s						
JIRN	Jiri	15.43	122	eP	Pn	05 49 05.3	-0.9
	comp=Z,108nm,0.3s						
BVAR	Borovoye Array	16.31	358	P	Pn	05 49 17.0	+0.7
	comp=Z,1.7nm,0.3s,baz=166,slow=9.3,SNR=40						
BRVK	Borovoye	16.35	358	ePn	Pn	05 49 17.2	+0.5
	comp=Z,10nm,0.8s						
BRVK	Borovoye	16.35	358	c iP	Pn	05 49 17.9	+1.1
BRVK				pmax	pmax		
	comp=Z,27nm,0.8s						
AKTO	Aktyubinsk	16.74	329	P	Pn	05 49 23.2	+1.6
	comp=Z,5.3nm,0.3s,baz=137,slow=10,SNR=80						
AKTO	Aktyubinsk	16.74	329	⇑P	P	05 49 20.5	-0.8
	comp=Z,24nm,0.5s						
AKTO				⇑S	S	05 52 22.9	-4.7
	comp=Z,14nm,0.7s						
DGZ	Jazzator, Alta	17.41	37	d iP	P	05 49 31.1	+2.3
DGZ				pmax	pmax		
	comp=Z,4.0nm,0.5s						
UOSS	Minazif	17.53	232	eP	P	05 49 30.2	+0.1
	comp=Z,7.7nm,1.1s						
BOK	Bokaro	17.94	132	eP	Pn	05 49 38.2	+2.1
BOK				IAmb	IAmb	05 49 50.9	
	comp=Z,36nm,0.1s						
ZAA0	Zalesovo Array	19.58	24	eP	P	05 49 53.1	+0.9
	comp=Z,4.9nm,0.6s						
ZALV	Zalesovo Beam	19.58	24	P	P	05 49 52.7	+0.5
	comp=Z,1.5nm,0.3s,baz=223,slow=11,SNR=20						
ZALV	Zalesovo Beam	19.58	24	eP	P	05 49 52.4	+0.3
NVS	Novosibirsk	19.86	20	⇑iP	P	05 49 57.2	+2.1
NVS				pmax	pmax		
	comp=Z,13nm,1.2s						
NVS				pmax	pmax		
	comp=N,10.0nm,1.3s						
SHL	Shillong	20.72	117	eP	P	05 50 06.3	+1.4
GNI	Garni	21.13	287	eP	P	05 50 10.4	+1.3
	comp=N,10nm,0.6s						
GNI	Garni	21.13	287	⇑iP	P	05 50 10.7	+1.6
GNI				pmax	pmax		
	comp=Z,50nm,1.1s						
ARU	Arti	21.52	340	P	P	05 50 13.8	+0.8
	comp=Z,5.1nm,0.4s,baz=136,slow=6.2,SNR=11						
ARU	Arti	21.52	340	eP	P	05 50 13.0	0.0
	comp=Z,8.2nm,0.7s						
ARU	Arti	21.52	340	d iP	P	05 50 14.0	+1.0
ARU						05 50 45.5	
ARU				S	S	05 54 05.6	+3.7
ARU				pmax	pmax		
	comp=Z,15nm,1.2s						
ZEI	Tsey	21.93	295	eP	P	05 50 19.5	+1.9
ZEI				pmax	pmax		
	comp=Z,3.0nm,0.6s						
AKH	Akhalkalaki	22.12	291	eP	P	05 50 23.2	+3.7
	comp=Z,22nm,1.4s						
AKH	Akhalkalaki	22.12	291	eP	P	05 50 23.2	+3.7
AKH				pmax	pmax		
	comp=Z,22nm,1.4s						
GTA	Gaotai	22.50	74	eP	P	05 50 25.8	+2.7
GTA				pP	pP	05 50 48.7	-1.9
GTA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
KBZ	Khabaz	22.78	297	P	P	05 50 26.1	+0.5
	comp=Z,2.1nm,0.8s,baz=95,slow=11,SNR=6.5						
GOF	Gofitskoye	22.90	300	⇑eP	P	05 50 32.5	+5.8
KIV	Kislovodsk	22.96	297	eP	P	05 50 29.2	+1.8
KIV				eS	S	05 54 29.7	+3.5
KIV				pmax	pmax		
	comp=Z,9.0nm,1.0s						
KIV				MLR	MLR		
	comp=Z,35nm,14.0s						
RAYN	Ar Rayn	25.88	247	eP	P	05 50 53.5	-0.5
	comp=Z,5.0nm,1.0s						
LZH	Lanzhou	26.06	82	eP	P	05 50 55.8	+0.1
LZH				pP	pP	05 51 27.1	+0.2
LZH				sP	sP	05 51 47.0	+2.7
LZH				pmax	pmax		
	comp=Z,27nm,0.7s						
LZH				pmax	pmax		
	comp=Z,120nm,5.3s						
BRTR	Keskin Array B	29.67	287	P	P	05 51 29.6	+1.9
	comp=Z,1.3nm,0.6s,baz=107,slow=9.2,SNR=10						
BRTR	Keskin Array B	29.67	287	c eP	P	05 51 29.8	+2.1
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
OBN	Obninsk	29.97	319	⇑eP	P	05 51 31.5	+1.6
OBN				pmax	pmax		
	comp=Z,5.0nm,0.7s						
BR231	Keskin MP Arra	30.32	288	eP	P	05 51 30.6	-2.8
CM01	Chiang Mai Arr	30.32	120	eP	P	05 51 33.0	-0.5
HHC	Hu-ho-hao-te	31.39	70	eP	P	05 51 42.5	-0.3
HHC				pmax	pmax		
	comp=Z,22nm,0.8s						
KLMR	Klimovskoe	31.44	330	eP	P	05 51 41.6	-1.2
KLMR				AMP		05 51 44.1	
	comp=Z,11nm,1.3s						
KLMR	Klimovskoe	31.44	330	eP	P	05 51 41.6	-1.2
KLMR				pmax	pmax		
	comp=Z,11nm,1.3s						
GYA	Guiyang	31.58	99	eP	P	05 51 45.0	+0.4
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
AKASG	Malin Array Be	33.05	308	P	P	05 51 57.4	+0.5
	comp=Z,2.3nm,0.5s,baz=80,slow=7.2,SNR=13						
AKASG	Malin Array Be	33.05	308	c eP	P	05 51 57.5	+0.5
AKASG				pmax	pmax		
	comp=Z,3.0nm,0.4s						
AKBB	Malin Array Si	33.05	308	eP	P	05 51 57.5	+0.5
	comp=Z,4.4nm,0.7s						
AKBB	Malin Array Si	33.05	308	eP	P	05 51 57.5	+0.5
AKBB				pmax	pmax		
	comp=Z,4.0nm,0.7s						
AK11	Malin Array Si	33.08	308	eP	P	05 51 57.7	+0.4
BUR04	Bucovina Ar. S	35.43	303	eP	P	05 52 18.4	+0.7
FINES	FINESS Array B	37.47	326	P	P	05 52 35.5	+0.9
	comp=Z,2.6nm,0.4s,baz=119,slow=9.5,SNR=33						
FINES				LR	LR	06 10 06.8	
	comp=Z,27nm,18.3s,baz=8.5,slow=39						
ARCES	ARCESS Array B	41.05	337	P	P	05 53 05.5	+1.2
	comp=Z,6.5nm,0.8s,baz=114,slow=8.3,SNR=22						
HFS	Hagfors	43.08	322	P	P	05 53 21.4	+0.6
	comp=Z,11nm,0.6s,baz=98,slow=10,SNR=36						
NC303	NORSAR Array S	44.33	323	eP	P	05 53 31.2	+0.4
NB2	NORSAR Subarra	44.39	323	P	P	05 53 31.4	+0.1
	comp=Z,5.4nm,0.5s,baz=93,slow=7.9						
NOA	NORSAR Array B	44.39	323	P	P	05 53 31.6	+0.3
	comp=Z,6.6nm,0.7s,baz=95,slow=7.8,SNR=22						
TIXI	Tiksi	45.44	22	⇑iP	P	05 53 39.7	+0.3
ESDC	Sonseca Array	57.63	298	P	P	05 55 11.1	+0.6
	comp=Z,0.4nm,0.5s,baz=55,slow=7.3,SNR=5.9						
TORD	Torodi Ar. Bea	66.04	269	P	P	05 56 04.5	-2.5
	comp=Z,2.1nm,0.5s,baz=48,slow=5.9,SNR=28						
HDA	Harding Lake	74.77	16	eP	P	05 56 57.5	-1.6
	comp=Z,38nm,1.1s						
YKA	Yellowknife Ar	81.00	3	P	P	05 57 33.5	0.0
	comp=Z,0.3nm,0.4s,baz=349,slow=5.4,SNR=8.3						
WRA	Warramunga Arr	81.84	122	P	P	05 57 36.2	-2.4
	comp=Z,1.6nm,0.7s,baz=324,slow=4.9,SNR=27						
ASAR	Alice Springs	84.12	125	P	P	05 57 48.3	-2.0
	comp=Z,1.6nm,0.7s,baz=316,slow=5.1,SNR=16						

IDC 05 06:07:08.5±3.0,**54.°10N**×**87.°14E**,**h0**km,**mb1 2.9**/2, **mb1mx2.7**/67,**mbtmp2.9**/2,**ML2.8**/2,**Error ellipse: s-maj=28.0km s-min=17.2km az=59.0,Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.38	265	i		06 15 50.0	
	baz=86,slow=337,SNR=1.5						
ZALV	Zalesovo Beam	1.38	264	Pg	Pg	06 07 32.8	-2.0
	4.1nm,0.3s,baz=82,slow=16,SNR=29						
ZALV				Lg	Lg	06 07 52.5	
	2.4nm,0.3s,baz=81,slow=29,SNR=9.0						
KURBB	Kurchatov Arra	6.32	240	Pn	Pn	06 08 43.9	+1.1
	0.2nm,0.3s,baz=54,slow=13,SNR=3.7						
MKAR	Makanchi Array	7.94	205	Pn	Pn	06 09 06.5	+1.3
	0.1nm,0.3s,baz=26,slow=14,SNR=7.6						
MKAR				Lg	Lg	06 11 21.2	
	0.1nm,0.3s,baz=22,slow=31,SNR=6.2						

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*CSEM **05** 07:15:43.8,39.°28N×40.°96E,h7km,ML2.5*
*DDA **05** 07:15:43.8,39.°28N×40.°96E,h7km,Ml2.5*
*ISCJB **05** 07:15:45.5±0.6,39.°35N±0.°04×40.°91E±0.°06,h14km±8km, Error ellipse: s-maj=9.1km s-min=5.6km az=33.6*
*ATA **05** 07:15:45.1±1.0,39.°43N×41.°02E,h24km±5km,ML2.6, MW2.4*
ISC 05 07:15:44.7±1.1,**39.°30N**±0.°04×**41.°00E**±0.°03,**h12**km±9km, **n19**,σ**1.s45**/33,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ECAT	Cat-ERZURUM	0.30	357	eP	Pg	07 15 51.0	0.0
ECAT				eS	Sg	07 15 55.9	+0.6
ECAT				IAML		07 15 57.6	
	comp=Z,81nm,0.3s						
ECAT	Cat-ERZURUM	0.30	357	i P	Pg	07 15 50.5	-0.5
ECAT				i S	Sg	07 15 56.3	+1.0
ECAT	Cat-ERZURUM	0.30	357	P	Pg	07 15 50.5	-0.5
ECAT				S	Sg	07 15 56.3	+1.0
BNGB	Bingˆ¶l	0.40	218	PG	Pb	07 15 53.6	-0.1
BNGB				SG	Sb	07 15 59.7	-0.1
ERZM	Erzurum	0.67	25	eP	Pg	07 15 56.1	-1.6
ERZM	Erzurum	0.67	25	i P	Pg	07 15 56.3	-1.4
ERZM	Erzurum	0.67	25	P	Pg	07 15 56.3	-1.4
KOPT	Kop Dagi	0.81	332	eP	Pg	07 16 00.1	-0.4
EKAR	Karacoban	0.83	93	eP	Pb	07 16 01.2	0.0
EKAR				eS	Sn	07 16 14.9	+0.2
EKAR				IAML		07 16 18.5	
	comp=Z,9.6nm,0.5s						
EKAR	Karacoban	0.83	93	i P	Pg	07 16 00.7	-0.1
EKAR				i S	Sn	07 16 14.9	+0.2
EKAR	Karacoban	0.83	93	P	Pg	07 16 00.7	-0.1
EKAR				S	Sn	07 16 14.9	+0.2
EATA	Eleskirt	1.28	64	eP	Pg	07 16 09.2	-0.2
EATA				eS	Sn	07 16 27.5	+1.5
EATA	Eleskirt	1.28	64	i P	Pn	07 16 08.9	+0.2
EATA				i S	Sn	07 16 27.3	+1.3
EATA	Eleskirt	1.28	64	P	Pn	07 16 08.9	+0.2
EATA				S	Sn	07 16 27.3	+1.3
PTK	Pertek	1.31	252	ePG	Pg	07 16 08.4	-1.6
PTK				SG	Sn	07 16 30.5	+3.9
TUTA	Tutak	1.41	85	eP	Pg	07 16 11.6	-0.3
TUTA				eS	Sg	07 16 31.9	+1.6
TUTA	Tutak	1.41	85	i P	Pb	07 16 11.0	-0.1
TUTA				i S	Sg	07 16 32.0	+1.7
TUTA	Tutak	1.41	85	P	Pb	07 16 11.0	-0.1
TUTA				S	Sg	07 16 32.0	+1.7
AGRB	Hanur-Agry	1.57	79	ePG	Pn	07 16 08.2	-4.4

IDC 05 07:24:39.2±49.0,**23.°49S**×**174.°88W**,**h0**km,**mb4.1**/3, **mb1 4.2**/3,**mb1mx3.6**/44,**mbtmp4.1**/3,**Error ellipse: s-maj=910.7km s-min=172.4km az=88.0,Tonga Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	39.23	248	P	P	07 32 08.8	-0.7
	0.8nm,0.5s,baz=98,slow=8.9,SNR=3.2						
ASAR	Alice Springs	46.73	259	P	P	07 33 10.2	-0.1
	0.7nm,0.3s,baz=87,slow=7.7,SNR=19						
WRA	Warramunga Arr	47.12	264	P	P	07 33 13.6	+0.2
	2.7nm,0.6s,baz=103,slow=8.1,SNR=34						

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*NIED **05** 07:25:00,35.°80N×141.°80E,h17km,Mw3.8 Best double couple: M0 4.83000×10^14 NP1:φs15.00000°,δ39.00000°, λ161.00000°. NP2:φs120.00000°,δ78.00000°,λ53.00000°.*
*IDC **05** 07:25:45.7±0.7,35.°74N×141.°73E,h0km,mb3.7/10, mb1 3.9/13,mb1mx3.7/69,mbtmp3.8/13,ML3.8/3,MS2.8/2, Ms1 2.8/2,ms1mx2.4/61,Error ellipse: s-maj=21.4km s-min=16.5km az=114.0*
*JMA **05** 07:25:48.6±0.1,35.°84N×141.°77E,h31km±2km,M3.6*
*NEIC **05** 07:25:50.0±2.2,35.°77N×141.°74E,h28km±15km,mb4.6/5, Error ellipse: s-maj=9.5km s-min=6.6km az=123.0*
ISC 05 07:25:47.3±1.7,**35.°75N**±0.°05×**141.°78E**±0.°05,**h11**km±10km, **n58**,σ**0.s83**/61,**mb4.0**/15,**Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	Chosi	0.75	267	P	Pb	07 26 02.8	+0.4
CHOJ				S	Sb	07 26 13.4	+0.7
BSO1	Boso 1	1.27	211	P	Pg	07 26 11.3	-0.5
BSO1				S	Sg	07 26 29.1	+0.8
JHO	Hitachi	1.30	312	P	Pn	07 26 10.0	-1.5
JYT	Yasato	1.37	291	P	Pn	07 26 11.4	-1.0
JYT				S	Sb	07 26 28.5	-2.1
BSO3	Boso 3	1.41	228	P	Pb	07 26 13.5	+0.1
BSO3				S	Sg	07 26 32.7	+0.2
JFK	Kawauchi	1.77	336	P	Pn	07 26 17.7	-0.3
JAG	Ashikaga	2.00	290	P	Pn	07 26 20.4	-0.7
JFT	Otama	2.11	327	P	Pn	07 26 22.8	+0.1
JIM2	Oshima 3	2.18	243	P	Pn	07 26 23.7	+0.1
JOD2	Odawara 2	2.25	258	P	Pn	07 26 24.9	+0.4

JOD2				S	Sn	07 26 53.0	+0.7
JMM	Marumori	2.26	340	P	Pn	07 26 23.8	-0.8
JKT	Katashina	2.28	297	P	Pn	07 26 24.9	-0.2
MJAR	Matsushiro Arr	3.00	286	Pn	Pn	07 26 35.1	+0.3
	4.4nm,0.3s,baz=105,slow=6.3,SNR=14						
MJAR				LR	LR	07 27 44.8	
	comp=Z,52nm,20.1s,baz=70,slow=41						
MAJO	Matsushiro	3.00	286	*e*Pn	Pn	07 26 35.1	+0.3
MAJO				*e*Sn	Sn	07 27 11.6	+0.8
MAT	Matsushiro	3.00	286	P	Pn	07 26 35.3	+0.5
MAT				S	Sn	07 27 10.0	-0.8
MJB9	Matsu-Tunnel	3.00	286	*e*Pn	Pn	07 26 35.1	+0.2
MJB9				*e*Sn	Sn	07 27 11.6	+0.7
JHJ2	Mitsune	3.09	212	*e*Pn	Pn	07 26 37.0	+0.9
JHJ2				*e*Sn	Sn	07 27 11.9	-1.1
JHJ	Hachijo jima 2	3.10	213	Pn	Pn	07 26 36.2	0.0
	21nm,0.3s,baz=350,slow=22,SNR=6.6						
JHJ				Sn	Sn	07 27 12.2	-1.0
	42nm,0.3s,baz=289,slow=23,SNR=11						
INU	Inuyama	3.90	266	*e*Pn	Pn	07 26 48.9	+1.7
INU				*e*Sn	Sn	07 27 31.3	-1.8
ERM	Erimo	6.35	9	*e*Pn	Pn	07 27 22.0	+1.2
ASAJ	Asahikawa	8.38	4	Pn	Pn	07 27 47.8	-1.0
	2.4nm,0.3s,baz=282,slow=32,SNR=7.7						
ASAJ	Asahikawa	8.38	4	*e*Pn	Pn	07 27 47.5	-1.2
JNU	Nakatsue	9.38	257	LR	LR	07 32 21.2	
	comp=Z,192nm,18.4s,baz=118,slow=42						
H11N2	WAKE ISLAND Hy	27.25	119	T	T	07 59 59.6	
	baz=318						
H11N1	WAKE ISLAND Hy	27.26	119	T	T	08 00 04.8	
	baz=318,slow=74						
H11N3	WAKE ISLAND Hy	27.27	119	T	T	08 00 04.6	
	baz=318,slow=74						
H11S1	WAKE ISLAND Hy	27.93	121	T	T	08 00 59.5	
	baz=314,slow=75,SNR=22						
H11S3	WAKE ISLAND Hy	27.93	121	T	T	08 00 51.2	
	baz=314,slow=75,SNR=21						
H11S2	WAKE ISLAND Hy	27.94	121	T	T	08 00 49.9	
	baz=314,slow=75,SNR=12						
QIZ	Qiongzhong	32.70	248	*e*P	P	07 32 22.1	+2.3
	12nm,1.1s						
MK01	Makanchi Array	45.06	303	*e*P	P	07 34 03.2	0.0
MK31	Makanchi Array	45.06	303	*e*P	P	07 34 03.0	-0.2
MK32	Makanchi Array	45.06	303	*e*P	P	07 34 02.9	-0.3
MKAR	Makanchi Array	45.06	303	P	P	07 34 02.9	-0.3
	0.6nm,0.6s,baz=89,slow=10,SNR=9.2						
MKAR	Makanchi Array	45.06	303	*e*P	P	07 34 03.0	-0.2
	11nm,0.8s						
KURK	Kurchatov	46.96	309	*e*P	P	07 34 17.7	-0.4
	6.7nm,1.2s						
KURBB	Kurchatov Arra	47.03	309	P	P	07 34 18.2	-0.4
	1.8nm,0.6s,baz=85,slow=7.6,SNR=13						
ILAR	Eielson Array	50.42	32	P	P	07 34 44.9	+0.4
	1.3nm,0.7s,baz=264,slow=5.8,SNR=23						
ILB	Eielson Array	50.42	32	*e*P	P	07 34 45.0	+0.5
TSI	Tuntungan	51.17	241	P	P	07 34 49.6	-1.1
PSI	Prapat	51.40	240	*e*P	P	07 34 51.0	-1.6
	51nm,0.7s						
BVAR	Borovoye Array	51.66	313	P	P	07 34 53.7	-0.3
	0.5nm,0.5s,baz=80,slow=9.2,SNR=3.8						
TPTI		52.33	242	P	P	07 34 59.2	-0.2
WR1	Warramunga Arr	55.83	188	*e*P	P	07 35 24.3	-0.4
	1.9nm,0.9s						
WRA	Warramunga Arr	55.83	188	P	P	07 35 24.3	-0.4
	1.3nm,0.8s,baz=6.0,slow=7.4,SNR=8.4						
AB31	Akbulak array	59.00	311	*e*P	P	07 35 46.3	-0.5
ABKAR	Akbulak array	59.00	311	*e*P	P	07 35 46.4	-0.5
ASAR	Alice Springs	59.56	188	P	P	07 35 50.9	-0.1
	0.2nm,0.5s,baz=20,slow=12,SNR=4.6						
YKA	Yellowknife Ar	64.77	30	P	P	07 36 25.6	+0.2
	0.7nm,0.7s,baz=302,slow=6.7,SNR=17						
YKB5	Yellowknife Ar	64.77	30	*e*P	P	07 36 25.6	+0.1
AKASG	Malin Array Be	75.49	323	P	P	07 37 30.9	-0.6
	0.2nm,0.4s,baz=47,slow=8.3,SNR=4.1						
AKBB	Malin Array Si	75.49	323	*e*P	P	07 37 31.1	-0.4
	6.9nm,1.4s						
GCMT	Greycliff	76.44	43	*e*P	P	07 37 31.6	-5.5
PDAR	Pinedale Array	78.36	45	P	P	07 37 48.7	+0.7
	0.3nm,0.6s,baz=255,slow=2.7,SNR=4.8						
LTX	Lajitas	90.67	53	*e*P	P	07 38 51.0	+0.6
TXAR	Lajitas Array	90.67	53	P	P	07 38 51.1	+0.6
	0.3nm,1.0s,baz=318,slow=1.7,SNR=3.8						
LPAZ	La Paz	147.06	62	PKPbc	PKPbc	07 45 32.1	+0.5
	0.6nm,0.5s,baz=204,slow=3.2,SNR=5.8						
LPAZ	La Paz	147.06	62	*e*PKPbc	PKPbc	07 45 31.6	+0.1

IDC 05 07:32:59.1±3.9, 3°56S×151°33E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.4/52, mbtmp3.6/4, MS3.0/1, Ms1 3.0/1, ms1mx2.5/41, Error ellipse: s-maj=126.3km s-min=29.1km az=107.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	23.23	224	P	P	07 38 09.1	+0.9
	2.3nm,0.9s,baz=50,slow=10.0,SNR=8.5						
ASAR	Alice Springs	26.13	219	P	P	07 38 34.5	-0.7
	0.6nm,0.8s,baz=53,slow=8.3,SNR=4.7						
MJAR	Matsushiro Arr	41.73	344	LR	LR	07 55 48.6	
	comp=Z,23nm,21.6s,baz=205,slow=33						
MKAR	Makanchi Array	78.44	319	P	P	07 45 02.3	+0.3
	0.4nm,0.9s,baz=99,slow=3.8,SNR=3.0						
BVAR	Borovoye Array	87.38	323	P	P	07 45 47.8	-0.4
	0.4nm,0.6s,baz=101,slow=7.5,SNR=2.7						

JMA 05 07:35:09.4±0.4, 35°65N×141°89E, h75km, M2.5
IDC 05 07:35:09.2±4.1, 35°17N×141°61E, h0km, mb3.4/3, mb1 3.3/4, mb1mx3.2/69, mbtmp3.2/4, ML2.7/1, Error ellipse: s-maj=138.2km s-min=28.6km az=61.0
ISC 05 07:35:11.8±2.5, 35°6N±0°1×141°8E±0°3, h25km, n12, σ1§97/6, mb3.3/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	Boso 1	1.12	218	P	Pn	07 35 31.6	+0.1
JAG	Ashikaga	2.10	295	P	Pn	07 35 43.8	-1.6
MJAR	Matsushiro Arr	3.08	290	Pn	Pn	07 35 58.8	-0.1
	0.9nm,0.3s,baz=88,slow=8.9,SNR=4.3						
H11N2	WAKE ISLAND Hy	27.13	119	T	T	08 09 06.7	
	baz=311,slow=75,SNR=6.5						
H11N1	WAKE ISLAND Hy	27.14	119	T	T	08 09 06.9	
	baz=311,slow=75,SNR=4.2						
H11N3	WAKE ISLAND Hy	27.15	119	T	T	08 09 10.8	
	baz=311,slow=75,SNR=5.1						
H11S1	WAKE ISLAND Hy	27.80	121	T	T	08 09 57.6	
	baz=314,slow=76,SNR=9.1						
H11S3	WAKE ISLAND Hy	27.80	121	T	T	08 09 57.5	
	baz=314,slow=76,SNR=8.3						
H11S2	WAKE ISLAND Hy	27.82	121	T	T	08 09 58.5	
	baz=314,slow=76,SNR=6.8						
MKAR	Makanchi Array	45.19	303	P	P	07 43 28.2	+1.6
	0.2nm,0.5s,baz=81,slow=9.6,SNR=5.0						
KURBB	Kurchatov Arra	47.17	309	P	P	07 43 44.1	+2.0
	0.5nm,0.5s,baz=88,slow=8.3,SNR=5.4						
WRA	Warramunga Arr	55.64	189	P	P	07 44 44.1	-1.6
	0.1nm,0.5s,baz=6.3,slow=7.5,SNR=3.6						

ISCJB 05 07:35:23.4±0.7, 33°71N±0°08×93°0E±0°1, h10km, mb3.7/2, MS3.1/5, Error ellipse: s-maj=17.9km s-min=10.5km az=161.3
IDC 05 07:35:23.8±1.1, 33°69N×93°03E, h0km, mb3.6/2, mb1 3.7/6, mb1mx3.4/70, mbtmp3.5/6, ML2.9/2, MS3.1/7, Ms1 3.1/7, ms1mx2.8/63, Error ellipse: s-maj=49.6km s-min=22.7km az=58.0
BJI 05 07:35:24.1, 33°72N×92°99E, h10km, mb3.7/1, ML3.3/3
ISC 05 07:35:25.3±1.0, 33°75N±0°09×93°1E±0°1, h10km, n17, σ1§64/10, MS3.1/5, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTA	Gaotai	7.81	42	*e*P	Pg	07 37 53.0	-1.8
GTA				pP	pP	07 37 57.7	
GTA				sP	sP	07 38 00.2	
GTA				pmax	pmax		
	comp=Z,6.0nm,1.0s						
GTA	Gaotai	7.81	42	*e*P	Pn	07 37 21.4	+2.3
GTA				pP	pP	07 37 24.7	
GTA				sP	sP	07 37 28.4	
GTA				pmax	pmax		
	comp=Z,4.0nm,0.9s						
WMQ	Urumqi	10.90	339	*e*P	Pn	07 38 03.5	+2.1
MKAR	Makanchi Array	15.40	331	Pn	Pn	07 39 02.0	-0.6
	comp=Z,0.1nm,0.3s,baz=148,slow=11,SNR=3.2						
CMAR	Chiang Mai Arr	16.10	160	Pn	Pn	07 39 11.4	-0.4
	comp=Z,1.4nm,0.3s,baz=331,slow=12,SNR=4.1						
AAK	Ala-Archa	17.08	307	LR	LR	07 46 42.9	
	comp=Z,36nm,18.2s,baz=130,slow=40						
SONM	Songino Array	17.26	31	P	P	07 39 27.0	-0.9
	baz=217,slow=14,SNR=6.6						
TLY	Talaya	19.48	20	LR	LR	07 47 05.1	
	comp=Z,28nm,18.1s,baz=193,slow=36						
KURBB	Kurchatov Arra	19.96	332	P	Pn	07 39 57.2	-1.9
	comp=Z,0.0nm,0.3s,baz=145,slow=11,SNR=5.9						
KSRS	Korea Array	28.45	73	LR	LR	07 52 56.4	
	comp=Z,36nm,18.1s,baz=210,slow=37						
GEYT	Alibeck	28.57	289	LR	LR	07 55 49.9	
	comp=Z,39nm,19.4s,baz=195,slow=43						
AKTO	Aktyubinsk	30.56	314	LR	LR	07 55 46.3	
	comp=Z,45nm,18.5s,baz=107,slow=40						
JNU	Nakatsue	31.41	80	LR	LR	07 56 19.8	
	comp=Z,36nm,18.8s,baz=120,slow=40						
AKASG	Malin Array Be	48.70	311	LR	LR	08 08 18.8	
	comp=Z,30nm,18.4s,baz=345,slow=41						
WRA	Warramunga Arr	66.30	137	P	P	07 46 14.9	+0.9
	comp=Z,0.7nm,0.9s,baz=323,slow=8.5,SNR=4.9						
ASAR	Alice Springs	69.05	140	P	P	07 46 31.1	-0.3
	comp=Z,0.6nm,0.7s,baz=326,slow=6.4,SNR=8.6						
TORD	Torodi Ar. Bea	83.97	282	P	P	07 47 55.9	-0.2
	comp=Z,120nm,0.9s,baz=64,slow=3.9,SNR=5.0						

IDC 05 07:44:09.2±5.7, 5°21S×154°08E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.4/45, mbtmp3.5/3, Error ellipse: s-maj=174.7km s-min=39.2km az=108.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	24.15	231	P	P	07 49 28.0	+0.8
	1.4nm,0.7s,baz=57,slow=9.9,SNR=11						
ASAR	Alice Springs	26.73	225	P	P	07 49 50.2	-0.5
	0.2nm,0.5s,baz=59,slow=8.8,SNR=3.7						
MKAR	Makanchi Array	81.47	319	P	P	07 56 28.2	-0.2
	0.4nm,0.7s,baz=98,slow=7.5,SNR=4.6						

IDC 05 08:07:16.3±3.0, 53°41N×87°30E, h0km, mb1 2.8/2, mb1mx2.6/64, mbtmp2.8/2, ML2.6/2, Error ellipse: s-maj=28.7km s-min=15.2km az=68.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.57	291	*i*		08 17 48.1	
	baz=109,slow=341,SNR=1.0						
ZALV	Zalesovo Beam	1.57	291	Pg	Pn	08 07 44.1	-1.2
	1.5nm,0.3s,baz=111,slow=14,SNR=15						
ZALV				Lg	Lg	08 08 06.1	
	0.6nm,0.3s,baz=111,slow=28,SNR=4.1						
KURBB	Kurchatov Arra	6.09	246	Pn	Pn	08 08 48.1	+0.7
	0.1nm,0.3s,baz=61,slow=14,SNR=5.1						
MKAR	Makanchi Array	7.36	208	Pn	Pn	08 09 06.2	+1.2
	0.2nm,0.3s,baz=27,slow=14,SNR=6.2						
MKAR				Lg	Lg	08 11 11.2	
	0.1nm,0.3s,baz=32,slow=28,SNR=5.3						

IDC 05 08:14:46.2±3.3, 53°70N×88°05E, h0km, mb1 3.3/2, mb1mx2.9/66, mbtmp3.3/2, ML2.7/2, Error ellipse: s-maj=29.4km s-min=16.9km az=62.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.93	279	*i*		08 27 19.6	
	baz=96,slow=332,SNR=2.5						
ZALV	Zalesovo Beam	1.93	279	Pn	Pn	08 15 20.1	-0.1
	1.6nm,0.3s,baz=95,slow=11,SNR=25						
ZALV				Lg	Lg	08 15 47.1	
	3.1nm,0.3s,baz=97,slow=20,SNR=21						
KURBB	Kurchatov Arra	6.61	246	Pn	Pn	08 16 25.3	+0.8
	0.1nm,0.3s,baz=63,slow=14,SNR=4.3						
MKAR	Makanchi Array	7.83	210	Pn	Pn	08 16 42.2	+1.0
	0.1nm,0.3s,baz=27,slow=13,SNR=5.6						
MKAR				Sn	Sn	08 18 10.4	-0.2
	0.1nm,0.3s,baz=34,slow=28,SNR=7.5						
MKAR				Lg	Lg	08 18 53.8	
	0.1nm,0.3s,baz=37,slow=29,SNR=3.4						

IDC 05 08:26:06.0±1.1, 62°78S×144°25E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.7/34, mbtmp3.7/3, MS3.8/1, Ms1 3.8/1, ms1mx2.9/33, Error ellipse: s-maj=76.8km s-min=24.0km az=91.0
ISC 05 08:26:05.6±1.1, 63°0S±0°2×146°4E±0°6, h10km, n11, σ2§24/10, mb3.8/3, South of Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	Vanda	15.42	167	Pn	Pn	08 29 43.7	+0.9
	0.5nm,0.3s,baz=326,slow=11,SNR=30						
VNDA				Sn	Sn	08 32 29.7	-3.7
	0.3nm,0.3s,baz=217,slow=5.8,SNR=4.7						
H01W1	Cape Leeuwin H	34.50	309	T	T	09 08 34.9	
	baz=154,slow=76,SNR=6.9						
H01W2	Cape Leeuwin H	34.50	309	T	T	09 08 35.0	
	baz=154,slow=76,SNR=8.0						
H01W3	Cape Leeuwin H	34.51	309	T	T	09 08 36.1	
	baz=154,slow=76,SNR=7.6						
ASAR	Alice Springs	40.17	342	P	P	08 33 40.3	-1.4
	0.3nm,0.6s,baz=166,slow=8.9,SNR=8.1						
WRA	Warramunga Arr	43.78	343	P	P	08 34 09.5	-1.7
	0.9nm,0.6s,baz=169,slow=6.9,SNR=24						
WRA				PcP	PcP	08 35 57.2	-0.5
	0.4nm,0.8s,baz=177,slow=3.2,SNR=5.5						
SNAA	Sanae	43.99	193	P	P	08 34 14.0	+1.6
	1.2nm,0.6s,baz=178,slow=7.6,SNR=7.5						
SNAA				LR	LR	08 53 41.5	
	comp=Z,128nm,20.9s,baz=90,slow=38						
TORD	Torodi Ar. Bea	124.37	223	PKP	PKPdf	08 45 04.2	-0.3
	0.2nm,0.6s,baz=136,slow=2.0,SNR=4.5						
YKA	Yellowknife Ar	145.17	53	PKPbc	PKPdf	08 45 44.9	+3.4
	0.8nm,0.6s,baz=237,slow=3.1,SNR=31						
ESDC	Sonseca Array	150.72	231	PKPbc	PKPbc	08 45 57.6	+0.5
	0.7nm,0.5s,baz=141,slow=1.6,SNR=7.4						
GERES	GERESS Array B	150.76	263	PKPbc	PKPbc	08 45 56.0	-1.0
	0.3nm,0.3s,baz=159,slow=1.1,SNR=4.9						

IDC 05 08:53:32.9±3.0, 53°56N×87°90E, h0km, mb1 3.1/2, mb1mx2.8/69, mbtmp3.1/2, ML2.9/2, Error ellipse: s-maj=27.9km s-min=15.5km az=66.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.87	283	*i*		09 05 18.5	
	baz=104,slow=341,SNR=0.9						
ZALV	Zalesovo Beam	1.87	283	Pn	Pn	08 54 05.7	-0.4
	2.2nm,0.3s,baz=100,slow=14,SNR=13						
ZALV				Lg	Lg	08 54 31.8	
	5.9nm,0.3s,baz=105,slow=27,SNR=20						
KURBB	Kurchatov Arra	6.48	247	Pn	Pn	08 55 10.1	+0.6
	0.2nm,0.3s,baz=61,slow=14,SNR=9.2						
MKAR	Makanchi Array	7.67	210	Pn	Pn	08 55 26.6	+0.8
	0.2nm,0.3s,baz=29,slow=12,SNR=7.1						
MKAR				Sn	Sn	08 56 54.2	+0.8
	0.1nm,0.3s,baz=31,slow=26,SNR=6.1						
MKAR				Lg	Lg	08 57 37.9	
	0.1nm,0.3s,baz=39,slow=31,SNR=5.0						

IDC 05 09:14:14.6±3.8, 4°61S×68°95E, h0km, mb3.7/4, mb1 3.8/4, mb1mx3.4/68, mbtmp3.7/4, MS3.6/4, Ms1 3.6/4, ms1mx2.9/62, Error ellipse: s-maj=125.5km s-min=26.8km az=62.0, Chagos Archipelago region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08N2	Diego Garcia H	2.66	130	Pn	Pn	09 14 53.9	-4.6
H08N2				T	T	09 18 05.4	
	baz=303,slow=75,SNR=141						
H08N3	Diego Garcia H	2.66	130	Pn	Pn	09 14 54.0	-4.6
H08N3				T	T	09 18 13.1	
	baz=303,slow=75						
H08N1	Diego Carcia H	2.68	130	Pn	Pn	09 14 54.2	-4.6
H08N1				T	T	09 18 13.3	
	baz=303,slow=75						
H08S3	Diego Garcia H	4.62	131	Pn	Pn	09 15 25.9	+0.4
	baz=327,slow=21,SNR=37						
H08S3				T	T	09 20 42.2	
	baz=312,slow=75,SNR=141						
H08S1	Diego Carcia H	4.62	131	Pn	Pn	09 15 26.0	+0.5
	baz=327,slow=21,SNR=18						
H08S1				T	T	09 20 38.0	
	baz=312,slow=75,SNR=140						
H08S2	Diego Garcia H	4.63	131	Pn	Pn	09 15 26.3	+0.6
	baz=327,slow=21,SNR=24						
H08S2				T	T	09 20 40.5	
	baz=312,slow=75,SNR=116						
PALK	Pallekele	16.64	45	LR	LR	09 22 54.7	
	comp=Z,139nm,20.5s,baz=117,slow=31						
OPO	Ambohidratompo	25.39	235	LR	LR	09 26 55.1	
	comp=Z,100nm,20.7s,baz=209,slow=30						
PSI	Prapat	30.84	77	LR	LR	09 30 50.2	
	comp=Z,204nm,20.1s,baz=223,slow=32						
BOSA	Boshof	47.80	235	LR	LR	09 39 53.2	
	comp=Z,74nm,18.2s,baz=170,slow=32						
ZALV	Zalesovo Beam	59.85	11	P	P	09 24 21.7	-0.2
	1.8nm,0.7s,baz=208,slow=6.9,SNR=5.2						
SONM	Songino Array	61.69	28	P	P	09 24 34.8	0.0
	0.4nm,0.3s,baz=209,slow=8.3,SNR=4.1						
ASAR	Alice Springs	65.24	114	P	P	09 24 58.3	-0.3
	0.2nm,0.7s,baz=282,slow=4.6,SNR=3.3						
WRA	Warramunga Arr	65.31	110	P	P	09 24 59.3	+0.1
	0.7nm,0.9s,baz=282,slow=6.2,SNR=5.1						
NVAR	Mina Array Bea	145.70	10	PKPbc	PKPdf	09 33 55.6	-0.4
	0.8nm,0.8s,baz=356,slow=4.5,SNR=6.3						

MEX 05 09:19:57.1±0.4, 27°94N×111°97W, h16km±15km, MD3.8, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRIG	Santa Rosalia	0.66	201	*i* P	Pg	09 20 07.8	-2.3
SRIG				*e*S	Sg	09 20 15.8	-3.0
GUYB	Guaymas	0.97	92	*e*P	Pb	09 20 12.2	-3.4
GUYB				*e*S	Sb	09 20 23.1	-5.1
HSIG		1.41	40	*e*P	Pn	09 20 18.2	-3.9
HSIG				*e*S	Sn	09 20 34.7	-5.5

CSEM 05 09:20:11.8, 37°19N×27°88E, h7km, ML2.6
DDA 05 09:20:11.8, 37°19N×27°88E, h7km, Ml2.6, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BDRM	Kayabasi	0.37	251	*i* P	Pg	09 20 18.7	-0.3
BDRM				*i* S	Sb	09 20 26.3	-0.4
BDRM	Kayabasi	0.37	251	P	Pg	09 20 18.7	-0.3
BDRM				S	Sb	09 20 26.3	-0.4
TURN	Turunc	0.66	118	*i* P	Pg	09 20 20.8	-3.6
TURN				*i* S	Sg	09 20 29.8	-3.1
TURN	Turunc	0.66	118	P	Pg	09 20 20.8	-3.6
TURN				S	Sg	09 20 29.8	-3.1
GCAM	G?zelcaml?	0.73	315	*i* P	Pg	09 20 25.5	-0.2
GCAM				*i* S	Sg	09 20 35.9	+0.7
GCAM	G?zelcaml?	0.73	315	P	Pg	09 20 25.5	-0.2
GCAM				S	Sg	09 20 35.9	+0.7
TAVA	DENIZLI_Tavas	0.87	71	*i* P	Pg	09 20 26.8	-1.6
TAVA				*i* S	Sn	09 20 42.4	-1.1
TAVA	DENIZLI_Tavas	0.87	71	P	Pg	09 20 26.8	-1.6
TAVA				S	Sn	09 20 42.4	-1.0

CSEM 05 09:22:13.6±0.2, 44°62N×21°73E, h1km, ML1.6, Error ellipse: s-maj=5.0km s-min=3.9km az=103.0, Mining explosion.
BEO 05 09:22:14.4±0.3, 44°61N×21°78E, h0km, Mining explosion.
BUC 05 09:22:16.0±0.5, 44°82N×21°89E, h5km±2km, MD2.2/2, 6C-2D, Error ellipse: s-maj=6.5km s-min=1.2km az=43.0, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HERR	Herculane	0.38	81	⇓*i*P	Pg	09 22 23.5	+0.1
HERR				S	Sb	09 22 29.9	-1.5
HERR	Herculane	0.38	81	⇓*i*P	Pg	09 22 23.5	+0.1
HERR				*i* S	Sb	09 22 29.9	-1.5
KUBS	Kucevo	0.44	200	*e*Pg	Pg	09 22 16.6	-7.8
KUBS				*e*Sg	Sg	09 22 20.6	-9.5
KUBS	Kucevo	0.44	200	*e*Pg	Pg	09 22 16.6	-7.8
KUBS				*e*Sg	Sg	09 22 20.6	-9.5
BZS	Buzias	0.82	347	*e*Pg	Pb	09 22 32.3	-0.4
BZS				*e*Sg	Sn	09 22 46.8	+0.2
BZS	Buzias	0.82	347	⇑*i*P	Pb	09 22 32.5	-0.2
BZS				S	Sb	09 22 44.7	+0.7
BZS	Buzias	0.82	347	⇑*i*P	Pb	09 22 32.5	-0.2
BZS				*i* S	Sb	09 22 44.7	+0.7
BZS	Buzias	0.82	347	⇑*i*P	Pb	09 22 32.5	-0.2
BZS				S	Sb	09 22 44.7	+0.7
BZS				*e*Sg	Sn	09 22 46.8	+0.2
SRE	Strehaia	0.95	99	⇑*i*P	Pb	09 22 35.3	+0.3
SRE				S	Sn	09 22 49.5	-0.4
SRE	Strehaia	0.95	99	⇑*i*P	Pb	09 22 35.3	+0.3
SRE				*i* S	Sn	09 22 49.5	-0.4
SRE	Strehaia	0.95	99	⇑*i*P	Pb	09 22 35.3	+0.3
SRE				S	Sn	09 22 49.5	-0.4
ZAGS	Zajecar	1.04	166	*e*Pg	Pg	09 22 29.9	-6.0
ZAGS				*e*Sg	Sg	09 22 41.6	-7.7
ZAGS	Zajecar	1.04	166	*e*Pg	Pg	09 22 29.9	-6.0
ZAGS				*e*Sg	Sg	09 22 41.6	-7.7
BOVS	Bovan	1.19	186	*e*Pg	Pg	09 22 32.4	-6.5
BOVS				*e*Sg	Sg	09 22 44.9	-9.4
BOVS	Bovan	1.19	186	*e*Pg	Pg	09 22 32.4	-6.5
BOVS				*e*Sg	Sg	09 22 44.9	-9.4
TRUS	Trudelj	1.22	241	*e*Pg	Pg	09 22 33.9	-5.4
TRUS				*e*Sg	Sg	09 22 48.4	-6.7
TRUS	Trudelj	1.22	241	*e*Pg	Pg	09 22 33.9	-5.4
TRUS				*e*Sg	Sg	09 22 48.4	-6.7
GRUS	Gruza	1.25	222	*e*Pg	Pg	09 22 33.3	-6.8
GRUS				*e*Sg	Sg	09 22 48.5	-7.8
GRUS	Gruza	1.25	222	*e*Pg	Pg	09 22 33.3	-6.8
GRUS				*e*Sg	Sg	09 22 48.5	-7.8
SIRR	Siria	1.46	354	S	Sg	09 23 02.7	-0.1
SIRR	Siria	1.46	354	*i* S	Sg	09 23 02.7	-0.1
DIVS	Divibare	1.54	243	*e*Sg	Sn	09 22 57.5	-7.0
DIVS	Divibare	1.54	243	*e*Sg	Sn	09 22 57.5	-7.0
ZAPS	Zavoj	1.64	161	*e*Pg	Pn	09 22 41.2	-4.2
ZAPS				*e*Sg	Sn	09 23 02.1	-4.8
SELS	Selova	1.69	199	*e*Pg	Pn	09 22 41.4	-4.8
SELS				*e*Sg	Sn	09 23 01.2	-7.1
DRGR		2.05	16	S	Sb	09 23 18.7	-0.9
DRGR		2.05	16	*i* S	Sb	09 23 18.7	-0.9
DRGR		2.05	16	S	Sb	09 23 18.7	-0.9

MEX 05 09:25:20.6±0.3, 14°85N×93°24W, h18km±21km, MD3.7, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		0.85	1	*e*P	Pb	09 25 34.0	-2.8
PCIG				*e*S	Sb	09 25 44.4	-3.5
THIG		0.94	87	*e*P	Pb	09 25 35.4	-3.1
THIG				*e*S	Sb	09 25 46.9	-3.8
CCIG	Comitan	1.77	37	*e*P	Pn	09 25 47.7	-2.9
CCIG				*e*S	Sn	09 26 01.5	-11
TGIG		1.92	3	*e*P	Pn	09 25 46.1	-6.4
TGIG				*e*S	Sn	09 26 06.7	-10

KRSC 05 09:39:48.2±1.3, 52°85N×160°71E, h30km±14km, ML4.5
MOS 05 09:39:49.8±1.0, 52°82N×160°65E, h44km, mb4.3/6, Error ellipse: s-maj=7.6km s-min=4.7km az=96.5
IDC 05 09:39:54.4±2.3, 52°97N×160°43E, h69km±18km, mb3.5/14, mb1 3.7/15, mb1mx3.5/71, mbtmp3.8/15, MS3.3/1, Ms1 3.3/1, ms1mx2.5/52, Error ellipse: s-maj=20.3km s-min=15.7km az=142.0
ISC 05 09:39:47.9±1.3, 52°96N±0°04×160°71E±0°04, h17km±7km, n107, σ1§52/141, mb3.9/16, 3D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	Mys Shipunski	0.44	289	*e*P	Pn	09 39 58.7	-0.7
SPN				*e*S	Sb	09 40 05.0	+1.5
SPN	Mys Shipunski	0.44	289	PN	Pn	09 39 58.7	-0.7
SPN				S	Sb	09 40 05.0	+1.5
NLC	Nalytchevo	0.85	285	*e*P	Pg	09 40 04.7	+0.2

NLC				eS	Sg	09 40 16.2	+0.5
NLC	Nalytchevo	0.85	285	PN	Pg	09 40 04.7	+0.2
NLC				S	Sg	09 40 16.2	+0.5
SDLR	Sedlovina	1.15	287	iP	Pb	09 40 09.7	+0.4
SDLR				eS	Sn	09 40 25.0	+0.3
SDLR	Sedlovina	1.15	287	PN	Pb	09 40 09.7	+0.4
SDLR				S	Sn	09 40 25.0	+0.3
UGLR	Uglovaya	1.17	283	iP	Pb	09 40 10.0	+0.3
UGLR	Uglovaya	1.17	283	PN	Pb	09 40 10.0	+0.3
DALK	Dalny	1.19	274	eP	Pn	09 40 09.8	+0.1
DALK				eS	Sb	09 40 25.2	+0.2
DALK	Dalny	1.19	274	PN	Pn	09 40 09.8	+0.1
DALK				S	Sb	09 40 25.2	+0.2
SMAR	Somma	1.19	286	eP	Pn	09 40 10.2	+0.2
SMAR	Somma	1.19	286	PN	Pn	09 40 10.2	+0.2
AVH	Avacha	1.23	285	iP	Pg	09 40 11.4	-0.2
AVH	Avacha	1.23	285	PN	Pg	09 40 11.4	-0.2
KRER	Koryakskii	1.23	287	iP	Pb	09 40 11.3	+0.5
KRER	Koryakskii	1.23	287	PN	Pb	09 40 11.3	+0.5
PET	Petropavlovsk	1.25	274	iP	Pn	09 40 10.9	+0.4
PET				eS	Sb	09 40 27.0	+0.3
PET	Petropavlovsk	1.25	274	⇓iPN	Pn	09 40 10.5	0.0
PET				eS	Sb	09 40 26.4	-0.3
PET				pmax	pmax		
	comp=Z,404nm,0.2s						
PET				smax	smax		
	comp=N,2μm,0.6s						
PET				smax	smax		
	comp=N,3μm,0.5s						
PET				smax	smax		
	comp=E,3μm,0.7s						
KOK	Koryaka	1.30	286	eP	Pb	09 40 12.2	+0.4
KOK				eS	Sn	09 40 29.3	+1.0
KOK	Koryaka	1.30	286	PN	Pb	09 40 12.2	+0.4
KOK				S	Sn	09 40 29.3	+1.0
KRX	Arik	1.31	289	eP	Pn	09 40 12.0	+0.5
KRX				eS	Sb	09 40 29.0	+0.4
KRX	Arik	1.31	289	PN	Pn	09 40 12.0	+0.5
KRX				S	Sb	09 40 29.0	+0.4
KII	Karymskiy	1.32	326	eP	Pg	09 40 13.7	+0.4
KII				eS	Sg	09 40 30.4	-0.2
KII	Karymskiy	1.32	326	PN	Pg	09 40 13.7	+0.4
KII				S	Sg	09 40 30.4	-0.2
RUS	Russkaya	1.44	250	eP	Pn	09 40 12.9	-0.2
RUS				eS	Sn	09 40 30.3	-1.3
RUS	Russkaya	1.44	250	PN	Pn	09 40 12.9	-0.2
RUS				S	Sn	09 40 30.3	-1.3
KRMR	Karymshinskiy	1.57	266	eP	Pn	09 40 15.2	+0.3
KRMR				eS	Sn	09 40 33.9	-0.9
KRMR	Karymshinskiy	1.57	266	PN	Pn	09 40 15.2	+0.3
KRMR				S	Sn	09 40 33.9	-0.9
MTVR	Mutnovka	1.61	254	eP	Pn	09 40 15.7	+0.1
MTVR				eS	Sn	09 40 35.6	-0.5
MTVR	Mutnovka	1.61	254	PN	Pn	09 40 15.7	+0.1
MTVR				S	Sn	09 40 35.6	-0.5
ASAK	Asacha	1.81	253	iP	Pn	09 40 19.4	+1.1
ASAK	Asacha	1.81	253	PN	Pn	09 40 19.4	+1.1
GNL	Ganaly	1.82	295	eP	Pb	09 40 20.6	-0.2
GNL				eS	Sb	09 40 44.7	+1.4
GNL	Ganaly	1.82	295	PN	Pb	09 40 20.6	-0.2
GNL				S	Sb	09 40 44.7	+1.4
PETK	Petropavlovsk-	1.83	276	P	Pn	09 40 19.8	+1.3
	comp=E,63nm,0.3s,baz=98,slow=20,SNR=476						
PETK				S	Sn	09 40 42.3	+1.1
	comp=E,93nm,0.3s,baz=70,slow=13,SNR=20						
PETK				LR	LR	09 40 52.9	
	comp=E,181nm,18.2s,baz=153,slow=35						
KDTR	Khodutka, Kamc	1.98	236	eP	Pn	09 40 21.2	+0.6
KDTR				eS	Sn	09 40 44.9	-0.1
APC	Apacha	2.15	271	eP	Pb	09 40 25.1	-1.2
APC				eS	Sn	09 40 51.5	+2.3
APC	Apacha	2.15	271	PN	Pb	09 40 25.1	-1.2
APC				S	Sn	09 40 51.5	+2.3
KZV	Kizimen	2.18	354	eP	Pb	09 40 27.0	+0.1
KZV				eS	Sb	09 40 53.7	+0.1
KZV	Kizimen	2.18	354	PN	Pb	09 40 27.0	+0.1
KZV				S	Sb	09 40 53.7	+0.1
TUMD	Tumrok D	2.26	355	eP	Pb	09 40 27.2	-1.0
TUMD				eS	Sb	09 40 54.6	-1.3
TUMR	Tumrok	2.36	352	iP	Pb	09 40 29.6	-0.3
TUMR				eS	Sb	09 40 58.9	+0.2
TUMR	Tumrok	2.36	352	PN	Pn	09 40 27.2	+1.3
TUMR				S	Sn	09 40 54.6	+0.2
MIPR	Malaya Ipel'ka	2.51	256	iP	Pb	09 40 30.5	-1.9
MIPR	Malaya Ipel'ka	2.51	256	PN	Pb	09 40 30.5	-1.9
KMNR	Kamenistaya	2.82	355	iP	Pb	09 40 36.8	-1.0
KMNR	Kamenistaya	2.82	355	PN	Pb	09 40 36.8	-1.0
PAU	Pauzhetka	2.83	240	eP	Pn	09 40 33.7	+1.5
PAU	Pauzhetka	2.83	240	PN	Pn	09 40 33.7	+1.5
BZMR	Bezymyannaya	2.99	358	eP	Pb	09 40 39.2	-1.5
BZMR	Bezymyannaya	2.99	358	PN	Pb	09 40 39.2	-1.5
KIRR	Kirishev	3.01	356	eP	Pb	09 40 40.1	-1.0
KIRR	Kirishev	3.01	356	PN	Pb	09 40 40.1	-1.0
BZWR	Bezymyannyi-We	3.02	358	eP	Pb	09 40 39.5	-1.7
BZWR	Bezymyannyi-We	3.02	358	PN	Pb	09 40 39.5	-1.7
LGNR	Loginova	3.13	360	eP	Pb	09 40 41.8	-1.5
LGNR				eS	Sb	09 41 20.1	-1.1
LGNR	Loginova	3.13	360	PN	Pb	09 40 41.8	-1.5
LGNR				S	Sb	09 41 20.1	-1.1
CIRR	Tsirk	3.17	0	eP	Pb	09 40 42.2	-1.5
CIRR	Tsirk	3.17	0	PN	Pb	09 40 42.2	-1.5
ESO	Esso	3.20	339	eP	Pb	09 40 40.9	-3.3
ESO	Esso	3.20	339	PN	Pb	09 40 40.9	-3.3
KRSR	Krestovskiy	3.27	359	eP	Pb	09 40 42.4	-3.1
KRSR	Krestovskiy	3.27	359	PN	Pb	09 40 42.4	-3.1
KLY	Klyuchi	3.37	359	eP	Pb	09 40 43.9	-3.1
KLY	Klyuchi	3.37	359	PN	Pb	09 40 43.9	-3.1
KBTR	Krutoberegovo	3.48	20	eP	Pn	09 40 43.5	+2.3
KBTR	Krutoberegovo	3.48	20	PN	Pn	09 40 43.5	+2.3
BDR	Baidarnaya	3.63	4	eP	Pb	09 40 47.6	-4.0
BDR	Baidarnaya	3.63	4	PN	Pb	09 40 47.6	-4.0
SKR	Severo-Kuril's	3.65	233	eP	Pn	09 40 44.3	+0.8
SKR	Severo-Kuril's	3.65	233	ePN	Pn	09 40 45.3	+1.8
SKR				eS	Sn	09 41 26.2	+0.1
SKR				pmax	pmax		
	comp=Z,52nm,0.5s						
SKR				smax	smax		
	comp=E,413nm,1.0s						
SKR				smax	smax		
	comp=N,276nm,0.7s						
SMKR	Semkarok	3.66	7	eP	Pb	09 40 48.0	-4.1
SMKR				eS	Sn	09 41 30.6	+4.1
SMKR	Semkarok	3.66	7	PN	Pb	09 40 48.0	-4.1
SMKR				S	Sn	09 41 30.6	+4.1
BKI	Bering	3.83	52	eP	Pn	09 40 47.2	+1.3
BKI	Bering	3.83	52	PN	Pn	09 40 47.2	+1.3
SEY	Seymchan	10.93	340	iPN	Pn	09 42 23.2	0.0
ASAJ	Asahikawa	14.87	241	P	Pn	09 43 18.0	+0.8
	comp=N,1.3nm,0.3s,baz=88,slow=18,SNR=8.6						
ASAJ	Asahikawa	14.87	241	P	Pn	09 43 18.0	+0.8
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
USRK	Ussuriysk Ar.	20.81	257	P	P	09 44 26.6	-1.6
	comp=Z,1.7nm,0.5s,baz=51,slow=14,SNR=6.3						
MJA0	Matsu Arr-Jizo	22.74	233	eP	P	09 44 52.4	+3.4
MJA0				pmax	pmax		
	comp=Z,3.0nm,0.5s						
MJAR	Matsushiro Arr	22.76	233	P	P	09 44 49.2	+0.1
	comp=Z,2.7nm,0.5s,baz=18,slow=11,SNR=12						
TIXI	Tiksi	23.36	335	eP	P	09 44 54.0	-1.0
TIXI				pmax	pmax		
	comp=Z,2.0nm,1.6s						
HIA	Hailar	25.73	278	iP	P	09 45 14.8	-2.4
HIA				pmax	pmax		
	comp=Z,4.0nm,0.8s						
ILAR	Eielson Array	28.65	45	P	P	09 45 44.6	+1.4
	comp=Z,0.3nm,0.7s,baz=264,slow=7.2,SNR=3.1						
H11N2	WAKE ISLAND Hy	33.51	169	T	T	10 21 51.7	
	baz=353,slow=76,SNR=194						
H11N3	WAKE ISLAND Hy	33.52	169	T	T	10 21 52.8	
	baz=353,slow=76,SNR=157						
H11N1	WAKE ISLAND Hy	33.52	169	T	T	10 21 53.0	
	baz=353,slow=76,SNR=190						
SONM	Songino Array	34.30	284	P	P	09 46 31.7	-1.5
	comp=Z,0.3nm,0.4s,baz=87,slow=5.9,SNR=3.7						
SONM				PcP	PcP	09 49 09.0	0.0
	comp=Z,0.5nm,0.5s,baz=67,slow=2.0,SNR=4.3						
SONM				LR	LR	09 59 58.2	
	comp=Z,55nm,21.8s,baz=56,slow=35						
SONM	Songino Array	34.30	284	eP	P	09 46 31.3	-1.8
H11S1	WAKE ISLAND Hy	34.69	170	T	T	10 23 16.1	
	baz=352,slow=76,SNR=34						
H11S3	WAKE ISLAND Hy	34.71	170	T	T	10 23 15.7	
	baz=352,slow=76,SNR=43						
H11S2	WAKE ISLAND Hy	34.71	170	T	T	10 23 16.7	
	baz=352,slow=76,SNR=21						
YKA	Yellowknife Ar	43.01	43	P	P	09 47 47.3	+1.5
	comp=Z,0.2nm,0.6s,baz=295,slow=7.4,SNR=3.7						
DGZ	Jazzator, Alta	44.07	297	iP	P	09 47 53.1	-1.6
KURK	Kurchatov	48.12	302	diP	P	09 48 24.9	-1.5
KURK				pmax	pmax		
	comp=Z,2.0nm,0.4s						
KURBB	Kurchatov Arra	48.23	302	P	P	09 48 25.6	-1.6
	comp=Z,1.1nm,0.4s,baz=59,slow=7.5,SNR=5.5						
MKAR	Makanchi Array	48.55	296	P	P	09 48 27.9	-2.0
	comp=Z,0.4nm,0.6s,baz=48,slow=5.7,SNR=7.6						
ARU	Arti	53.75	318	diP	P	09 49 08.0	-0.7
ARU				S	S	09 56 40.4	-1.5
ARU				pmax	pmax		
	comp=Z,15nm,2.5s						
FINES	FINESS Array B	60.40	337	P	P	09 49 55.7	+0.1
	comp=Z,0.7nm,0.5s,baz=26,slow=9.3,SNR=5.3						
FINES	FINESS Array B	60.40	337	iP	P	09 49 57.9	+2.3
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
AKASG	Malin Array Be	68.92	329	P	P	09 50 50.7	-0.7
	comp=Z,2.4nm,0.3s,baz=29,slow=6.8,SNR=8.0						
KBZ	Khabaz	69.89	317	P	P	09 50 57.7	+0.2
	comp=Z,1.6nm,0.5s,baz=74,slow=4.7,SNR=5.5						
TXAR	Lajitas Array	70.34	67	P	P	09 51 02.0	+1.4
	comp=Z,0.4nm,0.8s,baz=306,slow=5.9,SNR=6.7						
WRA	Warramunga Arr	76.12	206	P	P	09 51 33.9	-0.6
	comp=Z,1.1nm,0.8s,baz=27,slow=6.4,SNR=6.1						
WRA	Warramunga Arr	76.12	206	eP	P	09 51 33.4	-1.1
WRA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
BRTR	Keskin Array B	76.97	321	P	P	09 51 39.4	0.0
	comp=Z,0.6nm,0.5s,baz=26,slow=3.1,SNR=3.6						
ASAR	Alice Springs	79.79	205	P	P	09 51 55.2	+0.4
	comp=Z,0.8nm,0.7s,baz=14,slow=5.7,SNR=13						

*ATA **05** 09:54:05.9±0.5, 40°.71N×37°.29E, h40km±9km, ML2.7, MW3.1*
*CSEM **05** 09:54:06.3, 40°.45N×37°.26E, h5km, MD3.0*
*ISK **05** 09:54:06.3, 40°.45N×37°.26E, h5km, MD3.0/2*
*ISCJB **05** 09:54:07.8±0.5, 40°.44N±0°.04×37°.28E±0°.04, h11km, Error ellipse: s-maj=6.5km s-min=3.9km az=4.7*
ISC 05 09:54:06.7±0.8**, 40°.46N**±0°.04×**37°.28E**±0°.03**, h11**km**, n22,** σ**1.16**/34**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSDY	Resadiye-TOKAT	0.07	152	PG	Pg	09 54 07.2	-2.0
RSDY				SG	Sg	09 54 09.8	-1.2
RSDY	Resadiye-TOKAT	0.07	152	iPg	Pg	09 54 07.2	-2.0
RSDY				eSg	Sg	09 54 09.8	-1.2
TOKT	Tokat	0.58	256	PG	Pb	09 54 18.8	-0.1
TOKT				SG	Sb	09 54 27.7	+0.5
TOKT	Tokat	0.58	256	ePg	Pb	09 54 18.8	-0.1
TOKT				eSg	Sb	09 54 27.7	+0.5
SVSK	Karacayir	0.59	202	PG	Pb	09 54 18.6	-0.4
SVSK				SG	Sb	09 54 26.8	-0.5
SVSK	Karacayir	0.59	202	iPg	Pb	09 54 18.6	-0.4
SVSK				eSg	Sb	09 54 26.8	-0.5
KVT	Kavak	1.12	304	PN	Pn	09 54 28.6	+0.2
KVT				SN	Sn	09 54 44.8	+0.9
KVT	Kavak	1.12	304	ePn	Pn	09 54 28.6	+0.2
KVT				eSn	Sn	09 54 44.8	+0.9
KEMA	Kemaliye	1.51	142	eP	Pg	09 54 35.5	-0.3
KEMA				iPg	Pb	09 54 37.1	+2.2
KEMA				eS	Sg	09 54 59.6	+4.2
KEMA				IAML		09 55 00.6	
	comp=Z,3.1nm,0.5s						
KELT	Kelkit	1.54	101	eP	Pn	09 54 35.0	+0.6
KELT				eS	Sg	09 54 56.9	+0.5
YOZ	Yozgat	1.71	242	PN	Pg	09 54 39.2	-0.4
YOZ	Yozgat	1.71	242	ePn	Pg	09 54 39.2	-0.4
DARE	Darende-Malaty	1.90	175	PN	Pb	09 54 41.0	-0.4
DARE	Darende-Malaty	1.90	175	ePn	Pb	09 54 41.0	-0.4
DIKM	Dikmen	1.94	308	PN	Pb	09 54 42.6	+0.6
DIKM	Dikmen	1.94	308	ePn	Pb	09 54 42.6	+0.6
CORM	Corum	2.05	263	PN	Pb	09 54 43.3	-0.7
CORM	Corum	2.05	263	ePn	Pb	09 54 43.3	-0.7
BAYT	Ayd˜–ntepe-Bay	2.18	91	PN	Pb	09 54 45.8	-0.6
BAYT	Ayd˜–ntepe-Bay	2.18	91	ePn	Pb	09 54 45.8	-0.6
BAYB	BAYBURT	2.28	94	eP	Pn	09 54 43.8	-0.8
BAYB				eS	Sb	09 55 15.4	-0.9
KOPT	Kop Dagi	2.50	99	eP	Pn	09 54 48.4	+0.8

*ISK **05** 09:55:10.9, 38°.68N×43°.44E, h19km, ML2.6/3*
*ATA **05** 09:55:11.2±0.6, 38°.70N×43°.37E, h7km±22km, ML2.8, MW2.9*
*CSEM **05** 09:55:12.6±0.3, 38°.71N×43°.45E, h5km, ML2.6, Error ellipse: s-maj=7.3km s-min=5.0km az=113.0*
*DDA **05** 09:55:12.6, 38°.71N×43°.39E, h7km, Ml2.9*
ISC 05 09:55:11.3±1.0**, 38°.69N**±0°.02×**43°.51E**±0°.04**, h17**km±7km**, n31,** σ**0.84**/51**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	Van	0.13	225	PG	Pb	09 55 15.9	+0.4
VANB	Van	0.13	225	iPg	Pb	09 55 15.9	+0.4
TVAN	Van	0.18	207	iP	Pg	09 55 15.9	-0.1
TVAN				iS	Sb	09 55 20.3	+0.7
TVAN	Van	0.18	207	P	Pg	09 55 15.9	-0.1
TVAN				S	Sb	09 55 20.3	+0.7
VMUR	Van-Muradiye	0.31	10	iP	Pb	09 55 19.1	+0.6
VMUR				iS	Sn	09 55 25.7	-1.9
VMUR	Van-Muradiye	0.31	10	P	Pb	09 55 19.1	+0.6
VMUR				S	Sn	09 55 25.7	-1.9
ERCV	ERCIS-VAN	0.36	338	PG	Pg	09 55 18.6	-0.3
ERCV	ERCIS-VAN	0.36	338	ePg	Pg	09 55 18.6	-0.3
GEVA	Gevas	0.51	223	eP	Pg	09 55 20.5	-1.1
GEVA				eS	Sg	09 55 28.2	-0.4
GEVA				IAML		09 55 34.1	
	comp=Z,49nm,0.4s						
GEVA	Gevas	0.51	223	iP	Pg	09 55 21.0	-0.7
GEVA				iS	Sb	09 55 30.1	+0.8
CLDR	Caldiran	0.56	35	PG	Pb	09 55 22.9	+0.1
CLDR	Caldiran	0.56	35	iP	Pb	09 55 23.1	+0.3
CLDR				iS	Sn	09 55 33.6	-0.2
CLDR	Caldiran	0.56	35	ePg	Pb	09 55 22.9	+0.1
CLDR				S	Sn	09 55 33.6	-0.2
ADCV	BITLIS_Adilcev	0.62	281	iP	Pg	09 55 22.7	-1.0
ADCV				iS	Sb	09 55 32.8	+0.3
ADCV	BITLIS_Adilcev	0.62	281	P	Pg	09 55 22.7	-1.0
ADCV				S	Sb	09 55 32.8	+0.3
TUTA	Tutak	0.90	323	eP	Pg	09 55 27.7	-1.1
TUTA				eS	Sb	09 55 40.3	-0.1
TUTA				IAML		09 55 43.1	
	comp=Z,45nm,0.2s						
TUTA	Tutak	0.90	323	iP	Pg	09 55 28.0	-0.8
TUTA				iS	Sb	09 55 40.5	+0.1
TUTA	Tutak	0.90	323	P	Pg	09 55 28.0	-0.8
TUTA				S	Sb	09 55 40.5	+0.1
AGRB	Hanur-Agry	0.97	336	PG	Pn	09 55 30.8	+0.3
AGRB				SG	Sn	09 55 43.6	-0.4
AGRB	Hanur-Agry	0.97	336	ePg	Pn	09 55 30.8	+0.3
AGRB				eSg	Sn	09 55 43.6	-0.4
GURO	Guroymak-BITLI	1.16	264	PN	Pb	09 55 31.8	-1.3
EKAR	Karacoban	1.26	297	eP	Pb	09 55 34.3	-0.5
EKAR	Karacoban	1.26	297	iP	Pg	09 55 37.0	+1.3
EKAR				iS	Sg	09 55 55.0	+2.8
EKAR	Karacoban	1.26	297	P	Pg	09 55 37.0	+1.3
EATA	Eleskirt	1.41	326	eP	Pb	09 55 37.5	0.0
EATA				eS	Sg	09 55 57.7	+0.6
EATA				IAML		09 55 59.3	
	comp=Z,3.4nm,0.4s						
EATA	Eleskirt	1.41	326	iP	Pg	09 55 39.1	+0.5
EATA				iS	Sg	09 55 56.1	-1.0
EATA	Eleskirt	1.41	326	P	Pg	09 55 39.2	+0.5
SRTM	Siirt_Merkez	1.43	241	iP	Pg	09 55 39.1	+0.3
SRTM				iS	Sg	09 55 57.2	-0.2
SRTM	Siirt_Merkez	1.43	241	P	Pg	09 55 39.2	+0.3
SRTM				S	Sg	09 55 57.2	-0.2
DIGO	Kars	1.73	357	eP	Pg	09 55 44.1	-0.5
HOMI	Horasan	1.84	318	eP	Pb	09 55 44.7	0.0

IDC 05 10:02:41.4±48.0**, 22°.52S**×**176°.73W, h0**km**, mb4.2**/3**, mb1 4.4**/3**, mb1mx3.8**/42**, mbtmp4.2**/3**, Error ellipse: s-maj=886.7km s-min=146.2km az=86.0, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	38.03	247	P	P	10 10 00.4	-1.3
	1.5nm,0.3s,baz=93,slow=10,SNR=14						
ASAR	Alice Springs	45.25	258	P	P	10 11 01.1	+0.1
	0.8nm,0.3s,baz=96,slow=8.0,SNR=46						
WRA	Warramunga Arr	45.53	264	P	P	10 11 04.0	+0.8
	2.0nm,0.3s,baz=98,slow=8.2,SNR=43						

*CSEM **05** 10:14:52.9, 38°.76N×43°.31E, h21km, ML2.5*
*ISK **05** 10:14:52.9, 38°.76N×43°.31E, h21km, ML2.5/4*
*ATA **05** 10:14:53.9±0.8, 38°.77N×43°.24E, h7km±26km, ML2.9, MW2.9*
*ISCJB **05** 10:14:55.1±0.7, 38°.75N±0°.04×43°.31E±0°.07, h17km±10km, Error ellipse: s-maj=8.9km s-min=6.0km az=2.0*
ISC 05 10:14:52.9±1.3**, 38°.70N**±0°.04×**43°.36E**±0°.05**, h21**km±1km**, n14,** σ**1.07**/23**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	Van	0.11	166	PG	Pb	10 14 59.7	+0.3
VANB				SG	Sb	10 15 04.1	+0.1
VANB	Van	0.11	166	ePg	Pb	10 14 59.7	+0.3
VANB				eSg	Sb	10 15 04.1	+0.1
GEVA	Gevas	0.45	211	eP	Pb	10 15 03.1	+0.9
GEVA				eS	Sn	10 15 11.7	-0.3
GEVA				IAML		10 15 15.8	
	comp=Z,33nm,0.4s						
CLDR	Caldiran	0.62	45	PG	Pb	10 15 05.4	+0.1
CLDR	Caldiran	0.62	45	ePg	Pb	10 15 05.4	+0.1
TUTA	Tutak	0.81	329	iP	Pn	10 15 08.6	-0.9
TUTA				eS	Sn	10 15 19.4	-1.6
TUTA				IAML		10 15 21.6	
	comp=Z,85nm,0.4s						
AGRB	Hanur-Agry	0.92	342	PG	Pn	10 15 10.2	-0.6
AGRB				SG	Sn	10 15 22.1	-1.4
AGRB	Hanur-Agry	0.92	342	ePg	Pn	10 15 10.2	-0.6
AGRB				eSg	Sn	10 15 22.1	-1.4
GURO	Guroymak-BITLI	1.05	262	PG	Pb	10 15 11.7	-0.7
GURO				SG	Sn	10 15 27.2	+0.6
GURO	Guroymak-BITLI	1.05	262	ePg	Pb	10 15 11.7	-0.7
GURO				eSg	Sn	10 15 27.2	+0.6
EKAR	Karacoban	1.15	299	eP	Pb	10 15 14.6	+0.4
EATA	Eleskirt	1.34	330	eP	Pb	10 15 18.3	+0.8
EATA				eS	Sb	10 15 36.7	+2.4
EATA				IAML		10 15 40.5	
	comp=Z,7.4nm,0.4s						
DIGO	Kars	1.71	1	eP	Pb	10 15 25.8	+2.0
HOMI	Horasan	1.75	320	eP	Pb	10 15 25.1	+0.6

*CSEM **05** 10:57:35.5, 38°.83N×43°.74E, h30km, ML2.7*
*ISK **05** 10:57:35.5, 38°.83N×43°.74E, h30km, ML2.7/4*
*ATA **05** 10:57:37.2±0.8, 38°.89N×43°.46E, h0km±4km, ML2.7, MW2.8*
ISC 05 10:57:36.6±1.1**, 38°.84N**±0°.04×**43°.69E**±0°.06**, h26**km±11km**, n15,** σ**0.84**/24**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	Van	0.34	224	PG	Pb	10 57 45.0	+0.6
VANB				SG	Sn	10 57 52.4	+0.3
VANB	Van	0.34	224	ePg	Pb	10 57 45.0	+0.6
VANB				eSg	Sn	10 57 52.4	+0.3
CLDR	Caldiran	0.35	30	PG	Pb	10 57 44.3	-0.3
CLDR				SG	Sb	10 57 50.2	+0.2
CLDR	Caldiran	0.35	30	ePg	Pb	10 57 44.3	-0.3
CLDR				eSg	Sb	10 57 50.2	+0.2
GEVA	Gevas	0.72	223	iP	Pb	10 57 50.6	-0.1
GEVA				eS	Sn	10 58 02.4	+0.7
GEVA				IAML		10 58 11.6	
	comp=Z,33nm,0.6s						
TUTA	Tutak	0.88	310	iP	Pn	10 57 52.0	-1.6
TUTA				eS	Sb	10 58 03.8	-1.1
AGRB	Hanur-Agry	0.91	324	PG	Pn	10 57 53.4	-0.6
AGRB				SG	Sb	10 58 05.7	0.0
AGRB	Hanur-Agry	0.91	324	ePg	Pn	10 57 53.4	-0.6
AGRB				eSg	Sb	10 58 05.7	0.0
GURO	Guroymak-BITLI	1.33	258	PN	Pn	10 57 59.1	-0.5
GURO	Guroymak-BITLI	1.33	258	ePn	Pn	10 57 59.1	-0.5
EKAR	Karacoban	1.33	289	eP	Pb	10 58 00.5	-0.5
EATA	Eleskirt	1.38	318	eP	Pb	10 58 02.2	+0.3
EATA				eS	Sb	10 58 21.1	+1.8
EATA				IAML		10 58 28.5	
	comp=Z,5.7nm,0.4s						
DIGO	Kars	1.59	351	eP	Pb	10 58 07.4	+1.9
HOMI	Horasan	1.83	312	eP	Pb	10 58 09.4	-0.1
ERZM	Erzurum	2.09	301	eP	Pb	10 58 14.4	+0.5

*ISCJB **05** 11:04:02.4±0.2, 56°.09N±0°.02×156°.61W±0°.03, h10km, mb4.4/56, MS3.6/18, Error ellipse: s-maj=3.4km s-min=2.6km az=18.8*
*MOS **05** 11:04:03.5±0.9, 56°.25N×156°.82W, h12km, mb4.6/20, Error ellipse: s-maj=10.9km s-min=5.1km az=85.2*
*IDC **05** 11:04:03.0±0.6, 56°.19N×156°.80W, h0km, mb4.3/35, mb1 4.5/37, mb1mx4.3/76, mbtmp4.3/37, ML4.1/2, MS3.5/18, Ms1 3.5/18, ms1mx3.2/68, Error ellipse: s-maj=16.3km s-min=10.6km az=9.0*
*BJI **05** 11:04:05.6, 56°.49N×156°.57W, h29km, mb4.6/15, mB5.0/8, Ms4.8/4, Ms7 4.5/3*
*NEIC **05** 11:04:09.4±0.0, 56°.07N×156°.49W, h33km, ML4.1(AEIC), After AEIC.*
ISC 05 11:04:05.5±0.9**, 56°.25N**±0°.05×**156°.62W**±0°.03**, h14**km±5km**, n467,** σ**1.47**/475**, mb4.5**/56**, MS3.6**/18**, 7C, Alaska Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHGN	Chignik	1.00	274	ePn	Pn	11 04 26.7	+1.7
ANPK	Aniakchak Peak	1.03	306	P	Pn	11 04 28.6	+3.1
ANNE	Aniakchak Nort	1.04	311	P	Pn	11 04 28.9	+3.3
ANNW	Aniakchak Nort	1.14	310	P	Pn	11 04 30.8	+3.8
VNSG	Veniaminof 6	1.38	266	P	Pg	11 04 32.7	+0.7
VNHG	Veniaminof 1	1.42	270	P	Pg	11 04 33.5	+0.8
VNWF	Veniaminof 8	1.65	268	P	Pg	11 04 37.0	-0.1
KJL	Kejulik	1.90	17	P	Pg	11 04 41.4	-0.5
CAHL	Cahill	1.95	21	P	Pg	11 04 41.7	-1.1
OHAK	Old Harbor	2.08	61	ePn	Pn	11 04 41.5	+1.7
OHAK				S	Sn	11 05 06.6	+1.2
KABU	Katmai Buttres	2.15	19	P	Pb	11 04 45.0	+0.7
KELA	Mount Kelaz	2.25	12	P	Pb	11 04 45.8	-0.1
SDPT	Sand Point	2.36	249	ePn	Pb	11 04 46.2	-1.4
KARR	Katmai Rainbow	2.48	24	P	Pb	11 04 49.2	-0.6
KDAK	Kodiak Island	2.69	53	Pn	Pn	11 04 49.9	+1.7
	25nm,0.3s,baz=188,slow=7.1,SNR=500						
KDAK				Pg	Pg	11 04 59.0	+2.1
	151nm,0.3s,baz=249,slow=10,SNR=43						
KDAK				LR	LR	11 05 17.3	
	comp=Z,108nm,20.8s,baz=239,slow=26						
KDAK				Lg	Lg	11 05 31.8	
	56nm,0.3s,baz=90,slow=13,SNR=4.3						
KDAK	Kodiak Island	2.69	53	ePn	Pn	11 04 50.0	+1.8
KDAK				Pg	Pg	11 04 59.0	+2.1
KDAK				S	Sn	11 05 21.1	+0.5
KDAK				Lg	Lg	11 05 31.8	
KDAK	Kodiak Island	2.69	53	ceP	Pn	11 04 49.6	+1.4
FONW	Fourpeaked Sta	2.98	28	P	Pb	11 04 55.5	-2.7
PS4A	Pavlof South-4	3.09	255	P	Pn	11 04 55.3	+1.6
CDD	Cape Douglas	3.13	30	P	Pn	11 04 57.7	+3.4
DOL	Dolgoi Island	3.17	252	P	Pn	11 04 56.2	+1.4
DT1	Dutton Round H	3.40	253	P	Pn	11 04 59.4	+1.4
AUH	Augustine H	3.56	27	P	Pn	11 05 03.8	+3.6
FALS	False Pass	4.10	253	ePn	Pn	11 05 09.8	+2.2
ILW	Iliamna West	4.25	24	P	Pn	11 05 13.7	+4.0
ISLZ	Isanotski Laza	4.31	252	P	Pn	11 05 12.0	+1.5
HOM	Homer	4.33	36	ePn	Pn	11 05 13.8	+3.1
SSLN	Shishaldin Nor	4.43	254	P	Pn	11 05 14.2	+2.0
BRLK	Bradley Lake	4.66	38	ePn	Pn	11 05 17.3	+2.0
RSO	Redoubt South	4.69	24	ePn	Pn	11 05 17.9	+2.0
RDWB	Redoubt West	4.70	23	P	Pn	11 05 19.5	+3.6
SVW2	Sparrevohn	4.89	6	ePn	Pn	11 05 21.1	+2.6
SPU	Mount Spurr	5.49	24	ePn	Pn	11 05 29.7	+3.0
AKUT	Akutan	5.65	252	ePn	Pn	11 05 31.8	+2.9
RC01	Rabbit Creek A	6.04	34	ePn	Pn	11 05 36.6	+2.4
SUA	Susitna One	6.05	28	ePn	Pn	11 05 37.4	+2.8

UNV Unalaska Valle 6.17 251 ePn Pn 11 05 40.0 +4.0
PMR Palmer 6.61 33 ePn Pn 11 05 45.2 +3.2
PMR Palmer 6.61 33 eP Pn 11 05 45.2 +3.2
SML Sawmill 7.02 34 ePn Pn 11 05 49.7 +2.0
SML Sawmill 7.02 34 eP Pn 11 05 49.7 +2.0
PPLA Purkeypile 7.04 17 ePn Pn 11 05 52.1 +4.0
EYAK Cordova Ski Ar 7.15 48 ePn Pn 11 05 51.8 +2.3
SCM Sheep Creek Mo 7.37 37 ePn Pn 11 05 54.3 +1.8
SCM Sheep Creek Mo 7.37 37 eP Pn 11 05 54.3 +1.8
DIV Divide 7.47 45 ePn Pn 11 05 56.8 +2.9
RAGM Ragged Mountai 7.53 52 ePn Pn 11 05 56.2 +1.5
CAST Castle Rocks 7.55 16 ePn Pn 11 05 58.4 +3.5
KLU Klutina 7.64 42 ePn Pn 11 05 57.5 +1.3
BMRM Bremner River 7.85 48 ePn Pn 11 06 01.3 +2.2
KTH Kantishna Hill 7.87 19 ePn Pn 11 06 02.4 +3.1
TRF Thorofare Moun 7.89 21 ePn Pn 11 06 02.3 +2.5
RND Reindeer 8.17 25 ePn Pn 11 06 04.9 +1.4
RND Reindeer 8.17 25 eP Pn 11 06 04.9 +1.4
DHY Denali Highway 8.29 30 ePn Pn 11 06 07.0 +1.8
BPAW Bear Paw Mtn. 8.36 17 ePn Pn 11 06 08.2 +2.1
MCK McKinley 8.43 24 ePn Pn 11 06 10.0 +3.0
MCK McKinley 8.43 24 eP Pn 11 06 10.0 +3.0
HARP HAARP 8.51 39 ePn Pn 11 06 11.1 +3.0
PAX Paxson 8.79 35 ePn Pn 11 06 14.1 +2.1
PAX Paxson 8.79 35 eP Pn 11 06 14.1 +2.1
BALM Baldy 8.85 51 ePn Pn 11 06 15.1 +2.2
BALM Baldy 8.85 51 eP Pn 11 06 15.1 +2.2
WRH Wood River Hil 9.26 24 ePn Pn 11 06 18.6 +0.3
MLY Manley 9.27 16 ePn Pn 11 06 20.1 +1.6
MENT Mentasta 9.35 39 ePn Pn 11 06 22.4 +2.7
CCB Clear Creek Bu 9.47 24 ePn Pn 11 06 22.8 +1.5
HDA Harding Lake 9.47 26 ePn Pn 11 06 23.5 +2.2
RIDG Independe'e Rid 9.54 33 ePn Pn 11 06 24.8 +2.6
MDM Murphy Dome 9.65 22 ePn Pn 11 06 25.1 +1.3
COLA College 9.66 23 ePn Pn 11 06 25.3 +1.5
COLA College 9.66 23 eP Pn 11 06 25.3 +1.5
DOT Dot Lake 9.72 35 ePn Pn 11 06 27.2 +2.6
IL1 Eielson Array 9.79 25 ePn Pn 11 06 25.8 +0.2
ILAR Eielson Array 9.79 25 Pn Pn 11 06 25.7 +0.1
1.4nm,0.3s,baz=214,slow=13,SNR=56
ILAR Sn Sn 11 08 11.2 -4.0
0.5nm,0.3s,baz=215,slow=23,SNR=3.0
ILAR LR LR 11 10 30.4
comp=Z,138nm,20.8s,baz=208,slow=39
ILB Eielson Array 9.79 25 ePn Pn 11 06 25.9 +0.3
IM3 Indian Mountai 9.87 7 ePn Pn 11 06 29.8 +3.1
SCRK Sand Creek 9.97 34 ePn Pn 11 06 30.0 +1.8
GAMB Gambell 10.65 321 ePn Pn 11 06 41.4 +4.1
HYT Haines Junctio 10.97 57 ePn Pn 11 06 44.9 +2.9
EGAK Eagle 11.42 35 ePn Pn 11 06 49.9 +2.0
COLD Coldfoot 11.42 13 ePn Pn 11 06 51.5 +3.6
DAWY Dawson 11.59 40 ePn Pn 11 06 53.1 +2.9
FYU Fort Yukon 11.67 23 ePn Pn 11 06 53.4 +2.1
SKAG Skagway 11.77 65 ePn Pn 11 06 55.5 +2.9
BESE Bessie Mountai 11.95 70 ePn Pn 11 06 58.6 +3.4
WHY Whitehorse 12.19 60 ePn Pn 11 07 00.8 +2.3
TOLK Toolik Lake Re 12.85 12 P Pn 11 07 09.5 +2.1
baz=197
TOLK Toolik Lake Re 12.85 12 ePn Pn 11 07 12.3 +5.0
DLBC Dease Lake 14.49 70 ePn Pn 11 07 33.0 +3.2
INK Inuvik 16.03 32 Pn Pn 11 07 50.6 +0.5
0.5nm,0.3s,baz=230,slow=15,SNR=28
INK Sn S 11 10 57.4 -3.5
0.2nm,0.3s,baz=254,slow=20,SNR=5.4
INK Inuvik 16.03 32 ePn P 11 07 52.6 -0.9
INK Sn S 11 10 57.4 -3.5
INK Inuvik 16.03 32 eP P 11 07 52.6 -0.9
INK 11 10 57.4
BBB Bella Bella 17.10 92 LR LR 11 12 56.3
comp=Z,124nm,21.2s,baz=316,slow=31
BILL Bilibino 20.57 320 i P P 11 08 42.4 -1.0
BILL pmax pmax
comp=Z,4.0nm,0.8s
BILL pmax pmax
comp=Z,137nm,20.0s
LLLB Lillooet 21.29 91 eP P 11 08 53.8 +2.5
LLLB epP sP 11 09 08.0 +11
A04D Lummi Island 21.80 96 P P 11 08 56.1 -0.6
baz=303
YKA Yellowknife Ar 21.96 56 P P 11 08 59.1 +0.8
comp=Z,5.2nm,0.7s,baz=283,slow=10,SNR=123
YKA PcP PcP 11 12 55.7 -0.6
comp=Z,0.9nm,0.9s,baz=281,slow=1.7,SNR=4.9
YKA Yellowknife Ar 21.96 56 ceP P 11 08 59.0 +0.6
YKA pmax pmax
comp=Z,4.0nm,0.6s
B05A Bryant 22.39 96 P P 11 09 02.3 -0.8
baz=304
EDM Edmonton 24.86 79 eP P 11 09 28.5 +1.3
EDM Edmonton 24.86 79 eP P 11 09 28.5 +1.3
J05D Fort Rock, OR 25.95 105 P P 11 09 35.9 -1.4
baz=312
SEY Seymchan 26.04 306 P P 11 09 37.1 -0.6
comp=Z,3.4nm,0.8s,baz=102,slow=9.0,SNR=10
SEY Seymchan 26.04 306 i P P 11 09 36.8 -0.9
PETK Petropavlovsk- 26.22 283 P P 11 09 38.7 -0.8
comp=Z,3.8nm,0.7s,baz=74,slow=13,SNR=12
PETK LR LR 11 20 19.3
comp=Z,59nm,18.7s,baz=85,slow=37
YBH Yreka Blue Hor 26.24 109 LR LR 11 17 32.9
comp=Z,166nm,21.0s,baz=304,slow=31
M04C Macdoel 26.66 108 P P 11 09 42.8 -1.0
baz=315
N02D Trinity Center 26.78 110 P P 11 09 43.6 -1.1
baz=316
JTMT Jette 27.03 90 eP P 11 09 48.9 +1.8
MOD Modoc Plateau 27.40 106 eP P 11 09 52.2 +1.8
J08A Circle Bar Ran 27.40 102 ePcP PcP 11 13 08.9 +0.1
O03D Paynes Creek 27.75 110 P P 11 09 52.8 -0.6
baz=317
MSO Missoula 27.75 92 P P 11 09 52.8 -0.7
baz=305
WVOR Wild Horse Val 27.93 103 eP P 11 09 56.9 +1.8
WVOR Wild Horse Val 27.93 103 eP P 11 09 56.9 +1.8
HRY Holter Researc 29.00 90 eP P 11 10 05.7 +1.2
HLID Hailey 29.50 97 P P 11 10 08.9 -0.2
baz=310
RES Resolute Bay 29.52 28 P P 11 10 09.3 +0.6
comp=Z,3.0nm,0.7s,baz=264,slow=11,SNR=18
BOZ Bozeman (W) 29.77 92 P P 11 10 09.5 -2.0
baz=307
YERR Yerington 30.05 109 eP P 11 10 16.0 +1.9
YHH Holmes Hill 30.70 92 eP P 11 10 21.5 +1.6
YMR Madison River 30.72 93 eP P 11 10 21.7 +1.7
NV01 Mina Array Sit 30.96 109 eP P 11 10 23.4 +1.3
NVAR Mina Array Bea 30.96 109 P P 11 10 23.5 +1.4
comp=Z,3.0nm,0.8s,baz=302,slow=8.9,SNR=23
NVAR PcP PcP 11 13 17.9 -0.1
comp=Z,1.4nm,0.7s,baz=316,slow=2.0,SNR=9.6
NVAR LR LR 11 20 39.7
comp=Z,165nm,20.9s,baz=94,slow=32
MDPB Devils Postpil 31.14 111 eP P 11 10 25.6 +1.8
R11A Troy Canyon, C 32.46 106 P P 11 10 35.6 +0.3
baz=317,SNR=15
R11A Troy Canyon, C 32.46 106 eP P 11 10 36.7 +1.4
VES Vestal, Richgr 32.51 113 P P 11 10 35.2 -0.3
baz=321
FCC Fort Churchill 32.62 59 eP P 11 10 37.2 +1.0
FCC Fort Churchill 32.62 59 eP P 11 10 37.2 +1.0
PD31 Pinedale Array 32.72 94 eP P 11 10 38.5 +1.1
PDAR Pinedale Array 32.72 94 P P 11 10 38.6 +1.1
comp=Z,1.4nm,0.7s,baz=310,slow=4.4,SNR=12
PDAR PcP PcP 11 13 22.3 -0.4
comp=Z,0.1nm,0.4s,baz=39,slow=0.6,SNR=2.7
PDAR LR LR 11 23 15.5
comp=Z,32nm,18.3s,baz=273,slow=35
TPNV Topopah Spring 33.15 108 P P 11 10 39.0 -2.2
baz=318,SNR=7.4
TPNV Topopah Spring 33.15 108 eP P 11 10 42.9 +1.7
TPNV Topopah Spring 33.15 108 eP P 11 10 42.9 +1.7
MPMC Manual Prospec 33.17 111 P P 11 10 40.0 -1.5
baz=320
TIXI Tiksi 33.47 326 P P 11 10 43.7 +0.2
comp=Z,2.3nm,0.6s,baz=81,slow=9.4,SNR=15
TIXI PcP PcP 11 13 23.7 -0.3
comp=Z,0.4nm,0.3s,baz=19,slow=3.0,SNR=3.6
TIXI Tiksi 33.47 326 ceP P 11 10 43.0 -0.5
TIXI pmax pmax
comp=Z,2.0nm,0.8s
GSC Goldstone, Bar 34.10 111 P P 11 10 48.2 -1.3
baz=320
SRU San Rafael Swe 34.67 100 eP P 11 10 56.3 +1.8
SRU San Rafael Swe 34.67 100 eP P 11 10 56.3 +1.8
LCMT Little Creek M 34.70 105 eP P 11 10 56.7 +1.9

RSSD Black Hills 34.93 88 P P 11 10 54.0 -2.7
baz=309
RSSD Black Hills 34.93 88 eP P 11 10 57.5 +0.8
RSSD Black Hills 34.93 88 eP P 11 10 57.5 +0.8
GMRC Granite Mounta 35.10 110 P P 11 10 57.3 -0.9
baz=320
O20A White River Ci 35.22 96 P P 11 11 00.2 +1.0
baz=314,SNR=9.3
O20A White River Ci 35.22 96 eP P 11 11 00.6 +1.4
NKL Nikolayevsk 35.26 292 eP P 11 11 00.5 +1.3
TYV Tymovskoe 35.43 288 eP P 11 10 58.5 -2.2
TYV pmax pmax
comp=Z,17nm,1.0s
BELC Belle Mtn. Jos 35.53 111 P P 11 11 01.3 -0.6
baz=321
U15A North Rim 35.65 105 eP P 11 11 04.9 +1.8
ULM Lac du Bonnet 35.78 73 P P 11 11 04.1 +0.4
comp=Z,5.3nm,0.5s,baz=307,slow=7.6,SNR=16
ULM PcP PcP 11 13 30.5 -0.6
comp=Z,1.9nm,0.8s,baz=342,slow=8.4,SNR=3.0
ULM LR LR 11 25 06.2
comp=Z,104nm,20.7s,baz=344,slow=35
ULM Lac du Bonnet 35.78 73 eP P 11 11 04.4 +0.7
ULM PcP PcP 11 13 30.5 -0.6
ULM Lac du Bonnet 35.78 73 eP P 11 11 04.4 +0.7
ULM 11 13 30.5
W13A Hualapai Mount 35.79 108 eP P 11 11 05.9 +1.7
IRM Iron Mountain 35.85 110 P P 11 11 04.7 +0.2
baz=321
B31A Greenbush Farm 35.85 77 P P 11 11 03.8 -0.5
baz=305
BC3 Big Chuckawall 36.08 111 P P 11 11 04.8 -1.8
baz=321
C31A Landman Farms, 36.17 78 P P 11 11 06.6 -0.5
baz=306
A32A Rocking H Ranc 36.20 76 P P 11 11 06.8 -0.5
baz=305,SNR=6.0
PV01 Paradox Valley 36.44 99 eP P 11 11 11.1 +1.3
B32A Ashes, Strandq 36.48 76 P P 11 11 09.0 -0.6
baz=305
Y12C Blythe 36.49 110 P P 11 11 08.8 -1.1
baz=321
SMCO Snowmass 36.59 96 eP P 11 11 12.1 +0.9
A33A Warroad 36.78 75 P P 11 11 11.1 -1.2
baz=305
WUAZ Wupatki 36.82 105 P P 11 11 10.9 -2.1
baz=318
AGMN Agassiz Nation 36.90 76 P P 11 11 12.3 -0.9
baz=306,SNR=8.4
AGMN Agassiz Nation 36.90 76 eP P 11 11 13.3 0.0
B33A Robert and Kas 37.06 76 P P 11 11 13.7 -0.9
baz=306
MVCO Mesa Verde 37.14 100 P P 11 11 14.2 -1.5
baz=316
MVCO Mesa Verde 37.14 100 eP P 11 11 16.7 +0.9
C33A Trail 37.26 77 P P 11 11 16.8 +0.4
baz=306
B34A Aery, Baudette 37.44 75 P P 11 11 17.8 -0.1
baz=306,SNR=5.9
X16A Lo Mia Camp, P 37.62 106 eP P 11 11 21.5 +1.7
X16A epP sP 11 11 36.4 +10
X16A ePcP PcP 11 13 27.5 +0.3
113A Mohawk Valley, 37.65 110 eP P 11 11 21.0 +1.2
S22A 4UR Ranch, Cre 37.68 98 P P 11 11 19.9 -0.5
baz=316
S22A 4UR Ranch, Cre 37.68 98 eP P 11 11 21.9 +1.6
Q24A Divide 37.75 95 P P 11 11 20.9 -0.1
baz=314
C34A RKJ Ranch, Bem 37.80 76 P P 11 11 20.3 -0.6
baz=306
D34A Park Rapids 37.98 77 P P 11 11 21.7 -0.7
baz=307
B35A Bob, Littlefor 38.01 75 P P 11 11 22.5 -0.3
baz=306
F33A 5 Mile Ranch, 38.14 80 P P 11 11 22.5 -1.3
baz=308
C35A Jirik Farms, M 38.27 76 P P 11 11 22.9 -2.0
baz=307
X18A Snowflake 38.34 104 eP P 11 11 27.3 +1.5
H32A Carlson Farm, 38.35 82 P P 11 11 24.3 -1.4
baz=309
SDCO Great Sand Dun 38.41 97 P P 11 11 25.9 -0.6
baz=316,SNR=6.3
SDCO Great Sand Dun 38.41 97 eP P 11 11 28.1 +1.6
G33A Ortonville 38.47 80 P P 11 11 25.5 -1.0
baz=309
D35A Remer 38.60 76 P P 11 11 26.9 -0.9
baz=307
H33A Prehn Over Nor 38.62 81 P P 11 11 26.4 -1.5
baz=309
E35A Pequot Lakes 38.73 77 P P 11 11 27.9 -0.9
baz=308
214A Organ Pipe Nat 38.79 110 P P 11 11 28.4 -1.0
baz=322
C36A Pine Crest Far 38.85 75 P P 11 11 27.6 -2.2
baz=307
D36A Goodland 39.03 76 P P 11 11 29.7 -1.5
baz=307
F35A Swanville 39.07 78 P P 11 11 30.5 -1.2
baz=308
KSCO Kaye Shedlock' 39.12 93 P P 11 11 30.9 -1.4
baz=314
H34A Spellman Lake, 39.16 81 P P 11 11 31.2 -1.2
baz=309
C37A Embarrass 39.22 74 P P 11 11 31.8 -1.1
baz=307,SNR=5.1
K32A Verdigre 39.24 85 P P 11 11 32.1 -1.0
baz=311
ECSD EROS Data Cent 39.30 82 P P 11 11 32.9 -0.7
baz=310
MHTCO State Highway 39.31 97 eP P 11 11 36.0 +2.1
E36A McGregor 39.38 77 P P 11 11 31.9 -2.3
baz=308
D37A Cotton 39.44 75 P P 11 11 34.0 -0.7
baz=308
T25A Trinidad 39.45 96 P P 11 11 34.8 -0.4
baz=316
T25A Trinidad 39.45 96 eP P 11 11 36.9 +1.7
EYMN Ely 39.46 74 P P 11 11 34.3 -0.6
baz=307,SNR=6.6
EYMN Ely 39.46 74 eP P 11 11 35.5 +0.6
TUC Tucson 39.59 108 P P 11 11 34.8 -1.3
baz=321
F36A Milaca 39.64 78 P P 11 11 35.7 -0.7
baz=308
C38A Sawbill Land. 39.72 74 P P 11 11 36.2 -0.8
baz=307
ANMO Albuquerque 39.93 101 P P 11 11 37.9 -1.2
baz=318
ANMO Albuquerque 39.93 101 ceP P 11 11 39.5 +0.4
ANMO pmax pmax
comp=Z,3.0nm,1.2s
F37A Hinrichs Farm, 40.22 77 P P 11 11 40.4 -0.7
baz=309
H36A Jessenland, He 40.24 79 P P 11 11 40.6 -0.8
baz=310
E38A The Farm, Brul 40.25 75 P P 11 11 39.9 -1.5
baz=308
C39A Grand Marais 40.27 73 P P 11 11 39.7 -1.9
baz=307
M33A Taylor Creek F 40.40 85 P P 11 11 41.9 -0.9
baz=312
SPMN Marine on St. 40.44 78 P P 11 11 42.6 -0.4
baz=309
F38A Pierce - Schro 40.48 76 P P 11 11 43.3 -0.1
baz=309,SNR=9.9
C40A Isle Royale Na 40.73 72 P P 11 11 44.6 -0.8
baz=308
I37A Lemond, Waseca 40.89 80 P P 11 11 45.4 -1.3
baz=310
G38A Ridgeland 40.99 77 P P 11 11 46.8 -0.8
baz=310
121A Cookes Peak, D 41.02 104 P P 11 11 48.2 0.0
baz=320
F39A Loretta 41.03 76 P P 11 11 47.8 -0.1
baz=309
H38A Maiden Rock 41.08 78 P P 11 11 47.5 -0.8
baz=310
O33A Hebron 41.20 87 P P 11 11 48.0 -1.3
baz=313
E40A Wakefield 41.24 74 P P 11 11 49.0 -0.6
baz=309
J37A Redenius Farm, 41.27 81 P P 11 11 48.6 -1.2
baz=311
G39A Holcombe 41.29 77 P P 11 11 48.7 -1.3
baz=310
F40A Park Falls 41.45 75 P P 11 11 50.3 -1.0
baz=309,SNR=6.1
D41A Chassel 41.57 73 P P 11 11 51.2 -1.1
baz=308
K37A Belmond 41.58 81 P P 11 11 51.6 -0.8
baz=311
H39A Augusta 41.62 77 P P 11 11 51.4 -1.3
baz=310
E41A Kenton 41.73 74 P P 11 11 52.4 -1.3
baz=309
N35A Tabor 41.74 85 P P 11 11 52.4 -1.4
baz=313
G40A Rib Lake 41.83 76 P P 11 11 54.2 -0.3
baz=310
J38A Wedel Dairy, R 41.85 80 P P 11 11 53.7 -1.0
baz=311
I39A Houston 42.02 79 P P 11 11 55.0 -1.1
baz=311
KLR Kul'dur 42.11 292 i P P 11 11 55.2 -1.5
F41A Three Lakes 42.12 75 P P 11 11 55.9 -0.9
baz=310
H40A Chili 42.14 77 P P 11 11 56.1 -0.9
baz=310
M37A Trindle Farm, 42.26 83 P P 11 11 56.8 -1.1
baz=312
J39A Decorah 42.26 79 P P 11 11 56.1 -1.9
baz=311
E42A Champion 42.32 73 P P 11 11 57.4 -1.0
baz=309
L38A Oak Wood Farm, 42.37 82 P P 11 11 57.5 -1.4
baz=312
I40A Norwalk 42.49 78 P P 11 11 58.8 -1.1
baz=311
K39A Oelwein 42.58 80 P P 11 11 59.1 -1.5
baz=312
AMTX Amarillo 42.61 96 P P 11 11 60.0 -1.1
baz=317
N37A Lee Faris, Mou 42.61 84 P P 11 12 00.4 -0.5
baz=313
F42A Maple Grove Fa 42.63 74 P P 11 12 01.0 +0.1
baz=310
MSTX Muleshoe 42.68 98 P P 11 12 00.3 -1.4
baz=318
M38A Pleasantville 42.72 82 P P 11 12 01.0 -0.7
baz=312
J40A Soldiers Grove 42.75 79 P P 11 12 01.2 -0.8
baz=311
I41A Arkdale 42.79 77 P P 11 12 02.3 +0.1
baz=311
G42A Mountain 42.80 75 P P 11 12 01.7 -0.6
baz=310
E43A Lone Tree Farm 42.84 73 P P 11 12 01.4 -1.3
baz=310
L39A Vinton 42.91 81 P P 11 12 02.3 -1.0
baz=312
MNTX Cornudas Mount 42.97 103 P P 11 12 03.8 0.0
baz=320,SNR=5.7
MNTX Cornudas Mount 42.97 103 eP P 11 12 05.3 +1.5
K40A Colesburg 43.00 80 P P 11 12 03.1 -0.8
baz=312
F43A Flat Rock, Esc 43.10 73 P P 11 12 04.0 -0.7
baz=310
N38A Joes South For 43.13 83 P P 11 12 04.7 -0.3
baz=313
J41A Logansville 43.17 78 P P 11 12 04.0 -1.3
baz=311
G43A Wallace 43.19 74 P P 11 12 04.1 -1.4
baz=310
H42A Shiocton 43.22 76 P P 11 12 04.7 -1.0
baz=311
M39A Webster 43.25 82 P P 11 12 05.3 -0.7
baz=312
L40A Anamosa 43.38 80 P P 11 12 05.8 -1.2
baz=312
K41A Shullsburg 43.52 79 P P 11 12 07.7 -0.4
baz=312
P38A Dawn 43.77 85 P P 11 12 08.8 -1.4
baz=314
L41A Preston 43.77 80 P P 11 12 08.7 -1.5
baz=312
E45A Wooded Hills, 43.82 71 P P 11 12 10.0 -0.6
baz=310
Q38A Cooks Store, C 44.18 85 P P 11 12 12.9 -0.6
baz=314
M41A Milan 44.22 81 P P 11 12 12.8 -1.0
baz=313
L42A Oliver, Polo 44.27 79 P P 11 12 13.3 -1.0
baz=312
P39B Salisbury 44.29 84 P P 11 12 13.0 -1.4
baz=314
WMOK Wichita Mounta 44.33 94 P P 11 12 14.5 -0.3
baz=317,SNR=7.4
WMOK Wichita Mounta 44.33 94 eP P 11 12 15.6 +0.8
WMOK Wichita Mounta 44.33 94 eP P 11 12 15.6 +0.8
O40A La Belle 44.34 83 P P 11 12 13.3 -1.5
baz=314
F46A Macinaw City C 44.42 72 P P 11 12 15.0 -0.3
baz=310
Q39A Willow Grove F 44.48 85 P P 11 12 14.4 -1.5
baz=314
SUMG Summit 44.62 22 eP P 11 12 17.9 +0.8
SUMG Summit 44.62 22 eP P 11 12 17.9 +0.8
Q40A Laux Farm, Aux 45.01 84 P P 11 12 18.5 -1.7
baz=314
P41A Barry, Barry 45.10 83 P P 11 12 18.9 -1.9
baz=314
BOD Bodaibo 45.24 311 eP P 11 12 20.1 -1.6
BOD pmax pmax
comp=Z,4.0nm,1.7s
SFJD Kangerlussuaq 45.37 32 P P 11 12 23.4 +0.7
comp=Z,20nm,1.0s,baz=334,slow=6.0,SNR=4.7
R40A Maddies Statio 45.40 85 P P 11 12 22.0 -1.3
baz=315
ABTX Abilene, Hawle 45.42 97 P P 11 12 22.6 -1.0
baz=319,SNR=7.8
ABTX Abilene, Hawle 45.42 97 eP P 11 12 23.8 +0.3
Q41A Truxton 45.51 84 P P 11 12 22.3 -1.8
baz=314
T39A Clever 45.69 87 P P 11 12 23.8 -1.7
baz=316
TX31 Lajitas Ar. Si 45.73 103 eP P 11 12 26.6 +0.5
TX31 eP pP 11 12 26.9 -3.6
TXAR Lajitas Array 45.73 103 P P 11 12 26.8 +0.7
comp=Z,2.1nm,0.7s,baz=312,slow=6.1,SNR=30
TXAR PcP PcP 11 14 03.2 -0.5
comp=Z,1.4nm,0.6s,baz=207,slow=0.7,SNR=9.3
TXAR LR LR 11 29 40.4
comp=Z,92nm,19.8s,baz=0.0,slow=34
SPITS Spitsbergen Ar 45.76 2 P P 11 12 25.3 -0.3
comp=Z,4.9nm,0.6s,baz=344,slow=9.4,SNR=14
S41A Jillco Farms, 46.19 85 P P 11 12 27.7 -1.8
baz=315
N45A Kentland 46.24 79 P P 11 12 28.4 -1.5
baz=314
Q43A New Douglas 46.37 82 P P 11 12 29.6 -1.3
baz=315
P44A Sand Creek, Wi 46.59 81 P P 11 12 31.8 -0.8
baz=314
N46A Monticello 46.63 78 P P 11 12 32.0 -0.9
baz=314
H11S1 WAKE ISLAND Hy 46.64 231 T T 12 03 23.9
baz=21
H11S2 WAKE ISLAND Hy 46.65 231 T T 12 03 07.6
baz=21
H11S3 WAKE ISLAND Hy 46.66 231 T T 12 03 12.8
baz=21
W39A Magazine 46.78 89 P P 11 12 32.7 -1.4
baz=317
SFIN Lafayette 46.80 79 P P 11 12 32.9 -1.4
baz=314
V40A Witts Springs 46.87 88 P P 11 12 33.2 -1.7
baz=317
JCT Junction City 46.96 99 P P 11 12 35.7 +0.1
baz=320,SNR=7.3
JCT Junction City 46.96 99 eP P 11 12 36.0 +0.3
JCT epP sP 11 12 49.7 +7.8
JCT Junction City 46.96 99 eP P 11 12 36.0 +0.3
P45A Graceland, Par 47.03 80 P P 11 12 34.6 -1.5
baz=314
MJAR Matsushiro Arr 47.11 274 P P 11 12 36.2 -0.6
comp=Z,0.6nm,0.5s,baz=28,slow=6.3,SNR=3.6
WHTX Lake Whitney, 47.11 95 P P 11 12 35.1 -1.7
baz=319
S43A Fulton Ridge, 47.13 84 P P 11 12 35.9 -1.0
baz=316
Q45A Warren Harvey, 47.25 81 P P 11 12 36.4 -1.4
baz=315
V41A Mountainview 47.26 87 P P 11 12 36.6 -1.4
baz=317

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
P46A	Rosedale	47.27	80	P	P	11 12 36.3	-1.6
	baz=314						
SCHQ	Schefferville	47.32	52	P	P	11 12 38.1	0.0
	comp=Z,6.0nm,0.6s,baz=309,slow=8.7,SNR=5.7						
T43A	Greenville	47.36	85	P	P	11 12 37.1	-1.5
	baz=316						
MIAR	Mount Ida	47.37	90	P	P	11 12 37.9	-0.9
	baz=317						
P47A	Martinsville	47.87	79	P	P	11 12 41.7	-1.0
	baz=315						
S46A	Don Dixon Farm	48.36	82	P	P	11 12 45.7	-0.7
	baz=316						
140A	Cam and Jess,	48.79	91	P	P	11 12 48.9	-0.9
	baz=318						
S48A	Wiedeman Farm,	49.29	81	P	P	11 12 52.9	-0.6
	baz=316						
WVT	Waverly	49.42	84	P	P	11 12 52.9	-1.6
	baz=317						
ERPA	Erie	49.43	72	P	P	11 12 54.0	-0.6
	baz=314						
SCO	Scoresbysund	49.49	18	eP	P	11 12 55.9	+1.3
SCO	Scoresbysund	49.49	18	eP	P	11 12 55.9	+1.3
V46A	Holladay	49.50	84	P	P	11 12 54.3	-0.8
	baz=317						
V47A	Nunnelly	49.81	84	P	P	11 12 56.5	-1.0
	baz=317						
W46A	Michie	49.84	85	P	P	11 12 57.1	-0.7
	baz=317						
U48A	Cassie Pea, Po	49.85	82	P	P	11 12 56.6	-1.2
	baz=316						
341A	Kurthwood	50.00	92	P	P	11 12 57.9	-1.1
	baz=319						
PLAL	Pickwick Lake	50.12	85	eP	P	11 12 59.3	-0.6
PLAL				epP	sP	11 13 13.9	+7.8
X46A	Booneville	50.15	86	P	P	11 12 59.2	-0.9
	baz=318						
W47A	Westpoint	50.19	84	P	P	11 12 58.9	-1.5
	baz=317						
342A	Flagon Creek P	50.44	91	P	P	11 13 01.0	-1.3
	baz=319						
Y46A	Houston	50.49	86	P	P	11 13 02.5	-0.2
	baz=318						
LONY	Lake Ozonia	50.50	66	P	P	11 13 01.1	-1.6
	baz=314						
X47A	Russelville	50.58	85	P	P	11 13 02.0	-1.4
	baz=318						
W48A	Pulaski	50.64	84	P	P	11 13 02.7	-1.1
	baz=317						
145A	Houston Renfro	50.85	88	P	P	11 13 03.7	-1.7
	baz=318						
X48A	Hartselle	51.08	84	P	P	11 13 05.6	-1.5
	baz=318						
X49A	Woodville	51.44	84	P	P	11 13 08.2	-1.6
	baz=318						
Z47A	Carrollton	51.44	86	P	P	11 13 08.0	-1.9
	baz=318						
TZTN	Tazewell	51.48	80	P	P	11 13 08.8	-1.4
	baz=317						
SSPA	Standing Stone	51.59	72	P	P	11 13 10.0	-0.9
	baz=316						
Z48A	Northport	51.59	86	P	P	11 13 09.9	-1.1
	baz=318						
247A	Quitman	52.00	88	P	P	11 13 14.0	0.0
	baz=319						
TKL	Tuckaleechee C	52.00	81	LR	LR	11 35 35.8	
	comp=Z,88nm,18.2s,baz=339,slow=36						
KSRS	Korea Array	52.12	283	P	P	11 13 15.9	+1.1
	comp=Z,1.3nm,0.6s,baz=43,slow=7.1,SNR=5.7						
KSRS				LR	LR	11 35 29.4	
	comp=Z,50nm,20.4s,baz=158,slow=36						
KSAR	Wonju Array Be	52.15	283	P	P	11 13 15.9	+0.9
KSAR	Wonju Array Be	52.15	283	P	P	11 13 16.0	+0.9
Y50A	Piedmont	52.22	84	P	P	11 13 14.5	-1.2
	baz=318						
Z49A	Columbiana	52.30	85	P	P	11 13 14.6	-1.6
	baz=318						
TLY	Talaya	53.81	311	eP	P	11 13 28.0	+0.8
TLY	Talaya	53.81	311	eP	P	11 13 28.5	+1.3
TLY				pmax	pmax		
	comp=Z,6.0nm,0.9s						
ARCES	ARCESS Array B	54.51	359	P	P	11 13 31.6	-0.4
	comp=Z,3.2nm,0.7s,baz=21,slow=8.2,SNR=14						
ZAK	Zakamensk	54.92	310	eP	P	11 13 34.9	-0.5
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.0s						
MOY	Mondy	54.93	312	eP	P	11 13 37.1	+1.6
ULN	Ulaanbaatar	55.11	305	eP	P	11 13 37.3	+0.4
ULN	Ulaanbaatar	55.11	305c	eP	P	11 13 37.6	+0.7
ULN				pmax	pmax		
	comp=Z,3.0nm,1.0s						
SONA1	Songino Array	55.42	306	eP	P	11 13 39.3	+0.2
SONM	Songino Array	55.43	306	P	P	11 13 39.4	+0.2
	comp=Z,5.8nm,0.8s,baz=45,slow=6.7,SNR=31						
SONM				PcP	PcP	11 14 39.0	-0.3
	comp=Z,1.2nm,0.6s,baz=66,slow=2.4,SNR=3.9						
SONM				LR	LR	11 39 28.6	
	comp=Z,76nm,18.2s,baz=92,slow=38						
555A	McAlpin	56.60	85	P	P	11 13 45.8	-1.7
	baz=320						
HHC	Hu-ho-hao-te	58.19	297	eP	P	11 14 00.2	+1.4
HHC				pmax	pmax		
	comp=Z,17nm,1.2s						
HHC				pmax	pmax		
	comp=Z,110nm,6.2s						
ZALV	Zalesovo Beam	59.24	323	P	P	11 14 06.2	+0.5
	comp=Z,3.2nm,1.0s,baz=1.0,slow=8.9,SNR=7.5						
ZALV				LR	LR	11 42 47.3	
	comp=Z,40nm,18.4s,baz=70,slow=39						
DGZ	Jazzator, Alta	61.81	319	i P	P	11 14 23.4	-0.2
DGZ				pmax	pmax		
	comp=Z,1.0nm,0.9s						
KLMR	Klimovskoe	62.55	351	eP	P	11 14 26.9	-1.2
KLMR				AMP		11 14 28.8	
	comp=Z,11nm,1.1s						
KLMR	Klimovskoe	62.55	351	eP	P	11 14 26.8	-1.3
KLMR				pmax	pmax		
	comp=Z,11nm,1.1s						
FINES	FINESS Array B	62.63	359	P	P	11 14 28.4	-0.3
	comp=Z,2.4nm,0.7s,baz=15,slow=7.9,SNR=7.0						
FINES	FINESS Array B	62.63	359	i P	P	11 14 28.1	-0.5
FINES				pmax	pmax		
	comp=Z,2.0nm,0.7s						
NB2	NORSAR Subarra	62.66	7	P	P	11 14 29.0	+0.1
	comp=Z,3.3nm,0.7s,baz=354,slow=6.9						
NOA	NORSAR Array B	62.66	7	P	P	11 14 29.1	+0.2
	comp=Z,4.5nm,0.9s,baz=352,slow=6.7,SNR=11						
NOA				LR	LR	11 42 18.1	
	comp=Z,8.9nm,19.6s,baz=330,slow=37						
HFS	Hagfors	63.71	5	P	P	11 14 35.6	-0.3
	comp=Z,2.6nm,0.4s,baz=22,slow=5.1,SNR=18						
KURK	Kurchatov	64.01	324	eP	P	11 14 38.6	+0.6
KURK	Kurchatov	64.01	324c	eP	P	11 14 37.7	-0.3
KURK				pmax	pmax		
	comp=Z,32nm,2.5s						
ARU	Arti	64.12	339	eP	P	11 14 38.6	-0.1
ARU	Arti	64.12	339c	i P	P	11 14 38.2	-0.4
ARU						11 15 12.0	
ARU						11 16 57.7	
ARU				S	S	11 23 16.2	+1.6
ARU				SS	SS	11 27 18.6	-3.9
ARU				pmax	pmax		
	comp=Z,8.0nm,0.8s						
KURBB	Kurchatov Arra	64.12	324	P	P	11 14 38.4	-0.3
	comp=Z,2.5nm,0.9s,baz=28,slow=6.1,SNR=14						
BRVK	Borovoye	64.45	331	i P	P	11 14 41.3	+0.5
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.8s						
BVAR	Borovoye Array	64.45	331	P	P	11 14 40.7	-0.2
	comp=Z,3.2nm,0.8s,baz=48,slow=4.6,SNR=12						
GTA	Gaotai	64.96	304	eP	P	11 14 45.7	+1.1
GTA				pP	sP	11 14 56.0	+5.1
GTA				sP	pP	11 15 00.5	+11
GTA				pmax	pmax		
	comp=Z,5.0nm,1.2s						
MK31	Makanchi Array	66.12	320	eP	P	11 14 51.2	-0.6
MK31	Makanchi Array	66.12	320	eP	P	11 14 51.2	-0.6
MKAR	Makanchi Array	66.12	320	P	P	11 14 51.0	-0.8
	comp=Z,2.2nm,0.9s,baz=48,slow=5.8,SNR=19						
MKAR	Makanchi Array	66.12	320	eP	P	11 14 51.2	-0.6
MKAR	Makanchi Array	66.12	320	eP	P	11 14 51.2	-0.6
MK01	Makanchi Array	66.14	320	eP	P	11 14 51.0	-0.9
MAKZ	Makanchi	66.22	320	eP	P	11 14 52.1	-0.3
MAKZ	Makanchi	66.22	320	eP	P	11 14 52.1	-0.3
WMQ	Urumqi	66.59	315	P	P	11 14 55.0	+0.1
WMQ				LR	LR		
	comp=Z,89nm,17.9s						
WMQ				LR	LR		
	comp=Z,150nm,15.7s						
WMQ				LR	LR		
	comp=Z,140nm,16.7s						
EKA	Eskdalemuir Ar	66.70	16	P	P	11 14 56.2	+1.0
	comp=Z,7.0nm,0.9s,baz=352,slow=4.9,SNR=12						
OBN	Obninsk	68.48	352	eP	P	11 15 06.3	-0.2
OBN				pmax	pmax		
	comp=Z,8.0nm,0.8s						
OBN				MLR	MLR		
	comp=Z,29nm,15.0s						
AKTO	Aktyubinsk	69.87	337	P	P	11 15 15.3	+0.1
	comp=Z,4.9nm,0.8s,baz=20,slow=6.7,SNR=24						
AB05	Akbulak array	70.53	336	eP	P	11 15 19.2	0.0
AB06	Akbulak array	70.53	336	eP	P	11 15 19.3	0.0
AB02	Akbulak array	70.54	336	eP	P	11 15 19.3	0.0
AB04	Akbulak array	70.55	336	eP	P	11 15 19.4	0.0
AB01	Akbulak array	70.55	336	eP	P	11 15 19.3	-0.1
AB09	Akbulak array	70.55	336	eP	P	11 15 19.4	0.0
AB31	Akbulak array	70.55	336	eP	P	11 15 19.4	0.0
AB31	Akbulak array	70.55	336	eP	P	11 15 19.4	0.0
ABKAR	Akbulak array	70.55	336	eP	P	11 15 19.4	0.0
AB03	Akbulak array	70.55	336	eP	P	11 15 19.4	-0.1
AB07	Akbulak array	70.56	336	eP	P	11 15 19.4	-0.1
AB08	Akbulak array	70.56	336	eP	P	11 15 19.4	-0.1
AFI	Afiamalu	71.04	196	LR	LR	11 38 23.7	
	comp=Z,59nm,21.6s,baz=274,slow=29						
GYA	Guiyang	71.99	291	eP	P	11 15 28.2	-0.5
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
AAK	Ala-Archa	72.46	323	P	P	11 15 31.4	+0.1
	comp=Z,3.1nm,0.6s,baz=343,slow=1.6,SNR=12						
BRG	Berggiesshubel	72.96	6	eP	P	11 15 34.7	+0.8
	comp=Z,5.0nm,0.7s						
BRG	Berggiesshubel	72.96	6	eP	P	11 15 34.7	+0.8
BRG				pmax	pmax		
	comp=Z,5.0nm,0.7s						
AKASG	Malin Array Be	73.31	356	P	P	11 15 35.4	-0.6
	comp=Z,6.0nm,0.5s,baz=7.0,slow=5.8,SNR=26						
AKBB	Malin Array Si	73.31	356	eP	P	11 15 35.0	-0.9
AKBB	Malin Array Si	73.31	356	eP	P	11 15 35.0	-0.9
KK05	Karatay Array	73.32	326	eP	P	11 15 36.4	+0.2
KK04	Karatay Array	73.33	326	eP	P	11 15 35.9	-0.4
AK11	Malin Array Si	73.33	356	eP	P	11 15 35.5	-0.6
KK01	Karatay Array	73.33	326	eP	P	11 15 36.5	+0.2
KK02	Karatay Array	73.33	326	eP	P	11 15 36.5	+0.2
KK31	Karatay Array	73.33	326	eP	P	11 15 36.5	+0.2
KK31	Karatay Array	73.33	326	eP	P	11 15 36.5	+0.2
KKAR	Karatay Array	73.33	326	eP	P	11 15 36.6	+0.3
KKAR	Karatay Array	73.33	326	eP	P	11 15 36.6	+0.3
KK03	Karatay Array	73.34	326	eP	P	11 15 36.5	+0.2
KK06	Karatay Array	73.34	326	eP	P	11 15 36.5	+0.2
KK08	Karatay Array	73.34	326	eP	P	11 15 36.5	+0.2
KK07	Karatay Array	73.35	326	eP	P	11 15 36.6	+0.2
KWP	Kalwaria Pacla	74.49	0	eP	P	11 15 43.5	+0.6
KWP	Kalwaria Pacla	74.49	0	eP	P	11 15 43.5	+0.6
KHC	Kasperske Hory	74.67	7	eP	P	11 15 44.9	+0.9
KHC	Kasperske Hory	74.67	7	eP	P	11 15 44.9	+0.9
STHS	Stebnicka Huta	74.69	1	eP	P	11 15 45.4	+1.3
STHS	Stebnicka Huta	74.69	1	eP	P	11 15 45.4	+1.3
STHS				pmax	pmax		
	comp=Z,8.0nm,1.4s						
GERES	GERESS Array B	74.97	7	P	P	11 15 46.5	+0.7
	comp=Z,1.0nm,0.6s,baz=343,slow=4.2,SNR=7.3						
GEA0	GERESS Array S	74.97	7	eP	P	11 15 46.1	+0.3
CRVS	Cervenica-Dubn	75.21	1	eP	P	11 15 49.1	+2.0
CRVS	Cervenica-Dubn	75.21	1	eP	P	11 15 49.1	+2.0
UZH	Uzhgorod	75.49	1	eP	P	11 15 47.2	-1.4
UZH				e		11 15 51.6	
UZH				e		11 15 59.0	
VYHS	Vyhne	75.56	3	eP	P	11 15 49.9	+0.8
VYHS	Vyhne	75.56	3	eP	P	11 15 49.9	+0.8
VYHS				pmax	pmax		
	comp=Z,5.0nm,1.4s						
KECS	Kecovo	75.61	2	eP	P	11 15 49.7	+0.3
KECS	Kecovo	75.61	2	eP	P	11 15 49.7	+0.3
KECS				pmax	pmax		
	comp=Z,3.0nm,0.9s						
BUR08	Bucovina Ar. S	76.47	359	eP	P	11 15 55.0	+0.5
BUR04	Bucovina Ar. S	76.49	359	eP	P	11 15 54.8	+0.2
MLR	Muntele Rosu	78.61	358	P	P	11 16 07.6	+1.1
	comp=Z,0.3nm,0.5s,baz=346,slow=14,SNR=3.3						
KIV	Kislovodsk	78.85	346	eP	P	11 16 08.6	+0.9
KIV				pmax	pmax		
	comp=Z,8.0nm,1.0s						
KIV				MLR	MLR		
	comp=Z,25nm,18.0s						
KBZ	Khabaz	79.04	346	P	P	11 16 09.3	+0.7
	comp=Z,6.7nm,0.9s,baz=332,slow=3.6,SNR=16						
SOC	Sochi	79.59	348	eP	P	11 16 10.4	-1.2
SOC				eS	S	11 26 02.2	-11
SOC				pmax	pmax		
	comp=Z,7.0nm,0.4s						
ZEI	Tsey	79.82	345	eP	P	11 16 11.8	-1.4
ZEI				pmax	pmax		
	comp=Z,3.0nm,0.7s						
PMG	Port Moresby	80.12	236	LR	LR	11 45 52.1	
	comp=Z,61nm,20.9s,baz=178,slow=31						
SDV	Santo Domingo	80.45	88	LR	LR	11 52 11.7	
	comp=Z,34nm,21.5s,baz=54,slow=36						
NIL	Nilore	80.94	320	eP	P	11 16 19.7	+0.5
NIL	Nilore	80.94	320	eP	P	11 16 19.7	+0.5
RUSC	La Rusia	81.54	92	eP	P	11 16 21.7	-1.4
ES19	SONSECA Array	81.65	21	eP	P	11 16 23.6	+0.7
ES19				epP	PcP	11 16 37.3	+8.6
GEYT	Alibeck	81.65	333	P	P	11 16 22.7	-0.2
	comp=Z,4.4nm,0.7s,baz=289,slow=4.5,SNR=11						
ESDC	Sonseca Array	81.67	21	P	P	11 16 23.9	+0.9
	comp=Z,0.9nm,0.5s,baz=332,slow=4.8,SNR=7.7						
GNI	Garni	82.28	344	LR	LR	11 59 00.6	
	comp=Z,22nm,19.4s,baz=85,slow=40						
CMAR	Chiang Mai Arr	82.59	292	P	P	11 16 27.1	-1.0
	comp=Z,2.7nm,0.7s,baz=11,slow=5.5,SNR=19						
CM01	Chiang Mai Arr	82.61	292	eP	P	11 16 27.6	-0.5
BR231	Keskin MP Arra	83.95	353	eP	P	11 16 36.1	+1.2
BR131	Keskin Array S	84.00	352	eP	P	11 16 35.9	+0.6
BRTR	Keskin Array B	84.00	352	P	P	11 16 35.8	+0.6
	comp=Z,3.7nm,0.9s,baz=2.6,slow=2.7,SNR=18						
WRA	Warramunga Arr	95.36	242	P	P	11 17 26.5	-2.5
	comp=Z,0.4nm,0.8s,baz=38,slow=5.2,SNR=3.8						
QSPA	South Pole Qui	146.03	180	PKPbc	PKPdf	11 23 42.0	-0.3
	comp=Z,18nm,0.9s,baz=43,slow=1.4,SNR=26						

MEX 05 11:04:09.8±0.3, 16°.12N×93°.23W, h83km±8km, MD3.7, Chiapas

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PCIG		0.41	178	eP	Pn	11 04 21.8	-1.3
PCIG				i S	Sn	11 04 31.2	-1.8
TGIG		0.67	9	eP	Pn	11 04 24.1	-1.4
TGIG				eS	Sn	11 04 34.5	-2.6
CCIG	Comitan	1.07	81	eP	Pn	11 04 28.7	-1.3
CCIG				eS	Sn	11 04 43.3	-1.9

IDC 05 11:35:40.0±7.3, 4°.61S×154°.17E, h96km±56km, mb3.3/2, mb1 3.6/3, mb1mx3.0/56, mbtmp3.8/3, ML2.3/1, Error ellipse: s-maj=118.4km s-min=49.0km az=133.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	8.43	235	P	Pn	11 37 39.8	+0.4
	1.8nm,0.3s,baz=64,slow=8.8,SNR=6.0						
PMG				S	Sn	11 39 08.9	-4.0
	0.8nm,0.3s,baz=124,slow=14,SNR=6.2						
WRA	Warramunga Arr	24.60	230	P	P	11 40 51.2	-0.2
	2.1nm,0.7s,baz=53,slow=9.9,SNR=25						
ASAR	Alice Springs	27.22	224	P	P	11 41 14.9	-0.2
	0.5nm,0.9s,baz=61,slow=8.5,SNR=5.2						
TXAR	Lajitas Array	102.85	61	P	Pdif	11 49 26.8	-0.9
	0.5nm,1.0s,baz=260,slow=5.4,SNR=3.9						
TORD	Torodi Ar. Bea	151.53	289	PKPbc	PKPbc	11 55 24.4	+0.3
	0.5nm,0.6s,baz=80,slow=1.6,SNR=4.1						

ATA 05 11:51:04.6±1.0, 38°.96N×43°.82E, h1km±7km, ML2.8, MW3.1

ISC 05 11:51:07.2±1.3, 38°.98N±0°.04×43°.78E±0°.06, h14km±11km, n9, σ1s.82/14, Turkey

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CLDR	Caldiran	0.19	34	ePG	Pg	11 51 10.8	-1.1
CLDR				eSG	Sb	11 51 17.3	+0.9
VANB	Van	0.49	218	ePG	Pn	11 51 22.3	+2.3
AGRB	Hanur-Agry	0.85	314	ePG	Pb	11 51 21.8	-2.1
AGRB				eSG	Sb	11 51 34.8	-0.4
TUTA	Tutak	0.86	299	eP	Pb	11 51 22.4	-1.7
TUTA				IAML		11 51 40.2	
	comp=Z,17nm,0.3s						
GEVA	Gevas	0.88	220	eP	Pb	11 51 22.4	-1.9
GEVA				eS	Sb	11 51 36.1	+0.2
GEVA				IAML		11 51 49.5	
	comp=Z,18nm,0.6s						
EATA	Eleskirt	1.33	312	eP	Pn	11 51 31.4	-0.2
EATA				eS	Sg	11 51 52.5	+2.4
EKAR	Karacoban	1.36	282	eP	Pn	11 51 32.5	+0.5
EKAR				eS	Sg	11 51 54.1	+2.9
GURO	Guroymak-BITLI	1.43	253	ePG	Pn	11 51 32.1	-0.8
DIGO	Kars	1.46	348	eP	Pb	11 51 34.5	+0.1

MAN 05 11:53:44, 9°.89N×123°.19E, h32km, mb4.4, ML3.3, MS3.1, 2C, Negros

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SNPH	Sibulan	0.54	175	eP	Pn	11 53 56.6	+1.0
SNPH				eS	Sn	11 54 04.5	+0.9
LLP	Lapu-Lapu	0.88	61	eP	Pn	11 53 59.1	-1.0
LLP				eS	Sb	11 54 12.5	+0.4
GUIM	Jordan	0.95	321	eP	Pn	11 54 01.2	+0.1
GUIM				eS	Sn	11 54 13.7	+0.2
DCPH	Dipolog City	1.30	173⇑	eP	Pb	11 54 08.5	+0.5
DCPH				eS	Sb	11 54 26.6	+2.2
MSLP	Maasin	1.66	81	eP	Pb	11 54 14.8	+0.8
RCP	Roxas	1.72	345⇑	eP	Pb	11 54 15.2	+0.2

NIED 05 11:56:00, 34°.70N×138°.60E, h14km, Mw3.6 Best double couple: Mo2.46000×10^14 NP1:φs147.00000°, δ35.00000°, λ83.00000°. NP2:φs335.00000°, δ55.00000°, λ95.00000°.

JMA 05 11:56:50.1±0.1, 34°.67N×138°.56E, h21km±2km, M3.6, 8D Broadband fault plane solution: P waves. NP1: φs325.00000°, δ53.00000°, λ104.00000°. **NP2:** φs123.00000°, δ39.00000°, λ73.00000°. **Principal axes:** T Plg77.0000°, Azm283.0000°; N Plg11.0000°, Azm136.0000°; P Plg7.0000°, Azm45.0000°; **Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JIZS	Izushimoda	0.27	80	⇓P	Pb	11 56 56.2	-0.2
JIZS				S	Sb	11 57 00.8	0.0
JSG	Sagara	0.31	271	⇓P	Pb	11 56 57.3	+0.4
KTJJ	Kamata 2	0.49	58	⇓P	Pb	11 57 00.1	+0.2
KTJJ				S	Sb	11 57 07.2	+0.6
SHZ3	Shizuoka 3	0.49	324	⇓P	Pb	11 56 59.7	-0.3
SHZ3				S	Sb	11 57 07.0	+0.2
TK04	Tokai 4	0.63	244	P	Pb	11 57 02.0	-0.5
JKO	Kozu shima	0.68	135	⇓P	Pb	11 57 03.1	-0.2
JKO				S	Sb	11 57 12.9	+0.7
JIM2	Oshima 3	0.72	86	⇓P	Pb	11 57 03.8	-0.2
JOD2	Odawara 2	0.73	36	⇓P	Pb	11 57 03.9	-0.3
JOD2				S	Sb	11 57 14.0	+0.2
JYN	Shimob	0.83	359	⇓P	Pb	11 57 05.2	-0.6
JYN				eS	Sb	11 57 16.7	+0.2
MAT	Matsushiro	1.89	351	P	Pb	11 57 22.9	-1.0
MAT				S	Sb	11 57 48.4	+1.3

IDC 05 11:59:27.2±2.4, 54°.22N×86°.19E, h0km, mb1 3.1/2, mb1mx2.9/66, mbtmp3.1/2, ML2.8/2 Error ellipse: s-maj=18.2km s-min=12.4km az=46.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	0.85	252	i		12 05 22.6	
	baz=74,slow=323,SNR=4.0						
ZALV	Zalesovo Beam	0.85	252	Pg	Pg	11 59 42.0	-1.4
	2.4nm,0.3s,baz=66,slow=18,SNR=17						
ZALV				Lg	Lg	11 59 55.7	
	7.6nm,0.3s,baz=72,slow=29,SNR=26						
ZALV				Rg	Rg	12 00 00.3	
	11nm,0.3s,baz=74,slow=32,SNR=10.0						
KURBB	Kurchatov Arra	5.91	236	Pn	Pn	12 00 56.7	+0.8
	0.1nm,0.3s,baz=55,slow=12,SNR=9.5						
KURBB				Sn	Sn	12 02 03.4	-0.9
	baz=40,slow=28,SNR=1.4						
KURBB				Lg	Lg	12 02 36.8	
	0.0nm,0.3s,baz=52,slow=33,SNR=6.5						
MKAR	Makanchi Array	7.84	200	Pn	Pn	12 01 23.5	+1.0
	0.3nm,0.3s,baz=27,slow=14,SNR=16						
MKAR				Sn	Sn	12 02 52.6	+0.8
	0.1nm,0.3s,baz=24,slow=28,SNR=3.0						
MKAR				Lg	Lg	12 03 35.8	
	0.0nm,0.3s,baz=14,slow=25,SNR=3.5						

MAN 05 11:59:42, 10°.03N×125°.62E, h9km, mb4.4, ML3.2, MS3.0, 4C-1D, Leyte

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SCPH	Surigao	0.28	208⇑	eP	Pg	11 59 48.2	+0.5
SCPH				eS	Sg	11 59 52.2	+0.7
MSLP	Maasin	0.76	278	eP	Pg	11 59 56.7	0.0
BUTP	Butuan	1.06	180	eP	Pg	12 00 00.2	-2.1
BUTP				eS	Sg	12 00 14.7	-1.4
PLP	Palo	1.29	331⇑	eP	Pn	12 00 04.3	-2.0
BESP	Borongan	1.57	353	eP	Pn	12 00 10.4	+0.4
BESP				eS	Sg	12 00 36.5	+3.9
LLP	Lapu-Lapu	1.66	280⇓	eP	Pn	12 00 10.8	-0.4
LLP				eS	Sb	12 00 33.7	0.0
BUKP	Musuan	2.21	195	eP	Pn	12 00 20.0	+1.1
BUKP				eS	Sn	12 00 47.7	+1.2
DCPH	Dipolog City	2.67	237⇑	eP	Pn	12 00 23.7	-1.5
DCPH				eS	Sn	12 00 56.5	-1.1
RCP	Roxas	3.21	298⇑	eP	Pn	12 00 33.8	+1.1

IDC 05 12:03:49.5±3.0, 53°.69N×88°.07E, h0km, mb1 2.8/2, mb1mx2.8/66, mbtmp2.8/2, ML2.6/2, Error ellipse: s-maj=24.5km s-min=17.0km az=62.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.94	279	i		12 16 15.3	
	baz=97,slow=334,SNR=1.0						
ZALV	Zalesovo Beam	1.94	279	Pn	Pn	12 04 23.3	-0.4
	4.1nm,0.3s,baz=102,slow=12,SNR=30						
ZALV				Lg	Lg	12 04 51.5	
	5.3nm,0.3s,baz=97,slow=26,SNR=20						
KURBB	Kurchatov Arra	6.62	246	Pn	Pn	12 05 28.3	+0.3
	0.1nm,0.3s,baz=62,slow=14,SNR=8.9						
KURBB				Sn	Sn	12 06 42.8	-1.4
	0.0nm,0.3s,baz=61,slow=31,SNR=2.6						
KURBB				Lg	Lg	12 07 20.8	
	0.1nm,0.3s,baz=61,slow=30,SNR=3.4						
MKAR	Makanchi Array	7.83	210	Pn	Pn	12 05 46.2	+1.5
	0.1nm,0.3s,baz=41,slow=16,SNR=2.9						
MKAR				Sn	Sn	12 07 14.0	0.0
	0.1nm,0.3s,baz=30,slow=24,SNR=2.8						
MKAR				Lg	Lg	12 07 58.4	
	0.1nm,0.3s,baz=24,slow=32,SNR=3.1						

ISK 05 12:23:42.9, 36°.88N×29°.32E, h2km, ML2.6/7
DDA 05 12:23:43.8, 36°.88N×29°.27E, h7km, Ml2.8
CSEM 05 12:23:44.1±0.2, 36°.89N×29°.31E, h2km, ML2.8, Error ellipse: s-maj=5.2km s-min=3.6km az=7.0

ISC 05 12:23:44.0±1.1, 36°.89N±0°.03×29°.31E±0°.02, h4km±11km, n27, σ0s.79/39, Turkey

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FETY	Fethiye	0.31	216	PG	Pg	12 23 49.2	-0.8
FETY				SG	Sb	12 23 55.9	-1.6
FETY	Fethiye	0.31	216	P	Pg	12 23 49.2	-0.8
FETY				S	Sg	12 23 54.5	+0.4
FETY				eSg	Sb	12 23 55.9	-1.6

ELL	**Elmali**	**0.50**	**106**	PG	**Pg**	**12 23 53.1**	**-0.4**
ELL				SG	**Sg**	**12 24 00.9**	**+0.9**
ELL	**Elmali**	**0.50**	**106**	*e*Pg	**Pg**	**12 23 53.1**	**-0.4**
ELL				*e*Sg	**Sg**	**12 24 00.9**	**+0.9**
DALY	**Dalyan (Mu˜la**	**0.54**	**263**	PG	**Pg**	**12 23 54.2**	**0.0**
DALY				SG	**Sg**	**12 24 02.1**	**+0.9**
DALY	**Dalyan (Mu˜la**	**0.54**	**263**	*i* P	**Pg**	**12 23 54.1**	**-0.1**
DALY				*i* S	**Sg**	**12 24 02.2**	**+1.1**
DALY	**Dalyan (Mu˜la**	**0.54**	**263**	P	**Pg**	**12 23 54.1**	**-0.1**
DALY				*e*Sg	**Sg**	**12 24 02.1**	**+0.9**
TURN	**Turunc**	**0.57**	**269**	PG	**Pn**	**12 24 01.5**	**+2.7**
TAVA	**DENIZLI_Tavas**	**0.66**	**331**	*i* P	**Pg**	**12 23 56.3**	**-0.4**
TAVA				*i* S	**Sg**	**12 24 04.8**	**-0.5**
TAVA	**DENIZLI_Tavas**	**0.66**	**331**	P	**Pg**	**12 23 56.3**	**-0.4**
TAVA				S	**Sg**	**12 24 04.8**	**-0.5**
AKAS	**Kas**	**0.69**	**160**	PG	**Pg**	**12 23 57.0**	**-0.3**
AKAS	**Kas**	**0.69**	**160**	*i* P	**Pg**	**12 23 56.9**	**-0.3**
AKAS				*i* S	**Sn**	**12 24 12.3**	**+0.4**
AKAS	**Kas**	**0.69**	**160**	*e*Pg	**Pg**	**12 23 57.0**	**-0.3**
KORT	**Korkueli**	**0.84**	**82**	PG	**Pb**	**12 24 00.7**	**-0.4**
KORT	**Korkueli**	**0.84**	**82**	*i* P	**Pb**	**12 24 01.0**	**-0.2**
KORT	**Korkueli**	**0.84**	**82**	*e*Pg	**Pb**	**12 24 00.7**	**-0.4**
KORT	**Korkueli**	**0.84**	**82**	P	**Pb**	**12 24 01.0**	**-0.2**
SUTC	**Sutluce-Ispart**	**1.47**	**66**	PN	**Pg**	**12 24 12.2**	**+0.1**
SUTC	**Sutluce-Ispart**	**1.47**	**66**	*e*Pn	**Pg**	**12 24 12.2**	**+0.1**
BDRM	**Kayabasi**	**1.51**	**277**	*i* P	**Pg**	**12 24 13.2**	**+0.3**
BDRM	**Kayabasi**	**1.51**	**277**	P	**Pg**	**12 24 13.2**	**+0.3**
AYDB	**Zeytinkoy-Aydi**	**1.55**	**313**	PN	**Pn**	**12 24 12.1**	**-0.3**
AYDB				SN	**Sg**	**12 24 34.1**	**+0.3**
AYDB	**Zeytinkoy-Aydi**	**1.55**	**313**	*e*Pn	**Pn**	**12 24 12.1**	**-0.3**
AYDB				*e*Sn	**Sg**	**12 24 34.1**	**+0.3**
BAGO	**Egridir - ISPA**	**1.61**	**46**	*i* P	**Pg**	**12 24 15.3**	**+0.5**
BODT	**Bodrum**	**1.61**	**277**	PN	**Pn**	**12 24 13.6**	**+0.4**
BODT	**Bodrum**	**1.61**	**277**	*e*Pn	**Pn**	**12 24 13.6**	**+0.4**
KEPZ	**Antalya-Kepez**	**1.83**	**89**	*i* P	Pn	12 24 09.2	-7.1

IDC 05 12:33:32.1±7.3**,21.°71S**×**177.°27W,h185**km±62km**, mb3.4**/6**,mb1 3.6**/7**,mb1mx3.3**/44**,mbtmp3.9**/7**,Error ellipse: s-maj=120.5km s-min=20.8km az=156.0,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**9.35**	**35**	P	Pn	12 35 43.5	+0.1
	0.5nm,0.3s,baz=143,slow=23,SNR=2.0						
AFI				S	Sn	12 37 17.1	-11
	1.0nm,0.3s,baz=198,slow=14,SNR=3.2						
CTA	**Charters Tower**	**34.06**	**266**	P	P	12 40 00.3	+1.2
	1.7nm,0.5s,baz=135,slow=9.8,SNR=4.3						
STKA	**Stephens Creek**	**37.89**	**246**	P	P	12 40 31.5	0.0
	1.1nm,0.6s,baz=99,slow=13,SNR=2.0						
ASAR	**Alice Springs**	**44.92**	**258**	P	P	12 41 27.8	-1.0
	1.6nm,0.7s,baz=99,slow=8.0,SNR=23						
ASAR				PcP	PcP	12 43 07.6	+0.6
	0.3nm,0.9s,baz=112,slow=4.3,SNR=4.4						
WRA	**Warramunga Arr**	**45.12**	**263**	P	P	12 41 29.6	-0.8
	0.9nm,0.5s,baz=95,slow=8.1,SNR=43						
FITZ	**Fitzroy Crossi**	**53.55**	**263**	P	P	12 42 34.5	+0.3
	0.5nm,0.3s,baz=90,slow=6.1						
TXAR	**Lajitas Array**	**87.14**	**57**	P	P	12 45 57.2	-0.3
	0.3nm,0.8s,baz=233,slow=6.7,SNR=4.3						

IDC 05 12:42:14.5±2.1**,4.°11S**×**151.°41E,h0**km**,mb3.3**/3**, mb1 3.7**/3**,mb1mx3.3**/46**,mbtmp3.3**/3**,Error ellipse: s-maj=160.4km s-min=33.6km az=136.0,New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.75**	**219**	Sn	Sn	12 45 16.7	+4.2
	1.9nm,0.3s,baz=329,slow=23,SNR=7.2						
WRA	**Warramunga Arr**	**22.90**	**225**	P	P	12 47 20.7	+0.5
	0.4nm,0.4s,baz=51,slow=10,SNR=7.3						
ASAR	**Alice Springs**	**25.76**	**219**	P	P	12 47 46.8	-0.5
	0.2nm,0.5s,baz=53,slow=8.8,SNR=8.1						
NVAR	**Mina Array Bea**	**92.75**	**52**	P	P	12 55 29.4	0.0
	0.2nm,0.5s,baz=256,slow=7.3,SNR=1.8						

*ATA **05** 12:42:20.0±0.3, 37.°43N×43.°81E, h15km, ML3.1, MW3.1*
*ISCJB **05** 12:42:42.8±1.1, 38.°64N±0.°05×43.°32E±0.°09, h19km±7km, Error ellipse: s-maj=12.0km s-min=8.9km az=0.0*
*DDA **05** 12:42:42.8, 38.°67N×43.°30E, h7km, Ml2.4*
*CSEM **05** 12:42:42.8, 38.°67N×43.°30E, h7km, ML2.4*
ISC 05 12:42:43.2±0.9**,38.°66N**±0.°03×**43.°29E**±0.°05**,h13**km±8km**, n18,**σ**1s37**/32**,Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VANB	**Van**	**0.10**	**131**	PG	**Pg**	**12 42 46.6**	**+0.3**
VANB				SG	**Sg**	**12 42 49.7**	**+1.2**
TVAN	**Van**	**0.16**	**146**	*i* P	**Pg**	**12 42 46.3**	**-0.9**
TVAN				*i* S	**Sg**	**12 42 49.8**	**-0.2**
TVAN	**Van**	**0.16**	**146**	P	**Pg**	**12 42 46.3**	**-0.9**
TVAN				S	**Sg**	**12 42 49.8**	**-0.2**
GEVA	**Gevas**	**0.39**	**208**	*e*P	Pg	12 42 40.6	-11
GEVA				*e*S	**Sg**	**12 42 56.7**	**+0.2**
GEVA				IAML		12 42 59.8	
	comp=Z,27nm,0.3s						
GEVA	**Gevas**	**0.39**	**208**	*i* P	**Pg**	**12 42 49.3**	**-1.9**
GEVA				*i* S	**Sg**	**12 42 57.0**	**+0.5**
GEVA	**Gevas**	**0.39**	**208**	P	**Pg**	**12 42 49.3**	**-1.9**
GEVA				S	**Sg**	**12 42 57.0**	**+0.5**
ADCV	**BITLIS_Adilcev**	**0.47**	**289**	*i* P	**Pg**	**12 42 51.6**	**-1.0**
ADCV				*i* S	**Sg**	**12 42 59.3**	**+0.4**
ADCV	**BITLIS_Adilcev**	**0.47**	**289**	P	**Pg**	**12 42 51.6**	**-1.0**
ADCV				S	**Sg**	**12 42 59.3**	**+0.4**
TUTA	**Tutak**	**0.83**	**333**	*e*P	**Pg**	**12 42 58.4**	**-1.0**
TUTA	**Tutak**	**0.83**	**333**	*i* P	**Pg**	**12 42 58.2**	**-1.2**
TUTA				*i* S	**Sb**	**12 43 10.5**	**-0.4**
TUTA	**Tutak**	**0.83**	**333**	P	**Pg**	**12 42 58.2**	**-1.2**
TUTA				S	**Sb**	**12 43 10.5**	**-0.4**
AGRB	**Hanur-Agry**	**0.94**	**346**	*e*PG	**Pg**	**12 42 57.9**	**-3.6**
EKAR	**Karacoban**	**1.13**	**302**	*e*P	**Pb**	**12 43 04.7**	**0.0**
EKAR	**Karacoban**	**1.13**	**302**	*i* P	**Pb**	**12 43 04.7**	**0.0**
EKAR				*i* S	**Sn**	**12 43 23.4**	**+2.9**
EKAR	**Karacoban**	**1.13**	**302**	P	**Pb**	**12 43 04.7**	**0.0**
EKAR				S	**Sn**	**12 43 23.4**	**+2.9**
EATA	**Eleskirt**	**1.35**	**333**	*e*P	**Pn**	**12 43 06.5**	**-1.7**
EATA				*e*S	**Sg**	**12 43 28.0**	**+1.1**
EATA	**Eleskirt**	**1.35**	**333**	*i* P	**Pn**	**12 43 08.4**	**+0.3**
EATA				*i* S	**Sg**	**12 43 27.8**	**+0.9**
EATA	**Eleskirt**	**1.35**	**333**	P	**Pn**	**12 43 08.4**	**+0.3**
EATA				S	**Sg**	**12 43 27.8**	**+0.9**

IDC 05 12:44:47.4±2.1**,12.°74N**×**92.°63E,h0**km**,mb3.5**/3**, mb1 3.7**/4**,mb1mx3.3**/65**,mbtmp3.5**/4**,ML2.9**/1**,Error ellipse: s-maj=66.1km s-min=27.2km az=67.0,Andaman Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**8.32**	**46**	Pn	Pn	12 46 48.6	-0.7
	0.0nm,0.3s,baz=236,slow=14,SNR=5.4						
CMAR				Sn	Sn	12 48 17.0	-7.2
	0.2nm,0.3s,baz=240,slow=29,SNR=4.7						
H08S3	**Diego Garcia H**	**28.47**	**226**	T	T	13 20 25.6	
	baz=43,slow=76,SNR=9.1						
H08S2	**Diego Garcia H**	**28.47**	**226**	T	T	13 20 29.6	
	baz=43,slow=76,SNR=20						
H08S1	**Diego Carcia H**	**28.49**	**226**	T	T	13 20 31.1	
	baz=43,slow=76,SNR=14						
MKAR	**Makanchi Array**	**35.05**	**348**	P	P	12 51 41.8	-0.2
	0.4nm,0.7s,baz=178,slow=7.2,SNR=4.9						
WRA	**Warramunga Arr**	**52.34**	**128**	P	P	12 54 01.3	-0.1
	0.4nm,0.5s,baz=301,slow=9.7,SNR=13						
ASAR	**Alice Springs**	**54.20**	**132**	P	P	12 54 15.2	+0.1
	0.5nm,0.5s,baz=311,slow=7.0,SNR=14						

*ISCJB **05** 12:58:18.8±0.6, 20.°88S±0.°03×67.°84W±0.°05, h179km±8km, mb4.1/1, Error ellipse: s-maj=8.1km s-min=5.0km az=154.1*
*SJA **05** 12:58:19.9±1.0, 20.°83S×67.°45W, h200km±32km, ML3.0, MW3.3*
*GUC **05** 12:58:20.4±0.6, 20.°87S×68.°09W, h183km±5km, ML3.9*
*IDC **05** 12:58:22.6±4.1, 20.°59S×67.°36W, h179km±24km, mb4.1/1, mb1 3.6/4, mb1mx3.1/44, mbtmp4.1/4, Error ellipse: s-maj=63.7km s-min=22.9km az=54.0*
ISC 05 12:58:19.3±1.0**,20.°89S**±0.°04×**67.°82W**±0.°06**, h176**km±10km**,n26,**σ**1s33**/40**,10C,Southern Bolivia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PB08	**IPOC Station P**	**1.46**	**300**⇑	*i*P	**Pn**	**12 58 51.6**	**+0.7**
PB08				*i* S	**Sn**	**12 59 15.2**	**-0.1**
PB08				IAML		12 59 17.7	
	comp=E,371nm,0.3s						
PB01	**IPOC Station P**	**1.57**	**264**⇑	*i*P	**Pn**	**12 58 51.8**	**+0.1**
PB01				*i* S	**Sn**	**12 59 15.8**	**-0.9**
PB01				IAML		12 59 18.3	
	comp=N,605nm,0.4s						
PB09	**IPOC Station P**	**1.61**	**236**⇑	*i*P	**Pn**	**12 58 53.3**	**+1.1**
PB09				*i* S	**Sn**	**12 59 17.7**	**+0.1**
PB09				IAML		12 59 20.9	
	comp=E,1μm,0.2s						
GO01	**Chusmiza**	**1.77**	**313**	*e*P	**Pn**	**12 58 54.4**	**+0.2**
GO01				*i* S	**Sn**	**12 59 20.2**	**-0.9**
PB02	**IPOC Station P**	**1.99**	**257**⇑	*i*P	**Pn**	**12 58 56.2**	**+0.2**
PB02				*i* S	**Sn**	**12 59 23.2**	**-1.3**
PB02				IAML		12 59 24.2	
	comp=N,2μm,0.3s						
PB11	**IPOC Station P**	**2.06**	**303**⇑	*i*P	**Pn**	**12 58 57.0**	**+0.1**
PB11				*i* S	**Sn**	**12 59 25.2**	**-0.8**
PB11				IAML		12 59 27.7	
	comp=E,4μm,0.2s						
MNMC	**Minye Minye**	**2.42**	**316**⇑	*i*P	**Pn**	**12 59 01.7**	**+0.6**
MNMC				*i* S	**Sn**	**12 59 33.0**	**-0.5**
MNMC				IAML		12 59 35.1	
	comp=E,640nm,0.2s						
PB06	**IPOC Station P**	**2.44**	**222**⇑	*i*P	**Pn**	**12 59 02.2**	**+1.0**
PB06				*i* S	**Sn**	**12 59 33.7**	**-0.1**
PB06				IAML		12 59 34.9	
	comp=E,448nm,0.2s						
YJA	**Yavi**	**2.50**	**121**	*e*P	**Pn**	**12 59 03.0**	**+0.8**
YJA				*e*S	**Sn**	**12 59 34.0**	**-1.4**
YJA				IAML		12 59 38.6	
	comp=Z,25nm,0.5s						
PSGC	**Pisagua**	**2.52**	**300**⇑	*i*P	**Pn**	**12 59 01.5**	**-0.5**
PSGC				*i* S	**Sn**	**12 59 33.5**	**-1.8**
PSGC				IAML		12 59 34.8	
	comp=E,365nm,0.3s						
PB04	**IPOC Station P**	**2.61**	**236**	*e*P	**Pn**	**12 59 03.8**	**+0.6**
PB04				*i* S	**Sn**	**12 59 36.2**	**-1.1**
PB04				IAML		12 59 38.0	
	comp=N,314nm,0.2s						
PB16	**IPOC Station P**	**3.00**	**328**⇑	*i*P	**Pn**	**12 59 09.5**	**+1.2**
PB16				*i* S	**Sn**	**12 59 46.7**	**+0.3**
PB16				IAML		12 59 49.6	
	comp=N,201nm,0.2s						
HJA	**Humahuaca**	**3.21**	**136**	*e*P	**Pn**	**12 59 12.0**	**+1.3**
HJA				IAML		12 59 13.1	
	comp=Z,61nm,0.4s						
PB12	**IPOC Station P**	**3.27**	**313**⇑	*i*P	**Pn**	**12 59 10.2**	**-1.1**
PB12				*i* S	**Sn**	**12 59 48.9**	**-2.8**
PB12				IAML		12 59 57.6	
	comp=E,514nm,0.3s						
PB10	**IPOC Station P**	**3.64**	**224**	*e*P	**Pn**	**12 59 15.7**	**0.0**
AZAP	**Zapla**	**4.18**	**143**	*e*P	**Pn**	**12 59 22.6**	**-0.2**
AZAP				IAML		12 59 24.8	
	comp=Z,19nm,0.3s						
ASTB	**Santa Barbara**	**4.35**	**135**	*e*P	**Pn**	**12 59 25.0**	**0.0**
SLA	**San Lorenzo**	**4.37**	**151**	*e*P	**Pn**	**12 59 27.0**	**+1.8**
SLA				IAML		12 59 27.4	
	comp=Z,18nm,0.3s						
PB14	**IPOC Station P**	**4.42**	**212**	*e*P	**Pn**	**12 59 22.5**	**-3.5**
LPAZ	**La Paz**	**4.58**	**356**	P	**Pn**	**12 59 29.4**	**+1.0**
	comp=Z,1.2nm,0.3s,baz=134,slow=5.7,SNR=42						
LPAZ				S	**Sn**	**13 00 20.4**	**-2.1**
	comp=Z,0.6nm,0.3s,baz=344,slow=16,SNR=5.3						
LPAZ	**La Paz**	**4.58**	**356**	*e*P	**Pn**	**12 59 29.9**	**+1.5**
ALOL	**LOMAS DE OLMED**	**4.59**	**130**	*e*P	**Pn**	**12 59 27.0**	**-0.9**
SIV	**San Ignacio**	**8.04**	**54**	P	**Pn**	**13 00 10.2**	**-3.0**
	comp=Z,7.3nm,0.3s,baz=244,slow=12,SNR=113						
CPUP	**Villa Florida**	**11.03**	**121**	P	**Pn**	**13 00 52.4**	**+0.1**
	comp=Z,0.3nm,0.3s,baz=301,slow=8.5,SNR=4.9						
TORD	**Torodi Ar. Bea**	**76.19**	**70**	P	**P**	**13 09 48.7**	**+0.1**
	comp=Z,2.0nm,0.4s,baz=253,slow=5.4,SNR=20						
MKAR	**Makanchi Array**	**144.54**	**36**	PKP	**PKPdf**	**13 17 36.6**	**+1.9**
	comp=Z,0.1nm,0.5s,baz=288,slow=2.3,SNR=2.4						

*ISCJB **05** 13:03:22.0±0.8, 37.°09N±0.°03×28.°66E±0.°09, h0km, Error ellipse: s-maj=10.1km s-min=4.6km az=1.4*
*DDA **05** 13:03:21.9, 37.°08N×28.°66E, h7km, Ml2.5, Suspected Mining explosion.*
*ISK **05** 13:03:21.1, 37.°08N×28.°65E, h13km, ML1.8/4*
*CSEM **05** 13:03:22.1±0.4, 37.°09N×28.°68E, h1km, ML1.8, Error ellipse: s-maj=12.7km s-min=6.5km az=85.0, Suspected Mining explosion.*
ISC 05 13:03:21.7±1.0**,37.°13N**±0.°03×**28.°80E**±0.°04**,h0**km**,n15,** **σ**1s08**/26**,Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TURN	**Turunc**	**0.30**	**211**	PG	**Pb**	**13 03 29.6**	**-0.3**
TURN				SG	**Sb**	**13 03 37.5**	**+2.1**
TURN	**Turunc**	**0.30**	**211**	*i* P	**Pg**	**13 03 27.6**	**+0.2**
TURN				*i* S	**Sb**	**13 03 37.0**	**+1.6**
TURN	**Turunc**	**0.30**	**211**	P	**Pg**	**13 03 27.6**	**+0.2**
DALY	**Dalyan (Mu˜la**	**0.33**	**200**	PG	**Pg**	**13 03 28.0**	**0.0**
DALY				SG	**Sg**	**13 03 31.8**	**-0.5**
DALY	**Dalyan (Mu˜la**	**0.33**	**200**	*i* P	**Pg**	**13 03 26.1**	**-1.9**
DALY				*i* S	**Sg**	**13 03 32.1**	**-0.2**
DALY	**Dalyan (Mu˜la**	**0.33**	**200**	P	**Pg**	**13 03 26.1**	**-1.9**
DALY	**Dalyan (Mu˜la**	**0.33**	**200**	*e*Pg	**Pg**	**13 03 28.0**	**0.0**
DALY				*e*Sg	**Sg**	**13 03 31.8**	**-0.5**
DALY				S	**Sg**	**13 03 32.1**	**-0.2**
TAVA	**DENIZLI_Tavas**	**0.35**	**15**	*i* P	**Pb**	**13 03 30.9**	**+0.1**
TAVA				*i* S	**Sb**	**13 03 36.7**	**-0.2**
TAVA	**DENIZLI_Tavas**	**0.35**	**15**	P	**Pb**	**13 03 30.9**	**+0.1**
TAVA				S	**Sb**	**13 03 36.7**	**-0.2**
FETY	**Fethiye**	**0.54**	**155**	PG	**Pg**	**13 03 32.1**	**0.0**
FETY				SG	**Sb**	**13 03 41.2**	**-1.3**
FETY	**Fethiye**	**0.54**	**155**	*e*Pg	**Pg**	**13 03 32.1**	**0.0**
FETY				*e*Sg	**Sb**	**13 03 41.2**	**-1.3**
FETY				S	**Sg**	**13 03 42.0**	**+2.9**
AYDB	**Zeytinkoy-Aydi**	**1.09**	**319**	PG	**Pg**	**13 03 42.3**	**-0.2**
AYDB	**Zeytinkoy-Aydi**	**1.09**	**319**	*e*Pg	**Pg**	**13 03 42.3**	**-0.2**
AKAS	**Kas**	**1.11**	**144**	PN	**Pb**	**13 03 43.7**	**0.0**
AKAS	**Kas**	**1.11**	**144**	*e*Pn	**Pb**	**13 03 43.7**	**0.0**

*CSEM **05** 13:18:58.2, 44.°17N×21.°86E, h0km, ML1.4, Mining explosion.*
BEO 05 13:18:58.2±0.5**,44.°17N**×**21.°86E,h0**km**,Mining explosion.,Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KUBS	**Kucevo**	**0.27**	**331**	*e*Pg	Pg	13 19 03.2	-0.3
KUBS				*e*Sg	Sg	13 19 06.2	-0.8
KUBS	**Kucevo**	**0.27**	**331**	*e*Pg	Pg	13 19 03.2	-0.3
KUBS				*e*Sg	Sg	13 19 06.2	-0.8
ZAGS	**Zajecar**	**0.45**	**143**	*e*Pg	Pg	13 19 05.6	-1.2
ZAGS	**Zajecar**	**0.45**	**143**	*e*Pg	Pg	13 19 05.6	-1.2
BOVS	**Bovan**	**0.55**	**192**	*e*Sg	Sg	13 19 15.9	+0.1
BOVS	**Bovan**	**0.55**	**192**	*e*Sg	Sg	13 19 15.9	+0.1
GRUS	**Gruza**	**0.87**	**251**	*e*Pg	Pg	13 19 13.8	-1.1
GRUS				*e*Sg	Sg	13 19 26.6	+0.4
GRUS	**Gruza**	**0.87**	**251**	*e*Pg	Pg	13 19 13.8	-1.1
GRUS				*e*Sg	Sg	13 19 26.6	+0.4
TRUS	**Trudelj**	**1.05**	**273**	*e*Pg	Pg	13 19 17.2	-1.0
TRUS				*e*Sg	Sg	13 19 31.1	-0.7
TRUS	**Trudelj**	**1.05**	**273**	*e*Pg	Pg	13 19 17.2	-1.0
TRUS				*e*Sg	Sg	13 19 31.1	-0.7
DIVS	**Divibare**	**1.35**	**268**	*e*Pg	Pg	13 19 22.0	-2.0
DIVS				*e*Sg	Sg	13 19 40.4	-1.0
DIVS	**Divibare**	**1.35**	**268**	*e*Pg	Pg	13 19 22.0	-2.0
DIVS				*e*Sg	Sg	13 19 40.4	-1.0
BZS	**Buzias**	**1.46**	**353**	*e*Sg	Sb	13 19 45.1	-0.1
BZS	**Buzias**	**1.46**	**353**	*e*Sg	Sb	13 19 45.1	-0.1

*IDC **05** 13:21:00.4±4.3, 37.°39N×135.°64E, h0km, mb3.2/2, mb1 3.5/2, mb1mx3.0/75, mbtmp3.2/2, ML2.4/1, MS3.0/1, Ms1 3.0/1, ms1mx2.2/30, Error ellipse: s-maj=82.3km s-min=33.1km az=174.0*
*ISCJB **05** 13:21:03.9±1.4, 36.°33N±0.°06×141.°02E±0.°08, h15km±10km, mb3.3/2, MS3.0/1, Error ellipse: s-maj=12.5km s-min=8.1km az=44.8*
*JMA **05** 13:21:03.5±0.1, 36.°25N×141.°03E, h41km±2km, M2.5*
ISC 05 13:21:03.7±2.2**,36.°36N**±0.°08×**141.°06E**±0.°09**,h12**km±12km**, n10,**σ**1s82**/14**,Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JHO	**Hitachi**	**0.47**	**303**	P	**Pg**	**13 21 14.3**	**+1.3**
JHO				S	**Sg**	**13 21 21.8**	**+2.6**
JYT	**Yasato**	**0.71**	**260**	P	**Pg**	**13 21 16.9**	**-0.6**
JYT				S	**Sg**	**13 21 25.6**	**-1.2**
ONAJ	**Iwakimizuishiy**	**0.77**	**344**	P	**Pg**	**13 21 19.0**	**+0.3**
ONAJ				S	**Sg**	**13 21 29.6**	**+0.8**
JFK	**Kawauchi**	**1.02**	**352**	P	**Pg**	**13 21 22.3**	**-1.1**
JFK				*e*S	**Sg**	**13 21 35.2**	**-1.5**
JAG	**Ashikaga**	**1.30**	**273**	P	**Pn**	**13 21 25.4**	**-2.3**
MJAR	**Matsushiro Arr**	**2.31**	**275**	Pn	**Pn**	**13 21 39.0**	**-2.6**
	1.0nm,0.3s,baz=295,slow=18,SNR=12						
MJAR				Sn	**Sn**	**13 22 09.7**	**-0.2**
	0.7nm,0.3s,baz=227,slow=6.5,SNR=5.2						
MAT	**Matsushiro**	**2.31**	**275**	P	**Pn**	**13 21 41.0**	**-0.6**
MAT				S	**Sn**	**13 22 10.0**	**+0.1**
YAK	**Yakutsk**	**26.67**	**348**	LR	LR	13 36 55.8	
	comp=Z,38nm,19.6s,baz=30,slow=38						
WRA	**Warramunga Arr**	**56.35**	**188**	P	**P**	**13 30 47.3**	**+2.5**
	0.2nm,0.5s,baz=2.5,slow=7.8,SNR=6.7						
ASAR	**Alice Springs**	**60.08**	**188**	P	P	13 31 14.8	+4.0
	0.2nm,0.8s,baz=9.5,slow=8.5,SNR=1.4						

*ISCJB **05** 13:47:58.8±0.9, 51.°43N±0.°04×16.°12E±0.°04, h0km, Error ellipse: s-maj=6.4km s-min=3.0km az=26.2*
*CSEM **05** 13:47:59.7±0.6, 51.°46N×16.°09E, h2km, ML3.1/7, Error ellipse: s-maj=9.9km s-min=5.3km az=19.0*
*VIE **05** 13:48:00.8±1.0, 51.°21N×16.°06E, h0km, mb2.3/2, ML2.4/4, Error ellipse: s-maj=7.5km s-min=4.4km az=25.0, Suspected Mining induced.*
*PRU **05** 13:48:00.5, 51.°46N×16.°12E, h0km*
ISC 05 13:47:59.5±1.4**,51.°50N**±0.°06×**16.°13E**±0.°04**,h0**km**,n32,** **σ**0s95**/59**,1D,Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.67**	**171**	*i* Pg	**Pg**	**13 48 12.7**	**+0.4**
KSP				*e*Sg	**Sg**	**13 48 21.1**	**+0.2**
KSP	**Ksiaz**	**0.67**	**171**⇓	*i*Pg	**Pg**	**13 48 12.7**	**+0.4**
KSP				*e*Sg	**Sg**	**13 48 21.1**	**+0.2**
UPC	**Upice**	**1.00**	**184**	*e*PG	**Pg**	**13 48 18.7**	**+0.1**
UPC				*e*SG	**Sg**	**13 48 31.7**	**+0.2**
UPC	**Upice**	**1.00**	**184**	Pg	**Pg**	**13 48 18.7**	**+0.1**
UPC				Sg	**Sg**	**13 48 31.7**	**+0.2**
DPC	**Dobruska-Polom**	**1.16**	**174**	*e*PG	**Pg**	**13 48 21.5**	**-0.2**
DPC				*e*SG	**Sg**	**13 48 36.1**	**-0.6**
	comp=Z,14nm,0.2s						
DPC	**Dobruska-Polom**	**1.16**	**174**	Pg	**Pg**	**13 48 21.5**	**-0.2**
DPC				Sg	**Sg**	**13 48 36.1**	**-0.6**
	14nm,0.2s						
PVCC	**Panska Ves**	**1.39**	**226**	*e*PG	**Pg**	**13 48 25.7**	**-0.4**
PVCC				*e*SG	**Sb**	**13 48 44.3**	**-0.2**
	comp=Z,52nm,0.3s						
PVCC	**Panska Ves**	**1.39**	**226**	Pg	**Pg**	**13 48 25.7**	**-0.4**
PVCC				Sg	**Sb**	**13 48 44.3**	**-0.2**
	52nm,0.3s						
KRLC	**Kraliky**	**1.49**	**164**	*e*PG	**Pg**	**13 48 27.8**	**-0.1**
KRLC				*e*SG	**Sg**	**13 48 45.9**	**-1.3**
	comp=Z,5.8nm,0.3s						
KRLC	**Kraliky**	**1.49**	**164**	Pg	**Pg**	**13 48 27.8**	**-0.1**
KRLC				Sg	**Sg**	**13 48 45.9**	**-1.3**
	5.8nm,0.3s						
BRG	**Berggiesshubel**	**1.52**	**246**	PN	**Pg**	**13 48 28.4**	**-0.1**
BRG				PG	**Pb**	**13 48 28.9**	**+0.4**
BRG				SG	**Sn**	**13 48 48.5**	**+0.2**
	34nm,0.4s						
GOPC	**GO Pecny, Ondr**	**1.81**	**209**	*e*PG	**Pb**	**13 48 33.1**	**-0.3**
GOPC	**GO Pecny, Ondr**	**1.81**	**209**	Pg	**Pb**	**13 48 33.1**	**-0.3**
PRU	**Pruhonice**	**1.82**	**214**	*e*PG	**Pb**	**13 48 33.0**	**-0.7**
PRU				*e*SG	**Sb**	**13 48 56.4**	**-0.6**
	comp=Z,13nm,0.3s						
PRU	**Pruhonice**	**1.82**	**214**	Pg	**Pb**	**13 48 33.0**	**-0.7**
PRU				Sg	**Sb**	**13 48 56.4**	**-0.6**
	13nm,0.3s						
MORC	**Moravsky Berou**	**1.95**	**152**	*e*Pn	**Pn**	**13 48 33.7**	**-0.1**
MORC				*e*Sg	**Sb**	**13 49 00.9**	**+0.3**
CLL	**Collm**	**1.97**	**266**	*i* Pn	**Pn**	**13 48 34.1**	**0.0**
CLL				*i* Pg	**Pb**	**13 48 36.2**	**0.0**
CLL				*i*		13 48 40.9	
CLL				*e*Sg	**Sg**	**13 49 03.0**	**+0.3**
	comp=Z,18nm,0.3s						
OKC	**Ostrava-Krasne**	**2.10**	**142**	*e*SG	**Sb**	**13 49 05.0**	**-0.1**
	comp=Z,16nm,0.4s						
OKC	**Ostrava-Krasne**	**2.10**	**142**	Sg	**Sb**	**13 49 05.0**	**-0.1**
	comp=Z,16nm,0.4s						
VRAC	**Vranov**	**2.22**	**172**	*e*Pn	**Pn**	**13 48 38.4**	**+0.9**
VRAC				*e*Sg	**Sg**	**13 49 10.3**	**-0.3**
NKC	**Novy Kostel**	**2.66**	**243**	*e*PN	**Pn**	**13 48 44.1**	**+0.5**
NKC				*e*PG	**Pg**	**13 48 49.4**	**-1.0**
NKC				*e*SG	**Sg**	**13 49 25.6**	**+0.8**
	comp=Z,17nm,0.3s						
NKC	**Novy Kostel**	**2.66**	**243**	Pn	**Pn**	**13 48 44.1**	**+0.5**
KHC	**Kasperske Hory**	**2.88**	**216**	*e*PN	**Pn**	**13 48 46.9**	**+0.2**
KHC				*e*PG	**Pb**	**13 48 52.4**	**+0.6**
KHC				*e*SG	**Sg**	**13 49 30.5**	**-1.6**
	comp=Z,5.0nm,0.3s						
KHC	**Kasperske Hory**	**2.88**	**216**	Pn	**Pn**	**13 48 46.9**	**+0.2**
LANS	**Liptovska Anna**	**3.18**	**136**	*e*SG	**Sg**	**13 49 42.1**	**+0.5**
MODS	**Modra-Piesok**	**3.22**	**166**	*e*	Pg	13 49 39.8	+39
VYHS	**Vyhne**	**3.48**	**149**	*e*Pn	**Pn**	**13 48 54.2**	**-0.7**
VYHS				*e*Sg	**Sg**	**13 49 51.2**	**0.0**
VYHS	**Vyhne**	**3.48**	**149**	*e*PN	**Pn**	**13 48 54.2**	**-0.7**
VYHS				*e*SG	**Sg**	**13 49 51.2**	**0.0**
CONA	**Conrad Observa**	**3.58**	**183**	Pg	**Pb**	**13 49 03.7**	**0.0**
	comp=Z,3.2nm,0.5s						
CONA				Sg	**Sb**	**13 49 50.0**	**+2.3**
	comp=Z,5.5nm,0.4s						
CONA	**Conrad Observa**	**3.58**	**183**	Pg	**Pb**	**13 49 03.7**	**0.0**
	comp=Z,3.2nm,0.5s						
CONA				Sg	**Sb**	**13 49 50.0**	**+2.3**
	comp=Z,5.5nm,0.4s						
MOA	**Molln**	**3.85**	**199**	Pn	**Pn**	**13 48 57.5**	**-2.5**
	comp=Z,0.8nm,0.3s						
MOA				Sg	**Sb**	**13 49 58.1**	**+2.6**
	comp=Z,4.7nm,0.5s						
MOA	**Molln**	**3.85**	**199**	*e*Pn	**Pn**	**13 48 57.5**	**-2.5**
	comp=Z,0.8nm,0.3s						
MOA				Sg	**Sb**	**13 49 58.1**	**+2.6**
	comp=Z,4.7nm,0.5s						

*IDC **05** 13:50:54.0±1.4, 1.°34N×97.°06E, h0km, mb3.6/7, mb1 3.8/9, mb1mx3.5/66, mbtmp3.6/9, ML2.9/1, Error ellipse: s-maj=40.2km s-min=21.4km az=52.0*
*ISCJB **05** 13:50:57.2±1.0, 1.°5N±0.°1×96.°96E±0.°08, h28km, mb3.6/7, Error ellipse: s-maj=17.4km s-min=6.3km az=35.9*
*DJA **05** 13:50:58.7±1.2, 2°N±10°×9°7E±°, h29km±6km, M3.8/7, mb3.7/1, MLv3.8/7*
ISC 05 13:50:59.0±1.1**,1.°5N**±0.°1×**97.°0E**±0.°1**,h28**km**,n20,** **σ**1s17**/16**,mb3.7**/7**,Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GSI	**Gunungsitoli**	**0.57**	**110**	P	**Pb**	**13 51 10.5**	**-0.1**
GSI				S	**Sb**	**13 51 20.0**	**+1.6**
TPTI		**1.75**	**5**	P	**Pn**	**13 51 27.3**	**-0.2**
PSI	**Prapat**	**2.28**	**56**	Pn	**Pn**	**13 51 33.7**	**-1.2**
	2.8nm,0.3s,baz=294,slow=4.1,SNR=12						
TSI	**Tuntungan**	**2.50**	**38**	P	**Pn**	**13 51 37.2**	**-0.6**
MNSI	**Mandailing Nat**	**2.64**	**105**	P	**Pn**	**13 51 39.9**	**+0.2**
MNSI				S	**Sn**	**13 52 11.5**	**+0.7**
MLSI	**Meulaboh, Aceh**	**2.81**	**347**	P	**Pn**	**13 51 41.8**	**-0.4**
CMAR	**Chiang Mai Arr**	**16.95**	**6**	P	**Pn**	**13 54 54.6**	**+0.2**
	baz=197,slow=11,SNR=5.9						
H08S2	**Diego Garcia H**	**26.12**	**249**	T	T	14 23 32.1	
	baz=72						
H08S3	**Diego Garcia H**	**26.12**	**249**	T	T	14 23 37.2	
	baz=72						
H08S1	**Diego Carcia H**	**26.13**	**249**	T	T	14 23 38.3	
	baz=72						
H01W3	**Cape Leeuwin H**	**39.59**	**158**	T	T	14 40 26.5	
	baz=332						
H01W2	**Cape Leeuwin H**	**39.60**	**158**	T	T	14 40 34.8	
	baz=332						
H01W1	**Cape Leeuwin H**	**39.60**	**158**	T	T	14 40 27.5	

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	baz=332						
WRA	**Warramunga Arr**	**42.33**	**122**	P	**P**	**13 58 50.2**	**-0.7**
	0.3nm,0.6s,baz=305,slow=9.0,SNR=5.0						
ASAR	**Alice Springs**	**43.71**	**127**	P	**P**	**13 58 58.8**	**-3.2**
	0.3nm,0.9s,baz=305,slow=7.4,SNR=2.0						
SONM	**Songino Array**	**46.86**	**9**	P	**P**	**13 59 27.0**	**+0.3**
	1.3nm,0.8s,baz=192,slow=8.7,SNR=7.6						
MKAR	**Makanchi Array**	**46.91**	**346**	P	**P**	**13 59 27.9**	**+0.8**
	1.3nm,0.5s,baz=160,slow=9.1,SNR=21						
ZALV	**Zalesovo Beam**	**53.23**	**351**	P	**P**	**14 00 14.7**	**-0.2**
	1.0nm,0.4s,baz=175,slow=7.0,SNR=7.2						
BVAR	**Borovoye Array**	**55.91**	**341**	P	**P**	**14 00 34.3**	**0.0**
	0.4nm,0.5s,baz=145,slow=8.1,SNR=2.9						
MLR	**Muntele Rosu**	**75.73**	**317**	P	**P**	**14 02 43.4**	**+1.0**
	0.3nm,0.5s,baz=120,slow=14,SNR=3.1						

*IDC **05** 14:19:24.8±0.9, 1°.39N×96°.95E, h0km, mb4.1/19, mb1 4.2/21, mb1mx4.0/73, mbtmp4.1/21, ML3.5/2, MS3.5/5, Ms1 3.6/5, ms1mx3.0/52, Error ellipse: s-maj=25.4km s-min=16.7km az=35.0*

*ISCJB **05** 14:19:27.6±0.5, 1°.51N±0°.06×97°.00E±0°.04, h28km, mb4.2/27, MS3.6/5, Error ellipse: s-maj=8.3km s-min=5.5km az=13.8*

*BJI **05** 14:19:29.6, 1°.92N×97°.40E, h15km, mb4.6/20, mB4.9/12, Ms4.3/5, Ms7 4.0/3*

*NEIC **05** 14:19:30.3±0.4, 1°.49N×97°.04E, h35km, mb4.1/5, Error ellipse: s-maj=9.7km s-min=5.8km az=205.0*

ISC 05 14:19:29.2±0.7, **1°.43N**±0°.08×**96°.99E**±0°.07, **h28**km, **n67**, σ**1s.03**/61, **mb4.2**/27, **MS3.7**/6, **Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GSI	**Gunungsitoli**	**0.60**	**102**	*e*Pn	**Pn**	**14 19 41.5**	**-0.4**
GSI				*e*Sn	**Sn**	**14 19 49.8**	**-1.0**
PSI	**Prapat**	**2.37**	**55**	Pn	**Pn**	**14 20 05.1**	**-1.3**
	1.4nm,0.3s,baz=231,slow=12,SNR=22						
PSI				Sn	**Sb**	**14 20 42.7**	**+2.5**
	4.4nm,0.3s,baz=58,slow=3.7,SNR=4.6						
IPM	**Ipoh**	**5.04**	**53**	*e*Pn	**Pn**	**14 20 42.9**	**-0.2**
IPM				*e*Sn	**Sn**	**14 21 38.2**	**-2.3**
KULM	**Kulim**	**5.30**	**44**	*e*Pn	**Pn**	**14 20 46.5**	**-0.1**
KULM				*e*Sn	**Sn**	**14 21 45.6**	**-1.2**
MYKOM	**Kota Tinggi**	**6.87**	**87**	*e*Pn	**Pn**	**14 21 08.8**	**+0.6**
TRTT	**Trang**	**6.91**	**23**	P	Pb	14 21 20.6	-8.0
CHAI	**Chaiyaphum**	**15.20**	**19**	P	**P**	**14 23 09.7**	**+2.8**
	2.8nm,0.9s						
PBKT	**Sadao Pong**	**15.55**	**14**	P	**Pn**	**14 23 07.2**	**+0.6**
	13nm,1.1s						
PHIT	**Phitsanulok**	**16.02**	**12**	P	**P**	**14 23 16.2**	**+0.3**
	9.4nm,0.8s						
CMAR	**Chiang Mai Arr**	**17.03**	**6**	P	**Pn**	**14 23 24.1**	**-1.4**
	0.3nm,0.3s,baz=196,slow=12,SNR=13						
CMAR				LR	LR	14 31 06.5	
	comp=Z,226nm,18.4s,baz=193,slow=41						
CMMT	**Chiang Mai**	**17.38**	**6**	P	**Pn**	**14 23 29.2**	**-0.7**
CHTO	**Chiang Mai**	**17.38**	**6**	P	**P**	**14 23 30.3**	**-0.7**
	30nm,0.7s						
CHTO	**Chiang Mai**	**17.38**	**6**	*e*Pn	**Pn**	**14 23 28.1**	**-1.9**
	2.6nm,0.7s						
MYLDM	**Lahad Datu**	**21.80**	**80**	*e*P	**P**	**14 24 19.6**	**+0.3**
	24nm,1.4s						
H08S2	**Diego Garcia H**	**26.04**	**249**	T	T	14 52 07.9	
	baz=70,slow=75,SNR=799						
H08S3	**Diego Garcia H**	**26.04**	**249**	T	T	14 52 07.8	
	baz=70,slow=75,SNR=671						
H08S1	**Diego Carcia H**	**26.06**	**249**	T	T	14 52 08.9	
	baz=70,slow=75,SNR=854						
H08N1	**Diego Carcia H**	**27.05**	**253**	T	T	14 54 08.9	
	baz=140,slow=74						
H08N2	**Diego Garcia H**	**27.06**	**253**	T	T	14 54 06.8	
	baz=140,slow=74						
H08N3	**Diego Garcia H**	**27.07**	**253**	T	T	14 54 09.9	
	baz=140,slow=74						
CD2	**Chengdu**	**30.01**	**12**	*e*P	**P**	**14 25 37.0**	**+1.2**
XAN	**Xi'an**	**34.31**	**18**	P	**P**	**14 26 12.5**	**-0.9**
XAN				pP	pP	14 26 20.3	-1.4
XAN				pmax	pmax		
	comp=Z,13nm,1.0s						
XAN				pmax	pmax		
	comp=Z,140nm,6.9s						
XAN				LR	LR		
	comp=E,180nm,13.9s						
XAN				LR	LR		
	comp=Z,190nm,13.4s						
GTA	**Gaotai**	**37.89**	**4**	*e*P	**P**	**14 26 45.0**	**+0.9**
GTA				pP	pP	14 26 52.7	+0.3
GTA				sP	sP	14 26 56.2	+0.4
GTA				pmax	pmax		
	comp=Z,5.0nm,1.3s						
H01W3	**Cape Leeuwin H**	**39.54**	**158**	T	T	15 09 16.3	
	baz=333						
H01W2	**Cape Leeuwin H**	**39.55**	**158**	T	T	15 09 22.3	
	baz=333						
H01W1	**Cape Leeuwin H**	**39.55**	**158**	T	T	15 09 17.6	
	baz=333						
WRA	**Warramunga Arr**	**42.34**	**122**	P	**P**	**14 27 20.6**	**-0.5**
	1.2nm,0.9s,baz=302,slow=9.3,SNR=7.5						
WRAB	**Tennant Creek**	**42.34**	**122**	P	**P**	**14 27 20.5**	**-0.7**
	0.6nm,0.5s						
WMQ	**Urumqi**	**43.01**	**350**	P	**P**	**14 27 27.6**	**+1.3**
WMQ				pmax	pmax		
	comp=Z,16nm,0.7s						
WMQ				LR	LR		
	comp=N,120nm,20.7s						
WMQ				LR	LR		
	comp=E,120nm,26.1s						
ASAR	**Alice Springs**	**43.70**	**127**	P	**P**	**14 27 32.5**	**+0.3**
	1.5nm,1.0s,baz=305,slow=7.6,SNR=8.7						
KSAR	**Wonju Array Be**	**45.75**	**35**	P	**P**	**14 27 48.1**	**-0.2**
KS01	**Wonju Array Si**	**45.78**	**35**	*e*P	**P**	**14 27 46.1**	**-2.4**
KSRS	**Korea Array**	**45.78**	**35**	P	**P**	**14 27 48.1**	**-0.4**
	5.0nm,0.9s,baz=222,slow=9.1,SNR=11						
SONM	**Songino Array**	**46.94**	**9**	P	**P**	**14 27 58.0**	**+0.4**
	5.8nm,0.8s,baz=190,slow=9.1,SNR=35						
SONM				PcP	**PcP**	**14 29 30.4**	**+0.5**
	0.6nm,0.7s,baz=221,slow=1.5,SNR=3.2						
SONM				LR	LR	14 50 34.9	
	comp=Z,114nm,18.5s,baz=188,slow=40						
MK01	**Makanchi Array**	**46.94**	**346**	*e*P	**P**	**14 27 58.3**	**+0.8**
SONA1	**Songino Array**	**46.95**	**9**	*e*P	**P**	**14 27 58.0**	**+0.3**
MK31	**Makanchi Array**	**46.97**	**346**	*e*P	**P**	**14 27 58.9**	**+1.2**
MKAR	**Makanchi Array**	**46.97**	**346**	P	**P**	**14 27 58.6**	**+0.9**
	5.8nm,0.6s,baz=160,slow=8.1,SNR=89						
MKAR				LR	LR	14 52 16.5	
	comp=Z,29nm,19.3s,baz=156,slow=42						
ULN	**Ulaanbaatar**	**47.07**	**9**	*e*P	**P**	**14 27 59.3**	**+0.7**
	1.4nm,0.4s						
GEYT	**Alibeck**	**50.90**	**320**	P	**P**	**14 28 28.6**	**+0.5**
	1.1nm,0.6s,baz=111,slow=8.2,SNR=3.0						
KURBB	**Kurchatov Arra**	**51.45**	**345**	P	**P**	**14 28 32.6**	**+0.7**
	1.8nm,0.6s,baz=165,slow=7.2,SNR=21						
KURK	**Kurchatov**	**51.52**	**345**	*e*P	**P**	**14 28 31.3**	**-1.0**
	6.1nm,0.5s						
USRK	**Ussuriysk Ar.**	**52.69**	**31**	P	**P**	**14 28 41.7**	**+0.5**
	8.6nm,0.9s,baz=195,slow=2.8,SNR=8.5						
ZAA0	**Zalesovo Array**	**53.30**	**351**	*e*P	**P**	**14 28 43.5**	**-2.0**
	6.3nm,0.8s						
ZALV	**Zalesovo Beam**	**53.30**	**351**	P	**P**	**14 28 46.1**	**+0.6**
	5.0nm,0.6s,baz=180,slow=7.6,SNR=28						
ZALV				LR	LR	14 56 13.2	
	comp=Z,38nm,19.8s,baz=70,slow=41						
ZALV	**Zalesovo Beam**	**53.30**	**351**	*e*P	**P**	**14 28 44.0**	**-1.5**
BVAR	**Borovoye Array**	**55.96**	**341**	P	**P**	**14 29 05.0**	**+0.1**
	2.0nm,0.7s,baz=138,slow=8.9,SNR=15						
KLR	**Kul'dur**	**56.15**	**27**	P	**P**	**14 29 06.4**	**+0.1**
	0.5nm,0.9s,baz=248,slow=6.3,SNR=12						
AB07	**Akbulak array**	**57.19**	**332**	*e*P	**P**	**14 29 14.0**	**+0.3**
AB06	**Akbulak array**	**57.20**	**332**	*e*P	**P**	**14 29 12.9**	**-0.8**
AB08	**Akbulak array**	**57.21**	**332**	*e*P	**P**	**14 29 13.7**	**-0.1**
AB03	**Akbulak array**	**57.21**	**332**	*e*P	**P**	**14 29 14.6**	**+0.7**
AB01	**Akbulak array**	**57.21**	**332**	*e*P	**P**	**14 29 14.2**	**+0.3**
AB02	**Akbulak array**	**57.21**	**332**	*e*P	**P**	**14 29 14.1**	**+0.2**
AB04	**Akbulak array**	**57.22**	**332**	*e*P	**P**	**14 29 14.2**	**+0.3**
AB05	**Akbulak array**	**57.22**	**332**	*e*P	**P**	**14 29 14.2**	**+0.3**
AB09	**Akbulak array**	**57.23**	**332**	*e*P	**P**	**14 29 14.4**	**+0.4**
AKTO	**Aktyubinsk**	**58.93**	**332**	P	**P**	**14 29 26.0**	**+0.2**
	1.1nm,0.2s,baz=173,slow=8.1,SNR=3.5						
KBZ	**Khabaz**	**63.76**	**319**	P	**P**	**14 29 57.7**	**-1.0**
	0.3nm,0.3s,baz=119,slow=2.7,SNR=5.9						
YAK	**Yakutsk**	**65.26**	**16**	P	**P**	**14 30 07.5**	**-0.6**
BRTR	**Keskin Array B**	**68.80**	**312**	P	**P**	**14 30 31.2**	**-0.1**
	0.6nm,0.5s,baz=127,slow=7.6,SNR=4.4						
PETK	**Petropavlovsk-**	**71.66**	**34**	LR	LR	15 04 12.2	
	comp=Z,17nm,19.4s,baz=161,slow=38						
TIXI	**Tiksi**	**73.00**	**10**	P	**P**	**14 30 55.2**	**-0.7**
	0.8nm,0.4s,baz=233,slow=1.1,SNR=5.6						
AKASG	**Malin Array Be**	**74.95**	**322**	P	**P**	**14 31 07.2**	**-0.6**
	0.4nm,0.4s,baz=93,slow=4.4,SNR=4.8						
FINES	**FINESS Array B**	**79.70**	**333**	P	**P**	**14 31 33.2**	**-0.9**
	1.4nm,0.8s,baz=123,slow=6.8,SNR=4.9						
ARCES	**ARCESS Array B**	**82.25**	**340**	P	**P**	**14 31 47.6**	**0.0**
	2.9nm,0.8s,baz=95,slow=4.9,SNR=5.7						
GERES	**GERESS Array B**	**84.50**	**319**	P	**P**	**14 32 00.6**	**+0.8**
	0.3nm,0.2s,baz=42,slow=3.1,SNR=3.9						

*CSEM **05** 14:20:50.0±0.9, 67°.55N×34°.21E, h1km, ML2.4, Error ellipse: s-maj=19.2km s-min=9.2km az=112.0, Mining explosion.*

*ISCJB **05** 14:20:51.6±0.7, 67°.55N±0°.04×33°.6E±0°.1, h0km, mb3.3/2, Error ellipse: s-maj=5.5km s-min=5.1km az=12.4*

*HEL **05** 14:20:52.3±0.4, 67°.62N×34°.00E, h0km, ML2.4, Explosion*

*IDC **05** 14:20:53.6±1.1, 67°.74N×33°.90E, h0km, mb3.3/2, mb1 3.5/7, mb1mx3.2/76, mbtmp3.5/7, ML3.0/5, Error ellipse: s-maj=12.6km s-min=9.6km az=69.0*

*NAO **05** 14:20:55.3±1.9, 67°.67N×33°.42E, ML2.8*

ISC 05 14:20:51.5±1.1, **67°.64N**±0°.04×**33°.90E**±0°.06, **h0**km, **n35**, σ**1s.67**/58, **Baltic States-Belarus-Northwestern Russia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VRF	**Varrio**	**1.64**	**276**	PG	**Pn**	**14 21 22.3**	**+0.8**
	baz=88						
VRF				MSG		14 21 42.6	
	comp=Z,34nm,0.2s						
VRF				SG	**Sn**	**14 21 43.7**	**+0.4**
KU6	**Riekki**	**2.27**	**226**	Pb	**Pb**	**14 21 32.3**	**-0.9**
KU6				Sg	**Sb**	**14 22 02.5**	**+0.7**
	comp=Z,22nm,0.2s						
KU6	**Riekki**	**2.27**	**226**	PB	**Pb**	**14 21 32.3**	**-0.9**
	baz=48						
KU6				MSG		14 21 59.7	
	comp=Z,22nm,0.2s						
KU6				SG	**Sb**	**14 22 02.5**	**+0.7**
MSF	**Maaselka**	**2.59**	**230**	Pb	**Pn**	**14 21 36.9**	**+2.3**
MSF				Sg	**Sb**	**14 22 12.0**	**+0.9**
MSF	**Maaselka**	**2.59**	**230**	PB	**Pn**	**14 21 36.9**	**+2.3**
MSF				SG	**Sb**	**14 22 12.0**	**+0.9**
SGF	**Sodankyl**	**2.84**	**269**	Pn	**Pn**	**14 21 39.4**	**+1.5**
SGF	**Sodankyl**	**2.84**	**269**	PN	**Pn**	**14 21 39.4**	**+1.5**
SGF				SG	**Sb**	**14 22 19.1**	**+1.0**
RNF	**Rovaniemi**	**3.25**	**255**	Pn	**Pn**	**14 21 44.8**	**+1.2**
RNF				Sn	**Sn**	**14 22 24.9**	**+2.0**
RNF	**Rovaniemi**	**3.25**	**255**	PN	**Pn**	**14 21 44.8**	**+1.2**
	baz=67						
RNF				SN	**Sn**	**14 22 24.9**	**+2.0**
ARA0	**ARCESS Array S**	**3.62**	**306**	Pn	**Pn**	**14 21 50.1**	**+1.4**
	baz=123,slow=16						
ARA0				Sn	**Sn**	**14 22 31.9**	**-0.1**
	baz=120,slow=28						
ARA0				Lg	Lg	14 22 43.4	
	baz=115,slow=37						
ARA0	**ARCESS Array S**	**3.62**	**306**	Sn	**Sn**	**14 22 31.9**	**-0.1**
	baz=120,slow=24,SNR=3.9						
ARA0				Lg	Lg	14 22 43.4	
	SNR=9.3						
ARA0	**ARCESS Array S**	**3.62**	**306**	Pn	**Pn**	**14 21 50.1**	**+1.4**
	baz=123,slow=16						
ARA0				Sn	**Sn**	**14 22 31.9**	**-0.1**
	baz=120,slow=28						
ARA0				Lg	Lg	14 22 43.4	
	baz=115,slow=37						
ARCES	**ARCESS Array B**	**3.62**	**306**	Pn	**Pn**	**14 21 50.1**	**+1.4**
	comp=Z,3.5nm,0.3s,baz=120,slow=15,SNR=227						
ARCES				Pg	**Pg**	**14 21 59.5**	**-1.1**
	comp=Z,1.9nm,0.3s,baz=120,slow=15,SNR=9.7						
ARCES				Sn	**Sn**	**14 22 32.0**	**0.0**
	comp=Z,4.2nm,0.3s,baz=119,slow=25,SNR=20						
ARCES				Lg	Lg	14 22 43.6	
	comp=Z,6.3nm,0.3s,baz=116,slow=34,SNR=9.5						
HEF	**Hetta**	**3.92**	**286**	Pn	**Pn**	**14 21 54.5**	**+1.6**
HEF				Sn	**Sn**	**14 22 40.2**	**+0.6**
HEF	**Hetta**	**3.92**	**286**	PN	**Pn**	**14 21 54.5**	**+1.6**
	baz=99						
HEF				SN	**Sn**	**14 22 40.1**	**+0.6**
HEF	**Hetta**	**3.92**	**286**	*e*P	**Sn**	**14 22 41.4**	**+1.8**
TOF	**Tornio**	**4.09**	**252**	PG	**Pb**	**14 22 06.4**	**+2.2**
OUL	**Oulu**	**4.12**	**235**	PG	**Pb**	**14 22 06.5**	**+1.8**
	baz=53						
OUL				SG	**Sg**	**14 23 03.0**	**-0.6**
KTK1	**Kautokeino**	**4.18**	**294**	*e*P	**Sn**	**14 22 45.8**	**-0.2**
LANU	**Lannavaara**	**4.53**	**281**	PN	**Pn**	**14 22 02.0**	**+0.8**
LANU				SN	**Sn**	**14 22 54.6**	**+0.2**
KALU	**Kalix**	**4.54**	**252**	Sn	**Sn**	**14 22 55.4**	**+0.7**
KALU	**Kalix**	**4.54**	**252**	PB	**Pb**	**14 22 09.1**	**-2.8**
KALU				SN	**Sn**	**14 22 55.4**	**+0.7**
ERTU	**Ertsjaerv**	**4.70**	**262**	Pn	**Pn**	**14 22 04.5**	**+0.9**
ERTU				Sn	**Sn**	**14 22 59.0**	**+0.3**
ERTU	**Ertsjaerv**	**4.70**	**262**	PN	**Pn**	**14 22 04.5**	**+0.9**
ERTU				SN	**Sn**	**14 22 59.0**	**+0.3**
FIA0	**FINESS Array S**	**7.07**	**212**	Pn	**Pn**	**14 22 38.0**	**+1.9**
	baz=25,slow=18						
FIA0				Sn	**Sn**	**14 23 54.8**	**-2.2**
	baz=35,slow=22						
FIA0				Lg	Lg	14 24 29.1	
	baz=16,slow=28						
FIA0	**FINESS Array S**	**7.07**	**212**	Sn	**Sn**	**14 23 54.8**	**-2.2**
	baz=35,slow=22						
FIA0				Lg	Lg	14 24 29.0	
	SNR=4.0						
FIA0	**FINESS Array S**	**7.07**	**212**	Pn	**Pn**	**14 22 38.0**	**+1.9**
	baz=25,slow=18						
FIA0				Sn	**Sn**	**14 23 54.8**	**-2.2**
	baz=35,slow=22						
FIA0				Lg	Lg	14 24 29.1	
	baz=16,slow=28						
FINES	**FINESS Array B**	**7.07**	**212**	Pn	**Pn**	**14 22 37.1**	**+1.1**
	comp=Z,0.2nm,0.3s,baz=30,slow=16,SNR=6.4						
FINES				Sn	**Sn**	**14 23 57.7**	**+0.7**
	comp=Z,0.3nm,0.3s,baz=28,slow=21,SNR=4.3						
FINES				Lg	Lg	14 24 28.4	
	comp=Z,0.9nm,0.3s,baz=30,slow=26,SNR=6.5						
HFS	**Hagfors**	**11.60**	**239**	Pn	**Pn**	**14 23 37.0**	**-1.1**
	comp=Z,0.1nm,0.3s,baz=38,slow=15,SNR=3.2						
HFS				Sn	**Sn**	**14 25 41.6**	**-6.4**
	comp=Z,0.2nm,0.3s,baz=44,slow=25,SNR=2.8						
HFS				Lg	Lg	14 26 50.3	
	comp=Z,0.1nm,0.3s,baz=35,slow=28,SNR=2.5						
SPA0	**Spitsbergen Ar**	**11.68**	**342**	Pn	**Pn**	**14 23 37.4**	**-1.7**
	baz=143,slow=9.3						
SPA0	**Spitsbergen Ar**	**11.68**	**342**	Pn	**Pn**	**14 23 37.4**	**-1.7**
	baz=143,slow=9.3						
SPITS	**Spitsbergen Ar**	**11.68**	**342**	Pn	**Pn**	**14 23 37.3**	**-1.7**
	baz=138,slow=14,SNR=5.1						
NOA	**NORSAR Array B**	**11.79**	**247**	Pn	**Pn**	**14 23 38.5**	**-2.2**
	comp=Z,0.2nm,0.3s,baz=45,slow=11,SNR=4.2						
BVAR	**Borovoye Array**	**22.76**	**112**	P	**P**	**14 25 56.5**	**+1.5**
	comp=Z,0.2nm,0.4s,baz=316,slow=12,SNR=3.6						
ZALV	**Zalesovo Beam**	**27.40**	**94**	P	**P**	**14 26 40.0**	**+1.8**
	comp=Z,0.5nm,0.4s,baz=314,slow=9.0,SNR=3.0						

*IDC **05** 14:22:59.9±1.2, 35°.73N×141°.17E, h0km, mb3.4/5, mb1 3.5/8, mb1mx3.4/74, mbtmp3.5/8, ML3.3/3, Error ellipse: s-maj=25.9km s-min=19.3km az=96.0*

*ISCJB **05** 14:23:00.5±1.2, 35°.77N±0°.04×141°.13E±0°.07, h14km±6km, mb3.5/5, Error ellipse: s-maj=9.7km s-min=6.7km az=166.5*

*NIED **05** 14:23:00, 35°.80N×141°.00E, h8km, Mw3.5 Best double couple: M0 1.94000×10^14 NP1:φs173.00000°, δ34.00000°, λ-91.00000°. NP2:φs355.00000°, δ56.00000°, λ-89.00000°.*

*JMA **05** 14:23:03.0±0.1, 35°.79N×140°.97E, h13km±1km, M3.6*

JMA Felt I J1.

ISC 05 14:23:02.3±1.2, **35°.78N**±0°.05×**141°.01E**±0°.07, **h15**km±6km, **n19**, σ**0s.79**/19, **mb3.5**/5, **2C-2D**, **Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.14**	**237**	⇑P	**Pg**	**14 23 06.3**	**+0.2**
CHOJ				S	**Sg**	**14 23 08.5**	**-0.1**
JYT	**Yasato**	**0.80**	**304**	⇓P	**Pb**	**14 23 17.4**	**-0.4**
JYT				S	**Sb**	**14 23 27.7**	**-0.7**
JHO	**Hitachi**	**0.90**	**337**	⇓P	**Pb**	**14 23 19.1**	**-0.5**
JHO				S	**Sg**	**14 23 31.6**	**0.0**
BSO3	**Boso 3**	**1.06**	**203**	⇑P	**Pg**	**14 23 22.7**	**0.0**
MJAR	**Matsushiro Arr**	**2.39**	**289**	Pn	**Pn**	**14 23 40.9**	**0.0**
	2.4nm,0.3s,baz=111,slow=7.9,SNR=29						
MJAR				Sn	**Sb**	**14 24 13.9**	**-0.4**
	5.9nm,0.3s,baz=103,slow=24,SNR=6.7						
MAT	**Matsushiro**	**2.39**	**289**	P	**Pn**	**14 23 41.4**	**+0.5**
MAT				S	**Sn**	**14 24 09.9**	**-0.1**
JHJ	**Hachijo jima 2**	**2.84**	**201**	Pn	**Pn**	**14 23 47.4**	**+0.2**
	6.8nm,0.3s,baz=78,slow=16,SNR=3.0						
JHJ				Sn	**Sn**	**14 24 20.9**	**-0.2**
	8.2nm,0.3s,baz=72,slow=20,SNR=4.1						
ASAJ	**Asahikawa**	**8.41**	**8**	Pn	**Pn**	**14 25 03.7**	**+0.1**
	0.7nm,0.3s,baz=179,slow=18,SNR=4.6						
H11N2	**WAKE ISLAND Hy**	**27.82**	**118**	T	T	14 57 49.6	
	baz=311,slow=75,SNR=142						
H11N1	**WAKE ISLAND Hy**	**27.82**	**118**	T	T	14 57 50.1	
	baz=311,slow=75,SNR=89						
H11N3	**WAKE ISLAND Hy**	**27.84**	**118**	T	T	14 57 51.0	
	baz=311,slow=75,SNR=140						
H11S1	**WAKE ISLAND Hy**	**28.48**	**120**	T	T	14 58 41.7	
	baz=312,slow=75,SNR=50						
H11S3	**WAKE ISLAND Hy**	**28.48**	**120**	T	T	14 58 40.4	
	baz=312,slow=75,SNR=40						
H11S2	**WAKE ISLAND Hy**	**28.50**	**120**	T	T	14 58 40.4	
	baz=312,slow=75,SNR=41						
ZALV	**Zalesovo Beam**	**42.52**	**313**	P	**P**	**14 30 59.2**	**+2.2**
	0.3nm,0.3s,baz=111,slow=7.9,SNR=2.0						
MKAR	**Makanchi Array**	**44.52**	**303**	P	**P**	**14 31 14.6**	**+1.4**
	0.5nm,0.7s,baz=98,slow=8.9,SNR=4.4						
KURBB	**Kurchatov Arra**	**46.52**	**309**	P	**P**	**14 31 28.8**	**-0.1**
	0.7nm,0.7s,baz=85,slow=8.0,SNR=5.2						
ILAR	**Eielson Array**	**50.73**	**32**	P	**P**	**14 32 00.6**	**-0.5**
	0.3nm,0.9s,baz=266,slow=8.0,SNR=2.8						
WRA	**Warramunga Arr**	**55.78**	**188**	P	**P**	**14 32 38.0**	**-0.6**
	0.2nm,0.4s,baz=5.8,slow=7.5,SNR=4.7						

IDC 05 14:23:18.5±1.1, **15°.32S**×**173°.58W**, **h0**km, **mb3.8**/6, **mb1 4.2**/7, **mb1mx3.8**/50, **mbtmp3.9**/7, **ML3.0**/1, **MS3.8**/24, **Ms1 3.9**/24, **ms1mx3.7**/45, **Error ellipse: s-maj=56.8km s-min=22.7km az=155.0**, **Tonga Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.23**	**51**	Pn	Pn	14 23 49.2	-7.7
	36nm,0.3s,baz=227,slow=19,SNR=43						
AFI				Sn	Sn	14 24 11.6	-14
	89nm,0.3s,baz=203,slow=22,SNR=12						
AFI				LR	LR	14 24 40.4	
	comp=Z,2μm,21.6s,baz=241,slow=37						
RAR	**Rarotonga**	**14.36**	**116**	Pn	Pn	14 26 43.0	-0.2
	0.7nm,0.3s,baz=266,slow=13,SNR=5.7						
RAR				LR	LR	14 29 56.4	
	comp=Z,77nm,20.8s,baz=296,slow=28						
DZM	**Mont Dzumac**	**20.07**	**247**	*e*LQ	LQ	14 32 11.0	
	606nm,27.1s						
DZM				*e*LR	LR	14 33 19.0	
	439nm,27.6s						
DZM	**Mont Dzumac**	**20.07**	**247**	LR	LR	14 34 16.8	
	comp=Z,269nm,21.9s,baz=64,slow=33						
PPT	**Papeete**	**23.13**	**99**	LR	LR	14 34 49.1	
	comp=Z,99nm,21.3s,baz=286,slow=30						
PPT2	**Papeete2**	**23.13**	**99**	*e*LQ	LQ	14 32 58.4	
	812nm,27.5s						
PPT2				*e*LR	LR	14 33 42.5	
	312nm,26.0s						
HNR	**Honiara**	**26.50**	**280**	LR	LR	14 37 29.4	
	comp=Z,178nm,20.9s,baz=126,slow=32						
RPZ	**Rata Peaks**	**31.19**	**202**	LR	LR	14 41 23.1	
	comp=Z,467nm,18.1s,baz=23,slow=35						
H11S2	**WAKE ISLAND Hy**	**38.80**	**329**	T	T	15 11 57.5	
	baz=149,slow=76,SNR=28						
H11S3	**WAKE ISLAND Hy**	**38.82**	**329**	T	T	15 11 45.2	
	baz=149,slow=76,SNR=27						
H11S1	**WAKE ISLAND Hy**	**38.82**	**329**	T	T	15 11 46.1	
	baz=149,slow=76,SNR=17						
H11N3	**WAKE ISLAND Hy**	**39.75**	**331**	T	T	15 12 53.4	
	baz=150,slow=76,SNR=12						
H11N1	**WAKE ISLAND Hy**	**39.76**	**330**	T	T	15 12 54.9	
	baz=150,slow=76,SNR=14						
H11N2	**WAKE ISLAND Hy**	**39.77**	**331**	T	T	15 12 54.2	
	baz=150,slow=76,SNR=13						
WRA	**Warramunga Arr**	**49.70**	**257**	P	P	14 32 12.6	-0.2
	0.6nm,0.7s,baz=97,slow=8.1,SNR=10.0						
ASAR	**Alice Springs**	**49.97**	**252**	P	P	14 32 14.3	-0.5
	3.4nm,0.7s,baz=87,slow=8.0,SNR=41						
RPN	**Rapa Nui**	**60.48**	**113**	LR	LR	14 52 42.3	
	comp=Z,92nm,21.6s,baz=26,slow=29						
DAV	**Davao City (W)**	**64.25**	**286**	LR	LR	15 00 24.9	
	comp=Z,102nm,18.2s,baz=144,slow=35						
MJAR	**Matsushiro Arr**	**68.76**	**320**	LR	LR	14 58 11.9	
	comp=Z,94nm,21.6s,baz=130,slow=30						
JOW	**Kunigami**	**70.30**	**306**	LR	LR	14 58 48.7	
	comp=Z,81nm,21.0s,baz=310,slow=30						
TGY	**Tagaytay City**	**71.04**	**291**	LR	LR	15 00 50.7	
	comp=Z,109nm,20.9s,baz=130,slow=32						
JNU	**Nakatsue**	**71.62**	**313**	LR	LR	14 58 58.6	
	comp=Z,74nm,21.7s,baz=120,slow=30						
LPIG	**La Paz**	**73.14**	**59**	LR	LR	14 58 50.3	
	comp=Z,97nm,18.1s,baz=214,slow=29						
YBH	**Yreka Blue Hor**	**73.64**	**37**	LR	LR	14 58 25.9	
	comp=Z,93nm,21.4s,baz=250,slow=29						
NVAR	**Mina Array Bea**	**74.38**	**42**	P	P	14 34 57.5	-1.2
	0.8nm,0.9s,baz=226,slow=4.8,SNR=4.8						
NVAR				LR	LR	14 59 53.2	
	comp=Z,75nm,19.4s,baz=92,slow=30						
KSRS	**Korea Array**	**75.98**	**316**	LR	LR	15 01 09.9	
	comp=Z,60nm,21.8s,baz=126,slow=30						
USRK	**Ussuriysk Ar.**	**77.21**	**323**	LR	LR	15 01 51.2	
	comp=Z,156nm,21.7s,baz=152,slow=30						
TXAR	**Lajitas Array**	**80.71**	**56**	P	P	14 35 35.2	+1.1
	1.0nm,1.0s,baz=243,slow=5.0,SNR=5.5						
TXAR				LR	LR	15 03 12.2	
	comp=Z,55nm,21.6s,baz=0.0,slow=30						
PDAR	**Pinedale Array**	**82.32**	**42**	LR	LR	15 05 44.8	
	comp=Z,64nm,21.0s,baz=244,slow=31						
ILAR	**Eielson Array**	**82.40**	**11**	P	P	14 35 42.4	+0.3
	0.3nm,0.8s,baz=232,slow=5.6,SNR=3.2						
PLCA	**Paso Flores**	**89.69**	**132**	LR	LR	15 09 03.1	
	comp=Z,71nm,18.5s,baz=242,slow=31						
YKA	**Yellowknife Ar**	**90.09**	**23**	P	P	14 36 18.9	-1.1
	0.1nm,0.3s,baz=236,slow=4.5,SNR=5.3						
CMAR	**Chiang Mai Arr**	**92.43**	**288**	LR	LR	15 17 44.8	
	comp=Z,39nm,21.0s,baz=180,slow=35						
SNAA	**Sanae**	**93.00**	**177**	LR	LR	15 14 40.8	
	comp=Z,49nm,19.5s,baz=211,slow=33						
ULM	**Lac du Bonnet**	**93.98**	**39**	LR	LR	15 15 31.8	
	comp=Z,58nm,18.2s,baz=348,slow=33						
SONM	**Songino Array**	**94.67**	**318**	LR	LR	15 12 44.1	
	comp=Z,60nm,21.5s,baz=156,slow=31						
BRTR	**Keskin Array B**	**145.98**	**321**	PKPbc	PKPab	14 43 01.2	-0.1
	1.1nm,0.8s,baz=111,slow=3.2,SNR=6.7						
GERES	**GERESS Array B**	**146.03**	**351**	PKPbc	PKPdf	14 42 60.0	+0.2
	0.2nm,0.3s,baz=19,slow=4.2,SNR=2.7						

MEX 05 14:52:59.7±0.4, **16°.37N**×**98°.15W**, **h23**km±4km, **MD3.8**, **Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.03**	**43**	*i* P	Pb	14 53 02.7	-1.1
PNIG				*e*S	Sb	14 53 05.0	-1.4
TLIG	**Tlapa**	**1.25**	**341**	*e*P	Pn	14 53 19.8	-2.2
TLIG				*e*S	Sn	14 53 34.0	-4.1
VHO	**Vista Hermosa**	**1.52**	**63**	*e*P	Pn	14 53 23.0	-2.7
VHO				*e*S	Sn	14 53 41.1	-3.8
CAIG	**El Cayaco**	**2.14**	**289**	*e*P	Pn	14 53 29.9	-4.1
CAIG				*e*S	Sn	14 53 57.4	-2.5
PLIG	**Platanillo**	**2.39**	**327**	*e*P	Pn	14 53 35.6	-2.0
PLIG				*e*S	Sn	14 54 02.8	-3.4

*ISCJB **05** 14:58:28.4±1.5, 35°.07N±0°.09×27°.24E±0°.05, h8km±11km, Error ellipse: s-maj=16.0km s-min=4.9km az=165.4*

*ATH **05** 14:58:28.5, 35°.04N×27°.22E, h26km±2km, ML2.8/4, Error ellipse: s-maj=8.2km s-min=1.6km az=160.0*

*CSEM **05** 14:58:29.4±0.6, 35°.16N×27°.19E, h10km, ML2.7, Error ellipse: s-maj=20.3km s-min=4.9km az=161.0*

*THE **05** 14:58:30.5, 35°.25N×27°.10E, h0km±1km, ML2.7/4, Error ellipse: s-maj=9.8km s-min=0.9km az=152.0*

*DDA **05** 14:58:32.2, 35°.13N×27°.16E, h52km, Ml2.9*

ISC 05 14:58:31.3±1.4, **35°.14N**±0°.08×**27°.14E**±0°.04, **h26**km±14km, **n32**, σ**1s.71**/51, **Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ZKR	Zakros	0.76	268	P	Pb	14 58 44.0	-1.8
ZKR				S	Sn	14 58 57.4	+0.5
ZKR				AML	AML	14 58 58.9	
	comp=E,2338µm,0.4s						
ZKR				AML	AML	14 58 59.1	
	comp=N,1130µm,0.3s						
ZKR	Zakros	0.76	268	P	Pb	14 58 44.4	-1.4
ZKR				S	Sn	14 58 56.9	0.0
ZKR	Zakros	0.76	268	P	Pb	14 58 44.4	-1.4
ZKR				S	Sn	14 58 56.9	0.0
NPS	Neapolis	1.26	276	P	Pn	14 58 53.5	+0.4
NPS				S	Sb	14 59 10.6	+0.5
NPS				AML	AML	14 59 14.6	
	comp=N,618µm,0.5s						
NPS				AML	AML	14 59 18.8	
	comp=E,908µm,0.6s						
NPS	Neapolis	1.26	276	P	Pn	14 58 53.5	+0.4
NPS				S	Sb	14 59 11.0	+0.9
NPS	Neapolis	1.26	276	P	Pn	14 58 53.5	+0.4
NPS				S	Sb	14 59 11.2	+1.1
ARG	Arkhangelos	1.34	37	P	Pb	14 58 55.7	0.0
ARG				S	Sb	14 59 12.2	-0.2
ARG				AML	AML	14 59 15.0	
	comp=N,456µm,0.5s						
ARG				AML	AML	14 59 17.2	
	comp=E,816µm,0.4s						
ARG	Arkhangelos	1.34	37	P	Pn	14 58 54.3	0.0
ARG				S	Sb	14 59 12.1	-0.3
ARG	Arkhangelos	1.34	37	P	Pn	14 58 54.3	0.0
ARG				S	Sb	14 59 12.6	+0.2
LAST	Lasithi	1.36	271	P	Pb	14 58 55.8	-0.3
LAST				S	Sb	14 59 14.8	+1.7
LAST				AML	AML	14 59 20.2	
	comp=E,380µm,0.6s						
LAST				AML	AML	14 59 24.4	
	comp=N,371µm,0.5s						
LAST	Lasithi	1.36	271	P	Pn	14 58 55.1	+0.4
LAST				S	Sb	14 59 14.4	+1.3
LAST	Lasithi	1.36	271	P	Pn	14 58 55.1	+0.4
LAST				S	Sb	14 59 14.4	+1.3
DALY	Dalyan (Mu˜la	2.07	36	eP	Pn	14 59 04.4	+0.1
DALY	Dalyan (Mu˜la	2.07	36	i P	Pn	14 59 04.2	-0.2
DALY				i S	Sb	14 59 40.2	+6.7
DALY	Dalyan (Mu˜la	2.07	36	P	Pn	14 59 04.2	-0.2
TURN	Turunc	2.09	34	eP	Pn	14 59 01.1	-3.5
TURN	Turunc	2.09	34	i P	Pn	14 59 00.8	-3.8
TURN				i S	Sn	14 59 27.8	-2.0
TURN	Turunc	2.09	34	P	Pn	14 59 00.8	-3.8
TURN				S	Sn	14 59 27.8	-2.0
FETY	Fethiye	2.17	46	eP	Pn	14 59 04.6	-1.1
FETY	Fethiye	2.17	46	P	Pn	14 59 04.0	-1.7
AKAS	Kas	2.28	61	eP	Pn	14 59 05.7	-1.7
AKAS				eS	Sn	14 59 34.9	+0.2
AKAS	Kas	2.28	61	i P	Pn	14 59 05.9	-1.5
AKAS	Kas	2.28	61	P	Pn	14 59 05.9	-1.5
APE	Apeiranthos	2.32	326	eP	Pn	14 59 06.4	-1.4
APE				eS	Sn	14 59 34.5	-1.1
APE	Apeiranthos	2.32	326	P	Pn	14 59 06.9	-0.9
APE	Apeiranthos	2.32	326	P	Pn	14 59 06.9	-0.9
TAVA	DENIZLI_Tavas	2.72	31	i P	Pn	14 59 13.1	-0.3
TAVA	DENIZLI_Tavas	2.72	31	P	Pn	14 59 13.1	-0.3
ELL	Elmali	2.76	54	eP	Pn	14 59 14.0	+0.1
ELL				eS	Sn	14 59 47.8	+1.3
AYDB	Zeytinkoy-Aydi	2.86	12	eP	Pn	14 59 15.9	+0.6
AYDB				eS	Sn	14 59 51.5	+2.5
KEPZ	Antalya-Kepez	4.02	63	i P	Pn	14 59 31.5	+0.3
KEPZ	Antalya-Kepez	4.02	63	P	Pn	14 59 31.5	+0.3

*ISK **05** 15:02:29.2, 38°.63N×43°.16E, h5km, ML3.7/8*
*ISN **05** 15:02:29.2±0.8, 38°.59N×43°.20E, h0km±35km, ML3.5*
*DDA **05** 15:02:30.5, 38°.63N×43°.21E, h20km, Ml3.5*
*ISCJB **05** 15:02:30.8±0.5, 38°.63N±0°.02×43°.15E±0°.02, h0km±3km, Error ellipse: s-maj=3.5km s-min=2.3km az=146.8*
*ATA **05** 15:02:30.1±0.9, 38°.60N×43°.08E, h26km±5km, ML4.0, MW3.9*
*CSEM **05** 15:02:31.0±0.1, 38°.62N×43°.16E, h2km, ML3.7, Error ellipse: s-maj=3.9km s-min=3.1km az=137.0*
ISC 05 15:02:31.2±0.9**, 38°.62N**±0°.02×**43°.17E**±0°.01**, h11**km±7km**, n101, σ1ˢ23**/147**, 6C-9D, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VANB	Van	0.17	99	PG	Pg	15 02 34.9	-0.2
VANB				SG	Sg	15 02 38.9	+1.1
VANB	Van	0.17	99	ePg	Pg	15 02 34.9	-0.2
VANB				eSg	Sg	15 02 38.9	+1.1
GEVA	Gevas	0.32	196	i P	Pg	15 02 36.9	-0.8
GEVA				eS	Sb	15 02 44.1	-0.3
GEVA				IAML		15 02 45.1	
	comp=Z,3µm,0.3s						
GEVA	Gevas	0.32	196	i P	Pg	15 02 37.2	-0.6
GEVA				i S	Sb	15 02 44.5	+0.1
GEVA	Gevas	0.32	196	P	Pg	15 02 37.2	-0.6
GEVA				S	Sb	15 02 44.5	+0.1
ADCV	BITLIS_Adilcev	0.39	298	i P	Pb	15 02 38.9	-1.4
ADCV				i S	Sb	15 02 46.0	-0.5
ADCV	BITLIS_Adilcev	0.39	298	P	Pb	15 02 38.9	-1.4
ADCV				S	Sb	15 02 46.0	-0.5
ERCV	ERCIS-VAN	0.42	18	PG	Pg	15 02 38.7	-0.8
ERCV				SG	Sb	15 02 45.6	-1.5
ERCV	ERCIS-VAN	0.42	18	ePg	Pg	15 02 38.7	-0.8
ERCV				eSg	Sb	15 02 45.6	-1.5
VMUR	Van-Muradiye	0.48	41	i P	Pb	15 02 40.5	-1.3
VMUR				i S	Sb	15 02 49.4	+0.4
VMUR	Van-Muradiye	0.48	41	P	Pb	15 02 40.5	-1.3
VMUR				S	Sb	15 02 49.4	+0.4
CLDR	Caldiran	0.78	48	PG	Pg	15 02 44.4	-1.9
CLDR				SG	Sb	15 02 57.1	-0.6
CLDR	Caldiran	0.78	48	i P	Pg	15 02 44.5	-1.9
CLDR				i S	Sb	15 02 56.7	-0.9
CLDR	Caldiran	0.78	48	P	Pg	15 02 44.5	-1.9
CLDR				S	Sb	15 02 56.7	-0.9
CLDR				eSg	Sb	15 02 57.1	-0.6
TUTA	Tutak	0.82	340	i P	Pg	15 02 46.2	-1.0
TUTA				IAML		15 03 06.0	
	comp=Z,671nm,0.3s						
TUTA	Tutak	0.82	340	i P	Pg	15 02 46.2	-1.0
TUTA	Tutak	0.82	340	P	Pg	15 02 46.2	-1.0
GURO	Guroymak-BITLI	0.89	266	PG	Pg	15 02 47.1	-1.4
GURO				SG	Sb	15 03 00.3	-0.5
GURO	Guroymak-BITLI	0.89	266	ePg	Pg	15 02 47.1	-1.4
GURO				eSg	Sb	15 03 00.3	-0.5
AGRB	Hanur-Agry	0.96	352	PG	Pg	15 02 47.7	-2.0
AGRB	Hanur-Agry	0.96	352	ePg	Pg	15 02 47.7	-2.0
DYDN	Diyadin	1.00	24	eP	Pb	15 02 50.5	-0.2
DYDN				eS	Sn	15 03 07.2	+1.5
DYDN				IAML		15 03 11.1	
	comp=Z,154nm,0.5s						
DYDN	Diyadin	1.00	24	i P	Pb	15 02 50.0	-0.8
DYDN				i S	Sb	15 03 04.3	+0.2
DYDN	Diyadin	1.00	24	P	Pb	15 02 50.0	-0.8
DYDN				S	Sb	15 03 04.3	+0.2
EKAR	Karacoban	1.07	307	eP	Pg	15 02 50.4	-1.4
EKAR	Karacoban	1.07	307	i P	Pg	15 02 50.4	-1.4
EKAR				i S	Sn	15 03 10.2	+2.8
EKAR	Karacoban	1.07	307	P	Pg	15 02 50.4	-1.4
HAKT	HAKKARI	1.15	158	i P	Pg	15 02 51.0	-2.2
HAKT				i S	Sn	15 03 09.5	+0.3
HAKT	HAKKARI	1.15	158	P	Pg	15 02 51.0	-2.2
HAKT				S	Sn	15 03 09.5	+0.3
SRTM	Siirt_Merkez	1.17	238	i P	Pn	15 02 53.5	-0.1
SRTM				i S	Sb	15 03 08.4	-0.2
SRTM	Siirt_Merkez	1.17	238	P	Pn	15 02 53.5	-0.1
SRTM				S	Sb	15 03 08.4	-0.2
SIRT	Sirnak	1.26	207	PN	Pn	15 02 54.4	-0.5
SIRT	Sirnak	1.26	207	ePn	Pn	15 02 54.4	-0.5
SIRN	S˜–rnak	1.27	208	i P	Pn	15 02 56.3	+1.3
SIRN				i S	Sn	15 03 14.3	+2.1
SIRN	S˜–rnak	1.27	208	P	Pn	15 02 56.3	+1.3
SIRN				S	Sn	15 03 14.3	+2.1
EATA	Eleskirt	1.34	337	i P	Pn	15 02 55.6	-0.6
EATA				eS	Sn	15 03 15.6	+1.3
EATA				IAML		15 03 22.4	
	comp=Z,43nm,0.5s						
EATA	Eleskirt	1.34	337	i P	Pg	15 02 56.0	-1.1
EATA				i S	Sn	15 03 16.0	+1.7
EATA	Eleskirt	1.34	337	P	Pg	15 02 56.0	-1.1
EATA				S	Sn	15 03 16.0	+1.7
YOVA	Hakkari_Yˆ…kse	1.36	139	i P	Pn	15 02 54.8	-1.6
YOVA	Hakkari_Yˆ…kse	1.36	139	P	Pn	15 02 54.8	-1.6
IGDI	IGDIR	1.43	29	eP	Pb	15 02 57.6	-0.3
IGDI	IGDIR	1.43	29	i P	Pg	15 02 58.0	-0.6
IGDI				i S	Sg	15 03 19.8	+2.6
VRTB	Varto-Mus	1.44	292	PN	Pg	15 02 57.6	-1.3
VRTB				SN	Sg	15 03 17.4	-0.2
VRTB	Varto-Mus	1.44	292	i P	Pg	15 02 57.6	-1.3
VRTB	Varto-Mus	1.44	292	P	Pg	15 02 57.6	-1.3
VRTB				eSn	Sg	15 03 17.4	-0.2
TASB	TASBURUN-IGDIR	1.59	31	PN	Pn	15 02 58.9	-0.5
TASB				SN	Sg	15 03 21.7	-0.7
TASB	TASBURUN-IGDIR	1.59	31	ePn	Pn	15 02 58.9	-0.5
TASB				eSn	Sg	15 03 21.7	-0.7
SVAN	Silvan-Diyarba	1.62	254	PN	Pb	15 03 00.5	-0.6
SVAN				SN	Sg	15 03 22.8	-0.5
SVAN	Silvan-Diyarba	1.62	254	i P	Pg	15 03 01.0	-1.2
SVAN				i S	Sg	15 03 23.6	+0.3
SVAN	Silvan-Diyarba	1.62	254	ePn	Pb	15 03 00.5	-0.6
SVAN	Silvan-Diyarba	1.62	254	P	Pg	15 03 01.0	-1.2
SVAN				eSn	Sg	15 03 22.8	-0.5
BTMN	Batman	1.67	245	i P	Pg	15 03 01.6	-1.5
BTMN				i S	Sg	15 03 26.3	+1.6
BTMN	Batman	1.67	245	P	Pg	15 03 01.6	-1.5
HYR	Heyderabad	1.71	50	⇓P	Pb	15 03 02.5	-0.1
HYR				⇑S	Sg	15 03 24.8	-1.2
HOMI	Horasan	1.73	326	eP	Pn	15 03 01.6	+0.2
HOMI	Horasan	1.73	326	i P	Pn	15 03 01.6	+0.2
DIGO	Kars	1.80	5	eP	Pb	15 03 03.1	-1.1
NAX	Nakhchivan	1.90	72	⇓P	Pg	15 03 06.2	-1.4
NAX				⇓S	Sg	15 03 31.9	-0.3
ERZM	Erzurum	1.90	313	eP	Pb	15 03 04.5	-1.5
ERZM	Erzurum	1.90	313	i P	Pb	15 03 05.2	-0.8
ERZM	Erzurum	1.90	313	P	Pb	15 03 05.2	-0.8
BNGB	Bingˆ¶l	1.98	281	PN	Pb	15 03 05.5	-1.8
BGOL	Bingol	1.99	281	i P	Pg	15 03 07.8	-1.5
BGOL	Bingol	1.99	281	P	Pg	15 03 07.8	-1.5
KARS	Kars	2.00	358	PN	Pn	15 03 05.5	+0.4
KARS	Kars	2.00	358	ePn	Pn	15 03 05.5	+0.4
SBZ	Shahbuz	2.01	67	⇑P	Pb	15 03 06.8	-1.1
SBZ				⇑S	Sb	15 03 33.7	+0.8
SENK	Senkaya-Erzuru	2.04	342	PN	Pb	15 03 06.6	-1.7
SENK	Senkaya-Erzuru	2.04	342	ePn	Pb	15 03 06.6	-1.7
EAK	Akyaka	2.09	9	i P	Pg	15 03 09.8	-1.4
EAK	Akyaka	2.09	9	P	Pg	15 03 09.8	-1.4
BINT	Bingol	2.11	278	ePn	Pn	15 03 05.5	-1.1
HANI	Diyarbakir_Han	2.18	265	i P	Pb	15 03 10.8	0.0
HANI	Diyarbakir_Han	2.18	265	P	Pb	15 03 10.8	0.0
ORD	Ordubad	2.23	81	⇓P	Pb	15 03 10.3	-1.2
ORD				⇓S	Sg	15 03 42.6	-0.2
MARD	Mardin	2.30	236	i P	Pn	15 03 09.9	+0.7
DIY	Diyarbakir	2.43	254	ePn	Pn	15 03 11.7	+0.8
MAZI	Mazidag	2.44	242	PN	Pn	15 03 11.5	+0.3
MAZI	Mazidag	2.44	242	ePn	Pn	15 03 11.5	+0.3
DYBB	Diyarbakir	2.48	255	PN	Pn	15 03 11.7	+0.1
KOPT	Kop Dagi	2.50	305	eP	Pn	15 03 13.4	+1.3
DBAD	Bademkaya	2.65	335	i P	Pb	15 03 19.4	+0.7
DBAD	Bademkaya	2.65	335	P	Pb	15 03 19.4	+0.7
ARTV	Artvin	2.73	340	i P	Pb	15 03 19.8	-0.4
ARTV	Artvin	2.73	340	P	Pb	15 03 19.8	-0.4
BAYB	BAYBURT	2.78	307	i P	Pg	15 03 22.3	-2.3
GDB	GEDABAY	2.89	43	⇓P	Pn	15 03 18.8	+1.4
GDB				⇑S	Sn	15 03 53.8	+1.6
BAYT	Ayd˜–ntepe-Bay	2.94	308	PN	Pn	15 03 19.1	+1.1
BAYT	Ayd˜–ntepe-Bay	2.94	308	ePn	Pn	15 03 19.1	+1.1
QZX	Qazax, Azerbai	2.96	34	⇓P	Pn	15 03 18.8	+0.6
PTK	Pertek	2.97	276	PN	Pn	15 03 19.4	+1.0
PTK	Pertek	2.97	276	ePn	Pn	15 03 19.4	+1.0
CHOM	Cayeli-Rize	3.09	324	ePn	Pn	15 03 21.1	+1.2
GANJ	Ganja	3.16	49	⇓P	Pn	15 03 22.2	+1.2
GANJ				⇑S	Sn	15 04 01.1	+2.4
BRDA	Brd	3.51	61	⇑P	Pn	15 03 28.0	+2.3
BRDA				⇓S	Sn	15 04 10.9	+3.7
URFA	Urfa	3.63	252	PN	Pn	15 03 28.8	+1.4
URFA	Urfa	3.63	252	ePn	Pn	15 03 28.8	+1.4
MALT	Malatya	3.73	267	PN	Pn	15 03 30.8	+1.9
MALT	Malatya	3.73	267	ePn	Pn	15 03 30.8	+1.9
BHD	Baghdad	5.43	169	ePn	Pn	15 03 53.0	+0.9
	SNR=3.0						
RTB	Rutbah	6.05	203	ePn	Pn	15 04 01.5	+0.9
	SNR=3.0						

IDC 05 15:08:17.9±2.2**, 6°.70S**×**128°.99E, h0**km**, mb3.3**/1**, mb1 3.5**/4**, mb1mx3.3**/48**, mbtmp3.3**/4**, ML3.6**/2**, MS3.0**/1**, Ms1 3.0**/1**, ms1mx2.5**/20**, Error ellipse: s-maj=106.4km s-min=27.3km az=75.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	11.79	196	Pn	Pn	15 11 08.5	+1.0
	baz=24,slow=10.0						
FITZ				Sn	Sn	15 13 05.6	-14
	baz=168,slow=0.0						
WRA	Warramunga Arr	14.15	159	Pn	Pn	15 11 38.9	-0.9
	0.3nm,0.3s,baz=331,slow=14,SNR=22						
WRA				Sn	Sn	15 14 03.7	-14
	0.5nm,0.3s,baz=332,slow=22,SNR=13						
ASAR	Alice Springs	17.52	165	P	Pn	15 12 23.7	-0.1
	0.2nm,0.3s,baz=340,slow=10,SNR=30						
ASAR				S	Sn	15 15 26.1	-14
	0.1nm,0.3s,baz=346,slow=26,SNR=5.1						
KSRS	Korea Array	43.93	359	LR	LR	15 35 36.5	
	comp=Z,16nm,19.1s,baz=215,slow=37						
MKAR	Makanchi Array	67.43	327	P	P	15 19 15.4	0.0
	0.2nm,0.5s,baz=123,slow=6.3,SNR=3.8						

KRSC 05 15:53:39.9±0.7**, 52°.50N**×**159°.56E, h39**km±8km**, ML3.5, Off east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RUS	Russkaya	0.64	265	eP	Pn	15 53 53.5	+1.0
RUS				eS	Sn	15 54 02.7	+1.2
SPN	Mys Shipunski	0.66	25	eP	Pn	15 53 53.9	+1.1
SPN				eS	Sn	15 54 03.0	+1.0
NLC	Nalytchevo	0.69	349	eP	Pn	15 53 53.7	+0.6
NLC				eS	Sn	15 54 03.3	+0.7
DALK	Dalny	0.72	318	eP	Pn	15 53 54.3	+0.7
DALK				eS	Sn	15 54 04.3	+0.8
PET	Petropavlovsk	0.76	314	i P	Pn	15 53 55.0	+0.9
PET				eS	Sn	15 54 04.8	+0.4
UGLR	Uglovaya	0.84	328	i P	Pn	15 53 56.6	+1.3
UGLR				eS	Sn	15 54 08.0	+1.5
MTVR	Mutnovka	0.84	270	eP	Pn	15 53 56.3	+0.9
MTVR				eS	Sn	15 54 08.1	+1.5
SDLR	Sedlovina	0.88	333	i P	Pn	15 53 56.7	+0.8
SDLR				eS	Sn	15 54 08.0	+0.4
SMAR	Somma	0.89	329	eP	Pn	15 53 56.9	+0.8
AVH	Avacha	0.92	327	i P	Pn	15 53 57.2	+0.9
AVH				eS	Sn	15 54 09.3	+1.0
KRMR	Karymshinskiy	0.93	291	eP	Pn	15 53 57.3	+0.9
KRMR				eS	Sn	15 54 09.6	+1.0
KOK	Koryaka	0.97	325	eP	Pn	15 53 58.8	+1.7
KOK				eS	Sn	15 54 11.8	+2.1
ASAK	Asacha	1.02	264	eP	Pn	15 53 59.4	+1.6
KRX	Arik	1.02	328	eP	Pn	15 53 59.0	+1.2
KRX				eS	Sn	15 54 12.1	+1.1
KDTR	Khodutka, Kamc	1.14	233	eP	Pn	15 54 00.8	+1.5
KDTR				eS	Sn	15 54 15.3	+1.5
APC	Apacha	1.52	287	eP	Pn	15 54 06.4	+1.9
APC				eS	Sn	15 54 25.5	+2.4
GNL	Ganaly	1.54	322	i P	Pn	15 54 06.7	+1.7
GNL				eS	Sn	15 54 26.0	+2.2
MIPR	Malaya Ipel'ka	1.73	264	i P	Pn	15 54 09.9	+2.5
PAU	Pauzhetka	1.99	240	eP	Pn	15 54 13.6	+2.7
TUMD	Tumrok D	2.76	10	eP	Pn	15 54 24.6	+3.1
TUMD				eS	Sn	15 54 57.4	+3.9
SKR	Severo-Kuril's	2.81	231	eS	Sn	15 54 57.1	+2.2
KMNR	Kamenistaya	3.29	7	eP	Pn	15 54 33.3	+4.4

MEX 05 15:54:12.7±0.3**, 16°.46N**×**98°.42W, h11**km±6km**, MD3.8, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.29	104	i P	Pg	15 54 18.3	-0.3
PNIG				eS	Sg	15 54 22.4	-0.2
TLIG	Tlapa	1.10	353	i P	Pb	15 54 32.3	-1.6
TLIG				eS	Sg	15 54 44.4	-3.9
VHO	Vista Hermosa	1.73	69	eP	Pn	15 54 39.5	-3.4
VHO				eS	Sn	15 55 00.4	-4.7
CAIG	El Cayaco	1.86	288	eP	Pn	15 54 41.1	-3.5
CAIG				eS	Sn	15 55 03.8	-4.3
PLIG	Platanillo	2.18	332	eP	Pn	15 54 48.1	-0.9
PLIG				eS	Sn	15 55 11.9	-4.2

IDC 05 15:55:47.7±1.9**, 17°.10S**×**175°.12W, h222**km±26km**, mb3.4**/4**, mb1 3.6**/5**, mb1mx3.2**/43**, mbtmp4.0**/5**, Error ellipse: s-maj=35.7km s-min=20.0km az=119.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AFI	Afiamalu	4.52	46	P	Pn	15 56 58.5	+1.7
	9.2nm,0.3s,baz=225,slow=7.1,SNR=19						
AFI				S	S	15 57 51.0	-0.3
	29nm,0.3s,baz=30,slow=18,SNR=14						
URZ	Urewera	22.15	196	P	P	16 00 25.3	-0.1
	6.0nm,0.4s,baz=338,slow=2.1,SNR=18						
WRA	Warramunga Arr	47.87	258	P	P	16 04 03.4	-0.3
	0.5nm,0.5s,baz=95,slow=7.0,SNR=22						
WRA				PcP	PcP	16 05 28.4	-0.3
	0.3nm,0.9s,baz=97,slow=5.8,SNR=2.8						
ASAR	Alice Springs	48.03	253	P	P	16 04 04.8	-0.1
	3.0nm,0.7s,baz=87,slow=8.8,SNR=53						
ASAR				PcP	PcP	16 05 29.1	-0.2
	0.3nm,0.5s,baz=105,slow=4.1,SNR=6.3						
ILAR	Eielson Array	84.43	12	P	P	16 07 54.9	+0.1
	0.3nm,0.6s,baz=220,slow=6.5,SNR=5.8						

*ISN **05** 16:45:16.8±1.5, 39°.00N×43°.52E, h7km±196km, ML3.4*
*DDA **05** 16:45:18.8, 38°.87N×43°.54E, h5km, Ml3.4*
*ISK **05** 16:45:18.9, 38°.89N×43°.52E, h2km, ML3.6/13*
*CSEM **05** 16:45:19.9±0.1, 38°.88N×43°.56E, h2km, ML3.6, Error ellipse: s-maj=3.6km s-min=2.6km az=149.0*
*ATA **05** 16:45:19.5±2.0, 38°.87N×43°.44E, h6km±23km, ML3.8, MW3.8*
ISC 05 16:45:19.9±1.1**, 38°.88N**±0°.02×**43°.52E**±0°.02**, h1**km±9km**, n110, σ1ˢ15**/160**, 18C-20D, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ERCV	ERCIS-VAN	0.20	315	PG	Pg	16 45 23.8	0.0
ERCV				SG	Sg	16 45 27.9	+1.5
ERCV	ERCIS-VAN	0.20	315	ePg	Pg	16 45 23.8	0.0
ERCV				eSg	Sg	16 45 27.9	+1.5
VANB	Van	0.30	200	PG	Pb	16 45 27.2	-1.0
VANB				SG	Sb	16 45 34.1	+0.4
VANB	Van	0.30	200	ePg	Pb	16 45 27.2	-1.0
TVAN	Van	0.36	194	i P	Pg	16 45 27.0	+0.2
TVAN				i S	Sb	16 45 35.0	-0.5
TVAN	Van	0.36	194	P	Pg	16 45 27.0	+0.2
TVAN				S	Sb	16 45 35.0	-0.5
CLDR	Caldiran	0.41	49	PG	Pg	16 45 26.5	-1.3
CLDR				SG	Sg	16 45 33.9	+0.8
CLDR	Caldiran	0.41	49	i P	Pg	16 45 26.5	-1.3
CLDR	Caldiran	0.41	49	P	Pg	16 45 26.5	-1.3
CLDR				eSg	Sg	16 45 33.9	+0.8
ADCV	BITLIS_Adilcev	0.62	264	i P	Pg	16 45 32.2	+0.3
ADCV				i S	Sb	16 45 42.5	-0.6
ADCV	BITLIS_Adilcev	0.62	264	P	Pg	16 45 32.2	+0.3
ADCV				S	Sb	16 45 42.5	-0.6
GEVA	Gevas	0.67	213	i P	Pg	16 45 31.9	-0.8
GEVA	Gevas	0.67	213	i P	Pg	16 45 32.0	-0.8
GEVA				i S	Sn	16 45 46.0	-1.9
GEVA	Gevas	0.67	213	P	Pg	16 45 32.0	-0.8
GEVA				S	Sn	16 45 46.0	-1.9
DYDN	Diyadin	0.68	11	eP	Pg	16 45 33.2	+0.3
DYDN				eS	Sb	16 45 44.0	-0.7
DYDN				IAML		16 45 45.7	
	comp=Z,206nm,0.2s						
DYDN	Diyadin	0.68	11	i P	Pg	16 45 33.1	+0.2
DYDN				i S	Sb	16 45 43.5	-1.2
DYDN	Diyadin	0.68	11	P	Pg	16 45 33.1	+0.2
DYDN				S	Sb	16 45 43.5	-1.2
TUTA	Tutak	0.76	314	eP	Pg	16 45 33.9	-0.6
TUTA				IAML		16 45 51.9	
	comp=Z,486nm,0.5s						
TUTA	Tutak	0.76	314	i P	Pg	16 45 33.6	-0.9
TUTA				i S	Sb	16 45 45.9	-1.1
TUTA	Tutak	0.76	314	P	Pg	16 45 33.6	-0.9
TUTA				S	Sb	16 45 45.9	-1.1
AGRB	Hanur-Agry	0.81	330	PG	Pg	16 45 34.9	-0.5
AGRB				SG	Sb	16 45 46.9	-1.5
AGRB	Hanur-Agry	0.81	330	ePg	Pg	16 45 34.9	-0.5
AGRB				eSg	Sb	16 45 46.9	-1.5
IGDI	IGDIR	1.08	24	eP	Pg	16 45 40.2	-0.5
IGDI				i Pg	Pn	16 45 43.7	+1.4
IGDI				eS	Sn	16 45 57.1	-0.8
IGDI				IAML		16 46 08.8	
	comp=Z,69nm,0.6s						
IGDI	IGDIR	1.08	24	i P	Pb	16 45 40.8	-0.7
IGDI				i S	Sn	16 45 56.8	-1.2
EKAR	Karacoban	1.19	289	eP	Pg	16 45 42.2	-0.6
EKAR				IAML		16 46 20.6	
	comp=Z,168nm,0.6s						
EKAR	Karacoban	1.19	289	i P	Pg	16 45 37.7	-5.1
GURO	Guroymak-BITLI	1.21	255	PN	Pg	16 45 41.7	-1.4
GURO				SN	Sb	16 45 59.6	-0.2
TASB	TASBURUN-IGDIR	1.24	27	PN	Pg	16 45 43.4	-0.2
TASB				SN	Sn	16 46 01.9	+0.1
TASB	TASBURUN-IGDIR	1.24	27	ePn	Pg	16 45 43.4	-0.2
TASB				eSn	Sn	16 46 01.9	+0.1
EATA	Eleskirt	1.26	321	eP	Pg	16 45 43.4	-0.8
EATA	Eleskirt	1.26	321	i P	Pg	16 45 43.1	-1.1
EATA				i S	Sn	16 46 02.5	-0.4
EATA	Eleskirt	1.26	321	P	Pg	16 45 43.1	-1.1
EATA				S	Sn	16 46 02.5	-0.4
HYR	Heyderabad	1.33	51	⇓P	Pg	16 45 44.8	-0.7
YOVA	Hakkari_Yˆ…kse	1.43	155	i P	Pn	16 45 46.4	-0.8
YOVA				i S	Sn	16 46 08.8	+2.2
YOVA	Hakkari_Yˆ…kse	1.43	155	P	Pn	16 45 46.4	-0.8
YOVA				S	Sn	16 46 08.8	+2.2
SRTM	Siirt_Merkez	1.54	235	i P	Pb	16 45 48.6	-0.6
SRTM	Siirt_Merkez	1.54	235	P	Pb	16 45 48.6	-0.6
DIGO	Kars	1.54	356	eP	Pn	16 45 48.3	-0.5
DIGO				eS	Sg	16 46 13.1	+3.7
DIGO	Kars	1.54	356	i P	Pn	16 45 47.8	-1.0
DIGO	Kars	1.54	356	P	Pn	16 45 47.8	-1.0
NAX	Nakhchivan	1.57	79	⇑P	Pb	16 45 49.4	-0.4
NAX				⇓S	Sg	16 46 11.9	+1.6
SIRT	Sirnak	1.62	212	PN	Pn	16 45 49.3	-0.4
SIRT	Sirnak	1.62	212	ePn	Pn	16 45 49.3	-0.4
VRTB	Varto-Mus	1.63	281	PN	Pn	16 45 49.8	-0.1
VRTB	Varto-Mus	1.63	281	i P	Pg	16 45 51.6	+0.4
VRTB	Varto-Mus	1.63	281	ePn	Pn	16 45 49.8	-0.1
VRTB	Varto-Mus	1.63	281	P	Pg	16 45 51.6	+0.4
SIRN	S˜–rnak	1.63	213	i P	Pn	16 45 50.1	+0.2
SIRN	S˜–rnak	1.63	213	P	Pn	16 45 50.1	+0.2
SBZ	Shahbuz	1.67	71	⇓P	Pn	16 45 50.2	-0.2
HOMI	Horasan	1.71	314	i P	Pb	16 45 51.9	-0.4
KARS	Kars	1.78	349	PN	Pb	16 45 52.3	-1.1
KARS	Kars	1.78	349	ePn	Pb	16 45 52.3	-1.1
EAK	Akyaka	1.81	2	eP	Pg	16 45 54.5	0.0
EAK				eS	Sg	16 46 22.8	+4.8
EAK	Akyaka	1.81	2	i P	Pg	16 45 54.7	+0.2
EAK	Akyaka	1.81	2	P	Pg	16 45 54.7	+0.2
SENK	Senkaya-Erzuru	1.91	332	PN	Pn	16 45 54.1	+0.3
SENK	Senkaya-Erzuru	1.91	332	ePn	Pn	16 45 54.1	+0.3
ORD	Ordubad	1.93	88	⇑P	Pn	16 45 54.3	+0.3
ORD				⇓S	Sg	16 46 20.9	-1.1
ERZM	Erzurum	1.96	302	eP	Pb	16 45 55.5	-1.0
ERZM	Erzurum	1.96	302	i P	Pb	16 45 55.9	-0.6
ERZM	Erzurum	1.96	302	P	Pb	16 45 55.9	-0.6
SVAN	Silvan-Diyarba	1.96	249	PN	Pn	16 45 55.0	+0.7
SVAN	Silvan-Diyarba	1.96	249	i P	Pb	16 45 56.1	-0.3
SVAN	Silvan-Diyarba	1.96	249	ePn	Pn	16 45 55.0	+0.7
SVAN	Silvan-Diyarba	1.96	249	P	Pb	16 45 56.1	-0.3
BTMN	Batman	2.02	242	i P	Pb	16 45 56.9	-0.7
BTMN				i S	Sg	16 46 24.8	-0.1
BTMN	Batman	2.02	242	P	Pb	16 45 56.8	-0.7
BTMN				S	Sg	16 46 24.8	-0.1
ECAT	Cat-ERZURUM	2.10	291	eP	Pb	16 45 58.4	-0.6
ECAT				i Pg	Pg	16 46 00.1	-0.1
ECAT				eS	Sg	16 46 29.2	+1.6
ECAT	Cat-ERZURUM	2.10	291	i P	Pb	16 45 58.7	-0.3
ECAT	Cat-ERZURUM	2.10	291	P	Pb	16 45 58.7	-0.3

BNGB	**Bingˆ¶l**	**2.22**	**274**	PN	**Pn**	**16 45 57.9**	**-0.1**
BINT	**Bingol**	**2.36**	**271**	*e*Pn	**Pn**	**16 45 57.9**	**-2.1**
GDB	**GEDABAY**	**2.52**	**42**	⇓P	**Pn**	**16 46 01.6**	**-0.6**
GDB				⇑S	**Sn**	**16 46 34.2**	**+0.6**
KOPT	**Kop Dagi**	**2.60**	**297**	*e*P	**Pg**	**16 46 08.7**	**-1.1**
QZX	**Qazax, Azerbai**	**2.60**	**33**	⇑P	**Pn**	**16 46 01.1**	**-2.1**
QZX				⇓S	**Sn**	**16 46 34.7**	**-0.7**
ARTV	**Artvin**	**2.61**	**333**	*e*P	**Pg**	**16 46 08.5**	**-1.4**
DIY	**Diyarbakir**	**2.77**	**250**	*e*Pn	**Pn**	**16 46 06.7**	**+1.2**
GANJ	**Ganja**	**2.79**	**50**	⇓P	**Pn**	**16 46 05.0**	**-0.8**
GANJ				⇑S	**Sn**	**16 46 40.6**	**+0.5**
MAZI	**Mazidag**	**2.81**	**241**	PN	**Pn**	**16 46 06.8**	**+0.8**
MAZI	**Mazidag**	**2.81**	**241**	*e*Pn	**Pn**	**16 46 06.8**	**+0.8**
DYBB	**Diyarbakir**	**2.81**	**252**	PN	**Pn**	**16 46 06.7**	**+0.6**
BAYB	**BAYBURT**	**2.87**	**300**	*e*P	**Pn**	**16 46 08.2**	**+1.1**
BAYT	**Ayd˜–ntepe-Bay**	**3.02**	**301**	PN	**Pn**	**16 46 09.6**	**+0.6**
BAYT	**Ayd˜–ntepe-Bay**	**3.02**	**301**	*e*Pn	**Pn**	**16 46 09.6**	**+0.6**
ERZN	**Erzincan**	**3.03**	**285**	PN	**Pn**	**16 46 09.9**	**+0.7**
EUZM	**Uzumlu**	**3.08**	**287**	*e*P	**Pb**	**16 46 12.7**	**-2.8**
TNCL	**Tunceli-Merkez**	**3.11**	**276**	*e*P	**Pb**	**16 46 16.4**	**+0.4**
BRDA	**Brd**	**3.15**	**63**	⇑P	**Pn**	**16 46 10.0**	**-0.6**
BRDA				⇓S	**Sn**	**16 46 50.9**	**+2.0**
PTK	**Pertek**	**3.22**	**272**	PN	**Pn**	**16 46 12.2**	**+0.4**
PTK	**Pertek**	**3.22**	**272**	*e*Pn	**Pn**	**16 46 12.2**	**+0.4**
MNGR	**Mingechevir, A**	**3.33**	**54**	⇓P	**Pn**	**16 46 12.2**	**-1.0**
MNGR				⇓S	**Sn**	**16 46 55.2**	**+1.8**
ZRD	**Zardab**	**3.51**	**65**	⇑P	**Pn**	**16 46 15.0**	**-0.6**
ZRD				⇑S	**Sn**	**16 46 59.8**	**+2.1**
SEKA	**Sheki**	**3.66**	**49**	⇑P	**Pn**	**16 46 17.3**	**-0.4**
SEKA				⇑S	**Sn**	**16 47 03.9**	**+2.3**
LRK	**Lerik**	**3.78**	**92**	⇑P	**Pn**	**16 46 18.9**	**-0.5**
LRK				⇑S	**Sn**	**16 47 06.8**	**+2.2**
GLBA	**Clilabad**	**3.81**	**83**	⇓P	**Pn**	**16 46 19.4**	**-0.4**
GLBA				⇓S	**Sn**	**16 47 07.6**	**+2.4**
KDMR	**Kurdemir**	**3.90**	**66**	⇓P	**Pn**	**16 46 20.3**	**-0.7**
KDMR				⇓S	**Sn**	**16 47 09.4**	**+2.0**
QBL	**Gabala**	**3.91**	**57**	⇑P	**Pn**	**16 46 20.1**	**-1.1**
QBL				⇓S	**Sn**	**16 47 08.9**	**+1.2**
SAAT	**Saatly**	**3.93**	**74**	⇑P	**Pn**	**16 46 20.3**	**-1.0**
SAAT				⇓S	**Sn**	**16 47 09.5**	**+1.5**
URFA	**Urfa**	**3.97**	**250**	PN	**Pn**	**16 46 23.7**	**+1.7**
URFA	**Urfa**	**3.97**	**250**	*e*Pn	**Pn**	**16 46 23.7**	**+1.7**
MALT	**Malatya**	**4.03**	**264**	PN	**Pn**	**16 46 24.1**	**+1.3**
MALT	**Malatya**	**4.03**	**264**	*e*Pn	**Pn**	**16 46 24.1**	**+1.3**
IML	**Ismayilli**	**4.07**	**60**	⇑P	**Pn**	**16 46 22.3**	**-1.0**
IML				⇑S	**Sn**	**16 47 13.4**	**+1.8**
LKRN	**Lenkeran, Azer**	**4.11**	**91**	⇑P	**Pn**	**16 46 23.3**	**-0.6**
LKRN				⇓S	**Sn**	**16 47 14.9**	**+2.2**
ASTR	**Astara**	**4.14**	**93**	⇓P	**Pn**	**16 46 23.7**	**-0.5**
ASTR				⇓S	**Sn**	**16 47 15.6**	**+2.4**
XNQ	**Khinaliq**	**4.22**	**56**	⇑P	**Pn**	**16 46 24.3**	**-1.3**
PQL	**Pirkuli**	**4.35**	**62**	⇓P	**Pn**	**16 46 26.2**	**-1.1**
BHD	**Baghdad**	**5.64**	**173**	*e*Pn	**Pn**	**16 46 44.0**	**-0.9**
	SNR=5.0						
RTB	**Rutbah**	**6.39**	**205**	*e*Pn	**Pn**	**16 46 56.0**	**+0.8**
	SNR=5.0						

*MDD **05** 16:47:28.3±1.9, 37°.11N×13°.42W, h30^{km}±29^{km}, mb4.0/14, Error ellipse: s-maj=16.4km s-min=14.2km az=95.0, PRXIMO*
*INMG **05** 16:47:30.0±1.1, 37°.02N×13°.54W, h10^{km}, ML2.4, Error ellipse: s-maj=6.3km s-min=5.1km az=43.0*
*CSEM **05** 16:47:32.2±0.4, 37°.40N×12°.89W, h10^{km}, ML3.0/4, Error ellipse: s-maj=7.9km s-min=5.8km az=43.0*
ISC 05 16:47:23.0±2.1**, 37°.17N**±0°.07×**13°.4W**±0°.1**, h10**^{km}**, n81,** σ**2^{s}62**/135**, Azores-Cape St. Vincent Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFVI	**Vila Bisbo**	**3.61**	**89**	*e*Pn	**Pn**	**16 48 21.8**	**+2.9**
PFVI				*e*Sn	**Sn**	**16 49 00.7**	**-0.9**
PFVI				A	A	16 49 10.4	
	9.1nm,0.5s						
PFVI	**Vila Bisbo**	**3.61**	**89**	P	**Pn**	**16 48 21.9**	**+2.9**
	1.1nm,0.1s,SNR=7.9						
PFVI				S	**Sn**	**16 49 01.6**	**0.0**
	9.6nm,0.1s,SNR=7.9						
PFVI	**Vila Bisbo**	**3.61**	**89**	P	**Pn**	**16 48 21.9**	**+2.9**
	1.1nm,0.1s,SNR=7.9						
PFVI				*e*Sn	**Sn**	**16 49 00.7**	**-0.9**
	9.1nm,0.5s						
PFVI				S	**Sn**	**16 49 01.6**	**0.0**
	9.6nm,0.1s,SNR=7.9						
PMAFR	**Mafra**	**3.67**	**60**	*e*Pn	**Pb**	**16 48 23.9**	**-4.0**
PMAFR				*e*Sn	**Sn**	**16 49 04.2**	**+1.1**
PMAFR	**Mafra**	**3.67**	**60**	P	**Pn**	**16 48 22.8**	**+3.1**
	5.3nm,0.3s,SNR=7.9						
PMAFR				S	**Sn**	**16 49 04.1**	**+1.1**
	7.4nm,0.2s,SNR=7.9						
PMAFR	**Mafra**	**3.67**	**60**	P	**Pn**	**16 48 22.8**	**+3.1**
	5.3nm,0.3s,SNR=7.9						
PMAFR	**Mafra**	**3.67**	**60**	*e*Pn	**Pb**	**16 48 23.9**	**-4.0**
PMAFR				S	**Sn**	**16 49 04.1**	**+1.1**
	7.4nm,0.2s,SNR=7.9						
PTEO	**Sao Teotonio**	**3.70**	**83**	*e*Sn	**Sn**	**16 49 03.3**	**-0.5**
PTEO				A	A	16 49 03.9	
	6.9nm,0.5s						
PTEO	**Sao Teotonio**	**3.70**	**83**	S	**Sn**	**16 49 03.3**	**-0.5**
	3.5nm,0.5s						
PTEO	**Sao Teotonio**	**3.70**	**83**	S	**Sn**	**16 49 03.3**	**-0.5**
	3.5nm,0.5s						
MORF	**Marmelete**	**3.75**	**87**	*e*Pn	**Pb**	**16 48 27.6**	**-1.7**
MORF				*e*Sn	**Sn**	**16 49 04.1**	**-1.0**
MORF				A	A	16 49 08.9	
	7.8nm,0.3s						
MORF	**Marmelete**	**3.75**	**87**	*e*Pn	**Pb**	**16 48 27.6**	**-1.7**
MORF				S	**Sn**	**16 49 04.1**	**-1.0**
	7.8nm,0.3s						
PNCL	**Nicolau / Gran**	**3.94**	**75**	*e*Pn	**Pn**	**16 48 26.8**	**+3.4**
PNCL				*e*Sn	**Sn**	**16 49 09.7**	**0.0**
PNCL				A	A	16 49 13.0	
	4.5nm,0.3s						
PNCL	**Nicolau / Gran**	**3.94**	**75**	*e*Pn	**Pn**	**16 48 26.8**	**+3.4**
PNCL				*e*Sn	**Sn**	**16 49 09.7**	**0.0**
	4.5nm,0.3s						
MESJ	**Messejana**	**4.13**	**79**	*e*Pn	**Pn**	**16 48 29.8**	**+3.7**
MESJ				*e*Sn	**Sn**	**16 49 14.2**	**-0.2**
MESJ				A	A	16 49 19.2	
	4.4nm,0.4s						
MESJ	**Messejana**	**4.13**	**79**	P	**Pn**	**16 48 29.8**	**+3.7**
MESJ				S	**Sn**	**16 49 14.2**	**-0.2**
	4.4nm,0.4s						
MESJ	**Messejana**	**4.13**	**79**	P	**Pn**	**16 48 29.8**	**+3.7**
MESJ				S	**Sn**	**16 49 14.2**	**-0.2**
	4.4nm,0.4s						
PCVE	**Castro Verde**	**4.25**	**82**	*e*Pn	**Pn**	**16 48 31.1**	**+3.3**
PCVE				*e*Sn	**Sn**	**16 49 17.1**	**-0.3**
PCVE				A	A	16 49 24.3	
	3.7nm,0.6s						
PCVE	**Castro Verde**	**4.25**	**82**	P	**Pn**	**16 48 31.1**	**+3.3**
PCVE				S	**Sn**	**16 49 17.1**	**-0.3**
	3.7nm,0.6s						
PCVE	**Castro Verde**	**4.25**	**82**	P	**Pn**	**16 48 31.1**	**+3.3**
PCVE				S	**Sn**	**16 49 17.1**	**-0.3**
	3.7nm,0.6s						
EVO	**Evora**	**4.43**	**71**	*e*Sn	**Sn**	**16 49 21.5**	**-0.4**
EVO				A	A	16 49 26.9	
	5.3nm,0.3s						
EVO	**Evora**	**4.43**	**71**	S	**Sn**	**16 49 21.5**	**-0.4**
	5.3nm,0.3s						
EVO	**Evora**	**4.43**	**71**	S	**Sn**	**16 49 21.5**	**-0.4**
	5.3nm,0.3s						
PMTG	**Montargil**	**4.46**	**63**	*e*Pn	**Pn**	**16 48 34.2**	**+3.6**
PMTG				*e*Sn	**Sn**	**16 49 22.9**	**+0.3**
PMTG				A	A	16 49 24.9	
	4.4nm,0.8s						
PMTG	**Montargil**	**4.46**	**63**	*e*Pn	**Pn**	**16 48 34.2**	**+3.6**
PMTG				*e*Sn	**Sn**	**16 49 22.9**	**+0.3**
	4.4nm,0.8s						
PVAQ	**Vaqueiros**	**4.49**	**85**	*e*Sn	**Sn**	**16 49 22.9**	**-0.5**
PVAQ				A	A	16 49 26.8	
	5.2nm,0.5s						
PVAQ	**Vaqueiros**	**4.49**	**85**	S	**Sn**	**16 49 22.9**	**-0.5**
	5.2nm,0.5s						
PVAQ	**Vaqueiros**	**4.49**	**85**	S	**Sn**	**16 49 22.9**	**-0.5**
	5.2nm,0.5s						
PTOM	**Tomar**	**4.58**	**56**	*e*Sn	**Sn**	**16 49 26.2**	**+0.6**
PTOM	**Tomar**	**4.58**	**56**	S	**Sn**	**16 49 26.2**	**+0.6**
PTOM	**Tomar**	**4.58**	**56**	S	**Sn**	**16 49 26.2**	**+0.6**
EGRO	**El Granado**	**4.69**	**84**	S	**Sn**	**16 49 28.1**	**0.0**
	2.7nm,0.1s,SNR=7.9						
EGRO	**El Granado**	**4.69**	**84**	S	**Sn**	**16 49 28.1**	**0.0**
	2.7nm,0.1s,SNR=7.9						
PCAS	**Casmilo, Conde**	**4.76**	**51**	*e*Pn	**Pn**	**16 48 38.8**	**+4.0**
PCAS	**Casmilo, Conde**	**4.76**	**51**	*e*Pn	**Pn**	**16 48 38.8**	**+4.0**
PESTR	**Estremoz**	**4.85**	**68**	*e*Pn	**Pn**	**16 48 39.3**	**+3.3**
PESTR				*e*Sn	**Sn**	**16 49 32.9**	**+0.7**
PESTR	**Estremoz**	**4.85**	**68**	*e*Pn	**Pn**	**16 48 39.3**	**+3.3**
PESTR				*e*Sn	**Sn**	**16 49 32.9**	**+0.7**
PBAR	**Barrancos**	**5.10**	**77**	*e*Pn	**Pn**	**16 48 43.5**	**+4.0**
PBAR				*e*Sn	**Sn**	**16 49 38.8**	**+0.4**
PBAR				A	A	16 49 52.6	
	5.3nm,0.5s						
PBAR	**Barrancos**	**5.10**	**77**	P	**Pn**	**16 48 43.5**	**+4.0**
PBAR				S	**Sn**	**16 49 38.8**	**+0.4**
	5.3nm,0.5s						
PBAR	**Barrancos**	**5.10**	**77**	P	**Pn**	**16 48 43.5**	**+4.0**
PBAR				S	**Sn**	**16 49 38.8**	**+0.4**
	5.3nm,0.5s						
PMRV	**Marv??o**	**5.20**	**62**	*e*Pn	**Pn**	**16 48 44.5**	**+3.7**
PMRV				*e*Sn	**Sn**	**16 49 41.6**	**+0.8**
PMRV				A	A	16 49 43.8	
	2.0nm,0.2s						
PMRV	**Marv??o**	**5.20**	**62**	P	**Pn**	**16 48 44.5**	**+3.7**
PMRV				S	**Sn**	**16 49 41.6**	**+0.8**
	2.0nm,0.2s						
PMRV	**Marv??o**	**5.20**	**62**	P	**Pn**	**16 48 44.5**	**+3.7**
PMRV				S	**Sn**	**16 49 41.6**	**+0.8**
	2.0nm,0.2s						
EBAD	**Badajoz**	**5.25**	**71**	P	**Pn**	**16 48 44.9**	**+3.4**
	6.8nm,0.7s,SNR=7.9						
EBAD				S	**Sn**	**16 49 41.1**	**-0.9**
	2.5nm,0.2s,SNR=7.9						
EBAD	**Badajoz**	**5.25**	**71**	P	**Pn**	**16 48 44.9**	**+3.4**
	6.8nm,0.7s,SNR=7.9						
EBAD				S	**Sn**	**16 49 41.1**	**-0.9**
	2.5nm,0.2s,SNR=7.9						
PCBR	**Castelo Branco**	**5.32**	**58**	*e*Sn	**Sn**	**16 49 43.1**	**-0.6**
PCBR	**Castelo Branco**	**5.32**	**58**	S	**Sn**	**16 49 43.1**	**-0.6**
PCBR	**Castelo Branco**	**5.32**	**58**	S	**Sn**	**16 49 43.1**	**-0.6**
EMIN	**Mina Concepcio**	**5.34**	**82**	P	**Pn**	**16 48 46.5**	**+3.7**
	2.1nm,0.5s,SNR=7.9						
EMIN				S	**Sn**	**16 49 42.8**	**-1.5**
	1.1nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**5.34**	**82**	P	**Pn**	**16 48 46.5**	**+3.7**
	2.1nm,0.5s,SNR=7.9						
EMIN				S	**Sn**	**16 49 42.8**	**-1.5**
	1.1nm,0.1s,SNR=7.9						
PMOZ	**Porto Moniz, M**	**5.37**	**217**	S	**Sn**	**16 49 40.6**	**-4.5**
	66nm,2.7s,SNR=7.9						
ESPR	**Espera**	**6.00**	**91**	S	**Sn**	**16 49 58.4**	**-2.1**
	6.6nm,0.3s,SNR=7.9						
ESPR	**Espera**	**6.00**	**91**	S	**Sn**	**16 49 58.4**	**-2.1**
	6.6nm,0.3s,SNR=7.9						
POLO	**Lamas de Olo**	**6.01**	**44**	*e*Pn	**Pn**	**16 48 56.0**	**+3.9**
POLO				*e*Sn	**Sn**	**16 50 00.4**	**-0.6**
POLO	**Lamas de Olo**	**6.01**	**44**	*e*Pn	**Pn**	**16 48 56.0**	**+3.9**
POLO				*e*Sn	**Sn**	**16 50 00.4**	**-0.6**
PGAV	**Gavieira, Arco**	**6.19**	**38**	*e*Pn	**Pn**	**16 48 58.5**	**+4.0**
PGAV				*e*Sn	**Sn**	**16 50 04.6**	**-0.7**
PGAV				A	A	16 50 06.3	
	3.4nm,0.5s						
PGAV	**Gavieira, Arco**	**6.19**	**38**	*e*Pn	**Pn**	**16 48 58.5**	**+4.0**
PGAV				*e*Sn	**Sn**	**16 50 04.6**	**-0.7**
	3.4nm,0.5s						
ELOB	**Lobios**	**6.22**	**39**	P	**Pn**	**16 48 58.3**	**+3.4**
	1.3nm,0.3s,SNR=7.9						
ELOB				S	**Sn**	**16 50 04.7**	**-1.4**
	1.2nm,0.1s,SNR=7.9						
ELOB	**Lobios**	**6.22**	**39**	P	**Pn**	**16 48 58.3**	**+3.4**
	1.3nm,0.3s,SNR=7.9						
ELOB				S	**Sn**	**16 50 04.7**	**-1.4**
	1.2nm,0.1s,SNR=7.9						
MVO	**Moncorvo**	**6.32**	**49**	P	**Pn**	**16 48 59.8**	**+3.5**
	3.0nm,3.1s,SNR=7.9						
MVO				S	**Sn**	**16 50 06.7**	**-1.9**
	3.3nm,6.8s,SNR=7.9						
MVO	**Moncorvo**	**6.32**	**49**	P	**Pn**	**16 48 59.8**	**+3.5**
	3.0nm,3.1s,SNR=7.9						
MVO				S	**Sn**	**16 50 06.7**	**-1.9**
	3.3nm,6.8s,SNR=7.9						
ECAB	**El Cabril**	**6.36**	**79**	P	**Pn**	**16 49 00.5**	**+3.8**
	1.4nm,0.3s,SNR=7.9						
ECAB				S	**Sn**	**16 50 07.7**	**-1.7**
	0.7nm,0.1s,SNR=7.9						
ECAB	**El Cabril**	**6.36**	**79**	P	**Pn**	**16 49 00.5**	**+3.8**
	1.4nm,0.3s,SNR=7.9						
ECAB				S	**Sn**	**16 50 07.7**	**-1.7**
	0.7nm,0.1s,SNR=7.9						
EPLA	**Plasencia**	**6.38**	**61**	P	**Pn**	**16 49 01.1**	**+4.0**
	7.8nm,0.7s,SNR=7.9						
EPLA				S	**Sn**	**16 50 08.2**	**-1.8**
	0.7nm,0.1s,SNR=7.9						
EPLA	**Plasencia**	**6.38**	**61**	P	**Pn**	**16 49 01.1**	**+4.0**
	7.8nm,0.7s,SNR=7.9						
EPLA				S	**Sn**	**16 50 08.2**	**-1.8**
	0.7nm,0.1s,SNR=7.9						
EMAZ	**Mazaricos**	**6.67**	**29**	P	**Pn**	**16 49 04.6**	**+3.6**
	1.0nm,0.1s,SNR=7.9						
EMAZ				S	**Sn**	**16 50 15.1**	**-2.0**
	1.5nm,0.1s,SNR=7.9						
EMAZ	**Mazaricos**	**6.67**	**29**	P	**Pn**	**16 49 04.6**	**+3.6**
	1.0nm,0.1s,SNR=7.9						
EMAZ				S	**Sn**	**16 50 15.1**	**-2.0**
	1.5nm,0.1s,SNR=7.9						
EAGO	**Agolada(Pontev**	**6.92**	**34**	P	**Pn**	**16 49 07.7**	**+3.2**
	1.1nm,0.2s,SNR=7.9						
EAGO				S	**Sn**	**16 50 20.8**	**-2.4**
	1.3nm,0.1s,SNR=7.9						
EAGO	**Agolada(Pontev**	**6.92**	**34**	P	**Pn**	**16 49 07.7**	**+3.2**
	1.1nm,0.2s,SNR=7.9						
EAGO				S	**Sn**	**16 50 20.8**	**-2.4**
	1.3nm,0.1s,SNR=7.9						
ECAL	**Calabor**	**6.98**	**45**	P	**Pn**	**16 49 08.6**	**+3.3**
	1.0nm,0.7s,SNR=7.9						
ECAL				S	**Sn**	**16 50 22.9**	**-1.9**
	2.9nm,0.4s,SNR=7.9						
ECAL	**Calabor**	**6.98**	**45**	P	**Pn**	**16 49 08.6**	**+3.3**
	1.0nm,0.7s,SNR=7.9						
ECAL				S	**Sn**	**16 50 22.9**	**-1.9**
	2.9nm,0.4s,SNR=7.9						
EADA	**Adamuz**	**7.03**	**79**	P	**Pn**	**16 49 09.6**	**+3.7**
	1.6nm,0.5s,SNR=7.9						
EADA				S	**Sn**	**16 50 23.6**	**-2.3**
	2.5nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**7.03**	**79**	P	**Pn**	**16 49 09.6**	**+3.7**
	1.6nm,0.5s,SNR=7.9						
EADA				S	**Sn**	**16 50 23.6**	**-2.3**
	2.5nm,0.2s,SNR=7.9						
EGOR	**Sierra Gorda,**	**7.38**	**88**	S	**Sn**	**16 50 31.2**	**-3.5**
	4.2nm,2.4s,SNR=7.9						
EGOR	**Sierra Gorda,**	**7.38**	**88**	S	**Sn**	**16 50 31.2**	**-3.5**
	4.2nm,2.4s,SNR=7.9						
PAB	**San Pablo**	**7.46**	**69**	P	**Pn**	**16 49 15.4**	**+3.5**
	1.3nm,0.4s,SNR=7.9						
PAB				S	**Sn**	**16 50 33.8**	**-2.7**
	0.5nm,0.3s,SNR=7.9						
PAB	**San Pablo**	**7.46**	**69**	P	**Pn**	**16 49 15.4**	**+3.5**
	1.3nm,0.4s,SNR=7.9						
PAB				S	**Sn**	**16 50 33.8**	**-2.7**
	0.5nm,0.3s,SNR=7.9						
EPON	**Pontenova**	**7.76**	**36**	P	**Pn**	**16 49 19.4**	**+3.4**
	3.5nm,0.6s,SNR=7.9						
EPON				S	**Sn**	**16 50 40.4**	**-3.5**
	1.0nm,0.4s,SNR=7.9						
EPON	**Pontenova**	**7.76**	**36**	P	**Pn**	**16 49 19.4**	**+3.4**
	3.5nm,0.6s,SNR=7.9						
ESDC	**Sonseca Array**	**7.78**	**68**	P	**Pn**	**16 49 19.7**	**+3.4**
	0.7nm,0.2s,SNR=7.9						
ESDC	**Sonseca Array**	**7.78**	**68**	P	**Pn**	**16 49 19.7**	**+3.4**
	0.7nm,0.2s,SNR=7.9						

IDC 05 17:08:32.4±1.7**, 0°.92N**×**126°.27E, h0**^{km}**, mb3.4**/4**, mb1 3.6**/4**, mb1mx3.3**/62**, mbtmp3.5**/4**, Error ellipse: s-maj=173.6km s-min=21.0km az=66.0, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.20**	**160**	P	P	17 13 30.1	-0.4
	0.5nm,0.3s,baz=338,slow=11,SNR=21						
ASAR	**Alice Springs**	**25.54**	**164**	P	P	17 14 03.4	+0.3
	0.7nm,0.3s,baz=346,slow=12,SNR=26						
MKAR	**Makanchi Array**	**59.60**	**326**	P	P	17 18 38.7	+0.4
	0.2nm,0.5s,baz=122,slow=7.6,SNR=4.3						
KURBB	**Kurchatov Arra**	**63.85**	**328**	P	P	17 19 06.4	-0.4
	0.2nm,0.3s,baz=118,slow=7.8,SNR=2.7						

IDC 05 17:14:10.1±1.1**, 10°.25S**×**123°.76E, h160**^{km}±9^{km}**, mb2.8**/1**, mb1 2.6**/4**, mb1mx2.6**/56**, mbtmp3.0**/4**, Error ellipse: s-maj=100.7km s-min=20.5km az=59.0, Timor region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**0.10**	**293**	P	Pn	17 14 32.5	+1.1
	12nm,0.3s,baz=8.1,slow=7.1,SNR=21						
BATI				S	Sn	17 14 48.1	+0.5
	18nm,0.3s,baz=315,slow=19,SNR=15						
FITZ	**Fitzroy Crossi**	**8.02**	**167**	P	Pn	17 16 03.6	0.0
	0.1nm,0.3s,baz=1.9,slow=10,SNR=5.0						
FITZ				S	Sn	17 17 21.8	-11
	0.1nm,0.3s,baz=270,slow=7.1,SNR=2.9						
WRA	**Warramunga Arr**	**14.04**	**135**	P	Pn	17 17 20.3	-1.9
	0.0nm,0.3s,baz=309,slow=14,SNR=3.4						
WRA				S	Sn	17 19 42.1	-16
	0.1nm,0.3s,baz=123,slow=30,SNR=4.6						
ASAR	**Alice Springs**	**16.49**	**145**	P	Pn	17 17 52.8	+0.4
	0.0nm,0.3s,baz=317,slow=11,SNR=5.8						
ASAR				S	S	17 20 43.3	-12
	0.1nm,0.3s,baz=307,slow=21,SNR=5.2						
MKAR	**Makanchi Array**	**67.77**	**331**	P	P	17 24 50.3	-0.3
	0.2nm,0.6s,baz=135,slow=7.7,SNR=3.8						

IDC 05 17:21:02.3±11.0**, 7°.37S**×**129°.85E, h75**^{km}±85^{km}**, mb3.7**/1**, mb1 3.3**/4**, mb1mx3.0**/54**, mbtmp3.4**/4**, ML3.0**/3**, Error ellipse: s-maj=112.4km s-min=67.1km az=26.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.43**	**201**	P	Pn	17 23 43.6	+1.0
	0.1nm,0.3s,baz=24,slow=11,SNR=5.2						
WRA	**Warramunga Arr**	**13.24**	**161**	P	Pn	17 24 06.2	-1.0
	0.1nm,0.3s,baz=343,slow=13,SNR=9.1						
WRA				S	Sn	17 26 34.0	+1.4
	0.1nm,0.3s,baz=338,slow=23,SNR=7.6						
ASAR	**Alice Springs**	**16.67**	**167**	P	Pn	17 24 50.1	-1.1
	0.1nm,0.3s,baz=346,slow=10.0,SNR=7.7						
STKA	**Stephens Creek**	**26.73**	**157**	P	P	17 26 35.0	+0.2
	2.0nm,0.9s,baz=352,slow=7.1,SNR=3.6						

*ISK **05** 17:39:45.4, 40°.23N×31°.92E, h7^{km}, ML2.5/5*
*ISCJB **05** 17:39:46.5±0.7, 40°.11N±0°.04×31°.84E±0°.05, h2^{km}±7^{km}, Error ellipse: s-maj=7.1km s-min=6.3km az=9.9*
*DDA **05** 17:39:46.5, 40°.07N×31°.90E, h7^{km}, Ml2.4*
*CSEM **05** 17:39:46.7±0.3, 40°.12N×31°.81E, h5^{km}, ML2.4, Error ellipse: s-maj=6.8km s-min=5.9km az=124.0*
ISC 05 17:39:46.5±1.3**, 40°.12N**±0°.03×**31°.86E**±0°.03**, h4**^{km}±11^{km}**, n28,** σ**0^{s}68**/40**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AUMIH	**MIHALICIK**	**0.38**	**229**	*i* P	**Pg**	**17 39 53.9**	**0.0**
AUMIH	**MIHALICIK**	**0.38**	**229**	P	**Pg**	**17 39 53.9**	**0.0**
CMDR	**Camlidere-ANKA**	**0.60**	**51**	*i* P	**Pb**	**17 39 59.5**	**-0.2**
CMDR	**Camlidere-ANKA**	**0.60**	**51**	P	**Pb**	**17 39 59.5**	**-0.2**
MDUB	**Mudurnu**	**0.62**	**305**	PG	**Pg**	**17 39 56.7**	**-1.7**
MDUB				SG	**Sg**	**17 40 07.3**	**+0.8**
MDUB	**Mudurnu**	**0.62**	**305**	*e*Pg	**Pg**	**17 39 56.7**	**-1.7**
MDUB				*e*Sg	**Sg**	**17 40 07.3**	**+0.8**
BCAM	**Yenicaga**	**0.71**	**13**	*i* P	**Pg**	**17 40 00.5**	**+0.2**
BCAM				*i* S	**Sb**	**17 40 12.2**	**+0.4**
BCAM	**Yenicaga**	**0.71**	**13**	P	**Pg**	**17 40 00.5**	**+0.2**
BCAM				S	**Sb**	**17 40 12.2**	**+0.4**
SVRH	**Sivrihisar-ESK**	**0.72**	**201**	PG	**Pb**	**17 40 01.2**	**-0.4**
SVRH				SG	**Sn**	**17 40 14.2**	**-0.8**
SVRH	**Sivrihisar-ESK**	**0.72**	**201**	*e*Pg	**Pb**	**17 40 01.2**	**-0.4**
SVRH				*e*Sg	**Sn**	**17 40 14.2**	**-0.8**
BTAS	**Taskesti**	**0.80**	**305**	*i* P	**Pg**	**17 40 01.2**	**-0.7**
BTAS	**Taskesti**	**0.80**	**305**	P	**Pg**	**17 40 01.2**	**-0.7**
ESKT	**Eskisehir**	**0.98**	**233**	*i* P	**Pg**	**17 40 04.7**	**-0.6**
SEYT	**Eskypehyr**	**0.98**	**233**	P	**Pg**	**17 40 04.7**	**-0.6**
SAHE	**Sakarya_HENDEK**	**1.06**	**314**	*i* P	**Pb**	**17 40 07.4**	**-0.1**
SAHE				*i* S	**Sn**	**17 40 23.9**	**+0.5**
SAHE	**Sakarya_HENDEK**	**1.06**	**314**	P	**Pb**	**17 40 07.4**	**-0.1**
GULT	**Gulveren**	**1.08**	**287**	PN	**Pg**	**17 40 06.2**	**-1.0**
GULT				SN	**Sb**	**17 40 22.5**	**+0.3**
GULT	**Gulveren**	**1.08**	**287**	*e*Pn	**Pg**	**17 40 06.2**	**-1.0**
GULT				*e*Sn	**Sb**	**17 40 22.5**	**+0.3**
BORA	**Eskisehir**	**1.11**	**258**	*i* P	**Pg**	**17 40 08.2**	**+0.5**
BORA				*i* S	**Sn**	**17 40 24.7**	**+0.2**
BORA	**Eskisehir**	**1.11**	**258**	P	**Pg**	**17 40 08.2**	**+0.5**
AFSR	**Af¯ar-Bala (A**	**1.15**	**125**	PN	**Pn**	**17 40 09.3**	**-0.1**
AFSR	**Af¯ar-Bala (A**	**1.15**	**125**	*e*Pn	**Pn**	**17 40 09.3**	**-0.1**
CAVI	**Cavuskoy**	**1.55**	**274**	PN	**Pn**	**17 40 15.3**	**+0.4**
CAVI				SN	**Sb**	**17 40 36.1**	**+0.4**
CAVI	**Cavuskoy**	**1.55**	**274**	*e*Pn	**Pn**	**17 40 15.3**	**+0.4**
CAVI				*e*Sn	**Sb**	**17 40 36.1**	**+0.4**
TVSB	**Tavsanli**	**1.96**	**251**	PN	**Pn**	**17 40 21.4**	**+0.7**
TVSB	**Tavsanli**	**1.96**	**251**	*e*Pn	**Pn**	**17 40 21.4**	**+0.7**
SILT	**Sile**	**1.98**	**302**	PN	**Pn**	**17 40 20.1**	**-0.6**
SILT	**Sile**	**1.98**	**302**	*e*Pn	**Pn**	**17 40 20.1**	**-0.6**

MAN 05 17:50:34, 10°.01N×**123°.14E, h24**^{km}**, mb3.9, ML2.7, MS2.3, 1D, Cebu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNPH	**Sibulan**	**0.67**	**172**	*e*P	Pn	17 50 48.8	+0.7
SNPH				*e*S	Sn	17 50 58.8	+1.0
GUIM	**Jordan**	**0.82**	**318**	*e*P	Pn	17 50 50.7	+0.6
GUIM				*e*S	Sn	17 51 02.2	+0.8
LLP	**Lapu-Lapu**	**0.86**	**69**	⇓*e*P	Pb	17 50 48.9	-1.5
LLP				*e*S	Sb	17 50 58.9	-2.6
MSLP	**Maasin**	**1.69**	**86**	*e*P	Pb	17 51 03.3	-1.2
MSLP				*e*S	Sb	17 51 24.8	-0.6

MEX 05 17:54:12.9±0.4**, 15°.33N**×**93°.32W, h98**^{km}±5^{km}**, MD3.5, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.39**	**15**	*i* P	Pn	17 54 26.6	-1.1
PCIG				*i* S	Sn	17 54 36.8	-2.0
TGIG		**1.46**	**7**	*e*P	Pn	17 54 37.3	-1.3
TGIG				*e*S	Sn	17 54 56.9	-1.1
CCIG	**Comitan**	**1.48**	**50**	*e*P	Pn	17 54 37.8	-1.2
CCIG				*e*S	Sn	17 54 57.6	-1.2

*ISCJB **05** 17:56:33.0±0.3, 36°.55N±0°.02×0°.85E±0°.03, h16^{km}, Error ellipse: s-maj=3.7km s-min=3.2km az=29.6*
*CRAAG **05** 17:56:32.1, 36°.37N×0°.98E, Ml3.6*
*CSEM **05** 17:56:33.4±0.1, 36°.46N×0°.87E, h10^{km}, ML3.6, Error ellipse: s-maj=4.1km s-min=3.0km az=43.0*
*MDD **05** 17:56:34.8±0.7, 36°.43N×0°.97E, h19^{km}±10^{km}, mb3.6/30, Error ellipse: s-maj=8.4km s-min=5.8km az=125.0, PRXIMO*
ISC 05 17:56:33.0±0.8**, 36°.46N**±0°.04×**0°.92E**±0°.03**, h16**^{km}**, n81,** σ**1^{s}33**/121**, Northern Algeria**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ECHF	**Ech Chlef**	**0.46**	**132**	P	**Pg**	**17 56 42.4**	**+0.2**
ECHF	**Ech Chlef**	**0.46**	**132**	P	**Pg**	**17 56 42.4**	**+0.2**
ECHA	**Ech Chlef**	**0.48**	**131**	P	**Pg**	**17 56 42.4**	**-0.1**
ECHA	**Ech Chlef**	**0.48**	**131**	P	**Pg**	**17 56 42.4**	**-0.1**
EBNR	**Beni Rached**	**0.52**	**109**	P	**Pb**	**17 56 44.5**	**+0.7**
EBNR	**Beni Rached**	**0.52**	**109**	P	**Pb**	**17 56 44.5**	**+0.7**
EANR	**'Ain N'Sour**	**0.53**	**164**	P	**Pb**	**17 56 44.3**	**+0.3**
EANR	**'Ain N'Sour**	**0.53**	**164**	P	**Pb**	**17 56 44.3**	**+0.3**
EANR	**'Ain N'Sour**	**0.53**	**164**	P	**Pb**	**17 56 44.3**	**+0.3**
OJGS	**Djebel Guires**	**0.97**	**188**	P	**Pb**	**17 56 51.8**	**+0.4**
OJGS	**Djebel Guires**	**0.97**	**188**	P	**Pb**	**17 56 51.8**	**+0.4**
OJGS	**Djebel Guires**	**0.97**	**188**	P	**Pb**	**17 56 51.8**	**+0.4**
ETRT	**Tiaret**	**1.11**	**164**	P	**Pn**	**17 56 54.3**	**+0.2**
ETRT	**Tiaret**	**1.11**	**164**	P	**Pn**	**17 56 54.3**	**+0.2**
ETRT	**Tiaret**	**1.11**	**164**	P	**Pn**	**17 56 54.3**	**+0.2**
ODJA	**Bouhanifia**	**1.43**	**218**	P	**Pn**	**17 56 58.8**	**+0.5**
ODJA	**Bouhanifia**	**1.43**	**218**	P	**Pn**	**17 56 58.8**	**+0.5**
ODJA	**Bouhanifia**	**1.43**	**218**	P	**Pn**	**17 56 58.8**	**+0.5**
EMHD	**Djebel Mahouad**	**1.66**	**98**	P	**Pg**	**17 57 05.0**	**+0.1**
EMUR	**La Murta**	**2.21**	**309**	P	**Pn**	**17 57 09.3**	**+0.2**
	2.2nm,0.3s,SNR=10						
EMUR				S	**Sn**	**17 57 35.2**	**-0.9**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	6.5nm,0.3s,SNR=5.0						
EMUR	La Murta	2.21	309	P	Pn	17 57 09.3	+0.2
	2.2nm,0.3s,SNR=10						
EMUR				S	Sn	17 57 35.2	-0.9
	6.5nm,0.3s,SNR=5.0						
ENIJ	Nijar	2.57	282	P	Pn	17 57 14.8	+0.8
	2.3nm,0.1s,SNR=7.9						
ENIJ				S	Sn	17 57 44.0	-0.8
	4.6nm,0.2s,SNR=7.9						
ENIJ	Nijar	2.57	282	P	Pn	17 57 14.8	+0.8
	2.3nm,0.1s,SNR=7.9						
ENIJ				S	Sn	17 57 44.0	-0.8
	4.6nm,0.2s,SNR=7.9						
EIBI	Ibiza	2.58	7	P	Pn	17 57 15.3	+1.2
	2.5nm,0.1s,SNR=7.9						
EIBI				S	Sn	17 57 43.9	-1.3
	3.2nm,0.1s,SNR=7.9						
EIBI	Ibiza	2.58	7	P	Pn	17 57 15.3	+1.2
	2.5nm,0.1s,SNR=7.9						
EIBI				S	Sn	17 57 43.9	-1.3
	3.2nm,0.1s,SNR=7.9						
ETOB	Tobarra	2.93	319	P	Pn	17 57 20.6	+1.6
	2.6nm,0.1s,SNR=42						
ETOB				S	Sn	17 57 53.2	-0.8
	4.1nm,0.2s,SNR=5.6						
ETOB	Tobarra	2.93	319	P	Pn	17 57 20.6	+1.6
	2.6nm,0.1s,SNR=42						
ETOB				S	Sn	17 57 53.2	-0.8
	4.1nm,0.2s,SNR=5.6						
EBER	Berja	3.10	279	P	Pn	17 57 22.2	+0.8
	3.4nm,0.3s,SNR=14						
EBER				S	Sn	17 57 57.9	-0.2
	4.0nm,0.2s						
EBER	Berja	3.10	279	P	Pn	17 57 22.2	+0.8
	3.4nm,0.3s,SNR=14						
EBER				S	Sn	17 57 57.9	-0.2
	4.0nm,0.2s						
SESP	Santiago Espad	3.22	302	P	Pn	17 57 25.1	+2.0
	7.9nm,0.2s,SNR=7.9						
SESP				S	Sn	17 58 00.6	-0.6
	29nm,0.3s,SNR=7.9						
SESP	Santiago Espad	3.22	302	P	Pn	17 57 25.1	+2.0
	7.9nm,0.2s,SNR=7.9						
SESP				S	Sn	17 58 00.6	-0.6
	29nm,0.3s,SNR=7.9						
EALB	Alboran	3.24	262	P	Pn	17 57 24.2	+1.0
	47nm,2.1s,SNR=7.9						
EALB	Alboran	3.24	262	P	Pn	17 57 24.2	+1.0
	47nm,2.1s,SNR=7.9						
GORA	Gorafe	3.33	289	P	Pn	17 57 25.7	+1.2
	4.0nm,0.4s,SNR=7.9						
GORA	Gorafe	3.33	289	P	Pn	17 57 25.7	+1.2
	4.0nm,0.4s,SNR=7.9						
EQES	Quesada	3.46	294	P	Pn	17 57 27.9	+1.6
	3.5nm,0.1s,SNR=56						
EQES				S	Sn	17 58 05.9	-1.1
	14nm,0.3s,SNR=6.7						
EQES	Quesada	3.46	294	P	Pn	17 57 27.9	+1.6
	3.5nm,0.1s,SNR=56						
EQES				S	Sn	17 58 05.9	-1.1
	14nm,0.3s,SNR=6.7						
EQUE	Quentar	3.58	283	P	Pn	17 57 29.5	+1.6
	1.1nm,0.2s,SNR=9.6						
EQUE				S	Sn	17 58 08.8	-1.1
	2.1nm,0.3s						
EQUE	Quentar	3.58	283	P	Pn	17 57 29.5	+1.6
	1.1nm,0.2s,SNR=9.6						
EQUE				S	Sn	17 58 08.8	-1.1
	2.1nm,0.3s						
ETOS	Mallorca	3.62	24	P	Pn	17 57 28.9	+0.4
	1.5nm,0.4s,SNR=7.9						
ETOS				S	Sn	17 58 09.4	-1.5
	1.0nm,0.3s,SNR=7.9						
ETOS	Mallorca	3.62	24	P	Pn	17 57 28.9	+0.4
	1.5nm,0.4s,SNR=7.9						
ETOS				S	Sn	17 58 09.4	-1.5
	1.0nm,0.3s,SNR=7.9						
ELGU	Los Guajares,	3.68	278	P	Pn	17 57 30.3	+1.0
	1.4nm,0.1s,SNR=7.9						
ELGU				S	Sn	17 58 11.0	-1.4
	2.1nm,0.3s,SNR=7.9						
ELGU	Los Guajares,	3.68	278	P	Pn	17 57 30.3	+1.0
	1.4nm,0.1s,SNR=7.9						
ELGU				S	Sn	17 58 11.0	-1.4
	2.1nm,0.3s,SNR=7.9						
EMOS	Mosqueruela	4.05	345	P	Pn	17 57 36.4	+2.0
	9.3nm,1.0s,SNR=9.0						
EMOS				S	Sn	17 58 20.4	-1.2
	3.1nm,0.4s						
EMOS	Mosqueruela	4.05	345	P	Pn	17 57 36.4	+2.0
	9.3nm,1.0s,SNR=9.0						
EMOS				S	Sn	17 58 20.4	-1.2
	3.1nm,0.4s						
EGOR	Sierra Gorda,	4.09	281	P	Pn	17 57 36.4	+1.4
	2.3nm,1.2s,SNR=7.9						
EGOR				S	Sn	17 58 21.0	-1.6
	2.8nm,0.5s,SNR=7.9						
EGOR	Sierra Gorda,	4.09	281	P	Pn	17 57 36.4	+1.4
	2.3nm,1.2s,SNR=7.9						
EGOR				S	Sn	17 58 21.0	-1.6
	2.8nm,0.5s,SNR=7.9						
ERTA	Horta de San J	4.51	354	P	Pn	17 57 41.9	+1.2
	1.3nm,0.4s,SNR=7.9						
ERTA				S	Sn	17 58 30.6	-2.2
	1.6nm,0.3s,SNR=7.9						
ERTA	Horta de San J	4.51	354	P	Pn	17 57 41.9	+1.2
	1.3nm,0.4s,SNR=7.9						
ERTA				S	Sn	17 58 30.6	-2.2
	1.6nm,0.3s,SNR=7.9						
EMIJ	Mijas	4.59	273	P	Pn	17 57 42.3	+0.5
	6.5nm,0.7s,SNR=7.9						
EMIJ				S	Sn	17 58 32.6	-2.2
	4.2nm,0.5s,SNR=7.9						
EMIJ	Mijas	4.59	273	P	Pn	17 57 42.3	+0.5
	6.5nm,0.7s,SNR=7.9						
EMIJ				S	Sn	17 58 32.6	-2.2
	4.2nm,0.5s,SNR=7.9						
EADA	Adamuz	4.70	293	P	Pn	17 57 44.1	+0.8
	2.2nm,0.8s,SNR=7.9						
EADA				S	Sn	17 58 35.5	-2.0
	1.9nm,0.3s,SNR=7.9						
EADA	Adamuz	4.70	293	P	Pn	17 57 44.1	+0.8
	2.2nm,0.8s,SNR=7.9						
EADA				S	Sn	17 58 35.5	-2.0
	1.9nm,0.3s,SNR=7.9						
EPOB	Poblet	4.88	1	P	Pn	17 57 47.2	+1.3
	1.2nm,0.3s,SNR=7.9						
EPOB				S	Sn	17 58 39.9	-2.2
	2.2nm,0.5s,SNR=7.9						
EPOB	Poblet	4.88	1	P	Pn	17 57 47.2	+1.3
	1.2nm,0.3s,SNR=7.9						
EPOB				S	Sn	17 58 39.8	-2.2
	2.2nm,0.5s,SNR=7.9						
ESDC	Sonseca Array	5.01	311	P	Pn	17 57 48.7	+1.1
	0.5nm,0.2s,baz=126,slow=13,SNR=4.6						
ESDC				S	Sn	17 58 43.4	-1.9
	0.6nm,0.2s,baz=122,slow=24,SNR=8.6						
ESDC	Sonseca Array	5.01	311	P	Pn	17 57 48.7	+1.1
	0.5nm,0.2s,SNR=4.6						
ESDC				S	Sn	17 58 43.4	-1.9
	0.6nm,0.2s,SNR=8.6						
PAB	San Pablo	5.18	308	P	Pn	17 57 50.6	+0.7
	1.0nm,0.4s,SNR=7.9						
PAB				S	Sn	17 58 47.5	-1.8
	0.7nm,0.3s,SNR=7.9						
PAB	San Pablo	5.18	308	P	Pn	17 57 50.6	+0.7
	1.0nm,0.4s,SNR=7.9						
PAB				S	Sn	17 58 47.5	-1.8
	0.7nm,0.3s,SNR=7.9						
ECAB	El Cabril	5.31	290	P	Pn	17 57 52.5	+0.8
	1.8nm,1.0s,SNR=8.1						
ECAB				S	Sn	17 58 50.0	-2.5
	2.7nm,0.4s						
ECAB	El Cabril	5.31	290	P	Pn	17 57 52.5	+0.8
	1.8nm,1.0s,SNR=8.1						
ECAB				S	Sn	17 58 50.0	-2.5
	2.7nm,0.4s						
CFON	Fontmartina	5.42	12	P	Pn	17 57 54.5	+1.3
	2.1nm,0.3s,SNR=7.6						
CFON				S	Sn	17 58 52.1	-3.2
	5.1nm,3.8s,SNR=7.9						
CFON	Fontmartina	5.42	12	P	Pn	17 57 54.5	+1.3
	2.1nm,0.3s,SNR=7.6						
EMIR	Miracle	5.46	5	P	Pn	17 57 55.2	+1.4
	1.3nm,0.3s,SNR=7.9						
EMIR				S	Sn	17 58 54.0	-2.3
	4.2nm,0.4s,SNR=7.9						
EMIR	Miracle	5.46	5	P	Pn	17 57 55.2	+1.4
	1.3nm,0.3s,SNR=7.9						
GUD	Guadarrama	5.76	318	P	Pn	17 57 59.4	+1.4
	1.1nm,3.2s,SNR=7.9						
GUD	Guadarrama	5.76	318	P	Pn	17 57 59.4	+1.4
	1.1nm,3.2s,SNR=7.9						
CSOR	Sort	5.91	2	P	Pn	17 58 01.5	+1.6
	1.0nm,0.3s,SNR=7.9						
CSOR	Sort	5.91	2	P	Pn	17 58 01.5	+1.6
	1.0nm,0.3s,SNR=7.9						
EMIN	Mina Concepcio	6.21	284	P	Pn	17 58 04.9	+0.9
	1.5nm,0.6s,SNR=7.9						
EMIN	Mina Concepcio	6.21	284	P	Pn	17 58 04.9	+0.9
	1.5nm,0.6s,SNR=7.9						
EPLA	Plasencia	6.58	305	P	Pn	17 58 10.2	+1.0
	13nm,3.1s,SNR=7.9						
EPLA	Plasencia	6.58	305	P	Pn	17 58 10.1	+1.0
	13nm,3.1s,SNR=7.9						
ELAN	Lanestosa	7.54	335	P	Pn	17 58 24.0	+1.7
	3.0nm,2.5s,SNR=7.9						
ELAN	Lanestosa	7.54	335	P	Pn	17 58 24.0	+1.7
	3.0nm,2.5s,SNR=7.9						
ECAL	Calabor	8.08	315	P	Pn	17 58 31.1	+1.4
	9.1nm,8.5s,SNR=7.9						
ECAL	Calabor	8.08	315	P	Pn	17 58 31.1	+1.4
	9.1nm,8.5s,SNR=7.9						
EARI	Arriondas	8.30	327	P	Pn	17 58 34.0	+1.4
	1.3nm,5.2s,SNR=7.9						
EARI	Arriondas	8.30	327	P	Pn	17 58 34.0	+1.4
	1.3nm,5.2s,SNR=7.9						
ELOB	Lobios	8.82	310	P	Pn	17 58 41.1	+1.2
	5.4nm,0.5s,SNR=7.9						
ELOB	Lobios	8.82	310	P	Pn	17 58 41.1	+1.2
	5.4nm,0.5s,SNR=7.9						

*ISK **05** 18:06:07.9, 39°.52N×37°.92E, h7km, ML2.1/3*
*ISCJB **05** 18:06:08.4±0.4, 39°.57N±0°.02×37°.97E±0°.03, h5km±5km, Error ellipse: s-maj=4.4km s-min=3.8km az=178.9*
*DDA **05** 18:06:08.2, 39°.58N×38°.00E, h7km, Ml2.5*
*CSEM **05** 18:06:08.3±0.2, 39°.58N×37°.97E, h10km, ML2.5, Error ellipse: s-maj=3.7km s-min=3.2km az=97.0*
ISC 05 18:06:08.2±1.1**, 39°.58N**±0°.02×**37°.96E**±0°.02**, h9**km±9km**, n25, σ0s.69**/49**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CUZAR	Zara_SIVAS	0.34	335	*i* P	Pg	18 06 15.9	+0.8
CUZAR				*i* S	Sb	18 06 21.9	-0.4
CUZAR	Zara_SIVAS	0.34	335	P	Pg	18 06 15.9	+0.8
CUZAR				S	Sb	18 06 21.9	-0.4
CUKAN	kangal_SIVAS	0.46	236	*i* P	Pg	18 06 17.4	+0.1
CUKAN				*i* S	Sb	18 06 24.9	-0.8
CUKAN	kangal_SIVAS	0.46	236	P	Pg	18 06 17.4	+0.1
CUKAN				S	Sb	18 06 24.9	-0.8
ILIC	ilic-Erzincan	0.48	105	PG	Pg	18 06 17.9	+0.2
ILIC				SG	Sb	18 06 25.8	-0.5
ILIC	ilic-Erzincan	0.48	105	*e*Pg	Pg	18 06 17.9	+0.2
ILIC				*e*Sg	Sb	18 06 25.8	-0.5
KEMA	Kemaliye	0.51	127	*i* P	Pg	18 06 18.2	0.0
KEMA				*i* S	Sg	18 06 25.6	+0.6
KEMA	Kemaliye	0.51	127	P	Pg	18 06 18.2	0.0
KEMA				S	Sg	18 06 25.6	+0.6
SUSE	Susehri	0.66	16	*i* P	Pg	18 06 20.5	-0.4
SUSE				*i* S	Sb	18 06 30.8	-0.6
SUSE	Susehri	0.66	16	P	Pg	18 06 20.5	-0.4
SUSE				S	Sb	18 06 30.8	-0.6
HEKM	Malatya_Hekimh	0.70	180	*i* P	Pg	18 06 21.8	+0.1
HEKM				*i* S	Sb	18 06 32.3	-0.2
HEKM	Malatya_Hekimh	0.70	180	P	Pg	18 06 21.8	+0.1
HEKM				S	Sb	18 06 32.3	-0.2
SVSK	Karacayir	0.82	295	PG	Pb	18 06 24.7	+0.1
SVSK				SG	Sb	18 06 35.9	+0.2
DARE	Darende-Malaty	1.07	200	PG	Pg	18 06 28.1	-0.7
DARE				SG	Sg	18 06 41.4	-1.3
DARE	Darende-Malaty	1.07	200	*e*Pg	Pg	18 06 28.1	-0.7
DARE				*e*Sg	Sg	18 06 41.4	-1.3
KELT	Kelkit	1.15	60	*i* P	Pg	18 06 29.4	-0.9
KELT				*i* S	Sg	18 06 45.3	+0.1
KELT	Kelkit	1.15	60	P	Pg	18 06 29.4	-0.9
KELT				S	Sg	18 06 45.3	+0.1
AKCD	Akcadag	1.28	181	*i* P	Pg	18 06 33.3	+0.5
AKCD				*i* S	Sn	18 06 51.9	+2.1
AKCD	Akcadag	1.28	181	P	Pg	18 06 33.3	+0.5
PTK	Pertek	1.30	121	PN	Pn	18 06 32.3	-0.5
PTK				SN	Sn	18 06 51.6	+1.1
PTK	Pertek	1.30	121	*e*Pn	Pn	18 06 32.3	-0.5
PTK				*e*Sn	Sn	18 06 51.6	+1.1
MALT	Malatya	1.31	164	PN	Pn	18 06 32.5	-0.4
MALT				SN	Sn	18 06 50.9	+0.3
MALT	Malatya	1.31	164	*e*Pn	Pn	18 06 32.5	-0.4
MALT				*e*Sn	Sn	18 06 50.9	+0.3
ELZG	Elazig	1.34	143	*i* P	Pn	18 06 33.5	+0.2
ELZG				*i* S	Sn	18 06 52.1	+0.8
ELZG	Elazig	1.34	143	P	Pn	18 06 33.5	+0.2
ELZG				S	Sn	18 06 52.1	+0.8

*ISK **05** 18:07:07.7, 38°.89N×43°.56E, h8km, ML3.0/7*
*DDA **05** 18:07:08.0, 38°.87N×43°.57E, h9km, Ml2.9*
*ATA **05** 18:07:07.9±1.1, 38°.89N×43°.51E, h12km±9km, ML3.3, MW3.3*
*CSEM **05** 18:07:08.2±0.3, 38°.89N×43°.57E, h8km, ML3.0, Error ellipse: s-maj=6.3km s-min=4.6km az=105.0*
ISC 05 18:07:08.1±1.0**, 38°.89N**±0°.02×**43°.57E**±0°.02**, h7**km±8km**, n58, σ0s.66**/86**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ERCV	ERCIS-VAN	0.22	307	PG	Pg	18 07 12.5	-0.1
ERCV				SG	Sg	18 07 16.2	+0.5
ERCV	ERCIS-VAN	0.22	307	*e*Pg	Pg	18 07 12.5	-0.1
ERCV				*e*Sg	Sg	18 07 16.2	+0.5
VANB	Van	0.32	206	PG	Pb	18 07 15.9	-0.3
VANB				SG	Sb	18 07 22.9	+1.2
VANB	Van	0.32	206	*e*Pg	Pb	18 07 15.9	-0.3
VANB				*e*Sg	Sb	18 07 22.9	+1.2
CLDR	Caldiran	0.37	47	PG	Pg	18 07 15.1	-0.4
CLDR				SG	Sg	18 07 21.5	+1.1
CLDR	Caldiran	0.37	47	*i* P	Pg	18 07 15.1	-0.4
CLDR				*i* S	Sb	18 07 22.5	-0.8
CLDR	Caldiran	0.37	47	*e*Pg	Pg	18 07 15.1	-0.4
CLDR				*e*Sg	Sg	18 07 21.5	+1.1
CLDR				S	Sb	18 07 22.5	-0.8
TVAN	Van	0.38	199	*i* P	Pg	18 07 15.7	+0.1
TVAN				*i* S	Sb	18 07 23.4	0.0
TVAN	Van	0.38	199	P	Pg	18 07 15.7	+0.1
TVAN				S	Sb	18 07 23.4	0.0
ADCV	BITLIS_Adilcev	0.66	263	*i* P	Pg	18 07 20.8	-0.1
ADCV				*i* S	Sb	18 07 31.1	-0.4
ADCV	BITLIS_Adilcev	0.66	263	P	Pg	18 07 20.8	-0.1
ADCV				S	Sb	18 07 31.1	-0.4
DYDN	Diyadin	0.66	8	*e*P	Pg	18 07 21.1	+0.1
DYDN				*e*S	Sb	18 07 32.4	+0.8
DYDN				IAML		18 07 39.0	
	comp=Z,59nm,0.3s						
DYDN	Diyadin	0.66	8	*i* P	Pg	18 07 21.2	+0.3
DYDN				*i* S	Sb	18 07 31.5	-0.1
DYDN	Diyadin	0.66	8	P	Pg	18 07 21.2	+0.3
DYDN				S	Sb	18 07 31.5	-0.1
GEVA	Gevas	0.70	215	*i* P	Pg	18 07 20.5	-1.0
GEVA				*e*S	Sb	18 07 33.0	+0.5
GEVA				IAML		18 07 41.6	
	comp=Z,111nm,0.4s						
GEVA	Gevas	0.70	215	*i* P	Pg	18 07 20.6	-1.0
GEVA	Gevas	0.70	215	P	Pg	18 07 20.6	-1.0
TUTA	Tutak	0.78	312	*i* P	Pg	18 07 22.4	-0.7
TUTA				*e*S	Sb	18 07 34.7	-0.3
TUTA				IAML		18 07 39.3	
	comp=Z,221nm,0.3s						
TUTA	Tutak	0.78	312	*i* P	Pg	18 07 22.7	-0.4
TUTA				*i* S	Sb	18 07 34.7	-0.3
TUTA	Tutak	0.78	312	P	Pg	18 07 22.7	-0.4
TUTA				S	Sb	18 07 34.7	-0.3
AGRB	Hanur-Agry	0.82	327	PG	Pg	18 07 23.7	-0.2
AGRB				SG	Sb	18 07 35.8	-0.3
AGRB	Hanur-Agry	0.82	327	*e*Pg	Pg	18 07 23.7	-0.2
AGRB				*e*Sg	Sb	18 07 35.8	-0.3
IGDI	IGDIR	1.06	22	*i* P	Pn	18 07 28.8	-0.6
IGDI				*e*S	Sn	18 07 44.5	+0.1
IGDI				IAML		18 07 52.5	
	comp=Z,16nm,0.5s						
IGDI	IGDIR	1.06	22	*i* P	Pn	18 07 29.4	0.0
TASB	TASBURUN-IGDIR	1.21	25	PN	Pb	18 07 30.4	-1.0
TASB	TASBURUN-IGDIR	1.21	25	*e*Pn	Pb	18 07 30.4	-1.0
EKAR	Karacoban	1.23	288	*e*P	Pb	18 07 31.0	-0.8
EKAR	Karacoban	1.23	288	*i* P	Pb	18 07 30.7	-1.0
EKAR				*i* S	Sn	18 07 49.7	+0.9
EKAR	Karacoban	1.23	288	P	Pb	18 07 30.7	-1.0
EKAR				S	Sn	18 07 49.7	+0.9
GURO	Guroymak-BITLI	1.25	255	PN	Pn	18 07 30.4	-1.6
GURO	Guroymak-BITLI	1.25	255	*e*Pn	Pn	18 07 30.4	-1.6
EATA	Eleskirt	1.28	320	*e*P	Pn	18 07 32.0	-0.7
EATA				*e*S	Sn	18 07 50.9	+0.7
EATA	Eleskirt	1.28	320	*i* P	Pn	18 07 32.0	-0.7
EATA				*i* S	Sn	18 07 51.3	+1.0
EATA	Eleskirt	1.28	320	P	Pn	18 07 32.0	-0.7
EATA				S	Sn	18 07 51.3	+1.0
YOVA	Hakkari_Yˆ…kse	1.42	156	*i* P	Pb	18 07 34.7	-0.2
YOVA	Hakkari_Yˆ…kse	1.42	156	P	Pb	18 07 34.7	-0.2
DIGO	Kars	1.53	354	*e*P	Pb	18 07 36.7	-0.2
DIGO	Kars	1.53	354	*i* P	Pb	18 07 36.8	-0.2
DIGO	Kars	1.53	354	P	Pb	18 07 36.8	-0.2
SRTM	Siirt_Merkez	1.57	236	*i* P	Pb	18 07 37.6	+0.1
SRTM	Siirt_Merkez	1.57	236	P	Pb	18 07 37.6	+0.1
SIRT	Sirnak	1.64	213	PN	Pn	18 07 37.1	-0.3
SIRT	Sirnak	1.64	213	*e*Pn	Pn	18 07 37.1	-0.3
HOMI	Horasan	1.73	313	*e*P	Pb	18 07 40.3	+0.1
HOMI	Horasan	1.73	313	*i* P	Pb	18 07 40.4	+0.1
EAK	Akyaka	1.80	1	*e*P	Pg	18 07 43.3	+0.7
SENK	Senkaya-Erzuru	1.92	331	PN	Pn	18 07 41.7	+0.4
SENK	Senkaya-Erzuru	1.92	331	*e*Pn	Pn	18 07 41.7	+0.4
ERZM	Erzurum	1.99	302	*e*P	Pb	18 07 44.9	+0.1
ERZM				*e*S	Sg	18 08 12.1	+0.2
ERZM	Erzurum	1.99	302	*i* P	Pb	18 07 44.8	+0.1
ERZM	Erzurum	1.99	302	P	Pb	18 07 44.8	+0.1
BTMN	Batman	2.06	242	*i* P	Pb	18 07 45.4	-0.4
BTMN	Batman	2.06	242	P	Pb	18 07 45.4	-0.4
ECAT	Cat-ERZURUM	2.14	290	*e*P	Pb	18 07 47.5	+0.3
BNGB	Bingˆ¶l	2.25	274	PN	Pn	18 07 46.8	+0.9
BINT	Bingol	2.40	271	*e*Pn	Pn	18 07 46.8	-1.1
KOPT	Kop Dagi	2.63	296	*e*P	Pb	18 07 55.7	0.0
EPOS	Posof	2.69	346	*e*P	Pb	18 07 55.0	-1.7

MAN 05 18:07:56, 9°.95N×123°.17E, h51km, mb3.8, ML2.6, MS2.1, Negros

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SNPH	Sibulan	0.61	173	*e*P	Pn	18 08 12.2	+3.4
SNPH				*e*S	Sn	18 08 20.7	+2.7
LLP	Lapu-Lapu	0.87	65	*e*P	Pn	18 08 14.8	+2.8
LLP				*e*S	Sn	18 08 26.2	+2.5
GUIM	Jordan	0.88	320	*e*P	Pn	18 08 14.7	+2.6
GUIM				*e*S	Sn	18 08 26.7	+2.8
SJMP	San Jose	3.20	321	*e*P	Pn	18 08 57.8	+14
SJMP				*e*S	Sn	18 09 16.4	-4.3
AUQP	San Andres	3.38	352	*e*P	Pn	18 08 47.4	+1.1

MAN 05 18:24:46, 10°.01N×123°.16E, h24km, mb4.2, ML3.0, MS2.6, Cebu

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SNPH	Sibulan	0.67	173	*e*P	Pn	18 25 00.5	+0.4
SNPH				*e*S	Sn	18 25 10.7	+0.9
GUIM	Jordan	0.83	318	*e*P	Pn	18 25 02.1	-0.1
GUIM				*e*S	Sn	18 25 14.4	+0.7
LLP	Lapu-Lapu	0.85	69	*e*P	Pn	18 25 03.8	+1.3
LLP				*e*S	Sb	18 25 09.9	-3.3
MSLP	Maasin	1.68	86	*e*P	Pn	18 25 15.0	+1.1

*ISCJB **05** 18:26:17.6±0.4, 37°.70N±0°.06×134°.66E±0°.07, h378km, mb3.2/8, Error ellipse: s-maj=9.1km s-min=7.3km az=36.0*
*JMA **05** 18:26:17.5±0.2, 37°.48N×134°.80E, h402km±2km, M3.1*
*IDC **05** 18:26:18.4±0.9, 37°.50N×134°.66E, h388km±12km, mb2.9/8, mb1 3.0/14, mb1mx2.8/81, mbtmp3.8/14, Error ellipse: s-maj=17.1km s-min=14.8km az=55.0*
ISC 05 18:26:17.9±0.7**, 37°.56N**±0°.09×**134°.74E**±0°.08**, h378**km**, n27, σ1s.11**/23**, mb3.3**/8**, Sea of Japan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JKG	Kaga	1.81	135	P	Pn	18 27 12.1	+1.5
JSZ	Suzu	2.09	92	P	Pn	18 27 14.4	+2.1
JWT	Wachi	2.33	167	P	Pn	18 27 15.7	+1.5
JWT				*e*S	S	18 28 00.5	+1.0
JHS	Saijyo	2.87	208	P	Pn	18 27 19.4	+1.0
JNG	Nsakai	2.92	112	P	Pn	18 27 20.2	+1.4
MAT	Matsushiro	2.95	109	P	Pn	18 27 20.2	+1.3
MAT	Matsushiro	2.95	109	P	Pn	18 27 20.3	+1.3
MJAR	Matsushiro Arr	2.95	109	P	Pn	18 27 20.8	+1.8
	2.2nm,0.3s,baz=287,slow=9.8,SNR=51						
JHK	Hiroka	3.42	94	P	Pn	18 27 24.1	+1.1
JMM	Marumori	4.81	85	P	Pn	18 27 37.6	+0.9
JFK	Kawauchi	4.88	90	P	Pn	18 27 37.6	0.0
KSRS	Korea Array	5.42	271	P	Pn	18 27 44.3	+1.0
	0.3nm,0.3s,baz=92,slow=12,SNR=6.8						
JNU	Nakatsue	5.44	217	P	Pn	18 27 44.2	+0.6
	2.0nm,0.3s,baz=32,slow=1.1,SNR=17						
BSO1	Boso 1	5.82	118	P	Pn	18 27 47.0	-0.1
JHJ	Hachijo jima 2	6.05	136	P	Pn	18 27 52.0	+1.8
	5.3nm,0.3s,baz=313,slow=13,SNR=5.8						
JKB	Kayabe	6.49	46	P	P	18 27 56.0	+1.0
USRK	Ussuriysk Ar.	6.95	343	P	P	18 28 02.9	+1.6
	0.2nm,0.3s,baz=328,slow=31,SNR=4.8						
ASAJ	Asahikawa	8.85	40	P	P	18 28 21.9	-1.2
	4.3nm,0.3s,baz=230,slow=13,SNR=47						
KLR	Kul'dur	11.87	350	P	Pn	18 28 56.4	-1.1
	0.0nm,0.3s,baz=172,slow=9.8,SNR=5.6						
SONM	Songino Array	23.11	305	P	P	18 30 52.2	+0.1
	1.2nm,0.7s,baz=109,slow=9.2,SNR=8.3						
MKAR	Makanchi Array	39.30	301	P	P	18 33 10.7	-1.1
	0.7nm,0.6s,baz=84,slow=12,SNR=10.0						
KURBB	Kurchatov Arra	41.46	307	P	P	18 33 28.1	-1.0
	1.7nm,0.7s,baz=85,slow=8.3,SNR=15						
BVAR	Borovoye Array	46.25	311	P	P	18 34 05.7	-1.0
	0.4nm,0.4s,baz=95,slow=7.6,SNR=6.2						
ILAR	Eielson Array	51.90	32	P	P	18 34 49.5	+0.7
	0.3nm,0.6s,baz=284,slow=8.9,SNR=5.1						
WRA	Warramunga Arr	57.19	180	P	P	18 35 25.7	-1.3
	0.1nm,0.3s,baz=0.8,slow=7.4,SNR=5.8						
FINES	FINESS Array B	65.79	330	P	P	18 36 22.4	-0.9
	0.6nm,0.6s,baz=57,slow=5.1,SNR=3.0						
HFS	Hagfors	71.31	333	P	P	18 36 58.5	+1.4
	1.7nm,0.8s,baz=45,slow=2.9,SNR=2.5						

IDC 05 18:26:33.1±4.0**, 26°.35S×70°.46E, h0**km**, mb3.9**/7**, mb1 4.0**/7**, mb1mx3.5**/67**, mbtmp3.9**/7**, Error ellipse: s-maj=122.4km s-min=29.2km az=50.0, Indian Ocean Triple Junction**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
H08S1	Diego Carcia H	18.70	6	T	T	18 49 47.0	
	baz=186,slow=76,SNR=5.6						
H08S2	Diego Garcia H	18.70	6	T	T	18 49 45.4	
	baz=186,slow=76,SNR=8.5						
H08S3	Diego Garcia H	18.72	6	T	T	18 49 46.8	
	baz=186,slow=76,SNR=7.4						
H01W2	Cape Leeuwin H	38.30	114	T	T	19 14 22.9	
	baz=273,slow=74						
H01W3	Cape Leeuwin H	38.30	114	T	T	19 14 20.3	
	baz=273,slow=74						
H01W1	Cape Leeuwin H	38.31	114	T	T	19 14 25.3	
	baz=273						
CMAR	Chiang Mai Arr	52.44	35	P	P	18 35 47.6	-0.1
	1.2nm,1.1s,baz=216,slow=6.3,SNR=6.5						
ASAR	Alice Springs	57.05	102	P	P	18 36 21.4	0.0
	0.6nm,0.5s,baz=251,slow=6.5,SNR=18						
WRA	Warramunga Arr	58.58	98	P	P	18 36 32.0	-0.2
	0.9nm,0.8s,baz=253,slow=7.1,SNR=5.5						
MKAR	Makanchi Array	73.58	8	P	P	18 38 07.7	-0.3
	0.7nm,0.6s,baz=198,slow=6.1,SNR=9.9						
KURBB	Kurchatov Arra	76.97	5	P	P	18 38 27.4	+0.2
	1.1nm,0.9s,baz=199,slow=6.1,SNR=7.3						
SONM	Songino Array	80.61	24	P	P	18 38 48.0	+0.4
	1.2nm,1.0s,baz=208,slow=5.0,SNR=5.2						
ZALV	Zalesovo Beam	80.93	9	P	P	18 38 48.9	0.0
	0.7nm,0.3s,baz=205,slow=6.4,SNR=2.9						

JMA 05 18:28:09.6±0.1, 37°.35N×141°.61E, h21km±2km, M3.5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.59**	**272**	P	Pb	18 28 21.0	-0.3
JFK				S	Sb	18 28 28.6	-0.6
ONAJ	**Iwakimizuishiy**	**0.69**	**249**	P	Pb	18 28 22.9	-0.2
ONAJ				*e*S	Sb	18 28 32.2	0.0
JMM	**Marumori**	**0.83**	**309**	P	Pb	18 28 24.8	-0.5
JMM				S	Sb	18 28 35.5	-0.5
JFT	**Otama**	**1.03**	**280**	P	Pb	18 28 28.7	0.0
JFT				S	Sb	18 28 42.0	+0.3
JHO	**Hitachi**	**1.11**	**229**	P	Pn	18 28 29.2	-0.7
JIO	**Ouri**	**1.12**	**349**	P	Pn	18 28 29.6	-0.5
JIO				*e*S	Sb	18 28 43.8	-0.6
JOU	**Okura**	**1.26**	**324**	P	Pb	18 28 32.5	-0.2
JOU				S	Sb	18 28 48.9	+0.5
MAT	**Matsushiro**	**2.84**	**255**	P	Pn	18 28 54.0	+0.2
MAT				*e*S	Sn	18 29 26.0	-1.4

*NIED **05** 18:29:00, 35°.70N×141°.00E, h11km, Mw3.6 Best double couple: M₀2.68000×10¹⁴ NP1:φs14.00000°, δ38.00000°, λ-60.00000°. NP2:φs157.00000°, δ58.00000°, λ-112.00000°.*
*ISCJB **05** 18:29:30.0±1.2, 35°.69N±0°.04×141°.10E±0°.10, h17km±7km, mb3.4/5, Error ellipse: s-maj=13.5km s-min=6.4km az=172.8*
*JMA **05** 18:29:31.5±0.2, 35°.70N×140°.98E, h13km±1km, M3.8 JMA Felt II J1.*
*IDC **05** 18:29:31.9±1.9, 35°.39N×140°.41E, h0km, mb3.4/5, mb1 3.5/7, mb1mx3.3/75, mbtmp3.4/7, ML2.7/2, MS2.4/1, Ms1 2.4/1, ms1mx2.1/41, Error ellipse: s-maj=51.9km s-min=16.8km az=69.0*
ISC 05 18:29:31.5±1.0, 35°.64N±0°.06×140°.87E±0°.09, h14km±6km, n22, σ1s.60/22, mb3.4/5, 3C-1D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.07**	**356**	⇑P	**Pg**	**18 29 34.3**	**-0.1**
CHOJ				S	**Sg**	**18 29 36.6**	**+0.3**
JCN	**Nagara**	**0.58**	**248**	⇑P	**Pn**	**18 29 45.7**	**+0.4**
KTR	**Katsuura**	**0.66**	**223**	⇑P	**Pn**	**18 29 46.2**	**-0.2**
KTR				S	**Sn**	**18 29 57.4**	**+0.8**
BSO4	**Boso 4**	**0.78**	**214**	⇓P	**Pn**	**18 29 48.7**	**+0.8**
JYT	**Yasato**	**0.80**	**317**	P	**Pg**	**18 29 46.9**	**-0.2**
JYT				S	**Sg**	**18 29 57.8**	**+0.1**
BSO3	**Boso 3**	**0.88**	**199**	P	**Pn**	**18 29 49.6**	**+0.4**
JHO	**Hitachi**	**1.00**	**346**	P	**Pg**	**18 29 49.1**	**-1.8**
JHO				*e*S	**Sg**	**18 30 02.3**	**-1.7**
MJAR	**Matsushiro Arr**	**2.33**	**294**	Pn	**Pn**	**18 30 08.9**	**-0.6**
	4.8nm,0.3s,baz=126,slow=14,SNR=8.8						
MJAR				Sn	**Sn**	**18 30 35.7**	**-2.2**
	3.3nm,0.3s,baz=141,slow=16,SNR=3.3						
MAT	**Matsushiro**	**2.33**	**294**	P	**Pn**	**18 30 10.4**	**+0.9**
MAT				*e*S	**Sb**	**18 30 41.4**	**-0.7**
JHJ	**Hachijo jima 2**	**2.67**	**200**	Pn	**Pn**	**18 30 12.6**	**-1.4**
	2.9nm,0.3s,baz=30,slow=20,SNR=2.3						
JHJ				Sn	**Sn**	**18 30 41.4**	**-4.7**
	6.4nm,0.3s,baz=240,slow=20,SNR=2.3						
KSRS	**Korea Array**	**10.57**	**284**	LR	LR	18 36 12.3	
	comp=Z,20nm,18.6s,baz=105,slow=39						
H11N2	**WAKE ISLAND Hy**	**27.85**	**118**	T	T	19 04 15.1	
	baz=311,slow=75,SNR=94						
H11N1	**WAKE ISLAND Hy**	**27.86**	**118**	T	T	19 04 15.9	
	baz=311,slow=75,SNR=68						
H11N3	**WAKE ISLAND Hy**	**27.87**	**118**	T	T	19 04 16.4	
	baz=311,slow=75,SNR=79						
H11S1	**WAKE ISLAND Hy**	**28.51**	**120**	T	T	19 05 07.9	
	baz=312,slow=75,SNR=19						
H11S3	**WAKE ISLAND Hy**	**28.51**	**120**	T	T	19 05 04.8	
	baz=312,slow=75,SNR=17						
H11S2	**WAKE ISLAND Hy**	**28.53**	**120**	T	T	19 05 06.3	
	baz=312,slow=75,SNR=18						
MKAR	**Makanchi Array**	**44.50**	**303**	P	**P**	**18 37 43.8**	**+1.4**
	0.3nm,0.7s,baz=92,slow=9.7,SNR=3.7						
KURBB	**Kurchatov Arra**	**46.52**	**309**	P	**P**	**18 37 58.7**	**+0.4**
	0.3nm,0.3s,baz=82,slow=7.9,SNR=4.4						
BVAR	**Borovoye Array**	**51.19**	**313**	P	**P**	**18 38 36.4**	**+2.3**
	0.2nm,0.5s,baz=99,slow=7.4,SNR=2.6						
WRA	**Warramunga Arr**	**55.62**	**187**	P	**P**	**18 39 06.7**	**-0.2**
	0.5nm,0.8s,baz=3.0,slow=7.4,SNR=5.7						
ASAR	**Alice Springs**	**59.35**	**187**	P	**P**	**18 39 33.9**	**+0.8**
	0.3nm,1.0s,baz=20,slow=11,SNR=3.3						

*CSEM **05** 18:31:53.7, 38°.91N×42°.27E, h7km, ML2.4*
*DDA **05** 18:31:53.7, 38°.91N×42°.27E, h7km, Ml2.4*
*ATA **05** 18:31:53.1±1.4, 38°.92N×42°.29E, h26km±7km, ML2.7, MW2.7*
*ISCJB **05** 18:31:54.3±0.5, 38°.89N±0°.03×42°.27E±0°.04, h13km±6km, Error ellipse: s-maj=6.5km s-min=4.7km az=141.3*
ISC 05 18:31:53.9±1.1, 38°.92N±0°.03×42°.29E±0°.03, h10km±9km, n20, σ0s.60/36, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADCV	**BITLIS_Adilcev**	**0.36**	**108**	*i* P	**Pg**	**18 32 00.9**	**-0.2**
ADCV				*i* S	**Sb**	**18 32 07.8**	**-0.3**
ADCV	**BITLIS_Adilcev**	**0.36**	**108**	P	**Pg**	**18 32 00.9**	**-0.2**
ADCV				S	**Sb**	**18 32 07.8**	**-0.3**
EKAR	**Karacoban**	**0.38**	**333**	*e*P	**Pg**	**18 32 01.3**	**-0.3**
EKAR				*e*S	**Sb**	**18 32 09.7**	**+0.8**
EKAR				IAML		18 32 16.5	
	comp=Z,22nm,0.3s						
EKAR	**Karacoban**	**0.38**	**333**	*i* P	**Pg**	**18 32 01.3**	**-0.3**
EKAR				*i* S	**Sb**	**18 32 10.1**	**+1.1**
EKAR	**Karacoban**	**0.38**	**333**	P	**Pg**	**18 32 01.3**	**-0.3**
EKAR				S	**Sb**	**18 32 10.1**	**+1.1**
GURO	**Guroymak-BITLI**	**0.42**	**209**	PG	**Pg**	**18 32 01.9**	**-0.3**
GURO				SG	**Sg**	**18 32 07.9**	**+0.2**
TUTA	**Tutak**	**0.63**	**40**	*e*P	**Pg**	**18 32 06.1**	**-0.2**
TUTA				*e*S	**Sb**	**18 32 16.4**	**+0.2**
TUTA				IAML		18 32 16.9	
	comp=Z,68nm,0.3s						
TUTA	**Tutak**	**0.63**	**40**	*i* P	**Pg**	**18 32 06.1**	**-0.2**
TUTA				*i* S	**Sg**	**18 32 15.2**	**+0.6**
TUTA	**Tutak**	**0.63**	**40**	P	**Pg**	**18 32 06.1**	**-0.2**
TUTA				S	**Sg**	**18 32 15.2**	**+0.6**
VRTB	**Varto-Mus**	**0.69**	**291**	PG	**Pb**	**18 32 07.7**	**-0.5**
VRTB				SG	**Sb**	**18 32 18.5**	**+0.7**
GEVA	**Gevas**	**0.85**	**135**	*e*P	**Pg**	**18 32 10.3**	**-0.1**
GEVA				*e*S	**Sb**	**18 32 23.8**	**+1.4**
GEVA				IAML		18 32 30.9	
	comp=Z,7.6nm,0.4s						
GEVA	**Gevas**	**0.85**	**135**	*i* P	**Pg**	**18 32 09.8**	**-0.6**
GEVA				*i* S	**Sb**	**18 32 23.1**	**+0.6**
GEVA	**Gevas**	**0.85**	**135**	P	**Pg**	**18 32 09.8**	**-0.6**
GEVA				S	**Sb**	**18 32 23.0**	**+0.6**
EATA	**Eleskirt**	**0.96**	**9**	*e*P	**Pg**	**18 32 12.1**	**-0.3**
EATA				*e*S	**Sn**	**18 32 27.8**	**+0.3**
EATA	**Eleskirt**	**0.96**	**9**	*i* P	**Pg**	**18 32 11.8**	**-0.6**
EATA				*i* S	**Sn**	**18 32 27.2**	**-0.3**
EATA	**Eleskirt**	**0.96**	**9**	P	**Pg**	**18 32 11.8**	**-0.6**
EATA				S	**Sn**	**18 32 27.2**	**-0.3**
HOMI	**Horasan**	**1.17**	**345**	*e*P	**Pg**	**18 32 15.1**	**-1.3**
ERZM	**Erzurum**	**1.22**	**324**	*e*P	**Pn**	**18 32 17.2**	**0.0**
ERZM	**Erzurum**	**1.22**	**324**	*i* P	**Pn**	**18 32 17.3**	**0.0**
ERZM	**Erzurum**	**1.22**	**324**	P	**Pn**	**18 32 17.3**	**0.0**

*IDC **05** 18:42:28.0±0.4, 75°.05N×136°.62E, h0km, mb4.1/35, mb1 4.2/38, mb1mx4.1/80, mbtmp4.1/38, ML4.0/2, MS3.4/31, Ms1 3.4/31, ms1mx3.2/76, Error ellipse: s-maj=11.1km s-min=8.7km az=130.0*
*YARS **05** 18:42:28.5±0.0, 75°.01N×135°.57E, h10km*
*ISCJB **05** 18:42:28.3±0.1, 75°.00N±0°.03×136°.49E±0°.08, h10km, mb4.4/118, MS3.4/30, Error ellipse: s-maj=4.1km s-min=2.8km az=151.5*
*BJI **05** 18:42:29.0, 75°.10N×136°.60E, h25km, mb4.2/14, mB4.8/11, Ms4.5/2, Ms7 4.2/1*
*MOS **05** 18:42:29.7±0.9, 75°.09N×136°.49E, h20km, mb4.7/30, Error ellipse: s-maj=21.4km s-min=5.8km az=89.3*
*NEIC **05** 18:42:30.2±0.1, 75°.05N×136°.51E, h10km, mb4.7/75, Error ellipse: s-maj=4.8km s-min=2.9km az=162.0*
ISC 05 18:42:33.8±1.1, 74°.88N±0°.05×136°.45E±0°.04, h41km±11km, n247, σ1s.65/275, mb4.5/117, MS3.5/30, 6C-2D, New Siberian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIXI	**Tiksi**	**3.91**	**218**	Pn	**Pn**	**18 43 31.5**	**+0.3**
	5.1nm,0.3s,baz=45,slow=12,SNR=92						
TIXI				Sn	**Sn**	**18 44 18.0**	**+2.1**
	15nm,0.3s,baz=356,slow=18,SNR=8.4						
TIXI				Lg	Lg	18 44 37.7	
	19nm,0.3s,baz=129,slow=18,SNR=7.4						
TIXI				LR	LR	18 45 35.2	
	comp=Z,401nm,19.3s,baz=356,slow=46						
TIXI	**Tiksi**	**3.91**	**218**	*e*Pn	**Pn**	**18 43 31.2**	**-0.1**
TIXI				*e*Sn	**Sn**	**18 44 18.0**	**+2.1**
TIXI				*e*Lg	Lg	18 44 37.7	
TIXI				*e*		18 45 35.2	
TIXI	**Tiksi**	**3.91**	**218**	*e*P	**Pn**	**18 43 29.4**	**-1.8**
TIXI				*i* Pn	**Pn**	**18 43 29.5**	**-1.8**
	0.0nm,0.5s						
TIXI				*i* Sn	**Sn**	**18 44 11.7**	**-4.1**
	0.0nm,0.1s						
TIXI	**Tiksi**	**3.91**	**218***c*	*i*P	**Pn**	**18 43 31.4**	**+0.2**
DEPR	**Deputatskiy**	**5.62**	**167**	*e*P	**Pn**	**18 43 55.0**	**+0.4**
DEPR				*e*P	**Pn**	**18 43 55.0**	**+0.4**
DEPR				*i* Pn	**Pn**	**18 43 55.0**	**+0.4**
	0.0nm,0.4s						
DEPR				*i* Sn	**Sn**	**18 44 56.7**	**-1.0**
	0.0nm,0.3s						
YBGR	**Belaya Gora**	**7.06**	**150**	*e*P	**Pn**	**18 44 15.9**	**+1.5**
YBGR				*e*P	**Pn**	**18 44 15.9**	**+1.5**
YBGR				*e*P	**Pn**	**18 44 15.9**	**+1.5**
YBGR				*i* Pn	**Pn**	**18 44 15.9**	**+1.5**
	0.0nm,0.3s						
YBGR				*i* Sn	**Sn**	**18 45 31.4**	**-1.8**
	0.1nm,0.1s						
BTGS	**Batagay**	**7.29**	**185**	*i* Pn	**Pn**	**18 44 17.1**	**-0.4**
	0.0nm,0.5s						
BTGS				*i* Sn	**Sn**	**18 45 37.2**	**-1.6**
	0.1nm,0.3s						
MOMR	**Moma**	**8.74**	**162**	*i* Pn	**Pn**	**18 44 38.9**	**+1.6**
	0.0nm,0.3s						
MOMR				*i* Sn	**Sn**	**18 46 13.8**	**-0.5**
	0.2nm,1.0s						
BILL	**Bilibino**	**11.55**	**111***d*	*i*P	**Pn**	**18 45 19.4**	**+3.6**
BILL				*i* S	**Sn**	**18 47 19.5**	**-3.8**
BILL				pmax	pmax		
	comp=Z,26nm,0.9s						
YAK	**Yakutsk**	**13.13**	**194**	Pn	**Pn**	**18 45 37.3**	**0.0**
	comp=Z,0.0nm,0.3s,baz=264,slow=0.2,SNR=2.8						
YAK				Sn	**Sn**	**18 48 00.1**	**-1.6**
	comp=Z,0.1nm,0.3s,baz=187,slow=2.9,SNR=3.9						
YAK				LR	LR	18 50 43.0	
	comp=Z,117nm,19.6s,baz=26,slow=37						
YAK	**Yakutsk**	**13.13**	**194**	*e*P	**Pn**	**18 45 36.9**	**-0.4**
	comp=Z,0.0nm,0.8s						
YAK				*e*S	**Sn**	**18 47 55.0**	**-6.7**
	comp=Z,0.0nm,1.1s						
YAK	**Yakutsk**	**13.13**	**194**	*e*P	**Pn**	**18 45 37.6**	**+0.3**
YAK				*e*S	**Sn**	**18 48 04.2**	**+2.5**
YAK				pmax	pmax		
	comp=Z,8.0nm,0.9s						
YAK				pmax	pmax		
	comp=N,7.0nm,1.3s						
YAK				pmax	pmax		
	comp=E,3.0nm,1.4s						
YAK				pmax	pmax		
	comp=Z,117nm,3.6s						
YAK				pmax	pmax		
	comp=N,142nm,3.8s						
YAK				pmax	pmax		
	comp=E,161nm,3.4s						
YAK				smax	smax		
	comp=N,215nm,4.3s						
YAK				smax	smax		
	comp=E,151nm,3.8s						
YAK				MLR	MLR		
	comp=Z,140nm,19.0s						
YAK				MLR	MLR		
	comp=E,32nm,12.0s						
YAK				MLR	MLR		
	comp=N,301nm,22.0s						
SEY	**Seymchan**	**13.21**	**147**	Pn	**Pn**	**18 45 39.4**	**+0.9**
	comp=N,0.3nm,0.3s,baz=345,slow=12,SNR=8.1						
SEY				Sn	**Sn**	**18 48 01.3**	**-2.5**
	comp=N,0.3nm,0.3s,baz=66,slow=18,SNR=2.4						
SEY	**Seymchan**	**13.21**	**147**	*i* P	**Pn**	**18 45 41.9**	**+3.4**
SEY	**Seymchan**	**13.21**	**147**	*i* P	**Pn**	**18 45 41.8**	**+3.3**
MA2	**Magadan**	**16.25**	**153**	Pn	**Pn**	**18 46 19.3**	**+0.7**
	comp=N,0.1nm,0.3s,baz=340,slow=12,SNR=2.2						
MA2	**Magadan**	**16.25**	**153***c*	*e*P	**Pn**	**18 46 19.8**	**+1.2**
VTMR	**Vitim**	**17.81**	**223**	*e*P	**Pn**	**18 46 36.3**	**-1.7**
VTMR				*e*P	**Pn**	**18 46 36.3**	**-1.7**
VTMR				*i* P	**Pn**	**18 46 36.3**	**-1.7**
	comp=N,0.0nm,0.3s						
VTMR				*i* S	**Sn**	**18 49 46.0**	**-9.2**
	comp=N,0.0nm,0.7s						
CLNS	**Chul'man**	**18.65**	**200**	*e*P	**P**	**18 46 47.6**	**-0.1**
	comp=N,0.0nm,1.3s						
CLNS	**Chul'man**	**18.65**	**200**	*e*P	**Pn**	**18 46 48.6**	**+0.2**
CLNS				pmax	pmax		
	comp=Z,11nm,0.9s						
CLNS				pmax	pmax		
	comp=N,13nm,0.9s						
CLNS				pmax	pmax		
	comp=E,7.0nm,0.8s						
BOD	**Bodaibo**	**19.10**	**219**	*e*P	**P**	**18 46 51.2**	**-1.4**
BOD				pmax	pmax		
	comp=Z,28nm,1.6s						
KHN	**Khani**	**19.12**	**209**	*e*P	**P**	**18 46 52.4**	**-0.5**
	comp=Z,0.0nm,0.7s						
YKLR	**Yuktali**	**19.22**	**205**	*e*P	**P**	**18 46 54.5**	**+0.5**
YKLR				*e*P	**P**	**18 46 54.5**	**+0.5**
YKLR				*i* P	**P**	**18 46 54.5**	**+0.5**
	comp=Z,0.0nm,0.6s						
YKLR				*i* S	**S**	**18 50 21.6**	**-7.6**
	comp=Z,0.0nm,1.7s						
TNDR	**Tynda**	**20.34**	**200**	*i* P	**P**	**18 47 06.0**	**-0.1**
	comp=Z,0.0nm,0.2s						
TNDR				*e*S	**S**	**18 50 44.3**	**-7.2**
	comp=Z,0.0nm,0.1s						
GAMB	**Gambell**	**20.52**	**95**	*e*P	**P**	**18 47 07.9**	**-0.1**
	comp=Z,6.3nm,0.7s						
ZEA	**Zeya**	**21.54**	**195**	*e*P	**P**	**18 47 21.6**	**+2.6**
ZEA				pmax	pmax		
	comp=N,24nm,1.0s						
ZEA				pmax	pmax		
	comp=Z,41nm,1.0s						
NKL	**Nikolayevsk**	**21.88**	**173**	*e*P	**P**	**18 47 25.5**	**+2.8**
NKL				pmax	pmax		
	comp=Z,19nm,0.9s						
TOLK	**Toolik Lake Re**	**22.42**	**67**	*e*P	**P**	**18 47 27.6**	**-0.8**
	comp=Z,25nm,1.1s						
COLD	**Coldfoot**	**23.35**	**70**	*e*P	**P**	**18 47 36.8**	**-1.1**
	comp=Z,16nm,1.0s						
IM3	**Indian Mountai**	**23.44**	**75**	*e*P	**P**	**18 47 37.3**	**-1.4**
PEA1	**Petropavlovsk-**	**23.45**	**147**	*e*P	**P**	**18 47 41.0**	**+2.0**
PETK	**Petropavlovsk-**	**23.46**	**147**	P	**P**	**18 47 41.0**	**+2.0**
	comp=Z,7.9nm,0.8s,baz=19,slow=5.5,SNR=6.3						
PETK	**Petropavlovsk-**	**23.46**	**147**	*e*P	**P**	**18 47 41.3**	**+2.3**
PETK	**Petropavlovsk-**	**23.46**	**147**	*e*P	**P**	**18 47 41.3**	**+2.3**
SPA0	**Spitsbergen Ar**	**23.50**	**333**	*e*P	**P**	**18 47 38.3**	**-1.0**
SPA0				*e*PcP	**PcP**	**18 51 23.3**	**-0.1**
SPITS	**Spitsbergen Ar**	**23.50**	**333**	P	**P**	**18 47 38.3**	**-1.0**
	comp=Z,6.1nm,0.9s,baz=28,slow=25,SNR=3.6						
SPITS				PcP	**PcP**	**18 51 23.3**	**-0.1**
	comp=Z,11nm,1.1s,baz=35,slow=4.5,SNR=6.4						
GRNR	**Gornyy**	**24.20**	**180**	*e*P	**P**	**18 47 47.8**	**+1.8**
GRNR				pmax	pmax		
	comp=Z,28nm,0.7s						
MLY	**Manley**	**24.96**	**74**	*e*P	**P**	**18 47 53.0**	**+0.2**
	comp=Z,6.0nm,0.7s						
FYU	**Fort Yukon**	**25.09**	**67**	*e*P	**P**	**18 47 54.1**	**+0.2**
	comp=Z,24nm,1.3s						
MDM	**Murphy Dome**	**25.65**	**72**	*e*P	**P**	**18 47 59.8**	**+0.7**
	comp=Z,22nm,0.9s						
BPAW	**Bear Paw Mtn.**	**25.65**	**75**	*e*P	**P**	**18 47 59.9**	**+0.8**
	comp=Z,12nm,1.0s						
COLA	**College**	**25.81**	**72**	*e*P	**P**	**18 48 00.9**	**+0.5**
	comp=Z,17nm,0.6s						
COLA	**College**	**25.81**	**72**	*e*P	**P**	**18 48 00.9**	**+0.5**
COLA				pmax	pmax		
	comp=Z,17nm,0.6s						
KLR	**Kul'dur**	**25.82**	**187**	P	**P**	**18 48 01.2**	**+0.5**
	comp=Z,0.4nm,0.6s,baz=353,slow=9.6,SNR=16						
KLR				LR	LR	18 58 56.1	
	comp=Z,14nm,18.7s,baz=348,slow=38						
KLR	**Kul'dur**	**25.82**	**187**	*i* P	**P**	**18 48 01.5**	**+0.8**
CAST	**Castle Rocks**	**25.93**	**77**	*e*P	**P**	**18 48 02.2**	**+0.6**
	comp=Z,14nm,0.8s						
CCB	**Clear Creek Bu**	**26.01**	**72**	*e*P	**P**	**18 48 02.5**	**+0.3**
	comp=Z,15nm,0.7s						
WRH	**Wood River Hil**	**26.08**	**73**	*e*P	**P**	**18 48 03.3**	**+0.4**
	comp=Z,10nm,0.8s						
KTH	**Kantishna Hill**	**26.12**	**76**	*e*P	**P**	**18 48 04.4**	**+1.0**
	comp=Z,31nm,1.5s						
IL1	**Eielson Array**	**26.13**	**71**	*e*P	**P**	**18 48 03.5**	**+0.1**
ILAR	**Eielson Array**	**26.13**	**71**	P	**P**	**18 48 03.7**	**+0.3**
	comp=Z,5.1nm,0.8s,baz=321,slow=8.8,SNR=59						
ILAR				PcP	**PcP**	**18 51 28.8**	**-0.5**
	comp=Z,0.8nm,0.9s,baz=315,slow=2.6,SNR=4.5						
ILAR				LR	LR	19 00 05.2	
	comp=Z,95nm,18.5s,baz=314,slow=41						
ILB	**Eielson Array**	**26.13**	**71**	*e*P	**P**	**18 48 03.7**	**+0.3**
ILB				*e*PcP	**PcP**	**18 51 28.8**	**-0.5**
TRF	**Thorofare Moun**	**26.36**	**76**	*e*P	**P**	**18 48 05.4**	**-0.3**
	comp=Z,17nm,1.0s						
INK	**Inuvik**	**26.40**	**57**	P	**P**	**18 48 05.7**	**0.0**
	comp=Z,3.0nm,0.7s,baz=338,slow=12,SNR=13						
INK				LR	LR	18 59 03.0	
	comp=Z,78nm,21.4s,baz=314,slow=38						
INK	**Inuvik**	**26.40**	**57**	*e*P	**P**	**18 48 05.8**	**+0.1**
	comp=Z,6.5nm,1.0s						
HDA	**Harding Lake**	**26.41**	**72**	*e*P	**P**	**18 48 05.8**	**-0.1**
	comp=Z,12nm,1.0s						
HIA	**Hailar**	**26.65**	**205**	*i* P	**P**	**18 48 10.2**	**+2.0**
HIA				pmax	pmax		
	comp=Z,4.0nm,0.8s						
TLY	**Talaya**	**26.82**	**228**	LR	LR	18 59 33.6	
	comp=Z,107nm,18.3s,baz=11,slow=38						
TLY	**Talaya**	**26.82**	**228**	*e*P	**P**	**18 48 08.6**	**-1.1**
TLY				pmax	pmax		
	comp=Z,6.0nm,2.3s						
TLY				MLR	MLR		
	comp=Z,83nm,13.0s						
SCRK	**Sand Creek**	**27.51**	**70**	*e*P	**P**	**18 48 16.1**	**+0.1**
	comp=Z,13nm,1.5s						
EGAK	**Eagle**	**27.53**	**67**	*e*P	**P**	**18 48 16.3**	**+0.3**
	comp=Z,6.9nm,1.1s						
RES	**Resolute Bay**	**27.54**	**27**	P	**P**	**18 48 14.8**	**-1.2**
	comp=Z,1.0nm,0.6s,baz=317,slow=8.6,SNR=4.5						
RES	**Resolute Bay**	**27.54**	**27**	*e*P	**P**	**18 48 15.7**	**-0.3**
	comp=Z,13nm,1.8s						
DOT	**Dot Lake**	**27.76**	**70**	*e*P	**P**	**18 48 17.7**	**-0.3**
	comp=Z,67nm,2.0s						
PAX	**Paxson**	**27.98**	**72**	*e*P	**P**	**18 48 19.1**	**-1.0**
	comp=Z,4.5nm,0.6s						
PAX	**Paxson**	**27.98**	**72**	*e*P	**P**	**18 48 19.1**	**-1.0**
PAX				pmax	pmax		
	comp=Z,5.0nm,0.6s						
HARP	**HAARP**	**28.53**	**73**	*e*P	**P**	**18 48 25.7**	**+0.8**
	comp=Z,97nm,1.9s						
DAWY	**Dawson**	**28.55**	**66**	*e*P	**P**	**18 48 25.1**	**0.0**
	comp=Z,5.5nm,1.0s						
ZAA1	**Zalesovo Array**	**29.00**	**253**	*e*P	**P**	**18 48 29.9**	**+0.9**
ZALV	**Zalesovo Beam**	**29.00**	**253**	P	**P**	**18 48 29.9**	**+0.9**
	comp=Z,0.4nm,0.3s,baz=21,slow=8.9,SNR=2.8						
ZALV				LR	LR	19 00 57.3	
	comp=Z,162nm,20.2s,baz=70,slow=38						
ULN	**Ulaanbaatar**	**29.84**	**222***c*	*e*P	**P**	**18 48 38.1**	**+1.3**
ULN				pmax	pmax		
	comp=Z,6.0nm,2.5s						
SONA1	**Songino Array**	**29.97**	**222**	*e*P	**P**	**18 48 38.8**	**+0.8**
SONA0	**Songino Array**	**29.99**	**222**	*e*P	**P**	**18 48 39.0**	**+1.0**
SONA0				*e*PcP	**PcP**	**18 51 39.5**	**+0.3**
SONM	**Songino Array**	**29.99**	**222**	P	**P**	**18 48 39.0**	**+1.0**
	comp=Z,1.2nm,0.8s,baz=252,slow=4.5,SNR=4.7						
SONM				PcP	**PcP**	**18 51 39.5**	**+0.3**
	comp=Z,1.0nm,0.9s,baz=31,slow=3.5,SNR=3.6						
SONM				LR	LR	19 01 46.6	
	comp=Z,172nm,18.7s,baz=74,slow=38						
MDJ	**Mudanjiang**	**30.51**	**190**	*e*P	**P**	**18 48 45.0**	**+2.5**
	comp=Z,17nm,1.1s						
HYT	**Haines Junctio**	**31.79**	**68**	*e*P	**P**	**18 48 53.8**	**0.0**
	comp=Z,8.8nm,1.2s						
DGZ	**Jazzator, Alta**	**32.26**	**247**	*i* P	**P**	**18 48 59.1**	**+1.0**
DGZ				pmax	pmax		
	comp=Z,1.0nm,0.9s						
SKAG	**Skagway**	**33.51**	**68**	*e*P	**P**	**18 49 09.7**	**+1.0**
	comp=Z,12nm,1.2s						
KURK	**Kurchatov**	**33.52**	**257**	*e*P	**P**	**18 49 09.9**	**+1.1**
	comp=Z,3.2nm,0.9s						
KURK	**Kurchatov**	**33.52**	**257**	*e*P	**P**	**18 49 09.9**	**+1.1**
KURK				pmax	pmax		
	comp=Z,3.0nm,0.9s						
BRVK	**Borovoye**	**33.55**	**267**	*e*P	**P**	**18 49 11.0**	**+1.8**
	comp=Z,4.9nm,0.8s						
BRVK	**Borovoye**	**33.55**	**267***d*	*e*P	**P**	**18 49 10.8**	**+1.7**
BRVK				pmax	pmax		
	comp=Z,7.0nm,0.6s						
BVAR	**Borovoye Array**	**33.56**	**267**	P	**P**	**18 49 10.5**	**+1.3**
	comp=Z,2.7nm,0.4s,baz=35,slow=8.4,SNR=31						
BVAR				PcP	**PcP**	**18 51 49.1**	**+0.5**
	comp=Z,0.8nm,0.6s,baz=11,slow=2.9,SNR=6.3						
BVAR				LR	LR	19 05 02.6	
	comp=Z,103nm,19.3s,baz=26,slow=40						
ARU	**Arti**	**33.60**	**281***c*	*i*P	**P**	**18 49 10.1**	**+0.6**
ARU						18 50 18.4	
ARU						18 51 48.6	
ARU				S	**S**	**18 54 31.5**	**+2.8**
ARU				SS	**SnSn**	**18 56 35.5**	**+1.6**
ARU				pmax	pmax		
	comp=Z,8.0nm,2.5s						
KURBB	**Kurchatov Arra**	**33.63**	**257**	P	**P**	**18 49 10.1**	**+0.4**
	comp=Z,2.2nm,0.9s,baz=25,slow=8.5,SNR=12						
YKA	**Yellowknife Ar**	**35.41**	**49**	P	**P**	**18 49 23.6**	**-1.4**
	comp=Z,1.1nm,0.5s,baz=339,slow=8.3,SNR=20						
YKA				PcP	**PcP**	**18 51 51.9**	**-1.9**
	comp=Z,0.6nm,0.7s,baz=324,slow=3.5,SNR=3.9						
YKB5	**Yellowknife Ar**	**35.41**	**49**	*e*P	**P**	**18 49 23.1**	**-1.9**
YKB5				*e*PcP	**PcP**	**18 51 51.9**	**-1.9**
DLBC	**Dease Lake**	**35.69**	**64**	*e*P	**P**	**18 49 28.1**	**+0.5**
	comp=Z,4.3nm,0.9s						
MK32	**Makanchi Array**	**36.22**	**250**	*e*P	**P**	**18 49 32.2**	**0.0**
MKAR	**Makanchi Array**	**36.22**	**250**	P	**P**	**18 49 32.2**	**0.0**
	comp=Z,0.2nm,0.4s,baz=48,slow=7.6,SNR=6.7						
MKAR				LR	LR	19 05 32.1	
	comp=Z,141nm,20.4s,baz=46,slow=38						
MKAR	**Makanchi Array**	**36.22**	**250***c*	*e*P	**P**	**18 49 35.7**	**+3.5**
FIA0	**FINESS Array S**	**36.65**	**311**	*e*P	**P**	**18 49 34.0**	**-1.6**
FIA0				*e*PcP	**PcP**	**18 51 56.4**	**-1.1**
FIA0	**FINESS Array S**	**36.65**	**311**	*e*P	**P**	**18 49 34.0**	**-1.6**
FIA0				*e*		18 51 56.4	
FINES	**FINESS Array B**	**36.65**	**311**	P	**P**	**18 49 34.0**	**-1.6**
	comp=Z,1.7nm,0.8s,baz=1.4,slow=11,SNR=3.2						
FINES				PcP	**PcP**	**18 51 56.4**	**-1.1**
	comp=Z,2.6nm,1.1s,baz=191,slow=8.9,SNR=3.5						
FINES				LR	LR	19 08 40.6	
	comp=Z,36nm,18.8s,baz=36,slow=43						
OTUK	**Ortayu**	**37.41**	**262**	P	**P**	**18 49 43.7**	**+1.4**
KSRS	**Korea Array**	**37.73**	**191**	P	**P**	**18 49 47.6**	**+2.6**
	comp=Z,1.1nm,0.8s,baz=13,slow=7.0,SNR=3.9						
KSRS				LR	LR	19 05 41.8	
	comp=Z,33nm,20.9s,baz=328,slow=37						
KSAR	**Wonju Array Be**	**37.74**	**191**	P	**P**	**18 49 47.6**	**+2.4**
KSAR	**Wonju Array Be**	**37.74**	**191**	P	**P**	**18 49 47.6**	**+2.4**
SFJD	**Kangerlussuaq**	**38.29**	**4**	LR	LR	19 06 22.3	
	comp=Z,40nm,18.6s,baz=352,slow=38						
MAJO	**Matsushiro**	**38.43**	**178**	*e*P	**P**	**18 49 52.7**	**+1.7**
MAJO	**Matsushiro**	**38.43**	**178**	*e*P	**P**	**18 49 52.7**	**+1.7**
MJAR	**Matsushiro Arr**	**38.43**	**178**	P	**P**	**18 49 52.7**	**+1.7**
	comp=Z,1.8nm,0.9s,baz=26,slow=5.2,SNR=3.5						
MJAR				LR	LR	19 07 06.2	
	comp=Z,45nm,19.2s,baz=70,slow=38						
AKTO	**Aktyubinsk**	**39.15**	**277**	LR	LR	19 08 01.0	
	comp=Z,77nm,20.2s,baz=24,slow=39						
GTA	**Gaotai**	**39.34**	**227**	*e*P	P	18 50 04.4	+5.6
GTA				pP	pP	18 50 10.0	-0.2
GTA				sP	sP	18 50 13.0	-2.1
GTA				PcP	**PcP**	**18 52 07.9**	**+1.5**
GTA				pmax	pmax		
	comp=Z,2.0nm,1.3s						
AB05	**Akbulak array**	**39.71**	**275**	*e*P	**P**	**18 50 03.0**	**+1.4**
AB06	**Akbulak array**	**39.72**	**275**	*e*P	**P**	**18 50 03.3**	**+1.7**
NB200	**NORSAR Array S**	**39.72**	**322**	*e*P	**P**	**18 50 00.7**	**-0.9**
NOA	**NORSAR Array B**	**39.72**	**322**	P	**P**	**18 50 00.6**	**-0.9**
	comp=Z,1.5nm,0.8s,baz=18,slow=8.2,SNR=2.8						
NOA	**NORSAR Array B**	**39.72**	**322**	P	**P**	**18 50 00.6**	**-0.9**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
AB02	**Akbulak array**	**39.72**	**275**	*e*P	**P**	**18 50 02.7**	**+1.0**
AB04	**Akbulak array**	**39.73**	**275**	*e*P	**P**	**18 50 03.4**	**+1.7**
AB01	**Akbulak array**	**39.73**	**275**	*e*P	**P**	**18 50 03.0**	**+1.4**
AB31	**Akbulak array**	**39.73**	**275**	*e*P	**P**	**18 50 03.0**	**+1.3**

AB31	Akbulak array	39.73	275	eP	P	18 50 03.0	+1.3
ABKAR	Akbulak array	39.73	275	eP	P	18 50 03.0	+1.3
ABKAR				ePcP	PcP	18 52 08.1	+0.8
AB09	Akbulak array	39.73	275	eP	P	18 50 03.1	+1.4
AB03	Akbulak array	39.73	275	eP	P	18 50 03.5	+1.7
AB07	Akbulak array	39.74	275	eP	P	18 50 03.2	+1.5
AB08	Akbulak array	39.75	275	eP	P	18 50 03.2	+1.4
HFS	Hagfors	40.16	319	P	P	18 50 04.1	-1.0
	comp=Z,2.4nm,0.8s,baz=62,slow=10.0,SNR=3.0						
PDGK	Podgornoye	40.16	252	P	P	18 50 06.6	+1.1
OBN	Obninsk	40.19	299	LR	LR	19 08 00.5	
	comp=Z,78nm,19.7s,baz=80,slow=38						
OBN	Obninsk	40.19	299	eP	P	18 50 06.0	+0.6
OBN				pmax	pmax		
	comp=Z,4.0nm,1.0s						
FRB	Frobisher Bay	40.67	17	P	P	18 50 08.3	-0.9
	comp=Z,6.2nm,0.9s,baz=20,slow=6.9,SNR=3.0						
JNU	Nakatsue	41.92	187	LR	LR	19 08 38.6	
	comp=Z,39nm,18.7s,baz=298,slow=37						
AAK	Ala-Archa	42.07	256	i P	P	18 50 22.9	+1.6
AAK				pmax	pmax		
	comp=Z,2.0nm,0.8s						
FCC	Fort Churchill	42.56	37	eP	P	18 50 22.6	-2.2
	comp=Z,17nm,1.4s						
FCC	Fort Churchill	42.56	37	eP	P	18 50 22.6	-2.2
FCC				pmax	pmax		
	comp=Z,17nm,1.4s						
VSR	Storozhevoye	43.18	294	eP	P	18 50 28.9	-1.0
VSR				pmax	pmax		
	comp=Z,6.0nm,1.0s						
EDM	Edmonton	44.23	54	eP	P	18 50 37.1	-1.3
	comp=Z,8.7nm,0.8s						
EDM	Edmonton	44.23	54	eP	P	18 50 37.1	-1.3
EDM				pmax	pmax		
	comp=Z,9.0nm,0.8s						
FFC	Flin Flon	45.07	44	eP	P	18 50 43.4	-1.6
	comp=Z,24nm,1.7s						
FFC	Flin Flon	45.07	44	eP	P	18 50 43.4	-1.6
FFC				pmax	pmax		
	comp=Z,24nm,1.7s						
AKASG	Malin Array Be	45.95	302	P	P	18 50 51.0	-1.0
	comp=Z,0.6nm,0.5s,baz=24,slow=8.9,SNR=3.4						
AKASG	Malin Array Be	45.95	302	P	P	18 50 51.0	-1.0
AKASG	Malin Array Be	45.95	302	P	P	18 50 51.0	-1.0
EKA	Eskdalemuir Ar	47.34	330	P	P	18 51 02.0	-0.8
	comp=Z,0.7nm,0.6s,baz=12,slow=7.3,SNR=3.6						
WALA	Waterton Lakes	48.03	56	eP	P	18 51 08.3	-0.1
	comp=Z,20nm,1.6s						
JOW	Kunigami	48.29	190	LR	LR	19 12 05.2	
	comp=Z,113nm,18.9s,baz=264,slow=37						
CLZ	Clausthal	48.63	318	P	P	18 51 12.3	-0.6
CLL	Collm	48.67	316	i P	P	18 51 13.0	-0.2
CLL	Collm	48.67	316	P	P	18 51 12.3	-0.9
KVAR	Kislovodsk Arr	49.08	288	LR	LR	19 14 32.7	
	comp=Z,55nm,18.4s,slow=39						
KIV	Kislovodsk	49.08	288	eP	P	18 51 18.6	+2.1
KIV				pmax	pmax		
	comp=Z,5.0nm,1.1s						
KIV				MLR	MLR		
	comp=Z,37nm,16.0s						
JTMT	Jette	49.19	57	eP	P	18 51 17.3	0.0
	comp=Z,6.6nm,0.9s						
KBZ	Khabaz	49.24	287	P	P	18 51 19.1	+1.6
	comp=Z,3.0nm,0.8s,baz=22,slow=5.9,SNR=13						
CRVS	Cervenica-Dubn	49.32	308	eP	P	18 51 18.0	-0.1
CRVS	Cervenica-Dubn	49.32	308	eP	P	18 51 18.0	-0.1
ANN	Anapa	49.59	293	eP	P	18 51 17.0	-3.2
ANN				eS	S	18 58 23.6	-1.3
ANN				pmax	pmax		
	comp=Z,8.0nm,0.9s						
VYHS	Vyhne	50.24	310	eP	P	18 51 23.7	-1.5
VYHS	Vyhne	50.24	310	eP	P	18 51 23.7	-1.5
ULM	Lac du Bonnet	50.44	41	P	P	18 51 24.0	-2.6
	comp=Z,5.1nm,0.7s,baz=353,slow=9.5,SNR=8.1						
ULM				LR	LR	19 14 18.4	
	comp=Z,33nm,18.6s,baz=1.0,slow=38						
ULM	Lac du Bonnet	50.44	41	eP	P	18 51 24.9	-1.8
	comp=Z,5.5nm,0.8s						
LSA	Lhasa	50.48	233	eP	P	18 51 30.5	+2.8
	comp=Z,8.4nm,1.4s						
LSA	Lhasa	50.48	233	eP	P	18 51 30.5	+2.8
LSA				pmax	pmax		
	comp=Z,8.0nm,1.4s						
GEYT	Alibeck	50.76	270	P	P	18 51 30.6	+1.3
	comp=Z,3.0nm,0.7s,baz=326,slow=7.7,SNR=12						
GEYT				LR	LR	19 16 56.7	
	comp=Z,50nm,18.1s,baz=170,slow=41						
GYA0	ALIBECK ARRAY	50.76	270	eP	P	18 51 31.7	+2.5
	comp=Z,27nm,1.9s						
GYA0B	ALIBECK ARRAY	50.76	270	eP	P	18 51 31.8	+2.5
	comp=Z,27nm,1.9s						
GYA1	ALIBECK ARRAY	50.76	270	eP	P	18 51 31.7	+2.5
	comp=Z,26nm,1.8s						
GYB1	ALIBECK ARRAY	50.76	270	eP	P	18 51 31.8	+2.5
	comp=Z,5.2nm,0.8s						
NIL	Nilore	50.88	254	eP	P	18 51 32.1	+1.9
	comp=Z,8.6nm,1.1s						
NIL	Nilore	50.88	254	eP	P	18 51 32.1	+1.9
NIL				pmax	pmax		
	comp=Z,9.0nm,1.1s						
GEC2	GERESS Array S	50.91	314	eP	P	18 51 29.9	-0.4
	comp=Z,13nm,1.9s						
GEC2	GERESS Array S	50.91	314	eP	P	18 51 29.9	-0.4
GEC2				pmax	pmax		
	comp=Z,13nm,1.9s						
GERES	GERESS Array B	50.91	314	P	P	18 51 29.9	-0.4
	comp=Z,1.1nm,0.8s,baz=34,slow=9.7,SNR=6.2						
GEA0	GERESS Array S	50.91	314	eP	P	18 51 30.7	+0.4
CFR	Carcaliu	51.41	301	P	P	18 51 33.3	-0.6
MLR	Muntele Rosu	51.60	303	LR	LR	19 17 13.3	
	comp=Z,8.0nm,19.2s,baz=23,slow=40						
MLR	Muntele Rosu	51.60	303	P	P	18 51 36.1	+0.6
TIRR	Tirgusor	52.03	300	P	P	18 51 38.0	-0.5
GCMT	Greycliff	52.05	54	eP	P	18 51 39.2	+0.4
GNI	Garni	52.14	284	LR	LR	19 17 51.6	
	comp=Z,44nm,18.2s,baz=14,slow=41						
MCMT	McKenzie Canyo	52.27	57	eP	P	18 51 41.5	+0.8
AGMN	Agassiz Nation	52.33	42	eP	P	18 51 39.0	-1.8
	comp=Z,9.0nm,1.0s						
BFO	Black Forest	52.38	318	P	P	18 51 41.1	-0.1
YHH	Holmes Hill	52.75	56	eP	P	18 51 44.1	-0.2
	comp=Z,5.8nm,1.1s						
RLMT	Red Lodge	52.77	54	eP	P	18 51 44.7	+0.4
	comp=Z,7.5nm,0.8s						
YMR	Madison River	52.84	56	eP	P	18 51 45.3	+0.5
	comp=Z,18nm,1.7s						
YBH	Yreka Blue Hor	52.92	67	LR	LR	19 15 33.3	
	comp=Z,35nm,19.9s,baz=330,slow=38						
HLID	Hailey	53.12	59	eP	P	18 51 47.1	+0.2
	comp=Z,4.3nm,1.0s						
H17A	Grant Village	53.18	56	eP	P	18 51 49.9	+2.4
	comp=Z,6.0nm,1.0s						
YPP	Pitchstone Pla	53.25	56	eP	P	18 51 50.0	+2.0
	comp=Z,6.5nm,1.1s						
GUN	Gumba	53.35	238	eP	P	18 51 50.6	+1.6
JIRN	Jiri	53.53	238	eP	P	18 51 51.8	+1.5
	comp=Z,31nm,1.1s						
GKN	Gorkha	53.55	240	eP	P	18 51 51.7	+1.5
	comp=Z,20nm,0.8s						
IMW	Indian Meadow	53.58	56	eP	P	18 51 51.3	+0.9
	comp=Z,8.6nm,1.4s						
KKN	Kakani	53.60	239	eP	P	18 51 51.8	+1.1
	comp=Z,13nm,0.7s						
MOOW	Moose Ponds	53.76	56	eP	P	18 51 52.4	+0.8
	comp=Z,5.5nm,1.0s						
PKIN	Phulchoki	53.78	239	eP	P	18 51 53.3	+1.2
FXWY	Fox Creek	53.80	56	eP	P	18 51 52.6	+0.6
	comp=Z,2.6nm,1.0s						
PYUN	Piuthan	53.83	242	eP	P	18 51 53.6	+1.3
TPAW	Teton Pass	53.96	56	eP	P	18 51 53.9	+0.7
	comp=Z,9.3nm,1.3s						
PD31	Pinedale Array	54.95	55	eP	P	18 52 00.2	-0.1
PDAR	Pinedale Array	54.95	55	P	P	18 51 59.6	-0.8
	comp=Z,1.4nm,0.8s,baz=29,slow=3.4,SNR=11						
PDAR				LR	LR	19 18 57.3	
	comp=Z,20nm,18.8s,baz=272,slow=40						
BR101	Keskin Array S	55.30	294	eP	P	18 52 03.0	+0.3
BR101				ePcP	PcP	18 53 02.6	-0.3
BRTR	Keskin Array B	55.30	294	P	P	18 52 03.0	+0.3
	comp=Z,0.4nm,0.7s,baz=135,slow=0.4,SNR=3.0						
BRTR				PcP	PcP	18 53 02.6	-0.3
	comp=Z,0.6nm,0.9s,baz=40,slow=2.4,SNR=3.7						
BRTR				LR	LR	19 18 38.2	
	comp=Z,23nm,19.6s,baz=30,slow=39						
K22A	Casper	55.71	53	eP	P	18 52 04.5	-1.2
	comp=Z,7.2nm,0.8s						
RWWY	Rawlins	56.49	54	eP	P	18 52 10.7	-0.7
	comp=Z,42nm,1.1s						
KVN	Kaiserville	56.56	64	eP	P	18 52 12.8	+0.9
	comp=Z,7.1nm,1.2s						
KVN	Kaiserville	56.56	64	eP	P	18 52 12.8	+0.9
KVN				pmax	pmax		
	comp=Z,7.0nm,1.2s						
ECSD	EROS Data Cent	56.61	44	eP	P	18 52 13.0	+1.1
	comp=Z,5.4nm,0.9s						
DUG	Dugway, Tooele	56.69	59	eP	P	18 52 13.3	+0.7
	comp=Z,6.3nm,0.9s						
DUG	Dugway, Tooele	56.69	59	eP	P	18 52 13.4	+0.7
DUG				pmax	pmax		
	comp=Z,6.0nm,0.9s						
NV01	Mina Array Sit	57.11	64	eP	P	18 52 16.1	+0.4
NVAR	Mina Array Bea	57.11	64	P	P	18 52 14.7	-1.0
	comp=Z,2.0nm,0.8s,baz=328,slow=4.9,SNR=15						
NVAR				LR	LR	19 18 08.1	
	comp=Z,52nm,19.8s,baz=294,slow=38						
PHWY	Pilot Hill	57.23	52	eP	P	18 52 15.6	-1.1
	comp=Z,14nm,1.3s						
P18A	Preston Nutter	57.81	57	eP	P	18 52 21.3	+0.5
	comp=Z,33nm,1.8s						
R11A	Troy Canyon, C	57.82	62	eP	P	18 52 21.2	+0.4
	comp=Z,13nm,1.3s						
SRU	San Rafael Swe	58.24	57	eP	P	18 52 23.8	+0.1
	comp=Z,6.3nm,1.0s						
SRU	San Rafael Swe	58.24	57	eP	P	18 52 23.8	+0.1
SRU				pmax	pmax		
	comp=Z,6.0nm,1.0s						
Q16A	Castle Valley	58.28	58	eP	P	18 52 24.8	+0.8
	comp=Z,12nm,0.9s						
MTPU	Mount Pierson	58.89	59	eP	P	18 52 28.6	+0.2
	comp=Z,9.5nm,1.1s						
SMCO	Snowmass	58.95	54	eP	P	18 52 28.7	-0.2
	comp=Z,5.1nm,0.9s						
SHPR	Sheep Range	59.68	62	eP	P	18 52 34.7	+1.0
	comp=Z,28nm,1.9s						
KNB	Kanab	59.73	60	eP	P	18 52 34.9	+0.9
	comp=Z,16nm,1.1s						
KNB	Kanab	59.73	60	eP	P	18 52 34.9	+0.9
KNB				pmax	pmax		
	comp=Z,16nm,1.1s						
CMAR	Chiang Mai Arr	59.91	222	P	P	18 52 35.8	+0.6
	comp=Z,0.4nm,0.6s,baz=347,slow=8.6,SNR=6.2						
CMAR				LR	LR	19 23 10.0	
	comp=Z,19nm,19.5s,baz=175,slow=41						
SDCO	Great Sand Dun	60.64	53	eP	P	18 52 40.1	-0.3
	comp=Z,7.4nm,1.0s						
VAE	Valguarnera	61.72	310	LR	LR	19 24 05.2	
	comp=Z,33nm,18.1s,baz=54,slow=40						
ES19	SONSECA Array	62.74	326	eP	P	18 52 55.3	+1.1
ESDC	Sonseca Array	62.78	326	P	P	18 52 52.6	-1.8
	comp=Z,1.9nm,1.0s,baz=5.5,slow=6.7,SNR=5.8						
ANMO	Albuquerque	63.13	55	eP	P	18 52 57.1	+0.1
	comp=Z,4.7nm,1.1s						
ANMO	Albuquerque	63.13	55	eP	P	18 52 57.1	+0.1
ANMO				pmax	pmax		
	comp=Z,5.0nm,1.1s						
AMTX	Amarillo	64.19	51	eP	P	18 53 02.5	-1.4
	comp=Z,8.0nm,0.8s						
WMOK	Wichita Mounta	64.91	48	eP	P	18 53 07.5	-1.0
WMOK	Wichita Mounta	64.91	48	eP	P	18 53 07.5	-1.0
V40A	Witts Springs	64.99	43	eP	P	18 53 06.9	-2.1
	comp=Z,9.7nm,1.0s						
319A	Douglas	65.94	59	eP	P	18 53 15.1	-0.2
	comp=Z,10nm,0.9s						
MNTX	Cornudas Mount	66.49	55	eP	P	18 53 18.2	-0.5
	comp=Z,6.0nm,1.0s						
RAYN	Ar Rayn	67.73	277	eP	P	18 53 28.0	+1.3
	comp=Z,2.7nm,0.9s						
JCT	Junction City	68.83	50	eP	P	18 53 32.5	-1.0
	comp=Z,8.2nm,0.9s						
JCT	Junction City	68.83	50	eP	P	18 53 32.5	-1.0
JCT				pmax	pmax		
	comp=Z,8.0nm,0.9s						
LTX	Lajitas	69.14	54	eP	P	18 53 34.7	-0.8
LTX	Lajitas	69.14	54	eP	P	18 53 34.7	-0.8
TX31	Lajitas Ar. Si	69.14	54	eP	P	18 53 34.4	-1.1
TXAR	Lajitas Array	69.14	54	P	P	18 53 34.7	-0.8
	comp=Z,4.2nm,0.9s,baz=353,slow=4.2,SNR=29						
TXAR				LR	LR	19 27 35.3	
	comp=Z,34nm,18.4s,baz=0.0,slow=39						
PALK	Pallekele	74.46	238	i P	P	18 54 13.1	+5.7
CMIG	Matias Romero	82.82	49	P	P	18 54 52.3	-1.0
	comp=Z,1.2nm,0.5s,baz=51,slow=6.5,SNR=3.5						
APG	El Apazote	85.70	45	LR	LR	19 39 39.5	
	comp=Z,29nm,18.3s,baz=228,slow=40						
TOA1	Torodi Ar. Sit	87.82	316	eP	P	18 55 17.3	-1.0
TOA0	Torodi Ar. Sit	87.82	316	eP	P	18 55 17.6	-0.8
TORD	Torodi Ar. Bea	87.82	316	P	P	18 55 17.3	-1.0
	comp=Z,2.3nm,0.8s,baz=6.6,slow=3.5,SNR=12						
WR1	Warramunga Arr	94.61	182	eP	P	18 55 49.5	-0.2
	comp=Z,5.5nm,1.0s						
WRA	Warramunga Arr	94.61	182	P	P	18 55 49.5	-0.2
	comp=Z,2.5nm,0.9s,baz=359,slow=5.0,SNR=14						
WRA	Warramunga Arr	94.61	182	ceP	P	18 55 50.0	+0.4
WRA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
DBIC	Dimbokro	95.29	321	P	P	18 55 52.5	-0.5
	comp=Z,5.2nm,1.1s,baz=168,slow=22,SNR=3.8						
ASAR	Alice Springs	98.32	182	P	Pdif	18 56 06.7	+0.2
	comp=Z,0.4nm,0.8s,baz=8.9,slow=4.1,SNR=4.4						

*ATA **05** 18:43:30.5±1.2, 38°.56N×43°.47E, h30km±27km, ML3.1, MW3.3*
*ISK **05** 18:43:32.9, 38°.62N×43°.16E, h19km, ML2.4/5*
*ISCJB **05** 18:43:35.0±0.5, 38°.61N±0°.03×43°.21E±0°.04, h18km±6km, Error ellipse: s-maj=5.8km s-min=4.3km az=38.1*
*CSEM **05** 18:43:34.6±0.2, 38°.66N×43°.18E, h2km, ML2.4, Error ellipse: s-maj=4.5km s-min=4.0km az=148.0*
*DDA **05** 18:43:34.6, 38°.67N×43°.21E, h7km, Ml2.6*
ISC 05 18:43:34.1±0.9**, 38°.63N**±0°.02×**43°.21E**±0°.02**, h18**km±2km**, n38,** σ**0s.86**/61**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VANB	Van	0.14	103	PG	Pg	18 43 38.5	+0.1
VANB				SG	Sg	18 43 42.6	+1.3
VANB	Van	0.14	103	i Pg	Pg	18 43 38.5	+0.1
VANB				eSg	Sg	18 43 42.6	+1.3
TVAN	Van	0.18	123	i P	Pb	18 43 38.4	-0.1
TVAN				i S	Sg	18 43 43.0	+0.7
TVAN	Van	0.18	123	P	Pb	18 43 38.4	-0.1
TVAN				S	Sg	18 43 43.0	+0.7
GEVA	Gevas	0.34	201	i P	Pg	18 43 40.5	-0.9
GEVA				eS	Sb	18 43 47.6	+0.9
GEVA				IAML		18 43 48.8	
	comp=Z,120nm,0.4s						
GEVA	Gevas	0.34	201	i P	Pg	18 43 40.5	-0.9
GEVA				i S	Sb	18 43 47.5	+0.7
GEVA	Gevas	0.34	201	P	Pg	18 43 40.5	-0.9
GEVA				S	Sb	18 43 47.5	+0.7
ADCV	BITLIS_Adilcev	0.42	295	i P	Pg	18 43 42.5	-0.3
ADCV				i S	Sb	18 43 49.9	+0.6
ADCV	BITLIS_Adilcev	0.42	295	P	Pg	18 43 42.5	-0.3
ADCV				S	Sb	18 43 49.9	+0.6
VMUR	Van-Muradiye	0.46	38	i P	Pb	18 43 44.0	+0.3
VMUR				i S	Sn	18 43 53.0	-0.7
VMUR	Van-Muradiye	0.46	38	P	Pb	18 43 44.0	+0.3
VMUR				S	Sn	18 43 53.0	-0.7
CLDR	Caldiran	0.75	47	PG	Pb	18 43 48.7	-0.1
CLDR				SG	Sn	18 44 00.2	-0.9
CLDR	Caldiran	0.75	47	i P	Pb	18 43 48.5	-0.3
CLDR				i S	Sn	18 44 00.8	-0.3
CLDR	Caldiran	0.75	47	P	Pb	18 43 48.5	-0.3
CLDR	Caldiran	0.75	47	ePg	Pb	18 43 48.7	-0.1
CLDR				eSg	Sn	18 44 00.2	-0.9
TUTA	Tutak	0.83	338	i P	Pb	18 43 49.9	-0.3
TUTA				IAML		18 44 06.0	
	comp=Z,27nm,0.2s						
TUTA	Tutak	0.83	338	i P	Pb	18 43 49.9	-0.3
TUTA				i S	Sn	18 44 02.5	-0.6
TUTA	Tutak	0.83	338	P	Pb	18 43 49.9	-0.3
TUTA				S	Sn	18 44 02.5	-0.6
GURO	Guroymak-BITLI	0.93	266	PG	Pb	18 43 50.5	-1.2
GURO				SG	Sb	18 44 03.3	-0.4
GURO	Guroymak-BITLI	0.93	266	ePg	Pb	18 43 50.5	-1.2
GURO				eSg	Sb	18 44 03.3	-0.4
AGRB	Hanur-Agry	0.96	350	PG	Pb	18 43 52.0	-0.3
AGRB				SG	Sg	18 44 05.9	+0.3
AGRB	Hanur-Agry	0.96	350	ePg	Pb	18 43 52.0	-0.3
AGRB				eSg	Sg	18 44 05.9	+0.3
EKAR	Karacoban	1.09	305	eP	Pb	18 43 54.2	-0.4
EKAR	Karacoban	1.09	305	i P	Pb	18 43 54.6	0.0
EKAR	Karacoban	1.09	305	P	Pb	18 43 54.6	0.0
SRTM	Siirt_Merkez	1.20	238	i P	Pg	18 43 58.4	+1.1
SRTM				i S	Sg	18 44 13.8	+0.8
SRTM	Siirt_Merkez	1.20	238	P	Pg	18 43 58.4	+1.1
SRTM				S	Sg	18 44 13.8	+0.8
SIRT	Sirnak	1.28	209	PN	Pn	18 43 55.8	-1.3
SIRN	S˜–rnak	1.29	209	i P	Pg	18 44 00.6	+1.5
SIRN	S˜–rnak	1.29	209	P	Pg	18 44 00.6	+1.5
EATA	Eleskirt	1.35	336	eP	Pb	18 43 59.0	0.0
EATA				eS	Sg	18 44 21.0	+3.0
EATA	Eleskirt	1.35	336	i P	Pb	18 43 59.4	+0.3
EATA	Eleskirt	1.35	336	P	Pb	18 43 59.4	+0.3
HOMI	Horasan	1.74	325	eP	Pb	18 44 06.3	+0.6
DIGO	Kars	1.79	4	eP	Pn	18 44 02.2	-2.1
ERZM	Erzurum	1.92	312	eP	Pn	18 44 06.8	+0.7
ERZM	Erzurum	1.92	312	i P	Pb	18 44 08.7	0.0
ERZM	Erzurum	1.92	312	P	Pb	18 44 08.7	0.0

TAP 05 18:51:25.2, 24°.79N×121°.23E, h11km, ML1.9, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WLTB	Daxi	0.07	21	i P	Pg	18 51 28.0	+0.4
	baz=20						
WLTB				i S	Sg	18 51 30.1	+0.8
	baz=20						
YHNB	Yeheng	0.18	131	P	Pb	18 51 30.1	-0.5
	baz=131						
YHNB				S	Sg	18 51 33.4	+1.3
	baz=131						
YHNB	Yeheng	0.18	131	eP	Sg	18 51 33.0	+1.0
	91nm,0.4s						
NCUH	Zhongli	0.18	348	P	Pb	18 51 30.1	-0.6
	baz=348						
NCU	National Centr	0.18	349	P	Pb	18 51 30.0	-0.6
	baz=350						
LIOB	Emei	0.24	233	P	Pb	18 51 31.0	-0.6
	baz=233						
LIOB				S	Sg	18 51 35.4	+1.8
	baz=233						
NWLT	Wulai	0.25	93	P	Pb	18 51 31.4	-0.4
	baz=92						
NSTT	Nanjuang	0.26	232	P	Pg	18 51 31.2	+0.7
	baz=231						
NSTT				S	Sb	18 51 35.8	-0.6
	baz=231						
ENTT	Nioudou	0.34	116	P	Pb	18 51 33.5	+0.1
	baz=115						
ENTT				S	Sb	18 51 39.0	+0.1
	baz=115						
NNSB	Datong	0.39	158	P	Pb	18 51 34.0	-0.2
	baz=158						
NNSB				S	Sb	18 51 39.7	-0.5
	baz=158						
YM07	YM07	0.53	43	P	Pb	18 51 36.1	-0.4
	baz=42						
YM07				eS	Sb	18 51 44.3	+0.1
	baz=42						
TIPB	Shuangxi	0.57	71	eP	Pb	18 51 37.1	-0.3
	baz=71						
CHGB	Renai	0.73	184	eP	Pb	18 51 40.1	0.0
	baz=183						

MEX 05 18:54:59.4±0.6**, 16°.39N×98°.31W, h22**km±14km**, MD3.9, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.18	91	eP	Pb	18 55 03.6	-1.2
PNIG				eS	Sb	18 55 06.6	-1.9
TLIG	Tlapa	1.19	348	eP	Pn	18 55 17.8	-3.0
TLIG				eS	Sb	18 55 29.7	-6.7
HMTT	Tlapaneco	1.42	350	eP	Pn	18 55 22.0	-1.9
HMTT				eS	Sn	18 55 39.9	-2.1
ACP2	Acapulco	1.58	288	eP	Pn	18 55 23.4	-2.8
ACP2				eS	Sn	18 55 41.9	-4.1
VHO	Vista Hermosa	1.66	66	eP	Pn	18 55 27.9	+0.6
VHO				eS	Sn	18 55 43.9	-4.1

*IDC **05** 19:24:24.6±0.5, 29°.42S×178°.91W, h332km±5km, mb3.3/5, mb1 3.5/6, mb1mx3.2/41, mbtmp4.0/6, Error ellipse: s-maj=30.9km s-min=17.0km az=154.0*
ISC 05 19:24:23.5±0.7**, 29°.5S**±0°.1×**179°.0W**±0°.1**, h315**km**, n19,** σ**2s.00**/21**, mb3.4**/5**, Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAO	Raoul Island	0.97	76	P	Pn	19 25 08.5	+3.1
	631nm,0.3s,baz=88,slow=1.5,SNR=19						
RAO				S	S	19 25 42.9	+4.2
	202nm,0.3s,baz=98,slow=21,SNR=5.6						
URZ	Urewera	9.32	199	P	Pn	19 26 34.5	+1.4
	1.1nm,0.3s,baz=267,slow=4.8,SNR=19						
URZ				S	S	19 28 17.4	-1.5
	2.3nm,0.3s,baz=334,slow=23,SNR=11						
DZM	Mont Dzumac	15.04	296	P	Pn	19 27 45.0	+2.9
	1.8nm,0.3s,baz=141,slow=10,SNR=19						
STKA	Stephens Creek	33.85	256	P	P	19 30 37.7	+0.6
	0.7nm,0.6s,baz=310,slow=22,SNR=3.7						
ASAR	Alice Springs	42.30	266	P	P	19 31 46.9	-0.4
	1.2nm,0.5s,baz=100,slow=6.6,SNR=32						
ASAR				PcP	PcP	19 33 36.0	+1.5
	0.2nm,0.6s,baz=101,slow=4.8,SNR=3.6						
WRA	Warramunga Arr	43.20	272	P	P	19 31 54.2	-0.2
	1.2nm,0.5s,baz=110,slow=7.4,SNR=14						
PETK	Petropavlovsk-	84.72	346	P	P	19 36 21.3	-0.7
	1.7nm,0.6s,baz=106,slow=11,SNR=4.2						
TXAR	Lajitas Array	92.63	58	P	P	19 36 57.8	-2.3
	0.2nm,0.4s,baz=195,slow=4.2,SNR=2.8						
MKAR	Makanchi Array	116.53	311	PKP	PKPdf	19 42 27.7	-2.1
	0.2nm,0.7s,baz=127,slow=1.4,SNR=2.8						
BVAR	Borovoye Array	125.15	316	PKP	PKPdf	19 42 45.2	-1.0
	0.6nm,0.6s,baz=96,slow=0.9,SNR=5.7						
SFJD	Kangerlussuaq	131.54	24	PKP	PKPdf	19 42 55.5	-2.4
	6.5nm,0.7s,baz=162,slow=12,SNR=4.5						
ARCES	ARCESS Array B	137.52	348	PKP	PKPdf	19 43 09.9	+0.8
	2.0nm,0.8s,baz=40,slow=6.0,SNR=4.2						
FINES	FINESS Array B	144.00	340	PKP	PKPab	19 43 18.5	-0.7
	2.9nm,0.5s,baz=58,slow=3.8,SNR=35						
NB2	NORSAR Subarra	147.72	351	PKP	PKPbc	19 43 29.5	-1.1
	comp=Z,0.3nm,0.4s,baz=12,slow=2.9						
NOA	NORSAR Array B	147.72	351	PKPbc	PKPbc	19 43 29.1	-1.5
	comp=Z,1.1nm,0.9s,baz=126,slow=2.8,SNR=3.1						
HFS	Hagfors	148.18	348	PKPbc	PKPbc	19 43 30.2	-1.5
	comp=Z,1.0nm,0.4s,baz=270,slow=2.9,SNR=13						
AKASG	Malin Array Be	150.06	323	PKPbc	PKPbc	19 43 34.2	-2.4
	comp=Z,0.8nm,0.4s,baz=50,slow=3.0,SNR=4.6						
MMAI	Mount Meron Ar	150.46	286	PKPbc	PKPbc	19 43 38.8	+0.6
	comp=Z,1.6nm,0.5s,baz=86,slow=5.9,SNR=7.6						
TORD	Torodi Ar. Bea	163.72	182	PKPab	PKPab	19 44 42.5	-0.8
	comp=Z,0.6nm,0.6s,baz=174,slow=3.5,SNR=5.8						

*ISCJB **05** 19:27:23.8±0.6, 26°.2S±0°.1×70°.8E±0°.1, h10km, mb4.1/17, MS3.8/3, Error ellipse: s-maj=19.7km s-min=11.2km az=44.7*
*IDC **05** 19:27:24.0±0.9, 26°.12S×70°.71E, h0km, mb4.0/10, mb1 4.2/10, mb1mx3.8/67, mbtmp4.0/10, MS3.8/3, Ms1 3.7/3, ms1mx3.0/54, Error ellipse: s-maj=31.7km s-min=20.5km az=61.0*
*NEIC **05** 19:27:25.5±0.5, 26°.19S×70°.70E, h10km, mb4.7/8, Error ellipse: s-maj=14.6km s-min=8.5km az=46.0*
ISC 05 19:27:25.9±0.9**, 26°.1S**±0°.2×**70°.7E**±0°.2**, h10**km**, n57,** σ**0s.73**/47**, mb4.2**/17**, MS3.9**/3**, Indian Ocean Triple Junction**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
H08S1	Diego Carcia H	18.45	6	T	T	19 50 38.2	
	baz=186,slow=76,SNR=25						
H08S2	Diego Garcia H	18.45	6	T	T	19 50 39.2	
	baz=186,slow=76,SNR=51						
H08S3	Diego Garcia H	18.46	6	T	T	19 50 40.5	
	baz=186,slow=76,SNR=42						
H01W2	Cape Leeuwin H	38.19	114	T	T	20 15 09.8	
	baz=272,slow=75,SNR=20						
H01W3	Cape Leeuwin H	38.19	114	T	T	20 15 07.7	
	baz=272,slow=75,SNR=19						
H01W1	Cape Leeuwin H	38.20	114	T	T	20 15 08.9	
	baz=272,slow=75,SNR=19						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BOSA	**Boshof**	**40.26**	**256**	LR	LR	19 47 49.6	
	comp=Z,162nm,20.2s,baz=100,slow=30						
CM01	**Chiang Mai Arr**	**52.09**	**35**	*e*P	**P**	**19 36 36.0**	**-0.3**
CM31	**Chiang Mai Arr**	**52.12**	**35**	*e*P	**P**	**19 36 36.0**	**-0.5**
CMAR	**Chiang Mai Arr**	**52.12**	**35**	P	**P**	**19 36 37.0**	**+0.6**
	1.1nm,1.0s,baz=220,slow=7.2,SNR=9.0						
ASAR	**Alice Springs**	**56.88**	**102**	P	**P**	**19 37 10.3**	**-0.9**
	1.2nm,0.7s,baz=250,slow=6.6,SNR=24						
AS31	**Alice Springs**	**56.88**	**102**	*e*P	**P**	**19 37 10.3**	**-1.0**
	1.2nm,1.0s						
AS01	**Alice Springs**	**56.92**	**102**	*e*P	**P**	**19 37 11.1**	**-0.5**
WRA	**Warramunga Arr**	**58.40**	**98**	P	**P**	**19 37 21.5**	**-0.5**
	2.6nm,1.1s,baz=252,slow=6.6,SNR=9.8						
WR1	**Warramunga Arr**	**58.40**	**98**	*e*P	**P**	**19 37 21.5**	**-0.5**
	21nm,1.8s						
WB2	**Warramunga Arr**	**58.41**	**98**	*e*P	**P**	**19 37 22.1**	**+0.1**
VNDA	**Vanda**	**64.95**	**166**	P	**P**	**19 38 05.6**	**+0.3**
	2.0nm,0.8s,baz=276,slow=6.1,SNR=11						
VNDA	**Vanda**	**64.95**	**166**	*e*P	**P**	**19 38 06.1**	**+0.9**
	8.2nm,0.9s						
NRN	**Naryn**	**67.38**	**4**	*e*P	**P**	**19 38 21.8**	**+0.1**
	4.1nm,1.0s						
KDJ	**Kajisay**	**68.16**	**5**	*e*P	**P**	**19 38 26.5**	**+0.1**
	12nm,1.8s						
KK07	**Karatay Array**	**68.86**	**360**	*e*P	**P**	**19 38 31.3**	**+0.8**
KK06	**Karatay Array**	**68.86**	**360**	*e*P	**P**	**19 38 31.3**	**+0.8**
KK02	**Karatay Array**	**68.87**	**360**	*e*P	**P**	**19 38 31.4**	**+0.8**
KK03	**Karatay Array**	**68.87**	**360**	*e*P	**P**	**19 38 30.9**	**+0.3**
KK31	**Karatay Array**	**68.87**	**360**	*e*P	**P**	**19 38 31.0**	**+0.4**
KKAR	**Karatay Array**	**68.87**	**360**	*e*P	**P**	**19 38 31.1**	**+0.5**
KK01	**Karatay Array**	**68.88**	**360**	*e*P	**P**	**19 38 31.4**	**+0.9**
KK08	**Karatay Array**	**68.88**	**360**	*e*P	**P**	**19 38 31.0**	**+0.4**
KK04	**Karatay Array**	**68.88**	**360**	*e*P	**P**	**19 38 31.9**	**+1.3**
KK05	**Karatay Array**	**68.89**	**360**	*e*P	**P**	**19 38 31.4**	**+0.7**
KK09	**Karatay Array**	**68.89**	**360**	*e*P	**P**	**19 38 31.6**	**+0.9**
MK01	**Makanchi Array**	**73.30**	**8**	*e*P	**P**	**19 38 56.5**	**-0.8**
MK31	**Makanchi Array**	**73.32**	**8**	*e*P	**P**	**19 38 56.8**	**-0.6**
MK32	**Makanchi Array**	**73.32**	**8**	*e*P	**P**	**19 38 57.0**	**-0.4**
MKAR	**Makanchi Array**	**73.32**	**8**	P	**P**	**19 38 57.0**	**-0.4**
	1.9nm,0.7s,baz=193,slow=6.0,SNR=35						
MKAR	**Makanchi Array**	**73.32**	**8**	*e*P	**P**	**19 38 56.8**	**-0.6**
	17nm,0.8s						
BR101	**Keskin Array S**	**74.06**	**331**	*e*P	**P**	**19 39 02.1**	**0.0**
BRTR	**Keskin Array B**	**74.06**	**331**	P	**P**	**19 39 02.1**	**0.0**
	0.6nm,0.7s,baz=152,slow=5.6,SNR=5.3						
BR231	**Keskin MP Arra**	**74.53**	**331**	*e*P	**P**	**19 39 03.3**	**-1.5**
AB07	**Akbulak array**	**75.62**	**353**	*e*P	**P**	**19 39 13.0**	**+2.3**
AB31	**Akbulak array**	**75.64**	**353**	*e*P	**P**	**19 39 10.3**	**-0.5**
ABKAR	**Akbulak array**	**75.64**	**353**	*e*P	**P**	**19 39 10.0**	**-0.8**
KURBB	**Kurchatov Arra**	**76.71**	**5**	P	**P**	**19 39 17.1**	**+0.2**
	0.8nm,0.2s,baz=200,slow=6.1,SNR=11						
KURK	**Kurchatov**	**76.81**	**5**	*e*P	**P**	**19 39 17.1**	**-0.3**
AKTO	**Aktyubinsk**	**77.03**	**352**	LR	LR	20 09 54.4	
	comp=Z,27nm,18.2s,baz=121,slow=33						
TORD	**Torodi Ar. Bea**	**77.59**	**291**	P	**P**	**19 39 22.3**	**-0.4**
	0.4nm,0.9s,baz=115,slow=6.5,SNR=2.7						
TOA1	**Torodi Ar. Sit**	**77.60**	**291**	*e*P	**P**	**19 39 22.3**	**-0.4**
BVAR	**Borovoye Array**	**78.80**	**360**	P	**P**	**19 39 28.2**	**-0.3**
	0.2nm,0.5s,baz=160,slow=9.2,SNR=3.5						
RPZ	**Rata Peaks**	**79.38**	**133**	LR	LR	20 06 11.8	
	comp=Z,73nm,21.4s,baz=148,slow=29						
SONA0	**Songino Array**	**80.30**	**24**	*e*P	**P**	**19 39 37.4**	**+0.4**
SONM	**Songino Array**	**80.30**	**24**	P	**P**	**19 39 37.4**	**+0.4**
	2.1nm,1.0s,baz=215,slow=5.6,SNR=11						
SONA1	**Songino Array**	**80.31**	**24**	*e*P	**P**	**19 39 37.5**	**+0.5**
ULN	**Ulaanbaatar**	**80.56**	**24**	*e*P	**P**	**19 39 39.2**	**+0.8**
	9.9nm,1.3s						
ZAA0	**Zalesovo Array**	**80.66**	**8**	*e*P	**P**	**19 39 38.3**	**-0.3**
	4.3nm,1.0s						
ZALV	**Zalesovo Beam**	**80.66**	**8**	P	**P**	**19 39 38.1**	**-0.4**
	2.1nm,0.7s,baz=192,slow=4.7,SNR=14						
ZAA1	**Zalesovo Array**	**80.66**	**8**	*e*P	**P**	**19 39 38.1**	**-0.4**
YKA	**Yellowknife Ar**	**143.45**	**4**	PKP	PKPbc	19 46 57.5	+0.2
	0.2nm,0.6s,baz=341,slow=3.9,SNR=4.2						

IDC 05 19:29:17.6±4.3**, 26°.22S**×**70°.63E, h0**km**, mb3.5**/4**, mb1 3.7**/4**, mb1mx3.3**/65**, mbtmp3.5**/4**, Error ellipse: s-maj=124.4km s-min=32.2km az=51.0, Indian Ocean Triple Junction**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**18.56**	**6**	T	T	19 52 26.2	
	baz=185						
H08S2	**Diego Garcia H**	**18.56**	**6**	T	T	19 52 26.3	
	baz=185						
H08S3	**Diego Garcia H**	**18.58**	**6**	T	T	19 52 27.5	
	baz=185						
H01W2	**Cape Leeuwin H**	**38.20**	**114**	T	T	20 17 06.3	
	baz=271						
H01W3	**Cape Leeuwin H**	**38.21**	**114**	T	T	20 17 05.7	
	baz=271						
H01W1	**Cape Leeuwin H**	**38.22**	**114**	T	T	20 17 08.6	
	baz=271						
CMAR	**Chiang Mai Arr**	**52.24**	**35**	P	P	19 38 30.6	-0.2
	0.4nm,0.9s,baz=238,slow=5.1,SNR=3.3						
ASAR	**Alice Springs**	**56.92**	**102**	P	P	19 39 04.8	-0.1
	0.3nm,0.6s,baz=244,slow=7.0,SNR=5.7						
WRA	**Warramunga Arr**	**58.45**	**98**	P	P	19 39 15.8	+0.1
	0.4nm,0.7s,baz=248,slow=7.3,SNR=3.8						
MKAR	**Makanchi Array**	**73.44**	**8**	P	P	19 40 51.0	-0.5
	0.4nm,0.6s,baz=204,slow=7.2,SNR=4.2						
KURBB	**Kurchatov Arra**	**76.82**	**5**	P	P	19 41 11.6	+0.6
	4.9nm,0.2s,baz=200,slow=6.1,SNR=2.7						

*ISCJB **05** 19:30:58.8±0.5, 37°.26N±0°.04×28°.09E±0°.03, h0km, Error ellipse: s-maj=6.4km s-min=3.2km az=15.8*
*DDA **05** 19:30:58.6, 37°.28N×28°.09E, h7km, Ml2.5, Suspected Mining explosion.*
*CSEM **05** 19:30:59.5±0.3, 37°.26N×28°.06E, h2km, ML2.3, Error ellipse: s-maj=7.8km s-min=4.0km az=22.0, Suspected Mining explosion.*
*ISK **05** 19:30:59.1, 37°.20N×27°.99E, h2km, ML2.3/6*
ISC 05 19:30:59.0±0.9**, 37°.22N**±0°.03×**28°.09E**±0°.02**, h0**km**, n25, σ0s.71**/39**, Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MLSB	**Milas**	**0.26**	**286**	PG	**Pg**	**19 31 04.4**	**+0.4**
MLSB				SG	**Sg**	**19 31 07.9**	**+0.5**
MLSB	**Milas**	**0.26**	**286**	*e*Pg	**Pg**	**19 31 04.4**	**+0.4**
MLSB				*e*Sg	**Sg**	**19 31 07.9**	**+0.5**
TURN	**Turunc**	**0.54**	**130**	PG	**Pg**	**19 31 08.9**	**-0.3**
TURN				SG	**Sg**	**19 31 16.3**	**+0.1**
TURN	**Turunc**	**0.54**	**130**	*i* P	**Pg**	**19 31 09.0**	**-0.3**
TURN	**Turunc**	**0.54**	**130**	P	**Pg**	**19 31 09.0**	**-0.3**
TURN				*e*Sg	**Sg**	**19 31 16.3**	**+0.1**
BDRM	**Kayabasi**	**0.54**	**253**	*i* P	**Pg**	**19 31 09.1**	**-0.2**
BDRM				*i* S	**Sg**	**19 31 17.0**	**+0.6**
BDRM	**Kayabasi**	**0.54**	**253**	P	**Pg**	**19 31 09.1**	**-0.2**
BDRM				S	**Sg**	**19 31 17.0**	**+0.6**
DALY	**Dalyan (Mu˜la**	**0.60**	**132**	PG	**Pb**	**19 31 12.9**	**+0.5**
DALY				SG	**Sb**	**19 31 22.8**	**+1.3**
DALY	**Dalyan (Mu˜la**	**0.60**	**132**	*i* P	**Pb**	**19 31 11.8**	**-0.6**
DALY				*i* S	**Sn**	**19 31 23.8**	**-1.4**
DALY	**Dalyan (Mu˜la**	**0.60**	**132**	P	**Pb**	**19 31 11.8**	**-0.6**
DALY	**Dalyan (Mu˜la**	**0.60**	**132**	*e*Pg	**Pb**	**19 31 12.9**	**+0.5**
DALY				*e*Sg	**Sb**	**19 31 22.8**	**+1.3**
DALY				S	**Sn**	**19 31 23.8**	**-1.4**
BODT	**Bodrum**	**0.65**	**256**	PG	**Pg**	**19 31 10.4**	**-0.9**
BODT	**Bodrum**	**0.65**	**256**	*e*Pg	**Pg**	**19 31 10.4**	**-0.9**
TAVA	**DENIZLI_Tavas**	**0.70**	**69**	*i* P	**Pg**	**19 31 12.2**	**-0.2**
TAVA				*i* S	**Sg**	**19 31 20.8**	**-0.6**
TAVA	**DENIZLI_Tavas**	**0.70**	**69**	P	**Pg**	**19 31 12.2**	**-0.2**
TAVA				S	**Sg**	**19 31 20.8**	**-0.6**
AYDB	**Zeytinkoy-Aydi**	**0.74**	**348**	PG	**Pg**	**19 31 13.7**	**+0.5**
AYDB	**Zeytinkoy-Aydi**	**0.74**	**348**	*e*Pg	**Pg**	**19 31 13.7**	**+0.5**
GCAM	**G?zelcaml?**	**0.83**	**305**	PG	**Pg**	**19 31 15.2**	**+0.2**
GCAM	**G?zelcaml?**	**0.83**	**305**	*i* P	**Pg**	**19 31 15.0**	**0.0**
GCAM				*i* S	**Sg**	**19 31 25.2**	**-0.6**
GCAM	**G?zelcaml?**	**0.83**	**305**	P	**Pg**	**19 31 15.0**	**0.0**
GCAM				S	**Sg**	**19 31 25.2**	**-0.6**
FETY	**Fethiye**	**0.99**	**126**	PG	**Pb**	**19 31 19.4**	**+0.4**
FETY	**Fethiye**	**0.99**	**126**	*e*Pg	**Pb**	**19 31 19.4**	**+0.4**
FETY	**Fethiye**	**0.99**	**126**	P	**Pn**	**19 31 19.8**	**-0.3**
AKAS	**Kas**	**1.57**	**129**	PN	**Pg**	**19 31 30.2**	**+1.2**
AKAS	**Kas**	**1.57**	**129**	*e*Pn	**Pg**	**19 31 30.2**	**+1.2**

MEX 05 19:31:14.8±0.4**, 16°.18N**×**98°.35W, h5**km**, MD3.7, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.31**	**45**	*i* P	Pg	19 31 20.2	-0.5
PNIG				*i* S	Sg	19 31 24.6	-0.2
TLIG	**Tlapa**	**1.40**	**352**	*i* P	Pn	19 31 38.6	-2.4
TLIG				*e*S	Sb	19 31 55.1	-4.5
VHO	**Vista Hermosa**	**1.79**	**60**	*e*P	Pn	19 31 43.3	-3.3
VHO				*e*S	Sn	19 32 05.5	-4.3
CAIG	**El Cayaco**	**2.03**	**296**	*e*P	Pn	19 31 46.2	-3.5
CAIG				*e*S	Sn	19 32 11.2	-4.2
PLIG	**Platanillo**	**2.46**	**334**	*e*P	Pn	19 31 56.5	+0.7
PLIG				*e*S	Sn	19 32 22.2	-4.1

*ATA **05** 19:34:38.8±0.9, 38°.52N×43°.43E, h42km±7km, ML3.0, MW3.0*
*ISK **05** 19:34:41.8, 38°.61N×43°.16E, h18km, ML2.4/3*
*ISCJB **05** 19:34:42.7±0.7, 38°.58N±0°.04×43°.20E±0°.04, h25km±6km, Error ellipse: s-maj=7.3km s-min=5.2km az=149.0*
*CSEM **05** 19:34:42.3±0.3, 38°.58N×43°.21E, h20km, ML2.4, Error ellipse: s-maj=6.3km s-min=4.8km az=158.0*
*DDA **05** 19:34:43.2, 38°.66N×43°.21E, h7km, Ml2.6*
ISC 05 19:34:42.2±0.9**, 38°.57N**±0°.03×**43°.24E**±0°.03**, h26**km±6km**, n30, σ0s.92**/52**, Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.12**	**77**	PG	**Pb**	**19 34 47.3**	**+0.1**
VANB				SG	**Sb**	**19 34 51.2**	**+0.6**
VANB	**Van**	**0.12**	**77**	*i* Pg	**Pb**	**19 34 47.3**	**+0.1**
VANB				*e*Sg	**Sb**	**19 34 51.2**	**+0.6**
TVAN	**Van**	**0.13**	**107**	*i* P	**Pb**	**19 34 47.1**	**-0.4**
TVAN				*i* S	**Sb**	**19 34 51.4**	**+0.3**
TVAN	**Van**	**0.13**	**107**	P	**Pb**	**19 34 47.1**	**-0.4**
TVAN				S	**Sb**	**19 34 51.4**	**+0.3**
GEVA	**Gevas**	**0.29**	**210**	*i* P	**Pb**	**19 34 49.1**	**-0.2**
GEVA				*e*S	**Sn**	**19 34 56.2**	**-0.4**
GEVA				IAML		19 34 57.2	
	comp=Z,82nm,0.3s						
GEVA	**Gevas**	**0.29**	**210**	*i* P	**Pb**	**19 34 49.5**	**+0.2**
GEVA				*i* S	**Sn**	**19 34 56.7**	**+0.1**
GEVA	**Gevas**	**0.29**	**210**	P	**Pb**	**19 34 49.5**	**+0.2**
GEVA				S	**Sn**	**19 34 56.7**	**+0.1**
ADCV	**BITLIS_Adilcev**	**0.47**	**301**	*i* P	**Pb**	**19 34 50.8**	**-1.3**
ADCV				*i* S	**Sb**	**19 34 58.2**	**-0.6**
ADCV	**BITLIS_Adilcev**	**0.47**	**301**	P	**Pb**	**19 34 50.8**	**-1.3**
ADCV				S	**Sb**	**19 34 58.2**	**-0.6**
VMUR	**Van-Muradiye**	**0.49**	**31**	*i* P	**Pb**	**19 34 52.5**	**+0.1**
VMUR				*i* S	**Sn**	**19 35 01.5**	**-0.1**
VMUR	**Van-Muradiye**	**0.49**	**31**	P	**Pb**	**19 34 52.5**	**+0.1**
VMUR				S	**Sn**	**19 35 01.5**	**-0.1**
CLDR	**Caldiran**	**0.78**	**42**	PG	**Pb**	**19 34 56.9**	**-0.3**
CLDR				SG	**Sn**	**19 35 09.2**	**+0.5**
CLDR	**Caldiran**	**0.78**	**42**	*i* P	**Pb**	**19 34 57.2**	**-0.1**
CLDR				*i* S	**Sn**	**19 35 08.4**	**-0.3**
CLDR	**Caldiran**	**0.78**	**42**	*e*Pg	**Pb**	**19 34 56.9**	**-0.3**
CLDR	**Caldiran**	**0.78**	**42**	P	**Pb**	**19 34 57.2**	**-0.1**
CLDR				S	**Sn**	**19 35 08.4**	**-0.3**
CLDR				*e*Sg	**Sn**	**19 35 09.2**	**+0.5**
TUTA	**Tutak**	**0.90**	**338**	*i* P	**Pn**	**19 34 58.5**	**-0.8**
TUTA				IAML		19 35 15.8	
	comp=Z,21nm,0.2s						
TUTA	**Tutak**	**0.90**	**338**	*i* P	**Pn**	**19 34 58.6**	**-0.8**
TUTA				*i* S	**Sb**	**19 35 09.4**	**-1.5**
TUTA	**Tutak**	**0.90**	**338**	P	**Pn**	**19 34 58.6**	**-0.8**
TUTA				S	**Sb**	**19 35 09.4**	**-1.5**
GURO	**Guroymak-BITLI**	**0.95**	**269**	PG	**Pn**	**19 34 59.5**	**-0.5**
GURO				SG	**Sb**	**19 35 11.9**	**-0.4**
GURO	**Guroymak-BITLI**	**0.95**	**269**	*e*Pg	**Pn**	**19 34 59.5**	**-0.5**
GURO				*e*Sg	**Sb**	**19 35 11.9**	**-0.4**
AGRB	**Hanur-Agry**	**1.02**	**349**	PG	**Pn**	**19 35 01.2**	**+0.1**
AGRB				SG	**Sb**	**19 35 15.2**	**+0.7**
AGRB	**Hanur-Agry**	**1.02**	**349**	*e*Pg	**Pn**	**19 35 01.2**	**+0.1**
AGRB				*e*Sg	**Sb**	**19 35 15.2**	**+0.7**
EKAR	**Karacoban**	**1.15**	**307**	*e*P	**Pn**	**19 35 02.4**	**-0.4**
EKAR				*e*S	**Sb**	**19 35 22.5**	**+4.5**
EKAR	**Karacoban**	**1.15**	**307**	*i* P	**Pb**	**19 35 05.0**	**+1.5**
EKAR	**Karacoban**	**1.15**	**307**	P	**Pb**	**19 35 05.0**	**+1.5**
EATA	**Eleskirt**	**1.42**	**336**	*e*P	**Pn**	**19 35 06.8**	**+0.2**
EATA	**Eleskirt**	**1.42**	**336**	*i* P	**Pb**	**19 35 07.8**	**-0.3**
EATA	**Eleskirt**	**1.42**	**336**	P	**Pb**	**19 35 07.8**	**-0.3**
DIGO	**Kars**	**1.85**	**3**	*e*P	**Pn**	**19 35 11.8**	**-0.6**
ERZM	**Erzurum**	**1.98**	**313**	*e*P	**Pn**	**19 35 15.0**	**+0.8**

*SJA **05** 20:14:47.4±0.5, 24°.00S×66°.84W, h220km±4km, ML2.9, MW3.4*
*ISCJB **05** 20:14:48.4±0.4, 24°.05S±0°.04×66°.94W±0°.04, h200km, mb3.3/3, Error ellipse: s-maj=6.2km s-min=3.8km az=39.0*
*IDC **05** 20:14:50.3±2.8, 23°.80S×66°.46W, h209km±25km, mb3.2/3, mb1 3.4/5, mb1mx3.1/44, mbtmp3.6/5, Error ellipse: s-maj=33.7km s-min=18.5km az=66.0*
*GUC **05** 20:14:50.9±0.4, 24°.08S×67°.15W, h188km±27km, ML4.2*
ISC 05 20:14:48.6±0.8**, 24°.00S**±0°.05×**66°.90W**±0°.04**, h200**km**, n31, σ1s.22**/43**, mb3.5**/3**, 6C, Salta Province**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SLA	**San Lorenzo**	**1.46**	**120**	*e*P	**Pn**	**20 15 23.0**	**+0.9**
SLA				*e*S	**Sn**	**20 15 49.3**	**+1.1**
SLA				IAML		20 15 51.5	
	comp=Z,62nm,0.7s						
SLA	**San Lorenzo**	**1.46**	**120**	*e*P	**Pn**	**20 15 23.0**	**+0.9**
SLA				*i* S	**Sn**	**20 15 48.5**	**+0.3**
HJA	**Humahuaca**	**1.58**	**60**	*e*P	**Pn**	**20 15 24.4**	**+0.9**
HJA				IAML		20 15 26.9	
	comp=Z,74nm,0.6s						
HJA				*e*S	**Sn**	**20 15 51.9**	**+1.4**
AZAP	**Zapla**	**1.69**	**98**	*e*P	**Pn**	**20 15 24.7**	**+0.4**
AZAP				IAML		20 15 25.1	
	comp=Z,89nm,0.3s						
YJA	**Yavi**	**2.22**	**35**	*e*P	**Pn**	**20 15 31.0**	**+1.1**
YJA				IAML		20 15 32.0	
	comp=Z,10.0nm,0.4s						
ASTB	**Santa Barbara**	**2.24**	**89**	*e*P	**Pn**	**20 15 30.0**	**+0.2**
FSA	**Cafayete**	**2.26**	**158**	*e*P	**Pn**	**20 15 29.1**	**-0.8**
FSA				IAML		20 16 00.9	
	comp=Z,19nm,0.6s						
ALOL	**LOMAS DE OLMED**	**2.68**	**87**	*e*P	**Pn**	**20 15 34.7**	**+0.1**
PB06	**IPOC Station P**	**2.77**	**297**	*e*P	**Pn**	**20 15 37.1**	**+1.4**
PB06				*i* S	**Sn**	**20 16 12.1**	**-0.4**
PB06				IAML		20 16 14.4	
	comp=N,387nm,0.4s						
PB09	**IPOC Station P**	**3.08**	**315**	⇑ *i*P	**Pn**	**20 15 41.1**	**+1.7**
PB09				*i* S	**Sn**	**20 16 20.3**	**+1.3**
PB09				IAML		20 16 22.2	
	comp=N,577nm,0.3s						
AHML	**Horco Molle**	**3.11**	**153**	*e*P	**Pn**	**20 15 39.6**	**+0.1**
AHML				IAML		20 15 40.6	
	comp=Z,22nm,0.7s						
AHML	**Horco Molle**	**3.11**	**153**	*e*P	**Pn**	**20 15 39.2**	**-0.3**
AHML				*i* S	**Sn**	**20 16 17.9**	**-1.7**
PB14	**IPOC Station P**	**3.25**	**258**	*e*P	**Pn**	**20 15 42.6**	**+1.1**
PB14	**IPOC Station P**	**3.25**	**258**	⇑ *i*P	**Pn**	**20 15 42.3**	**+0.8**
PB14				*i* S	**Sn**	**20 16 21.6**	**-1.3**
PB14				IAML		20 16 26.0	
	comp=E,330nm,0.3s						
PB10	**IPOC Station P**	**3.38**	**278**	*e*P	**Pn**	**20 15 43.8**	**+1.1**
PB10	**IPOC Station P**	**3.38**	**278**	⇑ *i*P	**Pn**	**20 15 43.8**	**+1.1**
PB10				*i* S	**Sn**	**20 16 23.8**	**-1.4**
PB04	**IPOC Station P**	**3.42**	**298**	⇑ *i*P	**Pn**	**20 15 44.4**	**+1.0**
PB04				*i* S	**Sn**	**20 16 25.5**	**-0.8**
PB01	**IPOC Station P**	**3.79**	**320**	⇑ *i*P	**Pn**	**20 15 48.4**	**+0.5**
PB01				*i* S	**Sn**	**20 16 33.8**	**-0.7**
PB08	**IPOC Station P**	**4.37**	**331**	⇑ *i*P	**Pn**	**20 15 56.5**	**+1.1**
PB08				*i* S	**Sn**	**20 16 48.0**	**0.0**
CYA	**Choya**	**4.53**	**168**	*e*P	**Pn**	**20 15 57.1**	**+0.1**
CYA				IAML		20 15 58.0	
	comp=Z,11nm,0.3s						
CYA	**Choya**	**4.53**	**168**	*e*P	**Pn**	**20 15 55.9**	**-1.0**
VCA	**Vinchina**	**4.86**	**194**	IAML		20 17 01.3	
	comp=Z,7.2nm,0.4s						
PB11	**IPOC Station P**	**4.94**	**328**	*e*P	**Pn**	**20 16 01.9**	**-0.5**
PB11				*i* S	**Sn**	**20 16 57.6**	**-2.8**
LPAZ	**La Paz**	**7.76**	**351**	P	**Pn**	**20 16 39.9**	**+0.5**
	comp=Z,1.0nm,0.3s,baz=120,slow=4.3,SNR=27						
LPAZ				S	**Sn**	**20 18 06.0**	**-1.5**
	comp=Z,0.2nm,0.3s,baz=339,slow=11,SNR=3.6						
SIV	**San Ignacio**	**9.67**	**36**	P	**Pn**	**20 17 00.5**	**-3.2**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,0.1nm,0.3s,baz=243,slow=15,SNR=2.3						
SNAA	**Sanae**	**59.32**	**161**	P	**P**	**20 24 30.2**	**+1.1**
	comp=Z,0.3nm,0.3s,baz=306,slow=23,SNR=23						
TXAR	**Lajitas Array**	**63.73**	**324**	P	**P**	**20 25 00.6**	**+1.4**
	comp=Z,0.2nm,0.4s,baz=137,slow=12,SNR=3.1						
TORD	**Torodi Ar. Bea**	**76.49**	**69**	P	**P**	**20 26 15.1**	**-1.7**
	comp=Z,54nm,0.5s,baz=260,slow=5.4,SNR=5.8						
YKA	**Yellowknife Ar**	**94.16**	**340**	P	**P**	**20 27 44.6**	**+0.6**
	comp=Z,0.2nm,0.5s,baz=134,slow=4.7,SNR=6.9						
WRA	**Warramunga Arr**	**131.66**	**207**	PKP	**PKPdf**	**20 33 38.7**	**+0.3**
	comp=Z,0.3nm,0.4s,baz=160,slow=1.7,SNR=7.9						
MKAR	**Makanchi Array**	**146.47**	**40**	PKPbc	**PKPbc**	**20 34 04.6**	**-1.5**
	comp=Z,0.7nm,0.5s,baz=305,slow=3.1,SNR=12						

*IDC **05** 20:25:10.2±2.1, 41°.77N×108°.17W, h0km, mb2.6/1, mb1 3.1/3, mb1mx3.0/75, mbtmp2.8/3, ML2.5/2, Error ellipse: s-maj=21.0km s-min=12.5km az=73.0*
*NEIC **05** 20:25:17.2±1.1, 41°.90N×108°.78W, h0km, ML2.8, Error ellipse: s-maj=14.5km s-min=8.9km az=80.0, Suspected Mining explosion.*
NEIC 50 km [31 miles] NE of Rock Springs.
ISC 05 20:25:12.5±1.1**, 41°.84N**±0°.05×**108°.49W**±0°.08**, h0**km**, n19, σ1s.81**/19**, Wyoming**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PDAR	**Pinedale Array**	**1.22**	**320**	Pg	**Pn**	**20 25 38.0**	**+0.9**
	21nm,0.3s,baz=133,slow=19,SNR=170						
PDAR				Lg	Lg	20 25 55.4	
	21nm,0.3s,baz=137,slow=30,SNR=18						
BW06	**Boulder Array**	**1.22**	**320**	*e*Pn	**Pn**	**20 25 37.7**	**+0.6**
AHID	**Auburn Hatcher**	**2.15**	**296**	*e*Pn	**Pb**	**20 25 51.8**	**-0.7**
TCUT	**Toone Canyon**	**2.31**	**253**	*e*Pn	**Pb**	**20 25 53.9**	**-1.4**
HWUT	**Hardware Ranch**	**2.32**	**265**	*e*Pn	**Pn**	**20 25 53.1**	**+1.0**
JLU	**Jordanelle**	**2.56**	**242**	*e*Pn	**Pn**	**20 25 56.5**	**+1.1**
CTU	**Camp Tracy**	**2.71**	**246**	*e*Pn	**Pn**	**20 25 58.5**	**+0.9**
ISCO	**Idaho Springs**	**2.98**	**132**	*e*Pn	**Pg**	**20 26 09.9**	**+0.2**
MPU	**Maple Canyon**	**3.00**	**234**	*e*Pn	**Pb**	**20 26 05.1**	**-1.8**
SPUT	**South Promonto**	**3.02**	**261**	*e*Pn	**Pb**	**20 26 04.5**	**-2.8**
YFT	**Old Faithful**	**3.13**	**327**	*e*Pg	**Pg**	**20 26 12.7**	**+0.2**
SRU	**San Rafael Swe**	**3.14**	**210**	*e*Pn	**Pn**	**20 26 05.1**	**+1.7**
HVU	**Hansel Valley**	**3.21**	**270**	*e*Pn	**Pb**	**20 26 08.6**	**-1.9**
TMUT	**Trail Mountain**	**3.28**	**220**	*e*Pn	**Pb**	**20 26 09.5**	**-2.3**
BGU	**Big Grassy Mou**	**3.54**	**257**	*e*Pn	**Pb**	**20 26 14.8**	**-1.4**
DUG	**Dugway, Tooele**	**3.66**	**245**	*e*Pn	**Pn**	**20 26 11.6**	**+1.0**
ELK	**Elko**	**5.20**	**260**	Pn	**Pn**	**20 26 34.7**	**+2.8**
	0.1nm,0.3s,baz=53,slow=20,SNR=2.3						
ELK				Lg	Lg	20 27 54.5	
	0.4nm,0.3s,baz=227,slow=19,SNR=6.0						
NVAR	**Mina Array Bea**	**8.26**	**249**	Pn	**Pn**	**20 27 17.2**	**+3.4**
	baz=60,slow=13,SNR=2.3						
YKA	**Yellowknife Ar**	**21.01**	**352**	P	**P**	**20 29 56.6**	**-0.7**
	0.2nm,0.4s,baz=165,slow=11,SNR=3.7						

*BJI **05** 20:28:57.5, 10°.99N×125°.70E, h29km, mb4.4/30, mB5.0/23, Ms4.3/9, Ms7 4.0/8*
*MOS **05** 20:29:01.2±0.9, 11°.33N×125°.48E, h37km, mb5.1/33, Error ellipse: s-maj=11.5km s-min=6.0km az=113.7*
*NEIC **05** 20:29:02.9±0.2, 11°.33N×125°.49E, h35km, mb4.9/62, Error ellipse: s-maj=5.3km s-min=4.0km az=83.0*
NEIC Felt [IV PIVS] at Borongan and Llorente; [III PIVS] at Mercedes, Oras, Sulat and Taft; [II PIVS] at San Policarpio. Also felt [III PIVS] at Dulag, Palo, Tacloban and Tolosa; [II PIVS] at Leyte, Leyte.
*IDC **05** 20:29:03.5±0.4, 11°.29N×125°.45E, h41km±2km, mb4.1/42, mb1 4.2/42, mb1mx4.1/67, mbtmp4.3/42, MS3.7/33, Ms1 3.7/33, ms1mx3.6/61, Error ellipse: s-maj=13.4km s-min=8.1km az=76.0*
*MAN **05** 20:29:04, 11°.46N×125°.52E, h39km, mb5.3, ML4.3, MS4.5*
*ISCJB **05** 20:29:05.0±0.5, 11°.38N±0°.03×125°.48E±0°.04, h66km±4km, mb4.5/119, Error ellipse: s-maj=6.4km s-min=4.5km az=153.5*
*DJA **05** 20:29:12.0±0.7, 11°N±4°×12°6E±°, h113km±7km, M4.7/27, mb4.7/27, mB5.1/7, MLv5.0/1, Mw(mB)4.4/7*
ISC 05 20:29:04.0±0.3**, 11°.43N**±0°.03×**125°.53E**±0°.05**, h43**km±2km**, h43**km**:pP-P, n303, σ1s.79**/331**, mb4.7**/119**, MS3.7**/32**, 14C-6D, Samar**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PLP	**Palo**	**0.60**	**244**	⇓ *i*P	**Pn**	**20 29 16.3**	**+0.1**
PLP				*i* S	**Sn**	**20 29 24.8**	**-0.3**
SCPH	**Surigao**	**1.64**	**182**	⇑ *e*P	**Pn**	**20 29 30.9**	**+0.5**
SCPH				*e*S	**Sn**	**20 29 50.4**	**+0.1**
LLP	**Lapu-Lapu**	**1.90**	**234**	*e*P	**Pn**	**20 29 34.8**	**+0.9**
LLP				*e*S	**Sn**	**20 29 59.8**	**+3.1**
MMPH	**Masbate**	**2.08**	**296**	⇓ *i*P	**Pn**	**20 29 38.8**	**+2.3**
MMPH				*i* S	**Sn**	**20 29 54.1**	**-7.1**
RCP	**Roxas**	**2.74**	**273**	⇑ *e*P	**Pn**	**20 29 47.7**	**+2.2**
SNPH	**Sibulan**	**3.07**	**228**	*e*P	**Pn**	**20 29 51.6**	**+1.6**
SNPH				*i* S	**Sn**	**20 30 18.6**	**-7.0**
DCPH	**Dipolog City**	**3.55**	**217**	⇑ *e*P	**Pn**	**20 29 58.0**	**+1.3**
JAP	**San Jose, Anti**	**3.58**	**259**	⇓ *e*P	Pn	20 30 02.2	+5.1
GQP	**Guinayangan**	**3.89**	**310**	⇓ *i*P	**Pn**	**20 30 04.0**	**+2.7**
GQP				*e*S	**Sn**	**20 30 46.6**	**+0.8**
DAV	**Davao City (W)**	**4.33**	**179**	P	**Pn**	**20 30 10.2**	**+2.7**
	baz=270,slow=6.1,SNR=2.7						
DAV				S	**Sn**	**20 31 02.4**	**+5.7**
	34nm,0.3s,baz=285,slow=18,SNR=2.5						
DAV	**Davao City (W)**	**4.33**	**179**	Pn	**Pn**	**20 30 04.7**	**-2.8**
DAV				S	**Sn**	**20 31 02.4**	**+5.7**
CTBH	**Cotabato--PC H**	**4.37**	**197**	⇑ *e*P	**Pn**	**20 30 10.4**	**+2.4**
CTBH				*i* S	**Sn**	**20 31 04.1**	**+6.4**
TGY	**Tagaytay City**	**5.21**	**301**	P	Pn	20 30 24.5	+4.9
	16nm,0.3s,baz=169,slow=3.0,SNR=20						
TGY				LR	LR	20 32 42.8	
	comp=Z,1μm,20.6s,baz=100,slow=42						
PCPH	**Palayan**	**5.96**	**314**	⇑ *e*P	**Pn**	**20 30 33.8**	**+4.0**
MRSI	**Marisa**	**11.45**	**198**	P	Pn	20 31 50.0	+4.9
MPSI	**Mapaga**	**12.36**	**207**	P	**P**	**20 32 05.6**	**-3.0**
LUWI	**Luwuk**	**12.69**	**193**	P	**P**	**20 32 08.3**	**-4.0**
LUWI	**Luwuk**	**12.69**	**193**	*e*Pn	**Pn**	**20 32 01.1**	**-0.9**
SANI	**Sanana**	**13.40**	**178**	P	**Pn**	**20 32 10.9**	**-0.8**
PCI	**Palu**	**13.50**	**205**	P	**P**	**20 32 19.1**	**-2.2**
	87nm,1.1s,795nm						
TTSI	**Tana Toraja**	**15.46**	**202**	P	**P**	**20 32 42.9**	**-0.2**
JOW	**Kunigami**	**15.54**	**9**	LR	LR	20 37 58.6	
	comp=Z,242nm,21.4s,baz=66,slow=34						
BNSI	**Bone**	**16.63**	**199**	P	**P**	**20 32 58.2**	**+2.2**
STKI	**Sintang**	**17.96**	**232**	P	**P**	**20 33 14.9**	**+4.1**
KSM	**Kuching**	**18.06**	**238**	*e*P	**P**	**20 33 12.6**	**+0.7**
	38nm,1.2s						
GUMO	**Guam**	**19.00**	**81**	LR	LR	20 39 07.8	
	comp=Z,290nm,19.7s,baz=288,slow=32						
GENI	**Genyem**	**20.15**	**133**	P	Pn	20 33 37.9	+1.0
JAY	**Jayapura**	**20.48**	**132**	P	**P**	**20 33 38.7**	**+0.2**
SOEI	**Soe**	**21.08**	**183**	*e*P	**P**	**20 33 42.8**	**-2.2**
	34nm,0.8s						
BATI	**Baumata**	**21.57**	**185**	P	**P**	**20 33 49.8**	**-0.4**
	19nm,0.7s,baz=210,slow=1.9,SNR=5.5						
BATI	**Baumata**	**21.57**	**185**	P	**P**	**20 33 51.9**	**+1.7**
KMMI	**Kalianget**	**21.67**	**213**	P	**P**	**20 33 54.4**	**+3.3**
	113nm,1.2s						
KMMI				P	**pP**	**20 34 03.9**	**+2.1**
	113nm,1.2s						
JNU	**Nakatsue**	**22.14**	**12**	LR	LR	20 42 07.0	
	comp=Z,83nm,20.9s,baz=126,slow=35						
KHON	**Khomkaen**	**22.57**	**285**	P	**P**	**20 34 03.6**	**+2.7**
	7.9nm,0.8s						
CHBT	**CHBT**	**22.73**	**276**	P	**P**	**20 34 07.1**	**+4.6**
	4μm,1.4s						
JAGI	**Jajag, Banyuwa**	**22.78**	**210**	*e*P	**P**	**20 34 03.4**	**+0.4**
	149nm,1.0s						
TPRI	**Tanjung Pinang**	**23.32**	**245**	P	**P**	**20 34 10.9**	**+2.3**
	20nm,0.8s						
PPBI	**Pangkal Pinang**	**23.55**	**236**	P	**P**	**20 34 13.4**	**+2.7**
	0.3nm,0.7s,27nm						
MYKOM	**Kota Tinggi**	**23.55**	**248**	*e*P	**P**	**20 34 12.4**	**+1.6**
	32nm,1.0s						
ENH	**Enshi**	**23.95**	**324**	*e*P	**P**	**20 34 15.3**	**+1.0**
	16nm,0.9s						
PBKT	**Sadao Pong**	**24.36**	**285**	P	**P**	**20 34 17.9**	**-0.3**
	28nm,0.9s						
MTN	**Manton Dam**	**24.75**	**167**	*e*P	**P**	**20 34 21.3**	**-0.4**
	20nm,0.8s						
IPM	**Ipoh**	**25.22**	**256**	*e*P	**P**	**20 34 26.6**	**+0.6**
	28nm,0.8s						
JHJ	**Hachijo jima 2**	**25.24**	**29**	LR	LR	20 42 33.5	
	comp=Z,247nm,21.5s,baz=24,slow=32						

KULM Kulim 25.35 258 *e*P **P** **20 34 29.9 +2.7**
31nm,0.9s
LEM Lembang 25.43 225 P **P** **20 34 28.1 0.0**
18nm,0.7s,baz=164,slow=16,SNR=4.7
LEM LR LR 20 46 26.2
comp=Z,344nm,19.5s,baz=28,slow=41
KS15 Wonju Array Si 25.99 4 *e*P **P** **20 34 34.1 +1.4**
KSAR Wonju Array Be 25.99 4 P **P** **20 34 34.1 +1.4**
KSAR pP **pP** **20 34 45.3 +1.0**
KSAR Wonju Array Be 25.99 4 P **P** **20 34 34.1 +1.4**
KSAR *PP **pP** **20 34 45.3 +1.0**
KSRS Korea Array 26.00 4 P **P** **20 34 34.1 +1.2**
3.2nm,0.7s,baz=182,slow=9.9,SNR=12
KSRS pP **pP** **20 34 45.3 +0.9**
3.1nm,0.8s,baz=184,slow=8.5,SNR=5.1
KSRS LR LR 20 44 06.6
comp=Z,110nm,21.8s,baz=188,slow=35
MDSI Maura Dua 26.48 234 P **P** **20 34 41.4 +3.9**
18nm,1.2s
CM01 Chiang Mai Arr 26.58 288 *e*P **P** **20 34 38.4 0.0**
CM31 Chiang Mai Arr 26.60 288 *e*P **P** **20 34 38.6 +0.1**
CMAR Chiang Mai Arr 26.60 288 P **P** **20 34 39.1 +0.5**
7.3nm,0.8s,baz=100,slow=7.4,SNR=63
CMAR pP **pP** **20 34 50.0 -0.1**
7.3nm,0.9s,baz=100,slow=6.7,SNR=9.8
CMAR ScP **ScP** **20 41 36.1 -2.8**
0.7nm,0.8s,baz=68,slow=2.0,SNR=5.1
CMAR LR LR 20 44 34.7
comp=Z,126nm,20.1s,baz=113,slow=35
CMMT Chiang Mai 26.67 289 P **P** **20 34 37.9 -1.3**
6.9nm,0.9s,310nm
CHTO Chiang Mai 26.67 289 P **P** **20 34 39.2 0.0**
31nm,0.9s
CHTO Chiang Mai 26.67 289 *e*P **P** **20 34 38.3 -0.9**
5.5nm,0.9s
CHTO Chiang Mai 26.67 289 *e*P **P** **20 34 38.3 -0.9**
CHTO pmax pmax
comp=Z,5.0nm,0.9s
CMAI Chiengmai2 26.84 292 P **P** **20 34 41.1 +0.3**
comp=Z,536nm,0.8s,comp=Z,46µm
XAN Xi'an 27.14 329 P **P** **20 34 43.4 +0.1**
XAN pP pP 20 34 50.7 -4.2
XAN pmax pmax
comp=Z,8.0nm,0.8s
XAN pmax pmax
comp=Z,150nm,5.1s
MASI Maura Aman, Be 27.32 239 P **P** **20 34 50.7 +5.6**
MAJO Matsushiro 27.50 23 *e*P **P** **20 34 47.2 +0.8**
MAJO Matsushiro 27.50 23 *e*P **P** **20 34 47.2 +0.8**
MJAR Matsushiro Arr 27.50 23 P **P** **20 34 47.2 +0.8**
comp=Z,3.0nm,1.0s,baz=218,slow=8.4,SNR=4.0
MJAR LR LR 20 43 57.0
comp=Z,201nm,21.7s,baz=220,slow=32
PSI Prapat 27.74 254 LR LR 20 47 45.8
comp=Z,176nm,18.2s,baz=151,slow=41
MNSI Mandailing Nat 27.85 250 P **P** **20 34 50.9 +1.1**
WRAB Tennant Creek 32.35 164 *e*P **P** **20 35 27.4 -2.1**
comp=Z,39nm,2.0s
WRAB Tennant Creek 32.35 164 *e*P **P** **20 35 27.4 -2.1**
WRAB pmax pmax
comp=Z,39nm,2.0s
WR1 Warramunga Arr 32.36 164 *e*P **P** **20 35 27.4 -2.2**
comp=Z,27nm,1.8s
WR1 *e*pP **pP** **20 35 39.0 -2.3**
WR1 *e*PcP **PcP** **20 38 15.8 -0.9**
WR1 *e*ScP **ScP** **20 41 54.0 -3.2**
WRA Warramunga Arr 32.36 164 P **P** **20 35 27.4 -2.2**
comp=Z,1.6nm,0.6s,baz=344,slow=9.3,SNR=20
WRA pP **pP** **20 35 39.0 -2.3**
comp=Z,2.1nm,0.5s,baz=346,slow=9.3,SNR=9.3
WRA PcP **PcP** **20 38 15.8 -0.9**
comp=Z,1.2nm,0.7s,baz=332,slow=3.4,SNR=4.6
WRA ScP **ScP** **20 41 54.0 -3.2**
comp=Z,1.4nm,0.7s,baz=342,slow=3.7,SNR=6.9
WB2 Warramunga Arr 32.36 164 *e*P **P** **20 35 25.3 -4.3**
USRK Ussuriysk Ar. 33.12 9 P **P** **20 35 37.6 +1.6**
comp=Z,10nm,1.0s,baz=183,slow=7.4,SNR=8.3
USRK LR LR 20 47 48.9
comp=Z,91nm,20.7s,baz=179,slow=34
SHL Shillong 34.75 299 *e*P **P** **20 35 48.8 -1.8**
comp=Z,17nm,0.8s
SHL Shillong 34.75 299 *e*P **P** **20 35 48.8 -1.8**
SHL pmax pmax
comp=Z,17nm,0.8s
ASAJ Asahikawa 35.74 21 P **P** **20 36 00.7 +2.1**
comp=Z,10.0nm,0.8s,baz=232,slow=6.9,SNR=6.9
AS31 Alice Springs 35.83 167 *e*P **P** **20 35 58.5 -1.1**
comp=Z,2.7nm,0.5s
ASAR Alice Springs 35.83 167 P **P** **20 35 58.5 -1.2**
comp=Z,4.3nm,0.5s,baz=351,slow=7.7,SNR=53
ASAR pP **pP** **20 36 10.3 -1.2**
comp=Z,5.1nm,0.5s,baz=347,slow=6.5,SNR=14
ASAR PcP **PcP** **20 38 25.7 -0.9**
comp=Z,0.9nm,0.6s,baz=346,slow=2.6,SNR=4.4
ASAR ScP **ScP** **20 42 05.7 -3.7**
comp=Z,1.4nm,0.9s,baz=356,slow=2.8,SNR=6.9
ASAR LR LR 20 50 10.4
comp=Z,88nm,20.9s,baz=315,slow=36
AS01 Alice Springs 35.84 167 *e*P **P** **20 35 58.2 -1.5**
GTA Gaotai 36.02 325 ||P **P** **20 36 02.9 +1.6**
GTA pP pP 20 36 11.9 -1.2
GTA sP sP 20 36 15.9 -2.4
GTA pmax pmax
comp=Z,6.0nm,1.4s
GTA pmax pmax
comp=Z,67nm,5.2s
GTA LR LR
comp=Z,240nm,18.5s
GTA LR LR
comp=Z,220nm,18.1s
GTA LR LR
comp=Z,260nm,20.0s
LSA Lhasa 36.77 305 *e*P **P** **20 36 07.0 -1.2**
comp=Z,5.9nm,0.7s
LSA Lhasa 36.77 305 *e*P **P** **20 36 07.0 -1.2**
LSA pmax pmax
comp=Z,6.0nm,0.7s
KLR Kul'dur 38.04 7 P **P** **20 36 19.2 +1.1**
comp=Z,0.2nm,0.6s,baz=172,slow=6.4,SNR=13
KLR Kul'dur 38.04 7 *i* P **P** **20 36 17.7 -0.4**
ULN Ulaanbaatar 39.49 340 *e*P **P** **20 36 30.6 +0.1**
comp=Z,8.8nm,1.2s
ULN Ulaanbaatar 39.49 340 *ce*P **P** **20 36 30.3 -0.2**
ULN pmax pmax
comp=Z,6.0nm,1.0s
SONA0 Songino Array 39.69 340 *e*P **P** **20 36 33.7 +1.5**
SONA0 *e*pP **pP** **20 36 44.4 +0.4**
SONA0 *e*ScP **ScP** **20 42 22.4 -1.4**
SONM Songino Array 39.69 340 P **P** **20 36 33.7 +1.5**
comp=Z,2.5nm,0.6s,baz=157,slow=9.5,SNR=18
SONM pP **pP** **20 36 44.4 +0.4**
comp=Z,2.8nm,0.7s,baz=152,slow=9.6,SNR=8.0
SONM ScP **ScP** **20 42 22.4 -1.4**
comp=Z,0.5nm,0.7s,baz=137,slow=4.8,SNR=4.3
SONA1 Songino Array 39.69 340 *e*P **P** **20 36 33.5 +1.3**
HNR Honiara 40.01 120 LR LR 20 51 12.1
comp=Z,107nm,21.6s,baz=300,slow=33
JIRN Jiri 40.23 299 *e*P **P** **20 36 37.4 +0.2**
comp=Z,26nm,0.3s
H11S3 WAKE ISLAND Hy 40.30 75 T T 21 20 05.1
baz=275,slow=74,SNR=447
H11S1 WAKE ISLAND Hy 40.32 75 T T 21 20 07.4
baz=275,slow=74,SNR=144
H11S2 WAKE ISLAND Hy 40.32 75 T T 21 20 28.2
baz=275,slow=74,SNR=203
GUN Gumba 40.56 300 *e*P **P** **20 36 40.1 +0.2**
comp=Z,68nm,0.9s
H11N1 WAKE ISLAND Hy 40.60 73 T T 21 20 01.8
baz=265,slow=75,SNR=482
H11N2 WAKE ISLAND Hy 40.60 73 T T 21 20 02.4
baz=265,slow=75,SNR=301
H11N3 WAKE ISLAND Hy 40.61 73 T T 21 20 04.0
baz=265,slow=75,SNR=554
PKIN Phulchoki 40.89 299 *e*P **P** **20 36 41.9 -0.6**
comp=Z,16nm,0.7s
KKN Kakani 41.04 299 *e*P **P** **20 36 43.5 -0.2**
comp=Z,22nm,0.8s
DMN Daman 41.14 299 *e*P **P** **20 36 44.3 -0.3**
comp=Z,33nm,0.9s
GKN Gorkha 41.65 299 *e*P **P** **20 36 48.1 -0.5**
comp=Z,40nm,1.1s
KOLN Koldanda 42.48 299 *e*P **P** **20 36 55.3 -0.2**
comp=Z,35nm,0.9s
DANN Dangsing 42.48 300 *e*P **P** **20 36 55.6 0.0**
comp=Z,3.0nm,0.9s
PYUN Piuthan 43.08 299 *e*P **P** **20 37 00.4 0.0**
comp=Z,61nm,0.9s

NKL Nikolayevsk 43.35 13 *e*P **P** **20 37 03.0 +1.2**
NKL pmax pmax
comp=N,6.0nm,1.0s
NKL pmax pmax
comp=E,8.0nm,1.0s
NKL pmax pmax
comp=Z,36nm,1.0s
TLY Talaya 43.91 340 P **P** **20 37 07.4 +1.0**
comp=Z,3.5nm,0.6s,baz=198,slow=5.0,SNR=3.0
TLY Talaya 43.91 340 *e*P **P** **20 37 09.6 +3.2**
TLY pmax pmax
comp=Z,6.0nm,0.7s
PALK Pallekele 44.39 269 *i* P P 20 37 18.8 +7.9
MOY Mondy 44.81 338 *e*P **P** **20 37 15.9 +2.2**
STKA Stephens Creek 45.73 161 P **P** **20 37 20.6 -0.4**
comp=Z,10nm,0.6s,baz=336,slow=8.6,SNR=42
STKA LR LR 21 02 57.2
comp=Z,172nm,18.4s,baz=3.2,slow=45
STKA Stephens Creek 45.73 161 *e*P **P** **20 37 20.8 -0.3**
comp=Z,2.5nm,0.8s
STKA Stephens Creek 45.73 161 *e*P **P** **20 37 20.8 -0.3**
STKA pmax pmax
comp=Z,3.0nm,0.8s
BOD Bodaibo 47.12 352 *e*P **P** **20 37 28.8 -2.9**
BOD pmax pmax
comp=Z,10.0nm,1.5s
PETK Petropavlovsk- 48.89 25 P **P** **20 37 47.4 +1.9**
comp=Z,9.4nm,0.7s,baz=224,slow=2.6,SNR=9.0
PETK LR LR 20 56 07.7
comp=Z,119nm,21.8s,baz=237,slow=33
PEA1 Petropavlovsk- 48.90 25 *e*P **P** **20 37 47.4 +1.9**
DGZ Jazzator, Alta 49.41 328 *i* P **P** **20 37 49.9 +0.2**
DGZ pmax pmax
comp=Z,2.0nm,1.0s
YAK Yakutsk 50.61 3 P **P** **20 37 59.6 +1.3**
comp=Z,6.6nm,0.4s,baz=324,slow=0.2,SNR=8.7
YAK Yakutsk 50.61 3 *e*P **P** **20 37 59.6 +1.3**
comp=Z,25nm,0.8s
YAK Yakutsk 50.61 3 *e*P **P** **20 37 58.4 +0.1**
YAK *e*PP **sP** **20 38 15.4 -0.2**
YAK *e*S **S** **20 45 04.2 -5.5**
YAK *e*SS **sS** **20 45 32.4 +2.4**
YAK *e*SS **SS** **20 48 38.2 -6.0**
YAK pmax pmax
comp=Z,27nm,1.1s
YAK pmax pmax
comp=N,10.0nm,1.2s
YAK pmax pmax
comp=Z,561nm,5.2s
YAK pmax pmax
comp=N,471nm,5.3s
YAK pmax pmax
comp=E,297nm,5.3s
YAK smax smax
comp=E,301nm,4.0s
YAK smax smax
comp=N,251nm,4.3s
MK01 Makanchi Array 50.65 322 *e*P **P** **20 37 59.8 +0.8**
MK31 Makanchi Array 50.67 323 *e*P **P** **20 38 00.3 +1.1**
MK31 Makanchi Array 50.67 323 *e*P **P** **20 38 00.3 +1.1**
MK32 Makanchi Array 50.67 323 *e*P **P** **20 38 00.1 +0.9**
MK32 *e*ScP **ScP** **20 43 06.0 -2.8**
MKAR Makanchi Array 50.67 323 P **P** **20 38 00.1 +0.9**
comp=N,2.2nm,0.5s,baz=118,slow=8.5,SNR=43
MKAR ScP **ScP** **20 43 06.1 -2.8**
comp=N,2.6nm,1.1s,baz=124,slow=6.0,SNR=8.0
MKAR LR LR 21 02 20.7
comp=N,59nm,18.6s,baz=126,slow=39
MKAR Makanchi Array 50.67 323 *e*P **P** **20 38 00.3 +1.1**
comp=N,29nm,0.8s
MKAR ScP **ScP** **20 43 06.0 -2.8**
MAKZ Makanchi 50.87 322 *e*P **P** **20 38 01.8 +1.2**
comp=N,6.6nm,1.0s
MAKZ Makanchi 50.87 322 *e*P **P** **20 38 01.8 +1.2**
MAKZ pmax pmax
comp=Z,7.0nm,1.0s
MA2 Magadan 51.62 16 P **P** **20 38 06.8 +0.8**
comp=Z,1.9nm,0.3s,baz=219,slow=8.4,SNR=3.6
KDJ Kajisay 51.96 315 *e*P **P** **20 38 09.4 +0.3**
comp=Z,2.7nm,0.8s
KDJ Kajisay 51.96 315 *e*P **P** **20 38 09.4 +0.3**
KDJ pmax pmax
comp=Z,3.0nm,0.8s
DZM Mont Dzumac 52.14 130 P **P** **20 38 11.1 +0.5**
comp=Z,13nm,0.6s,baz=299,slow=13,SNR=22
DZM LR LR 21 00 10.4
comp=Z,78nm,19.0s,baz=296,slow=36
DZM Mont Dzumac 52.14 130 *e*P **P** **20 38 11.3 +0.8**
comp=Z,15nm,0.7s
NIL Nilore 52.49 304 *e*P **P** **20 38 13.3 +0.3**
comp=Z,18nm,0.7s
NIL Nilore 52.49 304 *e*P **P** **20 38 13.3 +0.3**
NIL pmax pmax
comp=Z,18nm,0.7s
ZAA0 Zalesovo Array 53.27 331 *e*P **P** **20 38 18.7 +0.4**
comp=Z,7.5nm,0.8s
ZALV Zalesovo Beam 53.27 331 P **P** **20 38 19.1 +0.9**
comp=Z,2.3nm,0.7s,baz=115,slow=6.5,SNR=11
ZALV pP **pP** **20 38 29.9 -0.7**
comp=Z,4.6nm,0.7s,baz=119,slow=5.6,SNR=7.5
ZALV LR LR 21 03 27.4
comp=Z,26nm,18.2s,baz=68,slow=39
ZALV Zalesovo Beam 53.27 331 *e*P **P** **20 38 18.6 +0.3**
ZALV pP **pP** **20 38 29.9 -0.7**
ZALV Zalesovo Beam 53.27 331 *e*P **P** **20 38 18.6 +0.3**
ZALV *PP **pP** **20 38 29.9 -0.7**
ZAA1 Zalesovo Array 53.27 331 *e*P **P** **20 38 19.1 +0.8**
ZAA1 *e*pP **pP** **20 38 29.9 -0.7**
AAK Ala-Archa 54.00 315 P **P** **20 38 25.6 +1.5**
comp=Z,0.3nm,0.3s,baz=153,slow=14,SNR=1.8
AAK Ala-Archa 54.00 315 *i* P **P** **20 38 27.1 +3.0**
AAK pmax pmax
comp=Z,1.0nm,1.0s
NVS Novosibirsk 54.54 331 *e*P P 20 38 37.9 +10
NVS pmax pmax
comp=Z,13nm,0.9s
NVS pmax pmax
comp=N,6.0nm,0.9s
NVS pmax pmax
comp=E,5.0nm,0.9s
KURK Kurchatov 54.71 325 *e*P **P** **20 38 29.8 +0.9**
KURK *e*pP **pP** **20 38 41.0 -0.2**
KURK Kurchatov 54.71 325 *ce*P **P** **20 38 29.3 +0.4**
KURK pmax pmax
comp=Z,30nm,1.2s
KURBB Kurchatov Arra 54.71 325 P **P** **20 38 29.8 +0.9**
comp=Z,3.0nm,0.7s,baz=127,slow=7.0,SNR=19
KURBB pP **pP** **20 38 41.0 -0.2**
comp=Z,4.4nm,0.6s,baz=124,slow=7.0,SNR=8.9
SEY Seymchan 54.88 15 P **P** **20 38 31.1 +1.2**
comp=Z,1.5nm,0.8s,baz=257,slow=11,SNR=4.1
SEY Seymchan 54.88 15 *i* P **P** **20 38 29.0 -0.9**
KBL Kabul 56.09 304 *e*P **P** **20 38 39.4 +0.1**
comp=Z,9.4nm,0.8s
KBL Kabul 56.09 304 *e*P **P** **20 38 39.4 +0.1**
KBL pmax pmax
comp=Z,9.0nm,0.8s
KK06 Karatay Array 56.91 314 *e*P **P** **20 38 44.8 -0.1**
KK05 Karatay Array 56.92 314 *e*P **P** **20 38 45.1 +0.2**
KK02 Karatay Array 56.93 314 *e*P **P** **20 38 44.2 -0.7**
KK31 Karatay Array 56.93 314 *e*P **P** **20 38 43.9 -1.1**
KK31 Karatay Array 56.93 314 *e*P **P** **20 38 43.9 -1.1**
KKAR Karatay Array 56.93 314 *e*P **P** **20 38 44.0 -0.9**
KKAR Karatay Array 56.93 314 *e*P **P** **20 38 44.0 -0.9**
KK07 Karatay Array 56.93 314 *e*P **P** **20 38 44.6 -0.4**
KK01 Karatay Array 56.93 314 *e*P **P** **20 38 44.6 -0.4**
KK04 Karatay Array 56.93 314 *e*P **P** **20 38 45.1 +0.1**
KK03 Karatay Array 56.93 314 *e*P **P** **20 38 44.6 -0.4**
KK09 Karatay Array 56.94 314 *e*P **P** **20 38 44.2 -0.9**
KK08 Karatay Array 56.95 314 *e*P **P** **20 38 44.1 -1.0**
MSVF Nonsavu 59.40 119 *e*P **P** **20 39 02.1 -0.5**
comp=Z,40nm,1.3s
MSVF Nonsavu 59.40 119 *i* P **P** **20 39 04.6 +1.9**
MSVF pmax pmax
comp=Z,17nm,1.0s
TIXI Tiksi 60.21 1 P **P** **20 39 07.9 +0.6**
comp=Z,5.9nm,0.9s,baz=153,slow=3.8,SNR=19
TIXI Tiksi 60.21 1 *e*P **P** **20 39 07.8 +0.6**
comp=Z,12nm,1.2s
TIXI Tiksi 60.21 1 *i* P **P** **20 39 06.3 -1.0**
TIXI pmax pmax
comp=Z,6.0nm,1.1s
BVAR Borovoye Array 60.31 325 P **P** **20 39 09.0 +0.7**
comp=Z,1.9nm,0.7s,baz=116,slow=10,SNR=14
BVAR Borovoye Array 60.31 325 P **P** **20 39 09.0 +0.7**

BRVK Borovoye 60.38 325 *e*P **P** **20 39 09.7 +1.0**
comp=Z,6.0nm,0.8s
BRVK Borovoye 60.38 325 *ce*P **P** **20 39 09.4 +0.7**
BRVK pmax pmax
comp=Z,9.0nm,0.7s
BILL Bilibino 62.49 16 *i* P **P** **20 39 23.3 +0.5**
BILL *i* 20 39 36.8
BILL *i* 20 41 47.5
BILL pmax pmax
comp=Z,7.0nm,1.4s
GYB1 ALIBECK ARRAY 65.27 306 *e*P **P** **20 39 41.0 -0.6**
comp=Z,28nm,1.8s
GYB2 ALIBECK ARRAY 65.27 307 *e*P **P** **20 39 40.8 -0.8**
comp=Z,6.6nm,0.8s
GEYT Alibeck 65.28 307 P **P** **20 39 42.4 +0.7**
comp=Z,2.6nm,0.9s,baz=151,slow=3.4,SNR=7.6
GEYT LR LR 21 12 30.2
comp=Z,50nm,18.0s,baz=110,slow=40
GYA0 ALIBECK ARRAY 65.28 307 *e*P **P** **20 39 42.2 +0.5**
comp=Z,25nm,1.8s
GYA0B ALIBECK ARRAY 65.28 307 *e*P **P** **20 39 42.4 +0.7**
comp=Z,5.3nm,0.8s
GYA1 ALIBECK ARRAY 65.28 306 *e*P **P** **20 39 42.1 +0.5**
comp=Z,27nm,1.8s
GYB3 ALIBECK ARRAY 65.28 307 *e*P **P** **20 39 42.9 +1.2**
comp=Z,6.1nm,0.9s
AB06 Akbulak array 65.51 319 *e*P **P** **20 39 42.9 -0.1**
AB07 Akbulak array 65.52 319 *e*P **P** **20 39 42.8 -0.1**
AB02 Akbulak array 65.53 319 *e*P **P** **20 39 42.9 -0.1**
AB03 Akbulak array 65.53 319 *e*P **P** **20 39 43.1 +0.1**
AB01 Akbulak array 65.53 319 *e*P **P** **20 39 42.9 -0.1**
AB31 Akbulak array 65.53 319 *e*P **P** **20 39 43.2 +0.2**
AB31 Akbulak array 65.53 319 *e*P **P** **20 39 43.2 +0.2**
ABKAR Akbulak array 65.53 319 *e*P **P** **20 39 43.2 +0.2**
AB05 Akbulak array 65.53 319 *e*P **P** **20 39 43.0 -0.1**
AB04 Akbulak array 65.53 319 *e*P **P** **20 39 43.0 -0.1**
AB08 Akbulak array 65.54 319 *e*P **P** **20 39 43.5 +0.4**
AB09 Akbulak array 65.55 319 *e*P **P** **20 39 43.1 -0.1**
AKTO Aktyubinsk 66.97 320 P **P** **20 39 51.8 -0.5**
comp=Z,1.0nm,0.5s,baz=81,slow=11,SNR=5.4
AKTO LR LR 21 11 13.1
comp=Z,136nm,20.1s,baz=108,slow=38
AFI Afiamalu 67.06 110 LR LR 21 02 40.1
comp=Z,96nm,20.1s,baz=288,slow=30
ARU Arti 67.87 326 P **P** **20 39 57.3 -0.5**
comp=Z,3.2nm,0.6s,baz=123,slow=2.4,SNR=8.8
ARU Arti 67.87 326 *e*P **P** **20 39 57.3 -0.5**
comp=Z,6.7nm,0.6s
ARU Arti 67.87 326 *e*P **P** **20 39 57.3 -0.5**
ARU pmax pmax
comp=Z,7.0nm,0.6s
GAMB Gambell 67.93 25 *e*P **P** **20 39 59.8 +1.8**
comp=Z,12nm,1.4s
GROC Groznyy 74.81 312 *e*P **P** **20 40 40.9 +0.9**
GROC *e* 20 40 54.9
GROC S **S** **20 50 15.3 +1.6**
GROC pmax pmax
comp=Z,10.0nm,0.7s
TBLG Delisi 75.64 310 *e*P **P** **20 40 44.0 -0.9**
comp=Z,12nm,0.8s
TBLG Delisi 75.64 310 *e*P **P** **20 40 44.0 -0.9**
TBLG pmax pmax
comp=Z,12nm,0.8s
GNI Garni 75.72 309 LR LR 21 18 42.5
comp=Z,38nm,21.8s,baz=93,slow=39
GNI Garni 75.72 309 *i* P **P** **20 40 50.1 +4.6**
GNI pmax pmax
comp=Z,58nm,1.4s
IM3 Indian Mountai 75.86 25 *e*P **P** **20 40 46.7 +1.1**
ZEI Tsey 76.21 311 *e*P **P** **20 40 47.3 -1.0**
ZEI pmax pmax
comp=Z,12nm,0.8s
CAST Castle Rocks 76.45 27 *e*P **P** **20 40 50.5 +1.4**
comp=Z,10.0nm,0.9s
RAYN Ar Rayn 76.47 292 *e*P **P** **20 40 49.3 -0.7**
comp=Z,6.9nm,0.9s
RAYN Ar Rayn 76.47 292 *e*P **P** **20 40 49.3 -0.7**
RAYN pmax pmax
comp=Z,7.0nm,0.9s
AKH Akhalkalaki 76.59 310 ||*i* P P 20 41 03.6 +13
AKH Akhalkalaki 76.59 310 *e*P **P** **20 40 50.8 +0.3**
comp=Z,18nm,0.9s
AKH Akhalkalaki 76.59 310 *e*P **P** **20 40 50.8 +0.3**
AKH pmax pmax
comp=Z,18nm,0.9s
KBZ Khabaz 76.90 312 P **P** **20 40 51.3 -0.5**
comp=Z,2.0nm,0.9s,baz=97,slow=5.1,SNR=7.3
BPAW Bear Paw Mtn. 76.95 27 *e*P **P** **20 40 53.2 +1.4**
comp=Z,16nm,0.8s
KVAR Kislovodsk Arr 77.03 313 P **P** **20 40 52.5 -0.3**
comp=Z,3.2nm,0.7s,baz=192,slow=8.2,SNR=6.1
KVAR pP **PcP** **20 41 04.1 +0.5**
comp=Z,15nm,0.8s,baz=255,slow=3.0,SNR=11
KVAR LR LR 21 19 27.7
comp=Z,55nm,18.5s,baz=64,slow=39
KIV Kislovodsk 77.03 313 *e*P **P** **20 40 53.5 +0.7**
comp=Z,18nm,0.7s
KIV Kislovodsk 77.03 313 *e*P **P** **20 40 53.9 +1.1**
KIV pmax pmax
comp=Z,22nm,1.0s
KIV MLR MLR
comp=Z,57nm,18.0s
GEVA Gevas 77.14 307 *e*P **P** **20 40 52.1 -1.5**
GEVA *e*S **pP** **20 41 04.8 -1.7**
TJTA Tutak 77.25 308 *e*P **P** **20 40 51.1 -3.2**
TUTA *e*S **pP** **20 41 04.9 -2.2**
COLD Coldfoot 77.32 23 *e*P **P** **20 40 55.9 +2.1**
comp=Z,9.2nm,0.8s
EATA Eleskirt 77.46 308 *e*P **P** **20 40 54.5 -1.1**
EATA IAML 20 41 09.5
comp=Z,0.8nm,0.8s
MCK McKinley 77.86 27 *e*P **P** **20 40 57.6 +0.7**
comp=Z,16nm,0.8s
RND Reindeer 77.90 27 *e*P **P** **20 40 57.5 +0.3**
comp=Z,14nm,1.2s
RND Reindeer 77.90 27 *e*P **P** **20 40 57.5 +0.3**
RND pmax pmax
comp=Z,14nm,1.2s
MDM Murphy Dome 78.14 26 *e*P **P** **20 40 59.7 +1.2**
comp=Z,6.9nm,1.1s
KLMR Klimovskoe 78.17 330 *e*P **P** **20 40 57.6 -1.0**
KLMR AMP 20 41 11.1
comp=Z,15nm,1.2s
KLMR Klimovskoe 78.17 330 *e*P **P** **20 40 57.6 -1.0**
KLMR pmax pmax
comp=Z,15nm,1.2s
DHY Denali Highway 78.58 28 *e*P **P** **20 41 01.6 +0.5**
comp=Z,17nm,1.5s
SCM Sheep Creek Mo 78.67 29 *e*P **P** **20 41 02.2 +0.7**
comp=Z,24nm,0.9s
HDA Harding Lake 78.71 26 *e*P **P** **20 41 01.2 -0.4**
comp=Z,6.2nm,0.6s
IL1 Eielson Array 78.72 26 *e*P **P** **20 41 02.0 +0.3**
ILAR Eielson Array 78.72 26 P **P** **20 41 01.6 -0.1**
comp=Z,1.5nm,0.8s,baz=239,slow=5.5,SNR=13
ILAR pP **pP** **20 41 14.1 -0.5**
comp=Z,3.3nm,0.8s,baz=239,slow=5.3,SNR=15
ILB Eielson Array 78.72 26 *e*P **P** **20 41 01.6 -0.1**
VSR Storozhevoye 78.92 320 *e*P **P** **20 41 03.6 +0.6**
VSR *e*PP **PcP** **20 41 13.2 +1.7**
VSR pmax pmax
comp=Z,6.0nm,1.0s
BAYB BAYBURT 79.13 309 *e*P **P** **20 41 05.3 +0.6**
SOC Sochi 79.21 312 *e*P P 20 41 11.3 +6.6
SOC *e*S **S** **20 51 07.6 +6.0**
SOC *e*SS **SS** **20 56 16.5 +8.1**
SOC pmax pmax
comp=Z,6.0nm,0.4s
FYU Fort Yukon 79.30 24 *e*P **P** **20 41 05.9 +1.2**
comp=Z,19nm,1.2s
PAX Paxson 79.46 28 *e*P **P** **20 41 05.8 0.0**
comp=Z,5.8nm,0.8s
PAX Paxson 79.46 28 *e*P **P** **20 41 05.8 0.0**
PAX pmax pmax
comp=Z,6.0nm,0.8s
RIDG Independ'e Rid 79.68 27 *e*P **P** **20 41 07.1 +0.1**
comp=Z,15nm,0.8s
SCRK Sand Creek 80.03 27 *e*P **P** **20 41 09.3 +0.3**
comp=Z,4.7nm,0.8s
OBN Obninsk 80.14 324 *e*P **P** **20 41 09.7 +0.2**
OBN pmax pmax
comp=Z,5.0nm,1.0s
ANN Anapa 80.71 314 *e*P **P** **20 41 12.2 -0.6**
ANN pmax pmax
comp=Z,19nm,1.1s
DAWY Dawson 82.03 26 *e*P **P** **20 41 21.0 +1.5**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=Z,6.0nm,1.0s						
SPA0	**Spitsbergen Ar**	**82.74**	**349**	*e*P	**P**	**20 41 23.3**	**+0.4**
SPITS	**Spitsbergen Ar**	**82.74**	**349**	P	**P**	**20 41 23.3**	**+0.4**
	comp=Z,9.3nm,1.0s,baz=343,slow=7.5,SNR=3.7						
SPITS				LR	LR	21 22 41.5	
	comp=Z,34nm,20.8s,baz=180,slow=39						
OPO	**Ambohidratompo**	**82.79**	**249**	P	**P**	**20 41 23.5**	**-0.9**
	comp=Z,4.3nm,0.8s,baz=72,slow=3.2,SNR=3.0						
ARA0	**ARCESS Array S**	**82.86**	**340**	*e*P	**P**	**20 41 23.8**	**+0.1**
ARA0				*e*pP	**pP**	**20 41 35.2**	**-1.5**
ARCES	**ARCESS Array B**	**82.86**	**340**	P	**P**	**20 41 23.8**	**+0.2**
	comp=Z,0.7nm,0.5s,baz=69,slow=6.9,SNR=7.3						
ARCES				pP	**pP**	**20 41 35.2**	**-1.5**
	comp=Z,6.0nm,0.8s,baz=77,slow=5.4,SNR=4.0						
ARCES				LR	LR	21 23 06.6	
	comp=Z,65nm,18.4s,baz=95,slow=39						
INK	**Inuvik**	**83.48**	**22**	P	**P**	**20 41 27.6**	**+0.8**
	comp=Z,1.7nm,0.7s,baz=296,slow=5.1,SNR=8.9						
INK				pP	**pP**	**20 41 40.3**	**+0.5**
	comp=Z,2.6nm,0.7s,baz=351,slow=3.2,SNR=7.7						
INK	**Inuvik**	**83.48**	**22**	*e*P	**P**	**20 41 27.4**	**+0.6**
	comp=Z,15nm,1.6s						
INK				pP	**pP**	**20 41 40.3**	**+0.5**
INK	**Inuvik**	**83.48**	**22**	*e*P	**P**	**20 41 27.4**	**+0.6**
INK				*PP	**pP**	**20 41 40.3**	**+0.5**
INK				pmax	pmax		
	comp=Z,15nm,1.6s						
HYT	**Haines Junctio**	**83.49**	**29**	*e*P	**P**	**20 41 28.3**	**+1.0**
	comp=Z,8.2nm,1.1s						
MMAI	**Mount Meron Ar**	**83.98**	**302**	P	**P**	**20 41 30.1**	**-0.1**
	comp=Z,0.3nm,0.4s,baz=74,slow=6.2,SNR=2.9						
MMAI				LR	LR	21 24 04.4	
	comp=Z,43nm,18.6s,baz=240,slow=39						
BR101	**Keskin Array S**	**84.24**	**309**	*e*P	**P**	**20 41 30.2**	**-1.3**
BRTR	**Keskin Array B**	**84.24**	**309**	P	**P**	**20 41 30.2**	**-1.3**
	comp=Z,0.6nm,0.8s,baz=125,slow=4.1,SNR=4.4						
BRTR				LR	LR	21 23 17.1	
	comp=Z,34nm,19.0s,baz=82,slow=39						
BRTR	**Keskin Array B**	**84.24**	**309**	*i* P	**P**	**20 41 32.4**	**+0.8**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
FIA0	**FINESS Array S**	**84.53**	**332**	*e*P	**P**	**20 41 32.1**	**-0.2**
FIA0				*e*pP	**pP**	**20 41 43.8**	**-1.6**
FIA0	**FINESS Array S**	**84.53**	**332**	*e*P	**P**	**20 41 32.2**	**-0.2**
FIA0				*e**PP	**pP**	**20 41 43.8**	**-1.6**
FINES	**FINESS Array B**	**84.53**	**332**	P	**P**	**20 41 32.1**	**-0.2**
	comp=Z,0.8nm,0.4s,baz=95,slow=4.0,SNR=8.3						
FINES				pP	**pP**	**20 41 43.8**	**-1.6**
	comp=Z,6.1nm,0.8s,baz=76,slow=4.4,SNR=6.6						
WHY	**Whitehorse**	**84.78**	**29**	*e*P	**P**	**20 41 35.9**	**+2.1**
	comp=Z,12nm,0.8s						
SKAG	**Skagway**	**84.85**	**30**	*e*P	**P**	**20 41 34.1**	**+0.1**
	comp=Z,8.9nm,0.8s						
BR231	**Keskin MP Arra**	**84.88**	**309**	*e*P	**P**	**20 41 31.8**	**-2.9**
AKASG	**Malin Array Be**	**85.21**	**321**	P	**P**	**20 41 34.9**	**-1.1**
	comp=Z,0.3nm,0.3s,baz=69,slow=4.3,SNR=6.4						
AKASG	**Malin Array Be**	**85.21**	**321**	*i* P	**P**	**20 41 36.7**	**+0.7**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AKBB	**Malin Array Si**	**85.21**	**321**	*e*P	**P**	**20 41 34.9**	**-1.1**
	comp=Z,15nm,1.1s						
AKBB	**Malin Array Si**	**85.21**	**321**	*e*P	**P**	**20 41 34.9**	**-1.1**
AKBB				pmax	pmax		
	comp=Z,15nm,1.1s						
AK11	**Malin Array Si**	**85.25**	**321**	*e*P	**P**	**20 41 35.6**	**-0.5**
CSS	**Mathiatis**	**85.33**	**305**	*e*P	**P**	**20 41 36.5**	**-0.4**
	comp=Z,3.7nm,0.8s						
SORM	**Soroca**	**86.33**	**318**	⇑*i*P	**P**	**20 41 41.0**	**-0.6**
CFR	**Carcaliu**	**87.14**	**315**	⇓*i*P	P	20 41 55.7	+10
VRI	**Vrincioaia**	**87.94**	**316**	⇑*i*P	**P**	**20 41 49.7**	**+0.2**
BURAR	**Bucovina Array**	**88.50**	**318**	⇑*i*P	**P**	**20 41 53.1**	**+0.9**
BUR04	**Bucovina Ar. S**	**88.50**	**318**	*e*P	**P**	**20 41 52.3**	**+0.1**
BUR08	**Bucovina Ar. S**	**88.50**	**318**	*e*P	**P**	**20 41 52.1**	**-0.1**
KMBO	**Kilima Mbogo**	**88.53**	**269**	LR	LR	21 20 39.8	
	comp=Z,48nm,19.1s,baz=96,slow=35						
MLR	**Muntele Rosu**	**88.56**	**316**	P	**P**	**20 41 52.2**	**-0.4**
	comp=Z,0.3nm,0.9s,baz=72,slow=17						
MLR	**Muntele Rosu**	**88.56**	**316**	⇑*i*P	P	20 42 06.0	+13
PPT	**Papeete**	**88.61**	**108**	LR	LR	21 15 27.7	
	comp=Z,30nm,19.1s,baz=222,slow=31						
ARR	**Arges**	**89.49**	**316**	⇑*i*P	P	20 42 07.6	+11
UZH	**Uzhgorod**	**90.09**	**320**	*e*P	P	20 42 08.9	+9.4
UZH				*e*		20 42 16.7	
RES	**Resolute Bay**	**90.49**	**10**	*e*P	**P**	**20 42 00.8**	**0.0**
	comp=Z,2.9nm,0.9s						
STHS	**Stebnicka Huta**	**90.51**	**321**	*e*P	P	20 42 14.3	+13
CRVS	**Cervenica-Dubn**	**90.54**	**320**	*e*P	P	20 42 13.8	+12
HFS	**Hagfors**	**90.69**	**332**	P	**P**	**20 42 00.5**	**-1.6**
	comp=Z,3.6nm,1.1s,baz=104,slow=6.1,SNR=2.6						
BBB	**Bella Bella**	**90.85**	**36**	LR	LR	21 16 19.2	
	comp=Z,16nm,20.3s,baz=230,slow=31						
KECS	**Kecovo**	**91.28**	**320**	*e*P	P	20 42 15.9	+11
NB2	**NORSAR Subarra**	**91.40**	**334**	P	P	20 42 16.0	+11
	comp=Z,3.0nm,0.8s,baz=66,slow=4.6						
NB200	**NORSAR Array S**	**91.40**	**334**	*e*P	**P**	**20 42 03.9**	**-1.5**
NB200				*e*pP	**pP**	**20 42 16.3**	**-2.2**
NOA	**NORSAR Array B**	**91.40**	**334**	P	**P**	**20 42 03.9**	**-1.5**
	comp=Z,0.9nm,0.9s,baz=139,slow=16,SNR=3.0						
NOA				pP	**pP**	**20 42 16.3**	**-2.2**
	comp=Z,2.4nm,0.8s,baz=63,slow=4.6,SNR=5.4						
NOA				LR	LR	21 26 42.1	
	comp=Z,21nm,18.1s,baz=330,slow=38						
IDI	**Anoyia**	**92.00**	**306**	LR	LR	21 29 17.9	
	comp=Z,19nm,19.5s,baz=80,slow=39						
YKA	**Yellowknife Ar**	**93.00**	**24**	P	**P**	**20 42 13.2**	**+0.6**
	comp=Z,0.6nm,0.6s,baz=300,slow=4.7,SNR=13						
YKA				pP	**pP**	**20 42 26.0**	**+0.3**
	comp=Z,1.3nm,0.7s,baz=298,slow=4.6,SNR=13						
YKA	**Yellowknife Ar**	**93.00**	**24**	*i* P	**P**	**20 42 13.1**	**+0.5**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
YKB5	**Yellowknife Ar**	**93.00**	**24**	*e*P	**P**	**20 42 13.2**	**+0.6**
GEC2	**GERESS Array S**	**95.34**	**322**	*e*P	**P**	**20 42 23.7**	**-0.2**
	comp=Z,12nm,1.8s						
GEC2	**GERESS Array S**	**95.34**	**322**	*e*P	**P**	**20 42 23.7**	**-0.2**
GEC2				pmax	pmax		
	comp=Z,12nm,1.8s						
GERES	**GERESS Array B**	**95.34**	**322**	P	**P**	**20 42 23.7**	**-0.2**
	comp=Z,0.2nm,0.5s,baz=4.8,slow=5.9,SNR=2.7						
JLK	**June Lake**	**96.73**	**40**	*e*P	**P**	**20 42 28.7**	**-1.6**
YBH	**Yreka Blue Hor**	**98.13**	**45**	LR	LR	21 17 59.1	
	comp=Z,43nm,20.5s,baz=310,slow=30						
LTX	**Lajitas**	**117.61**	**48**	*e*PKPdf	**PKPdf**	**20 47 44.3**	**-1.9**
LTX	**Lajitas**	**117.61**	**48**	*e*PKIKP	**PKPdf**	**20 47 44.3**	**-1.9**
TXAR	**Lajitas Array**	**117.61**	**48**	PKP	**PKPdf**	**20 47 44.3**	**-1.9**
	comp=Z,0.4nm,0.6s,baz=270,slow=0.3,SNR=4.6						
TORD	**Torodi Ar. Bea**	**119.17**	**292**	PKP	**PKPdf**	**20 47 47.2**	**-2.1**
	comp=Z,0.4nm,0.7s,baz=23,slow=2.6,SNR=2.3						
TORD				pPKP	**pPKPdf**	**20 48 01.2**	**-1.7**
	comp=Z,0.6nm,0.6s,baz=50,slow=1.9,SNR=3.3						
TOA1	**Torodi Ar. Sit**	**119.17**	**292**	*e*PKPdf	**PKPdf**	**20 47 47.2**	**-2.2**
TOA1				*e*pPKPdf	**pPKPdf**	**20 48 01.2**	**-1.7**
PLCA	**Paso Flores**	**147.55**	**157**	PKPbc	**PKPbc**	**20 48 43.5**	**-0.4**
	comp=Z,3.3nm,0.8s,baz=280,slow=4.3,SNR=7.5						
PLCA				pPKPbc	**pPKPbc**	**20 48 56.8**	**-0.7**
	comp=Z,6.3nm,0.6s,baz=262,slow=2.8,SNR=6.9						

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*ISCJB **05** 21:18:02.7±0.7, 0°.2N±0°.2×17°.00W±0°.09, h10km, mb3.9/12, MS3.4/5, Error ellipse: s-maj=24.7km s-min=9.4km az=154.2*

*IDC **05** 21:18:03.1±1.0, 0°.18N×17°.05W, h0km, mb3.8/11, mb1 4.2/15, mb1mx3.8/69, mbtmp4.1/15, ML4.7/4, MS3.4/7, Ms1 3.4/7, ms1mx3.0/56, Error ellipse: s-maj=43.9km s-min=16.5km az=144.0*

ISC 05 21:18:04.8±0.9**, 0°.3N**±0°.2×**17°.1W**±0°.1**, h10km, n31, σ1s.01**/20**, mb3.9**/12**, MS3.5**/5**, North of Ascension Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H10N2	**ASCENSION HYDR**	**8.45**	**162**	T	T	21 29 09.6	
	baz=340,slow=74,SNR=322						
H10N3	**ASCENSION HYDR**	**8.46**	**162**	T	T	21 29 12.3	
	baz=340,slow=74,SNR=751						
H10N1	**ASCENSION HYDR**	**8.47**	**162**	T	T	21 29 11.2	
	baz=340,slow=74,SNR=757						
H10S1	**ASCENSION HYDR**	**9.47**	**165**	T	T	21 30 24.6	
	baz=344,slow=75,SNR=163						
H10S3	**ASCENSION HYDR**	**9.47**	**165**	T	T	21 30 25.2	
	baz=344,slow=75,SNR=207						
H10S2	**ASCENSION HYDR**	**9.49**	**165**	T	T	21 30 26.1	
	baz=344,slow=75,SNR=221						
LIC	**Lamto**	**13.39**	**64**	*e*P	**Pn**	**21 21 14.9**	**-0.1**
	16nm,0.3s						
TIC	**Toumodi**	**13.58**	**62**	*e*P	**Pn**	**21 21 16.0**	**-1.7**
KIC	**Kosan Boka**	**13.70**	**64**	*e*P	**Pn**	**21 21 18.2**	**-1.1**
	43nm,1.0s						
DBIC	**Dimbokro**	**13.74**	**62**	Pn	**Pn**	**21 21 18.3**	**-1.5**
	3.7nm,0.3s,baz=236,slow=14,SNR=48						
DBIC				Sn	Sn	21 23 42.1	-10
	0.7nm,0.3s,baz=145,slow=19,SNR=3.6						
DBIC				LR	LR	21 25 39.7	
	comp=Z,114nm,20.5s,baz=211,slow=33						
BBTS	**Babate**	**14.30**	**2**	Pn	**Pn**	**21 21 26.3**	**-1.2**
	2.7nm,0.3s,baz=236,slow=3.6,SNR=5.9						
BBTS				Sn	Sn	21 23 55.5	-11
	2.5nm,0.3s,baz=5.6,slow=23,SNR=7.8						
KOWA	**Kowa**	**19.14**	**42**	P	**P**	**21 22 28.8**	**+0.5**
	1.0nm,0.3s,baz=221,slow=12,SNR=44						
KOWA				LR	LR	21 29 31.9	
	comp=Z,138nm,18.5s,baz=214,slow=36						
RCBR	**Riachuelo**	**19.76**	**252**	P	**P**	**21 22 34.2**	**-1.0**
	4.4nm,0.3s,baz=324,slow=0.6,SNR=6.2						
TORD	**Torodi Ar. Bea**	**22.57**	**55**	P	**P**	**21 23 05.2**	**-0.3**
	4.6nm,0.5s,baz=236,slow=11,SNR=21						
TORD				LR	LR	21 30 58.4	
	comp=Z,92nm,19.8s,baz=190,slow=34						
KEST	**Kesra**	**42.99**	**32**	LR	LR	21 44 57.1	
	comp=Z,68nm,20.2s,baz=159,slow=38						
SIV	**San Ignacio**	**46.34**	**247**	P	**P**	**21 26 31.8**	**+0.3**
	0.7nm,0.6s,baz=103,slow=14,SNR=3.7						
LPAZ	**La Paz**	**52.97**	**249**	P	**P**	**21 27 21.4**	**-1.5**
	0.5nm,0.5s,baz=64,slow=7.3,SNR=3.7						
SDV	**Santo Domingo**	**54.02**	**281**	LR	LR	21 48 45.7	
	comp=Z,58nm,18.8s,baz=68,slow=34						
GERES	**GERESS Array B**	**55.16**	**24**	P	**P**	**21 27 37.4**	**-0.3**
	0.4nm,0.5s,baz=197,slow=4.2,SNR=4.5						
ROSC	**El Rosal**	**57.36**	**276**	LR	LR	21 52 19.2	
	comp=Z,41nm,18.5s,baz=74,slow=36						
MLR	**Muntele Rosu**	**58.82**	**34**	P	**P**	**21 28 03.9**	**+0.3**
	0.5nm,0.9s,baz=168,slow=8.1,SNR=3.1						
BRTR	**Keskin Array B**	**60.56**	**43**	P	**P**	**21 28 16.5**	**+0.7**
	1.4nm,0.8s,baz=246,slow=6.2,SNR=9.9						
AKASG	**Malin Array Be**	**63.70**	**31**	P	**P**	**21 28 37.1**	**+0.7**
	0.4nm,0.4s,baz=241,slow=7.2,SNR=3.0						
HFS	**Hagfors**	**64.26**	**17**	P	**P**	**21 28 40.8**	**+0.8**
	2.0nm,0.8s,baz=166,slow=7.4,SNR=3.6						
NOA	**NORSAR Array B**	**64.36**	**15**	LR	LR	21 57 40.7	
	comp=Z,16nm,18.7s,baz=350,slow=37						
KBZ	**Khabaz**	**68.52**	**42**	P	**P**	**21 29 08.7**	**+1.2**
	1.6nm,0.8s,baz=222,slow=2.4,SNR=6.8						
FINES	**FINESS Array B**	**69.22**	**21**	P	**P**	**21 29 12.1**	**+0.5**
	4.1nm,1.1s,baz=234,slow=6.4,SNR=8.9						
BVAR	**Borovoye Array**	**88.24**	**37**	P	**P**	**21 30 57.1**	**+0.7**
	0.5nm,0.8s,baz=289,slow=4.4,SNR=3.0						
YKA	**Yellowknife Ar**	**93.25**	**333**	P	**P**	**21 31 20.8**	**+1.4**
	0.2nm,0.8s,baz=86,slow=5.1,SNR=4.3						
ASAR	**Alice Springs**	**143.47**	**132**	PKhKP	PKPpre	21 37 36.4	
	0.3nm,0.7s,baz=225,slow=3.1,SNR=4.2						
WRA	**Warramunga Arr**	**145.85**	**127**	PKPbc	**PKPdf**	**21 37 44.1**	**-0.8**
	0.7nm,0.8s,baz=250,slow=2.8,SNR=3.7						

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*ISCJB **05** 21:23:38.0±1.0, 12°.4S±0°.1×166°.4E±0°.2, h59km, mb4.0/8, MS3.3/5, Error ellipse: s-maj=23.0km s-min=15.1km az=167.3*

*IDC **05** 21:23:41.2±3.7, 12°.45S×166°.40E, h75km±31km, mb3.8/8, mb1 3.9/10, mb1mx3.6/53, mbtmp4.1/10, MS3.3/8, Ms1 3.3/8, ms1mx3.0/44, Error ellipse: s-maj=34.9km s-min=26.1km az=111.0*

ISC 05 21:23:39.1±1.1**, 12°.4S**±0°.1×**166°.5E**±0°.2**, h59km, n14, σ1s.32**/12**, mb3.9**/8**, MS3.4**/5**, Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**7.06**	**294**	P	**Pn**	**21 25 21.2**	**+1.4**
	16nm,0.3s,baz=96,slow=6.1,SNR=6.6						
HNR				LR	LR	21 28 21.3	
	comp=Z,143nm,18.8s,baz=144,slow=40						
DZM	**Mont Dzumac**	**9.67**	**180**	P	**Pn**	**21 25 56.5**	**+0.9**
	0.7nm,0.3s,baz=14,slow=15,SNR=6.4						
DZM				LR	LR	21 29 18.8	
	comp=Z,139nm,19.6s,baz=309,slow=35						
PMG	**Port Moresby**	**19.22**	**277**	LR	LR	21 34 42.6	
	comp=Z,87nm,18.9s,baz=68,slow=35						
AFI	**Afiamalu**	**21.21**	**97**	LR	LR	21 34 59.0	
	comp=Z,28nm,20.2s,baz=360,slow=32						
STKA	**Stephens Creek**	**30.04**	**226**	P	**P**	**21 29 42.5**	**-0.2**
	2.7nm,0.9s,baz=66,slow=9.3,SNR=3.8						
STKA				LR	LR	21 40 45.4	
	comp=Z,102nm,18.9s,baz=2.7,slow=34						
WRA	**Warramunga Arr**	**31.76**	**252**	P	**P**	**21 29 56.5**	**-1.4**
	0.8nm,0.7s,baz=76,slow=9.6,SNR=8.0						
ASAR	**Alice Springs**	**32.90**	**245**	P	**P**	**21 30 07.0**	**-1.0**
	1.3nm,0.7s,baz=69,slow=9.6,SNR=16						
ASAR				LR	LR	21 42 48.4	
	comp=Z,71nm,19.3s,baz=332,slow=35						
JOW	**Kunigami**	**53.81**	**317**	LR	LR	21 54 35.5	
	comp=Z,66nm,20.8s,baz=3.5,slow=34						
LEM	**Lembang**	**58.23**	**270**	P	**P**	**21 33 28.8**	**+0.7**
	10.0nm,0.6s,baz=174,slow=22,SNR=4.2						
KSRS	**Korea Array**	**61.37**	**326**	LR	LR	21 59 54.1	
	comp=Z,25nm,18.9s,baz=221,slow=35						
CMAR	**Chiang Mai Arr**	**73.31**	**294**	P	**P**	**21 35 05.6**	**+0.7**
	1.5nm,0.8s,baz=129,slow=4.9,SNR=14						
CMAR				pP	**PcP**	**21 35 20.0**	**-1.1**
	1.2nm,0.8s,baz=128,slow=4.8,SNR=9.3						
SONM	**Songino Array**	**80.15**	**324**	P	**P**	**21 35 43.6**	**+0.5**
	0.2nm,0.4s,baz=155,slow=4.8,SNR=2.6						
ILAR	**Eielson Array**	**84.51**	**18**	P	**P**	**21 36 06.2**	**+1.0**
	0.4nm,0.6s,baz=238,slow=5.3,SNR=5.8						
MKAR	**Makanchi Array**	**94.97**	**317**	P	**P**	**21 36 54.1**	**-1.1**
	1.0nm,0.8s,baz=97,slow=6.7,SNR=6.7						
MKAR				pP	**pP**	**21 37 09.8**	**-2.3**
	0.6nm,0.6s,baz=91,slow=6.3,SNR=4.4						

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*ISCJB **05** 21:29:16.7±0.3, 70°.70N±0°.03×6°.11W±0°.10, h9km, mb3.7/17, MS3.0/8, Error ellipse: s-maj=5.5km s-min=4.1km az=37.2*

*NAO **05** 21:29:16.8±1.2, 70°.71N×6°.34W, ML4.0*

*IDC **05** 21:29:17.6±0.7, 70°.81N×6°.76W, h0km, mb3.6/14, mb1 3.9/19, mb1mx3.6/71, mbtmp3.7/19, ML4.2/5, MS3.2/12, Ms1 3.2/12, ms1mx2.9/71, Error ellipse: s-maj=17.8km s-min=11.3km az=27.0*

*CSEM **05** 21:29:18.2±0.2, 70°.79N×6°.29W, h2km, mb4.0, Error ellipse: s-maj=9.7km s-min=6.4km az=31.0*

*BER **05** 21:29:18.8±2.9, 70°.75N×6°.36W, h3km±21km, ML3.2, ML4.0(NAO)*

*NEIC **05** 21:29:19.9±0.7, 70°.79N×6°.33W, h10km, mb4.0/1, Error ellipse: s-maj=12.5km s-min=7.4km az=72.0*

ISC 05 21:29:18.8±0.5**, 70°.76N**±0°.05×**6°.19W**±0°.04**, h9km, n85, σ2s.92**/102**, mb3.5**/17**, MS3.0**/8**, 3C, Jan Mayen Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMIC	**Jan Mayen**	**0.80**	**288**	Pg	**Pg**	**21 29 32.3**	**-1.7**
JMIC				Lg	Lg	21 29 41.4	
JMIC	**Jan Mayen**	**0.80**	**288**	Pn	**Pg**	**21 29 32.3**	**-1.7**
	761nm,0.3s,baz=59,slow=3.9,SNR=222						
JMIC				Sn	**Sg**	**21 29 41.0**	**-3.3**
	905nm,0.3s,baz=229,slow=19,SNR=51						
JMIC				LR	LR	21 29 43.6	
	comp=Z,306nm,20.2s,baz=115,slow=43						
JMIC	**Jan Mayen**	**0.80**	**288**	Pg	**Pg**	**21 29 32.3**	**-1.7**
JMIC				Sn	**Sg**	**21 29 41.0**	**-3.3**
JMIC	**Jan Mayen**	**0.80**	**288**	⇑*i*P	**Pg**	**21 29 32.3**	**-1.7**
JMIC				*e*		21 29 36.3	
JMIC				*e*S	**Sg**	**21 29 41.4**	**-3.0**
JMIC				IAML		21 29 54.3	
	comp=Z,3μm,0.5s						
SCO	**Scoresbysund**	**5.25**	**274**	*i* P	**Pn**	**21 30 39.6**	**+2.3**
SCO	**Scoresbysund**	**5.25**	**274**	*i* P	**Pn**	**21 30 39.6**	**+2.3**
DAG	**Danmarks Havn**	**6.95**	**336**	⇑*i*P	**Pn**	**21 30 57.9**	**-2.6**
DAG				*e*S	Sn	21 32 06.3	-13
DAG	**Danmarks Havn**	**6.95**	**336**	⇑*i*P	**Pn**	**21 30 58.0**	**-2.6**
	SNR=46						
LOF	**Lofoten**	**7.41**	**101**	*e*Pn	**Pn**	**21 31 06.7**	**-0.2**
LOF				*e*Sn	**Sn**	**21 32 24.1**	**-6.8**
LOF				IAML		21 32 38.3	
	comp=Z,15nm,0.4s						
STEI	**Steigen**	**8.07**	**100**	*e*Pn	**Pn**	**21 31 16.2**	**+0.3**
STEI				*e*Sn	**Sn**	**21 32 40.3**	**-6.7**
STEI				IAML		21 32 47.4	
	comp=Z,22nm,0.5s						
KONS	**Konsvik**	**8.22**	**112**	*e*Pn	**Pn**	**21 31 18.6**	**+0.6**
KONS				IAML		21 32 54.1	
	comp=Z,21nm,0.4s						
STOK	**Stokkvaagen**	**8.30**	**113**	*e*Pn	**Pn**	**21 31 19.5**	**+0.5**
STOK				*e*Sn	**Sn**	**21 32 48.0**	**-4.7**
STOK				IAML		21 32 50.4	
	comp=Z,24nm,0.4s						
TRO	**Tromso**	**8.57**	**86**	*e*Pn	**Pn**	**21 31 21.9**	**-0.9**
TRO				*e*Sn	**Sn**	**21 32 51.3**	**-8.1**
TRO				IAML		21 32 54.6	
	comp=Z,7.8nm,0.3s						
HSPB	**Hornsund (broa**	**8.63**	**34**	*e*Pn	**Pn**	**21 31 24.7**	**+1.2**
MOR8	**Moi Rana**	**8.84**	**111**	*e*Pn	**Pn**	**21 31 27.9**	**+1.4**
MOR8				*e*Sn	**Sn**	**21 33 02.2**	**-3.9**
MOR8				IAML		21 33 08.6	
	comp=Z,17nm,0.6s						
NSS	**Namsos**	**9.29**	**123**	*e*Pn	**Pn**	**21 31 34.1**	**+1.6**
NSS				*e*Sn	**Sn**	**21 33 13.3**	**-3.6**
NSS				IAML		21 33 17.9	
	comp=Z,42nm,0.5s						
KBS	**Kingsbay**	**9.40**	**22**	Pn	**Pn**	**21 31 34.5**	**+0.5**
KBS				Sn	**Sn**	**21 33 14.8**	**-4.9**
KBS	**Kingsbay**	**9.40**	**22**	*e*Pn	**Pn**	**21 31 34.6**	**+0.5**
	comp=Z,33nm,0.6s						
KBS	**Kingsbay**	**9.40**	**22**	*e*Pn	**Pn**	**21 31 34.6**	**+0.5**
KIF	**Kilpisjarvi**	**9.42**	**88**	*e*Pn	**Pn**	**21 31 34.8**	**+0.4**
SPA0	**Spitsbergen Ar**	**9.49**	**29**	Pn	**Pn**	**21 31 36.7**	**+1.3**
	baz=229,slow=18						
SPA0	**Spitsbergen Ar**	**9.49**	**29**	Pn	**Pn**	**21 31 36.7**	**+1.3**
	baz=229,slow=18						
SPITS	**Spitsbergen Ar**	**9.49**	**29**	Pn	**Pn**	**21 31 37.3**	**+1.9**
	baz=235,slow=17,SNR=147						
SPITS				LR	LR	21 34 17.4	
	comp=Z,122nm,18.2s,baz=205,slow=31						
MOL	**Molde**	**9.83**	**140**	*e*Pn	**Pn**	**21 31 38.5**	**-1.6**
HAMF	**Hammerfest**	**9.83**	**77**	*e*Pn	**Pn**	**21 31 39.6**	**-0.5**
TBLU	**Trondheim**	**9.87**	**132**	*e*Pn	**Pn**	**21 31 40.5**	**0.0**
TBLU				*e*Sn	Sn	21 33 22.7	-8.6
AKN	**Aaknes**	**10.07**	**142**	Pn	**Pn**	**21 31 43.1**	**-0.3**
AKN				Sn	**Sn**	**21 33 31.8**	**-4.5**
AKN	**Aaknes**	**10.07**	**142**	Pn	**Pn**	**21 31 43.1**	**-0.3**
AKN				Sn	**Sn**	**21 33 31.8**	**-4.5**
KTK1	**Kautokeino**	**10.22**	**86**	*e*Pn	**Pn**	**21 31 45.8**	**+0.4**
FOO	**Floro**	**10.24**	**148**	*e*Pn	**Pn**	**21 31 45.2**	**-0.4**
FOO				*e*Sn	**Sn**	**21 33 33.0**	**-7.2**
FOO				IAML		21 33 37.8	
	comp=Z,12nm,0.4s						
SUMG	**Summit**	**10.24**	**295**	*i* P	**Pn**	**21 31 46.9**	**+1.0**
HOPEN	**Hopen**	**10.37**	**42**	*e*Pn	**Pn**	**21 31 49.6**	**+2.2**
HEF	**Hetta**	**10.62**	**88**	*e*Pn	**Pn**	**21 31 51.2**	**+0.3**
DOMB	**Dombas**	**10.63**	**138**	*e*Pn	**Pn**	**21 31 50.8**	**-0.2**
DOMB				*e*Sn	**Sn**	**21 33 45.6**	**-4.5**
SUE	**Sulen**	**10.70**	**150**	*e*Pn	**Pn**	**21 31 50.5**	**-1.4**
SUE				*e*Sn	**Sn**	**21 33 43.7**	**-7.9**
SUE				IAML		21 33 49.6	
	comp=Z,9.6nm,0.3s						
ARA0	**ARCESS Array S**	**10.77**	**81**	Pn	**Pn**	**21 31 53.2**	**+0.3**
	baz=284,slow=12						
ARA0				Sn	**Sn**	**21 33 48.9**	**-4.5**
	baz=301,slow=28						
ARA0	**ARCESS Array S**	**10.77**	**81**	Pn	**Pn**	**21 31 53.2**	**+0.3**
	baz=284,slow=12						
ARA0				Sn	**Sn**	**21 33 48.9**	**-4.5**
	baz=301,slow=28						
ARCES	**ARCESS Array B**	**10.77**	**81**	Pn	**Pn**	**21 31 53.2**	**+0.3**
	comp=Z,0.8nm,0.3s,baz=284,slow=12,SNR=41						
ARCES				Sn	**Sn**	**21 33 52.7**	**-0.7**
	comp=Z,0.6nm,0.3s,baz=304,slow=26,SNR=3.9						
ARE0	**ARCESS Array S**	**10.77**	**81**	*e*Pn	**Pn**	**21 31 53.2**	**+0.3**
HYA	**Hoyanger**	**10.84**	**146**	*e*Pn	**Pn**	**21 31 53.9**	**0.0**
HYA				*e*Sn	**Sn**	**21 33 49.5**	**-5.6**
HYA				IAML		21 34 03.1	
	comp=Z,9.0nm,0.7s						
ASK	**Askoy**	**11.31**	**150**	*e*Pn	**Pn**	**21 31 59.6**	**-0.6**
ASK				*e*Sn	**Sn**	**21 33 59.6**	**-7.0**
BER	**Bergen**	**11.43**	**150**	*e*Pn	**Pn**	**21 32 02.4**	**+0.6**
BER				*e*Sn	**Sn**	**21 34 04.1**	**-5.3**
NB2	**NORSAR Subarra**	**12.01**	**136**	Pn	**Pn**	**21 32 09.7**	**-0.2**
	baz=324,slow=16						
NB2	**NORSAR Subarra**	**12.01**	**136**	Pn	**Pn**	**21 32 09.7**	**-0.2**
	baz=324,slow=16						
NOA	**NORSAR Array B**	**12.01**	**136**	Pn	**Pn**	**21 32 11.8**	**+2.0**
	comp=Z,0.7nm,0.3s,baz=243,slow=20,SNR=9.3						
NOA				Sn	**Sn**	**21 34 19.4**	**-4.3**
	comp=Z,0.5nm,0.3s,baz=325,slow=23,SNR=4.0						
NOA				LR	LR	21 36 25.6	
	comp=Z,82nm,21.6s,baz=340,slow=35						
ODD1	**Odda**	**12.09**	**148**	*e*Pn	**Pn**	**21 32 10.6**	**-0.5**
ODD1				*e*Sn	**Sn**	**21 34 19.0**	**-6.9**
ODD1				IAML		21 34 24.1	
	comp=Z,7.5nm,0.7s						
NAO01	**NORSAR Array S**	**12.11**	**137**	*e*Pn	**Pn**	**21 32 11.2**	**0.0**
NRA0	**NORESS Array S**	**12.35**	**136**	Pn	**Pn**	**21 32 12.0**	**-2.5**
	baz=342,slow=16						
NRA0	**NORESS Array S**	**12.35**	**136**	Pn	**Pn**	**21 32 12.0**	**-2.5**
	baz=342,slow=16						
BLS5	**Blasjo**	**12.53**	**149**	*e*Pn	**Pn**	**21 32 16.5**	**-0.4**
BLS5				*e*Sn	Sn	21 34 26.9	-9.5
BLS5				IAML		21 34 37.4	
	comp=Z,2.6nm,0.5s						
KMY	**Karmoy**	**12.53**	**152**	*e*Pn	**Pn**	**21 32 15.5**	**-1.4**
HFS	**Hagfors**	**13.39**	**133**	Pn	**Pn**	**21 32 30.3**	**+1.6**
	baz=338,slow=11						
HFS	**Hagfors**	**13.39**	**133**	Pn	**Pn**	**21 32 30.1**	**+1.4**
	comp=Z,1.0nm,0.3s,baz=345,slow=11,SNR=39						
HFS				Sn	**Sn**	**21 34 50.2**	**-7.3**
	comp=Z,0.2nm,0.3s,baz=320,slow=19,SNR=2.5						
HFS				LR	LR	21 37 09.0	
	comp=Z,144nm,20.5s,baz=308,slow=35						
HFS	**Hagfors**	**13.39**	**133**	Pn	**Pn**	**21 32 30.3**	**+1.6**
	baz=338,slow=11						
SNART	**Snartemo**	**13.68**	**149**	*e*Pn	**Pn**	**21 32 32.6**	**0.0**
EKA	**Eskdalemuir Ar**	**15.55**	**174**	Pn	**Pn**	**21 32 58.5**	**+0.7**
	baz=357,slow=13,SNR=12						
FIA0	**FINESS Array S**	**15.83**	**110**	P	**Pn**	**21 33 02.1**	**+0.7**
	baz=322,slow=14						
FIA0	**FINESS Array S**	**15.83**	**110**	Pn	**Pn**	**21 33 02.1**	**+0.7**
	baz=322,slow=14						
FINES	**FINESS Array B**	**15.83**	**110**	Pn	**Pn**	**21 33 02.5**	**+1.1**
	comp=Z,1.0nm,0.3s,baz=319,slow=12,SNR=26						
FINES				LR	LR	21 38 29.6	
	comp=Z,75nm,18.4s,baz=339,slow=34						
KLMR	**Klimovskoe**	**20.61**	**95**	*e*P	Pn	21 34 02.1	+2.1
KLMR				AMP		21 34 05.2	
	comp=Z,12nm,1.1s						
GERES	**GERESS Array B**	**23.91**	**146**	P	**P**	**21 34 35.5**	**+2.9**
	comp=Z,0.4nm,0.5s,baz=343,slow=8.4,SNR=5.5						
FRB	**Frobisher Bay**	**24.02**	**285**	LR	LR	21 43 28.7	
	comp=Z,50nm,19.1s,baz=8.0,slow=36						
OBN	**Obninsk**	**24.21**	**108**	LR	LR	21 42 43.6	
	comp=Z,18nm,21.9s,baz=272,slow=33						
RES	**Resolute Bay**	**24.28**	**320**	P	P	21 34 42.9	+7.2
	comp=Z,2.3nm,0.5s,baz=46,slow=12,SNR=18						
RES				LR	LR	21 42 57.0	
	comp=Z,33nm,19.9s,baz=102,slow=34						
AKASG	**Malin Array Be**	**25.85**	**122**	P	**P**	**21 34 51.8**	**+1.6**
	comp=Z,0.2nm,0.3s,baz=332,slow=9.4,SNR=2.7						
MLR	**Muntele Rosu**	**29.77**	**131**	LR	LR	21 47 56.6	
	comp=Z,30nm,20.5s,baz=352,slow=37						
ARU	**Arti**	**30.34**	**84**	P	**P**	**21 35 30.5**	**+0.3**
	comp=Z,1.9nm,0.5s,baz=276,slow=5.0,SNR=7.9						
ARU				LR	LR	21 46 24.8	
	comp=Z,29nm,20.3s,baz=113,slow=34						
TIXI	**Tiksi**	**34.86**	**23**	P	**P**	**21 36 10.9**	**+1.4**
	comp=Z,1.5nm,0.9s,baz=332,slow=8.0,SNR=4.9						
TIXI	**Tiksi**	**34.86**	**23**	*e*P	**P**	**21 36 11.6**	**+2.1**
KBZ	**Khabaz**	**36.17**	**112**	P	**P**	**21 36 24.1**	**+3.0**
	comp=Z,1.5nm,1.0s,baz=315,slow=7.9,SNR=4.7						
ABKAR	**Akbulak array**	**36.81**	**90**	*e*P	**P**	**21 36 28.4**	**+1.9**
	comp=Z,2.6nm,0.8s						
BVAR	**Borovoye Array**	**37.03**	**77**	P	**P**	**21 36 29.5**	**+1.3**
	comp=Z,1.1nm,0.7s,baz=322,slow=9.1,SNR=12						
YKA	**Yellowknife Ar**	**38.09**	**314**	P	**P**	**21 36 37.2**	**+0.1**
	comp=Z,0.4nm,0.7s,baz=27,slow=9.0,SNR=3.5						
YKA				PcP	**PcP**	**21 38 52.1**	**+0.3**
	comp=Z,0.3nm,0.6s,baz=29,slow=3.0,SNR=5.9						
GNI	**Garni**	**40.00**	**112**	LR	LR	21 52 33.3	
	comp=Z,43nm,19.2s,baz=338,slow=35						
KURK	**Kurchatov**	**41.64**	**72**	P	**P**	**21 37 08.7**	**+1.9**
KURBB	**Kurchatov Arra**	**41.69**	**72**	P	**P**	**21 37 08.7**	**+1.5**
	comp=Z,0.7nm,0.6s,baz=328,slow=6.5,SNR=7.6						
ILAR	**Eielson Array**	**42.05**	**336**	P	**P**	**21 37 10.0**	**0.0**
	comp=Z,0.2nm,0.8s,baz=7.0,slow=8.2,SNR=2.8						
ULM	**Lac du Bonnet**	**43.57**	**291**	LR	LR	21 53 40.9	
	comp=Z,69nm,18.3s,baz=34,slow=34						
MKAR	**Makanchi Array**	**46.25**	**72**	P	**P**	**21 37 45.1**	**+1.2**
	comp=Z,0.4nm,0.8s,baz=357,slow=5.8,SNR=3.1						
AAK	**Ala-Archa**	**47.44**	**81**	P	**P**	**21 37 55.5**	**+2.1**
	comp=Z,0.2nm,0.4s,baz=224,slow=8.9,SNR=3.8						

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
SONM	Songino Array	52.31	52	P	P	21 38 30.8	+0.5
	comp=Z,0.3nm,0.6s,baz=320,slow=6.4,SNR=2.3						
KOWA	Kowa	56.25	177	LR	LR	22 04 59.1	
	comp=Z,28nm,18.8s,baz=34,slow=38						
TORD	Torodi Ar. Bea	57.79	171	P	P	21 39 11.3	+1.3
	comp=Z,123nm,0.6s,baz=339,slow=8.7,SNR=7.4						
MJAR	Matsushiro Arr	69.99	30	P	P	21 40 30.2	0.0
	comp=Z,1.7nm,0.9s,baz=344,slow=6.9,SNR=4.0						
CMAR	Chiang Mai Arr	77.60	70	P	P	21 41 15.2	+0.2
	comp=Z,0.1nm,0.3s,baz=322,slow=7.0,SNR=4.9						

*CSEM **05** 21:37:43.9, 41°.12N×20°.18E, h3km, ML2.4*

TIR 05 21:37:43.9, 41°.12N×20°.18E, h3km, Md2.4/4, Albania

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
TIR	Tirane	0.33	315	i Pg	Pg	21 37 50.8	+0.6
TIR				i Sg	Sb	21 37 56.7	-1.4
TIR	Tirane	0.33	315	i PG	Pg	21 37 50.8	+0.6
TIR				i SG	Sb	21 37 56.7	-1.4
PHP	Peshkopia	0.60	19	i Pg	Pb	21 37 56.5	-0.6
PHP				i Sg	Sb	21 38 05.4	-0.6
PHP	Peshkopia	0.60	19	i PG	Pb	21 37 56.5	-0.6
PHP				i SG	Sb	21 38 05.5	-0.6
PUK	Puka	0.95	347	i Pg	Pg	21 38 02.5	+0.4
PUK				i Sg	Sn	21 38 17.4	-0.9
PUK	Puka	0.95	347	i PG	Pg	21 38 02.5	+0.4
PUK				i SG	Sn	21 38 17.4	-0.9
BCI	Bajram Curri	1.25	356	i Pg	Pn	21 38 09.4	+1.1
BCI				i Sg	Sg	21 38 24.0	-0.1
BCI	Bajram Curri	1.25	356	i PG	Pn	21 38 09.4	+1.1
BCI				i SG	Sg	21 38 24.0	-0.1

*NEIC **05** 21:49:25.3±0.0, 16°.22N×98°.35W, h11km, MD4.0(MEX), After MEX.*

MEX 05 21:49:25.3±0.3, 16°.22N×98°.35W, h11km±9km, MD4.0, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.27	51	i P	Pg	21 49 30.5	-0.4
PNIG				eS	Sg	21 49 34.6	-0.1
PNIG	Pinotepa	0.27	51	i P	Pg	21 49 30.5	-0.4
PNIG				eS	Sg	21 49 34.6	-0.1
TLIG	Tlapa	1.35	351	i P	Pn	21 49 46.6	-3.6
TLIG				eS	Sb	21 50 01.7	-6.4
TLIG	Tlapa	1.35	351	i P	Pn	21 49 46.6	-3.6
TLIG				eS	Sb	21 50 01.7	-6.4
CAIG	El Cayaco	2.02	294	eP	Pn	21 49 53.9	-5.3
CAIG				eS	Sn	21 50 19.7	-4.7
CAIG	El Cayaco	2.02	294	eP	Pn	21 49 53.9	-5.3
CAIG				eS	Sn	21 50 19.7	-4.7
PLIG	Platanillo	2.42	333	eP	Pn	21 50 01.9	-3.0
PLIG				eS	Sn	21 50 31.8	-2.9
PLIG	Platanillo	2.42	333	eP	Pn	21 50 01.9	-3.0
PLIG				eS	Sn	21 50 31.8	-2.9

WEL 05 21:49:50.8, 43°.6S±0°.8×172°.4E±0°.8, h8km±1km, ML3.8/12, South Island

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
CRLZ	Canterbury Las	0.16	86	P	Pg	21 49 56.4	+2.2
CRLZ	Canterbury Las	0.16	86	S	Sg	21 49 59.1	+2.6
EYCZ	Eyrewell	0.17	348	P	Pg	21 49 56.1	+1.7
EYCZ	Eyrewell	0.17	348	S	Sg	21 49 59.3	+2.5
MQZ	McQueen's Vall	0.22	123	P	Pg	21 49 56.7	+1.5
MQZ	McQueen's Vall	0.22	123	S	Sg	21 50 00.0	+1.9
OXZ	Oxford	0.37	314	P	Pb	21 49 59.6	-0.1
AKCZ	Akaroa Harbour	0.46	128	P	Pb	21 50 01.4	+0.1
OKCZ	Okains Bay	0.49	106	P	Pb	21 50 02.3	+0.5
LTZ	Lake Taylor	0.81	353	P	Pn	21 50 08.1	-0.4
RPZ	Rata Peaks	0.99	262	P	Pn	21 50 11.1	+0.1
INZ	Inchbonnie	1.11	320	P	Pn	21 50 12.7	0.0
WVZ	Waitaha Valley	1.32	292	P	Pg	21 50 16.5	+0.4
KHZ	Kahutara	1.44	36	P	Pn	21 50 16.8	-0.3
LBZ	Lake Benmore	1.79	243	P	Pn	21 50 22.6	+0.6
THZ	Tophouse	1.86	12	P	Pn	21 50 23.2	+0.2
FOZ	Fox Glacier	1.88	271	P	Pb	21 50 25.2	-0.2
DSZ	Denniston Nort	1.89	346	P	Pn	21 50 24.1	+0.6
ODZ	Otahua Downs	1.93	220	P	Pn	21 50 24.0	+0.1
BSWZ	Blackbirch Sta	2.16	31	P	Pn	21 50 27.7	+0.5
TUWZ	Tuamarina	2.44	28	P	Pb	21 50 33.6	-1.2
NNZ	Nelson	2.48	17	P	Pn	21 50 32.3	+0.9
HHSZ	Highcliff Hill	2.63	209	P	Pb	21 50 36.0	-2.2
HHSZ	Highcliff Hill	2.63	209	P	Pb	21 50 36.1	-2.2
JCZ	Jackson Bay	2.66	258	P	Pn	21 50 35.3	+1.1
WKZ	Wanaka	2.73	242	P	Pn	21 50 35.8	+0.8
TCW	Tory Channel	2.75	31	P	Pn	21 50 37.5	+2.3
QRZ	Quartz Range	2.76	2	P	Pn	21 50 37.2	+1.9
EAZ	Earnscleugh	2.76	232	P	Pn	21 50 35.4	+0.1
PLWZ	Palliser	2.92	47	P	Pn	21 50 36.5	-1.1
MSWZ	Moikau Station	3.02	45	P	Pn	21 50 39.6	+0.6
TUZ	Tuapeka	3.08	219	P	Pn	21 50 40.0	+0.2
CAW	Cannon Point	3.17	39	P	Pn	21 50 39.8	-1.2
MLZ	Mavora Lakes	3.55	238	P	Pn	21 50 46.0	-0.1
SYZ	Scrubby Hill	3.75	217	P	Pn	21 50 50.2	+1.3
MRZ	Mangatainoka R	3.76	40	P	Pn	21 50 48.9	-0.2
BFZ	Birch Farm	4.07	46	P	Pn	21 50 52.3	-1.1
APZ	The Paps	4.50	222	P	Pn	21 50 59.1	-0.2

*ISCJB **05** 21:52:14.2±1.3, 32°.24N±0°.09×115°.2W±0°.2, h23km±15km, Error ellipse: s-maj=31.7km s-min=7.9km az=154.4*
*MEX **05** 21:52:15.4±0.5, 32°.32N×115°.06W, h26km±18km, MD3.8*
*ECX **05** 21:52:15.4±0.6, 32°.22N×115°.23W, h7km, MD1.9, ML2.1*

ISC 05 21:52:13.5±1.4, 32°.27N±0°.06×115°.2W±0°.1, h26km±10km, n8, σ0^{s}41/11, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
MBIG	Mexicali	0.14	344	eP	Pn	21 52 20.0	0.0
MBIG				eS	Sb	21 52 22.6	+0.4
CPBX	Cerro Prieto	0.20	319	eP	Pb	21 52 19.2	0.0
CPBX				eS	Sb	21 52 22.8	-0.4
CPBX				IAML		21 52 26.1	
	comp=N,802nm,0.3s						
CPBX				e		21 52 26.1	
ECBX	El Chinero	0.80	174	eP	Pn	21 52 29.0	0.0
ECBX				eS	Sb	21 52 39.1	-0.2
IKP	In-Ko-Pah, Jac	0.89	295	eP	Pn	21 52 30.6	+0.2
SPIG	San Pedro Mart	1.25	192	eP	Pn	21 52 35.8	+0.2
CBX	Cerro Bola	1.28	272	eP	Pn	21 52 36.1	+0.3
CBX	Cerro Bola	1.28	272	eP	Pn	21 52 36.3	+0.5
CBX				IAML		21 52 53.3	
	comp=N,52nm,0.2s						
CBX				e		21 52 53.3	
TJIG	Tijuana	1.30	278	eP	Pn	21 52 35.3	-0.6

*ISCJB **05** 22:09:52.2±0.7, 25°.70N±0°.04×95°.15E±0°.05, h112km±5km, mb3.6/9, Error ellipse: s-maj=7.1km s-min=6.9km az=135.9*
*NDI **05** 22:09:52.3±3.2, 25°.68N×95°.32E, h30km, ML4.1*
*IDC **05** 22:09:52.3±3.5, 25°.80N×96°.20E, h107km±35km, mb3.3/8, mb1 3.4/9, mb1mx3.1/69, mbtmp3.7/9, Error ellipse: s-maj=47.6km s-min=12.4km az=61.0*

ISC 05 22:09:51.2±1.0, 25°.68N±0°.05×95°.32E±0°.08, h102km±9km, n32, σ1^{s}92/58, mb3.8/9, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
MOKO	MOKOCHONG	0.96	312	eP	Pn	22 10 13.0	+1.4
MOKO				eS	Sn	22 10 23.2	-3.8
MOKO				IAML		22 10 33.3	
	comp=E,4µm,0.4s						
MOKO				IAML		22 10 33.4	
	comp=N,4µm,0.3s						
KOHI	KOHIMA	1.09	272	eP	Pn	22 10 13.6	+0.6
KOHI				eS	Sn	22 10 28.4	-1.1
JORH	JORHAT	1.43	318	eP	Pn	22 10 17.4	+0.7
JORH				eS	Sn	22 10 36.0	-0.1
JORH				IAML		22 10 38.6	
	comp=N,1µm,0.1s						
JORH				IAML		22 10 38.8	
	comp=E,3µm,0.2s						
IMP	Imphal	1.50	236	eP	Pn	22 10 18.9	+1.2
IMP				eS	Sn	22 10 38.5	+0.7
IMP				IAML		22 10 45.6	
	comp=E,392nm,0.2s						
IMP				IAML		22 10 46.0	
	comp=N,551nm,0.5s						
ZIRO	ZIRO	2.26	325	eP	Pn	22 10 27.5	0.0
ZIRO				eS	Sn	22 10 53.5	-1.6
ZIRO				eS	Sn	22 10 53.7	-1.5
ZIRO				IAML		22 10 58.1	
	comp=E,1µm,0.2s						
ZIRO				IAML		22 10 58.5	
	comp=N,3µm,0.2s						
TEZP	TEZPUR	2.45	293	eP	Pn	22 10 30.4	+0.7
TEZP				eS	Sn	22 10 57.7	-1.5
TEZP				eS	Sn	22 10 58.2	-1.1
TEZP				IAML		22 11 01.2	
	comp=N,10µm,0.1s						
TEZP				IAML		22 11 01.3	
	comp=E,6µm,0.2s						
GUWA	GUWAHATI	3.30	280	eP	Pn	22 10 41.4	+0.3
GUWA				eS	Sn	22 11 18.7	-1.0
GUWA				IAML		22 11 19.8	
	comp=N,2µm,0.1s						
GUWA				IAML		22 11 19.9	
	comp=E,1µm,0.1s						
SAIH	SAIHA	3.82	214	eP	Pn	22 10 49.0	+0.7
SAIH				eS	Sn	22 11 30.5	-1.7
SAIH				eS	Sn	22 11 30.6	-1.7
SAIH				IAML		22 11 38.4	
	comp=N,232nm,0.3s						
SAIH				IAML		22 11 39.9	
	comp=E,504nm,0.5s						
AGT	Agartala	4.11	245	eP	Pn	22 10 52.5	+0.6
AGT				eS	Sn	22 11 37.3	-1.6
AGT				IAML		22 11 43.1	
	comp=E,267nm,0.2s						
AGT				IAML		22 11 43.1	
	comp=N,457nm,0.4s						
TURI	Tura	4.50	269	eP	Pn	22 10 59.1	+1.9
TURI				eS	Sn	22 11 49.0	+0.5
TURI				IAML		22 11 53.3	
	comp=N,968nm,0.2s						
TURI				IAML		22 11 53.7	
	comp=E,1µm,0.1s						
DHUB	DHUBRI	4.81	275	eP	Pn	22 11 01.6	+0.2
DHUB				eS	Sn	22 11 53.0	-2.8
DHUB				eS	Sn	22 11 53.2	-2.7
DHUB				IAML		22 11 59.4	
	comp=N,934nm,0.1s						
DHUB				IAML		22 11 59.5	
	comp=E,1µm,0.1s						
GTK	Tadong	6.23	287	eP	Pn	22 11 21.1	+0.2
GTK				eS	Sn	22 12 26.5	-4.4
GTK				eS	Sn	22 12 28.7	-2.1
GTK				IAML		22 12 30.7	
	comp=N,152nm,0.1s						
GTK				IAML		22 12 31.3	
	comp=E,139nm,0.3s						
ODAN	Odare	7.21	281	ePn	Pn	22 11 35.4	+1.1
ODAN				eSn	Sn	22 12 55.1	+0.3
	comp=E,259nm,0.4s						
RAMN	Ramite	7.92	281	ePn	Pn	22 11 44.9	+1.0
RAMN				eSn	Sn	22 13 12.6	+0.5
	comp=E,165nm,0.4s						
CMAR	Chiang Mai Arr	7.93	154	P	Pn	22 11 42.2	-1.6
	comp=E,0.3nm,0.3s,baz=333,slow=13,SNR=38						
JIRN	Jiri	8.40	286	ePn	Pn	22 11 51.1	+0.6
JIRN				eSn	Sn	22 13 22.0	-1.8
GUN	Gumba	8.72	287	ePn	Pn	22 11 55.2	+0.3
GUN				eSn	Sn	22 13 29.6	-2.0
	comp=E,113nm,0.4s						
PKIN	Phulchoki	9.08	284	ePn	Pn	22 12 00.5	+0.9
PKIN				eSn	Sn	22 13 39.5	-0.7
	comp=E,142nm,0.4s						
KKN	Kakani	9.22	285	ePn	Pn	22 12 01.8	+0.3
KKN				eSn	Sn	22 13 42.1	-1.4
	comp=E,40nm,0.2s						
DMN	Daman	9.34	284	ePn	Pn	22 12 03.1	0.0
DMN				eSn	Sn	22 13 45.2	-1.3
	comp=E,43nm,0.4s						
GKN	Gorkha	9.81	286	ePn	Pn	22 12 09.7	+0.1
GKN				eSn	Sn	22 13 55.3	-2.7
	comp=E,70nm,0.3s						
KOLN	Koldanda	10.68	284	ePn	Pn	22 12 20.9	-0.5
KOLN				eSn	Sn	22 14 16.5	-2.6
	comp=E,36nm,0.3s						
PYUN	Piuthan	11.27	285	eSn	Sn	22 14 28.7	-4.6
	comp=E,56nm,0.6s						
MKAR	Makanchi Array	23.48	337	P	P	22 14 52.5	+0.7
	comp=E,0.2nm,0.6s,baz=146,slow=10,SNR=4.7						
SONM	Songino Array	23.78	19	P	P	22 14 52.2	-2.3
	comp=E,1.2nm,0.6s,baz=198,slow=10,SNR=9.7						
AAK	Ala-Archa	24.04	320	P	P	22 15 01.5	+4.6
	comp=E,0.4nm,0.5s,baz=140,slow=7.9,SNR=2.0						
KURBB	Kurchatov Arra	28.05	337	P	P	22 15 36.7	+3.9
	comp=E,0.1nm,0.4s,baz=148,slow=8.8,SNR=3.5						
KURBB				pP	pP	22 15 57.1	+1.6
	comp=E,2.1nm,0.7s,baz=148,slow=9.7,SNR=16						
ZALV	Zalesovo Beam	29.30	347	P	P	22 15 43.6	-0.2
	comp=E,0.3nm,0.3s,baz=165,slow=6.0,SNR=2.7						
FINES	FINESS Array B	57.88	328	P	P	22 19 35.0	+2.9
	comp=E,1.4nm,0.9s,baz=89,slow=7.5,SNR=3.3						
WRA	Warramunga Arr	59.11	136	P	P	22 19 39.0	-2.3
	comp=E,4.3nm,0.4s,baz=321,slow=7.5,SNR=162						
ASAR	Alice Springs	61.66	139	P	P	22 19 56.4	-2.2
	comp=E,3.7nm,0.6s,baz=322,slow=6.7,SNR=61						
STKA	Stephens Creek	72.29	140	P	P	22 21 02.2	-3.5
	comp=E,0.7nm,0.4s,baz=318,slow=10.0,SNR=2.9						

IDC 05 22:16:28.1±3.4, 14°.85S×68°.71W, h127km±40km, mb3.5/2, mb1 3.6/3, mb1mx3.1/39, mbtmp4.0/3, MS3.4/1, Ms1 3.4/1, ms1mx2.7/42, Error ellipse: s-maj=62.7km s-min=35.2km az=8.0, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
LPAZ	La Paz	1.53	159	P	Pn	22 16 54.8	-2.2
	6.6nm,0.3s,baz=317,slow=9.2,SNR=105						
LPAZ				S	Sn	22 17 19.4	+0.4
	2.5nm,0.3s,baz=9.6,slow=25,SNR=11						
SIV	San Ignacio	7.45	100	P	Pn	22 18 15.5	+1.3
	2.8nm,0.3s,baz=282,slow=11,SNR=38						
RPN	Rapa Nui	39.68	245	LR	LR	22 36 16.7	
	comp=Z,53nm,20.7s,baz=18,slow=30						
DBIC	Dimbokro	66.80	76	P	P	22 27 06.5	0.0
	2.1nm,0.5s,baz=234,slow=7.3,SNR=6.2						
TORD	Torodi Ar. Bea	75.03	72	P	P	22 27 55.8	-0.4
	0.7nm,0.7s,baz=259,slow=5.1,SNR=11						
YKA	Yellowknife Ar	85.02	340	P	P	22 28 49.7	+0.9
	0.1nm,0.5s,baz=134,slow=5.6,SNR=4.1						

*IDC **05** 22:25:29.9±1.4, 40°.74N×145°.02E, h0km, mb3.3/6, mb1 3.4/7, mb1mx3.3/68, mbtmp3.3/7, ML3.0/1, Error ellipse: s-maj=32.7km s-min=27.9km az=63.0*
*JMA **05** 22:25:30.8±0.2, 40°.79N×145°.06E, h69km±4km, M3.3*

ISC 05 22:25:34.5±3.4, 40°.88N±0°.06×144°.73E±0°.06, h28km±25km, n25, σ1^{s}72/26, mb3.2/6, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
JEM	Erimo	1.64	314	P	Pn	22 26 01.3	-0.2
JEM				eS	Sn	22 26 21.7	0.0
JCH	Churui	2.02	330	P	Pn	22 26 06.0	-0.7
JCH				eS	Sn	22 26 30.7	-0.3
JNBK	Urakawa-nobuka	2.04	314	P	Pn	22 26 07.5	+0.5
JNBK				eS	Sn	22 26 32.9	+1.3
JAK	Akkeshi	2.12	359	eS	Sn	22 26 31.3	-2.1
JOB	Onbets	2.13	342	P	Pn	22 26 07.8	-0.5
JOB				eS	Sn	22 26 34.2	+0.4
JANG	Nango	2.50	259	P	Pn	22 26 12.3	-1.0
JAR	Ashorobuto	2.52	344	P	Pn	22 26 12.3	-1.3
JAR				eS	Sn	22 26 41.8	-1.6
JBT2	Biratori 2	2.60	318	P	Pn	22 26 15.6	+1.0
NEM2	Nemuro 2	2.60	16	eS	Sn	22 26 41.5	-3.8
JNK	Nakash	2.71	360	P	Pn	22 26 13.9	-2.3
JTM	Tenmabayashi	2.78	269	eS	Sn	22 26 49.2	-0.6
JFR	Furan	2.79	326	eS	Sn	22 26 50.3	+0.3
JOT	Ohata	2.83	282	P	Pn	22 26 18.0	+0.2
JOT				eS	Sn	22 26 51.1	+0.1
JKB	Kayabe	2.96	291	P	Pn	22 26 20.1	+0.5
JKB				eS	Sn	22 26 54.6	+0.4
JOM	Ohasama	2.98	243	P	Pn	22 26 19.5	-0.5
JOM				eS	Sn	22 26 53.3	-1.5
JEW	Eniwo	3.14	310	P	Pn	22 26 23.5	+1.4
JEW				eS	Sn	22 27 00.9	+2.2
JTKR	Abashiri--Toko	3.15	349	P	Pn	22 26 21.7	-0.5
JTKR				eS	Sn	22 26 58.4	-0.5
JMK	Ichinoseki	3.31	236	eS	Sn	22 27 00.4	-2.5
ASAJ	Asahikawa	3.60	335	Pn	Pn	22 26 29.1	+0.6
	0.9nm,0.3s,baz=204,slow=10.0,SNR=3.4						
ASAJ				Sn	Sn	22 27 11.8	+1.7
	0.9nm,0.3s,baz=274,slow=2.6,SNR=3.8						
SONM	Songino Array	28.06	297	P	P	22 31 26.4	+2.9
	0.2nm,0.5s,baz=90,slow=8.6,SNR=3.4						
ZALV	Zalesovo Beam	41.37	309	P	P	22 33 20.8	+3.0
	0.3nm,0.6s,baz=74,slow=11,SNR=2.5						
MKAR	Makanchi Array	44.38	299	P	P	22 33 43.8	+1.4
	0.1nm,0.6s,baz=82,slow=7.9,SNR=2.5						
ILAR	Eielson Array	44.87	34	P	P	22 33 45.6	-0.4
	0.3nm,0.9s,baz=262,slow=6.3,SNR=3.0						
KURBB	Kurchatov Arra	45.78	306	P	P	22 33 53.0	-0.4
	0.2nm,0.2s,baz=76,slow=8.1,SNR=3.0						
WRA	Warramunga Arr	61.27	191	P	P	22 35 46.2	-1.0
	0.6nm,0.8s,baz=13,slow=7.5,SNR=4.5						

*ISCJB **05** 22:34:50.6±0.3, 36°.50N±0°.03×77°.54E±0°.05, h100km, mb3.6/11, Error ellipse: s-maj=6.4km s-min=3.4km az=164.6*
*NNC **05** 22:34:56.9±3.7, 37°.01N×77°.30E, h0km, mb3.9, mpv3.5, Error ellipse: s-maj=27.3km s-min=19.1km az=167.0*
*IDC **05** 22:34:56.4±3.2, 36°.69N×77°.47E, h133km±28km, mb3.4/11, mb1 3.4/17, mb1mx3.2/73, mbtmp3.8/17, Error ellipse: s-maj=24.7km s-min=14.4km az=33.0*

ISC 05 22:34:52.9±0.8, 36°.56N±0°.07×77°.42E±0°.07, h100km, n41, σ1^{s}87/42, mb3.5/11, 7C-9D, Kashmir-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
KSH	Kashi	3.17	339	Pn	Pn	22 35 41.6	+0.6
KSH				Sn	Sn	22 36 16.6	-1.4
KSH				smax	smax		
	comp=N,970nm,0.4s						
KSH				smax	smax		
	comp=E,490nm,0.3s						
CHCP	Chirah Chowk	4.47	231	P	Pn	22 35 59.5	+1.0
SFK	Sufi-Kurgan	4.62	319	⇓Pn	Pn	22 36 03.0	+2.3
	comp=E,1.7nm,0.3s						
SFK				⇓Sn	Sn	22 36 56.1	+2.7
	comp=E,32nm,0.4s						
CEP	Cherat	5.27	240	P	Pn	22 36 08.9	-0.5
CEP				S	Sn	22 37 04.0	-5.0
THW	Thamme Wali	6.00	233	P	Pn	22 36 18.1	-1.1
AAK	Ala-Archa	6.48	340	P	Pn	22 36 28.3	+2.6
	comp=E,1.6nm,0.3s,baz=146,slow=8.1,SNR=30						
AAK	Ala-Archa	6.48	340	⇓Pn	Pn	22 36 28.7	+2.9
	comp=E,3.0nm,0.5s						
AAK				⇓Sn	Sn	22 37 39.7	+1.4
	comp=E,10.0nm,0.7s						
TKM2	Tokmak 2	6.51	348	⇓Pn	Pn	22 36 29.5	+3.3
	comp=E,0.6nm,0.3s						
TKM2				⇑Sn	Sn	22 37 38.6	-0.4
	comp=E,8.1nm,0.7s						
MDOK	Medeo	6.60	358	⇑Pn	Pn	22 36 30.3	+2.8
	comp=E,2.7nm,0.7s						
MDOK				⇓Sn	Sn	22 37 43.4	+2.1
	comp=E,7.5nm,0.5s						
KNDC	Almaty	6.66	357	⇓Sn	Sn	22 37 42.3	-0.2
	comp=E,25nm,0.5s						
PDGK	Podgornoye	6.95	13	⇓Pn	Pn	22 36 34.8	+2.8
	comp=E,4.8nm,0.3s						
PDGK				⇑Sn	Sn	22 37 50.5	+0.9
	comp=E,38nm,1.0s						
MNAS	Manas	7.03	329	⇑Pn	Pn	22 36 35.7	+2.4
	comp=E,1.0nm,0.5s						
MNAS				⇑Sn	Sn	22 37 50.9	-0.8
	comp=E,4.0nm,0.4s						
KK31	Karatay Array	8.42	323	Pn	Pn	22 36 52.3	+0.3
	comp=E,1.1nm,0.3s,baz=142,slow=13,SNR=12						
KK31				⇑Sn	Sn	22 38 22.0	-3.3
	comp=E,2.6nm,0.3s,baz=144,slow=22,SNR=5.4						
PYUN	Piuthan	9.66	149	ePn	Pn	22 37 07.2	-1.9
KOLN	Koldanda	10.20	147	ePn	Pn	22 37 14.4	-2.2
GKN	Gorkha	10.49	142	ePn	Pn	22 37 17.3	-3.1
WMQ	Urumqi	10.69	44	eP	Pn	22 37 25.2	+2.3
WMQ				smax	smax		
	comp=N,120nm,0.7s						
WMQ				smax	smax		
	comp=E,120nm,0.7s						
MAKZ	Makanchi	10.79	17	⇑Pn	Pn	22 37 26.5	+2.2
	comp=E,1.3nm,0.3s						
MAKZ				⇓Sn	Sn	22 39 21.9	-1.0
	comp=E,4.6nm,0.9s						
MK31	Makanchi Array	10.85	18	Pn	Pn	22 37 28.1	+3.0
	comp=E,0.4nm,0.2s,baz=198,slow=13,SNR=93						
MK31				Sn	Sn	22 39 23.5	-1.0
	comp=E,1.6nm,0.4s,baz=198,slow=20,SNR=13						
MKAR	Makanchi Array	10.85	18	P	Pn	22 37 25.6	+0.5
	comp=E,1.2nm,0.3s,baz=201,slow=13,SNR=74						
MKAR				S	Sn	22 39 20.4	-4.0
	comp=E,1.9nm,0.3s,baz=172,slow=25,SNR=15						
DMN	Daman	11.04	142	ePn	Pn	22 37 25.3	-2.7
DMN				eSn	Sn	22 39 19.7	-10
	comp=E,15nm,0.4s						
GUN	Gumba	11.20	138	ePn	Pn	22 37 26.9	-3.3
PKIN	Phulchoki	11.22	141	ePn	Pn	22 37 26.9	-3.5
JIRN	Jiri	11.57	138	ePn	Pn	22 37 32.1	-3.1
JIRN				eSn	Sn	22 39 30.8	-12
	comp=E,23nm,0.3s						
RAMN	Ramite	12.35	138	ePn	Pn	22 37 40.8	-4.7
RAMN				eSn	Sn	22 39 49.0	-12
	comp=E,19nm,0.7s						
KURBB	Kurchatov Arra	14.08	3	P	Pn	22 38 09.2	+1.5
	comp=E,0.1nm,0.3s,baz=192,slow=11,SNR=7.8						
BVAR	Borovoye Array	17.19	346	P	Pn	22 38 46.8	+0.2
	comp=E,0.7nm,0.3s,baz=153,slow=13,SNR=16						
ZALV	Zalesovo Beam	18.13	14	P	P	22 38 55.6	-1.3
	comp=E,0.2nm,0.3s,baz=223,slow=8.1,SNR=3.7						
AKTO	Aktyubinsk	19.68	321	P	P	22 39 14.2	+0.3
	comp=E,0.3nm,0.3s,baz=110,slow=14,SNR=6.7						
ARU	Arti	23.59	333	P	P	22 39 53.6	-0.8
	comp=E,1.6nm,0.3s,baz=118,slow=22,SNR=6.0						
SONM	Songino Array	24.10	53	P	P	22 39 59.2	0.0
	comp=E,1.1nm,0.6s,baz=251,slow=10,SNR=11						
CMAR	Chiang Mai Arr	26.16	128	P	P	22 40 19.9	+2.0
	comp=E,0.5nm,0.4s,baz=308,slow=11,SNR=5.1						
BRTR	Keskin Array B	34.33	289	P	P	22 41 29.1	-0.9
	comp=E,0.1nm,0.3s,baz=45,slow=9.0,SNR=3.3						
FINES	FINESS Array B	40.38	325	P	P	22 42 20.5	-0.1
	comp=E,0.8nm,0.3s,baz=111,slow=10,SNR=14						
ARCES	ARCESS Array B	43.13	336	P	P	22 42 43.2	+0.3
	comp=E,1.1nm,0.4s,baz=107,slow=9.0,SNR=22						
HFS	Hagfors	46.23	322	P	P	22 43 06.7	-0.9
	comp=E,2.5nm,0.6s,baz=110,slow=11,SNR=13						
NB2	NORSAR Subarra	47.45	323	P	P	22 43 16.3	-0.9
	comp=Z,1.4nm,0.6s,baz=91,slow=7.9						
NOA	NORSAR Array B	47.45	323	P	P	22 43 16.6	-0.6
	comp=Z,1.6nm,0.6s,baz=91,slow=7.6,SNR=6.4						
ILAR	Eielson Array	73.21	18	P	P	22 46 11.3	-1.1
	comp=Z,0.4nm,0.7s,baz=325,slow=6.2,SNR=4.1						
WRA	Warramunga Arr	77.74	126	P	P	22 46 38.0	-1.0
	comp=Z,0.2nm,0.7s,baz=331,slow=6.0,SNR=4.1						
YKA	Yellowknife Ar	80.81	6	P	P	22 46 53.6	-1.5
	comp=Z,0.2nm,0.5s,baz=346,slow=5.1,SNR=5.6						

*IDC **05** 22:46:28.7±8.1, 21°.58S×67°.64W, h174km±33km, mb1 3.3/2, mb1mx3.0/39, mbtmp3.7/2, Error ellipse: s-maj=170.1km s-min=31.3km az=53.0*
*ISCJB **05** 22:46:30.8±1.3, 21°.3S±0°.1×67°.2W±0°.2, h200km, mb5.4/1, Error ellipse: s-maj=32.5km s-min=7.3km az=155.8*
*SJA **05** 22:46:30.4±1.1, 21°.24S×67°.09W, h202km±23km, ML3.3, MW3.4*

ISC 05 22:46:31.8±1.6, 21°.2S±0°.1×67°.2W±0°.2, h200km, n11, σ1^{s}40/13, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
YJA	Yavi	1.81	122	eP	Pn	22 47 08.8	-0.1
YJA				eS	Sn	22 47 35.6	-2.0
YJA				IAML		22 47 37.6	
	comp=Z,88nm,0.3s						
HJA	Humahuaca	2.56	141	eP	Pn	22 47 16.5	-0.3
HJA				IAML		22 47 17.2	
	comp=Z,160nm,0.6s						
AZAP	Zapla	3.56	147	eP	Pn	22 47 26.8	-1.6
AZAP				IAML		22 47 27.7	
	comp=Z,37nm,0.2s						
ASTB	Santa Barbara	3.69	138	eP	Pn	22 47 28.9	-1.0

SLA	**San Lorenzo**	**3.81**	**157**	eP	**Pn**	**22 47 30.5**	**-0.8**
SLA				IAML		22 47 31.6	
	comp=Z,24nm,0.6s						
ALOL	**LOMAS DE OLMED**	**3.92**	**132**	eP	**Pn**	**22 47 31.2**	**-1.4**
LPAZ	**La Paz**	**4.99**	**349**	P	**Pn**	**22 47 46.4**	**-0.4**
	comp=Z,3.4nm,0.3s,baz=174,slow=6.0,SNR=30						
LPAZ				S	**Sn**	**22 48 44.0**	**-1.7**
	baz=49,slow=20,SNR=0.8						
LPAZ	**La Paz**	**4.99**	**349**	eP	**Pn**	**22 47 46.3**	**-0.4**
CPUP	**Villa Florida**	**10.34**	**121**	P	**Pn**	**22 48 56.4**	**+1.0**
	comp=Z,0.1nm,0.3s,baz=287,slow=12,SNR=1.9						
TORD	**Torodi Ar. Bea**	**75.74**	**70**	P	**P**	**22 57 57.5**	**+1.6**
	comp=Z,80nm,0.8s,baz=256,slow=5.7,SNR=5.5						
MKAR	**Makanchi Array**	**144.45**	**37**	PKPbc	**PKPdf**	**23 05 45.7**	**+1.5**
	comp=Z,0.4nm,0.5s,baz=319,slow=3.0,SNR=6.3						

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*IDC **05** 22:55:37.6±1.4, 57°.24N×147°.16W, h0km, mb3.7/5, mb1 3.8/9, mb1mx3.5/75, mbtmp3.7/9, ML3.4/4, MS3.2/4, Ms1 3.3/4, ms1mx2.7/66, Error ellipse: s-maj=24.2km s-min=19.9km az=10.0*

*ISCJB **05** 22:55:38.0±0.6, 57°.13N±0°.05×146°.98W±0°.04, h33km, mb3.6/5, MS3.8/2, Error ellipse: s-maj=6.7km s-min=3.4km az=177.4*

*NEIC **05** 22:55:41.8±0.0, 57°.12N×147°.09W, h10km, ML3.8(AEIC), After AEIC.*

ISC 05 22:55:41.1±0.9**, 57°.15N**±0°.07×**147°.01W**±0°.05**, h35km, n99,** σ1s**22**/98**, mb3.6**/5**, Gulf of Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MID	**Middleton Isla**	**2.31**	**9**	ePn	**Pn**	**22 56 15.5**	**-1.1**
KDAK	**Kodiak Island**	**3.08**	**284**	Pn	**Pn**	**22 56 25.2**	**-1.9**
	20nm,0.3s,baz=84,slow=6.2,SNR=97						
KDAK				Sn	**Sn**	**22 56 59.3**	**-3.3**
	19nm,0.3s,baz=250,slow=21,SNR=22						
KDAK				LR	LR	22 57 24.8	
	comp=Z,56nm,21.9s,baz=92,slow=36						
KDAK	**Kodiak Island**	**3.08**	**284**	ePn	**Pn**	**22 56 25.6**	**-1.5**
KDAK				eSn	**Sn**	**22 57 01.9**	**-0.7**
KAIM	**Kayak Island**	**3.10**	**25**	P	**Pn**	**22 56 26.6**	**-0.9**
BRLK	**Bradley Lake**	**3.32**	**324**	P	**Pn**	**22 56 29.4**	**-1.2**
BRLK				S	**Sn**	**22 57 06.7**	**-2.0**
SUCK	**Suckling Hills**	**3.39**	**29**	P	**Pn**	**22 56 30.8**	**-0.6**
OHAK	**Old Harbor**	**3.42**	**274**	ePn	**Pn**	**22 56 29.5**	**-2.3**
RAGM	**Ragged Mountai**	**3.47**	**20**	P	**Pn**	**22 56 31.9**	**-0.7**
EYAK	**Cordova Ski Ar**	**3.47**	**10**	P	**Pn**	**22 56 32.0**	**-0.6**
NICHA	**Nichawak Mount**	**3.48**	**26**	P	**Pn**	**22 56 32.2**	**-0.5**
SLKM	**Skilak Lake**	**3.76**	**335**	P	**Pn**	**22 56 35.5**	**-1.0**
KULT	**Kultieth River**	**3.83**	**34**	P	**Pn**	**22 56 36.7**	**-0.9**
KULT				S	**Sn**	**22 57 18.5**	**-2.9**
KHIT	**Khitrov Hills**	**3.84**	**29**	P	**Pn**	**22 56 36.8**	**-1.0**
FOSS	**Fourpeaked Sta**	**3.92**	**298**	P	**Pn**	**22 56 38.2**	**-0.6**
JPK	**Jack Peak**	**3.92**	**3**	P	**Pn**	**22 56 38.3**	**-0.6**
CDD	**Cape Douglas**	**3.95**	**300**	P	**Pn**	**22 56 38.4**	**-0.8**
BARK	**Barkley Ridge**	**4.03**	**34**	P	**Pn**	**22 56 39.5**	**-0.8**
BMRM	**Bremner River**	**4.03**	**17**	ePn	**Pn**	**22 56 39.6**	**-0.7**
MESA	**MESA**	**4.03**	**39**	P	**Pn**	**22 56 39.3**	**-1.1**
DIV	**Divide**	**4.04**	**9**	ePn	**Pn**	**22 56 40.0**	**-0.5**
AUH	**Augustine H**	**4.06**	**306**	P	**Pn**	**22 56 40.5**	**-0.1**
RC01	**Rabbit Creek A**	**4.19**	**342**	ePn	**Pn**	**22 56 42.0**	**-0.5**
BAGL	**Bagley Icefiel**	**4.22**	**35**	P	**Pn**	**22 56 42.0**	**-0.8**
ISLE	**Juniper Island**	**4.23**	**33**	P	**Pn**	**22 56 42.2**	**-0.9**
ILS	**Iliamna Low So**	**4.24**	**314**	P	**Pn**	**22 56 42.4**	**-0.9**
CHX	**Chaix Hills**	**4.25**	**44**	P	**Pn**	**22 56 42.6**	**-0.7**
IVE	**Iliamna Volcan**	**4.26**	**315**	P	**Pn**	**22 56 42.4**	**-1.1**
RKAV	**Rock Avalanche**	**4.33**	**41**	P	**Pn**	**22 56 43.8**	**-0.7**
KARR	**Katmai Rainbow**	**4.33**	**291**	P	**Pn**	**22 56 43.7**	**-0.6**
ILW	**Iliamna West**	**4.33**	**315**	P	**Pn**	**22 56 43.6**	**-1.0**
KNK	**Knik Glacier**	**4.34**	**351**	P	**Pn**	**22 56 44.0**	**-0.6**
KLU	**Klutina**	**4.39**	**7**	P	**Pn**	**22 56 44.8**	**-0.6**
SAMH	**Samovar Hills**	**4.42**	**45**	P	**Pn**	**22 56 44.9**	**-0.8**
RSO	**Redoubt South**	**4.47**	**320**	ePn	**Pn**	**22 56 45.6**	**-0.8**
VRDI	**Verde Repeater**	**4.48**	**23**	P	**Pn**	**22 56 45.7**	**-1.0**
KIAG	**Kiagna River**	**4.49**	**30**	P	**Pn**	**22 56 45.7**	**-1.0**
RDWB	**Redoubt West**	**4.51**	**320**	P	**Pn**	**22 56 45.6**	**-1.4**
RDJH	**Redoubt Jeurge**	**4.58**	**321**	P	**Pn**	**22 56 46.6**	**-1.3**
BALM	**Baldy**	**4.58**	**30**	P	**Pn**	**22 56 47.0**	**-0.9**
PMR	**Palmer**	**4.59**	**347**	ePn	**Pn**	**22 56 47.9**	**0.0**
KJL	**Kejulik**	**4.69**	**285**	P	**Pn**	**22 56 48.6**	**-0.8**
SCM	**Sheep Creek Mo**	**4.70**	**358**	P	**Pn**	**22 56 49.7**	**+0.1**
SML	**Sawmill**	**4.72**	**352**	ePn	**Pn**	**22 56 50.4**	**+0.6**
SML				eSn	**Sn**	**22 57 43.5**	**+0.2**
SUA	**Susitna One**	**4.73**	**338**	P	**Pn**	**22 56 49.2**	**-0.8**
PNL	**Peninsula**	**4.74**	**55**	P	**Pn**	**22 56 48.0**	**-1.9**
GHO	**Glory Hole Cre**	**4.74**	**349**	P	**Pn**	**22 56 50.3**	**+0.2**
BCPM	**Bancas Point**	**4.78**	**51**	P	**Pn**	**22 56 49.3**	**-1.3**
BARN	**Barnard Glacie**	**4.80**	**33**	P	**Pn**	**22 56 50.3**	**-0.6**
KELA	**Mount Kelaz**	**4.84**	**289**	P	**Pn**	**22 56 50.6**	**-0.9**
CKL	**Chakachamna La**	**4.90**	**328**	P	**Pn**	**22 56 51.4**	**-0.8**
STLK	**Strandline Lak**	**5.01**	**333**	P	**Pn**	**22 56 53.2**	**-0.6**
SPWE	**Spurr West**	**5.02**	**328**	P	**Pn**	**22 56 53.4**	**-0.6**
SKT	**Skwentna**	**5.36**	**337**	P	**Pn**	**22 56 58.1**	**-0.5**
YUK7	**Dusty Glacier**	**5.72**	**50**	P	**Pn**	**22 57 01.9**	**-1.7**
PAX	**Paxson**	**5.89**	**7**	ePn	**Pn**	**22 57 06.6**	**+0.7**
	11nm,0.4s						
SVW2	**Sparrevohn**	**5.92**	**315**	P	**Pn**	**22 57 04.6**	**-1.7**
DHY	**Denali Highway**	**5.95**	**358**	P	**Pn**	**22 57 06.7**	**0.0**
PLBC	**Pleasant Camp**	**6.07**	**63**	P	**Pn**	**22 57 06.2**	**-2.1**
HYT	**Haines Junctio**	**6.14**	**49**	P	**Pn**	**22 57 07.8**	**-1.6**
YUK5	**Granite Creek**	**6.17**	**46**	P	**Pn**	**22 57 08.7**	**-1.1**
PPLA	**Purkeypile**	**6.32**	**338**	ePn	**Pn**	**22 57 12.1**	**+0.2**
	18nm,0.6s						
RND	**Reindeer**	**6.34**	**352**	P	**Pn**	**22 57 12.7**	**+0.6**
BCA3	**Beaver Creek A**	**6.48**	**22**	P	**Pn**	**22 57 13.3**	**-0.6**
TRF	**Thorofare Moun**	**6.53**	**347**	ePn	**Pn**	**22 57 15.5**	**+0.8**
	27nm,0.4s						
TRF				eSn	**Sn**	**22 58 27.7**	**-0.2**
SKAG	**Skagway**	**6.58**	**65**	P	**Pn**	**22 57 13.8**	**-1.4**
BESE	**Bessie Mountai**	**6.65**	**72**	P	**Pn**	**22 57 13.4**	**-2.8**
MCK	**McKinley**	**6.67**	**353**	ePn	**Pn**	**22 57 17.5**	**+0.9**
	21nm,0.6s						
MCK				eSn	**Sn**	**22 58 32.2**	**+0.9**
DOT	**Dot Lake**	**6.68**	**11**	ePn	**Pn**	**22 57 17.6**	**+0.9**
	16nm,0.5s						
KTH	**Kantishna Hill**	**6.71**	**345**	ePn	**Pn**	**22 57 17.8**	**+0.7**
	37nm,0.7s						
CAST	**Castle Rocks**	**6.78**	**340**	P	**Pn**	**22 57 17.5**	**-0.4**
SCRK	**Sand Creek**	**7.01**	**11**	P	**Pn**	**22 57 20.6**	**-0.7**
WHY	**Whitehorse**	**7.20**	**56**	P	**Pn**	**22 57 22.7**	**-1.1**
BPAW	**Bear Paw Mtn.**	**7.24**	**346**	ePn	**Pn**	**22 57 24.2**	**-0.1**
	4.0nm,0.6s						
TT01	**Tatalina**	**7.32**	**326**	P	**Pn**	**22 57 24.1**	**-1.4**
WRH	**Wood River Hil**	**7.37**	**356**	P	**Pn**	**22 57 25.5**	**-0.5**
CCB	**Clear Creek Bu**	**7.53**	**357**	P	**Pn**	**22 57 27.8**	**-0.5**
ILAR	**Eielson Array**	**7.65**	**0**	Pn	**Pn**	**22 57 27.6**	**-2.3**
	0.5nm,0.3s,baz=183,slow=14,SNR=17						
ILAR				Sn	**Sn**	**22 58 52.4**	**-2.8**
	1.0nm,0.3s,baz=198,slow=16,SNR=4.7						
ILB	**Eielson Array**	**7.65**	**0**	P	**Pn**	**22 57 29.0**	**-0.9**
DAWY	**Dawson**	**7.88**	**25**	ePn	**Pn**	**22 57 32.9**	**-0.2**
	5.7nm,0.5s						
EGAK	**Eagle**	**8.16**	**18**	ePn	**Pn**	**22 57 37.0**	**0.0**
	5.0nm,0.6s						
DLBC	**Dease Lake**	**9.16**	**75**	ePn	**Pn**	**22 57 49.0**	**-1.8**
	2.7nm,0.4s						
COLD	**Coldfoot**	**10.22**	**353**	ePn	**Pn**	**22 58 05.3**	**+0.2**
	7.6nm,0.7s						
BBB	**Bella Bella**	**12.00**	**106**	LR	LR	23 02 02.8	
	comp=Z,49nm,18.3s,baz=193,slow=32						
INK	**Inuvik**	**12.75**	**23**	Pn	**Pn**	**22 58 38.2**	**-1.4**
	0.1nm,0.3s,baz=193,slow=11,SNR=4.4						
GAMB	**Gambell**	**13.80**	**309**	ePn	**Pn**	**22 58 53.9**	**0.0**
	5.0nm,1.1s						
YKA	**Yellowknife Ar**	**17.02**	**58**	Pn	**Pn**	**22 59 34.9**	**-1.1**
	0.2nm,0.3s,baz=264,slow=13,SNR=11						
YBH	**Yreka Blue Hor**	**21.91**	**124**	P	**P**	**23 00 35.1**	**+4.0**
	2.3nm,0.8s,baz=287,slow=7.6,SNR=5.5						
RES	**Resolute Bay**	**26.21**	**28**	P	**P**	**23 01 11.8**	**-0.1**
	0.7nm,0.5s,baz=256,slow=9.4,SNR=5.1						
H11N2	**WAKE ISLAND Hy**	**50.40**	**242**	T	T	23 59 06.8	
	baz=31,slow=76,SNR=11						
H11N3	**WAKE ISLAND Hy**	**50.40**	**242**	T	T	23 59 07.2	
	baz=31,slow=76,SNR=13						
H11N1	**WAKE ISLAND Hy**	**50.41**	**242**	T	T	23 59 12.0	
	baz=31,slow=76,SNR=10						
H11S1	**WAKE ISLAND Hy**	**51.54**	**241**	T	T	00 00 30.5	
	baz=30,slow=76,SNR=6.1						
H11S2	**WAKE ISLAND Hy**	**51.55**	**241**	T	T	00 00 27.9	
	baz=30,slow=76,SNR=6.5						
H11S3	**WAKE ISLAND Hy**	**51.56**	**241**	T	T	00 00 30.2	
	baz=30,slow=76,SNR=5.8						
SONM	**Songino Array**	**59.02**	**311**	P	**P**	**23 05 38.2**	**+1.1**
	0.7nm,0.8s,baz=38,slow=9.0,SNR=5.9						
ZALV	**Zalesovo Beam**	**61.50**	**328**	P	**P**	**23 05 54.4**	**+0.6**
	0.6nm,0.6s,baz=17,slow=10,SNR=3.4						
ESDC	**Sonseca Array**	**78.64**	**28**	P	**P**	**23 07 40.0**	**+0.9**
	0.3nm,0.5s,baz=331,slow=6.1,SNR=3.6						
TGY	**Tagaytay City**	**79.39**	**279**	LR	LR	23 41 13.9	
	comp=Z,34nm,21.9s,baz=220,slow=34						
CMAR	**Chiang Mai Arr**	**86.96**	**300**	LR	LR	23 52 26.0	
	comp=Z,61nm,19.6s,baz=184,slow=39						

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*ISCJB **05** 23:05:00.8±0.3, 44°.13S±0°.02×169°.71E±0°.03, h12km, mb3.4/2, MS3.8/1, Error ellipse: s-maj=4.3km s-min=2.6km az=135.6*

*WEL **05** 23:05:00.8±0.4, 44°S±3°×17°0E±°, h5km, ML4.5/8*

*NEIC **05** 23:05:01.0±0.0, 44°.16S×169°.71E, h5km, ML4.5(WEL), After WEL.*

NEIC Felt at Queenstown and Wanaka.

*IDC **05** 23:05:01.2±1.2, 44°.07S×169°.70E, h0km, mb3.4/2, mb1 3.7/3, mb1mx3.6/37, mbtmp3.6/3, ML3.4/1, MS3.5/2, Ms1 3.5/2, ms1mx3.0/21, Error ellipse: s-maj=48.7km s-min=10.7km az=167.0*

ISC 05 23:05:01.4±0.6**, 44°.15S**±0°.03×**169°.72E**±0°.03**, h12km, n92,** σ1s**29**/91**, 3C-3D, South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LBZ	**Lake Benmore**	**0.41**	**125**	⇓Pg	**Pg**	**23 05 09.7**	**+0.1**
LBZ	**Lake Benmore**	**0.41**	**125**	P	**Pg**	**23 05 09.7**	**+0.1**
LBZ	**Lake Benmore**	**0.41**	**125**	S	**Sg**	**23 05 15.6**	**+0.5**
FOZ	**Fox Glacier**	**0.62**	**7**	⇑P*	**Pg**	**23 05 12.9**	**-0.6**
FOZ	**Fox Glacier**	**0.62**	**7**	P	**Pg**	**23 05 12.9**	**-0.6**
FOZ	**Fox Glacier**	**0.62**	**7**	S	**Sg**	**23 05 20.0**	**-1.7**
JCZ	**Jackson Bay**	**0.67**	**276**	⇓P*	**Pg**	**23 05 14.4**	**-0.1**
JCZ	**Jackson Bay**	**0.67**	**276**	P	**Pg**	**23 05 14.5**	**-0.1**
JCZ	**Jackson Bay**	**0.67**	**276**	S	**Sg**	**23 05 22.8**	**-0.6**
WKZ	**Wanaka**	**0.84**	**216**	P*	**Pg**	**23 05 16.8**	**-0.9**
WKZ	**Wanaka**	**0.84**	**216**	P	**Pg**	**23 05 16.8**	**-0.9**
WKZ	**Wanaka**	**0.84**	**216**	S	**Sg**	**23 05 29.4**	**+0.7**
RPZ	**Rata Peaks**	**1.06**	**66**	Pg	**Pb**	**23 05 21.2**	**-0.5**
	129nm,0.3s,baz=144,slow=4.5,SNR=236						
RPZ				Lg	Lg	23 05 34.5	
	624nm,0.3s,baz=81,slow=19,SNR=34						
RPZ	**Rata Peaks**	**1.06**	**66**	P	**Pb**	**23 05 21.3**	**-0.5**
ODZ	**Otahua Downs**	**1.11**	**144**	P*	**Pb**	**23 05 21.8**	**-0.8**
ODZ	**Otahua Downs**	**1.11**	**144**	P	**Pb**	**23 05 21.8**	**-0.8**
EAZ	**Earnscleugh**	**1.12**	**195**	P*	**Pb**	**23 05 21.7**	**-1.1**
EAZ	**Earnscleugh**	**1.12**	**195**	P	**Pb**	**23 05 21.7**	**-1.1**
WVZ	**Waitaha Valley**	**1.31**	**35**	P*	**Pn**	**23 05 25.1**	**-0.3**
WVZ	**Waitaha Valley**	**1.31**	**35**	P	**Pn**	**23 05 25.2**	**-0.3**
MSZ	**Milford Sound**	**1.39**	**247**	Pn	**Pn**	**23 05 26.4**	**-0.1**
MSZ	**Milford Sound**	**1.39**	**247**	P	**Pn**	**23 05 26.7**	**+0.1**
MSZ	**Milford Sound**	**1.39**	**247**	S	**Sn**	**23 05 44.3**	**-0.5**
MLZ	**Mavora Lakes**	**1.67**	**223**	Pn	**Pn**	**23 05 30.4**	**-0.1**
MLZ	**Mavora Lakes**	**1.67**	**223**	P	**Pn**	**23 05 30.6**	**+0.1**
MLZ	**Mavora Lakes**	**1.67**	**223**	S	**Sb**	**23 05 54.1**	**+1.1**
TUZ	**Tuapeka**	**1.81**	**182**	⇑Pn	**Pn**	**23 05 31.8**	**-0.6**
TUZ	**Tuapeka**	**1.81**	**182**	P	**Pn**	**23 05 31.8**	**-0.6**
HHSZ	**Highcliff Hill**	**1.84**	**160**	Pn	**Pn**	**23 05 33.5**	**+0.6**
HHSZ	**Highcliff Hill**	**1.84**	**160**	P	**Pn**	**23 05 33.6**	**+0.7**
HHSZ	**Highcliff Hill**	**1.84**	**160**	S	**Sb**	**23 05 59.5**	**+1.4**
OXZ	**Oxford**	**1.87**	**65**	Pn	**Pn**	**23 05 33.3**	**0.0**
OXZ	**Oxford**	**1.87**	**65**	P	**Pn**	**23 05 33.4**	**0.0**
INZ	**Inchbonnie**	**1.90**	**42**	P	**Pn**	**23 05 34.8**	**+1.2**
INZ	**Inchbonnie**	**1.90**	**42**	S	**Sg**	**23 06 01.4**	**-1.1**
EYCZ	**Eyrewell**	**2.05**	**70**	P	**Pn**	**23 05 36.3**	**+0.6**
WHZ	**Wether Hill Ro**	**2.15**	**215**	Pn	**Pn**	**23 05 36.3**	**-0.8**
WHZ	**Wether Hill Ro**	**2.15**	**215**	P	**Pn**	**23 05 36.4**	**-0.7**
WHZ	**Wether Hill Ro**	**2.15**	**215**	S	**Sn**	**23 06 02.8**	**-0.9**
MQZ	**McQueen's Vall**	**2.17**	**79**	Pn	**Pn**	**23 05 37.0**	**-0.4**
MQZ	**McQueen's Vall**	**2.17**	**79**	P	**Pn**	**23 05 37.0**	**-0.4**
MQZ	**McQueen's Vall**	**2.17**	**79**	S	**Sg**	**23 06 10.5**	**-0.6**
CRLZ	**Canterbury Las**	**2.18**	**76**	Pn	**Pn**	**23 05 37.8**	**+0.3**
CRLZ	**Canterbury Las**	**2.18**	**76**	P	**Pn**	**23 05 38.1**	**+0.6**
DCZ	**Deep Cove**	**2.25**	**233**	Pn	**Pn**	**23 05 38.3**	**-0.1**
DCZ	**Deep Cove**	**2.25**	**233**	P	**Pn**	**23 05 38.8**	**+0.4**
LTZ	**Lake Taylor**	**2.31**	**55**	Pn	**Pn**	**23 05 39.6**	**+0.3**
LTZ	**Lake Taylor**	**2.31**	**55**	P	**Pn**	**23 05 39.9**	**+0.6**
AKCZ	**Akaroa Harbour**	**2.32**	**84**	P	**Pn**	**23 05 39.3**	**-0.1**
SYZ	**Scrubby Hill**	**2.42**	**189**	Pn	**Pn**	**23 05 40.0**	**-0.8**
SYZ	**Scrubby Hill**	**2.42**	**189**	P	**Pn**	**23 05 40.0**	**-0.8**
DSZ	**Denniston Nort**	**2.85**	**33**	Pn	**Pn**	**23 05 47.2**	**+0.5**
DSZ	**Denniston Nort**	**2.85**	**33**	P	**Pn**	**23 05 47.3**	**+0.5**
APZ	**The Paps**	**2.94**	**204**	Pn	**Pn**	**23 05 46.5**	**-1.5**
APZ	**The Paps**	**2.94**	**204**	P	**Pn**	**23 05 46.5**	**-1.5**
PYZ	**Puysegur Point**	**2.94**	**226**	Pn	**Pn**	**23 05 47.8**	**-0.2**
PYZ	**Puysegur Point**	**2.94**	**226**	P	**Pn**	**23 05 48.3**	**+0.2**
KHZ	**Kahutara**	**3.29**	**59**	Pn	**Pn**	**23 05 53.0**	**+0.3**
KHZ	**Kahutara**	**3.29**	**59**	P	**Pn**	**23 05 53.1**	**+0.4**
THZ	**Tophouse**	**3.34**	**46**	Pn	**Pn**	**23 05 54.0**	**+0.5**
THZ	**Tophouse**	**3.34**	**46**	P	**Pn**	**23 05 54.1**	**+0.5**
QRZ	**Quartz Range**	**3.92**	**33**	Pn	**Pn**	**23 06 02.2**	**+0.7**
QRZ	**Quartz Range**	**3.92**	**33**	P	**Pn**	**23 06 02.4**	**+1.0**
NNZ	**Nelson**	**3.99**	**44**	Pn	**Pn**	**23 06 02.9**	**+0.6**
NNZ	**Nelson**	**3.99**	**44**	P	**Pn**	**23 06 02.9**	**+0.6**
TUWZ	**Tuamarina**	**4.13**	**50**	P	**Pn**	**23 06 04.8**	**+0.5**
TCW	**Tory Channel**	**4.46**	**50**	ePn	**Pn**	**23 06 13.1**	**+4.2**
TCW	**Tory Channel**	**4.46**	**50**	P	**Pn**	**23 06 09.6**	**+0.7**
BHW	**Baring Head**	**4.68**	**56**	P	**Pn**	**23 06 10.6**	**-1.3**
CAW	**Cannon Point**	**4.98**	**54**	P	**Pn**	**23 06 15.6**	**-0.4**
PAWZ	**Paruwai Farm**	**5.03**	**59**	P	**Pn**	**23 06 16.5**	**-0.3**
KIW	**Kapiti Island**	**5.05**	**51**	P	**Pn**	**23 06 17.3**	**+0.2**
MTW	**Mount Morrison**	**5.21**	**57**	P	**Pn**	**23 06 19.3**	**+0.1**
MRZ	**Mangatainoka R**	**5.57**	**53**	Pn	**Pn**	**23 06 23.0**	**-1.1**
MRZ	**Mangatainoka R**	**5.57**	**53**	P	**Pn**	**23 06 23.0**	**-1.1**
KHEZ	**Kahui Hut**	**5.82**	**35**	Pn	**Pn**	**23 06 29.4**	**+1.8**
PREZ	**Palmer Road**	**5.84**	**36**	Pn	**Pn**	**23 06 29.8**	**+2.0**
WNVZ	**Wahianoa**	**6.52**	**44**	Pn	**Pn**	**23 06 40.9**	**+3.5**
FWVZ	**Far West T-bar**	**6.56**	**44**	Pn	**Pn**	**23 06 40.7**	**+2.8**
OTVZ	**Oturere**	**6.68**	**44**	Pn	**Pn**	**23 06 42.5**	**+3.0**
HIZ	**Hauiti**	**6.83**	**36**	Pn	**Pn**	**23 06 42.0**	**+0.6**
URZ	**Urewera**	**8.10**	**46**	Pn	**Pn**	**23 07 01.5**	**+2.7**
	0.5nm,0.3s,baz=223,slow=18,SNR=2.6						
URZ				Sn	**Sn**	**23 08 25.2**	**-5.2**
	1.4nm,0.3s,baz=83,slow=23,SNR=8.0						
URZ				LR	LR	23 09 53.4	
	comp=Z,176nm,19.2s,baz=241,slow=36						
ASAR	**Alice Springs**	**35.68**	**293**	P	**P**	**23 12 01.1**	**+1.5**
	0.3nm,0.4s,baz=132,slow=8.9,SNR=4.1						
WRA	**Warramunga Arr**	**38.05**	**298**	P	**P**	**23 12 18.9**	**-0.8**
	0.2nm,0.3s,baz=137,slow=7.8,SNR=26						
NWAO	**Narrogin (SRO)**	**41.91**	**267**	LR	LR	23 25 20.0	
	comp=Z,136nm,20.9s,slow=29						
SYO	**Syowa Base**	**61.29**	**198**	⇓eX	P	23 15 10.2	-5.9
SYO	**Syowa Base**	**61.29**	**198**	⇑epP	**P**	**23 15 16.9**	**+0.8**
KURBB	**Kurchatov Arra**	**123.00**	**311**	PKP	**PKPdf**	**23 23 59.7**	**+2.8**
	0.2nm,0.4s,baz=122,slow=2.1,SNR=3.3						
BRTR	**Keskin Array B**	**147.32**	**278**	PKPbc	**PKPbc**	**23 24 45.0**	**+0.2**
	0.4nm,0.7s,baz=132,slow=5.2,SNR=4.4						
TORD	**Torodi Ar. Bea**	**147.44**	**202**	PKPbc	**PKPbc**	**23 24 45.8**	**+0.3**
	0.5nm,0.6s,baz=166,slow=2.3,SNR=4.2						
ARCES	**ARCESS Array B**	**148.78**	**337**	PKPbc	**PKPab**	**23 24 49.6**	**-1.7**
	3.3nm,0.9s,baz=46,slow=3.5,SNR=4.3						
FINES	**FINESS Array B**	**152.53**	**322**	PKPbc	**PKPbc**	**23 24 59.2**	**+2.6**
	1.2nm,0.7s,baz=101,slow=1.9,SNR=4.5						

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*ISCJB **05** 23:16:30.7±0.8, 20°.2S±0°.2×178°.2W±0°.2, h500km, mb3.4/8, Error ellipse: s-maj=31.4km s-min=14.8km az=142.2*

*IDC **05** 23:16:33.1±2.4, 20°.17S×178°.18W, h519km±27km, mb3.1/8, mb1 3.3/9, mb1mx3.0/51, mbtmp4.0/9, Error ellipse: s-maj=27.6km s-min=16.6km az=140.0*

ISC 05 23:16:31.9±0.8**, 20°.1S**±0°.2×**178°.3W**±0°.2**, h500km, n12,** σ1s**26**/13**, mb3.4**/8**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**8.77**	**46**	P	**P**	**23 18 37.6**	**+1.0**
	4.7nm,0.3s,baz=234,slow=24,SNR=3.9						
STKA	**Stephens Creek**	**37.71**	**244**	P	**P**	**23 23 05.1**	**+0.7**
	2.6nm,0.8s,baz=83,slow=13,SNR=4.1						
ASAR	**Alice Springs**	**44.35**	**256**	P	**P**	**23 23 57.7**	**+0.3**
	3.4nm,0.8s,baz=98,slow=7.5,SNR=31						
ASAR				PcP	**pP**	**23 25 29.2**	**-0.9**
	0.5nm,0.5s,baz=97,slow=4.4,SNR=5.3						
WRA	**Warramunga Arr**	**44.39**	**262**	P	**P**	**23 23 58.1**	**+0.3**
	0.6nm,0.4s,baz=97,slow=7.8,SNR=27						
VNDA	**Vanda**	**58.25**	**185**	P	**P**	**23 25 36.7**	**-0.7**
	0.5nm,0.5s,baz=15,slow=6.8,SNR=6.9						
SEY	**Seymchan**	**85.96**	**347**	P	**P**	**23 28 17.3**	**-0.9**
	1.2nm,0.3s,baz=132,slow=6.9,SNR=4.0						
TXAR	**Lajitas Array**	**87.08**	**57**	P	**P**	**23 28 24.5**	**0.0**
	0.3nm,0.7s,baz=216,slow=7.7,SNR=3.6						
ILAR	**Eielson Array**	**88.01**	**13**	P	**P**	**23 28 26.4**	**-1.5**
	0.2nm,0.7s,baz=198,slow=5.6,SNR=3.4						
SONM	**Songino Array**	**95.30**	**319**	P	**P**	**23 29 02.2**	**+0.2**
	0.2nm,0.7s,baz=120,slow=8.5,SNR=2.0						
BRTR	**Keskin Array B**	**146.40**	**313**	PKPbc	**PKPdf**	**23 35 15.5**	**+0.9**
	0.4nm,0.5s,baz=116,slow=3.4,SNR=3.3						
MMAI	**Mount Meron Ar**	**147.40**	**300**	PKPbc	**PKPdf**	**23 35 19.3**	**+2.9**
	0.4nm,0.4s,baz=69,slow=6.2,SNR=8.5						
GERES	**GERESS Array B**	**149.78**	**344**	PKPbc	**PKPbc**	**23 35 24.3**	**-0.8**
	0.4nm,0.6s,baz=45,slow=5.7,SNR=3.1						

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*IDC **05** 23:45:29.3±3.0, 36°.24N×70°.58E, h183km±27km, mb3.3/9, mb1 3.3/15, mb1mx3.0/72, mbtmp3.7/15, Error ellipse: s-maj=23.7km s-min=14.5km az=175.0*

*ISCJB **05** 23:45:33.2±0.5, 36°.63N±0°.04×70°.30E±0°.06, h204km, mb3.6/9, Error ellipse: s-maj=7.0km s-min=5.9km az=8.4*

*NNC **05** 23:45:38.1±2.1, 36°.96N×70°.39E, h224km±31km, mb2.2, mpv3.4, Error ellipse: s-maj=20.7km s-min=17.3km az=46.0*

ISC 05 23:45:33.0±0.7**, 36°.57N**±0°.07×**70°.38E**±0°.07**, h204km, n34,** σ1s**57**/40**, mb3.7**/9**, 3C-7D, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**4.22**	**35**	⇓P	**Pn**	**23 46 39.3**	**+1.4**
	6.3nm,0.5s						
SFK				⇑S	**S**	**23 47 29.3**	**+0.8**
	42nm,0.5s						
AML	**Almayashu**	**6.12**	**24**	P	**Pn**	**23 47 03.1**	**+1.0**
	SNR=72						
MNAS	**Manas**	**6.13**	**15**	⇓P	**Pn**	**23 47 03.4**	**+1.3**
	1.1nm,0.5s						
MNAS				⇓S	**S**	**23 48 11.4**	**-1.0**
	13nm,0.9s						
UCH	**Uchtor**	**6.49**	**28**	P	**Pn**	**23 47 08.2**	**+1.2**
	SNR=12						
KK31	**Karatay Array**	**6.52**	**1**	⇑P	**Pn**	**23 47 08.2**	**+1.2**
	0.3nm,0.3s,baz=184,slow=13,SNR=8.6						
KK31				⇓S	**S**	**23 48 17.8**	**-3.7**
	2.8nm,0.4s,baz=180,slow=32						
EKS2	**Erkin-Say**	**6.62**	**22**	P	**Pn**	**23 47 10.3**	**+1.9**
	SNR=7.9						
KZA	**Kyzart**	**6.67**	**33**	P	**Pn**	**23 47 10.0**	**+0.7**
	SNR=8.1						
AAK	**Ala-Archa**	**6.84**	**26**	P	**Pn**	**23 47 12.2**	**+1.0**
	1.0nm,0.3s,baz=190,slow=5.8,SNR=24						
AAK				S	**S**	**23 48 28.5**	**-0.6**
	1.0nm,0.3s,baz=27,slow=21,SNR=13						
AAK	**Ala-Archa**	**6.84**	**26**	⇓P	**Pn**	**23 47 12.0**	**+0.7**
	1.8nm,0.4s						
AAK				⇑S	**S**	**23 48 27.6**	**-1.5**
	14nm,1.1s						
AAK	**Ala-Archa**	**6.84**	**26**	P	**Pn**	**23 47 13.2**	**+1.9**
	SNR=6.3						
KBK	**Karagaybulak**	**7.03**	**29**	P	**Pn**	**23 47 14.8**	**+1.1**
	SNR=6.5						
TKM2	**Tokmak 2**	**7.51**	**31**	⇓P	**Pn**	**23 47 20.6**	**+0.7**
	6.2nm,0.8s						
TKM2				⇓S	**S**	**23 48 42.7**	**-2.2**
	4.3nm,0.8s						
TKM2	**Tokmak 2**	**7.51**	**31**	P	**Pn**	**23 47 21.5**	**+1.6**
	SNR=5.6						
GEYT	**Alibeck**	**9.87**	**282**	P	**Pn**	**23 47 50.2**	**-0.3**
	0.4nm,0.3s,baz=102,slow=14,SNR=6.6						
MKAR	**Makanchi Array**	**13.53**	**37**	P	**Pn**	**23 48 37.5**	**+0.6**
	0.1nm,0.3s,baz=210,slow=9.7,SNR=8.8						
PYUN	**Piuthan**	**13.59**	**125**	eP	**Pn**	**23 48 36.1**	**-1.9**
GKN	**Gorkha**	**14.77**	**121**	eP	**P**	**23 48 54.0**	**+0.7**
	18nm,0.4s						
KURBB	**Kurchatov Arra**	**15.22**	**20**	P	**Pn**	**23 48 57.5**	**-0.1**
	0.1nm,0.3s,baz=211,slow=9.5,SNR=6.3						
KKN	**Kakani**	**15.34**	**121**	eP	**P**	**23 49 01.6**	**+1.9**
	16nm,0.4s						
PKIN	**Phulchoki**	**15.56**	**121**	eP	**Pn**	**23 49 04.2**	**+2.1**
	14nm,0.4s						
GUN	**Gumba**	**15.69**	**119**	eP	**Pn**	**23 49 05.8**	**+2.0**
	9.2nm,0.4s						
JIRN	**Jiri**	**16.06**	**119**	eP	**Pn**	**23 49 10.4**	**+2.1**
	35nm,0.5s						
BVAR	**Borovoye Array**	**16.45**	**0**	P	**Pn**	**23 49 13.3**	**+0.9**
	0.2nm,0.3s,baz=153,slow=13,SNR=8.4						
AKTO	**Aktyubinsk**	**16.47**	**331**	P	**Pn**	**23 49 13.2**	**+0.6**
	0.3nm,0.3s,baz=138,slow=12,SNR=6.9						
ZALV	**Zalesovo Beam**	**20.06**	**25**	P	**P**	**23 49 51.5**	**+1.0**
	1.0nm,0.4s,baz=214,slow=12,SNR=7.4						
KBZ	**Khabaz**	**22.12**	**297**	P	**P**	**23 50 11.7**	**-0.2**
	0.5nm,0.3s,baz=153,slow=9.0,SNR=6.5						
SONM	**Songino Array**	**28.71**	**56**	P	**P**	**23 51 08.5**	**-2.7**
	0.1nm,0.4s,baz=263,slow=9.8,SNR=2.5						
FINES	**FINESS Array B**	**37.15**	**326**	P	**P**	**23 52 25.1**	**+1.3**
	1.9nm,0.9s,baz=122,slow=15,SNR=3.0						
ARCES	**ARCESS Array B**	**40.89**	**338**	P	**P**	**23 52 56.2**	**+1.5**
	2.4nm,0.7s,baz=79,slow=9.3,SNR=5.3						
HFS	**Hagfors**	**42.70**	**322**	P	**P**	**23 53 11.3**	**+1.8**
	2.8nm,0.9s,baz=95,slow=16,SNR=2.8						
NOA	**NORSAR Array B**	**44.02**	**323**	P	**P**	**23 53 21.3**	**+1.2**
	0.5nm,0.6s,baz=104,slow=6.8,SNR=2.7						
TORD	**Torodi Ar. Bea**	**65.22**	**268**	P	**P**	**23 55 51.4**	**-1.5**
	46nm,0.3s,baz=51,slow=5.1,SNR=8.1						
KOWA	**Kowa**	**69.06**	**273**	P	**P**	**23 56 17.2**	**+0.1**
	1.0nm,0.6s,baz=79,slow=10,SNR=4.1						
WRA	**Warramunga Arr**	**82.45**	**121**	P	**P**	**23 57 30.4**	**-2.4**
	0.7nm,1.1s,baz=317,slow=4.7,SNR=3.7						

IDC 06 00:00:29.7±10.0**, 24°.98S×68°.78W, h0km, mb3.7**/1**, mb1 3.9**/1**, mb1mx3.3**/36**, mbtmp3.5**/1**, Error ellipse: s-maj=456.8km s-min=68.1km az=18.0, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TORD	**Torodi Ar. Bea**	**78.43**	**70**	P	P	00 12 32.8	-0.1
	121nm,0.9s,baz=254,slow=5.6,SNR=7.6						
YKA	**Yellowknife Ar**	**94.49**	**340**	P	P	00 13 51.0	-0.3
	0.1nm,0.6s,baz=156,slow=3.9,SNR=4.1						
ZALV	**Zalesovo Beam**	**145.00**	**27**	PKPbc	PKPbc	00 20 07.4	-0.5
	0.8nm,0.5s,baz=328,slow=5.1,SNR=5.1						
MKAR	**Makanchi Array**	**148.30**	**39**	PKPbc	PKPbc	00 20 17.3	-0.6
	0.3nm,0.5s,baz=312,slow=2.8,SNR=4.8						

MAN 06 00:02:09, 10°.09N×123°.26E, h1km, mb4.2, ML3.0, MS2.7, 2C, Cebu

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LLP	**Lapu-Lapu**	**0.73**	**72**	⇑eP	Pg	00 02 23.5	+0.4
LLP				i S	Sg	00 02 33.5	+0.9
SNPH	**Sibulan**	**0.75**	**182**	eP	Pb	00 02 25.4	+0.5
SNPH				eS	Sb	00 02 37.1	+1.6
GUIM	**Jordan**	**0.84**	**309**	eP	Pg	00 02 25.7	+0.5
GUIM				eS	Sb	00 02 37.8	-0.5
RCP	**Roxas**	**1.54**	**341**	⇑eP	Pb	00 02 38.3	-0.1
RCP				eS	Sg	00 03 00.2	+1.6
MSLP	**Maasin**	**1.58**	**88**	eP	Pb	00 02 38.6	-0.4
MSLP				eS	Sg	00 03 00.7	+0.9
BUKP	**Musuan**	**2.83**	**141**	eP	Pn	00 02 56.9	+1.4

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*NIED **06** 00:14:00, 36°.80N×142°.90E, h8km, Mw4.6 Best double couple: $M_0$8.22000×10^15 NP1:ϕ_s194.00000°, δ40.00000°, λ93.00000°. NP2:ϕ_s10.00000°, δ51.00000°, λ87.00000°.*

*JMA **06** 00:14:50.5±0.1, 36°.76N×142°.86E, h50km, M4.7*

*IDC **06** 00:14:52.7±3.4, 36°.69N×142°.82E, h27km±23km, mb4.0/29, mb1 4.2/35, mb1mx4.0/79, mbtmp4.2/35, ML4.0/5, MS3.8/32, Ms1 3.8/32, ms1mx3.6/69, Error ellipse: s-maj=14.7km s-min=12.2km az=158.0*

*MOS **06** 00:14:54.5±1.0, 37°.14N×142°.65E, h36km, mb4.8/21, MS4.2/5, Error ellipse: s-maj=9.9km s-min=6.0km az=111.8*

*NEIC **06** 00:14:54.2±0.4, 36°.81N×142°.79E, h35km, mb4.5/10, Error ellipse: s-maj=8.7km s-min=5.8km az=150.0*

ISC 06 00:14:52.4±0.9**, 36°.78N**±0°.04×**142°.86E**±0°.05**, h26km**±6km**, n144,** σ1s**84**/147**, mb4.4**/57**, MS3.9**/30**, 13C-1D, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**1.68**	**282**	P	**Pn**	**00 15 18.1**	**-2.0**

ONAJ eS Sn 00 15 39.1 -1.7
JFK Kawauchi 1.69 291 P Pn 00 15 18.4 -1.8
JFK eS Sn 00 15 39.2 -1.8
JHO Hitachi 1.85 265 P Pn 00 15 20.5 -1.9
JHO eS Sn 00 15 42.0 -2.9
CHOJ Chosi 1.94 237 P Pn 00 15 21.9 -1.8
CHOJ eS Sn 00 15 44.6 -2.6
JFT Otama 2.14 291 P Pn 00 15 25.7 -0.8
JMK Ichinoseki 2.52 330 P Pn 00 15 30.7 -0.9
JMK eS Sn 00 16 00.2 -1.3
BSO1 Boso 1 2.62 216 P Pn 00 15 31.0 -1.5
BSO1 eS Sn 00 16 02.0 -1.1
JAG Ashikaga 2.76 264 P Pn 00 15 33.6 -1.3
JAG S Sn 00 16 05.1 -2.4
JYK Kaneyama 2.91 318 P Pn 00 15 36.1 -0.8
JOM Ohasama 2.96 336 P Pn 00 15 36.4 -1.2
JRY Ryogami san 3.28 258 P Pn 00 15 40.7 -1.4
JRY eS Sn 00 16 17.7 -2.6
JOD2 Odawara 2 3.41 245 P Pn 00 15 42.3 -1.6
JOD2 eS Sn 00 16 21.0 -2.5
JYN Shimob 3.72 251 P Pn 00 15 47.5 -0.7
JANG Nango 3.74 344 P Pn 00 15 47.3 -1.0
JANG eS Sn 00 16 29.4 -2.1
MJAR Matsushiro Arr 3.75 268 Pn Pn 00 15 48.3 -0.2
23nm,0.3s,baz=98,slow=12,SNR=137
MJAR LR LR 00 17 31.0
comp=Z,797nm,19.9s,baz=90,slow=43
MAJO Matsushiro 3.75 268 ePn Pn 00 15 48.7 +0.1
MAJO Matsushiro 3.75 268 *c iP* Pn 00 15 48.6 +0.1
MAT Matsushiro 3.75 268 P Pn 00 15 48.6 +0.1
MAT S Sn 00 16 30.8 -1.0
MAT Matsushiro 3.75 268 P Pn 00 15 48.7 +0.2
JHJ Hachijo jima 2 4.44 216 Pn Pn 00 15 55.0 -3.0
21nm,0.3s,baz=90,slow=19,SNR=4.3
JHJ Sn Sn 00 16 42.3 -6.6
60nm,0.3s,baz=51,slow=23,SNR=4.3
JHJ LR LR 00 18 02.1
comp=Z,343nm,19.1s,baz=7.5,slow=44
ERM Erimo 5.23 2 *e*Pn Pn 00 16 07.2 -1.7
44nm,0.4s
ERM eSn Sn 00 17 07.7 -0.6
ERM Erimo 5.23 2*ce*P Pn 00 16 07.1 -1.7
ERM pmax pmax
comp=Z,34nm,0.7s
ASAJ Asahikawa 7.33 359 Pn Pn 00 16 37.2 -0.4
comp=Z,6.0nm,0.3s,baz=207,slow=12,SNR=21
ASAJ Sn Sn 00 17 57.3 -2.6
comp=Z,1.5nm,0.3s,baz=36,slow=18,SNR=7.7
ASAJ Asahikawa 7.33 359 Pn Pn 00 16 37.2 -0.4
comp=Z,3.1nm,0.8s
ASAJ eSn Sn 00 17 58.6 -1.3
YUK Yuzh-Kuril'sk 7.60 17 P Pn 00 16 47.7 +6.4
YUK eS Sn 00 17 59.4 -7.1
YUK pmax pmax
comp=N,109nm,0.4s
YUK pmax pmax
comp=Z,111nm,0.4s
SHO Shikotan 7.70 22 P Pn 00 16 48.7 +6.0
SHO *i* S Sn 00 18 00.6 -8.5
SHO pmax pmax
comp=Z,24nm,0.6s
SHO pmax pmax
comp=E,8.0nm,0.3s
SHO pmax pmax
comp=N,7.0nm,0.2s
KUR Kuril'sk 9.25 23 P Pn 00 17 11.8 +7.8
KUR eS Sn 00 18 40.3 -6.8
KUR pmax pmax
comp=Z,82nm,0.4s
KUR pmax pmax
comp=E,37nm,0.1s
KUR pmax pmax
comp=N,32nm,0.3s
CBIJ Chichi jima 9.68 184 Pn Pn 00 17 03.8 -6.1
CBIJ Sn Sn 00 18 45.0 -13
JCJ Chichijima 9.68 184 Pn Pn 00 17 03.8 -6.1
comp=N,8.6nm,0.3s,baz=311,slow=20,SNR=4.7
JCJ Sn Sn 00 18 45.0 -13
comp=N,13nm,0.3s,baz=14,slow=19,SNR=4.3
YSS Yuzh-Sakhalins 10.16 360 *e*P Pn 00 17 15.9 -0.6
YSS eS Sn 00 19 05.4 -4.1
YSS pmax pmax
comp=Z,30nm,0.6s
YSS smax smax
comp=N,40nm,0.7s
YSS MLR MLR
comp=Z,2μm,12.0s
JNU Nakatsue 10.49 253 Pn Pn 00 17 20.9 -0.1
comp=Z,0.4nm,0.3s,baz=48,slow=16,SNR=3.2
JNU LR LR 00 21 37.8
comp=Z,291nm,19.9s,baz=104,slow=39
USRK Ussuriysk Ar. 11.10 315 Pn Pn 00 17 30.2 +0.9
comp=Z,0.1nm,0.3s,baz=128,slow=14,SNR=2.4
KSRS Korea Array 11.94 278 Pn Pn 00 17 42.5 +1.6
comp=Z,0.4nm,0.3s,baz=88,slow=14,SNR=8.7
KSRS LR LR 00 21 37.1
comp=Z,304nm,20.7s,baz=92,slow=34
KSAR Wonju Array Be 11.97 278 Pn Pn 00 17 42.5 +1.2
KSAR Wonju Array Be 11.97 278 P Pn 00 17 42.5 +1.2
TYV Tymovskoe 14.08 359 *e*P Pn 00 18 02.4 -7.5
TYV pmax pmax
comp=Z,6.0nm,1.1s
TYV pmax pmax
comp=Z,800nm,5.1s
GRNR Gornyy 14.72 344 *e*P P 00 18 25.1 +0.5
GRNR pmax pmax
comp=Z,110nm,1.0s
KLR Kul'dur 14.84 330 Pn Pn 00 18 18.4 -1.9
comp=Z,0.0nm,0.3s,baz=139,slow=13,SNR=3.8
KLR Kul'dur 14.84 330 *i* P Pn 00 18 23.8 +3.5
NKL Nikolayevsk 16.44 355 *e*P Pn 00 18 37.8 -3.2
NKL MLR MLR
comp=N,900nm,16.0s
NKL MLR MLR
comp=Z,2μm,16.0s
PETK Petropavlovsk- 19.35 28 LR LR 00 28 52.3
comp=Z,174nm,18.2s,baz=215,slow=43
ZEA Zeya 20.12 332 *e*P P 00 19 23.6 -0.5
ZEA pmax pmax
comp=Z,26nm,0.8s
ZEA MLR MLR
comp=Z,800nm,12.0s
ZEA MLR MLR
comp=N,900nm,16.0s
MA2 Magadan 23.38 10 P P 00 19 59.0 +0.3
comp=N,8.2nm,0.8s,baz=172,slow=13,SNR=5.2
MA2 LR LR 00 30 12.2
comp=N,286nm,18.1s,baz=249,slow=39
MA2 Magadan 23.38 10 P P 00 19 59.0 +0.3
YAK Yakutsk 26.58 346 *e*P P 00 20 26.2 -1.8
YAK *e**PP pP 00 20 35.4 -0.3
YAK *e* 00 21 04.3
YAK *e*PPP PPP 00 21 16.9
YAK *e* 00 23 48.4
YAK eS S 00 24 59.6 -1.2
YAK eSS SnSn 00 26 00.0 -3.9
YAK eSSS SSS 00 26 26.5
YAK *e* 00 31 15.5
YAK pmax pmax
comp=Z,18nm,0.9s
YAK pmax pmax
comp=N,9.0nm,1.3s
YAK pmax pmax
comp=E,6.0nm,1.0s
YAK pmax pmax
comp=Z,158nm,3.9s
YAK pmax pmax
comp=N,105nm,4.0s
YAK pmax pmax
comp=E,84nm,3.8s
YAK smax smax
comp=N,231nm,4.2s
YAK smax smax
comp=E,116nm,4.0s
YAK MLR MLR
comp=Z,479nm,19.0s
YAK MLR MLR
comp=N,497nm,19.0s
YAK MLR MLR
comp=E,242nm,18.0s
SEY Seymchan 26.83 10 P P 00 20 31.4 +1.1
comp=E,4.7nm,0.7s,baz=180,slow=6.7,SNR=11
SEY LR LR 00 33 16.8
comp=E,310nm,19.1s,baz=308,slow=41
SEY Seymchan 26.83 10*ce*P P 00 20 31.0 +0.8

H11N2 WAKE ISLAND Hy 27.03 122 T T 00 48 49.7
baz=314,slow=75,SNR=16
H11N1 WAKE ISLAND Hy 27.04 122 T T 00 48 49.3
baz=314,slow=75,SNR=11
H11N3 WAKE ISLAND Hy 27.05 122 T T 00 48 48.8
baz=314,slow=75,SNR=16
H11S1 WAKE ISLAND Hy 27.76 125 T T 00 49 39.5
baz=316,slow=75,SNR=7.0
H11S3 WAKE ISLAND Hy 27.76 125 T T 00 49 39.4
baz=316,slow=75,SNR=7.2
H11S2 WAKE ISLAND Hy 27.77 125 T T 00 49 41.6
baz=316,slow=75,SNR=7.0
BOD Bodaibo 28.36 327 *e*P P 00 20 43.9 -0.2
BOD pmax pmax
comp=Z,18nm,1.4s
ULN Ulaanbaatar 28.45 304 *e*P P 00 20 45.9 +0.7
comp=Z,6.6nm,0.8s
ULN Ulaanbaatar 28.45 304*ce*P P 00 20 43.8 -1.4
ULN pmax pmax
comp=Z,28nm,2.5s
ENH Enshi 28.47 267 *e*P P 00 20 45.7 +0.3
comp=Z,41nm,1.0s
SONM Songino Array 28.89 304 P P 00 20 50.3 +1.3
comp=Z,5.8nm,1.0s,baz=106,slow=8.1,SNR=32
SONM S S 00 25 38.7 +1.0
comp=Z,0.2nm,0.3s,baz=91,slow=10,SNR=3.7
SONM LR LR 00 32 17.0
comp=Z,94nm,18.4s,baz=107,slow=36
ZAK Zakamensk 31.33 308 *e*P P 00 21 11.4 +0.8
ZAK pmax pmax
comp=Z,6.0nm,1.3s
BILL Bilibino 33.95 16 *i* P P 00 21 32.0 -1.1
BILL *i* 00 21 41.0
BILL *i* 00 21 49.2
BILL *i* 00 22 47.0
BILL *i* 00 24 10.5
BILL pmax pmax
comp=Z,2.0nm,1.0s
BILL pmax pmax
comp=Z,148nm,17.0s
TIXI Tiksi 35.68 352 LR LR 00 37 27.6
comp=Z,167nm,18.8s,baz=176,slow=38
TIXI Tiksi 35.68 352*ce*P P 00 21 48.6 +0.6
TIXI pmax pmax
comp=Z,1.0nm,0.5s
CMAR Chiang Mai Arr 42.56 257 P P 00 22 46.2 +0.1
comp=Z,0.8nm,0.4s,baz=48,slow=6.7,SNR=4.2
CMAR LR LR 00 41 08.6
comp=Z,89nm,19.4s,baz=128,slow=37
CMAR Chiang Mai Arr 42.56 257*ce*P P 00 22 47.4 +1.3
CMAR pmax pmax
comp=Z,1.0nm,0.3s
ZALV Zalesovo Beam 42.94 313 P P 00 22 49.4 +0.7
comp=Z,1.8nm,0.5s,baz=91,slow=7.5,SNR=11
ZALV PcP PcP 00 24 39.3 +0.3
comp=Z,0.9nm,0.6s,baz=58,slow=3.3,SNR=2.1
ZALV LR LR 00 43 28.9
comp=Z,102nm,20.0s,baz=70,slow=40
NVS Novosibirsk 43.85 314 *e*P P 00 22 56.7 +0.6
MKAR Makanchi Array 45.23 303 P P 00 23 07.7 +0.3
comp=Z,2.7nm,0.6s,baz=87,slow=9.9,SNR=44
MKAR LR LR 00 43 28.8
comp=Z,50nm,20.1s,baz=82,slow=38
KURK Kurchatov 47.00 308 *e*P P 00 23 21.1 +0.1
comp=Z,76nm,0.8s
KURK Kurchatov 47.00 308*ce*P P 00 23 21.4 +0.3
KURK pmax pmax
comp=Z,23nm,0.6s
KURBB Kurchatov Arra 47.07 308 P P 00 23 22.0 +0.4
comp=Z,7.5nm,0.6s,baz=82,slow=7.7,SNR=59
HNR Honiara 48.69 157 LR LR 00 44 33.3
comp=Z,111nm,18.9s,baz=348,slow=37
ILAR Eielson Array 49.09 32 P P 00 23 37.7 +0.6
comp=Z,2.1nm,0.9s,baz=266,slow=6.3,SNR=19
BVAR Borovoye Array 51.59 313 P P 00 23 56.7 +0.5
comp=Z,1.0nm,0.6s,baz=65,slow=8.1,SNR=8.7
BVAR LR LR 00 49 04.1
comp=Z,107nm,18.0s,baz=56,slow=40
AAK Ala-Archa 51.62 299 *e*P P 00 23 56.8 0.0
comp=Z,1.6nm,0.8s
AAK Ala-Archa 51.62 299 *e*P P 00 23 56.8 0.0
AAK pmax pmax
comp=Z,2.0nm,0.8s
BRVK Borovoye 51.65 313*ce*P P 00 23 57.4 +0.8
BRVK pmax pmax
comp=Z,16nm,1.7s
PSI Prapat 52.67 241 P P 00 24 04.9 +0.1
comp=Z,4.6nm,0.5s,baz=333,slow=9.0,SNR=4.1
INK Inuvik 54.08 27 P P 00 24 15.2 +1.0
comp=Z,1.6nm,0.8s,baz=280,slow=5.2,SNR=7.3
NIL Nilore 55.79 289 *e*P P 00 24 27.9 +0.6
comp=Z,20nm,0.8s
NIL Nilore 55.79 289 *e*P P 00 24 27.9 +0.6
NIL pmax pmax
comp=Z,20nm,0.8s
SVE Sverdlovsk 56.10 319 *e*P P 00 24 29.3 +0.3
SVE pmax pmax
comp=Z,9.0nm,1.0s
WRA Warramunga Arr 56.99 190 P P 00 24 34.4 -1.4
comp=Z,4.2nm,1.0s,baz=13,slow=7.7,SNR=6.6
WRA Warramunga Arr 56.99 190*ce*P P 00 24 33.7 -2.0
WRA pmax pmax
comp=Z,4.0nm,1.0s
ARU Arti 57.31 319 LR LR 00 53 19.9
comp=Z,177nm,18.1s,baz=131,slow=40
ARU Arti 57.31 319 *e*P P 00 24 37.6 0.0
comp=Z,16nm,1.4s
ARU Arti 57.31 319*d iP* P 00 24 37.8 +0.1
ARU 00 25 26.9
ARU S S 00 32 33.7 +1.6
ARU SS SS 00 36 13.0 -8.0
ARU pmax pmax
comp=Z,9.0nm,1.2s
ABKAR Akbulak array 58.98 311 *e*P P 00 24 49.7 +0.2
comp=Z,2.2nm,0.6s
AKTO Aktyubinsk 59.70 312 P P 00 24 54.5 +0.1
comp=Z,1.1nm,0.6s,baz=76,slow=15,SNR=4.2
AKTO LR LR 00 51 12.9
comp=Z,64nm,18.4s,baz=67,slow=36
ASAR Alice Springs 60.72 189 P P 00 25 00.9 -0.7
comp=Z,0.5nm,0.5s,baz=5.8,slow=5.9,SNR=4.3
SPITS Spitsbergen Ar 60.99 349 LR LR 00 54 48.9
comp=Z,126nm,18.2s,baz=120,slow=39
DZM Mont Dzumac 62.63 155 LR LR 00 49 24.7
comp=Z,73nm,20.9s,baz=57,slow=33
YKA Yellowknife Ar 63.44 30 P P 00 25 20.0 +0.6
comp=Z,0.8nm,0.8s,baz=301,slow=6.8,SNR=10.0
KLMR Klimovskoe 64.58 328 *e*P P 00 25 26.2 -0.8
KLMR AMP 00 25 31.2
comp=Z,10.0nm,1.5s
KLMR *e*PP PP 00 27 49.3 +0.6
KLMR LQ LQ 00 49 21.5
KLMR LQ LQ 00 49 21.5
KLMR LR LR 00 55 03.0
KLMR Klimovskoe 64.58 328 *e*P P 00 25 26.2 -0.8
KLMR *e* 00 27 49.3
KLMR pmax pmax
comp=Z,10.0nm,1.5s
ARCES ARCESS Array B 64.64 340 P P 00 25 27.6 +0.3
comp=Z,6.1nm,1.0s,baz=12,slow=6.2,SNR=3.6
ARCES LR LR 01 00 43.7
comp=Z,81nm,18.5s,baz=43,slow=42
GEYT Alibeck 64.97 300 P P 00 25 29.3 -0.7
comp=Z,2.0nm,0.9s,baz=337,slow=2.3,SNR=7.5
AFI Afiamalu 66.09 131 LR LR 00 51 56.8
comp=Z,59nm,18.7s,baz=289,slow=34
VRH Novokhopyorsk 68.54 318 *e*P P 00 25 51.5 -0.9
VRH pmax pmax
comp=Z,9.0nm,0.6s
OBN Obninsk 68.98 324 *e*P P 00 25 54.6 -0.5
OBN *e* 00 26 07.4
OBN *e* 00 26 17.7
OBN 00 28 27.0
OBN S S 00 35 15.0 +17
OBN pmax pmax
comp=Z,5.0nm,1.0s
OBN MLR MLR
comp=Z,186nm,16.0s
LPSR Galich'ya Gora 69.23 321 *e*P P 00 25 55.9 -0.8
LPSR pmax pmax
comp=Z,10.0nm,0.7s
MAK Makhachkala 69.52 309 *e*P P 00 25 58.6 0.0
MAK *e* 00 28 30.2
MAK eS S 00 35 05.8 +1.1
MAK pmax pmax
comp=Z,59nm,1.6s

FINES FINESS Array B 69.57 333 P P 00 25 58.6 0.0
comp=Z,4.3nm,1.0s,baz=28,slow=8.6,SNR=5.6
FINES LR LR 00 59 19.7
comp=Z,160nm,18.1s,baz=12,slow=38
FINES FINESS Array B 69.57 333*ce*P P 00 25 59.7 +1.1
FINES pmax pmax
comp=Z,3.0nm,0.9s
VSR Storozhevoye 69.88 319 *e*P P 00 26 00.4 -0.3
VSR pmax pmax
comp=Z,6.0nm,0.7s
VSU Vasula 71.25 330*ce*P P 00 26 09.8 +0.9
VSU pmax pmax
comp=Z,67nm,1.7s
ZEI Tsey 71.85 310 *e*P P 00 26 12.3 -0.8
ZEI pmax pmax
comp=Z,2.0nm,0.7s
KBZ Khabaz 71.94 311 P P 00 26 14.3 +1.0
comp=Z,5.4nm,0.9s,baz=59,slow=4.9,SNR=21
KIV Kislovodsk 71.94 312 *e*P P 00 26 14.3 +0.8
comp=Z,16nm,1.0s
KIV Kislovodsk 71.94 312 *e*P P 00 26 14.8 +1.3
KIV pmax pmax
comp=Z,16nm,1.1s
WSAR Wadi Sarin 72.05 286 P P 00 26 15.1 +0.7
comp=Z,3.3nm,0.9s,baz=32,slow=13,SNR=3.0
GNI Garni 72.78 307 LR LR 00 59 16.2
comp=Z,39nm,18.7s,baz=70,slow=37
GNI Garni 72.78 307*ce*P P 00 26 20.9 +2.2
GNI pmax pmax
comp=Z,19nm,1.2s
FFC Flin Flon 73.28 33 *e*P P 00 26 21.4 +0.2
comp=Z,2.4nm,0.9s
FFC Flin Flon 73.28 33 *e*P P 00 26 21.4 +0.2
FFC pmax pmax
comp=Z,2.0nm,0.9s
LRM Limekiln Ridge 73.51 45 *e*P P 00 26 24.2 +1.2
comp=Z,2.8nm,0.8s
SOC Sochi 73.92 313 *e*P P 00 26 29.0 +3.9
SOC *e**PP pP 00 26 34.6 +1.1
SOC eS S 00 35 58.1 +2.7
SOC pmax pmax
comp=Z,6.0nm,0.8s
NVAR Mina Array Bea 74.21 54 P P 00 26 29.0 +1.8
comp=Z,0.9nm,0.8s,baz=297,slow=5.0,SNR=5.2
HFS Hagfors 74.79 336 P P 00 26 30.8 +1.0
comp=Z,3.8nm,0.8s,baz=350,slow=7.3,SNR=4.2
HFS LR LR 01 03 07.1
comp=Z,187nm,19.2s,baz=44,slow=39
NB2 NORSAR Subarra 74.86 338 P P 00 26 30.5 +0.2
comp=Z,1.0nm,0.6s,baz=38,slow=6.2
NOA NORSAR Array B 74.86 338 P P 00 26 30.8 +0.4
comp=Z,1.0nm,0.6s,baz=38,slow=5.8,SNR=3.8
NOA LR LR 01 04 09.5
comp=Z,139nm,19.1s,baz=30,slow=40
AKASG Malin Array Be 75.20 323 P P 00 26 32.7 +0.3
comp=Z,3.1nm,0.5s,baz=45,slow=6.1,SNR=22
AKASG LR LR 01 01 33.7
comp=Z,43nm,18.3s,baz=45,slow=37
H17A Grant Village 75.43 45 *e*P P 00 26 37.0 +2.9
comp=Z,2.8nm,0.9s
SFJD Kangerlussuaq 76.03 5 LR LR 01 01 53.3
comp=Z,53nm,18.1s,baz=332,slow=37
PDAR Pinedale Array 77.01 46 P P 00 26 43.6 +0.5
comp=Z,0.3nm,0.6s,baz=17,slow=1.5,SNR=4.1
RAR Rarotonga 79.08 127 LR LR 01 00 34.4
comp=Z,78nm,19.5s,baz=294,slow=35
STHS Stebnicka Huta 79.82 326 *e*P P 00 27 00.5 +2.2
STHS Stebnicka Huta 79.82 326 *e*P P 00 27 00.5 +2.2
BRTR Keskin Array B 79.88 312 P P 00 26 60.0 +1.0
comp=Z,0.8nm,0.8s,baz=61,slow=3.6,SNR=7.2
BRTR Keskin Array B 79.88 312*ce*P P 00 27 00.1 +1.1
BRTR pmax pmax
comp=Z,1.0nm,0.8s
MLR Muntele Rosu 80.32 320 LR LR 01 06 53.4
comp=Z,21nm,19.8s,baz=39,slow=39
LANS Liptovska Anna 80.82 326 *e*P P 00 27 05.8 +2.1
LANS Liptovska Anna 80.82 326 *e*P P 00 27 05.8 +2.1
VYHS Vyhne 81.58 326 *e*P P 00 27 09.0 +1.3
VYHS Vyhne 81.58 326 *e*P P 00 27 09.0 +1.3
CLL Collm 81.88 331 *i* P P 00 27 09.4 +0.2
comp=Z,7.0nm,1.1s
CLL LmV 01 06 00.0
comp=Z,100nm,18.8s
CLL Collm 81.88 331 *i* P P 00 27 09.4 +0.2
CLL pmax pmax
comp=Z,7.0nm,1.1s
MMAI Mount Meron Ar 83.05 306 P P 00 27 17.0 +1.2
comp=Z,0.3nm,0.3s,baz=19,slow=4.9,SNR=6.3
GERES GERESS Array B 83.53 329 P P 00 27 18.4 +0.5
comp=Z,1.2nm,0.7s,baz=37,slow=5.5,SNR=11
GERES LR LR 01 08 41.1
comp=Z,104nm,18.6s,baz=20,slow=39
LPIG La Paz 88.30 61 LR LR 01 08 22.1
comp=Z,54nm,18.1s,baz=218,slow=36
TXAR Lajitas Array 89.35 53 P P 00 27 47.8 +0.9
comp=Z,0.3nm,0.7s,baz=277,slow=2.4,SNR=4.3
ATD Arta Tunnel 91.05 285 LR LR 01 16 04.6
comp=Z,20nm,18.0s,baz=339,slow=42
TKL Tuckaleechee C 95.91 37 LR LR 01 22 16.0
comp=Z,20nm,18.1s,baz=124,slow=40
LPAZ La Paz 145.81 62 PKPbc **PKPdf** 00 34 30.8 +0.9
comp=Z,1.3nm,0.6s,baz=302,slow=0.9,SNR=6.4
SIV San Ignacio 150.34 52 PKPbc **PKPbc** 00 34 41.7 -0.1
comp=Z,0.8nm,0.5s,baz=247,slow=3.4,SNR=5.2

IDC 06 00:18:12.2±1.8, 4.°47S×137.°88E, h0km, mb3.4/1, mb1 4.2/5, mb1mx3.6/54, mbtmp4.1/5, ML3.9/3, Error ellipse: s-maj=33.6km s-min=17.8km az=94.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**10.43**	**119**	Pn	Pn	00 20 44.5	+1.4
	1.0nm,0.3s,baz=302,slow=13,SNR=5.3						
PMG				Sn	Sn	00 22 42.2	+1.4
	0.7nm,0.3s,baz=172,slow=23,SNR=2.0						
WRA	**Warramunga Arr**	**15.76**	**192**	Pn	Pn	00 21 53.8	-1.9
	0.5nm,0.3s,baz=12,slow=12,SNR=24						
CTA	**Charters Tower**	**17.53**	**153**	P	Pn	00 22 16.8	-1.5
	0.2nm,0.3s,baz=351,slow=13,SNR=2.5						
ASAR	**Alice Springs**	**19.46**	**191**	P	P	00 22 38.9	-1.9
	1.0nm,0.3s,baz=16,slow=11,SNR=62						
ASAR				S	S	00 26 22.5	+0.8
	0.1nm,0.3s,baz=12,slow=24,SNR=8.9						
MKAR	**Makanchi Array**	**70.68**	**323**	P	P	00 29 30.5	+0.5
	0.3nm,0.7s,baz=111,slow=7.9,SNR=2.9						

*IDC **06** 00:26:21.7±1.4, 59.°96N×153.°71W, h105km±18km, mb3.3/5, mb1 3.4/9, mb1mx3.0/82, mbtmp3.6/9, Error ellipse: s-maj=22.5km s-min=11.3km az=103.0*

*ISCJB **06** 00:26:23.0±0.3, 59.°88N±0.°03×153.°41W±0.°06, h138km±3km, mb3.5/5, Error ellipse: s-maj=5.4km s-min=3.7km az=33.1*

*NEIC **06** 00:26:25.0±0.0, 59.°87N×153.°46W, h131km, ML3.1(AEIC), After AEIC.*

ISC 06 00:26:24.0±0.8, 59.°89N±0.°03×153.°46W±0.°04, h137km±5km, n76, σ1°11/95, mb3.5/5, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ILS	**Iliamna Low So**	**0.21**	**69**	P	Pn	00 26 42.4	-0.4
ILW	**Iliamna West**	**0.24**	**43**	P	Pn	00 26 42.5	-0.5
ILW				S	Sn	00 26 56.6	-0.8
IVE	**Iliamna Volcan**	**0.26**	**59**	P	Pn	00 26 42.7	-0.2
IVE				S	Sn	00 26 56.9	-0.4
AUNW	**Augustine NWes**	**0.51**	**181**	P	Pn	00 26 43.7	-0.2
AUW	**Augustine West**	**0.52**	**181**	P	Pn	00 26 43.8	-0.1
AUI	**Augustine Isla**	**0.55**	**178**	P	Pn	00 26 43.9	-0.3
AUI				S	Sn	00 26 58.8	-0.6
RSO	**Redoubt South**	**0.68**	**31**	ePn	Pn	00 26 45.1	0.0
RDWB	**Redoubt West**	**0.68**	**27**	P	Pn	00 26 44.8	-0.4
RDWB				S	Sn	00 27 00.3	-0.9
RDJH	**Redoubt Jeurge**	**0.78**	**24**	P	Pn	00 26 45.7	-0.1
RDJH				S	Sn	00 27 02.0	-0.5
HOM	**Homer**	**0.95**	**103**	*e*P	Pn	00 26 47.2	+0.2
HOM				*e*Sn	Sn	00 27 04.9	+0.4
CDD	**Cape Douglas**	**0.96**	**186**	P	Pn	00 26 46.9	-0.4
FONW	**Fourpeaked Sta**	**1.08**	**193**	P	Pn	00 26 48.0	-0.3
FOSS	**Fourpeaked Sta**	**1.09**	**186**	P	Pn	00 26 48.1	-0.4
BRLK	**Bradley Lake**	**1.30**	**94**	ePn	Pn	00 26 50.3	-0.2
BRLK				S	Sn	00 27 09.4	-1.3
CKL	**Chakachamna La**	**1.43**	**22**	P	Pn	00 26 52.2	+0.3
SPWE	**Spurr West**	**1.46**	**17**	P	Pn	00 26 52.7	+0.5

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
KAHC	Katmai Hardscr	1.47	213	P	Pn	00 26 51.9	-0.5
SPU	Mount Spurr	1.48	27	ePn	Pn	00 26 52.5	+0.1
KAHG	Katmai Hook Gl	1.50	202	P	Pn	00 26 52.4	-0.3
KARR	Katmai Rainbow	1.53	205	P	Pn	00 26 52.9	-0.1
SVW2	Sparrevohn	1.61	320	ePn	Pn	00 26 53.2	-0.6
SVW2				S	Sn	00 27 14.7	-1.8
SLKM	Skilak Lake	1.73	67	P	Pn	00 26 55.2	0.0
STLK	Strandline Lak	1.81	26	P	Pn	00 26 56.5	+0.4
KELA	Mount Kelaz	1.87	220	P	Pn	00 26 56.4	-0.5
KABU	Katmai Buttres	1.87	211	P	Pn	00 26 56.9	0.0
KABU				S	Sn	00 27 21.1	-1.0
CAHL	Cahill	2.07	208	P	Pn	00 26 59.3	0.0
SUA	Susitna One	2.07	39	ePn	Pn	00 26 59.7	+0.4
KDAK	Kodiak Island	2.16	167	P	Pn	00 26 58.7	-1.5
	15nm,0.3s,baz=359,slow=11,SNR=161						
KDAK				S	Sn	00 27 25.7	-2.3
	48nm,0.3s,baz=252,slow=20,SNR=51						
RC01	Rabbit Creek A	2.20	55	ePn	Pn	00 27 01.2	+0.5
RC01				S	Sn	00 27 27.9	-1.1
SKT	Skwentna	2.30	23	P	Pn	00 27 02.2	+0.2
OHAK	Old Harbor	2.67	178	ePn	Pn	00 27 04.8	-1.9
PMR	Palmer	2.73	49	ePn	Pn	00 27 08.6	+1.3
KNK	Knik Glacier	2.90	56	P	Pn	00 27 08.8	-0.8
GHO	Glory Hole Cre	2.92	48	P	Pn	00 27 09.0	-0.8
PPLA	Purkeypile	3.08	11	P	Pn	00 27 13.1	+1.0
SML	Sawmill	3.17	50	ePn	Pn	00 27 13.4	+0.4
TT01	Tatalina	3.27	339	P	Pn	00 27 13.9	-0.4
SCM	Sheep Creek Mo	3.58	54	ePn	Pn	00 27 18.8	+0.5
JPK	Jack Peak	3.59	68	P	Pn	00 27 17.1	-1.4
CAST	Castle Rocks	3.61	10	ePn	Pn	00 27 19.3	+0.6
KTH	Kantishna Hill	3.87	17	ePn	Pn	00 27 22.8	+0.5
KTH				eSn	Sn	00 28 06.2	-1.2
TRF	Thorofare Moun	3.88	22	ePn	Pn	00 27 22.9	+0.4
TRF				eSn	Sn	00 28 08.0	+0.2
DIV	Divide	4.00	69	ePn	Pn	00 27 24.1	+0.2
DIV				eSn	Sn	00 28 09.5	-0.9
KLU	Klutina	4.04	63	ePn	Pn	00 27 23.6	-0.9
RND	Reindeer	4.16	30	ePn	Pn	00 27 25.9	-0.1
DHY	Denali Highway	4.33	40	ePn	Pn	00 27 28.0	-0.4
BPAW	Bear Paw Mtn.	4.39	14	ePn	Pn	00 27 28.8	-0.1
MCK	McKinley	4.42	27	ePn	Pn	00 27 30.1	+0.7
MCK				eSn	Sn	00 28 15.1	-5.1
MCK				eSn	Sn	00 28 20.5	+0.3
RAGM	Ragged Mountai	4.42	80	eSn	Sn	00 28 18.0	-2.3
BMRM	Bremner River	4.52	72	ePn	Pn	00 27 31.0	+0.2
BMRM				eSn	Sn	00 28 22.1	-0.6
PAX	Paxson	4.93	48	ePn	Pn	00 27 36.5	+0.2
PAX				eSn	Sn	00 28 30.0	-2.5
VRDI	Verde Repeater	5.12	70	P	Pn	00 27 38.5	-0.3
KHIT	Khitrov Hills	5.13	79	P	Pn	00 27 38.9	0.0
WRH	Wood River Hil	5.24	26	ePn	Pn	00 27 39.5	-0.8
MLY	Manley	5.32	13	ePn	Pn	00 27 41.6	+0.3
KULT	Kultieth River	5.39	81	P	Pn	00 27 42.7	+0.3
CCB	Clear Creek Bu	5.46	26	ePn	Pn	00 27 42.3	-0.9
HDA	Harding Lake	5.47	31	ePn	Pn	00 27 42.8	-0.6
ISLE	Juniper Island	5.59	78	P	Pn	00 27 45.3	+0.3
BALM	Baldy	5.62	73	ePn	Pn	00 27 46.2	+0.7
BALM				eSn	Sn	00 28 46.5	-2.5
RIDG	Independ'e Rid	5.62	43	ePn	Pn	00 27 46.6	+1.1
MDM	Murphy Dome	5.64	23	ePn	Pn	00 27 45.3	-0.4
ILAR	Eielson Array	5.78	29	P	Pn	00 27 46.6	-0.8
	1.7nm,0.3s,baz=217,slow=13,SNR=92						
ILAR				S	Sn	00 28 48.5	-4.1
	1.5nm,0.3s,baz=218,slow=22,SNR=9.0						
ILB	Eielson Array	5.78	29	ePn	Pn	00 27 46.7	-0.8
IL1	Eielson Array	5.78	29	ePn	Pn	00 27 46.2	-1.3
BARN	Barnard Glacie	5.95	74	P	Pn	00 27 50.7	+0.7
SCRK	Sand Creek	6.07	43	ePn	Pn	00 27 51.8	+0.4
IM3	Indian Mountai	6.12	359	ePn	Pn	00 27 52.2	+0.2
COLD	Coldfoot	7.51	10	ePn	Pn	00 28 10.6	-0.1
INK	Inuvik	12.07	37	P	Pn	00 29 11.7	+0.4
	0.2nm,0.3s,baz=241,slow=12,SNR=8.3						
YKA	Yellowknife Ar	18.71	65	P	P	00 30 32.7	+1.1
	0.1nm,0.3s,baz=275,slow=10,SNR=7.2						
NEW	Newport	23.95	103	P	P	00 31 27.8	+2.5
	1.2nm,0.7s,baz=19,slow=18,SNR=1.9						
RES	Resolute Bay	25.52	32	P	P	00 31 39.2	0.0
	1.0nm,1.1s,baz=327,slow=18,SNR=1.8						
ZALV	Zalesovo Beam	57.33	323	P	P	00 35 57.7	+0.6
	1.2nm,0.4s,baz=41,slow=6.8,SNR=6.9						
BVAR	Borovoye Array	62.06	332	P	P	00 36 29.8	+0.3
	0.8nm,0.5s,baz=36,slow=5.9,SNR=8.4						
MKAR	Makanchi Array	64.38	321	P	P	00 36 44.4	-0.5
	0.1nm,0.5s,baz=23,slow=7.0,SNR=3.0						

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*NIED **06** 00:46:00, 40.80N×145.00E, h5km, Mw3.7 Best double couple: M0 4.72000×10^14 NP1:φs39.00000°, δ38.00000°, λ-98.00000°. NP2:φs229.00000°, δ52.00000°, λ-84.00000°.*
*JMA **06** 00:46:52.7±0.2, 40.81N×145.00E, h66km±3km, M3.7*
*ISCJB **06** 00:46:54.4±0.5, 40.81N±0.03×144.77E±0.05, h33km, mb3.7/15, Error ellipse: s-maj=5.6km s-min=4.2km az=5.9*
*IDC **06** 00:46:57.2±3.8, 40.78N×144.79E, h38km±32km, mb3.4/14, mb1 3.6/16, mb1mx3.4/63, mbtmp3.6/16, ML3.3/2, MS1.9/1, Ms1 1.9/1, ms1mx1.8/53, Error ellipse: s-maj=23.0km s-min=16.1km az=89.0*
ISC 06 00:46:56.0±0.7**, 40.81N**±0.05×**144.88E**±0.06**, h35**km**, n34, σ1.72**/47**, mb3.7**/15**, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JEM	Erimo	1.77	313	P	Pn	00 47 22.6	-1.5
JEM				eS	Sn	00 47 43.7	-1.6
JCH	Churui	2.13	328	P	Pn	00 47 27.3	-1.8
JCH				eS	Sn	00 47 51.7	-2.6
JNBK	Urakawa-nobuka	2.17	313	P	Pn	00 47 28.7	-0.9
JNBK				S	Sn	00 47 55.0	-0.2
JAK	Akkeshi	2.19	356	eS	Sn	00 47 52.8	-2.8
JOB	Onbets	2.23	340	P	Pn	00 47 29.0	-1.4
JOB				S	Sn	00 47 55.1	-1.6
JANG	Nango	2.60	261	P	Pn	00 47 33.5	-2.1
JAR	Ashorobuto	2.62	342	P	Pn	00 47 33.6	-2.2
JAR				S	Sn	00 48 03.3	-3.0
NEM2	Nemuro 2	2.63	14	P	Pn	00 47 33.3	-2.6
NEM2				eS	Sn	00 48 02.8	-3.8
JBT2	Biratori 2	2.72	317	P	Pn	00 47 36.6	-0.6
JBT2				S	Sn	00 48 09.3	+0.5
JFR	Furan	2.90	325	P	Pn	00 47 38.5	-1.2
JFR				eS	Sn	00 48 11.8	-1.6
JOT	Ohata	2.95	282	P	Pn	00 47 39.2	-1.2
JOT				S	Sn	00 48 12.1	-2.5
JOM	Ohasama	3.06	245	P	Pn	00 47 40.6	-1.3
JOM				eS	Sn	00 48 14.0	-3.3
JKB	Kayabe	3.09	292	P	Pn	00 47 41.4	-0.9
JKB				eS	Sn	00 48 15.5	-2.5
JTKR	Abashiri--Toko	3.24	347	P	Pn	00 47 43.0	-1.3
JTKR				S	Sn	00 48 19.8	-1.8
JEW	Eniwo	3.27	309	P	Pn	00 47 44.4	-0.3
JEW				S	Sn	00 48 22.1	-0.3
JMK	Ichinoseki	3.38	238	P	Pn	00 47 44.6	-1.6
JMK				eS	Sn	00 48 21.7	-3.3
ASAJ	Asahikawa	3.71	334	Pn	Pn	00 47 53.3	+2.5
	1.9nm,0.3s,baz=165,slow=16,SNR=3.3						
ASAJ				Sn	Sn	00 48 33.4	+0.2
	3.0nm,0.3s,baz=74,slow=32,SNR=6.1						
MJAR	Matsushiro Arr	6.74	233	Pn	Pn	00 48 31.9	-0.6
	0.7nm,0.3s,baz=41,slow=11,SNR=3.4						
KLR	Kul'dur	12.52	317	LR	LR	00 55 22.4	
	comp=Z,4.8nm,18.6s,baz=40,slow=40						
YAK	Yakutsk	23.15	342	P	P	00 51 59.7	+0.8
	45nm,0.4s,baz=44,slow=3.2,SNR=4.2						
SONM	Songino Array	28.19	297	P	P	00 52 43.8	-1.5
	0.2nm,0.3s,baz=86,slow=8.3,SNR=2.9						
ZALV	Zalesovo Beam	41.49	309	P	P	00 54 39.7	+0.3
	0.3nm,0.4s,baz=86,slow=6.1,SNR=2.8						
MKAR	Makanchi Array	44.51	300	P	P	00 55 04.4	+0.4
	0.2nm,0.5s,baz=89,slow=8.6,SNR=3.6						
ILAR	Eielson Array	44.85	34	P	P	00 55 07.3	+0.9
	0.5nm,0.9s,baz=252,slow=7.3,SNR=4.8						
KURBB	Kurchatov Arra	45.91	306	P	P	00 55 15.7	+0.8
	0.7nm,0.6s,baz=74,slow=7.6,SNR=3.2						
INK	Inuvik	49.78	29	P	P	00 55 45.9	+1.2
	0.7nm,0.7s,baz=295,slow=8.3,SNR=3.9						
BVAR	Borovoye Array	50.10	311	P	P	00 55 48.4	+1.1
	0.3nm,0.4s,baz=74,slow=11,SNR=3.7						
WRA	Warramunga Arr	61.23	191	P	P	00 57 07.3	-0.2
	1.8nm,0.8s,baz=9.6,slow=6.9,SNR=11						
ASAR	Alice Springs	64.96	191	P	P	00 57 33.4	+1.2
	0.5nm,0.9s,baz=21,slow=8.1,SNR=3.7						
FINES	FINESS Array B	66.72	333	P	P	00 57 43.9	+0.9
	1.6nm,0.8s,baz=54,slow=9.7,SNR=6.7						
NOA	NORSAR Array B	71.72	338	P	P	00 58 15.2	+1.1
	1.0nm,0.9s,baz=49,slow=2.0,SNR=2.7						
AKASG	Malin Array Be	72.93	323	P	P	00 58 22.4	+1.0
	0.5nm,0.5s,baz=42,slow=5.4,SNR=4.0						
GERES	GERESS Array B	80.87	330	P	P	00 59 07.0	+0.6
	0.1nm,0.2s,baz=36,slow=5.2,SNR=2.7						
TXAR	Lajitas Array	85.70	55	P	P	00 59 32.0	+0.5
	0.6nm,1.1s,baz=297,slow=4.6,SNR=3.8						

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*ISCJB **06** 01:08:12.6±0.3, 24.13N±0.01×121.70E±0.02, h8km±2km, Error ellipse: s-maj=3.3km s-min=1.9km az=26.1*
*TAP **06** 01:08:12.0, 24.12N×121.71E, h9km, ML3.1, B*
*JMA **06** 01:08:12.2±0.1, 24.08N×121.68E, h6km±1km, M2.8*
ISC 06 01:08:12.5±0.8**, 24.12N**±0.02×**121.69E**±0.02**, h12**km±5km**, n75, σ0.58**/110**, 8D, Taiwan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TWD	Chiawan	0.09	246	P	Pg	01 08 14.8	-0.5
	baz=259						
TWD				iS	Sg	01 08 16.7	-0.6
	baz=259						
NACB	Ninganchiao	0.10	303	⇓P	Pg	01 08 14.9	-0.5
	baz=298						
NACB				S	Sg	01 08 17.0	-0.6
	baz=298						
HWA	Hwalien	0.16	209	eP	Pg	01 08 16.6	+0.3
	baz=223						
ENLB	Shoufeng	0.23	201	eP	Pg	01 08 18.2	+0.8
	baz=218						
ENLB				eS	Sg	01 08 23.6	+2.9
	baz=218						
ENA	Nanau	0.31	9	⇓iP	Pg	01 08 18.6	-0.3
	baz=4.0						
ENA				iS	Sg	01 08 23.0	-0.1
	baz=4.0						
NANB	Nanao	0.31	10	⇓P	Pg	01 08 18.6	-0.3
	baz=5.0						
NANB				S	Sg	01 08 22.8	-0.5
	baz=5.0						
ENAH	Nanao	0.35	18	P	Pg	01 08 19.1	-0.4
	baz=12						
ENAH				eS	Sg	01 08 24.3	+0.1
	baz=12						
ESL	Shilin	0.38	218	eP	Pg	01 08 19.9	-0.3
	baz=233						
WHF	Hehuan Shan	0.39	274	P	Pg	01 08 20.3	-0.1
	baz=274						
WHF				S	Sg	01 08 25.9	+0.1
	baz=274						
NNSB	Datong	0.42	318	⇓iP	Pg	01 08 21.0	+0.2
	baz=315						
NNSB				S	Sg	01 08 27.0	+0.5
	baz=315						
NNSH	Datong	0.42	318	eP	Pg	01 08 21.0	+0.1
	baz=314						
NNSH				eS	Sg	01 08 27.1	+0.6
	baz=314						
NNS	Nan Shan	0.43	318	⇓iP	Pg	01 08 21.3	+0.1
	baz=315						
NNS				S	Sg	01 08 27.4	+0.5
	baz=315						
CHGB	Renai	0.47	263	P	Pb	01 08 22.3	-0.7
	baz=257						
CHGB				S	Sg	01 08 28.8	+0.5
	baz=257						
TWT	Tachien	0.49	286	eP	Pb	01 08 22.8	-0.4
	baz=285						
TWT				eS	Sb	01 08 29.8	-0.6
	baz=285						
OWD	Renai	0.50	251	eP	Pg	01 08 22.3	0.0
	baz=254						
OWD				eS	Sb	01 08 29.6	-1.0
	baz=254						
TDCB	Techi	0.50	286	P	Pb	01 08 23.1	-0.4
	baz=285						
TDCB				S	Sg	01 08 29.9	+0.7
	baz=285						
TWC	Suao	0.51	16	P	Pg	01 08 22.2	-0.3
	baz=7.0						
TWC				eS	Sg	01 08 29.5	+0.2
	baz=7.0						
ENTT	Nioudou	0.53	348	⇓P	Pg	01 08 23.1	+0.1
	baz=344						
ENTT				S	Sg	01 08 30.5	+0.4
	baz=344						
EOS1	EOS1	0.59	43	eP	Pb	01 08 24.3	-0.4
	baz=28						
TWE	Neicheng	0.60	358	P	Pg	01 08 24.2	-0.1
	baz=356						
TWE				S	Sg	01 08 32.9	+0.7
	baz=356						
YHNB	Yeheng	0.62	333	⇓P	Pg	01 08 25.0	+0.3
	baz=329						
YHNB				S	Sg	01 08 33.5	+0.6
	baz=329						
SLBB	Yuanshan	0.64	356	eP	Pg	01 08 24.9	-0.1
	baz=352						
SLBB				eS	Sg	01 08 34.1	+0.7
	baz=352						
HGSD	Ruisui	0.67	201	eP	Pb	01 08 26.1	-0.1
	baz=196						
NWLT	Wulai	0.68	345	eP	Pg	01 08 26.0	+0.3
	baz=329						
NWLT				eS	Sg	01 08 35.0	+0.3
	baz=329						
EHY	Hungye	0.70	209	eP	Pg	01 08 25.5	-0.6
	baz=223						
EHY				eS	Sb	01 08 36.8	+0.6
	baz=223						
DPDB	Guoxing	0.70	263	eP	Pb	01 08 26.7	-0.1
	baz=256						
DPDB				eS	Sb	01 08 36.5	+0.1
	baz=256						
NTC	Toucheng	0.74	10	eP	Pg	01 08 26.8	-0.1
	baz=4.0						
SSLB	Suanglung	0.75	244	eP	Pg	01 08 26.2	-0.9
	baz=256						
SSLB				eS	Sg	01 08 36.8	-0.1
	baz=256						
SMLT	Sun Moon Lake	0.76	252	P	Pb	01 08 27.6	-0.2
	baz=254						
SMLT				eS	Sb	01 08 38.7	+0.5
	baz=254						
TYC	Yuchr	0.79	255	eP	Pb	01 08 28.2	-0.1
	baz=256						
TYC				eS	Sb	01 08 38.4	-0.5
	baz=256						
YULB	Yu-li	0.81	207	eP	Pg	01 08 27.3	-0.9
	baz=222						
YULB				eS	Sb	01 08 39.9	+0.4
	baz=222						
LIOB	Emei	0.81	311	eP	Pb	01 08 28.8	+0.2
	baz=309						
LIOB				eS	Sb	01 08 39.8	+0.3
	baz=309						
NSTT	Nanjuang	0.81	309	eP	Pb	01 08 28.6	0.0
	baz=307						
NSTT				eS	Sg	01 08 39.0	+0.2
	baz=307						
TWF1	Yuli	0.84	205	eP	Pb	01 08 28.9	-0.2
	baz=220						
TWF1				eS	Sn	01 08 41.9	-0.7
	baz=220						
TIPB	Shuangxi	0.86	8	⇓P	Pg	01 08 28.0	-1.1
	baz=354						
TWQ1	Liyutan	0.87	285	eP	Pn	01 08 31.0	+0.4
	baz=285						
TATO	Taipei	0.87	348	eP	Pb	01 08 29.7	+0.1
	baz=336						
TATO				eS	Sg	01 08 41.3	+0.4
	baz=336						
NSY	Sanyi	0.90	289	eP	Pb	01 08 30.5	+0.4
	baz=289						
NMLH	Miaoli	0.92	297	eP	Pn	01 08 33.1	+1.8
	baz=296						
YUS	Yu-Shan	0.92	227	eP	Pb	01 08 30.7	-0.1
	baz=231						
YUS				eS	Sn	01 08 44.1	-1.1
	baz=231						
TCU	Taichung	0.93	272	eP	Pn	01 08 31.9	+0.5
	baz=268						
TWB1	Santiao Chiao	0.93	17	eP	Pb	01 08 30.5	0.0
	baz=5.0						
WJS	Zhushan	0.93	252	eP	Pn	01 08 31.3	-0.1
	baz=254						
WJS				eS	Sn	01 08 45.3	+0.7
	baz=254						
NWF	Wu-fen Shan	0.95	5	eP	Pg	01 08 31.0	0.0
	baz=353						
NWF				eS	Sg	01 08 43.3	-0.1
	baz=353						
WFSB	Wu-fen Shan	0.95	5	eP	Pb	01 08 31.0	0.0
	baz=353						
WFSB				eS	Sg	01 08 43.3	-0.1
	baz=353						
NCUH	Zhongli	0.96	332	eP	Pg	01 08 30.6	-0.6
	baz=327						
FULB	Fuli	0.98	202	eP	Pb	01 08 31.4	-0.2
	baz=221						
TWS1	Kuangyinshan	1.01	346	eP	Pn	01 08 33.0	+0.5
	baz=341						
WCHH	Zhanghua	1.03	268	eP	Pg	01 08 31.8	-0.7
	baz=270						
YM10	YM10	1.04	354	eP	Pb	01 08 32.9	+0.4
	baz=359						
YM04	YM04	1.04	352	eP	Pg	01 08 31.8	-0.8
	baz=347						
YM07	YM07	1.05	357	eP	Pg	01 08 32.3	-0.6
	baz=351						
CHKT	Chengkung	1.06	196	eP	Pb	01 08 32.3	-0.5
	baz=193						
CHN5	Tsauling	1.06	241	eP	Pn	01 08 33.9	+0.5
	baz=244						
YM08	YM08	1.07	355	eP	Pb	01 08 33.2	+0.2
	baz=350						
WDLH	Douliu	1.14	248	eP	Pn	01 08 34.4	+0.1
	baz=252						
JYNG	Yonagunijimaku	1.19	74	P	Pb	01 08 35.0	-0.1
JYNG				S	Sn	01 08 51.3	+0.1
RLNB	Erlin	1.24	260	eP	Pn	01 08 35.7	0.0
	baz=262						
YOJ	Yonaguni jima	1.25	74	eP	Pg	01 08 36.9	+0.2
	baz=82						
YOJ	Yonaguni jima	1.25	74	P	Pg	01 08 36.4	-0.3
CHN4	Tsaushan	1.26	233	eP	Pg	01 08 37.4	+0.6
	baz=238						
STYT	Tauyuan	1.28	222	eP	Pg	01 08 36.5	-0.7
	baz=226						
WTP	Ta-pu	1.31	229	eP	Pg	01 08 37.8	0.0
	baz=234						
TWK	Hsinying	1.39	233	eP	Pg	01 08 39.0	-0.3
	baz=237						
TWGBT	Beinan	1.41	204	eP	Pg	01 08 38.7	-1.0
	baz=209						
TWG	Pinlang	1.41	204	eP	Pb	01 08 38.5	-0.3
	baz=209						
CHN1	Nanshi	1.41	229	eP	Pg	01 08 39.4	-0.3
	baz=234						
SGST	Jiashian	1.45	225	eP	Pg	01 08 39.6	-0.7
	baz=230						
SLGT	Liugui	1.47	221	eP	Pb	01 08 39.8	-0.1
	baz=226						
SSD	Sandimen	1.68	216	eP	Pb	01 08 42.9	-0.5
	baz=234						
MASBT	Mashibuluo	1.79	213	eP	Pb	01 08 44.4	-0.9
	baz=210						
PHUB	P'eng-hu	2.03	253	eP	Pn	01 08 47.1	+0.6
	baz=257						
WDGT	Dungji	2.05	246	eP	Pn	01 08 47.9	+1.1
	baz=250						
VWUC	VWUC	2.22	294	eP	Pn	01 08 49.3	+0.1
	baz=293						
MATB	Ma-tsu	2.57	322	eP	Pn	01 08 53.5	-0.5
	baz=318						

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*IDC **06** 01:08:21.6±5.1, 23.30N×121.49E, h0km, mb3.5/3, mb1 3.7/4, mb1mx3.2/60, mbtmp3.5/4, ML3.7/1, Error ellipse: s-maj=113.0km s-min=53.2km az=0.0*
*ISCJB **06** 01:08:26.7±0.4, 24.11N±0.01×121.75E±0.02, h1km±2km, mb3.3/3, Error ellipse: s-maj=3.3km s-min=1.7km az=25.9*
*TAP **06** 01:08:26.7, 24.11N×121.71E, h10km, ML3.7, B*
ISC 06 01:08:26.5±1.1**, 24.13N**±0.02×**121.77E**±0.03**, h4**km±8km**, n95, σ0.55**/145**, mb3.3**/3**, 2D, Taiwan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NACB	Ninganchiao	0.17	284	⇓P	Pg	01 08 29.7	-0.1
	baz=302						
NACB				S	Sg	01 08 31.6	-0.4
	baz=302						
TWD	Chiawan	0.17	252	⇓iP	Pg	01 08 29.5	-0.3
	baz=263						
TWD				iS	Sg	01 08 31.4	-0.7
	baz=263						
HWA	Hwalien	0.22	224	eP	Pg	01 08 31.4	+0.6
	baz=223						
ENLB	Shoufeng	0.28	214	eP	Pg	01 08 32.9	+1.0
	baz=219						
NANB	Nanao	0.29	356	P	Pb	01 08 33.2	-1.1
	baz=5.0						
NANB				eS	Sg	01 08 37.5	+1.4
	baz=5.0						
ENA	Nanau	0.29	355	P	Pb	01 08 33.3	-1.1
	baz=4.0						
ENA				S	Sb	01 08 37.7	-1.9
	baz=4.0						
ENAH	Nanao	0.32	7	eP	Pb	01 08 33.9	-0.8
	baz=12						
ENAH				eS	Sb	01 08 39.2	-1.0
	baz=12						
ESL	Shilin	0.44	224	eP	Pg	01 08 34.6	-0.4
	baz=229						
ESL				eS	Sg	01 08 39.9	-0.9
	baz=229						
NNSB	Datong	0.46	310	P	Pg	01 08 35.8	+0.4
	baz=315						
NNSB				S	Sg	01 08 41.7	+0.3
	baz=315						
NNSH	Datong	0.46	310	eP	Pg	01 08 35.6	+0.2
	baz=315						
NNSH				S	Sg	01 08 41.7	+0.3
	baz=315						
WHF	Hehuan Shan	0.46	272	eP	Pg	01 08 35.4	0.0
	baz=275						
WHF				eS	Sg	01 08 40.8	-0.8
	baz=275						
NNS	Nan Shan	0.47	310	P	Pg	01 08 35.9	+0.3
	baz=316						
NNS				S	Sg	01 08 42.2	+0.4
	baz=316						
TWC	Suao	0.48	9	eP	Pb	01 08 37.4	-0.1
	baz=7.0						
TWC				eS	Sb	01 08 44.9	0.0
	baz=7.0						
EOS1	EOS1	0.53	38	eP	Pn	01 08 39.3	-1.4
	baz=28						
ENTT	Nioudou	0.54	340	P	Pb	01 08 38.0	-0.6
	baz=344						
ENTT				eS	Sb	01 08 45.3	-1.3
	baz=344						
CHGB	Renai	0.55	263	eP	Pg	01 08 37.0	-0.1
	baz=257						
CHGB				eS	Sg	01 08 44.6	+0.4
	baz=257						
TWT	Tachien	0.56	283	eP	Pb	01 08 38.1	-0.8
	baz=286						
TWT				eS	Sg	01 08 44.9	+0.4
	baz=286						
OWD	Renai	0.57	252	eP	Pg	01 08 37.6	+0.1
	baz=255						
TDCB	Techi	0.57	282	eP	Pg	01 08 37.9	+0.4
	baz=286						
TDCB				eS	Sg	01 08 44.5	-0.5
	baz=286						
TWE	Neicheng	0.59	351	eP	Pb	01 08 39.1	-0.3
	baz=356						
TWE				eS	Sb	01 08 47.3	-0.9
	baz=356						
ILA	Ilan	0.63	358	eP	Pb	01 08 40.1	+0.1
	baz=349						
SLBB	Yuanshan	0.63	349	eP	Pb	01 08 39.7	-0.4
	baz=352						
SLBB				eS	Sb	01 08 49.2	-0.1
	baz=352						
YHNB	Yeheng	0.64	326	eP	Pb	01 08 39.6	-0.8
	baz=330						
YHNB				S	Sg	01 08 48.0	+0.7
	baz=330						
NWLT	Wulai	0.69	339	eP	Pb	01 08 40.7	-0.3
	baz=329						
NWLT				eS	Sg	01 08 49.4	+0.8

	baz=329						
HGSD	**Ruisui**	**0.71**	**207**	*e*P	**Pb**	**01 08 41.5**	**+0.1**
	baz=195						
NTC	**Toucheng**	**0.72**	**4**	*e*P	**Pb**	**01 08 41.6**	**0.0**
	baz=4.0						
EGS		**0.72**	**12**	*e*P	**Pb**	**01 08 41.8**	**+0.1**
	baz=20						
EHY	**Hungye**	**0.75**	**213**	*e*P	**Pg**	**01 08 41.0**	**+0.2**
	baz=213						
DPDB	**Guoxing**	**0.78**	**263**	*e*P	**Pg**	**01 08 41.8**	**+0.3**
	baz=265						
SSLB	**Suanglung**	**0.82**	**245**	*e*P	**Pg**	**01 08 41.8**	**-0.5**
	baz=256						
SSLB				*e*S	**Sg**	**01 08 51.4**	**-1.5**
	baz=256						
SMLT	**Sun Moon Lake**	**0.83**	**253**	*e*P	**Pg**	**01 08 42.6**	**+0.1**
	baz=254						
SMLT				*e*S	**Sg**	**01 08 53.2**	**-0.2**
	baz=254						
TIPB	**Shuangxi**	**0.84**	**3**	*e*P	**Pb**	**01 08 43.1**	**-0.5**
	baz=355						
TIPB				*e*S	**Sb**	**01 08 55.0**	**-0.2**
	baz=355						
YULB	**Yu-li**	**0.85**	**211**	*e*P	**Pg**	**01 08 42.6**	**-0.3**
	baz=222						
LIOB	**Emei**	**0.86**	**307**	*e*P	**Pg**	**01 08 43.0**	**0.0**
	baz=309						
LIOB				*e*S	**Sg**	**01 08 55.0**	**+0.9**
	baz=309						
WLTB	**Daxi**	**0.86**	**327**	*e*P	**Pb**	**01 08 43.8**	**-0.1**
	baz=328						
NSTT	**Nanjuang**	**0.86**	**305**	*e*P	**Pb**	**01 08 43.7**	**-0.3**
	baz=308						
NSTT				*e*S	**Sg**	**01 08 54.4**	**+0.2**
	baz=308						
TYC	**Yuchr**	**0.87**	**255**	*e*P	**Pg**	**01 08 42.6**	**-0.5**
	baz=257						
TATO	**Taipei**	**0.88**	**343**	*e*P	**Pg**	**01 08 43.1**	**-0.3**
	baz=336						
TATO				*e*S	**Sb**	**01 08 55.7**	**-0.7**
	baz=336						
TWF1	**Yuli**	**0.89**	**209**	*e*P	**Pg**	**01 08 43.5**	**0.0**
	baz=221						
TWB1	**Santiao Chiao**	**0.89**	**13**	*e*P	**Pn**	**01 08 45.5**	**-0.3**
	baz=6.0						
TWB1				*e*S	**Sb**	**01 08 57.6**	**+0.8**
	baz=6.0						
NWF	**Wu-fen Shan**	**0.93**	**1**	*e*P	**Pb**	**01 08 45.4**	**+0.1**
	baz=351						
NWF				*e*S	**Sb**	**01 08 58.1**	**0.0**
	baz=351						
TAP	**Taipei**	**0.93**	**345**	*e*P	**Pg**	**01 08 44.6**	**+0.2**
	baz=336						
TAP				*e*S	**Sb**	**01 08 57.9**	**-0.1**
	baz=336						
WFSB	**Wu-fen Shan**	**0.93**	**1**	*e*P	**Pb**	**01 08 45.5**	**+0.3**
	baz=359						
TWQ1	**Liyutan**	**0.94**	**283**	*e*P	**Pb**	**01 08 45.9**	**+0.6**
	baz=286						
NSY	**Sanyi**	**0.96**	**287**	*e*P	**Pb**	**01 08 45.9**	**+0.1**
	baz=289						
SBCB	**Hsinchu**	**0.97**	**313**	*e*P	**Pb**	**01 08 46.2**	**+0.3**
	baz=314						
NMLH	**Miaoli**	**0.98**	**294**	*e*P	**Pn**	**01 08 46.8**	**-0.3**
	baz=296						
YUS	**Yu-Shan**	**0.99**	**230**	*e*P	**Pg**	**01 08 45.0**	**-0.5**
	baz=231						
YUS				*e*S	**Sb**	**01 08 59.7**	**-0.2**
	baz=231						
HSN	**Hsinchu**	**0.99**	**313**	*e*P	**Pg**	**01 08 45.7**	**+0.2**
	baz=316						
NCU	**National Centr**	**0.99**	**328**	*e*P	**Pn**	**01 08 47.3**	**+0.1**
	baz=329						
NCU				*e*S	**Sn**	**01 09 01.7**	**+0.2**
	baz=329						
NCUH	**Zhongli**	**0.99**	**327**	*e*P	**Pn**	**01 08 47.0**	**-0.1**
	baz=328						
TCU	**Taichung**	**1.00**	**271**	*e*P	**Pb**	**01 08 46.3**	**0.0**
	baz=265						
TCU				*e*S	**Sb**	**01 09 00.5**	**+0.6**
	baz=265						
WJS	**Zhushan**	**1.00**	**252**	*e*P	**Pg**	**01 08 46.1**	**+0.4**
	baz=254						
WJS				*e*S	**Sb**	**01 09 00.0**	**+0.1**
	baz=254						
TWS1	**Kuangyinshan**	**1.02**	**342**	*e*P	**Pb**	**01 08 46.7**	**0.0**
	baz=342						
TWS1				*e*S	**Sn**	**01 09 01.5**	**-0.7**
	baz=342						
WNT	**Mingjian**	**1.03**	**256**	*e*P	**Pg**	**01 08 46.4**	**+0.3**
	baz=253						
WNT				*e*S	**Sb**	**01 09 00.5**	**-0.1**
	baz=253						
FULB	**Fuli**	**1.03**	**205**	*e*P	**Pg**	**01 08 46.3**	**+0.1**
	baz=220						
YM10	**YM10**	**1.04**	**349**	*e*P	**Pb**	**01 08 47.2**	**+0.2**
	baz=359						
YM04	**YM04**	**1.04**	**348**	*e*P	**Pb**	**01 08 46.8**	**-0.2**
	baz=347						
YM07	**YM07**	**1.05**	**353**	*e*P	**Pg**	**01 08 46.6**	**0.0**
	baz=352						
YM07				*e*S	**Sb**	**01 09 01.1**	**-0.1**
	baz=352						
YM08	**YM08**	**1.06**	**351**	*e*P	**Pn**	**01 08 47.9**	**-0.3**
	baz=349						
NTST	**Danshui**	**1.07**	**344**	*e*P	**Pn**	**01 08 48.4**	**+0.2**
	baz=343						
CHKT	**Chengkung**	**1.09**	**200**	*e*P	**Pg**	**01 08 46.7**	**-0.8**
	baz=192						
CHKT				*e*S	**Sg**	**01 09 02.1**	**+0.5**
	baz=192						
WCHH	**Zhanghua**	**1.11**	**267**	*e*P	**Pb**	**01 08 48.3**	**0.0**
	baz=270						
CHN5	**Tsauling**	**1.13**	**242**	P	**Pb**	**01 08 48.6**	**-0.1**
	baz=244						
CHN5				*e*S	**Sb**	**01 09 04.7**	**+0.9**
	baz=244						
TWY	**Chenhua**	**1.15**	**352**	*e*P	**Pn**	**01 08 50.1**	**+0.8**
	baz=350						
ELDTW	**Lidau**	**1.17**	**216**	*e*P	**Pg**	**01 08 48.3**	**-0.6**
	baz=228						
ELDTW				*e*S	**Sg**	**01 09 02.9**	**-1.1**
	baz=228						
YOJ	**Yonaguni jima**	**1.18**	**74**	*e*P	**Pn**	**01 08 51.1**	**+1.3**
	baz=70						
WDLH	**Douliu**	**1.21**	**249**	*e*P	**Pg**	**01 08 49.5**	**-0.2**
	baz=251						
WDLH				*e*S	**Sb**	**01 09 06.3**	**+0.3**
	baz=251						
RLNB	**Erlin**	**1.31**	**260**	*e*P	**Pn**	**01 08 51.7**	**+0.1**
	baz=262						
RLNB				*e*S	**Sn**	**01 09 09.8**	**+0.3**
	baz=262						
CHN4	**Tsaushan**	**1.33**	**234**	*e*P	**Pb**	**01 08 52.3**	**+0.3**
	baz=230						
CHN4				*e*S	**Sn**	**01 09 10.9**	**+1.0**
	baz=230						
TPUB	**Ta-pu**	**1.33**	**232**	*e*P	**Pg**	**01 08 52.1**	**0.0**
	baz=234						
TPUB				*e*S	**Sb**	**01 09 10.0**	**+0.5**
	baz=234						
STYT	**Tauyuan**	**1.34**	**224**	*e*P	**Pn**	**01 08 51.3**	**-0.8**
	baz=226						
STYT				*e*S	**Sb**	**01 09 10.3**	**+0.5**
	baz=226						
WTP	**Ta-pu**	**1.38**	**230**	*e*P	**Pg**	**01 08 53.0**	**+0.1**
	baz=232						
WTP				*e*S	**Sn**	**01 09 11.6**	**+0.3**
	baz=232						
CHY	**Chiayi**	**1.39**	**243**	*e*P	**Pb**	**01 08 53.1**	**+0.2**
	baz=245						
CHY				*e*S	**Sn**	**01 09 11.6**	**+0.3**
	baz=245						
TWG	**Pinlang**	**1.46**	**206**	*e*P	**Pn**	**01 08 53.0**	**-0.6**
	baz=208						
TWGBT	**Beinan**	**1.46**	**206**	*e*P	**Pn**	**01 08 53.1**	**-0.4**
	baz=208						
TWK	**Hsinying**	**1.46**	**234**	*e*P	**Pb**	**01 08 54.1**	**-0.1**
	baz=230						
TWK				*e*S	**Sb**	**01 09 13.0**	**-0.2**
	baz=230						
CHN1	**Nanshi**	**1.48**	**231**	*e*P	**Pn**	**01 08 54.0**	**+0.1**
	baz=233						
CHN1				*e*S	**Sb**	**01 09 14.1**	**+0.4**
	baz=233						
WSF	**Szhu**	**1.50**	**251**	*e*P	**Pb**	**01 08 54.8**	**-0.1**
	baz=254						
SGST	**Jiashian**	**1.51**	**226**	*e*P	**Pb**	**01 08 54.9**	**-0.2**
	baz=228						
SGST				*e*S	**Sn**	**01 09 14.8**	**+0.3**
	baz=228						
SLGT	**Liugui**	**1.53**	**223**	*e*P	**Pg**	**01 08 55.8**	**-0.1**
	baz=224						
CHN8	**Yiju**	**1.63**	**242**	*e*P	**Pn**	**01 08 56.0**	**+0.1**
	baz=244						
SSD	**Sandimen**	**1.73**	**217**	*e*P	**Pn**	**01 08 57.8**	**+0.4**
	baz=213						
MASBT	**Mashibuluo**	**1.84**	**215**	*e*P	**Pn**	**01 08 59.3**	**+0.4**
	baz=214						
MASBT				*e*S	**Sn**	**01 09 22.8**	**+0.3**
	baz=214						
SSPT	**Xinbi**	**1.98**	**214**	*e*P	**Pb**	**01 09 02.5**	**-0.6**
	baz=209						
PNG	**Penghu**	**2.10**	**255**	*e*P	**Pn**	**01 09 02.8**	**+0.3**
	baz=258						
PHUB	**P'eng-hu**	**2.11**	**253**	*e*P	**Pn**	**01 09 02.2**	**-0.3**
	baz=248						
PHUB				*e*S	**Sn**	**01 09 29.2**	**+0.1**
	baz=248						
WDGT	**Dungji**	**2.12**	**246**	*e*P	**Pn**	**01 09 02.8**	**+0.1**
	baz=249						
VWUC	**VWUC**	**2.28**	**292**	*e*P	**Pn**	**01 09 03.9**	**-1.0**
	baz=293						
TWKBT	**Hengchun**	**2.35**	**202**	*e*P	**Pn**	**01 09 05.3**	**-0.6**
	baz=191						
MATB	**Ma-tsu**	**2.60**	**321**	*e*P	**Pn**	**01 09 09.4**	**+0.1**
	baz=318						
KSRS	**Korea Array**	**14.29**	**20**	Pn	**P**	**01 11 57.6**	**+0.7**
	0.3nm,0.3s,baz=200,slow=12,SNR=3.8						
MKAR	**Makanchi Array**	**38.75**	**316**	P	**P**	**01 15 51.7**	**-0.1**
	0.5nm,0.7s,baz=107,slow=9.2,SNR=7.3						
ZALV	**Zalesovo Beam**	**40.58**	**327**	P	**P**	**01 16 06.2**	**-0.8**
	0.3nm,0.4s,baz=106,slow=9.1,SNR=3.7						
YKA	**Yellowknife Ar**	**82.81**	**23**	P	**P**	**01 20 51.9**	**+0.3**
	0.1nm,0.5s,baz=315,slow=5.7,SNR=5.1						

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*ISCJB **06** 01:12:47.6±0.3, 24°.12N±0°.01×121°.74E±0°.02, h2km±3km, Error ellipse: s-maj=3.1km s-min=1.8km az=28.8*
*JMA **06** 01:12:47.6±0.1, 24°.12N×121°.71E, h1km±2km*
*TAP **06** 01:12:47.5, 24°.12N×121°.71E, h9km, ML3.2, B*
ISC 06 01:12:47.8±0.9**, 24°.12N**±0°.02×**121°.72E**±0°.02**, h7**km±7km**, n77, σ0s.53**/116**, 2D, Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWD	**Chiawan**	**0.12**	**251**	P	**Pg**	**01 12 50.2**	**-0.2**
	baz=257						
TWD				*i* S	**Sg**	**01 12 52.1**	**-0.1**
	baz=257						
NACB	**Ninganchiao**	**0.13**	**296**	P	**Pg**	**01 12 50.4**	**-0.2**
	baz=297						
NACB				S	**Sg**	**01 12 52.2**	**-0.2**
	baz=297						
HWA	**Hwalien**	**0.17**	**217**	*e*P	**Pg**	**01 12 51.8**	**+0.4**
	baz=222						
ENLB	**Shoufeng**	**0.24**	**207**	*e*P	**Pg**	**01 12 53.6**	**+1.0**
	baz=219						
ENA	**Nanau**	**0.31**	**4**	⇓P	**Pg**	**01 12 53.9**	**0.0**
	baz=5.0						
ENA				S	**Sg**	**01 12 58.3**	**+0.3**
	baz=5.0						
NANB	**Nanao**	**0.31**	**5**	⇓P	**Pg**	**01 12 53.9**	**0.0**
	baz=5.0						
NANB				S	**Sg**	**01 12 58.4**	**+0.4**
	baz=5.0						
ENAH	**Nanao**	**0.34**	**14**	P	**Pg**	**01 12 54.6**	**+0.1**
	baz=12						
ENAH				*e*S	**Sg**	**01 12 59.9**	**+0.8**
	baz=12						
ESL	**Shilin**	**0.40**	**221**	*e*P	**Pg**	**01 12 55.4**	**-0.2**
	baz=229						
ESL				*e*S	**Sb**	**01 13 02.0**	**-1.5**
	baz=229						
NNSB	**Datong**	**0.43**	**315**	P	**Pg**	**01 12 56.3**	**0.0**
	baz=315						
NNSB				S	**Sg**	**01 13 02.3**	**+0.3**
	baz=315						
NNSH	**Datong**	**0.43**	**315**	*e*P	**Pg**	**01 12 56.0**	**-0.3**
	baz=314						
NNSH				*e*S	**Sg**	**01 13 02.6**	**+0.5**
	baz=314						
NNS	**Nan Shan**	**0.45**	**316**	P	**Pg**	**01 12 56.6**	**0.0**
	baz=316						
NNS				S	**Sg**	**01 13 02.8**	**+0.3**
	baz=316						
CHGB	**Renai**	**0.50**	**264**	*e*P	**Pg**	**01 12 57.7**	**+0.2**
	baz=256						
CHGB				*e*S	**Sg**	**01 13 04.9**	**+0.7**
	baz=256						
TWC	**Suao**	**0.50**	**14**	*e*P	**Pb**	**01 12 58.1**	**-0.9**
	baz=8.0						
TWC				*e*S	**Sg**	**01 13 04.8**	**+0.6**
	baz=8.0						
TWT	**Tachien**	**0.51**	**285**	*e*P	**Pb**	**01 12 58.6**	**-0.7**
	baz=284						
TWT				*e*S	**Sb**	**01 13 05.9**	**-1.1**
	baz=284						
OWD	**Renai**	**0.52**	**252**	*e*P	**Pb**	**01 12 58.4**	**-1.0**
	baz=253						
OWD				*e*S	**Sb**	**01 13 06.1**	**-1.1**
	baz=253						
TDCB	**Techi**	**0.53**	**285**	*e*P	**Pg**	**01 12 58.3**	**+0.2**
	baz=285						
TDCB				*e*S	**Sg**	**01 13 05.2**	**+0.2**
	baz=285						
ENTT	**Nioudou**	**0.54**	**345**	*e*P	**Pg**	**01 12 58.6**	**+0.4**
	baz=344						
ENTT				S	**Sg**	**01 13 05.5**	**+0.2**
	baz=344						
EOS1	**EOS1**	**0.57**	**41**	*e*P	**Pb**	**01 12 60.0**	**-0.1**
	baz=29						
TWE	**Neicheng**	**0.60**	**356**	P	**Pg**	**01 12 59.7**	**+0.2**
	baz=356						
TWE				*e*S	**Sb**	**01 13 08.4**	**-1.0**
	baz=356						
YHNB	**Yeheng**	**0.63**	**330**	P	**Pg**	**01 13 00.2**	**+0.2**
	baz=330						
YHNB				*e*S	**Sg**	**01 13 08.6**	**+0.3**
	baz=330						
HGSD	**Ruisui**	**0.68**	**203**	*e*P	**Pb**	**01 13 01.6**	**-0.3**
	baz=222						
NWLT	**Wulai**	**0.69**	**343**	*e*P	**Pg**	**01 13 01.2**	**+0.2**
	baz=329						
NWLT				*e*S	**Sg**	**01 13 10.5**	**+0.5**
	baz=329						
EHY	**Hungye**	**0.71**	**211**	*e*P	**Pb**	**01 13 01.8**	**-0.7**
	baz=223						
EHY				*e*S	**Sb**	**01 13 12.2**	**-0.2**
	baz=223						
DPDB	**Guoxing**	**0.73**	**264**	P	**Pg**	**01 13 02.0**	**+0.1**
	baz=265						
NTC	**Toucheng**	**0.74**	**8**	*e*P	**Pg**	**01 13 01.2**	**-0.9**
	baz=4.0						
EGS		**0.75**	**15**	*e*P	**Pb**	**01 13 02.7**	**-0.5**
	baz=20						
SSLB	**Suanglung**	**0.77**	**245**	*e*P	**Pg**	**01 13 02.5**	**-0.1**
	baz=248						
SMLT	**Sun Moon Lake**	**0.78**	**253**	*e*P	**Pb**	**01 13 03.2**	**-0.6**
	baz=254						
SMLT				*e*S	**Sb**	**01 13 14.7**	**0.0**
	baz=254						
YULB	**Yu-li**	**0.82**	**208**	*e*P	**Pg**	**01 13 03.6**	**0.0**
	baz=222						
YULB				*e*S	**Sb**	**01 13 15.7**	**+0.1**
	baz=222						
LIOB	**Emei**	**0.83**	**309**	*e*P	**Pb**	**01 13 04.4**	**-0.1**
	baz=309						
LIOB				*e*S	**Sb**	**01 13 15.7**	**-0.2**
	baz=309						
NSTT	**Nanjuang**	**0.83**	**308**	*e*P	**Pb**	**01 13 04.9**	**+0.4**
	baz=307						
NSTT				*e*S	**Sb**	**01 13 14.9**	**-1.0**
	baz=307						
TWF1	**Yuli**	**0.85**	**207**	*e*P	**Pg**	**01 13 04.4**	**+0.1**
	baz=222						
TWF1				*e*S	**Sb**	**01 13 17.1**	**+0.5**
	baz=222						
TIPB	**Shuangxi**	**0.86**	**7**	*e*P	**Pg**	**01 13 03.5**	**-0.8**
	baz=356						
TIPB				*e*S	**Sb**	**01 13 17.3**	**+0.6**
	baz=356						
TATO	**Taipei**	**0.88**	**346**	*e*P	**Pg**	**01 13 04.7**	**0.0**
	baz=336						
TATO				*e*S	**Sb**	**01 13 16.6**	**-0.7**
	baz=336						
TWQ1	**Liyutan**	**0.89**	**285**	*e*P	**Pn**	**01 13 06.5**	**-0.3**
	baz=297						
TWQ1				*e*S	**Sb**	**01 13 18.3**	**+0.6**
	baz=297						
TWB1	**Santiao Chiao**	**0.92**	**15**	*e*P	**Pb**	**01 13 06.4**	**+0.3**
	baz=3.0						
NSY	**Sanyi**	**0.92**	**289**	*e*P	**Pn**	**01 13 06.6**	**-0.6**
	baz=289						
YUS	**Yu-Shan**	**0.94**	**228**	*e*P	**Pb**	**01 13 06.1**	**-0.6**
	baz=231						
YUS				*e*S	**Sb**	**01 13 19.7**	**+0.2**
	baz=231						
NMLH	**Miaoli**	**0.94**	**296**	*e*P	**Pn**	**01 13 08.4**	**+0.9**
	baz=296						
NWF	**Wu-fen Shan**	**0.95**	**3**	*e*P	**Pb**	**01 13 06.9**	**+0.2**
	baz=352						
NWF				*e*S	**Sb**	**01 13 19.6**	**+0.1**
	baz=352						
WFSB	**Wu-fen Shan**	**0.95**	**3**	*e*P	**Pb**	**01 13 06.3**	**-0.3**
	baz=353						
WFSB				*e*S	**Sb**	**01 13 19.1**	**-0.3**
	baz=353						
TCU	**Taichung**	**0.95**	**272**	*e*P	**Pn**	**01 13 07.0**	**-0.5**
	baz=268						
WJS	**Zhushan**	**0.95**	**252**	*e*P	**Pb**	**01 13 06.6**	**0.0**
	baz=253						
WJS				*e*S	**Sn**	**01 13 20.8**	**-0.7**
	baz=253						
WNT	**Mingjian**	**0.98**	**256**	*e*P	**Pb**	**01 13 06.8**	**-0.2**
	baz=251						
FULB	**Fuli**	**0.99**	**203**	*e*P	**Pg**	**01 13 06.8**	**-0.1**
	baz=223						
TWS1	**Kuangyinshan**	**1.02**	**344**	*e*P	**Pb**	**01 13 07.7**	**0.0**
	baz=340						
YM10	**YM10**	**1.04**	**352**	*e*P	**Pg**	**01 13 07.6**	**-0.3**
	baz=359						
YM10				*e*S	**Sb**	**01 13 22.4**	**+0.3**
	baz=359						
YM04	**YM04**	**1.04**	**351**	*e*P	**Pg**	**01 13 07.6**	**-0.2**
	baz=347						
YM07	**YM07**	**1.06**	**355**	*e*P	**Pg**	**01 13 07.1**	**-1.0**
	baz=351						
WCHH	**Zhanghua**	**1.06**	**268**	*e*P	**Pb**	**01 13 08.3**	**-0.1**
	baz=270						
CHKT	**Chengkung**	**1.06**	**198**	*e*P	**Pg**	**01 13 08.0**	**-0.3**
	baz=192						
CHKT				*e*S	**Sn**	**01 13 23.7**	**-0.4**
	baz=192						
YM08	**YM08**	**1.07**	**354**	*e*P	**Pg**	**01 13 08.2**	**-0.2**
	baz=349						
CHN5	**Tsauling**	**1.08**	**242**	*e*P	**Pn**	**01 13 09.2**	**-0.3**
	baz=244						
CHN5				*e*S	**Sn**	**01 13 25.5**	**+0.7**
	baz=244						
TWY	**Chenhua**	**1.16**	**355**	*e*P	**Pn**	**01 13 10.4**	**0.0**
	baz=336						
WDLH	**Douliu**	**1.16**	**249**	*e*P	**Pn**	**01 13 10.3**	**-0.1**
	baz=251						
WDLH				*e*S	**Sn**	**01 13 27.7**	**+1.2**
	baz=251						
JYNG	**Yonagunijimaku**	**1.17**	**73**	P	**Pg**	**01 13 09.9**	**-0.3**
YOJ	**Yonaguni jima**	**1.23**	**74**	*e*P	**Pn**	**01 13 11.5**	**+0.2**
	baz=80						
YOJ	**Yonaguni jima**	**1.23**	**74**	P	**Pg**	**01 13 10.9**	**-0.5**
YOJ				S	**Sn**	**01 13 28.6**	**+0.4**
RLNB	**Erlin**	**1.26**	**260**	*e*P	**Pn**	**01 13 12.5**	**+0.6**
	baz=263						
CHN4	**Tsaushan**	**1.28**	**234**	*e*P	**Pb**	**01 13 12.8**	**+0.5**
	baz=239						
TPUB	**Ta-pu**	**1.29**	**231**	*e*P	**Pg**	**01 13 12.1**	**-0.5**
	baz=236						
STYT	**Tauyuan**	**1.30**	**223**	*e*P	**Pg**	**01 13 12.1**	**-0.6**
	baz=228						
WTP	**Ta-pu**	**1.33**	**230**	*e*P	**Pg**	**01 13 13.4**	**0.0**
	baz=235						
TWK	**Hsinying**	**1.41**	**233**	*e*P	**Pb**	**01 13 14.3**	**-0.2**
	baz=238						
TWG	**Pinlang**	**1.42**	**205**	*e*P	**Pn**	**01 13 14.2**	**+0.2**
	baz=210						
TWGBT	**Beinan**	**1.42**	**205**	*e*P	**Pn**	**01 13 13.0**	**-1.0**
	baz=210						
CHN1	**Nanshi**	**1.43**	**230**	*e*P	**Pg**	**01 13 15.2**	**-0.2**
	baz=234						
CHN1				*e*S	**Sg**	**01 13 34.1**	**+0.2**
	baz=234						
SGST	**Jiashian**	**1.47**	**226**	*e*P	**Pb**	**01 13 15.3**	**0.0**
	baz=231						
SLGT	**Liugui**	**1.49**	**222**	*e*P	**Pg**	**01 13 17.7**	**+1.3**
	baz=227						
SSD	**Sandimen**	**1.69**	**216**	*e*P	**Pn**	**01 13 18.1**	**+0.4**
	baz=235						
MASBT	**Mashibuluo**	**1.80**	**214**	*e*P	**Pn**	**01 13 19.7**	**+0.5**
	baz=219						
EAST	**Anshuo**	**1.90**	**205**	*e*P	**Pb**	**01 13 22.0**	**-0.8**
	baz=198						
PNG	**Penghu**	**2.06**	**255**	*e*P	**Pn**	**01 13 23.5**	**+0.7**
	baz=258						
PHUB	**P'eng-hu**	**2.06**	**253**	*e*P	**Pn**	**01 13 22.2**	**-0.5**
	baz=257						
WDGT	**Dungji**	**2.07**	**246**	*e*P	**Pn**	**01 13 23.0**	**+0.1**
	baz=251						
JKRS	**Kuro-shima**	**2.10**	**86**	P	**Pn**	**01 13 23.2**	**-0.1**
JKRS				S	**Sn**	**01 13 50.5**	**+0.9**
JIJ	**Ishigaki jima**	**2.23**	**83**	P	**Pn**	**01 13 24.6**	**-0.5**
JIJ				S	**Sn**	**01 13 53.5**	**+0.7**

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*ISN **06** 01:14:45.5±1.9, 33°.89N×48°.91E, h30km±13km, ML3.6*
*IASPEI **06** 01:14:48.2±0.2, 33°.97N×48°.59E, h7km, ML3.6, Error ellipse: s-maj=2.6km s-min=1.4km az=179.3, Ghods, A., M. Rezapour, E. Bergman, G. Mortezanejad, and M. Talebian, 2012. Relocation of the 2006 Mw 6.1 Silakhour, Iran, Earthquake Sequence: Details of Fault Segmentation on the Main Recent Fault, BSSA, 102(1), pp. 398-416. Bondˆ¡r and McLaughlin, A new ground truth data set for seismic studies, <i>Seism. Res. Let.</i>, 80, 465-472, 2009 GT5 identified by Bondˆ¡r and McLaughlin (2009) selection criteria*
*THR **06** 01:14:49.3±1.5, 34°.03N×48°.63E, h14km±11km, ML3.5*
*ISCJB **06** 01:14:50.4±0.4, 33°.99N±0°.04×48°.48E±0°.03, h11km, Error ellipse: s-maj=6.1km s-min=3.7km az=12.3*
*CSEM **06** 01:14:50.3±0.2, 33°.97N×48°.49E, h2km, ML3.6, Error ellipse: s-maj=6.2km s-min=3.8km az=8.0*
*TEH **06** 01:14:51.6, 33°.93N×48°.50E, h5km, ML3.6*
ISC 06 01:14:49.4±0.8**, 33°.97N**±0°.03×**48°.63E**±0°.03**, h11**km**, n48, σ1s.79**/57**, Western Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HSAM	**Samen**	**0.24**	**354**	*e*Pg	**Pg**	**01 14 54.1**	**-0.5**
HSAM				*e*AMB	AMB	01 14 59.3	
	comp=Z,99nm,0.1s						
HSAM	**Samen**	**0.24**	**354**	*e*Pg	**Pg**	**01 14 54.1**	**-0.5**
HAGD	**Aghdareh**	**0.95**	**26**	*e*AMB	AMB	01 15 22.4	
	comp=Z,99nm,0.1s						
HAGD				*e*Pg	**Pg**	**01 15 07.1**	**-0.6**
IKOM	**Komasi**	**0.95**	**283**	*e*AMB	AMB	01 15 29.7	
	comp=Z,12µm,0.2s						
IKOM				*e*Pg	**Pg**	**01 15 06.5**	**-1.3**
KHMZ	**Khomeyn**	**1.13**	**101**	*e*Pg	**Pb**	**01 15 10.3**	**-0.7**
KHMZ	**Khomeyn**	**1.13**	**101**	*e*Pg	**Pb**	**01 15 10.3**	**-0.7**
KHMZ				AML	AML	01 15 31.9	
	comp=E,859nm,0.5s						
KHMZ				AML	AML	01 15 37.2	
	comp=N,498nm,0.6s						
ASAO	**Ashtian**	**1.29**	**63**	*e*Pg	**Pn**	**01 15 13.2**	**-0.4**
ASAO	**Ashtian**	**1.29**	**63**	*e*Pg	**Pn**	**01 15 13.2**	**-0.4**
ASAO				*e*Sg	**Sb**	**01 15 30.2**	**-0.3**
ASAO				AML	AML	01 15 35.9	
	comp=E,1µm,0.5s						
HKZM	**Kohzaman**	**1.42**	**9**	*e*Pg	**Pn**	**01 15 15.3**	**-0.1**
HKZM				*e*AMB	AMB	01 15 35.5	
	comp=Z,99nm,0.1s						
SNGE	**Sanandaj**	**1.54**	**317**	*e*Pn	**Pn**	**01 15 17.3**	**+0.2**
SNGE				*e*Sg	**Sn**	**01 15 37.4**	**+0.2**
SNGE	**Sanandaj**	**1.54**	**317**	*e*Pn	**Pn**	**01 15 17.3**	**+0.2**
SNGE				*e*Sg	**Sn**	**01 15 37.4**	**+0.2**
IVIS	**Veis**	**1.58**	**291**	*e*Pn	**Pn**	**01 15 18.4**	**+1.0**
IVIS				*e*Sg	**Sn**	**01 15 38.6**	**+0.7**
IVIS				*e*AMB	AMB	01 15 44.2	
	comp=Z,4µm,0.2s						
IVIS	**Veis**	**1.58**	**291**	*e*Pn	**Pn**	**01 15 18.4**	**+1.0**
IVIS				*e*Sg	**Sn**	**01 15 38.6**	**+0.7**
ILIN	**Lien**	**1.68**	**305**	*e*Pn	**Pb**	**01 15 20.6**	**+0.2**
ILIN				*e*AMB	AMB	01 15 48.2	

	comp=Z,6µm,0.4s						
ILIN	Lien	1.68	305	ePn	Pb	01 15 20.6	+0.2
IGHG	Ghaleghazi	1.75	282	ePn	Pb	01 15 22.0	+0.4
IGHG				eAMB	AMB	01 15 55.9	
	comp=Z,8µm,0.4s						
IGHG	Ghaleghazi	1.75	282	ePn	Pb	01 15 22.0	+0.4
IRAZ	Razeghan	1.79	36	ePn	Pb	01 15 22.5	+0.2
IRAZ				eAMB	AMB	01 15 51.1	
	comp=Z,6µm,0.2s						
IRAZ	Razeghan	1.79	36	ePn	Pb	01 15 22.5	+0.2
SHGR	Shooshtar-Gavs	1.86	176	ePn	Pb	01 15 24.0	+0.6
SHGR	Shooshtar-Gavs	1.86	176	ePn	Pb	01 15 24.0	+0.6
SHGR				eSg	Sg	01 15 49.5	+0.3
SHGR				AML	AML	01 15 52.7	
	comp=E,362nm,0.4s						
SHGR				AML	AML	01 15 58.0	
	comp=N,585nm,0.4s						
IR5	Iran Long-Peri	2.03	52	ePn	Pb	01 15 26.7	+0.3
IR5				eAMB	AMB	01 15 57.7	
	comp=E,3µm,0.2s						
IR5	Iran Long-Peri	2.03	52	ePn	Pb	01 15 26.7	+0.3
GHVR	GHOM	2.26	76	ePg	Pb	01 15 30.1	-0.3
GHVR				AML	AML	01 16 05.2	
	comp=N,188nm,0.4s						
GHVR				AML	AML	01 16 07.3	
	comp=E,325nm,0.6s						
QAM	Ghamsar	2.34	94	ePn	Pb	01 15 31.1	-0.7
QAM				eAMB	AMB	01 16 12.1	
	comp=Z,8µm,0.2s						
IMHD	Mahdasht	2.40	44	ePn	Pb	01 15 32.9	+0.3
IMHD				eAMB	AMB	01 16 08.1	
	comp=Z,5µm,0.2s						
IMHD	Mahdasht	2.40	44	ePn	Pb	01 15 32.9	+0.3
IKLH	Kolahrood	2.54	104	ePn	Pb	01 15 35.2	+0.1
IKLH				eAMB	AMB	01 16 15.6	
	comp=Z,3µm,0.2s						
IKLH	Kolahrood	2.54	104	ePn	Pb	01 15 35.2	+0.1
IGZV	Ghazvin	2.74	28	ePn	Pb	01 15 36.8	-1.7
IGZV				eAMB	AMB	01 16 25.8	
	comp=Z,2µm,0.2s						
IGZV	Ghazvin	2.74	28	ePn	Pb	01 15 36.8	-1.7
IVRN	Varamin	2.75	67	ePn	Pb	01 15 38.2	-0.5
IVRN				eAMB	AMB	01 16 23.2	
	comp=Z,3µm,0.1s						
IVRN	Varamin	2.75	67	ePn	Pb	01 15 38.2	-0.5
CHTH	Charan	2.82	46	eSg	Sb	01 16 15.9	+1.5
IDMV	Damavand	3.23	59	ePn	Pn	01 15 43.9	+3.7
IDMV				eAMB	AMB	01 16 38.3	
	comp=Z,1µm,0.3s						
IDMV	Damavand	3.23	59	ePn	Pn	01 15 43.9	+3.7
IZEF	Zefreh	3.27	108	ePn	Pn	01 15 44.6	+3.8
IZEF				eAMB	AMB	01 16 39.8	
	comp=Z,1µm,0.3s						
IZEF	Zefreh	3.27	108	ePn	Pn	01 15 44.6	+3.8
BHD	Baghdad	3.62	260	ePn	Pn	01 15 44.5	-0.8
	SNR=5.0						
BHD				i Sn	Sn	01 16 28.0	0.0
	SNR=5.0						
NASN	Na'in	3.68	107	ePn	Pn	01 15 49.2	+2.7
NASN	Na'in	3.68	107	ePn	Pn	01 15 49.2	+2.7
NASN				eSg	Sg	01 16 44.5	-3.2
IFIR	Firoozkooh	3.78	63	ePn	Pn	01 15 52.1	+4.3
IFIR				eAMB	AMB	01 16 50.4	
	comp=Z,970nm,0.2s						
IFIR	Firoozkooh	3.78	63	ePn	Pn	01 15 52.1	+4.3
IRAM	Ramesheh	3.82	123	ePn	Pn	01 15 50.9	+2.6
IRAM				eAMB	AMB	01 17 06.8	
	comp=Z,1µm,0.5s						
IRAM	Ramesheh	3.82	123	ePn	Pn	01 15 50.9	+2.6
IKAZ	Kazeroun	4.99	146	ePn	Pn	01 16 07.3	+2.8
IKAZ				eAMB	AMB	01 17 51.4	
	comp=Z,392nm,0.5s						
IKAZ	Kazeroun	4.99	146	ePn	Pn	01 16 07.3	+2.8
RTB	Rutbah	7.02	265	ePn	Pn	01 16 32.0	-0.1
	SNR=5.0						
RTB				i Sn	Sn	01 17 49.0	-2.9
	SNR=5.0						

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*SJA **06** 01:30:08.3±1.0, 34°.74S×71°.76W, h12km, ML3.8, MW3.8*
*ISCJB **06** 01:30:11.1±0.4, 34°.77S±0°.04×71°.76W±0°.06, h60km±4km, mb4.0/8, Error ellipse: s-maj=9.2km s-min=5.1km az=23.7*
*GUC **06** 01:30:12.5±0.4, 34°.73S×71°.68W, h41km±1km, ML3.9*
*NEIC **06** 01:30:12.0±0.0, 34°.77S×71°.61W, h37km, mb3.7/1, ML3.9(GUC), After GUC.*
NEIC Felt [IV] at Curico; [III] at Constitucion, Iloca, Pencahue, San Rafael and Talca; [II] at Rio Claro.
*IDC **06** 01:30:13.4±3.3, 34°.79S×71°.59W, h67km±27km, mb3.8/6, mb1 3.8/9, mb1mx3.6/32, mbtmp4.0/9, ML4.0/3, MS3.3/4, Ms1 3.3/4, ms1mx3.0/33, Error ellipse: s-maj=32.1km s-min=19.1km az=90.0*
ISC 06 01:30:11.7±0.7**, 34°.77S**±0°.03×**71°.75W**±0°.05**, h47**km±6km**,**
n48, σ2§**11**/58**, mb4.1**/8**, 1D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GO05	HualaæØ	0.28	212	eP	Pn	01 30 20.9	+0.4
GO05				i S	Sn	01 30 27.3	+0.6
GO05				IAML		01 30 30.0	
	comp=E,10µm,0.2s						
CHPI	Pichilemu	0.43	331	eP	Pn	01 30 22.0	0.0
CHPI				i S	Sn	01 30 30.5	+1.3
CHPI				IAML		01 30 33.3	
	comp=N,6µm,0.2s						
NICH	Los Niches	0.49	119	⇓iP	Pn	01 30 22.0	-0.6
NICH				i S	Sn	01 30 29.7	-0.7
NICH				IAML		01 30 31.1	
	comp=E,34µm,0.3s						
LMEL	Las Melosas	1.57	55	eP	Pn	01 30 37.0	-0.3
LMEL				i S	Sn	01 30 56.9	+0.2
LMEL				IAML		01 31 00.3	
	comp=N,4µm,0.3s						
COCH	Cobquecura	1.60	212	eP	Pn	01 30 37.9	+0.4
COCH				i S	Sn	01 31 01.8	+4.8
COCH	Cobquecura	1.60	212	eP	Pn	01 30 39.6	+2.0
COCH				i S	Sn	01 31 00.1	+3.1
COCH				IAML		01 31 07.4	
	comp=E,1µm,0.7s						
FSR	Penalolen	1.64	39	eP	Pn	01 30 41.0	+2.9
FSR				i S	Sn	01 31 00.7	+2.6
CCHI	Chillan	1.85	188	eP	Pn	01 30 42.0	+1.1
CCHI				eS	Sn	01 30 56.1	-7.0
CCHI	Chillan	1.85	188	eP	Pn	01 30 43.0	+2.1
CCHI				i S	Sn	01 31 05.7	+2.6
CCHI				IAML		01 31 19.4	
	comp=E,3µm,0.6s						
AAGR	Agrelo	2.95	56	eP	Pn	01 30 58.0	+1.8
AVIZ	Vizcacheras	2.98	65	eP	Pn	01 30 58.6	+2.1
ARCO	CERRO ARCO	3.03	51	eP	Pn	01 31 00.6	+3.3
ARCO				IAML		01 31 17.6	
	comp=Z,179nm,0.4s						
CANA	Caviahue	3.16	170	eP	Pn	01 31 00.8	+1.8
AUSP	Uspallata	3.21	39	eP	Pn	01 31 02.2	+2.3
ASAL	Salagasta	3.26	49	eP	Pn	01 31 02.4	+2.1
RTLS	Leoncito	3.60	35	eP	Pn	01 31 07.4	+2.1
RTLS				IAML		01 32 05.0	
	comp=Z,142nm,0.4s						
RTCV	Cerro Valdivia	3.95	44	eP	Pn	01 31 11.6	+1.8
RTLL	Cerro Villicun	4.39	40	i P	Pn	01 31 17.4	+1.5
RTLL				eS	Sn	01 32 14.9	+9.0
RTLL				IAML		01 32 19.3	
	comp=Z,171nm,0.4s						
ACAN	Cantantal	4.55	58	eP	Pn	01 31 19.3	+1.3
AMOG	MOGNA	4.70	37	eP	Pn	01 31 20.6	+0.4
AROD	Rodeo	4.97	23	i P	Pn	01 31 25.7	+1.5
AROD				eS	Sn	01 32 31.7	+11
ACDV	Cuesta del Vie	5.09	27	eP	Pn	01 31 26.4	+0.7
ACDV				eS	Sn	01 32 37.1	+14
MRA	San Martin	5.55	67	eP	Pn	01 31 32.0	+0.1
MRA				IAML		01 32 09.9	
	comp=Z,27nm,0.6s						
LCO	Las Campanas	5.81	9	ePn	Pn	01 31 35.0	-0.5
	comp=Z,20nm,0.4s						
LCO				eSn	Sn	01 32 38.9	-2.1
AGUA	GUANDACOL	5.95	29	eP	Pn	01 31 37.3	0.0
AGUA				eS	Sn	01 32 57.2	+13
PLCA	Paso Flores	6.03	171	P	Pn	01 31 39.6	+1.3
	comp=Z,1.4nm,0.3s,baz=1.4,slow=12,SNR=29						
PLCA				S	Sn	01 32 59.0	+13
	comp=Z,0.4nm,0.3s,baz=193,slow=22,SNR=2.9						
PLCA				LR	LR	01 34 25.3	
	comp=Z,120nm,19.3s,baz=312,slow=42						
VCA	Vinchina	6.73	28	IAML		01 33 25.1	
	comp=Z,57nm,0.5s						
TCA	Tanti	6.91	62	IAML		01 32 08.2	
	comp=Z,16nm,0.5s						
TRQA	Tornquist	8.53	115	ePn	Pn	01 32 12.1	-0.5
CPUP	Villa Florida	14.99	60	P	Pn	01 33 40.3	-0.2
	comp=Z,0.1nm,0.3s,baz=240,slow=16,SNR=2.0						
CPUP				LR	LR	01 39 59.6	
	comp=Z,116nm,18.4s,baz=222,slow=39						
LPAZ	La Paz	18.69	11	P	P	01 34 27.1	+0.5
	comp=Z,0.2nm,0.3s,baz=186,slow=17,SNR=5.9						
SIV	San Ignacio	21.01	30	P	P	01 34 49.9	-1.5
	comp=Z,4.5nm,0.7s,baz=213,slow=9.5,SNR=23						
SAML	Samuel	26.87	19	eP	P	01 35 46.1	-2.0
	comp=Z,1.1nm,0.6s						
ROSC	El Rosal	39.47	356	LR	LR	01 52 51.1	
	comp=Z,72nm,20.4s,baz=232,slow=34						
SNAA	Sanae	50.78	158	P	P	01 39 06.1	-0.6
	comp=Z,0.7nm,0.5s,baz=236,slow=11,SNR=3.9						
SNAA	Sanae	50.78	158	eP	P	01 39 07.7	+1.0
TXAR	Lajitas Array	70.52	331	P	P	01 41 22.3	+0.8
	comp=Z,0.2nm,0.5s,baz=153,slow=9.5,SNR=7.1						
TXAR				pP	pP	01 41 35.8	+0.6
	comp=Z,0.3nm,0.5s,baz=157,slow=8.9,SNR=2.7						
DBIC	Dimbokro	75.20	71	P	P	01 41 48.8	-0.8
	comp=Z,1.9nm,0.6s,baz=228,slow=9.0,SNR=4.9						
DBIC				LR	LR	02 13 30.4	
	comp=Z,18nm,18.4s,baz=91,slow=35						
BOSA	Boshof	79.50	117	P	P	01 42 12.7	-1.0
	comp=Z,2.1nm,0.5s,baz=247,slow=2.6,SNR=7.1						
KOWA	Kowa	80.74	65	P	P	01 42 19.5	-0.7
	comp=Z,2.0nm,0.5s,baz=249,slow=7.1,SNR=11						
TORD	Torodi Ar. Bea	84.25	70	P	P	01 42 37.4	-1.1
	comp=Z,1.8nm,0.8s,baz=270,slow=4.6,SNR=10						
WRA	Warramunga Arr	120.21	209	PKP	PKPdf	01 48 56.0	-1.9
	comp=Z,0.3nm,0.8s,baz=178,slow=1.5,SNR=3.2						
MMAI	Mount Meron Ar	120.78	69	PKP	PKPdf	01 48 56.5	-2.1
	comp=Z,0.2nm,0.4s,baz=328,slow=5.1,SNR=2.6						
BRTR	Keskin Array B	121.99	61	PKP	PKPdf	01 48 58.8	-2.0
	comp=Z,0.3nm,0.7s,baz=232,slow=1.6,SNR=3.6						
BVAR	Borovoye Array	147.67	44	PKPbc	PKPbc	01 49 50.6	+0.2
	comp=Z,0.7nm,0.5s,baz=294,slow=1.4,SNR=3.7						
KURBB	Kurchatov Arra	153.25	45	PKPbc	PKPbc	01 50 02.4	-1.4
	comp=Z,0.6nm,0.8s,baz=281,slow=2.7,SNR=5.3						
KURBB				pPKPbc	PKPab	01 50 18.1	+2.2
	comp=Z,0.2nm,0.5s,baz=291,slow=3.0,SNR=2.2						
KURK	Kurchatov	153.27	44	PKPbc	PKPbc	01 50 02.4	-1.5
KURK				pPKPbc	PKPab	01 50 18.1	+2.1
MKAR	Makanchi Array	157.08	51	PKPab	PKPab	01 50 31.4	-1.0
	comp=Z,0.3nm,0.8s,baz=285,slow=2.8,SNR=2.7						

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*IDC **06** 01:31:36.0±0.8, 16°.31N×98°.03W, h0km, mb3.9/12, mb1 4.1/16, mb1mx4.0/47, mbtmp3.9/16, ML3.3/4, MS3.6/11, Ms1 3.7/11, ms1mx3.3/39, Error ellipse: s-maj=20.3km s-min=11.4km az=27.0*
*ISCJB **06** 01:31:38.3±1.5, 16°.44N±0°.04×97°.84W±0°.03, h15km±9km, mb4.3/65, MS3.6/8, Error ellipse: s-maj=6.9km s-min=3.6km az=28.7*
*NEIC **06** 01:31:40.7±0.0, 16°.45N×98°.05W, h16km, mb4.4/64, MD4.2(MEX), After MEX.*
*MEX **06** 01:31:40.7±0.7, 16°.45N×98°.05W, h17km±33km, MD4.2*
ISC 06 01:31:39.9±1.5**, 16°.36N**±0°.05×**97°.91W**±0°.04**, h24**km±10km**,**
n322, σ1§**14**/330**, mb4.4**/65**, MS3.6**/8**, Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.21	280	eP	Pb	01 31 38.7	-6.9
VHO	Vista Hermosa	1.34	58	eP	Pn	01 32 02.3	-1.1
VHO				eS	Sn	01 32 18.8	-1.6
VHO	Vista Hermosa	1.34	58	eP	Pn	01 32 02.3	-1.1
VHO				eS	Sn	01 32 18.8	-1.6
TLIG	Tlapa	1.35	333	eP	Pn	01 31 59.8	-3.7
TLIG				eS	Sn	01 32 13.6	-7.2
TLIG	Tlapa	1.35	333	eP	Pn	01 31 59.8	-3.7
TLIG				eS	Sn	01 32 13.6	-7.2
PANG	Puerto Angel	1.54	116	eP	Pb	01 32 07.3	-0.5
PANG				eS	Sb	01 32 24.4	-2.6
HMTT	Tlapaneco	1.56	337	eP	Pn	01 32 03.7	-2.6
HMTT				eS	Sn	01 32 25.0	-0.9
HUIG	Huatulco	1.83	108	eP	Pb	01 32 11.9	-0.9
HUIG				eS	Sn	01 32 29.1	-3.3
HUIG	Huatulco	1.83	108	eP	Pb	01 32 11.9	-0.9
HUIG				eS	Sn	01 32 29.1	-3.3
ACP2	Acapulco	1.96	286	eP	Pn	01 32 06.0	-5.7
ACP2				eS	Sn	01 32 31.4	-4.2
CMIG	Matias Romero	2.99	75	Pn	Pn	01 32 26.6	+0.6
	6.2nm,0.3s,baz=260,slow=13,SNR=86						
CMIG				Pg	Pb	01 32 32.8	+0.2
	12nm,0.3s,baz=257,slow=16,SNR=67						
CMIG				Sn	Sb	01 33 06.5	-2.2
	30nm,0.3s,baz=299,slow=10,SNR=5.3						
CMIG				Lg	Lg	01 33 15.1	
	66nm,0.3s,baz=270,slow=5.2,SNR=7.2						
CMIG				LR	LR	01 33 57.8	
	comp=Z,534nm,18.8s,baz=253,slow=46						
UNM	Universidad Na	3.19	338	ePn	Pn	01 32 31.9	+3.0
UNM				eSn	Sb	01 33 15.6	+0.9
LVIG	Laguna Verde	3.64	23	ePn	Pn	01 32 35.7	+0.9
LVIG				eLg	Lg	01 33 34.9	
MOIG	Morelia	4.54	317	ePn	Pn	01 32 49.1	+1.6
MOIG				eSn	Sn	01 33 42.2	+2.5
APG	El Apazote	7.30	100	Pn	Pn	01 33 27.5	+2.2
	0.3nm,0.3s,baz=314,slow=18,SNR=5.9						
APG				Sn	Sn	01 34 51.2	+3.5
	1.2nm,0.3s,baz=332,slow=14,SNR=4.5						
APG				LR	LR	01 35 11.1	
	comp=Z,14nm,21.0s,baz=278,slow=29						
APG				Lg	Lg	01 35 30.3	
	1.1nm,0.3s,baz=344,slow=18,SNR=3.9						
ZAIG	Zacatecas	7.74	326	ePn	Pn	01 33 33.4	+1.9
ZAIG				eLg	Lg	01 35 41.2	
LNIG	Linares	8.62	351	ePn	Pn	01 33 48.4	+5.1
H06E1	SOCORRO T-PHAS	12.64	283	T	T	01 46 50.7	
	SNR=12						
LPIG	La Paz	13.95	306	LR	LR	01 39 42.5	
	comp=Z,196nm,20.8s,baz=118,slow=35						
TX31	Lajitas Ar. Si	13.96	339	ePn	Pn	01 34 57.1	+0.7
TXAR	Lajitas Array	13.96	339	Pn	Pn	01 34 57.1	+0.7
	0.0nm,0.3s,baz=160,slow=15,SNR=7.4						
TXAR				Lg	Lg	01 38 56.1	
	0.0nm,0.3s,baz=159,slow=23,SNR=2.5						
TXAR				LR	LR	01 41 03.7	
	comp=Z,360nm,19.1s,baz=0.0,slow=41						
JTS	JuntasAbangare	13.97	114	Pn	Pn	01 34 58.2	+1.5
	0.3nm,0.3s,baz=358,slow=16,SNR=3.6						
JTS	JuntasAbangare	13.97	114	ePn	Pn	01 34 57.0	+0.4
	27nm,1.2s						
JCT	Junction City	14.16	353	ePn	Pn	01 35 00.1	+0.9
WHTX	Lake Whitney,	15.57	1	P	Pn	01 35 18.8	+0.8
	baz=182						
WHTX	Lake Whitney,	15.57	1	ePn	P	01 35 21.9	-0.2
	32nm,1.4s						
ABTX	Abilene, Hawle	16.27	355	P	P	01 35 30.0	+0.1
	baz=174,SNR=8.8						
ABTX	Abilene, Hawle	16.27	355	ePn	P	01 35 29.6	-0.2
	33nm,1.3s						
344A	Westbrook Farm	16.39	22	P	Pn	01 35 29.0	+0.5
	baz=206						
MNTX	Cornudas Mount	16.72	337	P	P	01 35 34.7	-0.1
	baz=155,SNR=6.9						
MNTX	Cornudas Mount	16.72	337	ePn	Pn	01 35 33.0	+0.4
	8.2nm,1.3s						
244A	Avery, Jackson	16.94	22	P	P	01 35 37.1	-0.1
	baz=205,SNR=6.2						
143A	Socs Landing,	17.31	19	P	P	01 35 42.2	+0.9
	baz=202						
HSIG		17.40	319	ePn	Pn	01 35 42.2	+1.0
MSTX	Muleshoe	18.08	347	P	Pn	01 35 49.3	-0.4
	baz=165						
MSTX	Muleshoe	18.08	347	ePn	Pn	01 35 48.9	-0.8
	24nm,1.5s						
146A	Union	18.09	25	P	P	01 35 50.4	+0.5
	baz=209						
319A	Douglas	18.19	327	ePn	P	01 35 52.5	+1.3
	6.3nm,0.8s						
WMOK	Wichita Mounta	18.32	358	P	P	01 35 51.6	-1.0
	baz=178						
WMOK	Wichita Mounta	18.32	358	eP	P	01 35 51.2	-1.4
	3.9nm,1.0s						
121A	Cookes Peak, D	18.42	333	P	P	01 35 54.3	+0.5
	baz=149						
121A	Cookes Peak, D	18.42	333	eP	Pn	01 35 55.5	+1.5
	7.8nm,1.1s						
147A	Livingston	18.45	27	P	Pn	01 35 54.3	+0.3
	baz=211						
MIAR	Mount Ida	18.53	11	P	P	01 35 54.1	-0.7
	baz=194						
MIAR	Mount Ida	18.53	11	eP	Pn	01 35 55.4	+0.4
	12nm,1.2s						
Z46A	Louisville	18.62	24	P	P	01 35 55.9	+0.1
	baz=208						
857A	Zephyrhills	18.71	48	P	P	01 35 56.7	-0.1
	baz=234						
AMTX	Amarillo	18.76	350	P	P	01 35 57.7	+0.3
	baz=169						
AMTX	Amarillo	18.76	350	eP	P	01 35 57.8	+0.3
	16nm,1.1s						
Y44A	Strider, Charl	18.85	20	P	P	01 35 58.4	+0.1
	baz=204						
Z47A	Carrollton	18.98	26	P	P	01 35 59.3	-0.4
	baz=211						
149A	Jones	19.05	30	P	P	01 36 00.4	-0.1
	baz=215						
W39A	Magazine	19.12	10	P	P	01 36 02.1	+0.8
	baz=193						
Y46A	Houston	19.26	23	P	P	01 36 03.2	+0.4
	baz=208,SNR=8.4						
LRAL	Lakeview Retre	19.32	29	P	P	01 36 03.5	0.0
	baz=214						
Z48A	Northport	19.36	27	P	P	01 36 03.8	-0.1
	baz=212						
BNM	Barren Site	19.38	338	eP	P	01 36 05.7	+1.4
150A	Eclectic	19.44	32	P	P	01 36 04.2	-0.6
	baz=217						
X45A	UM Field Stati	19.55	21	P	P	01 36 06.8	+0.8
	baz=206						
TUL1	Leonard	19.57	5	eP	P	01 36 05.9	-0.3
	10nm,0.8s						
252A	Lumpkin	19.64	35	P	P	01 36 07.4	+0.4
	baz=221						
Z49A	Columbiana	19.67	29	P	P	01 36 07.1	-0.1
	baz=215						
Y47A	UCPARC, Winfie	19.68	26	P	P	01 36 07.3	-0.1
	baz=210						
TUC	Tucson	19.71	326	P	P	01 36 08.4	+0.5
	baz=141						
TUC	Tucson	19.71	326	eP	P	01 36 08.4	+0.5
	4.7nm,1.0s						
151A	Opelika	19.73	33	P	P	01 36 07.9	-0.1
	baz=219						
V39A	Pettigrew	19.77	10	P	P	01 36 08.7	+0.2
	baz=193						
LAZ	Ladron	19.79	337	eP	Pn	01 36 10.6	+0.2
	5.5nm,1.3s						
V40A	Witts Springs	19.89	12	P	P	01 36 10.0	+0.2
	baz=195						
X46A	Booneville	19.96	23	P	P	01 36 10.5	0.0
	baz=208,SNR=5.9						
Z50A	Ashland	20.01	31	P	P	01 36 10.8	-0.2
	baz=216						
V41A	Mountainview	20.02	14	P	P	01 36 11.1	0.0
	baz=197						
ANMO	Albuquerque	20.03	339	P	P	01 36 12.4	+0.9
	4.7nm,1.1s,baz=337,slow=12,SNR=6.8						
ANMO	Albuquerque	20.03	339	P	P	01 36 10.8	-0.6
	baz=156						
ANMO	Albuquerque	20.03	339	eP	P	01 36 13.2	+1.8
	9.4nm,1.4s						
HHAR	Hobbs	20.16	9	eP	Pn	01 36 15.0	+0.5
	14nm,1.2s						
X47A	Russelville	20.21	25	P	P	01 36 13.6	+0.4
	baz=209						
V42A	Cord	20.23	15	P	P	01 36 13.3	0.0
	baz=199						
355A	Pearson	20.27	40	P	P	01 36 12.7	-1.2
	baz=226						
Y49A	Blount Mountai	20.27	29	P	P	01 36 13.6	-0.2
	baz=214						
U39A	Green Forest	20.33	10	P	P	01 36 14.4	-0.1
	baz=193						
U40A	Yellville	20.42	12	P	P	01 36 15.7	+0.2
	baz=194						
X48A	Hartselle	20.49	26	P	P	01 36 16.4	+0.1
	baz=212						
PLAL	Pickwick Lake	20.54	24	eP	P	01 36 16.6	-0.1
	15nm,1.2s						
214A	Organ Pipe Nat	20.60	322	P	P	01 36 17.7	+0.2
	baz=136						
214A	Organ Pipe Nat	20.60	322	eP	P	01 36 18.6	+1.1
	36nm,1.1s						
U41A	Viola	20.61	14	P	P	01 36 17.5	0.0
	baz=197						
U42A	Revenden	20.78	15	P	P	01 36 19.5	+0.2
	baz=199,SNR=6.5						
T38A	Diamond	20.85	8	P	P	01 36 20.6	+0.6
	baz=190,SNR=6.0						
X49A	Woodville	20.86	28	P	P	01 36 19.6	-0.6
	baz=213						
V45A	Humboldt	20.89	21	P	P	01 36 19.9	-0.7
	baz=205						
W47A	Westpoint	20.96	24	P	P	01 36 20.5	-0.7
	baz=209						
T39A	Clever	20.98	10	P	P	01 36 21.0	-0.5
	baz=193						
154A	Montrose	21.02	37	P	P	01 36 21.6	-0.3
	baz=224						
X18A	Snowflake	21.08	331	eP	P	01 36 24.8	+2.0
	23nm,1.3s						
W48A	Pulaski	21.13	26	P	P	01 36 22.9	-0.2
	baz=211						
V46A	Holladay	21.25	22	P	P	01 36 23.9	-0.5
	baz=207,SNR=9.2						
T40A	Mansfield	21.26	12	P	P	01 36 24.4	-0.1
	baz=195						
T41A	Mountain View	21.31	14	P	P	01 36 24.8	-0.3
	baz=197						
PBMO	Poplar Bluff	21.40	17	eP	P	01 36 28.9	+2.9
	12nm,0.8s						
GOGA	Godfrey	21.41	35	P	P	01 36 25.5	-0.6
	baz=221						
T42A	Van Buren	21.46	15	P	P	01 36 27.8	+1.2
	baz=198						
S38A	Stockton	21.48	9	P	P	01 36 26.5	-0.5
	baz=191,SNR=6.0						
T25A	Trinidad	21.49	346	P	P	01 36 29.0	+1.9
	baz=163,SNR=21						
T25A	Trinidad	21.49	346	eP	P	01 36 29.3	+2.1
	61nm,1.2s						
V47A	Nunnelly	21.49	24	P	P	01 36 26.5	-0.5
	baz=208,SNR=5.4						
MHTCO	State Highway	21.54	345	eP	P	01 36 30.5	+2.7
	26nm,1.2s						
SWET	Sewanee	21.62	27	eP	P	01 36 27.9	-0.6
	4.5nm,0.8s						
S39A	Bolivar	21.64	10	P	P	01 36 28.3	-0.2
	baz=192,SNR=6.0						
WVT	Waverly	21.64	23	P	P	01 36 28.0	-0.7
	baz=207						
WVT	Waverly	21.64	23	eP	P	01 36 30.1	+1.4
	17nm,1.0s						
V48A	Smith Brothers	21.69	25	P	P	01 36 28.6	-0.6
	baz=210						
S40A	Lebanon	21.69	12	P	P	01 36 29.1	-0.1
	baz=194						
X16A	Lo Mia Camp, P	21.70	328	eP	P	01 36 31.2	+1.7
	13nm,1.0s						
T43A	Greenville	21.72	17	P	P	01 36 29.1	-0.3
	baz=200						
U46A	Springville	21.72	22	P	P	01 36 29.2	-0.3
	baz=206						
S41A	Jillco Farms,	21.84	13	P	P	01 36 30.8	+0.1
	baz=196						
T44A	Benton	21.93	18	P	P	01 36 32.7	+1.1
	baz=202						
R38A	Fenwick Farm,	22.03	8	P	P	01 36 32.6	-0.2
	baz=191						
U47A	Clarksville	22.12	23	P	P	01 36 32.7	-1.1
	baz=208						
Y14A	Wickenburg	22.16	325	eP	P	01 36 36.0	+1.8
	29nm,1.4s						
S42A	Caledonia	22.24	15	P	P	01 36 35.4	+0.4
	baz=199						
S43A	Fulton Ridge,	22.24	17	P	P	01 36 35.2	+0.2
	baz=201						
R39A	Chumby, Stover	22.29	10	P	P	01 36 35.5	-0.1
	baz=193						
SDCO	Great Sand Dun	22.34	344	P	P	01 36 36.7	+0.4
	baz=161,SNR=12						
SDCO	Great Sand Dun	22.34	344	eP	P	01 36 37.6	+1.2
	12nm,1.3s						
CCM	Cathedral Cave	22.40	14	P	P	01 36 37.1	+0.4
	baz=197						

CCM	Cathedral Cave 8.2nm,0.9s	22.40	14	*e*P	P	01 36 38.4	+1.6
R40A	Maddies Statio baz=195	22.41	12	P	P	01 36 36.5	-0.3
T46A	Princeton baz=206,SNR=6.6	22.43	21	P	P	01 36 37.5	+0.3
U48A	Cassie Pea, Po baz=210	22.47	25	P	P	01 36 37.3	-0.2
S44A	Carbondale baz=202,SNR=5.8	22.59	18	P	P	01 36 39.8	+1.1
R41A	Rosebud baz=197	22.60	13	P	P	01 36 39.6	+0.8
SIUC	Southern Illin 40nm,1.3s	22.62	18	*e*P	P	01 36 39.6	+0.6
T47A	Sharon Grove baz=208,SNR=5.6	22.67	23	P	P	01 36 39.4	-0.2
HODGE	Hodges 14nm,0.9s	22.69	35	*e*P	P	01 36 39.6	-0.2
KSU1	Kansas State U baz=184	22.69	3	P	P	01 36 40.1	+0.2
KSU1	Kansas State U 20nm,1.4s	22.69	3	*e*P	P	01 36 40.7	+0.9
S22A	4UR Ranch, Cre baz=158,SNR=5.2	22.71	341	P	P	01 36 41.2	+0.7
S22A	4UR Ranch, Cre 7.6nm,1.2s	22.71	341	*e*P	P	01 36 41.5	+1.1
R42A	Luebbering baz=198	22.72	15	P	P	01 36 40.2	+0.1
S45A	Carrier Mills baz=204	22.78	19	P	P	01 36 41.4	+0.7
MVCO	Mesa Verde baz=153,SNR=12	22.79	338	P	P	01 36 42.6	+1.5
MVCO	Mesa Verde 39nm,1.4s	22.79	338	*e*P	P	01 36 42.2	+1.0
Q38A	Cooks Store, C baz=191	22.83	9	P	P	01 36 41.0	-0.3
Y12C	Blythe baz=135	22.89	322	P	P	01 36 43.1	+1.2
R43A	Red Bud baz=200,SNR=7.1	22.94	16	P	P	01 36 43.2	+0.8
TKL	Tuckaleechee C 4.1nm,0.9s,baz=201,slow=17,SNR=4.2	22.99	31	P	P	01 36 43.0	-0.1
Q39A	Willow Grove F baz=192	23.02	10	P	P	01 36 43.8	+0.6
T48A	Bowling Green baz=210,SNR=5.3	23.05	24	P	P	01 36 43.3	-0.3
PDMCI	Parker Dam,Lak baz=137	23.06	324	P	P	01 36 44.4	+0.6
IKP	In-Ko-Pah, Jac baz=130	23.12	318	P	P	01 36 45.6	+1.1
Q40A	Laux Farm, Aux baz=195	23.13	12	P	P	01 36 44.9	+0.5
R44A	Waltonville baz=202,SNR=7.8	23.15	18	P	P	01 36 45.2	+0.6
Q41A	Truxton baz=197	23.26	13	P	P	01 36 46.5	+0.8
BC3	Big Chuckawall baz=133	23.38	321	P	P	01 36 47.6	+0.5
Q42A	Golden Eagle baz=198	23.38	15	P	P	01 36 47.0	+0.1
Q24A	Divide baz=163	23.40	346	P	P	01 36 47.8	+0.4
Q24A	Divide 8.8nm,1.0s	23.40	346	*e*P	P	01 36 48.0	+0.6
R45A	Skylar, Fairfi baz=204	23.44	19	P	P	01 36 47.8	+0.4
P39B	Salisbury baz=193	23.48	10	P	P	01 36 48.1	+0.3
P38A	Dawn baz=191,SNR=5.4	23.50	9	P	P	01 36 48.0	-0.1
IRM	Iron Mountain baz=135	23.54	322	P	P	01 36 48.4	-0.2
R46A	Gibson Southern baz=206	23.62	21	P	P	01 36 49.2	0.0
P40A	Paris baz=194	23.65	11	P	P	01 36 49.6	+0.1
S48A	Wiedeman Farm, baz=210	23.66	24	P	P	01 36 49.5	-0.1
U15A	North Rim 33nm,1.6s	23.73	330	*e*P	P	01 36 52.2	+1.6
O34A	Beatrice baz=183,SNR=7.8	23.77	2	P	P	01 36 50.6	0.0
Q44A	Meyer Farm, Va baz=202	23.78	17	P	P	01 36 50.8	+0.1
TZTN	Tazewell baz=216	23.81	30	P	P	01 36 51.5	+0.4
TZTN	Tazewell 21nm,1.0s	23.81	30	*e*P	P	01 36 52.8	+1.6
KMSC	Kings Mountain baz=223	23.87	35	P	P	01 36 51.8	+0.1
O35A	Humboldt baz=185	23.89	4	P	P	01 36 52.5	+0.7
OLIL	Olney	23.90	19	*e*P	P	01 36 52.4	+0.5
109C	Camp Elliot, M baz=129	23.92	317	P	P	01 36 52.7	+0.6
O37A	Wolven Farm, M baz=189	23.95	7	P	P	01 36 52.8	+0.5
P41A	Barry, Barry baz=197	23.99	13	P	P	01 36 53.1	+0.4
O38A	Galt baz=191	23.99	8	P	P	01 36 53.6	+0.8
Q45A	Warren Harvey, baz=204	24.03	19	P	P	01 36 53.6	+0.5
R47A	Wooly Knot Far baz=208,SNR=8.6	24.04	22	P	P	01 36 52.9	-0.4
WCI	Wyandotte Cave baz=209	24.07	23	P	P	01 36 53.8	+0.4
WCI	Wyandotte Cave 100nm,1.3s	24.07	23	*e*P	P	01 36 53.7	+0.2
P42A	Winchester baz=198,SNR=7.6	24.07	14	P	P	01 36 53.4	-0.1
SMCO	Snowmass 16nm,1.2s	24.08	343	*e*P	P	01 36 56.2	+2.2
HELC	Santa Helena 17nm,1.3s	24.14	112	*e*P	P	01 36 55.7	+1.0
O40A	La Belle baz=194	24.26	11	P	P	01 36 55.4	+0.2
O39A	Kirksville baz=193	24.27	10	P	P	01 36 55.7	+0.4
GMRC	Granite Mounta baz=135	24.28	322	P	P	01 36 56.3	+0.6
ISCO	Idaho Springs baz=162,SNR=15	24.30	345	P	P	01 36 56.5	+0.4
ISCO	Idaho Springs 11nm,0.9s	24.30	345	*e*P	P	01 36 56.8	+0.7
P43A	Skaggs, Pawnee baz=200	24.33	16	P	P	01 36 56.2	+0.3
R48A	Northridge Ran baz=209	24.38	23	P	P	01 36 56.3	0.0
N34A	Lincoln baz=184	24.43	3	P	P	01 36 57.0	+0.3
O41A	Passleys Farm, baz=197	24.45	13	P	P	01 36 56.8	-0.2
Q47A	Bedord North L baz=208	24.64	22	P	P	01 36 58.6	-0.2
N38A	Joes South For baz=191,SNR=5.1	24.69	9	P	P	01 36 59.2	+0.1
N39A	Derby Farms, D baz=193	24.88	10	P	P	01 37 01.3	+0.4
P46A	Rosedale baz=205	24.99	20	P	P	01 37 02.5	+0.6
OTAV	Otavalo 7.3nm,1.1s	25.00	128	*e*P	P	01 37 02.8	+0.1
O44A	Mansfield baz=202	25.09	17	P	P	01 37 03.1	+0.3
M37A	Trindle Farm, baz=189	25.18	7	P	P	01 37 04.3	+0.7
P47A	Martinsville baz=207	25.19	22	P	P	01 37 04.5	+0.8
SRU	San Rafael Swe 8.3nm,1.0s	25.21	337	*e*P	P	01 37 06.0	+1.9
Q16A	Castle Valley 27nm,1.7s	25.30	335	*e*P	P	01 37 07.5	+2.6
M38A	Pleasantville baz=191,SNR=5.7	25.30	8	P	P	01 37 04.5	-0.2
O20A	White River Ci baz=157,SNR=6.6	25.34	341	P	P	01 37 05.6	+0.3
O20A	White River Ci 18nm,1.1s	25.34	341	*e*P	P	01 37 05.4	+0.1
O45A	Potomac baz=204	25.40	18	P	P	01 37 05.9	+0.3
N23A	Red Feather La baz=162,SNR=9.6	25.42	346	P	P	01 37 06.5	+0.4
N23A	Red Feather La 18nm,1.2s	25.42	346	*e*P	P	01 37 07.8	+1.7
M39A	Webster baz=193	25.52	10	P	P	01 37 07.1	+0.5
L34A	Svendsen Farm, baz=184	25.56	3	P	P	01 37 07.7	+0.7
M40A	Post Highland baz=195	25.57	11	P	P	01 37 07.2	+0.1
N43A	Stutzman Famil baz=200	25.64	15	P	P	01 37 08.3	+0.6
M41A	Milan baz=197	25.73	13	P	P	01 37 09.2	+0.6
SCIA	State Center baz=191	25.78	8	P	P	01 37 09.9	+0.8
ROSC	El Rosal 1.2nm,0.3s,baz=274,slow=13,SNR=4.1	25.82	114	P	P	01 37 12.1	+2.0
O47A	Sheridan baz=207	25.89	21	P	P	01 37 10.3	+0.2
L37A	Phoenix Point, baz=190	25.93	7	P	P	01 37 10.7	+0.3
L38A	Oak Wood Farm, baz=191	26.05	8	P	P	01 37 12.1	+0.7
M43A	Waltham Townsh baz=200	26.16	15	P	P	01 37 12.8	+0.4
L39A	Vinton baz=193	26.18	10	P	P	01 37 12.7	+0.1
L40A	Anamosa baz=195	26.26	11	P	P	01 37 13.2	-0.1
L41A	Preston baz=196	26.41	12	P	P	01 37 15.1	+0.4
RUSC	La Rusia 4.1nm,1.2s	26.45	110	*e*P	P	01 37 17.1	+1.2
RWWY	Rawlins 31nm,1.9s	26.49	344	*e*P	P	01 37 17.7	+2.0
L42A	Oliver, Polo baz=198	26.53	14	P	P	01 37 15.6	-0.2
NLU	North Lily Min 6.6nm,1.2s	26.55	335	*e*P	P	01 37 17.9	+1.7
K37A	Belmond baz=190,SNR=5.9	26.58	7	P	P	01 37 15.4	-0.8
K39A	Oelwein baz=193	26.76	10	P	P	01 37 17.8	-0.1
R11A	Troy Canyon, C baz=140	26.86	328	P	P	01 37 20.2	+1.2
DUG	Dugway, Tooele baz=147,SNR=5.7	27.06	334	P	P	01 37 21.6	+0.8
DUG	Dugway, Tooele 7.4nm,1.3s	27.06	334	*e*P	P	01 37 22.8	+2.0
J36A	Seneca 1, Swea baz=188	27.06	6	P	P	01 37 20.3	-0.2
J37A	Redenius Farm, baz=190	27.12	7	P	P	01 37 20.7	-0.4
K22A	Casper baz=162	27.22	346	P	P	01 37 23.0	+0.7
K22A	Casper 17nm,1.3s	27.22	346	*e*P	P	01 37 22.9	+0.6
J38A	Wedel Dairy, R baz=192	27.27	9	P	P	01 37 22.4	-0.1
TCUT	Toone Canyon 46nm,1.8s	27.29	337	*e*P	P	01 37 24.1	+1.1
ECSD	EROS Data Cent baz=183	27.31	2	P	P	01 37 22.6	-0.2
ECSD	EROS Data Cent 3.6nm,1.0s	27.31	2	*e*P	P	01 37 22.5	-0.4
J39A	Decorah baz=193	27.41	10	P	P	01 37 22.8	-0.8
SDV	Santo Domingo 3.6nm,0.8s,baz=314,slow=5.7,SNR=6.0	27.61	102	P	P	01 37 27.6	+1.5
SDV	comp=Z,61nm,19.2s,baz=309,slow=40			LR	LR	01 50 12.2	
SDV	Santo Domingo 5.7nm,0.9s	27.61	102	*e*P	P	01 37 27.8	+1.8
J40A	Soldiers Grove baz=195	27.64	11	P	P	01 37 26.2	+0.4
J41A	Loganville baz=197	27.75	12	P	P	01 37 26.8	0.0
BGU	Big Grassy Mou 7.7nm,1.5s	27.76	335	*e*P	P	01 37 25.1	-2.0
I39A	Houston baz=193	27.94	10	P	P	01 37 29.1	+0.6
I38A	Scanlan Farm, baz=192	28.00	9	P	P	01 37 29.2	+0.3
H32A	Carlson Farm, baz=181	28.06	1	P	P	01 37 29.6	+0.1
J43A	Natural Harves baz=200	28.12	15	P	P	01 37 30.5	+0.4
BW06	Boulder Array baz=156	28.14	342	P	P	01 37 30.8	+0.2
BW06	Boulder Array 18nm,1.9s	28.14	342	*e*P	P	01 37 31.0	+0.5
PD31	Pinedale Array	28.14	342	*e*P	P	01 37 31.1	+0.6
PDAR	Pinedale Array 1.3nm,0.8s,baz=131,slow=6.7,SNR=8.0	28.14	342	P	P	01 37 31.2	+0.6
PDAR	1.1nm,1.1s,baz=354,slow=0.9,SNR=3.7			PcP	PcP	01 40 43.3	-1.1
PDAR	comp=Z,186nm,18.0s,baz=182,slow=39			LR	LR	01 49 52.5	
PDAR	Pinedale Array	28.14	342	*e*P	P	01 37 30.6	+0.1
PDAR				PcP	PcP	01 40 43.3	-1.1
RSSD	Black Hills	28.16	351	*e*P	P	01 37 31.8	+1.1
H36A	Jessenland, He baz=188	28.33	6	P	P	01 37 32.1	+0.1
NV01	Mina Array Sit	28.36	325	*e*P	P	01 37 33.5	+1.0
NVAR	Mina Array Bea 0.3nm,0.3s,baz=157,slow=8.0,SNR=5.3	28.36	325	P	P	01 37 33.8	+1.3
NVAR	comp=Z,96nm,20.9s,baz=270,slow=38			LR	LR	01 49 27.5	
G33A	Ortonville baz=183	28.78	2	P	P	01 37 35.3	-0.5
H39A	Augusta baz=194	28.79	10	P	P	01 37 36.0	+0.1
H40A	Chili baz=195	28.89	11	P	P	01 37 36.7	-0.1
H41A	Junction City baz=197	29.02	12	P	P	01 37 37.9	-0.1
REDW	Red Top Meadow 12nm,1.6s	29.09	340	*e*P	P	01 37 40.5	+1.6
SPMN	Marine on St. baz=190	29.10	7	P	P	01 37 38.3	-0.4
H42A	Shiocton baz=199	29.16	14	P	P	01 37 38.9	-0.4
LOHW	Long Hollow 7.2nm,1.3s	29.23	341	*e*P	P	01 37 41.4	+1.2
TPAW	Teton Pass 17nm,1.8s	29.23	340	*e*P	P	01 37 40.3	+0.1
G39A	Holcombe baz=194	29.39	10	P	P	01 37 41.0	-0.4
G40A	Rib Lake baz=195	29.54	11	P	P	01 37 42.4	-0.3
F36A	Milaca baz=189	29.65	6	P	P	01 37 43.0	-0.6
G42A	Mountain baz=199	29.88	14	P	P	01 37 45.5	-0.1
ERPA	Erie baz=216	29.93	27	P	P	01 37 46.1	-0.1
F38A	Pierce - Schro baz=192	29.94	8	P	P	01 37 46.3	+0.1
F40A	Park Falls baz=195,SNR=7.5	30.19	11	P	P	01 37 48.5	+0.1
RLMT	Red Lodge baz=158	30.23	344	P	P	01 37 49.8	+0.8
RLMT	Red Lodge 15nm,1.6s	30.23	344	*e*P	P	01 37 50.5	+1.5
ATAH	Atahuapa comp=Z,132nm,18.1s,baz=310,slow=32	30.30	139	LR	LR	01 47 33.8	
GLMI	Grayling baz=206	30.51	19	P	P	01 37 51.8	+0.5
E39A	Mellen baz=194	30.56	10	P	P	01 37 52.4	+0.8
E40A	Wakefield baz=195,SNR=5.9	30.73	11	P	P	01 37 53.2	0.0
D35A	Remer baz=188	30.80	5	P	P	01 37 54.1	+0.3
MCMT	McKenzie Canyo	31.05	339	*e*P	P	01 37 58.3	+2.0
E43A	Lone Tree Farm baz=201	31.29	15	P	P	01 37 58.4	+0.4
C35A	Jirik Farms, M baz=188	31.43	5	P	P	01 37 58.9	-0.4
WVOR	Wild Horse Val 15nm,1.4s	31.47	330	*e*P	P	01 38 00.1	+0.2
D41A	Chassel baz=198	31.58	12	P	P	01 38 01.1	+0.4
LRM	Limekiln Ridge 12nm,1.4s	31.80	341	*e*P	P	01 38 03.9	+1.0
AGMN	Agassiz Nation baz=184	31.90	3	P	P	01 38 03.4	0.0
AGMN	Agassiz Nation 8.6nm,0.9s	31.90	3	*e*P	P	01 38 03.5	+0.1
EYMN	Ely baz=192	31.94	8	P	P	01 38 03.7	-0.1
C39A	Grand Marais baz=194	32.02	10	P	P	01 38 04.8	+0.3
B35A	Bob, Littlefor baz=188	32.10	5	P	P	01 38 05.0	-0.2
J08A	Circle Bar Ran 9.0nm,1.1s	32.10	331	*e*P	P	01 38 06.9	+1.5
B34A	Aery, Baudette baz=186	32.15	4	P	P	01 38 04.8	-0.8
A33A	Warroad baz=185	32.56	3	P	P	01 38 09.7	+0.5
M04C	Macdoel baz=134	32.64	326	P	P	01 38 10.6	+0.4
BMO	Blue Mountains 9.9nm,1.3s	32.77	334	*e*P	P	01 38 11.0	-0.2
YBH	Yreka Blue Hor comp=Z,96nm,18.5s,baz=162,slow=36	33.08	325	LR	LR	01 51 09.5	
G08A	Pilot Rock 6.0nm,1.4s	33.83	333	*e*P	P	01 38 20.7	+0.2
ULM	Lac du Bonnet 4.1nm,1.1s,baz=197,slow=11,SNR=4.9	33.85	2	P	P	01 38 19.4	-1.0
ULM	0.6nm,0.5s,baz=207,slow=2.3,SNR=3.0			PcP	PcP	01 40 57.5	-1.4
ULM	Lac du Bonnet 15nm,1.5s	33.85	2	*e*P	P	01 38 19.7	-0.7
ULM				PcP	PcP	01 40 57.5	-1.4
FFC	Flin Flon 11nm,1.1s	38.42	356	*e*P	P	01 38 59.9	+0.4
EDM	Edmonton 14nm,1.3s	38.73	345	*e*P	P	01 39 03.1	+0.9
FCC	Fort Churchill 6.4nm,1.2s	42.43	3	*e*P	P	01 39 32.1	-0.5
LPAZ	La Paz 1.9nm,1.1s,baz=347,slow=14,SNR=3.5	43.76	136	P	P	01 39 44.1	-0.5
LPAZ	comp=Z,72nm,18.7s,baz=333,slow=34			LR	LR	01 56 06.3	
YKA	Yellowknife Ar 1.8nm,1.1s,baz=156,slow=7.3,SNR=15	47.56	350	P	P	01 40 12.7	-0.6
YKA	0.7nm,0.9s,baz=156,slow=3.6,SNR=7.0			PcP	PcP	01 41 41.9	-1.0
DLBC	Dease Lake 13nm,1.4s	48.26	338	*e*P	P	01 40 21.9	+2.9
SIV	San Ignacio 1.2nm,0.9s,baz=310,slow=10,SNR=3.5	48.52	130	P	P	01 40 20.9	-0.5
HYT	Haines Junctio 20nm,1.7s	52.67	337	*e*P	P	01 40 54.7	+2.4
EGAK	Eagle 25nm,1.9s	56.46	339	*e*P	P	01 41 20.1	+0.5
INK	Inuvik 5.3nm,1.0s	56.63	345	*e*P	P	01 41 21.2	+0.5
IL1	Eielson Array	58.47	338	*e*P	P	01 41 33.6	-0.2
ILAR	Eielson Array 3.1nm,1.1s,baz=138,slow=4.3,SNR=17	58.47	338	P	P	01 41 34.0	+0.3
ILAR	comp=Z,100nm,18.5s,baz=86,slow=38			LR	LR	02 08 58.1	
ILB	Eielson Array	58.47	338	*e*P	P	01 41 34.7	+0.9
COLA	College 2.5nm,0.4s	58.88	338	*e*P	P	01 41 36.0	-0.5
TOLK	Toolik Lake Re baz=121	61.41	341	P	P	01 41 54.0	+0.1
ESDC	Sonseca Array 0.2nm,0.5s,baz=277,slow=5.0,SNR=3.5	82.71	51	P	P	01 44 01.1	-0.9
TIXI	Tiksi	86.72	347	*e*P	P	01 44 20.8	-0.7
KOWA	Kowa comp=Z,31nm,21.2s,baz=154,slow=32	89.63	75	LR	LR	02 19 14.7	
WRA	Warramunga Arr 1.4nm,0.9s,baz=86,slow=2.6,SNR=11	130.38	258	PKP	PKPdf	01 50 48.6	-0.7

*ISCJB **06** 01:37:50.6±0.6,2˚.01N±0˚.04×127˚.74E±0˚.06,h134km, mb4.2/9, Error ellipse: s-maj=9.3km s-min=5.4km az=163.0*
*DJA **06** 01:37:56.0±0.5,2˚N±3˚×12˚7E±˚,h133km±6km,M4.3/11, mb4.1/6,mB5.0/3,MLv4.4/11,Mw(mB)4.3/3*
*IDC **06** 01:38:01.4±4.3,1˚.78N×127˚.32E,h222km±44km,mb3.7/8, mb1 3.9/9,mb1mx3.3/54,mbtmp4.4/9, Error ellipse: s-maj=26.1km s-min=12.2km az=66.0*

ISC 06 01:37:52.3±0.7,1˚.97N±0˚.05×127˚.62E±0˚.08,h134km,n30, σ1§**83**/34,**mb4.3**/9,**1C,Halmahera**

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
LBMI	Labuha	2.60	183	P	Pn	01 38 35.8	+1.9
LBMI				S	Sn	01 39 07.4	+1.4
SGSI	Sangihe	2.69	309	P	Pn	01 38 38.2	+3.1
SGSI				S	Sn	01 39 09.2	+1.1
KMSI	Cibinong	3.89	249	P	Pn	01 38 52.6	+1.9
KMSI				S	Sn	01 39 39.1	+3.1
SANI	Sanana	4.32	202	P	Pn	01 38 57.8	+1.5
SANI				S	Sn	01 39 43.6	-2.5
SWI	Sorong	4.60	128	P	Pn	01 39 05.3	+5.1
SWI				S	Pn	01 39 04.7	+4.5
GSPH	General Santos	4.88	327	⇑P	Sn	01 39 53.4	-6.3
NLAI	Namlea	5.20	186	P	Pn	01 39 07.7	-0.5
NLAI				S	Sn	01 40 06.6	-0.8
LUWI	Luwuk 42nm,0.5s,2μm0.8nm	5.70	238	P	Pn	01 39 15.2	+0.4
APSI	Ampana 24nm,0.5s,715nm0.3nm	6.62	244	P	Pn	01 39 28.4	+1.2
FAKI	Fak Fak	6.71	136	P	Pn	01 39 32.8	+4.3
MPSI	Mapaga 8.0nm,0.8s,0.4nm	7.89	258	P	Pn	01 39 43.3	-1.0
BATI	Baumata 4.3nm,0.3s,baz=45,slow=4.3,SNR=7.3	12.72	198	P	P	01 40 52.9	-1.6
FITZ	Fitzroy Crossi baz=170,slow=0.1	20.04	185	P	P	01 42 15.0	+0.1
WRA	Warramunga Arr 7.6nm,0.7s,baz=341,slow=11,SNR=115	22.76	163	P	P	01 42 43.3	0.0
ASAR	Alice Springs 1.2nm,0.3s,baz=347,slow=7.5,SNR=31	26.21	167	P	P	01 43 14.7	-0.1
ASAR	0.4nm,0.7s,baz=332,slow=1.6,SNR=3.7			PcP	PcP	01 46 36.2	-2.1
HNR	Honiara 28nm,0.4s,baz=343,slow=19,SNR=10	34.14	110	P	P	01 44 28.0	+3.2
NWAO	Narrogin (SRO) 6.8nm,0.8s,baz=7.6,slow=4.2,SNR=5.1	36.07	195	P	P	01 44 40.2	-0.8
STKA	Stephens Creek 12nm,0.8s,baz=328,slow=8.8,SNR=16	36.19	160	P	P	01 44 42.5	+0.5
ODAN	Odare	45.81	306	*e*P	P	01 46 01.6	+0.3
RAMN	Ramite 11nm,0.8s	46.49	306	*e*P	P	01 46 07.1	+0.5
JIRN	Jiri	47.12	307	*e*P	P	01 46 12.0	+0.4
GUN	Gumba 14nm,0.7s	47.48	307	*e*P	P	01 46 14.7	+0.4
PKIN	Phulchoki	47.72	306	*e*P	P	01 46 17.1	+0.9
SONM	Songino Array 0.6nm,0.6s,baz=159,slow=6.1,SNR=5.5	49.23	341	P	P	01 46 27.6	+0.4
KOLN	Koldanda 26nm,0.8s	49.25	306	*e*P	P	01 46 28.3	+0.5
DANN	Dangsing	49.36	306	*e*P	P	01 46 29.2	+0.5
PYUN	Piuthan 15nm,0.5s	49.88	306	*e*P	P	01 46 33.2	+0.6
MKAR	Makanchi Array 1.4nm,0.4s,baz=116,slow=7.7,SNR=36	59.49	325	P	P	01 47 41.4	0.0
KURBB	Kurchatov Arra 1.8nm,0.5s,baz=128,slow=6.4,SNR=18	63.69	328	P	P	01 48 09.0	-0.3
VNDA	Vanda 0.6nm,0.5s,baz=313,slow=7.9,SNR=8.1	81.58	173	P	P	01 49 53.2	-1.4

*IDC **06** 01:52:43.9±0.8,38˚.40S×176˚.11E,h205km±12km,mb3.3/3, mb1 3.4/4,mb1mx3.2/40,mbtmp3.8/4,MS3.4/1,Ms1 3.4/1, ms1mx2.9/11,Error ellipse: s-maj=44.1km s-min=16.6km az=130.0*
*ISCJB **06** 01:52:44.1±0.4,38˚.09S±0˚.03×175˚.97E±0˚.05,h215km±3km, mb3.4/3,Error ellipse: s-maj=5.8km s-min=4.7km az=4.2*
*NEIC **06** 01:52:44.9±0.0,37˚.95S×176˚.02E,h208km,ML4.6(WEL), After WEL.*
*WEL **06** 01:52:45.3,38˚S±2˚×17˚6E±˚,h207km±4km*

ISC 06 01:52:44.5±0.8,38˚.10S±0˚.05×175˚.97E±0˚.05,h213km±5km, n250,σ1§**00**/251,**mb3.4**/3,**3C-1D,North Island**

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
NGRZ	Ngongotaha	0.17	91	P	Pn	01 53 12.4	+0.1
UTU	Utuhina	0.19	114	P	Pn	01 53 12.5	+0.2
KARZ	Kaharoa	0.23	71	P	Pn	01 53 12.1	-0.3
KMRZ	Kaimai	0.25	355	P	Pn	01 53 12.2	-0.3
GRRZ	Galatos Road	0.28	156	P	Pn	01 53 12.8	+0.3
HSRZ	Hossack Road	0.30	135	P	Pn	01 53 13.1	+0.6
OMRZ	Omania	0.32	92	P	Pn	01 53 12.4	-0.1
HLRZ	Highlands Stat	0.34	117	P	Pn	01 53 13.2	+0.6
LIRZ	Lichensteins R	0.34	74	P	Pn	01 53 12.3	-0.3
HRRZ	Handcock Road	0.38	140	P	Pn	01 53 13.1	+0.4
MKRZ	Makatiti	0.40	96	P	Pn	01 53 13.5	+0.7
KUTZ	Kaahu Road	0.41	196	P	Pn	01 53 13.3	+0.5
TLZ	Tolley Road	0.41	236	P	Pn	01 53 13.4	+0.6
TGRZ	Tauranga	0.43	32	⇑Pn	Pn	01 53 12.3	-0.6

TGRZ	**Tauranga**	**0.43**	**32**	P	**Pn**	**01 53 12.3**	**-0.6**
TARZ	**Mount Tarawera**	**0.45**	**108**	Pn	**Pn**	**01 53 13.2**	**+0.3**
TARZ	**Mount Tarawera**	**0.45**	**108**	P	**Pn**	**01 53 13.3**	**+0.3**
WPRZ	**Whakapapatarin**	**0.45**	**160**	P	**Pn**	**01 53 13.4**	**+0.5**
RRRZ	**Republican Roa**	**0.49**	**119**	Pn	**Pn**	**01 53 13.2**	**+0.2**
RRRZ	**Republican Roa**	**0.49**	**119**	P	**Pn**	**01 53 13.2**	**+0.2**
TOZ	**Tahuroa Road**	**0.52**	**315**	⇑Pn	**Pn**	**01 53 12.9**	**-0.2**
TOZ				Sn	**S**	**01 53 34.0**	**-1.4**
TOZ	**Tahuroa Road**	**0.52**	**315**	P	**Pn**	**01 53 13.0**	**-0.2**
PRRZ	**Plateau Road**	**0.52**	**140**	Pn	**Pn**	**01 53 13.4**	**+0.3**
PRRZ	**Plateau Road**	**0.52**	**140**	P	**Pn**	**01 53 13.4**	**+0.3**
OPRZ	**Ohinepanea**	**0.53**	**62**	Pn	**Pn**	**01 53 12.5**	**-0.6**
OPRZ	**Ohinepanea**	**0.53**	**62**	P	**Pn**	**01 53 12.5**	**-0.6**
OPRZ	**Ohinepanea**	**0.53**	**62**	S	**S**	**01 53 34.3**	**-1.2**
ALRZ	**Allen Road**	**0.55**	**148**	Pn	**Pn**	**01 53 13.8**	**+0.5**
ALRZ	**Allen Road**	**0.55**	**148**	P	**Pn**	**01 53 13.7**	**+0.5**
ALRZ	**Allen Road**	**0.55**	**148**	S	**S**	**01 53 34.7**	**-1.1**
WHTZ	**Whakaora**	**0.57**	**181**	P	**Pn**	**01 53 14.6**	**+1.2**
MARZ	**Manawahe**	**0.57**	**79**	P	**Pn**	**01 53 13.3**	**-0.1**
EDRZ	**Edgecumbe**	**0.61**	**91**	Pn	**Pn**	**01 53 13.1**	**-0.4**
EDRZ	**Edgecumbe**	**0.61**	**91**	P	**Pn**	**01 53 13.4**	**-0.1**
EDRZ	**Edgecumbe**	**0.61**	**91**	S	**S**	**01 53 36.1**	**-0.1**
WATZ	**Wairara**	**0.64**	**197**	P	**Pn**	**01 53 14.6**	**+1.0**
MUGZ	**Murupara**	**0.74**	**121**	P	**Pn**	**01 53 13.9**	**-0.1**
MUGZ	**Murupara**	**0.74**	**121**	S	**S**	**01 53 35.8**	**-1.3**
RATZ	**Rangitukua**	**0.78**	**191**	P	**Pn**	**01 53 15.2**	**+0.9**
HATZ	**Hinemaiaia**	**0.80**	**173**	Pn	**Pn**	**01 53 14.9**	**+0.5**
HATZ	**Hinemaiaia**	**0.80**	**173**	P	**Pn**	**01 53 14.9**	**+0.5**
HATZ	**Hinemaiaia**	**0.80**	**173**	S	**S**	**01 53 36.8**	**-1.0**
MRHZ	**Matea Rd**	**0.81**	**155**	P	**Pn**	**01 53 14.9**	**+0.4**
MRHZ	**Matea Rd**	**0.81**	**155**	S	**S**	**01 53 35.3**	**-2.7**
RITZ	**Rihia Road**	**0.88**	**186**	Pn	**Pn**	**01 53 16.1**	**+1.3**
RITZ	**Rihia Road**	**0.88**	**186**	P	**Pn**	**01 53 16.1**	**+1.3**
KATZ	**Kakaramea**	**0.90**	**194**	Pn	**Pn**	**01 53 15.9**	**+0.8**
KATZ	**Kakaramea**	**0.90**	**194**	P	**Pn**	**01 53 16.1**	**+1.0**
URZ	**Urewera**	**0.91**	**101**	P	**Pn**	**01 53 14.5**	**-0.5**
	58nm,0.3s,baz=274,slow=8.0,SNR=343						
URZ				S	**S**	**01 53 35.9**	**-2.8**
	200nm,0.3s,baz=84,slow=18,SNR=40						
URZ	**Urewera**	**0.91**	**101**	P	**Pn**	**01 53 14.5**	**-0.5**
URZ	**Urewera**	**0.91**	**101**	P	**Pn**	**01 53 14.5**	**-0.5**
URZ	**Urewera**	**0.91**	**101**	S	**S**	**01 53 35.9**	**-2.8**
RTZ	**Ruatahuna**	**0.95**	**123**	P	**Pn**	**01 53 15.5**	**+0.2**
RTZ	**Ruatahuna**	**0.95**	**123**	S	**S**	**01 53 38.1**	**-1.1**
HIZ	**Hauiti**	**0.97**	**244**	⇑Pn	**Pn**	**01 53 16.0**	**+0.7**
HIZ	**Hauiti**	**0.97**	**244**	P	**Pn**	**01 53 16.1**	**+0.7**
MTHZ	**Maungataniwha**	**1.02**	**138**	P	**Pn**	**01 53 16.3**	**+0.6**
MTHZ	**Maungataniwha**	**1.02**	**138**	S	**S**	**01 53 38.9**	**-1.2**
KRVZ	**Karewarewa**	**1.03**	**194**	Pn	**Pn**	**01 53 16.6**	**+0.8**
KRVZ	**Karewarewa**	**1.03**	**194**	P	**Pn**	**01 53 17.0**	**+1.2**
TWVZ	**Taurewa**	**1.06**	**203**	Pn	**Pn**	**01 53 16.9**	**+0.9**
TWVZ	**Taurewa**	**1.06**	**203**	P	**Pn**	**01 53 17.1**	**+1.1**
WTVZ	**West Tongariro**	**1.06**	**196**	Pn	**Pn**	**01 53 17.1**	**+1.1**
WTVZ	**West Tongariro**	**1.06**	**196**	P	**Pn**	**01 53 17.2**	**+1.1**
OTVZ	**Oturere**	**1.09**	**193**	Pn	**Pn**	**01 53 17.4**	**+1.1**
NGZ	**Ngauruhoe**	**1.11**	**195**	Pn	**Pn**	**01 53 17.3**	**+0.8**
NGZ	**Ngauruhoe**	**1.11**	**195**	P	**Pn**	**01 53 17.6**	**+1.1**
BKZ	**Black Stump Fm**	**1.14**	**159**	Pn	**Pn**	**01 53 17.1**	**+0.6**
BKZ	**Black Stump Fm**	**1.14**	**159**	P	**Pn**	**01 53 17.2**	**+0.6**
BKZ	**Black Stump Fm**	**1.14**	**159**	S	**S**	**01 53 40.2**	**-1.3**
COVZ	**Chateau Observ**	**1.15**	**197**	P	**Pn**	**01 53 17.7**	**+1.0**
MKAZ	**Moumakai**	**1.18**	**327**	P	**Pn**	**01 53 16.5**	**-0.3**
MKAZ	**Moumakai**	**1.18**	**327**	S	**S**	**01 53 40.3**	**-1.5**
TUVZ	**Tukino**	**1.19**	**192**	Pn	**Pn**	**01 53 18.0**	**+1.0**
TUVZ	**Tukino**	**1.19**	**192**	P	**Pn**	**01 53 18.0**	**+1.0**
NMHZ	**Naumai**	**1.20**	**147**	Pn	**Pn**	**01 53 18.3**	**+1.4**
NMHZ	**Naumai**	**1.20**	**147**	P	**Pn**	**01 53 18.4**	**+1.4**
RAHZ	**Arahi**	**1.20**	**133**	P	**Pn**	**01 53 17.9**	**+1.0**
RAHZ	**Arahi**	**1.20**	**133**	S	**S**	**01 53 42.0**	**-0.1**
FWVZ	**Far West T-bar**	**1.20**	**196**	Pn	**Pn**	**01 53 18.1**	**+0.9**
FWVZ	**Far West T-bar**	**1.20**	**196**	P	**Pn**	**01 53 18.2**	**+0.9**
RAGZ	**Rawiri**	**1.21**	**110**	Pn	**Pn**	**01 53 17.3**	**+0.3**
RAGZ	**Rawiri**	**1.21**	**110**	P	**Pn**	**01 53 17.6**	**+0.5**
RAGZ	**Rawiri**	**1.21**	**110**	P	**S**	**01 53 41.2**	**-1.0**
DRZ	**Dome Shelter**	**1.22**	**195**	Pn	**Pn**	**01 53 19.2**	**+1.9**
DRZ	**Dome Shelter**	**1.22**	**195**	P	**Pn**	**01 53 18.9**	**+1.5**
WHVZ	**Whangaehu Hut**	**1.22**	**194**	Pn	**Pn**	**01 53 18.4**	**+1.0**
WHVZ	**Whangaehu Hut**	**1.22**	**194**	P	**Pn**	**01 53 18.5**	**+1.2**
TRVZ	**Turoa**	**1.24**	**195**	Pn	**Pn**	**01 53 18.7**	**+1.2**
TRVZ	**Turoa**	**1.24**	**195**	P	**Pn**	**01 53 18.9**	**+1.4**
MWZ	**Matawai**	**1.25**	**101**	Pn	**Pn**	**01 53 17.2**	**-0.2**
MWZ	**Matawai**	**1.25**	**101**	P	**Pn**	**01 53 17.3**	**-0.1**
MWZ	**Matawai**	**1.25**	**101**	S	**S**	**01 53 41.2**	**-1.5**
WNVZ	**Wahianoa**	**1.26**	**193**	Pn	**Pn**	**01 53 18.5**	**+0.9**
SNGZ	**Shannon Statio**	**1.27**	**123**	Pn	**Pn**	**01 53 18.3**	**+0.8**
SNGZ	**Shannon Statio**	**1.27**	**123**	P	**Pn**	**01 53 18.3**	**+0.8**
PKVZ	**Pokaka**	**1.29**	**202**	Pn	**Pn**	**01 53 18.6**	**+1.0**
PKVZ	**Pokaka**	**1.29**	**202**	P	**Pn**	**01 53 18.7**	**+1.0**
MOVZ	**Moawhango**	**1.32**	**187**	Pn	**Pn**	**01 53 18.4**	**+0.6**
MOVZ	**Moawhango**	**1.32**	**187**	P	**Pn**	**01 53 18.5**	**+0.6**
MTVZ	**Mangateitei**	**1.34**	**197**	Pn	**Pn**	**01 53 19.1**	**+1.1**
MTVZ	**Mangateitei**	**1.34**	**197**	P	**Pn**	**01 53 19.1**	**+1.1**
RUGZ	**Raukumara Rang**	**1.36**	**85**	P	**Pn**	**01 53 17.0**	**-1.3**
KUZ	**Kuaotunu**	**1.36**	**352**	P	**Pn**	**01 53 17.3**	**-0.9**
KWHZ	**Kaweka Forest**	**1.37**	**165**	P	**Pn**	**01 53 19.3**	**+1.0**
BHHZ	**Black Hill Sta**	**1.39**	**177**	Pn	**Pn**	**01 53 19.1**	**+0.6**
BHHZ	**Black Hill Sta**	**1.39**	**177**	P	**Pn**	**01 53 19.1**	**+0.6**
WHHZ	**Waihua**	**1.39**	**135**	P	**Pn**	**01 53 19.5**	**+1.1**
VRZ	**Vera Road**	**1.40**	**222**	P	**Pn**	**01 53 20.2**	**+1.9**
ETAZ	**East Tamaki Re**	**1.41**	**324**	P	**Pn**	**01 53 18.4**	**-0.2**
ARHZ	**Aropaoanui**	**1.41**	**146**	Pn	**Pn**	**01 53 19.9**	**+1.3**
ARHZ	**Aropaoanui**	**1.41**	**146**	P	**Pn**	**01 53 19.9**	**+1.3**
MCHZ	**McNeill Hill**	**1.46**	**157**	Pn	**Pn**	**01 53 20.5**	**+1.6**
MCHZ	**McNeill Hill**	**1.46**	**157**	P	**Pn**	**01 53 20.5**	**+1.6**
WIAZ	**Waiheke Island**	**1.46**	**333**	P	**Pn**	**01 53 18.6**	**-0.4**
HAZ	**Te Kaha**	**1.47**	**77**	P	**Pn**	**01 53 18.3**	**-0.7**
AWAZ	**Awhitu Peninsu**	**1.48**	**314**	P	**Pn**	**01 53 19.1**	**0.0**
TKGZ	**Te Karaka**	**1.52**	**104**	Pn	**Pn**	**01 53 19.8**	**+0.4**
TKGZ	**Te Karaka**	**1.52**	**104**	P	**Pn**	**01 53 19.9**	**+0.4**
RIGZ	**Rimuhau**	**1.53**	**114**	P	**Pn**	**01 53 20.4**	**+0.8**
KRHZ	**Kereru**	**1.57**	**169**	P	**Pn**	**01 53 21.0**	**+1.0**
TWGZ	**Tauwhareparae**	**1.59**	**93**	Pn	**Pn**	**01 53 20.4**	**+0.3**
TWGZ	**Tauwhareparae**	**1.59**	**93**	P	**Pn**	**01 53 20.5**	**+0.3**
MHEZ	**Mangahewa**	**1.62**	**232**	P	**Pn**	**01 53 22.7**	**+2.5**
KNZ	**Kokohu**	**1.62**	**125**	Pn	**Pn**	**01 53 21.1**	**+0.8**
KNZ	**Kokohu**	**1.62**	**125**	P	**Pn**	**01 53 21.2**	**+0.8**
PKGZ	**Pakihiroa**	**1.68**	**83**	P	**Pn**	**01 53 20.6**	**-0.3**
PRGZ	**Paritu Road**	**1.71**	**119**	Pn	**Pn**	**01 53 21.9**	**+0.7**
PRGZ	**Paritu Road**	**1.71**	**119**	P	**Pn**	**01 53 22.0**	**+0.8**
ABAZ	**Army Bay**	**1.75**	**328**	P	**Pn**	**01 53 21.2**	**-0.3**
DREZ	**Durham Road**	**1.76**	**231**	P	**Pn**	**01 53 23.9**	**+2.3**
CKHZ	**Cape Kidnapper**	**1.78**	**151**	Pn	**Pn**	**01 53 23.2**	**+1.5**
CKHZ	**Cape Kidnapper**	**1.78**	**151**	P	**Pn**	**01 53 23.3**	**+1.5**
CNGZ	**Carnagh Statio**	**1.80**	**103**	P	**Pn**	**01 53 23.1**	**+1.1**
PUZ	**Puketiti**	**1.81**	**90**	Pn	**Pn**	**01 53 21.6**	**-0.4**
PUZ	**Puketiti**	**1.81**	**90**	P	**Pn**	**01 53 21.6**	**-0.4**
PNHZ	**Pukenui**	**1.82**	**174**	Pn	**Pn**	**01 53 22.9**	**+0.8**
PNHZ	**Pukenui**	**1.82**	**174**	P	**Pn**	**01 53 23.0**	**+0.8**
WAZ	**Wanganui**	**1.82**	**205**	Pn	**Pn**	**01 53 23.2**	**+1.1**
WAZ	**Wanganui**	**1.82**	**205**	P	**Pn**	**01 53 23.3**	**+1.1**
LREZ	**Lake Rotokare**	**1.83**	**221**	P	**Pn**	**01 53 24.4**	**+2.2**
KAHZ	**Kahuranaki**	**1.84**	**158**	Pn	**Pn**	**01 53 23.7**	**+1.4**
KAHZ	**Kahuranaki**	**1.84**	**158**	P	**Pn**	**01 53 23.7**	**+1.4**
MHGZ	**Mahia Peninsul**	**1.85**	**125**	Pn	**Pn**	**01 53 23.5**	**+1.1**
MHGZ	**Mahia Peninsul**	**1.85**	**125**	P	**Pn**	**01 53 23.5**	**+1.1**
PREZ	**Palmer Road**	**1.88**	**228**	P	**Pn**	**01 53 25.2**	**+2.4**
PKE	**Pukeiti**	**1.90**	**234**	Pn	**Pn**	**01 53 24.8**	**+1.9**
PKE	**Pukeiti**	**1.90**	**234**	P	**Pn**	**01 53 24.9**	**+1.9**
MXZ	**Matakaoa Point**	**1.93**	**75**	Pn	**Pn**	**01 53 23.3**	**+0.1**
MXZ	**Matakaoa Point**	**1.93**	**75**	P	**Pn**	**01 53 23.4**	**+0.2**
KHEZ	**Kahui Hut**	**1.94**	**231**	Pn	**Pn**	**01 53 25.4**	**+2.0**
WMGZ	**Waiomatatini S**	**1.95**	**83**	Pn	**Pn**	**01 53 23.2**	**-0.3**
WMGZ	**Waiomatatini S**	**1.95**	**83**	P	**Pn**	**01 53 23.2**	**-0.3**
TSZ	**Takapari Road**	**1.96**	**180**	Pn	**Pn**	**01 53 24.4**	**+0.9**
TSZ	**Takapari Road**	**1.96**	**180**	P	**Pn**	**01 53 24.3**	**+0.9**
TSZ	**Takapari Road**	**1.96**	**180**	P	**Pn**	**01 53 24.4**	**+0.9**
WPHZ	**Waipukurau**	**2.00**	**170**	Pn	**Pn**	**01 53 24.8**	**+0.9**
WPHZ	**Waipukurau**	**2.00**	**170**	P	**Pn**	**01 53 24.8**	**+0.9**
PXZ	**Pawanui**	**2.05**	**160**	Pn	**Pn**	**01 53 25.4**	**+1.1**
PXZ	**Pawanui**	**2.05**	**160**	P	**Pn**	**01 53 25.5**	**+1.1**
NMEZ	**Namu Road**	**2.10**	**231**	P	**Pn**	**01 53 27.1**	**+2.3**
OHWZ	**Ohakea**	**2.17**	**193**	P	**Pn**	**01 53 26.8**	**+1.3**
DVHZ	**Dannevirke**	**2.20**	**176**	Pn	**Pn**	**01 53 26.5**	**+0.6**
DVHZ	**Dannevirke**	**2.20**	**176**	P	**Pn**	**01 53 26.6**	**+0.6**
PRHZ	**Porangahau**	**2.23**	**167**	Pn	**Pn**	**01 53 27.1**	**+1.0**
PRHZ	**Porangahau**	**2.23**	**167**	P	**Pn**	**01 53 27.2**	**+1.0**
POWZ	**Post Office Ro**	**2.30**	**184**	Pn	**Pn**	**01 53 27.4**	**+0.5**
POWZ	**Post Office Ro**	**2.30**	**184**	P	**Pn**	**01 53 27.4**	**+0.5**
ANWZ	**Angora Road**	**2.39**	**171**	P	**Pn**	**01 53 28.8**	**+1.0**
PRWZ	**Pori Road**	**2.45**	**180**	Pn	**Pn**	**01 53 29.3**	**+0.7**
PRWZ	**Pori Road**	**2.45**	**180**	P	**Pn**	**01 53 29.3**	**+0.7**
WCZ	**Waipu Caves**	**2.52**	**328**	P	**Pn**	**01 53 28.9**	**-0.5**
MRZ	**Mangatainoka R**	**2.58**	**187**	Pn	**Pn**	**01 53 30.1**	**+0.2**
MRZ	**Mangatainoka R**	**2.58**	**187**	P	**Pn**	**01 53 30.2**	**+0.2**
BFZ	**Birch Farm**	**2.59**	**175**	Pn	**Pn**	**01 53 30.4**	**+0.4**
BFZ	**Birch Farm**	**2.59**	**175**	P	**Pn**	**01 53 30.4**	**+0.4**
TIWZ	**Tintock**	**2.68**	**181**	Pn	**Pn**	**01 53 31.3**	**+0.3**
TIWZ	**Tintock**	**2.68**	**181**	P	**Pn**	**01 53 31.4**	**+0.3**
OGWZ	**Otaki Gorge**	**2.79**	**193**	Pn	**Pn**	**01 53 32.5**	**+0.3**
OGWZ	**Otaki Gorge**	**2.79**	**193**	P	**Pn**	**01 53 32.5**	**+0.3**
CPWZ	**Castlepoint**	**2.81**	**176**	Pn	**Pn**	**01 53 33.3**	**+0.7**
CPWZ	**Castlepoint**	**2.81**	**176**	P	**Pn**	**01 53 33.4**	**+0.9**
HOWZ	**Holdsworth Sta**	**2.82**	**187**	Pn	**Pn**	**01 53 32.6**	**0.0**
HOWZ	**Holdsworth Sta**	**2.82**	**187**	P	**Pn**	**01 53 32.7**	**0.0**
KIW	**Kapiti Island**	**2.88**	**196**	Pn	**Pn**	**01 53 33.2**	**-0.1**
KIW	**Kapiti Island**	**2.88**	**196**	P	**Pn**	**01 53 33.2**	**-0.1**
TMWZ	**Te Maipa**	**3.01**	**181**	Pn	**Pn**	**01 53 34.7**	**0.0**
TMWZ	**Te Maipa**	**3.01**	**181**	P	**Pn**	**01 53 34.8**	**0.0**
MTW	**Mount Morrison**	**3.08**	**187**	Pn	**Pn**	**01 53 35.3**	**-0.3**
MTW	**Mount Morrison**	**3.08**	**187**	P	**Pn**	**01 53 35.3**	**-0.3**
CAW	**Cannon Point**	**3.09**	**193**	Pn	**Pn**	**01 53 35.6**	**-0.1**
CAW	**Cannon Point**	**3.09**	**193**	P	**Pn**	**01 53 35.6**	**-0.1**
DUWZ	**D'Urville Isla**	**3.13**	**210**	Pn	**Pn**	**01 53 36.4**	**+0.2**
DUWZ	**D'Urville Isla**	**3.13**	**210**	P	**Pn**	**01 53 36.4**	**+0.2**
TRWZ	**Traveller**	**3.30**	**184**	Pn	**Pn**	**01 53 38.0**	**-0.2**
TRWZ	**Traveller**	**3.30**	**184**	P	**Pn**	**01 53 38.1**	**-0.2**
PAWZ	**Paruwai Farm**	**3.31**	**187**	Pn	**Pn**	**01 53 37.8**	**-0.5**
PAWZ	**Paruwai Farm**	**3.31**	**187**	P	**Pn**	**01 53 37.8**	**-0.5**
WEL	**Wellington**	**3.31**	**196**	Pn	**Pn**	**01 53 38.3**	**-0.1**
MSWZ	**Moikau Station**	**3.36**	**189**	Pn	**Pn**	**01 53 38.4**	**-0.5**
MSWZ	**Moikau Station**	**3.36**	**189**	P	**Pn**	**01 53 38.4**	**-0.5**
TCW	**Tory Channel**	**3.37**	**202**	Pn	**Pn**	**01 53 38.8**	**-0.2**
TCW	**Tory Channel**	**3.37**	**202**	P	**Pn**	**01 53 38.8**	**-0.2**
BHW	**Baring Head**	**3.41**	**194**	Pn	**Pn**	**01 53 39.0**	**-0.5**
BHW	**Baring Head**	**3.41**	**194**	P	**Pn**	**01 53 39.0**	**-0.5**
OUZ	**Omahuta**	**3.45**	**326**	P	**Pn**	**01 53 39.7**	**-0.3**
PLWZ	**Palliser**	**3.51**	**189**	Pn	**Pn**	**01 53 40.0**	**-0.7**
PLWZ	**Palliser**	**3.51**	**189**	P	**Pn**	**01 53 40.1**	**-0.7**
TUWZ	**Tuamarina**	**3.68**	**204**	Pn	**Pn**	**01 53 42.3**	**-0.3**
TUWZ	**Tuamarina**	**3.68**	**204**	P	**Pn**	**01 53 42.3**	**-0.3**
NNZ	**Nelson**	**3.70**	**212**	Pn	**Pn**	**01 53 42.5**	**-0.4**
NNZ	**Nelson**	**3.70**	**212**	P	**Pn**	**01 53 42.6**	**-0.4**
QRZ	**Quartz Range**	**3.81**	**223**	Pn	**Pn**	**01 53 43.4**	**-0.9**
QRZ	**Quartz Range**	**3.81**	**223**	P	**Pn**	**01 53 43.4**	**-0.9**
CMWZ	**Cape Campbell**	**3.89**	**200**	Pn	**Pn**	**01 53 45.8**	**+0.5**
CMWZ	**Cape Campbell**	**3.89**	**200**	P	**Pn**	**01 53 45.9**	**+0.6**
BSWZ	**Blackbirch Sta**	**3.96**	**203**	Pn	**Pn**	**01 53 45.7**	**-0.3**
BSWZ	**Blackbirch Sta**	**3.96**	**203**	P	**Pn**	**01 53 45.9**	**-0.2**
THZ	**Tophouse**	**4.35**	**212**	Pn	**Pn**	**01 53 50.5**	**-0.5**
THZ	**Tophouse**	**4.35**	**212**	P	**Pn**	**01 53 50.5**	**-0.5**
KHZ	**Kahutara**	**4.70**	**203**	Pn	**Pn**	**01 53 54.9**	**-0.3**
KHZ	**Kahutara**	**4.70**	**203**	P	**Pn**	**01 53 54.9**	**-0.3**
DSZ	**Denniston Nort**	**4.85**	**220**	Pn	**Pn**	**01 53 56.0**	**-1.2**
DSZ	**Denniston Nort**	**4.85**	**220**	P	**Pn**	**01 53 55.9**	**-1.4**
LTZ	**Lake Taylor**	**5.46**	**210**	Pn	**Pn**	**01 54 04.0**	**-0.9**
LTZ	**Lake Taylor**	**5.46**	**210**	P	**Pn**	**01 54 04.4**	**-0.6**
INZ	**Inchbonnie**	**5.77**	**215**	P	**Pn**	**01 54 08.0**	**-0.8**
EYCZ	**Eyrewell**	**5.98**	**206**	P	**Pn**	**01 54 10.5**	**-1.1**
OXZ	**Oxford**	**6.01**	**209**	Pn	**Pn**	**01 54 10.3**	**-1.6**
OXZ	**Oxford**	**6.01**	**209**	P	**Pn**	**01 54 10.5**	**-1.5**
OKCZ	**Okains Bay**	**6.04**	**200**	P	**Pn**	**01 54 11.7**	**-0.6**
MQZ	**McQueen's Vall**	**6.14**	**203**	Pn	**Pn**	**01 54 11.9**	**-1.6**
MQZ	**McQueen's Vall**	**6.14**	**203**	P	**Pn**	**01 54 11.9**	**-1.6**
AKCZ	**Akaroa Harbour**	**6.21**	**201**	P	**Pn**	**01 54 13.7**	**-0.9**
RPZ	**Rata Peaks**	**6.73**	**212**	P	**Pn**	**01 54 19.8**	**-1.4**
	1.4nm,0.3s,baz=234,slow=2.8,SNR=12						
RPZ				S	S	01 55 32.0	-6.1
	6.5nm,0.3s,baz=318,slow=23,SNR=21						
RPZ	**Rata Peaks**	**6.73**	**212**	P	**Pn**	**01 54 20.0**	**-1.3**
FOZ	**Fox Glacier**	**7.16**	**219**	Pn	**Pn**	**01 54 25.6**	**-1.0**
FOZ	**Fox Glacier**	**7.16**	**219**	P	**Pn**	**01 54 25.7**	**-1.0**
LBZ	**Lake Benmore**	**7.64**	**213**	Pn	**Pn**	**01 54 31.3**	**-1.6**
ODZ	**Otahua Downs**	**8.00**	**208**	Pn	**Pn**	**01 54 36.7**	**-0.9**
ODZ	**Otahua Downs**	**8.00**	**208**	P	**Pn**	**01 54 36.9**	**-0.7**
JCZ	**Jackson Bay**	**8.06**	**220**	Pn	**Pn**	**01 54 36.8**	**-1.7**
JCZ	**Jackson Bay**	**8.06**	**220**	P	**Pn**	**01 54 37.0**	**-1.4**
TUZ	**Tuapeka**	**9.15**	**209**	P	**Pn**	**01 54 53.4**	**+0.9**
HNR	**Honiara**	**31.98**	**329**	LR	LR	02 10 49.6	
	comp=Z,66nm,19.8s,baz=304,slow=34						
ASAR	**Alice Springs**	**38.53**	**280**	P	**P**	**01 59 48.3**	**+1.8**
	0.8nm,0.7s,baz=121,slow=8.1,SNR=9.5						
WRA	**Warramunga Arr**	**40.26**	**285**	P	**P**	**02 00 01.8**	**+0.9**
	0.5nm,0.7s,baz=123,slow=8.5,SNR=9.6						
SYO	**Syowa Base**	**68.45**	**196**	⇓eX	**P**	**02 03 20.7**	**-2.1**
KSRS	**Korea Array**	**87.27**	**324**	P	**P**	**02 05 09.7**	**+3.1**
	1.0nm,0.5s,baz=143,slow=5.7,SNR=3.0						
FINES	**FINESS Array B**	**150.09**	**331**	PKPbc	**PKPbc**	**02 12 08.6**	**-0.2**
	4.2nm,1.2s,baz=56,slow=2.5,SNR=3.5						

MEX 06 01:54:19.3±0.3**, 16°.25N**×**98°.12W, h8**km**, MD3.8, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.14**	**355**	eP	Pg	01 54 18.4	-4.0
PNIG				eS	Sg	01 54 20.4	-4.0
VHO	**Vista Hermosa**	**1.56**	**58**	eP	Pn	01 54 43.9	-3.6
VHO				eS	Sn	01 55 03.2	-4.7

*NIED **06** 01:54:00, 37°.40N×141°.50E, h41km, Mw3.7 Best double couple: $M_0$4.41000×10^14 NP1:ϕ_s96.00000°, δ38.00000°, λ-62.00000°. NP2:ϕ_s241.00000°, δ57.00000°, λ-111.00000°.*
*JMA **06** 01:54:44.9±0.1, 37°.39N×141°.53E, h42km±2km, M3.8*
JMA Felt I J1.
*IDC **06** 01:54:45.1±2.0, 37°.36N×141°.67E, h44km±19km, mb3.4/10, mb1 3.6/13, mb1mx3.4/67, mbtmp3.7/13, ML3.6/3, MS2.5/2, Ms1 2.5/2, ms1mx2.2/40, Error ellipse: s-maj=18.7km s-min=12.0km az=117.0*
ISC 06 01:54:41.8±1.7**, 37°.35N**±0°.04×**141°.66E**±0°.06**, h16**km±10km**, n32,** σ**1s.22**/38**, mb3.5**/10**, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.62**	**272**	P	**Pn**	**01 54 56.0**	**0.0**
JFK				S	**Sb**	**01 55 03.5**	**+0.7**
ONAJ	**Iwakimizuishiy**	**0.73**	**251**	P	**Pn**	**01 54 57.7**	**+0.3**
ONAJ				S	**Sb**	**01 55 06.4**	**+0.6**
JMM	**Marumori**	**0.86**	**307**	P	**Pn**	**01 54 59.2**	**0.0**
JMM				S	**Sg**	**01 55 09.2**	**-0.6**
JFT	**Otama**	**1.06**	**280**	P	**Pg**	**01 55 02.8**	**+0.4**
JFT				S	**Sb**	**01 55 15.0**	**-0.5**
JIO	**Ouri**	**1.13**	**348**	P	**Pg**	**01 55 03.5**	**-0.2**
JIO				S	**Sb**	**01 55 16.7**	**-0.7**
JHO	**Hitachi**	**1.14**	**230**	P	**Pn**	**01 55 03.3**	**+0.2**
JHO				S	**Sb**	**01 55 16.6**	**-1.1**
JOU	**Okura**	**1.28**	**323**	P	**Pb**	**01 55 05.5**	**-0.1**
JOU				S	**Sn**	**01 55 21.9**	**0.0**
JFY	**Yanaizu**	**1.56**	**273**	P	**Pb**	**01 55 09.5**	**-0.7**
JFY				S	**Sn**	**01 55 27.4**	**-1.2**
JMK	**Ichinoseki**	**1.64**	**348**	P	**Pb**	**01 55 11.1**	**-0.5**
JMK				S	**Sn**	**01 55 30.1**	**-0.5**
MJAR	**Matsushiro Arr**	**2.88**	**255**	P	**Pn**	**01 55 29.3**	**+2.3**
	2.9nm,0.3s,baz=78,slow=16,SNR=9.9						
MJAR				S	**Sn**	**01 56 02.0**	**+0.8**
	3.0nm,0.3s,baz=78,slow=13,SNR=5.5						
MJAR				LR	LR	01 56 54.6	
	comp=Z,47nm,20.6s,baz=215,slow=45						
MAT	**Matsushiro**	**2.88**	**255**	P	**Pb**	**01 55 30.3**	**-2.5**
MAT				S	**Sn**	**01 56 02.6**	**+1.3**
JHJ	**Hachijo jima 2**	**4.49**	**201**	P	**Pn**	**01 55 50.9**	**+1.8**
	22nm,0.3s,baz=348,slow=23,SNR=7.7						
JHJ				S	**Sn**	**01 56 39.8**	**-1.2**
	43nm,0.3s,baz=231,slow=24,SNR=6.3						
ASAJ	**Asahikawa**	**6.80**	**6**	P	**Pn**	**01 56 20.6**	**-0.2**
	1.1nm,0.3s,baz=342,slow=20,SNR=1.9						
ASAJ				S	**Sn**	**01 57 39.1**	**+1.3**
	1.6nm,0.3s,baz=315,slow=20,SNR=2.0						
JNU	**Nakatsue**	**9.77**	**248**	LR	LR	02 00 31.8	
	comp=Z,41nm,19.1s,baz=115,slow=35						
USRK	**Ussuriysk Ar.**	**10.03**	**316**	P	**Pn**	**01 57 09.2**	**+4.2**
	0.1nm,0.3s,baz=133,slow=13,SNR=7.5						
KLR	**Kul'dur**	**13.88**	**332**	P	**P**	**01 58 04.8**	**-1.1**
	0.0nm,0.3s,baz=145,slow=14,SNR=6.1						
SONM	**Songino Array**	**27.77**	**303**	P	**P**	**02 00 29.9**	**0.0**
	0.3nm,0.5s,baz=111,slow=9.6,SNR=3.3						
H11N2	**WAKE ISLAND Hy**	**28.14**	**122**	T	T	02 30 08.8	
	baz=312,slow=74						
H11N1	**WAKE ISLAND Hy**	**28.15**	**122**	T	T	02 30 04.6	
	baz=312,slow=74						
H11N3	**WAKE ISLAND Hy**	**28.16**	**122**	T	T	02 30 07.5	
	baz=312						
H11S1	**WAKE ISLAND Hy**	**28.87**	**124**	T	T	02 31 04.3	
	baz=319,slow=74						
H11S3	**WAKE ISLAND Hy**	**28.87**	**124**	T	T	02 31 03.9	
	baz=319,slow=74						
H11S2	**WAKE ISLAND Hy**	**28.89**	**124**	T	T	02 31 04.2	
	baz=319						
ZALV	**Zalesovo Beam**	**41.85**	**312**	P	**P**	**02 02 30.1**	**-0.6**
	0.3nm,0.3s,baz=90,slow=6.5,SNR=2.2						
MKAR	**Makanchi Array**	**44.12**	**302**	P	**P**	**02 02 48.2**	**-1.0**
	0.5nm,0.8s,baz=87,slow=10,SNR=4.5						
KURBB	**Kurchatov Arra**	**45.96**	**308**	P	**P**	**02 03 03.2**	**-0.6**
	1.1nm,0.5s,baz=82,slow=7.7,SNR=8.8						
ILAR	**Eielson Array**	**49.12**	**33**	P	**P**	**02 03 28.5**	**+0.3**
	0.9nm,1.1s,baz=260,slow=6.0,SNR=4.2						
WRA	**Warramunga Arr**	**57.40**	**188**	P	**P**	**02 04 28.9**	**-0.6**
	0.6nm,0.5s,baz=6.3,slow=7.2,SNR=14						
ASAR	**Alice Springs**	**61.13**	**188**	P	**P**	**02 04 54.9**	**-0.3**
	0.3nm,0.7s,baz=9.9,slow=7.5,SNR=3.1						
YKA	**Yellowknife Ar**	**63.44**	**30**	P	**P**	**02 05 08.5**	**-1.8**
	0.2nm,0.6s,baz=303,slow=6.4,SNR=3.9						
FINES	**FINESS Array B**	**68.63**	**332**	P	**P**	**02 05 44.1**	**+0.5**
	2.2nm,0.9s,baz=36,slow=7.3,SNR=2.7						
TXAR	**Lajitas Array**	**89.78**	**53**	P	**P**	**02 07 40.5**	**+0.6**
	0.2nm,0.6s,baz=308,slow=2.0,SNR=4.9						

*ISCJB **06** 02:04:50.9±0.4, 4°.82S±0°.06×153°.54E±0°.06, h56km, mb4.4/26, MS3.4/2, Error ellipse: s-maj=8.1km s-min=7.9km az=166.4*
*NEIC **06** 02:04:54.8±1.3, 4°.89S×153°.53E, h77km±10km, mb4.2/5, Error ellipse: s-maj=12.0km s-min=8.0km az=79.0*
*IDC **06** 02:04:54.1±1.9, 4°.92S×153°.50E, h66km±16km, mb3.9/16, mb1 4.1/19, mb1mx3.9/51, mbtmp4.3/19, MS3.4/2, Ms1 3.4/2, ms1mx2.8/46, Error ellipse: s-maj=15.3km s-min=13.5km az=48.0*
ISC 06 02:04:52.6±0.5**, 4°.85S**±0°.07×**153°.55E**±0°.06**, h56**km**, n43,** σ**1s.50**/49**, mb4.4**/26**, New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.53**	**295**	ePn	**Pn**	**02 05 20.1**	**+2.4**
PMG	**Port Moresby**	**7.79**	**234**	P	**Pn**	**02 06 45.3**	**+2.0**
	11nm,0.3s,baz=57,slow=6.6,SNR=29						
PMG				S	**Sn**	**02 08 09.4**	**-0.8**
	15nm,0.3s,baz=55,slow=16,SNR=12						
PMG	**Port Moresby**	**7.79**	**234**	ePn	**Pn**	**02 06 45.0**	**+1.7**
PMG				eSn	**Sn**	**02 08 11.7**	**+1.5**
HNR	**Honiara**	**7.81**	**126**	P	Pn	02 06 35.0	-8.6
HNR				S	**Sn**	**02 08 05.0**	**-5.7**
HNR	**Honiara**	**7.81**	**126**	P	**Pn**	**02 06 46.9**	**+3.3**
	11nm,0.3s,baz=196,slow=9.3,SNR=3.2						
HNR				S	**Sn**	**02 08 12.3**	**+1.6**
	11nm,0.3s,baz=345,slow=17,SNR=4.0						
HNR	**Honiara**	**7.81**	**126**	ePn	Pn	02 06 33.9	-10
HNR				S	**Sn**	**02 08 12.3**	**+1.6**
COEN	**Coen**	**13.65**	**228**	ePn	**Pn**	**02 08 04.8**	**+1.2**
CTA	**Charters Tower**	**16.73**	**204**	P	**P**	**02 08 44.6**	**-0.2**
	0.4nm,0.3s,baz=24,slow=16,SNR=4.1						
CTAO	**Charters Tower**	**16.73**	**204**	ePn	**P**	**02 08 44.3**	**-0.5**
DZM	**Mont Dzumac**	**21.19**	**145**	P	**P**	**02 09 33.9**	**+0.2**
	4.6nm,0.5s,baz=227,slow=8.9,SNR=9.8						
DZM				LR	LR	02 16 12.7	
	comp=Z,87nm,19.8s,baz=3.5,slow=32						
DZM	**Mont Dzumac**	**21.19**	**145**	eP	**P**	**02 09 33.1**	**-0.5**
	9.8nm,0.6s						
FAKI	**Fak Fak**	**21.34**	**274**	eP	**P**	**02 09 36.1**	**+0.8**
	51nm,0.9s						
MTN	**Manton Dam**	**23.51**	**249**	eP	**P**	**02 09 57.7**	**-0.2**
	21nm,0.6s						
WRAB	**Tennant Creek**	**23.96**	**230**	eP	**P**	**02 10 01.8**	**-0.2**
	11nm,0.7s						
WB2	**Warramunga Arr**	**23.96**	**230**	eP	**P**	**02 10 02.3**	**+0.3**
	12nm,0.5s						
WRA	**Warramunga Arr**	**23.97**	**230**	P	**P**	**02 10 02.0**	**0.0**
	4.9nm,0.5s,baz=54,slow=10.0,SNR=88						
WRA				PcP	**PcP**	**02 13 42.5**	**-0.8**
	1.1nm,0.7s,baz=55,slow=2.7,SNR=3.5						
WRA				ScP	**ScP**	**02 17 16.8**	**-0.3**
	0.5nm,0.7s,baz=59,slow=3.3,SNR=3.8						
AS01	**Alice Springs**	**26.59**	**223**	eP	**P**	**02 10 25.0**	**-0.8**
AS31	**Alice Springs**	**26.62**	**223**	eP	**P**	**02 10 26.1**	**0.0**
	2.2nm,0.8s						
ASAR	**Alice Springs**	**26.62**	**223**	P	**P**	**02 10 25.9**	**-0.1**
	2.0nm,0.5s,baz=58,slow=9.0,SNR=42						
ASAR				PcP	**PcP**	**02 13 47.8**	**-1.4**
	0.9nm,0.9s,baz=38,slow=4.7,SNR=3.8						
ASAR				ScP	**ScP**	**02 17 24.8**	**+0.1**
	0.5nm,0.6s,baz=52,slow=2.9,SNR=4.5						
STKA	**Stephens Creek**	**29.13**	**201**	P	**P**	**02 10 47.5**	**-0.8**
	3.0nm,0.8s,baz=39,slow=10,SNR=3.7						
STKA	**Stephens Creek**	**29.13**	**201**	eP	**P**	**02 10 46.1**	**-2.2**
	6.0nm,1.6s						
BATI	**Baumata**	**30.09**	**258**	P	**P**	**02 10 57.9**	**+0.8**
	12nm,0.5s,baz=27,slow=4.5,SNR=5.7						
LUWI	**Luwuk**	**30.96**	**276**	eP	**P**	**02 11 04.6**	**-0.2**
FORT	**Forrest**	**35.22**	**220**	eP	**P**	**02 11 41.2**	**-0.5**
MYLDM	**Lahad Datu**	**36.40**	**285**	eP	**P**	**02 11 50.4**	**-1.6**
	16nm,1.2s						
MBWA	**Marble Bar**	**36.59**	**241**	eP	**P**	**02 11 53.5**	**-0.1**
	21nm,0.5s						
RPZ	**Rata Peaks**	**41.67**	**161**	P	**P**	**02 12 35.4**	**-0.3**
	11nm,0.7s,baz=322,slow=5.3,SNR=7.4						
CMAR	**Chiang Mai Arr**	**58.58**	**295**	P	**P**	**02 14 44.4**	**+0.3**
	0.9nm,0.3s,baz=113,slow=5.3,SNR=6.1						
HHC	**Hu-ho-hao-te**	**59.53**	**324**	eP	**P**	**02 14 49.0**	**-1.4**
HHC				pmax	pmax		
	comp=Z,25nm,1.2s						
HHC				pmax	pmax		
	comp=Z,210nm,7.2s						
SONM	**Songino Array**	**66.77**	**327**	P	**P**	**02 15 38.9**	**+0.6**
	comp=Z,0.4nm,0.4s,baz=140,slow=4.8,SNR=2.7						
VNDA	**Vanda**	**72.75**	**178**	P	**P**	**02 16 14.7**	**+0.2**
	comp=Z,3.8nm,0.8s,baz=336,slow=6.9,SNR=18						
PALK	**Pallekele**	**73.68**	**279**	eP	**P**	**02 16 20.7**	**-0.5**
	comp=Z,10nm,1.1s						
WMQ	**Urumqi**	**76.29**	**317**	eP	**P**	**02 16 33.4**	**-2.2**
MKAR	**Makanchi Array**	**80.86**	**319**	P	**P**	**02 17 01.4**	**+0.7**
	comp=Z,0.6nm,0.7s,baz=127,slow=3.7,SNR=6.6						
ZALV	**Zalesovo Beam**	**81.61**	**326**	P	**P**	**02 17 05.5**	**+1.1**
	comp=Z,0.4nm,0.4s,baz=72,slow=4.7,SNR=2.9						
ILAR	**Eielson Array**	**81.93**	**22**	P	**P**	**02 17 07.9**	**+2.0**
	comp=Z,0.4nm,0.6s,baz=245,slow=4.8,SNR=8.1						
KURK	**Kurchatov**	**84.27**	**322**	eP	**P**	**02 17 15.2**	**-3.1**
	comp=Z,21nm,1.0s						
KURBB	**Kurchatov Arra**	**84.30**	**322**	P	**P**	**02 17 18.6**	**+0.2**
	comp=Z,1.3nm,1.1s,baz=109,slow=4.0,SNR=6.3						
QSPA	**South Pole Qui**	**85.11**	**180**	P	**P**	**02 17 22.5**	**0.0**
	comp=Z,6.6nm,0.8s,baz=314,slow=1.1,SNR=11						
YBH	**Yreka Blue Hor**	**88.53**	**48**	LR	LR	02 48 55.1	
	comp=Z,22nm,21.3s,baz=354,slow=30						
BVAR	**Borovoye Array**	**89.73**	**323**	P	**P**	**02 17 44.0**	**-0.7**
	comp=Z,0.9nm,0.8s,baz=108,slow=4.7,SNR=4.3						
YKA	**Yellowknife Ar**	**95.12**	**28**	P	**P**	**02 18 08.7**	**-0.7**
	comp=Z,0.2nm,0.6s,baz=270,slow=4.4,SNR=4.9						
TORD	**Torodi Ar. Bea**	**151.03**	**288**	PKPbc	**PKPbc**	**02 24 40.1**	**-0.3**
	comp=Z,2.1nm,0.7s,baz=74,slow=2.2,SNR=26						

*ISCJB **06** 02:31:48.6±0.6, 24°.57S±0°.04×179°.38E±0°.10, h550km, mb3.8/10, Error ellipse: s-maj=11.7km s-min=5.7km az=172.1*
*WEL **06** 02:31:48.4±1.4, 25°S±10°×17°9W±7°5, h603km±35km*
*IDC **06** 02:31:52.2±1.8, 24°.55S×179°.16E, h566km±21km, mb3.3/11, mb1 3.5/12, mb1mx3.2/46, mbtmp4.3/12, Error ellipse: s-maj=15.4km s-min=12.4km az=12.0*
ISC 06 02:31:50.0±0.7**, 24°.74S**±0°.08×**179°.32E**±0°.09**, h550**km**, n49,** σ**1s.66**/52**, mb4.0**/10**, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**5.14**	**152**	P	**P**	**02 33 19.3**	**-1.6**
GLKZ	**Green Lake**	**5.14**	**152**	S	**S**	**02 34 32.7**	**-2.6**
DZM	**Mont Dzumac**	**12.12**	**280**	P	**P**	**02 34 29.5**	**-0.5**
	0.8nm,0.3s,baz=92,slow=17,SNR=8.9						
MKAZ	**Moumakai**	**12.83**	**195**	P	**P**	**02 34 39.2**	**+2.3**
HAZ	**Te Kaha**	**13.04**	**185**	S	**S**	**02 37 00.0**	**+1.6**
HAZ	**Te Kaha**	**13.04**	**185**	P	**P**	**02 34 39.2**	**0.0**
TOZ	**Tahuroa Road**	**13.36**	**193**	P	**P**	**02 34 46.9**	**+4.6**
URZ	**Urewera**	**13.61**	**187**	P	**P**	**02 34 43.0**	**-2.0**
	1.7nm,0.3s,baz=209,slow=19,SNR=8.8						

URZ				S	S	02 37 05.9	-3.1
	1.6nm,0.3s,baz=84,slow=21,SNR=9.0						
NMHZ	Naumai	14.47	188	P	P	02 34 55.1	+1.1
NMHZ	Naumai	14.47	188	S	S	02 37 25.5	0.0
FWVZ	Far West T-bar	14.82	191	P	P	02 34 58.1	+0.4
KWHZ	Kaweka Forest	14.85	189	P	P	02 34 56.0	-1.8
KWHZ	Kaweka Forest	14.85	189	S	S	02 37 32.3	-0.2
TRVZ	Turoa	14.86	191	P	P	02 34 54.4	-3.7
BHHZ	Black Hill Sta	14.96	190	P	P	02 34 56.6	-2.4
BHHZ	Black Hill Sta	14.96	190	S	S	02 37 33.5	-1.1
KRHZ	Kereru	15.07	189	P	P	02 34 59.1	-1.0
KRHZ	Kereru	15.07	189	S	S	02 37 35.4	-1.0
KAHZ	Kahuranaki	15.15	187	P	P	02 35 00.9	0.0
KAHZ	Kahuranaki	15.15	187	S	S	02 37 36.9	-1.0
TSZ	Takapari Road	15.54	190	P	P	02 35 04.1	-0.7
TSZ	Takapari Road	15.54	190	S	S	02 37 44.8	+0.3
DVHZ	Dannevirke	15.74	189	P	P	02 35 07.0	+0.1
DVHZ	Dannevirke	15.74	189	S	S	02 37 46.6	-1.3
BFZ	Birch Farm	16.11	188	P	P	02 35 07.8	-2.6
BFZ	Birch Farm	16.11	188	S	S	02 37 54.1	+0.2
MRZ	Mangatainoka R	16.18	190	P	P	02 35 08.6	-2.5
MRZ	Mangatainoka R	16.18	190	S	S	02 37 53.3	-1.9
HOWZ	Holdsworth Sta	16.43	190	P	P	02 35 12.7	-0.7
HOWZ	Holdsworth Sta	16.43	190	S	S	02 37 57.4	-1.9
KIW	Kapiti Island	16.50	192	P	P	02 35 12.6	-1.4
RPZ	Rata Peaks	20.10	198	P	P	02 35 48.4	+1.5
	9.6nm,0.6s,baz=299,slow=1.6,SNR=9.7						
CTA	Charters Tower	30.87	272	P	P	02 37 22.6	+0.5
	2.1nm,0.6s,baz=58,slow=12,SNR=7.6						
STKA	Stephens Creek	33.84	249	P	P	02 37 48.1	+1.0
	2.0nm,0.4s,baz=93,slow=12,SNR=8.3						
PMG	Port Moresby	34.19	291	P	P	02 37 49.6	-0.7
	5.7nm,0.8s,baz=122,slow=6.1,SNR=4.2						
ASAR	Alice Springs	41.29	262	P	P	02 38 48.4	+0.3
	2.9nm,0.7s,baz=95,slow=9.2,SNR=26						
ASAR				S	S	02 44 22.1	-1.0
	0.4nm,0.9s,baz=96,slow=17,SNR=3.1						
WRA	Warramunga Arr	41.74	267	P	P	02 38 51.2	-0.5
	3.4nm,0.6s,baz=101,slow=8.3,SNR=56						
WRA				S	S	02 44 26.4	-3.1
	0.9nm,1.0s,baz=97,slow=14,SNR=4.7						
VNDA	Vanda	53.50	185	P	P	02 40 21.1	+2.4
	1.1nm,0.5s,baz=8.3,slow=6.1,SNR=7.7						
QSPA	South Pole Qui	65.35	180	P	P	02 41 40.1	+2.1
	4.7nm,0.6s,baz=203,slow=1.2,SNR=12						
MJAR	Matsushiro Arr	72.24	326	P	P	02 42 19.1	-0.7
	1.3nm,0.7s,baz=160,slow=6.8,SNR=3.3						
SNAA	Sanae	83.84	179	P	P	02 43 22.3	+0.7
VNA3	Neumayer Olymp	84.08	177	P	P	02 43 23.5	+0.8
VNA2	Neumayer--Watz	84.48	178	P	P	02 43 25.6	+0.9
	baz=179,slow=4.8						
NVAR	Mina Array Bea	85.78	44	P	P	02 43 31.6	-0.1
	0.3nm,0.3s,baz=201,slow=4.8,SNR=2.5						
TXAR	Lajitas Array	91.40	58	P	P	02 43 58.1	+0.2
	0.6nm,0.7s,baz=210,slow=7.0,SNR=10						
HFS	Hagfors	143.24	348	PKP	PKPab	02 50 18.4	-0.9
	1.4nm,0.4s,baz=46,slow=4.2,SNR=15						
MMAI	Mount Meron Ar	147.47	293	PKPbc	PKPbc	02 50 33.8	+0.9
	0.7nm,0.5s,baz=88,slow=4.9,SNR=3.2						
BRTR	Keskin Array B	147.57	306	PKPbc	PKPbc	02 50 32.2	-0.9
	0.3nm,0.6s,baz=27,slow=3.5,SNR=2.9						
BRTR				PKPab	PKPab	02 50 37.0	-0.2
	1.1nm,0.6s,baz=113,slow=4.6,SNR=11						
TORD	Torodi Ar. Bea	168.25	191	PKPab	PKPab	02 52 08.0	+1.3
	0.5nm,0.5s,baz=162,slow=4.1,SNR=8.9						

*IDC **06** 02:41:10.1±0.6, 28°.98N×132°.04E, h0km, mb3.9/18, mb1 4.1/22, mb1mx3.9/65, mbtmp4.0/22, ML3.7/3, MS3.5/3, Ms1 3.6/3, ms1mx2.7/65, Error ellipse: s-maj=18.4km s-min=15.7km az=71.0*

*NEIC **06** 02:41:12.3±0.3, 28°.98N×132°.08E, h10km, mb4.5/11, Error ellipse: s-maj=7.3km s-min=5.8km az=154.0*

*JMA **06** 02:41:14.4±0.2, 29°.04N×131°.90E, h78km, M3.9*

ISC 06 02:41:14.2±3.0, **29°.00N**±0°.04×**131°.98E**±0°.05, **h25**km±22km, **n78**, σ**1s.53**/97, **mb4.2**/34, **MS3.6**/5, **Southeast of Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYAK	Yakushimahirau	1.78	314	P	Pn	02 41 42.9	-0.5
JYAK				eS	Sn	02 42 03.9	-1.3
JTN	Tanegashima 3	1.86	332	P	Pn	02 41 43.8	-0.8
JTN				eS	Sn	02 42 06.5	-0.8
JZK	Kikaishima	1.90	249	P	Pn	02 41 44.7	-0.3
JZK				eS	Sn	02 42 07.2	-0.9
JNN	Nakanoshima	2.02	295	P	Pn	02 41 46.3	-0.4
JNN				eS	Sn	02 42 09.5	-1.7
JKC	Kuchinoerabu	2.13	314	P	Pn	02 41 47.7	-0.5
JKC				eS	Sn	02 42 12.7	-1.2
JAM	Amami Oshima	2.17	255	P	Pn	02 41 47.8	-1.0
JAM				eS	Sn	02 42 13.1	-1.8
JTSR	Tashiro 2	2.34	337	P	Pn	02 41 50.6	-0.6
JTSR				eS	Sn	02 42 17.3	-2.0
JTAJ	Takarajima	2.44	274	P	Pn	02 41 51.7	-0.8
JTAJ				eS	Sn	02 42 19.8	-1.7
JAMN	Amaminishikomi	2.58	254	P	Pn	02 41 53.8	-0.6
JAMN				eS	Sn	02 42 24.1	-0.9
JTK	Tokunoshima	2.93	246	P	Pn	02 41 58.8	-0.5
JTK				eS	Sn	02 42 32.7	-1.0
JTZ	Takazaki	2.99	345	P	Pn	02 41 59.7	-0.4
JTZ				eS	Sn	02 42 32.5	-2.7
JMZ	Minamidaito 2	3.24	192	eS	Sn	02 42 37.4	-3.9
JSJ	Shimokoshiki	3.31	324	P	Pn	02 42 02.6	-1.9
JSJ				eS	Sn	02 42 40.2	-2.8
JOKE	Okinoerabujima	3.43	242	P	Pn	02 42 05.7	-0.4
JOKE				eS	Sn	02 42 44.5	-1.4
JTO	Tosashimizu	3.91	10	P	Pn	02 42 10.9	-1.8
JOW	Kunigami	3.93	238	Pn	Pn	02 42 11.9	-1.0
	14nm,0.3s,baz=280,slow=24,SNR=13						
JOW				Sn	Sn	02 42 54.7	-3.6
	14nm,0.3s,baz=287,slow=29,SNR=4.2						
JOW	Kunigami	3.93	238	ePn	Pn	02 42 11.5	-1.5
JOW				Sn	Sn	02 42 54.7	-3.6
JNU	Nakatsue	4.21	347	Pn	Pn	02 42 17.6	+0.7
	3.1nm,0.3s,baz=192,slow=10,SNR=13						
JNU				Sn	Sn	02 43 01.9	-3.5
	17nm,0.3s,baz=50,slow=18,SNR=12						
JNU	Nakatsue	4.21	347	ePn	Pn	02 42 17.4	+0.5
JNU				eSn	Sn	02 43 04.4	-1.0
JMN	Monobe	4.98	19	P	Pn	02 42 27.0	-0.5
JAI	Aioi	5.22	23	P	Pn	02 42 29.9	-0.8
INU	Inuyama	7.63	33	ePn	Pn	02 43 01.9	-1.9
KSRS	Korea Array	9.09	339	LR	LR	02 46 08.0	
	comp=Z,15nm,19.8s,baz=180,slow=33						
MJAR	Matsushiro Arr	9.16	33	Pn	Pn	02 43 25.1	+0.3
	0.7nm,0.3s,baz=210,slow=12,SNR=4.1						
CBIJ	Chichi jima	9.21	99	ePn	Pn	02 43 24.6	-0.9
JCJ	Chichijima	9.21	99	Pn	Pn	02 43 24.2	-1.3
	15nm,0.3s,baz=278,slow=21,SNR=5.9						
YULB	Yu-li	11.10	242	ePn	Pn	02 43 52.4	+0.9
KLR	Kul'dur	20.20	360	P	P	02 45 47.4	+0.3
	0.2nm,0.8s,baz=190,slow=8.9,SNR=3.2						
HHC	Hu-ho-hao-te	20.44	311	eP	P	02 45 47.6	-2.3
HHC				pP	Pn	02 45 51.6	-0.5
HHC				sP	pP	02 45 54.7	-2.0
HHC				S	S	02 49 31.6	-6.0
HHC				sS	Sn	02 49 35.7	-6.1
HHC				pmax	pmax		
	comp=Z,11nm,0.9s						
HHC				pmax	pmax		
	comp=Z,130nm,4.0s						
HHC				LR	LR		
	comp=N,170nm,11.0s						
HHC				LR	LR		
	comp=E,140nm,12.4s						
HHC				LR	LR		
	comp=Z,120nm,11.2s						
DAV	Davao City (W)	22.64	197	LR	LR	02 54 00.3	
	comp=Z,50nm,21.1s,baz=350,slow=34						
CD2	Chengdu	24.50	281	eP	P	02 46 33.0	+1.3
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,120nm,4.6s						
SONM	Songino Array	27.29	321	P	P	02 46 57.2	+0.5
	comp=Z,0.4nm,0.5s,baz=133,slow=10.0,SNR=3.2						
CMAR	Chiang Mai Arr	31.92	258	LR	LR	03 00 33.7	
	comp=Z,124nm,18.4s,baz=179,slow=36						
KULM	Kulim	37.88	237	eP	P	02 48 31.7	+2.2
	comp=Z,22nm,1.3s						
WMQ	Urumqi	38.12	305	P	P	02 48 33.6	+2.3
WMQ				pP	pP	02 48 38.1	-0.7
WMQ				pmax	pmax		
	comp=Z,19nm,0.7s						
WMQ				LR	LR		
	comp=N,120nm,20.5s						
WMQ				LR	LR		
	comp=E,100nm,21.5s						
WMQ				LR	LR		
	comp=Z,92nm,20.5s						
ZALV	Zalesovo Beam	42.17	320	P	P	02 49 04.9	+0.3
	comp=Z,0.5nm,0.4s,baz=115,slow=9.7,SNR=3.3						
ZALV				PcP	PcP	02 50 57.8	-0.8
	comp=Z,0.6nm,0.3s,baz=113,slow=3.3,SNR=4.7						
MK01	Makanchi Array	42.28	309	eP	P	02 49 07.0	+1.4
MK31	Makanchi Array	42.28	309	eP	P	02 49 07.4	+1.7
MKAR	Makanchi Array	42.28	309	P	P	02 49 06.7	+0.9
	comp=Z,2.0nm,0.7s,baz=96,slow=9.8,SNR=25						
MKAR				PcP	PcP	02 50 59.0	-0.1
	comp=Z,0.6nm,0.7s,baz=87,slow=3.9,SNR=5.2						
MKAR	Makanchi Array	42.28	309	eP	P	02 49 07.4	+1.7
	comp=Z,14nm,0.9s						
MKAR				PcP	PcP	02 50 59.0	-0.1
KURK	Kurchatov	45.20	314	P	P	02 49 30.2	+1.2
KURK				PcP	PcP	02 51 08.9	0.0
KURBB	Kurchatov Arra	45.24	314	P	P	02 49 30.2	+0.8
	comp=Z,0.4nm,0.5s,baz=95,slow=9.0,SNR=4.2						
KURBB				PcP	PcP	02 51 08.9	-0.2
	comp=Z,0.2nm,0.3s,baz=91,slow=3.7,SNR=3.6						
AAK	Ala-Archa	47.70	303	eP	P	02 49 50.4	+1.3
	comp=Z,0.7nm,0.4s						
WRA	Warramunga Arr	48.71	177	P	P	02 49 56.2	-0.6
	comp=Z,1.0nm,0.7s,baz=355,slow=8.3,SNR=7.5						
BVAR	Borovoye Array	50.50	316	P	P	02 50 10.8	+0.7
	comp=Z,0.9nm,0.5s,baz=84,slow=13,SNR=5.6						
KK05	Karatay Array	50.58	304	eP	P	02 50 12.6	+1.7
KK02	Karatay Array	50.59	304	eP	P	02 50 12.4	+1.4
KK31	Karatay Array	50.59	304	eP	P	02 50 12.8	+1.8
KKAR	Karatay Array	50.59	304	eP	P	02 50 12.8	+1.8
	comp=Z,2.5nm,0.8s						
KK04	Karatay Array	50.60	304	eP	P	02 50 12.4	+1.4
KK01	Karatay Array	50.60	304	eP	P	02 50 12.7	+1.6
KK03	Karatay Array	50.60	304	eP	P	02 50 12.7	+1.7
KK07	Karatay Array	50.60	304	eP	P	02 50 12.8	+1.7
KK08	Karatay Array	50.61	304	eP	P	02 50 12.8	+1.7
ASAR	Alice Springs	52.40	178	P	P	02 50 24.8	+0.2
	comp=Z,1.2nm,0.8s,baz=12,slow=13,SNR=22						
ABKAR	Akbulak array	57.22	312	eP	P	02 50 59.0	-0.3
	comp=Z,0.8nm,0.8s						
AKTO	Aktyubinsk	58.30	314	LR	LR	03 18 14.4	
	comp=Z,50nm,19.1s,baz=89,slow=38						
MCK	McKinley	59.62	30	eP	P	02 51 16.3	+0.5
	comp=Z,3.5nm,0.9s						
MDM	Murphy Dome	59.83	29	eP	P	02 51 17.9	+0.6
	comp=Z,4.1nm,0.9s						
ILAR	Eielson Array	60.42	29	P	P	02 51 20.3	-1.0
	comp=Z,0.6nm,0.8s,baz=270,slow=5.6,SNR=6.3						
DIV	Divide	61.37	33	eP	P	02 51 27.9	+0.1
	comp=Z,4.3nm,0.5s						
ARMA	Armidale	61.99	161	eP	P	02 51 32.9	+0.5
	comp=Z,5.1nm,0.9s						
INK	Inuvik	65.02	24	P	P	02 51 51.7	-0.2
	comp=Z,2.1nm,1.0s,baz=288,slow=3.4,SNR=5.1						
KBZ	Khabaz	69.98	310	P	P	02 52 24.4	+0.8
	comp=Z,1.8nm,0.8s,baz=87,slow=3.1,SNR=8.7						
FINES	FINESS Array B	72.08	331	P	P	02 52 35.8	-0.3
	comp=Z,1.4nm,0.4s,baz=69,slow=6.1,SNR=18						
YKA	Yellowknife Ar	74.60	26	P	P	02 52 50.8	-0.1
	comp=Z,0.7nm,0.7s,baz=302,slow=5.6,SNR=12						
AKASG	Malin Array Be	75.57	320	P	P	02 52 56.0	-0.6
	comp=Z,1.2nm,0.6s,baz=56,slow=6.1,SNR=5.2						
HFS	Hagfors	77.89	333	P	P	02 53 08.6	-1.0
	comp=Z,2.8nm,0.8s,baz=77,slow=1.9,SNR=6.5						
BRTR	Keskin Array B	77.94	309	P	P	02 53 10.4	0.0
	comp=Z,1.0nm,0.8s,baz=72,slow=4.7,SNR=8.2						
NOA	NORSAR Array B	78.27	335	P	P	02 53 10.8	-1.0
	comp=Z,0.9nm,0.6s,baz=49,slow=5.5,SNR=3.1						
SUMG	Summit	78.48	357	eP	P	02 53 14.0	+0.9
	comp=Z,7.6nm,1.0s						
MOD	Modoc Plateau	82.99	46	eP	P	02 53 37.5	-0.1
	comp=Z,2.6nm,0.8s						
CLL	Collm	83.74	326	i P	P	02 53 41.3	+0.3
	comp=Z,10.0nm,1.2s						
NVAR	Mina Array Bea	86.19	48	P	P	02 53 54.3	+0.4
	comp=Z,0.7nm,0.6s,baz=301,slow=6.2,SNR=4.3						
H17A	Grant Village	87.31	40	eP	P	02 54 01.4	+2.1
	comp=Z,3.8nm,0.9s						
IMW	Indian Meadow	87.42	40	eP	P	02 54 01.1	+1.2
	comp=Z,3.9nm,1.0s						
FXWY	Fox Creek	87.53	40	eP	P	02 54 01.6	+1.3
	comp=Z,2.0nm,1.0s						
PDAR	Pinedale Array	88.92	40	P	P	02 54 07.0	0.0
	comp=Z,0.2nm,0.4s,baz=239,slow=0.9,SNR=3.7						

*ISCJB **06** 02:49:02.9±0.7, 25°.18N±0°.07×141°.0E±0°.1, h100km, mb3.8/10, Error ellipse: s-maj=16.3km s-min=7.2km az=30.8*

*IDC **06** 02:49:06.8±1.4, 25°.35N×141°.49E, h129km±13km, mb3.6/10, mb1 3.7/11, mb1mx3.3/64, mbtmp3.9/11, MS4.1/1, Ms1 4.1/1, ms1mx2.6/56, Error ellipse: s-maj=30.6km s-min=14.5km az=94.0*

*JMA **06** 02:49:09.0, 25°.41N×141°.49E, h113km, M4.1*

ISC 06 02:49:04.6±1.0, **25°.2N**±0°.1×**141°.2E**±0°.2, **h100**km, **n19**, σ**1s.59**/21, **mb3.9**/10, **Volcano Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHHJ	Haha-jima-NKT	1.64	32	P	Pn	02 49 34.6	+1.9
JHHJ				S	Sn	02 49 54.7	+0.7
CBIJ	Chichi jima	2.05	25	P	Pn	02 49 39.9	+2.0
CBIJ				S	Sn	02 50 03.4	+0.1
JCJ	Chichijima	2.05	25	P	Pn	02 49 40.1	+2.1
	29nm,0.3s,baz=122,slow=22,SNR=28						
JCJ				S	Sn	02 50 03.6	+0.3
	184nm,0.3s,baz=277,slow=22,SNR=27						
BSO3	Boso 3	9.56	357	P	Pn	02 51 18.9	-0.1
BSO4	Boso 4	9.76	356	P	Pn	02 51 23.2	+1.3
JHU	Hanno	10.72	352	P	Pn	02 51 36.6	+1.5
JAG	Ashikaga	11.26	353	P	Pn	02 51 40.6	-1.8
MJAR	Matsushiro Arr	11.57	348	P	Pn	02 51 48.0	+1.5
	0.4nm,0.3s,baz=161,slow=10,SNR=3.6						
CTA	Charters Tower	45.31	173	LR	LR	03 16 00.1	
	comp=Z,207nm,20.3s,slow=36						
WRA	Warramunga Arr	45.40	189	P	P	02 57 13.7	+0.4
	4.4nm,0.5s,baz=10,slow=8.7,SNR=54						
PSI	Prapat	46.38	248	P	P	02 57 24.6	+3.2
	4.4nm,0.3s,baz=41,slow=9.3,SNR=5.1						
ASAR	Alice Springs	49.12	189	P	P	02 57 41.5	-0.8
	0.2nm,0.6s,baz=19,slow=12,SNR=4.2						
KURBB	Kurchatov Arra	53.73	315	P	P	02 58 16.0	-0.4
	0.5nm,0.5s,baz=90,slow=7.5,SNR=4.9						
BVAR	Borovoye Array	58.83	318	P	P	02 58 52.2	-0.4
	0.6nm,0.6s,baz=89,slow=5.9,SNR=3.5						
YKA	Yellowknife Ar	74.19	28	P	P	03 00 29.5	-0.6
	0.1nm,0.4s,baz=290,slow=5.6,SNR=3.6						
FINES	FINESS Array B	79.23	334	P	P	03 00 57.3	-1.2
	0.8nm,0.3s,baz=69,slow=4.8,SNR=14						
AKASG	Malin Array Be	83.60	324	P	P	03 01 19.9	-1.9
	0.6nm,0.6s,baz=70,slow=3.4,SNR=3.1						
HFS	Hagfors	84.78	337	P	P	03 01 26.1	-1.5
	3.2nm,1.1s,baz=61,slow=10,SNR=3.9						
NOA	NORSAR Array B	85.01	338	P	P	03 01 26.7	-2.1
	0.8nm,0.8s,baz=57,slow=4.8,SNR=3.3						

MAN 06 03:14:57, 10°.07N×124°.89E, h165km, mb4.2, ML3.0, MS2.7, 1C, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSLP	Maasin	0.07	336	eP	Pn	03 15 20.0	+1.1
MSLP				eS	Sn	03 15 37.2	+1.4
PLP	Palo	1.10	5⇑	eP	Pn	03 15 25.6	+1.6
PLP				eS	Sn	03 15 46.3	+1.4
BESP	Borongan	1.62	19	eP	Pn	03 15 30.0	+1.1
BESP				eS	Sn	03 15 55.5	+1.9

*ISCJB **06** 03:15:54.5±0.5, 70°.85N±0°.08×6°.2W±0°.1, h9km, Error ellipse: s-maj=11.9km s-min=4.9km az=16.7*

*NAO **06** 03:15:54.5±1.5, 71°.12N×6°.13W, ML2.9*

*BER **06** 03:15:58.6±4.1, 71°.00N×6°.53W, h10km, ML2.8, ML2.9(NAO)*

ISC 06 03:15:56.8±1.0, **70°.8N**±0°.1×**6°.40W**±0°.07, **h9**km, **n27**, σ**0s.80**/23, **Jan Mayen Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMIC	Jan Mayen	0.71	283	Pg	Pg	03 16 10.8	+0.4
JMIC				Lg	Lg	03 16 20.1	
JMIC	Jan Mayen	0.71	283	eP	Pg	03 16 10.6	+0.2
JMIC				eS	Sg	03 16 19.5	-0.2
JMIC				IAML		03 16 25.3	
	comp=Z,493nm,0.6s						
DAG	Danmarks Havn	6.86	336	i P	Pn	03 17 36.5	-0.8
	comp=Z,9.9nm,0.6s						
LOF	Lofoten	7.50	102	eP	Pn	03 17 45.0	-1.1
STEI	Steigen	8.15	100	eP	Pn	03 17 55.2	+0.2
KONS	Konsvik	8.31	112	eP	Pn	03 17 56.6	-0.7
STOK	Stokkvaagen	8.39	113	eP	Pn	03 17 58.4	0.0
HSPB	Hornsund (broa	8.61	34	eP	Pn	03 18 03.1	+1.8
TRO	Tromso	8.64	86	eP	Pn	03 18 00.3	-1.4
KBS	Kingsbay	9.36	22	e	Pn	03 18 04.2	-7.4
KBS	Kingsbay	9.36	22	eS	Pn	03 18 04.6	-7.0
KBS				IAML		03 18 06.3	
	comp=Z,8.2nm,0.2s						
NSS	Namsos	9.38	123	eP	Pn	03 18 12.4	+0.4
SPA0	Spitsbergen Ar	9.46	29	Pn	Pn	03 18 04.7	-8.3
SPA0	Spitsbergen Ar	9.46	29	eP	Pn	03 18 05.0	-8.0
SPA0	Spitsbergen Ar	9.46	29	eP	Pn	03 18 05.1	-7.9
SPA0				eS		03 18 28.4	
SPA0				IAML		03 18 30.6	
	comp=Z,3.0nm,0.5s						
AKN	Aaknes	10.17	142	Pn	Pn	03 18 21.7	-1.1
AKN	Aaknes	10.17	142	Pn	Pn	03 18 21.7	-1.1
KTK1	Kautokeino	10.29	86	eP	Pn	03 18 24.5	+0.1
HEF	Hetta	10.69	89	eP	Pn	03 18 29.5	-0.3
ARA0	ARCESS Array S	10.83	82	Pn	Pn	03 18 31.5	-0.3
	baz=285,slow=12						
ARA0	ARCESS Array S	10.83	82	Pn	Pn	03 18 31.5	-0.3
	baz=285,slow=12						
NRA0	NORESS Array S	12.45	135	Pn	Pn	03 18 54.5	+0.5
NRA0	NORESS Array S	12.45	135	Pn	Pn	03 18 54.5	+0.5
HFS	Hagfors	13.49	133	Pn	Pn	03 19 08.6	+0.4
	baz=332,slow=14						
HFS	Hagfors	13.49	133	Pn	Pn	03 19 08.6	+0.4
	baz=332,slow=14						
FIA0	FINESS Array S	15.92	110	P	Pn	03 19 41.4	+0.7
	baz=319,slow=16						
FIA0	FINESS Array S	15.92	110	P	Pn	03 19 41.4	+0.7
	baz=319,slow=16						

*IDC **06** 03:16:15.1±2.1, 36°.14N×121°.59W, h0km, mb3.4/2, mb1 3.5/5, mb1mx3.3/64, mbtmp3.2/5, ML3.6/4, MS2.8/3, Ms1 2.8/3, ms1mx2.6/35, Error ellipse: s-maj=23.6km s-min=15.8km az=38.0*

*ISCJB **06** 03:16:18.6±0.4, 36°.46N±0°.02×121°.25W±0°.03, h10km, mb3.4/2, Error ellipse: s-maj=4.5km s-min=2.1km az=149.3*

*NEIC **06** 03:16:20.0±0.0, 36°.56N×121°.12W, h6km, MW3.7(BRK), After NCEDC.*

NEIC Felt [IV] at Pacines; [III] at Greenfield, King City and Soledad; [II] at Monterey, Salinas and Santa Cruz. Also felt at Aptos, Aromas, Atascadero, Carmel, Cupertino, Gonzales, Los Gatos, Morgan Hill, Morrow Bay, Oakland, Scotts Valley and Soquel.

ISC 06 03:16:17.9±0.8, **36°.44N**±0°.03×**121°.34W**±0°.04, **h10**km, **n93**, σ**1s.76**/119, **Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAO	San Andreas Ge	0.33	345	ePg	Pb	03 16 26.7	+0.7
SAO				eSg	Sb	03 16 31.7	+0.3
PMPB	Monarch Peak	0.49	117	ePg	Pb	03 16 28.8	0.0
RDG13	Poverty Ridge	1.03	342	ePg	Pn	03 16 39.1	+0.5
RDG13				eSg	Sn	03 16 53.3	+0.1
PAGB	Antelope Grade	1.14	128	ePg	Pn	03 16 40.3	+0.4
PAGB				eSg	Sn	03 16 56.6	+1.0
SMMC	Simmler	1.57	135	P	Pb	03 16 46.7	-0.4
	baz=324,SNR=118						
SMMC				S	Sg	03 17 07.7	-0.7
	baz=324						
RCTC	Rector, Farmer	1.70	94	S	Sn	03 17 07.6	-1.9
	baz=280						
CMB	Columbia Colle	1.76	25	ePn	Pn	03 16 47.7	-0.9
CMB				eSn	Sn	03 17 09.1	-2.0
VES	Vestal, Richgr	1.92	108	P	Pn	03 16 50.6	-0.2
	baz=294,SNR=94						
VES				S	Sn	03 17 14.1	-0.8
	baz=294						
PKM	Mcpherson Peak	1.99	141	P	Pb	03 16 52.9	-1.5
	baz=328,SNR=36						
PKM				S	Sb	03 17 17.5	-1.8
	baz=328						
MCCM	Marconi Confer	2.10	325	ePn	Pb	03 16 54.8	-1.3
MDPB	Devils Postpil	2.17	56	ePn	Pn	03 16 54.6	+0.3
MDPB				eSn	Sn	03 17 21.2	-0.2
MLAC	Mammoth, Mammo	2.33	59	P	Pn	03 16 57.3	+0.7
	baz=240,SNR=50						
MLAC				S	Sn	03 17 24.3	-1.1
	baz=240						
SBC	Santa Barbara	2.40	146	P	Pb	03 16 58.9	-2.3
	baz=332						
ARVC	Arvin	2.43	122	P	Pn	03 16 58.5	+0.8
	baz=308,SNR=38						
ARVC				S	Sn	03 17 27.6	+0.1
	baz=308						
ISA	Isabella, Lake	2.45	108	P	Pn	03 16 58.7	+0.6
	baz=294,SNR=434						
ISA				S	Sn	03 17 27.4	-0.7
	baz=294						
ISA	Isabella, Lake	2.45	108	ePn	Pn	03 16 58.6	+0.6
ISA				eSn	Sn	03 17 27.2	-0.9
AFDM	Forest Hills D	2.52	7	ePn	Pn	03 17 00.3	+1.4
AFDM				eSn	Sb	03 17 33.0	-1.3
WAKR	Walker	2.56	36	ePn	Pn	03 17 00.9	+1.3
WAKR				eSn	Sn	03 17 32.5	+1.6
TIN	Tinemaha, Big	2.57	75	P	Pn	03 17 00.2	+0.4
	baz=259,SNR=50						
TIN				S	Sn	03 17 30.4	-0.8
	baz=259						
GDXM	Geysers	2.63	334	ePn	Pb	03 17 03.8	-1.4
CWC	Cottonwood Cre	2.63	89	P	Pn	03 17 01.4	+0.7
	baz=274						
CWC				S	Sn	03 17 32.1	-0.6
	baz=274						
RUBR	Rubicon Trail	2.77	20	ePn	Pn	03 17 04.3	+1.8
OSI	Osito Audit: C	2.81	130	Sb	Sb	03 17 44.1	+1.4
	baz=316						
OSI	Osito Audit: C	2.81	130	ePn	Pb	03 17 04.9	-3.4
HOPS	Hopland Field	2.89	332	ePn	Pb	03 17 06.7	-2.9
BLG	Laguna Peak, P	2.98	141	P	Pn	03 17 06.4	+1.1
	baz=326						
BLG				S	Sn	03 17 41.3	+0.2
	baz=326						
DAC	Darwin (Calif)	3.03	92	ePn	Pn	03 17 08.4	+2.3
DAC				ePg	Pg	03 17 14.4	-1.6
DAC				eSg	Sb	03 17 50.1	+0.9
YERR	Yerington	3.04	33	ePn	Pn	03 17 07.3	+1.1
ORV	Oroville	3.11	358	ePn	Pn	03 17 08.0	+1.0
RYN	Ryan	3.13	45	ePn	Pn	03 17 08.9	+1.4
NV01	Mina Array Sit	3.13	50	ePn	Pn	03 17 08.3	+0.8
NVAR	Mina Array Bea	3.13	50	Pn	Pb	03 17 11.3	-2.4
	baz=234,slow=20,SNR=87						
NVAR				Sn	Sb	03 17 53.0	+0.9
	baz=229,slow=32,SNR=5.0						
NVAR				LR	LR	03 18 49.4	
	comp=Z,127nm,18.7s,baz=92,slow=43						
MPMC	Manual Prospec	3.14	96	P	Pn	03 17 08.4	+0.8
	baz=281,SNR=67						
EDW2	Edwards Air Fo	3.14	119	P	Pn	03 17 08.6	+1.1
	baz=304,SNR=21						
EDW2				S	Sn	03 17 45.7	+0.6
	baz=304						
VCNR	Virginia City	3.15	25	ePn	Pn	03 17 08.8	+1.0
NV11	Mina Array Sit	3.22	51	ePn	Pn	03 17 09.8	+1.0
GRAC	Grapevine Rang	3.24	79	Sb	Sb	03 17 56.6	+1.4
	baz=263						
DECC	Green Verdugo	3.29	131	Sb	Sb	03 17 59.1	+2.6
	baz=316						
PASC	Pasadena Art C	3.44	130	ePn	Pn	03 17 13.4	+1.9
MWC	Mount Wilson	3.48	129	ePn	Pn	03 17 13.2	+0.9
BEKR	Beckworth	3.50	12	eSn	Sb	03 18 00.1	-2.7
SNCC	San Nicolas Is	3.52	154	P	Pn	03 17 14.1	+1.4
	baz=339						
PAHR	Pah Rah Range	3.61	25	ePn	Pn	03 17 14.0	0.0
PAHR				ePb	Pb	03 17 20.7	-1.2
PAHR				ePg	Pg	03 17 24.1	-3.0

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PAHR				eSg	Sb	03 18 06.2	+0.4
FURC	Furnace Creek,	3.61	88	Sb	Sb	03 18 08.1	+2.4
	baz=273						
KVN	Kaiserville	3.66	44	ePn	Pn	03 17 14.8	+0.1
BFSC	Mount Baldy Ra	3.73	125	P	Pn	03 17 16.9	+1.2
	baz=310,SNR=40						
BFSC				S	Sn	03 18 00.4	+0.7
	baz=310						
GSC	Goldstone, Bar	3.86	106	P	Pn	03 17 18.1	+0.7
	baz=291,SNR=12						
GSC				S	Sn	03 18 02.7	-0.2
	baz=291						
GSC	Goldstone, Bar	3.86	106	ePn	Pn	03 17 17.6	+0.1
GSC				eSg	Sb	03 18 15.7	+2.8
O03D	Paynes Creek	3.86	355	P	Pn	03 17 19.2	+1.7
	baz=172,SNR=13						
O03D				Sb	Sg	03 18 20.5	-1.5
	baz=172						
RRX	Edison Barstow	3.87	113	Sb	Sb	03 18 16.2	+3.0
	baz=298						
CIS	Catalina Islan	3.87	141	P	Pn	03 17 18.5	+0.9
	baz=326						
TPNV	Topopah Spring	4.12	81	P	Pn	03 17 21.9	+0.7
	baz=266						
TPNV				Sb	Sb	03 18 22.6	+1.9
	baz=266						
TPNV	Topopah Spring	4.12	81	ePn	Pn	03 17 22.2	+1.1
WDC	Whiskeytown Da	4.24	348	ePn	Pn	03 17 22.7	+0.2
HEC	Hector,Ludlow	4.38	110	P	Pn	03 17 25.6	+0.9
	baz=295						
MURC	Murrieta	4.43	129	P	Pn	03 17 26.5	+1.3
	baz=314,SNR=6.1						
TUQ	Turquoise Moun	4.51	101	P	Pn	03 17 26.9	+0.5
	baz=286,SNR=9.0						
KHMM	Horse Mountain	4.80	338	ePn	Pn	03 17 31.5	+1.0
PFO	Pinyon Flats O	4.90	124	P	Pn	03 17 33.3	+1.5
	baz=309,SNR=13						
PFO	Pinyon Flats O	4.90	124	ePn	Pn	03 17 33.8	+1.9
XPFO	Piæon Flat	4.91	124	ePn	Pn	03 17 33.8	+1.9
TPFO	Pinon Flats	4.91	124	P	Pn	03 17 33.7	+1.7
	baz=309,SNR=10						
GMRC	Granite Mounta	4.92	108	P	Pn	03 17 32.0	0.0
	baz=293						
R11A	Troy Canyon, C	4.96	66	ePn	Pn	03 17 33.6	+0.9
109C	Camp Elliot, M	4.98	134	P	Pn	03 17 34.4	+1.7
	baz=319						
CPE	Camp Elliot	4.98	134	ePn	Pn	03 17 34.2	+1.5
SHPR	Sheep Range	4.98	87	ePn	Pn	03 17 35.2	+2.2
BELC	Belle Mtn. Jos	5.01	118	P	Pn	03 17 33.9	+0.6
	baz=303,SNR=8.1						
BMN	Battle Mountai	5.13	38	ePn	Pn	03 17 36.5	+1.5
BMN				eSg	Sb	03 18 53.5	+3.9
BAR	Barrett	5.38	133	ePn	Pn	03 17 40.0	+1.8
MONP2	Monument Peak	5.38	130	P	Pn	03 17 39.5	+1.0
	baz=315						
YBH	Yreka Blue Hor	5.39	349	Pn	Pn	03 17 41.7	+3.3
	0.2nm,0.3s,baz=273,slow=3.0,SNR=3.5						
YBH				Sn	Sn	03 18 47.1	+6.5
	0.1nm,0.3s,baz=153,slow=12,SNR=1.9						
YBH				LR	LR	03 20 22.8	
	comp=Z,61nm,21.1s,baz=350,slow=44						
MOD	Modoc Plateau	5.51	8	ePn	Pn	03 17 39.9	-0.3
W13A	Hualapai Mount	6.21	100	ePn	Pn	03 17 52.2	+2.3
WVOR	Wild Horse Val	6.34	18	ePn	Pn	03 17 51.0	-0.5
CCUT	Cedar City	6.48	78	ePn	Pn	03 17 55.3	+1.7
CCUT				ePg	Pg	03 18 19.0	-3.1
LCMT	Little Creek M	6.53	83	ePn	Pn	03 17 56.3	+2.1
KNB	Kanab	6.87	83	ePn	Pn	03 18 01.1	+2.3
Y14A	Wickenburg	7.27	108	ePn	Pn	03 18 05.0	+0.8
U15A	North Rim	7.30	87	ePn	Pn	03 18 05.4	+0.6
DUG	Dugway, Tooele	7.68	58	ePn	Pn	03 18 08.8	-1.2
DUG				eSg	Sb	03 20 10.3	+7.5
X16A	Lo Mia Camp, P	8.33	101	ePn	Pn	03 18 20.3	+1.3
HWUT	Hardware Ranch	9.19	53	ePn	Pn	03 18 29.4	-1.3
PDAR	Pinedale Array	11.06	52	Pn	Pn	03 19 01.5	+5.1
	0.1nm,0.3s,baz=245,slow=13,SNR=2.4						
PDAR				LR	LR	03 23 36.8	
	comp=Z,76nm,22.0s,baz=158,slow=39						
TXAR	Lajitas Array	16.44	110	Pn	P	03 20 10.6	-1.0
	0.0nm,0.3s,baz=284,slow=12,SNR=3.0						
ULM	Lac du Bonnet	22.95	45	P	P	03 21 25.1	+2.8
	2.2nm,0.8s,baz=244,slow=11,SNR=4.7						
ILAR	Eielson Array	32.20	340	P	P	03 22 47.2	+1.3
	0.3nm,0.8s,baz=154,slow=8.5,SNR=3.0						
H11N3	WAKE ISLAND Hy	64.13	276	T	T	04 36 17.2	
	baz=58,slow=75,SNR=71						
H11N2	WAKE ISLAND Hy	64.14	276	T	T	04 36 18.9	
	baz=58,slow=75,SNR=47						
H11N1	WAKE ISLAND Hy	64.15	276	T	T	04 36 18.3	
	baz=58,slow=75,SNR=48						
H11S1	WAKE ISLAND Hy	64.94	275	T	T	04 37 19.4	
	baz=57,slow=75,SNR=22						
H11S2	WAKE ISLAND Hy	64.94	275	T	T	04 37 22.0	
	baz=57,slow=75,SNR=19						
H11S3	WAKE ISLAND Hy	64.95	275	T	T	04 37 23.0	
	baz=57,slow=75,SNR=16						

MAN 06 03:21:02, 10.̊48N×125.̊91E, h20km, mb4.7, ML3.6, MS3.5, 2C-1D, Leyte

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SCPH	Surigao	0.80	211⇑	eP	Pb	03 21 16.1	-1.1
SCPH				eS	Sb	03 21 27.8	+0.1
MSLP	Maasin	1.08	252	eP	Pn	03 21 21.1	-1.0
MSLP				eS	Sn	03 21 39.1	+2.6
PLP	Palo	1.14	307⇓	eP	Pn	03 21 21.2	-1.7
PLP				i S	Sn	03 21 38.3	+0.4
BESP	Borongan	1.21	338	eP	Pn	03 21 23.7	-0.1
BESP				eS	Sn	03 21 43.2	+3.6
LLP	Lapu-Lapu	1.92	265	eP	Pn	03 21 34.7	+1.2
LLP				eS	Sn	03 21 58.2	+1.2
BUKP	Musuan	2.71	198	eP	Pn	03 21 45.1	+0.6
BUKP				eS	Sb	03 22 20.5	-2.3
RCP	Roxas	3.29	289⇑	eP	Pn	03 21 53.7	+1.3

*CSEM **06** 03:36:03.6±0.2, 42.̊02N×13.̊48E, h5km, MD1.8, Error ellipse: s-maj=5.7km s-min=4.3km az=113.0*

ROM 06 03:36:02.6±0.1, 42.̊05N×13.̊45E, h14km±2km, Md1.8/6, Ml1.2/3, Error ellipse: s-maj=1.8km s-min=1.1km az=75.0, Central Italy

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PTQR	Pietraquaria	0.04	237	Pg	Pg	03 36 05.6	+0.3
PTQR				Sg	Sg	03 36 07.3	+0.2
PTQR	Pietraquaria	0.04	237	Pg	Pg	03 36 05.6	+0.3
PTQR				Sg	Sg	03 36 07.3	+0.2
FAGN	Fagnano	0.24	24	Pg	Pg	03 36 08.1	+0.2
FAGN				Sg	Sb	03 36 12.3	-0.7
	102nm,0.3s						
FAGN	Fagnano	0.24	24	Pg	Pg	03 36 08.1	+0.2
FAGN				Sg	Sb	03 36 12.3	-0.7
	102nm,0.3s						
GUAR	Guarcino	0.27	202	Pg	Pg	03 36 08.7	+0.4
GUAR	Guarcino	0.27	202	Pg	Pg	03 36 08.7	+0.4
T0104	Madonna delle	0.33	345	Pg	Pg	03 36 09.7	+0.4
T0104				Sg	Sb	03 36 14.9	-0.5
INTR	Introdacqua	0.34	95	Pg	Pg	03 36 09.5	-0.1
INTR				Sg	Sb	03 36 15.5	-0.3
	21nm,0.4s						
INTR	Introdacqua	0.34	95	Pg	Pg	03 36 09.5	-0.1
INTR				Sg	Sb	03 36 15.5	-0.3
	21nm,0.4s						
POFI	Posta Fibreno	0.38	149	Pg	Pg	03 36 10.6	+0.3
	53nm,1.9s						
POFI	Posta Fibreno	0.38	149	Pg	Pg	03 36 10.6	+0.3
	53nm,1.9s						

*CSEM **06** 03:36:04.3±0.6, 42.̊86N×17.̊68E, h10km, ML1.5, Error ellipse: s-maj=11.2km s-min=7.7km az=48.0*

BEO 06 03:36:04.2±1.1, 42.̊78N×17.̊56E, h12km±5km, 1C, Adriatic Sea

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
STON	Ston	0.14	47	i Pg	Pg	03 36 04.4	-3.2
STON				Sg	Sg	03 36 04.8	-5.1
STON	Ston	0.14	47	i Pg	Pg	03 36 04.4	-3.2
TREB	Trebinje	0.58	96⇑	iPg	Pg	03 36 13.9	-1.7
TREB				eSg	Sg	03 36 22.3	-1.0
BRY	Bratogost	0.73	80	ePg	Pg	03 36 15.8	-2.6
BRY				eSg	Sg	03 36 25.6	-2.4
HCY	Herceg Novi	0.76	115	ePg	Pg	03 36 18.9	-0.1
PDG	Podgorica	1.30	105	eSg	Sb	03 36 45.2	+0.1
DRME	Dracevica, Mon	1.34	116	ePg	Pb	03 36 29.3	+0.1
DRME				eSg	Sg	03 36 47.4	+0.1
HAPS	Han Pijesak,BI	1.65	37	ePg	Pn	03 36 33.1	-0.1
	1.1nm,0.4s						
HAPS				eSg	Sg	03 36 56.8	-0.6
	2.5nm,0.5s						
HAPS	Han Pijesak,BI	1.65	37	ePg	Pn	03 36 33.1	-0.1
	1.1nm,0.4s						
HAPS				eSg	Sn	03 36 51.8	-2.6
BBLS	Lazići	1.73	50	ePg	Pb	03 36 35.7	-0.3
	8.6nm,0.8s						
BBLS				eSg	Sg	03 37 00.1	+0.2
	23nm,0.9s						
BBLS	Lazići	1.73	50	ePn	Pn	03 36 34.3	+0.1
BBLS	Lazići	1.73	50	ePg	Pb	03 36 35.7	-0.3
	8.6nm,0.8s						
BBLS				eSn	Sn	03 36 53.7	-2.5
BBLS				eSg	Sg	03 37 00.1	+0.2
	23nm,0.9s						
SJES	Sjenica	1.83	74	ePg	Pb	03 36 37.8	+0.1
	1.9nm,0.6s						
SJES				eSg	Sg	03 37 02.6	-0.6
	3.4nm,0.6s						
IVAS	Ivanjica	2.06	66	eSg	Pb	03 36 41.0	-0.5
	0.7nm,0.3s						
IVAS	Ivanjica	2.06	66	ePg	Sb	03 37 08.3	+1.2
	2.9nm,0.3s						
UDBI	Udbina	2.18	324	i Pn	Pn	03 36 42.0	+1.6
UDBI				Sn	Sg	03 37 12.9	-1.4
UDBI	Udbina	2.18	324	i Pn	Pn	03 36 41.9	+1.5
UDBI				Sn	Sg	03 37 12.9	-1.5
DIVS	Divibare	2.21	52	ePn	Pn	03 36 40.5	-0.3
	0.6nm,0.3s						
DIVS	Divibare	2.21	52	ePn	Pn	03 36 40.5	-0.3
	0.6nm,0.3s						
GRUS	Gruza	2.56	63	ePg	Pb	03 36 50.0	0.0
	1.3nm,0.3s						
GRUS				eSn	Sn	03 37 16.6	+0.2
	2.7nm,0.8s						
GRUS	Gruza	2.56	63	ePg	Pb	03 36 50.0	0.0
	1.3nm,0.3s						
GRUS				eSn	Sn	03 37 16.6	+0.2
	2.7nm,0.8s						
NVLJ	Novalja	2.65	313	ePn	Pn	03 36 48.0	+1.4
NVLJ				Sn	Sb	03 37 23.1	-0.8
NVLJ	Novalja	2.65	313	ePn	Pn	03 36 48.0	+1.3
NVLJ				Sn	Sb	03 37 23.1	-0.8

*TIF **06** 03:43:23.4, 41.̊66N×44.̊09E, h6km±1km*
*ISK **06** 03:43:23.3, 41.̊73N×44.̊09E, h6km, ML2.6/5*
*DDA **06** 03:43:23.2, 41.̊64N×44.̊07E, h7km, Ml3.2*
*CSEM **06** 03:43:24.2±0.2, 41.̊64N×44.̊08E, h2km, ML2.5, Error ellipse: s-maj=4.3km s-min=2.6km az=155.0*

ISC 06 03:43:24.0±1.0, 41.̊68N±0.̊03×44.̊07E±0.̊02, h9km±10km, n46, σ0.̊78/75, Western Caucasus

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KZR	Kazreti	0.40	139	P	Pg	03 43 31.6	-0.2
KZR				S	Sg	03 43 37.2	+0.2
KZR	Kazreti	0.40	139	P	Pg	03 43 31.6	-0.2
KZR				S	Sg	03 43 37.2	+0.2
TBLG	Delisi	0.50	84	PG	Pg	03 43 33.2	-0.5
TBLG				SG	Sg	03 43 40.5	+0.1
TBLG	Delisi	0.50	84	P	Pg	03 43 33.5	-0.3
TBLG				S	Sg	03 43 40.8	+0.4
TBLG	Delisi	0.50	84	ePg	Pg	03 43 33.2	-0.5
TBLG	Delisi	0.50	84	P	Pg	03 43 33.5	-0.3
TBLG				eSg	Sg	03 43 40.5	+0.1
AKH	Akhalkalaki	0.51	238	PG	Pg	03 43 34.4	+0.5
AKH				SG	Sb	03 43 42.4	-0.5
AKH	Akhalkalaki	0.51	238	P	Pg	03 43 34.6	+0.7
AKH				S	Sg	03 43 41.1	+0.5
AKH	Akhalkalaki	0.51	238	ePg	Pg	03 43 34.4	+0.5
AKH				S	Sg	03 43 41.1	+0.5
AKH				eSg	Sb	03 43 42.4	-0.5
BTNK	Botanikuri	0.55	90	P	Pg	03 43 34.2	-0.4
BTNK	Botanikuri	0.55	90	P	Pg	03 43 34.2	-0.4
SEAG	Tbilisi Sea	0.56	81	P	Pg	03 43 34.8	+0.1
SEAG				S	Sb	03 43 43.0	-1.0
SEAG	Tbilisi Sea	0.56	81	P	Pg	03 43 34.8	+0.1
SEAG				S	Sb	03 43 43.0	-1.0
DUS	Dusheti	0.62	49	P	Pb	03 43 36.9	-0.3
DUS				S	Sb	03 43 47.0	+0.9
DUS	Dusheti	0.62	49	P	Pb	03 43 36.8	-0.3
DUS				S	Sb	03 43 47.0	+0.9
GUDG	Gudauri	0.84	21	P	Pb	03 43 40.4	-0.5
GUDG				S	Sb	03 43 53.0	+0.6
GUDG	Gudauri	0.84	21	P	Pb	03 43 40.4	-0.5
GUDG				S	Sb	03 43 53.0	+0.6
DGRG	David-gareji	1.01	103	P	Pg	03 43 42.5	-0.8
DGRG				S	Sb	03 43 57.7	+0.7
DGRG	David-gareji	1.01	103	P	Pg	03 43 42.5	-0.8
DGRG				S	Sb	03 43 57.2	+0.2
ONI	Oni	1.02	333	P	Pn	03 43 44.0	-0.5
ONI				S	Sn	03 43 58.6	-0.4
ONI	Oni	1.02	333	P	Pn	03 43 44.0	-0.5
ONI				S	Sn	03 43 58.6	-0.4
EPOS	Posof	1.02	260	i P	Pg	03 43 42.4	-1.2
EPOS				i S	Sg	03 43 56.6	-0.3
EPOS	Posof	1.02	260	P	Pg	03 43 42.4	-1.2
EAK	Akyaka	1.05	199	i P	Pg	03 43 42.5	-1.7
EAK				i S	Sg	03 43 56.5	-1.4
EAK	Akyaka	1.05	199	P	Pg	03 43 42.5	-1.7
EAK				S	Sg	03 43 56.5	-1.4
KARS	Kars	1.29	216	PN	Pg	03 43 49.1	+0.3
KARS	Kars	1.29	216	ePn	Pg	03 43 49.1	+0.3
DIGO	Kars	1.37	203	i P	Pn	03 43 48.5	-1.1
DIGO				i S	Sb	03 44 07.5	-0.3
DIGO	Kars	1.37	203	P	Pn	03 43 48.5	-1.1
DIGO				S	Sb	03 44 07.4	-0.3
DDFL	Dedoflistskaro	1.56	98	P	Pb	03 43 53.0	0.0
DDFL	Dedoflistskaro	1.56	98	P	Pg	03 43 54.5	+0.7
ARTV	Artvin	1.68	254	i P	Pn	03 43 54.6	+0.8
ARTV	Artvin	1.68	254	P	Pn	03 43 54.6	+0.8
TASB	TASBURUN-IGDIR	1.70	176	PN	Pn	03 43 55.0	+1.0
TASB	TASBURUN-IGDIR	1.70	176	ePn	Pn	03 43 55.0	+1.0
SENK	Senkaya-Erzuru	1.71	230	PN	Pn	03 43 55.1	+0.8
SENK	Senkaya-Erzuru	1.71	230	ePn	Pn	03 43 55.1	+0.8
IGDI	IGDIR	1.81	180	i P	Pn	03 43 56.9	+1.4
IGDI				i S	Sb	03 44 20.7	+0.4
DBOC	Borcka	1.83	260	i P	Pb	03 43 57.5	-0.3
DBOC				i S	Sb	03 44 21.7	+0.9
DBOC	Borcka	1.83	260	P	Pb	03 43 57.5	-0.3
DBOC				S	Sb	03 44 21.7	+0.9
DBAD	Bademkaya	1.91	250	i P	Pb	03 43 59.2	+0.2
DBAD				i S	Sb	03 44 23.3	+0.3
DBAD	Bademkaya	1.91	250	P	Pb	03 43 59.2	+0.2
DBAD				S	Sb	03 44 23.3	+0.3
AGRB	Hanur-Agry	2.26	202	PN	Pn	03 44 02.9	+1.2
AGRB	Hanur-Agry	2.26	202	ePn	Pn	03 44 02.9	+1.2
BAYT	Ayd˜–ntepe-Bay	3.24	248	PN	Pn	03 44 16.7	+1.5
BAYT	Ayd˜–ntepe-Bay	3.24	248	ePn	Pn	03 44 16.7	+1.5

MAN 06 03:50:22, 10.̊09N×123.̊14E, h1km, mb4.3, ML3.1, MS2.8, 1C-1D, Cebu

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GUIM	Jordan	0.76	315	eP	Pb	03 50 38.2	+0.1
GUIM				eS	Sb	03 50 50.4	+1.5
LLP	Lapu-Lapu	0.84	74⇓	eP	Pg	03 50 38.3	0.0
LLP				eS	Sg	03 50 49.5	+0.3
RCP	Roxas	1.51	345⇑	eP	Pg	03 50 57.4	+6.4
RCP				eS	Sg	03 51 13.2	+2.5
MSLP	Maasin	1.69	88	eP	Pb	03 50 53.4	-0.6
MSLP				eS	Sg	03 51 17.1	+0.6
BUKP	Musuan	2.90	139	eP	Pn	03 51 10.6	+1.1

MAN 06 03:53:36, 11.̊53N×124.̊50E, h25km, mb4.2, ML3.0, MS2.7, 1C-1D, Leyte

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PLP	Palo	0.60	128⇓	eP	Pn	03 53 48.4	-0.5
PLP				i S	Sn	03 53 58.9	+1.1
CNP	Catarman	0.99	9	eP	Pn	03 53 54.3	0.0
LLP	Lapu-Lapu	1.31	203	eP	Pn	03 53 58.5	-0.3
LLP				eS	Sb	03 54 16.6	+0.1
MSLP	Maasin	1.43	166	eP	Pb	03 54 02.6	+0.5
MSLP				eS	Sb	03 54 27.1	+7.2
RCP	Roxas	1.72	271⇑	eP	Pn	03 54 04.4	0.0
RCP				eS	Sn	03 54 25.9	+0.4
GUIM	Jordan	2.08	245	eP	Pn	03 54 10.6	+1.3

IDC 06 03:54:42.8±30.0, 19.̊01S×177.̊45W, h605km±264km, mb3.3/3, mb1 3.5/3, mb1mx2.8/49, mbtmp4.4/3, Error ellipse: s-maj=336.4km s-min=73.0km az=125.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	34.18	262	P	P	04 00 39.8	0.0
	3.4nm,0.6s,baz=111,slow=11,SNR=5.9						
WRA	Warramunga Arr	45.34	260	P	P	04 02 08.3	-0.4
	1.8nm,0.3s,baz=98,slow=5.9,SNR=97						
WRA				PcP	PcP	04 03 35.1	-0.1
	0.7nm,1.1s,baz=88,slow=2.7,SNR=4.1						
ASAR	Alice Springs	45.38	255	P	P	04 02 09.1	+0.1
	2.7nm,0.7s,baz=87,slow=8.2,SNR=39						
ASAR				PcP	PcP	04 03 35.4	0.0
	0.3nm,0.5s,baz=101,slow=4.1,SNR=5.0						
GERES	GERESS Array B	148.90	346	PKPbc	PKPbc	04 13 23.0	-0.5
	0.3nm,0.6s,baz=8.4,slow=3.4,SNR=4.6						

MEX 06 04:13:11.9±0.4, 15.̊00N×93.̊79W, h25km, MD3.9, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PCIG		0.89	38	eP	Pb	04 13 25.0	-3.7
PCIG				eS	Sb	04 13 37.1	-3.2
TGIG		1.89	20	eP	Pn	04 13 40.7	-1.9
TGIG				eS	Sn	04 14 02.3	-3.3
CCIG	Comitan	2.04	51	eP	Pn	04 13 43.2	-1.6
CCIG				eS	Sn	04 14 06.4	-3.2

IDC 06 04:26:34.7±3.4, 3.̊05S×150.̊58E, h0km, mb3.0/2, mb1 3.3/2, mb1mx3.0/50, mbtmp3.1/2, Error ellipse: s-maj=143.7km s-min=43.9km az=115.0, New Ireland region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	23.09	222	P	P	04 31 42.7	+0.3
	0.2nm,0.4s,baz=51,slow=11,SNR=9.3						
ASAR	Alice Springs	26.08	217	P	P	04 32 12.1	+1.8
	0.3nm,0.5s,baz=52,slow=8.5,SNR=4.5						
TORD	Torodi Ar. Bea	147.65	290	PKPbc	PKPdf	04 46 20.1	+0.4
	0.3nm,0.7s,baz=74,slow=2.3,SNR=3.3						

*ISCJB **06** 04:29:16.0±1.7, 18.̊3S±0.̊6×178.̊0W±0.̊4, h450km, mb3.8/5, Error ellipse: s-maj=97.6km s-min=9.5km az=150.7*
*IDC **06** 04:29:17.6±2.5, 18.̊48S×177.̊92W, h464km±28km, mb3.4/5, mb1 3.5/7, mb1mx3.2/47, mbtmp4.3/7, Error ellipse: s-maj=91.7km s-min=19.8km az=149.0*

ISC 06 04:29:16.8±1.7, 18.̊3S±0.̊6×177.̊9W±0.̊4, h450km, n7, σ1.̊50/9, mb3.9/5, Fiji Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	7.36	54	P	P	04 31 07.2	+1.7
	6.3nm,0.3s,baz=239,slow=5.9,SNR=7.4						
AFI				S	S	04 32 32.1	-2.4
	1.4nm,0.3s,baz=144,slow=19,SNR=2.0						
DZM	Mont Dzumac	15.13	253	P	P	04 32 30.4	+0.9
	0.2nm,0.3s,baz=131,slow=20,SNR=3.4						
DZM				S	S	04 34 56.3	-12
	1.4nm,0.3s,baz=120,slow=20,SNR=13						
CTA	Charters Tower	33.83	261	P	P	04 35 20.3	0.0
	2.5nm,0.3s,baz=84,slow=10,SNR=9.3						
STKA	Stephens Creek	38.83	242	P	P	04 36 01.6	-0.1
	3.1nm,0.7s,baz=82,slow=10,SNR=5.0						
WRA	Warramunga Arr	45.00	260	P	P	04 36 49.7	-1.2
	0.8nm,0.4s,baz=97,slow=6.7,SNR=46						
WRA				PcP	PcP	04 38 21.8	-1.1
	0.4nm,0.8s,baz=92,slow=3.6,SNR=3.1						
ASAR	Alice Springs	45.12	255	P	P	04 36 51.3	-0.5
	8.3nm,0.5s,baz=89,slow=8.6,SNR=151						
ILAR	Eielson Array	86.18	13	P	P	04 41 09.7	+0.9
	0.2nm,0.5s,baz=219,slow=4.5,SNR=4.8						

*NIED **06** 04:48:00, 45.̊60N×142.̊10E, h340km, Mw4.3 Best double couple: M₀2.72000×10¹⁵ NP1:φs354.00000°, δ21.00000°, λ107.00000°. NP2:φs156.00000°, δ69.00000°, λ84.00000°.*
*MOS **06** 04:48:06.2±0.8, 45.̊65N×141.̊97E, h306km, mb3.9/32, Error ellipse: s-maj=9.2km s-min=6.6km az=81.1*
*ISCJB **06** 04:48:06.3±0.2, 45.̊65N±0.̊03×141.̊98E±0.̊04, h306km±2km, mb3.9/69, Error ellipse: s-maj=4.9km s-min=3.9km az=170.5*
*JMA **06** 04:48:06.8±0.2, 45.̊60N×142.̊06E, h306km±2km, M4.2*
*BJI **06** 04:48:06.5, 45.̊57N×141.̊94E, h309km, mb4.4/23, mB4.7/13*
*IDC **06** 04:48:06.8±0.4, 45.̊69N×141.̊96E, h298km±5km, mb3.5/23, mb1 3.7/28, mb1mx3.5/72, mbtmp4.2/28, Error ellipse: s-maj=11.0km s-min=8.3km az=165.0*
*NEIC **06** 04:48:07.2±0.4, 45.̊79N×141.̊94E, h297km±4km, mb4.1/50, Error ellipse: s-maj=10.3km s-min=4.5km az=166.0*
*SKHL **06** 04:48:08.0±0.4, 45.̊79N×141.̊94E, h317km±16km, msh5.5/8*

ISC 06 04:48:07.1±0.5, 45.̊58N±0.̊04×142.̊03E±0.̊04, h306km±4km, n193, σ1.̊37/227, mb4.0/69, 11C-2D, Hokkaido region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JWK2	Keihoku	0.28	200	P	Pn	04 48 45.9	-0.2
JWK2				eS	S	04 49 16.1	-0.9
JRR	Rishiri	0.67	229	P	Pn	04 48 47.0	+0.1
JRR				eS	S	04 49 18.5	-0.1
JSE	Soyaes	0.73	148	P	Pn	04 48 46.8	-0.3
JSE				eS	S	04 49 18.0	-0.9
JSS	Shosan	1.18	186	P	Pn	04 48 49.2	+0.1
JSS				eS	S	04 49 22.7	+0.2
JYG	Yagishiri	1.23	201	P	Pn	04 48 49.3	0.0
JYG				eS	S	04 49 22.6	-0.3
YSS	Yuzh-Sakhalins	1.47	20⇑	iP	Pn	04 48 50.7	+0.2
YSS				AMB	AMB	04 48 51.0	
	90nm,0.4s						
YSS				i S	S	04 49 23.6	-1.5
YSS				A	A	04 49 24.7	
	840nm,0.9s						
YSS				A	A	04 49 24.7	
	1μm,0.9s						
YSS	Yuzh-Sakhalins	1.47	20	ePn	Pn	04 48 50.0	-0.6
YSS				eS	S	04 49 21.2	-3.9
YSS	Yuzh-Sakhalins	1.47	20⇑	iPN	Pn	04 48 50.7	+0.2
YSS				i S	S	04 49 23.6	-1.5
YSS				pmax	pmax		
	comp=Z,90nm,0.4s						
YSS				smax	smax		
	comp=N,840nm,0.9s						
YSS				smax	smax		
	comp=E,1μm,0.9s						
KHLM	Kholmsk	1.48	1	eP	Pn	04 48 50.7	+0.1
KHLM				eS	S	04 49 23.9	-1.4
KHLM				A	A	04 49 25.0	
	comp=E,610nm,0.5s						
KHLM				A	A	04 49 25.0	
	comp=E,580nm,0.5s						
ASAJ	Asahikawa	1.52	164	P	Pn	04 48 51.1	0.0
	comp=E,32nm,0.3s,baz=300,slow=7.3,SNR=102						
ASAJ				S	S	04 49 25.9	-0.1
	comp=E,2.5nm,0.3s,baz=98,slow=19,SNR=14						
ASAJ	Asahikawa	1.52	164	P	Pn	04 48 51.0	0.0
ASAJ				eS	S	04 49 25.9	-0.1
ASAJ	Asahikawa	1.52	164	ePn	Pn	04 48 50.7	-0.3
ASAJ				eS	S	04 49 23.1	-2.9
JKK2	Kamakawa 2	1.78	163	P	Pn	04 48 52.9	0.0
JKK2				eS	S	04 49 29.8	+0.5
JMP	Maruseppu	1.83	148	P	Pn	04 48 53.1	-0.2
JMP				eS	S	04 49 30.2	+0.2
JAB	Ashibetsu	2.08	176	P	Pn	04 48 54.9	-0.2

JTKR **Abashiri--Toko** 2.09 140 P Pn 04 48 55.3 +0.1
JTKR eS S 04 49 32.8 -0.7
JSK Shakotan 2.49 207 P Pn 04 48 58.5 0.0
JAR Ashorobuto 2.60 151 P Pn 04 48 59.6 0.0
JAR eS S 04 49 41.7 +0.3
JRA Rausu 2.74 126 P Pn 04 49 01.4 +0.6
JEW Eniwo 2.77 189 P Pn 04 49 01.5 +0.4
JEW eS S 04 49 42.7 -1.6
GLVR Golovnino 3.09 125 eP Pn 04 49 06.6 +2.4
GLVR AMB AMB 04 49 09.3
comp=E,180nm,0.4s
GLVR i S S 04 49 52.1 +2.3
GLVR A A 04 49 59.9
comp=E,500nm,0.3s
GLVR A A 04 49 59.9
comp=E,240nm,0.3s
GLVR Golovnino 3.09 125 PN Pn 04 49 06.6 +2.4
GLVR i S S 04 49 52.1 +2.3
GLVR pmax pmax
comp=N,47nm,0.4s
GLVR pmax pmax
comp=Z,177nm,0.4s
GLVR pmax pmax
comp=E,50nm,0.3s
GLVR smax smax
comp=E,499nm,0.3s
GLVR smax smax
comp=N,244nm,0.2s
GRPR Tuman 3.10 119 PN Pn 04 49 10.4 +6.1
GRPR pmax pmax
comp=Z,46nm,0.3s
JCH Churui 3.11 162 P Pn 04 49 02.4 -2.1
JCH eS S 04 49 45.3 -5.0
YUK Yuzh-Kuril'sk 3.13 118 eP Pn 04 49 08.1 +3.5
YUK AMB AMB 04 49 12.8
comp=Z,102nm,0.3s
YUK eS S 04 49 54.9 +4.4
YUK A A 04 50 03.6
comp=Z,140nm,0.3s
YUK A A 04 50 03.6
comp=Z,70nm,0.3s
YUK Yuzh-Kuril'sk 3.13 118 PN Pn 04 49 09.4 +4.8
YUK pmax pmax
comp=N,66nm,0.3s
YUK pmax pmax
comp=E,62nm,0.3s
YUK pmax pmax
comp=Z,102nm,0.3s
JAK Akkeshi 3.21 143 eS S 04 49 48.5 -3.5
JNBK Urakawa-nobuka 3.34 171 P Pn 04 49 05.5 -1.2
NEM2 Nemuro 2 3.46 128 P Pn 04 49 06.7 -1.2
NEM2 eS S 04 49 52.3 -4.2
UGL Uglegorsk 3.50 0 eP Pn 04 49 07.2 -1.0
ERM Erimo 3.65 167 ePn Pn 04 49 09.4 -0.6
ERM eS S 04 49 52.5 -7.8
ERM Erimo 3.65 167 cePN Pn 04 49 10.6 +0.6
ERM pmax pmax
comp=Z,95nm,0.7s
JKB Kayabe 3.76 191 P Pn 04 49 09.7 -1.4
SHO Shikotan 3.82 115 eP Pn 04 49 10.2 -1.5
SHO AMB AMB 04 49 13.0
comp=Z,30nm,0.2s
SHO eS S 04 49 59.4 -4.1
SHO A A 04 50 01.7
comp=Z,230nm,0.3s
SHO A A 04 50 01.7
comp=Z,140nm,0.3s
SHO Shikotan 3.82 115 ePN Pn 04 49 10.2 -1.5
SHO i S S 04 49 59.1 -4.4
SHO pmax pmax
comp=Z,27nm,0.3s
SHO pmax pmax
comp=N,10.0nm,0.2s
SHO smax smax
comp=N,140nm,0.2s
SHO smax smax
comp=E,232nm,0.2s
TEY Ternei 3.87 264 eP Pn 04 49 12.5 +0.3
TEY AMB AMB 04 49 12.7
comp=E,55nm,0.7s
TEY eS S 04 50 02.0 -2.3
TEY A A 04 50 02.5
comp=E,50nm,0.9s
TEY A A 04 50 02.5
comp=E,67nm,0.9s
TEY Ternei 3.87 264 ePN Pn 04 49 12.0 -0.2
TEY pmax pmax
comp=E,18nm,0.6s
TEY pmax pmax
comp=Z,18nm,0.6s
KUR Kuril'sk 4.12 93 eP Pn 04 49 16.5 +1.6
KUR AMB AMB 04 49 17.3
comp=Z,120nm,0.5s
TYV Tymovskoe 5.31 4 eP Pn 04 49 27.0 -1.2
GRNR Gornyy 6.41 326 eP Pn 04 49 40.3 -1.0
GRNR AMB AMB 04 49 42.0
comp=Z,11nm,0.6s
GRNR AMB AMB 04 50 07.3
comp=Z,31nm,0.7s
GRNR Gornyy 6.41 326 i PN Pn 04 49 40.3 -1.0
USRK Ussuriysk Ar. 7.27 263 P Pn 04 49 52.1 +0.3
comp=Z,8.4nm,0.3s,baz=70,slow=14,SNR=97
USRK S S 04 51 15.7 -0.8
baz=81,slow=8.9,SNR=5.3
KLR Kul'dur 7.87 301 P Pn 04 49 58.8 -0.3
comp=Z,0.1nm,0.3s,baz=113,slow=12,SNR=24
KLR Kul'dur 7.87 301 d i PN Pn 04 49 59.2 +0.1
MSHR Mys Shultsa 8.38 253 cePN Pn 04 50 05.1 -0.3
MDJ Mudanjiang 8.85 268 P Pn 04 50 09.8 -1.3
MDJ pmax pmax
comp=Z,89nm,0.6s
MDJ Mudanjiang 8.85 268 ePn Pn 04 50 11.3 +0.2
comp=Z,77nm,1.0s
MAJO Matsushiro 9.47 199 eP Pn 04 50 18.6 -0.3
MAJO Matsushiro 9.47 199 ePn Pn 04 50 18.5 -0.3
MAJO Matsushiro 9.47 199 ePN Pn 04 50 18.5 -0.3
MJAR Matsushiro Arr 9.48 199 P Pn 04 50 19.0 +0.1
comp=Z,0.8nm,0.3s,baz=8.1,slow=12,SNR=6.7
MJAR Matsushiro Arr 9.48 199 PN Pn 04 50 19.0 +0.1
MJAR pmax pmax
comp=Z,1.0nm,0.3s
EKMR Ekimchan 9.55 325 eP Pn 04 50 19.0 -0.6
EKMR AMB AMB 04 50 20.8
comp=Z,7.0nm,0.5s
BMKR Bomnak 12.44 322 eP Pn 04 50 54.0 -0.6
BMKR AMB AMB 04 50 56.0
comp=Z,2.0nm,0.5s
ZEA Zeya 12.57 316 eP Pn 04 50 55.8 -0.4
ZEA AMB AMB 04 50 58.2
comp=Z,24nm,0.6s
ZEA Zeya 12.57 316 ePN Pn 04 50 55.8 -0.4
ZEA pmax pmax
comp=Z,24nm,0.6s
PETK Petropavlovsk- 12.68 48 P P 04 50 57.9 -0.2
comp=Z,0.3nm,0.3s,baz=243,slow=9.5,SNR=3.6
KROS Kirovskiy 13.11 318 eP Pn 04 51 00.5 -2.1
KROS AMB AMB 04 51 03.9
comp=Z,3.0nm,0.5s
KSRS Korea Array 13.31 237 P Pn 04 51 05.6 +0.3
comp=Z,1.1nm,0.3s,baz=57,slow=9.8,SNR=22
KS01 Wonju Array Si 13.32 238 ePn Pn 04 51 06.6 +1.2
TJN Taejon 14.38 235 ceP Pn 04 51 19.2 +1.3
JNU Nakatsue 15.12 218 P P 04 51 25.9 +0.7
comp=Z,0.8nm,0.3s,baz=11,slow=10,SNR=4.0
HIA Hailar 15.52 292 eP P 04 51 29.2 -0.2
comp=Z,41nm,0.8s
HIA Hailar 15.52 292 c i P P 04 51 29.4 0.0
SEY Seymchan 18.37 15 ||| eP P 04 51 59.5 -0.5
BJT Baijiatuau 19.73 263 eP P 04 52 13.8 -1.0
comp=Z,32nm,0.8s
BJT Baijiatuau 19.73 263 eP P 04 52 13.8 -1.0
BJT pmax pmax
comp=Z,32nm,0.8s
HHC Hu-ho-hao-te 22.63 269 eP P 04 52 43.7 +1.3
HHC pmax pmax
comp=Z,22nm,0.8s
HHC pmax pmax
comp=Z,130nm,4.0s
ULN Ulaanbaatar 23.97 288 eP P 04 52 54.7 +0.2
comp=Z,26nm,1.9s
ULN Ulaanbaatar 23.97 288 ceP P 04 52 54.3 -0.2
ULN pmax pmax
comp=Z,12nm,1.8s
SONA1 Songino Array 24.40 288 eP P 04 52 58.5 +0.1
SONM Songino Array 24.41 288 P P 04 52 58.4 0.0
comp=Z,5.5nm,0.7s,baz=80,slow=8.4,SNR=36
SONM ScP ScP 04 59 38.4 +1.4
comp=Z,1.2nm,0.8s,baz=101,slow=3.7,SNR=7.0
WMQ Urumqi 38.04 287 P P 04 54 57.5 +0.8
IM3 Indian Mountai 39.24 36 eP P 04 55 04.5 -1.6
MK31 Makanchi Array 40.50 294 eP P 04 55 16.9 +0.1
MK31 Makanchi Array 40.50 294 eP P 04 55 16.9 +0.1
MKAR Makanchi Array 40.50 294 P P 04 55 16.6 -0.1
comp=Z,0.8nm,0.5s,baz=80,slow=9.6,SNR=11
MKAR PcP PcP 04 57 12.1 -0.5
comp=Z,0.4nm,0.5s,baz=78,slow=4.0,SNR=3.6
MKAR ScP ScP 05 00 33.8 +1.8
comp=Z,0.3nm,0.7s,baz=72,slow=3.8,SNR=3.7
MKAR Makanchi Array 40.50 294 eP P 04 55 16.9 +0.1
comp=Z,13nm,0.7s
MK01 Makanchi Array 40.51 294 eP P 04 55 16.4 -0.4
MK01 epP pP 04 56 19.7 +1.6
MLY Manley 40.54 37 eP P 04 55 17.3 +0.4
comp=Z,16nm,1.9s
COLD Coldfoot 40.61 34 eP P 04 55 16.8 -0.5
comp=Z,4.2nm,0.9s
KTH Kantishna Hill 40.61 39 eP P 04 55 17.3 -0.2
comp=Z,42nm,1.8s
TOLK Toolik Lake Re 40.79 31 eP P 04 55 18.2 -0.6
comp=Z,3.8nm,0.9s
KURK Kurchatov 41.47 301 eP P 04 55 23.2 -1.2
comp=Z,2.2nm,0.6s
KURK Kurchatov 41.47 301 P P 04 55 24.3 -0.2
KURK *PP pP 04 56 27.0 +1.0
KURK 04 57 15.8
KURK pmax pmax
comp=Z,2.0nm,0.4s
KURK pmax pmax
comp=Z,1.0nm,0.7s
KURK pmax pmax
comp=Z,1.0nm,0.6s
MCK McKinley 41.47 39 eP P 04 55 23.9 -0.5
comp=Z,2.8nm,0.7s
MCK McKinley 41.47 39 eP P 04 55 23.9 -0.5
MCK pmax pmax
comp=Z,3.0nm,0.7s
KURBB Kurchatov Arra 41.55 301 P P 04 55 24.3 -0.8
comp=Z,2.0nm,0.4s,baz=70,slow=8.6,SNR=16
KURBB pP pP 04 56 27.0 +0.3
comp=Z,1.0nm,0.7s,baz=71,slow=9.3,SNR=3.4
KURBB PcP PcP 04 57 15.8 -0.1
comp=Z,0.7nm,0.6s,baz=84,slow=3.6,SNR=5.5
MDM Murphy Dome 41.61 37 eP P 04 55 23.5 -1.9
comp=Z,24nm,2.0s
WRH Wood River Hil 41.73 38 eP P 04 55 26.7 +0.3
comp=Z,27nm,1.9s
COLA College 41.78 37 eP P 04 55 26.3 -0.4
comp=Z,7.3nm,0.6s
COLA College 41.78 37 eP P 04 55 26.3 -0.4
COLA pmax pmax
comp=Z,7.0nm,0.6s
CCB Clear Creek Bu 41.83 37 eP P 04 55 26.3 -0.9
comp=Z,12nm,1.7s
SML Sawmill 42.05 42 eP P 04 55 29.0 -0.1
comp=Z,16nm,1.2s
SML Sawmill 42.05 42 eP P 04 55 29.0 -0.1
SML pmax pmax
comp=Z,16nm,1.2s
IL1 Eielson Array 42.20 37 eP P 04 55 29.1 -1.1
ILAR Eielson Array 42.20 37 P P 04 55 29.2 -1.0
comp=Z,4.1nm,0.7s,baz=276,slow=8.2,SNR=59
ILAR PcP PcP 04 57 16.6 -1.3
comp=Z,0.6nm,0.8s,baz=255,slow=3.4,SNR=4.3
ILB Eielson Array 42.20 37 eP P 04 55 30.0 -0.2
DHY Denali Highway 42.27 40 eP P 04 55 30.3 -0.6
comp=Z,6.5nm,0.6s
RIDG Independ'e Rid 43.26 38 eP P 04 55 37.5 -1.2
comp=Z,4.3nm,0.7s
HARP HAARP 43.40 40 eP P 04 55 40.4 +0.6
comp=Z,16nm,0.8s
SCRK Sand Creek 43.59 38 eP P 04 55 40.3 -1.1
comp=Z,8.2nm,0.7s
EGAK Eagle 44.61 36 eP P 04 55 48.6 -0.7
comp=Z,11nm,0.9s
CMAR Chiang Mai Arr 44.70 247 P P 04 55 50.9 +0.4
comp=Z,1.1nm,0.4s,baz=40,slow=7.2,SNR=3.9
BALM Baldy 45.03 42 eP P 04 55 51.8 -0.9
comp=Z,18nm,1.5s
BALM Baldy 45.03 42 eP P 04 55 51.8 -0.9
BALM pmax pmax
comp=Z,18nm,1.5s
BVAR Borovoye Array 45.50 307 P P 04 55 55.9 -0.5
comp=Z,0.6nm,0.4s,baz=84,slow=8.8,SNR=6.0
INK Inuvik 46.68 31 P P 04 56 04.8 -0.5
comp=Z,1.5nm,0.3s,baz=306,slow=8.5,SNR=18
INK Inuvik 46.68 31 eP P 04 56 04.6 -0.6
comp=Z,2.7nm,0.5s
JIRN Jiri 47.27 268 eP P 04 56 11.8 +0.9
comp=Z,26nm,0.6s
AAK Ala-Archa 47.28 292 i P P 04 56 10.0 -0.5
AAK pmax pmax
comp=Z,12nm,4.9s
GUN Gumba 47.34 268 eP P 04 56 12.4 +1.1
comp=Z,7.2nm,0.4s
HYT Haines Junctio 47.35 41 eP P 04 56 11.0 +0.4
comp=Z,8.5nm,0.7s
RAMN Ramite 47.42 267 eP P 04 56 12.5 +0.7
comp=Z,24nm,0.7s
GKN Gorkha 48.16 269 eP P 04 56 18.0 +0.7
comp=Z,11nm,0.4s
KOLN Koldanda 49.02 270 eP P 04 56 24.3 +0.3
PYUN Piuthan 49.25 270 eP P 04 56 25.6 -0.1
KKAR Karatay Array 49.63 294 eP P 04 56 28.3 +0.2
comp=Z,0.6nm,0.4s
KKAR Karatay Array 49.63 294 eP P 04 56 28.3 +0.2
KKAR pmax pmax
comp=Z,1.0nm,0.4s
KK03 Karatay Array 49.64 294 eP P 04 56 26.6 -1.5
KK07 Karatay Array 49.64 294 eP P 04 56 27.5 -0.7
ABKAR Akbulak array 53.05 306 eP P 04 56 53.2 +0.1
comp=Z,0.5nm,0.5s
RES Resolute Bay 54.24 16 eP P 04 57 00.8 -0.5
comp=Z,2.9nm,0.8s
RES Resolute Bay 54.24 16 eP P 04 57 00.8 -0.5
RES pmax pmax
comp=Z,3.0nm,0.8s
YKA Yellowknife Ar 56.28 33 P P 04 57 16.2 +0.3
comp=Z,1.7nm,0.6s,baz=305,slow=6.8,SNR=52
YKA PcP PcP 04 58 07.7 -1.6
comp=Z,0.4nm,0.6s,baz=310,slow=3.4,SNR=7.4
FINES FINESS Array B 61.54 331 P P 04 57 50.4 -1.4
comp=Z,4.6nm,1.1s,baz=35,slow=7.0,SNR=5.6
FINES FINESS Array B 61.54 331 ceP P 04 57 50.7 -1.1
FINES pmax pmax
comp=Z,5.0nm,1.1s
SUMG Summit 62.15 0 eP P 04 57 56.0 -0.2
comp=Z,15nm,1.5s
SUMG Summit 62.15 0 eP P 04 57 56.0 -0.2
SUMG pmax pmax
comp=Z,15nm,1.5s
EDM Edmonton 62.47 41 eP P 04 57 59.2 +1.1
comp=Z,9.3nm,1.0s
EDM Edmonton 62.47 41 eP P 04 57 59.3 +1.1
EDM pmax pmax
comp=Z,9.0nm,1.0s
YBH Yreka Blue Hor 64.92 55 P P 04 58 15.2 +0.8
comp=Z,1.2nm,0.8s,baz=299,slow=2.7,SNR=4.0
YBH Yreka Blue Hor 64.92 55 P P 04 58 15.2 +0.8
YBH pmax pmax
comp=Z,2.0nm,0.9s
WRA Warramunga Arr 65.58 188 P P 04 58 18.6 0.0
comp=Z,0.4nm,0.6s,baz=9.8,slow=6.8,SNR=6.8
WRA Warramunga Arr 65.58 188 i P P 04 58 19.1 +0.5
KBZ Khabaz 65.83 308 P P 04 58 20.6 +0.7
comp=Z,1.5nm,0.7s,baz=21,slow=8.9,SNR=5.9
FCC Fort Churchill 66.20 28 eP P 04 58 21.4 -0.6
comp=Z,17nm,1.3s
FCC Fort Churchill 66.20 28 eP P 04 58 21.5 -0.6
FCC pmax pmax
comp=Z,17nm,1.3s
FFC Flin Flon 66.34 35 eP P 04 58 23.7 +0.7
comp=Z,9.0nm,0.8s
FFC Flin Flon 66.34 35 eP P 04 58 23.7 +0.7
FFC pmax pmax
comp=Z,9.0nm,0.8s
NOA NORSAR Array B 66.52 336 P P 04 58 22.7 -1.4
comp=Z,1.4nm,0.8s,baz=35,slow=6.6,SNR=3.6
HFS Hagfors 66.53 335 P P 04 58 22.9 -1.2
comp=Z,2.3nm,0.7s,baz=57,slow=8.8,SNR=8.7
WVOR Wild Horse Val 66.78 53 eP P 04 58 27.1 +0.9
comp=Z,2.4nm,0.9s
WVOR Wild Horse Val 66.78 53 eP P 04 58 27.1 +0.9
WVOR pmax pmax
comp=Z,2.0nm,0.9s
AKASG Malin Array Be 67.90 321 P P 04 58 31.1 -1.7
comp=Z,0.3nm,0.4s,baz=38,slow=6.3,SNR=4.6
AKASG Malin Array Be 67.90 321 ceP P 04 58 33.7 +0.9
PAHR Pah Rah Range 68.16 55 eP P 04 58 34.4 -0.5
comp=Z,5.5nm,1.0s
BOZ Bozeman (W) 68.40 46 eP P 04 58 37.0 +0.8
comp=Z,1.6nm,0.7s
BOZ Bozeman (W) 68.40 46 eP P 04 58 37.0 +0.8
BOZ pmax pmax
comp=Z,2.0nm,0.7s
CMB Columbia Colle 68.68 57 eP P 04 58 38.4 +0.5
comp=Z,8.7nm,1.4s
CMB Columbia Colle 68.68 57 eP P 04 58 38.4 +0.5
CMB pmax pmax
comp=Z,9.0nm,1.4s
YERR Yerington 68.72 56 eP P 04 58 39.2 +0.8
comp=Z,6.9nm,0.8s
AS01 Alice Springs 69.30 188 eP P 04 58 42.8 +1.1
ASAR Alice Springs 69.31 188 P P 04 58 43.1 +1.4
comp=Z,1.2nm,0.8s,baz=6.8,slow=4.8,SNR=11
KVN Kaiserville 69.33 55 eP P 04 58 42.6 +0.5
comp=Z,5.5nm,0.7s
KVN Kaiserville 69.33 55 eP P 04 58 42.6 +0.5
KVN pmax pmax
comp=Z,6.0nm,0.7s
NV01 Mina Array Sit 69.63 56 eP P 04 58 45.2 +1.2
NVAR Mina Array Bea 69.63 56 P P 04 58 45.2 +1.2
comp=Z,3.3nm,0.7s,baz=298,slow=5.7,SNR=11
MOOW Moose Ponds 70.14 47 eP P 04 58 47.7 +0.8
comp=Z,2.1nm,1.1s
HWUT Hardware Ranch 71.21 49 eP P 04 58 54.1 +0.8
comp=Z,1.8nm,0.7s
PD31 Pinedale Array 71.44 47 eP P 04 58 55.9 +1.1
PDAR Pinedale Array 71.44 47 P P 04 58 55.6 +0.9
comp=Z,2.9nm,0.8s,baz=309,slow=1.6,SNR=19
PDAR Pinedale Array 71.44 47 eP P 04 58 55.5 +0.8
DUG Dugway, Tooele 71.52 51 eP P 04 58 54.6 -0.6
comp=Z,2.7nm,0.8s
DUG Dugway, Tooele 71.52 51 eP P 04 58 54.6 -0.6
DUG pmax pmax
comp=Z,3.0nm,0.8s
TPNV Topopah Spring 71.83 56 eP P 04 58 58.8 +1.7
comp=Z,6.6nm,0.8s
TPNV Topopah Spring 71.83 56 eP P 04 58 58.8 +1.7
TPNV pmax pmax
comp=Z,7.0nm,0.8s
ULM Lac du Bonnet 72.17 35 P P 04 58 58.6 0.0
comp=Z,5.5nm,0.6s,baz=287,slow=5.4,SNR=7.4
SHPR Sheep Range 72.77 55 eP P 04 59 03.2 +0.6
comp=Z,4.9nm,1.0s
RSSD Black Hills 73.22 43 eP P 04 59 05.2 0.0
comp=Z,2.8nm,0.8s
RSSD Black Hills 73.22 43 eP P 04 59 05.2 0.0
RSSD pmax pmax
comp=Z,3.0nm,0.8s
BRTR Keskin Array B 73.61 310 P P 04 59 07.7 +0.3
comp=Z,0.6nm,0.6s,baz=77,slow=4.9,SNR=5.5
BRTR Keskin Array B 73.61 310 ceP P 04 59 08.1 +0.7
BRTR pmax pmax
comp=Z,1.0nm,0.6s
CLL Collm 73.95 330 eP P 04 59 09.0 +0.1
BR231 Keskin MP Arra 73.98 311 eP P 04 59 08.7 -0.8
PV01 Paradox Valley 75.30 50 eP P 04 59 14.0 -3.2
X16A Lo Mia Camp, P 76.39 55 eP P 04 59 25.6 +2.3
comp=Z,2.7nm,0.8s
SCHQ Schefferville 77.01 17 P P 04 59 26.6 +0.3
comp=Z,4.8nm,0.7s,baz=0.0,slow=5.1,SNR=4.4
SDCO Great Sand Dun 77.22 49 eP P 04 59 29.0 +1.0
comp=Z,1.2nm,0.8s
ANMO Albuquerque 78.79 51 eP P 04 59 38.6 +2.1
comp=Z,1.8nm,0.8s
ANMO Albuquerque 78.79 51 ceP P 04 59 39.0 +2.4
ANMO pmax pmax
comp=Z,3.0nm,1.7s
BNM Barren Site 79.29 52 eP P 04 59 41.0 +1.6
VLC Villacolmenand 80.89 327 eP P 04 59 47.6 +0.3
comp=Z,8.1nm,0.9s
MNTX Cornudas Mount 81.82 53 eP P 04 59 54.1 +1.7
comp=Z,2.5nm,0.8s
WMOK Wichita Mounta 83.01 46 eP P 04 59 59.0 +0.5
comp=Z,2.4nm,0.9s
WMOK Wichita Mounta 83.01 46 eP P 04 59 59.0 +0.5
WMOK pmax pmax
comp=Z,2.0nm,0.9s
TX31 Lajitas Ar. Si 84.57 53 eP P 05 00 08.1 +1.6
TXAR Lajitas Array 84.57 53 P P 05 00 08.0 +1.4
comp=Z,2.6nm,0.8s,baz=286,slow=4.3,SNR=26
TXAR Lajitas Array 84.57 53 P P 05 00 08.0 +1.4
TXAR pmax pmax
comp=Z,3.0nm,0.8s
HPIG 85.25 56 eP P 05 00 11.6 +1.5
comp=Z,3.4nm,0.8s
ESDC Sonseca Array 89.81 334 P P 05 00 30.4 -0.9
comp=Z,0.7nm,0.5s,baz=16,slow=4.3,SNR=7.0
KMBO Kilima Mbogo 101.13 280 i P Pdif 05 01 26.1 +2.8
KMBO pmax pmax
comp=Z,7.0nm,0.2s
SNAA Sanae 148.98 201 PKPbc PKPbc 05 07 18.1 +0.4
comp=Z,1.0nm,0.7s,baz=135,slow=5.7,SNR=4.9

IDC 06 04:54:14.4±3.0, 54°43'N×86°58E, h0km, mb1 3.0/2, mb1mx2.9/69, mbtmp3.0/2, ML2.7/2, Error ellipse: s-maj=22.6km s-min=15.3km az=49.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.14**	**246**	*i*			05 02 00.0	
	baz=64,slow=328,SNR=1.5							
ZALV	**Zalesovo Beam**	**1.14**	**246**	Pg	Pg	Pg	04 54 34.9	-1.4
	1.9nm,0.3s,baz=62,slow=17,SNR=14							
ZALV				Lg	Lg	Lg	04 54 51.9	
	2.6nm,0.3s,baz=61,slow=27,SNR=22							
ZALV	**Zalesovo Beam**	**1.14**	**246**	P	Pg	Pg	04 54 34.9	-1.4
ZALV				pmax	pmax			
	comp=Z,2.0nm,0.3s							
NVS	**Novosibirsk**	**1.99**	**283**	eP	Pn	Pn	04 54 47.3	-1.9
KURBB	**Kurchatov Arra**	**6.22**	**235**	Pn	Pn	Pn	04 55 48.2	+0.9
	comp=Z,0.1nm,0.3s,baz=52,slow=14,SNR=6.4							
KURBB				Sn	Sn	Sn	04 56 59.5	+0.5
	comp=Z,0.0nm,0.3s,baz=67,slow=31,SNR=2.3							
KURBB				Lg	Lg	Lg	04 57 31.6	
	comp=Z,0.0nm,0.3s,baz=56,slow=31,SNR=3.7							
MKAR	**Makanchi Array**	**8.12**	**201**	Pn	Pn	Pn	04 56 14.7	+1.3
	comp=Z,0.2nm,0.3s,baz=23,slow=13,SNR=6.0							
MKAR				Sn	Sn	Sn	04 57 44.5	-1.3
	comp=Z,0.1nm,0.3s,baz=25,slow=27,SNR=5.2							
MKAR				Lg	Lg	Lg	04 58 30.5	
	comp=Z,0.0nm,0.3s,baz=23,slow=30,SNR=2.2							

KRSC 06 05:03:37.5±1.3, 54°27N×162°59E, h11km×30km, ML3.6, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KZV	**Kizimen**	**1.58**	**303**	eP	Pb	Pb	05 04 06.6	-0.2
KZV				eS	Sn	Sn	05 04 26.4	+0.4
TUMR	**Tumrok**	**1.74**	**307**	eP	Pn	Pn	05 04 08.5	+0.7
KII	**Karymskiy**	**1.86**	**264**	eP	Pn	Pn	05 04 09.9	+0.5
KII				eS	Sn	Sn	05 04 33.3	+0.3
KMNR	**Kamenistaya**	**2.01**	**319**	eP	Pb	Pb	05 04 13.1	-1.0
KMNR				eS	Sb	Sb	05 04 39.0	-0.2
NLC	**Nalytchevo**	**2.22**	**242**	eS	Sn	Sn	05 04 43.2	+1.5
KLY	**Klyuchi**	**2.33**	**332**	eP	Pb	Pb	05 04 17.7	-1.7
SMKR	**Semkarok**	**2.40**	**345**	eP	Pn	Pn	05 04 17.9	+1.1
SDLR	**Sedlovina**	**2.42**	**247**	eP	Pb	Pb	05 04 19.2	-1.8
SDLR				eS	Sb	Sb	05 04 49.4	-1.4
BDR	**Baidarnaya**	**2.43**	**342**	eP	Pn	Pn	05 04 18.9	+1.7
SMAR	**Somma**	**2.47**	**247**	eP	Pn	Pn	05 04 19.2	+1.4
SMAR				eS	Sn	Sn	05 04 49.4	+1.3
KRER	**Koryakskii**	**2.48**	**248**	eP	Pn	Pn	05 04 19.3	+1.3
UGLR	**Uglovaya**	**2.48**	**246**	eP	Pb	Pb	05 04 20.4	-1.7
UGLR				eS	Sb	Sb	05 04 51.1	-1.6
AVH	**Avacha**	**2.50**	**248**	eP	Pb	Pb	05 04 20.5	-2.0
AVH				eS	Sb	Sb	05 04 51.8	-1.4
KRX	**Arik**	**2.51**	**250**	eP	Pn	Pn	05 04 20.1	+1.7
KRX				eS	Sn	Sn	05 04 51.1	+2.1
SRKR	**Sorokina**	**2.52**	**342**	eP	Pn	Pn	05 04 19.9	+1.5
GNL	**Ganaly**	**2.81**	**260**	eP	Pb	Pb	05 04 25.2	-2.5
KRMR	**Karymshinskiy**	**3.03**	**243**	eP	Pn	Pn	05 04 28.1	+2.8
KRMR				eS	Sb	Sb	05 05 05.1	-3.2

*IDC **06** 05:05:05.9±3.0, 36°.29N×71°.22E, h116km±25km, mb3.5/13, mb1 3.7/19, mb1mx3.4/75, mbtmp4.0/19, Error ellipse: s-maj=21.0km s-min=13.8km az=180.0*
*ISCJB **06** 05:05:08.5±0.3, 36°.43N±0°.02×71°.15E±0°.05, h150km, mb3.7/13, Error ellipse: s-maj=5.6km s-min=3.2km az=167.8*
*NNC **06** 05:05:11.2±2.8, 36°.73N×70°.64E, h134km±46km, mb3.8, mpv4.5, Error ellipse: s-maj=27.0km s-min=17.1km az=157.0*
ISC 06 05:05:09.5±0.6, 36°.44N±0°.05×71°.20E±0°.06, h150km, n61, σ1s.84/72, mb3.6/13, 10C-9D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	Cherat	2.67	167	P	Pn	05 05 54.5	+1.6
CEP				S	Sn	05 06 28.0	+1.6
CHCP	Chirah Chowk	3.25	148	P	Pn	05 06 02.3	+2.2
SFK	Sufi-Kurgan	4.00	26	⇑P	Pn	05 06 11.7	+1.8
	27nm,0.3s						
SFK				⇑S	Sn	05 06 57.9	+1.0
	92nm,0.3s						
SARP	Sargodha	4.67	164	P	Pn	05 06 18.9	+0.4
DHRM	DHARAMSHALA	5.94	133	eP	Pn	05 06 35.9	+0.4
DHRM				eS	Sn	05 07 41.6	-1.2
DHRM				IAML		05 07 44.4	
	comp=E,216nm,0.3s						
DHRM				IAML		05 07 44.8	
	comp=N,235nm,0.4s						
AML	Almayashu	6.00	18	P	Pn	05 06 36.8	+0.3
	SNR=239						
MNAS	Manas	6.12	9	⇑P	Pn	05 06 38.4	+0.6
	comp=N,29nm,0.6s						
MNAS				⇓S	Sn	05 07 44.2	-2.9
	comp=N,160nm,1.0s						
UCH	Uchtor	6.32	23	P	Pn	05 06 41.2	+0.4
	SNR=73						
KZA	Kyzart	6.45	28	P	Pn	05 06 42.6	+0.1
	SNR=34						
EKS2	Erkin-Say	6.52	17	P	Pn	05 06 44.1	+0.9
	SNR=34						
KK31	Karatay Array	6.68	356	⇑P	Pn	05 06 44.8	-0.4
	comp=N,17nm,0.3s,baz=180,slow=13,SNR=344						
KK31				⇓S	Sn	05 07 56.1	-4.0
	comp=N,25nm,0.4s,baz=186,slow=22,SNR=24						
AAK	Ala-Archa	6.69	21	P	Pn	05 06 45.2	-0.3
	comp=N,4.1nm,0.3s,baz=206,slow=6.3,SNR=50						
AAK				S	Sn	05 07 58.7	-2.0
	comp=N,3.9nm,0.3s,baz=140,slow=17,SNR=12						
AAK	Ala-Archa	6.69	21	⇑P	Pn	05 06 46.1	+0.6
	comp=N,24nm,0.6s						
AAK				⇑S	Sn	05 08 00.3	-0.4
	comp=N,39nm,0.8s						
AAK	Ala-Archa	6.69	21	P	Pn	05 06 46.0	+0.6
	SNR=49						
KBK	Karagaybulak	6.85	24	P	Pn	05 06 50.1	+2.5
	SNR=6.8						
ULHL	Ulahol	6.99	32	P	Pn	05 06 50.8	+1.3
	SNR=12						
CHMS	Chumysh	7.10	22	P	Pn	05 06 52.3	+1.5
	SNR=6.0						
SMLA	Simla	7.26	135	eP	Pn	05 06 53.1	+0.2
SMLA				eS	Sn	05 08 11.2	-3.0
SMLA				IAML		05 08 16.3	
	comp=E,60nm,0.1s						
SMLA				IAML		05 08 16.4	
	comp=N,1μm,0.0s						
USP	Ospenovka	7.28	19	P	Pn	05 06 49.3	-3.8
	SNR=6.1						
TKM2	Tokmak 2	7.30	26	⇓P	Pn	05 06 54.6	+0.9
	comp=N,42nm,0.6s						
TKM2				⇓S	Sn	05 08 16.0	+0.5
	comp=N,20nm,0.7s						
TKM2	Tokmak 2	7.30	26	P	Pn	05 06 54.2	+0.5
	SNR=50						
MDOK	Medeo	8.08	32	⇑P	Pn	05 07 04.8	+0.8
	comp=N,20nm,0.7s						
MDOK				S	Sn	05 08 36.7	+2.7
	comp=N,7.2nm,1.1s						
DDI	Dehra Dun	8.37	135	eP	Pn	05 07 07.8	-0.1
JOSI	Joshimath	9.11	128	eP	Pn	05 07 20.0	+2.0
JOSI				eS	Sn	05 08 54.2	-5.0
JOSI				IAML		05 09 00.0	
	comp=E,64nm,0.8s						
JOSI				IAML		05 09 00.7	
	comp=N,121nm,0.8s						
KHET	Khetri	9.21	154	eP	Pn	05 07 17.8	-1.2
KHET				eS	Sn	05 08 54.4	-6.8
KHET				IAML		05 08 58.1	
	comp=E,37nm,1.0s						
KHET				IAML		05 08 58.6	
	comp=N,32nm,0.4s						
PDGK	Podgornoye	9.37	40	⇓P	Pn	05 07 21.7	+0.5
	comp=N,15nm,0.9s						
PDGK				⇓S	Sn	05 09 05.4	+0.3
	comp=N,14nm,1.2s						
GEYT	Alibeck	10.55	282	P	Pn	05 07 33.3	-3.4
	comp=N,2.6nm,0.3s,baz=106,slow=11,SNR=12						
GEYT				S	Sn	05 09 21.8	-12
	comp=N,1.6nm,0.3s,baz=110,slow=25,SNR=4.4						
OTUK	Ortayu	11.83	4	⇓P	Pn	05 07 52.1	-1.3
	comp=N,3.8nm,0.6s						
OTUK				⇑S	Sn	05 09 54.4	-10
	comp=N,5.7nm,0.6s						
PYUN	Piuthan	12.98	127	eP	Pn	05 08 07.6	-1.0
	comp=N,62nm,0.5s						
MK31	Makanchi Array	13.24	35	⇓P	P	05 08 17.0	+0.9
	comp=N,7.1nm,0.7s,baz=217,slow=10,SNR=11						
MKAR	Makanchi Array	13.24	35	P	Pn	05 08 12.2	+0.5
	comp=N,0.2nm,0.3s,baz=221,slow=12,SNR=23						
KOLN	Koldanda	13.60	126	eP	Pn	05 08 15.3	-1.2
	comp=N,53nm,0.7s						
GKN	Gorkha	14.13	123	eP	Pn	05 08 22.5	-0.7
	comp=N,49nm,0.5s						
BHPL	Bhopal	14.21	156	ex	x	05 08 21.0	
BHPL				eP	P	05 08 28.6	+1.6
BHPL				ex	x	05 10 53.9	
DMN	Daman	14.70	123	eP	Pn	05 08 29.9	-0.6
	comp=N,49nm,0.6s						
KKN	Kakani	14.71	122	eP	Pn	05 08 30.0	-0.5
	comp=N,47nm,0.6s						
GUN	Gumba	15.04	120	eP	Pn	05 08 34.7	-0.1
	comp=N,30nm,0.5s						
KURBB	Kurchatov Arra	15.13	18	P	Pn	05 08 33.5	-1.7
	comp=N,0.1nm,0.3s,baz=207,slow=11,SNR=11						
AB31	Akbulak array	15.22	331	⇑P	Pn	05 08 36.1	-0.3
	comp=N,5.9nm,0.5s,baz=148,slow=12,SNR=185						
AB31				⇓S	Sn	05 11 13.7	-12
	comp=N,3.8nm,0.5s,baz=140,slow=25,SNR=2.6						
JIRN	Jiri	15.42	120	eP	Pn	05 08 39.0	-0.4
	comp=N,107nm,0.4s						
RAMN	Ramite	16.14	122	eP	Pn	05 08 47.5	-0.8
	comp=N,35nm,0.5s						
BVA0	Borovoye Array	16.59	358	P	P	05 08 54.7	+1.6
	comp=N,2.9nm,0.8s,baz=166,slow=11,SNR=26						
BVAR	Borovoye Array	16.59	358	P	P	05 08 53.4	+0.3
	comp=N,0.8nm,0.3s,baz=161,slow=9.4,SNR=22						
BVAR				S	S	05 11 50.0	-7.5
	comp=N,0.4nm,0.3s,baz=170,slow=25,SNR=4.2						
ODAN	Odare	16.75	120	eP	P	05 08 55.8	+0.5
	comp=N,87nm,0.9s						
AKTO	Aktyubinsk	16.91	330	P	P	05 08 57.4	+0.8
	comp=N,0.8nm,0.3s,baz=136,slow=11,SNR=18						
AKTO				S	S	05 11 54.8	-10
	comp=N,0.2nm,0.3s,baz=335,slow=16,SNR=4.8						
AKTO	Aktyubinsk	16.91	330	⇑P	P	05 08 56.6	0.0
	comp=N,5.9nm,0.8s						
ZALV	Zalesovo Beam	19.90	24	P	P	05 09 30.4	+1.3
	comp=N,10nm,0.6s,baz=223,slow=12,SNR=42						
HYB	Hyderabad	20.04	159	eP	Pn	05 09 36.1	+1.8
GNI	Garni	21.07	288	P	P	05 09 42.3	+0.4
	comp=N,4.3nm,0.5s,baz=108,slow=7.4,SNR=3.6						
KBZ	Khabaz	22.77	297	P	P	05 09 59.7	+0.7
	comp=N,0.5nm,0.4s,baz=194,slow=8.3,SNR=2.6						
SONM	Songino Array	28.24	55	P	P	05 10 47.1	-1.2
	comp=N,0.1nm,0.3s,baz=273,slow=5.3,SNR=2.7						
AKASG	Malin Array Be	33.11	309	P	P	05 11 31.4	+0.4
	comp=N,0.3nm,0.5s,baz=82,slow=7.1,SNR=5.3						
FINES	FINESS Array B	37.62	326	P	P	05 12 10.0	+0.6
	comp=N,1.0nm,0.5s,baz=132,slow=8.5,SNR=4.1						
ARCES	ARCESS Array B	41.26	338	P	P	05 12 40.4	+1.0
	comp=N,1.4nm,0.6s,baz=106,slow=7.7,SNR=7.4						
HFS	Hagfors	43.22	322	P	P	05 12 55.8	+0.4
	comp=N,4.6nm,1.0s,baz=108,slow=9.3,SNR=4.5						
NOA	NORSAR Array B	44.53	323	P	P	05 13 06.1	+0.3
	comp=N,0.5nm,0.6s,baz=97,slow=7.6,SNR=2.7						
TORD	Torodi Ar. Bea	65.88	269	P	P	05 15 38.6	-0.7
	comp=N,142nm,1.1s,baz=53,slow=5.5,SNR=4.5						
INK	Inuvik	73.94	9	P	P	05 16 29.0	+1.3
	comp=N,1.0nm,0.6s,baz=355,slow=7.1,SNR=10						
YKA	Yellowknife Ar	81.30	3	P	P	05 17 09.9	+1.4
	comp=N,0.4nm,0.5s,baz=352,slow=5.3,SNR=17						
WRA	Warramunga Arr	81.82	122	P	P	05 17 12.0	0.0
	comp=N,0.9nm,0.8s,baz=321,slow=5.1,SNR=7.6						
ASAR	Alice Springs	84.09	125	P	P	05 17 23.6	+0.1
	comp=N,0.7nm,0.6s,baz=307,slow=5.1,SNR=12						

MAN 06 05:06:17, 10°.15N×123°.26E, h1km, mb4.5, ML3.3, MS3.1, 1C-1D, Cebu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LLP	Lapu-Lapu	0.71	76	⇑eP	Pg	05 06 31.0	+0.3
LLP				i S	Sg	05 06 41.0	+1.1
SNPH	Sibulan	0.80	182	eP	Pb	05 06 33.7	0.0
SNPH				eS	Sb	05 06 45.6	+0.5
GUIM	Jordan	0.82	306	eP	Pg	05 06 33.1	+0.4
GUIM				eS	Sb	05 06 45.3	-0.2
RCP	Roxas	1.50	340	⇓eP	Pb	05 06 45.4	-0.2
RCP				eS	Sn	05 07 07.7	+2.5
MSLP	Maasin	1.57	90	eP	Pn	05 06 46.1	+0.1
MSLP				eS	Sg	05 07 08.9	+1.4

*TIR **06** 05:20:11.1, 42°.05N×19°.06E, h70km, Md2.8/3*
*CSEM **06** 05:20:12.2±0.5, 41°.98N×19°.13E, h19km, ML1.8, Error ellipse: s-maj=9.1km s-min=5.4km az=37.0*
*BEO **06** 05:20:14.0±0.9, 42°.01N×19°.11E, h0km*
PDG 06 05:20:13.5±0.1, 42°.04N×19°.15E, h13km, MD1.9/2, ML1.8/11, 8C-11D, Error ellipse: s-maj=0.3km s-min=0.2km az=90.0, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ULC	Ulcinj	0.10	139	⇓iPg	Pg	05 20 16.3	-0.3
ULC				eSg	Sg	05 20 18.6	-0.1
ULC	Ulcinj	0.10	139	⇓iPg	Pg	05 20 16.3	-0.3
ULC				eSg	Sg	05 20 18.6	-0.1
DRME	Dracevica, Mon	0.15	9	⇑iPg	Pg	05 20 17.3	+0.1
DRME				eSg	Sg	05 20 20.2	+0.5
DRME	Dracevica, Mon	0.15	9	⇑iPg	Pg	05 20 17.3	+0.1
DRME				eSg	Sg	05 20 20.2	+0.5
BUM	Brajici-Budva	0.32	323	⇑iPg	Pg	05 20 20.0	-0.2
BUM				eSg	Sg	05 20 25.3	+0.6
BUM	Brajici-Budva	0.32	323	⇑iPg	Pg	05 20 20.0	-0.2
BUM				eSg	Sg	05 20 25.3	+0.6
PDG	Podgorica	0.40	11	ePg	Pb	05 20 22.1	-0.3
	6.1nm,0.2s						
PDG				eSg	Sg	05 20 27.5	+0.7
	62nm,0.5s						
PDG	Podgorica	0.40	11	⇓iPg	Pg	05 20 21.3	-0.1
PDG				eSg	Sg	05 20 27.5	+0.7
	62nm,0.5s,baz=2.0						
TTG	Podgorica	0.40	11	⇓iPg	Pg	05 20 21.3	-0.1
TTG				eSg	Sb	05 20 27.7	-0.7
CEME	Cevo	0.54	341	ePg	Pg	05 20 23.6	-0.4
CEME				eSg	Sb	05 20 32.2	-0.2
CEME	Cevo	0.54	341	ePg	Pg	05 20 23.6	-0.4
CEME				eSg	Sb	05 20 32.2	-0.2
PUK	Puka	0.55	90	i Pg	Pg	05 20 23.8	-0.5
	baz=90						
PUK				i Sg	Sg	05 20 32.1	+0.5
	baz=90						
PUK	Puka	0.55	90	i PG	Pg	05 20 23.8	-0.5
PUK				i SG	Sg	05 20 32.1	+0.4
HCY	Herceg Novi	0.64	310	⇓iPg	Pg	05 20 25.6	-0.3
HCY				eSg	Sb	05 20 35.5	+0.2
HCY	Herceg Novi	0.64	310	⇓iPg	Pg	05 20 25.6	-0.3
HCY				eSg	Sb	05 20 35.5	+0.2
NKME	Niksic	0.74	348	⇓iPg	Pg	05 20 27.3	-0.6
NKME				eSg	Sb	05 20 39.1	+0.7
NKME	Niksic	0.74	348	⇓iPg	Pg	05 20 27.3	-0.6
NKME				eSg	Sb	05 20 39.1	+0.7
BCI	Bajram Curri	0.75	64	i Pg	Pg	05 20 27.0	-1.1
	baz=67						
BCI				i Sg	Sb	05 20 39.1	+0.4
	baz=67						
BCI	Bajram Curri	0.75	64	i PG	Pg	05 20 27.1	-1.1
BCI				i SG	Sb	05 20 39.1	+0.5
NKY	Niksic	0.78	351	⇓iPg	Pg	05 20 28.3	-0.4
NKY				eSg	Sb	05 20 40.4	+0.8
NKY	Niksic	0.78	351	⇓iPg	Pg	05 20 28.3	-0.4
NKY				eSg	Sb	05 20 40.4	+0.8
PVY	Plav	0.81	47	⇓iPg	Pg	05 20 28.8	-0.5
PVY				eSg	Sb	05 20 41.6	+1.1
KOME	Kolasin	0.85	18	ePg	Pg	05 20 29.6	-0.4
KOME				eSg	Sn	05 20 42.8	-0.9
KOME	Kolasin	0.85	18	ePg	Pg	05 20 29.6	-0.4
KOME				eSg	Sn	05 20 42.8	-0.9
TIR	Tirane	0.87	142	ePg	Pg	05 20 29.4	-1.0
	2.0nm,0.2s						
TIR	Tirane	0.87	142	ePg	Pg	05 20 29.4	-1.0
	2.0nm,0.2s,baz=3.0						
BRY	Bratogost	0.97	332	⇑iPg	Pb	05 20 31.6	-0.7
BRY				eSg	Sn	05 20 46.9	+0.2
BRY	Bratogost	0.97	332	⇑iPg	Pb	05 20 31.6	-0.7
BRY				eSg	Sn	05 20 46.9	+0.2
BEY	Berane	0.99	33	⇑iPg	Pb	05 20 31.9	-0.7
BEY				eSg	Sn	05 20 47.8	+0.6
IVA	Berane	0.99	33	⇑iPg	Pb	05 20 31.9	-0.7
IVA				eSg	Sn	05 20 47.8	+0.6
PHP	Peshkopia	1.02	110	i Pg	Pb	05 20 32.2	-0.9
	baz=109						
PHP				i Sg	Sn	05 20 48.0	+0.1
	baz=109						
PHP	Peshkopia	1.02	110	i PG	Pb	05 20 32.1	-1.0
PHP				i SG	Sn	05 20 48.0	+0.1
STON	Ston	1.36	308	ePg	Pb	05 20 38.6	-0.2
STON				Sg	Sg	05 20 58.1	+0.8
STON	Ston	1.36	308	ePg	Pb	05 20 38.5	-0.3
STON				Sg	Sg	05 20 58.0	+0.7
SJES	Sjenica	1.36	26	ePg	Pg	05 20 39.3	-0.4
	2.4nm,0.5s						
SJES				eSg	Sg	05 20 59.2	+1.8
	5.5nm,0.6s						
SJES	Sjenica	1.36	26	ePg	Pg	05 20 39.3	-0.4
	2.4nm,0.5s,baz=2.0						
SJES				eSg	Sg	05 20 59.2	+1.8
	5.5nm,0.6s,baz=6.0						
IVAS	Ivanjica	1.70	25	ePg	Pb	05 20 45.1	+0.4
	0.1nm,0.4s						
IVAS				eSg	Sg	05 21 09.1	+0.8
	0.1nm,0.4s						
IVAS	Ivanjica	1.70	25	ePg	Pb	05 20 45.1	+0.4
	0.1nm,0.4s,baz=1.0						
IVAS				eSg	Sg	05 21 09.1	+0.8
	0.1nm,0.4s,baz=3.0						
BBLS	Lazići	1.83	6	ePg	Pg	05 20 48.0	-0.7
	10nm,0.5s						
BBLS				eSg	Sg	05 21 12.5	0.0
	16nm,0.4s						
BBLS	Lazići	1.83	6	ePg	Pg	05 20 48.0	-0.7
	10nm,0.5s,baz=5.0						
BBLS				eSg	Sg	05 21 12.5	0.0
	16nm,0.4s,baz=7.0						

IDC 06 05:20:36.5±7.3, 10°.63N×92°.37E, h0km, mb3.7/3, mb1 4.0/4, mb1mx3.4/68, mbtmp3.8/4, ML4.2/1, MS3.4/1, Ms1 3.4/1, ms1mx2.5/64, Error ellipse: s-maj=142.6km s-min=63.3km az=159.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	10.05	39	Pn	Pn	05 23 02.0	-0.2
	0.6nm,0.3s,baz=226,slow=16,SNR=5.2						
WSAR	Wadi Sarin	34.53	296	LR	LR	05 40 06.7	
	comp=Z,73nm,21.9s,baz=52,slow=34						
MKAR	Makanchi Array	37.04	348	P	P	05 27 48.3	+0.2
	0.2nm,0.3s,baz=174,slow=8.4,SNR=5.1						
KURBB	Kurchatov Arra	41.47	347	P	P	05 28 24.9	-0.1
	0.2nm,0.4s,baz=151,slow=8.3,SNR=3.7						
ARCES	ARCESS Array B	72.09	340	P	P	05 32 02.2	-0.1
	4.1nm,1.0s,baz=103,slow=7.7,SNR=2.6						

MEX 06 05:37:59.6±0.3, 15°.63N×95°.80W, h21km±37km, MD3.8, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	Huatulco	0.32	295	i P	Pb	05 38 05.6	-1.1
HUIG				eS	Sb	05 38 10.2	-1.3
VHO	Vista Hermosa	1.69	328	eP	Pn	05 38 25.0	-3.1
VHO				eS	Sn	05 38 45.4	-3.8
PNIG	Pinotepa	2.36	289	eP	Pn	05 38 34.7	-2.5
PNIG				eS	Sn	05 39 02.1	-3.4
PCIG		2.49	88	eP	Pn	05 38 36.6	-2.4

*NEIC **06** 05:47:51.5±0.0, 18°.27N×68°.15W, h78km, MD3.2(RSPR), After RSPR.*
RSPR 06 05:47:51.5, 18°.27N×68°.15W, h78km±1km, MD3.2/13, 25C-2D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMPR	Mona Island, P	0.28	132	eS	Sn	05 48 12.4	0.0
IMPR	Mona Island, P	0.28	132	⇑eP	Pn	05 48 03.0	-0.5
IDE	Isla Desecheo	0.65	79	eS	Sn	05 48 17.0	-0.8
IDE	Isla Desecheo	0.65	79	⇑eP	Pn	05 48 05.5	-1.0
IDE	Isla Desecheo	0.65	79	⇑eP	Pn	05 48 05.5	-1.0
IDE				eS	Sn	05 48 17.0	-0.8
AGPR	Aguadilla, PR	1.00	78	⇑eP	Pn	05 48 10.2	-0.3
AGPR	Aguadilla, PR	1.00	78	eS	Sn	05 48 24.4	-0.4
AGPR	Aguadilla, PR	1.00	78	⇑eP	Pn	05 48 10.2	-0.3
AGPR				eS	Sn	05 48 24.4	-0.4
LSP	Las Mesas	1.01	95	⇑eP	Pn	05 48 10.5	-0.2
LSP	Las Mesas	1.01	95	⇑eP	Pn	05 48 10.5	-0.2
CRPR	Cabo Rojo, PR	1.02	105	⇓eP	Pn	05 48 10.1	-0.6
CRPR	Cabo Rojo, PR	1.02	105	eS	Sn	05 48 24.4	-0.7
CRPR	Cabo Rojo, PR	1.02	105	⇓eP	Pn	05 48 10.1	-0.6
CRPR				eS	Sn	05 48 24.4	-0.7
DR12	Loma Pena Alta	1.28	294	⇑iP	Pn	05 48 13.3	-0.8
DR12				eS	Sn	05 48 30.7	-0.2
DR12	Loma Pena Alta	1.28	294	i Pu	Pn	05 48 13.3	-0.8
AOPR	Arecibo Observ	1.33	86	⇑eP	Pn	05 48 14.4	-0.2
AOPR	Arecibo Observ	1.33	86	eS	Sn	05 48 32.0	+0.1
AOPR	Arecibo Observ	1.33	86	⇑eP	Pn	05 48 14.4	-0.2
AOPR				eS	Sn	05 48 32.0	+0.1
OBIP	Obispado Ponce	1.48	98	⇑eP	Pn	05 48 16.0	-0.5
OBIP	Obispado Ponce	1.48	98	eS	Sn	05 48 35.3	-0.2
OBIP	Obispado Ponce	1.48	98	⇑eP	Pn	05 48 16.0	-0.5
OBIP				eS	Sn	05 48 35.3	-0.2
CELP	Cerrillos	1.50	97	⇑eP	Pn	05 48 16.0	-0.8
CELP				eS	Sn	05 48 35.3	-0.7
CELP	Cerrillos	1.50	97	⇑eP	Pn	05 48 16.0	-0.8
EMPR	Esperanza - Ma	1.55	82	⇑eP	Pn	05 48 17.2	-0.2
EMPR	Esperanza - Ma	1.55	82	eS	Sn	05 48 37.2	+0.2
EMPR	Esperanza - Ma	1.55	82	⇑eP	Pn	05 48 17.2	-0.2
EMPR				eS	Sn	05 48 37.2	+0.2
ICMP	Isla Caja de M	1.59	104	⇑eP	Pn	05 48 16.8	-1.1
ICMP	Isla Caja de M	1.59	104	⇑eP	Pn	05 48 16.8	-1.1
SJG	San Juan	1.91	94	⇑eP	Pn	05 48 21.8	-0.3
SJG	San Juan	1.91	94	eS	Sn	05 48 45.2	-0.2
SJG	San Juan	1.91	94	⇑eP	Pn	05 48 21.8	-0.3
SJG				eS	Sn	05 48 45.2	-0.2
CBYP	Canovanas	2.18	90	⇑eP	Pn	05 48 25.4	-0.4
CBYP	Canovanas	2.18	90	eS	Sn	05 48 51.6	-0.4
CBYP	Canovanas	2.18	90	⇑eP	Pn	05 48 25.4	-0.4
CBYP				eS	Sn	05 48 51.6	-0.4
CUPR	Culebra, Puert	2.72	89	⇑eP	Pn	05 48 32.5	-0.6
CUPR	Culebra, Puert	2.72	89	eS	Sn	05 49 04.8	-0.3
CUPR	Culebra, Puert	2.72	89	⇑eP	Pn	05 48 32.5	-0.6
CUPR				eS	Sn	05 49 04.8	-0.3
STVI	Saint Thomas	3.04	88	⇑eP	Pn	05 48 36.8	-0.5
STVI	Saint Thomas	3.04	88	⇑eP	Pn	05 48 36.8	-0.5
SDDR	Presa de Saban	3.06	284	ePn	Pn	05 48 41.3	+3.6
SDDR				eSn	Sn	05 49 19.1	+5.8

IDC 06 05:52:53.1±3.6, 9°.80S×111°.12E, h0km, mb3.1/3, mb1 3.3/3, mb1mx3.0/62, mbtmp3.1/3, Error ellipse: s-maj=187.3km s-min=28.2km az=47.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	16.32	122	Pn	Pn	05 56 44.1	+0.3
	baz=360,slow=4.0						
WRA	Warramunga Arr	24.57	117	P	P	05 58 15.4	+0.3
	0.3nm,0.8s,baz=291,slow=11,SNR=3.0						
ASAR	Alice Springs	25.76	125	P	P	05 58 25.5	-0.3
	0.2nm,0.8s,baz=293,slow=9.2,SNR=3.0						
H08S2	Diego Garcia H	38.22	270	T	T	06 39 24.8	
	baz=96						
H08S3	Diego Garcia H	38.23	270	T	T	06 39 27.5	
	baz=96						
H08S1	Diego Carcia H	38.24	270	T	T	06 39 26.6	
	baz=96						
MKAR	Makanchi Array	61.94	338	P	P	06 03 14.7	-0.1
	0.2nm,0.5s,baz=146,slow=6.5,SNR=4.4						

IDC 06 05:56:42.0±2.7, 53°.68N×86°.80E, h0km, mb1 3.0/2, mb1mx2.8/75, mbtmp3.0/2, ML2.7/2, Error ellipse: s-maj=24.7km s-min=12.4km az=69.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.20	284	i		06 05 00.2	
	baz=104,slow=345,SNR=1.6						
ZALV	Zalesovo Beam	1.20	284	Pg	Pg	05 57 03.3	-1.8
	2.2nm,0.3s,baz=103,slow=16,SNR=15						
ZALV				Lg	Lg	05 57 22.0	
	1.5nm,0.3s,baz=103,slow=32,SNR=11						
KURBB	Kurchatov Arra	5.94	242	Pn	Pn	05 58 12.0	+0.9
	0.1nm,0.3s,baz=58,slow=14,SNR=5.3						
MKAR	Makanchi Array	7.47	205	Pn	Pn	05 58 33.8	+1.5
	0.3nm,0.3s,baz=20,slow=12,SNR=9.6						
MKAR				Sn	Sn	05 59 57.2	-0.4
	0.1nm,0.3s,baz=25,slow=26,SNR=3.4						
MKAR				Lg	Lg	06 00 39.4	
	0.0nm,0.3s,baz=25,slow=26,SNR=2.5						

*ISCJB **06** 06:03:25.9±0.2, 6°.59S±0°.03×129°.08E±0°.04, h200km, mb4.4/44, Error ellipse: s-maj=5.3km s-min=3.5km az=159.9*
*IDC **06** 06:03:26.9±2.5, 6°.52S×129°.07E, h198km±22km, mb3.8/14, mb1 4.0/17, mb1mx3.7/57, mbtmp4.4/17, MS3.0/1, Ms1 3.0/1, ms1mx2.5/51, Error ellipse: s-maj=23.9km s-min=10.0km az=62.0*
*DJA **06** 06:03:28.9±0.3, 7°S±3°×12°9E±°, h205km±5km, M4.8/12, mb4.8/11, mB5.0/6, MLv5.0/12, Mw(mB)4.4/6*
*NEIC **06** 06:03:28.6±0.5, 6°.56S×129°.11E, h213km±4km, mb4.7/30, Error ellipse: s-maj=6.4km s-min=4.2km az=60.0*
ISC 06 06:03:27.4±0.3, 6°.65S±0°.04×129°.11E±0°.05, h200km, n133, σ1s.56/146, mb4.5/44, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	Saumlaki	2.54	122	P	Pn	06 04 16.1	+4.3
SAUI	Saumlaki	2.54	122	ePn	Pn	06 04 15.9	+4.1
SAUI				eS	Sn	06 04 47.2	+0.8
AAI	Ambon	3.08	343	P	Pn	06 04 21.2	+3.2
MSAI	Masohi	3.29	357	P	Pn	06 04 23.7	+3.2
NLAI	Namlea	3.93	329	P	Pn	06 04 32.5	+4.1
FAKI	Fak Fak	4.85	40	P	Pn	06 04 39.9	0.0
FAKI	Fak Fak	4.85	40	ePn	Pn	06 04 39.8	-0.1
FAKI				eS	Sn	06 05 33.7	-3.4
KMPI	Kaimana, Papua	5.45	57	P	Pn	06 04 49.4	+1.8
SANI	Sanana	5.53	326	P	Pn	06 04 51.0	+2.4
SOEI	Soe	5.70	237	P	Pn	06 04 53.2	+2.3
SOEI	Soe	5.70	237	ePn	Pn	06 04 53.1	+2.1
SOEI				eS	Sn	06 05 58.9	+2.0
SWI	Sorong	6.13	21	P	Pn	06 04 56.2	-0.2
LBMI	Labuha	6.18	345	P	Pn	06 04 59.3	+2.2
	186nm,0.5s,3μm0.8nm						
BATI	Baumata	6.45	236	P	Pn	06 05 01.6	+1.1
	49nm,0.3s,baz=72,slow=2.2,SNR=35						
BATI				S	Sn	06 06 10.6	-3.6
	32nm,0.3s,baz=162,slow=20,SNR=3.3						
BATI	Baumata	6.45	236	P	Pn	06 05 01.9	+1.4
MTN	Manton Dam	6.47	162	ePn	Pn	06 05 02.8	+2.0
MTN				eS	Sn	06 06 14.1	-0.7
TNTI	Ternate	7.57	347	ePn	Pn	06 05 15.7	+0.6
BNSI	Bone	9.24	284	P	Pn	06 05 52.2	+15
SGSI	Sangihe	10.87	341	P	Pn	06 05 59.3	+1.4

206nm,0.5s
FITZ Fitzroy Crossi 11.87 196 P Pn 06 06 10.2 -0.5
KBKI Kotabaru 13.31 284 P P 06 06 39.0 +7.3
DAV Davao City (W) 14.07 345 LR LR 06 11 43.3
comp=Z,60nm,19.7s,baz=148,slow=36
WRA Warramunga Arr 14.16 159 P Pn 06 06 39.3 0.0
3.1nm,0.3s,baz=339,slow=9.6,SNR=80
WRA S S 06 09 10.7 -6.3
3.3nm,0.3s,baz=329,slow=24,SNR=6.0
WB2 Warramunga Arr 14.16 159 ePn Pn 06 06 39.4 0.0
JAGI Jajag, Banyuwa 14.94 262 ePn P 06 06 50.1 +0.4
COEN Coen 15.62 119 eP Pn 06 06 59.5 +2.3
22nm,1.6s
MBWA Marble Bar 17.05 211 eP P 06 07 14.2 +1.4
44nm,1.5s
AS31 Alice Springs 17.54 165 eP Pn 06 07 20.7 +0.6
38nm,0.6s
ASAR Alice Springs 17.54 165 P Pn 06 07 20.8 +0.7
16nm,0.3s,baz=340,slow=9.5,SNR=488
ASAR S S 06 10 27.0 -3.2
1.0nm,0.3s,baz=348,slow=20,SNR=14
AS01 Alice Springs 17.55 165 eP Pn 06 07 20.6 +0.4
SBUM Sibu 19.13 298 eP P 06 07 36.3 +0.7
11nm,0.8s
KSM Kuching 20.43 293 eP P 06 07 51.5 +1.9
23nm,0.6s
CTA Charters Tower 21.34 130 P P 06 07 59.9 +0.8
3.6nm,0.9s,baz=279,slow=13,SNR=3.2
BBOO Buckleboo 26.82 167 eP P 06 08 50.1 +0.8
115nm,1.6s
STKA Stephens Creek 27.68 157 P P 06 08 57.8 +0.9
1.2nm,0.3s,baz=327,slow=7.5,SNR=5.4
STKA Stephens Creek 27.68 157 eP P 06 08 58.2 +1.3
8.6nm,1.8s
MNSI Mandailing Nat 30.38 283 P P 06 09 23.4 +2.4
PSI Prapat 31.56 286 eP P 06 09 30.3 -1.2
9.0nm,0.9s
QIZ Qiongzhong 31.81 324 eP P 06 09 33.2 -0.2
77nm,1.7s
CAN Canberra 33.90 150 eP P 06 09 53.8 +2.4
36nm,1.6s
CMAR Chiang Mai Arr 38.83 310 P P 06 10 31.8 -1.6
1.7nm,0.3s,baz=134,slow=6.2,SNR=7.4
GYA Guiyang 39.46 327 eP P 06 10 40.7 +2.1
GYA pP pP 06 11 25.4 +4.6
GYA sP sP 06 11 50.0 +6.4
GYA PP PnPn 06 12 18.9 +0.2
GYA S S 06 16 26.4 +0.8
GYA pmax pmax
comp=Z,10.0nm,1.0s
NJ2 Nanjing 39.71 346 eP P 06 10 40.1 -0.2
NJ2 pmax pmax
comp=Z,20nm,0.5s
CD2 Chengdu 44.54 328 eP P 06 11 19.5 0.0
CD2 pmax pmax
comp=Z,10.0nm,0.5s
LZH Lanzhou 48.68 333 eP P 06 11 54.5 +2.8
LZH pP pP 06 12 37.0 +1.3
LZH sP sP 06 13 00.1 +2.2
LZH pmax pmax
comp=Z,20nm,1.0s
HHC Hu-ho-hao-te 49.94 343 eP P 06 12 03.2 +2.1
HHC pmax pmax
comp=Z,21nm,1.0s
HHC pmax pmax
comp=Z,86nm,6.2s
CN2 Changchun 50.32 357 eP P 06 12 07.2 +3.5
MLZ Mavora Lakes 51.27 145 eP P 06 12 12.2 +1.4
40nm,1.7s
WHZ Wether Hill Ro 51.48 146 eP P 06 12 13.3 +0.9
43nm,1.9s
ODAN Odare 52.36 311 eP P 06 12 18.9 -0.6
RAMN Ramite 53.00 311 eP P 06 12 23.8 -0.4
104nm,0.5s
GTA Gaotai 53.24 332 eP P 06 12 25.1 -0.5
GTA pmax pmax
comp=Z,4.0nm,1.1s
JIRN Jiri 53.69 311 eP P 06 12 28.7 -0.7
33nm,0.3s
GUN Gumba 54.06 312 eP P 06 12 31.2 -0.8
76nm,0.5s
KKN Kakani 54.44 311 eP P 06 12 33.7 -0.9
32nm,0.6s
DMN Daman 54.48 311 eP P 06 12 34.1 -0.8
27nm,0.7s
GKN Gorkha 55.04 311 eP P 06 12 38.0 -0.8
61nm,0.6s
KOLN Koldanda 55.70 310 eP P 06 12 43.0 -0.6
DANN Dangsing 55.88 311 eP P 06 12 44.2 -0.7
PYUN Piuthan 56.33 310 eP P 06 12 47.4 -0.7
62nm,0.8s
SONM Songino Array 57.83 342 P P 06 12 57.5 -0.6
0.9nm,0.7s,baz=161,slow=6.6,SNR=6.8
SONM PcP PcP 06 13 47.6 -0.7
0.3nm,0.3s,baz=159,slow=2.9,SNR=3.5
SONA1 Songino Array 57.84 342 eP P 06 12 59.2 +1.0
WMQ Urumqi 62.62 327 P P 06 13 30.7 +0.1
WMQ pP pP 06 14 20.3 +3.5
WMQ pmax pmax
comp=Z,19nm,0.7s
PETK Petropavlovsk- 64.27 19 P P 06 13 39.8 -1.3
1.3nm,0.5s,baz=165,slow=6.0,SNR=4.0
NIL Nilore 66.32 311 eP P 06 13 54.3 -0.4
18nm,0.4s
KSH Kashi 67.17 318 eP P 06 14 00.9 +0.8
KSH pmax pmax
comp=Z,5.0nm,0.3s
MK01 Makanchi Array 67.43 327 eP P 06 14 00.9 -0.5
MK31 Makanchi Array 67.45 327 eP P 06 14 01.2 -0.3
MKAR Makanchi Array 67.45 327 P P 06 14 01.1 -0.5
3.0nm,0.5s,baz=115,slow=8.7,SNR=62
MKAR Makanchi Array 67.45 327 eP P 06 14 01.2 -0.3
25nm,0.6s
MAKZ Makanchi 67.63 327 eP P 06 14 02.3 -0.4
3.0nm,0.6s
AAK Ala-Archa 69.70 320 eP P 06 14 17.0 +1.2
4.9nm,1.3s
KURBB Kurchatov Arra 71.75 329 P P 06 14 26.9 -0.8
3.7nm,0.5s,baz=133,slow=5.1,SNR=49
KURK Kurchatov 71.76 329 eP P 06 14 27.1 -0.7
18nm,1.6s
KK06 Karatay Array 72.48 319 eP P 06 14 32.6 +0.3
KK05 Karatay Array 72.49 319 eP P 06 14 31.6 -0.8
KK02 Karatay Array 72.50 319 eP P 06 14 31.9 -0.4
KK31 Karatay Array 72.50 319 eP P 06 14 32.5 +0.2
KKAR Karatay Array 72.50 319 eP P 06 14 32.5 +0.1
KK01 Karatay Array 72.50 319 eP P 06 14 31.9 -0.4
KK03 Karatay Array 72.50 319 eP P 06 14 33.0 +0.6
KK04 Karatay Array 72.50 319 eP P 06 14 32.0 -0.4
KK08 Karatay Array 72.51 319 eP P 06 14 33.2 +0.8
VNDA Vanda 72.90 173 P P 06 14 34.4 +0.2
1.1nm,0.5s,baz=319,slow=7.2,SNR=12
VNDA Vanda 72.90 173 eP P 06 14 34.7 +0.6
15nm,1.9s
SBA Scott Base 73.80 172 eP P 06 14 40.5 +1.2
12nm,1.3s
WSAR Wadi Sarin 74.92 296 P P 06 14 46.3 -0.6
2.5nm,0.5s,baz=132,slow=4.9,SNR=9.0
BVAR Borovoye Array 77.30 328 P P 06 14 58.7 -1.0
0.9nm,0.6s,baz=131,slow=6.1,SNR=5.8
TIXI Tiksi 78.14 360 P P 06 15 02.7 -1.2
1.6nm,0.4s,baz=312,slow=2.8,SNR=4.0
AB07 Akbulak array 81.67 322 eP P 06 15 22.1 -1.2
AB06 Akbulak array 81.67 322 eP P 06 15 22.1 -1.2
AB02 Akbulak array 81.69 322 eP P 06 15 22.1 -1.3
AB03 Akbulak array 81.69 322 eP P 06 15 22.3 -1.1
AB01 Akbulak array 81.69 322 eP P 06 15 22.0 -1.3
AB31 Akbulak array 81.69 322 eP P 06 15 22.4 -1.0
ABKAR Akbulak array 81.69 322 eP P 06 15 22.4 -1.0
33nm,0.5s
AB08 Akbulak array 81.69 322 eP P 06 15 22.1 -1.3
AB04 Akbulak array 81.69 322 eP P 06 15 22.4 -1.0
AB05 Akbulak array 81.69 322 eP P 06 15 22.3 -1.1
AB09 Akbulak array 81.70 322 eP P 06 15 22.3 -1.1
GAMB Gambell 82.93 23 eP P 06 15 29.6 +0.2
2.3nm,0.8s
AKTO Aktyubinsk 83.26 322 P P 06 15 30.3 -1.1
1.5nm,0.5s,baz=93,slow=5.2,SNR=6.8
QSPA South Pole Qui 83.33 180 P P 06 15 31.1 -0.6
2.5nm,0.5s,baz=134,slow=2.7,SNR=9.7
RAYN Ar Rayn 86.80 294 eP P 06 15 49.3 -0.4
5.6nm,1.3s
PPLA Purkeypile 90.75 27 eP P 06 16 06.5 -1.0
26nm,1.5s
MLY Manley 91.83 25 eP P 06 16 11.4 -1.0
17nm,1.9s
RND Reindeer 92.34 26 eP P 06 16 13.1 -1.7
4.9nm,0.8s
COLD Coldfoot 92.48 23 eP P 06 16 14.7 -0.6
18nm,1.9s
WRH Wood River Hil 92.85 25 eP P 06 16 16.3 -0.7
26nm,2.0s
DHY Denali Highway 92.94 27 eP P 06 16 16.8 -0.9
21nm,1.6s
IL1 Eielson Array 93.41 25 eP P 06 16 17.4 -2.2
ILAR Eielson Array 93.41 25 P P 06 16 17.2 -2.4
0.5nm,0.7s,baz=219,slow=4.9,SNR=6.0
RIDG Independ'e Rid 94.16 26 eP P 06 16 21.9 -1.3
25nm,1.7s
DOT Dot Lake 94.50 27 eP P 06 16 23.8 -0.8
24nm,1.4s
ARCES ARCESS Array B 100.94 340 P Pdif 06 16 51.4 -2.1
3.1nm,0.8s,baz=64,slow=6.2,SNR=4.4
YKA Yellowknife Ar 107.82 26 PKiKP PKiKP 06 21 29.2 -1.3
0.2nm,0.6s,baz=293,slow=1.4,SNR=6.2
YKA PKKPbc PKKPbc 06 32 42.6 -4.4
0.1nm,0.4s,baz=114,slow=3.6,SNR=5.0
GERES GERESS Array B 111.59 320 PKiKP PKiKP 06 21 36.7 -1.5
0.3nm,0.4s,baz=76,slow=4.1,SNR=3.8
YHB Horse Butte 115.55 43 ePKPdf PKPdf 06 21 44.0 -2.1
TX31 Lajitas Ar. Si 125.50 59 ePKPdf PKPdf 06 22 05.8 +0.2
TXAR Lajitas Array 125.50 59 PKP PKPdf 06 22 05.2 -0.3
0.1nm,0.5s,baz=188,slow=2.4,SNR=4.1
TOA0 Torodi Ar. Sit 127.87 281 ePKPdf PKPdf 06 22 09.8 -0.5
TORD Torodi Ar. Bea 127.87 281 PKP PKPdf 06 22 09.1 -1.2
0.4nm,0.4s,baz=78,slow=2.2,SNR=4.8
KOWA Kowa 133.34 284 PKP PKPdf 06 22 19.7 -0.9
0.6nm,0.4s,baz=352,slow=6.8,SNR=3.0
DBIC Dimbokro 134.29 273 ePKPdf PKPdf 06 22 23.1 +0.7
PB10 IPOC Station P 144.40 148 ePKPbc PKPab 06 22 38.9 -0.4
JTS JuntasAbangare 146.13 81 PKPbc PKPdf 06 22 44.8 +1.0
5.8nm,0.7s,baz=36,slow=14,SNR=8.5
CPUP Villa Florida 146.63 169 PKPbc PKPbc 06 22 46.3 +0.2
3.0nm,0.4s,baz=174,slow=1.2,SNR=20
PB01 IPOC Station P 146.97 147 ePKPdf PKPdf 06 22 45.4 +0.2
PB01 ePKPbc PKPbc 06 22 48.1 +0.7
PB11 IPOC Station P 147.91 145 ePKPdf PKPdf 06 22 47.6 +0.7
PB11 ePKPbc PKPbc 06 22 50.4 +0.3
MNMC Minye Minye 148.44 145 ePKPdf PKPdf 06 22 49.2 +1.4
MNMC ePKPbc PKPbc 06 22 52.4 +0.8
LPAZ La Paz 151.53 143 PKPbc PKPbc 06 22 59.8 +0.3
1.5nm,0.4s,baz=337,slow=2.8,SNR=21
LPAZ PKPab PKPab 06 23 09.7 +1.1
2.0nm,0.5s,baz=173,slow=5.1,SNR=8.9
LPAZ La Paz 151.53 143 ePKPbc PKPbc 06 23 00.1 +0.5
LPAZ ePKPab PKPab 06 23 10.0 +1.5
SIV San Ignacio 155.35 156 PKPab PKPab 06 23 24.1 +0.2
1.9nm,0.6s,baz=242,slow=4.9,SNR=13

IDC 06 06:15:57.7±3.2, 23°91N×142°12E, h83km±28km, mb3.2/4, mb1 3.4/5, mb1mx3.0/57, mbtmp3.5/5, Error ellipse: s-maj=53.3km s-min=22.8km az=90.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JCJ	Chichijima	3.17	1	P		Pn	06 16 45.9	+0.5
	baz=270,slow=20							
JCJ				S		Sn	06 17 22.7	+0.4
	baz=0.0,slow=20							
H11N1	WAKE ISLAND Hy	23.36	95	T		T	06 45 32.7	
	baz=284							
H11N2	WAKE ISLAND Hy	23.36	95	T		T	06 45 32.8	
	baz=284							
H11N3	WAKE ISLAND Hy	23.38	95	T		T	06 45 33.9	
	baz=284							
H11S3	WAKE ISLAND Hy	23.52	99	T		T	06 46 43.4	
	baz=293							
H11S1	WAKE ISLAND Hy	23.52	98	T		T	06 46 27.4	
	baz=293							
H11S2	WAKE ISLAND Hy	23.53	99	T		T	06 46 38.6	
	baz=293							
WRA	Warramunga Arr	44.24	191	P		P	06 23 58.7	-0.3
	0.5nm,0.8s,baz=7.8,slow=7.9,SNR=7.3							
KURBB	Kurchatov Arra	55.25	316	P		P	06 25 22.2	0.0
	0.1nm,0.3s,baz=90,slow=7.5,SNR=3.7							
YKA	Yellowknife Ar	74.97	28	P		P	06 27 29.6	0.0
	0.2nm,0.7s,baz=293,slow=5.9,SNR=3.7							
FINES	FINESS Array B	80.77	334	P		P	06 28 01.9	+0.1
	1.4nm,0.8s,baz=83,slow=4.3,SNR=4.6							

*BJI **06** 06:28:33.8, 1.56N×97.47E, h38km, mb4.7/31, mB4.9/17, Ms4.4/7, Ms7 4.1/7*
*ISCJB **06** 06:28:37.8±0.2, 1.99N±0.03×97.81E±0.03, h46km, mb4.7/88, MS3.5/18, Error ellipse: s-maj=5.1km s-min=3.8km az=141.6*
*DJA **06** 06:28:39.1±0.5, 2.1N±2.2×9.8E±.1, h11km±6km, M4.9/15, mB5.2/2, mb5.1/4, MLv4.8/15, Mw(mB)4.6/2*
*MOS **06** 06:28:40.1±0.9, 2.08N×97.94E, h69km, mb5.1/23, Error ellipse: s-maj=10.0km s-min=5.4km az=112.1*
*NEIC **06** 06:28:40.7±0.4, 2.01N×97.88E, h59km±3km, mb4.9/37, Error ellipse: s-maj=4.5km s-min=3.1km az=49.0*
*IDC **06** 06:28:41.7±2.0, 2.06N×97.95E, h67km±17km, mb4.2/28, mb1 4.3/30, mb1mx4.0/66, mbtmp4.5/30, MS3.4/16, Ms1 3.4/16, ms1mx3.2/65, Error ellipse: s-maj=18.2km s-min=10.5km az=45.0*

ISC 06 06:28:39.5±0.3, 2.01N±0.04×97.87E±0.05, h46km, n269, σ1.902/258, mb4.8/87, MS3.6/18, 20C-10D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
GSI	Gunungsitoli	0.76	203	P		Pn	06 28 54.2	+0.2
GSI				S		Sn	06 29 05.9	+1.5
GSI	Gunungsitoli	0.76	203	eP		Pn	06 28 54.4	+0.4
GSI				eS		Sn	06 29 06.3	+1.8
PSI	Prapat	1.31	53	P		Pn	06 29 02.2	+0.6
	43nm,0.3s,baz=218,slow=5.0,SNR=279							
PSI	Prapat	1.31	53	eP		Pn	06 29 02.3	+0.7
TPTI		1.42	331	P		Pn	06 29 03.5	+0.6
TPTI				S		Sn	06 29 23.3	+2.9
KCSI	Kotacane, Aceh	1.50	356	P		Pn	06 29 05.2	+1.1
KCSI				S		Sn	06 29 24.1	+1.6
TSI	Tuntungan	1.63	25	P		Pn	06 29 07.9	+2.1
MNSI	Mandailing Nat	2.09	125	P		Pn	06 29 13.7	+1.6
MLSI	Meulaboh, Aceh	2.67	327	P		Pn	06 29 22.2	+2.1
LHMI	Lhok Sumawe	3.33	344	P		Pn	06 29 31.5	+2.4
LHMI	Lhok Sumawe	3.33	344	ePn		Pn	06 29 31.4	+2.4
SISI	Saibi	3.53	160	P		Pn	06 29 34.8	+2.9
BKNI	Bangkinang	3.58	118	P		Pn	06 29 35.4	+2.8
BKNI	Bangkinang	3.58	118	ePn		Pn	06 29 38.2	+5.6
PDSI	Padang	3.89	138	P		Pn	06 29 39.2	+2.3
IPM	Ipoh	3.99	52	ePn		Pn	06 29 40.4	+2.2
KULM	Kulm	4.28	40	ePn		Pn	06 29 43.6	+1.5
BSI	Banda Aceh	4.31	324	P		Pn	06 29 42.9	+0.3
SKLT	Songkhla	5.81	28	P		Pn	06 30 03.7	+0.5
	213nm,1.0s,2µm0.7nm							
MYKOM	Kota Tinggi	5.98	92	ePn		Pn	06 30 06.2	+0.6
TRTT	Trang	6.06	17	P		Pn	06 30 06.7	0.0
	26nm,0.7s,532nm0.1nm							
MASI	Maura Aman, Be	6.73	140	P		Pn	06 30 19.6	+3.7
SURT	Suratani	6.96	8	P		Pn	06 30 18.6	-0.4
	23nm,0.8s,0.1nm							
MNAI	Manna	8.12	141	ePn		Pn	06 30 36.0	+1.1
MDSI	Maura Dua	9.02	136	P		Pn	06 30 48.3	+1.0
LEM	Lembang	13.11	132	LR		LR	06 36 17.4	
	comp=Z,264nm,21.6s,baz=182,slow=35							
SBUM	Sibu	14.35	88	ePn		Pn	06 32 02.2	+2.1
PBKT	Sadao Pong	14.79	12	P		P	06 32 08.9	-2.0
	36nm,0.8s,989nm							
PHIT	Phitsanulok	15.29	9	P		P	06 32 16.4	-0.1
	25nm,0.9s							
SKNT	Sakolnakorn	16.04	22	P		P	06 32 24.4	-0.4
	6.6nm,0.9s							
CM01	Chiang Mai Arr	16.34	4	ePn		Pn	06 32 26.1	+0.2
CM31	Chiang Mai Arr	16.38	4	ePn		Pn	06 32 26.4	0.0
CMAR	Chiang Mai Arr	16.38	4	P		Pn	06 32 26.5	+0.2
	1.0nm,0.3s,baz=197,slow=12,SNR=26							
CMAR				LR		LR	06 38 02.6	
	comp=Z,145nm,20.8s,baz=194,slow=34							
CMMT	Chiang Mai	16.73	4	P		Pn	06 32 30.1	-0.7
	19nm,0.9s							
CHTO	Chiang Mai	16.73	4	P		Pn	06 32 31.2	+0.4
	74nm,0.9s							
CHTO	Chiang Mai	16.73	4	ePn		Pn	06 32 30.8	0.0
	9.9nm,0.7s							
CHTO	Chiang Mai	16.73	4	eP		Pn	06 32 30.8	0.0
	comp=Z,10.0nm,0.7s							
CMAI	Chiengmai2	17.85	4	P		P	06 32 45.7	+0.7
	comp=Z,94nm,0.8s,comp=Z,7µm							
PALK	Pallekele	17.89	288	P		P	06 32 46.6	+1.3
	comp=Z,0.3nm,0.3s,baz=295,slow=19,SNR=1.9							
KKM	Kota Kinabalu	18.73	77	eP		Pn	06 32 56.2	+0.7
	comp=Z,22nm,1.0s							
KMI	Kunming	23.45	11	P		P	06 33 45.9	+0.7
KMI				pmax		pmax		
	comp=Z,17nm,1.4s							
SHL	Shillong	24.12	347	eP		P	06 33 48.0	-3.4
HYB	Hyderabad	24.38	310	i P		P	06 33 56.0	+2.3
RAMN	Ramite	27.05	337	eP		P	06 34 18.4	+0.4
	comp=Z,19nm,0.6s							
H08S2	Diego Garcia H	27.07	249	T		T	07 01 53.4	
	baz=70,slow=75,SNR=620							
H08S3	Diego Garcia H	27.07	249	T		T	07 01 51.1	
	baz=70,slow=75,SNR=200							
H08S1	Diego Garcia H	27.09	249	T		T	07 01 45.6	
	baz=70,slow=75,SNR=582							
JIRN	Jiri	27.85	337	eP		P	06 34 25.2	-0.1
	comp=Z,37nm,0.8s							
DAV	Davao City (W)	28.07	79	LR		LR	06 48 47.2	
	comp=Z,58nm,19.1s,baz=153,slow=43							
H08N1	Diego Garcia H	28.07	253	T		T	07 03 47.3	
	baz=123,slow=78,SNR=13							
H08N2	Diego Garcia H	28.08	253	T		T	07 03 44.5	
	baz=123,slow=78,SNR=12							
H08N3	Diego Garcia H	28.09	253	T		T	07 03 39.3	
	baz=123,slow=78,SNR=14							
GUN	Gumba	28.19	337	eP		P	06 34 28.3	0.0
	comp=Z,50nm,0.7s							
DMN	Daman	28.23	336	eP		P	06 34 28.8	+0.2
	comp=Z,17nm,0.7s							
KKN	Kakani	28.32	336	eP		P	06 34 29.6	+0.3
KOLN	Koldanda	29.02	333	eP		P	06 34 35.8	+0.2
	comp=Z,38nm,0.7s							
CD2	Chengdu	29.28	10	eP		P	06 34 39.0	+1.4
CD2				pP		sP	06 34 53.2	-2.0
CD2				S		S	06 39 30.0	+2.4
CD2				pmax		pmax		
	comp=Z,10.0nm,0.5s							
CD2				pmax		pmax		
	comp=Z,120nm,5.0s							
CD2				LR		LR		
	comp=Z,220nm,11.7s							
CD2				LR		LR		
	comp=Z,310nm,14.5s							
PYUN	Piuthan	29.58	333	eP		P	06 34 40.6	+0.1
	comp=Z,25nm,0.7s							
XAN	Xi'an	33.50	17	P		P	06 35 12.9	-1.8
XAN				pmax		pmax		
	comp=Z,11nm,1.0s							
XAN				pmax		pmax		
	comp=Z,97nm,5.8s							
LZH	Lanzhou	34.35	9	eP		P	06 35 27.3	+5.1
LZH				pP		pP	06 35 36.2	+1.7
LZH				sP		sP	06 35 40.0	0.0
LZH				pmax		pmax		
	comp=Z,29nm,1.1s							
NJ2	Nanjing	35.83	31	eP		P	06 35 37.0	+2.2
NJ2				pmax		pmax		
	comp=Z,21nm,0.5s							
GTA	Gaotai	37.27	2	⇑P		P	06 35 47.1	0.0
GTA				pP		pP	06 35 57.0	-2.5
GTA				sP		sP	06 36 00.9	-4.0
GTA				pmax		pmax		
	comp=Z,11nm,1.0s							
NIL	Nilore	39.00	326	eP		P	06 36 01.0	-0.7
	comp=Z,62nm,0.7s							
NIL	Nilore	39.00	326	eP		P	06 36 01.0	-0.7
NIL				pmax		pmax		
	comp=Z,63nm,0.7s							
HHC	Hu-ho-hao-te	40.60	16	eP		P	06 36 16.8	+1.9
HHC				S		S	06 42 22.1	+0.7
HHC				pmax		pmax		
	comp=Z,15nm,0.9s							
HHC				pmax		pmax		
	comp=Z,110nm,5.7s							
WRA	Warramunga Arr	41.91	123	P		P	06 36 24.8	-1.1
	comp=Z,4.6nm,0.7s,baz=302,slow=9.1,SNR=52							
WRA				PcP		PcP	06 38 20.7	-0.3
	comp=Z,1.5nm,0.5s,baz=315,slow=2.6,SNR=8.9							
WB2	Warramunga Arr	41.91	123	eP		P	06 36 24.9	-1.0
	comp=Z,7.4nm,0.8s							
KSH	Kashi	42.32	335	eP		P	06 36 27.8	-1.3
WMQ	Urumqi	42.60	349	P		P	06 36 32.1	+0.8
WMQ				pP		sP	06 36 46.9	-2.3
WMQ				pmax		pmax		
	comp=Z,30nm,1.1s							
WMQ				pmax		pmax		
	comp=Z,340nm,4.5s							
WMQ				LR		LR		
	comp=Z,150nm,22.7s							
WMQ				LR		LR		
	comp=Z,340nm,24.1s							
WMQ				LR		LR		
	comp=Z,99nm,25.5s							
AS31	Alice Springs	43.36	128	eP		P	06 36 36.6	-1.1
	comp=Z,1.0nm,0.6s							
ASAR	Alice Springs	43.36	128	P		P	06 36 36.5	-1.2
	comp=Z,1.2nm,0.5s,baz=298,slow=7.6,SNR=19							
ASAR				PcP		PcP	06 38 26.1	+0.3
	comp=Z,1.7nm,0.7s,baz=298,slow=2.7,SNR=9.7							
FORT	Forrest	43.47	141	eP		P	06 36 39.1	+0.7
	comp=Z,318nm,0.7s							
WSAR	Wadi Sarin	43.48	302	P		P	06 36 40.8	+2.2
	comp=Z,2.0nm,0.7s,baz=110,slow=12,SNR=2.7							
JNU	Nakatsue	43.76	41	LR		LR	06 56 07.7	
	comp=Z,38nm,18.7s,baz=295,slow=38							
SFK	Sufi-Kurgan	43.82	333	P		P	06 36 42.1	+0.7
PDGK	Podgornoye	44.28	341	P		P	06 36 45.2	+0.3
ULHL	Ulahol	44.51	337	P		P	06 36 47.5	+0.6
	SNR=5.9							
KSAR	Wonju Array Be	44.77	34	P		P	06 36 47.9	-0.8
KSAR	Wonju Array Be	44.77	34	P		P	06 36 47.9	-0.8
KSRS	Korea Array	44.80	34	P		P	06 36 47.9	-1.1
	comp=Z,3.3nm,0.7s,baz=222,slow=8.5,SNR=6.6							
KSRS				LR		LR	06 55 56.7	
	comp=Z,45nm,18.2s,baz=221,slow=37							
UCH	Uchtor	45.19	335	P		P	06 36 53.4	+0.9
	SNR=11							
TKM2	Tokmak 2	45.33	337	P		P	06 36 54.2	+0.8
	SNR=10							
KBK	Karagaybulak	45.37	336	P		P	06 36 54.7	+1.1
	SNR=7.9							
AML	Almayashu	45.45	335	P		P	06 36 55.1	+0.6
	SNR=9.2							
AAK	Ala-Archa	45.53	336	eP		P	06 36 56.0	+1.1
	comp=Z,12nm,1.5s							
AAK	Ala-Archa	45.53	336	deP		P	06 36 55.8	+0.9
AAK				pmax		pmax		
	comp=Z,4.0nm,1.1s							
EKS2	Erkin-Say	45.85	335	P		P	06 36 58.3	+0.9
	SNR=8.0							
USP	Ospenovka	46.06	336	P		P	06 36 59.7	+0.8
	SNR=6.0							
SONM	Songino Array	46.24	8	P		P	06 37 00.0	-0.3
	comp=Z,8.3nm,0.8s,baz=188,slow=9.5,SNR=40							
SONM				PcP		PcP	06 38 34.2	-1.2
	comp=Z,1.7nm,0.3s,baz=206,slow=4.3,SNR=19							
SONA1	Songino Array	46.25	8	eP		P	06 37 00.3	-0.1
MNAS	Manas	46.26	334	P		P	06 37 01.2	+0.6
ULN	Ulaanbaatar	46.36	9	eP		P	06 37 01.0	-0.4
	comp=Z,6.3nm,1.0s							
ULN	Ulaanbaatar	46.36	9	ceP		P	06 37 00.6	-0.7
ULN				pmax		pmax		
	comp=Z,5.0nm,0.8s							
MK01	Makanchi Array	46.60	345	eP		P	06 37 02.7	-0.4
MK31	Makanchi Array	46.63	345	eP		P	06 37 03.1	-0.2
MK31	Makanchi Array	46.63	345	eP		P	06 37 03.1	-0.2
MKAR	Makanchi Array	46.63	345	P		P	06 37 03.5	+0.2
	comp=Z,20nm,0.7s,baz=157,slow=8.2,SNR=224							
MKAR				LR		LR	06 58 44.2	
	comp=Z,27nm,20.4s,baz=134,slow=39							
MKAR	Makanchi Array	46.63	345	eP		P	06 37 03.1	-0.2
	comp=Z,142nm,0.9s							
MKAR	Makanchi Array	46.63	345	P		P	06 37 03.1	-0.2
MAKZ	Makanchi	46.72	345	eP		P	06 37 03.1	-0.9
	comp=Z,17nm,0.6s							
MAKZ	Makanchi	46.72	345	eP		P	06 37 03.1	-0.9
MAKZ				pmax		pmax		
	comp=Z,17nm,0.6s							
KK06	Karatay Array	47.62	333	eP		P	06 37 11.0	-0.1
KK07	Karatay Array	47.63	333	eP		P	06 37 11.3	+0.2

KK02	Karatay Array	47.64	333	eP	P	06 37 11.2	+0.1
KK31	Karatay Array	47.64	333	eP	P	06 37 11.7	+0.5
KK31	Karatay Array	47.64	333	eP	P	06 37 11.7	+0.5
KKAR	Karatay Array	47.64	333	eP	P	06 37 11.2	0.0
KKAR	Karatay Array	47.64	333	eP	P	06 37 11.2	0.0
KK01	Karatay Array	47.64	333	eP	P	06 37 11.3	+0.1
KK03	Karatay Array	47.64	333	eP	P	06 37 11.2	0.0
KK05	Karatay Array	47.64	333	eP	P	06 37 12.1	+0.8
KK04	Karatay Array	47.64	333	eP	P	06 37 11.2	0.0
KK08	Karatay Array	47.65	333	eP	P	06 37 11.4	+0.1
ZAK	Zakamensk	48.41	5	eP	P	06 37 15.1	-2.1
ZAK				e		06 39 14.9	
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.0s						
ZAK				pmax	pmax		
	comp=Z,2.0nm,0.9s						
KNGR	Kungurtug, Tuv	48.42	360	eP	P	06 37 16.9	-0.3
TLY	Talaya	49.73	5	eP	P	06 37 27.5	+0.4
	comp=Z,6.1nm,0.8s						
TLY	Talaya	49.73	5	eP	P	06 37 27.4	+0.3
TLY				pmax	pmax		
	comp=Z,6.0nm,0.8s						
TLY				MLR	MLR		
	comp=Z,121nm,20.0s						
MJAR	Matsushiro Arr	50.64	42	LR	LR	07 01 59.1	
	comp=Z,22nm,18.4s,baz=170,slow=40						
GYB1	ALIBECK ARRAY	51.02	319	eP	P	06 37 37.2	+0.1
	comp=Z,9.9nm,0.6s						
GYA1	ALIBECK ARRAY	51.02	319	eP	P	06 37 37.7	+0.5
	comp=Z,11nm,0.6s						
GYB2	ALIBECK ARRAY	51.03	319	eP	P	06 37 37.1	-0.1
	comp=Z,7.4nm,0.6s						
GEYT	Alibeck	51.03	319	P	P	06 37 37.3	+0.1
	comp=Z,4.9nm,0.5s,baz=152,slow=9.6,SNR=8.5						
GYA0	ALIBECK ARRAY	51.03	319	eP	P	06 37 37.5	+0.3
	comp=Z,10.0nm,0.4s						
GYA0B	ALIBECK ARRAY	51.03	319	eP	P	06 37 37.5	+0.3
	comp=Z,10nm,0.4s						
GYB5	ALIBECK ARRAY	51.03	319	eP	P	06 37 37.5	+0.3
	comp=Z,8.8nm,0.6s						
GYA2	ALIBECK ARRAY	51.03	319	eP	P	06 37 37.4	+0.2
	comp=Z,11nm,0.7s						
GYB3	ALIBECK ARRAY	51.04	319	eP	P	06 37 37.9	+0.6
	comp=Z,7.5nm,0.5s						
KURBB	Kurchatov Arra	51.13	344	P	P	06 37 37.7	0.0
	comp=Z,10nm,0.5s,baz=164,slow=6.8,SNR=70						
KURK	Kurchatov	51.19	344	eP	P	06 37 38.1	-0.1
	comp=Z,16nm,0.9s						
KURK	Kurchatov	51.19	344c	iP	P	06 37 37.9	-0.2
KURK				pmax	pmax		
	comp=Z,76nm,1.2s						
USRK	Ussuriysk Ar.	51.73	31	P	P	06 37 41.9	-0.4
	comp=Z,1.0nm,0.5s,baz=180,slow=3.3,SNR=3.9						
USRK				LR	LR	07 02 51.0	
	comp=Z,65nm,18.4s,baz=216,slow=40						
CTA	Charters Tower	52.27	117	P	P	06 37 46.5	-0.3
	comp=Z,2.7nm,0.7s,baz=311,slow=11,SNR=3.6						
ZAA0	Zalesovo Array	52.87	350	eP	P	06 37 50.2	-0.3
	comp=Z,15nm,0.5s						
ZALV	Zalesovo Beam	52.87	350	P	P	06 37 50.2	-0.3
	comp=Z,18nm,0.4s,baz=176,slow=6.8,SNR=51						
ZALV	Zalesovo Beam	52.87	350	eP	P	06 37 50.1	-0.5
ZALV	Zalesovo Beam	52.87	350	eP	P	06 37 50.1	-0.5
STKA	Stephens Creek	53.41	133	P	P	06 37 54.8	-0.2
	comp=Z,2.9nm,0.7s,baz=294,slow=7.6,SNR=5.2						
STKA				LR	LR	07 04 28.6	
	comp=Z,67nm,18.4s,baz=56,slow=40						
NVS	Novosibirsk	54.00	350	eP	P	06 37 57.8	-1.0
NVS				e		06 38 12.3	
NVS				pmax	pmax		
	comp=Z,4.0nm,0.5s						
NVS				pmax	pmax		
	comp=N,3.0nm,0.5s						
NVS				pmax	pmax		
	comp=E,3.0nm,0.5s						
RAYN	Ar Rayn	54.97	297	eP	P	06 38 06.2	-0.4
	comp=E,3.9nm,0.8s						
RAYN	Ar Rayn	54.97	297	eP	P	06 38 06.2	-0.4
RAYN				pmax	pmax		
	comp=Z,4.0nm,0.8s						
KLR	Kul'dur	55.23	26d	eP	P	06 38 07.7	-0.2
BVAR	Borovoye Array	55.71	340	P	P	06 38 10.8	-0.5
	comp=Z,16nm,0.7s,baz=141,slow=9.6,SNR=86						
BRVK	Borovoye	55.77	340	eP	P	06 38 11.1	-0.6
	comp=Z,15nm,0.8s						
BRVK	Borovoye	55.77	340c	iP	P	06 38 10.8	-0.9
BRVK				pmax	pmax		
	comp=Z,36nm,0.7s						
BOD	Bodaibo	57.10	10	eP	P	06 38 19.7	-1.3
BOD				pmax	pmax		
	comp=Z,8.0nm,0.7s						
AB07	Akbulak array	57.10	331	eP	P	06 38 20.7	-0.5
AB06	Akbulak array	57.11	331	eP	P	06 38 20.7	-0.6
AB08	Akbulak array	57.12	331	eP	P	06 38 20.7	-0.7
AB03	Akbulak array	57.12	331	eP	P	06 38 20.6	-0.7
AB01	Akbulak array	57.12	331	eP	P	06 38 20.8	-0.6
AB31	Akbulak array	57.12	331	eP	P	06 38 20.8	-0.6
AB31	Akbulak array	57.12	331	eP	P	06 38 20.8	-0.6
ABKAR	Akbulak array	57.12	331	eP	P	06 38 20.8	-0.6
	comp=Z,67nm,0.8s						
AB02	Akbulak array	57.12	331	eP	P	06 38 20.8	-0.6
AB04	Akbulak array	57.13	331	eP	P	06 38 20.7	-0.7
AB05	Akbulak array	57.13	331	eP	P	06 38 20.7	-0.7
AB09	Akbulak array	57.14	331	eP	P	06 38 21.0	-0.5
AKTO	Aktyubinsk	58.84	331	P	P	06 38 32.2	-1.2
	comp=Z,2.6nm,0.6s,baz=126,slow=7.6,SNR=8.3						
AKTO				LR	LR	07 06 57.3	
	comp=Z,33nm,18.3s,baz=149,slow=39						
YSS	Yuzh-Sakhalins	59.30	34	eP	P	06 38 36.7	0.0
YSS				pmax	pmax		
	comp=Z,10.0nm,0.9s						
GNI	Garni	61.18	316	LR	LR	07 07 44.7	
	comp=Z,16nm,18.3s,baz=126,slow=38						
GNI	Garni	61.18	316⇑	eP	P	06 38 50.4	+0.5
GNI				pmax	pmax		
	comp=Z,17nm,0.8s						
TBLG	Delisi	61.84	317	eP	P	06 38 54.1	0.0
	comp=Z,14nm,1.0s						
TBLG	Delisi	61.84	317	eP	P	06 38 54.1	0.0
TBLG				pmax	pmax		
	comp=Z,14nm,1.0s						
NKL	Nikolayevsk	62.00	28	eP	P	06 38 54.7	-0.2
NKL				pmax	pmax		
	comp=Z,21nm,0.9s						
SVE	Sverdlovsk	62.19	338	eP	P	06 38 55.7	-0.4
SVE				pmax	pmax		
	comp=Z,20nm,1.0s						
AKH	Akhalkalaki	62.56	316	eP	P	06 38 59.6	+0.5
	comp=Z,4.7nm,0.6s						
AKH	Akhalkalaki	62.56	316	eP	P	06 38 59.7	+0.5
AKH				pmax	pmax		
	comp=Z,5.0nm,0.6s						
ZEI	Tsey	62.85	318	eP	P	06 39 00.1	-1.0
ZEI				pmax	pmax		
	comp=Z,8.0nm,0.6s						
NEY	Neytrino	63.83	318⇑	eP	P	06 39 07.7	+0.2
NEY				pmax	pmax		
	comp=Z,1.0nm,0.7s						
KBZ	Khabaz	63.91	319	P	P	06 39 07.6	-0.1
	comp=Z,8.9nm,0.8s,baz=119,slow=4.7,SNR=30						
KIV	Kislovodsk	64.14	319	eP	P	06 39 09.2	-0.3
	comp=Z,15nm,0.5s						
KIV	Kislovodsk	64.14	319	eP	P	06 39 09.0	-0.4
KIV				pmax	pmax		
	comp=Z,13nm,1.0s						
YAK	Yakutsk	64.46	16	iP	P	06 39 09.7	-1.3
YAK				pmax	pmax		
	comp=Z,26nm,0.9s						
MMAI	Mount Meron Ar	65.98	305	P	P	06 39 22.1	+0.5
	comp=Z,0.9nm,0.3s,baz=105,slow=9.5,SNR=5.8						
VRH	Novokhopyorsk	67.83	326	eP	P	06 39 31.0	-1.8
VRH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
BR131	Keskin Array S	69.07	312	eP	P	06 39 40.1	-0.9
BRTR	Keskin Array B	69.07	312	P	P	06 39 40.2	-0.8
	comp=Z,2.0nm,0.7s,baz=125,slow=7.0,SNR=13						
VSR	Storozhevoye	69.29	325	eP	P	06 39 40.1	-1.9
VSR				pmax	pmax		
	comp=Z,10.0nm,0.7s						
BR231	Keskin MP Arra	69.74	312	eP	P	06 39 40.9	-4.3
MA2	Magadan	70.31	26	eP	P	06 39 47.4	-0.7
PETK	Petropavlovsk-	70.69	34	P	P	06 39 50.6	+0.1
	comp=Z,2.9nm,0.7s,baz=267,slow=4.3,SNR=3.5						
DZM	Mont Dzumac	71.00	114	eP	P	06 39 53.0	-0.1
	comp=Z,5.0nm,1.0s						
PET	Petropavlovsk	71.19	34	eP	P	06 39 53.6	+0.2
	comp=Z,60nm,1.4s						
PET	Petropavlovsk	71.19	34	eP	P	06 39 53.7	+0.2
PET				pmax	pmax		
	comp=Z,60nm,1.4s						
TIXI	Tiksi	72.28	10	eP	P	06 39 58.6	-1.1
	comp=Z,6.7nm,0.6s						
TIXI	Tiksi	72.28	10c	eP	P	06 39 58.3	-1.4
TIXI				pmax	pmax		
	comp=Z,5.0nm,0.8s						
OBN	Obninsk	72.28	328⇓	eP	P	06 39 59.7	-0.4
OBN				e*SP	pP	06 40 14.0	+0.6
OBN				e		06 40 17.9	
OBN				PPP	PPP	06 44 26.0	
OBN				SS	SS	06 53 54.0	-4.3
OBN				pmax	pmax		
	comp=Z,5.0nm,0.4s						
OBN				MLR	MLR		
	comp=Z,23nm,13.0s						
SEY	Seymchan	72.76	23⇓	eP	P	06 40 02.7	0.0
KLMR	Klimovskoe	73.31	334	eP	P	06 40 01.3	-4.8
KLMR				AMP		06 40 05.1	
	comp=Z,12nm,1.5s						
KLMR	Klimovskoe	73.31	334	eP	P	06 40 01.2	-4.8
KLMR				pmax	pmax		
	comp=Z,12nm,1.5s						
MAW	Mawson	73.65	193	LR	LR	07 05 01.4	
	comp=Z,58nm,21.2s,baz=34,slow=30						
SORM	Soroca	74.92	319⇓	iP	P	06 40 14.7	-1.0
SORM	Soroca	74.92	319	⇓P	P	06 40 14.7	-1.0
AKASG	Malin Array Be	75.03	322	P	P	06 40 15.2	-1.1
	comp=Z,4.5nm,0.6s,baz=87,slow=4.9,SNR=17						
AKBB	Malin Array Si	75.03	322	eP	P	06 40 15.3	-0.9
	comp=Z,5.4nm,0.6s						
AKBB	Malin Array Si	75.03	322	eP	P	06 40 15.4	-0.9
AKBB				pmax	pmax		
	comp=Z,5.0nm,0.6s						
AK11	Malin Array Si	75.06	322	eP	P	06 40 15.3	-1.1
VRI	Vrincioaia	75.48	317⇑	iP	P	06 40 19.1	0.0
VRI	Vrincioaia	75.48	317	⇑P	P	06 40 19.1	0.0
TESR	Tescani	75.67	318⇓	iP	P	06 40 19.6	-0.5
BOSA	Boshof	75.76	240	P	P	06 40 21.7	+0.5
	comp=Z,2.6nm,1.0s,baz=90,slow=7.1,SNR=2.7						
BOSA				LR	LR	07 06 46.4	
	comp=Z,42nm,18.8s,baz=32,slow=30						
MLR	Muntele Rosu	75.94	316	P	P	06 40 22.0	+0.2
	comp=Z,0.7nm,0.8s,baz=283,slow=3.5,SNR=4.0						
MLR				LR	LR	07 19 03.2	
	comp=Z,6.4nm,20.4s,baz=30,slow=40						
VOIR		76.55	316⇓	iP	P	06 40 24.0	-1.2
VOIR		76.55	316	⇓P	P	06 40 24.1	-1.2
BURAR	Bucovina Array	76.86	318⇑	iP	P	06 40 27.6	+0.6
BURAR	Bucovina Array	76.86	318	⇑P	P	06 40 27.6	+0.6
BUR04	Bucovina Ar. S	76.87	318	eP	P	06 40 27.5	+0.5
BUR08	Bucovina Ar. S	76.88	318	eP	P	06 40 27.6	+0.5
VTS	Vitosha	77.36	313⇑	iP	P	06 40 29.3	-0.7
VTS	Vitosha	77.36	313	⇑P	P	06 40 29.3	-0.7
HERR	Herculane	78.29	315⇑	iP	P	06 40 34.6	-0.2
LVZ	Lovozero	78.31	340	eP	P	06 40 34.0	-0.5
	comp=Z,28nm,1.2s						
LVZ	Lovozero	78.31	340	eP	P	06 40 34.0	-0.5
LVZ				pmax	pmax		
	comp=Z,29nm,1.2s						
DRGR		78.39	317⇑	iP	P	06 40 35.7	+0.2
DRGR		78.39	317	⇑P	P	06 40 35.7	+0.2
CRVS	Cervenica-Dubn	79.56	319	eP	P	06 40 43.0	+1.2
CRVS	Cervenica-Dubn	79.56	319	eP	P	06 40 43.0	+1.2
FIA1	FINESS Array S	79.59	332	eP	P	06 40 41.2	-0.4
	comp=Z,18nm,1.5s						
FINES	FINESS Array B	79.59	332	P	P	06 40 41.1	-0.5
	comp=Z,4.4nm,0.6s,baz=106,slow=5.8,SNR=27						
STHS	Stebnicka Huta	79.78	320	eP	P	06 40 43.9	+0.9
STHS	Stebnicka Huta	79.78	320	eP	P	06 40 43.9	+0.9
STHS				pmax	pmax		
	comp=Z,2.0nm,0.9s						
BILL	Bilibino	80.17	21	iP	P	06 40 46.1	+1.5
BILL				pmax	pmax		
	comp=Z,2.0nm,1.5s						
PDG	Podgorica	80.24	313⇑	iP	P	06 40 44.6	-0.9
TTG	Podgorica	80.24	313	eP	P	06 40 45.1	-0.4
	comp=Z,8.8nm,0.9s						
TTG	Podgorica	80.24	313	eP	P	06 40 45.1	-0.4
TTG				pmax	pmax		
	comp=Z,9.0nm,0.9s						
PSZ	Piszkesteto	80.45	318⇑	iP	P	06 40 46.4	-0.3
PSZ	Piszkesteto	80.45	318	⇑P	P	06 40 46.4	-0.3
SYO	Syowa Base	80.98	198⇓	eP	P	06 40 48.4	-0.5
ARCES	ARCESS Array B	82.00	340	P	P	06 40 54.1	-0.2
	comp=Z,3.2nm,0.7s,baz=99,slow=4.7,SNR=28						
ARE0	ARCESS Array S	82.00	340	eP	P	06 40 54.5	+0.1
	comp=Z,32nm,1.3s						
BKZ	Black Stump Fm	82.45	130	eP	P	06 40 57.5	+0.1
	comp=Z,33nm,1.4s						
DPC	Dobruska-Polom	83.06	320	eP	P	06 41 00.8	+0.5
DPC	Dobruska-Polom	83.06	320	eP	P	06 41 00.8	+0.5
UPC	Upice	83.27	320	eP	P	06 41 00.4	-0.9
UPC	Upice	83.27	320	eP	P	06 41 00.4	-0.9
GEA0	GERESS Array S	84.65	319	eP	P	06 41 08.5	0.0
GERES	GERESS Array B	84.65	319	P	P	06 41 08.2	-0.4
	comp=Z,0.7nm,0.5s,baz=110,slow=6.1,SNR=9.2						
KHC	Kasperske Hory	84.75	319	eP	P	06 41 09.8	+0.8
KHC	Kasperske Hory	84.75	319	eP	P	06 41 09.8	+0.8
HFS	Hagfors	85.36	330	P	P	06 41 11.5	-0.2
	comp=Z,3.8nm,0.8s,baz=114,slow=3.7,SNR=12						
SPITS	Spitsbergen Ar	86.30	348	P	P	06 41 15.1	-0.9
	comp=Z,9.7nm,0.9s,baz=57,slow=6.1,SNR=6.6						
NC405	NORSAR Array S	86.39	331	eP	P	06 41 15.7	-1.1
NC602	NORSAR Array S	86.46	331	eP	P	06 41 16.8	-0.3
VNDA	Vanda	86.48	169	LR	LR	07 12 44.2	
	comp=Z,27nm,20.7s,baz=300,slow=30						
NC303	NORSAR Array S	86.56	331	eP	P	06 41 17.4	-0.2
NB201	NORSAR Array S	86.59	331	eP	P	06 41 17.6	-0.2
NB2	NORSAR Subarra	86.63	331	P	P	06 41 16.8	-1.2
	comp=Z,5.5nm,0.8s,baz=95,slow=4.8						
NOA	NORSAR Array B	86.63	331	P	P	06 41 17.6	-0.4
	comp=Z,4.5nm,0.8s,baz=92,slow=4.8,SNR=12						
NOA				LR	LR	07 23 26.9	
	comp=Z,23nm,18.3s,baz=100,slow=38						
NBO02	NORSAR Array S	86.80	331	eP	P	06 41 19.5	+0.6
NC204	NORSAR Array S	86.85	331	eP	P	06 41 19.3	+0.2
GAMB	Gambell	88.40	26	eP	P	06 41 26.5	+0.2
	comp=Z,4.0nm,1.2s						
EKA	Eskdalemuir Ar	94.62	326	P	P	06 41 54.9	-0.5
	comp=Z,1.0nm,0.6s,baz=97,slow=4.3,SNR=5.2						
EKA	Eskdalemuir Ar	94.62	326	P	P	06 41 55.0	-0.5
TORD	Torodi Ar. Bea	95.56	283	P	P	06 42 00.6	-0.1
	comp=Z,0.1nm,0.5s,baz=78,slow=35,SNR=2.2						
IM3	Indian Mountai	95.58	23	eP	P	06 41 59.4	-0.2
TOLK	Toolik Lake Re	96.20	20	eP	P	06 42 02.7	+0.2
	comp=Z,1.9nm,1.2s						
BPAW	Bear Paw Mtn.	97.30	24	eP	Pdif	06 42 07.7	+0.1
	comp=Z,2.5nm,1.2s						
NVAR	Mina Array Bea	127.74	36	PKP	PKPdf	06 47 40.8	0.0
	comp=Z,0.5nm,0.7s,baz=242,slow=3.2,SNR=5.9						
ANMO	Albuquerque	136.74	30⇑	iPKIKP	PKPdf	06 47 59.3	+1.5
ANMO				pmax	pmax		
	comp=Z,3.0nm,2.5s						
TX31	Lajitas Ar. Si	142.63	32	ePKPpre	PKPpre	06 48 04.5	
TXAR	Lajitas Array	142.63	32	PKP	PKPdf	06 48 04.9	-3.6
	comp=Z,0.3nm,0.6s,baz=255,slow=1.8,SNR=5.2						
GOGA	Godfrey	144.74	2	ePKPdf	PKPbc	06 48 11.1	+0.2
GOGA	Godfrey	144.74	2	ePKIKP	PKPbc	06 48 11.1	+0.2
LRAL	Lakeview Retre	144.84	7	ePKPdf	PKPab	06 48 10.3	-0.8
CPUP	Villa Florida	146.05	222	PKPbc	PKPbc	06 48 14.9	-0.4
	comp=Z,1.4nm,0.7s,baz=70,slow=2.0,SNR=5.1						
CPUP	Villa Florida	146.05	222	ePKPdf	PKPbc	06 48 15.3	0.0
CPUP	Villa Florida	146.05	222	ePKP2	PKPbc	06 48 15.3	0.0
LNIG	Linares	148.40	31	ePKPbc	PKPbc	06 48 21.3	-0.6
AOPR	Arecibo Observ	154.73	324	ePKPbc	PKPbc	06 48 36.5	-0.2

*ISCJB **06** 06:35:15.8±0.7, 18°.4N±0°.1×145°.8E±0°.2, h150km, mb3.5/11, Error ellipse: s-maj=25.2km s-min=16.4km az=9.5*

*IDC **06** 06:35:18.7±0.9, 18°.35N×145°.80E, h161km±7km, mb3.3/11, mb1 3.5/11, mb1mx3.3/65, mbtmp3.8/11, Error ellipse: s-maj=22.5km s-min=14.0km az=98.0*

ISC 06 06:35:17.8±0.8**, 18°.3N**±0°.2×**145°.7E**±0°.2**, h150km, n18, σ1°.14**/15**, mb3.5**/11**, Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H11S3	WAKE ISLAND Hy	19.92	86	T	T	07 00 28.0	
	baz=274,slow=74,SNR=6.3						
H11S1	WAKE ISLAND Hy	19.93	86	T	T	07 00 34.5	
	baz=274,slow=74,SNR=5.2						
H11S2	WAKE ISLAND Hy	19.94	86	T	T	07 00 33.2	
	baz=274,slow=74,SNR=4.0						
H11N1	WAKE ISLAND Hy	20.09	83	T	T	07 01 01.4	
	baz=266						
H11N2	WAKE ISLAND Hy	20.09	83	T	T	07 00 52.3	
	baz=266						
H11N3	WAKE ISLAND Hy	20.10	83	T	T	07 00 54.0	
	baz=266						
WRA	Warramunga Arr	39.63	197	P	P	06 42 35.0	0.0
	0.8nm,0.5s,baz=19,slow=8.8,SNR=19						
ASAR	Alice Springs	43.29	196	P	P	06 43 04.7	-0.1
	0.4nm,0.5s,baz=15,slow=12,SNR=13						
SONM	Songino Array	43.44	322	P	P	06 43 06.1	+0.3
	0.2nm,0.4s,baz=106,slow=9.2,SNR=4.2						
MKAR	Makanchi Array	58.72	314	P	P	06 45 00.2	+0.4
	0.3nm,0.5s,baz=96,slow=6.5,SNR=4.7						
KURBB	Kurchatov Arra	61.60	318	P	P	06 45 19.1	-0.1
	0.9nm,0.3s,baz=92,slow=7.2,SNR=4.3						
ILAR	Eielson Array	63.98	26	P	P	06 45 33.0	-1.8
	0.3nm,0.7s,baz=252,slow=5.9,SNR=4.3						
ILAR				pP	pP	06 46 12.0	+1.4
	0.7nm,1.0s,baz=282,slow=4.5,SNR=3.6						
BVAR	Borovoye Array	66.76	321	P	P	06 45 52.6	-0.3
	1.1nm,0.5s,baz=98,slow=7.7,SNR=8.0						
INK	Inuvik	69.72	23	P	P	06 46 10.2	-0.8
	0.7nm,0.8s,baz=304,slow=7.6,SNR=3.9						
YKA	Yellowknife Ar	78.32	28	P	P	06 47 00.0	-1.0
	0.4nm,0.6s,baz=288,slow=5.4,SNR=10						
YKA				pP	pP	06 47 39.8	+1.7
	0.3nm,0.7s,baz=295,slow=5.4,SNR=4.3						
RES	Resolute Bay	79.79	14	P	P	06 47 08.7	-0.1
	0.7nm,0.6s,baz=323,slow=5.1,SNR=3.5						
NVAR	Mina Array Bea	83.37	52	P	P	06 47 28.4	-0.3
	0.1nm,0.3s,baz=264,slow=8.0,SNR=3.7						
NVAR				pP	pP	06 48 08.5	+2.3
	0.3nm,0.4s,baz=300,slow=3.6,SNR=2.1						
LPAZ	La Paz	147.66	92	PKPbc	PKPbc	06 54 45.7	-0.6
	0.6nm,0.4s,baz=325,slow=1.0,SNR=5.9						

IDC 06 06:35:50.8±6.0**, 22°.50S×175°.99W, h0km, mb3.8**/3**, mb1 4.0**/3**, mb1mx3.5**/47**, mbtmp3.8**/3**, Error ellipse: s-maj=242.9km s-min=58.1km az=150.0, Tonga Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	35.20	267	P	P	06 42 47.5	+0.5
	1.9nm,0.6s,baz=98,slow=7.1,SNR=3.8						
ASAR	Alice Springs	45.92	258	P	P	06 44 15.8	+0.2
	0.8nm,0.9s,baz=93,slow=9.2,SNR=6.6						
WRA	Warramunga Arr	46.21	263	P	P	06 44 17.0	-0.9
	1.0nm,0.7s,baz=102,slow=8.6,SNR=8.8						
AKASG	Malin Array Be	145.66	331	PKPbc	PKPdf	06 55 30.3	-0.7
	0.1nm,0.3s,baz=38,slow=4.0,SNR=4.1						

*ISCJB **06** 06:42:54.3±0.2, 51°.48N±0°.01×16°.13E±0°.02, h0km, mb4.0/19, Error ellipse: s-maj=1.6km s-min=1.5km az=168.5*

*LDG **06** 06:42:54.5±0.1, 51°.58N×16°.20E, h1km, Ml3.9/15, Error ellipse: s-maj=3.7km s-min=1.9km az=14.0, Suspected Mining induced.*

*BJI **06** 06:42:54.4, 51°.56N×15°.92E, h9km, mb4.7/6, mB4.8/2*

*IPEC **06** 06:42:55.3±0.3, 51°.57N×16°.22E, h0km, ML3.5/3, Error ellipse: s-maj=3.3km s-min=1.7km az=67.0*

*MOS **06** 06:42:55.7±0.9, 51°.54N×16°.12E, h11km, mb4.2/4, Error ellipse: s-maj=7.3km s-min=3.8km az=88.1*

*CSEM **06** 06:42:55.8±0.1, 51°.52N×16°.13E, h0km, mb4.1/6, ML4.0/16, Ms3.9, Error ellipse: s-maj=2.1km s-min=1.9km az=163.0*

*IDC **06** 06:42:56.8±0.5, 51°.52N×16°.03E, h0km, mb3.8/10, mb1 3.9/16, mb1mx3.7/69, mbtmp3.8/16, ML3.5/6, Error ellipse: s-maj=9.0km s-min=5.5km az=103.0*

*NEIC **06** 06:42:56.7±0.3, 51°.52N×16°.19E, h5km, mb4.4/5, Error ellipse: s-maj=5.8km s-min=4.7km az=137.0*

*BNS **06** 06:42:56.4±0.4, 51°.55N×16°.16E, h5km, ML3.5*

*BGR **06** 06:42:56.7±0.4, 51°.54N×16°.18E, h1km, ML3.9/17, Error ellipse: s-maj=4.4km s-min=2.2km az=10.0*

*VIE **06** 06:42:57.5±0.4, 51°.40N×16°.07E, h0km, mb3.3/18, ML3.5/16, Ms3.9/4, Error ellipse: s-maj=4.2km s-min=1.9km az=34.0, Suspected Mining induced.*

*PRU **06** 06:42:57.0, 51°.50N×16°.11E, h0km, M4.3*

*UPP **06** 06:42:58.2±3.0, 51°.63N×15°.59E, h0km, ML2.4*

ISC 06 06:42:55.8±0.4**, 51°.54N**±0°.02×**16°.16E**±0°.02**, h0km, n317, σ1°.74**/457**, mb4.0**/19**, 11C-19D, Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	Ksiaz	0.70	173	iPg	Pg	06 43 09.6	+0.3
KSP				eSg	Sg	06 43 18.7	+0.3
KSP				e		06 43 21.8	
KSP	Ksiaz	0.70	173	ePg	Pg	06 43 09.6	+0.3
KSP				eSg	Sg	06 43 19.3	+0.9
KSP	Ksiaz	0.70	173	P	Pg	06 43 09.6	+0.3
KSP	Ksiaz	0.70	173	Pg	Pg	06 43 09.6	+0.3
KSP				Sg	Sg	06 43 19.3	+0.9
KSP				eS	Sb	06 43 21.8	+0.6
KSP	Ksiaz	0.70	173⇓	iP	Pg	06 43 09.6	+0.3
KSP				e		06 43 21.8	
UPC	Upice	1.04	185	ePG	Pg	06 43 15.7	0.0
UPC				eSG	Sg	06 43 29.4	+0.2
UPC				AMS	AMS	06 43 30.0	
	comp=Z,700nm,5.6s						
UPC	Upice	1.04	185	Pg	Pg	06 43 15.7	0.0
UPC				Sg	Sg	06 43 29.4	+0.2
UPC	Upice	1.04	185	eP	Pg	06 43 15.7	0.0
UPC				e		06 43 29.4	
UPC				MLR	MLR		
	comp=Z,700nm,5.6s						
DPC	Dobruska-Polom	1.20	175	ePg	Pg	06 43 18.5	-0.2
DPC				eSg	Sb	06 43 35.9	+0.5
DPC	Dobruska-Polom	1.20	175	ePG	Pg	06 43 18.3	-0.4
DPC				eSG	Sg	06 43 33.4	-0.8
	comp=Z,512nm,0.8s						
DPC				AMS	AMS	06 43 40.0	
	comp=Z,1μm,4.6s						
DPC	Dobruska-Polom	1.20	175	Pg	Pg	06 43 18.5	-0.2
DPC				Sg	Sg	06 43 33.4	-0.8
	comp=Z,512nm,0.8s						
DPC	Dobruska-Polom	1.20	175	eP	Pg	06 43 18.3	-0.4
DPC				e		06 43 33.4	
DPC				smax	smax		
	comp=N,512nm,0.8s						
DPC				MLR	MLR		
	comp=Z,1μm,4.6s						
PVCC	Panska Ves	1.43	225	ePG	Pn	06 43 22.7	-0.3
PVCC				eSG	Sb	06 43 41.5	-0.5
	comp=Z,757nm,0.4s						
PVCC	Panska Ves	1.43	225	Pg	Pn	06 43 22.7	-0.3
PVCC	Panska Ves	1.43	225	eP	Pn	06 43 22.7	-0.3
PVCC				e		06 43 41.5	
PVCC				smax	smax		
	comp=N,757nm,0.4s						
KRLC	Kraliky	1.52	165	ePG	Pn	06 43 23.8	-0.5
KRLC				eSG	Sg	06 43 43.4	-1.2
	comp=N,136nm,0.8s						
KRLC	Kraliky	1.52	165	Pg	Pn	06 43 23.8	-0.5
KRLC				Sg	Sg	06 43 43.4	-1.2
	comp=N,136nm,0.8s						
KRLC	Kraliky	1.52	165	eP	Pn	06 43 23.8	-0.5
KRLC				e		06 43 43.4	
KRLC				smax	smax		
	comp=N,136nm,0.8s						
BRG	Berggiesshubel	1.55	245	PN	Pn	06 43 23.7	-0.9
BRG				PG	Pg	06 43 25.7	+0.3
BRG				SG	Sn	06 43 45.8	+0.4
	comp=N,467nm,0.5s						
BRG	Berggiesshubel	1.55	245	ePn	Pn	06 43 23.7	-0.9
BRG				eSg	Sn	06 43 45.8	+0.4
BRG	Berggiesshubel	1.55	245	Pn	Pn	06 43 23.7	-0.9
BRG				Sg	Sn	06 43 45.8	+0.4
BRG	Berggiesshubel	1.55	245	P	Pn	06 43 23.7	-0.9
BRG						06 43 45.8	
BRG				smax	smax		
	comp=N,467nm,0.5s						
GOPC	GO Pecny, Ondr	1.85	209	ePN	Pn	06 43 28.2	-0.6
GOPC				ePG	Pb	06 43 30.2	-0.3
GOPC				eSG	Sb	06 43 53.6	-0.5
GOPC				AMS	AMS	06 44 10.0	
	comp=N,800nm,3.3s						

GOPC	GO Pecny, Ondr	1.85	209	Pn	Pn	06 43 28.2	-0.6
GOPC	GO Pecny, Ondr	1.85	209	eP	Pn	06 43 28.2	-0.6
GOPC				e		06 43 53.6	
GOPC				MLR	MLR		
	comp=Z,800nm,3.3s						
GKP	Gorka Klasztor	1.85	20	ePn	Pb	06 43 30.3	-0.2
GKP				ePg	Pg	06 43 38.0	+6.7
GKP				eSg	Sg	06 43 59.4	+4.1
GKP	Gorka Klasztor	1.85	20	eP	Pb	06 43 30.3	-0.2
GKP				eSg	Sg	06 43 59.4	+4.1
GKP	Gorka Klasztor	1.85	20	eP	Pb	06 43 30.3	-0.2
GKP				e		06 43 59.4	
PRU	Pruhonice	1.86	214	ePN	Pn	06 43 28.3	-0.7
PRU				ePG	Pb	06 43 30.0	-0.7
PRU				eSG	Sb	06 43 54.8	+0.3
	comp=Z,575nm,0.5s						
PRU				AMS	AMS	06 44 10.0	
	comp=Z,900nm,3.5s						
PRU	Pruhonice	1.86	214	Pn	Pn	06 43 28.3	-0.7
PRU	Pruhonice	1.86	214	eP	Pn	06 43 28.3	-0.7
PRU				e		06 43 54.8	
PRU				smax	smax		
	comp=N,575nm,0.5s						
PRU				MLR	MLR		
	comp=Z,900nm,3.5s						
FBE	Freiberg	1.87	252	ePn	Pn	06 43 28.5	-0.5
FBE				eSg	Sg	06 43 55.5	-0.3
FBE	Freiberg	1.87	252	Pn	Pn	06 43 28.5	-0.5
FBE				Sg	Sg	06 43 55.5	-0.3
RAC	Raciborz	1.95	138	eP	Pn	06 43 29.2	-0.9
RAC	Raciborz	1.95	138	ePg	Pg	06 43 33.1	0.0
RAC				eS	Sg	06 43 59.5	+1.1
RAC	Raciborz	1.95	138	eP	Pn	06 43 29.2	-0.9
RAC				e		06 43 59.5	
MORC	Moravsky Berou	1.97	153	ePn	Pn	06 43 30.0	-0.5
MORC	Moravsky Berou	1.97	153⇓	iP	Pn	06 43 30.0	-0.5
MORC	Moravsky Berou	1.97	153	S	Sb	06 43 57.1	-0.7
MORC	Moravsky Berou	1.97	153	ePn	Pn	06 43 30.1	-0.4
MORC	Moravsky Berou	1.97	153	eP	Pn	06 43 30.1	-0.4
MORC				eSg	Sb	06 43 57.4	-0.4
	comp=Z,267nm,0.7s						
MORC	Moravsky Berou	1.97	153	eP	Pn	06 43 30.1	-0.4
CLL	Collm	1.99	264	ePn	Pn	06 43 29.8	-0.9
CLL				eSg	Sg	06 44 00.5	+0.8
CLL	Collm	1.99	264	i Pn	Pn	06 43 30.0	-0.7
	comp=Z,43nm,0.5s						
CLL				i Pg	Pb	06 43 32.9	0.0
CLL				i		06 43 36.4	
CLL				eSg	Sg	06 43 59.0	-0.7
	comp=Z,390nm,0.8s						
CLL	Collm	1.99	264	ePn	Pn	06 43 30.1	-0.6
CLL				ePg	Pg	06 43 36.7	+2.8
CLL				eSn	Sg	06 44 00.6	+0.9
CLL	Collm	1.99	264	ePn	Pn	06 43 30.1	-0.6
CLL	Collm	1.99	264	ePg	Pg	06 43 36.7	+2.8
CLL				eS	Sg	06 43 59.0	-0.7
CLL				Sg	Sg	06 44 00.5	+0.8
CLL	Collm	1.99	264	i P	Pn	06 43 30.0	-0.6
CLL				e		06 43 59.0	
CLL				pmax	pmax		
	comp=Z,43nm,0.5s						
OKC	Ostrava-Krasne	2.12	143	ePn	Pn	06 43 31.6	-1.0
OKC	Ostrava-Krasne	2.12	143	ePN	Pn	06 43 31.5	-1.0
OKC				ePG	Pb	06 43 35.9	+0.8
OKC				eSG	Sb	06 44 02.4	+0.4
	comp=Z,545nm,0.8s						
OKC	Ostrava-Krasne	2.12	143	Pn	Pn	06 43 31.6	-1.0
OKC	Ostrava-Krasne	2.12	143	eP	Pn	06 43 31.5	-1.0
OKC				e		06 44 02.4	
OKC				smax	smax		
	comp=N,545nm,0.8s						
CHZP	Chorzow	2.19	124	eP	Pg	06 43 37.4	-0.3
CHZP				eS	Sg	06 44 07.0	+1.0
VRAC	Vranov	2.25	173	Pn	Pn	06 43 34.6	+0.3
	comp=N,9.4nm,0.3s,baz=352,slow=16,SNR=24						
VRAC				Pg	Pg	06 43 39.8	+0.8
	comp=N,28nm,0.3s,baz=346,slow=15,SNR=30						
VRAC				Lg	Lg	06 44 06.4	
	comp=N,28nm,0.3s,baz=75,slow=23,SNR=11						
VRAC	Vranov	2.25	173⇓	iP	Pn	06 43 34.9	+0.6
VRAC	Vranov	2.25	173	ePn	Pn	06 43 34.1	-0.2
VRAC	Vranov	2.25	173	Pg	Pg	06 43 39.8	+0.8
VRAC				S	Sn	06 44 04.1	+1.3
VRAC				eSg	Sb	06 44 06.5	+0.7
TREC	Trest	2.29	191	ePN	Pn	06 43 35.6	+0.8
TREC				ePG	Pg	06 43 38.8	-0.9
TREC				eSG	Sb	06 44 07.7	+0.9
TREC	Trest	2.29	191	Pn	Pn	06 43 35.6	+0.8
TREC	Trest	2.29	191	eP	Pn	06 43 35.6	+0.8
TREC				e		06 44 07.7	
KRUC	Moravsky	2.49	176	ePn	Pn	06 43 37.3	-0.2
TANN	Tannenbergstha	2.59	246	ePn	Pn	06 43 39.3	+0.2
TANN				eSg	Sg	06 44 20.2	+1.1
TANN	Tannenbergstha	2.59	246	Pn	Pn	06 43 39.3	+0.2
TANN				Sg	Sg	06 44 20.2	+1.1
OJC	Ojcow	2.66	118	ePn	Pn	06 43 38.2	-1.6
OJC				ePg	Pg	06 43 46.5	-0.2
OJC				eSn	Sn	06 44 09.4	-3.3
OJC				eSg	Sg	06 44 21.4	+0.2
OJC	Ojcow	2.66	118	ePn	Pn	06 43 38.2	-1.6
OJC				eSg	Sg	06 44 21.4	+0.2
OJC	Ojcow	2.66	118	ePn	Pn	06 43 38.3	-1.6
OJC				ePg	Pg	06 43 46.7	0.0
OJC				eSn	Sg	06 44 21.6	+0.4
OJC	Ojcow	2.66	118	eP	Pn	06 43 38.3	-1.6
OJC	Ojcow	2.66	118	eP	Pn	06 43 38.3	-1.6
OJC				e		06 44 21.6	
WERD	Werda	2.67	247	ePn	Pn	06 43 39.8	-0.3
WERD				eSg	Sg	06 44 22.9	+1.4
WERD	Werda	2.67	247	Pn	Pn	06 43 39.8	-0.3
WERD				Sg	Sg	06 44 22.9	+1.4
NKC	Novy Kostel	2.69	242	ePN	Pn	06 43 40.2	-0.2
NKC				ePG	Pg	06 43 47.2	-0.1
NKC				eSG	Sg	06 44 23.6	+1.4
	comp=N,363nm,0.4s						
NKC	Novy Kostel	2.69	242	Pn	Pn	06 43 40.2	-0.2
NKC	Novy Kostel	2.69	242	eP	Pn	06 43 40.2	-0.2
KHC	Kasperske Hory	2.92	215	ePN	Pn	06 43 42.8	-0.8
KHC				ePG	Pb	06 43 49.5	+0.7
KHC				eSN	Sn	06 44 18.0	-1.4
KHC				eSG	Sg	06 44 28.0	-1.7
	comp=N,142nm,0.6s						
KHC				AMS	AMS	06 44 40.0	
	comp=N,400nm,5.3s						
KHC	Kasperske Hory	2.92	215	ePn	Pn	06 43 43.2	-0.4
KHC				ePg	Pb	06 43 49.8	+1.0
KHC				eSn	Sg	06 44 29.4	-0.3
KHC	Kasperske Hory	2.92	215	ePn	Pn	06 43 43.2	-0.4
KHC	Kasperske Hory	2.92	215	eP	Pn	06 43 42.8	-0.8
KHC				e		06 44 18.0	
KHC				smax	smax		
	comp=N,142nm,0.6s						
KHC				MLR	MLR		
	comp=Z,400nm,5.3s						
MOX	Moxa	3.00	254	ePn	Pn	06 43 44.2	-0.4
MOX				eSg	Sg	06 44 33.0	+0.8
MOX	Moxa	3.00	254	Pn	Pn	06 43 44.2	-0.4
MOX				Sg	Sg	06 44 33.0	+0.8
MANZ	Manzenberg	3.01	240	ePn	Pn	06 43 44.7	0.0
MANZ	Manzenberg	3.01	240	Pn	Pn	06 43 44.7	0.0
ROTZ	Rotzenmuhle	3.08	236	ePn	Pn	06 43 45.5	-0.2
ROTZ				eSg	Sg	06 44 33.9	-0.8
ROTZ	Rotzenmuhle	3.08	236	Pn	Pn	06 43 45.5	-0.2
ROTZ				Sg	Sg	06 44 33.9	-0.8
GEC2	GERESS Array S	3.13	211	ePn	Pn	06 43 46.0	-0.4
GEC2	GERESS Array S	3.13	211	ePn	Pn	06 43 46.3	-0.1
GEC2				ePg	Pb	06 43 53.3	+1.0
GEC2				eSn	Sb	06 44 32.5	+1.5
GEC2	GERESS Array S	3.13	211	eP	Pn	06 43 46.3	-0.1
GEC2	GERESS Array S	3.13	211	eP	Pn	06 43 46.3	-0.1
GEC2				e		06 44 32.5	
GERES	GERESS Array B	3.13	211	Pn	Pn	06 43 46.0	-0.4
	comp=Z,7.1nm,0.3s,baz=33,slow=12,SNR=183						
GERES				Pg	Pb	06 43 53.3	+1.0
	comp=Z,16nm,0.3s,baz=33,slow=17,SNR=68						
GERES				Lg	Lg	06 44 33.0	
	comp=Z,15nm,0.3s,baz=35,slow=28,SNR=4.8						
GEA0	GERESS Array S	3.13	211	ePn	Pn	06 43 46.4	-0.1
GEA0				ePg	Pb	06 43 53.5	+1.1
GEA0				eSn	Sg	06 44 34.7	-1.8
GEA0	GERESS Array S	3.13	211	ePn	Pn	06 43 46.4	-0.1
SMOL	Smolenice	3.14	164	eP	Pn	06 43 47.4	+0.9
SMOL	Smolenice	3.14	164	ePN	Pn	06 43 47.4	+0.9
SMOL				ePG	Pg	06 43 57.0	+1.1
SMOL				eSG	Sg	06 44 37.9	+1.3
SMOL	Smolenice	3.14	164	eP	Pn	06 43 47.4	+0.9
WET	Wettzell	3.19	222	ePn	Pn	06 43 46.9	-0.3
WET				eSg	Sg	06 44 37.0	-1.2
WET	Wettzell	3.19	222	Pn	Pn	06 43 46.9	-0.3
WET				Sg	Sg	06 44 37.0	-1.2
LANS	Liptovska Anna	3.20	137	eP	Pn	06 43 47.4	+0.1
LANS	Liptovska Anna	3.20	137	ePN	Pn	06 43 47.4	+0.1
LANS				ePG	Pg	06 43 55.8	-1.2
LANS				eSG	Sg	06 44 38.9	+0.4
LANS	Liptovska Anna	3.20	137	eP	Pn	06 43 47.4	+0.1
MODS	Modra-Piesok	3.25	167	eP	Pn	06 43 47.6	-0.5
MODS	Modra-Piesok	3.25	167	ePN	Pn	06 43 47.6	-0.5
MODS				ePG	Pg	06 43 57.6	-0.5
MODS				eSG	Sg	06 44 39.5	-0.7
MODS	Modra-Piesok	3.25	167	eP	Pn	06 43 47.6	-0.5
NIE	Niedzica	3.39	127	eP	Pg	06 43 59.9	-0.9
NIE				eS	Sg	06 44 44.3	-0.5
NIE	Niedzica	3.39	127	eP	Pg	06 43 59.9	-0.9
ZST	Bratislava	3.40	169	ePg	Pb	06 43 58.7	+1.7
ZST				eSg	Sg	06 44 43.0	-2.1
ZST	Bratislava	3.40	169	ePG	Pb	06 43 58.7	+1.7
ZST				eSG	Sg	06 44 43.0	-2.1
ZST	Bratislava	3.40	169	eP	Pb	06 43 58.7	+1.7
RGN	Rugen	3.46	331	ePn	Pb	06 43 57.2	-0.8
VYHS	Vyhne	3.50	149	eP	Pn	06 43 50.9	-0.6
VYHS	Vyhne	3.50	149	ePN	Pn	06 43 50.9	-0.6
VYHS				ePG	Pg	06 44 03.2	+0.2
VYHS				eSG	Sg	06 44 49.0	+0.6
VYHS	Vyhne	3.50	149	eP	Pn	06 43 50.9	-0.6
CLZ	Clausthal	3.61	277	ePn	Pn	06 43 53.7	+0.6
CLZ	Clausthal	3.61	277	Pn	Pn	06 43 53.7	+0.6
CONA	Conrad Observa	3.62	183	Pn	Pn	06 43 53.4	+0.2
	comp=Z,8.3nm,0.4s,SNR=13						
CONA	Conrad Observa	3.62	183	ePn	Pn	06 43 53.4	+0.2
	comp=Z,8.3nm,0.4s,SNR=13						
CONA				Pg	Pg	06 44 03.7	-1.5
	comp=Z,37nm,0.4s						
CONA				Sg	Sg	06 44 51.6	-0.5
	comp=Z,73nm,0.5s						
GRA1	Grafenberg Arr	3.65	241	Pn	Pn	06 43 53.7	+0.2
GRA1				Sg	Sg	06 44 51.8	-1.2
GRF	Grafenberg Arr	3.65	241	ePn	Pn	06 43 53.7	+0.2
GRF				eSg	Sg	06 44 51.8	-1.2
GRFO	Grafenberg	3.65	241	ePn	Pn	06 43 53.9	+0.4
GRFO				eSg	Sg	06 44 53.4	+0.4
GRFO	Grafenberg	3.65	241	eP	Pn	06 43 53.9	+0.4
GRFO				eSg	Sg	06 44 53.4	+0.4
GRFO	Grafenberg	3.65	241	eP	Pn	06 43 53.9	+0.4
BSD	Bornholm Skovb	3.66	349	i P	Pn	06 43 52.8	-0.8
BSD				i S	Sn	06 44 33.0	-4.3
BSD	Bornholm Skovb	3.66	349	i P	Pn	06 43 52.8	-0.8
BSD	Bornholm Skovb	3.66	349	i P	Pn	06 43 52.8	-0.8
BSD				i S	Sn	06 44 33.0	-4.3
SOP	Sopron	3.87	176	ePn	Pn	06 43 57.7	+1.2
SOP				eSb	Sb	06 44 56.1	+3.8
STHS	Stebnicka Huta	3.88	121	eP	Pn	06 43 57.0	+0.3
STHS	Stebnicka Huta	3.88	121	ePN	Pn	06 43 57.0	+0.3
STHS				ePG	Pg	06 44 10.7	+0.5
STHS				eSG	Sg	06 45 02.2	+1.8
STHS	Stebnicka Huta	3.88	121	eP	Pn	06 43 57.0	+0.3
MOA	Molln	3.90	199	Pn	Pn	06 43 56.9	0.0
	comp=Z,19nm,0.4s,SNR=21						
MOA				Sg	Sg	06 45 00.3	-0.6
	comp=Z,108nm,0.5s						
MOA	Molln	3.90	199	ePn	Pn	06 43 56.9	0.0
	comp=Z,19nm,0.4s,SNR=21						
MOA				Sg	Sg	06 45 00.3	-0.6
	comp=Z,108nm,0.5s						
KLNR	Kaliningrad	3.92	37	eP	Pn	06 43 57.9	+0.7
KLNR	Kaliningrad	3.92	37	ceP	Pn	06 43 57.9	+0.7
SRO	Srobarova	3.99	159	eP	Pn	06 44 00.6	+2.5
SRO				eSg	Sg	06 45 03.4	-0.4
SRO	Srobarova	3.99	159	ePN	Pn	06 44 00.6	+2.5
SRO				eSG	Sg	06 45 03.4	-0.4
SRO	Srobarova	3.99	159	eP	Pn	06 44 00.6	+2.5
KECS	Kecovo	4.14	136	eP	Pn	06 43 59.9	-0.4
KECS	Kecovo	4.14	136	ePN	Pn	06 43 59.9	-0.4
KECS				ePG	Pg	06 44 15.8	+0.7
KECS				eSG	Sg	06 45 08.1	-0.7
KECS	Kecovo	4.14	136	eP	Pn	06 43 59.9	-0.4
CRVS	Cervenica-Dubn	4.31	126	eP	Pn	06 44 03.3	+0.7
CRVS	Cervenica-Dubn	4.31	126	ePN	Pn	06 44 03.3	+0.7
CRVS				ePG	Pg	06 44 18.8	+0.5
CRVS				eSG	Sg	06 45 15.6	+1.4
CRVS	Cervenica-Dubn	4.31	126	eP	Pn	06 44 03.3	+0.7
ARSA	Arzberg	4.32	186	Pn	Pn	06 44 03.3	+0.6
	comp=Z,4.2nm,0.3s,SNR=5.8						
ARSA				Sg	Sg	06 45 13.8	-0.5
	comp=Z,82nm,0.8s						
ARSA	Arzberg	4.32	186	ePn	Pn	06 44 03.3	+0.6
	comp=Z,4.2nm,0.3s,SNR=5.8						
ARSA				Sg	Sg	06 45 13.8	-0.5
	comp=Z,82nm,0.8s						
PSZ	Piszkesteto	4.36	145⇓	iP	Pn	06 44 03.8	+0.4
PSZ	Piszkesteto	4.36	145⇓	ePn	Pn	06 44 04.1	+0.8
PSZ				eSn	Sg	06 45 19.1	+3.3
PSZ	Piszkesteto	4.36	145	ePn	Pn	06 44 04.2	+0.8
PSZ	Piszkesteto	4.36	145⇓	ePn	Pn	06 44 04.1	+0.8
PSZ				S	Sn	06 44 55.8	+0.9
PSZ	Piszkesteto	4.36	145	eP	Pn	06 44 04.2	+0.8
CSKK	Csˆ‡kako	4.40	161	ePP	Pn	06 44 06.8	+3.0
CSKK	Csˆ‡kako	4.40	161	ePn	Pn	06 44 06.8	+3.0
KWP	Kalwaria Pacla	4.59	112	ePn	Pn	06 44 06.3	-0.1
KWP				ePg	Pg	06 44 20.9	-2.8
KWP				eSg	Sg	06 45 31.8	+8.6
KWP	Kalwaria Pacla	4.59	112	ePn	Pn	06 44 06.1	-0.3
KWP				ePg	Pg	06 44 21.2	-2.5
KWP	Kalwaria Pacla	4.59	112	ePn	Pn	06 44 06.1	-0.3
KWP	Kalwaria Pacla	4.59	112	eP	Pn	06 44 06.3	-0.1
KWP	Kalwaria Pacla	4.59	112	eP	Pn	06 44 06.3	-0.1
KBA	Koelnbreinsper	4.83	203	Pn	Pn	06 44 10.2	+0.3
	comp=Z,19nm,0.4s,SNR=18						
KBA				Sg	Sg	06 45 29.9	-1.1
	comp=Z,133nm,0.9s						
KBA	Koelnbreinsper	4.83	203	ePn	Pn	06 44 10.2	+0.3
	comp=Z,19nm,0.4s,SNR=18						
KBA				Sg	Sg	06 45 29.9	-1.1
	comp=Z,133nm,0.9s						
BJUU	Bjuv	4.91	339	P	Pn	06 44 09.3	-1.4
BJUU				S	Sn	06 45 03.9	-4.3
BJUU	Bjuv	4.91	339	P	Pn	06 44 09.3	-1.4
UZH	Uzhgorod	4.91	124	eP	Pn	06 44 13.7	+2.9
UZH	Uzhgorod	4.91	124	eP	Pn	06 44 13.7	+2.9
UZH				eS	Sn	06 45 11.3	+3.1
SOKA	Soboth	4.92	189	Pn	Pn	06 44 11.5	+0.4
	comp=Z,0.8nm,0.2s						
SOKA				Sg	Sg	06 45 34.7	+0.8
	comp=Z,11nm,0.4s						
SOKA	Soboth	4.92	189	ePn	Pn	06 44 11.5	+0.4
	comp=Z,0.8nm,0.2s						
SOKA				Sg	Sg	06 45 34.7	+0.8
	comp=Z,11nm,0.4s						
BEHE	Becsehely	5.09	175	ePn	Pn	06 44 14.0	+0.7
BEHE	Becsehely	5.09	175	ePn	Pn	06 44 14.0	+0.7
DEL	Delary	5.12	346	P	Pn	06 44 12.7	-1.0
DEL				S	Sn	06 45 09.3	-4.0
DEL	Delary	5.12	346	P	Pn	06 44 12.6	-1.0
DEL				S	Sn	06 45 09.4	-4.0
OBKA	Obir	5.15	192	Pn	Pn	06 44 14.6	+0.4
	comp=Z,6.3nm,0.6s						
OBKA	Obir	5.15	192	ePn	Pn	06 44 14.6	+0.4
	comp=Z,6.3nm,0.6s						
OBKA				Pg	Pg	06 44 33.5	-0.9
	comp=Z,14nm,0.4s						
OBKA				Sg	Sg	06 45 41.3	+0.2
	comp=Z,15nm,0.6s						
WATA	Walderalm	5.16	217	Pn	Pn	06 44 15.0	+0.6
	comp=Z,25nm,0.5s,SNR=12						
WATA	Walderalm	5.16	217	ePn	Pn	06 44 15.0	+0.6
	comp=Z,25nm,0.5s,SNR=12						
MYKA	Terra Mystica	5.19	200	Pn	Pn	06 44 15.5	+0.8
	comp=Z,3.0nm,0.3s						
MYKA				Sg	Sg	06 45 42.2	-0.1
	comp=Z,54nm,0.8s						
MYKA	Terra Mystica	5.19	200	ePn	Pn	06 44 15.5	+0.8
	comp=Z,3.0nm,0.3s						
MYKA				Sg	Sg	06 45 42.2	-0.1
	comp=Z,54nm,0.8s						
WTTA	Wattenberg	5.20	216	Pn	Pn	06 44 15.2	+0.2
	comp=Z,7.6nm,0.4s,SNR=12						
WTTA				Sg	Sg	06 45 42.3	-0.5
	comp=Z,38nm,0.9s						
WTTA	Wattenberg	5.20	216	ePn	Pn	06 44 15.2	+0.2
	comp=Z,7.6nm,0.4s,SNR=12						
WTTA				Sg	Sg	06 45 42.3	-0.5
	comp=Z,38nm,0.9s						
STU	Stuttgart	5.26	241	ePn	Pn	06 44 15.1	-0.6
STU				ePg	Pg	06 44 36.1	-0.5
STU	Stuttgart	5.26	241	eP	Pn	06 44 15.1	-0.6
STU	Stuttgart	5.26	241	eP	Pn	06 44 15.1	-0.6
LVV	L'vov	5.29	106	eP	Pb	06 44 24.4	-4.7
LVV				MLR	MLR		
	comp=Z,30nm,1.3s						
MOTA	Moosalm	5.34	220	Pn	Pn	06 44 16.7	-0.2
	comp=Z,10nm,0.5s,SNR=11						
MOTA	Moosalm	5.34	220	ePn	Pn	06 44 16.7	-0.2
	comp=Z,10nm,0.5s,SNR=11						
TRPA	Tarpa	5.36	127	ePn	Pn	06 44 16.8	-0.1
TRPA	Tarpa	5.36	127	ePn	Pn	06 44 16.8	-0.1
ABTA	Abfaltersbach	5.36	208	Pn	Pn	06 44 17.9	+0.8
	comp=Z,3.4nm,0.2s,SNR=9.3						
ABTA				Sg	Sg	06 45 49.3	+1.4
	comp=Z,58nm,0.8s						
ABTA	Abfaltersbach	5.36	208	ePn	Pn	06 44 17.9	+0.8
	comp=Z,3.4nm,0.2s,SNR=9.3						
ABTA				Sg	Sg	06 45 49.3	+1.4
	comp=Z,58nm,0.8s						
RETA	Reutte	5.37	223	Pn	Pn	06 44 16.7	-0.5
	comp=Z,2.5nm,0.2s,SNR=5.6						
RETA	Reutte	5.37	223	ePn	Pn	06 44 16.7	-0.5
	comp=Z,2.5nm,0.2s,SNR=5.6						
VXJU	Vaexsjoe	5.44	353	P	Pn	06 44 17.8	-0.2
VXJU	Vaexsjoe	5.44	353	P	Pn	06 44 17.8	-0.2
KOE	Koeppel	5.44	261	ePn	Pn	06 44 17.0	-1.1
KOE	Koeppel	5.44	261	Pn	Pn	06 44 17.0	-1.1
HOBG	Hohbusch	5.57	268	ePn	Pn	06 44 19.1	-0.8
HOBG	Hohbusch	5.57	268	Pn	Pn	06 44 19.1	-0.8
MORH	Mˆ‡rˆ¡gy, Hung	5.58	162⇓	ePP	Pn	06 44 20.9	+0.9
MORH	Mˆ‡rˆ¡gy, Hung	5.58	162⇓	ePn	Pn	06 44 20.9	+0.9
OSKU	Oskarshamn	5.67	360	P	Pn	06 44 20.9	-0.2
OSKU	Oskarshamn	5.67	360	P	Pn	06 44 20.9	-0.2
BGG	Burgeitz	5.74	260	ePn	Pn	06 44 21.1	-1.1
BGG				eSn	Sn	06 45 25.3	-3.5
	comp=Z,20nm,0.6s						
BGG	Burgeitz	5.74	260	Pn	Pn	06 44 21.1	-1.1
FETA	Feichten	5.75	220	Pn	Pn	06 44 22.7	+0.1
	comp=Z,4.3nm,0.5s						
FETA	Feichten	5.75	220	ePn	Pn	06 44 22.7	+0.1
	comp=Z,4.3nm,0.5s						
BYXU	Byxelkrok	5.78	5	P	Pn	06 44 23.2	+0.5
BYXU	Byxelkrok	5.78	5	P	Pn	06 44 23.2	+0.5
FABU	Falkenberg	5.83	341	P	Pn	06 44 22.4	-1.0
FABU				S	Sn	06 45 26.5	-4.4
FABU	Falkenberg	5.83	341	P	Pn	06 44 22.4	-1.0
DAVA	Damuels	5.91	226	Pn	Pn	06 44 23.8	-0.9
	comp=Z,5.4nm,0.4s						
DAVA	Damuels	5.91	226	ePn	Pn	06 44 23.8	-0.9
	comp=Z,5.4nm,0.4s						
DAVA				Sg	Sg	06 46 09.3	+3.9
	comp=Z,36nm,0.7s						
STB	Steinbach	5.95	264	ePn	Pn	06 44 23.5	-1.6
STB	Steinbach	5.95	264	Pn	Pn	06 44 23.5	-1.6
BFO	Black Forest	5.99	241	ePn	Pn	06 44 24.6	-1.1
BFO				ePg	Pg	06 44 50.9	+0.3
BFO	Black Forest	5.99	241	ePn	Pn	06 44 24.6	-1.1
BFO	Black Forest	5.99	241	i P	Pn	06 44 24.9	-0.8
BFO	Black Forest	5.99	241	i P	Pn	06 44 24.9	-0.8
HILG	Hillesheim	6.12	262	ePn	Pn	06 44 26.4	-1.1
HILG	Hillesheim	6.12	262	Pn	Pn	06 44 26.4	-1.1
KLL	Kalltalsperre	6.27	266	ePn	Pn	06 44 27.8	-1.7
DRGR		6.41	135⇓	iP	Pn	06 44 31.4	0.0
DRGR		6.41	135⇓	iP	Pn	06 44 31.4	0.0
MEM	Membach	6.47	266	⇑PN	Pn	06 44 32.2	0.0
MEM				⇑SN	Sn	06 45 48.2	+1.5
	comp=E,34nm,0.0s						
MEM	Membach	6.47	266	Pn	Pn	06 44 32.1	0.0
MEM				Sn	Sn	06 45 48.1	+1.5
CDF	Champ du Feu	6.53	245	ePn	Pn	06 44 31.4	-1.7
CDF				eSg	Sg	06 46 20.5	-4.9
	comp=E,48nm,0.9s						
CDF	Champ du Feu	6.53	245	ePn	Pn	06 44 31.4	-1.7
ECH	Echery	6.70	244	ePn	Pn	06 44 35.5	+0.1
ECH	Echery	6.70	244	eP	Pn	06 44 35.5	+0.1
ECH	Echery	6.70	244	eP	Pn	06 44 35.5	+0.1
TUE	Stuetta	6.77	224	ePn	Pn	06 44 36.6	+0.1
TUE	Stuetta	6.77	224	ePn	Pn	06 44 36.6	+0.1
BZS	Buzias	6.95	146⇓	iP	Pn	06 44 39.3	+0.5
BZS	Buzias	6.95	146⇓	iP	Pn	06 44 39.3	+0.5
BCLA	Clavier	6.95	265	⇑PN	Pn	06 44 39.2	+0.4
BCLA	Clavier	6.95	265	Pn	Pn	06 44 39.1	+0.4
BUR08	Bucovina Ar. S	7.05	120	ePn	Pn	06 44 41.2	+0.9
BUR08	Bucovina Ar. S	7.05	120	ePn	Pn	06 44 41.2	+0.9
BUR04	Bucovina Ar. S	7.07	120	ePn	Pn	06 44 41.3	+0.7
BUR04	Bucovina Ar. S	7.07	120	ePn	Pn	06 44 41.3	+0.7
BURAR	Bucovina Array	7.08	120⇓	iP	Pn	06 44 40.9	+0.2
BURAR	Bucovina Array	7.08	120⇓	iP	Pn	06 44 40.9	+0.2
HINF	Hinteralfeld	7.09	242	ePn	Pn	06 44 38.4	-2.5
HINF				eSg	Sg	06 46 37.8	-5.7
	comp=E,100nm,0.9s						
HINF	Hinteralfeld	7.09	242	ePn	Pn	06 44 38.4	-2.5
HAU	Haudompre	7.27	245	eP	Pn	06 44 44.6	+1.3
HAU				eSg	Sg	06 46 43.4	-5.8
	comp=E,42nm,0.6s						
HAU	Haudompre	7.27	245	eP	Pn	06 44 44.6	+1.3
GIVF	Givet	7.33	263	eP	Pn	06 44 45.3	+1.3
GIVF				eSg	Sg	06 46 44.3	-6.6
	comp=E,3.3nm,0.3s						
GIVF	Givet	7.33	263	eP	Pn	06 44 45.3	+1.3
PAGF	Fort de Pagny	7.35	250	eSg	Sg	06 46 44.6	-7.2
	comp=E,6.5nm,0.6s						
DOU	Dourbes	7.47	263	⇑PN	Pn	06 44 46.6	+0.7
DOU				⇑SG	Sg	06 47 02.5	+7.0
	comp=N,12nm,0.0s						
DOU	Dourbes	7.47	263	Pn	Pn	06 44 46.6	+0.7
BAIF	Baives	7.72	264	ePn	Pn	06 44 46.9	-2.4
BAIF				eSg	Sg	06 46 57.3	-6.2
HERR	Herculane	7.86	146⇓	iP	Pn	06 44 51.7	+0.3
SFTF	Sexfontaines	7.92	249	eSg	Sg	06 47 04.8	-5.2
	comp=N,15nm,0.5s						
AK11	Malin Array Si	8.23	91	ePn	Pn	06 44 54.2	-2.2
AK11				eSn	Sn	06 46 26.6	-3.5
AK11	Malin Array Si	8.23	91	ePn	Pn	06 44 54.2	-2.2
CABF	La Chapelle	8.25	237	eP	Pn	06 44 58.7	+2.0
CABF				eSg	Sg	06 47 13.6	-6.9
	comp=N,53nm,1.1s						
AKASG	Malin Array Be	8.27	91	Pn	Pn	06 44 55.4	-1.4
	comp=N,4.2nm,0.3s,baz=279,slow=12,SNR=24						
AKASG				Sn	Sn	06 46 26.7	-4.2
	comp=N,2.4nm,0.3s,baz=266,slow=24,SNR=5.2						
AKASG				Lg	Lg	06 47 24.1	
	comp=N,0.4nm,0.3s,baz=271,slow=29,SNR=4.4						
AKBB	Malin Array Si	8.27	91	ePn	Pn	06 44 55.6	-1.2
AKBB				eSn	Sn	06 46 26.9	-3.9
AKBB	Malin Array Si	8.27	91	eP	Pn	06 44 55.6	-1.2
AKBB	Malin Array Si	8.27	91	eP	Pn	06 44 55.6	-1.2
AKBB				e		06 46 27.0	
VOIR		8.49	133⇓	iP	Pn	06 45 00.7	+0.7
LPL	La Plagne	8.68	230	eSg	Sg	06 47 27.2	-7.3
	comp=N,4.0nm,0.5s						
LPG	La Plagne	8.69	230	eP	Pn	06 45 04.2	+1.3
LPG				eSg	Sg	06 47 27.8	-6.8
	comp=N,42nm,1.2s						
LPG	La Plagne	8.69	230	eP	Pn	06 45 04.2	+1.3
HFS	Hagfors	8.72	352	Pn	Pn	06 45 02.4	-0.7
	comp=N,0.3nm,0.3s,baz=160,slow=14,SNR=9.4						
HFS				Sn	Sn	06 46 37.0	-5.0
	comp=N,0.2nm,0.3s,baz=187,slow=20,SNR=2.9						
BNI	Bardonecchia	9.05	228	ePn	Pn	06 45 08.6	+0.8
BNI	Bardonecchia	9.05	228	eP	Pn	06 45 08.6	+0.8
BNI	Bardonecchia	9.05	228	eP	Pn	06 45 08.6	+0.8
LOR	Lormes	9.09	247	ePn	Pn	06 45 04.1	-4.0
LOR				eSg	Sn	06 47 40.5	+49
	comp=N,17nm,0.8s						
VSU	Vasula	9.21	37	eP	Pn	06 45 10.5	+0.8
VSU	Vasula	9.21	37⇑	eP	Pn	06 45 10.5	+0.8
MBDF	Montbardon	9.26	226	ePn	Pn	06 45 08.2	-2.5
MBDF	Montbardon	9.26	226	ePn	Pn	06 45 08.2	-2.5
SSF	Saint Saulge	9.40	246	ePn	Pn	06 45 09.1	-3.3
SSF				eSg	Sn	06 47 50.2	+51
	comp=N,40nm,1.1s						
SMF	Signal de Mont	9.45	244	ePn	Pn	06 45 09.6	-3.5
SMF				eSg	Sn	06 47 51.7	+52
	comp=N,27nm,0.7s						

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ORIF	Oris-en-Rattie	9.53	230	eSg	Sn	06 47 54.0	+52
	comp=N,2.8nm,0.3s						
AVF	Avril sur Loir	9.64	245	ePn	Pn	06 45 12.3	-3.4
AVF				eSg	Sn	06 47 57.7	+53
	comp=N,38nm,1.1s						
SBF	Sospel	9.67	221	ePn	Pn	06 45 13.4	-2.8
NOA	NORSAR Array B	9.91	346	Pn	Pn	06 45 17.0	-2.3
	comp=N,0.3nm,0.3s,baz=174,slow=13,SNR=5.5						
BGF	Bois d'Agland	10.06	245	eSg	Sn	06 48 10.7	+56
	comp=N,22nm,0.8s						
FRF	La Foret Royal	10.24	222	ePn	Pn	06 45 20.9	-3.1
SMRF	Simiane la Rot	10.39	227	ePn	Pn	06 45 22.5	-3.5
FINES	FINESS Array B	11.32	25	Pn	Pn	06 45 36.3	-2.3
	comp=N,0.7nm,0.3s,baz=205,slow=11,SNR=21						
FINES				Sn	Sn	06 47 39.3	-6.4
	comp=N,0.6nm,0.3s,baz=220,slow=22,SNR=5.2						
FIA1	FINESS Array S	11.32	25	ePn	Pn	06 45 36.6	-2.1
EKA	Eskdalemuir Ar	12.12	296	Pn	Pn	06 45 45.4	-4.1
	baz=104,slow=14,SNR=6.2						
OBN	Obninsk	12.70	66⇓	eP	Pn	06 45 58.0	+0.5
OBN				S	Sn	06 48 23.0	+3.5
OBN				pmax	pmax		
	comp=Z,8.0nm,0.5s						
OBN				MLR	MLR		
	comp=Z,23nm,16.0s						
APE	Apeiranthos	15.93	152	ceP	Pn	06 46 39.4	-1.8
APE				pmax	pmax		
	comp=Z,12nm,0.9s						
ARCES	ARCESS Array B	18.59	10	Pn	P	06 47 10.9	-3.2
	comp=Z,0.6nm,0.3s,baz=188,slow=12,SNR=17						
LVZ	Lovozero	18.73	22	eP	Pn	06 47 18.2	+2.2
	comp=Z,67nm,1.5s						
LVZ	Lovozero	18.73	22⇑	eP	Pn	06 47 18.1	+2.1
LVZ				pmax	pmax		
	comp=Z,13nm,1.1s						
KEV	Kevo	18.97	12	eP	P	06 47 18.7	+0.4
	comp=Z,19nm,1.0s						
KEV	Kevo	18.97	12	eP	P	06 47 18.7	+0.4
KEV				pmax	pmax		
	comp=Z,19nm,1.0s						
AKTO	Aktyubinsk	26.12	76	P	P	06 48 31.6	+0.4
	comp=Z,2.4nm,0.7s,baz=289,slow=8.9,SNR=8.5						
AB05	Akbulak array	27.69	77	eP	P	06 48 45.9	+0.6
AB04	Akbulak array	27.69	77	eP	P	06 48 45.9	+0.6
AB07	Akbulak array	27.71	77	eP	P	06 48 46.0	+0.5
BRVK	Borovoye	32.48	66⇑	eP	P	06 49 29.2	+1.6
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.8s						
BVAR	Borovoye Array	32.55	66	P	P	06 49 29.5	+1.2
	comp=Z,1.3nm,0.6s,baz=291,slow=8.0,SNR=9.4						
KURBB	Kurchatov Arra	38.14	66	P	P	06 50 16.7	+0.4
	comp=Z,0.9nm,0.5s,baz=296,slow=9.4,SNR=3.6						
KURK	Kurchatov	38.15	66	P	P	06 50 16.7	+0.3
KURK	Kurchatov	38.15	66⇑	eP	P	06 50 16.4	0.0
KURK				pmax	pmax		
	comp=Z,4.0nm,1.5s						
AAK	Ala-Archa	39.73	79⇓	eP	P	06 50 31.3	+1.3
AAK				pmax	pmax		
	comp=Z,4.0nm,1.0s						
TORD	Torodi Ar. Bea	40.04	202	P	P	06 50 32.5	-0.1
	comp=Z,1.4nm,0.8s,baz=13,slow=8.2,SNR=8.6						
ZALV	Zalesovo Beam	40.16	59	P	P	06 50 34.4	+1.2
	comp=Z,0.3nm,0.3s,baz=316,slow=8.1,SNR=3.5						
MKAR	Makanchi Array	42.17	69	P	P	06 50 50.6	+0.6
	comp=Z,0.4nm,0.6s,baz=303,slow=6.8,SNR=5.7						
MK01	Makanchi Array	42.19	69	eP	P	06 50 50.4	+0.4
WMQ	Urumqi	47.00	70	P	P	06 51 30.0	+1.5
SCHQ	Schefferville	47.07	308	P	P	06 51 30.7	+1.9
	comp=Z,1.5nm,0.4s,baz=243,slow=16,SNR=3.8						
KNGR	Kungurtug, Tuv	48.57	57	eP	P	06 51 40.5	-0.2
TLY	Talaya	51.08	53	eP	P	06 52 00.5	+0.9
TLY				pmax	pmax		
	comp=Z,1.0nm,0.9s						
SONM	Songino Array	54.87	55	P	P	06 52 29.7	+1.8
	comp=Z,0.7nm,0.7s,baz=292,slow=7.6,SNR=3.5						
YKA	Yellowknife Ar	59.84	336	P	P	06 53 03.3	+0.8
	comp=Z,0.8nm,0.6s,baz=28,slow=6.8,SNR=26						
HHC	Hu-ho-hao-te	62.34	59	eP	P	06 53 18.6	-1.3
HHC				pmax	pmax		
	comp=Z,14nm,1.2s						
HHC				pmax	pmax		
	comp=Z,130nm,7.3s						
IM3	Indian Mountai	62.55	355	eP	P	06 53 22.1	+1.3
DAWY	Dawson	63.16	348	eP	P	06 53 26.8	+1.8
	comp=Z,4.6nm,1.4s						
RIDG	Independ'e Rid	64.10	351	eP	P	06 53 32.5	+1.3
	comp=Z,1.8nm,0.7s						
KLR	Kul'dur	65.61	40⇓	eP	P	06 53 40.8	-0.4
CN2	Changchun	67.09	48	eP	P	06 53 51.0	+0.3
MOOW	Moose Ponds	74.55	323	eP	P	06 54 38.6	+2.2
BW06	Boulder Array	74.93	322	eP	P	06 54 39.6	+0.9
	comp=Z,1.8nm,1.1s						
PDAR	Pinedale Array	74.93	322	P	P	06 54 38.5	-0.2
	comp=Z,0.4nm,0.5s,baz=46,slow=7.0,SNR=4.7						
PDAR	Pinedale Array	74.93	322	eP	P	06 54 39.6	+0.9
TXAR	Lajitas Array	83.72	310	P	P	06 55 27.7	+1.1
	comp=Z,0.2nm,0.7s,baz=69,slow=4.9,SNR=3.4						

*MOS **06** 07:57:01.2±1.6, 48.°01N×155.°05E, h12km, mb4.2/9, Error ellipse: s-maj=13.9km s-min=5.8km az=77.8*
*ISCJB **06** 07:57:04.7±0.7, 48.°12N±0.°08×155.°0E±0.°1, h33km, mb3.8/16, MS3.5/6, Error ellipse: s-maj=16.3km s-min=5.4km az=41.6*
*KRSC **06** 07:57:04.4±1.6, 48.°12N×156.°72E, h10km±38km, ML4.1*
*IDC **06** 07:57:08.9±2.8, 48.°23N×154.°87E, h52km±23km, mb3.5/15, mb1 3.7/19, mb1mx3.5/75, mbtmp3.8/19, ML3.5/3, MS3.2/6, Ms1 3.2/6, ms1mx2.8/60, Error ellipse: s-maj=23.9km s-min=16.7km az=140.0*

ISC 06 07:57:06.1±0.9**, 48.°20N**±0.°09×**155.°0E**±0.°1**, h33**km**, n55, σ1§63**/48**, mb3.7**/16**, MS3.4**/6**, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	2.59	16	eP	Pn	07 57 48.1	+2.5
SKR				eS	Sb	07 58 20.7	-2.5
SKR	Severo-Kuril's	2.59	16	ePN	Pb	07 57 50.8	-1.0
SKR				eS	Sb	07 58 23.1	-0.1
SKR				pmax	pmax		
	comp=Z,59nm,0.6s						
SKR				smax	smax		
	comp=N,336nm,0.7s						
SKR				smax	smax		
	comp=E,177nm,0.5s						
PAU	Pauzhetka	3.47	19	eP	Pn	07 57 58.8	+1.0
PAU				eS	Sn	07 58 39.9	+2.2
PAU	Pauzhetka	3.47	19	PN	Pn	07 57 58.8	+1.0
KDTR	Khodutka, Kamc	4.12	27	eS	Sn	07 58 52.0	-1.6
MIPR	Malaya Ipel'ka	4.24	15	eP	Pn	07 58 11.7	+3.4
MIPR	Malaya Ipel'ka	4.24	15	PN	Pn	07 58 11.7	+3.4
MTVR	Mutnovka	4.75	24	eP	Pn	07 58 16.2	+0.8
MTVR	Mutnovka	4.75	24	PN	Pb	07 58 16.2	+0.8
RUS	Russkaya	4.80	26	eP	Pn	07 58 15.5	-0.4
RUS				eS	Sn	07 59 09.1	-1.2
RUS	Russkaya	4.80	26	PN	Pn	07 58 15.5	-0.4
KRMR	Karymshinskiy	5.05	22	eP	Pn	07 58 21.1	+1.7
KRMR	Karymshinskiy	5.05	22	PN	Pn	07 58 21.1	+1.7
PETK	Petropavlovsk-	5.21	18	P	Pn	07 58 23.7	+2.1
	comp=E,2.6nm,0.3s,baz=170,slow=12,SNR=18						
PET	Petropavlovsk	5.36	24	ePN	Pn	07 58 25.9	+2.3
PET				pmax	pmax		
	comp=Z,17nm,0.6s						
UGLR	Uglovaya	5.57	24	eP	Pn	07 58 28.6	+1.9
UGLR	Uglovaya	5.57	24	PN	Pn	07 58 28.6	+1.9
SDLR	Sedlovina	5.65	24	eP	Pn	07 58 29.1	+1.3
SDLR	Sedlovina	5.65	24	PN	Pn	07 58 29.1	+1.3
KRX	Arik	5.66	23	eP	Pn	07 58 29.7	+1.8
KRX	Arik	5.66	23	PN	Pn	07 58 29.7	+1.8
KUR	Kuril'sk	5.74	242	ePN	Pn	07 58 29.6	+0.7
KUR				pmax	pmax		
	comp=N,29nm,0.5s						
KUR				pmax	pmax		
	comp=Z,66nm,0.5s						
KUR				pmax	pmax		
	comp=E,13nm,0.2s						
SHO	Shikotan	7.16	236	ePN	Pn	07 58 44.6	-3.7
SHO				pmax	pmax		
	comp=Z,18nm,0.3s						
SHO				pmax	pmax		
	comp=N,10.0nm,0.2s						
ASAJ	Asahikawa	9.54	249	P	Pn	07 59 23.1	+2.1
	comp=N,1.5nm,0.3s,baz=65,slow=14,SNR=5.7						
MA2	Magadan	11.67	349	P	Pn	07 59 51.7	+1.6
	comp=N,0.5nm,0.3s,baz=172,slow=19,SNR=2.8						
MA2				LR	LR	08 04 38.9	
	comp=N,73nm,19.9s,baz=64,slow=39						
SEY	Seymchan	14.85	355	P	P	08 00 36.6	-2.2
	comp=N,0.1nm,0.3s,baz=243,slow=14,SNR=3.9						
KLR	Kul'dur	15.39	283	P	P	08 00 43.1	-1.8
	comp=N,0.0nm,0.3s,baz=39,slow=14,SNR=2.1						
KSRS	Korea Array	22.48	251	P	P	08 02 02.3	-0.1
	comp=N,1.9nm,0.8s,baz=52,slow=10,SNR=4.0						
KSRS				LR	LR	08 10 31.0	
	comp=N,22nm,18.5s,baz=130,slow=36						
H11N2	WAKE ISLAND Hy	29.98	157	T	T	08 34 55.1	
	baz=345,slow=76,SNR=11						
H11N1	WAKE ISLAND Hy	30.00	157	T	T	08 34 47.0	
	baz=345,slow=76,SNR=19						
H11N3	WAKE ISLAND Hy	30.00	157	T	T	08 34 49.2	
	baz=345,slow=76,SNR=11						
H11S1	WAKE ISLAND Hy	31.10	158	T	T	08 36 14.2	
	baz=345,slow=76,SNR=119						
H11S3	WAKE ISLAND Hy	31.11	158	T	T	08 36 19.6	
	baz=345,slow=76,SNR=125						
H11S2	WAKE ISLAND Hy	31.12	158	T	T	08 36 15.5	
	baz=345,slow=76,SNR=79						
SONM	Songino Array	32.10	288	P	P	08 03 29.9	-0.2
	comp=N,0.4nm,0.8s,baz=79,slow=7.5,SNR=3.0						
TLY	Talaya	32.69	296	LR	LR	08 16 33.2	
	comp=N,42nm,18.3s,baz=84,slow=36						
ZALV	Zalesovo Beam	42.83	305	P	P	08 04 58.8	-1.8
	comp=N,0.5nm,0.4s,baz=40,slow=9.4,SNR=2.9						
MKAR	Makanchi Array	47.43	297	P	P	08 05 37.0	-0.3
	comp=N,0.9nm,0.6s,baz=66,slow=7.1,SNR=12						
MKAR	Makanchi Array	47.43	297	P	P	08 05 37.0	-0.3
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
KURK	Kurchatov	47.65	303	P	P	08 05 39.4	+0.6
KURK				pmax	pmax		
	comp=Z,3.0nm,0.6s						
KURBB	Kurchatov Arra	47.74	303	P	P	08 05 39.4	-0.1
	comp=Z,2.6nm,0.6s,baz=66,slow=8.5,SNR=9.6						
YKA	Yellowknife Ar	48.99	38	P	P	08 05 49.8	+0.9
	comp=Z,0.1nm,0.5s,baz=296,slow=7.8,SNR=3.7						
BVAR	Borovoye Array	50.94	309	P	P	08 06 03.8	-0.1
	comp=Z,0.7nm,0.4s,baz=57,slow=6.7,SNR=6.2						
AAK	Ala-Archa	54.35	296	LR	LR	08 29 14.4	
	comp=Z,399nm,21.1s,baz=56,slow=36						
HNR	Honiara	57.54	174	LR	LR	08 34 10.5	
	comp=Z,17nm,18.0s,baz=282,slow=39						
PMG	Port Moresby	57.77	189	LR	LR	08 31 12.4	
	comp=Z,50nm,18.9s,baz=126,slow=35						
FINES	FINESS Array B	63.28	335	P	P	08 07 31.4	+0.4
	comp=Z,3.6nm,1.0s,baz=46,slow=4.0,SNR=3.4						
HFS	Hagfors	67.54	340	P	P	08 07 59.1	+0.6
	comp=Z,1.2nm,0.4s,baz=29,slow=3.4,SNR=16						
WRA	Warramunga Arr	70.31	201	LR	LR	08 41 43.1	
	comp=Z,40nm,18.8s,baz=300,slow=38						
ASAR	Alice Springs	74.00	200	P	P	08 08 39.3	+1.1
	comp=Z,0.3nm,0.8s,baz=27,slow=4.4,SNR=3.4						
EKA	Eskdalemuir Ar	75.23	347	P	P	08 08 45.1	+0.1
	comp=Z,0.5nm,0.4s,baz=16,slow=5.5,SNR=3.6						
TXAR	Lajitas Array	75.66	62	P	P	08 08 48.4	+0.3
	comp=Z,0.3nm,0.6s,baz=296,slow=4.4,SNR=6.1						
MLR	Muntele Rosu	76.61	326	P	P	08 08 53.9	+0.7
	comp=Z,0.3nm,0.5s,baz=287,slow=7.5,SNR=3.3						
GERES	GERESS Array B	77.71	335	P	P	08 08 59.9	+0.6
	comp=Z,0.3nm,0.4s,baz=35,slow=4.9,SNR=4.6						
BRTR	Keskin Array B	78.21	318	P	P	08 09 03.1	+0.8
	comp=Z,0.5nm,0.4s,baz=64,slow=5.6,SNR=4.9						

*ISCJB **06** 07:59:36.7±1.1, 48.°4N±0.°2×154.°8E±0.°2, h43km, mb3.7/8, Error ellipse: s-maj=25.9km s-min=18.7km az=139.9*
*IDC **06** 07:59:40.5±4.9, 48.°48N×154.°90E, h60km±43km, mb3.4/8, mb1 3.5/9, mb1mx3.2/74, mbtmp3.6/9, ML2.6/1, Error ellipse: s-maj=28.7km s-min=23.8km az=176.0*

ISC 06 07:59:38.5±1.2**, 48.°4N**±0.°2×**154.°8E**±0.°2**, h43**km**, n9, σ1§12**/9**, mb3.6**/8**, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PETK	Petropavlovsk-	5.06	20	P	Pn	08 00 52.8	+1.1
	1.1nm,0.3s,baz=174,slow=12,SNR=6.5						
MKAR	Makanchi Array	47.23	297	P	P	08 08 06.2	-0.8
	0.4nm,0.7s,baz=66,slow=5.7,SNR=4.2						
KURBB	Kurchatov Arra	47.53	303	P	P	08 08 08.3	-0.9
	1.2nm,0.7s,baz=70,slow=8.4,SNR=5.2						
YKA	Yellowknife Ar	48.91	38	P	P	08 08 19.2	-0.4
	0.1nm,0.5s,baz=293,slow=6.8,SNR=2.4						
BVAR	Borovoye Array	50.72	309	P	P	08 08 33.0	-0.5
	0.4nm,0.4s,baz=39,slow=9.3,SNR=3.2						
FINES	FINESS Array B	63.05	335	P	P	08 10 01.2	+0.6
	5.1nm,1.1s,baz=41,slow=12,SNR=2.6						
HFS	Hagfors	67.32	340	P	P	08 10 29.0	+0.6
	5.3nm,1.1s,baz=36,slow=3.7,SNR=7.7						
ASAR	Alice Springs	74.14	200	P	P	08 11 11.5	+1.3
	0.3nm,0.8s,baz=8.9,slow=6.6,SNR=2.9						
TXAR	Lajitas Array	75.68	62	P	P	08 11 17.9	-1.5
	0.2nm,0.6s,baz=320,slow=2.7,SNR=3.8						

*NNC **06** 08:16:28.1±8.5, 50.°21N×82.°13E, h0km, mb3.1, mpv2.7, Error ellipse: s-maj=90.0km s-min=31.9km az=48.0, Suspected Mining explosion.*

IDC 06 08:16:40.0±1.4**, 49.°70N×80.°77E, h0**km**, mb1 2.7**/2**, mb1mx2.6**/75**, mbtmp2.7**/2**, ML2.2**/2**, 3C-1D, Error ellipse: s-maj=28.9km s-min=8.5km az=53.0, Eastern Kazakhstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KURBB	Kurchatov Arra	1.71	303	Pn	Pn	08 17 11.2	+0.1
	0.5nm,0.3s,baz=114,slow=17,SNR=30						
KURBB				Lg	Lg	08 17 34.4	
	0.8nm,0.3s,baz=120,slow=29,SNR=19						
KURK	Kurchatov	1.72	307	⇑P	Pn	08 17 10.9	-0.2
	6.8nm,0.5s						
KURK				⇓S	Sb	08 17 34.8	+0.3
	15nm,0.6s						
MAKZ	Makanchi	3.00	164	⇑Pg	Pn	08 17 29.8	+1.0
	0.6nm,0.3s						
MAKZ				⇑Lg	Lg	08 18 13.0	
	2.5nm,0.5s						
MK31	Makanchi Array	3.08	160	Pg	Pn	08 17 31.2	+1.4
	0.3nm,0.2s,baz=5.4,slow=16,SNR=14						
MK31				Lg	Lg	08 18 17.6	
	1.1nm,0.3s,baz=1.9,slow=27,SNR=12						
MKAR	Makanchi Array	3.08	160	Pn	Pn	08 17 31.0	+1.1
	0.3nm,0.3s,baz=338,slow=13,SNR=12						
MKAR				Sn	Sn	08 18 08.7	+1.3
	0.6nm,0.3s,baz=338,slow=24,SNR=6.6						
MKAR				Lg	Lg	08 18 16.4	
	1.0nm,0.3s,baz=358,slow=24,SNR=12						
ZALV	Zalesovo Beam	4.94	29	Pn	Pn	08 17 54.8	-0.6
	0.4nm,0.3s,baz=218,slow=13,SNR=3.9						
I31KZ	AKTYUBINSK INF	14.62	281	i		09 49 10.0	
	baz=85,slow=330,SNR=0.7						

IDC 06 08:18:31.7±8.4**, 4.°22S×153.°71E, h87**km±62km**, mb3.6**/4**, mb1 3.8**/5**, mb1mx3.3**/50**, mbtmp4.0**/5**, ML2.9**/1**, Error ellipse: s-maj=72.6km s-min=34.1km az=93.0, New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HNR	Honiara	8.07	130	S	Sn	08 21 55.0	-1.0
	15nm,0.3s,baz=353,slow=23,SNR=8.8						
PMG	Port Moresby	8.29	231	P	Pn	08 20 30.7	+1.5
	8.0nm,0.3s,baz=48,slow=8.2,SNR=20						
PMG				S	Sn	08 22 01.4	+0.1
	3.2nm,0.3s,baz=305,slow=23,SNR=6.7						
WRA	Warramunga Arr	24.50	229	P	P	08 23 43.1	-0.1
	4.5nm,0.6s,baz=54,slow=10.0,SNR=52						
ASAR	Alice Springs	27.18	223	P	P	08 24 07.0	-0.4
	0.5nm,0.6s,baz=56,slow=8.9,SNR=8.8						
STKA	Stephens Creek	29.77	201	P	P	08 24 29.8	-0.4
	4.5nm,1.1s,baz=13,slow=12,SNR=4.6						
MKAR	Makanchi Array	80.49	319	P	P	08 30 34.3	0.0
	0.3nm,0.7s,baz=102,slow=6.5,SNR=3.5						
TORD	Torodi Ar. Bea	150.98	290	PKPbc	PKPbc	08 38 15.8	+0.2
	0.4nm,0.6s,baz=59,slow=2.5,SNR=7.6						

*ISCJB **06** 08:21:14.0±0.3, 4.°44S±0.°04×153.°62E±0.°05, h85km, mb4.4/36, Error ellipse: s-maj=7.4km s-min=5.8km az=26.9*
*IDC **06** 08:21:16.3±2.5, 4.°49S×153.°68E, h97km±21km, mb4.0/13, mb1 4.2/14, mb1mx3.8/48, mbtmp4.3/14, Error ellipse: s-maj=20.0km s-min=12.0km az=108.0*
*NEIC **06** 08:21:17.8±0.7, 4.°48S×153.°60E, h107km±6km, mb4.4/24, Error ellipse: s-maj=5.9km s-min=5.6km az=80.0*

ISC 06 08:21:15.3±0.5**, 4.°46S**±0.°06×**153.°67E**±0.°07**, h85**km**, n63, σ1§13**/67**, mb4.4**/36**, New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RABL	Rabaul	1.53	280	ePn	Pn	08 21 42.9	+1.6
RABL				eSn	Sn	08 22 05.1	+4.2
HNR	Honiara	7.95	129	S	Sn	08 24 39.6	+3.1
	15nm,0.3s,baz=210,slow=20,SNR=4.2						
PMG	Port Moresby	8.12	232	P	Pn	08 23 12.0	+1.5
	21nm,0.3s,baz=48,slow=7.4,SNR=30						
PMG				S	Sn	08 24 41.2	+0.5
	10nm,0.3s,baz=137,slow=20,SNR=12						
PMG	Port Moresby	8.12	232	ePn	Pn	08 23 12.4	+1.9
PMG				eSn	Sn	08 24 42.3	+1.6
COEN	Coen	14.01	227	ePn	P	08 24 32.8	-2.5
EIDS	Eidsvold	20.94	187	eP	Pn	08 25 53.7	-1.0
	6.0nm,0.9s						
MTN	Manton Dam	23.77	248	eP	P	08 26 19.8	-0.5
	9.6nm,0.9s						
WRAB	Tennant Creek	24.31	229	eP	P	08 26 24.0	-1.1
	19nm,0.6s						
WB2	Warramunga Arr	24.31	229	eP	P	08 26 25.0	-0.2
	20nm,0.6s						
WR1	Warramunga Arr	24.32	229	eP	P	08 26 25.0	-0.2
	19nm,0.6s						
WR1				ePcP	PcP	08 30 02.1	-1.0
WR1				eS	S	08 30 38.4	-0.2
WRA	Warramunga Arr	24.32	229	P	P	08 26 25.0	-0.3
	15nm,0.5s,baz=54,slow=10.0,SNR=94						
WRA				PcP	PcP	08 30 02.1	-1.1
	0.8nm,0.7s,baz=53,slow=2.1,SNR=4.8						
WRA				S	S	08 30 38.4	-0.2
	0.8nm,1.0s,baz=57,slow=13,SNR=2.8						
ARMA	Armidale	25.89	184	eP	P	08 26 40.0	+0.6
	8.7nm,0.9s						
H11S3	WAKE ISLAND Hy	26.17	29	T	T	08 52 56.6	
	baz=209,slow=75,SNR=11						
H11S2	WAKE ISLAND Hy	26.18	29	T	T	08 52 54.6	
	baz=209,slow=75,SNR=7.6						
H11S1	WAKE ISLAND Hy	26.19	29	T	T	08 52 58.4	
	baz=209,slow=75,SNR=7.5						
AS01	Alice Springs	26.95	223	eP	P	08 26 48.3	-0.8
AS31	Alice Springs	26.99	223	eP	P	08 26 48.8	-0.5
	1.0nm,0.6s						
ASAR	Alice Springs	26.99	223	P	P	08 26 48.6	-0.8
	2.2nm,0.7s,baz=55,slow=8.5,SNR=17						
ASAR				PcP	PcP	08 30 08.6	-0.7
	0.9nm,0.7s,baz=38,slow=2.4,SNR=5.5						
STKA	Stephens Creek	29.54	201	P	P	08 27 10.7	-1.2
	4.1nm,0.6s,baz=11,slow=6.8,SNR=11						
STKA	Stephens Creek	29.54	201	eP	P	08 27 10.7	-1.2
	1.9nm,0.9s						
CAN	Canberra	31.01	187	eP	P	08 27 25.5	+0.5
	7.4nm,0.9s						
FORT	Forrest	35.60	220	eP	P	08 28 04.1	-0.8
	659nm,0.8s						
MBWA	Marble Bar	36.89	240	eP	P	08 28 15.7	-0.3
	4.9nm,0.8s						
TAU	Tasmania Unive	38.70	187	eP	P	08 28 31.9	+0.9
	18nm,1.0s						
RPZ	Rata Peaks	42.00	161	P	P	08 28 58.5	+0.4
	4.0nm,0.7s,baz=277,slow=7.0,SNR=5.6						
RPZ	Rata Peaks	42.00	161	eP	P	08 28 58.8	+0.6
	5.5nm,1.0s						
JNU	Nakatsue	43.17	332	P	P	08 29 08.1	+0.2
	8.7nm,0.8s,baz=119,slow=10,SNR=3.8						
JNU	Nakatsue	43.17	332	eP	P	08 29 08.1	+0.2
	16nm,1.1s						
KULM	Kulim	53.84	280	eP	P	08 30 29.1	-0.9
	8.9nm,0.6s						
AIN	Ainahou	55.35	63	eP	P	08 30 42.3	+1.1
	64nm,1.2s						
CMAR	Chiang Mai Arr	58.53	295	P	P	08 31 04.2	+0.8
	1.1nm,0.3s,baz=112,slow=5.9,SNR=8.2						
SONA0	Songino Array	66.51	327	eP	P	08 31 56.2	0.0
SONM	Songino Array	66.51	327	P	P	08 31 56.2	0.0
	0.9nm,0.6s,baz=137,slow=5.4,SNR=6.7						
SONA1	Songino Array	66.51	327	eP	P	08 31 56.8	+0.6
VNDA	Vanda	73.14	178	P	P	08 32 36.1	0.0
	1.9nm,0.8s,baz=323,slow=6.2,SNR=12						
CAST	Castle Rocks	78.87	22	eP	P	08 33 10.2	+1.2
	1.9nm,0.9s						
SML	Sawmill	79.46	24	eP	P	08 33 12.9	+0.7
	8.9nm,1.1s						
IM3	Indian Mountai	79.78	19	eP	P	08 33 14.6	+0.7
MLY	Manley	80.26	21	eP	P	08 33 17.0	+0.5
	1.6nm,0.7s						
MK01	Makanchi Array	80.63	319	eP	P	08 33 18.7	-0.2
MK31	Makanchi Array	80.65	319	eP	P	08 33 18.9	0.0
MK32	Makanchi Array	80.65	319	eP	P	08 33 18.9	-0.1
MKAR	Makanchi Array	80.65	319	P	P	08 33 18.9	-0.1
	3.0nm,1.0s,baz=103,slow=5.5,SNR=12						
MKAR	Makanchi Array	80.65	319	eP	P	08 33 18.9	0.0
	16nm,1.0s						
MAKZ	Makanchi	80.86	319	eP	P	08 33 19.5	-0.6
	3.4nm,0.8s						
ZAA0	Zalesovo Array	81.36	326	eP	P	08 33 22.0	-0.5
	6.3nm,0.6s						
ILAR	Eielson Array	81.52	22	P	P	08 33 22.2	-1.0
	0.9nm,0.8s,baz=239,slow=5.0,SNR=7.4						
ILB	Eielson Array	81.52	22	eP	P	08 33 22.2	-1.0
TOLK	Toolik Lake Re	82.63	18	eP	P	08 33 31.1	+2.2
KURK	Kurchatov	84.04	322	eP	P	08 33 36.4	-0.1
KURBB	Kurchatov Arra	84.07	322	P	P	08 33 36.4	-0.3
	1.0nm,0.5s,baz=106,slow=4.3,SNR=8.4						
DAWY	Dawson	84.12	24	eP	P	08 33 37.7	+1.0
	1.5nm,1.0s						
NIL	Nilore	84.51	304	eP	P	08 33 39.8	+0.5
	11nm,0.8s						
AAK	Ala-Archa	85.07	313	eP	P	08 33 42.4	+0.3
	4.6nm,0.8s						
INK	Inuvik	87.83	21	eP	P	08 33 55.2	+0.4
	1.0nm,1.0s						
BVAR	Borovoye Array	89.49	323	P	P	08 34 01.8	-1.2
	2.7nm,0.9s,baz=100,slow=4.5,SNR=11						
YKA	Yellowknife Ar	94.72	28	P	P	08 34 26.4	-0.5
	0.4nm,0.9s,baz=264,slow=4.5,SNR=5.4						
AB31	Akbulak array	95.79	319	eP	P	08 34 31.3	-0.8
ABKAR	Akbulak array	95.79	319	eP	P	08 34 31.4	-0.7
	17nm,0.5s						
P18A	Preston Nutter	97.51	51	eP	P	08 34 38.8	-1.8
	16nm,1.0s						
TOA0	Torodi Ar. Sit	151.03	289	ePKPbc	PKPbc	08 40 58.5	-1.0
TORD	Torodi Ar. Bea	151.03	289	PKPbc	PKPbc	08 40 58.3	-1.3
	4.1nm,0.7s,baz=63,slow=2.2,SNR=25						
TOA1	Torodi Ar. Sit	151.03	289	ePKPbc	PKPbc	08 40 58.3	-1.3

*ISCJB **06** 08:49:03.8±0.4, 36.°56N±0.°02×0.°84E±0.°03, h16km, Error ellipse: s-maj=3.6km s-min=3.2km az=17.9*
*CRAAG **06** 08:49:03.6, 36.°40N×0.°97E, Ml3.3*
*CSEM **06** 08:49:04.3±0.1, 36.°47N×0.°86E, h10km, ML3.0/13, Error ellipse: s-maj=4.2km s-min=3.1km az=37.0*
*MDD **06** 08:49:05.5±0.8, 36.°44N×0.°93E, h16km±15km, mb3.8/29, Error ellipse: s-maj=12.4km s-min=5.2km az=149.0, PRXIMO*

ISC 06 08:49:04.0±0.8**, 36.°49N**±0.°04×**0.°91E**±0.°03**, h16**km**, n86, σ1§63**/134**, 1D, Northern Algeria**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ECHF	Ech Chlef	0.48	133	Pg	Pg	08 49 13.1	-0.5
ECHF	Ech Chlef	0.48	133	Pg	Pg	08 49 13.1	-0.5
OKGL	Djebel Kef Gue	0.49	206	P	Pg	08 49 14.0	+0.1
OKGL	Djebel Kef Gue	0.49	206	Pg	Pg	08 49 14.0	+0.1
OKGL	Djebel Kef Gue	0.49	206	P	Pg	08 49 14.0	+0.1
ECHA	Ech Chlef	0.50	132	P	Pg	08 49 13.1	-0.9
ECHA	Ech Chlef	0.50	132	P	Pg	08 49 13.1	-0.9
EBNR	Beni Rached	0.54	111	P	Pg	08 49 14.9	+0.2
EBNR	Beni Rached	0.54	111	P	Pg	08 49 14.9	+0.2
EANR	'Ain N'Sour	0.56	164	P	Pg	08 49 15.0	-0.1
EANR	'Ain N'Sour	0.56	164	Pg	Pg	08 49 15.0	-0.1
EANR	'Ain N'Sour	0.56	164	P	Pg	08 49 15.0	-0.1
ETRT	Tiaret	1.14	164	P	Pb	08 49 26.3	+0.9
ETRT	Tiaret	1.14	164	Pg	Pb	08 49 26.3	+0.9
ETRT	Tiaret	1.14	164	P	Pb	08 49 26.3	+0.9
ODJA	Bouhanifia	1.44	217	P	Pn	08 49 15.0	-14
ODJA	Bouhanifia	1.44	217	P	Pn	08 49 15.0	-14
EMHD	Djebel Mahouad	1.68	99	P	Pb	08 49 35.8	+1.2
EMHD	Djebel Mahouad	1.68	99	Pg	Pb	08 49 35.8	+1.2
EMHD	Djebel Mahouad	1.68	99	P	Pb	08 49 35.8	+1.2

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
EMUR	La Murta	2.19	309	Pn	Pn	08 49 40.3	+0.5
	1.6nm,0.1s,SNR=12						
EMUR				Sn	Sn	08 50 05.5	-1.0
	5.2nm,0.2s,SNR=5.7						
EMUR	La Murta	2.19	309	Pn	Pn	08 49 40.3	+0.5
	1.6nm,0.1s,SNR=12						
EMUR				Sn	Sn	08 50 05.5	-1.0
	5.2nm,0.2s,SNR=5.7						
OLHC	Oulhaca	2.26	238	P	Pn	08 49 17.0	-24
OLHC	Oulhaca	2.26	238	P	Pn	08 49 17.0	-24
ENIJ	Nijar	2.55	282	Pn	Pn	08 49 45.6	+0.9
	1.9nm,0.1s,SNR=7.9						
ENIJ				Sn	Sn	08 50 14.5	-0.9
	6.1nm,0.3s,SNR=7.9						
ENIJ	Nijar	2.55	282	Pn	Pn	08 49 45.6	+0.9
	1.9nm,0.1s,SNR=7.9						
ENIJ				Sn	Sn	08 50 14.5	-0.9
	6.1nm,0.3s,SNR=7.9						
EIBI	Ibiza	2.56	8	Pn	Pn	08 49 45.8	+0.9
	3.4nm,0.2s,SNR=7.9						
EIBI				Sn	Sn	08 50 14.7	-1.0
	5.0nm,0.1s,SNR=7.9						
EIBI	Ibiza	2.56	8	Pn	Pn	08 49 45.8	+0.9
	3.4nm,0.2s,SNR=7.9						
EIBI				Sn	Sn	08 50 14.7	-1.0
	5.0nm,0.1s,SNR=7.9						
ETOB	Tobarra	2.91	319	⇓Pn	Pn	08 49 51.2	+1.5
	1.7nm,0.1s,SNR=18						
ETOB				Sn	Sn	08 50 23.9	-0.5
	3.6nm,0.1s,SNR=6.0						
ETOB	Tobarra	2.91	319	Pn	Pn	08 49 51.2	+1.5
	1.7nm,0.1s,SNR=18						
ETOB				Sn	Sn	08 50 23.9	-0.5
	3.6nm,0.1s,SNR=6.0						
EBER	Berja	3.08	279	Pn	Pn	08 49 52.1	-0.1
	2.0nm,0.2s,SNR=18						
EBER				Sn	Sn	08 50 28.2	-0.6
	3.3nm,0.2s						
EBER	Berja	3.08	279	Pn	Pn	08 49 52.1	-0.1
	2.0nm,0.2s,SNR=18						
EBER				Sn	Sn	08 50 28.2	-0.6
	3.3nm,0.2s						
SESP	Santiago Espad	3.20	302	Pn	Pn	08 49 55.4	+1.6
	2.9nm,0.1s,SNR=7.9						
SESP				Sn	Sn	08 50 31.6	-0.1
	20nm,0.1s,SNR=7.9						
SESP	Santiago Espad	3.20	302	Pn	Pn	08 49 55.4	+1.6
	2.9nm,0.1s,SNR=7.9						
SESP				Sn	Sn	08 50 31.6	-0.1
	20nm,0.1s,SNR=7.9						
EALB	Alboran	3.23	261	Sn	Sn	08 50 31.0	-1.3
	50nm,0.7s,SNR=7.9						
EALB	Alboran	3.23	261	Sn	Sn	08 50 31.0	-1.3
	50nm,0.7s,SNR=7.9						
EQES	Quesada	3.44	294	Pn	Pn	08 49 58.8	+1.7
	4.7nm,0.1s,SNR=45						
EQES				Sn	Sn	08 50 37.4	-0.2
	6.1nm,0.1s,SNR=8.2						
EQES	Quesada	3.44	294	Pn	Pn	08 49 58.8	+1.7
	4.7nm,0.1s,SNR=45						
EQES				Sn	Sn	08 50 37.4	-0.2
	6.1nm,0.1s,SNR=8.2						
EQUE	Quentar	3.56	283	Pn	Pn	08 50 00.0	+1.3
	1.2nm,0.1s,SNR=10.0						
EQUE				Sn	Sn	08 50 39.9	-0.6
	0.3nm,0.1s,SNR=5.2						
EQUE	Quentar	3.56	283	Pn	Pn	08 50 00.0	+1.3
	1.2nm,0.1s,SNR=10.0						
EQUE				Sn	Sn	08 50 39.9	-0.6
	0.3nm,0.1s,SNR=5.2						
ETOS	Mallorca	3.60	24	Pn	Pn	08 49 59.0	-0.3
	2.3nm,0.2s,SNR=10						
ETOS				Sn	Sn	08 50 40.0	-1.5
	4.8nm,0.4s						
ETOS	Mallorca	3.60	24	Pn	Pn	08 49 59.0	-0.3
	2.3nm,0.2s,SNR=10						
ETOS				Sn	Sn	08 50 40.0	-1.5
	4.8nm,0.4s						
ELGU	Los Guajares,	3.67	277	Pn	Pn	08 50 00.7	+0.6
	3.6nm,0.2s,SNR=7.9						
ELGU				Sn	Sn	08 50 42.2	-0.9
	3.9nm,0.2s,SNR=7.9						
ELGU	Los Guajares,	3.67	277	Pn	Pn	08 50 00.7	+0.6
	3.6nm,0.2s,SNR=7.9						
ELGU				Sn	Sn	08 50 42.2	-0.9
	3.9nm,0.2s,SNR=7.9						
EMOS	Mosqueruela	4.02	345	Pn	Pn	08 50 07.1	+2.0
	5.1nm,0.4s,SNR=13						
EMOS				Sn	Sn	08 50 51.3	-0.7
	4.1nm,0.4s						
EMOS	Mosqueruela	4.02	345	Pn	Pn	08 50 07.1	+2.0
	5.1nm,0.4s,SNR=13						
EMOS				Sn	Sn	08 50 51.3	-0.7
	4.1nm,0.4s						
EGOR	Sierra Gorda,	4.08	280	Pn	Pn	08 50 07.6	+1.8
	1.7nm,0.4s,SNR=7.9						
EGOR				Sn	Sn	08 50 51.6	-1.6
	0.9nm,0.3s,SNR=7.9						
EGOR	Sierra Gorda,	4.08	280	Pn	Pn	08 50 07.6	+1.8
	1.7nm,0.4s,SNR=7.9						
EGOR				Sn	Sn	08 50 51.6	-1.6
	0.9nm,0.3s,SNR=7.9						
ERTA	Horta de San J	4.49	354	Pn	Pn	08 50 13.0	+1.6
	6.5nm,0.5s,SNR=7.9						
ERTA				Sn	Sn	08 51 02.3	-0.9
	2.2nm,0.6s,SNR=7.9						
ERTA	Horta de San J	4.49	354	Pn	Pn	08 50 13.0	+1.6
	6.5nm,0.5s,SNR=7.9						
ERTA				Sn	Sn	08 51 02.3	-0.9
	2.2nm,0.6s,SNR=7.9						
EMIJ	Mijas	4.58	273	Pn	Pn	08 50 12.1	-0.5
	7.6nm,0.6s,SNR=7.9						
EMIJ				Sn	Sn	08 51 02.0	-3.4
	2.0nm,0.3s,SNR=8.2						
EMIJ	Mijas	4.58	273	Pn	Pn	08 50 12.1	-0.5
	7.6nm,0.6s,SNR=7.9						
EMIJ				Sn	Sn	08 51 02.0	-3.4
	2.0nm,0.3s,SNR=8.2						
EADA	Adamuz	4.68	293	Pn	Pn	08 50 14.9	+0.8
	4.6nm,0.5s,SNR=7.9						
EADA				Sn	Sn	08 51 06.3	-1.8
	0.7nm,0.2s,SNR=7.9						
EADA	Adamuz	4.68	293	Pn	Pn	08 50 14.9	+0.8
	4.6nm,0.5s,SNR=7.9						
EADA				Sn	Sn	08 51 06.3	-1.8
	0.7nm,0.2s,SNR=7.9						
EPOB	Poblet	4.86	2	Pn	Pn	08 50 17.8	+1.2
	1.0nm,0.3s,SNR=7.9						
EPOB				Sn	Sn	08 51 10.2	-2.3
	0.8nm,0.3s,SNR=7.9						
EPOB	Poblet	4.86	2	Pn	Pn	08 50 17.8	+1.2
	1.0nm,0.3s,SNR=7.9						
EPOB				Sn	Sn	08 51 10.2	-2.3
	0.8nm,0.3s,SNR=7.9						
ETOR	Torete	4.91	333	Pn	Pn	08 50 18.5	+1.3
	1.0nm,0.4s,SNR=7.9						
ETOR				Sn	Sn	08 51 12.0	-1.7
	3.0nm,9.4s,SNR=7.9						
ETOR	Torete	4.91	333	Pn	Pn	08 50 18.5	+1.3
	1.0nm,0.4s,SNR=7.9						
ETOR				Sn	Sn	08 51 12.0	-1.7
	3.0nm,9.4s,SNR=7.9						
ESDC	Sonseca Array	4.99	311	Pn	Pn	08 50 19.5	+1.2
	0.4nm,0.2s,baz=127,slow=13,SNR=4.5						
ESDC				Sn	Sn	08 51 13.9	-1.8
	0.5nm,0.4s,baz=122,slow=24,SNR=10.0						
ESDC	Sonseca Array	4.99	311	Pn	Pn	08 50 19.5	+1.2
	0.4nm,0.2s,SNR=4.5						
ESDC				Sn	Sn	08 51 13.9	-1.8
	0.5nm,0.4s,baz=122,slow=24,SNR=10.0						
PAB	San Pablo	5.15	308	Pn	Pn	08 50 21.8	+1.2
	2.1nm,0.4s,SNR=7.9						
PAB				Sn	Sn	08 51 17.7	-2.1
	1.2nm,0.3s,SNR=7.9						
PAB	San Pablo	5.15	308	Pn	Pn	08 50 21.8	+1.2
	2.1nm,0.4s,SNR=7.9						
PAB				Sn	Sn	08 51 17.7	-2.1
	1.2nm,0.3s,SNR=7.9						
ECAB	El Cabril	5.29	289	Pn	Pn	08 50 22.5	+0.1
	4.8nm,0.5s,SNR=8.4						
ECAB				Sn	Sn	08 51 20.7	-2.3
	1.5nm,0.4s						
ECAB	El Cabril	5.29	289	Pn	Pn	08 50 22.5	+0.1
	4.8nm,0.5s,SNR=8.4						
ECAB				Sn	Sn	08 51 20.7	-2.3
	1.5nm,0.4s						
ESAC	San Caprasio	5.34	349	Pn	Pn	08 50 24.9	+1.8
	1.1nm,0.1s,SNR=4.0						
ESAC				Sn	Sn	08 51 21.7	-2.6
	9.3nm,0.5s,SNR=7.9						
ESAC	San Caprasio	5.34	349	Pn	Pn	08 50 24.9	+1.8
	1.1nm,0.1s,SNR=4.0						
ESAC				Sn	Sn	08 51 21.7	-2.6
	9.3nm,0.5s,SNR=7.9						
CFON	Fontmartina	5.40	12	Pn	Pn	08 50 25.2	+1.2
	1.6nm,0.1s,SNR=12						
CFON				Sn	Sn	08 51 23.3	-2.6
	0.3nm,0.4s						
CFON	Fontmartina	5.40	12	Pn	Pn	08 50 25.2	+1.2
	1.6nm,0.1s,SNR=12						
CFON				Sn	Sn	08 51 23.3	-2.6
	0.3nm,0.4s						
EMIR	Miracle	5.44	5	Pn	Pn	08 50 26.1	+1.5
	1.5nm,0.1s,SNR=6.4						
EMIR				Sn	Sn	08 51 24.3	-2.6
	3.5nm,0.3s						
EMIR	Miracle	5.44	5	Pn	Pn	08 50 26.1	+1.5
	1.5nm,0.1s,SNR=6.4						
EMIR				Sn	Sn	08 51 24.3	-2.6
	3.5nm,0.3s						
GUD	Guadarrama	5.74	318	Pn	Pn	08 50 30.1	+1.4
	4.1nm,0.6s,SNR=4.0						
GUD				Sn	Sn	08 51 31.3	-3.0
	0.5nm,0.3s,SNR=7.9						
GUD	Guadarrama	5.74	318	Pn	Pn	08 50 30.1	+1.4
	4.1nm,0.6s,SNR=4.0						
GUD				Sn	Sn	08 51 31.3	-3.0
	0.5nm,0.3s,SNR=7.9						
CSOR	Sort	5.88	2	Pn	Pn	08 50 32.4	+1.8
	2.5nm,0.3s,SNR=11						
CSOR				Sn	Sn	08 51 34.4	-3.4
	4.4nm,7.0s,SNR=7.9						
CSOR	Sort	5.88	2	Pn	Pn	08 50 32.4	+1.8
	2.5nm,0.3s,SNR=11						
CSOR				Sn	Sn	08 51 34.4	-3.4
	4.4nm,7.0s,SNR=7.9						
CLLI	Llivia	6.04	8	Pn	Pn	08 50 34.5	+1.7
	2.3nm,2.7s,SNR=7.9						
CLLI	Llivia	6.04	8	Pn	Pn	08 50 34.5	+1.7
	2.3nm,2.7s,SNR=7.9						
EMIN	Mina Concepcio	6.19	284	Pn	Pn	08 50 35.9	+1.2
	1.3nm,0.2s,SNR=7.9						
EMIN	Mina Concepcio	6.19	284	Pn	Pn	08 50 35.9	+1.2
	1.3nm,0.2s,SNR=7.9						
EBAD	Badajoz	6.68	292	Pn	Pn	08 50 42.6	+1.1
	2.0nm,4.2s,SNR=7.9						
EBAD				Sn	Sn	08 51 53.9	-3.4
	3.8nm,6.3s,SNR=7.9						
EBAD	Badajoz	6.68	292	Pn	Pn	08 50 42.6	+1.1
	2.0nm,4.2s,SNR=7.9						
EBAD				Sn	Sn	08 51 53.9	-3.4
	3.8nm,6.3s,SNR=7.9						
ELAN	Lanestosa	7.52	335	Pn	Pn	08 50 55.0	+2.0
	2.2nm,0.2s,SNR=21						
ELAN	Lanestosa	7.52	335	Pn	Pn	08 50 55.0	+2.0
	2.2nm,0.2s,SNR=21						
MVO	Moncorvo	7.76	309	Sn	Sn	08 52 20.0	-3.9
	5.2nm,7.4s,SNR=7.9						
MVO	Moncorvo	7.76	309	Sn	Sn	08 52 20.0	-3.9
	5.2nm,7.4s,SNR=7.9						
ECAL	Calabor	8.05	315	Pn	Pn	08 51 02.2	+1.8
	2.6nm,0.3s,SNR=7.9						
ECAL	Calabor	8.05	315	Pn	Pn	08 51 02.2	+1.8
	2.6nm,0.3s,SNR=7.9						

*IDC **06** 08:50:51.2±0.5, 21.°32S×174.°35W, h0km, mb4.6/21, mb1 4.7/22, mb1mx4.6/46, mbtmp4.6/22, ML4.3/1, MS4.0/21, Ms1 4.0/21, ms1mx3.8/47, Error ellipse: s-maj=18.3km s-min=14.0km az=119.0*

*ISCJB **06** 08:50:55.5±0.2, 21.°29S±0.°04×174.°44W±0.°05, h33km, mb4.8/91, MS4.1/23, Error ellipse: s-maj=8.2km s-min=4.9km az=34.0*

*BJI **06** 08:50:55.4, 21.°11S×173.°98W, h35km, mb5.1/23, mB5.5/15, Ms5.1/8, Ms7 4.8/8*

*NEIC **06** 08:50:57.0±0.2, 21.°28S×174.°41W, h35km, mb5.0/57, Error ellipse: s-maj=7.8km s-min=4.1km az=125.0*

*MOS **06** 08:50:58.5±3.1, 21.°15S×174.°67W, h33km, mb5.2/16, Error ellipse: s-maj=11.7km s-min=10.6km az=42.8*

ISC 06 08:50:55.1±0.3**, 21.°18S**±0.°06×**174.°11W**±0.°06**, h26**km**, n237, σ2.°02**/236**, mb5.0**/92**, MS4.0**/23**, 20C-11D, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AFI	Afiamalu	7.56	17	Pn	Pn	08 52 41.2	-2.6
	8.3nm,0.3s,baz=139,slow=18,SNR=13						
AFI				Sn	Sn	08 54 00.9	-7.9
	19nm,0.3s,baz=168,slow=22,SNR=5.3						
AFI	Afiamalu	7.56	17	*e*Pn	Pn	08 52 41.4	-2.4
AFI				*e*Sn	Sn	08 54 02.8	-6.0
AFI	Afiamalu	7.56	17	*e*P	Pn	08 52 41.4	-2.4
MSVF	Nonsavu	8.15	294	*e*Pn	Pn	08 52 57.5	+5.6
MSVF				*e*Sn	Sn	08 54 30.1	+6.8
MSVF	Nonsavu	8.15	294	*c i*P	Pn	08 52 56.1	+4.2
RAR	Rarotonga	13.37	93	Pn	Pn	08 53 53.9	-9.4
	20nm,0.3s,baz=240,slow=6.2,SNR=38						
RAR				Sn	Sn	08 56 09.3	-22
	2.5nm,0.3s,baz=114,slow=20,SNR=6.7						
RAR				LR	LR	08 58 53.3	
	comp=Z,614nm,18.6s,baz=276,slow=36						
DZM	Mont Dzumac	18.11	264	*e*P	P	08 55 06.0	+0.8
	77nm,1.1s						
DZM				*e*LR	LR	08 59 22.2	
	276nm,21.2s						
DZM	Mont Dzumac	18.11	264	Pn	P	08 55 04.9	-0.4
	0.9nm,0.3s,baz=84,slow=16,SNR=23						
DZM	Mont Dzumac	18.11	264	*e*Pn	P	08 55 05.9	+0.7
	29nm,0.8s						
URZ	Urewera	18.63	202	P	P	08 55 07.3	-3.5
	1.1nm,0.3s,baz=53,slow=10,SNR=8.1						
URZ	Urewera	18.63	202	*e*P	P	08 55 08.4	-2.4
	28nm,1.0s						
BKZ	Black Stump Fm	19.66	202	*e*P	P	08 55 21.1	-1.0
	73nm,1.9s						
BFZ	Birch Farm	21.10	201	*e*P	P	08 55 37.4	-0.3
	96nm,1.4s						
THZ	Tophouse	23.27	205	*e*P	P	08 55 59.3	-1.4
	15nm,1.0s						
PPT2	Papeete2	23.41	85	*e*LQ	LQ	09 00 17.9	
	620nm,28.2s						
PPT2				*e*LR	LR	09 01 27.1	
	340nm,20.8s						
PPT	Papeete	23.41	85	LR	LR	09 03 41.0	
	comp=Z,505nm,18.6s,baz=268,slow=33						
TIAR	Tiarei	23.63	86	*e*P	P	08 56 00.0	-4.4
	12nm,0.9s						
TVO	Taravao	23.67	86	*e*P	P	08 56 00.0	-4.8
	13nm,0.9s						
LTZ	Lake Taylor	24.38	205	*e*P	P	08 56 10.0	-1.2
	18nm,0.8s						
OXZ	Oxford	24.93	204	*e*P	P	08 56 13.0	-3.2
	36nm,1.1s						
RPZ	Rata Peaks	25.64	205	P	P	08 56 19.7	-2.9
	11nm,0.8s,baz=338,slow=11,SNR=5.2						
RPZ				LR	LR	09 06 59.4	
	comp=Z,342nm,18.8s,baz=20,slow=38						
RPZ	Rata Peaks	25.64	205	*e*P	P	08 56 19.8	-2.9
	200nm,2.0s						
FOZ	Fox Glacier	26.01	207	*e*P	P	08 56 25.3	-0.6
	112nm,1.3s						
LBZ	Lake Benmore	26.55	206	*e*P	P	08 56 32.5	+1.7
	14nm,1.0s						
ODZ	Otahua Downs	26.92	204	*e*P	P	08 56 33.6	-0.5
	3.3nm,0.9s						
WKZ	Wanaka	27.39	207	*e*P	P	08 56 40.4	+2.0
	129nm,1.8s						
HNR	Honiara	27.56	291	LR	LR	09 07 04.4	
	comp=Z,186nm,18.4s,baz=160,slow=36						
MLZ	Mavora Lakes	28.20	207	*e*P	P	08 56 45.2	-0.5
	104nm,1.9s						
WHZ	Wether Hill Ro	28.70	207	*e*P	P	08 56 50.4	+0.4
	94nm,1.8s						
DCZ	Deep Cove	28.70	208	*e*P	P	08 56 52.3	+2.3
	57nm,1.9s						
ARMA	Armidale	32.09	246	*e*P	P	08 57 18.7	-1.6
	11nm,0.9s						
CTAO	Charters Tower	37.05	264	*e*P	P	08 58 01.9	-1.3
	16nm,1.3s						
CTAO	Charters Tower	37.05	264	*e*P	P	08 58 01.9	-1.3
CTAO				pmax	pmax		
	comp=Z,16nm,1.3s						
TAU	Tasmania Unive	38.76	227	*e*P	P	08 58 16.5	-0.9
	comp=Z,63nm,1.4s						
TAU	Tasmania Unive	38.76	227	*e*P	P	08 58 16.5	-0.9
TAU				pmax	pmax		
	comp=Z,63nm,1.4s						
PMG	Port Moresby	39.04	281	P	P	08 58 18.0	-2.1
	comp=Z,23nm,0.8s,baz=106,slow=6.7,SNR=8.0						
PMG				LR	LR	09 11 51.5	
	comp=Z,100nm,19.6s,baz=104,slow=32						
PMG	Port Moresby	39.04	281	*e*P	P	08 58 19.0	-1.1
	comp=Z,23nm,0.8s						
PMG	Port Moresby	39.04	281	*d i*P	P	08 58 18.5	-1.6
PMG				pmax	pmax		
	comp=Z,80nm,0.8s						
STKA	Stephens Creek	40.80	245	P	P	08 58 31.6	-2.8
	comp=Z,10nm,0.8s,baz=103,slow=9.1,SNR=9.4						
STKA				LR	LR	09 14 42.9	
	comp=Z,213nm,18.5s,baz=46,slow=35						
STKA	Stephens Creek	40.80	245	*e*P	P	08 58 32.1	-2.3
	comp=Z,3.6nm,1.0s						
STKA	Stephens Creek	40.80	245	*e*P	P	08 58 32.2	-2.3
STKA				pmax	pmax		
	comp=Z,4.0nm,1.0s						
COEN	Coen	41.25	273	*e*P	P	08 58 36.9	-1.6
	comp=Z,36nm,1.7s						
JAY	Jayapura	47.72	287	P	P	08 59 29.2	-1.0
AS01	Alice Springs	47.87	257	*e*P	P	08 59 28.5	-2.8
AS31	Alice Springs	47.91	257	*e*P	P	08 59 29.0	-2.6
	comp=Z,5.8nm,0.9s						
ASAR	Alice Springs	47.91	257	P	P	08 59 28.9	-2.7
	comp=Z,21nm,0.9s,baz=90,slow=8.3,SNR=144						
ASAR				S	S	09 06 23.1	-4.6
	comp=Z,2.0nm,1.0s,baz=99,slow=16,SNR=9.0						
ASAR				LR	LR	09 19 59.4	
	comp=Z,208nm,18.0s,baz=99,slow=37						
WB2	Warramunga Arr	48.10	262	*e*P	P	08 59 30.6	-2.4
	comp=Z,25nm,0.9s						
WRAB	Tennant Creek	48.10	262	*e*P	P	08 59 30.1	-3.0
	comp=Z,23nm,0.9s						
WRAB	Tennant Creek	48.10	262	*e*P	P	08 59 30.1	-3.0
WRAB				pmax	pmax		
	comp=Z,23nm,0.9s						
WRA	Warramunga Arr	48.11	262	P	P	08 59 30.2	-3.0
	comp=Z,17nm,0.9s,baz=98,slow=7.5,SNR=82						
WRA				LR	LR	09 17 42.9	
	comp=Z,59nm,20.1s,baz=100,slow=34						
FORT	Forrest	52.37	247	*e*P	P	09 00 02.6	-2.7
	comp=Z,457nm,0.9s						
GUMO	Guam	53.07	307	LR	LR	09 21 28.8	
	comp=Z,46nm,19.0s,baz=118,slow=35						
SWI	Sorong	56.94	283	P	P	09 00 37.7	-0.9
SBA	Scott Base	57.47	185	*e*P	P	09 00 44.4	+3.0
	comp=Z,26nm,1.3s						
SBA	Scott Base	57.47	185	*e*P	P	09 00 44.4	+3.0
SBA				pmax	pmax		
	comp=Z,26nm,1.3s						
VNDA	Vanda	57.59	186	P	P	09 00 43.0	+0.7
	comp=Z,2.8nm,0.9s,baz=12,slow=7.3,SNR=7.8						
VNDA				LR	LR	09 21 04.5	
	comp=Z,77nm,20.6s,baz=360,slow=32						
VNDA	Vanda	57.59	186	*e*P	P	09 00 43.6	+1.4
VNDA				*e*pP	sP	09 00 53.7	+0.2
VNDA	Vanda	57.59	186	*e*P	P	09 00 43.6	+1.4
VNDA				*e**PP	sP	09 00 53.7	+0.2
RPN	Rapa Nui	58.84	110	LR	LR	09 22 17.9	
	comp=Z,206nm,18.1s,baz=246,slow=32						
SOEI	Soe	60.15	271	P	P	09 01 05.1	+3.9
SOEI	Soe	60.15	271	*e*P	P	09 01 00.9	-0.3
	comp=Z,22nm,0.6s						
MBWA	Marble Bar	61.25	257	*e*P	P	09 01 06.3	-2.1
	comp=Z,22nm,1.3s						
SANI	Sanana	61.28	280	P	P	09 01 07.3	-1.4
MPSI	Mapaga	67.82	279	P	P	09 01 49.3	-2.1
QSPA	South Pole Qui	68.89	180	P	P	09 01 57.5	0.0
	comp=Z,5.8nm,0.9s,baz=78,slow=6.0,SNR=9.5						
MJAR	Matsushiro Arr	72.96	321	P	P	09 02 22.5	+0.1
	comp=Z,11nm,1.0s,baz=161,slow=6.1,SNR=18						
MJAR				LR	LR	09 31 15.1	
	comp=Z,40nm,20.4s,baz=160,slow=33						
MAJO	Matsushiro	72.96	321⇓	*e*P	P	09 02 22.4	0.0
MAJO				pmax	pmax		
	comp=Z,8.0nm,0.7s						
MAT	Matsushiro	72.96	321	P	P	09 02 22.8	+0.4
JOW	Kunigami	73.42	308	LR	LR	09 30 22.9	
	comp=Z,58nm,21.2s,baz=349,slow=32						
JNU	Nakatsue	75.30	315	P	P	09 02 36.2	0.0
	comp=Z,15nm,0.9s,baz=36,slow=5.1,SNR=5.0						
LEM	Lembang	76.66	268	P	P	09 02 43.5	-1.0
	comp=Z,28nm,0.7s,baz=12,slow=12,SNR=5.4						
LPIG	La Paz	76.66	57	LR	LR	09 32 07.4	
	comp=Z,241nm,19.0s,baz=202,slow=32						
KMRM	Mail Ridge	77.03	37	*e*P	P	09 02 48.2	+2.3
	comp=Z,29nm,1.1s						
KSM	Kuching	77.11	277	*e*P	P	09 02 46.1	-0.8
	comp=Z,17nm,1.0s						
YHNB	Yeheng	77.51	303	*e*P	P	09 02 47.7	-1.2
	comp=Z,60nm,1.4s						
PEA0B	Petropavlovsk-	77.92	343	*e*P	P	09 02 51.8	+1.4
	comp=Z,176nm,1.8s						
PETK	Petropavlovsk-	77.92	343	P	P	09 02 51.0	+0.6
	comp=Z,7.8nm,0.7s,baz=112,slow=8.3,SNR=8.3						
PETK				LR	LR	09 32 33.9	
	comp=Z,78nm,21.2s,baz=132,slow=32						
PETK	Petropavlovsk-	77.92	343	*e*P	P	09 02 52.0	+1.5
PETK	Petropavlovsk-	77.92	343	*e*P	P	09 02 52.0	+1.5
YSS	Yuzh-Sakhalins	78.18	331	*e*P	P	09 02 53.3	+1.3
YSS				pmax	pmax		
	comp=Z,20nm,0.6s						
WAKR	Walker	78.42	41	*e*P	P	09 02 56.2	+2.4
	comp=Z,22nm,1.6s						
YBH	Yreka Blue Hor	78.60	37	P	P	09 02 56.2	+1.5
	comp=Z,2.2nm,0.7s,baz=150,slow=5.0,SNR=11						
YBH				LR	LR	09 31 10.9	
	comp=Z,145nm,18.4s,baz=216,slow=31						
YBH	Yreka Blue Hor	78.60	37	*e*P	P	09 02 56.8	+2.1
	comp=Z,9.9nm,1.4s						
YBH	Yreka Blue Hor	78.60	37	*e*P	P	09 02 56.8	+2.1
YBH				pmax	pmax		
	comp=Z,10.0nm,1.4s						
VCNR	Virginia City	78.79	40	*e*P	P	09 02 58.0	+2.1
	comp=Z,5.6nm,1.0s						
YERR	Yerington	78.84	41	*e*P	P	09 02 58.2	+2.1
	comp=Z,6.6nm,1.1s						
HUMO	Hull Mountain	79.05	36	*e*P	P	09 02 59.1	+2.1
	comp=Z,21nm,1.5s						
NV01	Mina Array Sit	79.07	41	*e*P	P	09 02 59.4	+1.9
NVAR	Mina Array Bea	79.07	41	P	P	09 02 58.8	+1.3
	comp=Z,2.0nm,0.6s,baz=226,slow=8.0,SNR=21						
NV11	Mina Array Sit	79.16	41	*e*P	P	09 02 59.4	+1.5
	comp=Z,0.9nm,1.4s						
NV11				*e*pP	sP	09 03 12.8	+3.5
KVN	Kaiserville	79.58	41	*e*P	P	09 03 02.0	+1.8
	comp=Z,2.2nm,0.8s						
KVN	Kaiserville	79.58	41	*e*P	P	09 03 02.0	+1.8
KVN				pmax	pmax		
	comp=Z,2.0nm,0.8s						
KSRS	Korea Array	79.84	317	P	P	09 03 02.6	+1.3
	comp=Z,5.5nm,0.8s,baz=135,slow=5.8,SNR=13						
KSRS				LR	LR	09 34 35.8	
	comp=Z,43nm,18.4s,baz=181,slow=33						
KSAR	Wonju Array Be	79.86	317	P	P	09 03 02.6	+1.1
KSAR	Wonju Array Be	79.86	317	P	P	09 03 02.6	+1.1
KS01	Wonju Array Si	79.87	317	*e*P	P	09 03 03.1	+1.6
MDSI	Maura Dua	80.68	269	P	P	09 03 05.0	-1.5
	comp=Z,25nm,1.0s						
PINE	Pine Mountain	80.94	36	*e*P	P	09 03 09.6	+2.2
	comp=Z,41nm,1.8s						
MSHR	Mys Shultsa	81.03	322⇑	*e*P	P	09 03 09.3	+1.6
USRK	Ussuriysk Ar.	81.61	324	P	P	09 03 12.7	+2.0
	comp=Z,3.6nm,0.7s,baz=90,slow=4.3,SNR=4.5						
MAW	Mawson	82.13	199	LR	LR	09 39 14.1	
	comp=Z,97nm,18.0s,baz=62,slow=35						
LON	Longmire	82.43	33	*e*P	P	09 03 16.4	+1.3
	comp=Z,17nm,1.6s						
LON	Longmire	82.43	33	*e*P	P	09 03 16.4	+1.3
LON				pmax	pmax		
	comp=Z,17nm,1.6s						
MASI	Maura Aman, Be	82.96	269	P	P	09 03 17.9	-0.7
G08A	Pilot Rock	82.99	36	*e*P	P	09 03 20.2	+2.2
	comp=Z,5.7nm,0.9s						
NJ2	Nanjing	83.14	308	*e*P	P	09 03 18.2	-0.8
NJ2				pmax	pmax		
	comp=Z,19nm,0.5s						
MDJ	Mudanjiang	83.20	323	P	P	09 03 19.6	+0.6
MDJ				pP	sP	09 03 30.6	+0.2
MDJ				sP	pP	09 03 34.9	+7.5
MDJ				PP	PP	09 06 32.1	+1.2
MDJ				S	S	09 13 39.7	+2.2

MDJ sS ScS 09 13 58.6 +7.2
MDJ SS **SS** **09 19 08.2 +5.2**
MDJ pmax pmax
comp=Z,21nm,0.8s
MDJ pmax pmax
comp=Z,280nm,3.7s
MDJ LR LR
comp=Z,320nm,23.1s
MDJ LR LR
comp=Z,440nm,20.7s
MNTX Cornudas Mount 84.21 53 *e*P **P** **09 03 26.6 +2.0**
comp=Z,5.3nm,1.4s
F10A Beach Ranch, E 84.36 36 *e*P **P** **09 03 26.0 +0.9**
comp=Z,8.7nm,0.9s
TX31 Lajitas Ar. Si 84.39 56 *e*P **P** **09 03 28.0 +2.4**
TXAR Lajitas Array 84.39 56 P **P** **09 03 27.4 +1.8**
comp=Z,0.4nm,0.9s,baz=202,slow=9.5,SNR=5.4
TXAR LR LR 09 34 36.5
comp=Z,110nm,19.9s,baz=0.0,slow=31
HLID Hailey 84.51 39 *e*P **P** **09 03 27.5 +1.5**
comp=Z,3.8nm,1.0s
GAMB Gambell 84.69 1 *e*P **P** **09 03 28.2 +2.1**
comp=Z,9.6nm,0.8s
KLR Kul'dur 85.00 328 P **P** **09 03 28.9 +0.9**
comp=Z,0.2nm,0.8s,baz=99,slow=5.0,SNR=5.9
KLR Kul'dur 85.00 328⇑ *e*P **P** **09 03 29.1 +1.0**
ANMO Albuquerque 85.03 50 *e*P **P** **09 03 31.2 +2.3**
comp=Z,11nm,1.4s
ANMO Albuquerque 85.03 50⇑ *e*P **P** **09 03 31.1 +2.3**
ANMO pmax pmax
comp=Z,2.0nm,0.9s
PDSI Padang 85.41 271 P **P** **09 03 32.4 +1.4**
MA2 Magadan 85.45 343 *e*P **P** **09 03 30.9 +0.8**
CAST Castle Rocks 86.08 10 *e*P **P** **09 03 33.2 +0.1**
comp=Z,4.4nm,0.9s
PLCA Paso Flores 86.15 132 LR LR 09 33 55.9
comp=Z,91nm,19.5s,baz=275,slow=30
TRF Thorofare Moun 86.40 10 *e*P **P** **09 03 36.2 +1.3**
comp=Z,9.2nm,0.7s
SKAG Skagway 86.40 19 *e*P **P** **09 03 36.9 +2.2**
comp=Z,13nm,1.2s
MNSI Mandailing Nat 86.84 272 P **P** **09 03 37.6 -0.4**
MCK McKinley 86.89 11 *e*P **P** **09 03 38.4 +1.3**
MCK McKinley 86.89 11 *e*P **P** **09 03 38.4 +1.3**
PDAR Pinedale Array 87.00 42 P **P** **09 03 39.0 +0.5**
comp=Z,0.5nm,0.7s,baz=240,slow=2.9,SNR=5.4
PDAR Pinedale Array 87.00 42 *e*P **P** **09 03 38.8 +0.3**
VNA3 Neumayer Olymp 87.19 175 P **P** **09 03 38.2 -0.5**
SNAA Sanae 87.20 177 P **P** **09 03 39.0 +0.2**
SNAA Sanae 87.20 177 P **P** **09 03 38.4 -0.4**
comp=Z,3.4nm,1.0s,baz=141,slow=1.6,SNR=4.2
SNAA Sanae 87.20 177⇑ *i*P **P** **09 03 39.2 +0.4**
VNA2 Neumayer--Watz 87.67 176 P **P** **09 03 41.3 +0.3**
baz=195,slow=5.0
WRH Wood River Hil 87.72 11 *e*P **P** **09 03 42.9 +1.8**
comp=Z,44nm,1.6s
DOT Dot Lake 87.76 13 *e*P **P** **09 03 43.0 +1.7**
comp=Z,99nm,1.9s
MLY Manley 87.80 10 *e*P **P** **09 03 43.1 +1.6**
comp=Z,21nm,2.0s
SEY Seymchan 87.90 345 ⇓ *i*P **P** **09 03 43.3 +1.3**
CCB Clear Creek Bu 87.94 11 *e*P **P** **09 03 43.0 +0.9**
comp=Z,42nm,1.8s
COLA College 88.14 11 *e*P **P** **09 03 44.2 +1.2**
comp=Z,9.9nm,1.1s
COLA College 88.14 11 *e*P **P** **09 03 44.2 +1.2**
COLA pmax pmax
comp=Z,10.0nm,1.1s
MDM Murphy Dome 88.15 11 *e*P **P** **09 03 44.1 +0.9**
comp=Z,34nm,1.7s
MDM *e*pP **sP** **09 03 56.2 +1.5**
PSI Prapat 88.17 274 *e*P **P** **09 03 42.5 -2.1**
comp=Z,32nm,1.2s
PSI Prapat 88.17 274 *e*P **P** **09 03 42.5 -2.1**
PSI pmax pmax
comp=Z,32nm,1.2s
IL1 Eielson Array 88.22 11 *e*P **P** **09 03 44.8 +1.4**
ILAR Eielson Array 88.22 11 P **P** **09 03 44.3 +0.8**
comp=Z,1.5nm,0.8s,baz=228,slow=6.0,SNR=15
ILB Eielson Array 88.22 11 *e*P **P** **09 03 44.9 +1.5**
IM3 Indian Mountai 88.26 8 *e*P **P** **09 03 44.8 +1.2**
BJI Beijing 88.96 314⇓ *e*P **P** **09 03 49.3 +1.8**
BJI pmax pmax
comp=Z,14nm,2.3s
DAWY Dawson 89.16 15 *e*P **P** **09 03 50.0 +2.0**
comp=Z,25nm,1.8s
EGAK Eagle 89.37 13 *e*P **P** **09 03 50.6 +1.8**
comp=Z,35nm,1.8s
ZEA Zeya 90.02 330 *e*P **P** **09 03 53.4 +1.2**
ZEA pmax pmax
comp=Z,17nm,1.0s
BILL Bilibino 90.12 353 *i* P **P** **09 03 53.4 +1.1**
BILL *i* 09 04 08.4
BILL *i* 09 07 38.3
BILL pmax pmax
comp=Z,5.0nm,0.9s
BILL pmax pmax
comp=Z,146nm,19.0s
GYA Guiyang 90.16 298 *e*P **P** **09 03 54.0 +0.4**
GYA pP sP 09 04 05.2 +0.1
GYA PP **PP** **09 07 29.8 +2.1**
GYA SKS **SKSac** **09 14 20.2 -3.2**
GYA S **S** **09 14 42.0 -4.1**
GYA pmax pmax
comp=Z,10.0nm,1.0s
GYA pmax pmax
comp=Z,110nm,5.6s
TOLK Toolik Lake Re 91.33 9 *e*P **P** **09 04 00.2 +2.2**
comp=Z,14nm,1.8s
XAN Xi'an 91.46 306 P **P** **09 04 01.4 +2.0**
XAN pP sP 09 04 11.1 +0.2
XAN pmax pmax
comp=Z,11nm,1.3s
XAN pmax pmax
comp=Z,170nm,5.8s
HHC Hu-ho-hao-te 92.45 313 *e*P **P** **09 04 02.2 -1.7**
HHC pP pP 09 04 12.7 +0.3
HHC sP sP 09 04 16.7 +1.3
HHC S **S** **09 15 00.6 -5.7**
HHC pmax pmax
comp=Z,12nm,1.4s
HHC pmax pmax
comp=Z,120nm,8.5s
HHC LR LR
comp=Z,160nm,17.4s
HHC LR LR
comp=Z,190nm,18.7s
HHC LR LR
comp=Z,200nm,18.7s
KMI Kunming 92.91 296 P **P** **09 04 09.3 +2.7**
KMI pmax pmax
comp=Z,22nm,1.1s
CM01 Chiang Mai Arr 93.75 288 *e*P **P** **09 04 10.8 +0.5**
CMAR Chiang Mai Arr 93.78 288 P **P** **09 04 11.6 +1.2**
comp=Z,5.4nm,0.8s,baz=120,slow=2.9,SNR=29
CD2 Chengdu 94.23 301 *e*P **P** **09 04 12.2 -0.1**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,120nm,5.0s
YKA Yellowknife Ar 95.64 24 P **P** **09 04 18.2 +0.4**
comp=Z,0.2nm,0.6s,baz=238,slow=4.6,SNR=6.4
LZH Lanzhou 96.09 306 *e*P **P** **09 04 23.2 +2.4**
LZH pP sP 09 04 34.0 +1.7
LZH sP pP 09 04 38.2 +8.9
LZH pmax pmax
comp=Z,26nm,1.1s
ULN Ulaanbaatar 98.27 318⇑ *e*P Pdif 09 04 33.8 +3.4
ULN pmax pmax
comp=Z,6.0nm,1.8s
LPAZ La Paz 98.43 111 LR LR 09 42 30.6
comp=Z,116nm,18.3s,baz=236,slow=31
GTA Gaotai 100.23 308 *e*P **Pdif** **09 04 46.8 +7.5**
GTA pP sP 09 04 57.9 +7.0
GTA sP sPdif 09 05 01.8 +11
GTA pmax pmax
comp=Z,3.0nm,1.0s
TIXI Tiksi 100.36 344⇑ *e*P **Pdif** **09 04 40.8 +1.9**
TIXI pmax pmax
comp=Z,2.0nm,1.2s
MKAR Makanchi Array 114.32 313 PKP PKPdf 09 09 31.8 -0.7
comp=Z,0.7nm,0.7s,baz=79,slow=3.1,SNR=7.3
KURK Kurchatov 116.96 317 PKP **PKPdf** **09 09 36.9 -0.5**
KURK Kurchatov 116.96 317 PKIKP **PKPdf** **09 09 36.9 -0.5**
KURBB Kurchatov Arra 117.02 317 PKP **PKPdf** **09 09 36.9 -0.6**
comp=Z,2.0nm,0.2s,baz=116,slow=1.8,SNR=4.5

AAK Ala-Archa 119.58 308⇓ *i*PKIKP **PKPdf** **09 09 42.2 -0.7**
BVAR Borovoye Array 121.94 320 PKP **PKPdf** **09 09 46.9 0.0**
comp=Z,1.7nm,0.7s,baz=103,slow=3.1,SNR=7.9
BRVK Borovoye 122.00 320⇓ *i*PKIKP **PKPdf** **09 09 46.8 -0.2**
LVZ Lovozero 129.95 346⇑ *i*PKIKP **PKPdf** **09 10 04.1 +2.3**
AKTO Aktyubinsk 129.98 319 PKP **PKPdf** **09 10 02.2 -0.1**
comp=Z,0.9nm,0.5s,baz=71,slow=5.2,SNR=2.8
FINES FINESS Array B 137.38 346 PKP **PKPdf** **09 10 14.3 -1.6**
comp=Z,2.8nm,0.9s,baz=11,slow=2.8,SNR=3.1
OBN Obninsk 139.04 333⇓ *i*PKIKP **PKPdf** **09 10 20.7 +1.6**
OBN *e* 09 10 32.2
OBN *e* 09 13 12.3
OBN 09 17 30.0
OBN pmax pmax
comp=Z,12nm,1.0s
OBN MLR MLR
comp=Z,38nm,16.0s
KIV Kislovodsk 142.01 315 *i* PKIKP **PKPdf** **09 10 32.1 +7.1**
KIV pmax pmax
comp=Z,5.0nm,1.0s
NEY Neytrino 142.28 314 *d i*PKIKP **PKPdf** **09 10 27.1 +1.5**
ANN Anapa 144.94 320 *e*PKIKP PKPbc 09 10 29.6 +0.4
ANN pmax pmax
comp=Z,41nm,1.0s
EKA Eskdalemuir Ar 145.22 9 PKPbc **PKPbc** **09 10 29.2 -0.5**
comp=Z,3.2nm,0.9s,baz=269,slow=4.8,SNR=3.6
ESK Eskdalemuir 145.23 9 *e*PKPbc **PKPdf** **09 10 30.9 +0.7**
ESK Eskdalemuir 145.23 9 *e*PKP2 **PKPdf** **09 10 30.9 +0.7**
AKASG Malin Array Be 145.30 334 PKPbc **PKPbc** **09 10 30.0 -0.1**
comp=Z,4.5nm,0.6s,baz=40,slow=4.4,SNR=27
AKBB Malin Array Si 145.30 334 *e*PKPbc **PKPab** **09 10 30.5 +0.2**
AKBB Malin Array Si 145.30 334 *e*PKP2 **PKPab** **09 10 30.5 +0.2**
AK11 Malin Array Si 145.34 334 *e*PKPbc **PKPdf** **09 10 30.8 +0.4**
SORM Soroca 147.61 331 ⇓PKIKP **PKPbc** **09 10 37.3 +0.2**
LVV L'vov 148.01 338 *e*PKP2 **PKPab** **09 10 41.6 +0.8**
KWP Kalwaria Pacla 148.62 339 *e*PKPbc **PKPbc** **09 10 40.8 +1.0**
KWP Kalwaria Pacla 148.62 339 *e*PKIKP **PKPbc** **09 10 40.8 +1.0**
STHS Stebnicka Huta 149.29 340 *e*PKP **PKPbc** **09 10 41.3 -0.2**
STHS *e* 09 10 48.5
STHS Stebnicka Huta 149.29 340 *e*PKIKP **PKPbc** **09 10 41.3 -0.2**
STHS *e* 09 10 48.5
BUR04 Bucovina Ar. S 149.35 334 *e*PKPbc **PKPab** **09 10 44.3 -2.1**
BURAR Bucovina Array 149.35 334⇑PKIKP **PKPbc** **09 10 42.9 +1.1**
CLL Collm 149.42 351 *e*PKPdf **PKPbc** **09 10 40.0 -1.7**
comp=Z,5.0nm,1.3s
CLL *i* PKPbc **PKiKP** **09 10 42.5 -0.3**
comp=Z,10.0nm,1.2s
CLL *i* PKPab **PKPab** **09 10 46.4 0.0**
comp=Z,14nm,1.3s
CLL Collm 149.42 351 *e*PKPbc **PKPbc** **09 10 42.8 +1.1**
CLL Collm 149.42 351 *e*PKHKP PKPpre 09 10 40.0
CLL *i* 09 10 46.4
CLL pmax pmax
comp=Z,10.0nm,1.2s
CLL pmax pmax
comp=Z,14nm,1.3s
UZH Uzhgorod 149.62 338⇑ *i*PKHKP PKPpre 09 10 43.3
UZH *e* 09 10 47.7
CRVS Cervenica-Dubn 149.67 339 *e*PKP **PKPab** **09 10 48.7 +1.1**
BRG Berggiesshubel 149.70 350 *e*PKP **PKPbc** **09 10 43.1 +0.8**
comp=Z,9.0nm,1.2s
BRG Berggiesshubel 149.70 350 *e*PKHKP **PKPbc** **09 10 43.1 +0.8**
BRG pmax pmax
comp=Z,9.0nm,1.2s
DPC Dobruska-Polom 149.75 347⇑ *e*PKP **PKPbc** **09 10 43.8 +1.2**
DPC *e*PKPAB **PKPab** **09 10 47.6 -0.3**
DPC *ex* x 09 11 10.8
DPC Dobruska-Polom 149.75 347 *e*PKHKP **PKPbc** **09 10 43.8 +1.2**
DPC *e* 09 10 47.6
CFR Carcaliu 149.87 328 ⇓PKHKP PKPpre 09 10 43.1
KRLC Kraliky 149.90 346 *e*PKPAB **PKPab** **09 10 49.6 +1.1**
BR131 Keskin Array S 149.96 314 *e*PKPbc **PKPbc** **09 10 44.1 +0.5**
BRTR Keskin Array B 149.96 314 PKPbc **PKPbc** **09 10 43.1 -0.4**
comp=Z,3.9nm,0.9s,baz=132,slow=1.8,SNR=23
MORC Moravsky Berou 150.00 345⇑ *i*P **PKPbc** **09 10 42.3 -0.9**
MORC Moravsky Berou 150.00 345 *e*PKPbc **PKPbc** **09 10 44.0 +0.8**
MORC Moravsky Berou 150.00 345⇑PKHKP **PKPbc** **09 10 42.3 -0.9**
VRI Vrincioaia 150.04 330⇑PKHKP PKPpre 09 10 44.0
LANS Liptovska Anna 150.06 342 *e*PKP **PKPbc** **09 10 45.3 +1.9**
PLOR Plostina 150.09 330 ⇓PKHKP PKPpre 09 10 43.8
ASF Jabal al Asfar 150.31 298 PKPbc **PKPbc** **09 10 44.6 0.0**
comp=Z,0.8nm,0.3s,baz=157,slow=3.6,SNR=5.0
KECS Kecovo 150.35 340 *e*PKP **PKPbc** **09 10 45.3 +1.3**
KECS Kecovo 150.35 340 *e*PKIKP **PKPbc** **09 10 45.3 +1.3**
PRU Pruhonice 150.44 349⇑ *e*PKP **PKPbc** **09 10 45.2 +1.0**
PRU Pruhonice 150.44 349 *e*PKIKP **PKPbc** **09 10 45.2 +1.0**
BR231 Keskin MP Arra 150.47 315 *e*PKPdf **PKPbc** **09 10 44.7 -0.8**
BR231 *e*PKPbc **PKiKP** **09 10 44.7 -0.8**
GOPC GO Pecny, Ondr 150.47 348⇑ *e*PKP **PKPbc** **09 10 45.5 +1.2**
GOPC GO Pecny, Ondr 150.47 348 *e*PKIKP **PKPbc** **09 10 45.5 +1.2**
MLR Muntele Rosu 150.69 330 PKPbc **PKPbc** **09 10 45.4 +0.3**
comp=Z,1.5nm,1.0s,baz=187,slow=1.3,SNR=6.7
MLR Muntele Rosu 150.69 330⇑PKIKP **PKPbc** **09 10 46.2 +1.1**
VYHS Vyhne 150.84 342 *e*PKP **PKPbc** **09 10 46.1 +0.9**
VYHS Vyhne 150.84 342 *e*PKIKP **PKPbc** **09 10 46.2 +1.0**
DRGR 151.02 336⇑PKIKP **PKPbc** **09 10 44.9 -0.9**
VOIR 151.14 331⇑PKIKP **PKPbc** **09 10 47.1 +1.0**
MMAI Mount Meron Ar 151.30 300 PKPbc **PKPbc** **09 10 47.8 +0.9**
comp=Z,2.9nm,0.6s,baz=64,slow=3.4,SNR=4.8
MODS Modra-Piesok 151.37 344 *e*PKP **PKPbc** **09 10 46.7 +0.2**
MODS Modra-Piesok 151.37 344 *e*PKIKP **PKPbc** **09 10 46.7 +0.2**
KHC Kasperske Hory 151.44 349⇑ *e*PKP **PKPbc** **09 10 47.5 +0.9**
KHC *e*PKPAB **PKPab** **09 10 51.8 -3.1**
KHC Kasperske Hory 151.44 349 *e*PKIKP **PKPbc** **09 10 47.5 +0.9**
KHC *e* 09 10 51.8
GERES GERESS Array B 151.70 349 PKPbc **PKPbc** **09 10 47.8 +0.4**
comp=Z,1.2nm,0.7s,baz=18,slow=1.7,SNR=11
EIL Elat 152.48 294 PKPbc **PKPbc** **09 10 53.3 +3.8**
comp=Z,2.6nm,0.6s,baz=270,slow=2.0,SNR=3.9
DIVS Divibare 154.32 336 *e*PKPab **PKPab** **09 11 08.3 +1.0**
TORD Torodi Ar. Bea 171.06 153 PKPab **PKPab** **09 12 20.9 -0.1**
comp=Z,0.7nm,0.9s,baz=251,slow=4.4,SNR=3.1

IDC 06 08:51:36.8±2.6, 53°52N×87°81E, h0km, mb1 3.4/2, mb1mx3.0/69, mbtmp3.4/2, ML3.2/2, 2C-3D, Error ellipse: s-maj=22.6km s-min=15.0km az=60.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.82**	**285**	*i*		09 03 03.7	
	baz=107,slow=349,SNR=1.0						
ZALV	**Zalesovo Beam**	**1.82**	**285**	Pn	Pn	08 52 07.9	-1.5
	4.7nm,0.3s,baz=107,slow=15,SNR=23						
ZALV				Lg	Lg	08 52 34.0	
	4.9nm,0.3s,baz=101,slow=30,SNR=10						
KURK	**Kurchatov**	**6.32**	**247**	⇑Pn	Pn	08 53 11.3	+0.2
	0.7nm,0.5s						
KURK				⇓Sn	Sn	08 54 24.8	+0.9
	0.3nm,0.4s						
KURK				⇓Lg	Lg	08 54 56.1	
	10nm,1.3s						
KURBB	**Kurchatov Arra**	**6.41**	**247**	Pn	Pn	08 53 12.8	+0.4
	0.3nm,0.3s,baz=62,slow=14,SNR=7.9						
KURBB				Sn	Sn	08 54 26.7	+0.5
	0.1nm,0.3s,baz=56,slow=20,SNR=3.5						
KURBB				Lg	Lg	08 54 59.9	
	0.1nm,0.3s,baz=62,slow=32,SNR=8.9						
MK31	**Makanchi Array**	**7.61**	**210**	Pn	Pn	08 53 30.6	+1.7
	0.1nm,0.2s,baz=30,slow=13,SNR=30						
MK31				⇓Sn	Sn	08 54 56.3	+0.6
	0.1nm,0.3s						
MK31				⇑Lg	Lg	08 55 34.2	
	0.8nm,0.7s						
MKAR	**Makanchi Array**	**7.61**	**210**	Pn	Pn	08 53 30.2	+1.4
	0.5nm,0.3s,baz=27,slow=13,SNR=25						
MKAR				Sn	Sn	08 54 56.3	+0.5
	0.1nm,0.3s,baz=32,slow=31,SNR=4.2						
MKAR				Lg	Lg	08 55 37.2	
	0.1nm,0.3s,baz=32,slow=32,SNR=5.2						

*ISCJB **06** 09:05:16.9±0.5, 47°38N±0°.03×18°.36E±0°.03, h7km±3km, Error ellipse: s-maj=4.8km s-min=3.3km az=173.7*
*VIE **06** 09:05:16.9±0.3, 47°38N×18°.32E, h4km, mb1.9/4, ML2.3/6, Error ellipse: s-maj=4.4km s-min=2.2km az=168.0*
*CSEM **06** 09:05:17.1±0.2, 47°.35N×18°.37E, h8km, ML2.7, Error ellipse: s-maj=4.8km s-min=3.4km az=168.0*

ISC 06 09:05:16.8±0.9, 47°.35N±0°.03×18°.41E±0°.02, h7km±6km, n43, σ0°89/72, 9C-13D, Hungary

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

CSKK Cs˙‡kako 0.10 278⇓ *e*Pg **Pg** **09 05 19.4 +0.3**
CSKK *e*Sg **Sg** **09 05 20.8 +0.1**
CSKK Cs˙‡kako 0.10 278⇓ *e*Pg **Pg** **09 05 19.4 +0.3**
CSKK ⇓*e*Sg **Sg** **09 05 20.8 +0.1**
BUD Budapest 0.44 72⇑ *e*Pg **Pb** **09 05 26.3 -0.6**
BUD *e*Sg **Sb** **09 05 33.1 -0.6**
BUD Budapest 0.44 72⇑ *e*Pg **Pb** **09 05 26.3 -0.6**
BUD ⇑*e*Sg **Sb** **09 05 33.1 -0.6**
SRO Srobarova 0.47 352 *e*Pg **Pb** **09 05 27.5 +0.1**
SRO *e*Sg **Sg** **09 05 33.7 +1.7**
SRO Srobarova 0.47 352 *e*PG **Pb** **09 05 27.6 +0.1**
SRO *e*SG **Sg** **09 05 33.7 +1.7**
MORH M˙‡r˙igy, Hung 1.15 172⇓ *e*Pn **Pn** **09 05 39.6 +0.3**
MORH *e*Sn **Sn** **09 05 56.3 +1.1**
MORH M˙‡r˙igy, Hung 1.15 172⇓ *e*Pn **Pn** **09 05 39.6 +0.3**
MORH ⇓*e*Sn **Sn** **09 05 56.3 +1.1**
PSZ Piszkesteto 1.16 60⇑ *i*P **Pn** **09 05 39.5 -0.1**
PSZ Piszkesteto 1.16 60⇑ *e*Pn **Pn** **09 05 39.4 -0.1**
PSZ *e*Sn **Sn** **09 05 56.0 +0.4**
PSZ Piszkesteto 1.16 60⇑ *e*Pn **Pn** **09 05 39.4 -0.1**
PSZ ⇑*e*Sn **Sn** **09 05 56.0 +0.4**
VYHS Vyhne 1.18 14 *e*Pg **Pn** **09 05 39.8 0.0**
VYHS *e*Sg **Sb** **09 05 55.2 +0.1**
VYHS Vyhne 1.18 14 *e*PG **Pn** **09 05 39.8 0.0**
VYHS *e*SG **Sb** **09 05 55.2 +0.1**
VYHS *e*LG Lg 09 05 57.4
ZST Bratislava 1.22 314 *e*Pn **Pn** **09 05 38.8 -1.5**
ZST *e*Sg **Sb** **09 05 54.7 -1.5**
ZST Bratislava 1.22 314 *e*PG **Pn** **09 05 38.8 -1.5**
ZST *e*SG **Sb** **09 05 54.7 -1.5**
MODS Modra-Piesok 1.28 324 *e*Pn **Pn** **09 05 40.7 -0.4**
MODS *e*Sg **Sb** **09 05 57.9 +0.1**
MODS Modra-Piesok 1.28 324 *e*PG **Pn** **09 05 40.6 +0.5**
MODS *e*SG **Sb** **09 05 57.9 +0.1**
SOP Sopron 1.30 286⇓ *e*Pn **Pn** **09 05 41.4 0.0**
SOP *e*Sn **Sb** **09 05 58.8 +0.4**
SOP Sopron 1.30 286⇓ *e*Pn **Pn** **09 05 41.4 0.0**
SOP ⇓*e*Sn **Sb** **09 05 58.8 +0.4**
SMOL Smolenice 1.34 331 *e*Pg **Pn** **09 05 41.7 -0.3**
SMOL *e*Sg **Sb** **09 05 59.5 -0.1**
SMOL Smolenice 1.34 331 *e*PG **Pn** **09 05 41.7 -0.3**
SMOL *e*SG **Sb** **09 05 59.5 -0.1**
KECS Kecovo 1.80 50 *e*Pn **Pn** **09 05 48.3 0.0**
KECS Kecovo 1.80 50 *e*PN **Pn** **09 05 48.3 0.0**
KECS *e*PG **Pg** **09 05 51.1 -0.2**
KECS *e*SG **Sg** **09 06 17.9 +3.2**
KECS *e*LG Lg 09 06 18.5
CONA Conrad Observa 1.82 290 Pn **Pn** **09 05 48.5 -0.1**
CONA Sn **Sn** **09 06 12.5 +0.6**
15nm,0.6s
CONA Conrad Observa 1.82 290 Pn **Pn** **09 05 48.5 -0.1**
0.6nm,0.2s
CONA Sn **Sn** **09 06 12.5 +0.6**
15nm,0.6s
LANS Liptovska Anna 1.94 21 *e*Pn **Pg** **09 05 53.5 -0.5**
LANS Liptovska Anna 1.94 21 *e*PN **Pg** **09 05 53.5 -0.5**
ARSA Arzberg 1.96 268 Pn **Pn** **09 05 50.4 -0.2**
3.6nm,0.3s
ARSA Sn **Sn** **09 06 15.4 -0.1**
ARSA Arzberg 1.96 268 Pn **Pn** **09 05 50.4 -0.2**
3.6nm,0.3s
ARSA Sn **Sn** **09 06 15.5 -0.1**
7.5nm,0.4s
SOKA Soboth 2.41 255 Pn **Pn** **09 05 56.4 -0.3**
0.8nm,0.2s
SOKA Sn **Sn** **09 06 26.3 -0.1**
0.9nm,0.2s
SOKA Soboth 2.41 255 Pn **Pn** **09 05 56.4 -0.3**
0.8nm,0.2s
SOKA Sn **Sn** **09 06 26.3 -0.1**
0.9nm,0.2s
MORC Moravsky Berou 2.50 347⇑ *i*P **Pn** **09 05 57.6 -0.3**
MORC Moravsky Berou 2.50 347⇑ *i*P **Pn** **09 05 57.6 -0.3**
CRVS Cervenica-Dubn 2.57 52 *e*Pg **Pg** **09 06 05.6 -0.4**
CRVS Cervenica-Dubn 2.57 52 *e*PG **Pg** **09 06 05.6 -0.4**
STHS Stebnicka Huta 2.80 41 *e*Pn **Pb** **09 06 04.9 -2.3**
STHS Stebnicka Huta 2.80 41 *e*PN **Pb** **09 06 04.9 -2.3**
STHS *e*PG **Pg** **09 06 12.1 +1.6**
DRGR 2.99 99⇓ *i*P **Pb** **09 06 09.1 -1.4**
DRGR 2.99 99⇓ *i*P **Pb** **09 06 09.1 -1.4**
MYKA Terra Mystica 3.34 259 Sn **Sn** **09 06 50.8 +1.4**
2.3nm,0.3s
MYKA Terra Mystica 3.34 259 Sn **Sn** **09 06 50.8 +1.4**
2.3nm,0.3s
DOPR Dopca 5.00 103⇓ *i*P **Pn** **09 06 31.9 -0.4**
DOPR Dopca 5.00 103⇓ *i*P **Pn** **09 06 31.9 -0.4**

*NIED **06** 09:05:00.27°.70N×140°.80E, h5km, Mw4.3 Best double couple: M0 3.01000×10^15 NP1:φs188.00000°, δ31.00000°, λ-82.00000°. NP2:φs359.00000°, δ60.00000°, λ-95.00000°.*
*IDC **06** 09:05:17.9±0.6, 27°.62N×140°.65E, h0km, mb4.1/24, mb1 4.2/25, mb1mx4.1/63, mbtmp4.1/25, ML3.4/1, MS3.2/12, Ms1 3.3/12, ms1mx3.0/61, Error ellipse: s-maj=17.6km s-min=13.8km az=51.0*
*JMA **06** 09:05:20.1±0.3, 27°.69N×140°.85E, h29km, M4.3*
*NEIC **06** 09:05:20.9±1.7, 27°.56N×140°.78E, h20km±12km, mb4.7/15, Error ellipse: s-maj=6.2km s-min=4.3km az=56.0*
*ISCJB **06** 09:05:21.1±0.2, 27°.59N±0°.04×140°.81E±0°.04, h33km, mb4.4/40, MS3.2/7, Error ellipse: s-maj=6.5km s-min=3.2km az=40.8*

ISC 06 09:05:23.0±0.4, 27°.55N±0°.06×140°.85E±0°.07, h35km, n111, σ1°9/14°/110, mb4.4/40, MS3.4/7, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**1.27**	**111**	P	Pn	**09 05 43.2**	**-1.1**
CBIJ				*e*S	Sn	**09 06 00.3**	**+0.1**
CBIJ	**Chichi jima**	**1.27**	**111**	*e*Pn	Pn	**09 05 43.8**	**-0.5**
CBIJ				*e*Sn	Sn	**09 05 59.1**	**-1.0**
JCJ	**Chichijima**	**1.27**	**111**	Pn	Pn	**09 05 44.5**	**+0.2**
	84nm,0.3s,baz=323,slow=5.8,SNR=30						
JCJ				LR	LR	09 05 58.9	
	comp=Z,285nm,19.0s,baz=268,slow=28						
JCJ				Sn	Sn	**09 06 00.1**	**0.0**
	682nm,0.3s,baz=287,slow=19,SNR=28						
JHHJ	**Haha-jima-NKT**	**1.50**	**127**	P	Pn	**09 05 47.1**	**-0.3**
JHHJ				*e*S	Sn	**09 06 05.8**	**+0.1**
TTO1	**TONANKAI O.B.S**	**6.99**	**331**	*e*S	Sn	**09 08 20.5**	**-0.2**
JIE	**Ise**	**7.69**	**333**	P	Pn	09 07 18.1	+5.7
JIE				*e*S	Sn	**09 08 38.3**	**0.0**
JOD2	**Odawara 2**	**7.83**	**349**	P	Pn	**09 07 18.0**	**+3.6**
JRY	**Ryogami san**	**8.60**	**349**	P	Pn	**09 07 27.0**	**+2.0**
MJAR	**Matsushiro Arr**	**9.24**	**347**	Pn	Pn	**09 07 34.4**	**+0.7**
	0.8nm,0.3s,baz=170,slow=12,SNR=13						
MJAR				LR	LR	09 10 41.5	
	comp=Z,62nm,19.2s,baz=160,slow=36						
MAJO	**Matsushiro**	**9.24**	**347**	*e*Pn	Pn	**09 07 34.4**	**+0.7**
JNU	**Nakatsue**	**10.24**	**305**	LR	LR	09 11 07.6	
	comp=Z,198nm,22.0s,baz=116,slow=35						
JOW	**Kunigami**	**11.22**	**269**	LR	LR	09 11 31.8	
	comp=Z,316nm,21.5s,baz=144,slow=34						
SARN	**Sarigan**	**11.72**	**156**	*e*Pn	Pn	**09 08 05.8**	**-2.1**
SARN				*e*Sn	Sn	**09 10 18.6**	**+1.0**
KSRS	**Korea Array**	**14.70**	**315**	Pn	P	**09 08 52.7**	**-1.3**
	0.2nm,0.3s,baz=126,slow=12,SNR=5.7						
KSRS				LR	LR	09 13 36.3	
	comp=Z,128nm,20.1s,baz=134,slow=34						
KSAR	**Wonju Array Be**	**14.71**	**315**	Pn	P	**09 08 52.7**	**-1.5**
ASAJ	**Asahikawa**	**16.59**	**4**	Pn	Pn	**09 09 10.9**	**-1.8**
	0.2nm,0.3s,baz=139,slow=20,SNR=3.6						
USRK	**Ussuriysk Ar.**	**18.08**	**339**	LR	LR	09 16 00.4	
	comp=Z,64nm,18.5s,baz=166,slow=36						
KLR	**Kul'dur**	**22.75**	**344**	P	P	**09 10 20.1**	**-1.9**
	1.0nm,0.8s,baz=158,slow=7.7,SNR=38						
KLR				LR	LR	09 19 42.1	
	comp=Z,11nm,18.9s,baz=339,slow=38						
SONA0	**Songino Array**	**33.56**	**316**	*e*P	P	**09 11 59.1**	**-0.6**
SONM	**Songino Array**	**33.56**	**316**	P	P	**09 11 59.1**	**-0.6**
	0.3nm,0.4s,baz=123,slow=10,SNR=2.7						
SONM				LR	LR	09 24 53.2	
	comp=Z,75nm,21.0s,baz=63,slow=35						
MIDW	**Midway**	**36.81**	**79**	*e*P	P	**09 12 28.4**	**+0.7**
	423nm,1.4s						
PMG	**Port Moresby**	**37.24**	**170**	*e*P	P	**09 12 32.8**	**+1.4**
	15nm,0.8s						
CMAR	**Chiang Mai Arr**	**39.46**	**266**	LR	LR	09 27 54.0	
	comp=Z,91nm,21.5s,baz=166,slow=34						
HNR	**Honiara**	**41.16**	**151**	*e*P	P	**09 13 03.4**	**-0.7**
	53nm,0.8s						
COEN	**Coen**	**41.32**	**177**	*e*P	P	**09 13 05.7**	**+0.3**

	7.7nm,1.0s						
TIXI	Tiksi	44.64	355	P	P	09 13 31.1	-0.6
	5.9nm,0.8s,baz=151,slow=6.0,SNR=12						
WRAB	Tennant Creek	47.62	188	eP	P	09 13 56.3	+0.6
	17nm,0.9s						
WB2	Warramunga Arr	47.63	188	eP	P	09 13 55.6	-0.2
WR1	Warramunga Arr	47.63	188	eP	P	09 13 56.5	+0.7
	18nm,0.9s						
WRA	Warramunga Arr	47.63	188	P	P	09 13 56.5	+0.7
	13nm,0.9s,baz=9.0,slow=8.5,SNR=60						
RAMN	Ramite	47.90	282	eP	P	09 14 00.6	+2.4
	21nm,0.7s						
JIRN	Jiri	48.09	284	eP	P	09 14 02.6	+2.8
	63nm,0.7s						
GUN	Gumba	48.30	284	eP	P	09 14 04.0	+2.6
	43nm,0.8s						
ZALV	Zalesovo Beam	48.37	319	P	P	09 13 59.6	-1.5
	0.5nm,0.3s,baz=79,slow=9.0,SNR=1.8						
ZALV				LR	LR	09 33 49.8	
	comp=Z,26nm,19.0s,baz=70,slow=36						
ZAA1	Zalesovo Array	48.37	319	eP	P	09 13 59.6	-1.5
KKN	Kakani	48.84	284	eP	P	09 14 07.7	+2.2
DMN	Daman	49.03	284	eP	P	09 14 09.2	+2.2
	18nm,0.8s						
MK01	Makanchi Array	49.26	309	eP	P	09 14 07.0	-1.2
MK31	Makanchi Array	49.27	309	eP	P	09 14 07.7	-0.6
MK32	Makanchi Array	49.27	309	eP	P	09 14 07.1	-1.1
MKAR	Makanchi Array	49.27	309	P	P	09 14 07.1	-1.1
	0.8nm,0.6s,baz=90,slow=8.3,SNR=9.5						
MKAR	Makanchi Array	49.27	309	eP	P	09 14 08.7	+0.5
	7.4nm,0.8s						
GKN	Gorkha	49.34	284	eP	P	09 14 11.4	+2.1
DANN	Dangsing	50.02	285	eP	P	09 14 17.3	+2.8
KOLN	Koldanda	50.29	284	eP	P	09 14 18.4	+1.9
	32nm,0.9s						
PYUN	Piuthan	50.74	285	eP	P	09 14 21.8	+1.9
	36nm,0.8s						
ASAR	Alice Springs	51.36	188	P	P	09 14 24.4	+0.2
	1.8nm,0.9s,baz=12,slow=13,SNR=14						
KURK	Kurchatov	51.82	314	eP	P	09 14 26.6	-0.8
	5.5nm,1.1s						
KURBB	Kurchatov Arra	51.87	314	P	P	09 14 26.6	-1.2
	1.4nm,0.2s,baz=95,slow=7.8,SNR=5.7						
TARG	Taragay, Kyrgy	52.67	303	eP	P	09 14 35.7	+1.3
	8.7nm,1.0s						
KDJ	Kajisay	53.10	304	eP	P	09 14 38.4	+1.2
	4.7nm,1.1s						
KDAK	Kodiak Island	54.72	37	P	P	09 14 49.5	+1.0
	9.2nm,0.9s,baz=268,slow=1.5,SNR=7.1						
AAK	Ala-Archa	55.02	304	eP	P	09 14 52.1	+0.9
	2.9nm,1.0s						
BVAR	Borovoye Array	56.90	317	P	P	09 15 03.6	-0.8
	0.8nm,0.4s,baz=98,slow=7.7,SNR=5.7						
HDA	Harding Lake	57.84	29	eP	P	09 15 10.6	-0.2
	32nm,1.4s						
KK05	Karatay Array	57.84	305	eP	P	09 15 11.3	+0.2
KK06	Karatay Array	57.84	305	eP	P	09 15 11.6	+0.5
KK02	Karatay Array	57.85	305	eP	P	09 15 11.5	+0.3
KK31	Karatay Array	57.85	305	eP	P	09 15 12.0	+0.7
KKAR	Karatay Array	57.85	305	eP	P	09 15 12.0	+0.8
KK04	Karatay Array	57.85	305	eP	P	09 15 11.3	0.0
KK01	Karatay Array	57.86	305	eP	P	09 15 11.0	-0.2
KK09	Karatay Array	57.86	305	eP	P	09 15 11.8	+0.5
KK03	Karatay Array	57.86	305	eP	P	09 15 11.1	-0.2
KK07	Karatay Array	57.86	305	eP	P	09 15 11.3	0.0
KK08	Karatay Array	57.87	305	eP	P	09 15 11.3	-0.1
ILAR	Eielson Array	57.88	29	P	P	09 15 11.4	+0.4
	1.8nm,0.9s,baz=266,slow=5.6,SNR=14						
IL1	Eielson Array	57.89	29	eP	P	09 15 11.7	+0.6
DOT	Dot Lake	59.09	30	eP	P	09 15 20.8	+1.3
	9.7nm,0.9s						
SCRK	Sand Creek	59.12	30	eP	P	09 15 21.1	+1.3
	3.7nm,0.8s						
AFI	Afiamalu	61.71	126	LR	LR	09 39 07.4	
	comp=Z,22nm,18.7s,baz=256,slow=33						
INK	Inuvik	63.11	25	P	P	09 15 47.1	+0.5
	1.0nm,0.7s,baz=301,slow=4.7,SNR=8.3						
AB06	Akbulak array	63.91	314	eP	P	09 15 51.7	-0.5
AB07	Akbulak array	63.92	314	eP	P	09 15 51.8	-0.5
AB05	Akbulak array	63.92	314	eP	P	09 15 51.6	-0.7
AB02	Akbulak array	63.92	314	eP	P	09 15 51.6	-0.7
AB01	Akbulak array	63.92	314	eP	P	09 15 51.8	-0.6
AB31	Akbulak array	63.92	314	eP	P	09 15 51.8	-0.5
ABKAR	Akbulak array	63.92	314	eP	P	09 15 51.8	-0.5
AB03	Akbulak array	63.92	314	eP	P	09 15 51.8	-0.5
AB04	Akbulak array	63.93	314	eP	P	09 15 51.9	-0.4
AB08	Akbulak array	63.94	314	eP	P	09 15 51.9	-0.6
AB09	Akbulak array	63.94	314	eP	P	09 15 51.6	-0.8
XMAS	Kiritimati	64.10	102	eP	P	09 15 54.1	+0.1
	87nm,1.0s						
AKTO	Aktyubinsk	64.88	316	P	P	09 15 58.1	-0.5
	1.8nm,0.6s,baz=72,slow=14,SNR=6.9						
AKTO				LR	LR	09 43 51.1	
	comp=Z,25nm,19.4s,baz=81,slow=36						
YKA	Yellowknife Ar	72.30	28	P	P	09 16 45.1	+0.5
	0.9nm,0.7s,baz=294,slow=5.9,SNR=17						
ARA0	ARCESS Array S	72.72	341	eP	P	09 16 46.8	-0.2
ARCES	ARCESS Array B	72.72	341	P	P	09 16 46.8	-0.2
	3.0nm,0.9s,baz=60,slow=7.6,SNR=5.3						
OBSR	Observation Ro	75.10	45	eP	P	09 17 01.1	-0.6
KBZ	Khabaz	76.83	312	P	P	09 17 11.0	-0.2
	2.2nm,0.8s,baz=87,slow=6.2,SNR=8.8						
FIA0	FINESS Array S	77.01	333	eP	P	09 17 11.0	-0.9
FINES	FINESS Array B	77.01	333	P	P	09 17 11.0	-0.9
	2.0nm,0.7s,baz=126,slow=4.9,SNR=8.0						
JTMT	Jette	79.30	42	eP	P	09 17 26.8	+1.7
	2.9nm,0.7s						
NV01	Mina Array Sit	81.17	51	eP	P	09 17 35.8	+0.4
NVAR	Mina Array Bea	81.17	51	P	P	09 17 37.0	+1.5
	0.7nm,0.7s,baz=296,slow=6.1,SNR=5.6						
AKASG	Malin Array Be	81.54	323	P	P	09 17 35.5	-1.4
	0.2nm,0.3s,baz=42,slow=5.6,SNR=4.1						
HFS	Hagfors	82.53	336	P	P	09 17 41.1	-0.8
	2.6nm,0.9s,baz=66,slow=3.5,SNR=4.0						
NB200	NORSAR Array S	82.74	338	eP	P	09 17 42.0	-1.1
NOA	NORSAR Array B	82.74	338	P	P	09 17 42.0	-1.1
	1.0nm,0.6s,baz=44,slow=5.0,SNR=3.1						
RAYN	Ar Rayn	83.88	293	eP	P	09 17 49.7	+0.1
	5.2nm,0.7s						
PDAR	Pinedale Array	84.72	44	P	P	09 17 54.6	+0.8
	1.7nm,1.1s,baz=279,slow=3.8,SNR=6.0						
BR101	Keskin Array S	84.82	312	eP	P	09 17 53.4	-0.8
BRTR	Keskin Array B	84.82	312	P	P	09 17 53.4	-0.8
	0.7nm,0.6s,baz=97,slow=4.0,SNR=4.9						
LPIG	La Paz	94.31	60	LR	LR	10 03 21.6	
	comp=Z,12nm,18.4s,baz=212,slow=37						
LTX	Lajitas	96.28	52	eP	P	09 18 49.2	+0.9
TXAR	Lajitas Array	96.28	52	P	P	09 18 49.2	+0.9
	0.6nm,0.8s,baz=302,slow=3.3,SNR=8.3						
TOA1	Torodi Ar. Sit	123.38	310	ePKPdf	PKPdf	09 24 16.2	-0.9
TORD	Torodi Ar. Bea	123.38	310	PKP	PKPdf	09 24 16.2	-0.9
	0.3nm,0.7s,baz=35,slow=3.8,SNR=3.0						
SDV	Santo Domingo	132.66	45	PKP	PKPdf	09 24 35.6	+0.5
	2.2nm,0.6s,baz=333,slow=2.3,SNR=4.1						
LPAZ	La Paz	150.95	73	PKPbc	PKPbc	09 25 14.8	+1.3
	3.3nm,1.0s,baz=302,slow=4.4,SNR=7.5						
PLCA	Paso Flores	151.04	125	PKPbc	PKPbc	09 25 13.7	+1.3
	4.1nm,0.9s,baz=249,slow=6.5,SNR=5.9						

*GEN **06** 09:08:50.6, 46°.03N×7°.28E, h10km, ML0.8*
*CSEM **06** 09:08:50.4±0.1, 46°.04N×7°.31E, h11km±1km, ML1.8/4, Error ellipse: s-maj=3.8km s-min=2.2km az=80.0*
*LDG **06** 09:08:51.0±0.0, 46°.01N×7°.29E, h3km, Md1.5/1, Ml1.8/3, Error ellipse: s-maj=0.9km s-min=0.7km az=90.0*
ZUR 06 09:08:50.6, 46°.04N×7°.28E, h11km±6km, ML1.0/4, 4C-2D, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DIX	Grande Dixence	0.10	63	⇓iPg	Pg	09 08 53.7	+0.1
	98nm,0.4s						
DIX	Grande Dixence	0.10	63	⇓iPg	Pg	09 08 53.7	+0.1
SALAN	Lac Salanfe	0.24	297	⇑iPg	Pg	09 08 55.7	0.0
	13nm,0.1s						
SALAN	Lac Salanfe	0.24	297	⇑iPg	Pg	09 08 55.7	0.0
GRYON	Gryon	0.25	331	⇑iPg	Pg	09 08 55.8	0.0
	4.5nm,0.2s						
GRYON	Gryon	0.25	331	⇑iPg	Pg	09 08 55.8	0.0
MRGE	Morge	0.31	210	i Pg	Pg	09 08 56.8	-0.1
	125nm,0.9s						
MRGE	Morge	0.31	210	i Pg	Pg	09 08 56.8	-0.1
SENIN	Lac Senin/Sane	0.33	2	i Pg	Pg	09 08 57.4	+0.1
	18nm,0.1s						
SENIN	Lac Senin/Sane	0.33	2	i Pg	Pg	09 08 57.4	+0.1
CIRO	Champorcher	0.48	155	P	Pg	09 08 59.9	-0.1
LSD	Lago del Serru	0.58	190	P	Pg	09 09 01.8	-0.2
LSD				S	Sg	09 09 09.0	-0.8
TRAV	Traversella	0.62	148	P	Pg	09 09 02.5	-0.1
TRAV				S	Sg	09 09 10.2	-0.5
LPL	La Plagne	0.65	217	ePn	Pn	09 09 05.6	-0.3
LPL				eSn	Sn	09 09 15.3	-0.9
	2.7nm,0.3s						
LPL	La Plagne	0.65	217	ePn	Pn	09 09 05.6	-0.3
LPG	La Plagne	0.65	215	eP	Pb	09 09 04.9	+0.7
LPG				eSg	Sg	09 09 11.9	-0.1
	2.7nm,0.2s						
LPG	La Plagne	0.65	215	eP	Pb	09 09 04.9	+0.7
LPG				eSg	Sg	09 09 11.9	-0.1
	1.4nm,0.2s						
CABF	La Chapelle	1.01	305	ePg	Pn	09 09 10.5	-0.3
CABF				eSg	Sb	09 09 23.5	+0.1
	1.5nm,0.2s						
CABF	La Chapelle	1.01	305	ePg	Pn	09 09 10.5	-0.3
CABF				eSg	Sb	09 09 23.5	+0.1
	0.8nm,0.2s						
HINF	Hinteralfeld	1.81	351	ePn	Pn	09 09 21.6	-0.1
HINF				eSn	Sn	09 09 44.6	0.0
	1.2nm,0.3s						
HINF	Hinteralfeld	1.81	351	ePn	Pn	09 09 21.6	-0.1
HINF				eSn	Sn	09 09 44.6	0.0
	0.6nm,0.3s						
HAU	Haudompre	2.07	342	ePn	Pn	09 09 25.2	-0.1
HAU				eSn	Sn	09 09 50.2	-0.9
	1.4nm,0.2s						
HAU	Haudompre	2.07	342	ePn	Pn	09 09 25.2	-0.1
HAU				eSn	Sn	09 09 50.2	-0.9
	0.7nm,0.2s						
MEZF	Maizieres J'vi	2.90	329	ePn	Pn	09 09 36.4	-0.2
MEZF	Maizieres J'vi	2.90	329	ePn	Pn	09 09 36.4	-0.2

*NIED **06** 09:28:00, 40°.70N×144°.90E, h14km, Mw3.8 Best double couple: Mo6.04000×10^14 NP1:φs331.00000°, δ42.00000°, λ79.00000°. NP2:φs166.00000°, δ49.00000°, λ100.00000°.*
JMA 06 09:28:14.5±0.2, 40°.72N×144°.94E, h69km±4km, M3.5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JEM	Erimo	1.86	315	P	Pn	09 28 45.2	+0.9
JEM				eS	Sn	09 29 06.0	-0.9
JCH	Churui	2.23	329	P	Pn	09 28 50.2	+1.0
JCH				eS	Sn	09 29 15.1	-0.6
JAK	Akkeshi	2.28	356	P	Pn	09 28 50.6	+0.7
JAK				eS	Sn	09 29 16.4	-0.5
JANG	Nango	2.63	264	P	Pn	09 28 54.7	0.0
JANG				eS	Sn	09 29 22.6	-2.9
NEM2	Nemuro 2	2.71	12	P	Pn	09 28 56.4	+0.7
NEM2				eS	Sn	09 29 26.2	-1.1
JAR	Ashorobuto	2.72	342	P	Pn	09 28 56.5	+0.7
JAR				eS	Sn	09 29 27.1	-0.5
JOT	Ohata	3.02	284	P	Pn	09 29 00.9	+1.0
JOT				eS	Sn	09 29 32.9	-1.9
JOM	Ohasama	3.06	247	P	Pn	09 29 01.4	+0.9
JOM				eS	Sn	09 29 34.0	-2.0
JTKR	Abashiri--Toko	3.34	347	P	Pn	09 29 06.1	+1.9
JTKR				eS	Sn	09 29 43.3	+0.7
JMK	Ichinoseki	3.37	240	P	Pn	09 29 05.1	+0.5
JMK				eS	Sn	09 29 40.7	-2.7

IDC 06 09:33:42.8±2.9, 53°.44N×87°.69E, h0km, mb1 2.8/2, mb1mx2.8/63, mbtmp2.8/2, ML2.6/2, Error ellipse: s-maj=26.2km s-min=16.4km az=62.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.78	288	i		09 45 20.0	
	baz=107,slow=351,SNR=1.8						
ZALV	Zalesovo Beam	1.78	288	Pn	Pn	09 34 14.2	-0.7
	0.9nm,0.3s,baz=107,slow=15,SNR=7.7						
ZALV				Lg	Lg	09 34 39.3	
	3.5nm,0.3s,baz=106,slow=26,SNR=13						
KURBB	Kurchatov Arra	6.32	247	Pn	Pn	09 35 17.5	+0.4
	0.1nm,0.3s,baz=60,slow=14,SNR=2.5						
KURBB				Lg	Lg	09 37 04.1	
	0.0nm,0.3s,baz=64,slow=28,SNR=2.5						
MKAR	Makanchi Array	7.50	210	Pn	Pn	09 35 34.8	+1.4
	0.1nm,0.3s,baz=26,slow=12,SNR=5.7						
MKAR				Lg	Lg	09 37 42.9	
	0.1nm,0.3s,baz=28,slow=34,SNR=4.1						

*CSEM **06** 09:47:14.3±0.8, 51°.19N×19°.02E, h2km, ML2.8/4, Error ellipse: s-maj=13.9km s-min=7.2km az=12.0*
*PRU **06** 09:47:14.3, 51°.22N×19°.07E, h0km, Belchatow*
ISC 06 09:47:14.8±1.7, 51°.19N±0°.08×19°.16E±0°.04, h4km±11km, n27, σ1s.09/46, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHZP	Chorzow	0.91	187	ePg	Pn	09 47 33.8	-0.5
CHZP				eSg	Sn	09 47 47.3	-0.4
OJC	Ojcow	1.05	157	ePg	Pb	09 47 35.1	-0.5
OJC				eSg	Sb	09 47 50.1	+0.4
OKC	Ostrava-Krasne	1.50	206	ePG	Pn	09 47 41.2	-1.2
OKC				eSG	Sb	09 48 03.6	+1.1
	comp=Z,18nm,0.4s						
OKC	Ostrava-Krasne	1.50	206	Pg	Pn	09 47 41.2	-1.2
OKC				Sg	Sb	09 48 03.6	+1.1
	18nm,0.4s						
MORC	Moravsky Berou	1.75	217	ePn	Pn	09 47 45.8	-0.1
MORC				eSg	Sb	09 48 11.1	+1.3
KSP	Ksiaz	1.84	260	ePg	Pg	09 47 49.7	-0.4
KSP				eSg	Sg	09 48 15.7	+1.7
KSP	Ksiaz	1.84	260	ePg	Pg	09 47 49.7	-0.4
KSP				eSg	Sg	09 48 15.7	+1.7
KRLC	Kraliky	1.88	235	ePG	Pn	09 47 47.5	-0.2
KRLC				eSG	Sb	09 48 13.7	+0.2
	comp=Z,4.0nm,0.3s						
KRLC	Kraliky	1.88	235	Pg	Pn	09 47 47.5	-0.2
KRLC				Sg	Sb	09 48 13.7	+0.2
	4.0nm,0.3s						
NIE	Niedzica	1.92	157	ePg	Pg	09 47 51.0	-0.6
NIE				eSg	Sg	09 48 18.5	+2.1
NIE	Niedzica	1.92	157	ePg	Pg	09 47 51.0	-0.6
NIE				eSg	Sg	09 48 18.5	+2.1
DPC	Dobruska-Polom	1.98	246	ePG	Pn	09 47 49.0	-0.2
DPC				eSG	Sn	09 48 14.6	+0.1
	comp=Z,7.8nm,0.5s						
DPC	Dobruska-Polom	1.98	246	Pg	Pn	09 47 49.0	-0.2
DPC				Sg	Sn	09 48 14.6	+0.1
	7.8nm,0.5s						
LANS	Liptovska Anna	2.05	174	ePg	Pb	09 47 52.7	+0.1
LANS				eSg	Sg	09 48 21.2	+0.5
LANS	Liptovska Anna	2.05	174	ePG	Pb	09 47 52.7	+0.1
LANS				eSG	Sg	09 48 21.2	+0.5
STHS	Stebnicka Huta	2.22	142	ePn	Pb	09 47 54.3	-1.2
STHS	Stebnicka Huta	2.22	142	ePN	Pb	09 47 54.3	-1.2
STHS				eLG	Lg	09 48 43.7	
VRAC	Vranov	2.50	222	ePn	Pn	09 47 57.0	+0.8
VRAC				eSg	Sb	09 48 33.5	+2.2
VYHS	Vyhne	2.71	185	ePn	Pn	09 47 59.0	0.0
VYHS				eSn	Sn	09 48 31.6	-0.6
VYHS	Vyhne	2.71	185	ePN	Pn	09 47 59.0	0.0
VYHS				eSN	Sn	09 48 31.6	-0.6
CRVS	Cervenica-Dubn	2.73	146	ePn	Pn	09 48 00.0	+0.6
CRVS	Cervenica-Dubn	2.73	146	ePN	Pn	09 48 00.0	+0.6
KECS	Kecovo	2.84	162	ePn	Pn	09 48 00.3	-0.6
KECS	Kecovo	2.84	162	ePN	Pn	09 48 00.3	-0.6
KECS				eLG	Lg	09 48 48.5	
BRG	Berggiesshubel	3.31	267	PG	Pb	09 48 14.5	+0.5
BRG				SG	Sg	09 49 01.2	+0.3
	3.8nm,0.7s						
KHC	Kasperske Hory	4.13	242	eSG	Sg	09 49 24.9	-2.7
	comp=Z,5.9nm,0.6s						
KHC	Kasperske Hory	4.13	242	Sg	Sg	09 49 24.9	-2.7
	5.9nm,0.6s						

IDC 06 09:51:39.2±3.5, 54°.35N×86°.91E, h0km, mb1 2.9/2, mb1mx2.7/74, mbtmp2.9/2, ML2.6/2, Error ellipse: s-maj=30.9km s-min=18.5km az=56.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.29	253	i		10 00 01.6	
	baz=74,slow=331,SNR=4.2						
ZALV	Zalesovo Beam	1.29	253	Pg	Pg	09 52 02.4	-1.6
	1.6nm,0.3s,baz=71,slow=16,SNR=14						
ZALV				Lg	Lg	09 52 21.1	
	1.4nm,0.3s,baz=69,slow=28,SNR=6.3						
KURBB	Kurchatov Arra	6.33	237	Pn	Pn	09 53 14.4	+0.7
	0.1nm,0.3s,baz=54,slow=14,SNR=5.5						
MKAR	Makanchi Array	8.12	203	Pn	Pn	09 53 39.9	+1.6
	0.1nm,0.3s,baz=22,slow=16,SNR=2.9						

GUC 06 09:54:06.6±1.2, 22°.50S×70°.40W, h10km±15km, ML3.6, 1C-4D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB04	IPOC Station P	0.28	53	⇓iP	Pb	09 54 14.2	+0.2
PB04				i S	Sb	09 54 19.5	+0.7
PB04				IAML		09 54 19.7	
	comp=E,15μm,0.2s						
PB06	IPOC Station P	0.79	105	⇓iP	Pg	09 54 21.1	-0.8
PB06				i S	Sg	09 54 30.8	-1.3
PB06				IAML		09 54 32.7	
	comp=N,3μm,0.1s						
PB07	IPOC Station P	0.91	32	⇓iP	Pg	09 54 23.1	-1.0
PB07				i S	Sg	09 54 34.7	-1.2
PB07				IAML		09 54 37.7	
	comp=E,3μm,0.3s						
PB10	IPOC Station P	1.01	188	⇑iP	Pg	09 54 24.1	-2.1
PB10				i S	Sg	09 54 37.4	-2.0
PB10				IAML		09 54 40.4	
	comp=E,5μm,0.4s						
PB02	IPOC Station P	1.27	22	eP	Pn	09 54 28.4	-2.1
PB02				i S	Sb	09 54 45.0	-2.0
PB02				IAML		09 54 50.0	
	comp=E,2μm,0.8s						
PB09	IPOC Station P	1.28	57	⇓iP	Pn	09 54 29.1	-1.7
PB09				i S	Sb	09 54 45.9	-1.7
PB09				IAML		09 54 48.6	
	comp=E,3μm,1.0s						
PB01	IPOC Station P	1.68	30	eP	Pn	09 54 35.3	-0.9
PB01				i S	Sn	09 54 56.8	-1.1
PB01				IAML		09 54 59.6	
	comp=E,909nm,0.3s						

*SOME **06** 09:54:07.7, 44°.17N×83°.68E, h10km*
*NNC **06** 09:54:16.3±3.2, 44°.18N×83°.57E, h0km, mb2.7, mpv2.4, Error ellipse: s-maj=30.8km s-min=10.0km az=117.0*
ISC 06 09:54:12.0±2.9, 44°.10N±0°.09×83°.7E±0°.1, h20km, n8, σ1s.32/16, 4C-2D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTMS	Ketmen	2.50	256	eP	Pn	09 54 53.5	+1.9
	4.6nm,0.2s						
KTMS				eS	Sb	09 55 25.3	-1.4
	14nm,0.3s						
DJR	Jarkent	2.81	276	eP	Pb	09 54 60.0	-1.6
	2.6nm,0.2s						
DJR				eS	Sb	09 55 36.4	+0.8
	19nm,0.5s						
MK31	Makanchi Array	2.87	340	⇑Pn	Pb	09 55 01.2	-1.3
	0.3nm,0.3s,baz=164,slow=17,SNR=12						
MK31				⇑Sn	Sb	09 55 36.1	-1.1
	0.7nm,0.2s,baz=153,slow=27,SNR=9.0						
MAKZ	Makanchi	2.97	337	⇑Pn	Pb	09 55 04.3	+0.2
	0.6nm,0.3s						
MAKZ				⇑Sn	Sb	09 55 39.7	-0.2
	2.1nm,0.5s						
PDGK	Podgornoye	3.14	257	⇓Pn	Pb	09 55 06.0	-1.2
	1.4nm,0.7s						
PDGK				⇓Sn	Sb	09 55 44.9	-0.1
	5.8nm,0.7s						
KAPS	Kapalarasan	3.31	293	eP	Pb	09 55 08.4	-1.6
	0.4nm,0.2s						
KAPS				eS	Sb	09 55 50.9	+1.1
	4.0nm,0.4s						
MNBS	Baschi	3.81	272	eP	Pb	09 55 17.0	-1.5
	2.5nm,0.4s						
MNBS				eS	Sb	09 56 05.3	+1.0
	6.6nm,0.3s						
CHKK	Chushkaly	4.84	269	eP	Pb	09 55 34.7	-1.4
	1.3nm,0.3s						
CHKK				eS	Sb	09 56 34.6	+0.7
	3.2nm,0.3s						

*ISCJB **06** 09:55:43.5±0.8, 55°.13N±0°.08×90°.7E±0°.1, h10km, mb3.2/1, Error ellipse: s-maj=11.9km s-min=7.7km az=155.1*
*MOS **06** 09:55:46.3±0.9, 55°.18N×91°.19E, h14km, mb3.1/1, Error ellipse: s-maj=19.1km s-min=11.6km az=96.4*
*NNC **06** 09:56:00.5±3.1, 53°.56N×90°.63E, h0km, mb3.6, mpv3.4, Error ellipse: s-maj=23.9km s-min=22.2km az=130.0*
ISC 06 09:55:47.3±0.9, 55°.07N±0°.09×91°.04E±0°.07, h10km, n16, σ1s.97/16, 5C-12D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABNR	Abakan	1.36	170	d iPG	Pg	09 56 14.0	+0.5
KZLR	Kyzyl	3.94	147	ePN	Pn	09 56 49.0	+1.2
HVS	Khovu-Aksy	4.25	157	i PN	Pn	09 56 52.1	-0.1
NVS	Novosibirsk	4.50	270	ePG	Pg	09 57 21.8	+8.3
NVS				e		09 58 24.1	
KNGR	Kungurtug, Tuv	5.95	136	ePN	Pn	09 57 16.6	+1.1
KURK	Kurchatov	8.68	245	⇓Pn	Pn	09 57 55.6	+2.8
	3.2nm,0.9s						
KURK				⇓Sn	Sn	09 59 28.1	-2.5
	11nm,1.0s						
KURK				⇓Lg	Lg	10 00 16.7	
	52nm,1.1s						
KURK	Kurchatov	8.68	245	⇓eP	Pn	09 57 55.2	+2.4
MK31	Makanchi Array	9.95	217	⇓Pn	Pn	09 58 06.6	-3.6
	0.6nm,0.6s,baz=34,slow=14,SNR=6.5						
MK31				⇑Sn	Sn	09 59 44.9	-17
	7.1nm,1.1s,baz=44,slow=22,SNR=6.0						
MK31				⇓Lg	Lg	10 00 34.2	
	22nm,1.1s,baz=36,slow=27,SNR=3.5						
MAKZ	Makanchi	10.04	218	⇓Pn	Pn	09 58 09.4	-2.1
	0.4nm,0.3s						
MAKZ				⇑Sn	Sn	09 59 48.0	-16
	3.4nm,0.9s						
MAKZ				⇓Lg	Lg	10 00 37.6	
	11nm,1.3s						
ULN	Ulaanbaatar	12.30	119	⇓eP	Pn	09 58 43.4	+0.9
BRVK	Borovoye	12.35	269	deP	Pn	09 58 45.2	+2.1
AAK	Ala-Archa	16.47	228	⇓eP	P	09 59 41.2	-0.1
AAK				pmax	pmax		
	comp=Z,1.0nm,1.0s						
HIA	Hailar	18.46	96	⇑eP	P	10 00 01.3	-1.7
HIA				pmax	pmax		
	comp=Z,2.0nm,1.4s						
YAK	Yakutsk	21.06	55	eP	P	10 00 30.9	-0.3
TIXI	Tiksi	23.11	30	⇑eP	P	10 00 51.9	-1.0
TIXI				pmax	pmax		
	comp=Z,1.0nm,1.0s						
KLR	Kul'dur	25.37	86	⇑eP	P	10 01 13.5	-0.9

*ISCJB **06** 09:57:53.5±1.8, 53°.40N±0°.07×163°.53W±0°.06, h23km±14km, mb3.0/2, Error ellipse: s-maj=11.7km s-min=6.2km az=173.0*
*NEIC **06** 09:57:54.4±0.0, 53°.41N×163°.53W, h26km, ML3.1(AEIC), After AEIC.*
*IDC **06** 09:57:56.6±4.8, 53°.58N×162°.80W, h0km, mb3.2/3, mb1 3.6/5, mb1mx3.2/82, mbtmp3.3/5, ML3.2/2, Error ellipse: s-maj=86.9km s-min=39.0km az=94.0*
ISC 06 09:57:56.2±3.0, 53°.5N±0°.1×163°.53W±0°.05, h32km±21km, n29, σ1s.51/28, Unimak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WESE	West Dahl East	1.14	327	P	Pn	09 58 15.6	-0.4
WESE				S	Sb	09 58 32.3	+0.5
ISLZ	Isanotski Laza	1.21	355	P	Pn	09 58 17.1	+0.1
WESN	West Dahl Nort	1.22	330	P	Pn	09 58 17.0	-0.1
SSLS	Shishaldin Sou	1.23	347	P	Pn	09 58 17.3	+0.1
SSLW	Shishaldin Wes	1.30	345	P	Pn	09 58 18.2	+0.1
FALS	False Pass	1.34	3	P	Pn	09 58 18.5	-0.2
FALS				S	Sb	09 58 38.1	+0.6
AKSA	Akutan Strait	1.42	297	P	Pn	09 58 19.0	-0.8

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AKSA				S	Sn	09 58 38.0	+0.5
AKUT	Akutan	1.46	296	*e*Pn	Pn	09 58 18.2	-2.1
AKUT				*e*Sn	Sn	09 58 37.9	-0.5
AHB	Akutan Harbor	1.48	295	P	Pn	09 58 20.1	-0.5
AKRB	Akutan Reef Bi	1.62	293	P	Pn	09 58 21.7	-0.9
BALA	Baldy Mountain	1.73	14	P	Pn	09 58 25.4	+1.3
DT1	Dutton Round H	1.75	24	P	Pn	09 58 24.1	-0.3
UNV	Unalaska Valle	1.80	282	P	Pn	09 58 23.7	-1.2
UNV				S	Sn	09 58 47.3	+0.7
MGOD	Makushin Gods	2.01	279	P	Pn	09 58 27.7	-0.2
PS4A	Pavlof South-4	2.08	27	P	Pn	09 58 29.6	+0.8
SDPT	Sand Point	2.56	43	P	Pn	09 58 35.8	+0.4
OKSP	Okmok Steeple	2.86	267	P	Pn	09 58 39.0	-0.6
CHGN	Chignik	4.06	45	P	Pn	09 58 56.8	+0.8
KDAK	Kodiak Island	7.52	51	Pn	Pn	09 59 42.2	-1.3
	0.7nm,0.3s,baz=219,slow=5.1,SNR=15						
KDAK				Sn	Sn	10 01 02.0	-5.6
	0.1nm,0.3s,baz=198,slow=8.4,SNR=4.5						
ILAR	Eielson Array	14.09	30	Pn	Pn	10 01 11.7	-1.5
	0.1nm,0.3s,baz=222,slow=12,SNR=5.3						
INK	Inuvik	20.47	32	P	Pn	10 02 31.9	-1.1
	0.6nm,0.5s,baz=244,slow=11,SNR=7.5						
YKA	Yellowknife Ar	26.80	51	P	P	10 03 35.0	+2.0
	0.2nm,0.5s,baz=266,slow=8.3,SNR=11						
H11N2	WAKE ISLAND Hy	40.67	226	T	T	10 49 15.8	
	baz=26,slow=76,SNR=9.4						
H11N3	WAKE ISLAND Hy	40.68	225	T	T	10 49 09.0	
	baz=26,slow=76,SNR=7.6						
H11N1	WAKE ISLAND Hy	40.69	225	T	T	10 49 17.2	
	baz=26,slow=76,SNR=7.0						
H11S1	WAKE ISLAND Hy	41.84	225	T	T	10 50 42.1	
	baz=26,slow=76,SNR=12						
H11S2	WAKE ISLAND Hy	41.86	225	T	T	10 50 50.2	
	baz=26,slow=76,SNR=9.7						
H11S3	WAKE ISLAND Hy	41.86	225	T	T	10 50 47.1	
	baz=26,slow=76,SNR=8.7						
TXAR	Lajitas Array	49.25	95	P	P	10 06 43.3	+1.6
	0.2nm,0.9s,baz=286,slow=6.4,SNR=3.9						

DJA 06 10:02:58.5±1.2, 7°S±18°×10°6E±1°1, h42km±21km, M3.5/6, MLv3.5/6, Jawa

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SKJI	Sukabumi	0.47	17	P	Pn	10 03 10.5	+1.5
SKJI				S	Sn	10 03 19.0	+2.6
CGJI	Cibinong	1.11	319	P	Pn	10 03 18.0	+0.4
CGJI				S	Sn	10 03 32.7	+1.0
SBJI	Serang	1.36	348	P	Pn	10 03 21.1	0.0
CISI	Cisompet, Garu	1.39	94	P	Pn	10 03 21.6	+0.2
KASI	Kota Agung	2.71	315	P	Pn	10 03 39.0	-0.6
MDSI	Maura Dua	3.70	323	P	Pn	10 03 52.8	-0.4

*ISCJB **06** 10:22:17.9±0.4, 6°.58N±0°.03×73°.53W±0°.03, h124km±4km, mb3.4/1, Error ellipse: s-maj=5.0km s-min=3.8km az=30.9*
*IDC **06** 10:22:19.0±0.8, 6°.48N×73°.37W, h134km±13km, mb3.2/1, mb1 3.7/3, mb1mx3.0/46, mbtmp4.0/3, MS3.2/1, Ms1 3.2/1, ms1mx2.4/17, Error ellipse: s-maj=48.1km s-min=7.8km az=132.0*
*RSNC **06** 10:22:19.9±1.1, 6°.54N×73°.54W, h108km±5km, ML3.4*
ISC 06 10:22:18.5±0.9, 6°.58N±0°.03×73°.50W±0°.04, h117km±6km, n40, σ1s.38/59, 2C-2D, Northern Colombia

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BARC	Barichara	0.32	88	*i* P	Pn	10 22 36.1	+0.7
BARC				*e*S	Sn	10 22 48.5	+0.4
BARC				*i*		10 22 49.5	
	comp=Z,2μm,0.5s						
BRRC	Barranca, Sant	0.56	338	⇓*i*P	Pn	10 22 36.9	+0.4
BRRC				*e*S	Sn	10 22 50.7	+0.6
BRRC				*i*		10 22 52.1	
	comp=Z,452nm,0.4s						
RUSC	La Rusia	0.80	149	⇓*i*P	Pn	10 22 39.0	+0.1
RUSC				*e*S	Sn	10 22 54.1	-0.2
RUSC				*i*		10 22 55.7	
	comp=Z,336nm,0.6s						
PTBC	PUERTO BERRIO,	0.95	267	⇑*i*P	Pn	10 22 38.9	-0.9
PTBC				*e*S	Sn	10 22 53.7	-2.1
PTBC				*i*		10 22 55.0	
	comp=Z,466nm,0.5s						
PAMC	Pamplona, Colo	1.09	47	*e*P	Pn	10 22 42.6	+0.9
PAMC				*e*S	Sn	10 23 00.2	+1.0
ZARC	Zaragoza, Cauc	1.62	304	*e*P	Pn	10 22 47.9	+0.8
ZARC				*e*S	Sn	10 23 09.8	+0.8
ZARC				*i*		10 23 12.7	
	comp=Z,512nm,0.3s						
YOPC	Yopal, Colombi	1.63	139	*i* P	Pn	10 22 48.0	+0.7
YOPC				*e*S	Sn	10 23 09.1	-0.2
YOPC				*i*		10 23 11.3	
	comp=Z,280nm,0.5s						
OCAC	Ocana	1.66	6	*i* P	Pn	10 22 48.7	+1.0
OCAC				*e*S	Sn	10 23 11.2	+1.2
NORC	Norcasia	1.70	233	*i* P	Pn	10 22 47.5	-0.6
NORC				*e*S	Sn	10 23 09.1	-1.6
ROSC	El Rosal	1.91	205	P	Pn	10 22 52.3	+1.1
	comp=Z,49nm,0.3s,baz=38,slow=17,SNR=119						
ROSC				S	Sn	10 23 17.9	+1.9
	comp=Z,39nm,0.3s,baz=58,slow=22,SNR=12						
ROSC	El Rosal	1.91	205	⇑*i*P	Pn	10 22 52.2	+1.1
ROSC				*i*		10 23 22.2	
	comp=Z,236nm,0.5s						
CHIC	Chingaza	1.95	187	*e*P	Pn	10 22 51.3	-0.3
CHIC				*e*S	Sn	10 23 16.8	-0.2
CHIC				*i*		10 23 23.1	
	comp=Z,124nm,0.3s						
HELC	Santa Helena	2.05	259	*e*P	Pn	10 22 52.5	-0.3
HELC				*e*S	Sn	10 23 18.6	-0.4
HELC				*i*		10 23 21.5	
	comp=Z,190nm,0.3s						
GUYC	Guyana, Colomb	2.31	234	*e*P	Pn	10 22 56.9	+0.6
GUYC				*i*		10 22 58.3	
	comp=Z,283nm,0.5s						
GUYC				*e*S	Sn	10 23 24.8	-0.3
RREF	El Recreo	2.48	228	*e*P	Pn	10 22 58.8	+0.3
RREF				*i*		10 23 34.6	
	comp=Z,144nm,0.3s						
TOLC	Tolima	2.69	222	*e*P	Pn	10 23 01.3	+0.3
DBBC	Dabeiba	2.72	279	*e*P	Pn	10 23 02.4	+1.3
ANIL	Santa Ana	2.81	222	*e*P	Pn	10 23 02.5	0.0
ANIL				*e*S	Sn	10 23 35.8	-0.5
ANIL				*i*		10 23 45.8	
	comp=Z,380nm,0.3s						
MOTC	Monteria, Cord	3.06	316	*e*P	Pn	10 23 04.9	-0.6
MOTC				*e*S	Sn	10 23 41.9	+0.1
PRAC	Prado	3.17	206	*e*P	Pn	10 23 06.5	-0.5
PRAC				*e*S	Sn	10 23 44.4	0.0
PLMC	San Josˆ' del	3.23	239	*e*P	Pn	10 23 08.6	+0.7
PLMC				*i*		10 23 09.4	
	comp=Z,161nm,0.1s						
PLMC				*e*S	Sn	10 23 45.6	-0.3
SJAC	San Juan de Ar	3.32	188	*e*P	Pn	10 23 09.4	+0.4
CODC	Agustˆ›n Codaz	3.33	1	*e*P	Pn	10 23 10.5	+1.4
CODC				*i*		10 23 56.7	
	comp=Z,167nm,0.3s						
SDV	Santo Domingo	3.65	51	P	Pn	10 23 14.1	+0.6
	comp=Z,34nm,0.3s,baz=220,slow=8.7,SNR=250						
SDV				S	Sn	10 23 56.8	+0.8
	comp=Z,38nm,0.3s,baz=26,slow=15,SNR=44						
SDV	Santo Domingo	3.65	51	*e*P	Pn	10 23 14.1	+0.6
YOTC	Yotoco, Valle	3.83	228	*e*P	Pn	10 23 15.3	-0.6
SOLC	Bahia Solano	3.90	265	*e*P	Pn	10 23 16.9	+0.3
HORQ	Saladito	4.38	225	*e*P	Pn	10 23 23.9	+0.5
MARP	Paez Belalcaza	4.45	213	*e*P	Pn	10 23 23.9	-0.4
MALC	Bahia Malaga	4.59	236	*e*P	Pn	10 23 27.5	+1.6
POPC	Popayan, Colom	5.11	218	*e*P	Pn	10 23 33.2	0.0
PCON	Cinco Dias	5.12	214	*e*P	Pn	10 23 34.4	+0.8
SOTA	Rioblanco	5.40	215	*e*P	Pn	10 23 38.3	+1.1
SOTA				*i*		10 23 56.0	
	comp=Z,11nm,0.7s						
FLOC	Florencia	5.41	203	*e*P	Pn	10 23 36.4	-0.6
FLOC				*e*S	Sn	10 24 36.5	-1.7
PCRV	Puerto La Cruz	9.47	67	P	Pn	10 24 31.5	-0.4
	comp=Z,1.3nm,0.3s,baz=220,slow=6.8,SNR=9.6						
PCRV				S	Sn	10 26 09.6	-7.1
	comp=Z,0.2nm,0.3s,baz=354,slow=18,SNR=2.9						
JTS	JuntasAbangare	11.91	289	S	Sn	10 27 13.7	-2.1
	comp=Z,0.2nm,0.3s,baz=15,slow=16,SNR=2.7						
TKL	Tuckaleechee C	30.44	343	LR	LR	10 41 28.1	
	comp=Z,44nm,18.2s,baz=262,slow=38						
YKA	Yellowknife Ar	63.36	340	P	P	10 32 34.5	-0.5
	comp=Z,0.2nm,0.4s,baz=134,slow=6.6,SNR=10						
ASAR	Alice Springs	148.67	234	PKPbc	PKPdf	10 41 51.0	+1.9
	comp=Z,0.4nm,0.6s,baz=119,slow=3.9,SNR=5.9						
WRA	Warramunga Arr	149.89	241	PKPbc	PKPdf	10 41 54.0	+3.0
	comp=Z,0.4nm,0.6s,baz=109,slow=2.8,SNR=10						

*NIED **06** 10:23:00, 28°.10N×128°.00E, h5km, Mw4.0 Best double couple: $M_0$1.20000×10^{15} NP1:ϕ_s193.00000°, δ79.00000°, λ173.00000°. NP2:ϕ_s284.00000°, δ83.00000°, λ12.00000°.*
*JMA **06** 10:23:25.1±0.3, 28°.11N×128°.05E, h13km±4km, M4.0*
*IDC **06** 10:23:27.1±1.1, 27°.84N×128°.33E, h0km, mb3.5/4, mb1 3.8/5, mb1mx3.4/68, mbtmp3.6/5, ML3.2/1, MS3.4/12, Ms1 3.4/12, ms1mx3.1/48, Error ellipse: s-maj=47.9km s-min=16.1km az=90.0*
ISC 06 10:23:27.9±1.6, 27°.96N±0°.05×128°.20E±0°.06, h8km±10km, n29, σ1s.43/25, mb3.5/4, MS3.3/11, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JOKE	Okinoerabujima	0.68	151	P	Pg	10 23 41.8	+0.7
JOKE				*e*S	Sn	10 23 54.6	0.0
JTK	Tokunoshima	0.68	105	P	Pg	10 23 41.1	0.0
JTK				S	Sg	10 23 52.5	+2.5
JAMN	Amaminishikomi	0.90	72	P	Pg	10 23 44.1	-1.2
JAMN				S	Sg	10 23 57.0	0.0
JIH	Iheya	0.95	193	P	Pg	10 23 45.1	-1.0
JIH				S	Sb	10 23 59.2	0.0
JOW	Kunigami	1.13	177	Pn	Pg	10 23 48.6	-1.0
	110nm,0.3s,baz=239,slow=12,SNR=110						
JOW				Sn	Sb	10 24 04.5	+0.1
	59nm,0.3s,baz=282,slow=29,SNR=6.7						
JOW	Kunigami	1.13	177	P	Pg	10 23 48.6	-1.0
JOW				*e*S	Sn	10 24 05.4	-0.2
JAM	Amami Oshima	1.31	70	P	Pn	10 23 50.8	-1.7
JAM				S	Sb	10 24 08.4	-1.4
JNTH	Nagotoyohara	1.45	186	P	Pn	10 23 53.4	-1.0
JNTH				*e*S	Sn	10 24 13.2	-0.3
JTAJ	Takarajima	1.48	36	P	Pn	10 23 51.1	-3.7
JZK	Kikaishima	1.60	77	P	Pb	10 23 58.3	+0.6
JJT3	Tamagusuku3	1.85	192	P	Pn	10 24 00.1	+0.2
JJT3				*e*S	Sg	10 24 26.4	-1.0
JNU	Nakatsue	5.64	23	Pn	Pn	10 24 54.7	+2.7
	0.8nm,0.3s,baz=190,slow=12,SNR=7.0						
KSRS	Korea Array	9.47	359	LR	LR	10 29 22.0	
	comp=Z,108nm,19.9s,baz=178,slow=37						
MJAR	Matsushiro Arr	12.03	42	LR	LR	10 31 23.9	
	comp=Z,43nm,19.6s,baz=240,slow=40						
GUMO	Guam	21.11	129	LR	LR	10 34 52.3	
	comp=Z,72nm,19.9s,baz=20,slow=33						
KLR	Kul'dur	21.41	6	LR	LR	10 35 42.3	
	comp=Z,5.3nm,18.3s,baz=180,slow=34						
SONM	Songino Array	26.11	325	LR	LR	10 40 09.2	
	comp=Z,56nm,19.9s,baz=120,slow=38						
CMAR	Chiang Mai Arr	28.45	257	LR	LR	10 41 46.4	
	comp=Z,45nm,18.1s,baz=200,slow=38						
MKAR	Makanchi Array	40.38	310	P	P	10 31 07.8	+1.5
	0.4nm,0.5s,baz=97,slow=8.7,SNR=4.6						
ZALV	Zalesovo Beam	40.87	322	LR	LR	10 51 08.0	
	comp=Z,27nm,18.2s,baz=70,slow=40						
WRA	Warramunga Arr	47.99	172	P	P	10 32 06.6	-0.8
	0.8nm,0.9s,baz=354,slow=8.5,SNR=3.7						
BVAR	Borovoye Array	48.98	317	LR	LR	10 54 28.7	
	comp=Z,122nm,18.2s,baz=97,slow=38						
ASAR	Alice Springs	51.62	173	P	P	10 32 34.8	-0.3
	0.6nm,0.9s,baz=4.8,slow=12,SNR=3.8						
ARU	Arti	56.03	321	LR	LR	10 59 43.3	
	comp=Z,26nm,19.2s,baz=144,slow=39						
AKTO	Aktyubinsk	56.61	314	LR	LR	10 59 57.4	
	comp=Z,31nm,19.4s,baz=115,slow=39						
AFI	Afiamalu	71.47	117	LR	LR	10 58 40.4	
	comp=Z,143nm,21.2s,baz=260,slow=30						
AKASG	Malin Array Be	74.21	319	LR	LR	11 10 01.3	
	comp=Z,41nm,18.0s,baz=250,slow=38						
YKA	Yellowknife Ar	76.97	25	P	P	10 35 21.3	+0.5
	0.1nm,0.6s,baz=300,slow=5.9,SNR=5.0						
NOA	NORSAR Array B	77.75	334	LR	LR	11 14 21.6	
	comp=Z,17nm,18.4s,baz=250,slow=39						

*IDC **06** 10:24:58.8±2.7, 14°.18N×93°.14W, h0km, mb3.6/4, mb1 3.9/7, mb1mx3.6/48, mbtmp3.6/7, ML3.3/3, Error ellipse: s-maj=58.0km s-min=24.7km az=16.0*
*NEIC **06** 10:25:10.2±0.0, 14°.73N×93°.39W, h7km, mb4.0/1, MD4.1(MEX), After MEX.*
ISC 06 10:25:03.2±2.3, 14°.54N±0°.08×93°.10W±0°.05, h14km±13km, n19, σ0s.92/27, mb3.9/5, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
THIG		0.89	66	*e*P	Pb	10 25 21.0	+0.5
THIG				*e*S	Sn	10 25 35.1	+1.1
THIG		0.89	66	*e*P	Pb	10 25 21.0	+0.5
THIG				*e*S	Sn	10 25 35.1	+1.1
PCIG		1.16	354	*e*P	Pn	10 25 25.6	+0.5
PCIG				*e*S	Sb	10 25 39.2	-0.9
PCIG		1.16	354	*e*P	Pn	10 25 25.6	+0.5
PCIG				*e*S	Sb	10 25 39.2	-0.9
CCIG	Comitan	1.97	28	*e*P	Pg	10 25 40.7	-0.3
CCIG				*e*S	Sb	10 26 04.2	+0.8
CCIG	Comitan	1.97	28	*e*P	Pg	10 25 40.7	-0.3
CCIG				*e*S	Sb	10 26 04.2	+0.8
TGIG		2.23	360	*e*P	Pb	10 25 43.0	-0.3
TGIG				*e*S	Sn	10 26 06.2	-0.9
TGIG		2.23	360	*e*P	Pb	10 25 43.0	-0.3
TGIG				*e*S	Sn	10 26 06.2	-0.9
APG	El Apazote	2.59	79	Pn	Pn	10 25 44.1	-0.8
	3.5nm,0.3s,baz=264,slow=12,SNR=59						
APG				Sn	Sb	10 26 20.4	-1.1
	10nm,0.3s,baz=340,slow=10.0,SNR=5.6						
CMIG	Matias Romero	3.06	326	Pn	Pn	10 25 52.6	+1.4
	3.6nm,0.3s,baz=152,slow=13,SNR=14						
CMIG				Sn	Sb	10 26 34.8	0.0
	16nm,0.3s,baz=132,slow=14,SNR=6.5						
JTS	JuntasAbangare	9.01	117	Lg	Lg	10 29 31.4	
	0.1nm,0.3s,baz=159,slow=20,SNR=3.7						
JTS	JuntasAbangare	9.01	117	*e*Pn	Pn	10 27 25.7	+13
	7.6nm,0.9s						
JTS				*e*Sn	Sn	10 29 11.4	+17
TXAR	Lajitas Array	17.67	328	P	P	10 29 10.5	+0.5
	0.0nm,0.3s,baz=150,slow=13,SNR=8.4						
121A	Cookes Peak, D	22.36	326	*e*P	P	10 30 03.1	+2.0
	6.7nm,1.0s						
NVAR	Mina Array Bea	32.59	322	P	P	10 31 34.8	+0.2
	0.5nm,0.8s,baz=124,slow=13,SNR=2.8						
YKA	Yellowknife Ar	50.26	347	P	P	10 33 58.3	-0.5
	1.4nm,0.8s,baz=151,slow=7.4,SNR=26						
INK	Inuvik	59.62	344	P	P	10 35 06.4	-0.1
	0.8nm,0.9s,baz=134,slow=5.3,SNR=3.8						
ILAR	Eielson Array	61.93	337	P	P	10 35 21.9	-0.3
	0.2nm,0.6s,baz=101,slow=7.6,SNR=3.8						
CMAR	Chiang Mai Arr	145.13	340	PKPbc	PKPbc	10 44 39.1	-1.6
	0.8nm,0.4s,baz=322,slow=2.8,SNR=3.9						

*NEIC **06** 10:45:25.7±0.0, 16°.34N×98°.55W, h20km, MD4.1(MEX), After MEX.*
MEX 06 10:45:25.7±0.9, 16°.34N×98°.55W, h20km±62km, MD4.1, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.41	82	*i* P	Pb	10 45 29.9	-4.4
PNIG				*i* S	Sb	10 45 35.2	-5.0
PNIG	Pinotepa	0.41	82	*i* P	Pb	10 45 29.9	-4.4
PNIG				*i* S	Sb	10 45 35.2	-5.0
TLIG	Tlapa	1.22	359	*i* P	Pn	10 45 44.1	-3.7
TLIG				*e*S	Sb	10 45 59.4	-4.2
TLIG	Tlapa	1.22	359	*i* P	Pn	10 45 44.1	-3.7
TLIG				*e*S	Sb	10 45 59.4	-4.2
VHO	Vista Hermosa	1.89	67	*e*P	Pn	10 45 54.2	-2.9
VHO				*e*S	Sn	10 46 17.2	-3.2
VHO	Vista Hermosa	1.89	67	*e*P	Pn	10 45 54.2	-2.9
VHO				*e*S	Sn	10 46 17.2	-3.2
MOIG	Morelia	4.16	323	*e*Pn	Pn	10 46 29.6	+1.3
MOIG				*e*Sn	Sn	10 47 20.2	+3.6
JTS	JuntasAbangare	14.53	113	Pn	Pn	10 48 48.5	-1.9
JTS				Sn	Sn	10 51 32.0	+1.0

*IDC **06** 10:45:37.9±0.7, 57°.91S×25°.71W, h0km, mb4.3/7, mb1 4.4/8, mb1mx4.0/30, mbtmp4.4/8, ML4.6/1, MS3.2/3, Ms1 3.2/3, ms1mx2.9/27, Error ellipse: s-maj=29.5km s-min=22.4km az=74.0*
*ISCJB **06** 10:45:42.9±0.6, 57°.96S±0°.08×25°.7W±0°.3, h49km, mb4.3/8, MS3.2/2, Error ellipse: s-maj=21.3km s-min=9.2km az=162.7*
*NEIC **06** 10:45:43.3±0.2, 57°.93S×25°.67W, h35km, mb4.4/3, Error ellipse: s-maj=10.3km s-min=7.3km az=64.0*
ISC 06 10:45:44.6±0.6, 58°.10S±0°.09×25°.5W±0°.2, h49km, n48, σ1s.34/40, mb4.3/8, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VNA1	Neumayer--Stat	14.54	157	P	Pn	10 49 09.0	+2.1
VNA1				S	S	10 52 39.0	+35
VNA3	Neumayer Olymp	14.74	160	P	Pn	10 49 10.9	+1.3
VNA2	Neumayer--Watz	14.93	157	P	Pn	10 49 13.9	+1.8
	baz=321,slow=16						
VNA2				S	S	10 52 47.5	+36
SNAA	Sanae	16.48	155	P	P	10 49 34.8	+0.8
SNAA	Sanae	16.48	155	Pn	P	10 49 34.2	+0.2
	2.3nm,0.3s,baz=309,slow=14,SNR=105						
SNAA				Sn	Sn	10 52 29.0	-4.7
	0.1nm,0.3s,baz=332,slow=18,SNR=2.8						
SNAA				LR	LR	10 54 14.7	
	comp=Z,81nm,18.9s,baz=356,slow=31						
SNAA	Sanae	16.48	155	*e*Pn	P	10 49 34.5	+0.4
	10nm,0.8s						
SNAA				Sn	Sn	10 52 29.0	-4.7
QSPA	South Pole Qui	32.14	180	P	P	10 52 09.2	+2.1
	1.0nm,0.5s,baz=120,slow=3.6,SNR=4.2						
CPUP	Villa Florida	38.87	311	LR	LR	11 10 51.8	
	comp=Z,17nm,18.3s,baz=177,slow=39						
BOSA	Boshof	45.63	72	P	P	10 54 00.3	+0.3
	5.6nm,1.1s,baz=234,slow=8.5,SNR=3.7						
H10S2	ASCENSION HYDR	49.73	14	T	T	11 49 03.1	
	baz=188,slow=75,SNR=8.4						
H10S3	ASCENSION HYDR	49.74	14	T	T	11 49 03.4	
	baz=188,slow=75,SNR=6.5						
H10S1	ASCENSION HYDR	49.75	14	T	T	11 49 04.2	
	baz=188,slow=75,SNR=6.1						
H10N1	ASCENSION HYDR	50.85	14	T	T	11 50 30.6	
	baz=181,slow=72,SNR=16						
H10N3	ASCENSION HYDR	50.85	14	T	T	11 50 28.2	
	baz=181,slow=72,SNR=21						
H10N2	ASCENSION HYDR	50.87	14	T	T	11 50 29.2	
	baz=181,slow=72,SNR=10						
LPAZ	La Paz	52.33	305	P	P	10 54 50.2	-1.7
	0.9nm,0.4s,baz=88,slow=4.9,SNR=7.6						
SAML	Samuel	56.91	314	*e*P	P	10 55 23.4	-1.1
	2.5nm,0.6s						
DBIC	Dimbokro	66.68	22	P	P	10 56 29.6	-0.5
	3.6nm,0.7s,baz=203,slow=7.7,SNR=3.9						
DBIC	Dimbokro	66.68	22	*e*P	P	10 56 30.1	+0.1
	9.3nm,1.2s						
BBTS	Babate	72.87	9	LR	LR	11 20 18.8	
	comp=Z,25nm,21.2s,baz=118,slow=29						
TOA0	Torodi Ar. Sit	74.42	27	*e*P	P	10 57 17.4	+0.2
TORD	Torodi Ar. Bea	74.42	27	P	P	10 57 17.3	+0.1
	1.9nm,0.5s,baz=200,slow=6.4,SNR=24						
TOA1	Torodi Ar. Sit	74.42	27	*e*P	P	10 57 17.3	+0.1
PCRV	Puerto La Cruz	75.14	320	P	P	10 57 20.6	-0.8
	8.4nm,0.8s,baz=196,slow=5.7,SNR=3.9						
ASAR	Alice Springs	96.74	161	P	P	10 59 10.2	+0.5
	0.6nm,0.8s,baz=182,slow=4.2,SNR=6.2						
PDAR	Pinedale Array	122.21	300	PKhKP	PKPpre	11 04 28.8	
	0.2nm,0.5s,baz=125,slow=4.4,SNR=3.8						
MOOW	Moose Ponds	123.52	300	*e*PKPdf	PKPdf	11 04 35.8	+0.1
FXWY	Fox Creek	123.56	300	*e*PKPdf	PKPdf	11 04 36.3	+0.5
FIA0	FINESS Array S	125.77	28	*e*PKPdf	PKPdf	11 04 38.6	-0.4
FINES	FINESS Array B	125.77	28	PKP	PKPdf	11 04 38.6	-0.4
	0.8nm,0.5s,baz=132,slow=2.8,SNR=6.5						
YKA	Yellowknife Ar	138.31	316	PKP	PKPdf	11 05 02.5	-0.2
	0.4nm,0.3s,baz=129,slow=2.2,SNR=21						
INK	Inuvik	147.98	318	*e*PKPbc	PKPbc	11 05 22.4	-0.3
DAWY	Dawson	148.84	309	*e*PKPbc	PKPbc	11 05 24.6	-0.6
SONA0	Songino Array	149.87	89	*e*PKPbc	PKPbc	11 05 28.5	+0.2
SONM	Songino Array	149.87	89	PKPbc	PKPbc	11 05 28.5	+0.2
	1.7nm,0.6s,baz=232,slow=3.7,SNR=11						
SONA1	Songino Array	149.89	89	*e*PKPbc	PKPbc	11 05 28.6	+0.3
MENT	Mentasta	150.29	306	*e*PKPbc	PKPbc	11 05 29.1	+0.4
DOT	Dot Lake	150.66	307	*e*PKPbc	PKPbc	11 05 29.9	+0.4
SCRK	Sand Creek	150.73	308	*e*PKPbc	PKPbc	11 05 29.6	-0.2
RIDG	Independ'e Rid	151.02	307	*e*PKPbc	PKPbc	11 05 31.0	+0.5
FYU	Fort Yukon	151.90	313	*e*PKPbc	PKPbc	11 05 33.0	+0.7
IL1	Eielson Array	152.16	308	*e*PKPbc	PKPbc	11 05 32.6	-0.3
ILAR	Eielson Array	152.16	308	PKPbc	PKPbc	11 05 32.6	-0.3
	5.3nm,0.8s,baz=141,slow=2.3,SNR=52						
ILB	Eielson Array	152.16	308	*e*PKPbc	PKPbc	11 05 32.5	-0.4
WRH	Wood River Hil	152.59	308	*e*PKPbc	PKPbc	11 05 33.8	-0.1
RND	Reindeer	152.65	305	*e*PKPbc	PKPbc	11 05 34.7	+0.6
TOLK	Toolik Lake Re	153.84	317	*e*PKPbc	PKPbc	11 05 36.7	+0.1
IM3	Indian Mountai	155.20	310	*e*PKPbc	PKPbc	11 05 40.0	

*IDC **06** 10:54:52.1±1.6, 32°.86N×76°.67E, h0km, mb3.6/7, mb1 3.7/9, mb1mx3.4/73, mbtmp3.6/9, ML3.3/2, Error ellipse: s-maj=31.7km s-min=24.4km az=42.0*
*ISCJB **06** 10:54:53.4±1.0, 32°.99N±0°.09×76°.7E±0°.2, h15km, mb3.5/6, Error ellipse: s-maj=18.6km s-min=13.6km az=5.0*
ISC 06 10:54:54.6±1.3, 32°.9N±0°.1×76°.7E±0°.2, h15km, n9, σ0s.46/10, mb3.6/6, Kashmir-India border region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MKAR	Makanchi Array	14.49	16	Pn	Pn	10 58 19.8	+0.6
	0.3nm,0.3s,baz=194,slow=13,SNR=8.7						
MKAR				Sn	Sn	11 00 59.0	-0.6
	0.1nm,0.3s,baz=198,slow=18,SNR=3.3						
KURBB	Kurchatov Arra	17.73	4	P	Pn	10 59 00.4	-0.5
	0.1nm,0.3s,baz=194,slow=10,SNR=3.5						
BVAR	Borovoye Array	20.60	349	P	P	10 59 33.2	+0.2
	1.4nm,0.7s,baz=159,slow=8.6,SNR=8.3						
ZALV	Zalesovo Beam	21.80	13	P	P	10 59 45.7	-0.2
	0.8nm,0.4s,baz=204,slow=11,SNR=3.7						
AKTO	Aktyubinsk	22.27	327	P	P	10 59 51.2	+0.2
	1.0nm,0.5s,baz=127,slow=16,SNR=4.7						
CMAR	Chiang Mai Arr	24.61	120	P	P	11 00 14.1	-0.5
	1.4nm,0.4s,baz=302,slow=10,SNR=4.5						
SONM	Songino Array	26.88	48	P	P	11 00 35.3	+0.4
	0.3nm,0.4s,baz=255,slow=8.8,SNR=3.2						
BRTR	Keskin Array B	35.09	294	P	P	11 01 47.2	-0.2
	0.6nm,0.7s,baz=106,slow=9.1,SNR=4.2						
YKA	Yellowknife Ar	84.48	5	P	P	11 07 26.7	+0.2
	0.3nm,0.8s,baz=343,slow=5.2,SNR=5.6						

*IDC **06** 10:56:56.6±0.9, 15°.12S×173°.54W, h0km, mb3.8/5, mb1 4.2/6, mb1mx3.7/49, mbtmp3.9/6, ML4.1/1, Error ellipse: s-maj=47.2km s-min=21.3km az=140.0*
*ISCJB **06** 10:56:59.3±0.9, 15°.1S±0°.3×173°.6W±0°.2, h30km, mb3.8/5, Error ellipse: s-maj=50.8km s-min=16.5km az=140.7*
ISC 06 10:57:01.0±0.9, 15°.0S±0°.3×173°.4W±0°.2, h30km, n14, σ1s.95/9, mb3.7/5, Tonga Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	1.89	55	Pn	Pn	10 57 31.6	+0.3
	64nm,0.3s,baz=211,slow=19,SNR=125						
AFI				Sn	Sn	10 57 51.1	-3.2
	397nm,0.3s,baz=91,slow=19,SNR=30						
H11S2	WAKE ISLAND Hy	38.65	329	T	T	11 45 10.4	
	baz=146,slow=75,SNR=13						
H11S3	WAKE ISLAND Hy	38.66	329	T	T	11 45 11.5	
	baz=146,slow=75,SNR=11						
H11S1	WAKE ISLAND Hy	38.66	329	T	T	11 45 09.1	
	baz=146,slow=75,SNR=10.0						
H11N3	WAKE ISLAND Hy	39.59	330	T	T	11 46 20.4	
	baz=150						
H11N1	WAKE ISLAND Hy	39.60	330	T	T	11 46 20.2	
	baz=150						
H11N2	WAKE ISLAND Hy	39.61	330	T	T	11 46 21.4	
	baz=150						
ASAR	Alice Springs	50.26	252	P	P	11 05 52.8	-2.2
	1.5nm,0.4s,baz=85,slow=8.1,SNR=45						
VNDA	Vanda	63.76	186	P	P	11 07 29.3	-0.4
	1.1nm,0.8s,baz=0.1,slow=6.2,SNR=7.0						
NVAR	Mina Array Bea	74.02	42	P	P	11 08 35.8	+1.4
	0.3nm,0.6s,baz=271,slow=8.2,SNR=3.9						
TXAR	Lajitas Array	80.37	56	P	P	11 09 11.8	+1.8
	0.8nm,0.9s,baz=210,slow=4.3,SNR=6.3						
PDAR	Pinedale Array	81.96	42	P	P	11 09 19.8	+1.4
	0.4nm,0.8s,baz=212,slow=4.5,SNR=4.7						
GERES	GERESS Array B	145.76	352	PKPbc	PKPbc	11 16 37.3	0.0
	0.4nm,0.5s,baz=28,slow=3.8,SNR=7.2						
BRTR	Keskin Array B	145.88	321	PKPbc	PKPab	11 16 38.8	+0.4
	1.3nm,0.7s,baz=122,slow=2.9,SNR=6.0						

ISK ***06*** *11:01:23.9, 38°.50N×39°.30E, h15km, ML2.7/4*
CSEM ***06*** *11:01:24.3±0.3, 38°.49N×39°.32E, h2km, ML3.2, Error ellipse: s-maj=5.0km s-min=4.8km az=41.0*
DDA ***06*** *11:01:24.7, 38°.53N×39°.30E, h7km, Ml3.2*
ISC 06 11:01:24.3±0.9**, 38°.51N**±0°.02×**39°.32E**±0°.02**, h17**km±7km**, n25,** σ0s.57/48**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ELZG	**Elazig**	**0.26**	**268**	*i* P	**Pg**	**11 01 30.1**	**-0.2**
ELZG				*i* S	**Sg**	**11 01 34.4**	**0.0**
ELZG	**Elazig**	**0.26**	**268**	P	**Pg**	**11 01 30.1**	**-0.2**
ELZG				S	**Sg**	**11 01 34.3**	**0.0**
PTK	**Pertek**	**0.39**	**9**	PG	**Pg**	**11 01 32.4**	**0.0**
PTK				SG	**Sb**	**11 01 38.7**	**0.0**
TNCL	**Tunceli-Merkez**	**0.63**	**16**	*i* P	**Pg**	**11 01 36.7**	**-0.1**
TNCL				*i* S	**Sb**	**11 01 46.2**	**+0.6**
TNCL	**Tunceli-Merkez**	**0.63**	**16**	P	**Pg**	**11 01 36.7**	**-0.1**
TNCL				S	**Sb**	**11 01 46.2**	**+0.6**
MALT	**Malatya**	**0.73**	**255**	PG	**Pg**	**11 01 38.1**	**-0.5**
MALT				SG	**Sb**	**11 01 48.7**	**+0.3**
DYBB	**Diyarbakir**	**0.85**	**130**	PG	**Pb**	**11 01 40.8**	**0.0**
DYBB				SG	**Sg**	**11 01 53.1**	**+0.9**
HANI	**Diyarbakir_Han**	**0.85**	**96**	*i* P	**Pb**	**11 01 41.3**	**+0.5**
HANI				*i* S	**Sn**	**11 01 53.9**	**0.0**
HANI	**Diyarbakir_Han**	**0.85**	**96**	P	**Pb**	**11 01 41.3**	**+0.5**
HANI				S	**Sn**	**11 01 53.9**	**0.0**
DIY	**Diyarbakir**	**0.94**	**130**	*e*Pg	**Pb**	**11 01 40.8**	**-1.5**
DIY				*e*Sg	**Sb**	**11 01 53.1**	**-1.4**
KEMA	**Kemaliye**	**0.99**	**320**	*i* P	**Pb**	**11 01 42.7**	**-0.5**
KEMA				*i* S	**Sg**	**11 01 56.8**	**+0.1**
KEMA	**Kemaliye**	**0.99**	**320**	P	**Pb**	**11 01 42.7**	**-0.5**
KEMA				S	**Sg**	**11 01 56.8**	**+0.1**
AKCD	**Akcadag**	**1.12**	**259**	*i* P	**Pb**	**11 01 45.2**	**-0.1**
AKCD				*i* S	**Sn**	**11 02 00.2**	**-0.2**
AKCD	**Akcadag**	**1.12**	**259**	P	**Pb**	**11 01 45.2**	**-0.1**
AKCD				S	**Sn**	**11 02 00.2**	**-0.2**
HEKM	**Malatya_Hekimh**	**1.13**	**290**	*i* P	**Pb**	**11 01 45.2**	**-0.3**
HEKM				*i* S	**Sg**	**11 02 02.6**	**+1.7**
HEKM	**Malatya_Hekimh**	**1.13**	**290**	P	**Pb**	**11 01 45.2**	**-0.3**
HEKM				S	**Sg**	**11 02 02.6**	**+1.7**
URFA	**Urfa**	**1.14**	**200**	PN	**Pn**	**11 01 45.5**	**-0.1**
URFA				SN	**Sg**	**11 02 01.3**	**+0.1**
URFA	**Urfa**	**1.14**	**200**	*e*Pn	**Pn**	**11 01 45.5**	**-0.1**
ATAB	**Bozova**	**1.32**	**218**	*i* P	**Pg**	**11 01 50.3**	**+0.6**
ATAB				*i* S	**Sg**	**11 02 06.7**	**-0.2**
ATAB	**Bozova**	**1.32**	**218**	P	**Pg**	**11 01 50.3**	**+0.6**
ATAB				S	**Sg**	**11 02 06.7**	**-0.2**
SANL	**SANLIURFA_Merk**	**1.36**	**191**	*i* P	**Pg**	**11 01 51.0**	**+0.4**
SANL				*i* S	**Sg**	**11 02 08.5**	**+0.2**
SANL	**SANLIURFA_Merk**	**1.36**	**191**	P	**Pg**	**11 01 51.0**	**+0.4**
SANL				S	**Sg**	**11 02 08.5**	**+0.2**
DARE	**Darende-Malaty**	**1.44**	**273**	PN	**Pn**	**11 01 49.8**	**0.0**
KELT	**Kelkit**	**1.64**	**358**	*i* P	**Pg**	**11 01 55.7**	**-0.2**
KELT				*i* S	**Sg**	**11 02 17.2**	**0.0**
KELT	**Kelkit**	**1.64**	**358**	P	**Pg**	**11 01 55.7**	**-0.2**
KELT				S	**Sg**	**11 02 17.2**	**0.0**

NEIC ***06*** *11:04:23.4±0.0, 16°.68N×95°.14W, h133km, MD4.0(MEX), After MEX.*
MEX 06 11:04:23.4±0.3**, 16°.68N×95°.14W, h133**km±7km**, MD4.0, Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**1.30**	**226**	*e*P	Pn	11 04 48.2	-1.3
HUIG				*e*S	Sn	11 05 10.1	+0.6
HUIG	**Huatulco**	**1.30**	**226**	*e*P	Pn	11 04 48.2	-1.3
HUIG				*e*S	Sn	11 05 10.1	+0.6
TUIG	**Tuzandepetl**	**1.51**	**27**	*i* S	Sn	11 05 03.4	-10
VHO	**Vista Hermosa**	**1.57**	**285**	*e*P	Pn	11 04 51.6	-1.1
VHO				*e*S	Sn	11 05 13.3	-1.7
VHO	**Vista Hermosa**	**1.57**	**285**	*e*P	Pn	11 04 51.6	-1.1
VHO				*e*S	Sn	11 05 13.3	-1.7
PCIG		**2.09**	**117**	*e*P	Pn	11 04 57.2	-1.3
PCIG				*i* S	Sn	11 05 23.8	-1.7
PCIG		**2.09**	**117**	*e*P	Pn	11 04 57.2	-1.3
PCIG				*i* S	Sn	11 05 23.8	-1.7
TLIG	**Tlapa**	**3.39**	**285**	*e*P	Pn	11 05 14.3	-1.0
TLIG				*i* S	Sn	11 05 54.5	-1.0
TLIG	**Tlapa**	**3.39**	**285**	*e*P	Pn	11 05 14.3	-1.0
TLIG				*i* S	Sn	11 05 54.5	-1.0
JCT	**Junction City**	**14.38**	**344**	*e*Pn	Pn	11 07 39.8	-1.1
JCT				*e*Sn	Sn	11 10 18.0	-2.0

IDC ***06*** *11:04:45.4±4.7, 11°.32S×115°.66E, h0km, mb3.5/3, mb1 3.5/4, mb1mx3.3/53, mbtmp3.4/4, ML3.2/1, Error ellipse: s-maj=296.3km s-min=24.9km az=45.0*
ISCJB ***06*** *11:04:49.1±1.0, 11°.3S±0°.1×115°.97E±0°.06, h33km, mb3.5/3, Error ellipse: s-maj=15.5km s-min=8.6km az=13.3*
DJA ***06*** *11:04:51.8±1.6, 11°S±16°×11°6E±°, h12km±23km, M3.9/6, MLv3.9/6*
ISC 06 11:04:51.6±1.5**, 11°.1S**±0°.1×**115°.95E**±0°.08**, h35**km**, n8,** σ**1s.42**/10**, mb3.7**/3**, South of Bali**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SRBI	**Singaraja**	**3.11**	**346**	P	**Pn**	**11 05 39.0**	**+0.9**
JAGI	**Jajag, Banyuwa**	**3.18**	**326**	P	**Pn**	**11 05 41.4**	**+2.3**
JAGI				S	**Sn**	**11 06 13.3**	**-2.5**
WBSI	**Waikabubak, Su**	**3.69**	**67**	P	**Pn**	**11 05 46.1**	**-0.2**
WBSI				S	**Sn**	**11 06 29.6**	**+1.0**
BATI	**Baumata**	**7.64**	**84**	Sn	**Sn**	**11 08 06.5**	**+0.6**
	1.3nm,0.3s,baz=14,slow=20,SNR=3.2						
WRA	**Warramunga Arr**	**19.75**	**119**	P	**P**	**11 09 18.3**	**-0.4**
	0.1nm,0.3s,baz=290,slow=12,SNR=3.6						
WRA				S	S	11 12 45.4	-14
	0.0nm,0.3s,baz=294,slow=21,SNR=3.0						
ASAR	**Alice Springs**	**21.16**	**128**	P	**P**	**11 09 34.0**	**0.0**
	0.4nm,0.6s,baz=302,slow=10,SNR=7.8						
MKAR	**Makanchi Array**	**65.04**	**335**	P	**P**	**11 15 28.0**	**-0.4**
	0.6nm,0.4s,baz=150,slow=7.2,SNR=10						
KURBB	**Kurchatov Arra**	**69.59**	**336**	P	**P**	**11 15 56.5**	**-0.5**
	0.6nm,0.8s,baz=154,slow=5.1,SNR=2.8						

MEX 06 11:05:21.6±0.5**, 16°.09N×98°.56W, h10**km**, MD3.9, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.51**	**54**	*e*P	Pg	11 05 30.8	-0.8
PNIG				*e*S	Sg	11 05 38.2	-0.3
TLIG	**Tlapa**	**1.46**	**360**	*e*P	Pn	11 05 44.6	-3.7
TLIG				*i* S	Sn	11 06 02.5	-5.1
VHO	**Vista Hermosa**	**2.01**	**61**	*e*P	Pn	11 05 53.8	-2.0

IDC ***06*** *11:24:02.0±0.6, 5°.55S×150°.92E, h0km, mb4.1/11, mb1 4.4/13, mb1mx4.1/47, mbtmp4.2/13, ML1.7/1, MS3.4/12, Ms1 3.4/12, ms1mx3.2/39, Error ellipse: s-maj=23.6km s-min=17.4km az=120.0*
ISCJB ***06*** *11:24:06.6±0.4, 5°.82S±0°.06×151°.02E±0°.06, h43km, mb4.3/23, MS3.4/10, Error ellipse: s-maj=10.4km s-min=6.1km az=40.9*
NEIC ***06*** *11:24:08.8±0.9, 5°.82S×151°.06E, h49km±9km, mb4.3/14, Error ellipse: s-maj=10.3km s-min=6.3km az=138.0*
ISC 06 11:24:08.2±0.5**, 5°.85S**±0°.07×**151°.03E**±0°.06**, h43**km**, n51,** σ**1s.25**/51**, mb4.3**/23**, MS3.4**/10**, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RABL	**Rabaul**	**2.00**	**35**	*e*Pn	**Pn**	**11 24 41.6**	**+2.1**
PMG	**Port Moresby**	**5.21**	**227**	Pn	**Pn**	**11 25 23.7**	**0.0**
	1.5nm,0.3s,baz=51,slow=12,SNR=5.8						
PMG				Sn	**Sn**	**11 26 23.1**	**+0.5**
	15nm,0.3s,baz=113,slow=13,SNR=4.0						
PMG				LR	LR	11 27 27.1	
	comp=Z,324nm,21.2s,baz=348,slow=38						
PMG	**Port Moresby**	**5.21**	**227**	*e*Pn	**Pn**	**11 25 23.8**	**+0.1**
PMG				*e*Sn	**Sn**	**11 26 22.9**	**+0.3**
PMG				*e*Sg	**Sn**	**11 26 23.1**	**+0.5**
HNR	**Honiara**	**9.53**	**112**	Pn	**Pn**	**11 26 22.9**	**0.0**
	10nm,0.3s,baz=343,slow=19,SNR=7.8						
HNR				LR	LR	11 29 26.1	
	comp=Z,133nm,20.4s,baz=31,slow=33						
HNR	**Honiara**	**9.53**	**112**	*e*Pn	**Pn**	**11 26 21.6**	**-1.3**
HNR				*e*Sn	**Sn**	**11 28 07.6**	**-1.2**
COEN	**Coen**	**11.16**	**223**	*e*Pn	**Pn**	**11 26 46.1**	**+0.8**
GUMO	**Guam**	**20.25**	**342**	LR	LR	11 34 48.2	
	comp=Z,64nm,22.0s,baz=144,slow=32						
MTN	**Manton Dam**	**20.81**	**249**	*e*P	**P**	**11 28 46.5**	**+0.3**
	21nm,1.2s						
WRAB	**Tennant Creek**	**21.42**	**228**	*e*P	**P**	**11 28 53.2**	**+0.6**
	9.4nm,0.7s						
WB2	**Warramunga Arr**	**21.43**	**228**	*e*P	**P**	**11 28 53.5**	**+0.7**
WR1	**Warramunga Arr**	**21.43**	**228**	*e*P	**P**	**11 28 53.5**	**+0.6**
	10.0nm,0.6s						
WRA	**Warramunga Arr**	**21.43**	**228**	P	**P**	**11 28 53.5**	**+0.6**
	4.4nm,0.5s,baz=54,slow=10,SNR=96						
WRA				LR	LR	11 37 20.3	
	comp=Z,85nm,19.2s,baz=285,slow=37						
DZM	**Mont Dzumac**	**21.96**	**139**	P	**P**	**11 28 58.8**	**+0.3**
	3.0nm,0.6s,baz=315,slow=8.6,SNR=6.5						
DZM	**Mont Dzumac**	**21.96**	**139**	*e*P	**P**	**11 28 58.9**	**+0.3**
	11nm,1.5s						
AS01	**Alice Springs**	**24.16**	**221**	*e*P	**P**	**11 29 21.7**	**+1.2**
AS31	**Alice Springs**	**24.19**	**221**	*e*P	**P**	**11 29 22.5**	**+1.7**
	3.6nm,0.5s						
ASAR	**Alice Springs**	**24.20**	**221**	P	**P**	**11 29 21.9**	**+1.1**
	7.0nm,0.6s,baz=57,slow=8.9,SNR=94						
STKA	**Stephens Creek**	**27.36**	**198**	P	**P**	**11 29 50.9**	**+1.6**
	3.6nm,0.9s,baz=11,slow=10,SNR=2.9						
STKA				LR	LR	11 41 07.5	
	comp=Z,123nm,18.1s,baz=351,slow=37						
STKA	**Stephens Creek**	**27.36**	**198**	*e*P	**P**	**11 29 50.7**	**+1.4**
	1.7nm,1.0s						
DAV	**Davao City (W)**	**28.45**	**296**	LR	LR	11 39 32.7	
	comp=Z,45nm,19.6s,baz=154,slow=33						
LUWI	**Luwuk**	**28.59**	**279**	*e*P	**P**	**11 30 00.4**	**-0.2**
	17nm,0.8s						
YOJ	**Yonaguni jima**	**40.65**	**319**	*e*P	**P**	**11 31 44.5**	**+0.1**
	70nm,1.0s						
NACB	**Ninganchiao**	**41.39**	**317**	*e*P	**P**	**11 31 52.3**	**+1.8**
	37nm,1.2s						
CISI	**Cisompet, Garu**	**42.94**	**265**	*e*P	**P**	**11 32 03.1**	**-0.2**
	28nm,0.6s						
MJAR	**Matsushiro Arr**	**43.84**	**345**	LR	LR	11 50 03.5	
	comp=Z,31nm,18.1s,baz=165,slow=36						
KSRS	**Korea Array**	**48.17**	**335**	P	**P**	**11 32 44.0**	**-0.3**
	1.5nm,0.7s,baz=156,slow=8.0,SNR=5.3						
KSAR	**Wonju Array Be**	**48.17**	**335**	P	**P**	**11 32 44.0**	**-0.3**
PETK	**Petropavlovsk-**	**59.00**	**5**	LR	LR	11 55 40.0	
	comp=Z,24nm,19.9s,baz=131,slow=32						
SONA0	**Songino Array**	**66.28**	**329**	*e*P	**P**	**11 34 48.5**	**-3.7**
SONM	**Songino Array**	**66.28**	**329**	P	**P**	**11 34 48.5**	**-3.7**
	0.2nm,0.3s,baz=129,slow=3.9,SNR=3.3						
SONM				LR	LR	12 03 10.0	
	comp=Z,38nm,20.7s,baz=194,slow=36						
SONA1	**Songino Array**	**66.28**	**329**	*e*P	**P**	**11 34 53.5**	**+1.3**
MK01	**Makanchi Array**	**79.94**	**319**	*e*P	**P**	**11 36 12.9**	**+0.1**
MK32	**Makanchi Array**	**79.96**	**319**	*e*P	**P**	**11 36 11.3**	**-1.6**
MKAR	**Makanchi Array**	**79.96**	**319**	P	**P**	**11 36 11.3**	**-1.6**
	0.6nm,0.7s,baz=86,slow=6.5,SNR=3.8						
MKAR				LR	LR	12 11 07.1	
	comp=Z,21nm,19.9s,baz=138,slow=36						
CAST	**Castle Rocks**	**81.14**	**22**	*e*P	**P**	**11 36 18.5**	**-0.4**
	3.9nm,1.2s						
MLY	**Manley**	**82.49**	**21**	*e*P	**P**	**11 36 25.1**	**-0.9**
	4.6nm,1.4s						
MCK	**McKinley**	**82.50**	**23**	*e*P	**P**	**11 36 23.8**	**-2.2**
	5.2nm,0.9s						
ILAR	**Eielson Array**	**83.79**	**22**	P	**P**	**11 36 31.2**	**-1.4**
	1.3nm,0.5s,baz=253,slow=4.8,SNR=16						
ILB	**Eielson Array**	**83.79**	**22**	*e*P	**P**	**11 36 31.1**	**-1.5**
INK	**Inuvik**	**90.06**	**21**	P	**P**	**11 37 02.0**	**-0.9**
	0.9nm,0.9s,baz=284,slow=8.3,SNR=4.8						
INK	**Inuvik**	**90.06**	**21**	*e*P	**P**	**11 37 01.9**	**-1.1**
	3.5nm,1.4s						
YBH	**Yreka Blue Hor**	**91.07**	**48**	P	**P**	**11 37 09.4**	**+0.9**
	1.5nm,0.8s,baz=262,slow=4.0,SNR=7.0						
YBH				LR	LR	12 10 20.3	
	comp=Z,20nm,20.6s,baz=251,slow=30						
NVAR	**Mina Array Bea**	**94.12**	**52**	P	**P**	**11 37 23.9**	**+1.1**
	2.2nm,0.7s,baz=252,slow=6.2,SNR=11						
NVAR				LR	LR	12 15 48.8	
	comp=Z,40nm,18.6s,baz=100,slow=33						
NV01	**Mina Array Sit**	**94.12**	**52**	*e*P	**P**	**11 37 23.1**	**+0.3**
NV11	**Mina Array Sit**	**94.23**	**52**	*e*P	**P**	**11 37 23.6**	**+0.3**
	0.3nm,0.9s						
YKA	**Yellowknife Ar**	**97.17**	**28**	P	**P**	**11 37 34.9**	**-0.9**
	0.1nm,0.4s,baz=271,slow=4.7,SNR=5.3						
PDAR	**Pinedale Array**	**100.86**	**48**	P	**Pdif**	**11 37 53.0**	**-0.1**
	0.6nm,0.7s,baz=232,slow=3.1,SNR=5.6						
GERES	**GERESS Array B**	**124.00**	**327**	PKP	**PKPdf**	**11 43 03.0**	**+0.9**
	0.7nm,0.5s,baz=71,slow=1.6,SNR=8.2						
TORD	**Torodi Ar. Bea**	**148.92**	**286**	PKPbc	**PKPbc**	**11 43 52.7**	**+0.3**
	11nm,0.7s,baz=61,slow=3.1,SNR=55						
TOA1	**Torodi Ar. Sit**	**148.92**	**286**	*e*PKPbc	**PKPbc**	**11 43 52.7**	**+0.2**
KOWA	**Kowa**	**154.00**	**291**	PKPbc	**PKPbc**	**11 44 04.3**	**+0.1**
	2.5nm,0.4s,baz=76,slow=2.1,SNR=7.6						

NIED ***06*** *11:24:00, 30°.50N×139°.00E, h440km, Mw4.3 Best double couple: M0 3.53000×10^15 NP1: φs 17.00000°, δ21.00000°, λ-158.00000°. NP2: φs 266.00000°, δ82.00000°, λ-70.00000°.*
BJI ***06*** *11:24:47.2, 30°.37N×138°.65E, h406km, mb4.5/15, mB4.8/11*
JMA ***06*** *11:24:48.5±0.2, 30°.54N×139°.04E, h435km, M4.0*
MOS ***06*** *11:24:48.4±0.8, 30°.43N×138°.54E, h412km, mb4.2/33, Error ellipse: s-maj=12.0km s-min=6.0km az=99.2*
NEIC ***06*** *11:24:49.5±0.4, 30°.40N×138°.58E, h411km±4km, mb4.2/22, Error ellipse: s-maj=5.8km s-min=5.1km az=110.0*
IDC ***06*** *11:24:50.6±1.0, 30°.49N×138°.54E, h418km±10km, mb3.6/33, mb1 3.7/39, mb1mx3.6/70, mbtmp4.4/39, Error ellipse: s-maj=10.0km s-min=8.1km az=86.0*
ISCJB ***06*** *11:24:50.9±0.3, 30°.57N±0°.03×138°.55E±0°.05, h440km, mb4.0/58, Error ellipse: s-maj=5.7km s-min=4.4km az=11.6*
ISC 06 11:24:52.3±0.4**, 30°.62N**±0°.05×**138°.58E**±0°.07**, h440**km**, n158,** σ**1s.85**/173**, mb4.0**/58**, 9C-3D, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**2.69**	**22**	P	**P**	**11 25 53.0**	**-3.2**
	96nm,0.3s,baz=126,slow=22,SNR=38						
JHJ				S	**S**	**11 26 41.8**	**-6.4**
	26nm,0.3s,baz=73,slow=19,SNR=2.5						
JHJ2	**Mitsune**	**2.69**	**23**	P	**P**	**11 25 52.6**	**-3.6**
JHJ2				S	**S**	**11 26 43.0**	**-5.2**
JHJ2	**Mitsune**	**2.69**	**23**	*e*P	**P**	**11 25 52.8**	**-3.4**
TK01	**Tokai 1**	**3.24**	**345**	P	**P**	**11 25 59.7**	**-0.2**
TTO1	**TONANKAI O.B.S**	**3.36**	**333**	P	**P**	**11 26 00.0**	**-0.9**
TK02	**Tokai 2**	**3.39**	**348**	P	**P**	**11 26 00.3**	**-0.9**
TTO4	**TONANKAI O.B.S**	**3.49**	**346**	P	**P**	**11 26 01.0**	**-1.0**
JWZ	**Kozaga**	**3.78**	**321**	P	**P**	**11 26 03.4**	**-1.4**
JWZ				S	**S**	**11 27 02.0**	**-1.9**
JIE	**Ise**	**4.08**	**338**	P	**P**	**11 26 06.6**	**-0.8**
JIE				S	**S**	**11 27 07.3**	**-1.3**
JKN2	**Miekihoku**	**4.10**	**332**	P	**P**	**11 26 06.5**	**-1.1**
HMMJ	**Hamamatsu 2**	**4.28**	**350**	P	**P**	**11 26 08.2**	**-1.0**
BSO3	**Boso 3**	**4.47**	**21**	P	**P**	**11 26 06.9**	**-3.8**
BSO1	**Boso 1**	**4.50**	**26**	P	**P**	**11 26 07.2**	**-3.4**
BSO4	**Boso 4**	**4.60**	**18**	P	**P**	**11 26 08.5**	**-3.6**
JOD2	**Odawara 2**	**4.65**	**5**	P	**P**	**11 26 09.9**	**-2.8**
CBIJ	**Chichi jima**	**4.73**	**137**	P	P	11 26 06.8	-6.8
CBIJ				S	S	11 27 07.7	-12
CBIJ	**Chichi jima**	**4.73**	**137**	*e*P	P	11 26 06.5	-7.1
CBIJ				*e*S	S	11 27 10.0	-10
JCJ	**Chichijima**	**4.73**	**137**	P	P	11 26 06.5	-7.1
	41nm,0.3s,baz=6.9,slow=16,SNR=64						
JCJ				S	S	11 27 08.6	-11
	77nm,0.3s,baz=298,slow=23,SNR=20						
JNY	**Yasuok**	**4.76**	**353**	P	**P**	**11 26 12.7**	**-1.1**
JAO	**Obara**	**4.76**	**347**	P	**P**	**11 26 13.0**	**-0.8**
JAO				S	**S**	**11 27 17.9**	**-2.4**
JEG	**Eigenji**	**4.86**	**338**	P	**P**	**11 26 14.6**	**-0.1**
INU	**Inuyama**	**4.89**	**345**	*e*P	**P**	**11 26 13.7**	**-1.3**
INU				*e*S	**S**	**11 27 20.2**	**-2.2**
JHU	**Hanno**	**5.25**	**6**	P	**P**	**11 26 15.1**	**-3.4**
JHU				S	**S**	**11 27 21.9**	**-7.0**
JRY	**Ryogami san**	**5.39**	**3**	P	**P**	**11 26 17.3**	**-2.6**
JYT	**Yasato**	**5.75**	**13**	P	**P**	**11 26 19.3**	**-4.2**
JAG	**Ashikaga**	**5.83**	**7**	P	**P**	**11 26 20.5**	**-3.9**
MJAR	**Matsushiro Arr**	**5.91**	**357**	P	**P**	**11 26 22.8**	**-2.4**
	4.1nm,0.3s,baz=175,slow=12,SNR=50						
MAJO	**Matsushiro**	**5.91**	**357**	*e*P	**P**	**11 26 23.1**	**-2.2**
MAJO				*e*S	**S**	**11 27 39.8**	**-1.5**
MAJO	**Matsushiro**	**5.91**	**357**	*c i*P	**P**	**11 26 23.0**	**-2.2**
MAT	**Matsushiro**	**5.91**	**357**	P	**P**	**11 26 23.0**	**-2.2**
MAT				S	**S**	**11 27 35.9**	**-5.3**
MJB9	**Matsu-Tunnel**	**5.92**	**357**	*e*P	**P**	**11 26 23.0**	**-2.2**
MJB9				*e*S	**S**	**11 27 39.9**	**-1.4**
JNU	**Nakatsue**	**7.01**	**293**	P	**P**	**11 26 36.8**	**-0.2**
	0.5nm,0.3s,baz=163,slow=14,SNR=4.2						
KSRS	**Korea Array**	**11.16**	**310**	P	**P**	**11 27 22.8**	**+0.9**
	1.3nm,0.3s,baz=124,slow=9.7,SNR=39						
KS15	**Wonju Array Si**	**11.18**	**310**	*e*P	**P**	**11 27 23.1**	**+1.0**
KS01	**Wonju Array Si**	**11.19**	**311**	*e*P	**P**	**11 27 21.9**	**-0.4**
KS01				*e*		11 29 24.9	
ERM	**Erimo**	**11.95**	**17**	⇓*e*P	**P**	**11 27 30.6**	**+0.1**
ASAJ	**Asahikawa**	**13.84**	**12**	P	**P**	**11 27 51.9**	**+0.9**
	0.6nm,0.3s,baz=234,slow=18,SNR=6.7						
USRK	**Ussuriysk Ar.**	**14.52**	**341**	P	**P**	**11 27 58.5**	**+0.2**
	0.8nm,0.3s,baz=162,slow=11,SNR=19						
MDJ	**Mudanjiang**	**15.66**	**336**	*e*P	**P**	**11 28 11.2**	**+0.6**
	16nm,0.8s						
YSS	**Yuzh-Sakhalins**	**16.62**	**10**	*e*P	**P**	**11 28 22.2**	**+1.6**
YSS				pmax	pmax		
	comp=Z,20nm,0.9s						
CN2	**Changchun**	**16.78**	**325**	*e*P	**P**	**11 28 22.2**	**-0.1**
YULB	**Yu-li**	**16.99**	**249**	*e*P	**P**	**11 28 22.9**	**-2.1**
	comp=Z,22nm,1.2s						
SSLB	**Suanglung**	**17.08**	**251**	*e*P	**P**	**11 28 23.8**	**-2.2**
	comp=Z,32nm,1.3s						
KLR	**Kul'dur**	**19.29**	**346**	P	**P**	**11 28 48.1**	**+0.6**
	comp=Z,0.2nm,0.3s,baz=148,slow=9.4,SNR=57						
KLR	**Kul'dur**	**19.29**	**346**	*d i*P	**P**	**11 28 47.7**	**+0.1**
GRNR	**Gornyy**	**20.19**	**356**	*e*P	**P**	**11 28 57.9**	**+2.2**
GRNR				pmax	pmax		
	comp=Z,63nm,1.0s						
NKL	**Nikolayevsk**	**22.56**	**3**	*e*P	**P**	**11 29 18.5**	**+1.3**
NKL				pmax	pmax		
	comp=N,17nm,1.0s						
NKL				pmax	pmax		
	comp=Z,43nm,1.0s						
ZEA	**Zeya**	**24.52**	**344**	*e*P	**P**	**11 29 35.2**	**+0.5**
ZEA				pmax	pmax		
	comp=Z,26nm,0.8s						
PETK	**Petropavlovsk-**	**26.44**	**26**	P	**P**	**11 29 52.9**	**+1.1**
	comp=Z,3.8nm,0.8s,baz=130,slow=2.3,SNR=3.8						
PETK	**Petropavlovsk-**	**26.44**	**26**	*e*P	**P**	**11 29 52.2**	**+0.4**
PET	**Petropavlovsk**	**26.74**	**27**	*e*P	**P**	**11 29 54.9**	**+0.4**
ULN	**Ulaanbaatar**	**29.60**	**315**	*e*P	**P**	**11 30 19.8**	**-0.1**
	comp=Z,7.6nm,1.3s						
ULN	**Ulaanbaatar**	**29.60**	**315**	*ce*P	**P**	**11 30 20.7**	**+0.8**
ULN				pmax	pmax		
	comp=Z,7.0nm,1.4s						
SONA1	**Songino Array**	**29.99**	**314**	*e*P	**P**	**11 30 23.6**	**+0.3**
SONM	**Songino Array**	**29.99**	**314**	P	**P**	**11 30 23.8**	**+0.5**
	comp=Z,1.1nm,0.5s,baz=125,slow=8.5,SNR=11						
MA2	**Magadan**	**30.10**	**12**	P	**P**	**11 30 24.9**	**+1.1**
	comp=Z,14nm,0.7s,baz=199,slow=9.3,SNR=12						
YAK	**Yakutsk**	**31.95**	**352**	P	**P**	**11 30 40.2**	**+0.5**
	comp=Z,14nm,0.4s,baz=164,slow=2.3,SNR=5.1						
YAK	**Yakutsk**	**31.95**	**352**	*e*P	**P**	**11 30 35.2**	**-4.6**
YAK				*e*		11 33 16.0	
YAK				*e*S	**S**	**11 35 18.2**	**-0.2**
YAK				*e**SS	**sS**	**11 37 38.4**	**-5.2**
YAK				*e*SS	**SS**	**11 37 56.7**	**-2.4**
YAK				pmax	pmax		
	comp=Z,15nm,0.9s						
YAK				pmax	pmax		
	comp=N,3.0nm,0.9s						
YAK				pmax	pmax		
	comp=Z,254nm,4.5s						
YAK				pmax	pmax		
	comp=N,138nm,4.3s						
YAK				pmax	pmax		
	comp=E,230nm,4.7s						
YAK				smax	smax		
	comp=N,152nm,4.9s						
YAK				smax	smax		
	comp=E,104nm,4.9s						
SEY	**Seymchan**	**33.52**	**11**	P	**P**	**11 30 54.7**	**+1.5**
	comp=E,6.4nm,0.8s,baz=198,slow=6.8,SNR=18						
LUWI	**Luwuk**	**34.90**	**208**	*e*P	**P**	**11 31 04.0**	**-1.5**
	comp=E,22nm,1.0s						
CMAR	**Chiang Mai Arr**	**37.85**	**261**	P	**P**	**11 31 29.1**	**-0.9**
	comp=E,0.9nm,0.4s,baz=46,slow=8.4,SNR=8.4						
CMAR	**Chiang Mai Arr**	**37.85**	**261**	P	**P**	**11 31 29.2**	**-0.9**
CMAR				pmax	pmax		
	comp=Z,3.0nm,0.4s						
HVS	**Khovu-Aksy**	**38.88**	**315**	⇑*e*P	**P**	**11 31 39.6**	**+1.5**
HVS				pmax	pmax		
	comp=Z,12nm,0.7s						
KSM	**Kuching**	**39.48**	**228**	*e*P	**P**	**11 31 41.5**	**-1.8**
	comp=Z,8.0nm,0.9s						
BILL	**Bilibino**	**40.82**	**16**	*c i*P	**P**	**11 31 54.8**	**+1.3**
BILL				*i* *PP	**pP**	**11 33 17.5**	**+1.5**
BILL				*i*		11 33 39.0	
BILL				*i*		11 33 51.0	
BILL				pmax	pmax		
	comp=Z,17nm,0.9s						
TIXI	**Tiksi**	**41.42**	**355**	P	**P**	**11 31 58.4**	**+0.3**
	comp=Z,4.1nm,0.5s,baz=139,slow=5.1,SNR=2.8						
TIXI	**Tiksi**	**41.42**	**355**	*de*P	**P**	**11 31 58.6**	**+0.5**
TIXI				pmax	pmax		
	comp=Z,4.0nm,0.6s						
MTN	**Manton Dam**	**43.81**	**191**	*e*P	**P**	**11 32 15.6**	**-2.1**
	comp=Z,16nm,0.9s						
ZALV	**Zalesovo Beam**	**44.76**	**317**	P	**P**	**11 32 25.4**	**+0.7**
	comp=Z,1.4nm,0.4s,baz=86,slow=8.9,SNR=1.6						
JIRN	**Jiri**	**45.52**	**280**	*e*P	**P**	**11 32 32.0**	**+0.5**
	comp=Z,34nm,0.3s						
GUN	**Gumba**	**45.71**	**280**	*e*P	**P**	**11 32 33.6**	**+0.7**
	comp=Z,10.0nm,0.4s						
MK01	**Makanchi Array**	**45.81**	**307**	*e*P	**P**	**11 32 33.1**	**+0.1**
MK31	**Makanchi Array**	**45.81**	**307**	*e*P	**P**	**11 32 33.5**	**+0.5**
MK31	**Makanchi Array**	**45.81**	**307**	*e*P	**P**	**11 32 33.5**	**+0.5**
MKAR	**Makanchi Array**	**45.81**	**307**	P	**P**	**11 32 33.5**	**+0.4**
	comp=Z,2.0nm,0.7s,baz=92,slow=10,SNR=20						
MKAR				ScP	**ScP**	**11 37 14.2**	**+2.0**
	comp=Z,1.0nm,0.8s,baz=80,slow=2.7,SNR=4.4						
MKAR	**Makanchi Array**	**45.81**	**307**	*e*P	**P**	**11 32 33.6**	**+0.5**
	comp=Z,13nm,0.8s						
MKAR	**Makanchi Array**	**45.81**	**307**	*e*P	**P**	**11 32 33.6**	**+0.5**
MKAR				pmax	pmax		
	comp=Z,13nm,0.8s						
DMN	**Daman**	**46.45**	**280**	*e*P	**P**	**11 32 38.8**	**+0.3**
	comp=Z,4.8nm,0.3s						
GKN	**Gorkha**	**46.73**	**281**	*e*P	**P**	**11 32 41.2**	**+0.7**
	comp=Z,5.1nm,0.4s						
KOLN	**Koldanda**	**47.68**	**281**	*e*P	**P**	**11 32 48.4**	**+0.6**
	comp=Z,4.1nm,0.4s						
PYUN	**Piuthan**	**48.10**	**282**	*e*P	**P**	**11 32 51.5**	**+0.6**
	comp=Z,20nm,0.5s						
KURK	**Kurchatov**	**48.27**	**312**	*e*P	**P**	**11 32 51.9**	**+0.3**
	comp=Z,4.2nm,0.7s						
KURK	**Kurchatov**	**48.27**	**312**	*ce*P	**P**	**11 32 51.4**	**-0.2**
KURK				pmax	pmax		
	comp=Z,4.0nm,0.7s						
KURBB	**Kurchatov Arra**	**48.33**	**312**	P	**P**	**11 32 52.0**	**0.0**
	comp=Z,3.0nm,0.5s,baz=92,slow=7.2,SNR=16						
GSI	**Gunungsitoli**	**48.56**	**241**	*e*P	**P**	**11 32 50.7**	**-3.5**
	comp=Z,44nm,1.0s						
WRAB	**Tennant Creek**	**50.43**	**185**	*e*P	**P**	**11 33 06.2**	**-1.8**
	comp=Z,10nm,0.7s						
WRAB	**Tennant Creek**	**50.43**	**185**	*e*P	**P**	**11 33 06.2**	**-1.8**
WRAB				pmax	pmax		
	comp=Z,11nm,0.7s						
WRA	**Warramunga Arr**	**50.44**	**185**	P	**P**	**11 33 06.5**	**-1.5**
	comp=Z,13nm,0.6s,baz=2.1,slow=7.7,SNR=64						
WRA				ScP	**ScP**	**11 37 34.0**	**+2.0**
	comp=Z,1.2nm,0.7s,baz=357,slow=4.5,SNR=8.0						
AAK	**Ala-Archa**	**51.68**	**302**	P	**P**	**11 33 17.8**	**+0.6**
	comp=Z,0.8nm,0.3s,baz=104,slow=8.3,SNR=3.1						
BVAR	**Borovoye Array**	**53.32**	**316**	P	**P**	**11 33 29.2**	**+0.6**
	comp=Z,2.0nm,0.3s,baz=96,slow=7.5,SNR=18						
BRVK	**Borovoye**	**53.38**	**316**	*c i*P	**P**	**11 33 29.4**	**+0.4**
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.9s						
KDAK	**Kodiak Island**	**53.51**	**38**	P	**P**	**11 33 31.0**	**+1.2**
	comp=Z,4.6nm,0.6s,baz=188,slow=1.2,SNR=15						
KDAK	**Kodiak Island**	**53.51**	**38**	*i* P	**P**	**11 33 30.6**	**+0.8**
CAST	**Castle Rocks**	**53.88**	**31**	*e*P	**P**	**11 33 32.4**	**0.0**
	comp=Z,5.6nm,0.8s						
AS01	**Alice Springs**	**54.16**	**185**	*e*P	**P**	**11 33 33.1**	**-1.8**
AS31	**Alice Springs**	**54.16**	**185**	*e*P	**P**	**11 33 32.8**	**-2.1**
	comp=Z,3.7nm,0.6s						
ASAR	**Alice Springs**	**54.17**	**185**	P	**P**	**11 33 33.8**	**-1.2**
	comp=Z,5.8nm,0.6s,baz=15,slow=12,SNR=45						
ASAR				ScP	**ScP**	**11 37 50.4**	**+2.2**
	comp=Z,0.2nm,0.8s,baz=358,slow=4.3,SNR=4.1						
KK05	**Karatay Array**	**54.47**	**303**	*e*P	**P**	**11 33 37.6**	**+0.6**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
KK06	Karatay Array	54.48	303	eP	P	11 33 37.6	+0.6
KK02	Karatay Array	54.49	303	eP	P	11 33 37.6	+0.5
KK31	Karatay Array	54.49	303	eP	P	11 33 37.6	+0.5
KK31	Karatay Array	54.49	303	eP	P	11 33 37.6	+0.5
KKAR	Karatay Array	54.49	303	eP	P	11 33 37.8	+0.7
KKAR	Karatay Array	54.49	303	eP	P	11 33 37.8	+0.7
MLY	Manley	54.55	29	eP	P	11 33 38.9	+1.8
	comp=Z,4.5nm,1.0s						
COLA	College	55.77	30	eP	P	11 33 47.8	+2.1
COLA				pmax	pmax		
	comp=Z,24nm,3.9s						
ILAR	Eielson Array	56.19	30	P	P	11 33 48.8	+0.2
	comp=Z,0.8nm,0.8s,baz=288,slow=5.6,SNR=8.2						
BMRM	Bremner River	57.43	34	eP	P	11 33 59.0	+1.7
	comp=Z,13nm,0.9s						
DOT	Dot Lake	57.47	31	eP	P	11 33 58.3	+0.8
	comp=Z,9.9nm,0.8s						
SCRK	Sand Creek	57.48	31	eP	P	11 33 58.8	+1.1
	comp=Z,4.2nm,0.8s						
MENT	Mentasta	57.67	32	eP	P	11 34 00.8	+1.8
	comp=Z,7.3nm,1.1s						
DZM	Mont Dzumac	58.83	150	P	P	11 34 07.8	+0.4
	comp=Z,6.6nm,1.0s,baz=328,slow=16,SNR=3.6						
ARU	Arti	59.70	321	P	P	11 34 13.0	+0.3
	comp=Z,4.2nm,0.4s,baz=96,slow=10,SNR=9.6						
AB06	Akbulak array	60.37	312	eP	P	11 34 17.6	+0.3
AB07	Akbulak array	60.38	312	eP	P	11 34 17.7	+0.3
AB05	Akbulak array	60.38	312	eP	P	11 34 17.5	+0.1
AB02	Akbulak array	60.38	312	eP	P	11 34 17.8	+0.4
AB01	Akbulak array	60.38	312	eP	P	11 34 17.8	+0.4
AB31	Akbulak array	60.38	312	eP	P	11 34 17.9	+0.5
AB31	Akbulak array	60.38	312	eP	P	11 34 17.9	+0.5
ABKAR	Akbulak array	60.38	312	eP	P	11 34 17.9	+0.5
AB03	Akbulak array	60.38	312	eP	P	11 34 17.6	+0.2
AB04	Akbulak array	60.39	312	eP	P	11 34 17.9	+0.4
AB08	Akbulak array	60.40	312	eP	P	11 34 17.8	+0.3
AB09	Akbulak array	60.40	312	eP	P	11 34 17.9	+0.4
INK	Inuvik	61.17	25	P	P	11 34 23.4	+1.1
	comp=Z,0.8nm,0.5s,baz=291,slow=4.4,SNR=11						
AKTO	Aktyubinsk	61.31	314	P	P	11 34 24.2	+0.7
	comp=Z,2.0nm,0.5s,baz=73,slow=14,SNR=8.1						
STKA	Stephens Creek	62.23	177	P	P	11 34 29.3	-0.3
	comp=Z,6.7nm,0.8s,baz=346,slow=6.8,SNR=7.0						
SPITS	Spitsbergen Ar	66.34	349	P	P	11 34 56.8	+1.4
	comp=Z,12nm,1.0s,baz=58,slow=5.4,SNR=3.1						
ARCES	ARCESS Array B	69.17	340	P	P	11 35 14.2	+1.4
	comp=Z,2.9nm,0.5s,baz=65,slow=8.2,SNR=22						
RES	Resolute Bay	69.37	13	eP	P	11 35 15.1	+1.1
	comp=Z,2.2nm,0.7s						
RES	Resolute Bay	69.37	13	eP	P	11 35 15.1	+1.1
RES				pmax	pmax		
	comp=Z,2.0nm,0.7s						
YKB5	Yellowknife Ar	70.54	28	eP	P	11 35 21.4	+0.2
YKA	Yellowknife Ar	70.54	28	P	P	11 35 22.1	+0.9
	comp=Z,1.1nm,0.7s,baz=297,slow=6.0,SNR=26						
OBN	Obninsk	71.83	324	⇑eP	P	11 35 30.3	+1.4
OBN				S	SKiKP	11 44 25.0	+5.9
OBN				e		11 44 59.3	
OBN				pmax	pmax		
	comp=Z,6.0nm,0.5s						
KBZ	Khabaz	73.31	311	P	P	11 35 39.0	+1.2
	comp=Z,1.7nm,0.5s,baz=129,slow=2.6,SNR=8.4						
KBZ	Khabaz	73.31	311	P	P	11 35 39.0	+1.2
KBZ				pmax	pmax		
	comp=Z,2.0nm,0.5s						
KIV	Kislovodsk	73.34	311	eP	P	11 35 40.1	+2.0
KIV				pmax	pmax		
	comp=Z,6.0nm,1.0s						
KIV				MLR	MLR		
	comp=Z,20nm,18.0s						
FINES	FINESS Array B	73.38	332	P	P	11 35 38.6	+0.8
	comp=Z,2.4nm,0.4s,baz=63,slow=5.3,SNR=28						
GNI	Garni	73.66	307	⇑eP	P	11 35 40.2	+0.1
GNI				pmax	pmax		
	comp=Z,9.0nm,0.7s						
WALA	Waterton Lakes	77.81	40	eP	P	11 36 04.7	+1.7
	comp=Z,3.6nm,0.8s						
AKASG	Malin Array Be	77.91	322	P	P	11 36 03.6	+0.3
	comp=Z,1.3nm,0.4s,baz=51,slow=5.7,SNR=7.3						
AKASG	Malin Array Be	77.91	322	P	P	11 36 03.6	+0.3
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.5s						
HFS	Hagfors	78.93	335	P	P	11 36 09.3	+0.7
	comp=Z,2.3nm,0.4s,baz=78,slow=3.2,SNR=17						
NB2	NORSAR Subarra	79.16	337	P	P	11 36 10.2	+0.3
	comp=Z,1.1nm,0.6s,baz=43,slow=5.3						
NOA	NORSAR Array B	79.16	337	P	P	11 36 10.4	+0.5
	comp=Z,2.0nm,0.7s,baz=44,slow=5.4,SNR=6.5						
NVAR	Mina Array Bea	80.79	51	P	P	11 36 20.5	+1.3
	comp=Z,0.6nm,0.7s,baz=278,slow=6.3,SNR=3.7						
BOZ	Bozeman (W)	81.02	42	eP	P	11 36 21.8	+1.6
	comp=Z,2.1nm,0.6s						
BOZ	Bozeman (W)	81.02	42	eP	P	11 36 21.8	+1.6
BOZ				pmax	pmax		
	comp=Z,2.0nm,0.6s						
BRTR	Keskin Array B	81.30	311	P	P	11 36 21.8	0.0
	comp=Z,0.7nm,0.5s,baz=117,slow=4.3,SNR=5.3						
YHB	Horse Butte	81.76	42	eP	P	11 36 24.9	+0.8
	comp=Z,4.1nm,0.9s						
BR231	Keskin MP Arra	81.80	312	eP	P	11 36 23.4	-0.9
BUR04	Bucovina Ar. S	81.84	321	eP	P	11 36 25.5	+1.2
PASC	Pasadena Art C	83.12	54	eP	P	11 36 32.2	+1.2
PDAR	Pinedale Array	83.88	43	P	P	11 36 35.8	+0.8
	comp=Z,0.6nm,0.7s,baz=262,slow=3.0,SNR=7.1						
PV10	Paradox Valley	86.82	47	eP	P	11 36 46.8	-2.5
ANMO	Albuquerque	90.56	48	ceP	P	11 37 08.6	+1.8
ANMO				pmax	pmax		
	comp=Z,13nm,3.5s						
TXAR	Lajitas Array	95.94	51	P	P	11 37 32.6	+1.2
	comp=Z,0.3nm,0.6s,baz=292,slow=3.8,SNR=4.8						

*IDC **06** 11:33:34.8±1.8, 43°.46S×172°.46E, h0km, mb3.7/2, mb1 3.9/3, mb1mx3.6/37, mbtmp3.7/3, ML3.2/1, Error ellipse: s-maj=46.1km s-min=13.6km az=156.0*
*ISCJB **06** 11:33:36.6±0.3, 43°.62S±0°.03×172°.37E±0°.03, h19km±3km, mb3.6/2, Error ellipse: s-maj=5.1km s-min=3.4km az=140.0*
*WEL **06** 11:33:36.3, 43°.6S±0°.9×17°2E±°, h9km±1km, ML4.2/7*
*NEIC **06** 11:33:37.5±0.0, 43°.58S×172°.36E, h10km, ML4.2(WEL), After WEL.*
NEIC Felt in Canterbury.
ISC 06 11:33:36.9±0.8**, 43°.58S**±0°.03×**172°.37E**±0°.03**, h17**km±5km**, n109,** σ1s**.40**/112**, 1C-2D, South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EYCZ	Eyrewell	0.15	357	P	Pg	11 33 40.9	-0.1
EYCZ	Eyrewell	0.15	357	S	Sg	11 33 43.3	-0.5
CRLZ	Canterbury Las	0.19	90	⇑Pg	Pg	11 33 42.0	+0.5
CRLZ				Sg	Sg	11 33 44.9	+0.2
CRLZ	Canterbury Las	0.19	90	P	Pg	11 33 42.1	+0.5
CRLZ	Canterbury Las	0.19	90	S	Sg	11 33 44.4	-0.2
MQZ	McQueen's Vall	0.25	122	⇓ePg	Pg	11 33 42.4	0.0
MQZ	McQueen's Vall	0.25	122	P	Pg	11 33 42.5	0.0
MQZ	McQueen's Vall	0.25	122	S	Sg	11 33 46.4	+0.2
OXZ	Oxford	0.34	316	⇓Pg	Pb	11 33 44.2	-0.4
OXZ	Oxford	0.34	316	P	Pb	11 33 44.2	-0.4
OXZ	Oxford	0.34	316	S	Sb	11 33 49.3	-0.5
AKCZ	Akaroa Harbour	0.49	127	P	Pb	11 33 47.2	0.0
OKCZ	Okains Bay	0.53	107	P	Pb	11 33 48.0	+0.2
LTZ	Lake Taylor	0.80	355	eP*	Pb	11 33 52.5	+0.1
LTZ	Lake Taylor	0.80	355	P	Pn	11 33 53.0	-0.4
RPZ	Rata Peaks	0.96	261	Pg	Pn	11 33 55.9	+0.3
	537nm,0.3s,baz=123,slow=3.1,SNR=1154						
RPZ				Lg	Lg	11 34 08.3	
	492nm,0.3s,baz=340,slow=19,SNR=46						
RPZ	Rata Peaks	0.96	261	P	Pn	11 33 56.0	+0.3
INZ	Inchbonnie	1.08	321	P	Pb	11 33 57.4	+0.2
WVZ	Waitaha Valley	1.29	292	Pn	Pb	11 34 00.9	+0.2
WVZ	Waitaha Valley	1.29	292	P	Pb	11 34 00.9	+0.2
KHZ	Kahutara	1.44	37	Pn	Pn	11 34 02.1	-0.1
KHZ	Kahutara	1.44	37	P	Pn	11 34 02.3	0.0
LBZ	Lake Benmore	1.77	242	Pn	Pn	11 34 07.3	+0.5
LBZ	Lake Benmore	1.77	242	P	Pn	11 34 07.3	+0.5
FOZ	Fox Glacier	1.85	270	Pn	Pb	11 34 09.5	-0.8
FOZ	Fox Glacier	1.85	270	P	Pb	11 34 09.6	-0.8
THZ	Tophouse	1.85	13	Pn	Pn	11 34 08.3	+0.3
THZ	Tophouse	1.85	13	P	Pn	11 34 08.3	+0.3
DSZ	Denniston Nort	1.88	347	Pn	Pn	11 34 08.7	+0.5
DSZ	Denniston Nort	1.88	347	P	Pn	11 34 08.7	+0.5
ODZ	Otahua Downs	1.92	219	P	Pn	11 34 08.9	+0.1
BSWZ	Blackbirch Sta	2.17	31	Pn	Pn	11 34 13.1	+0.8
BSWZ	Blackbirch Sta	2.17	31	P	Pn	11 34 13.1	+0.8
TUWZ	Tuamarina	2.44	29	Pn	Pn	11 34 17.2	+1.2
TUWZ	Tuamarina	2.44	29	P	Pn	11 34 16.4	+0.4
NNZ	Nelson	2.47	18	Pn	Pn	11 34 17.3	+0.8
NNZ	Nelson	2.47	18	P	Pn	11 34 17.3	+0.8
HHSZ	Highcliff Hill	2.63	208	Pn	Pn	11 34 18.7	+0.1
HHSZ	Highcliff Hill	2.63	208	P	Pn	11 34 18.5	-0.1
JCZ	Jackson Bay	2.64	258	Pn	Pn	11 34 19.4	+0.6
JCZ	Jackson Bay	2.64	258	P	Pn	11 34 19.3	+0.5
WKZ	Wanaka	2.71	241	Pn	Pn	11 34 19.8	0.0
WKZ	Wanaka	2.71	241	P	Pn	11 34 19.8	0.0
WKZ	Wanaka	2.71	241	P	Pn	11 34 19.9	0.0
EAZ	Earnscleugh	2.75	232	Pn	Pn	11 34 20.2	0.0
EAZ	Earnscleugh	2.75	232	P	Pn	11 34 20.3	+0.1
QRZ	Quartz Range	2.75	3	Pn	Pn	11 34 21.2	+1.0
QRZ	Quartz Range	2.75	3	P	Pn	11 34 21.4	+1.1
TCW	Tory Channel	2.75	32	Pn	Pn	11 34 20.8	+0.5
TCW	Tory Channel	2.75	32	P	Pn	11 34 21.4	+1.1
BHW	Baring Head	2.85	41	P	Pn	11 34 21.3	-0.3
SNZO	South Karori	2.85	38	ePn	Pn	11 34 22.3	+0.7
SNZO				eSn	Sn	11 34 57.3	+1.8
PLWZ	Palliser	2.93	48	P	Pn	11 34 22.2	-0.5
DUWZ	D'Urville Isla	3.00	23	Pn	Pb	11 34 27.2	-2.8
DUWZ	D'Urville Isla	3.00	23	P	Pb	11 34 27.1	-2.8
MSWZ	Moikau Station	3.03	46	P	Pn	11 34 23.8	-0.4
TUZ	Tuapeka	3.07	218	Pn	Pn	11 34 24.7	0.0
TUZ	Tuapeka	3.07	218	P	Pn	11 34 24.7	0.0
PAWZ	Paruwai Farm	3.15	47	P	Pn	11 34 25.5	-0.3
CAW	Cannon Point	3.18	40	Pn	Pn	11 34 25.9	-0.3
CAW	Cannon Point	3.18	40	P	Pn	11 34 25.8	-0.3
TRWZ	Traveller	3.28	50	P	Pn	11 34 27.5	-0.1
KIW	Kapiti Island	3.31	36	Pn	Pn	11 34 28.6	+0.7
KIW	Kapiti Island	3.31	36	P	Pn	11 34 28.9	+1.0
MTW	Mount Morrison	3.35	45	P	Pn	11 34 28.0	-0.6
MSZ	Milford Sound	3.38	250	Pn	Pn	11 34 28.6	-0.2
MSZ	Milford Sound	3.38	250	P	Pn	11 34 28.7	-0.2
MLZ	Mavora Lakes	3.53	238	Pn	Pn	11 34 30.8	-0.2
MLZ	Mavora Lakes	3.53	238	P	Pn	11 34 30.8	-0.2
HOWZ	Holdsworth Sta	3.55	42	P	Pn	11 34 32.6	+1.3
TMWZ	Te Maipa	3.59	48	P	Pn	11 34 33.5	+1.7
SYZ	Scrubby Hill	3.74	217	Pn	Pn	11 34 34.1	+0.3
SYZ	Scrubby Hill	3.74	217	P	Pn	11 34 34.1	+0.3
MRZ	Mangatainoka R	3.77	40	Pn	Pn	11 34 34.1	-0.1
MRZ	Mangatainoka R	3.77	40	P	Pn	11 34 34.2	-0.1
WHZ	Wether Hill Ro	3.91	232	Pn	Pn	11 34 35.2	-1.0
WHZ	Wether Hill Ro	3.91	232	P	Pn	11 34 35.2	-1.0
BFZ	Birch Farm	4.08	46	Pn	Pn	11 34 37.9	-0.7
BFZ	Birch Farm	4.08	46	P	Pn	11 34 38.5	-0.1
DCZ	Deep Cove	4.18	241	Pn	Pn	11 34 39.4	-0.5
DCZ	Deep Cove	4.18	241	P	Pn	11 34 39.7	-0.1
ANWZ	Angora Road	4.37	46	P	Pn	11 34 42.7	+0.3
TSZ	Takapari Road	4.42	39	P	Pn	11 34 45.3	+2.0
PREZ	Palmer Road	4.44	18	Pn	Pn	11 34 45.5	+2.0
PREZ	Palmer Road	4.44	18	P	Pn	11 34 44.3	+0.8
KHEZ	Kahui Hut	4.45	17	Pn	Pn	11 34 46.0	+2.3
APZ	The Paps	4.49	222	P	Pn	11 34 43.8	-0.5
NEZ	North Egmont	4.49	17	Pn	Pn	11 34 47.9	+3.6
PKE	Pukeiti	4.54	16	P	Pn	11 34 47.9	+3.0
DREZ	Durham Road	4.59	18	P	Pn	11 34 48.1	+2.5
VRZ	Vera Road	4.80	23	P	Pn	11 34 52.0	+3.6
PKVZ	Pokaka	4.83	29	P	Pn	11 34 52.5	+3.6
WNVZ	Wahianoa	4.89	31	Pn	Pn	11 34 52.5	+2.7
TRVZ	Turoa	4.90	30	P	Pn	11 34 53.1	+3.1
BHHZ	Black Hill Sta	4.94	35	P	Pn	11 34 52.4	+2.1
FWVZ	Far West T-bar	4.94	30	Pn	Pn	11 34 54.0	+3.4
FWVZ	Far West T-bar	4.94	30	P	Pn	11 34 53.5	+2.9
FWVZ	Far West T-bar	4.94	30	P	Pn	11 34 53.6	+3.0
TUVZ	Tukino	4.96	31	P	Pn	11 34 54.1	+3.3
OTVZ	Oturere	5.06	31	Pn	Pn	11 34 54.7	+2.6
KAHZ	Kahuranaki	5.07	43	P	Pn	11 34 53.8	+1.7
WTVZ	West Tongariro	5.07	30	P	Pn	11 34 55.0	+2.7
BKZ	Black Stump Fm	5.39	37	P	Pn	11 34 57.4	+0.8
HIZ	Hauiti	5.40	21	Pn	Pn	11 34 57.7	+1.0
HIZ	Hauiti	5.40	21	P	Pn	11 34 57.8	+1.2
URZ	Urewera	6.41	36	Pn	Pn	11 35 08.7	-1.9
	0.5nm,0.3s,baz=9.9,slow=15,SNR=4.4						
URZ				Sn	Sn	11 36 19.3	-4.0
	1.2nm,0.3s,baz=174,slow=18,SNR=4.8						
ASAR	Alice Springs	37.25	290	P	P	11 40 48.5	+0.7
	0.5nm,0.6s,baz=128,slow=8.5,SNR=8.5						
WRA	Warramunga Arr	39.51	294	P	P	11 41 07.6	+0.8
	1.7nm,1.2s,baz=137,slow=7.6,SNR=11						
TORD	Torodi Ar. Bea	148.63	198	PKPbc	PKPbc	11 53 23.6	+0.2
	0.5nm,0.7s,baz=192,slow=1.1,SNR=2.8						

IDC 06 12:01:03.1±5.9**, 5°.05S**×**153°.96E, h0**km**, mb3.3**/3**, mb1 3.4**/3**, mb1mx3.2**/45**, mbtmp3.3**/3**, MS3.3**/1**, Ms1 3.5**/1**, ms1mx2.6**/19**, Error ellipse: s-maj=178.2km s-min=40.8km az=108.0, New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	24.16	231	P	P	12 06 22.5	+1.2
	0.2nm,0.3s,baz=56,slow=9.7,SNR=6.9						
ASAR	Alice Springs	26.77	224	P	P	12 06 43.8	-1.1
	0.1nm,0.3s,baz=57,slow=9.3,SNR=5.0						
CMAR	Chiang Mai Arr	59.03	295	LR	LR	12 37 00.5	
	comp=Z,21nm,18.5s,baz=145,slow=36						
MKAR	Makanchi Array	81.27	319	P	P	12 13 21.2	-0.1
	0.3nm,0.6s,baz=97,slow=4.9,SNR=3.9						

*IDC **06** 12:11:38.8±3.8, 28°.54S×178°.02W, h92km±31km, mb4.1/12, mb1 4.2/14, mb1mx4.0/43, mbtmp4.4/14, Error ellipse: s-maj=22.2km s-min=15.7km az=80.0*
*NEIC **06** 12:11:41.4±1.3, 28°.73S×178°.23W, h112km±11km, mb4.6/19, Error ellipse: s-maj=10.6km s-min=8.3km az=139.0*
*WEL **06** 12:11:47.0±1.1, 29°S±16°×17°7W±4°3, h182km±12km*
*ISCJB **06** 12:11:48.8±0.3, 29°.18S±0°.03×178°.18W±0°.07, h200km, mb4.2/25, Error ellipse: s-maj=8.7km s-min=3.4km az=16.4*
ISC 06 12:11:50.8±0.4**, 29°.21S**±0°.05×**178°.30W**±0°.08**, h200**km**, n124,** σ2s**.40**/126**, mb4.4**/25**, 1D, Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RIZ	Raoul Island	0.33	96	P	Pn	12 12 14.9	-2.5
RIZ	Raoul Island	0.33	96	S	Sn	12 12 34.1	-3.8
GLKZ	Green Lake	0.34	99	P	Pn	12 12 14.9	-2.5
GLKZ	Green Lake	0.34	99	S	Sn	12 12 33.6	-4.3
MXZ	Matakaoa Point	8.80	198	S	Sn	12 15 35.4	+2.4
WMGZ	Waiomatatini S	9.01	197	P	Pn	12 13 56.5	-0.6
WMGZ	Waiomatatini S	9.01	197	S	Sn	12 15 38.7	+0.6
HAZ	Te Kaha	9.13	200	P	Pn	12 13 57.8	-0.8
HAZ	Te Kaha	9.13	200	S	Sn	12 15 44.7	+3.8
PKGZ	Pakihiroa	9.17	198	P	Pn	12 13 58.6	-0.6
PKGZ	Pakihiroa	9.17	198	S	Sn	12 15 44.2	+2.3
PUZ	Puketiti	9.29	197	P	Pn	12 13 59.2	-1.5
PUZ	Puketiti	9.29	197	S	Sn	12 15 45.8	+1.0
RUGZ	Raukumara Rang	9.35	200	P	Pn	12 14 00.6	-1.0
RUGZ	Raukumara Rang	9.35	200	S	Sn	12 15 47.2	+0.8
TWGZ	Tauwhareparae	9.46	198	P	Pn	12 14 02.8	-0.2
TWGZ	Tauwhareparae	9.46	198	S	Sn	12 15 52.9	+4.0
CNGZ	Carnagh Statio	9.69	196	P	Pn	12 14 05.3	-0.6
CNGZ	Carnagh Statio	9.69	196	S	Sn	12 15 52.9	-1.4
MWZ	Matawai	9.74	200	P	Pn	12 14 05.3	-1.3
MWZ	Matawai	9.74	200	S	Sn	12 15 57.1	+1.6
URZ	Urewera	9.80	202	P	Pn	12 14 04.7	-2.6
	1.1nm,0.3s,baz=275,slow=2.9,SNR=11						
URZ				S	Sn	12 15 56.7	-0.1
	17nm,0.3s,baz=322,slow=23,SNR=19						
URZ	Urewera	9.80	202	ePn	Pn	12 14 04.7	-2.6
URZ				eSn	Sn	12 15 57.7	+0.9
URZ	Urewera	9.80	202	P	Pn	12 14 05.2	-2.1
URZ	Urewera	9.80	202	S	Sn	12 15 59.7	+2.9
RIGZ	Rimuhau	10.02	198	P	Pn	12 14 09.1	-1.1
RIGZ	Rimuhau	10.02	198	S	S	12 16 03.4	+0.8
MUGZ	Murupara	10.11	203	P	Pn	12 14 11.4	0.0
BKZ	Black Stump Fm	10.82	202	ePn	Pn	12 14 19.6	-1.0
BKZ				eSn	Sn	12 16 17.6	-3.8
BKZ	Black Stump Fm	10.82	202	P	Pn	12 14 18.5	-2.1
BKZ	Black Stump Fm	10.82	202	S	Sn	12 16 21.3	0.0
HIZ	Hauiti	10.88	210	P	P	12 14 26.3	-1.5
FWVZ	Far West T-bar	11.23	205	P	Pn	12 14 26.9	+0.9
BHHZ	Black Hill Sta	11.26	203	P	Pn	12 14 24.9	-1.3
KAHZ	Kahuranaki	11.28	199	P	Pn	12 14 24.3	-2.2
SNZO	South Karori	13.35	203	ePn	Pn	12 14 51.0	-1.5
SNZO				eSn	S	12 17 16.8	-4.4
THZ	Tophouse	14.41	207	ePn	Pn	12 15 05.2	-0.6
THZ				eSn	S	12 17 42.6	-3.5
KHZ	Kahutara	14.73	204	ePn	Pn	12 15 08.7	-1.0
	26nm,1.1s						
KHZ				eSn	S	12 17 46.2	-7.0
DZM	Mont Dzumac	15.47	294	P	Pn	12 15 16.3	-2.6
	0.1nm,0.3s,baz=266,slow=15,SNR=1.7						
DZM	Mont Dzumac	15.47	294	ePn	Pn	12 15 12.9	-6.1
	14nm,1.5s						
LTZ	Lake Taylor	15.53	207	ePn	Pn	12 15 19.0	-0.4
	7.6nm,1.1s						
LTZ				eSn	S	12 18 04.5	-7.1
CRLZ	Canterbury Las	16.07	204	ePn	Pn	12 15 27.0	+1.1
CRLZ				eSn	S	12 18 17.3	-6.3
OXZ	Oxford	16.08	206	ePn	P	12 15 25.5	0.0
	6.3nm,0.4s						
OXZ				eSn	S	12 18 17.4	-6.3
MQZ	McQueen's Vall	16.18	204	ePn	Pn	12 15 26.7	-0.4
MQZ				eSn	S	12 18 18.4	-7.4
AFI	Afiamalu	16.38	23	P	P	12 15 14.5	-15
	2.5nm,0.3s,baz=170,slow=2.5,SNR=5.3						
AFI				S	S	12 17 59.9	-31
	2.5nm,0.3s,baz=47,slow=19,SNR=4.5						
AFI	Afiamalu	16.38	23	ePn	P	12 15 16.9	-12
AFI				eSn	S	12 18 02.6	-28
RPZ	Rata Peaks	16.80	208	S	S	12 18 31.3	-7.0
	3.4nm,0.3s,baz=35,slow=18,SNR=12						
RAR	Rarotonga	18.55	69	P	P	12 15 48.6	-4.0
	1.3nm,0.3s,baz=232,slow=6.0,SNR=8.9						
ARMA	Armidale	26.08	260	eP	P	12 17 09.0	+2.8
	6.6nm,0.7s						
PPTF	Pamatai, Papee	28.72	73	eP	P	12 17 29.6	-0.1
	7.4nm,0.5s						
PPT	Papeete	28.72	73	eP	P	12 17 29.2	-0.5
CTAO	Charters Tower	33.36	278	eP	P	12 18 11.6	+1.3
	14nm,0.9s						
STKA	Stephens Creek	34.51	255	P	P	12 18 23.2	+3.2
	6.2nm,0.6s,baz=104,slow=9.5,SNR=9.8						
STKA	Stephens Creek	34.51	255	eP	P	12 18 23.2	+3.2
	1.6nm,0.8s						
AS01	Alice Springs	42.88	266	eP	P	12 19 31.2	+1.4
AS31	Alice Springs	42.92	266	eP	P	12 19 30.3	+0.2
	1.8nm,0.6s						
ASAR	Alice Springs	42.92	266	P	P	12 19 30.6	+0.6
	4.5nm,0.6s,baz=98,slow=6.9,SNR=114						
ASAR				PcP	PcP	12 21 18.1	+1.1
	0.6nm,0.4s,baz=100,slow=4.6,SNR=4.7						
WB2	Warramunga Arr	43.79	271	eP	P	12 19 36.7	-0.4
WB2				ePP	PcP	12 21 20.7	+0.7
WRAB	Tennant Creek	43.79	271	eP	P	12 19 37.1	0.0
	6.9nm,0.8s						
WR1	Warramunga Arr	43.80	271	eP	P	12 19 37.3	+0.2
	14nm,1.0s						
WR1				ePP	PcP	12 21 20.9	+0.8
WRA	Warramunga Arr	43.80	271	P	P	12 19 37.3	+0.2
	7.8nm,0.6s,baz=108,slow=7.9,SNR=110						
WRA				PcP	PcP	12 21 20.9	+0.8
	3.1nm,0.8s,baz=119,slow=3.2,SNR=7.5						
FORT	Forrest	46.11	254	eP	P	12 19 55.9	+0.7
	43nm,0.6s						
VNDA	Vanda	49.25	186	P	P	12 20 24.3	+5.7
	3.0nm,0.6s,baz=14,slow=9.6,SNR=19						
VNDA	Vanda	49.25	186	eP	P	12 20 24.1	+5.6
	3.9nm,0.7s						
MTN	Manton Dam	49.55	278	eP	P	12 20 21.6	-0.1
	7.6nm,0.6s						
CASY	Casey	56.07	207	eP	P	12 21 11.4	+2.8
	19nm,0.6s						
QSPA	South Pole Qui	60.90	180	P	P	12 21 47.1	+5.0
	9.8nm,0.6s,baz=356,slow=0.4,SNR=24						
MAW	Mawson	73.33	201	P	P	12 23 03.7	+3.6
	6.5nm,0.7s,baz=127,slow=7.1,SNR=9.3						
MJAR	Matsushiro Arr	77.12	325	P	P	12 23 19.9	-2.2
	2.8nm,0.8s,baz=163,slow=5.4,SNR=4.8						
MAJO	Matsushiro	77.12	325	eP	P	12 23 19.9	-2.2
SYO	Syowa Base	78.21	193	⇓eP	P	12 23 29.2	+1.5
SNAA	Sanae	79.35	179	P	P	12 23 36.7	+2.7
SNAA	Sanae	79.35	179	P	P	12 23 36.6	+2.7
	3.5nm,0.8s,baz=239,slow=5.9,SNR=10						
VNA3	Neumayer Olymp	79.51	176	P	P	12 23 37.5	+2.7
VNA2	Neumayer--Watz	79.94	177	P	P	12 23 40.2	+3.1
	baz=184,slow=4.6						
VNA1	Neumayer--Stat	80.17	177	P	P	12 23 40.5	+2.2
KSRS	Korea Array	83.27	320	P	P	12 23 54.4	-0.5
	1.7nm,0.7s,baz=122,slow=6.6,SNR=5.1						
KSAR	Wonju Array Be	83.29	320	P	P	12 23 54.4	-0.5
IPM	Ipoh	84.05	278	eP	P	12 23 59.5	0.0
	19nm,0.5s						
PSI	Prapat	85.05	276	eP	P	12 24 03.5	-1.1
	14nm,1.2s						
GSI	Gunungsitoli	85.50	274	eP	P	12 24 06.3	-0.4
	37nm,1.1s						
DSCC	Desert Studies	86.79	47	eP	P	12 24 14.9	+2.5
NV01	Mina Array Sit	87.55	43	eP	P	12 24 15.2	-1.1
NVAR	Mina Array Bea	87.55	43	P	P	12 24 14.9	-1.4
	0.3nm,0.6s,baz=218,slow=8.6,SNR=2.7						
KLR	Kul'dur	89.88	330	P	P	12 24 26.2	-0.4
	0.2nm,0.7s,baz=166,slow=2.1,SNR=12						
MSU	Marysvale	91.35	46	eP	P	12 24 33.4	-0.7
CM01	Chiang Mai Arr	92.73	289	eP	P	12 24 41.7	+1.1
CM31	Chiang Mai Arr	92.76	289	eP	P	12 24 40.8	+0.1
CMAR	Chiang Mai Arr	92.76	289	P	P	12 24 41.9	+1.1
	1.2nm,0.9s,baz=152,slow=2.8,SNR=8.6						
MCK	McKinley	95.50	13	eP	P	12 24 50.7	-1.5
	3.6nm,1.0s						
MK32	Makanchi Array	116.80	311	ePKPdf	PKPdf	12 30 11.4	+0.2
MKAR	Makanchi Array	116.80	311	PKP	PKPdf	12 30 11.4	+0.2
	0.8nm,0.5s,baz=196,slow=0.8,SNR=5.9						
KURK	Kurchatov	120.03	314	ePKPdf	PKPdf	12 30 17.5	+0.3
KURBB	Kurchatov Arra	120.07	314	PKP	PKPdf	12 30 17.5	+0.2
	2.0nm,0.6s,baz=103,slow=1.8,SNR=13						
KK06	Karatay Array	124.18	304	ePKPdf	PKPdf	12 30 26.1	+0.7
BVAR	Borovoye Array	125.37	316	PKP	PKPdf	12 30 28.1	+0.7
	2.6nm,0.5s,baz=90,slow=1.6,SNR=16						
AKTO	Aktyubinsk	133.10	313	PKP	PKPdf	12 30 42.9	+0.7
	1.5nm,0.6s,baz=75,slow=7.0,SNR=6.7						
ARA0	ARCESS Array S	137.38	348	ePKPdf	PKPdf	12 30 48.6	-0.9
ARCES	ARCESS Array B	137.38	348	PKP	PKPdf	12 30 48.6	-0.9
	3.3nm,0.9s,baz=48,slow=1.3,SNR=3.4						
H10S2	ASCENSION HYDR	138.91	155	T	T	15 07 01.2	
	baz=208						
H10S3	ASCENSION HYDR	138.91	155	T	T	15 06 42.2	
	baz=208						
H10S1	ASCENSION HYDR	138.93	155	T	T	15 06 58.2	
	baz=208						
H10N3	ASCENSION HYDR	139.99	155	T	T	15 08 09.8	
	baz=204,slow=75,SNR=8.5						
H10N1	ASCENSION HYDR	140.00	155	T	T	15 08 12.0	
	baz=204,slow=75,SNR=4.2						
H10N2	ASCENSION HYDR	140.01	155	T	T	15 08 14.3	
	baz=204,slow=75,SNR=3.0						
FIA0	FINESS Array S	143.94	340	ePKPpre	PKPpre	12 30 58.0	
FINES	FINESS Array B	143.94	340	PKhKP	PKPpre	12 30 58.0	
	2.4nm,0.5s,baz=45,slow=3.6,SNR=20						
KBZ	Khabaz	144.22	305	PKP	PKPbc	12 31 01.2	-0.2
	1.5nm,0.6s,baz=158,slow=2.8,SNR=6.1						
NB2	NORSAR Subarra	147.54	351	PKP	PKPdf	12 31 08.2	+0.4
	comp=Z,1.7nm,0.6s,baz=12,slow=2.9						
NB200	NORSAR Array S	147.54	351	ePKPdf	PKPdf	12 31 08.2	+0.4
NOA	NORSAR Array B	147.54	351	PKPbc	PKPdf	12 31 08.2	+0.4
	comp=Z,1.3nm,0.6s,baz=12,slow=4.8,SNR=5.7						
HFS	Hagfors	148.03	349	PKPbc	PKPdf	12 31 09.6	+1.1
	comp=Z,2.7nm,0.6s,baz=101,slow=3.0,SNR=7.1						
AKASG	Malin Array Be	150.19	324	PKPbc	PKPbc	12 31 16.2	-1.4
	comp=Z,11nm,0.5s,baz=46,slow=3.3,SNR=29						
AKBB	Malin Array Si	150.19	324	ePKPbc	PKPbc	12 31 17.1	-0.5
MMAI	Mount Meron Ar	150.97	286	PKPbc	PKPbc	12 31 21.4	+1.3
	comp=Z,8.3nm,0.6s,baz=74,slow=6.2,SNR=21						
EIL	Elat	151.09	279	PKPbc	PKPab	12 31 30.1	+1.3
	comp=Z,11nm,0.7s,baz=334,slow=1.0,SNR=14						
BR101	Keskin Array S	151.79	300	ePKPbc	PKPbc	12 31 21.4	-0.5
BR131	Keskin Array S	151.79	300	ePKPbc	PKPbc	12 31 22.4	+0.5
BRTR	Keskin Array B	151.79	300	PKPbc	PKPbc	12 31 21.4	-0.5
	comp=Z,2.7nm,0.5s,baz=135,slow=4.0,SNR=12						
BUR04	Bucovina Ar. S	154.14	322	ePKPbc	PKPbc	12 31 28.1	+1.4
GERES	GERESS Array B	158.34	338	PKPab	PKPab	12 31 58.1	-1.2
	comp=Z,0.5nm,0.6s,baz=44,slow=6.1,SNR=5.6						
TOA0	Torodi Ar. Sit	164.02	180	ePKPdf	PKPdf	12 31 33.7	+2.9
TORD	Torodi Ar. Bea	164.02	180	PKP	PKPdf	12 31 33.3	+2.6
	comp=Z,1.3nm,1.1s,baz=336,slow=1.1,SNR=4.1						
TORD				PKPab	PKPab	12 32 27.2	+2.6
	comp=Z,1.6nm,0.5s,baz=170,slow=3.6,SNR=15						
TOA1	Torodi Ar. Sit	164.02	180	ePKPdf	PKPdf	12 31 33.3	+2.6
TOA1				ePKPab	PKPab	12 32 27.2	+2.6

NIED ***06*** *12:18:00, 39°.10N×142°.40E, h26km, Mw3.7 Best double couple: M₀4.19000×10¹⁴ NP1:φs257.00000°, δ14.00000°, λ162.00000°. NP2:φs4.00000°, δ86.00000°, λ76.00000°.*
ISCJB ***06*** *12:18:07.6±1.1, 39°.08N±0°.04×142°.47E±0°.07, h33km±6km, mb3.6/9, MS3.0/1, Error ellipse: s-maj=8.6km s-min=6.0km az=11.4*
IDC ***06*** *12:18:08.7±1.1, 39°.13N×142°.53E, h30km±6km, mb3.5/9, mb1 3.6/10, mb1mx3.4/68, mbtmp3.7/10, ML2.8/1, MS2.9/3, Ms1 2.9/3, ms1mx2.4/63, Error ellipse: s-maj=29.7km s-min=17.0km az=71.0*
JMA ***06*** *12:18:08.6±0.1, 39°.10N×142°.40E, h33km±1km, M3.8*
ISC 06 12:18:09.0±1.0**, 39°.12N**±0°.04×**142°.38E**±0°.07**, h30**km±6km**, n29, σ1ˢ27**/36**, mb3.7**/9**, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	Ofunato	0.56	266	P	Pb	12 18 20.1	-0.2
OFUJ				S	Sb	12 18 28.0	0.0
MIYJ	Miyakonagasawa	0.63	317	P	Pn	12 18 21.2	-0.7
MIYJ				S	Sb	12 18 29.8	-0.3
JTH	Tanohata	0.91	334	P	Pn	12 18 25.2	-0.6
JTH				eS	Sn	12 18 37.6	-0.3
JOM	Ohasama	0.92	293	P	Pn	12 18 25.7	-0.1
JOM				S	Sn	12 18 38.0	0.0
JMK	Ichinoseki	0.92	260	P	Pn	12 18 25.5	-0.4
JMK				S	Sn	12 18 37.5	-0.6
JIO	Ouri	1.04	231	P	Pn	12 18 26.5	-1.1
JIO				S	Sn	12 18 39.1	-2.1
JKZ	Kuzumaki	1.19	317	P	Pn	12 18 30.0	+0.4
JKZ				S	Sn	12 18 45.4	+0.6
JRG	Rokugo	1.38	282	P	Pn	12 18 33.0	+0.7
JRG				S	Sn	12 18 51.4	+1.8
JANG	Nango	1.42	332	P	Pn	12 18 33.1	+0.3
JANG				S	Sn	12 18 51.4	+0.9
JOU	Okura	1.54	241	P	Pn	12 18 34.8	+0.4
MAT	Matsushiro	4.19	233	P	Pn	12 19 13.8	+2.9
MAT				eS	Sn	12 20 00.3	+1.5
MJAR	Matsushiro Arr	4.19	233	Pn	Pn	12 19 13.1	+2.2
	0.5nm,0.3s,baz=39,slow=11,SNR=30						
MJAR				LR	LR	12 20 59.9	
	comp=Z,100nm,20.5s,baz=65,slow=40						
ASAJ	Asahikawa	5.00	2	Pn	Pn	12 19 25.6	+3.6
	1.1nm,0.3s,baz=211,slow=5.9,SNR=12						
ASAJ				Sn	Sn	12 20 15.9	-2.7
	0.7nm,0.3s,baz=30,slow=20,SNR=2.1						
KSRS	Korea Array	11.49	266	LR	LR	12 24 54.0	
	comp=Z,39nm,18.6s,baz=100,slow=35						
SONM	Songino Array	27.32	300	P	P	12 23 51.3	+0.1
	0.3nm,0.8s,baz=97,slow=7.4,SNR=3.0						
SONM				LR	LR	12 34 25.7	
	comp=Z,37nm,18.2s,baz=220,slow=36						
H11N2	WAKE ISLAND Hy	28.64	125	T	T	12 54 27.3	
	baz=318,slow=75,SNR=145						
H11N1	WAKE ISLAND Hy	28.65	125	T	T	12 54 28.0	
	baz=318,slow=75,SNR=132						
H11N3	WAKE ISLAND Hy	28.66	125	T	T	12 54 28.6	
	baz=318,slow=75,SNR=127						
H11S1	WAKE ISLAND Hy	29.43	127	T	T	12 55 39.2	
	baz=319,slow=76,SNR=9.7						
H11S3	WAKE ISLAND Hy	29.43	127	T	T	12 55 28.5	
	baz=319,slow=76,SNR=10						
H11S2	WAKE ISLAND Hy	29.45	127	T	T	12 55 39.6	
	baz=319,slow=76,SNR=12						
ZALV	Zalesovo Beam	41.11	311	P	P	12 25 50.0	0.0
	0.8nm,0.6s,baz=46,slow=6.4,SNR=4.5						
ZALV				pP	pP	12 25 58.2	-0.6
	0.8nm,0.5s,baz=89,slow=10,SNR=3.4						
MKAR	Makanchi Array	43.69	300	P	P	12 26 11.6	+0.5
	1.1nm,0.7s,baz=84,slow=9.3,SNR=13						
KURBB	Kurchatov Arra	45.35	307	P	P	12 26 24.5	+0.3
	2.6nm,0.7s,baz=81,slow=8.1,SNR=22						
ILAR	Eielson Array	47.33	33	P	P	12 26 39.0	-0.6
	0.4nm,0.7s,baz=276,slow=7.3,SNR=5.0						
BVAR	Borovoye Array	49.76	311	P	P	12 26 59.1	+0.7
	1.0nm,0.6s,baz=64,slow=8.0,SNR=5.6						
WRA	Warramunga Arr	59.23	189	P	P	12 28 06.5	-1.0
	0.5nm,0.5s,baz=6.6,slow=7.0,SNR=11						
WRA				pP	pP	12 28 17.3	+0.6
	0.7nm,0.7s,baz=6.4,slow=7.0,SNR=4.4						
ASAR	Alice Springs	62.96	189	P	P	12 28 32.5	-0.3
	0.2nm,0.7s,baz=15,slow=5.7,SNR=4.9						
ASAR				pP	pP	12 28 42.0	0.0
	0.3nm,0.6s,baz=3.8,slow=4.2,SNR=2.6						
AKASG	Malin Array Be	73.11	322	P	P	12 29 35.9	-0.4
	0.6nm,0.4s,baz=45,slow=6.5,SNR=3.9						

JMA ***06*** *12:21:13.6±0.1, 23°.08N×121°.39E, h45km±4km*
ISCJB ***06*** *12:21:14.6±0.3, 23°.08N±0°.01×121°.50E±0°.02, h37km±5km, Error ellipse: s-maj=3.3km s-min=2.1km az=32.2*
TAP ***06*** *12:21:14.7, 23°.12N×121°.43E, h44km, ML3.4, D*
ISC 06 12:21:14.9±1.1**, 23°.08N**±0°.02×**121°.48E**±0°.03**, h33**km±2km**, n68, σ1ˢ05**/134**, 3D, Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHKT	Chengkung	0.11	281	iP	Pb	12 21 21.8	+1.1
	baz=250						
CHKT				iS	Sb	12 21 27.0	+2.2
	baz=250						
FULB	Fuli	0.21	305	P	Pb	12 21 22.5	+0.9
	baz=289						
FULB				S	Sb	12 21 28.4	+2.1
	baz=289						
TWF1	Yuli	0.32	328	iP	Pb	12 21 22.8	-0.2
	baz=323						
TWF1				S	Sb	12 21 27.9	-0.6
	baz=323						
YULB	Yu-li	0.36	331	P	Pb	12 21 23.1	-0.3
	baz=326						
YULB				S	Sb	12 21 28.6	-0.7
	baz=326						
HGSD	Ruisui	0.41	353	eP	Pb	12 21 24.7	+0.4
	baz=358						
HGSD				S	Sn	12 21 32.6	+1.6
	baz=358						
ELDTW	Lidau	0.44	284	⇓iP	Pb	12 21 24.1	-0.6
	baz=281						
ELDTW				iS	Sb	12 21 30.4	-1.1
	baz=281						
TTN	Taitung	0.45	224	P	Pn	12 21 25.4	+0.4
	baz=224						
TTN				iS	Sn	12 21 33.2	+1.4
	baz=224						
EHY	Hungye	0.45	341	iP	Pb	12 21 24.1	-0.6
	baz=337						
EHY				iS	Sb	12 21 30.4	-1.2
	baz=337						
TWGBT	Beinan	0.45	235	P	Pb	12 21 24.2	-0.6
	baz=227						
TWGBT				S	Sb	12 21 30.6	-1.0
	baz=227						
TWG	Pinlang	0.46	236	iP	Pb	12 21 24.2	-0.7
	baz=227						
TWG				iS	Sb	12 21 30.7	-1.0
	baz=227						
EGFH	Guangfu	0.59	355	eP	Pn	12 21 26.0	-0.9
	baz=350						
EGFH				S	Sb	12 21 33.6	-1.6
	baz=350						
YUS	Yu-Shan	0.64	310	iP	Pn	12 21 27.5	-0.4
	baz=311						
YUS				iS	Sb	12 21 35.9	-1.1
	baz=311						
STYT	Tauyuan	0.67	277	⇓iP	Pn	12 21 27.7	-0.3
	baz=272						
STYT				iS	Sb	12 21 36.9	-0.7
	baz=272						
ECL	Taimali	0.68	226	eP	Pn	12 21 26.7	-1.5
	baz=214						
ECL				eS	Sb	12 21 35.4	-2.3
	baz=214						
ESL	Shilin	0.73	356	P	Pn	12 21 27.5	-1.4
	baz=354						
ESL				eS	Sn	12 21 36.5	-2.5
	baz=354						
ALS	Alishan	0.76	305	iP	Pn	12 21 29.7	+0.2
	baz=307						
ALS				iS	Sn	12 21 39.8	-0.2
	baz=307						
SLGT	Liugui	0.78	264	P	Pn	12 21 29.8	+0.3
	baz=268						
SLGT				S	Sn	12 21 39.5	-0.5
	baz=268						
TPUB	Ta-pu	0.81	286	P	Pn	12 21 30.2	+0.2
	baz=284						
TPUB				S	Sn	12 21 41.4	+0.5
	baz=284						
WTP	Ta-pu	0.82	282	⇓iP	Pn	12 21 30.3	+0.2
	baz=280						
WTP				iS	Sn	12 21 41.8	+0.8
	baz=280						
SGST	Jiashian	0.83	270	iP	Pn	12 21 30.6	+0.4
	baz=267						
SGST				iS	Sn	12 21 42.1	+0.9
	baz=267						
ENLB	Shoufeng	0.83	8	P	Pn	12 21 30.4	+0.2
	baz=3.0						
ENLB				S	Sb	12 21 42.1	+0.3
	baz=3.0						
SSD	Sandimen	0.85	247	eP	Pn	12 21 30.2	-0.3
	baz=243						
SSD				S	Sn	12 21 40.1	-1.7
	baz=243						
SSLB	Suanglung	0.86	326	P	Pn	12 21 30.3	-0.3
	baz=332						
SSLB				S	Sn	12 21 40.6	-1.4
	baz=332						
CHN1	Nanshi	0.89	277	iP	Pn	12 21 31.8	+0.8
	baz=275						
CHN1				iS	Sb	12 21 43.9	+0.5
	baz=275						
TAW	Tawu	0.90	217	eP	Pn	12 21 30.0	-1.1
	baz=213						
TAW				eS	Sn	12 21 40.9	-2.0
	baz=213						
CHN5	Tsauling	0.90	305	P	Pn	12 21 32.0	+0.8
	baz=305						
CHN5				S	Sn	12 21 43.9	+0.8
	baz=305						
EAST	Anshuo	0.91	220	P	Pn	12 21 30.2	-1.1
	baz=213						
EAST				S	Sn	12 21 41.7	-1.5
	baz=213						
MASBT	Mashibuluo	0.91	240	P	Pn	12 21 30.9	-0.4
	baz=234						
MASBT				S	Sn	12 21 42.0	-1.2
	baz=234						
OWD	Renai	0.92	342	P	Pn	12 21 31.2	-0.4
	baz=351						
OWD				S	Sn	12 21 41.4	-2.3
	baz=351						
TWK	Hsinying	0.93	282	iP	Pn	12 21 32.2	+0.6
	baz=280						
TWK				S	Sn	12 21 44.6	+0.7
	baz=280						
SMLT	Sun Moon Lake	0.96	326	iP	Pn	12 21 32.5	+0.4
	baz=333						
SMLT				iS	Sn	12 21 44.5	-0.2
	baz=333						
SGLT	Jiouru	0.98	249	eP	Pb	12 21 34.0	+0.6
	baz=238						
SGLT				eS	Sb	12 21 47.1	+1.1
	baz=238						
TWD	Chiawan	1.00	6	eP	Pn	12 21 31.7	-0.9
	baz=358						
TWD				eS	Sn	12 21 44.0	-1.6
	baz=358						
TYC	Yuchr	1.00	325	iP	Pn	12 21 33.2	+0.6
	baz=327						
TYC				S	Sn	12 21 46.4	+0.8
	baz=327						
WJS	Zhushan	1.01	317	eP	Pn	12 21 33.5	+0.7
	baz=318						
WJS				eS	Sn	12 21 46.6	+0.7
	baz=318						
CHGB	Renai	1.02	344	P	Pn	12 21 32.7	-0.3
	baz=353						
CHGB				eS	Sn	12 21 44.5	-1.8
	baz=353						
CHN3	Shinhua	1.03	270	eP	Pb	12 21 34.8	+0.6
	baz=268						
CHN3				eS	Sb	12 21 49.7	+2.3
	baz=268						
SSPT	Xinbi	1.03	235	eP	Pn	12 21 33.1	+0.2
	baz=226						
SSPT				eS	Sn	12 21 46.8	+0.6
	baz=226						
WGK	Gukeng	1.04	306	eS	Sn	12 21 47.8	+1.3
	baz=306						
WDLH	Douliu	1.06	305	eP	Pn	12 21 34.1	+0.8
	baz=305						
WDLH				eS	Sn	12 21 47.9	+0.9
	baz=305						
SCZT	Fangliau	1.06	229	eP	Pn	12 21 33.1	-0.3
	baz=218						
SCZT				eS	Sn	12 21 47.2	+0.2
	baz=218						
DPDB	Guoxing	1.08	332	iP	Pn	12 21 34.5	+0.8
	baz=337						
DPDB				iS	Sn	12 21 47.6	0.0
	baz=337						
WHF	Hehuan Shan	1.08	349	P	Pn	12 21 33.6	-0.4
	baz=357						
WHF				S	Sn	12 21 46.9	-1.2
	baz=357						
WNT	Mingjian	1.08	318	P	Pn	12 21 34.6	+0.9
	baz=318						
WNT				S	Sn	12 21 48.4	+0.9
	baz=318						
NACB	Ninganchiao	1.09	5	P	Pn	12 21 32.6	-1.3
	baz=8.0						
NACB				S	Sn	12 21 45.6	-2.2
	baz=8.0						
CHN8	Yiju	1.20	283	P	Pn	12 21 34.7	-0.6
	baz=282						
CHN8				iS	Sn	12 21 51.3	+0.9
	baz=282						
TWT	Tachien	1.20	347	P	Pn	12 21 35.9	+0.4
	baz=352						
TWT				S	Sn	12 21 50.1	-0.7
	baz=352						
TDCB	Techi	1.21	346	P	Pn	12 21 36.0	+0.4
	baz=352						
TDCB				eS	Sn	12 21 49.9	-1.0
	baz=352						
HEN	Hengchun	1.27	213	eS	Sn	12 21 52.2	0.0
	baz=200						
TWKBT	Hengchun	1.29	209	eP	Pn	12 21 36.4	-0.2
	baz=197						
TWKBT				eS	Sn	12 21 52.7	0.0
	baz=197						
NNSB	Datong	1.35	356	eP	Pn	12 21 37.2	-0.2
	baz=7.0						
NNSB				eS	Sn	12 21 52.8	-1.5
	baz=7.0						
NNS	Nan Shan	1.36	356	eP	Pn	12 21 37.7	+0.1
	baz=7.0						
NNS				S	Sn	12 21 54.3	-0.3
	baz=7.0						
NANB	Nanao	1.36	10	eP	Pn	12 21 37.1	-0.5
	baz=3.0						
NANB				eS	Sn	12 21 52.7	-1.8
	baz=3.0						
NSY	Sanyi	1.49	334	eP	Pn	12 21 41.0	+1.7
	baz=335						
NSY				eS	Sb	12 21 59.9	-0.6
	baz=335						
ENTT	Nioudou	1.56	3	eP	Pn	12 21 40.2	-0.1
	baz=4.0						
ENTT				eS	Sn	12 21 58.3	-0.9
	baz=4.0						
TWC	Suao	1.56	12	eP	Pn	12 21 40.4	+0.2
	baz=4.0						
TWC				eS	Sn	12 21 59.1	-0.2
	baz=4.0						
NMLH	Miaoli	1.58	337	eP	Pb	12 21 43.0	-0.6
	baz=337						
NMLH				eS	Sn	12 22 02.2	+2.3
	baz=337						
YHNB	Yeheng	1.59	356	eP	Pn	12 21 41.3	+0.6
	baz=9.0						
YHNB				eS	Sn	12 21 58.8	-1.3
	baz=9.0						
NSTT	Nanjuang	1.61	344	eP	Pn	12 21 42.7	+1.8
	baz=345						
NSTT				S	Sn	12 22 01.7	+1.2
	baz=345						
LIOB	Emei	1.62	345	eP	Pn	12 21 42.0	+0.9
	baz=346						
LIOB				eS	Sn	12 22 01.7	+0.9
	baz=346						
TWE	Neicheng	1.64	6	eP	Pn	12 21 41.3	-0.1
	baz=8.0						
TWE				eS	Sn	12 22 00.5	-0.9
	baz=8.0						
SLBB	Yuanshan	1.67	5	eP	Pn	12 21 42.0	+0.1
	baz=6.0						
SLBB				eS	Sn	12 22 01.1	-1.1
	baz=6.0						
NWLT	Wulai	1.69	1	eP	Pn	12 21 42.4	+0.3
	baz=9.0						
NWLT				eS	Sn	12 22 01.7	-1.0
	baz=9.0						
YOJ	Yonaguni jima	1.96	45	P	Pn	12 21 47.3	+1.5
YOJ				S	Sn	12 22 11.2	+1.9
HATJ	Hateruma jima	2.34	65	P	Pn	12 21 51.9	+0.9
HATJ				S	Sn	12 22 19.1	+0.5
IRIF	Iriomote-Funau	2.41	58	P	Pn	12 21 53.1	+1.2
IRIF				S	Sn	12 22 21.2	+0.9
JKRS	Kuro-shima	2.59	63	P	Pn	12 21 55.6	+1.2
JKRS				S	Sn	12 22 26.0	+1.3
JIJ	Ishigaki jima	2.75	62	P	Pn	12 21 57.4	+0.7
JIJ				S	Sn	12 22 28.8	0.0

IDC 06 12:29:38.3±427.0**, 47°.67N**×**47°.17E, h0**km**, Error ellipse: s-maj=168.2km s-min=138.8km az=180.0, Ukraine-Moldova-Southwestern Russia region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I31KZ	AKTYUBINSK INF	7.65	65	i		13 19 05.0	
	baz=252,slow=314,SNR=4.0						
I43RU	DUBNA INFRASON	10.92	330	i		13 36 30.0	
	baz=141,slow=332,SNR=0.4						
I26DE	FREYUNG INFRAS	22.21	286	i		14 45 30.0	
	baz=80,slow=334,SNR=0.7						

MEX 06 12:37:23.5±0.4**, 15°.95N**×**97°.72W, h16**km±46km**, MD3.7, Near coast of Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.58	319	eP	Pg	12 37 33.0	-2.1
PNIG				eS	Sg	12 37 40.6	-2.4
VHO	Vista Hermosa	1.47	40	eP	Pn	12 37 45.8	-3.6
VHO				iS	Sn	12 38 03.1	-5.4
TLIG	Tlapa	1.79	333	eS	Sn	12 38 14.3	-2.1

MEX 06 12:41:42.9±0.7**, 16°.08N**×**98°.49W, h6**km±6km**, MD3.6, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.47	48	eP	Pg	12 41 51.4	-0.6
PNIG				eS	Sg	12 41 58.8	+0.6
TLIG	Tlapa	1.48	357	eP	Pn	12 42 06.6	-3.6
TLIG				eS	Sn	12 42 24.9	-5.1
VHO	Vista Hermosa	1.96	59	eP	Pn	12 42 14.1	-2.7
VHO				eS	Sn	12 42 36.5	-5.3

ISCJB ***06*** *12:45:27.0±1.4, 71°.1N±0°.2×5°.5W±0°.2, h10km, Error ellipse: s-maj=27.4km s-min=7.7km az=162.5*
NAO ***06*** *12:45:27.9±2.6, 71°.00N×5°.61W, ML3.5*
BER ***06*** *12:45:30.3±0.5, 71°.04N×5°.70W, h10km, ML3.5(NAO)*
ISC 06 12:45:29.2±1.5**, 71°.1N**±0°.2×**5°.71W**±0°.08**, h10**km**, n8, σ0ˢ23**/9**, Jan Mayen Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMIC	Jan Mayen	0.92	267	Pg	Pg	12 45 47.0	+0.2
JMIC				Lg	Lg	12 45 58.7	
JMIC	Jan Mayen	0.92	267	Pg	Pg	12 45 47.0	+0.2
JMIC				eS	Sg	12 45 58.5	-0.3
KBS	Kingsbay	9.07	22	Pn	Pn	12 47 39.7	-0.2
KBS	Kingsbay	9.07	22	Pn	Pn	12 47 39.7	-0.2
SPA0	Spitsbergen Ar	9.15	29	Pn	Pn	12 47 41.3	+0.2
	baz=230,slow=16						
SPA0	Spitsbergen Ar	9.15	29	Pn	Pn	12 47 41.3	+0.2
	baz=230,slow=16						
ARA0	ARCESS Array S	10.58	83	Pn	Pn	12 48 00.5	-0.1
	baz=295,slow=14						
ARA0	ARCESS Array S	10.58	83	Pn	Pn	12 48 00.5	-0.1
	baz=295,slow=14						

ISCJB ***06*** *12:59:09.4±0.6, 71°.14N±0°.08×5°.7W±0°.2, h9km, mb3.4/10, MS3.1/4, Error ellipse: s-maj=11.6km s-min=9.2km az=12.2*
IDC ***06*** *12:59:10.0±0.7, 71°.10N×5°.86W, h0km, mb3.5/10, mb1 3.6/15, mb1mx3.4/74, mbtmp3.6/15, ML3.1/5, MS3.1/6, Ms1 3.2/6, ms1mx2.7/54, Error ellipse: s-maj=18.4km s-min=8.1km az=179.0*
ISC 06 12:59:11.1±0.7**, 71°.13N**±0°.09×**5°.83W**±0°.07**, h9**km**, n20, σ0ˢ96**/16**, mb3.4**/10**, MS3.2**/4**, Jan Mayen Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMIC	Jan Mayen	0.89	262	LR	LR	12 59 24.7	
	comp=Z,19nm,21.6s,baz=112,slow=17						
JMIC				Pg	Pg	12 59 26.9	-1.2
	23nm,0.3s,baz=128,slow=3.4,SNR=11						
JMIC				Lg	Lg	12 59 38.2	
	71nm,0.3s,baz=162,slow=21,SNR=36						
SPITS	Spitsbergen Ar	9.12	29	Pn	Pn	13 01 21.4	-1.2
	baz=231,slow=16,SNR=28						
ARCES	ARCESS Array B	10.61	84	Pn	Pn	13 01 41.9	-1.0
	0.1nm,0.3s,baz=294,slow=12,SNR=3.7						
NOA	NORSAR Array B	12.19	138	LR	LR	13 06 31.1	
	comp=Z,71nm,21.5s,baz=330,slow=36						
HFS	Hagfors	13.56	134	Pn	Pn	13 02 22.5	-0.8
	0.1nm,0.3s,baz=355,slow=14,SNR=3.5						
HFS				LR	LR	13 07 11.0	
	comp=Z,100nm,18.4s,baz=324,slow=36						
FINES	FINESS Array B	15.85	112	Pn	Pn	13 02 53.9	-0.1
	0.1nm,0.3s,baz=313,slow=13,SNR=2.4						
EKA	Eskdalemuir Ar	15.90	174	Pn	Pn	13 02 54.3	-0.4
	baz=359,slow=13,SNR=3.5						
GERES	GERESS Array B	24.15	147	P	P	13 04 28.4	+1.2
	0.6nm,0.7s,baz=0.8,slow=9.3,SNR=5.9						
GERES				LR	LR	13 13 28.6	
	comp=Z,39nm,19.9s,baz=290,slow=36						
VRAC	Vranov	24.24	143	LR	LR	13 13 19.0	
	comp=Z,18nm,18.6s,baz=328,slow=35						
AKASG	Malin Array Be	25.95	123	P	P	13 04 42.1	-1.3
	0.7nm,0.5s,baz=332,slow=8.7,SNR=2.5						
AKTO	Aktyubinsk	35.05	92	P	P	13 06 03.6	-0.1
	1.0nm,0.7s,baz=333,slow=6.8,SNR=3.8						
BVAR	Borovoye Array	36.83	78	P	P	13 06 19.9	+0.9
	0.5nm,0.7s,baz=308,slow=7.1,SNR=3.6						
BRTR	Keskin Array B	37.28	126	P	P	13 06 23.9	+0.9
	0.5nm,0.6s,baz=327,slow=10,SNR=3.7						
YKA	Yellowknife Ar	37.92	314	P	P	13 06 28.5	+0.5
	0.4nm,0.9s,baz=29,slow=8.6,SNR=5.0						
KURBB	Kurchatov Arra	41.47	73	P	P	13 06 57.8	+0.1
	0.3nm,0.7s,baz=332,slow=7.2,SNR=2.9						
ILAR	Eielson Array	41.77	336	P	P	13 07 01.1	+1.1
	0.3nm,0.8s,baz=25,slow=5.0,SNR=4.4						
MKAR	Makanchi Array	46.02	73	P	P	13 07 35.0	+0.6
	0.2nm,0.7s,baz=325,slow=7.2,SNR=2.6						
PDAR	Pinedale Array	54.35	298	LR	LR	13 31 04.7	
	comp=Z,34nm,18.1s,baz=28,slow=35						
PETK	Petropavlovsk-	55.51	12	LR	LR	13 32 03.3	
	comp=Z,36nm,18.2s,baz=24,slow=36						
TORD	Torodi Ar. Bea	58.13	171	P	P	13 09 05.6	+0.9
	1.1nm,0.9s,baz=346,slow=6.2,SNR=4.7						

ISCJB ***06*** *13:04:03.9±0.5, 37°.08N±0°.03×28°.58E±0°.04, h0km, Error ellipse: s-maj=5.4km s-min=4.3km az=43.1*
CSEM ***06*** *13:04:03.9±0.3, 37°.08N×28°.58E, h1km, ML2.7, Error ellipse: s-maj=7.1km s-min=4.7km az=45.0, Suspected Mining explosion.*
ISK ***06*** *13:04:03.5, 37°.08N×28°.59E, h8km, ML2.3/9*
DDA ***06*** *13:04:04.5, 37°.04N×28°.64E, h7km, Ml2.7, Suspected Mining explosion.*
ISC 06 13:04:03.9±0.9**, 37°.15N**±0°.03×**28°.60E**±0°.03**, h0**km**, n27, σ0ˢ95**/39**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TURN	Turunc	0.28	180	PG	Pb	13 04 12.1	+0.3

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
TURN				SG	Sb	13 04 18.3	+1.3
TURN	Turunc	0.28	180	*i* P	Pb	13 04 12.2	+0.5
TURN				*i* S	Sb	13 04 19.2	+2.3
TURN	Turunc	0.28	180	*e*Pg	Pb	13 04 12.1	+0.3
DALY	Dalyan (Mu˜la	0.34	173	PG	Pg	13 04 09.3	-1.0
DALY				SG	Sg	13 04 13.6	-1.1
DALY	Dalyan (Mu˜la	0.34	173	*i* P	Pg	13 04 09.7	-0.6
DALY				*i* S	Sg	13 04 15.4	+0.7
DALY	Dalyan (Mu˜la	0.34	173	*e*Pg	Pg	13 04 09.3	-1.0
DALY	Dalyan (Mu˜la	0.34	173	P	Pg	13 04 09.7	-0.6
DALY				*e*Sg	Sg	13 04 13.6	-1.1
DALY				S	Sg	13 04 15.4	+0.7
TAVA	DENIZLI_Tavas	0.40	38	*i* P	Pb	13 04 14.4	+0.5
TAVA				*i* S	Sb	13 04 21.1	+0.5
TAVA	DENIZLI_Tavas	0.40	38	P	Pb	13 04 14.4	+0.5
TAVA				S	Sb	13 04 21.1	+0.5
FETY	Fethiye	0.64	143	PG	Pg	13 04 15.5	-0.7
FETY				SG	Sg	13 04 24.2	-0.4
FETY	Fethiye	0.64	143	P	Pg	13 04 14.6	-1.6
FETY	Fethiye	0.64	143	*e*Pg	Pg	13 04 15.5	-0.7
FETY				S	Sg	13 04 23.5	-1.1
FETY				*e*Sg	Sg	13 04 24.2	-0.4
MLSB	Milas	0.67	282	PG	Pg	13 04 17.1	+0.3
MLSB	Milas	0.67	282	*e*Pg	Pg	13 04 17.1	+0.3
DATC	Datca-Mugla	0.85	243	PG	Pg	13 04 19.6	-0.6
DATC	Datca-Mugla	0.85	243	*e*Pg	Pg	13 04 19.6	-0.6
BDRM	Kayabasi	0.93	265	*i* P	Pg	13 04 18.6	-3.1
BDRM				*i* S	Sb	13 04 36.7	+0.9
AYDB	Zeytinkoy-Aydi	0.97	325	PG	Pb	13 04 23.6	-0.1
AYDB	Zeytinkoy-Aydi	0.97	325	*e*Pg	Pb	13 04 23.6	-0.1
BODT	Bodrum	1.04	265	PG	Pg	13 04 23.5	-0.2
BODT	Bodrum	1.04	265	*e*Pg	Pg	13 04 23.5	-0.2
ELL	Elmali	1.12	111	PN	Pg	13 04 25.1	-0.3
ELL	Elmali	1.12	111	*e*Pn	Pg	13 04 25.1	-0.3
GCAM	G?zelcaml?	1.22	297	PN	Pb	13 04 27.7	-0.1
GCAM	G?zelcaml?	1.22	297	*e*Pn	Pb	13 04 27.7	-0.1
AKAS	Kas	1.22	138	PN	Pg	13 04 26.5	-0.8
AKAS	Kas	1.22	138	*e*Pn	Pg	13 04 26.5	-0.8

IDC 06 13:23:47.5±3.8**, 5.̊68S**×**150.̊95E, h0**km**, mb3.1**/2**, mb1 3.5**/2**, mb1mx3.0**/52**, mbtmp3.2**/2**, Error ellipse: s-maj=143.0km s-min=51.0km az=118.0, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	5.27	225	Sn	Sn	13 26 09.2	+0.1
	1.5nm,0.3s,baz=331,slow=19,SNR=4.6						
WRA	Warramunga Arr	21.49	227	P	P	13 28 37.9	-0.1
	0.4nm,0.5s,baz=53,slow=10,SNR=8.5						
ASAR	Alice Springs	24.27	221	P	P	13 29 06.8	+0.2
	0.4nm,0.5s,baz=57,slow=9.1,SNR=12						
TORD	Torodi Ar. Bea	148.80	286	PKPbc	PKPbc	13 43 37.5	-0.7
	0.8nm,0.7s,baz=86,slow=1.9,SNR=3.8						

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*IDC **06** 13:24:59.4±0.4, 38.̊27S×75.̊10W, h0km, mb4.5/17, mb1 4.6/19, mb1mx4.4/36, mbtmp4.5/19, ML4.0/2, MS3.9/19, Ms1 3.8/19, ms1mx3.7/30, Error ellipse: s-maj=16.9km s-min=13.1km az=83.0*

*ISCJB **06** 13:25:03.1±0.3, 38.̊19S±0.̊03×74.̊93W±0.̊04, h33km, mb4.7/33, MS3.9/18, Error ellipse: s-maj=4.5km s-min=4.3km az=8.6*

*GUC **06** 13:25:03.5±0.5, 38.̊12S×74.̊82W, h19km±3km, ML4.2*

*NEIC **06** 13:25:04.8±0.2, 38.̊23S×75.̊02W, h35km, mb4.9/16, Error ellipse: s-maj=7.7km s-min=5.5km az=86.0*

*GCMT **06** 13:25:04.8±0.3, 38.̊54S×75.̊38W, h21km±1km, MW5.0/66, Moment Tensor Solution. s20,c20; s66,c91; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-3.82±.26; $M_{\theta\theta}$0.41±.15; $M_{\phi\phi}$3.41±.16; $M_{r\theta}$-1.16±.29; $M_{\theta\phi}$0.79±.12; $M_{\phi r}$-0.38±.23; Best double couple: $M_0$3.89300×10^{16} NP1:ϕ_s27.00000°, δ52.00000°, λ-73.00000°. NP2: ϕ_s181.00000°, δ42.00000°, λ-110.00000°. Principal axes: T 3.6650, Plg5.0000°, Azm105.0000°; N 0.4580, Plg13.0000°, Azm197.0000°; P -4.1210, Plg76.0000°, Azm355.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 06 13:25:04.7±0.3**, 38.̊18S**±0.̊04×**75.̊00W**±0.̊06**, h35**km**, n116, σ1ˢ35**/129**, mb4.7**/33**, MS3.9**/18**, 1C-1D, Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TMU	Temuco	1.96	107	*i* P	Pn	13 25 34.9	-0.7
TMU				*i* S	Sn	13 25 58.4	-0.5
TMU				IAML		13 26 02.1	
	comp=N,1μm,0.2s						
CCSP	San Pedro de C	2.01	49	*e*P	Pn	13 25 34.0	-2.2
CCSP				*i* S	Sn	13 25 57.3	-2.8
CCSP				IAML		13 26 01.3	
	comp=N,2μm,0.7s						
COCH	Cobquecura	2.71	41	*e*P	Pn	13 25 44.5	-1.2
COCH				*e*S	Sn	13 26 17.5	+0.3
COCH	Cobquecura	2.71	41	*e*P	Pn	13 25 44.1	-1.6
COCH				*i* S	Sn	13 26 15.8	-1.4
COCH				IAML		13 26 18.9	
	comp=E,642nm,0.4s						
CCHI	Chillan	2.81	57	*e*P	Pn	13 25 47.7	+0.5
CCHI	Chillan	2.81	57	*e*P	Pn	13 25 46.1	-1.1
CCHI				*i* S	Sn	13 26 18.1	-1.8
CCHI				IAML		13 26 27.7	
	comp=E,1μm,0.8s						
CANA	Caviahue	3.12	86	*e*P	Pn	13 25 51.7	0.0
CANA				IAML		13 26 45.1	
	comp=Z,210nm,0.6s						
GO05	HualaæØ	4.02	39	*e*P	Pn	13 26 02.7	-1.1
GO05				*i* S	Sn	13 26 47.8	-1.9
GO05				IAML		13 26 51.9	
	comp=N,367nm,0.2s						
PLCA	Paso Flores	4.28	128	Pn	Pn	13 26 06.6	-0.9
	comp=N,1.4nm,0.3s,baz=336,slow=11,SNR=37						
PLCA				Sn	Sn	13 26 55.8	-0.5
	comp=N,11nm,0.3s,baz=342,slow=17,SNR=3.4						
PLCA	Paso Flores	4.28	128	*e*P	Pn	13 26 07.3	-0.2
PLCA				IAML		13 27 15.4	
	comp=Z,214nm,0.6s						
PLCA	Paso Flores	4.28	128	*e*P	Pn	13 26 10.3	+2.8
PLCA				*i* S	Sn	13 26 55.6	-0.7
ROC1	El Roble	6.13	33	*e*Pn	Pn	13 26 31.0	-2.0
ROC1	El Roble	6.13	33	*e*P	Pn	13 26 31.9	-1.2
PEL	Peldehue	6.13	36	*e*Pn	Pn	13 26 32.5	-0.5
AUSP	Uspallata	7.51	39	*e*P	Pn	13 26 52.4	+0.3
RTLS	Leoncito	7.90	38	*e*P	Pn	13 26 57.7	+0.2
CHRN	Cochrane	9.23	170	*e*Pn	Pn	13 27 13.9	-1.4
CHRN	Cochrane	9.23	170	*e*P	Pn	13 27 13.9	-1.4
TRQA	Tornquist	10.26	93	*e*Pn	Pn	13 27 30.4	+0.9
CPUP	Villa Florida	19.02	57	P	Pn	13 29 24.1	-0.4
	comp=Z,0.2nm,0.3s,baz=230,slow=12,SNR=14						
CPUP				LR	LR	13 36 56.3	
	comp=Z,500nm,20.4s,baz=234,slow=38						
CPUP	Villa Florida	19.02	57	*e*P	Pn	13 29 25.4	+0.9
	comp=Z,9.3nm,0.9s						
MNMC	Minye Minye	19.56	15	*e*P	Pn	13 29 30.7	-0.6
	comp=Z,113nm,1.9s						
LPAZ	La Paz	22.64	17	P	P	13 30 04.1	+0.7
	comp=Z,5.4nm,0.8s,baz=199,slow=2.7,SNR=3.3						
SIV	San Ignacio	25.29	33	P	P	13 30 28.5	+0.6
	comp=Z,6.2nm,0.8s,baz=237,slow=10.0,SNR=24						
SIV				LR	LR	13 42 14.7	
	comp=Z,81nm,20.1s,baz=118,slow=41						
RPN	Rapa Nui	30.77	281	LR	LR	13 39 48.2	
	comp=Z,466nm,20.8s,baz=94,slow=29						
SOTA	Rioblanco	40.15	358	*e*P	P	13 32 40.8	+2.9
PCON	Cinco Dias	40.33	358	*e*P	P	13 32 42.8	+3.2
SJAC	San Juan de Ar	41.26	2	*e*P	P	13 32 48.8	+2.1
YOTC	Yotoco, Valle	41.97	358	*e*P	P	13 32 53.5	+0.9
CHIC	Chingaza	42.61	2	*e*P	P	13 33 00.1	+2.0
ROSC	El Rosal	42.81	1	LR	LR	13 50 03.2	
	comp=Z,89nm,18.4s,baz=246,slow=35						
GUYC	Guyana, Colomb	43.19	359	*e*P	P	13 33 04.8	+1.9
NORC	Norcasia	43.52	0	*e*P	P	13 33 04.1	-1.0
RUSC	La Rusia	43.89	3	*e*P	P	13 33 10.9	+2.5
	comp=Z,5.0nm,0.9s						
RUSC	La Rusia	43.89	3	*e*P	P	13 33 10.7	+2.3
HELC	Santa Helena	44.15	359	*e*P	P	13 33 11.7	+1.2
	comp=Z,35nm,0.8s						
HELC	Santa Helena	44.15	359	*e*P	P	13 33 10.7	+0.3
BARC	Barichara	44.58	3	*e*P	P	13 33 07.4	-6.3
ZARC	Zaragoza, Cauc	45.44	0	*e*P	P	13 33 21.4	+1.1
VNA3	Neumayer Olymp	46.46	156	P	P	13 33 27.9	+0.2
SDV	Santo Domingo	47.00	6	P	P	13 33 32.2	-0.6
	comp=Z,6.9nm,0.8s,baz=218,slow=17,SNR=4.3						
SDV				PcP	PcP	13 35 05.2	+0.4
	comp=Z,2.6nm,0.7s,baz=241,slow=10,SNR=2.8						
SDV	Santo Domingo	47.00	6	*e*P	P	13 33 34.0	+1.2
	comp=Z,8.8nm,0.9s						
SDV				PcP	PcP	13 35 05.2	+0.4
SDV	Santo Domingo	47.00	6	*e*P	P	13 33 33.3	+0.5
VNA2	Neumayer--Watz	47.15	156	P	P	13 33 33.5	+0.4
	baz=272,slow=8.1						
SNAA	Sanae	48.67	156	P	P	13 33 44.8	-0.2
SNAA	Sanae	48.67	156	P	P	13 33 44.2	-0.9
	comp=Z,9.0nm,0.9s,baz=275,slow=8.0,SNR=20						
SNAA				PcP	PcP	13 35 08.6	-1.2
	comp=Z,1.6nm,0.9s,baz=282,slow=9.3,SNR=2.7						
SNAA	Sanae	48.67	156	*e*P	P	13 33 44.5	-0.5
	comp=Z,9.8nm,0.9s						
SNAA				PcP	PcP	13 35 08.6	-1.2
JTS	JuntasAbangare	49.11	347	LR	LR	13 49 53.3	
	comp=Z,36nm,20.9s,baz=192,slow=30						
QSPA	South Pole Qui	52.06	180	P	P	13 34 10.2	-0.6
	comp=Z,20nm,0.9s,baz=142,slow=3.3,SNR=33						
QSPA	South Pole Qui	52.06	180	*e*P	P	13 34 09.9	-0.9
	comp=Z,16nm,0.8s						
RKT	Rikitea	52.88	268	*e*LR	LR	13 49 30.8	
	comp=Z,464nm,25.8s						
APG	El Apazote	54.86	342	P	P	13 34 32.9	+1.0
	comp=Z,7.2nm,0.7s,baz=216,slow=3.4,SNR=9.3						
APG				LR	LR	13 53 35.3	
	comp=Z,98nm,18.7s,baz=142,slow=31						
VNDA	Vanda	59.53	192	P	P	13 35 04.5	+0.6
	comp=Z,1.1nm,0.9s,baz=171,slow=6.0,SNR=5.4						
VNDA				LR	LR	13 56 44.0	
	comp=Z,37nm,18.8s,baz=307,slow=32						
SYO	Syowa Base	62.87	158	⇓*e*P	P	13 35 25.0	-1.6
SYO	Syowa Base	62.87	158	⇑*e*pP	pP	13 35 32.9	-4.4
TVO	Taravao	67.00	265	*e*P	P	13 35 54.9	+0.5
	comp=Z,7.8nm,0.8s						
TIAR	Tiarei	67.20	265	*e*P	P	13 35 56.3	+0.7
	comp=Z,8.9nm,0.8s						
PAE	Paea	67.33	265	*e*P	P	13 35 56.8	+0.4
	comp=Z,4.8nm,1.0s						
PPT2	Papeete2	67.37	265	*e*P	P	13 35 57.2	+0.5
	comp=Z,31nm,1.0s						
PPT2				*e*S	S	13 44 49.6	-0.5
	comp=Z,92nm,24.8s						
PPT2	Papeete2	67.37	265	*e*LR	LR	13 56 14.2	
	comp=Z,299nm,27.0s						
PPT	Papeete	67.38	265	P	P	13 35 56.9	+0.2
	comp=Z,37nm,0.9s,baz=60,slow=20,SNR=4.2						
PPT				LR	LR	13 56 53.4	
	comp=Z,310nm,18.1s,baz=110,slow=28						
MAW	Mawson	69.84	164	P	P	13 36 11.5	+0.3
	comp=Z,5.7nm,0.7s,baz=204,slow=8.8,SNR=6.2						
MAW				LR	LR	14 05 39.4	
	comp=Z,126nm,19.5s,baz=236,slow=35						
LPIG	La Paz	70.26	326	LR	LR	14 00 36.4	
	comp=Z,69nm,18.3s,baz=184,slow=30						
LRAL	Lakeview Retre	71.73	349	*e*P	P	13 36 23.9	+0.9
	comp=Z,17nm,0.9s						
JCT	Junction City	72.13	338	*e*P	P	13 36 26.3	+0.7
	comp=Z,9.9nm,0.8s						
TXAR	Lajitas Array	72.32	334	P	P	13 36 27.6	+0.7
	comp=Z,3.1nm,0.8s,baz=153,slow=8.5,SNR=42						
TX31	Lajitas Ar. Si	72.32	334	*e*P	P	13 36 27.2	+0.4
WHAR	Wooly Hollow	74.84	345	*e*P	P	13 36 42.2	+0.8
	comp=Z,14nm,1.0s						
MNTX	Cornudas Mount	75.07	334	*e*P	P	13 36 42.2	-0.6
	comp=Z,3.8nm,0.9s						
CASY	Casey	75.78	182	*e*P	P	13 36 45.9	-0.6
	comp=Z,8.2nm,1.0s						
BBTS	Babate	75.88	58	LR	LR	14 08 40.7	
	comp=Z,106nm,20.6s,baz=230,slow=34						
TUL1	Leonard	76.19	343	*e*P	P	13 36 49.8	+0.6
	comp=Z,17nm,0.8s						
CCM	Cathedral Cave	77.33	347	*e*P	P	13 36 55.7	+0.2
	comp=Z,16nm,0.8s						
LIC	Lamto	78.35	73	*e*P	P	13 37 02.6	+0.9
	comp=Z,27nm,0.9s						
TIC	Toumodi	78.63	72	*e*P	P	13 37 05.1	+1.8
KIC	Kosan Boka	78.65	73	*e*P	P	13 37 04.7	+1.3
	comp=Z,14nm,0.8s						
DBIC	Dimbokro	78.77	72	P	P	13 37 05.1	+1.1
	comp=Z,2.7nm,0.6s,baz=194,slow=5.9,SNR=6.3						
DBIC				LR	LR	14 08 01.5	
	comp=Z,36nm,20.3s,baz=208,slow=33						
RPZ	Rata Peaks	78.93	222	LR	LR	14 04 26.8	
	comp=Z,166nm,21.5s,baz=236,slow=30						
BOSA	Boshof	80.22	119	P	P	13 37 11.9	-0.1
	comp=Z,5.8nm,0.8s,baz=203,slow=5.3,SNR=7.7						
BOSA				LR	LR	14 10 14.2	
	comp=Z,36nm,18.5s,baz=208,slow=34						
KOWA	Kowa	84.52	67	P	P	13 37 35.7	+1.4
	comp=Z,6.4nm,0.7s,baz=235,slow=8.0,SNR=20						
KOWA				LR	LR	14 13 52.5	
	comp=Z,35nm,20.5s,baz=214,slow=35						
KOWA	Kowa	84.52	67	*e*P	P	13 37 33.9	-0.4
	comp=Z,9.6nm,0.8s						
R11A	Troy Canyon, C	84.83	329	*e*P	P	13 37 34.6	-1.0
	comp=Z,2.6nm,1.0s						
NVAR	Mina Array Bea	86.02	327	P	P	13 37 41.5	-0.2
	comp=Z,0.7nm,0.7s,baz=156,slow=5.7,SNR=5.4						
NVAR				LR	LR	14 10 06.8	
	comp=Z,25nm,18.4s,baz=274,slow=32						
PDAR	Pinedale Array	86.48	335	P	P	13 37 43.9	+0.1
	comp=Z,1.6nm,0.8s,baz=130,slow=6.0,SNR=10						
PDAR	Pinedale Array	86.48	335	*e*P	P	13 37 43.1	-0.7
AFI	Afiamalu	86.75	255	LR	LR	14 06 29.7	
	comp=Z,85nm,19.3s,baz=128,slow=29						
TORD	Torodi Ar. Bea	87.85	72	P	P	13 37 51.6	+0.8
	comp=Z,1.3nm,0.8s,baz=263,slow=3.4,SNR=5.9						
TORD				LR	LR	14 15 50.9	
	comp=Z,49nm,18.8s,baz=240,slow=35						
ULM	Lac du Bonnet	89.96	347	P	P	13 38 00.8	+1.0
	comp=Z,3.3nm,0.8s,baz=180,slow=5.0,SNR=7.2						
DZM	Mont Dzumac	96.86	235	*e*LR	LR	14 09 58.6	
	comp=Z,164nm,29.0s						
DZM	Mont Dzumac	96.86	235	LR	LR	14 14 07.3	
	comp=Z,60nm,18.6s,baz=186,slow=30						
ASAR	Alice Springs	112.76	209	PKiKP	PKiKP	13 43 36.6	-1.4
	comp=Z,0.4nm,1.0s,baz=130,slow=1.6,SNR=4.5						
WRA	Warramunga Arr	115.95	211	PKP	PKPdf	13 43 42.6	-1.7
	comp=Z,0.6nm,0.7s,baz=173,slow=1.7,SNR=7.8						
GERES	GERESS Array B	116.77	48	PKP	PKPdf	13 43 45.5	+0.6
	comp=Z,0.6nm,0.7s,baz=45,slow=0.4,SNR=5.4						
ILAR	Eielson Array	116.82	333	PKP	PKPdf	13 43 44.1	-0.3
	comp=Z,0.4nm,0.9s,baz=177,slow=1.9,SNR=5.0						
BRTR	Keskin Array B	125.88	64	PKP	PKPdf	13 44 03.1	+0.3
	comp=Z,0.8nm,0.7s,baz=180,slow=3.2,SNR=4.4						
AKASG	Malin Array Be	126.75	50	PKP	PKPdf	13 44 03.7	-0.2
	comp=Z,0.5nm,0.6s,baz=267,slow=3.4,SNR=3.3						
KBZ	Khabaz	133.74	62	PKP	PKPdf	13 44 18.7	+1.4
	comp=Z,2.0nm,0.9s,baz=204,slow=7.4,SNR=2.7						
GEYT	Alibeck	143.40	75	PKP	PKPbc	13 44 33.0	+0.5
	comp=Z,5.3nm,0.7s,baz=264,slow=4.5,SNR=13						
ARU	Arti	144.45	44	PKP	PKPdf	13 44 36.2	-0.3
	comp=Z,3.5nm,0.5s,baz=291,slow=1.9,SNR=9.6						
AKTO	Aktyubinsk	144.79	54	PKP	PKPdf	13 44 37.2	-0.1
	comp=Z,2.2nm,0.6s,baz=274,slow=4.7,SNR=10.0						
ASAJ	Asahikawa	151.25	294	PKPbc	PKPbc	13 44 53.7	-0.4
	comp=Z,8.8nm,0.8s,baz=245,slow=9.7,SNR=7.8						
BVAR	Borovoye Array	151.93	47	PKP	PKPdf	13 44 49.8	+1.0
	comp=Z,1.1nm,0.7s,baz=242,slow=3.2,SNR=5.1						
BVAR				PKPbc	PKiKP	13 44 56.3	+0.6
	comp=Z,3.3nm,0.7s,baz=268,slow=4.5,SNR=15						
BVAR				PKPab	sPKPdf	13 45 03.4	-0.8
	comp=Z,3.3nm,0.8s,baz=298,slow=3.2,SNR=9.6						
MJAR	Matsushiro Arr	153.63	277	PKPbc	PKPbc	13 44 59.2	-0.5
	comp=Z,1.2nm,0.7s,baz=146,slow=3.4,SNR=3.7						
MJAR				PKPab	PKPab	13 45 12.3	-0.2
	comp=Z,0.7nm,0.6s,baz=186,slow=11,SNR=4.3						
AAK	Ala-Archa	156.42	69	PKP	PKPdf	13 44 56.2	+0.5
	comp=Z,1.6nm,0.8s,baz=179,slow=5.2,SNR=4.5						
AAK				PKPab	PKPab	13 45 25.6	+1.2
	comp=Z,2.9nm,0.8s,baz=222,slow=8.4,SNR=4.3						
KSH	Kashi	157.40	78	*e*PKP	PKPdf	13 44 56.5	-0.5
KURBB	Kurchatov Arra	157.51	48	PKP	PKPdf	13 44 57.6	+1.1
	comp=Z,1.5nm,0.9s,baz=294,slow=1.9,SNR=11						
KURBB				PKPab	PKPab	13 45 29.7	+1.1
	comp=Z,0.3nm,0.3s,baz=289,slow=4.7,SNR=4.8						
KURK	Kurchatov	157.52	48	PKP	PKPdf	13 44 57.6	+1.1
KURK				PKPab	PKPab	13 45 29.7	+1.1
ZALV	Zalesovo Beam	159.03	35	PKP	PKPdf	13 44 57.4	-0.9
	comp=Z,2.6nm,0.9s,baz=257,slow=2.7,SNR=6.9						
ZALV				PKPab	PKPab	13 45 36.6	+1.6
	comp=Z,3.2nm,0.8s,baz=291,slow=5.2,SNR=7.1						
CMAR	Chiang Mai Arr	159.65	163	PKP	PKPdf	13 44 59.9	-0.2
	comp=Z,0.5nm,0.4s,baz=237,slow=2.3,SNR=5.6						
MKAR	Makanchi Array	161.22	55	PKP	PKPdf	13 45 01.3	+0.2
	comp=Z,1.3nm,0.9s,baz=281,slow=1.9,SNR=9.1						
MKAR				PKPab	PKPab	13 45 45.1	+0.2
	comp=Z,0.7nm,0.7s,baz=283,slow=4.7,SNR=5.6						
MKAR				PP	PP	13 49 31.1	+2.5
	comp=Z,0.6nm,0.9s,baz=284,slow=6.1,SNR=4.0						
KSRS	Korea Array	161.88	275	PKP	PKPdf	13 45 01.2	-0.7
	comp=Z,1.6nm,0.8s,baz=129,slow=1.5,SNR=3.6						
KSRS				PKPab	PKPab	13 45 47.9	-0.1
	comp=Z,0.9nm,0.7s,baz=108,slow=4.0,SNR=3.3						
KSAR	Wonju Array Be	161.90	275	PKP	PKPdf	13 45 01.2	-0.8
KSAR				PKPab	PKPab	13 45 47.9	-0.3
NJ2	Nanjing	167.12	246	*e*PKP	PKPdf	13 45 08.8	+2.0
SONM	Songino Array	170.30	354	PKP	PKPdf	13 45 08.3	-0.3
	comp=Z,0.3nm,0.4s,baz=241,slow=1.5,SNR=3.7						
GTA	Gaotai	175.77	72	*e*PKP	PKPdf	13 45 11.4	+0.4
GTA				pPKP	pPKPdf	13 45 22.2	-0.3
GTA				sPKP		13 45 25.7	
GTA				PKPab	PKPab	13 46 51.5	+1.9
LZH	Lanzhou	177.71	156	*e*PKP	PKPdf	13 45 09.3	-2.2
LZH				pPKP	pPKPdf	13 45 19.2	-3.8
LZH				sPKP		13 45 23.0	
LZH				PKPab	PKPab	13 46 59.0	+0.9
LZH				SKS	SKSdf	13 52 05.0	-6.9
LZH				SS	SS	14 12 20.2	-4.1
LZH				AMB	AMB		
	comp=Z,230nm,5.1s						

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*ISCJB **06** 13:27:13.8±0.5, 37.̊20N±0.̊04×72.̊00E±0.̊06, h142km, mb3.4/4, Error ellipse: s-maj=7.5km s-min=4.9km az=150.8*

*IDC **06** 13:27:15.7±5.8, 37.̊15N×72.̊11E, h184km±35km, mb3.2/4, mb1 3.3/10, mb1mx2.9/73, mbtmp3.8/10, MS3.2/3, Ms1 3.2/3, ms1mx2.5/41, Error ellipse: s-maj=79.6km s-min=19.9km az=146.0*

*NNC **06** 13:27:20.2±3.8, 37.̊58N×71.̊47E, h124km±59km, mb3.2, mpv3.8, Error ellipse: s-maj=32.9km s-min=31.1km az=74.0*

ISC 06 13:27:13.7±0.8**, 37.̊19N**±0.̊07×**71.̊91E**±0.̊07**, h142**km**, n30, σ2ˢ04**/34**, mb3.4**/4**, 7C-5D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	Sufi-Kurgan	3.08	23	⇑P	Pn	13 28 05.9	+4.0
	15nm,0.3s						
SFK				⇑S	Sn	13 28 40.8	+1.5
	58nm,0.3s						
MNAS	Manas	5.31	5	⇓P	Pn	13 28 33.8	+2.7
	16nm,0.3s						
MNAS				⇓S	Sn	13 29 29.3	-2.2
	54nm,0.5s						
AAK	Ala-Archa	5.79	19	P	Pn	13 28 40.1	+2.6
	2.5nm,0.3s,baz=126,slow=4.4,SNR=27						
AAK				S	Sn	13 29 42.2	-0.9
	2.9nm,0.3s,baz=326,slow=23,SNR=30						
AAK	Ala-Archa	5.79	19	⇑P	Pn	13 28 40.2	+2.6
	2.8nm,0.3s						
AAK				⇑S	Sn	13 29 41.7	-1.4
	22nm,0.7s						
KK31	Karatay Array	6.00	350	⇓P	Pn	13 28 42.6	+2.3
	6.9nm,0.4s,baz=165,slow=12,SNR=63						
KK31				⇑S	Sn	13 29 45.2	-2.7
	10nm,0.3s,baz=177,slow=24,SNR=18						
TKM2	Tokmak 2	6.38	25	⇑P	Pn	13 28 47.2	+1.7
	0.9nm,0.4s						
TKM2				⇓S	Sn	13 30 02.0	+4.6
	4.3nm,0.7s						
GEYT	Alibeck	10.98	278	P	Pn	13 29 49.6	+2.8
	1.1nm,0.3s,baz=96,slow=9.7,SNR=5.7						
GEYT				S	Sn	13 31 49.8	+1.9
	0.6nm,0.3s,baz=160,slow=26,SNR=3.9						
PYUN	Piuthan	13.00	131	*e*P	Pn	13 30 13.5	+0.1
	19nm,0.3s						
KOLN	Koldanda	13.61	130	*e*P	Pn	13 30 22.1	+0.9
	12nm,0.3s						
GKN	Gorkha	14.10	127	*e*P	Pn	13 30 27.8	+0.5
	12nm,0.3s						
KURBB	Kurchatov Arra	14.24	17	P	Pn	13 30 30.3	+1.6
	0.0nm,0.3s,baz=209,slow=12,SNR=4.8						
KKN	Kakani	14.65	126	*e*P	Pn	13 30 34.9	+0.5
	18nm,0.5s						
DMN	Daman	14.67	127	*e*P	Pn	13 30 35.3	+0.7
	18nm,0.4s						
AB31	Akbulak array	14.86	328	⇓P	P	13 30 38.7	0.0
	1.8nm,0.5s,baz=142,slow=13,SNR=6.1						
PKIN	Phulchoki	14.88	126	*e*P	Pn	13 30 37.5	+0.3
	21nm,0.4s						
GUN	Gumba	14.96	124	*e*P	Pn	13 30 38.0	-0.4
	13nm,0.4s						
JIRN	Jiri	15.34	124	*e*P	Pn	13 30 43.0	0.0
	62nm,0.5s						
BVA0	Borovoye Array	15.87	357	P	Pn	13 30 48.5	-0.5
	0.9nm,0.6s,baz=162,slow=14,SNR=8.8						
BVAR	Borovoye Array	15.87	357	P	Pn	13 30 48.0	-1.0
	0.3nm,0.3s,baz=163,slow=15,SNR=9.1						
RAMN	Ramite	16.08	125	*e*P	Pn	13 30 50.3	-1.8
	22nm,0.5s						
AKTO	Aktyubinsk	16.57	327	P	P	13 30 58.3	+0.8
	0.8nm,0.3s,baz=127,slow=10,SNR=11						
AKTO	Aktyubinsk	16.57	327	⇑P	P	13 30 58.4	+0.8
	3.9nm,0.7s						
ZALV	Zalesovo Beam	18.98	24	P	P	13 31 22.6	-1.4
	0.5nm,0.3s,baz=214,slow=9.8,SNR=5.3						
TLY	Talaya	26.64	47	LR	LR	13 45 10.3	
	comp=Z,39nm,18.1s,baz=20,slow=40						
VRAC	Vranov	41.19	305	LR	LR	13 54 40.5	
	comp=Z,29nm,19.6s,baz=317,slow=40						
HFS	Hagfors	42.98	321	LR	LR	13 56 00.5	
	comp=Z,43nm,21.0s,baz=327,slow=40						
TORD	Torodi Ar. Bea	66.46	269	P	P	13 37 46.8	-1.4
	0.7nm,0.4s,baz=48,slow=5.7,SNR=7.7						
INK	Inuvik	73.10	10	P	P	13 38 25.9	-2.0
	0.3nm,0.4s,baz=347,slow=7.0,SNR=5.8						
ILAR	Eielson Array	73.91	16	P	P	13 38 29.4	-3.3
	0.2nm,0.6s,baz=309,slow=4.5,SNR=3.6						
YKA	Yellowknife Ar	80.52	3	P	P	13 39 07.2	-2.3
	0.4nm,0.6s,baz=350,slow=5.5,SNR=9.3						

MEX 06 13:30:15.2±0.3**, 16.̊30N**×**98.̊28W, h9**km±3km**, MD3.7, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.17	58	*e*P	Pg	13 30 18.4	-0.5
PNIG				*e*S	Sg	13 30 21.1	-0.2
TLIG	Tlapa	1.28	348	*e*P	Pn	13 30 36.1	-3.4
TLIG				*e*S	Sb	13 30 51.4	-4.9
VHO	Vista Hermosa	1.67	62	*e*P	Pn	13 30 41.3	-3.5
VHO				*e*S	Sn	13 31 01.5	-4.9
HUIG	Huatulco	2.15	104	*e*P	Pn	13 30 48.2	-3.1

IDC 06 13:46:02.5±5.8**, 20.̊29S**×**176.̊76W, h0**km**, mb3.7**/4**, mb1 4.0**/4**, mb1mx3.6**/46**, mbtmp3.7**/4**, Error ellipse: s-maj=245.7km s-min=34.8km az=146.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	34.67	264	P	P	13 52 55.4	+1.3
	2.3nm,0.4s,baz=82,slow=7.1,SNR=5.5						
ASAR	Alice Springs	45.70	256	P	P	13 54 25.4	-0.2
	0.6nm,0.5s,baz=95,slow=8.4,SNR=22						
WRA	Warramunga Arr	45.78	262	P	P	13 54 25.1	-1.2
	0.2nm,0.3s,baz=97,slow=7.6,SNR=22						
ILAR	Eielson Array	87.86	12	P	P	13 58 53.4	0.0
	0.2nm,0.8s,baz=197,slow=5.3,SNR=2.8						

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*IDC **06** 14:00:37.6±1.1, 10.̊53S×124.̊74E, h0km, mb3.7/3, mb1 3.9/5, mb1mx3.5/48, mbtmp3.7/5, ML3.7/2, MS3.7/2, Ms1 3.7/2, ms1mx2.7/48, Error ellipse: s-maj=31.5km s-min=13.5km az=23.0*

*ISCJB **06** 14:00:39.2±0.8, 10.̊7S±0.̊1×124.̊9E±0.̊2, h33km, mb3.6/3, MS3.7/2, Error ellipse: s-maj=28.7km s-min=7.4km az=139.5*

ISC 06 14:00:41.3±1.0**, 10.̊6S**±0.̊1×**124.̊8E**±0.̊2**, h35**km**, n10, σ2ˢ13**/10**, mb3.6**/3**, Timor region**

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

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BATI	Baumata	1.18	288	Pg	Pn	14 00 59.2	-2.1
	126nm,0.3s,baz=140,slow=8.7,SNR=127						
BATI				Lg	Lg	14 01 13.7	
	135nm,0.3s,baz=114,slow=19,SNR=24						
BATI				LR	LR	14 01 23.9	
	comp=Z,118nm,20.6s,baz=206,slow=42						
FITZ	Fitzroy Crossi	7.52	174	Pn	Pn	14 02 29.2	+0.6
	baz=0.0,slow=12						
WRA	Warramunga Arr	13.09	136	Pn	Pn	14 03 44.8	0.0
	0.3nm,0.3s,baz=308,slow=14,SNR=14						
WRA				Sn	Sn	14 06 06.6	-2.6
	0.7nm,0.3s,baz=297,slow=24,SNR=12						
ASAR	Alice Springs	15.65	147	Pn	Pn	14 04 19.7	+0.4
	0.5nm,0.3s,baz=319,slow=12,SNR=31						
ASAR				Sn	Sn	14 07 08.8	-2.9
	0.4nm,0.3s,baz=318,slow=22,SNR=9.2						
CMAR	Chiang Mai Arr	38.52	318	P	P	14 08 00.6	0.0
	0.6nm,0.6s,baz=140,slow=7.1,SNR=4.1						
MKAR	Makanchi Array	68.56	330	P	P	14 11 41.6	+1.1
	0.8nm,0.6s,baz=131,slow=7.7,SNR=13						
WSAR	Wadi Sarin	72.91	298	LR	LR	14 44 01.3	
	comp=Z,63nm,20.8s,baz=217,slow=36						
KURBB	Kurchatov Arra	73.00	331	P	P	14 12 08.5	+1.2
	0.4nm,0.6s,baz=142,slow=5.5,SNR=3.2						
BVAR	Borovoye Array	78.45	330	LR	LR	14 50 40.1	
	comp=Z,27nm,18.5s,baz=261,slow=38						
TORD	Torodi Ar. Bea	124.36	279	PKP	PKPdf	14 19 40.6	+3.0
	0.3nm,0.6s,baz=90,slow=1.4,SNR=2.5						

NEIC 06 14:13:12.1±0.0, 16°.24N×98°.29W, h2km, MD4.2(MEX), After MEX.

MEX 06 14:13:12.2±0.5, 16°.24N×98°.29W, h4km±10km, MD4.2, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.22	47	*i* P	Pg	14 13 16.3	-0.2
PNIG				*i* S	Sg	14 13 19.3	0.0
PNIG	Pinotepa	0.22	47	*i* P	Pg	14 13 16.3	-0.2
PNIG				*i* S	Sg	14 13 19.3	0.0
VHO	Vista Hermosa	1.71	61	*e*P	Pn	14 13 39.6	-3.4
VHO				*e*S	Sn	14 14 01.3	-4.1
VHO	Vista Hermosa	1.71	61	*e*P	Pn	14 13 39.6	-3.4
VHO				*e*S	Sn	14 14 01.3	-4.1
CAIG	El Cayaco	2.05	293	*e*P	Pn	14 13 44.0	-3.6
CAIG				*e*S	Sn	14 14 09.3	-4.4
CAIG	El Cayaco	2.05	293	*e*P	Pn	14 13 44.0	-3.6
CAIG				*e*S	Sn	14 14 09.3	-4.4
HUIG	Huatulco	2.15	102	*e*P	Pn	14 13 44.9	-4.1
HUIG				*i* S	Sn	14 14 11.9	-4.2
HUIG	Huatulco	2.15	102	*e*P	Pn	14 13 44.9	-4.1
HUIG				*i* S	Sn	14 14 11.9	-4.2
TPIG	Tehuac#an	2.34	22	*e*P	Pn	14 13 49.1	-2.6
TPIG				*e*S	Sn	14 14 17.7	-3.4
TPIG	Tehuac#an	2.34	22	*e*P	Pn	14 13 49.1	-2.6
TPIG				*e*S	Sn	14 14 17.7	-3.4
MOIG	Morelia	4.39	322	Pn	Pn	14 14 19.7	-0.2
MOIG				*e*Sn	Sn	14 15 10.1	-1.6

NIED 06 14:24:00, 37°.50N×141°.50E, h80km, Mw3.7 Best double couple: Mo4.69000×10^14 NP1:φs271.00000°, δ26.00000°, λ165.00000°. NP2:φs15.00000°, δ83.00000°, λ65.00000°.

JMA 06 14:24:59.5±0.1, 37°.47N×141°.47E, h37km±2km, M3.6, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JFK	Kawauchi	0.48	258	P	Pn	14 25 09.9	0.0
JFK				S	Sn	14 25 16.8	-0.4
ONAJ	Iwakimizuishiy	0.65	236	P	Pn	14 25 12.1	-0.2
ONAJ				S	Sn	14 25 20.6	-0.8
JMM	Marumori	0.67	307	P	Pn	14 25 12.3	-0.2
JMM				S	Sn	14 25 21.3	-0.4
JFT	Otama	0.90	273	P	Pn	14 25 16.4	+0.7
JFT				S	Sn	14 25 27.9	+0.4
JIO	Ouri	0.99	354	P	Pn	14 25 16.9	+0.1
JIO				S	Sn	14 25 28.7	-0.8
JOU	Okura	1.10	325	P	Pn	14 25 18.8	+0.5
JOU				S	Sn	14 25 32.8	+0.5
JYS	Shirataka	1.34	304	P	Pn	14 25 22.7	+1.0
JYS				*e*S	Sn	14 25 39.3	+1.1
JFY	Yanaizu	1.41	268	P	Pn	14 25 23.6	+1.0
JFY				S	Sn	14 25 41.1	+1.2
JMK	Ichinoseki	1.49	352	P	Pn	14 25 24.2	+0.5
JMK				S	Sn	14 25 41.8	-0.1
MAT	Matsushiro	2.77	251	P	Pn	14 25 44.2	+2.9
MAT				S	Sn	14 26 18.0	+4.5

ISCJB 06 14:47:39.6±0.8, 71°.4N±0°.1×6°.1W±0°.3, h9km, mb3.4/4, MS2.9/2, Error ellipse: s-maj=19.8km s-min=11.6km az=156.4

IDC 06 14:47:40.7±1.0, 71°.19N×6°.05W, h0km, mb3.4/4, mb1 3.7/6, mb1mx3.3/70, mbtmp3.6/6, ML2.9/2, MS2.9/5, Ms1 2.9/5, ms1mx2.6/54, Error ellipse: s-maj=26.6km s-min=9.5km az=166.0

ISC 06 14:47:41.6±0.9, 71°.3N±0°.1×6°.14W±0°.10, h9km, n11, σ1s41/7, mb3.3/4, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JMIC	Jan Mayen	0.82	252	Pg	Pg	14 47 56.5	-0.7
	25nm,0.3s,baz=117,slow=6.8,SNR=5.2						
JMIC				LR	LR	14 47 58.9	
	comp=Z,30nm,20.1s,baz=77,slow=22						
JMIC				Lg	Lg	14 48 08.2	
	51nm,0.3s,baz=169,slow=20,SNR=25						
SPITS	Spitsbergen Ar	9.05	30	Pn	Pn	14 49 50.7	-1.4
	baz=220,slow=13,SNR=10						
NOA	NORSAR Array B	12.36	137	LR	LR	14 54 49.4	
	comp=Z,43nm,20.8s,baz=340,slow=35						
HFS	Hagfors	13.72	134	LR	LR	14 55 32.0	
	comp=Z,64nm,21.9s,baz=336,slow=34						
FINES	FINESS Array B	15.99	112	Pn	Pn	14 51 26.9	+0.6
	0.1nm,0.3s,baz=316,slow=12,SNR=3.2						
FINES				LR	LR	14 56 49.1	
	comp=Z,40nm,19.3s,baz=145,slow=34						
MLR	Muntele Rosu	30.09	132	LR	LR	15 06 08.6	
	comp=Z,16nm,19.5s,baz=4.0,slow=37						
SCHQ	Schefferville	30.30	270	LR	LR	15 04 38.5	
	comp=Z,43nm,18.9s,baz=282,slow=34						
BVAR	Borovoye Array	36.90	78	P	P	14 54 50.5	+0.5
	0.2nm,0.4s,baz=341,slow=8.3,SNR=3.8						
ILAR	Eielson Array	41.61	336	P	P	14 55 31.2	+2.0
	0.8nm,1.1s,baz=7.8,slow=7.3,SNR=4.2						
MKAR	Makanchi Array	46.08	72	P	P	14 56 04.6	-0.8
	0.2nm,0.6s,baz=343,slow=4.5,SNR=3.6						
TORD	Torodi Ar. Bea	58.27	171	P	P	14 57 36.2	0.0
	0.9nm,0.9s,baz=354,slow=10,SNR=5.1						

IDC 06 14:50:00.9±2.8, 19°.09S×173°.46W, h0km, mb3.8/3, mb1 4.1/3, mb1mx3.7/46, mbtmp3.8/3, Error ellipse: s-maj=295.8km s-min=30.3km az=159.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ASAR	Alice Springs	49.01	255	P	P	14 58 50.0	+0.3
	2.9nm,0.5s,baz=93,slow=8.2,SNR=99						
WRA	Warramunga Arr	49.04	260	P	P	14 58 49.5	-0.5
	0.3nm,0.3s,baz=98,slow=6.9,SNR=21						
TXAR	Lajitas Array	82.72	56	P	P	15 02 27.0	0.0
	0.2nm,0.8s,baz=239,slow=6.2,SNR=3.0						

IDC 06 14:51:12.9±4.8, 14°.70N×92°.95W, h0km, mb3.5/3, mb1 3.7/6, mb1mx3.5/46, mbtmp3.4/6, ML3.0/3, MS2.9/1, Ms1 2.9/1, ms1mx2.4/33, Error ellipse: s-maj=100.3km s-min=16.5km az=10.0, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
APG	El Apazote	2.42	83	Pn	Pn	14 51 55.5	+1.6
	1.2nm,0.3s,baz=347,slow=22,SNR=25						
APG				Lg	Lg	14 52 29.6	
	6.1nm,0.3s,baz=351,slow=14,SNR=5.5						
CMIG	Matias Romero	3.02	322	Pn	Pn	14 52 02.8	+0.8
	1.9nm,0.3s,baz=145,slow=11,SNR=15						
CMIG				Lg	Lg	14 52 44.4	
	6.2nm,0.3s,baz=222,slow=14,SNR=8.2						
TXAR	Lajitas Array	17.61	328	P	P	14 55 21.7	+0.6
	0.0nm,0.3s,baz=149,slow=9.4,SNR=2.9						
NVAR	Mina Array Bea	32.55	321	P	P	14 57 47.2	+1.1
	0.2nm,0.4s,baz=128,slow=8.3,SNR=2.3						
ULM	Lac du Bonnet	35.53	357	LR	LR	15 13 40.8	
	comp=Z,20nm,19.6s,baz=336,slow=38						
YKA	Yellowknife Ar	50.14	347	P	P	15 00 09.2	-0.5
	0.7nm,0.7s,baz=152,slow=7.3,SNR=13						
INK	Inuvik	59.51	344	P	P	15 01 16.1	-1.5
	0.4nm,0.8s,baz=134,slow=5.8,SNR=3.3						

KRSC 06 14:52:37.2±0.7, 55°.27N×162°.44E, h59km±20km, ML3.7, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KBTR	Krutoberegovo	0.96	13	*e*P	Pn	14 52 56.4	+1.7
KBTR				*e*S	Sn	14 53 10.9	+3.2
TUMD	Tumrok D	1.17	267	*e*P	Pn	14 52 58.6	+1.1
TUMD				*e*S	Sn	14 53 13.8	+1.1
KZV	Kizimen	1.24	263	*e*P	Pn	14 52 59.7	+1.1
KZV				*e*S	Sn	14 53 15.2	+0.7
CIRR	Tsirk	1.28	312	*e*P	Pn	14 53 00.7	+1.6
CIRR				*e*S	Sn	14 53 19.0	+3.6
LGNR	Loginova	1.28	310	*e*P	Pn	14 53 00.9	+1.6
LGNR				*e*S	Sn	14 53 18.2	+2.5
BZMR	Bezymyannaya	1.29	302	*e*P	Pn	14 53 00.5	+1.3
BZWR	Bezymyannyi-We	1.30	303	*e*P	Pn	14 53 00.8	+1.4
TUMR	Tumrok	1.31	271	*e*P	Pn	14 53 01.1	+1.6
TUMR				*e*S	Sn	14 53 18.0	+1.8
KMNR	Kamenistaya	1.35	292	*e*P	Pn	14 53 01.2	+1.3
KMNR				*e*S	Sn	14 53 18.5	+1.6
KRSR	Krestovskiy	1.42	312	*e*P	Pn	14 53 02.0	+1.0
KRSR				*e*S	Sn	14 53 20.0	+1.3
SMKR	Semkarok	1.42	338	*e*P	Pn	14 53 02.7	+1.8
SMKR				*e*S	Sn	14 53 21.6	+2.9
KPT	Kopyto	1.44	300	*e*P	Pn	14 53 03.0	+1.8
KLY	Klyuchi	1.45	317	*e*P	Pn	14 53 01.4	+0.2
KLY				*e*S	Sn	14 53 19.3	0.0
BDR	Baidarnaya	1.47	332	*e*P	Pn	14 53 03.6	+2.0
BDR				*e*S	Sn	14 53 22.9	+3.0
SRKR	Sorokina	1.56	333	*e*P	Pn	14 53 04.6	+1.8
SRKR				*e*S	Sn	14 53 24.8	+2.8
KOZ	Kozyrevsk	1.66	299	*e*P	Pn	14 53 05.8	+1.8
KOZ				*e*S	Sn	14 53 26.7	+2.5
BKI	Bering	2.02	90	*e*S	Sn	14 53 35.3	+2.3
KII	Karymskiy	2.14	236	*e*P	Pn	14 53 13.0	+2.4
ESO	Esso	2.22	289	*e*P	Pn	14 53 12.8	+1.1
ESO				*e*S	Sn	14 53 38.2	+0.2
SPN	Mys Shipunski	2.60	214	*e*P	Pn	14 53 18.4	+1.5
SPN				*e*S	Sn	14 53 48.3	+1.1
NLC	Nalytchevo	2.78	222	*e*P	Pn	14 53 22.4	+3.1
NLC				*e*S	Sn	14 53 55.1	+3.5
SDLR	Sedlovina	2.89	228	*e*P	Pn	14 53 23.9	+3.0
SDLR				*e*S	Sn	14 53 58.0	+3.5
KRER	Koryakskii	2.93	229	*e*P	Pn	14 53 24.6	+3.1
KRX	Arik	2.94	231	*e*P	Pn	14 53 23.9	+2.4
SMAR	Somma	2.94	228	*e*P	Pn	14 53 24.6	+3.0
SMAR				*e*S	Sn	14 53 58.9	+3.2
AVH	Avacha	2.96	229	*e*P	Pn	14 53 25.4	+3.6
UGLR	Uglovaya	2.96	227	*e*P	Pn	14 53 25.3	+3.4
GNL	Ganaly	3.06	241	*e*P	Pn	14 53 26.2	+2.9
DALK	Dalny	3.12	226	*e*P	Pn	14 53 27.0	+3.1
DALK				*e*S	Sn	14 54 02.7	+2.7
PET	Petropavlovsk	3.17	226	*e*P	Pn	14 53 27.9	+3.3
KRMR	Karymshinskiy	3.53	228	*e*P	Pn	14 53 33.2	+3.7
KRMR				*e*S	Sn	14 54 14.8	+4.9
RUS	Russkaya	3.68	221	*e*P	Pn	14 53 35.0	+3.5
OSSR	Ossora	4.00	5	*e*P	Pn	14 53 38.4	+2.5

NNC 06 14:55:04.8±5.2, 37°.18N×70°.73E, h0km, mb3.7, mpv3.4, 6C-5D, Error ellipse: s-maj=45.2km s-min=34.0km az=149.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SFK	Sufi-Kurgan	3.57	37	⇑P	Pn	14 56 01.9	+0.2
	0.9nm,0.1s						
SFK				⇑S	Sn	14 56 46.5	+1.8
	6.7nm,0.2s						
MNAS	Manas	5.48	14	⇑P	Pn	14 56 28.9	+1.0
	1.3nm,0.3s						
MNAS				⇑S	Sn	14 57 33.5	+1.9
	5.6nm,0.5s						
KK31	Karatay Array	5.92	358	⇓P	Pn	14 56 35.7	+1.9
	8.2nm,0.3s,baz=178,slow=13						
KK31				⇑S	Sn	14 57 45.1	+2.7
	1.7nm,0.5s,baz=186,slow=23,SNR=11						
AAK	Ala-Archa	6.17	27	⇓P	Pn	14 56 37.5	+0.1
	1.1nm,0.6s						
AAK				⇓S	Sn	14 57 48.9	+0.1
	3.9nm,0.9s						
TKM2	Tokmak 2	6.84	32	⇓P	Pn	14 56 44.6	-2.0
	0.7nm,0.5s						
TKM2				⇑S	Sn	14 58 03.0	-2.4
	0.7nm,0.5s						
AB31	Akbulak array	14.39	330	⇓P	Pn	14 58 27.6	-2.1
	0.1nm,0.3s,baz=173,slow=12,SNR=4.7						

SOME 06 15:07:03.2, 39°.48N×73°.68E, h5km

KRNET 06 15:07:12.5±0.1, 39°.65N×73°.64E, mb3.3

NNC 06 15:07:15.0±4.0, 39°.65N×73°.41E, h0km, mb3.6, mpv3.3, Error ellipse: s-maj=42.6km s-min=24.4km az=110.0

ISC 06 15:07:04.5±1.9, 39°.51N±0°.07×73°.75E±0°.03, h3km±11km, n42, σ1s77/65, 25C-16D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SFK	Sufi-Kurgan	0.54	339	⇓P	Pn	15 07 20.2	+0.9
	15nm,0.1s						
SFK				⇓S	Sn	15 07 27.9	-1.1
	78nm,0.2s						
SFK	Sufi-Kurgan	0.54	339	⇓*i*P	Pn	15 07 20.2	+0.9
	baz=44						
SFK				⇓*i*S	Sn	15 07 25.9	-3.2
	baz=44						
ARSB	Arslanbob	1.91	342	⇑*i*P	Pg	15 07 45.7	+4.7
	baz=43						
ARSB				⇑*i*S	Sg	15 08 09.4	+3.6
	baz=43						
BTK	Batken	2.33	285	⇓*i*P	Pg	15 07 52.9	+3.8
	baz=82						
BTK				⇓*i*S	Sg	15 08 21.9	+2.7
	baz=82						
TOKL	Toktogul	2.52	345	⇑*i*P	Pg	15 07 54.4	+1.6
	baz=46						
TOKL				⇑*i*S	Sg	15 08 25.5	0.0
	baz=46						
NRN	Naryn	2.58	41	⇑*i*P	Pg	15 07 54.7	+0.8
	baz=44						
NRN				⇑*i*S	Sg	15 08 27.8	+0.5
	baz=44						
AML	Almayashu	2.62	359	P	Pg	15 07 55.8	+1.0
	SNR=36						
AML	Almayashu	2.62	359	⇑*i*P	Pg	15 07 56.1	+1.4
	baz=1.0						
AML				⇑*i*S	Sg	15 08 28.1	-0.6
	baz=1.0						
UCH	Uchtor	2.78	12	P	Pg	15 07 58.2	+0.4
	SNR=62						
UCH	Uchtor	2.78	12	⇑*i*P	Pg	15 07 58.3	+0.6
	baz=14						
UCH				⇑*i*S	Sg	15 08 32.4	-1.4
	baz=14						
KZA	Kyzart	2.81	23	P	Pg	15 07 58.7	+0.4
	SNR=43						
KZA	Kyzart	2.81	23	⇑*i*P	Pg	15 07 58.7	+0.4
	baz=26						
KZA				⇑*i*S	Sg	15 08 34.2	-0.5
	baz=26						
MNAS	Manas	3.12	343	⇑Pn	Pg	15 08 02.3	-2.0
	6.8nm,0.5s						
MNAS				⇑Lg	Lg	15 08 45.0	
	22nm,0.4s						
MNAS	Manas	3.12	343	⇑*i*P	Pg	15 08 02.7	-1.6
	baz=44						
MNAS				⇑*i*S	Sb	15 08 40.1	+0.8
	baz=44						
EKS2	Erkin-Say	3.15	0	P	Pg	15 08 03.5	-1.3
	SNR=12						
EKS2	Erkin-Say	3.15	0	⇓*i*P	Pg	15 08 03.3	-1.6
	baz=2.0						
EKS2				⇓*i*S	Sb	15 08 41.3	+1.2
	baz=2.0						
AAK	Ala-Archa	3.18	10	⇓Pn	Pg	15 08 04.9	-0.5
	14nm,0.6s						
AAK				⇓Sn	Sg	15 08 49.3	+2.8
	31nm,0.5s						
AAK	Ala-Archa	3.18	10	P	Pg	15 08 03.6	-1.7
	SNR=15						
AAK	Ala-Archa	3.18	10	⇑*i*P	Pg	15 08 04.3	-1.1
	baz=12						
AAK				⇑*i*S	Sb	15 08 41.6	+0.7
	baz=12						
MRKS	Merke	3.26	353	⇓*i*P	Pg	15 08 04.4	-2.5
	18nm,0.3s						
MRKS				*e*S	Sg	15 08 48.5	-0.6
	75nm,0.4s						
KBK	Karagaybulak	3.27	16	P	Pg	15 08 05.3	-1.9
	SNR=17						
KBK	Karagaybulak	3.27	16	⇓*i*P	Pg	15 08 05.7	-1.5
	baz=18						
KBK				⇓*i*S	Sb	15 08 44.8	+1.2
	baz=18						
ULHL	Ulahol	3.32	34	⇑*i*P	Pg	15 08 07.0	-1.2
	baz=36						
ULHL				⇑*i*S	Sb	15 08 46.9	+1.8
	baz=36						
CHMS	Chumysh	3.57	12	P	Sg	15 09 00.6	+1.5
	SNR=7.8						
TKM2	Tokmak 2	3.68	22	⇓Pn	Pb	15 08 11.0	+0.7
	2.4nm,0.4s						
TKM2				⇓Lg	Lg	15 09 04.7	
	13nm,0.6s						
TKM2	Tokmak 2	3.68	22	P	Pb	15 08 11.3	+1.0
	SNR=10.0						
TKM2	Tokmak 2	3.68	22	⇑*e*P	Pb	15 08 11.3	+1.0
	baz=24						
TKM2				⇑*i*S	Sb	15 08 54.9	-0.6
	baz=24						
USP	Ospenovka	3.80	8	P	Pg	15 08 18.7	+1.5
	SNR=8.6						
IUG	Iuzhnay	3.86	314	*e*P	Pb	15 08 13.7	+0.4
	11nm,0.3s						
IUG				*e*S	Sg	15 09 04.1	-4.4
	50nm,0.6s						
KST	Kastek	3.91	25	*e*P	Pb	15 08 13.6	-0.4
	4.1nm,0.6s						
KST				*e*S	Sb	15 09 04.5	+2.7
	33nm,0.5s						
DGS	Degeres	4.03	22	*e*P	Pg	15 08 19.3	-2.3
	6.2nm,0.5s						
DGS				*e*S	Sg	15 09 14.3	+0.5
	24nm,0.9s						
IZV	Izvestkoviy	4.13	31	*e*P	Pg	15 08 21.8	-1.9
	12nm,0.6s						
IZV				*e*S	Sg	15 09 18.2	+1.0
	55nm,0.5s						
MTBS	Maitube	4.14	28	*e*P	Pg	15 08 21.8	-2.1
	5.5nm,0.5s						
MTBS				*e*S	Sg	15 09 17.9	+0.4
	26nm,0.6s						
TNSS	Tian-Shan	4.27	33	*e*P	Pg	15 08 23.6	-2.6
	4.4nm,0.6s						
TNSS				*e*S	Sg	15 09 21.9	+0.3
	20nm,0.5s						
KK31	Karatay Array	4.34	327	Pn	Pb	15 08 20.8	-0.6
	1.1nm,0.4s,baz=136,slow=14,SNR=13						
KK31				⇑Pg	Pg	15 08 32.8	+5.2
	2.0nm,0.4s,baz=150,slow=16,SNR=6.8						
KK31				Lg	Lg	15 09 28.4	
	4.2nm,0.5s,baz=131,slow=27,SNR=3.7						
MDOK	Medeo	4.42	33	*e*P	Pg	15 08 26.4	-2.6
	4.7nm,0.4s						
MDOK				*e*S	Sg	15 09 26.1	-0.1
	18nm,0.9s						
KUU	Kurty	4.79	23	*e*P	Pg	15 08 32.7	-3.5
	0.5nm,0.1s						
KUU				*e*S	Sg	15 09 37.3	-1.1
	25nm,0.6s						
SATY	Saty	4.99	43	*e*P	Pg	15 08 37.1	-2.9
	6.2nm,0.5s						
SATY				*e*S	Sg	15 09 44.9	+0.2
	25nm,1.3s						
PDGK	Podgornoye	5.76	47	⇓Pn	Pb	15 08 46.6	+1.0
	2.6nm,0.5s						
OTUK	Ortayu	8.79	354	⇑Lg	Lg	15 11 46.0	
	4.7nm,0.8s						
AB31	Akbulak array	13.85	319	P	P	15 10 28.4	-1.7
	0.4nm,0.5s,baz=127,slow=11,SNR=11						
AKTO	Aktyubinsk	15.56	320	⇑P	P	15 10 52.9	+3.7
	1.0nm,0.6s						

ISCJB 06 15:07:25.1±2.1, 52°.27N±0°.07×164°.69W±0°.08, h19km±19km, mb3.5/3, MS3.3/1, Error ellipse: s-maj=11.8km s-min=7.9km az=15.9

NEIC 06 15:07:26.0±0.0, 52°.29N×164°.70W, h20km, ML3.0(AEIC), After AEIC.

IDC 06 15:07:27.1±5.2, 52°.58N×164°.21W, h0km, mb3.5/3, mb1 3.7/5, mb1mx3.2/88, mbtmp3.4/5, ML3.1/2, MS3.3/1, Ms1 3.2/1, ms1mx2.3/56, Error ellipse: s-maj=91.1km s-min=33.9km az=90.0

ISC 06 15:07:27.7±3.3, 52°.5N±0°.1×164°.65W±0°.05, h24km±22km, n28, σ1s56/27, mb3.6/3, South of Alaska

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
UNV	Unalaska Valle	1.75	321	P	Pn	15 07 57.5	+1.0
UNV				S	Sb	15 08 21.0	+0.3
AKSA	Akutan Strait	1.76	340	P	Pn	15 07 57.7	+1.1
AKSA				S	Sb	15 08 22.0	+1.1
AHB	Akutan Harbor	1.77	337	P	Pn	15 07 58.4	+1.7
MREP	Makushin Rep't	1.82	317	P	Pn	15 07 58.0	+0.4
AKRB	Akutan Reef Bi	1.84	333	P	Pn	15 07 59.0	+1.2
AKRB				S	Sb	15 08 24.6	+1.3
MGOD	Makushin Gods	1.87	315	P	Pn	15 07 58.9	+0.8
MSOM	Makushin Julie	1.92	315	P	Pn	15 07 59.4	+0.7
WESE	West Dahl East	1.98	1	P	Pn	15 08 01.5	+1.8
WESN	West Dahl Nort	2.08	1	P	Pb	15 08 03.6	-1.0
OKTU	Okmok Mt. Tuli	2.24	295	P	Pn	15 08 03.0	-0.1
OKTU				S	Sn	15 08 30.3	+0.3
SSLW	Shishaldin Wes	2.30	8	P	Pn	15 08 06.2	+2.1
ISLZ	Isanotski Laza	2.30	14	P	Pn	15 08 05.6	+1.5
OKSP	Okmok Steeple	2.33	290	P	Pn	15 08 03.9	-0.7
FALS	False Pass	2.48	17	P	Pn	15 08 08.2	+1.7
FALS				S	Sb	15 08 41.1	-0.4
DT1	Dutton Round H	2.97	27	P	Pn	15 08 14.8	+1.6
SDPT	Sand Point	3.78	39	P	Pn	15 08 26.1	+1.8
KDAK	Kodiak Island	8.70	48	Pn	Pn	15 09 31.7	-0.2
	0.7nm,0.3s,baz=196,slow=4.3,SNR=30						
KDAK				Sn	Sn	15 11 04.6	-4.5
	0.1nm,0.3s,baz=333,slow=16,SNR=2.2						
ILAR	Eielson Array	15.31	30	Pn	Pn	15 11 00.3	-1.6
	0.0nm,0.3s,baz=174,slow=9.1,SNR=2.7						
INK	Inuvik	21.69	31	P	P	15 12 16.9	+0.6
	1.2nm,0.8s,baz=244,slow=9.2,SNR=5.4						
PDAR	Pinedale Array	37.53	82	P	P	15 14 41.0	+1.2
	0.5nm,0.5s,baz=293,slow=4.6,SNR=6.6						
H11N2	WAKE ISLAND Hy	39.47	225	T	T	15 56 37.8	
	baz=28,slow=76,SNR=5.4						
H11N3	WAKE ISLAND Hy	39.48	225	T	T	15 56 38.0	
	baz=28,slow=76,SNR=6.4						
H11N1	WAKE ISLAND Hy	39.49	225	T	T	15 56 41.6	
	baz=28,slow=76,SNR=5.8						
H11S1	WAKE ISLAND Hy	40.64	224	T	T	15 58 14.4	
	baz=30						
H11S2	WAKE ISLAND Hy	40.65	224	T	T	15 58 08.9	
	baz=30,SNR=4.4						
H11S3	WAKE ISLAND Hy	40.66	224	T	T	15 58 17.8	
	baz=30						
ULM	Lac du Bonnet	41.51	65	LR	LR	15 32 07.5	
	comp=Z,34nm,18.1s,baz=42,slow=36						
TXAR	Lajitas Array	49.86	93	P	P	15 16 19.4	+0.5
	0.6nm,0.7s,baz=293,slow=5.8,SNR=7.9						

IDC 06 15:10:24.5±2.7, 1°.62N×99°.42E, h109km±13km, mb3.0/4, mb1 3.1/5, mb1mx2.8/69, mbtmp3.4/5, Error ellipse: s-maj=133.6km s-min=19.4km az=58.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PSI	Prapat	1.27	337	P	Pn	15 10 47.8	-0.9
	5.1nm,0.3s,baz=342,slow=12,SNR=11						
PSI				S	Sn	15 11 05.1	-1.9
	1.8nm,0.3s,baz=16,slow=14,SNR=5.2						
CMAR	Chiang Mai Arr	16.74	358	P	Pn	15 14 12.2	-0.3

	0.1nm,0.3s,baz=170,slow=6.4,SNR=3.1						
WRA	Warramunga Arr	40.40	124	P	P	15 17 52.9	+0.6
	0.3nm,0.6s,baz=302,slow=9.0,SNR=6.0						
ASAR	Alice Springs	41.90	129	P	P	15 18 03.6	-0.9
	0.2nm,0.7s,baz=300,slow=7.9,SNR=4.1						
MKAR	Makanchi Array	47.41	344	P	P	15 18 47.7	-0.2
	0.1nm,0.3s,baz=162,slow=8.4,SNR=5.1						
ZALV	Zalesovo Beam	53.53	349	P	P	15 19 33.9	+0.2
	0.8nm,0.4s,baz=181,slow=5.5,SNR=3.7						

*ISCJB **06** 15:10:26.9±0.5, 71°.21N±0°.07×5°.9W±0°.1, h9km, mb3.5/12, MS3.1/7, Error ellipse: s-maj=10.4km s-min=5.9km az=176.3*
*IDC **06** 15:10:27.7±0.6, 71°.15N×5°.92W, h0km, mb3.5/12, mb1 3.8/15, mb1mx3.5/76, mbtmp3.6/15, ML2.9/3, MS3.1/11, Ms1 3.1/11, ms1mx2.8/66, Error ellipse: s-maj=16.8km s-min=8.3km az=179.0*
*NAO **06** 15:10:28.8±2.0, 70°.81N×6°.14W, ML3.2*
ISC 06 15:10:28.6±0.6, 71°.16N±0°.09×5°.96W±0°.06, h9km, n32, σ0s.91/26, mb3.5/12, MS3.0/7, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JMIC	Jan Mayen	0.85	259	Pg	Pg	15 10 44.0	-0.9
JMIC				Lg	Lg	15 10 55.6	
JMIC	Jan Mayen	0.85	259	LR	LR	15 10 37.8	
	comp=Z,32nm,18.4s,baz=80,slow=12						
JMIC				Pg	Pg	15 10 44.0	-0.9
	19nm,0.3s,baz=122,slow=1.6,SNR=11						
JMIC				Lg	Lg	15 10 55.7	
	61nm,0.3s,baz=171,slow=20,SNR=26						
JMIC	Jan Mayen	0.85	259	eP	Pg	15 10 44.0	-0.9
JMIC				eS	Sg	15 10 55.5	-0.5
JMIC				IAML		15 10 56.5	
	comp=Z,180nm,0.5s						
KBS	Kingsbay	9.00	22	eP	Pn	15 12 37.6	-0.9
SPA0	Spitsbergen Ar	9.10	30	Pn	Pn	15 12 45.6	+5.7
	baz=241,slow=18						
SPA0	Spitsbergen Ar	9.10	30	eP	Pn	15 12 38.8	-1.2
SPA0				Pn	Pn	15 12 45.6	+5.7
	baz=241,slow=18						
SPITS	Spitsbergen Ar	9.10	30	Pn	Pn	15 12 38.6	-1.3
	baz=230,slow=15,SNR=13						
ARCES	ARCESS Array B	10.64	84	LR	LR	15 16 19.8	
	comp=Z,72nm,19.7s,baz=328,slow=33						
NOA	NORSAR Array B	12.24	137	LR	LR	15 17 38.1	
	comp=Z,80nm,19.7s,baz=335,slow=35						
HFS	Hagfors	13.62	134	Pn	Pn	15 13 40.9	-0.7
	baz=329,slow=12						
HFS	Hagfors	13.62	134	Pn	Pn	15 13 40.9	-0.7
	comp=Z,0.1nm,0.3s,baz=342,slow=7.6,SNR=4.6						
HFS				LR	LR	15 19 09.8	
	comp=Z,113nm,18.1s,baz=342,slow=38						
HFS	Hagfors	13.62	134	Pn	Pn	15 13 40.9	-0.7
	baz=329,slow=12						
FIA0	FINESS Array S	15.90	111	P	Pn	15 14 12.0	-0.2
FIA0	FINESS Array S	15.90	111	P	Pn	15 14 12.0	-0.2
FINES	FINESS Array B	15.90	111	Pn	Pn	15 14 11.6	-0.6
	comp=Z,0.1nm,0.3s,baz=331,slow=11,SNR=3.1						
FINES				LR	LR	15 19 36.4	
	comp=Z,84nm,19.7s,baz=165,slow=35						
GERES	GERESS Array B	24.20	147	P	P	15 15 45.8	+0.6
	comp=Z,0.5nm,0.7s,baz=351,slow=11,SNR=5.7						
OBN	Obninsk	24.27	109	LR	LR	15 24 36.7	
	comp=Z,42nm,19.8s,baz=332,slow=35						
AKASG	Malin Array Be	26.01	123	P	P	15 16 00.3	-1.1
	comp=Z,0.4nm,0.4s,baz=332,slow=9.4,SNR=4.1						
MLR	Muntele Rosu	29.98	132	P	P	15 16 38.8	+1.7
	comp=Z,0.3nm,0.6s,baz=164,slow=5.2,SNR=4.0						
MLR				LR	LR	15 29 17.0	
	comp=Z,31nm,19.0s,baz=15,slow=38						
AKTO	Aktyubinsk	35.09	92	P	P	15 17 20.9	-0.7
	comp=Z,1.1nm,0.5s,baz=313,slow=12,SNR=3.4						
AKTO				LR	LR	15 29 55.1	
	comp=Z,12nm,20.8s,baz=315,slow=33						
INK	Inuvik	36.45	330	P	P	15 17 32.4	-0.7
	comp=Z,1.3nm,1.0s,baz=343,slow=6.9,SNR=3.3						
BVAR	Borovoye Array	36.87	78	P	P	15 17 37.4	+0.6
	comp=Z,0.8nm,0.8s,baz=341,slow=8.5,SNR=5.8						
BRTR	Keskin Array B	37.34	126	LR	LR	15 35 11.4	
	comp=Z,20nm,18.2s,baz=339,slow=40						
YKA	Yellowknife Ar	37.87	314	P	P	15 17 46.1	+0.9
	comp=Z,0.6nm,0.9s,baz=29,slow=8.9,SNR=7.8						
YKA				PcP	PcP	15 20 01.8	+0.8
	comp=Z,0.2nm,0.7s,baz=20,slow=3.0,SNR=6.4						
GNI	Garni	40.08	113	LR	LR	15 34 32.2	
	comp=Z,24nm,18.9s,baz=338,slow=36						
ZALV	Zalesovo Beam	40.51	65	LR	LR	15 38 28.8	
	comp=Z,26nm,18.6s,baz=68,slow=42						
KURBB	Kurchatov Arra	41.50	73	P	P	15 18 15.5	0.0
	comp=Z,0.5nm,0.7s,baz=327,slow=7.2,SNR=4.2						
ILAR	Eielson Array	41.72	336	P	P	15 18 18.4	+1.2
	comp=Z,1.6nm,1.0s,baz=11,slow=6.5,SNR=12						
MKAR	Makanchi Array	46.05	73	P	P	15 18 52.2	+0.1
	comp=Z,0.3nm,0.8s,baz=347,slow=5.9,SNR=4.5						
TORD	Torodi Ar. Bea	58.17	171	P	P	15 20 23.1	+0.5
	comp=Z,0.7nm,0.6s,baz=354,slow=7.1,SNR=6.1						
TXAR	Lajitas Array	64.98	287	P	P	15 21 09.7	+1.1
	comp=Z,0.3nm,0.7s,baz=25,slow=3.5,SNR=4.8						
ROSC	El Rosal	78.54	251	LR	LR	15 54 09.9	
	comp=Z,42nm,20.7s,baz=276,slow=33						

*IDC **06** 15:12:40.3±1.7, 39°.70N×144°.65E, h0km, mb3.6/7, mb1 3.7/9, mb1mx3.4/73, mbtmp3.6/9, ML2.8/2, Error ellipse: s-maj=52.9km s-min=18.4km az=76.0*
*ISCJB **06** 15:12:42.9±0.6, 39°.73N±0°.03×144°.40E±0°.05, h23km, mb3.6/7, Error ellipse: s-maj=6.2km s-min=3.4km az=30.4*
*JMA **06** 15:12:45.1±0.2, 39°.74N×144°.27E, h35km, M3.3*
ISC 06 15:12:43.6±1.1, 39°.68N±0°.05×144°.51E±0°.07, h23km, n32, σ1s.51/50, mb3.7/7, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JTH	Tanohata	2.06	278	P	Pn	15 13 15.6	-1.1
MIYJ	Miyakonagasawa	2.08	268	P	Pn	15 13 16.4	-0.7
MIYJ				S	Sn	15 13 39.7	-2.5
OFUJ	Ofunato	2.28	256	P	Pn	15 13 19.2	-0.6
OFUJ				eS	Sn	15 13 44.1	-3.1
JANG	Nango	2.40	288	P	Pn	15 13 20.9	-0.6
JOM	Ohasama	2.50	266	P	Pn	15 13 22.6	-0.2
JOM				eS	Sn	15 13 50.1	-2.4
JMK	Ichinoseki	2.65	255	P	Pn	15 13 24.6	-0.3
JMK				eS	Sn	15 13 54.7	-1.7
JTM	Tenmabayashi	2.86	294	P	Pn	15 13 27.7	0.0
JTM				S	Sn	15 13 59.0	-2.4
JNBK	Urakawa-nobuka	2.92	333	P	Pn	15 13 29.0	+0.4
JNBK				S	Sn	15 14 02.7	-0.2
JRG	Rokugo	3.01	266	P	Pn	15 13 30.4	+0.5
JRG				eS	Sn	15 14 04.5	-0.7
JAH	Hinai	3.02	281	P	Pn	15 13 30.1	+0.1
JAH				eS	Sn	15 14 03.7	-1.8
JCH	Churui	3.06	344	P	Pn	15 13 30.1	-0.4
JOT	Ohata	3.14	304	P	Pn	15 13 31.5	-0.1
JOT				S	Sn	15 14 06.4	-1.9
JOU	Okura	3.27	248	P	Pn	15 13 33.2	-0.2
JOU				S	Sn	15 14 09.4	-2.2
JYK	Kaneyama	3.31	258	P	Pn	15 13 34.5	+0.5
JYK				S	Sn	15 14 12.1	-0.5
JAK	Akkeshi	3.32	2	S	Sn	15 14 12.0	-0.7
JKB	Kayabe	3.44	311	P	Pn	15 13 37.1	+1.4
JKB				S	Sn	15 14 13.9	-1.9
JAR	Ashorobuto	3.66	351	P	Pn	15 13 37.6	-1.1
JAR				S	Sn	15 14 18.7	-2.4
JFR	Furan	3.77	338	P	Pn	15 13 41.8	+1.5
JFR				S	Sn	15 14 22.7	-1.2
NEM2	Nemuro 2	3.80	14	P	Pn	15 13 39.6	-1.0
NEM2				S	Sn	15 14 20.6	-3.9
JEW	Eniwo	3.91	325	S	Sn	15 14 26.4	-1.0
JFT	Otama	3.92	238	P	Pn	15 13 43.4	+1.1
JFT				S	Sn	15 14 26.3	-1.3
JTKR	Abashiri--Toko	4.31	354	P	Pn	15 13 48.0	+0.3
JTKR				S	Sn	15 14 35.5	-1.7
ASAJ	Asahikawa	4.66	343	Pn	Pn	15 13 53.7	+1.2
	0.2nm,0.3s,baz=119,slow=18,SNR=5.8						
ASAJ				Sn	Sn	15 14 45.8	0.0
	0.5nm,0.3s,baz=195,slow=20,SNR=2.8						
MJAR	Matsushiro Arr	5.87	240	Pn	Pn	15 14 10.0	+0.8
	0.8nm,0.3s,baz=78,slow=13,SNR=12						
USRK	Ussuriysk Ar.	10.36	300	Pn	Pn	15 15 14.3	+3.6
	0.1nm,0.3s,baz=105,slow=14,SNR=3.7						
ZALV	Zalesovo Beam	42.00	310	P	P	15 20 32.9	+0.2
	0.3nm,0.3s,baz=73,slow=9.7,SNR=2.1						
MKAR	Makanchi Array	44.83	300	P	P	15 20 55.8	0.0
	0.4nm,0.8s,baz=84,slow=8.5,SNR=3.2						
KURBB	Kurchatov Arra	46.34	306	P	P	15 21 08.9	+1.3
	0.7nm,0.5s,baz=80,slow=8.7,SNR=6.9						
BVAR	Borovoye Array	50.63	311	P	P	15 21 42.0	+1.4
	0.4nm,0.6s,baz=99,slow=4.5,SNR=3.4						
WRA	Warramunga Arr	60.07	191	P	P	15 22 49.1	+0.3
	0.9nm,0.8s,baz=9.6,slow=7.0,SNR=10						
ASAR	Alice Springs	63.79	191	P	P	15 23 14.8	+1.0
	0.5nm,0.7s,baz=19,slow=7.1,SNR=7.0						
FINES	FINESS Array B	67.59	333	P	P	15 23 38.0	0.0
	1.0nm,0.7s,baz=70,slow=8.1,SNR=3.9						

*ATA **06** 15:21:34.9±2.0, 38°.60N×43°.50E, h7km±721km, ML2.8, MW3.0*
*CSEM **06** 15:21:37.6±0.4, 38°.54N×43°.26E, h10km, ML2.2, Error ellipse: s-maj=9.4km s-min=5.8km az=160.0*
*ISK **06** 15:21:37.4, 38°.54N×43°.24E, h15km, ML2.2/4*
*ISCJB **06** 15:21:38.3±0.9, 38°.52N±0°.05×43°.29E±0°.05, h16km±8km, Error ellipse: s-maj=9.0km s-min=5.3km az=140.4*
*DDA **06** 15:21:38.8, 38°.58N×43°.25E, h7km, Ml2.9*
ISC 06 15:21:38.6±0.8, 38°.58N±0°.03×43°.26E±0°.03, h11km±7km, n26, σ1s.15/44, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VANB	Van	0.10	80	PG	Pg	15 21 41.3	-0.2
VANB				SG	Sg	15 21 44.2	+0.6
VANB	Van	0.10	80	ePg	Pg	15 21 41.3	-0.2
VANB				eSg	Sg	15 21 44.2	+0.6
TVAN	Van	0.12	113	i P	Pg	15 21 41.2	-0.7
TVAN				i S	Sg	15 21 44.4	+0.2
TVAN	Van	0.12	113	P	Pg	15 21 41.2	-0.7
TVAN				S	Sg	15 21 44.4	+0.2
GEVA	Gevas	0.31	211	eP	Pg	15 21 44.6	-0.3
GEVA				eS	Sb	15 21 50.8	-0.5
GEVA				IAML		15 21 52.2	
	comp=Z,113nm,0.3s						
GEVA	Gevas	0.31	211	i P	Pg	15 21 44.0	-0.9
GEVA				i S	Sb	15 21 51.2	-0.1
GEVA	Gevas	0.31	211	P	Pg	15 21 44.0	-0.9
GEVA				S	Sb	15 21 51.2	-0.1
VMUR	Van-Muradiye	0.48	30	i P	Pb	15 21 48.3	-0.8
VMUR				i S	Sb	15 21 57.0	+0.8
VMUR	Van-Muradiye	0.48	30	P	Pb	15 21 48.3	-0.8
VMUR				S	Sb	15 21 57.0	+0.8
ADCV	BITLIS_Adilcev	0.48	299	i P	Pg	15 21 47.8	-0.3
ADCV				i S	Sb	15 21 55.9	-0.4
ADCV	BITLIS_Adilcev	0.48	299	P	Pg	15 21 47.8	-0.3
ADCV				S	Sb	15 21 55.9	-0.4
CLDR	Caldiran	0.76	42	PG	Pg	15 21 53.3	-0.1
CLDR				SG	Sb	15 22 04.9	+0.4
CLDR	Caldiran	0.76	42	i P	Pg	15 21 50.6	-2.8
CLDR	Caldiran	0.76	42	P	Pg	15 21 50.6	-2.8
CLDR	Caldiran	0.76	42	ePg	Pg	15 21 53.3	-0.1
CLDR				eSg	Sb	15 22 04.9	+0.4
TUTA	Tutak	0.90	337	eP	Pg	15 21 54.4	-1.5
TUTA				eS	Sb	15 22 08.0	-0.3
TUTA				IAML		15 22 15.6	
	comp=Z,11nm,0.4s						
TUTA	Tutak	0.90	337	i P	Pg	15 21 54.7	-1.2
TUTA	Tutak	0.90	337	P	Pg	15 21 54.7	-1.2
GURO	Guroymak-BITLI	0.96	269	PG	Pg	15 21 56.1	-1.1
GURO				SG	Sb	15 22 09.7	-0.5
GURO	Guroymak-BITLI	0.96	269	ePg	Pg	15 21 56.1	-1.1
GURO				eSg	Sb	15 22 09.7	-0.5
AGRB	Hanur-Agry	1.02	348	PG	Pb	15 21 57.9	-0.5
AGRB	Hanur-Agry	1.02	348	ePg	Pb	15 21 57.9	-0.5
EKAR	Karacoban	1.16	306	eP	Pg	15 21 59.9	-0.9
EKAR				eS	Sn	15 22 21.1	+4.3
EKAR				IAML		15 22 28.2	
	comp=Z,4.4nm,0.3s						
EKAR	Karacoban	1.16	306	i P	Pb	15 22 00.4	-0.3
EKAR	Karacoban	1.16	306	P	Pb	15 22 00.4	-0.3
EATA	Eleskirt	1.42	335	eP	Pn	15 22 04.3	-0.2
EATA				eS	Sn	15 22 24.8	+1.5

*ISCJB **06** 15:23:06.0±0.5, 71°.17N±0°.08×5°.7W±0°.1, h9km, mb3.5/8, Error ellipse: s-maj=11.3km s-min=5.9km az=168.7*
*IDC **06** 15:23:06.8±0.8, 71°.05N×5°.84W, h0km, mb3.4/7, mb1 3.7/10, mb1mx3.3/69, mbtmp3.6/10, ML2.9/3, Error ellipse: s-maj=19.8km s-min=8.7km az=177.0*
*NAO **06** 15:23:07.0±8.5, 71°.16N×6°.04W, h20km±87km, ML2.9*
*BER **06** 15:23:08.1±2.5, 71°.11N×5°.84W, h0km±81km, ML2.9(NAO)*
ISC 06 15:23:07.9±0.6, 71°.14N±0°.09×5°.89W±0°.06, h9km, n22, σ1s.13/23, mb3.4/8, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JMIC	Jan Mayen	0.87	261	Pg	Pg	15 23 23.8	-0.7
JMIC				Lg	Lg	15 23 34.5	
JMIC	Jan Mayen	0.87	261	Pg	Pg	15 23 23.6	-0.9
	15nm,0.3s,baz=45,slow=5.2,SNR=6.9						
JMIC				Lg	Lg	15 23 35.3	
	74nm,0.3s,baz=162,slow=21,SNR=35						
JMIC	Jan Mayen	0.87	261	eP	Pg	15 23 24.1	-0.4
JMIC				eS	Sg	15 23 35.1	-0.7
KBS	Kingsbay	9.01	22	Pn	Pn	15 25 17.1	-0.8
KBS	Kingsbay	9.01	22	eP	Pn	15 25 17.1	-0.8
SPA0	Spitsbergen Ar	9.11	30	Pn	Pn	15 25 18.4	-0.8
	baz=232,slow=16						
SPA0	Spitsbergen Ar	9.11	30	Pn	Pn	15 25 18.4	-0.8
	baz=232,slow=16						
SPITS	Spitsbergen Ar	9.11	30	Pn	Pn	15 25 18.7	-0.6
	baz=231,slow=16,SNR=15						
ARA0	ARCESS Array S	10.62	84	Pn	Pn	15 25 38.3	-1.7
	baz=295,slow=14						
ARA0	ARCESS Array S	10.62	84	Pn	Pn	15 25 38.3	-1.7
	baz=295,slow=14						
ARCES	ARCESS Array B	10.62	84	Pn	Pn	15 25 38.8	-1.1
	0.1nm,0.3s,baz=300,slow=12,SNR=3.8						
HFS	Hagfors	13.58	134	Pn	Pn	15 26 22.0	+1.6
	baz=326,slow=16						
HFS	Hagfors	13.58	134	Pn	Pn	15 26 20.5	+0.1
	0.1nm,0.3s,baz=339,slow=11,SNR=3.4						
HFS	Hagfors	13.58	134	Pn	Pn	15 26 22.0	+1.6
	baz=326,slow=16						
GERES	GERESS Array B	24.17	147	P	P	15 28 22.3	-1.9
	0.8nm,0.9s,baz=320,slow=6.1,SNR=5.6						
BVAR	Borovoye Array	36.85	78	P	P	15 30 16.1	+0.2
	1.0nm,1.0s,baz=310,slow=7.4,SNR=4.1						
YKA	Yellowknife Ar	37.90	314	P	P	15 30 25.5	+0.9
	0.3nm,0.8s,baz=30,slow=8.7,SNR=5.6						
KURBB	Kurchatov Arra	41.48	73	P	P	15 30 55.4	+0.8
	0.4nm,0.7s,baz=332,slow=7.5,SNR=3.6						
ILAR	Eielson Array	41.75	336	P	P	15 30 58.1	+1.5
	0.5nm,0.9s,baz=17,slow=6.6,SNR=3.7						
YAK	Yakutsk	43.58	29	P	P	15 31 11.9	+0.4
	9.2nm,0.4s,baz=50,slow=3.1,SNR=4.9						
MKAR	Makanchi Array	46.04	73	P	P	15 31 31.8	+0.5
	0.4nm,0.8s,baz=322,slow=5.9,SNR=3.5						
TORD	Torodi Ar. Bea	58.15	171	P	P	15 33 02.3	+0.7
	1.4nm,1.0s,baz=348,slow=4.5,SNR=4.8						

*ISCJB **06** 15:26:58.9±0.5, 71°.20N±0°.07×5°.7W±0°.1, h9km, mb3.4/9, MS3.0/1, Error ellipse: s-maj=9.6km s-min=5.6km az=174.9*
*IDC **06** 15:26:59.7±0.7, 71°.11N×5°.74W, h0km, mb3.4/9, mb1 3.7/13, mb1mx3.4/71, mbtmp3.6/13, ML2.7/4, MS3.0/4, Ms1 3.0/4, ms1mx2.6/57, Error ellipse: s-maj=19.9km s-min=12.1km az=8.0*
*NAO **06** 15:27:01.3±4.6, 71°.14N×6°.02W, h22km±60km, ML3.0*
*BER **06** 15:27:02.0±1.7, 70°.98N×5°.90W, h7km±48km, ML3.0(NAO)*
ISC 06 15:27:00.8±0.6, 71°.15N±0°.09×5°.87W±0°.05, h9km, n29, σ0s.72/28, mb3.4/9, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JMIC	Jan Mayen	0.88	260	Pg	Pg	15 27 17.1	-0.6
JMIC				Lg	Lg	15 27 28.1	
JMIC	Jan Mayen	0.88	260	Pg	Pg	15 27 16.8	-0.9
	21nm,0.3s,baz=17,slow=3.8,SNR=5.8						
JMIC				Lg	Lg	15 27 28.0	
	41nm,0.3s,baz=165,slow=19,SNR=9.6						
JMIC	Jan Mayen	0.88	260	eP	Pg	15 27 17.4	-0.2
JMIC				eS	Sg	15 27 28.5	-0.6
KBS	Kingsbay	9.00	22	Pn	Pn	15 29 09.7	-1.0
KBS	Kingsbay	9.00	22	eP	Pn	15 29 10.0	-0.6
SPA0	Spitsbergen Ar	9.10	30	Pn	Pn	15 29 11.5	-0.6
	baz=242,slow=16						
SPA0	Spitsbergen Ar	9.10	30	eP	Pn	15 29 11.7	-0.3
SPITS	Spitsbergen Ar	9.10	30	Pn	Pn	15 29 11.7	-0.3
	baz=232,slow=16,SNR=16						
AKN	Aaknes	10.32	144	eP	Pn	15 29 30.1	+1.2
ARA0	ARCESS Array S	10.62	84	Pn	Pn	15 29 32.5	-0.4
	baz=297,slow=12						
ARA0	ARCESS Array S	10.62	84	Pn	Pn	15 29 32.5	-0.4
	baz=297,slow=12						
ARCES	ARCESS Array B	10.62	84	Pn	Pn	15 29 31.2	-1.7
	0.1nm,0.3s,baz=304,slow=13,SNR=3.9						
NOA	NORSAR Array B	12.22	138	LR	LR	15 34 41.1	
	comp=Z,51nm,18.5s,baz=335,slow=38						
HFS	Hagfors	13.59	134	Pn	Pn	15 30 13.4	+0.1
	baz=323,slow=10						
HFS	Hagfors	13.59	134	Pn	Pn	15 30 13.5	+0.1
	0.1nm,0.3s,baz=282,slow=8.7,SNR=3.5						
HFS				LR	LR	15 35 03.6	
	comp=Z,64nm,20.2s,baz=336,slow=36						
HFS	Hagfors	13.59	134	Pn	Pn	15 30 13.4	+0.1
	baz=323,slow=10						
FIA0	FINESS Array S	15.87	112	P	Pn	15 30 43.5	-0.5
FIA0	FINESS Array S	15.87	112	P	Pn	15 30 43.5	-0.5
FINES	FINESS Array B	15.87	112	Pn	Pn	15 30 42.9	-1.1
	0.1nm,0.3s,baz=297,slow=15,SNR=2.3						
FINES				LR	LR	15 36 09.3	
	comp=Z,68nm,18.3s,baz=334,slow=35						
GERES	GERESS Array B	24.18	147	P	P	15 32 16.4	-0.7
	0.8nm,0.8s,baz=2.7,slow=8.4,SNR=6.0						
AKASG	Malin Array Be	25.98	123	P	P	15 32 33.6	+0.2
	0.3nm,0.4s,baz=334,slow=9.4,SNR=2.6						
AKTO	Aktyubinsk	35.06	92	LR	LR	15 47 33.6	
	comp=Z,24nm,18.3s,baz=28,slow=35						
BVAR	Borovoye Array	36.84	78	P	P	15 34 08.6	-0.2
	0.4nm,0.7s,baz=339,slow=6.3,SNR=4.0						
YKA	Yellowknife Ar	37.90	314	P	P	15 34 17.9	+0.3
	0.4nm,0.8s,baz=30,slow=8.8,SNR=5.6						
KURBB	Kurchatov Arra	41.48	73	P	P	15 34 47.9	+0.4
	0.4nm,0.7s,baz=326,slow=8.1,SNR=3.3						
ILAR	Eielson Array	41.74	336	P	P	15 34 50.5	+1.0
	1.0nm,0.9s,baz=8.0,slow=6.8,SNR=8.4						
MKAR	Makanchi Array	46.03	73	P	P	15 35 24.1	-0.1
	0.4nm,0.9s,baz=2.5,slow=10,SNR=3.5						
TORD	Torodi Ar. Bea	58.16	171	P	P	15 36 54.6	0.0
	1.2nm,1.0s,baz=346,slow=7.3,SNR=4.0						
TXAR	Lajitas Array	65.01	287	P	P	15 37 42.1	+1.1
	0.3nm,0.7s,baz=58,slow=5.0,SNR=3.8						

IDC 06 15:32:37.6±3.5, 5°.74S×135°.23E, h0km, mb3.4/1, mb1 3.3/3, mb1mx3.1/48, mbtmp3.2/3, ML2.7/2, Error ellipse: s-maj=149.1km s-min=34.0km az=81.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	14.15	183	Pn	Pn	15 35 57.9	-1.6
	0.0nm,0.3s,baz=3.1,slow=13,SNR=4.6						
WRA				Sn	Sn	15 38 32.3	-5.0
	0.1nm,0.3s,baz=0.5,slow=23,SNR=4.7						
ASAR	Alice Springs	17.87	184	P	P	15 36 48.8	+0.1
	0.0nm,0.3s,baz=352,slow=11,SNR=2.9						
MKAR	Makanchi Array	70.13	324	P	P	15 43 52.0	+0.1
	0.2nm,0.6s,baz=109,slow=6.8,SNR=3.6						

*MEX **06** 15:38:48.7±0.3, 14°.76N×93°.25W, h10km±12km, MD4.9*
*NEIC **06** 15:38:48.9±0.0, 14°.72N×93°.28W, h16km, mb4.9/63, MD4.9(MEX), After MEX.*
*GCMT **06** 15:38:48.9±0.6, 15°.20N×93°.20W, h25km, MW5.1/64, Moment Tensor Solution. s32,c38; s64,c87; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.14±.16; $M_{\theta\theta}$-1.29±.12; $M_{\phi\phi}$0.14±.14; $M_{r\theta}$4.49±.22; $M_{\theta\phi}$0.53±.11; $M_{\phi r}$-3.88±.23; Best double couple: $M_0$6.08200×10^{16} NP1:ϕ_s130.00000°, δ84.00000°, λ96.00000°. NP2: ϕ_s264.00000°, δ8.00000°, λ44.00000°. Principal axes: T 6.0450, Plg50.0000°, Azm47.0000°; N 0.0720, Plg6.0000°, Azm310.0000°; P -6.1190, Plg39.0000°, Azm215.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*ISCJB **06** 15:38:49.0±0.3, 14°.90N±0°.02×93°.15W±0°.03, h73km±3km, mb4.5/68 Error ellipse: s-maj=5.0km s-min=2.4km az=138.5*
*IDC **06** 15:38:52.8±2.2, 15°.03N×92°.84W, h90km±19km, mb3.9/24, mb1 4.1/27, mb1mx3.9/59, mbtmp4.3/27, MS3.8/17, Ms1 3.8/17, ms1mx3.6/51, Error ellipse: s-maj=27.5km s-min=10.3km az=48.0*
*UCR **06** 15:38:52.0±1.2, 14°.72N×92°.92W, h17km, ML4.2, mb4.9(NEIC)*
ISC 06 15:38:49.4±0.8, 14°.87N±0°.05×93°.23W±0°.04, h64km±7km, n455, σ1s.44/453, mb4.7/68, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PCIG		0.83	1	eP	Pn	15 39 03.9	-1.5
PCIG				eS	Sn	15 39 15.9	-1.4
PCIG		0.83	1	eP	Pn	15 39 03.9	-1.5
PCIG				eS	Sn	15 39 15.9	-1.4
THIG		0.93	88	eP	Pn	15 39 04.3	-2.4
THIG				eS	Sn	15 39 16.7	-2.9
THIG		0.93	88	eP	Pn	15 39 04.5	-2.2
THIG				eS	Sn	15 39 17.8	-1.7
CCIG	Comitan	1.75	37	eP	Pn	15 39 18.8	+1.1
CCIG				eS	Sn	15 39 42.0	+2.7
CCIG	Comitan	1.75	37	eP	Pn	15 39 18.8	+1.1
CCIG				eS	Sn	15 39 42.0	+2.7
TGIG		1.90	3	eP	Pn	15 39 19.6	0.0
TGIG				eS	Sn	15 39 43.5	+0.9
TGIG		1.90	3	eP	Pn	15 39 19.6	0.0
TGIG				eS	Sn	15 39 43.5	+0.9
APG	El Apazote	2.67	87	P	Pn	15 39 30.5	+0.2
	65nm,0.3s,baz=299,slow=9.0,SNR=306						
APG				S	Sn	15 40 02.6	+0.9
	96nm,0.3s,baz=275,slow=9.0,SNR=4.8						
CMIG	Matias Romero	2.72	324	P	Pn	15 39 30.2	-0.6
	171nm,0.3s,baz=145,slow=9.8,SNR=596						
CMIG				S	Sn	15 40 01.1	-1.5
	522nm,0.3s,baz=78,slow=18,SNR=16						
CMIG				LR	LR	15 40 34.2	
	comp=Z,918nm,20.2s,baz=135,slow=36						
IXG	Ixpaco	2.77	104	eP	Pn	15 39 30.9	-0.7
HUIG	Huatulco	2.92	288	eP	Pn	15 39 32.7	-0.7
HUIG				eS	Sn	15 40 04.3	-3.1
HUIG	Huatulco	2.92	288	eP	Pn	15 39 32.7	-0.7
HUIG				eS	Sn	15 40 04.3	-3.1
SBLS	San Blas	3.64	106	eP	Pn	15 39 43.7	+0.2
SBLS				eS	Sn	15 40 24.5	-1.0
SNJE	San Jose	3.65	105	eP	Pn	15 39 43.6	-0.1
BOQS	Boqueron	3.99	106	eP	Pn	15 39 48.2	-0.1
COLS	Colinas	3.99	107	eP	Pn	15 39 49.0	+0.7
VHO	Vista Hermosa	4.02	303	eP	Pn	15 39 50.4	+1.7
VHO				eS	Sn	15 40 35.4	+0.7
VHO	Vista Hermosa	4.02	303	eP	Pn	15 39 50.4	+1.7
UEES	San Salvador	4.03	106	IAML		15 40 42.0	
	comp=Z,957nm,0.4s						
SNET	Serv Nac Est T	4.05	106	ePn	Pn	15 39 49.7	+0.7
SNET	Serv Nac Est T	4.05	106	eP	Pn	15 39 49.2	+0.2
SNET				eS	Sn	15 40 32.7	-2.6
SNET				IAML		15 40 43.7	
	comp=Z,1μm,0.3s						
OPAM	San Salvador	4.07	106	eP	Pn	15 39 49.2	0.0
OPAM				eS	Sn	15 40 33.7	-2.0
OPAM				IAML		15 40 56.7	
	comp=Z,888nm,0.3s						
LFU	La Fuente	4.14	105	eP	Pn	15 39 50.1	-0.1
LBRS	Las Brisas	4.21	105	eP	Pn	15 39 51.3	+0.1
LFRS	El Faro	4.23	107	eP	Pn	15 39 51.7	+0.2
TECA	Tecapa	4.78	106	eP	Pn	15 39 59.5	+0.3
LCND	La Caˆ–ada	5.41	106	eP	Pn	15 40 07.7	+0.2
CNCH	Conchagua	5.47	106	eP	Pn	15 40 08.1	-0.4
TGUH	Tegucigalpa,Un	5.83	97	ePn	Pn	15 40 13.9	+0.7
MYIG	MØrida	6.91	28	ePn	Pn	15 40 27.7	-0.3
NY14	Universidad de	8.60	118	eP	Pn	15 40 52.5	+1.3
GBS3	Finca Las Imˆ¡	8.60	117	eP	Pn	15 40 51.9	+0.6
LAPC	Finca la Perla	8.63	117	eP	Pn	15 40 51.6	0.0
GB1A	Borinquen Arri	8.63	117	eP	Pn	15 40 52.7	+0.9
GPS2	Hotel Rincˆ‡n	8.70	117	eP	Pn	15 40 56.6	+3.9
MESS	Mesas	8.85	117	eP	Pn	15 40 55.3	+0.7
CUI	Cuipilapa	8.91	117	eP	Pn	15 40 56.1	+0.6
MOIG	Morelia	8.98	303	ePn	Pn	15 41 00.5	+3.9

JRQG Juriquilla Cam 8.99 311 ePn Pn 15 41 00.8 +4.0
AMAS Alto Masis 9.08 117 eP Pn 15 41 00.0 +2.1
JTS JuntasAbangare 9.27 118 P Pn 15 41 00.4 0.0
comp=Z,1.2nm,0.3s,baz=353,slow=15,SNR=7.9
JTS S Sn 15 42 47.0 +3.7
comp=Z,0.8nm,0.3s,baz=3.8,slow=18,SNR=2.5
SRA1 San Ram‡n 9.78 118 eP Pn 15 41 10.2 +2.7
LCR2 La Lucha 2 10.35 118 eP Pn 15 41 15.7 +0.2
ICCO Coco Island 11.08 146 eP Pn 15 41 27.9 +2.7
DRK0 Durika 11.24 119 eP Pn 15 41 26.7 -0.8
EDBA Buenos Aires 11.27 119 eP Pn 15 41 27.6 -0.1
EDBA eS Sn 15 43 31.6 -0.5
LNIG Linares 11.57 331 ePn Pn 15 41 32.3 +0.5
ZAIG Zacatecas 11.82 313 ePn Pn 15 41 38.0 +2.5
BRU2 Volcan 11.95 119 eP Pn 15 41 37.9 +0.7
833A Chaparral WMA, 14.56 338 P Pn 15 42 12.4 +0.4
baz=156,SNR=11
HKT Hockley 15.20 351 ePn Pn 15 42 17.1 -3.1
comp=Z,325nm,1.5s
545A Edgard 15.31 9 P Pn 15 42 21.2 -0.5
baz=190
MTDJ Mount Denham 15.41 75 ePn Pn 15 42 24.4 +1.2
comp=Z,296nm,1.8s
446A Poplarville 16.24 12 P Pn 15 42 33.5 0.0
baz=194
435B Jarrell 16.34 347 P Pn 15 42 35.6 +0.9
baz=165
341A Kurthwood 16.39 0 P Pn 15 42 35.7 +0.4
baz=180
958A Wauchula 16.55 38 P Pn 15 42 36.2 -1.2
baz=222
345A Thompson Farm, 16.62 10 P Pn 15 42 38.9 +0.7
baz=191
JCT Junction City 16.67 340 P Pn 15 42 39.9 +1.0
baz=158,SNR=5.2
JCT Junction City 16.67 340 ePn P 15 42 42.2 +1.9
comp=Z,29nm,0.6s
346A Big Creek Wild 16.80 11 P Pn 15 42 41.1 +0.6
baz=193
NATX Nacogdoches 16.86 356 P Pn 15 42 42.2 +0.9
baz=176
347A Saraland 17.01 14 P P 15 42 43.9 0.0
baz=196
243A Waterproof 17.01 5 P Pn 15 42 43.8 +0.8
baz=186
241A Mo Tay, Goldon 17.08 1 P P 15 42 45.3 +0.6
baz=181
DWPF Disney Wildern 17.13 38 P Pn 15 42 44.6 0.0
baz=222
242A Grayson 17.14 3 P P 15 42 46.0 +0.5
baz=184
348A Jackson 17.17 16 P Pn 15 42 45.2 +0.1
baz=198
BRAL Brewton 17.18 18 P Pn 15 42 45.3 +0.1
baz=201
655A Horseshoe Beac 17.23 31 P Pn 15 42 45.7 -0.2
baz=214
244A Avery, Jackson 17.25 7 P Pn 15 42 45.6 -0.5
baz=188
553A Crawfordville 17.26 27 P Pn 15 42 46.3 +0.1
baz=210
349A Repton 17.31 18 P Pn 15 42 46.5 -0.3
baz=200
TXAR Lajitas Array 17.32 328 P P 15 42 49.6 +2.0
comp=Z,0.4nm,0.3s,baz=148,slow=13,SNR=108
TXAR LR LR 15 50 41.3
comp=Z,92nm,20.1s,baz=0.0,slow=41
TX31 Lajitas Ar. Si 17.32 328 ePn P 15 42 49.5 +1.8
245A Little AP, Sta 17.35 10 P Pn 15 42 47.3 0.0
baz=191
757A Oxford 17.40 35 P Pn 15 42 46.9 -0.9
baz=218
VBMS Vicksburg 17.45 8 P P 15 42 49.7 +0.8
baz=189
WHTX Lake Whitney, 17.48 348 P P 15 42 50.5 +1.3
baz=167
WHTX Lake Whitney, 17.48 348 ePn P 15 42 50.9 +1.7
comp=Z,44nm,0.6s
WHTX eSn Sn 15 45 57.6 -5.1
452A Marianna 17.54 24 P P 15 42 50.2 +0.4
baz=206
247A Quitman 17.62 13 P Pn 15 42 50.7 +0.2
baz=195
142A Monroe 17.64 4 P P 15 42 52.6 +1.6
baz=184
350A Dozier 17.64 20 P P 15 42 51.7 +0.6
baz=202
141A Papa Simpson, 17.66 1 P P 15 42 52.6 +1.4
baz=181
140A Cam and Jess, 17.69 359 P P 15 42 52.8 +1.2
baz=179
351A Pinckard 17.76 22 P P 15 42 53.0 +0.7
baz=205
143A Socs Landing, 17.83 5 P P 15 42 54.2 +1.1
baz=186
248A Dixon Mills 17.86 15 P P 15 42 54.4 +0.9
baz=198
555A McAlpin 17.88 30 P Pn 15 42 53.9 +0.1
baz=214
453A Whigham 17.89 26 P P 15 42 54.5 +0.8
baz=209
145A Houston Renfro 17.91 9 P Pn 15 42 55.1 +1.0
baz=190
249A Camden 17.92 17 P Pn 15 42 55.8 +1.6
baz=200
556A Lake Butler 18.06 32 P Pn 15 42 56.2 +0.3
baz=216
454A Quitman 18.07 28 P Pn 15 42 57.7 +1.7
baz=211
146A Union 18.09 11 P Pn 15 42 57.8 +1.5
baz=193
250A Grady 18.18 19 P Pn 15 42 58.2 +0.9
baz=202
352A Blakely 18.20 23 P P 15 42 57.4 +0.3
baz=206
147A Livingston 18.29 13 P Pn 15 42 58.8 +0.1
baz=195
Z40A Long Farm, Mag 18.31 360 P Pn 15 42 59.7 +0.8
baz=180
Z41A Richland Creek 18.31 1 P Pn 15 42 59.4 +0.4
baz=182
Z42A Norrel Spur, H 18.36 3 P Pn 15 43 00.6 +1.0
baz=184
353A Camilla 18.36 25 P P 15 42 59.5 +0.6
baz=209
455A Stateville 18.37 29 P Pn 15 43 00.5 +0.9
baz=213
148A Greensboro 18.43 15 P P 15 42 59.5 -0.1
baz=198
Z44A Pea Ridge, Bel 18.50 7 P P 15 43 00.4 0.0
baz=189
LPIG La Paz 18.52 302 LR LR 15 49 39.2
comp=Z,154nm,19.1s,baz=140,slow=34
251A Midway 18.57 21 P P 15 43 01.9 +0.7
baz=204
149A Jones 18.60 17 P Pn 15 43 02.9 +0.5
baz=200
ABTX Abilene, Hawle 18.61 343 P Pn 15 43 03.1 +0.4
baz=161
ABTX Abilene, Hawle 18.61 343 eP P 15 43 02.4 +0.7
comp=Z,146nm,1.6s
Z46A Louisville 18.65 11 P Pn 15 43 03.4 +0.4
baz=193
Z45A Winona 18.70 9 P Pn 15 43 03.7 +0.1
baz=191
TIGA Tifton 18.70 27 P Pn 15 43 04.1 +0.4
baz=210
252A Lumpkin 18.73 23 P Pn 15 43 04.2 +0.2
baz=206,SNR=6.9
150A Eclectic 18.84 19 P P 15 43 04.7 +0.5
baz=202,SNR=6.9
Z47A Carrollton 18.84 14 P P 15 43 04.5 +0.4
baz=196
Y42A Garnett, Star 18.93 4 P P 15 43 05.5 +0.4
baz=184
Y41A Eaglette Beard 18.94 2 P P 15 43 05.7 +0.5
baz=182
LRAL Lakeview Retre 18.95 16 P Pn 15 43 06.5 -0.1
baz=199
151A Opelika 18.99 21 P P 15 43 05.7 -0.2
baz=204
Y40A Okolona 19.06 360 P P 15 43 06.5 -0.1
baz=180
Z48A Northport 19.13 15 P P 15 43 08.3 +0.9
baz=197
Y44A Strider, Charl 19.20 8 P Pn 15 43 09.7 +0.1
baz=189
Y45A Yeager Farm, C 19.20 9 P Pn 15 43 09.4 -0.2
baz=191
Z49A Columbiana 19.23 17 P P 15 43 09.0 +0.5
baz=200,SNR=16
254A Abbeville 19.27 26 P Pn 15 43 10.0 -0.5
baz=210
Y46A Houston 19.34 11 P P 15 43 10.0 +0.4
baz=193,SNR=11
ZARC Zaragoza, Cauc 19.45 110 eP P 15 43 06.1 -4.9
Z50A Ashland 19.47 19 P P 15 43 11.5 +0.5
baz=202
X40A Basin Creek Fa 19.54 1 P P 15 43 11.6 -0.1
baz=181
Y47A UCPARC, Winfie 19.56 13 P P 15 43 11.7 -0.3
baz=196,SNR=6.5
X39A Fountain Ranch 19.57 358 P P 15 43 13.3 +1.1
baz=178
MIAR Mount Ida 19.59 359 P P 15 43 11.6 -0.8
baz=179,SNR=19
MIAR Mount Ida 19.59 359 eP P 15 43 10.8 -1.5
comp=Z,31nm,0.8s
X44A Crenshaw 19.74 8 P Pn 15 43 16.1 +0.1
baz=189
UALR University of 19.84 2 eP P 15 43 14.4 -0.6
comp=Z,21nm,0.8s
YOTC Yotoco, Valle 19.84 121 eP P 15 43 14.1 -1.3
OXF Oxford 19.86 9 P Pn 15 43 17.0 -0.4
baz=191
OXF Oxford 19.86 9 P P 15 43 15.4 +0.2
comp=Z,153nm,1.1s
Y49A Blount Mountai 19.89 17 P Pn 15 43 17.7 0.0
baz=200
HORQ Saladito 19.90 123 eP P 15 43 15.4 -0.8
154A Montrose 19.92 26 P Pn 15 43 17.4 -0.7
baz=210
GUYC Guyana, Colomb 19.99 117 eP Pn 15 43 19.4 -0.2
GDL2 Guadalupe Moun 20.02 331 eP Pn 15 43 20.2 +0.8
X46A Booneville 20.04 11 P Pn 15 43 19.9 +0.4
baz=193
MNTX Cornudas Mount 20.10 329 P P 15 43 18.8 +0.8
baz=144,SNR=15
MNTX Cornudas Mount 20.10 329 eP Pn 15 43 19.9 -0.4
comp=Z,32nm,1.4s
Y50A Piedmont 20.11 18 P Pn 15 43 20.6 +0.2
baz=201
X47A Russelville 20.15 13 P P 15 43 19.5 +1.0
baz=195
PTBC PUERTO BERRIO, 20.20 112 eP Pn 15 43 21.4 -0.3
155A Kite 20.21 27 P Pn 15 43 21.1 -0.3
baz=211
W40A Ferguson Farm, 20.24 0 P P 15 43 21.0 +1.7
baz=181
W41B Gary Mavity, V 20.24 2 P P 15 43 20.4 +1.0
baz=183
W39A Magazine 20.25 359 P P 15 43 20.9 +1.4
baz=179
NORC Norcasia 20.28 115 eP P 15 43 18.0 -2.1
X48A Haselle 20.28 15 P P 15 43 20.3 +0.4
baz=197,SNR=7.4
WHAR Wooly Hollow 20.35 2 eP P 15 43 20.9 +0.3
comp=Z,84nm,1.2s
ANIL Santa Ana 20.35 119 eP P 15 43 22.0 +0.9
TOLC Tolima 20.38 118 eP P 15 43 22.0 +0.6
WMOK Wichita Mounta 20.41 347 P P 15 43 21.7 +0.4
baz=165
WMOK Wichita Mounta 20.41 347 eP P 15 43 21.2 0.0
comp=Z,19nm,0.9s
POPC Popayan, Colom 20.41 125 eP Pn 15 43 24.0 -0.3
GOGA Godfrey 20.47 24 P P 15 43 22.1 +0.2
baz=206
GOGA Godfrey 20.47 24 eP P 15 43 22.8 +0.8
comp=Z,55nm,1.1s
W45A Hickory Valley 20.52 9 P P 15 43 23.3 +0.8
baz=191
X49A Woodville 20.52 16 P P 15 43 23.5 +1.0
baz=199,SNR=7.5
PLAL Pickwick Lake 20.56 12 eP P 15 43 23.4 +0.6
comp=Z,43nm,1.0s
OCAC Ocana 20.58 106 eP P 15 43 23.4 -0.1
OTAV Otavalo 20.61 134 P P 15 43 24.1 +0.1
comp=Z,8.7nm,1.1s
W46A Michie 20.64 11 P Pn 15 43 26.4 -0.2
baz=193
SOTA Rioblanco 20.72 126 eP P 15 43 27.3 +2.1
PCON Cinco Dias 20.76 125 eP P 15 43 26.0 +0.1
CPAS2 Pasto 20.81 129 eP P 15 43 26.7 +0.6
V41A Mountainview 20.85 2 P P 15 43 27.2 +1.2
baz=183
V40A Wits Springs 20.85 1 P P 15 43 26.6 +0.6
baz=181,SNR=5.2
MSTX Muleshoe 20.88 337 P P 15 43 26.8 +0.3
baz=154,SNR=12
MSTX Muleshoe 20.88 337 eP P 15 43 27.3 +0.8
comp=Z,35nm,0.8s
V39A Pettigrew 20.88 359 P P 15 43 26.6 +0.2
baz=179,SNR=14
V42A Cord 20.91 4 P P 15 43 27.8 +1.2
baz=185
W47A Westpoint 20.92 13 P P 15 43 27.0 +0.2
baz=195
W48A Pulaski 20.96 15 P P 15 43 29.1 +1.9
baz=197
TUL1 Leonard 21.08 354 P P 15 43 30.2 +1.7
baz=173
TUL1 Leonard 21.08 354 eP P 15 43 30.1 +1.7
comp=Z,84nm,1.1s
ROSC El Rosal 21.11 116 P P 15 43 28.8 -0.6
comp=Z,2.9nm,0.5s,baz=0.0,slow=20,SNR=7.9
SWET Sewanee 21.30 17 eP P 15 43 32.2 +1.4
comp=Z,8.4nm,0.8s
BARC Barichara 21.33 111 eP P 15 43 30.7 -0.9
AMTX Amarillo 21.33 341 P P 15 43 32.1 +0.8
baz=157
HHAR Hobbs 21.33 358 eP P 15 43 32.0 +0.8
comp=Z,38nm,1.1s
V46A Holladay 21.34 11 P P 15 43 31.6 +0.3
baz=194
SDDR Presa de Saban 21.38 76 eP P 15 43 31.0 -0.9
comp=Z,25nm,0.8s
U40A Yellville 21.40 1 P P 15 43 32.1 +0.2
baz=181
U41A Viola 21.42 3 P P 15 43 32.3 +0.3
baz=184,SNR=7.8
U39A Green Forest 21.42 359 P P 15 43 33.0 +0.8
baz=180
U42A Renenden 21.47 4 P P 15 43 33.8 +1.2
baz=185
PAMC Pamplona, Colo 21.48 108 eP P 15 43 33.3 -0.1
V47A Nunnelly 21.49 13 P P 15 43 33.6 +0.8
baz=195,SNR=6.4
U43A Rector 21.56 6 P P 15 43 34.4 +0.8
baz=188
V48A Smith Brothers 21.56 14 P P 15 43 34.3 +0.7
baz=197
HSIG 21.60 314 eP P 15 43 36.5 +2.4
HODGE Hodges 21.68 25 eP P 15 43 37.6 +2.8
comp=Z,168nm,1.6s
NHSC New Hope 21.68 31 P P 15 43 35.6 +0.7
baz=216
RUSC La Rusia 21.71 112 eP P 15 43 37.1 +1.2
comp=Z,5.0nm,0.8s
RUSC La Rusia 21.71 112 eP P 15 43 36.0 0.0
WVT Waverly 21.71 12 P P 15 43 37.2 +2.0
baz=194
WVT Waverly 21.71 12 eP P 15 43 35.3 +0.1
comp=Z,28nm,0.8s
CHIC Chingaza 21.72 116 eP P 15 43 34.6 -1.3
FLOC Florencia 21.81 126 eP P 15 43 39.3 +2.8
U46A Springville 21.87 11 P P 15 43 37.4 +0.5
baz=193
VILC Villavicencio, 22.01 117 eP P 15 43 38.6 -0.1
121A Cookes Peak, D 22.02 326 P P 15 43 40.3 +1.6
baz=140,SNR=17
121A Cookes Peak, D 22.02 326 eP P 15 43 41.9 +3.2
comp=Z,157nm,1.3s
319A Douglas 22.04 321 eP P 15 43 42.3 +3.4
comp=Z,69nm,1.0s
T39A Clever 22.06 360 P P 15 43 38.7 -0.3
baz=180,SNR=7.2
T38A Diamond 22.09 358 P P 15 43 38.0 -1.4
baz=177
T41A Mountain View 22.12 3 P P 15 43 38.8 -0.8
baz=184,SNR=9.7
U47A Clarksville 22.13 13 P P 15 43 40.1 +0.4
baz=195
T42A Van Buren 22.15 5 P P 15 43 39.4 -0.5
baz=186
T40A Mansfield 22.20 2 P P 15 43 40.3 -0.1
baz=182
SJAC San Juan de Ar 22.22 119 eP P 15 43 42.6 +1.6
T43A Greenville 22.28 6 P P 15 43 41.4 +0.1
baz=188
T44A Benton 22.36 8 P P 15 43 42.3 +0.1
baz=189
U48A Cassie Pea, Po 22.36 14 P P 15 43 42.1 -0.2
baz=197
TKL Tuckaleechee C 22.37 21 P P 15 43 43.4 +1.1
comp=Z,5.0nm,0.6s,baz=180,slow=13,SNR=7.3
TKL LR LR 15 54 06.9
comp=Z,334nm,18.5s,baz=196,slow=41
TKL Tuckaleechee C 22.37 21 eP P 15 43 42.7 +0.4
comp=Z,101nm,1.6s
S40A Lebanon 22.65 2 P P 15 43 44.1 -1.2
baz=182
S41A Jillco Farms, 22.66 3 P P 15 43 42.6 -2.9
baz=184
S38A Stockton 22.68 359 P P 15 43 43.3 -2.3
baz=178,SNR=5.5
T47A Sharon Grove 22.69 13 P P 15 43 43.7 -2.0
baz=196
BNM Barren Site 22.70 330 eP P 15 43 49.1 +3.1
S39A Bolivar 22.73 360 P P 15 43 43.9 -2.3
baz=180,SNR=9.5
Y22E IRIS PASSCAL I 22.78 330 P P 15 43 46.8 0.0
baz=144
S43A Fulton Ridge, 22.78 6 P P 15 43 44.4 -2.2
baz=188
LPM Los Pinos Moun 22.83 330 eP P 15 43 49.0 +1.6
KMSC Kings Mountain 22.84 26 P P 15 43 45.7 -1.6
baz=211
SDV Santo Domingo 22.89 103 P P 15 43 44.1 -4.1
comp=Z,5.4nm,0.6s,baz=241,slow=7.8,SNR=5.2
SDV LR LR 15 53 04.6
comp=Z,205nm,21.5s,baz=302,slow=38
SDV Santo Domingo 22.89 103 eP P 15 43 44.3 -3.9
comp=Z,14nm,0.9s
SDV Santo Domingo 22.89 103 eP P 15 43 46.6 -1.6
S42A Caledonia 22.91 5 P P 15 43 47.2 -0.8
baz=186
T48A Bowling Green 22.97 14 P P 15 43 48.8 +0.2
baz=197
S44A Carbondale 23.00 8 P P 15 43 49.6 +0.7
baz=190
SIUC Southern Illin 23.03 8 eP P 15 43 54.4 +5.3
comp=Z,80nm,1.2s
LAZ Ladron 23.15 330 eP P 15 43 53.2 +2.6
comp=Z,32nm,1.4s
CCM Cathedral Cave 23.16 4 P P 15 43 49.0 -1.4
baz=185
CCM Cathedral Cave 23.16 4 eP P 15 43 47.8 -2.7
comp=Z,30nm,0.9s
R38A Fenwick Farm, 23.23 359 P P 15 43 49.2 -1.9
baz=178,SNR=9.3
S46A Don Dixon Farm 23.24 11 P P 15 43 50.5 -0.7
baz=194
TZTN Tazewell 23.25 20 P P 15 43 49.7 -1.6
baz=204
ANMO Albuquerque 23.27 332 P P 15 43 51.4 -0.3
comp=Z,4.5nm,0.7s,baz=329,slow=14,SNR=14
ANMO Albuquerque 23.27 332 P P 15 43 51.3 -0.4
baz=146
ANMO Albuquerque 23.27 332 eP P 15 43 53.3 +1.6
comp=Z,8.9nm,0.8s
R40A Maddies Statio 23.34 2 P P 15 43 50.8 -1.4
baz=182
R39A Chumby, Stover 23.35 0 P P 15 43 51.4 -0.9
baz=181
R41A Rosebud 23.39 4 P P 15 43 50.1 -2.5
baz=185,SNR=8.0
R42A Luebbering 23.42 5 P P 15 43 52.2 -0.7
baz=186
R43A Red Bud 23.50 7 P P 15 43 52.3 -1.2
baz=188
R44A Waltonville 23.57 8 P P 15 43 54.3 0.0
baz=190
S48A Wiedeman Farm, 23.57 14 P P 15 43 54.0 -0.3
baz=198
TUC Tucson 23.61 320 P P 15 43 56.2 +1.4
baz=134
TUC Tucson 23.61 320 eP P 15 43 58.0 +3.2
comp=Z,145nm,1.8s
R45A Skylar, Fairfi 23.74 10 P P 15 43 56.3 +0.6
baz=192
R46A Gibon Southern 23.79 11 P P 15 43 55.5 -0.8
baz=194
Q38A Cooks Store, C 24.00 359 P P 15 43 58.0 -0.2
baz=179
Q40A Laux Farm, Aux 24.05 2 P P 15 43 57.1 -1.6
baz=183
Q41A Truxton 24.05 4 P P 15 43 56.6 -2.0
baz=185,SNR=6.8
WCI Wyandotte Cave 24.06 13 P P 15 43 57.6 -1.1
baz=197
Q42A Golden Eagle 24.07 5 P P 15 43 57.6 -1.2
baz=186
Q39A Willow Grove F 24.08 0 P P 15 43 58.4 -0.5
baz=181
Q43A New Douglas 24.18 7 P P 15 43 59.8 0.0
baz=188
T25A Trinidad 24.31 338 P P 15 44 03.3 +2.1
baz=153,SNR=12
T25A Trinidad 24.31 338 eP P 15 44 01.9 +0.7
comp=Z,56nm,1.1s
Q45A Warren Harvey, 24.34 10 P P 15 44 01.6 +0.3
baz=192
P39B Salisbury 24.53 1 P P 15 44 00.9 -2.0
baz=181,SNR=6.1
CBKS Cedar Bluff 24.53 348 P P 15 44 02.7 -0.3
baz=165
P40A Paris 24.59 2 P P 15 44 01.8 -1.7
baz=183,SNR=7.8
P37A Lathrop 24.64 358 P P 15 44 03.2 -0.8
baz=178
P38A Dawn 24.66 359 P P 15 44 03.3 -0.8
baz=179
214A Organ Pipe Nat 24.67 317 P P 15 44 06.4 +2.0
baz=130
P42A Winchester 24.75 5 P P 15 44 05.0 0.0
baz=187
P41A Barry, Barry 24.78 4 P P 15 44 05.3 0.0
baz=185
P44A Sand Creek, Wi 24.84 9 P P 15 44 07.4 +1.7
baz=191
BLA Blacksburg 25.00 25 P P 15 44 08.4 +1.1
baz=210
O38A Galt 25.16 360 P P 15 44 08.8 +0.1
baz=180
O40A La Belle 25.18 2 P P 15 44 07.0 -1.9
baz=183
P46A Rosedale 25.21 11 P P 15 44 09.4 +0.3
baz=194
O41A Passleys Farm, 25.23 4 P P 15 44 10.1 +0.8
baz=185
SDCO Great Sand Dun 25.25 337 P P 15 44 10.8 +0.9
baz=152,SNR=5.9
SDCO Great Sand Dun 25.25 337 eP P 15 44 12.2 +2.3
comp=Z,20nm,1.3s
O39A Kirksville 25.30 1 P P 15 44 10.9 +1.0
baz=182
O33A Hebron 25.40 352 P P 15 44 09.9 -0.9
baz=170
O34A Beatrice 25.40 354 P P 15 44 10.2 -0.7
baz=172
X16A Lo Mia Camp, P 25.47 323 eP P 15 44 15.3 +3.5
comp=Z,15nm,1.0s
S22A 4UR Ranch, Cre 25.78 335 P P 15 44 15.1 +0.4
baz=149
N37A Lee Faris, Mou 25.81 358 P P 15 44 13.3 -1.3
baz=178
N38A Joes South For 25.83 360 P P 15 44 13.7 -1.0
baz=180
N39A Derby Farms, D 25.92 1 P P 15 44 14.7 -0.8
baz=182
N40A Mertquake, Sal 25.96 3 P P 15 44 14.2 -1.7
baz=184
MVCO Mesa Verde 26.07 331 P P 15 44 17.6 +0.4
baz=145,SNR=6.9
MVCO Mesa Verde 26.07 331 eP P 15 44 17.2 0.0
comp=Z,59nm,1.3s
N43A Stutzman Famil 26.21 7 P P 15 44 18.9 +0.7
baz=189
M37A Trindle Farm, 26.45 359 P P 15 44 19.9 -0.4
baz=178
M38A Pleasantville 26.45 0 P P 15 44 19.5 -0.8
baz=180
M36A Felix, Anita 26.52 357 P P 15 44 20.3 -0.7

baz=177
M35A Neola 26.59 356 P P 15 44 21.8 +0.2
baz=175
Y12C Blythe 26.92 318 P P 15 44 26.4 +1.7
baz=130
PDMCI Parker Dam,Lak 27.03 319 P P 15 44 26.4 +0.7
baz=131
ISCO Idaho Springs 27.10 339 P P 15 44 27.2 +0.6
baz=153
ISCO Idaho Springs 27.10 339 *e*P P 15 44 27.2 +0.6
comp=Z,9.6nm,0.9s
L34A Svendsen Farm, 27.14 355 P P 15 44 28.1 +1.5
baz=174
L40A Anamosa 27.15 3 P P 15 44 27.8 +1.1
baz=184
L36A Harm Buss Farm 27.16 358 P P 15 44 28.7 +1.9
baz=177
L38A Oak Wood Farm, 27.18 0 P P 15 44 25.7 -1.2
baz=181
BC3 Big Chuckawall 27.47 317 P P 15 44 31.6 +1.9
baz=128
IRM Iron Mountain 27.57 318 P P 15 44 31.2 +0.6
baz=129
K41A Shullsburg 27.75 5 P P 15 44 33.3 +1.2
baz=186
K42A Prairie Point, 28.01 6 P P 15 44 35.9 +1.6
baz=188
PCRV Puerto La Cruz 28.29 96 LR LR 15 57 02.8
comp=Z,224nm,20.1s,baz=302,slow=39
J38A Wedel Dairy, R 28.36 1 P P 15 44 37.9 +0.5
baz=182
ECSD EROS Data Cent 28.91 355 P P 15 44 42.6 +0.3
baz=173
I39A Houston 28.92 3 P P 15 44 42.6 +0.1
baz=184
M54A Oil Creek Stat 29.03 21 P P 15 44 41.4 -2.1
baz=208
H38A Maiden Rock 29.72 1 P P 15 44 49.0 -0.5
baz=182
H40A Chili 29.75 4 P P 15 44 48.5 -1.2
baz=186
H39A Augusta 29.76 3 P P 15 44 49.6 -0.2
baz=184
K22A Casper 29.96 340 P P 15 44 52.0 +0.2
baz=154
TPNV Topopah Spring 30.05 321 P P 15 44 54.6 +1.8
baz=131
G38A Ridgeland 30.22 2 P P 15 44 54.4 +0.5
baz=183
MPMC Manual Prospec 30.26 319 P P 15 44 54.0 -0.6
baz=128
SPMN Marine on St. 30.26 1 P P 15 44 54.8 +0.5
baz=181
G36A St. Michael 30.27 359 P P 15 44 54.6 +0.3
baz=179
G39A Holcombe 30.37 3 P P 15 44 54.0 -1.2
baz=184
G40A Rib Lake 30.41 4 P P 15 44 55.3 -0.2
baz=186
DUG Dugway, Tooele 30.49 330 P P 15 44 56.7 +0.2
baz=141
RSSD Black Hills 30.57 345 P P 15 44 57.8 +0.5
baz=159
R11A Troy Canyon, C 30.60 324 P P 15 44 59.1 +1.5
baz=134
F36A Milaca 30.89 360 P P 15 45 00.0 +0.2
baz=180
F39A Loretta 31.01 3 P P 15 44 60.0 -0.9
baz=184
F38A Pierce - Schro 31.01 2 P P 15 44 59.0 -1.8
baz=183
F40A Park Falls 31.06 4 P P 15 44 59.1 -2.3
baz=186
PKM Mcpherson Peak 31.12 315 P P 15 45 01.7 -0.6
baz=124
PDAR Pinedale Array 31.14 336 P P 15 45 02.9 +0.5
comp=Z,2.3nm,1.0s,baz=130,slow=8.0,SNR=7.1
VES Vestal, Richgr 31.17 317 P P 15 45 02.7 +0.3
baz=126
F43A Flat Rock, Esc 31.28 8 P P 15 45 01.9 -1.3
baz=191
E39A Mellen 31.49 4 P P 15 45 04.5 -0.6
baz=185
E36A McGregor 31.55 360 P P 15 45 04.6 -1.0
baz=180
E40A Wakefield 31.60 4 P P 15 45 04.5 -1.6
baz=186
E35A Pequot Lakes 31.61 358 P P 15 45 02.0 -4.1
baz=178
SADO Sadowa 32.11 19 LR LR 15 59 18.8
comp=Z,270nm,21.5s,baz=184,slow=38
ELK Elko 32.12 328 P P 15 45 13.1 +2.1
comp=Z,1.1nm,0.6s,baz=221,slow=18,SNR=2.8
ELK LR LR 15 59 36.8
comp=Z,215nm,20.4s,baz=230,slow=39
D35A Remer 32.12 359 P P 15 45 09.0 -1.6
baz=179
REDW Red Top Meadow 32.16 335 *e*P P 15 45 12.9 +1.7
comp=Z,54nm,1.1s
NV11 Mina Array Sit 32.16 322 *e*P P 15 45 12.9 +1.6
comp=Z,2.9nm,1.8s
D37A Cotton 32.20 1 P P 15 45 08.8 -2.5
baz=182
D33A AnnSam, Waubun 32.25 357 P P 15 45 10.6 -1.1
baz=175
NV01 Mina Array Sit 32.25 321 *e*P P 15 45 14.5 +2.4
NVAR Mina Array Bea 32.25 321 P P 15 45 15.5 +3.4
comp=Z,5.7nm,0.8s,baz=134,slow=8.5,SNR=33
NVAR LR LR 15 59 11.4
comp=Z,256nm,22.0s,baz=266,slow=38
LOHW Long Hollow 32.27 336 *e*P P 15 45 14.2 +1.9
comp=Z,20nm,1.0s
D41A Chassel 32.33 6 P P 15 45 10.8 -1.6
baz=188
MOOW Moose Ponds 32.44 336 *e*P P 15 45 15.3 +1.6
comp=Z,13nm,0.9s
FXWY Fox Creek 32.46 336 *e*P P 15 45 15.6 +1.7
comp=Z,8.9nm,0.9s
IMW Indian Meadow 32.64 336 *e*P P 15 45 16.1 +0.5
comp=Z,10nm,0.9s
C34A RKJ Ranch, Bem 32.71 358 P P 15 45 13.5 -2.3
baz=177
C35A Jirik Farms, M 32.74 359 P P 15 45 13.2 -2.8
baz=179
C37A Embarrass 32.77 1 P P 15 45 16.4 +0.1
baz=182
C38A Sawbill Land. 32.79 2 P P 15 45 15.2 -1.2
baz=184
C36A Pine Crest Far 32.79 0 P P 15 45 16.0 -0.5
baz=181
H17A Grant Village 32.92 337 P P 15 45 17.6 -0.3
baz=148
C39A Grand Marais 32.95 4 P P 15 45 18.6 +0.8
baz=186
EYMN Ely 33.01 2 P P 15 45 18.8 +0.4
baz=183
C31A Landman Farms, 33.04 354 P P 15 45 19.2 +0.6
baz=172
RLMT Red Lodge 33.07 339 P P 15 45 20.1 +0.9
baz=151,SNR=8.5
RLMT Red Lodge 33.07 339 *e*P P 15 45 20.4 +1.3
comp=Z,28nm,1.7s
C40A Isle Royale Na 33.12 5 P P 15 45 20.2 +0.9
baz=187
B35A Bob, Littlefor 33.40 359 P P 15 45 20.2 -1.5
baz=179
AGMN Agassiz Nation 33.40 357 P P 15 45 21.0 -0.8
baz=176
LAO LASA Array 33.53 344 P P 15 45 21.9 -1.1
baz=157
B32A Ashes, Strandq 33.54 356 P P 15 45 20.2 -2.8
baz=174
B34A Aery, Baudette 33.54 358 P P 15 45 20.8 -2.2
baz=178
LONY Lake Ozonia 33.61 24 P P 15 45 24.5 +0.8
baz=214
GCMT Greycliff 33.79 339 *e*P P 15 45 24.8 -0.6
HLID Hailey 33.85 332 P P 15 45 25.1 -0.8
baz=141,SNR=6.0
A33A Warroad 34.02 357 P P 15 45 26.0 -1.1
baz=176
A32A Rocking H Ranc 34.06 356 P P 15 45 28.0 +0.5
baz=174
BOZ Bozeman (W) 34.33 337 P P 15 45 30.6 +0.5
baz=148
LRM Limekiln Ridge 34.84 336 *e*P P 15 45 36.6 +2.0
ULM Lac du Bonnet 35.35 357 P P 15 45 36.2 -2.4
comp=Z,2.6nm,0.6s,baz=177,slow=7.9,SNR=6.6

ULM LR LR 16 02 52.9
comp=Z,144nm,20.5s,baz=146,slow=41
O03D Paynes Creek 35.53 321 P P 15 45 40.8 +0.4
baz=128
J08A Circle Bar Ran 35.67 328 *e*P P 15 45 43.9 +2.3
comp=Z,22nm,0.8s
MSO Missoula 36.25 336 P P 15 45 47.0 +0.5
baz=145
M04C Macdoel 36.47 323 P P 15 45 47.9 -0.6
baz=129
YBH Yreka Blue Hor 36.95 322 P P 15 45 53.0 +0.5
comp=Z,0.8nm,0.3s,baz=148,slow=1.7,SNR=4.2
F10A Beach Ranch, E 36.98 332 *e*P P 15 45 53.9 +1.1
comp=Z,26nm,0.9s
I05D Terrebonne, OR 37.85 327 P P 15 46 02.2 +2.1
baz=132
G05D Wamic, OR 38.45 328 P P 15 46 07.2 +2.2
baz=133
NEW Newport 38.70 334 P P 15 46 08.6 +1.5
baz=142
LPAZ La Paz 39.66 140 P P 15 46 15.2 -0.9
comp=Z,0.8nm,0.3s,baz=290,slow=9.2,SNR=4.4
LPAZ LR LR 16 02 19.5
comp=Z,96nm,21.8s,baz=314,slow=36
C06D Leavenworth 40.12 331 P P 15 46 21.0 +2.2
baz=136
EDM Edmonton 41.44 342 *e*P P 15 46 29.2 -0.5
comp=Z,12nm,0.6s
A04D Lummi Island 41.54 331 P P 15 46 33.3 +2.9
baz=134
LLLB Lillooet 42.51 333 *e*P P 15 46 38.4 -0.1
comp=Z,20nm,1.2s
FCC Fort Churchill 43.82 359 *e*P P 15 46 47.8 -1.0
comp=Z,7.1nm,1.3s
SIV San Ignacio 44.15 133 P P 15 46 51.3 -0.8
comp=Z,2.3nm,0.6s,baz=295,slow=6.2,SNR=16
RPN Rapa Nui 44.58 201 LR LR 16 00 47.7
comp=Z,132nm,21.2s,baz=67,slow=29
SCHQ Schefferville 44.84 21 LR LR 16 06 46.4
comp=Z,307nm,21.8s,baz=245,slow=38
YKA Yellowknife Ar 49.91 347 P P 15 47 36.3 0.0
comp=Z,3.4nm,0.6s,baz=153,slow=7.4,SNR=85
DLBC Dease Lake 51.38 336 *e*P P 15 47 50.4 +2.8
comp=Z,56nm,1.4s
TAOE Nuku Hiva Isla 52.15 246 *e*T T 16 43 30.3
comp=Z,121nm,0.3s
CPUP Villa Florida 53.81 139 P P 15 48 04.5 -1.3
comp=Z,2.1nm,0.9s,baz=306,slow=12,SNR=3.3
CPUP LR LR 16 10 01.2
comp=Z,54nm,21.4s,baz=336,slow=35
RKT Rikitea 55.62 228 *e*LR LR 16 05 00.9
comp=Z,505nm,28.0s
RKT Rikitea 55.62 228 *e*T T 16 47 54.8
comp=Z,7.2nm,0.3s
SFJD Kangerlussuaq 59.05 18 LR LR 16 16 12.3
comp=Z,178nm,18.8s,baz=232,slow=38
INK Inuvik 59.27 344 P P 15 48 44.5 +0.5
comp=Z,7.3nm,0.8s,baz=122,slow=7.7,SNR=36
INK Inuvik 59.27 344 *e*P P 15 48 44.5 +0.5
comp=Z,18nm,1.1s
EGAK Eagle 59.47 338 *e*P P 15 48 46.7 +1.3
comp=Z,16nm,1.4s
RES Resolute Bay 59.82 359 P P 15 48 47.2 -0.4
comp=Z,3.5nm,0.7s,baz=191,slow=9.6,SNR=21
RES Resolute Bay 59.82 359 *e*P P 15 48 47.3 -0.4
comp=Z,4.8nm,0.8s
DOT Dot Lake 59.95 336 *e*P P 15 48 50.4 +1.5
comp=Z,20nm,1.0s
PAX Paxson 60.17 335 *e*P P 15 48 51.7 +1.3
comp=Z,6.7nm,0.9s
RIDG Independe'e Rid 60.30 336 *e*P P 15 48 52.8 +1.5
comp=Z,18nm,1.2s
KDAK Kodiak Island 61.35 328 P P 15 48 59.1 +0.7
comp=Z,10.0nm,1.1s,baz=121,slow=11,SNR=2.3
IL1 Eielson Array 61.58 337 *e*P P 15 49 00.1 +0.3
ILAR Eielson Array 61.58 337 P P 15 49 00.2 +0.4
comp=Z,2.6nm,0.8s,baz=154,slow=4.8,SNR=30
ILB Eielson Array 61.58 337 *e*P P 15 49 00.6 +0.7
RND Reindeer 61.74 335 *e*P P 15 49 02.5 +1.4
comp=Z,28nm,1.1s
MCK McKinley 61.91 335 *e*P P 15 49 03.2 +1.1
comp=Z,18nm,1.3s
TRF Thorofare Moun 62.35 335 *e*P P 15 49 06.3 +1.0
comp=Z,15nm,0.8s
BPAW Bear Paw Mtn. 62.89 335 *e*P P 15 49 08.6 -0.1
comp=Z,6.6nm,0.8s
PPLA Purkeypile 62.93 334 *e*P P 15 49 09.5 +0.4
comp=Z,21nm,1.4s
CAST Castle Rocks 63.08 334 *e*P P 15 49 10.3 +0.4
comp=Z,6.8nm,0.7s
MLY Manley 63.17 336 *e*P P 15 49 11.1 +0.6
comp=Z,17nm,1.2s
PPT2 Papeete2 64.25 242 *e*LR LR 16 08 23.2
comp=Z,379nm,27.2s
TOLK Toolik Lake Re 64.30 340 P P 15 49 18.4 +0.5
baz=117,SNR=5.2
TOLK Toolik Lake Re 64.30 340 *e*P P 15 49 18.9 +1.0
comp=Z,27nm,1.5s
BORG Borgarnes 68.95 26 LR LR 16 19 24.1
comp=Z,87nm,20.3s,baz=219,slow=35
JMIC Jan Mayen 74.33 20 LR LR 16 23 34.3
comp=Z,134nm,20.1s,baz=252,slow=36
EKA Eskdalemuir Ar 77.96 36 P P 15 50 37.8 -2.9
comp=Z,1.0nm,0.6s,baz=277,slow=5.0,SNR=7.1
SPITS Spitsbergen Ar 79.47 11 P P 15 50 48.9 +0.3
comp=Z,1.7nm,0.5s,baz=300,slow=3.4,SNR=11
ESDC Sonseca Array 80.11 52 P P 15 50 52.3 -0.5
comp=Z,0.6nm,0.7s,baz=284,slow=5.1,SNR=3.9
NOA NORSAR Array B 83.95 28 P P 15 51 10.8 -1.6
comp=Z,0.8nm,0.7s,baz=290,slow=5.1,SNR=2.9
ARCES ARCESS Array B 85.69 18 P P 15 51 20.9 -0.1
comp=Z,4.3nm,0.9s,baz=306,slow=4.1,SNR=6.7
SEY Seymchan 87.47 335 P P 15 51 31.1 +1.2
comp=Z,1.5nm,0.6s,baz=77,slow=5.0,SNR=15
TIXI Tiksi 89.16 348 P P 15 51 37.2 -0.5
comp=Z,3.1nm,0.5s,baz=25,slow=2.8,SNR=26
TIXI Tiksi 89.16 348 *e*P P 15 51 37.0 -0.6
GERES GERESS Array B 89.69 39 P P 15 51 38.8 -1.9
comp=Z,0.5nm,0.8s,baz=250,slow=2.9,SNR=2.9
MKAR Machi Array 118.49 4 PKP PKPdf 15 57 29.1 -1.1
comp=Z,0.5nm,0.8s,baz=33,slow=3.2,SNR=4.6
HHC Hu-ho-hao-te 119.98 338 *e*PKP PKPdf 15 57 28.6 -4.7
GEYT Alibeck 120.99 26 PKP PKPdf 15 57 36.5 +1.3
comp=Z,0.8nm,0.5s,baz=297,slow=6.3,SNR=2.7
NJ2 Nanjing 124.12 327 *e*PKP PKPdf 15 57 43.1 +1.8
LZH Lanzhou 126.81 343 *e*PKP PKPdf 15 57 51.8 +5.2
LZH LR LR
comp=Z,120nm,19.1s
LZH LR LR
comp=Z,100nm,19.5s
LZH LR LR
comp=Z,160nm,20.0s
WSAR Wadi Sarin 133.17 37 PKP PKPdf 15 57 57.6 -1.2
comp=Z,2.4nm,0.6s,baz=202,slow=3.1,SNR=5.9
WRA Warramunga Arr 134.45 257 PKP PKPdf 15 58 01.6 +0.4
comp=Z,0.5nm,0.6s,baz=87,slow=2.2,SNR=6.2
ASAR Alice Springs 134.82 251 PKP PKPdf 15 58 02.2 +0.4
comp=Z,0.4nm,0.8s,baz=79,slow=2.3,SNR=3.9
CMAR Chiang Mai Arr 144.78 340 PKP PKPab 15 58 18.9 0.0
comp=Z,2.9nm,0.6s,baz=342,slow=3.1,SNR=33
HYB Hyderabad 146.91 14 *i* PKP PKPbc 15 58 27.0 +1.4

CSEM **06** *15:42:08.0±0.2, 41.85N×2.70E, h2km, ML2.4/7, Error ellipse: s-maj=4.4km s-min=3.0km az=137.0*
LDG **06** *15:42:08.5±0.1, 41.84N×2.77E, h8km, Md2.1/1, Ml2.3/6, Error ellipse: s-maj=2.1km s-min=1.3km az=142.0*
MDD 06 15:42:09.2±0.3, 41.85N×2.76E, h2km±5km, mbLg1.9/23, 1C, Error ellipse: s-maj=3.2km s-min=1.9km az=145.0, PRXIMO, Spain

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CCAS	**Cassa de la Se**	**0.12**	**73**	Pg	Pg	15 42 11.2	-0.2
CCAS				Lg	Lg	15 42 13.3	
	84nm,0.1s						
CCAS	**Cassa de la Se**	**0.12**	**73**	Pg	Pg	15 42 11.2	-0.2
CCAS				Lg	Lg	15 42 13.3	
	84nm,0.1s						
CFON	**Fontmartina**	**0.26**	**250**	⇑Pg	Pg	15 42 14.0	-0.1
	53nm,0.1s,SNR=18						
CFON				Lg	Lg	15 42 17.9	
	123nm,0.1s						
CFON	**Fontmartina**	**0.26**	**250**	Pg	Pg	15 42 14.0	-0.1
	53nm,0.1s,SNR=18						
CFON				Lg	Lg	15 42 17.9	
	123nm,0.1s						

CBEU Beuda 0.41 352 Pg Pg 15 42 16.9 -0.2
CBEU Lg Lg 15 42 23.1
41nm,0.2s
CBEU Beuda 0.41 352 Pg Pg 15 42 16.9 -0.2
CBEU Lg Lg 15 42 23.1
41nm,0.2s
CORI Orista 0.54 283 Pg Pg 15 42 19.3 -0.3
CORI Lg Lg 15 42 27.0
46nm,0.2s
CORI Orista 0.54 283 Pg Pg 15 42 19.3 -0.3
CORI Lg Lg 15 42 27.0
46nm,0.2s
CPAL Palau Saverder 0.55 33 Pg Pg 15 42 18.9 -0.9
CPAL Lg Lg 15 42 26.7
CPAL Palau Saverder 0.55 33 Pg Pg 15 42 18.9 -0.9
CPAL Lg Lg 15 42 26.7
EJON La Jonquera 0.61 9 Pg Pg 15 42 20.2 -0.6
2.5nm,0.1s,SNR=7.9
EJON Lg Lg 15 42 28.5
20nm,0.1s,SNR=32
EJON La Jonquera 0.61 9 Pg Pg 15 42 20.2 -0.6
2.5nm,0.1s,SNR=7.9
EJON Lg Lg 15 42 28.5
20nm,0.1s,SNR=32
CBRU Bruguera 0.61 316 Pg Pg 15 42 20.6 -0.3
CBRU Lg Lg 15 42 29.3
5.3nm,0.2s
CBRU Bruguera 0.61 316 Pg Pg 15 42 20.6 -0.3
CBRU Lg Lg 15 42 29.3
5.3nm,0.2s
SJAF Saint Jean de 0.64 8 Pg Pg 15 42 20.9 -0.6
0.5nm,0.1s,SNR=7.9
SJAF Lg Lg 15 42 29.3
10.0nm,0.1s,SNR=7.9
SJAF Saint Jean de 0.64 8 Pg Pg 15 42 20.9 -0.6
0.5nm,0.1s,SNR=7.9
SJAF Lg Lg 15 42 29.3
10.0nm,0.1s,SNR=7.9
CLLI Llivia 0.86 317 Pg Pg 15 42 24.8 -0.8
2.5nm,0.2s,SNR=12
CLLI Lg Lg 15 42 36.3
3.9nm,0.1s,SNR=10.0
CLLI Llivia 0.86 317 Pg Pg 15 42 24.8 -0.8
2.5nm,0.2s,SNR=12
CLLI Lg Lg 15 42 36.3
3.9nm,0.1s,SNR=10.0
EMIR Miracle 0.92 274 Pg Pg 15 42 26.3 -0.6
2.6nm,0.2s,SNR=6.2
EMIR Lg Lg 15 42 38.7
24nm,0.1s,SNR=15
EMIR Miracle 0.92 274 Pg Pg 15 42 26.3 -0.6
2.6nm,0.2s,SNR=6.2
EMIR Lg Lg 15 42 38.7
24nm,0.1s,SNR=15
CORG Organya 1.14 290 Pg Pg 15 42 29.8 -1.2
CORG Lg Lg 15 42 45.7
4.6nm,0.3s
CORG Organya 1.14 290 Pg Pg 15 42 29.8 -1.2
CORG Lg Lg 15 42 45.7
4.6nm,0.3s
CSOR Sort 1.32 294 Pg Pg 15 42 33.7 -0.8
1.4nm,0.2s,SNR=8.6
CSOR Lg Lg 15 42 51.3
11nm,0.2s,SNR=15
CSOR Sort 1.32 294 Pg Pg 15 42 33.7 -0.8
1.4nm,0.2s,SNR=8.6
CSOR Lg Lg 15 42 51.3
11nm,0.2s,SNR=15
CGAR Garraf 1.34 246 Pg Pg 15 42 24.3 -11
CEST Esterri de Car 1.34 304 Pg Pg 15 42 33.4 -1.6
CEST Lg Lg 15 42 51.7
5.0nm,0.1s
CEST Esterri de Car 1.34 304 Pg Pg 15 42 33.4 -1.6
CEST Lg Lg 15 42 51.7
5.0nm,0.1s
EPOB Poblet 1.35 249 Pg Pg 15 42 33.3 -1.9
2.0nm,0.1s,SNR=15
EPOB Lg Lg 15 42 51.9
7.5nm,0.2s
EPOB Poblet 1.35 249 Pg Pg 15 42 33.3 -1.8
2.0nm,0.1s,SNR=15
EPOB Lg Lg 15 42 51.9
7.5nm,0.2s
CAVN Les Avellanes 1.50 272 Pn Pn 15 42 35.9 -1.3
CAVN Sn Sb 15 42 55.7 -1.6
11nm,0.2s
CAVN Les Avellanes 1.50 272 Pn Pn 15 42 35.9 -1.3
CAVN Sn Sb 15 42 55.7 -1.6
11nm,0.2s
MTLF Montolieu 1.54 345 *e*Pg Pn 15 42 36.8 -1.0
MTLF *e*Sg Sn 15 42 57.0 -1.4
3.6nm,0.2s
MTLF Montolieu 1.54 345 Pn Pn 15 42 36.8 -1.0
MTLF Sn Sn 15 42 57.0 -1.4
1.8nm,0.2s
MTLF Montolieu 1.54 345 *e*Pg Pn 15 42 36.8 -1.0
MTLF *e*Sg Sn 15 42 57.0 -1.4
1.8nm,0.2s
CTRE Tremp 1.55 288 Pn Pn 15 42 36.7 -1.3
CTRE Sn Sn 15 42 57.2 -1.6
4.0nm,0.3s
CTRE Tremp 1.55 288 Pn Pn 15 42 36.7 -1.3
CTRE Sn Sn 15 42 57.2 -1.6
4.0nm,0.3s
EBR Ebro Roquetas 1.99 240 Pg Pb 15 42 45.3 -0.9
22nm,3.3s,SNR=7.9
EBR Ebro Roquetas 1.99 240 Pg Pb 15 42 45.3 -0.8
22nm,3.3s,SNR=7.9
ERTA Horta de San J 2.03 245 Pg Pb 15 42 46.9 0.0
0.5nm,0.1s,SNR=7.9
ERTA Lg Lg 15 43 13.3
2.8nm,0.2s,SNR=7.9
ERTA Horta de San J 2.03 245 Pg Pb 15 42 46.9 +0.1
0.5nm,0.1s,SNR=7.9
ERTA Lg Lg 15 43 13.3
2.8nm,0.2s,SNR=7.9
ECHI Chisagues Biel 2.07 294 Pg Pb 15 42 46.4 -1.2
0.5nm,1.7s,SNR=7.9
ECHI Lg Lg 15 43 15.0
5.8nm,4.3s,SNR=7.9
ECHI Chisagues Biel 2.07 294 Pg Sg 15 43 17.7 +2.0
0.1nm,0.1s,SNR=7.9
ECHI Chisagues Biel 2.07 294 Pg Sg 15 43 17.7 +2.0
0.1nm,0.1s,SNR=7.9
ECHI Chisagues Biel 2.07 294 Pg Pb 15 42 46.4 -1.2
0.5nm,1.7s,SNR=7.9
ECHI Lg Lg 15 43 15.0
5.8nm,4.3s,SNR=7.9
ETOS Mallorca 2.08 179 Pn Pn 15 42 43.2 -1.9
40nm,2.9s,SNR=7.9
ETOS Sn Sn 15 43 04.5 -7.2
5.1nm,3.2s,SNR=7.9
ETOS Mallorca 2.08 179 Pn Pn 15 42 43.2 -2.0
40nm,2.9s,SNR=7.9
EPF Esparros 2.14 304 *e*Pg Pb 15 42 48.7 -0.1
EPF *e*Sg Sb 15 43 16.0 +0.1
4.7nm,0.4s
EPF Esparros 2.14 304 Pg Pb 15 42 48.7 -0.1
EPF Lg Lg 15 43 16.0
2.3nm,0.4s
EPF Esparros 2.14 304 Pg Pb 15 42 48.7 -0.1
EPF *e*Sg Sb 15 43 16.0 +0.1
2.3nm,0.4s
CMAS Mas de Barbera 2.16 239 Sn Sn 15 43 11.3 -2.2
CMAS Mas de Barbera 2.16 239 Sn Sn 15 43 11.3 -2.2
LASF Ste Croix 2.37 20 *e*Sn Sn 15 43 12.9 -5.9
LASF *e*Sg Sb 15 43 23.2 +0.9
1.8nm,0.3s
LASF Ste Croix 2.37 20 Lg Lg 15 43 23.2
0.9nm,0.3s
ESAC San Caprasio 2.42 268 Pg Pb 15 42 53.6 +0.1
1.2nm,0.2s,SNR=5.6
ESAC Lg Lg 15 43 26.2
2.6nm,0.1s,SNR=6.3
ESAC San Caprasio 2.42 268 Pg Sb 15 43 25.2 +1.4
6.3nm,0.7s,SNR=7.9
ESAC San Caprasio 2.42 268 Pg Sb 15 43 25.2 +1.5
6.3nm,0.7s,SNR=7.9
ESAC San Caprasio 2.42 268 Pg Pb 15 42 53.6 +0.1
1.2nm,0.2s,SNR=5.6
ESAC Lg Lg 15 43 26.2
2.6nm,0.1s,SNR=6.3
ETSF Etsaut 2.67 294 *e*Pg Pb 15 42 58.3 +0.5
ETSF *e*Sg Sb 15 43 32.8 +1.7
2.3nm,0.3s
ETSF Etsaut 2.67 294 Pg Pb 15 42 58.3 +0.5
ETSF Lg Lg 15 43 32.8

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
	1.2nm,0.3s						
ETSF	**Etsaut**	**2.67**	**294**	Pg	Pb	15 42 58.3	+0.5
ETSF				eSg	Sb	15 43 32.8	+1.7
	1.1nm,0.3s						
ATE	**Arette**	**2.84**	**297**	Pg	Pb	15 43 01.1	+0.5
	0.3nm,0.2s,SNR=4.0						
ATE				Lg	Lg	15 43 39.6	
	1.3nm,0.1s,SNR=7.9						
ATE	**Arette**	**2.84**	**297**	Pg	Pg	15 43 04.9	+1.3
	0.2nm,0.5s,SNR=7.9						
ATE				Lg	Lg	15 43 08.4	
	4.3nm,0.7s,SNR=7.9						
ATE	**Arette**	**2.84**	**297**	Pg	Pg	15 43 04.9	+1.3
	0.2nm,0.5s,SNR=7.9						
ATE				Lg	Lg	15 43 08.4	
	4.3nm,0.7s,SNR=7.9						
ATE	**Arette**	**2.84**	**297**	Pg	Pb	15 43 01.1	+0.4
	0.3nm,0.2s,SNR=4.0						
ATE				Lg	Lg	15 43 39.6	
	1.3nm,0.1s,SNR=7.9						
EMOS	**Mosqueruela**	**2.86**	**240**	Pg	Pb	15 43 01.3	+0.3
	5.2nm,1.6s,SNR=7.9						
EMOS				Lg	Lg	15 43 40.3	
	8.0nm,1.1s,SNR=7.9						
EMOS	**Mosqueruela**	**2.86**	**240**	Pg	Pb	15 43 01.3	+0.3
	5.2nm,1.6s,SNR=7.9						
EMOS				Lg	Lg	15 43 40.3	
	8.0nm,1.1s,SNR=7.9						
CAF	**Calviac**	**3.12**	**351**	eSg	Sg	15 43 46.8	-2.5
	1.8nm,0.3s						
CAF	**Calviac**	**3.12**	**351**	eSg	Sg	15 43 46.8	-2.5
	0.9nm,0.3s						
IELO	**Elcoad**	**3.12**	**290**	Pg	Pb	15 43 05.3	-0.2
	0.4nm,0.1s,SNR=7.9						
IELO				Lg	Lg	15 43 48.6	
	1.9nm,0.2s,SNR=7.9						
IELO	**Elcoad**	**3.12**	**290**	Pg	Pb	15 43 04.9	-0.6
	0.5nm,0.3s,SNR=7.9						
IELO				Lg	Lg	15 43 08.5	
	5.6nm,0.6s,SNR=7.9						
IELO	**Elcoad**	**3.12**	**290**	Pg	Pb	15 43 04.9	-0.6
	0.5nm,0.3s,SNR=7.9						
IELO				Lg	Lg	15 43 08.5	
	5.6nm,0.6s,SNR=7.9						
IELO	**Elcoad**	**3.12**	**290**	Pg	Pb	15 43 05.3	-0.2
	0.4nm,0.1s,SNR=7.9						
IELO				Lg	Lg	15 43 48.6	
	1.9nm,0.2s,SNR=7.9						
EORO	**Oroz-Betelu**	**3.19**	**290**	Pn	Pn	15 42 59.0	-1.4
	0.1nm,0.1s,SNR=4.0						
EORO				Pg	Pb	15 43 06.9	+0.3
	1.6nm,0.2s,SNR=8.4						
EORO				Lg	Lg	15 43 51.1	
	3.9nm,0.9s,SNR=4.0						
EORO	**Oroz-Betelu**	**3.19**	**290**	Pg	Pb	15 43 04.5	-2.1
	0.8nm,0.6s,SNR=7.9						
EORO				Lg	Lg	15 43 08.4	
	7.6nm,0.9s,SNR=7.9						
EORO	**Oroz-Betelu**	**3.19**	**290**	Pg	Pb	15 43 04.5	-2.1
	0.8nm,0.6s,SNR=7.9						
EORO				Lg	Lg	15 43 08.4	
	7.6nm,0.9s,SNR=7.9						
EORO	**Oroz-Betelu**	**3.19**	**290**	Pn	Pn	15 42 59.0	-1.5
	0.1nm,0.1s,SNR=4.0						
EALK	**Alkurruntz**	**3.44**	**295**	Pg	Pb	15 43 11.2	+0.4
	1.0nm,0.1s,SNR=6.1						
EALK				Lg	Lg	15 43 58.2	
	2.5nm,0.4s,SNR=7.9						
EALK	**Alkurruntz**	**3.44**	**295**	Pg	Pn	15 43 06.5	+2.7
	2.9nm,0.7s,SNR=7.9						
EALK				Lg	Lg	15 43 10.7	
	7.5nm,0.9s,SNR=7.9						
EALK	**Alkurruntz**	**3.44**	**295**	Pg	Pn	15 43 06.5	+2.6
	2.9nm,0.7s,SNR=7.9						
EALK				Lg	Lg	15 43 10.7	
	7.5nm,0.9s,SNR=7.9						
EALK	**Alkurruntz**	**3.44**	**295**	Pg	Pb	15 43 11.2	+0.4
	1.0nm,0.1s,SNR=6.1						
EALK				Lg	Lg	15 43 58.2	
	2.5nm,0.4s,SNR=7.9						
ELAN	**Lanestosa**	**4.78**	**289**	Pg	Pb	15 43 31.3	-2.4
	0.9nm,0.5s,SNR=7.9						
ELAN				Lg	Lg	15 43 55.7	
	9.1nm,1.2s,SNR=7.9						
ELAN	**Lanestosa**	**4.78**	**289**	Pg	Pb	15 43 31.3	-2.4
	0.9nm,0.5s,SNR=7.9						
ELAN				Lg	Lg	15 43 55.7	
	9.1nm,1.2s,SNR=7.9						

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*ATA **06** 15:43:23.8±1.1, 39°58N×41°30E, h2km±3km, ML2.8, MW2.7*
*ISCJB **06** 15:43:24.7±0.5, 39°53N±0°03×41°28E±0°03, h1km±6km, Error ellipse: s-maj=4.4km s-min=3.8km az=8.0*
*CSEM **06** 15:43:24.4±0.2, 39°54N×41°33E, h5km, ML2.3, Error ellipse: s-maj=6.3km s-min=4.0km az=36.0*
*DDA **06** 15:43:24.3, 39°51N×41°30E, h7km, Ml2.3*
*ISK **06** 15:43:24.3, 39°52N×41°28E, h6km, ML2.1/5*
ISC 06 15:43:24.6±0.9, **39°53N**±0°02×**41°29E**±0°02, **h12**km±8km, **n35**, σ0ˢ**77**/48, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ECAT	**Cat-ERZURUM**	**0.26**	**288**	*i* P	**Pg**	**15 43 30.0**	**0.0**
ECAT				*e*S	**Sg**	**15 43 33.9**	**+0.2**
ECAT				IAML		15 43 35.0	
	comp=Z,118nm,0.1s						
ECAT	**Cat-ERZURUM**	**0.26**	**288**	*i* P	**Pg**	**15 43 30.0**	**0.0**
ECAT				*i* S	**Sg**	**15 43 33.8**	**+0.2**
ECAT	**Cat-ERZURUM**	**0.26**	**288**	P	**Pg**	**15 43 30.0**	**0.0**
ECAT				S	**Sg**	**15 43 33.8**	**+0.2**
ERZM	**Erzurum**	**0.38**	**9**	*i* P	**Pg**	**15 43 31.8**	**-0.6**
ERZM				*e*S	**Sg**	**15 43 37.3**	**-0.3**
ERZM	**Erzurum**	**0.38**	**9**	*i* P	**Pg**	**15 43 31.7**	**-0.6**
ERZM	**Erzurum**	**0.38**	**9**	P	**Pg**	**15 43 31.7**	**-0.6**
VRTB	**Varto-Mus**	**0.39**	**160**	PG	**Pg**	**15 43 32.4**	**0.0**
VRTB				SG	**Sg**	**15 43 38.2**	**+0.7**
VRTB	**Varto-Mus**	**0.39**	**160**	*e*Pg	**Pg**	**15 43 32.4**	**0.0**
VRTB				*e*Sg	**Sg**	**15 43 38.2**	**+0.7**
EKAR	**Karacoban**	**0.66**	**114**	*e*P	**Pg**	**15 43 37.4**	**-0.1**
EKAR				*e*S	**Sn**	**15 43 49.4**	**-1.1**
EKAR	**Karacoban**	**0.66**	**114**	*i* P	**Pg**	**15 43 36.6**	**-0.8**
EKAR	**Karacoban**	**0.66**	**114**	P	**Pg**	**15 43 36.6**	**-0.8**
HOMI	**Horasan**	**0.70**	**42**	*i* P	**Pg**	**15 43 37.2**	**-1.1**
HOMI				*e*S	**Sb**	**15 43 48.3**	**-0.5**
HOMI				IAML		15 43 50.1	
	comp=Z,14nm,0.3s						
HOMI	**Horasan**	**0.70**	**42**	*i* P	**Pg**	**15 43 37.6**	**-0.7**
HOMI				*i* S	**Sb**	**15 43 48.7**	**-0.1**
BNGB	**Bing˜¶l**	**0.71**	**222**	PG	**Pg**	**15 43 38.3**	**-0.1**
BNGB				SG	**Sg**	**15 43 48.5**	**+0.7**
KOPT	**Kop Dagi**	**0.78**	**309**	*e*P	**Pg**	**15 43 40.0**	**+0.2**
KOPT				IAML		15 43 57.0	
	comp=Z,15nm,0.5s						
KOPT	**Kop Dagi**	**0.78**	**309**	*i* P	**Pg**	**15 43 39.9**	**+0.2**
KOPT	**Kop Dagi**	**0.78**	**309**	P	**Pg**	**15 43 39.9**	**+0.1**
BINT	**Bingol**	**0.90**	**224**	*e*Pg	**Pg**	**15 43 38.3**	**-3.6**
EATA	**Eleskirt**	**0.99**	**70**	*e*P	**Pg**	**15 43 43.6**	**-0.1**
EATA	**Eleskirt**	**0.99**	**70**	*i* P	**Pg**	**15 43 43.5**	**-0.1**
EATA				*i* S	**Sn**	**15 43 59.0**	**+0.3**
EATA	**Eleskirt**	**0.99**	**70**	P	**Pg**	**15 43 43.5**	**-0.1**
BAYB	**BAYBURT**	**1.08**	**313**	*e*P	**Pg**	**15 43 44.1**	**-1.3**
BAYB				*e*S	**Sn**	**15 44 01.2**	**+0.4**
BAYB	**BAYBURT**	**1.08**	**313**	*i* P	**Pn**	**15 43 45.7**	**-0.1**
BAYB	**BAYBURT**	**1.08**	**313**	P	**Pn**	**15 43 45.7**	**-0.1**
GURO	**Guroymak-BITLI**	**1.13**	**149**	PN	**Pb**	**15 43 46.1**	**-0.1**
GURO	**Guroymak-BITLI**	**1.13**	**149**	*e*Pn	**Pb**	**15 43 46.1**	**-0.1**
TUTA	**Tutak**	**1.19**	**95**	*e*P	**Pb**	**15 43 47.0**	**-0.3**
TUTA				*e*S	**Sn**	**15 44 05.2**	**+1.7**
TUTA				IAML		15 44 08.2	
	comp=Z,26nm,0.2s						
BAYT	**Ayd˜–ntepe-Bay**	**1.24**	**315**	PN	**Pg**	**15 43 48.4**	**0.0**
BAYT	**Ayd˜–ntepe-Bay**	**1.24**	**315**	*e*Pn	**Pg**	**15 43 48.4**	**0.0**
AGRB	**Hanur-Agry**	**1.32**	**87**	PN	**Pg**	**15 43 49.9**	**0.0**
AGRB	**Hanur-Agry**	**1.32**	**87**	*e*Pn	**Pg**	**15 43 49.9**	**0.0**
PTK	**Pertek**	**1.60**	**247**	PN	**Pn**	**15 43 53.7**	**+0.7**
PTK	**Pertek**	**1.60**	**247**	*e*Pn	**Pn**	**15 43 53.7**	**+0.7**
KELT	**Kelkit**	**1.68**	**292**	*i* P	**Pg**	**15 43 56.7**	**-0.2**
KELT	**Kelkit**	**1.68**	**292**	P	**Pg**	**15 43 56.7**	**-0.2**

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*IDC **06** 15:47:08.7±2.6, 39°24N×142°98E, h0km, mb3.3/3, mb1 3.5/4, mb1mx3.2/74, mbtmp3.3/4, ML3.0/1, MS2.2/1, Ms1 2.2/1, ms1mx2.1/34, Error ellipse: s-maj=68.6km s-min=29.8km az=69.0*
*ISCJB **06** 15:47:13.3±1.4, 39°10N±0°04×142°47E±0°09, h25km±7km, mb3.3/3, Error ellipse: s-maj=12.0km s-min=7.3km az=3.9*
*JMA **06** 15:47:15.1±0.1, 39°15N×142°38E, h29km±1km, M3.1*
ISC 06 15:47:15.1±2.3, **39°16N**±0°07×**142°4E**±0°1, **h30**km±14km, **n20**, σ**1ˢ03**/21, **mb3.4**/3, **Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**0.54**	**262**	P	**Pb**	**15 47 26.2**	**0.0**
OFUJ				S	**Sn**	**15 47 33.8**	**-1.1**
MIYJ	**Miyakonagasawa**	**0.59**	**315**	P	**Pb**	**15 47 26.8**	**-0.2**
MIYJ				S	**Sb**	**15 47 34.9**	**-0.3**
JTH	**Tanohata**	**0.87**	**334**	P	**Pb**	**15 47 31.7**	**+0.1**
JOM	**Ohasama**	**0.89**	**291**	P	**Pb**	**15 47 31.8**	**-0.1**
JOM				S	**Sb**	**15 47 43.7**	**+0.3**
JMK	**Ichinoseki**	**0.91**	**257**	P	**Pb**	**15 47 31.8**	**-0.5**
JMK				S	**Sb**	**15 47 44.1**	**0.0**
JIO	**Ouri**	**1.06**	**229**	P	**Pn**	**15 47 33.2**	**-0.7**
JIO				S	**Sn**	**15 47 45.9**	**-1.7**
JKZ	**Kuzumaki**	**1.15**	**316**	P	**Pb**	**15 47 35.8**	**-0.5**
JKZ				S	**Sb**	**15 47 51.2**	**+0.3**
JRG	**Rokugo**	**1.36**	**281**	P	**Pb**	**15 47 39.3**	**-0.6**
JRG				S	**Sb**	**15 47 57.3**	**+0.3**
JANG	**Nango**	**1.38**	**332**	P	**Pb**	**15 47 39.2**	**-1.0**
JANG				S	**Sb**	**15 47 57.0**	**-0.4**
MJAR	**Matsushiro Arr**	**4.20**	**233**	Pn	**Pn**	**15 48 20.0**	**+2.9**
	0.7nm,0.3s,baz=42,slow=10,SNR=16						
KSRS	**Korea Array**	**11.47**	**266**	LR	LR	15 53 35.8	
	comp=Z,12nm,20.8s,baz=235,slow=32						
H11N2	**WAKE ISLAND Hy**	**28.68**	**125**	T	T	16 23 30.4	
	baz=320						
H11N1	**WAKE ISLAND Hy**	**28.69**	**125**	T	T	16 23 36.7	
	baz=320						
H11N3	**WAKE ISLAND Hy**	**28.70**	**125**	T	T	16 23 32.0	
	baz=320						
H11S1	**WAKE ISLAND Hy**	**29.47**	**127**	T	T	16 24 30.8	
	baz=314						
H11S3	**WAKE ISLAND Hy**	**29.47**	**127**	T	T	16 24 31.9	
	baz=314						
H11S2	**WAKE ISLAND Hy**	**29.48**	**127**	T	T	16 24 41.3	
	baz=314						
MKAR	**Makanchi Array**	**43.66**	**300**	P	**P**	**15 55 17.3**	**+0.3**
	0.2nm,0.7s,baz=77,slow=9.0,SNR=2.0						
KURBB	**Kurchatov Arra**	**45.31**	**306**	P	**P**	**15 55 31.3**	**+1.2**
	0.3nm,0.5s,baz=73,slow=9.1,SNR=2.7						
WRA	**Warramunga Arr**	**59.27**	**189**	P	**P**	**15 57 13.1**	**-0.8**
	0.4nm,0.7s,baz=6.6,slow=6.9,SNR=9.9						

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*NAO **06** 15:47:41.9±2.6, 71°03N×5°70W, ML2.9*
*ISCJB **06** 15:47:42.8±0.6, 71°24N±0°08×5°8W±0°1, h9km, mb3.2/6, MS3.1/2, Error ellipse: s-maj=11.3km s-min=6.4km az=167.2*
*IDC **06** 15:47:44.0±0.9, 71°16N×5°97W, h0km, mb3.3/6, mb1 3.6/9, mb1mx3.3/80, mbtmp3.5/9, ML2.7/3, MS3.0/3, Ms1 3.0/3, ms1mx2.5/45, Error ellipse: s-maj=20.2km s-min=9.6km az=175.0*
*BER **06** 15:47:44.5±2.4, 70°93N×5°78W, h15km±79km, ML2.4, ML2.9(NAO)*
ISC 06 15:47:44.4±0.7, **71°16N**±0°10×**5°83W**±0°06, **h9**km, **n21**, σ**1ˢ22**/19, **mb3.2**/6, **Jan Mayen Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JMIC	**Jan Mayen**	**0.89**	**260**	Pg	**Pg**	**15 48 00.5**	**-0.9**
JMIC				Lg	Lg	15 48 11.6	
JMIC	**Jan Mayen**	**0.89**	**260**	Pg	**Pg**	**15 48 00.8**	**-0.7**
	16nm,0.3s,baz=95,slow=4.3,SNR=6.7						
JMIC				Lg	Lg	15 48 11.6	
	49nm,0.3s,baz=164,slow=20,SNR=23						
JMIC	**Jan Mayen**	**0.89**	**260**	*e*P	**Pg**	**15 48 00.7**	**-0.7**
JMIC				*e*S	**Sg**	**15 48 11.6**	**-1.3**
JMIC				IAML		15 48 15.9	
	comp=Z,136nm,0.6s						
KBS	**Kingsbay**	**8.99**	**22**	Pn	**Pn**	**15 49 53.4**	**-0.6**
KBS	**Kingsbay**	**8.99**	**22**	*e*P	**Pn**	**15 49 53.4**	**-0.6**
SPA0	**Spitsbergen Ar**	**9.09**	**30**	Pn	**Pn**	**15 49 55.3**	**-0.1**
	baz=239,slow=16						
SPA0	**Spitsbergen Ar**	**9.09**	**30**	Pn	**Pn**	**15 49 55.3**	**-0.1**
	baz=239,slow=16						
SPITS	**Spitsbergen Ar**	**9.09**	**30**	Pn	**Pn**	**15 49 55.4**	**-0.1**
	baz=238,slow=13,SNR=11						
ARA0	**ARCESS Array S**	**10.60**	**84**	Pn	**Pn**	**15 50 14.6**	**-1.6**
	baz=292,slow=12						
ARA0	**ARCESS Array S**	**10.60**	**84**	Pn	**Pn**	**15 50 14.6**	**-1.6**
	baz=292,slow=12						
NOA	**NORSAR Array B**	**12.21**	**138**	LR	LR	15 55 25.6	
	comp=Z,34nm,18.3s,baz=330,slow=38						
HFS	**Hagfors**	**13.58**	**135**	Pn	**Pn**	**15 50 56.8**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=342,slow=14,SNR=3.3						
FINES	**FINESS Array B**	**15.86**	**112**	Pn	**P**	**15 51 29.2**	**-2.0**
	comp=Z,0.1nm,0.3s,baz=312,slow=10,SNR=3.5						
GERES	**GERESS Array B**	**24.18**	**147**	P	**P**	**15 53 03.0**	**+2.4**
	comp=Z,0.4nm,0.7s,baz=8.9,slow=13,SNR=3.4						
BVAR	**Borovoye Array**	**36.83**	**78**	P	**P**	**15 54 53.3**	**+1.1**
	comp=Z,0.4nm,0.7s,baz=322,slow=4.4,SNR=3.5						
YKA	**Yellowknife Ar**	**37.90**	**314**	P	**P**	**15 55 02.2**	**+1.1**
	comp=Z,0.1nm,0.5s,baz=33,slow=8.5,SNR=4.8						
GNI	**Garni**	**40.04**	**113**	LR	LR	16 12 37.8	
	comp=Z,30nm,18.7s,baz=113,slow=37						
ZALV	**Zalesovo Beam**	**40.48**	**66**	LR	LR	16 15 22.0	
	comp=Z,27nm,18.9s,baz=68,slow=41						
ILAR	**Eielson Array**	**41.74**	**336**	P	**P**	**15 55 33.0**	**-0.1**
	comp=Z,0.2nm,0.7s,baz=14,slow=7.7,SNR=4.4						
TORD	**Torodi Ar. Bea**	**58.16**	**171**	P	**P**	**15 57 38.5**	**+0.3**
	comp=Z,0.7nm,0.8s,baz=345,slow=6.0,SNR=3.4						
TXAR	**Lajitas Array**	**65.02**	**287**	P	**P**	**15 58 26.1**	**+1.5**
	comp=Z,0.2nm,0.7s,baz=66,slow=3.0,SNR=3.5						

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*NIED **06** 15:51:00, 37°90N×141°80E, h65km, Mw3.5 Best double couple: M₀2.07000×10^14 NP1:φs200.00000°, δ45.00000°, λ105.00000°. NP2:φs360.00000°, δ46.00000°, λ76.00000°.*
JMA 06 15:51:10.9±0.1, **37°94N**×**141°82E**, **h52**km±1km, **M3.5**, **Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JIO	**Ouri**	**0.63**	**324**	P	Pn	15 51 24.1	+0.2
JIO				S	Sn	15 51 33.2	-0.1
JMM	**Marumori**	**0.82**	**265**	P	Pn	15 51 26.2	0.0
JMM				S	Sn	15 51 37.2	-0.2
JFK	**Kawauchi**	**0.94**	**233**	P	Pn	15 51 27.7	-0.3
JFK				S	Sn	15 51 39.7	-0.8
JOU	**Okura**	**1.00**	**295**	P	Pn	15 51 29.2	+0.4
JMK	**Ichinoseki**	**1.11**	**335**	P	Pn	15 51 30.8	+0.6
JMK				S	Sn	15 51 44.9	+0.4
OFUJ	**Ofunato**	**1.15**	**354**	P	Pn	15 51 30.9	+0.3
OFUJ				S	Sn	15 51 45.4	+0.1
JFT	**Otama**	**1.25**	**251**	P	Pn	15 51 32.9	+0.9
JFT				S	Sn	15 51 49.0	+1.2
JYS	**Shirataka**	**1.41**	**282**	P	Pn	15 51 35.1	+0.9
JYS				*e*S	Sn	15 51 53.6	+1.8
JYK	**Kaneyama**	**1.51**	**311**	P	Pn	15 51 36.3	+0.8
JYK				*e*S	Sn	15 51 54.9	+0.9
JOM	**Ohasama**	**1.58**	**345**	P	Pn	15 51 37.4	+0.8
JOM				*e*S	Sn	15 51 57.2	+1.2
JRG	**Rokugo**	**1.73**	**328**	P	Pn	15 51 39.7	+1.2
JRG				*e*S	Sn	15 52 02.2	+2.8
JAW	**Awa shima**	**2.09**	**285**	P	Pn	15 51 44.7	+1.2
JANG	**Nango**	**2.44**	**355**	P	Pn	15 51 48.9	+0.6
JANG				*e*S	Sn	15 52 17.5	+0.6
MAT	**Matsushiro**	**3.20**	**245**	P	Pn	15 52 01.1	+2.4
MAT				S	Sn	15 52 41.2	+5.5

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*GUC **06** 16:05:38.7±0.6, 20°57S×68°47W, h147km±5km, ML3.5*
*ISCJB **06** 16:05:39.3±0.7, 20°61S±0°03×68°5W±0°1, h154km±7km, mb3.1/2, Error ellipse: s-maj=17.8km s-min=5.1km az=3.4*
*IDC **06** 16:05:40.8±2.4, 20°53S×68°00W, h157km±23km, mb3.1/3, mb1 3.2/5, mb1mx3.0/41, mbtmp3.5/5, MS3.1/1, Ms1 3.1/1, ms1mx2.4/14, Error ellipse: s-maj=36.0km s-min=22.6km az=88.0*
ISC 06 16:05:39.1±1.0, **20°60S**±0°04×**68°4W**±0°1, **h145**km±10km, **n18**, σ**1ˢ06**/30, **5C-1D**, **Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PB08	**IPOC Station P**	**0.83**	**303**	*e*P	**Pn**	**16 06 02.3**	**-0.2**
PB08				*i* S	**Sn**	**16 06 20.5**	**+0.3**
PB08				IAML		16 06 24.6	
	comp=E,400nm,0.2s						
PB01	**IPOC Station P**	**1.10**	**246**	⇓*i*P	**Pn**	**16 06 04.4**	**0.0**
PB01				*i* S	**Sn**	**16 06 23.9**	**+0.2**
PB01				IAML		16 06 24.9	
	comp=N,762nm,0.2s						
PB09	**IPOC Station P**	**1.43**	**213**	⇑*i*P	**Pn**	**16 06 08.3**	**+0.6**
PB09				*i* S	**Sn**	**16 06 30.6**	**+1.0**
PB11	**IPOC Station P**	**1.44**	**305**	*e*P	**Pn**	**16 06 07.9**	**+0.1**
PB11				*i* S	**Sn**	**16 06 29.8**	**+0.2**
PB11				IAML		16 06 32.9	
	comp=N,2μm,0.3s						
PB02	**IPOC Station P**	**1.57**	**242**	⇑*i*P	**Pn**	**16 06 09.3**	**+0.2**
PB02				*i* S	**Sn**	**16 06 32.2**	**+0.1**
PB02				IAML		16 06 35.1	
	comp=E,568nm,0.3s						
PB07	**IPOC Station P**	**1.78**	**231**	⇑*i*P	**Pn**	**16 06 11.4**	**-0.1**
PB07				*i* S	**Sn**	**16 06 35.5**	**-1.0**
PB07				IAML		16 06 40.5	
	comp=N,146nm,0.4s						
MNMC	**Minye Minye**	**1.84**	**322**	*e*P	**Pn**	**16 06 12.6**	**+0.3**
MNMC				*i* S	**Sn**	**16 06 37.8**	**+0.1**
MNMC				IAML		16 06 44.4	
	comp=E,750nm,0.2s						
PSGC	**Pisagua**	**1.89**	**301**	*e*P	**Pn**	**16 06 12.5**	**-0.3**
PSGC				*i* S	**Sn**	**16 06 38.2**	**-0.4**
PSGC				IAML		16 06 43.3	
	comp=N,162nm,0.3s						
PB06	**IPOC Station P**	**2.36**	**207**	⇑*i*P	**Pn**	**16 06 18.2**	**-0.2**
PB06				*i* S	**Sn**	**16 06 47.9**	**-0.9**
PB06				IAML		16 06 57.2	
	comp=E,127nm,0.3s						
PB04	**IPOC Station P**	**2.37**	**223**	*e*P	**Pn**	**16 06 18.4**	**-0.2**
PB04				*i* S	**Sn**	**16 06 49.3**	**+0.4**
PB04				IAML		16 06 58.5	
	comp=N,136nm,0.4s						
PB16	**IPOC Station P**	**2.48**	**335**	*e*P	**Pn**	**16 06 21.4**	**+1.1**
PB16				*i* S	**Sn**	**16 06 53.4**	**+1.5**
PB12	**IPOC Station P**	**2.68**	**317**	⇑*i*P	**Pn**	**16 06 21.4**	**-0.8**
PB12				*i* S	**Sn**	**16 06 54.7**	**-0.9**
PB12				IAML		16 07 04.0	
	comp=N,653nm,0.4s						
LPAZ	**La Paz**	**4.29**	**4**	P	**Pn**	**16 06 44.8**	**+1.1**
	comp=N,2.2nm,0.3s,baz=177,slow=6.1,SNR=30						
LPAZ				S	**Sn**	**16 07 35.0**	**+1.2**
	baz=270,slow=20,SNR=2.0						
SIV	**San Ignacio**	**8.34**	**58**	P	**Pn**	**16 07 33.7**	**-3.4**
	comp=N,0.2nm,0.3s,baz=257,slow=14,SNR=3.8						
PLCA	**Paso Flores**	**20.16**	**185**	P	**P**	**16 10 04.1**	**+2.0**
	comp=N,1.4nm,0.7s,baz=2.6,slow=6.6,SNR=3.7						
CMIG	**Matias Romero**	**45.58**	**323**	LR	LR	16 32 22.8	
	comp=N,23nm,20.8s,baz=184,slow=35						
TORD	**Torodi Ar. Bea**	**76.61**	**70**	P	**P**	**16 17 12.7**	**-1.6**
	comp=N,0.2nm,0.4s,baz=249,slow=6.1,SNR=3.0						
YKA	**Yellowknife Ar**	**90.50**	**340**	P	**P**	**16 18 24.4**	**+0.4**
	comp=N,0.1nm,0.3s,baz=136,slow=4.8,SNR=5.2						

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*ISK **06** 16:08:09.4, 37°03N×38°60E, h5km, ML2.3/7*
*ISCJB **06** 16:08:10.3±0.8, 36°97N±0°05×38°64E±0°06, h10km, Error ellipse: s-maj=9.2km s-min=5.2km az=137.9*
*DDA **06** 16:08:10.3, 36°94N×38°55E, h7km, Ml2.8*
*CSEM **06** 16:08:10.0±0.3, 37°00N×38°59E, h2km, ML2.3, Error ellipse: s-maj=8.9km s-min=5.0km az=143.0*
ISC 06 16:08:10.0±0.9, **36°97N**±0°03×**38°59E**±0°04, **h10**km, **n20**, σ**0ˢ89**/28, **Jordan-Syria region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SURC	**SANLIURFA_SURC**	**0.09**	**169**	*i* P	**Pg**	**16 08 12.6**	**+0.1**
SURC	**SANLIURFA_SURC**	**0.09**	**169**	P	**Pg**	**16 08 12.6**	**+0.1**
URFA	**Urfa**	**0.51**	**21**	PG	**Pg**	**16 08 18.9**	**-1.1**
URFA				SG	**Sg**	**16 08 26.5**	**-0.2**
URFA	**Urfa**	**0.51**	**21**	*e*Pg	**Pg**	**16 08 18.9**	**-1.1**
URFA				*e*Sg	**Sg**	**16 08 26.5**	**-0.2**
GAZ	**Gaziantep**	**1.12**	**281**	PN	**Pn**	**16 08 31.9**	**0.0**
GAZ				SN	**Sn**	**16 08 48.3**	**+0.9**
GAZ	**Gaziantep**	**1.12**	**281**	*e*Pn	**Pn**	**16 08 31.9**	**0.0**
GAZ				*e*Sn	**Sn**	**16 08 48.3**	**+0.9**
KUZU	**Kuzuini**	**1.23**	**261**	*i* P	**Pn**	**16 08 33.0**	**-0.4**
KUZU				*i* S	**Sn**	**16 08 50.3**	**+0.2**
KUZU	**Kuzuini**	**1.23**	**261**	P	**Pn**	**16 08 33.0**	**-0.4**
KUZU				S	**Sn**	**16 08 50.3**	**+0.2**
MALT	**Malatya**	**1.35**	**355**	PN	**Pb**	**16 08 35.1**	**-0.4**
MALT	**Malatya**	**1.35**	**355**	*e*Pn	**Pb**	**16 08 35.1**	**-0.4**
AKCD	**Akcadag**	**1.43**	**338**	*i* P	**Pg**	**16 08 37.4**	**-0.1**
AKCD				*i* S	**Sg**	**16 08 58.2**	**+2.1**
AKCD	**Akcadag**	**1.43**	**338**	P	**Pg**	**16 08 37.4**	**-0.1**
AKCD				S	**Sg**	**16 08 58.2**	**+2.1**
MAZI	**Mazidag**	**1.56**	**71**	PN	**Pb**	**16 08 38.8**	**-0.3**
MAZI	**Mazidag**	**1.56**	**71**	*e*Pn	**Pb**	**16 08 38.8**	**-0.3**
DARE	**Darende-Malaty**	**1.83**	**332**	PN	**Pb**	**16 08 42.3**	**-1.3**
DARE	**Darende-Malaty**	**1.83**	**332**	*e*Pn	**Pb**	**16 08 42.3**	**-1.3**
PTK	**Pertek**	**2.02**	**18**	PN	**Pn**	**16 08 44.9**	**+0.5**
PTK	**Pertek**	**2.02**	**18**	*i* Pn	**Pn**	**16 08 44.9**	**+0.5**
YAYL	**Yayladag**	**2.21**	**246**	PN	**Pb**	**16 08 49.1**	**-1.0**
YAYL	**Yayladag**	**2.21**	**246**	*e*Pn	**Pb**	**16 08 49.1**	**-1.0**

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*BJI **06** 16:15:52.6, 4°35S×154°00E, h86km, mb5.5/83, mB5.8/65, Ms5.3/83, Ms7 5.2/81*
*MOS **06** 16:15:54.9±1.1, 4°46S×153°49E, h88km, mb5.4/34, MS5.2/36, Error ellipse: s-maj=6.8km s-min=4.8km az=104.1*
*NEIC **06** 16:15:55.0±0.0, 4°53S×153°50E, h100km, Moment Tensor Solution. s52 Moment tensor: Scale 10^18Nm; Mrr1.35; Mθθ-0.40; Mφφ-0.95; Mrθ-0.39; Mθφ0.53; Mφr0.66; Best double couple: M₀1.50000×10^18 NP1:φs329.00000°, δ60.00000°, λ90.00000°. NP2:φs148.00000°, δ30.00000°, λ89.00000°. Principal axes: T 1.5600, Plg74.0000°, Azm240.0000°; N -0.0800, Plg0.0000°, Azm148.0000°; P -1.4800, Plg15.0000°, Azm58.0000°;*
*ISCJB **06** 16:15:56.0±0.6, 4°51S±0°02×153°47E±0°02, h101km±5km, mb5.6/138 Error ellipse: s-maj=3.4km s-min=2.9km az=24.2*
*IDC **06** 16:15:56.9±1.3, 4°55S×153°55E, h99km±11km, mb5.2/43, mb1 5.2/47, mb1mx5.1/53, mbtmp5.5/47, MS5.0/28, Ms1 5.0/28, ms1mx4.9/37, Error ellipse: s-maj=9.6km s-min=6.1km az=64.0*
*GCMT **06** 16:15:58.0±0.1, 4°68S×153°55E, h97km, MW6.1/150, Moment Tensor Solution. s150,c341; s144,c499; Duration: 2ˢ8 Moment tensor: Scale 10^18Nm; Mrr1.66±.01; Mθθ-0.54±.01; Mφφ-1.13±.01; Mrθ-0.56±.01; Mθφ0.96±.01; Mφr0.65±.01; Best double couple: M₀1.94600×10^18 NP1:φs321.00000°, δ58.00000°, λ88.00000°. NP2:φs146.00000°, δ32.00000°, λ94.00000°. Principal axes: T 1.8590, Plg77.0000°, Azm224.0000°; N 0.1700, Plg2.0000°, Azm323.0000°; P -2.0340, Plg13.0000°, Azm53.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*NEIC **06** 16:15:58.0±0.6, 4°55S×153°46E, h108km±5km, mb5.5/7, ME5.8, MW6.1, MW6.1, MW6.1 Error ellipse: s-maj=3.4km s-min=3.3km az=223.0, Moment Tensor Solution. s40 Moment tensor: Scale 10^18Nm; Mrr1.44; Mθθ-0.57; Mφφ-0.87; Mrθ-0.48; Mθφ0.44; Mφr0.69; Best double couple: M₀1.60000×10^18 NP1:φs144.00000°, δ29.00000°, λ90.00000°. NP2:φs325.00000°, δ61.00000°, λ90.00000°. Principal axes: T 1.6800, Plg74.0000°, Azm235.0000°; N -0.2500, Plg0.0000°, Azm145.0000°; P -1.4300, Plg16.0000°, Azm55.0000°; Broadband fault plane solution: P waves. NP1:φs150.00000°, δ25.00000°, λ90.00000°. NP2:φs330.00000°, δ65.00000°, λ90.00000°. Principal axes: T Plg70.0000°, Azm240.0000°; N Plg0.0000°, Azm0.0000°; P Plg20.0000°, Azm60.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*
NEIC Felt at Kavieng.
*DJA **06** 16:16:01.8±0.7, 5°S±3°×15°3E±°, h137km±6km, M5.8/108, mb5.6/108, mB6.0/88, MLv6.5/1, Mw(mB)5.7/88, Mwp6.0/12*
*NEIC **06** 16:16:18.7±0.0, 4°21S×153°30E, h86km, Moment Tensor Solution. s57 Moment tensor: Scale 10^18Nm; Mrr1.73; Mθθ-0.57; Mφφ-1.16; Mrθ-0.50; Mθφ0.79; Mφr0.64; Best double couple: M₀1.90000×10^18 NP1:φs147.00000°,*

δ32.00000°,λ92.00000°. NP2:φs324.00000°,δ58.00000°, λ88.00000°. Principal axes: T 1.9200, Plg77.0000°, Azm229.0000°; N -0.0300, Plg1.0000°, Azm325.0000°; P -1.8900, Plg13.0000°, Azm55.0000°;

ISC 06 16:15:56.2±0.3**, 4.48S**±0.03×**153.58E**±0.03**, h93**km±2km**, h94**km**:pP-P, n1070, σ1.86**/1123**, mb5.6**/156**, 49C-25D, New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	Rabaul	1.44	281	ePn	Pn	16 16 21.5	+0.1
MANU	Manus Island	6.65	291	ePn	Pn	16 17 34.7	+3.3
HNR	Honiara	8.01	128	eP	Pn	16 17 53.0	+3.1
HNR				eS	Sn	16 19 11.0	-8.0
HNR	Honiara	8.01	128	P	Pn	16 17 50.3	+0.4
	20nm,0.3s,baz=204,slow=2.0,SNR=31						
HNR				S	Sn	16 19 17.7	-1.3
	184nm,0.3s,baz=336,slow=18,SNR=9.5						
HNR	Honiara	8.01	128	ePn	Pn	16 17 51.0	+1.0
HNR				eSn	Sn	16 19 21.7	+2.7
PMG	Port Moresby	8.03	232	P	Pn	16 17 50.0	-0.1
	65nm,0.3s,baz=359,slow=2.9,SNR=145						
PMG				S	Sn	16 19 20.6	+1.2
	122nm,0.3s,baz=7.3,slow=22,SNR=10						
PMG	Port Moresby	8.03	232	ePn	Pn	16 17 50.1	-0.1
PMG				eSn	Sn	16 19 20.3	+0.8
PMG	Port Moresby	8.03	232	d eP	Pn	16 17 50.3	+0.1
JAY	Jayapura	12.99	278	P	Pn	16 19 00.2	+2.8
GENI	Genyem	13.51	278	P	Pn	16 19 06.0	+1.8
	423nm,1.1s,10µm52µm						
MMPI	Merauke	13.69	253	P	Pn	16 19 07.0	+0.5
	511nm,1.6s,7µm54µm						
COEN	Coen	13.92	227	P	Pn	16 19 09.4	-0.1
	baz=14,SNR=38						
COEN	Coen	13.92	227	ePn	Pn	16 19 09.5	-0.1
COEN				eSn	Sn	16 21 45.1	+2.2
CTA	Charters Tower	17.07	204	P	P	16 19 49.4	-0.1
	1.3nm,0.3s,baz=28,slow=14,SNR=26						
CTA				LR	LR	16 26 06.0	
	comp=Z,11µm,18.4s,baz=21,slow=36						
CTAO	Charters Tower	17.07	204	ePn	P	16 19 50.9	+1.4
CTAO	Charters Tower	17.07	204	eP	P	16 19 50.9	+1.4
RKPI	Ransiki, Papua	19.59	278	P	Pn	16 20 19.4	0.0
KMPI	Kaimana, Papua	19.84	272	P	Pn	16 20 21.5	-0.7
GUMO	Guam	19.92	334	P	P	16 20 21.6	+0.9
	8.9nm,0.3s,baz=173,slow=13,SNR=7.4						
GUMO				S	S	16 24 01.5	+1.6
	3.1nm,0.3s,baz=170,slow=19,SNR=1.9						
GUMO				LR	LR	16 26 45.3	
	comp=Z,2µm,21.2s,baz=147,slow=32						
GUMO	Guam	19.92	334	eP	Pn	16 20 23.4	+0.2
TARA	Tarawa	20.18	74	eP	Pn	16 20 26.4	+0.1
TARA				LR	LR		
	comp=Z,2µm,20.0s						
EIDS	Eidsvold	20.91	186	P	P	16 20 31.7	+0.4
	baz=21,SNR=30						
EIDS	Eidsvold	20.91	186	eP	P	16 20 31.6	+0.4
QIS	Mount Isa	20.98	219	P	P	16 20 31.8	-0.2
	baz=21,SNR=68						
FAKI	Fak Fak	21.34	273	P	P	16 20 36.6	+0.6
FAKI	Fak Fak	21.34	273	eP	P	16 20 35.2	-0.8
DZM	Mont Dzumac	21.48	146	eP	P	16 20 36.3	-1.2
	comp=Z,231nm,1.1s						
DZM				eLQ	LQ	16 24 54.5	
	comp=Z,12µm,24.0s						
DZM				eLR	LR	16 25 43.1	
	comp=Z,24µm,32.4s						
DZM	Mont Dzumac	21.48	146	P	P	16 20 37.3	-0.2
	comp=Z,58nm,0.9s,baz=299,slow=9.0,SNR=34						
DZM				S	S	16 24 31.3	+0.6
	comp=Z,15nm,1.0s,baz=165,slow=21,SNR=4.1						
DZM	Mont Dzumac	21.48	146	eP	P	16 20 36.8	-0.7
RMQ	Roma	22.36	191	P	P	16 20 47.0	+0.2
	baz=22,SNR=157						
PALU	Palau	22.39	302	P	P	16 20 47.0	-0.1
	baz=22,SNR=60						
SARN	Sarigan	22.41	340	eP	P	16 20 44.7	-2.7
SAUI	Saumlaki	22.41	260	P	P	16 20 50.0	+2.6
SAUI	Saumlaki	22.41	260	eP	P	16 20 44.1	-3.3
SWI	Sorong	22.57	279	P	P	16 20 48.1	-1.0
MTN	Manton Dam	23.67	248	P	P	16 20 59.3	-0.3
	baz=24,SNR=76						
MTN	Manton Dam	23.67	248	eP	P	16 20 58.3	-1.2
MTN				ePcP	PcP	16 24 42.9	+1.2
QLP	Quilpie	23.73	201	P	P	16 20 59.8	-0.1
	baz=24,SNR=260						
WRAB	Tennant Creek	24.22	229	eP	P	16 21 03.5	-1.0
	comp=Z,210nm,0.8s						
WRAB				ePcP	PcP	16 24 43.5	+0.7
WRAB				LR	LR		
	comp=Z,7µm,21.0s						
WRAB	Tennant Creek	24.22	229	eP	P	16 21 03.5	-1.0
WRAB				e		16 24 43.6	
WRAB				pmax	pmax		
	comp=Z,210nm,0.8s						
WRAB				MLR	MLR		
	comp=Z,7µm,21.0s						
WB2	Warramunga Arr	24.23	229	eP	P	16 21 03.9	-0.6
WB2				ePcP	PcP	16 24 43.7	+0.9
WRA	Warramunga Arr	24.23	229	P	P	16 21 04.6	0.0
	comp=Z,91nm,0.3s,baz=54,slow=9.9,SNR=458						
WRA				PcP	PcP	16 24 42.7	-0.2
	comp=Z,28nm,0.8s,baz=52,slow=2.2,SNR=6.9						
WRA				S	S	16 25 18.1	+1.4
	comp=Z,12nm,1.1s,baz=42,slow=17,SNR=6.0						
WRA				ScP	ScP	16 28 11.8	-1.4
	comp=Z,7.6nm,1.1s,baz=53,slow=3.2,SNR=5.2						
WRA				PKiKP	PKiKP	16 32 23.2	-2.3
	comp=Z,0.6nm,0.6s,baz=325,slow=1.2,SNR=6.4						
MSAI	Masohi	24.61	272	P	P	16 21 08.2	+0.1
AAI	Ambon	25.33	271	P	P	16 21 13.9	-0.7
ARMA	Armidale	25.87	184	P	P	16 21 19.9	+0.5
	baz=26,SNR=119						
ARMA	Armidale	25.87	184	eP	P	16 21 19.9	+0.5
H11S3	WAKE ISLAND Hy	26.23	29	T	T	16 50 19.1	
	baz=213,slow=73,SNR=5.4						
H11S2	WAKE ISLAND Hy	26.24	29	T	T	16 50 22.2	
	baz=213,slow=73,SNR=4.1						
H11S1	WAKE ISLAND Hy	26.25	29	T	T	16 50 29.2	
	baz=213,slow=73,SNR=4.6						
LBMI	Labuha	26.32	278	P	P	16 21 25.4	+1.8
NLAI	Namlea	26.44	272	P	P	16 21 25.6	+0.9
TNTI	Ternate	26.70	281	eP	P	16 21 24.9	-2.1
AS01	Alice Springs	26.87	223	eP	P	16 21 27.3	-1.1
AS01				ePcP	PcP	16 24 50.0	+1.2
WAKE	Wake Island	26.89	28	PFAKE		16 21 40.0	+11
WAKE				LR	LR		
	comp=Z,7µm,20.0s						
AS31	Alice Springs	26.91	223	eP	P	16 21 27.7	-1.0
ASAR	Alice Springs	26.91	223	P	P	16 21 27.6	-1.2
	comp=Z,34nm,0.7s,baz=56,slow=7.9,SNR=159						
ASAR				PcP	PcP	16 24 49.2	+0.3
	comp=Z,29nm,0.7s,baz=54,slow=3.1,SNR=11						
ASAR				S	S	16 25 58.2	-0.8
	comp=Z,11nm,1.0s,baz=28,slow=24,SNR=5.2						
ASAR				ScP	ScP	16 28 19.9	-1.0
	comp=Z,14nm,1.1s,baz=51,slow=3.2,SNR=3.3						
ASAR				LR	LR	16 32 08.8	
	comp=Z,5µm,20.5s,baz=58,slow=36						
MSVF	Nonsavu	27.34	121	eP	P	16 21 31.3	-1.4
MSVF				LR	LR		
	comp=Z,7µm,22.0s						
MSVF	Nonsavu	27.34	121	⇑iP	P	16 21 33.4	+0.7
MSVF				pmax	pmax		
	comp=Z,72nm,1.3s						
MSVF				MLR	MLR		
	comp=Z,6µm,21.0s						
H11N1	WAKE ISLAND Hy	27.38	28	T	T	16 51 50.4	
	baz=208,slow=76,SNR=14						
H11N3	WAKE ISLAND Hy	27.39	28	T	T	16 51 16.0	
	baz=208,SNR=16						
LHI	Lord Howe Isla	27.39	170	eP	P	16 21 29.3	-3.6
H11N2	WAKE ISLAND Hy	27.39	28	T	T	16 51 52.1	
	baz=208,slow=76,SNR=12						
SANI	Sanana	27.64	274	P	P	16 21 35.4	0.0
CMSA	Cobar Meteorol	27.92	194	P	P	16 21 36.9	-0.7
	baz=28,SNR=56						
MGCD	Mangrove Creek	28.68	184	P	P	16 21 45.9	+1.5
	baz=29,SNR=10						
SGSI	Sangihe	29.17	286	P	P	16 21 50.2	+1.2
RIV	Riverview	29.29	184	P	P	16 21 50.5	+0.7
	baz=29,SNR=6.8						
STKA	Stephens Creek	29.48	201	P	P	16 21 51.0	-0.5
	comp=Z,79nm,0.7s,baz=10.0,slow=9.0,SNR=60						
STKA	Stephens Creek	29.48	201	P	P	16 21 51.0	-0.5
	baz=30,SNR=98						
STKA	Stephens Creek	29.48	201	eP	P	16 21 51.4	-0.2
SOEI	Soe	29.54	258	P	P	16 21 54.1	+1.7
SOEI	Soe	29.54	258	eP	P	16 21 52.6	+0.2
SOEI				ePcP	PcP	16 24 58.1	+2.4
KMSI	Cibinong	29.99	279	P	P	16 21 56.8	+0.5
YNG	Young	30.06	189	P	P	16 21 57.4	+0.8
	baz=30,SNR=11						
BATI	Baumata	30.19	257	P	P	16 21 59.5	+1.4
	comp=Z,120nm,0.6s,baz=138,slow=4.2,SNR=13						
BATI				PcP	PcP	16 24 58.4	+1.2
	comp=Z,47nm,0.7s,baz=225,slow=0.9,SNR=7.6						
BATI				LR	LR	16 36 33.0	
	comp=Z,10µm,21.7s,baz=92,slow=41						
BATI	Baumata	30.19	257	P	P	16 21 59.3	+1.2
DAV	Davao City (W)	30.20	292	⇑iP	P	16 21 58.0	-0.1
DAV	Davao City (W)	30.20	292	PFAKE		16 22 10.0	+12
DAV				LR	LR		
	comp=Z,2µm,19.0s						
BBSI	Bau Bau	30.90	267	P	P	16 22 06.5	+2.2
CNB	Canberra Magne	30.93	187	P	P	16 22 05.6	+1.2
	baz=31,SNR=20						
LUWI	Luwuk	30.95	275	P	P	16 22 05.2	+0.5
LUWI	Luwuk	30.95	275	eP	P	16 22 04.3	-0.4
CAN	Canberra	30.98	187	eP	P	16 22 04.8	+0.1
CAN				LR	LR		
	comp=Z,6µm,20.0s						
CAN	Canberra	30.98	187	eP	P	16 22 04.9	+0.1
CAN				MLR	MLR		
	comp=Z,6µm,20.0s						
WRKA	Warakurna	31.74	227	P	P	16 22 10.0	-1.6
	baz=32,SNR=110						
HTT	Hallett	31.88	204	P	P	16 22 12.2	-0.5
	baz=32,SNR=64						
EDFI	Ende, Flores	31.95	261	P	P	16 22 13.3	-0.3
MRSI	Marisa	31.99	278	P	P	16 22 12.5	-1.3
APSI	Ampana	32.08	275	P	P	16 22 16.0	+1.3
BBOO	Buckleboo	32.60	208	P	P	16 22 19.3	+0.4
	baz=33,SNR=9.3						
BBOO	Buckleboo	32.60	208	eP	P	16 22 18.9	-0.1
BBOO				ePcP	PcP	16 25 02.2	-1.1
MILA	Mila	32.67	187	P	P	16 22 21.7	+2.1
	baz=33,SNR=21						
BSSI	Bau Bau, Buton	32.98	266	P	P	16 22 22.7	+0.2
BASI	Baing, Sumba	33.20	258	P	P	16 22 25.8	+1.4
JCJ	Chichijima	33.26	341	P	P	16 22 23.3	-1.5
	comp=Z,114nm,0.7s,baz=277,slow=17,SNR=6.1						
CBIJ	Chichi jima	33.27	341	eP	P	16 22 23.2	-1.5
BNSI	Bone	33.37	269	P	P	16 22 27.0	+1.1
KAPI	Kappang	33.71	268	eP	P	16 22 25.9	-2.9
	comp=Z,124nm,1.4s						
KAPI				ePcP	PcP	16 25 05.8	-1.0
KAPI				LR	LR		
	comp=Z,1µm,20.0s						
KAPI	Kappang	33.71	268	P	P	16 22 29.4	+0.5
	SNR=16						
KAPI	Kappang	33.71	268	P	P	16 22 29.4	+0.5
	SNR=16						
TTSI	Tana Toraja	33.71	271	P	P	16 22 29.8	+0.9
TOO	Toolangi	33.76	192	P	P	16 22 29.9	+0.9
	baz=34,SNR=12						
ARPS	Mount Arapiles	33.90	197	P	P	16 22 30.6	+0.5
	baz=34,SNR=23						
MPSI	Mapaga	33.98	277	P	P	16 22 30.0	-1.3
WBSI	Waikabubak, Su	34.29	260	P	P	16 22 34.4	+0.4
KNTN	Kanton	34.68	88	eP	P	16 22 37.5	+0.2
AFI	Afiamalu	35.42	108	P	P	16 22 44.5	+0.8
	comp=Z,11nm,0.7s,baz=279,slow=12,SNR=3.5						
AFI				LR	LR	16 34 46.5	
	comp=Z,3µm,21.3s,baz=278,slow=32						
FORT	Forrest	35.52	220	P	P	16 22 43.4	-0.9
	baz=36,SNR=39						
FORT	Forrest	35.52	220	eP	P	16 22 43.5	-0.8
FORT				ePcP	PcP	16 25 12.6	+0.9
PLAI	Plampang	35.80	261	P	P	16 22 45.3	-1.6
MYLDM	Lahad Datu	36.32	285	eP	P	16 22 53.2	+1.8
MYLDM				ePcP	PcP	16 25 16.6	+2.1
SMKI	Samarinda	36.55	275	P	P	16 22 55.4	+2.1
RAO	Raoul Island	36.55	136	LR	LR	16 34 42.1	
	comp=Z,2µm,21.4s,baz=306,slow=31						
BKB	Balikpapan	36.77	274	P	P	16 22 57.3	+2.2
MBWA	Marble Bar	36.80	240	eP	P	16 22 54.2	-1.1
MBWA				ePcP	PcP	16 25 16.6	+0.9
MBWA				LR	LR		
	comp=Z,11µm,21.0s						
MBWA	Marble Bar	36.80	240	P	P	16 22 55.5	+0.2
	SNR=24						
MBWA	Marble Bar	36.80	240	P	P	16 22 55.5	+0.2
	SNR=24						
TGY	Tagaytay City	37.27	300	P	P	16 23 00.7	+1.3
	comp=Z,184nm,1.0s,baz=199,slow=5.3,SNR=7.4						
TGY				PcP	PcP	16 25 18.1	+0.8
	comp=Z,335nm,0.9s,baz=176,slow=2.9,SNR=9.3						
TGY				LR	LR	16 36 19.2	
	comp=Z,2µm,20.1s,baz=128,slow=33						
KBKI	Kotabaru	37.34	270	P	P	16 23 00.6	+0.6
MOO	Moorlands	38.23	188	P	P	16 23 08.4	+1.4
	baz=38,SNR=15						
SRBI	Singaraja	38.29	263	P	P	16 23 06.6	-1.4
IGBI	Denpasar	38.40	262	P	P	16 23 07.4	-1.5
TAU	Tasmania Unive	38.67	187	eP	P	16 23 11.9	+1.2
TAU				LR	LR		
	comp=Z,7µm,19.0s						
TAU	Tasmania Unive	38.67	187	eP	P	16 23 11.9	+1.2
TAU				MLR	MLR		
	comp=Z,7µm,19.0s						
KKM	Kota Kinabalu	38.74	285	eP	P	16 23 10.2	-1.7
KKM				ePcP	PcP	16 25 21.5	-0.5
KKM				LR	LR		
	comp=Z,4µm,20.0s						
MTKI	Muara Teweh, K	38.79	274	P	P	16 23 12.1	-0.1
JAGI	Jajag, Banyuwa	39.36	262	P	P	16 23 13.9	-3.0
JAGI	Jajag, Banyuwa	39.36	262	eP	P	16 23 15.3	-1.6
OMRZ	Omania	39.40	151	P	P	16 23 18.9	+1.9
KMMI	Kalianget	39.48	264	P	P	16 23 18.4	+0.5
JOW	Kunigami	39.59	323	P	P	16 23 19.8	+1.1
	comp=Z,142nm,0.7s,baz=327,slow=11,SNR=28						
JOW	Kunigami	39.59	323	eP	P	16 23 19.6	+1.0
JHJ	Hachijo jima 2	39.61	342	P	P	16 23 17.3	-1.4
	comp=Z,216nm,0.9s,baz=205,slow=14,SNR=3.9						
JHJ				LR	LR	16 37 37.1	
	comp=Z,1µm,20.5s,baz=70,slow=33						
HAZ	Te Kaha	39.82	150	P	P	16 23 21.3	+0.9
BLJI	Banyuglugur	39.87	263	P	P	16 23 22.2	+1.0
URZ	Urewera	39.88	151	P	P	16 23 20.6	-0.3
	comp=Z,29nm,0.9s,baz=215,slow=2.4,SNR=14						
URZ				S	S	16 29 17.2	-1.6
	comp=Z,10nm,0.9s,baz=12,slow=20,SNR=3.6						
URZ				LR	LR	16 39 54.5	
	comp=Z,1µm,18.2s,baz=336,slow=36						
URZ	Urewera	39.88	151	eP	P	16 23 22.6	+1.7
URZ	Urewera	39.88	151	P	P	16 23 23.2	+2.3
RUGZ	Raukumara Rang	39.93	150	P	P	16 23 23.4	+1.9
MEEK	Meekatharra	40.01	233	P	P	16 23 21.0	-1.3
	baz=40,SNR=114						
KMBL	Kambalda	40.02	224	P	P	16 23 21.5	-0.7
	baz=40,SNR=45						
PKGZ	Pakihiroa	40.07	149	P	P	16 23 24.2	+1.6
MWZ	Matawai	40.14	150	P	P	16 23 24.1	+1.0
WMGZ	Waiomatatini S	40.19	149	P	P	16 23 25.6	+2.1
MTHZ	Maungataniwha	40.22	151	P	P	16 23 25.9	+2.2
TWGZ	Tauwhareparae	40.25	150	P	P	16 23 25.9	+1.9
PUZ	Puketiti	40.30	149	P	P	16 23 25.7	+1.2
TKGZ	Te Karaka	40.38	150	P	P	16 23 26.7	+1.6
RAHZ	Arahi	40.38	151	P	P	16 23 27.0	+1.9
BWJI	Bawean	40.77	266	P	P	16 23 29.5	+0.9
THZ	Tophouse	40.95	158	eP	P	16 23 29.6	-0.1
SNZO	South Karori	41.27	156	PFAKE		16 23 40.0	+7.7
SNZO				LR	LR		
	comp=Z,4µm,22.0s						
YOJ	Yonaguni jima	41.38	315	eP	P	16 23 34.3	+0.9
YOJ	Yonaguni jima	41.38	315	eP	P	16 23 34.3	+0.9
FOZ	Fox Glacier	41.46	162	eP	P	16 23 33.9	+0.1
LTZ	Lake Taylor	41.60	159	eP	P	16 23 34.9	-0.1
KHZ	Kahutara	41.75	158	eP	P	16 23 33.8	-2.4
PBKI	Pangkalan Bun	41.85	271	P	P	16 23 38.9	+1.4
SBUM	Sibu	41.89	279	eP	P	16 23 37.4	-0.4
YULB	Yu-li	41.94	313	eP	P	16 23 37.5	-0.6
OXZ	Oxford	42.00	160	eP	P	16 23 37.8	-0.4
RPZ	Rata Peaks	42.02	161	P	P	16 23 38.2	-0.2
	comp=Z,74nm,0.8s,baz=315,slow=1.4,SNR=48						
RPZ				S	S	16 29 50.2	-0.2
	comp=Z,14nm,1.2s,baz=30,slow=18,SNR=3.2						
RPZ				LR	LR	16 39 19.9	
	comp=Z,4µm,20.3s,baz=328,slow=33						
RPZ	Rata Peaks	42.02	161	eP	P	16 23 37.9	-0.5
GIRL	Giralia	42.10	241	P	P	16 23 39.7	+0.4
	baz=42,SNR=18						
JOHN	Johnston Islan	42.12	59	PFAKE		16 23 50.0	+10
JOHN				LR	LR		
	comp=Z,754nm,21.0s						
PCJI	Pacitan	42.28	263	P	P	16 23 41.6	+0.6
STKI	Sintang	42.30	275	P	P	16 23 42.6	+1.5
LBZ	Lake Benmore	42.35	162	eP	P	16 23 40.9	-0.2
TPUB	Ta-pu	42.38	312	eP	P	16 23 41.6	0.0
WKZ	Wanaka	42.41	164	eP	P	16 23 41.0	-0.5
CRLZ	Canterbury Las	42.42	159	eP	P	16 23 42.5	+0.9
SSLB	Suanglung	42.43	313	eP	P	16 23 42.7	+0.7
DCZ	Deep Cove	42.51	166	eP	P	16 23 42.2	-0.2
WOJI	Wonogiri, Jawa	42.52	263	P	P	16 23 43.4	+0.5
MQZ	McQueen's Vall	42.55	159	eP	P	16 23 42.9	+0.3
INU	Inuyama	42.56	340	eP	P	16 23 41.3	-1.6
YHNB	Yeheng	42.66	314	eP	P	16 23 43.9	-0.1
YHNB				LR	LR		
	comp=Z,3µm,22.0s						
MLZ	Mavora Lakes	42.66	165	eP	P	16 23 43.2	-0.4
TATO	Taipei	42.77	315	eP	P	16 23 44.8	+0.1
TATO				LR	LR		
	comp=Z,2µm,19.0s						
MIDW	Midway	42.89	39	PFAKE		16 24 00.0	+14
MIDW				LR	LR		
	comp=Z,4µm,22.0s						
UGM	Wanagama	42.92	263	P	P	16 23 47.9	+1.7
ODZ	Otahua Downs	43.08	162	eP	P	16 23 46.5	-0.5
KLBR	Kellerberrin	43.09	227	P	P	16 23 46.0	-1.3
	baz=43,SNR=47						
WHZ	Wether Hill Ro	43.11	165	eP	P	16 23 45.9	-1.3
JNU	Nakatsue	43.14	332	P	P	16 23 47.4	-0.3
	comp=Z,203nm,0.8s,baz=76,slow=0.8,SNR=81						
JNU				LR	LR	16 40 07.3	
	comp=Z,416nm,19.4s,baz=136,slow=34						
JNU	Nakatsue	43.14	332	eP	P	16 23 47.8	+0.1
MORW	Morawa	43.15	231	P	P	16 23 46.6	-1.1
	baz=43,SNR=26						
MJAR	Matsushiro Arr	43.26	342	P	P	16 23 47.9	-0.7
	comp=Z,13nm,0.8s,baz=174,slow=9.8,SNR=35						
MJAR				PcP	PcP	16 25 36.5	+0.4
	comp=Z,15nm,0.8s,baz=170,slow=3.4,SNR=11						
MJAR				S	S	16 30 06.8	-2.1
	comp=Z,0.5nm,0.7s,baz=118,slow=21,SNR=3.4						
MJAR				LR	LR	16 40 02.1	
	comp=Z,839nm,20.7s,baz=160,slow=33						
MAJO	Matsushiro	43.26	342	eP	P	16 23 48.0	-0.6
MAJO				ePP	PcP	16 25 36.7	+0.6
MAJO				LR	LR		
	comp=Z,1µm,19.0s						
MAJO	Matsushiro	43.26	342	c iP	P	16 23 47.7	-0.9
MAJO				pmax	pmax		
	comp=Z,88nm,1.9s						
MAT	Matsushiro	43.26	342	P	P	16 23 47.8	-0.8
MAT				S	S	16 30 02.0	-6.9
MJB9	Matsu-Tunnel	43.27	342	eP	P	16 23 47.7	-0.9
MJB9				ePP	PcP	16 25 36.7	+0.5
BLDU	Ballidu	43.37	229	P	P	16 23 47.8	-1.7
	baz=43,SNR=64						
KSM	Kuching	43.63	277	eP	P	16 23 52.0	+0.1
KSM				ePcP	PcP	16 25 38.9	+1.1
KSM				LR	LR		
	comp=Z,2µm,21.0s						
NWAO	Narrogin (SRO)	44.16	226	P	P	16 23 54.7	-1.1
	comp=Z,29nm,0.8s,baz=313,slow=7.1,SNR=14						
NWAO				LR	LR	16 43 18.1	
	comp=Z,4µm,18.9s,baz=282,slow=37						
NWAO	Narrogin (SRO)	44.16	226	P	P	16 23 55.7	-0.1
	baz=44,SNR=11						
NWAO				P	P	16 23 55.7	-0.1
	baz=44,SNR=11						
NWAO	Narrogin (SRO)	44.16	226	eP	P	16 23 54.3	-1.5
NWAO	Narrogin (SRO)	44.16	226	P	P	16 23 55.7	-0.1
	SNR=10						
NWAO	Narrogin (SRO)	44.16	226	P	P	16 23 55.7	-0.1
	SNR=10						
NWAO	Narrogin (SRO)	44.16	226	eP	P	16 23 54.3	-1.5
MUN	Mundaring	44.42	227	P	P	16 23 57.7	-0.2
	baz=44,SNR=15						
KPJI	Karang Pucung	44.48	264	P	P	16 23 59.3	+0.6
QZH	Quanzhou	44.84	312	⇑iP	P	16 24 02.0	+0.7
QZH				PcS	PcS	16 29 36.7	+1.1
QZH				S	S	16 30 31.4	-0.8
QZH				pmax	pmax		
	comp=Z,100nm,0.8s						
QZH				pmax	pmax		
	comp=Z,1µm,8.0s						
QZH				LR	LR		
	comp=Z,2µm,15.6s						
QZH				LR	LR		
	comp=Z,2µm,20.0s						
QZH				LR	LR		
	comp=Z,2µm,22.7s						
JCJI	Jatiwangi	45.13	265	P	P	16 24 04.1	+0.3
RKGY	Rocky Gully	45.25	224	P	P	16 24 04.0	-0.4
	baz=45,SNR=38						
CISI	Cisompet, Garu	45.59	264	P	P	16 24 07.0	-0.6
CISI	Cisompet, Garu	45.59	264	eP	P	16 24 06.5	-1.1
LEM	Lembang	45.78	265	P	P	16 24 09.9	+0.8
	comp=Z,71nm,0.7s,baz=26,slow=6.2,SNR=22						
LEM				PcP	PcP	16 25 46.1	+0.6
	comp=Z,96nm,0.9s,baz=53,slow=11,SNR=4.3						
LEM	Lembang	45.78	265	P	P	16 24 09.1	-0.1
HKC	Hong Kong Obse	46.83	306	⇑P	P	16 24 21.0	+4.0
SKJI	Sukabumi	46.84	265	P	P	16 24 16.6	-0.6
SSE	Sheshan	46.97	321	P	P	16 24 18.8	+0.8
SSE				S	S	16 31 00.2	-2.3
SSE				sS	sS	16 31 44.8	+3.9
SSE				pmax	pmax		
	comp=Z,22nm,0.8s						
SSE				pmax	pmax		
	comp=Z,460nm,3.2s						
SSE				LR	LR		
	comp=Z,730nm,17.7s						
ERM	Erimo	47.24	349	PFAKE		16 24 30.0	+10
ERM				LR	LR		
	comp=Z,2µm,19.0s						
ERM	Erimo	47.24	349	⇑eP	P	16 24 21.2	+1.4
ERM				pmax	pmax		
	comp=Z,32nm,0.8s						
MCO	Taipa Grande	47.24	306	P	P	16 24 23.0	+2.8
H01W1	Cape Leeuwin H	47.37	225	P	P	16 24 22.7	+1.9
	baz=84,slow=7.2,SNR=4.0						
H01W3	Cape Leeuwin H	47.38	225	P	P	16 24 22.8	+2.0
	baz=84,slow=7.2,SNR=2.9						
H01W2	Cape Leeuwin H	47.39	225	P	P	16 24 23.1	+2.1
	baz=84,slow=7.2,SNR=3.1						
PPBI	Pangkal Pinang	47.41	271	P	P	16 24 22.9	+1.2
TJN	Taejon	47.46	331	c iP	P	16 24 22.9	+1.2
CGJI	Cibinong	47.69	265	P	P	16 24 22.2	-1.7
KSRS	Korea Array	48.07	332	P	P	16 24 27.1	+0.7
	comp=Z,51nm,0.9s,baz=148,slow=8.5,SNR=108						
KSRS				PcP	PcP	16 25 53.5	+0.7
	comp=Z,7.0nm,0.7s,baz=152,slow=4.0,SNR=5.9						
KSRS				LR	LR	16 42 15.1	
	comp=Z,1µm,21.4s,baz=165,slow=33						
KS15	Wonju Array Si	48.08	332	eP	P	16 24 27.5	+1.0
KSAR	Wonju Array Be	48.08	332	P	P	16 24 27.1	+0.7
KSAR				PcP	PcP	16 25 53.5	+0.6
KSAR	Wonju Array Be	48.08	332	P	P	16 24 27.1	+0.7
KSAR						16 25 53.5	
KS01	Wonju Array Si	48.10	332	eP	P	16 24 25.1	-1.5
KS01				ePcP	PcP	16 25 54.9	+1.9
BLSI	Bandar Lampung	48.15	267	P	P	16 24 26.5	-0.9
RAR	Rarotonga	48.21	114	P	P	16 24 27.0	-0.7
	comp=Z,29nm,0.7s,baz=246,slow=9.6,SNR=13						
RAR	Rarotonga	48.21	114	eP	P	16 24 27.1	-0.7
RAR				LR	LR		
	comp=Z,4µm,20.0s						
INCN	Inchon	48.70	331	eP	P	16 24 31.4	+0.1
INCN				LR	LR		
	comp=Z,2µm,19.0s						
INCN	Inchon	48.70	331	P	P	16 24 32.9	+1.6
	SNR=7.7						
INCN	Inchon	48.70	331	P	P	16 24 32.9	+1.6
	SNR=7.7						
PMBI	Palembang	48.72	270	P	P	16 24 32.6	+0.8
YUK	Yuzh-Kuril'sk	48.79	353	c iP	P	16 24 33.6	+1.9
YUK				*PP	pP	16 24 54.8	+0.6
YUK				e		16 25 55.4	
YUK				e		16 26 20.7	
YUK				i S	S	16 31 30.9	+3.2
YUK				e		16 34 20.7	

YUK *i* SSS SSS 16 36 16.9
KASI Kota Agung 48.89 267 P **P** **16 24 30.7 -2.4**
QIZ Qiongzhong 48.98 300 P **P** **16 24 35.9 +2.2**
QIZ S **S** **16 31 33.0 +1.8**
QIZ pmax pmax
comp=Z,1μm,11.8s
QIZ LR LR
comp=Z,1μm,18.6s
QIZ LR LR
comp=Z,2μm,26.0s
QIZ LR LR
comp=Z,3μm,39.2s
QIZ Qiongzhong 48.98 300 *e*P **P** **16 24 30.3 -3.4**
comp=Z,147nm,1.4s
NJ2 Nanjing 49.09 320 *e*P **P** **16 24 33.5 -0.8**
NJ2 S **S** **16 31 31.1 -1.3**
NJ2 pmax pmax
comp=Z,20nm,0.5s
NJ2 LR LR
comp=Z,2μm,17.4s
NJ2 LR LR
comp=Z,2μm,16.5s
NJ2 LR LR
comp=Z,4μm,22.2s
DSRI Dabo 49.10 273 P **P** **16 24 34.9 +0.2**
MDSI Maura Dua 49.24 268 P **P** **16 24 34.7 -1.1**
TPRI Tanjung Pinang 49.30 275 P **P** **16 24 36.8 +0.6**
LWLI Liwa 49.34 267 P **P** **16 24 35.2 -1.5**
ASAJ Asahikawa 49.37 350 P **P** **16 24 38.1 +1.9**
comp=Z,17nm,0.5s,baz=219,slow=6.2,SNR=36
ASAJ Asahikawa 49.37 350 *e*P **P** **16 24 37.9 +1.7**
JMBI JAMBI 49.93 272 P **P** **16 24 42.9 +1.9**
MCQ Macquarie Isla 50.06 176 P **P** **16 24 42.6 +1.4**
baz=50,SNR=4.0
MCQ Macquarie Isla 50.06 176 *e*P **P** **16 24 41.6 +0.4**
MCQ Macquarie Isla 50.06 176 *e*P **P** **16 24 41.6 +0.4**
MYKOM Kota Tinggi 50.07 276 *e*P **P** **16 24 41.8 -0.3**
MYKOM *e*PcP **PcP** **16 26 01.5 +0.8**
MSHR Mys Shultsa 51.07 339‖ *e*P **P** **16 24 47.6 -1.4**
WHN Wuhan 51.16 316 ⇑P **P** **16 24 51.6 +1.6**
WHN S **S** **16 32 03.2 +1.9**
WHN pmax pmax
comp=Z,140nm,1.1s
WHN LR LR
comp=Z,1μm,16.9s
WHN LR LR
comp=Z,5μm,20.3s
WHN LR LR
comp=Z,15μm,37.4s
MASI Maura Aman, Be 51.23 270 P **P** **16 24 50.2 -0.7**
VLA Vladivostok 51.28 340*c**e*P **P** **16 24 50.7 +0.1**
VLA *i* *PP **pP** **16 25 09.7 -3.6**
VLA pmax pmax
comp=Z,36nm,1.0s
RGRI Rengat 51.35 273 P **P** **16 24 52.4 +0.7**
TEY Ternei 51.58 345 *e*P **P** **16 24 52.0 -0.8**
TEY pmax pmax
comp=Z,1μm,4.0s
YSS Yuzh-Sakhalins 52.10 351 *e*P **P** **16 24 58.2 +1.6**
YSS Yuzh-Sakhalins 52.10 351⇑ *i*P **P** **16 24 57.7 +1.1**
YSS *e* 16 26 06.6
YSS *e*S **S** **16 32 13.0 -0.5**
YSS pmax pmax
comp=Z,30nm,0.6s
SDSI Sungai Dareh 52.20 272 P **P** **16 24 55.9 -2.1**
USRK Ussuriysk Ar. 52.20 340 P **P** **16 24 58.6 +1.2**
comp=Z,24nm,0.8s,baz=174,slow=7.8,SNR=36
DL2 Dalian 52.30 329 ⇑P **P** **16 24 59.3 +1.0**
DL2 S **S** **16 32 18.2 +1.6**
DL2 sS **sS** **16 32 52.2 -3.4**
DL2 pmax pmax
comp=Z,63nm,0.6s
DL2 pmax pmax
comp=Z,900nm,5.8s
DL2 LR LR
comp=Z,1μm,22.2s
DL2 LR LR
comp=Z,1μm,24.9s
DL2 LR LR
comp=Z,3μm,28.5s
BKNI Bangkinang 52.70 274 P **P** **16 25 01.4 -0.3**
BKNI Bangkinang 52.70 274 *e*P **P** **16 25 02.0 +0.3**
TIA Tai'an 52.92 323 P **P** **16 25 03.0 0.0**
TIA S **S** **16 32 23.5 -1.7**
TIA pmax pmax
comp=Z,46nm,1.0s
TIA pmax pmax
comp=Z,960nm,11.3s
TIA LR LR
comp=Z,1μm,27.9s
TIA LR LR
comp=Z,870nm,16.2s
TIA LR LR
comp=Z,3μm,30.4s
PDSI Padang 53.16 272 P **P** **16 25 03.4 -1.8**
IPM Ipoh 53.24 279 *e*P **P** **16 25 05.0 -0.8**
IPM *e*PcP **PcP** **16 26 14.4 +1.8**
MDJ Mudanjiang 53.40 339 P **P** **16 25 05.4 -0.9**
MDJ pP pP 16 25 26.4 -2.7
MDJ sP sP 16 25 36.2 -3.4
MDJ PP **PP** **16 27 05.4 -2.3**
MDJ PcS **PcS** **16 30 12.3 +1.0**
MDJ S **S** **16 32 27.6 -3.8**
MDJ sS sS 16 33 04.1 -6.4
MDJ ScS **ScS** **16 34 46.6 -0.2**
MDJ SS **SS** **16 36 08.6 -4.2**
MDJ pmax pmax
comp=Z,46nm,1.3s
MDJ pmax pmax
comp=Z,480nm,3.9s
MDJ LR LR
comp=Z,1μm,18.4s
MDJ LR LR
comp=Z,1μm,28.4s
MDJ LR LR
comp=Z,3μm,28.7s
MDJ Mudanjiang 53.40 339 *e*P **P** **16 25 02.3 -4.0**
comp=Z,80nm,1.4s
SKNT Sakolnakorn 53.42 295 P **P** **16 25 07.0 +0.1**
comp=Z,66nm,0.8s
SNY Shenyang 53.58 332 ⇑P **P** **16 25 06.5 -1.1**
SNY S **S** **16 32 33.4 -0.4**
SNY pmax pmax
comp=Z,15nm,1.2s
SNY pmax pmax
comp=Z,1μm,9.4s
SNY LR LR
comp=Z,1μm,22.1s
SNY LR LR
comp=Z,1μm,27.0s
SNY LR LR
comp=Z,5μm,36.7s
KULM Kulim 53.74 280 *e*P **P** **16 25 08.9 -0.5**
KULM LR LR
comp=Z,2μm,22.0s
KIP Kipapa 53.95 60 *e*P **P** **16 25 11.7 +1.0**
comp=Z,1μm,1.3s
KIP Kipapa 53.95 60*c**e*P **P** **16 25 13.3 +2.5**
KIP pmax pmax
comp=Z,421nm,0.8s
OPA Opana 54.06 59 *e*P **P** **16 25 13.4 +1.9**
OPA Opana 54.06 59 *e*P **P** **16 25 13.4 +1.9**
SKLT Songkhla 54.10 282 P **P** **16 25 11.3 -0.7**
comp=Z,236nm,1.1s,comp=Z,3μm
MNSI Mandailing Nat 54.20 274 P **P** **16 25 11.2 -1.5**
SRAK Srakaew 54.32 291 P **P** **16 25 10.7 -2.8**
comp=Z,65nm,1.1s,comp=Z,2μm
CN2 Changchun 54.33 335 ⇑P **P** **16 25 13.6 +0.5**
CN2 *e*pP pP 16 25 34.4 -1.6
CN2 PcP **PcP** **16 26 15.7 -0.3**
CN2 *e*S **S** **16 32 39.3 -4.7**
CN2 pmax pmax
comp=Z,40nm,1.0s
CN2 pmax pmax
comp=Z,860nm,6.0s
SISI Saibi 54.49 272 P **P** **16 25 13.8 -1.0**
ENH Enshi 54.51 312 *e*P **P** **16 25 15.0 +0.3**
GYA Guiyang 54.82 307⇑ *i*P **P** **16 25 19.2 +2.1**
GYA pP pP 16 25 41.0 +1.0
GYA sP sP 16 25 51.6 +1.1
GYA PcP **PcP** **16 26 21.0 +2.6**
GYA PP **PP** **16 27 24.8 +3.9**
GYA ScP **ScP** **16 30 10.7 +2.0**
GYA S **S** **16 32 52.5 +1.1**
GYA sS sS 16 33 29.2 -1.4
GYA SS **SS** **16 36 37.0 +0.9**
GYA pmax pmax
comp=Z,110nm,0.8s
GYA pmax pmax
comp=Z,210nm,5.9s
GYA LR LR
comp=Z,3μm,18.9s
GYA LR LR
comp=Z,2μm,19.6s
GYA LR LR
comp=Z,3μm,19.8s
CHAI Chaiyaphum 54.91 293 P **P** **16 25 18.6 +0.8**
comp=Z,23nm,1.0s,comp=Z,228nm
SKR Severo-Kuril's 54.99 2 *e*P P 16 25 09.1 -8.6
SKR *e*S **S** **16 32 55.3 +2.8**
SKR *e*SSS SSS 16 38 43.1
SKR pmax pmax
comp=Z,800nm,13.9s
SKR pmax pmax
comp=Z,1μm,15.3s
SKR MLR MLR
comp=Z,2μm,17.0s
SKR MLR MLR
comp=Z,4μm,17.0s
NAYO Nakonayok 55.07 291 P **P** **16 25 20.4 +1.4**
comp=Z,111nm,0.8s,comp=Z,8μm
PSI Prapat 55.08 277 P **P** **16 25 17.4 -1.9**
comp=Z,34nm,0.8s,baz=146,slow=3.3,SNR=51
PSI Prapat 55.08 277 *e*P **P** **16 25 17.2 -2.1**
PSI Prapat 55.08 277 *e*P **P** **16 25 17.2 -2.1**
TRTT Trang 55.13 283 P **P** **16 25 18.5 -0.9**
comp=Z,90nm,1.2s,comp=Z,1μm
KHLU Kahalu'u 55.14 63 *e*P **P** **16 25 21.0 +1.5**
HLK Haleakala 55.24 61 *e*P **P** **16 25 22.4 +2.0**
HPAH Hawaii Prepara 55.46 62 *e*P **P** **16 25 23.4 +1.6**
POHA Pohakuloa 55.51 62 *e*P **P** **16 25 24.9 +2.6**
TSI Tuntungan 55.53 277 P **P** **16 25 22.1 -0.2**
TYV Tymovskoe 55.92 352 *e*P **P** **16 25 26.1 +1.7**
TYV *e*S **S** **16 33 07.4 +2.5**
TYV pmax pmax
comp=Z,44nm,0.8s
TYV pmax pmax
comp=Z,1μm,8.3s
TYV smax smax
comp=E,11nm,2.3s
TYV smax smax
comp=E,900nm,6.7s
PBKT Sadao Pong 56.04 293 P **P** **16 25 26.3 +0.5**
comp=E,81nm,1.2s,comp=E,2μm
BJI Beijing 56.06 326‖ *e*P **P** **16 25 26.3 +0.7**
BJI pP **pP** **16 25 49.9 +1.3**
BJI sP **sP** **16 25 57.5 -1.5**
BJI S **S** **16 33 05.0 -2.2**
BJI sS **sS** **16 33 46.4 -0.1**
BJI ScS **ScS** **16 35 02.8 -3.2**
BJI SS **SS** **16 36 56.7 +1.8**
BJI pmax pmax
comp=E,24nm,1.2s
BJI pmax pmax
comp=E,2μm,11.8s
BJI LR LR
comp=E,2μm,19.9s
BJI LR LR
comp=E,2μm,22.7s
BJI LR LR
comp=E,6μm,38.8s
SURT Suratani 56.22 284 P **P** **16 25 26.3 -0.9**
comp=E,111nm,0.9s,comp=E,1μm
GSI Gunungsitoli 56.25 275 P **P** **16 25 26.5 -0.9**
GSI Gunungsitoli 56.25 275 *e*P **P** **16 25 26.2 -1.2**
PHET Kaeng Krachan 56.29 289 P **P** **16 25 29.5 +1.8**
comp=E,49nm,1.2s,comp=E,419nm
COCO West Island 56.57 258 P **P** **16 25 28.5 -1.2**
COCO comp=E,3μm,1.4s LR LR
comp=Z,2μm,22.0s
COCO West Island 56.57 258 P **P** **16 25 32.1 +2.4**
SNR=7.1
COCO West Island 56.57 258 P **P** **16 25 32.1 +2.4**
SNR=7.1
COCO West Island 56.57 258 P **P** **16 25 28.5 -1.2**
COCO pmax pmax
comp=Z,3μm,1.4s
COCO MLR MLR
comp=Z,2μm,22.0s
PHIT Phitsanulok 56.73 294 P **P** **16 25 31.9 +1.2**
comp=Z,86nm,0.9s,comp=Z,666nm
TIY Taiyuan 56.76 321 *e*P **P** **16 25 28.6 -2.1**
TIY pP **pP** **16 25 56.9 +3.1**
TIY sP **sP** **16 26 04.6 +0.4**
TIY S **S** **16 33 13.6 -3.1**
TIY sS **sS** **16 33 53.6 -2.5**
TIY pmax pmax
comp=Z,35nm,0.7s
TIY pmax pmax
comp=Z,790nm,9.1s
TIY LR LR
comp=Z,590nm,15.2s
TIY LR LR
comp=Z,740nm,14.7s
TIY LR LR
comp=Z,1μm,16.6s
KLR Kul'dur 56.76 343 LR LR 16 47 36.4
comp=Z,70nm,21.9s,baz=154,slow=33
KLR Kul'dur 56.76 343*c* *i*P **P** **16 25 30.9 +0.5**
TPTI 56.87 277 P **P** **16 25 30.4 -1.5**
XAN Xi'an 56.93 316 P **P** **16 25 32.4 +0.4**
XAN pP pP 16 25 51.8 -3.2
XAN PcP **PcP** **16 26 26.1 -0.3**
XAN S **S** **16 33 11.8 -7.2**
XAN ScS **ScS** **16 35 08.0 -4.7**
XAN SS **SS** **16 37 15.0 +6.0**
XAN pmax pmax
comp=Z,57nm,1.5s
XAN pmax pmax
comp=Z,1μm,10.3s
XAN LR LR
comp=Z,1μm,21.4s
XAN LR LR
comp=Z,820nm,21.0s
XAN LR LR
comp=Z,3μm,42.9s
NANT Nan 56.96 296 P **P** **16 25 32.7 +0.3**
comp=Z,50nm,1.0s,comp=Z,443nm
GRNR Gornyy 56.98 347 *e*P **P** **16 25 33.0 +1.1**
GRNR pmax pmax
comp=Z,28nm,0.8s
PPT Papeete 57.09 108 P **P** **16 25 35.2 +1.9**
comp=Z,62nm,0.6s,baz=31,slow=4.4,SNR=9.2
PPT2 Papeete2 57.09 108 *e*P **P** **16 25 34.4 +1.0**
PPT2 *e*S **S** **16 33 19.6 -2.1**
comp=Z,4μm,24.5s
PPT2 *e*LQ LQ 16 40 03.4
comp=Z,7μm,27.5s
PPT2 *e*LR LR 16 42 28.0
comp=Z,9μm,35.2s
PAE Papa 57.09 108 *e*P **P** **16 25 33.9 +0.6**
comp=Z,5.0nm,0.7s
PPTF Pamatai, Papee 57.10 108 *e*P **P** **16 25 32.1 -1.4**
SRDT SRDT 57.13 290 P **P** **16 25 34.3 +0.6**
comp=Z,217nm,1.0s,comp=Z,3μm
TIAR Tiarei 57.30 108 *e*P **P** **16 25 35.9 +1.0**
comp=Z,32nm,0.8s
LHMI Lhok Sumawe 57.37 279 P **P** **16 25 35.0 -0.4**
LHMI Lhok Sumawe 57.37 279 *e*P **P** **16 25 35.6 +0.2**
TVO Taravao 57.42 108 *e*P **P** **16 25 36.8 +1.1**
comp=Z,30nm,0.7s
PET Petropavlovsk 57.45 4 *e*P **P** **16 25 35.9 +0.7**
comp=Z,42nm,0.8s
PET Petropavlovsk 57.45 4 *e*P **P** **16 25 36.8 +1.7**
PET *e**PP **pP** **16 25 58.2 0.0**
PET *e**SP **sP** **16 26 08.6 0.0**
PET *e* 16 26 30.7
PET *e*S **S** **16 33 24.0 -1.0**
PET *e*SS **SS** **16 37 17.2 +0.9**
PET pmax pmax
comp=Z,104nm,1.0s
PET pmax pmax
comp=Z,800nm,14.8s
KMI Kunming 57.45 304 P **P** **16 25 37.2 +1.2**
KMI PcP **PcP** **16 26 30.0 +1.2**
KMI PP **PP** **16 27 42.0 -2.6**
KMI S **S** **16 33 30.3 +3.8**
KMI SS **SS** **16 37 16.8 -1.0**
KMI pmax pmax
comp=Z,180nm,1.2s
KMI pmax pmax
comp=Z,1μm,9.6s
KMI LR LR
comp=Z,2μm,21.8s
KMI LR LR
comp=Z,1μm,21.4s
KMI LR LR
comp=Z,2μm,37.0s
PEA0B Petropavlovsk- 57.48 3 *e*P **P** **16 25 36.9 +1.5**
PETK Petropavlovsk- 57.48 3 P **P** **16 25 37.1 +1.7**
comp=Z,81nm,0.9s,baz=151,slow=6.5,SNR=93
PETK LR LR 16 46 33.5
comp=Z,1μm,21.6s,baz=178,slow=32
MLSI Meulaboh, Aceh 57.77 278 P **P** **16 25 36.7 -1.5**
PAYA Payao 57.88 296 P **P** **16 25 40.2 +1.3**
comp=Z,41nm,1.0s,comp=Z,381nm
CM01 Chiang Mai Arr 58.42 295 *e*P **P** **16 25 44.0 +1.4**
CM01 *e*PcP **PcP** **16 26 34.2 +1.7**
NKL Nikolayevsk 58.44 351 *i* P **P** **16 25 43.2 +1.2**
NKL *e*S **S** **16 33 37.0 -0.9**
NKL pmax pmax
comp=N,17nm,0.9s
NKL pmax pmax
comp=Z,56nm,0.9s
NKL pmax pmax
comp=N,500nm,12.0s
NKL pmax pmax
comp=E,500nm,12.0s
NKL pmax pmax
comp=Z,600nm,10.0s
NKL smax smax
comp=N,1μm,15.0s
NKL smax smax
comp=E,1μm,15.0s
NKL smax smax
comp=Z,600nm,15.0s
CMAR Chiang Mai Arr 58.44 295 P **P** **16 25 43.4 +0.5**
comp=Z,66nm,0.9s,baz=113,slow=4.8,SNR=146
CMAR PcP **PcP** **16 26 34.2 +1.6**
comp=Z,11nm,0.7s,baz=119,slow=1.6,SNR=8.5
PMOR Pomariorio Ree 58.47 105 *e*P **P** **16 25 43.7 +0.7**
comp=Z,351nm,1.4s
CMMT Chiang Mai 58.54 295 P **P** **16 25 43.6 +0.1**
comp=Z,80nm,1.2s,comp=Z,2μm
CHTO Chiang Mai 58.55 295 P **P** **16 25 44.7 +1.2**
comp=Z,357nm,1.3s,comp=Z,8μm
CHTO Chiang Mai 58.55 295 *e*P **P** **16 25 43.9 +0.4**
CHTO *e*PcP **PcP** **16 26 34.7 +1.7**
CHTO Chiang Mai 58.55 295 P **P** **16 25 45.6 +2.1**
SNR=67
CHTO Chiang Mai 58.55 295 P **P** **16 25 45.6 +2.1**
SNR=67
CHTO Chiang Mai 58.55 295 *e*P **P** **16 25 43.9 +0.4**
CHTO *e* 16 26 34.7
VAH Vaihoa 58.75 105 *e*P **P** **16 25 45.4 +0.5**
comp=Z,141nm,1.3s
CMAI Chiengmai2 58.80 296 P P 16 25 53.1 +7.6
CD2 Chengdu 59.12 310 P **P** **16 25 48.7 +1.4**
CD2 pP pP 16 26 10.1 -0.5
CD2 sP sP 16 26 19.9 -1.0
CD2 PcS **PcS** **16 30 38.2 +1.0**
CD2 S **S** **16 33 46.8 -0.9**
CD2 SS **SS** **16 37 47.3 +3.8**
CD2 pmax pmax
comp=Z,360nm,0.7s
CD2 pmax pmax
comp=Z,2μm,6.4s
CD2 LR LR
comp=Z,4μm,25.8s
CD2 LR LR
comp=Z,3μm,25.8s
CD2 LR LR
comp=Z,3μm,31.8s
HHC Hu-ho-hao-te 59.24 324 *e*P **P** **16 25 48.8 +0.7**
HHC pP pP 16 26 07.1 -4.2
HHC S **S** **16 33 49.1 0.0**
HHC pmax pmax
comp=Z,23nm,1.0s
HHC pmax pmax
comp=Z,440nm,5.4s
HHC LR LR
comp=Z,10μm,16.5s
BTO Baotou 60.01 323 *e*P **P** **16 25 53.8 +0.5**
HIA Hailar 61.06 335 *e*P **P** **16 26 01.1 +0.9**
HIA Hailar 61.06 335 *e*P **P** **16 26 01.1 +0.9**
LZH Lanzhou 61.54 315 *e*P **P** **16 26 06.0 +2.1**
LZH pP pP 16 26 29.0 +1.7
LZH sP sP 16 26 38.6 +1.0
LZH PcP **PcP** **16 26 47.4 +2.5**
LZH *e*S **S** **16 34 20.7 +1.9**
LZH SS **SS** **16 38 20.3 -1.3**
LZH pmax pmax
comp=Z,350nm,1.1s
LZH pmax pmax
comp=Z,1μm,5.8s
LZH LR LR
comp=Z,6μm,16.8s
LZH LR LR
comp=Z,6μm,16.8s
LZH LR LR
comp=Z,8μm,19.9s
ZEA Zeya 62.07 343 *e*P **P** **16 26 07.6 +0.8**
ZEA *e*S **S** **16 34 23.0 -1.3**
ZEA *e* 16 35 53.0
ZEA pmax pmax
comp=N,47nm,1.0s
ZEA pmax pmax
comp=Z,52nm,1.0s
ZEA pmax pmax
comp=Z,1μm,11.0s
ZEA smax smax
comp=Z,600nm,13.0s
ZEA smax smax
comp=E,1μm,14.0s
PBA Port Blair 62.58 285 *e*P P 16 26 09.0 -2.0
DGPR DIGLIPUR 62.71 287 *e*P **P** **16 26 11.3 -0.5**
DGPR IAmb IAmb 16 26 13.9
comp=Z,48nm,0.7s
CLNS Chul'man 65.42 343 *e*P **P** **16 26 29.0 +0.1**
CLNS pmax pmax
comp=Z,27nm,1.0s
CLNS pmax pmax
comp=N,14nm,1.2s
CLNS pmax pmax
comp=E,4.0nm,0.9s
CLNS MLR MLR
comp=E,315nm,13.0s
CLNS MLR MLR
comp=Z,696nm,14.0s
CLNS MLR MLR
comp=N,337nm,12.0s
CIT Chita 65.75 334 *e*P **P** **16 26 32.2 +1.1**
CIT *e* 16 27 04.1
CIT pmax pmax
comp=Z,87nm,2.7s
TAOE Nuku Hiva Isla 65.91 98 *e*S **S** **16 35 11.6 -1.9**
comp=Z,5μm,25.7s
TAOE *e*LQ LQ 16 43 10.1
comp=Z,4μm,27.9s
TAOE *e*LR LR 16 46 23.0
comp=Z,9μm,35.7s
TAOE Nuku Hiva Isla 65.91 98 *e*P **P** **16 26 35.1 +2.2**
GTA Gaotai 65.95 317⇑ P **P** **16 26 32.6 -0.2**
GTA pP pP 16 26 55.5 -0.9
GTA sP PcP 16 27 04.7 +1.8
GTA PP **PP** **16 29 01.7 +2.6**
GTA S **S** **16 35 11.3 -1.9**
GTA sS sS 16 35 53.1 -0.5
GTA SS **SS** **16 39 29.3 -0.9**
GTA pmax pmax
comp=Z,1μm,7.4s
GTA LR LR
comp=Z,890nm,23.3s
GTA LR LR
comp=Z,920nm,21.9s
GTA LR LR
comp=Z,2μm,21.9s
ULN Ulaanbaatar 66.14 328 *e*P **P** **16 26 33.9 +0.1**
ULN Ulaanbaatar 66.14 328 P **P** **16 26 36.3 +2.5**
SNR=24
ULN Ulaanbaatar 66.14 328 P **P** **16 26 36.3 +2.5**
SNR=24
ULN Ulaanbaatar 66.14 328*c* *i*P **P** **16 26 35.0 +1.2**
ULN pmax pmax

comp=Z,42nm,1.0s
SONM Songino Array 66.47 327 P **P** **16 26 36.0 +0.1**
comp=Z,21nm,0.5s,baz=134,slow=6.2,SNR=81
SONM PcP **PcP** **16 27 05.7 +0.9**
comp=Z,9.2nm,0.5s,baz=150,slow=3.5,SNR=5.2
SONM LR LR 16 54 50.9
SONM comp=Z,978nm,20.7s,baz=136,slow=35 PKPPKP **P'P'df** **16 55 07.5 +0.4**
comp=Z,1.0nm,0.8s,baz=275,slow=4.4,SNR=3.8
SONA1 Songino Array 66.47 327 *e*P **P** **16 26 36.6 +0.7**
SONA1 *e*PcP **PcP** **16 27 05.8 +0.9**
SHL Shillong 66.81 300 *e*P **P** **16 26 38.6 0.0**
SEY Seymchan 67.23 359 *ce*P **P** **16 26 41.4 +1.2**
CASY Casey 68.55 197 *e*P **P** **16 26 48.0 -0.5**
LSA Lhasa 68.70 304 P **P** **16 26 51.8 +1.1**
LSA pmax pmax
comp=Z,200nm,0.9s
LSA Lhasa 68.70 304 *e*P **P** **16 26 49.9 -0.8**
LSA Lhasa 68.70 304 *e*P **P** **16 26 49.9 -0.8**
YAK Yakutsk 68.82 348 *e*P **P** **16 26 49.5 -0.6**
YAK Yakutsk 68.82 348 *c i*P **P** **16 26 50.4 +0.2**
YAK *e* 16 27 10.1
YAK *e**PP **sP** **16 27 20.9 -3.3**
YAK *e* 16 29 22.2
YAK *e*PPP PPP 16 31 05.1
YAK *e*S **S** **16 35 46.9 +0.5**
YAK *e**SS **sS** **16 36 25.4 -1.7**
YAK *e* 16 36 37.7
YAK pmax pmax
comp=Z,51nm,1.1s
YAK pmax pmax
comp=N,12nm,1.3s
YAK pmax pmax
comp=E,6.0nm,1.5s
YAK pmax pmax
comp=Z,129nm,3.2s
YAK pmax pmax
comp=N,50nm,3.5s
YAK pmax pmax
comp=E,95nm,3.8s
YAK smax smax
comp=N,277nm,4.7s
YAK smax smax
comp=E,133nm,3.3s
FALS False Pass 69.01 25 *e*P **P** **16 26 52.2 +0.8**
ZAK Zakamensk 69.62 328 *e*P **P** **16 26 55.2 -0.4**
ZAK pmax pmax
comp=Z,46nm,1.1s
BOD Bodaibo 69.77 339 *e*P **P** **16 26 56.0 -0.2**
BOD pmax pmax
comp=Z,36nm,11.0s
TLY Talaya 70.19 330 *e*P **P** **16 26 58.9 0.0**
TLY LR LR
comp=Z,875nm,22.0s
TLY Talaya 70.19 330 P **P** **16 27 00.6 +1.7**
SNR=12
TLY Talaya 70.19 330 P **P** **16 27 00.6 +1.7**
SNR=12
TLY Talaya 70.19 330 *e*P **P** **16 27 00.3 +1.4**
TLY *e*S **S** **16 36 06.6 +3.6**
TLY *e* 16 37 02.5
TLY pmax pmax
comp=Z,23nm,0.9s
TLY MLR MLR
comp=Z,605nm,19.0s
IRK Irkutsk 70.21 330 *e*P **P** **16 26 58.6 -0.4**
IRK pmax pmax
comp=Z,56nm,3.4s
SDPT Sand Point 70.59 26 *e*P **P** **16 27 02.2 +1.0**
ODAN Odare 71.05 300 *e*P **P** **16 27 05.3 +0.4**
RKT Rikitea 71.20 113 *e*S **S** **16 36 14.3 -1.5**
RKT comp=Z,4μm,28.0s *e*LQ LQ 16 45 23.0
RKT comp=Z,2μm,27.8s *e*LR LR 16 49 09.0
comp=Z,5μm,34.0s
MOY Mondy 71.54 329 *e*P **P** **16 27 08.6 +1.4**
MOY pmax pmax
comp=Z,72nm,2.0s
BOK Bokaro 71.60 297 *e*P **P** **16 27 09.7 +1.7**
RAMN Ramite 71.75 300 *e*P **P** **16 27 09.2 0.0**
CHGN Chignik 72.10 26 *e*P **P** **16 27 10.8 +0.6**
CHLP Challavanipeta 72.15 291 *e*P **P** **16 27 11.6 +0.3**
CHLP IAmb IAmb 16 27 14.1
comp=Z,104nm,0.8s
CHLP *e*S **S** **16 36 24.9 -1.8**
JIRN Jiri 72.29 301 *e*P **P** **16 27 12.4 -0.1**
GUN Gumba 72.62 301 *e*P **P** **16 27 14.4 0.0**
VIS Vishakhapatnam 72.68 290 *e*P **P** **16 27 13.7 -0.9**
VIS IAmb IAmb 16 27 15.1
comp=Z,202nm,1.5s
KNGR Kungurtug, Tuv 72.85 326 *i*P **P** **16 27 16.4 +1.4**
GAMB Gambell 72.87 15 *e*P **P** **16 27 16.5 +1.8**
BILL Bilibino 72.91 5 *i*P **P** **16 27 14.8 0.0**
BILL *i* 16 27 31.2
BILL *i* 16 29 58.0
BILL *i*S **S** **16 36 29.0 -4.6**
BILL pmax pmax
comp=Z,52nm,0.8s
BILL pmax pmax
comp=Z,849nm,19.0s
PKIN Phulchoki 72.95 300 *e*P **P** **16 27 16.8 +0.5**
comp=Z,155nm,0.8s
KKN Kakani 73.10 301 *e*P **P** **16 27 17.1 0.0**
comp=Z,335nm,0.9s
VNDA Vanda 73.12 178 P **P** **16 27 15.6 -0.5**
comp=Z,54nm,0.8s,baz=330,slow=6.6,SNR=139
VNDA Vanda 73.12 178 *e*P **P** **16 27 16.3 +0.2**
DMN Daman 73.20 300 *e*P **P** **16 27 17.5 -0.3**
comp=Z,753nm,1.0s
PALK Pallekele 73.65 279 *e*P **P** **16 27 19.5 -0.9**
PALK Pallekele 73.65 279 P **P** **16 27 21.2 +0.8**
SNR=9.5
PALK Pallekele 73.65 279 P **P** **16 27 21.2 +0.8**
SNR=9.5
PALK Pallekele 73.65 279 *i*P **P** **16 27 21.7 +1.3**
SBA Scott Base 73.65 177 *e*P **P** **16 27 20.2 +1.1**
SBA Scott Base 73.65 177 *e*P **P** **16 27 20.2 +1.1**
GKN Gorkha 73.70 301 *e*P **P** **16 27 20.0 -0.6**
PVM Polavaram 74.20 289 *e*P **P** **16 27 22.8 -0.6**
PVM IAmb IAmb 16 27 24.9
comp=Z,55nm,0.9s
PVM *e*S **S** **16 36 46.3 -3.7**
MIR Mirnyy 74.50 201 ⇑*i*P **P** **16 27 26.0 +1.8**
MIR *e* 16 30 10.0
MIR *e*S **S** **16 36 54.0 +2.4**
MIR *e*PS **PnS** **16 37 24.0 -14**
MIR pmax pmax
comp=Z,3μm,4.0s
MIR pmax pmax
comp=Z,1μm,2.0s
DANN Dangsing 74.54 301 *e*P **P** **16 27 25.3 -0.3**
comp=Z,26nm,1.0s
KOLN Koldanda 74.54 300 *e*P **P** **16 27 25.0 -0.5**
MDRS Chennai 74.85 285 *e*P **P** **16 27 28.1 +0.8**
MDRS IAmb IAmb 16 27 28.8
comp=Z,127nm,1.6s
OHAK Old Harbor 74.92 27 *e*P **P** **16 27 27.9 +1.2**
PYUN Piuthan 75.14 300 *e*P **P** **16 27 28.5 -0.5**
comp=Z,816nm,1.0s
HVS Khovu-Aksy 75.22 326 *de*P **P** **16 27 30.4 +1.6**
HVS pmax pmax
comp=Z,78nm,0.9s
SKHT Srikalahasti 75.47 285 *e*P **P** **16 27 30.6 -0.2**
SKHT IAmb IAmb 16 27 32.2
comp=Z,49nm,1.1s
SKHT *e*S **S** **16 37 03.2 -1.0**
ADKI Addanki 75.53 288 *e*P **P** **16 27 30.7 -0.5**
ADKI IAmb IAmb 16 27 32.6
comp=Z,58nm,0.9s
ADKI *e*S **S** **16 37 01.6 -3.3**
KDAK Kodiak Island 75.55 27 *e*P **P** **16 27 31.4 +1.1**
KDAK LR LR
comp=Z,1μm,22.0s
KDAK Kodiak Island 75.55 27 *i*P **P** **16 27 31.8 +1.5**
WMQ Urumqi 76.03 317 P **P** **16 27 34.5 +0.9**
WMQ PcP **PcP** **16 27 46.8 +1.3**
WMQ pP pP 16 27 57.1 -0.7
WMQ sP sP 16 28 06.7 -1.2
WMQ S **S** **16 37 09.2 -0.4**
WMQ ScS **SKKSac** **16 37 37.9 +1.4**
WMQ SS **SS** **16 42 06.4 +1.9**
WMQ pmax pmax
comp=Z,180nm,1.3s
WMQ pmax pmax
comp=Z,3μm,6.5s
WMQ LR LR
comp=Z,2μm,22.7s
WMQ LR LR
comp=Z,1μm,18.1s
WMQ LR LR
comp=Z,3μm,27.5s
SVW2 Sparrevohn 76.23 23 *e*P **P** **16 27 35.7 +1.5**
NJS Nagarjunasagar 76.27 288 *e*P **P** **16 27 35.5 +0.1**
NJS IAmb IAmb 16 27 37.0
comp=Z,78nm,1.1s
NJS *e*S **S** **16 37 11.4 -1.7**
SRLM Srisailam 76.60 288 *e*P **P** **16 27 36.7 -0.6**
SRLM IAmb IAmb 16 27 38.7
comp=Z,173nm,1.3s
SRLM *e*S **S** **16 37 14.4 -2.2**
RPR Rampur 76.65 290 *e*P **P** **16 27 36.8 -0.7**
RPR IAmb IAmb 16 27 39.1
comp=Z,66nm,1.0s
RPR *e*S **S** **16 37 14.9 -2.2**
HYB Hyderabad 77.12 289 *i*P **P** **16 27 38.0 -2.2**
HYB *e*S **S** **16 37 20.0 -2.3**
HYB Hyderabad 77.12 289 *e*P **P** **16 27 39.0 -1.1**
HYB IAmb IAmb 16 27 39.6
comp=Z,134nm,1.4s
HYBB Hyderabad (bro 77.12 289 *e*P **P** **16 27 39.1 -1.1**
HYBB IAmb IAmb 16 27 41.0
comp=Z,49nm,0.9s
HYBB *e*S **S** **16 37 19.1 -3.3**
NGP Nagpur 77.26 293 *e*P **P** **16 27 40.8 -0.1**
NGP IAmb IAmb 16 27 41.9
comp=Z,413nm,2.2s
BRLK Bradley Lake 77.37 25 *e*P **P** **16 27 41.6 +0.9**
TRD Trivandrum 77.47 280 *e*P **P** **16 27 43.0 +0.8**
SRSP Sriramsagar 77.55 290 *e*P **P** **16 27 41.7 -0.8**
SRSP IAmb IAmb 16 27 43.8
comp=Z,115nm,1.2s
SRSP *e*S **S** **16 37 24.9 -2.1**
SPU Mount Spurr 77.67 24 *e*P **P** **16 27 42.4 0.0**
TIXI Tiksi 77.68 352 *e*P **P** **16 27 42.4 +0.3**
TIXI Tiksi 77.68 352 *c i*P **P** **16 27 42.4 +0.3**
TIXI pmax pmax
comp=Z,36nm,1.2s
KRAR Krasnoyarsk 77.89 330 ⇓*e*P **P** **16 27 43.7 +0.1**
URV Uravakonda 77.99 286 *e*P **P** **16 27 43.7 -1.3**
URV IAmb IAmb 16 27 46.2
comp=Z,61nm,1.0s
URV *e*S **S** **16 37 28.0 -3.7**
SUA Susitna One 78.35 24 *e*P **P** **16 27 46.2 -0.1**
RC01 Rabbit Creek A 78.56 24 *e*P **P** **16 27 47.4 +0.1**
PPLA Purkeypile 78.58 22 *e*P **P** **16 27 48.5 +1.0**
CAST Castle Rocks 78.92 22 *e*P **P** **16 27 49.2 +0.1**
KLRI Killari 79.06 289 *e*P **P** **16 27 49.5 -1.4**
KLRI IAmb IAmb 16 27 51.9
comp=Z,37nm,0.9s
KLRI *e*S **S** **16 37 40.9 -2.2**
PMR Palmer 79.08 24 *e*P **P** **16 27 50.7 +0.7**
PMR Palmer 79.08 24 *e*P **P** **16 27 50.7 +0.7**
BHPL Bhopal 79.10 295 *e*P **P** **16 27 50.1 -0.9**
BHPL IAmb IAmb 16 27 51.0
comp=Z,74nm,0.7s
ZSN Zaisan 79.12 320 ⇑*i*P **P** **16 27 52.0 +1.4**
comp=Z,263nm,1.2s
ZSN *e*S **S** **16 37 46.7 +4.0**
KTH Kantishna Hill 79.43 22 *e*P **P** **16 27 50.3 -1.7**
comp=Z,54nm,1.0s
SML Sawmill 79.52 24 *e*P **P** **16 27 52.8 +0.3**
SML Sawmill 79.52 24 *e*P **P** **16 27 52.8 +0.3**
TRF Thorofare Moun 79.61 22 *e*P **P** **16 27 52.9 -0.3**
BPAW Bear Paw Mtn. 79.71 22 *e*P **P** **16 27 53.6 +0.1**
IM3 Indian Mountai 79.83 19 *e*P **P** **16 27 54.6 +0.6**
DDI Dehra Dun 79.83 302 *e*P **P** **16 27 56.0 +1.1**
DDI IAmb IAmb 16 27 56.7
comp=Z,146nm,1.0s
SCM Sheep Creek Mo 79.94 24 *e*P **P** **16 27 56.4 +1.6**
SCM Sheep Creek Mo 79.94 24 *e*P **P** **16 27 56.4 +1.6**
EYAK Cordova Ski Ar 79.99 26 *e*P **P** **16 27 56.6 +1.6**
RND Reindeer 80.13 23 *e*P **P** **16 27 55.5 -0.4**
RND Reindeer 80.13 23 *e*P **P** **16 27 55.5 -0.4**
DIV Divide 80.25 25 *e*P **P** **16 27 57.6 +1.0**
MCK McKinley 80.27 22 *e*P **P** **16 27 55.8 -0.7**
MCK McKinley 80.27 22 *e*P **P** **16 27 55.8 -0.7**
MLY Manley 80.31 21 *e*P **P** **16 27 57.0 +0.3**
KLU Klutina 80.36 25 *e*P **P** **16 27 58.2 +1.1**
RAGM Ragged Mountai 80.39 26 *e*P **P** **16 27 58.7 +1.5**
DHY Denali Highway 80.54 23 *e*P **P** **16 27 59.0 +0.9**
MK01 Makanchi Array 80.58 319 *e*P **P** **16 27 58.8 +0.2**
H08S2 Diego Garcia H 80.59 263 P **P** **16 28 00.2 +1.3**
baz=35,slow=5.1,SNR=7.6
MK31 Makanchi Array 80.59 319 *e*P **P** **16 27 58.8 +0.2**
MK31 Makanchi Array 80.59 319 *i*P **P** **16 27 58.6 0.0**
MK31 pmax pmax
comp=Z,182nm,1.3s
MKAR Makanchi Array 80.59 319 P **P** **16 27 58.2 -0.4**
comp=Z,55nm,0.8s,baz=100,slow=6.0,SNR=278
MKAR PKKPbc **PKKPbc** **16 46 38.0 -2.7**
comp=Z,0.7nm,0.7s,baz=323,slow=2.0,SNR=7.0
MKAR PKPPKP **P'P'df** **16 54 45.5 +2.7**
comp=Z,0.6nm,0.9s,baz=284,slow=2.0,SNR=3.9
MKAR LR LR 17 03 55.0
comp=Z,519nm,20.4s,baz=112,slow=36
MKAR Makanchi Array 80.59 319 *e*P **P** **16 27 58.8 +0.2**
MKAR PKKPbc **PKKPbc** **16 46 38.0 -2.7**
H08S3 Diego Garcia H 80.60 263 P **P** **16 28 00.1 +1.1**
baz=35,slow=5.1,SNR=8.8
H08S1 Diego Carcia H 80.61 263 P **P** **16 28 00.2 +1.1**
baz=35,slow=5.1,SNR=8.0
DGAR Diego Garcia 80.65 263 *e*P **P** **16 27 59.4 -0.1**
DGAR LR LR
comp=Z,558nm,19.0s
DGAR Diego Garcia 80.65 263 *e*P **P** **16 27 59.4 -0.1**
DGAR MLR MLR
comp=Z,558nm,19.0s
BMRM Bremner River 80.68 26 *e*P **P** **16 28 00.3 +1.5**
SMLA Simla 80.73 302 *e*P **P** **16 27 59.4 -0.3**
MAKZ Makanchi 80.80 319 *e*P **P** **16 28 00.2 +0.5**
MAKZ Makanchi 80.80 319 *e*P **P** **16 28 00.2 +0.5**
WRH Wood River Hil 80.97 22 *e*P **P** **16 28 00.2 0.0**
HARP HAARP 81.11 24 *e*P **P** **16 28 01.8 +0.8**
CCB Clear Creek Bu 81.17 22 *e*P **P** **16 28 00.8 -0.5**
MDM Murphy Dome 81.17 21 *e*P **P** **16 28 02.0 +0.7**
PAX Paxson 81.25 24 *e*P **P** **16 28 01.9 +0.1**
PAX Paxson 81.25 24 *e*P **P** **16 28 01.9 +0.1**
COLA College 81.27 22 *e*P **P** **16 27 57.9 -3.8**
comp=Z,91nm,1.0s
COLA College 81.27 22 *e*P **P** **16 27 57.9 -3.8**
COLA pmax pmax
comp=Z,91nm,1.0s
MNCY Minicoy 81.31 279 *e*P **P** **16 28 01.8 -1.2**
MNCY IAmb IAmb 16 28 03.3
comp=Z,718nm,2.1s
ZAA0 Zalesovo Array 81.32 326 *e*P **P** **16 28 00.9 -1.3**
ZALV Zalesovo Beam 81.32 326 P **P** **16 28 01.2 -1.1**
comp=Z,36nm,0.7s,baz=113,slow=5.5,SNR=146
ZALV PKPPKP **P'P'df** **16 54 44.4 +3.5**
comp=Z,0.6nm,0.5s,baz=284,slow=2.4,SNR=3.9
ZALV LR LR 17 07 02.7
comp=Z,393nm,18.2s,baz=70,slow=38
GOA Goa 81.35 286 *e*P **P** **16 28 01.6 -1.6**
GOA IAmb IAmb 16 28 04.4
comp=Z,180nm,1.8s
HDA Harding Lake 81.37 22 *e*P **P** **16 28 02.5 +0.2**
ILAR Eielson Array 81.57 22 P **P** **16 28 02.9 -0.5**
comp=Z,37nm,0.9s,baz=252,slow=5.0,SNR=137
ILAR PKKPbc **PKKPbc** **16 46 36.0 -3.2**
comp=Z,1.8nm,0.7s,baz=341,slow=1.5,SNR=21
ILAR LR LR 17 05 23.6
comp=Z,627nm,18.4s,baz=237,slow=36
ILB Eielson Array 81.57 22 *e*P **P** **16 28 02.9 -0.5**
PDGK Podgornoye 81.58 315 *i*P **P** **16 28 04.2 +0.1**
PDGK pmax pmax
comp=Z,73nm,0.7s
DHRM DHARAMSHALA 81.67 303 *e*P **P** **16 28 03.5 -1.4**
BALM Baldy 81.70 26 *e*P **P** **16 28 04.6 +0.3**
BALM Baldy 81.70 26 *e*P **P** **16 28 04.6 +0.3**
COLD Coldfoot 81.70 19 *e*P **P** **16 28 03.9 -0.1**
POO Poona 81.71 289 *e*P **P** **16 28 05.2 0.0**
POO IAmb IAmb 16 28 05.9
comp=Z,208nm,0.2s
RIDG Independ'e Rid 81.86 23 *e*P **P** **16 28 05.1 +0.1**
MENT Mentasta 81.94 24 *e*P **P** **16 28 06.2 +0.8**
DOT Dot Lake 82.13 24 *e*P **P** **16 28 06.8 +0.4**
H08N1 Diego Carcia H 82.14 264 P **P** **16 28 04.2 -2.9**
baz=150,slow=3.7,SNR=4.5
H08N2 Diego Garcia H 82.15 264 P **P** **16 28 04.0 -3.1**
baz=150,slow=3.7,SNR=4.4
H08N3 Diego Garcia H 82.16 264 P **P** **16 28 04.4 -2.8**
baz=150,slow=3.7,SNR=4.1
KPKS Kokpek 82.18 315 *e*P **P** **16 28 07.0 -0.1**
comp=Z,150nm,0.7s
KPKS *i*S **S** **16 38 16.3 +1.3**
SATY Saty 82.28 314 *i*P **P** **16 28 07.7 -0.1**
comp=Z,1μm,1.2s
SATY *i*S **S** **16 38 16.9 +0.8**
SCRK Sand Creek 82.31 23 *e*P **P** **16 28 07.6 +0.2**
NVS Novosibirsk 82.49 327 ⇑*i*P **P** **16 28 08.5 +0.2**
NVS *e*S **S** **16 38 18.9 +1.6**
NVS pmax pmax
comp=N,36nm,1.8s
NVS pmax pmax
comp=E,74nm,1.8s
NVS pmax pmax
comp=Z,108nm,1.8s
NVS smax smax
comp=N,30nm,2.4s
NVS smax smax
comp=E,51nm,2.4s
TOLK Toolik Lake Re 82.67 18 P **P** **16 28 10.4 +1.3**
baz=237
TOLK Toolik Lake Re 82.67 18 *e*P **P** **16 28 09.8 +0.7**
TDK Taldyqorghan 82.74 316 *i*P **P** **16 28 10.1 +0.1**
comp=E,3μm,1.1s
TDK *e*S **S** **16 38 20.9 +0.5**
SEM Semipalatinsk 82.91 322 *i*P **P** **16 28 10.6 -0.4**
comp=E,374nm,1.2s
SEM *e*S **S** **16 38 23.0 +0.7**
FYU Fort Yukon 83.05 21 *e*P **P** **16 28 12.3 +1.3**
MDOK Medeo 83.28 314 *i*P **P** **16 28 13.3 +0.4**
comp=E,1μm,1.1s
MDOK *e*S **S** **16 38 26.7 +0.5**
KSH Kashi 83.31 310 P **P** **16 28 16.5 +3.3**
KSH PP **PP** **16 31 33.1 +6.9**
KSH S **S** **16 38 31.7 +5.0**
KSH SS **SS** **16 43 59.2 +5.4**
KSH pmax pmax
comp=E,430nm,1.3s
KSH LR LR
comp=E,2μm,15.2s
KSH LR LR
comp=E,2μm,17.1s
KSH LR LR
comp=E,2μm,19.7s
AAA Alma-Ata 83.38 314 *i*P **P** **16 28 13.3 -0.1**
comp=E,441nm,1.2s
AAA *i*S **S** **16 38 27.4 +0.3**
ULHL Ulahol 83.66 313 P **P** **16 28 16.9 +1.9**
SNR=31
EGAK Eagle 83.76 23 *e*P **P** **16 28 15.2 +0.4**
EGAK LR LR
comp=Z,1μm,20.0s
HYT Haines Junctio 83.80 27 *e*P **P** **16 28 15.1 -0.1**
KUU Kurty 83.94 315 *i*P **P** **16 28 16.1 0.0**
comp=Z,2μm,1.2s
KUU *e*S **S** **16 38 31.1 -1.4**
KURK Kurchatov 83.99 322 *e*P **P** **16 28 16.0 -0.2**
KURK LR LR
comp=Z,2μm,21.0s
KURK Kurchatov 83.99 322 P **P** **16 28 15.5 -0.7**
SNR=74
KURK Kurchatov 83.99 322 P **P** **16 28 15.7 -0.5**
KURK pmax pmax
comp=Z,177nm,1.1s
KURBB Kurchatov Arra 84.03 322 P **P** **16 28 15.5 -0.9**
comp=Z,73nm,0.9s,baz=107,slow=4.2,SNR=293
H02S1 DAWSON INLET T 84.04 36 P **P** **16 28 18.2 +1.9**
DAWY Dawson 84.18 24 *e*P **P** **16 28 18.8 +1.8**
BMNS Besmoynak 84.25 314 *i*P **P** **16 28 17.7 -0.2**
comp=Z,2μm,1.1s
BMNS *i*S **S** **16 38 32.8 -3.2**
TKM2 Tokmak 2 84.27 314 P **P** **16 28 18.1 +0.1**
SNR=171
TKM2 Tokmak 2 84.27 314 P **P** **16 28 18.0 -0.1**
TKM2 pmax pmax
comp=Z,131nm,0.8s
BESE Bessie Mountai 84.32 30 *e*P **P** **16 28 19.3 +1.6**
KZA Kyzart 84.35 313 P **P** **16 28 19.6 +0.8**
SNR=309
SKAG Skagway 84.36 29 *e*P **P** **16 28 19.4 +1.6**
NIL Nilore 84.43 304 *e*P **P** **16 28 19.5 +0.6**
NIL LR LR
comp=Z,505nm,22.0s
NIL Nilore 84.43 304 *e*P **P** **16 28 19.5 +0.6**
NIL MLR MLR
comp=Z,505nm,22.0s
KBK Karagaybulak 84.68 313 P **P** **16 28 20.1 0.0**
SNR=149
CHMS Chumysh 84.89 314 P **P** **16 28 21.0 0.0**
SNR=125
UCH Uchtor 84.92 313 P **P** **16 28 22.3 +0.6**
SNR=211
FRU Bishkek 84.96 314 ⇑*i*P **P** **16 28 23.0 +1.7**
FRU *e* 16 28 52.0
FRU *e* 16 38 46.0
FRU pmax pmax
comp=Z,320nm,1.8s
WHY Whitehorse 84.96 28 *e*P **P** **16 28 22.2 +1.2**
WRAK Wrangell Islan 84.98 32 PFAKE 16 28 30.0 +9.0
WRAK LR LR
comp=Z,2μm,22.0s
AAK Ala-Archa 85.01 313 P **P** **16 28 22.3 +0.7**
comp=Z,119nm,0.8s,baz=112,slow=4.3,SNR=209
AAK Ala-Archa 85.01 313 P **P** **16 28 22.0 +0.3**
SNR=158
AAK Ala-Archa 85.01 313 *e*P **P** **16 28 22.6 +0.9**
AAK LR LR
comp=Z,1μm,21.0s
AAK Ala-Archa 85.01 313 P **P** **16 28 22.4 +0.7**
SNR=60
AAK Ala-Archa 85.01 313 P **P** **16 28 22.4 +0.7**
SNR=60
AAK Ala-Archa 85.01 313 *ce*P **P** **16 28 21.4 -0.3**
AAK pmax pmax
comp=Z,145nm,0.9s
AAK MLR MLR
comp=Z,785nm,18.0s
USP Ospenovka 85.12 314 P **P** **16 28 22.1 0.0**
SNR=182
SFK Sufi-Kurgan 85.28 311 P **P** **16 28 24.2 +1.0**
SFK pmax pmax
comp=Z,198nm,0.8s
QSPA South Pole Qui 85.48 180 P **P** **16 28 22.8 -0.7**
comp=Z,66nm,1.0s,baz=347,slow=1.2,SNR=76
AML Almayashu 85.50 313 P **P** **16 28 25.1 +0.6**
SNR=304
EKS2 Erkin-Say 85.53 313 P **P** **16 28 26.2 +1.9**
SNR=92
BTLS Baital 85.77 316 *i*P **P** **16 28 25.1 -0.2**
comp=Z,1μm,1.2s
BTLS *e*S **S** **16 38 42.4 -8.2**
MAW Mawson 86.16 203 P **P** **16 28 26.0 -0.7**
comp=Z,109nm,0.8s,baz=94,slow=5.8,SNR=66
MAW LR LR 17 03 57.1
comp=Z,668nm,20.4s,baz=90,slow=34
MAW Mawson 86.16 203 P **P** **16 28 26.1 -0.6**
baz=86,SNR=39
MAW Mawson 86.16 203 *e*P **P** **16 28 26.2 -0.6**
MAW Mawson 86.16 203 P **P** **16 28 26.0 -0.7**
MAW pmax pmax
comp=Z,109nm,0.8s
MAW MLR MLR
comp=Z,668nm,20.4s
BHJ Bhuj 86.18 294 *e*P **P** **16 28 28.7 +1.0**
MNAS Manas 86.43 313 P **P** **16 28 29.9 +1.1**
MNAS pmax pmax
comp=Z,79nm,0.9s
DLBC Dease Lake 86.71 31 *e*P **P** **16 28 30.2 +0.6**
DZA Taraz 87.35 313 *i*P **P** **16 28 33.2 +0.1**
comp=Z,487nm,0.9s
BRZS Berezniki 87.56 320 *i*P **P** **16 28 33.8 0.0**
INK Inuvik 87.88 21 P **P** **16 28 35.2 +0.3**
comp=Z,22nm,0.8s,baz=278,slow=3.9,SNR=73
INK Inuvik 87.88 21 *e*P **P** **16 28 35.3 +0.4**
KK06 Karatay Array 87.96 313 *e*P **P** **16 28 35.2 -0.8**
KK05 Karatay Array 87.97 313 *e*P **P** **16 28 36.4 +0.4**
KK02 Karatay Array 87.97 313 *e*P **P** **16 28 36.0 0.0**
KK31 Karatay Array 87.97 313 *e*P **P** **16 28 36.3 +0.3**
KK31 Karatay Array 87.97 313 *i*P **P** **16 28 35.6 -0.4**
KK31 pmax pmax
comp=Z,23nm,0.8s

KKAR Karatay Array 87.97 313 eP P 16 28 36.3 +0.3
KKAR Karatay Array 87.97 313 eP P 16 28 36.3 +0.3
KK01 Karatay Array 87.98 313 eP P 16 28 36.0 0.0
KK04 Karatay Array 87.98 313 eP P 16 28 35.6 -0.4
KK07 Karatay Array 87.98 313 eP P 16 28 36.6 +0.5
KK03 Karatay Array 87.98 313 eP P 16 28 36.2 +0.2
KK08 Karatay Array 87.99 313 eP P 16 28 36.6 +0.5
KBL Kabul 88.01 305 eP P 16 28 35.4 -1.2
KBL Kabul 88.01 305 eP P 16 28 35.4 -1.2
M02C Callahan 88.11 48 P P 16 28 38.9 +2.1
baz=262
N02D Trinity Center 88.17 49 P P 16 28 39.2 +2.2
baz=262
IUG luzhnay 88.19 312 i P P 16 28 36.9 -0.3
comp=Z,363nm,0.9s
IUG eS S 16 38 57.3 -17
HUMO Hull Mountain 88.20 47 eP P 16 28 38.0 +0.9
YBH Yreka Blue Hor 88.27 48 P P 16 28 39.1 +1.5
comp=Z,3.4nm,0.6s,baz=159,slow=2.3,SNR=15
YBH LR LR 17 01 20.4
comp=Z,1μm,21.9s,baz=270,slow=31
E03A Lebam 88.32 43 eP P 16 28 39.6 +2.2
I04A Tendick Farm, 88.75 46 P P 16 28 40.5 +0.8
baz=263
J04D Umpqua Nationa 88.90 47 P P 16 28 41.5 +0.9
baz=263
H04A Detroit Lake 89.03 45 eP P 16 28 42.0 +1.0
AFDM Forest Hills D 89.25 51 eP P 16 28 40.0 -2.1
BVA0 Borovoye Array 89.45 323 P P 16 28 41.5 -1.2
BVA0 pmax pmax
comp=Z,122nm,1.0s
BVAR Borovoye Array 89.45 323 P P 16 28 42.5 -0.2
comp=Z,81nm,0.9s,baz=111,slow=5.6,SNR=282
BVAR LR LR 17 10 57.5
comp=Z,418nm,18.8s,baz=96,slow=37
BRVK Borovoye 89.52 323 eP P 16 28 43.0 0.0
BRVK LR LR
comp=Z,645nm,22.0s
BRVK Borovoye 89.52 323 P P 16 28 43.2 +0.2
SNR=47
BRVK Borovoye 89.52 323 P P 16 28 43.2 +0.2
SNR=47
BRVK Borovoye 89.52 323 deP P 16 28 42.3 -0.7
BRVK pmax pmax
comp=Z,343nm,1.2s
BRVK MLR MLR
comp=Z,1μm,21.0s
J05D Fort Rock, OR 89.54 47 P P 16 28 45.1 +1.6
baz=264
I05D Terrebonne, OR 89.58 46 P P 16 28 44.9 +1.3
baz=263
K05A Summer Lake 89.73 47 eP P 16 28 45.9 +1.4
PINE Pine Mountain 89.81 46 eP P 16 28 46.1 +1.2
LLLB Lillooet 89.97 39 eP P 16 28 46.0 +0.8
MOD Modoc Plateau 90.07 48 eP P 16 28 47.0 +0.9
WAKR Walker 90.40 52 eP P 16 28 49.6 +1.9
PAHR Pah Rah Range 90.55 50 eP P 16 28 50.0 +1.6
YERR Yerington 90.60 51 eP P 16 28 50.5 +1.9
I07A Izee 90.87 46 eP P 16 28 51.0 +1.3
ISA Isabella, Lake 90.92 54 P P 16 28 51.1 +1.1
baz=265
ISA Isabella, Lake 90.92 54 eP P 16 28 51.6 +1.5
ISA Isabella, Lake 90.92 54 eP P 16 28 51.6 +1.5
HAWA Hanford 91.06 44 PFAKE 16 29 00.0 +10
HAWA LR LR
comp=Z,2μm,22.0s
MWC Mount Wilson 91.14 56 eP P 16 28 53.3 +2.0
MWC Mount Wilson 91.14 56 eP P 16 28 53.3 +2.0
EDW2 Edwards Air Fo 91.25 55 P P 16 28 52.2 +0.6
baz=265
NV01 Mina Array Sit 91.28 52 eP P 16 28 52.7 +0.8
NVAR Mina Array Bea 91.28 52 P P 16 28 52.5 +0.7
comp=Z,7.0nm,0.8s,baz=257,slow=6.3,SNR=22
NVAR PKKP PKKPdf 16 46 09.8 -1.9
comp=Z,0.3nm,0.5s,baz=69,slow=2.9,SNR=3.7
NVAR PKKPbc PKKPbc 16 46 15.3 +0.4
comp=Z,0.9nm,0.7s,baz=116,slow=2.4,SNR=6.7
NVAR LR LR 17 03 40.3
comp=Z,2μm,21.1s,baz=88,slow=31
CWC Cottonwood Cre 91.30 54 P P 16 28 53.1 +1.2
baz=265
WVOR Wild Horse Val 91.36 48 eP P 16 28 53.1 +1.1
WVOR LR LR
comp=Z,2μm,22.0s
WVOR Wild Horse Val 91.36 48 eP P 16 28 53.1 +1.1
WVOR MLR MLR
comp=Z,2μm,22.0s
G08A Pilot Rock 91.36 45 eP P 16 28 53.0 +1.1
B08A Colville Reser 91.38 42 eP P 16 28 52.2 +0.4
NV11 Mina Array Sit 91.40 52 eP P 16 28 53.6 +1.3
LRMC Laurel Mtn Rad 91.55 55 P P 16 28 54.4 +1.3
baz=266
J08A Circle Bar Ran 91.55 47 eP P 16 28 52.1 -0.8
DAC Darwin (Calif) 91.68 54 eP P 16 28 55.0 +1.3
DAC Darwin (Calif) 91.68 54 eP P 16 28 55.0 +1.3
MPMC Manual Prospec 91.75 54 P P 16 28 55.3 +1.2
baz=266
E09A Wood Farm, Sta 92.03 44 eP P 16 28 55.9 +1.0
GSC Goldstone, Bar 92.25 55 P P 16 28 57.8 +1.5
baz=266
GSC Goldstone, Bar 92.25 55 eP P 16 28 57.7 +1.5
GSC Goldstone, Bar 92.25 55 eP P 16 28 57.7 +1.5
FURC Furnace Creek, 92.28 54 P P 16 28 58.0 +1.8
baz=266
MONP2 Monument Peak 92.41 57 P P 16 28 58.8 +1.7
baz=266
PFO Pinyon Flats O 92.42 57 P P 16 28 58.1 +1.0
baz=266
PFO Pinyon Flats O 92.42 57 PFAKE 16 29 10.0 +13
PFO LR LR
comp=Z,2μm,22.0s
BMO Blue Mountains 92.50 45 eP P 16 28 57.9 +0.7
BMO LR LR
comp=Z,1μm,22.0s
BMO Blue Mountains 92.50 45 eP P 16 28 57.9 +0.7
BMO MLR MLR
comp=Z,1μm,22.0s
HEC Hector,Ludlow 92.60 55 P P 16 28 59.0 +1.2
baz=266
F10A Beach Ranch, E 92.63 44 eP P 16 28 58.2 +0.5
SHOC Shoshone, Teco 92.72 54 P P 16 28 59.7 +1.4
baz=266
TPNV Topopah Spring 92.80 53 P P 16 28 59.7 +0.8
baz=266
TPNV Topopah Spring 92.80 53 eP P 16 28 56.9 -1.9
TPNV Topopah Spring 92.80 53 eP P 16 28 56.9 -1.9
NEW Newport 92.84 42 P P 16 28 59.2 +0.6
comp=Z,7.3nm,0.9s,baz=218,slow=4.4,SNR=10
NEW Newport 92.84 42 P P 16 28 58.9 +0.3
baz=266
NEW Newport 92.84 42 P P 16 28 59.2 +0.6
baz=266
NEW LR LR
comp=Z,1μm,22.0s
NEW Newport 92.84 42 P P 16 28 59.2 +0.6
baz=266
NEW MLR MLR
comp=Z,1μm,22.0s
TUQ Turquoise Moun 92.97 55 P P 16 29 01.4 +1.7
baz=267
R11A Troy Canyon, C 93.41 52 P P 16 29 02.4 +0.7
baz=267
R11A Troy Canyon, C 93.41 52 eP P 16 29 02.7 +1.1
MFID Camas Ranch 93.48 47 eP P 16 29 02.8 +1.0
IRM Iron Mountain 93.55 56 P P 16 29 03.5 +1.4
baz=267
SHPR Sheep Range 93.65 54 eP P 16 29 04.6 +1.8
SYO Syowa Base 94.22 199 ⇓ iX P 16 29 01.4 -3.1
SYO Syowa Base 94.22 199 ⇓ iSP sP 16 29 47.4 +8.1
RPN Rapa Nui 94.27 118 LR LR 17 05 48.2
comp=Z,436nm,18.8s,baz=264,slow=32
HLID Hailey 94.51 47 eP P 16 29 08.0 +1.4
HLID LR LR
comp=Z,1μm,22.0s
YKA Yellowknife Ar 94.78 28 P P 16 29 07.6 +0.5
comp=Z,7.4nm,0.8s,baz=269,slow=4.6,SNR=114
YKA PKiKP PKiKP 16 33 49.0 +0.1
comp=Z,0.2nm,0.6s,baz=257,slow=1.3,SNR=4.4
YKA PKKPbc PKKPdf 16 46 02.5 -3.1
comp=Z,2.7nm,0.7s,baz=88,slow=2.8,SNR=37
WALA Waterton Lakes 95.00 41 eP P 16 29 09.5 +0.9
CCUT Cedar City 95.13 53 eP P 16 29 11.5 +1.8
LCMT Little Creek M 95.21 53 eP P 16 29 11.6 +1.7
SVE Sverdlovsk 95.33 327 ⇓ eP P 16 29 07.8 -1.9
SVE pmax pmax
comp=Z,23nm,1.3s
EDM Edmonton 95.40 37 eP P 16 29 11.1 +0.9
EDM Edmonton 95.40 37 eP P 16 29 11.1 +0.9
KNB Kanab 95.55 53 eP P 16 29 13.4 +1.9
KNB Kanab 95.55 53 eP P 16 29 13.4 +1.9
DUG Dugway, Tooele 95.62 50 PFAKE 16 29 20.0 +8.3
DUG LR LR
comp=Z,2μm,22.0s
RER Riviere de l'E 95.68 248 PFAKE 16 29 20.0 +7.7
RER LR LR
comp=Z,4μm,20.0s
HVU Hansel Valley 95.68 49 eP P 16 29 13.3 +1.4
HVU Hansel Valley 95.68 49 eP P 16 29 13.3 +1.4
AB06 Akbulak array 95.72 319 eP P 16 29 10.2 -1.6
AB07 Akbulak array 95.73 319 eP P 16 29 10.1 -1.6
AB02 Akbulak array 95.74 319 eP P 16 29 09.7 -2.1
AB01 Akbulak array 95.74 319 eP P 16 29 10.1 -1.7
AB03 Akbulak array 95.74 319 eP P 16 29 10.5 -1.3
AB05 Akbulak array 95.74 319 eP P 16 29 10.2 -1.6
AB31 Akbulak array 95.74 319 eP P 16 29 09.8 -2.0
AB31 Akbulak array 95.74 319 iP P 16 29 09.5 -2.3
AB31 pmax pmax
comp=Z,36nm,1.3s
ABKAR Akbulak array 95.74 319 eP P 16 29 10.0 -1.8
AB04 Akbulak array 95.74 319 eP P 16 29 10.2 -1.7
AB08 Akbulak array 95.75 319 eP P 16 29 10.6 -1.3
AB09 Akbulak array 95.75 319 eP P 16 29 10.7 -1.2
WSAR Wadi Sarin 96.28 293 P P 16 29 14.9 0.0
comp=Z,22nm,0.9s,baz=135,slow=5.1,SNR=18
WSAR LR LR 17 14 50.4
comp=Z,276nm,21.2s,baz=114,slow=37
ARU Arti 96.48 326 eP P 16 29 13.2 -1.7
ARU LR LR
comp=Z,1μm,22.0s
ARU Arti 96.48 326 diP P 16 29 13.5 -1.5
ARU 16 33 08.6
ARU S SKSac 16 39 42.6 -0.5
ARU *SS SKKSac 16 40 17.0 +8.0
ARU SP SP 16 41 48.1 +0.3
ARU PS PS 16 41 56.4 -3.6
ARU SS SS 16 46 58.5 -4.5
ARU pmax pmax
comp=Z,39nm,1.7s
BOZ Bozeman (W) 96.53 45 PFAKE 16 29 30.0 +14
BOZ LR LR
comp=Z,2μm,22.0s
WUAZ Wupatki 96.69 55 PFAKE 16 29 30.0 +13
WUAZ LR LR
comp=Z,1μm,19.0s
BIDO Bidbid 96.76 293 P P 16 29 18.0 +1.0
SNR=11
BIDO Bidbid 96.76 293 P P 16 29 18.0 +1.0
SNR=11
YHB Horse Butte 96.84 46 eP P 16 29 19.0 +1.8
AKTO Aktyubinsk 96.97 320 P P 16 29 16.3 -1.1
comp=Z,15nm,1.0s,baz=97,slow=12,SNR=26
AKTO LR LR 17 12 52.9
comp=Z,586nm,21.3s,baz=83,slow=35
FXWY Fox Creek 96.98 47 eP Pdif 16 29 19.0
YMR Madison River 97.01 46 eP Pdif 16 29 19.9 +1.8
GYB2 ALIBECK ARRAY 97.03 308 eP Pdif 16 29 18.6 +0.6
GYA2 ALIBECK ARRAY 97.03 308 eP Pdif 16 29 19.4 +1.3
GEYT Alibeck 97.03 308 P Pdif 16 29 18.1 0.0
comp=Z,15nm,1.0s,baz=75,slow=1.7,SNR=36
GEYT LR LR 17 16 56.5
comp=Z,455nm,19.3s,baz=90,slow=38
GYA0 ALIBECK ARRAY 97.03 308 eP Pdif 16 29 18.6 +0.5
GYA0B ALIBECK ARRAY 97.03 308 eP Pdif 16 29 18.7 +0.6
GYA1 ALIBECK ARRAY 97.03 308 eP Pdif 16 29 18.6 +0.5
GYB3 ALIBECK ARRAY 97.03 308 eP Pdif 16 29 19.4 +1.3
GYB5 ALIBECK ARRAY 97.04 308 eP Pdif 16 29 18.1 0.0
GYB4 ALIBECK ARRAY 97.05 308 eP Pdif 16 29 18.6 +0.5
YFT Old Faithful 97.11 46 eP Pdif 16 29 21.7 +3.2
MOOW Moose Ponds 97.18 47 eP Pdif 16 29 19.8 +0.9
H17A Grant Village 97.29 46 P Pdif 16 29 21.3 +1.9
baz=271
H17A Grant Village 97.29 46 eP Pdif 16 29 21.8 +2.5
LKWY Lake 97.42 46 PFAKE 16 29 30.0 +10
LKWY LR LR
comp=Z,918nm,19.0s
PDAR Pinedale Array 98.06 48 P Pdif 16 29 23.1 +0.2
comp=Z,1.0nm,0.6s,baz=267,slow=3.0,SNR=6.9
PDAR PP PP 16 33 24.3 +1.4
comp=Z,2.8nm,1.1s,baz=256,slow=6.0,SNR=4.9
PDAR PKKP PKKPbc 16 45 55.6 -1.4
comp=Z,1.0nm,0.5s,baz=93,slow=4.9,SNR=10
PDAR LR LR 17 12 07.9
comp=Z,955nm,18.0s,baz=272,slow=34
PDAR Pinedale Array 98.06 48 eP P 16 29 22.1 -0.7
PDAR PP PP 16 33 24.3 +1.4
PDAR PKKP PKKPbc 16 45 55.6 -1.4
RLMT Red Lodge 98.21 45 PFAKE 16 29 30.0 +6.6
RLMT LR LR
comp=Z,1μm,22.0s
UOSS Minazif 98.55 294 eP P 16 29 23.9 -1.2
MVCO Mesa Verde 99.00 53 PFAKE 16 29 40.0 +13
MVCO LR LR
comp=Z,1μm,20.0s
RES Resolute Bay 99.90 15 P Pdif 16 29 30.1 +0.1
comp=Z,4.4nm,0.8s,baz=338,slow=3.0,SNR=22
LAO LASA Array 100.24 44 P Pdif 16 29 33.4 +1.2
baz=274
LAO LASA Array 100.24 44 PFAKE 16 29 40.0 +7.8
LAO LR LR
comp=Z,2μm,19.0s
S22A 4UR Ranch, Cre 100.31 53 P Pdif 16 29 33.9 +0.9
baz=272
ISCO Idaho Springs 101.16 50 PFAKE 16 29 50.0 +13
ISCO LR LR
comp=Z,2μm,21.0s
SDCO Great Sand Dun 101.36 53 PFAKE 16 29 50.0 +12
SDCO LR LR
comp=Z,2μm,22.0s
DGMT Dagmar 101.45 42 PFAKE 16 29 50.0 +13
DGMT LR LR
comp=Z,1μm,22.0s
MNTX Cornudas Mount 101.73 59 PFAKE 16 29 50.0 +11
MNTX LR LR
comp=Z,1μm,19.0s
FFC Flin Flon 101.97 35 PFAKE 16 29 50.0 +10
FFC LR LR
comp=Z,818nm,21.0s
SNAA Sanae 102.44 187 P Pdif 16 29 40.7 -0.8
SNAA Sanae 102.44 187 P Pdif 16 29 40.2 -1.3
comp=Z,2.6nm,0.6s,baz=204,slow=9.6,SNR=10
SNAA Sanae 102.44 187 ePdif Pdif 16 29 40.9 -0.6
SNAA Sanae 102.44 187 diP Pdif 16 29 41.0 -0.5
SNAA pmax pmax
comp=Z,1μm,1.9s
TXAR Lajitas Array 103.30 61 PKiKP PKiKP 16 34 04.0 -1.2
comp=Z,0.7nm,0.9s,baz=264,slow=3.8,SNR=4.9
TXAR PKKPbc PKKPbc 16 45 37.8 -3.5
comp=Z,2.6nm,0.7s,baz=101,slow=4.4,SNR=6.7
VNA3 Neumayer Olymp 103.62 186 P Pdif 16 29 46.1 -0.5
VNA2 Neumayer--Watz 103.69 186 P Pdif 16 29 46.7 -0.3
baz=173,slow=4.5
OGNE Ogallala 103.79 49 PFAKE 16 30 00.0 +12
OGNE LR LR
comp=Z,1μm,21.0s
ABPO Ambohimpanom 103.91 249 PFAKE 16 30 00.0 +11
ABPO LR LR
comp=Z,546nm,20.0s
HSPB Hornsund (broa 104.09 351 eP Pdif 16 29 53.2 +4.7
HSPB e 16 34 07.8
HSPB eS SKSac 16 40 23.8 +4.3
HSPB eSP SP 16 43 13.9 +5.9
HSPB eSS SS 16 48 59.2 +12
LVZ Lovozero 104.73 340 PFAKE 16 30 00.0 +8.4
LVZ LR LR
comp=Z,1μm,22.0s
MAK Makhachkala 104.79 313 eP Pdif 16 29 52.5 +0.1
MAK e 16 34 11.9
MAK ePPP PPP 16 36 26.7
MAK pmax pmax
comp=Z,15nm,0.3s
APA Apatity 105.30 340 ⇓ iP Pdif 16 29 55.2 +1.1
APA i 16 34 12.8
APA i 16 40 27.0
APA iSS SS 16 49 05.0 +0.4
APA pmax pmax
comp=Z,6.0nm,0.8s
APA MLR MLR
comp=Z,2μm,19.0s
KLMR Klimovskoe 105.46 332 ePdif Pdif 16 29 52.4 -2.5
KLMR AMP 16 29 57.0
comp=Z,7.0nm,1.0s
KLMR ePP PP 16 34 15.7 -1.8
KLMR ePS PS 16 43 23.2 -12
KLMR ePS PS 16 43 23.2 -12
KLMR eSS SS 16 49 31.1 +24
KLMR eSS SS 16 49 31.1 +24
KLMR LQ LQ 17 09 40.8
KLMR LQ LQ 17 09 40.8
KLMR LR LR 17 13 34.0
KLMR Klimovskoe 105.46 332 eP Pdif 16 29 52.4 -2.5
KLMR e 16 34 15.7
KLMR ePS PS 16 43 23.2 -12
KLMR eSS SS 16 49 31.1 +24
KLMR pmax pmax
comp=Z,7.0nm,1.0s
CBKS Cedar Bluff 105.79 51 PFAKE 16 34 20.0
CBKS LR LR
comp=Z,3μm,22.0s
ULM Lac du Bonnet 106.51 39 PKKPbc PKKPbc 16 45 29.0 -3.2
comp=Z,0.7nm,0.4s,baz=119,slow=4.2,SNR=5.7
JCT Junction City 106.58 60 PFAKE 16 34 20.0
JCT LR LR
comp=Z,2μm,20.0s
ARCES ARCESS Array B 106.79 343 Pdiff Pdif 16 30 02.7 +2.0
comp=Z,4.6nm,0.9s,baz=34,slow=8.8,SNR=4.8
ARCES PKiKP PKiKP 16 34 10.2 -0.1
comp=Z,3.1nm,0.7s,baz=50,slow=1.4,SNR=13
AGMN Agassiz Nation 106.95 41 PFAKE 16 34 20.0
AGMN LR LR
comp=Z,935nm,22.0s
WMOK Wichita Mounta 107.03 55 PFAKE 16 34 20.0
WMOK LR LR
comp=Z,759nm,19.0s
ECSD EROS Data Cent 107.36 46 PFAKE 16 34 20.0
ECSD LR LR
comp=Z,1μm,19.0s
KIV Kislovodsk 108.08 315 PFAKE 16 34 20.0
KIV LR LR
comp=Z,499nm,21.0s
KIV Kislovodsk 108.08 315 eP Pdif 16 30 04.9 -2.3
KIV e 16 34 35.2
KIV e 16 40 37.3
KIV ePS PS 16 44 00.5 -2.6
KIV eSS SS 16 49 43.2 -0.8
KIV pmax pmax
comp=Z,5.0nm,1.0s
KIV MLR MLR
comp=Z,519nm,21.0s
KSU1 Kansas State U 108.16 50 PFAKE 16 34 30.0
KSU1 LR LR
comp=Z,2μm,19.0s
RAYN Ar Rayn 108.34 293 PFAKE 16 34 30.0
RAYN LR LR
comp=Z,378nm,22.0s
KVTX Kingsville 108.48 63 PFAKE 16 34 30.0
KVTX LR LR
comp=Z,1μm,20.0s
OBN Obninsk 108.88 327 PFAKE 16 34 30.0
OBN LR LR
comp=Z,946nm,22.0s
EYMN Ely 109.87 40 PFAKE 16 34 30.0
EYMN LR LR
comp=Z,913nm,22.0s
SCIA State Center 110.18 47 PFAKE 16 34 30.0
SCIA LR LR
comp=Z,1μm,19.0s
SOC Sochi 110.26 315 i PKIKP PKiKP 16 34 17.2 -0.4
SOC e 16 34 51.2
SOC e 16 41 21.3
SOC ePS PS 16 44 03.5 -21
SOC eSS SS 16 50 13.6 +0.6
SOC eSSS SSS 16 54 24.4
SOC MLR MLR
comp=Z,429nm,18.0s
NATX Nacogdoches 110.83 58 PFAKE 16 34 30.0
NATX LR LR
comp=Z,1μm,20.0s
FINES FINESS Array B 111.08 336 Pdiff Pdif 16 30 18.8 -1.1
comp=Z,0.8nm,0.4s,baz=64,slow=4.4,SNR=9.1
FINES PKiKP PKiKP 16 34 17.9 -0.6
comp=Z,2.2nm,0.7s,baz=6.2,slow=2.5,SNR=9.9
FINES PKKPbc PKKPbc 16 45 14.4 -3.6
comp=Z,2.2nm,0.8s,baz=184,slow=7.5,SNR=4.5
MIAR Mount Ida 111.31 55 PFAKE 16 34 30.0
MIAR LR LR
comp=Z,1μm,19.0s
ANN Anapa 111.54 317 eP Pdif 16 30 22.6 +0.2
ANN e 16 35 03.4
ANN e 16 41 24.0
ANN ePS PS 16 44 29.8 -6.0
ANN pmax pmax
comp=Z,9.0nm,1.2s
COWI Conover 111.95 42 PFAKE 16 34 30.0
COWI LR LR
comp=Z,1μm,20.0s
JFWS Jewell Farm 112.07 45 PFAKE 16 34 30.0
JFWS LR LR
comp=Z,1μm,20.0s
HDIL Hopedale 113.37 48 PFAKE 16 34 40.0
HDIL LR LR
comp=Z,1μm,21.0s
SIM Simferopol' 113.75 318 P Pdif 16 30 31.2 -1.0
SIM 16 35 19.2
SIM PS PS 16 44 51.2 -5.0
SIM SS SS 16 51 01.6 +2.4
SIM pmax pmax
comp=Z,330nm,13.0s
SIM MLR MLR
comp=Z,320nm,19.0s
AKASG Malin Array Be 114.68 325 PKP PKPdf 16 34 25.2 -0.5
comp=Z,6.4nm,0.6s,baz=62,slow=2.2,SNR=27
AKASG PKKPbc PKKPbc 16 45 02.4 -3.2
comp=Z,1.3nm,0.6s,baz=263,slow=3.7,SNR=9.6
GLMI Grayling 115.37 42 PFAKE 16 34 40.0 +13
GLMI LR LR
comp=Z,2μm,19.0s
SFJD Kangerlussuaq 115.39 10 PKP PKPdf 16 34 25.6 -1.0
comp=Z,2.7nm,0.6s,baz=45,slow=7.1,SNR=2.5
BRTR Keskin Array B 115.66 312 PKP PKPdf 16 34 27.6 -0.7
comp=Z,2.5nm,0.6s,baz=139,slow=3.8,SNR=16
BRTR PP PP 16 35 31.4 -0.4
comp=Z,1.9nm,0.8s,baz=88,slow=3.8,SNR=3.8
BRTR PKKPbc PKKPbc 16 45 00.6 -1.5
comp=Z,0.9nm,0.8s,baz=224,slow=2.7,SNR=5.8
MMAI Mount Meron Ar 115.95 305 PKP PKPdf 16 34 29.2 +0.3
comp=Z,2.7nm,0.7s,baz=64,slow=7.5,SNR=9.2
KMBO Kilima Mbogo 116.14 267 PKP PKPdf 16 34 30.1 +0.2
comp=Z,4.2nm,0.8s,baz=52,slow=6.1,SNR=13
ANTO Ankara 116.25 313 ePKPdf PKPdf 16 34 29.2 0.0
ANTO Ankara 116.25 313 P PKPdf 16 34 29.6 +0.4
SNR=5.3
ANTO Ankara 116.25 313 ePKIKP PKPdf 16 34 29.3 0.0
BR231 Keskin MP Arra 116.27 312 ePKPdf PKPdf 16 34 28.3 -1.0
SORM Soroca 116.28 322 ⇓ iP PKPdf 16 34 28.9 0.0
SORM Soroca 116.28 322 ⇓ PKIKP PKPdf 16 34 28.9 0.0
SUW Suwalki 116.36 330 ePKP PKPdf 16 34 28.8 -0.1
SUW Suwalki 116.36 330 ePKIKP PKPdf 16 34 28.8 -0.1
KIS Kishinev 116.46 321 ePKP PKPdf 16 34 30.0 +0.7
KIS Kishinev 116.46 321 ePP PP 16 35 30.0 -6.9
KIS eSKP 16 38 18.0
KIS Kishinev 116.46 321 ePKIKP PKPdf 16 34 30.0 +0.7
KIS MLR MLR
comp=Z,1μm,20.0s
KIS MLR MLR
comp=Z,1μm,24.0s
HFS Hagfors 116.66 339 PKP PKPdf 16 34 28.3 -1.0
comp=Z,3.9nm,0.8s,baz=128,slow=2.4,SNR=8.9
NB2 NORSAR Subarra 116.87 341 PKPdf PKPdf 16 34 28.5 -1.2
comp=Z,2.1nm,0.6s,baz=45,slow=1.9
NOA NORSAR Array B 116.87 341 PKP PKPdf 16 34 28.5 -1.2
comp=Z,2.5nm,0.7s,baz=47,slow=2.0,SNR=12
AAM Ann Arbor 116.89 44 PFAKE 16 34 40.0 +10
AAM LR LR
comp=Z,2μm,22.0s
NBO02 NORSAR Array S 116.98 341 ePKPdf PKPdf 16 34 30.0 +0.1
CSS Mathiatis 117.17 307 ePKPdf PKPdf 16 34 30.7 -0.4
CSS LR LR
comp=Z,96nm,22.0s
TLCR 117.18 319 ⇑ iP PKPdf 16 34 31.1 +0.4
TLCR 117.18 319 ⇑ PKIKP PKPdf 16 34 31.1 +0.4
BRAL Brewton 117.33 57 PFAKE 16 34 40.0 +8.6
BRAL LR LR
comp=Z,1μm,20.0s
CFR Carcaliu 117.63 319 ⇑ iP PKPdf 16 34 31.8 +0.2
CFR Carcaliu 117.63 319 ⇑ PKIKP PKPdf 16 34 31.8 +0.2

EFI East Falkland 117.89 158 PFAKE 16 34 40.0 +8.1
EFI LR LR
comp=Z,1µm,19.0s
LVV L'vov 118.05 326 *e*PKIKP PKPdf 16 34 32.5 +0.2
ACSO Alum Creek Sta 118.07 46 PFAKE 16 34 40.0 +7.4
ACSO LR LR
comp=Z,1µm,22.0s
VRI Vrincioaia 118.25 321 ⇑*i*P PKPdf 16 34 32.5 -0.3
VRI Vrincioaia 118.25 321 ⇑PKIKP PKPdf 16 34 32.5 -0.3
BUR08 Bucovina Ar. S 118.40 323 *e*PKPdf PKPdf 16 34 34.4 +1.2
BURAR Bucovina Array 118.41 323 ⇓*i*P PKPdf 16 34 34.7 +1.5
BURAR Bucovina Array 118.41 323 ⇓PKIKP PKPdf 16 34 34.7 +1.5
BUR04 Bucovina Ar. S 118.41 323 *e*PKPdf PKPdf 16 34 33.5 +0.4
ISP Isparta 118.55 311 ⇓*i*P PKPdf 16 34 33.3 -0.5
ISP Isparta 118.55 311 PFAKE 16 34 50.0 +16
ISP LR LR
comp=Z,374nm,22.0s
ISP Isparta 118.55 311 ⇑*i*PKIKP PKPdf 16 34 32.6 -1.2
KWP Kalwaria Pacla 118.89 326 *e*PKP PKPdf 16 34 34.3 +0.3
KWP Kalwaria Pacla 118.89 326 *e*PKPdf PKPdf 16 34 34.3 +0.3
KWP Kalwaria Pacla 118.89 326 *e*PKIKP PKPdf 16 34 34.3 +0.3
MLR Muntele Rosu 118.90 320 PKP PKPdf 16 34 33.7 -0.5
comp=Z,0.8nm,0.6s,baz=311,slow=2.4,SNR=8.4
MLR Muntele Rosu 118.90 320 ⇑*i*P PKPdf 16 34 34.0 -0.2
MLR Muntele Rosu 118.90 320 ⇑PKIKP PKPdf 16 34 34.0 -0.2
DOPR Dopca 119.04 321 ⇑*i*P PKPdf 16 34 35.4 +1.0
PLCA Paso Flores 119.57 143 PKP PKPdf 16 34 34.8 -0.9
comp=Z,2.1nm,0.7s,baz=267,slow=5.0,SNR=9.4
PLCA PKKPab **PKKPbc 16 44 47.7 -0.5**
comp=Z,2.7nm,0.8s,baz=94,slow=5.8,SNR=4.2
UZH Uzhgorod 119.63 325 *i* PKIKP PKPdf 16 34 37.1 +1.8
UZH *e* 16 34 57.9
UZH *i* 16 35 56.9
UZH *i* 16 45 31.1
UZH MLR MLR
comp=N,1µm,22.0s
UZH MLR MLR
comp=E,1µm,22.0s
UZH MLR MLR
comp=Z,500nm,22.0s
BORG Borgarnes 119.74 357 PFAKE 16 34 50.0 +15
BORG LR LR
comp=Z,601nm,20.0s
GOGA Godfrey 119.75 54 PFAKE 16 34 50.0 +14
GOGA LR LR
comp=Z,1µm,20.0s
ARR Arges 119.79 321 ⇓*i*P PKPdf 16 34 37.6 +1.7
STHS Stebnicka Huta 119.81 326 *e*PKP PKPdf 16 34 36.3 +0.6
STHS Stebnicka Huta 119.81 326 *e*PKIKP PKPdf 16 34 36.3 +0.6
CRVS Cervenica-Dubn 119.96 326 *e*PKP PKPdf 16 34 36.2 +0.2
CRVS Cervenica-Dubn 119.96 326 *e*PKIKP PKPdf 16 34 36.2 +0.2
OJC Ojcow 120.17 328 *e*PKP PKPdf 16 34 36.5 +0.1
OJC Ojcow 120.17 328 *e*PKIKP PKPdf 16 34 36.5 +0.1
NIE Niedzica 120.34 327 *e*PKP PKPdf 16 34 37.6 +0.9
NIE Niedzica 120.34 327 *e*PKIKP PKPdf 16 34 37.7 +0.9
BOSA Boshof 120.43 233 PKP PKPdf 16 34 37.6 -0.1
comp=Z,11nm,0.7s,baz=136,slow=1.5,SNR=23
BOSA PKKPbc **PKKPbc 16 44 43.4 -1.3**
comp=Z,3.2nm,0.8s,baz=240,slow=5.7,SNR=4.3
KECS Kecovo 120.73 326 *e*PKP PKPdf 16 34 37.6 +0.1
KECS Kecovo 120.73 326 *e*PKIKP PKPdf 16 34 37.6 +0.1
LANS Liptovska Anna 120.94 327 *e*PKP PKPdf 16 34 39.0 +1.1
LANS Liptovska Anna 120.94 327 *e*PKIKP PKPdf 16 34 39.0 +1.1
BLA Blacksburg 120.97 49 PFAKE 16 34 50.0 +12
BLA LR LR
comp=Z,2µm,22.0s
SIRR Siria 121.19 323 ⇑*i*P PKPdf 16 34 39.1 +0.6
LRW Lerwick 121.23 346 *e*P PKPdf 16 34 37.8 -0.3
OKC Ostrava-Krasne 121.26 328 *e*PKPdf PKPdf 16 34 38.1 -0.4
OKC *e*PP **PP 16 36 10.0 +0.3**
OKC *e*SP SP 16 45 55.2 +3.4
OKC AMS AMS 17 25 10.0
comp=Z,800nm,24.6s
OKC Ostrava-Krasne 121.26 328 *e*PKIKP PKPdf 16 34 38.1 -0.4
OKC *e* 16 36 10.0
OKC *e*PS **PS 16 45 55.2 -8.4**
OKC MLR MLR
comp=Z,800nm,24.6s
PSZ Piszkesteto 121.37 325 ⇓*i*P PKPdf 16 34 39.8 +1.0
PSZ Piszkesteto 121.37 325 PFAKE 16 34 50.0 +11
PSZ LR LR
comp=Z,1µm,22.0s
PSZ Piszkesteto 121.37 325 ⇓PKIKP PKPdf 16 34 39.8 +1.0
HERR Herculane 121.40 321 ⇑*i*P PKPdf 16 34 38.3 -0.6
LBTB Lobatse 121.60 237 PKP PKPdf 16 34 39.1 -0.9
comp=Z,11nm,0.7s,baz=144,slow=2.1,SNR=19
MORC Moravsky Berou 121.62 326 *e*PKPdf PKPdf 16 34 39.5 +0.3
MORC Moravsky Berou 121.62 328 *e*PKIKP PKPdf 16 34 39.5 +0.3
VYHS Vyhne 121.65 326 *e*PKP PKPdf 16 34 39.6 +0.3
VYHS Vyhne 121.65 326 *e*PKIKP PKPdf 16 34 39.6 +0.3
JTS JuntasAbangare 121.74 81 PKP PKPdf 16 34 39.9 -0.5
comp=Z,2.9nm,0.5s,baz=73,slow=6.8,SNR=5.1
JTS JuntasAbangare 121.74 81 PKP PKPdf 16 34 39.9 -0.5
JTS LR LR
comp=Z,2µm,22.0s
JTS JuntasAbangare 121.74 81 PKIKP PKPdf 16 34 39.9 -0.5
JTS MLR MLR
comp=Z,2µm,22.0s
KRLC Kraliky 121.84 329 *e*PKPdf PKPdf 16 34 40.0 +0.4
KRLC Kraliky 121.84 329 *e*PKIKP PKPdf 16 34 40.0 +0.4
DPC Dobruska-Polom 121.91 329 *e*PKPdf PKPdf 16 34 40.1 +0.3
DPC *e*pPKP **pPKPdf 16 35 09.4 +3.8**
DPC *e*PP **PP 16 36 17.3 +3.1**
DPC *e*PS **PS 16 46 06.4 -3.1**
DPC *e*SS SS 16 52 53.9 +10
DPC AMS AMS 17 26 20.0
comp=Z,1µm,18.4s
DPC Dobruska-Polom 121.91 329 *e*PKIKP PKPdf 16 34 40.1 +0.3
DPC *e* 16 35 09.4
DPC *e* 16 36 17.3
DPC *e*PS **PS 16 46 06.4 -3.1**
DPC MLR MLR
comp=Z,1µm,18.4s
VTS Vitosha 121.95 318 ⇑*i*P PKPdf 16 34 40.5 +0.3
VTS Vitosha 121.95 318 *e*PKPdf PKPdf 16 34 39.9 -0.3
VTS Vitosha 121.95 318 P PKPdf 16 34 39.6 -0.6
VTS Vitosha 121.95 318 ⇑PKIKP PKPdf 16 34 40.5 +0.3
LONY Lake Ozonia 121.95 39 PFAKE 16 34 50.0 +10
LONY LR LR
comp=Z,1µm,21.0s
UPC Upice 121.97 329 *e*PKPdf PKPdf 16 34 40.1 +0.3
UPC *e*PP **PP 16 36 13.6 -0.9**
UPC *e*SS SS 16 52 53.7 +8.8
UPC AMS AMS 17 26 30.0
comp=Z,2µm,23.6s
UPC Upice 121.97 329 *e*PKIKP PKPdf 16 34 40.1 +0.3
UPC *e* 16 36 13.6
UPC MLR MLR
comp=Z,2µm,23.6s
SUR Sutherland 122.10 227 PFAKE 16 34 50.0 +9.1
SUR LR LR
comp=Z,3µm,21.0s
VRAC Vranov 122.39 328 PKP PKPdf 16 34 40.3 -0.4
comp=Z,3.9nm,0.8s,baz=117,slow=3.8,SNR=4.5
LSZ Lusaka 122.47 249 PKP PKPdf 16 34 42.3 +0.4
comp=Z,18nm,0.7s,baz=153,slow=2.0,SNR=37
LSZ Lusaka 122.47 249 *e*PKPdf PKPdf 16 34 41.8 -0.1
LSZ Lusaka 122.47 249 P PKPdf 16 34 42.5 +0.6
SNR=5.3
LSZ Lusaka 122.47 249 *e*PKIKP PKPdf 16 34 41.8 -0.1
NHSC New Hope 122.48 53 PFAKE 16 34 50.0 +8.7
NHSC LR LR
comp=Z,2µm,22.0s
MODS Modra-Piesok 122.57 327 *e*PKP PKPdf 16 34 42.0 +0.9
MODS Modra-Piesok 122.57 327 *e*PKIKP PKPdf 16 34 42.0 +0.9
MBAR Mbarara 122.67 266 PKP PKPdf 16 34 42.6 +0.1
comp=Z,6.8nm,0.5s,baz=147,slow=5.0,SNR=16
MBAR Mbarara 122.67 266 *e*PKP PKPdf 16 34 42.6 +0.1
MBAR LR LR
comp=Z,435nm,21.0s
MBAR Mbarara 122.67 266 PKIKP PKPdf 16 34 42.6 +0.1
MBAR MLR MLR
comp=Z,435nm,21.0s
PVCC Panska Ves 122.68 330 *e*PKPdf PKPdf 16 34 41.9 +0.7
PVCC *e*PP **PP 16 36 21.0 +1.7**
PVCC AMS AMS 17 24 30.0
comp=Z,900nm,24.3s
PVCC Panska Ves 122.68 330 *e*PKIKP PKPdf 16 34 41.9 +0.7
PVCC *e* 16 36 21.0
PVCC MLR MLR
comp=Z,900nm,24.3s
BRG Berggiesshubel 122.77 331 PDIFF Pdif 16 31 07.0 -5.2
BRG Berggiesshubel 122.77 331 *e*PKP PKPdf 16 34 41.4 +0.1
comp=Z,10nm,0.6s
BRG *e*pPKP **pPKPdf 16 35 11.0 +3.8**
comp=Z,15nm,1.6s
BRG PP **PP 16 36 20.0 +0.2**
BRG SDIFF 16 44 04.0
BRG PS **PS 16 46 07.0 -10**
BRG SS **SS 16 52 45.0 -10**
comp=N,341nm,23.2s
comp=E,549nm,25.5s
comp=Z,661nm,22.7s
BRG Berggiesshubel 122.77 331 *e*PKIKP PKPdf 16 34 41.4 +0.1
BRG *e* 16 35 11.0
BRG 16 36 20.0
BRG PS **PS 16 46 07.0 -10**
BRG pmax pmax
comp=Z,10.0nm,0.6s
BRG pmax pmax
comp=Z,15nm,1.6s
BRG MLR MLR
comp=N,341nm,23.2s
BRG MLR MLR
comp=E,549nm,25.5s
BRG MLR MLR
comp=Z,661nm,22.7s
SANT Santorini 122.85 311 ⇓*i*P PKPdf 16 34 41.3 -0.7
SANT Santorini 122.85 311 PFAKE 16 34 50.0 +8.0
SANT LR LR
comp=Z,314nm,22.0s
CBN Corbin Frederi 122.86 47 PFAKE 16 34 50.0 +8.1
CBN LR LR
comp=Z,2µm,20.0s
THR3 Thira Island, 122.88 311 P PKPdf 16 34 40.2 -1.8
THR3 Thira Island, 122.88 311 P PKPdf 16 34 40.2 -1.8
VAY Valandovo 122.94 317 *i* P PKPdf 16 34 40.9 -1.0
CLL Collm 122.94 332 *i* PKPdf PKPdf 16 34 41.7 +0.1
comp=Z,14nm,0.7s
CLL *i* pPKPdf **pPKPdf 16 35 09.3 +1.8**
CLL *e*PP **PP 16 36 21.0 +0.1**
comp=N,200nm,20.0s
CLL *e*PP **PP 16 36 21.0 +0.1**
comp=E,200nm,20.9s
CLL *e*PP **PP 16 36 21.0 +0.1**
comp=Z,400nm,20.8s
CLL *e*PS **PS 16 46 16.0 -2.4**
CLL *e*SS SS 16 53 12.0 +15
CLL L L 17 28 00.0
comp=Z,1µm,21.7s
CLL Collm 122.94 332 *e*PKPdf PKPdf 16 34 41.8 +0.1
CLL Collm 122.94 332 *i* PKIKP PKPdf 16 34 41.7 +0.1
CLL *i* 16 35 09.3
CLL *e* 16 36 21.0
CLL pmax pmax
comp=Z,14nm,0.7s
CLL MLR MLR
comp=Z,1µm,21.7s
GOPC GO Pecny, Ondr 122.96 329 *e*PKPdf PKPdf 16 34 42.2 +0.4
GOPC *e*SS SS 16 53 05.0 +7.5
GOPC AMS AMS 17 27 10.0
comp=Z,1µm,24.7s
GOPC GO Pecny, Ondr 122.96 329 *e*PKIKP PKPdf 16 34 42.2 +0.4
GOPC *e*SS SS 16 53 05.0 +7.5
GOPC MLR MLR
comp=Z,1µm,24.7s
TREC Trest 122.98 329 *e*PP PP 16 36 24.6 +3.2
TREC *e*PS **PS 16 46 15.2 -3.7**
PRU Pruhonice 123.04 330 *e*PKPdf PKPdf 16 34 42.3 +0.4
PRU *e*PP **PP 16 36 21.3 -0.4**
PRU *e*PS **PS 16 46 14.8 -4.5**
PRU *e*SS SS 16 53 03.4 +5.0
PRU AMS AMS 17 27 10.0
comp=Z,1µm,24.1s
PRU Pruhonice 123.04 330 *e*PKIKP PKPdf 16 34 42.3 +0.4
PRU *e* 16 36 21.3
PRU *e*PS **PS 16 46 14.8 -4.5**
PRU *e*SS SS 16 53 03.4 +5.0
PRU MLR MLR
comp=Z,1µm,24.1s
LAST Lasithi 123.26 310 P PKPdf 16 34 42.9 0.0
DIVS Divibare 123.30 321 *e*PKPdf PKPdf 16 34 42.7 0.0
BIGH Upper Bighouse 123.34 346 *e*P PKPdf 16 34 41.1 -1.1
XOR Xorichti 123.35 315 P PKPdf 16 34 41.0 -1.8
XOR Xorichti 123.35 315 P PKPdf 16 34 41.0 -1.8
MLA1 Latheron 123.38 346 *e*P PKPdf 16 34 41.5 -0.8
CNNC Cliffs of the 123.57 50 PFAKE 16 34 50.0 +6.7
CNNC LR LR
comp=Z,2µm,21.0s
CONA Conrad Observa 123.60 327 *e*PKiKP PKiKP 16 34 43.3 -0.1
comp=Z,7.5nm,0.6s,SNR=7.5
IDI Anoyia 123.67 310 PKP PKPdf 16 34 43.7 +0.1
comp=Z,21nm,0.9s,baz=358,slow=16,SNR=14
IDI Anoyia 123.67 310 ⇑*i*P PKPdf 16 34 43.4 -0.2
IDI Anoyia 123.67 310 *e*PKPdf PKPdf 16 34 43.9 +0.3
KRUS Krusevo 123.80 318 *i* P PKPdf 16 34 42.6 -1.1
NKC Novy Kostel 123.91 331 *e*PKPdf PKPdf 16 34 44.2 +0.6
NKC *e*SS SS 16 53 16.0 +6.5
NKC AMS AMS 17 25 10.0
comp=Z,1µm,20.5s
NKC Novy Kostel 123.91 331 *e*PKIKP PKPdf 16 34 44.2 +0.6
NKC *e*SS SS 16 53 16.0 +6.5
NKC MLR MLR
comp=Z,1µm,20.5s
MCD Coleburn Disti 123.99 345 *e*P PKPdf 16 34 42.4 -1.1
KHC Kasperske Hory 124.06 329 *e*PKPdf PKPdf 16 34 44.1 +0.2
KHC *e*pPKP **pPKPdf 16 35 13.9 +4.1**
KHC *e*PP **PP 16 36 28.3 -0.4**
KHC *e*PS **PS 16 46 22.0 -6.5**
KHC *e*SS SS 16 53 11.2 -0.3
KHC AMS AMS 17 27 40.0
comp=Z,1µm,22.0s
KHC Kasperske Hory 124.06 329 *e*PKPdf PKPdf 16 34 44.2 +0.3
KHC Kasperske Hory 124.06 329 *e*PKIKP PKPdf 16 34 44.1 +0.2
KHC *e* 16 35 13.9
KHC *e* 16 36 28.3
KHC *e*PS **PS 16 46 22.0 -6.5**
KHC *e*SS SS 16 53 11.2 -0.3
KHC MLR MLR
comp=Z,1µm,22.0s
AGG Agios Georgios 124.10 315 *e*PKPdf PKPdf 16 34 43.6 -0.7
AGG Agios Georgios 124.10 315 P PKPdf 16 34 43.1 -1.2
AGG Agios Georgios 124.10 315 *e*PKIKP PKPdf 16 34 43.6 -0.7
MME1 Meikle Cairn 124.15 345 *e*P PKPdf 16 34 42.3 -1.6
GEC2 GERESS Array S 124.18 329 *e*PKPdf PKPdf 16 34 44.4 +0.2
GEC2 GERESS Array S 124.18 329 *e*PKIKP PKPdf 16 34 44.4 +0.2
GERES GERESS Array B 124.18 329 PKP PKPdf 16 34 44.2 0.0
comp=Z,5.8nm,0.5s,baz=66,slow=1.9,SNR=67
GEA0 GERESS Array S 124.19 329 *e*PKPdf PKPdf 16 34 44.8 +0.5
ARSA Arzberg 124.19 327 *i* PKiKP PKiKP 16 34 44.3 -0.2
comp=Z,4.4nm,1.0s
OHR Ohrid 124.22 318 *i* P PKPdf 16 34 43.3 -1.2
MDO Dochfour 124.39 346 *e*P PKPdf 16 34 43.2 -1.0
MOA Molln 124.51 328 *e*PKiKP PKPdf 16 34 44.3 -0.5
comp=Z,3.7nm,0.6s
GUR Goura 124.55 314 P PKPdf 16 34 44.5 -0.8
KAC Achnashellach 124.57 346 *e*P PKPdf 16 34 44.5 -0.1
ANX Ano Chora 124.57 315 P PKPdf 16 34 45.7 +0.4
PDG Podgorica 124.60 320 ⇑*i*P PKPdf 16 34 45.6 +0.5
BLY Banja Luka 124.67 323 ⇑*i*P PKPdf 16 34 44.2 -1.0
LAKA Lakka 124.68 314 P PKPdf 16 34 42.4 -3.0
LAKA Lakka 124.68 314 P PKPdf 16 34 42.4 -3.0
TIR Tirane 124.73 319 ⇓*i*P PKPdf 16 34 46.3 +0.9
TIR Tirane 124.73 319 PFAKE 16 35 00.0 +15
TIR LR LR
comp=Z,594nm,20.0s
TIR Tirane 124.73 319 ⇓PKIKP PKPdf 16 34 46.3 +0.9
PERS Pernice 124.78 326 *i* PKPdf PKPdf 16 34 45.2 -0.2
SOKA Soboth 124.80 326 *i* PKiKP PKPdf 16 34 45.5 0.0
comp=Z,10nm,1.0s,SNR=6.0
PKME Peaks-Kenny Pk 124.82 36 PFAKE 16 35 00.0 +15
PKME LR LR
comp=Z,1µm,20.0s
EDU Dundee 124.84 344 *e*P PKPdf 16 34 45.1 0.0
PDO Prodromos 125.09 315 P PKPdf 16 34 46.3 +0.1
OBKA Obir 125.17 326 *i* PKiKP PKPdf 16 34 46.1 -0.1
comp=Z,5.3nm,1.0s
ESY Stoneypath 125.28 344 *e*P PKPdf 16 34 45.8 -0.2
BOJS Bojanci 125.37 325 *i* PKPdf PKPdf 16 34 46.9 +0.4
LKD2 Lefkada island 125.38 315 P PKPdf 16 34 49.5 +2.8
LKD2 Lefkada island 125.38 315 P PKPdf 16 34 49.5 +2.8
KBA Koelnbreinsper 125.47 328 *i* PKiKP PKPdf 16 34 46.4 -0.5
comp=Z,9.8nm,1.2s
MYKA Terra Mystica 125.59 327 *i* PKiKP PKPdf 16 34 46.7 -0.3
comp=Z,6.9nm,0.8s
JAVS Javornik 125.81 326 *i* PKPdf PKPdf 16 34 47.1 -0.3
EKA Eskdalemuir Ar 125.94 344 PKP PKPdf 16 34 47.9 +0.6
comp=Z,4.6nm,0.6s,baz=27,slow=3.7,SNR=24
ESK Eskdalemuir 125.97 344 PFAKE 16 35 00.0 +13
ESK LR LR
comp=Z,905nm,21.0s
EDMD Edmundbyers 126.04 343 *e*P PKPdf 16 34 46.9 -0.6
ABTA Abfaltersbach 126.13 328 *i* PKiKP PKPdf 16 34 47.5 -0.5
comp=Z,17nm,1.0s,SNR=7.7
WATA Walderalm 126.24 329 *i* PKiKP PKPdf 16 34 48.3 0.0
comp=Z,8.0nm,0.5s,SNR=7.2
WTTA Wattenberg 126.26 329 *i* PKiKP PKiKP 16 34 48.7 -0.2
comp=Z,8.7nm,0.5s,SNR=6.3
MOTA Moosalm 126.48 329 *i* PKiKP PKPdf 16 34 48.8 0.0
comp=Z,11nm,0.6s,SNR=14
RETA Reutte 126.56 329 *i* PKiKP PKiKP 16 34 49.1 -0.2
comp=Z,4.6nm,0.5s
MEM Membach 126.58 335 ⇑PKP PKPdf 16 34 48.4 -0.2
BCIP Isla Barro Col 126.80 82 PFAKE 16 35 00.0 +10
BCIP LR LR
comp=Z,1µm,21.0s
FETA Feichten 126.89 329 *i* PKiKP PKiKP 16 34 50.1 +0.1
comp=Z,22nm,1.1s,SNR=7.6
BCLA Clavier 127.02 335 ⇓PKP PKPdf 16 34 50.0 +0.5
DAVA Damuels 127.14 330 *i* PKiKP PKiKP 16 34 50.5 0.0
comp=Z,17nm,1.0s,SNR=6.4
MATE Matera 127.15 319 ⇓*i*P PKPdf 16 34 50.0 0.0
BFO Black Forest 127.19 331 PFAKE 16 35 00.0 +10
BFO LR LR
comp=Z,642nm,22.0s
BFO Black Forest 127.19 331 *i* PKiKP PKPdf 16 34 50.5 +0.6
WLF Walferdange 127.22 334 ⇑PKP PKPdf 16 34 49.9 0.0
WLF Walferdange 127.22 334 PFAKE 16 35 00.0 +10
WLF LR LR
comp=Z,1µm,22.0s
NNA Nana 127.27 109 PFAKE 16 35 00.0 +9.0
NNA LR LR
comp=Z,517nm,21.0s
NNA Nana 127.27 109 *i* PKIKP PKPdf 16 34 51.4 +0.4
DOU Dourbes 127.56 335 ⇑PKP PKPdf 16 34 50.7 +0.2
ECH Echery 127.82 332 PFAKE 16 35 00.0 +8.9
ECH LR LR
comp=Z,894nm,22.0s
TIP Timpagrande 127.87 318 ⇑*i*P PKPdf 16 34 52.1 +0.5
TIP Timpagrande 127.87 318 *e*PKPdf PKPdf 16 34 52.4 +0.8
TIP LR LR
comp=Z,532nm,22.0s
TUE Stuetta 127.96 329 PFAKE 16 35 00.0 +8.3
TUE LR LR
comp=Z,806nm,21.0s
CUC Castrocucco 128.07 319 PFAKE 16 35 00.0 +8.1
CUC LR LR
comp=Z,516nm,22.0s
MTDJ Mount Denham 128.25 70 PFAKE 16 35 00.0 +7.1
MTDJ LR LR
comp=Z,551nm,21.0s
AQU L'Aquila 128.29 323 PFAKE 16 35 00.0 +7.8
AQU LR LR
comp=Z,878nm,22.0s
SWN1 Swindon 128.82 340 *e*P PKPdf 16 34 52.9 +0.1
CEL Celeste 128.91 317 PFAKE 16 35 00.0 +6.4
CEL LR LR
comp=Z,378nm,20.0s
VLC Villacollemand 128.93 326 PFAKE 16 35 00.0 +6.6
VLC LR LR
comp=Z,848nm,21.0s
HORQ Saladito 129.92 89 *e*P PKPdf 16 34 54.3 -2.1
GTBY Guantanamo Bay 130.21 68 PFAKE 16 35 10.0 +14
GTBY LR LR
comp=Z,842nm,21.0s
YOTC Yotoco, Valle 130.22 89 *e*P PKPdf 16 34 56.2 -0.6
BNI Bardonecchia 130.29 329 PFAKE 16 35 10.0 +14
BNI LR LR
comp=Z,923nm,22.0s
TSUM Tsumeb 130.72 240 PKP PKPdf 16 34 58.5 +0.9
comp=Z,14nm,0.8s,baz=120,slow=3.7,SNR=18
TSUM SKPbc **SKPbc 16 38 13.2 -0.1**
comp=Z,8.9nm,0.9s,baz=61,slow=6.4,SNR=8.5
PB01 IPOC Station P 130.75 123 *e*PKPdf PKPdf 16 34 57.5 -0.1
VAL Valentia 130.82 347 *e*PP PP 16 37 18.9 +6.4
CLTB Caltabellotta 131.08 318 PFAKE 16 35 10.0 +12
CLTB LR LR
comp=Z,275nm,21.0s
WDD Wied Dalam 131.08 315 PFAKE 16 35 10.0 +12
WDD LR LR
comp=Z,587nm,22.0s
HELC Santa Helena 131.09 86 *e*P PKPdf 16 34 55.7 -3.0
SSB Saint Sauveur 131.19 331 PFAKE 16 35 10.0 +12
SSB LR LR
comp=Z,708nm,21.0s
GUYC Guyana, Colomb 131.21 87 *e*P PKPdf 16 34 57.6 -1.5
ZARC Zaragoza, Cauc 131.76 84 ⇓*e*P PKPdf 16 34 57.6 -1.9
ROSC El Rosal 132.27 88 PKP PKPdf 16 35 02.1 +1.1
comp=Z,8.8nm,0.5s,baz=132,slow=23,SNR=9.5
ROSC SKPbc **SKPab 16 38 23.6 +3.0**
comp=Z,15nm,0.8s,baz=215,slow=4.0,SNR=11
VSL Villasalto 132.44 322 PFAKE 16 35 10.0 +10
VSL LR LR
comp=Z,522nm,22.0s
CHIC Chingaza 132.85 88 *e*P PKPdf 16 34 59.9 -2.3
CODC Agust´n Codaz 133.07 81 *e*P PKPdf 16 35 01.7 -0.3
OCAC Ocana 133.27 83 *e*P PKPdf 16 35 04.4 +1.8
GRTK Grand Turk 133.48 65 PFAKE 16 35 10.0 +7.5
GRTK LR LR
comp=Z,1µm,21.0s
RUSC La Rusia 133.52 86 *e*P PKPdf 16 35 01.7 -1.8
LPAZ La Paz 133.88 118 PKhKP PKPpre 16 34 53.5
comp=Z,1.3nm,0.6s,baz=213,slow=1.4,SNR=6.4
LPAZ PKP **PKPdf 16 35 04.3 +0.1**
comp=Z,5.4nm,0.6s,baz=262,slow=3.0,SNR=15
LPAZ SKPbc **SKPab 16 38 27.1 -0.7**
comp=Z,16nm,1.1s,baz=271,slow=1.4,SNR=12
SDDR Presa de Saban 133.93 68 PFAKE 16 35 20.0 +16
SDDR LR LR
comp=Z,1µm,20.0s
KEST Kesra 134.69 318 PKP PKPdf 16 35 05.3 +0.7
comp=Z,12nm,0.9s,baz=258,slow=3.7,SNR=10
KEST SKPbc **SKPbc 16 38 28.0 +1.5**
comp=Z,9.1nm,0.9s,baz=298,slow=6.5,SNR=5.1
KEST Kesra 134.69 318 *e*PKPdf PKPdf 16 35 06.2 +1.7
KEST SKPbc **SKPbc 16 38 28.0 +1.5**
CMAH Djebel Manchou 135.41 320 P PKPdf 16 35 06.7 +0.8
ABSA Djebel Ababsia 135.59 320 P PKPdf 16 35 08.5 +2.2
SDV Santo Domingo 135.90 82 PKP PKPdf 16 35 07.3 -0.3
comp=Z,21nm,0.7s,baz=280,slow=2.5,SNR=33
SDV SKPbc **SKPab 16 38 34.6 -1.5**
comp=Z,26nm,1.0s,baz=286,slow=7.4,SNR=11
SDV Santo Domingo 135.90 82 *e*P PKPdf 16 35 06.3 -1.2
DFRA Djebel Bou Aff 136.44 321 P PKPdf 16 35 10.9 +3.0
CPUP Villa Florida 137.18 137 PKP PKPdf 16 35 09.7 +0.3
comp=Z,4.7nm,0.7s,baz=284,slow=1.4,SNR=11
CPUP Villa Florida 137.18 137 *e*PKPdf PKPdf 16 35 09.4 0.0
CPUP Villa Florida 137.18 137 *e*PKIKP PKPdf 16 35 09.4 0.0
SJG San Juan 138.87 68 PKP PKPdf 16 35 12.0 -0.7
comp=Z,7.4nm,0.6s,baz=84,slow=21,SNR=6.2
SJG San Juan 138.87 68 PKIKP PKPdf 16 35 12.0 -0.7
PBRG Braganca 138.88 337 *e*PP PP 16 38 09.6 +5.8
PGAV Gavieira, Arco 139.31 339 *e*PKPdf PKPpre 16 35 07.7
PGAV Gavieira, Arco 139.31 339 *e*PP PP 16 38 09.8 +3.4
PGAV Gavieira, Arco 139.31 339 *e*LR LR 17 23 04.0
comp=Z,530nm,22.0s
ESDC Sonseca Array 139.50 333 PKhKP PKPpre 16 35 05.3
comp=Z,3.1nm,0.9s,baz=26,slow=3.1,SNR=9.8
ESDC PP **16 38 07.7 -0.1**
comp=Z,1.6nm,0.8s,baz=30,slow=6.8,SNR=5.5
MVO Moncorvo 139.54 337 *e*PP PP 16 38 09.2 +1.3
MVO Moncorvo 139.54 337 *e*LR LR 17 25 00.4
comp=Z,608nm,22.0s
POLO Lamas de Olo 139.65 338 *e*PKPdf PKPpre 16 35 05.9
POLO Lamas de Olo 139.65 338 *e*PP PP 16 38 13.8 +5.2
SIV San Ignacio 140.14 121 PKhKP PKPpre 16 35 06.1
comp=Z,2.4nm,0.6s,baz=261,slow=6.8,SNR=12
SIV SKPbc **SKPbc 16 38 43.9 +1.0**
comp=Z,6.3nm,0.8s,baz=243,slow=4.6,SNR=8.5
PVIS Viseu 140.26 338 *e*PKPdf PKPpre 16 35 06.8
MTE Manteigas 140.40 337 *e*PKPdf PKPpre 16 35 07.2
MTE Manteigas 140.40 337 *e*PP PP 16 38 13.4 +0.3
MTE Manteigas 140.40 337 *e*LR LR 17 25 45.5
comp=Z,606nm,22.0s
MTE Manteigas 140.40 337 PFAKE 16 35 30.0 +15
MTE LR LR
comp=Z,861nm,19.0s
PCBR Castelo Branco 140.85 337 *e*PKPdf PKPpre 16 35 11.5
SAML Samuel 141.00 110 PFAKE 16 35 30.0 +13
SAML LR LR
comp=Z,923nm,22.0s

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PCAS	Casmilo, Conde	141.06	338	ePKPdf	PKPpre	16 35 12.4	
PCAS	Casmilo, Conde	141.06	338	ePP	PP	16 38 21.0	+3.9
PMRV	Marv??o	141.17	336	ePP	PP	16 38 21.8	+4.0
PMRV	Marv??o	141.17	336	eLR	LR	17 26 43.5	
	comp=Z,544nm,22.0s						
PTOM	Tomar	141.41	337	ePKPdf	PKPpre	16 35 11.2	
PESTR	Estremoz	141.73	336	ePKPdf	PKPdf	16 35 16.4	-0.9
PESTR	Estremoz	141.73	336	ePP	PP	16 38 25.3	+4.1
PMTG	Montargil	141.81	337	ePKPdf	PKPdf	16 35 18.0	+0.6
ALMR	Almeirim	141.87	337	ePKPdf	PKPpre	16 35 15.0	
ALMR				AMS	AMS	17 25 50.5	
	comp=N,708nm,25.5s						
ALMR	Almeirim	141.87	337	ePKIKP	PKPpre	16 35 15.0	
PBAR	Barrancos	142.09	335	ePKPdf	PKPpre	16 35 13.7	
PBAR	Barrancos	142.09	335	ePP	PP	16 38 19.8	-3.6
EVO	Evora	142.19	336	ePKPdf	PKPpre	16 35 13.7	
PMAFR	Mafra	142.31	338	ePP	PP	16 38 28.0	+3.3
LIS	Lisbon	142.47	338	ePKPdf	PKPpre	16 35 15.4	
LIS				AMS	AMS	17 41 13.1	
	comp=E,922nm,19.7s						
LIS	Lisbon	142.47	338	ePKIKP	PKPpre	16 35 15.4	
PBEJ	Beja	142.56	336	ePKPdf	PKPpre	16 35 15.3	
PNCL	Nicolau / Gran	142.76	336	ePKPdf	PKPpre	16 35 15.5	
PNCL	Nicolau / Gran	142.76	336	ePP	PP	16 38 30.4	+3.0
MESJ	Messejana	142.86	336	ePKPdf	PKPpre	16 35 16.3	
MESJ				AMS	AMS	17 43 33.3	
	comp=Z,468nm,22.8s						
MESJ	Messejana	142.86	336	ePKPdf	PKPpre	16 35 16.0	
MESJ	Messejana	142.86	336	ePKIKP	PKPpre	16 35 16.2	
PCVE	Castro Verde	142.97	335	ePKPdf	PKPpre	16 35 16.7	
ANWB	Willy Bob	143.00	66	PFAKE		16 35 30.0	+10
ANWB				LR	LR		
	comp=Z,1μm,21.0s						
PVAQ	Vaqueiros	143.03	335	ePKPdf	PKPbc	16 35 17.1	+0.5
PVAQ	Vaqueiros	143.03	335	ePP	PP	16 38 32.7	+3.6
PVAQ	Vaqueiros	143.03	335	eLR	LR	17 27 41.6	
	comp=Z,404nm,18.0s						
PBDV	Barranco-do-Ve	143.25	335	ePP	PP	16 38 36.5	+6.0
MORF	Marmelete	143.50	336	ePKPdf	PKPab	16 35 17.0	0.0
MORF				AMS	AMS	17 44 07.1	
	comp=Z,544nm,20.2s						
MORF	Marmelete	143.50	336	ePKPdf	PKPab	16 35 17.4	+0.4
MORF	Marmelete	143.50	336	ePKIKP	PKPab	16 35 16.9	-0.1
PFVI	Vila Bisbo	143.72	336	ePKPdf	PKPbc	16 35 19.2	+0.6
TAM	Tamanrasset	144.15	304	ePKPdf	PKPdf	16 35 22.5	+0.3
TAM				LR	LR		
	comp=Z,361nm,20.0s						
TAM	Tamanrasset	144.15	304	ePKIKP	PKPdf	16 35 22.5	+0.3
TAM				MLR	MLR		
	comp=Z,361nm,20.0s						
FDF	Fort de France	144.33	71	PFAKE		16 35 30.0	+7.4
FDF				LR	LR		
	comp=Z,787nm,22.0s						
GRGR	Grenville	144.35	75	PFAKE		16 35 30.0	+7.4
GRGR				LR	LR		
	comp=Z,682nm,20.0s						
H07S1	FLORES T-PHASE	144.99	6	ePKiKP	PKiKP	16 35 28.9	+2.0
SPB	Sao Paulo	145.38	145	ePKPdf	PKPdf	16 35 23.7	-0.4
SPB				LR	LR		
	comp=Z,2μm,19.0s						
PGRA	Graciosa	145.58	2	ePKiKP	PKiKP	16 35 30.1	+2.0
PCAN	Candelaria	146.12	3	ePKiKP	PKiKP	16 35 36.1	+6.9
BBGH	Gun Hill	146.18	73	PFAKE		16 35 40.0	+12
BBGH				LR	LR		
	comp=Z,2μm,21.0s						
PSET	Sete Cidades	146.81	359	ePKiKP	PKiKP	16 35 32.9	+2.2
PCALD	Caldeiras da R	146.83	359	ePKiKP	PKiKP	16 35 43.7	+13
CMLA	Cha da Macela	146.86	359	ePKiKP	PKiKP	16 35 34.9	+4.1
PSMN	Pico do Norte,	147.61	358	ePKiKP	PKPab	16 35 35.3	+2.7
PSMA	Santa Maria	147.62	358	ePKiKP	PKPab	16 35 34.5	+1.9
PMOZ	Porto Moniz, M	150.51	344	ePKPbc	PKPbc	16 35 39.0	+1.1
PMOZ	Porto Moniz, M	150.51	344	ePP	PP	16 39 17.8	+4.8
PMAR	Madeira	150.53	344	ePKPbc	PKPbc	16 35 39.1	+1.1
TORD	Torodi Ar. Bea	150.94	289	PKP	PKPdf	16 35 32.4	-1.1
	comp=Z,4.1nm,1.0s,baz=42,slow=1.9,SNR=17						
TORD				PKPbc	PKPbc	16 35 38.0	-1.2
	comp=Z,120nm,0.7s,baz=47,slow=2.2,SNR=271						
TORD				PP	PP	16 39 17.1	-0.3
	comp=Z,8.7nm,1.1s,baz=45,slow=6.0,SNR=4.2						
SHEL	Horse Pasture	151.17	225	PFAKE		16 35 40.0	+0.2
SHEL				LR	LR		
	comp=Z,936nm,22.0s						
SHEL	Horse Pasture	151.17	225	i PKIKP	PKPbc	16 35 41.6	+1.8
KOWA	Kowa	155.79	296	PKPab	PKPab	16 36 06.7	-0.6
	comp=Z,21nm,0.7s,baz=51,slow=5.0,SNR=11						
KIC	Kosan Boka	158.33	276	ePKIKP	PKPdf	16 35 42.9	-0.8
	comp=Z,161nm,0.9s						
DBIC	Dimbokro	158.42	277	PKP	PKPdf	16 35 43.6	-0.1
	comp=Z,3.6nm,0.8s,baz=202,slow=4.4,SNR=3.1						
DBIC				PKPab	sPKPdf	16 36 19.4	-0.1
	comp=Z,40nm,0.7s,baz=80,slow=4.3,SNR=19						
TIC	Toumodi	158.59	277	ePKIKP	PKPdf	16 35 43.2	-0.8
LIC	Lamto	158.63	276	ePKIKP	PKPdf	16 35 43.2	-0.8
	comp=Z,148nm,0.9s						
ASCN	Ascension	162.77	224	PFAKE		16 36 00.0	+11
ASCN				LR	LR		
	comp=Z,2μm,22.0s						
SACV	Santiago Islan	169.21	345	PFAKE		16 36 00.0	+6.4
SACV				LR	LR		
	comp=Z,321nm,20.0s						

IDC 06 16:27:49.1±1.3, 26°.79N×144°.38E, h0km, mb3.4/4, mb1 3.6/4, mb1mx3.2/70, mbtmp3.4/4, Error ellipse: s-maj=51.4km s-min=25.4km az=92.0, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SONM	Songino Array	36.30	316	P	P	16 34 54.9	+0.4
	0.7nm,0.5s,baz=120,slow=8.5,SNR=3.0						
WRA	Warramunga Arr	47.46	193	P	P	16 36 25.9	+0.1
	0.3nm,0.9s,baz=7.4,slow=7.6,SNR=3.4						
ASAR	Alice Springs	51.17	192	P	P	16 36 53.6	-0.5
	0.3nm,1.0s,baz=358,slow=6.3,SNR=4.4						
ILAR	Eielson Array	57.05	28	P	P	16 37 36.1	-0.4
	0.6nm,0.8s,baz=258,slow=6.7,SNR=4.8						

TRN 06 16:34:47.5, 14°.43N×61°.14W, h130km, MD3.7, Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BIM	Bigot	0.11	35	eP	Pn	16 35 06.0	+0.8
BIM				eS	Sn	16 35 20.0	+1.3
TRMF	Trois Ilets	0.14	37	eP	Pn	16 35 05.7	+0.5
ZAM	Aeronautique	0.18	35	eP	Pn	16 35 06.1	+0.8
LPMF	Morne Lapointe	0.22	48	eP	Pn	16 35 05.8	+0.4
FDF	Fort de France	0.31	357	eP	Pn	16 35 06.5	+0.8
FDF				eS	Sn	16 35 20.1	+0.5
CXM	Morne La Croix	0.38	355	eP	Pn	16 35 07.9	+1.7
CXM				eS	Sn	16 35 22.4	+2.1
BAMF	Morne Balai	0.39	358	eP	Pn	16 35 07.0	+0.9
PCM	Pelee Case Pet	0.39	349	eP	Pn	16 35 06.7	+0.6
PCM	Pelee Case Pet	0.39	349	eP	Pn	16 35 06.9	+0.8
SLB	Belfond	0.60	171	eS	Sn	16 35 23.1	+0.9
MCLT	Moule a Chique	0.74	165	eP	Pn	16 35 08.7	+0.5
MCLT				eS	Sn	16 35 24.5	+0.7
SSV	Crater Summit	1.09	183	eS	Sn	16 35 30.4	+0.8
SVCV	St. Vincent, C	1.15	180	eP	Pn	16 35 12.5	+0.6
SVCV				eS	Sn	16 35 32.2	+1.8
SVB	Belmont	1.15	186	eP	Pn	16 35 12.4	+0.4
SVB				eS	Sn	16 35 32.1	+1.6
BBGH	Gun Hill	1.99	130	eP	Pn	16 35 23.1	+1.6
BBGH				eS	Sn	16 35 47.7	+0.4
BBSP	Saint Philip	2.09	129	eP	Pn	16 35 24.1	+1.4
BBSP				eS	Sn	16 35 50.5	+1.0
GRGR	Grenville	2.33	193	eP	Pn	16 35 26.9	+1.2
GRGR				eS	Sn	16 35 55.5	+0.5

*IDC **06** 16:38:04.8±1.8, 38°.40N×142°.36E, h0km, mb3.5/5, mb1 3.6/7, mb1mx3.4/66, mbtmp3.6/7, ML3.2/2, Error ellipse: s-maj=42.4km s-min=22.0km az=70.0*
*JMA **06** 16:38:14.0±0.1, 38°.23N×141°.70E, h50km±1km, M3.5*
JMA Felt I J1.
ISC 06 16:38:11.1±1.9, 38°.19N±0°.04×141°.87E±0°.09, h27km±13km, n26, σ1s.10/30, mb3.5/5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JIO	Ouri	0.48	303	P	Pn	16 38 23.8	+1.6
JIO				S	Sn	16 38 30.4	+0.7
OFUJ	Ofunato	0.90	350	S	Sn	16 38 40.5	+0.4
JMM	Marumori	0.91	249	P	Pn	16 38 28.8	+0.8
JMM				S	Sb	16 38 39.6	-0.3
JMK	Ichinoseki	0.91	327	P	Pn	16 38 29.4	+1.3
JMK				eS	Sn	16 38 40.3	0.0
JOU	Okura	0.96	281	P	Pn	16 38 29.6	+0.8
JOU				S	Sb	16 38 41.2	-0.3
JFK	Kawauchi	1.14	224	P	Pn	16 38 32.7	+1.5
JFK				S	Sn	16 38 46.1	+0.2
JOM	Ohasama	1.36	341	P	Pb	16 38 35.7	-0.1
JOM				S	Sn	16 38 51.8	+0.5
JFT	Otama	1.38	241	P	Pn	16 38 36.1	+1.5
JFT				S	Sn	16 38 52.0	0.0
JYK	Kaneyama	1.39	302	P	Pn	16 38 35.4	+0.8
JYS	Shirataka	1.42	272	P	Pn	16 38 36.0	+0.9
JYS				eS	Sn	16 38 52.5	-0.3
JRG	Rokugo	1.54	322	P	Pb	16 38 38.2	-0.8
JYA	Atsumi	1.74	284	P	Pn	16 38 40.4	+1.0
MJAR	Matsushiro Arr	3.34	242	Pn	Pn	16 39 04.2	+2.6
	1.0nm,0.3s,baz=220,slow=21,SNR=13						
MJAR				Sn	Sb	16 39 49.9	-0.1
	0.8nm,0.3s,baz=329,slow=26,SNR=4.0						
JHJ	Hachijo jima 2	5.34	199	Pn	Pn	16 39 30.9	+1.9
	3.6nm,0.3s,baz=233,slow=20,SNR=3.0						
JHJ				Sn	Sn	16 40 27.6	-1.8
	4.5nm,0.3s,baz=74,slow=18,SNR=3.8						
ASAJ	Asahikawa	5.95	5	Pn	Pn	16 39 37.7	+0.4
	0.3nm,0.3s,baz=209,slow=10,SNR=7.9						
SONM	Songino Array	27.46	302	P	P	16 43 55.3	+0.5
	0.6nm,0.7s,baz=123,slow=5.3,SNR=2.9						
H11N2	WAKE ISLAND Hy	28.46	123	T	T	17 14 20.4	
	baz=316,slow=75,SNR=34						
H11N1	WAKE ISLAND Hy	28.46	123	T	T	17 14 23.5	
	baz=316,slow=75,SNR=44						
H11N3	WAKE ISLAND Hy	28.47	123	T	T	17 14 21.8	
	baz=316,slow=75,SNR=46						
H11S1	WAKE ISLAND Hy	29.21	125	T	T	17 15 16.2	
	baz=317,slow=76,SNR=17						
H11S3	WAKE ISLAND Hy	29.21	125	T	T	17 15 16.5	
	baz=317,slow=76,SNR=27						
H11S2	WAKE ISLAND Hy	29.23	125	T	T	17 15 16.5	
	baz=317,slow=76,SNR=18						
MKAR	Makanchi Array	43.82	301	P	P	16 46 14.0	-0.5
	0.3nm,0.6s,baz=79,slow=6.5,SNR=4.6						
KURBB	Kurchatov Arra	45.58	307	P	P	16 46 27.0	-1.5
	0.5nm,0.4s,baz=80,slow=8.2,SNR=9.4						
WRA	Warramunga Arr	58.25	188	P	P	16 48 02.4	-0.8
	0.3nm,0.5s,baz=5.0,slow=7.4,SNR=6.6						
ASAR	Alice Springs	61.98	188	P	P	16 48 28.7	+0.1
	0.3nm,0.7s,baz=354,slow=4.1,SNR=3.7						

*IDC **06** 17:04:05.6±7.9, 62°.64N×151°.25W, h94km±49km, mb3.5/5, mb1 3.4/7, mb1mx3.1/72, mbtmp3.7/7, Error ellipse: s-maj=114.6km s-min=66.3km az=165.0*
*ISCJB **06** 17:04:10.4±0.3, 63°.11N±0°.02×150°.73W±0°.05, h125km±2km, mb3.8/5, Error ellipse: s-maj=4.2km s-min=2.9km az=17.3*
*NEIC **06** 17:04:12.2±0.0, 63°.11N×150°.75W, h114km, ML3.0(AEIC), After AEIC.*
ISC 06 17:04:11.3±0.8, 63°.12N±0°.03×150°.66W±0°.04, h123km±5km, n75, σ1s.29/103, mb3.7/5, Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TRF	Thorofare Moun	0.38	27	ePn	Pn	17 04 29.3	+0.2
TRF				eSn	Sn	17 04 42.5	-0.2
KTH	Kantishna Hill	0.45	345	ePn	Pn	17 04 29.5	+0.1
KTH				eSn	Sn	17 04 42.5	-0.7
CAST	Castle Rocks	0.71	296	ePn	Pn	17 04 30.6	-0.5
CAST				eSn	Sn	17 04 43.7	-2.4
PPLA	Purkeypile	0.73	253	ePn	Pn	17 04 31.1	-0.2
PPLA				eSn	Sn	17 04 45.7	-0.8
RND	Reindeer	0.87	70	ePn	Pn	17 04 32.9	+0.5
RND				eSn	Sn	17 04 48.0	-0.5
MCK	McKinley	0.99	51	ePn	Pn	17 04 34.2	+0.7
MCK				eSn	Sn	17 04 50.1	-0.3
BPAW	Bear Paw Mtn.	1.00	352	ePn	Pn	17 04 33.6	0.0
BPAW				eSn	Sn	17 04 49.4	-1.0
SKT	Skwentna	1.21	200	ePn	Pn	17 04 35.3	-0.5
SKT				eSn	Sn	17 04 52.0	-2.3
DHY	Denali Highway	1.50	90	ePn	Pn	17 04 39.6	+0.6
DHY				eSn	Sn	17 05 01.0	+0.8
GHO	Glory Hole Cre	1.57	148	ePn	Pn	17 04 40.1	+0.3
GHO				eSn	Sn	17 05 01.9	+0.3
GHO				eSn	Sn	17 05 02.5	+1.0
SUA	Susitna One	1.66	181	ePn	Pn	17 04 41.2	+0.3
SUA				eSn	Sn	17 05 03.6	+0.2
PMR	Palmer	1.69	154	ePn	Pn	17 04 40.6	-0.5
PMR				eSn	Sn	17 05 03.5	-0.3
SML	Sawmill	1.70	139	ePn	Pn	17 04 41.5	+0.2
SML				eSn	Sn	17 05 04.8	+0.6
STLK	Strandline Lak	1.71	199	P	Pn	17 04 41.3	-0.2
WRH	Wood River Hil	1.77	39	ePn	Pn	17 04 42.8	+0.7
MLY	Manley	1.92	359	ePn	Pn	17 04 44.3	+0.4
CCB	Clear Creek Bu	1.99	38	ePn	Pn	17 04 45.4	+0.7
KNK	Knik Glacier	2.00	148	ePn	Pn	17 04 45.1	+0.2
SCM	Sheep Creek Mo	2.02	128	ePn	Pn	17 04 45.4	+0.3
SCM				eSn	Sn	17 05 12.5	+1.5
SPU	Mount Spurr	2.05	199	ePn	Pn	17 04 45.5	-0.1
SPU				eSn	Sn	17 05 11.0	-0.8
SPWE	Spurr West	2.05	206	P	Pn	17 04 45.9	+0.3
RC01	Rabbit Creek A	2.08	168	ePn	Pn	17 04 45.8	-0.1
RC01				eSn	Sn	17 05 11.9	-0.5
CKL	Chakachamna La	2.08	203	P	Pn	17 04 46.3	+0.3
HDA	Harding Lake	2.10	50	ePn	Pn	17 04 46.5	+0.5
HDA				eSn	Sn	17 05 12.4	-0.4
MDM	Murphy Dome	2.14	29	ePn	Pn	17 04 47.2	+0.6
MDM				eSn	Sn	17 05 12.8	-0.8
COLA	College	2.15	34	ePn	Pn	17 04 47.4	+0.7
COLA				eSn	Sn	17 05 13.1	-0.8
IL1	Eielson Array	2.35	43	ePn	Pn	17 04 48.9	-0.3
IL1				eSn	Sn	17 05 18.0	-0.4
ILAR	Eielson Array	2.35	43	P	Pn	17 04 49.2	0.0
	4.7nm,0.3s,baz=227,slow=14,SNR=131						
ILAR				S	Sn	17 05 17.4	-1.0
	1.9nm,0.3s,baz=199,slow=13,SNR=5.3						
ILB	Eielson Array	2.35	43	ePn	Pn	17 04 49.8	+0.6
PAX	Paxson	2.37	91	ePn	Pn	17 04 50.5	+0.9
PAX				eSn	Sn	17 05 19.9	+1.0
SLKM	Skilak Lake	2.63	175	ePn	Pn	17 04 53.1	+0.2
HARP	HAARP	2.63	103	ePn	Pn	17 04 53.7	+0.9
HARP				eSn	Sn	17 05 21.0	-3.9
RIDG	Independ'e Rid	2.69	74	ePn	Pn	17 04 54.9	+1.2
RIDG				eSn	Sn	17 05 22.1	-4.2
DFR	Drift River	2.71	202	P	Pn	17 04 54.2	+0.3
KLU	Klutina	2.75	124	ePn	Pn	17 04 54.3	-0.2
JPK	Jack Peak	2.82	135	ePn	Pn	17 04 55.0	-0.3
RDWB	Redoubt West	2.83	202	ePn	Pn	17 04 55.8	+0.2
DOT	Dot Lake	3.02	77	ePn	Pn	17 04 58.8	+0.9
DOT				eSn	Sn	17 05 28.4	-5.5
DIV	Divide	3.04	129	ePn	Pn	17 04 57.6	-0.6
DIV				eSn	Sn	17 05 33.3	-1.2
SVW2	Sparrevohn	3.07	231	ePn	Pn	17 04 58.4	-0.2
SCRK	Sand Creek	3.11	71	ePn	Pn	17 04 59.7	+0.6
SCRK				eSn	Sn	17 05 31.1	-5.0
IM3	Indian Mountai	3.17	337	ePn	Pn	17 04 59.9	+0.1
MENT	Mentasta	3.17	90	ePn	Pn	17 05 01.2	+1.3
BRLK	Bradley Lake	3.37	182	ePn	Pn	17 05 02.8	+0.3
BRLK				eSn	Sn	17 05 40.5	-1.5
EYAK	Cordova Ski Ar	3.48	136	ePn	Pn	17 05 04.2	+0.4
HOM	Homer	3.50	188	ePn	Pn	17 05 05.4	+1.2
BMRM	Bremner River	3.58	124	ePn	Pn	17 05 04.8	-0.4
VRDI	Verde Repeater	3.88	116	ePn	Pn	17 05 09.6	+0.3
RAGM	Ragged Mountai	3.95	131	ePn	Pn	17 05 10.4	+0.2
AUJK	Augustine Jueg	4.01	201	P	Pn	17 05 12.0	+1.1
BCA3	Beaver Creek A	4.04	87	ePn	Pn	17 05 11.9	+0.6
COLD	Coldfoot	4.13	3	ePn	Pn	17 05 13.4	+0.9
FYU	Fort Yukon	4.17	31	ePn	Pn	17 05 13.9	+1.0
BALM	Baldy	4.43	114	ePn	Pn	17 05 16.8	+0.1
CDD	Cape Douglas	4.45	200	P	Pn	17 05 17.1	+0.3
KIAG	Kiagna River	4.49	116	ePn	Pn	17 05 17.4	-0.1
EGAK	Eagle	4.51	64	ePn	Pn	17 05 18.8	+1.2
BARN	Barnard Glacie	4.71	112	ePn	Pn	17 05 21.6	+1.2
BAGL	Bagley Icefiel	4.85	119	ePn	Pn	17 05 22.1	+0.1
KARR	Katmai Rainbow	5.04	205	P	Pn	17 05 25.4	+0.7
MESA	MESA	5.09	121	ePn	Pn	17 05 25.8	+0.2
DAWY	Dawson	5.12	74	P	Pn	17 05 26.8	+0.9
KDAK	Kodiak Island	5.44	191	ePn	Pn	17 05 28.9	-1.1
TOLK	Toolik Lake Re	5.56	4	ePn	Pn	17 05 33.9	+2.1
OHAK	Old Harbor	6.06	194	ePn	Pn	17 05 36.5	-1.9
CHGN	Chignik	7.88	213	ePn	Pn	17 06 01.0	-1.9
INK	Inuvik	8.75	46	P	Pn	17 06 17.8	+3.2
	0.1nm,0.3s,baz=248,slow=13,SNR=3.3						
BESE	Bessie Mountai	8.95	113	ePn	Pn	17 06 17.4	0.0
SPITS	Spitsbergen Ar	38.72	4	P	P	17 11 23.8	+1.3
	4.3nm,0.9s,baz=341,slow=13,SNR=5.5						
ARA0	ARCESS Array S	47.60	2	eP	P	17 12 35.5	+1.6
ARCES	ARCESS Array B	47.60	2	P	P	17 12 35.5	+1.6
	2.4nm,0.8s,baz=355,slow=9.1,SNR=2.5						
BVAR	Borovoye Array	59.81	333	P	P	17 14 02.5	-0.4
	0.2nm,0.3s,baz=38,slow=7.3,SNR=3.2						
MK32	Makanchi Array	62.68	322	eP	P	17 14 22.2	-0.2
MKAR	Makanchi Array	62.68	322	P	P	17 14 22.2	-0.2
	0.3nm,0.5s,baz=43,slow=7.4,SNR=4.7						
AKASG	Malin Array Be	66.53	0	P	P	17 14 46.0	-1.2
	0.4nm,0.4s,baz=3.7,slow=6.4,SNR=3.2						

IDC 06 17:06:00.9±6.8, 6°.18S×151°.42E, h249km±41km, mb2.7/2, mb1 3.0/3, mb1mx2.7/46, mbtmp3.3/3, Error ellipse: s-maj=129.8km s-min=47.3km az=115.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	5.30	233	P	Pn	17 07 19.9	-0.4
	1.6nm,0.3s,baz=54,slow=7.0,SNR=8.0						
WRA	Warramunga Arr	21.51	229	P	P	17 10 31.6	+1.0
	0.7nm,0.4s,baz=55,slow=10,SNR=23						
ASAR	Alice Springs	24.21	222	P	P	17 10 54.4	-0.9
	0.2nm,0.8s,baz=56,slow=9.2,SNR=5.4						
TORD	Torodi Ar. Bea	149.38	285	PKPbc	PKPbc	17 25 20.7	-0.8
	0.1nm,0.3s,baz=211,slow=1.7,SNR=2.1						

IDC 06 17:06:19.4±9.8, 4°.76S×153°.70E, h117km±67km, mb3.3/2, mb1 3.7/3, mb1mx3.1/48, mbtmp3.9/3, Error ellipse: s-maj=109.9km s-min=46.2km az=109.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	7.96	234	P	Pn	17 08 12.5	+0.1
	4.4nm,0.3s,baz=49,slow=5.3,SNR=14						
PMG				S	Sn	17 09 41.7	+0.7
	1.7nm,0.3s,baz=96,slow=15,SNR=3.6						
WRA	Warramunga Arr	24.15	230	P	P	17 11 24.8	-0.1
	2.6nm,0.4s,baz=54,slow=10.0,SNR=14						
MKAR	Makanchi Array	80.89	319	P	P	17 18 20.8	+0.1
	0.2nm,0.7s,baz=98,slow=3.2,SNR=2.7						
TORD	Torodi Ar. Bea	151.15	289	PKPbc	PKPbc	17 25 59.7	-0.3
	0.2nm,0.5s,baz=97,slow=1.7,SNR=2.4						

IDC 06 17:08:03.0±5.9, 7°.80S×128°.96E, h181km±61km, mb2.8/1, mb1 3.3/4, mb1mx3.0/50, mbtmp3.8/4, MS3.7/1, Ms1 3.7/1, ms1mx3.0/12, Error ellipse: s-maj=61.3km s-min=23.3km az=45.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BATI	Baumata	5.75	245	P	Pn	17 09 28.8	+1.9
	6.1nm,0.3s,baz=57,slow=15,SNR=15						
BATI				S	Sn	17 10 31.6	-1.3
	3.4nm,0.3s,baz=227,slow=13,SNR=3.2						
WRA	Warramunga Arr	13.15	157	P	Pn	17 11 02.2	-0.8
	1.1nm,0.3s,baz=338,slow=13,SNR=38						
WRA				S	Sn	17 13 22.6	-6.8
	1.1nm,0.3s,baz=329,slow=22,SNR=9.7						
ASAR	Alice Springs	16.47	164	P	Pn	17 11 44.7	+0.7
	0.4nm,0.3s,baz=335,slow=9.7,SNR=58						
ASAR				S	S	17 14 45.8	-0.3
	0.2nm,0.3s,baz=341,slow=24,SNR=5.5						
ASAR				LR	LR	17 19 34.5	
	comp=Z,234nm,18.0s,baz=24,slow=42						
MKAR	Makanchi Array	68.33	327	P	P	17 18 44.5	-0.3
	0.2nm,0.6s,baz=133,slow=7.5,SNR=3.3						

MAN 06 17:09:04, 11°.76N×125°.46E, h15km, mb4.3, ML3.1, MS2.8, 1C, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BESP	Borongan	0.16	188	eP	Pb	17 09 09.6	+1.0
BESP				eS	Sb	17 09 16.5	+4.8
PLP	Palo	0.75	219⇑	iP	Pg	17 09 18.4	-0.3
PLP				i S	Sn	17 09 32.0	+0.7
CNP	Catarman	1.08	314	eP	Pb	17 09 22.6	-1.8
CNP				eS	Sn	17 09 40.8	+1.5
MSLP	Maasin	1.72	200	eP	Pb	17 09 35.2	-0.1
MSLP				eS	Sg	17 10 01.4	+2.1

*ISCJB **06** 17:11:25.9±0.4, 36°.94S±0°.03×74°.01W±0°.05, h10km, mb4.6/18, Error ellipse: s-maj=5.6km s-min=4.3km az=13.9*
*GUC **06** 17:11:25.9±1.1, 36°.98S×74°.12W, h10km±15km, ML4.4*
*IDC **06** 17:11:26.1±0.8, 36°.90S×73°.86W, h0km, mb4.3/10, mb1 4.3/12, mb1mx4.1/33, mbtmp4.3/12, ML3.7/2, MS4.2/2, Ms1 4.2/2, ms1mx3.6/33, Error ellipse: s-maj=31.6km s-min=16.8km az=86.0*
*NEIC **06** 17:11:27.5±0.4, 36°.93S×73°.90W, h10km, mb4.7/15, Error ellipse: s-maj=11.4km s-min=6.2km az=86.0*
ISC 06 17:11:27.4±2.0, 36°.96S±0°.04×74°.00W±0°.08, h11km±11km, n83, σ1s.18/90, mb4.6/18, 1C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CCSP	San Pedro de C	0.72	81⇑	iP	Pg	17 11 40.6	-0.8
CCSP				i S	Sg	17 11 51.5	+0.6
CCSP				IAML		17 12 02.5	
	comp=N,14μm,0.6s						
COCH	Cobquecura	1.28	50	eP	Pn	17 11 48.8	-2.4
COCH				i S	Sb	17 12 06.4	-1.6
COCH				IAML		17 12 17.9	
	comp=N,3μm,1.0s						
CCHI	Chillan	1.58	77	eP	Pn	17 11 54.5	-1.0
CCHI				i S	Sn	17 12 15.8	-0.2
TMU	Temuco	2.09	148	eP	Pn	17 12 02.8	+0.4
TMU				i S	Sn	17 12 28.7	+0.3
TMU				IAML		17 12 45.4	
	comp=E,4μm,0.9s						
GO05	HualaæØ	2.57	41	eP	Pn	17 12 07.8	-1.3
GO05				i S	Sn	17 12 40.8	+0.3
GO05				IAML		17 13 05.3	
	comp=E,2μm,1.0s						
PLCA	Paso Flores	4.63	145	Pn	Pn	17 12 38.9	+1.5
	comp=E,1.0nm,0.3s,baz=341,slow=12,SNR=18						
PLCA				Lg	Lg	17 13 52.6	
	comp=E,3.2nm,0.3s,baz=236,slow=20,SNR=6.4						
PLCA	Paso Flores	4.63	145	ePn	Pn	17 12 37.4	0.0
PLCA				eLg	Lg	17 13 53.0	
ROC1	El Roble	4.67	33	ePn	Pn	17 12 36.5	-1.7
ROC1	El Roble	4.67	33	eP	Pn	17 12 37.7	-0.4
ROC1				eS	Sg	17 13 57.1	-0.3
ROCH	El Roble	4.68	33	eP	Pn	17 12 37.0	-1.2
ROCH				i S	Sb	17 13 49.1	+3.0
PEL	Peldehue	4.68	36	ePn	Pn	17 12 36.9	-1.2
PEL				eSg	Sb	17 13 50.7	+4.7
AAGR	Agrelo	5.74	49	eP	Pn	17 12 53.3	+0.6
AUSP	Uspallata	6.07	40	eP	Pn	17 12 57.9	+0.5
ASAL	Salagasta	6.09	46	eP	Pn	17 12 58.5	+1.0
RTLS	Leoncito	6.45	38	eP	Pn	17 13 03.3	+0.6
RTLS				IAML		17 15 06.9	
	comp=Z,62nm,0.8s						
RTCV	Cerro Valdivia	6.80	43	eP	Pn	17 13 07.0	-0.2
ZON	Zonda	6.97	41	eP	Pn	17 13 09.6	0.0
AMOG	MOGNA	7.55	39	eP	Pn	17 13 16.2	-1.4
AROD	Rodeo	7.76	30	eP	Pn	17 13 21.5	+0.8
MRA	San Martin	8.19	59	IAML		17 14 10.2	
	comp=Z,10nm,0.7s						
LCO	Las Campanas	8.40	20	ePn	Pn	17 13 27.0	-2.4
AGUA	GUANDACOL	8.77	33	eP	Pn	17 13 33.4	-0.9
APLL	PUNTA DE LOS L	9.03	46	IAML		17 14 09.2	
	comp=Z,6.0nm,0.5s						
TRQA	Tornquist	9.61	100	ePn	Pn	17 13 45.8	0.0
CHRN	Cochrane	10.33	175	ePn	Pn	17 13 56.3	+0.7
PB04	IPOC Station P	14.96	14	ePn	Pn	17 15 00.6	+1.6
PB01	IPOC Station P	16.34	15	ePn	Pn	17 15 16.3	-0.8
	comp=Z,19nm,0.9s						
PB11	IPOC Station P	17.55	14	ePn	P	17 15 33.9	+0.4

	comp=Z,34nm,1.1s						
CPUP	**Villa Florida**	**17.69**	**58**	P	**Pn**	**17 15 32.7**	**-1.1**
	comp=Z,0.0nm,0.3s,baz=212,slow=12,SNR=3.2						
CPUP	**Villa Florida**	**17.69**	**58**	*e*Pn	**Pn**	**17 15 33.4**	**-0.4**
	comp=Z,19nm,1.5s						
MNMC	**Minye Minye**	**18.18**	**13**	*e*Pn	**P**	**17 15 39.5**	**-0.9**
	comp=Z,18nm,0.8s						
EFI	**East Falkland**	**18.55**	**147**	*e*P	**Pn**	**17 15 44.6**	**+0.4**
	comp=Z,107nm,1.1s						
LPAZ	**La Paz**	**21.24**	**16**	P	**P**	**17 16 14.5**	**+0.3**
	comp=Z,6.5nm,0.9s,baz=186,slow=8.4,SNR=11						
LPAZ	**La Paz**	**21.24**	**16**	*e*P	**P**	**17 16 15.7**	**+1.5**
	comp=Z,15nm,1.0s						
SIV	**San Ignacio**	**23.83**	**32**	P	**P**	**17 16 39.9**	**-0.8**
	comp=Z,6.8nm,0.9s,baz=232,slow=9.5,SNR=26						
SIV				LR	LR	17 25 38.4	
	comp=Z,336nm,20.9s,baz=222,slow=36						
SPB	**Sao Paulo**	**26.43**	**67**	*e*P	**P**	**17 17 05.4**	**+1.0**
	comp=Z,33nm,1.3s						
OTAV	**Otavalo**	**37.24**	**353**	*e*P	**P**	**17 18 39.8**	**0.0**
	comp=Z,19nm,1.9s						
PRAC	**Prado**	**40.48**	**359**	*e*P	**P**	**17 19 08.6**	**+2.2**
	comp=Z,79nm,1.9s						
RUSC	**La Rusia**	**42.64**	**1**	*e*P	**P**	**17 19 26.2**	**+1.6**
	comp=Z,14nm,1.6s						
HELC	**Santa Helena**	**42.95**	**358**	*e*P	**P**	**17 19 27.5**	**+0.5**
	comp=Z,30nm,1.2s						
SDV	**Santo Domingo**	**45.72**	**5**	P	**P**	**17 19 47.6**	**-1.3**
	comp=Z,3.5nm,0.7s,baz=258,slow=9.3,SNR=3.9						
VNA3	**Neumayer Olymp**	**47.25**	**157**	P	**P**	**17 20 01.3**	**+1.1**
VNA2	**Neumayer--Watz**	**47.93**	**156**	P	**P**	**17 20 06.6**	**+1.1**
	baz=293,slow=10						
SNAA	**Sanae**	**49.48**	**157**	P	**P**	**17 20 18.3**	**+0.9**
SNAA	**Sanae**	**49.48**	**157**	P	**P**	**17 20 16.7**	**-0.7**
	comp=Z,6.3nm,1.0s,baz=273,slow=9.6,SNR=9.2						
SNAA	**Sanae**	**49.48**	**157**	*e*P	**P**	**17 20 18.6**	**+1.2**
	comp=Z,11nm,1.1s						
QSPA	**South Pole Qui**	**53.28**	**180**	P	**P**	**17 20 47.2**	**+1.1**
	comp=Z,5.3nm,1.0s,baz=154,slow=5.3,SNR=7.2						
MAW	**Mawson**	**70.79**	**164**	LR	LR	17 55 11.0	
	comp=Z,306nm,18.3s,baz=223,slow=37						
LTX	**Lajitas**	**71.58**	**333**	*e*P	**P**	**17 22 49.5**	**+0.6**
TXAR	**Lajitas Array**	**71.58**	**333**	P	**P**	**17 22 49.5**	**+0.6**
	comp=Z,2.1nm,0.8s,baz=155,slow=8.1,SNR=18						
TX31	**Lajitas Ar. Si**	**71.59**	**333**	*e*P	**P**	**17 22 50.1**	**+1.2**
LIC	**Lamto**	**77.22**	**72**	*e*P	**P**	**17 23 21.7**	**-0.2**
	comp=Z,70nm,1.9s						
TIC	**Toumodi**	**77.49**	**72**	*e*P	**P**	**17 23 23.9**	**+0.5**
KIC	**Kosan Boka**	**77.52**	**72**	*e*P	**P**	**17 23 24.2**	**+0.6**
	comp=Z,162nm,2.2s						
DBIC	**Dimbokro**	**77.63**	**72**	P	**P**	**17 23 23.9**	**-0.3**
	comp=Z,3.3nm,0.7s,baz=184,slow=4.7,SNR=4.6						
DBIC	**Dimbokro**	**77.63**	**72**	*e*P	**P**	**17 23 23.0**	**-1.2**
	comp=Z,30nm,1.6s						
BOSA	**Boshof**	**80.10**	**118**	P	**P**	**17 23 37.8**	**0.0**
	comp=Z,1.4nm,0.8s,baz=227,slow=18,SNR=2.4						
ECSD	**EROS Data Cent**	**82.91**	**344**	*e*P	**P**	**17 23 52.2**	**+0.3**
	comp=Z,12nm,1.4s						
KOWA	**Kowa**	**83.30**	**66**	P	**P**	**17 23 55.3**	**+0.7**
	comp=Z,5.2nm,0.7s,baz=235,slow=8.4,SNR=14						
KOWA	**Kowa**	**83.30**	**66**	*e*P	**P**	**17 23 54.6**	**0.0**
	comp=Z,7.6nm,0.9s						
TORD	**Torodi Ar. Bea**	**86.70**	**71**	P	**P**	**17 24 10.2**	**-1.6**
	comp=Z,1.3nm,0.8s,baz=242,slow=4.0,SNR=5.6						
TOA1	**Torodi Ar. Sit**	**86.71**	**71**	*e*P	**P**	**17 24 10.2**	**-1.6**
AB08	**Akbulak array**	**144.72**	**55**	*e*PKPdf	**PKPdf**	**17 31 03.0**	**-0.8**
AB04	**Akbulak array**	**144.73**	**55**	*e*pPKPdf	**PKPdf**	**17 31 03.3**	**-0.5**
AB01	**Akbulak array**	**144.73**	**55**	*e*PKPdf	**PKPdf**	**17 31 02.5**	**-1.4**
AB05	**Akbulak array**	**144.73**	**55**	*e*PKPdf	**PKPdf**	**17 31 03.3**	**-0.5**
AB31	**Akbulak array**	**144.73**	**55**	*e*PKPdf	**PKPdf**	**17 31 02.6**	**-1.2**
ABKAR	**Akbulak array**	**144.73**	**55**	*e*PKPdf	**PKPdf**	**17 31 02.6**	**-1.3**
AB03	**Akbulak array**	**144.73**	**55**	*e*PKPdf	**PKPdf**	**17 31 02.7**	**-1.1**
AB02	**Akbulak array**	**144.74**	**55**	*e*PKPdf	**PKPdf**	**17 31 03.6**	**-0.3**
AB07	**Akbulak array**	**144.75**	**55**	*e*PKPdf	**PKPdf**	**17 31 03.6**	**-0.2**
AB06	**Akbulak array**	**144.75**	**55**	*e*PKPdf	**PKPdf**	**17 31 03.8**	**-0.1**
PSI	**Prapat**	**145.38**	**167**	PKPbc	**PKPdf**	**17 31 06.0**	**-0.2**
	comp=Z,11nm,1.0s,baz=190,slow=6.1,SNR=8.3						
PSI	**Prapat**	**145.38**	**167**	*e*PKPbc	**PKPdf**	**17 31 05.7**	**-0.5**
HYB	**Hyderabad**	**148.95**	**121**	*i* PKP	**PKPbc**	**17 31 15.0**	**-0.9**
BVAR	**Borovoye Array**	**150.51**	**46**	PKPab	**PKPab**	**17 31 24.7**	**-0.7**
	comp=Z,0.7nm,0.7s,baz=310,slow=1.1,SNR=4.0						
ZAA1	**Zalesovo Array**	**157.57**	**34**	*e*PKPdf	**PKPdf**	**17 31 22.6**	**-0.6**
ZALV	**Zalesovo Beam**	**157.58**	**34**	PKP	**PKPdf**	**17 31 22.6**	**-0.6**
	comp=Z,0.7nm,0.7s,baz=224,slow=1.5,SNR=4.0						
MK32	**Makanchi Array**	**159.87**	**53**	*e*PKPdf	**PKPdf**	**17 31 25.5**	**-0.7**
MK32				*e*PKPab	**PKPab**	**17 32 05.0**	**-0.5**
MKAR	**Makanchi Array**	**159.87**	**53**	PKP	**PKPdf**	**17 31 25.5**	**-0.7**
	comp=Z,0.2nm,0.6s,baz=263,slow=2.0,SNR=3.7						
MKAR				PKPab	**PKPab**	**17 32 05.0**	**-0.5**
	comp=Z,0.5nm,0.8s,baz=289,slow=3.7,SNR=4.6						
CN2	**Changchun**	**163.70**	**301**	*e*PKP	**PKPdf**	**17 31 29.3**	**-0.9**
NJ2	**Nanjing**	**168.32**	**249**	*e*PKP	**PKPdf**	**17 31 35.0**	**+0.7**
HHC	**Hu-ho-hao-te**	**174.18**	**314**	*e*PKP	**PKPdf**	**17 31 34.5**	**-2.6**

IDC 06 17:21:58.5±8.9**, 2.°25S**×**137.°76E, h0**km**, mb3.0**/2**, mb1 3.2**/3**, mb1mx3.1**/43**, mbtmp3.0**/3**, ML2.8**/1**, Error ellipse: s-maj=395.5km s-min=29.8km az=84.0, Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.90**	**191**	P	Pn	17 26 07.8	-1.3
	0.0nm,0.3s,baz=12,slow=12,SNR=4.9						
ASAR	**Alice Springs**	**21.62**	**190**	P	P	17 26 51.2	+0.8
	0.2nm,0.6s,baz=13,slow=12,SNR=4.2						
MKAR	**Makanchi Array**	**68.84**	**323**	P	P	17 33 05.0	0.0
	0.3nm,0.8s,baz=108,slow=4.7,SNR=3.0						

*ISCJB **06** 17:23:52.2±0.5, 32.°15N±0.°02×115.°17W±0.°03, h21km±5km, Error ellipse: s-maj=4.5km s-min=4.2km az=3.0*
*MEX **06** 17:23:52.3±0.7, 32.°76N×115.°12W, h2km±217km, MD3.8*
*NEIC **06** 17:23:53.0±0.0, 32.°15N×115.°16W, h8km, ML2.7(PAS), ML3.1(ECX), After ECX.*
*ECX **06** 17:23:53.0±0.7, 32.°15N×115.°16W, h8km, MD2.9, ML3.1*
ISC 06 17:23:52.6±1.1**, 32.°14N**±0.°03×**115.°23W**±0.°02**, h21**km±2km**, n29,** σ**1.s47**/50**, 4C, California-Baja California border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MBIG	**Mexicali**	**0.27**	**5**	*e*P	**Pb**	**17 23 58.9**	**-0.1**
MBIG				*e*S	**Sb**	**17 24 04.5**	**+1.2**
CPBX	**Cerro Prieto**	**0.28**	**347**	*e*P	**Pb**	**17 23 58.1**	**-1.1**
CPBX				*e*S	**Sb**	**17 24 04.2**	**+0.6**
CPBX	**Cerro Prieto**	**0.28**	**347**	*e*P	**Pb**	**17 23 58.1**	**-1.1**
CPBX				*e*S	**Sb**	**17 24 02.9**	**-0.8**
CPBX				IAML		17 24 04.5	
	comp=N,7μm,0.1s						
CPBX				*e*		17 24 04.5	
SGL	**Mount Signal**	**0.66**	**320**	⇑*i*P	**Pn**	**17 24 05.5**	**-1.3**
ECBX	**El Chinero**	**0.68**	**167**	*e*P	**Pb**	**17 24 05.0**	**-0.9**
ECBX				*e*S	**Sb**	**17 24 14.5**	**-0.4**
YUH	**Yuha Desert**	**0.78**	**311**	⇑*i*P	**Pn**	**17 24 07.3**	**-1.1**
RMX	**La Rumorosa**	**0.86**	**303**	⇑*e*P	**Pb**	**17 24 07.8**	**-1.1**
RMX				*e*P	**Pn**	**17 24 08.3**	**-1.3**
RMX				*e*S	**Sb**	**17 24 18.6**	**-1.4**
IKP	**In-Ko-Pah, Jac**	**0.90**	**305**	*e*P	**Pn**	**17 24 09.4**	**-0.8**
GLA	**Glamis**	**0.97**	**20**	*e*Pn	**Pb**	**17 24 09.2**	**-1.6**
GLA				*e*Sg	**Sb**	**17 24 21.6**	**-1.6**
ZAX	**El Zacaton**	**1.09**	**235**	*e*P	**Pb**	**17 24 13.0**	**+0.2**
ZAX				*e*S	**Sn**	**17 24 27.8**	**+0.6**
SPX	**San Pedro Mart**	**1.11**	**191**	*e*P	**Pn**	**17 24 12.8**	**-0.4**
SPX				*e*S	**Sn**	**17 24 29.2**	**+1.2**
CBX	**Cerro Bola**	**1.23**	**278**	*e*P	**Pb**	**17 24 15.6**	**+0.3**
CBX				*e*S	**Sb**	**17 24 31.8**	**+1.1**
CBX	**Cerro Bola**	**1.23**	**278**	*e*P	**Pb**	**17 24 15.6**	**+0.3**
CBX				*e*S	**Sb**	**17 24 31.8**	**+1.1**
CBX	**Cerro Bola**	**1.23**	**278**	*e*P	**Pb**	**17 24 15.1**	**-0.1**
CBX				*e*S	**Sb**	**17 24 32.4**	**+1.7**
CBX				IAML		17 24 33.0	
	comp=E,305nm,0.6s						
CBX				⇑*e*		17 24 33.0	
ECNX	**Esteban Cantu**	**1.26**	**248**	*e*P	**Pb**	**17 24 16.0**	**+0.3**
TJIG	**Tijuana**	**1.26**	**284**	*e*P	**Pn**	**17 24 14.3**	**-0.7**
TJIG				*e*S	**Sb**	**17 24 31.4**	**0.0**
BAR	**Barrett**	**1.34**	**294**	*e*Pn	**Pn**	**17 24 16.1**	**0.0**
BAR				*e*Sn	**Sb**	**17 24 34.5**	**+0.8**
BAR	**Barrett**	**1.34**	**294**	*e*P	**Pb**	**17 24 16.9**	**-0.1**
113A	**Mohawk Valley,**	**1.39**	**63**	*e*Pn	**Pb**	**17 24 15.7**	**-2.1**
113A				*e*Sn	**Sn**	**17 24 31.9**	**-2.5**
Y12C	**Blythe**	**1.71**	**20**	*e*Pn	**Pb**	**17 24 22.2**	**-1.2**
CPE	**Camp Elliot**	**1.75**	**296**	*e*Pn	**Pb**	**17 24 22.9**	**-1.1**
CPE				*e*Sn	**Sb**	**17 24 44.6**	**-1.1**
XPFO	**Piæon Flat**	**1.79**	**325**	*e*Pn	**Pn**	**17 24 21.4**	**-1.1**
XPFO				*e*Sn	**Sb**	**17 24 48.6**	**+1.6**
PFO	**Pinyon Flats O**	**1.80**	**325**	*e*Pn	**Pn**	**17 24 21.4**	**-1.2**
PFO				*e*Sn	**Sb**	**17 24 48.5**	**+1.5**
214A	**Organ Pipe Nat**	**2.06**	**94**	*e*Pn	**Pn**	**17 24 24.0**	**-2.0**
Y14A	**Wickenburg**	**2.59**	**46**	*e*Pn	**Pb**	**17 24 39.6**	**+1.2**
Y14A				*e*Sn	**Sb**	**17 25 11.8**	**+2.0**
W13A	**Hualapai Mount**	**3.16**	**20**	*e*Pg	**Pb**	**17 24 49.7**	**+1.6**
W13A				*e*Sg	**Sb**	**17 25 30.0**	**+3.8**
TUC	**Tucson**	**3.77**	**86**	*e*Pg	**Pb**	**17 24 56.4**	**-2.1**
TUC				*e*Sg	**Sb**	**17 25 47.1**	**+3.3**
X16A	**Lo Mia Camp, P**	**3.90**	**53**	*e*Pn	**Pn**	**17 24 53.5**	**+2.0**
X16A				*e*Sg	Sb	17 25 58.4	+11
U15A	**North Rim**	**4.92**	**29**	*e*Pn	**Pn**	**17 25 07.5**	**+1.9**
U15A				*e*Lg	Lg	17 26 29.0	

*ISCJB **06** 17:34:46.7±0.4, 71.°28N±0.°06×5.°9W±0.°1, h9km, mb3.8/12, MS3.9/1, Error ellipse: s-maj=8.7km s-min=6.0km az=179.4*
*IDC **06** 17:34:47.7±0.9, 71.°11N×6.°24W, h0km, mb3.4/6, mb1 3.7/9, mb1mx3.3/75, mbtmp3.5/9, ML2.8/3, MS3.9/1, Ms1 3.9/1, ms1mx2.9/61, Error ellipse: s-maj=23.7km s-min=15.1km az=29.0*
*NEIC **06** 17:34:49.2±0.3, 71.°27N×5.°72W, h10km, mb4.3/8, Error ellipse: s-maj=6.2km s-min=5.2km az=221.0*
*CSEM **06** 17:34:49.2, 71.°27N×5.°72W, h10km, mb4.3/8*
ISC 06 17:34:48.3±0.5**, 71.°16N**±0.°08×**5.°88W**±0.°05**, h9**km**, n48,** σ**1.s11**/48**, mb4.0**/12**, Jan Mayen Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JMIC	**Jan Mayen**	**0.88**	**260**	Pn	**Pg**	**17 35 04.0**	**-1.1**
	28nm,0.3s,baz=60,slow=4.7,SNR=8.6						
JMIC				Sn	**Sg**	**17 35 15.8**	**-0.6**
	59nm,0.3s,baz=165,slow=19,SNR=25						
KBS	**Kingsbay**	**9.00**	**22**	*e*Pn	**Pn**	**17 36 57.2**	**-0.9**
SPA0	**Spitsbergen Ar**	**9.10**	**30**	*e*Pn	**Pn**	**17 36 58.4**	**-1.1**
SPITS	**Spitsbergen Ar**	**9.10**	**30**	Pn	**Pn**	**17 36 58.7**	**-0.8**
	baz=232,slow=15,SNR=25						
ARA0	**ARCESS Array S**	**10.62**	**84**	*e*Pn	**Pn**	**17 37 18.6**	**-1.7**
ARCES	**ARCESS Array B**	**10.62**	**84**	Pn	**Pn**	**17 37 18.6**	**-1.7**
	0.1nm,0.3s,baz=296,slow=12,SNR=7.2						
ARCES	**ARCESS Array B**	**10.62**	**84**	*e*Pn	**Pn**	**17 37 20.4**	**0.0**
ARE0	**ARCESS Array S**	**10.62**	**84**	*e*Pn	**Pn**	**17 37 20.1**	**-0.3**
NC204	**NORSAR Array S**	**11.91**	**138**	*e*Pn	**Pn**	**17 37 38.0**	**-0.2**
HFS	**Hagfors**	**13.59**	**134**	Pn	**Pn**	**17 38 02.5**	**+1.5**
	0.1nm,0.3s,baz=338,slow=19,SNR=4.4						
FIA0	**FINESS Array S**	**15.87**	**112**	*e*Pn	**P**	**17 38 34.0**	**-1.4**
FINES	**FINESS Array B**	**15.87**	**112**	Pn	**P**	**17 38 34.0**	**-1.4**
	0.1nm,0.3s,baz=328,slow=13,SNR=3.2						
ESK	**Eskdalemuir**	**15.94**	**174**	*e*Pn	**Pn**	**17 38 29.6**	**-2.9**
	62nm,1.8s						
GRFO	**Grafenberg**	**22.95**	**151**	*e*P	**P**	**17 39 53.5**	**+1.0**
	22nm,1.7s						
GEC2	**GERESS Array S**	**24.18**	**147**	*e*P	**P**	**17 40 06.1**	**+1.4**
	12nm,1.9s						
GERES	**GERESS Array B**	**24.18**	**147**	P	**P**	**17 40 06.8**	**+2.1**
	0.2nm,0.5s,baz=335,slow=5.9,SNR=3.7						
GEA0	**GERESS Array S**	**24.19**	**147**	*e*P	**P**	**17 40 06.6**	**+1.8**
AKASG	**Malin Array Be**	**25.98**	**123**	P	**P**	**17 40 20.4**	**-0.5**
	0.1nm,0.3s,baz=333,slow=9.4,SNR=2.6						
PSZ	**Piszkesteto**	**26.28**	**139**	*e*P	**P**	**17 40 26.2**	**+2.5**
	5.7nm,1.1s						
AB05	**Akbulak array**	**36.69**	**91**	*e*P	**P**	**17 41 55.5**	**+0.4**
AB09	**Akbulak array**	**36.70**	**91**	*e*P	**P**	**17 41 55.1**	**0.0**
AB04	**Akbulak array**	**36.71**	**91**	*e*P	**P**	**17 41 55.2**	**0.0**
AB02	**Akbulak array**	**36.71**	**91**	*e*P	**P**	**17 41 54.9**	**-0.3**
AB01	**Akbulak array**	**36.71**	**91**	*e*P	**P**	**17 41 55.1**	**-0.1**
AB31	**Akbulak array**	**36.71**	**91**	*e*P	**P**	**17 41 54.7**	**-0.5**
ABKAR	**Akbulak array**	**36.71**	**91**	*e*P	**P**	**17 41 54.8**	**-0.4**
	10nm,1.0s						
AB03	**Akbulak array**	**36.71**	**91**	*e*P	**P**	**17 41 55.2**	**0.0**
AB06	**Akbulak array**	**36.71**	**91**	*e*P	**P**	**17 41 55.6**	**+0.4**
AB08	**Akbulak array**	**36.72**	**91**	*e*P	**P**	**17 41 55.4**	**+0.2**
AB07	**Akbulak array**	**36.73**	**91**	*e*P	**P**	**17 41 55.2**	**-0.1**
BRVK	**Borovoye**	**36.78**	**78**	*e*P	**P**	**17 41 55.7**	**-0.1**
	2.7nm,0.8s						
YKA	**Yellowknife Ar**	**37.89**	**314**	P	**P**	**17 42 05.6**	**+0.6**
	0.3nm,0.8s,baz=32,slow=8.6,SNR=5.2						
ILAR	**Eielson Array**	**41.73**	**336**	P	**P**	**17 42 37.6**	**+0.7**
	1.3nm,1.1s,baz=12,slow=7.2,SNR=7.2						
KK04	**Karatay Array**	**45.57**	**85**	*e*P	**P**	**17 43 09.4**	**+1.3**
KK01	**Karatay Array**	**45.58**	**85**	*e*P	**P**	**17 43 08.9**	**+0.8**
KK03	**Karatay Array**	**45.58**	**85**	*e*P	**P**	**17 43 08.3**	**+0.1**
KK02	**Karatay Array**	**45.58**	**85**	*e*P	**P**	**17 43 08.3**	**+0.1**
KK31	**Karatay Array**	**45.58**	**85**	*e*P	**P**	**17 43 08.0**	**-0.2**
KKAR	**Karatay Array**	**45.58**	**85**	*e*P	**P**	**17 43 08.7**	**+0.5**
KK07	**Karatay Array**	**45.59**	**85**	*e*P	**P**	**17 43 09.2**	**+0.9**
KK06	**Karatay Array**	**45.59**	**85**	*e*P	**P**	**17 43 09.2**	**+0.9**
LUPA	**Lehigh Univers**	**45.60**	**267**	*e*P	**P**	**17 43 08.2**	**-0.1**
	5.5nm,2.0s						
BBB	**Bella Bella**	**50.32**	**317**	LR	LR	18 03 51.8	
	comp=Z,114nm,19.5s,baz=276,slow=35						
HLID	**Hailey**	**54.95**	**303**	*e*P	**P**	**17 44 18.9**	**-0.4**
	2.6nm,1.0s						
TOA1	**Torodi Ar. Sit**	**58.16**	**171**	*e*P	**P**	**17 44 43.2**	**+1.0**
TORD	**Torodi Ar. Bea**	**58.16**	**171**	P	**P**	**17 44 43.2**	**+1.0**
	1.3nm,1.0s,baz=355,slow=4.9,SNR=4.1						
LTX	**Lajitas**	**65.01**	**287**	*e*P	**P**	**17 45 30.0**	**+1.6**
TXAR	**Lajitas Array**	**65.01**	**287**	P	**P**	**17 45 30.0**	**+1.6**
	0.3nm,0.9s,baz=53,slow=9.1,SNR=2.8						

MAN 06 17:41:32, 10.°27N×**123.°38E, h1**km**, mb4.3, ML3.2, MS2.9, 2C-1D, Cebu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LLP	**Lapu-Lapu**	**0.58**	**86**	⇓*i*P	Pb	17 41 44.1	-0.9
LLP				*i* S	Sb	17 41 52.6	-1.2
GUIM	**Jordan**	**0.85**	**294**	*e*P	Pg	17 41 48.6	+0.3
GUIM				*e*S	Sb	17 42 01.4	-0.1
SNPH	**Sibulan**	**0.93**	**188**	⇑*e*P	Pg	17 41 50.4	+0.5
SNPH				*e*S	Sb	17 42 04.0	0.0
RCP	**Roxas**	**1.42**	**334**	⇑*e*P	Pb	17 41 59.6	+0.3
RCP				*e*S	Sn	17 42 18.4	+0.1
MSLP	**Maasin**	**1.47**	**95**	*e*P	Pn	17 41 59.9	+0.2
MSLP				*e*S	Sn	17 42 20.0	+0.5

*MOS **06** 17:43:14.7±1.1, 49.°26N×154.°24E, h152km, mb3.9/10, Error ellipse: s-maj=21.1km s-min=7.8km az=77.7*
*KRSC **06** 17:43:18.8±1.2, 49.°04N×156.°04E, h124km±20km, ML3.8*
*IDC **06** 17:43:18.7±5.5, 49.°46N×154.°25E, h163km±34km, mb3.4/16, mb1 3.5/17, mb1mx3.3/73, mbtmp3.9/17, Error ellipse: s-maj=53.2km s-min=19.9km az=179.0*
ISC 06 17:43:14.9±1.3**, 49.°3N**±0.°2×**154.°4E**±0.°1**, h135**km**, n43,** σ**1.s92**/43**, mb3.7**/17**, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.79**	**38**	*e*P	**Pn**	**17 43 48.3**	**+1.6**
SKR				*e*S	**Sn**	**17 44 11.5**	**+0.5**
SKR	**Severo-Kuril's**	**1.79**	**38**	PN	**Pn**	**17 43 48.3**	**+1.6**
SKR				S	**Sn**	**17 44 11.5**	**+0.5**
PAU	**Pauzhetka**	**2.68**	**34**	*e*P	**Pn**	**17 44 00.7**	**+3.1**
PAU				*e*S	**Sn**	**17 44 30.9**	**+0.4**
PAU	**Pauzhetka**	**2.68**	**34**	PN	**Pn**	**17 44 00.7**	**+3.1**
PAU				S	**Sn**	**17 44 30.9**	**+0.4**
KDTR	**Khodutka, Kamc**	**3.46**	**42**	*e*S	**Sn**	**17 44 44.6**	**-3.7**
RUS	**Russkaya**	**4.10**	**38**	*e*P	**Pn**	**17 44 17.5**	**+1.5**
RUS				*e*S	**Sn**	**17 44 59.2**	**-4.2**
RUS	**Russkaya**	**4.10**	**38**	PN	**Pn**	**17 44 17.5**	**+1.5**
KRMR	**Karymshinskiy**	**4.27**	**32**	*e*S	**Sn**	**17 45 06.3**	**-1.1**
PETK	**Petropavlovsk-**	**4.36**	**27**	P	**Pn**	**17 44 20.9**	**+1.4**
	0.3nm,0.3s,baz=161,slow=12,SNR=6.4						
PETK				S	**Sn**	**17 45 13.1**	**+3.4**
	0.3nm,0.3s,baz=241,slow=33,SNR=3.6						
DALK	**Dalny**	**4.65**	**35**	*e*S	**Sn**	**17 45 14.6**	**-2.0**
UGLR	**Uglovaya**	**4.82**	**34**	*e*P	**Pn**	**17 44 27.1**	**+1.4**
UGLR	**Uglovaya**	**4.82**	**34**	PN	**Pn**	**17 44 27.1**	**+1.4**
AVH	**Avacha**	**4.83**	**33**	*e*P	**Pn**	**17 44 28.7**	**+2.8**
AVH	**Avacha**	**4.83**	**33**	PN	**Pn**	**17 44 28.7**	**+2.8**
KRER	**Koryakskii**	**4.87**	**33**	*e*P	**Pn**	**17 44 28.5**	**+2.0**
KRER	**Koryakskii**	**4.87**	**33**	PN	**Pn**	**17 44 28.5**	**+2.0**
SDLR	**Sedlovina**	**4.90**	**34**	*e*P	**Pn**	**17 44 27.9**	**+1.2**
SDLR	**Sedlovina**	**4.90**	**34**	PN	**Pn**	**17 44 27.9**	**+1.2**
NLC	**Nalytchevo**	**4.99**	**37**	*e*S	**Sn**	**17 45 20.2**	**-4.4**
YAK	**Yakutsk**	**18.74**	**322**	P	**Pn**	**17 47 24.2**	**-0.7**
	baz=69,slow=4.0,SNR=6.8						
TIXI	**Tiksi**	**25.31**	**341**	P	**P**	**17 48 30.5**	**+2.0**
	1.3nm,0.6s,baz=129,slow=10,SNR=9.2						
H11N2	**WAKE ISLAND Hy**	**31.14**	**157**	T	T	18 21 43.8	
	baz=342						
H11N1	**WAKE ISLAND Hy**	**31.16**	**157**	T	T	18 21 37.5	
	baz=342						
H11N3	**WAKE ISLAND Hy**	**31.16**	**157**	T	T	18 21 55.0	
	baz=342						
H11S1	**WAKE ISLAND Hy**	**32.27**	**158**	T	T	18 23 02.7	
	baz=344,slow=76,SNR=22						
H11S3	**WAKE ISLAND Hy**	**32.28**	**158**	T	T	18 23 03.2	
	baz=344,slow=76,SNR=29						
H11S2	**WAKE ISLAND Hy**	**32.29**	**158**	T	T	18 23 03.8	
	baz=344,slow=76,SNR=15						
INK	**Inuvik**	**39.07**	**34**	P	**P**	**17 50 28.3**	**+0.2**
	0.5nm,0.4s,baz=292,slow=8.7,SNR=5.9						
RES	**Resolute Bay**	**48.16**	**19**	P	**P**	**17 51 41.3**	**+0.5**
	0.6nm,0.4s,baz=263,slow=5.7,SNR=6.2						
YKA	**Yellowknife Ar**	**48.40**	**38**	P	**P**	**17 51 43.6**	**+0.9**
	0.2nm,0.5s,baz=299,slow=8.1,SNR=4.4						
BVAR	**Borovoye Array**	**49.93**	**308**	P	**P**	**17 51 54.1**	**-0.5**
	0.8nm,0.6s,baz=64,slow=12,SNR=4.2						
SPITS	**Spitsbergen Ar**	**50.27**	**350**	P	**P**	**17 51 54.9**	**-1.9**
	8.9nm,1.0s,baz=116,slow=9.8,SNR=2.7						
ARU	**Arti**	**53.74**	**317**	P	**P**	**17 52 21.7**	**-0.9**
	2.1nm,0.5s,baz=67,slow=3.3,SNR=6.0						
ARCES	**ARCESS Array B**	**55.74**	**341**	P	**P**	**17 52 35.6**	**-1.3**
	2.3nm,0.7s,baz=14,slow=11,SNR=2.9						
FINES	**FINESS Array B**	**62.11**	**335**	P	**P**	**17 53 20.1**	**-0.8**
	2.0nm,0.8s,baz=31,slow=7.8,SNR=9.9						
NOA	**NORSAR Array B**	**66.10**	**341**	P	**P**	**17 53 45.9**	**-1.1**
	0.8nm,0.7s,baz=35,slow=2.9,SNR=2.9						
HFS	**Hagfors**	**66.38**	**340**	P	**P**	**17 53 48.1**	**-0.6**
	1.4nm,0.7s,baz=64,slow=3.4,SNR=7.4						
AKASG	**Malin Array Be**	**69.91**	**326**	P	**P**	**17 54 09.8**	**-1.1**
	0.2nm,0.3s,baz=34,slow=6.7,SNR=2.9						
EKA	**Eskdalemuir Ar**	**74.07**	**347**	P	**P**	**17 54 35.4**	**-0.2**
	0.4nm,0.3s,baz=17,slow=5.2,SNR=6.8						
MLR	**Muntele Rosu**	**75.47**	**325**	P	**P**	**17 54 44.9**	**+0.8**
	0.2nm,0.5s,baz=132,slow=2.0,SNR=3.5						
TXAR	**Lajitas Array**	**75.53**	**62**	P	**P**	**17 54 44.7**	**+0.1**
	0.3nm,0.7s,baz=288,slow=4.7,SNR=4.1						
GERES	**GERESS Array B**	**76.54**	**335**	P	**P**	**17 54 49.8**	**-0.2**
	0.2nm,0.4s,baz=24,slow=7.5,SNR=3.1						
MMAI	**Mount Meron Ar**	**81.76**	**312**	P	**P**	**17 55 19.2**	**+0.6**
	0.8nm,0.6s,baz=38,slow=7.3,SNR=4.2						

*ISCJB **06** 17:44:41.6±0.3, 22.°74S±0.°06×12.°75W±0.°06, h10km, mb4.6/40, Error ellipse: s-maj=8.7km s-min=7.8km az=25.0*
*IDC **06** 17:44:42.2±0.5, 22.°75S×12.°72W, h0km, mb4.3/23, mb1 4.4/23, mb1mx4.2/52, mbtmp4.3/23, Error ellipse: s-maj=16.4km s-min=14.0km az=130.0*
*NEIC **06** 17:44:43.6±0.3, 22.°75S×12.°76W, h10km, mb4.9/28, Error ellipse: s-maj=8.5km s-min=7.6km az=168.0*
ISC 06 17:44:43.4±0.4**, 22.°77S**±0.°08×**12.°76W**±0.°08**, h10**km**, n73,** σ**0.s97**/70**, mb4.6**/40**, 1C, Southern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
H10S2	**ASCENSION HYDR**	**13.85**	**352**	T	T	18 01 59.8	
	baz=172,slow=74,SNR=459						
H10S3	**ASCENSION HYDR**	**13.86**	**352**	T	T	18 02 00.4	
	baz=172,slow=74,SNR=312						
H10S1	**ASCENSION HYDR**	**13.87**	**352**	T	T	18 02 01.1	
	baz=172,slow=74,SNR=354						
RCBR	**Riachuelo**	**27.96**	**304**	*e*P	**P**	**17 50 35.5**	**+1.1**
	18nm,1.3s						
TSUM	**Tsumeb**	**28.53**	**89**	P	**P**	**17 50 38.8**	**-0.8**
	3.7nm,0.8s,baz=234,slow=10,SNR=7.1						
TSUM	**Tsumeb**	**28.53**	**89**	*e*P	**P**	**17 50 39.6**	**+0.1**
	4.9nm,0.8s						
SUR	**Sutherland**	**31.15**	**115**	*e*P	**P**	**17 51 04.0**	**+1.2**
	105nm,1.7s						
BOSA	**Boshof**	**34.65**	**108**	P	**P**	**17 51 32.8**	**-0.5**
	4.1nm,0.7s,baz=276,slow=7.7,SNR=11						
LBTB	**Lobatse**	**35.07**	**101**	P	**P**	**17 51 36.3**	**-0.6**
	5.6nm,0.8s,baz=262,slow=10,SNR=8.7						
LBTB	**Lobatse**	**35.07**	**101**	*e*P	**P**	**17 51 37.1**	**+0.1**
	10nm,1.0s						
KOWA	**Kowa**	**38.01**	**14**	P	**P**	**17 52 01.6**	**-0.3**
	5.5nm,0.9s,baz=209,slow=7.8,SNR=12						
TOA0	**Torodi Ar. Sit**	**38.40**	**23**	*e*P	**P**	**17 52 04.5**	**-0.7**
TORD	**Torodi Ar. Bea**	**38.40**	**23**	P	**P**	**17 52 05.0**	**-0.2**
	7.2nm,0.6s,baz=200,slow=8.7,SNR=43						
TOA1	**Torodi Ar. Sit**	**38.40**	**23**	*e*P	**P**	**17 52 05.0**	**-0.3**
LSZ	**Lusaka**	**39.32**	**86**	P	**P**	**17 52 14.6**	**+1.4**
	1.6nm,0.6s,baz=222,slow=9.7,SNR=4.4						
LSZ	**Lusaka**	**39.32**	**86**	*e*P	**P**	**17 52 13.9**	**+0.7**
	7.2nm,1.1s						
CPUP	**Villa Florida**	**40.55**	**256**	P	**P**	**17 52 24.6**	**+1.4**
	1.6nm,0.9s,baz=117,slow=10,SNR=3.7						
CPUP	**Villa Florida**	**40.55**	**256**	*e*P	**P**	**17 52 23.6**	**+0.5**
	20nm,1.8s						
SIV	**San Ignacio**	**45.91**	**269**	P	**P**	**17 53 07.7**	**+1.0**
	0.9nm,0.6s,baz=126,slow=9.4,SNR=5.4						
VNA1	**Neumayer--Stat**	**47.97**	**178**	P	**P**	**17 53 22.7**	**+0.7**
VNA2	**Neumayer--Watz**	**48.28**	**178**	P	**P**	**17 53 24.8**	**+0.5**
	baz=343,slow=10						
VNA3	**Neumayer Olymp**	**48.53**	**179**	P	**P**	**17 53 26.2**	**-0.2**
TAM	**Tamanrasset**	**48.65**	**23**	*e*P	**P**	**17 53 28.5**	**+0.6**
	9.2nm,1.6s						
SNAA	**Sanae**	**49.26**	**176**	P	**P**	**17 53 32.0**	**+0.1**
SNAA	**Sanae**	**49.26**	**176**	P	**P**	**17 53 31.8**	**-0.1**
	6.1nm,0.9s,baz=331,slow=7.5,SNR=14						
SNAA	**Sanae**	**49.26**	**176**	*e*P	**P**	**17 53 31.4**	**-0.5**
	19nm,1.4s						
SAML	**Samuel**	**50.17**	**277**	*e*P	**P**	**17 53 40.2**	**+0.5**
	15nm,1.6s						
PLCA	**Paso Flores**	**51.39**	**235**	P	**P**	**17 53 48.0**	**-0.6**
	2.6nm,0.9s,baz=122,slow=6.2,SNR=3.7						
PLCA	**Paso Flores**	**51.39**	**235**	*e*P	**P**	**17 53 48.6**	**-0.1**
	34nm,1.8s						
LPAZ	**La Paz**	**52.34**	**267**	*e*P	**P**	**17 53 56.1**	**-0.6**
	5.0nm,1.3s						
SYO	**Syowa Base**	**55.80**	**160**	⇑*e*P	**P**	**17 54 18.2**	**-2.1**
ABPO	**Ambohimpanom**	**55.85**	**98**	*e*P	**P**	**17 54 22.3**	**+0.6**
	25nm,1.4s						
PFVI	**Vila Bisbo**	**59.69**	**4**	*e*P	**P**	**17 54 46.9**	**-1.1**
	114nm,1.4s						
PESTR	**Estremoz**	**61.50**	**5**	*e*P	**P**	**17 55 01.4**	**+1.1**
	14nm,1.4s						
KEST	**Kesra**	**61.83**	**20**	P	**P**	**17 55 02.5**	**-0.2**
	2.4nm,0.7s,baz=168,slow=5.7,SNR=4.3						
KEST	**Kesra**	**61.83**	**20**	*e*P	**P**	**17 55 01.5**	**-1.3**
	12nm,1.2s						
ESDC	**Sonseca Array**	**62.66**	**8**	P	**P**	**17 55 07.7**	**-0.5**
	1.1nm,0.7s,baz=188,slow=6.9,SNR=9.0						
ES19	**SONSECA Array**	**62.69**	**8**	*e*P	**P**	**17 55 06.8**	**-1.6**
MAW	**Mawson**	**63.69**	**156**	*e*P	**P**	**17 55 15.5**	**+0.8**
	24nm,0.6s						
SDV	**Santo Domingo**	**64.79**	**292**	P	**P**	**17 55 23.5**	**+0.6**
	6.5nm,0.9s,baz=176,slow=19,SNR=5.8						
SDV	**Santo Domingo**	**64.79**	**292**	*e*P	**P**	**17 55 23.1**	**+0.1**
	8.9nm,1.0s						
RUSC	**La Rusia**	**65.46**	**288**	*e*P	**P**	**17 55 24.6**	**-3.1**
	6.6nm,1.4s						
ROSC	**El Rosal**	**66.06**	**287**	*e*P	**P**	**17 55 32.6**	**+1.1**
	3.9nm,0.6s						
CEL	**Celeste**	**66.40**	**24**	*e*P	**P**	**17 55 33.1**	**+0.4**
	14nm,0.9s						
OBIP	**Obispado Ponce**	**66.44**	**303**	*e*P	**P**	**17 55 32.9**	**-0.4**
	29nm,1.3s						
AOPR	**Arecibo Observ**	**66.73**	**303**	*e*P	**P**	**17 55 35.9**	**+0.7**
	33nm,1.1s						
QSPA	**South Pole Qui**	**67.44**	**180**	P	**P**	**17 55 40.0**	**+0.8**
	11nm,0.9s,baz=274,slow=18,SNR=14						
IDI	**Anoyia**	**67.88**	**33**	P	**P**	**17 55 42.7**	**+0.5**
	5.1nm,0.9s,baz=61,slow=7.5,SNR=5.7						
IDI	**Anoyia**	**67.88**	**33**	*e*P	**P**	**17 55 42.4**	**+0.2**
	20nm,1.2s						
MMAI	**Mount Meron Ar**	**72.02**	**41**	P	**P**	**17 56 09.2**	**+1.5**
	2.6nm,0.8s,baz=205,slow=6.4,SNR=7.2						
CSS	**Mathiatis**	**72.17**	**38**	*e*P	**P**	**17 56 08.2**	**-0.3**
	2.6nm,1.3s						
GEC2	**GERESS Array S**	**75.11**	**18**	*e*P	**P**	**17 56 24.8**	**-0.8**
	7.4nm,1.4s						
GERES	**GERESS Array B**	**75.11**	**18**	P	**P**	**17 56 25.1**	**-0.5**
	0.4nm,0.7s,baz=160,slow=4.3,SNR=3.9						
BR231	**Keskin MP Arra**	**75.39**	**35**	*e*P	**P**	**17 56 27.9**	**+0.5**
BR101	**Keskin Array S**	**75.76**	**35**	*e*P	**P**	**17 56 29.9**	**+0.4**
BRTR	**Keskin Array B**	**75.76**	**35**	P	**P**	**17 56 29.9**	**+0.4**
	1.2nm,0.9s,baz=213,slow=5.9,SNR=7.3						
MLR	**Muntele Rosu**	**76.52**	**27**	P	**P**	**17 56 34.0**	**+0.2**
	0.5nm,0.7s,baz=151,slow=19,SNR=6.5						
MLR	**Muntele Rosu**	**76.52**	**27**	*e*P	**P**	**17 56 33.1**	**-0.6**

36nm,1.9s
EKA Eskdalemuir Ar 78.21 6 P P 17 56 42.5 -0.3
1.2nm,0.7s,baz=269,slow=12,SNR=3.7
SBA Scott Base 79.60 180 eP P 17 56 48.5 -1.8
59nm,1.9s
AK11 Malin Array Si 81.95 25 eP P 17 57 02.0 -1.1
AKASG Malin Array Be 81.99 25 P P 17 57 02.5 -0.9
2.2nm,0.8s,baz=221,slow=4.9,SNR=10.0
AKBB Malin Array Si 81.99 25 eP P 17 57 02.5 -0.8
20nm,1.8s
KBZ Khabaz 83.54 37 P P 17 57 12.6 +1.0
1.9nm,0.8s,baz=246,slow=7.3,SNR=6.8
FIA0 FINESS Array S 89.54 18 eP P 17 57 41.0 +0.5
FINES FINESS Array B 89.54 18 P P 17 57 41.0 +0.5
1.7nm,0.8s,baz=251,slow=4.3,SNR=3.3
WR1 Warramunga Arr 126.77 140 ePKPdf PKPdf 18 03 47.7 -0.5
WRA Warramunga Arr 126.77 140 PKP PKPdf 18 03 47.7 -0.5
0.7nm,1.1s,baz=228,slow=2.2,SNR=2.4
ILAR Eielson Array 128.54 337 PKP PKPdf 18 03 49.8 -0.3
0.4nm,0.7s,baz=336,slow=2.0,SNR=3.9
PEA1 Petropavlovsk- 148.84 11 ePKPbc PKPab 18 04 33.3 -1.6
PETK Petropavlovsk- 148.84 11 PKPbc PKPab 18 04 33.3 -1.6
4.1nm,0.9s,baz=64,slow=3.4,SNR=2.7
MAJO Matsushiro 151.40 55 ePKPab PKPab 18 04 48.1 +2.1
MJAR Matsushiro Arr 151.41 55 PKPab PKPab 18 04 48.1 +2.0
1.0nm,0.7s,baz=338,slow=1.0,SNR=4.3

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*SOME **06** 17:46:01.7, 39°.42N×77°.30E, h5km*
*KRNET **06** 17:46:03.8±0.1, 39°.36N×77°.30E, mb4.2*
*IDC **06** 17:46:03.6±1.0, 39°.47N×77°.31E, h0km, mb3.7/10, mb1 3.8/14, mb1mx3.5/79, mbtmp3.7/14, ML3.0/4, Error ellipse: s-maj=18.2km s-min=15.2km az=68.0*
*BJI **06** 17:46:04.5, 39°.42N×77°.44E, h7km, mb3.8/7, ML4.0/10*
*NNC **06** 17:46:07.6±1.2, 39°.57N×77°.26E, h0km, mb4.1, mpv3.8, Error ellipse: s-maj=11.4km s-min=6.3km az=146.0*
ISC 06 17:46:05.8±0.6**, 39°.28N**±0°.04×**77°.45E**±0°.03**, h17km, n78, σ1ˢ71**/118**, mb3.8**/10**, 31C-25D, Southern Xinjiang**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
KSH Kashi 1.17 282 Pg Pg 17 46 31.8 +3.4
KSH Sg Sg 17 46 51.1 +7.3
KSH smax smax
comp=N,2μm,0.4s
KSH smax smax
comp=E,2μm,0.3s
NRN Naryn 2.42 333 ⇑iP Pn 17 46 44.7 -0.2
baz=34
NRN ⇑iS Sn 17 47 14.5 +0.1
baz=34
TARG Taragay, Kyrgy 2.46 6 ⇑iP Pn 17 46 46.6 +1.0
baz=9.0
TARG ⇑iS Sn 17 47 17.3 +1.8
baz=9.0
KDJ Kajisay 2.86 356 ⇑iP Pn 17 46 51.5 +0.7
baz=58
KDJ ⇑eS Sn 17 47 26.3 +1.4
baz=58
ULHL Ulahol 3.10 343 P Pn 17 46 54.8 +0.6
SNR=70
ULHL Ulahol 3.10 343 ⇑iP Pn 17 46 54.5 +0.3
baz=45
ULHL ⇑iS Sn 17 47 31.7 +0.7
baz=45
SFK Sufi-Kurgan 3.13 285 ⇓Pn Pn 17 46 55.5 +0.8
4.6nm,0.3s
SFK ⇓Pg Pb 17 47 01.0 -0.2
34nm,0.6s
SFK ⇓Lg Lg 17 47 38.9
204nm,0.6s
SFK Sufi-Kurgan 3.13 285 ⇓iP Pn 17 46 54.6 -0.1
baz=84
SFK ⇓iS Sn 17 47 31.9 +0.1
baz=84
KZA Kyzart 3.26 330 P Pn 17 46 57.2 +0.7
SNR=79
KZA Kyzart 3.26 330 ⇑eP Pn 17 46 56.5 0.0
baz=31
KZA ⇑iS Sn 17 47 34.8 -0.3
baz=31
PRZ Przheval'sk 3.28 12 ⇑eP Pn 17 46 57.9 +1.3
baz=15
PRZ ⇑iS Sn 17 47 36.9 +1.5
baz=15
BOOM Boomskoye usch 3.41 341 ⇓eP Pn 17 46 58.1 -0.2
baz=42
BOOM ⇓eS Sn 17 47 38.5 +0.1
baz=42
UCH Uchtor 3.70 324 ⇑eP Pn 17 47 02.2 -0.4
baz=24
UCH ⇑eS Sn 17 47 45.0 -1.0
baz=24
TNSS Tian-Shan 3.78 354 eP Pb 17 47 09.6 -2.7
176nm,0.6s
TNSS eS Sb 17 47 57.1 -0.8
172nm,0.8s
IZV Izvestkoviy 3.81 351 eP Pb 17 47 10.9 -1.8
86nm,0.6s
IZV eS Sb 17 47 59.2 +0.6
180nm,0.5s
SATY Saty 3.85 10 ⇑iP Pb 17 47 12.6 -0.7
119nm,0.9s
SATY ⇓iS Sb 17 48 00.7 +1.1
178nm,0.7s
KBK Karagaybulak 3.87 331 P Pn 17 47 06.0 +1.2
SNR=8.8
KBK Karagaybulak 3.87 331 ⇓iP Pn 17 47 05.2 +0.5
baz=32
KBK ⇓iS Sn 17 47 49.3 -0.6
baz=32
MDOK Medeo 3.89 356 ⇑Pg Pb 17 47 13.1 -1.0
58nm,0.6s
MDOK Lg Lg 17 48 02.8
179nm,0.6s
MDOK Medeo 3.89 356 eP Pb 17 47 12.3 -1.8
66nm,0.5s
MDOK eS Sb 17 48 00.7 -0.3
184nm,0.9s
TKM2 Tokmak 2 3.90 340 ⇑Pn Pn 17 47 05.2 +0.1
23nm,0.5s
TKM2 ⇓Lg Lg 17 48 01.2
52nm,0.5s
TKM2 Tokmak 2 3.90 340 P Pn 17 47 05.7 +0.6
SNR=16
TKM2 Tokmak 2 3.90 340 ⇑eP Pn 17 47 05.6 +0.5
baz=41
TKM2 ⇑eS Sn 17 47 49.9 -0.7
baz=41
KST Kastek 3.93 344 eP Pb 17 47 12.8 -1.8
7.8nm,0.7s
KST eS Sb 17 48 00.9 -1.0
95nm,0.7s
MTBS Maitube 3.93 349 eP Pb 17 47 12.9 -1.7
26nm,0.5s
MTBS eS Sb 17 48 01.5 -0.4
72nm,0.5s
KNDC Almaty 3.95 355 ⇑Pg Pb 17 47 15.8 +0.7
114nm,0.7s
KNDC ⇓Lg Lg 17 48 04.8
94nm,0.5s
KOTS Kotyrbulak 3.96 356 eP Pb 17 47 13.7 -1.6
46nm,0.7s
KOTS eS Sb 17 48 03.2 +0.2
150nm,0.5s
AAK Ala-Archa 4.04 327 Pn Pn 17 47 07.6 +0.7
1.6nm,0.3s,baz=123,slow=8.3,SNR=24
AAK Pg Pb 17 47 14.5 -2.0
7.9nm,0.3s,baz=136,slow=14,SNR=28
AAK Lg Lg 17 48 04.6
13nm,0.3s,baz=51,slow=22,SNR=8.9
AAK Ala-Archa 4.04 327 ⇑Pn Pn 17 47 07.4 +0.4
6.0nm,0.6s
AAK ⇑Pg Pb 17 47 14.6 -1.9
40nm,0.6s
AAK ⇑Lg Lg 17 48 04.7
85nm,0.7s
AAK Ala-Archa 4.04 327 P Pn 17 47 07.3 +0.4
SNR=8.6
AAK Ala-Archa 4.04 327 ⇓eP Pn 17 47 07.2 +0.3
baz=28
AAK ⇓iS Sn 17 47 53.3 -0.6
baz=28
AML Almayashu 4.04 316 ⇓iP Pn 17 47 06.9 -0.3
baz=16
AML ⇓iS Sn 17 47 52.6 -1.6
baz=16
DGS Degeres 4.16 343 eP Pb 17 47 16.7 -1.9
65nm,0.7s
DGS eS Sb 17 48 08.8 +0.2
124nm,0.8s
CHMS Chumysh 4.24 332 P Pn 17 47 10.6 +0.9
SNR=9.2
CHMS Chumysh 4.24 332 ⇑iP Pn 17 47 10.0 +0.4
baz=33
CHMS ⇑iS Sn 17 47 58.2 -0.6
baz=33
KURS Kuram 4.24 7 eP Pb 17 47 18.9 -1.0
8.2nm,0.4s
KURS ⇓eS Sb 17 48 12.1 +1.2
89nm,0.7s
KPKS Kokpek 4.29 12 eP Pb 17 47 19.3 -1.4
46nm,0.7s
KPKS eS Sb 17 48 12.7 +0.4
232nm,0.5s
PDGK Podgornoye 4.33 20 ⇓Pn Pn 17 47 10.8 -0.2
1.7nm,0.5s
PDGK ⇓Pg Pb 17 47 21.0 -0.5
32nm,0.5s
PDGK ⇑Lg Lg 17 48 16.3
153nm,0.6s
PDGK Podgornoye 4.33 20 ⇑iP Pn 17 47 11.2 +0.2
baz=22
PDGK ⇑iS Sn 17 48 02.9 +1.8
baz=22
EKS2 Erkin-Say 4.38 322 ⇑iP Pn 17 47 11.6 0.0
baz=22
EKS2 ⇑iS Sn 17 48 01.0 -1.3
baz=22
KTBS Karatobe 4.47 353 eP Pb 17 47 23.1 -0.7
42nm,0.8s
KTBS eS Sb 17 48 18.9 +1.5
78nm,0.7s
USP Ospenovka 4.56 332 P Pn 17 47 15.3 +1.2
SNR=6.6
CHKK Chushkaly 4.59 356 eP Pb 17 47 25.5 -0.3
49nm,0.5s
CHKK eS Sb 17 48 22.9 +2.1
146nm,0.5s
KUU Kurty 4.69 350 ⇓iP Pb 17 47 26.8 -0.8
44nm,0.7s
KUU eS Sb 17 48 25.4 +1.7
139nm,0.7s
MRKS Merke 4.71 319 eP Pb 17 47 25.7 -2.3
28nm,0.5s
MRKS eS Sb 17 48 24.2 -0.3
25nm,0.4s
MNBS Baschi 4.85 8 eP Pb 17 47 30.1 -0.2
28nm,0.6s
MNBS eS Sb 17 48 30.7 +2.2
92nm,0.7s
MNAS Manas 4.93 312 ⇓Pg Pb 17 47 33.8 +2.0
26nm,0.7s
MNAS ⇑Lg Lg 17 48 33.6
33nm,0.7s
ARXS Arharly 4.94 3 eP Pb 17 47 31.4 -0.5
53nm,0.7s
ARXS eS Sb 17 48 32.9 +1.8
136nm,0.5s
DJR Jarkent 5.34 18 eP Pb 17 47 39.2 +0.4
29nm,0.6s
DJR eS Sb 17 48 47.0 +4.3
83nm,1.0s
TDK Taldyqorghan 5.76 7 eP Pb 17 47 45.9 0.0
47nm,0.5s
TDK eS Sb 17 48 58.5 +3.9
220nm,0.6s
KAPS Kapalarasan 6.17 13 eP Pb 17 47 53.9 +1.1
8.1nm,0.9s
KAPS eS Sb 17 49 10.9 +4.6
27nm,0.6s
KK31 Karatay Array 6.48 308 ⇓Pg Pb 17 47 58.9 +0.8
4.4nm,0.5s,baz=123,slow=15,SNR=18
KK31 ⇓Lg Lg 17 49 19.6
12nm,0.7s,baz=124,slow=27,SNR=3.7
MK31 Makanchi Array 8.30 24 ⇓Pn Pn 17 48 06.4 +1.0
0.1nm,0.3s,baz=193,slow=13,SNR=5.8
MK31 Pg Pb 17 48 34.6 +5.5
1.2nm,0.6s,baz=215,slow=12,SNR=6.2
MK31 ⇓Lg Lg 17 50 22.7
4.9nm,0.6s,baz=214,slow=29
MKAR Makanchi Array 8.30 24 Pn Pn 17 48 04.3 -1.1
0.2nm,0.3s,baz=205,slow=14,SNR=14
MKAR Lg Lg 17 50 19.1
0.6nm,0.3s,baz=209,slow=22,SNR=3.9
WMQ Urumqi 8.92 56 P Pn 17 48 15.8 +1.9
WMQ S Sn 17 49 51.0 -3.0
WMQ smax smax
comp=N,41nm,0.9s
WMQ smax smax
comp=E,46nm,1.1s
KURBB Kurchatov Arra 11.37 3 Pn Pn 17 48 44.9 -2.5
0.0nm,0.3s,baz=191,slow=12,SNR=4.7
KURBB Lg Lg 17 51 58.2
baz=192,slow=30,SNR=5.3
PYUN Piuthan 12.06 156 eP Pn 17 48 58.1 +1.0
25nm,0.4s
KOLN Koldanda 12.57 154 eP Pn 17 49 03.9 -0.1
7.7nm,0.3s
GKN Gorkha 12.73 150 eP Pn 17 49 06.9 +0.7
18nm,0.5s
KKN Kakani 13.18 148 eP Pn 17 49 12.8 +0.4
9.4nm,0.6s
DMN Daman 13.27 149 eP Pn 17 49 12.7 -0.9
7.5nm,0.4s
GUN Gumba 13.33 146 eP Pn 17 49 14.3 -0.2
8.6nm,0.4s
PKIN Phulchoki 13.41 148 eP Pn 17 49 15.3 -0.3
13nm,0.6s
JIRN Jiri 13.68 145 eP Pn 17 49 19.0 -0.4
30nm,0.5s
RAMN Ramite 14.48 145 eP Pn 17 49 26.3 -3.8
13nm,0.6s
BVAR Borovoye Array 14.58 343 Pn Pn 17 49 26.4 -4.9
0.1nm,0.3s,baz=153,slow=16,SNR=3.7
BVAR Lg Lg 17 53 36.9
0.2nm,0.3s,baz=166,slow=27,SNR=3.5
ZALV Zalesovo Beam 15.51 16 Pn Pn 17 49 36.7 -6.9
0.2nm,0.3s,baz=215,slow=11,SNR=5.8
GTA Gaotai 17.30 82 eP P 17 50 09.6 +1.6
GTA pP sP 17 50 14.6 -0.4
GTA sP pP 17 50 17.7 +5.0
GTA pmax pmax
comp=Z,2.0nm,1.5s
SONM Songino Array 22.55 58 P P 17 51 07.1 +2.1
0.6nm,0.5s,baz=204,slow=14,SNR=2.0
CMAR Chiang Mai Arr 27.88 132 P P 17 51 57.0 +2.2
0.2nm,0.5s,baz=337,slow=8.8,SNR=3.8
BRTR Keskin Array B 33.56 285 P P 17 52 44.8 -0.1
0.7nm,0.7s,baz=85,slow=7.7,SNR=3.7
ARCES ARCESS Array B 40.67 335 P P 17 53 42.9 -1.8
4.7nm,0.9s,baz=77,slow=5.2,SNR=5.2
HFS Hagfors 44.14 320 P P 17 54 12.9 -0.2
1.2nm,0.7s,baz=98,slow=10,SNR=2.5
NOA NORSAR Array B 45.33 321 P P 17 54 20.0 -2.6
1.1nm,0.8s,baz=90,slow=7.9,SNR=2.7
GERES GERESS Array B 45.56 304 P P 17 54 23.8 -0.9
1.0nm,0.8s,baz=60,slow=8.0,SNR=6.8
ESDC Sonseca Array 60.63 299 P P 17 56 14.8 -1.0
0.7nm,0.6s,baz=51,slow=6.7,SNR=5.6
TORD Torodi Ar. Bea 70.82 271 P P 17 57 20.4 -1.4
0.5nm,0.6s,baz=46,slow=4.7,SNR=3.2
YKA Yellowknife Ar 78.11 6 P P 17 58 02.2 -1.2
0.3nm,0.6s,baz=350,slow=5.4,SNR=6.4

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*BJI **06** 17:49:33.4, 6°.97S×131°.04E, h66km, mb4.6/22, mB4.9/10, Ms4.2/1, Ms7 4.1/1*
*ISCJB **06** 17:49:34.8±0.2, 6°.52S±0°.03×131°.15E±0°.03, h62km, mb4.6/39, Error ellipse: s-maj=4.7km s-min=3.7km az=170.5*
*NEIC **06** 17:49:37.9±0.7, 6°.50S×131°.08E, h75km±8km, mb4.5/21, Error ellipse: s-maj=8.5km s-min=5.7km az=60.0*
*DJA **06** 17:49:38.2±0.3, 6°S±2°×13°1E±°, h64km±27km, M4.7/14, mb5.0/14, mB5.1/10, MLv4.9/13, Mw(mB)4.5/10*
*IDC **06** 17:49:38.4±3.7, 6°.53S×130°.91E, h72km±37km, mb4.0/14, mb1 4.0/17, mb1mx3.8/61, mbtmp4.3/17, ML4.6/2, MS3.5/3, Ms1 3.5/3, ms1mx2.9/52, Error ellipse: s-maj=22.8km s-min=16.7km az=48.0*
ISC 06 17:49:36.4±0.4**, 6°.48S**±0°.04×**131°.19E**±0°.05**, h62km, n126, σ2ˢ00**/134**, mb4.6**/39**, Tanimbar Islands region**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
SAUI Saumlaki 1.50 176 P Pn 17 50 05.4 +4.3
SAUI Saumlaki 1.50 176 ePn Pn 17 50 04.9 +3.8
SAUI eSn Sn 17 50 22.6 +2.9
BNDI Bandanaira 2.33 327 P Pn 17 50 12.6 +0.2
FAKI Fak Fak 3.69 17 P Pn 17 50 32.4 +1.4
FAKI S Sn 17 51 13.7 +0.4
FAKI Fak Fak 3.69 17 ePn Pn 17 50 31.9 +0.9
FAKI eSn Sn 17 51 09.1 -4.2
KMPI Kaimana, Papua 3.76 42 P Pn 17 50 34.8 +2.9
KMPI S Sn 17 51 17.0 +2.1
MSAI Masohi 3.84 324 P Pn 17 50 34.2 +1.1
AAI Ambon 4.08 313 P Pn 17 50 35.9 -0.3
NLAI Namlea 5.20 308 P Pn 17 50 52.3 +0.7
SWI Sorong 5.58 1 P Pn 17 50 56.9 0.0
43nm,0.5s,2μm
MTN Manton Dam 6.32 181 P Pn 17 51 06.9 -0.1
baz=6.3,SNR=212
MTN Manton Dam 6.32 181 ePn Pn 17 51 08.1 +1.0
MTN eSn Sn 17 52 13.5 -4.3
SANI Sanana 6.80 310 P Pn 17 51 15.4 +1.8
LBMI Labuha 6.87 327 P Pn 17 51 15.8 +1.2
SOEI Soe 7.59 244 P Pn 17 51 24.4 -0.1
94nm,0.8s
SOEI Soe 7.59 244 ePn Pn 17 51 24.6 +0.2
SOEI eSn Sn 17 52 51.0 +1.9
TNTI Ternate 8.15 332 ePn Pn 17 51 24.9 -7.2
BATI Baumata 8.32 243 P Pn 17 51 34.0 -0.3
7.8nm,0.3s,baz=117,slow=14,SNR=20
BATI S Sn 17 53 00.0 -6.9
6.4nm,0.3s,baz=288,slow=19,SNR=2.3
BATI Baumata 8.32 243 P Pn 17 51 33.8 -0.6
42nm,0.6s
BATI S Sn 17 53 06.6 -0.3
42nm,0.6s
LUWI Luwuk 9.99 302 P Pn 17 51 59.5 +2.3
LUWI Luwuk 9.99 302 ePn Pn 17 51 59.5 +2.3
BSSI Bau Bau, Buton 10.64 271 P Pn 17 52 08.5 +2.4
APSI Ampana 11.01 300 P Pn 17 52 13.8 +2.6
MRSI Marisa 11.53 306 P Pn 17 52 19.0 +0.7
TTSI Tana Toraja 11.84 286 P Pn 17 52 23.9 +1.5
WBSI Waikabubak, Su 12.10 254 P Pn 17 52 25.9 -0.2
FITZ Fitzroy Crossi 12.75 205 S Sn 17 54 44.5 -11
baz=270,slow=20
WRAB Tennant Creek 13.72 167 ePn Pn 17 52 45.9 -2.1
WR1 Warramunga Arr 13.73 167 ePn Pn 17 52 44.8 -3.3
WR1 eSn Sn 17 55 08.7 -10
WRA Warramunga Arr 13.73 167 P Pn 17 52 44.8 -3.3
1.7nm,0.3s,baz=346,slow=13,SNR=58
WRA S Sn 17 55 08.7 -10
5.2nm,0.3s,baz=344,slow=22,SNR=11
WB2 Warramunga Arr 13.73 167 ePn Pn 17 52 43.9 -4.3
COEN Coen 13.93 123 P Pn 17 52 51.5 +0.6
baz=14,SNR=19
COEN Coen 13.93 123 ePn Pn 17 52 51.6 +0.6
COEN eSn Sn 17 55 16.9 -7.2
PMG Port Moresby 16.08 101 P P 17 53 23.5 +2.5
0.6nm,0.3s,baz=223,slow=12,SNR=4.2
PMG S Sn 17 56 11.1 -5.1
0.3nm,0.3s,baz=233,slow=11,SNR=2.6
PMG LR LR 18 00 52.3
comp=Z,243nm,21.4s,baz=351,slow=41
PMG Port Moresby 16.08 101 ePn P 17 53 22.6 +1.6
14nm,0.9s
PMG eSn Sn 17 56 11.1 -5.1
PMG e 18 00 52.3
QIS Mount Isa 16.20 151 P Pn 17 53 20.0 -0.1
baz=16,SNR=12
MYLDM Lahad Datu 17.17 312 ePn P 17 53 33.0 0.0
16nm,0.9s
MTSU Mount Surprise 17.26 133 P Pn 17 53 34.5 +1.1
baz=17,SNR=18
AS31 Alice Springs 17.28 172 ePn Pn 17 53 32.8 -0.9
5.2nm,0.4s
AS31 eSn Sn 17 56 36.0 -9.3
ASAR Alice Springs 17.29 172 P Pn 17 53 33.1 -0.5
2.1nm,0.3s,baz=351,slow=8.1,SNR=151
ASAR S Sn 17 56 35.0 -10
1.3nm,0.3s,baz=347,slow=25,SNR=8.2
ASAR LR LR 18 00 50.9
comp=Z,202nm,20.2s,baz=334,slow=39
AS01 Alice Springs 17.29 171 ePn Pn 17 53 32.8 -0.9
MBWA Marble Bar 18.33 216 eP P 17 53 43.9 -1.9
15nm,0.6s
KKM Kota Kinabalu 19.45 309 eP P 17 53 57.4 -0.8
89nm,1.7s
CTA Charters Tower 19.92 134 P Pn 17 54 06.1 +0.8
1.8nm,0.5s,baz=286,slow=15,SNR=2.9
SBUM Sibu 20.91 295 eP P 17 54 14.7 +0.7
5.2nm,0.8s
KSM Kuching 22.29 290 eP P 17 54 27.6 -1.2
5.2nm,0.9s
TGY Tagaytay City 22.84 334 LR LR 18 04 53.7
comp=Z,91nm,19.6s,baz=152,slow=40
CISI Cisompet, Garu 23.23 266 eP P 17 54 38.2 -0.3
45nm,1.0s
MEEK Meekatharra 23.35 209 P P 17 54 39.6 0.0
baz=23,SNR=7.8
QLP Quilpie 23.54 150 P P 17 54 44.3 +3.1
baz=24,SNR=3.8
FORT Forrest 24.35 187 P P 17 54 50.8 +2.3
baz=24,SNR=7.4
FORT Forrest 24.35 187 eP P 17 54 50.6 +2.1
455nm,0.8s
KMBL Kambalda 26.25 198 P P 17 55 07.1 +1.3
baz=26,SNR=8.7
BBOO Buckleboo 26.59 171 eP P 17 55 10.7 +1.8
121nm,1.9s
STKA Stephens Creek 27.07 160 P P 17 55 15.1 +1.9
2.7nm,0.9s,baz=356,slow=7.7,SNR=4.7
STKA Stephens Creek 27.07 160 eP P 17 55 15.4 +2.2
10nm,1.8s
BLDU Ballidu 27.59 208 P P 17 55 19.1 +1.3
baz=28,SNR=7.8
NWAO Narrogin (SRO) 29.34 204 P P 17 55 34.1 +0.8
7.9nm,0.9s,baz=267,slow=7.5,SNR=7.9
NWAO Narrogin (SRO) 29.34 204 P P 17 55 34.2 +0.8
baz=29,SNR=5.9
NWAO P P 17 55 34.2 +0.8
baz=29,SNR=5.9
KULM Kulim 32.65 290 eP P 17 56 03.5 +0.7
9.7nm,1.3s
GSI Gunungsitoli 34.44 282 eP P 17 56 18.0 -0.4
31nm,1.7s
CHAI Chaiyaphum 36.48 308 P P 17 56 34.7 -1.1
5.2nm,0.5s
PHIT Phitsanulok 38.45 308 P P 17 56 52.2 -0.3
12nm,0.8s
TAU Tasmania Unive 38.98 161 eP P 17 56 55.8 -0.8
325nm,1.8s
NJ2 Nanjing 40.08 344 eP P 17 57 06.0 +0.1
NJ2 pmax pmax
comp=Z,16nm,0.5s
JHJ2 Mitsune 40.22 11 eP P 17 57 04.7 -2.3
1μm,1.5s
CM01 Chiang Mai Arr 40.29 308 eP P 17 57 05.9 -1.9
CM31 Chiang Mai Arr 40.32 308 eP P 17 57 07.3 -0.8
CMAR Chiang Mai Arr 40.32 308 P P 17 57 07.6 -0.5
3.5nm,0.6s,baz=136,slow=7.3,SNR=36
CMMT Chiang Mai 40.52 309 P P 17 57 08.1 -1.6
8.8nm,0.7s
CHTO Chiang Mai 40.52 309 P P 17 57 09.2 -0.6
38nm,1.0s
CHTO Chiang Mai 40.52 309 eP P 17 57 09.1 -0.7
6.3nm,0.6s
KMI Kunming 41.87 320 P P 17 57 21.7 +0.7
KMI pmax pmax
comp=Z,17nm,0.6s
ENH Enshi 42.06 331 eP P 17 57 21.4 -0.8
6.3nm,0.9s
KS15 Wonju Array Si 43.80 356 eP P 17 57 37.3 +1.2
KSAR Wonju Array Be 43.80 356 P P 17 57 37.7 +1.6
KSRS Korea Array 43.81 356 P P 17 57 37.7 +1.5
0.8nm,0.5s,baz=171,slow=8.2,SNR=4.4
XAN Xi'an 45.48 334 P P 17 57 52.5 +2.8
XAN pP pP 17 58 03.8 -1.7
XAN pmax pmax
comp=Z,11nm,1.0s
XAN pmax pmax
comp=Z,140nm,6.9s
LZH Lanzhou 49.52 331 eP P 17 58 25.2 +4.1
LZH pP pP 17 58 40.8 +3.6
LZH sP sP 17 58 47.8 +3.5
LZH pmax pmax
comp=Z,21nm,1.1s

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SHL	Shillong	49.73	311	eP	P	17 58 21.0	-2.0
	6.2nm,0.8s						
CN2	Changchun	50.32	355	eP	P	17 58 31.0	+4.2
HHC	Hu-ho-hao-te	50.44	341	eP	P	17 58 30.8	+2.9
HHC				pmax	pmax		
	comp=Z,8.0nm,1.0s						
HHC				pmax	pmax		
	comp=Z,75nm,6.3s						
USRK	Ussuriysk Ar.	50.45	1	P	P	17 58 30.1	+2.3
	1.1nm,0.5s,baz=159,slow=6.9,SNR=3.9						
LSA	Lhasa	52.65	315	eP	P	17 58 44.5	-0.6
	3.6nm,0.8s						
ODAN	Odare	53.82	310	eP	P	17 58 52.4	-1.1
GTA	Gaotai	54.10	330	eP	P	17 58 56.2	+1.1
GTA				pmax	pmax		
	comp=Z,3.0nm,1.4s						
RAMN	Ramite	54.47	310	eP	P	17 58 57.6	-0.6
	70nm,0.6s						
RAMN	Ramite	54.47	310	eP	P	17 58 57.7	-0.5
	70nm,0.6s						
JIRN	Jiri	55.15	310	eP	P	17 59 02.7	-0.5
JIRN	Jiri	55.15	310	eP	P	17 59 02.4	-0.8
GUN	Gumba	55.51	310	eP	P	17 59 05.2	-0.6
	40nm,0.7s						
GUN	Gumba	55.51	310	eP	P	17 59 04.4	-1.4
	40nm,0.7s						
PKIN	Phulchoki	55.71	310	eP	P	17 59 06.6	-0.6
	8.6nm,0.6s						
KKN	Kakani	55.91	310	eP	P	17 59 07.6	-0.9
KKN	Kakani	55.91	310	eP	P	17 59 07.6	-0.9
	19nm,0.6s						
DMN	Daman	55.95	310	eP	P	17 59 07.6	-1.3
	11nm,0.5s						
DMN	Daman	55.95	310	eP	P	17 59 07.5	-1.3
GKN	Gorkha	56.51	310	eP	P	17 59 11.6	-1.2
	34nm,0.7s						
GKN	Gorkha	56.51	310	eP	P	17 59 11.5	-1.2
	34nm,0.7s						
KOLN	Koldanda	57.19	309	eP	P	17 59 17.2	-0.4
	18nm,0.7s						
KOLN	Koldanda	57.19	309	eP	P	17 59 17.0	-0.6
	18nm,0.7s						
DANN	Dangsing	57.35	310	eP	P	17 59 18.9	+0.1
PYUN	Piuthan	57.82	309	eP	P	17 59 21.8	-0.2
	46nm,0.9s						
PYUN	Piuthan	57.82	309	eP	P	17 59 21.5	-0.5
	46nm,0.9s						
ULN	Ulaanbaatar	58.15	341	eP	P	17 59 24.6	+0.7
	3.8nm,0.7s						
SONA0	Songino Array	58.34	341	eP	P	17 59 24.7	-0.5
SONM	Songino Array	58.34	341	P	P	17 59 24.7	-0.5
	1.3nm,0.5s,baz=142,slow=4.9,SNR=3.4						
MK01	Makanchi Array	68.43	326	eP	P	18 00 32.3	+0.5
MK32	Makanchi Array	68.45	326	eP	P	18 00 32.6	+0.8
MKAR	Makanchi Array	68.45	326	P	P	18 00 32.6	+0.8
	10nm,0.4s,baz=113,slow=8.9,SNR=80						
MAKZ	Makanchi	68.63	326	eP	P	18 00 33.3	+0.2
	12nm,0.5s						
SEY	Seymchan	71.09	10	P	P	18 00 49.6	+1.9
	2.4nm,0.7s,baz=177,slow=6.0,SNR=3.9						
ZAA0	Zalesovo Array	71.65	333	eP	P	18 00 52.6	+1.3
	2.8nm,0.6s						
ZALV	Zalesovo Beam	71.65	333	P	P	18 00 51.2	-0.1
	3.3nm,0.8s,baz=106,slow=4.2,SNR=13						
ZALV	Zalesovo Beam	71.65	333	eP	P	18 00 50.5	-0.7
ZAA1	Zalesovo Array	71.65	333	eP	P	18 00 51.2	-0.1
KURBB	Kurchatov Arra	72.69	328	P	P	18 00 58.0	+0.4
	4.6nm,0.7s,baz=130,slow=4.9,SNR=15						
KURK	Kurchatov	72.70	328	eP	P	18 00 57.3	-0.3
	6.3nm,0.9s						
TIXI	Tiksi	77.99	359	P	P	18 01 28.0	+0.4
	1.2nm,0.6s,baz=181,slow=2.9,SNR=4.0						
BVAR	Borovoye Array	78.26	327	P	P	18 01 29.9	+0.4
	2.9nm,0.7s,baz=125,slow=10,SNR=5.5						
AB31	Akbulak array	82.84	321	eP	P	18 01 53.2	-0.8
ABKAR	Akbulak array	82.84	321	eP	P	18 01 53.5	-0.6
	28nm,1.3s						
AB04	Akbulak array	82.85	321	eP	P	18 01 54.0	0.0
AB09	Akbulak array	82.86	321	eP	P	18 01 54.1	0.0
ILAR	Eielson Array	92.38	25	P	P	18 02 39.9	0.0
	0.2nm,0.5s,baz=310,slow=4.6,SNR=3.3						
SRU	San Rafael Swe	115.90	50	ePKPdf	PKPdf	18 08 09.2	-3.5

*IDC **06** 17:56:12.3±1.1, 35.°03N×69.°17E, h0^{km}, mb3.7/9, mb1 3.7/15, mb1mx3.5/75, mbtmp3.7/15, ML3.4/6, Error ellipse: s-maj=23.4km s-min=18.1km az=35.0*

*ISCJB **06** 17:56:16.4±0.8, 35.°33N±0.°07×69.°01E±0.°09, h33^{km}, mb3.7/9, Error ellipse: s-maj=12.0km s-min=8.7km az=34.7*

*NNC **06** 17:56:17.0±4.9, 35.°65N×68.°29E, h0^{km}, mb4.1, mpv3.8, Error ellipse: s-maj=48.8km s-min=32.4km az=147.0*

ISC 06 17:56:17.9±1.1, 35.°17N±0.°10×68.°86E±0.°09, h35^{km}, n22, σ2.^{s}69/28, mb3.8/9, 8C-3D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	Sufi-Kurgan	6.08	36	⇓Pn	Pn	17 57 45.8	+0.4
	7.0nm,0.4s						
SFK				⇑Sn	Sn	17 58 58.6	+4.7
	15nm,0.5s						
MNAS	Manas	7.84	20	⇑Pn	Pn	17 58 06.3	-3.2
	3.3nm,0.6s						
MNAS				⇑Sn	Sn	17 59 33.1	-3.9
	5.9nm,0.8s						
KK31	Karatay Array	8.03	9	Pn	Pn	17 58 09.8	-2.1
	0.7nm,0.3s,baz=196,slow=15,SNR=25						
KK31				⇑Sn	Sn	17 59 38.1	-3.3
	1.3nm,0.4s,baz=198,slow=20						
AAK	Ala-Archa	8.65	29	Pn	Pn	17 58 18.5	-2.1
	1.2nm,0.3s,baz=178,slow=6.1,SNR=20						
AAK				Sn	Sn	17 59 54.4	-2.7
	0.3nm,0.3s,baz=288,slow=19,SNR=3.6						
AAK	Ala-Archa	8.65	29	⇓Pn	Pn	17 58 21.4	+0.7
	5.0nm,0.5s						
AAK				⇑Sn	Sn	18 00 02.3	+5.2
	13nm,0.8s						
GEYT	Alibeck	9.07	291	Pn	Pn	17 58 26.7	+0.4
	0.4nm,0.3s,baz=111,slow=7.9,SNR=4.8						
TKM2	Tokmak 2	9.34	32	⇓Pn	Pn	17 58 31.1	+1.0
	4.2nm,0.6s						
TKM2				⇑Sn	Sn	18 00 18.4	+4.3
	4.0nm,0.9s						
MKAR	Makanchi Array	15.39	37	Pn	Pn	17 59 50.5	-1.8
	0.1nm,0.3s,baz=222,slow=11,SNR=11						
AB31	Akbulak array	15.53	338	⇑P	Pn	17 59 49.9	-4.2
	0.9nm,0.6s,baz=152,slow=12,SNR=4.6						
KURBB	Kurchatov Arra	16.97	22	P	Pn	18 00 10.0	-2.3
	0.0nm,0.3s,baz=209,slow=10,SNR=3.6						
AKTO	Aktyubinsk	17.18	336	P	Pn	18 00 16.2	+1.2
	0.2nm,0.3s,baz=157,slow=14,SNR=4.2						
AKTO	Aktyubinsk	17.18	336	⇑P	Pn	18 00 15.7	+0.7
	1.5nm,0.7s						
BVAR	Borovoye Array	17.88	3	P	Pn	18 00 23.4	-0.3
	0.1nm,0.3s,baz=193,slow=5.9,SNR=3.4						
KBZ	Khabaz	21.73	301	P	P	18 01 08.5	+2.6
	0.6nm,0.4s,baz=86,slow=14,SNR=3.8						
ZALV	Zalesovo Beam	21.86	26	P	P	18 01 07.2	0.0
	2.4nm,0.6s,baz=217,slow=10,SNR=8.1						
ARU	Arti	22.39	345	P	P	18 01 15.0	+2.0
	2.0nm,0.6s,baz=133,slow=8.0,SNR=5.1						
FINES	FINESS Array B	37.65	328	P	P	18 03 29.8	+0.6
	1.6nm,0.9s,baz=120,slow=9.6,SNR=3.0						
HFS	Hagfors	43.06	323	P	P	18 04 17.1	+3.2
	3.0nm,1.0s,baz=134,slow=21,SNR=3.3						
KSRS	Korea Array	46.97	69	P	P	18 04 43.5	-1.8
	0.6nm,0.6s,baz=285,slow=8.7,SNR=2.7						
TIXI	Tiksi	47.65	22	P	P	18 04 50.2	0.0
	1.1nm,0.3s,baz=213,slow=2.1,SNR=5.2						
WRA	Warramunga Arr	82.79	120	P	P	18 08 37.0	-1.6
	0.1nm,0.7s,baz=321,slow=4.9,SNR=4.2						
ASAR	Alice Springs	84.95	123	P	P	18 08 47.8	-1.8
	0.3nm,0.5s,baz=313,slow=5.3,SNR=3.5						

MAN 06 18:09:43, 10.°59N×125.°23E, h6^{km}, mb4.5, ML3.4, MS3.2, 3C-1D, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSLP	Maasin	0.58	219	eP	Pb	18 09 55.6	0.0
MSLP				eS	Sb	18 10 05.6	+1.5
PLP	Palo	0.62	337⇑	iP	Pb	18 09 56.7	+0.4
PLP				i S	Sb	18 10 06.8	+1.5
SCPH	Surigao	0.84	162⇑	eP	Pb	18 09 59.7	-0.4
SCPH				eS	Sb	18 10 12.6	+1.0
BESP	Borongan	1.03	11	eP	Pb	18 10 03.1	-0.1
BESP				eS	Sn	18 10 19.6	+1.0
LLP	Lapu-Lapu	1.27	258⇑	eP	Pg	18 10 07.5	+0.1
LLP				eS	Sn	18 10 25.7	+0.9
BUTP	Butuan	1.66	167	eP	Pb	18 10 13.4	-0.5
BUTP				eS	Sg	18 10 38.5	+2.3
CNP	Catarman	1.99	344	eP	Pn	18 10 13.5	-3.7
CNP				eS	Sg	18 10 48.9	+1.9
SNPH	Sibulan	2.32	238	eP	Pb	18 10 24.3	-1.0
BUKP	Musuan	2.70	184	eP	Pn	18 10 27.2	+0.2
BUKP				eS	Sb	18 11 05.9	+0.8
JAP	San Jose, Anti	3.23	273⇓	eP	Pb	18 10 39.5	-1.4

DJA 06 18:20:13.7±0.9, 6°S±6°×13°1E±°, h96^{km}±60^{km}, M3.9/6, mB4.6/1, mb3.8/3, MLv3.9/6, Mw(mB)3.8/1, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	Fak Fak	3.06	30	P	Pn	18 21 00.5	+0.3
FAKI				S	Sn	18 21 37.4	+1.4
KMPI	Kaimana, Papua	3.54	57	P	Pn	18 21 06.4	-0.2
KMPI				S	Sn	18 21 47.6	+0.1
SWI	Sorong	4.73	7	P	Pn	18 21 23.0	+0.3
SWI				S	Sn	18 22 17.1	+0.7
LBMI	Labuha	5.88	327	P	Pn	18 21 38.3	0.0
SANI	Sanana	5.89	307	P	Pn	18 21 38.8	+0.3

IDC 06 18:23:55.1±1.7, 6.°02S×143.°56E, h0^{km}, mb3.4/1, mb1 3.4/4, mb1mx3.1/51, mbtmp3.3/4, ML3.2/2, Error ellipse: s-maj=44.6km s-min=27.0km az=59.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	4.90	134	Pn	Pn	18 25 08.9	-1.2
	0.6nm,0.3s,baz=283,slow=17,SNR=3.5						
PMG				Sn	Sn	18 26 10.7	+3.2
	0.1nm,0.3s,baz=332,slow=17,SNR=2.4						
WRA	Warramunga Arr	16.48	212	Pn	Pn	18 27 48.5	+0.6
	0.1nm,0.3s,baz=34,slow=10,SNR=2.6						
ASAR	Alice Springs	19.85	207	P	P	18 28 27.6	-0.2
	0.1nm,0.3s,baz=32,slow=8.6,SNR=7.2						
MKAR	Makanchi Array	75.36	321	P	P	18 35 40.7	+0.2
	0.1nm,0.4s,baz=102,slow=6.3,SNR=3.6						

*ATA **06** 18:26:07.9±1.8, 41.°14N×43.°86E, h30^{km}±17^{km}, ML2.7, MW2.7*

*CSEM **06** 18:26:08.9±0.2, 41.°14N×43.°93E, h2^{km}, ML2.1, Error ellipse: s-maj=4.5km s-min=2.7km az=138.0*

*DDA **06** 18:26:08.5, 41.°15N×43.°93E, h7^{km}, Ml2.7*

*TIF **06** 18:26:08.9, 41.°18N×43.°94E, h12^{km}±3^{km}*

ISC 06 18:26:08.9±1.0, 41.°15N±0.°02×43.°93E±0.°02, h11^{km}±9^{km}, n37, σ0.^{s}49/63, Turkey-Georgia-Armenia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKH	Akhalkalaki	0.42	309	P	Pg	18 26 17.5	+0.3
AKH				S	Sg	18 26 23.0	+0.2
AKH	Akhalkalaki	0.42	309	P	Pg	18 26 17.6	+0.3
AKH				S	Sg	18 26 23.2	+0.3
AKH	Akhalkalaki	0.42	309	P	Pg	18 26 17.5	+0.3
AKH				S	Sg	18 26 23.0	+0.2
EAK	Akyaka	0.52	208	i P	Pg	18 26 18.7	-0.4
EAK				eS	Sg	18 26 26.5	+0.5
EAK				IAML		18 26 37.3	
	comp=Z,43nm,0.4s						
EAK	Akyaka	0.52	208	i P	Pg	18 26 18.7	-0.4
EAK				i S	Sg	18 26 26.7	+0.8
EAK	Akyaka	0.52	208	P	Pg	18 26 18.7	-0.4
EAK				S	Sg	18 26 26.7	+0.8
DIGO	Kars	0.84	210	i P	Pg	18 26 24.6	-0.5
DIGO				eS	Sg	18 26 36.1	-0.1
DIGO				IAML		18 26 39.1	
	comp=Z,19nm,0.5s						
DIGO	Kars	0.84	210	i P	Pg	18 26 24.7	-0.5
DIGO				i S	Sb	18 26 36.8	-0.3
DIGO	Kars	0.84	210	P	Pg	18 26 24.7	-0.5
DIGO				S	Sb	18 26 36.8	-0.3
TBLG	Delisi	0.84	46	eP	Pn	18 26 26.3	-0.5
TBLG				IAML		18 26 37.5	
	comp=Z,21nm,0.4s						
TBLG	Delisi	0.84	46	P	Pg	18 26 25.0	-0.2
TBLG				S	Sg	18 26 36.1	-0.1
TBLG	Delisi	0.84	46	P	Pg	18 26 25.0	-0.2
TBLG				S	Sb	18 26 36.7	-0.3
BTNK	Botanikuri	0.85	50	P	Pg	18 26 25.3	0.0
BTNK				S	Sb	18 26 36.9	-0.2
BTNK	Botanikuri	0.85	50	P	Pg	18 26 25.3	0.0
BTNK				S	Sb	18 26 36.9	-0.2
EPOS	Posof	0.97	292	i P	Pg	18 26 26.6	-1.1
EPOS				eS	Sg	18 26 39.6	-0.7
EPOS				IAML		18 26 44.9	
	comp=Z,5.0nm,0.3s						
EPOS	Posof	0.97	292	i P	Pg	18 26 26.5	-1.1
EPOS	Posof	0.97	292	P	Pg	18 26 26.5	-1.1
DUS	Dusheti	1.11	31	P	Pn	18 26 30.8	+0.3
DUS				S	Sn	18 26 46.5	+0.7
DUS	Dusheti	1.11	31	P	Pn	18 26 30.9	+0.4
DUS				S	Sn	18 26 47.0	+1.2
DUS	Dusheti	1.11	31	P	Pn	18 26 30.8	+0.3
DUS				S	Sn	18 26 46.5	+0.7
DGRG	David-gareji	1.13	74	i P	Pb	18 26 29.9	-0.6
DGRG				eS	Sn	18 26 46.7	+0.3
DGRG	David-gareji	1.13	74	P	Pb	18 26 30.1	-0.4
DGRG				S	Sn	18 26 46.0	-0.3
DGRG	David-gareji	1.13	74	P	Pb	18 26 30.1	-0.4
DGRG	David-gareji	1.13	74	P	Pb	18 26 30.1	-0.4
DGRG				S	Sn	18 26 46.0	-0.3
IGDI	IGDIR	1.28	175	i P	Pg	18 26 33.5	-0.1
IGDI				i S	Sg	18 26 50.6	+0.4
GUDG	Gudauri	1.38	17	P	Pb	18 26 34.8	-0.1
GUDG				S	Sg	18 26 53.7	+0.4
GUDG	Gudauri	1.38	17	P	Pb	18 26 34.8	-0.1
GUDG				S	Sg	18 26 53.8	+0.4
GUDG	Gudauri	1.38	17	P	Pb	18 26 34.8	-0.1
GUDG				S	Sg	18 26 53.7	+0.4
ONI	Oni	1.48	346	P	Pb	18 26 36.1	-0.5
ONI				S	Sg	18 26 56.4	-0.3
ONI	Oni	1.48	346	P	Pb	18 26 36.8	+0.2
ONI				S	Sg	18 26 56.7	0.0
ARTV	Artvin	1.51	272	i P	Pb	18 26 36.8	-0.2
ARTV	Artvin	1.51	272	P	Pb	18 26 36.8	-0.2
DDEM	Demirkent	1.67	262	i P	Pb	18 26 40.2	+0.5
DDEM	Demirkent	1.67	262	P	Pb	18 26 40.2	+0.5
EATA	Eleskirt	1.69	221	eP	Pn	18 26 39.1	+0.5
DBAD	Bademkaya	1.69	266	i P	Pg	18 26 40.8	-0.6
DBAD	Bademkaya	1.69	266	P	Pg	18 26 40.8	-0.6

*TIR **06** 18:29:49.6, 40.°38N×20.°70E, h2^{km}, Md2.6/4*

*SKO **06** 18:29:50.7, 40.°35N×20.°66E, h0^{km}, ML2.3*

*ISCJB **06** 18:29:50.8±0.4, 40.°43N±0.°02×20.°70E±0.°03, h13^{km}±3^{km}, Error ellipse: s-maj=3.7km s-min=3.1km az=14.8*

*ATH **06** 18:29:50.5, 40.°42N×20.°72E, h18^{km}±1^{km}, ML2.3/6, Error ellipse: s-maj=2.0km s-min=1.0km az=133.0*

*CSEM **06** 18:29:50.6±0.1, 40.°43N×20.°70E, h5^{km}, ML2.2, Error ellipse: s-maj=2.7km s-min=2.2km az=125.0*

*THE **06** 18:29:51.1, 40.°43N×20.°71E, h2^{km}±1^{km}, ML2.2/7, Error ellipse: s-maj=1.6km s-min=0.5km az=358.0*

ISC 06 18:29:50.7±0.9, 40.°42N±0.°02×20.°70E±0.°02, h8^{km}±8^{km}, n76, σ0.^{s}61/106, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBN	Korca	0.22	19	P	Pg	18 29 54.8	-0.4
KBN				S	Sg	18 29 57.8	-0.4
KBN	Korca	0.22	19	P	Pg	18 29 54.8	-0.4
KBN				S	Sg	18 29 57.8	-0.4
KBN				i Sg	Sg	18 29 58.8	+0.6
KBN	Korca	0.22	19	i PG	Pg	18 29 48.1	-7.1
KBN				i SG	Sg	18 29 58.8	+0.6
NEST	Nestorio	0.27	90	P	Pg	18 29 56.4	+0.3
NEST				S	Sb	18 30 01.9	-0.8
NEST				AML	AML	18 30 02.3	
	comp=E,1460μm,0.3s						
NEST				AML	AML	18 30 02.5	
	comp=N,1251μm,0.4s						
NEST	Nestorio	0.27	90	P	Pg	18 29 56.3	+0.2
NEST	Nestorio	0.27	90	P	Pg	18 29 56.3	+0.2
NEST				S	Sg	18 30 01.1	+1.3
PENT	Pentalofos	0.40	123	P	Pg	18 29 58.6	0.0
PENT				S	Sg	18 30 04.6	+0.7
PENT				AML	AML	18 30 07.2	
	comp=N,1289μm,0.3s						
PENT				AML	AML	18 30 09.1	
	comp=E,1113μm,0.3s						
PENT	Pentalofos	0.40	123	P	Pg	18 29 58.5	-0.1
PENT				S	Sg	18 30 04.2	+0.3
PENT	Pentalofos	0.40	123	P	Pg	18 29 58.6	0.0
PENT				S	Sg	18 30 04.2	+0.3
FNA	Florina	0.64	54	P	Pg	18 30 02.5	-0.5
FNA				S	Sg	18 30 11.4	+0.1
FNA				AML	AML	18 30 14.7	
	comp=E,927μm,0.3s						
FNA				AML	AML	18 30 17.2	
	comp=N,915μm,0.5s						
FNA	Florina	0.64	54	P	Pg	18 30 02.4	-0.5
FNA				S	Sg	18 30 11.4	+0.1
FNA	Florina	0.64	54	P	Pg	18 30 02.6	-0.4
FNA				S	Sg	18 30 11.4	+0.1
KPRO	Kipourio	0.69	132	P	Pg	18 30 03.5	-0.4
KPRO				S	Sg	18 30 13.1	+0.1
KPRO				AML	AML	18 30 16.3	
	comp=E,866μm,0.1s						
KPRO				AML	AML	18 30 16.7	
	comp=N,486μm,0.1s						
KPRO	Kipourio	0.69	132	P	Pg	18 30 03.5	-0.4
KPRO				S	Sg	18 30 13.8	+0.8
KPRO	Kipourio	0.69	132	P	Pg	18 30 03.6	-0.4
KPRO				S	Sg	18 30 13.2	+0.2
OHR	Ohrid	0.70	6	i Pg	Pg	18 30 03.8	-0.4
OHR				i Sg	Sb	18 30 14.9	-0.1
OHR				eLg	Lg	18 30 16.1	
	comp=E,102nm,0.4s						
SRN	Sarande	0.76	225	P	Pg	18 30 05.4	+0.2
SRN				S	Sb	18 30 16.5	0.0
SRN	Sarande	0.76	225	P	Pg	18 30 05.4	+0.2
SRN				S	Sb	18 30 16.5	0.0
SRN				i Sg	Sn	18 30 18.1	-1.1
SRN	Sarande	0.76	225	i PG	Pg	18 30 05.6	+0.4
SRN				i SG	Sn	18 30 18.1	-1.1
JAN	Janina	0.77	171	P	Pg	18 30 04.5	-1.0
JAN				S	Sg	18 30 14.9	-0.5
JAN				AML	AML	18 30 22.9	
	comp=E,419μm,0.6s						
JAN				AML	AML	18 30 23.8	
	comp=N,304μm,0.3s						
JAN	Janina	0.77	171	P	Pg	18 30 04.9	-0.6
JAN				S	Sg	18 30 15.5	+0.1
BIA	Bitola	0.77	38	P	Pg	18 30 05.3	-0.2
BIA				S	Sg	18 30 16.0	+0.5
BIA	Bitola	0.77	38	P	Pg	18 30 05.3	-0.2
BIA				S	Sg	18 30 16.0	+0.5
BIA	Bitola	0.77	38	i Pg	Pb	18 30 06.2	-0.1
BIA				i Sg	Sb	18 30 17.8	+0.7
KZN	Kozani	0.83	97	P	Pg	18 30 07.0	+0.3
KZN				S	Sg	18 30 17.5	+0.1
KZN				AML	AML	18 30 23.5	
	comp=N,359μm,0.2s						
KZN				AML	AML	18 30 24.1	
	comp=E,344μm,0.3s						
KZN	Kozani	0.83	97	P	Pg	18 30 06.6	0.0
KZN				S	Sb	18 30 18.4	-0.3
KZN	Kozani	0.83	97	P	Pg	18 30 06.6	0.0
KZN				S	Sg	18 30 17.7	+0.3
SGD	Sagiada	0.88	204	P	Pb	18 30 08.4	+0.3
SGD	Sagiada	0.88	204	P	Pg	18 30 08.0	+0.5
SGD	Sagiada	0.88	204	P	Pg	18 30 08.0	+0.5
KASA	Kassiopi	0.89	221	P	Pg	18 30 06.3	-1.4
KASA	Kassiopi	0.89	221	P	Pg	18 30 07.1	-0.6
KEK	Kerkira	0.98	225	P	Pb	18 30 10.2	+0.3
KEK	Kerkira	0.98	225	P	Pg	18 30 09.9	+0.3
KEK	Kerkira	0.98	225	P	Pg	18 30 09.9	+0.3
KRUS	Krusevo	1.04	24	i Pg	Pn	18 30 11.5	-0.1
PHP	Peshkopia	1.28	351	P	Pn	18 30 14.8	-0.2
PHP	Peshkopia	1.28	351	P	Pn	18 30 14.8	-0.2
PHP				i Sg	Sn	18 30 34.6	+2.2
	baz=350						
PHP	Peshkopia	1.28	351	i PG	Pg	18 30 15.4	+0.1
PHP				i SG	Sn	18 30 34.6	+2.2
DSL	Palaion Diasel	1.32	166	P	Pg	18 30 16.1	+0.2
DSL	Palaion Diasel	1.32	166	P	Pn	18 30 15.5	+0.1
DSL	Palaion Diasel	1.32	166	P	Pn	18 30 15.5	+0.1
THL	Klokotos Trika	1.32	130	P	Pn	18 30 14.8	-0.7
THL	Klokotos Trika	1.32	130	P	Pn	18 30 15.3	-0.1
THL	Klokotos Trika	1.32	130	P	Pn	18 30 15.3	-0.1
GRG	Griva	1.41	67	P	Pn	18 30 15.5	-1.2
GRG	Griva	1.41	67	P	Pn	18 30 16.6	0.0
GRG	Griva	1.41	67	P	Pn	18 30 16.6	0.0
LIT	Litokhoron	1.41	102	P	Pg	18 30 17.7	0.0
LIT	Litokhoron	1.41	102	P	Pn	18 30 16.3	-0.4
LIT	Litokhoron	1.41	102	P	Pb	18 30 17.2	0.0
LKD2	Lefkada island	1.62	181	P	Pg	18 30 22.3	+0.5
VAY	Valandovo	1.69	57	i Pg	Pg	18 30 22.7	-0.3
EVR	Evrytania	1.73	150	P	Pg	18 30 23.7	-0.1
EVR	Evrytania	1.73	150	P	Pb	18 30 22.6	-0.1
EVR	Evrytania	1.73	150	P	Pb	18 30 22.6	-0.1
KNT	Kendrikon	1.83	65	P	Pn	18 30 22.6	+0.1
KNT	Kendrikon	1.83	65	P	Pn	18 30 22.0	-0.5
KNT	Kendrikon	1.83	65	P	Pn	18 30 22.8	+0.3
HORT	Hortiatis	1.84	84	P	Pn	18 30 21.7	-1.0
HORT	Hortiatis	1.84	84	P	Pn	18 30 22.5	-0.2
PDO	Prodromos	1.85	168	P	Pb	18 30 24.0	-0.8
PDO	Prodromos	1.85	168	P	Pn	18 30 23.8	+1.1
AGG	Agios Georgios	1.88	137	P	Pb	18 30 24.7	-0.5
AGG	Agios Georgios	1.88	137	P	Pb	18 30 24.4	-0.8
AGG	Agios Georgios	1.88	137	P	Pn	18 30 24.3	+1.2
PLG	Polygyros	2.10	90	P	Pn	18 30 26.7	+0.5
PLG	Polygyros	2.10	90	P	Pn	18 30 26.8	+0.6
XOR	Xorichti	2.19	118	P	Pn	18 30 27.4	0.0
XOR	Xorichti	2.19	118	P	Pn	18 30 27.8	+0.4
PAIG	Paliouri	2.34	101	P	Pn	18 30 28.5	-0.9
PAIG	Paliouri	2.34	101	P	Pn	18 30 29.4	0.0
STON	Ston	3.33	319	ePn	Pn	18 30 42.2	-0.8
STON				Sn	Sn	18 31 21.9	-0.7
STON	Ston	3.33	319	ePn	Pn	18 30 42.1	-0.8
STON				Sn	Sn	18 31 21.9	-0.7
UDBI	Udbina	5.49	320	ePn	Pn	18 31 13.3	+0.5
UDBI	Udbina	5.49	320	ePn	Pn	18 31 13.3	+0.5

*IDC **06** 18:30:31.9±7.8, 4.°55S×153.°29E, h155^{km}±57^{km}, mb3.4/6, mb1 3.5/8, mb1mx3.1/55, mbtmp3.9/8, Error ellipse: s-maj=71.4km s-min=28.1km az=89.0*

ISC 06 18:30:27.9±2.3, 4.°6S±0.°4×153.°6E±0.°3, h100^{km}, n9, σ2.^{s}30/6, mb3.7/6, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	7.95	233	P	Pn	18 32 21.8	+1.0
	6.4nm,0.3s,baz=48,slow=7.8,SNR=26						
PMG				S	Sn	18 33 49.3	+0.1
	1.8nm,0.3s,baz=168,slow=20,SNR=4.6						
CTA	Charters Tower	16.95	204	P	Pn	18 34 20.0	+1.0
	0.2nm,0.3s,baz=12,slow=19,SNR=2.3						
WRA	Warramunga Arr	24.15	229	P	P	18 35 32.7	-2.2
	3.9nm,0.4s,baz=54,slow=10.0,SNR=27						
ASAR	Alice Springs	26.81	223	P	P	18 35 56.3	-2.7
	0.4nm,0.5s,baz=52,slow=9.0,SNR=5.0						
STKA	Stephens Creek	29.35	201	P	P	18 36 19.6	-1.9
	1.8nm,0.7s,baz=24,slow=16,SNR=3.1						
MKAR	Makanchi Array	80.70	319	P	P	18 42 27.4	-2.8
	0.1nm,0.5s,baz=106,slow=6.7,SNR=2.5						
AAK	Ala-Archa	85.11	313	P	P	18 42 50.1	-3.1
	0.6nm,0.6s,baz=144,slow=8.7,SNR=4.8						
BVAR	Borovoye Array	89.56	323	P	P	18 43 09.6	-4.6
	0.4nm,0.7s,baz=98,slow=4.1,SNR=3.3						
TORD	Torodi Ar. Bea	150.99	289	PKPbc	PKPdf	18 50 05.7	+1.3
	0.6nm,0.6s,baz=75,slow=2.5,SNR=4.7						

*ISCJB **06** 18:31:15.3±0.5, 7.°26S±0.°04×129.°61E±0.°06, h139^{km}, mb3.4/2, Error ellipse: s-maj=8.8km s-min=5.0km az=27.4*

*IDC **06** 18:31:16.6±2.2, 7.°32S×129.°65E, h131^{km}±24^{km}, mb3.2/2, mb1 3.4/7, mb1mx3.0/62, mbtmp3.8/7, Error ellipse: s-maj=37.2km s-min=20.5km az=94.0*

*DJA **06** 18:31:18.4±0.5, 7°S±3°×12°9E±°, h121^{km}±23^{km}, M4.1/7, mb3.7/6, mB4.9/3, MLv4.2/7, Mw(mB)4.2/3*

ISC 06 18:31:16.7±0.8, 7.°19S±0.°07×129.°50E±0.°08, h139^{km}, n13,

σ1.97/19, Banda Sea

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SAUI	Saumlaki	1.96	114	P	Pn	18 31 54.0	+3.3
FAKI	Fak Fak	5.05	33	P	Pn	18 32 31.1	+0.4
FAKI				S	Sn	18 33 26.7	-1.6
SOEI	Soe	5.77	243	P	Pn	18 32 41.4	+1.0
SOEI				S	Sn	18 33 45.4	-0.2
BATI	Baumata	6.50	242	P	Pn	18 32 51.9	+1.8
	4.4nm,0.3s,baz=43,slow=6.2,SNR=11						
BATI				S	Sn	18 34 00.3	-2.8
	4.1nm,0.3s,baz=72,slow=20,SNR=6.8						
BATI	Baumata	6.50	242	P	Pn	18 32 52.2	+2.1
	7.2nm,1.1s,0.2nm						
BATI				S	Sn	18 34 03.3	+0.2
	7.2nm,1.1s,0.2nm						
SIJI	Sorong	6.52	16	P	Pn	18 32 51.1	+0.8
	1.3nm,0.3s,baz=186,slow=19,SNR=26						
SIJI				S	Sn	18 34 00.7	-2.9
	1.5nm,0.3s,baz=253,slow=19,SNR=8.1						
SWI	Sorong	6.52	16	P	Pn	18 32 52.0	+1.6
SWI				S	Sn	18 34 02.5	-1.2
WBSI	Waikabubak, Su	10.29	256	P	Pn	18 33 41.9	+1.0
FITZ	Fitzroy Crossi	11.48	199	P	Pn	18 33 54.2	-2.3
	baz=270,slow=20						
WRA	Warramunga Arr	13.52	160	P	Pn	18 34 21.0	-2.1
	0.6nm,0.3s,baz=330,slow=13,SNR=31						
WRA				S	Sn	18 36 43.5	-9.2
	1.2nm,0.3s,baz=338,slow=23,SNR=10						
ASAR	Alice Springs	16.92	166	P	P	18 35 04.4	-0.7
	0.3nm,0.3s,baz=338,slow=9.2,SNR=28						
ASAR				S	Sn	18 38 05.0	-9.4
	0.3nm,0.3s,baz=322,slow=21,SNR=4.9						
MKAR	Makanchi Array	68.11	327	P	P	18 42 03.9	+2.3
	0.3nm,0.4s,baz=119,slow=7.9,SNR=7.9						
KURBB	Kurchatov Arra	72.41	329	P	P	18 42 29.3	+1.6
	0.3nm,0.4s,baz=118,slow=5.3,SNR=3.9						

MEX 06 18:42:39.9±0.3, 16.21N×98.41W, h5km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.33	55	eP	Pg	18 42 45.9	-0.4
PNIG				eS	Sg	18 42 50.6	+0.1
TLIG	Tlapa	1.36	353	eP	Pn	18 43 00.8	-4.9
TLIG				eS	Sg	18 43 15.8	-7.8
VHO	Vista Hermosa	1.82	61	eP	Pn	18 43 10.9	-1.2
VHO				eS	Sn	18 43 35.0	-0.6
MEIG	Mezcala	2.07	326	eP	Pn	18 43 12.0	-3.4
MEIG				eS	Sn	18 43 37.1	-4.6

SKO 06 19:01:51.8, 40.35N×20.63E, h13km, M1.5, ML1.8
ATH 06 19:01:52.9, 40.44N×20.70E, h18km±4km, ML2.2/3, Error ellipse: s-maj=4.7km s-min=1.7km az=94.0
CSEM 06 19:01:53.3±0.3, 40.43N×20.69E, h2km, ML2.0, Error ellipse: s-maj=7.7km s-min=5.4km az=132.0
TIR 06 19:01:53.2, 40.41N×20.74E, h3km, Md2.4/3
THE 06 19:01:53.6, 40.44N×20.71E, h6km±1km, ML2.0/6, Error ellipse: s-maj=1.6km s-min=0.6km az=353.0, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KBN	Korca	0.20	17	P	Pg	19 01 57.3	-0.2
KBN				S	Sg	19 02 00.7	+0.5
KBN	Korca	0.20	17	i Pg	Pg	19 01 57.4	-0.1
	baz=10.0						
KBN				S	Sg	19 02 00.7	+0.5
KBN				i Sg	Sg	19 02 01.5	+1.3
	baz=10.0						
KBN	Korca	0.20	17	i PG	Pg	19 01 57.4	-0.1
KBN				i SG	Sg	19 02 01.5	+1.3
NEST	Nestorio	0.26	94	P	Pg	19 01 58.8	+0.2
NEST				S	Sg	19 02 01.5	-0.6
NEST				AML	AML	19 02 04.6	
	comp=E,1030μm,0.3s						
NEST				AML	AML	19 02 06.3	
	comp=N,535μm,0.3s						
NEST	Nestorio	0.26	94	P	Pg	19 01 58.8	+0.1
NEST				S	Sg	19 02 02.2	+0.1
NEST	Nestorio	0.26	94	P	Pg	19 01 58.8	+0.1
NEST				S	Sg	19 02 02.3	+0.2
PENT	Pentalofos	0.40	126	P	Pg	19 02 00.9	-0.5
PENT				S	Sb	19 02 08.4	-1.3
PENT	Pentalofos	0.40	126	P	Pg	19 02 01.1	-0.3
PENT				S	Sg	19 02 07.4	+0.6
PENT	Pentalofos	0.40	126	P	Pg	19 02 01.1	-0.3
PENT				S	Sg	19 02 07.4	+0.6
FNA	Florina	0.61	55	P	Pg	19 02 05.0	-0.4
FNA				S	Sb	19 02 14.8	-0.9
FNA				AML	AML	19 02 16.6	
	comp=N,520μm,0.2s						
FNA				AML	AML	19 02 19.3	
	comp=E,590μm,0.4s						
FNA	Florina	0.61	55	P	Pg	19 02 05.0	-0.4
FNA				S	Sg	19 02 14.2	+0.8
FNA	Florina	0.61	55	P	Pg	19 02 05.0	-0.4
FNA				S	Sg	19 02 14.2	+0.8
OHR	Ohrid	0.68	6	i Pg	Pg	19 02 04.5	-2.2
OHR				i Sg	Sb	19 02 18.3	+0.7
OHR				eLg	Lg	19 02 19.7	
	comp=N,19nm,0.3s						
OHR				eLg	Lg	19 02 22.3	
	comp=E,41nm,0.5s						
KPRO	Kipourio	0.69	134	P	Pg	19 02 05.9	-1.0
KPRO				S	Sb	19 02 17.3	-0.7
KPRO				AML	AML	19 02 18.9	
	comp=N,368μm,0.3s						
KPRO				AML	AML	19 02 19.2	
	comp=E,678μm,0.2s						
KPRO	Kipourio	0.69	134	P	Pg	19 02 06.1	-0.8
KPRO				S	Sb	19 02 17.2	-0.7
KPRO	Kipourio	0.69	134	P	Pg	19 02 06.2	-0.7
KPRO				S	Sg	19 02 16.8	+0.9
BIA	Bitola	0.75	38	P	Pg	19 02 08.1	+0.2
BIA	Bitola	0.75	38	P	Pg	19 02 08.1	+0.2
BIA	Bitola	0.75	38	ePg	Pg	19 02 07.7	-0.2
BIA				i Sg	Sb	19 02 19.4	-0.1
SRN	Sarande	0.78	225	P	Pg	19 02 07.9	-0.6
SRN	Sarande	0.78	225	P	Pg	19 02 07.9	-0.6
SRN	Sarande	0.78	225	i Pg	Pg	19 02 08.4	-0.1
	baz=227						
SRN				i Sg	Sb	19 02 21.0	+0.7
	baz=227						
SRN	Sarande	0.78	225	i PG	Pg	19 02 08.4	-0.1
SRN				i SG	Sb	19 02 20.9	+0.6
KZN	Kozani	0.82	99	P	Pb	19 02 09.8	-0.4
KZN	Kozani	0.82	99	P	Pg	19 02 09.4	+0.1
SGD	Sagiada	0.90	204	P	Pg	19 02 11.0	+0.1
SGD	Sagiada	0.90	204	P	Pg	19 02 11.0	+0.1
KEK	Kerkira	1.01	224	P	Pg	19 02 12.5	-0.4
KEK	Kerkira	1.01	224	P	Pg	19 02 12.4	-0.5
KEK	Kerkira	1.01	224	P	Pg	19 02 12.4	-0.5
KRUS	Krusevo	1.02	23	i Pg	Pg	19 02 12.4	-0.7
KRUS				i Sg	Sb	19 02 27.4	0.0
THL	Klokotos Trika	1.32	131	P	Pn	19 02 18.0	-0.6
THL	Klokotos Trika	1.32	131	P	Pn	19 02 18.0	-0.6
THL				S	Sn	19 02 36.5	-0.1
THL	Klokotos Trika	1.32	131	P	Pn	19 02 18.1	-0.5
THL				S	Sn	19 02 36.5	-0.1
AGG	Agios Georgios	1.88	138	P	Pn	19 02 26.3	0.0
AGG	Agios Georgios	1.88	138	P	Pn	19 02 26.5	+0.1

ISK 06 19:05:15.5, 38.66N×43.16E, h18km, ML2.2/3
ISCJB 06 19:05:16.9±0.5, 38.67N±0.03×43.15E±0.04, h11km±7km, Error ellipse: s-maj=5.8km s-min=4.4km az=152.9
CSEM 06 19:05:16.5±0.2, 38.67N×43.16E, h10km, ML2.2, Error ellipse: s-maj=5.1km s-min=4.5km az=9.0
DDA 06 19:05:16.9, 38.68N×43.21E, h7km, Ml2.6
ATA 06 19:05:16.0±1.0, 38.66N×43.02E, h22km±10km, ML2.6, MW2.7
ISC 06 19:05:16.7±1.1, 38.66N±0.02×43.16E±0.02, h18km±3km, n23, σ0.66/40, Turkey

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VANB	Van	0.19	109	PG	Pg	19 05 21.4	-0.2
VANB				SG	Sg	19 05 25.8	+0.9
VANB	Van	0.19	109	ePg	Pg	19 05 21.4	-0.2
VANB				eSg	Sg	19 05 25.8	+0.9
TVAN	Van	0.23	124	i P	Pb	19 05 21.5	-0.8
TVAN	Van	0.23	124	P	Pb	19 05 21.5	-0.8
GEVA	Gevas	0.35	193	eP	Pg	19 05 23.9	-0.4
GEVA				eS	Sb	19 05 30.6	+0.7
GEVA				IAML		19 05 33.7	
	comp=Z,39nm,0.5s						
GEVA	Gevas	0.35	193	i P	Pb	19 05 24.2	-0.4
GEVA				i S	Sb	19 05 30.9	+1.0
GEVA	Gevas	0.35	193	P	Pb	19 05 24.2	-0.4
ADCV	BITLIS_Adilcev	0.38	294	i P	Pb	19 05 24.8	-0.2
ADCV				i S	Sb	19 05 31.3	+0.7
ADCV	BITLIS_Adilcev	0.38	294	P	Pb	19 05 24.8	-0.2
ADCV				S	Sb	19 05 31.3	+0.7
VMUR	Van-Muradiye	0.46	44	i P	Pg	19 05 26.0	-0.2
VMUR				i S	Sb	19 05 33.9	+0.8
VMUR	Van-Muradiye	0.46	44	P	Pg	19 05 26.0	-0.2
CLDR	Caldiran	0.76	50	PG	Pb	19 05 30.8	-0.8
CLDR				SG	Sg	19 05 42.0	+0.1
CLDR	Caldiran	0.76	50	ePg	Pb	19 05 30.8	-0.8
CLDR				eSg	Sg	19 05 42.0	+0.1
TUTA	Tutak	0.79	340	eP	Pb	19 05 31.4	-0.8
TUTA				eS	Sb	19 05 42.7	+0.1
TUTA				IAML		19 05 47.7	
	comp=Z,17nm,0.2s						
TUTA	Tutak	0.79	340	i P	Pb	19 05 31.6	-0.5
TUTA				i S	Sg	19 05 43.4	+0.5
TUTA	Tutak	0.79	340	P	Pb	19 05 31.6	-0.5
TUTA				S	Sg	19 05 43.4	+0.5
GURO	Guroymak-BITLI	0.89	264	PG	Pb	19 05 33.1	-0.6
GURO				SG	Sg	19 05 45.9	0.0
GURO	Guroymak-BITLI	0.89	264	ePg	Pb	19 05 33.1	-0.6
GURO				eSg	Sg	19 05 45.9	0.0
AGRB	Hanur-Agry	0.93	352	PG	Pb	19 05 33.9	-0.5
AGRB				SG	Sg	19 05 47.2	+0.1
AGRB	Hanur-Agry	0.93	352	ePg	Pb	19 05 33.9	-0.5
AGRB				eSg	Sg	19 05 47.2	+0.1
EKAR	Karacoban	1.04	305	eP	Pb	19 05 34.5	-1.9
EATA	Eleskirt	1.31	337	eP	Pb	19 05 41.0	0.0
EATA				eS	Sg	19 06 00.4	+1.1
DIGO	Kars	1.76	5	eP	Pb	19 05 48.5	-0.2

IDC 06 19:15:25.0±18.0, 21.61N×143.32E, h342km±196km, mb3.0/8, mb1 3.2/8, mb1mx2.8/60, mbtmp3.7/8, Error ellipse: s-maj=39.8km s-min=27.5km az=58.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	42.22	193	P	P	19 22 45.6	-0.2
	0.4nm,0.9s,baz=15,slow=9.8,SNR=12						
MKAR	Makanchi Array	54.85	313	P	P	19 24 21.2	+0.3
	0.2nm,0.6s,baz=98,slow=7.5,SNR=2.4						
KURBB	Kurchatov Arra	57.67	317	P	P	19 24 40.4	-0.2
	0.5nm,0.6s,baz=99,slow=7.5,SNR=4.4						
ILAR	Eielson Array	62.06	27	P	P	19 25 08.8	-1.1
	0.2nm,0.5s,baz=243,slow=6.0,SNR=2.1						
BVAR	Borovoye Array	62.82	320	P	P	19 25 15.6	+0.5
	0.5nm,0.4s,baz=106,slow=7.8,SNR=5.0						
YKA	Yellowknife Ar	76.48	28	P	P	19 26 38.8	+1.3
	0.4nm,0.5s,baz=290,slow=5.9,SNR=5.1						
ARCES	ARCESS Array B	79.05	342	P	P	19 26 50.2	-1.4
	7.0nm,1.0s,baz=61,slow=9.4,SNR=4.1						
FINES	FINESS Array B	83.31	335	P	P	19 27 13.8	-0.1
	2.7nm,1.0s,baz=90,slow=3.8,SNR=7.2						

BJI 06 19:24:07.7, 3.87S×100.49E, h10km, mb5.3/78, mB5.4/67, Ms5.8/86, Ms7 5.6/75
IDC 06 19:24:12.7±0.3, 3.27S×100.46E, h0km, mb4.9/47, mb1 4.9/49, mb1mx4.9/59, mbtmp4.9/49, ML4.6/2, MS5.2/17, Ms1 5.2/17, ms1mx4.8/42, Error ellipse: s-maj=11.8km s-min=8.4km az=45.0
GCMT 06 19:24:13.9±0.1, 3.56S×100.06E, h23km, MW5.5/95, Moment Tensor Solution. s90,c144; s95,c179; Duration: 1s3 Moment tensor: Scale 10^{17}Nm; M_{rr}1.33±.04; $M_{\theta\theta}$-0.58±.02; $M_{\phi\phi}$-0.75±.03; $M_{r\theta}$1.10±.05; $M_{\theta\phi}$0.54±.01; $M_{\phi r}$-1.23±.05; Best double couple: $M_0$2.08300×10^{17} NP1:ϕ_s139.00000°, δ71.00000°, λ89.00000°. NP2:ϕ_s320.00000°, δ19.00000°, λ92.00000°. Principal axes: T 2.1420, Plg64.0000°, Azm47.0000°; N -0.1200, Plg1.0000°, Azm139.0000°; P -2.0250, Plg26.0000°, Azm229.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.
NEIC 06 19:24:13.9±1.5, 3.35S×100.43E, h14km±9km, mb5.1/26, MS5.3/94, MW5.5 Error ellipse: s-maj=4.8km s-min=2.8km az=46.0, Moment Tensor Solution. s49 Moment tensor: Scale 10^{17}Nm; M_{rr}1.07; $M_{\theta\theta}$-0.42; $M_{\phi\phi}$-0.64; $M_{r\theta}$1.35; $M_{\theta\phi}$0.76; $M_{\phi r}$-0.44; Best double couple: $M_0$1.90000×10^{17} NP1:ϕ_s116.00000°, δ71.00000°, λ72.00000°. NP2: ϕ_s342.00000°, δ26.00000°, λ133.00000°. Principal axes: T 1.8600, Plg59.0000°, Azm360.0000°; N 0.0000, Plg17.0000°, Azm122.0000°; P -1.8600, Plg24.0000°, Azm220.0000°;
ISCJB 06 19:24:14.1±0.6, 3.32S±0.02×100.44E±0.02, h23km±4km, mb5.2/160, MS5.3/158 Error ellipse: s-maj=4.6km s-min=2.6km az=43.4
MOS 06 19:24:14.4±1.0, 3.22S×100.53E, h24km, mb5.5/53, MS5.1/30, Error ellipse: s-maj=7.6km s-min=4.2km az=109.1
DJA 06 19:24:16.9±0.5, 3°S±2°×10°0E±°, h26km±4km, M5.2/40, mb5.3/40, mB5.6/34, MLv5.7/28, Mw(mB)5.1/34, Mwp5.6/2
ISC 06 19:24:15.1±0.3, 3.43S±0.03×100.40E±0.03, h21km±3km, n897, σ1.66/885, mb5.2/171, MS5.3/160, 50C-20D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PPSI	Pulau Pagai	0.77	330	P	Pb	19 24 29.6	-0.2
PPSI				S	Sn	19 24 41.1	-0.5
MASI	Maura Aman, Be	1.86	81	P	Pn	19 24 46.4	+0.7
MASI				S	Sb	19 25 13.7	+2.4
SISI	Saibi	2.46	328	P	Pn	19 24 52.7	-1.4
SISI				S	Sn	19 25 21.5	-2.0
PDSI	Padang	2.50	1	P	Pn	19 24 53.8	-0.8
PDSI				S	Sn	19 25 23.4	-1.1
SDSI	Sungai Dareh	2.69	23	P	Pn	19 24 57.5	+0.4
MNAI	Manna	2.71	110	P	Pn	19 24 58.7	+1.2
MNAI	Manna	2.71	110	ePn	Pn	19 24 57.9	+0.5
RGRI	Rengat	3.62	32	P	Pn	19 25 10.2	+0.3
JMBI	JAMBI	3.70	61	P	Pn	19 25 12.3	+1.3
BKNI	Bangkinang	3.79	10	P	Pn	19 25 11.9	-0.3
BKNI	Bangkinang	3.79	10	ePn	Pn	19 25 11.5	-0.8
MDSI	Maura Dua	3.91	106	P	Pn	19 25 16.1	+2.1
LWLI	Liwa	3.98	113	P	Pn	19 25 17.1	+2.2
MNSI	Mandailing Nat	4.28	349	P	Pn	19 25 17.6	-1.4
PMBI	Palembang	4.39	84	P	Pn	19 25 22.8	+2.2
KASI	Kota Agung	4.58	117	P	Pn	19 25 25.6	+2.4
KLI	Kotabumi	4.67	108	P	Pn	19 25 29.8	+5.4
BLSI	Bandar Lampung	5.20	112	P	Pn	19 25 35.0	+3.3
	597nm,0.9s,7μm3.2nm						
GSI	Gunungsitoli	5.48	329	P	Pn	19 25 34.7	-0.9
	538nm,1.2s,7μm5.3nm						
GSI	Gunungsitoli	5.48	329	ePn	Pn	19 25 33.6	-2.0
PPBI	Pangkal Pinang	5.87	78	P	Pn	19 25 46.2	+5.3
	0.7nm,0.6s,12nm0.0nm						
TPRI	Tanjung Pinang	5.97	44	P	Pn	19 25 43.6	+1.3
	473nm,0.7s,7μm30μm3.0nm						
CGJI	Cibinong	6.15	121	P	Pn	19 25 45.6	+0.9
	357nm,0.6s,6μm2.5nm						
MYKOM	Kota Tinggi	6.23	34	ePn	Pn	19 25 46.0	+0.2
SBJI	Serang	6.30	115	P	Pn	19 25 53.1	+6.2
	492nm,1.1s,5μm3.3nm						
PSI	Prapat	6.36	347	Pn	Pn	19 25 43.3	-4.5
	5.0nm,0.3s,baz=171,slow=13,SNR=17						
PSI				Sn	Sn	19 27 05.2	+5.3
	3.5nm,0.3s,baz=160,slow=13,SNR=3.7						
PSI	Prapat	6.36	347	ePn	Pn	19 25 44.4	-3.4
PSI				Sn	Sn	19 27 05.2	+5.3
TNG	Tangerang	6.79	114	P	Pn	19 26 00.3	+6.7
	1μm,1.2s,13μm4.9nm						
TNG				P	Pn	19 26 00.3	+6.7
	2μm,1.2s,21μm7.7nm						
SKJI	Sukabumi	7.08	120	P	Pn	19 26 00.7	+3.1
	384nm,0.6s,6μm4.7nm						
TSI	Tuntungan	7.12	345	P	Pb	19 26 11.0	-7.2
TPTI		7.38	334	P	Pn	19 26 02.7	+1.0
	193nm,0.6s,4μm1.8nm						
IPM	Ipoh	7.88	5	ePn	Pn	19 26 08.3	-0.2
LEM	Lembang	7.94	115	Pn	Pn	19 26 11.9	+2.4
	28nm,0.3s,baz=175,slow=20,SNR=34						
LEM				Sn	Sn	19 27 40.0	+1.2
	baz=0.0,slow=20,SNR=2.1						
LEM				LR	LR	19 29 51.7	
	comp=Z,12μm,19.8s,baz=258,slow=43						
JCJI	Jatiwangi	8.41	111	P	Pn	19 26 19.9	+4.1
	290nm,0.6s,1.3nm						
CISI	Cisompet, Garu	8.44	119	P	Pn	19 26 16.5	+0.2
	930nm,0.6s,10μm3.5nm						
CISI	Cisompet, Garu	8.44	119	ePn	Pn	19 26 15.8	-0.6
CISI				eSn	Sn	19 27 44.2	-6.8
MLSI	Meulaboh, Aceh	8.62	332	P	Pn	19 26 19.8	+1.0
	265nm,0.5s,4μm1.5nm						
KULM	Kulim	8.66	2	ePn	Pn	19 26 18.1	-1.2
XMIS	Christmas Isla	8.73	144	ePn	Pn	19 26 16.2	-4.0
XMIS				eSn	Sn	19 27 45.5	-13
LHMI	Lhok Sumawe	9.27	338	ePn	Pn	19 26 26.1	-1.5
KPJI	Karang Pucung	9.34	115	P	Pn	19 26 30.9	+2.4
	228nm,0.7s,5μm						
COCO	West Island	9.39	202	ePn	Pn	19 26 29.0	-0.3
COCO	West Island	9.39	202	Pn	Pn	19 26 29.8	+0.5
	SNR=7.4						
COCO	West Island	9.39	202	P	Pn	19 26 29.8	+0.5
	SNR=7.4						
COCO	West Island	9.39	202	eP	Pn	19 26 29.0	-0.3
SKLT	Songkhla	10.53	1	P	Pn	19 26 57.5	+13
UGM	Wanagama	11.01	114	ePn	Pn	19 26 52.4	+0.9
KSM	Kuching	11.04	64	ePn	Pn	19 26 52.4	+0.6
TRTT	Trang	11.21	356	P	Pn	19 26 56.5	+2.2
	33nm,1.1s,428nm						
PBKI	Pangkalan Bun	11.28	87	P	Pn	19 27 10.2	+15
WOJI	Wonogiri, Jawa	11.35	113	P	Pn	19 27 12.2	+16
STKI	Sintang	11.60	73	P	Pn	19 27 10.2	+11
SURT	Suratani	12.41	353	P	P	19 27 23.0	+0.6
BWJI	Bawean	12.45	102	P	P	19 27 30.9	+8.0
GRJI	Gresik	12.52	107	P	Pn	19 27 17.2	+5.1
	87nm,0.7s,920nm						
SBUM	Sibu	13.18	64	ePn	Pn	19 27 24.3	+3.1
BLJI	Banyuglugur	13.81	109	P	P	19 27 35.6	-2.5
	84nm,0.7s						
KMMI	Kalianget	13.98	105	P	Pn	19 27 34.3	+2.2
	68nm,0.8s						
JAGI	Jajag, Banyuwa	14.56	111	P	P	19 27 53.4	+7.0
JAGI	Jajag, Banyuwa	14.56	111	ePn	Pn	19 27 37.8	-2.3
MTKI	Muara Teweh, K	14.69	81	P	Pn	19 27 43.6	+1.7
	121nm,1.5s,3μm						
SRBI	Singaraja	15.44	108	P	Pn	19 27 51.6	-0.2
	76nm,0.7s						
KBKI	Kotabaru	15.74	90	P	P	19 28 01.7	+2.2
	50nm,0.9s,1μm						
PHET	Kaeng Krachan	16.25	357	P	P	19 28 06.4	+1.2
PBA	Port Blair	16.81	333	ePn	Pn	19 28 08.7	-0.7
SRAK	Srakaew	17.41	5	P	Pn	19 28 16.5	-0.3
	299nm,0.8s,2μm						
NAYO	Nakonayok	17.65	3	P	Pn	19 28 19.4	-0.5
	56nm,1.1s						
SRDT	SRDT	17.71	356	P	P	19 28 21.9	+0.6
	50nm,1.0s,932nm						
PLAI	Plampang	18.09	108	P	Pn	19 28 24.7	-0.5
	181nm,0.5s,2μm						
KKM	Kota Kinabalu	18.38	59	ePn	P	19 28 28.5	-0.4
	42nm,0.5s						
CHAI	Chaiyaphum	19.27	5	P	Pn	19 28 39.1	-0.5
	31nm,0.8s,243nm						
KAPI	Kappang	19.36	95	P	Pn	19 28 40.7	0.0
	SNR=29						
KAPI	Kappang	19.36	95	P	Pn	19 28 40.7	0.0
	SNR=29						
TTSI	Tana Toraja	19.39	89	P	Pn	19 28 42.7	+1.6
WBSI	Waikabubak, Su	19.84	109	P	Pn	19 28 49.4	+2.9
	180nm,0.5s,3μm						
MPSI	Mapaga	19.84	80	P	Pn	19 28 46.1	-0.4
	137nm,1.2s,2μm						
PBKT	Sadao Pong	19.88	2	P	P	19 28 43.4	-1.7
	69nm,1.2s,1μm						
MYLDM	Lahad Datu	20.00	65	eP	Pn	19 28 47.4	-1.0
BSSI	Bau Bau, Buton	20.20	98	P	Pn	19 28 54.0	+3.3
	93nm,0.8s,2μm						
PHIT	Phitsanulok	20.49	0	P	Pn	19 28 52.9	-1.1
	144nm,0.7s,989nm						
SKNT	Sakolnakorn	20.58	10	P	P	19 28 49.6	-3.2
	58nm,0.9s						
APSI	Ampana	21.38	84	P	P	19 29 07.0	+5.5
	217nm,0.9s,4μm						
CM01	Chiang Mai Arr	21.76	356	eP	P	19 29 03.4	-2.1
CM31	Chiang Mai Arr	21.80	356	eP	P	19 29 03.0	-2.9
CMAR	Chiang Mai Arr	21.80	356	P	P	19 29 04.2	-1.7
	44nm,0.8s,baz=185,slow=9.1,SNR=105						
CMAR				LR	LR	19 39 12.1	
	comp=Z,7μm,18.7s,baz=186,slow=42						
MRSI	Marisa	21.88	80	P	P	19 29 08.3	+1.5
	53nm,0.6s,899nm						
CHTO	Chiang Mai	22.15	356	P	P	19 29 08.1	-1.6
	355nm,0.8s,6μm						
CHTO	Chiang Mai	22.15	356	eP	P	19 29 07.8	-1.8
CHTO	Chiang Mai	22.15	356	P	P	19 29 08.9	-0.8
	SNR=19						
CHTO	Chiang Mai	22.15	356	P	P	19 29 08.9	-0.8
	SNR=19						
CHTO	Chiang Mai	22.15	356	eP	P	19 29 07.9	-1.8
BBSI	Bau Bau	22.20	96	P	P	19 29 14.2	+3.9
	19nm,1.0s						
PALK	Pallekele	22.35	298	P	P	19 29 14.9	+3.0
	6.0nm,0.9s,baz=115,slow=10,SNR=4.0						
PALK				LR	LR	19 36 59.6	
	comp=Z,6μm,20.4s,baz=115,slow=34						
PALK	Pallekele	22.35	298	eP	P	19 29 10.2	-1.7
	26nm,0.9s						
PALK	Pallekele	22.35	298	eP	P	19 29 10.2	-1.7
PALK				pmax	pmax		
	comp=Z,26nm,0.9s						
LUWI	Luwuk	22.48	84	P	P	19 29 20.0	+6.7
	comp=Z,282nm,1.3s,comp=Z,3μm						
LUWI	Luwuk	22.48	84	eP	P	19 29 12.2	-1.1
	comp=Z,347nm,1.2s						
PAYA	Payao	22.65	359	P	P	19 29 14.8	-0.3
	comp=Z,45nm,0.8s,comp=Z,340nm						
CMAI	Chiengmai2	23.25	357	P	P	19 29 20.2	-1.2
	comp=Z,592nm,1.4s,comp=Z,129μm						
KMSI	Cibinong	23.90	81	P	P	19 29 39.8	+12
BATI	Baumata	24.05	107	P	P	19 29 28.0	-1.0
	comp=Z,27nm,0.5s,baz=318,slow=5.8,SNR=13						
BATI	Baumata	24.05	107	P	P	19 29 33.2	+4.1
	comp=Z,40nm,0.6s						
QIZ	Qiongzhong	24.18	22	P	P	19 29 30.0	-0.1
QIZ				S	S	19 33 52.8	+5.5
QIZ				pmax	pmax		
	comp=Z,55nm,1.3s						
QIZ				LR	LR		
	comp=Z,6μm,15.7s						
QIZ				LR	LR		
	comp=Z,8μm,12.8s						
QIZ				LR	LR		
	comp=Z,8μm,14.7s						
SOEI	Soe	24.52	106	P	P	19 29 41.8	+8.3
	comp=Z,46nm,0.6s,comp=Z,2μm						
SOEI	Soe	24.52	106	eP	P	19 29 29.1	-4.3
SOEI				eS	S	19 33 50.2	-3.0
SANI	Sanana	25.59	88	P	P	19 29 42.8	-0.3
	comp=Z,36nm,0.8s,comp=Z,965nm						
MBWA	Marble Bar	25.77	135	eP	P	19 29 43.1	-1.5
RCP	Roxas	26.75	56⇓	eP	P	19 29 54.7	+1.2
SAIH	SAIHA	26.76	345	eP	P	19 29 54.4	+0.7
SAIH				IAmb	IAmb	19 29 58.3	
	comp=Z,88nm,0.9s						
TGY	Tagaytay City	26.80	49	P	P	19 29 54.3	+0.2
	comp=Z,314nm,0.6s,baz=202,slow=4.8,SNR=13						
TGY				LR	LR	19 41 59.9	
	comp=Z,4μm,18.1s,baz=202,slow=40						
VIS	Vishakhapatnam	26.93	322	eP	P	19 29 53.9	-1.2
VIS				IAmb	IAmb	19 29 58.0	
	comp=Z,14nm,0.9s						
DAV	Davao City (W)	27.21	67	P	P	19 29 59.3	+1.6
	comp=Z,23nm,0.3s,baz=58,slow=15,SNR=2.9						
DAV	Davao City (W)	27.21	67	eP	P	19 29 57.0	-0.8
LBMI	Labuha	27.22	85	P	P	19 29 59.4	+1.5
	comp=Z,88nm,1.2s,comp=Z,2μm						
TNTI	Ternate	27.27	82	eP	P	19 29 55.8	-2.6
	comp=Z,14nm,0.6s						
H08S2	Diego Garcia H	28.08	260	T	T	19 59 20.2	
	baz=82,slow=75						

H08S3	Diego Garcia H	28.09	260	T	T	19 59 20.7	
	baz=82,slow=75						
DGAR	Diego Garcia	28.10	261	PFAKE		19 30 20.0	+14
DGAR				LR	LR		
	comp=Z,2μm,19.0s						
H08S1	Diego Carcia H	28.10	260	T	T	19 59 21.5	
	baz=82,slow=75						
KMI	Kunming	28.47	4	P	P	19 30 09.9	+0.8
KMI				PP	PnPn	19 31 02.9	+4.1
KMI				S	S	19 34 57.4	+1.6
KMI				pmax	pmax		
	comp=Z,51nm,1.0s						
KMI				pmax	pmax		
	comp=Z,610nm,7.7s						
KMI				LR	LR		
	comp=Z,8μm,14.2s						
KMI				LR	LR		
	comp=Z,5μm,14.2s						
KMI				LR	LR		
	comp=Z,8μm,12.8s						
IMP	Imphal	28.78	348	eP	P	19 30 11.3	-0.4
IMP				IAmb	IAmb	19 30 13.8	
	comp=Z,24nm,0.7s						
MEEK	Meekatharra	28.93	145	P	P	19 30 15.8	+2.8
	baz=29,SNR=7.1						
KOHI	KOHIMA	29.61	348	eP	P	19 30 18.5	-0.6
KOHI				IAmb	IAmb	19 30 20.0	
HYB	Hyderabad	29.90	315	i P	P	19 30 23.0	+1.3
SHL	Shillong	29.98	344⇑	iP	P	19 30 22.0	-0.5
SHL				ex	x	19 35 16.0	
SHL	Shillong	29.98	344	eP	P	19 30 22.3	-0.2
SHL	Shillong	29.98	344	eP	P	19 30 22.3	-0.2
MOKO	MOKOCHONG	30.12	349	eP	P	19 30 23.4	-0.2
GYA	Guiyang	30.32	11⇑	iP	P	19 30 24.4	-1.0
GYA				PcP	PcP	19 33 28.0	+2.5
GYA				S	S	19 35 28.4	+3.7
GYA				SS	ScP	19 37 09.6	+2.7
GYA				ScS	ScS	19 41 04.2	+1.2
GYA				pmax	pmax		
	comp=Z,40nm,1.0s						
GYA				pmax	pmax		
	comp=Z,140nm,5.0s						
GYA				LR	LR		
	comp=Z,2μm,17.9s						
GYA				LR	LR		
	comp=Z,3μm,18.0s						
GYA				LR	LR		
	comp=Z,3μm,18.2s						
TURI	Tura	30.42	342	eP	P	19 30 26.6	+0.5
TURI				IAmb	IAmb	19 30 28.6	
	comp=Z,20nm,0.7s						
BOK	Bokaro	30.53	333	eP	P	19 30 27.5	+0.4
GUWA	GUWAHATI	30.63	345	eP	P	19 30 28.7	+0.7
GUWA				IAmb	IAmb	19 30 29.8	
	comp=Z,33nm,0.5s						
TEZP	TEZPUR	30.76	347	eP	P	19 30 28.8	-0.3
ITAN	ITANAGAR	31.07	348	eP	P	19 30 31.6	-0.3
ZIRO	ZIRO	31.42	349	eP	P	19 30 34.7	-0.4
MTN	Manton Dam	31.79	109	P	P	19 30 37.5	-0.9
	baz=32,SNR=15						
MTN	Manton Dam	31.79	109	eP	P	19 30 36.8	-1.6
FAKI	Fak Fak	31.80	90	eP	P	19 30 36.6	-2.0
GTK	Tadong	32.62	340	eP	P	19 30 46.1	+0.5
ODAN	Odare	32.63	338	eP	P	19 30 47.3	+1.4
	comp=Z,64nm,0.5s						
RAMN	Ramite	33.01	337	eP	P	19 30 50.6	+1.4
	comp=Z,40nm,0.4s						
TPUB	Ta-pu	33.09	36	eP	P	19 30 49.2	-0.5
QZH	Quanzhou	33.28	31⇑	iP	P	19 30 51.4	+0.1
QZH				pmax	pmax		
	comp=Z,410nm,4.7s						
QZH				LR	LR		
	comp=Z,3μm,12.5s						
QZH				LR	LR		
	comp=Z,6μm,15.2s						
QZH				LR	LR		
	comp=Z,6μm,18.6s						
NWAO	Narrogin (SRO)	33.31	154	P	P	19 30 53.9	+2.4
	comp=Z,6.2nm,0.8s,baz=252,slow=7.1,SNR=4.4						
NWAO				LR	LR	19 43 52.1	
	comp=Z,7μm,20.4s,baz=207,slow=35						
NWAO	Narrogin (SRO)	33.31	154	eP	P	19 30 50.6	-0.8
NWAO	Narrogin (SRO)	33.31	154	eP	P	19 30 50.7	-0.8
YULB	Yu-li	33.55	36	eP	P	19 30 53.5	-0.2
SSLB	Suanglung	33.66	35	eP	P	19 30 54.5	-0.1
	comp=Z,12nm,0.6s						
H01W3	Cape Leeuwin H	33.80	159	T	T	20 06 35.2	
	baz=336,slow=76,SNR=489						
H01W2	Cape Leeuwin H	33.81	159	T	T	20 06 36.2	
	baz=336,slow=76,SNR=483						
JIRN	Jiri	33.81	337	eP	P	19 30 57.8	+1.5
H01W1	Cape Leeuwin H	33.81	159	T	T	20 06 36.3	
	baz=336,slow=76,SNR=468						
PKIN	Phulchoki	34.05	336	eP	P	19 31 00.3	+2.0
	comp=Z,73nm,0.8s						
LSA	Lhasa	34.11	346	P	P	19 31 00.1	+1.1
LSA				S	S	19 36 25.9	+1.6
LSA				pmax	pmax		
	comp=Z,58nm,0.9s						
LSA				pmax	pmax		
	comp=Z,530nm,6.8s						
LSA				LR	LR		
	comp=Z,2μm,18.2s						
LSA				LR	LR		
	comp=Z,1μm,15.0s						
LSA				LR	LR		
	comp=Z,3μm,20.5s						
LSA	Lhasa	34.11	346	eP	P	19 30 59.1	+0.2
LSA				eS	S	19 36 23.0	-1.4
LSA	Lhasa	34.11	346	eP	P	19 30 59.2	+0.2
LSA				eS	S	19 36 23.0	-1.4
GUN	Gumba	34.16	337	eP	P	19 31 00.3	+1.0
	comp=Z,106nm,0.4s						
DMN	Daman	34.20	335	eP	P	19 31 00.8	+1.2
KKN	Kakani	34.29	336	eP	P	19 31 01.3	+1.0
CD2	Chengdu	34.30	5	P	P	19 30 58.9	-1.2
CD2				pP	pP	19 31 01.3	-5.3
CD2				PP	PP	19 32 16.9	-1.2
CD2				S	S	19 36 28.5	+2.1
CD2				pmax	pmax		
	comp=Z,60nm,0.7s						
CD2				pmax	pmax		
	comp=Z,660nm,5.0s						
CD2				LR	LR		
	comp=Z,9μm,16.4s						
CD2				LR	LR		
	comp=Z,12μm,23.4s						
CD2				LR	LR		
	comp=Z,10μm,16.4s						
NACB	Ninganchiao	34.33	36	eP	P	19 30 58.1	-2.2
	comp=Z,21nm,0.7s						
KMBL	Kambalda	34.38	146	P	P	19 31 03.3	+2.5
	baz=35,SNR=5.5						
WRKA	Warakurna	34.38	131	P	P	19 31 02.6	+1.6
	baz=35,SNR=18						
YHNB	Yeheng	34.58	35	eP	P	19 31 02.4	-0.3
	comp=Z,13nm,0.6s						
YHNB				LR	LR		
	comp=Z,2μm,19.0s						
ENH	Enshi	34.62	14	eP	P	19 31 01.6	-1.3
ENH				eS	S	19 36 26.2	-5.1
GKN	Gorkha	34.74	335	eP	P	19 31 05.0	+0.8
TATO	Taipei	34.88	35	eP	P	19 31 03.6	-1.5
KOLN	Koldanda	34.99	333	eP	P	19 31 07.5	+1.2
	comp=Z,142nm,0.7s						
YOJ	Yonaguni jima	35.38	37	eP	P	19 31 08.8	-0.7
YOJ	Yonaguni jima	35.38	37	eP	P	19 31 08.8	-0.7
DANN	Dangsing	35.42	334	eP	P	19 31 11.0	+0.9
PYUN	Piuthan	35.55	333	eP	P	19 31 12.1	+1.0
	comp=Z,232nm,1.1s						
WHN	Wuhan	36.32	21	⇓P	P	19 31 17.9	+0.5
WHN				S	S	19 37 00.6	+3.3
WHN				pmax	pmax		
	comp=Z,910nm,6.6s						
WHN				LR	LR		
	comp=Z,27μm,15.1s						
WHN				LR	LR		
	comp=Z,9μm,11.8s						
WR1	Warramunga Arr	36.94	119	eP	P	19 31 23.2	+0.2
WR1				eS	S	19 37 06.7	-0.6
WRA	Warramunga Arr	36.94	119	P	P	19 31 23.2	+0.2
	comp=Z,14nm,0.4s,baz=307,slow=8.6,SNR=175						
WRA				S	S	19 37 06.7	-0.6
	comp=Z,3.5nm,0.9s,baz=295,slow=15,SNR=6.2						
WRA				LR	LR	19 48 41.4	
	comp=Z,4μm,20.4s,baz=280,slow=40						
WRAB	Tennant Creek	36.95	119	eP	P	19 31 21.2	-1.8
	comp=Z,18nm,0.4s						
WRAB				LR	LR		
	comp=Z,5μm,21.0s						
WRAB	Tennant Creek	36.95	119	eP	P	19 31 21.3	-1.8
WRAB				pmax	pmax		
	comp=Z,17nm,0.4s						
WRAB				MLR	MLR		
	comp=Z,5μm,21.0s						
WB2	Warramunga Arr	36.95	119	eP	P	19 31 22.8	-0.3
FORT	Forrest	37.70	139	eP	P	19 31 28.8	-0.5
	comp=Z,540nm,0.7s						
AS31	Alice Springs	38.10	125	eP	P	19 31 33.6	+0.8
AS31				eS	S	19 37 24.1	-0.8
ASAR	Alice Springs	38.10	125	P	P	19 31 33.8	+0.9
	comp=Z,16nm,0.6s,baz=295,slow=8.1,SNR=256						
ASAR				S	S	19 37 23.6	-1.3
	comp=Z,1.3nm,0.6s,baz=299,slow=17,SNR=3.2						
ASAR				LR	LR	19 49 00.6	
	comp=Z,5μm,21.2s,baz=300,slow=39						
XAN	Xi'an	38.13	11	P	P	19 31 31.7	-1.1
XAN				PP	PnPn	19 33 02.5	+0.7
XAN				S	S	19 37 20.6	-4.3
XAN				pmax	pmax		
	comp=Z,240nm,0.8s						
XAN				pmax	pmax		
	comp=Z,690nm,6.3s						
XAN				LR	LR		
	comp=Z,7μm,15.1s						
XAN				LR	LR		
	comp=Z,6μm,14.9s						
XAN				LR	LR		
	comp=Z,10μm,15.4s						
AS01	Alice Springs	38.14	125	eP	P	19 31 33.7	+0.5
NJ2	Nanjing	39.40	25	eP	P	19 31 42.6	-0.9
NJ2				S	S	19 37 54.2	+10
NJ2				pmax	pmax		
	comp=Z,21nm,0.5s						
NJ2				pmax	pmax		
	comp=Z,670nm,6.6s						
NJ2				LR	LR		
	comp=Z,8μm,13.6s						
NJ2				LR	LR		
	comp=Z,5μm,13.8s						
NJ2				LR	LR		
	comp=Z,11μm,17.1s						
LZH	Lanzhou	39.44	4	eP	P	19 31 43.6	-0.4
LZH				pP	pP	19 31 47.1	-3.5
LZH				sP	sP	19 31 49.5	-3.7
LZH				PP	PP	19 33 15.5	+0.7
LZH				PcP	PcP	19 33 46.7	-5.1
LZH				eS	S	19 37 45.0	+0.1
LZH				SS	SS	19 40 35.2	-4.4
LZH				pmax	pmax		
	comp=Z,59nm,1.0s						
LZH				pmax	pmax		
	comp=Z,260nm,4.6s						
LZH				LR	LR		
	comp=Z,5μm,14.8s						
LZH				LR	LR		
	comp=Z,8μm,13.7s						
LZH				LR	LR		
	comp=Z,11μm,16.2s						
SSE	Sheshan	39.64	29	P	P	19 31 45.8	+0.3
SSE				PP	PnPn	19 33 23.4	+3.5
SSE				pmax	pmax		
	comp=Z,21nm,0.8s						
SSE				pmax	pmax		
	comp=Z,310nm,4.5s						
SSE				LR	LR		
	comp=Z,3μm,16.3s						
JOW	Kunigami	40.38	40	P	P	19 31 52.0	+0.2
	comp=Z,20nm,0.5s,baz=311,slow=2.3,SNR=8.7						
JOW	Kunigami	40.38	40	eP	P	19 31 51.9	+0.2
	comp=Z,8.0nm,0.5s						
SMLA	Simla	40.88	329	eP	P	19 31 56.2	+0.4
QIS	Mount Isa	41.79	117	P	P	19 32 04.2	+0.7
	baz=42,SNR=18						
DHRM	DHARAMSHALA	42.22	329	eP	P	19 32 05.4	-1.7
DHRM				IAmb	IAmb	19 32 09.4	
	comp=Z,32nm,0.6s						
TIY	Taiyuan	42.43	14	eP	P	19 32 06.8	-1.7
TIY				PP	PP	19 33 48.3	+1.2
TIY				S	S	19 38 29.2	0.0
TIY				pmax	pmax		
	comp=Z,91nm,0.9s						
TIY				pmax	pmax		
	comp=Z,590nm,7.0s						
TIY				LR	LR		
	comp=Z,8μm,14.4s						
TIY				LR	LR		
	comp=Z,4μm,12.6s						
TIY				LR	LR		
	comp=Z,7μm,14.5s						
GTA	Gaotai	42.63	359	⇑P	P	19 32 09.8	-0.4
GTA				pP	pP	19 32 15.7	-1.1
GTA				sP	sP	19 32 18.9	-0.5
GTA				PcP	PcP	19 34 03.4	+1.3
GTA				ScP	ScP	19 37 54.7	+2.7
GTA				S	S	19 38 31.4	-0.8
GTA				sS	sS	19 38 42.1	-1.0
GTA				SS	SS	19 41 35.5	-7.4
GTA				ScS	ScS	19 42 07.9	-2.8
GTA				pmax	pmax		
	comp=Z,30nm,1.3s						
GTA				pmax	pmax		
	comp=Z,550nm,5.5s						
GTA				LR	LR		
	comp=Z,4μm,14.3s						
GTA				LR	LR		
	comp=Z,7μm,15.7s						
GTA				LR	LR		
	comp=Z,4μm,14.5s						
COEN	Coen	43.48	107	P	P	19 32 17.6	+0.3
	baz=44,SNR=5.4						
COEN	Coen	43.48	107	eP	P	19 32 16.8	-0.5
	comp=Z,7.0nm,0.8s						
BBOO	Buckleboo	44.35	135	eP	P	19 32 25.3	+1.2
BTO	Baotou	44.70	10	eP	P	19 32 26.0	-0.8
NIL	Nilore	44.91	327	eP	P	19 32 28.4	-0.1
NIL				eS	S	19 39 07.1	+1.5
NIL				LR	LR		
	comp=Z,1μm,22.0s						
NIL	Nilore	44.91	327	eP	P	19 32 28.4	-0.1
NIL				eS	S	19 39 07.1	+1.5
NIL				MLR	MLR		
	comp=Z,1μm,22.0s						
HHC	Hu-ho-hao-te	45.23	12	eP	P	19 32 31.4	+0.4
HHC				PcP	PcP	19 34 11.3	+0.4
HHC				PcS	PcS	19 38 04.0	-0.8
HHC				S	S	19 39 13.0	+2.9
HHC				pmax	pmax		
	comp=Z,24nm,1.0s						
HHC				pmax	pmax		
	comp=Z,940nm,6.4s						
HHC				LR	LR		
	comp=Z,5μm,16.4s						
HHC				LR	LR		
	comp=Z,5μm,15.8s						
HHC				LR	LR		
	comp=Z,4μm,15.6s						
MTSU	Mount Surprise	45.40	112	P	P	19 32 33.0	+0.4
	baz=46,SNR=44						
BJT	Baijiatuau	45.60	17	eP	P	19 32 34.5	+0.7
BJT	Baijiatuau	45.60	17	eP	P	19 32 34.5	+0.7
BJI	Beijing	45.62	17⇑	eP	P	19 32 34.5	+0.6
BJI				PP	PP	19 34 21.2	+0.2
BJI				S	S	19 39 10.1	-5.3
BJI				pmax	pmax		
	comp=Z,110nm,0.7s						
BJI				pmax	pmax		
	comp=Z,1μm,6.9s						
BJI				LR	LR		
	comp=Z,8μm,15.2s						
BJI				LR	LR		
	comp=Z,10μm,14.4s						
JNU	Nakatsue	46.40	36	P	P	19 32 40.1	-0.1
	comp=Z,107nm,1.1s,baz=201,slow=2.1,SNR=15						
JNU				LR	LR	19 52 19.4	
	comp=Z,2μm,21.3s,baz=244,slow=36						
JNU	Nakatsue	46.40	36	eP	P	19 32 40.0	-0.3
DL2	Dalian	46.46	23	⇑P	P	19 32 39.7	-0.9
DL2				PP	PP	19 34 28.6	-1.4
DL2				S	S	19 39 30.7	+3.1
DL2				pmax	pmax		
	comp=Z,43nm,0.7s						
DL2				pmax	pmax		
	comp=Z,660nm,4.4s						
DL2				LR	LR		
	comp=Z,6μm,15.4s						
DL2				LR	LR		
	comp=Z,2μm,15.0s						
DL2				LR	LR		
	comp=Z,9μm,15.4s						
HTT	Hallett	46.71	134	P	P	19 32 44.3	+1.5
	baz=47,SNR=9.0						
PMG	Port Moresby	46.81	100	P	P	19 32 40.2	-3.5
	comp=Z,7.2nm,0.7s,baz=246,slow=10.0,SNR=3.2						
PMG	Port Moresby	46.81	100	eP	P	19 32 42.7	-1.0
PMG	Port Moresby	46.81	100⇑	eP	P	19 32 39.4	-4.4
PMG				pmax	pmax		
	comp=Z,22nm,0.6s						
TJN	Taejon	46.93	30⇓	eP	P	19 32 43.3	-1.0
MANU	Manus Island	46.93	90	eP	P	19 32 42.6	-2.2
GUMO	Guam	47.25	68	P	P	19 32 43.4	-3.7
	comp=Z,50nm,0.5s,baz=186,slow=10,SNR=4.2						
CTA	Charters Tower	47.64	114	P	P	19 32 51.1	+0.8
	comp=Z,8.2nm,0.7s,baz=269,slow=10.0,SNR=14						
CTAO	Charters Tower	47.64	114	eP	P	19 32 51.0	+0.8
CTAO	Charters Tower	47.64	114	eP	P	19 32 51.0	+0.8
QLP	Quilpie	47.84	123	P	P	19 32 53.3	+1.7
	baz=48,SNR=18						
STKA	Stephens Creek	47.91	131	P	P	19 32 54.0	+1.9
	comp=Z,12nm,0.7s,baz=305,slow=7.7,SNR=29						
STKA	Stephens Creek	47.91	131	P	P	19 32 53.8	+1.7
	baz=48,SNR=16						
STKA	Stephens Creek	47.91	131	eP	P	19 32 53.0	+0.9
KBL	Kabul	47.92	325	eP	P	19 32 51.6	-0.8
KBL	Kabul	47.92	325	eP	P	19 32 51.6	-0.8
KS15	Wonju Array Si	48.02	30	eP	P	19 32 51.4	-1.4
KSAR	Wonju Array Be	48.02	30	P	P	19 32 52.8	0.0
KSAR	Wonju Array Be	48.02	30	P	P	19 32 52.8	0.0
KSRS	Korea Array	48.05	30	P	P	19 32 52.8	-0.2
	comp=Z,50nm,1.0s,baz=220,slow=8.0,SNR=61						
KSRS				LR	LR	19 55 15.7	
	comp=Z,2μm,18.1s,baz=240,slow=39						
KS01	Wonju Array Si	48.05	30	eP	P	19 32 51.9	-1.2
KS01				eS	S	19 39 47.5	-2.8
KSH	Kashi	48.29	335	P	P	19 32 54.1	-0.9
KSH				PP	PP	19 34 47.3	-0.4
KSH				S	S	19 39 50.9	-3.0
KSH				SS	SS	19 43 14.0	-10
KSH				pmax	pmax		
	comp=Z,23nm,1.0s						
KSH				pmax	pmax		
	comp=Z,460nm,4.5s						
KSH				LR	LR		
	comp=Z,2μm,19.5s						
KSH				LR	LR		
	comp=Z,2μm,17.3s						
KSH				LR	LR		
	comp=Z,2μm,19.6s						
WSAR	Wadi Sarin	48.59	305	P	P	19 32 59.0	+1.6
	comp=Z,2.4nm,0.6s,baz=135,slow=5.3,SNR=7.7						
WSAR				LR	LR	19 51 53.2	
	comp=Z,3μm,19.9s,baz=137,slow=34						
TARG	Taragay, Kyrgy	49.43	338	eP	P	19 33 04.3	+0.3
SNY	Shenyang	49.73	23	⇑P	P	19 33 04.6	-1.2
SNY				S	S	19 40 17.7	+3.9
SNY				pmax	pmax		
	comp=Z,18nm,1.3s						
SNY				pmax	pmax		
	comp=Z,640nm,6.3s						
SNY				LR	LR		
	comp=Z,4μm,16.2s						
SNY				LR	LR		
	comp=Z,3μm,15.7s						
SNY				LR	LR		
	comp=Z,7μm,13.7s						
NRN	Naryn	49.88	336	eP	P	19 33 07.7	+0.3
NRN	Naryn	49.88	336	eP	P	19 33 07.7	+0.3
UZB	Uzynbulak	50.22	340⇑	iP	P	19 33 10.6	+0.9
	comp=Z,625nm,1.1s						
UZB				i PP	PP	19 35 06.1	+0.8
UZB				i S	S	19 40 21.7	+0.8
UZB				eSS	SS	19 43 59.4	+4.6
PDGK	Podgornoye	50.22	340	i P	P	19 33 10.4	+0.7
PDGK				pmax	pmax		
	comp=Z,93nm,0.7s						
SATY	Saty	50.36	339⇑	iP	P	19 33 11.8	+1.1
	comp=Z,1μm,1.2s						
SATY				i S	S	19 40 26.5	+3.7
SATY				LR	LR	19 56 55.1	
	comp=Z,881nm,18.9s						
CBIJ	Chichi jima	50.46	50	eP	P	19 33 10.9	-0.8
JCJ	Chichijima	50.46	50	P	P	19 33 10.9	-0.8
	comp=Z,62nm,0.5s,baz=285,slow=16,SNR=5.1						
ULHL	Ulahol	50.47	337	P	P	19 33 13.3	+1.6
	SNR=18						
KPKS	Kokpek	50.62	340	i P	P	19 33 14.1	+1.4
	comp=Z,266nm,1.2s						
KZA	Kyzart	50.73	336	P	P	19 33 15.0	+1.1
	SNR=28						
CMSA	Cobar Meteorol	50.91	129	P	P	19 33 16.9	+1.9
	baz=51,SNR=58						
MDOK	Medeo	50.95	338	i P	P	19 33 16.4	+1.2
	comp=Z,337nm,1.1s						
MDOK				LR	LR	19 54 44.9	
	comp=Z,689nm,19.9s						
AAA	Alma-Ata	51.03	338⇑	iP	P	19 33 17.3	+1.5
AAA				i PP	PP	19 35 14.6	+2.1
AAA				LR	LR	19 54 53.8	
	comp=Z,323nm,19.6s						
UCH	Uchtor	51.15	335	P	P	19 33 17.9	+0.7
	SNR=23						
TKM2	Tokmak 2	51.30	337	P	P	19 33 18.3	+0.4
	SNR=52						
TKM2	Tokmak 2	51.30	337	P	P	19 33 18.0	+0.1
TKM2				pmax	pmax		
	comp=Z,49nm,0.9s						
SONA0	Songino Array	51.32	5	eP	P	19 33 18.8	+0.8
SONA0				ePcP	PcP	19 34 33.4	+0.8
SONM	Songino Array	51.32	5	P	P	19 33 18.8	+0.8
	comp=Z,62nm,0.5s,baz=188,slow=9.0,SNR=111						
SONM				PcP	PcP	19 34 33.4	+0.8
	comp=Z,6.0nm,0.5s,baz=186,slow=4.2,SNR=4.1						
KBK	Karagaybulak	51.33	336	P	P	19 33 19.4	+1.3
	SNR=27						
SONA1	Songino Array	51.33	5	eP	P	19 33 17.9	-0.1
UOSS	Minazif	51.33	306	eP	P	19 33 18.5	+0.2
ULN	Ulaanbaatar	51.41	6	eP	P	19 33 19.1	+0.5
ULN	Ulaanbaatar	51.41	6	P	P	19 33 19.6	+1.0
	SNR=57						
ULN	Ulaanbaatar	51.41	6	P	P	19 33 19.6	+1.0
	SNR=57						
ULN	Ulaanbaatar	51.41	6c	iP	P	19 33 19.1	+0.5
ULN				pmax	pmax		
	comp=Z,123nm,1.2s						
AML	Almayashu	51.42	335	P	P	19 33 19.9	+0.8
	SNR=38						
BMNS	Besmoynak	51.42	337⇑	iP	P	19 33 19.9	+1.0
	comp=Z,379nm,1.0s						
BMNS				LR	LR	19 55 42.4	
	comp=Z,750nm,19.6s						
AAK	Ala-Archa	51.50	336	P	P	19 33 20.6	+1.2
	SNR=14						
AAK	Ala-Archa	51.50	336	eP	P	19 33 20.0	+0.6
	comp=Z,18nm,0.9s						
AAK				LR	LR		
	comp=Z,2μm,20.0s						
AAK	Ala-Archa	51.50	336	P	P	19 33 21.2	+1.8
	SNR=12						
AAK	Ala-Archa	51.50	336	P	P	19 33 21.2	+1.8
	SNR=12						
AAK	Ala-Archa	51.50	336	eP	P	19 33 20.0	+0.6
AAK				pmax	pmax		
	comp=Z,18nm,0.9s						
AAK				MLR	MLR		
	comp=Z,2μm,20.0s						
FRU	Bishkek	51.61	336	eP	P	19 33 20.0	-0.1
FRU				e		19 40 38.0	
FRU				MLR	MLR		
	comp=E,2μm,16.0s						
RMQ	Roma	51.62	121	P	P	19 33 21.7	+1.2
	baz=52,SNR=11						
INU	Inuyama	51.63	38	eP	P	19 33 19.5	-0.8
CHMS	Chumysh	51.70	336	P	P	19 33 21.0	+0.2
	SNR=19						
EKS2	Erkin-Say	51.82	335	P	P	19 33 22.8	+1.0
	SNR=49						

KUU	Kurty	51.84	338⇑	iP	P	19 33 21.8	+0.1
	comp=E,294nm,1.2s						
KUU				LR	LR	19 55 20.1	
	comp=E,214nm,19.0s						
USP	Ospenovka	52.02	336	P	P	19 33 23.9	+0.7
	SNR=42						
TDK	Taldyqorghan	52.06	340	i P	P	19 33 24.2	+0.8
	comp=E,1µm,0.9s						
TDK				LR	LR	19 54 38.6	
	comp=E,2µm,21.5s						
CN2	Changchun	52.13	23	⇑P	P	19 33 22.9	-1.0
CN2				eS	S	19 40 38.4	-8.6
CN2				pmax	pmax		
	comp=E,120nm,0.8s						
CN2				pmax	pmax		
	comp=E,540nm,4.0s						
CN2				LR	LR		
	comp=E,6µm,14.0s						
CN2				LR	LR		
	comp=E,4µm,14.0s						
CN2				LR	LR		
	comp=E,5µm,17.0s						
MNAS	Manas	52.22	334	P	P	19 33 24.9	+0.1
MNAS				pmax	pmax		
	comp=Z,48nm,0.9s						
PAF	Port-aux-Franc	52.47	204	PFAKE		19 33 40.0	+14
PAF				LR	LR		
	comp=Z,4µm,20.0s						
ZSN	Zaisan	52.48	347⇑	iP	P	19 33 27.3	+0.9
	comp=Z,189nm,1.0s						
ZSN				i S	S	19 40 55.7	+4.0
MK01	Makanchi Array	52.48	344	eP	P	19 33 26.2	-0.2
MK31	Makanchi Array	52.50	344	eP	P	19 33 26.4	-0.2
MK31	Makanchi Array	52.50	344	eP	P	19 33 26.4	-0.2
MK32	Makanchi Array	52.50	344	eP	P	19 33 27.1	+0.5
MK32				eS	S	19 40 54.2	+2.1
MKAR	Makanchi Array	52.50	344	P	P	19 33 27.1	+0.5
	comp=Z,48nm,0.6s,baz=155,slow=8.1,SNR=415						
MKAR				S	S	19 40 54.2	+2.1
	comp=Z,1.5nm,1.1s,baz=170,slow=10,SNR=4.3						
MKAR	Makanchi Array	52.50	344	eP	P	19 33 26.8	+0.2
MKAR				S	S	19 40 54.2	+2.1
MAKZ	Makanchi	52.60	344	eP	P	19 33 26.9	-0.5
MAKZ	Makanchi	52.60	344	P	P	19 33 27.2	-0.2
MAKZ				pmax	pmax		
	comp=Z,36nm,1.0s						
DZA	Taraz	53.06	333⇑	iP	P	19 33 31.3	+0.4
	comp=Z,229nm,0.7s						
IUG	Iuzhnay	53.08	332⇑	eP	P	19 33 31.3	+0.2
	comp=Z,379nm,1.1s						
IUG				i PP	PP	19 35 31.8	+0.7
IUG				i S	S	19 41 02.9	+2.7
IUG				LR	LR	19 56 17.8	
	comp=Z,556nm,19.6s						
MAJO	Matsushiro	53.14	38	eP	P	19 33 30.5	-1.0
MAJO	Matsushiro	53.14	38c	eP	P	19 33 29.9	-1.6
MAJO				pmax	pmax		
	comp=Z,41nm,1.2s						
MAT	Matsushiro	53.14	38	P	P	19 33 30.2	-1.3
MAT				S	S	19 41 09.0	+7.9
MJAR	Matsushiro Arr	53.14	38	P	P	19 33 30.1	-1.4
	comp=Z,27nm,1.1s,baz=219,slow=7.9,SNR=26						
MJB9	Matsu-Tunnel	53.14	38	eP	P	19 33 30.4	-1.1
EIDS	Eidsvold	53.31	119	P	P	19 33 34.0	+1.0
	baz=53,SNR=8.3						
EIDS	Eidsvold	53.31	119	eP	P	19 33 33.6	+0.6
	comp=Z,12nm,0.7s						
EIDS				eS	S	19 41 04.5	+0.7
KK06	Karatay Array	53.59	333	eP	P	19 33 34.3	-0.4
MSHR	Mys Shultsa	53.59	28d	eP	P	19 33 35.5	+0.8
KK07	Karatay Array	53.59	333	eP	P	19 33 34.5	-0.2
KK02	Karatay Array	53.60	333	eP	P	19 33 34.3	-0.5
KK31	Karatay Array	53.60	333	eP	P	19 33 34.6	-0.2
KK31	Karatay Array	53.60	333	i P	P	19 33 35.0	+0.2
KK31				pmax	pmax		
	comp=Z,3.0nm,0.5s						
KKAR	Karatay Array	53.60	333	eP	P	19 33 34.0	-0.8
	comp=Z,3.9nm,0.5s						
KKAR	Karatay Array	53.60	333	eP	P	19 33 34.0	-0.8
KKAR				pmax	pmax		
	comp=Z,4.0nm,0.5s						
KK01	Karatay Array	53.60	333	eP	P	19 33 34.3	-0.5
KK03	Karatay Array	53.60	333	eP	P	19 33 34.5	-0.3
KK05	Karatay Array	53.61	333	eP	P	19 33 34.6	-0.2
KK04	Karatay Array	53.61	333	eP	P	19 33 34.6	-0.2
KK08	Karatay Array	53.61	333	eP	P	19 33 34.7	-0.2
KK09	Karatay Array	53.62	333	eP	P	19 33 34.6	-0.4
ZAK	Zakamensk	53.66	2	eP	P	19 33 35.2	0.0
ZAK				e		19 35 37.4	
ZAK				pmax	pmax		
	comp=Z,10.0nm,1.1s						
ZAK				pmax	pmax		
	comp=Z,11nm,1.2s						
BTLS	Baital	53.68	337	i P	P	19 33 35.2	-0.2
	comp=Z,162nm,1.0s						
BTLS				i S	S	19 41 10.5	+2.4
BTLS				LR	LR	19 57 10.9	
	comp=Z,609nm,18.6s						
KNGR	Kungurtug, Tuv	53.88	358	eP	P	19 33 37.0	+0.2
OPO	Ambohidratompo	54.14	250	P	P	19 33 40.5	+1.2
	comp=Z,5.2nm,0.8s,baz=84,slow=6.6,SNR=4.2						
OPO				LR	LR	19 52 07.7	
	comp=Z,3µm,21.0s,baz=47,slow=31						
ABPO	Ambohimpanom	54.17	249	PFAKE		19 33 50.0	+10
ABPO				LR	LR		
	comp=Z,922nm,21.0s						
VLA	Vladivostok	54.35	28⇑	eP	P	19 33 40.3	+0.1
VLA				pmax	pmax		
	comp=Z,22nm,0.6s						
MDJ	Mudanjiang	54.49	25	P	P	19 33 39.6	-1.6
MDJ				PP	PP	19 35 45.9	+2.2
MDJ				S	S	19 41 24.1	+5.0
MDJ				pmax	pmax		
	comp=Z,25nm,0.9s						
MDJ	Mudanjiang	54.49	25	eP	P	19 33 40.8	-0.4
HVS	Khovu-Aksy	54.66	355d	eP	P	19 33 41.9	-0.5
HVS				pmax	pmax		
	comp=Z,18nm,0.7s						
MOY	Mondy	54.89	0	eP	P	19 33 44.7	+0.6
MOY				pmax	pmax		
	comp=Z,62nm,3.4s						
CAN	Canberra	54.97	131	PFAKE		19 34 00.0	+15
CAN				LR	LR		
	comp=Z,6µm,21.0s						
TLY	Talaya	54.97	2	eP	P	19 33 45.0	+0.4
	comp=Z,28nm,0.9s						
TLY				LR	LR		
	comp=Z,2µm,20.0s						
TLY	Talaya	54.97	2	P	P	19 33 46.3	+1.7
	SNR=19						
TLY	Talaya	54.97	2	P	P	19 33 46.3	+1.7
	SNR=19						
TLY	Talaya	54.97	2c	iP	P	19 33 45.2	+0.6
TLY				e		19 34 41.9	
TLY				e		19 35 53.3	
TLY				ePPP	PPP	19 37 07.7	
TLY				eS	S	19 41 26.3	+1.0
TLY				pmax	pmax		
	comp=Z,35nm,1.1s						
TLY				MLR	MLR		
	comp=Z,4µm,17.0s						
HIA	Hailar	55.10	15	eP	P	19 33 44.6	-1.0
HIA	Hailar	55.10	15	eP	P	19 33 44.6	-1.0
USRK	Ussuriysk Ar.	55.23	27	P	P	19 33 46.8	+0.2
	comp=Z,68nm,0.6s,baz=220,slow=6.2,SNR=86						
ARMA	Armidale	55.26	125	P	P	19 33 48.3	+1.1
	baz=55,SNR=5.5						
ARMA	Armidale	55.26	125	eP	P	19 33 48.8	+1.6
	comp=Z,13nm,0.8s						
IRK	Irkutsk	55.56	3	eP	P	19 33 49.4	+0.6
IRK				eS	S	19 41 36.3	+3.1
IRK				pmax	pmax		
	comp=Z,77nm,3.8s						
MGCD	Mangrove Creek	55.78	128	P	P	19 33 51.6	+0.7
	baz=56,SNR=4.1						
SEM	Semipalatinsk	56.36	345⇑	iP	P	19 33 54.5	-0.4
	comp=Z,703nm,1.0s						
CIT	Chita	56.36	10	eP	P	19 33 55.8	+1.2
CIT				e		19 34 05.1	
CIT				e		19 34 52.5	
CIT				pmax	pmax		
	comp=Z,99nm,2.6s						
GYB1	ALIBECK ARRAY	56.78	321	eP	P	19 33 57.9	0.0
GYA1	ALIBECK ARRAY	56.79	321	eP	P	19 33 57.4	-0.5
GYB2	ALIBECK ARRAY	56.79	321	eP	P	19 33 58.0	0.0

GEYT	Alibeck	56.80	321	P	P	19 33 57.8	-0.2
	comp=Z,13nm,0.9s,baz=142,slow=7.5,SNR=31						
GYA0	ALIBECK ARRAY	56.80	321	eP	P	19 33 57.7	-0.3
GYA0B	ALIBECK ARRAY	56.80	321	eP	P	19 33 57.9	-0.1
GYB5	ALIBECK ARRAY	56.80	321	eP	P	19 33 58.0	0.0
GYA2	ALIBECK ARRAY	56.80	321	eP	P	19 33 58.1	+0.1
GYB3	ALIBECK ARRAY	56.80	321	eP	P	19 33 58.3	+0.3
GYB4	ALIBECK ARRAY	56.81	321	eP	P	19 33 57.5	-0.5
KURBB	Kurchatov Arra	57.02	344	P	P	19 33 59.1	-0.1
	comp=Z,41nm,0.9s,baz=163,slow=6.9,SNR=202						
KURBB				S	S	19 41 53.4	+0.8
	comp=Z,0.5nm,0.8s,baz=150,slow=12,SNR=3.7						
KURK	Kurchatov	57.08	344	eP	P	19 33 58.9	-0.8
	comp=Z,663nm,0.9s						
KURK				eS	S	19 41 53.4	0.0
KURK				LR	LR		
	comp=Z,5µm,20.0s						
KURK	Kurchatov	57.08	344	P	P	19 34 00.7	+1.0
	SNR=35						
KURK	Kurchatov	57.08	344	P	P	19 34 00.7	+1.0
	SNR=35						
KURK	Kurchatov	57.08	344c	iP	P	19 33 59.6	-0.1
KURK				pmax	pmax		
	comp=Z,382nm,1.2s						
TEY	Ternei	58.05	30	eP	P	19 34 05.0	-1.6
TEY				MLR	MLR		
	comp=E,3µm,14.0s						
TEY				MLR	MLR		
	comp=N,2µm,18.0s						
TEY				MLR	MLR		
	comp=Z,3µm,14.0s						
ZAA0	Zalesovo Array	58.64	349	eP	P	19 34 10.5	0.0
ZALV	Zalesovo Beam	58.64	349	P	P	19 34 10.3	-0.2
	comp=Z,78nm,0.8s,baz=174,slow=5.5,SNR=205						
ZALV				S	S	19 42 12.9	-0.7
	comp=Z,1.3nm,1.0s,baz=174,slow=14,SNR=3.0						
ZALV	Zalesovo Beam	58.64	349	eP	P	19 34 09.3	-1.2
ZALV				S	S	19 42 12.9	-0.7
ZAA1	Zalesovo Array	58.64	349	eP	P	19 34 10.3	-0.3
ZAA1				eS	S	19 42 12.9	-0.7
KLR	Kul'dur	59.07	23c	iP	P	19 34 13.4	-0.3
ATD	Arta Tunnel	59.13	286	LR	LR	19 56 53.6	
	comp=Z,924nm,18.3s,baz=97,slow=33						
HNR	Honiara	59.41	99	P	P	19 34 16.8	+0.1
	comp=Z,80nm,0.9s,baz=234,slow=6.1,SNR=7.9						
HNR	Honiara	59.41	99	eP	P	19 34 16.1	-0.6
KRAR	Krasnoyarsk	59.56	355⇓	eP	P	19 34 17.2	+0.3
ERM	Erimo	59.56	36	PFAKE		19 34 30.0	+13
ERM				LR	LR		
	comp=Z,1µm,21.0s						
RAYN	Ar Rayn	59.78	300	eP	P	19 34 19.0	-0.1
	comp=Z,16nm,1.2s						
RAYN				LR	LR		
	comp=Z,2µm,19.0s						
NVS	Novosibirsk	59.79	349⇑	iP	P	19 34 17.9	-0.6
NVS				eS	S	19 42 27.4	-1.1
NVS				pmax	pmax		
	comp=N,25nm,1.2s						
NVS				pmax	pmax		
	comp=E,26nm,1.2s						
NVS				pmax	pmax		
	comp=Z,43nm,1.2s						
NVS				pmax	pmax		
	comp=N,10.0nm,1.0s						
NVS				pmax	pmax		
	comp=E,7.0nm,1.0s						
NVS				pmax	pmax		
	comp=Z,17nm,1.0s						
NVS				smax	smax		
	comp=N,16nm,1.8s						
NVS				smax	smax		
	comp=E,12nm,1.8s						
ASAJ	Asahikawa	60.57	34	P	P	19 34 24.1	+0.1
	comp=E,13nm,0.4s,baz=231,slow=6.6,SNR=51						
ASAJ	Asahikawa	60.57	34	eP	P	19 34 23.4	-0.7
	comp=E,4.9nm,0.5s						
ZEA	Zeya	61.23	18	eP	P	19 34 28.2	-0.2
ZEA				eS	S	19 42 59.0	+12
ZEA				pmax	pmax		
	comp=N,24nm,1.0s						
ZEA				pmax	pmax		
	comp=E,12nm,1.0s						
ZEA				pmax	pmax		
	comp=Z,46nm,1.0s						
ZEA				pmax	pmax		
	comp=Z,400nm,7.0s						
ZEA				smax	smax		
	comp=N,600nm,10.0s						
ZEA				MLR	MLR		
	comp=Z,5µm,17.0s						
ZEA				MLR	MLR		
	comp=E,2µm,14.0s						
ZEA				MLR	MLR		
	comp=N,5µm,17.0s						
BVA0	Borovoye Array	61.66	340	i P	P	19 34 30.4	-0.9
BVA0				pmax	pmax		
	comp=Z,21nm,0.9s						
BVAR	Borovoye Array	61.66	340	P	P	19 34 30.7	-0.5
	comp=Z,16nm,0.6s,baz=142,slow=8.2,SNR=94						
BRVK	Borovoye	61.72	340	eP	P	19 34 30.8	-0.9
	comp=Z,51nm,0.8s						
BRVK				LR	LR		
	comp=Z,810nm,20.0s						
BRVK	Borovoye	61.72	340	P	P	19 34 31.8	+0.1
	SNR=8.8						
BRVK	Borovoye	61.72	340	P	P	19 34 31.8	+0.1
	SNR=8.8						
BRVK	Borovoye	61.72	340c	iP	P	19 34 31.4	-0.3
BRVK				pmax	pmax		
	comp=Z,75nm,1.2s						
BOD	Bodaibo	62.03	8	eP	P	19 34 33.6	-0.1
BOD				pmax	pmax		
	comp=Z,36nm,1.0s						
GRNR	Gornyy	62.18	25	eP	P	19 34 34.8	0.0
GRNR				pmax	pmax		
	comp=Z,28nm,0.8s						
YUK	Yuzh-Kuril'sk	62.37	35	eP	P	19 34 33.8	-2.4
YUK				e		19 35 12.9	
YUK				e		19 36 47.6	
YUK				eS	S	19 43 01.5	-0.2
YUK				e		19 44 26.2	
YUK				pmax	pmax		
	comp=Z,228nm,1.3s						
YUK				pmax	pmax		
	comp=N,196nm,0.9s						
YUK				pmax	pmax		
	comp=E,70nm,1.2s						
YUK				pmax	pmax		
	comp=Z,254nm,2.0s						
YUK				MLR	MLR		
	comp=N,2µm,20.0s						
YUK				MLR	MLR		
	comp=Z,1µm,20.0s						
YUK				MLR	MLR		
	comp=E,2µm,19.0s						
YSS	Yuzh-Sakhalins	62.48	31	eP	P	19 34 36.5	-0.4
YSS	Yuzh-Sakhalins	62.48	31⇑	iP	P	19 34 37.0	+0.1
YSS				e		19 34 41.6	
YSS				eS	S	19 43 06.5	+3.4
YSS				pmax	pmax		
	comp=Z,40nm,0.7s						
YSS				smax	smax		
	comp=N,1µm,4.0s						
YSS				smax	smax		
	comp=E,1µm,4.0s						
YSS				MLR	MLR		
	comp=Z,2µm,13.0s						
YSS				MLR	MLR		
	comp=N,2µm,16.0s						
YSS				MLR	MLR		
	comp=E,2µm,12.0s						
AB07	Akbulak array	63.06	332	eP	P	19 34 39.6	-1.1
AB06	Akbulak array	63.07	332	eP	P	19 34 39.7	-1.1
AB08	Akbulak array	63.07	332	eP	P	19 34 39.9	-1.0
AB03	Akbulak array	63.08	332	eP	P	19 34 39.9	-1.0
AB01	Akbulak array	63.08	332	eP	P	19 34 39.9	-1.0
AB02	Akbulak array	63.08	332	eP	P	19 34 39.8	-1.1
AB31	Akbulak array	63.08	332	eP	P	19 34 39.8	-1.1
AB31	Akbulak array	63.08	332	i P	P	19 34 40.4	-0.5
AB31				pmax	pmax		
	comp=Z,41nm,0.7s						
ABKAR	Akbulak array	63.08	332	eP	P	19 34 39.5	-1.4
	comp=Z,31nm,0.6s						
AB04	Akbulak array	63.08	332	eP	P	19 34 39.9	-1.0
AB05	Akbulak array	63.09	332	eP	P	19 34 40.0	-1.0
AB09	Akbulak array	63.09	332	eP	P	19 34 39.9	-1.1

KMBO	Kilima Mbogo	63.13	270	P	P	19 34 44.2	+2.0
	comp=Z,2.4nm,0.9s,baz=56,slow=8.8,SNR=8.4						
CLNS	Chul'man	63.28	15	eP	P	19 34 42.0	-0.1
CLNS				pmax	pmax		
	comp=Z,17nm,1.0s						
CLNS				pmax	pmax		
	comp=N,7.0nm,0.9s						
CLNS				pmax	pmax		
	comp=E,5.0nm,1.2s						
CLNS				MLR	MLR		
	comp=E,4µm,17.0s						
CLNS				MLR	MLR		
	comp=Z,7µm,18.0s						
CLNS				MLR	MLR		
	comp=N,4µm,17.0s						
AKTO	Aktyubinsk	64.80	332	P	P	19 34 51.7	-0.5
	comp=N,11nm,0.7s,baz=106,slow=8.4,SNR=31						
TYV	Tymovskoe	65.02	28	eP	P	19 34 48.5	-5.1
TYV				pmax	pmax		
	comp=Z,400nm,4.2s						
TYV				pmax	pmax		
	comp=Z,18nm,1.6s						
TYV				MLR	MLR		
	comp=N,2µm,18.0s						
TYV				MLR	MLR		
	comp=Z,2µm,15.0s						
NKL	Nikolayevsk	65.72	25	eP	P	19 34 57.8	-0.2
NKL				pmax	pmax		
	comp=N,8.0nm,1.0s						
NKL				pmax	pmax		
	comp=E,8.0nm,1.0s						
NKL				pmax	pmax		
	comp=Z,32nm,1.0s						
NKL				pmax	pmax		
	comp=Z,600nm,7.0s						
NKL				MLR	MLR		
	comp=E,3µm,13.0s						
NKL				MLR	MLR		
	comp=N,2µm,13.0s						
NKL				MLR	MLR		
	comp=Z,6µm,16.0s						
MAK	Makhachkala	66.31	320	eP	P	19 35 00.9	-1.2
MAK				e		19 37 29.7	
MAK				eS	S	19 43 49.4	-1.2
MAK				pmax	pmax		
	comp=Z,31nm,0.6s						
DZM	Mont Dzumac	66.54	112	eP	P	19 35 03.8	-0.3
	comp=Z,45nm,1.4s						
DZM				eS	S	19 43 47.5	-6.8
	comp=Z,1µm,26.6s						
DZM	Mont Dzumac	66.54	112	eLR	LR	19 55 05.2	
	comp=Z,3µm,23.9s						
DZM	Mont Dzumac	66.54	112	P	P	19 35 03.8	-0.3
	comp=Z,4.1nm,0.6s,baz=274,slow=14,SNR=4.5						
DZM	Mont Dzumac	66.54	112	eP	P	19 35 04.2	+0.1
GNI	Garni	66.83	316	P	P	19 35 06.9	+1.2
	comp=Z,4.2nm,0.7s,baz=176,slow=4.9,SNR=6.3						
GNI	Garni	66.83	316	eP	P	19 35 03.6	-2.1
GNI	Garni	66.83	316⇑	eP	P	19 35 03.9	-1.8
GNI				pmax	pmax		
	comp=Z,19nm,1.1s						
GROC	Groznyy	67.53	320	eP	P	19 35 07.1	-2.7
GROC				e		19 35 35.6	
GROC				e		19 37 35.0	
GROC				eS	S	19 44 01.0	-4.3
GROC				pmax	pmax		
	comp=Z,31nm,0.7s						
TBLG	Delisi	67.54	318	eP	P	19 35 11.0	+1.0
TBLG	Delisi	67.54	318	eP	P	19 35 11.0	+1.0
SVE	Sverdlovsk	68.15	338⇓	eP	P	19 35 14.1	+0.6
SVE				e		19 39 20.9	
SVE				eS	S	19 44 09.5	-2.7
SVE				pmax	pmax		
	comp=Z,53nm,1.0s						
SVE				MLR	MLR		
	comp=Z,2µm,21.0s						
AKH	Akhalkalaki	68.23	317⇑	iP	P	19 35 16.6	+2.0
AKH	Akhalkalaki	68.23	317	eP	P	19 35 15.5	+0.9
AKH	Akhalkalaki	68.23	317	eP	P	19 35 15.5	+0.9
ZEI	Tsey	68.57	319	eP	P	19 35 15.3	-1.4
ZEI				pmax	pmax		
	comp=Z,16nm,0.9s						
ARU	Arti	68.67	337	eP	P	19 35 15.8	-0.9
	comp=Z,16nm,0.7s						
ARU				LR	LR		
	comp=Z,2µm,20.0s						
ARU	Arti	68.67	337c	iP	P	19 35 16.6	-0.1
ARU						19 35 35.2	
ARU				PPP	PPP	19 39 28.5	
ARU				S	S	19 44 22.8	+4.4
ARU				SS	SS	19 48 41.9	-1.4
ARU				pmax	pmax		
	comp=Z,35nm,1.2s						
ARU				MLR	MLR		
	comp=Z,2µm,20.0s						
MAW	Mawson	69.01	194	LR	LR	20 00 56.7	
	comp=Z,1µm,20.5s,baz=44,slow=32						
YAK	Yakutsk	69.02	14	eP	P	19 35 17.2	-1.5
YAK	Yakutsk	69.02	14c	iP	P	19 35 17.5	-1.3
YAK				e*PP	sP	19 35 28.9	+0.7
YAK				e		19 35 40.6	
YAK				e		19 37 45.8	
YAK				ePPP	PPP	19 39 25.4	
YAK				eS	S	19 44 18.4	-3.9
YAK				e		19 45 12.0	
YAK				eSS	SS	19 48 47.5	-0.9
YAK				pmax	pmax		
	comp=Z,60nm,0.8s						
YAK				pmax	pmax		
	comp=N,16nm,1.0s						
YAK				pmax	pmax		
	comp=E,21nm,1.0s						
YAK				pmax	pmax		
	comp=Z,83nm,3.3s						
YAK				pmax	pmax		
	comp=N,65nm,3.0s						
YAK				pmax	pmax		
	comp=E,137nm,3.5s						
YAK				smax	smax		
	comp=N,88nm,4.0s						
YAK				smax	smax		
	comp=E,69nm,4.0s						
YAK				MLR	MLR		
	comp=Z,5µm,16.0s						
YAK				MLR	MLR		
	comp=N,4µm,17.0s						
YAK				MLR	MLR		
	comp=E,2µm,16.0s						
NCK	Nalchik	69.09	319⇑	eP	P	19 35 20.4	+0.8
NCK				pmax	pmax		
	comp=Z,16nm,0.9s						
NEY	Neytrino	69.55	319⇓	eP	P	19 35 24.3	+1.6
NEY				pmax	pmax		
	comp=Z,2.0nm,0.8s						
KBZ	Khabaz	69.64	319	P	P	19 35 23.6	+0.5
	comp=Z,9.6nm,0.8s,baz=135,slow=5.2,SNR=42						
ASF	Jabal al Asfar	69.74	306	LR	LR	20 06 15.3	
	comp=Z,2µm,19.8s,baz=65,slow=36						
KIV	Kislovodsk	69.88	319	eP	P	19 35 23.4	-1.2
	comp=Z,30nm,1.2s						
KIV				LR	LR		
	comp=Z,714nm,20.0s						
KIV	Kislovodsk	69.88	319	P	P	19 35 26.3	+1.6
	SNR=9.5						
KIV	Kislovodsk	69.88	319	P	P	19 35 26.3	+1.6
	SNR=9.5						
KIV	Kislovodsk	69.88	319	eP	P	19 35 25.7	+1.1
KIV				e		19 35 46.5	
KIV				eS	S	19 44 34.2	+0.8
KIV				eSS	SS	19 49 06.5	+3.8
KIV				pmax	pmax		
	comp=Z,19nm,1.0s						
KIV				MLR	MLR		
	comp=Z,547nm,17.0s						
GOF	Gofitskoye	70.14	321⇑	eP	P	19 35 26.8	+0.7
MMAI	Mount Meron Ar	71.20	306	P	P	19 35 34.7	+1.8
	comp=Z,4.5nm,0.6s,baz=98,slow=7.6,SNR=16						
MMAI				LR	LR	20 07 03.8	
	comp=Z,2µm,19.9s,baz=130,slow=36						
SOKR	Solikamsk	71.55	338c	iP	P	19 35 32.7	-1.6
SOKR				S	S	19 44 52.6	+0.6
SOKR				pmax	pmax		
	comp=Z,72nm,1.3s						
SOKR				MLR	MLR		
	comp=Z,2µm,22.0s						
SOC	Sochi	71.68	318	eP	P	19 35 28.8	-6.7

SOC *e* 19 38 17.4
SOC *eS* **S** **19 44 45.4 -8.8**
SOC MLR MLR
comp=Z,600nm,20.0s
LSZ Lusaka 71.95 255 *eP* **P** **19 35 37.6 -0.2**
LSZ Lusaka 71.95 255 *eP* **P** **19 35 37.6 -0.2**
CSS Mathiatis 73.41 308 *eP* **P** **19 35 45.2 -0.7**
CSS LR LR
comp=Z,333nm,20.0s
ANN Anapa 73.66 319 *eP* **P** **19 35 47.1 -0.1**
ANN *e**PP **pP** **19 35 50.2 -4.0**
ANN *e* 19 38 30.4
ANN *eS* **S** **19 45 17.4 +0.7**
ANN pmax pmax
comp=Z,13nm,1.3s
ANN MLR MLR
comp=E,1μm,21.0s
ANN MLR MLR
comp=N,975nm,21.0s
ANN MLR MLR
comp=Z,645nm,21.0s
RPZ Rata Peaks 73.70 135 P **P** **19 35 48.5 +1.0**
comp=Z,4.2nm,0.7s,baz=258,slow=9.3,SNR=3.3
VRH Novokhopyorsk 73.72 326 *eP* **P** **19 35 47.4 0.0**
VRH pmax pmax
comp=Z,50nm,0.7s
VRH MLR MLR
comp=Z,890nm,21.0s
PETK Petropavlovsk- 73.88 32 P **P** **19 35 47.5 -0.8**
comp=Z,8.0nm,0.7s,baz=214,slow=3.6,SNR=7.3
PETK Petropavlovsk- 73.88 32 *eP* **P** **19 35 47.4 -1.0**
PEA1 Petropavlovsk- 73.88 32 *eP* **P** **19 35 47.5 -0.8**
PET Petropavlovsk 74.34 32 *eP* **P** **19 35 50.1 -0.9**
PET Petropavlovsk 74.34 32 *eP* **P** **19 35 48.6 -2.4**
PET *e* 19 38 39.5
PET *eS* **SKiKP** **19 45 19.3 +2.3**
PET pmax pmax
comp=Z,29nm,0.7s
PET pmax pmax
comp=Z,300nm,8.7s
PET pmax pmax
comp=Z,300nm,19.1s
PET MLR MLR
comp=Z,1μm,20.0s
BR101 Keskin Array S 74.58 313 *eP* **P** **19 35 52.4 -0.5**
BR131 Keskin Array S 74.58 313 *eP* **P** **19 35 51.8 -1.1**
BRTR Keskin Array B 74.58 313 P **P** **19 35 52.4 -0.5**
comp=Z,7.4nm,0.8s,baz=132,slow=6.8,SNR=43
VSR Storozhevoye 75.17 325 *eP* **P** **19 35 55.5 -0.4**
VSR pmax pmax
comp=Z,40nm,0.8s
VSR MLR MLR
comp=Z,2μm,28.0s
BR231 Keskin MP Arra 75.25 313 *eP* **P** **19 35 53.1 -3.6**
BOSA Boshof 75.33 241 P **P** **19 35 58.8 +1.3**
comp=Z,4.8nm,0.9s,baz=89,slow=3.5,SNR=5.8
LPSR Galich'ya Gora 75.89 326 *eP* **P** **19 36 00.3 +0.3**
LPSR pmax pmax
comp=Z,30nm,1.0s
SIM Simferopol' 75.92 318 *ceP* **P** **19 36 01.2 +0.9**
SIM *eS* **S** **19 45 41.8 -0.2**
SIM pmax pmax
comp=Z,13nm,1.1s
ISP Isparta 76.37 310 PFAKE 19 36 10.0 +6.8
ISP LR LR
comp=Z,849nm,20.0s
SYO Syowa Base 76.65 199⇑ *epP* pP 19 36 10.4 -0.6
SEY Seymchan 76.80 22 ⇓ *iP* **P** **19 36 05.6 +0.7**
BKZ Black Stump Fm 77.06 129 *eP* **P** **19 36 07.8 +0.8**
TIXI Tiksi 77.20 9 *eP* **P** **19 36 05.9 -1.1**
TIXI Tiksi 77.20 9 *c iP* **P** **19 36 06.1 -0.9**
TIXI pmax pmax
comp=Z,24nm,1.0s
TIXI MLR MLR
comp=Z,1μm,20.0s
MSVF Nonsavu 77.20 107⇑ *eP* **P** **19 36 06.2 -2.0**
MSVF pmax pmax
comp=Z,7.0nm,1.1s
MOS Moscow 77.92 329 *eP* **P** **19 36 10.1 -1.2**
MOS pmax pmax
comp=Z,57nm,1.1s
OBN Obninsk 78.21 328 *eP* **P** **19 36 13.1 +0.2**
comp=Z,30nm,0.9s
OBN LR LR
comp=Z,977nm,20.0s
OBN Obninsk 78.21 328 *c iP* **P** **19 36 13.3 +0.4**
OBN *SP **pP** **19 36 18.0 -1.9**
OBN *e* 19 36 20.3
OBN *e* 19 39 15.5
OBN *eS* **S** **19 46 04.6 -1.8**
OBN *i* PS **PnS** **19 46 51.5 +2.4**
OBN *eSS* **SS** **19 51 04.8 -4.1**
OBN pmax pmax
comp=Z,56nm,1.2s
OBN MLR MLR
comp=Z,546nm,19.0s
KLMR Klimovskoe 79.28 334 *eP* **P** **19 36 18.1 -0.7**
KLMR AMP 19 36 22.3
comp=Z,51nm,1.3s
KLMR *eS* **S** **19 46 18.8 +1.1**
KLMR *eS* **S** **19 46 18.8 +1.1**
KLMR *eSS* **SS** **19 51 26.6 +1.8**
KLMR *eSS* **SS** **19 51 26.6 +1.8**
KLMR LQ LQ 20 06 13.9
KLMR LQ LQ 20 06 13.9
KLMR LR LR 20 12 02.6
KLMR Klimovskoe 79.28 334 *eP* **P** **19 36 18.0 -0.7**
KLMR *eS* **S** **19 46 18.7 +1.1**
KLMR *eSS* **SS** **19 51 26.5 +1.8**
KLMR pmax pmax
comp=Z,51nm,1.3s
SUR Sutherland 79.38 238 PFAKE 19 36 30.0 +10
SUR LR LR
comp=Z,3μm,20.0s
TIRR Tirgusor 79.66 316 ⇓ *iP* **P** **19 36 21.7 +0.6**
TIRR Tirgusor 79.66 316 *eP* **P** **19 36 21.2 +0.1**
comp=Z,17nm,1.0s
TIRR Tirgusor 79.66 316 *eP* **P** **19 36 21.2 +0.1**
TIRR pmax pmax
comp=Z,17nm,1.0s
TLB Topalu 79.94 316⇑ *iP* **P** **19 36 23.1 +0.4**
SANT Santorini 79.97 308 PFAKE 19 36 30.0 +6.9
SANT LR LR
comp=Z,730nm,20.0s
CFR Carcaliu 80.03 317 ⇓ *iP* **P** **19 36 23.8 +0.7**
KIS Kishinev 80.06 319 *eP* **P** **19 36 23.0 -0.3**
KIS *eS* **S** **19 46 21.0 -5.5**
KIS LRM MLR 20 21 20.0
comp=Z,800nm,18.0s
KIS Kishinev 80.06 319 *eP* **P** **19 36 23.0 -0.3**
KIS *eS* **S** **19 46 21.0 -5.5**
KIS *e* 19 46 42.0
KIS MLR MLR
comp=Z,700nm,17.0s
KIS MLR MLR
comp=Z,800nm,18.0s
IDI Anoyia 80.20 307 P **P** **19 36 25.4 +1.0**
comp=Z,8.6nm,0.8s,baz=74,slow=7.7,SNR=8.4
IDI Anoyia 80.20 307 ⇓ *iP* **P** **19 36 25.7 +1.3**
IDI Anoyia 80.20 307 *eP* **P** **19 36 24.9 +0.5**
comp=Z,17nm,1.0s
SORM Soroca 80.68 320⇑ *iP* **P** **19 36 27.0 +0.5**
VNDA Vanda 80.69 169 P **P** **19 36 28.1 +2.0**
comp=Z,2.5nm,1.0s,baz=282,slow=5.1,SNR=6.7
VNDA Vanda 80.69 169 *eP* **P** **19 36 29.1 +3.0**
AKASG Malin Array Be 80.85 322 P **P** **19 36 27.1 -0.3**
comp=Z,3.4nm,0.7s,baz=84,slow=5.2,SNR=18
AKBB Malin Array Si 80.85 322 *eP* **P** **19 36 27.2 -0.3**
AKBB Malin Array Si 80.85 322 *eP* **P** **19 36 27.2 -0.3**
KIEV Kiev 80.86 322 *eP* **P** **19 36 26.8 -0.7**
KIEV Kiev 80.86 322 *eP* **P** **19 36 26.8 -0.7**
AK11 Malin Array Si 80.88 322 *eP* **P** **19 36 26.5 -1.1**
VRI Vrincioaia 81.17 317 ⇓ *iP* **P** **19 36 30.8 +1.5**
PLOR Plostina 81.21 317 ⇓ *iP* **P** **19 36 31.7 +2.1**
TESR Tescani 81.38 318⇑ *iP* **P** **19 36 31.0 +0.6**
TMCR Tamitsa 81.40 337 *eP* **P** **19 36 30.9 +0.9**
TMCR pmax pmax
comp=Z,48nm,0.9s
MLR Muntele Rosu 81.61 317 P **P** **19 36 33.2 +1.4**
comp=Z,3.0nm,1.0s,baz=180,slow=7.1,SNR=16
MLR Muntele Rosu 81.61 317⇑ *iP* **P** **19 36 32.7 +0.9**
MLR Muntele Rosu 81.61 317 *eP* **P** **19 36 32.3 +0.6**
SBA Scott Base 81.79 169 *eP* **P** **19 36 34.0 +2.1**
SBA Scott Base 81.79 169 *eP* **P** **19 36 34.0 +2.1**

PRAR RASCA 81.86 319 ⇓ *iP* **P** **19 36 34.4 +1.5**
ARR Arges 82.48 316⇑ *iP* **P** **19 36 37.5 +1.2**
BURAR Bucovina Array 82.59 319 ⇓ *iP* **P** **19 36 38.7 +1.9**
BUR04 Bucovina Ar. S 82.59 319 *eP* **P** **19 36 37.3 +0.5**
BUR08 Bucovina Ar. S 82.61 319 *eP* **P** **19 36 37.5 +0.6**
ITM Ithomi 82.90 308 *eP* **P** **19 36 38.9 +0.4**
VTS Vitosha 82.91 313⇑ *iP* **P** **19 36 40.1 +1.4**
VTS Vitosha 82.91 313 *eP* **P** **19 36 38.5 -0.2**
VTS Vitosha 82.91 313 *eP* **P** **19 36 38.5 -0.2**
NACGM Naroch 83.45 326 *eP* **P** **19 36 41.0 +0.1**
NACGM *eS* **S** **19 47 03.0 +1.8**
NACGM *eLQ* LQ 20 10 36.0
NACGM *eLR* LR 20 15 05.0
CJR Cluj-Napoca 83.47 318 ⇓ *iP* **P** **19 36 43.1 +1.7**
IDID Didziasalis 83.58 326 *eP* **P** **19 36 42.4 +0.8**
IDID IAmb IAmb 19 36 44.3
comp=Z,11nm,0.9s
LVV L'vov 83.85 321 *eP* **P** **19 36 44.0 +0.8**
LVV *eS* **S** **19 47 05.0 -0.5**
LVV MLR MLR
comp=Z,200nm,18.0s
IIGN Ignalina 83.88 326 *eP* **P** **19 36 43.9 +0.8**
IIGN IAmb IAmb 19 36 45.8
comp=Z,12nm,0.7s
HERR Herculane 83.92 316⇑ *iP* **P** **19 36 43.7 +0.1**
LVZ Lovozero 84.25 340 PFAKE 19 37 00.0 +15
LVZ LR LR
comp=Z,2μm,21.0s
BILL Bilibino 84.35 20 *c iP* **P** **19 36 44.9 -0.4**
BILL *i* 19 36 49.0
BILL *i* 19 39 56.0
BILL *i* S **S** **19 47 15.7 +5.9**
BILL pmax pmax
comp=Z,6.0nm,1.0s
BILL pmax pmax
comp=Z,3μm,16.0s
VSU Vasula 84.43 330 ⇓ *eP* **P** **19 36 44.4 -1.5**
VSU pmax pmax
comp=Z,151nm,2.5s
APA Apatity 84.56 339⇑ *iP* **P** **19 36 43.2 -3.1**
APA pmax pmax
comp=Z,10.0nm,1.1s
APA MLR MLR
comp=Z,2μm,17.0s
BZS Buzias 84.61 316 ⇓ *iP* **P** **19 36 48.1 +1.0**
KWP Kalwaria Pacla 84.65 320 *eP* **P** **19 36 47.5 +0.2**
KWP Kalwaria Pacla 84.65 320 *eP* **P** **19 36 47.5 +0.2**
SIRR Siria 84.70 317⇑ *iP* **P** **19 36 48.7 +1.1**
UZH Uzhgorod 84.72 319 *eP* **P** **19 36 46.5 -1.1**
UZH *e* 19 36 51.9
UZH *i* 19 36 57.7
UZH *i* S **S** **19 47 08.7 -5.5**
UZH *eP* **PnS** **19 48 06.9 -3.3**
UZH MLR MLR
comp=N,1μm,22.0s
UZH MLR MLR
comp=E,1μm,22.0s
UZH MLR MLR
comp=Z,400nm,22.0s
TIR Tirane 85.15 312 PFAKE 19 37 00.0 +10
TIR LR LR
comp=Z,779nm,21.0s
SUW Suwalki 85.28 325 *eP* **P** **19 36 50.7 +0.5**
SUW Suwalki 85.28 325 *eP* **P** **19 36 49.6 -0.6**
SUW Suwalki 85.28 325 *eP* **P** **19 36 49.6 -0.6**
CRVS Cervenica-Dubn 85.31 319 *eP* **P** **19 36 52.7 +2.1**
CRVS Cervenica-Dubn 85.31 319 *eP* **P** **19 36 52.7 +2.1**
DIVS Divibare 85.49 315 *eP* **P** **19 36 52.1 +0.5**
STHS Stebnicka Huta 85.55 320 *eP* **P** **19 36 53.9 +2.1**
STHS Stebnicka Huta 85.55 320 *eP* **P** **19 36 53.9 +2.1**
FIA0 FINESS Array S 85.56 332 *eP* **P** **19 36 52.1 +0.7**
FIA0 FINESS Array S 85.56 332 *eP* **P** **19 36 52.2 +0.7**
FIA1 FINESS Array S 85.56 332 *eP* **P** **19 36 51.6 +0.1**
FINES FINESS Array B 85.56 332 P **P** **19 36 52.1 +0.7**
comp=Z,4.9nm,0.5s,baz=113,slow=5.1,SNR=49
TTG Podgorica 85.77 313 *eP* **P** **19 36 53.0 0.0**
TTG Podgorica 85.77 313 *eP* **P** **19 36 53.0 0.0**
KECS Kecovo 85.87 319 *eP* **P** **19 36 54.6 +1.2**
KECS Kecovo 85.87 319 *eP* **P** **19 36 54.6 +1.2**
NIE Niedzica 86.15 320 *eP* **P** **19 36 56.4 +1.6**
NIE Niedzica 86.15 320 *eP* **P** **19 36 56.4 +1.6**
PSZ Piszkesteto 86.17 318⇑ *iP* **P** **19 36 56.6 +1.6**
PSZ Piszkesteto 86.17 318 *eP* **P** **19 36 55.9 +0.9**
comp=Z,10nm,1.0s
PSZ LR LR
comp=Z,572nm,21.0s
PSZ Piszkesteto 86.17 318 *eP* **P** **19 36 55.9 +0.9**
PSZ pmax pmax
comp=Z,10.0nm,1.0s
PSZ MLR MLR
comp=Z,572nm,21.0s
QSPA South Pole Qui 86.54 180 P **P** **19 36 57.0 +0.6**
comp=Z,1.4nm,0.5s,baz=280,slow=6.1,SNR=5.9
OJC Ojcow 86.61 321 *eP* P 19 37 09.7 +13
OJC Ojcow 86.61 321 *eP* P 19 37 09.6 +13
VYHS Vyhne 86.96 319 *eP* **P** **19 37 00.6 +1.9**
VYHS Vyhne 86.96 319 *eP* **P** **19 37 00.6 +1.9**
TIP Timpagrande 87.22 309 PFAKE 19 37 10.0 +10
TIP LR LR
comp=Z,545nm,20.0s
BLY Banja Luka 87.57 315 *eP* **P** **19 37 02.0 +0.2**
OKC Ostrava-Krasne 87.60 320 *eP* **P** **19 37 03.1 +1.3**
OKC *eS* **S** **19 47 40.8 -1.5**
OKC AMS AMS 20 27 30.0
comp=Z,500nm,15.6s
OKC Ostrava-Krasne 87.60 320 *eP* **P** **19 37 03.1 +1.3**
OKC *e* 19 47 40.8
OKC MLR MLR
comp=Z,500nm,15.6s
CEL Celeste 87.79 308 PFAKE 19 37 10.0 +7.0
CEL LR LR
comp=Z,381nm,21.0s
ARA0 ARCESS Array S 87.94 340 *eP* **P** **19 37 03.7 +0.7**
ARCES ARCESS Array B 87.94 340 P **P** **19 37 03.7 +0.7**
comp=Z,11nm,0.8s,baz=91,slow=6.3,SNR=21
MODS Modra-Piesok 87.97 319 *eP* **P** **19 37 04.7 +1.1**
MODS Modra-Piesok 87.97 319 *eP* **P** **19 37 04.7 +1.1**
MORC Moravsky Berou 87.98 320 ⇓ *iP* **P** **19 37 04.4 +0.7**
MORC Moravsky Berou 87.98 320 *eP* **P** **19 37 03.2 -0.5**
comp=Z,24nm,1.0s
MORC Moravsky Berou 87.98 320 *eP* **P** **19 37 03.2 -0.5**
MORC pmax pmax
comp=Z,24nm,1.0s
CUC Castrocucco 88.03 310 PFAKE 19 37 20.0 +16
CUC LR LR
comp=Z,530nm,20.0s
WDD Wied Dalam 88.64 306 PFAKE 19 37 20.0 +13
WDD LR LR
comp=Z,635nm,21.0s
DPC Dobruska-Polom 88.83 320 *eP* **P** **19 37 09.2 +1.5**
DPC *ex* x 19 37 16.7
DPC *eS* **S** **19 47 55.7 +1.6**
DPC AMS AMS 20 24 40.0
comp=Z,800nm,16.5s
DPC Dobruska-Polom 88.83 320 *eP* **P** **19 37 09.2 +1.5**
DPC *e* 19 37 16.7
DPC *e* 19 47 55.7
DPC MLR MLR
comp=Z,800nm,16.5s
CONA Conrad Observa 88.86 318 P **P** **19 37 08.1 +0.2**
comp=Z,5.4nm,1.1s
KSP Ksiaz 88.91 321 *eP* **P** **19 37 10.6 +2.6**
KSP Ksiaz 88.91 321 *eP* **P** **19 37 10.6 +2.6**
ARSA Arzberg 89.01 317 *ePcP* **P** **19 37 10.3 +1.7**
comp=Z,11nm,1.2s
BOJS Bojanci 89.02 316 *eP* **P** **19 37 10.5 +1.9**
UPC Upice 89.05 321 *eS* **S** **19 47 57.2 +1.1**
UPC AMS AMS 20 24 50.0
comp=Z,900nm,18.9s
PERS Pernice 89.23 317 *eP* **P** **19 37 11.1 +1.5**
TREC Trest 89.25 319 AMS AMS 20 23 40.0
comp=Z,500nm,19.0s
SOKA Soboth 89.29 317 PcP **PcP** **19 37 11.6 +0.2**
comp=Z,11nm,1.0s
VISS Visnje 89.34 316 *eP* **P** **19 37 11.4 +1.3**
OBKA Obir 89.60 316 PcP **PcP** **19 37 12.6 -0.2**
comp=Z,8.4nm,1.2s
GOPC GO Pecny, Ondr 89.77 320 *eS* **S** **19 48 00.6 -2.2**
GOPC AMS AMS 20 25 10.0
comp=Z,800nm,19.4s
CLTB Caltabellotta 89.83 307 PFAKE 19 37 20.0 +7.3
CLTB LR LR
comp=Z,233nm,19.0s

MOA Molln 89.92 318 PcP **PcP** **19 37 13.9 -0.2**
comp=Z,5.6nm,1.3s
PRU Pruhonice 89.93 320 *eP* **P** **19 37 14.3 +1.5**
PRU *eS* **S** **19 48 02.9 -1.4**
PRU AMS AMS 20 25 20.0
comp=Z,800nm,17.0s
PRU Pruhonice 89.93 320 *eP* **P** **19 37 14.3 +1.5**
PRU *e* 19 48 02.9
PRU MLR MLR
comp=Z,800nm,17.0s
PVCC Panska Ves 89.97 320 *eP* **P** **19 37 14.4 +1.5**
PVCC AMS AMS 20 28 10.0
comp=Z,700nm,15.9s
PVCC Panska Ves 89.97 320 *eP* **P** **19 37 14.4 +1.5**
PVCC MLR MLR
comp=Z,700nm,15.9s
AQU L'Aquila 90.06 312 *eP* **P** **19 37 10.9 -2.8**
AQU LR LR
comp=Z,475nm,20.0s
AQU L'Aquila 90.06 312 *eP* **P** **19 37 10.9 -2.8**
AQU MLR MLR
comp=Z,475nm,20.0s
MYKA Terra Mystica 90.24 317 *ePcP* **P** **19 37 16.4 +2.0**
comp=Z,13nm,1.1s
GEA0 GERESS Array S 90.38 319 *eP* **P** **19 37 14.7 -0.3**
GEC2 GERESS Array S 90.38 319 *eP* **P** **19 37 15.3 +0.2**
GEC2 GERESS Array S 90.38 319 *eP* **P** **19 37 15.3 +0.2**
GERES GERESS Array B 90.38 319 P **P** **19 37 16.1 +1.1**
comp=Z,2.0nm,0.7s,baz=96,slow=5.4,SNR=17
GERES LR LR 20 23 28.5
comp=Z,423nm,19.2s,baz=86,slow=39
BRG Berggiesshubel 90.39 321 *eP* **P** **19 37 16.3 +1.4**
comp=Z,7.7nm,1.2s
BRG Berggiesshubel 90.39 321 S **S** **19 48 08.0 -0.5**
comp=N,538nm,18.9s
comp=E,679nm,20.2s
comp=Z,790nm,16.3s
BRG Berggiesshubel 90.39 321 *eP* **P** **19 37 16.3 +1.4**
BRG S **S** **19 48 08.0 -0.5**
BRG pmax pmax
comp=Z,8.0nm,1.2s
BRG MLR MLR
comp=N,538nm,18.9s
BRG MLR MLR
comp=E,679nm,20.2s
BRG MLR MLR
comp=Z,790nm,16.3s
KBA Koelnbreinsper 90.48 317 PcP **PcP** **19 37 17.4 +0.7**
comp=Z,7.6nm,1.4s
KHC Kasperske Hory 90.48 319 *eP* **P** **19 37 17.2 +1.8**
KHC *eS* **S** **19 48 07.2 -2.3**
KHC AMS AMS 20 27 50.0
comp=Z,700nm,18.8s
KHC Kasperske Hory 90.48 319 *eP* **P** **19 37 14.8 -0.6**
KHC Kasperske Hory 90.48 319 *eP* **P** **19 37 14.8 -0.6**
SNAA Sanae 90.91 198 P **P** **19 37 20.7 +3.7**
comp=Z,3.0nm,1.1s,baz=135,slow=7.1,SNR=4.9
SNAA LR LR 20 11 02.5
comp=Z,878nm,22.0s,baz=108,slow=31
SNAA Sanae 90.91 198 *eP* **P** **19 37 18.4 +1.4**
SNAA Sanae 90.91 198 *eP* **P** **19 37 18.4 +1.4**
CLL Collm 91.02 321 *i P* **P** **19 37 19.4 +1.6**
comp=Z,15nm,1.5s
CLL *e*PIp 19 37 24.0
comp=Z,100nm,18.4s
CLL *e*(PP) 19 41 06.0
CLL *eS* **S** **19 48 12.0 -2.2**
comp=N,600nm,21.5s
CLL *e*SSSS 20 01 08.0
CLL L L 20 25 00.0
comp=Z,600nm,21.6s
CLL Collm 91.02 321 *i* P **P** **19 37 19.4 +1.6**
CLL *eS* **S** **19 48 12.0 -2.2**
CLL pmax pmax
comp=Z,15nm,1.5s
CLL MLR MLR
comp=Z,600nm,21.6s
ABTA Abfaltersbach 91.02 317 *ePcP* **PcP** **19 37 19.5 +0.4**
comp=Z,6.3nm,1.5s
HFS Hagfors 91.30 330 P **P** **19 37 19.7 +0.8**
comp=Z,6.8nm,0.9s,baz=160,slow=4.6,SNR=6.6
WTTA Wattenberg 91.65 317 *ePcP* **PcP** **19 37 22.4 +0.5**
comp=Z,4.0nm,0.8s
WATA Walderalm 91.70 317 *ePcP* **PcP** **19 37 22.3 +0.1**
comp=Z,2.5nm,0.5s
MOTA Moosalm 92.02 317 *ePcP* **P** **19 37 22.8 +0.1**
comp=Z,5.8nm,0.9s
SPA0 Spitsbergen Ar 92.11 348 *eP* **P** **19 37 22.5 +0.2**
SPITS Spitsbergen Ar 92.11 348 P **P** **19 37 22.5 +0.2**
comp=Z,13nm,0.8s,baz=126,slow=7.3,SNR=16
GAMB Gambell 92.12 26 *eP* **P** **19 37 22.8 +0.3**
RETA Reutte 92.26 317 *ePcP* **PcP** **19 37 25.3 +0.8**
comp=Z,5.2nm,0.8s
FETA Feichten 92.26 317 *ePcP* **PcP** **19 37 24.8 +0.1**
comp=Z,6.1nm,1.2s
VLC Villacollemand 92.37 314 PFAKE 19 37 40.0 +16
VLC LR LR
comp=Z,571nm,21.0s
NB2 NORSAR Subarra 92.58 331 PKP **P** **19 37 26.4 +1.5**
comp=Z,6.9nm,1.4s,baz=17,slow=2.6
NB200 NORSAR Array S 92.58 331 *eP* **P** **19 37 24.6 -0.2**
NOA NORSAR Array B 92.58 331 P **P** **19 37 24.6 -0.2**
comp=Z,2.4nm,0.9s,baz=95,slow=4.6,SNR=5.2
KEST Kesra 92.84 305 P **P** **19 37 28.6 +1.9**
comp=Z,4.0nm,0.9s,baz=272,slow=8.8,SNR=4.6
KEST Kesra 92.84 305 *eP* **P** **19 37 26.8 +0.1**
DAVA Damuels 92.85 317 *ePcP* **PcP** **19 37 28.3 +1.1**
comp=Z,8.9nm,1.0s
VSL Villasalto 92.95 309 PFAKE 19 37 40.0 +13
VSL LR LR
comp=Z,273nm,19.0s
TUE Stuetta 93.19 316 PFAKE 19 37 40.0 +12
TUE LR LR
comp=Z,586nm,21.0s
BFO Black Forest 93.92 318 PFAKE 19 37 40.0 +8.7
BFO LR LR
comp=Z,395nm,19.0s
ECH Echery 94.70 318 PFAKE 19 37 50.0 +15
ECH LR LR
comp=Z,449nm,20.0s
BNI Bardonecchia 95.04 315 PFAKE 19 37 50.0 +13
BNI LR LR
comp=Z,802nm,21.0s
WLF Walferdange 95.35 319 PFAKE 19 37 50.0 +12
WLF LR LR
comp=Z,900nm,20.0s
TAM Tamanrasset 95.81 292 PFAKE 19 37 50.0 +9.3
TAM LR LR
comp=Z,758nm,19.0s
SSB Saint Sauveur 96.55 315 PFAKE 19 37 50.0 +6.6
SSB LR LR
comp=Z,385nm,21.0s
IM3 Indian Mountai 99.55 24 *eP* **Pdif** **19 37 55.2 -1.2**
TOLK Toolik Lake Re 100.40 20 P **Pdif** **19 38 01.4 +1.2**
baz=288
ESK Eskdalemuir 100.54 326 PFAKE 19 38 10.0 +9.0
ESK LR LR
comp=Z,726nm,19.0s
KDAK Kodiak Island 101.93 32 PFAKE 19 38 20.0 +13
KDAK LR LR
comp=Z,546nm,21.0s
ILAR Eielson Array 102.64 24 P **Pdif** **19 38 10.2 +0.1**
comp=Z,0.2nm,0.9s,baz=281,slow=5.4,SNR=2.9
ILAR PP **PP** **19 42 23.3 -0.1**
comp=Z,0.8nm,0.7s,baz=288,slow=7.6,SNR=4.7
ILAR PKKPbc **PKKPbc** **19 54 12.7 +0.4**
comp=Z,0.2nm,0.4s,baz=112,slow=2.2,SNR=5.3
ILAR PKKP **PKKPdf** **19 54 19.1 -0.5**
comp=Z,0.4nm,0.8s,baz=124,slow=1.7,SNR=4.7
SHEL Horse Pasture 104.52 253 PFAKE 19 38 30.0 +10
SHEL LR LR
comp=Z,847nm,21.0s
EGAK Eagle 104.92 23 PFAKE 19 38 30.0 +10
EGAK LR LR
comp=Z,880nm,20.0s
MTE Manteigas 105.86 311 PFAKE 19 42 50.0
MTE LR LR
comp=Z,533nm,20.0s
PPT2 Papeete2 107.95 110 *e*LR LR 20 14 08.2
comp=Z,1μm,24.2s
WRAK Wrangell Islan 112.66 29 PFAKE 19 43 00.0
WRAK LR LR
comp=Z,972nm,21.0s
ASCN Ascension 113.95 260 PFAKE 19 43 10.0
ASCN LR LR
comp=Z,911nm,19.0s

YKA Yellowknife Ar 115.61 17 PKP **PKPdf 19 42 55.3 -0.1**
comp=Z,0.8nm,0.9s,baz=318,slow=2.0,SNR=8.8
YKA PP **PP 19 43 56.3 -1.0**
comp=Z,2.3nm,1.2s,baz=323,slow=6.6,SNR=6.1
RKT Rikitea 119.93 119 eLR LR 20 19 55.9
comp=Z,1µm,26.8s
EDM Edmonton 123.13 24 ePKPdf **PKPdf 19 43 08.8 -1.4**
EDM Edmonton 123.13 24 ePKIKP **PKPdf 19 43 08.8 -1.4**
FCC Fort Churchill 123.67 9 ePKPdf **PKPdf 19 43 10.5 -0.4**
FCC Fort Churchill 123.67 9 ePKIKP **PKPdf 19 43 10.5 -0.4**
SACV Santiago Islan 123.70 286 PFAKE 19 43 20.0 +7.7
SACV LR LR
comp=Z,366nm,19.0s
I03D Drain, OR 124.33 37 P **PKPdf 19 43 14.0 +1.3**
baz=303
HAWA Hanford 124.94 33 PFAKE 19 43 30.0 +16
HAWA LR LR
comp=Z,786nm,21.0s
NEW Newport 124.97 30 PFAKE 19 43 30.0 +16
NEW LR LR
comp=Z,835nm,20.0s
HUMO Hull Mountain 125.17 38 ePKPdf **PKPdf 19 43 15.1 +0.7**
J04D Umpqua Nationa 125.33 37 P **PKPdf 19 43 15.9 +1.0**
baz=304
PINE Pine Mountain 125.71 36 ePKPdf **PKPdf 19 43 16.7 +1.0**
FFC Flin Flon 125.72 16 PFAKE 19 43 30.0 +15
FFC LR LR
comp=Z,1µm,19.0s
YBH Yreka Blue Hor 125.79 39 PKP **PKPdf 19 43 17.5 +1.8**
comp=Z,0.9nm,0.5s,baz=258,slow=9.3,SNR=3.1
M04C Macdoel 126.31 39 P **PKPdf 19 43 17.9 +1.1**
baz=304
K05A Summer Lake 126.36 37 ePKPdf **PKPdf 19 43 17.9 +1.0**
F10A Beach Ranch, E 126.44 32 ePKPdf **PKPdf 19 43 16.9 0.0**
BMO Blue Mountains 127.12 33 PFAKE 19 43 30.0 +12
BMO LR LR
comp=Z,587nm,20.0s
MOD Modoc Plateau 127.19 38 ePKPdf **PKPdf 19 43 19.3 +0.8**
J08A Circle Bar Ran 127.41 35 ePKPdf **PKPdf 19 43 18.7 -0.1**
MSO Missoula 127.53 29 P **PKPdf 19 43 19.4 +0.5**
baz=315
MSO Missoula 127.53 29 ePKPdf **PKPdf 19 43 18.3 -0.6**
SCHQ Schefferville 127.72 351 PKP **PKPdf 19 43 20.2 +1.3**
comp=Z,3.3nm,0.5s,baz=36,slow=19,SNR=4.3
SCHQ Schefferville 127.72 351 ePKPdf **PKPdf 19 43 19.1 +0.2**
WVOR Wild Horse Val 127.88 36 PFAKE 19 43 30.0 +10
WVOR LR LR
comp=Z,707nm,21.0s
AFDM Forest Hills D 128.41 41 ePKPdf **PKPdf 19 43 22.1 +1.4**
BOZ Bozeman (W) 129.53 29 P **PKPdf 19 43 23.4 +0.6**
baz=317
BOZ Bozeman (W) 129.53 29 PFAKE 19 43 30.0 +7.2
BOZ LR LR
comp=Z,420nm,20.0s
HLID Hailey 129.54 33 PFAKE 19 43 30.0 +7.0
HLID LR LR
comp=Z,658nm,20.0s
DGMT Dagmar 130.42 21 PFAKE 19 43 40.0 +16
DGMT LR LR
comp=Z,764nm,19.0s
NV01 Mina Array Sit 130.44 40 ePKPdf **PKPdf 19 43 25.8 +0.9**
NVAR Mina Array Bea 130.44 40 PKP **PKPdf 19 43 26.6 +1.7**
comp=Z,1.0nm,0.5s,baz=316,slow=2.4,SNR=7.3
NV11 Mina Array Sit 130.53 40 ePKPdf **PKPdf 19 43 22.3 -2.7**
LKWY Lake 130.88 29 PFAKE 19 43 40.0 +14
LKWY LR LR
comp=Z,586nm,20.0s
ELK Elko 130.92 36 PKP **PKPdf 19 43 28.9 +3.2**
comp=Z,1.4nm,0.5s,baz=312,slow=2.2,SNR=6.2
ELK Elko 130.92 36 PKIKP **PKPdf 19 43 29.0 +3.2**
ELK pmax pmax
comp=Z,1.0nm,0.5s
RLMT Red Lodge 131.00 28 PFAKE 19 43 40.0 +14
RLMT LR LR
comp=Z,980nm,19.0s
LAO LASA Array 131.10 24 PFAKE 19 43 40.0 +14
LAO LR LR
comp=Z,1µm,20.0s
ULM Lac du Bonnet 131.36 14 PKP **PKPdf 19 43 26.4 +0.4**
comp=Z,4.3nm,0.7s,baz=352,slow=2.7,SNR=6.9
ULM Lac du Bonnet 131.36 14 ePKPdf **PKPdf 19 43 25.1 -0.9**
ULM Lac du Bonnet 131.36 14 ePKIKP **PKPdf 19 43 25.1 -0.9**
R11A Troy Canyon, C 132.21 39 P **PKPdf 19 43 29.1 +0.9**
baz=308
R11A Troy Canyon, C 132.21 39 ePKPdf **PKPdf 19 43 28.1 0.0**
MPMC Manual Prospec 132.31 42 P **PKPdf 19 43 30.8 +2.3**
baz=304
LRMC Laurel Mtn Rad 132.50 43 P **PKPdf 19 43 30.1 +1.4**
baz=304
PDAR Pinedale Array 132.62 30 PKP **PKPdf 19 43 29.6 +0.7**
comp=Z,0.6nm,0.5s,baz=105,slow=2.8,SNR=7.0
DUG Dugway, Tooele 132.68 35 P **PKPdf 19 43 31.1 +2.1**
baz=312
DUG Dugway, Tooele 132.68 35 PFAKE 19 43 40.0 +11
DUG LR LR
comp=Z,678nm,19.0s
AGMN Agassiz Nation 133.17 15 PFAKE 19 43 40.0 +11
AGMN LR LR
comp=Z,860nm,20.0s
RSSD Black Hills 134.09 25 ePKPdf **PKPdf 19 43 30.6 -1.0**
RSSD Black Hills 134.09 25 ePKIKP **PKPdf 19 43 30.6 -1.0**
PFO Pinyon Flats O 134.37 44 PFAKE 19 43 40.0 +7.7
PFO LR LR
comp=Z,551nm,21.0s
EYMN Ely 134.48 11 P **PKPdf 19 43 33.3 +1.3**
baz=343
EYMN Ely 134.48 11 PFAKE 19 43 40.0 +8.1
EYMN LR LR
comp=Z,1µm,20.0s
C40A Isle Royale Na 134.93 9 P **PKPdf 19 43 33.0 +0.3**
baz=346
F36A Milaca 136.02 14 P **PKPdf 19 43 35.6 +0.7**
baz=340
E39A Mellen 136.17 11 P **PKPdf 19 43 35.6 +0.5**
baz=344
E40A Wakefield 136.23 10 P **PKPdf 19 43 35.8 +0.5**
baz=345
F39A Loretta 136.54 11 P **PKPdf 19 43 35.4 -0.5**
baz=344
WUAZ Wupatki 136.61 39 PFAKE 19 43 50.0 +14
WUAZ LR LR
comp=Z,516nm,20.0s
COWI Conover 136.69 10 PFAKE 19 43 50.0 +14
COWI LR LR
comp=Z,1µm,20.0s
F40A Park Falls 136.69 11 P **PKPdf 19 43 36.5 +0.4**
baz=345
ISCO Idaho Springs 136.80 30 PFAKE 19 43 50.0 +13
ISCO LR LR
comp=Z,834nm,21.0s
F41A Three Lakes 137.05 10 P **PKPdf 19 43 38.8 +2.0**
baz=346
G39A Holcombe 137.09 12 P **PKPdf 19 43 38.5 +1.7**
baz=343
ECSD EROS Data Cent 137.13 18 PFAKE 19 43 50.0 +13
ECSD LR LR
comp=Z,1µm,20.0s
MVCO Mesa Verde 137.18 35 PFAKE 19 43 50.0 +12
MVCO LR LR
comp=Z,572nm,20.0s
PKME Peaks-Kenny Pk 137.36 349 PFAKE 19 43 50.0 +13
PKME LR LR
comp=Z,855nm,19.0s
OGNE Ogallala 137.54 25 PFAKE 19 43 50.0 +12
OGNE LR LR
comp=Z,860nm,19.0s
F45A CMU Biological 137.60 6 P **PKPdf 19 43 39.2 +1.5**
baz=351
G42A Mountain 137.64 9 P **PKPdf 19 43 38.3 +0.4**
baz=347
S22A 4UR Ranch, Cre 137.72 33 ePKPpre PKPpre 19 43 29.7
W18A Petrified Fore 137.88 38 P **PKPdf 19 43 40.2 +1.3**
baz=312
I38A Scanlan Farm, 138.02 14 P **PKPdf 19 43 41.0 +2.4**
baz=341
SDCO Great Sand Dun 138.42 31 P **PKPdf 19 43 39.2 -0.7**
baz=319
SDCO Great Sand Dun 138.42 31 PFAKE 19 43 50.0 +10
SDCO LR LR
comp=Z,838nm,21.0s
GLMI Grayling 138.54 5 PFAKE 19 43 50.0 +10
GLMI LR LR
comp=Z,1µm,21.0s
SPB Sao Paulo 138.72 228 PFAKE 19 43 50.0 +10
SPB LR LR
comp=Z,948nm,19.0s

LONY Lake Ozonia 138.74 355 PFAKE 19 43 50.0 +10
LONY LR LR
comp=Z,1µm,22.0s
JFWS Jewell Farm 139.56 12 PFAKE 19 43 50.0 +8.5
JFWS LR LR
comp=Z,784nm,20.0s
SCIA State Center 139.79 16 PFAKE 19 43 50.0 +8.1
SCIA LR LR
comp=Z,817nm,19.0s
ANMO Albuquerque 139.95 35 ePKPpre PKPpre 19 43 36.2
ANMO Albuquerque 139.95 35 ePKHKP PKPpre 19 43 36.2
CBKS Cedar Bluff 140.29 25 PFAKE 19 43 50.0 +7.0
CBKS LR LR
comp=Z,1µm,21.0s
AAM Ann Arbor 141.13 5 PFAKE 19 44 00.0 +16
AAM LR LR
comp=Z,1µm,19.0s
KSU1 Kansas State U 141.27 21 PFAKE 19 44 00.0 +15
KSU1 LR LR
comp=Z,1µm,20.0s
HDIL Hopedale 142.02 12 PFAKE 19 44 00.0 +14
HDIL LR LR
comp=Z,971nm,19.0s
MNTX Cornudas Mount 142.87 38 P **PKPdf 19 43 46.4 -1.4**
baz=314
MNTX Cornudas Mount 142.87 38 ePKPdf **PKPdf 19 43 45.4 -2.4**
MNTX LR LR
comp=Z,804nm,20.0s
Q41A Truxton 143.09 15 P **PKPdf 19 43 47.8 -0.1**
baz=340
R39A Chumpy, Stover 143.17 18 P PKPab 19 43 44.0 +0.4
baz=337
ACSO Alum Creek Sta 143.24 4 P PKPab 19 43 43.8 0.0
baz=354
ACSO Alum Creek Sta 143.24 4 PFAKE 19 44 00.0 +12
ACSO LR LR
comp=Z,1µm,20.0s
P45A Graceland, Par 143.31 11 P PKPbc 19 43 45.8 +0.5
baz=346
O56A Blue Knob Stat 143.32 359 P PKPbc 19 43 45.4 0.0
baz=17
CPUP Villa Florida 143.40 215 PKP PKPbc 19 43 47.3 +1.4
comp=Z,2.8nm,0.7s,baz=153,slow=4.9,SNR=8.7
CPUP Villa Florida 143.40 215 ePKPdf **PKPdf 19 43 47.6 -1.2**
R40A Maddies Statio 143.42 17 P PKPbc 19 43 45.6 0.0
baz=338
S39A Bolivar 143.66 19 P PKPab 19 43 45.7 +0.1
baz=336
R41A Rosebud 143.66 16 P PKPbc 19 43 46.1 -0.2
baz=340
R42A Luebbering 143.84 15 P PKPbc 19 43 46.7 -0.2
baz=341
CCM Cathedral Cave 143.93 16 P PKPbc 19 43 46.9 -0.3
baz=340
MCWV Mont Chateau 143.94 0 P PKPbc 19 43 47.2 +0.1
baz=360
S40A Lebanon 144.00 18 P PKPab 19 43 46.8 0.0
baz=338
R43A Red Bud 144.06 14 P PKPbc 19 43 47.5 0.0
baz=342
WMOK Wichita Mounta 144.11 27 P PKPbc 19 43 47.8 -0.1
baz=326
WMOK Wichita Mounta 144.11 27 PFAKE 19 44 00.0 +10
WMOK LR LR
comp=Z,946nm,21.0s
Q47A Bedord North L 144.12 9 P PKPbc 19 43 47.7 0.0
baz=348
S41A Jillco Farms, 144.23 17 P PKPbc 19 43 48.1 0.0
baz=339
T39A Clever 144.25 19 P PKPbc 19 43 48.3 +0.1
baz=336
R44A Waltonville 144.28 13 P PKPbc 19 43 48.3 +0.1
baz=344
S42A Caledonia 144.32 15 P **PKPab 19 43 48.0 0.0**
baz=341
TUL1 Leonard 144.38 23 P PKPbc 19 43 48.8 +0.1
baz=332
TUL1 Leonard 144.38 23 ePKPdf **PKPab 19 43 47.6 -0.7**
T40A Mansfield 144.40 18 P **PKPab 19 43 48.5 +0.1**
baz=338
R45A Skylar, Fairfi 144.41 12 P PKPbc 19 43 48.7 +0.1
baz=345
R46A Gibon Southern 144.63 11 P PKPbc 19 43 49.4 +0.1
baz=346
R47A Wooly Knot Far 144.72 9 P **PKPab 19 43 49.5 0.0**
baz=348
R48A Northridge Ran 144.73 9 P PKPbc 19 43 49.9 +0.3
baz=349
T41A Mountain View 144.73 17 P **PKPab 19 43 49.5 -0.1**
baz=339
HHAR Hobbs 144.73 20 ePKPdf **PKPab 19 43 48.8 -0.9**
SIUC Southern Illin 144.76 13 ePKPdf **PKPab 19 43 49.1 -0.6**
S44A Carbondale 144.77 13 P PKPbc 19 43 49.9 +0.1
baz=343
U39A Green Forest 144.80 20 P **PKPab 19 43 49.7 -0.1**
baz=336
WCI Wyandotte Cave 144.83 9 P **PKPab 19 43 49.9 0.0**
baz=348
WCI Wyandotte Cave 144.83 9 ePKPdf **PKPab 19 43 49.5 -0.4**
WCI Wyandotte Cave 144.83 9 ePKIKP **PKPab 19 43 49.5 -0.4**
USIN University of 144.84 11 ePKPdf **PKPab 19 43 49.9 0.0**
T42A Van Buren 144.93 16 P **PKPab 19 43 50.3 0.0**
baz=340
S45A Carrier Mills 144.94 12 P PKPbc 19 43 50.3 0.0
baz=344
U40A Yellville 145.03 19 P **PKPab 19 43 50.6 -0.1**
baz=337
T43A Greenville 145.10 15 P **PKPbc 19 43 50.3 -0.6**
baz=341
S46A Don Dixon Farm 145.11 11 P **PKPbc 19 43 50.6 -0.3**
baz=346
V39A Pettigrew 145.23 20 P **PKPbc 19 43 50.8 -0.6**
baz=335
T44A Benton 145.27 14 P **PKPbc 19 43 51.5 0.0**
baz=342
CBN Corbin Frederi 145.33 357 P **PKPdf 19 43 52.1 +0.3**
baz=3.8
CBN Corbin Frederi 145.33 357 PFAKE 19 44 00.0 +8.2
CBN LR LR
comp=Z,1µm,21.0s
U41A Viola 145.33 18 P **PKPbc 19 43 51.5 -0.2**
baz=338
PBMO Poplar Bluff 145.35 15 ePKPbc **PKPbc 19 43 50.5 -1.2**
ABTX Abilene, Hawle 145.41 31 P **PKPab 19 43 52.3 +0.1**
baz=323
ABTX Abilene, Hawle 145.41 31 ePKPbc **PKPbc 19 43 50.7 -1.4**
S48A Wiedeman Farm, 145.43 9 P **PKPbc 19 43 51.5 -0.4**
baz=349
IP04 Greensprings 145.47 358 ePKPbc **PKPbc 19 43 51.6 -0.4**
CVRD Centerville Ro 145.49 358 ePKPbc **PKPbc 19 43 50.7 -1.4**
U42A Revenden 145.52 17 P **PKPdf 19 43 52.0 -0.3**
baz=339
SPRD Spring Road, M 145.53 358 ePKPdf **PKPbc 19 43 52.3 +0.1**
IP03 Louisa 145.54 358 ePKPdf **PKPdf 19 43 51.9 -0.3**
V40A Witts Springs 145.54 19 P **PKPdf 19 43 52.1 -0.2**
baz=336
T45A Paducah 145.55 13 P **PKPab 19 43 52.6 0.0**
baz=344
LTX Lajitas 145.57 39 ePKPdf **PKPab 19 43 53.9 +0.8**
LTX Lajitas 145.57 39 ePKIKP **PKPab 19 43 53.9 +0.8**
TX31 Lajitas Ar. Si 145.57 39 ePKPdf **PKPab 19 43 53.0 0.0**
TX31 ePKPdf **PKPbc 19 43 53.3 +0.5**
TXAR Lajitas Array 145.57 39 PKPbc **PKPab 19 43 53.9 +0.8**
comp=Z,23nm,0.5s,baz=244,slow=0.7,SNR=460
IP01 Cuckoo 145.60 358 ePKPdf **PKPbc 19 43 52.4 0.0**
IP06 Yanceyville 145.63 358 ePKPdf **PKPbc 19 43 52.5 0.0**
IP07 Quail 145.65 358 ePKPdf **PKPdf 19 43 52.5 +0.1**
T46A Princeton 145.69 12 P **PKPbc 19 43 52.8 0.0**
baz=345
IP05 Hopewell Churc 145.72 357 ePKPdf **PKPdf 19 43 52.6 +0.1**
U43A Rector 145.74 16 P **PKPab 19 43 53.5 +0.2**
baz=341
W39A Magazine 145.76 21 P **PKPab 19 43 53.4 0.0**
baz=334
V41A Mountainview 145.77 18 P **PKPdf 19 43 52.9 +0.2**
baz=337
HPIG 145.82 44 ePKPdf **PKPbc 19 43 53.9 +0.1**
T47A Sharon Grove 145.90 11 P **PKPbc 19 43 53.3 -0.1**
baz=347
T48A Bowling Green 145.91 10 P **PKPbc 19 43 53.6 +0.2**
baz=348
URVA University of 145.97 357 ePKPdf **PKPbc 19 43 53.7 +0.1**
V42A Cord 145.99 17 P **PKPbc 19 43 53.7 -0.1**
baz=339
W40A Ferguson Farm, 146.02 20 P **PKPbc 19 43 54.0 +0.1**
baz=336

W40A Ferguson Farm, 146.02 20 ePKPdf **PKPbc 19 43 53.8 0.0**
U44B Burton Farm, H 146.04 14 P **PKPab 19 43 54.5 +0.1**
baz=342
U45A Rockin P Farm, 146.17 13 P **PKPab 19 43 54.6 -0.3**
baz=344
X39A Fountain Ranch 146.26 22 P **PKPab 19 43 55.1 -0.2**
baz=333
U46A Springville 146.29 13 P **PKPab 19 43 55.5 +0.1**
baz=344
W41B Gary Mavity, V 146.31 19 P **PKPbc 19 43 54.9 +0.2**
baz=337
BLA Blacksburg 146.37 1 P **PKPab 19 43 55.5 -0.3**
baz=358
BLA Blacksburg 146.37 1 PFAKE 19 44 10.0 +14
BLA LR LR
comp=Z,956nm,20.0s
U47A Clarksville 146.39 11 P **PKPbc 19 43 55.1 +0.1**
baz=346
MIAR Mount Ida 146.42 21 P **PKPbc 19 43 55.5 +0.4**
baz=334
MIAR Mount Ida 146.42 21 ePKPdf **PKPbc 19 43 55.4 +0.4**
MIAR LR LR
comp=Z,1µm,19.0s
MIAR Mount Ida 146.42 21 ePKP2 **PKPbc 19 43 55.4 +0.3**
MIAR MLR MLR
comp=Z,1µm,19.0s
U48A Cassie Pea, Po 146.46 10 P **PKPbc 19 43 55.1 -0.1**
baz=347
WVT Waverly 146.58 12 P **PKPbc 19 43 55.7 +0.2**
baz=345
WVT Waverly 146.58 12 ePKPdf **PKPbc 19 43 55.3 -0.2**
WVT Waverly 146.58 12 ePKP2 **PKPbc 19 43 55.3 -0.2**
X40A Basin Creek Fa 146.74 20 P **PKPab 19 43 57.0 -0.2**
baz=336
V46A Holladay 146.84 13 P **PKPbc 19 43 56.2 -0.1**
baz=344
TZTN Tazewell 146.85 6 P **PKPbc 19 43 56.3 0.0**
baz=353
TZTN Tazewell 146.85 6 ePKPdf **PKPbc 19 43 55.6 -0.7**
V47A Nunnelly 146.94 12 P **PKPbc 19 43 56.7 +0.2**
baz=345
WHTX Lake Whitney, 147.00 29 P **PKPbc 19 43 57.2 +0.4**
baz=326
JCT Junction City 147.01 33 P **PKPbc 19 43 56.5 -0.5**
baz=321
JCT Junction City 147.01 33 ePKPdf **PKPbc 19 43 56.1 -0.9**
JCT LR LR
comp=Z,757nm,22.0s
JCT Junction City 147.01 33 ePKP2 **PKPbc 19 43 56.1 -0.9**
JCT MLR MLR
comp=Z,757nm,22.0s
Y40A Okolona 147.01 21 P **PKPbc 19 43 57.0 +0.2**
baz=334
V48A Smith Brothers 147.16 11 P **PKPbc 19 43 57.0 -0.2**
baz=347
W45A Hickory Valley 147.20 15 P **PKPbc 19 43 57.1 -0.2**
baz=342
WLAR White Oak Lake 147.36 21 ePKPdf **PKPdf 19 43 55.1 -0.3**
WLAR ePKPbc **PKPbc 19 43 58.6 +0.9**
Y41A Eaglette Beard 147.36 20 P **PKPbc 19 43 58.2 +0.5**
baz=336
W46A Michie 147.42 13 P **PKPbc 19 43 57.4 -0.5**
baz=344
W47A Westpoint 147.48 12 P **PKPbc 19 43 57.6 -0.4**
baz=345
NCAT North Carolina 147.51 0 ePKPbc **PKPbc 19 43 57.4 -0.7**
PLAL Pickwick Lake 147.63 13 ePKPbc **PKPbc 19 43 57.9 -0.6**
TKL Tuckaleechee C 147.70 6 PKPbc **PKPbc 19 43 58.3 -0.4**
comp=Z,15nm,0.7s,baz=87,slow=1.6,SNR=24
TKL Tuckaleechee C 147.70 6 ePKPbc **PKPbc 19 43 58.5 -0.2**
TKL Tuckaleechee C 147.70 6 ePKP2 **PKPbc 19 43 58.5 -0.2**
W48A Pulaski 147.72 11 P **PKPbc 19 43 58.1 -0.7**
baz=346
OXF Oxford 147.76 15 P **PKPbc 19 43 58.6 -0.2**
baz=342
OXF Oxford 147.76 15 ePKPbc **PKPbc 19 43 57.9 -0.9**
OXF Oxford 147.76 15 ePKP2 **PKPbc 19 43 57.9 -0.9**
Z41A Richland Creek 147.86 21 P **PKPbc 19 43 59.4 +0.3**
baz=335
Y43A Makayla and Ka 147.88 18 P **PKPbc 19 43 60.0 +0.8**
baz=338
435B Jarrell 147.93 30 P **PKPbc 19 43 59.7 +0.2**
baz=325
Y44A Strider, Charl 148.05 17 P **PKPbc 19 44 00.0 +0.4**
baz=340
X47A Russelville 148.13 13 P **PKPbc 19 43 59.2 -0.7**
baz=344
CNNC Cliffs of the 148.31 357 PFAKE 19 44 10.0 +6.7
CNNC LR LR
comp=Z,1µm,19.0s
X48A Hartselle 148.37 12 P **PKPbc 19 43 59.6 -0.8**
baz=346
KMSC Kings Mountain 148.41 3 P **PKPbc 19 44 00.6 0.0**
baz=357
KMSC Kings Mountain 148.41 3 ePKPbc **PKPbc 19 44 00.4 -0.2**
BG3 Lake Jocassee 148.44 5 ePKPbc **PKPbc 19 44 00.3 -0.4**
X49A Woodville 148.45 11 P **PKPbc 19 44 00.3 -0.4**
baz=347
NATX Nacogdoches 148.46 25 PFAKE 19 44 10.0 +6.0
NATX LR LR
comp=Z,1µm,21.0s
Y46A Houston 148.50 15 P **PKPbc 19 44 00.5 -0.3**
baz=342
Z44A Pea Ridge, Bel 148.63 18 P **PKPbc 19 44 01.8 +0.6**
baz=339
Y47A UCPARC, Winfie 148.72 13 P **PKPbc 19 44 01.2 -0.2**
baz=344
143A Socs Landing, 148.85 19 P **PKPbc 19 44 02.4 +0.6**
baz=337
Y48A Jasper 148.86 12 P **PKPbc 19 44 01.0 -0.8**
baz=345
Y49A Blount Mountai 149.07 11 P **PKPbc 19 44 02.0 -0.4**
baz=347
Z46A Louisville 149.13 15 P **PKPbc 19 44 02.9 +0.5**
baz=342
Y50A Piedmont 149.16 10 P **PKPbc 19 44 02.7 +0.2**
baz=348
HODGE Hodges 149.25 4 ePKPbc **PKPbc 19 44 03.0 +0.2**
Z48A Northport 149.29 13 P **PKPbc 19 44 02.3 -0.5**
baz=344
Z47A Carrollton 149.34 14 P **PKPbc 19 44 02.9 -0.1**
baz=343
145A Houston Renfro 149.40 17 P **PKPbc 19 44 03.9 +0.7**
baz=340
146A Union 149.62 16 P **PKPbc 19 44 04.8 +1.0**
baz=341
Z49A Columbiana 149.69 12 P **PKPbc 19 44 03.8 0.0**
baz=346
244A Avery, Jackson 149.69 19 P **PKPbc 19 44 04.7 +0.8**
baz=338
LRAL Lakeview Retre 149.74 12 P **PKPbc 19 44 03.8 -0.2**
baz=345
LRAL Lakeview Retre 149.74 12 ePKPbc **PKPbc 19 44 03.9 -0.2**
Z50A Ashland 149.75 11 P **PKPbc 19 44 03.9 -0.2**
baz=347
147A Livingston 149.79 15 P **PKPbc 19 44 04.4 +0.3**
baz=343
GOGA Godfrey 149.95 6 P **PKPbc 19 44 04.9 +0.4**
baz=352
GOGA Godfrey 149.95 6 ePKPbc **PKPbc 19 44 05.1 +0.6**
GOGA LR LR
comp=Z,1µm,20.0s
GOGA Godfrey 149.95 6 ePKP2 **PKPbc 19 44 05.1 +0.6**
GOGA MLR MLR
comp=Z,1µm,20.0s
247A Quitman 150.29 16 P **PKPbc 19 44 06.5 +1.1**
baz=342
KVTX Kingsville 150.33 34 PFAKE 19 44 10.0 -1.7
KVTX LR LR
comp=Z,1µm,19.0s
150A Eclectic 150.36 11 P **PKPbc 19 44 06.0 +0.5**
baz=347
NHSC New Hope 150.47 1 PFAKE 19 44 10.0 -2.1
NHSC LR LR
comp=Z,1µm,19.0s
151A Opelika 150.56 10 P **PKPbc 19 44 06.5 +0.5**
baz=348
249A Camden 150.74 13 P **PKPbc 19 44 08.0 +1.6**
baz=345
155A Kite 150.84 5 P **PKPbc 19 44 07.2 +0.6**
baz=354
250A Grady 150.92 12 P **PKPbc 19 44 07.6 +0.8**
baz=346
347A Saraland 150.93 16 P **PKPbc 19 44 07.5 +0.7**
baz=342
251A Midway 150.97 10 P **PKPbc 19 44 07.5 +0.5**
baz=348

252A	**Lumpkin**	**151.18**	**9**	P	**PKPbc**	**19 44 08.1**	**+0.6**
	baz=349						
LNIG	**Linares**	**151.34**	**40**	*e*PKPdf	**PKPdf**	**19 44 02.2**	**+0.1**
LNIG				*e*PKPbc	**PKiKP**	**19 44 08.4**	**-0.2**
BRAL	**Brewton**	**151.53**	**13**	P	**PKPbc**	**19 44 09.3**	**+1.1**
	baz=344						
BRAL	**Brewton**	**151.53**	**13**	*e*PKPbc	**PKPbc**	**19 44 09.3**	**+1.1**
BRAL				LR	LR		
	comp=Z,985nm,19.0s						
352A	**Blakely**	**151.65**	**10**	P	**PKPbc**	**19 44 09.1**	**+0.6**
	baz=349						
353A	**Camilla**	**151.89**	**8**	P	**PKPbc**	**19 44 10.2**	**+1.1**
	baz=350						
LPAZ	**La Paz**	**157.36**	**210**	PKP	**PKPdf**	**19 44 13.1**	**+1.6**
	comp=Z,1.0nm,0.8s,baz=62,slow=7.2,SNR=5.2						
LPAZ	**La Paz**	**157.36**	**210**	*e*PKPdf	**PKPdf**	**19 44 12.4**	**+1.0**
LPAZ	**La Paz**	**157.36**	**210**	*e*PKIKP	**PKPdf**	**19 44 12.4**	**+1.0**
ANWB	**Willy Bob**	**157.52**	**310**	PFAKE		19 44 20.0	+9.2
ANWB				LR	LR		
	comp=Z,518nm,21.0s						
FDF	**Fort de France**	**158.62**	**303**	PFAKE		19 44 20.0	+7.8
FDF				LR	LR		
	comp=Z,580nm,19.0s						
SAML	**Samuel**	**159.53**	**233**	PFAKE		19 44 20.0	+6.7
SAML				LR	LR		
	comp=Z,732nm,20.0s						
GRTK	**Grand Turk**	**160.23**	**336**	PFAKE		19 44 20.0	+6.1
GRTK				LR	LR		
	comp=Z,715nm,20.0s						
GRGR	**Grenville**	**160.24**	**297**	PFAKE		19 44 20.0	+5.9
GRGR				LR	LR		
	comp=Z,407nm,20.0s						
SDDR	**Presa de Saban**	**162.54**	**333**	*e*PKPab	**PKPab**	**19 45 05.1**	**+0.9**
SDDR				LR	LR		
	comp=Z,760nm,20.0s						
GTBY	**Guantanamo Bay**	**163.03**	**345**	PFAKE		19 44 30.0	+13
GTBY				LR	LR		
	comp=Z,627nm,20.0s						
NNA	**Nana**	**164.44**	**190**	PFAKE		19 44 30.0	+12
NNA				LR	LR		
	comp=Z,440nm,21.0s						
MTDJ	**Mount Denham**	**165.16**	**352**	PFAKE		19 44 30.0	+11
MTDJ				LR	LR		
	comp=Z,853nm,19.0s						
JTS	**JuntasAbangare**	**171.36**	**38**	PFAKE		19 44 30.0	+6.9
JTS				LR	LR		
	comp=Z,875nm,21.0s						
BCIP	**Isla Barro Col**	**174.30**	**2**	PFAKE		19 44 30.0	+5.7
BCIP				LR	LR		
	comp=Z,564nm,20.0s						

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*ISCJB **06** 19:26:13.2±2.4, 3.°32S±0.°05×100.°45E±0.°04, h8km±14km, mb5.0/92, MS5.0/10, Error ellipse: s-maj=9.7km s-min=5.8km az=36.0*

*NEIC **06** 19:26:15.4±0.2, 3.°35S×100.°45E, h10km, mb5.1/51, Error ellipse: s-maj=6.7km s-min=3.8km az=221.0*

*MOS **06** 19:26:17.4±0.9, 3.°27S×100.°46E, h33km, mb5.3/42, Error ellipse: s-maj=9.2km s-min=6.0km az=102.0*

*IDC **06** 19:26:18.1±0.6, 3.°33S×100.°46E, h22km±2km, mb4.7/31, mb1 4.7/31, mb1mx4.5/59, mbtmp4.8/31, MS4.9/9, Ms1 4.9/9, ms1mx4.6/42, Error ellipse: s-maj=16.9km s-min=11.4km az=29.0*

ISC 06 19:26:17.9±0.5, **3.°31S**±0.°07×**100.°51E**±0.°07, **h23**km±2km, **h24**km**:pP-P, n306,** σ**0.s98**/317, **mb5.1**/92, **MS5.0**/10, **10C-9D, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**21.68**	**356**	*e*P	**P**	**19 31 06.1**	**-1.1**
CMAR	**Chiang Mai Arr**	**21.68**	**356**	P	**P**	**19 31 06.6**	**-0.7**
	20nm,0.8s,baz=177,slow=8.8,SNR=5.5						
CHTO	**Chiang Mai**	**22.04**	**356**	*e*P	**P**	**19 31 10.2**	**-0.9**
	18nm,0.9s						
CHTO	**Chiang Mai**	**22.04**	**356**	*e*P	**P**	**19 31 10.2**	**-0.9**
CHTO				pmax	pmax		
	comp=Z,18nm,0.9s						
TGY	**Tagaytay City**	**26.64**	**49**	P	**P**	**19 31 53.8**	**-1.4**
	comp=Z,140nm,0.3s,baz=269,slow=4.5,SNR=3.6						
TNTI	**Ternate**	**27.15**	**82**	*e*P	**P**	**19 31 58.7**	**-1.1**
	comp=Z,54nm,1.6s						
H08S2	**Diego Garcia H**	**28.21**	**260**	T	T	20 01 19.7	
	baz=82,slow=75,SNR=41						
H08S3	**Diego Garcia H**	**28.21**	**260**	T	T	20 01 18.9	
	baz=82,slow=75,SNR=39						
DGAR	**Diego Garcia**	**28.22**	**261**	*e*P	**P**	**19 32 08.9**	**-0.4**
	comp=Z,57nm,1.1s						
DGAR	**Diego Garcia**	**28.22**	**261**	*e*P	**P**	**19 32 08.9**	**-0.4**
DGAR				pmax	pmax		
	comp=Z,57nm,1.1s						
H08S1	**Diego Carcia H**	**28.23**	**260**	T	T	20 01 21.1	
	baz=82,slow=75,SNR=39						
SHL	**Shillong**	**29.90**	**344**	*e*P	**P**	**19 32 23.5**	**-0.8**
	comp=Z,34nm,0.5s						
SHL	**Shillong**	**29.90**	**344**	*e*P	**P**	**19 32 23.5**	**-0.8**
SHL				pmax	pmax		
	comp=Z,35nm,0.5s						
SIJI	**Sorong**	**30.83**	**86**	P	**P**	**19 32 31.7**	**-0.8**
	comp=Z,13nm,0.7s,baz=302,slow=9.4						
SIJI				LR	LR	19 46 07.2	
	comp=Z,2μm,19.9s,baz=278,slow=38						
SSLB	**Suanglung**	**33.50**	**35**	*e*P	**P**	**19 32 56.3**	**+0.5**
	comp=Z,31nm,1.2s						
H01W3	**Cape Leeuwin H**	**33.87**	**160**	T	T	20 08 36.6	
	baz=336,slow=76,SNR=19						
H01W2	**Cape Leeuwin H**	**33.88**	**160**	T	T	20 08 37.6	
	baz=336,slow=76,SNR=16						
H01W1	**Cape Leeuwin H**	**33.89**	**160**	T	T	20 08 37.8	
	baz=336,slow=76,SNR=12						
LSA	**Lhasa**	**34.02**	**345**	*e*P	**P**	**19 33 01.9**	**+1.1**
	comp=Z,19nm,0.7s						
LSA	**Lhasa**	**34.02**	**345**	*e*P	**P**	**19 33 01.9**	**+1.1**
LSA				pmax	pmax		
	comp=Z,19nm,0.7s						
ENH	**Enshi**	**34.48**	**14**	*e*P	**P**	**19 33 04.0**	**-0.3**
	comp=Z,109nm,1.5s						
WR1	**Warramunga Arr**	**36.91**	**119**	*e*P	**P**	**19 33 25.4**	**+0.1**
	comp=Z,20nm,0.5s						
WR1				*e*S	**S**	**19 39 08.2**	**-0.9**
WRA	**Warramunga Arr**	**36.91**	**119**	P	**P**	**19 33 25.4**	**+0.1**
	comp=Z,6.7nm,0.4s,baz=309,slow=8.9,SNR=6.3						
WRA				S	**S**	**19 39 08.2**	**-0.9**
	comp=Z,3.9nm,0.9s,baz=295,slow=16,SNR=5.4						
WRAB	**Tennant Creek**	**36.91**	**119**	*e*P	**P**	**19 33 24.3**	**-1.0**
	comp=Z,19nm,0.8s						
WRAB	**Tennant Creek**	**36.91**	**119**	*e*P	**P**	**19 33 24.3**	**-1.0**
WRAB				pmax	pmax		
	comp=Z,19nm,0.8s						
WB2	**Warramunga Arr**	**36.92**	**119**	*e*P	**P**	**19 33 24.4**	**-0.9**
FORT	**Forrest**	**37.72**	**139**	*e*P	**P**	**19 33 30.7**	**-1.3**
	comp=Z,621nm,0.8s						
AS31	**Alice Springs**	**38.09**	**125**	*e*P	**P**	**19 33 35.4**	**+0.2**
	comp=Z,11nm,0.5s						
ASAR	**Alice Springs**	**38.09**	**125**	P	**P**	**19 33 36.0**	**+0.8**
	comp=Z,21nm,0.6s,baz=296,slow=7.9,SNR=4.8						
ASAR				S	**S**	**19 39 29.2**	**+2.2**
	comp=Z,1.7nm,0.9s,baz=294,slow=14,SNR=4.6						
AS01	**Alice Springs**	**38.12**	**125**	*e*P	**P**	**19 33 35.2**	**-0.4**
JOW	**Kunigami**	**40.22**	**40**	P	**P**	**19 33 53.9**	**+0.9**
	comp=Z,10.0nm,0.4s,baz=291,slow=14,SNR=2.6						
JOW	**Kunigami**	**40.22**	**40**	*e*P	**P**	**19 33 53.5**	**+0.6**
	comp=Z,47nm,1.2s						
NIL	**Nilore**	**44.87**	**327**	*e*P	**P**	**19 34 34.6**	**+3.9**
	comp=Z,26nm,0.8s						
NIL	**Nilore**	**44.87**	**327**	*e*P	**P**	**19 34 34.6**	**+3.9**
NIL				pmax	pmax		
	comp=Z,26nm,0.8s						
BJT	**Baijiatuau**	**45.45**	**17**	*e*P	**P**	**19 34 35.5**	**+0.3**
	comp=Z,85nm,1.5s						
BJT	**Baijiatuau**	**45.45**	**17**	*e*P	**P**	**19 34 35.5**	**+0.3**
BJT				pmax	pmax		
	comp=Z,85nm,1.5s						
JNU	**Nakatsue**	**46.24**	**36**	P	**P**	**19 34 42.3**	**+0.7**
	comp=Z,71nm,1.1s,baz=189,slow=4.2,SNR=6.2						
JNU	**Nakatsue**	**46.24**	**36**	*e*P	**P**	**19 34 41.8**	**+0.3**
	comp=Z,98nm,1.1s						
PMG	**Port Moresby**	**46.73**	**100**	P	**P**	**19 34 45.1**	**-0.6**
	comp=Z,7.8nm,0.6s,baz=302,slow=6.8,SNR=3.8						
PMG				LR	LR	19 56 42.7	
	comp=Z,1μm,20.4s,baz=276,slow=39						
PMG	**Port Moresby**	**46.73**	**100**	*e*P	**P**	**19 34 45.1**	**-0.6**
PMG				*e*sP	pP	19 34 45.3	-7.6
PMG	**Port Moresby**	**46.73**	**100⇑**	*e*P	**P**	**19 34 46.7**	**+1.0**
PMG				pmax	pmax		
	comp=Z,67nm,1.1s						
TJN	**Taejon**	**46.77**	**30⇑**	*e*P	**P**	**19 34 45.3**	**-0.3**
CTA	**Charters Tower**	**47.59**	**114**	P	**P**	**19 34 52.7**	**+0.3**
	comp=Z,13nm,0.9s,baz=297,slow=7.2,SNR=4.3						
CTAO	**Charters Tower**	**47.59**	**114**	*e*P	**P**	**19 34 51.9**	**-0.5**
	comp=Z,22nm,1.0s						
CTAO	**Charters Tower**	**47.59**	**114**	*e*P	**P**	**19 34 51.9**	**-0.5**
CTAO				pmax	pmax		
	comp=Z,22nm,1.0s						
KS15	**Wonju Array Si**	**47.86**	**30**	*e*P	**P**	**19 34 55.0**	**+0.9**
KSAR	**Wonju Array Be**	**47.86**	**30**	P	**P**	**19 34 54.5**	**+0.4**
KSAR	**Wonju Array Be**	**47.86**	**30**	P	**P**	**19 34 54.5**	**+0.4**
KBL	**Kabul**	**47.88**	**324**	*e*P	**P**	**19 34 53.6**	**-1.0**
	comp=Z,19nm,1.0s						
KBL	**Kabul**	**47.88**	**324**	*e*P	**P**	**19 34 53.6**	**-1.0**
KBL				pmax	pmax		
	comp=Z,19nm,1.0s						
KSRS	**Korea Array**	**47.89**	**30**	P	**P**	**19 34 54.5**	**+0.2**
	comp=Z,60nm,1.2s,baz=220,slow=8.1,SNR=9.6						
KSRS	**Korea Array**	**47.89**	**30**	P	**P**	**19 34 54.5**	**+0.2**
KSRS				pmax	pmax		
	comp=Z,61nm,1.2s						
KS01	**Wonju Array Si**	**47.90**	**30**	*e*P	**P**	**19 34 54.3**	**-0.1**
KS01				*e*PcP	**PcP**	**19 36 22.8**	**+0.1**
STKA	**Stephens Creek**	**47.91**	**131**	P	**P**	**19 34 55.9**	**+1.2**
	comp=Z,5.1nm,0.6s,baz=306,slow=13,SNR=1.9						
STKA	**Stephens Creek**	**47.91**	**131**	*e*P	**P**	**19 34 55.3**	**+0.6**
	comp=Z,4.6nm,1.0s						
SONA0	**Songino Array**	**51.19**	**5**	*e*P	**P**	**19 35 21.1**	**+1.6**
SONA0				*e*PcP	**PcP**	**19 36 33.9**	**-0.8**
SONM	**Songino Array**	**51.19**	**5**	P	**P**	**19 35 21.1**	**+1.6**
	comp=Z,58nm,0.7s,baz=189,slow=9.6,SNR=11						
SONM				pP	**pP**	**19 35 27.9**	**+1.1**
	comp=Z,48nm,0.7s,baz=188,slow=9.5,SNR=12						
SONM				PcP	**PcP**	**19 36 33.9**	**-0.8**
	comp=Z,7.0nm,0.7s,baz=167,slow=3.4,SNR=2.6						
SONM				LR	LR	19 59 24.1	
	comp=Z,3μm,18.0s,baz=190,slow=39						
SONA1	**Songino Array**	**51.20**	**5**	*e*P	**P**	**19 35 21.2**	**+1.6**
ULN	**Ulaanbaatar**	**51.28**	**6**	*e*P	**P**	**19 35 21.4**	**+1.2**
	comp=Z,55nm,1.0s						
ULN	**Ulaanbaatar**	**51.28**	**6*c***	*i*P	**P**	**19 35 21.4**	**+1.2**
ULN				pmax	pmax		
	comp=Z,51nm,1.1s						
AAK	**Ala-Archa**	**51.44**	**336**	*de*P	**P**	**19 35 24.6**	**+3.1**
AAK				pmax	pmax		
	comp=Z,11nm,1.1s						
MK01	**Makanchi Array**	**52.39**	**344**	*e*P	**P**	**19 35 28.8**	**+0.4**
MK31	**Makanchi Array**	**52.42**	**344**	*e*P	**P**	**19 35 29.2**	**+0.7**
MK31	**Makanchi Array**	**52.42**	**344**	*e*P	**P**	**19 35 29.2**	**+0.7**
MK32	**Makanchi Array**	**52.42**	**344**	*e*P	**P**	**19 35 29.3**	**+0.8**
MKAR	**Makanchi Array**	**52.42**	**344**	P	**P**	**19 35 29.3**	**+0.8**
	comp=Z,30nm,0.7s,baz=148,slow=8.0,SNR=9.1						
MKAR				pP	**pP**	**19 35 36.4**	**+0.5**
	comp=Z,30nm,0.7s,baz=144,slow=7.9,SNR=9.9						
MKAR	**Makanchi Array**	**52.42**	**344**	*e*P	**P**	**19 35 29.3**	**+0.8**
	comp=Z,195nm,0.8s						
MKAR	**Makanchi Array**	**52.42**	**344**	*e*P	**P**	**19 35 29.3**	**+0.8**
MKAR				pmax	pmax		
	comp=Z,195nm,0.8s						
MAKZ	**Makanchi**	**52.52**	**344**	*e*P	**P**	**19 35 29.3**	**0.0**
	comp=Z,28nm,1.2s						
MAKZ	**Makanchi**	**52.52**	**344**	*e*P	**P**	**19 35 29.3**	**0.0**
MAKZ				pmax	pmax		
	comp=Z,28nm,1.2s						
MAJO	**Matsushiro**	**52.98**	**38**	*e*P	**P**	**19 35 31.9**	**-0.9**
MAJO				*e*sP	**pP**	**19 35 39.7**	**-0.5**
MAJO	**Matsushiro**	**52.98**	**38**	*de*P	**P**	**19 35 33.0**	**+0.1**
MAJO				pmax	pmax		
	comp=Z,17nm,1.1s						
MJAR	**Matsushiro Arr**	**52.98**	**38**	P	**P**	**19 35 32.5**	**-0.4**
	comp=Z,9.3nm,0.9s,baz=221,slow=7.5,SNR=5.8						
MJAR				pP	**pP**	**19 35 39.7**	**-0.5**
	comp=Z,4.6nm,0.8s,baz=212,slow=7.1,SNR=3.7						
MJB9	**Matsu-Tunnel**	**52.98**	**38**	*e*P	**P**	**19 35 32.5**	**-0.4**
	comp=Z,24nm,1.1s						
MSHR	**Mys Shultsa**	**53.44**	**28⇑**	*e*P	**P**	**19 35 36.7**	**+0.6**
KK07	**Karatay Array**	**53.53**	**333**	*e*P	**P**	**19 35 35.8**	**-1.1**
KK02	**Karatay Array**	**53.54**	**333**	*e*P	**P**	**19 35 36.0**	**-0.9**
KK31	**Karatay Array**	**53.54**	**333**	*e*P	**P**	**19 35 35.9**	**-1.0**
KK31	**Karatay Array**	**53.54**	**333**	*e*P	**P**	**19 35 35.9**	**-1.0**
KKAR	**Karatay Array**	**53.54**	**333**	*e*P	**P**	**19 35 35.2**	**-1.7**
KKAR	**Karatay Array**	**53.54**	**333**	*e*P	**P**	**19 35 35.2**	**-1.7**
KK01	**Karatay Array**	**53.55**	**333**	*e*P	**P**	**19 35 35.3**	**-1.6**
KK03	**Karatay Array**	**53.55**	**333**	*e*P	**P**	**19 35 35.3**	**-1.6**
KK04	**Karatay Array**	**53.55**	**333**	*e*P	**P**	**19 35 35.9**	**-1.1**
KK08	**Karatay Array**	**53.55**	**333**	*e*P	**P**	**19 35 35.7**	**-1.3**
VLA	**Vladivostok**	**54.19**	**28**	*de*P	**P**	**19 35 42.7**	**+1.1**
VLA				pmax	pmax		
	comp=Z,34nm,1.0s						
MDJ	**Mudanjiang**	**54.34**	**25**	*e*P	**P**	**19 35 42.9**	**+0.2**
	comp=Z,43nm,1.4s						
TLY	**Talaya**	**54.84**	**2**	LR	LR	19 59 29.8	
	comp=Z,2μm,18.8s,baz=166,slow=36						
TLY	**Talaya**	**54.84**	**2**	*e*P	**P**	**19 35 46.1**	**-0.2**
	comp=Z,11nm,0.8s						
TLY	**Talaya**	**54.84**	**2**	*e*P	**P**	**19 35 46.1**	**-0.2**
TLY				pmax	pmax		
	comp=Z,11nm,0.8s						
HIA	**Hailar**	**54.96**	**15**	*e*P	**P**	**19 35 47.0**	**-0.1**
HIA	**Hailar**	**54.96**	**15**	*de*P	**P**	**19 35 47.6**	**+0.5**
HIA				pmax	pmax		
	comp=Z,18nm,1.0s						
USRK	**Ussuriysk Ar.**	**55.07**	**27**	P	**P**	**19 35 49.0**	**+1.0**
	comp=Z,51nm,0.7s,baz=223,slow=6.0,SNR=12						
USRK				pP	**pP**	**19 35 55.8**	**+0.4**
	comp=Z,34nm,0.7s,baz=224,slow=5.2,SNR=8.4						
ARMA	**Armidale**	**55.24**	**125**	*e*P	**P**	**19 35 49.5**	**-0.2**
	comp=Z,43nm,1.7s						
GYB1	**ALIBECK ARRAY**	**56.76**	**320**	*e*P	**P**	**19 35 58.0**	**-2.3**
GYA1	**ALIBECK ARRAY**	**56.77**	**320**	*e*P	**P**	**19 35 59.6**	**-0.7**
	comp=Z,13nm,0.8s						
GYB2	**ALIBECK ARRAY**	**56.77**	**320**	*e*P	**P**	**19 35 58.7**	**-1.6**
	comp=Z,20nm,0.9s						
GEYT	**Alibeck**	**56.77**	**320**	P	**P**	**19 36 00.7**	**+0.3**
	comp=Z,6.6nm,1.0s,baz=142,slow=7.3,SNR=3.0						
GEYT				pP	**pP**	**19 36 07.5**	**-0.3**
	comp=Z,16nm,1.0s,baz=150,slow=6.8,SNR=5.8						
GYA0	**ALIBECK ARRAY**	**56.77**	**320**	*e*P	**P**	**19 36 00.1**	**-0.3**
	comp=Z,12nm,0.9s						
GYA0B	**ALIBECK ARRAY**	**56.77**	**320**	*e*P	**P**	**19 36 00.1**	**-0.3**
	comp=Z,13nm,0.8s						
GYB5	**ALIBECK ARRAY**	**56.77**	**320**	*e*P	**P**	**19 35 60.0**	**-0.4**
	comp=Z,19nm,1.1s						
GYA2	**ALIBECK ARRAY**	**56.77**	**320**	*e*P	**P**	**19 35 59.8**	**-0.5**
	comp=Z,21nm,0.9s						
GYB3	**ALIBECK ARRAY**	**56.78**	**320**	*e*P	**P**	**19 36 00.0**	**-0.4**
	comp=Z,17nm,0.9s						
GYB4	**ALIBECK ARRAY**	**56.78**	**320**	*e*P	**P**	**19 36 00.1**	**-0.4**
	comp=Z,16nm,1.0s						
KURBB	**Kurchatov Arra**	**56.94**	**343**	P	**P**	**19 36 01.6**	**+0.4**
	comp=Z,18nm,0.9s,baz=163,slow=6.7,SNR=8.1						
KURBB				pP	**pP**	**19 36 08.8**	**+0.2**
	comp=Z,12nm,0.7s,baz=166,slow=6.9,SNR=6.6						
KURK	**Kurchatov**	**57.00**	**344**	*e*P	**P**	**19 36 01.6**	**0.0**
KURK	**Kurchatov**	**57.00**	**344*c***	*i*P	**P**	**19 36 01.9**	**+0.3**
KURK				pmax	pmax		
	comp=Z,36nm,1.0s						
ZAA0	**Zalesovo Array**	**58.54**	**349**	*e*P	**P**	**19 36 12.3**	**-0.1**
	comp=Z,49nm,1.0s						
ZALV	**Zalesovo Beam**	**58.54**	**349**	P	**P**	**19 36 12.8**	**+0.3**
	comp=Z,49nm,0.9s,baz=181,slow=5.1,SNR=5.4						
ZALV				pP	**pP**	**19 36 20.3**	**+0.5**
	comp=Z,25nm,0.8s,baz=171,slow=5.0,SNR=4.8						
ZALV				LR	LR	20 05 45.5	
	comp=Z,2μm,18.0s,baz=240,slow=40						
ZAA1	**Zalesovo Array**	**58.54**	**349**	*e*P	**P**	**19 36 12.8**	**+0.3**
KLR	**Kul'dur**	**58.92**	**23*c***	*i*P	**P**	**19 36 15.4**	**+0.2**
HNR	**Honiara**	**59.33**	**99**	LR	LR	20 06 06.2	
	comp=Z,500nm,18.9s,baz=256,slow=40						
HNR	**Honiara**	**59.33**	**99**	*e*P	**P**	**19 36 18.4**	**-0.2**
	comp=Z,111nm,1.0s						
HNR	**Honiara**	**59.33**	**99**	*e*P	**P**	**19 36 18.4**	**-0.2**
HNR				pmax	pmax		
	comp=Z,111nm,1.0s						
KRAR	**Krasnoyarsk**	**59.45**	**355⇓**	*e*P	**P**	**19 36 19.3**	**+0.6**
ASAJ	**Asahikawa**	**60.41**	**34**	P	**P**	**19 36 26.5**	**+1.0**
	comp=Z,4.3nm,0.4s,baz=238,slow=7.8,SNR=14						
ASAJ	**Asahikawa**	**60.41**	**34**	*e*P	**P**	**19 36 25.3**	**-0.3**
	comp=Z,10nm,0.9s						
BVAR	**Borovoye Array**	**61.58**	**340**	P	**P**	**19 36 32.9**	**-0.4**
	comp=Z,7.9nm,0.7s,baz=126,slow=7.3,SNR=6.0						
BRVK	**Borovoye**	**61.64**	**340**	*e*P	**P**	**19 36 33.0**	**-0.7**
	comp=Z,9.3nm,0.7s						
BRVK	**Borovoye**	**61.64**	**340⇑**	*e*P	**P**	**19 36 32.5**	**-1.2**
BRVK				pmax	pmax		
	comp=Z,10.0nm,0.7s						
BOD	**Bodaibo**	**61.90**	**8**	*e*P	**P**	**19 36 35.0**	**-0.3**
BOD				pmax	pmax		
	comp=Z,23nm,1.0s						
YSS	**Yuzh-Sakhalins**	**62.32**	**31**	*e*P	**P**	**19 36 38.3**	**-0.1**
	comp=Z,37nm,1.0s						
YSS	**Yuzh-Sakhalins**	**62.32**	**31**	*e*P	**P**	**19 36 38.3**	**-0.1**
YSS				pmax	pmax		
	comp=Z,37nm,1.0s						
AB07	**Akbulak array**	**63.01**	**331**	*e*P	**P**	**19 36 42.3**	**-0.6**
AB06	**Akbulak array**	**63.01**	**331**	*e*P	**P**	**19 36 42.2**	**-0.8**
AB08	**Akbulak array**	**63.02**	**331**	*e*P	**P**	**19 36 42.6**	**-0.4**
AB03	**Akbulak array**	**63.02**	**331**	*e*P	**P**	**19 36 42.4**	**-0.6**
AB01	**Akbulak array**	**63.02**	**331**	*e*P	**P**	**19 36 42.5**	**-0.5**
AB31	**Akbulak array**	**63.02**	**331**	*e*P	**P**	**19 36 42.1**	**-0.9**
AB31	**Akbulak array**	**63.02**	**331**	*e*P	**P**	**19 36 42.1**	**-0.9**
ABKAR	**Akbulak array**	**63.02**	**331**	*e*P	**P**	**19 36 42.7**	**-0.4**
	comp=Z,228nm,0.7s						
AB02	**Akbulak array**	**63.02**	**331**	*e*P	**P**	**19 36 42.3**	**-0.8**
AB04	**Akbulak array**	**63.03**	**331**	*e*P	**P**	**19 36 42.6**	**-0.5**
AB05	**Akbulak array**	**63.03**	**331**	*e*P	**P**	**19 36 42.5**	**-0.6**
AB09	**Akbulak array**	**63.04**	**331**	*e*P	**P**	**19 36 42.6**	**-0.5**
KMBO	**Kilima Mbogo**	**63.23**	**270**	*e*P	**P**	**19 36 45.3**	**-0.1**
	comp=Z,8.9nm,1.3s						
KMBO	**Kilima Mbogo**	**63.23**	**270**	*e*P	**P**	**19 36 45.3**	**-0.1**
KMBO				pmax	pmax		
	comp=Z,9.0nm,1.3s						
AKTO	**Aktyubinsk**	**64.74**	**331**	P	**P**	**19 36 53.9**	**-0.5**
	comp=Z,3.8nm,0.6s,baz=104,slow=8.3,SNR=2.3						
DZM	**Mont Dzumac**	**66.48**	**113**	*e*P	**P**	**19 37 04.7**	**-1.6**
	comp=Z,62nm,1.9s						
TBLG	**Delisi**	**67.52**	**318**	*e*P	**P**	**19 37 12.5**	**+0.1**
	comp=Z,71nm,1.4s						
TBLG	**Delisi**	**67.52**	**318**	*e*P	**P**	**19 37 12.5**	**+0.1**
TBLG				pmax	pmax		
	comp=Z,71nm,1.4s						
SVE	**Sverdlovsk**	**68.08**	**338**	*e*P	**P**	**19 37 16.3**	**+0.7**
SVE				pmax	pmax		
	comp=Z,30nm,1.2s						
ARU	**Arti**	**68.60**	**336**	*e*P	**P**	**19 37 18.3**	**-0.5**
	comp=Z,18nm,1.1s						
ARU	**Arti**	**68.60**	**336*c***	*i*P	**P**	**19 37 18.6**	**-0.2**
ARU						19 37 44.2	
ARU				S	**S**	**19 46 20.7**	**+0.7**
ARU				SS	**SS**	**19 50 45.7**	**+1.0**
ARU				pmax	pmax		
	comp=Z,14nm,1.0s						
ARU				MLR	MLR		
	comp=Z,1μm,19.0s						
YAK	**Yakutsk**	**68.88**	**14**	*e*P	**P**	**19 37 19.0**	**-1.4**
	comp=Z,51nm,0.8s						
YAK	**Yakutsk**	**68.88**	**14**	*e*P	**P**	**19 37 19.0**	**-1.4**
YAK				pmax	pmax		
	comp=Z,51nm,0.8s						
NEY	**Neytrino**	**69.53**	**319⇑**	*e*P	**P**	**19 37 27.7**	**+2.6**
NEY				pmax	pmax		
	comp=Z,2.0nm,1.1s						
KBZ	**Khabaz**	**69.62**	**319**	P	**P**	**19 37 26.5**	**+1.1**
	comp=Z,7.6nm,1.1s,baz=135,slow=10.0,SNR=1.9						
KIV	**Kislovodsk**	**69.86**	**319**	*e*P	**P**	**19 37 27.2**	**+0.2**
	comp=Z,19nm,0.9s						
KIV	**Kislovodsk**	**69.86**	**319**	*e*P	**P**	**19 37 30.6**	**+3.6**
KIV				pmax	pmax		
	comp=Z,25nm,1.1s						
MMAI	**Mount Meron Ar**	**71.21**	**306**	P	**P**	**19 37 35.8**	**+0.3**
	comp=Z,1.3nm,0.7s,baz=108,slow=8.2,SNR=2.9						
MMAI				pP	**pP**	**19 37 43.6**	**+0.5**
	comp=Z,5.9nm,0.7s,baz=101,slow=7.5,SNR=7.4						
VRH	**Novokhopyorsk**	**73.68**	**326**	*e*P	**P**	**19 37 49.5**	**-0.2**
VRH				*e**SP	**pP**	**19 37 56.5**	**-0.8**
VRH				pmax	pmax		
	comp=Z,20nm,0.7s						
PETK	**Petropavlovsk-**	**73.72**	**32**	*e*P	**P**	**19 37 49.4**	**-0.6**
PETK	**Petropavlovsk-**	**73.72**	**32**	*e*P	**P**	**19 37 49.4**	**-0.6**
MA2	**Magadan**	**74.01**	**24**	*e*P	**P**	**19 37 52.5**	**+1.0**
PET	**Petropavlovsk**	**74.18**	**32**	*i* P	**P**	**19 37 53.2**	**+0.6**
PET				pmax	pmax		
	comp=Z,15nm,0.6s						
BR101	**Keskin Array S**	**74.57**	**313**	*e*P	**P**	**19 37 55.0**	**-0.4**
BR131	**Keskin Array S**	**74.57**	**313**	*e*P	**P**	**19 37 54.2**	**-1.2**
BRTR	**Keskin Array B**	**74.57**	**313**	P	**P**	**19 37 55.0**	**-0.4**
	comp=Z,2.9nm,0.9s,baz=128,slow=6.3,SNR=2.5						
BRTR				pP	**pP**	**19 38 02.0**	**-0.9**
	comp=Z,6.5nm,0.8s,baz=136,slow=7.0,SNR=6.8						
VSR	**Storozhevoye**	**75.13**	**325**	*e*P	**P**	**19 37 57.4**	**-0.8**
VSR				*e**SP	**pP**	**19 38 04.7**	**-1.1**
VSR				pmax	pmax		
	comp=Z,10.0nm,0.8s						
ANTO	**Ankara**	**75.24**	**313**	*e*P	**P**	**19 37 57.3**	**-1.8**
	comp=Z,19nm,1.0s						
ANTO	**Ankara**	**75.24**	**313**	*e*P	**P**	**19 37 57.3**	**-1.8**
ANTO				pmax	pmax		
	comp=Z,19nm,1.0s						
BR231	**Keskin MP Arra**	**75.24**	**313**	*e*P	**P**	**19 37 59.0**	**-0.3**
BOSA	**Boshof**	**75.47**	**241**	P	**P**	**19 38 00.7**	**-0.2**
	comp=Z,4.2nm,0.9s,baz=93,slow=3.6,SNR=4.1						
LPSR	**Galich'ya Gora**	**75.85**	**326**	*e*P	**P**	**19 38 01.6**	**-0.7**
LPSR				*e**SP	**pP**	**19 38 08.6**	**-1.3**
LPSR				pmax	pmax		
	comp=Z,20nm,0.7s						
SEY	**Seymchan**	**76.65**	**22⇑**	*e*P	**P**	**19 38 07.8**	**+1.2**
SYO	**Syowa Base**	**76.80**	**199⇓**	*i*P	**P**	**19 38 07.0**	**-0.4**
TIXI	**Tiksi**	**77.06**	**9**	*e*P	**P**	**19 38 08.0**	**-0.7**
	comp=Z,20nm,1.2s						
TIXI	**Tiksi**	**77.06**	**9**	*de*P	**P**	**19 38 08.4**	**-0.3**
TIXI				pmax	pmax		
	comp=Z,15nm,1.1s						
MSVF	**Nonsavu**	**77.14**	**107**	*e*P	**P**	**19 38 09.7**	**-0.7**
	comp=Z,70nm,1.9s						
MSVF	**Nonsavu**	**77.14**	**107⇓**	*e*P	**P**	**19 38 12.2**	**+1.8**
MSVF				pmax	pmax		
	comp=Z,10.0nm,0.9s						
OBN	**Obninsk**	**78.17**	**328**	*e*P	**P**	**19 38 14.0**	**-1.2**
	comp=Z,24nm,0.8s						
OBN	**Obninsk**	**78.17**	**328⇓**	*i*P	**P**	**19 38 15.6**	**+0.4**
OBN				*e*		19 38 22.4	
OBN				*e*		19 41 13.7	
OBN				*e*S	**S**	**19 48 06.9**	**-1.4**
OBN				SS	**SS**	**19 53 06.0**	**-4.5**
OBN				*e*SSS	SSS	19 56 26.4	
OBN				pmax	pmax		
	comp=Z,15nm,1.1s						
KLMR	**Klimovskoe**	**79.22**	**334**	*e*P	**P**	**19 38 19.0**	**-1.9**
KLMR				AMP		19 38 30.0	
	comp=Z,22nm,1.1s						
KLMR	**Klimovskoe**	**79.22**	**334**	*e*P	**P**	**19 38 19.0**	**-1.9**
KLMR				pmax	pmax		
	comp=Z,22nm,1.1s						
TIRR	**Tirgusor**	**79.64**	**316**	*e*P	**P**	**19 38 21.5**	**-2.1**
	comp=Z,15nm,0.9s						
TIRR	**Tirgusor**	**79.64**	**316**	*e*P	**P**	**19 38 21.5**	**-2.1**
TIRR				pmax	pmax		
	comp=Z,15nm,0.9s						
KIS	**Kishinev**	**80.04**	**319**	*e*P	**P**	**19 38 30.0**	**+4.3**
KIS	**Kishinev**	**80.04**	**319**	*e*P	**P**	**19 38 30.0**	**+4.3**
AKASG	**Malin Array Be**	**80.82**	**322**	P	**P**	**19 38 29.3**	**-0.5**
	comp=Z,0.9nm,0.6s,baz=84,slow=4.7,SNR=2.9						
AKASG				pP	**PcP**	**19 38 36.6**	**+0.2**
	comp=Z,1.6nm,0.6s,baz=84,slow=5.5,SNR=3.8						
AKASG				LR	LR	20 16 35.9	
	comp=Z,946nm,21.9s,baz=95,slow=37						
AKBB	**Malin Array Si**	**80.82**	**322**	*e*P	**P**	**19 38 29.2**	**-0.6**
	comp=Z,14nm,1.3s						
AKBB	**Malin Array Si**	**80.82**	**322**	*e*P	**P**	**19 38 29.2**	**-0.6**
AKBB				pmax	pmax		
	comp=Z,14nm,1.3s						
TMCR	**Tamitsa**	**81.33**	**337**	*e*P	**P**	**19 38 33.1**	**+0.9**
TMCR				pmax	pmax		
	comp=Z,25nm,0.9s						
MLR	**Muntele Rosu**	**81.59**	**317**	P	**P**	**19 38 34.7**	**+0.4**
	comp=Z,1.3nm,1.0s,baz=90,slow=11,SNR=1.9						
MLR				LR	LR	20 21 01.9	
	comp=Z,179nm,18.5s,baz=84,slow=40						
MLR	**Muntele Rosu**	**81.59**	**317**	*e*P	**P**	**19 38 34.5**	**+0.3**
	comp=Z,16nm,1.0s						
BILL	**Bilibino**	**84.20**	**20**	*i* P	**P**	**19 38 46.8**	**-0.3**
BILL				pmax	pmax		
	comp=Z,6.0nm,1.0s						
FIA0	**FINESS Array S**	**85.50**	**332**	*e*P	**P**	**19 38 54.3**	**+0.6**
FIA0	**FINESS Array S**	**85.50**	**332**	*e*P	**P**	**19 38 54.3**	**+0.6**
FINES	**FINESS Array B**	**85.50**	**332**	P	**P**	**19 38 54.3**	**+0.6**
	comp=Z,1.6nm,0.8s,baz=88,slow=7.6,SNR=2.1						
FINES				pP	**pP**	**19 39 01.6**	**+0.2**
	comp=Z,2.8nm,0.5s,baz=107,slow=6.4,SNR=4.5						
AFI	**Afiamalu**	**87.00**	**104**	LR	LR	20 18 09.9	
	comp=Z,295nm,20.7s,baz=267,slow=36						

ARA0	ARCESS Array S	87.87	340	*e*P	P	19 39 05.2	0.0
ARCES	ARCESS Array B	87.87	340	P	P	19 39 05.2	0.0
	comp=Z,6.9nm,0.9s,baz=123,slow=3.3,SNR=3.5						
ARCES				pP	pP	19 39 13.2	+0.3
	comp=Z,3.5nm,0.7s,baz=94,slow=3.6,SNR=2.4						
GEC2	GERESS Array S	90.36	319	*e*P	P	19 39 17.8	+0.4
	comp=Z,15nm,1.5s						
GERES	GERESS Array B	90.36	319	P	P	19 39 18.5	+1.0
	comp=Z,1.9nm,1.0s,baz=106,slow=6.2,SNR=2.8						
GERES				pP	pP	19 39 25.6	+0.4
	comp=Z,2.1nm,0.7s,baz=77,slow=4.7,SNR=5.1						
HFS	Hagfors	91.25	330	P	P	19 39 21.0	-0.2
	comp=Z,6.4nm,1.0s,baz=128,slow=11,SNR=3.0						
SPA0	Spitsbergen Ar	92.01	348	*e*P	P	19 39 24.6	+0.1
SPITS	Spitsbergen Ar	92.01	348	P	P	19 39 24.4	0.0
	comp=Z,8.3nm,0.9s,baz=106,slow=15,SNR=2.9						
NB200	NORSAR Array S	92.53	331	*e*P	P	19 39 27.1	0.0
NOA	NORSAR Array B	92.53	331	P	P	19 39 27.1	0.0
	comp=Z,1.8nm,1.0s,baz=89,slow=5.2,SNR=2.7						
IM3	Indian Mountai	99.39	24	*e*P	Pdif	19 39 57.9	-0.3
TOLK	Toolik Lake Re	100.25	20	P	Pdif	19 40 02.1	0.0
	baz=288						
YKA	Yellowknife Ar	115.47	17	PKP	PKPdf	19 44 57.8	+0.1
	comp=Z,0.8nm,1.0s,baz=317,slow=2.5,SNR=4.2						
YKA				PP	PP	19 45 58.4	-0.4
	comp=Z,0.5nm,0.9s,baz=331,slow=6.5,SNR=4.0						
J04D	Umpqua Nationa	125.17	37	P	PKPdf	19 45 17.8	+0.6
	baz=304						
N02D	Trinity Center	126.04	40	P	PKPdf	19 45 19.4	+0.6
	baz=302						
M04C	Macdoel	126.15	39	P	PKPdf	19 45 20.1	+1.1
	baz=304						
J08A	Circle Bar Ran	127.25	35	*e*PKPdf	PKPdf	19 45 21.6	+0.5
MSO	Missoula	127.37	29	P	PKPdf	19 45 22.0	+0.9
	baz=315						
BOZ	Bozeman (W)	129.37	29	P	PKPdf	19 45 25.7	+0.7
	baz=317						
NVAR	Mina Array Bea	130.28	40	PKP	PKPdf	19 45 29.1	+2.0
	comp=Z,1.1nm,0.7s,baz=294,slow=2.8,SNR=4.1						
NVAR				SKPbc	SKPab	19 48 49.5	+0.7
	comp=Z,1.4nm,0.8s,baz=284,slow=3.6,SNR=3.6						
R11A	Troy Canyon, C	132.05	39	P	PKPdf	19 45 32.1	+1.7
	baz=308						
PDAR	Pinedale Array	132.46	30	PKP	PKPdf	19 45 31.8	+0.7
	comp=Z,0.4nm,0.8s,baz=323,slow=1.4,SNR=2.9						
C40A	Isle Royale Na	134.79	9	P	PKPdf	19 45 35.5	+0.5
	baz=346						
D41A	Chassel	135.71	9	P	PKPdf	19 45 38.2	+1.4
	baz=347						
R39A	Chumby, Stover	143.03	18	P	PKPab	19 45 46.6	+1.0
	baz=337						
R41A	Rosebud	143.52	16	P	PKPab	19 45 48.3	+0.8
	baz=340						
R42A	Luebbering	143.69	15	P	PKPab	19 45 48.7	+0.5
	baz=341						
CCM	Cathedral Cave	143.78	16	P	PKPab	19 45 48.9	+0.4
	baz=340						
S40A	Lebanon	143.85	18	P	PKPab	19 45 48.7	-0.1
	baz=338						
R43A	Red Bud	143.91	14	P	PKPab	19 45 49.5	+0.5
	baz=342						
WMOK	Wichita Mounta	143.96	28	P	PKPab	19 45 49.6	+0.2
	baz=326						
WMOK	Wichita Mounta	143.96	28	*e*PKPdf	PKPab	19 45 49.6	+0.2
Q47A	Bedord North L	143.98	9	P	PKPab	19 45 49.8	+0.6
	baz=348						
T39A	Clever	144.10	19	P	PKPab	19 45 50.0	+0.2
	baz=336						
S42A	Caledonia	144.17	15	P	PKPab	19 45 50.1	0.0
	baz=341						
TUL1	Leonard	144.23	23	P	PKPab	19 45 50.7	+0.4
	baz=332						
TUL1	Leonard	144.23	23	*e*PKPdf	PKPbc	19 45 51.2	+0.5
T40A	Mansfield	144.26	18	P	PKPab	19 45 50.2	-0.2
	baz=338						
R45A	Skylar, Fairfi	144.27	12	P	PKPbc	19 45 51.3	+0.6
	baz=345						
T41A	Mountain View	144.58	17	P	PKPab	19 45 51.3	-0.3
	baz=339						
R47A	Wooly Knot Far	144.59	10	P	PKPab	19 45 51.3	-0.2
	baz=348						
R48A	Northridge Ran	144.59	9	P	PKPab	19 45 51.5	0.0
	baz=349						
SIUC	Southern Illin	144.62	13	*e*PKPdf	PKPab	19 45 51.5	-0.2
S44A	Carbondale	144.63	13	P	PKPab	19 45 51.7	+0.1
	baz=343						
U39A	Green Forest	144.65	20	P	PKPab	19 45 51.5	-0.3
	baz=336						
WCI	Wyandotte Cave	144.69	9	P	PKPab	19 45 51.7	-0.2
	baz=348						
WCI	Wyandotte Cave	144.69	9	*e*PKPdf	PKPab	19 45 52.1	+0.2
T42A	Van Buren	144.79	16	P	PKPab	19 45 52.2	-0.1
	baz=340						
S45A	Carrier Mills	144.79	13	P	PKPab	19 45 52.3	0.0
	baz=344						
U40A	Yellville	144.88	19	P	PKPab	19 45 52.5	-0.2
	baz=336						
T43A	Greenville	144.95	15	P	PKPab	19 45 52.3	-0.7
	baz=341						
S46A	Don Dixon Farm	144.97	11	P	PKPab	19 45 52.4	-0.5
	baz=346						
V39A	Pettigrew	145.08	20	P	PKPbc	19 45 53.1	-0.4
	baz=335						
PBMO	Poplar Bluff	145.20	15	*e*PKPbc	PKPbc	19 45 53.1	-0.7
ABTX	Abilene, Hawle	145.25	31	P	PKPbc	19 45 54.5	+0.4
	baz=323						
S48A	Wiedeman Farm,	145.29	9	P	PKPbc	19 45 53.9	-0.1
	baz=349						
U42A	Revenden	145.38	17	P	PKPbc	19 45 54.1	-0.2
	baz=339						
V40A	Witts Springs	145.39	19	P	PKPbc	19 45 54.1	-0.3
	baz=336						
LTX	Lajitas	145.41	39	*e*PKPbc	PKPab	19 45 56.1	+1.1
TXAR	Lajitas Array	145.41	39	PKPbc	PKPab	19 45 56.1	+1.1
	comp=Z,30nm,0.8s,baz=285,slow=0.6,SNR=14						
SPRD	Spring Road, M	145.42	358	*e*PKPdf	PKPbc	19 45 54.4	0.0
IP01	Cuckoo	145.49	358	*e*PKPdf	PKPdf	19 45 54.8	+0.2
T46A	Princeton	145.55	12	P	PKPdf	19 45 54.9	+0.1
	baz=345						
W39A	Magazine	145.61	21	P	PKPdf	19 45 55.3	+0.4
	baz=334						
V41A	Mountainview	145.63	18	P	PKPdf	19 45 54.8	-0.2
	baz=337						
HPIG		145.66	44	*e*PKPdf	PKPdf	19 45 56.0	+0.5
T47A	Sharon Grove	145.76	11	P	PKPdf	19 45 55.3	+0.1
	baz=346						
T48A	Bowling Green	145.77	10	P	PKPdf	19 45 55.4	+0.3
	baz=348						
V42A	Cord	145.84	17	P	PKPdf	19 45 55.3	0.0
	baz=339						
X39A	Fountain Ranch	146.11	22	P	PKPdf	19 45 56.0	+0.2
	baz=333						
U47A	Clarksville	146.25	11	P	PKPdf	19 45 56.7	+0.7
	baz=346						
MIAR	Mount Ida	146.27	21	P	PKPbc	19 45 57.4	+0.2
	baz=334						
MIAR	Mount Ida	146.27	21	*e*PKPdf	PKPbc	19 45 57.1	0.0
U48A	Cassie Pea, Po	146.33	10	P	PKPdf	19 45 57.0	+0.9
	baz=347						
WVT	Waverly	146.44	12	P	PKPbc	19 45 57.5	-0.1
	baz=345						
X40A	Basin Creek Fa	146.59	20	P	PKPbc	19 45 58.0	-0.1
	baz=335						
V46A	Holladay	146.70	13	P	PKPbc	19 45 58.1	-0.3
	baz=344						
TZTN	Tazewell	146.72	6	P	PKPbc	19 45 58.3	-0.2
	baz=353						
V47A	Nunnelly	146.80	12	P	PKPbc	19 45 58.4	-0.3
	baz=345						
JCT	Junction City	146.85	33	P	PKPbc	19 45 59.6	+0.5
	baz=321						
JCT	Junction City	146.85	33	*e*PKPbc	PKPbc	19 45 59.5	+0.5
V48A	Smith Brothers	147.02	11	P	PKPbc	19 45 59.2	-0.1
	baz=347						
W46A	Michie	147.28	14	P	PKPbc	19 45 59.4	-0.6
	baz=344						
W47A	Westpoint	147.34	12	P	PKPbc	19 45 59.9	-0.3
	baz=345						
Z40A	Long Farm, Mag	147.49	22	P	PKPab	19 46 02.4	-0.3
	baz=334						
PLAL	Pickwick Lake	147.49	13	*e*PKPbc	PKPbc	19 46 00.0	-0.6
TKL	Tuckaleechee C	147.57	7	PKPbc	PKPbc	19 46 00.6	-0.3
	comp=Z,8.4nm,0.6s,baz=350,slow=2.2,SNR=6.6						
TKL	Tuckaleechee C	147.57	7	*e*PKPbc	PKPbc	19 46 00.1	-0.7
W48A	Pulaski	147.59	11	P	PKPbc	19 46 00.6	-0.3
	baz=346						
X46A	Booneville	147.78	14	P	PKPbc	19 46 00.9	-0.5
	baz=343						
X47A	Russelville	147.99	13	P	PKPbc	19 46 01.1	-0.9
	baz=344						
X48A	Hartselle	148.23	12	P	PKPbc	19 46 01.9	-0.7
	baz=346						
KMSC	Kings Mountain	148.28	3	P	PKPbc	19 46 02.9	+0.1
	baz=357						
X49A	Woodville	148.31	11	P	PKPbc	19 46 02.6	-0.3
	baz=347						
BG3	Lake Jocassee	148.31	5	*e*PKPbc	PKPbc	19 46 02.3	-0.6
Y47A	UCPARC, Winfie	148.58	13	P	PKPbc	19 46 02.9	-0.7
	baz=344						
Y48A	Jasper	148.72	12	P	PKPbc	19 46 03.2	-0.7
	baz=345						
Y49A	Blount Mountai	148.93	11	P	PKPbc	19 46 04.2	-0.3
	baz=347						
Z46A	Louisville	148.98	15	P	PKPbc	19 46 04.9	+0.2
	baz=342						
Z48A	Northport	149.15	13	P	PKPbc	19 46 04.4	-0.6
	baz=344						
Z47A	Carrollton	149.20	14	P	PKPbc	19 46 04.6	-0.5
	baz=343						
HKT	Hockley	149.31	29	*e*PKPbc	PKPbc	19 46 06.5	+1.0
Z49A	Columbiana	149.55	12	P	PKPbc	19 46 05.9	-0.2
	baz=346						
LRAL	Lakeview Retre	149.60	13	P	PKPbc	19 46 06.3	+0.1
	baz=345						
Z50A	Ashland	149.61	11	P	PKPbc	19 46 06.2	0.0
	baz=347						
147A	Livingston	149.65	15	P	PKPbc	19 46 06.8	+0.5
	baz=343						
GOGA	Godfrey	149.82	7	P	PKPbc	19 46 06.9	+0.2
	baz=352						
151A	Opelika	150.42	10	P	PKPbc	19 46 08.4	+0.2
	baz=348						
249A	Camden	150.59	13	P	PKPbc	19 46 09.3	+0.7
	baz=344						
155A	Kite	150.71	5	P	PKPbc	19 46 09.5	+0.6
	baz=354						
250A	Grady	150.78	12	P	PKPbc	19 46 10.0	+1.0
	baz=346						
347A	Saraland	150.78	16	P	PKPbc	19 46 10.0	+0.9
	baz=341						
251A	Midway	150.83	10	P	PKPbc	19 46 09.6	+0.5
	baz=348						
252A	Lumpkin	151.04	9	P	PKPbc	19 46 10.1	+0.4
	baz=349						
LNIG	Linares	151.18	40	*e*PKPbc	PKPbc	19 46 09.6	-0.6
LNIG				*e*PKPab	PKPab	19 46 17.2	-0.7
352A	Blakely	151.51	10	P	PKPbc	19 46 11.3	+0.5
	baz=349						
TIGA	Tifton	151.75	7	P	PKPbc	19 46 12.0	+0.7
	baz=352						

DJA 06 19:41:40.9±0.5**,3°S**±5°×**10°0E**±°**,h37**km±23km**,M3.5**/6**, MLv3.5**/6**,Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPSI	Pulau Pagai	0.69	318	P	Pn	19 41 55.0	+0.8
PPSI				S	Sn	19 42 05.4	+1.8
MASI	Maura Aman, Be	1.77	86	P	Pn	19 42 09.0	0.0
MASI				S	Sn	19 42 30.7	+0.3
PDSI	Padang	2.35	360	P	Pn	19 42 16.8	-0.2
PDSI				S	Sn	19 42 45.4	+0.7
MNAI	Manna	2.70	113	P	Pn	19 42 22.3	+0.5
MNAI				S	Sn	19 42 53.4	+0.1
KASI	Kota Agung	4.59	119	P	Pn	19 42 48.5	+0.7

NEIC 06 19:50:27.3±0.0,16˚.28N×98˚.43W,h4km,MD4.0(MEX), After MEX.

MEX 06 19:50:27.3±0.5**,16˚.27N**×**98˚.43W,h4**km**,MD4.0,Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.31	67	*e*P	Pg	19 50 32.6	-0.8
PNIG				*e*S	Sg	19 50 37.5	+0.1
PNIG	Pinotepa	0.31	67	*e*P	Pg	19 50 32.6	-0.8
PNIG				*e*S	Sg	19 50 37.5	+0.1
TLIG	Tlapa	1.29	354	*e*P	Pg	19 50 47.0	-5.2
TLIG				*e*S	Sg	19 51 03.4	-5.5
TLIG	Tlapa	1.29	354	*e*P	Pg	19 50 47.0	-5.2
TLIG				*e*S	Sg	19 51 03.4	-5.5
VHO	Vista Hermosa	1.81	64	*e*P	Pn	19 50 58.0	-1.4
VHO				*e*S	Sn	19 51 21.4	-1.5
VHO	Vista Hermosa	1.81	64	*e*P	Pn	19 50 58.0	-1.4
VHO				*e*S	Sn	19 51 21.4	-1.5
MEIG	Mezcala	2.00	325	*e*P	Pn	19 50 58.7	-3.4
MEIG				*e*S	Sn	19 51 23.0	-4.6
MEIG	Mezcala	2.00	325	*e*P	Pn	19 50 58.7	-3.4
MEIG				*e*S	Sn	19 51 23.0	-4.6
HUIG	Huatulco	2.28	102	*e*P	Pn	19 51 00.1	-5.7
HUIG				*e*S	Sn	19 51 30.3	-4.1
HUIG	Huatulco	2.28	102	*e*P	Pn	19 51 00.1	-5.7
HUIG				*e*S	Sn	19 51 30.3	-4.1

ISCJB 06 19:51:54.5±0.9,1˚.23S±0˚.06×77˚.9W±0˚.2,h200km,mb3.7/1, Error ellipse: s-maj=22.3km s-min=8.4km az=0.6
IDC 06 19:52:05.5±8.2,2˚.36S×78˚.68W,h297km±70km,mb3.1/1, mb1 3.3/3,mb1mx2.7/45,mbtmp3.9/3,Error ellipse: s-maj=112.0km s-min=60.0km az=27.0

ISC 06 19:51:52.3±1.9**,1˚.4S**±0˚.1×**77˚.9W**±0˚.1**,h200**km**,n18, σ1s.56**/15**,Ecuador**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OTAV	Otavalo	1.68	342	*e*P	Pn	19 52 29.5	+1.3
GCUF	Volcan Galeras	2.65	13	*e*P	Pn	19 52 41.5	+3.0
CRUC	La Cruz	3.08	19	*e*P	Pn	19 52 43.5	+0.1
TUMC	Tumaco	3.27	346	*e*P	Sn	19 53 26.0	-0.8
FLOC	Florencia	3.72	38	*e*P	Pn	19 52 50.8	0.0
SOTA	Rioblanco	3.73	21	*e*P	Pn	19 52 51.5	+0.1
PCON	Cinco Dias	3.99	23	*e*P	Pn	19 52 56.1	+1.5
POPC	Popayan, Colom	4.09	18	*e*P	Pn	19 52 56.1	+0.6
GRGC	Isla de Gorgon	4.35	357	*e*P	Pn	19 53 00.1	+1.5
HORQ	Saladito	5.00	15	*e*P	Pn	19 53 06.7	-0.3
YOTC	Yotoco, Valle	5.55	17	*e*P	Pn	19 53 12.7	-1.3
ATAH	Atahualpa	5.74	185	P	Pn	19 53 20.6	+3.8
	4.7nm,0.3s,baz=2.8,slow=8.8,SNR=22						
ATAH				S	Sn	19 54 20.5	-2.9
	1.1nm,0.3s,baz=8.1,slow=14,SNR=1.3						
SJAC	San Juan de Ar	6.10	41	*e*P	Pn	19 53 23.1	+2.1
ZARC	Zaragoza, Cauc	9.33	19	*e*P	Pn	19 54 03.2	+0.3
LPAZ	La Paz	17.69	147	P	Pn	19 55 50.4	+2.9
	0.4nm,0.3s,baz=318,slow=8.4,SNR=4.2						
SIV	San Ignacio	22.08	132	P	P	19 56 35.1	+3.5
	1.8nm,0.7s,baz=325,slow=12,SNR=7.0						
ASAR	Alice Springs	140.28	229	PKP	PKPdf	20 10 55.8	-2.6
	0.1nm,0.3s,baz=114,slow=3.2,SNR=2.3						
WRA	Warramunga Arr	141.91	235	PKP	PKPdf	20 11 01.8	+0.5
	0.2nm,0.4s,baz=110,slow=2.7,SNR=6.0						

ISN 06 20:27:02.2±1.4,38˚.80N×43˚.18E,h0km±64km,ML3.5
ISK 06 20:27:08.5,38˚.63N×43˚.17E,h5km,ML3.6/23
ISCJB 06 20:27:10.0±0.4,38˚.63N±0˚.02×43˚.17E±0˚.02,h1km±3km, Error ellipse: s-maj=3.0km s-min=2.2km az=165.7
ATA 06 20:27:09.5±1.1,38˚.63N×43˚.07E,h15km±10km,ML4.0, MW4.0
DDA 06 20:27:09.9,38˚.62N×43˚.18E,h7km,Ml3.5
CSEM 06 20:27:10.1±0.1,38˚.62N×43˚.16E,h2km,MD3.4,Error ellipse: s-maj=3.9km s-min=2.6km az=151.0
TEH 06 20:27:11.8,38˚.82N×43˚.16E,h14km,ML3.3

ISC 06 20:27:10.4±1.1**,38˚.63N**±0˚.02×**43˚.15E**±0˚.01**,h2**km±9km**, n115,σ1s.28**/156**,15C-7D,Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	Van	0.19	101	PG	Pg	20 27 14.1	0.0
VANB				SG	Sg	20 27 18.1	+1.4
VANB	Van	0.19	101	*e*Pg	Pg	20 27 14.1	0.0
VANB				*e*Sg	Sg	20 27 18.1	+1.4
TVAN	Van	0.23	117	*i* P	Pg	20 27 14.3	-0.5
TVAN				*i* S	Sg	20 27 18.6	+0.8
TVAN	Van	0.23	117	P	Pg	20 27 14.3	-0.5
TVAN				S	Sg	20 27 18.6	+0.8
GEVA	Gevas	0.33	192	*i* P	Pg	20 27 16.1	-0.6
GEVA				*i* Pg	Pb	20 27 16.4	-2.6
GEVA				*e*S	Sb	20 27 22.9	-1.9
GEVA	Gevas	0.33	192	*i* P	Pg	20 27 16.2	-0.5
GEVA				*i* S	Sb	20 27 23.1	-1.8
GEVA	Gevas	0.33	192	P	Pg	20 27 16.2	-0.5
GEVA				S	Sb	20 27 23.1	-1.8
ADCV	BITLIS_Adilcev	0.37	298	*i* P	Pg	20 27 18.0	+0.5
ADCV				*i* S	Sb	20 27 25.2	-1.0
ADCV	BITLIS_Adilcev	0.37	298	P	Pg	20 27 18.0	+0.5
ERCV	ERCIS-VAN	0.41	21	PG	Pg	20 27 17.7	-0.7
ERCV				SG	Sg	20 27 24.3	+0.5
ERCV	ERCIS-VAN	0.41	21	*e*Pg	Pg	20 27 17.7	-0.7
ERCV				*e*Sg	Sg	20 27 24.3	+0.5
VMUR	Van-Muradiye	0.49	43	*i* P	Pg	20 27 19.9	+0.2
VMUR				*i* S	Sb	20 27 29.4	-0.2
VMUR	Van-Muradiye	0.49	43	P	Pg	20 27 19.9	+0.2
VMUR				S	Sb	20 27 29.4	-0.2
CLDR	Caldiran	0.79	49	PG	Pg	20 27 24.6	-0.9
CLDR				SG	Sg	20 27 36.4	+0.7
CLDR	Caldiran	0.79	49	*i* P	Pg	20 27 23.9	-1.6
CLDR				*i* S	Sb	20 27 36.8	-1.5
CLDR	Caldiran	0.79	49	P	Pg	20 27 23.9	-1.6
CLDR	Caldiran	0.79	49	*e*Pg	Pg	20 27 24.6	-0.9
CLDR				*e*Sg	Sg	20 27 36.4	+0.7
TUTA	Tutak	0.81	342	⇓*i*P	Pg	20 27 25.4	-0.4
TUTA				IAML		20 27 40.9	
	comp=Z,591nm,0.5s						
TUTA	Tutak	0.81	342	*i* P	Pg	20 27 25.5	-0.4
TUTA				*i* S	Sb	20 27 38.0	-0.9
TUTA	Tutak	0.81	342	P	Pg	20 27 25.5	-0.4
TUTA				S	Sb	20 27 38.0	-0.9
GURO	Guroymak-BITLI	0.88	265	PG	Pg	20 27 26.0	-1.2
GURO	Guroymak-BITLI	0.88	265	*e*Pg	Pg	20 27 26.0	-1.2
AGRB	Hanur-Agry	0.95	353	PG	Pg	20 27 27.8	-0.8
AGRB	Hanur-Agry	0.95	353	*e*Pg	Pg	20 27 27.8	-0.8
DYDN	Diyadin	1.00	25	*e*P	Pb	20 27 30.1	-0.6
DYDN				IAML		20 28 03.5	
	comp=Z,139nm,0.6s						
EKAR	Karacoban	1.05	307	*i* P	Pg	20 27 29.4	-1.1
EKAR				IAML		20 28 03.8	
	comp=Z,251nm,0.6s						
SRTM	Siirt_Merkez	1.16	237	*i* P	Pn	20 27 32.7	-1.0
SRTM				*i* S	Sn	20 27 49.2	-1.0
SRTM	Siirt_Merkez	1.16	237	P	Pn	20 27 32.7	-1.0
HAKT	HAKKARI	1.16	157	*i* P	Pb	20 27 30.6	-2.7
HAKT				*i* S	Sn	20 27 55.7	+5.2
HAKT	HAKKARI	1.16	157	P	Pb	20 27 30.6	-2.7
SIRT	Sirnak	1.26	206	PN	Pn	20 27 33.8	-1.3
SIRT	Sirnak	1.26	206	*e*Pn	Pn	20 27 33.8	-1.3
SIRN	S˜–rnak	1.27	207	*i* P	Pb	20 27 34.5	-0.6
SIRN				*i* S	Sn	20 27 57.0	+4.0
SIRN	S˜–rnak	1.27	207	P	Pb	20 27 34.5	-0.6
EATA	Eleskirt	1.33	338	*i* P	Pn	20 27 34.9	-1.3
EATA	Eleskirt	1.33	338	*i* P	Pn	20 27 35.0	-1.3
EATA				*i* S	Sn	20 27 55.2	+0.4
EATA	Eleskirt	1.33	338	P	Pn	20 27 35.0	-1.3
EATA				S	Sn	20 27 55.2	+0.4
VRTB	Varto-Mus	1.42	292	PN	Pn	20 27 36.4	-1.0
VRTB	Varto-Mus	1.42	292	*e*Pn	Pn	20 27 36.4	-1.0
IGDI	IGDIR	1.43	30	*i* P	Pb	20 27 37.1	-0.7
IGDI				*e*S	Sg	20 27 59.1	+2.7
IGDI				IAML		20 28 03.3	
	comp=Z,64nm,0.5s						
IGDI	IGDIR	1.43	30	*i* P	Pb	20 27 37.2	-0.7
IGDI				*i* S	Sg	20 28 00.9	+4.5
TASB	TASBURUN-IGDIR	1.59	32	PN	Pn	20 27 38.9	-0.8
TASB	TASBURUN-IGDIR	1.59	32	*e*Pn	Pn	20 27 38.9	-0.8
SVAN	Silvan-Diyarba	1.60	253	PN	Pn	20 27 39.3	-0.5
SVAN	Silvan-Diyarba	1.60	253	*i* P	Pb	20 27 40.0	-0.7
SVAN				*i* S	Sg	20 28 03.7	+1.8
SVAN	Silvan-Diyarba	1.60	253	*e*Pn	Pn	20 27 39.3	-0.5
SVAN	Silvan-Diyarba	1.60	253	P	Pb	20 27 40.0	-0.7
SVAN				S	Sg	20 28 03.7	+1.8
BTMN	Batman	1.65	244	*i* P	Pb	20 27 40.9	-0.7
BTMN				*i* S	Sg	20 28 05.0	+1.6
BTMN	Batman	1.65	244	P	Pb	20 27 40.9	-0.7
BTMN				S	Sg	20 28 05.0	+1.6
HOMI	Horasan	1.71	326	*e*P	Pn	20 27 39.9	-1.6
HOMI				*e*S	Sg	20 28 06.8	+1.5
HOMI				IAML		20 28 13.9	
	comp=Z,146nm,0.7s						
HYR	Heyderabad	1.71	50	⇑P	Pb	20 27 41.6	-1.1
	SNR=104						
HYR				⇑S	Sb	20 28 03.3	-1.4
DIGO	Kars	1.79	6	*e*P	Pn	20 27 42.3	-0.3
ERZM	Erzurum	1.88	313	*i* P	Pb	20 27 44.1	-1.5
NAX	Nakhchivan	1.91	73	⇑P	Pn	20 27 44.1	0.0
	SNR=78						
NAX				⇓S	Sb	20 28 09.4	-1.0
ECAT	Cat-ERZURUM	1.95	301	*e*P	Pb	20 27 45.2	-1.5
ECAT				*e*S	Sg	20 28 13.6	+0.6
ECAT				IAML		20 28 18.1	
	comp=Z,36nm,0.5s						
BNGB	Bingˆ¶l	1.96	281	PN	Pn	20 27 44.3	-0.5
ISHB	Shabestar	1.97	99	*e*Pn	Pn	20 27 44.6	-0.5
ISHB				*e*AMB	AMB	20 27 52.7	
	comp=Z,2μm,0.3s						
ISHB				*e*Sg	Sg	20 28 14.4	+0.7
KARS	Kars	1.99	359	PN	Pn	20 27 44.3	-1.0
KARS	Kars	1.99	359	*e*Pn	Pn	20 27 44.3	-1.0
IMRD	Marand	2.00	87	*e*Pn	Pn	20 27 45.0	-0.4
IMRD				*e*AMB	AMB	20 27 57.2	
	comp=Z,5μm,0.2s						
SENK	Senkaya-Erzuru	2.02	343	PN	Pn	20 27 45.0	-0.7
SENK	Senkaya-Erzuru	2.02	343	*e*Pn	Pn	20 27 45.0	-0.7
SBZ	Shahbuz	2.02	67	⇓P	Pn	20 27 45.6	-0.1
	SNR=90						
SBZ				⇑S	Sb	20 28 13.0	-0.7
EAK	Akyaka	2.08	10	*i* P	Pg	20 27 49.5	-0.8
BINT	Bingol	2.09	278	*e*Pn	Pn	20 27 44.3	-2.3
HANI	Diyarbakir_Han	2.17	265	*i* P	Pb	20 27 49.5	-0.9
HANI				*i* S	Sg	20 28 23.1	+3.1
HANI	Diyarbakir_Han	2.17	265	P	Pb	20 27 49.5	-0.9
ORD	Ordubad	2.25	82	P	Pn	20 27 48.6	-0.1
	SNR=111						
ORD				⇑S	Sb	20 28 18.5	-1.5
MARD	Mardin	2.29	236	*i* S	Sb	20 28 22.0	+0.7
ITBZ	Tabriz	2.39	99	*e*Pn	Pn	20 27 51.0	+0.2
ITBZ				*e*AMB	AMB	20 28 13.7	
	comp=Z,580nm,0.3s						
DIY	Diyarbakir	2.41	253	*e*Pn	Pn	20 27 51.5	+0.5
MAZI	Mazidag	2.43	242	PN	Pn	20 27 50.6	-0.7
MAZI	Mazidag	2.43	242	*e*Pn	Pn	20 27 50.6	-0.7
DYBB	Diyarbakir	2.46	255	PN	Pn	20 27 51.5	-0.1
KOPT	Kop Dagi	2.48	305	*e*P	Pg	20 27 56.6	-1.3
ARTV	Artvin	2.72	340	*e*P	Pn	20 27 56.1	+0.9
BAYB	BAYBURT	2.76	307	*e*P	Pb	20 27 57.5	-3.1
AKH	Akhalkalaki	2.79	5	PN	Pn	20 27 55.9	-0.3
AKH	Akhalkalaki	2.79	5	*e*Pn	Pn	20 27 55.9	-0.3
ERZN	Erzincan	2.83	291	PN	Pn	20 27 56.9	+0.2
TNCL	Tunceli-Merkez	2.85	281	*e*P	Pb	20 28 01.4	-0.8
EPOS	Posof	2.89	354	*e*P	Pb	20 28 03.3	+0.6
GDB	GEDABAY	2.90	43	⇑P	Pn	20 27 57.5	-0.2
	SNR=5.5						
GDB				⇑S	Sn	20 28 34.0	+0.7
BAYT	Ayd˜–ntepe-Bay	2.91	308	PN	Pn	20 27 57.8	-0.2
BAYT	Ayd˜–ntepe-Bay	2.91	308	*e*Pn	Pn	20 27 57.8	-0.2
PTK	Pertek	2.95	276	PN	Pn	20 27 58.4	0.0
PTK	Pertek	2.95	276	*e*Pn	Pn	20 27 58.4	0.0
QZX	Qazax, Azerbai	2.97	35	⇓P	Pn	20 27 59.0	+0.4
	SNR=7.6						
QZX				⇑S	Sn	20 28 35.9	+1.1
CHOM	Cayeli-Rize	3.07	324	*e*Pn	Pn	20 28 00.0	0.0
IHRS	Heris	3.07	95	*e*Pn	Pn	20 28 00.8	+0.6
IHRS				*e*AMB	AMB	20 28 11.0	
	comp=Z,979nm,0.3s						
IBST	Bostanabad	3.10	106	*e*AMB	AMB	20 28 09.8	
	comp=Z,279nm,0.3s						
IBST				*e*Pn	Pn	20 28 01.4	+0.9
GANJ	Ganja	3.17	50	⇑P	Pn	20 28 00.9	-0.5
	SNR=11						
GANJ				⇑S	Sn	20 28 40.3	+0.5
KELT	Kelkit	3.37	298	*e*P	Pb	20 28 11.9	+0.9
URFA	Urfa	3.62	252	PN	Pn	20 28 08.0	+0.5
URFA	Urfa	3.62	252	*e*Pn	Pn	20 28 08.0	+0.5
KEMA	Kemaliye	3.68	281	*e*P	Pb	20 28 13.9	-2.4
MNGR	Mingechevir, A	3.71	54	⇑S	Sn	20 28 53.5	+0.4
MALT	Malatya	3.72	267	PN	Pn	20 28 09.7	+0.8
MALT	Malatya	3.72	267	*e*Pn	Pn	20 28 09.7	+0.8
ZRD	Zardab	3.88	63	⇓S	Sn	20 28 57.6	+0.4
SEKA	Sheki	4.04	49	⇑P	Pn	20 28 14.3	+1.0
LRK	Lerik	4.07	88	⇑P	Pn	20 28 13.6	-0.2
LRK				⇑S	Sn	20 29 02.1	0.0

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
LKRN	**Lenkeran, Azer**	**4.41**	**87**	⇓P	**Pn**	**20 28 18.0**	**-0.3**
ASTR	**Astara**	**4.42**	**89**	⇓P	**Pn**	**20 28 18.4**	**-0.1**
DARE	**Darende-Malaty**	**4.44**	**271**	PN	**Pn**	**20 28 19.8**	**+1.0**
DARE	**Darende-Malaty**	**4.44**	**271**	*e*Pn	**Pn**	**20 28 19.8**	**+1.0**
XNQ	**Khinaliq**	**4.60**	**55**	⇑P	**Pn**	**20 28 21.5**	**+0.3**
ILIN	**Lien**	**4.81**	**139**	*e*Pn	**Pn**	**20 28 25.5**	**+1.4**
ILIN				*e*AMB	AMB	20 29 57.3	
	comp=Z,140nm,0.3s						
GAZ	**Gaziantep**	**4.91**	**255**	PN	**Pn**	**20 28 26.5**	**+1.1**
GAZ	**Gaziantep**	**4.91**	**255**	*e*Pn	**Pn**	**20 28 26.5**	**+1.1**
KMRS	**Kahramanmaras**	**5.05**	**259**	PN	**Pn**	**20 28 28.6**	**+1.3**
KMRS	**Kahramanmaras**	**5.05**	**259**	*e*Pn	**Pn**	**20 28 28.6**	**+1.3**
IVIS	**Veis**	**5.07**	**143**	*e*Pn	**Pn**	**20 28 28.5**	**+1.0**
IVIS				*e*AMB	AMB	20 30 01.5	
	comp=Z,215nm,0.4s						
IGHG	**Ghaleghazi**	**5.10**	**146**	*e*Pn	**Pn**	**20 28 29.7**	**+1.6**
IGHG				*e*AMB	AMB	20 30 12.9	
	comp=Z,402nm,0.5s						
RTB	**Rutbah**	**6.05**	**203**	*e*Pn	**Pn**	**20 28 38.0**	**-2.9**
	SNR=3.0						

IDC 06 20:30:28.0±14.0**,21°.24S**×**177°.51W,h483**km±121km**, mb3.1**/4**,mb1 3.4**/4**,mb1mx3.0**/43**,mbtmp3.9**/4**,Error ellipse: s-maj=169.8km s-min=45.4km az=137.0,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**44.80**	**257**	P	P	20 37 58.6	+0.5
	1.5nm,0.5s,baz=94,slow=7.7,SNR=35						
ASAR				PcP	PcP	20 39 30.4	+0.3
	0.5nm,0.7s,baz=94,slow=4.3,SNR=5.7						
WRA	**Warramunga Arr**	**44.96**	**263**	P	P	20 37 58.5	-0.9
	0.7nm,0.4s,baz=97,slow=7.9,SNR=41						
ILAR	**Eielson Array**	**88.94**	**13**	P	P	20 42 30.2	+0.4
	0.2nm,0.4s,baz=208,slow=7.1,SNR=3.8						
CMAR	**Chiang Mai Arr**	**90.79**	**289**	P	P	20 42 39.9	+0.4
	0.2nm,0.6s,baz=98,slow=4.6,SNR=4.8						
BVAR	**Borovoye Array**	**119.94**	**320**	PKP	PKPdf	20 48 22.5	-0.2
	0.3nm,0.3s,baz=78,slow=4.1,SNR=2.8						
AKASG	**Malin Array Be**	**143.88**	**331**	PKP	PKPbc	20 49 04.8	-1.7
	1.6nm,0.5s,baz=42,slow=4.2,SNR=10						
BRTR	**Keskin Array B**	**147.68**	**312**	PKPbc	PKPbc	20 49 17.1	-0.9
	0.4nm,0.6s,baz=90,slow=2.9,SNR=2.2						
MMAI	**Mount Meron Ar**	**148.58**	**299**	PKPbc	PKPbc	20 49 20.3	-0.1
	1.4nm,0.6s,baz=66,slow=5.0,SNR=6.4						

*ISN **06** 20:38:26.0±1.0,38°.61N×43°.19E,h0km±43km,ML3.6*
*TEH **06** 20:38:28.4,39°.07N×42°.83E,h10km,ML3.3*
*DDA **06** 20:38:30.9,38°.62N×43°.17E,h5km,Ml3.6*
*ATA **06** 20:38:30.6±1.2,38°.64N×43°.10E,h15km±7km,ML4.2, MW4.1*
*ISK **06** 20:38:30.1,38°.65N×43°.21E,h5km,ML3.6/21*
*IDC **06** 20:38:31.1±1.1,38°.56N×43°.31E,h0km,mb3.7/8, mb1 3.5/15,mb1mx3.3/72,mbtmp3.4/15,ML2.6/6,Error ellipse: s-maj=16.6km s-min=13.3km az=168.0*
*CSEM **06** 20:38:31.8±0.1,38°.65N×43°.20E,h2km,ML3.6,Error ellipse: s-maj=3.5km s-min=2.6km az=158.0*
*ISCJB **06** 20:38:31.9±0.3,38°.66N±0°.02×43°.19E±0°.02,h8km±3km, mb3.5/7,Error ellipse: s-maj=3.1km s-min=2.6km az=163.3*
ISC 06 20:38:32.0±0.8**,38°.63N**±0°.02×**43°.18E**±0°.02**,h11**km±5km**, n123,**σ**1s.69**/161**,mb3.6**/7**,10C-8D,Turkey**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
VANB	**Van**	**0.17**	**102**	PG	**Pg**	**20 38 35.3**	**-0.5**
VANB				SG	**Sg**	**20 38 39.0**	**+0.5**
VANB	**Van**	**0.17**	**102**	*e*Pg	**Pg**	**20 38 35.3**	**-0.5**
VANB				*e*Sg	**Sg**	**20 38 39.0**	**+0.5**
TVAN	**Van**	**0.21**	**119**	*i* P	**Pg**	**20 38 35.4**	**-1.1**
TVAN				*i* S	**Sg**	**20 38 39.7**	**+0.1**
TVAN	**Van**	**0.21**	**119**	P	**Pg**	**20 38 35.4**	**-1.1**
TVAN				S	**Sg**	**20 38 39.7**	**+0.1**
GEVA	**Gevas**	**0.33**	**196**	*i* P	**Pg**	**20 38 37.1**	**-1.5**
GEVA				*e*S	**Sg**	**20 38 44.4**	**+1.2**
GEVA				IAML		20 38 47.8	
	comp=Z,3μm,0.4s						
GEVA	**Gevas**	**0.33**	**196**	*i* P	**Pg**	**20 38 37.3**	**-1.4**
GEVA				*i* S	**Sg**	**20 38 44.6**	**+1.4**
GEVA	**Gevas**	**0.33**	**196**	P	**Pg**	**20 38 37.3**	**-1.4**
GEVA				S	**Sg**	**20 38 44.6**	**+1.4**
ADCV	**BITLIS_Adilcev**	**0.40**	**297**	*i* P	**Pg**	**20 38 39.3**	**-0.6**
ADCV				*i* S	**Sg**	**20 38 46.5**	**+1.3**
ADCV	**BITLIS_Adilcev**	**0.40**	**297**	P	**Pg**	**20 38 39.3**	**-0.6**
ADCV				S	**Sg**	**20 38 46.5**	**+1.3**
ERCV	**ERCIS-VAN**	**0.41**	**18**	PG	**Pg**	**20 38 38.7**	**-1.4**
ERCV				SG	**Sg**	**20 38 45.1**	**-0.5**
ERCV	**ERCIS-VAN**	**0.41**	**18**	*e*Pg	**Pg**	**20 38 38.7**	**-1.4**
ERCV				*e*Sg	**Sg**	**20 38 45.1**	**-0.5**
VMUR	**Van-Muradiye**	**0.47**	**41**	*i* P	**Pg**	**20 38 41.1**	**-0.2**
VMUR				*i* S	**Sb**	**20 38 50.0**	**+0.5**
VMUR	**Van-Muradiye**	**0.47**	**41**	P	**Pg**	**20 38 41.1**	**-0.2**
VMUR				S	**Sb**	**20 38 50.0**	**+0.5**
CLDR	**Caldiran**	**0.77**	**48**	PG	**Pg**	**20 38 45.4**	**-1.5**
CLDR				SG	**Sg**	**20 38 56.6**	**-0.5**
CLDR	**Caldiran**	**0.77**	**48**	*i* P	**Pg**	**20 38 45.5**	**-1.5**
CLDR				*i* S	**Sg**	**20 38 57.8**	**+0.7**
CLDR	**Caldiran**	**0.77**	**48**	P	**Pg**	**20 38 45.5**	**-1.5**
CLDR				*e*Sg	**Sg**	**20 38 56.6**	**-0.5**
CLDR				S	**Sg**	**20 38 57.8**	**+0.7**
TUTA	**Tutak**	**0.82**	**340**	*i* P	**Pg**	**20 38 46.6**	**-1.2**
TUTA				IAML		20 39 01.9	
	comp=Z,1μm,0.2s						
TUTA	**Tutak**	**0.82**	**340**	*i* P	**Pg**	**20 38 46.7**	**-1.2**
TUTA				*i* S	**Sg**	**20 38 59.4**	**+0.8**
TUTA	**Tutak**	**0.82**	**340**	P	**Pg**	**20 38 46.7**	**-1.2**
TUTA				S	**Sg**	**20 38 59.4**	**+0.8**
AGRB	**Hanur-Agry**	**0.95**	**351**	PG	**Pg**	**20 38 48.9**	**-1.5**
AGRB				SG	**Sg**	**20 39 03.1**	**+0.2**
AGRB	**Hanur-Agry**	**0.95**	**351**	*e*Pg	**Pg**	**20 38 48.9**	**-1.5**
AGRB				*e*Sg	**Sg**	**20 39 03.1**	**+0.2**
DYDN	**Diyadin**	**0.99**	**23**	*e*P	**Pg**	**20 38 49.8**	**-1.4**
DYDN				*e*S	**Sn**	**20 39 06.7**	**+0.4**
DYDN				IAML		20 39 11.4	
	comp=Z,233nm,0.6s						
EKAR	**Karacoban**	**1.07**	**306**	*i* P	**Pg**	**20 38 50.8**	**-1.8**
EKAR				IAML		20 39 16.8	
	comp=Z,386nm,0.6s						
SIRT	**Sirnak**	**1.27**	**208**	PN	**Pn**	**20 38 55.8**	**0.0**
SIRT	**Sirnak**	**1.27**	**208**	*e*Pn	**Pn**	**20 38 55.8**	**0.0**
EATA	**Eleskirt**	**1.34**	**337**	*i* P	**Pn**	**20 38 55.9**	**-1.0**
EATA				IAML		20 39 21.8	
	comp=Z,102nm,0.5s						
EATA	**Eleskirt**	**1.34**	**337**	*i* P	**Pn**	**20 38 56.1**	**-0.8**
EATA				*i* S	**Sg**	**20 39 17.4**	**+2.2**
EATA	**Eleskirt**	**1.34**	**337**	P	**Pn**	**20 38 56.1**	**-0.8**
EATA				S	**Sg**	**20 39 17.4**	**+2.2**
YOVA	**Hakkari_Yˆ…kse**	**1.36**	**140**	*i* P	**Pn**	**20 38 56.8**	**-0.3**
YOVA				*i* S	**Sg**	**20 39 19.3**	**+3.5**
YOVA	**Hakkari_Yˆ…kse**	**1.36**	**140**	P	**Pn**	**20 38 56.8**	**-0.3**
YOVA				S	**Sg**	**20 39 19.3**	**+3.5**
IGDI	**IGDIR**	**1.42**	**29**	*e*P	**Pn**	**20 38 57.4**	**-0.5**
IGDI				*e*S	**Sg**	**20 39 19.3**	**+1.6**
IGDI	**IGDIR**	**1.42**	**29**	*i* P	**Pn**	**20 38 58.1**	**+0.3**
IGDI				*i* S	**Sg**	**20 39 22.4**	**+4.7**
TASB	**TASBURUN-IGDIR**	**1.58**	**31**	PN	**Pn**	**20 38 59.8**	**-0.3**
TASB	**TASBURUN-IGDIR**	**1.58**	**31**	*e*Pn	**Pn**	**20 38 59.8**	**-0.3**
SVAN	**Silvan-Diyarba**	**1.63**	**254**	PN	**Pn**	**20 39 01.3**	**+0.7**
SVAN	**Silvan-Diyarba**	**1.63**	**254**	*i* P	**Pn**	**20 39 01.6**	**+1.0**
SVAN				*i* S	**Sg**	**20 39 24.7**	**+0.4**
SVAN	**Silvan-Diyarba**	**1.63**	**254**	*e*Pn	**Pn**	**20 39 01.3**	**+0.7**
SVAN	**Silvan-Diyarba**	**1.63**	**254**	P	**Pn**	**20 39 01.6**	**+1.0**
SVAN				S	**Sg**	**20 39 24.7**	**+0.4**
BTMN	**Batman**	**1.67**	**244**	*i* P	**Pn**	**20 39 02.2**	**+0.9**
BTMN				*i* S	**Sg**	**20 39 26.8**	**+1.0**
BTMN	**Batman**	**1.67**	**244**	P	**Pn**	**20 39 02.2**	**+0.9**
BTMN				S	**Sg**	**20 39 26.8**	**+1.0**
HYR	**Heyderabad**	**1.70**	**50**	⇑P	**Pn**	**20 39 02.0**	**+0.4**
	SNR=14						
HOMI	**Horasan**	**1.72**	**325**	*e*P	**Pn**	**20 39 01.9**	**-0.3**
DIGO	**Kars**	**1.79**	**5**	*i* P	**Pn**	**20 39 03.5**	**+0.4**
NAX	**Nakhchivan**	**1.89**	**73**	⇑P	**Pn**	**20 39 05.3**	**+1.0**
	SNR=20						
ERZM	**Erzurum**	**1.90**	**313**	⇓*i*P	**Pn**	**20 39 05.5**	**+0.9**
GNI	**Garni**	**1.94**	**38**	Pn	**Pn**	**20 39 06.7**	**+1.7**
	comp=Z,4.5nm,0.3s,baz=248,slow=2.8,SNR=44						
GNI				Lg	Lg	20 39 38.9	
	comp=Z,16nm,0.3s,baz=141,slow=23,SNR=9.9						
ISHB	**Shabestar**	**1.95**	**99**	*e*AMB	AMB	20 39 13.8	
	comp=Z,2μm,0.3s						
ISHB				*e*Pn	**Pn**	**20 39 05.9**	**+0.7**
ECAT	**Cat-ERZURUM**	**1.97**	**300**	*e*P	**Pn**	**20 39 06.6**	**+1.1**
IMRD	**Marand**	**1.98**	**87**	*e*AMB	AMB	20 39 15.9	
	comp=Z,4μm,0.3s						
IMRD				*e*Pn	**Pn**	**20 39 06.1**	**+0.5**
IMRD				*e*Sg	**Sg**	**20 39 39.3**	**+3.7**
BNGB	**Bingˆ¶l**	**1.98**	**281**	PN	**Pn**	**20 39 06.1**	**+0.5**
KARS	**Kars**	**2.00**	**358**	PN	**Pn**	**20 39 05.7**	**-0.1**
KARS	**Kars**	**2.00**	**358**	*e*Pn	**Pn**	**20 39 05.7**	**-0.1**
SBZ	**Shahbuz**	**2.00**	**67**	⇓P	**Pn**	**20 39 06.7**	**+0.8**
	SNR=71						
SENK	**Senkaya-Erzuru**	**2.03**	**342**	PN	**Pn**	**20 39 06.6**	**+0.2**
SENK	**Senkaya-Erzuru**	**2.03**	**342**	*e*Pn	**Pn**	**20 39 06.6**	**+0.2**
EAK	**Akyaka**	**2.08**	**9**	*e*P	**Pn**	**20 39 08.2**	**+1.3**
EAK				*e*S	**Sg**	**20 39 40.0**	**+1.1**
HANI	**Diyarbakir_Han**	**2.19**	**265**	*i* P	**Pn**	**20 39 10.4**	**+2.0**
HANI				*i* S	**Sg**	**20 39 44.0**	**+1.7**
HANI	**Diyarbakir_Han**	**2.19**	**265**	P	**Pn**	**20 39 10.4**	**+2.0**
ORD	**Ordubad**	**2.22**	**81**	⇑P	**Pn**	**20 39 09.9**	**+1.1**
	SNR=65						
MARD	**Mardin**	**2.31**	**236**	*i* P	**Pn**	**20 39 10.2**	**+0.2**
MARD				*i* S	**Sn**	**20 39 40.4**	**+1.9**
ITBZ	**Tabriz**	**2.37**	**99**	*e*Pn	**Pn**	**20 39 12.0**	**+1.1**
ITBZ				*e*AMB	AMB	20 39 27.0	
	comp=Z,473nm,0.2s						
ITBZ				*e*Sg	**Sg**	**20 39 53.6**	**+5.6**
DIY	**Diyarbakir**	**2.44**	**253**	*e*Pn	**Pn**	**20 39 13.5**	**+1.7**
MAZI	**Mazidag**	**2.45**	**242**	PN	**Pn**	**20 39 13.1**	**+1.0**
MAZI	**Mazidag**	**2.45**	**242**	*e*Pn	**Pn**	**20 39 13.1**	**+1.0**
DYBB	**Diyarbakir**	**2.48**	**255**	PN	**Pn**	**20 39 13.5**	**+1.1**
KOPT	**Kop Dagi**	**2.50**	**305**	*e*P	**Pb**	**20 39 17.9**	**+0.9**
ARTV	**Artvin**	**2.73**	**340**	*e*P	**Pn**	**20 39 15.6**	**-0.3**
BAYB	**BAYBURT**	**2.78**	**307**	*e*P	**Pb**	**20 39 22.7**	**+0.8**
AKH	**Akhalkalaki**	**2.79**	**5**	PN	**Pn**	**20 39 17.1**	**+0.4**
AKH	**Akhalkalaki**	**2.79**	**5**	*e*Pn	**Pn**	**20 39 17.1**	**+0.4**
ERZN	**Erzincan**	**2.85**	**291**	PN	**Pn**	**20 39 18.6**	**+1.0**
TNCL	**Tunceli-Merkez**	**2.88**	**281**	*e*P	**Pb**	**20 39 22.8**	**-0.6**
GDB	**GEDABAY**	**2.88**	**43**	⇓P	**Pn**	**20 39 19.3**	**+1.3**
	SNR=9.6						
BAYT	**Aydˇ–ntepe-Bay**	**2.94**	**308**	PN	**Pn**	**20 39 19.7**	**+1.0**
BAYT	**Aydˇ–ntepe-Bay**	**2.94**	**308**	*e*Pn	**Pn**	**20 39 19.7**	**+1.0**
QZX	**Qazax, Azerbai**	**2.96**	**34**	⇓P	**Pn**	**20 39 19.0**	**+0.1**
	SNR=11						
QZX				⇑S	**Sb**	**20 39 59.9**	**-0.9**
PTK	**Pertek**	**2.97**	**276**	PN	**Pn**	**20 39 20.4**	**+1.1**
PTK	**Pertek**	**2.97**	**276**	*e*Pn	**Pn**	**20 39 20.4**	**+1.1**
IHRS	**Heris**	**3.05**	**95**	*e*Pn	**Pn**	**20 39 21.7**	**+1.3**
IHRS				*e*AMB	AMB	20 39 31.5	
	comp=Z,1μm,0.4s						
IBST	**Bostanabad**	**3.07**	**106**	*e*Pn	**Pn**	**20 39 22.5**	**+1.8**
IBST				*e*AMB	AMB	20 40 27.9	
	comp=Z,285nm,0.4s						
CHOM	**Cayeli-Rize**	**3.09**	**324**	*e*Pn	**Pn**	**20 39 21.8**	**+1.1**
GANJ	**Ganja**	**3.15**	**49**	⇓P	**Pn**	**20 39 23.3**	**+1.7**
	SNR=8.3						
KELT	**Kelkit**	**3.40**	**298**	*e*P	**Pb**	**20 39 34.2**	**+1.9**
URFA	**Urfa**	**3.64**	**252**	PN	**Pn**	**20 39 29.9**	**+1.6**
URFA	**Urfa**	**3.64**	**252**	*e*Pn	**Pn**	**20 39 29.9**	**+1.6**
MALT	**Malatya**	**3.74**	**267**	PN	**Pn**	**20 39 31.4**	**+1.6**
MALT	**Malatya**	**3.74**	**267**	*e*Pn	**Pn**	**20 39 31.4**	**+1.6**
ZRD	**Zardab**	**3.86**	**63**	⇑P	**Pn**	**20 39 32.2**	**+1.0**
SEKA	**Sheki**	**4.02**	**49**	⇓P	**Pn**	**20 39 35.5**	**+1.9**
LRK	**Lerik**	**4.04**	**88**	⇓P	**Pn**	**20 39 34.2**	**+0.2**
GLBA	**Clilabad**	**4.11**	**80**	⇑P	**Pn**	**20 39 36.3**	**+1.5**
LKRN	**Lenkeran, Azer**	**4.38**	**87**	⇑P	**Pn**	**20 39 38.4**	**-0.1**
ASTR	**Astara**	**4.40**	**89**	⇑P	**Pn**	**20 39 38.3**	**-0.4**
DARE	**Darende-Malaty**	**4.46**	**271**	PN	**Pn**	**20 39 41.7**	**+2.0**
DARE	**Darende-Malaty**	**4.46**	**271**	*e*Pn	**Pn**	**20 39 41.7**	**+2.0**
XNQ	**Khinaliq**	**4.58**	**55**	⇑P	**Pn**	**20 39 43.1**	**+1.7**
PQL	**Pirkuli**	**4.70**	**61**	⇑P	**Pn**	**20 39 44.6**	**+1.6**
ILIN	**Lien**	**4.79**	**139**	*e*Pn	**Pn**	**20 39 46.8**	**+2.5**
ILIN				*e*AMB	AMB	20 40 13.6	
	comp=Z,108nm,0.3s						
QSAR	**Qusar**	**4.85**	**52**	⇓P	**Pn**	**20 39 46.3**	**+1.4**
GAZ	**Gaziantep**	**4.94**	**255**	PN	**Pn**	**20 39 48.5**	**+2.3**
GAZ	**Gaziantep**	**4.94**	**255**	*e*Pn	**Pn**	**20 39 48.5**	**+2.3**
IVIS	**Veis**	**5.05**	**143**	*e*Pn	**Pn**	**20 39 49.9**	**+2.1**
IVIS				*e*AMB	AMB	20 41 22.7	
	comp=Z,145nm,0.4s						
KMRS	**Kahramanmaras**	**5.08**	**259**	PN	**Pn**	**20 39 50.5**	**+2.4**
KMRS	**Kahramanmaras**	**5.08**	**259**	*e*Pn	**Pn**	**20 39 50.5**	**+2.4**
IGHG	**Ghaleghazi**	**5.09**	**146**	*e*Pn	**Pn**	**20 39 52.1**	**+3.7**
IGHG				*e*AMB	AMB	20 41 34.1	
	comp=Z,570nm,0.5s						
KBZ	**Khabaz**	**5.10**	**358**	Pn	Pn	20 39 53.1	+4.8
	comp=Z,0.0nm,0.3s,baz=170,slow=12,SNR=1.9						
KBZ				Pg	**Pb**	**20 40 04.5**	**+3.4**
	comp=Z,0.0nm,0.3s,baz=174,slow=10,SNR=3.2						
KVAR	**Kislovodsk Arr**	**5.33**	**356**	Pn	Pn	20 39 57.1	+5.5
	baz=146,slow=7.3,SNR=2.9						
BHD	**Baghdad**	**5.44**	**169**	*e*Pn	**Pn**	**20 39 50.0**	**-3.0**
	SNR=3.0						
BHD				*i* Sn	**Sn**	**20 40 49.0**	**-6.5**
	SNR=3.0						
RTB	**Rutbah**	**6.05**	**203**	*e*Pn	**Pn**	**20 39 59.0**	**-2.5**
	SNR=3.0						
RTB				*i* Sn	**Sn**	**20 41 04.0**	**-6.8**
	SNR=3.0						
BRTR	**Keskin Array B**	**7.49**	**281**	Pn	**Pn**	**20 40 25.1**	**+3.8**
	comp=Z,0.0nm,0.3s,baz=117,slow=13,SNR=2.4						
ASF	**Jabal al Asfar**	**8.23**	**220**	Lg	Lg	20 42 58.6	
	comp=Z,0.3nm,0.3s,baz=186,slow=18,SNR=4.1						
MMAI	**Mount Meron Ar**	**8.44**	**231**	Pn	**Pn**	**20 40 36.5**	**+2.3**
	comp=Z,0.3nm,0.3s,baz=66,slow=14,SNR=3.2						
MMAI				Lg	Lg	20 43 01.5	
	comp=Z,0.2nm,0.3s,baz=66,slow=32,SNR=3.1						
GEYT	**Alibeck**	**11.77**	**89**	Pn	**Pn**	**20 41 18.5**	**-1.3**
	comp=Z,0.1nm,0.3s,baz=301,slow=12,SNR=2.5						
AKASG	**Malin Array Be**	**15.59**	**325**	Pn	**Pn**	**20 42 11.1**	**-0.5**
	comp=Z,0.9nm,0.3s,baz=126,slow=14,SNR=4.4						
AKTO	**Aktyubinsk**	**15.81**	**37**	Pn	**Pn**	**20 42 11.1**	**-3.4**
	comp=Z,0.1nm,0.3s,baz=210,slow=8.1,SNR=3.5						
ARU	**Arti**	**20.53**	**25**	P	**P**	**20 43 10.2**	**+0.1**
	comp=Z,1.3nm,0.5s,baz=215,slow=6.9,SNR=4.6						
BVAR	**Borovoye Array**	**23.62**	**44**	P	**P**	**20 43 43.4**	**+0.6**
	comp=Z,0.5nm,0.6s,baz=234,slow=12,SNR=4.1						
FINES	**FINESS Array B**	**25.18**	**341**	P	**P**	**20 43 57.6**	**+0.5**
	comp=Z,2.0nm,0.8s,baz=164,slow=11,SNR=3.2						
KURBB	**Kurchatov Arra**	**27.60**	**53**	P	**P**	**20 44 20.1**	**+1.0**
	comp=Z,0.7nm,0.5s,baz=263,slow=9.0,SNR=6.3						
MKAR	**Makanchi Array**	**29.62**	**61**	P	**P**	**20 44 38.3**	**+1.0**
	comp=Z,0.5nm,0.7s,baz=273,slow=4.7,SNR=7.0						
ZALV	**Zalesovo Beam**	**32.06**	**48**	P	**P**	**20 44 59.5**	**+0.9**
	comp=Z,0.2nm,0.3s,baz=251,slow=9.0,SNR=2.5						
CMAR	**Chiang Mai Arr**	**52.13**	**96**	P	**P**	**20 47 42.5**	**0.0**
	comp=Z,0.6nm,0.6s,baz=303,slow=8.4,SNR=7.3						
KSRS	**Korea Array**	**64.31**	**62**	P	**P**	**20 49 07.5**	**+0.1**
	comp=Z,1.0nm,0.6s,baz=289,slow=7.8,SNR=3.7						

IDC 06 20:38:46.0±2.2**,7°.59S**×**121°.12E,h497**km±19km**,mb2.7**/3**, mb1 2.8**/5**,mb1mx2.4**/63**,mbtmp3.5**/5**,Error ellipse: s-maj=181.3km s-min=21.4km az=57.0,Flores Sea**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
BATI	**Baumata**	**3.62**	**136**	P	P	20 40 01.6	+0.4
	2.7nm,0.3s,baz=141,slow=18,SNR=5.5						
BATI				S	S	20 41 02.7	+0.2
	3.8nm,0.3s,baz=285,slow=20,SNR=5.4						
WRA	**Warramunga Arr**	**17.75**	**135**	P	P	20 42 24.1	-0.2
	0.1nm,0.3s,baz=318,slow=10,SNR=10						
ASAR	**Alice Springs**	**20.15**	**144**	P	P	20 42 46.5	+0.2
	0.4nm,0.6s,baz=313,slow=7.9,SNR=9.5						
STKA	**Stephens Creek**	**30.79**	**144**	P	P	20 44 20.0	-0.4
	1.0nm,0.3s,baz=313,slow=8.5,SNR=3.1						
MKAR	**Makanchi Array**	**64.19**	**331**	P	P	20 48 31.3	0.0
	0.2nm,0.4s,baz=136,slow=7.6,SNR=5.0						

MAN 06 20:42:10,9°.86N×**122°.98E,h1**km**,mb4.3,ML3.1,MS2.8, 3C-2D,Negros**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
SNPH	**Sibulan**	**0.57**	**154**	⇓*e*P	Pb	20 42 22.6	-0.3
SNPH				*i* S	Sb	20 42 31.8	+0.2
GUIM	**Jordan**	**0.85**	**333**	*e*P	Pb	20 42 27.4	-0.3
GUIM				*e*S	Sb	20 42 39.8	+0.2
LLP	**Lapu-Lapu**	**1.07**	**65**	⇑*e*P	Pg	20 42 30.4	-0.1
LLP				*i* S	Sg	20 42 44.9	+0.5
DCPH	**Dipolog City**	**1.32**	**164**	⇑*e*P	Pb	20 42 38.8	+3.2
DCPH				*e*S	Sb	20 42 52.9	-0.2
JAP	**San Jose, Anti**	**1.35**	**311**	⇑*e*P	Pb	20 42 40.5	+4.5
RCP	**Roxas**	**1.70**	**352**	⇓*e*P	Pg	20 42 43.3	+0.6
MSLP	**Maasin**	**1.87**	**82**	*e*P	Pb	20 42 44.2	-0.7
MSLP				*e*S	Sg	20 43 09.8	-0.3
IPIL	**Ipil**	**2.10**	**191**	*e*P	Pb	20 42 47.6	-1.3
IPIL				*e*S	Sb	20 43 14.4	-1.1
BUKP	**Musuan**	**2.85**	**134**	*e*P	Pn	20 42 59.0	+2.3

*IDC **06** 21:04:52.0±0.8,35°.55S×72°.83W,h0km,mb3.9/9, mb1 4.1/10,mb1mx3.9/38,mbtmp4.0/10,ML4.2/1,Error ellipse: s-maj=34.5km s-min=15.5km az=79.0*
*ISCJB **06** 21:04:53.8±1.0,35°.63S±0°.03×73°.04W±0°.07,h20km±8km, mb4.0/10,Error ellipse: s-maj=10.3km s-min=4.4km az=23.9*
*NEIC **06** 21:04:54.0±0.0,35°.60S×72°.83W,h13km,mb4.1/1, ML4.3(GUC),After GUC.*
NEIC Felt [IV] at Chanco, Constitucion and Pelluhue; [III] at Cauquenes, Parral and Pencahue; [II] at Maule and Talca.
*GUC **06** 21:04:55.6±0.6,35°.63S×72°.93W,h12km±3km,ML4.1*
ISC 06 21:04:54.7±1.5**,35°.63S**±0°.04×**72°.95W**±0°.07**,h16**km±9km**, n45,**σ**1s.77**/50**,mb4.0**/10**,2C,Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**0.52**	**165**	⇑*i*P	**Pg**	**21 05 05.0**	**-0.1**
COCH				*i* S	**Sg**	**21 05 12.1**	**0.0**
GO05	**HualaæØ**	**1.04**	**54**	⇑*i*P	**Pb**	**21 05 12.8**	**-1.6**
GO05				*i* S	**Sb**	**21 05 26.1**	**-1.6**
GO05				IAML		21 05 28.0	
	comp=N,4μm,0.3s						
CCHI	**Chillan**	**1.20**	**144**	*e*P	**Pn**	**21 05 16.2**	**-0.7**
CCHI				*i* S	**Sb**	**21 05 33.0**	**+0.5**
CCHI				IAML		21 05 40.3	
	comp=N,10μm,0.5s						
CCSP	**San Pedro de C**	**1.22**	**186**	*i* P	**Pn**	**21 05 15.4**	**-1.8**
CCSP				*i* S	**Sb**	**21 05 32.1**	**-0.9**
CCSP				IAML		21 05 35.3	
	comp=N,4μm,0.6s						
CHPI	**Pichilemu**	**1.46**	**33**	*e*P	**Pn**	**21 05 20.1**	**-0.2**
CHPI				*i* S	**Sn**	**21 05 38.9**	**-0.3**
NICH	**Los Niches**	**1.54**	**67**	*e*P	**Pn**	**21 05 21.1**	**-0.5**
NICH				*i* S	**Sn**	**21 05 40.9**	**-0.3**
NICH				IAML		21 05 46.3	
	comp=E,7μm,0.5s						
LMEL	**Las Melosas**	**2.88**	**53**	*e*P	**Pn**	**21 05 41.5**	**+1.4**
LMEL				*i* S	**Sn**	**21 06 17.1**	**+2.6**
LMEL				IAML		21 06 24.7	
	comp=N,1μm,0.6s						
ROC1	**El Roble**	**3.09**	**32**	*e*P	**Pn**	**21 05 43.4**	**+0.3**
ROC1				*e*S	**Sn**	**21 06 22.1**	**+2.2**
ROCH	**El Roble**	**3.10**	**32**	*e*P	**Pn**	**21 05 43.2**	**0.0**
ROCH				*i* S	**Sn**	**21 06 22.3**	**+2.3**
ROCH				IAML		21 06 36.8	
	comp=N,915nm,0.8s						
PEL	**Peldehue**	**3.11**	**38**	*e*P	**Pn**	**21 05 44.1**	**+1.0**
PEL				*i* S	**Sn**	**21 06 20.9**	**+0.9**
FCH	**Farellones**	**3.18**	**45**	IAML		21 06 37.3	
	comp=N,388nm,0.6s						
AAGR	**Agrelo**	**4.25**	**55**	*e*P	**Pn**	**21 06 02.6**	**+3.7**
ARCO	**CERRO ARCO**	**4.34**	**51**	*e*P	**Pb**	**21 06 09.4**	**-1.3**
ARCO				IAML		21 06 16.4	
	comp=Z,86nm,0.6s						
AUSP	**Uspallata**	**4.51**	**42**	*e*P	**Pn**	**21 06 04.8**	**+2.2**
ASAL	**Salagasta**	**4.56**	**50**	*e*P	**Pn**	**21 06 06.1**	**+2.9**
RTLS	**Leoncito**	**4.88**	**40**	*e*P	**Pn**	**21 06 09.4**	**+1.6**
RTLS				IAML		21 07 32.7	
	comp=Z,74nm,0.6s						
RTCV	**Cerro Valdivia**	**5.25**	**46**	*e*P	**Pn**	**21 06 14.9**	**+2.3**
PLCA	**Paso Flores**	**5.44**	**160**	Pn	**Pn**	**21 06 16.5**	**+1.3**
	comp=Z,1.8nm,0.3s,baz=354,slow=9.4,SNR=47						
PLCA				Pg	**Pb**	**21 06 33.4**	**+4.1**
	comp=Z,1.2nm,0.3s,baz=2.3,slow=16,SNR=15						
PLCA				Sn	**Sb**	**21 07 28.4**	**-6.0**
	comp=Z,0.6nm,0.3s,baz=330,slow=15,SNR=1.4						
PLCA				Lg	Lg	21 07 45.5	
	comp=Z,1.2nm,0.3s,baz=305,slow=21,SNR=2.8						
RTLL	**Cerro Villicun**	**5.69**	**42**	*e*P	**Pn**	**21 06 20.6**	**+1.9**
RTLL				IAML		21 07 46.4	
	comp=Z,39nm,0.7s						
ACAN	**Cantantal**	**5.84**	**57**	*e*P	**Pn**	**21 06 22.7**	**+2.0**
AMOG	**MOGNA**	**5.98**	**40**	*e*P	**Pn**	**21 06 24.0**	**+1.3**
AROD	**Rodeo**	**6.18**	**29**	*e*P	**Pn**	**21 06 27.0**	**+1.4**
MRA	**San Martin**	**6.81**	**64**	*e*P	**Pn**	**21 06 35.1**	**+1.0**
MRA				IAML		21 07 04.4	
	comp=Z,21nm,0.8s						
AGUA	**GUANDACOL**	**7.19**	**33**	*e*P	**Pn**	**21 06 39.2**	**0.0**
APLL	**PUNTA DE LOS L**	**7.50**	**48**	*e*P	**Pn**	**21 06 42.6**	**-1.0**
APLL				IAML		21 08 25.0	
	comp=Z,19nm,0.7s						
VCA	**Vinchina**	**7.96**	**32**	*e*P	**Pn**	**21 06 51.5**	**+1.6**
TCA	**Tanti**	**8.19**	**61**	*e*P	**Pn**	**21 06 53.6**	**+0.6**
LPAZ	**La Paz**	**19.74**	**14**	P	**Pn**	**21 09 26.5**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=179,slow=3.9,SNR=5.2						
SIV	**San Ignacio**	**22.25**	**32**	P	**P**	**21 09 50.0**	**-1.0**
	comp=Z,3.4nm,1.0s,baz=220,slow=7.4,SNR=11						
JTS	**JuntasAbangare**	**47.05**	**344**	P	**P**	**21 13 25.5**	**-0.2**
	comp=Z,0.9nm,0.6s						
SNAA	**Sanae**	**50.37**	**157**	P	**P**	**21 13 51.0**	**+0.4**
	comp=Z,3.6nm,1.0s,baz=292,slow=6.1,SNR=7.1						
QSPA	**South Pole Qui**	**54.61**	**180**	P	**P**	**21 14 22.3**	**+0.1**
	comp=Z,2.6nm,0.7s,baz=143,slow=7.7,SNR=5.6						
TXAR	**Lajitas Array**	**70.80**	**332**	P	**P**	**21 16 11.1**	**+0.6**
	comp=Z,0.4nm,0.6s,baz=148,slow=7.8,SNR=4.4						
MAW	**Mawson**	**71.83**	**164**	P	**P**	**21 16 16.3**	**+0.1**
	comp=Z,6.0nm,1.0s,baz=250,slow=9.5,SNR=3.6						
KOWA	**Kowa**	**81.99**	**66**	P	**P**	**21 17 13.7**	**-0.4**
	comp=Z,1.6nm,0.7s,baz=222,slow=5.8,SNR=3.5						
NVAR	**Mina Array Bea**	**84.80**	**326**	P	**P**	**21 17 28.4**	**0.0**
	comp=Z,0.5nm,0.6s,baz=153,slow=5.0,SNR=4.2						
PDAR	**Pinedale Array**	**84.88**	**334**	P	**P**	**21 17 28.8**	**+0.1**
	comp=Z,0.2nm,0.5s,baz=146,slow=6.6,SNR=2.7						
TORD	**Torodi Ar. Bea**	**85.47**	**70**	P	**P**	**21 17 30.4**	**-1.6**
	comp=Z,0.7nm,1.0s,baz=223,slow=5.9,SNR=3.2						
WRA	**Warramunga Arr**	**118.98**	**210**	PKP	**PKPdf**	**21 23 42.2**	**-0.9**
	comp=Z,0.1nm,0.5s,baz=155,slow=1.8,SNR=2.9						
H11S2	**WAKE ISLAND Hy**	**124.98**	**269**	T	T	23 41 32.2	
	baz=82						
H11S1	**WAKE ISLAND Hy**	**125.00**	**269**	T	T	23 41 34.0	
	baz=82						
H11S3	**WAKE ISLAND Hy**	**125.00**	**269**	T	T	23 41 36.0	
	baz=82						
H11N3	**WAKE ISLAND Hy**	**125.44**	**270**	T	T	23 41 59.6	
	baz=120						
H11N1	**WAKE ISLAND Hy**	**125.45**	**270**	T	T	23 41 56.5	
	baz=120						
H11N2	**WAKE ISLAND Hy**	**125.46**	**270**	T	T	23 41 54.7	
	baz=120						

MAN 06 21:13:40,10°.07N×**123°.15E,h1**km**,mb3.7,ML2.4,MS1.9, 1C-1D,Cebu**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
SNPH	**Sibulan**	**0.73**	**174**	⇓*e*P	Pn	21 13 57.4	-0.1
SNPH				*i* S	Sn	21 14 07.9	-1.4
GUIM	**Jordan**	**0.78**	**315**	*e*P	Pb	21 13 56.0	-0.4
GUIM				*e*S	Sb	21 14 07.0	-0.5
LLP	**Lapu-Lapu**	**0.84**	**73**	⇑*e*P	Pg	21 13 56.2	+0.2
LLP				*e*S	Sg	21 14 06.8	-0.1
MSLP	**Maasin**	**1.68**	**88**	*e*P	Pb	21 14 11.5	-0.3
MSLP				*e*S	Sg	21 14 34.6	+0.6

IDC 06 21:15:19.0±9.6**,4°.23S**×**153°.39E,h117**km±65km**,mb3.3**/2**, mb1 3.7**/3**,mb1mx3.1**/50**,mbtmp3.9**/3**,Error ellipse: s-maj=126.7km s-min=61.0km az=122.0,New Ireland region**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**8.04**	**230**	P	Pn	21 17 13.8	+0.7
	3.6nm,0.3s,baz=72,slow=4.9,SNR=7.8						
PMG				S	Sn	21 18 41.7	-0.8
	1.7nm,0.3s,baz=167,slow=18,SNR=1.7						
WRA	**Warramunga Arr**	**24.26**	**228**	P	P	21 20 26.2	+0.7
	1.7nm,0.5s,baz=54,slow=10,SNR=44						
ASAR	**Alice Springs**	**26.96**	**222**	P	P	21 20 49.3	-0.6
	0.3nm,0.7s,baz=55,slow=8.6,SNR=3.5						
TORD	**Torodi Ar. Bea**	**150.68**	**289**	PKPbc	PKPbc	21 34 57.9	-0.7
	0.5nm,1.0s,baz=94,slow=2.8,SNR=1.8						

IDC 06 21:16:04.2±9.3, 4.°44S×153.°09E, h152km±63km, mb3.3/2, mb1 3.6/3, mb1mx3.0/50, mbtmp3.9/3, Error ellipse: s-maj=122.7km s-min=56.5km az=117.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	7.68	230	P	Pn	21 17 53.6	+0.2
	4.2nm,0.3s,baz=34,slow=8.5,SNR=7.2						
PMG				S	Sn	21 19 18.8	-0.4
	0.8nm,0.3s,baz=55,slow=16,SNR=1.7						
WRA	Warramunga Arr	23.90	228	P	P	21 21 05.2	+1.0
	2.3nm,0.4s,baz=54,slow=10,SNR=17						
ASAR	Alice Springs	26.61	222	P	P	21 21 28.1	-0.6
	0.3nm,0.4s,baz=56,slow=9.0,SNR=5.3						
TORD	Torodi Ar. Bea	150.46	289	PKPbc	PKPbc	21 35 38.3	-0.7
	0.7nm,1.0s,baz=64,slow=1.9,SNR=2.8						

IDC 06 21:21:31.3±0.8, 15.°19S×173.°49W, h0km, mb3.8/10, mb1 4.1/11, mb1mx3.9/51, mbtmp3.9/11, ML4.4/1, MS3.0/1, Ms1 3.0/1, ms1mx2.6/45, Error ellipse: s-maj=48.0km s-min=16.3km az=141.0

ISCJB 06 21:21:34.1±0.6, 15.°2S±0.°2×173.°5W±0.°2, h30km, mb3.8/10, Error ellipse: s-maj=36.4km s-min=11.9km az=140.1

ISC 06 21:21:35.7±0.8, 15.°2S±0.°3×173.°4W±0.°2, h30km, n18, σ1.s02/12, mb3.8/10, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	2.04	51	Pn	Pn	21 22 06.1	-2.0
	116nm,0.3s,baz=48,slow=2.6,SNR=76						
AFI				Sn	Sn	21 22 25.7	-7.0
	284nm,0.3s,baz=48,slow=23,SNR=24						
AFI				LR	LR	21 22 58.3	
	comp=Z,334nm,19.7s,baz=211,slow=42						
URZ	Urewera	24.45	198	P	P	21 26 51.7	-0.2
	6.2nm,0.6s,baz=276,slow=3.5,SNR=6.8						
H11S2	WAKE ISLAND Hy	38.78	329	T	T	22 10 25.4	
	baz=148,slow=76,SNR=10.0						
H11S3	WAKE ISLAND Hy	38.80	329	T	T	22 10 25.2	
	baz=148,slow=76,SNR=8.7						
H11S1	WAKE ISLAND Hy	38.80	329	T	T	22 10 28.4	
	baz=148,slow=76,SNR=7.1						
H11N3	WAKE ISLAND Hy	39.73	330	T	T	22 11 48.8	
	baz=149,slow=76,SNR=6.8						
H11N1	WAKE ISLAND Hy	39.73	330	T	T	22 11 39.0	
	baz=149,slow=76,SNR=4.4						
H11N2	WAKE ISLAND Hy	39.74	330	T	T	22 11 53.9	
	baz=149,slow=76,SNR=5.9						
STKA	Stephens Creek	44.12	240	P	P	21 29 41.5	-0.1
	2.3nm,0.8s,baz=90,slow=11,SNR=2.8						
WRA	Warramunga Arr	49.87	257	P	P	21 30 25.5	-1.2
	0.6nm,0.5s,baz=91,slow=6.9,SNR=34						
ASAR	Alice Springs	50.15	252	P	P	21 30 28.1	-0.7
	3.0nm,0.8s,baz=88,slow=8.1,SNR=26						
YBH	Yreka Blue Hor	73.45	37	P	P	21 33 05.9	+0.5
	0.7nm,0.3s,baz=134,slow=12,SNR=3.0						
NVAR	Mina Array Bea	74.19	42	P	P	21 33 10.8	+0.8
	0.6nm,0.6s,baz=229,slow=9.5,SNR=5.6						
TXAR	Lajitas Array	80.52	56	P	P	21 33 46.3	+0.9
	0.4nm,0.8s,baz=223,slow=6.1,SNR=3.2						
PDAR	Pinedale Array	82.13	42	P	P	21 33 55.1	+1.2
	0.3nm,0.7s,baz=245,slow=5.6,SNR=2.3						
ILAR	Eielson Array	82.25	11	P	P	21 33 54.2	+0.5
	0.3nm,0.7s,baz=238,slow=6.6,SNR=4.7						
YKA	Yellowknife Ar	89.92	23	P	P	21 34 31.4	-0.2
	0.1nm,0.7s,baz=230,slow=4.7,SNR=2.7						
BRTR	Keskin Array B	145.99	321	PKPbc	PKPab	21 41 13.8	+0.3
	1.3nm,0.9s,baz=90,slow=3.7,SNR=7.2						

ISK 06 21:31:10.6, 34.°51N×26.°07E, h3km, ML3.6/19

DDA 06 21:31:14.9, 34.°66N×26.°53E, h6km, Ml3.5

ISCJB 06 21:31:16.6±0.7, 34.°83N±0.°03×26.°34E±0.°02, h7km±4km, mb3.7/12, Error ellipse: s-maj=5.3km s-min=2.9km az=6.8

IDC 06 21:31:16.9±0.9, 34.°86N×26.°27E, h0km, mb3.8/11, mb1 3.8/15, mb1mx3.6/62, mbtmp3.7/15, ML3.2/4, Error ellipse: s-maj=21.2km s-min=13.0km az=163.0

CSEM 06 21:31:17.8±0.2, 34.°91N×26.°32E, h2km, ML3.4, Error ellipse: s-maj=6.6km s-min=2.7km az=3.0

ATH 06 21:31:18.0, 34.°98N×26.°33E, h18km±1km, ML3.7/7, Error ellipse: s-maj=2.5km s-min=1.1km az=166.0

THE 06 21:31:19.6, 35.°00N×26.°28E, h0km±1km, ML3.4/10, Error ellipse: s-maj=2.9km s-min=1.1km az=164.0

ISC 06 21:31:18.2±1.2, 34.°94N±0.°04×26.°33E±0.°02, h6km±7km, n178, σ1.s17/226, mb3.9/12, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZKR	Zakros	0.20	333	P	Pg	21 31 22.1	0.0
ZKR				S	Sg	21 31 25.1	+0.3
ZKR				AML	AML	21 31 25.6	
	comp=N,57311µm,0.3s						
ZKR				AML	AML	21 31 25.6	
	comp=E,90932µm,0.2s						
ZKR	Zakros	0.20	333	P	Pg	21 31 22.2	0.0
ZKR				S	Sg	21 31 25.4	+0.5
ZKR	Zakros	0.20	333	P	Pg	21 31 22.3	+0.1
ZKR				S	Sg	21 31 25.4	+0.5
NPS	Neapolis	0.67	299	P	Pg	21 31 30.9	-0.2
NPS				S	Sb	21 31 41.0	-0.8
NPS				AML	AML	21 31 42.6	
	comp=E,22661µm,0.3s						
NPS				AML	AML	21 31 44.1	
	comp=N,15070µm,0.5s						
NPS	Neapolis	0.67	299	P	Pg	21 31 30.7	-0.4
NPS				S	Sg	21 31 40.8	+1.0
NPS	Neapolis	0.67	299	P	Pg	21 31 30.8	-0.2
NPS				S	Sg	21 31 40.5	+0.7
LAST	Lasithi	0.73	288	P	Pg	21 31 31.2	-1.1
LAST				S	Sb	21 31 42.9	-0.8
LAST				AML	AML	21 31 45.3	
	comp=E,6129µm,0.6s						
LAST				AML	AML	21 31 46.6	
	comp=N,6027µm,0.3s						
LAST	Lasithi	0.73	288	P	Pg	21 31 31.5	-0.7
LAST				S	Sb	21 31 42.7	-1.0
LAST	Lasithi	0.73	288	P	Pg	21 31 31.6	-0.7
LAST				S	Sg	21 31 42.5	+0.7
KARP	Karpathos	0.92	48	P	Pg	21 31 35.5	-0.3
KARP	Karpathos	0.92	48	P	Pg	21 31 35.1	-0.7
KARP				S	Sn	21 31 51.1	-0.1
KARP	Karpathos	0.92	48	P	Pg	21 31 35.2	-0.6
IACM	Heraklion	1.09	290	P	Pn	21 31 39.8	-0.2
IACM	Heraklion	1.09	290	P	Pg	21 31 39.2	0.0
IDI	Anoyia	1.23	287	Pg	Pg	21 31 40.4	-1.4
	comp=N,19nm,0.3s,baz=98,slow=18,SNR=187						
IDI				Lg	Lg	21 31 57.2	
	comp=N,64nm,0.3s,baz=286,slow=18,SNR=13						
SIVA	Sivas	1.25	274	P	Pn	21 31 39.9	-2.3
SIVA				AML	AML	21 32 08.7	
	comp=E,4857µm,0.5s						
SIVA				AML	AML	21 32 14.3	
	comp=N,4922µm,0.7s						
SIVA	Sivas	1.25	274	P	Pn	21 31 40.7	-1.5
SIVA				S	Sn	21 32 00.6	+1.3
SIVA	Sivas	1.25	274	P	Pn	21 31 40.7	-1.5
SIVA				S	Sn	21 32 00.6	+1.3
ANAF	Anafi Island	1.49	343	P	Pn	21 31 44.5	-1.0
ANAF				S	Sg	21 32 05.8	-0.2
ANAF				AML	AML	21 32 10.0	
	comp=N,13003µm,0.5s						
ANAF				AML	AML	21 32 10.4	
	comp=E,15004µm,0.4s						
ANAF	Anafi Island	1.49	343	P	Pn	21 31 44.9	-0.6
ANAF				S	Sb	21 32 05.4	0.0
SANT	Santorini	1.60	334	P	Pn	21 31 46.6	-0.4
SANT	Santorini	1.60	334	P	Pn	21 31 46.4	-0.6
SANT	Santorini	1.60	334	P	Pn	21 31 46.8	-0.2
THR6	Thira Island,	1.61	332	P	Pn	21 31 46.7	-0.4
THR6	Thira Island,	1.61	332	P	Pn	21 31 46.7	-0.4
THR6	Thira Island,	1.61	332	P	Pn	21 31 46.9	-0.2
THT1	Athinios (Pele	1.62	333	P	Pn	21 31 46.5	-0.8
THT1				S	Sn	21 32 07.7	-0.8
THT1				AML	AML	21 32 12.1	
	comp=E,1263µm,0.4s						
THT1				AML	AML	21 32 13.2	
	comp=N,1655µm,0.3s						
THT1	Athinios (Pele	1.62	333	P	Pn	21 31 46.7	-0.6
THT1				S	Sn	21 32 07.8	-0.7
THT1	Athinios (Pele	1.62	333	P	Pn	21 31 46.9	-0.4
THT1				S	Sn	21 32 07.8	-0.7
THR8	Santorini-Mono	1.62	335	P	Pn	21 31 46.8	-0.5
THR8	Santorini-Mono	1.62	335	P	Pn	21 31 46.8	-0.5
THR9	Santorini-Faro	1.62	331	P	Pn	21 31 46.7	-0.6
THR9	Santorini-Faro	1.62	331	P	Pn	21 31 46.7	-0.6
SAP2K	Karterados	1.64	334	P	Pn	21 31 47.6	+0.1
THR3	Thira Island,	1.65	333	P	Pn	21 31 47.0	-0.8
THR3	Thira Island,	1.65	333	P	Pn	21 31 47.2	-0.5
THR3	Thira Island,	1.65	333	P	Pn	21 31 47.3	-0.5
THR7	Fira-Santorini	1.65	334	P	Pn	21 31 47.9	+0.1
THR7	Fira-Santorini	1.65	334	P	Pn	21 31 47.6	-0.2
THR7	Fira-Santorini	1.65	334	P	Pn	21 31 47.6	-0.2
THT2	Imerovigli	1.67	334	P	Pb	21 31 48.8	-0.5
THT2				S	Sb	21 32 10.3	-0.2
THT2				AML	AML	21 32 16.3	
	comp=E,7896µm,0.5s						
THT2				AML	AML	21 32 16.8	
	comp=N,7485µm,0.4s						
THT2	Imerovigli	1.67	334	P	Pn	21 31 48.1	+0.1
THT2	Imerovigli	1.67	334	P	Pn	21 31 48.1	+0.1
THT2				S	Sn	21 32 10.0	+0.3
THR2	Thira island,	1.67	335	P	Pn	21 31 47.9	-0.2
THR2	Thira island,	1.67	335	P	Pn	21 31 47.8	-0.2
THR2	Thira island,	1.67	335	P	Pn	21 31 47.9	-0.2
THR5	Thira Island,	1.68	332	P	Pn	21 31 47.7	-0.4
THR5	Thira Island,	1.68	332	P	Pn	21 31 47.9	-0.2
THR5	Thira Island,	1.68	332	P	Pn	21 31 47.9	-0.2
SAP3	Santorini-Thir	1.69	332	P	Pn	21 31 48.3	-0.1
SAP3	Santorini-Thir	1.69	332	P	Pn	21 31 48.3	-0.1
NISR	Nisiros	1.79	21	P	Pn	21 31 49.8	0.0
NISR	Nisiros	1.79	21	P	Pn	21 31 49.9	+0.2
NISR				S	Sb	21 32 14.4	+0.2
NISR	Nisiros	1.79	21	P	Pn	21 31 49.9	+0.2
NISR				S	Sb	21 32 14.4	+0.2
VAM	Vamos	1.80	286	P	Pb	21 31 51.0	-0.7
VAM	Vamos	1.80	286	P	Pb	21 31 50.8	-0.9
VAM				S	Sn	21 32 13.6	+0.5
VAM	Vamos	1.80	286	P	Pn	21 31 50.6	+0.8
VAM				S	Sn	21 32 13.6	+0.5
GVD	Gavdhos	1.84	268	P	Pg	21 31 53.0	-0.5
GVD	Gavdhos	1.84	268	P	Pb	21 31 52.3	0.0
GVD	Gavdhos	1.84	268	P	Pb	21 31 52.0	-0.3
ARG	Arkhangelos	1.94	48	P	Pb	21 31 53.1	-0.9
ARG	Arkhangelos	1.94	48	P	Pb	21 31 54.0	-0.1
ARG				S	Sn	21 32 16.6	0.0
ARG	Arkhangelos	1.94	48	P	Pn	21 31 52.5	+0.7
ARG				S	Sn	21 32 16.6	0.0
IMMV	Iera Moni Meta	1.99	286	P	Pn	21 31 51.9	-0.5
IMMV	Iera Moni Meta	1.99	286	P	Pn	21 31 53.5	+1.1
IMMV				S	Sn	21 32 17.0	-0.7
IMMV	Iera Moni Meta	1.99	286	P	Pn	21 31 52.4	0.0
IMMV				S	Sn	21 32 17.0	-0.7
APE	Apeiranthos	2.22	343	PN	Pn	21 31 54.7	-1.0
APE	Apeiranthos	2.22	343	P	Pn	21 31 55.6	-0.1
APE	Apeiranthos	2.22	343	*e*Pn	Pn	21 31 54.7	-1.0
APE	Apeiranthos	2.22	343	P	Pn	21 31 55.6	-0.1
BODT	Bodrum	2.27	20	PN	Pn	21 31 56.9	+0.7
BODT	Bodrum	2.27	20	P	Pn	21 31 56.4	+0.2
BODT	Bodrum	2.27	20	P	Pn	21 31 56.4	+0.2
BODT	Bodrum	2.27	20	*e*Pn	Pn	21 31 56.9	+0.7
BDRM	Kayabasi	2.31	23	*i* P	Pb	21 31 58.9	-1.4
BDRM	Kayabasi	2.31	23	P	Pb	21 31 58.9	-1.4
MHLO	Agia Marina, M	2.35	319	P	Pn	21 31 58.0	+0.7
MHLO				S	Sn	21 32 27.3	+0.9
MHLO	Agia Marina, M	2.35	319	P	Pn	21 31 58.0	+0.7
MHLO				S	Sn	21 32 27.3	+0.9
MLSB	Milas	2.63	26	PN	Pn	21 32 02.2	+0.9
MLSB	Milas	2.63	26	*e*Pn	Pn	21 32 02.2	+0.9
ANKY	Antikythira Is	2.64	291	P	Pn	21 32 02.7	+1.4
ANKY	Antikythira Is	2.64	291	P	Pn	21 32 02.3	+1.0
ANKY	Antikythira Is	2.64	291	P	Pn	21 32 02.3	+1.0
DALY	Dalyan (Mu˜la	2.66	45	PN	Pn	21 32 02.6	+0.9
DALY	Dalyan (Mu˜la	2.66	45	*i* P	Pb	21 32 04.2	-2.1
DALY				*i* S	Sb	21 32 38.9	-0.3
DALY	Dalyan (Mu˜la	2.66	45	*e*Pn	Pn	21 32 02.6	+0.9
DALY	Dalyan (Mu˜la	2.66	45	P	Pb	21 32 04.2	-2.1
DALY				S	Sb	21 32 38.9	-0.3
TURN	Turunc	2.67	43	PN	Pn	21 31 58.9	-2.9
TURN				SN	Sn	21 32 33.9	-0.6
TURN	Turunc	2.67	43	*i* P	Pn	21 31 60.0	-1.8
TURN				*i* S	Sn	21 32 31.5	-3.0
TURN	Turunc	2.67	43	*e*Pn	Pn	21 31 58.9	-2.9
TURN	Turunc	2.67	43	P	Pn	21 32 00.0	-1.8
TURN				S	Sn	21 32 31.5	-3.0
TURN				*e*Sn	Sn	21 32 33.9	-0.6
SMG	Samos	2.80	8	P	Pn	21 32 04.2	+0.7
SMG	Samos	2.80	8	P	Pn	21 32 04.2	+0.7
FETY	Fethiye	2.81	52	PN	Pn	21 32 03.5	-0.3
FETY	Fethiye	2.81	52	P	Pn	21 32 03.4	-0.3
FETY	Fethiye	2.81	52	P	Pn	21 32 03.5	-0.3
GCAM	G?zelcaml?	2.85	15	PN	Pn	21 32 05.7	+1.4
GCAM	G?zelcaml?	2.85	15	*i* P	Pn	21 32 06.7	+2.4
GCAM				*i* S	Sn	21 32 36.5	-2.5
GCAM	G?zelcaml?	2.85	15	*e*Pn	Pn	21 32 05.7	+1.4
GCAM	G?zelcaml?	2.85	15	P	Pn	21 32 06.7	+2.4
GCAM				S	Sn	21 32 36.5	-2.5
KSL	Kastellorizon	2.92	65	P	Pn	21 32 05.8	+0.5
KSL	Kastellorizon	2.92	65	P	Pn	21 32 05.7	+0.5
AKAS	Kas	2.97	63	PN	Pn	21 32 05.2	-0.8
AKAS	Kas	2.97	63	*i* P	Pn	21 32 05.3	-0.8
AKAS				*i* S	Sn	21 32 42.8	+0.8
AKAS	Kas	2.97	63	P	Pn	21 32 05.3	-0.8
AKAS				S	Sn	21 32 42.8	+0.8
KYTH	Kithira	2.98	297	P	Pn	21 32 07.8	+1.7
KYTH	Kithira	2.98	297	P	Pn	21 32 06.5	+0.4
KYTH	Kithira	2.98	297	P	Pn	21 32 06.5	+0.4
AYDB	Zeytinkoy-Aydi	3.26	22	PN	Pn	21 32 11.1	+1.1
AYDB	Zeytinkoy-Aydi	3.26	22	*e*Pn	Pn	21 32 11.1	+1.1
VLI	Veliai	3.28	304	P	Pn	21 32 10.5	+0.4
VLI	Veliai	3.28	304	P	Pn	21 32 10.5	+0.4
TAVA	DENIZLI_Tavas	3.28	39	*i* P	Pn	21 32 12.6	+2.3
TAVA				*i* S	Sb	21 32 54.7	-2.4
TAVA	DENIZLI_Tavas	3.28	39	P	Pn	21 32 12.6	+2.3
URLA	Izmir	3.42	4	PN	Pn	21 32 12.2	0.0
URLA	Izmir	3.42	4	*e*Pn	Pn	21 32 12.2	0.0
ELL	Elmali	3.43	57	PN	Pn	21 32 12.6	+0.3
ELL	Elmali	3.43	57	*e*Pn	Pn	21 32 12.6	+0.3
CHOS	Chios island	3.45	356	PN	Pn	21 32 12.9	+0.3
CHOS	Chios island	3.45	356	*e*Pn	Pn	21 32 12.9	+0.3
GOLH	Golhisar	3.48	48	*i* P	Pn	21 32 13.9	+0.8
GOLH				*i* S	Sb	21 32 59.8	-3.2
GOLH	Golhisar	3.48	48	P	Pn	21 32 13.9	+0.8
KRND	KRANIDI	3.54	314	P	Pn	21 32 15.0	+1.2
KRND	KRANIDI	3.54	314	P	Pn	21 32 15.0	+1.2
DID	Didima	3.58	317	P	Pn	21 32 15.2	+0.9
DID	Didima	3.58	317	P	Pn	21 32 15.2	+0.9
KORT	Korkueli	3.86	57	PN	Pn	21 32 18.8	+0.5
KORT	Korkueli	3.86	57	*i* P	Pn	21 32 18.8	+0.5
KORT				*i* S	Sn	21 33 03.8	-0.2
KORT	Korkueli	3.86	57	P	Pn	21 32 18.8	+0.5
KORT				S	Sn	21 33 03.8	-0.2
KULA	Kula-Manisa	4.03	27	PN	Pn	21 32 22.1	+1.5
KULA	Kula-Manisa	4.03	27	*e*Pn	Pn	21 32 22.1	+1.5
SIGR	SIGRI	4.28	355	PN	Pn	21 32 24.8	+0.9
SIGR	SIGRI	4.28	355	*e*Pn	Pn	21 32 24.8	+0.9
SUTC	Sutluce-Ispart	4.55	55	PN	Pn	21 32 28.9	+1.2
SUTC	Sutluce-Ispart	4.55	55	*e*Pn	Pn	21 32 28.9	+1.2
SIMA	Simav-Kutahya	4.65	26	PN	Pn	21 32 31.1	+2.0
SIMA	Simav-Kutahya	4.65	26	*e*Pn	Pn	21 32 31.1	+2.0
KEPZ	Antalya-Kepez	4.71	64	*i* P	Pn	21 32 31.2	+1.3
KEPZ				*i* S	Sn	21 33 26.6	+1.7
KEPZ	Antalya-Kepez	4.71	64	P	Pn	21 32 31.2	+1.3
KEPZ				S	Sn	21 33 26.5	+1.7
AGG	Agios Georgios	5.18	323	PN	Pn	21 32 34.9	-1.4
AGG	Agios Georgios	5.18	323	*e*Pn	Pn	21 32 34.9	-1.4
LEF	Lefka	5.39	86	PN	Pn	21 32 37.8	-1.3
LEF	Lefka	5.39	86	*e*Pn	Pn	21 32 37.8	-1.3
LEF	Lefka	5.39	86	P	Pn	21 32 38.2	-0.9
TEKE	Tekeli-Mersin	5.67	76	PN	Pn	21 32 42.3	-0.6
TEKE	Tekeli-Mersin	5.67	76	*e*Pn	Pn	21 32 42.3	-0.6
CSS	Mathiatis	5.75	88	PN	Pn	21 32 43.4	-0.8
CSS	Mathiatis	5.75	88	*e*Pn	Pn	21 32 43.4	-0.8
LFK	Lefkose	5.92	85	PN	Pn	21 32 46.3	-0.2
LFK	Lefkose	5.92	85	*e*Pn	Pn	21 32 46.3	-0.2
TEVE	Tevekalti-Mers	5.98	73	PN	Pn	21 32 47.9	+0.5
TEVE	Tevekalti-Mers	5.98	73	*e*Pn	Pn	21 32 47.9	+0.5
AKKU	Akkuyu-Mersin	6.01	76	PN	Pn	21 32 48.3	+0.6
AKKU	Akkuyu-Mersin	6.01	76	*e*Pn	Pn	21 32 48.3	+0.6
EREN	Erenkoy	6.45	82	PN	Pn	21 32 53.4	-0.3
EREN	Erenkoy	6.45	82	*e*Pn	Pn	21 32 53.4	-0.3
KIZK	Mersin	6.54	74	PN	Pn	21 32 55.6	+0.6
KARA	Karaisali	7.44	69	PN	Pn	21 33 07.9	+0.6
KARA	Karaisali	7.44	69	*e*Pn	Pn	21 33 07.9	+0.6
BRTR	Keskin Array B	7.53	48	Pn	Pn	21 33 11.2	+2.5
	comp=N,0.1nm,0.3s,baz=213,slow=16,SNR=9.6						
MMAI	Mount Meron Ar	7.78	102	Pn	Pn	21 33 09.5	-2.5
	comp=N,0.7nm,0.3s,baz=292,slow=12,SNR=11						
MMAI				Sn	Sn	21 34 39.1	-1.4
	comp=N,0.7nm,0.3s,baz=310,slow=22,SNR=3.5						
EIL	Elat	8.99	123	Pn	Pn	21 33 32.2	+3.6
	comp=N,0.1nm,0.3s,baz=302,slow=9.5,SNR=4.3						
EIL				Sn	Sn	21 35 07.7	-2.5
	comp=N,0.2nm,0.3s,baz=152,slow=17,SNR=2.6						
VAE	Valguarnera	9.96	288	Pn	Pn	21 33 44.4	+2.5
	baz=120,slow=20,SNR=1.9						
VAE				Sn	Sn	21 35 33.5	-0.4
	comp=N,0.9nm,0.3s,baz=12,slow=14,SNR=3.1						
KBZ	Khabaz	15.52	51	Pn	P	21 35 01.1	-0.9
	comp=N,0.0nm,0.3s,baz=241,slow=19,SNR=2.5						
AKASG	Malin Array Be	15.90	7	Pn	Pn	21 35 03.0	+0.6
	comp=N,0.5nm,0.3s,baz=195,slow=11,SNR=2.6						
GERES	GERESS Array B	16.74	330	Pn	Pn	21 35 13.7	+0.3
	comp=N,0.0nm,0.3s,baz=144,slow=12,SNR=2.9						
ESDC	Sonseca Array	24.49	290	P	P	21 36 37.2	-1.0
	comp=N,0.4nm,0.5s,baz=81,slow=9.7,SNR=8.5						
GEYT	Alibeck	25.69	74	P	P	21 36 50.0	+0.9
	comp=N,0.8nm,0.5s,baz=267,slow=2.9,SNR=4.9						
HFS	Hagfors	26.52	346	P	P	21 36 54.5	-1.8
	comp=N,2.8nm,1.1s,baz=151,slow=21,SNR=2.1						
AKTO	Aktyubinsk	27.71	46	P	P	21 37 12.2	+5.1
	comp=N,1.3nm,0.6s,baz=247,slow=8.7,SNR=3.3						
EKA	Eskdalemuir Ar	28.78	324	P	P	21 37 18.3	+1.7
	comp=N,0.2nm,0.3s,baz=118,slow=11,SNR=2.8						
TORD	Torodi Ar. Bea	31.09	232	P	P	21 37 37.4	0.0
	comp=N,2.3nm,0.6s,baz=33,slow=8.8,SNR=22						
ARCES	ARCESS Array B	34.66	359	P	P	21 38 07.8	-0.3
	comp=N,5.2nm,1.0s,baz=183,slow=8.7,SNR=3.2						
DBIC	Dimbokro	40.18	233	P	P	21 38 52.9	-2.6
	comp=N,1.8nm,0.7s,baz=36,slow=10,SNR=3.1						
KURBB	Kurchatov Arra	40.52	51	P	P	21 38 58.5	+0.7
	comp=N,1.2nm,0.4s,baz=270,slow=8.6,SNR=6.3						
MKAR	Makanchi Array	43.10	56	P	P	21 39 18.4	-0.8
	comp=N,0.9nm,0.6s,baz=270,slow=8.1,SNR=13						
ZALV	Zalesovo Beam	44.47	46	P	P	21 39 30.6	+0.6
	comp=N,0.7nm,0.4s,baz=277,slow=10,SNR=5.9						
YKA	Yellowknife Ar	77.95	343	P	P	21 43 17.1	+0.3
	comp=N,0.1nm,0.4s,baz=43,slow=6.3,SNR=2.8						

MAN 06 21:38:13, 10.°50N×125.°22E, h1km, mb4.6, ML3.5, MS3.3, 4C, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSLP	Maasin	0.51	225	*e*P	Pg	21 38 23.3	+0.5
MSLP				*e*S	Sn	21 38 36.0	-0.8
PLP	Palo	0.71	340	⇑*i*P	Pg	21 38 27.1	+0.5
PLP				*i* S	Sb	21 38 37.1	-1.3
SCPH	Surigao	0.76	160	⇑*e*P	Pn	21 38 30.0	-0.8
SCPH				*e*S	Sn	21 38 43.0	+0.1
LLP	Lapu-Lapu	1.25	262	⇑*e*P	Pn	21 38 37.7	+0.1
LLP				*e*S	Sn	21 38 55.9	+0.8
BUTP	Butuan	1.57	165	*e*P	Pn	21 38 42.3	+0.3
BUTP				*e*S	Sg	21 39 10.0	+6.6
CNP	Catarman	2.08	345	*e*P	Pn	21 38 49.3	+0.3
CNP				*e*S	Sb	21 39 16.7	-1.1
SNPH	Sibulan	2.27	240	*e*P	Pb	21 38 54.0	-0.8
BUKP	Musuan	2.60	184	*e*P	Pb	21 38 59.5	-1.1
BUKP				*e*S	Sg	21 39 36.5	-0.3
RCP	Roxas	2.65	294	⇑*e*P	Pn	21 38 58.4	+1.4

IDC 06 21:40:24.4±4.6, 36.°37N×71.°31E, h158km±30km, mb3.2/4, mb1 3.2/10, mb1mx2.9/64, mbtmp3.7/10, Error ellipse: s-maj=57.0km s-min=22.2km az=153.0

ISCJB 06 21:40:26.8±0.5, 36.°69N±0.°04×71.°22E±0.°06, h188km, mb3.2/4, Error ellipse: s-maj=6.7km s-min=5.0km az=160.7

NNC 06 21:40:31.9±1.9, 37.°03N×70.°98E, h154km±26km, mb3.1, mpv4.0, Error ellipse: s-maj=18.2km s-min=17.1km az=123.0

ISC 06 21:40:27.9±0.8, 36.°72N±0.°08×71.°18E±0.°07, h188km, n35, σ1.s62/42, mb3.1/4, 6C-7D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	Sufi-Kurgan	3.76	28	⇓P	Pn	21 41 27.1	+0.6
	7.5nm,0.2s						
SFK				⇓S	Sn	21 42 10.2	-2.2
	45nm,0.2s						
AML	Almayashu	5.74	19	P	Pn	21 41 51.8	-0.1
	SNR=124						
MNAS	Manas	5.85	10	⇑P	Pn	21 41 53.3	+0.2
	3.7nm,0.2s						
MNAS				⇓S	Sn	21 42 56.8	-3.5
	42nm,0.8s						
UCH	Uchtor	6.07	24	P	Pn	21 41 56.3	0.0
	SNR=24						
KZA	Kyzart	6.21	29	P	Pn	21 41 57.1	-0.9
	SNR=7.8						
EKS2	Erkin-Say	6.26	18	P	Pn	21 41 58.8	+0.4
	SNR=17						
KK31	Karatay Array	6.39	356	⇓P	Pn	21 42 00.4	+0.3
	3.1nm,0.2s,baz=179,slow=12,SNR=118						
KK31				⇓S	Sn	21 43 09.9	-3.1
	5.9nm,0.3s,baz=179,slow=23,SNR=5.6						
AAK	Ala-Archa	6.44	22	P	Pn	21 42 01.2	+0.5
	3.7nm,0.3s,baz=162,slow=5.6,SNR=62						
AAK				S	Sn	21 43 11.2	-3.0
	1.6nm,0.3s,baz=139,slow=22,SNR=16						
AAK	Ala-Archa	6.44	22	⇓P	Pn	21 42 01.1	+0.3
	4.6nm,0.4s						
AAK				⇑S	Sn	21 43 12.5	-1.7
	13nm,0.6s						
AAK	Ala-Archa	6.44	22	P	Pn	21 42 01.3	+0.5
	SNR=16						
KBK	Karagaybulak	6.60	25	P	Pn	21 42 03.7	+0.8
	SNR=12						
USP	Ospenovka	7.02	20	P	Pn	21 42 08.6	+0.4
	SNR=6.2						
TKM2	Tokmak 2	7.06	27	⇑P	Pn	21 42 09.1	+0.1
	7.9nm,0.6s						
TKM2				⇑S	Sn	21 43 27.4	-1.6
	7.3nm,0.8s						
TKM2	Tokmak 2	7.06	27	P	Pn	21 42 09.1	+0.1
	SNR=19						
GEYT	Alibeck	10.47	281	P	Pn	21 42 52.5	-0.9
	0.3nm,0.3s,baz=91,slow=13,SNR=4.1						
GEYT				S	Sn	21 44 46.0	-4.0
	0.4nm,0.3s,baz=116,slow=16,SNR=3.3						
MK31	Makanchi Array	13.03	36	P	P	21 43 30.2	+0.6
	1.1nm,0.7s,baz=208,slow=10,SNR=11						
MKAR	Makanchi Array	13.03	36	P	Pn	21 43 27.2	+1.2
	0.2nm,0.3s,baz=214,slow=10,SNR=9.7						
PYUN	Piuthan	13.16	127	*e*P	Pn	21 43 25.9	-2.2
	8.1nm,0.3s						
KOLN	Koldanda	13.78	127	*e*P	Pn	21 43 33.5	-2.3
	4.1nm,0.4s						
GKN	Gorkha	14.31	124	*e*P	Pn	21 43 41.4	-0.9
	8.9nm,0.3s						
KKN	Kakani	14.88	123	*e*P	Pn	21 43 48.3	-1.1
DMN	Daman	14.88	124	*e*P	Pn	21 43 48.5	-0.9
	6.6nm,0.3s						
AB31	Akbulak array	14.96	330	⇑P	P	21 43 52.1	+1.2
	0.5nm,0.3s,baz=148,slow=11,SNR=30						
PKIN	Phulchoki	15.09	123	*e*P	Pn	21 43 49.9	-2.2
	7.1nm,0.5s						
GUN	Gumba	15.21	121	*e*P	Pn	21 43 52.9	-0.7
	4.4nm,0.4s						
JIRN	Jiri	15.58	121	*e*P	Pn	21 43 56.8	-1.3
	13nm,0.3s						
BVA0	Borovoye Array	16.31	358	⇓P	P	21 44 05.8	0.0
	1.3nm,0.7s,baz=162,slow=11,SNR=6.0						
BVAR	Borovoye Array	16.31	358	P	Pn	21 44 07.5	+1.1
	0.4nm,0.3s,baz=158,slow=11,SNR=6.7						
AKTO	Aktyubinsk	16.66	329	P	Pn	21 44 12.2	+1.6
	0.6nm,0.3s,baz=143,slow=10.0,SNR=7.2						
AKTO	Aktyubinsk	16.66	329	⇑P	Pn	21 44 11.9	+1.4
	1.1nm,0.3s						
ZALV	Zalesovo Beam	19.65	24	P	P	21 44 42.9	+0.8
	0.4nm,0.3s,baz=237,slow=11,SNR=8.0						
HFS	Hagfors	42.98	322	P	P	21 48 10.4	+2.3
	2.5nm,0.9s,baz=91,slow=14,SNR=7.0						
NOA	NORSAR Array B	44.29	323	P	P	21 48 20.8	+2.1

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	0.4nm,0.5s,baz=96,slow=7.7,SNR=2.6						
TORD	**Torodi Ar. Bea**	**65.86**	**269**	P	**P**	**21 50 53.8**	**+0.2**
	0.1nm,0.4s,baz=350,slow=4.5,SNR=4.2						
YKA	**Yellowknife Ar**	**81.02**	**3**	P	**P**	**21 52 23.0**	**+1.8**
	0.1nm,0.4s,baz=354,slow=5.4,SNR=3.5						

*NEIC **06** 21:44:13.0±0.0, 15°.83N×98°.96W, h21km, MD4.0(MEX), After MEX.*

MEX 06 21:44:13.1±0.6**, 15°.83N×98°.95W, h20**km±36km**, MD4.0, Off coast of Guerrero**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.97**	**55**	*i* P	Pb	21 44 27.9	-3.4
PNIG				*e*S	Sb	21 44 38.3	-5.4
PNIG	**Pinotepa**	**0.97**	**55**	*i* P	Pb	21 44 27.9	-3.4
PNIG				*e*S	Sb	21 44 38.3	-5.4
TLIG	**Tlapa**	**1.76**	**12**	*e*P	Pn	21 44 40.3	-2.4
TLIG				*e*S	Sn	21 44 60.0	-4.6
TLIG	**Tlapa**	**1.76**	**12**	*e*P	Pn	21 44 40.3	-2.4
TLIG				*e*S	Sn	21 44 60.0	-4.6
VHO	**Vista Hermosa**	**2.46**	**60**	*e*P	Pn	21 44 50.3	-2.1
VHO				*e*S	Sn	21 45 19.1	-2.9
VHO	**Vista Hermosa**	**2.46**	**60**	*e*P	Pn	21 44 50.3	-2.1
VHO				*e*S	Sn	21 45 19.1	-2.9
HUIG	**Huatulco**	**2.74**	**91**	*e*P	Pn	21 44 53.6	-2.4
HUIG				*e*S	Sn	21 45 24.9	-3.6
HUIG	**Huatulco**	**2.74**	**91**	*e*P	Pn	21 44 53.6	-2.4
HUIG				*e*S	Sn	21 45 24.9	-3.6

*ISCJB **06** 21:54:11.7±0.3, 24°.37N±0°.02×122°.02E±0°.01, h0km±3km, Error ellipse: s-maj=2.7km s-min=1.9km az=155.0*
*JMA **06** 21:54:11.2±0.1, 24°.35N×121°.98E, h0km, M3.4*
*TAP **06** 21:54:12.1, 24°.37N×121°.96E, h13km, ML3.5, B*

ISC 06 21:54:12.2±1.0**, 24°.36N**±0°.02×**122°.00E**±0°.02**, h8**km±8km**, n93, σ0s.81**/141**, 2C-15D, Taiwan region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ENAH	**Nanao**	**0.20**	**298**	⇓P	**Pg**	**21 54 16.2**	**0.0**
	baz=298						
ENAH				S	**Sg**	**21 54 19.0**	**0.0**
	baz=298						
EOS1	**EOS1**	**0.22**	**31**	⇓P	**Pg**	**21 54 17.7**	**+1.0**
	baz=29						
EOS1				*e*S	**Sg**	**21 54 22.0**	**+2.2**
	baz=29						
ENA	**Nanau**	**0.25**	**286**	⇓*i*P	**Pg**	**21 54 16.9**	**-0.2**
	baz=292						
ENA				S	**Sg**	**21 54 20.1**	**-0.4**
	baz=292						
TWC	**Suao**	**0.29**	**331**	⇑P	**Pg**	**21 54 17.8**	**-0.1**
	baz=337						
TWC				*e*S	**Sg**	**21 54 20.8**	**-0.9**
	baz=337						
NACB	**Ninganchiao**	**0.41**	**244**	⇓P	**Pg**	**21 54 20.1**	**-0.3**
	baz=242						
NACB				S	**Sg**	**21 54 25.5**	**-0.3**
	baz=242						
TWD	**Chiawan**	**0.46**	**233**	⇓P	**Pg**	**21 54 21.0**	**-0.2**
	baz=238						
TWD				S	**Sg**	**21 54 27.1**	**-0.1**
	baz=238						
ILA	**Ilan**	**0.47**	**330**	*e*P	**Pg**	**21 54 21.4**	**+0.1**
	baz=326						
TWE	**Neicheng**	**0.47**	**320**	*e*P	**Pg**	**21 54 21.3**	**-0.1**
	baz=323						
TWE				*e*S	**Sg**	**21 54 27.0**	**-0.6**
	baz=323						
ENTT	**Nioudou**	**0.49**	**305**	⇓P	**Pg**	**21 54 21.5**	**-0.2**
	baz=307						
ENTT				*e*S	**Sg**	**21 54 27.8**	**-0.2**
	baz=307						
EGS		**0.49**	**353**	*e*P	**Pg**	**21 54 22.1**	**+0.3**
	baz=353						
NTC	**Toucheng**	**0.52**	**343**	*e*P	**Pg**	**21 54 22.3**	**0.0**
	baz=355						
HWA	**Hwalien**	**0.52**	**224**	*e*P	**Pg**	**21 54 22.8**	**+0.4**
	baz=228						
NNSB	**Datong**	**0.57**	**277**	⇓P	**Pg**	**21 54 22.9**	**-0.3**
	baz=285						
NNSB				S	**Sg**	**21 54 30.1**	**-0.6**
	baz=285						
NNS	**Nan Shan**	**0.58**	**278**	⇓*i*P	**Pg**	**21 54 23.1**	**-0.3**
	baz=279						
NNS				S	**Sg**	**21 54 30.5**	**-0.6**
	baz=279						
ENLB	**Shoufeng**	**0.58**	**219**	*e*P	**Pb**	**21 54 25.5**	**+0.8**
	baz=225						
ENLB				*e*S	**Sn**	**21 54 36.7**	**+0.1**
	baz=225						
NWLT	**Wulai**	**0.62**	**313**	*e*P	**Pg**	**21 54 24.4**	**+0.2**
	baz=306						
NWLT				*e*S	**Sg**	**21 54 31.4**	**-0.9**
	baz=306						
TIPB	**Shuangxi**	**0.63**	**345**	P	**Pg**	**21 54 23.7**	**-0.7**
	baz=347						
TIPB				*e*S	**Sg**	**21 54 31.2**	**-1.5**
	baz=347						
TWB1	**Santiao Chiao**	**0.65**	**359**	*e*P	**Pg**	**21 54 25.0**	**+0.2**
	baz=354						
YHNB	**Yeheng**	**0.65**	**299**	⇓P	**Pg**	**21 54 24.7**	**-0.1**
	baz=304						
YHNB				S	**Sg**	**21 54 32.4**	**-0.9**
	baz=304						
WHF	**Hehuan Shan**	**0.70**	**253**	⇓P	**Pg**	**21 54 25.5**	**-0.3**
	baz=261						
WHF				S	**Sg**	**21 54 34.8**	**-0.3**
	baz=261						
NWF	**Wu-fen Shan**	**0.74**	**344**	*e*P	**Pb**	**21 54 26.9**	**-0.5**
	baz=336						
NWF				*e*S	**Sg**	**21 54 36.3**	**+0.2**
	baz=336						
WFSB	**Wu-fen Shan**	**0.74**	**344**	*e*P	**Pb**	**21 54 27.0**	**-0.4**
	baz=336						
WFSB				*e*S	**Sg**	**21 54 36.5**	**+0.4**
	baz=336						
ESL	**Shilin**	**0.75**	**224**	*e*P	**Pg**	**21 54 26.5**	**-0.2**
	baz=229						
TATO	**Taipei**	**0.77**	**323**	⇓*e*P	**Pg**	**21 54 27.1**	**0.0**
	baz=319						
TDCB	**Techi**	**0.78**	**262**	*e*P	**Pg**	**21 54 27.1**	**-0.2**
	baz=263						
TDCB				*e*S	**Sg**	**21 54 36.6**	**-0.7**
	baz=263						
CHGB	**Renai**	**0.81**	**249**	⇓P	**Pg**	**21 54 27.7**	**-0.2**
	baz=249						
CHGB				*e*S	**Sb**	**21 54 39.0**	**-0.9**
	baz=249						
WLTB	**Daxi**	**0.84**	**306**	*e*P	**Pb**	**21 54 29.5**	**+0.4**
	baz=296						
OWD	**Renai**	**0.85**	**242**	*e*P	**Pg**	**21 54 28.4**	**-0.3**
	baz=241						
JYNG	**Yonagunijimaku**	**0.87**	**84**	P	**Pg**	**21 54 28.8**	**-0.1**
JYNG				S	**Sb**	**21 54 41.6**	**+0.3**
YM07	**YM07**	**0.88**	**337**	P	**Pg**	**21 54 28.8**	**-0.5**
	baz=338						
YM07				S	**Sb**	**21 54 41.5**	**-0.4**
	baz=338						
YM10	**YM10**	**0.89**	**333**	*e*P	**Pb**	**21 54 29.9**	**-0.1**
	baz=334						
YM10				*e*S	**Sb**	**21 54 42.6**	**+0.6**
	baz=334						
YM04	**YM04**	**0.90**	**332**	*e*P	**Pb**	**21 54 29.9**	**-0.3**
	baz=334						
YM08	**YM08**	**0.91**	**336**	*e*P	**Pb**	**21 54 30.0**	**-0.3**
	baz=336						
YM08				*e*S	**Sb**	**21 54 42.5**	**-0.1**
	baz=336						
TWS1	**Kuangyinshan**	**0.91**	**324**	*e*P	**Pb**	**21 54 30.6**	**+0.3**
	baz=317						
TWS1				*e*S	**Sb**	**21 54 43.5**	**+0.9**
	baz=317						
YOJ	**Yonaguni jima**	**0.93**	**83**	*e*P	**Pg**	**21 54 30.1**	**0.0**
	baz=82						
YOJ				*e*S	**Sb**	**21 54 44.1**	**+1.0**
	baz=82						
YOJ	**Yonaguni jima**	**0.93**	**83**	P	**Pg**	**21 54 29.9**	**-0.2**
YOJ				S	**Sb**	**21 54 43.5**	**+0.4**
LIOB	**Emei**	**0.94**	**288**	*e*P	**Pb**	**21 54 30.7**	**-0.2**
	baz=289						
LIOB				S	**Sg**	**21 54 42.3**	**-0.3**
	baz=289						
NTST	**Danshui**	**0.95**	**328**	*e*P	**Pb**	**21 54 31.1**	**+0.1**
	baz=330						
NSTT	**Nanjuang**	**0.95**	**287**	⇓P	**Pb**	**21 54 30.6**	**-0.4**
	baz=288						
NSTT				*i* S	**Sg**	**21 54 42.1**	**-0.7**
	baz=288						
NCU	**National Centr**	**0.96**	**310**	*e*P	**Pn**	**21 54 31.6**	**-0.5**
	baz=319						
NCU				*e*S	**Sg**	**21 54 43.1**	**-0.1**
	baz=319						
NCUH	**Zhongli**	**0.96**	**309**	*e*P	**Pb**	**21 54 31.4**	**+0.3**
	baz=301						
TWY	**Chenhua**	**0.98**	**338**	*e*P	**Pb**	**21 54 31.6**	**0.0**
	baz=327						
TWY				*e*S	**Sg**	**21 54 43.6**	**-0.4**
	baz=327						
HGSD	**Ruisui**	**1.01**	**212**	*e*P	**Pn**	**21 54 32.5**	**-0.3**
	baz=193						
SBCB	**Hsinchu**	**1.02**	**295**	*e*P	**Pb**	**21 54 32.2**	**-0.1**
	baz=296						
DPDB	**Guoxing**	**1.03**	**252**	⇓P	**Pb**	**21 54 32.1**	**-0.3**
	baz=260						
DPDB				*e*S	**Sg**	**21 54 44.4**	**-1.2**
	baz=260						
HSN	**Hsinchu**	**1.04**	**295**	*e*P	**Pg**	**21 54 29.9**	**-2.3**
	baz=294						
SMLT	**Sun Moon Lake**	**1.11**	**245**	⇑P	**Pb**	**21 54 33.6**	**-0.2**
	baz=246						
SMLT				*e*S	**Sb**	**21 54 49.0**	**+0.5**
	baz=246						
SSLB	**Suanglung**	**1.11**	**240**	P	**Pg**	**21 54 33.2**	**-0.5**
	baz=248						
SSLB				*e*S	**Sg**	**21 54 47.3**	**-0.8**
	baz=248						
NMLH	**Miaoli**	**1.12**	**279**	*e*P	**Pn**	**21 54 34.8**	**+0.5**
	baz=280						
TWQ1	**Liyutan**	**1.12**	**270**	⇓P	**Pn**	**21 54 34.6**	**+0.3**
	baz=271						
TWQ1				*e*S	**Sn**	**21 54 50.6**	**+0.7**
	baz=271						
NSY	**Sanyi**	**1.13**	**273**	*e*P	**Pn**	**21 54 35.0**	**+0.6**
	baz=274						
TYC	**Yuchr**	**1.14**	**247**	*e*P	**Pg**	**21 54 33.8**	**-0.3**
	baz=253						
YULB	**Yu-li**	**1.16**	**214**	*e*P	**Pg**	**21 54 33.6**	**-0.9**
	baz=215						
YULB				*e*S	**Sn**	**21 54 51.1**	**+0.3**
	baz=215						
TWF1	**Yuli**	**1.19**	**213**	*e*P	**Pg**	**21 54 33.7**	**-1.4**
	baz=227						
TCU	**Taichung**	**1.23**	**260**	*e*P	**Pn**	**21 54 37.5**	**+1.7**
	baz=261						
WJS	**Zhushan**	**1.28**	**246**	*e*P	**Pn**	**21 54 37.1**	**+0.6**
	baz=238						
YUS	**Yu-Shan**	**1.29**	**228**	*e*P	**Pb**	**21 54 37.0**	**-0.1**
	baz=235						
YUS				*e*S	**Sn**	**21 54 55.9**	**+1.0**
	baz=235						
WNT	**Mingjian**	**1.29**	**249**	*e*P	**Pb**	**21 54 38.3**	**+1.5**
	baz=249						
FULB	**Fuli**	**1.32**	**209**	*e*P	**Pn**	**21 54 36.3**	**-0.8**
	baz=190						
WCHH	**Zhanghua**	**1.35**	**258**	*e*P	**Pg**	**21 54 39.0**	**+0.9**
	baz=259						
CHKT	**Chengkung**	**1.38**	**205**	*e*P	**Pn**	**21 54 37.6**	**-0.3**
	baz=184						
CHN5	**Tsauling**	**1.43**	**238**	*e*P	**Pg**	**21 54 40.0**	**+0.3**
	baz=241						
CHN5				*e*S	**Sn**	**21 55 01.2**	**+3.6**
	baz=241						
ELDTW	**Lidau**	**1.47**	**218**	*e*P	**Pn**	**21 54 38.6**	**-0.6**
	baz=216						
WGK	**Gukeng**	**1.48**	**243**	*e*P	**Pg**	**21 54 41.0**	**+0.4**
	baz=243						
RLNB	**Erlin**	**1.57**	**253**	*e*P	**Pg**	**21 54 41.8**	**-0.6**
	baz=267						
IRIF	**Iriomote-Funau**	**1.58**	**90**	P	**Pn**	**21 54 39.5**	**-1.1**
IRIF				S	**Sn**	**21 55 00.3**	**-0.9**
CHN2	**Minshiung**	**1.62**	**240**	*e*P	**Pg**	**21 54 43.1**	**-0.3**
	baz=243						
CHN2				*e*S	**Sg**	**21 55 07.4**	**+3.0**
	baz=243						
CHN4	**Tsaushan**	**1.63**	**232**	*e*P	**Pg**	**21 54 42.9**	**-0.7**
	baz=232						
TPUB	**Ta-pu**	**1.64**	**230**	*e*P	**Pg**	**21 54 43.2**	**-0.5**
	baz=232						
TPUB				*e*S	**Sg**	**21 55 06.8**	**+1.8**
	baz=232						
STYT	**Tauyuan**	**1.65**	**224**	*e*P	**Pb**	**21 54 42.6**	**-0.3**
	baz=222						
HATJ	**Hateruma jima**	**1.67**	**100**	P	**Pn**	**21 54 42.2**	**+0.3**
HATJ				S	**Sn**	**21 55 04.6**	**+1.0**
CHY	**Chiayi**	**1.68**	**240**	*e*P	**Pb**	**21 54 42.9**	**-0.5**
	baz=225						
WTP	**Ta-pu**	**1.69**	**229**	*e*P	**Pg**	**21 54 43.8**	**-0.8**
	baz=228						
TWGBT	**Beinan**	**1.75**	**209**	*e*P	**Pn**	**21 54 42.1**	**-0.9**
	baz=192						
TWG	**Pinlang**	**1.75**	**209**	*e*P	**Pn**	**21 54 41.8**	**-1.2**
	baz=192						
TWK	**Hsinying**	**1.76**	**232**	*e*P	**Pb**	**21 54 44.8**	**-0.1**
	baz=232						
CHN1	**Nanshi**	**1.78**	**229**	*e*P	**Pg**	**21 54 45.7**	**-0.8**
	baz=229						
SGST	**Jiashian**	**1.82**	**226**	*e*P	**Pb**	**21 54 46.0**	**+0.2**
	baz=225						
JKRS	**Kuro-shima**	**1.84**	**93**	P	**Pn**	**21 54 43.7**	**-0.4**
JKRS				S	**Sn**	**21 55 07.1**	**-0.5**
SLGT	**Liugui**	**1.84**	**223**	*e*P	**Pb**	**21 54 45.9**	**-0.3**
	baz=222						
JIJ	**Ishigaki jima**	**1.95**	**89**	P	**Pn**	**21 54 44.7**	**-1.0**
JIJ				S	**Sn**	**21 55 09.0**	**-1.5**
ECL	**Taimali**	**2.00**	**209**	*e*P	**Pb**	**21 54 47.8**	**-1.1**
	baz=194						
SSD	**Sandimen**	**2.04**	**218**	*e*P	**Pb**	**21 54 49.4**	**-0.2**
	baz=216						
JISG	**Ishigakijimahi**	**2.12**	**83**	P	**Pn**	**21 54 46.9**	**-1.1**
JISG				S	**Sn**	**21 55 15.8**	**+1.3**
MASBT	**Mashibuluo**	**2.14**	**216**	*e*P	**Pn**	**21 54 48.6**	**+0.2**
	baz=218						
MASBT				*e*S	**Sb**	**21 55 18.8**	**+0.6**
	baz=218						
EAST	**Anshuo**	**2.23**	**209**	*e*P	**Pb**	**21 54 51.7**	**-1.2**
	baz=193						
PNG	**Penghu**	**2.37**	**251**	*e*P	**Pn**	**21 54 51.6**	**+0.1**
	baz=254						
PHUB	**P'eng-hu**	**2.38**	**250**	*e*P	**Pn**	**21 54 51.9**	**+0.3**
	baz=255						
PHUB				*e*S	**Sb**	**21 55 24.3**	**-0.6**
	baz=255						
WDGT	**Dungji**	**2.41**	**243**	*e*P	**Pn**	**21 54 53.7**	**+1.8**
	baz=246						
JTJ	**Tarama**	**2.48**	**83**	P	**Pn**	**21 54 53.0**	**+0.1**
JTJ				S	**Sn**	**21 55 24.5**	**+1.1**
MATB	**Ma-tsu**	**2.58**	**314**	*e*P	**Pn**	**21 54 53.6**	**-0.7**
	baz=314						
JIRB	**Irabujima**	**2.92**	**80**	P	**Pn**	**21 54 58.9**	**-0.2**
JIRB				S	**Sn**	**21 55 34.8**	**+0.3**
KNMB	**Chin-men Tao**	**3.29**	**273**	*e*P	**Pn**	**21 55 03.7**	**-0.5**
	baz=276						

*NEIC **06** 22:01:48.6±0.0, 45°.47S×166°.48E, h5km, ML4.1(WEL), After WEL.*

WEL 06 22:01:50.3±1.1**, 46°S**±5°×**16°7E**±°**, h5**km**, ML4.3**/1**, Off west coast of South Island**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.37**	**82**	Pg	Pb	22 01 58.6	-0.8
DCZ				Sg	Sb	22 02 04.3	-1.2
DCZ	**Deep Cove**	**0.37**	**82**	P	Pb	22 01 58.7	-0.7
DCZ	**Deep Cove**	**0.37**	**82**	S	Sg	22 02 03.7	+1.3
PYZ	**Puysegur Point**	**0.65**	**177**	P*	Pg	22 02 02.5	-0.3
PYZ	**Puysegur Point**	**0.65**	**177**	P	Pg	22 02 02.8	0.0
PYZ	**Puysegur Point**	**0.65**	**177**	S	Sg	22 02 11.9	+0.7
WHZ	**Wether Hill Ro**	**1.00**	**113**	P*	Pg	22 02 09.2	-0.2
WHZ	**Wether Hill Ro**	**1.00**	**113**	P	Pg	22 02 09.4	0.0
MLZ	**Mavora Lakes**	**1.06**	**82**	P*	Pg	22 02 10.2	-0.4
MLZ	**Mavora Lakes**	**1.06**	**82**	P	Pg	22 02 10.2	-0.4
MLZ	**Mavora Lakes**	**1.06**	**82**	S	Sg	22 02 24.7	+0.4
MSZ	**Milford Sound**	**1.25**	**48**	P*	Pg	22 02 12.2	-2.0
MSZ	**Milford Sound**	**1.25**	**48**	P	Pg	22 02 12.0	-2.2
APZ	**The Paps**	**1.62**	**145**	Pn	Pn	22 02 19.2	-0.4
APZ	**The Paps**	**1.62**	**145**	P	Pn	22 02 19.0	-0.5
WKZ	**Wanaka**	**1.83**	**69**	Pn	Pn	22 02 22.3	0.0
WKZ	**Wanaka**	**1.83**	**69**	P	Pn	22 02 22.5	+0.1
EAZ	**Earnscleugh**	**1.91**	**82**	Pn	Pn	22 02 23.8	+0.3
EAZ	**Earnscleugh**	**1.91**	**82**	P	Pn	22 02 23.9	+0.4
SYZ	**Scrubby Hill**	**2.03**	**121**	Pn	Pn	22 02 26.3	+1.2
SYZ	**Scrubby Hill**	**2.03**	**121**	P	Pb	22 02 26.3	-1.2
JCZ	**Jackson Bay**	**2.11**	**48**	Pn	Pn	22 02 25.7	-0.6
JCZ	**Jackson Bay**	**2.11**	**48**	P	Pn	22 02 25.8	-0.5
TUZ	**Tuapeka**	**2.15**	**103**	Pn	Pn	22 02 27.6	+0.8
TUZ	**Tuapeka**	**2.15**	**103**	P	Pn	22 02 28.0	+1.2
TUZ	**Tuapeka**	**2.15**	**103**	S	Sn	22 02 53.6	-0.1
LBZ	**Lake Benmore**	**2.77**	**67**	Pn	Pn	22 02 35.1	-0.1
LBZ	**Lake Benmore**	**2.77**	**67**	P	Pn	22 02 34.5	-0.8
HHSZ	**Highcliff Hill**	**2.81**	**99**	Pn	Pn	22 02 33.1	-2.7
HHSZ	**Highcliff Hill**	**2.81**	**99**	P	Pn	22 02 33.4	-2.5
HHSZ	**Highcliff Hill**	**2.81**	**99**	S	Sn	22 03 10.5	+0.4
ODZ	**Otahua Downs**	**2.88**	**82**	Pn	Pn	22 02 36.0	-0.8
ODZ	**Otahua Downs**	**2.88**	**82**	P	Pn	22 02 36.0	-0.7
FOZ	**Fox Glacier**	**3.02**	**50**	*e*Pn	Pn	22 02 39.8	+1.1
RPZ	**Rata Peaks**	**3.64**	**62**	P	Pn	22 02 47.2	0.0
WVZ	**Waitaha Valley**	**3.83**	**52**	*e*Pn	Pn	22 02 49.9	+0.1
WVZ	**Waitaha Valley**	**3.83**	**52**	P	Pn	22 02 52.5	+2.7
INZ	**Inchbonnie**	**4.45**	**53**	P	Pn	22 02 59.1	+0.7
OXZ	**Oxford**	**4.45**	**62**	Pn	Pn	22 02 57.6	-0.8
OXZ	**Oxford**	**4.45**	**62**	P	Pn	22 02 58.0	-0.4
MQZ	**McQueen's Vall**	**4.67**	**69**	*e*Pn	Pn	22 03 00.8	-0.6
MQZ	**McQueen's Vall**	**4.67**	**69**	P	Pn	22 03 00.9	-0.5
LTZ	**Lake Taylor**	**4.89**	**58**	P	Pn	22 03 05.1	+0.6
DSZ	**Denniston Nort**	**5.32**	**47**	*e*Pn	Pn	22 03 09.1	-1.3
DSZ	**Denniston Nort**	**5.32**	**47**	P	Pn	22 03 09.8	-0.6
THZ	**Tophouse**	**5.90**	**53**	*e*Pn	Pn	22 03 18.8	+0.4
THZ	**Tophouse**	**5.90**	**53**	P	Pn	22 03 19.3	+0.9
QRZ	**Quartz Range**	**6.37**	**45**	Pn	Pn	22 03 23.4	-1.3
QRZ	**Quartz Range**	**6.37**	**45**	P	Pn	22 03 23.5	-1.2
NNZ	**Nelson**	**6.53**	**51**	P	Pn	22 03 28.6	+1.7
PKE	**Pukeiti**	**8.34**	**43**	P	Pn	22 03 53.8	+2.0

*ISCJB **06** 22:12:32.6±1.0, 4°.6S±0°.1×153°.5E±0°.2, h100km, mb3.9/9, Error ellipse: s-maj=29.4km s-min=11.7km az=33.8*
*IDC **06** 22:12:34.3±8.3, 4°.61S×153°.82E, h114km±60km, mb3.7/9, mb1 3.9/10, mb1mx3.5/48, mbtmp4.2/10, MS2.9/1, Ms1 2.9/1, ms1mx2.4/48, Error ellipse: s-maj=77.8km s-min=23.8km az=89.0*

ISC 06 22:12:34.1±1.2**, 4°.5S**±0°.2×**153°.6E**±0°.2**, h100**km**, n11, σ2s.30**/15**, mb3.9**/9**, New Ireland region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**8.04**	**232**	P	**Pn**	**22 14 29.9**	**+1.7**
	14nm,0.3s,baz=36,slow=7.0,SNR=28						
PMG				S	**Sn**	**22 15 54.0**	**-3.4**
	1.1nm,0.3s,baz=53,slow=13,SNR=2.1						
PMG				LR	LR	22 17 04.8	
	comp=Z,82nm,21.4s,baz=94,slow=33						
WRA	**Warramunga Arr**	**24.24**	**229**	P	**P**	**22 17 41.5**	**-0.4**
	7.3nm,0.4s,baz=54,slow=10,SNR=121						
WRA				pP	**pP**	**22 18 06.8**	**+3.2**
	2.6nm,0.7s,baz=51,slow=11,SNR=4.6						
ASAR	**Alice Springs**	**26.91**	**223**	P	**P**	**22 18 05.3**	**-0.7**
	1.1nm,0.5s,baz=56,slow=8.9,SNR=16						
ASAR				pP	**pP**	**22 18 33.8**	**+5.5**
	0.9nm,0.6s,baz=42,slow=10.0,SNR=5.3						
STKA	**Stephens Creek**	**29.46**	**201**	P	**P**	**22 18 27.5**	**-1.2**
	1.4nm,0.5s,baz=29,slow=10,SNR=2.0						
CMAR	**Chiang Mai Arr**	**58.49**	**295**	P	**P**	**22 22 20.9**	**+0.6**
	0.5nm,0.3s,baz=117,slow=5.0,SNR=4.9						
MKAR	**Makanchi Array**	**80.65**	**319**	P	**P**	**22 24 36.1**	**0.0**
	0.6nm,0.8s,baz=96,slow=7.1,SNR=6.6						
ZALV	**Zalesovo Beam**	**81.37**	**326**	P	**P**	**22 24 39.7**	**0.0**
	0.3nm,0.3s,baz=90,slow=4.3,SNR=2.6						
KURBB	**Kurchatov Arra**	**84.08**	**322**	P	**P**	**22 24 53.0**	**-0.8**
	0.7nm,0.8s,baz=108,slow=4.1,SNR=4.2						
MAW	**Mawson**	**86.14**	**203**	P	**P**	**22 25 02.8**	**-1.0**
	3.1nm,0.7s,baz=43,slow=8.5,SNR=4.5						
BVAR	**Borovoye Array**	**89.50**	**323**	P	**P**	**22 25 18.8**	**-1.3**
	0.6nm,0.6s,baz=96,slow=5.8,SNR=6.6						
TORD	**Torodi Ar. Bea**	**150.98**	**289**	PKPbc	**PKPbc**	**22 32 14.9**	**-1.5**
	1.0nm,0.7s,baz=63,slow=2.6,SNR=6.4						
TORD				pPKPbc	**pPKPbc**	**22 32 44.3**	**+0.5**
	1.0nm,0.8s,baz=124,slow=2.0,SNR=4.0						

*GUC **06** 22:15:31.9±0.6, 32°.31S×71°.66W, h15km±4km, ML3.1*
*SJA **06** 22:15:31.0±0.6, 32°.53S×72°.00W, h24km±10km, ML3.2, MW3.6*

ISC 06 22:15:31.0±2.6**, 32°.32S**±0°.04×**71°.7W**±0°.1**, h8**km±13km**, n20, σ1s.47**/23**, 3C, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ROCH	**El Roble**	**0.89**	**137**	*e*P	**Pb**	**22 15 48.9**	**+0.1**
ROCH				*i* S	**Sn**	**22 16 02.5**	**-0.5**
ROCH				IAML		22 16 04.8	
	comp=N,770nm,0.6s						
ROC1	**El Roble**	**0.89**	**138**	*e*P	**Pn**	**22 15 49.5**	**-0.4**
ROC1				*e*S	**Sn**	**22 16 03.1**	**0.0**
PEL	**Peldehue**	**1.20**	**134**	⇑*i*P	**Pg**	**22 15 54.2**	**+0.1**
PEL				*i* S	**Sg**	**22 16 11.0**	**+1.3**
FCH	**Farellones**	**1.57**	**130**	⇑*i*P	**Pb**	**22 16 00.3**	**-0.2**
FCH				*i* S	**Sg**	**22 16 22.0**	**+0.5**
FCH				IAML		22 16 29.5	
	comp=E,267nm,0.2s						
AUSP	**Uspallata**	**1.98**	**88**	*e*P	**Pg**	**22 16 09.5**	**+0.5**
LMEL	**Las Melosas**	**1.99**	**140**	⇑*i*P	**Pb**	**22 16 06.9**	**-0.6**
LMEL				*i* S	**Sb**	**22 16 33.1**	**+0.7**
LMEL				IAML		22 16 40.1	
	comp=N,236nm,0.2s						
RTLS	**Leoncito**	**2.12**	**76**	*e*P	**Pg**	**22 16 12.2**	**+0.5**
RTLS				IAML		22 16 43.6	
	comp=Z,80nm,0.4s						
TLL	**Tololo Astrono**	**2.29**	**20**	*e*P	**Pn**	**22 16 09.2**	**0.0**
TLL				*i* S	**Sb**	**22 16 41.9**	**+0.8**
TLL				IAML		22 16 49.1	
	comp=N,306nm,0.6s						
ARCO	**CERRO ARCO**	**2.41**	**103**	IAML		22 16 57.4	
	comp=Z,44nm,0.3s						
ASAL	**Salagasta**	**2.46**	**97**	*e*P	**Pg**	**22 16 16.9**	**-1.2**
AAGR	**Agrelo**	**2.56**	**108**	*e*P	**Pg**	**22 16 18.8**	**-1.2**
ZON	**Zonda**	**2.70**	**74**	*e*P	**Pb**	**22 16 19.6**	**+0.1**
RTCV	**Cerro Valdivia**	**2.74**	**81**	*e*P	**Pb**	**22 16 20.0**	**-0.2**
AROD	**Rodeo**	**2.88**	**43**	*e*P	**Pb**	**22 16 23.6**	**+0.8**
AMOG	**MOGNA**	**3.08**	**64**	*e*P	**Pb**	**22 16 25.8**	**-0.2**
ACAN	**Cantantal**	**3.84**	**91**	*e*P	**Pb**	**22 16 35.0**	**-4.0**
AGUA	**GUANDACOL**	**3.96**	**45**	*e*P	**Pb**	**22 16 37.7**	**-3.4**
VCA	**Vinchina**	**4.69**	**41**	IAML		22 17 59.9	
	comp=Z,44nm,0.5s						
APLL	**PUNTA DE LOS L**	**4.84**	**68**	*e*P	**Pn**	**22 16 46.5**	**+2.3**
APLL				IAML		22 17 56.3	
	comp=Z,11nm,0.6s						
MRA	**San Martin**	**5.08**	**93**	IAML		22 18 00.5	
	comp=Z,13nm,0.5s						

*ATA **06** 22:18:00.5±0.6, 38°.26N×43°.87E, h77km±44km, ML2.9, MW3.0*
*ISK **06** 22:18:09.4, 38°.59N×43°.13E, h12km, ML2.0/4*
*ISCJB **06** 22:18:10.4±0.5, 38°.61N±0°.03×43°.14E±0°.03, h13km±5km, Error ellipse: s-maj=5.4km s-min=4.3km az=166.5*
*CSEM **06** 22:18:10.1±0.2, 38°.59N×43°.14E, h10km, ML2.0, Error ellipse: s-maj=4.7km s-min=4.1km az=165.0*
*DDA **06** 22:18:10.9, 38°.61N×43°.17E, h7km, Ml2.5*

ISC 06 22:18:10.4±0.9**, 38°.60N**±0°.03×**43°.15E**±0°.02**, h11**km±8km**, n26, σ1s.75**/47**, Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.19**	**91**	PG	**Pb**	**22 18 14.7**	**-1.2**
VANB				SG	**Sg**	**22 18 18.6**	**+1.3**
VANB	**Van**	**0.19**	**91**	*e*Pg	**Pb**	**22 18 14.7**	**-1.2**
VANB				*e*Sg	**Sg**	**22 18 18.6**	**+1.3**
TVAN	**Van**	**0.21**	**109**	*i* P	**Pg**	**22 18 14.6**	**-0.4**
TVAN				*i* S	**Sg**	**22 18 18.9**	**+0.9**
TVAN	**Van**	**0.21**	**109**	P	**Pg**	**22 18 14.6**	**-0.4**
TVAN				S	**Sg**	**22 18 19.0**	**+0.9**
GEVA	**Gevas**	**0.29**	**194**	*e*P	**Pb**	**22 18 16.2**	**-1.6**
GEVA				*i* Pg	**Pg**	**22 18 16.9**	**+0.4**
GEVA				IAML		22 18 26.3	
	comp=Z,27nm,0.3s						
GEVA	**Gevas**	**0.29**	**194**	*i* P	**Pb**	**22 18 16.4**	**-1.4**
GEVA				*i* S	**Sb**	**22 18 22.9**	**+0.1**
GEVA	**Gevas**	**0.29**	**194**	P	**Pb**	**22 18 16.4**	**-1.4**
GEVA				S	**Sb**	**22 18 22.9**	**+0.1**
ADCV	**BITLIS_Adilcev**	**0.39**	**302**	*i* P	**Pb**	**22 18 18.5**	**-1.0**
ADCV				*i* S	**Sb**	**22 18 25.8**	**+0.1**

ADCV	**BITLIS_Adilcev**	**0.39**	**302**	P	**Pb**	**22 18 18.5**	**-1.0**
ADCV				S	**Sb**	**22 18 25.8**	**+0.1**
VMUR	**Van-Muradiye**	**0.51**	**40**	*i* P	**Pb**	**22 18 20.5**	**-1.0**
VMUR				*i* S	**Sb**	**22 18 29.4**	**+0.4**
VMUR	**Van-Muradiye**	**0.51**	**40**	P	**Pb**	**22 18 20.5**	**-1.0**
VMUR				S	**Sb**	**22 18 29.4**	**+0.4**
CLDR	**Caldiran**	**0.81**	**47**	PG	**Pb**	**22 18 25.8**	**-0.8**
CLDR				SG	**Sb**	**22 18 37.6**	**0.0**
CLDR	**Caldiran**	**0.81**	**47**	*e*Pg	**Pb**	**22 18 25.8**	**-0.8**
CLDR				*e*Sg	**Sb**	**22 18 37.6**	**0.0**
TUTA	**Tutak**	**0.84**	**342**	*e*P	**Pb**	**22 18 26.2**	**-1.1**
TUTA	**Tutak**	**0.84**	**342**	*i* P	**Pb**	**22 18 26.1**	**-1.1**
TUTA				*i* S	**Sg**	**22 18 37.0**	**-0.8**
TUTA	**Tutak**	**0.84**	**342**	P	**Pb**	**22 18 26.1**	**-1.1**
TUTA				S	**Sg**	**22 18 37.0**	**-0.8**
GURO	**Guroymak-BITLI**	**0.88**	**267**	PG	**Pb**	**22 18 26.4**	**-1.3**
GURO				SG	**Sb**	**22 18 38.7**	**-0.8**
GURO	**Guroymak-BITLI**	**0.88**	**267**	*e*Pg	**Pb**	**22 18 26.4**	**-1.3**
GURO				*e*Sg	**Sb**	**22 18 38.7**	**-0.8**
AGRB	**Hanur-Agry**	**0.98**	**353**	PG	**Pb**	**22 18 28.7**	**-0.9**
AGRB				SG	**Sn**	**22 18 42.8**	**-1.6**
AGRB	**Hanur-Agry**	**0.98**	**353**	*e*Pg	**Pb**	**22 18 28.7**	**-0.9**
AGRB				*e*Sg	**Sn**	**22 18 42.8**	**-1.6**
EKAR	**Karacoban**	**1.07**	**308**	*e*P	**Pn**	**22 18 30.5**	**-1.1**
EKAR				*e*S	**Sn**	**22 18 54.1**	**+7.5**
EKAR				IAML		22 18 56.9	
	comp=Z,3.2nm,0.6s						
EKAR	**Karacoban**	**1.07**	**308**	*i* P	**Pn**	**22 18 32.0**	**+0.4**
EKAR				*i* S	**Sn**	**22 18 52.5**	**+5.9**
EKAR	**Karacoban**	**1.07**	**308**	P	**Pn**	**22 18 32.0**	**+0.4**
SIRT	**Sirnak**	**1.23**	**207**	PN	**Pg**	**22 18 33.1**	**-0.9**
SIRT	**Sirnak**	**1.23**	**207**	*e*Pn	**Pg**	**22 18 33.1**	**-0.9**
EATA	**Eleskirt**	**1.36**	**338**	*e*P	**Pn**	**22 18 34.2**	**-1.4**

*ISCJB **06** 22:26:00.8±0.4, 50°.19N±0°.03×18°.91E±0°.03, h0^{km}, Error ellipse: s-maj=4.0km s-min=2.4km az=14.7*
*VIE **06** 22:26:00.9±1.0, 49°.52N×19°.13E, h0^{km}, mb2.1/2, ML1.9/5, Error ellipse: s-maj=7.9km s-min=6.8km az=16.0, Suspected Mining induced.*
*CSEM **06** 22:26:01.1±0.3, 50°.25N×19°.01E, h2^{km}, ML2.6/6, Error ellipse: s-maj=7.7km s-min=3.5km az=15.0*
*PRU **06** 22:26:01.7, 50°.23N×18°.98E, h0^{km}*
*WAR **06** 22:26:02.3, 50°.21N×19°.09E, h1^{km}, Mw2.5*
ISC 06 22:26:01.0±0.8**, 50°.13N**±0°.03×**19°.01E**±0°.02**, h0**^{km}**, n44, σ1^{s}15**/76**, Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CHZP	**Chorzow**	**0.16**	**356**	*e*Pg	**Pg**	**22 26 04.3**	**+0.2**
CHZP				*e*Sg	**Sg**	**22 26 06.2**	**0.0**
CHZP	**Chorzow**	**0.16**	**356**	*e*Pg	**Pg**	**22 26 04.3**	**+0.2**
CHZP				*e*Sg	**Sg**	**22 26 06.2**	**0.0**
OJC	**Ojcow**	**0.51**	**80**	*e*Pg	**Pg**	**22 26 10.9**	**0.0**
OJC				*e*Sg	**Sg**	**22 26 17.4**	**-0.1**
OJC	**Ojcow**	**0.51**	**80**	*e*Pg	**Pg**	**22 26 10.9**	**0.0**
OJC				*e*Sg	**Sg**	**22 26 17.4**	**-0.1**
OJC	**Ojcow**	**0.51**	**80**	*e*Pg	**Pg**	**22 26 10.9**	**0.0**
OJC				*e*Sg	**Sg**	**22 26 17.4**	**-0.1**
RAC	**Raciborz**	**0.53**	**265**	*e*Pg	**Pb**	**22 26 13.0**	**-0.2**
RAC				*e*Sg	**Sb**	**22 26 20.9**	**-0.5**
OKC	**Ostrava-Krasne**	**0.63**	**242**	*e*PG	**Pb**	**22 26 15.3**	**+0.4**
OKC				*e*SG	**Sg**	**22 26 22.7**	**+1.4**
	comp=Z,16nm,0.5s						
OKC	**Ostrava-Krasne**	**0.63**	**242**	Pg	**Pb**	**22 26 15.3**	**+0.4**
OKC				Sg	**Sg**	**22 26 22.7**	**+1.4**
	16nm,0.5s						
MORC	**Moravsky Berou**	**1.01**	**250**	*e*Pg	**Pb**	**22 26 21.5**	**0.0**
MORC				*e*Sg	**Sn**	**22 26 37.3**	**-0.2**
LANS	**Liptovska Anna**	**1.03**	**163**	*e*Pg	**Pn**	**22 26 22.9**	**+0.2**
LANS				*e*Sg	**Sn**	**22 26 37.7**	**-0.2**
LANS	**Liptovska Anna**	**1.03**	**163**	*e*PG	**Pn**	**22 26 22.9**	**+0.2**
LANS				*e*SG	**Sn**	**22 26 37.7**	**-0.2**
NIE	**Niedzica**	**1.10**	**130**	*e*Pg	**Pn**	**22 26 23.9**	**+0.1**
NIE				*e*Sg	**Sn**	**22 26 39.5**	**-0.2**
NIE	**Niedzica**	**1.10**	**130**	*e*Pg	**Pn**	**22 26 23.9**	**+0.1**
NIE				*e*Sg	**Sn**	**22 26 39.5**	**-0.2**
NIE	**Niedzica**	**1.10**	**130**	*e*Pg	**Pn**	**22 26 23.9**	**+0.1**
NIE				*e*Sg	**Sn**	**22 26 39.5**	**-0.2**
KRLC	**Kraliky**	**1.44**	**269**	*e*PG	**Pn**	**22 26 27.7**	**-0.7**
KRLC				*e*SG	**Sg**	**22 26 47.0**	**-0.2**
	comp=Z,3.3nm,0.5s						
KRLC	**Kraliky**	**1.44**	**269**	Pg	**Pn**	**22 26 27.7**	**-0.7**
KRLC				Sg	**Sg**	**22 26 47.0**	**-0.2**
	3.3nm,0.5s						
VYHS	**Vyhne**	**1.65**	**184**	*e*Pn	**Pn**	**22 26 32.0**	**+0.8**
VYHS				*e*Sn	**Sg**	**22 26 54.8**	**+1.0**
VYHS	**Vyhne**	**1.65**	**184**	*e*PN	**Pn**	**22 26 32.0**	**+0.8**
VYHS				*e*SN	**Sg**	**22 26 54.8**	**+1.0**
VYHS				*e*LG	Lg	22 26 57.4	
DPC	**Dobruska-Polom**	**1.74**	**278**	*e*PG	**Pn**	**22 26 32.6**	**0.0**
DPC				*e*SG	**Sg**	**22 26 57.3**	**+0.4**
	comp=Z,12nm,0.5s						
DPC	**Dobruska-Polom**	**1.74**	**278**	Pg	**Pn**	**22 26 32.6**	**0.0**
DPC				Sg	**Sg**	**22 26 57.3**	**+0.4**
	12nm,0.5s						
VRAC	**Vranov**	**1.77**	**243**	*e*Pn	**Pb**	**22 26 34.2**	**-0.2**
VRAC				*e*Sg	**Sg**	**22 26 58.8**	**+0.8**
KSP	**Ksiaz**	**1.88**	**293**	*e*Pb	**Pn**	**22 26 34.5**	**+0.1**
KSP				*e*Pg	**Pg**	**22 26 36.8**	**-0.2**
KSP				*e*Sg	**Sg**	**22 27 01.9**	**+0.6**
KSP	**Ksiaz**	**1.88**	**293**	*e*Pb	**Pn**	**22 26 34.5**	**+0.1**
KSP				*e*Pg	**Pg**	**22 26 36.8**	**-0.2**
KSP				*e*Sg	**Sg**	**22 27 01.9**	**+0.6**
KSP	**Ksiaz**	**1.88**	**293**	*e*Pb	**Pn**	**22 26 34.5**	**+0.1**
KECS	**Kecovo**	**1.91**	**149**	*e*Pn	**Pn**	**22 26 35.1**	**+0.2**
KECS	**Kecovo**	**1.91**	**149**	*e*PN	**Pn**	**22 26 35.1**	**+0.2**
KECS				*e*LG	Lg	22 27 06.9	
UPC	**Upice**	**1.96**	**282**	*e*SG	**Sg**	**22 27 04.1**	**+0.2**
	comp=Z,7.9nm,0.5s						
UPC	**Upice**	**1.96**	**282**	Sg	**Sg**	**22 27 04.1**	**+0.2**
	7.9nm,0.5s						
CRVS	**Cervenica-Dubn**	**2.02**	**127**	*e*Pn	**Pb**	**22 26 39.2**	**+0.6**
CRVS	**Cervenica-Dubn**	**2.02**	**127**	*e*PN	**Pb**	**22 26 39.2**	**+0.6**
GOPC	**GO Pecny, Ondr**	**2.73**	**267**	*e*SG	**Sg**	**22 27 27.5**	**-1.3**
	comp=Z,5.8nm,0.7s						
PVCC	**Panska Ves**	**2.87**	**280**	*e*SG	**Sg**	**22 27 34.3**	**+1.0**
	comp=Z,10nm,0.3s						
PVCC	**Panska Ves**	**2.87**	**280**	Sg	**Sg**	**22 27 34.3**	**+1.0**
	10nm,0.3s						
PRU	**Pruhonice**	**2.88**	**269**	*e*PG	**Pb**	**22 26 53.3**	**0.0**
PRU				*e*SG	**Sg**	**22 27 31.7**	**-1.9**
	comp=Z,3.5nm,0.5s						
CONA	**Conrad Observa**	**3.03**	**224**	Pn	Pn	22 26 45.3	-5.0
	0.5nm,0.3s						
CONA				Sg	**Sn**	**22 27 28.8**	**+1.5**
	0.8nm,0.4s						
CONA	**Conrad Observa**	**3.03**	**224**	Pn	Pn	22 26 45.3	-4.9
	0.5nm,0.3s						
CONA				Sg	**Sn**	**22 27 28.8**	**+1.5**
	0.8nm,0.4s						
BRG	**Berggiesshubel**	**3.32**	**285**	SG	**Sg**	**22 27 47.7**	**0.0**
	3.4nm,0.5s						
KHC	**Kasperske Hory**	**3.67**	**256**	*e*PN	**Pn**	**22 26 59.5**	**+0.4**
KHC				*e*SG	**Sg**	**22 27 58.3**	**-0.6**
	comp=Z,4.5nm,0.5s						
KHC	**Kasperske Hory**	**3.67**	**256**	Pn	**Pn**	**22 26 59.5**	**+0.4**
KHC				Sg	**Sg**	**22 27 58.3**	**-0.6**
	4.5nm,0.5s						
ARSA	**Arzberg**	**3.70**	**220**	Pg	**Pb**	**22 27 04.4**	**-2.8**
	0.9nm,0.4s						
ARSA				Sg	**Sb**	**22 27 48.6**	**-3.9**
	0.7nm,0.4s						
ARSA	**Arzberg**	**3.70**	**220**	Pg	**Pb**	**22 27 04.4**	**-2.8**
	0.9nm,0.4s						
ARSA				Sg	**Sb**	**22 27 48.6**	**-3.9**
	0.7nm,0.4s						
MOA	**Molln**	**3.87**	**236**	Pg	**Pb**	**22 27 09.8**	**-0.4**
	0.3nm,0.2s						
MOA				Sg	**Sb**	**22 28 01.0**	**+3.5**
	1.5nm,0.5s						
MOA	**Molln**	**3.87**	**236**	*e*Pg	**Pb**	**22 27 09.8**	**-0.4**
	0.3nm,0.2s						
MOA				Sg	**Sb**	**22 28 01.0**	**+3.5**
	1.5nm,0.5s						
CLL	**Collm**	**4.00**	**289**	*e*Sg	**Sg**	**22 28 10.0**	**+0.7**

*ISCJB **06** 22:29:22.7±0.7, 6°.7S±0°.1×154°.83E±0°.10, h48^{km}, mb4.1/15, Error ellipse: s-maj=18.9km s-min=8.9km az=140.0*
*IDC **06** 22:29:27.9±4.6, 6°.61S×154°.69E, h77^{km}±39^{km}, mb3.8/13, mb1 3.9/15, mb1mx3.7/56, mbtmp4.1/15, ML2.8/2, MS3.2/2, Ms1 3.2/2, ms1mx2.6/44, Error ellipse: s-maj=30.0km s-min=20.2km az=112.0*
*NEIC **06** 22:29:29.8±2.1, 6°.61S×154°.64E, h95^{km}±18^{km}, mb4.3/2, Error ellipse: s-maj=19.0km s-min=12.4km az=111.0*
ISC 06 22:29:23.9±0.8**, 6°.7S**±0°.1×**154°.9E**±0°.1**, h48**^{km}**, n29, σ1^{s}00**/30**, mb4.0**/15**, 1C, Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.70**	**119**	LR	LR	22 33 03.4	
	comp=Z,156nm,20.2s,baz=264,slow=36						
PMG	**Port Moresby**	**8.13**	**250**	P	**Pn**	**22 31 21.7**	**+2.2**
	1.5nm,0.3s,baz=98,slow=17,SNR=4.8						
PMG				S	**Sn**	**22 32 49.7**	**-0.4**
	0.8nm,0.3s,baz=75,slow=20,SNR=3.5						
PMG				LR	LR	22 34 19.8	
	comp=Z,185nm,18.2s,baz=78,slow=37						
CTA	**Charters Tower**	**15.76**	**211**	P	**P**	**22 33 06.7**	**+0.7**
	0.1nm,0.3s,baz=39,slow=13,SNR=4.8						
WRAB	**Tennant Creek**	**23.91**	**235**	*e*P	**P**	**22 34 33.5**	**0.0**
	5.6nm,0.8s						
WRA	**Warramunga Arr**	**23.93**	**235**	P	**P**	**22 34 33.5**	**-0.2**
	7.9nm,0.8s,baz=56,slow=9.5,SNR=39						
WRA				PcP	**PcP**	**22 38 16.6**	**+1.2**
	0.8nm,0.6s,baz=64,slow=2.4,SNR=9.1						
ASAR	**Alice Springs**	**26.32**	**228**	P	**P**	**22 34 55.1**	**-0.3**
	1.4nm,0.7s,baz=59,slow=8.5,SNR=16						
STKA	**Stephens Creek**	**27.99**	**205**	P	**P**	**22 35 10.8**	**+0.5**
	1.8nm,0.5s,baz=32,slow=14,SNR=5.4						
LEM	**Lembang**	**46.94**	**267**	P	**P**	**22 37 49.6**	**-0.9**
	13nm,0.7s,baz=171,slow=18,SNR=4.0						
KULM	**Kulim**	**55.44**	**281**	P	**P**	**22 38 52.7**	**-1.4**
	7.3nm,1.0s						
PETK	**Petropavlovsk-**	**59.60**	**2**	P	**P**	**22 39 23.8**	**+1.1**
	1.7nm,0.5s,baz=113,slow=3.4,SNR=5.3						
CMAR	**Chiang Mai Arr**	**60.56**	**295**	P	**P**	**22 39 29.6**	**-0.3**
	0.9nm,0.3s,baz=123,slow=5.1,SNR=6.3						
SONM	**Songino Array**	**69.01**	**327**	P	**P**	**22 40 24.5**	**-0.1**
	0.7nm,0.6s,baz=115,slow=6.5,SNR=2.1						
ODAN	**Odare**	**73.29**	**300**	*e*P	**P**	**22 40 51.9**	**+0.8**
	41nm,0.7s						
RAMN	**Ramite**	**73.99**	**300**	*e*P	**P**	**22 40 55.7**	**+0.5**
	14nm,0.7s						
GUN	**Gumba**	**74.87**	**301**	*e*P	**P**	**22 41 01.3**	**+0.9**
	34nm,0.7s						
PKIN	**Phulchoki**	**75.19**	**301**	*e*P	**P**	**22 41 03.1**	**+0.9**
	12nm,0.6s						
KKN	**Kakani**	**75.35**	**301**	*e*P	**P**	**22 41 03.5**	**+0.5**
	16nm,0.5s						
DMN	**Daman**	**75.45**	**301**	*e*P	**P**	**22 41 04.5**	**+0.9**
	33nm,0.6s						
GKN	**Gorkha**	**75.95**	**301**	*e*P	**P**	**22 41 06.8**	**+0.4**
	22nm,0.7s						
KOLN	**Koldanda**	**76.78**	**300**	*e*P	**P**	**22 41 11.3**	**+0.1**
	18nm,0.7s						
PYUN	**Piuthan**	**77.39**	**301**	*e*P	**P**	**22 41 14.6**	**0.0**
	20nm,0.8s						
MKAR	**Makanchi Array**	**83.10**	**319**	P	**P**	**22 41 45.0**	**+0.3**
	1.3nm,0.7s,baz=101,slow=5.4,SNR=17						
ILAR	**Eielson Array**	**83.11**	**22**	P	**P**	**22 41 44.6**	**+0.3**
	0.2nm,0.4s,baz=251,slow=5.5,SNR=4.0						
ZALV	**Zalesovo Beam**	**83.86**	**326**	P	**P**	**22 41 47.5**	**-0.9**
	0.8nm,0.5s,baz=130,slow=6.3,SNR=4.3						
NVAR	**Mina Array Bea**	**91.59**	**52**	P	**P**	**22 42 28.1**	**+1.8**
	0.3nm,0.7s,baz=262,slow=3.5,SNR=3.3						
BVAR	**Borovoye Array**	**91.98**	**323**	P	**P**	**22 42 26.4**	**-1.0**
	0.3nm,0.6s,baz=114,slow=3.6,SNR=3.2						
SYO	**Syowa Base**	**92.60**	**199**	⇑*e*X	**P**	**22 42 27.6**	**-2.4**
YKA	**Yellowknife Ar**	**96.09**	**28**	P	**P**	**22 42 45.1**	**-0.9**
	0.2nm,0.6s,baz=268,slow=4.0,SNR=3.9						
TORD	**Torodi Ar. Bea**	**152.85**	**286**	PKPbc	**PKPbc**	**22 49 16.9**	**+0.1**
	1.8nm,0.6s,baz=42,slow=2.3,SNR=12						

IDC 06 22:32:46.5±5.6**, 12°.76S**×**167°.92E, h0**^{km}**, mb3.6**/3**, mb1 3.9**/3**, mb1mx3.4**/53**, mbtmp3.6**/3**, Error ellipse: s-maj=282.6km s-min=32.9km az=141.0, Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**32.95**	**253**	P	P	22 39 22.7	-0.5
	0.2nm,0.4s,baz=85,slow=9.0,SNR=2.3						
ASAR	**Alice Springs**	**33.99**	**247**	P	P	22 39 32.6	+0.3
	0.3nm,0.7s,baz=75,slow=9.5,SNR=4.9						
ILAR	**Eielson Array**	**84.47**	**18**	P	P	22 45 20.8	0.0
	0.8nm,0.6s,baz=236,slow=5.9,SNR=13						

*DDA **06** 22:53:53.9, 38°.94N×45°.00E, h5^{km}, Md2.7*
ISC 06 22:53:52.4±3.6**, 38°.8N**±0°.2×**45°.1E**±0°.1**, h10**^{km}**, n7, σ1^{s}71**/11**, Iran-Armenia-Azerbaijan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CLDR	**Caldiran**	**0.97**	**289**	*e*PG	**Pg**	**22 54 10.8**	**-0.3**
CLDR				*e*SG	**Sb**	**22 54 23.5**	**-1.0**
CLDR	**Caldiran**	**0.97**	**289**	*i* P	**Pg**	**22 54 10.3**	**-0.8**
CLDR				*i* S	**Sb**	**22 54 23.2**	**-1.3**
IGDI	**IGDIR**	**1.30**	**323**	*i* P	**Pn**	**22 54 16.6**	**-0.2**
IGDI				*i* S	**Sn**	**22 54 32.8**	**-1.5**
TASB	**TASBURUN-IGDIR**	**1.33**	**330**	*e*PG	**Pg**	**22 54 17.8**	**-0.2**
TASB				*e*SG	**Sn**	**22 54 33.2**	**-1.7**
AGRB	**Hanur-Agry**	**1.80**	**295**	*e*PG	**Pg**	**22 54 26.4**	**-0.5**
TUTA	**Tutak**	**1.87**	**289**	*e*P	Pg	22 54 33.0	+4.8
TUTA				*i* S	**Sg**	**22 54 56.1**	**+3.6**
DGRG	**David-gareji**	**2.63**	**5**	P	**Pb**	**22 54 40.6**	**+1.1**

*ISCJB **06** 22:56:55.3±0.7, 56°.13S±0°.07×27°.2W±0°.3, h112^{km}, mb4.3/11, Error ellipse: s-maj=24.1km s-min=10.3km az=174.3*
*IDC **06** 22:56:58.3±5.8, 56°.19S×27°.36W, h123^{km}±51^{km}, mb3.9/9, mb1 4.0/10, mb1mx3.7/31, mbtmp4.3/10, Error ellipse: s-maj=22.9km s-min=16.8km az=93.0*
ISC 06 22:56:56.7±0.6**, 56°.2S**±0°.1×**27°.4W**±0°.2**, h112**^{km}**, n34, σ0^{s}84**/26**, mb4.3**/11**, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VNA3	**Neumayer Olymp**	**16.93**	**160**	P	**Pn**	**23 00 46.0**	**-0.2**
VNA2	**Neumayer--Watz**	**17.13**	**158**	P	**P**	**23 00 48.8**	**0.0**
	baz=314,slow=14						
SNAA	**Sanae**	**18.69**	**156**	P	**P**	**23 01 05.5**	**-0.4**
SNAA	**Sanae**	**18.69**	**156**	P	**P**	**23 01 05.4**	**-0.4**
	2.8nm,0.3s,baz=301,slow=10,SNR=91						
QSPA	**South Pole Qui**	**34.10**	**180**	P	**P**	**23 03 30.7**	**+0.5**
	1.7nm,0.3s,baz=143,slow=6.1,SNR=11						
MAW	**Mawson**	**40.12**	**144**	P	**P**	**23 04 21.3**	**+0.5**
	1.1nm,0.3s,baz=236,slow=7.3,SNR=7.3						
VNDA	**Vanda**	**46.47**	**183**	P	**P**	**23 05 12.3**	**+0.6**
	1.0nm,0.7s,baz=189,slow=7.2,SNR=7.5						
H10S2	**ASCENSION HYDR**	**48.12**	**17**	T	T	23 58 10.8	
	baz=189,slow=75,SNR=20						
H10S3	**ASCENSION HYDR**	**48.13**	**17**	T	T	23 58 11.2	
	baz=189,slow=75,SNR=5.0						
H10S1	**ASCENSION HYDR**	**48.14**	**17**	T	T	23 58 12.1	
	baz=189,slow=75,SNR=4.5						
LBTB	**Lobatse**	**49.12**	**73**	P	**P**	**23 05 33.1**	**+0.2**
	2.9nm,0.9s,baz=214,slow=7.3,SNR=2.3						
H10N1	**ASCENSION HYDR**	**49.24**	**17**	T	T	23 59 35.0	
	baz=196,slow=74						
H10N3	**ASCENSION HYDR**	**49.24**	**17**	T	T	23 59 35.1	
	baz=196,slow=74						
H10N2	**ASCENSION HYDR**	**49.26**	**17**	T	T	23 59 36.1	
	baz=196						
LPAZ	**La Paz**	**50.36**	**305**	P	**P**	**23 05 43.3**	**+0.4**
	1.7nm,0.5s,baz=113,slow=4.8,SNR=13						
LIC	**Lamto**	**64.83**	**25**	*e*P	**P**	**23 07 22.2**	**-1.2**
	18nm,0.7s						
KIC	**Kosan Boka**	**65.02**	**25**	*e*P	**P**	**23 07 24.7**	**0.0**
	11nm,0.8s						
TIC	**Toumodi**	**65.23**	**25**	*e*P	P	23 07 21.0	-5.1
DBIC	**Dimbokro**	**65.30**	**25**	P	**P**	**23 07 27.1**	**+0.7**
	5.1nm,0.7s,baz=160,slow=8.0,SNR=9.8						
KOWA	**Kowa**	**73.05**	**24**	P	**P**	**23 08 15.3**	**+1.0**
	2.2nm,0.8s,baz=186,slow=8.7,SNR=4.9						
TORD	**Torodi Ar. Bea**	**73.19**	**30**	P	**P**	**23 08 16.0**	**+0.9**
	4.6nm,0.5s,baz=199,slow=6.5,SNR=29						
ASAR	**Alice Springs**	**98.92**	**163**	P	**P**	**23 10 23.4**	**-0.9**
	0.3nm,0.9s,baz=181,slow=4.4,SNR=3.1						
PDAR	**Pinedale Array**	**120.32**	**302**	PKP	**PKPdf**	**23 15 32.1**	**-1.9**
	0.2nm,0.5s,baz=163,slow=3.3,SNR=2.6						
NVAR	**Mina Array Bea**	**121.35**	**293**	PKP	**PKPdf**	**23 15 37.2**	**+1.0**
	0.2nm,0.5s,baz=131,slow=2.7,SNR=3.4						
FINES	**FINESS Array B**	**124.52**	**28**	PKP	**PKPdf**	**23 15 41.0**	**-0.1**
	1.6nm,0.5s,baz=134,slow=1.8,SNR=24						
ARCES	**ARCESS Array B**	**131.07**	**22**	PKP	**PKPdf**	**23 15 53.0**	**-0.4**
	2.5nm,0.8s,baz=262,slow=2.7,SNR=4.5						
BVAR	**Borovoye Array**	**134.91**	**58**	PKP	**PKPdf**	**23 16 00.6**	**-0.6**
	0.4nm,0.4s,baz=194,slow=5.5,SNR=4.2						
YKA	**Yellowknife Ar**	**136.19**	**318**	PKP	**PKPdf**	**23 16 01.8**	**-1.4**
	0.8nm,0.5s,baz=128,slow=2.3,SNR=18						
MKAR	**Makanchi Array**	**137.00**	**72**	PKP	**PKPdf**	**23 16 03.9**	**-1.4**
	0.3nm,0.6s,baz=222,slow=1.9,SNR=2.8						
ZALV	**Zalesovo Beam**	**142.50**	**64**	PKhKP	PKPpre	23 16 10.8	
	0.3nm,0.3s,baz=227,slow=5.5,SNR=2.8						
INK	**Inuvik**	**145.82**	**321**	PKPbc	**PKPdf**	**23 16 21.2**	**+0.9**
	4.6nm,0.5s,baz=77,slow=2.6,SNR=39						
ILAR	**Eielson Array**	**150.12**	**312**	PKPbc	**PKPbc**	**23 16 32.6**	**-0.1**
	4.7nm,0.7s,baz=135,slow=3.3,SNR=43						
KDAK	**Kodiak Island**	**150.78**	**296**	PKPbc	**PKPbc**	**23 16 34.8**	**+0.5**
	5.5nm,0.7s,baz=149,slow=1.5,SNR=8.1						
SONM	**Songino Array**	**150.82**	**87**	PKPbc	**PKPbc**	**23 16 35.5**	**+0.5**
	3.1nm,0.7s,baz=218,slow=3.3,SNR=4.8						

*IDC **06** 23:06:28.0±1.2, 35°.88N×143°.68E, h0^{km}, mb3.6/4, mb1 3.8/6, mb1mx3.4/71, mbtmp3.7/6, ML3.4/2, MS2.4/2, Ms1 2.4/2, ms1mx2.1/71, Error ellipse: s-maj=32.7km s-min=24.4km az=104.0*
*ISCJB **06** 23:06:32.3±0.9, 36°.21N±0°.05×143°.41E±0°.06, h33^{km}, mb3.7/4, Error ellipse: s-maj=7.5km s-min=7.0km az=42.2*
*JMA **06** 23:06:34.1±0.1, 36°.26N×143°.27E, h89^{km}±5^{km}, M3.2*
ISC 06 23:06:32.8±1.1**, 36°.14N**±0°.06×**143°.50E**±0°.08**, h35**^{km}**, n20, σ1^{s}60**/28**, mb3.8**/4**, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**2.18**	**259**	P	**Pn**	**23 07 07.3**	**+0.7**
CHOJ				S	**Sn**	**23 07 32.3**	**-0.2**
ONAJ	**Iwakimizuishiy**	**2.38**	**295**	P	**Pn**	**23 07 09.0**	**-0.3**
ONAJ				*e*S	**Sn**	**23 07 35.9**	**-1.4**
JHO	**Hitachi**	**2.41**	**282**	P	**Pn**	**23 07 09.6**	**-0.2**
JHO				S	**Sn**	**23 07 37.0**	**-1.0**
JFK	**Kawauchi**	**2.44**	**301**	P	**Pn**	**23 07 09.6**	**-0.6**
JFK				*e*S	**Sn**	**23 07 36.6**	**-2.2**
JFT	**Otama**	**2.89**	**299**	P	**Pn**	**23 07 15.8**	**-0.5**
JFT				S	**Sn**	**23 07 47.9**	**-1.9**
JAG	**Ashikaga**	**3.28**	**276**	P	**Pn**	**23 07 22.1**	**+0.4**
JAG				*e*S	**Sn**	**23 07 57.8**	**-1.7**
JMK	**Ichinoseki**	**3.34**	**328**	P	**Pn**	**23 07 22.2**	**-0.4**
JMK				S	**Sn**	**23 07 58.7**	**-2.3**
JOD2	**Odawara 2**	**3.69**	**258**	P	**Pn**	**23 07 28.3**	**+0.9**
JOD2				S	**Sn**	**23 08 09.3**	**-0.4**
JRY	**Ryogami san**	**3.72**	**270**	P	**Pn**	**23 07 28.3**	**+0.4**
JRY				S	**Sn**	**23 08 09.2**	**-1.3**
JYK	**Kaneyama**	**3.73**	**319**	P	**Pn**	**23 07 27.6**	**-0.3**
JYK				S	**Sn**	**23 08 09.0**	**-1.7**
MJAR	**Matsushiro Arr**	**4.29**	**277**	Pn	**Pn**	**23 07 36.9**	**+1.3**
	1.3nm,0.3s,baz=120,slow=9.0,SNR=8.6						
MJAR				Sn	**Sn**	**23 08 27.0**	**+2.6**
	0.9nm,0.3s,baz=135,slow=16,SNR=4.1						
MJAR				LR	LR	23 09 26.0	
	comp=Z,41nm,20.1s,baz=240,slow=40						
JHJ	**Hachijo jima 2**	**4.29**	**227**	Pn	**Pn**	**23 07 35.2**	**-0.4**
	7.1nm,0.3s,baz=68,slow=13,SNR=3.8						
JHJ				Sn	**Sn**	**23 08 20.5**	**-4.0**
	16nm,0.3s,baz=221,slow=19,SNR=3.8						
KSRS	**Korea Array**	**12.56**	**281**	LR	LR	23 13 60.0	
	comp=Z,18nm,18.7s,baz=205,slow=35						
H11N2	**WAKE ISLAND Hy**	**26.25**	**122**	T	T	23 39 21.6	
	baz=314,slow=75,SNR=6.5						
H11N1	**WAKE ISLAND Hy**	**26.26**	**122**	T	T	23 39 30.1	
	baz=314,slow=75,SNR=4.9						
H11N3	**WAKE ISLAND Hy**	**26.27**	**122**	T	T	23 39 24.6	
	baz=314,slow=75,SNR=5.1						
KURBB	**Kurchatov Arra**	**47.87**	**309**	P	**P**	**23 15 09.2**	**+2.0**
	0.6nm,0.7s,baz=82,slow=7.8,SNR=5.8						
ILAR	**Eielson Array**	**49.36**	**32**	P	**P**	**23 15 20.2**	**+1.8**
	0.3nm,0.8s,baz=246,slow=6.5,SNR=3.7						
WRA	**Warramunga Arr**	**56.44**	**190**	P	**P**	**23 16 08.7**	**-2.4**
	1.4nm,0.8s,baz=11,slow=7.4,SNR=7.3						
ASAR	**Alice Springs**	**60.17**	**190**	P	**P**	**23 16 36.9**	**-0.2**
	0.5nm,0.5s,baz=7.0,slow=8.4,SNR=5.5						

MEX 06 23:13:09.8±0.4**, 16°.30N**×**98°.42W, h2**^{km}**, MD3.8, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.29**	**72**	*e*P	Pg	23 13 14.6	-0.9
PNIG				*e*S	Sg	23 13 19.3	0.0
TLIG	**Tlapa**	**1.26**	**354**	*e*P	Pg	23 13 29.1	-4.9
TLIG				*e*S	Sg	23 13 44.2	-6.1
VHO	**Vista Hermosa**	**1.79**	**64**	*e*P	Pn	23 13 40.4	-1.5
VHO				*e*S	Sn	23 14 02.4	-2.9
MEIG	**Mezcala**	**1.98**	**325**	*e*P	Pn	23 13 40.8	-3.7
MEIG				*e*S	Sn	23 14 05.5	-4.4
HUIG	**Huatulco**	**2.29**	**103**	*e*P	Pn	23 13 32.7	-16
HUIG				*e*S	Sn	23 14 13.1	-4.2

*NNC **06** 23:45:57.5±3.7, 36°.87N×70°.79E, h250^{km}±47^{km}, mb2.4, mpv3.6, Error ellipse: s-maj=43.4km s-min=35.2km az=104.0*
ISC 06 23:45:54.7±3.4**, 36°.7N**±0°.2×**70°.2E**±0°.1**, h100**^{km}**, n11, σ1^{s}65**/16**, 8C-2D, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**4.21**	**37**	⇑P	**Pn**	**23 46 58.2**	**+1.3**
	1.4nm,0.2s						
SFK				⇑S	**Sn**	**23 47 49.2**	**+4.0**
	8.5nm,0.2s						
MNAS	**Manas**	**6.07**	**16**	⇑P	**Pn**	**23 47 22.4**	**+0.5**
	1.1nm,0.2s						
MNAS				⇑S	**Sn**	**23 48 30.4**	**+0.3**
	3.6nm,0.3s						
AML	**Almayashu**	**6.08**	**25**	P	**Pn**	**23 47 22.2**	**-0.1**
	SNR=36						
KK31	**Karatay Array**	**6.43**	**2**	P	**Pn**	**23 47 27.4**	**+0.7**
	1.3nm,0.2s,baz=177,slow=13,SNR=15						
KK31				⇑S	**Sn**	**23 48 38.5**	**-0.1**
	0.7nm,0.2s,baz=173,slow=25,SNR=3.6						
UCH	**Uchtor**	**6.46**	**29**	P	**Pn**	**23 47 27.2**	**-0.4**
	SNR=13						
EKS2	**Erkin-Say**	**6.58**	**23**	P	**Pn**	**23 47 28.7**	**-0.2**
	SNR=5.3						
AAK	**Ala-Archa**	**6.81**	**28**	⇑P	**Pn**	**23 47 31.6**	**-0.4**
	1.4nm,0.2s						
AAK				⇑S	**Sn**	**23 48 47.9**	**-0.1**
	2.1nm,0.4s						
AAK	**Ala-Archa**	**6.81**	**28**	P	**Pn**	**23 47 31.8**	**-0.2**
	SNR=5.0						
TKM2	**Tokmak 2**	**7.48**	**32**	⇓P	**Pn**	**23 47 39.5**	**-1.7**
	1.1nm,0.2s						
TKM2				⇓S	**Sn**	**23 49 01.1**	**-3.5**
	0.3nm,0.2s						
TKM2	**Tokmak 2**	**7.48**	**32**	P	**Pn**	**23 47 40.2**	**-1.1**
	SNR=6.8						
AB31	**Akbulak array**	**14.64**	**332**	⇑P	**Pn**	**23 49 16.5**	**-0.2**
	0.2nm,0.3s,baz=153,slow=14,SNR=6.6						

*ISCJB **06** 23:46:13.5±0.8, 6°.43S±0°.06×146°.5E±0°.1, h110^{km}, mb3.8/7, Error ellipse: s-maj=19.7km s-min=7.6km az=172.0*
*IDC **06** 23:46:13.4±2.8, 6°.40S×146°.54E, h96^{km}±28^{km}, mb3.8/8, mb1 3.9/11, mb1mx3.6/51, mbtmp4.1/11, MS3.2/4, Ms1 3.2/4, ms1mx2.7/45, Error ellipse: s-maj=36.0km s-min=14.7km az=111.0*
*NEIC **06** 23:46:14.6±1.4, 6°.38S×146°.49E, h106^{km}±13^{km}, mb4.1/2, Error ellipse: s-maj=18.1km s-min=11.6km az=119.0*
ISC 06 23:46:14.9±1.0**, 6°.44S**±0°.08×**146°.6E**±0°.2**, h110**^{km}**, n17, σ0^{s}72**/18**, mb3.9**/8**, Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.00**	**169**	P	**Pn**	**23 47 01.5**	**+0.7**
	26nm,0.3s,baz=344,slow=3.9,SNR=26						
PMG				S	**Sn**	**23 47 35.4**	**-0.8**
	18nm,0.3s,baz=309,slow=14,SNR=8.0						
PMG				LR	LR	23 48 36.6	
	comp=Z,64nm,18.0s,baz=0.5,slow=47						
COEN	**Coen**	**8.19**	**204**	*e*Pn	**Pn**	**23 48 11.5**	**+0.4**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	2.9nm,0.4s						
CTA	Charters Tower	13.57	181	P	Pn	23 49 23.4	+0.4
	0.1nm,0.3s,baz=8.1,slow=14,SNR=2.1						
CTA				S	Sn	23 51 51.2	-1.3
	0.2nm,0.3s,baz=284,slow=18,SNR=2.6						
WRAB	Tennant Creek	17.93	220	eP	P	23 50 15.8	-0.6
	4.0nm,0.5s						
WRA	Warramunga Arr	17.94	220	P	P	23 50 16.0	-0.5
	0.7nm,0.3s,baz=43,slow=11,SNR=17						
ASAR	Alice Springs	21.03	214	P	P	23 50 50.0	0.0
	2.9nm,0.6s,baz=55,slow=9.1,SNR=44						
ASAR				S	S	23 54 39.1	+0.9
	0.2nm,0.4s,baz=28,slow=22,SNR=3.0						
FITZ	Fitzroy Crossi	23.50	239	P	P	23 51 14.3	-0.8
	13nm,0.7s						
STKA	Stephens Creek	25.73	190	P	P	23 51 35.4	+0.3
	4.2nm,0.8s,baz=10,slow=11,SNR=9.1						
MKAR	Makanchi Array	77.59	321	P	P	23 57 58.9	-0.1
	0.1nm,0.3s,baz=102,slow=5.2,SNR=4.0						
ZALV	Zalesovo Beam	79.17	328	P	P	23 58 06.9	-0.6
	0.4nm,0.6s,baz=86,slow=7.4,SNR=3.0						
ZALV				LR	LR	00 30 56.2	
	comp=Z,50nm,21.7s,baz=70,slow=34						
KURK	Kurchatov	81.33	323	P	P	23 58 18.3	-0.8
KURBB	Kurchatov Arra	81.35	323	P	P	23 58 18.3	-0.9
	0.3nm,0.2s,baz=92,slow=5.7,SNR=3.8						
MAW	Mawson	81.69	203	P	P	23 58 21.6	+0.9
	1.9nm,0.8s,baz=76,slow=4.2,SNR=3.0						
ILAR	Eielson Array	86.04	23	P	P	23 58 42.8	-0.1
	2.9nm,0.6s,baz=253,slow=5.0,SNR=43						
BVAR	Borovoye Array	86.89	324	LR	LR	00 39 10.4	
	comp=Z,19nm,18.3s,baz=108,slow=37						
AKTO	Aktyubinsk	94.02	320	LR	LR	00 41 24.9	
	comp=Z,18nm,20.6s,baz=25,slow=35						
TORD	Torodi Ar. Bea	144.81	284	PKP	PKPdf	00 05 40.2	+0.3
	0.9nm,0.7s,baz=79,slow=2.4,SNR=8.0						

MEX 07 00:08:19.6±0.5, 16°39N×98°63W, h20km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.49	90	eP	Pb	00 08 19.9	-10
PNIG				eS	Sb	00 08 29.8	-6.4
TLIG	Tlapa	1.17	3	eP	Pn	00 08 36.6	-4.3
TLIG				eS	Sb	00 08 51.6	-4.3
MEIG	Mezcala	1.79	328	eP	Pn	00 08 46.8	-2.7
MEIG				eS	Sn	00 09 08.8	-3.0
VHO	Vista Hermosa	1.94	69	eP	Pn	00 08 49.0	-2.6
VHO				eS	Sn	00 09 12.3	-3.3
HUIG	Huatulco	2.51	104	eP	Pn	00 08 57.0	-2.2
HUIG				eS	Sn	00 09 27.9	-1.3

*ISCJB **07** 00:12:17.8±0.3, 74°98N±0°03×136°4E±0°1, h10km, mb4.0/38, MS3.2/5, Error ellipse: s-maj=5.1km s-min=4.4km az=6.2*
*YARS **07** 00:12:17.4±0.0, 75°22N×135°42E, h10km*
*MOS **07** 00:12:18.8±1.0, 75°25N×136°23E, h11km, mb4.3/17, Error ellipse: s-maj=31.4km s-min=9.2km az=89.6*
*IDC **07** 00:12:18.3±0.5, 75°16N×136°57E, h0km, mb3.9/21, mb1 4.1/23, mb1mx3.9/83, mbtmp3.9/23, ML6.2/1, MS3.0/7, Ms1 3.0/7, ms1mx2.7/74, Error ellipse: s-maj=15.7km s-min=11.0km az=158.0*
*NEIC **07** 00:12:19.9±0.3, 75°14N×136°43E, h10km, mb4.4/9, Error ellipse: s-maj=8.0km s-min=5.7km az=163.0*
ISC 07 00:12:19.8±0.4**, 75°02N**±0°05×**136°22E**±0°05**, h10km, n71, σ1s43**/76**, mb4.1**/38**, MS3.3**/5**, 4C-3D, New Siberian Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TIXI	Tiksi	3.99	216	Pn	Pn	00 13 21.2	+0.3
	6.0nm,0.3s,baz=24,slow=6.9,SNR=26						
TIXI				Sn	Sn	00 14 08.4	+0.7
	9.4nm,0.3s,baz=304,slow=18,SNR=7.5						
TIXI				LR	LR	00 15 33.8	
	comp=Z,129nm,18.7s,baz=360,slow=47						
TIXI	Tiksi	3.99	216	i Pn	Pn	00 13 19.1	-1.8
	0.0nm,0.2s						
TIXI				i Sn	Sn	00 14 06.7	-0.9
	0.0nm,0.2s						
TIXI	Tiksi	3.99	216	ceP	Pn	00 13 21.0	+0.1
DEPR	Deputatskiy	5.77	167	i Pn	Pn	00 13 45.0	-0.3
	0.0nm,0.7s						
DEPR				i Sn	Sn	00 14 50.3	-1.1
	0.0nm,0.7s						
YBGR	Belaya Gora	7.22	150	i Pn	Pn	00 14 06.5	+1.4
	0.0nm,0.2s						
YBGR				i Sn	Sn	00 15 27.2	+0.3
	0.0nm,0.2s						
BTGS	Batagay	7.43	185	i Pn	Pn	00 14 07.3	-0.7
	0.0nm,0.2s						
BTGS				i Sn	Sn	00 15 29.2	-2.9
	0.0nm,0.2s						
MOMR	Moma	8.89	162	i Pn	Pn	00 14 28.0	0.0
	0.0nm,0.7s						
MOMR				i Sn	Sn	00 16 07.1	-1.0
	0.1nm,1.0s						
BILL	Bilibino	11.66	111	⇓eP	Pn	00 15 09.0	+3.1
BILL				pmax	pmax		
	comp=Z,9.0nm,0.9s						
YAK	Yakutsk	13.25	194	LR	LR	00 21 06.3	
	comp=Z,37nm,18.6s,baz=72,slow=39						
YAK	Yakutsk	13.25	194	eP	P	00 15 33.8	-3.8
SEY	Seymchan	13.37	147	Pn	Pn	00 15 30.0	+0.8
	baz=288,slow=20,SNR=2.5						
SEY	Seymchan	13.37	147	⇑eP	Pn	00 15 33.5	+4.3
OLMR	Olekminsk	15.77	210	eP	Pn	00 15 60.0	-1.6
	comp=Z,0.0nm,1.5s						
MA2	Magadan	16.40	153	Pn	P	00 16 14.3	+1.8
	comp=Z,0.3nm,0.3s,baz=0.1,slow=9.2,SNR=4.2						
MA2				LR	LR	00 23 29.0	
	comp=Z,36nm,21.0s,baz=98,slow=41						
CGD	Chagda	16.48	190	eP	Pn	00 16 10.4	-0.2
ALDR	Aldan	16.97	200	eP	Pn	00 16 16.0	-0.9
	comp=Z,0.0nm,0.2s						
VTMR	Vitim	17.88	222	eP	Pn	00 16 25.2	-2.9
	comp=Z,0.0nm,0.6s						
BOD	Bodaibo	19.17	218	eP	P	00 16 42.8	-0.2
BOD				pmax	pmax		
	comp=Z,15nm,1.4s						
IENR	Iengra	19.38	199	eP	P	00 16 44.0	-1.3
	comp=Z,0.0nm,0.2s						
GAMB	Gambell	20.60	95	eP	P	00 16 58.7	+0.3
	comp=Z,86nm,0.7s						
ZEA	Zeya	21.66	195	eP	P	00 17 11.2	+1.1
ZEA				pmax	pmax		
	comp=Z,20nm,0.8s						
PETK	Petropavlovsk-	23.61	147	P	P	00 17 31.3	+0.9
	comp=Z,5.1nm,0.9s,baz=15,slow=12,SNR=3.4						
BPAW	Bear Paw Mtn.	25.67	76	eP	P	00 17 49.6	+0.3
	comp=Z,3.5nm,1.4s						
COLA	College	25.82	72	eP	P	00 17 51.5	+0.9
COLA				pmax	pmax		
	comp=Z,5.0nm,1.0s						
KLR	Kul'dur	25.95	187	P	P	00 17 52.8	+0.9
	comp=Z,0.2nm,0.7s,baz=349,slow=11,SNR=7.2						
KLR	Kul'dur	25.95	187	deP	P	00 17 53.4	+1.5
ILAR	Eielson Array	26.14	71	P	P	00 17 52.5	-1.0
	comp=Z,2.1nm,0.7s,baz=322,slow=9.1,SNR=32						
ILAR	Eielson Array	26.14	71	eP	P	00 17 54.3	+0.8
ILAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
INK	Inuvik	26.37	57	P	P	00 17 54.0	-1.5
	comp=Z,1.8nm,0.6s,baz=343,slow=11,SNR=15						
TRF	Thorofare Moun	26.39	76	eP	P	00 17 56.7	+0.8
	comp=Z,8.5nm,0.9s						
TLY	Talaya	26.87	228	LR	LR	00 30 51.2	
	comp=Z,26nm,18.2s,baz=14,slow=41						
TLY	Talaya	26.87	228	eP	P	00 18 01.0	+0.8
TLY				pmax	pmax		
	comp=Z,8.0nm,0.7s						
RES	Resolute Bay	27.44	27	P	P	00 18 03.4	-1.7
	comp=Z,1.4nm,1.1s,baz=318,slow=16,SNR=2.3						
ZALV	Zalesovo Beam	28.98	252	P	P	00 18 20.2	+1.2
	comp=Z,0.4nm,0.6s,baz=18,slow=6.1,SNR=3.2						
ARCES	ARCESS Array B	29.36	318	P	P	00 18 21.1	-1.1
	comp=Z,5.9nm,1.0s,baz=355,slow=19,SNR=2.9						
KURK	Kurchatov	33.49	257	eP	P	00 18 59.4	+0.7
	comp=Z,25nm,1.0s						
KURK	Kurchatov	33.49	257	ceP	P	00 18 59.8	+1.1
KURK				pmax	pmax		
	comp=Z,3.0nm,1.0s						
BRVK	Borovoye	33.50	267	deP	P	00 19 00.4	+1.6
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.8s						
BVAR	Borovoye Array	33.51	267	P	P	00 19 00.6	+1.8
	comp=Z,2.3nm,0.5s,baz=33,slow=7.7,SNR=13						
ARU	Arti	33.52	281	c iP	P	00 18 58.7	-0.1
ARU				S	S	00 24 20.7	+0.5
ARU				SS	SnSn	00 26 21.3	-0.7
ARU				pmax	pmax		
	comp=Z,3.0nm,1.2s						
KURBB	Kurchatov Arra	33.60	257	P	P	00 19 00.1	+0.4
	comp=Z,1.7nm,0.9s,baz=24,slow=8.5,SNR=6.4						
YKA	Yellowknife Ar	35.36	49	P	P	00 19 13.7	-1.0
	comp=Z,1.4nm,0.7s,baz=338,slow=9.2,SNR=20						
MKAR	Makanchi Array	36.22	250	P	P	00 19 22.5	+0.2
	comp=Z,0.2nm,0.5s,baz=45,slow=5.3,SNR=3.8						
MKAR	Makanchi Array	36.22	250	eP	P	00 19 24.4	+2.1
FINES	FINESS Array B	36.51	311	LR	LR	00 38 35.7	
	comp=Z,30nm,18.1s,baz=26,slow=43						
ABKAR	Akbulak array	39.66	274	eP	P	00 19 52.8	+1.6
	comp=Z,2.8nm,0.6s						
OBN	Obninsk	40.07	298	eP	P	00 19 54.4	-0.2
OBN				e		00 21 26.0	
OBN				pmax	pmax		
	comp=Z,2.0nm,0.9s						
OBN				MLR	MLR		
	comp=Z,38nm,16.0s						
FFC	Flin Flon	45.01	44	eP	P	00 20 33.0	-1.7
	comp=Z,4.0nm,0.8s						
FFC	Flin Flon	45.01	44	eP	P	00 20 33.0	-1.7
FFC				pmax	pmax		
	comp=Z,4.0nm,0.8s						
MAK	Makhachkala	48.70	282	eP	P	00 21 04.5	+0.8
MAK				e		00 22 58.6	
MAK				eS	S	00 28 09.2	+3.5
MAK				pmax	pmax		
	comp=Z,88nm,1.4s						
KBZ	Khabaz	49.14	287	P	P	00 21 08.6	+1.5
	comp=Z,1.6nm,0.8s,baz=14,slow=11,SNR=5.2						
ULM	Lac du Bonnet	50.38	41	P	P	00 21 14.7	-1.7
	comp=Z,3.8nm,0.7s,baz=341,slow=7.7,SNR=7.0						
ULM	Lac du Bonnet	50.38	41	eP	P	00 21 17.0	+0.6
ULM				pmax	pmax		
	comp=Z,4.0nm,0.7s						
GERES	GERESS Array B	50.76	314	P	P	00 21 19.4	0.0
	comp=Z,0.7nm,0.8s,baz=12,slow=7.1,SNR=7.0						
GERES				LR	LR	00 48 15.2	
	comp=Z,33nm,18.1s,baz=333,slow=42						
GERES	GERESS Array B	50.76	314	eP	P	00 21 20.3	+0.8
GERES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MLR	Muntele Rosu	51.47	302	P	P	00 21 25.3	+0.4
	comp=Z,0.3nm,0.6s,baz=158,slow=19,SNR=4.9						
GNI	Garni	52.05	284	LR	LR	00 46 37.2	
	comp=Z,27nm,19.6s,baz=40,slow=40						
PDAR	Pinedale Array	54.92	55	P	P	00 21 49.0	-1.4
	comp=Z,0.7nm,0.6s,baz=30,slow=3.5,SNR=7.4						
BRTR	Keskin Array B	55.18	294	P	P	00 21 52.0	-0.3
	comp=Z,0.3nm,0.6s,baz=323,slow=3.3,SNR=3.6						
BRTR	Keskin Array B	55.18	294	P	P	00 21 52.0	-0.3
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
NVAR	Mina Array Bea	57.10	64	P	P	00 22 04.9	-1.2
	comp=Z,1.1nm,0.9s,baz=347,slow=5.6,SNR=7.3						
R11A	Troy Canyon, C	57.81	62	eP	P	00 22 11.0	0.0
	comp=Z,4.5nm,0.9s						
MSU	Marysvale	58.42	59	eP	P	00 22 15.8	+0.4
	comp=Z,0.3nm,0.8s						
MSU	Marysvale	58.42	59	eP	P	00 22 15.8	+0.4
ESDC	Sonseca Array	62.63	326	P	P	00 22 44.2	+0.4
	comp=Z,0.5nm,0.7s,baz=32,slow=5.0,SNR=3.6						
MNTX	Cornudas Mount	66.45	55	eP	P	00 23 08.4	-0.5
	comp=Z,4.0nm,1.0s						
JCT	Junction City	68.79	50	eP	P	00 23 23.9	+0.2
	comp=Z,1.0nm,0.4s						
JCT	Junction City	68.79	50	eP	P	00 23 23.9	+0.2
JCT				pmax	pmax		
	comp=Z,1.0nm,0.4s						
TXAR	Lajitas Array	69.10	54	P	P	00 23 24.4	-1.3
	comp=Z,2.5nm,0.8s,baz=0.8,slow=3.7,SNR=14						
TORD	Torodi Ar. Bea	87.67	316	P	P	00 25 06.7	-1.6
	comp=Z,1.2nm,0.8s,baz=358,slow=6.2,SNR=5.3						
WRA	Warramunga Arr	94.75	182	P	P	00 25 43.1	+2.2
	comp=Z,0.6nm,0.7s,baz=3.4,slow=5.6,SNR=4.0						

*YARS **07** 00:14:56.7±0.0, 75°09N×136°67E, h10km*
*ISCJB **07** 00:14:58.3±0.5, 74°74N±0°04×137°0E±0°2, h10km, mb3.8/14, Error ellipse: s-maj=8.6km s-min=5.4km az=7.9*
*IDC **07** 00:14:59.2±0.8, 74°97N×136°50E, h0km, mb3.8/9, mb1 4.0/11, mb1mx3.6/82, mbtmp3.8/11, ML4.4/2, Error ellipse: s-maj=31.3km s-min=14.3km az=140.0*
*NEIC **07** 00:15:00.8±0.5, 74°96N×136°45E, h10km, mb4.4/4, Error ellipse: s-maj=15.4km s-min=9.8km az=138.0*
ISC 07 00:15:00.4±0.6**, 74°81N**±0°07×**136°76E**±0°07**, h10km, n21, σ1s56**/27**, mb3.9**/14**, New Siberian Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TIXI	Tiksi	3.91	220	Pn	Pn	00 16 02.2	+1.8
	0.6nm,0.3s,baz=95,slow=19,SNR=2.4						
TIXI				Sn	Sn	00 16 47.9	+1.7
	6.0nm,0.3s,baz=283,slow=14,SNR=6.6						
TIXI	Tiksi	3.91	220	i Pn	Pn	00 15 58.9	-1.5
	0.0nm,0.2s						
TIXI				i Sn	Sn	00 16 46.6	+0.4
	0.0nm,0.2s						
DEPR	Deputatskiy	5.53	168	i Pn	Pn	00 16 20.9	-1.7
	0.0nm,1.0s						
DEPR				eSn	Sn	00 17 27.3	+1.2
	0.0nm,0.5s						
YBGR	Belaya Gora	6.96	150	i Pn	Pn	00 16 40.2	-2.1
	0.0nm,1.0s						
YBGR				eSn	Sn	00 18 00.8	-0.5
	0.0nm,0.3s						
BTGS	Batagay	7.22	186	i Pn	Pn	00 16 43.4	-2.5
	0.0nm,0.6s						
BTGS				eSn	Sn	00 18 07.7	-0.1
	0.0nm,0.4s						
MOMR	Moma	8.64	163	i Pn	Pn	00 17 03.2	-2.1
	0.0nm,0.4s						
MOMR				eSn	Sn	00 18 41.9	-0.8
	0.0nm,0.9s						
SEY	Seymchan	13.11	147	Pn	Pn	00 18 09.0	+2.6
	0.4nm,0.3s,baz=18,slow=19,SNR=3.7						
KLR	Kul'dur	25.76	188	P	P	00 20 32.8	+2.0
	0.1nm,0.7s,baz=338,slow=12,SNR=3.0						
ILAR	Eielson Array	26.08	71	P	P	00 20 33.9	+0.3
	1.0nm,0.6s,baz=325,slow=9.5,SNR=11						
PPLA	Purkeypile	26.27	78	P	P	00 20 39.0	+3.4
	21nm,1.8s						
INK	Inuvik	26.37	57	P	P	00 20 36.8	+0.6
	1.0nm,0.6s,baz=338,slow=6.9,SNR=6.6						
BVAR	Borovoye Array	33.63	268	P	P	00 21 40.8	+0.2
	1.2nm,0.5s,baz=46,slow=8.3,SNR=4.2						
YKA	Yellowknife Ar	35.39	49	P	P	00 21 56.1	+0.4
	0.5nm,0.6s,baz=338,slow=9.3,SNR=5.8						
MKAR	Makanchi Array	36.28	251	P	P	00 22 03.6	+0.1
	0.3nm,0.6s,baz=45,slow=2.2,SNR=2.2						
ULM	Lac du Bonnet	50.44	41	P	P	00 23 57.2	-0.3
	1.0nm,0.4s,baz=9.8,slow=6.6,SNR=3.0						
BOZ	Bozeman (W)	51.78	56	eP	P	00 24 07.8	-0.1
	0.4nm,0.7s						
PDAR	Pinedale Array	54.93	55	P	P	00 24 31.6	+0.4
	0.3nm,0.6s,baz=18,slow=3.8,SNR=3.2						
BNI	Bardonecchia	55.94	319	P	P	00 24 38.0	-0.3
	4.9nm,1.2s						
WMOK	Wichita Mounta	64.90	49	eP	P	00 25 37.1	-2.4
	1.9nm,0.8s						
TXAR	Lajitas Array	69.11	54	P	P	00 26 05.7	-0.8
	1.1nm,0.8s,baz=338,slow=2.7,SNR=7.6						
WRA	Warramunga Arr	94.54	182	P	P	00 28 19.8	-0.8
	0.9nm,0.9s,baz=349,slow=4.9,SNR=3.8						

*IDC **07** 00:17:04.6±4.4, 36°08N×71°35E, h82km±28km, mb3.6/12, mb1 3.7/17, mb1mx3.4/69, mbtmp4.0/17, Error ellipse: s-maj=45.0km s-min=19.5km az=154.0*
*NNC **07** 00:17:13.7±2.7, 36°82N×70°80E, h80km±70km, mb4.1, mpv4.4, Error ellipse: s-maj=31.8km s-min=21.8km az=106.0*
ISC 07 00:17:10.5±1.4**, 36°6N**±0°1×**70°91E**±0°08**, h100km, n43, σ1s29**/41**, mb3.9**/10**, 4C-5D, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SFK	Sufi-Kurgan	3.97	30	⇑P	Pn	00 18 10.6	+1.2
	30nm,0.5s						
SFK				⇓S	Sn	00 18 56.7	+1.6
	33nm,0.2s						
AML	Almayashu	5.93	20	P	Pn	00 18 36.6	+0.5
	SNR=147						
MNAS	Manas	6.01	11	⇓P	Pn	00 18 37.5	+0.6
	31nm,0.8s						
MNAS				⇓S	Sn	00 19 43.4	-1.0
	28nm,0.6s						
UCH	Uchtor	6.27	25	P	Pn	00 18 41.0	+0.1
	SNR=66						
KZA	Kyzart	6.42	30	P	Pn	00 18 42.4	-0.4
	SNR=34						
EKS2	Erkin-Say	6.45	19	P	Pn	00 18 43.5	+0.7
	SNR=44						
KK31	Karatay Array	6.50	357	P	Pn	00 18 44.6	+1.1
	20nm,0.4s,baz=187,slow=14,SNR=328						
KK31				S	Sn	00 19 55.9	-0.4
	14nm,0.4s,baz=190,slow=26,SNR=5.4						
AAK	Ala-Archa	6.63	24	P	Pn	00 18 46.0	+0.5
	15nm,0.3s,baz=180,slow=7.0,SNR=210						
AAK				S	Sn	00 19 58.5	-1.1
	0.7nm,0.3s,baz=313,slow=18,SNR=3.2						
AAK	Ala-Archa	6.63	24	⇓P	Pn	00 18 45.7	+0.2
	28nm,0.5s						
AAK				⇑S	Sn	00 19 58.3	-1.3
	29nm,1.1s						
AAK	Ala-Archa	6.63	24	P	Pn	00 18 45.8	+0.4
	SNR=86						
KBK	Karagaybulak	6.80	26	P	Pn	00 18 48.2	+0.4
	SNR=20						
ULHL	Ulahol	6.99	35	P	Pn	00 18 49.6	-0.7
	SNR=8.3						
CHMS	Chumysh	7.04	24	P	Pn	00 18 51.5	+0.6
	SNR=22						
USP	Ospenovka	7.21	21	P	Pn	00 18 53.8	+0.6
	SNR=26						
TKM2	Tokmak 2	7.27	28	⇓P	Pn	00 18 53.7	-0.5
	12nm,0.5s						
TKM2	Tokmak 2	7.27	28	P	Pn	00 18 54.1	-0.1
	SNR=26						
GEYT	Alibeck	10.29	281	P	Pn	00 19 35.1	0.0
	0.5nm,0.3s,baz=118,slow=9.2,SNR=6.2						
GEYT				S	Sn	00 21 24.1	-4.3
	2.9nm,0.3s,baz=239,slow=12,SNR=12						
MKAR	Makanchi Array	13.25	36	P	Pn	00 20 11.1	-3.5
	0.1nm,0.3s,baz=222,slow=15,SNR=8.1						
MK31	Makanchi Array	13.25	36	P	P	00 20 19.8	-0.9
	0.8nm,0.3s,baz=205,slow=8.5,SNR=16						
PYUN	Piuthan	13.26	126	eP	Pn	00 20 06.1	-8.9
	6.0nm,0.3s						
KOLN	Koldanda	13.88	126	eP	Pn	00 20 14.7	-8.3
	4.6nm,0.3s						
GKN	Gorkha	14.42	123	eP	Pn	00 20 21.5	-8.4
	9.7nm,0.4s						
AB31	Akbulak array	14.96	331	⇑P	Pn	00 20 36.4	-0.1
	3.3nm,0.5s,baz=26,slow=11,SNR=52						
KKN	Kakani	14.99	122	eP	Pn	00 20 28.3	-9.0
	7.4nm,0.4s						
KURBB	Kurchatov Arra	15.05	19	P	Pn	00 20 34.6	-3.0
	0.0nm,0.3s,baz=210,slow=11,SNR=4.0						
GUN	Gumba	15.33	120	eP	Pn	00 20 33.3	-8.4
	15nm,0.8s						
JIRN	Jiri	15.70	120	eP	Pn	00 20 38.4	-8.0
	19nm,0.5s						
BVAR	Borovoye Array	16.43	359	P	Pn	00 20 55.1	+0.2
	0.8nm,0.3s,baz=166,slow=11,SNR=9.6						
AKTO	Aktyubinsk	16.66	330	P	P	00 20 59.7	+1.3
	0.6nm,0.3s,baz=138,slow=15,SNR=13						
AKTO	Aktyubinsk	16.66	330	⇑P	P	00 20 59.4	+1.0
	6.9nm,0.8s						
ZALV	Zalesovo Beam	19.85	25	P	P	00 21 32.3	-1.0
	3.0nm,0.4s,baz=212,slow=9.9,SNR=21						
GNI	Garni	20.80	288	P	P	00 21 46.4	+2.6
	2.2nm,0.5s,baz=53,slow=3.8,SNR=5.6						
ARU	Arti	21.52	341	P	P	00 21 51.7	+0.6
	2.1nm,0.4s,baz=117,slow=8.3,SNR=6.2						
FINES	FINESS Array B	37.36	326	P	P	00 24 13.7	+0.6
	1.5nm,0.6s,baz=106,slow=12,SNR=7.7						
ARCES	ARCESS Array B	41.03	338	P	P	00 24 44.2	+0.7
	2.6nm,0.8s,baz=108,slow=6.5,SNR=6.5						
HFS	Hagfors	42.95	322	P	P	00 25 00.3	+1.2
	1.8nm,0.5s,baz=92,slow=10,SNR=9.0						
NB2	NORSAR Subarra	44.26	323	P	P	00 25 11.0	+1.3
	comp=Z,1.0nm,0.5s,baz=93,slow=7.9						
NOA	NORSAR Array B	44.26	323	P	P	00 25 10.6	+0.9
	comp=Z,1.2nm,0.5s,baz=96,slow=7.8,SNR=5.9						
SPITS	Spitsbergen Ar	47.38	347	P	P	00 25 35.6	+1.6
	comp=Z,20nm,1.1s,baz=134,slow=2.4,SNR=5.1						
TORD	Torodi Ar. Bea	65.65	269	P	P	00 27 41.9	-2.4
	comp=Z,0.6nm,0.7s,baz=44,slow=5.7,SNR=7.2						
INK	Inuvik	73.82	9	P	P	00 28 33.1	-0.4
	comp=Z,0.4nm,0.5s,baz=1.4,slow=5.6,SNR=6.0						
ILAR	Eielson Array	74.70	16	P	P	00 28 37.1	-1.7
	comp=Z,0.4nm,1.0s,baz=301,slow=6.0,SNR=3.8						
YKA	Yellowknife Ar	81.15	3	P	P	00 29 13.2	-1.2
	comp=Z,0.3nm,0.5s,baz=349,slow=5.4,SNR=10						

*TAP **07** 00:25:08.7, 24°23N×122°82E, h17km, ML2.7, C*
*JMA **07** 00:25:08.7±0.1, 24°21N×122°80E, h16km±2km, M2.4*
*ISCJB **07** 00:25:09.0±0.5, 24°20N±0°05×122°81E±0°02, h18km±8km, Error ellipse: s-maj=8.8km s-min=2.9km az=6.2*
ISC 07 00:25:08.7±1.1**, 24°21N**±0°05×**122°81E**±0°02**, h18km**±3km**, n28, σ0s38**/43**, Taiwan region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JYNG	Yonagunijimaku	0.27	27	P	Pg	00 25 14.6	-0.2
JYNG				S	Sb	00 25 18.9	-0.1
YOJ	Yonaguni jima	0.31	36	i P	Pg	00 25 15.4	0.0
	baz=40						
YOJ				i S	Sb	00 25 20.1	-0.3
	baz=40						
YOJ	Yonaguni jima	0.31	36	P	Pg	00 25 15.4	0.0
YOJ				S	Sg	00 25 19.9	-0.1
EOS1	EOS1	0.71	299	P	Pg	00 25 22.4	-0.2
	baz=297						
EOS1				S	Sb	00 25 32.6	+0.9
	baz=297						
IRIF	Iriomote-Funau	0.85	81	P	Pb	00 25 25.0	+0.1
IRIF				S	Sg	00 25 36.9	+0.4
HATJ	Hateruma jima	0.92	99	P	Pb	00 25 26.1	0.0
HATJ				eS	Sg	00 25 38.8	-0.1
ENAH	Nanao	0.94	285	P	Pb	00 25 26.4	-0.1
	baz=283						
TWC	Suao	0.96	295	P	Pb	00 25 26.4	-0.4
	baz=306						
TWC				S	Sb	00 25 39.6	+0.5
	baz=306						
ENA	Nanau	1.00	283	eP	Pb	00 25 26.9	-0.5
	baz=282						
ENA				eS	Sg	00 25 41.2	0.0
	baz=282						
TWB1	Santiao Chiao	1.09	317	eP	Pb	00 25 28.8	-0.2
	baz=329						
TWB1				eS	Sb	00 25 42.6	-0.3
	baz=329						
JKRS	Kuro-shima	1.10	88	P	Pb	00 25 29.2	+0.1
JKRS				S	Sg	00 25 44.3	0.0
NACB	Ninganchiao	1.11	268	P	Pb	00 25 29.3	0.0
	baz=277						
TWE	Neicheng	1.16	296	eP	Pg	00 25 30.8	-0.3
	baz=303						
TWE				eS	Sn	00 25 45.3	0.0
	baz=303						
TIPB	Shuangxi	1.17	310	eP	Pn	00 25 29.9	-0.3
	baz=323						
TIPB				eS	Sb	00 25 45.3	0.0
	baz=323						
ENTT	Nioudou	1.21	291	eP	Pn	00 25 31.0	+0.3
	baz=303						
ENTT				eS	Sg	00 25 47.5	-0.5
	baz=303						
JIJ	Ishigaki jima	1.23	83	P	Pn	00 25 30.5	-0.4
JIJ				S	Sb	00 25 46.8	0.0
NWLT	Wulai	1.32	296	P	Pn	00 25 32.7	+0.5
	baz=311						
NNSB	Datong	1.32	280	P	Pb	00 25 32.9	-0.1
	baz=279						
NNS	Nan Shan	1.33	280	eP	Pb	00 25 33.2	+0.1
	baz=279						
YHNB	Yeheng	1.38	290	eP	Pb	00 25 34.5	+0.4
	baz=304						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WHF	**Hehuan Shan**	**1.41**	**268**	*e*P	**Pn**	**00 25 34.3**	**+0.5**
	baz=267						
HGSD	**Ruisui**	**1.46**	**241**	*e*P	**Pn**	**00 25 34.0**	**-0.1**
	baz=240						
CHGB	**Renai**	**1.50**	**265**	*e*P	**Pn**	**00 25 35.2**	**+0.3**
	baz=264						
EHY	**Hungye**	**1.53**	**243**	*e*P	**Pn**	**00 25 35.2**	**+0.1**
	baz=242						
YULB	**Yu-li**	**1.61**	**240**	*e*P	**Pn**	**00 25 35.6**	**-0.5**
	baz=239						
TWF1	**Yuli**	**1.63**	**239**	*e*P	**Pn**	**00 25 36.1**	**-0.3**
	baz=238						
SMLT	**Sun Moon Lake**	**1.77**	**260**	P	**Pn**	**00 25 39.5**	**+0.9**
	baz=259						
JTJ	**Tarama**	**1.78**	**76**	P	**Pn**	**00 25 39.2**	**+0.7**
JTJ				S	**Sb**	**00 26 02.0**	**-0.7**

IDC 07 00:27:22.2±1.9**, 6°.36S×129°.94E, h0km, mb3.3**/1**, mb1 3.8**/4**, mb1mx3.4**/47**, mbtmp3.6**/4**, ML3.9**/3**, Error ellipse: s-maj=54.4km s-min=18.2km az=73.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BATI	**Baumata**	**7.29**	**238**	Pn	Pn	00 29 10.8	+0.6
	1.8nm,0.3s,baz=146,slow=3.6,SNR=2.9						
BATI				Sn	Sn	00 30 21.7	-12
	4.0nm,0.3s,baz=61,slow=19,SNR=4.7						
WRA	**Warramunga Arr**	**14.16**	**163**	Pn	Pn	00 30 43.9	-0.5
	0.7nm,0.3s,baz=343,slow=12,SNR=17						
WRA				Sn	Sn	00 33 09.7	-13
	0.5nm,0.3s,baz=336,slow=21,SNR=6.2						
ASAR	**Alice Springs**	**17.63**	**168**	P	Pn	00 31 29.0	-0.5
	0.2nm,0.3s,baz=346,slow=11,SNR=9.0						
ASAR				S	Sn	00 34 47.9	+1.3
	0.2nm,0.3s,baz=350,slow=23,SNR=8.2						
MKAR	**Makanchi Array**	**67.66**	**327**	P	P	00 38 21.2	0.0
	0.2nm,0.7s,baz=126,slow=7.3,SNR=3.0						

NIED ***07*** *00:49:00, 40°.80N×145°.00E, h5km, Mw3.6 Best double couple: M0 2.81000×10^14 NP1:φs42.00000°, δ43.00000°, λ-95.00000°. NP2:φs229.00000°, δ47.00000°, λ-86.00000°.*
IDC ***07*** *00:49:41.6±2.5, 40°.52N×144°.89E, h0km, mb3.7/5, mb1 3.8/6, mb1mx3.4/68, mbtmp3.6/6, ML3.0/1, Error ellipse: s-maj=97.7km s-min=21.8km az=72.0*
ISCJB ***07*** *00:49:44.7±0.7, 40°.77N±0°.03×144°.92E±0°.06, h36km, mb3.7/5, Error ellipse: s-maj=6.5km s-min=4.4km az=20.4*
JMA ***07*** *00:49:44.3±0.2, 40°.77N×145°.04E, h66km±3km, M3.5*
ISC 07 00:49:46.1±1.1**, 40°.75N**±0°.05×**144°.98E**±0°.07**, h36km, n23, σ1s.31**/38**, mb3.6**/5**, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JEM	**Erimo**	**1.87**	**313**	P	**Pn**	**00 50 14.9**	**-0.6**
JEM				*e*S	**Sn**	**00 50 36.1**	**-1.7**
JCH	**Churui**	**2.22**	**327**	P	**Pn**	**00 50 19.6**	**-0.8**
JCH				*e*S	**Sn**	**00 50 45.1**	**-1.5**
JAK	**Akkeshi**	**2.25**	**355**	P	**Pn**	**00 50 20.0**	**-0.9**
JAK				*e*S	**Sn**	**00 50 46.2**	**-1.2**
JNBK	**Urakawa-nobuka**	**2.27**	**313**	P	**Pn**	**00 50 21.2**	**+0.2**
JNBK				*e*S	**Sn**	**00 50 47.2**	**-0.5**
JOB	**Onbets**	**2.32**	**339**	P	**Pn**	**00 50 21.0**	**-0.7**
JOB				*e*S	**Sn**	**00 50 48.1**	**-0.8**
JANG	**Nango**	**2.67**	**263**	P	**Pn**	**00 50 25.8**	**-0.8**
JANG				*e*S	**Sn**	**00 50 55.4**	**-2.2**
NEM2	**Nemuro 2**	**2.67**	**12**	P	**Pn**	**00 50 25.8**	**-0.8**
NEM2				*e*S	**Sn**	**00 50 55.6**	**-2.1**
JAR	**Ashorobuto**	**2.70**	**341**	P	**Pn**	**00 50 26.0**	**-1.0**
JAR				*e*S	**Sn**	**00 50 56.1**	**-2.3**
JBT2	**Biratori 2**	**2.82**	**317**	P	**Pn**	**00 50 29.0**	**+0.4**
JBT2				*e*S	**Sn**	**00 51 01.5**	**+0.2**
JNK	**Nakash**	**2.84**	**356**	P	**Pn**	**00 50 27.7**	**-1.2**
JFR	**Furan**	**3.00**	**324**	P	**Pn**	**00 50 30.1**	**-1.0**
JOT	**Ohata**	**3.04**	**283**	P	**Pn**	**00 50 31.1**	**-0.6**
JOT				*e*S	**Sn**	**00 51 04.2**	**-2.6**
JOM	**Ohasama**	**3.10**	**247**	P	**Pn**	**00 50 32.6**	**+0.1**
JKB	**Kayabe**	**3.19**	**292**	P	**Pn**	**00 50 33.5**	**-0.1**
JKB				*e*S	**Sn**	**00 51 08.1**	**-2.2**
JTKR	**Abashiri--Toko**	**3.32**	**346**	P	**Pn**	**00 50 35.3**	**-0.1**
JTKR				*e*S	**Sn**	**00 51 12.1**	**-1.5**
JEW	**Eniwo**	**3.37**	**310**	P	**Pn**	**00 50 36.8**	**+0.6**
JEW				*e*S	**Sn**	**00 51 14.0**	**-0.8**
JMK	**Ichinoseki**	**3.41**	**239**	P	**Pn**	**00 50 36.8**	**+0.1**
JMK				*e*S	**Sn**	**00 51 13.7**	**-2.1**
ASAJ	**Asahikawa**	**3.80**	**333**	Pn	**Pn**	**00 50 43.0**	**+0.9**
	0.8nm,0.3s,baz=323,slow=10,SNR=3.0						
ASAJ				Sn	**Sn**	**00 51 25.3**	**-0.2**
	1.0nm,0.3s,baz=311,slow=20,SNR=4.5						
MKAR	**Makanchi Array**	**44.61**	**300**	P	**P**	**00 57 56.3**	**+1.5**
	0.1nm,0.5s,baz=76,slow=12,SNR=2.4						
KURBB	**Kurchatov Arra**	**46.01**	**306**	P	**P**	**00 58 06.7**	**+0.9**
	0.4nm,0.5s,baz=78,slow=9.0,SNR=3.0						
WRA	**Warramunga Arr**	**61.19**	**191**	P	**P**	**00 59 56.4**	**-0.7**
	1.2nm,0.7s,baz=12,slow=7.3,SNR=6.7						
ASAR	**Alice Springs**	**64.91**	**191**	P	**P**	**01 00 21.1**	**-0.7**
	0.5nm,0.9s,baz=358,slow=11,SNR=4.3						
FINES	**FINESS Array B**	**66.81**	**333**	P	**P**	**01 00 35.9**	**+2.3**
	5.2nm,1.2s,baz=72,slow=6.3,SNR=3.6						

ISCJB ***07*** *00:57:16.7±0.4, 4°.49S±0°.05×153°.67E±0°.06, h85km, mb4.3/29, Error ellipse: s-maj=7.9km s-min=6.6km az=15.1*
BJI ***07*** *00:57:17.7, 5°.16S×153°.66E, h115km, mb4.6/12, mB4.9/8*
IDC ***07*** *00:57:18.2±4.8, 4°.54S×153°.82E, h90km±40km, mb3.9/15, mb1 4.1/16, mb1mx3.8/56, mbtmp4.3/16, MS3.1/4, Ms1 3.1/4, ms1mx2.7/44, Error ellipse: s-maj=33.2km s-min=15.4km az=92.0*
NEIC ***07*** *00:57:21.1±1.0, 4°.54S×153°.61E, h112km±8km, mb4.4/12, Error ellipse: s-maj=11.2km s-min=6.4km az=95.0*
ISC 07 00:57:18.1±0.5**, 4°.51S**±0°.06×**153°.72E**±0°.07**, h85km, n55, σ1s.84**/57**, mb4.4**/29**, New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.59**	**281**	*e*Pn	**Pn**	**00 57 47.3**	**+2.6**
RABL				*e*Sn	**Sn**	**00 58 07.5**	**+2.6**
HNR	**Honiara**	**7.88**	**129**	S	**Sn**	**01 00 40.4**	**+2.8**
	12nm,0.3s,baz=195,slow=20,SNR=2.9						
PMG	**Port Moresby**	**8.13**	**233**	P	**Pn**	**00 59 15.0**	**+1.5**
	24nm,0.3s,baz=35,slow=7.3,SNR=35						
PMG				S	**Sn**	**01 00 44.9**	**+1.1**
	9.0nm,0.3s,baz=153,slow=22,SNR=14						
PMG				LR	LR	01 02 36.5	
	comp=Z,102nm,19.0s,baz=16,slow=39						
PMG	**Port Moresby**	**8.13**	**233**	*e*Pn	**Pn**	**00 59 15.9**	**+2.4**
PMG				*e*Sn	**Sn**	**01 00 45.0**	**+1.1**
GUMO	**Guam**	**20.01**	**334**	LR	LR	01 08 42.8	
	comp=Z,16nm,21.4s,baz=118,slow=34						
EIDS	**Eidsvold**	**20.90**	**187**	*e*P	**P**	**01 01 55.2**	**+1.5**
	48nm,1.8s						
DZM	**Mont Dzumac**	**21.37**	**146**	*e*P	**P**	**01 02 00.6**	**+1.7**
	14nm,1.3s						
MTN	**Manton Dam**	**23.80**	**248**	*e*P	**P**	**01 02 22.5**	**-0.9**
	12nm,1.1s						
WC3	**Warramunga Arr**	**24.32**	**229**	*e*P	**P**	**01 02 27.1**	**-0.9**
	20nm,0.7s						
WRAB	**Tennant Creek**	**24.32**	**229**	*e*P	**P**	**01 02 27.9**	**-0.1**
	26nm,0.7s						
WB2	**Warramunga Arr**	**24.32**	**229**	*e*P	**P**	**01 02 27.2**	**-0.8**
WRA	**Warramunga Arr**	**24.33**	**229**	P	**P**	**01 02 28.1**	**0.0**
	24nm,0.7s,baz=54,slow=10,SNR=80						
AS01	**Alice Springs**	**26.96**	**223**	*e*P	**P**	**01 02 50.8**	**-1.1**
AS31	**Alice Springs**	**26.99**	**223**	*e*P	**P**	**01 02 51.9**	**-0.3**
	1.4nm,1.0s						
ASAR	**Alice Springs**	**26.99**	**223**	P	**P**	**01 02 51.5**	**-0.6**
	2.3nm,0.6s,baz=55,slow=9.0,SNR=27						
ASAR				PcP	**PcP**	**01 06 11.8**	**-0.2**
	0.2nm,0.6s,baz=64,slow=2.3,SNR=4.6						
ASAR				S	**S**	**01 07 18.8**	**-4.9**
	0.8nm,1.0s,baz=42,slow=16,SNR=4.4						
STKA	**Stephens Creek**	**29.51**	**201**	P	**P**	**01 03 13.7**	**-0.8**
	2.9nm,0.5s,baz=34,slow=14,SNR=12						
FORT	**Forrest**	**35.60**	**220**	*e*P	**P**	**01 04 07.0**	**-0.6**
	524nm,0.6s						
MBWA	**Marble Bar**	**36.91**	**240**	*e*P	**P**	**01 04 17.0**	**-2.1**
	62nm,1.9s						
KSRS	**Korea Array**	**48.16**	**332**	P	**P**	**01 05 48.2**	**-1.6**
	1.8nm,0.8s,baz=152,slow=8.8,SNR=4.8						
KSAR	**Wonju Array Be**	**48.17**	**332**	P	**P**	**01 05 48.2**	**-1.6**
CMAR	**Chiang Mai Arr**	**58.59**	**295**	P	**P**	**01 07 07.8**	**+1.2**
	1.0nm,0.3s,baz=110,slow=5.4,SNR=8.2						
HHC	**Hu-ho-hao-te**	**59.35**	**324**	*e*P	**P**	**01 07 14.1**	**+2.5**
HHC				pmax	pmax		
	comp=Z,6.0nm,1.1s						
HHC				pmax	pmax		
	comp=Z,80nm,6.4s						
MA2	**Magadan**	**63.93**	**358**	P	**P**	**01 07 42.0**	**+0.2**
	5.7nm,0.4s,baz=125,slow=19,SNR=6.6						
GTA	**Gaotai**	**66.07**	**317**	*e*P	**P**	**01 07 57.3**	**+0.9**
GTA				pP	PcP	01 08 25.0	-1.2
GTA				sP	sP	01 08 37.2	+10
GTA				pmax	pmax		
	comp=Z,5.0nm,1.1s						
SONM	**Songino Array**	**66.57**	**327**	P	**P**	**01 08 00.2**	**+0.9**
	0.6nm,0.4s,baz=132,slow=6.8,SNR=4.0						
VNDA	**Vanda**	**73.09**	**178**	P	**P**	**01 08 38.5**	**-0.1**
	1.0nm,0.8s,baz=339,slow=4.0,SNR=6.5						
WMQ	**Urumqi**	**76.15**	**317**	P	**P**	**01 08 57.0**	**-0.1**
IM3	**Indian Mountai**	**79.80**	**19**	*e*P	**P**	**01 09 17.4**	**+0.7**
MK01	**Makanchi Array**	**80.70**	**319**	*e*P	**P**	**01 09 22.1**	**+0.1**
MK31	**Makanchi Array**	**80.71**	**319**	*e*P	**P**	**01 09 22.0**	**-0.1**
MKAR	**Makanchi Array**	**80.71**	**319**	P	**P**	**01 09 22.3**	**+0.2**
	1.7nm,0.8s,baz=101,slow=6.0,SNR=17						
MKAR	**Makanchi Array**	**80.71**	**319**	*e*P	**P**	**01 09 22.0**	**-0.1**
	18nm,1.1s						
MAKZ	**Makanchi**	**80.92**	**319**	*e*P	**P**	**01 09 23.8**	**+0.6**
	3.0nm,0.8s						
ZALV	**Zalesovo Beam**	**81.42**	**326**	P	**P**	**01 09 25.1**	**-0.6**
	0.9nm,0.5s,baz=108,slow=4.8,SNR=6.4						
ZALV	**Zalesovo Beam**	**81.42**	**326**	*e*P	**P**	**01 09 24.8**	**-0.9**
ILAR	**Eielson Array**	**81.54**	**22**	P	**P**	**01 09 25.4**	**-0.6**
	0.7nm,0.9s,baz=248,slow=5.6,SNR=7.2						
KSH	**Kashi**	**83.44**	**310**	*e*P	**P**	**01 09 39.3**	**+2.6**
KURK	**Kurchatov**	**84.11**	**322**	*e*P	**P**	**01 09 39.6**	**0.0**
	6.0nm,1.1s						
KURBB	**Kurchatov Arra**	**84.14**	**322**	P	**P**	**01 09 39.2**	**-0.6**
	1.6nm,0.9s,baz=108,slow=4.4,SNR=12						
NIL	**Nilore**	**84.57**	**304**	*e*P	**P**	**01 09 42.8**	**+0.4**
	16nm,0.8s						
AAK	**Ala-Archa**	**85.14**	**313**	*e*P	**P**	**01 09 45.0**	**-0.2**
	3.6nm,0.8s						
MAW	**Mawson**	**86.19**	**203**	P	**P**	**01 09 48.5**	**-1.2**
	5.8nm,0.7s,baz=18,slow=3.2,SNR=10.0						
YBH	**Yreka Blue Hor**	**88.17**	**48**	LR	LR	01 43 55.8	
	comp=Z,14nm,18.3s,baz=210,slow=32						
BVAR	**Borovoye Array**	**89.56**	**323**	P	**P**	**01 10 05.1**	**-0.9**
	2.3nm,0.8s,baz=98,slow=6.0,SNR=17						
BRVK	**Borovoye**	**89.63**	**323**	*e*P	**P**	**01 10 05.6**	**-0.7**
	3.0nm,1.0s						
YKA	**Yellowknife Ar**	**94.74**	**28**	P	**P**	**01 10 29.4**	**-0.3**
	0.3nm,0.9s,baz=268,slow=4.7,SNR=6.6						
PDAR	**Pinedale Array**	**97.97**	**48**	LR	LR	01 50 05.6	
	comp=Z,21nm,18.1s,baz=256,slow=32						
OBKA	**Obir**	**125.27**	**326**	Pdiff	**Pdif**	**01 12 45.9**	**-0.6**
	3.5nm,0.9s						
KBA	**Koelnbreinsper**	**125.58**	**328**	Pdiff	**Pdif**	**01 12 45.9**	**-2.0**
	4.8nm,1.3s						
ABTA	**Abfaltersbach**	**126.23**	**328**	Pdiff	**Pdif**	**01 12 49.2**	**-1.4**
	5.2nm,1.6s						
MOTA	**Moosalm**	**126.58**	**329**	*e*Pdiff	**Pdif**	**01 12 47.9**	**-4.5**
	1.1nm,0.6s						
FETA	**Feichten**	**126.99**	**329**	Pdiff	**Pdif**	**01 12 50.0**	**-4.2**
	3.9nm,1.2s						
DAVA	**Damuels**	**127.24**	**330**	Pdiff	**Pdif**	**01 12 48.9**	**-6.3**
	4.1nm,1.2s						
TAM	**Tamanrasset**	**144.29**	**304**	*e*PKPdf	**PKPdf**	**01 16 44.4**	**-1.0**
TORD	**Torodi Ar. Bea**	**151.09**	**289**	PKPbc	**PKPbc**	**01 17 01.6**	**-0.9**
	3.6nm,0.7s,baz=59,slow=2.4,SNR=22						

ATA ***07*** *01:20:20.8±0.7, 38°.64N×43°.09E, h8km±15km, ML3.0, MW3.1*
ISK ***07*** *01:20:20.0, 38°.63N×43°.15E, h13km, ML2.6/8*
DDA ***07*** *01:20:21.3, 38°.66N×43°.22E, h7km, Ml2.6*
CSEM ***07*** *01:20:21.1±0.3, 38°.66N×43°.19E, h15km, ML2.6, Error ellipse: s-maj=8.1km s-min=6.4km az=144.0*
ISC 07 01:20:21.6±0.9**, 38°.65N**±0°.02×**43°.19E**±0°.02**, h13km**±7km**, n34, σ1s.36**/49**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VANB	**Van**	**0.16**	**108**	PG	**Pg**	**01 20 25.4**	**-0.2**
VANB				SG	**Sb**	**01 20 29.6**	**-0.2**
VANB	**Van**	**0.16**	**108**	*e*Pg	**Pg**	**01 20 25.4**	**-0.2**
VANB				*e*Sg	**Sb**	**01 20 29.6**	**-0.2**
TVAN	**Van**	**0.20**	**125**	*i* P	**Pg**	**01 20 25.6**	**-0.7**
TVAN				*i* S	**Sg**	**01 20 29.3**	**-0.2**
GEVA	**Gevas**	**0.35**	**198**	*i* P	**Pg**	**01 20 27.8**	**-1.0**
GEVA				*e*S	**Sg**	**01 20 33.7**	**+0.1**
GEVA				IAML		01 20 36.2	
	comp=Z,239nm,0.4s						
GEVA	**Gevas**	**0.35**	**198**	*i* P	**Pg**	**01 20 27.9**	**-0.8**
GEVA				*i* S	**Sb**	**01 20 34.6**	**-0.6**
ERCV	**ERCIS-VAN**	**0.39**	**17**	PG	**Pg**	**01 20 29.0**	**-0.5**
ERCV				SG	**Sb**	**01 20 35.2**	**-1.3**
ERCV	**ERCIS-VAN**	**0.39**	**17**	*e*Pg	**Pg**	**01 20 29.0**	**-0.5**
ERCV				*e*Sg	**Sb**	**01 20 35.2**	**-1.3**
ADCV	**BITLIS_Adilcev**	**0.40**	**294**	*i* P	**Pg**	**01 20 29.4**	**-0.2**
ADCV				*i* S	**Sb**	**01 20 36.5**	**-0.2**
ADCV	**BITLIS_Adilcev**	**0.40**	**294**	P	**Pg**	**01 20 29.5**	**-0.2**
ADCV				S	**Sb**	**01 20 36.5**	**-0.2**
CLDR	**Caldiran**	**0.75**	**48**	PG	**Pg**	**01 20 35.1**	**-1.1**
CLDR				SG	**Sb**	**01 20 47.2**	**+0.3**
CLDR	**Caldiran**	**0.75**	**48**	*e*Pg	**Pg**	**01 20 35.1**	**-1.1**
CLDR				*e*Sg	**Sb**	**01 20 47.2**	**+0.3**
TUTA	**Tutak**	**0.81**	**339**	*i* P	**Pg**	**01 20 36.8**	**-0.6**
TUTA				IAML		01 20 48.4	
	comp=Z,36nm,0.3s						
GURO	**Guroymak-BITLI**	**0.92**	**264**	PG	**Pg**	**01 20 37.5**	**-1.8**
GURO	**Guroymak-BITLI**	**0.92**	**264**	*e*Pg	**Pg**	**01 20 37.5**	**-1.8**
AGRB	**Hanur-Agry**	**0.94**	**350**	PG	**Pg**	**01 20 38.6**	**-1.2**
AGRB	**Hanur-Agry**	**0.94**	**350**	*e*Pg	**Pg**	**01 20 38.6**	**-1.2**
DYDN	**Diyadin**	**0.98**	**23**	*e*P	**Pn**	**01 20 40.9**	**-0.3**
EKAR	**Karacoban**	**1.07**	**305**	*e*P	**Pb**	**01 20 40.8**	**-1.3**
SRTM	**Siirt_Merkez**	**1.20**	**237**	*i* P	**Pg**	**01 20 45.9**	**+1.3**
SRTM				*i* S	**Sn**	**01 21 04.6**	**+4.4**
SRTM	**Siirt_Merkez**	**1.20**	**237**	P	**Pg**	**01 20 45.9**	**+1.3**
SIRT	**Sirnak**	**1.29**	**208**	PN	**Pn**	**01 20 43.9**	**-1.4**
SIRT	**Sirnak**	**1.29**	**208**	*e*Pn	**Pn**	**01 20 43.9**	**-1.4**
EATA	**Eleskirt**	**1.33**	**336**	*e*P	**Pg**	**01 20 46.2**	**-1.0**
EATA				*e*S	**Sg**	**01 21 05.3**	**+0.7**
EATA	**Eleskirt**	**1.33**	**336**	*i* P	**Pg**	**01 20 46.3**	**-1.0**
EATA				*i* S	**Sg**	**01 21 08.6**	**+4.0**
EATA	**Eleskirt**	**1.33**	**336**	P	**Pg**	**01 20 46.3**	**-1.0**
IGDI	**IGDIR**	**1.40**	**29**	*e*P	**Pg**	**01 20 48.2**	**-0.3**
IGDI				*e*S	**Sg**	**01 21 09.7**	**+2.9**
IGDI				IAML		01 21 14.1	
	comp=Z,4.6nm,0.6s						
VRTB	**Varto-Mus**	**1.45**	**291**	PN	**Pn**	**01 20 46.2**	**-1.4**
VRTB	**Varto-Mus**	**1.45**	**291**	*e*Pn	**Pn**	**01 20 46.2**	**-1.4**
TASB	**TASBURUN-IGDIR**	**1.56**	**31**	PN	**Pn**	**01 20 48.7**	**-0.4**
TASB	**TASBURUN-IGDIR**	**1.56**	**31**	*e*Pn	**Pn**	**01 20 48.7**	**-0.4**
HOMI	**Horasan**	**1.72**	**325**	*e*P	**Pb**	**01 20 52.4**	**-0.8**
DIGO	**Kars**	**1.77**	**4**	*e*P	**Pg**	**01 20 54.2**	**-1.4**
ERZM	**Erzurum**	**1.90**	**312**	*e*P	**Pb**	**01 20 55.9**	**-0.3**
ECAT	**Cat-ERZURUM**	**1.98**	**300**	*e*P	**Pb**	**01 20 57.3**	**-0.2**

ISCJB ***07*** *01:24:41.2±0.8, 48°.2N±0°.1×153°.0E±0°.2, h128km, mb4.0/27, Error ellipse: s-maj=20.2km s-min=6.5km az=138.8*
MOS ***07*** *01:24:41.9±1.3, 48°.11N×153°.13E, h144km, mb4.1/15, Error ellipse: s-maj=13.7km s-min=9.6km az=80.2*
IDC ***07*** *01:24:45.4±2.3, 48°.31N×153°.01E, h152km±21km, mb3.7/17, mb1 3.7/19, mb1mx3.4/75, mbtmp4.1/19, MS3.6/1, Ms1 3.6/1, ms1mx2.3/66, Error ellipse: s-maj=28.2km s-min=12.4km az=155.0*
ISC 07 01:24:41.8±1.0**, 48°.1N**±0°.1×**153°.2E**±0°.1**, h128km, n53, σ1s.23**/55**, mb4.0**/27**, 8C-2D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.25**	**35**	*e*PN	**Pn**	**01 25 33.3**	**+1.9**
SKR				*e*S	**Sn**	**01 26 10.1**	**+0.2**
SKR				pmax	pmax		
	comp=Z,106nm,0.5s						
SKR				smax	smax		
	comp=N,153nm,0.5s						
SKR				smax	smax		
	comp=E,114nm,0.3s						
KUR	**Kuril'sk**	**4.63**	**234**	*e*PN	**Pn**	**01 25 49.0**	**-0.8**
KUR				*e*S	**Sn**	**01 26 46.1**	**+3.4**
KUR				smax	smax		
	comp=N,29nm,0.6s						
KUR				smax	smax		
	comp=E,32nm,0.7s						
PETK	**Petropavlovsk-**	**5.81**	**28**	P	**Pn**	**01 26 06.1**	**+0.5**
	comp=E,0.1nm,0.3s,baz=198,slow=12,SNR=4.2						
SHO	**Shikotan**	**6.10**	**229**	*e*PN	**Pn**	**01 26 08.8**	**-0.7**
SHO				*e*S	**Sn**	**01 27 14.0**	**-4.1**
SHO				pmax	pmax		
	comp=Z,14nm,0.5s						
SHO				pmax	pmax		
	comp=N,3.0nm,0.2s						
SHO				pmax	pmax		
	comp=E,5.0nm,0.2s						
SHO				smax	smax		
	comp=N,13nm,0.5s						
SHO				smax	smax		
	comp=E,18nm,0.5s						
ASAJ	**Asahikawa**	**8.36**	**246**	P	**Pn**	**01 26 44.0**	**+4.1**
	comp=E,1.4nm,0.3s,baz=94,slow=20,SNR=5.7						
KLR	**Kul'dur**	**14.23**	**283**	P	**P**	**01 27 58.9**	**-1.9**
	comp=E,0.0nm,0.3s,baz=68,slow=15,SNR=4.3						
USRK	**Ussuriysk Ar.**	**15.20**	**263**	P	**P**	**01 28 11.9**	**+0.4**
	comp=E,0.3nm,0.3s,baz=60,slow=14,SNR=4.5						
KSRS	**Korea Array**	**21.28**	**249**	P	**P**	**01 29 19.8**	**+1.9**
	comp=E,3.6nm,0.7s,baz=48,slow=9.6,SNR=12						
JOW	**Kunigami**	**28.77**	**231**	LR	LR	01 41 59.8	
	comp=E,109nm,18.9s,baz=24,slow=36						
ILAR	**Eielson Array**	**35.50**	**40**	P	**P**	**01 31 26.2**	**+0.6**
	comp=E,0.3nm,0.9s,baz=287,slow=7.5,SNR=5.7						
INK	**Inuvik**	**40.52**	**33**	P	**P**	**01 32 08.7**	**+1.0**
	comp=E,0.9nm,0.5s,baz=292,slow=5.9,SNR=11						
ZALV	**Zalesovo Beam**	**41.91**	**305**	P	**P**	**01 32 18.2**	**-1.0**
	comp=E,0.9nm,0.3s,baz=58,slow=7.0,SNR=5.7						
MKAR	**Makanchi Array**	**46.41**	**296**	P	**P**	**01 32 55.0**	**-0.1**
	comp=E,2.4nm,0.7s,baz=67,slow=7.9,SNR=27						
KURK	**Kurchatov**	**46.70**	**303**	P	**P**	**01 32 56.2**	**-1.1**
KURK				pmax	pmax		
	comp=Z,3.0nm,0.2s						
KURBB	**Kurchatov Arra**	**46.79**	**303**	P	**P**	**01 32 56.2**	**-1.9**
	comp=Z,2.9nm,0.2s,baz=66,slow=8.3,SNR=12						
BVAR	**Borovoye Array**	**50.08**	**309**	P	**P**	**01 33 22.5**	**-0.7**
	comp=Z,3.0nm,0.4s,baz=59,slow=8.0,SNR=33						
CMAR	**Chiang Mai Arr**	**52.75**	**255**	P	**P**	**01 33 44.0**	**+0.5**
	comp=Z,2.0nm,0.4s,baz=38,slow=6.5,SNR=6.8						
AAK	**Ala-Archa**	**53.31**	**296**	P	**P**	**01 33 46.3**	**-1.2**
	comp=Z,1.0nm,0.4s,baz=113,slow=6.8,SNR=6.2						
ARU	**Arti**	**54.10**	**317**	P	**P**	**01 33 51.7**	**-1.2**
	comp=Z,2.4nm,0.4s,baz=96,slow=10,SNR=7.1						
FINES	**FINESS Array B**	**62.89**	**335**	P	**P**	**01 34 52.5**	**-1.1**
	comp=Z,1.1nm,0.3s,baz=36,slow=7.8,SNR=30						
OBN	**Obninsk**	**64.27**	**325**	*e*P	**P**	**01 35 02.6**	**-0.2**
OBN				pmax	pmax		
	comp=Z,3.0nm,1.0s						
NB2	**NORSAR Subarra**	**67.01**	**341**	P	**P**	**01 35 19.5**	**-0.9**
	comp=Z,1.4nm,0.5s,baz=29,slow=6.5						
NOA	**NORSAR Array B**	**67.01**	**341**	P	**P**	**01 35 19.9**	**-0.5**
	comp=Z,1.1nm,0.6s,baz=30,slow=6.6,SNR=8.2						
HFS	**Hagfors**	**67.25**	**339**	P	**P**	**01 35 21.5**	**-0.4**
	comp=Z,1.3nm,0.4s,baz=58,slow=5.6,SNR=18						
AKASG	**Malin Array Be**	**70.50**	**326**	P	**P**	**01 35 40.6**	**-1.5**
	comp=Z,0.3nm,0.3s,baz=35,slow=6.0,SNR=2.9						
BURAR	**Bucovina Array**	**74.53**	**326**	⇑*i*P	**P**	**01 36 06.0**	**-0.2**
BURAR	**Bucovina Array**	**74.53**	**326**	⇑P	**P**	**01 36 06.0**	**-0.2**
DPC	**Dobruska-Polom**	**75.19**	**333**	*e*P	**P**	**01 36 10.0**	**+0.2**
DPC	**Dobruska-Polom**	**75.19**	**333**	*e*P	**P**	**01 36 10.0**	**+0.2**
CLL	**Collm**	**75.30**	**335**	*i* P	**P**	**01 36 09.8**	**-0.6**
CLL				pmax	pmax		
	comp=Z,5.0nm,0.5s						
PRU	**Pruhonice**	**76.04**	**334**	*e*P	**P**	**01 36 14.7**	**+0.1**
PRU	**Pruhonice**	**76.04**	**334**	*e*P	**P**	**01 36 14.7**	**+0.1**
VOIR		**76.42**	**325**	⇑*i*P	**P**	**01 36 17.1**	**+0.1**
VOIR		**76.42**	**325**	⇑P	**P**	**01 36 17.1**	**+0.1**
ARR	**Arges**	**76.64**	**325**	⇓*i*P	**P**	**01 36 19.9**	**+1.7**
TXAR	**Lajitas Array**	**76.80**	**61**	P	**P**	**01 36 19.5**	**+0.1**
	comp=Z,0.2nm,0.7s,baz=295,slow=4.9,SNR=2.8						
KHC	**Kasperske Hory**	**77.09**	**334**	*e*P	**P**	**01 36 20.9**	**+0.3**
KHC	**Kasperske Hory**	**77.09**	**334**	*e*P	**P**	**01 36 20.9**	**+0.3**
GERES	**GERESS Array B**	**77.31**	**334**	P	**P**	**01 36 21.6**	**-0.3**
	comp=Z,0.7nm,0.5s,baz=35,slow=6.2,SNR=12						
CONA	**Conrad Observa**	**77.47**	**332**	*e*P	**P**	**01 36 23.1**	**+0.3**
	comp=Z,1.1nm,0.5s						
BZS	**Buzias**	**77.54**	**327**	⇑*i*P	**P**	**01 36 22.7**	**-0.5**
BZS	**Buzias**	**77.54**	**327**	⇑P	**P**	**01 36 22.7**	**-0.5**
MOA	**Molln**	**78.03**	**333**	*e*P	**P**	**01 36 26.3**	**+0.5**
	comp=Z,1.3nm,0.6s						
SOKA	**Soboth**	**78.84**	**332**	*e*P	**P**	**01 36 30.1**	**-0.3**
	comp=Z,2.3nm,0.8s						
KBA	**Koelnbreinsper**	**79.00**	**333**	*e*P	**P**	**01 36 32.1**	**+0.8**
	comp=Z,3.4nm,0.7s						
OBKA	**Obir**	**79.14**	**332**	*e*P	**P**	**01 36 32.1**	**0.0**
	comp=Z,1.1nm,0.4s						
RETA	**Reutte**	**79.38**	**335**	*e*P	**P**	**01 36 33.8**	**+0.5**
VTS	**Vitosha**	**79.54**	**325**	⇑*i*P	**P**	**01 36 34.2**	**-0.1**
VTS	**Vitosha**	**79.54**	**325**	⇑P	**P**	**01 36 34.2**	**-0.1**
DAVA	**Damuels**	**79.81**	**336**	*e*P	**P**	**01 36 36.2**	**+0.4**
	comp=Z,0.5nm,0.3s						
FETA	**Feichten**	**79.82**	**335**	*e*P	**P**	**01 36 35.8**	**0.0**
	comp=Z,0.5nm,0.5s						
PDG	**Podgorica**	**81.15**	**327**	⇓*i*P	**P**	**01 36 42.2**	**-0.6**
MMAI	**Mount Meron Ar**	**82.00**	**311**	P	**P**	**01 36 48.1**	**+0.6**
	comp=Z,1.8nm,0.6s,baz=42,slow=6.3,SNR=18						

ISCJB ***07*** *01:33:23.4±0.7, 36°.14N±0°.04×140°.33E±0°.07, h81km±5km, mb3.2/3, Error ellipse: s-maj=9.1km s-min=6.7km az=21.0*
IDC ***07*** *01:33:23.4±5.0, 36°.20N×140°.45E, h70km±37km, mb3.0/3, mb1 3.2/4, mb1mx2.9/63, mbtmp3.4/4, ML3.7/1, Error ellipse: s-maj=54.0km s-min=9.6km az=59.0*
JMA ***07*** *01:33:24.5±0.1, 36°.18N×140°.24E, h73km±1km, M2.7*
ISC 07 01:33:24.5±1.0**, 36°.16N**±0°.05×**140°.29E**±0°.06**, h73km**±8km**, n14, σ0s.73**/23**, mb3.4**/3**, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JYT	**Yasato**	**0.10**	**311**	P	**Pn**	**01 33 35.3**	**+0.2**
JYT				S	**Sn**	**01 33 43.3**	**+0.3**
JAG	**Ashikaga**	**0.73**	**292**	P	**Pn**	**01 33 39.6**	**-0.3**
JKT	**Katashina**	**1.04**	**306**	P	**Pn**	**01 33 43.3**	**-0.4**
JKT				*e*S	**Sn**	**01 33 58.0**	**0.0**
JRY	**Ryogami san**	**1.14**	**263**	P	**Pn**	**01 33 44.7**	**-0.2**
JRY				S	**Sn**	**01 33 59.7**	**-0.4**
JFK	**Kawauchi**	**1.29**	**21**	P	**Pn**	**01 33 46.6**	**-0.3**
JFK				S	**Sn**	**01 34 03.8**	**+0.1**
JOD2	**Odawara 2**	**1.33**	**228**	P	**Pn**	**01 33 47.3**	**0.0**
JOD2				S	**Sn**	**01 34 03.6**	**-0.9**
JFY	**Yanaizu**	**1.33**	**339**	P	**Pn**	**01 33 47.7**	**+0.3**
JFT	**Otama**	**1.36**	**1**	P	**Pn**	**01 33 48.1**	**+0.4**
MJAR	**Matsushiro Arr**	**1.73**	**283**	P	**Pn**	**01 33 52.1**	**-0.4**
	9.0nm,0.3s,baz=106,slow=7.9,SNR=47						
MJAR				S	**Sn**	**01 34 15.2**	**+1.4**
	4.0nm,0.3s,baz=163,slow=9.1,SNR=7.4						
MAT	**Matsushiro**	**1.73**	**283**	P	**Pn**	**01 33 53.2**	**+0.6**
MAT				S	**Sn**	**01 34 15.7**	**+1.8**
JHJ	**Hachijo jima 2**	**3.06**	**188**	P	**Pn**	**01 34 11.0**	**+0.4**
	22nm,0.3s,baz=136,slow=22,SNR=10						
JHJ				S	**Sn**	**01 34 46.4**	**+0.3**
	27nm,0.3s,baz=70,slow=23,SNR=8.4						
MKAR	**Makanchi Array**	**43.83**	**303**	P	**P**	**01 41 22.4**	**-0.8**
	0.1nm,0.4s,baz=89,slow=7.4,SNR=2.7						
MKAR				pP	**pP**	**01 41 41.1**	**-0.1**
	0.3nm,0.5s,baz=88,slow=8.4,SNR=4.0						
KURBB	**Kurchatov Arra**	**45.83**	**309**	P	**P**	**01 41 37.9**	**-1.0**
	0.2nm,0.3s,baz=82,slow=7.7,SNR=4.6						
WRA	**Warramunga Arr**	**56.08**	**187**	P	**P**	**01 42 56.7**	**+0.7**
	0.2nm,0.5s,baz=0.1,slow=7.5,SNR=2.7						

IDC ***07*** *01:35:38.8±0.9, 21°.01N×121°.72E, h0km, mb3.5/11, mb1 3.7/12, mb1mx3.5/62, mbtmp3.5/12, ML3.8/1, MS3.2/8, Ms1 3.3/8, ms1mx2.9/51, Error ellipse: s-maj=28.0km s-min=18.4km az=75.0*
TAP ***07*** *01:35:43.5, 21°.43N×122°.05E, h23km, ML3.8, D*
JMA ***07*** *01:35:43.8±0.3, 21°.73N×121°.79E, h146km, M3.4*
ISCJB ***07*** *01:35:44.8±0.8, 21°.52N±0°.05×122°.08E±0°.03, h33km, mb3.5/10, MS3.2/6, Error ellipse: s-maj=7.8km s-min=3.6km az=161.8*
ISC 07 01:35:45.4±1.0**, 21°.42N**±0°.08×**122°.04E**±0°.04**, h35km, n57, σ1s.31**/56**, mb3.6**/10**, MS3.2**/6**, Taiwan region**

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

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAY	Lan-yu	0.77	324	P	Pn	01 35 57.5	-2.3
	baz=323						
LAY				S	Sn	01 36 07.9	-2.2
	baz=323						
TSEB	Hengchuen, Pin	1.16	295	P	Pn	01 36 04.8	-0.4
	baz=293						
TWKBT	Hengchun	1.25	295	P	Pn	01 36 05.2	-1.2
	baz=294						
HEN	Hengchun	1.34	296	P	Pn	01 36 06.7	-1.0
	baz=295						
TAW	Tawu	1.42	312	P	Pn	01 36 07.8	-0.9
	baz=311						
TAW				S	Sn	01 36 25.4	-0.7
	baz=311						
EAST	Anshuo	1.47	311	P	Pn	01 36 08.5	-0.9
	baz=310						
EAST				S	Sn	01 36 26.7	-0.7
	baz=310						
SCZT	Fangliau	1.62	306	P	Pn	01 36 10.9	-0.6
	baz=305						
TWGBT	Beinan	1.65	328	P	Pn	01 36 11.2	-0.8
	baz=327						
TWG	Pinlang	1.66	328	P	Pn	01 36 11.1	-0.9
	baz=327						
MASBT	Mashibuluo	1.77	313	eP	Pn	01 36 12.5	-1.0
	baz=312						
CHKT	Chengkung	1.79	340	P	Pn	01 36 12.9	-0.8
	baz=339						
SSD	Sandimen	1.86	316	eP	Pn	01 36 13.7	-1.0
	baz=315						
TWF1	Yuli	2.04	341	eP	Pn	01 36 16.5	-0.9
	baz=340						
STYT	Tauyuan	2.10	326	eP	Pn	01 36 17.7	-0.5
	baz=325						
CHN1	Nanshi	2.25	322	eP	Pn	01 36 19.9	-0.2
	baz=321						
WTP	Ta-pu	2.25	324	eP	Pn	01 36 19.9	-0.2
	baz=323						
YUS	Yu-Shan	2.29	334	eP	Pn	01 36 20.2	-1.0
	baz=333						
YUS				S	Sn	01 36 47.2	-1.3
	baz=333						
TWK	Hsinying	2.33	322	eP	Pn	01 36 20.9	-0.5
	baz=321						
ALS	Alishan	2.38	332	eP	Pn	01 36 21.6	-0.5
	baz=331						
ESL	Shilin	2.45	347	eS	Sn	01 36 50.7	-0.9
	baz=346						
SMLT	Sun Moon Lake	2.67	337	eP	Pn	01 36 25.8	-0.3
	baz=336						
TYC	Yuchr	2.71	336	eP	Pn	01 36 26.3	-0.1
	baz=336						
NNSB	Datong	3.06	349	eP	Pn	01 36 31.1	-0.3
	baz=348						
HATJ	Hateruma jima	3.09	31	P	Pn	01 36 30.8	-0.9
HATJ				eS	Sn	01 37 06.7	-0.8
JYNG	Yonagunijimaku	3.13	15	P	Pn	01 36 30.6	-1.7
JYNG				S	Sn	01 37 07.1	-1.4
YOJ	Yonaguni jima	3.16	16	P	Pn	01 36 31.8	-0.9
YOJ				eS	Sn	01 37 06.8	-2.4
YHNB	Yeheng	3.30	349	eP	Pn	01 36 34.5	-0.1
	baz=349						
IRIF	Iriomote-Funau	3.30	28	P	Pn	01 36 33.7	-0.8
IRIF				eS	Sn	01 37 12.0	-0.5
JKRS	Kuro-shima	3.34	33	P	Pn	01 36 34.4	-0.8
JKRS				S	Sn	01 37 13.2	-0.5
JIJ	Ishigaki jima	3.52	33	P	Pn	01 36 36.3	-1.3
JIJ				S	Sn	01 37 16.1	-1.9
JISG	Ishigakijimahi	3.79	33	P	Pn	01 36 40.4	-0.9
JISG				S	Sn	01 37 23.2	-1.4
JTJ	Tarama	4.04	37	P	Pn	01 36 44.7	0.0
JTJ				S	Sn	01 37 29.6	-1.2
JIRB	Irabujima	4.46	40	eS	Sn	01 37 39.3	-1.8
JIKM	Ikemajima	4.57	40	S	Sn	01 37 42.2	-1.8
JNU	Nakatsue	14.05	32	LR	LR	01 44 41.5	
	comp=Z,82nm,18.4s,baz=114,slow=37						
KSRS	Korea Array	16.78	16	P	P	01 39 38.9	-0.6
	0.3nm,0.3s,baz=198,slow=12,SNR=4.7						
KSRS				LR	LR	01 46 29.2	
	comp=Z,58nm,18.4s,baz=228,slow=38						
MJAR	Matsushiro Arr	20.62	40	P	Pn	01 40 26.1	+1.9
	0.6nm,0.3s,baz=235,slow=11,SNR=3.0						
CMAR	Chiang Mai Arr	21.91	266	LR	LR	01 49 46.0	
	comp=Z,36nm,18.1s,baz=100,slow=39						
USRK	Ussuriysk Ar.	24.17	18	P	P	01 40 59.4	+1.0
	1.7nm,0.8s,baz=178,slow=13,SNR=2.7						
KLR	Kul'dur	28.81	13	P	P	01 41 42.6	+2.6
	0.1nm,0.4s,baz=211,slow=4.8,SNR=4.9						
MKAR	Makanchi Array	40.89	318	P	P	01 43 23.9	-0.2
	0.7nm,0.7s,baz=116,slow=9.5,SNR=9.0						
MKAR				LR	LR	02 02 24.0	
	comp=Z,37nm,20.2s,baz=74,slow=39						
PETK	Petropavlovsk-	41.75	32	LR	LR	02 02 14.2	
	comp=Z,20nm,20.4s,baz=219,slow=38						
H11N1	WAKE ISLAND Hy	41.92	84	T	T	02 28 29.3	
	baz=282,slow=75,SNR=22						
H11N2	WAKE ISLAND Hy	41.92	84	T	T	02 28 29.7	
	baz=282,slow=75,SNR=25						
H11N3	WAKE ISLAND Hy	41.94	84	T	T	02 28 32.3	
	baz=282,slow=75,SNR=23						
H11S3	WAKE ISLAND Hy	41.97	86	T	T	02 28 27.8	
	baz=282,slow=75,SNR=49						
H11S1	WAKE ISLAND Hy	41.98	86	T	T	02 28 30.4	
	baz=282,slow=75,SNR=46						
H11S2	WAKE ISLAND Hy	41.98	86	T	T	02 28 31.3	
	baz=282,slow=75,SNR=28						
WRA	Warramunga Arr	42.83	163	P	P	01 43 34.8	-5.4
	1.1nm,0.6s,baz=343,slow=9.0,SNR=6.5						
ZALV	Zalesovo Beam	43.00	328	P	P	01 43 39.4	-1.7
	2.1nm,0.7s,baz=115,slow=8.2,SNR=9.1						
ZALV				LR	LR	02 03 17.4	
	comp=Z,29nm,19.5s,baz=70,slow=38						
KURBB	Kurchatov Arra	44.74	321	P	P	01 43 55.1	-0.1
	0.5nm,0.7s,baz=119,slow=8.0,SNR=4.5						
ASAR	Alice Springs	46.28	165	P	P	01 44 04.5	-3.1
	1.3nm,1.1s,baz=359,slow=7.4,SNR=4.4						
BVAR	Borovoye Array	50.32	322	P	P	01 44 39.0	+0.4
	0.3nm,0.5s,baz=96,slow=10,SNR=3.1						
GEYT	Alibeck	56.90	302	LR	LR	02 10 52.2	
	comp=Z,50nm,18.3s,baz=130,slow=37						
ILAR	Eielson Array	71.31	27	P	P	01 47 03.9	+2.7
	0.2nm,0.6s,baz=299,slow=6.1,SNR=3.0						
NOA	NORSAR Array B	81.03	333	LR	LR	02 28 00.6	
	comp=Z,20nm,18.4s,baz=15,slow=39						
YKA	Yellowknife Ar	85.20	23	P	P	01 48 20.6	+2.7
	0.1nm,0.7s,baz=310,slow=5.0,SNR=3.1						

*IDC **07** 01:48:11.2±0.8, 9°.68S×118°.97E, h0km, mb4.2/12, mb1 4.2/15, mb1mx4.0/54, mbtmp4.1/15, ML3.8/3, MS3.4/5, Ms1 3.3/5, ms1mx2.8/51, Error ellipse: s-maj=25.4km s-min=17.2km az=56.0*

*ISCJB **07** 01:48:14.1±0.4, 9°.93S±0°.05×118°.87E±0°.04, h33km, mb4.2/16, MS3.4/4, Error ellipse: s-maj=7.2km s-min=4.8km az=17.5*

*DJA **07** 01:48:18.5±0.6, 10°S±5°×11°9E±°, h15km±4km, M4.3/5, mB5.0/1, mb4.7/1, MLv4.2/5, Mw(mB)4.4/1*

*NEIC **07** 01:48:18.5±0.9, 9°.83S×119°.00E, h59km±8km, mb4.1/4, Error ellipse: s-maj=10.6km s-min=7.2km az=219.0*

ISC 07 01:48:15.1±0.6**, 9°.99S**±0°.07×**118°.94E**±0°.05**, h33**km**, n41, σ2s.67**/41**, mb4.2**/16**, MS3.4**/4**, Sumbawa region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBSI	Waikabubak, Su	0.56	52	P	Pn	01 48 26.7	-0.1
WBSI				S	Sn	01 48 34.6	-0.4
PLAI	Plampang	1.63	315	P	Pb	01 48 44.2	-0.3
BASI	Baing, Sumba	1.63	98	P	Pb	01 48 48.0	+3.4
BSSI	Bau Bau, Buton	4.12	22	P	Pn	01 49 17.6	+1.9
SRBI	Singaraja	4.14	297	P	Pn	01 49 19.9	+3.9
BATI	Baumata	4.66	93	Pn	Pn	01 49 24.8	+1.6
	15nm,0.3s,baz=292,slow=11,SNR=15						
BATI				Sn	Sn	01 50 17.5	+1.4
	46nm,0.3s,baz=221,slow=20,SNR=8.6						
BATI	Baumata	4.66	93	P	Pn	01 49 26.6	+3.4
JAGI	Jajag, Banyuwa	4.96	287	ePn	Pn	01 49 30.3	+3.0
JAGI				eSn	Sn	01 50 23.0	-0.6
KAPI	Kappang	5.01	9	ePn	Pn	01 49 30.1	+2.1
KAPI				eSn	Sn	01 50 24.0	-0.7
SOEI	Soe	5.26	88	P	Pn	01 49 35.0	+3.5
SOEI	Soe	5.26	88	ePn	Pn	01 49 34.5	+3.0
	84nm,0.8s						
SOEI				eSn	Sn	01 50 26.6	-4.5
LUWI	Luwuk	9.67	23	ePn	Pn	01 50 39.6	+7.6
	239nm,0.6s						
FAKI	Fak Fak	14.97	63	ePn	Pn	01 51 45.3	+0.9
WRA	Warramunga Arr	17.85	125	P	P	01 52 22.3	+0.8
	0.2nm,0.3s,baz=302,slow=12,SNR=9.2						
WRA				S	Sn	01 55 29.1	-10
	0.4nm,0.3s,baz=302,slow=23,SNR=5.4						
WRAB	Tennant Creek	17.86	125	eP	P	01 52 23.2	+1.6
	8.6nm,1.1s						
ASAR	Alice Springs	19.73	135	P	Pn	01 52 45.5	+1.8
	0.4nm,0.3s,baz=316,slow=11,SNR=31						
ASAR				S	S	01 56 18.0	-4.9
	0.2nm,0.3s,baz=303,slow=23,SNR=4.9						
ASAR				LR	LR	02 01 08.0	
	comp=Z,79nm,21.8s,baz=326,slow=39						
NWAO	Narrogin (SRO)	22.88	184	P	P	01 53 19.0	+3.1
	5.8nm,0.8s,baz=314,slow=11,SNR=3.8						
NWAO				LR	LR	02 02 27.3	
	comp=Z,90nm,19.3s,baz=147,slow=37						
PSI	Prapat	23.64	302	P	P	01 53 23.7	-0.1
	6.5nm,0.7s,baz=124,slow=11,SNR=7.9						
TGY	Tagaytay City	24.02	5	P	P	01 53 26.8	-0.4
	149nm,0.3s,baz=154,slow=15,SNR=4.2						
STKA	Stephens Creek	30.24	139	LR	LR	02 07 35.8	
	comp=Z,26nm,18.1s,baz=317,slow=38						
H08S2	Diego Garcia H	45.93	269	T	T	02 45 54.4	
	baz=95,slow=75,SNR=9.7						
H08S3	Diego Garcia H	45.94	269	T	T	02 45 58.4	
	baz=95,slow=75,SNR=6.8						
H08S1	Diego Carcia H	45.95	269	T	T	02 45 58.5	
	baz=95,slow=75,SNR=4.4						
MJAR	Matsushiro Arr	49.71	20	P	P	01 57 01.4	-2.7
	0.9nm,0.4s,baz=211,slow=9.3,SNR=4.1						
USRK	Ussuriysk Ar.	55.22	11	P	P	01 57 42.2	-2.5
	2.1nm,0.6s,baz=132,slow=6.4,SNR=4.7						
SONM	Songino Array	58.63	350	P	P	01 58 08.7	-0.4
	1.5nm,0.7s,baz=170,slow=8.8,SNR=3.3						
MKAR	Makanchi Array	65.30	333	P	P	01 58 53.6	-0.2
	3.2nm,0.8s,baz=144,slow=7.6,SNR=23						
AAK	Ala-Archa	66.26	326	eP	P	01 59 00.2	-0.1
	2.0nm,0.8s						
MAW	Mawson	68.29	200	LR	LR	02 23 14.9	
	comp=Z,43nm,21.7s,baz=64,slow=31						
KURBB	Kurchatov Arra	69.82	334	P	P	01 59 22.0	-0.2
	0.9nm,0.6s,baz=145,slow=5.4,SNR=9.6						
KURK	Kurchatov	69.85	334	P	P	01 59 22.0	-0.4
ZALV	Zalesovo Beam	69.94	339	P	P	01 59 21.6	-1.3
	1.3nm,0.3s,baz=153,slow=5.5,SNR=6.1						
PETK	Petropavlovsk-	71.00	24	P	P	01 59 29.5	+0.1
	3.1nm,0.9s,baz=202,slow=3.5,SNR=4.9						
BVAR	Borovoye Array	75.13	332	P	P	01 59 54.0	+0.1
	1.2nm,0.7s,baz=104,slow=6.1,SNR=6.3						
ABKAR	Akbulak array	78.33	325	eP	P	02 00 11.7	-0.3
	1.2nm,0.6s						
RAYN	Ar Rayn	79.08	296	eP	P	02 00 16.8	+0.1
	2.5nm,1.1s						
KBZ	Khabaz	86.93	315	P	P	02 00 55.7	-1.1
	1.5nm,0.8s,baz=129,slow=4.6,SNR=5.2						
PPT	Papeete	88.43	107	LR	LR	02 38 17.7	
	comp=Z,48nm,21.7s,baz=116,slow=34						
MMAI	Mount Meron Ar	90.02	303	P	P	02 01 13.5	+1.6
	0.7nm,0.8s,baz=274,slow=2.2,SNR=5.0						
YKA	Yellowknife Ar	115.11	24	PKP	PKPdf	02 06 53.6	+1.1
	0.2nm,0.6s,baz=311,slow=2.3,SNR=5.3						
TORD	Torodi Ar. Bea	118.57	280	PKP	PKPdf	02 07 01.9	+1.4
	0.7nm,0.8s,baz=40,slow=1.8,SNR=7.7						

IDC 07 01:54:02.8±6.8**, 21°.86S**×**178°.62W, h492**km±73km**, mb3.2**/6**, mb1 3.4**/7**, mb1mx3.0**/47**, mbtmp4.1**/7**, Error ellipse: s-maj=84.3km s-min=32.0km az=151.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	13.86	266	P	P	01 57 01.8	+0.5
	0.5nm,0.3s,baz=80,slow=19,SNR=7.8						
CTA	Charters Tower	32.81	267	P	P	01 59 54.5	-0.4
	2.4nm,0.3s,baz=88,slow=14,SNR=6.1						
STKA	Stephens Creek	36.69	246	P	P	02 00 27.3	0.0
	1.4nm,0.5s,baz=105,slow=11,SNR=5.3						
ASAR	Alice Springs	43.66	258	P	P	02 01 23.6	+0.2
	3.5nm,0.7s,baz=92,slow=8.0,SNR=34						
WRA	Warramunga Arr	43.86	264	P	P	02 01 24.5	-0.5
	0.6nm,0.3s,baz=96,slow=8.3,SNR=16						
TXAR	Lajitas Array	88.27	58	P	P	02 06 01.2	-0.4
	0.2nm,0.7s,baz=264,slow=5.3,SNR=2.3						
ILAR	Eielson Array	89.76	13	P	P	02 06 07.8	+0.2
	0.3nm,0.5s,baz=216,slow=5.1,SNR=6.1						
AKASG	Malin Array Be	143.91	330	PKP	PKPdf	02 12 41.1	-0.3
	0.1nm,0.2s,baz=42,slow=4.9,SNR=8.7						

*IDC **07** 02:08:01.4±1.0, 6°.41N×126°.78E, h0km, mb3.6/5, mb1 3.8/5, mb1mx3.4/60, mbtmp3.6/5, Error ellipse: s-maj=37.2km s-min=17.0km az=53.0*

*ISCJB **07** 02:08:08.4±1.2, 6°.17N±0°.07×126°.07E±0°.10, h71km±12km, mb3.5/5, Error ellipse: s-maj=17.5km s-min=9.6km az=26.7*

*MAN **07** 02:08:11, 6°.47N×125°.96E, h75km, mb4.7, ML3.6, MS3.5*

ISC 07 02:08:08.6±1.9**, 6°.11N**±0°.10×**126°.1E**±0°.1**, h64**km±17km**, n12, σ1s.75**/17**, mb3.6**/5**, 3C-1D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	Davao City (W)	1.09	331	Pn	Pn	02 08 28.1	0.0
	98nm,0.3s,baz=271,slow=3.7,SNR=12						
DAV				Sn	Sn	02 08 46.8	+4.3
	113nm,0.3s,baz=318,slow=20,SNR=7.1						
DMPH	Davao City--Mi	1.14	328⇑	iP	Pn	02 08 28.5	-0.2
DMPH				eS	Sn	02 08 42.2	-1.4
GSPH	General Santos	1.15	269⇑	iP	Pn	02 08 29.3	+0.3
GSPH				i S	Sn	02 08 43.7	-0.3
KCP	Kidapawan	1.35	312⇓	iP	Pn	02 08 31.1	-0.4
KCP				i S	Sn	02 08 46.3	-2.4
BUKP	Musuan	2.05	330	eP	Pn	02 08 40.3	-0.5
BUKP				eS	Sn	02 09 04.5	-0.9
BIPH	Bislig	2.08	7⇑	iP	Pn	02 08 41.5	+0.2
BIPH				i S	Sn	02 09 05.0	-1.1
BUTP	Butuan	2.89	350	eP	Pn	02 08 52.3	0.0
WRA	Warramunga Arr	27.12	163	P	P	02 13 45.3	-0.6
	0.5nm,0.8s,baz=345,slow=9.5,SNR=4.4						
ASAR	Alice Springs	30.55	166	P	P	02 14 19.7	+3.4
	1.3nm,0.6s,baz=344,slow=7.0,SNR=26						
MKAR	Makanchi Array	55.27	325	P	P	02 17 35.9	+0.4
	0.3nm,0.5s,baz=129,slow=6.5,SNR=3.8						
KURBB	Kurchatov Arra	59.42	327	P	P	02 18 07.6	+3.0
	0.2nm,0.4s,baz=130,slow=6.3,SNR=2.5						
ILAR	Eielson Array	83.24	26	P	P	02 20 26.6	-1.3
	0.3nm,0.6s,baz=250,slow=4.6,SNR=9.2						

*IDC **07** 02:21:30.9±0.8, 6°.79N×72°.98W, h163km±15km, mb2.9/1, mb1 3.2/3, mb1mx2.8/44, mbtmp3.4/3, Error ellipse: s-maj=63.4km s-min=8.2km az=132.0*

*ISCJB **07** 02:21:31.6±0.7, 6°.84N±0°.04×73°.14W±0°.04, h152km±6km, mb3.3/1, Error ellipse: s-maj=7.6km s-min=5.4km az=25.8*

*RSNC **07** 02:21:33.1±0.9, 6°.81N×73°.16W, h146km±5km, ML3.1*

ISC 07 02:21:31.1±1.0**, 6°.84N**±0°.04×**73°.11W**±0°.05**, h157**km±7km**, n26, σ0s.91**/39**, Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	Barichara	0.26	195	i P	Pn	02 21 52.8	+0.1
BARC				i		02 21 53.2	
	comp=Z,217nm,0.1s						
BARC				eS	Sn	02 22 08.0	-1.1
PAMC	Pamplona, Colo	0.64	40	eP	Pn	02 21 55.7	+1.1
PAMC				eS	Sn	02 22 12.8	+0.4
PAMC				i		02 22 15.0	
	comp=Z,214nm,0.6s						
BRRC	Barranca, Sant	0.65	294	eP	Pn	02 21 54.6	+0.7
BRRC				i		02 22 13.9	
	comp=Z,269nm,0.2s						
RUSC	La Rusia	0.94	178	eP	Pn	02 21 56.6	0.0
RUSC				eS	Sn	02 22 15.5	-0.6
RUSC				i		02 22 18.4	
	comp=Z,117nm,0.5s						
PTBC	PUERTO BERRIO,	1.37	257	eP	Pn	02 21 59.4	-0.4
PTBC				eS	Sn	02 22 20.6	-1.3
PTBC				i		02 22 26.7	
	comp=Z,102nm,0.2s						
OCAC	Ocana	1.40	352	eP	Pn	02 22 01.3	+1.0
OCAC				eS	Sn	02 22 24.2	+1.3
YOPC	Yopal, Colombi	1.63	155	eP	Pn	02 22 03.3	+0.6
YOPC				eS	Sn	02 22 27.4	+0.4
YOPC				i		02 22 31.3	
	comp=Z,63nm,0.3s						
ZARC	Zaragoza, Cauc	1.85	291	eP	Pn	02 22 04.8	0.0
ZARC				eS	Sn	02 22 30.7	-0.2
ZARC				i		02 22 39.0	
	comp=Z,122nm,0.4s						
NORC	Norcasia	2.16	234	eP	Pn	02 22 08.8	+0.3
NORC				eS	Sn	02 22 36.6	-0.8
CHIC	Chingaza	2.28	196	eP	Pn	02 22 10.8	+0.5
CHIC				i		02 22 43.7	
	comp=Z,71nm,0.6s						
ROSC	El Rosal	2.32	211	P	Pn	02 22 12.1	+1.4
	comp=Z,12nm,0.3s,baz=113,slow=2.3,SNR=46						
ROSC				S	Sn	02 22 42.7	+1.3
	comp=Z,9.5nm,0.3s,baz=131,slow=16,SNR=11						
ROSC	El Rosal	2.32	211	eP	Pn	02 22 12.2	+1.4
ROSC				eS	Sn	02 22 41.4	0.0
ROSC				i		02 22 48.7	
	comp=Z,133nm,0.6s						
HELC	Santa Helena	2.48	255	eP	Pn	02 22 13.9	+1.2
HELC				i		02 22 53.1	
	comp=Z,40nm,0.2s						
VILC	Villavicencio,	2.77	192	eP	Pn	02 22 16.5	+0.5
VILC				eS	Sn	02 22 50.4	-0.5
VILC				i		02 23 00.2	
	comp=Z,62nm,0.4s						
GUYC	Guyana, Colomb	2.78	235	eP	Pn	02 22 17.3	+0.9
GUYC				i		02 22 59.2	
	comp=Z,125nm,0.4s						
RREF	El Recreo	2.94	229	eP	Pn	02 22 20.0	+1.4
RREF				i		02 23 05.3	
	comp=Z,116nm,0.3s						
DBBC	Dabeiba	3.08	273	eP	Pn	02 22 20.9	+1.1
CODC	Agust˘›n Codaz	3.09	354	eP	Pn	02 22 20.3	+0.4
CODC				i		02 23 04.2	
	comp=Z,63nm,0.4s						
TOLC	Tolima	3.14	225	eP	Pn	02 22 22.0	+1.2
TOLC				eS	Sn	02 22 58.9	-0.3
SDV	Santo Domingo	3.19	50	P	Pn	02 22 21.3	+0.1
	comp=Z,1.8nm,0.3s,baz=233,slow=12,SNR=15						
SDV				S	Sn	02 22 59.0	-1.2
	comp=Z,8.6nm,0.3s,baz=252,slow=20,SNR=23						
SDV	Santo Domingo	3.19	50	eP	Pn	02 22 22.6	+1.3
ANIL	Santa Ana	3.26	224	eP	Pn	02 22 22.5	+0.1
PRAC	Prado	3.57	210	eP	Pn	02 22 27.3	+1.2
YOTC	Yotoco, Valle	4.29	229	eP	Pn	02 22 36.1	+0.6
YKA	Yellowknife Ar	63.25	340	P	P	02 31 42.3	-0.3
	comp=Z,0.3nm,0.6s,baz=132,slow=6.6,SNR=8.9						
WRA	Warramunga Arr	150.35	241	PKPbc	PKPbc	02 41 03.7	-1.1
	comp=Z,0.2nm,0.7s,baz=108,slow=2.7,SNR=2.7						

IDC 07 02:33:52.5±5.5**, 5°.84S**×**103°.93E, h0**km**, mb3.7**/4**, mb1 3.9**/4**, mb1mx3.4**/58**, mbtmp3.7**/4**, Error ellipse: s-maj=242.8km s-min=27.0km az=51.0, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	24.64	349	P	P	02 39 15.8	+0.8
	1.1nm,0.5s,baz=180,slow=9.6,SNR=4.7						
WRA	Warramunga Arr	32.70	118	P	P	02 40 26.7	-0.3
	0.2nm,0.7s,baz=304,slow=9.2,SNR=3.3						
MKAR	Makanchi Array	55.81	342	P	P	02 43 31.1	-0.4
	0.7nm,0.7s,baz=146,slow=7.6,SNR=7.9						
ZALV	Zalesovo Beam	61.70	347	P	P	02 44 11.8	-0.5
	1.0nm,0.5s,baz=158,slow=4.2,SNR=4.8						
TXAR	Lajitas Array	145.00	45	PKPbc	PKPab	02 53 31.9	0.0
	0.3nm,0.6s,baz=314,slow=2.3,SNR=5.4						

MEX 07 03:06:36.0±0.5**, 16°.67N**×**98°.22W, h11**km±10km**, MD3.8, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.29	163	eP	Pg	03 06 40.8	-1.1
PNIG				eS	Sg	03 06 45.9	0.0
TLIG	Tlapa	0.95	339	eP	Pg	03 06 51.4	-2.9
TLIG				eS	Sg	03 07 04.3	-2.3
VHO	Vista Hermosa	1.48	74	eP	Pn	03 07 02.1	-0.6
VHO				eS	Sn	03 07 10.8	-11
MEIG	Mezcala	1.83	313	eP	Pn	03 07 04.5	-3.1
MEIG				eS	Sn	03 07 25.4	-5.4

*IDC **07** 03:22:13.8±5.3, 7°.53S×128°.18E, h161km±52km, mb3.7/4, mb1 3.9/7, mb1mx3.3/58, mbtmp4.3/7, Error ellipse: s-maj=52.2km s-min=24.7km az=42.0*

ISC 07 03:22:10.7±1.1**, 7°.66S**±0°.10×**128°.5E**±0°.1**, h142**km**, n8, σ2s.49**/11**, mb3.9**/4**, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	Baumata	5.43	242	P	Pn	03 23 31.8	+2.0
	12nm,0.3s,baz=73,slow=3.8,SNR=24						
BATI				S	Sn	03 24 29.2	-2.3
	12nm,0.3s,baz=59,slow=12,SNR=8.8						
WRA	Warramunga Arr	13.45	156	P	P	03 25 19.8	-0.6
	0.8nm,0.3s,baz=327,slow=13,SNR=43						
WRA				S	Sn	03 27 41.7	-3.1
	1.9nm,0.3s,baz=332,slow=22,SNR=12						
ASAR	Alice Springs	16.73	163	P	Pn	03 26 02.0	+5.1
	2.0nm,0.3s,baz=342,slow=11,SNR=196						
ASAR				S	S	03 29 02.8	-0.9
	0.6nm,0.3s,baz=322,slow=18,SNR=8.2						
MKAR	Makanchi Array	67.98	328	P	P	03 32 53.0	-1.5
	0.3nm,0.4s,baz=112,slow=7.9,SNR=5.9						
ZALV	Zalesovo Beam	71.53	334	P	P	03 33 15.0	-1.0
	1.4nm,0.4s,baz=115,slow=4.6,SNR=7.5						
KURBB	Kurchatov Arra	72.31	329	P	P	03 33 20.5	-0.2
	2.9nm,0.7s,baz=130,slow=4.8,SNR=25						
BVAR	Borovoye Array	77.84	328	P	P	03 33 51.9	-0.4
	1.0nm,0.6s,baz=126,slow=7.5,SNR=8.2						
TORD	Torodi Ar. Bea	127.50	281	PKP	PKPdf	03 41 00.0	+0.2
	0.7nm,0.9s,baz=93,slow=1.5,SNR=3.7						

*ISCJB **07** 03:26:44.3±0.2, 67°.77N±0°.05×166°.37W±0°.08, h10km, mb4.2/64, MS3.1/14, Error ellipse: s-maj=7.5km s-min=2.8km az=28.4*

*NEIC **07** 03:26:45.4±0.0, 67°.57N×166°.65W, h16km, mb4.3/33, ML4.2(AEIC), After AEIC.*

*IDC **07** 03:26:45.1±0.6, 67°.83N×166°.67W, h0km, mb4.1/25, mb1 4.2/27, mb1mx4.0/82, mbtmp4.1/27, ML3.7/2, MS3.1/16, Ms1 3.1/16, ms1mx2.9/79, Error ellipse: s-maj=17.9km s-min=10.3km az=22.0*

ISC 07 03:26:46.1±0.5**, 67°.73N**±0°.07×**166°.51W**±0°.04**, h10**km**, n151, σ1s.42**/152**, mb4.3**/67**, MS3.1**/14**, Bering Strait**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RDOG	Red Dog Mine	1.41	75	P	Pn	03 27 11.3	-0.4
RDOG				S	Sg	03 27 31.8	+0.6
GAMB	Gambell	4.51	211	P	Pn	03 27 50.7	-3.6
IM04	Indian Mountai	5.32	103	P	Pn	03 28 04.3	-1.2
IM04				S	Sn	03 29 05.6	-1.2
IM3	Indian Mountai	5.33	103	ePn	Pn	03 28 03.9	-1.7
COLD	Coldfoot	6.29	87	P	Pn	03 28 18.5	-0.2
COLD				S	Sn	03 29 30.9	+0.5
TOLK	Toolik Lake Re	6.38	74	P	Pn	03 28 20.1	+0.1
TT01	Tatalina	6.53	133	P	Pn	03 28 21.4	-0.7
MLY	Manley	6.88	106	P	Pn	03 28 25.9	-1.0
MLY				S	Sn	03 29 44.0	-1.3
PS01	TAPS Pump Stn	6.91	60	P	Pn	03 28 27.8	+0.6
BPAW	Bear Paw Mtn.	7.31	113	P	Pn	03 28 32.7	-0.2
CAST	Castle Rocks	7.37	119	P	Pn	03 28 33.3	-0.3
KTH	Kantishna Hill	7.67	116	P	Pn	03 28 37.8	-0.1
PPLA	Purkeypile	7.70	122	P	Pn	03 28 38.2	0.0
MDM	Murphy Dome	7.85	102	P	Pn	03 28 39.8	-0.4
TRF	Thorofare Moun	7.96	115	ePn	Pn	03 28 41.7	-0.1
COLA	College	8.03	102	P	Pn	03 28 42.2	-0.4
WRH	Wood River Hil	8.15	105	P	Pn	03 28 43.7	-0.5
SVW2	Sparrevohn	8.15	139	ePn	Pn	03 28 44.0	-0.3
CCB	Clear Creek Bu	8.16	103	P	Pn	03 28 43.9	-0.6
MCK	McKinley	8.26	111	P	Pn	03 28 44.6	-1.1
FYU	Fort Yukon	8.35	88	ePn	Pn	03 28 46.1	-0.9
BM3	Burnt Mountain	8.37	82	P	Pn	03 28 46.1	-1.2
IL1	Eielson Array	8.44	101	ePn	Pn	03 28 47.2	-1.0
ILAR	Eielson Array	8.44	101	Pn	Pn	03 28 47.5	-0.8
	2.3nm,0.3s,baz=300,slow=14,SNR=108						
ILAR				Sn	Sn	03 30 19.5	-4.0
	0.9nm,0.3s,baz=298,slow=23,SNR=4.8						
ILAR				LR	LR	03 32 51.1	
	comp=Z,70nm,21.5s,baz=353,slow=43						

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ILB	**Eielson Array**	**8.44**	**101**	P	**Pn**	**03 28 47.4**	**-0.8**
RND	**Reindeer**	**8.49**	**112**	*e*Pn	**Pn**	**03 28 49.2**	**+0.2**
PRP	**Porcupine Dome**	**8.62**	**95**	P	**Pn**	**03 28 49.4**	**-1.4**
SPU	**Mount Spurr**	**9.04**	**130**	*e*Pn	**Pn**	**03 28 58.4**	**+1.9**
SUA	**Susitna One**	**9.22**	**125**	*e*Pn	**Pn**	**03 28 59.9**	**+0.9**
DHY	**Denali Highway**	**9.22**	**111**	P	**Pn**	**03 28 59.4**	**+0.3**
PMR	**Palmer**	**9.63**	**121**	*e*Pn	**Pn**	**03 29 04.7**	**+0.2**
SML	**Sawmill**	**9.74**	**119**	*e*Pn	**Pn**	**03 29 07.4**	**+1.3**
RIDG	**Independ'e Rid**	**9.74**	**104**	*e*Pn	**Pn**	**03 29 02.0**	**-4.2**
RC01	**Rabbit Creek A**	**9.82**	**125**	*e*Pn	**Pn**	**03 29 07.4**	**+0.3**
SCRK	**Sand Creek**	**9.93**	**102**	*e*Pn	**Pn**	**03 29 07.8**	**-1.0**
PAX	**Paxson**	**9.97**	**109**	*e*Pn	**Pn**	**03 29 09.2**	**-0.1**
SCM	**Sheep Creek Mo**	**10.06**	**117**	*e*Pn	**Pn**	**03 29 12.3**	**+1.8**
DOT	**Dot Lake**	**10.08**	**103**	*e*Pn	**Pn**	**03 29 10.4**	**-0.4**
HARP	**HAARP**	**10.43**	**111**	*e*Pn	**Pn**	**03 29 14.1**	**-1.4**
EGAK	**Eagle**	**10.60**	**94**	*e*Pn	**Pn**	**03 29 17.0**	**-0.8**
KLU	**Klutina**	**10.78**	**116**	*e*Pn	**Pn**	**03 29 21.8**	**+1.4**
DAWY	**Dawson**	**11.62**	**96**	*e*Pn	**Pn**	**03 29 30.2**	**-1.6**
KDAK	**Kodiak Island**	**11.80**	**141**	Pn	**Pn**	**03 29 33.7**	**-0.5**
	0.1nm,0.3s,baz=355,slow=12,SNR=3.5						
KDAK				LR	LR	03 34 46.3	
	comp=Z,95nm,19.8s,baz=130,slow=40						
INK	**Inuvik**	**12.29**	**72**	Pn	**Pn**	**03 29 37.9**	**-2.9**
	0.9nm,0.3s,baz=306,slow=10,SNR=43						
INK				Sn	**Sn**	**03 31 53.1**	**-4.4**
	0.6nm,0.3s,baz=137,slow=18,SNR=4.6						
INK	**Inuvik**	**12.29**	**72**	*e*Pn	**Pn**	**03 29 38.2**	**-2.5**
INK				Sn	**Sn**	**03 31 53.1**	**-4.4**
MA2	**Magadan**	**20.23**	**267**	P	**P**	**03 31 19.8**	**-1.1**
	5.0nm,0.9s,baz=40,slow=10,SNR=3.7						
MA2				LR	LR	03 39 56.9	
	comp=Z,89nm,20.0s,baz=12,slow=39						
TIXI	**Tiksi**	**21.78**	**310**	P	**P**	**03 31 35.4**	**-2.1**
	3.5nm,0.7s,baz=82,slow=12,SNR=7.2						
TIXI				LR	LR	03 41 46.7	
	comp=Z,40nm,18.2s,baz=80,slow=42						
YKA	**Yellowknife Ar**	**21.88**	**79**	P	**P**	**03 31 38.4**	**-0.1**
	1.3nm,0.6s,baz=303,slow=9.8,SNR=34						
PETK	**Petropavlovsk-**	**22.48**	**247**	P	**P**	**03 31 45.2**	**+0.1**
	2.2nm,0.8s,baz=257,slow=26,SNR=3.2						
PETK				LR	LR	03 41 59.9	
	comp=Z,71nm,19.2s,baz=59,slow=41						
RES	**Resolute Bay**	**22.60**	**41**	P	**P**	**03 31 46.4**	**+0.1**
	0.9nm,0.8s,baz=287,slow=17,SNR=3.7						
RES				S	**S**	**03 35 56.3**	**+2.9**
	5.8nm,1.1s,baz=192,slow=9.3,SNR=6.2						
RES				LR	LR	03 41 50.7	
	comp=Z,27nm,19.4s,baz=309,slow=40						
RES	**Resolute Bay**	**22.60**	**41**	*e*P	**P**	**03 31 50.2**	**+4.0**
	38nm,2.0s						
RES				*e*S	**S**	**03 35 57.9**	**+4.5**
YAK	**Yakutsk**	**26.54**	**289**	LR	LR	03 43 30.9	
	comp=Z,22nm,18.5s,baz=88,slow=38						
NEW	**Newport**	**31.39**	**103**	*e*P	**P**	**03 33 05.5**	**-1.3**
	2.5nm,0.9s						
PINE	**Pine Mountain**	**33.82**	**112**	*e*P	**P**	**03 33 30.5**	**+2.2**
	7.3nm,1.1s						
YBH	**Yreka Blue Hor**	**35.01**	**115**	P	**P**	**03 33 40.0**	**+1.5**
	1.8nm,1.1s,baz=184,slow=3.2,SNR=4.4						
KLR	**Kul'dur**	**35.27**	**270**	P	**P**	**03 33 41.1**	**+0.7**
	0.2nm,0.8s,baz=24,slow=9.0,SNR=7.4						
BOZ	**Bozeman (W)**	**35.68**	**100**	*e*P	**P**	**03 33 44.4**	**+0.1**
	1.7nm,0.8s						
WVOR	**Wild Horse Val**	**35.83**	**110**	*e*P	**P**	**03 33 46.7**	**+1.2**
	2.2nm,0.9s						
HLID	**Hailey**	**36.38**	**105**	*e*P	**P**	**03 33 49.3**	**-1.0**
	0.7nm,0.6s						
REDW	**Red Top Meadow**	**37.88**	**101**	*e*P	**P**	**03 34 03.5**	**+0.5**
	20nm,1.9s						
PAHR	**Pah Rah Range**	**37.97**	**113**	*e*P	**P**	**03 34 05.5**	**+1.7**
	7.7nm,1.4s						
SFJD	**Kangerlussuaq**	**38.31**	**35**	LR	LR	03 52 09.7	
	comp=Z,20nm,19.4s,baz=332,slow=40						
YERR	**Yerington**	**38.66**	**114**	*e*P	**P**	**03 34 10.6**	**+0.9**
	4.1nm,0.9s						
PD31	**Pinedale Array**	**38.87**	**100**	*e*P	**P**	**03 34 12.6**	**+1.1**
PDAR	**Pinedale Array**	**38.87**	**100**	P	**P**	**03 34 12.6**	**+1.1**
	1.4nm,0.6s,baz=332,slow=6.0,SNR=16						
PDAR				LR	LR	03 51 20.8	
	comp=Z,66nm,18.9s,baz=330,slow=38						
PDAR	**Pinedale Array**	**38.87**	**100**	*e*P	**P**	**03 34 12.1**	**+0.6**
KVN	**Kaiserville**	**39.00**	**112**	*e*P	**P**	**03 34 13.4**	**+0.9**
	7.7nm,1.3s						
WAKR	**Walker**	**39.02**	**114**	*e*P	**P**	**03 34 14.6**	**+1.9**
	21nm,1.9s						
NV01	**Mina Array Sit**	**39.49**	**113**	*e*P	**P**	**03 34 18.1**	**+1.5**
NVAR	**Mina Array Bea**	**39.49**	**113**	P	**P**	**03 34 18.1**	**+1.5**
	3.3nm,0.7s,baz=319,slow=7.2,SNR=35						
NV11	**Mina Array Sit**	**39.54**	**113**	*e*P	**P**	**03 34 18.5**	**+1.6**
	0.3nm,0.8s						
DUG	**Dugway, Tooele**	**39.90**	**106**	*e*P	**P**	**03 34 17.5**	**-2.4**
	4.5nm,1.3s						
MDPB	**Devils Postpil**	**39.93**	**114**	*e*P	**P**	**03 34 22.9**	**+2.5**
	8.2nm,1.3s						
R11A	**Troy Canyon, C**	**40.52**	**110**	*e*P	**P**	**03 34 26.6**	**+1.4**
	8.7nm,1.4s						
P18A	**Preston Nutter**	**41.34**	**104**	*e*P	**P**	**03 34 34.0**	**+1.9**
	7.9nm,1.2s						
TPNV	**Topopah Spring**	**41.53**	**112**	*e*P	**P**	**03 34 35.0**	**+1.5**
	4.1nm,0.9s						
MSU	**Marysvale**	**41.61**	**106**	*e*P	**P**	**03 34 36.2**	**+2.1**
Q16A	**Castle Valley**	**41.62**	**105**	*e*P	**P**	**03 34 35.4**	**+1.1**
	12nm,1.5s						
DAC	**Darwin (Calif)**	**41.66**	**114**	*e*P	**P**	**03 34 35.8**	**+1.2**
	2.5nm,0.9s						
SRU	**San Rafael Swe**	**41.69**	**104**	*e*P	**P**	**03 34 36.4**	**+1.7**
	15nm,1.9s						
CCUT	**Cedar City**	**42.03**	**108**	*e*P	**P**	**03 34 39.5**	**+1.9**
	1.7nm,1.2s						
LCMT	**Little Creek M**	**42.55**	**108**	*e*P	**P**	**03 34 43.6**	**+1.8**
	6.1nm,1.1s						
PV01	**Paradox Valley**	**43.28**	**103**	*e*P	**P**	**03 34 48.5**	**+0.8**
MJAR	**Matsushiro Arr**	**43.70**	**253**	LR	LR	03 53 39.0	
	comp=Z,29nm,19.5s,baz=255,slow=37						
SCHQ	**Schefferville**	**44.20**	**55**	LR	LR	03 57 33.7	
	comp=Z,41nm,18.8s,baz=40,slow=42						
WUAZ	**Wupatki**	**44.57**	**107**	*e*P	**P**	**03 34 59.1**	**+1.1**
	8.2nm,1.0s						
SDCO	**Great Sand Dun**	**44.77**	**100**	*e*P	**P**	**03 34 59.0**	**-0.7**
	1.5nm,1.0s						
Y14A	**Wickenburg**	**45.39**	**110**	*e*P	**P**	**03 35 06.4**	**+1.9**
	4.9nm,1.0s						
X18A	**Snowflake**	**45.97**	**107**	*e*P	**P**	**03 35 10.7**	**+1.5**
	7.2nm,1.2s						
KSRS	**Korea Array**	**46.74**	**264**	LR	LR	03 54 49.3	
	comp=Z,24nm,18.1s,baz=351,slow=36						
ZAA0	**Zalesovo Array**	**47.66**	**311**	*e*P	**P**	**03 35 21.2**	**-0.8**
	4.4nm,0.9s						
ZALV	**Zalesovo Beam**	**47.66**	**311**	P	**P**	**03 35 21.7**	**-0.2**
	4.1nm,0.9s,baz=23,slow=7.4,SNR=13						
ZALV	**Zalesovo Beam**	**47.66**	**311**	*e*P	**P**	**03 35 21.3**	**-0.6**
JNU	**Nakatsue**	**49.46**	**259**	LR	LR	03 57 11.4	
	comp=Z,22nm,18.7s,baz=110,slow=37						
HHC	**Hu-ho-hao-te**	**49.98**	**281**	*e*P	**P**	**03 35 41.0**	**+0.9**
HHC				pmax	pmax		
	comp=Z,11nm,1.2s						
HHC				pmax	pmax		
	comp=Z,74nm,6.2s						
MNTX	**Cornudas Mount**	**50.19**	**104**	*e*P	**P**	**03 35 43.1**	**+1.5**
	comp=Z,3.9nm,1.3s						
FINES	**FINESS Array B**	**50.80**	**352**	P	**P**	**03 35 46.4**	**+0.6**
	comp=Z,1.6nm,0.4s,baz=17,slow=7.4,SNR=22						
FINES				LR	LR	03 58 33.5	
	comp=Z,20nm,18.1s,baz=28,slow=38						
KURK	**Kurchatov**	**52.28**	**313**	*e*P	**P**	**03 35 56.8**	**-0.3**
	comp=Z,13nm,1.1s						
BRVK	**Borovoye**	**52.33**	**320**	*e*P	**P**	**03 35 57.7**	**+0.3**
	comp=Z,4.9nm,0.9s						
BVAR	**Borovoye Array**	**52.34**	**320**	P	**P**	**03 35 56.9**	**-0.6**
	comp=Z,2.8nm,1.0s,baz=44,slow=6.8,SNR=9.7						
KURBB	**Kurchatov Arra**	**52.39**	**313**	P	**P**	**03 35 57.4**	**-0.5**
	comp=Z,6.5nm,0.9s,baz=29,slow=7.3,SNR=23						
TX31	**Lajitas Ar. Si**	**52.95**	**103**	*e*P	**P**	**03 36 03.5**	**+1.1**
TXAR	**Lajitas Array**	**52.95**	**103**	P	**P**	**03 36 03.1**	**+0.7**
	comp=Z,2.6nm,0.9s,baz=329,slow=6.0,SNR=23						
JCT	**Junction City**	**53.37**	**99**	*e*P	**P**	**03 36 05.4**	**0.0**
	comp=Z,11nm,1.3s						
MKAR	**Makanchi Array**	**54.76**	**308**	P	**P**	**03 36 13.8**	**-1.5**
	comp=Z,1.0nm,0.7s,baz=45,slow=7.0,SNR=8.0						
MK01	**Makanchi Array**	**54.78**	**308**	*e*P	**P**	**03 36 14.3**	**-1.1**
TKL	**Tuckaleechee C**	**54.85**	**81**	P	**P**	**03 36 15.4**	**-0.7**
	comp=Z,5.5nm,0.8s,baz=155,slow=4.3,SNR=6.4						
JSRW	**J. Sargeant Re**	**55.24**	**75**	*e*P	**P**	**03 36 19.4**	**+0.5**
GTA	**Gaotai**	**55.55**	**290**	*e*P	P	03 36 26.2	+4.9
GTA				pP	sP	03 36 30.7	+5.0
GTA				sP	pP	03 36 33.3	+8.8
GTA				pmax	pmax		
	comp=Z,3.0nm,1.2s						
WMQ	**Urumqi**	**55.75**	**303**	P	**P**	**03 36 23.2**	**+0.6**
WMQ				pmax	pmax		
	comp=Z,26nm,0.8s						
WMQ				pmax	pmax		
	comp=Z,190nm,4.5s						
EKA	**Eskdalemuir Ar**	**56.63**	**11**	P	**P**	**03 36 28.6**	**0.0**
	comp=Z,1.5nm,0.8s,baz=359,slow=6.4,SNR=3.4						
AB05	**Akbulak array**	**58.22**	**326**	*e*P	**P**	**03 36 39.6**	**-0.3**
AB06	**Akbulak array**	**58.23**	**326**	*e*P	**P**	**03 36 40.2**	**+0.2**
AB02	**Akbulak array**	**58.24**	**326**	*e*P	**P**	**03 36 39.6**	**-0.4**
AB04	**Akbulak array**	**58.24**	**326**	*e*P	**P**	**03 36 39.9**	**-0.1**
AB01	**Akbulak array**	**58.24**	**326**	*e*P	**P**	**03 36 39.9**	**-0.1**
AB09	**Akbulak array**	**58.24**	**326**	*e*P	**P**	**03 36 40.0**	**-0.1**
AB31	**Akbulak array**	**58.24**	**326**	*e*P	**P**	**03 36 40.0**	**0.0**
ABKAR	**Akbulak array**	**58.24**	**326**	*e*P	**P**	**03 36 40.0**	**0.0**
	comp=Z,1.6nm,0.6s						
AB03	**Akbulak array**	**58.24**	**326**	*e*P	**P**	**03 36 39.9**	**-0.1**
AB07	**Akbulak array**	**58.25**	**326**	*e*P	**P**	**03 36 40.0**	**-0.2**
AB08	**Akbulak array**	**58.26**	**326**	*e*P	**P**	**03 36 39.3**	**-0.8**
AAK	**Ala-Archa**	**60.82**	**312**	P	**P**	**03 36 58.4**	**+0.2**
	comp=Z,3.5nm,0.6s,baz=80,slow=1.7,SNR=11						
AAK	**Ala-Archa**	**60.82**	**312**	*e*P	**P**	**03 36 58.8**	**+0.7**
	comp=Z,5.3nm,0.9s						
CLL	**Collm**	**61.29**	**0**	*e*P	**P**	**03 37 01.0**	**0.0**
AKASG	**Malin Array Be**	**61.30**	**349**	P	**P**	**03 37 01.2**	**+0.2**
	comp=Z,2.0nm,0.6s,baz=12,slow=7.4,SNR=5.7						
AKASG				LR	LR	04 03 11.3	
	comp=Z,14nm,21.2s,baz=80,slow=36						
DPC	**Dobruska-Polom**	**62.23**	**358**	*e*P	**P**	**03 37 08.4**	**+1.0**
MORC	**Moravsky Berou**	**62.78**	**357**	*e*P	**P**	**03 37 09.6**	**-1.5**
	comp=Z,6.4nm,0.6s						
KHC	**Kasperske Hory**	**63.47**	**360**	*e*P	**P**	**03 37 16.8**	**+1.2**
GEC2	**GERESS Array S**	**63.75**	**360**	*e*P	**P**	**03 37 19.2**	**+1.6**
	comp=Z,3.7nm,1.0s						
GERES	**GERESS Array B**	**63.75**	**360**	P	**P**	**03 37 18.2**	**+0.6**
	comp=Z,1.9nm,0.9s,baz=4.3,slow=5.4,SNR=13						
GEA0	**GERESS Array S**	**63.76**	**360**	*e*P	**P**	**03 37 18.5**	**+0.9**
BUR04	**Bucovina Ar. S**	**64.64**	**351**	*e*P	**P**	**03 37 24.5**	**+1.1**
MOA	**Molln**	**64.75**	**359**	*e*P	**P**	**03 37 24.0**	**-0.1**
	comp=Z,5.2nm,1.2s						
WTTA	**Wattenberg**	**65.33**	**1**	pP	**P**	**03 37 29.4**	**+1.4**
	comp=Z,7.0nm,1.4s						
KBA	**Koelnbreinsper**	**65.52**	**0**	P	**P**	**03 37 29.4**	**+0.1**
	comp=Z,6.0nm,1.4s						
FETA	**Feichten**	**65.56**	**2**	pP	**P**	**03 37 30.3**	**+0.8**
	comp=Z,4.3nm,1.0s						
SOKA	**Soboth**	**65.92**	**359**	P	**P**	**03 37 30.9**	**-0.8**
	comp=Z,4.7nm,1.3s						
OBKA	**Obir**	**66.09**	**359**	pP	**P**	**03 37 33.6**	**+0.8**
	comp=Z,7.1nm,1.2s						
KIV	**Kislovodsk**	**66.48**	**337**	*e*P	**P**	**03 37 32.8**	**-2.5**
GEYT	**Alibeck**	**69.43**	**324**	P	**P**	**03 37 54.8**	**+0.8**
	comp=Z,1.6nm,0.5s,baz=335,slow=6.4,SNR=3.5						
GNI	**Garni**	**69.88**	**335**	LR	LR	04 15 12.5	
	comp=Z,12nm,18.5s,baz=68,slow=42						
BRTR	**Keskin Array B**	**71.79**	**344**	P	**P**	**03 38 08.4**	**0.0**
	comp=Z,0.7nm,0.9s,baz=350,slow=3.8,SNR=4.4						
ES19	**SONSECA Array**	**72.09**	**14**	*e*P	**P**	**03 38 11.1**	**+1.0**
ESDC	**Sonseca Array**	**72.11**	**14**	P	**P**	**03 38 10.9**	**+0.6**
	comp=Z,0.9nm,0.5s,baz=354,slow=5.7,SNR=11						
CUC	**Castrocucco**	**72.59**	**358**	*e*P	**P**	**03 38 12.6**	**-0.5**
TIP	**Timpagrande**	**73.39**	**357**	*e*P	**P**	**03 38 17.0**	**-0.9**
CMAR	**Chiang Mai Arr**	**74.80**	**281**	P	**P**	**03 38 25.4**	**-0.9**
	comp=Z,0.7nm,0.4s,baz=1.8,slow=6.6,SNR=4.8						
KEST	**Kesra**	**76.81**	**3**	P	**P**	**03 38 37.9**	**+0.2**
	comp=Z,4.7nm,0.9s,baz=299,slow=5.3,SNR=4.6						
SDV	**Santo Domingo**	**84.07**	**81**	P	**P**	**03 39 18.2**	**+1.1**
	comp=Z,1.9nm,0.4s,baz=14,slow=17,SNR=5.2						
RAYN	**Ar Rayn**	**85.97**	**331**	*e*P	**P**	**03 39 25.9**	**-0.4**
	comp=Z,5.5nm,1.1s						

*IDC **07** 03:38:57.7±3.3, 21.°27S×69.°02W, h82km±27km, mb3.3/3, mb1 3.7/6, mb1mx3.3/40, mbtmp3.8/6, Error ellipse: s-maj=35.0km s-min=22.9km az=82.0*
*ISCJB **07** 03:39:01.2±0.6, 21.°09S±0.°03×69.°0W±0.°1, h123km±5km, mb3.4/3, Error ellipse: s-maj=17.2km s-min=5.3km az=5.8*
*GUC **07** 03:39:02.0±0.5, 21.°10S×68.°98W, h111km±3km, ML3.9*
ISC 07 03:39:01.4±0.9**, 21.°09S**±0.°04×**68.°94W**±0.°10**, h116**km±8km**, n19, σ1.s03**/28**, mb3.4**/3**, 6C-2D, Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PB01	**IPOC Station P**	**0.52**	**276**	⇓*e*P	**Pn**	**03 39 19.0**	**0.0**
PB01				*e*S	**Sn**	**03 39 32.0**	**-0.4**
PB01				IAML		03 39 32.8	
	comp=N,5μm,0.7s						
PB09	**IPOC Station P**	**0.76**	**202**	⇓*e*P	**Pn**	**03 39 21.5**	**+0.5**
PB09				*e*S	**Sn**	**03 39 36.2**	**+0.5**
PB09				IAML		03 39 40.3	
	comp=E,7μm,0.4s						
PB02	**IPOC Station P**	**0.93**	**256**	⇑*e*P	**Pn**	**03 39 22.8**	**+0.4**
PB02				*e*S	**Sn**	**03 39 38.5**	**+0.2**
PB02				IAML		03 39 39.7	
	comp=E,9μm,0.4s						
PB08	**IPOC Station P**	**0.97**	**348**	IAML		03 39 40.7	
	comp=E,2μm,0.5s						
PB07	**IPOC Station P**	**1.09**	**234**	⇑*e*P	**Pn**	**03 39 24.4**	**+0.3**
PB07				*e*S	**Sn**	**03 39 41.5**	**+0.2**
GO01	**Chusmiza**	**1.44**	**350**	⇑*e*P	**Pn**	**03 39 28.9**	**+0.5**
GO01				*e*S	**Sn**	**03 39 49.5**	**+0.8**
GO01				IAML		03 39 51.5	
	comp=N,2μm,0.8s						
PB11	**IPOC Station P**	**1.49**	**333**	⇑*e*P	**Pn**	**03 39 28.5**	**-0.1**
PB11				*e*S	**Sn**	**03 39 49.2**	**0.0**
PB04	**IPOC Station P**	**1.67**	**222**	*e*P	**Pn**	**03 39 30.8**	**+0.1**
PB04				*e*S	**Sn**	**03 39 53.0**	**-0.1**
PB06	**IPOC Station P**	**1.71**	**200**	*e*P	**Pn**	**03 39 31.4**	**+0.2**
PB06				*e*S	**Sn**	**03 39 54.4**	**+0.5**
PB06				IAML		03 39 55.7	
	comp=N,1μm,0.5s						
PSGC	**Pisagua**	**1.86**	**323**	⇑*e*P	**Pn**	**03 39 32.4**	**-0.6**
PSGC				*e*S	**Sn**	**03 39 56.8**	**-0.3**
PSGC				IAML		03 39 58.2	
	comp=E,497nm,0.3s						
MNMC	**Minye Minye**	**2.05**	**342**	⇑*e*P	**Pn**	**03 39 35.7**	**+0.2**
MNMC				*e*S	**Sn**	**03 40 02.2**	**+0.6**
PB16	**IPOC Station P**	**2.80**	**349**	IAML		03 40 25.4	
	comp=E,624nm,0.4s						
LPAZ	**La Paz**	**4.84**	**9**	P	**Pn**	**03 40 13.2**	**+0.5**
	comp=E,2.0nm,0.3s,baz=189,slow=6.4,SNR=42						
LPAZ				S	**Sn**	**03 41 08.9**	**+0.8**
	comp=E,0.3nm,0.3s,baz=231,slow=23,SNR=3.6						
SIV	**San Ignacio**	**9.02**	**57**	P	**Pn**	**03 41 05.6**	**-3.2**
	comp=E,1.6nm,0.3s,baz=253,slow=9.6,SNR=72						
PLCA	**Paso Flores**	**19.62**	**184**	P	**P**	**03 43 17.8**	**-3.0**
	comp=E,0.0nm,0.3s,baz=355,slow=6.7,SNR=3.0						
TXAR	**Lajitas Array**	**60.28**	**325**	P	**P**	**03 48 58.3**	**+0.3**
	comp=E,0.1nm,0.5s,baz=152,slow=7.8,SNR=4.0						
TORD	**Torodi Ar. Bea**	**77.24**	**70**	P	**P**	**03 50 44.5**	**+1.1**
	comp=E,0.9nm,0.5s,baz=253,slow=5.3,SNR=14						
YKA	**Yellowknife Ar**	**90.80**	**341**	P	**P**	**03 51 51.1**	**+0.1**
	comp=E,0.2nm,0.7s,baz=133,slow=4.6,SNR=5.5						
MKAR	**Makanchi Array**	**145.32**	**36**	PKPbc	**PKPdf**	**03 58 26.6**	**+1.0**
	comp=E,0.7nm,0.7s,baz=326,slow=2.9,SNR=8.5						

*ISCJB **07** 03:43:31.5±0.9, 38.°32N±0.°04×28.°59E±0.°07, h7km±9km, Error ellipse: s-maj=9.5km s-min=6.7km az=12.7*
*CSEM **07** 03:43:31.5, 38.°32N×28.°68E, h7km, ML2.5*
*DDA **07** 03:43:31.5, 38.°32N×28.°68E, h7km, Ml2.5*
ISC 07 03:43:31.8±1.1**, 38.°32N**±0.°03×**28.°66E**±0.°05**, h7**km±11km**, n15, σ0.s70**/22**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KULA	**Kula-Manisa**	**0.20**	**0**	*i* PG	**Pg**	**03 43 36.3**	**+0.5**
KULA				*i* SG	**Sg**	**03 43 39.1**	**+0.6**
AYDB	**Zeytinkoy-Aydi**	**0.71**	**239**	PG	**Pg**	**03 43 45.2**	**-0.2**
DEMI	**Demirci**	**0.73**	**4**	*i* P	**Pg**	**03 43 45.7**	**-0.1**
DEMI				*i* S	**Sg**	**03 43 55.6**	**+0.4**
DEMI	**Demirci**	**0.73**	**4**	P	**Pg**	**03 43 45.7**	**-0.1**
DEMI				S	**Sg**	**03 43 55.7**	**+0.4**
SIMA	**Simav-Kutahya**	**0.81**	**18**	*e*PG	**Pg**	**03 43 46.8**	**-0.5**
AKHS	**Akhisar**	**0.87**	**311**	*i* P	**Pb**	**03 43 48.8**	**-0.3**
AKHS	**Akhisar**	**0.87**	**311**	P	**Pb**	**03 43 48.8**	**-0.3**
TAVA	**DENIZLI_Tavas**	**0.87**	**167**	*i* P	**Pg**	**03 43 48.3**	**-0.3**
TAVA				*i* S	**Sg**	**03 44 00.1**	**+0.2**
TAVA	**DENIZLI_Tavas**	**0.87**	**167**	P	**Pg**	**03 43 48.3**	**-0.3**
TAVA				S	**Sg**	**03 44 00.1**	**+0.2**
GDZ	**Gediz**	**1.00**	**40**	*i* P	**Pg**	**03 43 49.9**	**-1.1**
GDZ	**Gediz**	**1.00**	**40**	P	**Pg**	**03 43 49.9**	**-1.1**
KZIL	**AFYON_Kizioren**	**1.17**	**92**	*i* P	**Pn**	**03 43 54.4**	**-0.2**
KZIL				*i* S	**Sn**	**03 44 12.2**	**+1.4**
KZIL	**AFYON_Kizioren**	**1.17**	**92**	P	**Pn**	**03 43 54.4**	**-0.2**
KZIL				S	**Sn**	**03 44 12.2**	**+1.4**
DURS	**Dursunbey**	**1.29**	**354**	*i* P	**Pn**	**03 43 55.7**	**-0.6**
DURS	**Dursunbey**	**1.29**	**354**	P	**Pn**	**03 43 55.7**	**-0.6**

*ISCJB **07** 03:50:16.7±0.8, 9.°65N±0.°04×79.°02W±0.°03, h24km±7km, mb3.8/16, Error ellipse: s-maj=6.2km s-min=4.1km az=19.2*
*IDC **07** 03:50:19.6±2.1, 9.°56N×78.°91W, h43km±21km, mb3.5/7, mb1 3.9/11, mb1mx3.6/44, mbtmp3.9/11, ML3.4/4, MS2.7/5, Ms1 2.7/5, ms1mx2.5/32, Error ellipse: s-maj=30.3km s-min=14.4km az=21.0*
*NEIC **07** 03:50:20.2±0.5, 9.°60N×79.°05W, h36km±8km, mb4.0/7, Error ellipse: s-maj=7.7km s-min=5.9km az=60.0*
NEIC Felt [III] at Panama and San Miguelito and [II] at Ancon. Also felt at Alcalde Diaz, Arraijan, Balboa, Cerro Azul, Las Cumbres, Nuevo Arraijan, Paraiso and Tocumen.
ISC 07 03:50:18.1±1.6**, 9.°62N**±0.°06×**79.°00W**±0.°04**, h29**km±14km**, n71, σ2.s23**/78**, mb3.8**/16**, 2C-2D, Panama**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FRIJ	**El Hiral**	**0.81**	**241**	⇑*i*P	Pn	03 50 32.7	-0.9
FRIJ				*e*S	**Sb**	**03 50 42.4**	**-2.0**
UPA	**Univ. de Panam**	**0.82**	**220**	⇓*i*P	Pn	03 50 32.7	-1.0
UPA				*e*S	**Sb**	**03 50 42.4**	**-2.2**
FLAM	**Flamenco Islan**	**0.88**	**217**	⇓*i*P	Pn	03 50 33.2	-1.2
FLAM				*e*S	**Sb**	**03 50 43.4**	**-2.8**
BCIP	**Isla Barro Col**	**0.94**	**241**	*e*Pn	**Pn**	**03 50 34.5**	**-0.7**
BCIP				*e*Sn	**Sn**	**03 50 46.2**	**-1.5**
BCIP	**Isla Barro Col**	**0.94**	**241**	⇑*i*P	**Pn**	**03 50 34.7**	**-0.6**
BCIP				*e*S	**Sn**	**03 50 46.0**	**-1.7**
BCIP	**Isla Barro Col**	**0.94**	**241**	*e*P	**Pn**	**03 50 34.7**	**-0.6**
ZANG	**Zanguenga, Cho**	**1.08**	**232**	*e*P	**Pn**	**03 50 37.5**	**+0.3**
ZANG				*e*S	**Sn**	**03 50 50.5**	**-0.6**
MOTC	**Monteria, Cord**	**3.40**	**104**	*e*P	**Pn**	**03 51 10.9**	**+1.7**
SOLC	**Bahia Solano**	**3.72**	**155**	*e*P	**Pn**	**03 51 13.4**	**-0.1**
DBBC	**Dabeiba**	**3.79**	**133**	*e*P	**Pn**	**03 51 18.3**	**+3.8**
ZARC	**Zaragoza, Cauc**	**4.61**	**117**	*e*P	**Pn**	**03 51 26.6**	**+0.7**
HELC	**Santa Helena**	**4.84**	**134**	*e*Pn	**Pn**	**03 51 30.6**	**+1.3**
HELC	**Santa Helena**	**4.84**	**134**	*e*P	**Pn**	**03 51 31.5**	**+2.2**
HDC	**Heredia**	**5.05**	**275**	*e*P	**Pn**	**03 51 35.2**	**+3.2**
HDC				*e*S	**Sn**	**03 52 25.9**	**-3.6**
PTBC	**PUERTO BERRIO,**	**5.44**	**124**	*e*P	**Pn**	**03 51 38.5**	**+1.2**
CODC	**Agustˆ›n Codaz**	**5.49**	**86**	*e*P	**Pn**	**03 51 39.5**	**+1.6**
NORC	**Norcasia**	**5.75**	**134**	*e*P	**Pn**	**03 51 44.4**	**+2.8**
OCAC	**Ocana**	**5.78**	**103**	*e*P	**Pn**	**03 51 42.9**	**+0.9**
BRRC	**Barranca, Sant**	**5.80**	**115**	*e*P	**Pn**	**03 51 43.5**	**+1.3**
MALC	**Bahia Malaga**	**5.81**	**163**	*e*P	**Pn**	**03 51 46.4**	**+4.0**
JTS	**JuntasAbangare**	**5.90**	**277**	P	**Pn**	**03 51 45.8**	**+2.2**
	3.4nm,0.3s,baz=13,slow=22,SNR=27						
JTS				S	**Sn**	**03 52 47.9**	**-2.3**
	1.8nm,0.3s,baz=330,slow=20,SNR=2.6						
JTS				LR	LR	03 54 24.2	
	comp=Z,43nm,19.0s,baz=194,slow=41						
JTS	**JuntasAbangare**	**5.90**	**277**	*e*Pn	**Pn**	**03 51 45.7**	**+2.1**
	13nm,0.6s						
JTS	**JuntasAbangare**	**5.90**	**277**	*e*P	**Pn**	**03 51 45.6**	**+2.0**
JTS				*e*S	**Sn**	**03 52 47.2**	**-3.0**
RREF	**El Recreo**	**5.93**	**142**	*e*P	**Pn**	**03 51 46.5**	**+2.0**
YOTC	**Yotoco, Valle**	**6.19**	**155**	*e*P	**Pn**	**03 51 48.2**	**+0.6**
TOLC	**Tolima**	**6.19**	**144**	*e*P	**Pn**	**03 51 52.3**	**+4.4**
BARC	**Barichara**	**6.50**	**117**	*e*P	**Pn**	**03 51 53.7**	**+1.7**
PAMC	**Pamplona, Colo**	**6.63**	**109**	*e*P	**Pn**	**03 51 55.1**	**+1.0**
ROSC	**El Rosal**	**6.64**	**135**	P	**Pn**	**03 51 54.6**	**+0.5**
	4.4nm,0.3s,baz=324,slow=2.8,SNR=23						
ROSC				LR	LR	03 55 31.6	
	comp=Z,39nm,19.2s,baz=22,slow=48						
ROSC	**El Rosal**	**6.64**	**135**	*e*Pn	**Pn**	**03 51 56.6**	**+2.5**
ROSC	**El Rosal**	**6.64**	**135**	*e*P	**Pn**	**03 51 57.9**	**+3.8**
RUSC	**La Rusia**	**6.94**	**122**	*e*Pn	**Pn**	**03 52 00.2**	**+1.9**
RUSC	**La Rusia**	**6.94**	**122**	*e*P	**Pn**	**03 51 59.8**	**+1.5**
PRAC	**Prado**	**7.15**	**145**	*e*Pn	**Pn**	**03 52 03.4**	**+2.6**
PRAC	**Prado**	**7.15**	**145**	*e*P	**Pn**	**03 52 04.0**	**+3.3**
CHIC	**Chingaza**	**7.21**	**133**	*e*P	**Pn**	**03 52 05.1**	**+3.2**
MARP	**Paez Belalcaza**	**7.38**	**156**	*e*P	**Pn**	**03 52 06.9**	**+2.7**
POPC	**Popayan, Colom**	**7.40**	**162**	*e*P	**Pn**	**03 52 05.7**	**+1.3**
VILC	**Villavicencio,**	**7.60**	**136**	*e*P	**Pn**	**03 52 10.9**	**+3.9**
PCON	**Cinco Dias**	**7.69**	**160**	*e*P	**Pn**	**03 52 12.4**	**+3.7**
SOTA	**Rioblanco**	**7.81**	**162**	*e*P	**Pn**	**03 52 12.9**	**+2.6**
SDV	**Santo Domingo**	**8.29**	**94**	P	**Pn**	**03 52 16.8**	**+0.2**
	2.5nm,0.3s,baz=267,slow=8.2,SNR=32						
SDV				S	**Sn**	**03 53 45.4**	**-4.0**
	15nm,0.3s,baz=16,slow=15,SNR=15						
SDV				LR	LR	03 56 28.4	
	comp=Z,50nm,21.2s,baz=30,slow=45						
SDV	**Santo Domingo**	**8.29**	**94**	*e*Pn	**Pn**	**03 52 18.4**	**+1.8**
SDV				*e*Sn	**Sn**	**03 53 44.9**	**-4.6**
MTDJ	**Mount Denham**	**8.67**	**9**	*e*Pn	**Pn**	**03 52 22.9**	**+1.2**
TGUH	**Tegucigalpa,Un**	**9.22**	**299**	*e*Pn	**Pn**	**03 52 31.6**	**+2.5**
OTAV	**Otavalo**	**9.34**	**177**	*e*Pn	**Pn**	**03 52 32.2**	**+1.1**
OTAV	**Otavalo**	**9.34**	**177**	*e*P	**Pn**	**03 52 33.2**	**+2.1**
CBCY	**The Bluff, Cay**	**10.09**	**356**	*e*Pn	**Pn**	**03 52 41.1**	**+0.2**
GTBY	**Guantanamo Bay**	**10.91**	**20**	*e*Pn	**Pn**	**03 52 55.3**	**+3.0**
SDDR	**Presa de Saban**	**11.93**	**38**	*e*Pn	**Pn**	**03 53 09.1**	**+2.7**
SDDR				*e*Sn	**Sn**	**03 55 14.7**	**-3.9**
APG	**El Apazote**	**12.41**	**297**	LR	LR	03 57 56.3	
	comp=Z,41nm,19.6s,baz=81,slow=36						
PCRV	**Puerto La Cruz**	**14.17**	**87**	P	**Pn**	**03 53 35.9**	**-1.0**
	0.8nm,0.3s,baz=170,slow=17,SNR=5.1						
CMIG	**Matias Romero**	**17.13**	**297**	LR	LR	04 00 52.1	
	comp=Z,52nm,20.0s,baz=103,slow=37						
NNA	**Nana**	**21.57**	**174**	*e*P	**P**	**03 55 05.7**	**+0.2**
	12nm,0.6s						
TXAR	**Lajitas Array**	**30.30**	**314**	P	**P**	**03 56 28.0**	**+0.9**
	0.3nm,0.6s,baz=131,slow=8.7,SNR=6.8						
MNTX	**Cornudas Mount**	**32.88**	**316**	*e*P	**P**	**03 56 50.3**	**+0.7**
	1.2nm,0.8s						
ANMO	**Albuquerque**	**35.56**	**319**	*e*P	**P**	**03 57 15.5**	**+2.5**
	2.4nm,1.1s						
SDCO	**Great Sand Dun**	**36.79**	**324**	*e*P	**P**	**03 57 25.4**	**+1.7**
	0.8nm,0.7s						
PDAR	**Pinedale Array**	**42.47**	**326**	P	**P**	**03 58 12.4**	**+1.6**
	0.9nm,0.6s,baz=124,slow=9.5,SNR=13						
DUG	**Dugway, Tooele**	**42.75**	**321**	*e*P	**P**	**03 58 13.9**	**+0.8**
	1.1nm,0.7s						
ULM	**Lac du Bonnet**	**42.85**	**344**	P	**P**	**03 58 13.3**	**-0.2**
	1.2nm,0.5s,baz=148,slow=6.7,SNR=7.0						
NVAR	**Mina Array Bea**	**45.40**	**316**	P	**P**	**03 58 35.7**	**+1.2**
	0.4nm,0.7s,baz=128,slow=6.9,SNR=5.7						
BOZ	**Bozeman (W)**	**45.47**	**328**	*e*P	**P**	**03 58 36.1**	**+1.4**
	1.1nm,0.8s						
HLID	**Hailey**	**45.71**	**324**	*e*P	**P**	**03 58 38.5**	**+1.8**
	1.3nm,0.8s						
WVOR	**Wild Horse Val**	**47.64**	**320**	*e*P	**P**	**03 58 52.4**	**+0.6**
	1.8nm,0.9s						
NEW	**Newport**	**50.07**	**327**	*e*P	**P**	**03 59 10.9**	**+0.6**
	1.3nm,0.6s						
YKA	**Yellowknife Ar**	**58.71**	**342**	P	**P**	**04 00 12.5**	**-0.3**
	0.6nm,0.7s,baz=132,slow=7.3,SNR=14						
KOWA	**Kowa**	**73.22**	**78**	P	**P**	**04 01 47.4**	**+0.4**
	0.7nm,0.5s,baz=276,slow=10,SNR=4.6						
TORD	**Torodi Ar. Bea**	**78.88**	**78**	P	**P**	**04 02 19.1**	**-0.2**
	0.2nm,0.4s,baz=282,slow=5.1,SNR=11						
ASAR	**Alice Springs**	**145.62**	**242**	PKPbc	**PKPdf**	**04 09 53.1**	**-1.4**
	0.4nm,0.4s,baz=123,slow=3.5,SNR=9.0						
WRA	**Warramunga Arr**	**146.23**	**248**	PKPbc	**PKPdf**	**04 09 54.6**	**-1.0**
	0.2nm,0.8s,baz=107,slow=2.9,SNR=3.8						

MAN 07 04:00:01, 18.°47N×**120.°93E, h1**km**, mb4.7, ML3.5, MS3.4, 1D, Luzon**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
APYP	**Conner**	**0.67**	**154**	*e*P	Pb	04 00 15.4	-0.1
APYP				*e*S	Sb	04 00 24.5	-0.8
BOLP	**Bolinao**	**2.29**	**205**	*e*P	Pn	04 00 40.9	+0.9
BOLP				*e*S	Sn	04 01 09.4	+0.6
PCPH	**Palayan**	**2.89**	**177**	⇓*e*P	Pn	04 00 50.2	+1.9

IDC 07 04:09:58.6±1.6**, 2.°70S**×**136.°51E, h0**km**, mb3.7**/3**, mb1 4.0**/4**, mb1mx3.6**/51**, mbtmp3.8**/4**, ML3.9**/1**, MS3.1**/2**, Ms1 3.1**/2**, ms1mx2.5**/43**, Error ellipse: s-maj=46.7km s-min=31.6km az=80.0, Irian Jaya region**

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

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
SIJI	Sorong	5.54	289	Pn	Pn	04 11 20.4	-2.2
	3.6nm,0.3s,baz=278,slow=22,SNR=13						
SIJI				Sn	Sn	04 12 20.6	-6.4
	3.2nm,0.3s,baz=285,slow=22,SNR=7.1						
WRA	Warramunga Arr	17.26	187	P	Pn	04 13 57.0	-4.4
	0.5nm,0.3s,baz=8.6,slow=13,SNR=7.9						
WRA				S	Sn	04 17 00.4	-14
	0.3nm,0.3s,baz=11,slow=22,SNR=7.3						
GUMO	Guam	18.19	27	LR	LR	04 20 33.1	
	comp=Z,31nm,21.6s,baz=91,slow=35						
ASAR	Alice Springs	20.99	187	P	P	04 14 43.9	+0.1
	4.1nm,0.7s,baz=11,slow=11,SNR=35						
ASAR				S	S	04 18 27.8	-11
	1.3nm,0.8s,baz=14,slow=26,SNR=4.4						
ASAR				LR	LR	04 24 40.0	
	comp=Z,113nm,18.4s,baz=48,slow=42						
MKAR	Makanchi Array	68.45	323	P	P	04 21 03.8	+1.1
	0.2nm,0.6s,baz=106,slow=7.8,SNR=3.1						
ILAR	Eielson Array	86.74	25	P	P	04 22 43.4	-1.0
	0.6nm,0.8s,baz=247,slow=5.1,SNR=5.7						

*IDC **07** 04:13:30.6±1.4, 0°.06S×122°.47E, h0km, mb3.6/4, mb1 3.7/4, mb1mx3.4/59, mbtmp3.6/4, Error ellipse: s-maj=159.5km s-min=25.9km az=62.0*
*ISCJB **07** 04:13:49.8±0.6, 0°.1S±0°.1×122°.99E±0°.09, h200km, mb3.3/4, Error ellipse: s-maj=17.3km s-min=10.8km az=23.2*
*DJA **07** 04:13:51.6±1.0, 0°S±9°×12°3E±°, h177km±14km, M3.9/7, MLv3.9/7*
ISC 07 04:13:51.0±1.0, 0°.2S±0°.1×123°.00E±0°.07, h200km, n11, σ1s25/11, mb3.5/4, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LUWI	Luwuk	0.91	194	P	Pn	04 14 18.5	-1.7
KMSI	Cibinong	1.22	54	P	Pn	04 14 22.0	-0.4
MRSI	Marisa	1.23	301	P	Pn	04 14 20.3	-2.1
APSI	Ampana	1.54	241	P	Pn	04 14 24.7	-0.4
MPSI	Mapaga	3.13	279	P	Pn	04 14 42.4	+0.1
SANI	Sanana	3.54	122	P	Pn	04 14 46.2	-0.9
LBMI	Labuha	4.53	96	P	Pn	04 14 58.8	-0.7
WRA	Warramunga Arr	22.59	151	P	P	04 18 36.4	+1.6
	0.9nm,0.8s,baz=328,slow=11,SNR=2.8						
SONM	Songino Array	49.93	345	P	P	04 22 25.2	+0.6
	0.8nm,0.7s,baz=158,slow=7.4,SNR=4.2						
MKAR	Makanchi Array	58.74	328	P	P	04 23 28.1	+0.1
	0.3nm,0.3s,baz=123,slow=8.5,SNR=6.9						
KURBB	Kurchatov Arra	63.09	330	P	P	04 23 56.8	-0.4
	0.4nm,0.5s,baz=142,slow=5.5,SNR=3.8						

MAN 07 04:17:42, 10°.55N×122°.44E, h25km, mb4.4, ML3.2, MS2.9, 2C-1D, Panay

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GUIM	Jordan	0.16	62	eP	Pn	04 17 48.8	-0.1
GUIM				eS	Sb	04 17 53.2	+2.4
JAP	San Jose, Anti	0.53	292	⇑eP	Pn	04 17 57.5	+3.6
RCP	Roxas	1.05	16	⇑eP	Pb	04 18 01.6	0.0
RCP				eS	Sn	04 18 15.9	+0.9
SNPH	Sibulan	1.43	147	eP	Pb	04 18 08.0	0.0
SNPH				i S	Sn	04 18 24.8	+0.3
LLP	Lapu-Lapu	1.52	99	eP	Pn	04 18 08.4	+0.8
LLP				eS	Sb	04 18 28.5	+0.2
PLP	Palo	2.57	76	⇓eP	Pn	04 18 23.2	+1.2

KRSC 07 04:30:36.7±1.5, 49°.34N×156°.94E, h48km±24km, ML4.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	1.44	339	eP	Pn	04 31 00.8	+0.4
SKR				eS	Sn	04 31 18.4	+0.3
PAU	Pauzhetka	2.13	358	eP	Pn	04 31 12.4	+2.6
PAU				eS	Sn	04 31 38.9	+4.0
KDTR	Khodutka, Kamc	2.57	16	eP	Pn	04 31 19.3	+3.5
KDTR				eS	Sn	04 31 50.3	+4.4
MIPR	Malaya Ipel'ka	2.94	358	eP	Pn	04 31 23.6	+2.7
MIPR				eS	Sn	04 31 58.2	+3.3
MTVR	Mutnovka	3.24	14	eP	Pn	04 31 29.0	+3.8
MTVR				eS	Sn	04 32 07.4	+4.9
RUS	Russkaya	3.25	17	eP	Pn	04 31 28.4	+3.3
RUS				eS	Sn	04 32 06.1	+3.6
KRMR	Karymshinskiy	3.57	12	eS	Sn	04 32 14.4	+4.0
UGLR	Uglovaya	4.05	16	eP	Pn	04 31 40.5	+4.3
AVH	Avacha	4.09	15	eP	Pn	04 31 40.5	+3.8
SMAR	Somma	4.10	16	eP	Pn	04 31 41.1	+4.2
KRER	Koryakskii	4.13	15	eP	Pn	04 31 41.8	+4.5
SDLR	Sedlovina	4.13	16	eP	Pn	04 31 41.0	+3.7
KRX	Arik	4.16	14	eP	Pn	04 31 42.0	+4.2
GNL	Ganaly	4.40	8	eP	Pn	04 31 45.9	+4.8
KBTR	Krutoberegovo	7.74	25	eP	Pn	04 32 30.1	+3.4

*NEIC **07** 04:35:02.2±0.0, 16°.39N×98°.46W, h3km, MD4.0(MEX), After MEX.*
MEX 07 04:35:02.3±0.6, 16°.38N×98°.45W, h5km, MD4.0, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.31	88	eP	Pg	04 35 07.4	-1.0
PNIG				eS	Sg	04 35 12.6	+0.1
PNIG	Pinotepa	0.31	88	eP	Pg	04 35 07.4	-1.0
PNIG				eS	Sg	04 35 12.6	+0.1
TLIG	Tlapa	1.18	355	eP	Pg	04 35 21.5	-3.5
TLIG				eS	Sg	04 35 36.1	-4.2
TLIG	Tlapa	1.18	355	eP	Pg	04 35 21.5	-3.5
TLIG				eS	Sg	04 35 36.1	-4.2
VHO	Vista Hermosa	1.78	67	eP	Pn	04 35 32.2	-1.8
VHO				eS	Sn	04 35 57.2	+0.1
VHO	Vista Hermosa	1.78	67	eP	Pn	04 35 32.2	-1.8
VHO				eS	Sn	04 35 57.2	+0.1
MEIG	Mezcala	1.90	324	eP	Pn	04 35 32.5	-3.0
MEIG				eS	Sn	04 35 52.6	-7.3
MEIG	Mezcala	1.90	324	eP	Pn	04 35 32.5	-3.0
MEIG				eS	Sn	04 35 52.6	-7.3
HUIG	Huatulco	2.33	105	eP	Pn	04 35 42.3	+0.9
HUIG				eS	Sn	04 36 05.7	-4.7
HUIG	Huatulco	2.33	105	eP	Pn	04 35 42.3	+0.9
HUIG				eS	Sn	04 36 05.7	-4.7

*ISK **07** 04:49:02.8, 38°.78N×43°.35E, h6km, ML2.8/8*
*ATA **07** 04:49:03.3±1.0, 38°.79N×43°.33E, h7km±13km, ML3.5, MW3.4*
*CSEM **07** 04:49:03.7±0.2, 38°.81N×43°.35E, h10km, ML2.8, Error ellipse: s-maj=5.2km s-min=3.9km az=115.0*
*DDA **07** 04:49:03.7, 38°.79N×43°.42E, h7km, Ml3.0*
*ISCJB **07** 04:49:04.3±0.4, 38°.79N±0°.02×43°.36E±0°.04, h10km±4km, Error ellipse: s-maj=5.6km s-min=3.6km az=20.1*
ISC 07 04:49:04.5±0.9, 38°.79N±0°.02×43°.38E±0°.02, h13km±7km, n47, σ1s34/73, 2D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VANB	Van	0.20	178	PG	Pg	04 49 08.9	-0.1
VANB				SG	Sg	04 49 13.3	+1.2
VANB	Van	0.20	178	ePg	Pg	04 49 08.9	-0.1
VANB				eSg	Sg	04 49 13.3	+1.2
VMUR	Van-Muradiye	0.25	37	i P	Pg	04 49 09.3	-0.6
VMUR				i S	Sb	04 49 15.2	-0.1
VMUR	Van-Muradiye	0.25	37	P	Pg	04 49 09.3	-0.6
VMUR				S	Sb	04 49 15.2	-0.1
TVAN	Van	0.26	176	i P	Pg	04 49 09.1	-1.1
TVAN				i S	Sb	04 49 14.3	-1.4
TVAN	Van	0.26	176	P	Pg	04 49 09.1	-1.1
TVAN				S	Sb	04 49 14.3	-1.4
ADCV	BITLIS_Adilcev	0.51	272	i P	Pg	04 49 14.0	-0.7
ADCV				i S	Sb	04 49 22.9	0.0
ADCV	BITLIS_Adilcev	0.51	272	P	Pg	04 49 14.0	-0.7
GEVA	Gevas	0.54	208	i P	Pg	04 49 13.5	-1.6
GEVA				⇓eS	Sb	04 49 22.9	-0.8
GEVA				IAML		04 49 27.2	
	comp=Z,188nm,0.5s						
GEVA	Gevas	0.54	208	i P	Pg	04 49 13.6	-1.6
GEVA				i S	Sb	04 49 23.1	-0.6
GEVA	Gevas	0.54	208	P	Pg	04 49 13.6	-1.6
GEVA				S	Sb	04 49 23.1	-0.6
CLDR	Caldiran	0.55	50	PG	Pg	04 49 14.0	-1.3
CLDR				SG	Sg	04 49 22.7	+0.1
CLDR	Caldiran	0.55	50	i P	Pg	04 49 13.8	-1.5
CLDR				i S	Sb	04 49 23.9	0.0
CLDR	Caldiran	0.55	50	ePg	Pg	04 49 14.0	-1.3
CLDR				eSg	Sg	04 49 22.7	+0.1
CLDR				S	Sb	04 49 23.9	0.0
TUTA	Tutak	0.75	324	i P	Pg	04 49 18.0	-1.2
TUTA				i Pg	Pb	04 49 18.4	-1.3
TUTA				eS	Sb	04 49 29.6	-0.3
TUTA				IAML		04 49 33.1	
	comp=Z,220nm,0.2s						
TUTA	Tutak	0.75	324	i P	Pg	04 49 18.1	-1.1
TUTA				i S	Sb	04 49 30.0	+0.1
TUTA	Tutak	0.75	324	P	Pg	04 49 18.1	-1.1
DYDN	Diyadin	0.79	18	eP	Pb	04 49 19.6	-0.6
AGRB	Hanur-Agry	0.84	339	PG	Pg	04 49 19.4	-1.4
AGRB				SG	Sb	04 49 31.8	-0.5
AGRB	Hanur-Agry	0.84	339	ePg	Pg	04 49 19.4	-1.4
AGRB				eSg	Sb	04 49 31.8	-0.5
GURO	Guroymak-BITLI	1.08	258	PG	Pg	04 49 23.1	-2.3
GURO	Guroymak-BITLI	1.08	258	ePg	Pg	04 49 23.1	-2.3
EKAR	Karacoban	1.12	295	i P	Pg	04 49 24.5	-1.8
EKAR				IAML		04 49 57.6	
	comp=Z,44nm,0.5s						
EATA	Eleskirt	1.27	327	i P	Pg	04 49 27.5	-1.5
EATA				eS	Sn	04 49 46.9	+1.5
EATA	Eleskirt	1.27	327	i P	Pg	04 49 27.6	-1.5
EATA				i S	Sn	04 49 47.6	+2.3
EATA	Eleskirt	1.27	327	P	Pg	04 49 27.6	-1.5
EATA				S	Sn	04 49 47.7	+2.3
TASB	TASBURUN-IGDIR	1.36	29	PN	Pn	04 49 29.1	-0.2
TASB	TASBURUN-IGDIR	1.36	29	ePn	Pn	04 49 29.1	-0.2
SRTM	Siirt_Merkez	1.40	236	i P	Pg	04 49 30.5	-0.9
SRTM				i S	Sn	04 49 52.4	+4.2
SRTM	Siirt_Merkez	1.40	236	P	Pg	04 49 30.5	-0.9
SRTM				S	Sn	04 49 52.3	+4.2
SIRT	Sirnak	1.49	210	PN	Pn	04 49 30.3	-0.7
SIRT	Sirnak	1.49	210	ePn	Pn	04 49 30.3	-0.7
VRTB	Varto-Mus	1.54	284	PN	Pn	04 49 31.4	-0.5
VRTB	Varto-Mus	1.54	284	ePn	Pn	04 49 31.4	-0.5
DIGO	Kars	1.62	360	eP	Pg	04 49 35.1	-0.6
HOMI	Horasan	1.69	318	eP	Pb	04 49 34.8	-0.8
HOMI				⇓eS	Sg	04 50 01.8	+2.6
HOMI				IAML		04 50 11.2	
	comp=Z,15nm,0.6s						
SVAN	Silvan-Diyarba	1.83	250	PN	Pn	04 49 35.6	-0.1
SVAN	Silvan-Diyarba	1.83	250	ePn	Pn	04 49 35.6	-0.1
ERZM	Erzurum	1.92	306	eP	Pb	04 49 38.7	-0.8
ECAT	Cat-ERZURUM	2.04	294	eP	Pb	04 49 41.1	-0.4
ECAT				eS	Sg	04 50 10.5	+0.4
BNGB	Bingˆ¶l	2.12	276	PN	Pn	04 49 39.4	-0.3
BINT	Bingol	2.26	273	ePn	Pn	04 49 39.4	-2.3
MAZI	Mazidag	2.67	241	PN	Pn	04 49 47.4	+0.1
MAZI	Mazidag	2.67	241	ePn	Pn	04 49 47.4	+0.1
BAYB	BAYBURT	2.83	302	eP	Pb	04 49 53.9	-1.1
PTK	Pertek	3.12	273	PN	Pn	04 49 53.6	+0.1
PTK	Pertek	3.12	273	ePn	Pn	04 49 53.6	+0.1

MEX 07 05:17:37.8±0.7, 16°.36N×98°.47W, h2km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.33	84	i P	Pg	05 17 43.8	-0.5
PNIG				i S	Sg	05 17 48.8	+0.2
TLIG	Tlapa	1.20	356	i P	Pg	05 17 57.8	-3.1
TLIG				i S	Sg	05 18 13.3	-3.1
VHO	Vista Hermosa	1.81	67	eP	Pn	05 18 08.2	-2.0
CAIG	El Cayaco	1.85	292	eP	Pn	05 18 07.6	-3.0
PLIG	Platanillo	2.25	334	eP	Pn	05 18 14.4	-1.8
YAIG	Yautepec	2.55	347	eP	Pn	05 18 18.9	-1.4
ARIG	Puente Sto Nin	2.62	317	eP	Pn	05 18 20.0	-1.2
PPM	Popocatepetl	2.70	357	eP	Pn	05 18 22.3	-0.4

ISC 07 05:45:58.6±1.3, 45°.12N±0°.04×14°.59E±0°.07, h12km±12km, n8, σ0s58/13, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KNDS	Knezji Dol	0.43	340	i Pg	Pg	05 46 06.5	-0.7
KNDS				i Sg	Sg	05 46 13.7	+0.7
GBRS	Gornja Briga	0.44	21	i Pg	Pg	05 46 06.9	-0.4
GBRS				i Sg	Sg	05 46 13.9	+0.8
NVLJ	Novalja	0.59	160	ePg	Pg	05 46 09.9	-0.2
NVLJ				Sg	Sg	05 46 18.3	+0.3
BOJS	Bojanci	0.60	51	eSg	Sg	05 46 18.2	-0.2
	comp=Z,2.0nm,0.1s						
CEY	Cerknica	0.63	350	i Pg	Pg	05 46 10.4	-0.4
CEY				i Sg	Sb	05 46 20.5	+0.1
VISS	Visnje	0.70	15	i Pg	Pg	05 46 11.7	-0.6
VISS				i Sg	Sg	05 46 22.2	+0.6
OZLJ	Ozalj	0.79	51	Sg	Sg	05 46 24.7	+0.4
UDBI	Udbina	1.03	125	Sg	Sn	05 46 33.3	0.0

MEX 07 05:51:24.7±0.9, 16°.27N×98°.60W, h2km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.47	75	i P	Pg	05 51 33.1	-0.7
PNIG				i S	Sg	05 51 40.6	+0.6
TLIG	Tlapa	1.28	2	eP	Pg	05 51 45.6	-3.8
TLIG				eS	Sg	05 52 02.5	-3.5
MEIG	Mezcala	1.91	330	eP	Pn	05 51 55.6	-2.8
VHO	Vista Hermosa	1.96	66	eP	Pn	05 51 56.0	-3.2
PLIG	Platanillo	2.28	338	eP	Pn	05 52 01.8	-1.7
YAIG	Yautepec	2.61	350	eP	Pn	05 52 08.2	+0.1
YAIG				eP	Pb	05 52 08.3	-4.1

MAN 07 06:00:55, 9°.84N×125°.47E, h21km, mb4.5, ML3.3, MS3.1, 2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SCPH	Surigao	0.06	158	⇓eP	Pb	06 01 00.4	+1.6
SCPH				eS	Sb	06 01 03.4	+2.0
MSLP	Maasin	0.66	296	eP	Pn	06 01 08.6	-0.6
MSLP				eS	Sn	06 01 20.9	+2.0
PLP	Palo	1.40	340	⇓eP	Pb	06 01 20.0	-0.4
PLP				eS	Sb	06 01 39.0	+1.2
LLP	Lapu-Lapu	1.55	288	eP	Pn	06 01 21.4	0.0
LLP				eS	Sn	06 01 41.4	+0.5
TBP	Tagbilaran	1.59	265	eP	Pb	06 01 23.4	-0.3
TBP				i S	Sb	06 01 43.7	+0.4
BESP	Borongan	1.75	359	eP	Pn	06 01 24.6	+0.5
BESP				eS	Sb	06 01 55.5	+7.5
BUKP	Musuan	1.99	192	eP	Pb	06 01 36.7	+6.2

*ISK **07** 06:45:07.8, 34°.95N×27°.13E, h27km, ML3.5/12*
*ATH **07** 06:45:10.1, 35°.26N×27°.14E, h24km±1km, ML3.2/7, Error ellipse: s-maj=3.2km s-min=1.0km az=137.0*
*ISCJB **07** 06:45:10.5±0.9, 35°.21N±0°.05×27°.20E±0°.04, h19km±7km, Error ellipse: s-maj=8.8km s-min=4.5km az=163.9*
*THE **07** 06:45:10.1, 35°.23N×27°.22E, h0km, ML3.0/3, Error ellipse: s-maj=1.3km s-min=0.6km az=143.0*
*CSEM **07** 06:45:10.0±0.2, 35°.20N×27°.19E, h10km, ML3.2, Error ellipse: s-maj=6.2km s-min=2.7km az=166.0*
*DDA **07** 06:45:34.5, 34°.27N×25°.74E, h28km, Ml3.5*
ISC 07 06:45:10.6±1.2, 35°.26N±0°.05×27°.19E±0°.03, h18km±8km, n95, σ1s14/111, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KARP	Karpathos	0.29	356	P	Pg	06 45 16.3	-0.7
KARP				S	Sb	06 45 22.4	+0.5
KARP				AML	AML	06 45 23.9	
	comp=N,8919μm,0.6s						
KARP				AML	AML	06 45 24.0	
	comp=E,11460μm,0.4s						
KARP	Karpathos	0.29	356	P	Pg	06 45 16.7	-0.3
KARP				S	Sb	06 45 22.9	+1.0
KARP	Karpathos	0.29	356	P	Pg	06 45 16.7	-0.3
KARP				S	Sb	06 45 22.1	+0.2
ZKR	Zakros	0.81	260	P	Pb	06 45 24.4	-1.7
ZKR				AML	AML	06 45 40.9	
	comp=N,2080μm,0.6s						
ZKR				AML	AML	06 45 45.0	
	comp=E,3853μm,0.5s						
ZKR	Zakros	0.81	260	P	Pb	06 45 24.8	-1.4
ARG	Arkhangelos	1.22	38	P	Pb	06 45 33.6	+0.4
ARG				S	Sg	06 45 52.3	+2.1
ARG				AML	AML	06 45 56.3	
	comp=N,1253μm,0.9s						
ARG				AML	AML	06 45 59.9	
	comp=E,1375μm,0.5s						
ARG	Arkhangelos	1.22	38	P	Pb	06 45 33.0	-0.2
ARG				S	Sg	06 45 50.5	+0.3
ARG	Arkhangelos	1.22	38	P	Pb	06 45 33.7	+0.4
ARG				S	Sg	06 45 50.5	+0.3
NPS	Neapolis	1.29	271	P	Pg	06 45 35.1	-0.4
NPS				AML	AML	06 46 01.1	
	comp=N,2253μm,0.6s						
NPS				AML	AML	06 46 01.4	
	comp=E,2127μm,0.6s						
NPS	Neapolis	1.29	271	P	Pb	06 45 34.4	0.0
NPS	Neapolis	1.29	271	P	Pb	06 45 34.4	0.0
NISR	Nisiros	1.35	358	P	Pb	06 45 35.5	+0.1
NISR	Nisiros	1.35	358	P	Pb	06 45 35.0	-0.4
NISR	Nisiros	1.35	358	P	Pb	06 45 35.5	+0.1
LAST	Lasithi	1.40	267	P	Pb	06 45 36.2	-0.1
LAST				AML	AML	06 46 06.7	
	comp=N,968μm,0.6s						
LAST				AML	AML	06 46 08.8	
	comp=E,806μm,0.9s						
LAST	Lasithi	1.40	267	P	Pb	06 45 36.0	-0.4
LAST				S	Sg	06 45 56.1	+0.1
LAST	Lasithi	1.40	267	P	Pb	06 45 36.0	-0.4
LAST				S	Sg	06 45 56.1	+0.1
DATC	Datca-Mugla	1.55	14	PN	Pb	06 45 38.6	-0.1
DATC	Datca-Mugla	1.55	14	ePn	Pb	06 45 38.6	-0.1
ANAF	Anafi Island	1.59	314	P	Pn	06 45 38.4	+0.5
ANAF				S	Sb	06 45 59.7	+0.5
ANAF				AML	AML	06 46 04.5	
	comp=E,5892μm,0.5s						
ANAF				AML	AML	06 46 06.3	
	comp=N,4106μm,0.3s						
ANAF	Anafi Island	1.59	314	P	Pn	06 45 38.5	+0.6
ANAF				S	Sb	06 45 59.5	+0.2
SANT	Santorini	1.79	309	P	Pn	06 45 41.5	+0.7
SANT	Santorini	1.79	309	P	Pn	06 45 41.4	+0.7
SANT	Santorini	1.79	309	P	Pn	06 45 41.4	+0.7
THR8	Santorini-Mono	1.80	310	P	Pn	06 45 41.8	+1.0
THR8	Santorini-Mono	1.80	310	P	Pn	06 45 41.6	+0.8
BODT	Bodrum	1.80	3	PN	Pb	06 45 42.4	-0.7
BODT	Bodrum	1.80	3	ePn	Pb	06 45 42.4	-0.7
BDRM	Kayabasi	1.81	6	i P	Pn	06 45 42.0	+1.0
BDRM				i S	Sb	06 46 06.7	+0.9
BDRM	Kayabasi	1.81	6	P	Pn	06 45 42.0	+1.0
BDRM				S	Sb	06 46 06.7	+0.9
THT1	Athinios (Pele	1.82	309	P	Pn	06 45 41.2	+0.2
THT1	Athinios (Pele	1.82	309	P	Pn	06 45 41.5	+0.5
THR6	Thira Island,	1.82	307	P	Pn	06 45 42.2	+1.1
THR6	Thira Island,	1.82	307	P	Pn	06 45 42.0	+0.9
THR9	Santorini-Faro	1.85	307	P	Pn	06 45 42.3	+0.9
THR9	Santorini-Faro	1.85	307	P	Pn	06 45 42.2	+0.7
THR3	Thira Island,	1.85	309	P	Pb	06 45 42.7	-1.2
THR3	Thira Island,	1.85	309	P	Pn	06 45 42.0	+0.5
THR3	Thira Island,	1.85	309	P	Pn	06 45 42.0	+0.5
THR2	Thira island,	1.85	310	P	Pn	06 45 42.6	+1.0
THR2	Thira island,	1.85	310	P	Pn	06 45 42.4	+0.9
THR5	Thira Island,	1.89	308	P	Pb	06 45 43.4	-1.3
THR5	Thira Island,	1.89	308	P	Pn	06 45 43.0	+1.0
DALY	Dalyan (Mu˜la	1.96	37	PN	Pn	06 45 44.1	+1.2
DALY	Dalyan (Mu˜la	1.96	37	i P	Pb	06 45 45.2	-0.5
DALY	Dalyan (Mu˜la	1.96	37	ePn	Pn	06 45 44.1	+1.2
DALY	Dalyan (Mu˜la	1.96	37	P	Pb	06 45 45.2	-0.5
TURN	Turunc	1.98	35	PN	Pn	06 45 41.0	-2.2
TURN				SN	Sn	06 46 05.6	-1.9
TURN	Turunc	1.98	35	i P	Pn	06 45 42.9	-0.3
TURN	Turunc	1.98	35	ePn	Pn	06 45 41.0	-2.2
TURN	Turunc	1.98	35	P	Pn	06 45 42.9	-0.3
TURN				eSn	Sn	06 46 05.6	-1.9
FETY	Fethiye	2.06	48	PN	Pn	06 45 45.2	+0.8
FETY	Fethiye	2.06	48	P	Pn	06 45 44.7	+0.3
FETY	Fethiye	2.06	48	P	Pn	06 45 44.7	+0.3
FETY	Fethiye	2.06	48	ePn	Pn	06 45 45.2	+0.8
MLSB	Milas	2.09	13	PN	Pb	06 45 46.5	-1.5
MLSB	Milas	2.09	13	ePn	Pb	06 45 46.5	-1.5
IOSP	Ios island	2.12	314	P	Pn	06 45 45.4	+0.1
IOSP				S	Sn	06 46 11.3	+0.1
IOSP				AML	AML	06 46 14.5	
	comp=N,554μm,0.7s						
IOSP				AML	AML	06 46 19.9	
	comp=E,405μm,0.8s						
IOSP	Ios island	2.12	314	P	Pn	06 45 45.7	+0.5
IOSP				S	Sn	06 46 11.8	+0.6
AKAS	Kas	2.19	63	PN	Pn	06 45 46.2	-0.1
AKAS	Kas	2.19	63	i P	Pn	06 45 45.7	-0.6
AKAS	Kas	2.19	63	P	Pn	06 45 45.7	-0.6
AKAS	Kas	2.19	63	ePn	Pn	06 45 46.2	-0.1
APE	Apeiranthos	2.25	324	P	Pn	06 45 47.0	-0.1
APE	Apeiranthos	2.25	324	P	Pn	06 45 47.5	+0.5
APE	Apeiranthos	2.25	324	P	Pn	06 45 47.5	+0.5
SMG	Samos	2.46	353	P	Pn	06 45 49.6	-0.3
SMG	Samos	2.46	353	P	Pn	06 45 50.3	+0.4
GVD	Gavdhos	2.58	262	P	Pn	06 45 53.4	+1.9
GVD	Gavdhos	2.58	262	P	Pn	06 45 52.9	+1.4
TAVA	DENIZLI_Tavas	2.61	32	i P	Pb	06 45 55.2	-1.6
TAVA	DENIZLI_Tavas	2.61	32	P	Pb	06 45 55.2	-1.6
ELL	Elmali	2.66	55	PN	Pn	06 45 53.2	+0.5
ELL	Elmali	2.66	55	ePn	Pn	06 45 53.2	+0.5
AYDB	Zeytinkoy-Aydi	2.74	12	PN	Pn	06 45 55.7	+1.8
AYDB	Zeytinkoy-Aydi	2.74	12	ePn	Pn	06 45 55.7	+1.8
GOLH	Golhisar	2.75	43	i P	Pn	06 45 55.0	+1.0
GOLH	Golhisar	2.75	43	P	Pn	06 45 55.0	+1.0
KORT	Korkueli	3.09	55	PN	Pn	06 45 59.7	+1.0
KORT	Korkueli	3.09	55	ePn	Pn	06 45 59.7	+1.0
URLA	Izmir	3.13	351	PN	Pn	06 46 01.2	+2.1
URLA	Izmir	3.13	351	i P	Pn	06 45 55.1	-4.0
URLA	Izmir	3.13	351	P	Pn	06 45 55.2	-4.0
URLA	Izmir	3.13	351	ePn	Pn	06 46 01.2	+2.1
ANKY	Antikythira Is	3.23	282	P	Pn	06 46 00.7	+0.3
ANKY	Antikythira Is	3.23	282	P	Pn	06 46 01.1	+0.7
CHOS	Chios island	3.25	344	P	Pn	06 46 00.5	-0.4
CHOS	Chios island	3.25	344	P	Pn	06 46 01.3	+0.5
KULA	Kula-Manisa	3.46	20	PN	Pn	06 46 05.9	+2.2
KULA	Kula-Manisa	3.46	20	ePn	Pn	06 46 05.9	+2.2
SUTC	Sutluce-Ispart	3.79	53	PN	Pn	06 46 09.6	+1.3
SUTC	Sutluce-Ispart	3.79	53	ePn	Pn	06 46 09.6	+1.3
KEPZ	Antalya-Kepez	3.93	64	i P	Pn	06 46 11.2	+1.0
KEPZ	Antalya-Kepez	3.93	64	P	Pn	06 46 11.2	+1.0
BAGO	Egridir - ISPA	3.98	46	i P	Pb	06 46 19.3	-0.9

MEX 07 06:52:25.8±0.6, 16°.42N×98°.56W, h17km±473km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.41	93	i P	Pg	06 52 33.0	-1.3
PNIG				i S	Sg	06 52 38.4	-1.6
TLIG	Tlapa	1.14	360	i P	Pn	06 52 43.5	-3.7
TLIG				i S	Sb	06 52 56.9	-4.9
CAIG	El Cayaco	1.75	291	eP	Pb	06 52 57.5	-0.1
MEIG	Mezcala	1.81	326	eP	Pn	06 52 55.8	-0.6
VHO	Vista Hermosa	1.87	69	eP	Pn	06 52 54.8	-2.4
PLIG	Platanillo	2.16	336	eP	Pn	06 53 01.6	+0.4
YAIG	Yautepec	2.48	349	eP	Pn	06 53 05.9	+0.3
ARIG	Puente Sto Nin	2.52	318	eP	Pn	06 53 07.7	+1.6

*IDC **07** 06:55:07.6±0.8, 19°.05N×144°.80E, h0km, mb3.8/13, mb1 4.0/13, mb1mx3.8/63, mbtmp3.9/13, MS3.0/4, Ms1 3.0/4, ms1mx2.6/55, Error ellipse: s-maj=28.0km s-min=17.8km az=86.0*
*ISCJB **07** 06:55:11.2±0.7, 19°.02N±0°.10×144°.7E±0°.2, h35km, mb3.9/13, MS3.0/2, Error ellipse: s-maj=25.5km s-min=13.9km az=173.6*
ISC 07 06:55:12.9±0.8, 19°.0N±0°.1×144°.7E±0°.2, h35km, n22, σ0s57/13, mb4.0/13, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
H11S3	WAKE ISLAND Hy	20.79	88	T	T	07 21 26.6	
	baz=275,slow=74,SNR=795						
H11S1	WAKE ISLAND Hy	20.80	88	T	T	07 21 25.9	
	baz=275,slow=74,SNR=1017						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
H11S2	**WAKE ISLAND Hy** baz=275,slow=74,SNR=473	**20.80**	**88**	T	T	07 21 26.5	
H11N1	**WAKE ISLAND Hy** baz=272,slow=75,SNR=20	**20.91**	**84**	T	T	07 21 36.5	
H11N2	**WAKE ISLAND Hy** baz=272,slow=75,SNR=21	**20.91**	**84**	T	T	07 21 36.8	
H11N3	**WAKE ISLAND Hy** baz=272,slow=75,SNR=18	**20.92**	**84**	T	T	07 21 36.9	
DAV	**Davao City (W)** comp=Z,36nm,21.9s,baz=224,slow=31	**22.11**	**240**	LR	LR	07 06 34.2	
KSRS	**Korea Array** 1.4nm,0.7s,baz=149,slow=10.0,SNR=4.1	**23.51**	**325**	P	**P**	**07 00 19.9**	**+0.1**
KSRS	comp=Z,15nm,18.1s,baz=260,slow=35			LR	LR	07 08 54.3	
HNR	**Honiara** comp=Z,26nm,21.1s,baz=48,slow=34	**32.02**	**151**	LR	LR	07 13 17.0	
WRA	**Warramunga Arr** 0.7nm,0.8s,baz=16,slow=8.9,SNR=4.9	**40.06**	**195**	P	**P**	**07 02 44.8**	**-0.3**
ASAR	**Alice Springs** 0.3nm,0.7s,baz=17,slow=11,SNR=7.9	**43.74**	**194**	P	**P**	**07 03 14.8**	**-0.3**
STKA	**Stephens Creek** 3.2nm,1.0s,baz=332,slow=5.2,SNR=3.3	**50.72**	**183**	P	**P**	**07 04 09.7**	**+0.4**
ZALV	**Zalesovo Beam** 0.8nm,0.3s,baz=111,slow=7.9,SNR=4.3	**57.20**	**323**	P	**P**	**07 04 56.9**	**+0.5**
MKAR	**Makanchi Array** 0.8nm,0.9s,baz=89,slow=9.8,SNR=3.8	**57.57**	**314**	P	**P**	**07 05 00.1**	**+0.8**
KURBB	**Kurchatov Arra** 1.5nm,0.8s,baz=94,slow=7.5,SNR=17	**60.46**	**318**	P	**P**	**07 05 19.3**	**+0.1**
ILAR	**Eielson Array** 1.2nm,0.8s,baz=262,slow=5.2,SNR=10	**63.74**	**26**	P	**P**	**07 05 40.5**	**-0.4**
BVAR	**Borovoye Array** 2.7nm,0.7s,baz=77,slow=6.4,SNR=14	**65.64**	**320**	P	**P**	**07 05 53.9**	**+0.5**
AKTO	**Aktyubinsk** 0.6nm,0.6s,baz=79,slow=16,SNR=2.8	**73.51**	**318**	P	**P**	**07 06 41.9**	**-0.2**
YKA	**Yellowknife Ar** 0.4nm,0.7s,baz=290,slow=5.3,SNR=9.1	**78.11**	**28**	P	**P**	**07 07 08.3**	**+0.2**
NVAR	**Mina Array Bea** 1.0nm,0.8s,baz=268,slow=6.4,SNR=7.8	**83.64**	**52**	P	**P**	**07 07 38.9**	**+0.5**
FINES	**FINESS Array B** 1.1nm,0.6s,baz=190,slow=7.7,SNR=4.8	**86.19**	**335**	P	**P**	**07 07 49.4**	**-1.1**
SFJD	**Kangerlussuaq** comp=Z,18nm,19.4s,baz=320,slow=36	**93.46**	**6**	LR	LR	07 51 42.3	

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*ISCJB **07** 07:02:41.5±0.7, 28°.3N±0°.1×66°.3E±0°.1, h10km, mb3.6/13, MS3.0/6, Error ellipse: s-maj=18.2km s-min=12.8km az=42.2*

*IDC **07** 07:02:41.6±1.0, 28°.29N×66°.38E, h0km, mb3.6/13, mb1 3.8/14, mb1mx3.5/68, mbtmp3.7/14, ML3.4/1, MS3.1/7, Ms1 3.1/7, ms1mx2.7/64, Error ellipse: s-maj=23.1km s-min=22.4km az=139.0*

ISC 07 07:02:43.1±1.0**, 28°.2N**±0°.1×**66°.2E**±0°.1**, h10**km**, n19, σ1s.65**/15**, mb3.7**/13**, MS2.9**/6**, Pakistan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WSAR	**Wadi Sarin** 0.4nm,0.3s,baz=71,slow=8.6,SNR=3.5	**8.45**	**236**	Pn	**Pn**	**07 04 47.7**	**+2.1**
WSAR	0.3nm,0.3s,baz=114,slow=18,SNR=2.2			Sn	**Sn**	**07 06 17.4**	**-3.6**
AAK	**Ala-Archa** comp=Z,19nm,18.6s,baz=115,slow=44	**15.88**	**23**	LR	LR	07 14 15.7	
GNI	**Garni** comp=Z,27nm,18.4s,baz=78,slow=40	**21.32**	**309**	LR	LR	07 17 01.4	
MKAR	**Makanchi Array** 0.9nm,0.8s,baz=214,slow=10,SNR=8.5	**22.42**	**30**	P	**P**	**07 07 41.0**	**-1.0**
MKAR	comp=Z,46nm,18.0s,baz=187,slow=42			LR	LR	07 18 07.4	
AKTO	**Aktyubinsk** comp=Z,36nm,18.3s,baz=90,slow=40	**23.04**	**347**	LR	LR	07 17 59.8	
KURBB	**Kurchatov Arra** 0.5nm,0.6s,baz=212,slow=8.8,SNR=5.5	**24.25**	**19**	P	**P**	**07 07 57.7**	**-2.4**
BVAR	**Borovoye Array** 1.4nm,0.7s,baz=205,slow=6.4,SNR=5.4	**24.97**	**6**	P	**P**	**07 08 05.8**	**-0.9**
BVAR	comp=Z,38nm,18.9s,baz=181,slow=38			LR	LR	07 18 28.3	
ZALV	**Zalesovo Beam** 0.5nm,0.3s,baz=219,slow=10,SNR=2.8	**29.10**	**23**	P	**P**	**07 08 44.4**	**+0.7**
FINES	**FINESS Array B** 1.4nm,0.9s,baz=118,slow=14,SNR=2.5	**42.55**	**333**	P	**P**	**07 10 39.1**	**+0.5**
GERES	**GERESS Array B** 0.5nm,0.8s,baz=94,slow=6.0,SNR=3.8	**44.93**	**312**	P	**P**	**07 10 57.3**	**-0.9**
HFS	**Hagfors** 2.8nm,0.9s,baz=108,slow=4.7,SNR=2.6	**47.47**	**327**	P	**P**	**07 11 18.6**	**+0.7**
NOA	**NORSAR Array B** 1.4nm,0.9s,baz=114,slow=6.4,SNR=2.6	**48.91**	**328**	P	**P**	**07 11 28.7**	**-0.3**
JNU	**Nakatsue** comp=Z,27nm,18.1s,baz=296,slow=42	**55.06**	**68**	LR	LR	07 40 46.2	
EKA	**Eskdalemuir Ar** 0.3nm,0.5s,baz=92,slow=11,SNR=3.0	**55.69**	**320**	P	**P**	**07 12 18.9**	**-0.5**
TORD	**Torodi Ar. Bea** 0.7nm,0.7s,baz=61,slow=5.7,SNR=4.8	**61.57**	**270**	P	**P**	**07 13 03.0**	**+2.0**
WRA	**Warramunga Arr** 0.5nm,0.8s,baz=318,slow=4.9,SNR=3.7	**81.39**	**118**	P	**P**	**07 14 59.6**	**-0.8**
ASAR	**Alice Springs** 0.4nm,0.8s,baz=305,slow=5.3,SNR=7.3	**83.14**	**121**	P	**P**	**07 15 09.1**	**-0.5**
PMG	**Port Moresby** comp=Z,19nm,18.1s,baz=114,slow=40	**86.52**	**103**	LR	LR	08 00 57.2	
YKA	**Yellowknife Ar** 0.3nm,0.9s,baz=348,slow=5.1,SNR=5.7	**89.60**	**0**	P	**P**	**07 15 41.4**	**+0.7**

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*ISCJB **07** 07:11:28.5±0.8, 50°.01N±0°.05×78°.56E±0°.09, h0km, Error ellipse: s-maj=8.3km s-min=6.4km az=153.9*

*NNC **07** 07:11:29.1±0.7, 50°.03N×78°.71E, h0km, mb3.5, mpv2.9, Error ellipse: s-maj=11.2km s-min=4.6km az=77.0, Suspected Mining explosion.*

*IDC **07** 07:11:30.1±0.8, 50°.06N×78°.76E, h0km, mb1 2.8/3, mb1mx2.7/66, mbtmp2.8/3, ML2.6/3, Error ellipse: s-maj=11.2km s-min=6.1km az=58.0*

ISC 07 07:11:30.0±1.0**, 50°.03N**±0°.06×**78°.68E**±0°.08**, h0**km**, n11, σ0s.75**/13**, 6C-3D, Eastern Kazakhstan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KURBB	**Kurchatov Arra** 3.1nm,0.3s,baz=166,slow=17,SNR=222	**0.60**	**351**	Pg	**Pg**	**07 11 41.0**	**-0.5**
KURBB	3.2nm,0.3s,baz=169,slow=32,SNR=32			Lg	Lg	07 11 50.4	
KURK	**Kurchatov** 12nm,0.4s	**0.69**	**357**	⇑P	**Pg**	**07 11 42.2**	**-1.0**
KURK	47nm,0.8s			⇑S	**Sg**	**07 11 53.1**	**+1.0**
MAKZ	**Makanchi** 6.2nm,1.1s	**3.90**	**144**	⇓Pg	**Pb**	**07 12 40.2**	**+0.5**
MAKZ	16nm,0.6s			⇓Lg	Lg	07 13 32.1	
MK31	**Makanchi Array** 0.1nm,0.1s,baz=281,slow=25,SNR=9.2	**4.04**	**142**	Pn	**Pn**	**07 12 33.2**	**+0.1**
MK31	2.3nm,0.5s,baz=324,slow=14,SNR=14			Pg	**Pb**	**07 12 42.0**	**0.0**
MK31	12nm,0.6s,baz=318,slow=16,SNR=18			⇑Lg	Lg	07 13 35.5	
MKAR	**Makanchi Array** 0.4nm,0.3s,baz=324,slow=10,SNR=14	**4.04**	**142**	Pn	**Pn**	**07 12 33.3**	**+0.3**
MKAR	1.1nm,0.3s,baz=324,slow=15,SNR=19			Pg	**Pb**	**07 12 40.8**	**-1.2**
MKAR	3.2nm,0.3s,baz=332,slow=24,SNR=16			Lg	Lg	07 13 35.1	
OTUK	**Ortayu** 0.8nm,0.2s	**4.53**	**249**	⇓Pn	**Pn**	**07 12 40.5**	**+0.7**
OTUK	7.2nm,0.6s			⇑Lg	Lg	07 13 52.2	
ZALV	**Zalesovo Beam** 1.0nm,0.3s,baz=233,slow=14,SNR=9.1	**5.46**	**42**	Pn	**Pn**	**07 12 53.3**	**+0.8**
ZALV	0.9nm,0.3s,baz=219,slow=28,SNR=6.3			Lg	Lg	07 14 19.6	
BVA0	**Borovoye Array** 1.8nm,0.6s,baz=117,slow=22,SNR=6.2	**5.98**	**303**	⇑Sn	**Sn**	**07 14 09.2**	**+0.4**
BVA0	2.9nm,0.7s,baz=121,slow=27,SNR=4.2			⇑Lg	Lg	07 14 38.3	
BVAR	**Borovoye Array** 0.2nm,0.3s,baz=113,slow=15,SNR=2.7	**5.98**	**303**	Pn	**Pn**	**07 12 59.6**	**-0.1**
BVAR	0.5nm,0.3s,baz=111,slow=24,SNR=8.4			Sn	**Sn**	**07 14 08.1**	**-0.7**
BVAR	0.3nm,0.3s,baz=113,slow=20,SNR=3.0			Lg	Lg	07 14 39.6	
AAK	**Ala-Archa** 0.2nm,0.3s,baz=238,slow=22,SNR=5.9	**7.94**	**203**	Lg	Lg	07 15 40.8	
I31KZ	**AKTYUBINSK INF** baz=85,slow=331,SNR=1.2	**13.22**	**280**	*i*		08 35 50.0	

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*ISCJB **07** 07:12:28.5±0.8, 30°.1N±0°.1×96°.7E±0°.3, h10km, mb3.5/5, MS3.0/1, Error ellipse: s-maj=34.3km s-min=12.1km az=163.0*

*IDC **07** 07:12:29.4±1.1, 30°.16N×96°.72E, h0km, mb3.4/6, mb1 3.6/8, mb1mx3.4/69, mbtmp3.5/8, ML3.4/1, MS3.1/1, Ms1 3.1/1, ms1mx2.3/46, Error ellipse: s-maj=62.9km s-min=18.9km az=65.0*

ISC 07 07:12:30.8±1.0**, 30°.2N**±0°.1×**96°.8E**±0°.3**, h10**km**, n9, σ1s.43**/7**, mb3.6**/5**, Xizang**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr** baz=339,slow=12,SNR=4.2	**11.83**	**170**	Pn	**Pn**	**07 15 19.2**	**-0.4**
SONM	**Songino Array** 0.1nm,0.3s,baz=191,slow=15,SNR=2.9	**19.12**	**20**	P	**Pn**	**07 16 54.6**	**-0.2**
MKAR	**Makanchi Array** 0.5nm,0.8s,baz=128,slow=9.3,SNR=2.2	**20.06**	**330**	P	Pn	07 17 03.7	-2.1
KURBB	**Kurchatov Arra** 0.3nm,0.5s,baz=136,slow=12,SNR=2.6	**24.59**	**331**	P	**P**	**07 17 52.2**	**+1.2**
ZALV	**Zalesovo Beam** 0.4nm,0.4s,baz=147,slow=8.2,SNR=3.8	**25.30**	**343**	P	**P**	**07 17 57.1**	**-0.2**
AKTO	**Aktyubinsk** comp=Z,26nm,19.5s,baz=10,slow=39	**35.30**	**316**	LR	LR	07 35 10.6	
WRA	**Warramunga Arr** 0.4nm,0.8s,baz=324,slow=8.0,SNR=5.0	**61.55**	**139**	P	**P**	**07 22 47.3**	**-1.0**
NOA	**NORSAR Array B** 0.7nm,0.7s,baz=94,slow=5.8,SNR=3.2	**62.01**	**327**	P	**P**	**07 22 50.3**	**-0.7**
ASAR	**Alice Springs** 0.3nm,0.7s,baz=326,slow=6.5,SNR=4.0	**64.30**	**142**	P	**P**	**07 23 08.8**	**+2.2**

MEX 07 07:13:55.1±0.9**, 16°.47N**×**98°.48W, h20**km±39km**, MD3.6, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.34**	**103**	*i* P	Pb	07 14 01.1	-1.4
PNIG				*i* S	Sb	07 14 06.4	-1.2
TLIG	**Tlapa**	**1.09**	**355**	*i* P	Pb	07 14 12.2	-3.2
TLIG				*i* S	Sb	07 14 25.0	-4.3
VHO	**Vista Hermosa**	**1.77**	**70**	*e*P	Pn	07 14 22.6	-2.3
CAIG	**El Cayaco**	**1.81**	**289**	*e*P	Pn	07 14 22.3	-2.9
PLIG	**Platanillo**	**2.15**	**333**	*e*P	Pn	07 14 29.6	-0.3
YAIG	**Yautepec**	**2.45**	**347**	*e*P	Pn	07 14 35.8	+1.8
ARIG	**Puente Sto Nin**	**2.54**	**316**	*e*P	Pn	07 14 34.6	-0.6

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*IDC **07** 07:21:07.5±0.8, 12°.65N×143°.95E, h0km, mb3.8/9, mb1 4.0/9, mb1mx3.7/59, mbtmp3.8/9, MS3.3/8, Ms1 3.3/8, ms1mx2.9/59, Error ellipse: s-maj=28.7km s-min=16.1km az=120.0*

*ISCJB **07** 07:21:09.9±0.5, 12°.60N±0°.07×143°.9E±0°.1, h27km, mb4.0/13, MS3.3/8, Error ellipse: s-maj=16.1km s-min=7.0km az=30.4*

*NEIC **07** 07:21:11.6±3.6, 12°.62N×143°.96E, h27km±26km, mb4.6/4, Error ellipse: s-maj=19.7km s-min=7.7km az=103.0*

ISC 07 07:21:11.2±0.8**, 12°.6N**±0°.1×**144°.0E**±0°.2**, h27**km**, n32, σ0s.91**/23**, mb3.9**/13**, MS3.3**/8**, South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GUMO	**Guam** 402nm,0.3s,baz=225,slow=2.1,SNR=231	**1.30**	**39**	Pn	**Pn**	**07 21 33.2**	**-0.4**
GUMO	125nm,0.3s,baz=197,slow=19,SNR=11			Sn	**Sb**	**07 21 51.5**	**+0.1**
SARN	**Sarigan**	**4.44**	**22**	*e*Pn	**Pn**	**07 22 17.9**	**+1.0**
H11S3	**WAKE ISLAND Hy** baz=241,SNR=4.6	**22.60**	**72**	T	T	07 49 42.0	
H11S1	**WAKE ISLAND Hy** baz=241	**22.62**	**72**	T	T	07 49 42.0	
H11S2	**WAKE ISLAND Hy** baz=241	**22.62**	**72**	T	T	07 49 42.5	
H11N1	**WAKE ISLAND Hy** baz=254,slow=74,SNR=12	**23.07**	**69**	T	T	07 50 12.6	
H11N2	**WAKE ISLAND Hy** baz=254,slow=74,SNR=11	**23.07**	**69**	T	T	07 50 13.1	
H11N3	**WAKE ISLAND Hy** baz=254,SNR=12	**23.08**	**69**	T	T	07 50 13.1	
MJAR	**Matsushiro Arr** comp=Z,22nm,18.2s,baz=185,slow=35	**24.44**	**349**	LR	LR	07 35 27.5	
KSRS	**Korea Array** comp=Z,43nm,18.8s,baz=167,slow=36	**28.67**	**333**	LR	LR	07 38 04.6	
WRAB	**Tennant Creek** 5.3nm,0.6s	**33.67**	**197**	*e*P	**P**	**07 27 50.1**	**-0.1**
WB2	**Warramunga Arr** 4.9nm,0.7s	**33.68**	**197**	*e*P	**P**	**07 27 50.4**	**+0.2**
WR1	**Warramunga Arr** 6.8nm,0.7s	**33.69**	**197**	*e*P	**P**	**07 27 50.5**	**+0.3**
WRA	**Warramunga Arr** 3.9nm,0.6s,baz=21,slow=9.8,SNR=29	**33.69**	**197**	P	**P**	**07 27 50.5**	**+0.3**
WRA	comp=Z,49nm,19.8s,baz=15,slow=36			LR	LR	07 41 08.2	
AS01	**Alice Springs**	**37.34**	**195**	*e*P	**P**	**07 28 23.1**	**+1.5**
AS31	**Alice Springs** 3.3nm,1.8s	**37.35**	**195**	*e*P	**P**	**07 28 22.9**	**+1.2**
ASAR	**Alice Springs** 0.8nm,0.7s,baz=19,slow=11,SNR=14	**37.35**	**195**	P	**P**	**07 28 22.9**	**+1.2**
TLY	**Talaya** comp=Z,21nm,18.2s,baz=119,slow=36	**50.78**	**329**	LR	LR	07 51 49.6	
MK32	**Makanchi Array**	**61.66**	**317**	*e*P	**P**	**07 31 27.1**	**+0.3**
MK32				*e*PcP	**PcP**	**07 32 07.4**	**-0.8**
MKAR	**Makanchi Array** 0.3nm,0.6s,baz=97,slow=7.5,SNR=3.8	**61.66**	**317**	P	**P**	**07 31 27.1**	**+0.3**
MKAR	0.2nm,0.6s,baz=94,slow=5.8,SNR=2.4			PcP	**PcP**	**07 32 07.4**	**-0.8**
KURK	**Kurchatov**	**64.83**	**320**	*e*P	**P**	**07 31 48.2**	**+0.5**
KURBB	**Kurchatov Arra** 0.7nm,0.7s,baz=102,slow=7.0,SNR=6.9	**64.87**	**320**	P	**P**	**07 31 48.2**	**+0.2**
ILAR	**Eielson Array** 0.2nm,0.6s,baz=253,slow=4.6,SNR=3.6	**69.83**	**25**	P	**P**	**07 32 20.2**	**+1.0**
BVAR	**Borovoye Array** 0.3nm,0.4s,baz=79,slow=9.1,SNR=3.3	**70.22**	**322**	P	**P**	**07 32 21.8**	**0.0**
BVAR	comp=Z,33nm,20.7s,baz=65,slow=36			LR	LR	08 03 29.8	
YKA	**Yellowknife Ar** 0.1nm,0.5s,baz=278,slow=4.3,SNR=3.1	**84.14**	**27**	P	**P**	**07 33 39.1**	**-0.6**
YBH	**Yreka Blue Hor** comp=Z,39nm,21.8s,baz=266,slow=30	**84.16**	**49**	LR	LR	08 02 33.6	
NVAR	**Mina Array Bea** 0.8nm,0.8s,baz=245,slow=6.0,SNR=6.5	**88.19**	**51**	P	**P**	**07 34 01.4**	**+0.9**
FIA0	**FINESS Array S**	**91.73**	**335**	*e*P	**P**	**07 34 14.9**	**-1.3**
FINES	**FINESS Array B** 2.6nm,1.0s,baz=74,slow=5.1,SNR=3.7	**91.73**	**335**	P	**P**	**07 34 14.9**	**-1.3**
NOA	**NORSAR Array B** comp=Z,9.3nm,18.9s,baz=240,slow=37	**97.70**	**339**	LR	LR	08 21 37.5	
MLR	**Muntele Rosu** comp=Z,10nm,18.0s,baz=22,slow=38	**99.76**	**321**	LR	LR	08 23 21.2	
LPAZ	**La Paz**	**148.66**	**101**	*e*PKPbc	**PKPab**	**07 40 59.6**	**-1.7**

IDC 07 07:27:54.8±1.8**, 0°.59S**×**136°.48E, h0**km**, mb3.7**/3**, mb1 3.8**/5**, mb1mx3.5**/53**, mbtmp3.6**/5**, ML3.5**/2**, Error ellipse: s-maj=58.5km s-min=23.4km az=79.0, Irian Jaya region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SIJI	**Sorong** 1.6nm,0.3s,baz=41,slow=20,SNR=4.6	**5.22**	**267**	Pn	Pn	07 29 14.4	+0.2
WRA	**Warramunga Arr** 0.1nm,0.3s,baz=4.8,slow=11,SNR=12	**19.34**	**186**	P	P	07 32 22.5	+0.4
ASAR	**Alice Springs** 1.3nm,0.6s,baz=12,slow=12,SNR=21	**23.07**	**186**	P	P	07 33 01.9	-0.3
MKAR	**Makanchi Array** 0.5nm,0.5s,baz=118,slow=8.3,SNR=8.4	**66.77**	**323**	P	P	07 38 48.8	+0.6
KURBB	**Kurchatov Arra** 0.6nm,0.7s,baz=117,slow=6.1,SNR=6.5	**70.73**	**325**	P	P	07 39 12.1	-0.7

IDC 07 07:47:02.7±2.0**, 18°.11S**×**167°.48E, h0**km**, mb3.6**/3**, mb1 3.8**/4**, mb1mx3.5**/46**, mbtmp3.5**/4**, ML2.9**/1**, Error ellipse: s-maj=55.5km s-min=32.3km az=131.0, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac** 0.7nm,0.3s,baz=86,slow=12,SNR=22	**4.05**	**194**	Pn	Pn	07 48 05.8	-0.3
DZM	2.9nm,0.3s,baz=307,slow=20,SNR=14			Sn	Sn	07 48 47.9	-6.4
WRA	**Warramunga Arr** 0.2nm,0.8s,baz=80,slow=6.1,SNR=4.4	**31.36**	**261**	P	P	07 53 24.9	-0.5
ASAR	**Alice Springs** 0.5nm,0.5s,baz=81,slow=8.5,SNR=18	**31.80**	**254**	P	P	07 53 29.6	+0.4
ILAR	**Eielson Array** 0.4nm,0.7s,baz=238,slow=5.1,SNR=8.1	**89.67**	**18**	P	P	08 00 02.1	0.0

IDC 07 08:01:59.0±6.0**, 23°.97S**×**69°.56E, h0**km**, mb3.7**/5**, mb1 3.8**/5**, mb1mx3.4**/63**, mbtmp3.7**/5**, MS3.6**/2**, Ms1 3.7**/2**, ms1mx2.8**/57**, Error ellipse: s-maj=208.2km s-min=29.0km az=52.0, Mid-Indian Ridge**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H** baz=190,slow=76,SNR=73	**16.47**	**10**	T	T	08 22 36.9	
H08S2	**Diego Garcia H** baz=190,slow=76,SNR=59	**16.48**	**10**	T	T	08 22 37.6	
H08S3	**Diego Garcia H** baz=190,slow=76,SNR=57	**16.49**	**10**	T	T	08 22 38.6	
H01W2	**Cape Leeuwin H** baz=280	**40.03**	**116**	T	T	08 51 57.0	
H01W3	**Cape Leeuwin H** baz=280	**40.03**	**116**	T	T	08 51 57.5	
H01W1	**Cape Leeuwin H** baz=280	**40.05**	**116**	T	T	08 51 58.1	
CMAR	**Chiang Mai Arr** comp=Z,44nm,18.1s,baz=190,slow=34	**50.99**	**37**	LR	LR	08 30 52.5	
BATI	**Baumata** comp=Z,66nm,20.4s,baz=28,slow=33	**53.19**	**85**	LR	LR	08 31 31.9	
ASAR	**Alice Springs** 0.3nm,0.6s,baz=254,slow=6.2,SNR=7.5	**58.37**	**104**	P	P	08 11 56.5	-0.1
ASAR	0.3nm,0.8s,baz=263,slow=3.3,SNR=4.1			PcP	PcP	08 12 47.4	-0.3
WRA	**Warramunga Arr** 0.5nm,0.9s,baz=264,slow=5.2,SNR=3.1	**59.76**	**100**	P	P	08 12 06.2	-0.1
MKAR	**Makanchi Array** 0.8nm,0.7s,baz=193,slow=5.0,SNR=10	**71.37**	**9**	P	P	08 13 20.5	-0.1
KURBB	**Kurchatov Arra** 0.5nm,0.8s,baz=201,slow=6.2,SNR=5.1	**74.69**	**6**	P	P	08 13 40.2	0.0
ZALV	**Zalesovo Beam** 0.9nm,0.5s,baz=196,slow=5.3,SNR=3.8	**78.71**	**9**	P	P	08 14 03.1	+0.3

IDC 07 08:16:39.8±2.9**, 19°.14S**×**72°.94W, h0**km**, mb3.5**/3**, mb1 3.7**/4**, mb1mx3.5**/39**, mbtmp3.4**/4**, ML3.0**/1**, Error ellipse: s-maj=96.6km s-min=37.4km az=11.0, Off coast of northern Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz** 0.3nm,0.3s,baz=249,slow=12,SNR=10	**5.38**	**59**	Pn	Pn	08 18 02.4	+0.4
TXAR	**Lajitas Array** 0.3nm,0.8s,baz=152,slow=8.2,SNR=3.2	**56.58**	**328**	P	P	08 26 24.1	-0.5
TORD	**Torodi Ar. Bea** 0.1nm,0.4s,baz=248,slow=6.1,SNR=3.1	**80.19**	**72**	P	P	08 28 52.0	-0.6
YKA	**Yellowknife Ar** 0.4nm,0.7s,baz=140,slow=5.1,SNR=11	**87.75**	**342**	P	P	08 29 30.1	-0.1
MKAR	**Makanchi Array** 0.4nm,0.9s,baz=309,slow=4.6,SNR=3.7	**145.75**	**31**	PKPbc	PKPab	08 36 21.5	+0.3

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*GUC **07** 08:21:20.8±0.5, 33°.60S×72°.55W, h32km±4km, ML3.1*

*SJA **07** 08:21:22.9±1.3, 33°.15S×72°.45W, h10km, ML3.3, MW3.6*

ISC 07 08:21:20.5±2.5**, 33°.66S**±0°.05×**72°.5W**±0°.1**, h13**km±14km**, n16, σ1s.40**/23**, Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CHPI	**Pichilemu**	**0.85**	**150**	*e*P	**Pg**	**08 21 36.8**	**-0.1**
CHPI				*e*S	**Sb**	**08 21 48.8**	**+0.5**
ROC1	**El Roble**	**1.43**	**62**	*e*P	**Pn**	**08 21 45.1**	**-1.3**
ROC1				*i* S	**Sn**	**08 22 03.8**	**-1.5**
GO05	**HualaæØ**	**1.43**	**160**	*e*P	**Pn**	**08 21 46.1**	**-0.1**
GO05				*e*S	**Sn**	**08 22 04.6**	**-0.4**
GO05	comp=E,278nm,0.7s				IAML	08 22 14.8	
ROCH	**El Roble**	**1.44**	**62**	*e*P	**Pn**	**08 21 45.0**	**-1.4**
ROCH				*e*S	**Sn**	**08 22 03.8**	**-1.6**
ROCH	comp=N,638nm,0.5s				IAML	08 22 14.3	
NICH	**Los Niches**	**1.71**	**142**	*e*P	**Pn**	**08 21 50.9**	**+0.8**
NICH				*e*S	**Sb**	**08 22 13.4**	**+0.1**
LMEL	**Las Melosas**	**1.94**	**96**	*e*P	**Pn**	**08 21 53.2**	**-0.1**
LMEL				*e*S	**Sn**	**08 22 17.8**	**+0.1**
LMEL	comp=N,410nm,0.3s				IAML	08 22 25.4	
AUSP	**Uspallata**	**3.00**	**62**	*e*P	**Pn**	**08 22 09.9**	**+1.9**
ARCO	**CERRO ARCO**	**3.12**	**76**	*e*P	**Pb**	**08 22 16.1**	**+0.3**
ARCO	comp=Z,94nm,0.3s				IAML	08 22 24.0	
AAGR	**Agrelo**	**3.14**	**81**	*e*P	**Pb**	**08 22 14.9**	**-1.4**
ASAL	**Salagasta**	**3.27**	**72**	*e*P	**Pb**	**08 22 16.0**	**-2.5**
RTLS	**Leoncito**	**3.29**	**57**	*i* P	**Pn**	**08 22 14.2**	**+2.2**
RTLS				*e*S	**Sb**	**08 23 00.7**	**+1.7**
RTLS	comp=Z,79nm,0.5s				IAML	08 23 14.6	
AVIZ	**Vizcacheras**	**3.35**	**88**	*e*P	**Pb**	**08 22 20.8**	**+1.0**
RTCV	**Cerro Valdivia**	**3.80**	**63**	*i* P	**Pn**	**08 22 20.9**	**+2.1**
AMOG	**MOGNA**	**4.36**	**53**	*e*P	**Pn**	**08 22 27.4**	**+1.0**
ACDV	**Cuesta del Vie**	**4.52**	**41**	*e*P	**Pn**	**08 22 30.1**	**+1.2**
AGUA	**GUANDACOL**	**5.40**	**41**	*e*P	**Pn**	**08 22 41.2**	**+0.4**

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*NIED **07** 08:30:00, 39°.60N×143°.10E, h11km, Mw3.7 Best double couple: $M_0$4.17000×10^14 NP1:ϕ_s234.00000°, δ63.00000°, λ160.00000°. NP2:ϕ_s333.00000°, δ73.00000°, λ28.00000°.*

JMA 07 08:30:54.2±0.2**, 39°.64N**×**143°.15E, h24**km±3km**, M4.2, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MIYJ	**Miyakonagasawa**	**1.03**	**267**	P	Pn	08 31 12.7	-0.4
MIYJ				*e*S	Sb	08 31 25.8	-0.6
JTH	**Tanohata**	**1.03**	**287**	P	Pn	08 31 13.1	-0.1
JTH				S	Sn	08 31 26.8	-0.1
JOM	**Ohasama**	**1.45**	**264**	P	Pb	08 31 19.7	-0.7
JOM				S	Sb	08 31 38.2	-0.2
JANG	**Nango**	**1.45**	**301**	P	Pn	08 31 18.9	-0.1
JMK	**Ichinoseki**	**1.65**	**246**	P	Pn	08 31 22.2	+0.6
JMK				S	Sn	08 31 43.1	+1.1
JIO	**Ouri**	**1.83**	**230**	P	Pn	08 31 24.6	+0.4
JRG	**Rokugo**	**1.96**	**264**	P	Pb	08 31 28.0	-1.2
JRG				*e*S	Sb	08 31 53.6	+0.4
JTM	**Tenmabayashi**	**1.96**	**306**	P	Pn	08 31 27.2	+1.2
JTM				*e*S	Sn	08 31 51.0	+1.2
JAH	**Hinai**	**2.01**	**287**	P	Pb	08 31 28.9	-1.1
JYK	**Kaneyama**	**2.28**	**252**	P	Pb	08 31 32.6	-2.1
JOU	**Okura**	**2.32**	**237**	P	Pn	08 31 32.3	+1.4
JOU				*e*S	Sn	08 32 00.6	+2.0
JOT	**Ohata**	**2.37**	**318**	P	Pn	08 31 33.4	+1.9

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*NIED **07** 08:31:00, 35°.90N×141°.10E, h11km, Mw3.9 Best double couple: $M_0$8.96000×10^14 NP1:ϕ_s167.00000°, δ17.00000°, λ-122.00000°. NP2:ϕ_s21.00000°, δ75.00000°, λ-81.00000°.*

*ISCJB **07** 08:31:03.2±1.1, 35°.83N±0°.03×141°.22E±0°.05, h11km±6km, mb4.0/23, MS2.8/1, Error ellipse: s-maj=6.6km s-min=5.7km az=13.0*

*IDC **07** 08:31:03.2±0.7, 35°.79N×141°.09E, h0km, mb3.8/14, mb1 3.9/17, mb1mx3.7/72, mbtmp3.7/17, ML3.3/3, MS2.5/4, Ms1 2.5/4, ms1mx2.4/74, Error ellipse: s-maj=18.3km s-min=16.9km az=75.0*

*JMA **07** 08:31:05.5±0.2, 35°.81N×141°.09E, h16km±1km, M4.3*

JMA Felt II J1.

*NEIC **07** 08:31:06.8±3.5, 35°.82N×141°.11E, h20km±23km, mb4.5/11, Error ellipse: s-maj=13.0km s-min=6.7km az=113.0*

NEIC Recorded [2 JMA] in Chiba and Ibaraki.

ISC 07 08:31:05.6±1.2**, 35°.80N**±0°.04×**141°.05E**±0°.06**, h14**km±7km**, n58, σ1s.00**/50**, mb4.0**/23**, 1C-1D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.19**	**238**	⇑P	**Pg**	**08 31 10.4**	**+0.4**
CHOJ				S	**Sg**	**08 31 13.9**	**+1.0**
JCN	**Nagara**	**0.79**	**241**	P	**Pn**	**08 31 22.4**	**+0.1**
JCN				S	**Sn**	**08 31 33.7**	**-0.3**
JYT	**Yasato**	**0.82**	**302**	P	**Pb**	**08 31 20.8**	**-0.8**
JYT				S	**Sg**	**08 31 31.8**	**-0.4**
JHO	**Hitachi**	**0.90**	**334**	⇓P	**Pb**	**08 31 22.1**	**-0.9**
JHO				S	**Sg**	**08 31 34.3**	**-0.5**
BSO3	**Boso 3**	**1.09**	**204**	P	**Pn**	**08 31 25.8**	**-0.4**
MJAR	**Matsushiro Arr** 12nm,0.3s,baz=107,slow=7.9,SNR=64	**2.42**	**289**	Pn	**Pn**	**08 31 44.2**	**-0.6**
MJAR				Sn	**Sn**	**08 32 16.5**	**+2.4**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	11nm,0.3s,baz=92,slow=29,SNR=5.9						
MJAR				LR	LR	08 32 34.6	
	comp=Z,30nm,21.6s,baz=95,slow=38						
MAJO	**Matsushiro**	**2.42**	**289**	*e*Pn	**Pn**	**08 31 44.7**	**-0.1**
MAT	**Matsushiro**	**2.42**	**289**	P	**Pn**	**08 31 44.8**	**0.0**
MAT				S	**Sb**	**08 32 18.4**	**-0.2**
MJB9	**Matsu-Tunnel**	**2.42**	**289**	*e*Pn	**Pn**	**08 31 45.2**	**+0.4**
JHJ	**Hachijo jima 2**	**2.88**	**202**	Pn	**Pn**	**08 31 51.0**	**0.0**
	8.3nm,0.3s,baz=0.0,slow=20,SNR=3.3						
JHJ				Sn	**Sn**	**08 32 27.3**	**+1.9**
	20nm,0.3s,baz=72,slow=19,SNR=3.6						
INU	**Inuyama**	**3.32**	**263**	*e*Pn	**Pb**	**08 32 00.9**	**-3.4**
ERM	**Erimo**	**6.42**	**14**	*e*Sn	**Sn**	**08 33 53.4**	**+0.8**
ASAJ	**Asahikawa**	**8.39**	**8**	Sn	**Sn**	**08 34 39.2**	**-1.9**
	0.2nm,0.3s,baz=133,slow=12,SNR=2.2						
JNU	**Nakatsue**	**8.82**	**255**	LR	LR	08 37 16.0	
	comp=Z,154nm,19.0s,baz=38,slow=42						
KSRS	**Korea Array**	**10.68**	**283**	Pn	**Pn**	**08 33 39.8**	**+1.6**
	0.1nm,0.3s,baz=98,slow=15,SNR=3.7						
KSAR	**Wonju Array Be**	**10.71**	**283**	Pn	**Pn**	**08 33 39.8**	**+1.2**
KLR	**Kul'dur**	**15.05**	**336**	LR	LR	08 40 15.2	
	comp=Z,4.9nm,18.7s,baz=90,slow=37						
PEA0B	**Petropavlovsk-**	**20.90**	**29**	*e*P	Pn	08 35 55.5	+5.6
	25nm,1.1s						
MA2	**Magadan**	**24.62**	**12**	P	**P**	**08 36 25.5**	**+0.3**
	1.8nm,0.5s,baz=148,slow=19,SNR=2.3						
H11N2	**WAKE ISLAND Hy**	**27.79**	**118**	T	T	09 05 47.9	
	baz=311,slow=75,SNR=468						
H11N1	**WAKE ISLAND Hy**	**27.80**	**118**	T	T	09 05 49.4	
	baz=311,slow=75,SNR=409						
H11N3	**WAKE ISLAND Hy**	**27.81**	**118**	T	T	09 05 50.3	
	baz=311,slow=75,SNR=418						
SONM	**Songino Array**	**28.25**	**306**	LR	LR	08 48 47.8	
	comp=Z,29nm,21.9s,baz=68,slow=38						
H11S1	**WAKE ISLAND Hy**	**28.46**	**120**	T	T	09 06 37.5	
	baz=313,slow=75,SNR=160						
H11S3	**WAKE ISLAND Hy**	**28.46**	**121**	T	T	09 06 39.0	
	baz=313,slow=75,SNR=125						
H11S2	**WAKE ISLAND Hy**	**28.48**	**120**	T	T	09 06 38.2	
	baz=313,slow=75,SNR=112						
KKM	**Kota Kinabalu**	**37.38**	**223**	*e*P	P	08 38 24.7	+6.4
	9.6nm,1.0s						
ZALV	**Zalesovo Beam**	**42.54**	**313**	P	**P**	**08 38 59.8**	**-0.7**
	1.7nm,0.6s,baz=68,slow=6.8,SNR=5.0						
MK31	**Makanchi Array**	**44.54**	**303**	*e*P	**P**	**08 39 17.2**	**+0.4**
MKAR	**Makanchi Array**	**44.54**	**303**	P	**P**	**08 39 17.0**	**+0.2**
	3.8nm,0.7s,baz=91,slow=9.8,SNR=29						
MKAR	**Makanchi Array**	**44.54**	**303**	*e*P	**P**	**08 39 17.2**	**+0.4**
	30nm,0.7s						
MAKZ	**Makanchi**	**44.75**	**303**	*e*P	**P**	**08 39 19.6**	**+1.2**
	4.4nm,0.8s						
KURK	**Kurchatov**	**46.47**	**309**	P	**P**	**08 39 32.5**	**+0.5**
KURBB	**Kurchatov Arra**	**46.54**	**309**	P	**P**	**08 39 32.5**	**0.0**
	3.8nm,0.7s,baz=84,slow=7.8,SNR=14						
SVW2	**Sparrevohn**	**46.68**	**37**	*e*P	P	08 39 39.5	+6.0
	2.9nm,1.1s						
MDM	**Murphy Dome**	**50.11**	**32**	*e*P	P	08 40 05.4	+5.5
	2.6nm,1.0s						
ILAR	**Eielson Array**	**50.69**	**32**	P	**P**	**08 40 04.2**	**0.0**
	0.5nm,0.7s,baz=266,slow=6.0,SNR=6.3						
BVAR	**Borovoye Array**	**51.19**	**313**	P	**P**	**08 40 07.5**	**-0.7**
	2.5nm,0.8s,baz=92,slow=7.2,SNR=12						
BRVK	**Borovoye**	**51.25**	**313**	*e*P	**P**	**08 40 10.2**	**+1.5**
	3.9nm,0.9s						
HARP	**HAARP**	**51.61**	**35**	*e*P	P	08 40 17.5	+6.3
	17nm,1.3s						
WRA	**Warramunga Arr**	**55.80**	**188**	P	**P**	**08 40 41.7**	**-0.7**
	0.6nm,0.6s,baz=3.1,slow=7.5,SNR=18						
ARU	**Arti**	**57.09**	**319**	*e*P	**P**	**08 40 51.7**	**+0.5**
	7.6nm,0.7s						
AB06	**Akbulak array**	**58.50**	**311**	*e*P	**P**	**08 41 02.3**	**+1.1**
AB05	**Akbulak array**	**58.51**	**311**	*e*P	**P**	**08 41 02.8**	**+1.5**
AB07	**Akbulak array**	**58.51**	**311**	*e*P	**P**	**08 41 02.0**	**+0.7**
AB02	**Akbulak array**	**58.51**	**311**	*e*P	**P**	**08 41 02.0**	**+0.7**
AB31	**Akbulak array**	**58.52**	**311**	*e*P	**P**	**08 41 01.4**	**+0.1**
ABKAR	**Akbulak array**	**58.52**	**311**	*e*P	**P**	**08 41 01.4**	**+0.1**
	24nm,1.1s						
ASAR	**Alice Springs**	**59.53**	**188**	P	**P**	**08 41 08.3**	**-0.2**
	0.3nm,0.7s,baz=7.6,slow=8.1,SNR=7.4						
YKA	**Yellowknife Ar**	**65.02**	**30**	P	**P**	**08 41 44.9**	**+0.1**
	0.2nm,0.8s,baz=296,slow=6.1,SNR=4.4						
AKASG	**Malin Array Be**	**75.09**	**322**	P	**P**	**08 42 46.3**	**-0.6**
	0.3nm,0.3s,baz=45,slow=6.4,SNR=5.7						
NOA	**NORSAR Array B**	**75.21**	**337**	P	**P**	**08 42 46.8**	**-0.7**
	0.4nm,0.7s,baz=46,slow=6.9,SNR=2.7						
NVAR	**Mina Array Bea**	**75.96**	**53**	P	**P**	**08 42 52.5**	**+0.1**
	0.1nm,0.3s,baz=302,slow=4.1,SNR=2.2						
PDAR	**Pinedale Array**	**78.74**	**45**	P	**P**	**08 43 07.9**	**0.0**
	0.1nm,0.6s,baz=276,slow=2.6,SNR=2.4						
BRTR	**Keskin Array B**	**79.45**	**312**	P	**P**	**08 43 12.2**	**+0.5**
	0.4nm,0.5s,baz=15,slow=5.8,SNR=5.1						
BR231	**Keskin MP Arra**	**79.90**	**312**	*e*P	**P**	**08 43 14.3**	**+0.1**
P17A	**Butcher Ranch,**	**80.09**	**48**	*e*P	P	08 43 21.1	+5.8
	1.2nm,0.8s						
LPAZ	**La Paz**	**147.56**	**61**	*e*PKPdf	**PKPbc**	**08 50 51.4**	**+0.8**

ISK ***07*** *08:38:38.8, 38°.08N×42°.62E, h5km, ML2.4/3*
DDA ***07*** *08:38:39.7, 38°.03N×42°.63E, h7km, Ml2.6*
ISCJB ***07*** *08:38:40.2±0.6, 38°.06N±0°.03×42°.62E±0°.04, h8km, Error ellipse: s-maj=5.5km s-min=4.5km az=43.0*
CSEM ***07*** *08:38:40.0±0.3, 38°.04N×42°.63E, h5km, ML2.6, Error ellipse: s-maj=6.8km s-min=5.8km az=135.0*
ISC 07 08:38:39.9±0.9, **38°.04N**±0°.03×**42°.63E**±0°.03, **h8**km, **n20, σ0s.75**/28, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GEVA	**Gevas**	**0.43**	**51**	*i* P	**Pg**	**08 38 48.5**	**+0.2**
GEVA				*i* S	**Sb**	**08 38 55.7**	**-0.9**
GEVA	**Gevas**	**0.43**	**51**	P	**Pg**	**08 38 48.5**	**+0.2**
GEVA				S	**Sb**	**08 38 55.7**	**-0.9**
SIRT	**Sirnak**	**0.56**	**196**	PG	**Pg**	**08 38 51.3**	**+0.5**
SIRT				SG	**Sb**	**08 39 00.5**	**+0.2**
SIRT	**Sirnak**	**0.56**	**196**	*e*Pg	**Pg**	**08 38 51.3**	**+0.5**
SIRT				*e*Sg	**Sb**	**08 39 00.5**	**+0.2**
SRTM	**Siirt_Merkez**	**0.56**	**265**	*i* P	**Pg**	**08 38 50.0**	**-0.8**
SRTM	**Siirt_Merkez**	**0.56**	**265**	P	**Pg**	**08 38 50.0**	**-0.8**
GURO	**Guroymak-BITLI**	**0.69**	**317**	PG	**Pg**	**08 38 52.6**	**-0.7**
GURO				SG	**Sg**	**08 39 02.7**	**+0.3**
GURO	**Guroymak-BITLI**	**0.69**	**317**	*e*Pg	**Pg**	**08 38 52.6**	**-0.7**
GURO				*e*Sg	**Sg**	**08 39 02.7**	**+0.3**
ADCV	**BITLIS_Adilcev**	**0.77**	**5**	*i* P	**Pg**	**08 38 54.6**	**-0.1**
ADCV	**BITLIS_Adilcev**	**0.77**	**5**	P	**Pg**	**08 38 54.6**	**-0.1**
HAKT	**HAKKARI**	**0.98**	**119**	*i* P	**Pg**	**08 38 58.4**	**-0.3**
HAKT	**HAKKARI**	**0.98**	**119**	P	**Pg**	**08 38 58.4**	**-0.3**
BTMN	**Batman**	**1.09**	**262**	*i* P	**Pg**	**08 39 00.6**	**-0.2**
BTMN				*i* S	**Sn**	**08 39 16.2**	**-0.6**
BTMN	**Batman**	**1.09**	**262**	P	**Pg**	**08 39 00.6**	**-0.2**
BTMN				S	**Sn**	**08 39 16.2**	**-0.6**
EKAR	**Karacoban**	**1.29**	**340**	*i* P	**Pg**	**08 39 06.6**	**+1.9**
EKAR	**Karacoban**	**1.29**	**340**	P	**Pg**	**08 39 06.6**	**+1.9**
AGRB	**Hanur-Agry**	**1.56**	**10**	PN	**Pn**	**08 39 08.0**	**-0.1**
AGRB	**Hanur-Agry**	**1.56**	**10**	*e*Pn	**Pn**	**08 39 08.0**	**-0.1**
MAZI	**Mazidag**	**1.83**	**252**	PN	**Pn**	**08 39 12.4**	**+0.6**
MAZI	**Mazidag**	**1.83**	**252**	*e*Pn	**Pn**	**08 39 12.4**	**+0.6**

SKO ***07*** *08:39:51.0, 39°.25N×20°.51E, h103km, M2.4, ML2.8*
TIR ***07*** *08:39:53.8, 39°.62N×19°.73E, h78km, Md3.0/4*
ATH ***07*** *08:39:56.5, 39°.66N×20°.37E, h30km±1km, ML2.9/4, Error ellipse: s-maj=1.9km s-min=0.9km az=310.0*
CSEM ***07*** *08:39:57.4±0.2, 39°.69N×20°.39E, h10km, ML2.5, Error ellipse: s-maj=4.2km s-min=3.2km az=30.0*
ISCJB ***07*** *08:39:57.9±0.4, 39°.69N±0°.03×20°.36E±0°.03, h17km±7km, Error ellipse: s-maj=4.9km s-min=3.6km az=31.7*
THE ***07*** *08:39:57.5, 39°.65N×20°.39E, h0km, ML2.5/8, Error ellipse: s-maj=0.9km s-min=0.3km az=17.0*
ISC 07 08:39:57.8±0.8, **39°.64N**±0°.02×**20°.37E**±0°.02, **h17**km±6km, **n47, σ1s.18**/77, **Greece-Albania border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGD	**Sagiada**	**0.11**	**255**	P	**Pg**	**08 40 00.5**	**-0.9**
SGD	**Sagiada**	**0.11**	**255**	P	**Pg**	**08 40 00.5**	**-0.9**
KASA	**Kassiopi**	**0.35**	**287**	P	**Pg**	**08 40 04.6**	**-0.6**
KASA				S	**Sb**	**08 40 11.4**	**+0.5**
KASA				AML	AML	08 40 11.7	
	comp=E,3349µm,0.2s						
KASA				AML	AML	08 40 13.9	
	comp=N,4792µm,0.3s						
KASA	**Kassiopi**	**0.35**	**287**	P	**Pg**	**08 40 04.7**	**-0.4**
KASA				S	**Sb**	**08 40 11.1**	**+0.3**
JAN	**Janina**	**0.37**	**87**	P	**Pg**	**08 40 05.0**	**-0.5**
JAN				S	**Sb**	**08 40 12.0**	**+0.6**
JAN				AML	AML	08 40 12.6	
	comp=N,9729µm,0.4s						
JAN				AML	AML	08 40 13.1	
	comp=E,8059µm,0.2s						
JAN	**Janina**	**0.37**	**87**	P	**Pg**	**08 40 04.5**	**-1.0**
JAN				S	**Sg**	**08 40 10.0**	**-0.7**
JAN	**Janina**	**0.37**	**87**	P	**Pg**	**08 40 04.5**	**-1.0**
JAN				S	**Sg**	**08 40 10.0**	**-0.7**
SRN	**Sarande**	**0.37**	**310**	P	**Pg**	**08 40 04.7**	**-0.8**
SRN				S	**Sg**	**08 40 10.8**	**+0.1**
SRN	**Sarande**	**0.37**	**310**	P	**Pg**	**08 40 04.7**	**-0.8**
SRN				S	**Sg**	**08 40 10.8**	**+0.1**
SRN	**Sarande**	**0.37**	**310**	*i* PG	**Pg**	**08 40 04.7**	**-0.8**
SRN				*i* SG	**Sg**	**08 40 10.6**	**-0.1**
KEK	**Kerkira**	**0.45**	**279**	P	**Pg**	**08 40 06.0**	**-0.9**
KEK				AML	AML	08 40 14.2	
	comp=E,3052µm,0.1s						
KEK				S	**S**	**08 40 14.2**	**+1.2**
KEK				AML	AML	08 40 15.5	
	comp=N,2299µm,0.5s						
KEK	**Kerkira**	**0.45**	**279**	P	**Pg**	**08 40 06.2**	**-0.6**
KEK				S	**Sb**	**08 40 13.6**	**0.0**
KEK	**Kerkira**	**0.45**	**279**	P	**Pg**	**08 40 06.2**	**-0.6**
KEK				S	**Sb**	**08 40 13.6**	**0.0**
DSL	**Palaion Diasel**	**0.76**	**132**	P	**Pg**	**08 40 11.5**	**-1.1**
DSL				S	**Sb**	**08 40 23.5**	**+1.0**
DSL	**Palaion Diasel**	**0.76**	**132**	P	**Pg**	**08 40 11.8**	**-0.8**
DSL				S	**Sg**	**08 40 22.7**	**+0.1**
DSL	**Palaion Diasel**	**0.76**	**132**	P	**Pg**	**08 40 11.8**	**-0.8**
DSL				S	**Sg**	**08 40 22.7**	**+0.1**
PENT	**Pentalofos**	**0.81**	**47**	P	**Pg**	**08 40 11.9**	**-1.7**
PENT	**Pentalofos**	**0.81**	**47**	P	**Pg**	**08 40 12.2**	**-1.4**
PENT	**Pentalofos**	**0.81**	**47**	P	**Pg**	**08 40 12.2**	**-1.4**
KPRO	**Kipourio**	**0.82**	**67**	P	**Pg**	**08 40 12.7**	**-1.2**
KPRO				S	**Sg**	**08 40 24.4**	**-0.3**
KPRO				AML	AML	08 40 27.6	
	comp=N,789µm,0.6s						
KPRO				AML	AML	08 40 28.5	
	comp=E,1544µm,0.7s						
KPRO	**Kipourio**	**0.82**	**67**	P	**Pg**	**08 40 12.8**	**-1.1**
KPRO	**Kipourio**	**0.82**	**67**	P	**Pg**	**08 40 12.8**	**-1.1**
KPRO				S	**Sg**	**08 40 24.5**	**-0.3**
LKD2	**Lefkada island**	**0.88**	**165**	P	**Pg**	**08 40 13.6**	**-1.3**
LKD2	**Lefkada island**	**0.88**	**165**	P	**Pg**	**08 40 14.1**	**-0.8**
LKD2				S	**Sb**	**08 40 27.3**	**+1.3**
LKD2	**Lefkada island**	**0.88**	**165**	P	**Pg**	**08 40 14.1**	**-0.8**
LKD2				S	**Sb**	**08 40 27.3**	**+1.3**
NEST	**Nestorio**	**0.93**	**34**	P	**Pg**	**08 40 15.0**	**-0.8**
NEST	**Nestorio**	**0.93**	**34**	P	**Pg**	**08 40 14.7**	**-1.2**
NEST	**Nestorio**	**0.93**	**34**	P	**Pg**	**08 40 14.7**	**-1.2**
FSK	**Fiskardo**	**1.19**	**173**	P	**Pn**	**08 40 20.1**	**+0.5**
FSK				S	**Sg**	**08 40 37.4**	**+1.1**
THL	**Klokotos Trika**	**1.27**	**93**	P	**Pb**	**08 40 21.8**	**+0.5**
THL	**Klokotos Trika**	**1.27**	**93**	P	**Pn**	**08 40 21.0**	**+0.3**
THL	**Klokotos Trika**	**1.27**	**93**	P	**Pn**	**08 40 21.0**	**+0.3**
EVR	**Evrytania**	**1.33**	**123**	P	**Pb**	**08 40 22.5**	**+0.2**
EVR	**Evrytania**	**1.33**	**123**	P	**Pb**	**08 40 22.5**	**+0.2**
FNA	**Florina**	**1.38**	**34**	P	**Pn**	**08 40 23.1**	**+0.9**
FNA				S	**Sg**	**08 40 42.6**	**+0.3**
FNA	**Florina**	**1.38**	**34**	P	**Pn**	**08 40 23.1**	**+0.9**
VLS	**Valsamata**	**1.47**	**173**	P	**Pn**	**08 40 24.5**	**+1.0**
VLS				S	**Sg**	**08 40 45.5**	**+0.2**
VLS	**Valsamata**	**1.47**	**173**	P	**Pn**	**08 40 24.5**	**+1.0**
VLS				S	**Sg**	**08 40 45.5**	**+0.2**
OHR	**Ohrid**	**1.50**	**12**	*i* Pg	**Pg**	**08 40 27.9**	**+1.2**
OHR				*i* Sg	**Sg**	**08 40 49.7**	**+3.3**
OHR				*e*Lg	Lg	08 40 51.7	
	comp=E,67nm,0.5s						
OHR				*e*Lg	Lg	08 40 52.9	
	comp=N,64nm,0.7s						
BIA	**Bitola**	**1.56**	**28**	*i* Pg	**Pb**	**08 40 27.2**	**+1.1**
BIA				*i* Sg	**Sg**	**08 40 50.9**	**+2.8**
KRUS	**Krusevo**	**1.85**	**21**	*i* Pg	**Pb**	**08 40 31.5**	**+0.3**
KRUS				*i* Sg	**Sg**	**08 40 57.2**	**-0.2**
STON	**Ston**	**3.80**	**329**	*e*Pn	**Pn**	**08 40 54.1**	**-1.4**
STON				Sn	**Sn**	**08 41 37.4**	**-2.4**
STON	**Ston**	**3.80**	**329**	*e*Pn	**Pn**	**08 40 54.1**	**-1.4**
STON				Sn	**Sn**	**08 41 37.4**	**-2.4**
UDBI	**Udbina**	**5.96**	**326**	*e*Pn	**Pn**	**08 41 27.0**	**+1.6**
UDBI				Sn	**Sn**	**08 42 33.5**	**+0.2**
UDBI	**Udbina**	**5.96**	**326**	*e*Pn	**Pn**	**08 41 26.9**	**+1.6**
UDBI				Sn	**Sn**	**08 42 33.4**	**+0.2**
NVLJ	**Novalja**	**6.40**	**322**	*e*Pn	**Pn**	**08 41 30.7**	**-0.5**
NVLJ				Sn	**Sn**	**08 42 39.5**	**-4.2**
NVLJ	**Novalja**	**6.40**	**322**	*e*Pn	**Pn**	**08 41 30.6**	**-0.5**

MOS ***07*** *08:44:46.2±1.1, 20°.66S×178°.11W, h530km, mb4.8/35, Error ellipse: s-maj=11.8km s-min=8.8km az=57.8*
BJI ***07*** *08:44:46.9, 20°.46S×177°.65W, h549km, mb4.7/31, mB4.9/17*
IDC ***07*** *08:44:46.2±1.1, 20°.86S×178°.00W, h529km±12km, mb4.1/30, mb1 4.1/34, mb1mx4.1/50, mbtmp4.9/34, Error ellipse: s-maj=9.6km s-min=8.4km az=107.0*
ISCJB ***07*** *08:44:47.7±0.5, 20°.84S±0°.02×178°.21W±0°.03, h552km±6km, mb4.7/247, Error ellipse: s-maj=4.6km s-min=3.3km az=27.5*
GCMT ***07*** *08:44:49.0±0.4, 20°.86S×178°.27W, h560km±2km, MW5.2/51, Moment Tensor Solution. s51,c63; Duration: 1s.0 Moment tensor: Scale 10^17Nm; Mrr-0.71±.03; Mθθ0.61±.06; Mϕϕ0.10±.06; Mrθ-0.37±.07; Mθϕ0.31±.05; Mϕr-0.45±.07; Best double couple: M0 0.93800×10^17 NP1:ϕs50.00000°, δ65.00000°, λ-104.00000°. NP2: ϕs260.00000°, δ29.00000°, λ-63.00000°. Principal axes: T 0.9310, Plg18.0000°, Azm150.0000°; N 0.0150, Plg13.0000°, Azm56.0000°; P -0.9450, Plg67.0000°, Azm293.0000°; nsta1 refers to body waves, cutoff=40s.*
NEIC ***07*** *08:44:49.0±0.5, 20°.86S×178°.19W, h560km±5km, mb4.8/209 Error ellipse: s-maj=4.8km s-min=3.2km az=135.0*
WEL ***07*** *08:44:53.7±0.9, 22°S±9°×17°7W±4°0, h536km±11km*
ISC 07 08:44:47.9±0.5, **20°.91S**±0°.04×**178°.02W**±0°.05, **h551**km±5km, **n747, σ1s.15**/789, **mb4.8**/247, **30C-15D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.87**	**310**	*e*P	**P**	**08 46 16.6**	**-0.3**
MSVF	**Nonsavu**	**4.87**	**310**	*e*P	**P**	**08 46 16.6**	**-0.3**
RIZ	**Raoul Island**	**8.30**	**179**	P	**P**	**08 46 48.4**	**-0.1**
RAO	**Raoul Island**	**8.31**	**179**	P	**P**	**08 46 46.7**	**-1.9**
	130nm,0.3s,baz=95,slow=22,SNR=4.4						
RAO				S	**S**	**08 48 24.9**	**-2.8**
	160nm,0.3s,baz=67,slow=22,SNR=10						
RAO	**Raoul Island**	**8.31**	**179**	*e*P	**P**	**08 46 46.9**	**-1.7**
RAO				*e*S	**S**	**08 48 28.9**	**+1.2**
RAO	**Raoul Island**	**8.31**	**179**	*e*P	**P**	**08 46 46.9**	**-1.7**
RAO				*e*S	**S**	**08 48 28.9**	**+1.2**
GLKZ	**Green Lake**	**8.32**	**179**	P	**P**	**08 46 46.9**	**-1.8**
GLKZ	**Green Lake**	**8.32**	**179**	S	S	08 48 18.9	-9.0
AFI	**Afiamalu**	**9.16**	**42**	P	P	08 46 53.2	-4.3
	12nm,0.3s,baz=225,slow=20,SNR=14						
AFI				S	S	08 48 32.7	-11
	12nm,0.3s,baz=219,slow=18,SNR=13						
AFI	**Afiamalu**	**9.16**	**42**	*e*P	P	08 46 52.9	-4.6
AFI				S	S	08 48 32.8	-11
FUNA	**Funafuti**	**12.60**	**347**	*e*P	P	08 47 29.1	-3.6
DZM	**Mont Dzumac**	**14.51**	**263**	P	**P**	**08 47 52.1**	**-0.4**
	3.2nm,0.3s,baz=95,slow=16,SNR=46						
DZM	**Mont Dzumac**	**14.51**	**263**	*e*P	**P**	**08 47 52.2**	**-0.2**
OUZ	**Omahuta**	**16.05**	**206**	*e*P	**P**	**08 48 09.0**	**+1.3**
	38nm,0.6s						
OUZ	**Omahuta**	**16.05**	**206**	P	**P**	**08 48 08.7**	**+1.0**
WCZ	**Waipu Caves**	**16.40**	**202**	P	**P**	**08 48 12.4**	**+1.4**
KUZ	**Kuaotunu**	**16.70**	**198**	P	**P**	**08 48 15.3**	**+1.7**
MXZ	**Matakaoa Point**	**16.90**	**190**	*e*P	**P**	**08 48 17.1**	**+1.6**
	225nm,1.4s						
MXZ	**Matakaoa Point**	**16.90**	**190**	P	**P**	**08 48 16.0**	**+0.6**
RAR	**Rarotonga**	**17.04**	**94**	P	**P**	**08 48 16.8**	**-0.1**
	1.3nm,0.3s,baz=239,slow=8.1,SNR=5.6						
RAR	**Rarotonga**	**17.04**	**94**	*e*P	**P**	**08 48 14.1**	**-2.9**
	21nm,1.1s						
RAR	**Rarotonga**	**17.04**	**94**	*e*P	**P**	**08 48 14.1**	**-2.9**
RAR				pmax	pmax		
	comp=Z,21nm,1.1s						
HAZ	**Te Kaha**	**17.18**	**191**	P	**P**	**08 48 17.8**	**-0.2**
PUZ	**Puketiti**	**17.41**	**190**	P	**P**	**08 48 20.5**	**+0.4**
TGRZ	**Tauranga**	**17.48**	**195**	P	**P**	**08 48 23.4**	**+2.7**
OPRZ	**Ohinepanea**	**17.52**	**194**	P	**P**	**08 48 22.6**	**+1.5**
TWGZ	**Tauwhareparae**	**17.55**	**190**	P	**P**	**08 48 23.1**	**+1.6**
TWGZ	**Tauwhareparae**	**17.55**	**190**	S	**S**	**08 51 13.6**	**-1.9**
KMRZ	**Kaimai**	**17.67**	**196**	P	**P**	**08 48 25.5**	**+3.0**
MWZ	**Matawai**	**17.79**	**192**	P	**P**	**08 48 23.8**	**+0.2**
MWZ	**Matawai**	**17.79**	**192**	S	**S**	**08 51 16.6**	**-2.7**
URZ	**Urewera**	**17.80**	**193**	P	**P**	**08 48 21.7**	**-2.0**
	comp=Z,7.7nm,0.3s,baz=305,slow=1.8,SNR=43						
URZ				S	**S**	**08 51 14.4**	**-5.0**
	comp=Z,0.9nm,0.3s,baz=90,slow=19,SNR=7.0						
URZ	**Urewera**	**17.80**	**193**	*e*P	**P**	**08 48 21.9**	**-1.7**
	comp=Z,58nm,0.6s						
URZ				S	**S**	**08 51 14.4**	**-5.0**
URZ	**Urewera**	**17.80**	**193**	P	**P**	**08 48 22.7**	**-0.9**
URZ	**Urewera**	**17.80**	**193**	S	**S**	**08 51 15.2**	**-4.2**
OMRZ	**Omania**	**17.81**	**195**	P	**P**	**08 48 26.0**	**+2.2**
CNGZ	**Carnagh Statio**	**17.82**	**190**	P	**P**	**08 48 25.8**	**+2.0**
TKGZ	**Te Karaka**	**17.83**	**191**	P	**P**	**08 48 25.7**	**+1.8**
TARZ	**Mount Tarawera**	**17.91**	**194**	P	**P**	**08 48 26.8**	**+2.0**
RRRZ	**Republican Roa**	**18.00**	**194**	P	**P**	**08 48 26.9**	**+1.3**
HSRZ	**Hossack Road**	**18.04**	**195**	P	**P**	**08 48 28.4**	**+2.5**
HRRZ	**Handcock Road**	**18.10**	**195**	P	**P**	**08 48 28.0**	**+1.4**
GRRZ	**Galatos Road**	**18.11**	**195**	P	**P**	**08 48 28.9**	**+2.4**
RIGZ	**Rimuhau**	**18.11**	**191**	P	**P**	**08 48 27.0**	**+0.4**
RIGZ	**Rimuhau**	**18.11**	**191**	S	**S**	**08 51 22.6**	**-1.9**
RTZ	**Ruatahuna**	**18.17**	**193**	P	**P**	**08 48 27.6**	**+0.4**
PRRZ	**Plateau Road**	**18.18**	**194**	P	**P**	**08 48 28.0**	**+0.8**
TLZ	**Tolley Road**	**18.23**	**196**	P	**P**	**08 48 30.9**	**+3.2**
SNGZ	**Shannon Statio**	**18.26**	**192**	P	**P**	**08 48 28.1**	**+0.2**
SNGZ	**Shannon Statio**	**18.26**	**192**	S	**S**	**08 51 25.5**	**-1.4**
PRGZ	**Paritu Road**	**18.30**	**190**	P	**P**	**08 48 30.6**	**+2.3**
MHGZ	**Mahia Peninsul**	**18.52**	**190**	P	**P**	**08 48 32.6**	**+2.3**
WATZ	**Wairara**	**18.54**	**196**	P	**P**	**08 48 29.0**	**-1.5**
HIZ	**Hauiti**	**18.59**	**198**	*e*P	**P**	**08 48 34.0**	**+3.0**
HIZ	**Hauiti**	**18.59**	**198**	P	**P**	**08 48 34.6**	**+3.7**
RITZ	**Rihia Road**	**18.76**	**195**	P	**P**	**08 48 34.3**	**+1.7**
BKZ	**Black Stump Fm**	**18.80**	**193**	*e*P	**P**	**08 48 32.2**	**-0.6**
	comp=Z,23nm,0.8s						
BKZ	**Black Stump Fm**	**18.80**	**193**	P	**P**	**08 48 32.3**	**-0.6**
BKZ	**Black Stump Fm**	**18.80**	**193**	S	**S**	**08 51 30.8**	**-5.0**
KATZ	**Kakaramea**	**18.80**	**195**	P	**P**	**08 48 34.7**	**+1.7**
KRVZ	**Karewarewa**	**18.93**	**195**	P	**P**	**08 48 35.7**	**+1.5**
TWVZ	**Taurewa**	**18.96**	**196**	P	**P**	**08 48 35.0**	**+0.6**
WTVZ	**West Tongariro**	**18.96**	**195**	P	**P**	**08 48 35.2**	**+0.7**
NGZ	**Ngauruhoe**	**19.02**	**195**	P	**P**	**08 48 35.9**	**+0.9**
MCHZ	**McNeill Hill**	**19.02**	**193**	P	**P**	**08 48 35.0**	**+0.1**
KNTN	**Kanton**	**19.04**	**20**	*e*P	**P**	**08 48 34.0**	**-1.3**
	comp=Z,39nm,0.8s						
KWHZ	**Kaweka Forest**	**19.06**	**193**	P	**P**	**08 48 35.4**	**+0.1**
KWHZ	**Kaweka Forest**	**19.06**	**193**	S	**S**	**08 51 37.9**	**-2.1**
TUVZ	**Tukino**	**19.09**	**195**	P	**P**	**08 48 35.9**	**+0.3**
FWVZ	**Far West T-bar**	**19.10**	**195**	P	**P**	**08 48 36.6**	**+0.8**
WHVZ	**Whangaehu Hut**	**19.12**	**195**	P	**P**	**08 48 36.3**	**+0.3**
TRVZ	**Turoa**	**19.14**	**195**	P	**P**	**08 48 36.8**	**+0.6**
PKVZ	**Pokaka**	**19.19**	**196**	P	**P**	**08 48 37.3**	**+0.9**
MOVZ	**Moawhango**	**19.20**	**195**	P	**P**	**08 48 36.7**	**+0.2**
BHHZ	**Black Hill Sta**	**19.20**	**194**	P	**P**	**08 48 35.4**	**-1.2**
BHHZ	**Black Hill Sta**	**19.20**	**194**	S	**S**	**08 51 39.1**	**-3.2**
KRHZ	**Kereru**	**19.28**	**193**	P	**P**	**08 48 37.4**	**+0.1**
KRHZ	**Kereru**	**19.28**	**193**	S	**S**	**08 51 42.6**	**-0.8**
KAHZ	**Kahuranaki**	**19.32**	**192**	P	**P**	**08 48 38.2**	**+0.6**
KAHZ	**Kahuranaki**	**19.32**	**192**	S	**S**	**08 51 45.7**	**+1.6**
PXZ	**Pawanui**	**19.56**	**192**	P	**P**	**08 48 39.5**	**-0.2**
PXZ	**Pawanui**	**19.56**	**192**	S	**S**	**08 51 47.4**	**-0.4**
PNHZ	**Pukenui**	**19.58**	**193**	P	**P**	**08 48 39.8**	**-0.2**
PNHZ	**Pukenui**	**19.58**	**193**	S	**S**	**08 51 48.5**	**+0.2**
LREZ	**Lake Rotokare**	**19.60**	**198**	P	**P**	**08 48 43.9**	**+3.8**
TSZ	**Takapari Road**	**19.77**	**194**	P	**P**	**08 48 42.2**	**+0.5**
PRHZ	**Porangahau**	**19.83**	**192**	P	**P**	**08 48 42.7**	**+0.6**
DVHZ	**Dannevirke**	**19.96**	**193**	P	**P**	**08 48 43.8**	**+0.5**
ANWZ	**Angora Road**	**20.05**	**192**	P	**P**	**08 48 44.1**	**0.0**
ANWZ	**Angora Road**	**20.05**	**192**	S	**S**	**08 51 54.5**	**-1.1**
BFZ	**Birch Farm**	**20.31**	**193**	*e*P	**P**	**08 48 46.0**	**-0.5**
	comp=Z,34nm,0.5s						
SNZO	**South Karori**	**21.25**	**195**	*e*P	**P**	**08 48 55.1**	**+0.1**
	comp=Z,31nm,0.7s						
THZ	**Tophouse**	**22.16**	**198**	*e*P	**P**	**08 49 04.0**	**+0.7**
	comp=Z,143nm,1.9s						
KHZ	**Kahutara**	**22.59**	**196**	*e*P	**P**	**08 49 07.0**	**+0.1**
	comp=Z,45nm,1.1s						
LTZ	**Lake Taylor**	**23.28**	**198**	*e*P	**P**	**08 49 11.7**	**-1.5**
	comp=Z,45nm,1.1s						
TARA	**Tarawa**	**23.84**	**337**	*e*P	**P**	**08 49 17.8**	**-0.6**
	comp=Z,286nm,1.8s						
OXZ	**Oxford**	**23.85**	**198**	*e*P	**P**	**08 49 17.5**	**-0.7**
	comp=Z,35nm,0.8s						
RPZ	**Rata Peaks**	**24.50**	**199**	P	**P**	**08 49 23.6**	**-0.3**
	comp=Z,11nm,0.6s,baz=35,slow=0.9,SNR=14						
FOZ	**Fox Glacier**	**24.74**	**201**	*e*P	**P**	**08 49 25.6**	**-0.4**
	comp=Z,32nm,0.9s						
FOZ				*e*PcP	**PcP**	**08 52 44.3**	**+0.6**
LBZ	**Lake Benmore**	**25.38**	**200**	*e*P	**P**	**08 49 31.2**	**-0.5**
	comp=Z,29nm,1.5s						
ODZ	**Otahua Downs**	**25.83**	**199**	*e*P	**P**	**08 49 35.7**	**+0.1**
	comp=Z,96nm,1.9s						
MLZ	**Mavora Lakes**	**26.93**	**202**	*e*P	**P**	**08 49 46.4**	**+1.0**
	comp=Z,24nm,1.0s						
DCZ	**Deep Cove**	**27.36**	**203**	*e*P	**P**	**08 49 50.0**	**+0.9**
	comp=Z,49nm,1.4s						
WHZ	**Wether Hill Ro**	**27.45**	**202**	*e*P	**P**	**08 49 50.6**	**+0.7**
	comp=Z,38nm,0.6s						
EIDS	**Eidsvold**	**28.72**	**255**	*e*P	**P**	**08 50 01.6**	**+0.3**
	comp=Z,42nm,1.4s						
ARMA	**Armidale**	**28.87**	**245**	*e*P	**P**	**08 50 04.2**	**+1.5**
	comp=Z,25nm,0.6s						
CTA	**Charters Tower**	**33.43**	**265**	PcP	**PcP**	**08 53 05.4**	**-1.4**
	comp=Z,4.3nm,0.9s,baz=158,slow=5.4,SNR=2.8						
CTAO	**Charters Tower**	**33.43**	**265**	*e*P	**P**	**08 50 41.7**	**0.0**
	comp=Z,41nm,0.6s						
CTAO	**Charters Tower**	**33.43**	**265**	*e*P	**P**	**08 50 41.7**	**0.0**
CTAO				pmax	pmax		
	comp=Z,41nm,0.6s						
PMG	**Port Moresby**	**35.41**	**284**	P	**P**	**08 50 58.3**	**0.0**
	comp=Z,100nm,0.8s,baz=92,slow=7.5,SNR=27						
PMG	**Port Moresby**	**35.41**	**284**	*e*P	**P**	**08 50 58.3**	**0.0**
	comp=Z,101nm,0.8s						
PMG	**Port Moresby**	**35.41**	**284**	*ce*P	**P**	**08 50 58.2**	**-0.1**
PMG				pmax	pmax		
	comp=Z,379nm,0.9s						
PATS	**Pohnpei**	**36.06**	**317**	*e*P	**P**	**08 51 03.8**	**+0.2**
	comp=Z,144nm,1.4s						
COEN	**Coen**	**37.59**	**274**	*e*P	**P**	**08 51 16.6**	**+0.4**
	comp=Z,72nm,0.9s						
STKA	**Stephens Creek**	**37.59**	**245**	P	**P**	**08 51 16.9**	**+0.9**
	comp=Z,20nm,0.7s,baz=91,slow=10,SNR=57						
STKA				PcP	**PcP**	**08 53 19.9**	**+0.7**
	comp=Z,3.0nm,0.4s,baz=84,slow=7.5,SNR=5.7						
STKA	**Stephens Creek**	**37.59**	**245**	*e*P	**P**	**08 51 16.9**	**+0.9**
	comp=Z,4.1nm,0.7s						
STKA				*e*PcP	**PcP**	**08 53 20.2**	**+1.1**
STKA	**Stephens Creek**	**37.59**	**245**	*e*P	**P**	**08 51 16.9**	**+0.9**
STKA				*e*		08 53 20.3	
STKA				pmax	pmax		
	comp=Z,4.0nm,0.7s						
MANU	**Manus Island**	**38.59**	**294**	*e*P	**P**	**08 51 25.3**	**+0.9**
	comp=Z,67nm,0.7s						
BBOO	**Buckleboo**	**42.35**	**244**	*e*P	**P**	**08 51 54.1**	**0.0**
	comp=Z,54nm,1.1s						
JAY	**Jayapura**	**44.15**	**289**	P	**P**	**08 52 08.3**	**-0.1**
AS01	**Alice Springs**	**44.36**	**257**	*e*P	**P**	**08 52 09.8**	**-0.1**
AS01				*e*PcP	**PcP**	**08 53 42.2**	**+0.3**
AS01				*e*S	**S**	**08 58 01.6**	**-3.0**
AS31	**Alice Springs**	**44.41**	**257**	*e*P	**P**	**08 52 10.2**	**0.0**
	comp=Z,34nm,1.3s						
AS31				*e*PcP	**PcP**	**08 53 42.8**	**+0.8**
AS31				*e*S	**S**	**08 58 05.1**	**-0.2**
ASAR	**Alice Springs**	**44.41**	**257**	P	**P**	**08 52 10.4**	**+0.2**
	comp=Z,46nm,0.5s,baz=98,slow=7.6,SNR=891						
ASAR				PcP	**PcP**	**08 53 42.5**	**+0.4**
	comp=Z,8.1nm,0.6s,baz=104,slow=3.7,SNR=9.9						
ASAR				S	**S**	**08 58 03.2**	**-2.1**
	comp=Z,7.8nm,0.8s,baz=93,slow=15,SNR=30						
WB2	**Warramunga Arr**	**44.51**	**262**	*e*P	**P**	**08 52 10.5**	**-0.5**
WB2				*e*PcP	**PcP**	**08 53 42.8**	**+0.4**
WB2				*e*S	**S**	**08 58 04.4**	**-2.4**
WB2				*e*S	S	08 58 05.4	-1.4
WRAB	**Tennant Creek**	**44.52**	**262**	*e*P	**P**	**08 52 10.0**	**-1.1**
	comp=Z,77nm,1.0s						
WRAB	**Tennant Creek**	**44.52**	**262**	*e*P	**P**	**08 52 10.0**	**-1.1**
WRAB				pmax	pmax		
	comp=Z,77nm,1.0s						
WRA	**Warramunga Arr**	**44.52**	**262**	P	**P**	**08 52 10.8**	**-0.4**
	comp=Z,17nm,0.3s,baz=97,slow=7.7,SNR=650						

WRA PcP **PcP** 08 53 43.0 +0.5
comp=Z,2.9nm,0.5s,baz=97,slow=3.3,SNR=4.7
KHLU Kahalu'u 45.71 30 eP **P** 08 52 19.8 -0.4
comp=Z,98nm,1.2s
HMH Humu'ula Sheep 45.91 30 eP **P** 08 52 22.2 +0.2
comp=Z,152nm,1.3s
POHA Pohakuloa 46.02 30 eP **P** 08 52 22.5 -0.2
comp=Z,159nm,1.5s
HPAH Hawaii Prepara 46.18 30 eP **P** 08 52 23.4 -0.4
comp=Z,194nm,1.5s
MHA Mahukona 46.22 29 eP **P** 08 52 24.3 +0.4
MHA Mahukona 46.22 29 eP **P** 08 52 24.3 +0.4
KEKH Kekaha 46.23 24 eP **P** 08 52 23.8 -0.1
comp=Z,488nm,1.8s
FORT Forrest 49.11 247 eP **P** 08 52 45.3 -0.3
comp=Z,1μm,0.6s
MTN Manton Dam 49.15 271 eP **P** 08 52 45.4 -0.6
comp=Z,41nm,0.8s
SARN Sarigan 51.56 314 eP **P** 08 53 02.7 -0.8
FAKI Fak Fak 51.57 283 P **P** 08 53 03.1 -0.6
comp=Z,40nm,1.8s
FAKI Fak Fak 51.57 283 eP **P** 08 53 03.1 -0.6
comp=Z,68nm,1.3s
FITZ Fitzroy Crossi 52.95 263 eP **P** 08 53 13.7 +0.1
SWI Sorong 53.33 285 P **P** 08 53 16.3 0.0
comp=Z,184nm,0.9s,comp=Z,2μm
AAI Ambon 54.97 281 P **P** 08 53 27.0 -0.9
SOEI Soe 56.49 272 P **P** 08 53 39.8 +1.3
comp=Z,124nm,0.7s,comp=Z,2μm
SOEI Soe 56.49 272 eP **P** 08 53 39.8 +1.3
comp=Z,114nm,0.8s
LBMI Labuha 56.83 284 P **P** 08 53 41.7 +1.0
comp=Z,64nm,1.1s,comp=Z,1μm
BATI Baumata 56.91 271 P **P** 08 53 41.4 +0.1
comp=Z,41nm,0.6s,baz=166,slow=1.6,SNR=6.6
BATI Baumata 56.91 271 P **P** 08 53 42.3 +1.0
comp=Z,35nm,0.7s
SBA Scott Base 57.47 184 eP **P** 08 53 47.8 +3.8
comp=Z,8.5nm,1.1s
SBA eP cP **PcP** 08 54 32.2 +2.2
VNDA Vanda 57.50 185 P **P** 08 53 43.3 -0.9
comp=Z,1.4nm,0.7s,baz=4.0,slow=5.7,SNR=6.8
VNDA Vanda 57.50 185 eP **P** 08 53 43.9 -0.3
comp=Z,4.4nm,1.1s
VNDA Vanda 57.50 185 eP **P** 08 53 43.9 -0.3
VNDA pmax pmax
comp=Z,4.0nm,1.1s
TNTI Ternate 57.54 285 eP **P** 08 53 45.2 -0.3
comp=Z,57nm,0.9s
SANI Sanana 57.64 281 P **P** 08 53 44.9 -1.3
comp=Z,38nm,1.1s,comp=Z,696nm
MBWA Marble Bar 57.74 258 eP **P** 08 53 46.4 -0.4
comp=Z,38nm,0.8s
NWAO Narrogin (SRO) 58.17 244 P **P** 08 53 49.5 -0.1
baz=348,slow=2.4
NWAO Narrogin (SRO) 58.17 244 eP **P** 08 53 49.9 +0.3
comp=Z,61nm,1.4s
NWAO Narrogin (SRO) 58.17 244 eP **P** 08 53 49.9 +0.3
NWAO pmax pmax
comp=Z,61nm,1.4s
JCJ Chichijima 61.33 319 P **P** 08 54 11.9 +1.3
comp=Z,101nm,0.8s,baz=137,slow=19,SNR=2.9
CBIJ Chichi jima 61.34 319 P **P** 08 54 11.9 +1.3
APSI Ampana 62.07 280 P **P** 08 54 16.5 +0.8
comp=Z,76nm,1.2s,comp=Z,899nm
PLAI Plampang 62.85 271 P **P** 08 54 20.4 -0.3
comp=Z,80nm,0.8s
CASY Casey 63.59 205 eP **P** 08 54 26.0 +1.5
comp=Z,6.3nm,1.1s
SRBI Singaraja 65.49 271 P **P** 08 54 36.8 -0.7
JHJ Hachijo jima 2 67.15 322 P **P** 08 54 46.9 -0.4
comp=Z,55nm,0.4s,baz=66,slow=20,SNR=3.0
QSPA South Pole Qui 69.16 180 P **P** 08 55 01.4 +2.2
comp=Z,3.3nm,0.6s,baz=353,slow=0.5,SNR=14
KKM Kota Kinabalu 69.84 285 eP **P** 08 55 04.6 +0.5
comp=Z,29nm,0.9s
UGM Wanagama 69.93 269 eP **P** 08 55 04.7 +0.1
comp=Z,295nm,1.5s
JOW Kunigami 70.41 310 eP **P** 08 55 06.6 -0.5
comp=Z,62nm,1.4s
MJAR Matsushiro Arr 70.52 324 P **P** 08 55 06.6 -0.9
comp=Z,4.4nm,0.5s,baz=168,slow=6.4,SNR=16
MAJO Matsushiro 70.53 324 eP **P** 08 55 07.2 -0.4
comp=Z,12nm,0.8s
MAJO Matsushiro 70.53 324 *i* P **P** 08 55 06.8 -0.8
MAJO pmax pmax
comp=Z,6.0nm,0.6s
MAT Matsushiro 70.53 324 P **P** 08 55 07.0 -0.6
MJB9 Matsu-Tunnel 70.53 324 eP **P** 08 55 07.3 -0.3
comp=Z,12nm,0.8s
SBUM Sibu 72.05 280 eP **P** 08 55 17.7 +0.7
comp=Z,10nm,0.9s
JNU Nakatsue 72.56 317 P **P** 08 55 19.2 -0.3
comp=Z,18nm,0.8s,baz=98,slow=7.6,SNR=7.6
JNU Nakatsue 72.56 317 eP **P** 08 55 20.1 +0.6
comp=Z,44nm,1.1s
YOJ Yonaguni jima 72.95 305 eP **P** 08 55 22.3 +0.4
comp=Z,303nm,1.7s
YOJ Yonaguni jima 72.95 305 eP **P** 08 55 22.3 +0.4
YOJ pmax pmax
comp=Z,303nm,1.7s
KSM Kuching 73.45 278 eP **P** 08 55 25.4 +0.3
comp=Z,52nm,1.1s
TWG Pinlang 73.58 303 eP **P** 08 55 24.2 -1.4
comp=Z,219nm,1.4s
YULB Yu-li 73.70 303 eP **P** 08 55 24.9 -1.3
comp=Z,46nm,1.5s
NACB Ninganchiao 73.89 304 eP **P** 08 55 26.9 -0.3
comp=Z,94nm,1.4s
ASAJ Asahikawa 74.07 332 P **P** 08 55 28.9 +1.0
comp=Z,7.9nm,0.5s,baz=234,slow=18,SNR=15
TPUB Ta-pu 74.18 303 eP **P** 08 55 27.7 -1.3
comp=Z,46nm,0.9s
SSLB Suanglung 74.18 304 eP **P** 08 55 27.9 -1.1
comp=Z,66nm,1.5s
UNV Unalaska Valle 75.11 7 eP **P** 08 55 32.0 -1.4
comp=Z,86nm,1.7s
AKUT Akutan 75.47 7 eP **P** 08 55 34.1 -1.3
comp=Z,116nm,1.3s
YSS Yuzh-Sakhalins 76.25 334 ||eP **P** 08 55 40.5 +0.6
YSS e 08 55 42.6
YSS pmax pmax
comp=Z,30nm,1.2s
FALS False Pass 76.49 9 eP **P** 08 55 40.1 -0.8
comp=Z,56nm,1.0s
PETK Petropavlovsk- 76.66 345 P **P** 08 55 41.8 -0.2
comp=Z,7.9nm,0.6s,baz=147,slow=5.9,SNR=9.5
PETK Petropavlovsk- 76.66 345 eP **P** 08 55 42.0 0.0
PETK Petropavlovsk- 76.66 345 eP **P** 08 55 42.0 0.0
KSRS Korea Array 77.18 319 P **P** 08 55 45.9 +0.7
comp=Z,6.9nm,1.0s,baz=142,slow=6.1,SNR=18
KSAR Wonju Array Be 77.19 319 P **P** 08 55 45.9 +0.6
KSAR Wonju Array Be 77.19 319 P **P** 08 55 45.9 +0.6
KS01 Wonju Array Si 77.21 319 eP **P** 08 55 45.4 0.0
SDPT Sand Point 77.41 10 eP **P** 08 55 45.2 -0.8
comp=Z,78nm,1.3s
SAO San Andreas Ge 78.34 43 eP **P** 08 55 53.4 +1.9
comp=Z,12nm,0.9s
SAO San Andreas Ge 78.34 43 eP **P** 08 55 53.4 +1.9
SAO pmax pmax
comp=Z,12nm,0.9s
PMPB Monarch Peak 78.43 44 eP **P** 08 55 53.8 +1.8
comp=Z,56nm,1.6s
RDG13 Poverty Ridge 78.55 42 eP **P** 08 55 54.4 +1.6
comp=Z,10.0nm,0.7s
CHGN Chignik 78.67 11 eP **P** 08 55 52.1 -0.7
comp=Z,25nm,1.0s
HOPS Hopland Field 78.69 41 eP **P** 08 55 54.4 +1.0
comp=Z,23nm,1.1s
KCPM Cahto Peak 78.82 40 eP **P** 08 55 56.2 +2.0
comp=Z,18nm,1.0s
DECC Green Verdugo 78.93 47 P **P** 08 55 55.8 +1.0
baz=235
KMRM Mail Ridge 79.08 39 eP **P** 08 55 57.6 +2.1
comp=Z,39nm,0.8s
ARVC Arvin 79.09 46 P **P** 08 55 57.0 +1.5
baz=235
MWC Mount Wilson 79.10 47 eP **P** 08 55 57.1 +1.2
comp=Z,11nm,0.9s
MWC Mount Wilson 79.10 47 eP **P** 08 55 57.1 +1.2
MWC pmax pmax
comp=Z,11nm,0.9s
BAR Barrett 79.20 49 eP **P** 08 55 58.5 +2.3
comp=Z,10nm,1.2s
JCC Jacoby Creek, 79.27 39 eP **P** 08 55 58.0 +1.7
comp=Z,36nm,1.5s
USRK Ussuriysk Ar. 79.29 326 P **P** 08 55 57.4 +1.1
comp=Z,11nm,0.9s,baz=126,slow=5.9,SNR=12
VES Vestal, Richgr 79.33 45 P **P** 08 55 57.9 +1.1
baz=235
MURC Murrieta 79.34 48 P **P** 08 55 58.1 +1.1
baz=236
BFSC Mount Baldy Ra 79.38 47 P **P** 08 55 58.2 +0.9
baz=236
KHMM Horse Mountain 79.48 39 eP **P** 08 55 59.7 +2.0
comp=Z,11nm,0.7s
MONP2 Monument Peak 79.49 49 P **P** 08 55 59.4 +1.4
baz=237,SNR=7.8
EDW2 Edwards Air Fo 79.51 46 P **P** 08 55 59.2 +1.4
baz=236,SNR=7.6
IKP In-Ko-Pah, Jac 79.58 49 P **P** 08 55 59.9 +1.6
baz=237
ISA Isabella, Lake 79.63 46 P **P** 08 55 59.8 +1.3
baz=235,SNR=7.5
ISA Isabella, Lake 79.63 46 eP **P** 08 55 59.8 +1.3
comp=Z,48nm,1.8s
ISA Isabella, Lake 79.63 46 eP **P** 08 55 59.8 +1.3
ISA pmax pmax
comp=Z,49nm,1.8s
CMB Columbia Colle 79.78 43 eP **P** 08 56 00.2 +1.0
comp=Z,20nm,1.4s
CMB Columbia Colle 79.78 43 eP **P** 08 56 00.2 +1.0
CMB pmax pmax
comp=Z,20nm,1.4s
PFO Pinyon Flats O 79.86 48 P **P** 08 56 00.7 +0.9
baz=237
BBRC Big Bear Solar 79.90 47 P **P** 08 56 01.0 +0.8
baz=236
AFDM Forest Hills D 79.95 42 eP **P** 08 56 01.2 +1.2
comp=Z,8.2nm,1.1s
SWSC Sam W. Stewart 79.96 49 P **P** 08 56 01.4 +1.3
baz=237
ORV Oroville 80.00 41 eP **P** 08 56 01.5 +1.3
comp=Z,44nm,1.8s
ORV Oroville 80.00 41 eP **P** 08 56 01.5 +1.3
ORV pmax pmax
comp=Z,44nm,1.8s
WDC Whiskeytown Da 80.00 40 eP **P** 08 56 01.3 +1.1
comp=Z,48nm,1.7s
WDC Whiskeytown Da 80.00 40 eP **P** 08 56 01.3 +1.1
WDC pmax pmax
comp=Z,48nm,1.7s
LRMC Laurel Mtn Rad 80.06 46 P **P** 08 56 02.0 +1.1
baz=236
NJ2 Nanjing 80.12 310 eP **P** 08 56 00.3 -0.7
NJ2 pmax pmax
comp=Z,19nm,0.5s
N02D Trinity Center 80.15 39 P **P** 08 56 02.7 +1.6
baz=231,SNR=11
O03D Paynes Creek 80.27 40 P **P** 08 56 02.9 +1.2
baz=232,SNR=14
M02C Callahan 80.32 39 P **P** 08 56 03.6 +1.6
baz=231,SNR=17
CWC Cottonwood Cre 80.34 45 P **P** 08 56 03.2 +1.0
baz=235
L02D Cave Junction, 80.37 38 P **P** 08 56 03.8 +1.7
baz=230
MDPB Devils Postpil 80.37 44 eP **P** 08 56 03.9 +1.3
comp=Z,8.9nm,0.9s
BELC Belle Mtn. Jos 80.39 48 P **P** 08 56 03.8 +1.2
baz=237,SNR=5.5
KEBM Edson Butte 80.42 37 eP **P** 08 56 04.1 +1.7
comp=Z,31nm,1.3s
MPMC Manual Prospec 80.52 46 P **P** 08 56 04.1 +0.9
baz=236
MLAC Mammoth, Mammo 80.53 44 P **P** 08 56 04.6 +1.2
baz=234
OHAK Old Harbor 80.55 13 eP **P** 08 56 02.5 -0.1
comp=Z,24nm,1.3s
GSC Goldstone, Bar 80.55 47 P **P** 08 56 04.3 +1.0
baz=236
GSC Goldstone, Bar 80.55 47 eP **P** 08 56 04.5 +1.2
comp=Z,10nm,1.3s
GSC Goldstone, Bar 80.55 47 eP **P** 08 56 04.5 +1.2
GSC pmax pmax
comp=Z,11nm,1.3s
DAC Darwin (Calif) 80.57 45 eP **P** 08 56 04.8 +1.3
comp=Z,22nm,1.8s
DAC Darwin (Calif) 80.57 45 eP **P** 08 56 04.8 +1.3
DAC pmax pmax
comp=Z,22nm,1.8s
BC3 Big Chuckawall 80.59 49 P **P** 08 56 04.7 +1.2
baz=237
TIN Tinemaha, Big 80.59 44 P **P** 08 56 04.8 +1.3
baz=235
HEC Hector,Ludlow 80.61 47 P **P** 08 56 04.6 +1.0
baz=237,SNR=8.1
YBH Yreka Blue Hor 80.62 39 P **P** 08 56 05.5 +1.9
comp=Z,9.8nm,0.5s,baz=188,slow=6.6,SNR=70
YBH Yreka Blue Hor 80.62 39 eP **P** 08 56 04.9 +1.4
comp=Z,13nm,0.6s
YBH Yreka Blue Hor 80.62 39 eP **P** 08 56 04.9 +1.4
YBH pmax pmax
comp=Z,13nm,0.6s
WAKR Walker 80.66 43 eP **P** 08 56 05.0 +1.0
comp=Z,32nm,1.4s
GLA Glamis 80.70 49 P **P** 08 56 05.4 +1.3
baz=238
MDJ Mudanjiang 80.84 325 P **P** 08 56 03.9 -0.6
MDJ pmax pmax
comp=Z,20nm,1.0s
MDJ pmax pmax
comp=Z,260nm,4.9s
BEKR Beckworth 80.89 41 eP **P** 08 56 06.0 +0.9
comp=Z,53nm,1.8s
VCNR Virginia City 80.99 42 eP **P** 08 56 07.1 +1.5
comp=Z,39nm,1.7s
HUMO Hull Mountain 81.03 38 eP **P** 08 56 07.4 +1.8
comp=Z,48nm,1.5s
GMRC Granite Mounta 81.06 48 P **P** 08 56 07.1 +1.1
baz=237,SNR=5.6
YERR Yerington 81.06 42 eP **P** 08 56 07.4 +1.4
comp=Z,55nm,1.6s
IRM Iron Mountain 81.07 48 P **P** 08 56 07.6 +1.6
baz=237,SNR=7.7
GRAC Grapevine Rang 81.13 45 P **P** 08 56 07.7 +1.5
baz=236,SNR=10
M04C Macdoel 81.16 39 P **P** 08 56 07.7 +1.4
baz=232,SNR=14
MAW Mawson 81.17 200 P **P** 08 56 06.4 +0.5
comp=Z,2.6nm,0.6s,baz=117,slow=5.6,SNR=10
KDAK Kodiak Island 81.22 13 P **P** 08 56 05.7 -0.4
comp=Z,6.2nm,0.8s,baz=251,slow=5.2,SNR=9.3
KDAK Kodiak Island 81.22 13 eP **P** 08 56 06.0 0.0
comp=Z,83nm,1.9s
KDAK Kodiak Island 81.22 13 *i* P **P** 08 56 06.5 +0.5
SHOC Shoshone, Teco 81.25 46 P **P** 08 56 07.8 +1.0
baz=236
Y12C Blythe 81.29 49 P **P** 08 56 08.6 +1.5
baz=238
RYN Ryan 81.31 43 eP **P** 08 56 08.6 +1.3
comp=Z,41nm,1.8s
NVAR Mina Array Bea 81.33 43 P **P** 08 56 08.3 +0.8
comp=Z,6.0nm,0.7s,baz=225,slow=7.9,SNR=50
NV01 Mina Array Sit 81.33 43 eP **P** 08 56 08.2 +0.7
PAHR Pah Rah Range 81.39 42 eP **P** 08 56 09.0 +1.4
comp=Z,37nm,1.6s
NV11 Mina Array Sit 81.43 43 eP **P** 08 56 08.7 +0.9
comp=Z,2.2nm,1.4s
I03D Drain, OR 81.50 37 P **P** 08 56 09.4 +1.6
baz=230,SNR=5.0
HSIG 81.50 55 eP **P** 08 56 09.7 +1.5
comp=Z,5.0nm,0.6s
214A Organ Pipe Nat 81.58 51 P **P** 08 56 09.5 +0.9
baz=239
KVN Kaiserville 81.82 43 eP **P** 08 56 11.1 +1.2
comp=Z,9.1nm,0.6s
KVN Kaiserville 81.82 43 eP **P** 08 56 11.1 +1.2
KVN pmax pmax
comp=Z,9.0nm,0.6s
TPNV Topopah Spring 81.84 45 P **P** 08 56 11.4 +1.4
baz=236,SNR=8.0
PDMCI Parker Dam,Lak 81.85 49 P **P** 08 56 11.5 +1.6
baz=238,SNR=5.4
J04D Umpqua Nationa 81.91 38 P **P** 08 56 11.8 +1.5
baz=232,SNR=10
NKL Nikolayevsk 81.96 336 eP **P** 08 56 08.8 -1.1
NKL pmax pmax
comp=Z,21nm,1.0s
I04A Tendick Farm, 82.08 37 P **P** 08 56 12.1 +1.2
baz=231,SNR=6.6
MOD Modoc Plateau 82.14 40 eP **P** 08 56 12.4 +1.0
comp=Z,30nm,1.4s
K05A Summer Lake 82.29 39 eP **P** 08 56 13.6 +1.4
comp=Z,138nm,1.8s
J05D Fort Rock, OR 82.44 38 P **P** 08 56 14.3 +1.4
baz=232,SNR=49
W13A Hualapai Mount 82.45 48 eP **P** 08 56 14.5 +1.2
comp=Z,5.4nm,0.8s
Y14A Wickenburg 82.47 49 eP **P** 08 56 14.8 +1.7
comp=Z,19nm,1.4s
G03D McMinnville, O 82.51 36 P **P** 08 56 14.4 +1.5
baz=230
CN2 Changchun 82.61 322 eP **P** 08 56 13.7 +0.2
CN2 pmax pmax
comp=Z,20nm,1.2s
CN2 pmax pmax
comp=Z,200nm,5.0s
WHN Wuhan 82.67 306 ⇑P **P** 08 56 15.2 +1.1
H04A Detroit Lake 82.77 37 eP **P** 08 56 14.7 +0.4
comp=Z,80nm,1.7s
KLR Kul'dur 82.87 329 *i* P **P** 08 56 14.2 -0.5
PINE Pine Mountain 82.92 38 eP **P** 08 56 16.7 +1.3
comp=Z,82nm,1.5s
I05D Terrebonne, OR 83.03 37 P **P** 08 56 17.1 +1.5
baz=232,SNR=7.2
R11A Troy Canyon, C 83.05 45 eP **P** 08 56 17.0 +0.9
comp=Z,3.8nm,1.0s
HOM Homer 83.13 13 eP **P** 08 56 16.1 +0.4
comp=Z,59nm,1.0s
IPM Ipoh 83.16 277 eP **P** 08 56 17.2 +0.2
comp=Z,55nm,1.4s
BMN Battle Mountai 83.17 42 eP **P** 08 56 17.9 +1.3
comp=Z,40nm,1.7s
BMN Battle Mountai 83.17 42 eP **P** 08 56 17.9 +1.3
BMN pmax pmax
comp=Z,40nm,1.7s
F04D Rainier, OR 83.20 35 P **P** 08 56 17.7 +1.3
baz=231
E03A Lebam 83.20 34 eP **P** 08 56 17.9 +1.6
comp=Z,65nm,1.4s
TUC Tucson 83.25 52 P **P** 08 56 18.2 +1.1
baz=240
TUC Tucson 83.25 52 eP **P** 08 56 18.7 +1.6
comp=Z,24nm,1.4s
BRLK Bradley Lake 83.39 13 eP **P** 08 56 17.0 -0.1
comp=Z,97nm,1.9s
WVOR Wild Horse Val 83.45 40 eP **P** 08 56 18.7 +0.8
comp=Z,20nm,1.4s
WVOR Wild Horse Val 83.45 40 eP **P** 08 56 18.7 +0.8
WVOR pmax pmax
comp=Z,20nm,1.4s
SVW2 Sparrevohn 83.70 11 eP **P** 08 56 18.0 -0.6
comp=Z,32nm,1.8s
X16A Lo Mia Camp, P 83.82 50 eP **P** 08 56 21.0 +1.0
comp=Z,14nm,1.3s
LCMT Little Creek M 83.90 47 eP **P** 08 56 20.7 +0.4
comp=Z,18nm,1.5s
319A Douglas 83.91 53 eP **P** 08 56 22.4 +2.0
comp=Z,34nm,1.3s
J08A Circle Bar Ran 84.09 39 eP **P** 08 56 21.7 +0.6
comp=Z,22nm,1.4s
CCUT Cedar City 84.10 46 eP **P** 08 56 22.7 +1.3
comp=Z,17nm,1.5s
KNB Kanab 84.19 47 eP **P** 08 56 23.2 +1.4
comp=Z,41nm,1.8s
U15A North Rim 84.25 48 eP **P** 08 56 23.6 +1.3
comp=Z,38nm,1.5s
LON Longmire 84.27 35 eP **P** 08 56 22.0 +0.2
comp=Z,25nm,1.9s
LON Longmire 84.27 35 eP **P** 08 56 22.0 +0.2
LON pmax pmax
comp=Z,25nm,1.9s
WUAZ Wupatki 84.43 49 P **P** 08 56 24.0 +1.1
baz=240
WUAZ Wupatki 84.43 49 eP **P** 08 56 22.8 -0.1
comp=Z,9.5nm,1.2s
SPU Mount Spurr 84.44 12 eP **P** 08 56 21.3 -1.0
D05A Enumclaw 84.44 35 eP **P** 08 56 23.2 +0.7
comp=Z,49nm,1.4s
PGC Sidney 84.61 33 eP **P** 08 56 24.0 +0.7
comp=Z,50nm,1.6s
PKCU Pink Cliffs 84.76 47 eP **P** 08 56 27.1 +2.4
comp=Z,12nm,1.2s
BBB Bella Bella 84.77 28 P **P** 08 56 24.2 +0.3
comp=Z,3.6nm,0.6s,baz=268,slow=3.9,SNR=14
BBB Bella Bella 84.77 28 eP **P** 08 56 24.6 +0.7
comp=Z,18nm,1.4s
RC01 Rabbit Creek A 84.84 13 eP **P** 08 56 23.9 -0.2
comp=Z,46nm,1.5s
G08A Pilot Rock 84.95 37 eP **P** 08 56 26.5 +1.2
comp=Z,52nm,1.6s
SUA Susitna One 84.96 13 eP **P** 08 56 24.5 -0.4
comp=Z,14nm,0.6s
A04D Lummi Island 85.04 33 P **P** 08 56 26.7 +1.3
baz=231
B05A Bryant 85.06 34 P **P** 08 56 26.9 +1.4
baz=231
MTPU Mount Pierson 85.16 46 eP **P** 08 56 28.4 +1.7
comp=Z,5.8nm,0.8s
LTY Liberty 85.19 35 eP **P** 08 56 27.1 +0.8
comp=Z,14nm,1.3s
GSI Gunungsitoli 85.23 273 eP **P** 08 56 28.3 +1.1
comp=Z,93nm,1.3s
HAWA Hanford 85.29 36 eP **P** 08 56 28.1 +1.4
comp=Z,24nm,1.3s
MSU Marysvale 85.40 46 eP **P** 08 56 29.5 +1.8
RAGM Ragged Mountai 85.41 16 eP **P** 08 56 27.4 +0.4
comp=Z,46nm,1.8s
PMR Palmer 85.42 13 eP **P** 08 56 26.5 -0.4
comp=Z,54nm,1.6s
PMR Palmer 85.42 13 eP **P** 08 56 26.5 -0.4
PMR pmax pmax
comp=Z,53nm,1.6s
121A Cookes Peak, D 85.58 53 P **P** 08 56 29.2 +0.5
baz=242
BMO Blue Mountains 85.65 38 eP **P** 08 56 29.5 +0.9
comp=Z,5.5nm,0.8s
MFID Camas Ranch 85.71 40 eP **P** 08 56 30.1 +1.2
comp=Z,22nm,1.8s
DIV Divide 85.78 15 eP **P** 08 56 29.3 +0.5
comp=Z,34nm,1.6s
SML Sawmill 85.78 14 eP **P** 08 56 28.5 -0.2
comp=Z,40nm,1.8s
SML Sawmill 85.78 14 eP **P** 08 56 28.5 -0.2
SML pmax pmax
comp=Z,40nm,1.8s
SRAK Srakaew 85.80 287 P **P** 08 56 30.2 +0.4
comp=Z,32nm,1.4s
DUG Dugway, Tooele 85.86 44 P **P** 08 56 30.6 +0.8
baz=238
BMRM Bremner River 85.93 16 eP **P** 08 56 29.5 0.0
comp=Z,76nm,1.8s
PPLA Purkeypile 85.98 12 eP **P** 08 56 28.2 -1.5
comp=Z,10nm,1.3s
D08A Wollman Farm, 86.02 36 eP **P** 08 56 31.6 +1.4
comp=Z,87nm,1.9s
SCM Sheep Creek Mo 86.03 14 eP **P** 08 56 30.1 +0.2
comp=Z,68nm,1.6s
SCM Sheep Creek Mo 86.03 14 eP **P** 08 56 30.1 +0.2
SCM pmax pmax
comp=Z,68nm,1.6s
KLU Klutina 86.06 15 eP **P** 08 56 30.2 +0.1
comp=Z,22nm,1.4s
BJI Beijing 86.17 315 ⇑eP **P** 08 56 31.8 +0.8
BJI pP **pP** 08 58 32.5 +1.7
BJI pmax pmax
comp=Z,23nm,1.3s
Q16A Castle Valley 86.29 46 eP **P** 08 56 34.4 +2.5
comp=Z,7.8nm,1.2s
SYO Syowa Base 86.33 193 ||eP **P** 08 56 30.6 -0.7
SYO Syowa Base 86.33 193 ⇑ePcP **PcP** 08 56 33.4 +0.4
F10A Beach Ranch, E 86.34 38 eP **P** 08 56 32.2 +0.4
comp=Z,21nm,0.8s
TMUT Trail Mountain 86.45 46 eP **P** 08 56 34.5 +1.7
comp=Z,19nm,1.3s
CAST Castle Rocks 86.48 11 eP **P** 08 56 30.5 -1.5
comp=Z,42nm,1.6s
NAYO Nakonayok 86.56 287 P **P** 08 56 36.0 +2.6
comp=Z,11nm,1.3s
BALM Baldy 86.57 17 eP **P** 08 56 32.8 +0.2
comp=Z,60nm,1.9s
BALM Baldy 86.57 17 eP **P** 08 56 32.8 +0.2
BALM pmax pmax
comp=Z,60nm,1.9s
B08A Colville Reser 86.58 35 eP **P** 08 56 33.3 +0.5
comp=Z,61nm,1.8s
HLID Hailey 86.65 41 P **P** 08 56 34.6 +1.2
baz=237
HLID Hailey 86.65 41 eP **P** 08 56 34.9 +1.5
comp=Z,22nm,1.6s
LLLB Lillooet 86.65 32 eP **P** 08 56 33.9 +0.8
comp=Z,60nm,2.0s

HVU **Hansel Valley** 86.72 43 *e*P P 08 56 34.9 +1.1
comp=Z,2.6nm,0.8s
SEY **Seymchan** 86.77 347⇓ *i*P P 08 56 32.0 -1.3
C09A **Chrisman Ranch** 86.82 36 *e*P P 08 56 34.5 +0.6
comp=Z,11nm,0.9s
SRU **San Rafael Swe** 86.82 46 *e*P P 08 56 35.5 +1.2
comp=Z,19nm,1.5s
KTH **Kantishna Hill** 86.82 12 *e*P P 08 56 32.5 -1.1
comp=Z,20nm,1.2s
GYA **Guiyang** 86.83 300 *e*P P 08 56 35.2 +0.6
GYA pP pP 08 58 35.4 +0.7
GYA sP sP 08 59 29.0 -1.4
GYA PP **PP** **09 00 10.6 +2.7**
GYA SKS **SKSac** **09 06 09.8 +0.3**
GYA S **S** **09 06 27.1 0.0**
GYA pmax pmax
comp=Z,10.0nm,1.0s
BESE **Bessie Mountai** 86.85 21 *e*P P 08 56 34.9 +1.0
comp=Z,22nm,1.5s
TRF **Thorofare Moun** 86.85 12 *e*P P 08 56 33.3 -0.6
comp=Z,15nm,0.7s
P17A **Butcher Ranch,** 86.86 46 *e*P P 08 56 35.9 +1.4
comp=Z,15nm,1.5s
LAZ **Ladron** 86.92 51 *e*P P 08 56 36.5 +1.5
MNTX **Cornudas Mount** 87.00 55 P P 08 56 36.3 +1.1
baz=243
MNTX **Cornudas Mount** 87.00 55 *e*P P 08 56 35.6 +0.5
comp=Z,27nm,1.5s
HARP **HAARP** 87.04 15 *e*P P 08 56 34.4 -0.2
comp=Z,43nm,1.6s
RND **Reindeer** 87.10 13 *e*P P 08 56 34.8 -0.1
comp=Z,22nm,0.7s
RND **Reindeer** 87.10 13 *e*P P 08 56 34.8 -0.1
RND pmax pmax
comp=Z,23nm,0.7s
DHY **Denali Highway** 87.12 13 *e*P P 08 56 34.4 -0.7
comp=Z,16nm,1.3s
BNM **Barren Site** 87.18 52 *e*P P 08 56 37.1 +0.8
TCUT **Toone Canyon** 87.25 44 *e*P P 08 56 37.2 +0.8
comp=Z,15nm,0.9s
PV05 **Paradox Valley** 87.28 47 *e*P P 08 56 38.5 +1.9
TX31 **Lajitas Ar. Si** 87.29 57 *e*P P 08 56 38.6 +1.9
TXAR **Lajitas Array** 87.29 57 P P 08 56 38.5 +1.8
comp=Z,3.3nm,0.7s,baz=218,slow=6.9,SNR=40
TXAR PKKPbc **PKKPbc** **09 14 25.2 +1.1**
comp=Z,0.2nm,0.4s,baz=162,slow=3.3,SNR=7.2
BPAW **Bear Paw Mtn.** 87.31 12 *e*P P 08 56 34.4 -1.4
comp=Z,5.1nm,1.2s
SKAG **Skagway** 87.37 20 *e*P P 08 56 37.2 +1.0
comp=Z,20nm,1.5s
MCK **McKinley** 87.37 13 *e*P P 08 56 35.6 -0.5
comp=Z,36nm,1.4s
MCK **McKinley** 87.37 13 *e*P P 08 56 35.6 -0.5
MCK pmax pmax
comp=Z,38nm,1.4s
PAX **Paxson** 87.45 14 *e*P P 08 56 36.1 -0.5
comp=Z,9.9nm,1.4s
PAX **Paxson** 87.45 14 *e*P P 08 56 36.1 -0.5
PAX pmax pmax
comp=Z,10.0nm,1.4s
PV09 **Paradox Valley** 87.46 47 *e*P P 08 56 38.7 +1.1
PV10 **Paradox Valley** 87.47 47 *e*P P 08 56 38.1 +0.6
SNAA **Sanae** 87.61 178 P P 08 56 37.1 -0.2
SNAA **Sanae** 87.61 178 P P 08 56 36.8 -0.5
comp=Z,1.2nm,0.5s,baz=217,slow=11,SNR=14
SNAA **Sanae** 87.61 178 *e*P P 08 56 38.0 +0.6
comp=Z,4.2nm,1.4s
SNAA **Sanae** 87.61 178 *e*P P 08 56 38.0 +0.6
SNAA pmax pmax
comp=Z,4.0nm,1.4s
PV01 **Paradox Valley** 87.67 48 *e*P P 08 56 39.2 +0.8
ANMO **Albuquerque** 87.67 51 P P 08 56 39.0 +0.5
baz=243
ANMO **Albuquerque** 87.67 51 *e*P P 08 56 39.7 +1.2
comp=Z,16nm,1.5s
ANMO **Albuquerque** 87.67 51 *c e*P P 08 56 39.2 +0.7
ANMO pmax pmax
comp=Z,11nm,1.5s
NEW **Newport** 87.72 36 P P 08 56 39.3 +1.2
baz=235
NEW **Newport** 87.72 36 *e*P P 08 56 38.8 +0.6
comp=Z,8.7nm,1.3s
NEW **Newport** 87.72 36 *e*P P 08 56 38.8 +0.6
NEW pmax pmax
comp=Z,9.0nm,1.3s
VNA3 **Neumayer Olymp** 87.74 176 P P 08 56 38.6 +0.6
HYT **Haines Junctio** 87.77 19 *e*P P 08 56 37.5 -0.7
comp=Z,26nm,1.7s
MENT **Mentasta** 87.84 15 *e*P P 08 56 38.5 +0.2
comp=Z,23nm,1.4s
VNA2 **Neumayer--Watz** 88.18 177 P P 08 56 41.1 +1.1
baz=186,slow=3.6
MLY **Manley** 88.20 11 *e*P P 08 56 39.0 -1.0
WRH **Wood River Hil** 88.20 12 *e*P P 08 56 39.1 -0.9
comp=Z,48nm,1.4s
RIDG **Independ'e Rid** 88.26 14 *e*P P 08 56 40.0 -0.4
comp=Z,44nm,1.8s
MCMT **McKenzie Canyo** 88.28 40 *e*P P 08 56 42.6 +1.5
DOT **Dot Lake** 88.36 14 *e*P P 08 56 41.0 +0.2
comp=Z,55nm,1.4s
XAN **Xi'an** 88.36 307 P P 08 56 42.0 +0.5
XAN pmax pmax
comp=Z,19nm,1.3s
XAN pmax pmax
comp=Z,130nm,4.5s
HDA **Harding Lake** 88.38 13 *e*P P 08 56 40.4 -0.4
comp=Z,12nm,0.6s
CCB **Clear Creek Bu** 88.42 13 *e*P P 08 56 40.2 -0.8
comp=Z,19nm,0.5s
DLBC **Dease Lake** 88.43 23 *e*P P 08 56 42.2 +1.0
comp=Z,27nm,1.7s
WHY **Whitehorse** 88.44 20 *e*P P 08 56 42.1 +0.8
comp=Z,18nm,1.5s
PHIT **Phitsanulok** 88.45 289 P P 08 56 44.5 +2.3
comp=Z,17nm,1.0s
IM3 **Indian Mountai** 88.56 10 *e*P P 08 56 41.3 -0.4
COLA **College** 88.61 12 *e*P P 08 56 41.2 -0.6
comp=Z,18nm,0.6s
COLA **College** 88.61 12 *e*P P 08 56 41.2 -0.6
COLA pmax pmax
comp=Z,18nm,0.6s
MDM **Murphy Dome** 88.61 12 *e*P P 08 56 40.9 -1.0
comp=Z,27nm,1.3s
SCRK **Sand Creek** 88.66 14 *e*P P 08 56 42.5 +0.2
comp=Z,3.8nm,0.7s
MSO **Missoula** 88.70 38 P P 08 56 43.8 +0.9
baz=237
MSO **Missoula** 88.70 38 *e*P P 08 56 43.2 +0.4
comp=Z,7.9nm,1.3s
S22A **4UR Ranch, Cre** 88.70 49 P P 08 56 44.4 +1.0
baz=242
S22A **4UR Ranch, Cre** 88.70 49 *e*P P 08 56 44.5 +1.2
comp=Z,7.2nm,1.3s
DLMT **Dillon** 88.71 40 *e*P P 08 56 43.8 +0.8
comp=Z,32nm,1.6s
IL1 **Eielson Array** 88.72 13 *e*P P 08 56 41.7 -0.7
ILAR **Eielson Array** 88.72 13 P P 08 56 41.4 -0.9
comp=Z,4.1nm,0.4s,baz=213,slow=5.3,SNR=144
ILB **Eielson Array** 88.72 13 *e*P P 08 56 41.5 -0.9
REDW **Red Top Meadow** 88.75 42 *e*P P 08 56 44.0 +0.7
comp=Z,27nm,1.4s
TPAW **Teton Pass** 88.75 42 *e*P P 08 56 44.9 +1.4
comp=Z,22nm,1.5s
FXWY **Fox Creek** 88.78 42 *e*P P 08 56 44.7 +1.2
comp=Z,10nm,1.3s
NANT **Nan** 88.81 291 P P 08 56 45.7 +1.8
comp=Z,4.4nm,1.1s
O20A **White River Ci** 88.86 46 P P 08 56 44.6 +0.7
baz=241
O20A **White River Ci** 88.86 46 *e*P P 08 56 44.9 +1.0
comp=Z,24nm,1.8s
LNIG **Linares** 88.86 63 *e*P P 08 56 44.0 0.0
comp=Z,13nm,1.1s
SNOW **Snow King Moun** 88.86 42 *e*P P 08 56 44.9 +1.0
comp=Z,30nm,1.4s
IMW **Indian Meadow** 88.97 42 *e*P P 08 56 44.8 +0.4
comp=Z,27nm,1.5s
JTMT **Jette** 89.00 37 *e*P P 08 56 45.0 +0.7
comp=Z,4.9nm,1.0s
PLCA **Paso Flores** 89.01 134 P P 08 56 46.6 +2.0
comp=Z,3.5nm,1.0s,baz=220,slow=2.8,SNR=3.2
MOOW **Moose Ponds** 89.01 42 *e*P P 08 56 45.7 +1.1
comp=Z,16nm,1.7s
LOHW **Long Hollow** 89.03 42 *e*P P 08 56 45.9 +1.2
comp=Z,5.2nm,0.6s
QLMT **Earthquake Lak** 89.14 41 *e*P P 08 56 47.7 +2.6
BW06 **Boulder Array** 89.27 43 P P 08 56 46.4 +0.6
baz=240
BW06 **Boulder Array** 89.27 43 *e*P P 08 56 46.5 +0.7
comp=Z,5.8nm,0.6s
PD31 **Pinedale Array** 89.27 43 *e*P P 08 56 46.6 +0.8
PDAR **Pinedale Array** 89.27 43 P P 08 56 46.5 +0.8
comp=Z,4.4nm,0.6s,baz=208,slow=3.4,SNR=52
YMR **Madison River** 89.34 41 *e*P P 08 56 48.0 +2.0
comp=Z,44nm,1.7s
BOZ **Bozeman (W)** 89.41 40 P P 08 56 47.3 +1.0
baz=239
BOZ **Bozeman (W)** 89.41 40 *e*P P 08 56 47.5 +1.2
comp=Z,8.9nm,1.0s
BOZ **Bozeman (W)** 89.41 40 *e*P P 08 56 47.5 +1.2
BOZ pmax pmax
comp=Z,9.0nm,1.0s
BILL **Bilibino** 89.44 354⇑ *i*P P 08 56 45.5 -0.1
BILL *e**PP **pP** 08 58 42.6 -3.9
BILL pmax pmax
comp=Z,4.0nm,1.0s
H17A **Grant Village** 89.44 41 P P 08 56 48.4 +1.8
baz=240
H17A **Grant Village** 89.44 41 *e*P P 08 56 49.1 +2.5
comp=Z,5.9nm,0.8s
YHH **Holmes Hill** 89.47 41 *e*P P 08 56 48.4 +1.6
comp=Z,21nm,1.6s
KMI **Kunming** 89.52 297 P P 08 56 45.6 -1.7
KMI pmax pmax
comp=Z,22nm,0.6s
HHC **Hu-ho-hao-te** 89.62 314 *e*P P 08 56 48.9 +1.6
HHC pmax pmax
comp=Z,15nm,0.9s
HHC pmax pmax
comp=Z,110nm,7.4s
SDCO **Great Sand Dun** 89.64 49 P P 08 56 48.1 +0.4
baz=243
SDCO **Great Sand Dun** 89.64 49 *e*P P 08 56 48.5 +0.8
LKWY **Lake** 89.64 41 *e*P P 08 56 47.8 +0.3
comp=Z,24nm,0.4s
LKWY **Lake** 89.64 41 *e*P P 08 56 47.8 +0.3
LKWY pmax pmax
comp=Z,24nm,0.4s
PAYA **Payao** 89.75 291 P P 08 56 49.6 +1.3
DAWY **Dawson** 89.86 16 *e*P P 08 56 47.8 0.0
comp=Z,11nm,1.0s
HRY **Holter Researc** 89.87 39 *e*P P 08 56 49.4 +1.1
WALA **Waterton Lakes** 89.92 36 *e*P P 08 56 49.2 +0.7
comp=Z,14nm,1.4s
MSTX **Muleshoe** 89.97 53 P P 08 56 49.5 +0.4
baz=245
MSTX **Muleshoe** 89.97 53 *e*P P 08 56 49.5 +0.4
comp=Z,44nm,1.8s
EGAK **Eagle** 90.00 15 *e*P P 08 56 48.1 -0.2
comp=Z,25nm,1.4s
T25A **Trinidad** 90.14 50 P P 08 56 50.5 +0.6
baz=244
CM01 **Chiang Mai Arr** 90.20 290 *e*P P 08 56 51.7 +1.3
CMAR **Chiang Mai Arr** 90.23 290 P P 08 56 52.2 +1.8
comp=Z,6.8nm,0.8s,baz=119,slow=3.0,SNR=42
CMAR PP **PP** 09 00 36.0 +1.5
comp=Z,0.8nm,0.3s,baz=137,slow=6.5,SNR=4.9
COLD **Coldfoot** 90.28 10 *e*P P 08 56 50.1 +0.5
comp=Z,12nm,1.3s
833A **Chaparral WMA,** 90.28 60 P P 08 56 51.0 +0.5
baz=246
CHTO **Chiang Mai** 90.36 290 *e*P P 08 56 52.6 +1.5
comp=Z,23nm,1.3s
CHTO **Chiang Mai** 90.36 290 *e*P P 08 56 52.6 +1.5
CHTO pmax pmax
comp=Z,23nm,1.3s
RLMT **Red Lodge** 90.61 41 P P 08 56 52.7 +0.7
baz=241
N23A **Red Feather La** 90.76 46 P P 08 56 53.3 +0.5
baz=243
N23A **Red Feather La** 90.76 46 *e*P P 08 56 53.6 +0.8
comp=Z,4.7nm,0.9s
JCT **Junction City** 90.82 58 P P 08 56 53.5 +0.5
baz=246
JCT **Junction City** 90.82 58 *e*P P 08 56 53.8 +0.8
comp=Z,3.7nm,0.8s
JCT **Junction City** 90.82 58 *e*P P 08 56 53.8 +0.8
JCT pmax pmax
comp=Z,4.0nm,0.8s
CD2 **Chengdu** 90.99 303 *e*P P 08 56 54.0 +0.2
K22A **Casper** 91.18 44 P P 08 56 55.2 +0.7
baz=242
TOLK **Toolik Lake Re** 91.66 10 P P 08 56 56.5 +0.6
baz=207
TOLK **Toolik Lake Re** 91.66 10 *e*P P 08 56 56.2 +0.2
comp=Z,19nm,1.6s
EDM **Edmonton** 92.46 33 *e*P P 08 56 59.9 -0.1
comp=Z,14nm,1.2s
EDM **Edmonton** 92.46 33 *e*P P 08 56 59.9 -0.1
EDM pmax pmax
comp=Z,14nm,1.2s
RSSD **Black Hills** 93.46 44 P P 08 57 05.5 +0.4
baz=244
RSSD **Black Hills** 93.46 44 *e*P P 08 57 05.5 +0.4
comp=Z,16nm,1.5s
RSSD **Black Hills** 93.46 44 *e*P P 08 57 05.5 +0.4
RSSD pmax pmax
comp=Z,16nm,1.5s
INK **Inuvik** 94.67 15 P P 08 57 08.1 -1.6
comp=Z,2.9nm,1.0s,baz=196,slow=2.4,SNR=9.2
INK **Inuvik** 94.67 15 *e*P P 08 57 08.6 -1.0
comp=Z,8.4nm,1.3s
INK **Inuvik** 94.67 15 *e*P P 08 57 08.6 -1.0
INK pmax pmax
comp=Z,8.0nm,1.3s
ULN **Ulaanbaatar** 95.66 319⇑ *e*P P 08 57 14.8 0.0
ULN pmax pmax
comp=Z,4.0nm,1.5s
SONA1 **Songino Array** 96.05 319 *e*P P 08 57 16.9 +0.3
SONM **Songino Array** 96.05 319 P P 08 57 14.9 -1.6
comp=Z,0.4nm,0.4s,baz=134,slow=4.2,SNR=4.6
YKA **Yellowknife Ar** 96.89 25 P P 08 57 19.4 -0.4
comp=Z,0.4nm,0.5s,baz=237,slow=4.5,SNR=19
YKA PKIKP **PKiKP** 09 01 51.2 -1.1
comp=Z,0.1nm,0.4s,baz=225,slow=1.6,SNR=7.9
YKA PKKPbc **PKKPbc** 09 13 57.9 -2.9
comp=Z,0.1nm,0.4s,baz=51,slow=2.3,SNR=6.3
ECSD **EROS Data Cent** 98.23 46 P P 08 57 26.7 +0.4
baz=249
ZALV **Zalesovo Beam** 110.80 321 PKiKP **PKiKP** 09 02 16.9 -1.2
comp=Z,2.3nm,0.5s,baz=166,slow=1.5,SNR=12
MKAR **Makanchi Array** 111.46 313 Pdiff **Pdif** 08 58 24.9 -0.1
comp=Z,0.2nm,0.6s,baz=101,slow=4.7,SNR=2.6
MKAR PKiKP **PKiKP** 09 02 18.7 -1.0
comp=Z,1.0nm,0.5s,baz=134,slow=0.4,SNR=19
MKAR PKKPbc **PKKPbc** 09 13 16.9 0.0
comp=Z,0.5nm,0.6s,baz=254,slow=2.9,SNR=5.5
BINY **Binghamton** 112.48 52 P **PKiKP** 09 02 21.7 -0.1
baz=262
KURK **Kurchatov** 114.28 317 PKP PKPdf 09 02 23.8 -1.1
KURK PP **PP** 09 03 30.1 -1.1
KURK **Kurchatov** 114.28 317 *c i* PKIKP PKPdf 09 02 24.5 -0.4
KURK pmax pmax
comp=Z,10.0nm,1.2s
KURBB **Kurchatov Arra** 114.33 317 PKP PKPdf 09 02 23.8 -1.2
comp=Z,2.3nm,0.6s,baz=91,slow=1.8,SNR=22
KURBB PP **PP** 09 03 30.1 -1.4
comp=Z,0.7nm,0.7s,baz=94,slow=6.7,SNR=4.2
FRB **Frobisher Bay** 117.16 28 PKP **PKPdf** 09 02 29.0 -0.9
comp=Z,1.8nm,0.5s,baz=24,slow=3.8,SNR=7.8
PKME **Peaks-Kenny Pk** 117.59 49 P **PKPdf** 09 02 31.4 0.0
baz=268
BVAR **Borovoye Array** 119.38 320 PKP **PKPdf** 09 02 33.8 -0.8
comp=Z,8.0nm,0.4s,baz=131,slow=1.6,SNR=74
BRVK **Borovoye** 119.44 320 *e*PKPdf **PKPdf** 09 02 33.8 -0.9
BRVK **Borovoye** 119.44 320 *c i* PKIKP **PKPdf** 09 02 33.9 -0.9
BRVK pmax pmax
comp=Z,14nm,1.0s
KK06 **Karatay Array** 119.47 308 *e*PKPdf **PKPdf** 09 02 34.5 -0.6
KK05 **Karatay Array** 119.47 308 *e*PKPdf **PKPdf** 09 02 34.7 -0.5
KK02 **Karatay Array** 119.48 308 *e*PKPdf **PKPdf** 09 02 34.6 -0.6
KK31 **Karatay Array** 119.48 308 *e*PKPdf **PKPdf** 09 02 34.9 -0.3
KK31 **Karatay Array** 119.48 308 *e*PKIKP **PKPdf** 09 02 34.9 -0.3
KKAR **Karatay Array** 119.48 308 *e*PKPdf **PKPdf** 09 02 34.9 -0.3
KK01 **Karatay Array** 119.48 308 *e*PKPdf **PKPdf** 09 02 34.8 -0.4
KK04 **Karatay Array** 119.49 308 *e*PKPdf **PKPdf** 09 02 34.6 -0.6
KK03 **Karatay Array** 119.49 308 *e*PKPdf **PKPdf** 09 02 34.6 -0.6
KK07 **Karatay Array** 119.49 308 *e*PKPdf **PKPdf** 09 02 34.7 -0.5
KK08 **Karatay Array** 119.50 308 *e*PKPdf **PKPdf** 09 02 34.6 -0.7
KBL **Kabul** 120.06 299 *e*PKPdf **PKPdf** 09 02 36.9 +0.1
KBL **Kabul** 120.06 299 *e*PKIKP **PKPdf** 09 02 36.9 +0.1
ILULI **Ilulissat** 122.13 20 *e*PKPdf **PKPdf** 09 02 38.7 -0.7
ILULI **Ilulissat** 122.13 20 *e*PKIKP **PKPdf** 09 02 38.7 -0.7

SPA0 **Spitsbergen Ar** 122.27 357 *e*PKPdf **PKPdf** **09 02 39.4 -0.1**
SPITS **Spitsbergen Ar** 122.27 357 PKP **PKPdf** **09 02 39.3 -0.3**
comp=Z,5.7nm,0.6s,baz=27,slow=5.6,SNR=18
DAG **Danmarks Havn** 123.14 6 *i* PKIKP **PKPdf** **09 02 39.8 -1.4**
DAG pmax pmax
comp=Z,4.0nm,0.7s
SFJD **Kangerlussuaq** 123.33 22 PKP **PKPdf** **09 02 41.4 -0.3**
comp=Z,7.4nm,0.5s,baz=120,slow=2.6,SNR=9.9
SFJD **Kangerlussuaq** 123.33 22 *e*PKPdf **PKPdf** **09 02 41.3 -0.5**
SFJD **Kangerlussuaq** 123.33 22 *e*PKIKP **PKPdf** **09 02 41.1 -0.7**
SUMG **Summit** 123.55 14 *e*PKPdf **PKPdf** **09 02 43.0 +0.4**
SUMG **Summit** 123.55 14 *i* PKIKP **PKPdf** **09 02 42.5 -0.1**
SUMG pmax pmax
comp=Z,4.0nm,0.7s
SUR **Sutherland** 124.03 199 *e*PKPdf **PKPdf** **09 02 45.5 +0.9**
ARU **Arti** 125.52 325 PKP **PKPdf** **09 02 46.2 -0.1**
comp=Z,11nm,0.4s,baz=91,slow=1.2,SNR=17
ARU **Arti** 125.52 325 *i* PKIKP **PKPdf** **09 02 46.0 -0.3**
ARU 09 04 44.2
ARU 09 09 04.9
BOSA **Boshof** 125.88 205 PKP **PKPdf** **09 02 49.2 +1.1**
comp=Z,0.9nm,0.3s,baz=149,slow=3.4,SNR=5.2
BOSA **Boshof** 125.88 205 *e*PKPdf **PKPdf** **09 02 49.0 +0.9**
AB06 **Akbulak array** 126.35 316 *e*PKPdf **PKPdf** **09 02 46.8 -1.3**
AB07 **Akbulak array** 126.36 316 *e*PKPdf **PKPdf** **09 02 47.9 -0.3**
AB02 **Akbulak array** 126.36 316 *e*PKPdf **PKPdf** **09 02 46.8 -1.4**
AB05 **Akbulak array** 126.36 316 *e*PKPdf **PKPdf** **09 02 46.5 -1.7**
AB31 **Akbulak array** 126.37 316 *e*PKPdf **PKPdf** **09 02 48.4 +0.2**
AB31 **Akbulak array** 126.37 316 *e*PKIKP **PKPdf** **09 02 48.4 +0.2**
ABKAR **Akbulak array** 126.37 316 *e*PKPdf **PKPdf** **09 02 48.4 +0.2**
AB03 **Akbulak array** 126.37 316 *e*PKPdf **PKPdf** **09 02 46.7 -1.4**
AB08 **Akbulak array** 126.38 316 *e*PKPdf **PKPdf** **09 02 47.9 -0.3**
AB09 **Akbulak array** 126.38 316 *e*PKPdf **PKPdf** **09 02 46.6 -1.6**
AKTO **Aktyubinsk** 127.36 318 PKP **PKPdf** **09 02 50.1 +0.1**
comp=Z,4.3nm,0.6s,baz=114,slow=4.0,SNR=13
SCO **Scoresbysund** 128.41 10 *e*PKPdf **PKPdf** **09 02 51.8 +0.5**
SCO **Scoresbysund** 128.41 10 *i* PKIKP **PKPdf** **09 02 51.9 +0.5**
SCO pmax pmax
comp=Z,5.0nm,0.8s
LVZ **Lovozero** 128.77 345 *e*PKPdf **PKPdf** **09 02 52.0 -0.3**
LVZ **Lovozero** 128.77 345 *e*PKIKP **PKPdf** **09 02 52.0 -0.3**
KEV **Kevo** 128.86 349 *e*PKPdf **PKPdf** **09 02 52.1 -0.1**
KEV **Kevo** 128.86 349 *e*PKIKP **PKPdf** **09 02 52.2 -0.1**
LBTB **Lobatse** 128.90 208 PKP **PKPdf** **09 02 55.0 +1.1**
comp=Z,1.3nm,0.5s,baz=119,slow=4.4,SNR=5.3
GEYT **Alibeck** 128.98 302 PKP **PKPdf** **09 02 54.0 +0.4**
comp=Z,2.9nm,0.6s,baz=288,slow=1.4,SNR=5.8
ARCES **ARCESS Array B** 129.32 350 PKP **PKPdf** **09 02 52.6 -0.6**
comp=Z,6.0nm,0.5s,baz=5,3,slow=1.3,SNR=51
ARCES **ARCESS Array B** 129.32 350 *e*PKPdf **PKPdf** **09 02 53.1 -0.1**
ARCES **ARCESS Array B** 129.32 350 *e*PKIKP **PKPdf** **09 02 53.1 -0.1**
ARE0 **ARCESS Array S** 129.32 350 *e*PKPdf **PKPdf** **09 02 53.6 +0.4**
KLMR **Klimovskoe** 132.24 336 *e*PKPdf **PKPdf** **09 02 56.6 -2.4**
KLMR AMP 09 03 01.8
comp=Z,14nm,1.5s
KLMR *e*PP **PP** **09 05 31.7 +2.1**
KLMR **Klimovskoe** 132.24 336 *e*PKIKP **PKPdf** **09 02 56.5 -2.4**
KLMR *e* 09 05 31.6
KLMR pmax pmax
comp=Z,14nm,1.5s
LSZ **Lusaka** 135.78 218 PKP **PKPdf** **09 03 07.2 +0.1**
comp=Z,2.2nm,0.5s,baz=152,slow=3.0,SNR=4.6
FINES **FINESS Array B** 136.16 344 PKhKP PKPpre 09 02 55.1
comp=Z,1.0nm,0.4s,baz=29,slow=4.4,SNR=7.5
FINES PKP **PKPdf** **09 03 04.5 -1.7**
comp=Z,4.9nm,0.5s,baz=68,slow=2.9,SNR=16
FINES SKPbc **SKiKP** **09 05 48.5 -3.5**
comp=Z,1.2nm,0.5s,baz=349,slow=1.4,SNR=4.0
OBN **Obninsk** 137.10 331 *e*PKIKP **PKPdf** **09 03 06.5 -1.6**
OBN *e* 09 05 59.1
OBN *e*PPP PPP 09 09 04.0
OBN pmax pmax
comp=Z,6.0nm,1.0s
KMBO **Kilima Mbogo** 139.13 242 PKP **PKPdf** **09 03 14.8 +1.3**
comp=Z,1.7nm,0.5s,baz=52,slow=6.7,SNR=4.4
KBZ **Khabaz** 139.16 313 PKP **PKPdf** **09 03 10.1 -2.2**
comp=Z,0.8nm,0.4s,baz=46,slow=11,SNR=2.7
NB2 **NORSAR Subarra** 139.38 353 PKP PKPpre 09 03 03.6
comp=Z,1.8nm,0.6s,baz=17,slow=2.6
NOA **NORSAR Array B** 139.38 353 PKhKP PKPpre 09 03 02.5
comp=Z,0.5nm,0.4s,baz=28,slow=4.5,SNR=16
NOA PKP **PKiKP** **09 03 14.3 -0.4**
comp=Z,1.3nm,0.5s,baz=14,slow=3.9,SNR=5.4
HFS **Hagfors** 139.94 351 PKhKP PKPpre 09 03 05.0
comp=Z,8.7nm,0.4s,baz=72,slow=4.8,SNR=60
KONO **Kongsberg** 140.92 354 *e*PKPpre PKPpre 09 03 09.9
KONO **Kongsberg** 140.92 354 *e*PKhKP PKPpre 09 03 09.9
RRH **Rhenigidale** 142.49 8 *e*P **PKPdf** **09 03 14.4 -3.4**
KAC **Achnashellach** 143.06 7 *e*P PKPab 09 03 16.4 -0.1
MCD **Coleburn Disti** 143.17 5 *e*P PKPab 09 03 16.0 -0.9
KPL **Plockton** 143.18 7 *e*P PKPab 09 03 16.6 -0.3
SUW **Suwalki** 143.21 339 *e*PKP PKPab 09 03 16.8 -0.3
MDD **Dochfour** 143.22 6 *e*P PKPab 09 03 16.9 -0.2
KSB **Sheil Bridge** 143.34 7 *e*P PKPab 09 03 17.2 -0.3
AKASG **Malin Array Be** 143.36 331 PKP PKPab 09 03 17.0 -0.8
comp=Z,7.8nm,0.5s,baz=43,slow=4.3,SNR=144
MME1 **Meikle Cairn** 143.46 5 *e*P PKPab 09 03 16.8 -1.2
DRUM **Mains of Drumt** 143.89 4 *e*P PKPbc 09 03 19.0 -0.6
EDU **Dundee** 144.22 5 *e*P PKPbc 09 03 20.3 -0.3
SIM **Simferopol'** 144.29 320 *e*PKIKP **PKPab** **09 03 22.1 +0.5**
SIM pmax pmax
comp=Z,41nm,1.1s
EAB **Aberfoyle** 144.46 6 *e*P **PKPdf** **09 03 20.6 -0.7**
BSD **Bornholm Skovb** 144.48 347 *i* PKIKP PKPbc 09 03 21.4 0.0
MBAR **Mbarara** 144.67 236 PKP **PKPab** **09 03 23.9 -0.3**
comp=Z,9.7nm,0.6s,baz=151,slow=5.7,SNR=10
MBAR **Mbarara** 144.67 236 *e*PKPdf **PKPab** **09 03 24.0 -0.1**
ESY **Stoneypath** 144.87 4 *e*P **PKPdf** **09 03 21.9 -0.1**
CLGH **Cloghs, Cushen** 145.34 8 *e*P **PKPbc** **09 03 24.6 +0.6**
EKA **Eskdalemuir Ar** 145.41 5 PKPbc **PKPbc** **09 03 23.8 -0.4**
comp=Z,5.6nm,0.4s,baz=339,slow=2.9,SNR=49
ESK **Eskdalemuir** 145.42 5 *e*PKPdf **PKPbc** **09 03 23.6 -0.7**
ESK **Eskdalemuir** 145.42 5 *e*P **PKPbc** **09 03 23.7 -0.6**
ESK **Eskdalemuir** 145.42 5 *e*PKIKP **PKPbc** **09 03 23.6 -0.6**
SORM **Soroca** 145.54 328 ⇓PKIKP **PKPbc** **09 03 24.4 -0.4**
GKP **Gorka Klasztor** 145.63 344 *e*PKP **PKPbc** **09 03 24.9 0.0**
GKP **Gorka Klasztor** 145.63 344 *e*PKIKP **PKPbc** **09 03 24.9 0.0**
BEL **Belsk** 145.83 339 *e*PKP **PKPbc** **09 03 25.6 0.0**
BEL **Belsk** 145.83 339 *e*PKIKP **PKPbc** **09 03 25.5 0.0**
BBO1 **Bothel** 145.99 5 *e*P **PKPbc** **09 03 25.9 0.0**
EDMD **Edmundbyers** 146.00 4 *e*P **PKPbc** **09 03 25.4 -0.5**
LVV **L'vov** 146.26 334 *e*PKP2 **PKPbc** **09 03 27.0 +0.2**
IOMK **Kirk Michael** 146.33 7 *e*P **PKPbc** **09 03 26.4 -0.4**
HPK **Haverah Park** 146.89 4 *e*P **PKPbc** **09 03 28.2 -0.2**
KWP **Kalwaria Pacla** 146.94 335 *e*PKP **PKPab** **09 03 37.1 +5.2**
KWP **Kalwaria Pacla** 146.94 335 *e*PKPbc **PKPbc** **09 03 28.1 -0.6**
KWP **Kalwaria Pacla** 146.94 335 *e*PKIKP **PKPbc** **09 03 28.1 -0.6**
ASF **Jabal al Asfar** 146.94 297 PKPbc **PKPbc** **09 03 29.3 -0.1**
comp=Z,12nm,0.9s,baz=73,slow=1.4,SNR=16
DSB **Dublin** 147.09 9 *e*PKPbc **PKPbc** **09 03 28.8 -0.1**
BR131 **Keskin Array S** 147.09 312 *e*PKPdf **PKPdf** **09 03 26.9 +0.3**
BR131 *e*PKPbc **PKPbc** **09 03 29.4 -0.2**
BRTR **Keskin Array B** 147.09 312 PKPbc **PKPbc** **09 03 29.3 -0.3**
comp=Z,7.0nm,0.5s,baz=137,slow=3.1,SNR=36
TLCR 147.22 324 ⇑PKP2 **PKPbc** **09 03 29.5 0.0**
BUR08 **Bucovina Ar. S** 147.39 330 *e*PKPbc **PKPbc** **09 03 30.7 +0.6**
BUR04 **Bucovina Ar. S** 147.40 330 *e*PKPdf **PKPdf** **09 03 28.2 +1.5**
BUR04 *e*PKPbc **PKPbc** **09 03 28.9 -1.1**
BURAR **Bucovina Array** 147.40 330 ⇑PKP2 **PKPbc** **09 03 30.9 +0.8**
LBWR **Ladybower, Pea** 147.44 4 *e*P **PKPbc** **09 03 29.4 -0.4**
OJC **Ojcow** 147.53 339 *e*PKP **PKPbc** **09 03 30.2 0.0**
OJC **Ojcow** 147.53 339 *e*PKPbc **PKPbc** **09 03 30.0 -0.2**
OJC **Ojcow** 147.53 339 *e*PKP2 **PKPbc** **09 03 30.0 -0.2**
ANTO **Ankara** 147.62 313 *e*PKPbc **PKPbc** **09 03 31.1 +0.2**
BR231 **Keskin MP Arra** 147.64 313 *e*PKPdf **PKPdf** **09 03 26.3 -1.1**
BR231 *e*PKPbc **PKPbc** **09 03 30.1 -0.8**
STHS **Stebnicka Huta** 147.68 336 *e*PKP **PKPbc** **09 03 31.4 +0.8**
STHS **Stebnicka Huta** 147.68 336 *e*PKP2 **PKPbc** **09 03 31.4 +0.8**
FOEL **Foel Wylfa** 147.83 6 *e*P **PKPbc** **09 03 29.7 -1.2**
VRI **Vrincioaia** 147.90 327 ⇓PKP2 **PKPbc** **09 03 31.2 -0.1**
UZH **Uzhgorod** 147.90 334 *e*PKIKP **PKPbc** **09 03 29.9 -1.3**
UZH *i* 09 03 37.3
TIRR **Tirgusor** 147.90 323 ⇑PKP2 **PKPbc** **09 03 31.1 -0.2**
PLOR **Plostina** 147.94 327 ⇑PKHKP **PKPbc** **09 03 30.6 -0.8**
MMAI **Mount Meron Ar** 148.00 299 PKPbc **PKPbc** **09 03 32.8 +0.7**
comp=Z,18nm,0.5s,baz=63,slow=3.9,SNR=94
CRVS **Cervenica-Dubn** 148.01 335 *e*PKP **PKPbc** **09 03 32.1 +0.6**
CRVS **Cervenica-Dubn** 148.01 335 *e*PKP2 **PKPbc** **09 03 32.2 +0.7**
HARR **Harsova** 148.03 324 ⇑PKHKP **PKPbc** **09 03 31.2 -0.4**
NIE **Niedzica** 148.03 337 *e*PKP **PKPbc** **09 03 32.3 +0.8**
NIE **Niedzica** 148.03 337 *e*PKP2 **PKPbc** **09 03 32.3 +0.8**
TLB **Topalu** 148.03 324 ⇓PKP2 **PKPbc** **09 03 31.6 0.0**
KSP **Ksiaz** 148.07 343 *e*PKP **PKPbc** **09 03 32.0 +0.5**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**148.07**	**343**	*e*PKP2	**PKPbc**	**09 03 32.0**	**+0.5**
HLM1	**Long Mynd**	**148.22**	**6**	*e*P	**PKPbc**	**09 03 31.5**	**-0.4**
UPC	**Upice**	**148.45**	**343**	⇑*e*PKP	**PKPbc**	**09 03 33.0**	**+0.5**
UPC	**Upice**	**148.45**	**343**	*e*PKP2	**PKPbc**	**09 03 33.0**	**+0.5**
CLL	**Collm**	**148.45**	**347**	*e*PKPdf	**PKPdf**	**09 03 28.0**	**-0.1**
	comp=Z,7.0nm,1.2s						
CLL				*i* PKPbc	**PKPbc**	**09 03 32.8**	**+0.4**
	comp=Z,64nm,1.3s						
CLL				*i* PKPab	**PKPab**	**09 03 37.4**	**-0.5**
	comp=Z,14nm,0.9s						
CLL				*i* pPKPbc	**pPKPbc**	**09 05 43.5**	**+3.4**
CLL	**Collm**	**148.45**	**347**	*e*PKPdf	**PKPbc**	**09 03 32.6**	**+0.1**
CLL				*e*PKPbc	**PKPbc**	**09 03 32.9**	**+0.4**
CLL	**Collm**	**148.45**	**347**	*i* PKP2	**PKPbc**	**09 03 32.8**	**+0.4**
CLL				pmax	pmax		
	comp=Z,14nm,0.9s						
LPW	**Lampeter**	**148.50**	**7**	*e*P	**PKPbc**	**09 03 32.3**	**-0.3**
DPC	**Dobruska-Polom**	**148.51**	**342**	⇑*e*PKP	**PKPbc**	**09 03 33.1**	**+0.4**
DPC				*e*PKPAB	**PKPab**	**09 03 38.9**	**+0.6**
DPC	**Dobruska-Polom**	**148.51**	**342**	*e*PKP2	**PKPbc**	**09 03 33.1**	**+0.4**
LANS	**Liptovska Anna**	**148.55**	**338**	*e*PKP	**PKPbc**	**09 03 34.2**	**+1.4**
LANS				*e*		09 03 39.7	
LANS	**Liptovska Anna**	**148.55**	**338**	*e*PKP2	**PKPbc**	**09 03 34.2**	**+1.4**
MLR	**Muntele Rosu**	**148.55**	**327**	PKPbc	**PKPbc**	**09 03 32.8**	**-0.2**
	comp=Z,2.5nm,0.4s,baz=67,slow=5.3,SNR=20						
MLR	**Muntele Rosu**	**148.55**	**327**	⇑PKHKP	**PKPbc**	**09 03 32.4**	**-0.7**
KRLC	**Kraliky**	**148.62**	**342**	⇑*e*PKP	**PKPbc**	**09 03 33.6**	**+0.6**
KRLC	**Kraliky**	**148.62**	**342**	*e*PKP2	**PKPbc**	**09 03 33.6**	**+0.6**
BRG	**Berggiesshubel**	**148.65**	**345**	*e*PKP	**PKPdf**	**09 03 29.1**	**+0.6**
	comp=Z,8.1nm,1.2s						
BRG	**Berggiesshubel**	**148.65**	**345**	*i* PKP	**PKPbc**	**09 03 33.3**	**+0.4**
	comp=Z,63nm,1.7s						
BRG	**Berggiesshubel**	**148.65**	**345**	*i* PKP	**PKPab**	**09 03 38.5**	**-0.2**
	comp=Z,10.0nm,0.8s						
BRG	**Berggiesshubel**	**148.65**	**345**	*e*PKHKP	PKPpre	09 03 29.1	
BRG				*i*		09 03 38.5	
BRG				pmax	pmax		
	comp=Z,63nm,1.7s						
BRG				pmax	pmax		
	comp=Z,10.0nm,0.8s						
MORC	**Moravsky Berou**	**148.65**	**340**	*e*PKPbc	**PKPbc**	**09 03 33.4**	**+0.4**
MORC	**Moravsky Berou**	**148.65**	**340**	⇑PKHKP	**PKPbc**	**09 03 33.2**	**+0.1**
MCH1	**Michaelchurch**	**148.73**	**6**	*e*P	**PKPbc**	**09 03 32.6**	**-0.5**
KECS	**Kecovo**	**148.73**	**336**	*e*PKP	**PKPbc**	**09 03 34.3**	**+1.0**
KECS				*e*		09 03 39.6	
KECS	**Kecovo**	**148.73**	**336**	*e*PKP2	**PKPbc**	**09 03 34.3**	**+1.0**
SSW	**Stow on the Wo**	**148.86**	**5**	*e*P	**PKPbc**	**09 03 33.5**	**+0.1**
MONM	**Monmouth**	**148.90**	**6**	*e*P	**PKPbc**	**09 03 33.1**	**-0.5**
VOIR		**149.04**	**328**	⇓PKHKP	**PKPbc**	**09 03 34.5**	**+0.3**
CSS	**Mathiatis**	**149.11**	**304**	*e*PKPbc	**PKPbc**	**09 03 34.6**	**0.0**
DRGR		**149.16**	**332**	⇑PKHKP	**PKPbc**	**09 03 33.7**	**-0.7**
PRA	**Prague**	**149.27**	**344**	⇑*e*PKP	**PKPbc**	**09 03 34.9**	**+0.4**
PRA	**Prague**	**149.27**	**344**	*e*PKHKP	**PKPbc**	**09 03 34.9**	**+0.4**
PRU	**Pruhonice**	**149.32**	**344**	⇑*e*PKP	**PKPbc**	**09 03 34.8**	**+0.2**
PRU				*e*PKPAB	**PKPab**	**09 03 41.8**	**+0.2**
PRU	**Pruhonice**	**149.32**	**344**	*e*PKHKP	**PKPbc**	**09 03 34.8**	**+0.2**
PRU				*e*		09 03 41.8	
GOPC	**GO Pecny, Ondr**	**149.32**	**344**	⇑*e*PKP	**PKPbc**	**09 03 34.9**	**+0.2**
GOPC				*e*PKPAB	**PKPab**	**09 03 42.1**	**+0.5**
GOPC	**GO Pecny, Ondr**	**149.32**	**344**	*e*PKHKP	**PKPbc**	**09 03 34.9**	**+0.2**
GOPC				*e*		09 03 42.1	
VYHS	**Vyhne**	**149.33**	**338**	*e*PKP	**PKPbc**	**09 03 35.1**	**+0.4**
VYHS				*e*		09 03 42.3	
VYHS	**Vyhne**	**149.33**	**338**	*e*PKHKP	**PKPbc**	**09 03 35.1**	**+0.4**
VYHS				*e*		09 03 42.3	
VRAC	**Vranov**	**149.36**	**341**	⇓PKHKP	**PKPbc**	**09 03 34.9**	**+0.1**
PSZ	**Piszkesteto**	**149.42**	**336**	*e*PKPbc	**PKPbc**	**09 03 35.4**	**+0.3**
NKC	**Novy Kostel**	**149.59**	**347**	⇑*e*PKP	**PKPbc**	**09 03 35.5**	**+0.2**
NKC				*e*PKPAB	**PKPab**	**09 03 42.8**	**+0.1**
NKC	**Novy Kostel**	**149.59**	**347**	*e*PKHKP	**PKPbc**	**09 03 35.5**	**+0.2**
NKC				*e*		09 03 42.8	
SMOL	**Smolenice**	**149.79**	**339**	*e*PKP	**PKPbc**	**09 03 36.8**	**+1.0**
SMOL	**Smolenice**	**149.79**	**339**	*e*PKHKP	**PKPbc**	**09 03 36.8**	**+1.0**
MODS	**Modra-Piesok**	**149.96**	**339**	*e*PKP	**PKPbc**	**09 03 37.2**	**+1.0**
MODS	**Modra-Piesok**	**149.96**	**339**	*e*PKHKP	**PKPbc**	**09 03 37.2**	**+1.0**
SRO	**Srobarova**	**150.09**	**338**	*e*PKP	**PKPbc**	**09 03 37.2**	**+0.8**
SRO	**Srobarova**	**150.09**	**338**	*e*PKHKP	**PKPbc**	**09 03 37.3**	**+0.8**
UCC	**Uccle**	**150.11**	**357**	⇓PKPbc	**PKPbc**	**09 03 36.5**	**+0.1**
ISP	**Isparta**	**150.12**	**311**	*e*PKPbc	**PKPbc**	**09 03 36.3**	**-0.8**
MEM	**Membach**	**150.19**	**355**	⇓PKPbc	**PKPbc**	**09 03 36.8**	**+0.2**
KHC	**Kasperske Hory**	**150.35**	**345**	*e*PKPDF	**PKPdf**	**09 03 32.1**	**+0.8**
KHC				⇑*e*PKP	**PKPbc**	**09 03 37.2**	**0.0**
KHC				*e*PKPAB	**PKPab**	**09 03 46.2**	**+0.2**
KHC				*e*pPKP	**pPKPbc**	**09 05 46.6**	**+1.4**
KHC	**Kasperske Hory**	**150.35**	**345**	*e*PKPdf	**PKPdf**	**09 03 31.1**	**-0.2**
KHC				*e*PKPbc	**PKPbc**	**09 03 37.1**	**0.0**
KHC				*e*PKPab	**PKPab**	**09 03 47.0**	**+1.0**
KHC	**Kasperske Hory**	**150.35**	**345**	*e*PKIKP	**PKPdf**	**09 03 32.1**	**+0.8**
KHC				*e*		09 03 46.2	
SNF	**Seneffe**	**150.40**	**357**	⇑PKPbc	**PKPbc**	**09 03 37.1**	**-0.1**
SNF				⇑PKPab	**PKPab**	**09 03 45.7**	**-0.3**
BCLA	**Clavier**	**150.43**	**356**	⇓PKPbc	**PKPbc**	**09 03 37.9**	**+0.6**
BCLA				⇑PKPab	**PKPab**	**09 03 45.6**	**-0.6**
BZS	**Buzias**	**150.54**	**331**	⇓PKIKP	**PKPbc**	**09 03 37.4**	**-0.2**
GEC2	**GERESS Array S**	**150.59**	**344**	*e*PKPdf	**PKPbc**	**09 03 37.5**	**-0.3**
GEC2				*e*PKPbc	**PKiKP**	**09 03 37.9**	**-0.4**
GEC2				*e*PKPab	**PKPab**	**09 03 47.0**	**0.0**
GEC2	**GERESS Array S**	**150.59**	**344**	*e*PKIKP	**PKPbc**	**09 03 37.5**	**-0.3**
GEC2				*e*		09 03 47.0	
GERES	**GERESS Array B**	**150.59**	**344**	PKPbc	**PKPbc**	**09 03 37.7**	**0.0**
	comp=Z,6.5nm,0.5s,baz=48,slow=2.0,SNR=12						
GERES				PKPab	**PKPab**	**09 03 46.9**	**-0.2**
	comp=Z,1.5nm,0.4s,baz=30,slow=5.3,SNR=11						
GEA0	**GERESS Array S**	**150.59**	**344**	*e*PKPdf	**PKPdf**	**09 03 31.7**	**0.0**
GEA0				*e*PKPbc	**PKPbc**	**09 03 37.7**	**-0.1**
GEA0				*e*PKPab	**PKPab**	**09 03 46.9**	**-0.1**
DOU	**Dourbes**	**150.80**	**357**	⇑PKPbc	**PKPbc**	**09 03 38.1**	**0.0**
DOU				⇑PKPab	**PKPab**	**09 03 46.9**	**-0.8**
CONA	**Conrad Observa**	**150.81**	**341**	*e*PKiKP	**PKiKP**	**09 03 38.5**	**-0.2**
	comp=Z,14nm,0.5s,SNR=10						
WLF	**Walferdange**	**151.11**	**354**	⇓PKPbc	**PKPbc**	**09 03 39.8**	**+1.0**
WLF				⇓PKPab	**PKPab**	**09 03 49.1**	**+0.1**
WLF	**Walferdange**	**151.11**	**354**	*e*PKPbc	**PKPbc**	**09 03 39.8**	**+1.0**
WLF	**Walferdange**	**151.11**	**354**	*e*PKIKP	**PKPbc**	**09 03 39.8**	**+1.0**
MOA	**Molln**	**151.35**	**343**	*e*PKiKP	**PKPbc**	**09 03 39.2**	**-0.3**
	comp=Z,7.6nm,0.5s,SNR=5.1						
ARSA	**Arzberg**	**151.51**	**340**	*i* PKiKP	**PKPbc**	**09 03 39.5**	**-0.3**
	comp=Z,4.4nm,0.6s						
VTS	**Vitosha**	**151.98**	**325**	*e*PKPbc	**PKPbc**	**09 03 41.1**	**-0.1**
VTS	**Vitosha**	**151.98**	**325**	⇓PKIKP	**PKPbc**	**09 03 40.1**	**-1.1**
BFO	**Black Forest**	**152.17**	**351**	*e*PKPbc	**PKPbc**	**09 03 41.3**	**0.0**
BFO				*e*PKPab	**PKPab**	**09 03 53.5**	**-0.1**
BFO	**Black Forest**	**152.17**	**351**	*e*PKIKP	**PKPbc**	**09 03 41.3**	**0.0**
BFO				*e*		09 03 53.5	
SOKA	**Soboth**	**152.18**	**341**	*e*PKiKP	**PKPbc**	**09 03 40.7**	**-0.7**
	comp=Z,7.5nm,0.8s,SNR=5.0						
KBA	**Koelnbreinsper**	**152.31**	**343**	*i* PKiKP	**PKPbc**	**09 03 41.0**	**-0.8**
	comp=Z,5.7nm,0.6s						
DIVS	**Divibare**	**152.45**	**331**	*e*PKPdf	**PKPdf**	**09 03 35.2**	**+0.5**
DIVS				*e*PKPbc	**PKPbc**	**09 03 41.6**	**-0.5**
OBKA	**Obir**	**152.48**	**341**	*e*PKiKP	**PKPbc**	**09 03 41.4**	**-0.7**
	comp=Z,3.7nm,0.5s						
WATA	**Walderalm**	**152.51**	**346**	*e*PKiKP	**PKPbc**	**09 03 41.9**	**-0.2**
	comp=Z,5.8nm,0.4s,SNR=6.1						
RETA	**Reutte**	**152.54**	**347**	*e*PKiKP	**PKPbc**	**09 03 42.0**	**-0.2**
	comp=Z,3.1nm,0.5s						
WTTA	**Wattenberg**	**152.56**	**346**	*e*PKiKP	**PKPbc**	**09 03 42.0**	**-0.3**
	comp=Z,7.3nm,0.5s						
MOTA	**Moosalm**	**152.61**	**346**	*e*PKiKP	**PKiKP**	**09 03 42.6**	**+0.1**
	comp=Z,3.8nm,0.5s						
MYKA	**Terra Mystica**	**152.63**	**342**	*i* PKiKP	**PKPbc**	**09 03 41.6**	**-0.8**
	comp=Z,7.0nm,0.4s						
CRES	**Cresnjev**	**152.79**	**339**	*i* PKPbc	**PKPbc**	**09 03 42.3**	**-0.4**
ABTA	**Abfaltersbach**	**152.83**	**344**	*e*PKiKP	**PKPbc**	**09 03 42.3**	**-0.5**
	comp=Z,16nm,0.5s,SNR=6.7						
LJU	**Ljubljana**	**152.90**	**341**	*i* PKPbc	**PKPbc**	**09 03 42.7**	**-0.2**
DAVA	**Damuels**	**152.91**	**348**	*e*PKiKP	**PKPbc**	**09 03 41.6**	**-1.4**
	comp=Z,5.4nm,0.7s						
CRNS	**Crni Vrh**	**152.95**	**341**	*i* PKPbc	**PKPbc**	**09 03 42.3**	**-0.7**
FETA	**Feichten**	**153.00**	**347**	*i* PKPdf	**PKPdf**	**09 03 35.9**	**+0.5**
	comp=Z,11nm,1.3s						
TRI	**Trieste**	**153.44**	**341**	*e*PKPbc	**PKPbc**	**09 03 43.6**	**-0.4**
TRI	**Trieste**	**153.44**	**341**	*e*PKIKP	**PKPbc**	**09 03 43.6**	**-0.4**
BNI	**Bardonecchia**	**155.61**	**352**	*e*PKPab	**PKPab**	**09 04 09.2**	**+0.7**
CUC	**Castrocucco**	**157.60**	**331**	*e*PKPab	**PKPab**	**09 04 15.6**	**-1.6**
PESTR	**Estremoz**	**160.30**	**23**	*e*PKPab	**PKPab**	**09 04 28.4**	**-0.5**
ES19	**SONSECA Array**	**160.60**	**14**	*e*PKPab	**PKPab**	**09 04 30.3**	**-0.1**
ESDC	**Sonseca Array**	**160.61**	**14**	PKPab	**PKPab**	**09 04 29.5**	**-0.9**
	comp=Z,1.1nm,0.6s,baz=342,slow=3.8,SNR=6.8						
KEST	**Kesra**	**163.88**	**338**	PKPab	**PKPab**	**09 04 42.9**	**-2.0**
	comp=Z,3.6nm,0.7s,baz=304,slow=3.6,SNR=2.9						
DBIC	**Dimbokro**	**164.38**	**154**	PKP	**PKPdf**	**09 03 49.0**	**-0.4**
	comp=Z,3.2nm,0.8s,baz=191,slow=10,SNR=3.5						
DBIC				PKPab	**PKPab**	**09 04 48.2**	**+0.8**
	comp=Z,6.3nm,1.1s,baz=195,slow=7.6,SNR=3.7						
DBIC	**Dimbokro**	**164.38**	**154**	*e*PKPdf	**PKPdf**	**09 03 49.3**	**-0.1**
DBIC				*e*PKPab	**PKPab**	**09 04 49.4**	**+2.0**
DBIC	**Dimbokro**	**164.38**	**154**	*e*PKIKP	**PKPdf**	**09 03 49.3**	**-0.1**
DBIC				*e*		09 04 49.4	
KOWA	**Kowa**	**171.44**	**137**	PKP	**PKPdf**	**09 03 53.6**	**-0.5**
	comp=Z,0.8nm,0.4s,baz=140,slow=5.2,SNR=5.0						
KOWA				PKPab	**PKPab**	**09 05 19.0**	**+0.2**
	comp=Z,0.5nm,0.3s,baz=184,slow=6.0,SNR=4.6						
TOA0	**Torodi Ar. Sit**	**172.28**	**178**	*e*PKPdf	**PKPdf**	**09 03 53.7**	**-0.8**
TOA0				*e*PKPab	**PKPab**	**09 05 23.8**	**+1.5**
TORD	**Torodi Ar. Bea**	**172.28**	**178**	PKP	**PKPdf**	**09 03 54.0**	**-0.5**
	comp=Z,5.2nm,1.1s,baz=335,slow=0.9,SNR=16						
TORD				PKPab	**PKPab**	**09 05 22.7**	**+0.4**
	comp=Z,1.0nm,0.6s,baz=175,slow=3.9,SNR=4.5						

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*ISCJB **07** 08:59:05.5±0.6, 44.°20N±0.°08×140.°17E±0.°08, h250km, mb3.3/5, Error ellipse: s-maj=11.3km s-min=7.0km az=26.7*
*JMA **07** 08:59:05.5±0.4, 44.°26N×140.°36E, h268km±4km, M2.9*
*IDC **07** 08:59:06.8±1.4, 45.°18N×140.°25E, h213km±70km, mb3.2/5, mb1 3.2/6, mb1mx2.8/71, mbtmp3.7/6, MS3.6/1, Ms1 3.6/1, ms1mx2.4/26, Error ellipse: s-maj=144.5km s-min=20.6km az=174.0*
ISC 07 08:59:05.7±0.8**, 44.°21N**±0.°08×**140.°29E**±0.°06**, h250**km**, n18,** σ**1.s78**/22**, mb3.3**/5**, Eastern Sea of Japan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JWK2	**Keihoku**	**1.60**	**45**	P	**Pn**	**08 59 45.7**	**+1.1**
ASAJ	**Asahikawa**	**1.66**	**92**	P	**Pn**	**08 59 46.3**	**+1.1**
	1.4nm,0.3s,baz=41,slow=11,SNR=16						
ASAJ				S	**S**	**09 00 16.9**	**+0.6**
	0.4nm,0.3s,baz=342,slow=20,SNR=3.1						
JKK2	**Kamakawa 2**	**1.81**	**100**	P	**Pn**	**08 59 47.5**	**+1.1**
JKK2				*e*S	**S**	**09 00 20.1**	**+1.6**
JFR	**Furan**	**1.97**	**121**	P	**Pn**	**08 59 48.9**	**+1.0**
JFR				*e*S	**S**	**09 00 23.4**	**+2.2**
JKB	**Kayabe**	**2.38**	**166**	P	**Pn**	**08 59 53.3**	**+1.5**
JTKR	**Abashiri--Toko**	**2.62**	**94**	P	**Pn**	**08 59 55.1**	**+1.0**
JNBK	**Urakawa-nobuka**	**2.64**	**136**	P	**Pn**	**08 59 56.4**	**+2.1**
JAR	**Ashorobuto**	**2.68**	**109**	P	**Pn**	**08 59 55.9**	**+1.1**
JAR				*e*S	**S**	**09 00 35.4**	**+1.9**
JCH	**Churui**	**2.75**	**124**	*e*S	**S**	**09 00 32.7**	**-2.1**
JANG	**Nango**	**3.94**	**166**	P	**Pn**	**09 00 09.0**	**+0.2**
JANG				*e*S	**S**	**09 00 57.0**	**-1.8**
NEM2	**Nemuro 2**	**4.04**	**100**	*e*S	**S**	**09 00 56.8**	**-4.0**
USRK	**Ussuriysk Ar.**	**5.97**	**273**	P	**Pn**	**09 00 33.9**	**+0.6**
	0.3nm,0.3s,baz=87,slow=12,SNR=3.5						
MKAR	**Makanchi Array**	**39.94**	**295**	P	**P**	**09 06 18.0**	**+2.4**
	0.2nm,0.6s,baz=79,slow=7.5,SNR=2.9						
KURBB	**Kurchatov Arra**	**41.20**	**302**	P	**P**	**09 06 25.2**	**-0.6**
	1.1nm,0.4s,baz=73,slow=9.0,SNR=5.3						
BVAR	**Borovoye Array**	**45.33**	**307**	P	**P**	**09 06 58.5**	**-0.2**
	0.6nm,0.4s,baz=78,slow=8.1,SNR=2.2						
INK	**Inuvik**	**48.49**	**30**	P	**P**	**09 07 21.4**	**-1.4**
	0.3nm,0.4s,baz=293,slow=9.8,SNR=4.8						
GEYT	**Alibeck**	**59.82**	**295**	LR	LR	09 35 34.6	
	comp=Z,43nm,18.0s,baz=70,slow=37						
FINES	**FINESS Array B**	**62.12**	**330**	P	**P**	**09 08 57.9**	**-1.8**
	3.5nm,1.1s,baz=72,slow=8.9,SNR=3.2						

IDC 07 09:20:19.9±1.4**, 4.°01N**×**123.°76E, h0**km**, mb3.4**/4**, mb1 3.5**/4**, mb1mx3.2**/64**, mbtmp3.4**/4**, Error ellipse: s-maj=196.3km s-min=21.1km az=65.0, Celebes Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**25.98**	**157**	P	P	09 25 54.5	0.0
	0.2nm,0.6s,baz=335,slow=11,SNR=3.3						
ASAR	**Alice Springs**	**29.23**	**161**	P	P	09 26 23.9	+0.1
	0.3nm,0.9s,baz=348,slow=7.0,SNR=3.9						
MKAR	**Makanchi Array**	**55.66**	**327**	P	P	09 29 57.5	-0.5
	0.2nm,0.4s,baz=132,slow=8.6,SNR=2.9						
ZALV	**Zalesovo Beam**	**59.02**	**334**	P	P	09 30 21.8	+0.3
	0.4nm,0.3s,baz=146,slow=8.0,SNR=2.8						

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*ISCJB **07** 09:22:01.1±0.6, 37.°20N±0.°06×28.°20E±0.°05, h0km, Error ellipse: s-maj=9.8km s-min=4.3km az=28.3*
*CSEM **07** 09:22:01.4±0.1, 37.°20N×28.°20E, h1km, ML2.3, Error ellipse: s-maj=3.4km s-min=1.7km az=27.0, Suspected Mining explosion.*
*DDA **07** 09:22:01.4, 37.°20N×28.°20E, h7km, Ml2.6, Suspected Mining explosion.*
*ISK **07** 09:22:01.1, 37.°21N×28.°19E, h6km, ML2.3/6*
ISC 07 09:22:01.1±0.9**, 37.°21N**±0.°04×**28.°22E**±0.°03**, h0**km**, n24,** σ**0.s62**/28**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MLSB	**Milas**	**0.36**	**284**	PG	**Pg**	**09 22 08.2**	**+0.2**
MLSB				SG	**Sg**	**09 22 13.6**	**+0.9**
MLSB	**Milas**	**0.36**	**284**	*e*Pg	**Pg**	**09 22 08.2**	**+0.2**
MLSB				*e*Sg	**Sg**	**09 22 13.6**	**+0.9**
TURN	**Turunc**	**0.45**	**137**	PG	**Pg**	**09 22 10.1**	**+0.4**
TURN				SG	**Sg**	**09 22 16.4**	**+0.8**
TURN	**Turunc**	**0.45**	**137**	*i* P	**Pg**	**09 22 10.1**	**+0.4**
TURN	**Turunc**	**0.45**	**137**	P	**Pg**	**09 22 10.1**	**+0.4**
TURN				*e*Sg	**Sg**	**09 22 16.4**	**+0.8**
DALY	**Dalyan (Mu˜la**	**0.52**	**138**	PG	**Pb**	**09 22 12.1**	**-1.1**
DALY	**Dalyan (Mu˜la**	**0.52**	**138**	*i* P	**Pb**	**09 22 12.0**	**-1.1**
DALY	**Dalyan (Mu˜la**	**0.52**	**138**	P	**Pb**	**09 22 12.0**	**-1.1**
TAVA	**DENIZLI_Tavas**	**0.61**	**65**	*i* P	**Pb**	**09 22 13.8**	**-0.9**
TAVA	**DENIZLI_Tavas**	**0.61**	**65**	P	**Pb**	**09 22 13.8**	**-0.9**
BDRM	**Kayabasi**	**0.64**	**257**	*i* P	**Pg**	**09 22 13.5**	**+0.3**
BDRM	**Kayabasi**	**0.64**	**257**	P	**Pg**	**09 22 13.5**	**+0.3**
BODT	**Bodrum**	**0.74**	**259**	PG	**Pg**	**09 22 14.9**	**-0.3**
BODT	**Bodrum**	**0.74**	**259**	*e*Pg	**Pg**	**09 22 14.9**	**-0.3**
AYDB	**Zeytinkoy-Aydi**	**0.78**	**341**	PG	**Pg**	**09 22 16.3**	**+0.2**
AYDB	**Zeytinkoy-Aydi**	**0.78**	**341**	*e*Pg	**Pg**	**09 22 16.3**	**+0.2**
GCAM	**G?zelcaml?**	**0.93**	**302**	PG	**Pg**	**09 22 19.1**	**+0.3**
GCAM	**G?zelcaml?**	**0.93**	**302**	*i* P	**Pb**	**09 22 19.4**	**-0.6**
GCAM	**G?zelcaml?**	**0.93**	**302**	*e*Pg	**Pg**	**09 22 19.1**	**+0.3**
GCAM	**G?zelcaml?**	**0.93**	**302**	P	**Pb**	**09 22 19.4**	**-0.6**
AKAS	**Kas**	**1.48**	**131**	PN	**Pb**	**09 22 29.3**	**-0.2**
AKAS	**Kas**	**1.48**	**131**	*i* P	**Pn**	**09 22 29.0**	**-0.1**
AKAS	**Kas**	**1.48**	**131**	P	**Pn**	**09 22 29.0**	**-0.1**
AKAS	**Kas**	**1.48**	**131**	*e*Pn	**Pb**	**09 22 29.3**	**-0.2**

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*ISCJB **07** 09:28:23.3±1.2, 47.°72N±0.°10×108.°28E±0.°07, h4km±9km, mb3.2/1, Error ellipse: s-maj=16.2km s-min=8.1km az=8.3*
*IDC **07** 09:28:23.9±1.6, 47.°74N×108.°42E, h0km, mb3.3/1, mb1 3.2/4, mb1mx3.0/79, mbtmp3.1/4, ML2.5/2, Error ellipse: s-maj=19.2km s-min=15.0km az=56.0*
*OBM **07** 09:28:25.0±0.0, 47.°71N×108.°29E, h0km, Ml3.2/2, Error ellipse: s-maj=1.3km s-min=0.5km az=15.0*
ISC 07 09:28:25.5±2.2**, 47.°60N**±0.°09×**108.°07E**±0.°08**, h4**km±11km**, n23,** σ**0.s89**/38**, Mongolia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
UGDM		**0.46**	**275**	*e*Pg	**Pb**	**09 28 36.1**	**-0.1**
UGDM				*e*Sg	**Sb**	**09 28 44.7**	**+1.3**
	148nm,0.4s						
ARTM		**0.63**	**302**	*e*Pg	**Pb**	**09 28 38.5**	**-0.8**
ARTM				*e*Sg	**Sb**	**09 28 48.4**	**-0.2**
	244nm,0.6s						
SEMM		**0.74**	**267**	*e*Pg	**Pn**	**09 28 41.4**	**-1.5**
SEMM				*e*Sg	**Sn**	**09 28 52.7**	**-2.0**
ALFM		**0.95**	**295**	*e*Pg	**Pn**	**09 28 44.7**	**-1.1**
ALFM				*e*Sg	**Sn**	**09 28 58.8**	**-1.2**
	141nm,0.5s						
I34MN	**SONGINO INFRAS**	**1.14**	**281**	*i*		09 36 40.0	
	baz=96,slow=333,SNR=1.0						
SONB2	**Songino Ar. Si**	**1.14**	**283**	*e*Pg	**Pn**	**09 28 48.2**	**-0.2**
SONB2				*e*Sg	**Sn**	**09 29 05.6**	**+1.0**
	682nm,0.6s						
SONB3	**Songino Array**	**1.14**	**282**	*e*Pg	**Pn**	**09 28 48.3**	**-0.1**
SONB3				*e*Sg	**Sn**	**09 29 05.4**	**+0.8**
	772nm,0.7s						
SONA3	**Songino Array**	**1.15**	**283**	*e*Pg	**Pn**	**09 28 48.3**	**-0.2**
SONA3				*e*Sg	**Sn**	**09 29 05.1**	**+0.3**
	520nm,0.5s						
SONA4	**Songino Array**	**1.15**	**283**	*e*Pg	**Pn**	**09 28 48.4**	**-0.1**
SONA4				*e*Sg	**Sn**	**09 29 05.5**	**+0.7**
	488nm,0.6s						
SONA1	**Songino Array**	**1.15**	**283**	*e*Pg	**Pn**	**09 28 48.4**	**-0.2**
SONA1				*e*Sg	**Sn**	**09 29 04.9**	**0.0**
	532nm,0.6s						
SONA0	**Songino Array**	**1.16**	**282**	*e*Pg	**Pn**	**09 28 48.4**	**-0.2**
SONA0				*e*Sg	**Sn**	**09 29 04.4**	**-0.5**
	784nm,0.6s						
SONB1	**Songino Array**	**1.16**	**284**	*e*Pg	**Pn**	**09 28 48.5**	**-0.1**
SONB1				*e*Sg	**Sn**	**09 29 05.5**	**+0.5**
	534nm,0.6s						
SONM	**Songino Array**	**1.16**	**282**	Pg	**Pn**	**09 28 48.5**	**-0.1**
	64nm,0.3s,baz=97,slow=18,SNR=163						
SONM				Lg	Lg	09 29 09.5	
	35nm,0.3s,baz=94,slow=25,SNR=27						
SONA2	**Songino Array**	**1.16**	**283**	*e*Pg	**Pn**	**09 28 48.5**	**-0.1**
SONA2				*e*Sg	**Sn**	**09 29 04.9**	**-0.1**
SONB5	**Songino Array**	**1.18**	**283**	*e*Pg	**Pg**	**09 28 48.8**	**+0.8**
SONB5				*e*Sg	**Sn**	**09 29 06.7**	**+1.3**
SONB4	**Songino Array**	**1.18**	**282**	*e*Pg	**Pg**	**09 28 48.9**	**+0.9**
SONB4				*e*Sg	**Sn**	**09 29 06.3**	**+0.8**
	510nm,0.6s						
BLGM	**Bulgan**	**3.26**	**293**	*e*Pg	**Pg**	**09 29 26.2**	**-1.8**
BLGM				*e*Sg	**Sg**	**09 30 10.2**	**0.0**
TTS	**Tsetserleg**	**4.49**	**271**	*e*Sg	**Sg**	**09 30 50.9**	**+1.2**
TLY	**Talaya**	**5.00**	**327**	Pn	**Pn**	**09 29 40.6**	**-0.7**
	0.0nm,0.3s,baz=231,slow=1.4,SNR=3.7						
TLY				Pg	**Pb**	**09 29 55.0**	**+1.5**
	0.0nm,0.3s,baz=143,slow=8.5,SNR=11						
TLY				Lg	Lg	09 31 00.7	
	0.0nm,0.3s,baz=213,slow=20,SNR=10						
TSC	**Tosontsengel**	**6.67**	**284**	*e*Sg	**Sg**	**09 31 58.4**	**-1.1**
MKAR	**Makanchi Array**	**17.52**	**277**	P	**P**	**09 32 32.4**	**+0.7**
	0.1nm,0.3s,baz=87,slow=12,SNR=3.2						
KURBB	**Kurchatov Arra**	**19.51**	**290**	P	**Pn**	**09 32 54.3**	**-0.5**
	baz=83,slow=11,SNR=3.2						
ASAR	**Alice Springs**	**74.65**	**156**	P	**P**	**09 40 06.1**	**+0.1**
	0.2nm,0.6s,baz=344,slow=5.9,SNR=4.6						

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*ISCJB **07** 09:29:30.6±0.5, 39.°65N±0.°02×29.°49E±0.°04, h0km, Error ellipse: s-maj=4.9km s-min=3.4km az=0.3*
*CSEM **07** 09:29:30.8±0.1, 39.°63N×29.°49E, h1km, ML2.4, Error ellipse: s-maj=3.5km s-min=2.6km az=94.0, Suspected Mining explosion.*
*DDA **07** 09:29:30.2, 39.°67N×29.°48E, h7km, Ml2.5, Suspected Mining explosion.*
*ISK **07** 09:29:30.8, 39.°62N×29.°45E, h8km, ML2.4/13, Suspected Mining explosion.*
ISC 07 09:29:30.5±0.8**, 39.°64N**±0.°02×**29.°48E**±0.°03**, h0**km**, n34,** σ**0.s61**/44**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TVSB	**Tavsanli**	**0.19**	**185**	PG	**Pg**	**09 29 34.8**	**+0.6**
TVSB				SG	**Sg**	**09 29 37.8**	**+1.1**
TVSB	**Tavsanli**	**0.19**	**185**	*e*Pg	**Pg**	**09 29 34.8**	**+0.6**
TVSB				*e*Sg	**Sg**	**09 29 37.8**	**+1.1**
GDZ	**Gediz**	**0.55**	**180**	*i* P	**Pg**	**09 29 41.0**	**-0.1**
GDZ				*i* S	**Sb**	**09 29 50.4**	**-1.3**
GDZ	**Gediz**	**0.55**	**180**	P	**Pg**	**09 29 41.0**	**-0.1**
GDZ				S	**Sb**	**09 29 50.4**	**-1.3**
ORLT	**Orhaneli**	**0.60**	**312**	PG	**Pg**	**09 29 42.9**	**+0.8**
ORLT				SG	**Sb**	**09 29 51.8**	**-1.3**
ORLT	**Orhaneli**	**0.60**	**312**	*e*Pg	**Pg**	**09 29 42.9**	**+0.8**
ORLT				*e*Sg	**Sb**	**09 29 51.8**	**-1.3**
SIMA	**Simav-Kutahya**	**0.68**	**215**	PG	**Pg**	**09 29 43.7**	**+0.2**
SIMA				SG	**Sg**	**09 29 53.1**	**+0.8**
SIMA	**Simav-Kutahya**	**0.68**	**215**	*e*Pg	**Pg**	**09 29 43.7**	**+0.2**
SIMA				*e*Sg	**Sg**	**09 29 53.1**	**+0.8**
DURS	**Dursunbey**	**0.78**	**267**	*i* P	**Pg**	**09 29 45.3**	**-0.1**
DURS				*i* S	**Sb**	**09 29 57.1**	**-1.1**
DURS	**Dursunbey**	**0.78**	**267**	P	**Pg**	**09 29 45.3**	**-0.1**
DURS				S	**Sb**	**09 29 57.1**	**-1.1**
BORA	**Eskisehir**	**0.79**	**72**	*i* P	**Pg**	**09 29 45.6**	**+0.1**
BORA	**Eskisehir**	**0.79**	**72**	P	**Pg**	**09 29 45.6**	**+0.1**
ADVT	**Abdulvahap**	**0.81**	**14**	PG	**Pb**	**09 29 47.2**	**-0.3**
ADVT	**Abdulvahap**	**0.81**	**14**	*e*Pg	**Pb**	**09 29 47.2**	**-0.3**
MDNY	**Mudanya-Bursa**	**0.86**	**328**	PG	**Pb**	**09 29 48.1**	**-0.2**
MDNY	**Mudanya-Bursa**	**0.86**	**328**	*e*Pg	**Pb**	**09 29 48.1**	**-0.2**
YLV	**Yalova**	**0.93**	**355**	PG	**Pb**	**09 29 49.6**	**+0.1**
YLV	**Yalova**	**0.93**	**355**	*e*Pg	**Pb**	**09 29 49.6**	**+0.1**
ARMT	**Armutlu**	**1.04**	**333**	PG	**Pb**	**09 29 51.3**	**0.0**
ARMT	**Armutlu**	**1.04**	**333**	*e*Pg	**Pb**	**09 29 51.3**	**0.0**
KCTX	**Karacabey (Bur**	**1.06**	**306**	PG	**Pg**	**09 29 51.2**	**+0.3**
KCTX	**Karacabey (Bur**	**1.06**	**306**	*e*Pg	**Pg**	**09 29 51.2**	**+0.3**
GULT	**Gulveren**	**1.12**	**45**	PN	**Pn**	**09 29 53.7**	**+0.2**
GULT	**Gulveren**	**1.12**	**45**	*e*Pn	**Pn**	**09 29 53.7**	**+0.2**
HRT	**Hereke**	**1.19**	**7**	PN	**Pb**	**09 29 53.9**	**0.0**
HRT	**Hereke**	**1.19**	**7**	*e*Pn	**Pb**	**09 29 53.9**	**0.0**
BALB	**Balikesir**	**1.24**	**270**	PN	**Pb**	**09 29 54.8**	**+0.1**
BALB	**Balikesir**	**1.24**	**270**	*e*Pn	**Pb**	**09 29 54.8**	**+0.1**
BUY	**Buyukada**	**1.24**	**347**	PN	**Pn**	**09 29 55.1**	**0.0**
BUY	**Buyukada**	**1.24**	**347**	*e*Pn	**Pn**	**09 29 55.1**	**0.0**
KULA	**Kula-Manisa**	**1.30**	**210**	PN	**Pg**	**09 29 55.2**	**-0.1**
KULA	**Kula-Manisa**	**1.30**	**210**	*e*Pn	**Pg**	**09 29 55.2**	**-0.1**
SVRH	**Sivrihisar-ESK**	**1.59**	**96**	PN	**Pn**	**09 30 00.3**	**+0.3**
SVRH	**Sivrihisar-ESK**	**1.59**	**96**	*e*Pn	**Pn**	**09 30 00.3**	**+0.3**

MEX 07 09:41:24.2±0.5**, 16.°50N**×**98.°53W, h20**km±74km**, MD3.5, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.40**	**105**	*i* P	Pb	09 41 31.3	-1.3
PNIG				*i* S	Sb	09 41 36.5	-1.7
TLIG	**Tlapa**	**1.06**	**358**	*e*P	Pb	09 41 40.9	-3.1
TLIG				*e*S	Sb	09 41 53.3	-4.3

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*IDC **07** 09:49:59.8±2.5, 14.°49N×93.°13W, h0km, mb3.7/2, mb1 3.8/6, mb1mx3.5/49, mbtmp3.5/6, ML3.2/4, MS2.7/1, Ms1 2.7/1, ms1mx2.1/51, Error ellipse: s-maj=47.3km s-min=16.1km az=15.0*
*ISCJB **07** 09:50:02.6±1.7, 14.°4N±0.°2×93.°1W±0.°2, h51km, mb3.8/2, MS2.6/1, Error ellipse: s-maj=37.7km s-min=9.4km az=37.9*
ISC 07 09:50:04.3±1.5**, 14.°4N**±0.°2×**93.°2W**±0.°1**, h51**km**, n8,** σ**1.s52**/7**, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
APG	**El Apazote**	**2.67**	**76**	Pn	**Pn**	**09 50 44.5**	**-0.6**
	5.6nm,0.3s,baz=328,slow=10.0,SNR=44						
APG				Lg	Lg	09 51 23.6	
	14nm,0.3s,baz=325,slow=18,SNR=7.4						
CMIG	**Matias Romero**	**3.16**	**328**	Pn	**Pn**	**09 50 50.5**	**-1.2**
	2.8nm,0.3s,baz=149,slow=14,SNR=36						
CMIG				Sn	**Sn**	**09 51 27.0**	**-1.1**
	6.7nm,0.3s,baz=79,slow=13,SNR=4.6						
JTS	**JuntasAbangare**	**8.99**	**116**	Pn	**Pn**	**09 52 10.5**	**-1.1**
	0.2nm,0.3s,baz=255,slow=19,SNR=7.8						
H06E1	**SOCORRO T-PHAS**	**17.58**	**287**	T	T	10 12 08.6	
	SNR=4.3						
TXAR	**Lajitas Array**	**17.77**	**329**	P	**Pn**	**09 54 08.0**	**-0.2**
	0.0nm,0.3s,baz=134,slow=14,SNR=2.8						
TKL	**Tuckaleechee C**	**22.79**	**20**	LR	LR	10 05 04.0	
	comp=Z,19nm,18.9s,baz=353,slow=40						
NVAR	**Mina Array Bea**	**32.67**	**322**	P	**P**	**09 56 34.0**	**+2.0**
	0.5nm,0.8s,baz=130,slow=9.5,SNR=4.0						
YKA	**Yellowknife Ar**	**50.40**	**347**	P	**P**	**09 58 57.2**	**+1.0**
	1.2nm,0.7s,baz=152,slow=7.5,SNR=28						

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*CSEM **07** 09:55:53.8±0.2, 40.°13N×27.°28E, h2km, ML2.5, Error ellipse: s-maj=3.7km s-min=3.2km az=26.0*
*ISK **07** 09:55:53.3, 40.°17N×27.°26E, h5km, ML2.5/13*
*ISCJB **07** 09:55:54.1±0.4, 40.°16N±0.°03×27.°26E±0.°03, h12km, Error ellipse: s-maj=4.4km s-min=3.7km az=174.4*
*DDA **07** 09:55:55.3, 39.°98N×27.°33E, h7km, Ml2.4*
ISC 07 09:55:54.1±0.8**, 40.°13N**±0.°02×**27.°27E**±0.°02**, h12**km**, n43,** σ**0.s63**/51**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KRBG	**Karabiga-Canak**	**0.26**	**5**	PG	**Pg**	**09 55 58.2**	**-1.4**
KRBG				SG	**Sg**	**09 56 03.4**	**+0.1**
KRBG	**Karabiga-Canak**	**0.26**	**5**	*e*Pg	**Pg**	**09 55 58.2**	**-1.4**
KRBG				*e*Sg	**Sg**	**09 56 03.4**	**+0.1**
LPK	**Lapseki**	**0.46**	**302**	PG	**Pg**	**09 56 02.3**	**-0.9**
LPK				SG	**Sg**	**09 56 10.1**	**+0.8**
LPK	**Lapseki**	**0.46**	**302**	*e*Pg	**Pg**	**09 56 02.3**	**-0.9**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
LPK				eSg	Sg	09 56 10.1	+0.8
BALY	Balya	0.47	145	i P	Pg	09 56 02.1	-1.3
BALY	Balya	0.47	145	P	Pg	09 56 02.1	-1.3
EDC	Edincik	0.50	64	PG	Pg	09 56 04.0	0.0
EDC				SG	Sg	09 56 10.9	+0.3
EDC	Edincik	0.50	64	ePg	Pg	09 56 04.0	0.0
EDC				eSg	Sg	09 56 10.9	+0.3
RKY	Sarkoy-Tekirda	0.56	353	PG	Pg	09 56 04.4	-0.7
RKY	Sarkoy-Tekirda	0.56	353	ePg	Pg	09 56 04.4	-0.7
GELI	Tayfur-Gelibol	0.67	294	PG	Pg	09 56 06.8	-0.2
GELI	Tayfur-Gelibol	0.67	294	ePg	Pg	09 56 06.8	-0.2
BAYC	CANAKKALE_Bayr	0.68	235	i P	Pg	09 56 06.8	-0.5
BAYC				i S	Sb	09 56 17.5	+0.3
BAYC	CANAKKALE_Bayr	0.68	235	P	Pg	09 56 06.8	-0.5
BAYC				S	Sb	09 56 17.5	+0.3
ERIK	Erikli-Kesan	0.79	313	PG	Pg	09 56 08.8	-0.6
ERIK	Erikli-Kesan	0.79	313	ePg	Pg	09 56 08.8	-0.6
STEP	BALIKESIR_Sava	0.83	155	i P	Pg	09 56 09.8	-0.3
STEP	BALIKESIR_Sava	0.83	155	P	Pg	09 56 09.8	-0.3
SBT3	Marmara-Eregli	0.93	35	PG	Pg	09 56 11.8	-0.1
SBT3	Marmara-Eregli	0.93	35	ePg	Pg	09 56 11.8	-0.1
AYVA	Ayvalik	0.94	209	i P	Pn	09 56 13.4	+0.4
AYVA	Ayvalik	0.94	209	P	Pn	09 56 13.4	+0.4
BOZC	Bozcaada	0.98	253	i P	Pn	09 56 14.8	+1.1
ENEZ	Enez	1.05	306	PG	Pb	09 56 13.6	-0.5
ENEZ	Enez	1.05	306	ePg	Pb	09 56 13.6	-0.5
GADA	Gvkgeada	1.05	274	PG	Pb	09 56 14.4	+0.2
GADA	Gvkgeada	1.05	274	ePg	Pb	09 56 14.4	+0.2
DURS	Dursunbey	1.07	119	i P	Pb	09 56 13.3	-1.2
DURS	Dursunbey	1.07	119	P	Pb	09 56 13.3	-1.2
ALN	Alexandroupoli	1.21	310	PN	Pn	09 56 16.7	-0.1
ALN	Alexandroupoli	1.21	310	ePn	Pn	09 56 16.7	-0.1
MDNY	Mudanya-Bursa	1.26	79	PN	Pg	09 56 18.8	+0.5
MDNY	Mudanya-Bursa	1.26	79	ePn	Pg	09 56 18.8	+0.5
ARMT	Armutlu	1.29	70	PN	Pg	09 56 19.0	+0.1
ARMT	Armutlu	1.29	70	ePn	Pg	09 56 19.0	+0.1
CTKS	Kestanelik-??a	1.45	40	PN	Pb	09 56 21.2	+0.2
CTKS	Kestanelik-??a	1.45	40	ePn	Pb	09 56 21.2	+0.2
CTYL	Yalikoy Yolu	1.55	30	PN	Pb	09 56 22.5	-0.2
CTYL	Yalikoy Yolu	1.55	30	ePn	Pb	09 56 22.5	-0.2
DEMI	Demirci	1.56	134	i P	Pn	09 56 21.5	-0.2
DEMI	Demirci	1.56	134	P	Pn	09 56 21.5	-0.2
SIMA	Simav-Kutahya	1.69	128	PN	Pb	09 56 25.4	+0.3
SIMA	Simav-Kutahya	1.69	128	ePn	Pb	09 56 25.4	+0.3

*IDC **07** 10:00:22.1±0.9, 33°.62N×89°.21E, h0km, mb3.7/7, mb1 3.8/11, mb1mx3.5/69, mbtmp3.7/11, ML3.7/4, MS3.0/7, Ms1 3.0/7, ms1mx2.7/77, Error ellipse: s-maj=50.7km s-min=15.0km az=59.0*

*ISCJB **07** 10:00:25.5±0.7, 33°.72N±0°.10×89°.5E±0°.1, h33km, mb3.7/6, MS3.0/4, Error ellipse: s-maj=19.9km s-min=8.9km az=143.1*

ISC 07 10:00:27.6±0.9**, 33°.6N**±0°.1×**89°.4E**±0°.1**, h35**km**, n17,** σ**1**^{s}**33**/13**, mb3.8**/6**, MS2.9**/4**, Xizang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMQ	Urumqi	10.28	353	eP	Pn	10 02 54.2	+1.6
WMQ				pmax	pmax		
	comp=Z,21nm,0.9s						
WMQ				pmax	pmax		
	comp=Z,190nm,3.8s						
CD2	Chengdu	12.47	99	eP	Pn	10 03 22.0	-0.6
MKAR	Makanchi Array	14.23	340	Pn	Pn	10 03 42.0	-4.5
	comp=Z,0.1nm,0.3s,baz=158,slow=15,SNR=3.1						
AAK	Ala-Archa	14.76	312	Pn	Pn	10 03 54.6	+0.7
	comp=Z,0.1nm,0.3s,baz=153,slow=11,SNR=2.7						
AAK				LR	LR	10 10 11.3	
	comp=Z,66nm,18.9s,baz=118,slow=40						
CMAR	Chiang Mai Arr	17.35	148	P	P	10 04 27.6	-0.5
	comp=Z,0.6nm,0.3s,baz=335,slow=12,SNR=3.9						
CMAR				LR	LR	10 11 49.8	
	comp=Z,35nm,19.0s,baz=250,slow=39						
KURBB	Kurchatov Arra	18.77	338	P	P	10 04 41.0	-2.6
	comp=Z,0.1nm,0.3s,baz=149,slow=12,SNR=11						
SONM	Songino Array	19.13	37	P	P	10 04 48.3	+0.5
	comp=Z,0.2nm,0.3s,baz=218,slow=13,SNR=3.7						
SONM				LR	LR	10 11 54.2	
	comp=Z,25nm,19.2s,baz=234,slow=36						
ZALV	Zalesovo Beam	20.59	352	P	P	10 05 01.7	-1.6
	comp=Z,2.8nm,0.7s,baz=176,slow=12,SNR=14						
ZALV				LR	LR	10 13 00.3	
	comp=Z,20nm,20.8s,baz=66,slow=37						
BVAR	Borovoye Array	23.69	331	P	P	10 05 35.2	-0.7
	comp=Z,0.9nm,0.6s,baz=143,slow=11,SNR=6.0						
GEYT	Alibeck	25.66	289	LR	LR	10 17 59.6	
	comp=Z,69nm,18.8s,baz=80,slow=41						
KSRS	Korea Array	31.46	72	LR	LR	10 20 40.9	
	comp=Z,16nm,21.7s,baz=320,slow=39						
MA2	Magadan	47.34	37	LR	LR	10 30 01.2	
	comp=Z,52nm,18.1s,baz=145,slow=38						
FINES	FINESS Array B	48.44	325	P	P	10 09 05.8	-0.4
	comp=Z,0.9nm,0.8s,baz=83,slow=5.7,SNR=3.3						
NOA	NORSAR Array B	55.62	325	P	P	10 09 58.2	-1.5
	comp=Z,0.4nm,0.6s,baz=76,slow=18,SNR=2.4						
WRA	Warramunga Arr	68.36	134	P	P	10 11 26.0	+0.3
	comp=Z,0.6nm,0.4s,baz=326,slow=6.8,SNR=19						
ASAR	Alice Springs	71.00	137	P	P	10 11 42.1	+0.2
	comp=Z,0.6nm,0.7s,baz=324,slow=6.4,SNR=12						
STKA	Stephens Creek	81.64	137	P	P	10 12 43.4	+1.3
	comp=Z,1.4nm,0.9s,baz=323,slow=10,SNR=2.1						

IDC 07 10:16:01.1±2.3**, 5°.66S**×**147°.61E, h111**km±23km**, mb3.5**/4**, mb1 3.8**/6**, mb1mx3.4**/52**, mbtmp4.0**/6**, MS3.0**/1**, Ms1 3.0**/1**, ms1mx2.4**/30**, Error ellipse: s-maj=48.9km s-min=13.2km az=113.0, Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	3.75	187	P	Pn	10 16 58.7	+1.6
	6.4nm,0.3s,baz=5.7,slow=9.6,SNR=37						
PMG				S	Sn	10 17 39.8	-0.7
	31nm,0.3s,baz=207,slow=23,SNR=20						
CTA	Charters Tower	14.40	185	P	P	10 19 24.8	+1.3
	0.4nm,0.3s,baz=5.5,slow=11,SNR=6.2						
WRA	Warramunga Arr	19.19	221	P	P	10 20 17.2	+0.9
	2.6nm,0.3s,baz=43,slow=12,SNR=173						
WRA				S	S	10 23 48.0	0.0
	0.1nm,0.3s,baz=40,slow=20,SNR=5.4						
ASAR	Alice Springs	22.24	215	P	P	10 20 49.8	+0.8
	5.7nm,0.5s,baz=51,slow=8.5,SNR=230						
ASAR				pP	pP	10 21 07.3	-2.8
	1.5nm,0.4s,baz=58,slow=12,SNR=4.0						
ASAR				S	S	10 24 47.2	+0.6
	4.9nm,0.8s,baz=31,slow=23,SNR=26						
STKA	Stephens Creek	26.68	191	P	P	10 21 31.3	+1.4
	1.0nm,0.4s,baz=16,slow=12,SNR=7.7						
JNU	Nakatsue	41.71	339	LR	LR	10 41 02.1	
	comp=Z,17nm,18.4s,baz=251,slow=36						
MKAR	Makanchi Array	77.62	320	P	P	10 27 44.7	-0.6
	0.4nm,0.7s,baz=100,slow=6.0,SNR=3.7						
ILAR	Eielson Array	84.93	23	P	P	10 28 22.2	-1.3
	0.2nm,0.8s,baz=344,slow=3.0,SNR=2.1						
TORD	Torodi Ar. Bea	145.59	285	PKPbc	PKPdf	10 35 27.2	-0.2
	1.1nm,0.7s,baz=78,slow=3.5,SNR=5.7						

*IDC **07** 10:20:38.2±1.5, 52°.30N×106°.63E, h0km, mb3.4/3, mb1 3.7/6, mb1mx3.3/77, mbtmp3.5/6, ML2.6/2, MS2.5/3, Ms1 2.5/3, ms1mx2.3/56, Error ellipse: s-maj=38.2km s-min=13.7km az=162.0*

*MOS **07** 10:20:39.4±0.9, 52°.58N×106°.63E, h11km, mb4.0/3, Error ellipse: s-maj=9.8km s-min=7.2km az=71.9*

MOS Felt (III-IV) at Elantsy; (II) at Irkutsk.

*BYKL **07** 10:20:40.9±0.2, 52°.62N×106°.53E, h18km±3km, FELT I=III-IV MSK at Tirgan, III at Popova, Petrova, Yelantsy, II at Irkutsk, Angarsk.*

ISC 07 10:20:39.4±1.1**, 52°.56N**±0°.02×**106°.65E**±0°.02**, h5**km±8km**, n65,** σ**2**^{s}**05**/113**, mb3.6**/6**, 10C-7D, Lake Baykal region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRG	Tyrgan	0.28	318	⇓iPg	Pg	10 20 45.8	+1.0
TRG				e		10 20 47.3	
TRG				eSg	Sg	10 20 49.2	+0.8
TRG	Tyrgan	0.28	318	⇓iPG	Pg	10 20 45.8	+1.0
TRG				e		10 20 49.3	
TRG				pmax	pmax		
	comp=Z,2µm,0.1s						
TRG				smax	smax		
	comp=N,6µm,0.1s						
ZRHB	Zarechye	0.31	90	⇑iPg	Pb	10 20 48.8	+1.4
ZRHB				i Sg	Sb	10 20 54.9	+2.1
ZRHB				e		10 21 00.5	
STDB	Stepnoy Dvoret	0.42	204	⇓iPg	Pb	10 20 50.6	+1.2
STDB				e		10 20 56.1	
STDB				eSg	Sb	10 20 58.1	+2.0
STDB				Pmax			
	comp=N,383nm,0.1s						
STDB				Smax			
	comp=N,26µm,0.3s						
KAB	Kabansk	0.51	180	⇑iPg	Pb	10 20 51.7	+0.9
KAB				eSg	Sb	10 20 59.7	+1.2
KAB				Pmax			
	comp=N,941nm,0.4s						
KAB				Smax			
	comp=N,8µm,0.3s						
KAB	Kabansk	0.51	180	⇑iPG	Pb	10 20 51.7	+0.9
KAB				e		10 21 00.0	
KAB				pmax	pmax		
	comp=Z,541nm,0.2s						
KAB				smax	smax		
	comp=E,9µm,0.2s						
FFNB	Fofonovo	0.51	172	⇑iPg	Pb	10 20 51.8	+0.9
FFNB				eSg	Sb	10 20 59.3	+0.6
FFNB				Pmax			
	comp=E,672nm,0.5s						
FFNB				Smax			
	comp=E,3µm,0.2s						
KELR	Kotokel	0.90	76	ePg	Pb	10 20 58.3	+0.9
KELR				eSg	Sb	10 21 10.8	+1.1
BGT	Bolshoye Golou	0.92	237	⇓iPg	Pg	10 20 57.4	+0.4
BGT				ePb	Pn	10 20 59.0	0.0
BGT				eSg	Sg	10 21 09.4	+0.5
BGT				max			
	comp=E,334nm,0.3s						
BGT				Smax			
	comp=E,1µm,0.3s						
UUDB	Ulan-Yde	0.93	138	⇑iPg	Pn	10 20 59.4	+0.2
UUDB				ePb	Pb	10 21 01.8	+3.8
UUDB				eSg	Sn	10 21 12.7	-0.2
UUDB				Pmax			
	comp=E,374nm,0.2s						
UUDB				Smax			
	comp=E,3µm,0.4s						
OGRR	Ongureny	1.23	27	ePg	Pb	10 21 03.2	+0.1
OGRR				eSg	Sn	10 21 20.2	-0.1
OGRR				eSb	Sg	10 21 22.7	+3.8
OGRR				Pmax			
	comp=E,113nm,0.4s						
OGRR				max			
	comp=E,2µm,0.6s						
OGRR	Ongureny	1.23	27	ePG	Pb	10 21 03.3	+0.1
OGRR				e		10 21 20.2	
OGRR				pmax	pmax		
	comp=Z,128nm,0.6s						
OGRR				smax	smax		
	comp=E,2µm,1.2s						
LSTR	Listvyanka	1.31	239	⇓iPg	Pn	10 21 04.1	-0.3
LSTR				eSg	Sb	10 21 21.4	-0.3
LSTR				Pmax			
	comp=E,246nm,0.4s						
LSTR				Smax			
	comp=E,1µm,0.4s						
MXMB	Maximikha	1.45	60	eSg	Sn	10 21 25.1	-0.7
IRK	Irkutsk	1.49	259	ePg	Pn	10 21 07.1	+0.2
IRK				i Sg	Sn	10 21 25.8	-1.0
IRK				e		10 21 29.5	
IRK	Irkutsk	1.49	259	ePG	Pb	10 21 07.3	-0.3
IRK				e		10 21 25.8	
IRK				pmax	pmax		
	comp=Z,666nm,0.3s						
IRK				smax	smax		
	comp=N,9µm,0.4s						
IVK	Ivanovka	1.57	242	⇑iPg	Pn	10 21 08.5	+0.5
IVK				eSg	Sn	10 21 28.4	-0.3
IVK				e		10 21 31.1	
IVK				Pmax			
	comp=N,302nm,0.5s						
IVK				Smax			
	comp=N,2µm,0.2s						
TLY	Talaya	2.05	246	Pg	Pn	10 21 15.0	+0.4
	comp=N,0.5nm,0.3s,baz=34,slow=9.3,SNR=95						
TLY				Lg	Lg	10 21 39.1	
	comp=N,2.2nm,0.3s,baz=49,slow=21,SNR=22						
TLY	Talaya	2.05	246	⇑iPn	Pn	10 21 14.7	+0.1
TLY				ePg	Pb	10 21 16.6	-0.5
TLY				eSn	Sn	10 21 38.8	-1.8
TLY				i Sg	Sb	10 21 42.4	-0.5
TLY				Pmax			
	comp=N,73nm,0.3s						
TLY				Smax			
	comp=N,1µm,0.3s						
TLY	Talaya	2.05	246	ePN	Pn	10 21 14.9	+0.4
TLY				e		10 21 16.7	
TLY				eS	Sn	10 21 40.6	0.0
TLY				e		10 21 42.3	
TLY				pmax	pmax		
	comp=Z,81nm,0.3s						
TLY				smax	smax		
	comp=N,1.0nm,0.4s						
SYVR	Suvo	2.30	60	⇓iPn	Pn	10 21 19.1	+1.1
SYVR				ePg	Pb	10 21 22.6	+1.2
SYVR				eSn	Sn	10 21 46.9	+0.2
SYVR				eSg	Sg	10 21 53.7	+0.5
SYVR				Pmax			
	comp=N,88nm,0.4s						
SYVR				Smax			
	comp=N,222nm,0.7s						
SYVR	Suvo	2.30	60	ePN	Pn	10 21 19.1	+1.1
SYVR				e		10 21 22.6	
SYVR				e		10 21 53.7	
SYVR				pmax	pmax		
	comp=Z,90nm,0.4s						
SYVR				smax	smax		
	comp=N,226nm,0.7s						
ARS	Arshan	2.68	258	ePn	Pn	10 21 22.8	-0.4
ARS				e		10 21 25.0	
ARS				ePg	Pb	10 21 27.4	-0.4
ARS				e		10 21 56.7	
ARS				eSg	Sb	10 22 01.1	+0.1
ARS				Pmax			
	comp=N,299nm,0.5s						
ARS				Smax			
	comp=N,2µm,0.4s						
ARS	Arshan	2.68	258	ePN	Pn	10 21 24.6	+1.4
ARS				e		10 21 28.6	
ZAK	Zakamensk	3.03	225	ePn	Pn	10 21 29.7	+1.6
ZAK				ePg	Pb	10 21 35.0	+1.1
ZAK				eSg	Sg	10 22 14.7	-1.9
ZAK				e		10 22 17.1	
ZAK				Pmax			
	comp=N,33nm,0.4s						
ZAK				Smax			
	comp=N,249nm,0.3s						
ZAK	Zakamensk	3.03	225	ePN	Pn	10 21 29.4	+1.3
ZAK				e		10 21 34.9	
ZAK				e		10 22 12.7	
ZAK				pmax	pmax		
	comp=Z,29nm,0.3s						
ZAK				smax	smax		
	comp=N,248nm,0.3s						
YLYR	Ulyunkhan	3.55	47	⇓iPn	Pn	10 21 36.2	+1.0
YLYR				ePg	Pb	10 21 43.8	+1.2
YLYR				eSg	Sb	10 22 30.0	+4.0
YLYR				Pmax			
	comp=N,27nm,1.2s						
YLYR				Smax			
	comp=N,136nm,0.9s						
MOY	Mondy	3.60	258	⇑iPn	Pn	10 21 38.6	+2.6
MOY				ePg	Pb	10 21 44.2	+0.6
MOY				e		10 22 21.0	
MOY				eSg	Sb	10 22 28.8	+1.2
MOY				Pmax			
	comp=N,253nm,0.8s						
MOY				Smax			
	comp=N,632nm,1.3s						
MOY	Mondy	3.60	258	ePN	Pn	10 21 38.5	+2.6
MOY				e		10 21 45.4	
MOY				e		10 22 27.9	
MOY				pmax	pmax		
	comp=Z,253nm,0.7s						
MOY				smax	smax		
	comp=N,598nm,0.7s						
NIZ	Nizh Angarsk	3.65	27	ePn	Pn	10 21 36.0	-0.5
NIZ				e		10 21 38.3	
NIZ				ePg	Pb	10 21 45.8	+1.5
NIZ				eSn	Sn	10 22 20.0	+0.1
NIZ				eSg	Sg	10 22 34.6	-1.8
NIZ				e		10 22 46.1	
NIZ				Pmax			
	comp=N,30nm,0.7s						
NIZ				Smax			
	comp=N,361nm,0.8s						
NIZ	Nizh Angarsk	3.65	27	ePN	Pn	10 21 38.0	+1.5
NIZ				e		10 21 46.0	
NIZ				eS	Sn	10 22 21.4	+1.5
NIZ				e		10 22 34.6	
NIZ				pmax	pmax		
	comp=Z,30nm,0.6s						
NIZ				smax	smax		
	comp=N,362nm,1.3s						
ORL	Orlik	4.18	272	⇑iPn	Pn	10 21 44.8	+0.9
ORL				e		10 22 33.9	
ORL				eSg	Sb	10 22 47.9	+3.7
ORL				max			
	comp=N,36nm,1.0s						
ORL				Smax			
	comp=N,353nm,0.6s						
ORL	Orlik	4.18	272	ePN	Pn	10 21 44.8	+0.9
ORL				e		10 21 55.3	
ORL				e		10 22 47.5	
ORL				pmax	pmax		
	comp=Z,36nm,0.8s						
ORL				smax	smax		
	comp=N,361nm,0.8s						
CIT	Chita	4.27	94	eSg	Sg	10 22 54.8	-1.7
CIT				e		10 22 58.8	
CIT				max			
	comp=N,352nm,0.6s						
CIT	Chita	4.27	94	ePN	Pg	10 21 59.0	-2.2
CIT				e		10 22 55.6	
CIT				pmax	pmax		
	comp=Z,126nm,0.1s						
CIT				smax	smax		
	comp=N,354nm,0.7s						
KMO	Kumora	4.27	37	ePn	Pn	10 21 46.7	+1.6
KMO				e		10 21 53.4	
KMO				ePg	Pb	10 21 57.3	+2.3
KMO				eSn	Sn	10 22 34.8	-0.6
KMO				eSg	Sg	10 22 53.0	-3.5
KMO				Pmax			
	comp=N,26nm,0.8s						
KMO				Smax			
	comp=N,239nm,1.1s						
KMO	Kumora	4.27	37	ePN	Pn	10 21 47.2	+2.1
KMO				e		10 21 57.8	
KMO				eS	Sn	10 22 35.2	-0.2
KMO				e		10 22 51.2	
KMO				pmax	pmax		
	comp=Z,24nm,0.5s						
KMO				smax	smax		
	comp=N,238nm,1.1s						
KPC	Khapcheranga	4.60	126	ePn	Pn	10 21 50.2	+0.5
KPC				ePg	Pg	10 22 05.2	-2.3
KPC				e		10 22 10.4	
KPC				eSg	Sg	10 23 06.1	-0.9
KPC				e		10 23 10.6	
KPC				max			
	comp=N,24nm,0.5s						
KPC				max			
	comp=N,186nm,1.0s						
KPC	Khapcheranga	4.60	126	ePN	Pn	10 21 50.2	+0.5
KPC				e		10 22 05.1	
KPC				eS	Sn	10 22 44.8	+1.3
KPC				e		10 23 05.5	
KPC				pmax	pmax		
	comp=Z,23nm,0.5s						
KPC				smax	smax		
	comp=E,186nm,1.0s						
YOA	Uoyan	4.65	38	e	Sb	10 23 01.9	+4.1
YOA				eSg	Sg	10 23 05.3	-3.4
YOA				Smax			
	comp=E,503nm,1.7s						
ULN	Ulaanbaatar	4.70	177	e	Pn	10 21 53.0	+1.9
ULN				ePg	Pb	10 22 05.8	+3.4
ULN				e		10 22 45.0	
ULN				eSg	Sg	10 23 08.8	-1.5
ULN	Ulaanbaatar	4.70	177	ePN	Pn	10 21 53.1	+1.9
SONM	Songino Array	4.73	182	Pn	Pn	10 21 53.2	+1.7
	comp=E,0.5nm,0.3s,baz=354,slow=13,SNR=11						
SONM				Pg	Pb	10 22 06.6	+3.8
	comp=E,3.3nm,0.3s,baz=358,slow=16,SNR=19						
SONM				Lg	Lg	10 23 09.1	
	comp=E,15nm,0.3s,baz=325,slow=26,SNR=11						
SONM				LR	LR	10 23 47.0	
	comp=E,47nm,20.3s,baz=59,slow=42						
UKT	Uakit	5.05	52	ePn	Pn	10 21 56.8	+0.9
UKT				e		10 22 05.9	
UKT				ePg	Pb	10 22 11.4	+3.1
UKT				eSg	Sg	10 23 18.4	-3.2
UKT				Pmax			
	comp=E,12nm,1.1s						
UKT				Smax			
	comp=E,56nm,0.9s						
SVKR	Severomuysk	5.39	46	eSg	Sg	10 23 29.1	-3.2
SVKR				Smax			
	comp=E,201nm,1.1s						
KNGR	Kungurtug, Tuv	6.02	255	i PN	Pn	10 22 11.0	+1.8
NLYR	Nelyaty	6.58	50	e	Pb	10 22 27.3	-7.0
NLYR				e		10 22 41.4	
NLYR				eSg	Sg	10 24 04.7	-5.8
NLYR				max			
	comp=E,6.0nm,0.8s						
NLYR				Smax			
	comp=E,115nm,1.1s						
BOD	Bodaibo	6.75	36	eSg	Sg	10 24 08.0	-7.8
BOD				Smax			
	comp=E,48nm,0.9s						
CRS	Chara	8.01	52	e	Pg	10 23 27.2	+15
CRS				e		10 24 17.6	
CRS				eSg	Sg	10 24 50.5	-5.7
CRS				e		10 24 58.6	
CRS				max			
	comp=E,56nm,1.4s						
HVS	Khovu-Aksy	8.15	265	i PN	Pn	10 22 37.6	-0.7
TUP	Tupik	8.15	71	ePn	Pn	10 22 39.2	+0.8
TUP				ePg	Pb	10 23 08.8	+7.8
TUP				eSg	Sg	10 24 55.4	-5.5
TUP				e		10 25 07.6	
TUP				Pmax			
	comp=E,2.0nm,0.5s						
TUP				max			
	comp=E,84nm,1.0s						
TUP	Tupik	8.15	71	ePN	Pn	10 22 39.0	+0.6
TUP				e		10 23 07.6	
TUP				pmax	pmax		
	comp=Z,6.0nm,0.5s						
HIA	Hailar	8.90	107	i PN	Pn	10 22 50.6	+2.0
HIA				pmax	pmax		
	comp=Z,3.0nm,0.6s						
ZALV	Zalesovo Beam	13.14	285	Pn	Pn	10 23 47.4	+0.8
	comp=Z,0.1nm,0.3s,baz=83,slow=12,SNR=7.4						
ZALV				Lg	Lg	10 27 22.7	
	comp=Z,1.1nm,0.3s,baz=94,slow=7.7,SNR=9.6						
ZALV				LR	LR	10 28 04.2	
	comp=Z,21nm,18.7s,baz=68,slow=34						
MKAR	Makanchi Array	16.75	260	Pn	Pn	10 24 31.5	-3.1
	baz=60,slow=8.5,SNR=1.8						
MKAR				Lg	Lg	10 29 26.9	
	comp=Z,0.1nm,0.3s,baz=116,slow=25,SNR=1.3						
KURK	Kurchatov	17.45	275	eP	P	10 24 45.0	+0.3
KURK				pmax	pmax		
	comp=Z,3.0nm,1.4s						
KURBB	Kurchatov Arra	17.54	275	P	Pn	10 24 43.5	-1.0
	comp=Z,0.0nm,0.3s,baz=82,slow=15,SNR=4.3						
KSRS	Korea Array	21.19	127	LR	LR	10 34 55.2	
	comp=Z,17nm,19.5s,baz=270,slow=41						
TIXI	Tiksi	21.53	19	i P	P	10 25 29.4	+0.4
TIXI				pmax	pmax		
	comp=Z,5.0nm,2.0s						
BVAR	Borovoye Array	21.79	286	P	P	10 25 31.7	-0.3
	comp=Z,1.8nm,0.7s,baz=78,slow=14,SNR=8.2						
BRVK	Borovoye	21.85	286	⇑eP	P	10 25 33.3	+0.7
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.9s						
OBN	Obninsk	39.85	303	eP	P	10 28 13.9	+0.5
OBN				pmax	pmax		
	comp=Z,3.0nm,1.0s						

PALK	**Pallekele**	**49.89**	**215**	*i* P	**P**	**10 29 31.0**	**-2.9**
ILAR	**Eielson Array**	**50.10**	**32**	P	**P**	**10 29 36.2**	**+1.3**
	comp=Z,0.3nm,0.8s,baz=309,slow=5.7,SNR=2.7						
WRA	**Warramunga Arr**	**76.11**	**153**	P	**P**	**10 32 26.2**	**-1.9**
	comp=Z,0.5nm,1.1s,baz=346,slow=6.7,SNR=2.5						

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*ISCJB **07** 10:21:26.1±1.2, 37°.54N±0°.04×141°.92E±0°.07, h15km±7km, mb3.3/4, MS2.7/1, Error ellipse: s-maj=9.1km s-min=6.5km az=8.9*
*JMA **07** 10:21:27.3±0.1, 37°.56N×141°.87E, h27km±3km, M3.6*
*IDC **07** 10:21:33.6±4.2, 37°.25N×141°.78E, h60km±38km, mb2.9/4, mb1 3.3/6, mb1mx3.0/72, mbtmp3.3/6, ML3.4/2, MS2.9/1, Ms1 2.9/1, ms1mx2.1/16, Error ellipse: s-maj=44.9km s-min=21.4km az=88.0*
ISC 07 10:21:25.9±2.0**, 37°.51N**±0°.04×**141°.78E**±0°.07**, h6**km±12km**, n24,** σ**1ˢ37**/28**, mb3.4**/4**, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.73**	**259**	P	**Pn**	**10 21 42.5**	**-0.4**
JFK				S	**Sb**	**10 21 52.6**	**+1.2**
JMM	**Marumori**	**0.86**	**295**	P	**Pn**	**10 21 44.0**	**-0.5**
JMM				S	**Sb**	**10 21 55.3**	**+0.3**
ONAJ	**Iwakimizuishiy**	**0.88**	**243**	P	**Pn**	**10 21 44.7**	**-0.2**
ONAJ				S	**Sb**	**10 21 56.2**	**+0.5**
JIO	**Ouri**	**1.00**	**340**	P	**Pb**	**10 21 45.0**	**-0.7**
JIO				S	**Sb**	**10 21 56.9**	**-2.2**
JFT	**Otama**	**1.15**	**271**	P	**Pg**	**10 21 49.4**	**+1.5**
JFT				S	**Sn**	**10 22 04.5**	**-0.1**
JOU	**Okura**	**1.22**	**314**	P	**Pg**	**10 21 49.6**	**+0.2**
JOU				S	**Sb**	**10 22 05.5**	**-0.1**
JMK	**Ichinoseki**	**1.50**	**343**	P	**Pn**	**10 21 52.7**	**-0.7**
JYS	**Shirataka**	**1.53**	**298**	P	**Pg**	**10 21 55.2**	**0.0**
JYS				S	**Sb**	**10 22 14.9**	**+0.6**
JFY	**Yanaizu**	**1.65**	**267**	P	**Pb**	**10 21 56.9**	**+0.1**
JFY				S	**Sb**	**10 22 18.0**	**+0.1**
JYK	**Kaneyama**	**1.79**	**322**	P	**Pb**	**10 21 58.0**	**-1.2**
JYK				*e*S	**Sn**	**10 22 20.3**	**-0.2**
MJAR	**Matsushiro Arr**	**3.02**	**252**	P	**Pb**	**10 22 17.8**	**-2.3**
	1.3nm,0.3s,baz=75,slow=18,SNR=5.8						
MAT	**Matsushiro**	**3.02**	**252**	P	**Pb**	**10 22 17.3**	**-2.8**
MAT				*e*S	**Sb**	**10 22 56.5**	**-0.7**
JHJ	**Hachijo jima 2**	**4.68**	**201**	P	**Pn**	**10 22 38.1**	**+1.0**
	20nm,0.3s,baz=39,slow=17,SNR=1.6						
JHJ				S	**Sn**	**10 23 29.1**	**-2.6**
	3.7nm,0.3s,baz=52,slow=22,SNR=1.4						
YAK	**Yakutsk**	**25.67**	**347**	LR	LR	10 39 25.5	
	comp=Z,22nm,18.2s,baz=96,slow=41						
H11N2	**WAKE ISLAND Hy**	**28.15**	**122**	T	T	10 56 46.0	
	baz=314,slow=75,SNR=15						
H11N1	**WAKE ISLAND Hy**	**28.16**	**122**	T	T	10 56 47.9	
	baz=314,slow=75,SNR=12						
H11N3	**WAKE ISLAND Hy**	**28.17**	**122**	T	T	10 56 47.9	
	baz=314,slow=75,SNR=17						
H11S1	**WAKE ISLAND Hy**	**28.88**	**124**	T	T	10 57 43.8	
	baz=316,slow=76,SNR=17						
H11S3	**WAKE ISLAND Hy**	**28.88**	**124**	T	T	10 57 41.9	
	baz=316,slow=76,SNR=13						
H11S2	**WAKE ISLAND Hy**	**28.90**	**124**	T	T	10 57 41.9	
	baz=316,slow=76,SNR=16						
MKAR	**Makanchi Array**	**44.11**	**302**	P	**P**	**10 29 36.9**	**+1.9**
	0.1nm,0.4s,baz=95,slow=4.6,SNR=2.0						
ILAR	**Eielson Array**	**48.94**	**33**	P	**P**	**10 30 14.9**	**+2.3**
	0.2nm,0.4s,baz=292,slow=8.7,SNR=2.3						
WRA	**Warramunga Arr**	**57.58**	**188**	P	**P**	**10 31 15.1**	**-1.5**
	0.3nm,0.9s,baz=7.9,slow=7.2,SNR=1.6						
ASAR	**Alice Springs**	**61.30**	**188**	P	**P**	**10 31 41.2**	**-1.1**
	0.3nm,0.8s,baz=27,slow=6.3,SNR=2.4						

IDC 07 10:25:53.4±2.5**, 17°.18S**×**177°.02W, h0**km**, mb4.0**/3**, mb1 4.1**/4**, mb1mx3.6**/51**, mbtmp4.0**/4**, ML3.6**/1**, Error ellipse: s-maj=173.4km s-min=32.9km az=153.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**6.01**	**58**	Pn	Pn	10 27 23.6	-0.1
	1.4nm,0.3s,baz=156,slow=17,SNR=1.8						
AFI				Sn	Sn	10 28 21.4	-12
	3.9nm,0.3s,baz=8.2,slow=23,SNR=6.3						
STKA	**Stephens Creek**	**40.14**	**241**	P	P	10 33 30.8	-0.5
	1.9nm,0.9s,baz=115,slow=14,SNR=2.6						
WRA	**Warramunga Arr**	**46.07**	**259**	P	P	10 34 19.7	+0.2
	0.4nm,0.4s,baz=92,slow=7.8,SNR=19						
ASAR	**Alice Springs**	**46.27**	**253**	P	P	10 34 20.9	-0.2
	3.0nm,0.5s,baz=91,slow=8.5,SNR=75						

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*IDC **07** 10:26:33.0±2.1, 36°.53N×141°.08E, h0km, mb3.3/2, mb1 3.5/4, mb1mx3.1/74, mbtmp3.5/4, ML3.2/2, Error ellipse: s-maj=34.2km s-min=24.2km az=83.0*
*ISCJB **07** 10:26:37.6±0.8, 36°.51N±0°.04×141°.01E±0°.07, h52km±7km, mb3.3/2, Error ellipse: s-maj=9.5km s-min=6.0km az=18.9*
*JMA **07** 10:26:39.3±0.1, 36°.51N×140°.87E, h50km±1km, M3.4*
JMA Felt I J1.
ISC 07 10:26:38.4±1.5**, 36°.51N**±0°.06×**141°.01E**±0°.10**, h44**km±12km**, n20,** σ**0ˢ92**/26**, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JHO	**Hitachi**	**0.36**	**285**	P	**Pn**	**10 26 48.2**	**+0.6**
JHO				S	**Sn**	**10 26 54.0**	**-0.2**
ONAJ	**Iwakimizuishiy**	**0.61**	**344**	P	**Pn**	**10 26 51.2**	**+0.4**
ONAJ				S	**Sn**	**10 26 59.6**	**0.0**
JYT	**Yasato**	**0.71**	**247**	P	**Pn**	**10 26 51.9**	**-0.2**
JYT				S	**Sn**	**10 27 00.5**	**-1.5**
JFK	**Kawauchi**	**0.86**	**353**	P	**Pn**	**10 26 54.4**	**+0.3**
JFK				S	**Sn**	**10 27 05.1**	**-0.4**
JSB	**Shiboa**	**0.98**	**298**	P	**Pn**	**10 26 56.1**	**+0.3**
JSB				S	**Sn**	**10 27 08.2**	**-0.3**
JFT	**Otama**	**1.14**	**332**	P	**Pn**	**10 26 58.9**	**+1.0**
JFT				S	**Sn**	**10 27 12.8**	**+0.5**
JAG	**Ashikaga**	**1.25**	**266**	P	**Pn**	**10 26 59.2**	**-0.2**
JAG				S	**Sn**	**10 27 13.2**	**-1.9**
JFY	**Yanaizu**	**1.37**	**311**	P	**Pn**	**10 27 01.6**	**+0.5**
JFY				*e*S	**Sn**	**10 27 18.3**	**+0.3**
MJAR	**Matsushiro Arr**	**2.25**	**272**	Pn	**Pn**	**10 27 13.7**	**+0.5**
	baz=88,slow=14,SNR=18						
MJAR				Sn	**Sn**	**10 27 41.6**	**+1.9**
	8.0nm,0.3s,baz=51,slow=47,SNR=4.8						
MAT	**Matsushiro**	**2.25**	**272**	P	**Pn**	**10 27 13.9**	**+0.7**
MAT				S	**Sn**	**10 27 40.2**	**+0.4**
JHJ	**Hachijo jima 2**	**3.53**	**197**	Pn	**Pn**	**10 27 31.2**	**+0.4**
	14nm,0.3s,baz=220,slow=16,SNR=1.6						
JHJ				Sn	**Sn**	**10 28 12.6**	**+1.4**
	14nm,0.3s,baz=76,slow=21,SNR=2.3						
ASAJ	**Asahikawa**	**7.69**	**9**	Pn	**Pn**	**10 28 27.8**	**0.0**
	0.3nm,0.3s,baz=180,slow=19,SNR=1.5						
ASAJ				Sn	**Sn**	**10 29 51.8**	**-1.7**
	0.1nm,0.3s,baz=74,slow=30,SNR=1.5						
SONM	**Songino Array**	**27.81**	**305**	P	**P**	**10 32 22.5**	**-0.9**
	0.5nm,0.6s,baz=110,slow=12,SNR=2.8						
H11N2	**WAKE ISLAND Hy**	**28.17**	**119**	T	T	11 02 02.6	
H11N1	**WAKE ISLAND Hy**	**28.18**	**119**	T	T	11 02 09.8	
	baz=311,slow=74,SNR=4.4						
H11N3	**WAKE ISLAND Hy**	**28.19**	**119**	T	T	11 02 10.3	
	baz=202,slow=74,SNR=7.8						
H11S1	**WAKE ISLAND Hy**	**28.86**	**122**	T	T	11 03 10.1	
	baz=314,slow=76,SNR=24						
H11S3	**WAKE ISLAND Hy**	**28.86**	**122**	T	T	11 03 01.8	
	baz=314,slow=76,SNR=14						
H11S2	**WAKE ISLAND Hy**	**28.88**	**122**	T	T	11 03 12.6	
	baz=314,slow=76,SNR=3.3						
WRA	**Warramunga Arr**	**56.50**	**188**	P	**P**	**10 36 16.4**	**+0.2**
	0.2nm,0.6s,baz=0.8,slow=7.5,SNR=1.6						

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*IDC **07** 10:33:00.7±6.8, 6°.69S×154°.66E, h75km±55km, mb3.3/4, mb1 3.6/5, mb1mx3.2/54, mbtmp3.7/5, ML2.1/1, Error ellipse: s-maj=58.2km s-min=36.3km az=127.0*
ISC 07 10:32:57.4±1.2**, 6°.6S**±0°.2×**154°.8E**±0°.2**, h48**km**, n14,** σ**0ˢ79**/15**, mb3.6**/4**, Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**8.08**	**250**	P	**Pn**	**10 34 52.3**	**+0.1**
	1.3nm,0.3s,baz=76,slow=8.3,SNR=3.8						
PMG				S	**Sn**	**10 36 23.5**	**+1.2**
	1.2nm,0.3s,baz=259,slow=23,SNR=3.5						
CTA	**Charters Tower**	**15.75**	**211**	P	**P**	**10 36 39.6**	**+0.2**
	0.4nm,0.3s,baz=59,slow=10,SNR=5.3						
WRA	**Warramunga Arr**	**23.89**	**234**	P	**P**	**10 38 06.0**	**-0.9**
	1.0nm,0.7s,baz=58,slow=9.5,SNR=18						
ASAR	**Alice Springs**	**26.29**	**228**	P	**P**	**10 38 27.8**	**-0.9**
	0.5nm,0.8s,baz=60,slow=8.7,SNR=9.4						
RAMN	**Ramite**	**73.92**	**300**	*e*P	**P**	**10 44 27.9**	**-0.4**
JIRN	**Jiri**	**74.46**	**301**	*e*P	**P**	**10 44 31.3**	**-0.3**
	11nm,0.6s						
GUN	**Gumba**	**74.80**	**301**	*e*P	**P**	**10 44 33.4**	**-0.1**
	16nm,0.7s						
DMN	**Daman**	**75.38**	**301**	*e*P	**P**	**10 44 36.8**	**0.0**
GKN	**Gorkha**	**75.88**	**301**	*e*P	**P**	**10 44 39.0**	**-0.5**
	8.7nm,0.5s						
KOLN	**Koldanda**	**76.71**	**300**	*e*P	**P**	**10 44 43.6**	**-0.7**
	11nm,0.7s						
PYUN	**Piuthan**	**77.31**	**301**	*e*P	**P**	**10 44 46.9**	**-0.8**
MKAR	**Makanchi Array**	**83.03**	**319**	P	**P**	**10 45 17.8**	**0.0**
	0.5nm,0.6s,baz=106,slow=4.3,SNR=6.4						
NVAR	**Mina Array Bea**	**91.63**	**52**	P	**P**	**10 46 01.4**	**+1.4**
	0.4nm,0.8s,baz=275,slow=5.2,SNR=3.6						
TORD	**Torodi Ar. Bea**	**152.78**	**286**	PKPbc	**PKPbc**	**10 52 49.4**	**-0.8**
	0.5nm,0.4s,baz=90,slow=1.7,SNR=6.3						

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*ISCJB **07** 10:39:16.6±0.8, 74°.69N±0°.05×137°.4E±0°.3, h10km, mb3.3/6, MS2.7/1, Error ellipse: s-maj=10.7km s-min=6.4km az=18.7*
*IDC **07** 10:39:16.0±1.1, 75°.04N×136°.41E, h0km, mb3.4/6, mb1 3.7/7, mb1mx3.2/83, mbtmp3.4/7, ML5.5/1, MS2.7/1, Ms1 2.7/1, ms1mx2.2/56, Error ellipse: s-maj=40.3km s-min=17.1km az=135.0*
*YARS **07** 10:39:23.9±0.0, 74°.61N×136°.94E, h10km*
ISC 07 10:39:17.5±0.8**, 74°.82N**±0°.07×**137°.08E**±0°.07**, h10**km**, n13,** σ**1ˢ54**/18**, mb3.3**/6**, New Siberian Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TIXI	**Tiksi**	**3.97**	**221**	Pn	**Pn**	**10 40 19.8**	**+1.5**
	1.2nm,0.3s,baz=33,slow=11,SNR=9.6						
TIXI				Sn	**Sn**	**10 41 05.4**	**+0.6**
	3.1nm,0.3s,baz=281,slow=16,SNR=6.6						
TIXI				Lg	Lg	10 41 23.9	
	1.6nm,0.3s,baz=130,slow=23,SNR=3.1						
TIXI	**Tiksi**	**3.97**	**221**	*e*Pn	**Pn**	**10 40 19.7**	**+1.5**
TIXI				*e*Sn	**Sn**	**10 41 04.5**	**-0.3**
	0.0nm,0.3s						
DEPR	**Deputatskiy**	**5.52**	**170**	*e*Pn	**Pn**	**10 40 41.2**	**+1.6**
	0.0nm,0.3s						
DEPR				*e*Sn	**Sn**	**10 41 41.5**	**-1.5**
	0.0nm,0.6s						
YBGR	**Belaya Gora**	**6.93**	**151**	*e*Pn	**Pn**	**10 41 01.2**	**+2.3**
	0.0nm,0.4s						
YBGR				*e*Sn	**Sn**	**10 42 16.5**	**-1.1**
	0.0nm,0.3s						
BTGS	**Batagay**	**7.25**	**187**	*e*Pn	**Pn**	**10 41 03.7**	**+0.5**
	0.0nm,0.5s						
BTGS				*e*Sn	**Sn**	**10 42 24.0**	**-1.4**
	0.0nm,0.5s						
MOMR	**Moma**	**8.63**	**163**	*e*Pn	**Pn**	**10 41 23.5**	**+1.4**
	0.0nm,0.4s						
MOMR				*e*Sn	**Sn**	**10 42 57.1**	**-2.3**
	0.0nm,0.9s						
ILAR	**Eielson Array**	**26.00**	**72**	P	**P**	**10 44 50.8**	**+0.9**
	0.5nm,0.7s,baz=324,slow=8.4,SNR=8.7						
INK	**Inuvik**	**26.30**	**57**	P	**P**	**10 44 54.5**	**+1.9**
	0.4nm,0.5s,baz=126,slow=8.9,SNR=4.5						
ARU	**Arti**	**33.77**	**282**	LR	LR	11 01 08.9	
	comp=Z,14nm,20.2s,baz=106,slow=39						
YKA	**Yellowknife Ar**	**35.32**	**50**	P	**P**	**10 46 11.6**	**-0.5**
	0.1nm,0.5s,baz=338,slow=9.5,SNR=4.9						
EKA	**Eskdalemuir Ar**	**47.48**	**330**	P	**P**	**10 47 49.8**	**-2.0**
	0.7nm,0.6s,baz=9.5,slow=9.0,SNR=3.4						
NVAR	**Mina Array Bea**	**56.98**	**65**	P	**P**	**10 49 03.7**	**+0.8**
	0.2nm,0.7s,baz=359,slow=8.1,SNR=3.3						
TXAR	**Lajitas Array**	**69.04**	**55**	P	**P**	**10 50 22.1**	**-0.9**
	0.4nm,0.8s,baz=356,slow=3.8,SNR=5.3						

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*IDC **07** 11:14:29.3±1.5, 8°.63S×127°.32E, h0km, mb3.7/3, mb1 4.0/6, mb1mx3.6/52, mbtmp3.9/6, ML4.2/3, Error ellipse: s-maj=51.3km s-min=29.4km az=69.0*
*ISCJB **07** 11:14:32.3±0.9, 8°.77S±0°.10×127°.22E±0°.06, h33km, mb3.7/3, Error ellipse: s-maj=14.0km s-min=8.0km az=168.1*
*DJA **07** 11:14:36.9±1.6, 9°S±20°×12°7E±°, h28km±24km, M4.3/5, mB5.0/1, mb4.4/1, MLv4.3/5, Mw(mB)4.3/1*
ISC 07 11:14:34.1±1.3**, 8°.9S**±0°.1×**127°.26E**±0°.09**, h35**km**, n9,** σ**1ˢ12**/13**, mb3.7**/3**, Timor region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SOEI	**Soe**	**3.08**	**253**	P	**Pn**	**11 15 21.1**	**+0.6**
SOEI				S	**Sn**	**11 15 55.7**	**-0.5**
BATI	**Baumata**	**3.79**	**249**	Pn	**Pn**	**11 15 31.1**	**+1.0**
	3.5nm,0.3s,baz=84,slow=13,SNR=2.8						
BATI				Sn	**Sn**	**11 16 13.4**	**-0.2**
	32nm,0.3s,baz=145,slow=6.1,SNR=6.8						
BATI	**Baumata**	**3.79**	**249**	P	**Pn**	**11 15 30.6**	**+0.5**
BATI				S	**Sn**	**11 16 12.8**	**-0.7**
WBSI	**Waikabubak, Su**	**7.80**	**264**	P	**Pn**	**11 16 25.1**	**-0.2**
WRA	**Warramunga Arr**	**12.97**	**149**	Pn	**Pn**	**11 17 37.4**	**+1.3**
	2.7nm,0.3s,baz=315,slow=15,SNR=29						
WRA				Sn	**Sn**	**11 19 57.0**	**-2.3**
	1.2nm,0.3s,baz=320,slow=24,SNR=7.4						
ASAR	**Alice Springs**	**16.04**	**157**	Pn	**Pn**	**11 18 18.8**	**+1.6**
	0.9nm,0.3s,baz=332,slow=9.4,SNR=34						
MKAR	**Makanchi Array**	**68.33**	**329**	P	**P**	**11 25 31.4**	**-0.5**
	0.3nm,0.4s,baz=127,slow=6.7,SNR=6.5						
ZALV	**Zalesovo Beam**	**72.08**	**335**	P	**P**	**11 25 54.4**	**-0.2**
	0.5nm,0.3s,baz=134,slow=3.8,SNR=1.8						
KURBB	**Kurchatov Arra**	**72.71**	**330**	P	**P**	**11 25 57.9**	**-0.5**
	0.3nm,0.4s,baz=137,slow=5.1,SNR=2.2						

IDC 07 11:16:10.7±2.2**, 8°.61S**×**127°.33E, h0**km**, mb3.3**/1**, mb1 3.7**/4**, mb1mx3.4**/51**, mbtmp3.5**/4**, ML3.9**/2**, Error ellipse: s-maj=52.6km s-min=34.7km az=61.0, Timor region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BATI	**Baumata**	**3.95**	**246**	Pn	Pn	11 17 13.6	+0.9
	baz=98,slow=21,SNR=0.7						
BATI				Sn	Sn	11 17 55.0	-4.8
	13nm,0.3s,baz=284,slow=21,SNR=4.0						
WRA	**Warramunga Arr**	**13.15**	**150**	Pn	Pn	11 19 18.7	-0.2
	0.8nm,0.3s,baz=320,slow=13,SNR=2.3						
ASAR	**Alice Springs**	**16.24**	**158**	Pn	Pn	11 20 00.3	-0.1
	0.3nm,0.3s,baz=336,slow=9.3,SNR=2.8						
MKAR	**Makanchi Array**	**68.16**	**328**	P	P	11 27 12.7	-0.2
	0.2nm,0.7s,baz=141,slow=5.5,SNR=2.0						

IDC 07 11:17:11.8±1.7**, 8°.64S**×**127°.26E, h0**km**, mb3.6**/2**, mb1 3.9**/5**, mb1mx3.6**/52**, mbtmp3.8**/5**, ML4.1**/3**, Error ellipse: s-maj=48.1km s-min=30.9km az=68.0, Timor region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BATI	**Baumata**	**3.88**	**246**	Pn	Pn	11 18 13.6	+0.8
	6.8nm,0.3s,baz=47,slow=19,SNR=2.6						
BATI				Sn	Sn	11 18 55.8	-3.2
	29nm,0.3s,baz=164,slow=22,SNR=8.4						
WRA	**Warramunga Arr**	**13.16**	**149**	Pn	Pn	11 20 19.7	-0.4
	1.6nm,0.3s,baz=319,slow=13,SNR=5.1						
WRA				Sn	Sn	11 22 41.0	-6.3
	0.6nm,0.3s,baz=317,slow=27,SNR=4.1						
ASAR	**Alice Springs**	**16.24**	**158**	Pn	Pn	11 21 01.6	+0.1
	0.4nm,0.3s,baz=330,slow=9.9,SNR=5.0						
ASAR				Sn	Sn	11 23 56.0	-6.4
	0.2nm,0.3s,baz=330,slow=22,SNR=4.4						
MKAR	**Makanchi Array**	**68.15**	**328**	P	P	11 28 13.8	0.0
	0.2nm,0.5s,baz=121,slow=7.8,SNR=4.2						
KURBB	**Kurchatov Arra**	**72.52**	**330**	P	P	11 28 40.3	-0.1
	0.4nm,0.4s,baz=135,slow=5.2,SNR=5.1						

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*ISCJB **07** 11:29:18.4±0.4, 40°.01N±0°.03×29°.05E±0°.03, h0km, Error ellipse: s-maj=3.8km s-min=3.8km az=174.0*
*CSEM **07** 11:29:18.7±0.2, 40°.03N×29°.06E, h1km, ML2.4, Error ellipse: s-maj=4.2km s-min=3.6km az=166.0, Suspected Mining explosion.*
*ISK **07** 11:29:18.5, 40°.03N×29°.06E, h12km, ML2.4/19, Suspected Mining explosion.*
*DDA **07** 11:29:19.0, 40°.01N×29°.08E, h7km, Ml3.0*
ISC 07 11:29:18.2±0.9**, 39°.99N**±0°.03×**29°.06E**±0°.02**, h0**km**, n53,** σ**0ˢ55**/64**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ORLT	**Orhaneli**	**0.14**	**296**	PG	**Pg**	**11 29 21.9**	**+1.0**
ORLT	**Orhaneli**	**0.14**	**296**	*e*Pg	**Pg**	**11 29 21.9**	**+1.0**
IGD	**Bursa**	**0.30**	**22**	*i* P	**Pg**	**11 29 24.7**	**+0.7**
IGD				*i* S	**Sg**	**11 29 28.2**	**+0.4**
MDNY	**Mudanya-Bursa**	**0.40**	**341**	PG	**Pg**	**11 29 26.2**	**+0.2**
MDNY				SG	**Sg**	**11 29 32.0**	**+0.7**
MDNY	**Mudanya-Bursa**	**0.40**	**341**	*e*Pg	**Pg**	**11 29 26.2**	**+0.2**
MDNY				*e*Sg	**Sg**	**11 29 32.0**	**+0.7**
DURS	**Dursunbey**	**0.59**	**230**	*i* P	**Pb**	**11 29 31.4**	**-0.1**
DURS	**Dursunbey**	**0.59**	**230**	P	**Pb**	**11 29 31.4**	**-0.1**
ARMT	**Armutlu**	**0.60**	**346**	PG	**Pg**	**11 29 30.0**	**+0.3**
ARMT				SG	**Sg**	**11 29 38.1**	**+0.6**
ARMT	**Armutlu**	**0.60**	**346**	*e*Pg	**Pg**	**11 29 30.0**	**+0.3**
ARMT				*e*Sg	**Sg**	**11 29 38.1**	**+0.6**
TVSB	**Tavsanli**	**0.62**	**150**	PG	**Pb**	**11 29 31.6**	**-0.4**
TVSB	**Tavsanli**	**0.62**	**150**	*e*Pg	**Pb**	**11 29 31.6**	**-0.4**
YLV	**Yalova**	**0.63**	**23**	PG	**Pg**	**11 29 30.7**	**+0.4**
YLV				SG	**Sg**	**11 29 39.1**	**+0.7**
YLV	**Yalova**	**0.63**	**23**	*e*Pg	**Pg**	**11 29 30.7**	**+0.4**
YLV				*e*Sg	**Sg**	**11 29 39.1**	**+0.7**
CAVI	**Cavuskoy**	**0.64**	**70**	PG	**Pg**	**11 29 30.9**	**+0.4**
CAVI	**Cavuskoy**	**0.64**	**70**	*e*Pg	**Pg**	**11 29 30.9**	**+0.4**
ADVT	**Abdulvahap**	**0.69**	**49**	PG	**Pg**	**11 29 31.6**	**+0.2**
ADVT	**Abdulvahap**	**0.69**	**49**	*e*Pg	**Pg**	**11 29 31.6**	**+0.2**
HRT	**Hereke**	**0.96**	**29**	PG	**Pg**	**11 29 36.6**	**0.0**
HRT	**Hereke**	**0.96**	**29**	*e*Pg	**Pg**	**11 29 36.6**	**0.0**
BALB	**Balikesir**	**0.97**	**249**	PG	**Pb**	**11 29 38.1**	**+0.2**
BALB	**Balikesir**	**0.97**	**249**	*e*Pg	**Pb**	**11 29 38.1**	**+0.2**
DEMI	**Demirci**	**0.98**	**196**	*i* P	**Pn**	**11 29 38.8**	**-0.5**
DEMI	**Demirci**	**0.98**	**196**	P	**Pn**	**11 29 38.8**	**-0.5**
EDC	**Edincik**	**0.98**	**292**	PG	**Pb**	**11 29 37.5**	**-0.7**
EDC	**Edincik**	**0.98**	**292**	*e*Pg	**Pb**	**11 29 37.5**	**-0.7**
GONE	**Gonen-Balikesi**	**1.05**	**274**	PG	**Pb**	**11 29 39.1**	**-0.3**
GONE	**Gonen-Balikesi**	**1.05**	**274**	*e*Pg	**Pb**	**11 29 39.1**	**-0.3**
GEYV	**SAKARYA_Geyve**	**1.07**	**62**	*i* P	**Pn**	**11 29 41.0**	**+0.5**
GEYV				*i* S	**Sb**	**11 29 55.1**	**+1.0**
GEYV	**SAKARYA_Geyve**	**1.07**	**62**	P	**Pn**	**11 29 41.0**	**+0.5**
GEYV				S	**Sb**	**11 29 55.2**	**+1.0**
ISK	**Istanbul-Kandi**	**1.08**	**0**	PG	**Pg**	**11 29 38.7**	**-0.2**
ISK	**Istanbul-Kandi**	**1.08**	**0**	*e*Pg	**Pg**	**11 29 38.7**	**-0.2**
BORA	**Eskisehir**	**1.08**	**95**	*i* P	**Pb**	**11 29 39.4**	**-0.5**
BORA				*i* S	**Sb**	**11 29 54.3**	**-0.2**
BORA	**Eskisehir**	**1.08**	**95**	P	**Pb**	**11 29 39.4**	**-0.5**
BORA				S	**Sb**	**11 29 54.3**	**-0.2**
GULT	**Gulveren**	**1.20**	**68**	PN	**Pg**	**11 29 41.4**	**+0.1**
GULT	**Gulveren**	**1.20**	**68**	*e*Pn	**Pg**	**11 29 41.4**	**+0.1**
BGKT	**Bogazkoy**	**1.21**	**350**	PN	**Pg**	**11 29 41.3**	**-0.2**
BGKT	**Bogazkoy**	**1.21**	**350**	*e*Pn	**Pg**	**11 29 41.3**	**-0.2**
SAUV	**Serdivan-Sakar**	**1.23**	**52**	PN	**Pg**	**11 29 41.7**	**-0.1**
SAUV	**Serdivan-Sakar**	**1.23**	**52**	*e*Pn	**Pg**	**11 29 41.7**	**-0.1**
SILT	**Sile**	**1.25**	**21**	PN	**Pg**	**11 29 41.8**	**-0.4**
SILT	**Sile**	**1.25**	**21**	*e*Pn	**Pg**	**11 29 41.8**	**-0.4**
KLYT	**Kilyos**	**1.27**	**359**	PN	**Pg**	**11 29 41.9**	**-0.6**
KLYT	**Kilyos**	**1.27**	**359**	*e*Pn	**Pg**	**11 29 41.9**	**-0.6**
CTKS	**Kestanelik-??a**	**1.32**	**342**	PN	**Pg**	**11 29 42.5**	**-1.0**
CTKS	**Kestanelik-??a**	**1.32**	**342**	*e*Pn	**Pg**	**11 29 42.5**	**-1.0**
ESKT	**Eskisehir**	**1.46**	**108**	*i* P	**Pn**	**11 29 45.2**	**-0.8**
SEYT	**Eskypehyr**	**1.46**	**108**	P	**Pn**	**11 29 45.2**	**-0.7**
CTYL	**Yalikoy Yolu**	**1.60**	**339**	PN	**Pn**	**11 29 46.8**	**-0.9**
CTYL	**Yalikoy Yolu**	**1.60**	**339**	*e*Pn	**Pn**	**11 29 46.8**	**-0.9**
SAHE	**Sakarya_HENDEK**	**1.62**	**57**	*i* P	**Pb**	**11 29 49.0**	**0.0**
SAHE	**Sakarya_HENDEK**	**1.62**	**57**	P	**Pb**	**11 29 49.0**	**0.0**
MDUB	**Mudurnu**	**1.71**	**73**	PN	**Pn**	**11 29 48.8**	**-0.6**
MDUB	**Mudurnu**	**1.71**	**73**	*e*Pn	**Pn**	**11 29 48.8**	**-0.6**

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*ISCJB **07** 11:30:36.5±1.1, 42°.65N±0°.07×145°.07E±0°.06, h38km±36km, Error ellipse: s-maj=12.2km s-min=5.6km az=157.5*
*SKHL **07** 11:30:36.8±0.1, 42°.59N×145°.06E, h47km±7km, mb4.6/5*
*JMA **07** 11:30:36.6±0.1, 42°.67N×145°.03E, h49km±1km, M3.4*
*MOS **07** 11:30:37.0±1.4, 42°.60N×145°.10E, h47km, mb4.2/1, Error ellipse: s-maj=65.9km s-min=18.3km az=75.4*
ISC 07 11:30:37.0±2.2**, 42°.64N**±0°.09×**145°.06E**±0°.05**, h34**km±4km**, n20,** σ**0ˢ98**/34**, 1C-1D, Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JAK	**Akkeshi**	**0.44**	**324**	P	**Pb**	**11 30 46.6**	**-0.2**
NEM2	**Nemuro 2**	**0.88**	**35**	P	**Pn**	**11 30 52.5**	**-0.5**
NEM2				S	**Sn**	**11 31 04.7**	**+0.1**
JOB	**Onbets**	**0.94**	**287**	P	**Pn**	**11 30 53.3**	**-0.4**
JNK	**Nakash**	**0.98**	**346**	P	**Pn**	**11 30 53.4**	**-0.9**
JNK				S	**Sn**	**11 31 05.6**	**-1.3**
JAR	**Ashorobuto**	**1.15**	**305**	P	**Pn**	**11 30 55.9**	**-0.7**
JAR				S	**Sn**	**11 31 10.4**	**-0.8**
GLVR	**Golovnino**	**1.15**	**17**	*e*P	**Pn**	**11 30 56.5**	**-0.1**
GLVR				AMB	AMB	11 30 57.3	
	390nm,0.3s						
GLVR				*i* S	**Sn**	**11 31 11.2**	**0.0**
GLVR				A	A	11 31 12.5	
	2μm,0.3s						
GLVR				A	A	11 31 12.5	
	1μm,0.3s						
GLVR	**Golovnino**	**1.15**	**17***d*	*i*PN	**Pn**	**11 30 56.5**	**-0.1**
GLVR				*i* S	**Sn**	**11 31 11.2**	**0.0**
GLVR				pmax	pmax		
	comp=Z,388nm,0.1s						
GLVR				smax	smax		
	comp=N,2μm,0.3s						
GLVR				smax	smax		
	comp=E,1μm,0.2s						
JCH	**Churui**	**1.25**	**269**	P	**Pn**	**11 30 57.8**	**-0.2**
JCH				*e*S	**Sn**	**11 31 14.1**	**+0.5**
JRA	**Rausu**	**1.30**	**2**	P	**Pn**	**11 30 58.1**	**-0.6**
GRPR	**Tuman**	**1.45**	**21**	*e*P	**Pn**	**11 31 00.1**	**-0.7**
GRPR				AMB	AMB	11 31 02.5	
	comp=E,180nm,0.2s						
GRPR				*i* S	**Sn**	**11 31 17.6**	**-1.0**
GRPR				A	A	11 31 21.0	
	comp=E,2μm,0.4s						
GRPR				A	A	11 31 21.0	
	comp=E,2μm,0.4s						
GRPR	**Tuman**	**1.45**	**21**	*e*PN	**Pn**	**11 31 00.1**	**-0.7**
GRPR				*i* S	**Sn**	**11 31 17.6**	**-1.0**
GRPR				pmax	pmax		
	comp=Z,178nm,0.2s						
GRPR				smax	smax		
	comp=N,2μm,0.4s						
GRPR				smax	smax		
	comp=E,2μm,0.3s						
YUK	**Yuzh-Kuril'sk**	**1.52**	**23**	*i* P	**Pn**	**11 31 01.4**	**-0.2**
YUK				AMB	AMB	11 31 03.2	
	comp=E,300nm,0.4s						
YUK				*i* S	**Sn**	**11 31 19.9**	**-0.2**
YUK				A	A	11 31 21.6	
	comp=E,1μm,0.4s						
YUK	**Yuzh-Kuril'sk**	**1.52**	**23***c*	*i*PN	**Pn**	**11 31 01.4**	**-0.2**
YUK				*i* S	**Sn**	**11 31 19.9**	**-0.2**
YUK				pmax	pmax		
	comp=Z,298nm,0.2s						
YUK				pmax	pmax		
	comp=N,104nm,0.1s						
YUK				pmax	pmax		
	comp=E,118nm,0.1s						
YUK				smax	smax		
	comp=N,7.0nm,0.4s						
YUK				smax	smax		
	comp=E,1μm,0.4s						
JTKR	**Abashiri--Toko**	**1.57**	**328**	P	**Pn**	**11 31 02.6**	**+0.2**
JTKR				*e*S	**Sn**	**11 31 22.9**	**+1.3**
SHO	**Shikotan**	**1.79**	**46**	*e*P	**Pn**	**11 31 04.6**	**-0.8**
SHO				AMB	AMB	11 31 06.9	
	comp=E,37nm,0.1s						
SHO				*i* S	**Sn**	**11 31 25.6**	**-1.3**
SHO				A	A	11 31 29.0	
	comp=E,600nm,0.2s						
SHO				A	A	11 31 29.0	
	comp=E,400nm,0.2s						
SHO	**Shikotan**	**1.79**	**46**	*e*PN	**Pn**	**11 31 04.6**	**-0.8**
SHO				*i* S	**Sn**	**11 31 25.6**	**-1.3**
SHO				pmax	pmax		
	comp=Z,37nm,0.1s						
SHO				smax	smax		
	comp=N,366nm,0.2s						

SHO				smax	smax		
	comp=E,597nm,0.2s						
KUR	**Kuril'sk**	**3.29**	**37**	*e*P	**Pn**	**11 31 27.2**	**+1.1**
KUR				AMB	AMB	11 31 31.2	
	comp=E,18nm,0.2s						
KUR				*e*S	**Sn**	**11 32 04.5**	**+0.5**
KUR				A	A	11 32 13.1	
	comp=E,75nm,0.2s						
KUR				A	A	11 32 13.1	
	comp=E,49nm,0.2s						
KUR	**Kuril'sk**	**3.29**	**37**	*e*PN	**Pn**	**11 31 27.9**	**+1.8**
KUR				*e*S	**Sn**	**11 32 06.7**	**+2.7**
KUR				pmax	pmax		
	comp=Z,18nm,0.2s						
KUR				smax	smax		
	comp=N,49nm,0.4s						
KUR				smax	smax		
	comp=E,75nm,0.4s						
YSS	**Yuzh-Sakhalins**	**4.62**	**340**	*e*P	**Pn**	**11 31 45.8**	**+1.6**
YSS	**Yuzh-Sakhalins**	**4.62**	**340**	PN	Pn	11 31 35.5	-8.7

MAN 07 11:46:27, 10°.06N×123°.25E, h14km, mb4.4, ML3.2, MS3.0, Cebu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBP	**Tagbilaran**	**0.71**	**121**	*e*P	Pg	11 46 40.4	-0.4
TBP				*i* S	Sn	11 46 53.3	0.0
SNPH	**Sibulan**	**0.72**	**181**	*e*P	Pb	11 46 42.0	+0.7
SNPH				*e*S	Sn	11 46 53.6	0.0
LLP	**Lapu-Lapu**	**0.75**	**70**	*e*P	Pg	11 46 34.5	-7.1
LLP				*e*S	Sg	11 46 49.0	-2.4
GUIM	**Jordan**	**0.86**	**311**	*e*P	Pg	11 46 42.7	-1.0
GUIM				*e*S	Sn	11 46 56.1	-0.9
MSLP	**Maasin**	**1.58**	**87**	*e*P	Pn	11 46 55.2	+0.5
MSLP				*e*S	Sg	11 47 17.8	-0.3

*ISCJB **07** 11:58:03.3±0.9, 6°.76S±0°.02×149°.48E±0°.02, h20km±6km, mb5.6/206, MS4.9/168, Error ellipse: s-maj=3.5km s-min=3.0km az=21.0*

*GCMT **07** 11:58:04.8±0.1, 6°.91S×149°.59E, h34km, MW5.4/107, Moment Tensor Solution. s103,c183; s107,c253; Duration: 1s.2 Moment tensor: Scale 10^{17}Nm; M_{rr}1.37±.02; $M_{\theta\theta}$-1.53±.02; $M_{\phi\phi}$0.16±.02; $M_{r\theta}$-0.51±.02; $M_{\theta\phi}$-0.40±.01; $M_{\phi r}$0.21±.02; Best double couple: $M_0$1.60100×10^{17} NP1:ϕ_s271.00000°, δ55.00000°, λ107.00000°. NP2:ϕ_s63.00000°, δ38.00000°, λ68.00000°. Principal axes: T 1.5160, Plg74.0000°, Azm228.0000°; N 0.1720, Plg14.0000°, Azm81.0000°; P -1.6860, Plg9.0000°, Azm349.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

*WEL **07** 11:58:04.0, 6°.75S×149°.55E, h20km*

*NEIC **07** 11:58:04.8±0.1, 6°.75S×149°.56E, h20km, mb5.7/106, MW5.3, Error ellipse: s-maj=3.5km s-min=3.3km az=126.0 Best double couple: NP1:ϕ_s77.00000°, δ34.00000°, λ75.00000°. NP2:ϕ_s275.00000°, δ57.00000°, λ100.00000°. Principal axes: T 1.0100, Plg76.0000°, Azm215.0000°; N 0.0000, Plg8.0000°, Azm89.0000°; P -1.0100, Plg11.0000°, Azm358.0000°; Depth from synthetics of broadband displacement seismograms.*

*DJA **07** 11:58:05.9±1.7, 7°S±9°×15°0E±1°2, h45km±11km, M5.8/27, mb5.9/27, mB6.0/25, MLv6.5/1, Mw(mB)5.6/25, Mwp5.5/1*

*BJI **07** 11:58:06.4, 6°.61S×149°.72E, h53km, mb5.2/76, mB5.2/53, Ms5.0/77, Ms7 4.8/75*

*MOS **07** 11:58:06.0±1.0, 6°.69S×149°.48E, h35km, mb5.6/69, MS5.1/33, Error ellipse: s-maj=7.0km s-min=5.2km az=98.4*

*IDC **07** 11:58:07.2±1.1, 6°.76S×149°.49E, h36km±8km, mb5.3/38, mb1 5.3/41, mb1mx5.3/47, mbtmp5.5/41, ML5.4/4, MS4.7/37, Ms1 4.7/37, ms1mx4.6/46, Error ellipse: s-maj=9.6km s-min=7.9km az=72.0*

ISC 07 11:58:07.7±0.4**, 6°.76S**±0°.03×**149°.53E**±0°.03**, h42**km±3km**, h42**km**:pP-P, n1262, σ1s.40**/1272**, mb5.6**/225**, MS5.0**/170**, 64C-24D, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.53**	**222**	Pn	**Pn**	**11 59 02.1**	**+2.1**
	470nm,0.3s,baz=51,slow=5.8,SNR=651						
PMG				Sn	**Sn**	**11 59 42.2**	**+1.7**
	3µm,0.3s,baz=37,slow=21,SNR=20						
PMG				LR	LR	12 00 14.9	
	comp=Z,34µm,20.7s,baz=294,slow=36						
PMG	**Port Moresby**	**3.53**	**222**	*e*Pn	**Pn**	**11 59 02.5**	**+2.5**
PMG				*e*Sn	**Sn**	**11 59 42.3**	**+1.8**
PMG	**Port Moresby**	**3.53**	**222**	*ce*P	**Pn**	**11 59 02.2**	**+2.2**
RABL	**Rabaul**	**3.65**	**46**	*e*Pn	**Pn**	**11 59 02.8**	**+1.1**
MANU	**Manus Island**	**5.16**	**335**	*e*Pn	**Pn**	**11 59 25.6**	**+3.2**
COEN	**Coen**	**9.50**	**221**	P	**Pn**	**12 00 22.1**	**0.0**
	baz=9.6,SNR=52						
COEN	**Coen**	**9.50**	**221**	*e*Pn	**Pn**	**12 00 21.3**	**-0.7**
COEN				*e*Sn	**Sn**	**12 02 02.5**	**-5.1**
HNR	**Honiara**	**10.65**	**105**	*e*P	**Pn**	**12 00 40.0**	**+2.3**
HNR				*e*S	Sn	12 02 20.0	-16
HNR	**Honiara**	**10.65**	**105**	Pn	**Pn**	**12 00 39.6**	**+1.9**
	31nm,0.3s,baz=154,slow=7.1,SNR=25						
HNR				Sn	**Sn**	**12 02 41.5**	**+5.8**
	6.6nm,0.3s,baz=257,slow=14,SNR=1.2						
HNR				LR	LR	12 04 10.1	
	comp=Z,4µm,21.8s,baz=288,slow=34						
MTSU	**Mount Surprise**	**12.40**	**204**	P	**Pn**	**12 01 02.1**	**+0.4**
	baz=12,SNR=212						
CTA	**Charters Tower**	**13.63**	**193**	Pn	**Pn**	**12 01 19.8**	**+1.3**
	2.7nm,0.3s,baz=17,slow=15,SNR=36						
CTA				LR	LR	12 06 31.8	
	comp=Z,4µm,18.4s,baz=12,slow=37						
CTAO	**Charters Tower**	**13.63**	**193**	*e*Pn	**Pn**	**12 01 19.4**	**+0.9**
CTAO	**Charters Tower**	**13.63**	**193**	*e*P	**Pn**	**12 01 19.4**	**+0.9**
KMPI	**Kaimana, Papua**	**16.06**	**280**	P	**P**	**12 01 52.4**	**-1.1**
QIS	**Mount Isa**	**16.76**	**214**	P	**Pn**	**12 01 59.7**	**+0.2**
	baz=17,SNR=54						
FAKI	**Fak Fak**	**17.64**	**282**	P	**Pn**	**12 02 09.0**	**-1.4**
FAKI	**Fak Fak**	**17.64**	**282**	*e*Pn	**P**	**12 02 11.3**	**+0.3**
	380nm,0.8s						
FAKI				*e*Sn	**Sn**	**12 05 25.1**	**-1.0**
SAUI	**Saumlaki**	**18.12**	**265**	P	**P**	**12 02 12.7**	**-3.7**
SAUI	**Saumlaki**	**18.12**	**265**	*e*P	**Pn**	**12 02 16.9**	**+0.5**
	658nm,0.9s						
EIDS	**Eidsvold**	**18.57**	**176**	P	**P**	**12 02 20.9**	**-0.2**
	baz=19,SNR=52						
EIDS	**Eidsvold**	**18.57**	**176**	*e*P	**P**	**12 02 20.6**	**-0.6**
	435nm,1.3s						
EIDS				*e*S	**Sn**	**12 05 47.2**	**-1.2**
MTN	**Manton Dam**	**19.11**	**250**	P	**P**	**12 02 27.4**	**+0.3**
	baz=19,SNR=204						
MTN	**Manton Dam**	**19.11**	**250**	*e*P	**P**	**12 02 27.3**	**+0.1**
	436nm,1.2s						
SIJI	**Sorong**	**19.14**	**287**	P	**Pn**	**12 02 28.6**	**-0.1**
	9.6nm,0.3s,baz=105,slow=8.3,SNR=42						
SIJI				LR	LR	12 11 35.1	
	comp=Z,3µm,21.9s,baz=114,slow=42						
SWI	**Sorong**	**19.14**	**287**	P	**P**	**12 02 26.7**	**-0.9**
RMQ	**Roma**	**19.64**	**182**	P	**P**	**12 02 33.3**	**+0.4**
	baz=20,SNR=534						
BNDI	**Bandanaira**	**19.66**	**275**	P	**Pn**	**12 02 34.7**	**-0.2**
WRAB	**Tennant Creek**	**19.72**	**227**	*e*P	**P**	**12 02 33.5**	**-0.3**
	868nm,0.8s						
WRAB				*e*S	**S**	**12 06 09.8**	**-4.2**
WRAB	**Tennant Creek**	**19.72**	**227**	*e*P	**P**	**12 02 33.5**	**-0.3**
WRAB				*e*S	**S**	**12 06 09.8**	**-4.2**
WRAB				pmax	pmax		
	comp=Z,869nm,0.8s						
WB2	**Warramunga Arr**	**19.72**	**227**	*e*P	**P**	**12 02 34.1**	**+0.2**
WRA	**Warramunga Arr**	**19.73**	**227**	P	**P**	**12 02 34.0**	**0.0**
	comp=Z,34nm,0.3s,baz=51,slow=11,SNR=548						
WRA				S	**S**	**12 06 14.1**	**-0.3**
	baz=53,slow=22,SNR=5.3						
WRA				ScP	**ScP**	**12 10 29.9**	**+5.3**
	comp=Z,0.1nm,0.3s,baz=46,slow=2.7,SNR=6.3						
WRA				LR	LR	12 10 34.7	
	comp=Z,2µm,20.2s,baz=50,slow=38						
WRA				PKiKP	**PKiKP**	**12 14 39.4**	**-1.8**
	comp=Z,0.1nm,0.3s,baz=313,slow=1.1,SNR=4.7						
WRA				P3KP		12 37 44.8	
	comp=Z,0.0nm,0.3s,baz=160,slow=2.0,SNR=4.6						
QLP	**Quilpie**	**20.35**	**194**	P	**P**	**12 02 41.4**	**+0.7**
	baz=20,SNR=1000						
PALU	**Palau**	**20.54**	**313**	P	**P**	**12 02 43.0**	**+0.3**
	baz=21,SNR=19						
GUMO	**Guam**	**20.74**	**347**	P	**P**	**12 02 43.6**	**-1.2**
	comp=Z,122nm,0.8s,baz=97,slow=2.1,SNR=5.1						
GUMO				LR	LR	12 09 56.3	
	comp=Z,2µm,21.6s,baz=172,slow=34						
GUMO	**Guam**	**20.74**	**347**	*e*P	**P**	**12 02 45.3**	**+0.5**
	comp=Z,982nm,1.5s						
GUMO	**Guam**	**20.74**	**347**	*e*P	**P**	**12 02 45.3**	**+0.5**
GUMO				pmax	pmax		
	comp=Z,982nm,1.5s						
MSAI	**Masohi**	**20.80**	**278**	P	**P**	**12 02 45.4**	**-0.2**
AAI	**Ambon**	**21.47**	**277**	P	**P**	**12 02 52.6**	**-0.2**
DZM	**Mont Dzumac**	**22.32**	**135**	*e*S	**S**	**12 07 02.8**	**-2.3**
	comp=Z,4µm,25.4s						
DZM				*e*LR	LR	12 08 24.0	
	comp=Z,10µm,22.4s						
DZM	**Mont Dzumac**	**22.32**	**135**	P	**P**	**12 03 01.4**	**-0.6**
	comp=Z,341nm,1.0s,baz=307,slow=8.0,SNR=46						
DZM				LR	LR	12 10 19.2	
	comp=Z,6µm,21.9s,baz=312,slow=33						
DZM	**Mont Dzumac**	**22.32**	**135**	*e*P	**P**	**12 03 01.3**	**-0.7**
	comp=Z,345nm,0.9s						
AS01	**Alice Springs**	**22.51**	**220**	*e*P	**P**	**12 03 03.7**	**-0.3**
AS31	**Alice Springs**	**22.54**	**220**	*e*P	**P**	**12 03 04.2**	**-0.1**
	comp=Z,68nm,0.9s						
ASAR	**Alice Springs**	**22.55**	**220**	P	**P**	**12 03 03.9**	**-0.4**
	comp=Z,196nm,0.9s,baz=52,slow=8.5,SNR=829						
ASAR				S	**S**	**12 07 03.9**	**-5.1**
	comp=Z,19nm,0.8s,baz=36,slow=20,SNR=4.8						
ASAR				ScP	**ScP**	**12 10 38.0**	**+6.5**
	comp=Z,13nm,1.0s,baz=38,slow=3.6,SNR=7.8						
ASAR				LR	LR	12 12 17.6	
	comp=Z,3µm,18.2s,baz=51,slow=38						
ASAR				P3KP		12 37 27.1	
	comp=Z,0.9nm,0.9s,baz=154,slow=3.1,SNR=4.9						
ASAR	**Alice Springs**	**22.55**	**220**	P	**P**	**12 03 03.9**	**-0.4**
ASAR				S	**S**	**12 07 03.9**	**-5.1**
ASAR				pmax	pmax		
	comp=Z,180nm,0.9s						
ASAR				smax	smax		
	comp=N,19nm,0.8s						
ASAR				pmax	pmax		
	comp=N,13nm,1.0s						
ASAR				MLR	MLR		
	comp=Z,3µm,18.2s						
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
NLAI	**Namlea**	**22.62**	**278**	P	**P**	**12 03 04.2**	**-0.9**
LBMI	**Labuha**	**22.80**	**285**	P	**P**	**12 03 07.3**	**+0.2**
TNTI	**Ternate**	**23.35**	**288**	*e*P	**P**	**12 03 12.9**	**+0.4**
	comp=Z,77nm,0.8s						
SARN	**Sarigan**	**23.60**	**351**	*e*P	**P**	**12 03 13.8**	**-1.1**
ARMA	**Armidale**	**23.62**	**175**	P	**P**	**12 03 14.0**	**-1.2**
	baz=24,SNR=27						
ARMA	**Armidale**	**23.62**	**175**	*e*P	**P**	**12 03 13.6**	**-1.6**
	comp=Z,288nm,1.1s						
SANI	**Sanana**	**23.93**	**280**	P	**P**	**12 03 16.7**	**-1.4**
TARA	**Tarawa**	**24.70**	**72**	*e*P	**P**	**12 03 25.3**	**+0.2**
	comp=Z,322nm,1.3s						
CMSA	**Cobar Meteorol**	**24.91**	**188**	P	**P**	**12 03 26.0**	**-0.8**
	baz=25,SNR=47						
SOEI	**Soe**	**25.18**	**261**	P	**P**	**12 03 30.5**	**+0.9**
SOEI	**Soe**	**25.18**	**261**	*e*P	**P**	**12 03 31.0**	**+1.5**
	comp=Z,707nm,0.8s						
SOEI				*e*S	**S**	**12 08 00.7**	**+8.5**
BATI	**Baumata**	**25.81**	**261**	P	**P**	**12 03 37.3**	**+2.0**
	comp=Z,537nm,0.8s,baz=118,slow=0.8,SNR=99						
BATI				LR	LR	12 16 09.7	
	comp=Z,2µm,21.5s,baz=104,slow=42						
BATI	**Baumata**	**25.81**	**261**	P	**P**	**12 03 36.3**	**+1.1**
FITZ	**Fitzroy Crossi**	**25.88**	**242**	P	**P**	**12 03 36.3**	**+0.6**
	comp=Z,382nm,0.7s,baz=0.9,slow=2.4						
FITZ	**Fitzroy Crossi**	**25.88**	**242**	P	**P**	**12 03 36.3**	**+0.6**
	baz=26						
STKA	**Stephens Creek**	**26.07**	**196**	P	**P**	**12 03 36.1**	**-1.2**
	comp=Z,283nm,0.7s,baz=354,slow=9.4,SNR=77						
STKA				LR	LR	12 14 35.5	
	comp=Z,4µm,18.0s,baz=11,slow=38						
STKA	**Stephens Creek**	**26.07**	**196**	P	**P**	**12 03 36.1**	**-1.2**
	baz=26,SNR=114						
STKA	**Stephens Creek**	**26.07**	**196**	*e*P	**P**	**12 03 37.1**	**-0.2**
	comp=Z,66nm,0.8s						
STKA	**Stephens Creek**	**26.07**	**196**	*e*P	**P**	**12 03 37.1**	**-0.2**
STKA				pmax	pmax		
	comp=Z,66nm,0.8s						
SGSI	**Sangihe**	**26.11**	**293**	P	**P**	**12 03 39.0**	**+1.1**
LHI	**Lord Howe Isla**	**26.20**	**161**	P	**P**	**12 03 38.6**	**+0.1**
	baz=26						
LHI	**Lord Howe Isla**	**26.20**	**161**	*e*P	**P**	**12 03 37.6**	**-0.8**
	comp=Z,167nm,1.1s						
MGCD	**Mangrove Creek**	**26.36**	**177**	P	**P**	**12 03 40.8**	**+0.8**
	baz=26,SNR=14						
KMSI	**Cibinong**	**26.52**	**285**	P	**P**	**12 03 41.2**	**-0.4**
BBSI	**Bau Bau**	**26.84**	**271**	P	**P**	**12 03 45.2**	**+0.7**
WRKA	**Warakurna**	**27.26**	**226**	P	**P**	**12 03 47.8**	**-0.5**
	baz=27,SNR=342						
LUWI	**Luwuk**	**27.29**	**281**	P	**P**	**12 03 47.9**	**-0.6**
LUWI	**Luwuk**	**27.29**	**281**	*e*P	**P**	**12 03 49.6**	**+1.1**
	comp=Z,384nm,0.8s						
LUWI				*e*PcP	**PcP**	**12 07 08.7**	**+1.1**
YNG	**Young**	**27.43**	**182**	P	**P**	**12 03 48.9**	**-0.6**
	baz=28,SNR=34						
EDFI	**Ende, Flores**	**27.66**	**264**	P	**P**	**12 03 50.1**	**-1.9**
HTT	**Hallett**	**28.31**	**199**	P	**P**	**12 03 56.6**	**-0.9**
	baz=28,SNR=63						
APSI	**Ampana**	**28.41**	**281**	P	**P**	**12 03 58.6**	**+0.1**
CNB	**Canberra Magne**	**28.42**	**180**	P	**P**	**12 03 59.1**	**+0.6**
	baz=28,SNR=8.6						
CAN	**Canberra**	**28.43**	**181**	*e*P	**P**	**12 03 58.6**	**+0.1**
	comp=Z,51nm,1.0s						
CAN				LR	LR		
	comp=Z,4µm,20.0s						
CAN	**Canberra**	**28.43**	**181**	*e*P	**P**	**12 03 58.6**	**+0.1**
CAN				pmax	pmax		
	comp=Z,51nm,1.0s						
CAN				MLR	MLR		
	comp=Z,4µm,20.0s						
BBOO	**Buckleboo**	**28.79**	**204**	P	**P**	**12 04 00.8**	**-0.9**
	baz=29,SNR=13						
BBOO	**Buckleboo**	**28.79**	**204**	*e*P	**P**	**12 04 00.6**	**-1.1**
	comp=Z,159nm,1.2s						
FUNA	**Funafuti**	**29.45**	**95**	*e*P	**P**	**12 04 07.2**	**-0.5**
FUNA				*e*pP	**sP**	**12 04 22.6**	**-1.6**
KAPI	**Kappang**	**29.67**	**272**	*e*P	**P**	**12 04 10.9**	**+1.2**
	comp=Z,122nm,0.9s						
KAPI				*e*PcP	**PcP**	**12 07 13.9**	**+0.3**
KAPI				*e*S	**S**	**12 09 08.5**	**+5.6**
KAPI				LR	LR		
	comp=Z,596nm,19.0s						
KAPI	**Kappang**	**29.67**	**272**	P	**P**	**12 04 11.1**	**+1.3**
	SNR=23						
KAPI	**Kappang**	**29.67**	**272**	P	**P**	**12 04 11.1**	**+1.3**
	SNR=23						
MSVF	**Nonsavu**	**29.88**	**114**	*e*P	**P**	**12 04 12.1**	**+0.4**
	comp=Z,72nm,1.0s						
MSVF				LR	LR		
	comp=Z,2µm,19.0s						
MSVF	**Nonsavu**	**29.88**	**114**	*i* P	**P**	**12 04 11.7**	**+0.1**
MSVF				pmax	pmax		
	comp=Z,19nm,0.8s						
ARPS	**Mount Arapiles**	**30.69**	**192**	P	**P**	**12 04 18.2**	**-0.2**
	baz=31,SNR=39						
TOO	**Toolangi**	**30.89**	**186**	P	**P**	**12 04 20.4**	**+0.1**
	baz=31,SNR=7.6						
FORT	**Forrest**	**31.25**	**217**	P	**P**	**12 04 23.2**	**-0.3**
	baz=31,SNR=55						
FORT	**Forrest**	**31.25**	**217**	*e*P	**P**	**12 04 23.2**	**-0.3**
	comp=Z,3µm,0.8s						
MBWA	**Marble Bar**	**32.19**	**241**	*e*P	**P**	**12 04 31.9**	**+0.1**
	comp=Z,94nm,0.8s						
MBWA	**Marble Bar**	**32.19**	**241**	P	**P**	**12 04 32.3**	**+0.4**
	SNR=15						
MBWA	**Marble Bar**	**32.19**	**241**	P	**P**	**12 04 32.3**	**+0.4**
	SNR=15						
MYLDM	**Lahad Datu**	**33.17**	**290**	*e*P	**P**	**12 04 42.0**	**+1.4**
	comp=Z,113nm,1.1s						
JCJ	**Chichijima**	**34.40**	**348**	LR	LR	12 18 52.5	
	comp=Z,461nm,18.1s,baz=169,slow=36						
JAGI	**Jajag, Banyuwa**	**35.10**	**265**	*e*P	**P**	**12 04 55.5**	**-1.8**
	comp=Z,598nm,0.9s						
TGY	**Tagaytay City**	**35.14**	**306**	P	**P**	**12 04 57.5**	**-0.2**
	comp=Z,101nm,0.4s,baz=318,slow=6.1,SNR=3.5						
TGY				PcP	**PcP**	**12 07 28.8**	**+0.1**
	comp=Z,102nm,0.3s,baz=273,slow=2.4,SNR=5.4						
MEEK	**Meekatharra**	**35.44**	**232**	P	**P**	**12 05 00.4**	**+0.2**
	baz=36,SNR=94						
KKM	**Kota Kinabalu**	**35.60**	**290**	PFAKE		12 05 10.0	+8.3
KKM				LR	LR		
	comp=Z,373nm,22.0s						
MOO	**Moorlands**	**35.60**	**183**	P	**P**	**12 05 01.9**	**+0.6**
	baz=36,SNR=7.0						
KMBL	**Kambalda**	**35.61**	**223**	P	**P**	**12 05 01.3**	**-0.2**
	baz=36,SNR=31						
TAU	**Tasmania Unive**	**36.06**	**183**	*e*P	**P**	**12 05 05.2**	**+0.1**
TAU				*e*PcP	**PcP**	**12 07 31.7**	**+1.0**
TAU				LR	LR		
	comp=Z,6µm,19.0s						
TAU	**Tasmania Unive**	**36.06**	**183**	*e*P	**P**	**12 05 05.2**	**+0.1**
TAU				*e*		12 07 31.7	
TAU				MLR	MLR		
	comp=Z,6µm,19.0s						
GIRL	**Giralia**	**37.48**	**241**	P	**P**	**12 05 19.1**	**+1.6**
	baz=38,SNR=9.9						
RAO	**Raoul Island**	**37.96**	**130**	P	**P**	**12 05 22.0**	**+0.4**
	comp=Z,481nm,0.7s,baz=316,slow=23,SNR=4.0						
RAO	**Raoul Island**	**37.96**	**130**	P	**P**	**12 05 22.0**	**+0.4**
RAO				pmax	pmax		
	comp=Z,481nm,0.7s						
SBUM	**Sibu**	**38.35**	**283**	*e*P	**P**	**12 05 26.3**	**+1.3**
	comp=Z,62nm,0.8s						
MORW	**Morawa**	**38.60**	**231**	P	**P**	**12 05 26.7**	**-0.2**
	baz=39,SNR=16						
KLBR	**Kellerberrin**	**38.61**	**226**	P	**P**	**12 05 26.3**	**-0.6**
	baz=39,SNR=38						
AFI	**Afiamalu**	**38.68**	**104**	P	**P**	**12 05 28.4**	**+0.6**
	comp=Z,87nm,1.0s,baz=219,slow=1.3,SNR=13						
AFI				LR	LR	12 18 28.5	
	comp=Z,2µm,19.1s,baz=273,slow=32						
AFI	**Afiamalu**	**38.68**	**104**	*e*P	**P**	**12 05 26.4**	**-1.4**
	comp=Z,172nm,1.1s						
AFI	**Afiamalu**	**38.68**	**104**	*e*P	**P**	**12 05 26.4**	**-1.4**
AFI				pmax	pmax		
	comp=Z,172nm,1.1s						
UGM	**Wanagama**	**38.70**	**266**	*e*P	**P**	**12 05 28.1**	**+0.1**
	comp=Z,460nm,0.9s						
KNTN	**Kanton**	**38.80**	**86**	*e*P	**P**	**12 05 28.7**	**-0.1**
	comp=Z,438nm,1.6s						
BLDU	**Ballidu**	**38.86**	**228**	P	**P**	**12 05 28.5**	**-0.6**
	baz=39,SNR=15						
JOW	**Kunigami**	**39.23**	**329**	P	**P**	**12 05 32.6**	**+0.4**
	comp=Z,180nm,0.8s,baz=199,slow=3.3,SNR=25						
JOW				LR	LR	12 18 55.8	
	comp=Z,2µm,21.3s,baz=138,slow=32						
JOW	**Kunigami**	**39.23**	**329**	*e*P	**P**	**12 05 30.7**	**-1.5**
	comp=Z,232nm,0.9s						
NWAO	**Narrogin (SRO)**	**39.71**	**225**	P	**P**	**12 05 35.6**	**-0.5**
	comp=Z,27nm,0.7s,baz=285,slow=8.1,SNR=25						
NWAO	**Narrogin (SRO)**	**39.71**	**225**	P	**P**	**12 05 35.9**	**-0.3**
	baz=40,SNR=16						
NWAO				P	**P**	**12 05 35.9**	**-0.3**
	baz=40,SNR=16						
NWAO	**Narrogin (SRO)**	**39.71**	**225**	*e*P	**P**	**12 05 35.7**	**-0.5**
	comp=Z,76nm,0.8s						
MUN	**Mundaring**	**39.93**	**227**	P	**P**	**12 05 37.8**	**-0.2**
	baz=40,SNR=21						
KSM	**Kuching**	**39.99**	**280**	*e*P	**P**	**12 05 39.3**	**+0.6**
	comp=Z,343nm,1.9s						
KSM				LR	LR		
	comp=Z,374nm,20.0s						
URZ	**Urewera**	**40.09**	**146**	P	**P**	**12 05 38.9**	**-0.2**
	comp=Z,15nm,0.7s,baz=219,slow=2.9,SNR=9.8						
NNZ	**Nelson**	**40.36**	**152**	P	**P**	**12 05 40.3**	**-1.0**
BKZ	**Black Stump Fm**	**40.39**	**147**	*e*P	**P**	**12 05 40.9**	**-0.8**
	comp=Z,31nm,1.0s						
THZ	**Tophouse**	**40.57**	**153**	*e*P	**P**	**12 05 42.4**	**-0.8**
	comp=Z,45nm,0.7s						
THZ	**Tophouse**	**40.57**	**153**	P	**P**	**12 05 40.2**	**-3.0**
KRHZ	**Kereru**	**40.67**	**148**	P	**P**	**12 05 41.6**	**-2.4**
JHJ	**Hachijo jima 2**	**40.72**	**347**	LR	LR	12 20 39.7	
	comp=Z,813nm,21.9s,baz=55,slow=33						
FOZ	**Fox Glacier**	**40.73**	**157**	*e*P	**P**	**12 05 43.8**	**-0.6**
	comp=Z,61nm,1.1s						
TSZ	**Takapari Road**	**40.75**	**148**	P	**P**	**12 05 45.0**	**+0.3**
RKGY	**Rocky Gully**	**40.84**	**223**	P	**P**	**12 05 45.9**	**+0.4**
	baz=41,SNR=22						
MRZ	**Mangatainoka R**	**41.00**	**149**	P	**P**	**12 05 42.8**	**-3.9**
DVHZ	**Dannevirke**	**41.04**	**149**	P	P	12 05 42.1	-5.0
SNZO	**South Karori**	**41.06**	**151**	*e*P	**P**	**12 05 46.0**	**-1.1**
	comp=Z,65nm,1.0s						
NACB	**Ninganchiao**	**41.08**	**319**	*e*P	**P**	**12 05 47.3**	**-0.3**
	comp=Z,141nm,1.3s						
LTZ	**Lake Taylor**	**41.11**	**154**	*e*P	**P**	**12 05 47.3**	**-0.3**
	comp=Z,102nm,0.9s						
LTZ	**Lake Taylor**	**41.11**	**154**	P	**P**	**12 05 46.6**	**-1.0**
HOWZ	**Holdsworth Sta**	**41.15**	**150**	P	**P**	**12 05 47.0**	**-1.0**
SSLB	**Suanglung**	**41.23**	**318**	*e*P	**P**	**12 05 50.1**	**+1.3**
	comp=Z,28nm,1.0s						
BFZ	**Birch Farm**	**41.36**	**149**	P	**P**	**12 05 47.0**	**-2.6**
RPZ	**Rata Peaks**	**41.37**	**156**	P	**P**	**12 05 49.1**	**-0.6**
	comp=Z,45nm,0.7s,baz=288,slow=3.4,SNR=34						
RPZ	**Rata Peaks**	**41.37**	**156**	*e*P	**P**	**12 05 49.5**	**-0.2**
	comp=Z,69nm,0.7s						
RPZ	**Rata Peaks**	**41.37**	**156**	P	**P**	**12 05 48.0**	**-1.7**
CISI	**Cisompet, Garu**	**41.39**	**266**	*e*P	**P**	**12 05 50.2**	**-0.1**
	comp=Z,1µm,0.9s						
MSWZ	**Moikau Station**	**41.41**	**150**	P	**P**	**12 05 46.6**	**-3.4**
OXZ	**Oxford**	**41.45**	**155**	*e*P	**P**	**12 05 49.6**	**-0.8**
	comp=Z,72nm,0.8s						
OXZ	**Oxford**	**41.45**	**155**	P	**P**	**12 05 49.9**	**-0.5**
PAWZ	**Paruwai Farm**	**41.47**	**150**	P	**P**	**12 05 47.3**	**-3.3**
WKZ	**Wanaka**	**41.55**	**159**	*e*P	**P**	**12 05 50.9**	**-0.2**
	comp=Z,67nm,1.0s						
YHNB	**Yeheng**	**41.57**	**320**	*e*P	**P**	**12 05 51.4**	**-0.3**
	comp=Z,93nm,1.1s						
YHNB				LR	LR		
	comp=Z,2µm,20.0s						
LBZ	**Lake Benmore**	**41.60**	**158**	*e*P	**P**	**12 05 49.7**	**-1.9**
	comp=Z,83nm,1.0s						
TRWZ	**Traveller**	**41.61**	**150**	P	**P**	**12 05 49.1**	**-2.6**
LEM	**Lembang**	**41.61**	**267**	P	**P**	**12 05 53.0**	**+0.7**
	comp=Z,522nm,0.8s,baz=45,slow=6.2,SNR=43						
MLZ	**Mavora Lakes**	**41.71**	**160**	*e*P	**P**	**12 05 52.5**	**0.0**
	comp=Z,91nm,1.0s						
MQZ	**McQueen's Vall**	**42.02**	**155**	*e*P	**P**	**12 05 55.3**	**+0.3**
	comp=Z,112nm,1.1s						
JNU	**Nakatsue**	**43.44**	**337**	P	**P**	**12 06 06.8**	**+0.1**
	comp=Z,69nm,0.8s,baz=140,slow=2.9,SNR=48						
JNU				PcP	**PcP**	**12 07 54.9**	**+0.5**
	comp=Z,46nm,0.9s,baz=107,slow=6.3,SNR=4.4						
JNU				LR	LR	12 22 33.3	
	comp=Z,622nm,20.7s,baz=152,slow=34						
JNU	**Nakatsue**	**43.44**	**337**	*e*P	**P**	**12 06 06.9**	**+0.3**
	comp=Z,151nm,1.1s						
JNU				PcP	**PcP**	**12 07 54.9**	**+0.5**
INU	**Inuyama**	**43.51**	**345**	*e*P	**P**	**12 06 07.1**	**-0.1**
	comp=Z,166nm,1.0s						
XMIS	**Christmas Isla**	**43.52**	**262**	*e*P	**P**	**12 06 09.0**	**+1.4**
	comp=Z,612nm,0.9s						
QZH	**Quanzhou**	**43.59**	**317**	⇑*i*P	**P**	**12 06 08.9**	**+1.0**
QZH				S	**S**	**12 12 33.9**	**-0.7**
QZH				LR	LR		
	comp=Z,610nm,18.0s						
QZH				LR	LR		
	comp=Z,510nm,18.4s						
QZH				LR	LR		
	comp=Z,740nm,17.1s						
MJAR	**Matsushiro Arr**	**44.36**	**347**	P	**P**	**12 06 13.2**	**-0.8**
	comp=Z,94nm,0.9s,baz=171,slow=7.9,SNR=139						
MJAR				ScP	**ScP**	**12 11 48.5**	**+2.2**
	comp=Z,0.4nm,0.3s,baz=198,slow=3.6,SNR=4.9						
MJAR				LR	LR	12 23 02.6	
	comp=Z,422nm,20.2s,baz=140,slow=34						
MAJO	**Matsushiro**	**44.36**	**347**	*e*P	**P**	**12 06 13.4**	**-0.6**
	comp=Z,185nm,0.9s						
MAJO	**Matsushiro**	**44.36**	**347**	⇓*i*P	**P**	**12 06 13.2**	**-0.8**
MAJO				pmax	pmax		
	comp=Z,304nm,1.3s						
MAT	**Matsushiro**	**44.36**	**347**	P	**P**	**12 06 13.0**	**-1.0**
MAT				S	**S**	**12 12 42.8**	**-2.8**
MJB9	**Matsu-Tunnel**	**44.37**	**347**	*e*P	**P**	**12 06 13.6**	**-0.4**
	comp=Z,188nm,0.9s						
MYKOM	**Kota Tinggi**	**46.38**	**279**	*e*P	**P**	**12 06 31.6**	**+1.2**
	comp=Z,113nm,0.9s						
SSE	**Sheshan**	**46.39**	**326**	P	**P**	**12 06 30.4**	**+0.3**
SSE				S	**S**	**12 13 14.5**	**-0.4**
SSE				pmax	pmax		
	comp=Z,32nm,0.7s						
SSE				pmax	pmax		
	comp=Z,91nm,3.4s						
SSE				LR	LR		
	comp=Z,400nm,21.2s						
QIZ	**Qiongzhong**	**46.76**	**304**	P	**P**	**12 06 33.4**	**+0.2**
QIZ				S	**S**	**12 13 25.4**	**+4.8**
QIZ				pmax	pmax		

QIZ LR LR
comp=Z,65nm,1.2s
QIZ LR LR
comp=Z,470nm,19.0s
TJN Taejon 47.68 336*ce*P **P** **12 06 39.4 -0.7**
KSRS Korea Array 48.39 337 P **P** **12 06 45.9 +0.3**
comp=Z,26nm,0.8s,baz=152,slow=8.6,SNR=75
KSRS PcP **PcP** **12 08 13.4 +1.8**
comp=Z,11nm,0.9s,baz=164,slow=4.8,SNR=6.7
KSRS ScP **ScP** **12 12 03.8 +0.7**
comp=Z,2.7nm,0.9s,baz=150,slow=4.8,SNR=6.6
KS15 Wonju Array Si 48.40 337 *e*P **P** **12 06 46.2 +0.6**
KSAR Wonju Array Be 48.40 337 P **P** **12 06 45.9 +0.3**
KSAR PcP **PcP** **12 08 13.4 +1.8**
KSAR ScP **ScP** **12 12 03.8 +0.7**
KSAR Wonju Array Be 48.40 337 P **P** **12 06 45.9 +0.3**
KSAR 12 08 13.4
KS01 Wonju Array Si 48.42 337 *e*P **P** **12 06 45.0 -0.8**
NJ2 Nanjing 48.43 325 *e*P **P** **12 06 46.5 +0.6**
NJ2 pP **pP** **12 06 56.4 -1.4**
NJ2 sP **sP** **12 07 00.7 -2.0**
NJ2 PcP **PcP** **12 08 13.1 +1.3**
NJ2 S **S** **12 13 45.6 +1.7**
NJ2 pmax pmax
comp=Z,26nm,0.5s
NJ2 pmax pmax
comp=Z,380nm,3.8s
NJ2 LR LR
comp=Z,1μm,17.9s
NJ2 LR LR
comp=Z,1μm,17.3s
NJ2 LR LR
comp=Z,2μm,20.6s
ERM Erimo 48.88 354 PFAKE 12 07 00.0 +11
ERM LR LR
comp=Z,1μm,22.0s
ERM Erimo 48.88 354 *i*P **P** **12 06 49.3 +0.1**
ERM pmax pmax
comp=Z,42nm,0.9s
BKNI Bangkinang 48.89 276 *e*P **P** **12 06 51.2 +1.4**
comp=Z,186nm,1.1s
INCN Inchon 48.93 336 *e*P **P** **12 06 50.6 +0.9**
comp=Z,110nm,1.3s
INCN Inchon 48.93 336 P **P** **12 06 51.0 +1.2**
SNR=5.7
INCN Inchon 48.93 336 P **P** **12 06 51.0 +1.2**
SNR=5.7
IPM Ipoh 49.69 282 *e*P **P** **12 06 56.9 +0.9**
comp=Z,159nm,1.1s
WHN Wuhan 50.12 320 ⇑P **P** **12 06 59.7 +0.8**
WHN S **S** **12 14 10.4 +2.7**
WHN LR LR
comp=Z,3μm,22.8s
WHN LR LR
comp=Z,2μm,21.3s
WHN LR LR
comp=Z,2μm,20.5s
KULM Kulim 50.24 283 *e*P **P** **12 06 59.8 -0.3**
comp=Z,131nm,0.9s
KULM LR LR
comp=Z,476nm,20.0s
YUK Yuzh-Kuril'sk 50.66 357*c i*P **P** **12 07 00.2 -2.5**
YUK *i* 12 08 19.8
YUK *e* 12 09 02.5
YUK *i*S **S** **12 14 11.9 -2.8**
YUK *e* 12 16 54.1
YUK *e*SS **SS** **12 17 49.3 -0.5**
YUK pmax pmax
comp=Z,185nm,1.1s
YUK pmax pmax
comp=N,69nm,0.8s
YUK pmax pmax
comp=E,121nm,1.0s
YUK pmax pmax
comp=Z,129nm,1.5s
SKLT Songkhla 50.72 285 P **P** **12 07 04.3 +0.6**
comp=Z,178nm,1.0s,comp=Z,1μm
SKNT Sakolnakorn 50.83 298 P **P** **12 07 03.7 -0.8**
comp=Z,37nm,1.1s
RAR Rarotonga 51.02 112 P **P** **12 07 06.7 +0.9**
comp=Z,27nm,1.0s,baz=207,slow=6.8,SNR=4.0
RAR LR LR 12 28 54.3
comp=Z,145nm,18.3s,baz=272,slow=36
RAR Rarotonga 51.02 112 *e*P **P** **12 07 06.8 +0.9**
comp=Z,260nm,2.0s
ASAJ Asahikawa 51.02 354 P **P** **12 07 06.3 +0.9**
comp=Z,52nm,0.8s,baz=217,slow=10,SNR=38
ASAJ Asahikawa 51.02 354 *e*P **P** **12 07 06.2 +0.7**
comp=Z,59nm,0.8s
PSI Prapat 51.40 279 P **P** **12 07 09.3 +0.3**
comp=Z,96nm,0.9s,baz=114,slow=7.3,SNR=60
PSI Prapat 51.40 279 *e*P **P** **12 07 09.1 +0.1**
comp=Z,165nm,1.0s
PSI Prapat 51.40 279 *e*P **P** **12 07 09.1 +0.1**
PSI pmax pmax
comp=Z,165nm,1.0s
KHON Khomkaen 51.60 297 P **P** **12 07 11.6 +1.3**
comp=Z,9.6nm,0.8s,comp=Z,838nm
TRTT Trang 51.78 285 P **P** **12 07 11.8 +0.1**
comp=Z,82nm,1.0s,comp=Z,704nm
CHAI Chaiyaphum 52.18 296 P **P** **12 07 14.7 +0.1**
comp=Z,17nm,0.8s,comp=Z,152nm
COCO West Island 52.20 260 *e*P **P** **12 07 16.2 +1.4**
comp=Z,2μm,0.9s
COCO West Island 52.20 260 P **P** **12 07 17.5 +2.8**
SNR=13
COCO West Island 52.20 260 P **P** **12 07 17.5 +2.8**
SNR=13
COCO West Island 52.20 260 *i*P **P** **12 07 17.3 +2.5**
NAYO Nakonayok 52.21 294 P **P** **12 07 15.4 +0.6**
comp=Z,40nm,1.2s,comp=Z,5μm
DL2 Dalian 52.29 333 P **P** **12 07 16.6 +1.6**
DL2 S **S** **12 14 37.4 0.0**
DL2 pmax pmax
comp=Z,47nm,0.8s
DL2 pmax pmax
comp=Z,210nm,10.8s
DL2 LR LR
comp=Z,820nm,21.0s
DL2 LR LR
comp=Z,640nm,20.5s
DL2 LR LR
comp=Z,1μm,21.4s
TIA Tai'an 52.46 327 P **P** **12 07 15.4 -1.0**
TIA S **S** **12 14 34.2 -5.7**
TIA pmax pmax
comp=Z,37nm,1.1s
TIA pmax pmax
comp=Z,120nm,3.0s
TIA LR LR
comp=Z,790nm,17.1s
TIA LR LR
comp=Z,690nm,21.2s
TIA LR LR
comp=Z,2μm,27.5s
GSI Gunungsitoli 52.47 277 *e*P **P** **12 07 16.9 +0.1**
comp=Z,538nm,1.2s
SURT Suratani 52.92 287 P **P** **12 07 20.1 -0.1**
comp=Z,89nm,0.9s,comp=Z,778nm
GYA Guiyang 53.08 310 P **P** **12 07 21.3 0.0**
GYA pP sP 12 07 36.8 -1.4
GYA PcP **PcP** **12 08 32.0 +2.6**
GYA PP **PP** **12 09 26.6 +5.1**
GYA S **S** **12 14 51.0 +2.1**
GYA sS sS 12 15 10.0 +1.1
GYA pmax pmax
comp=Z,30nm,1.0s
GYA pmax pmax
comp=Z,140nm,5.8s
GYA LR LR
comp=Z,2μm,18.9s
GYA LR LR
comp=Z,2μm,19.0s
GYA LR LR
comp=Z,2μm,19.2s
USRK Ussuriysk Ar. 53.14 344 P **P** **12 07 22.1 +0.9**
comp=Z,35nm,0.8s,baz=175,slow=7.8,SNR=47
USRK LR LR 12 27 44.6
comp=Z,764nm,21.2s,baz=146,slow=34
PBKT Sadao Pong 53.33 296 P **P** **12 07 22.7 -0.4**
comp=Z,19nm,1.0s,comp=Z,836nm
YSS Yuzh-Sakhalins 53.81 354‖ *e*P **P** **12 07 26.5 +0.4**
YSS *e* 12 07 38.0
YSS *e* 12 07 43.4
YSS *e*PPP PPP 12 10 33.9
YSS *e*S **S** **12 14 55.2 -2.6**
YSS *e*PS **PnS** **12 15 17.0 +5.0**
YSS pmax pmax
comp=Z,30nm,0.9s
YSS pmax pmax
comp=N,20nm,1.0s
YSS pmax pmax
comp=E,20nm,0.9s
YSS pmax pmax
comp=Z,300nm,3.8s
YSS smax smax
comp=N,500nm,5.1s
YSS smax smax
comp=E,200nm,3.6s
YSS MLR MLR
comp=Z,300nm,17.0s
LHMI Lhok Sumawe 53.82 281 *e*P **P** **12 07 27.2 +0.4**
comp=Z,157nm,0.8s
PHIT Phitsanulok 54.05 297 P **P** **12 07 28.9 +0.5**
comp=Z,44nm,0.9s,comp=Z,444nm
MDJ Mudanjiang 54.20 343 P **P** **12 07 27.7 -1.3**
MDJ pP pP 12 07 39.0 -2.0
MDJ sP sP 12 07 44.0 -1.9
MDJ S **S** **12 15 04.9 +1.7**
MDJ sS sS 12 15 21.6 -1.6
MDJ pmax pmax
comp=Z,34nm,1.2s
MDJ pmax pmax
comp=Z,390nm,6.0s
MDJ LR LR
comp=Z,550nm,19.3s
MDJ LR LR
comp=Z,350nm,16.7s
MDJ LR LR
comp=Z,740nm,18.9s
SRDT SRDT 54.22 293 P **P** **12 07 31.3 +1.6**
comp=Z,50nm,1.3s,comp=Z,1μm
NANT Nan 54.42 299 P **P** **12 07 31.3 +0.2**
comp=Z,28nm,1.1s,comp=Z,209nm
CN2 Changchun 54.84 339 *e*P **P** **12 07 32.8 -0.8**
CN2 PcP **PcP** **12 08 35.6 +0.1**
CN2 *e*S **S** **12 15 11.1 -0.7**
CN2 *e*sS pS 12 15 27.4 +1.5
CN2 *e*SS **SS** **12 18 54.4 -1.4**
CN2 pmax pmax
comp=Z,10.0nm,1.2s
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=Z,560nm,19.0s
CN2 LR LR
comp=Z,430nm,19.0s
CN2 LR LR
comp=Z,710nm,19.0s
PAYA Payao 55.36 299 P **P** **12 07 38.2 +0.3**
comp=Z,34nm,0.9s,comp=Z,239nm
KMI Kunming 55.46 307 P **P** **12 07 39.2 +0.4**
KMI pP pP 12 07 50.5 -0.3
KMI sP sP 12 07 54.7 -1.0
KMI PcP **PcP** **12 08 38.8 +0.2**
KMI PP **PP** **12 09 40.9 -2.2**
KMI S **S** **12 15 23.3 +2.1**
KMI sS sS 12 15 42.2 +0.9
KMI SS **SS** **12 19 07.7 +1.0**
KMI pmax pmax
comp=Z,35nm,1.1s
KMI pmax pmax
comp=Z,170nm,7.9s
KMI LR LR
comp=Z,300nm,21.8s
KMI LR LR
comp=Z,150nm,26.3s
KMI LR LR
comp=Z,510nm,25.9s
BJI Beijing 55.81 329⇑ *e*P **P** **12 07 40.5 -0.2**
BJI sP **sP** **12 08 00.4 +2.8**
BJI S **S** **12 15 17.8 -7.1**
BJI pmax pmax
comp=Z,22nm,1.2s
BJI pmax pmax
comp=Z,300nm,11.8s
BJI LR LR
comp=Z,1μm,24.7s
BJI LR LR
comp=Z,990nm,21.4s
BJI LR LR
comp=Z,1μm,27.5s
CM31 Chiang Mai Arr 55.83 298 *e*P **P** **12 07 42.5 +1.3**
CMAR Chiang Mai Arr 55.83 298 P **P** **12 07 41.6 +0.4**
comp=Z,20nm,0.9s,baz=118,slow=5.6,SNR=84
CMAR ScP **ScP** **12 12 37.0 +1.1**
comp=Z,3.5nm,1.1s,baz=98,slow=2.7,SNR=4.1
CMAR LR LR 12 31 43.2
comp=Z,161nm,20.3s,baz=111,slow=36
CMAR PKPPKP **P'P'df** **12 37 39.9 -3.3**
comp=Z,0.5nm,0.4s,baz=322,slow=5.1,SNR=5.1
CMAR P4KPbc 12 45 01.5
comp=Z,1.5nm,0.9s,baz=128,slow=2.7,SNR=11
XAN Xi'an 55.88 319 P **P** **12 07 40.6 -0.8**
XAN pP pP 12 07 50.5 -3.0
XAN sP sP 12 07 58.1 -0.3
XAN PcP **PcP** **12 08 40.7 +0.9**
XAN PP **PP** **12 09 46.8 +0.3**
XAN S **S** **12 15 21.9 -4.3**
XAN SS **SS** **12 19 07.2 -5.5**
XAN pmax pmax
comp=Z,55nm,1.2s
XAN pmax pmax
comp=Z,150nm,4.8s
XAN LR LR
comp=Z,220nm,19.6s
XAN LR LR
comp=Z,340nm,21.6s
XAN LR LR
comp=Z,500nm,26.5s
CMMT Chiang Mai 55.96 298 P **P** **12 07 41.2 -1.0**
comp=Z,32nm,1.1s,comp=Z,842nm
CHTO Chiang Mai 55.96 298 P **P** **12 07 42.3 +0.1**
comp=Z,141nm,1.1s,comp=Z,2μm
TIY Taiyuan 56.15 325 *e*P P 12 07 51.7 +8.4
TIY sP pP 12 07 57.8 +2.4
TIY PP **PP** **12 09 55.0 +6.1**
TIY S **S** **12 15 28.1 -1.6**
TIY sS pS 12 15 46.3 +2.4
TIY pmax pmax
comp=Z,210nm,7.5s
TIY LR LR
comp=N,1μm,21.6s
TIY LR LR
comp=E,470nm,17.8s
TIY LR LR
comp=Z,1μm,21.5s
CMAI Chiengmai2 56.30 299 P **P** **12 07 45.0 +0.2**
comp=Z,176nm,1.0s,comp=Z,5μm
SKR Severo-Kuril's 57.49 5 *e*P P 12 07 58.7 +6.3
SKR *e*S S 12 15 57.8 +11
SKR pmax pmax
comp=Z,600nm,5.3s
SKR pmax pmax
comp=Z,1μm,5.2s
SKR MLR MLR
comp=Z,500nm,21.0s
CD2 Chengdu 57.61 313 ⇑P **P** **12 07 53.7 -0.1**
CD2 pP pP 12 08 05.3 -0.6
CD2 sP sP 12 08 10.2 -0.6
CD2 PcS **PcS** **12 12 47.3 -0.7**
CD2 S **S** **12 15 46.6 -2.6**
CD2 SS **SS** **12 19 42.9 +2.8**
CD2 pmax pmax
comp=Z,60nm,0.6s
CD2 pmax pmax
comp=Z,330nm,4.6s
CD2 LR LR
comp=Z,650nm,15.9s
CD2 LR LR
comp=Z,600nm,14.4s
CD2 LR LR
comp=Z,520nm,16.4s
TYV Tymovskoe 57.69 355 *e*P **P** **12 07 53.9 +0.1**
TYV *e*S **S** **12 15 51.4 +2.0**
TYV pmax pmax
comp=Z,21nm,0.8s
TYV smax smax
comp=N,9.0nm,1.2s
TYV smax smax
comp=E,700nm,7.8s
KLR Kul'dur 57.88 346*d i*P **P** **12 07 55.4 +0.2**
GRNR Gornyy 58.40 350 *e*P **P** **12 08 00.8 +1.9**
GRNR pmax pmax
comp=Z,21nm,1.0s
KIP Kipapa 58.57 60 *e*P **P** **12 08 02.2 +1.6**
comp=Z,216nm,1.1s
KIP Kipapa 58.57 60*ce*P **P** **12 08 01.6 +1.1**
KIP pmax pmax
comp=Z,1μm,1.2s
OPA Opana 58.67 60 *e*P **P** **12 08 03.6 +2.3**
comp=Z,393nm,1.1s
OPA Opana 58.67 60 *e*P **P** **12 08 03.6 +2.3**
OPA pmax pmax
comp=Z,393nm,1.1s
HHC Hu-ho-hao-te 58.82 327 *e*P **P** **12 08 01.6 -0.5**
HHC S **S** **12 16 05.1 +0.4**
HHC SS **SS** **12 20 00.1 +1.3**
HHC pmax pmax
comp=Z,16nm,0.9s
HHC pmax pmax
comp=Z,180nm,5.3s
HHC LR LR
comp=Z,5μm,16.4s
PBA Port Blair 59.38 288 *e*P P 12 08 04.7 -1.5
BTO Baotou 59.50 326 *e*P **P** **12 08 05.6 -1.2**
DGPR DIGLIPUR 59.60 289 *e*P **P** **12 08 07.7 -0.1**
DGPR IAmb IAmb 12 08 10.0
comp=Z,62nm,0.4s
KHLH Kahului Airpor 59.74 61 *e*P **P** **12 08 11.2 +2.6**
comp=Z,242nm,1.0s
KHLU Kahalu'u 59.75 63 *e*P **P** **12 08 10.5 +1.6**
comp=Z,176nm,1.0s
HUH Hualalai 59.83 63 *e*P **P** **12 08 11.3 +1.6**
HUH *ep*P **pP** **12 08 20.1 -1.7**
HLK Haleakala 59.85 61 *e*P **P** **12 08 11.8 +2.1**
comp=Z,258nm,1.0s
PETK Petropavlovsk- 60.04 6 P **P** **12 08 09.7 -0.4**
comp=Z,11nm,0.6s,baz=157,slow=5.9,SNR=74
PETK Petropavlovsk- 60.04 6 *e*P **P** **12 08 09.8 -0.2**
PET Petropavlovsk 60.05 6 *e*P P 12 08 18.7 +8.5
PET *e*S S 12 16 30.7 +11
PET MLR MLR
comp=Z,1μm,17.0s
PET MLR MLR
comp=Z,800nm,20.0s
HPAH Hawaii Prepara 60.07 62 *e*P **P** **12 08 12.6 +1.5**
comp=Z,230nm,1.0s
HMH Humu'ula Sheep 60.11 63 *e*P **P** **12 08 13.2 +1.6**
comp=Z,396nm,1.2s
POHA Pohakuloa 60.12 63 *e*P **P** **12 08 13.4 +1.8**
comp=Z,297nm,1.0s
NKL Nikolayevsk 60.15 354 *e*P **P** **12 08 10.2 -0.6**
NKL *e* 12 16 15.0
NKL pmax pmax
comp=N,18nm,0.9s
NKL pmax pmax
comp=Z,26nm,0.9s
NKL pmax pmax
comp=Z,500nm,9.0s
NKL MLR MLR
comp=N,400nm,17.0s
NKL MLR MLR
comp=Z,400nm,17.0s
PAE Paea 60.27 106 *e*P **P** **12 08 13.4 +1.0**
comp=Z,11nm,1.1s
PPT Papeete 60.27 106 P **P** **12 08 13.1 +0.7**
comp=Z,30nm,0.7s,baz=16,slow=2.2,SNR=5.6
PPT LR LR 12 30 16.1
comp=Z,359nm,19.6s,baz=278,slow=32
PPT2 Papeete2 60.27 106 *e*P **P** **12 08 13.8 +1.3**
comp=Z,38nm,1.3s
PPT2 *e*S **S** **12 16 25.9 +1.8**
comp=Z,189nm,24.2s
PPT2 *e*LQ LQ 12 23 28.3
comp=Z,2μm,32.0s
PPT2 *e*LR LR 12 26 01.7
comp=Z,985nm,24.2s
PPTF Pamatai, Papee 60.28 106 *e*P **P** **12 08 13.8 +1.2**
LZH Lanzhou 60.44 318 *e*P **P** **12 08 14.1 +0.7**
LZH pP pP 12 08 27.0 +1.4
LZH sP sP 12 08 31.2 +0.8
LZH PcP **PcP** **12 08 58.0 +0.1**
LZH *e*S **S** **12 16 26.5 +0.6**
LZH sS sS 12 16 49.4 +3.2
LZH pmax pmax
comp=Z,140nm,1.3s
LZH pmax pmax
comp=Z,230nm,4.9s
LZH LR LR
comp=Z,1μm,14.0s
LZH LR LR
comp=Z,1μm,16.0s
LZH LR LR
comp=Z,2μm,16.2s
TIAR Tiarei 60.49 106 *e*P **P** **12 08 15.3 +1.4**
comp=Z,33nm,1.0s
TVO Taravao 60.58 107 *e*P **P** **12 08 16.0 +1.4**
comp=Z,24nm,1.1s
PMOR Pomariorio Ree 61.83 103 *e*P **P** **12 08 24.5 +1.5**
comp=Z,382nm,1.2s
VAH Vaihoa 62.09 104 *e*P **P** **12 08 25.9 +1.2**
comp=Z,95nm,1.1s
ZEA Zeya 63.13 345 *e*P **P** **12 08 31.4 +0.5**
ZEA *e* 12 08 47.2
ZEA *e*S **S** **12 16 59.0 0.0**
ZEA pmax pmax
comp=N,47nm,1.0s
ZEA pmax pmax
comp=Z,52nm,1.0s
ZEA pmax pmax
comp=Z,400nm,6.0s
ZEA smax smax
comp=N,400nm,9.0s
ZEA MLR MLR
comp=E,200nm,16.0s
ZEA MLR MLR
comp=Z,400nm,16.0s
ZEA MLR MLR
comp=N,300nm,18.0s
SHL Shillong 64.54 302 *e*P **P** **12 08 40.8 -0.3**
SHL IAmb IAmb 12 08 41.5
comp=Z,38nm,0.7s
GTA Gaotai 64.94 319 P **P** **12 08 43.6 +0.3**
GTA pP pP 12 08 56.6 +1.0
GTA sP sP 12 09 01.5 +1.0
GTA PcP **PcP** **12 09 14.7 -1.5**
GTA S **S** **12 17 23.4 +1.1**
GTA sS sS 12 17 42.8 +0.1
GTA SS **SS** **12 21 36.7 +1.9**
GTA pmax pmax
comp=Z,23nm,0.9s
GTA pmax pmax
comp=Z,180nm,5.8s
GTA LR LR
comp=Z,340nm,22.8s
GTA LR LR
comp=Z,280nm,22.8s
GTA LR LR
comp=Z,370nm,20.0s
CASY Casey 65.22 196 *e*P **P** **12 08 44.1 -0.4**
ULN Ulaanbaatar 66.00 330 *e*P **P** **12 08 50.0 0.0**
ULN Ulaanbaatar 66.00 330 P **P** **12 08 50.6 +0.6**
SNR=11
ULN Ulaanbaatar 66.00 330 P **P** **12 08 50.6 +0.6**
SNR=11
ULN Ulaanbaatar 66.00 330*ce*P **P** **12 08 50.2 +0.2**
ULN pmax pmax
comp=Z,22nm,1.0s
SONM Songino Array 66.30 330 P **P** **12 08 51.9 0.0**
comp=Z,12nm,0.7s,baz=155,slow=3.9,SNR=60
SONM PKPPKP **P'P'df** **12 37 17.7 -6.5**
comp=Z,0.9nm,0.8s,baz=276,slow=1.8,SNR=5.5
SONM LR LR 12 37 44.7
comp=Z,624nm,21.3s,baz=124,slow=36
SONA1 Songino Array 66.31 330 *e*P **P** **12 08 51.8 -0.1**
CLNS Chul'man 66.52 346 *e*P **P** **12 08 52.9 -0.1**
CLNS pmax pmax
comp=Z,24nm,0.9s
CLNS pmax pmax
comp=E,10.0nm,1.0s
CLNS pmax pmax
comp=N,18nm,1.0s
ODAN Odare 68.78 302 *e*P **P** **12 09 08.3 +0.2**
comp=N,104nm,0.9s
BOK Bokaro 69.09 299 *e*P **P** **12 09 08.2 -1.6**
BOK IAmb IAmb 12 09 13.0
comp=Z,39nm,1.3s
CHLP Challavanipeta 69.25 293 *e*P **P** **12 09 11.5 +0.6**

CHLP IAmb IAmb 12 09 13.5
comp=Z,98nm,1.1s
RAMN Ramite 69.47 302 *e*P **P** **12 09 12.2 -0.2**
comp=Z,48nm,0.8s
ZAK Zakamensk 69.52 330 *e*P **P** **12 09 11.7 -0.4**
ZAK pmax pmax
comp=Z,29nm,1.1s
SEY Seymchan 69.52 1*ce*P **P** **12 09 11.1 -0.6**
TAOE Nuku Hiva Isla 69.61 97 *e*P **P** **12 09 13.7 +0.4**
comp=Z,200nm,1.2s
TAOE *e*S **S** **12 18 20.0 +0.8**
comp=Z,368nm,27.6s
TAOE Nuku Hiva Isla 69.61 97 *e*LR LR 12 30 21.4
comp=Z,353nm,21.4s
VIS Vishakhapatnam 69.72 292 *e*P **P** **12 09 12.8 -1.1**
VIS IAmb IAmb 12 09 15.9
comp=Z,172nm,1.7s
JIRN Jiri 70.05 303 *e*P **P** **12 09 15.9 -0.2**
comp=Z,49nm,0.7s
PALK Pallekele 70.06 280 *e*P **P** **12 09 17.1 +1.0**
PALK Pallekele 70.06 280 P **P** **12 09 17.4 +1.3**
SNR=14
PALK Pallekele 70.06 280 P **P** **12 09 17.4 +1.3**
SNR=14
PALK Pallekele 70.06 280 *i* P **P** **12 09 17.2 +1.2**
TLY Talaya 70.19 332 P **P** **12 09 15.9 -0.1**
comp=Z,5.1nm,0.6s,baz=230,slow=5.8
TLY Talaya 70.19 332 *e*P **P** **12 09 16.2 +0.2**
TLY LR LR
comp=Z,893nm,21.0s
TLY Talaya 70.19 332 *e*P **P** **12 09 16.5 +0.5**
TLY *e*S **S** **12 18 21.0 -3.5**
TLY pmax pmax
comp=Z,8.0nm,0.8s
TLY MLR MLR
comp=Z,272nm,20.0s
IRK Irkutsk 70.27 332 *e*P **P** **12 09 16.1 -0.4**
IRK *e* 12 09 36.0
IRK pmax pmax
comp=Z,32nm,2.7s
YAK Yakutsk 70.29 350 *e*P **P** **12 09 14.8 -1.5**
YAK *e**PP **pP** **12 09 24.1 -4.7**
YAK *e* 12 09 36.8
YAK *e*PPP PPP 12 13 31.9
YAK *e*S **S** **12 18 23.1 -2.0**
YAK *e* 12 19 10.1
YAK *e*SS **SS** **12 22 49.9 -6.5**
YAK *e*SSS SSS 12 26 04.1
YAK pmax pmax
comp=Z,28nm,1.1s
YAK pmax pmax
comp=N,8.0nm,1.2s
YAK pmax pmax
comp=E,3.0nm,1.2s
YAK pmax pmax
comp=Z,121nm,4.1s
YAK pmax pmax
comp=N,94nm,3.8s
YAK pmax pmax
comp=E,54nm,3.3s
YAK smax smax
comp=E,143nm,5.6s
YAK smax smax
comp=N,283nm,5.7s
YAK MLR MLR
comp=Z,263nm,22.0s
YAK MLR MLR
comp=E,129nm,21.0s
YAK MLR MLR
comp=N,185nm,27.0s
GUN Gumba 70.39 303 *e*P **P** **12 09 18.0 -0.2**
comp=N,62nm,0.7s
BOD Bodaibo 70.50 341 *e*P **P** **12 09 16.5 -1.3**
BOD pmax pmax
comp=Z,12nm,1.5s
PKIN Phulchoki 70.69 302 *e*P **P** **12 09 19.7 -0.2**
KKN Kakani 70.85 302 *e*P **P** **12 09 20.6 -0.3**
comp=Z,84nm,0.9s
DMN Daman 70.94 302 *e*P **P** **12 09 21.3 -0.1**
comp=Z,114nm,1.0s
MIR Mirnyy 70.95 201⇑ *i*P **P** **12 09 22.0 +1.6**
MIR pmax pmax
comp=Z,420nm,1.0s
VNDA Vanda 71.03 177 P **P** **12 09 21.2 +0.5**
comp=Z,135nm,0.8s,baz=332,slow=6.7,SNR=553
VNDA LR LR 12 37 54.3
comp=Z,656nm,18.9s,baz=5.5,slow=34
PVM Polavaram 71.19 291 *e*P **P** **12 09 22.7 -0.1**
PVM IAmb IAmb 12 09 24.5
comp=Z,84nm,1.3s
MOY Mondy 71.45 331 *e*P **P** **12 09 24.4 +0.5**
MOY pmax pmax
comp=Z,33nm,2.7s
GKN Gorkha 71.46 302 *e*P **P** **12 09 24.1 -0.4**
comp=Z,73nm,0.9s
MDRS Chennai 71.58 286 *e*P **P** **12 09 25.6 +0.4**
MDRS IAmb IAmb 12 09 27.3
comp=Z,27nm,0.7s
SBA Scott Base 71.63 176 *e*P **P** **12 09 25.9 +1.6**
SBA Scott Base 71.63 176 *e*P **P** **12 09 25.9 +1.6**
SKHT Srikalahasti 72.22 287 *e*P **P** **12 09 28.9 -0.1**
SKHT IAmb IAmb 12 09 30.6
comp=Z,146nm,1.6s
KOLN Koldanda 72.26 302 *e*P **P** **12 09 29.1 -0.2**
comp=Z,78nm,0.8s
DANN Dangsing 72.30 302 *e*P **P** **12 09 29.4 -0.3**
ADKI Addanki 72.42 289 *e*P **P** **12 09 30.3 +0.1**
ADKI IAmb IAmb 12 09 31.9
comp=Z,68nm,0.9s
PYUN Piuthan 72.87 302 *e*P **P** **12 09 32.2 -0.8**
comp=Z,116nm,0.8s
NJS Nagarjunasagar 73.19 289 *e*P **P** **12 09 34.7 -0.1**
NJS IAmb IAmb 12 09 36.0
comp=Z,106nm,1.4s
SRLM Srisailam 73.49 289 *e*P **P** **12 09 36.1 -0.5**
SRLM IAmb IAmb 12 09 37.7
comp=Z,87nm,0.9s
RPR Rampur 73.72 292 *e*P **P** **12 09 37.7 -0.1**
RPR IAmb IAmb 12 09 39.3
comp=Z,139nm,1.3s
TRD Trivandrum 73.92 281 *e*P **P** **12 09 39.4 +0.3**
TRD IAmb IAmb 12 09 42.0
comp=Z,187nm,0.6s
RKT Rikitea 74.06 112 *e*P **P** **12 09 40.3 +0.5**
comp=Z,169nm,1.3s
RKT *e*S **S** **12 19 10.5 +0.6**
comp=Z,383nm,27.0s
RKT Rikitea 74.06 112 *e*LQ LQ 12 29 22.6
comp=Z,778nm,35.2s
RKT *e*LR LR 12 32 26.3
comp=Z,812nm,24.2s
HYB Hyderabad 74.08 290 *i* P **P** **12 09 39.0 -1.1**
HYB Hyderabad 74.08 290 *e*P **P** **12 09 38.2 -1.9**
HYBB Hyderabad (bro 74.08 290 *e*P **P** **12 09 39.8 -0.3**
HYBB IAmb IAmb 12 09 41.0
comp=Z,71nm,1.1s
NGP Nagpur 74.47 294 *e*P **P** **12 09 41.6 -0.6**
NGP IAmb IAmb 12 09 43.9
comp=Z,33nm,0.4s
SRSP Sriramsagar 74.61 292 *e*P **P** **12 09 42.4 -0.6**
SRSP IAmb IAmb 12 09 44.1
comp=Z,111nm,1.2s
URV Uravakonda 74.79 287 *e*P **P** **12 09 43.5 -0.8**
URV IAmb IAmb 12 09 45.5
comp=Z,53nm,0.9s
HVS Khovu-Aksy 74.89 327 *i* P **P** **12 09 45.1 +1.0**
HVS pmax pmax
comp=Z,50nm,1.0s
WMQ Urumqi 75.01 319 P **P** **12 09 45.1 +0.1**
WMQ pP PcP 12 09 58.1 -0.5
WMQ sP sP 12 10 03.5 +1.2
WMQ S **S** **12 19 19.6 -0.3**
WMQ sS sS 12 19 40.5 -0.3
WMQ SS **SS** **12 24 09.5 0.0**
WMQ pmax pmax
comp=Z,66nm,1.3s
WMQ pmax pmax
comp=Z,560nm,5.5s
WMQ LR LR
comp=Z,820nm,17.5s
WMQ LR LR
comp=Z,500nm,20.9s
WMQ LR LR
comp=Z,370nm,27.7s
BILL Bilibino 75.56 6*c* *i*P **P** **12 09 47.5 0.0**
BILL *e* 12 12 34.3
BILL *e*PPP PPP 12 14 23.5
BILL *i* S **S** **12 19 25.9 +1.0**
BILL pmax pmax
comp=Z,27nm,1.0s
BILL pmax pmax
comp=Z,789nm,22.0s
KLRI Killari 76.04 290 *e*P **P** **12 09 51.1 -0.3**
KLRI IAmb IAmb 12 09 52.1
comp=Z,48nm,1.0s
H08S2 Diego Garcia H 76.34 264 P **P** **12 09 53.9 +1.1**
baz=46,slow=7.6,SNR=12
H08S3 Diego Garcia H 76.35 264 P **P** **12 09 54.1 +1.3**
baz=46,slow=7.6,SNR=9.5
H08S1 Diego Garcia H 76.36 264 P **P** **12 09 54.3 +1.4**
baz=46,slow=7.6,SNR=9.1
DGAR Diego Garcia 76.40 264 *e*P **P** **12 09 54.9 +1.5**
DGAR LR LR
comp=Z,172nm,22.0s
DGAR Diego Garcia 76.40 264 *i* P **P** **12 09 53.8 +0.4**
BHPL Bhopal 76.42 296 *e*P **P** **12 09 52.2 -1.2**
DDI Dehra Dun 77.64 303 *e*P **P** **12 09 59.9 -0.3**
DDI IAmb IAmb 12 10 03.1
comp=Z,229nm,1.6s
MNCY Minicoy 77.72 280 *e*P **P** **12 10 01.2 +0.4**
MNCY IAmb IAmb 12 10 02.6
comp=Z,126nm,0.8s
GOA Goa 78.15 287 *e*P **P** **12 10 03.7 +0.6**
GOA IAmb IAmb 12 10 05.2
comp=Z,164nm,1.3s
SMLA Simla 78.59 304 *e*P **P** **12 10 05.1 -0.2**
SMLA IAmb IAmb 12 10 07.9
comp=Z,75nm,0.9s
POO Poona 78.69 290 *e*P **P** **12 10 06.1 -0.1**
POO IAmb IAmb 12 10 07.8
comp=Z,110nm,1.1s
OHAK Old Harbor 78.77 28 *e*P **P** **12 10 05.4 -0.3**
comp=Z,22nm,0.9s
KDAK Kodiak Island 79.39 27 PFAKE 12 10 20.0 +11
KDAK LR LR
comp=Z,256nm,20.0s
KDAK Kodiak Island 79.39 27 *i* P **P** **12 10 10.2 +1.1**
TIXI Tiksi 79.43 353 LR LR 12 43 57.3
comp=Z,149nm,21.0s,baz=158,slow=35
TIXI Tiksi 79.43 353 *i* P **P** **12 10 07.6 -1.4**
TIXI pmax pmax
comp=Z,9.0nm,1.2s
DHRM DHARAMSHALA 79.59 304 *e*P **P** **12 10 09.4 -1.7**
DHRM IAmb IAmb 12 10 12.0
comp=Z,99nm,0.8s
MK31 Makanchi Array 79.69 320 *i* P **P** **12 10 10.4 -0.6**
MK31 pmax pmax
comp=Z,7.0nm,0.7s
MKAR Makanchi Array 79.69 320 P **P** **12 10 10.3 -0.7**
comp=Z,7.9nm,0.7s,baz=110,slow=6.1,SNR=64
MKAR S **S** **12 20 08.0 -2.4**
comp=Z,3.1nm,1.1s,baz=113,slow=8.0,SNR=6.6
MKAR PKKP **PKKPbc** **12 28 58.5 -1.9**
comp=Z,3.7nm,0.7s,baz=297,slow=2.2,SNR=35
MKAR PKPPKP **P'P'df** **12 36 59.5 -2.0**
comp=Z,2.4nm,1.2s,baz=333,slow=1.4,SNR=6.2
MKAR LR LR 12 44 29.5
comp=Z,402nm,20.7s,baz=90,slow=35
MAKZ Makanchi 79.89 320 P **P** **12 10 10.9 -1.2**
MAKZ pmax pmax
comp=Z,28nm,1.2s
UZB Uzynbulak 80.63 316⇑ *i*P **P** **12 10 16.6 +0.2**
comp=Z,389nm,1.2s
UZB *e*S **S** **12 20 21.1 +0.3**
ZALV Zalesovo Beam 81.00 327 P **P** **12 10 16.2 -1.6**
comp=Z,13nm,0.6s,baz=113,slow=5.5,SNR=31
ZALV S **S** **12 20 17.5 -6.3**
comp=Z,0.7nm,0.4s,baz=106,slow=5.2,SNR=3.3
ZALV PKKP **PKKPbc** **12 28 55.3 -2.4**
comp=Z,2.6nm,0.6s,baz=298,slow=3.2,SNR=12
ZALV PKPPKP **P'P'df** **12 36 59.1 +0.7**
comp=Z,3.1nm,0.9s,baz=291,slow=4.1,SNR=6.1
ZALV LR LR 12 46 39.0
comp=Z,520nm,19.6s,baz=70,slow=36
TDK Taldygorghan 81.63 317 *i* P **P** **12 10 21.6 +0.2**
comp=Z,659nm,0.6s
TDK *e*S **S** **12 20 30.4 -0.5**
TDK LR LR 12 46 30.9
comp=Z,287nm,19.2s
KSH Kashi 81.76 311 P **P** **12 10 24.1 +1.7**
KSH sP sP 12 10 42.4 +2.6
KSH PP **PP** **12 13 34.2 +4.2**
KSH S **S** **12 20 33.9 +1.3**
KSH SS **SS** **12 25 49.8 -1.6**
KSH pmax pmax
comp=Z,21nm,0.9s
KSH pmax pmax
comp=Z,170nm,6.1s
KSH LR LR
comp=Z,130nm,15.1s
KSH LR LR
comp=Z,330nm,17.3s
KSH LR LR
comp=Z,350nm,20.7s
MDOK Medeo 82.01 315 *i* P **P** **12 10 24.2 +0.5**
comp=Z,350nm,0.9s
MDOK LR LR 12 47 36.4
comp=Z,130nm,17.1s
AAA Alma-Ata 82.11 315⇑ *i*P **P** **12 10 24.9 +0.8**
comp=Z,171nm,1.0s
AAA *e*S **S** **12 20 36.9 +0.9**
AAA LR LR 12 47 49.2
comp=Z,73nm,17.8s
NVS Novosibirsk 82.21 328 *e*P **P** **12 10 23.8 -0.4**
NVS *i* S **S** **12 20 37.4 +1.1**
NVS pmax pmax
comp=Z,19nm,1.2s
NVS pmax pmax
comp=N,2.0nm,0.4s
NVS pmax pmax
comp=E,6.0nm,0.7s
NVS smax smax
comp=N,5.0nm,0.7s
NVS smax smax
comp=E,38nm,1.8s
PPLA Purkeypile 82.22 23 *e*P **P** **12 10 24.0 -0.3**
comp=E,24nm,1.1s
RC01 Rabbit Creek A 82.31 25 *e*P **P** **12 10 24.6 -0.1**
comp=E,19nm,0.8s
ULHL Ulahol 82.31 314 P **P** **12 10 25.6 +0.3**
SNR=14
NIL Nilore 82.42 305 *e*P **P** **12 10 25.9 0.0**
comp=E,590nm,0.8s
NIL LR LR
comp=Z,167nm,21.0s
NIL Nilore 82.42 305 *e*P **P** **12 10 25.9 0.0**
NIL pmax pmax
comp=Z,590nm,0.8s
NIL MLR MLR
comp=Z,167nm,21.0s
MAW Mawson 82.53 203 P **P** **12 10 25.6 -0.1**
comp=Z,80nm,1.0s,baz=87,slow=6.7,SNR=60
MAW LR LR 12 45 10.1
comp=Z,766nm,20.6s,baz=67,slow=34
KUU Kurty 82.71 316⇑ *i*P **P** **12 10 27.3 +0.1**
comp=Z,552nm,0.9s
KUU *e*S **S** **12 20 42.6 +0.5**
PMR Palmer 82.81 25 *e*P **P** **12 10 26.8 -0.4**
comp=Z,16nm,0.8s
PMR Palmer 82.81 25 *e*P **P** **12 10 26.8 -0.4**
PMR pmax pmax
comp=Z,15nm,0.8s
TKM2 Tokmak 2 82.96 315 P **P** **12 10 28.7 0.0**
SNR=37
BMNS Besmoynak 82.96 315⇑ *i*P **P** **12 10 29.0 +0.3**
comp=Z,421nm,1.0s
BMNS *i* S **S** **12 20 45.6 +0.7**
KZA Kyzart 82.98 314 P **P** **12 10 30.0 +0.9**
SNR=106
KTH Kantishna Hill 83.06 23 *e*P **P** **12 10 27.2 -1.3**
comp=Z,31nm,1.0s
QSPA South Pole Qui 83.22 180 P **P** **12 10 29.5 0.0**
comp=Z,271nm,0.8s,baz=352,slow=1.6,SNR=552
QSPA LR LR 12 46 26.9
comp=Z,535nm,19.2s,baz=9.0,slow=35
SML Sawmill 83.25 25 *e*P **P** **12 10 29.5 0.0**
comp=Z,10nm,1.0s
SML Sawmill 83.25 25 *e*P **P** **12 10 29.5 0.0**
SML pmax pmax
comp=Z,10.0nm,1.0s
TRF Thorofare Moun 83.25 23 *e*P **P** **12 10 28.8 -0.9**
comp=Z,24nm,0.9s
BPAW Bear Paw Mtn. 83.31 22 *e*P **P** **12 10 29.3 -0.5**
comp=Z,3.7nm,1.0s
KURK Kurchatov 83.33 323 *e*P **P** **12 10 29.7 -0.5**
comp=Z,204nm,1.0s
KURK P'P' 12 36 54.0
KURK LR LR
comp=Z,889nm,22.0s
KURK Kurchatov 83.33 323 P **P** **12 10 30.1 0.0**
SNR=18
KURK Kurchatov 83.33 323 P **P** **12 10 30.1 0.0**
SNR=18
KURK Kurchatov 83.33 323*d* *i*P **P** **12 10 29.3 -0.8**
KURK pmax pmax
comp=Z,138nm,1.2s
KBK Karagaybulak 83.35 314 P **P** **12 10 31.1 +0.4**
SNR=21
KURBB Kurchatov Arra 83.35 323 P **P** **12 10 29.8 -0.5**
comp=Z,13nm,0.9s,baz=115,slow=3.6,SNR=34
KURBB PKPPKP **P'P'df** **12 36 54.0 -0.5**
comp=Z,1.1nm,1.0s,baz=283,slow=2.8,SNR=5.6
BHJ Bhuj 83.42 294 *e*P **P** **12 10 31.2 0.0**
UCH Uchtor 83.55 314 P **P** **12 10 32.7 +0.7**
SNR=76
CHMS Chumysh 83.58 315 P **P** **12 10 31.6 -0.1**
SNR=17
FRU Bishkek 83.63 314 *e*P **P** **12 10 32.5 +0.5**
FRU *e*S **S** **12 20 50.0 -1.4**
FRU pmax pmax
comp=Z,95nm,2.1s
FRU smax smax
comp=E,700nm,8.0s
AAK Ala-Archa 83.67 314 PKPPKP 12 36 52.5
comp=E,0.4nm,0.3s,baz=206,slow=13,SNR=3.8
AAK LR LR 12 47 57.6
comp=E,369nm,20.9s,baz=81,slow=36
AAK Ala-Archa 83.67 314 P **P** **12 10 32.9 +0.5**
SNR=41
AAK Ala-Archa 83.67 314 *e*P **P** **12 10 32.6 +0.3**
comp=E,33nm,0.8s
AAK P'P' 12 36 52.5
AAK LR LR
comp=Z,450nm,22.0s
AAK Ala-Archa 83.67 314 P **P** **12 10 33.1 +0.8**
SNR=20
AAK Ala-Archa 83.67 314 P **P** **12 10 33.1 +0.8**
SNR=20
AAK Ala-Archa 83.67 314 P **P** **12 10 32.3 0.0**
AAK pmax pmax
comp=Z,38nm,0.8s
USP Ospenovka 83.83 315 P **P** **12 10 33.4 +0.4**
SNR=61
MCK McKinley 83.92 23 *e*P **P** **12 10 31.9 -1.0**
comp=Z,78nm,1.0s
MCK McKinley 83.92 23 *e*P **P** **12 10 32.0 -1.0**
MCK pmax pmax
comp=Z,78nm,1.0s
DIV Divide 84.04 26 *e*P **P** **12 10 34.2 +0.5**
comp=Z,21nm,1.0s
AML Almayashu 84.11 314 P **P** **12 10 35.4 +0.5**
SNR=102
EKS2 Erkin-Say 84.18 314 P **P** **12 10 35.7 +0.8**
SNR=64
BMRM Bremner River 84.49 27 *e*P **P** **12 10 36.2 +0.3**
comp=Z,24nm,0.9s
BTLS Baital 84.61 316⇑ *i*P **P** **12 10 36.3 -0.5**
comp=Z,977nm,1.1s
BTLS *e*S **S** **12 20 56.5 -4.5**
PAX Paxson 84.96 25 *e*P **P** **12 10 38.1 -0.2**
comp=Z,14nm,1.1s
PAX Paxson 84.96 25 *e*P **P** **12 10 38.1 -0.2**
PAX pmax pmax
comp=Z,14nm,1.1s
MNAS Manas 85.05 314 P **P** **12 10 39.6 +0.3**
MNAS pmax pmax
comp=Z,66nm,1.0s
COLD Coldfoot 85.17 20 *e*P **P** **12 10 39.0 -0.1**
comp=Z,22nm,1.0s
ILAR Eielson Array 85.19 23 P **P** **12 10 37.4 -1.9**
comp=Z,27nm,1.0s,baz=249,slow=4.8,SNR=178
ILAR PKKP **PKKPbc** **12 28 45.8 -2.6**
comp=Z,0.4nm,0.5s,baz=345,slow=0.8,SNR=6.4
DOT Dot Lake 85.82 24 *e*P **P** **12 10 42.4 -0.2**
comp=Z,116nm,1.1s
DZA Taraz 85.99 314 *i* P **P** **12 10 44.9 +1.1**
comp=Z,701nm,1.0s
DZA *e*S **S** **12 21 07.2 -7.6**
TOLK Toolik Lake Re 86.09 19 P **P** **12 10 44.0 +0.3**
baz=240
KK31 Karatay Array 86.62 314 *i* P **P** **12 10 46.3 -0.6**
KK31 pmax pmax
comp=Z,55nm,1.3s
KKAR Karatay Array 86.62 314 *e*P **P** **12 10 46.8 -0.1**
comp=Z,62nm,1.2s
KKAR Karatay Array 86.62 314 *e*P **P** **12 10 46.8 -0.1**
KKAR pmax pmax
comp=Z,62nm,1.2s
BRZS Berezniki 86.76 321⇑ *i*P **P** **12 10 48.4 +0.9**
comp=Z,39nm,1.0s
IUG Iuzhnay 86.77 313⇑ *i*P **P** **12 10 48.1 +0.4**
comp=Z,435nm,1.1s
IUG *e*S S 12 21 11.4 -11
DZET Dzherino 87.00 309 P **P** **12 10 48.3 -0.7**
DZET pmax pmax
comp=Z,40nm,0.8s
EGAK Eagle 87.43 24 *e*P **P** **12 10 50.4 +0.1**
comp=Z,44nm,0.9s
EGAK LR LR
comp=Z,866nm,21.0s
SKAG Skagway 88.30 30 *e*P **P** **12 10 55.6 +1.0**
comp=Z,39nm,1.0s
BVA0 Borovoye Array 88.86 324 *i* P **P** **12 10 56.1 -1.3**
BVA0 pmax pmax
comp=Z,19nm,1.0s
BVAR Borovoye Array 88.86 324 P **P** **12 10 56.1 -1.3**
comp=Z,12nm,0.7s,baz=104,slow=6.1,SNR=51
BRVK Borovoye 88.93 324 *e*P **P** **12 10 56.2 -1.5**
comp=Z,22nm,0.8s
BRVK LR LR
comp=Z,224nm,20.0s
BRVK Borovoye 88.93 324 P **P** **12 10 58.9 +1.2**
SNR=6.3
BRVK Borovoye 88.93 324 P **P** **12 10 58.9 +1.2**
SNR=6.3
BRVK Borovoye 88.93 324*ce*P **P** **12 10 56.4 -1.3**
BRVK pmax pmax
comp=Z,34nm,1.0s
WRAK Wrangell Islan 89.06 33 *e*P **P** **12 10 59.5 +1.4**
comp=Z,106nm,1.8s
WRAK LR LR
comp=Z,810nm,20.0s
MRIV Mauritius Mete 89.59 250 *e*P **P** **12 11 00.9 -0.7**
SYO Syowa Base 90.75 200 ‖ *i*P **P** **12 11 03.2 -2.7**
SYO Syowa Base 90.75 200⇑ *e*PcP **P** **12 11 06.2 +0.3**
SYO Syowa Base 90.75 200⇑ *e*pP P 12 11 11.0 +5.1
INK Inuvik 91.44 21 PKKP **PKKPdf** **12 28 29.6 -0.2**
comp=Z,2.5nm,1.0s,baz=129,slow=5.0,SNR=4.8
L02D Cave Junction, 92.16 48 P **P** **12 11 14.0 +0.9**
baz=263,SNR=8.5
I03D Drain, OR 92.53 46 P **P** **12 11 15.7 +1.0**
baz=263,SNR=7.4
M02C Callahan 92.63 49 P **P** **12 11 16.3 +1.0**
baz=263,SNR=30
N02D Trinity Center 92.69 49 P **P** **12 11 16.6 +1.1**
baz=263,SNR=26
G03D McMinnville, O 92.77 45 P **P** **12 11 17.4 +1.7**
baz=263
YBH Yreka Blue Hor 92.77 48 P **P** **12 11 17.0 +1.0**
comp=Z,32nm,1.1s,baz=210,slow=0.8,SNR=68
YBH LR LR 12 49 07.4
comp=Z,538nm,18.7s,baz=280,slow=33
F04D Rainier, OR 93.05 44 P **P** **12 11 17.8 +0.8**
baz=264
WBK Wadi Bani Khal 93.08 292 P P 12 11 23.0 +5.3
SNR=5.1
I04A Tendick Farm, 93.22 46 P **P** **12 11 18.5 +0.5**
baz=264,SNR=8.4
O03D Paynes Creek 93.30 50 P **P** **12 11 19.2 +0.7**
baz=264,SNR=31
J04D Umpqua Nationa 93.38 47 P **P** **12 11 19.8 +0.9**
baz=264,SNR=14
M04C Macdoel 93.43 49 P **P** **12 11 19.6 +0.6**
baz=264,SNR=34
WSAR Wadi Sarin 93.45 293 PKKP **PKKPdf** **12 28 25.0 0.0**
comp=Z,3.5nm,0.7s,baz=232,slow=4.2,SNR=4.9
WSAR LR LR 12 59 10.2
comp=Z,63nm,19.2s,baz=112,slow=39
A04D Lummi Island 93.55 42 P **P** **12 11 19.9 +0.7**
baz=264

K04D Chiloquin, OR 93.58 48 P **P** 12 11 20.7 +1.0
baz=264,SNR=7.8
B05A Bryant 93.90 42 P **P** 12 11 21.6 +0.7
baz=264
BIDO Bidbid 93.94 293 P **P** 12 11 23.0 +1.3
SNR=12
BIDO Bidbid 93.94 293 P **P** 12 11 23.0 +1.3
SNR=12
J05D Fort Rock, OR 94.02 47 P **P** 12 11 22.6 +0.8
baz=264,SNR=55
I05D Terrebonne, OR 94.05 46 P **P** 12 11 22.5 +0.7
baz=264,SNR=11
G05D Wamic, OR 94.15 45 P **P** 12 11 22.7 +0.6
baz=265
SMMC Simmler 94.24 55 P **P** 12 11 23.1 +0.3
baz=265,SNR=8.9
PKM Mcpherson Peak 94.35 56 P **P** 12 11 23.9 +0.4
baz=265,SNR=20
SCZ2 Santa Cruz Isl 94.42 56 P **P** 12 11 24.0 +0.4
baz=265
SNCC San Nicolas Is 94.44 57 P **P** 12 11 24.5 +0.8
baz=265
ABKAR Akbulak array 94.80 319 *e*P **P** 12 11 24.0 -0.9
comp=Z,23nm,1.3s
RCTC Rector, Farmer 94.93 54 P **P** 12 11 26.3 +0.5
baz=265
SVE Sverdlovsk 95.00 327 *e*P **P** 12 11 24.4 -1.3
VES Vestal, Richgr 95.03 55 P **P** 12 11 27.2 +0.9
baz=265,SNR=17
PAHR Pah Rah Range 95.10 51 *e*P **P** 12 11 27.0 +0.3
comp=Z,37nm,1.1s
ARVC Arvin 95.17 55 P **P** 12 11 27.6 +0.5
baz=265,SNR=8.1
GEYT Alibeck 95.22 307 P **P** 12 11 26.8 -0.5
comp=Z,22nm,0.9s,baz=126,slow=2.0,SNR=45
GEYT LR LR 12 56 32.7
comp=Z,280nm,20.8s,baz=40,slow=37
OSI Osito Audit: C 95.22 56 *e*P **P** 12 11 29.5 +2.2
comp=Z,11nm,0.3s
CIS Catalina Islan 95.38 57 P **P** 12 11 28.9 +0.9
baz=266,SNR=5.8
HAWA Hanford 95.48 44 *e*P **P** 12 11 29.2 +1.0
comp=Z,25nm,1.1s
HAWA LR LR
comp=Z,786nm,21.0s
ISA Isabella, Lake 95.51 55 P **P** 12 11 29.5 +0.9
baz=266,SNR=22
ISA Isabella, Lake 95.51 55 *e*P **P** 12 11 28.9 +0.3
comp=Z,38nm,1.2s
ISA Isabella, Lake 95.51 55 *e*P **P** 12 11 28.9 +0.3
ISA pmax pmax
comp=Z,39nm,1.2s
DECC Green Verdugo 95.51 56 P **P** 12 11 29.5 +0.8
baz=266
PASC Pasadena Art C 95.63 56 *e*P **P** 12 11 29.4 +0.3
comp=Z,86nm,1.4s
MWC Mount Wilson 95.74 56 *e*P **P** 12 11 31.1 +1.2
comp=Z,114nm,1.3s
MWC Mount Wilson 95.74 56 *e*P **P** 12 11 31.1 +1.2
MWC pmax pmax
comp=Z,114nm,1.3s
TIN Tinemaha, Big 95.80 53 P **P** 12 11 31.0 +1.0
baz=266
BANOM Banah 95.81 295 P **P** 12 11 30.8 +0.6
SNR=12
BANOM Banah 95.81 295 P **P** 12 11 30.8 +0.6
SNR=12
EDW2 Edwards Air Fo 95.84 56 P **P** 12 11 30.5 +0.4
baz=266,SNR=21
NVAR Mina Array Bea 95.84 52 P **P** 12 11 31.3 +1.0
comp=Z,24nm,0.9s,baz=257,slow=6.1,SNR=116
NVAR PKiKP **PKiKP** 12 16 11.6 +2.0
comp=Z,0.9nm,0.8s,baz=249,slow=6.5,SNR=3.8
NVAR PKKP **PKKPdf** 12 28 27.3 +5.9
comp=Z,1.4nm,0.7s,baz=78,slow=3.0,SNR=11
NVAR PKPPKP **P'P'df** 12 36 33.4 +0.6
comp=Z,0.2nm,0.5s,baz=96,slow=3.0,SNR=3.6
NVAR LR LR 12 47 30.0
comp=Z,968nm,21.6s,baz=91,slow=31
WVOR Wild Horse Val 95.86 48 *e*P **P** 12 11 30.6 +0.4
comp=Z,46nm,1.6s
WVOR LR LR
comp=Z,735nm,19.0s
WVOR Wild Horse Val 95.86 48 *e*P **P** 12 11 30.6 +0.4
WVOR pmax pmax
comp=Z,46nm,1.6s
WVOR MLR MLR
comp=Z,735nm,19.0s
HATD Hatta, Dubai 95.87 294 P **P** 12 11 31.0 +0.5
SNR=8.5
HATD Hatta, Dubai 95.87 294 P **P** 12 11 31.0 +0.5
SNR=8.5
CWC Cottonwood Cre 95.88 54 P **P** 12 11 30.9 +0.4
baz=266
ASHO Ashiyiah 95.93 294 P **P** 12 11 30.8 0.0
SNR=10
ASHO Ashiyiah 95.93 294 P **P** 12 11 30.8 0.0
SNR=10
BFSC Mount Baldy Ra 96.07 56 P **P** 12 11 32.1 +0.7
baz=266,SNR=8.5
ARU Arti 96.12 326 LR LR 12 54 48.5
comp=Z,713nm,21.9s,baz=88,slow=35
ARU Arti 96.12 326 PFAKE 12 11 40.0 +9.2
ARU LR LR
comp=Z,979nm,22.0s
ARU Arti 96.12 326 *e*P **P** 12 11 30.6 -0.2
ARU 12 15 24.1
ARU PPP PPP 12 17 23.6
ARU S **SKSac** 12 22 03.9 +0.1
ARU SS **SS** 12 29 16.0 -2.7
ARU MLR MLR
comp=Z,956nm,22.0s
AKTO Aktyubinsk 96.12 320 P **P** 12 11 30.7 -0.3
comp=Z,1.9nm,0.8s,baz=98,slow=6.9,SNR=7.5
AKTO LR LR 12 54 52.8
comp=Z,437nm,20.3s,baz=87,slow=35
AKTO Aktyubinsk 96.12 320 P **P** 12 11 30.1 -0.9
AKTO pmax pmax
comp=Z,9.0nm,1.3s
LRMC Laurel Mtn Rad 96.14 55 P **P** 12 11 33.0 +1.4
baz=266,SNR=60
MPMC Manual Prospec 96.33 55 P **P** 12 11 33.6 +1.0
baz=266,SNR=34
MURC Murrieta 96.41 57 P **P** 12 11 33.7 +0.9
baz=266
109C Camp Elliot, M 96.44 58 P **P** 12 11 33.4 +0.5
baz=266
BBRC Big Bear Solar 96.68 56 P **P** 12 11 34.1 -0.1
baz=266
RPN Rapa Nui 96.77 118 LR LR 12 48 26.7
comp=Z,259nm,19.4s,baz=270,slow=31
GSC Goldstone, Bar 96.84 55 P **P** 12 11 35.2 +0.5
baz=267,SNR=15
GSC Goldstone, Bar 96.84 55 *e*P **P** 12 11 35.1 +0.4
comp=Z,36nm,1.4s
GSC Goldstone, Bar 96.84 55 *e*P **P** 12 11 35.1 +0.4
GSC pmax pmax
comp=Z,36nm,1.4s
FURC Furnace Creek, 96.86 54 P **P** 12 11 35.8 +1.1
baz=267,SNR=24
BMO Blue Mountains 96.95 46 *e*P **P** 12 11 35.0 -0.1
comp=Z,24nm,1.3s
BMO LR LR
comp=Z,455nm,22.0s
BMO Blue Mountains 96.95 46 *e*P **P** 12 11 35.0 -0.1
BMO pmax pmax
comp=Z,24nm,1.3s
BMO MLR MLR
comp=Z,455nm,22.0s
MONP2 Monument Peak 97.01 58 P Pdif 12 11 36.6 +0.8
baz=266,SNR=10.0
PFO Pinyon Flats O 97.03 57 P Pdif 12 11 36.6 +0.8
baz=267,SNR=7.0
PFO Pinyon Flats O 97.03 57 *e*P Pdif 12 11 36.9 +1.1
comp=Z,36nm,1.4s
PFO LR LR
comp=Z,1μm,20.0s
PFO Pinyon Flats O 97.03 57 *e*P Pdif 12 11 36.9 +1.1
PFO pmax pmax
comp=Z,36nm,1.4s
PFO MLR MLR
comp=Z,1μm,20.0s
HEC Hector,Ludlow 97.20 56 P Pdif 12 11 37.4 +0.9
baz=267,SNR=10
NEW Newport 97.22 42 P Pdif 12 11 36.3 +0.2
baz=268
NEW Newport 97.22 42 *e*P Pdif 12 11 36.4 +0.2
comp=Z,28nm,1.4s
NEW LR LR
comp=Z,546nm,20.0s
NEW Newport 97.22 42 *e*P Pdif 12 11 36.4 +0.2
NEW pmax pmax
comp=Z,28nm,1.4s
NEW MLR MLR
comp=Z,546nm,20.0s
IKP In-Ko-Pah, Jac 97.26 58 P Pdif 12 11 37.7 +0.9
baz=267
SHOC Shoshone, Teco 97.31 55 P Pdif 12 11 37.9 +1.1
baz=267,SNR=17
TPNV Topopah Spring 97.38 54 P Pdif 12 11 38.2 +0.9
baz=267,SNR=27
BELC Belle Mtn. Jos 97.43 57 P Pdif 12 11 38.2 +0.7
baz=267,SNR=10
SWSC Sam W. Stewart 97.54 58 P Pdif 12 11 38.5 +0.6
baz=267
TUQ Turquoise Moun 97.57 55 P Pdif 12 11 39.1 +1.0
baz=267,SNR=14
NVL N'lazarevskaya 97.65 193 *e*P **P** 12 11 35.7 -1.8
NVL pmax pmax
comp=Z,2.0nm,0.4s
NVL MLR MLR
comp=Z,2μm,17.0s
GMRC Granite Mounta 97.75 56 P Pdif 12 11 39.9 +1.0
baz=267,SNR=11
BC3 Big Chuckawall 97.86 57 P Pdif 12 11 39.9 +0.4
baz=267,SNR=6.1
MFID Camas Ranch 97.96 47 *e*P **P** 12 11 39.5 -0.1
comp=Z,20nm,1.5s
R11A Troy Canyon, C 97.97 52 P Pdif 12 11 40.8 +0.8
baz=268,SNR=12
IRM Iron Mountain 98.15 57 P Pdif 12 11 41.0 +0.3
baz=267,SNR=11
GLA Glamis 98.36 58 P **P** 12 11 41.2 -0.4
baz=267
NEE2 Needles Airpor 98.61 56 P Pdif 12 11 43.1 +0.6
baz=268
Y12C Blythe 98.64 57 P Pdif 12 11 43.1 +0.3
baz=268
YKA Yellowknife Ar 98.66 28 P Pdif 12 11 42.6 +0.5
comp=Z,3.9nm,0.9s,baz=271,slow=4.8,SNR=55
YKA PKiKP **PKiKP** 12 16 13.9 +0.5
comp=Z,0.4nm,0.6s,baz=268,slow=1.3,SNR=6.2
YKA PKKP **PKKPbc** 12 28 09.2 -4.1
comp=Z,1.9nm,0.8s,baz=88,slow=2.7,SNR=26
YKA PKPPKP **P'P'df** 12 36 30.9 +5.5
comp=Z,0.2nm,0.8s,baz=49,slow=2.0,SNR=3.7
PDMCI Parker Dam,Lak 98.98 56 P **P** 12 11 44.2 -0.1
baz=268
HLID Hailey 99.00 47 P Pdif 12 11 44.4 0.0
baz=269
HLID Hailey 99.00 47 *e*P Pdif 12 11 44.8 +0.5
comp=Z,6.5nm,0.9s
HLID LR LR
comp=Z,653nm,20.0s
ABPO Ambohimpanom 99.35 250 PFAKE 12 12 00.0 +14
ABPO LR LR
comp=Z,160nm,20.0s
MSO Missoula 99.35 44 P **Pdif** 12 11 45.9 +0.2
baz=270
OPO Ambohidratompo 99.46 250 LR LR 12 55 37.6
comp=Z,358nm,18.4s,baz=90,slow=35
SNAA Sanae 99.64 189 Pdiff **Pdif** 12 11 45.7 -0.8
SNAA Sanae 99.64 189 P **Pdif** 12 11 45.7 -0.8
comp=Z,20nm,1.1s,baz=118,slow=2.7,SNR=20
SNAA PP **PP** 12 15 50.1 -0.2
comp=Z,8.3nm,1.0s,baz=144,slow=9.2,SNR=5.0
SNAA LR LR 12 58 27.2
comp=Z,821nm,18.1s,baz=130,slow=36
SNAA Sanae 99.64 189 *e*P **Pdif** 12 11 45.5 -1.0
comp=Z,2μm,1.2s
SNAA PP **PP** 12 15 50.1 -0.2
SNAA Sanae 99.64 189 *i* P **Pdif** 12 11 45.0 -1.5
CCUT Cedar City 99.70 53 *e*Pdif **Pdif** 12 11 49.4 +1.7
comp=Z,25nm,1.5s
214A Organ Pipe Nat 100.02 59 P **Pdif** 12 11 48.6 -0.4
baz=268
MCMT McKenzie Canyo 100.12 46 *e*Pdif **Pdif** 12 11 49.7 +0.3
comp=Z,3.2nm,1.1s
DUG Dugway, Tooele 100.16 50 P **Pdif** 12 11 49.5 0.0
baz=270
DUG Dugway, Tooele 100.16 50 PFAKE 12 12 00.0 +10
DUG LR LR
comp=Z,481nm,20.0s
HVU Hansel Valley 100.19 49 *e*Pdif **Pdif** 12 11 50.5 +0.8
comp=Z,20nm,1.1s
HVU Hansel Valley 100.19 49 *e*P **Pdif** 12 11 50.5 +0.8
HVU pmax pmax
comp=Z,21nm,1.1s
MSU Marysvale 100.65 52 *e*Pdif **Pdif** 12 11 53.3 +1.4
comp=Z,1.2nm,1.4s
MSU Marysvale 100.65 52 *e*P **Pdif** 12 11 53.3 +1.4
MSU pmax pmax
comp=Z,1.0nm,1.4s
VNA3 Neumayer Olymp 100.94 187 PKiKP **PKiKP** 12 16 12.3 -5.2
VNA3 Neumayer Olymp 100.94 187 Pdiff **Pdif** 12 11 51.4 -0.9
VNA2 Neumayer--Watz 100.95 188 Pdiff **Pdif** 12 11 52.0 -0.3
baz=160,slow=3.5
BOZ Bozeman (W) 100.97 45 P **Pdif** 12 11 52.9 -0.2
baz=272
BOZ Bozeman (W) 100.97 45 *e*Pdif **Pdif** 12 11 46.0 -7.1
comp=Z,8.8nm,1.0s
BOZ LR LR
comp=Z,551nm,20.0s
BOZ Bozeman (W) 100.97 45 *e*P **Pdif** 12 11 46.0 -7.1
BOZ pmax pmax
comp=Z,9.0nm,1.0s
BOZ MLR MLR
comp=Z,551nm,20.0s
QLMT Earthquake Lak 101.13 46 *e*Pdif **Pdif** 12 11 55.0 +1.1
comp=Z,0.6nm,0.8s
WUAZ Wupatki 101.28 55 P **Pdif** 12 11 54.3 -0.4
baz=270
WUAZ Wupatki 101.28 55 *e*Pdif **Pdif** 12 11 56.0 +1.3
comp=Z,12nm,1.0s
WUAZ LR LR
comp=Z,627nm,20.0s
VNA1 Neumayer--Stat 101.32 187 PKiKP **PKiKP** 12 16 23.3 +5.2
VNA1 Neumayer--Stat 101.32 187 Pdiff **Pdif** 12 11 53.4 -0.4
TMUT Trail Mountain 101.40 51 *e*Pdif **Pdif** 12 11 56.8 +1.5
comp=Z,33nm,0.9s
YMR Madison River 101.47 46 *e*Pdif **Pdif** 12 11 56.7 +1.3
comp=Z,20nm,1.1s
TUC Tucson 101.75 58 P **Pdif** 12 11 56.1 -0.6
baz=269
H17A Grant Village 101.76 46 P **Pdif** 12 11 57.0 +0.2
baz=272
H17A Grant Village 101.76 46 *e*Pdif **Pdif** 12 11 59.0 +2.2
comp=Z,9.7nm,1.0s
LKWY Lake 101.88 46 PFAKE 12 12 10.0 +13
LKWY LR LR
comp=Z,298nm,20.0s
GCMT Greycliff 102.34 45 *e*Pdif **Pdif** 12 12 00.2 +1.0
comp=Z,2.5nm,0.9s
BW06 Boulder Array 102.56 48 P **Pdif** 12 12 00.5 +0.2
baz=272
PDAR Pinedale Array 102.56 48 P **Pdif** 12 12 00.3 0.0
comp=Z,8.6nm,1.0s,baz=243,slow=2.7,SNR=41
PDAR PKiKP **PKiKP** 12 16 21.2 -0.2
comp=Z,1.3nm,0.9s,baz=218,slow=0.9,SNR=3.6
PDAR PKKP **PKKPdf** 12 28 05.8 -3.4
comp=Z,0.4nm,0.5s,baz=88,slow=5.2,SNR=4.4
PDAR PKPPKP **P'P'df** 12 36 25.1 +5.3
comp=Z,0.7nm,1.0s,baz=143,slow=0.7,SNR=3.9
W18A Petrified Fore 102.62 56 P **Pdif** 12 12 00.5 -0.2
baz=271
W18A Petrified Fore 102.62 56 *e*Pdif **Pdif** 12 12 03.0 +2.3
comp=Z,14nm,1.1s
RLMT Red Lodge 102.66 45 P **Pdif** 12 12 00.8 +0.1
baz=273
RLMT Red Lodge 102.66 45 PFAKE 12 12 10.0 +9.3
RLMT LR LR
comp=Z,659nm,20.0s
PV01 Paradox Valley 103.49 53 *e*Pdif **Pdif** 12 12 01.2 -3.3
comp=Z,882nm,1.5s
MVCO Mesa Verde 103.58 53 P **Pdif** 12 12 04.6 -0.3
baz=272
MVCO Mesa Verde 103.58 53 PFAKE 12 12 20.0 +15
MVCO LR LR
comp=Z,643nm,21.0s
O20A White River Ci 103.67 50 P **Pdif** 12 12 05.3 0.0
baz=273
LAO LASA Array 104.65 44 P **Pdif** 12 12 09.4 +0.1
baz=276
LAO LASA Array 104.65 44 PFAKE 12 12 20.0 +11
LAO LR LR
comp=Z,471nm,19.0s
K22A Casper 104.80 48 P **Pdif** 12 12 10.5 +0.3
baz=274
S22A 4UR Ranch, Cre 104.88 53 P **Pdif** 12 12 10.2 -0.7
baz=273
ANMO Albuquerque 105.32 56 P **PKiKP** 12 16 26.2 -0.4
baz=272
N23A Red Feather La 105.37 50 P **PKiKP** 12 16 26.4 -0.3
baz=274
LVZ Lovozero 105.44 339 PFAKE 12 16 40.0
LVZ LR LR
comp=Z,397nm,20.0s
RAYN Ar Rayn 105.51 292 *e*Pdif **Pdif** 12 12 13.1 -0.5
comp=Z,4.4nm,0.7s
RAYN LR LR
comp=Z,194nm,19.0s
KLMR Klimovskoe 105.56 331 Pdif **Pdif** 12 12 16.5 +3.6
KLMR AMP 12 12 32.2
comp=Z,11nm,1.4s
KLMR *e*PP **PP** 12 16 41.0 +5.8
KLMR *e*PKKPbc **PKKPbc** 12 27 47.7 -5.3
KLMR *e*PKKP **PKKPdf** 12 28 03.0 -0.7
KLMR LQ LQ 12 55 22.2
KLMR LQ LQ 12 55 22.2
KLMR LR LR 12 58 44.2
KLMR Klimovskoe 105.56 331 P **Pdif** 12 12 16.4 +3.6
KLMR *e* 12 16 40.9
KLMR pmax pmax
comp=Z,11nm,1.4s
ISCO Idaho Springs 105.70 51 P **PKiKP** 12 16 26.9 -0.5
baz=274
ISCO Idaho Springs 105.70 51 PFAKE 12 16 40.0
ISCO LR LR
comp=Z,567nm,20.0s
DGMT Dagmar 105.81 42 PFAKE 12 16 40.0
DGMT LR LR
comp=Z,579nm,21.0s
SDCO Great Sand Dun 105.94 53 P **PKiKP** 12 16 27.5 -0.4
baz=274
SDCO Great Sand Dun 105.94 53 PFAKE 12 16 40.0
SDCO LR LR
comp=Z,955nm,22.0s
APA Apatity 106.01 339 *i*P **Pdif** 12 12 12.7 -2.0
APA pmax pmax
comp=Z,5.0nm,1.3s
APA MLR MLR
comp=Z,800nm,19.0s
FFC Flin Flon 106.13 35 PFAKE 12 16 40.0
FFC LR LR
comp=Z,615nm,20.0s
MNTX Cornudas Mount 106.34 59 P **PKiKP** 12 16 28.1 -0.3
baz=272
MNTX Cornudas Mount 106.34 59 *e*PKPdf **PKiKP** 12 16 29.3 +0.9
MNTX LR LR
comp=Z,707nm,21.0s
RSSD Black Hills 106.46 46 P **PKiKP** 12 16 27.7 -0.8
baz=277
KBZ Khabaz 106.66 314 PKiKP **PKiKP** 12 16 30.2 +1.7
comp=Z,2.4nm,0.8s,baz=282,slow=3.1,SNR=4.2
KIV Kislovodsk 106.78 314 PFAKE 12 16 40.0
KIV LR LR
comp=Z,381nm,21.0s
ARCES ARCESS Array B 107.75 342 PKiKP **PKiKP** 12 16 29.6 -0.3
comp=Z,6.2nm,0.8s,baz=122,slow=1.6,SNR=8.6
ARCES PKKPbc **PKKPbc** 12 27 43.2 -3.3
comp=Z,4.8nm,1.0s,baz=242,slow=2.3,SNR=8.6
TXAR Lajitas Array 107.91 61 Pdiff **Pdif** 12 12 24.7 +0.5
comp=Z,0.5nm,0.8s,baz=284,slow=5.0,SNR=6.7
TXAR PKiKP **PKiKP** 12 16 31.4 -0.1
comp=Z,3.2nm,0.9s,baz=252,slow=0.9,SNR=21
TXAR PKKPbc **PKKPbc** 12 27 43.7 -1.1
comp=Z,0.6nm,0.8s,baz=120,slow=5.6,SNR=5.4
OGNE Ogallala 108.31 49 PFAKE 12 16 40.0
OGNE LR LR
comp=Z,351nm,19.0s
OBN Obninsk 108.56 326 PFAKE 12 16 40.0
OBN LR LR
comp=Z,714nm,21.0s
OBN Obninsk 108.56 326 *e*P **Pdif** 12 12 25.9 -0.4
OBN *e* 12 16 57.1
OBN pmax pmax
comp=Z,3.0nm,0.8s
OBN MLR MLR
comp=Z,585nm,22.0s
C31A Landman Farms, 110.19 41 P **PKiKP** 12 16 34.9 -0.2
baz=283
CBKS Cedar Bluff 110.34 51 PFAKE 12 16 50.0
CBKS LR LR
comp=Z,1μm,22.0s
A32A Rocking H Ranc 110.73 40 P **PKiKP** 12 16 36.2 +0.1
baz=284
ULM Lac du Bonnet 110.79 39 PKiKP **PKiKP** 12 16 35.0 -1.1
comp=Z,3.4nm,0.8s,baz=199,slow=1.4,SNR=4.1
ULM PKKPbc **PKKPbc** 12 27 39.8 +3.6
comp=Z,4.7nm,1.1s,baz=126,slow=5.2,SNR=3.6
B32A Ashes, Strandq 110.83 41 P **PKiKP** 12 16 35.7 -0.5
baz=284
JCT Junction City 111.19 60 P **PKiKP** 12 16 36.9 -0.6
baz=275,SNR=7.6
JCT Junction City 111.19 60 *e*PKPdf **PKiKP** 12 16 37.9 +0.3
JCT LR LR
comp=Z,582nm,20.0s
JCT Junction City 111.19 60 *e*PKiKP **PKiKP** 12 16 37.9 +0.3
JCT MLR MLR
comp=Z,582nm,20.0s
AGMN Agassiz Nation 111.29 41 PFAKE 12 16 50.0
AGMN LR LR
comp=Z,524nm,19.0s
FINES FINESS Array B 111.44 334 Pdiff **Pdif** 12 12 37.4 -1.6
comp=Z,0.8nm,0.6s,baz=46,slow=8.8,SNR=4.2
FINES PKiKP **PKiKP** 12 16 36.4 -0.6
comp=Z,5.6nm,0.8s,baz=90,slow=5.7,SNR=14
FINES PKKPbc **PKKPbc** 12 27 30.4 -4.0
comp=Z,2.0nm,1.0s,baz=167,slow=9.4,SNR=4.0
F33A 5 Mile Ranch, 111.58 43 P **PKiKP** 12 16 37.7 -0.1
baz=283
WMOK Wichita Mounta 111.62 55 PFAKE 12 16 50.0
WMOK LR LR
comp=Z,400nm,20.0s
833A Chaparral WMA, 111.71 62 P **PKiKP** 12 16 37.9 -0.7
baz=274
O33A Hebron 111.79 50 P **PKiKP** 12 16 38.1 -0.3
baz=280
ECSD EROS Data Cent 111.82 46 P **PKiKP** 12 16 38.1 -0.2
baz=282
ECSD EROS Data Cent 111.82 46 *e*PKPdf **PKiKP** 12 16 37.9 -0.4
ECSD LR LR
comp=Z,495nm,20.0s
KMBO Kilima Mbogo 111.97 266 PKiKP **PKiKP** 12 16 40.3 +0.5
comp=Z,0.7nm,0.2s,baz=42,slow=4.1,SNR=4.6
B34A Aery, Baudette 112.02 40 P **PKiKP** 12 16 38.2 -0.3
baz=285
E34A Wadena 112.19 42 P **PKiKP** 12 16 38.3 -0.6
baz=284
K34A Le Mars 112.40 47 P **PKiKP** 12 16 38.7 -0.8
baz=282
B35A Bob, Littlefor 112.65 40 P **PKiKP** 12 16 39.0 -0.7
baz=286
KSU1 Kansas State U 112.70 50 P **PKiKP** 12 16 39.5 -0.6
baz=280
KSU1 Kansas State U 112.70 50 PFAKE 12 16 50.0
KSU1 LR LR
comp=Z,717nm,20.0s
ASF Jabal al Asfar 112.71 302 PKiKP **PKiKP** 12 16 40.8 +0.4
comp=Z,3.9nm,0.8s,baz=38,slow=1.9,SNR=6.4
F35A Swanville 112.75 43 P **PKiKP** 12 16 39.8 -0.2
baz=284
D35A Remer 112.78 42 P **PKiKP** 12 16 39.8 -0.3
baz=285
H35A Sunnyside Ranc 112.85 44 P **PKiKP** 12 16 39.9 -0.3
baz=284
M35A Neola 112.94 48 P **PKiKP** 12 16 40.2 -0.3
baz=282
KVTX Kingsville 113.09 63 PFAKE 12 16 50.0
KVTX LR LR
comp=Z,597nm,20.0s
D36A Goodland 113.34 41 P **PKiKP** 12 16 40.9 -0.2
baz=286
C36A Pine Crest Far 113.39 41 P **PKiKP** 12 16 40.8 -0.4
baz=287
F36A Milaca 113.46 43 P **PKiKP** 12 16 41.2 -0.2
baz=285
E36A McGregor 113.46 42 P **PKiKP** 12 16 41.2 -0.2
baz=286
G36A St. Michael 113.46 43 P **PKiKP** 12 16 41.2 -0.1
baz=285
H36A Jessenland, He 113.51 44 P **PKiKP** 12 16 41.1 -0.4

baz=284
D37A **Cotton** 113.83 41 P PKiKP 12 16 41.3 -0.7
baz=287
MMAI **Mount Meron Ar** 113.86 303 PKiKP PKiKP 12 16 42.5 -0.1
comp=Z,4.3nm,0.7s,baz=48,slow=2.1,SNR=11
TUL1 **Leonard** 113.88 54 P PKiKP 12 16 42.0 -0.4
baz=279
I37A **Lemond, Waseca** 114.01 45 P PKiKP 12 16 42.0 -0.5
baz=284
J37A **Redenius Farm,** 114.08 45 P PKPdf 12 16 42.3 -0.3
baz=284
F37A **Hinrichs Farm,** 114.10 43 P PKPdf 12 16 42.4 -0.2
baz=286
BRTR **Keskin Array B** 114.14 311 PKP PKPdf 12 16 42.1 -0.9
comp=Z,5.2nm,0.9s,baz=126,slow=3.2,SNR=20
BRTR SKP 12 20 18.0
comp=Z,1.7nm,0.9s,baz=134,slow=3.6,SNR=4.0
BRTR PKKPbc **PKKPbc** 12 27 24.6 -0.3
comp=Z,1.9nm,0.9s,baz=209,slow=3.8,SNR=9.5
AKASG **Malin Array Be** 114.14 323 PKP PKPdf 12 16 41.6 -0.9
comp=Z,7.3nm,0.8s,baz=63,slow=2.4,SNR=21
AKASG PKKPbc **PKKPbc** 12 27 22.1 -2.9
comp=Z,2.3nm,0.7s,baz=264,slow=4.0,SNR=12
M37A **Trindle Farm,** 114.16 48 P PKPdf 12 16 42.5 -0.3
baz=283
EYMN **Ely** 114.20 40 P PKPdf 12 16 42.4 -0.3
baz=288
EYMN **Ely** 114.20 40 PFAKE 12 16 50.0 +7.3
EYMN LR LR
comp=Z,445nm,20.0s
P37A **Lathrop** 114.33 50 P PKPdf 12 16 42.7 -0.5
baz=282
F38A **Pierce - Schro** 114.53 42 P PKPdf 12 16 43.1 -0.3
baz=287
E38A **The Farm, Brul** 114.56 42 P PKPdf 12 16 43.1 -0.4
baz=287
H38A **Maiden Rock** 114.62 44 P PKPdf 12 16 43.3 -0.3
baz=286
SCIA **State Center** 114.66 47 PFAKE 12 17 00.0 +16
SCIA LR LR
comp=Z,354nm,20.0s
ANTO **Ankara** 114.74 311 P PKPdf 12 16 44.1 0.0
SNR=6.3
I38A **Scanlan Farm,** 114.75 44 P PKPdf 12 16 43.6 -0.3
baz=285
G38A **Ridgeland** 114.77 43 P PKPdf 12 16 43.5 -0.4
baz=286
L38A **Oak Wood Farm,** 114.79 47 P PKPdf 12 16 43.6 -0.4
baz=284
M38A **Pleasantville** 114.79 47 P PKPdf 12 16 43.6 -0.4
baz=284
T38A **Diamond** 114.87 52 P PKPdf 12 16 43.8 -0.5
baz=281,SNR=8.3
P38A **Dawn** 114.94 49 P PKPdf 12 16 43.9 -0.4
baz=282
R38A **Fenwick Farm,** 114.95 51 P PKPdf 12 16 43.5 -0.9
baz=282
Q38A **Cooks Store, C** 115.02 50 P **PKPdf** **12 16 43.6 -0.9**
baz=282
S38A **Stockton** 115.06 52 P **PKPdf** **12 16 44.2 -0.5**
baz=281,SNR=5.4
F39A **Loretta** 115.19 42 P **PKPdf** **12 16 44.3 -0.4**
baz=287,SNR=7.5
G39A **Holcombe** 115.20 43 P **PKPdf** **12 16 44.2 -0.5**
baz=287
CSS **Mathiatis** 115.27 305 *e*PKPdf **PKPdf** **12 16 44.6 -0.6**
CSS LR LR
comp=Z,50nm,22.0s
E39A **Mellen** 115.29 42 P **PKPdf** **12 16 44.1 -0.8**
baz=288
H39A **Augusta** 115.30 44 P **PKPdf** **12 16 44.2 -0.7**
baz=286,SNR=7.7
I39A **Houston** 115.36 44 P **PKPdf** **12 16 44.3 -0.8**
baz=286
J39A **Decorah** 115.38 45 P **PKPdf** **12 16 44.3 -0.8**
baz=286
K39A **Oelwein** 115.42 46 P **PKPdf** **12 16 44.3 -0.9**
baz=285
N39A **Derby Farms, D** 115.42 48 P **PKPdf** **12 16 44.5 -0.8**
baz=284
NATX **Nacogdoches** 115.44 58 PFAKE 12 17 00.0 +14
NATX LR LR
comp=Z,617nm,20.0s
X39A **Fountain Ranch** 115.47 55 P **PKPdf** **12 16 44.9 -0.6**
baz=280,SNR=14
L39A **Vinton** 115.48 46 P **PKPdf** **12 16 44.9 -0.4**
baz=285
Q39A **Willow Grove F** 115.49 50 P **PKPdf** **12 16 45.1 -0.3**
baz=283,SNR=12
S39A **Bolivar** 115.50 51 P **PKPdf** **12 16 45.1 -0.5**
baz=282,SNR=15
M39A **Webster** 115.52 47 P **PKPdf** **12 16 45.0 -0.4**
baz=284
O39A **Kirksville** 115.54 49 P **PKPdf** **12 16 45.2 -0.4**
baz=284
SORM **Soroca** 115.55 321 ⇑*i*P **PKPdf** **12 16 44.7 -0.5**
SORM **Soroca** 115.55 321 ⇑PKIKP **PKPdf** **12 16 44.7 -0.5**
P39B **Salisbury** 115.56 49 P **PKPdf** **12 16 45.3 -0.3**
baz=283,SNR=11
R39A **Chumby, Stover** 115.60 51 P **PKPdf** **12 16 45.3 -0.4**
baz=282,SNR=16
T39A **Clever** 115.60 52 P **PKPdf** **12 16 45.5 -0.3**
baz=281,SNR=9.8
V39A **Pettigrew** 115.61 54 P **PKPdf** **12 16 45.5 -0.4**
baz=281,SNR=9.6
W39A **Magazine** 115.61 54 P **PKPdf** **12 16 45.2 -0.6**
baz=280,SNR=6.8
U39A **Green Forest** 115.64 53 P **PKPdf** **12 16 45.4 -0.4**
baz=281,SNR=13
E40A **Wakefield** 115.70 41 P **PKPdf** **12 16 45.5 -0.1**
baz=288
C40A **Isle Royale Na** 115.70 40 P **PKPdf** **12 16 45.4 -0.2**
baz=290
F40A **Park Falls** 115.72 42 P **PKPdf** **12 16 45.3 -0.4**
baz=288,SNR=7.6
BOSA **Boshof** 115.86 234 PKP **PKPdf** **12 16 46.6 -0.1**
comp=Z,6.0nm,0.7s,baz=107,slow=1.8,SNR=14
BOSA PKKPbc **PKKPbc** 12 27 18.8 +0.1
comp=Z,8.8nm,1.1s,baz=47,slow=2.7,SNR=5.0
G40A **Rib Lake** 115.86 43 P **PKPdf** **12 16 45.8 -0.3**
baz=288,SNR=7.2
MIAR **Mount Ida** 115.90 55 P **PKPdf** **12 16 45.7 -0.7**
baz=280
MIAR **Mount Ida** 115.90 55 *e*PKPdf **PKPdf** **12 16 46.1 -0.3**
MIAR LR LR
comp=Z,600nm,21.0s
MIAR **Mount Ida** 115.90 55 *e*PKIKP **PKPdf** **12 16 46.1 -0.3**
MIAR MLR MLR
comp=Z,600nm,21.0s
H40A **Chili** 115.93 43 P **PKPdf** **12 16 45.9 -0.3**
baz=287,SNR=6.4
K40A **Colesburg** 115.95 46 P **PKPdf** **12 16 45.9 -0.4**
baz=286,SNR=5.8
I40A **Norwalk** 115.98 44 P **PKPdf** **12 16 45.5 -0.8**
baz=287
M40A **Post Highland** 116.02 47 P **PKPdf** **12 16 46.1 -0.3**
baz=285
J40A **Soldiers Grove** 116.04 45 P **PKPdf** **12 16 45.6 -0.8**
baz=286
L40A **Anamosa** 116.06 46 P **PKPdf** **12 16 45.9 -0.5**
baz=285
O40A **La Belle** 116.07 49 P **PKPdf** **12 16 46.0 -0.6**
baz=284,SNR=5.5
P40A **Paris** 116.08 49 P **PKPdf** **12 16 46.1 -0.4**
baz=284,SNR=6.5
N40A **Mertquake, Sal** 116.10 48 P **PKPdf** **12 16 46.0 -0.6**
baz=284
U40A **Yellville** 116.14 53 P **PKPdf** **12 16 46.4 -0.4**
baz=281,SNR=19
S40A **Lebanon** 116.16 51 P **PKPdf** **12 16 46.4 -0.4**
baz=282,SNR=8.2
Q40A **Laux Farm, Aux** 116.18 50 P **PKPdf** **12 16 46.5 -0.3**
baz=283,SNR=13
W40A **Ferguson Farm,** 116.19 54 P **PKPdf** **12 16 46.5 -0.4**
baz=281
R40A **Maddies Statio** 116.19 51 P **PKPdf** **12 16 46.5 -0.3**
baz=283,SNR=6.9
140A **Cam and Jess,** 116.22 57 P **PKPdf** **12 16 46.5 -0.5**
baz=279
SUW **Suwalki** 116.22 328 *e*PKP **PKPdf** **12 16 46.5 +0.2**
SUW **Suwalki** 116.22 328 *e*PKIKP **PKPdf** **12 16 46.5 +0.2**
Y40A **Okolona** 116.23 55 P **PKPdf** **12 16 46.5 -0.5**
baz=280
T40A **Mansfield** 116.24 52 P **PKPdf** **12 16 46.6 -0.4**
baz=282,SNR=7.7
V40A **Witts Springs** 116.27 53 P **PKPdf** **12 16 46.6 -0.5**
baz=281,SNR=21
E41A **Kenton** 116.31 41 P **PKPdf** **12 16 46.4 -0.4**
baz=289
COWI **Conover** 116.31 42 *e*PKPdf **PKPdf** **12 16 46.0 -0.8**
COWI LR LR
comp=Z,557nm,20.0s
D41A **Chassel** 116.37 40 P **PKPdf** **12 16 46.6 -0.2**
baz=290
H41A **Junction City** 116.43 43 P **PKPdf** **12 16 46.3 -0.8**
baz=288
F41A **Three Lakes** 116.45 42 P **PKPdf** **12 16 46.9 -0.3**
baz=289,SNR=14
JFWS **Jewell Farm** 116.52 45 P **PKPdf** **12 16 45.8 -1.6**
baz=286,SNR=6.4
JFWS **Jewell Farm** 116.52 45 *e*PKPdf **PKPdf** **12 16 46.7 -0.6**
JFWS LR LR
comp=Z,460nm,20.0s
JFWS **Jewell Farm** 116.52 45 *e*PKIKP **PKPdf** **12 16 46.7 -0.6**
JFWS MLR MLR
comp=Z,460nm,20.0s
J41A **Loganville** 116.56 45 P **PKPdf** **12 16 46.6 -0.8**
baz=287,SNR=8.2
G41A **Antigo** 116.56 42 P **PKPdf** **12 16 47.1 -0.3**
baz=288
K41A **Shullsburg** 116.57 46 P **PKPdf** **12 16 47.1 -0.3**
baz=286
L41A **Preston** 116.58 46 P **PKPdf** **12 16 46.9 -0.6**
baz=286
CFR **Carcaliu** 116.65 318 ⇑*i*P **PKPdf** **12 16 47.1 -0.4**
CFR **Carcaliu** 116.65 318 ⇑PKIKP **PKPdf** **12 16 47.1 -0.4**
N41A **Hardin Midland** 116.68 48 P **PKPdf** **12 16 47.1 -0.6**
baz=285
TIRR **Tirgusor** 116.69 317 ⇑*i*P **PKPdf** **12 16 46.9 -0.7**
TIRR **Tirgusor** 116.69 317 ⇑PKIKP **PKPdf** **12 16 46.9 -0.7**
S41A **Jillco Farms,** 116.75 51 P **PKPdf** **12 16 47.4 -0.5**
baz=283
Z41A **Richland Creek** 116.75 56 P **PKPdf** **12 16 47.5 -0.5**
baz=280
P41A **Barry, Barry** 116.78 49 P **PKPdf** **12 16 47.5 -0.4**
baz=284
V41A **Mcclainview** 116.81 53 P **PKPdf** **12 16 47.5 -0.7**
baz=282
O41A **Passleys Farm,** 116.81 48 P **PKPdf** **12 16 47.5 -0.4**
baz=285,SNR=5.8
Q41A **Truxton** 116.83 50 P **PKPdf** **12 16 47.7 -0.3**
baz=284,SNR=14
UALR **University of** 116.85 54 *e*PKPdf **PKPdf** **12 16 48.1 0.0**
W41B **Gary Mavity, V** 116.85 54 P **PKPdf** **12 16 47.6 -0.6**
baz=281
T41A **Mountain View** 116.86 52 P **PKPdf** **12 16 47.7 -0.4**
baz=282,SNR=6.0
R41A **Rosebud** 116.87 50 P **PKPdf** **12 16 47.8 -0.4**
baz=283,SNR=16
U41A **Viola** 116.88 53 P **PKPdf** **12 16 47.7 -0.5**
baz=282,SNR=7.8
TLB **Topalu** 116.90 317 ⇑*i*P **PKPdf** **12 16 48.0 0.0**
TLB **Topalu** 116.90 317 ⇑PKIKP **PKPdf** **12 16 48.0 0.0**
ISP **Isparta** 116.92 309 PFAKE 12 17 00.0 +12
ISP LR LR
comp=Z,151nm,20.0s
HARR **Harsova** 116.94 317 ⇑*i*P **PKPdf** **12 16 48.5 +0.4**
HARR **Harsova** 116.94 317 ⇑PKIKP **PKPdf** **12 16 48.5 +0.4**
E42A **Champion** 117.00 41 P **PKPdf** **12 16 47.8 -0.3**
baz=290
CCM **Cathedral Cave** 117.03 51 P **PKPdf** **12 16 47.8 -0.6**
baz=283
G42A **Mountain** 117.06 42 P **PKPdf** **12 16 47.9 -0.4**
baz=289,SNR=8.9
J42A **Columbus** 117.19 44 P **PKPdf** **12 16 47.8 -0.8**
baz=288,SNR=6.4
L42A **Oliver, Polo** 117.19 46 P **PKPdf** **12 16 48.1 -0.5**
baz=286,SNR=7.1
K42A **Prairie Point,** 117.19 45 P **PKPdf** **12 16 48.2 -0.5**
baz=287
HFS **Hagfors** 117.24 337 PKP **PKPdf** **12 16 47.2 -0.9**
comp=Z,4.5nm,0.8s,baz=34,slow=8.7,SNR=4.9
R42A **Luebbering** 117.32 50 P **PKPdf** **12 16 48.7 -0.3**
baz=284,SNR=7.9
P42A **Winchester** 117.34 49 P **PKPdf** **12 16 48.7 -0.3**
baz=285,SNR=10
VRI **Vrincioaia** 117.36 319 ⇓*i*P **PKPdf** **12 16 48.3 -0.6**
VRI **Vrincioaia** 117.36 319 ⇓PKIKP **PKPdf** **12 16 48.3 -0.6**
Q42A **Golden Eagle** 117.37 50 P **PKPdf** **12 16 48.5 -0.5**
baz=284
T42A **Van Buren** 117.38 52 P **PKPdf** **12 16 48.8 -0.4**
baz=283
V42A **Cord** 117.41 53 P **PKPdf** **12 16 48.9 -0.4**
baz=282
PLOR **Plostina** 117.42 319 ⇑*i*P **PKPdf** **12 16 47.9 -1.1**
PLOR **Plostina** 117.42 319 ⇑PKIKP **PKPdf** **12 16 47.9 -1.1**
U42A **Revenden** 117.42 53 P **PKPdf** **12 16 48.6 -0.6**
baz=282
S42A **Caledonia** 117.44 51 P **PKPdf** **12 16 48.8 -0.5**
baz=284
Z42A **Norrel Spur, H** 117.45 56 P **PKPdf** **12 16 49.2 -0.2**
baz=280
Y42A **Garnett, Star** 117.48 55 P **PKPdf** **12 16 49.0 -0.4**
baz=281
G43A **Wallace** 117.55 42 P **PKPdf** **12 16 48.5 -0.7**
baz=290,SNR=6.3
NB2 **NORSAR Subarra** 117.59 339 PKPdf **PKPdf** **12 16 48.1 -0.8**
comp=Z,7.3nm,0.8s,baz=45,slow=1.9
NB2 **NORSAR Subarra** 117.59 339 PKPdf **PKPdf** **12 16 48.1 -0.8**
baz=45,slow=1.9
NOA **NORSAR Array B** 117.59 339 PKP **PKPdf** **12 16 48.4 -0.5**
comp=Z,6.7nm,0.7s,baz=52,slow=1.8,SNR=25
NOA PKKPbc **PKKPbc** 12 27 11.0 -2.3
comp=Z,4.0nm,0.8s,baz=49,slow=3.5,SNR=13
E43A **Lone Tree Farm** 117.62 41 P **PKPdf** **12 16 49.0 -0.3**
baz=291
I43A **Langenfeld Bro** 117.69 44 P **PKPdf** **12 16 48.8 -0.8**
baz=289,SNR=5.7
F43A **Flat Rock, Esc** 117.69 41 P **PKPdf** **12 16 48.8 -0.7**
baz=290,SNR=5.7
BURAR **Bucovina Array** 117.70 321 ⇑*i*P **PKPdf** **12 16 49.4 -0.2**
BURAR **Bucovina Array** 117.70 321 ⇑PKIKP **PKPdf** **12 16 49.4 -0.2**
H43A **Windswept, Lux** 117.75 43 P **PKPdf** **12 16 48.9 -0.7**
baz=289,SNR=5.5
L43A **Garden Prairie** 117.80 46 P **PKPdf** **12 16 49.3 -0.5**
baz=287
N43A **Stutzman Famil** 117.84 47 P **PKPdf** **12 16 49.1 -0.8**
baz=286
M43A **Waltham Townsh** 117.86 46 P **PKPdf** **12 16 49.7 -0.2**
baz=287
HDIL **Hopedale** 117.86 48 P **PKPdf** **12 16 49.7 -0.2**
baz=286
HDIL **Hopedale** 117.86 48 *e*PKPdf **PKPdf** **12 16 49.9 -0.1**
LSZ **Lusaka** 117.91 249 PKP **PKPdf** **12 16 51.0 +0.1**
comp=Z,10nm,0.7s,baz=104,slow=2.7,SNR=19
LSZ PKKPbc **PKKPbc** 12 27 12.3 +1.2
comp=Z,3.0nm,0.8s,baz=333,slow=4.2,SNR=5.2
LSZ **Lusaka** 117.91 249 PKIKP **PKPdf** **12 16 51.0 +0.1**
LSZ pmax pmax
comp=Z,12nm,0.8s
K43A **Burlington** 117.93 45 P **PKPdf** **12 16 49.6 -0.4**
baz=288
P43A **Skaggs, Pawnee** 117.94 49 P **PKPdf** **12 16 49.9 -0.3**
baz=285
R43A **Red Bud** 117.98 50 P **PKPdf** **12 16 50.1 -0.2**
baz=284
MLR **Muntele Rosu** 118.00 318 PKP **PKPdf** **12 16 49.3 -1.0**
comp=Z,3.6nm,0.9s,baz=157,slow=6.4,SNR=17
MLR **Muntele Rosu** 118.00 318 ⇓*i*P **PKPdf** **12 16 49.5 -0.8**
MLR **Muntele Rosu** 118.00 318 ⇓PKIKP **PKPdf** **12 16 49.5 -0.8**
143A **Socs Landing,** 118.01 57 P **PKPdf** **12 16 50.2 -0.3**
baz=280
SECR 118.08 318 ⇑*i*P **PKPdf** **12 16 50.4 +0.1**
F44A **Big Bay de Noc** 118.13 41 P **PKPdf** **12 16 50.1 -0.2**
baz=291
DOPR **Dordt** 118.20 319 ⇓*i*P **PKPdf** **12 16 50.3 -0.2**
KWP **Kalwaria Pacla** 118.42 324 *e*PKP **PKPdf** **12 16 50.8 0.0**
KWP **Kalwaria Pacla** 118.42 324 *e*PKIKP **PKPdf** **12 16 50.8 0.0**
MBAR **Mbarara** 118.50 266 PKP **PKPdf** **12 16 51.6 -0.6**
comp=Z,2.8nm,0.2s,baz=124,slow=2.4,SNR=5.4
MBAR **Mbarara** 118.50 266 PKP **PKPdf** **12 16 51.6 -0.6**
MBAR LR LR
comp=Z,544nm,19.0s
BEL **Belsk** 118.51 327 *e*PKP **PKPdf** **12 16 51.5 +0.7**
BEL **Belsk** 118.51 327 *e*PKIKP **PKPdf** **12 16 51.5 +0.7**
Q44A **Meyer Farm, Va** 118.52 49 P **PKPdf** **12 16 51.2 -0.1**
baz=285
M44A **Midewin, Midew** 118.53 46 P **PKPdf** **12 16 51.0 -0.3**
baz=288
T44A **Benton** 118.54 51 P **PKPdf** **12 16 51.2 -0.1**
baz=284
O44A **Mansfield** 118.58 48 P **PKPdf** **12 16 51.4 0.0**
baz=286
VOIR 118.61 319 ⇑*i*P **PKPdf** **12 16 51.4 0.0**
VOIR 118.61 319 ⇑PKIKP **PKPdf** **12 16 51.4 0.0**
N44A **Piper City** 118.64 47 P **PKPdf** **12 16 51.4 0.0**
baz=287
S44A **Carbondale** 118.65 51 P **PKPdf** **12 16 51.1 -0.5**
baz=285
P44A **Sand Creek, Wi** 118.66 49 P **PKPdf** **12 16 51.4 -0.1**
baz=286
SIUC **Southern Illin** 118.67 51 *e*PKPdf **PKPdf** **12 16 51.7 +0.1**
Z44A **Pea Ridge, Bel** 118.70 56 P **PKPdf** **12 16 51.5 -0.2**
baz=282
244A **Avery, Jackson** 118.73 57 P **PKPdf** **12 16 51.5 -0.4**
baz=281
F45A **CMU Biological** 118.83 41 P **PKPdf** **12 16 51.4 -0.2**
baz=292
144A **Alexander Plac** 118.83 56 P **PKPdf** **12 16 51.9 -0.2**
baz=281
ARR **Arges** 118.91 319 ⇓*i*P **PKPdf** **12 16 52.3 +0.4**
N45A **Kentland** 119.08 47 P **PKPdf** **12 16 52.2 -0.1**
baz=288
UZH **Uzhgorod** 119.09 323 *e*PKIKP **PKPdf** **12 16 58.5 +6.4**
UZH *e* 12 17 07.8
UZH *i* 12 17 14.4
O45A **Potomac** 119.10 47 P **PKPdf** **12 16 52.2 -0.1**
baz=287
Q45A **Warren Harvey,** 119.17 49 P **PKPdf** **12 16 52.4 -0.1**
baz=286
S45A **Carrier Mills** 119.17 50 P **PKPdf** **12 16 52.3 -0.2**
baz=285
R45A **Skylar, Fairfi** 119.23 50 P **PKPdf** **12 16 52.5 -0.2**
baz=286
145A **Houston Renfro** 119.25 56 P **PKPdf** **12 16 52.6 -0.2**
baz=281
OLIL **Olney** 119.25 49 *e*PKPdf **PKPdf** **12 16 53.1 +0.4**
OXF **Oxford** 119.28 54 P **PKPdf** **12 16 52.5 -0.4**
baz=283
OXF **Oxford** 119.28 54 *e*PKPdf **PKPdf** **12 16 52.4 -0.4**
OXF **Oxford** 119.28 54 *e*PKIKP **PKPdf** **12 16 52.4 -0.4**
Z45A **Winona** 119.29 56 P **PKPdf** **12 16 52.6 -0.3**
baz=282
P45A **Graceland, Par** 119.30 48 P **PKPdf** **12 16 52.6 -0.2**
baz=287
X45A **UM Field Stati** 119.31 54 P **PKPdf** **12 16 52.7 -0.2**
baz=283
Y45A **Yeager Farm, C** 119.31 55 P **PKPdf** **12 16 52.4 -0.5**
baz=282
V45A **Humboldt** 119.35 53 P **PKPdf** **12 16 52.6 -0.4**
baz=284
STHS **Stebnicka Huta** 119.37 324 *e*PKP **PKPdf** **12 16 53.2 +0.6**
STHS **Stebnicka Huta** 119.37 324 *e*PKIKP **PKPdf** **12 16 53.2 +0.6**
245A **Little AP, Sta** 119.39 57 P **PKPdf** **12 16 52.6 -0.6**
baz=281
CRVS **Cervenica-Dubn** 119.47 323 *e*PKP **PKPdf** **12 16 53.5 +0.7**
CRVS **Cervenica-Dubn** 119.47 323 *e*PKIKP **PKPdf** **12 16 53.5 +0.7**
SFIN **Lafayette** 119.52 47 P **PKPdf** **12 16 53.1 -0.1**
baz=288
SFIN **Lafayette** 119.52 47 *e*PKPdf **PKPdf** **12 16 53.1 -0.1**
N46A **Monticello** 119.62 46 P **PKPdf** **12 16 53.2 -0.2**
baz=288
GLMI **Grayling** 119.74 42 PFAKE 12 17 10.0 +17
GLMI LR LR
comp=Z,605nm,20.0s
USIN **University of** 119.79 50 *e*PKPdf **PKPdf** **12 16 53.6 -0.1**
U46A **Springville** 119.82 52 P **PKPdf** **12 16 53.4 -0.4**
baz=285
OJC **Ojcow** 119.83 325 *e*PKP **PKPdf** **12 16 53.3 -0.2**
OJC **Ojcow** 119.83 325 *e*PKIKP **PKPdf** **12 16 53.3 -0.2**
S46A **Don Dixon Farm** 119.83 50 P **PKPdf** **12 16 53.2 -0.6**
baz=286
Y46A **Houston** 119.86 55 P **PKPdf** **12 16 53.7 -0.3**
baz=283
T46A **Princeton** 119.86 51 P **PKPdf** **12 16 53.7 -0.2**
baz=285
NIE **Niedzica** 119.92 324 *e*PKP **PKPdf** **12 16 54.1 +0.4**
NIE **Niedzica** 119.92 324 *e*PKIKP **PKPdf** **12 16 54.1 +0.4**
X46A **Booneville** 119.93 54 P **PKPdf** **12 16 53.7 -0.4**
baz=283
Z46A **Louisville** 119.94 56 P **PKPdf** **12 16 53.7 -0.5**
baz=282
146A **Union** 119.96 56 P **PKPdf** **12 16 53.9 -0.3**
baz=282
V46A **Holladay** 120.00 52 P **PKPdf** **12 16 53.2 -1.0**
baz=284
PLCA **Paso Flores** 120.10 146 PKP **PKPdf** **12 16 54.4 0.0**
comp=Z,12nm,0.9s,baz=203,slow=4.0,SNR=15
PLCA PKKPbc **PKKPbc** 12 27 04.4 +0.6
comp=Z,7.2nm,1.0s,baz=58,slow=4.7,SNR=9.9
WVT **Waverly** 120.15 52 P **PKPdf** **12 16 54.1 -0.4**
baz=285
O47A **Sheridan** 120.23 47 P **PKPdf** **12 16 54.4 -0.2**
baz=288
BLO **Bloomington** 120.30 48 *e*PKPdf **PKPdf** **12 16 54.6 -0.1**
BLO **Bloomington** 120.30 48 *e*PKIKP **PKPdf** **12 16 54.6 -0.1**
P47A **Martinsville** 120.40 48 P **PKPdf** **12 16 54.7 -0.2**
baz=288
Q47A **Bedord North L** 120.45 49 P **PKPdf** **12 16 54.6 -0.4**
baz=287
V47A **Nunnelly** 120.47 52 P **PKPdf** **12 16 54.1 -1.1**
baz=285
SIRR **Siria** 120.47 321 ⇑*i*P **PKPdf** **12 16 54.0 -0.9**
T47A **Sharon Grove** 120.48 51 P **PKPdf** **12 16 54.4 -0.7**
baz=286
U47A **Clarksville** 120.49 52 P **PKPdf** **12 16 54.3 -0.8**
baz=285
X47A **Russelville** 120.52 54 P **PKPdf** **12 16 54.2 -1.0**
baz=284
LANS **Liptovska Anna** 120.52 324 *e*PKP **PKPdf** **12 16 56.0 +1.1**
LANS **Liptovska Anna** 120.52 324 *e*PKIKP **PKPdf** **12 16 56.0 +1.1**
W47A **Westpoint** 120.55 53 P **PKPdf** **12 16 54.7 -0.6**
baz=284
R47A **Wooly Knot Far** 120.56 49 P **PKPdf** **12 16 55.0 -0.2**
baz=287
147A **Livingston** 120.60 56 P **PKPdf** **12 16 55.0 -0.4**
baz=282
347A **Saraland** 120.64 58 P **PKPdf** **12 16 54.9 -0.6**
baz=282
Z47A **Carrollton** 120.65 55 P **PKPdf** **12 16 55.2 -0.4**
baz=283
APG **El Apazote** 120.66 77 PKP **PKPdf** **12 16 56.1 -0.2**
comp=Z,12nm,1.0s,baz=333,slow=9.1,SNR=12
Y47A **UCPARC, Winfie** 120.67 55 P **PKPdf** **12 16 54.9 -0.6**
baz=284
WCI **Wyandotte Cave** 120.75 49 P **PKPdf** **12 16 55.2 -0.4**
baz=287
BZS **Buzias** 120.77 320 ⇑*i*P **PKPdf** **12 16 55.3 -0.1**
BZS **Buzias** 120.77 320 ⇑PKIKP **PKPdf** **12 16 55.3 -0.1**
PSZ **Piszkesteto** 120.84 323 ⇑*i*P **PKPdf** **12 16 55.3 -0.3**
PSZ **Piszkesteto** 120.84 323 ⇓*e*PKPdf **PKPdf** **12 16 55.7 +0.1**
PSZ **Piszkesteto** 120.84 323 *e*PKPdf **PKPdf** **12 16 55.2 -0.3**
PSZ LR LR
comp=Z,303nm,21.0s
PSZ **Piszkesteto** 120.84 323 ⇑PKIKP **PKPdf** **12 16 55.3 -0.3**
VTS **Vitosha** 120.88 316 ⇑*i*P **PKPdf** **12 16 55.7 -0.2**
VTS **Vitosha** 120.88 316 P **PKPdf** **12 16 52.5 -3.4**
VTS **Vitosha** 120.88 316 P **PKPdf** **12 16 52.5 -3.4**
VTS **Vitosha** 120.88 316 ⇑PKIKP **PKPdf** **12 16 55.7 -0.2**
OKC **Ostrava-Krasne** 120.94 326 *e*PKPdf **PKPdf** **12 16 55.8 +0.2**
OKC *ex* x 12 17 12.9
OKC AMS AMS 13 08 30.0
comp=Z,600nm,22.7s
OKC **Ostrava-Krasne** 120.94 326 *e*PKIKP **PKPdf** **12 16 55.8 +0.2**
OKC *e* 12 17 12.9
OKC MLR MLR
comp=Z,600nm,22.7s
APE **Apeiranthos** 120.96 309 ⇑*i*P **PKPdf** **12 16 54.3 -1.8**
APE **Apeiranthos** 120.96 309 ⇑PKIKP **PKPdf** **12 16 54.4 -1.7**
T48A **Bowling Green** 121.00 51 P **PKPdf** **12 16 55.5 -0.6**
baz=286
R48A **Northridge Ran** 121.02 49 P **PKPdf** **12 16 55.8 -0.3**
baz=288
Z48A **Northport** 121.03 55 P **PKPdf** **12 16 55.6 -0.7**
baz=283
V48A **Smith Brothers** 121.04 52 P **PKPdf** **12 16 55.6 -0.7**
baz=285
U48A **Cassie Pea, Po** 121.05 51 P **PKPdf** **12 16 55.8 -0.5**
baz=286
S48A **Wiedeman Farm,** 121.10 50 P **PKPdf** **12 16 56.0 -0.3**
baz=287
W48A **Pulaski** 121.11 53 P **PKPdf** **12 16 55.5 -0.9**
baz=285
248A **Dixon Mills** 121.17 57 P **PKPdf** **12 16 56.2 -0.4**
baz=282
148A **Greensboro** 121.19 56 P **PKPdf** **12 16 55.9 -0.7**
baz=283
X48A **Hartselle** 121.19 54 P **PKPdf** **12 16 55.8 -0.7**
baz=284
VYHS **Vyhne** 121.20 324 *e*PKP **PKPdf** **12 16 56.0 -0.2**
VYHS **Vyhne** 121.20 324 *e*PKIKP **PKPdf** **12 16 56.0 -0.2**

SANT Santorini 121.20 309 ⇑ iP PKPdf 12 16 55.2 -1.4
SANT Santorini 121.20 309 ePKPdf PKPdf 12 16 55.1 -1.5
SANT LR LR
comp=Z,126nm,19.0s
Y48A Jasper 121.22 54 P PKPdf 12 16 55.9 -0.7
baz=284
MORC Moravsky Berou 121.31 326 ⇑ iP PKPdf 12 16 56.6 +0.2
MORC Moravsky Berou 121.31 326 ePKPdf PKPdf 12 16 56.5 +0.2
MORC Moravsky Berou 121.31 326 ⇑PKIKP PKPdf 12 16 56.6 +0.2
AAM Ann Arbor 121.32 44 P PKPdf 12 16 56.3 -0.3
baz=292
AAM Ann Arbor 121.32 44 ePKPdf PKPdf 12 16 56.6 +0.1
AAM LR LR
comp=Z,579nm,21.0s
AAM Ann Arbor 121.32 44 ePKIKP PKPdf 12 16 56.6 +0.1
AAM MLR MLR
comp=Z,579nm,21.0s
KSP Ksiaz 121.45 327 ePKP PKPdf 12 16 56.7 +0.2
KSP Ksiaz 121.45 327 ePKIKP PKPdf 12 16 56.7 +0.2
LAST Lasithi 121.51 307 P PKPdf 12 16 55.8 -1.5
LAST Lasithi 121.51 307 P PKPdf 12 16 55.8 -1.5
LRAL Lakeview Retre 121.57 55 P PKPdf 12 16 56.7 -0.6
baz=284
LRAL Lakeview Retre 121.57 55 ePKPdf PKPdf 12 16 56.9 -0.5
KRLC Kraliky 121.58 326 ePKPdf PKPdf 12 16 57.1 +0.2
KRLC Kraliky 121.58 326 ePKIKP PKPdf 12 16 57.1 +0.2
TOBO Tobermory, Bru 121.59 40 P PKPdf 12 16 56.7 -0.3
baz=295
DPC Dobruska-Polom 121.69 327 ePKPdf PKPdf 12 16 57.4 +0.3
DPC ex x 12 17 14.3
DPC AMS AMS 13 10 20.0
comp=Z,600nm,19.6s
DPC Dobruska-Polom 121.69 327 ePKIKP PKPdf 12 16 57.4 +0.3
DPC e 12 17 14.3
DPC MLR MLR
comp=Z,600nm,19.6s
249A Camden 121.70 57 P PKPdf 12 16 57.1 -0.5
baz=283
X49A Woodville 121.75 53 P PKPdf 12 16 56.6 -1.0
baz=285
UPC Upice 121.78 327 ePKPdf PKPdf 12 16 57.6 +0.4
UPC ex x 12 17 14.3
UPC AMS AMS 13 10 50.0
comp=Z,700nm,18.0s
UPC Upice 121.78 327 ePKIKP PKPdf 12 16 57.6 +0.4
UPC e 12 17 14.3
UPC MLR MLR
comp=Z,700nm,18.0s
349A Repton 121.78 57 P PKPdf 12 16 57.3 -0.5
baz=282
VAY Valandovo 121.78 315 i P PKPdf 12 16 56.2 -1.2
SRO2 Moca 121.81 323 ePKP PKPdf 12 16 56.8 -0.5
SRO2 Moca 121.81 323 ePKIKP PKPdf 12 16 56.8 -0.5
SRO Srobarova 121.83 323 ePKP PKPdf 12 16 57.5 +0.1
SRO Srobarova 121.83 323 ePKIKP PKPdf 12 16 57.5 +0.1
149A Jones 121.84 56 P PKPdf 12 16 57.4 -0.4
baz=283
Y49A Blount Mountai 121.84 54 P PKPdf 12 16 57.4 -0.5
baz=284
Z49A Columbiana 121.91 55 P PKPdf 12 16 57.6 -0.4
baz=284
BRAL Brewton 121.94 57 P PKPdf 12 16 57.6 -0.4
baz=282
BRAL Brewton 121.94 57 PFAKE 12 17 10.0 +12
BRAL LR LR
comp=Z,526nm,21.0s
IDI Anoyia 121.94 308 PKP PKPdf 12 16 57.8 -0.3
comp=Z,55nm,0.9s,baz=144,slow=4.1,SNR=42
IDI SKP 12 20 32.9
comp=Z,3.6nm,0.8s,baz=149,slow=5.0,SNR=3.8
IDI PKKPbc PKKPbc 12 26 56.6 +0.1
comp=Z,14nm,1.0s,baz=279,slow=5.2,SNR=11
IDI Anoyia 121.94 308 ⇑ iP PKPdf 12 16 57.7 -0.3
BASO Ashfield 122.00 42 P PKPdf 12 16 57.6 -0.2
baz=294
BMRO Meriville Lake 122.05 41 P PKPdf 12 16 57.5 -0.4
baz=295
VRAC Vranov 122.08 326 ⇑ iP PKPdf 12 16 58.0 +0.1
VRAC Vranov 122.08 326 ⇑PKIKP PKPdf 12 16 58.0 +0.1
MODS Modra-Piesok 122.17 324 ePKP PKPdf 12 16 56.6 -1.4
MODS e 12 16 58.6
MODS Modra-Piesok 122.17 324 ePKIKP PKPdf 12 16 56.6 -1.4
SKO Skopje 122.33 316 i P PKPdf 12 16 58.4 -0.1
KLBO Killbear Provi 122.37 40 P PKPdf 12 16 58.1 -0.4
baz=296
MORH M¨ţr¨ţgy, Hung 122.38 322 ⇓ ePKPdf PKPdf 12 16 58.6 +0.1
Y50A Piedmont 122.38 54 P PKPdf 12 16 58.0 -0.8
baz=285
Z50A Ashland 122.39 55 P PKPdf 12 16 58.3 -0.7
baz=284
250A Grady 122.41 56 P PKPdf 12 16 58.4 -0.6
baz=283
150A Eclectic 122.47 56 P PKPdf 12 16 58.6 -0.5
baz=284
350A Dozier 122.48 57 P PKPdf 12 16 59.6 +0.4
baz=283
LRSO Larissa Observ 122.49 313 P PKPdf 12 16 55.3 -3.6
ACSO Alum Creek Sta 122.54 46 P PKPdf 12 16 58.7 -0.3
baz=291
ACSO Alum Creek Sta 122.54 46 ePKPdf PKPdf 12 16 58.7 -0.3
ACSO LR LR
comp=Z,359nm,20.0s
PVCC Panska Ves 122.54 328 ePKPdf PKPdf 12 16 59.1 +0.4
PVCC AMS AMS 13 11 30.0
comp=Z,600nm,22.6s
PVCC Panska Ves 122.54 328 ePKIKP PKPdf 12 16 59.1 +0.4
PVCC MLR MLR
comp=Z,600nm,22.6s
ELFO Elginfield 122.57 42 P PKPdf 12 16 58.6 -0.3
baz=294
BRG Berggiesshubel 122.68 328 i PKP PKPdf 12 16 58.9 0.0
comp=Z,28nm,0.9s
BRG i 12 17 06.8
comp=Z,18nm,1.0s
BRG i 12 17 16.1
comp=Z,18nm,0.9s
BRG ePKS PKSdf 12 20 33.5 -1.9
comp=Z,6.1nm,1.1s
comp=N,449nm,24.8s
comp=E,289nm,27.8s
comp=Z,262nm,17.5s
BRG Berggiesshubel 122.68 328 i PKIKP PKPdf 12 16 58.9 0.0
BRG i 12 17 06.8
BRG i 12 17 16.1
BRG pmax pmax
comp=Z,28nm,1.0s
BRG pmax pmax
comp=Z,18nm,1.0s
BRG pmax pmax
comp=Z,18nm,0.9s
BRG MLR MLR
comp=N,449nm,24.8s
BRG MLR MLR
comp=E,289nm,27.8s
BRG MLR MLR
comp=Z,262nm,17.5s
KRUS Krusevo 122.69 315 i P PKPdf 12 16 58.7 -0.6
TREC Trest 122.71 326 ePKPdf PKPdf 12 16 59.4 +0.3
TREC AMS AMS 13 11 20.0
comp=Z,800nm,22.7s
TREC Trest 122.71 326 ePKIKP PKPdf 12 16 59.4 +0.3
TREC MLR MLR
comp=Z,800nm,22.7s
AGG Agios Georgios 122.76 312 P PKPdf 12 16 57.4 -2.1
AGG Agios Georgios 122.76 312 P PKPdf 12 16 57.4 -2.1
AGG Agios Georgios 122.76 312 PKIKP PKPdf 12 16 57.4 -2.1
GOPC GÖ Pecny, Ondr 122.76 327 ePKPdf PKPdf 12 16 59.1 0.0
GOPC ex x 12 17 16.2
GOPC AMS AMS 13 11 20.0
comp=Z,600nm,20.8s
GOPC GO Pecny, Ondr 122.76 327 ePKIKP PKPdf 12 16 59.1 0.0
GOPC e 12 17 16.2
GOPC MLR MLR
comp=Z,600nm,20.8s
FNA Florina 122.82 315 P PKPdf 12 16 58.6 -1.0
FNA Florina 122.82 315 P PKPdf 12 16 58.6 -1.0
FNA Florina 122.82 315 PKIKP PKPdf 12 16 58.6 -1.0
PRU Pruhonice 122.85 327 ePKPdf PKPdf 12 16 59.4 +0.1
PRU ex x 12 17 15.8
PRU AMS AMS 13 12 00.0
comp=Z,600nm,21.7s
PRU Pruhonice 122.85 327 ePKIKP PKPdf 12 16 59.4 +0.1
PRU e 12 17 15.8
PRU MLR MLR
comp=Z,600nm,21.7s
PRA Prague 122.87 327 ePKPdf PKPdf 12 16 59.6 +0.3
PRA Prague 122.87 327 ePKIKP PKPdf 12 16 59.6 +0.3
CLL Collm 122.92 329 ⇑ iPKPdf PKPdf 12 16 58.9 -0.4
comp=Z,26nm,0.8s
CLL i 12 17 16.1
CLL e 12 40 54.0
CLL Collm 122.92 329 i (P) PKPdf 12 17 16.1 +17
comp=Z,17nm,0.9s
CLL LmV 16 23 00.0
comp=Z,200nm,19.1s
CLL Collm 122.92 329 i PKIKP PKPdf 12 16 58.9 -0.4
CLL pmax pmax
comp=Z,26nm,0.8s
CLL MLR MLR
comp=Z,700nm,22.4s
SOP Sopron 122.93 324 ⇓ ePKPdf PKPdf 12 16 59.6 +0.1
ANKY Antikythira Is 123.02 309 P PKPdf 12 16 59.3 -0.7
ANKY Antikythira Is 123.02 309 P PKPdf 12 16 59.3 -0.7
151A Opelika 123.05 56 P PKPdf 12 16 59.7 -0.5
baz=284
251A Midway 123.09 56 P PKPdf 12 16 59.8 -0.5
baz=284
KYTH Kithira 123.10 309 P PKPdf 12 16 58.5 -1.7
KYTH Kithira 123.10 309 P PKPdf 12 16 58.5 -1.7
OHR Ohrid 123.10 315 i P PKPdf 12 16 59.5 -0.6
GUR Goura 123.11 311 P PKPdf 12 16 58.6 -1.7
GUR Goura 123.11 311 P PKPdf 12 16 58.6 -1.7
ANX Ano Chora 123.20 312 P PKPpre 12 16 56.3
CONA Conrad Observa 123.21 324 ePKiKP PKPdf 12 17 00.1 -0.1
comp=Z,14nm,0.8s,SNR=8.4
KLV Kalavryta, Ach 123.22 311 P PKPdf 12 16 55.0 -5.4
ACTO Acton 123.22 41 P PKPdf 12 16 59.6 -0.6
baz=295
TZTN Tazewell 123.35 50 P PKPdf 12 17 00.4 -0.3
baz=288
TZTN Tazewell 123.35 50 ePKPdf PKPdf 12 17 00.8 +0.2
BEHE Becsehely 123.40 323 ⇓ ePKPdf PKPdf 12 17 00.8 +0.4
TKL Tuckaleechee C 123.44 51 PKP PKPdf 12 17 00.8 0.0
comp=Z,22nm,0.7s,baz=147,slow=8.6,SNR=24
TYNO Tyneside 123.57 42 P PKPdf 12 17 00.6 -0.3
baz=295
452A Marianna 123.57 57 P PKPdf 12 17 00.9 -0.3
baz=283
PDG Podgorica 123.64 317 ⇓ iP PKPdf 12 17 00.3 -0.7
352A Blakely 123.64 57 P PKPdf 12 17 00.7 -0.6
baz=284
TIR Tirane 123.66 316 ⇓ iP PKPdf 12 17 00.9 -0.2
TIR Tirane 123.66 316 PFAKE 12 17 10.0 +8.9
TIR LR LR
comp=Z,327nm,22.0s
TIR Tirane 123.66 316 ⇓PKIKP PKPdf 12 17 00.9 -0.2
252A Lumpkin 123.67 56 P PKPdf 12 17 00.9 -0.5
baz=284
KOGS Kog 123.73 323 i PKPdf PKPdf 12 17 00.4 -0.6
KOGS e 12 17 18.4
PDO Prodromos 123.74 312 P PKPpre 12 16 58.1
ARSA Arzberg 123.75 324 ePKPdf PKPdf 12 17 00.6 -0.5
comp=Z,8.2nm,0.9s,SNR=6.3
NKC Novy Kostel 123.83 328 ePKPdf PKPdf 12 17 01.3 +0.1
NKC ex x 12 17 18.1
NKC AMS AMS 13 10 10.0
comp=Z,500nm,18.1s
NKC Novy Kostel 123.83 328 ePKIKP PKPdf 12 17 01.3 +0.1
NKC e 12 17 18.1
NKC MLR MLR
comp=Z,500nm,18.1s
KHC Kasperske Hory 123.85 327 ePKPdf PKPdf 12 17 01.6 +0.3
KHC ex x 12 17 18.0
KHC AMS AMS 13 12 20.0
comp=Z,700nm,21.2s
KHC Kasperske Hory 123.85 327 ePKPdf PKPdf 12 17 01.3 0.0
KHC Kasperske Hory 123.85 327 ePKIKP PKPdf 12 17 01.3 0.0
ERPA Erie 123.90 43 P PKPdf 12 17 01.5 -0.1
baz=294
SCHQ Schefferville 123.92 24 PKP PKPdf 12 17 00.9 -0.3
comp=Z,4.8nm,0.6s,baz=360,slow=3.5,SNR=4.8
GERES GERESS Array B 123.94 326 PKP PKPdf 12 17 01.6 +0.1
comp=Z,15nm,0.7s,baz=61,slow=1.7,SNR=82
GERES SKP 12 20 37.1
comp=Z,1.0nm,0.7s,baz=48,slow=2.0,SNR=4.1
GERES PKKPbc PKKPab 12 26 47.0 -0.4
comp=Z,0.5nm,0.7s,baz=270,slow=1.3,SNR=3.7
BANO Bancroft 123.96 39 P PKPdf 12 17 01.3 -0.2
baz=298
BLY Banja Luka 123.97 321 ⇑ iP PKPdf 12 17 01.4 -0.2
DRWO Darlington Wes 123.98 41 P PKPdf 12 17 01.6 0.0
baz=297
LKD2 Lefkada island 124.06 313 P PKPdf 12 16 59.3 -2.7
LKD2 Lefkada island 124.06 313 P PKPdf 12 16 59.3 -2.7
MOA Molln 124.17 325 ePKPdf PKPdf 12 17 01.5 -0.4
comp=Z,8.3nm,0.8s
WLVO Wesleyville 124.17 40 P PKPdf 12 17 02.0 +0.1
baz=297
FSK Fiskardo 124.25 312 P PKPdf 12 16 59.7 -2.6
353A Camilla 124.26 57 P PKPdf 12 17 01.9 -0.6
baz=284
453A Whigham 124.29 57 P PKPdf 12 17 02.2 -0.4
baz=284
GOGA Godfrey 124.33 54 P PKPdf 12 17 02.3 -0.3
baz=286
GOGA Godfrey 124.33 54 PFAKE 12 17 10.0 +7.4
GOGA LR LR
comp=Z,377nm,21.0s
SOKA Soboth 124.34 324 ePKPdf PKPdf 12 17 01.7 -0.6
comp=Z,16nm,0.9s,SNR=8.8
N54A Moraine State 124.37 44 P PKPdf 12 17 02.4 -0.1
baz=294
M54A Oil Creek Stat 124.37 44 P PKPdf 12 17 02.4 -0.1
baz=294
DELO Deloro Mine 124.39 39 P PKPdf 12 17 01.8 -0.6
baz=298
MEDO Medina 124.47 41 P PKPdf 12 17 02.1 -0.5
baz=297
PLVO Plevna 124.48 39 P PKPdf 12 17 02.3 -0.2
baz=299
OBKA Obir 124.71 324 ePKPdf PKPdf 12 17 02.4 -0.7
comp=Z,9.3nm,0.8s
TIGA Tifton 124.75 56 P PKPdf 12 17 03.1 -0.4
baz=285
TIGA Tifton 124.75 56 ePKPdf PKPdf 12 17 03.9 +0.5
GRFO Grafenberg 124.79 328 ePKPdf PKPdf 12 17 03.0 +0.1
GRFO Grafenberg 124.79 328 ePKIKP PKPdf 12 17 03.1 +0.1
BOJS Bojanci 124.80 322 i PKPdf PKPdf 12 17 03.1 0.0
ROC1 El Roble 124.82 138 eP PKPdf 12 17 03.5 -0.4
154A Montrose 124.84 55 P PKPdf 12 17 03.3 -0.3
baz=286
254A Abbeville 124.87 56 P PKPdf 12 17 03.3 -0.4
baz=285
LJU Ljubljana 124.96 323 ePKPdf PKPdf 12 17 03.2 -0.3
MCWV Mont Chateau 124.99 46 P PKPdf 12 17 03.8 +0.1
baz=293
KBA Koelnbreinsper 125.11 325 ePKPdf PKPdf 12 17 03.0 -0.9
comp=Z,25nm,1.2s,SNR=8.6
MYKA Terra Mystica 125.18 324 ePKPdf PKPdf 12 17 03.2 -0.7
comp=Z,8.9nm,0.8s
155A Kite 125.36 55 P PKPdf 12 17 04.7 +0.1
baz=286
BLA Blacksburg 125.49 49 P PKPdf 12 17 04.9 +0.1
baz=291
BLA Blacksburg 125.49 49 ePKPdf PKPdf 12 17 04.8 0.0
BLA LR LR
comp=Z,794nm,20.0s
BLA Blacksburg 125.49 49 ePKIKP PKPdf 12 17 04.8 0.0
BLA MLR MLR
comp=Z,794nm,20.0s
KMSC Kings Mountain 125.50 51 P PKPdf 12 17 04.9 +0.1
baz=289
KMSC Kings Mountain 125.50 51 ePKPdf PKPdf 12 17 05.1 +0.3
ALFO Alfred 125.52 37 P PKPdf 12 17 04.4 -0.1
baz=301
O56A Blue Knob Stat 125.64 44 P PKPdf 12 17 05.0 0.0
baz=295
ABTA Abfaltersbach 125.77 325 i PKPdf PKPdf 12 17 04.4 -0.7
comp=Z,37nm,1.1s,SNR=13
SSPA Standing Stone 125.96 44 P PKPdf 12 17 05.5 0.0
baz=296
WATA Walderalm 125.97 326 ePKiKP PKPdf 12 17 05.3 -0.2
comp=Z,12nm,0.6s,SNR=11
WTTA Wattenberg 125.97 326 ePKiKP PKPdf 12 17 05.4 -0.2
comp=Z,26nm,0.8s,SNR=9.1
356A Blackshear 125.99 56 P PKPdf 12 17 05.9 0.0
baz=286
256A Glennville 126.01 55 P PKPdf 12 17 05.9 +0.1
baz=286
JTS JuntasAbangare 126.05 82 PKP PKPdf 12 17 06.1 -0.3
comp=Z,9.1nm,0.8s,baz=315,slow=2.5,SNR=7.7
JTS JuntasAbangare 126.05 82 ePKPdf PKPdf 12 17 06.2 -0.3
JTS LR LR
comp=Z,415nm,21.0s
TSUM Tsumeb 126.10 240 PKP PKPdf 12 17 06.2 -0.3
comp=Z,18nm,0.9s
MATE Matera 126.12 316 ⇑ iP PKPdf 12 17 05.4 -0.4
656A Willston 126.15 59 P PKPdf 12 17 06.1 -0.1
baz=284
AAGR Agrelo 126.18 140 eP PKPdf 12 17 06.8 +0.5
MOTA Moosalm 126.23 326 ePKiKP PKPdf 12 17 05.9 -0.2
comp=Z,41nm,0.9s,SNR=32
LONY Lake Ozonia 126.23 38 P PKPdf 12 17 05.8 -0.2
baz=301
LONY Lake Ozonia 126.23 38 ePKPdf PKPdf 12 17 05.5 -0.5
LONY LR LR
comp=Z,473nm,22.0s
RETA Reutte 126.33 326 ePKiKP PKPdf 12 17 05.9 -0.2
comp=Z,13nm,1.0s,SNR=6.8
AUSP Uspallata 126.36 139 eP PKPdf 12 17 07.8 +0.9
STU Stuttgart 126.40 328 ePKPdf PKPdf 12 17 06.3 +0.2
STU Stuttgart 126.40 328 ePKIKP PKPdf 12 17 06.3 +0.2
ASAL Salagasta 126.49 139 eP PKPdf 12 17 07.2 +0.3
BINY Binghamton 126.53 41 P PKPdf 12 17 06.8 +0.2
baz=298
BINY Binghamton 126.53 41 PFAKE 12 17 20.0 +13
BINY LR LR
comp=Z,884nm,22.0s
FETA Feichten 126.62 326 ePKiKP PKPdf 12 17 07.0 +0.2
comp=Z,38nm,1.0s,SNR=15
RTLS Leoncito 126.69 138 eP PKPdf 12 17 08.2 +0.6
TIP Timpagrande 126.71 315 ⇑ iP PKPdf 12 17 06.6 -0.5
TIP Timpagrande 126.71 315 ePKPdf PKPdf 12 17 07.2 +0.1
TIP LR LR
comp=Z,367nm,22.0s
MEM Membach 126.79 332 ⇑PKP PKPdf 12 17 06.7 -0.1
EKA Eskdalemuir Ar 126.88 341 PKP PKPdf 12 17 06.3 -0.5
comp=Z,13nm,0.7s,baz=18,slow=2.8,SNR=33
DAVA Damuels 126.94 327 ePKiKP PKPdf 12 17 07.2 -0.2
comp=Z,23nm,0.8s,SNR=11
CUC Castrocucco 127.02 316 PFAKE 12 17 20.0 +12
CUC LR LR
comp=Z,127nm,19.0s
NHSC New Hope 127.05 53 PFAKE 12 17 20.0 +12
NHSC LR LR
comp=Z,430nm,21.0s
BFO Black Forest 127.13 328 ePKPdf PKPdf 12 17 07.4 -0.1
BFO LR LR
comp=Z,485nm,22.0s
BFO Black Forest 127.13 328 i PKIKP PKPdf 12 17 07.8 +0.2
RTCV Cerro Valdivia 127.15 139 eP PKPdf 12 17 08.2 0.0
BCLA Clavier 127.25 332 ⇑PKP PKPdf 12 17 07.6 -0.1
ZON Zonda 127.26 138 eP PKPdf 12 17 08.6 +0.2
N59A State Game Lan 127.27 43 P PKPdf 12 17 08.1 0.0
baz=298
058A Arcadia 127.31 61 P PKPdf 12 17 08.5 0.0
baz=283
CBN Corbin Frederi 127.34 46 PFAKE 12 17 20.0 +12
CBN LR LR
comp=Z,535nm,21.0s
WLF Walferdange 127.36 331 ⇑PKP PKPdf 12 17 08.9 +0.9
WLF Walferdange 127.36 331 ePKPdf PKPdf 12 17 08.8 +0.9
WLF LR LR
comp=Z,988nm,20.0s
WLF Walferdange 127.36 331 ePKIKP PKPdf 12 17 08.8 +0.9
WLF MLR MLR
comp=Z,988nm,20.0s
LCO Las Campanas 127.42 135 eP PKPdf 12 17 09.4 +0.4
RTLL Cerro Villicun 127.53 138 eP PKPdf 12 17 09.2 +0.3
AQU L'Aquila 127.53 320 ePKPdf PKPdf 12 17 08.2 -0.3
AQU LR LR
comp=Z,307nm,22.0s
AQU L'Aquila 127.53 320 ePKIKP PKPdf 12 17 08.2 -0.3
AQU MLR MLR
comp=Z,307nm,22.0s
AROD Rodeo 127.58 137 ⇓ eP PKPdf 12 17 10.6 +1.1
SNF Seneffe 127.66 333 ⇓PKP PKPdf 12 17 08.8 +0.4
CEL Celeste 127.71 314 PFAKE 12 17 20.0 +11
CEL LR LR
comp=Z,334nm,21.0s
TUE Stuetta 127.71 326 ePKPdf PKPdf 12 17 09.1 +0.1
TUE LR LR
comp=Z,691nm,22.0s
ACAN Cantantal 127.75 140 eP PKPdf 12 17 09.4 +0.1
AMOG MOGNA 127.76 138 eP PKPdf 12 17 10.0 +0.6
DOU Dourbes 127.80 332 ⇑PKP PKPdf 12 17 08.8 +0.1
ACDV Cuesta del Vie 127.82 137 eP PKPdf 12 17 10.6 +1.0
LBNH Lisbon 128.04 37 P PKPdf 12 17 09.8 +0.4
baz=304
CNNC Cliffs of the 128.11 50 P PKPdf 12 17 10.1 +0.3
baz=292
CNNC Cliffs of the 128.11 50 PFAKE 12 17 20.0 +10
CNNC LR LR
comp=Z,846nm,22.0s
VLC Villacollemand 128.45 323 PFAKE 12 17 20.0 +10
VLC LR LR
comp=Z,698nm,20.0s
PAL Palisades 128.47 42 P PKPdf 12 17 10.4 +0.1
baz=299
MRA San Martin 128.58 141 eP PKPdf 12 17 11.1 +0.2
AGUA GUANDACOL 128.67 137 eP PKPdf 12 17 11.9 +0.6
PKME Peaks-Kenny Pk 128.99 35 PFAKE 12 17 20.0 +8.9
PKME LR LR
comp=Z,553nm,21.0s
VCA Vinchina 129.33 136 ⇓ eP PKPdf 12 17 13.8 +1.2
APLL PUNTA DE LOS L 129.41 139 eP PKPdf 12 17 12.6 0.0
CLTB Caltabellotta 129.91 314 PFAKE 12 17 30.0 +17
CLTB LR LR
comp=Z,141nm,20.0s
TCA Tanti 130.01 141 eP PKPdf 12 17 14.2 +0.4
BNI Bardonecchia 130.06 326 ePKPdf PKPdf 12 17 14.3 +0.9
BNI LR LR
comp=Z,694nm,20.0s
BNI Bardonecchia 130.06 326 ePKIKP PKPdf 12 17 14.3 +0.9
BNI MLR MLR
comp=Z,694nm,20.0s
PB14 IPOC Station P 130.14 130 eP PKPdf 12 17 15.2 +0.8
NNA Nana 130.26 112 ePKPdf PKPdf 12 17 15.1 +0.6
NNA Nana 130.26 112 ePKIKP PKPdf 12 17 15.1 +0.6
PB10 IPOC Station P 130.62 129 eP PKPdf 12 17 16.1 +1.2
BCIP Isla Barro Col 131.07 84 ePKPdf PKPdf 12 17 15.6 -0.4
BCIP LR LR
comp=Z,266nm,21.0s
SSB Saint Sauveur 131.08 327 PFAKE 12 17 30.0 +15
SSB LR LR
comp=Z,493nm,22.0s
CYA Choya 131.16 137 eP PKPdf 12 17 15.9 0.0
VSL Villasalto 131.61 318 PFAKE 12 17 30.0 +14
VSL LR LR
comp=Z,275nm,20.0s
OTAV Otavalo 131.70 96 eP PKPdf 12 17 19.9 +2.1
AHML Horco Molle 132.53 136 eP PKPdf 12 17 19.5 +0.9
MTDJ Mount Denham 132.79 71 PFAKE 12 17 30.0 +11
MTDJ LR LR
comp=Z,181nm,22.0s
GCUF Volcan Galeras 132.94 95 eP PKPdf 12 17 21.3 +1.1
CRUC La Cruz 133.37 94 eP PKPdf 12 17 22.0 +1.2
KEST Kesra 133.52 314 PKP PKPdf 12 17 21.7 +1.5
comp=Z,19nm,0.9s,baz=317,slow=4.4,SNR=12
KEST SKP 12 20 47.1
comp=Z,23nm,1.0s,baz=264,slow=4.6,SNR=6.7
POPC Popayan, Colom 133.77 93 eP PKPdf 12 17 21.3 -0.1
SOTA Rioblanco 133.79 94 eP PKPdf 12 17 20.6 -1.2
PCON Cinco Dias 134.02 93 eP PKPdf 12 17 21.3 -1.1
YOTC Yotoco, Valle 134.25 91 eP PKPdf 12 17 21.3 -0.9
AZAP Zapla 134.32 134 ⇓ eP PKPdf 12 17 22.3 0.0
PLMC San Jos¨ del 134.40 90 eP PKPdf 12 17 23.9 +1.5
CMAH Djebel Manchou 134.43 316 P PKPdf 12 17 22.8 +1.0
ABSA Djebel Ababsia 134.57 316 P PKPdf 12 17 19.5 -2.6
FLOC Florencia 134.66 94 eP PKPdf 12 17 21.9 -0.9
HJA Humahuaca 134.69 132 ⇓ eP PKPdf 12 17 24.6 +1.5
CAEH `Ain El Ouahch 134.73 317 P PKPdf 12 17 23.6 +1.3
GTBY Guantanamo Bay 134.78 69 PFAKE 12 17 30.0 +7.2
GTBY LR LR
comp=Z,159nm,19.0s
CKFL Kef-Lekhel 135.02 316 P PKPdf 12 17 23.7 +0.7
MOTC Monteria, Cord 135.19 84 eP PKPdf 12 17 22.6 -1.2
YJA Yavi 135.22 131 ⇓ eP PKPdf 12 17 25.6 +1.4
HELC Santa Helena 135.23 88 eP PKPdf 12 17 23.9 -0.4
ANIL Santa Ana 135.23 90 eP PKPpre 12 17 19.9
GUYC Guyana, Colomb 135.31 89 eP PKPdf 12 17 24.6 0.0
RREF El Recreo 135.32 90 eP PKPdf 12 17 24.6 -0.2
TOLC Tolima 135.32 90 eP PKPdf 12 17 24.6 +0.1
ALOL LOMAS DE OLMED 135.35 134 eP PKPdf 12 17 25.0 +1.1
DFRA Djebel Bou Aff 135.52 317 P PKPdf 12 17 25.3 +1.4

NORC	**Norcasia**	**135.85**	**89**	*e*P	**PKPdf**	**12 17 23.1**	**-2.0**
ZARC	**Zaragoza, Cauc**	**135.96**	**86**	*e*P	**PKPdf**	**12 17 18.0**	**-7.2**
LPAZ	**La Paz**	**136.26**	**122**	PKhKP	PKPpre	12 17 13.8	
	comp=Z,5.4nm,0.9s,baz=58,slow=0.6,SNR=12						
LPAZ				PKP	**PKPdf**	**12 17 27.2**	**+0.8**
	comp=Z,25nm,0.9s,baz=17,slow=4.3,SNR=27						
LPAZ				SKP		12 20 58.5	
	comp=Z,8.9nm,1.0s,baz=161,slow=23,SNR=7.1						
ROSC	**El Rosal**	**136.34**	**90**	PKhKP	PKPpre	12 17 20.1	
	comp=Z,5.0nm,0.5s,baz=175,slow=5.1,SNR=4.2						
ROSC				PKP	**PKPdf**	**12 17 27.0**	**+0.6**
	comp=Z,30nm,0.8s,baz=167,slow=5.3,SNR=14						
ROSC	**El Rosal**	**136.34**	**90**	*e*P	**PKPdf**	**12 17 26.9**	**+0.5**
SJAC	**San Juan de Ar**	**136.56**	**92**	*e*P	PKPpre	12 17 15.7	
CHIC	**Chingaza**	**136.91**	**90**	*e*P	PKPpre	12 17 23.9	
BRRC	**Barranca, Sant**	**137.08**	**87**	*e*P	PKPpre	12 17 23.3	
CODC	**Agust^›n Codaz**	**137.38**	**83**	*e*P	PKPpre	12 17 21.9	
OCAC	**Ocana**	**137.50**	**85**	*e*P	**PKPdf**	**12 17 29.9**	**+1.7**
CPUP	**Villa Florida**	**138.03**	**143**	PKhKP	PKPpre	12 17 17.2	
	comp=Z,2.1nm,0.7s,baz=27,slow=14,SNR=2.8						
CPUP				PKP	**PKPdf**	**12 17 29.1**	**+0.4**
	comp=Z,22nm,0.8s,baz=258,slow=1.8,SNR=18						
GRTK	**Grand Turk**	**138.08**	**65**	PFAKE		12 17 40.0	+11
GRTK				LR	LR		
	comp=Z,331nm,20.0s						
PAMC	**Pamplona, Colo**	**138.09**	**87**	*e*P	PKPpre	12 17 23.3	
SDDR	**Presa de Saban**	**138.50**	**69**	*e*PKPdf	**PKPdf**	**12 17 29.6**	**-0.2**
SDDR				LR	LR		
	comp=Z,324nm,20.0s						
URIC	**Uribia, Colomb**	**138.75**	**80**	*e*P	**PKPdf**	**12 17 29.9**	**-0.4**
PBRG	**Braganca**	**139.23**	**333**	*e*PKPdf	**PKPdf**	**12 17 32.4**	**+1.9**
ESDC	**Sonseca Array**	**139.49**	**328**	PKhKP	PKPpre	12 17 21.1	
	comp=Z,3.1nm,0.8s,baz=29,slow=2.8,SNR=16						
ESDC				PKP	**PKPdf**	**12 17 31.2**	**+0.2**
	comp=Z,2.6nm,0.8s,baz=37,slow=2.6,SNR=5.2						
ESDC				SKP		12 21 04.0	
	comp=Z,5.8nm,1.2s,baz=5.6,slow=3.7,SNR=6.1						
PGAV	**Gavieira, Arco**	**139.79**	**334**	*e*PKPdf	**PKPdf**	**12 17 32.4**	**+0.8**
MVO	**Moncorvo**	**139.87**	**332**	*e*PKPdf	**PKPdf**	**12 17 32.1**	**+0.4**
PCAB	**Cabril**	**139.89**	**334**	*e*PKPdf	**PKPdf**	**12 17 32.5**	**+0.8**
POLO	**Lamas de Olo**	**140.05**	**333**	*e*PKPdf	**PKPdf**	**12 17 33.1**	**+1.0**
PVRL	**Vila Real**	**140.10**	**333**	*e*PKPdf	**PKPdf**	**12 17 33.1**	**+1.0**
SDV	**Santo Domingo**	**140.16**	**84**	*e*P	**PKPdf**	**12 17 31.1**	**-2.0**
PVIS	**Viseu**	**140.63**	**333**	*e*PKPdf	PKPpre	12 17 26.3	
MTE	**Manteigas**	**140.72**	**332**	*e*PKPdf	**PKPdf**	**12 17 34.3**	**+1.0**
MTE	**Manteigas**	**140.72**	**332**	*e*PKPpre	PKPpre	12 17 27.1	
MTE				*e*PKPdf	**PKPdf**	**12 17 33.6**	**+0.4**
MTE				*e*PP	**PP**	**12 20 26.1**	**-6.3**
MTE				LR	LR		
	comp=Z,499nm,20.0s						
PCBR	**Castelo Branco**	**141.12**	**331**	*e*PKPdf	**PKPdf**	**12 17 34.5**	**+0.6**
PMRV	**Marv??o**	**141.41**	**331**	*e*PKPdf	**PKPdf**	**12 17 35.3**	**+0.8**
PCAS	**Casmilo, Conde**	**141.43**	**333**	*e*PKPdf	**PKPdf**	**12 17 35.2**	**+0.7**
PTOM	**Tomar**	**141.74**	**332**	*e*PKPdf	PKPpre	12 17 29.9	
TAM	**Tamanrasset**	**141.87**	**299**	*e*PKPdf	PKPpre	12 17 31.7	
TAM				LR	LR		
	comp=Z,212nm,20.0s						
TAM	**Tamanrasset**	**141.87**	**299**	*e*PKIKP	PKPpre	12 17 31.7	
TAM				MLR	MLR		
	comp=Z,212nm,20.0s						
PESTR	**Estremoz**	**141.94**	**331**	*e*PKPdf	PKPpre	12 17 29.7	
PMTG	**Montargil**	**142.09**	**331**	*e*PKPdf	PKPpre	12 17 30.7	
SIV	**San Ignacio**	**142.20**	**127**	PKhKP	PKPpre	12 17 30.8	
	comp=Z,12nm,0.7s,baz=247,slow=3.4,SNR=42						
PBAR	**Barrancos**	**142.20**	**329**	*e*PKPdf	PKPpre	12 17 31.3	
EVO	**Evora**	**142.41**	**331**	*e*PKPdf	PKPpre	12 17 32.0	
PMAFR	**Mafra**	**142.68**	**332**	*e*PKPdf	PKPpre	12 17 33.1	
PBEJ	**Beja**	**142.73**	**330**	*e*PKPdf	PKPpre	12 17 33.3	
PNCL	**Nicolau / Gran**	**142.99**	**331**	*e*PKPdf	PKPpre	12 17 34.2	
MESJ	**Messejana**	**143.05**	**330**	*e*PKPdf	PKPbc	12 17 34.5	+0.3
MESJ				AMS	AMS	13 24 08.1	
	comp=Z,199nm,16.7s						
MESJ	**Messejana**	**143.05**	**330**	*e*PKPdf	PKPbc	12 17 34.5	+0.2
MESJ	**Messejana**	**143.05**	**330**	*e*PKIKP	PKPbc	12 17 34.5	+0.2
PCVE	**Castro Verde**	**143.12**	**330**	*e*PKPdf	PKPbc	12 17 34.5	0.0
PVAQ	**Vaqueiros**	**143.13**	**329**	*e*PKPdf	PKPbc	12 17 34.6	+0.1
PBDV	**Barranco-do-Ve**	**143.37**	**329**	*e*PKPdf	**PKPdf**	**12 17 38.9**	**+0.8**
SJG	**San Juan**	**143.45**	**69**	*e*P	PKPab	12 17 29.1	-5.8
PTEO	**Sao Teotonio**	**143.53**	**330**	*e*PKPdf	PKPbc	12 17 36.0	+0.4
MORF	**Marmelete**	**143.68**	**330**	*e*PKPdf	PKPbc	12 17 36.1	0.0
MORF				AMS	AMS	13 22 31.2	
	comp=N,282nm,30.0s						
MORF	**Marmelete**	**143.68**	**330**	*e*PKPdf	PKPbc	12 17 36.5	+0.4
MORF	**Marmelete**	**143.68**	**330**	*e*PKIKP	PKPbc	12 17 36.1	0.0
SAML	**Samuel**	**143.85**	**115**	PFAKE		12 17 50.0	+10
SAML				LR	LR		
	comp=Z,237nm,22.0s						
PFVI	**Vila Bisbo**	**143.90**	**330**	*e*PKPdf	PKPbc	12 17 37.4	+0.7
SPB	**Sao Paulo**	**145.58**	**152**	*e*PKPbc	**PKPab**	**12 17 42.6**	**-0.1**
SPB				LR	LR		
	comp=Z,525nm,19.0s						
PCRV	**Puerto La Cruz**	**146.04**	**82**	PKPbc	**PKPdf**	**12 17 43.4**	**0.0**
	comp=Z,56nm,0.7s,baz=226,slow=4.2,SNR=32						
SMRT	**St. Maarten**	**146.30**	**68**	*e*P	**PKPdf**	**12 17 43.3**	**-0.3**
SHEL	**Horse Pasture**	**146.71**	**227**	*e*PKPbc	**PKPbc**	**12 17 45.8**	**-0.3**
SHEL	**Horse Pasture**	**146.71**	**227**	*i* PKP2	**PKPab**	**12 17 49.3**	**+2.1**
NEV	**Hard Times**	**146.99**	**69**	*e*P	**PKPbc**	**12 17 46.9**	**0.0**
NEV	**Hard Times**	**146.99**	**69**	*e*P	**PKPbc**	**12 17 47.0**	**+0.2**
MLYT	**Lee's Yard**	**147.45**	**69**	*e*P	**PKPdf**	**12 17 45.2**	**-0.3**
H07S1	**FLORES T-PHASE**	**147.51**	**1**	*e*PKP	**PKPbc**	**12 17 47.1**	**-0.6**
ANWB	**Willy Bob**	**147.58**	**68**	*e*PKPbc	**PKPbc**	**12 17 48.5**	**+0.1**
ANWB				LR	LR		
	comp=Z,312nm,22.0s						
ANWB	**Willy Bob**	**147.58**	**68**	*e*P	**PKPbc**	**12 17 47.7**	**-0.7**
BPA	**Boggy Peak**	**147.68**	**69**	*e*P	**PKPdf**	**12 17 45.3**	**-0.7**
TORD	**Torodi Ar. Bea**	**147.72**	**284**	PKP	**PKPdf**	**12 17 45.1**	**-0.9**
	comp=Z,154nm,0.7s,baz=15,slow=1.0,SNR=165						
TORD				PKPbc	**PKPbc**	**12 17 49.5**	**+0.6**
	comp=Z,158nm,0.7s,baz=48,slow=2.8,SNR=361						
TORD				SKP		12 21 15.8	
	comp=Z,4.2nm,0.9s,baz=67,slow=3.7,SNR=3.3						
PGRA	**Graciosa**	**147.79**	**356**	*e*PKP	**PKPdf**	**12 17 44.7**	**-0.8**
ADH	**Angra Heroismo**	**148.11**	**355**	*e*PKP	**PKPdf**	**12 17 45.5**	**-0.5**
TBG	**Guadaloupe-3**	**148.16**	**71**	*e*P	**PKPdf**	**12 17 47.4**	**+0.7**
PICO	**Pico**	**148.34**	**357**	*e*PKP	**PKPdf**	**12 17 46.3**	**-0.3**
BBL	**Barber's Block**	**148.39**	**71**	*e*P	**PKPdf**	**12 17 47.2**	**0.0**
MDPO	**Dominica; Chan**	**148.40**	**71**	*e*P	**PKPbc**	**12 17 49.1**	**-1.5**
MDMP	**Dominica, Moor**	**148.43**	**71**	*e*P	**PKPdf**	**12 17 45.7**	**-1.5**
MDVC	**Dominica, Viel**	**148.44**	**71**	*e*P	**PKPdf**	**12 17 44.3**	**-2.9**
MGG	**Marie-Galante**	**148.45**	**71**	*e*P	**PKPdf**	**12 17 48.0**	**+0.8**
DEG	**La Desirade**	**148.60**	**70**	*e*P	**PKPdf**	**12 17 47.8**	**+0.2**
BART	**Pico Bartolome**	**148.75**	**352**	*e*PKP	**PKPdf**	**12 17 48.7**	**+1.4**
PSET	**Sete Cidades**	**148.78**	**353**	*e*PKP	**PKPdf**	**12 17 45.6**	**-1.6**
PCM	**Pelee Case Pet**	**148.79**	**73**	*e*P	**PKPdf**	**12 17 48.4**	**+0.6**
GRGR	**Grenville**	**148.79**	**78**	*e*PKPbc	**PKPbc**	**12 17 50.2**	**-1.5**
GRGR				*e*PKPab	**PKPab**	**12 17 56.0**	**+0.4**
GRGR				LR	LR		
	comp=Z,360nm,22.0s						
GRGR	**Grenville**	**148.79**	**78**	*e*P	**PKPdf**	**12 17 44.5**	**-3.3**
GRON	**Grota Negra**	**148.81**	**352**	*e*PKP	**PKPdf**	**12 17 48.8**	**+1.5**
CMLA	**Cha da Macela**	**148.81**	**352**	*e*PKP	**PKPdf**	**12 17 48.5**	**+1.2**
CXM	**Morne La Croix**	**148.83**	**73**	*e*P	**PKPbc**	**12 17 52.6**	**+0.7**
BAMF	**Morne Balai**	**148.85**	**73**	*e*P	**PKPbc**	**12 17 52.5**	**+0.6**
FDF	**Fort de France**	**148.86**	**73**	*e*PKPdf	**PKPdf**	**12 17 48.7**	**+0.7**
FDF				*e*PKPbc	**PKPbc**	**12 17 52.5**	**+0.6**
FDF	**Fort de France**	**148.86**	**73**	*e*P	**PKPbc**	**12 17 51.5**	**-0.5**
FDF	**Fort de France**	**148.86**	**73**	*e*P	**PKPbc**	**12 17 52.1**	**+0.2**
FDF	**Fort de France**	**148.86**	**73**	*e*PKIKP	**PKPdf**	**12 17 48.7**	**+0.7**
FDF				*e*		12 17 52.5	
BIM	**Bigot**	**148.98**	**73**	*e*P	**PKPbc**	**12 17 52.3**	**+0.1**
TRMF	**Trois Ilets**	**148.99**	**73**	*e*P	**PKPbc**	**12 17 52.2**	**0.0**
ZAM	**Aeronautique**	**149.01**	**73**	*e*P	**PKPdf**	**12 17 49.2**	**+1.1**
SVB	**Belmont**	**149.02**	**76**	*e*P	**PKPbc**	**12 17 51.1**	**-1.2**
SVV	**Soufriere Volc**	**149.05**	**75**	*e*P	**PKPbc**	**12 17 52.0**	**-0.4**
LPMF	**Morne Lapointe**	**149.07**	**73**	*e*P	**PKPdf**	**12 17 50.1**	**+1.9**
SSV	**Crater Summit**	**149.07**	**75**	*e*P	**PKPdf**	**12 17 48.1**	**-0.3**
SVCV	**St. Vincent, C**	**149.12**	**75**	*e*P	**PKPbc**	**12 17 51.0**	**-1.5**
SLB	**Belfond**	**149.13**	**74**	*e*P	**PKPbc**	**12 17 52.6**	**0.0**
TRN	**Trinidad (W)**	**149.19**	**81**	*e*P	**PKPbc**	**12 17 53.9**	**+1.2**
MCLT	**Moule a Chique**	**149.25**	**75**	*e*P	**PKPdf**	**12 17 47.2**	**-1.3**
PSMN	**Pico do Norte,**	**149.49**	**351**	*e*PKP	**PKPdf**	**12 17 49.4**	**+1.0**
TBH	**Brigand Hill**	**149.53**	**81**	*e*P	**PKPdf**	**12 17 50.8**	**+1.8**
TOSP	**Speyside**	**149.97**	**79**	*e*P	**PKPbc**	**12 17 55.4**	**+0.7**
BBGH	**Gun Hill**	**150.67**	**75**	*e*P	**PKPdf**	**12 17 52.0**	**+1.2**
KOWA	**Kowa**	**152.91**	**289**	PKP	**PKPdf**	**12 17 53.9**	**-0.3**
	comp=Z,14nm,1.1s,baz=91,slow=2.6,SNR=11						
KOWA				PKPbc	**PKPbc**	**12 18 01.4**	**0.0**
	comp=Z,88nm,0.8s,baz=65,slow=2.0,SNR=71						
KIC	**Kosan Boka**	**154.44**	**271**	*e*PKIKP	**PKPdf**	**12 17 55.8**	**-0.6**
	comp=Z,154nm,0.9s						
DBIC	**Dimbokro**	**154.57**	**271**	PKP	**PKPdf**	**12 17 56.5**	**-0.1**
	comp=Z,10nm,1.0s,baz=295,slow=1.4,SNR=7.3						
DBIC				PKPbc	**PKiKP**	**12 18 05.1**	**0.0**
	comp=Z,40nm,0.8s,baz=98,slow=2.8,SNR=27						
DBIC				PKPab	**PKPab**	**12 18 20.2**	**+0.5**
	comp=Z,46nm,0.8s,baz=89,slow=4.9,SNR=14						
LIC	**Lamto**	**154.72**	**270**	*e*PKIKP	**PKPdf**	**12 17 56.0**	**-0.8**
	comp=Z,176nm,1.0s						
TIC	**Toumodi**	**154.73**	**271**	*e*PKIKP	**PKPdf**	**12 17 56.1**	**-0.7**
ASCN	**Ascension**	**158.30**	**228**	PFAKE		12 18 10.0	+8.5
ASCN				LR	LR		
	comp=Z,574nm,22.0s						
BBTS	**Babate**	**164.22**	**301**	PKP	**PKPdf**	**12 18 07.3**	**-0.3**
	comp=Z,75nm,1.0s,baz=92,slow=1.3,SNR=7.3						
SACV	**Santiago Islan**	**169.42**	**321**	PFAKE		12 18 20.0	+8.4
SACV				LR	LR		
	comp=Z,148nm,21.0s						

*IDC **07** 12:06:07.4±4.8, 24°.69N×126°.36E, h0km, mb3.9/5, mb1 3.9/6, mb1mx3.6/64, mbtmp3.9/6, ML3.1/1, MS4.2/4, Ms1 4.2/4, ms1mx3.2/65, Error ellipse: s-maj=102.1km s-min=33.8km az=173.0*

*JMA **07** 12:06:17.0±0.1, 25°.49N×126°.40E, h69km±4km, M3.4*

ISC 07 12:06:16.8±1.3**, 25°.5N**±0°.1×**126°.40E**±0°.08**, h27**km±12km**, n26, σ0.88**/30**, mb3.8**/5**, MS4.2**/4**, Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKE	**Kume jima 2**	**0.92**	**22**	P	**Pn**	**12 06 34.3**	**+0.5**
JKE				S	**Sn**	**12 06 47.1**	**+1.0**
JOGS	**Gusukube**	**1.15**	**232**	P	**Pb**	**12 06 37.7**	**-0.3**
JIKM	**Ikemajima**	**1.18**	**243**	P	**Pb**	**12 06 37.8**	**-0.7**
JIKM				S	**Sn**	**12 06 54.0**	**+1.3**
JMJ	**Miyako jima 2**	**1.20**	**237**	P	**Pb**	**12 06 38.3**	**-0.6**
JMJ				*e*S	**Sb**	**12 06 54.9**	**+0.9**
JIRB	**Irabujima**	**1.29**	**240**	P	**Pn**	**12 06 39.3**	**+0.4**
JIRB				S	**Sb**	**12 06 56.9**	**+0.4**
JAGN	**Aguni-jima**	**1.34**	**34**	P	**Pb**	**12 06 40.6**	**-0.7**
JJT3	**Tamagusuku3**	**1.41**	**62**	P	**Pn**	**12 06 40.7**	**+0.1**
JJT3				*e*S	**Sn**	**12 06 59.0**	**+0.6**
JTJ	**Tarama**	**1.75**	**242**	P	**Pn**	**12 06 45.2**	**-0.1**
JTJ				*e*S	**Sn**	**12 07 06.6**	**-0.2**
JNTH	**Nagotoyohara**	**1.79**	**54**	P	**Pn**	**12 06 45.9**	**+0.1**
JIH	**Iheya**	**2.09**	**42**	P	**Pn**	**12 06 50.8**	**+0.8**
JISG	**Ishigakijimahi**	**2.09**	**245**	P	**Pn**	**12 06 50.3**	**+0.3**
JISG				S	**Sn**	**12 07 16.2**	**+1.0**
JOW	**Kunigami**	**2.16**	**51**	Pn	**Pn**	**12 06 52.3**	**+1.4**
	5.4nm,0.3s,baz=119,slow=24,SNR=18						
JOW				Sn	**Sb**	**12 07 21.4**	**-0.1**
	19nm,0.3s,baz=135,slow=24,SNR=6.4						
JOW	**Kunigami**	**2.16**	**51**	P	**Pn**	**12 06 52.3**	**+1.4**
JIJ	**Ishigaki jima**	**2.33**	**242**	P	**Pn**	**12 06 53.9**	**+0.6**
JKRS	**Kuro-shima**	**2.50**	**241**	P	**Pn**	**12 06 56.2**	**+0.6**
IRIF	**Iriomote-Funau**	**2.68**	**246**	P	**Pn**	**12 06 58.8**	**+0.7**
JOKE	**Okinoerabujima**	**2.70**	**45**	P	**Pn**	**12 06 59.3**	**+0.9**
SONM	**Songino Array**	**27.34**	**330**	P	**P**	**12 12 00.9**	**+1.4**
	0.8nm,0.5s,baz=154,slow=9.8,SNR=4.4						
MKAR	**Makanchi Array**	**40.83**	**313**	P	**P**	**12 13 54.7**	**-1.3**
	0.8nm,0.4s,baz=93,slow=8.5,SNR=8.3						
ZALV	**Zalesovo Beam**	**41.87**	**324**	P	**P**	**12 14 03.2**	**-1.2**
	0.8nm,0.3s,baz=113,slow=6.6,SNR=3.5						
KURBB	**Kurchatov Arra**	**44.28**	**317**	P	**P**	**12 14 22.8**	**-1.2**
	0.4nm,0.3s,baz=103,slow=6.9,SNR=2.5						
PALK	**Pallekele**	**47.15**	**256**	LR	LR	12 34 35.7	
	comp=Z,105nm,21.4s,baz=116,slow=36						
INK	**Inuvik**	**70.23**	**23**	LR	LR	12 51 02.4	
	comp=Z,572nm,20.2s,baz=313,slow=38						
YKA	**Yellowknife Ar**	**79.89**	**24**	P	**P**	**12 18 22.1**	**-0.6**
	0.7nm,0.8s,baz=298,slow=5.6,SNR=6.0						
KMBO	**Kilima Mbogo**	**89.71**	**269**	LR	LR	13 01 40.9	
	comp=Z,32nm,18.1s,baz=94,slow=37						
SCHQ	**Schefferville**	**99.22**	**8**	LR	LR	13 08 07.4	
	comp=Z,258nm,21.6s,baz=308,slow=37						

*GUC **07** 12:10:26.7±0.6, 29°.84S×71°.58W, h58km±11km, ML3.5*

*SJA **07** 12:10:32.4±0.7, 29°.97S×71°.15W, h10km±10km, ML3.0, MW3.2*

ISC 07 12:10:25.6±2.4**, 29°.67S**±0°.05×**71°.6W**±0°.1**, h4**km±14km**, n18, σ1.90**/23**, 1C-2D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TLL	**Tololo Astrono**	**0.82**	**127**	⇓*i*P	**Pg**	**12 10 42.0**	**+0.5**
TLL				*i* S	**Sb**	**12 10 52.8**	**-1.5**
TLL				IAML		12 10 55.7	
	comp=N,2μm,0.4s						
GO04	**Tololo Observa**	**0.83**	**127**	⇓*i*P	**Pg**	**12 10 42.1**	**+0.5**
GO04				*i* S	**Sb**	**12 10 53.0**	**-1.5**
GO04				IAML		12 10 55.2	
	comp=E,7μm,0.3s						
LCO	**Las Campanas**	**1.00**	**49**	⇑*i*P	**Pn**	**12 10 47.4**	**+0.7**
LCO				*i* S	**Sn**	**12 11 02.5**	**+1.2**
LCO				IAML		12 11 04.9	
	comp=E,1μm,0.3s						
AROD	**Rodeo**	**1.88**	**106**	*e*P	**Pg**	**12 11 00.7**	**-1.0**
AROD				*e*S	**Sn**	**12 11 21.4**	**-1.9**
ACDV	**Cuesta del Vie**	**2.18**	**104**	*e*P	**Pb**	**12 11 05.8**	**+0.1**
GO03	**Copiap**	**2.37**	**30**	*e*P	**Pn**	**12 11 06.9**	**+1.5**
GO03				*i* S	**Sb**	**12 11 37.5**	**-1.1**
GO03				IAML		12 11 51.3	
	comp=N,123nm,0.3s						
AGUA	**GUANDACOL**	**2.68**	**87**	*e*P	**Pb**	**12 11 13.6**	**-0.7**
RTLS	**Leoncito**	**2.88**	**138**	*e*P	**Pn**	**12 11 15.0**	**+2.4**
RTLS				IAML		12 12 07.4	
	comp=Z,45nm,0.4s						
AMOG	**MOGNA**	**2.94**	**116**	*e*P	**Pn**	**12 11 15.9**	**+2.7**
VCA	**Vinchina**	**3.08**	**73**	*e*P	**Pb**	**12 11 20.3**	**-0.8**
VCA				IAML		12 11 25.0	
	comp=Z,78nm,0.3s						
ZON	**Zonda**	**3.11**	**128**	*e*P	**Pn**	**12 11 17.3**	**+1.8**
AUSP	**Uspallata**	**3.16**	**144**	*e*P	**Pn**	**12 11 18.9**	**+2.5**
ROCH	**El Roble**	**3.33**	**172**	*e*P	**Pn**	**12 11 16.9**	**-1.8**
ROCH				IAML		12 12 08.1	
	comp=N,96nm,0.4s						
RTCV	**Cerro Valdivia**	**3.40**	**131**	*e*P	**Pn**	**12 11 21.4**	**+1.8**
ASAL	**Salagasta**	**3.74**	**142**	*e*P	**Pn**	**12 11 26.7**	**+2.5**
ARCO	**CERRO ARCO**	**3.88**	**145**	*e*P	**Pn**	**12 11 30.0**	**+3.7**
ARCO				IAML		12 12 26.9	
	comp=Z,22nm,0.3s						
APLL	**PUNTA DE LOS L**	**4.42**	**101**	*e*P	**Pn**	**12 11 35.5**	**+1.8**
APLL				IAML		12 12 46.5	
	comp=Z,15nm,0.4s						
MRA	**San Martin**	**5.72**	**120**	*e*P	**Pn**	**12 11 50.9**	**-0.5**
MRA				IAML		12 13 34.7	
	comp=Z,15nm,0.5s						

*CSEM **07** 12:15:33.0, 38°.61N×14°.33E, h29km, MD2.5/13*

ROM 07 12:15:33.0±0.2**, 38°.61N×14°.33E, h29**km±2km**, Md2.5**/13**, Ml2.6**/9**, Error ellipse: s-maj=2.8km s-min=1.1km az=149.0, Sicily**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LLI	**Lipari**	**0.51**	**108**	Pg	Pn	12 15 44.1	-0.3
LLI				Sg	Sb	12 15 51.5	+0.6
	748nm,0.4s						
LLI	**Lipari**	**0.51**	**108**	Pg	Pn	12 15 44.1	-0.3
LLI				Sg	Sb	12 15 51.5	+0.6
	748nm,0.4s						
PLLN	**Pollina**	**0.63**	**193**	Pg	Pb	12 15 45.3	-0.3
PLLN				Sg	Sn	12 15 54.8	-0.3
	297nm,0.7s						
PLLN	**Pollina**	**0.63**	**193**	Pg	Pb	12 15 45.3	-0.3
PLLN				Sg	Sn	12 15 54.8	-0.3
	297nm,0.7s						
GIB	**Gibilmanna**	**0.66**	**201**	Pg	Pb	12 15 46.2	+0.1
GIB				Sg	Sn	12 15 55.8	-0.1
	370nm,0.5s						
GIB	**Gibilmanna**	**0.66**	**201**	Pg	Pb	12 15 46.2	+0.1
GIB				Sg	Sn	12 15 55.8	-0.1
	370nm,0.5s						
MUCR	**Ucria**	**0.71**	**142**	Pg	Pb	12 15 46.7	-0.2
MUCR				Sg	Sn	12 15 57.2	+0.1
	569nm,0.9s						
MUCR	**Ucria**	**0.71**	**142**	Pg	Pb	12 15 46.7	-0.2
MUCR				Sg	Sn	12 15 57.2	+0.1
	569nm,0.9s						
SOLUN	**Solunto**	**0.81**	**231**	Pg	Pn	12 15 48.0	-0.4
SOLUN				Sg	Sn	12 15 59.5	+0.1
	128nm,0.8s						
SOLUN	**Solunto**	**0.81**	**231**	Pg	Pn	12 15 48.0	-0.4
SOLUN				Sg	Sn	12 15 59.5	+0.1
	128nm,0.8s						
GALF	**Gagliano Caste**	**0.91**	**168**	Pn	Pn	12 15 49.9	0.0
GALF	**Gagliano Caste**	**0.91**	**168**	Pn	Pn	12 15 49.9	0.0
MPNC	**Port Mandanici**	**0.93**	**119**	Pg	Pb	12 15 50.4	-0.2
MPNC				Sg	Sb	12 16 03.2	+0.7
	216nm,0.6s						
MPNC	**Port Mandanici**	**0.93**	**119**	Pg	Pb	12 15 50.4	-0.2
MPNC				Sg	Sb	12 16 03.2	+0.7
	216nm,0.6s						
ALJA	**Alia**	**0.97**	**208**	Pg	Pb	12 15 51.8	+0.6
ALJA				Sg	Sb	12 16 05.0	+1.3
	182nm,0.4s						
ALJA	**Alia**	**0.97**	**208**	Pg	Pb	12 15 51.8	+0.6
ALJA				Sg	Sb	12 16 05.0	+1.3
	182nm,0.4s						
RESU	**Resuttano**	**0.98**	**193**	Pn	Pb	12 15 51.9	+0.4
RESU	**Resuttano**	**0.98**	**193**	Pn	Pb	12 15 51.9	+0.4
MSRU	**Castanea**	**0.99**	**110**	Pg	Pb	12 15 51.8	+0.2
MSRU				Sg	Sb	12 16 04.9	+0.6
	110nm,0.5s						
MSRU	**Castanea**	**0.99**	**110**	Pg	Pb	12 15 51.8	+0.2
MSRU				Sg	Sb	12 16 04.9	+0.6
	110nm,0.5s						
MMME	**Mongiuffi-Meli**	**0.99**	**132**	Pg	Pb	12 15 52.0	+0.4
	88nm,0.6s						
MMME	**Mongiuffi-Meli**	**0.99**	**132**	Pg	Pb	12 15 52.0	+0.4
	88nm,0.6s						
SOI	**Samo**	**1.46**	**111**	Pn	Pn	12 15 57.8	+0.4
	53nm,1.2s						
SOI	**Samo**	**1.46**	**111**	Pn	Pn	12 15 57.8	+0.4
	53nm,1.2s						
PLAC	**Placanica**	**1.67**	**95**	Pn	Pn	12 16 01.0	+0.8
PLAC	**Placanica**	**1.67**	**95**	Pn	Pn	12 16 01.0	+0.8

*JMA **07** 12:24:38.1±0.1, 24°.13N×121°.68E, h11km±1km, M2.8*

*TAP **07** 12:24:38.3, 24°.16N×121°.71E, h10km, ML3.4, B*

ISC 07 12:24:38.4±0.8**, 24°.16N**±0°.02×**121°.71E**±0°.02**, h10**km±5km**, n92, σ0.90**/136**, 5C-20D, Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NACB	**Ninganchiao**	**0.11**	**279**	⇓P	**Pg**	**12 24 41.1**	**+0.1**
	baz=276						
NACB				S	**Sg**	**12 24 42.9**	**-0.1**
	baz=276						
TWD	**Chiawan**	**0.13**	**234**	⇑*i*P	**Pg**	**12 24 41.5**	**+0.1**
	baz=229						
TWD				*i* S	**Sg**	**12 24 43.6**	**+0.1**
	baz=229						
HWA	**Hwalien**	**0.20**	**209**	P	**Pb**	**12 24 43.4**	**+0.7**
	baz=214						
ENA	**Nanau**	**0.27**	**5**	⇓*i*P	**Pg**	**12 24 44.0**	**+0.1**
	baz=7.0						
ENA				*i* S	**Sg**	**12 24 47.6**	**0.0**
	baz=7.0						
NANB	**Nanao**	**0.27**	**7**	⇓P	**Pg**	**12 24 43.9**	**0.0**
	baz=7.0						
NANB				S	**Sg**	**12 24 47.5**	**-0.1**
	baz=7.0						
ENLB	**Shoufeng**	**0.27**	**202**	*e*P	**Pb**	**12 24 44.7**	**-0.8**
	baz=211						
ENLB				*e*S	**Sb**	**12 24 51.8**	**+1.6**
	baz=211						
ENAH	**Nanao**	**0.30**	**17**	⇓*i*P	**Pg**	**12 24 44.5**	**0.0**
	baz=16						
ENAH				*e*S	**Sg**	**12 24 48.7**	**+0.1**
	baz=16						
NNSB	**Datong**	**0.41**	**312**	⇓P	**Pg**	**12 24 46.6**	**+0.2**
	baz=312						
NNSB				S	**Sg**	**12 24 52.0**	**+0.2**
	baz=312						
WHF	**Hehuan Shan**	**0.41**	**268**	⇓*i*P	**Pg**	**12 24 46.7**	**+0.1**
	baz=268						
WHF				S	**Sg**	**12 24 51.9**	**-0.1**
	baz=268						
NNS	**Nan Shan**	**0.42**	**312**	⇓*i*P	**Pg**	**12 24 46.8**	**+0.2**
	baz=313						
NNS				*i* S	**Sg**	**12 24 52.5**	**+0.3**
	baz=313						
ESL	**Shilin**	**0.43**	**217**	⇑*i*P	**Pg**	**12 24 46.7**	**-0.1**
	baz=227						
TWC	**Suao**	**0.47**	**15**	⇓*i*P	**Pg**	**12 24 47.6**	**0.0**
	baz=10.0						
TWC				*e*S	**Sg**	**12 24 52.7**	**-1.0**
	baz=10.0						
ENTT	**Nioudou**	**0.50**	**344**	⇓*i*P	**Pg**	**12 24 48.5**	**+0.3**
	baz=345						
ENTT				*e*S	**Sg**	**12 24 55.4**	**+0.7**
	baz=345						
TWT	**Tachien**	**0.50**	**281**	⇓P	**Pb**	**12 24 48.9**	**-0.5**
	baz=280						
TWT				S	**Sb**	**12 24 55.7**	**-1.2**
	baz=280						
CHGB	**Renai**	**0.50**	**259**	⇑P	**Pb**	**12 24 48.6**	**-0.9**
	baz=250						
CHGB				S	**Sg**	**12 24 54.9**	**0.0**
	baz=250						
TDCB	**Techi**	**0.52**	**281**	S	**Sg**	**12 24 55.5**	**+0.2**
	baz=280						
OWD	**Renai**	**0.53**	**248**	*e*P	**Pb**	**12 24 48.9**	**-1.1**
	baz=248						
EOS1	**EOS1**	**0.54**	**44**	*e*P	**Pg**	**12 24 49.4**	**+0.4**
	baz=32						
YHNB	**Yeheng**	**0.60**	**329**	⇓*i*P	**Pb**	**12 24 50.4**	**-0.6**
	baz=329						
YHNB				S	**Sg**	**12 24 57.9**	**0.0**
	baz=329						
SLBB	**Yuanshan**	**0.60**	**353**	⇓*i*P	**Pb**	**12 24 50.6**	**-0.5**
	baz=352						
ILA	**Ilan**	**0.61**	**3**	*e*P	**Pg**	**12 24 49.8**	**-0.4**
	baz=356						
ILA				*e*S	**Sb**	**12 24 59.3**	**-0.5**
	baz=356						
NWLT	**Wulai**	**0.65**	**343**	⇓P	**Pb**	**12 24 51.4**	**-0.5**
	baz=350						
NWLT				*e*S	**Sg**	**12 24 59.6**	**+0.2**
	baz=350						
NTC	**Toucheng**	**0.70**	**9**	*e*P	**Pg**	**12 24 52.0**	**0.0**
	baz=7.0						
HGSD	**Ruisui**	**0.71**	**202**	⇓*e*P	**Pb**	**12 24 53.1**	**+0.1**
	baz=218						
HGSD				*e*S	**Sn**	**12 25 06.2**	**+0.6**
	baz=218						
DPDB	**Guoxing**	**0.73**	**260**	*e*P	**Pb**	**12 24 52.9**	**-0.4**
	baz=260						
EHY	**Hungye**	**0.74**	**209**	⇑P	**Pg**	**12 24 52.4**	**-0.3**
	baz=211						
SSLB	**Suanglung**	**0.79**	**242**	⇑P	**Pb**	**12 24 53.6**	**-0.7**
	baz=252						
SSLB				*e*S	**Sg**	**12 25 02.8**	**-1.0**
	baz=252						
SMLT	**Sun Moon Lake**	**0.79**	**250**	⇓P	**Pb**	**12 24 54.1**	**-0.3**
	baz=250						
SMLT				S	**Sb**	**12 25 03.9**	**-1.3**
	baz=250						
LIOB	**Emei**	**0.80**	**308**	⇓*e*P	**Pb**	**12 24 54.5**	**0.0**
	baz=307						
NSTT	**Nanjuang**	**0.80**	**306**	*e*P	**Pb**	**12 24 54.5**	**0.0**
	baz=306						
NSTT				*e*S	**Sg**	**12 25 04.2**	**-0.2**
	baz=306						
WLTB	**Daxi**	**0.81**	**329**	*e*P	**Pb**	**12 24 55.0**	**+0.4**
	baz=328						
TIPB	**Shuangxi**	**0.82**	**7**	⇓*e*P	**Pg**	**12 24 53.2**	**-1.0**
	baz=350						
TYC	**Yuchr**	**0.82**	**252**	⇓P	**Pb**	**12 24 54.5**	**-0.4**
	baz=243						
TYC				*e*S	**Sg**	**12 25 04.5**	**-0.5**
	baz=243						
TWA	**Mucha**	**0.83**	**352**	⇓*i*P	**Pb**	**12 24 54.9**	**-0.1**
	baz=351						
TWA				*e*S	**Sb**	**12 25 06.8**	**+0.6**
	baz=351						
TATO	**Taipei**	**0.84**	**346**	⇓P	**Pb**	**12 24 55.0**	**-0.2**
	baz=345						
YULB	**Yu-li**	**0.85**	**207**	*e*P	**Pg**	**12 24 53.9**	**-0.9**
	baz=219						
YULB				*e*S	**Sb**	**12 25 07.1**	**+0.3**
	baz=219						
TWB1	**Santiao Chiao**	**0.88**	**16**	*e*P	**Pg**	**12 24 55.0**	**-0.4**
	baz=8.0						
TWF1	**Yuli**	**0.89**	**206**	*e*P	**Pg**	**12 24 54.4**	**-1.1**
	baz=219						
TAP	**Taipei**	**0.90**	**348**	*e*P	**Pg**	**12 24 55.6**	**-0.1**
	baz=347						
NSY	**Sanyi**	**0.91**	**287**	*e*P	**Pn**	**12 24 57.2**	**-0.1**
	baz=286						
NWF	**Wu-fen Shan**	**0.91**	**4**	*e*P	**Pg**	**12 24 56.0**	**0.0**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	baz=354						
NWF				S	Sg	12 25 07.4	-0.5
	baz=354						
WFSB	Wu-fen Shan	0.91	4	eP	Pb	12 24 56.5	+0.1
	baz=354						
WFSB				eS	Sg	12 25 07.5	-0.3
	baz=354						
SBCB	Hsinchu	0.92	314	eP	Pn	12 24 58.2	+0.8
	baz=313						
NMLH	Miaoli	0.92	294	eP	Pn	12 24 57.6	+0.1
	baz=294						
HSN	Hsinchu	0.93	314	eP	Pn	12 24 57.9	+0.3
	baz=316						
NCUH	Zhongli	0.94	329	eP	Pn	12 24 57.6	-0.2
	baz=329						
NCU	National Centr	0.94	329	eP	Pn	12 24 57.9	+0.1
	baz=329						
TCU	Taichung	0.95	270	eP	Pn	12 24 58.7	+0.8
	baz=270						
WJS	Zhushan	0.96	250	eP	Pn	12 24 58.3	+0.3
	baz=245						
WJS				eS	Sn	12 25 11.8	0.0
	baz=245						
YUS	Yu-Shan	0.96	226	eP	Pb	12 24 56.9	-0.6
	baz=217						
YUS				eS	Sn	12 25 10.9	-1.6
	baz=217						
TWS1	Kuangyinshan	0.98	344	eP	Pn	12 24 58.2	-0.1
	baz=351						
TWS1				eS	Sn	12 25 13.1	+0.9
	baz=351						
WNT	Mingjian	0.98	254	eP	Pn	12 24 58.8	+0.5
	baz=246						
YM10	YM10	1.00	352	eP	Pn	12 24 58.2	-0.5
	baz=2.0						
YM04	YM04	1.00	351	eP	Pn	12 24 58.2	-0.5
	baz=350						
YM07	YM07	1.02	355	eP	Pg	12 24 57.2	-0.8
	baz=354						
FULB	Fuli	1.03	202	eP	Pb	12 24 57.9	-0.5
	baz=219						
YM03	YM03	1.03	351	eP	Pn	12 24 58.9	-0.2
	baz=350						
NTST	Danshui	1.03	347	eP	Pn	12 24 59.3	+0.3
	baz=345						
YM08	YM08	1.03	354	eP	Pb	12 24 58.3	-0.1
	baz=353						
CHN5	Tsauling	1.10	240	eP	Pn	12 25 00.7	+0.7
	baz=241						
CHKT	Chengkung	1.10	197	eP	Pb	12 24 58.1	-1.5
	baz=186						
TWY	Chenhua	1.12	355	eP	Pn	12 25 00.3	+0.1
	baz=340						
WGK	Gukeng	1.15	246	eP	Pn	12 25 01.8	+1.2
	baz=247						
ELDTW	Lidau	1.16	214	eP	Pb	12 24 59.0	-1.6
	baz=217						
JYNG	Yonagunijimaku	1.16	75	P	Pb	12 25 00.6	0.0
JYNG				eS	Sn	12 25 17.2	+0.5
WDLH	Douliu	1.17	247	eP	Pg	12 25 02.4	+1.5
	baz=248						
YOJ	Yonaguni jima	1.22	75	eP	Pn	12 25 01.3	-0.3
	baz=61						
YOJ	Yonaguni jima	1.22	75	P	Pn	12 25 01.5	-0.1
YOJ				eS	Sg	12 25 18.1	+0.3
RLNB	Erlin	1.27	258	eP	Pg	12 25 02.8	0.0
	baz=259						
CHN4	Tsaushan	1.30	232	eP	Pg	12 25 03.9	+0.4
	baz=222						
CHN4				eS	Sg	12 25 23.8	+3.4
	baz=222						
TPUB	Ta-pu	1.31	230	eP	Pg	12 25 03.6	0.0
	baz=220						
TPUB				eS	Sg	12 25 23.0	+2.4
	baz=220						
STYT	Tauyuan	1.32	222	eP	Pg	12 25 03.2	-0.6
	baz=225						
WTP	Ta-pu	1.36	228	eP	Pg	12 25 04.6	+0.1
	baz=219						
WTP				eS	Sg	12 25 24.5	+2.4
	baz=219						
TWK	Hsinying	1.43	232	eP	Pg	12 25 05.8	0.0
	baz=234						
TWK				eS	Sg	12 25 26.6	+2.2
	baz=234						
CHN1	Nanshi	1.46	229	eP	Pg	12 25 06.3	-0.1
	baz=220						
CHN1				eS	Sg	12 25 27.0	+1.7
	baz=220						
TWG	Pinlang	1.46	204	eP	Pn	12 25 02.4	-2.4
	baz=217						
TWGBT	Beinan	1.46	204	eP	Pn	12 25 02.3	-2.5
	baz=217						
SGST	Jiashian	1.49	224	eP	Pb	12 25 06.0	-0.2
	baz=226						
SGST				eS	Sg	12 25 29.9	+3.6
	baz=226						
SLGT	Liugui	1.52	220	eP	Pg	12 25 06.5	-1.0
	baz=225						
ECL	Taimali	1.70	204	eP	Pn	12 25 08.1	-0.1
	baz=195						
SSD	Sandimen	1.72	215	eP	Pb	12 25 09.4	-0.8
	baz=219						
SSD				eS	Sg	12 25 33.7	-0.1
	baz=219						
MASBT	Mashibuluo	1.83	213	eP	Pn	12 25 10.0	0.0
	baz=220						
MASBT				eS	Sg	12 25 36.4	-0.9
	baz=220						
IRIF	Iriomote-Funau	1.85	84	P	Pn	12 25 10.1	-0.1
IRIF				eS	Sn	12 25 33.9	+0.2
EAST	Anshuo	1.94	204	eP	Pn	12 25 10.5	-1.0
	baz=197						
PNG	Penghu	2.06	254	eP	Pb	12 25 14.5	-1.4
	baz=255						
PHUB	P'eng-hu	2.06	252	eP	Pn	12 25 13.8	+0.7
	baz=254						
PHUB				eS	Sb	12 25 40.9	-0.9
	baz=254						
WDGT	Dungji	2.08	245	eP	Pn	12 25 14.3	+0.8
	baz=247						
JKRS	Kuro-shima	2.10	87	P	Pn	12 25 14.7	+1.0
JKRS				eS	Sn	12 25 41.4	+1.5
VWUC	VWUC	2.22	292	eP	Pn	12 25 14.9	-0.5
	baz=292						
JIJ	Ishigaki jima	2.23	84	P	Pn	12 25 15.2	-0.2
JIJ				eS	Sn	12 25 43.0	-0.1
JISG	Ishigakijimahi	2.41	79	P	Pn	12 25 17.5	-0.4
JISG				eS	Sn	12 25 48.6	+1.1
JTJ	Tarama	2.77	79	P	Pn	12 25 23.6	+0.7
JTJ				S	Sn	12 25 57.6	+1.2

*NEIC **07** 12:34:36.1±0.0, 16°.26N×98°.33W, h2km, MD4.2(MEX), After MEX.*

MEX 07 12:34:36.1±0.7**, 16°.26N×98°.33W, h2km**±6km**, MD4.2, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.23	55	i P	Pg	12 34 40.3	-0.3
PNIG				i S	Sg	12 34 43.9	+0.1
PNIG	Pinotepa	0.23	55	i P	Pg	12 34 40.3	-0.3
PNIG				i S	Sg	12 34 43.9	+0.1
TLIG	Tlapa	1.32	350	i P	Pg	12 34 58.0	-3.4
TLIG				i S	Sg	12 35 14.3	-4.2
TLIG	Tlapa	1.32	350	i P	Pg	12 34 58.0	-3.4
TLIG				i S	Sg	12 35 14.3	-4.2
VHO	Vista Hermosa	1.73	62	eP	Pn	12 35 04.4	-3.1
VHO				eS	Sn	12 35 25.1	-5.1
VHO	Vista Hermosa	1.73	62	eP	Pn	12 35 04.4	-3.1
VHO				eS	Sn	12 35 25.1	-5.1
CAIG	El Cayaco	2.02	293	eP	Pn	12 35 07.0	-4.2
CAIG	El Cayaco	2.02	293	eP	Pn	12 35 07.0	-4.2
MEIG	Mezcala	2.07	324	eP	Pn	12 35 09.3	-2.7
MEIG	Mezcala	2.07	324	eP	Pn	12 35 09.3	-2.7
HUIG	Huatulco	2.19	103	eP	Pn	12 35 09.8	-3.8
HUIG	Huatulco	2.19	103	eP	Pn	12 35 09.8	-3.8
TPIG	Tehuac#an	2.34	23	eP	Pn	12 35 12.9	-2.9
TPIG	Tehuac#an	2.34	23	eP	Pn	12 35 12.9	-2.9
YAIG	Yautepec	2.68	345	eP	Pn	12 35 19.7	-0.8
YAIG	Yautepec	2.68	345	eP	Pn	12 35 19.7	-0.8
PPM	Popocatepetl	2.81	354	eP	Pn	12 35 20.5	-2.0
PPM	Popocatepetl	2.81	354	eP	Pn	12 35 20.5	-2.0

MEX 07 12:36:44.0±0.4**, 16°.28N×98°.32W, h2km, MD3.5, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.21	58	i P	Pg	12 36 47.8	-0.4
PNIG				i S	Sg	12 36 51.2	+0.3
TLIG	Tlapa	1.30	349	i P	Pg	12 37 05.6	-3.3
TLIG				i S	Sg	12 37 21.9	-3.9
VHO	Vista Hermosa	1.71	62	eP	Pn	12 37 11.6	-3.4
VHO				eS	Sn	12 37 32.7	-4.8
CAIG	El Cayaco	2.02	292	eP	Pn	12 37 19.7	+0.6

*ISCJB **07** 12:37:55.8±0.6, 51°.6N±0°.1×95°.96E±0°.07, h10km, mb4.2/2, MS4.1/5, Error ellipse: s-maj=14.8km s-min=6.5km az=3.3*

*MOS **07** 12:37:55.1±2.5, 51°.74N×95°.99E, h10km, mb4.4/2, Error ellipse: s-maj=16.8km s-min=11.1km az=5.3*

*IDC **07** 12:37:57.1±1.1, 51°.25N×96°.09E, h0km, mb4.2/1, mb1 3.5/5, mb1mx3.2/76, mbtmp3.4/5, ML2.9/3, MS4.1/5, Ms1 4.1/5, ms1mx3.2/74, Error ellipse: s-maj=33.4km s-min=11.5km az=179.0*

ISC 07 12:37:57.1±0.9**, 51°.76N**±0°.08×**95°.94E**±0°.04**, h10km, n27, σ1s67**/18**, MS4.1**/5**, 1C, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KNGR	Kungurtug, Tuv	1.52	139	i PG	Pb	12 38 22.8	-2.7
HVS	Khovu-Aksy	1.54	247c	iPN	Pb	12 38 23.8	-1.9
ORL	Orlik	2.51	70	ePN	Pb	12 38 39.3	-2.9
ORL				e		12 39 13.0	
ORL				pmax	pmax		
	comp=Z,126nm,0.3s						
ORL				smax	smax		
	comp=N,260nm,0.6s						
MOY	Mondy	3.14	90	ePN	Pb	12 38 50.5	-2.5
MOY				e		12 39 32.5	
MOY				pmax	pmax		
	comp=Z,123nm,0.6s						
MOY				smax	smax		
	comp=N,224nm,0.7s						
ARS	Arshan	4.02	85	ePN	Pn	12 38 59.4	+0.6
ARS				e		12 39 07.1	
ARS				e		12 40 00.0	
ARS				pmax	pmax		
	comp=Z,86nm,0.3s						
ARS				smax	smax		
	comp=E,428nm,0.4s						
TLY	Talaya	4.79	88	Pg	Pb	12 39 20.2	-0.9
	comp=E,0.1nm,0.3s,baz=279,slow=13,SNR=13						
TLY				Lg	Lg	12 40 23.1	
	comp=E,0.1nm,0.3s,baz=149,slow=13,SNR=6.4						
TLY	Talaya	4.79	88	ePN	Pb	12 39 20.9	-0.1
TLY				e		12 40 22.3	
TLY				pmax	pmax		
	comp=Z,24nm,0.6s						
ZAK	Zakamensk	4.83	104	ePN	Pb	12 39 19.9	-1.9
ZAK				e		12 40 24.0	
ZAK				pmax	pmax		
	comp=Z,38nm,0.8s						
ZAK				smax	smax		
	comp=N,73nm,0.4s						
IRK	Irkutsk	5.17	81	ePN	Pb	12 39 27.0	-0.5
IRK				e		12 40 32.6	
IRK				pmax	pmax		
	comp=Z,89nm,0.4s						
IRK				smax	smax		
	comp=N,205nm,0.8s						
ZALV	Zalesovo Beam	7.08	292	Pn	Pn	12 39 44.2	+3.5
	baz=108,slow=14,SNR=1.8						
ZALV				Sn	Sn	12 41 02.4	+1.2
	comp=N,0.5nm,0.3s,baz=120,slow=20,SNR=3.1						
ZALV				Lg	Lg	12 41 36.8	
	comp=N,1.3nm,0.3s,baz=108,slow=28,SNR=5.3						
OGRR	Ongureny	7.33	71	eP	Pn	12 39 44.6	+0.5
OGRR				pmax	pmax		
	comp=Z,11nm,0.8s						
SONM	Songino Array	7.82	116	Pg	Pb	12 40 14.2	+1.5
	comp=Z,0.4nm,0.3s,baz=299,slow=18,SNR=7.8						
SONM				Lg	Lg	12 41 58.1	
	comp=Z,2.2nm,0.3s,baz=299,slow=27,SNR=15						
NVS	Novosibirsk	8.21	297	eP	Pn	12 39 55.5	-0.7
MKAR	Makanchi Array	10.21	246	Pn	Pn	12 40 23.8	+0.2
	comp=Z,0.1nm,0.3s,baz=73,slow=9.0,SNR=3.6						
MKAR				Lg	Lg	12 43 18.7	
	comp=Z,0.3nm,0.3s,baz=64,slow=30,SNR=6.2						
MKAR	Makanchi Array	10.21	246	eP	Pn	12 40 30.9	+7.3
KURK	Kurchatov	10.91	271	i P	Pn	12 40 34.1	+0.9
KURBB	Kurchatov Arra	10.99	271	Pn	Pn	12 40 35.8	+1.6
	comp=Z,0.0nm,0.3s,baz=78,slow=15,SNR=3.3						
KURBB				Lg	Lg	12 43 42.5	
	comp=Z,0.0nm,0.3s,baz=79,slow=34,SNR=3.6						
BVAR	Borovoye Array	15.63	285	Pn	P	12 41 39.9	-1.5
	comp=Z,0.2nm,0.3s,baz=61,slow=12,SNR=4.1						
OBN	Obninsk	34.60	299	eP	P	12 44 51.1	+5.3
OBN				pmax	pmax		
	comp=Z,4.0nm,0.8s						
KVAR	Kislovodsk Arr	35.86	279	LR	LR	13 03 13.5	
	comp=Z,325nm,21.0s,baz=52,slow=42						
GNI	Garni	36.71	272	LR	LR	13 03 01.6	
	comp=Z,138nm,21.1s,baz=83,slow=41						
FINES	FINESS Array B	37.83	313	P	P	12 45 18.8	+5.5
	comp=Z,4.1nm,1.1s,baz=95,slow=2.3,SNR=3.5						
FINES	FINESS Array B	37.83	313	eP	P	12 45 21.2	+7.9
FINES				pmax	pmax		
	comp=Z,5.0nm,1.2s						
VRAC	Vranov	48.13	300	LR	LR	13 10 54.2	
	comp=Z,454nm,21.7s,baz=49,slow=41						
GERES	GERESS Array B	49.94	301	LR	LR	13 12 19.3	
	comp=Z,612nm,20.2s,baz=56,slow=41						
IDI	Anoyia	52.00	281	LR	LR	13 13 21.3	
	comp=Z,57nm,18.2s,baz=72,slow=41						
YKA	Yellowknife Ar	63.56	15	P	P	12 48 28.4	+1.3

*ISCJB **07** 13:16:15.4±0.8, 34°.1N±0°.2×90°.0E±0°.3, h10km, mb3.6/4, MS4.0/2, Error ellipse: s-maj=44.9km s-min=10.5km az=148.4*

*IDC **07** 13:16:15.8±1.2, 33°.92N×89°.78E, h0km, mb3.5/5, mb1 3.6/9, mb1mx3.3/70, mbtmp3.5/9, ML3.7/3, MS3.9/2, Ms1 3.9/2, ms1mx2.8/64, Error ellipse: s-maj=91.9km s-min=16.6km az=58.0*

ISC 07 13:16:16.9±1.0**, 34°.0N**±0°.2×**90°.0E**±0°.3**, h10km, n11, σ0s77**/8**, mb3.7**/4**, Xizang**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MKAR	Makanchi Array	14.01	338	Pn	Pn	13 19 35.4	0.0
	0.2nm,0.3s,baz=157,slow=9.9,SNR=3.4						
AAK	Ala-Archa	14.86	310	Pn	Pn	13 19 47.2	+0.1
	0.2nm,0.3s,baz=139,slow=11,SNR=3.9						
CMAR	Chiang Mai Arr	17.46	150	P	P	13 20 20.8	-1.1
	0.2nm,0.3s,baz=331,slow=13,SNR=3.9						
KURBB	Kurchatov Arra	18.57	337	P	P	13 20 33.1	-0.7
	0.0nm,0.3s,baz=147,slow=12,SNR=7.8						
ZALV	Zalesovo Beam	20.24	351	P	Pn	13 20 53.6	-0.3
	1.4nm,0.7s,baz=176,slow=11,SNR=7.2						
BVAR	Borovoye Array	23.56	330	P	P	13 21 27.6	+0.2
	0.4nm,0.5s,baz=128,slow=9.3,SNR=2.7						
MMAI	Mount Meron Ar	45.04	285	LR	LR	13 48 34.3	
	comp=Z,51nm,18.1s,baz=170,slow=43						
FINES	FINESS Array B	48.38	325	P	P	13 24 58.6	0.0
	2.1nm,0.9s,baz=127,slow=5.7,SNR=3.5						
WRA	Warramunga Arr	68.31	135	P	P	13 27 19.4	+1.0
	0.5nm,0.6s,baz=325,slow=6.8,SNR=12						
ASAR	Alice Springs	70.98	138	P	P	13 27 35.3	+0.4
	0.4nm,0.9s,baz=323,slow=6.4,SNR=7.1						
SFJD	Kangerlussuaq	74.92	345	LR	LR	14 07 47.3	
	comp=Z,189nm,18.4s,baz=162,slow=41						

*ISCJB **07** 13:19:34.7±1.1, 15°.44N±0°.09×145°.7E±0°.3, h150km, mb3.4/7, Error ellipse: s-maj=43.6km s-min=11.3km az=9.7*

*IDC **07** 13:19:35.4±2.4, 15°.36N×145°.81E, h145km±18km, mb3.2/7, mb1 3.3/7, mb1mx3.0/65, mbtmp3.6/7, Error ellipse: s-maj=41.4km s-min=19.7km az=86.0*

ISC 07 13:19:36.0±1.3**, 15°.4N**±0°.1×**145°.7E**±0°.3**, h150km, n8, σ0s90**/9**, mb3.5**/7**, Mariana Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GUMO	Guam	1.97	205	P	Pn	13 20 11.8	+1.0
	7.4nm,0.3s,baz=158,slow=9.5,SNR=5.4						
GUMO				S	Sn	13 20 36.6	-1.0
	16nm,0.3s,baz=13,slow=23,SNR=7.6						
WRA	Warramunga Arr	36.85	198	P	P	13 26 29.9	-0.2
	0.2nm,0.5s,baz=28,slow=8.8,SNR=7.4						
ASAR	Alice Springs	40.50	197	P	P	13 27 00.4	0.0
	0.1nm,0.4s,baz=17,slow=12,SNR=5.6						
MKAR	Makanchi Array	60.80	315	P	P	13 29 32.9	+0.6
	0.5nm,0.4s,baz=88,slow=9.0,SNR=11						
KURBB	Kurchatov Arra	63.81	319	P	P	13 29 52.2	+0.1
	0.7nm,0.4s,baz=97,slow=7.5,SNR=2.8						
BVAR	Borovoye Array	69.05	321	P	P	13 30 25.9	+0.4
	0.3nm,0.3s,baz=90,slow=8.9,SNR=3.9						
YKA	Yellowknife Ar	80.89	28	P	P	13 31 33.4	+0.3
	0.1nm,0.3s,baz=283,slow=5.2,SNR=2.9						
FINES	FINESS Array B	89.89	335	P	P	13 32 16.2	-1.5
	1.0nm,0.7s,baz=87,slow=8.5,SNR=4.3						

*ISCJB **07** 13:30:23.2±0.5, 47°.31N±0°.05×153°.14E±0°.07, h66km, mb3.6/15, Error ellipse: s-maj=9.5km s-min=3.4km az=135.7*

*MOS **07** 13:30:24.3±1.7, 47°.26N×153°.15E, h77km, mb4.1/8, Error ellipse: s-maj=11.2km s-min=6.7km az=62.9*

*SKHL **07** 13:30:24.4±0.2, 47°.21N×153°.22E, h80km±6km, mb4.8/6, msh5.4/5*

*IDC **07** 13:30:27.7±2.4, 47°.33N×153°.05E, h94km±21km, mb3.4/13, mb1 3.6/17, mb1mx3.4/76, mbtmp3.8/17, Error ellipse: s-maj=22.0km s-min=13.4km az=125.0*

ISC 07 13:30:24.2±0.6**, 47°.21N**±0°.07×**153°.20E**±0°.08**, h66km, n62, σ1s61**/69**, mb3.7**/15**, 2D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	3.97	28	eP	Pn	13 31 22.2	-0.3
SKR				AMB	AMB	13 31 25.1	
	700nm,4.6s						
SKR				eS	Sn	13 32 05.7	-2.0
SKR				A	A	13 32 12.6	
	95nm,0.5s						
SKR				A	A	13 32 12.6	
	113nm,0.5s						
SKR				A	A	13 32 14.0	
	1μm,5.0s						
SKR				A	A	13 32 14.0	
	2μm,5.0s						
SKR	Severo-Kuril's	3.97	28	ePN	Pn	13 31 21.5	-1.0
SKR				eS	Sn	13 32 05.6	-2.1
SKR				smax	smax		
	comp=E,96nm,0.5s						
SKR				smax	smax		
	comp=N,113nm,0.5s						
KUR	Kuril'sk	4.20	244	i P	Pn	13 31 27.1	+1.4
KUR				AMB	AMB	13 31 27.9	
	comp=N,69nm,0.5s						
KUR				i S	Sn	13 32 14.1	+0.7
KUR				A	A	13 32 31.0	
	comp=N,131nm,0.5s						
KUR				A	A	13 32 31.0	
	comp=N,105nm,0.5s						
KUR	Kuril'sk	4.20	244d	iPN	Pn	13 31 27.1	+1.4
KUR				i S	Sn	13 32 17.0	+3.6
KUR				pmax	pmax		
	comp=N,20nm,0.5s						
KUR				pmax	pmax		
	comp=Z,69nm,0.5s						
KUR				smax	smax		
	comp=E,131nm,0.5s						
PAU	Pauzhetka	4.87	28	eP	Pn	13 31 35.8	+1.0
PAU				eS	Sn	13 32 29.2	-0.5
PAU				A	A	13 32 30.3	
	comp=E,310nm,0.8s						
SHO	Shikotan	5.59	236	eP	Pn	13 31 42.1	-2.6
SHO				AMB	AMB	13 31 44.3	
	comp=E,7.0nm,0.3s						
SHO				eS	Sn	13 32 45.0	-2.4
SHO				A	A	13 33 01.5	
	comp=E,19nm,0.5s						
SHO				A	A	13 33 01.5	
	comp=E,61nm,0.5s						
SHO	Shikotan	5.59	236	PN	Pn	13 31 41.8	-2.9
SHO				pmax	pmax		
	comp=Z,7.0nm,0.3s						
YUK	Yuzh-Kuril'sk	6.05	241	eP	Pn	13 31 52.0	+1.0
YUK				AMB	AMB	13 31 52.2	
	comp=Z,60nm,0.4s						
YUK				eS	Sn	13 32 59.2	+0.4
YUK				A	A	13 33 20.5	
	comp=Z,110nm,0.6s						
YUK				A	A	13 33 20.5	
	comp=Z,76nm,0.6s						
YUK	Yuzh-Kuril'sk	6.05	241	PN	Pn	13 31 51.0	0.0
YUK				S	Sn	13 32 59.2	+0.4
YUK				pmax	pmax		
	comp=Z,60nm,0.2s						
YUK				pmax	pmax		
	comp=N,8.0nm,0.2s						
YUK				pmax	pmax		
	comp=E,7.0nm,0.1s						
YUK				smax	smax		
	comp=N,108nm,0.6s						
YUK				smax	smax		
	comp=E,76nm,0.4s						
LAGR	Lagunnoye	6.08	241	erx	rx	13 33 09.3	
GRPR	Tuman	6.13	241	eP	Pn	13 31 52.3	+0.2
GRPR				eS	Sn	13 33 02.5	+1.8
GRPR	Tuman	6.13	241	PN	Pn	13 31 52.3	+0.2
GRPR				eS	Sn	13 33 02.5	+1.8
GLVR	Golovnino	6.42	240	eP	Pn	13 31 55.8	-0.3
GLVR				AMB	AMB	13 32 01.3	
	comp=E,188nm,1.0s						
GLVR				eS	Sn	13 33 08.8	+0.9
GLVR	Golovnino	6.42	240	ePN	Pn	13 31 55.8	-0.3
GLVR				eS	Sn	13 33 08.8	+0.9
GLVR				pmax	pmax		
	comp=Z,188nm,1.0s						
PETK	Petropavlovsk-	6.57	24	P	Pn	13 32 00.4	+2.3
	comp=Z,0.3nm,0.3s,baz=191,slow=11,SNR=9.1						
PET	Petropavlovsk	6.79	29	eP	Pn	13 32 01.4	+0.4
PET				eS	Sn	13 33 15.2	-1.6
PET	Petropavlovsk	6.79	29	i PN	Pn	13 32 04.0	+3.0
YSS	Yuzh-Sakhalins	7.14	272⇓	ePN	Pn	13 32 08.5	+2.6
YSS				pmax	pmax		
	comp=Z,10.0nm,0.3s						
TYV	Tymovskoe	7.83	302	eP	Pn	13 32 17.3	+2.0
TYV				AMB	AMB	13 32 20.7	
	comp=Z,12nm,0.6s						
TYV				eS	Sn	13 33 41.8	-0.6
TYV	Tymovskoe	7.83	302	ePN	Pn	13 32 17.3	+2.0
TYV				pmax	pmax		
	comp=Z,12nm,0.9s						
ASAJ	Asahikawa	8.05	251	P	Pn	13 32 21.1	+2.7
	comp=Z,0.6nm,0.3s,baz=61,slow=10,SNR=8.9						
ERM	Erimo	8.85	238	eP	Pn	13 32 33.0	+3.7
ERM	Erimo	8.85	238	i PN	Pn	13 32 33.0	+3.7
NKL	Nikolayevsk	9.98	311	ePN	Pn	13 32 46.0	+1.3
NKL				pmax	pmax		
	comp=N,19nm,1.1s						
NKL				pmax	pmax		
	comp=E,11nm,1.1s						
NKL				pmax	pmax		
	comp=Z,22nm,1.1s						
MA2	Magadan	12.47	354	P	Pn	13 33 19.1	+0.6
	comp=Z,1.2nm,0.3s,baz=164,slow=9.2,SNR=13						
MA2	Magadan	12.47	354	eP	Pn	13 33 19.3	+0.7
KLR	Kul'dur	14.44	286	P	P	13 33 51.2	+1.2
	comp=Z,0.0nm,0.3s,baz=92,slow=14,SNR=5.1						
KLR	Kul'dur	14.44	286	i P	P	13 33 48.7	-1.3
USRK	Ussuriysk Ar.	15.12	266	P	P	13 33 57.6	+0.1
	comp=Z,0.3nm,0.3s,baz=66,slow=10,SNR=4.6						
MJA0	Matsu Arr-Jizo	15.39	232	eP	P	13 34 01.1	+0.4
MJAR	Matsushiro Arr	15.41	232	P	P	13 34 01.2	+0.3
	comp=Z,0.2nm,0.3s,baz=34,slow=8.4,SNR=8.1						
MAJO	Matsushiro	15.41	232	eP	Pn	13 33 55.6	-2.0
MAJO	Matsushiro	15.41	232	i P	P	13 34 00.7	-0.2
SEY	Seymchan	15.76	359	i P	P	13 34 05.1	+0.6
H11N2	WAKE ISLAND Hy	29.61	153	T	T	14 08 16.0	
	baz=341,slow=76,SNR=342						
H11N1	WAKE ISLAND Hy	29.62	153	T	T	14 08 17.1	
	baz=341,slow=76,SNR=318						
H11N3	WAKE ISLAND Hy	29.62	153	T	T	14 08 17.2	
	baz=341,slow=76,SNR=229						
H11S1	WAKE ISLAND Hy	30.70	154	T	T	14 09 39.7	
	baz=341,slow=76,SNR=385						
H11S3	WAKE ISLAND Hy	30.71	154	T	T	14 09 23.0	

	baz=341,slow=76,SNR=382						
H11S2	**WAKE ISLAND Hy**	**30.72**	**154**	T	T	14 09 29.1	
	baz=341,slow=76,SNR=390						
ILAR	**Eielson Array**	**36.15**	**39**	P	**P**	**13 37 20.2**	**+0.5**
	comp=Z,0.3nm,0.7s,baz=280,slow=7.7,SNR=5.7						
ILAR	**Eielson Array**	**36.15**	**39**	*e*P	**P**	**13 37 22.9**	**+3.2**
INK	**Inuvik**	**41.23**	**33**	P	**P**	**13 38 02.7**	**+0.7**
	comp=Z,0.6nm,0.5s,baz=296,slow=5.6,SNR=8.2						
MKAR	**Makanchi Array**	**46.78**	**297**	PcP	**PcP**	**13 40 18.4**	**-0.7**
	comp=Z,0.3nm,0.6s,baz=77,slow=2.6,SNR=4.0						
KURK	**Kurchatov**	**47.16**	**303**	*i* P	**P**	**13 38 47.9**	**-1.8**
KURK				pmax	pmax		
	comp=Z,1.0nm,1.1s						
YKA	**Yellowknife Ar**	**50.52**	**37**	P	**P**	**13 39 16.1**	**+0.9**
	comp=Z,0.7nm,0.8s,baz=297,slow=7.1,SNR=12						
CMAR	**Chiang Mai Arr**	**52.54**	**256**	P	**P**	**13 39 32.1**	**+1.2**
	comp=Z,0.4nm,0.5s,baz=30,slow=6.8,SNR=5.7						
CMAR	**Chiang Mai Arr**	**52.54**	**256**	P	**P**	**13 39 32.1**	**+1.2**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
FINES	**FINESS Array B**	**63.65**	**335**	P	**P**	**13 40 47.0**	**-0.8**
	comp=Z,3.1nm,1.0s,baz=30,slow=7.5,SNR=11						
OBN	**Obninsk**	**64.96**	**325**	*e*P	**P**	**13 40 56.8**	**+0.3**
OBN				*e*		13 41 26.1	
OBN				*e*		13 43 20.0	
OBN				pmax	pmax		
	comp=Z,3.0nm,1.0s						
NOA	**NORSAR Array B**	**67.81**	**341**	P	**P**	**13 41 14.0**	**-0.7**
	comp=Z,0.9nm,0.9s,baz=28,slow=6.5,SNR=3.7						
HFS	**Hagfors**	**68.04**	**339**	P	**P**	**13 41 15.2**	**-1.0**
	comp=Z,0.9nm,0.3s,baz=55,slow=5.5,SNR=13						
WRA	**Warramunga Arr**	**68.97**	**199**	P	**P**	**13 41 22.2**	**-0.2**
	comp=Z,0.2nm,0.9s,baz=18,slow=6.9,SNR=4.8						
WRA	**Warramunga Arr**	**68.97**	**199**	*e*P	**P**	**13 41 25.3**	**+3.0**
AKASG	**Malin Array Be**	**71.19**	**326**	P	**P**	**13 41 34.5**	**-1.2**
	comp=Z,0.1nm,0.3s,baz=30,slow=7.9,SNR=3.3						
ASAR	**Alice Springs**	**72.67**	**199**	P	**P**	**13 41 45.5**	**+0.7**
	comp=Z,0.7nm,0.7s,baz=14,slow=5.3,SNR=17						
ASAR	**Alice Springs**	**72.67**	**199**	*e*P	**P**	**13 41 45.8**	**+1.1**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
TXAR	**Lajitas Array**	**77.21**	**61**	P	**P**	**13 42 12.1**	**+0.9**
	comp=Z,0.4nm,0.6s,baz=289,slow=4.6,SNR=8.3						
TXAR	**Lajitas Array**	**77.21**	**61**	*e*P	**P**	**13 42 10.7**	**-0.5**
TXAR	**Lajitas Array**	**77.21**	**61**	*e*P	**P**	**13 42 10.7**	**-0.5**
GERES	**GERESS Array B**	**78.06**	**334**	P	**P**	**13 42 15.2**	**-0.4**
	comp=Z,0.3nm,0.5s,baz=16,slow=8.5,SNR=3.1						
MMAI	**Mount Meron Ar**	**82.55**	**311**	P	**P**	**13 42 40.4**	**+0.5**
	comp=Z,0.6nm,0.5s,baz=38,slow=5.4,SNR=3.2						

IDC 07 13:34:51.9±2.3**, 19°17N×38°93E, h0**km**, mb3.5**/5**, mb1 3.6**/5**, mb1mx3.2**/61**, mbtmp3.6**/5**, MS3.6**/2**, Ms1 3.6**/2**, ms1mx2.7**/46**, Error ellipse: s-maj=65.5km s-min=28.1km az=156.0, Red Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BRTR	**Keskin Array B**	**20.99**	**349**	P	P	13 39 37.2	+0.2
	0.2nm,0.4s,baz=181,slow=12,SNR=2.7						
VAE	**Valguarnera**	**28.12**	**316**	LR	LR	13 53 18.1	
	comp=Z,171nm,18.5s,baz=178,slow=39						
TORD	**Torodi Ar. Bea**	**36.21**	**266**	P	P	13 41 56.7	-0.1
	1.6nm,1.1s,baz=70,slow=8.2,SNR=4.7						
OPO	**Ambohidratompo**	**38.37**	**167**	LR	LR	13 57 27.6	
	comp=Z,58nm,18.7s,baz=0.5,slow=35						
KURBB	**Kurchatov Arra**	**44.32**	**36**	P	P	13 43 03.1	-0.4
	1.0nm,0.8s,baz=242,slow=8.0,SNR=4.9						
MKAR	**Makanchi Array**	**44.82**	**42**	P	P	13 43 07.5	-0.2
	0.5nm,0.6s,baz=247,slow=6.8,SNR=8.6						
SONM	**Songino Array**	**60.97**	**45**	P	P	13 45 07.5	+0.3
	0.3nm,0.4s,baz=273,slow=7.9,SNR=3.8						

MEX 07 13:47:21.0±0.5**, 16°39N×98°56W, h5**km**, MD3.9, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.42**	**90**	*e*P	Pg	13 47 25.7	-3.4
PNIG				*e*S	Sg	13 47 30.6	-4.0
TLIG	**Tlapa**	**1.17**	**360**	*e*P	Pg	13 47 39.9	-3.5
TLIG				*e*S	Sg	13 47 55.1	-3.4
CAIG	**El Cayaco**	**1.76**	**292**	*e*P	Pn	13 47 49.4	-2.8
CAIG				*e*S	Sn	13 48 14.2	-0.8
VHO	**Vista Hermosa**	**1.88**	**69**	*e*P	Pn	13 47 49.5	-4.5
VHO				*e*S	Sn	13 48 14.8	-3.4
HUIG	**Huatulco**	**2.44**	**104**	*e*P	Pn	13 48 00.8	-0.7
HUIG				*e*S	Sn	13 48 27.7	-4.1

ISCJB ***07*** *13:48:15.0±0.8, 16°5N±0°2×47°5W±0°1, h10km, mb3.8/7, MS3.5/3, Error ellipse: s-maj=25.2km s-min=18.2km az=6.3*

IDC ***07*** *13:48:15.2±0.9, 16°46N×47°50W, h0km, mb3.8/7, mb1 4.1/7, mb1mx3.6/56, mbtmp3.8/7, MS3.5/4, Ms1 3.4/4, ms1mx2.9/57, Error ellipse: s-maj=28.5km s-min=21.7km az=10.0*

ISC 07 13:48:16.7±0.9**, 16°4N**±0°2×**47°5W**±0°2**, h10**km**, n18, σ1s01**/7**, mb3.9**/7**, MS3.3**/3**, Northern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
H05N1	**Guadeloupe/Mar**	**13.04**	**271**	T	T	14 04 27.4	
	SNR=2.8						
H05S1	**Guadeloupe/Mar**	**13.04**	**263**	T	T	14 04 25.4	
	SNR=11						
SJG	**San Juan**	**17.91**	**278**	LR	LR	13 57 12.8	
	comp=Z,89nm,21.5s,baz=110,slow=30						
SDV	**Santo Domingo**	**23.79**	**254**	P	**P**	**13 53 31.6**	**+1.5**
	0.8nm,0.3s,baz=55,slow=10.0,SNR=3.6						
H10N3	**ASCENSION HYDR**	**40.58**	**124**	T	T	14 38 51.5	
	baz=306,slow=76,SNR=18						
H10N2	**ASCENSION HYDR**	**40.58**	**124**	T	T	14 38 51.1	
	baz=306,slow=76,SNR=18						
H10N1	**ASCENSION HYDR**	**40.60**	**124**	T	T	14 38 52.9	
	baz=306,slow=76,SNR=24						
H10S3	**ASCENSION HYDR**	**41.12**	**126**	T	T	14 39 28.1	
	baz=307,slow=74,SNR=12						
H10S1	**ASCENSION HYDR**	**41.12**	**125**	T	T	14 39 28.8	
	baz=307,slow=74,SNR=15						
H10S2	**ASCENSION HYDR**	**41.13**	**125**	T	T	14 39 31.4	
	baz=307,slow=74,SNR=13						
KOWA	**Kowa**	**41.87**	**86**	P	**P**	**13 56 08.3**	**+0.9**
	1.5nm,0.4s,baz=258,slow=9.3,SNR=3.1						
KOWA				LR	LR	14 10 25.1	
	comp=Z,44nm,21.9s,baz=214,slow=32						
DBIC	**Dimbokro**	**42.78**	**98**	LR	LR	14 09 51.8	
	comp=Z,28nm,21.2s,baz=262,slow=30						
CPUP	**Villa Florida**	**43.58**	**193**	P	**P**	**13 56 20.2**	**-0.8**
	4.3nm,0.8s,baz=10,slow=7.7,SNR=7.9						
TORD	**Torodi Ar. Bea**	**47.56**	**87**	P	**P**	**13 56 52.8**	**-0.1**
	0.8nm,0.7s,baz=291,slow=7.4,SNR=5.6						
TXAR	**Lajitas Array**	**52.89**	**295**	P	**P**	**13 57 33.0**	**-0.3**
	0.4nm,0.9s,baz=96,slow=8.2,SNR=3.3						
YKA	**Yellowknife Ar**	**65.03**	**332**	P	**P**	**13 58 56.3**	**-0.5**
	0.4nm,0.8s,baz=100,slow=7.8,SNR=7.2						
INK	**Inuvik**	**73.40**	**337**	LR	LR	14 30 23.1	
	comp=Z,113nm,18.2s,baz=110,slow=34						
ILAR	**Eielson Array**	**79.23**	**335**	P	**P**	**14 00 21.9**	**+0.1**
	1.2nm,0.8s,baz=75,slow=4.5,SNR=12						

DJA ***07*** *13:56:16.9±0.4, 8°S±4°×12°6E±°, h285km±7km, M4.8/3, mB5.1/1, mb5.0/1, MLv4.7/3, Mw(mB)4.4/1*

ISCJB ***07*** *13:56:17.8±0.4, 7°64S±0°04×126°04E±0°05, h300km, mb3.8/12, Error ellipse: s-maj=7.4km s-min=5.8km az=0.7*

IDC ***07*** *13:56:17.3±1.0, 7°61S×126°12E, h273km±11km, mb3.6/12, mb1 3.8/16, mb1mx3.5/49, mbtmp4.3/16, Error ellipse: s-maj=15.0km s-min=8.9km az=86.0*

ISC 07 13:56:18.4±0.5**, 7°65S**±0°06×**126°11E**±0°07**, h300**km**, n31, σ2s03**/37**, mb3.9**/12**, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SOEI	**Soe**	**2.77**	**221**	P	**Pn**	**13 57 10.9**	**-1.3**
SOEI				S	**S**	**13 57 51.0**	**-4.0**
BATI	**Baumata**	**3.51**	**223**	P	**Pn**	**13 57 18.7**	**-0.7**
	139nm,0.3s,baz=32,slow=2.6,SNR=123						
BATI				S	**S**	**13 58 04.4**	**-3.8**
	75nm,0.3s,baz=278,slow=19,SNR=29						
BATI	**Baumata**	**3.51**	**223**	P	**Pn**	**13 57 18.8**	**-0.7**
BATI				S	**S**	**13 58 05.2**	**-3.0**
NLAI	**Namlea**	**4.49**	**13**	P	**Pn**	**13 57 30.1**	**-0.1**
FAKI	**Fak Fak**	**7.71**	**53**	P	**Pn**	**13 58 06.0**	**-2.6**
PLAI	**Plampang**	**8.33**	**261**	P	**Pn**	**13 58 13.5**	**-2.6**
SIJI	**Sorong**	**8.47**	**38**	P	**Pn**	**13 58 16.4**	**-1.5**
	3.1nm,0.3s,baz=205,slow=8.0,SNR=15						
SIJI				S	**S**	**13 59 48.9**	**-6.1**
	0.9nm,0.3s,baz=85,slow=19,SNR=6.0						
SWI	**Sorong**	**8.47**	**38**	P	**Pn**	**13 58 16.4**	**-1.5**
MPSI	**Mapaga**	**10.06**	**322**	P	**Pn**	**13 58 35.8**	**-1.6**
JAGI	**Jajag, Banyuwa**	**11.87**	**265**	P	**P**	**13 58 59.8**	**-1.2**
WRA	**Warramunga Arr**	**14.60**	**148**	P	**Pn**	**13 59 31.7**	**-0.5**
	3.1nm,0.3s,baz=324,slow=12,SNR=180						
WRA				S	**S**	**14 02 09.7**	**-1.5**
	0.6nm,0.3s,baz=321,slow=21,SNR=14						
PCJI	**Pacitan**	**14.80**	**267**	P	**Pn**	**13 59 34.0**	**-0.6**
ASAR	**Alice Springs**	**17.60**	**156**	P	**Pn**	**14 00 06.1**	**-1.2**
	2.8nm,0.3s,baz=334,slow=12,SNR=424						
ASAR				S	**S**	**14 03 12.0**	**+0.9**
	0.2nm,0.3s,baz=333,slow=22,SNR=9.5						
NWAO	**Narrogin (SRO)**	**26.47**	**197**	P	**P**	**14 01 29.9**	**+1.2**
	7.4nm,0.5s,baz=255,slow=8.4,SNR=17						
STKA	**Stephens Creek**	**28.10**	**151**	P	**P**	**14 01 45.4**	**+2.2**
	1.6nm,0.5s,baz=338,slow=10,SNR=4.5						
CMAR	**Chiang Mai Arr**	**37.30**	**314**	P	**P**	**14 03 04.2**	**+1.4**
	2.9nm,0.7s,baz=144,slow=6.6,SNR=26						
KSRS	**Korea Array**	**44.90**	**2**	P	**P**	**14 04 05.4**	**+1.5**
	1.3nm,0.4s,baz=179,slow=9.2,SNR=14						
USRK	**Ussuriysk Ar.**	**51.88**	**5**	P	**P**	**14 04 58.0**	**+1.3**
	2.0nm,0.4s,baz=188,slow=7.4,SNR=9.0						
JIRN	**Jiri**	**52.17**	**314**	*e*P	**P**	**14 05 00.5**	**+0.8**
GUN	**Gumba**	**52.54**	**314**	*e*P	**P**	**14 05 03.1**	**+0.8**
	5.8nm,0.5s						
DMN	**Daman**	**52.92**	**313**	*e*P	**P**	**14 05 05.8**	**+0.8**
GKN	**Gorkha**	**53.49**	**313**	*e*P	**P**	**14 05 09.8**	**+0.8**
	9.2nm,0.3s						
KOLN	**Koldanda**	**54.11**	**312**	*e*P	**P**	**14 05 14.4**	**+0.9**
	4.8nm,0.2s						
PYUN	**Piuthan**	**54.74**	**312**	*e*P	**P**	**14 05 19.0**	**+1.0**
SONM	**Songino Array**	**57.93**	**344**	P	**P**	**14 05 41.1**	**+1.2**
	0.9nm,0.3s,baz=160,slow=8.8,SNR=9.3						
PETK	**Petropavlovsk-**	**66.20**	**20**	P	**P**	**14 06 36.5**	**+2.2**
	2.4nm,0.8s,baz=178,slow=6.1,SNR=4.1						
MKAR	**Makanchi Array**	**66.71**	**329**	P	**P**	**14 06 38.8**	**+1.0**
	1.6nm,0.5s,baz=126,slow=7.3,SNR=27						
ZALV	**Zalesovo Beam**	**70.51**	**336**	P	**P**	**14 07 01.3**	**+0.5**
	1.2nm,0.4s,baz=136,slow=5.1,SNR=8.0						
KURBB	**Kurchatov Arra**	**71.09**	**330**	P	**P**	**14 07 05.6**	**+1.1**
	0.9nm,0.5s,baz=137,slow=5.0,SNR=8.6						
MAW	**Mawson**	**72.95**	**201**	P	**P**	**14 07 17.3**	**+2.2**
	1.6nm,0.7s,baz=60,slow=8.1,SNR=4.6						
BVAR	**Borovoye Array**	**76.59**	**329**	P	**P**	**14 07 37.5**	**+1.4**
	0.8nm,0.4s,baz=106,slow=6.9,SNR=4.4						

KRSC 07 14:10:08.6±0.8**, 55°40N×162°52E, h48**km±19km**, ML3.6, Near east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**0.83**	**12**	*e*P	Pn	14 10 25.5	+1.5
KBTR				*e*S	Sn	14 10 38.3	+3.1
TUMD	**Tumrok D**	**1.23**	**262**	*e*P	Pn	14 10 30.2	+0.8
TUMD				*e*S	Sn	14 10 45.6	+0.7
CIRR	**Tsirk**	**1.23**	**306**	*e*P	Pn	14 10 30.5	+0.9
LGNR	**Loginova**	**1.24**	**304**	*e*P	Pn	14 10 31.2	+1.4
BZMR	**Bezymyannaya**	**1.27**	**296**	*e*P	Pn	14 10 31.2	+1.1
BZMR				*e*S	Sn	14 10 47.4	+1.3
BZWR	**Bezymyannyi-We**	**1.28**	**297**	*e*P	Pn	14 10 31.5	+1.3
BZWR				*e*S	Sn	14 10 49.2	+2.9
KZV	**Kizimen**	**1.31**	**258**	*e*P	Pn	14 10 31.2	+0.6
KZV				*e*S	Sn	14 10 47.1	+0.1
SMKR	**Semkarok**	**1.32**	**334**	*e*P	Pn	14 10 32.5	+1.7
SMKR				*e*S	Sn	14 10 50.6	+3.3
KMNR	**Kamenistaya**	**1.35**	**286**	*e*P	Pn	14 10 32.6	+1.5
KMNR				*e*S	Sn	14 10 50.3	+2.4
TUMR	**Tumrok**	**1.36**	**266**	*e*P	Pn	14 10 32.7	+1.4
TUMR				*e*S	Sn	14 10 50.1	+1.8
KRSR	**Krestovskiy**	**1.38**	**307**	*e*P	Pn	14 10 32.2	+0.7
KRSR				*e*S	Sn	14 10 49.9	+1.3
BDR	**Baidarnaya**	**1.39**	**328**	*e*P	Pn	14 10 33.5	+1.9
BDR				*e*S	Sn	14 10 51.2	+2.4
KLY	**Klyuchi**	**1.40**	**312**	*e*P	Pn	14 10 31.3	-0.4
KLY				*e*S	Sn	14 10 48.2	-0.7
SRKR	**Sorokina**	**1.47**	**329**	*e*P	Pn	14 10 34.4	+1.7
SRKR				*e*S	Sn	14 10 53.4	+2.6
KOZ	**Kozyrevsk**	**1.64**	**295**	*e*P	Pn	14 10 36.9	+1.9
KOZ				*e*S	Sn	14 10 58.1	+3.2
BKI	**Bering**	**1.98**	**94**	*e*S	Sn	14 11 05.7	+2.5
ESO	**Esso**	**2.23**	**285**	*e*P	Pn	14 10 44.2	+1.1
SPN	**Mys Shipunski**	**2.73**	**213**	*e*P	Pn	14 10 53.0	+3.0
NLC	**Nalytchevo**	**2.91**	**221**	*e*P	Pn	14 10 56.4	+4.1
NLC				*e*S	Sn	14 11 29.3	+3.3
SDLR	**Sedlovina**	**3.01**	**227**	*e*P	Pn	14 10 56.9	+3.0
SDLR				*e*S	Sn	14 11 32.2	+3.5
KRER	**Koryakskii**	**3.05**	**228**	*e*P	Pn	14 10 58.3	+3.8
KRX	**Arik**	**3.05**	**230**	*e*S	Sn	14 11 35.3	+5.5
SMAR	**Somma**	**3.05**	**227**	*e*P	Pn	14 10 57.7	+3.1
AVH	**Avacha**	**3.08**	**228**	*e*P	Pn	14 10 58.4	+3.6
AVH				*e*S	Sn	14 11 36.1	+5.7
UGLR	**Uglovaya**	**3.08**	**226**	*e*P	Pn	14 10 58.5	+3.6
KOK	**Koryaka**	**3.10**	**229**	*e*P	Pn	14 10 59.7	+4.6
GNL	**Ganaly**	**3.17**	**239**	*e*P	Pn	14 10 57.9	+1.9
DALK	**Dalny**	**3.25**	**225**	*e*P	Pn	14 11 00.4	+3.4
DALK				*e*S	Sn	14 11 38.3	+4.0
PET	**Petropavlovsk**	**3.29**	**225**	*e*P	Pn	14 11 00.9	+3.3
PET				*e*S	Sn	14 11 39.2	+3.8
KRMR	**Karymshinskiy**	**3.65**	**227**	*e*P	Pn	14 11 06.3	+3.8
KRMR				*e*S	Sn	14 11 48.9	+4.7
OSSR	**Ossora**	**3.87**	**4**	*e*S	Sn	14 11 53.0	+3.3

NEIC ***07*** *14:13:25.7±1.6, 43°55N×104°35W, h0km, MN2.5, Error ellipse: s-maj=21.8km s-min=12.9km az=215.0, Suspected Mining explosion.*

NEIC 36 km [22 miles] SSW of Newcastle.

IDC ***07*** *14:13:33.6±2.2, 43°43N×105°21W, h0km, mb1 3.2/3, mb1mx3.0/67, mbtmp3.0/3, ML3.2/2, Error ellipse: s-maj=49.0km s-min=9.4km az=154.0*

ISC 07 14:13:27.5±1.5**, 43°42N**±0°09×**104°40W**±0°09**, h0**km**, n10, σ2s04**/9**, Wyoming**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
K22A	**Casper**	**1.74**	**245**	*e*Pg	**Pb**	**14 13 60.0**	**-0.4**
OGNE	**Ogallala**	**3.03**	**144**	Pn	**Pn**	**14 14 15.7**	**-1.1**
ISCO	**Idaho Springs**	**3.73**	**195**	*e*P	**Pg**	**14 14 37.7**	**-1.2**
PDAR	**Pinedale Array**	**3.83**	**262**	Pn	**Pn**	**14 14 28.3**	**+0.3**
	1.6nm,0.3s,baz=83,slow=16,SNR=17						
PDAR				Pg	**Pb**	**14 14 37.2**	**+1.0**
	4.5nm,0.3s,baz=84,slow=17,SNR=22						
PDAR				Lg	Lg	14 15 13.7	
	5.3nm,0.3s,baz=80,slow=33,SNR=14						
RLMT	**Red Lodge**	**3.89**	**298**	*e*Pn	**Pn**	**14 14 26.7**	**-2.0**
O20A	**White River Ci**	**4.36**	**223**	*e*Pn	**Pn**	**14 14 36.2**	**+1.0**
H17A	**Grant Village**	**4.57**	**284**	*e*Pn	**Pn**	**14 14 35.6**	**-2.5**
TCUT	**Toone Canyon**	**5.69**	**249**	P	Pn	14 14 39.6	-14
ULM	**Lac du Bonnet**	**8.98**	**38**	Pn	Pn	14 15 46.8	+8.4
	0.7nm,0.3s,baz=232,slow=11,SNR=6.9						
YKA	**Yellowknife Ar**	**20.03**	**346**	P	**Pn**	**14 18 06.4**	**+3.1**
	baz=158,slow=9.9,SNR=3.1						

ISCJB ***07*** *14:15:30.5±0.3, 45°25N±0°06×142°26E±0°08, h292km±4km, mb3.3/11, Error ellipse: s-maj=9.5km s-min=8.7km az=178.6*

JMA ***07*** *14:15:31.0±0.2, 45°25N×142°21E, h288km±2km, M3.2*

IDC ***07*** *14:15:31.4±0.4, 45°31N×142°19E, h283km±9km, mb3.2/11, mb1 3.3/17, mb1mx3.0/79, mbtmp3.8/17, Error ellipse: s-maj=22.6km s-min=10.8km az=168.0*

ISC 07 14:15:31.4±0.6**, 45°20N**±0°07×**142°28E**±0°07**, h289**km±6km**, n36, σ0s84**/45**, mb3.4**/11**, Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JWK2	**Keihoku**	**0.29**	**293**	P	**Pn**	**14 16 07.7**	**-0.5**
JWK2				*e*S	**S**	**14 16 36.5**	**-0.9**
JSE	**Soyaes**	**0.33**	**139**	P	**Pn**	**14 16 08.0**	**-0.3**
JRR	**Rishiri**	**0.69**	**265**	P	**Pn**	**14 16 08.9**	**-0.3**
JRR				*e*S	**S**	**14 16 39.0**	**-0.2**
JSS	**Shosan**	**0.86**	**201**	P	**Pn**	**14 16 10.0**	**0.0**
JYG	**Yagishiri**	**0.99**	**218**	P	**Pn**	**14 16 10.3**	**-0.2**
ASAJ	**Asahikawa**	**1.11**	**168**	P	**Pn**	**14 16 11.3**	**+0.1**
	5.4nm,0.3s,baz=323,slow=25,SNR=85						
ASAJ				S	**S**	**14 16 42.9**	**+0.1**
	0.9nm,0.3s,baz=197,slow=32,SNR=18						
ASAJ	**Asahikawa**	**1.11**	**168**	P	**Pn**	**14 16 11.3**	**+0.1**
ASAJ				*e*S	**S**	**14 16 42.6**	**-0.2**
JKK2	**Kamakawa 2**	**1.37**	**166**	P	**Pn**	**14 16 12.9**	**+0.2**
JKK2				*e*S	**S**	**14 16 46.0**	**+0.5**
JMP	**Maruseppu**	**1.42**	**147**	P	**Pn**	**14 16 13.0**	**0.0**
JMP				*e*S	**S**	**14 16 46.1**	**0.0**
JTKR	**Abashiri--Toko**	**1.69**	**136**	P	**Pn**	**14 16 15.1**	**+0.3**
JTKR				*e*S	**S**	**14 16 49.3**	**0.0**
JFR	**Furan**	**2.05**	**174**	P	**Pn**	**14 16 17.4**	**-0.3**
JAR	**Ashorobuto**	**2.19**	**150**	P	**Pn**	**14 16 19.2**	**+0.5**
JAR				*e*S	**S**	**14 16 57.2**	**+0.7**
JRA	**Rausu**	**2.39**	**121**	P	**Pn**	**14 16 21.4**	**+0.9**
JEW	**Eniwo**	**2.44**	**195**	P	**Pn**	**14 16 21.3**	**+0.3**
JEW				*e*S	**S**	**14 17 00.5**	**0.0**
JCH	**Churui**	**2.70**	**163**	P	**Pn**	**14 16 22.0**	**-1.5**
JNBK	**Urakawa-nobuka**	**2.94**	**173**	*e*S	**S**	**14 17 08.1**	**-1.1**
NEM2	**Nemuro 2**	**3.09**	**125**	*e*S	**S**	**14 17 08.7**	**-3.2**
JKB	**Kayabe**	**3.44**	**196**	P	**Pn**	**14 16 29.6**	**-1.3**
USRK	**Ussuriysk Ar.**	**7.40**	**266**	P	**Pn**	**14 17 17.7**	**+0.3**
	0.4nm,0.3s,baz=81,slow=12,SNR=4.8						
KLR	**Kul'dur**	**8.22**	**303**	P	**Pn**	**14 17 26.6**	**-0.8**
	0.0nm,0.3s,baz=136,slow=10,SNR=6.6						
MJAR	**Matsushiro Arr**	**9.18**	**201**	P	**Pn**	**14 17 39.2**	**-0.4**
	0.6nm,0.3s,baz=8.6,slow=13,SNR=12						
PETK	**Petropavlovsk-**	**12.80**	**46**	P	**Pn**	**14 18 23.8**	**+0.2**
	0.1nm,0.3s,baz=236,slow=6.8,SNR=5.1						
KSRS	**Korea Array**	**13.27**	**239**	P	**P**	**14 18 31.4**	**+1.6**
	baz=57,slow=9.6,SNR=3.5						
MA2	**Magadan**	**15.28**	**17**	P	**Pn**	**14 18 53.0**	**-0.1**
	0.5nm,0.3s,baz=198,slow=12,SNR=6.0						
SEY	**Seymchan**	**18.68**	**15**	P	**P**	**14 19 28.0**	**-0.6**
	0.6nm,0.3s,baz=205,slow=8.7,SNR=32						
SONM	**Songino Array**	**24.70**	**289**	P	**P**	**14 20 26.4**	**-0.2**
	0.5nm,0.3s,baz=80,slow=9.1,SNR=7.0						
MKAR	**Makanchi Array**	**40.81**	**294**	P	**P**	**14 22 44.9**	**-0.2**
	0.8nm,0.6s,baz=80,slow=9.1,SNR=11						
KDAK	**Kodiak Island**	**40.85**	**48**	P	**P**	**14 22 45.5**	**+0.5**
	2.9nm,0.6s,baz=246,slow=3.8,SNR=7.6						
KURBB	**Kurchatov Arra**	**41.89**	**301**	P	**P**	**14 22 53.0**	**-0.6**
	1.0nm,0.5s,baz=71,slow=8.8,SNR=8.9						
ILAR	**Eielson Array**	**42.40**	**37**	P	**P**	**14 22 57.1**	**-0.4**
	0.7nm,0.6s,baz=278,slow=8.8,SNR=14						
BVAR	**Borovoye Array**	**45.86**	**307**	P	**P**	**14 23 24.2**	**-0.8**
	0.4nm,0.4s,baz=79,slow=9.9,SNR=4.4						
INK	**Inuvik**	**46.91**	**30**	P	**P**	**14 23 32.2**	**-0.6**
	1.0nm,0.3s,baz=286,slow=5.4,SNR=16						
RES	**Resolute Bay**	**54.55**	**16**	P	**P**	**14 24 28.8**	**-0.6**
	0.4nm,0.4s,baz=299,slow=8.4,SNR=3.0						
YKA	**Yellowknife Ar**	**56.50**	**33**	P	**P**	**14 24 43.4**	**+0.1**
	0.6nm,0.4s,baz=306,slow=6.9,SNR=19						
NVAR	**Mina Array Bea**	**69.70**	**56**	P	**P**	**14 26 12.1**	**+1.8**
	0.7nm,0.6s,baz=298,slow=5.9,SNR=6.4						
PDAR	**Pinedale Array**	**71.57**	**48**	P	**P**	**14 26 22.4**	**+1.0**
	0.5nm,0.7s,baz=295,slow=1.4,SNR=6.3						

IDC 07 14:16:55.8±14.0**, 0°82S×129°91E, h0**km**, mb3.5**/2**, mb1 3.5**/3**, mb1mx3.2**/54**, mbtmp3.3**/3**, ML2.9**/1**, Error ellipse: s-maj=220.4km s-min=132.9km az=154.0, Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.49**	**167**	P	P	14 21 24.1	-0.5
	0.0nm,0.3s,baz=348,slow=12,SNR=4.7						
ASAR	**Alice Springs**	**23.04**	**171**	P	P	14 22 02.8	0.0
	0.2nm,0.3s,baz=350,slow=11,SNR=8.5						
STKA	**Stephens Creek**	**32.80**	**161**	P	P	14 23 31.3	+0.3
	1.6nm,0.7s,baz=345,slow=12,SNR=3.6						

ISCJB ***07*** *14:38:39.0±0.2, 7°58S±0°04×119°38E±0°03, h274km±3km, mb4.0/24, Error ellipse: s-maj=7.1km s-min=4.4km az=22.8*

NEIC ***07*** *14:38:39.6±0.6, 7°52S×119°36E, h272km±7km, mb4.2/11, Error ellipse: s-maj=10.7km s-min=6.0km az=208.0*

DJA ***07*** *14:38:40.9±0.3, 8°S±3°×11°9E±°, h257km±4km, M3.6/6, MLv3.6/6*

IDC ***07*** *14:38:40.9±1.2, 7°54S×119°50E, h275km±11km, mb3.6/14, mb1 3.7/18, mb1mx3.5/58, mbtmp4.3/18, Error ellipse: s-maj=19.3km s-min=6.9km az=50.0*

ISC 07 14:38:39.5±0.6**, 7°61S**±0°05×**119°38E**±0°04**, h268**km±6km**, n85, σ1s39**/97**, mb4.2**/24**, Flores Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BSSI	**Bau Bau, Buton**	**1.83**	**37**	P	**Pn**	**14 39 22.5**	**+0.4**
BSSI				S	**S**	**14 39 55.2**	**-0.6**
PLAI	**Plampang**	**2.00**	**233**	P	**Pn**	**14 39 24.8**	**+1.4**
PLAI				S	**S**	**14 39 58.4**	**+0.2**
WBSI	**Waikabubak, Su**	**2.02**	**180**	P	**Pn**	**14 39 23.4**	**-0.3**
WBSI				S	**S**	**14 39 56.7**	**-2.1**
EDFI	**Ende, Flores**	**2.55**	**116**	P	**Pn**	**14 39 29.3**	**+0.6**
EDFI				S	**S**	**14 40 07.4**	**-0.3**
BASI	**Baing, Sumba**	**2.85**	**156**	P	**Pn**	**14 39 31.8**	**+0.2**
BASI				S	**S**	**14 40 11.6**	**-1.4**
BBSI	**Bau Bau**	**3.81**	**57**	P	**Pn**	**14 39 44.2**	**+2.2**
SRBI	**Singaraja**	**4.16**	**263**	P	**Pn**	**14 39 47.5**	**+1.6**
IGBI	**Denpasar**	**4.36**	**254**	P	**Pn**	**14 39 49.6**	**+1.3**
BATI	**Baumata**	**4.96**	**122**	P	**Pn**	**14 39 56.3**	**+0.9**
	25nm,0.3s,baz=353,slow=2.7,SNR=34						
BATI				S	**S**	**14 40 55.4**	**-0.7**
	16nm,0.3s,baz=103,slow=17,SNR=5.1						
BATI	**Baumata**	**4.96**	**122**	P	**Pn**	**14 39 55.3**	**-0.1**
JAGI	**Jajag, Banyuwa**	**5.25**	**260**	P	**Pn**	**14 39 59.3**	**+0.4**
JAGI				S	**S**	**14 41 00.2**	**-2.2**
JAGI	**Jajag, Banyuwa**	**5.25**	**260**	*e*Pn	**Pn**	**14 39 59.3**	**+0.4**
SOEI	**Soe**	**5.28**	**114**	P	**Pn**	**14 39 59.9**	**+0.5**
SOEI				S	**S**	**14 41 03.1**	**-0.3**
SOEI	**Soe**	**5.28**	**114**	*e*Pn	**Pn**	**14 39 60.0**	**+0.5**
GMJI	**Gumukmas**	**5.92**	**263**	P	**Pn**	**14 40 08.6**	**+1.6**
LUWI	**Luwuk**	**7.35**	**28**	*e*Pn	**Pn**	**14 40 25.5**	**+0.7**
UGM	**Wanagama**	**8.78**	**267**	*e*Pn	**Pn**	**14 40 43.4**	**+0.7**
CISI	**Cisompet, Garu**	**11.46**	**270**	*e*Pn	**Pn**	**14 41 13.7**	**-2.5**
LEM	**Lembang**	**11.70**	**273**	P	**P**	**14 41 21.2**	**-0.8**
	4.7nm,0.3s,baz=142,slow=23,SNR=5.5						
MTN	**Manton Dam**	**12.68**	**115**	*e*Pn	**Pn**	**14 41 31.7**	**+0.5**
SIJI	**Sorong**	**13.61**	**61**	P	**P**	**14 41 43.0**	**-0.1**
	0.6nm,0.3s,baz=229,slow=11,SNR=8.2						
SIJI				S	**S**	**14 44 13.3**	**0.0**
	0.3nm,0.3s,baz=218,slow=19,SNR=3.7						
FAKI	**Fak Fak**	**13.63**	**71**	*e*Pn	**Pn**	**14 41 40.9**	**-1.9**
MYKOM	**Kota Tinggi**	**18.09**	**300**	*e*P	**P**	**14 42 31.9**	**-0.3**
	13nm,0.8s						
WRA	**Warramunga Arr**	**18.99**	**132**	P	**P**	**14 42 42.7**	**+0.9**
	1.0nm,0.3s,baz=305,slow=12,SNR=52						
WRA				S	**S**	**14 45 59.6**	**-3.3**
	0.1nm,0.3s,baz=297,slow=21,SNR=8.3						
WRAB	**Tennant Creek**	**18.99**	**132**	*e*P	**P**	**14 42 42.6**	**+0.8**
	4.9nm,0.8s						
WB2	**Warramunga Arr**	**19.00**	**132**	*e*P	**P**	**14 42 42.7**	**+0.9**
	5.5nm,0.8s						
AS31	**Alice Springs**	**21.19**	**140**	*e*P	**P**	**14 43 05.5**	**+0.8**
	5.1nm,0.4s						
ASAR	**Alice Springs**	**21.19**	**140**	P	**P**	**14 43 06.0**	**+1.2**
	10nm,0.4s,baz=315,slow=8.8,SNR=187						
ASAR				S	**S**	**14 46 46.1**	**+3.8**
	4.0nm,1.0s,baz=324,slow=24,SNR=13						
ASAR				ScP	**ScP**	**14 50 07.7**	**-2.4**
	0.7nm,0.9s,baz=329,slow=2.2,SNR=2.7						
AS01	**Alice Springs**	**21.22**	**140**	*e*P	**P**	**14 43 05.6**	**+0.6**
IPM	**Ipoh**	**21.90**	**303**	*e*P	**P**	**14 43 11.8**	**+0.4**
	15nm,0.6s						
PSI	**Prapat**	**22.88**	**296**	P	**P**	**14 43 21.9**	**+1.5**
	2.8nm,0.4s,baz=159,slow=4.3,SNR=5.4						
NWAO	**Narrogin (SRO)**	**25.27**	**184**	P	**P**	**14 43 44.2**	**+2.5**
	2.5nm,0.6s,baz=224,slow=4.4,SNR=3.3						
CHAI	**Chaiyaphum**	**29.02**	**324**	P	**P**	**14 44 17.9**	**+2.7**
	4.6nm,0.7s						
PBKT	**Sadao Pong**	**30.15**	**323**	P	**P**	**14 44 26.1**	**+1.0**
	12nm,0.8s,1μm						
PHIT	**Phitsanulok**	**30.96**	**323**	P	**P**	**14 44 35.1**	**+2.9**
	13nm,0.8s						
STKA	**Stephens Creek**	**31.80**	**142**	P	**P**	**14 44 40.7**	**+1.3**
	4.2nm,0.7s,baz=322,slow=8.5,SNR=18						
STKA	**Stephens Creek**	**31.80**	**142**	*e*P	**P**	**14 44 40.7**	**+1.3**
	1.5nm,1.2s						
CM01	**Chiang Mai Arr**	**32.79**	**322**	*e*P	**P**	**14 44 47.6**	**-0.5**
CMAR	**Chiang Mai Arr**	**32.83**	**322**	P	**P**	**14 44 50.5**	**+2.0**
	1.1nm,0.7s,baz=144,slow=6.7,SNR=9.5						
CHTO	**Chiang Mai**	**33.10**	**323**	P	**P**	**14 44 53.7**	**+2.9**
	18nm,1.2s						
CHTO	**Chiang Mai**	**33.10**	**323**	*e*P	**P**	**14 44 50.0**	**-0.8**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	3.3nm,0.9s						
KSRS	Korea Array	45.53	10	P	P	14 46 33.8	+1.0
	0.7nm,0.7s,baz=192,slow=10,SNR=3.3						
LSA	Lhasa	45.97	325	eP	P	14 46 32.7	-4.2
	7.2nm,1.0s						
ODAN	Odare	46.21	319	eP	P	14 46 39.3	+0.7
	12nm,0.4s						
RAMN	Ramite	46.79	318	eP	P	14 46 44.3	+1.2
	19nm,0.5s						
JIRN	Jiri	47.54	319	eP	P	14 46 49.7	+0.7
	17nm,0.3s						
GUN	Gumba	47.91	319	eP	P	14 46 52.5	+0.7
	20nm,0.7s						
PKIN	Phulchoki	48.00	318	eP	P	14 46 52.7	+0.3
	12nm,0.4s						
DMN	Daman	48.22	318	eP	P	14 46 54.5	+0.5
	9.5nm,0.4s						
KKN	Kakani	48.22	318	eP	P	14 46 54.4	+0.4
	5.6nm,0.4s						
GKN	Gorkha	48.79	318	eP	P	14 46 58.6	+0.4
	24nm,0.3s						
KOLN	Koldanda	49.33	317	eP	P	14 47 02.6	+0.2
	11nm,0.2s						
DANN	Dangsing	49.60	318	eP	P	14 47 04.9	+0.4
PYUN	Piuthan	49.96	317	eP	P	14 47 07.5	+0.4
	25nm,0.5s						
SONM	Songino Array	56.39	350	P	P	14 47 54.7	+1.4
	1.5nm,0.5s,baz=167,slow=7.5,SNR=11						
SONA1	Songino Array	56.40	350	eP	P	14 47 51.2	-2.2
MK31	Makanchi Array	63.40	332	eP	P	14 48 41.4	+0.6
MKAR	Makanchi Array	63.40	332	P	P	14 48 41.7	+1.0
	3.8nm,0.4s,baz=157,slow=6.5,SNR=100						
MAKZ	Makanchi	63.56	332	eP	P	14 48 41.6	-0.1
	4.1nm,1.0s						
AAK	Ala-Archa	64.56	325	eP	P	14 48 48.3	-0.3
	5.2nm,0.6s						
KK06	Karatay Array	67.16	323	eP	P	14 49 03.5	-1.4
KK02	Karatay Array	67.17	323	eP	P	14 49 02.8	-2.2
KK05	Karatay Array	67.17	323	eP	P	14 49 02.9	-2.1
KK01	Karatay Array	67.17	323	eP	P	14 49 02.5	-2.4
KK04	Karatay Array	67.18	323	eP	P	14 49 03.0	-1.9
KK08	Karatay Array	67.18	323	eP	P	14 49 02.5	-2.5
ZALV	Zalesovo Beam	67.89	339	P	P	14 49 08.9	-0.2
	2.6nm,0.5s,baz=147,slow=4.5,SNR=17						
ZALV	Zalesovo Beam	67.89	339	eP	P	14 49 07.9	-1.2
KURBB	Kurchatov Arra	67.90	333	P	P	14 49 09.8	+0.5
	3.6nm,0.7s,baz=142,slow=5.8,SNR=39						
KURK	Kurchatov	67.93	333	eP	P	14 49 09.0	-0.4
	7.0nm,0.9s						
GEYT	Alibeck	72.76	313	P	P	14 49 39.1	+0.2
	0.9nm,0.7s,baz=134,slow=4.3,SNR=4.2						
BVAR	Borovoye Array	73.26	332	P	P	14 49 41.9	+0.5
	2.2nm,0.7s,baz=116,slow=6.6,SNR=16						
AB07	Akbulak array	76.63	325	eP	P	14 50 00.3	-0.5
AB06	Akbulak array	76.64	325	eP	P	14 50 00.9	+0.1
AB03	Akbulak array	76.65	325	eP	P	14 50 00.7	-0.2
AB01	Akbulak array	76.65	325	eP	P	14 50 00.6	-0.3
AB02	Akbulak array	76.65	325	eP	P	14 50 00.6	-0.3
AB31	Akbulak array	76.65	325	eP	P	14 50 00.8	-0.1
AB08	Akbulak array	76.65	325	eP	P	14 50 00.2	-0.7
AB04	Akbulak array	76.66	325	eP	P	14 50 00.1	-0.8
AB05	Akbulak array	76.66	325	eP	P	14 50 00.4	-0.6
AB09	Akbulak array	76.67	325	eP	P	14 50 00.8	-0.2
AKTO	Aktyubinsk	78.31	325	P	P	14 50 09.9	-0.1
	2.7nm,0.7s,baz=88,slow=5.2,SNR=13						
BRTR	Keskin Array B	91.54	310	P	P	14 51 15.4	-0.9
	0.3nm,0.4s,baz=90,slow=3.0,SNR=3.0						
TORD	Torodi Ar. Bea	118.58	281	PKP	PKPdf	14 56 56.1	-0.5
	0.7nm,0.5s,baz=54,slow=1.4,SNR=6.1						

IDC 07 14:49:17.7±1.9, 32°.19S×179°.41W, h0km, mb3.8/3, mb1 4.0/4, mb1mx3.6/42, mbtmp3.7/4, ML3.2/1, MS3.5/1, Ms1 3.5/1, ms1mx2.6/51, Error ellipse: s-maj=54.2km s-min=36.1km az=143.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
URZ	Urewera	6.70	204	Pn	Pn	14 50 56.3	-0.9
	0.5nm,0.3s,baz=46,slow=19,SNR=9.5						
URZ				Sn	Sn	14 52 09.6	-4.6
	1.3nm,0.3s,baz=353,slow=23,SNR=7.3						
PMG	Port Moresby	38.34	299	LR	LR	15 10 13.1	
	comp=Z,67nm,19.2s,baz=184,slow=33						
ASAR	Alice Springs	41.85	270	P	P	14 57 09.6	0.0
	0.5nm,0.9s,baz=108,slow=7.1,SNR=6.0						
WRA	Warramunga Arr	43.00	275	P	P	14 57 19.1	+0.1
	0.7nm,0.8s,baz=113,slow=7.9,SNR=7.9						
PDAR	Pinedale Array	98.25	44	P	Pdif	15 02 57.2	+0.1
	0.3nm,0.3s,baz=249,slow=2.5,SNR=4.3						
FINES	FINESS Array B	146.37	338	PKPbc	PKPdf	15 08 58.5	+0.1
	1.9nm,1.0s,baz=35,slow=5.1,SNR=4.0						

NNC 07 14:59:07.2±4.7, 36°.36N×69°.39E, h0km, mb3.6, mpv3.2, 4C-3D, Error ellipse: s-maj=44.0km s-min=35.9km az=93.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SFK	Sufi-Kurgan	4.88	40	⇓P	Pn	15 00 21.3	-0.8
	1.0nm,0.3s						
SFK				⇑S	Sn	15 01 21.6	+2.3
	7.9nm,0.4s						
MNAS	Manas	6.58	21	⇓P	Pn	15 00 46.8	+1.5
	0.7nm,0.3s						
MNAS				⇑S	Sn	15 02 01.3	+0.2
	0.6nm,0.4s						
KK31	Karatay Array	6.79	7	⇑P	Pn	15 00 49.0	+0.9
	1.0nm,0.4s,baz=193,slow=13,SNR=22						
KK31				⇓S	Sn	15 02 07.5	+1.3
	0.2nm,0.3s,baz=202,slow=17,SNR=4.7						
AAK	Ala-Archa	7.41	31	⇑P	Pn	15 00 55.5	-1.2
	0.7nm,0.4s						

IDC 07 15:09:49.7±2.8, 18°.25N×146°.30E, h420km±25km, mb2.9/8, mb1 3.0/10, mb1mx2.7/73, mbtmp3.7/10, Error ellipse: s-maj=79.7km s-min=16.6km az=85.0

ISC 07 15:09:48.6±2.3, 18°.22N±0°.09×146°.1E±0°.6, h400km, n10, σ1s.55/11, mb3.3/8, Mariana Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GUMO	Guam	4.76	195	P	Pn	15 11 09.7	+1.4
	6.0nm,0.3s,baz=272,slow=4.8,SNR=7.1						
GUMO				S	S	15 12 10.7	-2.2
	8.8nm,0.3s,baz=153,slow=21,SNR=5.9						
MJAR	Matsushiro Arr	19.54	341	P	P	15 13 47.8	-0.9
	0.3nm,0.3s,baz=169,slow=10.0,SNR=4.7						
KSRS	Korea Array	24.93	324	P	P	15 14 40.1	+2.5
	1.1nm,0.6s,baz=142,slow=9.0,SNR=7.2						
KLR	Kul'dur	33.04	343	P	P	15 15 49.5	+1.1
	0.1nm,0.6s,baz=137,slow=6.4,SNR=7.0						
WRA	Warramunga Arr	39.65	198	P	P	15 16 44.8	+0.8
	0.1nm,0.3s,baz=33,slow=9.0,SNR=3.7						
SONM	Songino Array	43.76	322	P	P	15 17 16.2	-0.4
	0.5nm,0.5s,baz=126,slow=9.1,SNR=3.2						
MKAR	Makanchi Array	59.08	314	P	P	15 19 08.0	-0.6
	0.2nm,0.4s,baz=94,slow=8.1,SNR=4.8						
KURBB	Kurchatov Arra	61.94	318	P	P	15 19 26.9	-0.7
	1.2nm,0.5s,baz=96,slow=7.3,SNR=20						
BVAR	Borovoye Array	67.09	321	P	P	15 20 00.0	-0.5
	0.8nm,0.4s,baz=103,slow=7.7,SNR=9.9						
FINES	FINESS Array B	87.48	335	P	P	15 21 50.6	-1.4
	4.9nm,1.2s,baz=66,slow=8.0,SNR=3.0						

GUC 07 15:15:53.3±0.5, 35°.83S×73°.16W, h18km±6km, ML4.0, 2C-1D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
COCH	Cobquecura	0.42	135	⇓iP	Pg	15 16 01.4	-0.6
COCH				iS	Sg	15 16 06.9	-0.9
CCSP	San Pedro de C	1.01	178	iS	Sb	15 16 23.3	-1.8
CCHI	Chillan	1.16	132	eP	Pn	15 16 13.2	-1.4
CCHI				iS	Sb	15 16 25.9	-3.6
CCHI				IAML		15 16 37.9	
	comp=N,3μm,0.6s						
GO05	HualaæØ	1.30	51	⇑iP	Pn	15 16 15.1	-1.4
GO05				iS	Sn	15 16 31.7	-1.7
LMEL	Las Melosas	3.13	52	eP	Pn	15 16 42.9	+1.0
LMEL				IAML		15 17 38.4	
	comp=N,474nm,0.5s						
ROCH	El Roble	3.36	32	eP	Pn	15 16 44.8	-0.3
ROCH				IAML		15 17 49.0	
	comp=N,354nm,1.4s						
PEL	Peldehue	3.37	38	⇑iP	Pn	15 16 45.4	+0.3
PEL				eS	Sn	15 17 25.5	+0.8

IDC 07 15:16:24.7±1.6, 62°.98N×150°.95W, h91km±23km, mb3.3/9, mb1 3.4/13, mb1mx3.2/79, mbtmp3.7/13, MS3.9/1, Ms1 3.9/1, ms1mx2.5/41, Error ellipse: s-maj=38.4km s-min=10.0km az=117.0

ISCJB 07 15:16:25.7±0.3, 62°.97N±0°.02×150°.66W±0°.06, h120km±3km, mb3.6/9, Error ellipse: s-maj=4.3km s-min=3.6km az=14.4

NEIC 07 15:16:27.5±0.0, 62°.98N×150°.68W, h106km, ML3.4(AEIC), After AEIC.

ISC 07 15:16:26.7±0.7, 62°.95N±0°.03×150°.70W±0°.04, h114km±5km, n81, σ0s.74/93, mb3.6/9, Central Alaska

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HUR	Hurricane	0.48	87	P	Pn	15 16 43.9	0.0
TRF	Thorofare Moun	0.53	20	P	Pn	15 16 44.3	-0.1
TRF				S	Sn	15 16 57.3	-0.4
KTH	Kantishna Hill	0.61	350	P	Pn	15 16 44.7	-0.1
KTH				S	Sn	15 16 57.7	-0.8
PPLA	Purkeypile	0.69	266	P	Pn	15 16 45.9	+0.5
PPLA				S	Sn	15 16 59.4	-0.2
CAST	Castle Rocks	0.78	307	P	Pn	15 16 46.0	-0.1
CAST				S	Sn	15 16 59.8	-1.1
RND	Reindeer	0.95	61	P	Pn	15 16 47.9	+0.1
RND				S	Sn	15 17 02.9	-0.8
SKT	Skwentna	1.05	202	P	Pn	15 16 49.1	+0.4
SKT				S	Sn	15 17 05.6	+0.2
MCK	McKinley	1.11	45	P	Pn	15 16 49.5	+0.1
BPAW	Bear Paw Mtn.	1.16	354	P	Pn	15 16 49.7	-0.1
BPAW				S	Sn	15 17 06.4	-1.0
GHO	Glory Hole Cre	1.45	144	P	Pn	15 16 53.8	+0.7
SUA	Susitna One	1.50	181	P	Pn	15 16 54.3	+0.6
DHY	Denali Highway	1.52	84	P	Pn	15 16 54.2	+0.1
DHY				S	Sn	15 17 14.7	-0.2
PMR	Palmer	1.55	151	P	Pn	15 16 54.5	+0.2
PMR				S	Sn	15 17 15.5	+0.2
STLK	Strandline Lak	1.56	201	P	Pn	15 16 54.9	+0.5
SML	Sawmill	1.59	135	P	Pn	15 16 55.2	+0.3
FIB	Fire Island	1.81	172	P	Pn	15 16 58.7	+1.3
KNK	Knik Glacier	1.87	145	P	Pn	15 16 58.4	+0.2
SPWE	Spurr West	1.90	208	P	Pn	15 16 59.8	+1.1
WRH	Wood River Hil	1.91	36	P	Pn	15 16 58.7	0.0
CKL	Chakachamna La	1.93	204	P	Pn	15 16 59.8	+0.8
RC01	Rabbit Creek A	1.93	166	P	Pn	15 16 58.8	-0.1
SCM	Sheep Creek Mo	1.93	124	P	Pn	15 16 59.0	0.0
MLY	Manley	2.08	359	P	Pn	15 17 00.8	-0.1
CCB	Clear Creek Bu	2.13	36	P	Pn	15 17 01.3	-0.1
HDA	Harding Lake	2.22	47	P	Pn	15 17 02.5	-0.1
PS10	TAPS Pump St10	2.28	76	P	Pn	15 17 05.0	+1.6
MDM	Murphy Dome	2.29	27	P	Pn	15 17 03.5	0.0
COLA	College	2.30	32	P	Pn	15 17 03.5	0.0
PS08	TAPS Pump Stn8	2.35	46	P	Pn	15 17 04.0	-0.1
PAX	Paxson	2.39	87	P	Pn	15 17 05.4	+0.5
TT01	Tatalina	2.44	271	P	Pn	15 17 05.6	+0.3
SLKM	Skilak Lake	2.47	175	P	Pn	15 17 06.2	+0.4
ILAR	Eielson Array	2.48	41	P	Pn	15 17 05.7	-0.2
	14nm,0.3s,baz=222,slow=13,SNR=1097						
ILAR				S	Sn	15 17 34.0	-2.1
	5.3nm,0.3s,baz=225,slow=19,SNR=8.6						
ILB	Eielson Array	2.48	41	P	Pn	15 17 05.8	-0.2
GLM	Gilmore Dome	2.51	34	P	Pn	15 17 06.5	+0.2
PS11	TAPS Pump St11	2.58	108	P	Pn	15 17 08.2	+1.0
HARP	HAARP	2.61	100	P	Pn	15 17 07.5	-0.2
KLU	Klutina	2.67	121	P	Pn	15 17 08.1	-0.5
RDWB	Redoubt West	2.68	203	P	Pn	15 17 09.4	+0.7
JPK	Jack Peak	2.71	133	P	Pn	15 17 08.6	-0.5
RIDG	Independ'e Rid	2.75	71	P	Pn	15 17 09.9	+0.4
DIV	Divide	2.96	126	ePn	Pn	15 17 11.4	-0.8
DIV				eSn	Sn	15 17 46.0	-1.3
SVW2	Sparrevohn	2.96	233	P	Pn	15 17 12.5	+0.3
DOT	Dot Lake	3.08	74	P	Pn	15 17 13.5	-0.2
ILW	Iliamna West	3.13	203	P	Pn	15 17 16.4	+1.8
SCRK	Sand Creek	3.18	68	P	Pn	15 17 15.0	-0.2
MENT	Mentasta	3.19	87	P	Pn	15 17 15.6	+0.4
BRLK	Bradley Lake	3.20	182	P	Pn	15 17 16.2	+0.8
IM3	Indian Mountai	3.32	338	P	Pn	15 17 16.9	0.0
PRP	Porcupine Dome	3.42	39	P	Pn	15 17 18.2	-0.2
BMRM	Bremner River	3.50	122	P	Pn	15 17 18.6	-0.7
VRDI	Verde Repeater	3.82	114	P	Pn	15 17 23.4	-0.4
BCA3	Beaver Creek A	4.06	84	P	Pn	15 17 26.6	-0.3
COLD	Coldfoot	4.30	3	P	Pn	15 17 30.6	+0.6
FYU	Fort Yukon	4.31	30	P	Pn	15 17 30.6	+0.4
BALM	Baldy	4.38	112	P	Pn	15 17 30.7	-0.5
KIAG	Kiagna River	4.43	114	P	Pn	15 17 31.3	-0.7
EGAK	Eagle	4.60	62	P	Pn	15 17 33.6	-0.4
BARN	Barnard Glacie	4.66	110	P	Pn	15 17 35.4	+0.3
KULT	Kultieth River	4.68	122	P	Pn	15 17 35.4	+0.2
BAGL	Bagley Icefiel	4.78	117	P	Pn	15 17 36.0	-0.5
KAHC	Katmai Hardscr	4.81	208	P	Pn	15 17 38.8	+1.8
MESA	MESA	5.02	120	P	Pn	15 17 39.5	-0.4
BM3	Burnt Mountain	5.16	27	P	Pn	15 17 41.7	+0.1
DAWY	Dawson	5.18	73	P	Pn	15 17 41.8	-0.2
KDAK	Kodiak Island	5.27	191	P	Pn	15 17 42.5	-0.6
	3.1nm,0.3s,baz=48,slow=7.9,SNR=235						
KDAK				S	Sn	15 18 39.9	-2.7
	4.3nm,0.3s,baz=208,slow=12,SNR=11						
OHAK	Old Harbor	5.89	194	ePn	Pn	15 17 50.1	-1.4
	5.4nm,0.4s						
SKAG	Skagway	8.20	108	ePn	Pn	15 18 21.9	-0.7
	2.3nm,0.5s						
INK	Inuvik	8.88	45	P	Pn	15 18 32.3	+0.6
	0.4nm,0.3s,baz=240,slow=16,SNR=32						
INK				S	Sn	15 20 11.1	+1.3
	0.0nm,0.3s,baz=202,slow=19,SNR=2.6						
YKA	Yellowknife Ar	16.42	75	P	Pn	15 20 09.6	-0.4
	0.1nm,0.3s,baz=287,slow=11,SNR=12						
RES	Resolute Bay	22.22	36	P	P	15 21 14.8	+1.4
	0.4nm,0.5s,baz=256,slow=17,SNR=3.0						
SPITS	Spitsbergen Ar	38.88	4	P	P	15 23 41.1	+0.9
	1.4nm,0.5s,baz=334,slow=9.6,SNR=5.3						
ANMO	Albuquerque	39.09	115	LR	LR	15 41 15.8	
	comp=Z,188nm,20.9s,baz=8.5,slow=38						
NOA	NORSAR Array B	55.56	11	P	P	15 25 50.3	+0.7
	0.4nm,0.7s,baz=359,slow=7.0,SNR=2.6						
ZALV	Zalesovo Beam	55.64	324	P	P	15 25 50.0	-0.2
	0.4nm,0.3s,baz=23,slow=7.4,SNR=2.9						
BVAR	Borovoye Array	59.95	333	P	P	15 26 20.5	+0.2
	0.4nm,0.3s,baz=31,slow=10,SNR=5.3						
KURK	Kurchatov	60.19	326	P	P	15 26 21.9	-0.1
KURBB	Kurchatov Arra	60.30	326	P	P	15 26 21.9	-0.8
	0.2nm,0.4s,baz=30,slow=7.2,SNR=2.7						
MKAR	Makanchi Array	62.80	322	P	P	15 26 39.3	-0.2
	0.3nm,0.4s,baz=62,slow=6.1,SNR=4.7						
AKTO	Aktyubinsk	64.70	340	P	P	15 26 52.1	+0.1
	0.7nm,0.5s,baz=36,slow=8.7,SNR=2.9						
AKASG	Malin Array Be	66.69	0	P	P	15 27 03.7	-1.0
	0.2nm,0.3s,baz=2.2,slow=6.6,SNR=3.5						

NEIC 07 15:21:38.2±0.0, 37°.07S×176°.92E, h233km, ML4.1(WEL), After WEL.

WEL 07 15:21:37.3, 37°S±5°×17°7E±°, h241km±6km, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TGRZ	Tauranga	0.88	213	P	Pn	15 22 11.4	+0.8
OPRZ	Ohinepanea	0.88	196	Pn	Pn	15 22 10.7	+0.1
OPRZ				Sn	S	15 22 37.6	+0.6
OPRZ	Ohinepanea	0.88	196	P	Pn	15 22 10.7	0.0
KUZ	Kuaotunu	0.94	285	P	Pn	15 22 10.9	-0.1
MARZ	Manawahe	1.00	188	P	Pn	15 22 11.5	+0.2
HAZ	Te Kaha	1.06	136	P	Pn	15 22 11.1	-0.6
HAZ	Te Kaha	1.06	136	S	S	15 22 36.0	-2.6
KMRZ	Kaimai	1.12	220	P	Pn	15 22 12.4	+0.3
KARZ	Kaharoa	1.14	205	P	Pn	15 22 12.9	+0.7
RUGZ	Raukumara Rang	1.17	146	P	Pn	15 22 11.4	-1.1
RUGZ	Raukumara Rang	1.17	146	S	S	15 22 37.0	-3.2
OMRZ	Omania	1.18	199	P	Pn	15 22 12.8	+0.4
TARZ	Mount Tarawera	1.27	192	P	Pn	15 22 13.7	+0.6
URZ	Urewera	1.28	171	Pn	Pn	15 22 12.3	-0.8
URZ				Sn	S	15 22 39.0	-2.3
URZ	Urewera	1.28	171	P	Pn	15 22 12.4	-0.7
URZ	Urewera	1.28	171	S	S	15 22 39.2	-2.1
MXZ	Matakaoa Point	1.29	117	P	Pn	15 22 12.9	-0.2
MXZ	Matakaoa Point	1.29	117	S	S	15 22 39.7	-1.6
TOZ	Tahuroa Road	1.31	235	P	Pn	15 22 13.7	+0.5
PKGZ	Pakihiroa	1.32	133	P	Pn	15 22 13.5	0.0
PKGZ	Pakihiroa	1.32	133	S	S	15 22 40.5	-1.3
MKAZ	Moumakai	1.36	265	P	Pn	15 22 14.0	+0.3
RRRZ	Republican Roa	1.37	191	P	Pn	15 22 13.9	+0.2
WIAZ	Waiheke Island	1.39	278	P	Pn	15 22 14.1	+0.2
MWZ	Matawai	1.44	158	Pn	Pn	15 22 13.7	-0.6
MWZ	Matawai	1.44	158	P	Pn	15 22 13.8	-0.5
MWZ	Matawai	1.44	158	S	S	15 22 41.6	-1.8
HRRZ	Handcock Road	1.47	198	P	Pn	15 22 15.2	+0.8
GRRZ	Galatos Road	1.48	203	P	Pn	15 22 15.2	+0.7
TWGZ	Tauwhareparae	1.48	143	Pn	Pn	15 22 14.8	+0.2
TWGZ	Tauwhareparae	1.48	143	P	Pn	15 22 14.9	+0.3
TWGZ	Tauwhareparae	1.48	143	S	S	15 22 43.5	-0.5
MUGZ	Murupara	1.48	183	P	Pn	15 22 14.2	-0.4
MUGZ	Murupara	1.48	183	S	S	15 22 42.2	-1.8
WMGZ	Waiomatatini S	1.49	124	Pn	Pn	15 22 14.7	+0.1
WMGZ	Waiomatatini S	1.49	124	P	Pn	15 22 14.7	+0.1
WMGZ	Waiomatatini S	1.49	124	S	S	15 22 42.3	-1.7
ETAZ	East Tamaki Re	1.54	271	P	Pn	15 22 15.5	+0.4
PRRZ	Plateau Road	1.55	194	Pn	Pn	15 22 15.2	+0.2
PRRZ	Plateau Road	1.55	194	P	Pn	15 22 15.2	+0.1
PUZ	Puketiti	1.55	134	Pn	Pn	15 22 14.8	-0.3
PUZ				Sn	S	15 22 42.2	-2.7
PUZ	Puketiti	1.55	134	P	Pn	15 22 15.0	-0.1
PUZ	Puketiti	1.55	134	S	S	15 22 42.2	-2.7
KBAZ	Karaka Road Bo	1.58	266	P	Pn	15 22 16.0	+0.7
ALRZ	Allen Road	1.62	194	P	Pn	15 22 15.7	+0.1
RTZ	Ruatahuna	1.62	177	P	Pn	15 22 15.3	-0.5
RTZ	Ruatahuna	1.62	177	S	S	15 22 44.6	-1.5
TKGZ	Te Karaka	1.65	152	Pn	Pn	15 22 15.6	-0.2
TKGZ	Te Karaka	1.65	152	P	Pn	15 22 15.6	-0.2
ABAZ	Army Bay	1.67	283	P	Pn	15 22 16.6	+0.6
TLZ	Tolley Road	1.70	218	P	Pn	15 22 17.4	+1.0
KUTZ	Kaahu Road	1.70	208	P	Pn	15 22 17.2	+0.8
HBAZ	Herne Bay Bore	1.71	274	P	Pn	15 22 16.6	+0.2
AWAZ	Awhitu Peninsu	1.77	267	P	Pn	15 22 17.2	+0.3
SNGZ	Shannon Statio	1.83	168	Pn	Pn	15 22 17.1	-0.3
SNGZ	Shannon Statio	1.83	168	P	Pn	15 22 17.2	-0.2
SNGZ	Shannon Statio	1.83	168	S	S	15 22 47.3	-1.8
CNGZ	Carnagh Statio	1.83	145	Pn	Pn	15 22 17.6	+0.1
CNGZ	Carnagh Statio	1.83	145	P	Pn	15 22 17.9	+0.5
RVAZ	Riverhead Bore	1.84	276	P	Pn	15 22 17.7	+0.2
RIGZ	Rimuhau	1.86	158	P	Pn	15 22 17.9	+0.2
MTHZ	Maungataniwha	1.86	180	P	Pn	15 22 17.2	-0.5
MRHZ	Matea Rd	1.87	191	P	Pn	15 22 17.6	-0.2
WATZ	Wairara	1.93	207	P	Pn	15 22 19.0	+0.6
RATZ	Rangitukua	2.06	204	Pn	Pn	15 22 19.6	0.0
RATZ	Rangitukua	2.06	204	P	Pn	15 22 19.7	+0.1
PRGZ	Paritu Road	2.09	157	Pn	Pn	15 22 19.7	-0.1
PRGZ	Paritu Road	2.09	157	P	Pn	15 22 19.9	+0.1
RITZ	Rihia Road	2.13	201	Pn	Pn	15 22 20.4	+0.2
RITZ	Rihia Road	2.13	201	P	Pn	15 22 20.4	+0.2
BKZ	Black Stump Fm	2.19	187	Pn	Pn	15 22 19.9	-0.9
BKZ	Black Stump Fm	2.19	187	P	Pn	15 22 19.9	-0.9
HIZ	Hauiti	2.19	226	P	Pn	15 22 21.8	+1.0
ARHZ	Aropaoanui	2.27	177	Pn	Pn	15 22 21.4	-0.2
ARHZ	Aropaoanui	2.27	177	P	Pn	15 22 21.4	-0.1
WCZ	Waipu Caves	2.28	297	P	Pn	15 22 21.9	+0.2
KRVZ	Karewarewa	2.31	204	Pn	Pn	15 22 21.8	-0.2
KRVZ	Karewarewa	2.31	204	P	Pn	15 22 22.0	0.0
MHGZ	Mahia Peninsul	2.31	159	Pn	Pn	15 22 21.6	-0.3
MHGZ	Mahia Peninsul	2.31	159	P	Pn	15 22 21.5	-0.4
WTVZ	West Tongariro	2.34	205	Pn	Pn	15 22 22.2	-0.2
WTVZ	West Tongariro	2.34	205	P	Pn	15 22 22.3	-0.1
TWVZ	Taurewa	2.36	208	Pn	Pn	15 22 22.5	-0.1
TWVZ	Taurewa	2.36	208	P	Pn	15 22 22.5	0.0
OTVZ	Oturere	2.36	203	Pn	Pn	15 22 22.4	-0.2
NGZ	Ngauruhoe	2.39	204	Pn	Pn	15 22 23.1	+0.2
NGZ	Ngauruhoe	2.39	204	P	Pn	15 22 23.2	+0.3
COVZ	Chateau Observ	2.44	205	P	Pn	15 22 23.0	-0.3
KWHZ	Kaweka Forest	2.45	188	P	Pn	15 22 22.8	-0.6
MCHZ	McNeill Hill	2.45	183	Pn	Pn	15 22 23.1	-0.2
MCHZ	McNeill Hill	2.45	183	P	Pn	15 22 23.1	-0.2
TUVZ	Tukino	2.46	202	Pn	Pn	15 22 23.2	-0.4
TUVZ	Tukino	2.46	202	P	Pn	15 22 23.3	-0.3
FWVZ	Far West T-bar	2.48	204	Pn	Pn	15 22 23.8	-0.1
FWVZ	Far West T-bar	2.48	204	P	Pn	15 22 23.8	-0.1
WHVZ	Whangaehu Hut	2.50	203	Pn	Pn	15 22 23.6	-0.5
WHVZ	Whangaehu Hut	2.50	203	P	Pn	15 22 23.7	-0.3
TRVZ	Turoa	2.52	204	Pn	Pn	15 22 23.9	-0.4
TRVZ	Turoa	2.52	204	P	Pn	15 22 24.0	-0.3
WNVZ	Wahianoa	2.53	203	Pn	Pn	15 22 23.8	-0.5
MOVZ	Moawhango	2.56	199	Pn	Pn	15 22 23.6	-1.0
MOVZ	Moawhango	2.56	199	P	Pn	15 22 23.7	-0.8
BHHZ	Black Hill Sta	2.57	194	Pn	Pn	15 22 23.6	-1.0
BHHZ	Black Hill Sta	2.57	194	P	Pn	15 22 23.6	-1.0
PKVZ	Pokaka	2.58	207	Pn	Pn	15 22 24.7	-0.1
PKVZ	Pokaka	2.58	207	P	Pn	15 22 24.7	-0.1
MTVZ	Mangateitei	2.63	204	Pn	Pn	15 22 24.9	-0.3
MTVZ	Mangateitei	2.63	204	P	Pn	15 22 25.0	-0.2
CKHZ	Cape Kidnapper	2.67	176	Pn	Pn	15 22 24.8	-0.7
CKHZ	Cape Kidnapper	2.67	176	P	Pn	15 22 24.6	-0.9
KRHZ	Kereru	2.67	188	P	Pn	15 22 24.7	-1.0
VRZ	Vera Road	2.70	217	P	Pn	15 22 26.9	+1.0
KAHZ	Kahuranaki	2.80	180	Pn	Pn	15 22 26.3	-0.7
KAHZ	Kahuranaki	2.80	180	P	Pn	15 22 26.3	-0.7
PNHZ	Pukenui	2.96	190	Pn	Pn	15 22 27.4	-1.4
PNHZ	Pukenui	2.96	190	P	Pn	15 22 27.4	-1.4
PXZ	Pawanui	3.03	180	Pn	Pn	15 22 28.2	-1.3
PXZ	Pawanui	3.03	180	P	Pn	15 22 28.3	-1.2
WPHZ	Waipukurau	3.08	186	P	Pn	15 22 28.4	-1.7
WAZ	Wanganui	3.12	207	Pn	Pn	15 22 29.9	-0.7
WAZ	Wanganui	3.12	207	P	Pn	15 22 30.1	-0.4
LREZ	Lake Rotokare	3.13	217	P	Pn	15 22 31.5	+0.9
PKE	Pukeiti	3.15	225	P	Pn	15 22 32.5	+1.6
OUZ	Omahuta	3.18	303	P	Pn	15 22 31.5	+0.3
PRHZ	Porangahau	3.27	183	Pn	Pn	15 22 30.7	-1.5
PRHZ	Porangahau	3.27	183	P	Pn	15 22 30.7	-1.5
DVHZ	Dannevirke	3.35	189	Pn	Pn	15 22 31.2	-1.8
DVHZ	Dannevirke	3.35	189	P	Pn	15 22 31.2	-1.8
OHWZ	Ohakea	3.43	200	P	Pn	15 22 33.2	-0.7
ANWZ	Angora Road	3.48	185	P	Pn	15 22 33.2	-1.3
POWZ	Post Office Ro	3.50	194	Pn	Pn	15 22 33.0	-1.7
POWZ	Post Office Ro	3.50	194	P	Pn	15 22 33.0	-1.7
PRWZ	Pori Road	3.62	191	Pn	Pn	15 22 34.8	-1.4
PRWZ	Pori Road	3.62	191	P	Pn	15 22 35.0	-1.2
BFZ	Birch Farm	3.71	187	Pn	Pn	15 22 35.3	-1.9
BFZ	Birch Farm	3.71	187	P	Pn	15 22 35.4	-1.8
MRZ	Mangatainoka R	3.80	195	Pn	Pn	15 22 35.9	-2.3
MRZ	Mangatainoka R	3.80	195	P	Pn	15 22 35.9	-2.3
TIWZ	Tintock	3.85	191	Pn	Pn	15 22 36.8	-2.1
TIWZ	Tintock	3.85	191	P	Pn	15 22 37.1	-1.8
HOWZ	Holdsworth Sta	4.04	195	Pn	Pn	15 22 38.5	-2.5
HOWZ	Holdsworth Sta	4.04	195	P	Pn	15 22 38.5	-2.5
OGWZ	Otaki Gorge	4.04	198	Pn	Pn	15 22 38.8	-2.2
OGWZ	Otaki Gorge	4.04	198	P	Pn	15 22 38.9	-2.2
KIW	Kapiti Island	4.15	201	Pn	Pn	15 22 39.9	-2.5
KIW	Kapiti Island	4.15	201	P	Pn	15 22 40.0	-2.4
TMWZ	Te Maipa	4.18	190	Pn	Pn	15 22 40.7	-2.1
TMWZ	Te Maipa	4.18	190	P	Pn	15 22 40.7	-2.0
MTW	Mount Morrison	4.29	194	Pn	Pn	15 22 41.5	-2.6
MTW	Mount Morrison	4.29	194	P	Pn	15 22 41.5	-2.6
CAW	Cannon Point	4.34	198	Pn	Pn	15 22 41.9	-2.7
CAW	Cannon Point	4.34	198	P	Pn	15 22 42.0	-2.7
DUWZ	D'Urville Isla	4.44	210	Pn	Pn	15 22 43.5	-2.4
DUWZ	D'Urville Isla	4.44	210	P	Pn	15 22 43.5	-2.4
TRWZ	Traveller	4.49	191	Pn	Pn	15 22 44.1	-2.4
TRWZ	Traveller	4.49	191	P	Pn	15 22 44.1	-2.4
PAWZ	Paruwai Farm	4.52	194	Pn	Pn	15 22 44.3	-2.6
PAWZ	Paruwai Farm	4.52	194	P	Pn	15 22 44.3	-2.5
WEL	Wellington	4.58	200	Pn	Pn	15 22 44.9	-2.6
MSWZ	Moikau Station	4.59	195	Pn	Pn	15 22 44.8	-2.9
MSWZ	Moikau Station	4.59	195	P	Pn	15 22 44.8	-2.9
TCW	Tory Channel	4.67	205	Pn	Pn	15 22 46.1	-2.5
TCW	Tory Channel	4.67	205	P	Pn	15 22 46.0	-2.5
BHW	Baring Head	4.67	199	Pn	Pn	15 22 45.6	-3.0
BHW	Baring Head	4.67	199	P	Pn	15 22 45.6	-3.0
PLWZ	Palliser	4.74	195	P	Pn	15 22 46.6	-3.0
TUWZ	Tuamarina	4.97	206	Pn	Pn	15 22 49.5	-2.8
TUWZ	Tuamarina	4.97	206	P	Pn	15 22 49.6	-2.8
NNZ	Nelson	5.01	212	Pn	Pn	15 22 49.9	-2.9
NNZ	Nelson	5.01	212	P	Pn	15 22 49.8	-3.0
QRZ	Quartz Range	5.10	220	Pn	Pn	15 22 51.2	-2.7
QRZ	Quartz Range	5.10	220	P	Pn	15 22 51.2	-2.8
BSWZ	Blackbirch Sta	5.25	205	Pn	Pn	15 22 53.3	-2.5
BSWZ	Blackbirch Sta	5.25	205	P	Pn	15 22 53.5	-2.3
THZ	Tophouse	5.66	211	Pn	Pn	15 22 57.9	-3.0

THZ	Tophouse	5.66	211	P	Pn	15 22 58.0	-3.0
KHZ	Kahutara	5.99	204	Pn	Pn	15 23 02.3	-2.7
KHZ	Kahutara	5.99	204	P	Pn	15 23 02.3	-2.7
LTZ	Lake Taylor	6.77	210	Pn	Pn	15 23 11.9	-3.0
OXZ	Oxford	7.32	209	Pn	Pn	15 23 17.6	-4.3
MQZ	McQueen's Vall	7.43	204	Pn	Pn	15 23 19.0	-4.2
WVZ	Waitaha Valley	7.67	216	Pn	Pn	15 23 22.9	-3.4
RPZ	Rata Peaks	8.04	212	Pn	Pn	15 23 27.6	-3.4
ODZ	Otahua Downs	9.31	208	Pn	Pn	15 23 44.5	-2.6
JCZ	Jackson Bay	9.36	218	Pn	Pn	15 23 44.3	-3.6

MEX ***07*** *15:30:31.1±0.5,21°.19N×108°.25W, h3km±12km, MD4.6*
IDC ***07*** *15:30:34.8±0.6,21°.94N×107°.99W, h0km, mb4.3/17, mb1 4.4/21, mb1mx4.2/54, mbtmp4.3/21, ML4.0/4, MS4.2/33, Ms1 4.2/33, ms1mx4.1/42, Error ellipse: s-maj=17.9km s-min=11.2km az=54.0*
ISCJB ***07*** *15:30:36.2±0.3,21°.98N±0°.03×107°.59W±0°.02, h10km, mb4.5/68, MS4.2/31, Error ellipse: s-maj=4.6km s-min=2.6km az=27.6*
NEIC ***07*** *15:30:36.6±0.5,21°.84N×107°.72W, h10km, mb4.6/96, MD4.6(MEX), Error ellipse: s-maj=8.3km s-min=5.0km az=207.0*
GCMT ***07*** *15:30:36.6±0.4,21°.83N×107°.67W, h12km, MW5.0/100, Moment Tensor Solution. s41,c55; s100,c147; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=1.34±.10; Mθθ=3.53±.09; Mφφ=.219±.10; Mrθ=0.65±.25; Mφθ=-1.93±.09; Mφr=1.06±.28; Best double couple: M0=3.72600×10^16 NP1:φs=328.00000°,δ79.00000°,λ=-26.00000°. NP2: φs=64.00000°,δ65.00000°,λ=-168.00000°. Principal axes: T 4.2770, Plg10.0000°, Azm18.0000°; N -1.1010, Plg62.0000°, Azm127.0000°; P -3.1760, Plg26.0000°, Azm284.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 07 15:30:36.1±0.5,21°.89N±0°.04×107°.72W±0°.04,h10km, n483,σ1§60/467,mb4.6/69,MS4.2/31,Off coast of central Mexico

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLBS	Sierra La Lagu	2.73	311	eP	Pn	15 31 16.3	-3.8
SLBS				Sn	Sn	15 31 47.4	-5.8
LPIG	La Paz 9.5nm,0.3s,baz=150,slow=20,SNR=8.7	3.25	313	Pn	Pn	15 31 24.8	-2.4
LPIG	baz=246,slow=23,SNR=7.5			Sn	Sn	15 32 03.0	-2.9
LPIG	La Paz	3.25	313	eP	Pn	15 31 23.6	-3.5
LPIG				eS	Sn	15 32 03.6	-2.3
CJM	Chamela	3.45	133	eP	Pn	15 31 23.0	-6.9
CJM				eS	Sn	15 32 03.6	-7.3
CJM	Chamela	3.45	133	eP	Pn	15 31 23.0	-6.9
CJM				eS	Sn	15 32 03.6	-7.3
H06N1	SOCORRO T-PHAS	4.30	226	Pn	Pn	15 31 37.7	-3.9
H06N1	SNR=3.9			T	T	15 35 57.9	
H06E1	SOCORRO T-PHAS	4.32	225	Pn	Pn	15 31 38.0	-3.9
H06E1	SNR=204			T	T	15 36 00.0	
H06S1	SOCORRO T	4.37	225	Pn	Pn	15 31 41.1	-1.5
H06S1	SNR=18			T	T	15 36 00.9	
ZAIG	Zacatecas	4.85	79	eP	Pn	15 31 48.6	-0.9
ZAIG				eS	Sb	15 32 55.7	-4.1
ZAIG	Zacatecas	4.85	79	ePn	Pn	15 31 49.0	-0.4
ZAIG				eSn	Sn	15 32 41.1	-4.7
ZAIG				eS	Sb	15 32 55.7	-4.1
HPIG		5.36	20	eP	Pn	15 31 56.5	+0.1
HPIG				eS	Sb	15 33 11.8	-2.7
HPIG		5.36	20	ePn	Pn	15 31 57.3	+0.9
HPIG				eS	Sb	15 33 11.8	-2.7
LNIG	Linares	8.15	67	ePn	Pn	15 32 34.4	-0.1
TX31	Lajitas Ar. Si	8.26	25	ePn	Pn	15 32 36.6	+0.4
TXAR	Lajitas Array 9.5nm,0.3s,baz=209,slow=13,SNR=210	8.26	25	Pn	Pn	15 32 36.4	+0.2
319A	Douglas	9.55	352	ePn	Pn	15 32 53.9	+0.1
833A	Chaparral WMA, baz=231	9.89	48	P	Pn	15 32 58.7	+0.3
EPT	El Paso	9.90	6	ePn	Pn	15 32 58.6	-0.1
MNTX	Cornudas Mount baz=192,SNR=43	9.99	12	P	Pn	15 33 01.0	+1.2
MNTX	baz=192			S	Sn	15 34 53.1	+1.1
MNTX	Cornudas Mount	9.99	12	ePn	Pn	15 33 00.4	+0.6
MNTX				Sn	Sn	15 34 47.3	-4.7
121A	Cookes Peak, D baz=180,SNR=23	10.60	360	P	Pn	15 33 09.9	+1.6
121A	Cookes Peak, D	10.60	360	ePn	Pn	15 33 09.6	+1.3
TUC	Tucson baz=165	10.73	346	P	Pn	15 33 12.3	+2.3
TUC	Tucson	10.73	346	ePn	Pn	15 33 10.4	+0.4
JCT	Junction City baz=221,SNR=20	11.12	38	P	Pn	15 33 17.2	+1.9
JCT	Junction City	11.12	38	ePn	Pn	15 33 16.9	+1.6
Y22D	IRIS PASSCAL I baz=184	12.16	3	P	Pn	15 33 33.6	+4.0
BNM	Barren Site	12.25	4	ePn	Pn	15 33 33.4	+2.4
LPM	Los Pinos Moun	12.41	4	ePn	Pn	15 33 34.0	+0.9
LAZ	Ladron	12.48	2	ePn	Pn	15 33 34.1	+0.1
X18A	Snowflake	12.75	352	ePn	Pn	15 33 40.5	+2.9
MSTX	Muleshoe baz=201,SNR=24	12.80	19	P	Pn	15 33 40.3	+2.0
MSTX	Muleshoe	12.80	19	ePn	Pn	15 33 39.5	+1.1
DREC	Desert Rsrch C	12.86	329	ePn	Pn	15 33 39.5	+0.6
ABTX	Abilene, Hawle baz=216,SNR=11	12.87	32	P	Pn	15 33 41.0	+1.7
ABTX	Abilene, Hawle	12.87	32	Pn	Pn	15 33 37.9	-1.3
X16A	Lo Mia Camp, P	12.91	346	ePn	Pn	15 33 40.1	+0.2
CMIG	Matias Romero 1.7nm,0.3s,baz=288,slow=12,SNR=19	13.00	109	Pn	Pn	15 33 43.0	+1.9
CMIG	comp=Z,2μm,21.9s,baz=277,slow=36			LR	LR	15 38 32.1	
ANMO	Albuquerque 0.4nm,0.3s,baz=3.2,slow=14,SNR=80	13.06	5	Pn	Pn	15 33 43.4	+1.5
ANMO	Albuquerque baz=185	13.06	5	P	Pn	15 33 46.0	+4.1
ANMO	Albuquerque	13.06	5	ePn	Pn	15 33 43.8	+1.9
W18A	Petrified Fore baz=172	13.30	353	P	Pn	15 33 48.8	+3.6
MONP2	Monument Peak baz=143	13.41	327	P	Pn	15 33 48.9	+2.2
WHTX	Lake Whitney, baz=224	13.59	40	P	Pn	15 33 50.3	+1.3
WHTX	Lake Whitney, 61nm,1.3s	13.59	40	ePn	Pn	15 33 50.1	+1.1
DPP	Dos Picos Cty	13.76	325	ePn	Pn	15 33 51.2	-0.2
IRM	Iron Mountain baz=150,SNR=8.8	13.87	333	P	Pn	15 33 56.3	+3.5
WUAZ	Wupatki baz=166,SNR=15	13.95	348	P	Pn	15 33 57.9	+3.8
WUAZ	Wupatki	13.95	348	ePn	Pn	15 33 51.6	-2.5
AMTX	Amarillo baz=204	13.99	21	P	Pn	15 33 56.3	+1.8
PFO	Pinyon Flats O baz=144	14.00	328	P	Pn	15 33 57.4	+2.7
PFO	Pinyon Flats O 35nm,1.4s	14.00	328	ePn	Pn	15 33 55.4	+0.7
BELC	Belle Mtn. Jos baz=147	14.10	331	P	Pn	15 33 58.1	+1.9
GMRC	Granite Mounta baz=150	14.62	333	P	Pn	15 34 07.0	+3.8
WMOK	Wichita Mounta baz=214,SNR=23	15.01	30	P	Pn	15 34 08.0	-0.5
WMOK	Wichita Mounta	15.01	30	ePn	Pn	15 34 08.0	-0.5
NATX	Nacogdoches baz=233	15.23	47	P	Pn	15 34 11.3	-0.1
NATX	Nacogdoches 130nm,1.4s	15.23	47	ePn	Pn	15 34 09.7	-1.6
MVCO	Mesa Verde baz=177,SNR=40	15.28	358	P	Pn	15 34 15.0	+2.8
MVCO	Mesa Verde 259nm,1.7s	15.28	358	ePn	Pn	15 34 14.8	+2.5
MWC	Mount Wilson 40nm,1.3s	15.29	326	ePn	Pn	15 34 13.2	+0.9
DJJ	Donna J Jenkin	15.42	324	ePn	Pn	15 34 09.3	-4.4
T25A	Trinidad baz=192,SNR=25	15.46	10	P	Pn	15 34 17.3	+2.7
T25A	Trinidad 78nm,1.4s	15.46	10	ePn	Pn	15 34 12.0	-2.6
GSC	Goldstone, Bar baz=147,SNR=8.5	15.55	331	P	P	15 34 21.9	+2.0
GSC	Goldstone, Bar 21nm,1.3s	15.55	331	Pn	Pn	15 34 16.3	+0.7
EDW2	Edwards Air Fo baz=143,SNR=6.5	15.78	327	P	P	15 34 23.4	+1.0
S22A	4UR Ranch, Cre baz=183,SNR=33	15.82	3	P	P	15 34 22.9	-0.2
SDCO	Great Sand Dun baz=188,SNR=41	15.92	6	P	P	15 34 23.6	-0.7
SDCO	Great Sand Dun 122nm,1.8s	15.92	6	ePn	P	15 34 23.3	-1.0
LRMC	Laurel Mtn Rad baz=145	16.11	329	P	P	15 34 26.0	-0.1
PV05	Paradox Valley	16.18	356	ePn	P	15 34 27.0	-0.1
PV01	Paradox Valley	16.21	358	ePn	Pn	15 34 26.5	+2.2
SZCU	Shurtz Canyon 42nm,1.7s	16.33	345	ePn	P	15 34 28.0	-0.7
CCUT	Cedar City 28nm,1.5s	16.36	344	ePn	P	15 34 28.9	-0.1
PV10	Paradox Valley	16.47	356	ePn	Pn	15 34 29.2	+1.6
PV04	Paradox Valley	16.48	357	eP	P	15 34 30.1	-0.3
MPMC	Manual Prospec baz=146,SNR=10.0	16.49	331	P	P	15 34 32.7	+2.2
140A	Cam and Jess, baz=233	16.50	47	P	Pn	15 34 27.1	-0.6
MTPU	Mount Pierson 49nm,1.5s	16.55	348	ePn	P	15 34 31.9	+0.6
241A	Mo Tay, Goldon baz=236	16.59	49	P	Pn	15 34 27.9	-1.0
PV09	Paradox Valley	16.60	356	ePn	P	15 34 31.8	0.0
ISA	Isabella, Lake baz=143,SNR=6.5	16.63	328	P	P	15 34 33.6	+1.6
ISA	Isabella, Lake 130nm,2.3s	16.63	328	eP	P	15 34 31.5	-0.5
342A	Flagon Creek P baz=239	16.68	52	P	Pn	15 34 28.0	-1.9
DAC	Darwin (Calif) 35nm,1.5s	16.72	331	ePn	P	15 34 35.2	+2.2
TPNV	Topopah Spring baz=152	16.73	336	P	P	15 34 33.4	+0.2
PKM	Mcpherson Peak baz=138	16.75	323	P	Pn	15 34 32.3	+1.3
141A	Papa Simpson, baz=234	16.93	48	P	Pn	15 34 32.3	-0.9
Z40A	Long Farm, Mag baz=232,SNR=8.0	16.99	45	P	Pn	15 34 33.4	-0.5
MSU	Marysvale	17.01	348	ePn	P	15 34 37.0	+0.8
CWC	Cottonwood Cre baz=146	17.07	330	P	P	15 34 38.3	+1.4
VES	Vestal, Richgr baz=142,SNR=20	17.08	327	P	P	15 34 37.7	+1.0
Q24A	Divide baz=188	17.16	7	P	P	15 34 38.0	0.0
SMCO	Snowmass 43nm,1.4s	17.25	2	ePn	P	15 34 41.2	+2.2
SRU	San Rafael Swe 33nm,1.1s	17.33	353	ePn	P	15 34 40.8	+1.0
X39A	Fountain Ranch baz=227,SNR=19	17.35	41	P	Pn	15 34 38.4	0.0
Z41A	Richland Creek baz=233	17.39	46	P	Pn	15 34 38.2	-0.6
TUL1	Leonard baz=220,SNR=11	17.42	34	P	Pn	15 34 39.1	-0.2
TUL1	Leonard 82nm,1.2s	17.42	34	ePn	Pn	15 34 39.1	-0.2
Y40A	Okolona baz=230	17.54	43	P	Pn	15 34 39.7	-1.1
PAGB	Antelope Grade 54nm,1.6s	17.61	324	ePn	P	15 34 43.5	+0.9
TMUT	Trail Mountain 57nm,1.4s	17.61	351	ePn	P	15 34 44.8	+1.8
KSCO	Kaye Shedlock' baz=196,SNR=6.5	17.61	13	P	P	15 34 43.7	+0.8
KSCO	Kaye Shedlock' 156nm,1.3s	17.61	13	eP	Pn	15 34 40.8	-1.1
MIAR	Mount Ida baz=228,SNR=9.3	17.70	42	P	Pn	15 34 41.9	-0.9
MIAR	Mount Ida 67nm,1.5s	17.70	42	ePn	Pn	15 34 42.2	-0.6
P17A	Butcher Ranch, 50nm,1.4s	17.72	352	ePn	Pn	15 34 44.2	+1.0
APG	El Apazote 0.7nm,0.3s,baz=290,slow=10.0,SNR=8.5	17.73	110	P	P	15 34 46.3	+2.0
R11A	Troy Canyon, C baz=156	17.75	339	P	P	15 34 45.2	+0.8
P18A	Preston Nutter 77nm,1.2s	17.82	354	ePn	P	15 34 47.3	+2.0
Y41A	Eaglete Beard baz=232	17.89	45	P	Pn	15 34 44.1	-1.1
344A	Westbrook Farm baz=242	17.90	54	P	Pn	15 34 44.9	-0.3
ISCO	Idaho Springs baz=186,SNR=24	17.94	5	P	P	15 34 48.7	+2.0
ISCO	Idaho Springs 69nm,1.5s	17.94	5	ePn	P	15 34 48.6	+2.0
Z42A	Norrel Spur, H baz=235	17.97	48	P	Pn	15 34 45.4	-0.8
W39A	Magazine baz=226,SNR=16	18.02	40	P	Pn	15 34 46.9	+0.3
143A	Socs Landing, baz=237	18.04	50	P	Pn	15 34 46.0	-0.9
X40A	Basin Creek Fa baz=230,SNR=14	18.13	43	P	Pn	15 34 47.1	-0.9
O20A	White River Ci baz=178,SNR=8.0	18.20	359	P	P	15 34 51.9	+2.6
O20A	White River Ci 124nm,1.7s	18.20	359	ePn	P	15 34 52.3	+3.0
CBKS	Cedar Bluff baz=204	18.20	20	P	Pn	15 34 49.6	+0.5
244A	Avery, Jackson baz=240	18.22	53	P	Pn	15 34 48.9	-0.3
X41A	Kaden, Bauxite baz=230	18.34	44	P	Pn	15 34 49.6	-1.0
MPU	Maple Canyon 142nm,1.6s	18.38	350	P	P	15 34 49.7	-1.6
Y42A	Garnett, Star baz=234	18.41	46	P	P	15 34 50.5	-0.9
W40A	Ferguson Farm, baz=228,SNR=18	18.44	41	P	Pn	15 34 52.5	+0.6
W40A	Ferguson Farm, 270nm,1.5s	18.44	41	ePn	Pn	15 34 53.1	+1.2
V39A	Pettigrew baz=225,SNR=46	18.55	38	P	P	15 34 53.4	+0.3
UALR	University of 97nm,1.5s	18.62	43	eP	P	15 34 53.8	-0.1
DUG	Dugway, Tooele baz=165,SNR=6.9	18.76	348	P	Pn	15 34 57.9	+2.0
DUG	Dugway, Tooele 39nm,1.6s	18.76	348	eP	Pn	15 34 57.4	+1.6
NV11	Mina Array Sit 1.1nm,1.3s	18.77	334	eP	Pn	15 34 57.5	+1.4
NV01	Mina Array Sit	18.83	333	eP	Pn	15 34 57.3	+0.4
NVAR	Mina Array Bea baz=159,slow=13,SNR=29	18.83	333	P	Pn	15 34 58.6	+1.8
NVAR	comp=Z,1μm,18.5s,baz=212,slow=38			LR	LR	15 42 13.9	
W41B	Gary Mavity, V baz=230,SNR=9.1	18.94	42	P	P	15 34 57.6	+0.3
V40A	Witts Springs baz=227,SNR=16	19.00	40	P	P	15 34 58.7	+0.6
U39A	Green Forest baz=224,SNR=18	19.02	37	P	P	15 34 59.0	+0.8
Z44A	Pea Ridge, Bel baz=236	19.03	50	P	Pn	15 34 59.4	+0.3
145A	Houston Renfro baz=240	19.05	52	P	P	15 34 59.1	+0.6
CTU	Camp Tracy 24nm,1.1s	19.06	351	eP	Pn	15 35 00.3	+0.8
T38A	Diamond baz=221,SNR=19	19.06	35	P	P	15 34 59.2	+0.6
RYN	Ryan 11nm,1.4s	19.09	333	eP	Pn	15 35 01.2	+1.3
U40A	Yellville baz=226,SNR=14	19.36	39	P	P	15 35 02.4	+0.4
246A	Jackson Lee, B baz=243	19.37	55	P	P	15 35 02.4	+0.3
WAKR	Walker 11nm,1.1s	19.38	331	eP	Pn	15 35 04.8	+1.3
V41A	Mountainview baz=228,SNR=10.0	19.39	41	P	P	15 35 03.0	+0.7
TCUT	Toone Canyon 52nm,1.1s	19.42	352	eP	Pn	15 35 05.2	+1.2
W42A	Bald Knob baz=231	19.46	43	P	P	15 35 03.9	+0.9
T39A	Clever baz=223,SNR=15	19.54	36	P	P	15 35 04.9	+1.0
Y44A	Strider, Charl baz=236,SNR=6.5	19.56	48	P	Pn	15 35 05.6	+0.2
Z45A	Winona baz=239	19.61	50	P	P	15 35 05.8	+1.1
KSU1	Kansas State U baz=212,SNR=17	19.61	27	P	P	15 35 05.6	+0.9
KSU1	Kansas State U 169nm,1.4s	19.61	27	eP	P	15 35 06.0	+1.3
YERR	Yerington 13nm,1.2s	19.70	332	eP	Pn	15 35 07.2	0.0
S38A	Stockton baz=221,SNR=13	19.70	34	P	P	15 35 06.7	+1.0
RWWY	Rawlins 164nm,1.8s	19.75	1	eP	P	15 35 06.6	+0.2
247A	Quitman baz=244	19.78	55	P	Pn	15 35 08.9	+0.8
ELK	Elko 0.1nm,0.3s,baz=210,slow=9.8,SNR=7.2	19.85	343	P	Pn	15 35 10.9	+1.8
ELK	comp=Z,579nm,19.4s,baz=212,slow=36			LR	LR	15 42 26.7	
V42A	Cord baz=230,SNR=9.6	19.88	42	P	P	15 35 08.5	+0.9
X44A	Crenshaw baz=235	19.90	47	P	P	15 35 08.8	+1.0
U41A	Viola baz=228,SNR=6.8	19.91	40	P	P	15 35 08.1	+0.2
HWUT	Hardware Ranch 24nm,1.1s	19.93	352	eP	Pn	15 35 10.6	+0.7
Y45A	Yeager Farm, C baz=238	19.97	49	P	Pn	15 35 10.2	-0.1
S39A	Bolivar baz=222,SNR=30	20.06	35	P	P	15 35 10.2	+0.6
Z46A	Louisville baz=240	20.06	52	P	P	15 35 10.8	+1.2
O33A	Hebron baz=208,SNR=6.3	20.07	23	P	P	15 35 10.5	+0.8
T40A	Mansfield baz=225,SNR=28	20.11	38	P	P	15 35 10.8	+0.6
R38A	Fenwick Farm, baz=220,SNR=26	20.13	33	P	P	15 35 11.3	+1.0
BMN	Battle Mountai 17nm,1.4s	20.17	339	eP	P	15 35 12.5	+1.6
HVU	Hansel Valley 16nm,1.2s	20.29	349	eP	Pn	15 35 14.1	0.0
147A	Livingston baz=243	20.32	54	P	P	15 35 13.7	+1.4
U42A	Revenden baz=229,SNR=20	20.32	41	P	P	15 35 13.0	+0.6
PAHR	Pah Rah Range 16nm,1.4s	20.36	333	eP	P	15 35 14.1	+1.1
X45A	UM Field Stati baz=237	20.38	48	P	P	15 35 13.7	+0.7
Q37A	Longview Farm, baz=218	20.39	31	P	P	15 35 14.0	+0.8
OXF	Oxford baz=236	20.41	48	P	P	15 35 14.9	+1.5
AFDM	Forest Hills D 13nm,1.3s	20.45	329	eP	Pn	15 35 15.5	-0.4
248A	Dixon Mills baz=245	20.47	56	P	P	15 35 15.1	+1.1
Y46A	Houston baz=239,SNR=6.7	20.47	50	P	P	15 35 15.2	+1.2
T41A	Mountain View baz=227,SNR=15	20.47	39	P	P	15 35 14.5	+0.4
O34A	Beatrice baz=210,SNR=6.7	20.50	25	P	P	15 35 14.7	+0.3
349A	Repton baz=248	20.60	58	P	P	15 35 16.6	+1.1
BRAL	Brewton baz=248	20.64	59	P	P	15 35 16.5	+0.6
BRAL	Brewton 115nm,1.1s	20.64	59	eP	Pn	15 35 17.8	-0.4
R39A	Chumby, Stover baz=222,SNR=26	20.67	34	P	P	15 35 16.5	+0.3
N33A	J Bar K, Exete baz=208	20.71	23	P	P	15 35 16.8	+0.2
Z47A	Carrollton baz=242,SNR=5.7	20.71	53	P	P	15 35 17.6	+0.9
K22A	Casper baz=183,SNR=16	20.73	2	P	P	15 35 18.4	+1.4
K22A	Casper 81nm,1.4s	20.73	2	eP	P	15 35 18.8	+1.9
U43A	Rector baz=231	20.85	42	P	P	15 35 19.0	+0.9
S41A	Jillco Farms, baz=226,SNR=13	20.86	38	P	P	15 35 18.8	+0.6
T42A	Van Buren baz=228,SNR=12	20.86	40	P	P	15 35 18.8	+0.6
Q38A	Cooks Store, C baz=219,SNR=10	20.87	32	P	P	15 35 19.3	+1.0
BW06	Boulder Array baz=175	20.88	356	P	P	15 35 19.9	+1.3
PD31	Pinedale Array	20.88	356	eP	P	15 35 18.9	+0.3
PDAR	Pinedale Array 6.7nm,1.0s,baz=161,slow=9.4,SNR=23	20.88	356	P	P	15 35 18.6	0.0
PDAR	comp=Z,577nm,18.3s,baz=190,slow=34			LR	LR	15 42 29.3	
PDAR	Pinedale Array	20.88	356	eP	P	15 35 18.3	-0.3
O35A	Humboldt baz=212	20.89	26	P	P	15 35 19.2	+0.6
W45A	Hickory Valley baz=236	20.93	47	P	P	15 35 19.5	+0.5
P37A	Lathrop baz=217,SNR=10.0	21.01	30	P	P	15 35 22.7	+2.9
X46A	Booneville baz=238	21.01	49	P	P	15 35 20.3	+0.4
R40A	Maddies Statio baz=223,SNR=28	21.07	36	P	P	15 35 21.0	+0.6
BGNE	Belgrade baz=205,SNR=6.5	21.07	20	P	P	15 35 21.3	+0.8
PBMO	Poplar Bluff 23nm,1.2s	21.10	42	eP	P	15 35 21.9	+1.1
N34A	Lincoln baz=210	21.14	24	P	P	15 35 22.5	+1.2
Z48A	Northport baz=242	21.17	53	P	P	15 35 21.7	+0.1
ORV	Oroville 30nm,1.3s	21.18	329	eP	P	15 35 23.5	+1.8
Y47A	UCPARC, Winfie baz=241	21.20	51	P	P	15 35 22.9	+0.9
Q39A	Willow Grove F baz=220,SNR=47	21.25	33	P	P	15 35 23.7	+1.2
T43A	Greenville baz=230	21.38	41	P	P	15 35 24.0	+0.2
149A	Jones baz=245	21.41	56	P	P	15 35 24.6	+0.4
V45A	Humboldt baz=235	21.41	46	P	P	15 35 24.3	+0.2
P38A	Dawn baz=218,SNR=11	21.42	31	P	P	15 35 24.9	+0.6
LRAL	Lakeview Retre baz=244	21.43	54	P	P	15 35 25.0	+0.6
LRAL	Lakeview Retre 37nm,1.4s	21.43	54	eP	P	15 35 25.2	+0.8
W46A	Michie baz=237	21.46	48	P	P	15 35 25.1	+0.3
CCM	Cathedral Cave baz=226	21.47	38	P	P	15 35 24.9	+0.1
CCM	Cathedral Cave 17nm,1.0s	21.47	38	eP	P	15 35 24.0	-0.8
N35A	Tabor baz=212,SNR=5.8	21.50	26	P	P	15 35 25.8	+0.6
U44B	Burton Farm, H baz=233	21.50	44	P	P	15 35 25.5	+0.4
X47A	Russelville baz=239,SNR=7.4	21.50	50	P	P	15 35 25.6	+0.4
S42A	Caledonia baz=227	21.53	39	P	P	15 35 26.9	+1.4
R41A	Rosebud baz=225,SNR=12	21.56	37	P	P	15 35 25.8	0.0
250A	Grady baz=247	21.57	58	P	P	15 35 26.3	+0.4
REDW	Red Top Meadow 24nm,1.1s	21.57	354	eP	P	15 35 28.5	+2.4
SNOW	Snow King Moun 36nm,1.2s	21.66	354	eP	P	15 35 28.1	+1.0
P39B	Salisbury baz=220,SNR=22	21.70	33	P	P	15 35 28.0	+0.8
Y48A	Jasper baz=242	21.71	52	P	P	15 35 29.0	+1.6
TPAW	Teton Pass 81nm,1.8s	21.71	354	eP	P	15 35 27.9	+0.2
N36A	Muff Farm, Cla baz=214	21.74	27	P	P	15 35 28.4	+0.7
LOHW	Long Hollow 30nm,1.4s	21.80	354	eP	P	15 35 29.4	+0.9
S43A	Fulton Ridge, baz=229,SNR=7.5	21.82	40	P	P	15 35 28.5	-0.2
O38A	Galt baz=218	21.84	30	P	P	15 35 29.0	+0.2
Z49A	Columbiana baz=244	21.86	54	P	P	15 35 29.4	+0.4
FXWY	Fox Creek	21.86	354	eP	P	15 35 28.3	-0.9

17nm,1.1s
R42A Luebbering 21.88 38 P P 15 35 29.0 -0.2
baz=226
O03D Paynes Creek 21.91 330 P P 15 35 31.8 +2.3
baz=143,SNR=6.0
MOOW Moose Ponds 21.95 354 eP P 15 35 31.4 +1.3
42nm,1.6s
K31A O'Neill 21.99 18 P P 15 35 31.0 +0.6
baz=203
150A Eclectic 22.00 56 P P 15 35 31.4 +0.9
baz=246
V46A Holladay 22.01 47 P P 15 35 30.6 0.0
baz=236,SNR=20
N37A Lee Faris, Mou 22.02 28 P P 15 35 30.9 +0.3
baz=215
X48A Hartselle 22.05 51 P P 15 35 32.0 +0.9
baz=241
W47A Westpoint 22.07 49 P P 15 35 31.4 +0.1
baz=238
P40A Paris 22.09 34 P P 15 35 31.9 +0.4
baz=222,SNR=16
Q41A Truxton 22.11 36 P P 15 35 31.9 +0.2
baz=224,SNR=11
IMW Indian Meadow 22.11 354 eP P 15 35 33.4 +1.4
29nm,1.4s
HLID Hailey 22.32 347 P P 15 35 36.2 +2.1
baz=164,SNR=6.7
HLID Hailey 22.32 347 eP P 15 35 35.7 +1.6
18nm,1.3s
Z50A Ashland 22.34 55 P P 15 35 35.0 +0.8
baz=245
R43A Red Bud 22.38 39 P P 15 35 34.5 0.0
baz=228
RSSD Black Hills 22.38 7 P P 15 35 35.4 +0.6
baz=189
RSSD Black Hills 22.38 7 eP P 15 35 35.0 +0.2
13nm,1.1s
WVT Waverly 22.38 46 P P 15 35 35.4 +0.7
baz=236
WVT Waverly 22.38 46 eP P 15 35 35.2 +0.6
37nm,1.3s
O39A Kirksville 22.39 32 P P 15 35 35.2 +0.5
baz=220
V47A Nunnelly 22.43 47 P P 15 35 34.8 -0.3
baz=237,SNR=5.2
WVOR Wild Horse Val 22.44 338 eP P 15 35 36.6 +1.3
15nm,1.1s
Q42A Golden Eagle 22.46 37 P P 15 35 36.7 +1.3
baz=226
YPP Pitchstone Pla 22.47 354 eP P 15 35 37.8 +1.9
22nm,1.6s
W48A Pulaski 22.48 50 P P 15 35 37.3 +1.6
baz=239
MFID Camas Ranch 22.50 344 eP P 15 35 37.1 +1.1
5.0nm,1.0s
H17A Grant Village 22.57 355 P P 15 35 41.1 +4.2
baz=173
H17A Grant Village 22.57 355 P P 15 35 39.7 +2.8
18nm,1.3s
X49A Woodville 22.60 52 P P 15 35 38.1 +1.0
baz=242,SNR=5.3
L35A Bielow Farm, R 22.61 24 P P 15 35 37.9 +0.9
baz=210
M37A Trindle Farm, 22.61 28 P P 15 35 37.5 +0.5
baz=215
O40A La Belle 22.62 33 P P 15 35 37.7 +0.5
baz=221,SNR=19
P41A Barry, Barry 22.71 35 P P 15 35 38.7 +0.5
baz=223,SNR=18
KMRM Mail Ridge 22.78 327 eP P 15 35 41.5 +2.7
77nm,1.7s
252A Lumpkin 22.78 59 P P 15 35 39.8 +0.9
baz=249
R44A Waltonville 22.86 40 P P 15 35 39.8 +0.1
baz=230
V48A Smith Brothers 22.86 48 P P 15 35 45.2 +5.4
baz=238
T46A Princeton 22.86 44 P P 15 35 40.1 +0.4
baz=234
YMR Madison River 22.88 354 eP P 15 35 41.9 +1.8
N39A Derby Farms, D 22.89 31 P P 15 35 40.2 +0.2
baz=219,SNR=7.3
U47A Clarksville 22.92 46 P P 15 35 40.8 +0.5
baz=236
Q43A New Douglas 22.95 38 P P 15 35 41.5 +0.9
baz=227
M38A Pleasantville 23.00 29 P P 15 35 41.4 +0.3
baz=216,SNR=9.3
P42A Winchester 23.04 36 P P 15 35 42.2 +0.7
baz=225,SNR=12
M04C Macdoel 23.12 332 P P 15 35 43.3 +0.8
baz=145
O41A Passleys Farm, 23.13 34 P P 15 35 42.5 +0.1
baz=223
RLMT Red Lodge 23.21 357 P P 15 35 44.6 +1.1
baz=176
RLMT Red Lodge 23.21 357 eP P 15 35 43.9 +0.5
25nm,1.5s
MCMT McKenzie Canyo 23.27 351 eP P 15 35 46.0 +2.0
KHMM Horse Mountain 23.28 328 eP P 15 35 44.5 +0.4
58nm,1.5s
Q44A Meyer Farm, Va 23.33 39 P P 15 35 45.9 +1.4
baz=229
L37A Phoenix Point, 23.33 27 P P 15 35 44.6 +0.2
baz=214
N40A Mertquake, Sal 23.34 32 P P 15 35 44.3 -0.3
baz=220,SNR=6.6
R45A Skylar, Fairfi 23.38 41 P P 15 35 44.8 -0.1
baz=231
U48A Cassie Pea, Po 23.46 47 P P 15 35 45.7 -0.1
baz=237
YBH Yreka Blue Hor 23.47 331 P P 15 35 45.5 -0.4
1.1nm,0.7s,baz=113,slow=7.1,SNR=5.3
YBH LR LR 15 44 16.3
comp=Z,347nm,20.5s,baz=151,slow=35
K36A Gilmore City 23.48 25 P P 15 35 46.1 +0.1
baz=212
P43A Skaggs, Pawnee 23.53 37 P P 15 35 46.2 -0.3
baz=226
ECSD EROS Data Cent 23.65 20 P P 15 35 48.4 +0.7
baz=206,SNR=5.8
ECSD EROS Data Cent 23.65 20 eP P 15 35 42.4 -5.3
40nm,1.4s
L38A Oak Wood Farm, 23.69 28 P P 15 35 48.5 +0.5
baz=216
OLIL Olney 23.76 41 eP P 15 35 48.2 -0.6
55nm,1.2s
M40A Post Highland 23.78 31 P P 15 35 49.3 +0.4
baz=220
R46A Gibon Southern 23.80 42 P P 15 35 49.0 -0.2
baz=232,SNR=5.4
Q45A Warren Harvey, 23.83 40 P P 15 35 49.4 0.0
baz=230
T48A Bowling Green 23.89 46 P P 15 35 49.8 -0.2
baz=236
K37A Belmond 23.91 26 P P 15 35 50.3 +0.1
baz=214
254A Abbeville 23.92 60 P P 15 35 49.9 -0.5
baz=251
P44A Sand Creek, Wi 23.93 39 P P 15 35 50.8 +0.5
baz=228
N42A Yates City 24.09 34 P P 15 35 52.3 +0.4
baz=224
L39A Vinton 24.10 30 P P 15 35 52.2 +0.2
baz=218,SNR=8.0
J05D Fort Rock, OR 24.12 335 P P 15 35 53.1 +0.8
baz=148,SNR=12
L02D Cave Junction, 24.21 330 P P 15 35 53.5 +0.5
baz=142
BMO Blue Mountains 24.23 343 eP P 15 35 49.8 -3.4
8.3nm,0.9s
M41A Milan 24.23 33 P P 15 35 53.7 +0.6
baz=222,SNR=6.8
154A Montrose 24.29 59 P P 15 35 53.6 -0.1
baz=250
HDIL Hopedale 24.29 36 P P 15 35 54.2 +0.5
baz=225
CPCT Cooper Cave 24.35 51 eP P 15 35 54.3 -0.1
J37A Redenius Farm, 24.40 26 P P 15 35 55.3 +0.6
baz=213,SNR=6.5
S48A Wiedeman Farm, 24.41 45 P P 15 35 55.1 +0.2
baz=236
L40A Anamosa 24.42 31 P P 15 35 55.2 +0.4
baz=220
J04D Umpqua Nationa 24.43 334 P P 15 35 55.9 +0.7
baz=146
PINE Pine Mountain 24.45 336 eP P 15 35 56.5 +1.2
7.0nm,0.9s
R47A Wooly Knot Far 24.47 43 P P 15 35 56.0 +0.6
baz=234
P45A Graceland, Par 24.48 40 P P 15 35 55.7 +0.2
baz=230
WCI Wyandotte Cave 24.59 44 P P 15 35 56.5 0.0
baz=234
K39A Oelwein 24.61 29 P P 15 35 56.9 +0.3
baz=217,SNR=6.9
N43A Stutzman Famil 24.63 35 P P 15 35 57.4 +0.6
baz=225
JTS JuntasAbangare 24.68 114 P P 15 36 01.5 +3.9
18nm,1.1s,baz=24,slow=7.5,SNR=8.8
JTS LR LR 15 46 14.1
comp=Z,256nm,19.0s,baz=14,slow=38
M42A Sheffield 24.69 34 P P 15 35 58.2 +0.9
baz=223
LAO LASA Array 24.77 2 P P 15 35 59.5 +1.5
baz=183
L41A Preston 24.78 32 P P 15 35 58.9 +0.8
baz=221
155A Kite 24.80 59 P P 15 35 59.1 +0.7
baz=251,SNR=5.4
J38A Wedel Dairy, R 24.85 27 P P 15 35 59.6 +0.8
baz=215
Q47A Bedord North L 24.92 42 P P 15 35 59.9 +0.5
baz=233
K40A Colesburg 24.95 30 P P 15 36 00.4 +0.8
baz=219
R48A Northridge Ran 24.95 44 P P 15 36 01.8 +2.1
baz=235
HRY Holter Researc 24.99 353 eP P 15 35 59.1 -1.0
TKL Tuckaleechee C 24.99 51 LR LR 15 45 35.8
comp=Z,305nm,19.2s,baz=242,slow=36
I04A Tendick Farm, 25.02 334 P P 15 36 01.5 +1.2
baz=146
I37A Lemond, Waseca 25.05 25 P P 15 36 02.4 +1.8
baz=213
I05D Terrebonne, OR 25.06 336 P P 15 36 01.5 +0.8
baz=149
HSO Harness Mounta 25.08 333 eP P 15 36 03.1 +2.3
M43A Waltham Townsh 25.09 35 P P 15 36 00.3 -0.7
baz=225
H35A Sunnyside Ranc 25.11 22 P P 15 36 01.3 +0.3
baz=209
L42A Oliver, Polo 25.14 33 P P 15 36 01.0 -0.3
baz=222
J39A Decorah 25.20 28 P P 15 36 02.6 +0.8
baz=217
F10A Beach Ranch, E 25.25 344 eP P 15 36 04.0 +1.6
12nm,1.1s
BG3 Lake Jocassee 25.32 54 eP P 15 36 03.6 +0.5
52nm,1.3s
H36A Jessenland, He 25.33 23 P P 15 36 04.6 +1.6
baz=211,SNR=5.6
I03D Drain, OR 25.33 333 P P 15 36 04.1 +1.1
baz=144
MSO Missoula 25.39 350 P P 15 36 04.5 +0.8
baz=166,SNR=6.2
MSO Missoula 25.39 350 eP P 15 36 04.1 +0.4
15nm,1.2s
SFIN Lafayette 25.41 39 P P 15 36 03.9 0.0
baz=230,SNR=5.8
SFIN Lafayette 25.41 39 P P 15 35 59.6 -4.3
35nm,1.2s
N45A Kentland 25.48 38 P P 15 36 04.6 +0.1
baz=228
I38A Scanlan Farm, 25.50 26 P P 15 36 06.1 +1.5
baz=215
JFWS Jewell Farm 25.53 31 P P 15 36 05.1 +0.1
baz=220
TZTN Tazewell 25.56 50 P P 15 36 05.6 +0.3
baz=242
I39A Houston 25.69 28 P P 15 36 08.0 +1.7
baz=216
L43A Garden Prairie 25.74 34 P P 15 36 07.0 +0.2
baz=224
G05D Wamic, OR 25.83 338 P P 15 36 08.6 +1.0
baz=150
O47A Sheridan 25.87 40 P P 15 36 08.9 +0.9
baz=231
K42A Prairie Point, 25.87 32 P P 15 36 08.0 0.0
baz=222
N46A Monticello 25.95 38 P P 15 36 09.4 +0.6
baz=229
J41A Loganville 25.99 30 P P 15 36 08.7 -0.4
baz=220
K43A Burlington 26.32 33 P P 15 36 11.8 -0.3
baz=224
J42A Columbus 26.38 32 P P 15 36 12.6 0.0
baz=222
H39A Augusta 26.46 27 P P 15 36 13.3 0.0
baz=216
F36A Milaca 26.57 23 P P 15 36 14.3 -0.1
baz=210
G38A Ridgeland 26.62 26 P P 15 36 14.4 -0.4
baz=214
H40A Chili 26.80 28 P P 15 36 20.3 +3.9
baz=218
F38A Pierce - Schro 27.27 25 P P 15 36 19.6 -1.0
baz=214
I43A Lagonfeld Bro 27.28 32 P P 15 36 19.9 -0.8
baz=223
NEW Newport 27.38 346 LR LR 15 46 44.2
comp=Z,477nm,18.1s,baz=170,slow=36
F40A Park Falls 27.94 27 P P 15 36 26.2 -0.4
baz=217
AGMN Agassiz Nation 28.01 17 P P 15 36 27.3 +0.1
baz=204
AGMN Agassiz Nation 28.01 17 P P 15 36 26.5 -0.7
12nm,1.3s
G42A Mountain 28.16 30 P P 15 36 28.6 +0.1
baz=220
B05A Bryant 28.73 340 P P 15 36 33.7 +0.1
baz=151
E41A Kenton 28.86 27 P P 15 36 33.8 -1.0
baz=218
EYMN Ely 29.08 23 P P 15 36 35.9 -0.9
baz=212
EYMN Ely 29.08 23 eP P 15 36 34.0 -2.7
5.7nm,1.0s
F44A Big Bay de Noc 29.64 31 P P 15 36 40.9 -0.8
baz=223
E43A Lone Tree Farm 29.67 30 P P 15 36 41.9 -0.1
baz=222
ULM Lac du Bonnet 29.80 15 P P 15 36 42.3 -0.8
2.2nm,0.6s,baz=209,slow=14,SNR=4.1
ULM Lac du Bonnet 29.80 15 eP P 15 36 41.1 -1.9
20nm,1.5s
F45A CMU Biological 29.87 32 P P 15 36 43.2 -0.5
baz=225
F46A Macinaw City C 30.31 33 P P 15 36 47.5 -0.2
baz=226
BASO Ashfield 30.83 38 P P 15 36 52.7 +0.4
baz=233
TYNO Tyneside 31.36 41 P P 15 36 57.0 +0.1
baz=236
BMRO Meriville Lake 31.44 38 P P 15 36 57.8 +0.2
baz=232
DRWO Darlington Wes 32.48 41 P P 15 37 07.0 +0.2
baz=237
BINY Binghamton 33.38 45 P P 15 37 14.0 -0.7
baz=242
MOTC Monteria, Cord 33.46 108 eP P 15 37 15.9 +0.3
DELO Deloro Mine 33.51 41 P P 15 37 15.9 +0.1
baz=237
PLVO Plevna 34.11 40 P P 15 37 21.3 +0.2
baz=237
PEMO Pembroke 34.36 39 P P 15 37 23.3 +0.2
baz=236
MALC Bahia Malaga 34.40 117 eP P 15 37 25.9 +2.0
ZARC Zaragoza, Cauc 34.75 109 i P P 15 37 27.1 +0.2
YOTC Yotoco, Valle 35.24 116 i P P 15 37 32.1 +0.9
GUYC Guyana, Colomb 35.40 113 eP P 15 37 35.9 +2.9
PTBC PUERTO BERRIO, 35.55 110 eP P 15 37 35.2 +1.4
URIC Uribia, Colomb 35.59 101 eP P 15 37 28.6 -5.5
OTAV Otavalo 35.73 123 eP P 15 37 39.2 +3.4
TOLC Tolima 35.79 114 eP P 15 37 36.5 +0.4
GCUF Volcan Galeras 36.00 121 eP P 15 37 36.5 -1.6
SOTA Rioblanco 36.06 119 eP P 15 37 40.5 +1.8
CRUC La Cruz 36.11 120 eP P 15 37 40.5 +1.5
PCON Cinco Dias 36.12 118 eP P 15 37 43.2 +3.9
MARP Paez Belalcaza 36.20 117 eP P 15 37 43.2 +3.5
TRQ Mont Tremblant 36.24 40 eP P 15 37 38.6 -0.8
ROSC El Rosal 36.51 113 P P 15 37 45.4 +2.9
2.6nm,0.3s,baz=327,slow=6.4,SNR=7.7
ROSC LR LR 15 53 09.1
comp=Z,101nm,19.6s,baz=26,slow=37
ROSC El Rosal 36.51 113 eP P 15 37 45.2 +2.8
BARC Barichara 36.64 109 eP P 15 37 46.5 +3.1
BETC Betania 36.71 117 eP P 15 37 45.9 +2.1
PAMC Pamplona, Colo 36.72 108 eP P 15 37 45.9 +1.5
RUSC La Rusia 37.06 110 eP P 15 37 48.0 +0.8
25nm,1.3s
RUSC La Rusia 37.06 110 eP P 15 37 49.8 +2.6
CHIC Chingaza 37.12 113 eP P 15 37 49.8 +2.2
YOPC Yopal, Colombi 37.89 111 eP P 15 37 56.5 +2.6
SDV Santo Domingo 37.90 104 P P 15 37 54.9 +0.9
27nm,1.0s,baz=286,slow=3.9,SNR=18
SDV LR LR 15 56 11.1
comp=Z,256nm,18.1s,baz=300,slow=40
SDV Santo Domingo 37.90 104 eP P 15 37 54.7 +0.6
49nm,1.3s
SDV Santo Domingo 37.90 104 eP P 15 37 53.5 -0.6
OBIP Obispado Ponce 38.75 88 eP P 15 38 02.6 +1.7
35nm,1.3s
DLBC Dease Lake 39.90 342 eP P 15 38 12.2 +2.0
9.8nm,1.3s
ATAH Atahualpa 40.72 132 P P 15 38 21.5 +3.7
3.2nm,0.5s,baz=4.9,slow=7.5,SNR=4.8
YKA Yellowknife Ar 40.85 355 P P 15 38 17.1 -0.7
0.6nm,0.8s,baz=168,slow=7.8,SNR=13
YKA PcP PcP 15 40 17.4 -1.1
0.2nm,0.6s,baz=165,slow=2.5,SNR=5.6
TAOE Nuku Hiva Isla 44.11 230 eS S 15 45 06.6 -12
166nm,27.6s
TAOE eLR LR 15 50 50.8
607nm,26.6s,baz=52
SCHQ Schefferville 44.88 32 LR LR 15 58 16.0
comp=Z,387nm,21.5s,baz=249,slow=37
DAWY Dawson 47.12 342 eP P 15 39 08.8 +0.6
11nm,1.6s
EGAK Eagle 48.17 342 eP P 15 39 17.1 +0.8
2.7nm,0.8s
KDAK Kodiak Island 48.27 330 P P 15 39 16.5 -0.7
5.0nm,0.6s,baz=140,slow=4.4,SNR=11
DOT Dot Lake 48.28 339 eP P 15 39 18.8 +1.6
54nm,1.8s
SCRK Sand Creek 48.48 340 eP P 15 39 20.3 +1.4
12nm,1.5s
RIDG Independ'e Rid 48.60 339 eP P 15 39 20.5 +0.8
11nm,1.1s
RC01 Rabbit Creek A 48.76 334 eP P 15 39 22.1 +1.2
8.4nm,0.8s
DHY Denali Highway 49.04 337 eP P 15 39 24.5 +1.2
5.5nm,1.0s
SUA Susitna One 49.37 334 eP P 15 39 26.3 +0.5
9.7nm,0.9s
SPU Mount Spurr 49.75 334 eP P 15 39 28.5 -0.1
RND Reindeer 49.77 337 eP P 15 39 28.5 -0.2
13nm,1.2s
IL1 Eielson Array 49.95 339 eP P 15 39 29.5 -0.5
ILAR Eielson Array 49.95 339 P P 15 39 29.9 -0.1
4.1nm,1.0s,baz=144,slow=6.9,SNR=28
ILAR PcP PcP 15 40 48.4 -1.6
0.5nm,0.5s,baz=166,slow=2.6,SNR=6.3
ILAR LR LR 16 00 09.9
comp=Z,93nm,20.7s,baz=139,slow=36
ILB Eielson Array 49.95 339 eP P 15 39 29.2 -0.7
MCK McKinley 50.00 337 eP P 15 39 30.4 0.0
11nm,1.2s
WRH Wood River Hil 50.16 339 eP P 15 39 31.8 +0.2
10nm,1.4s
TRF Thorofare Moun 50.32 337 eP P 15 39 32.8 -0.2
19nm,0.8s
MDM Murphy Dome 50.51 339 eP P 15 39 34.1 -0.2
8.4nm,1.4s
KTH Kantishna Hill 50.61 337 eP P 15 39 34.5 -0.6
20nm,1.4s
FYU Fort Yukon 50.63 342 eP P 15 39 35.6 +0.6
19nm,1.4s
CAST Castle Rocks 50.97 336 eP P 15 39 37.4 -0.3
8.0nm,1.0s
SVW2 Sparrevohn 51.20 332 eP P 15 39 38.8 -0.6
23nm,1.6s
RKT Rikitea 52.02 212 eLR LR 15 54 36.4
511nm,29.5s,baz=38
RKT Rikitea 52.02 212 eT T 16 35 17.9
3.6nm,0.3s
COLD Coldfoot 52.55 341 eP P 15 39 51.0 +1.6
12nm,1.6s
IM3 Indian Mountai 52.98 338 eP P 15 39 51.2 -1.4
TOLK Toolik Lake Re 53.25 342 P P 15 39 54.3 -0.4
baz=129
TOLK Toolik Lake Re 53.25 342 eP P 15 39 54.1 -0.5
10nm,1.3s
RES Resolute Bay 53.27 4 P P 15 39 53.8 -0.9
0.9nm,0.8s,baz=170,slow=12,SNR=3.7
LPAZ La Paz 54.26 131 P P 15 40 05.5 +2.1
4.8nm,1.1s,baz=356,slow=5.3,SNR=6.0
LPAZ LR LR 16 02 06.5
comp=Z,114nm,18.4s,baz=328,slow=35
LPAZ La Paz 54.26 131 eP P 15 40 05.5 +2.1
9.9nm,1.3s
PPT Papeete 56.73 230 LR LR 15 59 11.1
comp=Z,181nm,18.1s,baz=83,slow=30
PPT2 Papeete2 56.74 230 eLR LR 15 56 41.6
698nm,26.5s,baz=46
SFJD Kangerlussuaq 57.38 23 LR LR 16 04 44.6
comp=Z,358nm,21.6s,baz=242,slow=36
RAR Rarotonga 66.45 233 LR LR 16 01 58.6
comp=Z,307nm,19.8s,baz=80,slow=28
CPUP Villa Florida 68.41 132 P P 15 41 40.3 +2.0
7.9nm,1.0s,baz=322,slow=6.1,SNR=6.9
CPUP LR LR 16 09 53.7
comp=Z,69nm,19.0s,baz=332,slow=34
BORG Borgarnes 68.91 27 LR LR 16 11 43.0
comp=Z,294nm,18.8s,baz=255,slow=36
PLCA Paso Flores 71.25 151 LR LR 16 05 51.7
comp=Z,105nm,18.6s,baz=338,slow=30
AFI Afiamalu 72.19 247 LR LR 16 05 30.2
comp=Z,199nm,18.1s,baz=176,slow=29
SPITS Spitsbergen Ar 75.20 10 LR LR 16 16 31.8
comp=Z,213nm,18.3s,baz=325,slow=37
PETK Petropavlovsk- 75.47 322 P P 15 42 19.7 -0.7
3.2nm,0.8s,baz=75,slow=6.4,SNR=4.6
EKA Eskdalemuir Ar 80.17 34 LR LR 16 17 35.1
comp=Z,84nm,18.4s,baz=295,slow=35
ARCES ARCESS Array B 82.92 15 P P 15 43 01.7 +0.9
3.1nm,0.9s,baz=312,slow=9.4,SNR=3.1
ARCES LR LR 16 20 38.5
comp=Z,182nm,20.0s,baz=325,slow=36
NB2 NORSAR Subarra 83.97 25 P P 15 43 06.2 -0.2
comp=Z,3.9nm,0.9s,baz=308,slow=5.1
NOA NORSAR Array B 83.97 25 P P 15 43 07.1 +0.7
comp=Z,2.7nm,0.9s,baz=304,slow=5.1,SNR=7.6
NOA LR LR 16 20 58.5
comp=Z,150nm,19.4s,baz=305,slow=36
HFS Hagfors 85.49 25 LR LR 16 22 14.5
comp=Z,234nm,18.4s,baz=304,slow=36
ESDC Sonseca Array 86.26 49 P P 15 43 19.1 +0.7
comp=Z,0.7nm,0.7s,baz=316,slow=4.1,SNR=4.9
ESDC LR LR 16 20 59.0
comp=Z,32nm,19.6s,baz=275,slow=35
FINES FINESS Array B 89.07 20 LR LR 16 22 32.1
comp=Z,218nm,21.0s,baz=340,slow=35
GERES GERESS Array B 92.38 34 LR LR 16 23 30.6
comp=Z,140nm,21.5s,baz=288,slow=34
DZM Mont Dzumac 94.36 248 LR LR 16 16 40.0
comp=Z,70nm,18.9s,baz=17,slow=29
MJAR Matsushiro Arr 94.90 312 LR LR 16 22 12.9
comp=Z,62nm,19.1s,baz=45,slow=33
KOWA Kowa 96.94 71 LR LR 16 29 12.5
comp=Z,100nm,18.7s,baz=218,slow=36
AKASG Malin Array Be 98.36 26 LR LR 16 29 36.7
comp=Z,144nm,18.7s,baz=280,slow=36
VAE Valguarnera 99.69 43 LR LR 16 30 20.8
comp=Z,58nm,18.1s,baz=285,slow=36
LZH Lanzhou 115.07 332 ePKP PKPdf 15 49 13.1 -5.1
LZH sPKP 15 49 30.7
LZH LR LR
comp=N,110nm,18.1s
LZH LR LR
comp=E,120nm,18.0s
LZH LR LR
comp=Z,150nm,20.0s
CMAR Chiang Mai Arr 132.16 325 PKP PKPdf 15 49 49.7 -1.4
comp=Z,0.5nm,0.5s,baz=56,slow=1.6,SNR=5.9

*ISCJB **07** 15:40:51.6±0.6, 5.49S±0.07×147.32E±0.08, h200km, mb3.9/13, Error ellipse: s-maj=11.1km s-min=9.6km az=2.0*
*IDC **07** 15:40:52.0±1.4, 5.57S×147.26E, h187km±12km, mb3.7/13,*

mb1 3.9/18, mb1mx3.6/49, mbtmp4.4/18, Error ellipse: s-maj=15.6km s-min=10.3km az=114.0

ISC 07 15:40:53.0±0.6**, 5°.60S**±0°.08×**147°.27E**±0°.10**, h200km, n21, σ1s.20**/24**, mb4.0**/13**, Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.79**	**182**	P	**Pn**	**15 41 51.7**	**-0.4**
	39nm,0.3s,baz=340,slow=5.9,SNR=180						
PMG				S	**Sn**	**15 42 36.4**	**-2.3**
	42nm,0.3s,baz=43,slow=4.4,SNR=12						
HNR	**Honiara**	**13.13**	**108**	P	**Pn**	**15 43 51.7**	**-0.5**
	15nm,0.3s,baz=209,slow=8.1,SNR=4.5						
CTA	**Charters Tower**	**14.44**	**184**	P	**P**	**15 44 10.1**	**+0.4**
	1.7nm,0.3s,baz=4.2,slow=13,SNR=24						
SIJI	**Sorong**	**16.65**	**286**	P	**Pn**	**15 44 33.6**	**-1.6**
	1.2nm,0.3s,baz=81,slow=9.0,SNR=10						
WRA	**Warramunga Arr**	**19.01**	**220**	P	**Pn**	**15 45 00.9**	**-2.1**
	7.1nm,0.3s,baz=48,slow=12,SNR=300						
WRA				S	**S**	**15 48 24.3**	**-0.8**
	0.2nm,0.3s,baz=46,slow=18,SNR=9.8						
ASAR	**Alice Springs**	**22.10**	**214**	P	**P**	**15 45 33.6**	**+1.3**
	20nm,0.7s,baz=50,slow=8.5,SNR=467						
ASAR				S	**S**	**15 49 23.7**	**+2.4**
	2.3nm,0.8s,baz=39,slow=21,SNR=6.0						
BATI	**Baumata**	**23.82**	**257**	P	**P**	**15 45 49.0**	**+0.9**
	9.9nm,0.3s,baz=98,slow=5.6,SNR=3.4						
FITZ	**Fitzroy Crossi**	**24.51**	**238**	P	**P**	**15 45 55.1**	**+0.9**
	13nm,0.5s,baz=53,slow=9.6						
DZM	**Mont Dzumac**	**24.74**	**133**	P	**P**	**15 45 56.8**	**+0.5**
	2.9nm,0.6s,baz=256,slow=12,SNR=6.7						
STKA	**Stephens Creek**	**26.68**	**191**	P	**P**	**15 46 14.2**	**+0.7**
	1.6nm,0.4s,baz=20,slow=9.4,SNR=3.3						
SONM	**Songino Array**	**64.19**	**331**	P	**P**	**15 51 07.4**	**+0.9**
	0.2nm,0.4s,baz=151,slow=6.3,SNR=2.8						
VNDA	**Vanda**	**72.30**	**177**	P	**P**	**15 51 57.5**	**+1.4**
	1.8nm,0.6s,baz=329,slow=7.0,SNR=13						
MKAR	**Makanchi Array**	**77.36**	**320**	P	**P**	**15 52 26.3**	**+0.5**
	0.3nm,0.3s,baz=104,slow=6.6,SNR=3.0						
ZALV	**Zalesovo Beam**	**78.82**	**328**	P	**P**	**15 52 32.8**	**-0.7**
	0.7nm,0.4s,baz=128,slow=6.0,SNR=4.2						
MAW	**Mawson**	**82.72**	**203**	P	**P**	**15 52 54.6**	**+0.6**
	2.7nm,0.9s,baz=90,slow=4.0,SNR=2.4						
QSPA	**South Pole Qui**	**84.37**	**180**	P	**P**	**15 53 03.0**	**+0.4**
	1.0nm,0.4s,baz=165,slow=1.6,SNR=4.1						
ILAR	**Eielson Array**	**85.01**	**23**	P	**P**	**15 53 04.5**	**-1.1**
	0.4nm,0.6s,baz=253,slow=4.7,SNR=7.6						
BVAR	**Borovoye Array**	**86.60**	**324**	P	**P**	**15 53 12.7**	**-1.0**
	0.3nm,0.5s,baz=108,slow=7.7,SNR=4.2						
GERES	**GERESS Array B**	**121.73**	**326**	PKP	**PKPdf**	**15 59 22.8**	**-0.5**
	0.2nm,0.6s,baz=48,slow=3.1,SNR=2.7						
SIV	**San Ignacio**	**144.69**	**128**	PKP	**PKPdf**	**16 00 06.6**	**-0.3**
TORD	**Torodi Ar. Bea**	**145.25**	**285**	PKPbc	**PKPab**	**16 00 08.7**	**+0.3**
	0.9nm,0.6s,baz=80,slow=3.8,SNR=6.3						

MEX 07 15:48:08.2±0.7**, 16°.26N**×**98°.15W, h5km, MD3.8, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.13**	**10**	*e*P	Pg	15 48 10.3	-0.6
PNIG				*e*S	Sg	15 48 12.7	0.0
TLIG	**Tlapa**	**1.35**	**343**	*e*P	Pn	15 48 30.4	-3.5
TLIG				*e*S	Sg	15 48 47.8	-4.0
VHO	**Vista Hermosa**	**1.58**	**59**	*e*P	Pn	15 48 33.5	-3.6
VHO				*e*S	Sn	15 48 53.7	-4.3
HUIG	**Huatulco**	**2.02**	**104**	*e*P	Pg	15 48 46.6	-0.5
HUIG				*e*S	Sn	15 49 08.7	-0.1
CAIG	**El Cayaco**	**2.17**	**291**	*e*P	Pn	15 48 43.9	-1.2
CAIG				*e*S	Sb	15 49 15.6	+0.3

MEX 07 15:50:47.7±0.8**, 16°.40N**×**98°.43W, h4km, MD3.8, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.29**	**92**	*e*P	Pg	15 50 52.8	-0.6
PNIG				*e*S	Sg	15 50 56.9	-0.3
TLIG	**Tlapa**	**1.16**	**354**	*e*P	Pg	15 51 07.1	-2.9
TLIG				*e*S	Sg	15 51 21.5	-3.6
TLIG				*i* S	Sb	15 51 21.6	-4.4
VHO	**Vista Hermosa**	**1.76**	**67**	*e*P	Pn	15 51 15.5	-3.7
VHO				*i* S	Sn	15 51 37.6	-4.5
CAIG	**El Cayaco**	**1.87**	**290**	*e*P	Pn	15 51 17.9	-2.7
CAIG				*e*S	Sn	15 51 43.5	-1.2
HUIG	**Huatulco**	**2.32**	**105**	*e*P	Pn	15 51 22.1	-4.6
HUIG				*e*S	Sb	15 51 58.7	-0.5

*ISN **07** 16:10:16.4±2.3, 38°.51N×43°.20E, h0km±9km, ML3.2*
*ISK **07** 16:10:19.7, 38°.62N×43°.16E, h5km, ML3.2/16*
*ATA **07** 16:10:20.2±1.4, 38°.53N×43°.00E, h32km±9km, ML3.6, MW3.7*
*CSEM **07** 16:10:21.2±0.2, 38°.62N×43°.17E, h5km, ML3.2, Error ellipse: s-maj=3.8km s-min=3.3km az=108.0*
*ISCJB **07** 16:10:21.6±0.4, 38°.63N±0°.02×43°.15E±0°.03, h5km±4km, Error ellipse: s-maj=3.6km s-min=3.2km az=4.4*
*DDA **07** 16:10:21.2, 38°.61N×43°.20E, h15km, Ml3.2*
ISC 07 16:10:21.2±0.9**, 38°.61N**±0°.02×**43°.14E**±0°.02**, h8**km±8km**, n79, σ1s.15**/109**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.19**	**94**	PG	**Pg**	**16 10 25.3**	**+0.1**
VANB				SG	**Sg**	**16 10 29.3**	**+1.4**
VANB	**Van**	**0.19**	**94**	*e*Pg	**Pg**	**16 10 25.3**	**+0.1**
VANB				*e*Sg	**Sg**	**16 10 29.3**	**+1.4**
TVAN	**Van**	**0.22**	**111**	*i* P	**Pg**	**16 10 25.6**	**-0.1**
TVAN				*i* S	**Sg**	**16 10 29.1**	**+0.3**
TVAN	**Van**	**0.22**	**111**	P	**Pg**	**16 10 25.6**	**-0.1**
TVAN				S	**Sg**	**16 10 29.1**	**+0.3**
GEVA	**Gevas**	**0.30**	**193**	*i* P	**Pb**	**16 10 27.4**	**-1.6**
GEVA	**Gevas**	**0.30**	**193**	*i* P	**Pb**	**16 10 27.3**	**-1.6**
GEVA				*i* S	**Sb**	**16 10 33.0**	**-1.1**
GEVA	**Gevas**	**0.30**	**193**	P	**Pb**	**16 10 27.3**	**-1.6**
GEVA				S	**Sb**	**16 10 33.0**	**-1.1**
ADCV	**BITLIS_Adilcev**	**0.38**	**302**	*i* P	**Pb**	**16 10 29.4**	**-1.0**
ADCV				*i* S	**Sb**	**16 10 36.2**	**-0.4**
ADCV	**BITLIS_Adilcev**	**0.38**	**302**	P	**Pb**	**16 10 29.4**	**-1.0**
ADCV				S	**Sb**	**16 10 36.2**	**-0.4**
ERCV	**ERCIS-VAN**	**0.44**	**20**	PG	**Pg**	**16 10 29.4**	**-0.4**
ERCV				SG	**Sb**	**16 10 36.4**	**-1.7**
ERCV	**ERCIS-VAN**	**0.44**	**20**	*e*Pg	**Pg**	**16 10 29.4**	**-0.4**
ERCV				*e*Sg	**Sb**	**16 10 36.4**	**-1.7**
VMUR	**Van-Muradiye**	**0.51**	**41**	*i* P	**Pb**	**16 10 31.3**	**-1.1**
VMUR				*i* S	**Sb**	**16 10 39.7**	**-0.3**
VMUR	**Van-Muradiye**	**0.51**	**41**	P	**Pb**	**16 10 31.3**	**-1.1**
VMUR				S	**Sb**	**16 10 39.7**	**-0.3**
CLDR	**Caldiran**	**0.81**	**48**	PG	**Pg**	**16 10 35.4**	**-1.4**
CLDR				SG	**Sb**	**16 10 48.1**	**-0.6**
CLDR	**Caldiran**	**0.81**	**48**	*i* P	**Pg**	**16 10 35.6**	**-1.2**
CLDR				*i* S	**Sb**	**16 10 47.2**	**-1.5**
CLDR	**Caldiran**	**0.81**	**48**	P	**Pg**	**16 10 35.6**	**-1.2**
CLDR				S	**Sb**	**16 10 47.2**	**-1.5**
CLDR				*e*Sg	**Sb**	**16 10 48.1**	**-0.6**
TUTA	**Tutak**	**0.83**	**342**	*i* P	**Pb**	**16 10 37.0**	**-1.1**
TUTA	**Tutak**	**0.83**	**342**	*i* P	**Pb**	**16 10 37.0**	**-1.1**
TUTA				*i* S	**Sg**	**16 10 47.5**	**-0.7**
TUTA	**Tutak**	**0.83**	**342**	P	**Pb**	**16 10 37.0**	**-1.1**
TUTA				S	**Sg**	**16 10 47.5**	**-0.7**
GURO	**Guroymak-BITLI**	**0.87**	**267**	PG	**Pg**	**16 10 37.6**	**-0.4**
GURO	**Guroymak-BITLI**	**0.87**	**267**	*e*Pg	**Pg**	**16 10 37.6**	**-0.4**
AGRB	**Hanur-Agry**	**0.97**	**353**	PG	**Pg**	**16 10 39.1**	**-0.8**
AGRB	**Hanur-Agry**	**0.97**	**353**	*e*Pg	**Pg**	**16 10 39.1**	**-0.8**
DYDN	**Diyadin**	**1.03**	**24**	*e*P	**Pn**	**16 10 41.6**	**-0.5**
DYDN				*i* Pg	**Pb**	**16 10 43.3**	**+1.9**
DYDN				*e*S	**Sn**	**16 10 60.0**	**+3.2**
DYDN				IAML		16 11 05.3	
	comp=Z,54nm,0.5s						
DYDN	**Diyadin**	**1.03**	**24**	*i* P	**Pn**	**16 10 41.4**	**-0.7**
DYDN				*i* S	**Sb**	**16 10 53.9**	**-1.2**
DYDN	**Diyadin**	**1.03**	**24**	P	**Pn**	**16 10 41.4**	**-0.7**
DYDN				S	**Sb**	**16 10 53.9**	**-1.2**
EKAR	**Karacoban**	**1.06**	**308**	*e*P	**Pg**	**16 10 40.8**	**-0.8**
EKAR				IAML		16 11 08.1	
	comp=Z,126nm,0.8s						
EKAR	**Karacoban**	**1.06**	**308**	*i* P	**Pg**	**16 10 40.9**	**-0.8**
EKAR				*i* S	**Sn**	**16 10 58.9**	**+1.2**
EKAR	**Karacoban**	**1.06**	**308**	P	**Pg**	**16 10 40.9**	**-0.8**
EKAR				S	**Sn**	**16 10 58.9**	**+1.2**
HAKT	**HAKKARI**	**1.14**	**157**	*i* P	**Pg**	**16 10 41.9**	**-1.1**
HAKT				*i* S	**Sn**	**16 11 00.6**	**+1.1**
HAKT	**HAKKARI**	**1.14**	**157**	P	**Pg**	**16 10 41.9**	**-1.1**
HAKT				S	**Sn**	**16 11 00.6**	**+1.1**
SRTM	**Siirt_Merkez**	**1.14**	**238**	*i* P	**Pn**	**16 10 44.4**	**+0.8**
SRTM	**Siirt_Merkez**	**1.14**	**238**	P	**Pn**	**16 10 44.4**	**+0.8**
SIRT	**Sirnak**	**1.24**	**207**	PN	**Pn**	**16 10 44.8**	**0.0**
SIRT	**Sirnak**	**1.24**	**207**	*e*Pn	**Pn**	**16 10 44.8**	**0.0**
SIRN	**S˜–rnak**	**1.25**	**208**	*i* P	**Pn**	**16 10 47.6**	**+2.6**
SIRN	**S˜–rnak**	**1.25**	**208**	P	**Pn**	**16 10 47.6**	**+2.6**
EATA	**Eleskirt**	**1.35**	**338**	*e*P	**Pb**	**16 10 46.4**	**-0.6**
EATA				*e*S	**Sn**	**16 11 06.7**	**+1.8**
EATA				IAML		16 11 09.4	
	comp=Z,29nm,0.4s						
EATA	**Eleskirt**	**1.35**	**338**	*i* P	**Pb**	**16 10 46.5**	**-0.5**
EATA	**Eleskirt**	**1.35**	**338**	P	**Pb**	**16 10 46.5**	**-0.5**
YOVA	**Hakkari_Yˆ…kse**	**1.36**	**138**	*i* P	**Pb**	**16 10 46.7**	**-0.4**
YOVA				*i* S	**Sn**	**16 11 06.3**	**+1.3**
YOVA	**Hakkari_Yˆ…kse**	**1.36**	**138**	P	**Pb**	**16 10 46.7**	**-0.4**
YOVA				S	**Sn**	**16 11 06.3**	**+1.3**
VRTB	**Varto-Mus**	**1.43**	**293**	PN	**Pb**	**16 10 47.8**	**-0.3**
VRTB	**Varto-Mus**	**1.43**	**293**	*i* P	**Pg**	**16 10 48.4**	**-0.2**
VRTB	**Varto-Mus**	**1.43**	**293**	*e*Pn	**Pb**	**16 10 47.8**	**-0.3**
VRTB	**Varto-Mus**	**1.43**	**293**	P	**Pg**	**16 10 48.4**	**-0.2**
IGDI	**IGDIR**	**1.45**	**30**	*e*P	**Pg**	**16 10 48.9**	**-0.2**
IGDI				*e*S	**Sg**	**16 11 10.8**	**+2.9**
IGDI				IAML		16 11 14.8	
	comp=Z,33nm,0.5s						
IGDI	**IGDIR**	**1.45**	**30**	*i* P	**Pg**	**16 10 48.9**	**-0.2**
SVAN	**Silvan-Diyarba**	**1.60**	**254**	PN	**Pb**	**16 10 50.3**	**-0.6**
SVAN	**Silvan-Diyarba**	**1.60**	**254**	*e*Pn	**Pb**	**16 10 50.3**	**-0.6**
TASB	**TASBURUN-IGDIR**	**1.62**	**31**	PN	**Pb**	**16 10 50.3**	**-1.0**
TASB	**TASBURUN-IGDIR**	**1.62**	**31**	*e*Pn	**Pb**	**16 10 50.3**	**-1.0**
BTMN	**Batman**	**1.64**	**245**	*i* P	**Pg**	**16 10 52.8**	**+0.2**
BTMN	**Batman**	**1.64**	**245**	P	**Pg**	**16 10 52.8**	**+0.2**
HOMI	**Horasan**	**1.73**	**327**	*e*P	**Pb**	**16 10 52.6**	**-0.7**
DIGO	**Kars**	**1.81**	**6**	*e*P	**Pb**	**16 10 54.1**	**-0.7**
ERZM	**Erzurum**	**1.89**	**314**	*e*P	**Pn**	**16 10 54.4**	**+0.4**
BNGB	**Bingˆ¶l**	**1.96**	**282**	PN	**Pn**	**16 10 55.5**	**+0.6**
KARS	**Kars**	**2.02**	**359**	PN	**Pn**	**16 10 55.7**	**+0.1**
KARS	**Kars**	**2.02**	**359**	*e*Pn	**Pn**	**16 10 55.7**	**+0.1**
SENK	**Senkaya-Erzuru**	**2.04**	**343**	PN	**Pn**	**16 10 56.5**	**+0.4**
SENK	**Senkaya-Erzuru**	**2.04**	**343**	*e*Pn	**Pn**	**16 10 56.5**	**+0.4**
BINT	**Bingol**	**2.09**	**278**	*e*Pn	**Pn**	**16 10 55.5**	**-1.2**
EAK	**Akyaka**	**2.11**	**10**	*e*P	**Pg**	**16 11 00.6**	**-1.0**
DIY	**Diyarbakir**	**2.40**	**254**	*e*Pn	**Pb**	**16 11 02.5**	**-2.2**
MAZI	**Mazidag**	**2.42**	**243**	PN	**Pn**	**16 11 02.2**	**+1.1**
MAZI	**Mazidag**	**2.42**	**243**	*e*Pn	**Pn**	**16 11 02.2**	**+1.1**
DYBB	**Diyarbakir**	**2.45**	**255**	PN	**Pn**	**16 11 02.5**	**+1.0**
KOPT	**Kop Dagi**	**2.49**	**305**	*e*P	**Pg**	**16 11 08.3**	**-0.6**
BAYB	**BAYBURT**	**2.78**	**307**	*e*P	**Pb**	**16 11 09.6**	**-1.6**
BAYT	**Ayd˜–ntepe-Bay**	**2.93**	**308**	PN	**Pn**	**16 11 09.4**	**+1.2**
BAYT	**Ayd˜–ntepe-Bay**	**2.93**	**308**	*e*Pn	**Pn**	**16 11 09.4**	**+1.2**
PTK	**Pertek**	**2.95**	**277**	PN	**Pn**	**16 11 09.7**	**+1.2**
PTK	**Pertek**	**2.95**	**277**	*e*Pn	**Pn**	**16 11 09.7**	**+1.2**
URFA	**Urfa**	**3.61**	**252**	PN	**Pn**	**16 11 19.1**	**+1.7**
URFA	**Urfa**	**3.61**	**252**	*e*Pn	**Pn**	**16 11 19.1**	**+1.7**
MALT	**Malatya**	**3.71**	**267**	PN	**Pn**	**16 11 20.5**	**+1.6**
MALT	**Malatya**	**3.71**	**267**	*e*Pn	**Pn**	**16 11 20.5**	**+1.6**
RTB	**Rutbah**	**6.02**	**203**	*e*Pn	**Pn**	**16 11 49.0**	**-1.6**
	SNR=3.0						

GUC 07 16:36:50.6±0.6**, 37°.79S**×**73°.02W, h59**km±7km**, ML3.5, 3C-2D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCSP	**San Pedro de C**	**0.95**	**356**⇑	*i*P	Pn	16 37 07.8	-0.1
CCSP				*i* S	Sn	16 37 20.6	-0.2
CCSP				IAML		16 37 26.2	
	comp=N,2µm,0.3s						
TMU	**Temuco**	**0.99**	**161**	*e*P	Pn	16 37 08.5	0.0
TMU				*i* S	Sn	16 37 21.6	-0.2
TMU				IAML		16 37 22.5	
	comp=N,3µm,0.2s						
CCHI	**Chillan**	**1.41**	**33**	*e*P	Pn	16 37 14.1	+0.1
CCHI				*i* S	Sn	16 37 31.7	+0.2
CCHI				IAML		16 37 33.2	
	comp=N,2µm,0.3s						
COCH	**Cobquecura**	**1.67**	**6**⇓	*i*P	Pn	16 37 17.4	-0.1
COCH				IAML		16 37 48.5	
	comp=N,467nm,0.6s						
VLCH	**Valdivia**	**2.02**	**185**⇑	*i*P	Pn	16 37 22.5	+0.2
VLCH				*i* S	Sn	16 37 44.9	-1.4
GO06	**Curarrehue**	**2.16**	**146**⇓	*i*P	Pn	16 37 24.3	0.0
GO05	**HualaæØ**	**2.91**	**18**	*e*P	Pn	16 37 34.3	-0.3
GO05				*e*S	Sn	16 38 06.8	-1.6
NICH	**Los Niches**	**3.14**	**28**	*i* S	Sn	16 38 12.1	-1.7
PLCA	**Paso Flores**	**3.50**	**148**⇑	*i*P	Pn	16 37 43.1	+0.4
LMEL	**Las Melosas**	**4.55**	**31**	*e*P	Pn	16 37 57.2	+0.1

*ATA **07** 16:38:34.2±1.3, 38°.62N×43°.48E, h7km±142km, ML2.7, MW2.8*
*CSEM **07** 16:38:38.4, 38°.60N×43°.16E, h7km, ML2.5*
*DDA **07** 16:38:38.4, 38°.60N×43°.16E, h7km, Ml2.5*
ISC 07 16:38:38.5±1.0**, 38°.60N**±0°.03×**43°.15E**±0°.03**, h8**km±9km**, n18, σ1s.01**/34**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.19**	**91**	PG	**Pg**	**16 38 42.2**	**-0.2**
VANB				SG	**Sg**	**16 38 46.1**	**+1.0**
TVAN	**Van**	**0.21**	**109**	*i* P	**Pg**	**16 38 42.3**	**-0.6**
TVAN				*i* S	**Sg**	**16 38 46.0**	**+0.1**
TVAN	**Van**	**0.21**	**109**	P	**Pg**	**16 38 42.3**	**-0.6**
TVAN				S	**Sg**	**16 38 46.0**	**+0.1**
GEVA	**Gevas**	**0.29**	**194**	*i* P	**Pg**	**16 38 43.8**	**-0.6**
GEVA				*e*S	**Sb**	**16 38 50.9**	**-0.3**
GEVA				IAML		16 38 51.9	
	comp=Z,52nm,0.4s						
GEVA	**Gevas**	**0.29**	**194**	*i* P	**Pg**	**16 38 44.2**	**-0.2**
GEVA				*i* S	**Sb**	**16 38 50.3**	**-1.0**
GEVA	**Gevas**	**0.29**	**194**	P	**Pg**	**16 38 44.2**	**-0.2**
GEVA				S	**Sb**	**16 38 50.3**	**-1.0**
ADCV	**BITLIS_Adilcev**	**0.39**	**302**	*i* P	**Pg**	**16 38 46.3**	**+0.1**
ADCV				*i* S	**Sg**	**16 38 52.7**	**+1.3**
ADCV	**BITLIS_Adilcev**	**0.39**	**302**	P	**Pg**	**16 38 46.3**	**+0.1**
ADCV				S	**Sg**	**16 38 52.7**	**+1.3**
VMUR	**Van-Muradiye**	**0.51**	**40**	*i* P	**Pg**	**16 38 48.6**	**+0.2**
VMUR				*i* S	**Sb**	**16 38 57.1**	**-0.4**
VMUR	**Van-Muradiye**	**0.51**	**40**	P	**Pg**	**16 38 48.6**	**+0.2**
VMUR				S	**Sb**	**16 38 57.1**	**-0.4**
TUTA	**Tutak**	**0.84**	**342**	*e*P	**Pg**	**16 38 53.5**	**-1.3**
TUTA				*e*S	**Sb**	**16 39 06.8**	**-0.3**
TUTA				IAML		16 39 09.3	
	comp=Z,16nm,0.5s						
TUTA	**Tutak**	**0.84**	**342**	*i* P	**Pg**	**16 38 53.9**	**-0.9**
TUTA				*i* S	**Sg**	**16 39 05.2**	**-0.5**
TUTA	**Tutak**	**0.84**	**342**	P	**Pg**	**16 38 53.8**	**-0.9**
TUTA				S	**Sg**	**16 39 05.2**	**-0.5**
GURO	**Guroymak-BITLI**	**0.88**	**267**	PG	**Pg**	**16 38 54.1**	**-1.3**
AGRB	**Hanur-Agry**	**0.98**	**353**	*e*PG	**Pg**	**16 38 55.5**	**-1.9**
EKAR	**Karacoban**	**1.07**	**308**	*e*P	**Pg**	**16 38 58.2**	**-0.9**
EKAR				*e*S	**Sn**	**16 39 18.7**	**+3.5**
EKAR				IAML		16 39 26.4	
	comp=Z,3.9nm,0.5s						
EKAR	**Karacoban**	**1.07**	**308**	*i* P	**Pg**	**16 38 58.6**	**-0.4**
EKAR				*e*S	**Sn**	**16 39 15.3**	**+0.2**
EKAR	**Karacoban**	**1.07**	**308**	P	**Pg**	**16 38 58.7**	**-0.4**
EKAR				S	**Sn**	**16 39 15.4**	**+0.2**

*ISCJB **07** 16:40:24.1±0.6, 19°.15S±0°.03×70°.22W±0°.04, h10km±4km, mb4.1/15, MS3.4/2, Error ellipse: s-maj=6.9km s-min=3.5km az=154.5*
*GUC **07** 16:40:24.8±0.7, 19°.17S×70°.26W, h18km±12km, ML4.4*
*NEIC **07** 16:40:24.0±0.0, 19°.17S×70°.26W, h18km, mb4.2/4, ML4.4(GUC), After GUC.*
NEIC Felt [II] at Camina and Cuya.
*IDC **07** 16:40:30.1±2.7, 19°.10S×69°.94W, h42km±24km, mb3.8/14, mb1 4.1/17, mb1mx3.9/43, mbtmp4.1/17, ML3.6/2, MS3.2/4, Ms1 3.2/4, ms1mx2.8/35, Error ellipse: s-maj=23.6km s-min=14.5km az=73.0*
ISC 07 16:40:24.0±1.3**, 19°.09S**±0°.03×**70°.16W**±0°.04**, h2**km±8km**, n62, σ1s.70**/72**, mb4.3**/15**, 4C-2D, Near coast of northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB12	**IPOC Station P**	**0.50**	**342**⇓	*i*P	**Pb**	**16 40 35.1**	**-0.4**
PB12				*i* S	**Sb**	**16 40 42.3**	**-1.0**
PB12				IAML		16 40 43.2	
	comp=E,226µm,0.3s						
PSGC	**Pisagua**	**0.50**	**176**	*e*P	**Pg**	**16 40 33.4**	**-0.3**
PSGC				*i* S	**Sg**	**16 40 39.5**	**-0.7**
PSGC				IAML		16 40 40.2	
	comp=N,8µm,0.3s						
MNMC	**Minye Minye**	**0.54**	**94**	*e*Pg	**Pb**	**16 40 36.6**	**+0.3**
MNMC				*e*Sg	**Sb**	**16 40 45.2**	**+0.6**
MNMC	**Minye Minye**	**0.54**	**94**⇑	*i*P	**Pb**	**16 40 36.6**	**+0.3**
MNMC				*i* S	**Sb**	**16 40 44.8**	**+0.2**
MNMC				IAML		16 40 45.1	
	comp=E,19µm,0.5s						
PB11	**IPOC Station P**	**0.82**	**144**	*e*Pg	**Pg**	**16 40 40.1**	**+0.4**
PB11				*e*Sg	**Sg**	**16 40 50.8**	**+0.4**
PB11	**IPOC Station P**	**0.82**	**144**⇓	*i*P	**Pg**	**16 40 39.9**	**+0.2**
PB11				*i* S	**Sg**	**16 40 50.8**	**+0.4**
PB11				IAML		16 40 52.7	
	comp=E,51µm,0.2s						
GO01	**Chusmiza**	**1.08**	**122**	*e*P	**Pg**	**16 40 44.1**	**-0.6**
GO01				*i* S	**Sg**	**16 40 58.9**	**+0.2**
GO01				IAML		16 41 01.6	
	comp=N,9µm,0.3s						
PB08	**IPOC Station P**	**1.41**	**138**	*e*P	**Pn**	**16 40 49.8**	**-1.3**
PB08				*i* S	**Sg**	**16 41 08.8**	**-0.6**
PB08				IAML		16 41 09.4	
	comp=E,9µm,0.3s						
PB01	**IPOC Station P**	**2.04**	**162**	*e*Pn	**Pn**	**16 40 59.9**	**+0.5**
PB01				*e*Sn	**Sn**	**16 41 25.5**	**0.0**
PB01	**IPOC Station P**	**2.04**	**162**⇑	*i*P	**Pn**	**16 40 58.5**	**-0.9**
PB01				*i* S	**Sn**	**16 41 24.6**	**-0.9**
PB01				IAML		16 41 26.7	
	comp=N,4µm,0.3s						
PB09	**IPOC Station P**	**2.83**	**162**	*e*P	**Pn**	**16 41 11.0**	**+0.7**
PB09				*i* S	**Sn**	**16 41 46.5**	**+1.5**
PB09				IAML		16 41 55.2	
	comp=E,9µm,1.1s						
ARE	**Arequipa**	**2.91**	**334**⇑	*i*P	**Pn**	**16 41 13.0**	**+1.5**
ARE				*i* S	**Sb**	**16 41 51.0**	**-1.8**
PB04	**IPOC Station P**	**3.22**	**180**	*e*Pn	**Pn**	**16 41 15.5**	**-0.2**
PB04				*e*Sn	**Sn**	**16 41 48.0**	**-6.8**
PB04	**IPOC Station P**	**3.22**	**180**	*e*P	**Pn**	**16 41 15.2**	**-0.5**
PB04				*i* S	**Sn**	**16 41 55.0**	**+0.1**
PB04				IAML		16 42 11.0	
	comp=E,1µm,0.9s						
LPAZ	**La Paz**	**3.40**	**35**	P	**Pb**	**16 41 24.2**	**-1.1**
	comp=E,2.8nm,0.3s,baz=301,slow=4.8,SNR=50						
LPAZ				S	**Sg**	**16 42 10.6**	**-2.7**
	comp=E,8.4nm,0.3s,baz=208,slow=4.1,SNR=3.9						
LPAZ				LR	LR	16 42 33.9	
	comp=E,109nm,19.4s,baz=256,slow=38						
LPAZ	**La Paz**	**3.40**	**35**	*e*Pn	**Pb**	**16 41 24.5**	**-0.7**
LPAZ				*e*Sn	**Sb**	**16 42 04.2**	**-3.1**
PB10	**IPOC Station P**	**4.41**	**185**	*e*Pn	**Pn**	**16 41 31.3**	**-0.7**
PB10				*e*Sn	**Sn**	**16 42 17.5**	**-6.4**
SIV	**San Ignacio**	**9.20**	**72**	P	**Pn**	**16 42 39.2**	**+1.4**
	baz=250,slow=12						
SIV				S	Sn	16 44 32.3	+10
	comp=E,0.3nm,0.3s,baz=306,slow=19,SNR=1.5						
NNA	**Nana**	**9.55**	**317**	P	**Pn**	**16 42 46.1**	**+3.5**
	comp=E,0.4nm,0.3s,baz=126,slow=9.8,SNR=3.6						
LCO	**Las Campanas**	**9.89**	**183**	*e*Pn	**Pn**	**16 42 47.1**	**-0.3**
CPUP	**Villa Florida**	**13.86**	**124**	P	**Pn**	**16 43 41.1**	**-0.3**
	comp=E,0.1nm,0.3s,baz=305,slow=12,SNR=7.6						
CPUP				LR	LR	16 49 33.8	
	comp=E,91nm,21.2s,baz=280,slow=40						
CPUP	**Villa Florida**	**13.86**	**124**	*e*Pn	**Pn**	**16 43 41.2**	**-0.2**
TRQA	**Tornquist**	**20.20**	**161**	*e*P	**P**	**16 44 58.8**	**-1.2**
	comp=E,16nm,1.3s						
PTGA	**Pitinga**	**20.81**	**30**	*e*P	**P**	**16 45 05.6**	**-1.2**
	comp=E,6.0nm,0.6s						
OTAV	**Otavalo**	**20.86**	**336**	*e*P	Pn	16 45 10.9	+0.7
	comp=E,5.2nm,0.9s						
PLCA	**Paso Flores**	**21.57**	**181**	P	**P**	**16 45 15.4**	**+0.5**
	comp=E,4.7nm,0.6s,baz=19,slow=12,SNR=13						
PLCA	**Paso Flores**	**21.57**	**181**	*e*P	**P**	**16 45 15.7**	**+0.8**
	comp=E,107nm,2.0s						
SDV	**Santo Domingo**	**27.81**	**359**	P	**P**	**16 46 19.8**	**+4.9**
	comp=E,3.1nm,0.4s,baz=164,slow=18,SNR=5.1						
SDV				LR	LR	16 58 34.4	
	comp=E,46nm,21.7s,baz=18,slow=39						
TKL	**Tuckaleechee C**	**55.96**	**347**	P	**P**	**16 50 05.8**	**+2.1**
	comp=E,4.5nm,0.8s,baz=154,slow=12,SNR=3.7						
TXAR	**Lajitas Array**	**57.99**	**325**	P	**P**	**16 50 19.1**	**+0.7**
	comp=E,0.3nm,0.5s,baz=156,slow=11,SNR=5.6						
TXAR				PcP	**PcP**	**16 51 12.8**	**+2.3**
	comp=E,0.1nm,0.5s,baz=145,slow=5.4,SNR=2.9						
VNA3	**Neumayer Olymp**	**62.72**	**162**	P	**P**	**16 50 50.5**	**+0.4**
VNA2	**Neumayer--Watz**	**63.30**	**161**	P	**P**	**16 50 54.5**	**+0.6**
	baz=286,slow=7.2						
SNAA	**Sanae**	**64.93**	**161**	P	**P**	**16 51 04.5**	**-0.2**
SNAA	**Sanae**	**64.93**	**161**	P	**P**	**16 51 04.7**	**0.0**
	comp=E,5.3nm,0.8s,baz=282,slow=7.1,SNR=12						
QSPA	**South Pole Qui**	**71.08**	**180**	P	**P**	**16 51 44.2**	**+0.6**
	comp=E,4.2nm,0.6s,baz=154,slow=2.5,SNR=12						
PDAR	**Pinedale Array**	**71.45**	**330**	P	**P**	**16 51 47.3**	**+1.1**
	comp=E,0.3nm,0.7s,baz=126,slow=4.6,SNR=2.8						
ULM	**Lac du Bonnet**	**72.68**	**343**	P	**P**	**16 51 52.4**	**-0.7**
	comp=E,2.6nm,0.8s,baz=86,slow=1.8,SNR=3.7						
NVAR	**Mina Array Bea**	**72.88**	**322**	P	**P**	**16 51 55.7**	**+0.9**
	comp=E,0.1nm,0.3s,baz=148,slow=5.3,SNR=2.5						
KOWA	**Kowa**	**73.17**	**68**	P	**P**	**16 51 56.2**	**-0.5**
	comp=E,0.9nm,0.4s,baz=260,slow=6.1,SNR=3.8						
YBH	**Yreka Blue Hor**	**77.60**	**323**	LR	LR	17 24 58.6	
	comp=E,47nm,18.2s,baz=139,slow=34						
TORD	**Torodi Ar. Bea**	**77.68**	**71**	P	**P**	**16 52 20.6**	**-2.1**
	comp=E,1.1nm,0.7s,baz=248,slow=5.8,SNR=6.4						
VNDA	**Vanda**	**79.00**	**190**	P	**P**	**16 52 29.8**	**+0.8**
	comp=E,0.4nm,0.5s,baz=124,slow=9.7,SNR=3.4						
SYO	**Syowa Base**	**79.16**	**160**⇑	*e*pP	**P**	**16 52 28.6**	**-1.3**
FRB	**Frobisher Bay**	**82.58**	**1**	P	**P**	**16 52 48.0**	**0.0**
	comp=E,5.3nm,0.9s,baz=194,slow=4.2,SNR=3.1						
ESDC	**Sonseca Array**	**84.97**	**45**	P	**P**	**16 53 00.2**	**-0.7**
	comp=E,0.7nm,0.8s,baz=284,slow=6.0,SNR=4.5						
YKA	**Yellowknife Ar**	**88.54**	**341**	P	**P**	**16 53 17.6**	**-0.1**
	comp=E,1.1nm,0.6s,baz=134,slow=4.7,SNR=39						
H11S2	**WAKE ISLAND Hy**	**126.37**	**279**	T	T	19 18 16.3	
	baz=101,slow=74,SNR=4404						
H11S1	**WAKE ISLAND Hy**	**126.38**	**279**	T	T	19 18 15.0	
	baz=101,slow=74,SNR=3193						
H11S3	**WAKE ISLAND Hy**	**126.39**	**279**	T	T	19 18 18.7	
	baz=101,slow=74,SNR=1768						
H11N3	**WAKE ISLAND Hy**	**126.39**	**281**	T	T	19 18 19.2	
	baz=100,slow=74,SNR=854						
H11N2	**WAKE ISLAND Hy**	**126.41**	**281**	T	T	19 18 20.0	
	baz=100,slow=74,SNR=1055						
H11N1	**WAKE ISLAND Hy**	**126.41**	**281**	T	T	19 18 18.7	
	baz=100,slow=74,SNR=505						
ASAR	**Alice Springs**	**131.44**	**210**	PKP	**PKPdf**	**16 59 37.8**	**-1.1**
	comp=E,0.6nm,0.8s,baz=136,slow=1.8,SNR=6.1						
WRA	**Warramunga Arr**	**134.37**	**213**	PKP	**PKPdf**	**16 59 43.8**	**-0.7**
	comp=E,0.6nm,0.6s,baz=147,slow=1.6,SNR=13						
KURK	**Kurchatov**	**139.92**	**31**	PKP	**PKPdf**	**16 59 52.2**	**-1.5**
KURBB	**Kurchatov Arra**	**139.94**	**31**	PKP	**PKPdf**	**16 59 52.2**	**-1.5**
	comp=E,0.2nm,0.7s,baz=325,slow=1.9,SNR=2.8						
ZALV	**Zalesovo Beam**	**140.25**	**23**	PKhKP	PKPpre	16 59 49.4	
	comp=E,0.5nm,0.5s,baz=298,slow=3.1,SNR=2.6						
ZALV				PKP	**PKPdf**	**16 59 52.6**	**-1.6**
	comp=E,1.1nm,0.7s,baz=302,slow=1.4,SNR=3.9						
MKAR	**Makanchi Array**	**144.32**	**33**	PKP	**PKPab**	**16 59 59.7**	**-0.1**
	comp=E,1.2nm,0.8s,baz=318,slow=1.7,SNR=9.9						
KLR	**Kul'dur**	**145.15**	**335**	PKPbc	**PKPbc**	**17 00 02.5**	**0.0**
	comp=E,0.1nm,0.6s,baz=50,slow=4.3,SNR=8.1						
USRK	**Ussuriysk Ar.**	**148.85**	**328**	PKPbc	**PKPbc**	**17 00 13.2**	**-0.1**
	comp=E,3.1nm,0.9s,baz=76,slow=7.7,SNR=2.4						
MJAR	**Matsushiro Arr**	**149.64**	**311**	PKPbc	**PKPbc**	**17 00 15.6**	**0.0**
	comp=E,1.1nm,0.7s,baz=146,slow=1.6,SNR=3.7						
SONM	**Songino Array**	**151.19**	**5**	PKPbc	**PKPbc**	**17 00 19.3**	**+0.2**
	comp=E,3.1nm,0.7s,baz=298,slow=1.8,SNR=18						

IDC 07 16:42:18.1±2.8**, 6°.23S**×**146°.63E, h0km, mb3.8**/3**, mb1 4.0**/5**, mb1mx3.4**/53**, mbtmp3.9**/5**, ML4.0**/1**, Error ellipse: s-maj=38.6km s-min=23.5km az=141.0, Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.20**	**171**	Pn	Pn	16 43 11.4	+1.6
	11nm,0.3s,baz=297,slow=5.4,SNR=19						
PMG				Sn	Sn	16 43 50.7	+2.0
	6.4nm,0.3s,baz=214,slow=22,SNR=11						
WRA	**Warramunga Arr**	**18.12**	**220**	P	P	16 46 33.3	+1.3
	0.6nm,0.3s,baz=40,slow=12,SNR=46						
WRA				S	Sn	16 49 56.6	+2.1

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	0.0nm,0.3s,baz=45,slow=23,SNR=2.4						
ASAR	Alice Springs	21.23	214	P	P	16 47 06.6	+0.8
	1.6nm,0.5s,baz=48,slow=9.4,SNR=38						
ASAR				S	S	16 51 01.9	-0.9
	0.3nm,0.7s,baz=35,slow=23,SNR=3.9						
FITZ	Fitzroy Crossi	23.63	238	P	P	16 47 31.2	0.0
	1.9nm,0.4s,baz=68,slow=19						
STKA	Stephens Creek	25.95	190	P	P	16 47 51.6	-0.8
	1.9nm,1.0s,baz=20,slow=7.9,SNR=4.7						

MEX 07 16:42:59.6±0.8, 15°.66N×98°.65W, h18km±90km, MD4.0, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.88	35	eP	Pb	16 43 13.8	-2.6
PNIG				i S	Sb	16 43 23.9	-4.1
TLIG	Tlapa	1.89	3	eP	Pn	16 43 26.1	-5.0
TLIG				i S	Sn	16 43 47.9	-6.7
CAIG	El Cayaco	2.07	312	eP	Pn	16 43 30.4	-3.1
CAIG				eS	Sn	16 43 55.0	-3.9
VHO	Vista Hermosa	2.31	52	eP	Pg	16 44 03.1	+19
VHO				eS	Sg	16 44 12.3	-1.9

IDC 07 16:50:47.0±1.0, 26°.01N×45°.00W, h0km, mb3.6/11, mb1 3.8/11, mb1mx3.5/67, mbtmp3.6/11, MS3.4/6, Ms1 3.4/6, ms1mx2.8/48, Error ellipse: s-maj=29.2km s-min=23.2km az=167.0, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOWA	Kowa	39.96	99	LR	LR	17 12 39.9	
	comp=Z,49nm,19.9s,baz=228,slow=33						
DBIC	Dimbokro	42.80	110	LR	LR	17 13 51.0	
	comp=Z,41nm,19.9s,baz=286,slow=32						
H10N2	ASCENSION HYDR	44.84	134	T	T	17 46 33.2	
	baz=320,slow=75,SNR=86						
H10N3	ASCENSION HYDR	44.84	135	T	T	17 46 28.3	
	baz=320,slow=75,SNR=101						
H10N1	ASCENSION HYDR	44.85	134	T	T	17 46 29.6	
	baz=320,slow=75,SNR=140						
H10S3	ASCENSION HYDR	45.58	136	T	T	17 47 26.6	
	baz=320,slow=75,SNR=70						
H10S1	ASCENSION HYDR	45.58	136	T	T	17 47 26.8	
	baz=320,slow=75,SNR=85						
TORD	Torodi Ar. Bea	45.58	97	P	P	16 59 07.7	-1.4
	1.0nm,0.9s,baz=298,slow=8.5,SNR=4.3						
TORD				LR	LR	17 16 42.8	
	comp=Z,38nm,19.3s,baz=220,slow=34						
H10S2	ASCENSION HYDR	45.60	136	T	T	17 47 27.8	
	baz=320,slow=75,SNR=94						
LPAZ	La Paz	47.69	211	P	P	16 59 26.4	+0.2
	1.0nm,0.6s,baz=40,slow=11,SNR=3.3						
GERES	GERESS Array B	50.48	47	P	P	16 59 47.0	+0.2
	0.4nm,0.9s,baz=261,slow=4.6,SNR=2.6						
TXAR	Lajitas Array	51.60	288	LR	LR	17 20 41.6	
	comp=Z,23nm,19.4s,baz=0.0,slow=35						
HFS	Hagfors	52.29	33	LR	LR	17 18 34.7	
	comp=Z,39nm,18.1s,baz=320,slow=32						
PDAR	Pinedale Array	54.57	305	P	P	17 00 17.4	0.0
	0.5nm,0.8s,baz=88,slow=12,SNR=4.3						
PDAR				LR	LR	17 22 42.2	
	comp=Z,43nm,18.5s,baz=142,slow=35						
YKA	Yellowknife Ar	57.87	329	P	P	17 00 39.4	-0.9
	0.1nm,0.6s,baz=86,slow=8.1,SNR=4.2						
AKASG	Malin Array Be	60.51	45	P	P	17 00 58.2	-0.6
	0.9nm,0.5s,baz=275,slow=6.1,SNR=4.9						
BRTR	Keskin Array B	65.52	56	P	P	17 01 33.3	+0.8
	0.3nm,0.7s,baz=270,slow=4.9,SNR=4.5						
ILAR	Eielson Array	71.66	334	P	P	17 02 10.2	-0.1
	0.4nm,0.7s,baz=72,slow=4.7,SNR=5.7						
BVAR	Borovoye Array	83.42	33	P	P	17 03 17.1	+0.9
	0.6nm,0.6s,baz=291,slow=4.5,SNR=5.6						
KURBB	Kurchatov Arra	88.87	32	P	P	17 03 42.9	-0.2
	0.3nm,1.0s,baz=332,slow=5.7,SNR=3.6						
ZALV	Zalesovo Beam	89.36	27	P	P	17 03 45.7	+0.4
	0.2nm,0.3s,baz=316,slow=6.0,SNR=3.8						

BER 07 16:52:03.1±2.2, 76°.97N×18°.79E, h20km±17km, ML2.5
IEPN 07 16:52:03.0, 77°.04N×20°.53E, h10km, station ZFI2 has station magnitude of 2.60
ISC 07 16:51:59.3±1.1, 76°.97N±0°.05×19°.19E±0°.04, h17km±12km, n8, σ1s.63/17, Svalbard region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HSPB	Hornsund (broa	0.83	274	eP	Pg	16 52 15.5	+0.1
HSPB				eS	Sg	16 52 25.1	-1.2
HSPB				IAML		16 52 29.5	
	comp=Z,74nm,0.3s						
SPA0	Spitsbergen Ar	1.36	335	eP	Pb	16 52 24.7	+0.4
SPA0				eS	Sg	16 52 42.6	-0.5
SPA0				IAML		16 52 47.9	
	comp=Z,83nm,0.5s						
SPA0	Spitsbergen Ar	1.36	335	i P	Pb	16 52 24.6	+0.4
SPA0				i S	Sb	16 52 42.0	+0.7
HOPEN	Hopen	1.42	106	eP	Pg	16 52 26.9	+0.4
HOPEN				eS	Sg	16 52 44.7	-0.4
HOPEN				IAML		16 52 47.7	
	comp=Z,359nm,0.4s						
BJO	Bjornoya	2.48	180	ePg	Pg	16 52 46.3	-0.5
BJO				eSg	Sg	16 53 17.9	-1.0
BJO				IAML		16 53 23.9	
	comp=Z,30nm,0.5s						
KBS	Kingsbay	2.48	326	eP	Pn	16 52 39.3	+0.4
KBS				ePg	Pg	16 52 45.5	-1.3
KBS				eSg	Sb	16 53 15.7	+2.1
KBS				IAML		16 53 20.3	
	comp=Z,66nm,0.3s						
KBS	Kingsbay	2.48	326	i P	Pb	16 52 44.4	+1.0
KBS				i S	Sb	16 53 14.9	+1.4
ZFI2	Zemlya Franca-	6.62	42	i P	Pn	16 53 37.3	+1.7
ZFI2				i S	Sn	16 54 46.3	-4.3
	comp=Z,1.9nm,3.4s						

IDC 07 17:21:16.1±1.8, 2°.16N×125°.73E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.3/56, mbtmp3.5/4, Error ellipse: s-maj=194.0km s-min=20.6km az=65.0
ISCJB 07 17:21:24.4±0.9, 2°.46N±0°.06×126°.2E±0°.1, h100km, mb3.5/4, Error ellipse: s-maj=15.7km s-min=9.0km az=174.9
DJA 07 17:21:24.7±1.4, 2°N±10°×12°6E±°, h59km±60km, M4.0/7, mB4.5/1, mb4.7/1, MLv3.7/7, Mw(mB)3.7/1
ISC 07 17:21:25.3±1.2, 2°.47N±0°.07×126°.3E±0°.1, h100km, n11, σ2s.24/12, mb3.5/4, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	Sangihe	1.42	328	P	Pn	17 21 48.8	-1.8
SGSI				S	Sn	17 22 06.9	-2.9
KMSI	Cibinong	2.97	231	P	Pn	17 22 09.1	-1.6
SANI	Sanana	4.50	184	P	Pn	17 22 28.5	-2.8
MRSI	Marisa	4.77	246	P	Pn	17 22 33.6	-1.3
LUWI	Luwuk	4.95	225	P	Pn	17 22 38.1	+0.7
APSI	Ampana	5.72	234	P	Pn	17 22 45.8	-2.0
MPSI	Mapaga	6.72	252	P	Pn	17 23 00.7	-0.8
WRA	Warramunga Arr	23.64	161	P	P	17 26 27.6	-0.1
	1.2nm,0.7s,baz=338,slow=11,SNR=22						
ASAR	Alice Springs	27.02	164	P	P	17 26 59.4	+1.2
	0.2nm,0.3s,baz=344,slow=10,SNR=12						
MKAR	Makanchi Array	58.33	326	P	P	17 31 13.3	+3.3
	0.3nm,0.3s,baz=121,slow=7.5,SNR=13						
KURBB	Kurchatov Arra	62.55	328	P	P	17 31 40.4	+1.8
	0.2nm,0.4s,baz=127,slow=5.7,SNR=3.8						

SJA 07 17:31:29.3±0.7, 32°.00S×68°.30W, h121km±4km, ML3.1, MW3.6, Mendoza Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTCV	Cerro Valdivia	0.25	304	eP	Pn	17 31 46.8	+0.6
RTCV				eS	Sn	17 31 59.5	+0.6
ZON	Zonda	0.56	325	eP	Pn	17 31 48.2	+0.4
RTLL	Cerro Villicun	0.69	347	eP	Pn	17 31 49.8	+1.1
RTLL				IAML		17 31 49.9	
	comp=Z,357nm,0.3s						
ASAL	Salagasta	0.74	218	eP	Pn	17 31 50.1	+1.0
RTLS	Leoncito	0.87	283	eP	Pn	17 31 51.6	+1.0
RTLS				IAML		17 32 08.1	
	comp=Z,461nm,0.2s						
AUSP	Uspallata	0.95	256	eP	Pn	17 31 52.1	+0.9
ACAN	Cantantal	0.98	106	eP	Pn	17 31 52.5	+1.3
ARCO	CERRO ARCO	0.99	212	eP	Pn	17 31 52.2	+0.7
ARCO				IAML		17 32 11.1	
	comp=Z,487nm,0.3s						
AMOG	MOGNA	1.07	351	eP	Pn	17 31 53.1	+0.9
AAGR	Agrelo	1.17	202	eP	Pn	17 31 54.2	+1.0
ACDV	Cuesta del Vie	1.96	339	eP	Pn	17 32 03.7	+1.2
AROD	Rodeo	2.09	331	eP	Pn	17 32 05.7	+1.5
APLL	PUNTA DE LOS L	2.21	44	eP	Pn	17 32 06.0	+0.6
APLL				IAML		17 32 36.5	
	comp=Z,48nm,0.2s						
MRA	San Martin	2.23	101	eP	Pn	17 32 06.6	+0.9
MRA				IAML		17 32 36.4	
	comp=Z,187nm,0.4s						
ROC1	El Roble	2.49	246	eP	Pn	17 32 09.3	+0.1
AGUA	GUANDACOL	2.51	356	eP	Pn	17 32 10.8	+1.3
TCA	Tanti	3.23	79	eP	Pn	17 32 19.8	+1.1
TCA				IAML		17 32 57.0	
	comp=Z,34nm,0.2s						
VCA	Vinchina	3.26	1	eP	Pn	17 32 20.4	+1.2
VCA				IAML		17 33 00.2	
	comp=Z,24nm,0.6s						
CYA	Choya	4.16	32	eP	Pn	17 32 30.0	-1.0
CYA				IAML		17 33 18.8	
	comp=Z,19nm,0.7s						

MDD 07 17:38:38.9±1.9, 35°.32N×9°.58W, h40km, mb3.8/9, Error ellipse: s-maj=17.3km s-min=15.4km az=166.0, PRXIMO
INMG 07 17:38:40.0±1.2, 35°.35N×9°.58W, h31km, ML1.7, Error ellipse: s-maj=10.0km s-min=6.9km az=118.0
CSEM 07 17:38:41.0±0.4, 35°.49N×9°.36W, h30km, ML1.7, Error ellipse: s-maj=6.5km s-min=5.7km az=13.0
ISC 07 17:38:37.5±3.6, 35°.4N±0°.1×9°.4W±0°.1, h17km±28km, n54, σ1s.18/91, 1D, West of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFVI	Vila Bisbo	1.76	16	⇓ePn	Pb	17 39 08.3	-1.0
PFVI				eSn	Sn	17 39 29.3	+0.1
PFVI	Vila Bisbo	1.76	16	P	Pb	17 39 08.4	-0.9
	1.9nm,0.2s,SNR=7.9						
PFVI				S	Sb	17 39 30.7	-0.4
	8.8nm,0.7s,SNR=7.9						
PFVI	Vila Bisbo	1.76	16	P	Pb	17 39 08.4	-0.9
	1.9nm,0.2s,SNR=7.9						
PFVI				eSn	Sn	17 39 29.3	+0.1
PFVI				S	Sb	17 39 30.7	-0.4
	8.8nm,0.7s,SNR=7.9						
MORF	Marmelete	1.97	18	ePn	Pn	17 39 11.4	+1.3
MORF	Marmelete	1.97	18	P	Pn	17 39 11.4	+1.3
MORF	Marmelete	1.97	18	P	Pn	17 39 11.4	+1.3
PBDV	Barranco-do-Ve	2.17	33	eSn	Sn	17 39 39.8	+0.5
PBDV				A	A	17 39 42.4	
	2.1nm,0.2s						
PBDV	Barranco-do-Ve	2.17	33	S	Sn	17 39 39.8	+0.5
	2.1nm,0.2s						
PBDV	Barranco-do-Ve	2.17	33	S	Sn	17 39 39.8	+0.5
	2.1nm,0.2s						
PTEO	Sao Teotonio	2.18	15	ePn	Pn	17 39 14.2	+1.3
PTEO				eSn	Sn	17 39 39.8	+0.3
PTEO				A	A	17 39 41.8	
	1.8nm,0.2s						
PTEO	Sao Teotonio	2.18	15	P	Pn	17 39 14.2	+1.3
PTEO				S	Sn	17 39 39.8	+0.3
	0.9nm,0.2s						
PTEO	Sao Teotonio	2.18	15	P	Pn	17 39 14.2	+1.3
PTEO				S	Sn	17 39 39.8	+0.3
	0.9nm,0.2s						
PVAQ	Vaqueiros	2.40	34	eSn	Sn	17 39 46.1	+1.2
PVAQ				A	A	17 39 48.2	
	2.6nm,0.1s						
PVAQ	Vaqueiros	2.40	34	S	Sn	17 39 46.1	+1.2
	2.6nm,0.1s						
PVAQ	Vaqueiros	2.40	34	S	Sn	17 39 46.1	+1.2
	2.6nm,0.1s						
MESJ	Messejana	2.59	22	ePn	Pn	17 39 20.3	+1.8
MESJ				eSn	Sn	17 39 50.3	+0.7
MESJ				A	A	17 39 50.5	
	1.4nm,0.1s						
MESJ	Messejana	2.59	22	P	Pn	17 39 20.3	+1.8
MESJ				S	Sn	17 39 50.3	+0.7
	1.4nm,0.1s						
MESJ	Messejana	2.59	22	P	Pn	17 39 20.3	+1.8
MESJ				S	Sn	17 39 50.3	+0.7
	1.4nm,0.1s						
EGRO	El Granado	2.61	36	P	Pn	17 39 20.7	+1.8
	4.8nm,0.3s,SNR=7.9						
EGRO				S	Sn	17 39 50.3	+0.1
	10nm,0.7s,SNR=7.9						
EGRO	El Granado	2.61	36	P	Pn	17 39 20.7	+1.8
	4.8nm,0.3s,SNR=7.9						
EGRO				S	Sn	17 39 50.3	+0.1
	10nm,0.7s,SNR=7.9						
PNCL	Nicolau / Gran	2.77	15	ePn	Pn	17 39 21.9	+0.9
PNCL				eSn	Sn	17 39 54.0	0.0
PNCL				A	A	17 39 57.4	
	1.5nm,0.4s						
PNCL	Nicolau / Gran	2.77	15	ePn	Pn	17 39 21.9	+0.9
PNCL				eSn	Sn	17 39 54.0	0.0
	1.5nm,0.4s						
EMIN	Mina Concepcio	3.21	43	P	Pn	17 39 28.9	+1.8
	2.9nm,0.6s,SNR=7.9						
EMIN				S	Sn	17 40 04.9	0.0
	5.2nm,0.7s,SNR=7.9						
EMIN	Mina Concepcio	3.21	43	P	Pn	17 39 28.9	+1.8
	2.9nm,0.6s,SNR=7.9						
EMIN				S	Sn	17 40 04.9	0.0
	5.2nm,0.7s,SNR=7.9						
ESPR	Espera	3.22	63	P	Pn	17 39 29.0	+1.8
	2.2nm,0.6s,SNR=7.9						
ESPR				S	Sn	17 40 04.5	-0.7
	5.3nm,0.5s,SNR=7.9						
ESPR	Espera	3.22	63	P	Pn	17 39 29.0	+1.8
	2.2nm,0.6s,SNR=7.9						
ESPR				S	Sn	17 40 04.5	-0.7
	5.3nm,0.5s,SNR=7.9						
EVO	Evora	3.29	20	ePn	Pn	17 39 29.6	+1.4
EVO				eSn	Sn	17 40 06.7	-0.2
EVO				A	A	17 40 08.0	
	1.8nm,0.3s						
EVO	Evora	3.29	20	P	Pn	17 39 29.6	+1.4
EVO				S	Sn	17 40 06.7	-0.2
	1.8nm,0.3s						
EVO	Evora	3.29	20	P	Pn	17 39 29.6	+1.4
EVO				S	Sn	17 40 06.7	-0.2
	1.8nm,0.3s						
PBAR	Barrancos	3.34	34	ePn	Pn	17 39 30.9	+2.1
PBAR				eSn	Sn	17 40 08.7	+0.6
PBAR				A	A	17 40 12.1	
	2.5nm,0.3s						
PBAR	Barrancos	3.34	34	P	Pn	17 39 30.9	+2.1
PBAR				S	Sn	17 40 08.7	+0.6
	2.5nm,0.3s						
PBAR	Barrancos	3.34	34	P	Pn	17 39 30.9	+2.1
PBAR				S	Sn	17 40 08.7	+0.6
	2.5nm,0.3s						
PMAFR	Mafra	3.52	2	ePn	Pn	17 39 31.9	+0.6
PMAFR	Mafra	3.52	2	P	Pn	17 39 31.9	+0.6
	5.7nm,0.3s,SNR=7.9						
PMAFR	Mafra	3.52	2	P	Pn	17 39 31.9	+0.6
	5.7nm,0.3s,SNR=7.9						
PESTR	Estremoz	3.73	23	ePn	Pn	17 39 35.9	+1.7
PESTR				eSn	Sn	17 40 17.5	-0.2
PESTR	Estremoz	3.73	23	ePn	Pn	17 39 35.9	+1.7
PESTR				eSn	Sn	17 40 17.5	-0.2
PMTG	Montargil	3.75	14	ePn	Pn	17 39 35.4	+0.9
PMTG				eSn	Sn	17 40 17.7	-0.6
PMTG				A	A	17 40 21.4	
	0.6nm,0.2s						
PMTG	Montargil	3.75	14	ePn	Pn	17 39 35.4	+0.9
PMTG				eSn	Sn	17 40 17.7	-0.6
	0.6nm,0.2s						
EBAD	Badajoz	3.83	29	P	Pn	17 39 37.1	+1.4
	2.8nm,0.3s,SNR=7.9						
EBAD				S	Sn	17 40 19.7	-0.6
	3.8nm,0.6s,SNR=7.9						
EBAD	Badajoz	3.83	29	P	Pn	17 39 37.1	+1.4
	2.8nm,0.3s,SNR=7.9						
EBAD				S	Sn	17 40 19.7	-0.6
	3.8nm,0.6s,SNR=7.9						
ECAB	El Cabril	4.16	49	P	Pn	17 39 41.4	+1.3
	1.5nm,0.6s,SNR=7.9						
ECAB				S	Sn	17 40 27.6	-0.7
	5.5nm,0.9s,SNR=7.9						
ECAB	El Cabril	4.16	49	P	Pn	17 39 41.4	+1.3
	1.5nm,0.6s,SNR=7.9						
ECAB				S	Sn	17 40 27.6	-0.7
	5.5nm,0.9s,SNR=7.9						
PMRV	Marv??o	4.30	21	ePn	Pn	17 39 43.3	+1.2
PMRV				eSn	Sn	17 40 30.3	-1.6
PMRV	Marv??o	4.30	21	P	Pn	17 39 43.3	+1.2
PMRV				S	Sn	17 40 30.3	-1.6
PMRV	Marv??o	4.30	21	P	Pn	17 39 43.3	+1.2
PMRV				S	Sn	17 40 30.3	-1.6
EGOR	Sierra Gorda,	4.61	67	S	Sn	17 40 39.3	-0.2
	2.3nm,0.8s,SNR=7.9						
EGOR	Sierra Gorda,	4.61	67	S	Sn	17 40 39.3	-0.2
	2.3nm,0.8s,SNR=7.9						
EADA	Adamuz	4.75	54	P	Pn	17 39 49.2	+0.9
	2.7nm,0.4s,SNR=7.9						
EADA				S	Sn	17 40 41.4	-1.5
	13nm,0.8s,SNR=7.9						
EADA	Adamuz	4.75	54	P	Pn	17 39 49.2	+0.9
	2.7nm,0.4s,SNR=7.9						
EADA				S	Sn	17 40 41.4	-1.5
	13nm,0.8s,SNR=7.9						
ELOB	Lobios	6.51	9	P	Pn	17 40 13.5	+1.0
	3.5nm,0.7s,SNR=7.9						
ELOB	Lobios	6.51	9	P	Pn	17 40 13.5	+1.0
	3.5nm,0.7s,SNR=7.9						
ETOB	Tobarra	7.06	61	S	Sn	17 41 37.6	-2.3
	3.6nm,0.3s,SNR=7.9						
ETOB	Tobarra	7.06	61	S	Sn	17 41 37.7	-2.3
	3.6nm,0.3s,SNR=7.9						

IDC 07 18:01:10.1±1.9, 6°.81S×129°.86E, h0km, mb3.2/1, mb1 3.2/4, mb1mx3.1/52, mbtmp3.1/4, ML3.0/3, MS3.2/1, Ms1 3.2/1, ms1mx2.3/21, Error ellipse: s-maj=76.2km s-min=29.2km az=81.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	Sorong	6.06	13	Pn	Pn	18 02 41.4	+0.3
	0.4nm,0.3s,baz=59,slow=5.0,SNR=10						
SIJI				Sn	Sn	18 03 41.2	-10
	0.5nm,0.3s,baz=204,slow=23,SNR=8.8						
WRA	Warramunga Arr	13.76	162	Pn	Pn	18 04 25.8	-0.9
	0.1nm,0.3s,baz=346,slow=13,SNR=7.4						
WRA				Sn	Sn	18 06 49.6	-11
	0.1nm,0.3s,baz=336,slow=21,SNR=6.3						
ASAR	Alice Springs	17.21	167	P	P	18 05 13.0	-0.8
	0.1nm,0.3s,baz=347,slow=9.5,SNR=4.8						
TGY	Tagaytay City	22.58	337	LR	LR	18 15 37.7	
	comp=Z,62nm,18.5s,baz=122,slow=38						
MKAR	Makanchi Array	67.99	327	P	P	18 12 11.1	-0.1
	0.1nm,0.3s,baz=122,slow=5.4,SNR=2.7						

NNC 07 18:02:47.8±0.7, 46°.29N×80°.27E, h0km±12km, mb2.6, mpv2.6, Error ellipse: s-maj=10.7km s-min=4.8km az=126.0
SOME 07 18:02:49.2, 46°.23N×80°.13E, h5km
ISC 07 18:02:48.1±2.5, 46°.3N±0°.1×80°.25E±0°.10, h12km±27km, n11, σ1s.53/19, 5C-2D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPS	Kapalarasan	1.23	211	eP	Pb	18 03 09.3	-2.0
	9.1nm,0.1s						
KAPS				eS	Sb	18 03 23.6	-3.5
	22nm,0.1s						
MAKZ	Makanchi	1.28	68	⇑P	Pb	18 03 11.9	-0.3
	1.3nm,0.2s						
MAKZ				⇓S	Sg	18 03 29.8	+0.5
	1.8nm,0.2s						
MK31	Makanchi Array	1.48	71	⇑P	Pb	18 03 15.2	-0.4
	1.0nm,0.2s,baz=246,slow=15,SNR=109						
MK31				⇑S	Sg	18 03 35.4	-0.2
	1.4nm,0.2s,baz=248,slow=27,SNR=9.8						
DJR	Jarkent	2.04	189	eP	Pb	18 03 24.4	-0.7
	11nm,0.2s						
DJR				eS	Sb	18 03 49.6	-0.8
	16nm,0.5s						
MNBS	Baschi	2.61	211	eP	Pb	18 03 34.3	-0.6
	3.9nm,0.3s						
MNBS				eS	Sb	18 04 06.5	-0.5
	21nm,0.3s						
ARXS	Arharly	2.73	220	eP	Pb	18 03 36.5	-0.5
	3.3nm,0.3s						
ARXS				eS	Sb	18 04 10.2	-0.2
	16nm,0.3s						
PDGK	Podgornoye	3.06	190	⇑Pg	Pb	18 03 43.0	+0.4
	1.0nm,0.4s						
PDGK				⇓Lg	Lg	18 04 23.0	
	6.4nm,0.6s						
KURS	Kuram	3.21	208	eP	Pb	18 03 45.8	+0.6
	0.6nm,0.2s						
KURS				eS	Sb	18 04 25.9	+1.6
	3.9nm,0.4s						
SATY	Saty	3.54	203	eP	Pb	18 03 51.4	+0.7
	1.6nm,0.2s						
SATY				eS	Sb	18 04 35.5	+1.9
	21nm,0.2s						
TNSS	Tian-Shan	4.06	217	eP	Pb	18 04 00.7	+1.0
	0.7nm,0.2s						
TNSS				eS	Sb	18 04 51.7	+2.8
	4.7nm,0.4s						
KURK	Kurchatov	4.51	347	⇑Lg	Lg	18 05 11.3	
	2.5nm,0.6s						

BJI 07 18:18:36.3, 24°.29S×66°.79W, h183km, mB5.0/2
NEIC 07 18:18:36.8±0.5, 24°.14S×66°.65W, h178km±4km, mb4.5/75, Error ellipse: s-maj=6.8km s-min=4.2km az=71.0
SJA 07 18:18:37.8±0.6, 24°.16S×66°.86W, h213km±6km, ML3.9, MW4.4
ISCJB 07 18:18:37.6±0.2, 24°.12S±0°.02×66°.84W±0°.03, h200km, mb4.3/86, Error ellipse: s-maj=4.5km s-min=3.0km az=156.5
GUC 07 18:18:39.6±0.5, 24°.09S×67°.24W, h220km±14km, ML4.8
IDC 07 18:18:39.1±1.4, 24°.04S×66°.63W, h195km±12km, mb3.8/18, mb1 3.9/23, mb1mx3.7/47, mbtmp4.3/23, Error ellipse: s-maj=15.2km s-min=10.2km az=64.0
ISC 07 18:18:38.9±0.3, 24°.14S±0°.04×66°.87W±0°.04, h200km, n270, σ1s.32/294, mb4.4/86, 5C-2D, Salta Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLA	San Lorenzo	1.38	115	eP	Pn	18 19 12.4	+0.7
SLA				eS	Sn	18 19 37.3	+0.1
SLA				IAML		18 19 40.3	
	comp=Z,401nm,0.7s						
SLA	San Lorenzo	1.38	115	eP	Pn	18 19 12.5	+0.7
SLA				i S	Sn	18 19 36.4	-0.8
HJA	Humahuaca	1.63	56	eP	Pn	18 19 15.0	+0.7
HJA				IAML		18 19 18.2	
	comp=Z,274nm,0.7s						
AZAP	Zapla	1.65	93	eP	Pn	18 19 14.5	+0.2
AZAP				IAML		18 19 15.2	
	comp=Z,274nm,0.5s						
FSA	Cafayete	2.12	158	eP	Pn	18 19 18.3	-0.7
ASTB	Santa Barbara	2.22	86	eP	Pn	18 19 20.1	+0.1
YJA	Yavi	2.32	33	eP	Pn	18 19 22.1	+0.7
YJA				IAML		18 19 23.6	
	comp=Z,48nm,0.2s						
ALOL	LOMAS DE OLMED	2.67	84	eP	Pn	18 19 24.8	+0.1
GO02	Mina Guanaco	2.67	247	⇓i P	Pn	18 19 25.6	+0.5
GO02				i S	Sn	18 20 01.0	-0.1
GO02				IAML		18 20 02.3	
	comp=E,3μm,0.4s						
PB06	IPOC Station P	2.86	299	eP	Pn	18 19 27.5	+0.4
PB06				i S	Sn	18 20 03.5	-1.2
PB06				IAML		18 20 06.5	
	comp=E,2μm,0.1s						
AHML	Horco Molle	2.98	152	eP	Pn	18 19 28.4	+0.1
AHML				IAML		18 19 29.2	
	comp=Z,140nm,0.6s						
PB09	IPOC Station P	3.19	316	⇑i P	Pn	18 19 31.8	+0.7
PB09				i S	Sn	18 20 11.6	-0.3
PB09				IAML		18 20 16.1	
	comp=E,670nm,0.4s						
PB14	IPOC Station P	3.25	261	eP	Pn	18 19 32.0	+0.1
PB14	IPOC Station P	3.25	261	⇓i P	Pn	18 19 31.9	0.0
PB14				IAML		18 20 12.7	
	comp=E,1μm,0.8s						
ANCH	Antofagasta	3.27	277	eP	Pn	18 19 40.6	+8.8

ANCH *i* S **Sn** **18 20 19.3 +6.3**
PB10 IPOC Station P 3.43 280 *e*Pn **Pn** **18 19 33.9 +0.2**
PB10 *e*Sn **Sn** **18 20 11.6 -4.9**
PB10 IPOC Station P 3.43 280 *e*P **Pn** **18 19 34.1 +0.4**
PB10 IPOC Station P 3.43 280 ⇑*i*P **Pn** **18 19 33.9 +0.2**
PB10 *i* S **Sn** **18 20 14.0 -2.5**
PB04 IPOC Station P 3.51 300 *e*Pn **Pn** **18 19 34.3 -0.6**
PB04 *e*Sn **Sn** **18 20 14.5 -4.1**
PB04 IPOC Station P 3.51 300 ⇑*i*P **Pn** **18 19 34.8 0.0**
PB04 *i* S **Sn** **18 20 15.8 -2.8**
PB01 IPOC Station P 3.91 321 *e*Pn **Pn** **18 19 39.2 -0.6**
PB01 *e*Sn **Sn** **18 20 25.9 -1.7**
PB01 IPOC Station P 3.91 321 ⇑*i*P **Pn** **18 19 39.4 -0.4**
PB01 *i* S **Sn** **18 20 25.2 -2.4**
PB02 IPOC Station P 3.96 315 *e*P **Pn** **18 19 39.8 -0.5**
CYA Choya 4.39 168 *e*P **Pn** **18 19 46.0 +0.3**
CYA IAML 18 19 47.1
comp=Z,54nm,0.3s
PB08 IPOC Station P 4.50 332 ⇑*i*P **Pn** **18 19 47.6 +0.2**
PB08 *i* S **Sn** **18 20 40.2 -1.1**
VCA Vinchina 4.73 194 *e*P **Pn** **18 19 51.2 +1.2**
VCA IAML 18 20 48.6
comp=Z,66nm,0.5s
PB11 IPOC Station P 5.06 329 *e*Pn **Pn** **18 19 52.7 -1.7**
PB11 *e*Sn **Sn** **18 20 50.9 -2.9**
MNMC Minye Minye 5.59 333 *e*Pn **Pn** **18 20 00.3 -1.0**
MNMC *e*Sn **Sn** **18 21 03.7 -2.5**
LCO Las Campanas 5.94 214 *e*Pn **Pn** **18 20 04.0 -1.7**
LCO *e*Sn **Sn** **18 21 06.9 -7.3**
APLL PUNTA DE LOS L 6.24 177 *e*P **Pn** **18 20 08.2 -1.1**
APLL IAML 18 20 09.0
comp=Z,111nm,0.2s
TCA Tanti 7.45 165 *e*P **Pn** **18 20 23.4 -1.7**
TCA IAML 18 20 25.4
comp=Z,37nm,0.5s
LPAZ La Paz 7.90 351 P **Pn** **18 20 31.4 -0.2**
comp=Z,3.9nm,0.3s,baz=127,slow=5.0,SNR=94
LPAZ S **Sn** **18 21 58.4 -2.7**
comp=Z,0.5nm,0.3s,baz=16,slow=18,SNR=7.2
LPAZ La Paz 7.90 351 *e*Pn **Pn** **18 20 31.2 -0.3**
LPAZ *e*Sn **Sn** **18 21 59.2 -1.8**
MRA San Martin 8.31 173 *e*P **Pn** **18 20 33.7 -2.6**
ARCO CERRO ARCO 8.86 191 *e*P **Pn** **18 20 42.4 -1.1**
ARCO IAML 18 22 20.2
comp=Z,34nm,0.6s
CPUP Villa Florida 8.91 106 P **Pn** **18 20 42.6 -1.4**
comp=Z,0.2nm,0.3s,baz=267,slow=12,SNR=5.7
CPUP Villa Florida 8.91 106 *e*Pn **Pn** **18 20 39.5 -4.5**
ROC1 El Roble 9.53 202 *e*Pn **Pn** **18 20 48.9 -3.3**
ROC1 *e*Sn **Sn** **18 22 35.1 -3.9**
SIV San Ignacio 9.77 35 P **Pn** **18 20 53.2 -2.1**
comp=Z,1.1nm,0.3s,baz=224,slow=13,SNR=37
SIV S Sn 18 22 29.4 -15
comp=Z,0.1nm,0.3s,baz=236,slow=16,SNR=3.6
TRQA Tornquist 14.49 164 *e*Pn **Pn** **18 21 52.2 -2.6**
NNA Nana 15.35 320 P **P** **18 22 07.2 +1.4**
comp=Z,1.0nm,0.3s,baz=210,slow=9.7,SNR=3.6
PLCA Paso Flores 16.83 190 P **Pn** **18 22 22.9 -0.3**
comp=Z,0.5nm,0.3s,baz=30,slow=13,SNR=12
PLCA Paso Flores 16.83 190 *e*P **Pn** **18 22 22.3 -0.9**
comp=Z,10nm,0.6s
ATAH Atahualpa 20.20 325 P Pn 18 23 00.8 -2.9
comp=Z,4.0nm,0.6s,baz=139,slow=19,SNR=1.5
CHRN Cochrane 23.51 190 *e*P **P** **18 23 31.2 +0.4**
comp=Z,7.1nm,1.0s
PTGA Pitinga 24.21 17 *e*P **P** **18 23 36.5 -1.0**
comp=Z,34nm,1.6s
SOTA Rioblanco 27.78 339 *e*P **P** **18 24 10.5 +0.6**
RUSC La Rusia 30.46 348 *e*P **P** **18 24 33.4 -0.2**
comp=Z,2.0nm,0.7s
RUSC La Rusia 30.46 348 *e*P **P** **18 24 32.5 -1.2**
HELC Santa Helena 31.30 343 *e*P **P** **18 24 40.2 -0.8**
comp=Z,26nm,1.4s
ZARC Zaragoza, Cauc 32.39 345 *e*P **P** **18 24 47.1 -2.9**
SDV Santo Domingo 33.03 353 P **P** **18 24 54.7 -1.0**
comp=Z,3.2nm,0.8s,baz=172,slow=19,SNR=4.4
RCBR Riachuelo 34.88 64 *e*P **P** **18 25 11.2 -0.4**
comp=Z,33nm,1.3s
FDF Fort de France 39.04 9 *e*P **P** **18 25 45.3 -1.2**
comp=Z,73nm,1.4s
ANWB Willy Bob 41.85 7 *e*P **P** **18 26 09.9 +0.5**
comp=Z,41nm,0.8s
CRPR Cabo Rojo, PR 41.89 360 *e*P **P** **18 26 08.1 -1.7**
comp=Z,23nm,0.8s
OBIP Obispado Ponce 41.93 0 *e*P **P** **18 26 09.0 -1.0**
comp=Z,11nm,0.7s
AGP Aguadilla 42.29 360 *e*P **P** **18 26 13.4 +0.4**
comp=Z,211nm,1.9s
SDDR Presa de Saban 43.08 354 *e*P **P** **18 26 20.3 +0.9**
comp=Z,13nm,1.3s
APG El Apazote 45.22 327 P **P** **18 26 38.3 +1.7**
comp=Z,2.1nm,0.3s,baz=177,slow=13,SNR=5.0
VNA3 Neumayer Olymp 56.98 161 P **P** **18 28 02.7 -0.5**
VNA2 Neumayer--Watz 57.55 160 P **P** **18 28 04.7 -2.4**
baz=290,slow=5.6
154A Montrose 58.52 344 P **P** **18 28 15.1 +0.8**
baz=162
251A Midway 58.65 342 P **P** **18 28 15.2 0.0**
baz=160
SNAA Sanae 59.18 161 P **P** **18 28 19.0 +0.5**
comp=Z,1.4nm,0.6s,baz=299,slow=19,SNR=6.1
SNAA PcP **PcP** **18 29 05.6 +0.9**
comp=Z,0.6nm,0.4s,baz=227,slow=10.0,SNR=4.4
SNAA Sanae 59.18 161 *e*P **P** **18 28 18.5 0.0**
comp=Z,30nm,1.9s
150A Eclectic 59.31 341 P **P** **18 28 19.9 +0.2**
baz=160
GOGA Godfrey 59.37 344 *e*P **P** **18 28 19.7 -0.4**
comp=Z,18nm,1.5s
KVTX Kingsville 59.46 328 *e*P **P** **18 28 22.7 +1.9**
comp=Z,53nm,0.6s
JSC Jenkinsville 59.69 346 *e*P **P** **18 28 22.4 +0.1**
comp=Z,24nm,1.6s
Z50A Ashland 59.89 342 P **P** **18 28 23.9 +0.1**
baz=160
LRAL Lakeview Retre 60.01 341 P **P** **18 28 24.2 -0.3**
baz=159
LRAL Lakeview Retre 60.01 341 *e*P **P** **18 28 24.4 -0.1**
comp=Z,4.4nm,0.6s
245A Little AP, Sta 60.03 337 P **P** **18 28 25.2 +0.5**
baz=156
833A Chaparral WMA, 60.84 327 P **P** **18 28 31.4 +1.1**
baz=146
Y47A UCPARC, Winfie 61.07 340 P **P** **18 28 31.2 -0.4**
baz=158
X49A Woodville 61.18 342 P **P** **18 28 32.5 +0.1**
baz=160
X48A Hartselle 61.34 341 P **P** **18 28 33.4 -0.1**
baz=159
TKL Tuckaleechee C 61.59 344 P **P** **18 28 34.5 -0.7**
comp=Z,6.8nm,1.1s,baz=186,slow=9.2,SNR=3.1
TKL Tuckaleechee C 61.59 344 *e*P **P** **18 28 34.7 -0.4**
comp=Z,16nm,1.4s
X47A Russelville 61.64 340 P **P** **18 28 35.2 -0.3**
baz=158
W48A Pulaski 61.95 341 P **P** **18 28 37.8 +0.3**
baz=159,SNR=5.7
PLAL Pickwick Lake 62.14 340 *e*P **P** **18 28 38.5 -0.3**
comp=Z,4.8nm,0.6s
W47A Westpoint 62.24 341 P **P** **18 28 39.1 -0.4**
baz=158
V48A Smith Brothers 62.47 342 P **P** **18 28 41.1 +0.1**
baz=159
WLAR White Oak Lake 62.69 335 *e*P **P** **18 28 43.1 +0.7**
comp=Z,14nm,0.9s
V47A Nunnelly 62.76 341 P **P** **18 28 42.6 -0.3**
baz=159
JCT Junction City 62.82 328 *e*P **P** **18 28 44.2 +0.7**
comp=Z,5.5nm,0.8s
V46A Holladay 62.91 341 P **P** **18 28 43.1 -0.8**
baz=158
WVT Waverly 63.13 341 P **P** **18 28 45.2 -0.1**
baz=158
WVT Waverly 63.13 341 *e*P **P** **18 28 44.5 -0.9**
comp=Z,11nm,0.7s
U47A Clarksville 63.26 342 P **P** **18 28 46.0 -0.2**
baz=159,SNR=5.4
MIAR Mount Ida 63.63 336 P **P** **18 28 49.8 +1.1**
baz=153
T48A Bowling Green 63.64 343 P **P** **18 28 48.2 -0.5**
baz=160
LTX Lajitas 63.86 324 *e*P **P** **18 28 51.5 +1.1**
TXAR Lajitas Array 63.86 324 P **P** **18 28 51.5 +1.1**
comp=Z,0.7nm,0.7s,baz=149,slow=8.9,SNR=8.4
TX31 Lajitas Ar. Si 63.86 324 *e*P **P** **18 28 50.5 +0.1**
T46A Princeton 64.00 341 P **P** **18 28 50.8 -0.2**
baz=158
V41A Mountainview 64.22 337 P **P** **18 28 52.4 -0.1**
baz=154
W39A Magazine 64.29 336 P **P** **18 28 53.9 +1.0**
baz=153
MVL Millersville 64.42 352 *e*P **P** **18 28 54.0 +0.4**
comp=Z,16nm,1.1s
U42A Revenden 64.42 338 P **P** **18 28 53.8 +0.1**
baz=155
V40A Witts Springs 64.47 337 P **P** **18 28 54.7 +0.6**
baz=154
PBMO Poplar Bluff 64.54 339 *e*P **P** **18 28 54.2 -0.2**
comp=Z,8.4nm,0.8s
U41A Viola 64.64 338 P **P** **18 28 55.4 +0.2**
baz=154
WCI Wyandotte Cave 64.66 343 P **P** **18 28 54.8 -0.4**
baz=160
WCI Wyandotte Cave 64.66 343 *e*P **P** **18 28 54.4 -0.8**
comp=Z,6.3nm,0.6s
T43A Greenville 64.77 339 P **P** **18 28 55.7 -0.2**
baz=156,SNR=10
U40A Yellville 64.98 337 P **P** **18 28 57.5 +0.1**
baz=154
S43A Fulton Ridge, 65.15 340 P **P** **18 28 58.0 -0.4**
baz=156
T41A Mountain View 65.22 338 P **P** **18 28 58.7 -0.2**
baz=155
U39A Green Forest 65.23 337 P **P** **18 28 59.0 0.0**
baz=153
S42A Caledonia 65.56 339 P **P** **18 29 00.7 -0.3**
baz=156,SNR=5.4
TUL1 Leonard 65.69 334 *e*P **P** **18 29 01.6 -0.3**
comp=Z,5.7nm,0.9s
S41A Jillco Farms, 65.70 338 P **P** **18 29 02.1 +0.1**
baz=155,SNR=7.2
T39A Clever 65.76 337 P **P** **18 29 02.8 +0.4**
baz=153
ACSO Alum Creek Sta 65.78 347 *e*P **P** **18 29 01.7 -0.7**
comp=Z,42nm,2.0s
WMOK Wichita Mounta 65.92 332 *e*P **P** **18 29 02.9 -0.5**
comp=Z,3.4nm,0.7s
CCM Cathedral Cave 65.96 339 P **P** **18 29 03.8 +0.1**
baz=156
CCM Cathedral Cave 65.96 339 *e*P **P** **18 29 03.3 -0.3**
comp=Z,11nm,0.6s
S40A Lebanon 65.97 338 P **P** **18 29 03.8 +0.1**
baz=154
R42A Luebbering 66.02 340 P **P** **18 29 03.9 -0.1**
baz=156
QSPA South Pole Qui 66.07 180 P **P** **18 29 05.6 +1.4**
comp=Z,4.1nm,0.5s,baz=148,slow=1.8,SNR=17
QSPA South Pole Qui 66.07 180 *e*P **P** **18 29 05.4 +1.2**
comp=Z,3.9nm,0.6s
T38A Diamond 66.11 336 P **P** **18 29 05.2 +0.6**
baz=152
R41A Rosebud 66.23 339 P **P** **18 29 05.1 -0.2**
baz=155,SNR=5.1
S39A Bolivar 66.34 337 P **P** **18 29 06.2 +0.2**
baz=154,SNR=8.1
HRV Adam Dziewonsk 66.45 356 *e*P **P** **18 29 07.3 +0.7**
comp=Z,27nm,1.3s
S38A Stockton 66.50 337 P **P** **18 29 07.2 +0.2**
baz=153
R40A Maddies Statio 66.52 338 P **P** **18 29 07.1 -0.1**
baz=155
Q42A Golden Eagle 66.52 340 P **P** **18 29 06.1 -1.0**
baz=156
MNTX Cornudas Mount 66.63 325 P **P** **18 29 08.5 +0.5**
baz=142
MNTX Cornudas Mount 66.63 325 *e*P **P** **18 29 08.0 -0.1**
comp=Z,9.1nm,1.8s
Q41A Truxton 66.78 340 P **P** **18 29 08.2 -0.6**
baz=156
R39A Chumby, Stover 66.80 338 P **P** **18 29 09.5 +0.6**
baz=154
R38A Fenwick Farm, 66.99 337 P **P** **18 29 10.5 +0.4**
baz=153,SNR=5.9
Q39A Willow Grove F 67.44 338 P **P** **18 29 12.9 0.0**
baz=154,SNR=6.3
P40A Paris 67.56 339 P **P** **18 29 13.9 +0.2**
baz=155
Q38A Cooks Store, C 67.58 338 P **P** **18 29 14.5 +0.7**
baz=154
DBIC Dimbokro 67.74 71 P **P** **18 29 14.0 -1.4**
comp=Z,3.5nm,0.8s,baz=222,slow=9.3,SNR=5.3
DBIC Dimbokro 67.74 71 *e*P **P** **18 29 14.0 -1.4**
comp=Z,21nm,1.5s
P39B Salisbury 67.76 339 P **P** **18 29 14.9 0.0**
baz=154,SNR=6.2
Q37A Longview Farm, 67.80 337 P **P** **18 29 15.6 +0.4**
baz=153
N43A Stutzman Famil 67.98 342 P **P** **18 29 16.0 -0.3**
baz=158
O40A La Belle 68.05 340 P **P** **18 29 16.8 +0.1**
baz=155
P38A Dawn 68.14 338 P **P** **18 29 17.5 +0.2**
baz=154,SNR=6.0
M43A Waltham Townsh 68.38 342 P **P** **18 29 18.7 -0.1**
baz=158
319A Douglas 68.51 322 *e*P **P** **18 29 21.7 +1.8**
comp=Z,3.6nm,0.6s
121A Cookes Peak, D 68.56 324 P **P** **18 29 21.9 +1.7**
baz=140
O38A Galt 68.57 338 P **P** **18 29 19.9 0.0**
baz=154
N40A Mertquake, Sal 68.65 340 P **P** **18 29 20.0 -0.4**
baz=156
N39A Derby Farms, D 68.93 339 P **P** **18 29 21.9 -0.2**
baz=155
L43A Garden Prairie 69.02 343 P **P** **18 29 22.5 -0.2**
baz=158
M40A Post Highland 69.10 340 P **P** **18 29 22.8 -0.4**
baz=156
K43A Burlington 69.39 343 P **P** **18 29 25.0 0.0**
baz=159
L40A Anamosa 69.61 341 P **P** **18 29 26.9 +0.6**
baz=156
M38A Pleasantville 69.64 339 P **P** **18 29 26.5 0.0**
baz=154
BMRO Meriville Lake 69.65 349 P **P** **18 29 26.9 -0.4**
baz=166
ANMO Albuquerque 69.72 326 P **P** **18 29 28.8 +1.3**
comp=Z,1.8nm,0.8s,baz=318,slow=8.1,SNR=6.0
ANMO Albuquerque 69.72 326 P **P** **18 29 29.1 +1.6**
baz=142
K41A Shullsburg 69.84 342 P **P** **18 29 27.9 +0.2**
baz=157
L39A Vinton 69.91 340 P **P** **18 29 27.9 -0.2**
baz=156
M37A Trindle Farm, 69.91 339 P **P** **18 29 28.8 +0.6**
baz=154
J43A Natural Harves 70.05 343 P **P** **18 29 29.1 +0.2**
baz=159
JFWS Jewell Farm 70.11 342 P **P** **18 29 29.6 +0.3**
baz=157
JFWS Jewell Farm 70.11 342 *e*P **P** **18 29 29.2 -0.2**
comp=Z,14nm,0.6s
KLBO Killbear Provi 70.22 350 P **P** **18 29 29.7 -0.3**
baz=167
TRQ Mont Tremblant 70.37 354 *e*P **P** **18 29 31.1 +0.2**
K39A Oelwein 70.40 341 P **P** **18 29 30.9 -0.2**
baz=156
I43A Langenfeld Bro 70.45 344 P **P** **18 29 31.2 -0.1**
baz=159
I42A Draeger Farm, 70.65 343 P **P** **18 29 32.7 +0.1**
baz=159
I42A Draeger Farm, 70.65 343 *e*P **P** **18 29 32.3 -0.3**
comp=Z,9.8nm,0.9s
J40A Soldiers Grove 70.70 342 P **P** **18 29 33.0 +0.1**
baz=157
H42A Shiocton 71.13 344 *e*P **P** **18 29 35.0 -0.4**
comp=Z,22nm,1.5s
WI02 Reinke Road, C 71.27 344 *e*P **P** **18 29 36.4 +0.1**
comp=Z,15nm,1.3s
WI01 McKinley Avenu 71.30 344 *e*P **P** **18 29 36.9 +0.4**
comp=Z,74nm,1.7s
WI04 River Road, Cl 71.31 344 *e*P **P** **18 29 36.3 -0.3**
comp=Z,8.6nm,1.0s
BGNE Belgrade 71.37 336 *e*P **P** **18 29 37.3 +0.3**
comp=Z,48nm,0.8s
SDCO Great Sand Dun 71.47 329 *e*P **P** **18 29 39.3 +1.3**
comp=Z,1.7nm,0.7s
H41A Junction City 71.52 343 P **P** **18 29 37.8 0.0**
baz=158
H41A Junction City 71.52 343 *e*P **P** **18 29 37.4 -0.4**
comp=Z,3.8nm,0.6s
H40A Chili 71.73 343 P **P** **18 29 38.9 -0.2**
baz=157
F43A Flat Rock, Esc 72.04 345 P **P** **18 29 40.8 0.0**
baz=160
Q24A Divide 72.28 330 *e*P **P** **18 29 43.8 +1.0**
comp=Z,18nm,1.7s
KOWA Kowa 72.39 65 P **P** **18 29 42.9 -0.7**
comp=Z,2.8nm,0.6s,baz=228,slow=6.9,SNR=9.1
KOWA Kowa 72.39 65 *e*P **P** **18 29 42.7 -0.9**
comp=Z,20nm,1.7s
F41A Three Lakes 72.42 344 P **P** **18 29 43.7 +0.5**
baz=159
E43A Lone Tree Farm 72.51 346 P **P** **18 29 44.0 +0.3**
baz=161
E42A Champion 72.78 345 P **P** **18 29 45.7 +0.5**
baz=160
ECSD EROS Data Cent 72.85 338 P **P** **18 29 45.9 +0.2**
baz=152
ECSD EROS Data Cent 72.85 338 *e*P **P** **18 29 46.1 +0.3**
comp=Z,12nm,1.3s
F40A Park Falls 72.85 343 P **P** **18 29 46.2 +0.5**
baz=158
F39A Loretta 73.06 343 P **P** **18 29 47.5 +0.5**
baz=157
E40A Wakefield 73.28 344 P **P** **18 29 49.1 +0.9**
baz=158
E39A Mellen 73.39 343 P **P** **18 29 49.5 +0.7**
baz=157
D41A Chassel 73.53 345 P **P** **18 29 50.6 +1.0**
baz=159
F36A Milaca 73.76 341 P **P** **18 29 51.0 +0.1**
baz=155
BAR Barrett 73.81 318 *e*P **P** **18 29 53.3 +1.7**
comp=Z,16nm,1.5s
U15A North Rim 73.93 323 *e*P **P** **18 29 54.9 +2.3**
comp=Z,4.8nm,0.9s
GMRC Granite Mounta 74.66 320 P **P** **18 29 58.9 +2.3**
baz=134
CCUT Cedar City 75.34 323 *e*P **P** **18 30 01.7 +1.2**
comp=Z,2.6nm,0.9s
RWWY Rawlins 75.40 330 *e*P **P** **18 30 01.6 +0.8**
comp=Z,15nm,0.8s
MSU Marysvale 75.41 325 *e*P **P** **18 30 01.8 +0.9**
SHPR Sheep Range 75.59 322 *e*P **P** **18 30 03.4 +1.5**
comp=Z,3.9nm,1.8s
GSC Goldstone, Bar 75.70 320 *e*P **P** **18 30 04.8 +2.3**
comp=Z,1.9nm,0.9s
MPU Maple Canyon 76.25 326 *e*P **P** **18 30 06.4 +0.8**
comp=Z,2.2nm,0.8s
TOA1 Torodi Ar. Sit 76.51 69 *e*P **P** **18 30 06.4 -1.0**
TORD Torodi Ar. Bea 76.51 69 P **P** **18 30 06.4 -1.0**
comp=Z,3.7nm,0.6s,baz=256,slow=5.9,SNR=40
TPNV Topopah Spring 76.52 321 P **P** **18 30 09.5 +2.3**
baz=134
TPNV Topopah Spring 76.52 321 *e*P **P** **18 30 09.3 +2.2**
comp=Z,2.8nm,0.8s
PPT Papeete 76.54 257 P **P** **18 30 10.4 +2.8**
comp=Z,18nm,0.8s,baz=127,slow=10,SNR=2.6
PPT Papeete 76.54 257 *e*P **P** **18 30 07.8 +0.2**
AGMN Agassiz Nation 76.65 341 *e*P **P** **18 30 07.2 -0.2**
comp=Z,5.0nm,0.9s
R11A Troy Canyon, C 77.13 323 P **P** **18 30 12.3 +1.8**
baz=135
R11A Troy Canyon, C 77.13 323 *e*P **P** **18 30 12.8 +2.2**
comp=Z,3.3nm,1.3s
PD31 Pinedale Array 77.33 329 *e*P **P** **18 30 11.4 -0.3**
PDAR Pinedale Array 77.33 329 P **P** **18 30 11.3 -0.3**
comp=Z,5.5nm,0.6s,baz=116,slow=8.4,SNR=3.5
PDAR Pinedale Array 77.33 329 *e*P **P** **18 30 12.2 +0.5**
SPUT South Promonto 77.62 327 *e*P **P** **18 30 14.0 +0.8**
comp=Z,13nm,1.1s
AHID Auburn Hatcher 78.06 328 *e*P **P** **18 30 16.6 +1.0**
comp=Z,5.5nm,0.9s
REDW Red Top Meadow 78.39 329 *e*P **P** **18 30 18.8 +1.4**
comp=Z,3.6nm,1.0s
ULM Lac du Bonnet 78.39 341 P **P** **18 30 17.1 +0.1**
comp=Z,2.2nm,0.4s,baz=150,slow=7.7,SNR=4.8
SNOW Snow King Moun 78.42 329 *e*P **P** **18 30 19.6 +1.9**
comp=Z,11nm,1.4s
LOHW Long Hollow 78.46 329 *e*P **P** **18 30 19.0 +1.1**
comp=Z,12nm,1.7s
MOOW Moose Ponds 78.63 329 *e*P **P** **18 30 20.0 +1.3**
comp=Z,5.2nm,1.8s
FXWY Fox Creek 78.68 329 *e*P **P** **18 30 20.6 +1.5**
comp=Z,1.4nm,0.8s
NV01 Mina Array Sit 78.72 321 *e*P **P** **18 30 20.8 +1.5**
NVAR Mina Array Bea 78.72 321 P **P** **18 30 21.3 +2.0**
comp=Z,0.4nm,0.6s,baz=188,slow=9.0,SNR=3.9
RLMT Red Lodge 79.02 331 *e*P **P** **18 30 22.0 +1.1**
comp=Z,22nm,1.9s
KVN Kaiserville 79.03 322 *e*P **P** **18 30 21.3 +0.3**
comp=Z,2.0nm,0.7s
YMR Madison River 79.44 330 *e*P **P** **18 30 25.1 +2.0**
comp=Z,22nm,2.0s
YHH Holmes Hill 79.48 330 *e*P **P** **18 30 26.0 +2.5**
YHB Horse Butte 79.61 330 *e*P **P** **18 30 24.6 +0.6**
comp=Z,2.9nm,0.8s
YERR Yerington 79.63 321 *e*P **P** **18 30 25.1 +0.8**
comp=Z,1.6nm,0.6s
GCMT Greycliff 79.72 331 *e*P **P** **18 30 25.2 +0.7**
HLID Hailey 80.27 327 P **P** **18 30 29.6 +2.1**
baz=137
HLID Hailey 80.27 327 *e*P **P** **18 30 28.7 +1.2**
comp=Z,3.3nm,0.8s
MCMT McKenzie Canyo 80.44 329 *e*P **P** **18 30 30.6 +2.1**
DLMT Dillon 80.72 329 *e*P **P** **18 30 31.0 +1.1**
comp=Z,3.0nm,0.9s
MAW Mawson 81.27 163 P **P** **18 30 33.7 +1.4**
comp=Z,1.9nm,0.8s,baz=184,slow=14,SNR=2.2
MAW Mawson 81.27 163 *e*P **P** **18 30 33.6 +1.3**
comp=Z,1.0nm,1.1s
K05A Summer Lake 83.07 323 *e*P **P** **18 30 43.8 +1.6**
comp=Z,21nm,1.8s
JTMT Jette 83.27 330 *e*P **P** **18 30 44.3 +1.2**
comp=Z,2.9nm,0.9s
TAM Tamanrasset 84.36 62 *e*P **P** **18 30 49.5 +0.3**
comp=Z,5.2nm,0.9s
FCC Fort Churchill 85.62 346 *e*P **P** **18 30 54.5 +0.2**
comp=Z,4.9nm,0.8s
PAB San Pablo 86.10 43 *e*P **P** **18 30 58.1 +0.8**
comp=Z,29nm,1.9s
ESDC Sonseca Array 86.42 44 P **P** **18 31 00.0 +1.1**
comp=Z,0.7nm,0.6s,baz=240,slow=4.4,SNR=7.6
ES19 SONSECA Array 86.47 44 *e*P **P** **18 30 59.8 +0.7**
YKA Yellowknife Ar 94.29 340 P **P** **18 31 35.4 +0.4**
comp=Z,1.2nm,0.5s,baz=133,slow=4.5,SNR=32
ASAR Alice Springs 128.38 205 PKP **PKPdf** **18 37 22.7 +0.2**
comp=Z,0.5nm,0.5s,baz=122,slow=1.8,SNR=16
ASAR SKPbc SKPbc 18 40 24.2
comp=Z,3.0nm,1.4s,baz=137,slow=3.8,SNR=4.5
WR1 Warramunga Arr 131.56 207 *e*PKPdf **PKPdf** **18 37 29.1 +0.5**
WR1 *e*SKPbc **SKPab** **18 40 35.3 -0.6**
WRA Warramunga Arr 131.56 207 PKP **PKPdf** **18 37 29.1 +0.5**
comp=Z,0.6nm,0.4s,baz=155,slow=1.7,SNR=26
WRA SKPbc **SKPab** **18 40 35.3 -0.6**
comp=Z,1.0nm,0.8s,baz=155,slow=3.7,SNR=14
PEA1 Petropavlovsk- 135.79 323 *e*PKPdf **PKPdf** **18 37 36.8 +1.4**
PETK Petropavlovsk- 135.79 323 PKP **PKPdf** **18 37 36.8 +1.4**
comp=Z,0.8nm,0.5s,baz=89,slow=1.7,SNR=5.3
BVAR Borovoye Array 136.84 37 PKP **PKPdf** **18 37 38.7 +1.4**
comp=Z,0.5nm,0.5s,baz=285,slow=2.1,SNR=5.6
KURBB Kurchatov Arra 142.42 36 PKhKP PKPpre 18 37 44.2
comp=Z,0.5nm,0.5s,baz=311,slow=3.2,SNR=6.0
KURBB PKP **PKiKP** **18 37 48.5 -2.1**
comp=Z,0.8nm,0.7s,baz=307,slow=2.7,SNR=7.9
KURK Kurchatov 142.42 36 *e*PKPpre PKPpre 18 37 44.2
KURK *e*PKPdf **PKiKP** **18 37 48.5 -2.1**
ZAA1 Zalesovo Array 143.46 28 *e*PKPdf **PKPdf** **18 37 47.9 -1.4**
ZAA1 *e*SKPbc **SKiKP** **18 41 10.1 +0.3**
ZALV Zalesovo Beam 143.46 28 PKP **PKPdf** **18 37 47.9 -1.4**
comp=Z,4.3nm,0.5s,baz=297,slow=4.4,SNR=25
ZALV SKPbc **SKiKP** **18 41 10.1 +0.3**
comp=Z,0.7nm,0.6s,baz=336,slow=3.2,SNR=4.2
KSH Kashi 145.18 55 *e*PKPbc **PKPab** **18 37 53.0 -0.3**
MK32 Makanchi Array 146.56 40 *e*PKPdf **PKPbc** **18 37 55.8 -0.9**
MKAR Makanchi Array 146.56 40 PKPbc **PKPbc** **18 37 55.8 -0.9**
comp=Z,7.1nm,0.7s,baz=324,slow=2.2,SNR=61
ASAJ Asahikawa 148.76 317 PKPbc **PKPab** **18 38 04.0 -3.0**
comp=Z,2.9nm,0.8s,baz=90,slow=3.0,SNR=3.4
WMQ Urumqi 151.38 40 PKPbc **PKPdf** **18 38 02.4 -0.4**
SONA0 Songino Array 155.75 11 *e*PKPdf **PKPdf** **18 38 10.1 +1.2**
SONA0 *e*PKPdif PKPbc 18 38 19.1
SONA0 *e*PKPab **PKPab** **18 38 36.6 +0.2**
SONM Songino Array 155.75 11 PKP **PKPdf** **18 38 10.1 +1.2**
comp=Z,0.3nm,0.7s,baz=206,slow=1.0,SNR=4.2
SONM PKPbc PKPbc 18 38 19.1
comp=Z,0.3nm,0.5s,baz=170,slow=1.0,SNR=4.2
SONM PKPab **PKPab** **18 38 36.6 +0.2**
comp=Z,0.8nm,0.7s,baz=318,slow=3.6,SNR=7.6

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
HHC	**Hu-ho-hao-te**	**163.28**	**4**	*e*PKP	**PKPdf**	**18 38 18.8**	**+1.1**
CMAR	**Chiang Mai Arr**	**165.63**	**110**	PKPab	**PKPab**	**18 39 20.6**	**+0.3**
	comp=Z,0.4nm,0.3s,baz=247,slow=3.9,SNR=4.1						
LZH	**Lanzhou**	**165.65**	**32**	*e*PKP	**PKPdf**	**18 38 22.4**	**+2.4**
LZH				pPKP	pPKPdf	18 39 03.9	-8.3
LZH				sPKP		18 39 22.1	
LZH				LR	LR		
	comp=Z,120nm,19.1s						
LZH				LR	LR		
	comp=Z,100nm,19.5s						
LZH				LR	LR		
	comp=Z,160nm,20.0s						
NJ2	**Nanjing**	**170.64**	**329**	*e*PKP	**PKPdf**	**18 38 25.8**	**+2.5**

ISCJB ***07*** *19:13:22.9±1.7, 37°.44S±0°.03×74°.02W±0°.07, h15km±11km, mb4.1/11, MS3.7/6, Error ellipse: s-maj=8.9km s-min=5.2km az=12.8*
IDC ***07*** *19:13:22.2±0.9, 37°.47S×74°.00W, h0km, mb4.0/8, mb1 4.0/10, mb1mx3.9/34, mbtmp3.9/10, ML3.7/2, MS3.6/7, Ms1 3.6/7, ms1mx3.2/34, Error ellipse: s-maj=30.7km s-min=16.0km az=74.0*
GUC ***07*** *19:13:23.0±1.8, 37°.43S×74°.11W, h25km±22km, ML4.1*
NEIC ***07*** *19:13:28.9±1.4, 37°.41S×73°.87W, h44km±12km, mb4.4/10, Error ellipse: s-maj=20.6km s-min=8.6km az=88.0*
ISC 07 19:13:23.4±2.2**, 37°.39S**±0°.04×**73°.98W**±0°.08**, h6**km±13km**, n47, σ1s47**/53**, mb4.3**/11**, MS3.7**/6**, 3C-1D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CCSP	**San Pedro de C**	**0.88**	**52**	*e*P	**Pg**	**19 13 39.8**	**-0.6**
CCSP				*i* S	**Sb**	**19 13 52.8**	**-0.4**
CCSP				IAML		19 14 01.9	
	comp=N,6μm,0.6s						
COCH	**Cobquecura**	**1.58**	**37**	⇑*i*P	**Pn**	**19 13 50.8**	**-1.2**
COCH				*i* S	**Sn**	**19 14 11.3**	**-1.4**
COCH				IAML		19 14 22.5	
	comp=E,2μm,0.9s						
CCHI	**Chillan**	**1.71**	**63**	⇑*i*P	**Pn**	**19 13 54.0**	**+0.2**
CCHI				*i* S	**Sn**	**19 14 16.2**	**+0.2**
CCHI				IAML		19 14 28.8	
	comp=N,4μm,0.7s						
TMU	**Temuco**	**1.72**	**141**	⇓*i*P	**Pn**	**19 13 52.5**	**-1.5**
TMU				*i* S	**Sn**	**19 14 14.5**	**-1.8**
TMU				IAML		19 14 25.5	
	comp=N,2μm,1.0s						
GO05	**HualaæØ**	**2.90**	**35**	*e*P	**Pn**	**19 14 10.0**	**-0.2**
GO05				*i* S	**Sn**	**19 14 47.5**	**+2.1**
GO05				IAML		19 15 07.7	
	comp=E,867nm,0.8s						
GO06	**Curarrehue**	**2.94**	**139**	⇑*i*P	**Pn**	**19 14 10.0**	**-0.8**
GO06				*i* S	**Sb**	**19 14 52.3**	**-0.3**
GO06				IAML		19 15 00.2	
	comp=N,621nm,1.2s						
PLCA	**Paso Flores**	**4.27**	**142**	Pn	**Pn**	**19 14 28.4**	**-0.7**
	comp=N,0.6nm,0.3s,baz=328,slow=13,SNR=12						
PLCA				Sn	**Sn**	**19 15 23.4**	**+4.2**
	comp=N,2.4nm,0.3s,baz=352,slow=18,SNR=3.5						
PLCA				Lg	Lg	19 15 37.7	
	comp=N,2.2nm,0.3s,baz=67,slow=22,SNR=5.9						
PLCA	**Paso Flores**	**4.27**	**142**	*e*Pn	**Pn**	**19 14 32.7**	**+3.6**
PLCA				*e*Sn	**Sn**	**19 15 22.2**	**+3.0**
PEL	**Peldehue**	**5.02**	**33**	*e*Pn	**Pn**	**19 14 39.4**	**0.0**
PEL				*e*Sn	**Sn**	**19 15 37.6**	**-0.2**
ROC1	**El Roble**	**5.03**	**30**	*e*Pn	**Pn**	**19 14 39.0**	**-0.6**
ROC1				*e*Sn	**Sn**	**19 15 37.6**	**-0.6**
LCO	**Las Campanas**	**8.80**	**19**	*e*Pn	**Pn**	**19 15 35.0**	**+3.6**
TRQA	**Tornquist**	**9.53**	**98**	*e*Pn	**Pn**	**19 15 42.5**	**+1.3**
CHRN	**Cochrane**	**9.90**	**175**	*e*Pn	**Pn**	**19 15 46.2**	**-0.1**
PB04	**IPOC Station P**	**15.37**	**13**	*e*Pn	**P**	**19 17 06.1**	**+0.2**
	comp=N,126nm,1.8s						
CPUP	**Villa Florida**	**17.90**	**57**	P	**Pn**	**19 17 32.9**	**-0.2**
	comp=N,0.2nm,0.3s,baz=222,slow=8.7,SNR=5.2						
CPUP				LR	LR	19 25 34.0	
	comp=N,52nm,18.4s,baz=233,slow=41						
CPUP	**Villa Florida**	**17.90**	**57**	*e*Pn	**Pn**	**19 17 32.9**	**-0.2**
	comp=N,11nm,1.4s						
PB11	**IPOC Station P**	**17.97**	**13**	*e*Pn	**P**	**19 17 37.4**	**+2.7**
	comp=N,26nm,0.9s						
MNMC	**Minye Minye**	**18.59**	**13**	*e*P	**Pn**	**19 17 44.3**	**+2.4**
	comp=N,16nm,1.0s						
LPAZ	**La Paz**	**21.65**	**15**	P	**P**	**19 18 16.9**	**+1.6**
	comp=N,2.7nm,1.0s,baz=160,slow=6.8,SNR=5.7						
LPAZ	**La Paz**	**21.65**	**15**	*e*P	**P**	**19 18 16.7**	**+1.4**
	comp=N,4.3nm,0.9s						
SIV	**San Ignacio**	**24.18**	**32**	P	**P**	**19 18 40.9**	**+0.1**
	comp=N,1.3nm,0.8s,baz=200,slow=10,SNR=6.6						
SIV				LR	LR	19 30 03.1	
	comp=N,210nm,19.5s,baz=190,slow=41						
NNA	**Nana**	**25.43**	**353**	LR	LR	19 26 54.4	
	comp=N,53nm,18.3s,baz=186,slow=32						
SPB	**Sao Paulo**	**26.58**	**66**	*e*P	**P**	**19 19 03.5**	**+1.0**
	comp=N,53nm,1.7s						
SAML	**Samuel**	**29.95**	**22**	*e*P	**P**	**19 19 32.8**	**+0.2**
	comp=N,9.3nm,1.7s						
OTAV	**Otavalo**	**37.67**	**353**	*e*P	**P**	**19 20 39.4**	**-0.7**
	comp=N,5.3nm,1.3s						
VNA3	**Neumayer Olymp**	**46.85**	**156**	P	**P**	**19 21 52.1**	**-1.8**
VNA2	**Neumayer--Watz**	**47.53**	**156**	P	**P**	**19 21 59.8**	**+0.7**
	baz=301,slow=3.6						
SNAA	**Sanae**	**49.07**	**157**	P	**P**	**19 22 10.2**	**-0.8**
SNAA	**Sanae**	**49.07**	**157**	P	**P**	**19 22 10.4**	**-0.7**
	comp=N,4.3nm,0.9s,baz=259,slow=7.0,SNR=6.2						
SNAA	**Sanae**	**49.07**	**157**	*e*P	**P**	**19 22 09.8**	**-1.3**
	comp=N,9.1nm,1.1s						
QSPA	**South Pole Qui**	**52.85**	**180**	P	**P**	**19 22 38.9**	**-0.8**
	comp=N,3.5nm,0.9s,baz=165,slow=6.0,SNR=6.5						
QSPA	**South Pole Qui**	**52.85**	**180**	*e*P	**P**	**19 22 39.4**	**-0.3**
	comp=N,13nm,1.1s						
APG	**El Apazote**	**54.38**	**340**	P	**P**	**19 22 52.5**	**+1.1**
	comp=N,1.6nm,0.3s,baz=178,slow=10,SNR=2.4						
PPT	**Papeete**	**68.26**	**264**	LR	LR	19 46 05.0	
	comp=N,103nm,21.1s,baz=62,slow=29						
MAW	**Mawson**	**70.37**	**164**	LR	LR	19 56 26.8	
	comp=N,60nm,18.8s,baz=236,slow=37						
LTX	**Lajitas**	**71.98**	**333**	*e*P	**P**	**19 24 47.9**	**-0.1**
TXAR	**Lajitas Array**	**71.98**	**333**	P	**P**	**19 24 47.9**	**-0.1**
	comp=N,0.3nm,0.9s,baz=155,slow=11,SNR=2.4						
TXAR				LR	LR	19 50 29.8	
	comp=N,43nm,19.9s,baz=0.0,slow=31						
KOWA	**Kowa**	**83.46**	**66**	P	**P**	**19 25 52.1**	**-0.1**
	comp=N,1.4nm,0.7s,baz=230,slow=7.0,SNR=4.2						
PDAR	**Pinedale Array**	**86.11**	**335**	LR	LR	19 59 59.7	
	comp=N,28nm,18.3s,baz=238,slow=32						
TORD	**Torodi Ar. Bea**	**86.83**	**71**	P	**P**	**19 26 08.0**	**-1.1**
	comp=N,0.6nm,0.9s,baz=245,slow=5.3,SNR=4.3						
TOA1	**Torodi Ar. Sit**	**86.83**	**71**	*e*P	**P**	**19 26 08.0**	**-1.1**
PSI	**Prapat**	**144.96**	**168**	PKP	**PKPab**	**19 32 59.3**	**-2.2**
	comp=N,2.5nm,0.7s,baz=186,slow=10,SNR=3.4						
BVAR	**Borovoye Array**	**150.80**	**46**	PKPbc	**PKPbc**	**19 33 15.6**	**-0.5**
	comp=N,0.8nm,0.7s,baz=276,slow=2.8,SNR=5.6						
ZAA1	**Zalesovo Array**	**157.92**	**35**	*e*PKPab	**PKPab**	**19 33 53.5**	**0.0**
ZALV	**Zalesovo Beam**	**157.92**	**35**	PKPab	**PKPab**	**19 33 53.5**	**0.0**
	comp=N,0.2nm,0.3s,baz=308,slow=7.3,SNR=3.8						
MK32	**Makanchi Array**	**160.10**	**54**	*e*PKPab	**PKPab**	**19 34 02.9**	**-0.5**
MKAR	**Makanchi Array**	**160.10**	**54**	PKPab	**PKPab**	**19 34 02.9**	**-0.5**
	comp=N,0.5nm,0.8s,baz=270,slow=3.6,SNR=4.7						

IDC 07 19:47:42.9±1.4**, 23°.93S×69°.61E, h0**km**, mb3.6**/8**, mb1 3.7**/8**, mb1mx3.4**/61**, mbtmp3.6**/8**, MS3.6**/4**, Ms1 3.5**/4**, ms1mx3.0**/51**, Error ellipse: s-maj=49.6km s-min=25.8km az=31.0, Mid-Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**16.42**	**10**	T	T	20 08 31.4	
	baz=190,slow=76,SNR=21						
H08S2	**Diego Garcia H**	**16.42**	**10**	T	T	20 08 30.9	
	baz=190,slow=76,SNR=25						
H08S3	**Diego Garcia H**	**16.44**	**10**	T	T	20 08 33.0	
	baz=190,slow=76,SNR=20						
PALK	**Pallekele**	**32.85**	**21**	LR	LR	20 04 32.1	
	comp=Z,49nm,20.9s,baz=299,slow=31						
BOSA	**Boshof**	**39.88**	**253**	LR	LR	20 09 44.8	
	comp=Z,46nm,21.0s,baz=149,slow=33						
BATI	**Baumata**	**53.14**	**85**	LR	LR	20 17 36.0	
	comp=Z,444nm,19.6s,baz=81,slow=34						
ASAR	**Alice Springs**	**58.34**	**104**	P	P	19 57 39.9	-0.3
	0.5nm,0.8s,baz=258,slow=6.1,SNR=9.2						
WRA	**Warramunga Arr**	**59.72**	**100**	P	P	19 57 49.7	-0.1
	0.5nm,0.8s,baz=256,slow=7.0,SNR=3.3						
MKAR	**Makanchi Array**	**71.32**	**9**	P	P	19 59 04.1	-0.1
	0.9nm,0.8s,baz=188,slow=6.1,SNR=12						
BRTR	**Keskin Array B**	**71.68**	**331**	P	P	19 59 05.0	-1.7
	0.5nm,0.8s,baz=102,slow=6.1,SNR=3.8						
KVAR	**Kislovodsk Arr**	**71.92**	**340**	LR	LR	20 27 43.0	
	comp=Z,19nm,20.8s,baz=348,slow=33						
KURBB	**Kurchatov Arra**	**74.64**	**6**	P	P	19 59 24.3	+0.6
	0.4nm,0.6s,baz=199,slow=6.7,SNR=5.9						
TORD	**Torodi Ar. Bea**	**75.88**	**291**	P	P	19 59 32.3	+0.6
	0.1nm,0.4s,baz=125,slow=4.2,SNR=2.4						
ZALV	**Zalesovo Beam**	**78.66**	**9**	P	P	19 59 46.5	+0.1
	0.8nm,0.7s,baz=200,slow=6.3,SNR=4.5						
SONM	**Songino Array**	**78.71**	**24**	P	P	19 59 47.8	+0.8
	0.1nm,0.4s,baz=224,slow=4.0,SNR=3.4						

MAN 07 19:55:27, 17°.78N×122°.55E, h38km**, mb4.4, ML3.3, MS3.0, 1C, Luzon**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CAUP	**Cauayan**	**1.08**	**220**	*e*P	Pn	19 55 47.4	+1.8
CAUP				*e*S	Sn	19 56 01.8	+2.4
APYP	**Conner**	**1.25**	**274**	*e*P	Pn	19 55 48.9	+1.1
APYP				*e*S	Sn	19 56 05.2	+1.9
BALP	**Baler**	**2.23**	**205**	*e*P	Pn	19 56 02.9	+1.5
BALP				*e*S	Sn	19 56 27.3	-0.4
PCPH	**Palayan**	**2.61**	**212**	⇑*e*P	Pn	19 56 09.5	+2.9

NIED ***07*** *19:59:00, 24°.10N×121°.70E, h23km, Mw4.4 Best double couple: M0 4.33000×10^15 NP1:φs207.00000°, δ34.00000°, λ92.00000°. NP2:φs24.00000°, δ56.00000°, λ88.00000°.*
IDC ***07*** *19:59:13.5±0.6, 24°.05N×121°.82E, h0km, mb3.8/18, mb1 4.0/20, mb1mx3.8/68, mbtmp3.8/20, ML3.6/2, MS3.6/16, Ms1 3.6/16, ms1mx3.3/68, Error ellipse: s-maj=18.2km s-min=13.2km az=74.0*
BJI ***07*** *19:59:17.2, 24°.17N×121°.66E, h9km, mb4.0/8, mB4.2/6, ML3.9/6, Ms3.9/10, Ms7 3.7/11*
NEIC ***07*** *19:59:17.1±0.7, 24°.06N×121°.79E, h24km±5km, mb4.5/19, ML4.5(TAP), Error ellipse: s-maj=5.6km s-min=4.5km az=103.0*
NEIC Recorded [3 TAP] in Hualien and Yilan, [2 TAP] in Nantou and [1 TAP] in Changhua, Taichung and Yunlin.
JMA ***07*** *19:59:17.2, 24°.08N×121°.65E, h34km±1km, M3.8*
ISCJB ***07*** *19:59:18.2±0.2, 24°.14N±0°.01×121°.73E±0°.01, h30km±1km, mb4.1/37, MS3.5/13, Error ellipse: s-maj=2.2km s-min=1.5km az=44.5*
TAP ***07*** *19:59:18.3, 24°.14N×121°.68E, h30km, ML4.7, B*
ISC 07 19:59:18.3±0.6**, 24°.11N**±0°.02×**121°.71E**±0°.02**, h30**km±4km**, n212, σ1s39**/287**, mb4.1**/36**, MS3.6**/13**, 7C-41D, Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TWD	**Chiawan**	**0.10**	**254**	⇑*i*P	**Pb**	**19 59 23.7**	**+0.1**
	baz=241						
TWD				*i* S	**Sb**	**19 59 27.6**	**+0.3**
	baz=241						
NACB	**Ninganchiao**	**0.12**	**302**	⇑P	**Pn**	**19 59 23.6**	**-0.6**
	baz=295						
NACB				*i* S	**Sb**	**19 59 27.2**	**-0.4**
	baz=295						
NACB	**Ninganchiao**	**0.12**	**302**	*e*Pg	**Pn**	**19 59 23.6**	**-0.6**
NACB				*e*		19 59 23.7	
NACB				*e*Sg	**Sb**	**19 59 27.3**	**-0.2**
NACB				*e*		19 59 27.4	
HWA	**Hwalien**	**0.16**	**215**	P	**Pn**	**19 59 24.7**	**+0.1**
	baz=209						
HWA				*e*S	**Sb**	**19 59 29.8**	**+1.7**
	baz=209						
ENLB	**Shoufeng**	**0.23**	**205**	*e*P	**Pn**	**19 59 25.5**	**0.0**
	baz=194						
ENLB				*e*S	**Sb**	**19 59 31.0**	**+1.8**
	baz=194						
ENA	**Nanau**	**0.32**	**6**	⇑P	**Pb**	**19 59 25.6**	**-0.4**
	baz=7.0						
ENA				*e*S	**Sb**	**19 59 30.7**	**-0.5**
	baz=7.0						
NANB	**Nanao**	**0.32**	**7**	⇑P	**Pb**	**19 59 25.6**	**-0.4**
	baz=7.0						
NANB				S	**Sb**	**19 59 31.2**	**-0.1**
	baz=7.0						
ENAH	**Nanao**	**0.35**	**16**	⇑P	**Pb**	**19 59 26.2**	**-0.3**
	baz=15						
ENAH				*e*S	**Sb**	**19 59 31.8**	**-0.2**
	baz=15						
ESL	**Shilin**	**0.39**	**221**	⇓*i*P	**Pn**	**19 59 26.6**	**-1.2**
	baz=225						
ESL				*e*S	**Sn**	**19 59 32.5**	**-1.6**
	baz=225						
WHF	**Hehuan Shan**	**0.41**	**275**	⇓*i*P	**Pn**	**19 59 27.1**	**-1.3**
	baz=271						
WHF				S	**Sn**	**19 59 33.3**	**-1.9**
	baz=271						
NNSB	**Datong**	**0.43**	**317**	⇓P	**Pb**	**19 59 27.3**	**-0.5**
	baz=316						
NNSB				S	**Sb**	**19 59 33.3**	**-0.9**
	baz=316						
NNS	**Nan Shan**	**0.45**	**317**	⇓*i*P	**Pb**	**19 59 27.4**	**-0.6**
	baz=317						
NNS				*e*S	**Sb**	**19 59 33.7**	**-1.0**
	baz=317						
CHGB	**Renai**	**0.49**	**264**	⇓P	**Pn**	**19 59 28.6**	**-0.8**
	baz=256						
CHGB				S	**Sn**	**19 59 35.6**	**-1.5**
	baz=256						
TWT	**Tachien**	**0.51**	**287**	⇓*i*P	**Pn**	**19 59 28.9**	**-0.7**
	baz=280						
TWT				S	**Sn**	**19 59 35.8**	**-1.6**
	baz=280						
OWD	**Renai**	**0.51**	**253**	⇓*i*P	**Pn**	**19 59 28.7**	**-0.9**
	baz=250						
OWD				S	**Sn**	**19 59 35.6**	**-1.8**
	baz=250						
TWC	**Suao**	**0.52**	**15**	⇑*i*P	**Pb**	**19 59 28.8**	**-0.1**
	baz=13						
TWC				S	**Sb**	**19 59 36.0**	**-0.3**
	baz=13						
TDCB	**Techi**	**0.52**	**286**	⇓*i*P	**Pn**	**19 59 28.9**	**-0.8**
	baz=281						
TDCB				*e*S	**Sb**	**19 59 35.5**	**-1.1**
	baz=281						
ENTT	**Nioudou**	**0.54**	**346**	⇓*i*P	**Pb**	**19 59 28.8**	**-0.6**
	baz=348						
ENTT				*e*S	**Sb**	**19 59 36.5**	**-0.6**
	baz=348						
EOS1	**EOS1**	**0.58**	**41**	*e*P	**Pn**	**19 59 30.8**	**+0.4**
	baz=45						
EOS1				*e*S	**Sn**	**19 59 41.3**	**+2.3**
	baz=45						
TWE	**Neicheng**	**0.61**	**357**	⇓*i*P	**Pb**	**19 59 30.0**	**-0.6**
	baz=355						
TWE				*e*S	**Sb**	**19 59 37.5**	**-1.4**
	baz=355						
YHNB	**Yeheng**	**0.64**	**332**	⇓P	**Pb**	**19 59 30.4**	**-0.6**
	baz=322						
YHNB				S	**Sb**	**19 59 38.2**	**-1.4**
	baz=322						
YHNB	**Yeheng**	**0.64**	**332**	*e*Pg	**Pb**	**19 59 30.2**	**-0.8**
YHNB				*e*Pn	**Pb**	**19 59 30.3**	**-0.6**
YHNB				*e*Sg	**Sb**	**19 59 38.3**	**-1.4**
YHNB				*e*Sn	**Sn**	**19 59 38.6**	**-1.8**
ILA	**Ilan**	**0.66**	**3**	*e*P	**Pb**	**19 59 30.9**	**-0.3**
	baz=359						
HGSD	**Ruisui**	**0.67**	**203**	⇓*e*P	**Pn**	**19 59 31.1**	**-0.5**
	baz=216						
HGSD				*e*S	**Sn**	**19 59 41.6**	**+0.6**
	baz=216						
NWLT	**Wulai**	**0.69**	**344**	*e*P	**Pb**	**19 59 31.0**	**-0.8**
	baz=345						
EHY	**Hungye**	**0.70**	**210**	⇓*e*P	**Pb**	**19 59 30.5**	**-1.5**
	baz=207						
DPDB	**Guoxing**	**0.72**	**264**	⇓*i*P	**Pn**	**19 59 32.2**	**-0.2**
	baz=258						
DPDB				S	**Sn**	**19 59 41.4**	**-1.0**
	baz=258						
NTC	**Toucheng**	**0.75**	**9**	*e*P	**Pb**	**19 59 32.3**	**-0.6**
	baz=1.0						
SSLB	**Suanglung**	**0.76**	**245**	⇓P	**Pn**	**19 59 32.4**	**-0.6**
	baz=244						
SSLB				S	**Sn**	**19 59 41.6**	**-1.8**
	baz=244						
SSLB	**Suanglung**	**0.76**	**245**	*e*Pg	**Pn**	**19 59 32.4**	**-0.6**
SSLB				*e*Pn	**Pb**	**19 59 32.6**	**-0.4**
SSLB				*e*Sg	**Sn**	**19 59 41.9**	**-1.6**
SSLB				*e*Sn	**Sb**	**19 59 42.5**	**-0.5**
EGS		**0.76**	**16**	*e*P	**Pn**	**19 59 32.9**	**0.0**
	baz=11						
SMLT	**Sun Moon Lake**	**0.77**	**253**	⇓*i*P	**Pn**	**19 59 32.9**	**-0.3**
	baz=247						
SMLT				S	**Sn**	**19 59 42.7**	**-1.2**
	baz=247						
TYC	**Yuchr**	**0.80**	**255**	⇓P	**Pn**	**19 59 33.2**	**-0.3**
	baz=247						
TYC				S	**Sn**	**19 59 44.4**	**-0.1**
	baz=247						
YULB	**Yu-li**	**0.81**	**208**	⇓*e*P	**Pb**	**19 59 32.0**	**-1.8**
	baz=206						
YULB	**Yu-li**	**0.81**	**208**	*e*Pn	**Pb**	**19 59 32.1**	**-1.7**
YULB				*e*Sn	**Sn**	**19 59 46.0**	**+1.5**
LIOB	**Emei**	**0.83**	**310**	⇓*i*P	**Pn**	**19 59 34.4**	**+0.5**
	baz=309						
LIOB				S	**Sn**	**19 59 44.6**	**-0.4**
	baz=309						
NSTT	**Nanjuang**	**0.83**	**309**	⇓*i*P	**Pn**	**19 59 34.1**	**+0.3**
	baz=308						
NSTT				S	**Sb**	**19 59 43.9**	**-1.1**
	baz=308						
TWF1	**Yuli**	**0.84**	**207**	⇓*e*P	**Pb**	**19 59 32.6**	**-1.8**
	baz=213						
WLTB	**Daxi**	**0.85**	**331**	⇓P	**Pn**	**19 59 34.6**	**+0.5**
	baz=326						
WLTB				*e*S	**Sn**	**19 59 45.8**	**+0.3**
	baz=326						
TIPB	**Shuangxi**	**0.87**	**7**	⇓*e*P	**Pb**	**19 59 33.2**	**-1.6**
	baz=357						
TIPB				*e*S	**Sb**	**19 59 44.1**	**-2.0**
	baz=357						
TWA	**Mucha**	**0.88**	**353**	⇓P	**Pb**	**19 59 34.2**	**-0.7**
	baz=342						
TWA				*e*S	**Sb**	**19 59 45.0**	**-1.4**
	baz=342						
TATO	**Taipei**	**0.89**	**347**	⇓P	**Pn**	**19 59 34.7**	**0.0**
	baz=346						
TATO				*e*S	**Sb**	**19 59 45.4**	**-1.2**
	baz=346						
TATO	**Taipei**	**0.89**	**347**	*e*Pn	**Pb**	**19 59 34.3**	**-0.9**
TATO				*e*Pg	**Pn**	**19 59 34.6**	**0.0**
TATO				*e*Sg	**Sb**	**19 59 45.9**	**-0.7**
TATO				*e*Sn	**Sn**	**19 59 46.0**	**-0.4**
NSY	**Sanyi**	**0.92**	**290**	⇓P	**Pn**	**19 59 36.3**	**+1.2**
	baz=288						
NSY				S	**Sn**	**19 59 49.2**	**+1.9**
	baz=288						
YUS	**Yu-Shan**	**0.93**	**228**	⇓*i*P	**Pn**	**19 59 35.6**	**-0.1**
	baz=221						
YUS				S	**Sn**	**19 59 47.4**	**-0.8**
	baz=221						
TWB1	**Santiao Chiao**	**0.93**	**16**	*e*P	**Pn**	**19 59 36.0**	**+0.7**
	baz=16						
TWB1				*e*S	**Sb**	**19 59 47.9**	**0.0**
	baz=16						
NMLH	**Miaoli**	**0.94**	**297**	⇓P	**Pn**	**19 59 36.5**	**+1.1**
	baz=295						
NMLH				S	**Sn**	**19 59 49.3**	**+1.5**
	baz=295						
WJS	**Zhushan**	**0.94**	**252**	⇓*i*P	**Pn**	**19 59 36.6**	**+1.2**
	baz=252						
WJS				*e*S	**Sn**	**19 59 49.6**	**+1.8**
	baz=252						
TCU	**Taichung**	**0.94**	**273**	*e*P	**Pn**	**19 59 36.6**	**+1.1**
	baz=271						
TCU				*e*S	**Sn**	**19 59 50.8**	**+2.9**
	baz=271						
SBCB	**Hsinchu**	**0.95**	**316**	⇓P	**Pn**	**19 59 36.4**	**+0.9**
	baz=314						
SBCB				S	**Sn**	**19 59 49.8**	**+1.8**
	baz=314						
NWF	**Wu-fen Shan**	**0.96**	**4**	*e*P	**Pn**	**19 59 35.7**	**0.0**
	baz=350						
NWF				S	**Sn**	**19 59 49.4**	**+0.9**
	baz=350						
WFSB	**Wu-fen Shan**	**0.96**	**4**	⇓*e*P	**Pb**	**19 59 36.0**	**-0.4**
	baz=349						
WFSB				S	**Sn**	**19 59 49.3**	**+0.9**
	baz=349						
HSN	**Hsinchu**	**0.96**	**316**	⇓*i*P	**Pn**	**19 59 36.5**	**+0.8**
	baz=316						
HSN				S	**Sn**	**19 59 49.8**	**+1.4**
	baz=316						
WNT	**Mingjian**	**0.96**	**256**	⇓*i*P	**Pn**	**19 59 37.0**	**+1.3**
	baz=256						
WNT				*e*S	**Sn**	**19 59 50.6**	**+2.2**
	baz=256						
NCUH	**Zhongli**	**0.98**	**331**	⇓P	**Pb**	**19 59 36.4**	**-0.2**
	baz=328						
NCUH				S	**Sn**	**19 59 50.0**	**+1.2**
	baz=328						
NCU	**National Centr**	**0.98**	**331**	⇓P	**Pb**	**19 59 36.5**	**-0.2**
	baz=329						
NCU				S	**Sn**	**19 59 50.2**	**+1.4**
	baz=329						
FULB	**Fuli**	**0.98**	**203**	*e*P	**Pn**	**19 59 35.9**	**-0.1**
	baz=213						
TWS1	**Kuangyinshan**	**1.02**	**345**	*e*P	**Pb**	**19 59 36.5**	**-0.9**
	baz=353						
TWS1				*e*S	**Sn**	**19 59 51.0**	**+1.2**
	baz=353						
WCHH	**Zhanghua**	**1.05**	**269**	*e*P	**Pb**	**19 59 38.2**	**+0.4**
	baz=267						
WCHH				*e*S	**Sn**	**19 59 53.0**	**+2.5**
	baz=267						
YM10	**YM10**	**1.05**	**353**	*e*P	**Pn**	**19 59 36.4**	**-0.6**
	baz=352						
YM04	**YM04**	**1.05**	**352**	*e*P	**Pn**	**19 59 36.2**	**-0.8**
	baz=350						
CHKT	**Chengkung**	**1.05**	**197**	*e*P	**Pb**	**19 59 36.8**	**-1.1**
	baz=211						
CHKT				*e*S	**Sn**	**19 59 51.5**	**+0.9**
	baz=211						
YM07	**YM07**	**1.06**	**356**	⇑*e*P	**Pn**	**19 59 36.0**	**-1.2**
	baz=340						
CHN5	**Tsauling**	**1.07**	**242**	⇓P	**Pb**	**19 59 38.2**	**0.0**
	baz=230						
CHN5				*e*S	**Sn**	**19 59 53.2**	**+2.0**
	baz=230						
YM03	**YM03**	**1.08**	**352**	*e*P	**Pn**	**19 59 36.9**	**-0.4**
	baz=351						
NTST	**Danshui**	**1.08**	**347**	*e*P	**Pn**	**19 59 37.3**	**0.0**
	baz=346						
YM08	**YM08**	**1.08**	**354**	*e*P	**Pn**	**19 59 36.7**	**-0.6**
	baz=339						
ELDTW	**Lidau**	**1.11**	**215**	*e*P	**Pn**	**19 59 36.9**	**-1.0**
	baz=204						
WGK	**Gukeng**	**1.13**	**248**	*e*P	**Pb**	**19 59 39.2**	**0.0**
	baz=249						
WGK				*e*S	**Sn**	**19 59 54.7**	**+2.2**
	baz=249						
WDLH	**Douliu**	**1.15**	**249**	*e*P	**Pb**	**19 59 40.0**	**+0.4**
	baz=249						
WDLH				*e*S	**Sn**	**19 59 56.5**	**+3.5**
	baz=249						
TWY	**Chenhua**	**1.17**	**355**	*e*P	**Pn**	**19 59 38.5**	**-0.1**
	baz=341						
JYNG	**Yonagunijimaku**	**1.18**	**73**	P	**Pn**	**19 59 39.1**	**+0.4**
JYNG				S	**Sb**	**19 59 54.6**	**-0.4**
YOJ	**Yonaguni jima**	**1.24**	**73**	⇓*e*P	**Pn**	**19 59 39.7**	**+0.2**
	baz=76						
YOJ	**Yonaguni jima**	**1.24**	**73**	P	**Pn**	**19 59 39.9**	**+0.4**
YOJ				S	**Sn**	**19 59 56.2**	**+1.0**
YOJ	**Yonaguni jima**	**1.24**	**73**	*e*Pn	**Pn**	**19 59 39.8**	**+0.2**
YOJ				*e*Sn	**Sb**	**19 59 58.0**	**+1.3**
RLNB	**Erlin**	**1.25**	**260**	⇓P	**Pb**	**19 59 41.0**	**-0.3**
	baz=260						
RLNB				S	**Sb**	**19 59 58.3**	**+1.3**
	baz=260						
CHN2	**Minshiung**	**1.27**	**243**	*e*P	**Pb**	**19 59 41.9**	**+0.4**
	baz=244						
CHN2				*e*S	**Sb**	**20 00 00.1**	**+2.7**
	baz=244						
CHN4	**Tsaushan**	**1.27**	**234**	*e*P	**Pb**	**19 59 41.5**	**-0.1**
	baz=235						
CHN4				*e*S	**Sb**	**19 59 58.9**	**+1.3**
	baz=235						
TPUB	**Ta-pu**	**1.27**	**231**	⇓P	**Pb**	**19 59 41.5**	**-0.2**
	baz=231						
TPUB				*e*S	**Sb**	**19 59 58.3**	**+0.6**
	baz=231						
TPUB	**Ta-pu**	**1.27**	**231**	*e*Pn	**Pb**	**19 59 41.3**	**-0.3**
TPUB				*e*Sn	**Sb**	**19 59 58.9**	**+1.2**
STYT	**Tauyuan**	**1.28**	**223**	*e*P	**Pb**	**19 59 40.9**	**-1.0**
	baz=222						
WTP	**Ta-pu**	**1.32**	**230**	*e*P	**Pb**	**19 59 42.2**	**-0.3**
	baz=231						

WTP				eS	Sb	19 59 59.9	+0.9
	baz=231						
CHY	Chiayi	1.32	243	eP	Pb	19 59 42.7	+0.2
	baz=242						
WTCT	Ta-ch'eng	1.33	260	eP	Pb	19 59 41.8	-0.8
	baz=260						
WTCT				eS	Sb	19 59 60.0	+0.8
	baz=260						
TWK	Hsinying	1.40	233	eP	Pb	19 59 43.4	-0.4
	baz=233						
TWH	Lutao	1.41	189	eP	Pn	19 59 41.1	-0.8
	baz=186						
TWG	Pinlang	1.41	205	eP	Pn	19 59 41.0	-0.8
	baz=191						
TWG	Pinlang	1.41	205	ePn	Pn	19 59 40.1	-1.8
TWGBT	Beinan	1.41	204	eP	Pn	19 59 40.6	-1.3
	baz=191						
CHN1	Nanshi	1.42	230	eP	Pb	19 59 43.7	-0.4
	baz=233						
CHN1				eS	Sb	20 00 03.1	+1.2
	baz=233						
WSF	Szhu	1.44	251	⇓P	Pb	19 59 44.0	-0.4
	baz=252						
WSF				eS	Sb	20 00 03.5	+1.2
	baz=252						
TTN	Taitung	1.44	201	eP	Pb	19 59 44.5	0.0
	baz=202						
SGST	Jiashian	1.45	225	eP	Pb	19 59 44.5	-0.1
	baz=217						
SGST				eS	Sb	20 00 03.7	+1.0
	baz=217						
SLGT	Liugui	1.48	221	eP	Pb	19 59 44.4	-0.7
	baz=222						
CHN8	Yiju	1.57	241	eP	Pb	19 59 45.3	-1.3
	baz=232						
CHN8				eS	Sb	20 00 07.0	+1.0
	baz=232						
CHN3	Shinhua	1.60	230	eP	Pb	19 59 47.4	+0.1
	baz=233						
ECL	Taimali	1.66	205	eP	Pn	19 59 45.1	-0.2
	baz=194						
SSD	Sandimen	1.68	216	eP	Pb	19 59 47.1	-1.4
	baz=206						
TAI1	Yung-k'ang	1.72	232	eP	Pb	19 59 48.2	-1.1
	baz=234						
TWM1	Shoushan	1.74	223	eP	Pb	19 59 49.8	+0.2
	baz=226						
SGLT	Jiouru	1.77	219	eP	Pb	19 59 50.2	+0.1
	baz=222						
MASBT	Mashibuluo	1.79	214	eP	Pb	19 59 49.0	-1.4
	baz=217						
IRIF	Iriomote-Funau	1.86	83	P	Pn	19 59 48.4	+0.3
IRIF				S	Sn	20 00 12.5	+1.9
EAST	Anshuo	1.89	205	eP	Pb	19 59 49.5	-2.7
	baz=197						
TAW	Tawu	1.90	203	eP	Pb	19 59 49.5	-2.7
	baz=191						
HATJ	Hateruma jima	1.92	91	P	Pn	19 59 49.0	+0.1
HATJ				S	Sn	20 00 13.2	+1.2
SSPT	Xinbi	1.93	213	eP	Pb	19 59 51.9	-0.8
	baz=203						
PHUB	P'eng-hu	2.04	254	eP	Pn	19 59 50.8	+0.2
	baz=254						
WDGT	Dungji	2.06	246	eP	Pb	19 59 51.9	-3.1
	baz=249						
WDGT				eS	Sn	20 00 16.1	+0.7
	baz=249						
LAY	Lan-yu	2.07	184	eP	Pn	19 59 49.5	-1.4
	baz=181						
JKRS	Kuro-shima	2.11	86	P	Pn	19 59 52.4	+1.0
JKRS				S	Sn	20 00 17.7	+1.1
WLCH	Liuqiu	2.13	215	eP	Pb	19 59 55.1	-1.2
	baz=235						
TWP	Hsiaoliuchiu	2.15	215	eP	Pb	19 59 56.0	-0.4
	baz=235						
VWUC	VWUC	2.24	294	eP	Pn	19 59 52.8	-0.4
	baz=291						
JIJ	Ishigaki jima	2.24	83	P	Pn	19 59 53.7	+0.4
JIJ				S	Sn	20 00 20.0	+0.1
HEN	Hengchun	2.28	203	eP	Pb	19 59 57.0	-1.7
	baz=195						
TWKBT	Hengchun	2.31	201	eP	Pb	19 59 56.2	-3.1
	baz=193						
TSEB	Hengchuen, Pin	2.32	199	eP	Pb	19 59 56.1	-3.3
	baz=188						
JISG	Ishigakijimahi	2.42	78	P	Pn	19 59 55.8	0.0
JISG				S	Sn	20 00 25.5	+1.1
MATB	Ma-tsu	2.58	322	eP	Pn	19 59 57.3	-0.8
	baz=318						
JTJ	Tarama	2.78	78	P	Pn	20 00 01.5	+0.8
JTJ				S	Sn	20 00 35.0	+1.7
QZH	Quanzhou	2.96	287	⇓iPn	Pn	20 00 02.9	-0.2
QZH				Sn	Sn	20 00 35.1	-2.5
QZH				smax	smax		
	comp=N,410nm,1.1s						
QZH				smax	smax		
	comp=E,340nm,1.1s						
KNMB	Chin-men Tao	3.05	277	eP	Pn	20 00 03.9	-0.5
	baz=276						
JIRB	Irabujima	3.24	77	P	Pn	20 00 08.1	+1.1
JIRB				S	Sn	20 00 46.3	+1.7
JIKM	Ikemajima	3.33	75	P	Pn	20 00 09.2	+1.0
JIKM				S	Sn	20 00 49.0	+2.3
JMJ	Miyako jima 2	3.34	77	P	Pn	20 00 10.3	+1.8
JOGS	Gusukube	3.43	78	P	Pn	20 00 11.2	+1.5
JOGS				S	Sn	20 00 51.2	+1.8
JOW	Kunigami	6.53	64	Pn	Pn	20 00 51.0	-1.3
	6.3nm,0.3s,baz=44,slow=6.3,SNR=24						
JOW				Sn	Sn	20 02 02.1	-3.6
	baz=285,slow=20,SNR=2.4						
JOW	Kunigami	6.53	64	eP	Pn	20 00 52.0	-0.3
	baz=72						
JOW	Kunigami	6.53	64	ePn	Pn	20 00 51.6	-0.6
JOW				Sn	Sn	20 02 02.1	-3.6
JNU	Nakatsue	12.06	40	Pn	Pn	20 02 06.1	-2.0
	0.1nm,0.3s,baz=93,slow=19,SNR=5.7						
JNU				LR	LR	20 07 42.8	
	comp=Z,158nm,20.0s,baz=224,slow=42						
ENH	Enshi	12.48	302	ePn	Pn	20 02 14.4	+0.5
KS15	Wonju Array Si	14.30	20	ePn	P	20 02 43.6	-1.9
KSAR	Wonju Array Be	14.30	20	Pn	P	20 02 42.3	-3.2
KSRS	Korea Array	14.33	20	Pn	Pn	20 02 42.3	+3.3
	0.3nm,0.3s,baz=201,slow=12,SNR=9.2						
KSRS				LR	LR	20 08 55.4	
	comp=Z,136nm,18.7s,baz=190,slow=41						
TIY	Taiyuan	15.71	332	eP	Pn	20 02 56.2	-1.3
TIY				PP	pP	20 03 08.6	-0.6
TIY				S	Sn	20 05 46.0	-4.6
TIY				SS	S	20 06 12.8	+7.9
TIY				LR	LR		
	comp=N,240nm,6.6s						
TIY				LR	LR		
	comp=E,190nm,7.1s						
TIY				LR	LR		
	comp=Z,270nm,12.3s						
CD2	Chengdu	17.29	297	eP	P	20 03 18.0	-0.8
JHJ	Hachijo jima 2	18.21	56	LR	LR	20 09 58.3	
	comp=Z,134nm,21.6s,baz=133,slow=36						
JCJ	Chichijima	18.71	77	LR	LR	20 10 00.2	
	comp=Z,181nm,21.7s,baz=232,slow=35						
MJAR	Matsushiro Arr	18.85	45	LR	LR	20 11 34.9	
	comp=Z,115nm,20.8s,baz=210,slow=39						
USRK	Ussuriysk Ar.	21.74	20	LR	LR	20 13 16.9	
	comp=Z,67nm,18.5s,baz=184,slow=39						
CHTO	Chiang Mai	21.82	260	eP	P	20 04 13.1	+4.9
	12nm,1.4s						
CM01	Chiang Mai Arr	21.93	259	eP	P	20 04 13.8	+4.5
CM31	Chiang Mai Arr	21.93	260	eP	P	20 04 11.4	+2.0
CMAR	Chiang Mai Arr	21.93	260	P	P	20 04 11.6	+2.2
	0.7nm,0.7s,baz=57,slow=8.5,SNR=8.2						
CMAR				LR	LR	20 13 21.2	
	comp=Z,158nm,18.8s,baz=74,slow=38						
SBUM	Sibu	23.40	204	eP	P	20 04 22.9	-1.9
	7.2nm,1.1s						
SARN	Sarigan	23.71	104	eP	P	20 04 26.4	-1.5
GTA	Gaotai	23.98	315	eP	P	20 04 29.8	-0.4
GTA				pP	pP	20 04 35.0	-4.0
GTA				sP	sP	20 04 38.1	-4.6
LUWI	Luwuk	25.02	177	eP	P	20 04 40.1	+0.4
	18nm,0.8s						
KSM	Kuching	25.06	208	eP	P	20 04 41.3	+1.1
	16nm,1.2s						
HIA	Hailar	25.16	357	eP	P	20 04 42.4	+1.7
	12nm,1.7s						
ASAJ	Asahikawa	26.27	35	P	P	20 04 49.6	-1.3
	3.2nm,0.8s,baz=230,slow=12,SNR=4.1						
ASAJ	Asahikawa	26.27	35	eP	P	20 04 49.9	-1.1
	17nm,1.6s						
KLR	Kul'dur	26.29	15	P	P	20 04 52.2	+1.3
	0.1nm,0.8s,baz=211,slow=8.8,SNR=7.0						
KLR				LR	LR	20 16 01.8	
	comp=Z,11nm,19.6s,baz=196,slow=38						
ULN	Ulaanbaatar	26.41	337	eP	P	20 04 52.2	-0.1
	2.6nm,0.8s						
SIJI	Sorong	26.51	158	P	P	20 04 52.5	-0.8
	1.5nm,0.4s,baz=342,slow=19,SNR=2.8						
SONA0	Songino Array	26.62	337	eP	P	20 04 54.6	+0.5
SONM	Songino Array	26.62	337	P	P	20 04 54.6	+0.5
	1.0nm,0.7s,baz=154,slow=9.2,SNR=9.3						
SONM				LR	LR	20 16 43.5	
	comp=Z,192nm,18.1s,baz=162,slow=39						
SONA1	Songino Array	26.63	337	eP	P	20 04 54.0	-0.3
SHL	Shillong	27.08	279	eP	P	20 04 59.5	+0.9
	22nm,1.5s						
LSA	Lhasa	27.77	288	eP	P	20 05 07.4	+2.4
	2.7nm,0.8s						
KAPI	Kappang	29.01	184	eP	P	20 05 14.0	-1.6
	204nm,0.7s						
TLY	Talaya	30.82	338	LR	LR	20 19 10.2	
	comp=Z,132nm,18.6s,baz=138,slow=39						
WMQ	Urumqi	34.05	314	P	P	20 06 03.4	+3.6
WMQ				LR	LR		
	comp=N,120nm,16.3s						
WMQ				LR	LR		
	comp=E,81nm,17.5s						
WMQ				LR	LR		
	comp=Z,99nm,17.5s						
YAK	Yakutsk	38.29	6	LR	LR	20 24 00.3	
	comp=Z,57nm,18.4s,baz=262,slow=39						
YAK	Yakutsk	38.29	6	eP	P	20 06 34.7	-1.0
	7.6nm,0.5s						
MK01	Makanchi Array	38.71	316	eP	P	20 06 39.7	+0.2
MK31	Makanchi Array	38.72	316	eP	P	20 06 39.6	0.0
MK32	Makanchi Array	38.72	316	eP	P	20 06 40.3	+0.7
MKAR	Makanchi Array	38.72	316	P	P	20 06 40.3	+0.7
	0.8nm,0.7s,baz=109,slow=9.7,SNR=10						
MKAR				LR	LR	20 23 58.1	
	comp=Z,113nm,18.1s,baz=90,slow=38						
MKAR	Makanchi Array	38.72	316	eP	P	20 06 39.5	-0.1
	34nm,1.4s						
MAKZ	Makanchi	38.93	316	eP	P	20 06 41.5	+0.2
	17nm,1.6s						
PETK	Petropavlovsk-	39.66	34	LR	LR	20 22 58.3	
	comp=Z,62nm,20.4s,baz=228,slow=36						
ZALV	Zalesovo Beam	40.57	327	P	P	20 06 54.5	-0.3
	0.9nm,0.6s,baz=118,slow=7.5,SNR=6.3						
ZALV				LR	LR	20 25 07.8	
	comp=Z,92nm,18.6s,baz=70,slow=38						
ZALV	Zalesovo Beam	40.57	327	eP	P	20 06 54.1	-0.7
ZAA1	Zalesovo Array	40.57	327	eP	P	20 06 54.5	-0.3
H11N1	WAKE ISLAND Hy	42.01	87	T	T	20 52 30.8	
	baz=283,slow=74,SNR=13						
H11N2	WAKE ISLAND Hy	42.02	87	T	T	20 52 29.5	
	baz=283,slow=74,SNR=12						
H11N3	WAKE ISLAND Hy	42.03	87	T	T	20 52 25.2	
	baz=283,slow=74,SNR=15						
FITZ	Fitzroy Crossi	42.13	174	P	P	20 07 05.8	-2.1
	0.8nm,0.6s,baz=0.0,slow=13						
H11S3	WAKE ISLAND Hy	42.14	89	T	T	20 52 29.2	
	baz=284						
H11S1	WAKE ISLAND Hy	42.15	89	T	T	20 52 38.1	
	baz=284						
H11S2	WAKE ISLAND Hy	42.16	89	T	T	20 52 38.4	
	baz=284						
KURK	Kurchatov	42.46	320	eP	P	20 07 12.3	+1.9
KURBB	Kurchatov Arra	42.47	320	P	P	20 07 12.3	+1.8
	0.4nm,0.6s,baz=111,slow=9.6,SNR=5.3						
WRA	Warramunga Arr	45.48	163	P	P	20 07 33.7	-1.3
	2.0nm,0.5s,baz=345,slow=8.7,SNR=40						
WR1	Warramunga Arr	45.48	163	eP	P	20 07 33.7	-1.3
	16nm,0.9s						
TIXI	Tiksi	47.74	3	LR	LR	20 30 38.8	
	comp=Z,85nm,18.5s,baz=180,slow=40						
TIXI	Tiksi	47.74	3	eP	P	20 07 52.0	0.0
	15nm,1.7s						
BVAR	Borovoye Array	48.03	321	P	P	20 07 55.1	+0.5
	0.5nm,0.6s,baz=103,slow=8.9,SNR=4.1						
AS31	Alice Springs	48.94	165	eP	P	20 08 01.6	-0.2
	1.6nm,1.4s						
ASAR	Alice Springs	48.94	165	P	P	20 08 01.5	-0.4
	1.0nm,0.7s,baz=340,slow=6.3,SNR=22						
AB31	Akbulak array	53.84	314	eP	P	20 08 38.6	+0.4
ABKAR	Akbulak array	53.84	314	eP	P	20 08 38.2	0.0
	11nm,0.6s						
GEYT	Alibeck	55.25	300	P	P	20 08 49.3	+0.6
	1.0nm,0.7s,baz=71,slow=5.2,SNR=3.8						
GEYT				LR	LR	20 34 23.2	
	comp=Z,56nm,20.9s,baz=60,slow=38						
ARU	Arti	55.45	323	LR	LR	20 33 51.6	
	comp=Z,83nm,20.2s,baz=77,slow=37						
ILAR	Eielson Array	69.06	27	P	P	20 10 21.8	+0.8
	0.1nm,0.5s,baz=305,slow=6.4,SNR=4.8						
FIA0	FINESS Array S	71.75	330	eP	P	20 10 37.1	-0.2
FINES	FINESS Array B	71.75	330	P	P	20 10 37.1	-0.2
	6.9nm,1.1s,baz=29,slow=4.4,SNR=4.6						
DAWY	Dawson	72.38	27	eP	P	20 10 41.3	+0.1
	3.6nm,1.0s						
INK	Inuvik	73.11	22	P	P	20 10 45.4	0.0
	1.6nm,0.9s,baz=284,slow=4.3,SNR=8.3						
INK	Inuvik	73.11	22	eP	P	20 10 45.2	-0.2
	8.3nm,1.5s						
BR101	Keskin Array S	73.60	307	eP	P	20 10 49.0	+0.1
BRTR	Keskin Array B	73.60	307	P	P	20 10 49.0	+0.1
	0.4nm,0.7s,baz=67,slow=6.9,SNR=4.1						
SKAG	Skagway	75.84	31	eP	P	20 11 02.7	+1.3
	3.3nm,0.8s						
MLR	Muntele Rosu	77.05	314	P	P	20 11 08.1	-0.5
	0.2nm,0.6s,baz=119,slow=7.3,SNR=3.3						
CLL	Collm	82.40	323	eP	P	20 11 38.0	+0.6
YKA	Yellowknife Ar	82.85	23	P	P	20 11 39.4	-0.1
	0.9nm,0.8s,baz=313,slow=4.9,SNR=23						
YKB5	Yellowknife Ar	82.85	23	eP	P	20 11 39.0	-0.5
LAO	LASA Array	97.29	31	eP	Pdif	20 12 49.0	+0.4
	55nm,0.6s						
SDV	Santo Domingo	145.06	22	PKPbc	PKPbc	20 18 52.5	-0.7
	5.8nm,0.9s,baz=354,slow=2.8,SNR=7.3						
SDV	Santo Domingo	145.06	22	ePKPbc	PKPab	20 18 53.4	+0.3

TAP 07 19:59:34.7, 24°.18N×121°.67E, h26km, ML3.8, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NACB	Ninganchiao	0.07	266	P	Pb	19 59 39.8	+0.4
	baz=265						
NACB				iS	Sb	19 59 43.3	+0.8
	baz=265						
TWD	Chiawan	0.12	214	P	Pb	19 59 39.9	+0.2
	baz=211						
TWD				S	Sb	19 59 43.8	+0.8
	baz=211						
HWA	Hwalien	0.21	196	eP	Pb	19 59 41.1	+0.5
	baz=194						
ENA	Nanau	0.26	15	eP	Pb	19 59 41.7	+0.4
	baz=16						
NANB	Nanao	0.26	17	eP	Pb	19 59 41.8	+0.5
	baz=16						
NANB				eS	Sb	19 59 46.8	+1.1
	baz=16						
ENLB	Shoufeng	0.28	193	eP	Pb	19 59 42.1	+0.6
	baz=192						
ENAH	Nanao	0.30	26	eP	Pb	19 59 42.2	+0.3
	baz=25						
NNSB	Datong	0.36	314	eP	Pn	19 59 43.6	-0.7
	baz=313						
NNSB				eS	Sb	19 59 49.4	+1.0
	baz=313						
WHF	Hehuan Shan	0.37	265	eP	Pb	19 59 43.2	0.0
	baz=264						
WHF				eS	Sb	19 59 49.6	+0.6
	baz=264						
NNS	Nan Shan	0.38	314	eP	Pb	19 59 43.7	+0.6
	baz=314						
ESL	Shilin	0.42	211	eP	Pb	19 59 43.7	0.0
	baz=209						
TWC	Suao	0.46	21	eP	Pb	19 59 44.8	+0.5
	baz=22						
TWC				eS	Sn	19 59 52.3	-0.6
	baz=22						
CHGB	Renai	0.47	255	eP	Pb	19 59 45.1	+0.5
	baz=255						
ENTT	Nioudou	0.47	348	eP	Pb	19 59 44.9	+0.4
	baz=349						
TDCB	Techi	0.47	279	eP	Pb	19 59 45.0	+0.4
	baz=278						

BJI ***07*** *20:05:53.8, 6°.29S×131°.44E, h118km, mb4.7/16, mB4.9/8*
ISCJB ***07*** *20:05:57.4±0.3, 5°.87S±0°.02×131°.13E±0°.03, h112km±3km, mb4.7/84, Error ellipse: s-maj=4.3km s-min=3.9km az=173.4*
NEIC ***07*** *20:05:58.7±0.4, 5°.87S×131°.04E, h108km±3km, mb4.7/65, Error ellipse: s-maj=3.9km s-min=2.8km az=61.0*
DJA ***07*** *20:05:59.0±0.2, 6°S±2°×13°1E±°, h100km±3km, M5.1/18, mb4.9/18, mB5.5/8, MLv5.4/9, Mw(mB)4.9/8*
IDC ***07*** *20:06:01.8±0.7, 5°.89S×131°.16E, h137km±5km, mb4.1/23, mb1 4.1/25, mb1mx3.9/52, mbtmp4.5/25, Error ellipse: s-maj=17.2km s-min=9.7km az=80.0*
ISC 07 20:05:60.0±0.5, **5°.88S**±0°.04×**131°.09E**±0°.04, **h122**km±5km, **h122km:pP-P, n193, σ1s.45**/209, **mb4.6**/84, **Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BNDI	Bandanaira	1.79	319	P	Pn	20 06 29.9	-1.1
BNDI				S	Sn	20 06 53.3	-1.4
SAUI	Saumlaki	2.10	174	P	Pn	20 06 34.3	-0.5
SAUI				S	Sn	20 07 00.0	-1.4
SAUI	Saumlaki	2.10	174	ePn	Pn	20 06 34.5	-0.3
SAUI				eSn	Sn	20 06 56.4	-5.0
FAKI	Fak Fak	3.16	21	P	Pn	20 06 46.3	-2.2
FAKI				S	Sn	20 07 21.8	-4.1
FAKI	Fak Fak	3.16	21	ePn	Pn	20 06 46.4	-2.2
FAKI				eSn	Sn	20 07 19.4	-6.5
MSAI	Masohi	3.31	319	P	Pn	20 06 49.8	-0.7
MSAI				S	Sn	20 07 26.2	-3.3
KMPI	Kaimana, Papua	3.41	50	P	Pn	20 06 49.9	-1.9
KMPI				S	Sn	20 07 28.2	-3.6
AAI	Ambon	3.62	307	P	Pn	20 06 53.9	-0.6
AAI				S	Sn	20 07 34.8	-1.9
NLAI	Namlea	4.77	303	P	Pn	20 07 09.9	+0.1
SIJI	Sorong	4.98	2	P	Pn	20 07 10.1	-2.7
	76nm,0.3s,baz=180,slow=15,SNR=320						
SIJI				S	Sn	20 08 02.7	-6.7
	202nm,0.3s,baz=217,slow=20,SNR=36						
SWI	Sorong	4.99	2	P	Pn	20 07 10.2	-2.6
RKPI	Ransiki, Papua	5.32	35	P	Pn	20 07 16.5	-0.8
	2µm,0.7s,26µm11nm						
RKPI				S	Sn	20 08 14.4	-3.2
	2µm,0.7s,26µm11nm						
LBMI	Labuha	6.32	325	P	Pn	20 07 29.5	-1.3
LBMI				S	Sn	20 08 35.2	-6.6
SANI	Sanana	6.36	307	P	Pn	20 07 29.7	-1.6
	367nm,0.6s,5µm6.4nm						
MTN	Manton Dam	6.92	180	ePn	Pn	20 07 36.9	-2.0
MTN				eSn	Sn	20 08 48.6	-7.5
TNTI	Ternate	7.58	331	ePn	Pn	20 07 46.3	-1.5
TNTI				eSn	Sn	20 09 06.7	-5.6
SOEI	Soe	7.78	240	P	Pn	20 07 49.9	-0.7
SOEI	Soe	7.78	240	ePn	Pn	20 07 49.8	-0.8
SOEI				eSn	Sn	20 09 17.2	0.0
BATI	Baumata	8.52	239	P	Pn	20 07 59.0	-1.6
	66nm,0.3s,baz=94,slow=4.4,SNR=66						
BATI				S	Sn	20 09 30.9	-4.1
	7.3nm,0.3s,baz=241,slow=19,SNR=3.9						
BATI	Baumata	8.52	239	P	Pn	20 07 59.7	-0.8
KMSI	Cibinong	9.57	312	P	Pn	20 08 14.4	-0.3
LUWI	Luwuk	9.59	300	P	Pn	20 08 15.0	0.0
	58nm,1.1s,2µm						
LUWI	Luwuk	9.59	300	ePn	Pn	20 08 13.2	-1.8
APSI	Ampana	10.64	297	P	Pn	20 08 29.6	+0.5
	39nm,0.6s,635nm						
MRSI	Marisa	11.11	304	P	Pn	20 08 34.5	-0.9
	63nm,0.9s,421nm						
KAPI	Kappang	11.32	274	ePn	Pn	20 08 36.2	-2.0
MPSI	Mapaga	12.77	299	P	Pn	20 08 58.0	+0.8
	15nm,0.8s						
PLAI	Plampang	13.53	257	P	Pn	20 09 07.1	0.0
WRAB	Tennant Creek	14.32	168	ePn	Pn	20 09 11.7	-5.6
WRA	Warramunga Arr	14.33	168	P	Pn	20 09 11.2	-6.1
	5.1nm,0.3s,baz=349,slow=13,SNR=88						
WRA				S	Sn	20 11 41.2	-15
	9.3nm,0.3s,baz=346,slow=22,SNR=18						
WR1	Warramunga Arr	14.33	168	ePn	Pn	20 09 11.2	-6.1
WR1				eSn	Sn	20 11 41.2	-15
WB2	Warramunga Arr	14.33	168	ePn	Pn	20 09 09.8	-7.6
WB2				eSn	Sn	20 11 38.0	-18
COEN	Coen	14.35	125	ePn	Pn	20 09 15.8	-1.8
SRBI	Singaraja	15.91	261	P	Pn	20 09 37.4	+0.2
	24nm,1.0s						
PMG	Port Moresby	16.30	103	P	Pn	20 09 42.2	+0.1
	0.9nm,0.3s,baz=292,slow=10,SNR=4.2						
PMG				S	Sn	20 12 32.3	-11
	1.4nm,0.3s,baz=17,slow=19,SNR=5.6						
PMG	Port Moresby	16.30	103	ePn	P	20 09 42.7	-0.1
	12nm,0.7s						
PMG				eSn	Sn	20 12 32.4	-11
MYLDM	Lahad Datu	16.70	311	ePn	P	20 09 46.7	-0.4
	30nm,1.0s						
JAGI	Jajag, Banyuwa	17.00	260	ePn	P	20 09 47.3	-3.2
	39nm,1.1s						
BLJI	Banyuglugur	17.47	263	P	Pn	20 09 57.8	+1.6
	85nm,0.7s						
AS31	Alice Springs	17.89	172	eP	P	20 09 58.5	-1.7
	12nm,0.6s						
AS31				eS	S	20 13 03.8	-16
ASAR	Alice Springs	17.89	172	P	P	20 09 59.4	-0.8
	4.4nm,0.3s,baz=347,slow=11,SNR=124						
ASAR				S	S	20 13 07.5	-12
	2.8nm,0.3s,baz=349,slow=26,SNR=8.1						
AS01	Alice Springs	17.89	171	eP	P	20 09 59.3	-0.9
MBWA	Marble Bar	18.76	215	eP	P	20 10 09.3	-0.4
	31nm,0.8s						
KKM	Kota Kinabalu	19.00	308	eP	P	20 10 12.8	+0.4
	49nm,0.8s						
CTA	Charters Tower	20.41	135	P	P	20 10 27.9	+0.3
	5.7nm,1.0s,baz=290,slow=14,SNR=3.0						
CTAO	Charters Tower	20.41	135	eP	P	20 10 29.3	+1.7
	72nm,1.9s						
STKI	Sintang	20.45	286	P	P	20 10 28.2	+0.1
	13nm,0.8s,4µm						
UGM	Wanagama	20.52	263	eP	P	20 10 29.3	+0.5
	481nm,1.8s						
SBUM	Sibu	20.58	293	eP	P	20 10 28.7	-0.8
	8.6nm,0.8s						
KSM	Kuching	22.00	289	eP	P	20 10 42.1	-2.5
	25nm,1.4s						
TGY	Tagaytay City	22.27	333	P	P	20 10 47.4	+0.1
	95nm,0.4s,baz=180,slow=10,SNR=3.2						
CISI	Cisompet, Garu	23.17	265	eP	P	20 10 56.0	-0.2
	33nm,0.7s						
LEM	Lembang	23.35	266	P	P	20 10 57.8	-0.2
	13nm,0.6s,baz=155,slow=20,SNR=5.1						
LEM	Lembang	23.35	266	eP	P	20 10 57.8	-0.2
FORT	Forrest	24.93	186	eP	P	20 11 11.6	-0.4
	442nm,0.6s						
BBOO	Buckleboo	27.19	171	eP	P	20 11 32.4	+0.1
	19nm,1.1s						
STKA	Stephens Creek	27.67	160	P	P	20 11 36.6	+0.1
	3.5nm,0.4s,baz=345,slow=8.2,SNR=19						
STKA	Stephens Creek	27.67	160	eP	P	20 11 36.4	-0.1
	1.9nm,0.9s						
NWAO	Narrogin (SRO)	29.84	204	P	P	20 11 55.8	-0.1
	5.4nm,0.6s,baz=260,slow=9.0,SNR=8.0						
TPUB	Ta-pu	30.75	341	eP	P	20 12 02.3	-1.6
	235nm,1.9s						
SSLB	Suanglung	31.10	342	eP	P	20 12 06.2	-0.8
	68nm,1.7s						
ARMA	Armidale	31.13	144	eP	P	20 12 09.0	+1.6
	53nm,1.7s						
MNSI	Mandailing Nat	32.15	281	P	P	20 12 17.0	+0.6
	11nm,0.7s						
KULM	Kulim	32.35	289	eP	P	20 12 17.0	-1.1
	28nm,1.4s						
JOW	Kunigami	32.63	355	P	P	20 12 20.4	0.0
	13nm,0.5s,baz=170,slow=6.1,SNR=4.7						
JOW	Kunigami	32.63	355	eP	P	20 12 20.4	0.0
	39nm,1.1s						
PSI	Prapat	33.26	284	eP	P	20 12 25.9	-0.3
	6.6nm,1.1s						
CAN	Canberra	33.62	153	eP	P	20 12 30.8	+1.8
	54nm,1.8s						
GSI	Gunungsitoli	34.22	281	eP	P	20 12 33.9	-0.5
	13nm,1.0s						
CBIJ	Chichi jima	34.50	18	eP	P	20 12 36.1	-0.4
	166nm,1.0s						
KHON	Khomkaen	35.63	309	P	P	20 12 47.0	+0.6
	11nm,0.8s						
CHAI	Chaiyaphum	36.04	307	P	P	20 12 50.0	+0.1

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	4.6nm,0.7s						
PHIT	Phitsanulok	38.00	308	P	P	20 13 07.0	+0.5
	23nm,0.8s						
PAYA	Payao	39.68	310	P	P	20 13 21.1	+0.6
	3.2nm,1.0s						
CM01	Chiang Mai Arr	39.84	308	eP	P	20 13 22.0	+0.2
CM31	Chiang Mai Arr	39.87	308	eP	P	20 13 21.9	-0.2
CMAR	Chiang Mai Arr	39.87	308	P	P	20 13 22.5	+0.4
	6.2nm,0.7s,baz=136,slow=7.3,SNR=72						
CMAR				PcP	PcP	20 15 27.4	+1.7
	1.0nm,0.8s,baz=155,slow=3.0,SNR=5.9						
CHTO	Chiang Mai	40.07	308	eP	P	20 13 23.7	-0.1
	14nm,0.8s						
CMAI	Chiengmai2	40.64	310	P	P	20 13 28.8	+0.2
INU	Inuyama	41.39	7	eP	P	20 13 35.1	+0.9
	36nm,1.6s						
ENH	Enshi	41.49	331	eP	P	20 13 34.6	-0.6
	9.5nm,0.6s						
MJAR	Matsushiro Arr	42.72	8	P	P	20 13 44.4	-0.7
	5.1nm,0.9s,baz=190,slow=10,SNR=14						
MAJO	Matsushiro	42.73	8	eP	P	20 13 44.4	-0.8
	64nm,1.8s						
MJB9	Matsu-Tunnel	42.73	8	eP	P	20 13 44.4	-0.8
	63nm,1.8s						
KS15	Wonju Array Si	43.20	356	eP	P	20 13 48.6	-0.3
KSAR	Wonju Array Be	43.20	356	P	P	20 13 49.1	+0.2
KSRS	Korea Array	43.21	356	P	P	20 13 49.1	+0.2
	1.3nm,0.5s,baz=172,slow=7.8,SNR=7.7						
BJT	Baijiatuau	47.70	344	eP	P	20 14 24.0	-0.3
	8.2nm,0.9s						
SHL	Shillong	49.27	311	eP	P	20 14 36.0	-0.8
SHL	Shillong	49.27	311	eP	P	20 14 35.7	-1.1
	22nm,1.0s						
USRK	Ussuriysk Ar.	49.86	1	P	P	20 14 40.1	-0.7
	3.4nm,0.6s,baz=187,slow=8.7,SNR=7.5						
ASAJ	Asahikawa	50.84	11	P	P	20 14 48.1	0.0
	3.7nm,0.7s,baz=224,slow=4.4,SNR=6.9						
ASAJ	Asahikawa	50.84	11	eP	P	20 14 48.2	0.0
	4.8nm,0.8s						
THZ	Tophouse	51.52	140	eP	P	20 14 54.3	+0.8
	39nm,1.6s						
PALK	Pallekele	51.94	284	eP	P	20 14 57.1	+0.1
	9.5nm,1.1s						
LSA	Lhasa	52.16	315	eP	P	20 14 58.7	-0.1
	8.7nm,0.8s						
BKZ	Black Stump Fm	52.62	136	eP	P	20 15 01.6	0.0
	39nm,1.5s						
ODAN	Odare	53.36	310	eP	P	20 15 07.5	0.0
	44nm,0.7s						
GTA	Gaotai	53.54	330	eP	P	20 15 09.3	+0.9
GTA				pmax	pmax		
	comp=Z,8.0nm,1.0s						
RAMN	Ramite	54.02	309	eP	P	20 15 12.7	+0.5
	93nm,0.7s						
JIRN	Jiri	54.69	310	eP	P	20 15 17.4	+0.1
	61nm,0.8s						
KLR	Kul'dur	54.88	1	P	P	20 15 18.2	+0.5
	0.1nm,0.8s,baz=188,slow=4.1,SNR=6.2						
GUN	Gumba	55.05	310	eP	P	20 15 20.0	+0.2
	39nm,0.5s						
PKIN	Phulchoki	55.26	309	eP	P	20 15 21.5	+0.3
	13nm,0.6s						
KKN	Kakani	55.45	310	eP	P	20 15 22.6	+0.1
	19nm,0.5s						
DMN	Daman	55.49	309	eP	P	20 15 23.0	+0.1
GKN	Gorkha	56.05	309	eP	P	20 15 26.9	+0.1
KOLN	Koldanda	56.74	309	eP	P	20 15 32.1	+0.4
	34nm,0.6s						
DANN	Dangsing	56.89	309	eP	P	20 15 33.3	+0.4
PYUN	Piuthan	57.37	309	eP	P	20 15 36.5	+0.4
	81nm,0.9s						
ULN	Ulaanbaatar	57.55	341	eP	P	20 15 37.2	+0.2
	4.9nm,0.7s						
SONA0	Songino Array	57.74	341	eP	P	20 15 38.7	+0.4
SONM	Songino Array	57.74	341	P	P	20 15 38.7	+0.4
	2.7nm,0.7s,baz=162,slow=7.0,SNR=24						
SONA1	Songino Array	57.75	341	eP	P	20 15 38.9	+0.5
TLY	Talaya	61.97	341	P	P	20 16 07.8	+0.9
	0.9nm,0.2s,baz=166,slow=8.5,SNR=4.5						
CASY	Casey	61.97	189	eP	P	20 16 06.9	+0.2
	93nm,2.0s						
PEA0B	Petropavlovsk-	62.93	18	eP	P	20 16 14.5	+1.2
	140nm,1.8s						
PETK	Petropavlovsk-	62.93	18	P	P	20 16 13.7	+0.3
	4.3nm,0.8s,baz=172,slow=3.7,SNR=6.4						
PETK	Petropavlovsk-	62.93	18	eP	P	20 16 14.0	+0.6
PEA1	Petropavlovsk-	62.94	18	eP	P	20 16 13.7	+0.3
NIL	Nilore	67.32	310	eP	P	20 16 42.2	+0.1
	4.3nm,0.7s						
YAK	Yakutsk	67.72	359	P	P	20 16 43.6	-0.4
	16nm,0.6s,baz=351,slow=0.9,SNR=12						
YAK	Yakutsk	67.72	359	eP	P	20 16 43.4	-0.6
	18nm,0.7s						
MK01	Makanchi Array	67.88	326	eP	P	20 16 45.8	+0.5
MK31	Makanchi Array	67.90	326	eP	P	20 16 46.0	+0.6
MK32	Makanchi Array	67.90	326	eP	P	20 16 46.4	+0.9
MK32				esP	pP	20 17 19.9	+4.4
MKAR	Makanchi Array	67.90	326	P	P	20 16 46.4	+0.9
	7.3nm,0.5s,baz=113,slow=8.8,SNR=175						
MKAR				pP	pP	20 17 19.9	+4.4
	3.6nm,0.6s,baz=122,slow=8.3,SNR=4.4						
MKAR	Makanchi Array	67.90	326	eP	P	20 16 46.0	+0.6
	60nm,0.5s						
MAKZ	Makanchi	68.08	326	eP	P	20 16 47.1	+0.4
	19nm,1.3s						
NRN	Naryn	68.84	319	eP	P	20 16 52.4	+0.6
	4.4nm,0.8s						
KZA	Kyzart	69.64	319	P	P	20 16 58.6	+1.7
	SNR=9.3						
TKM2	Tokmak 2	69.82	320	P	P	20 16 58.8	+1.1
	SNR=9.0						
UCH	Uchtor	70.19	319	P	P	20 17 02.2	+1.9
	SNR=9.1						
AAK	Ala-Archa	70.40	319	eP	P	20 17 01.9	+0.7
	4.0nm,0.9s						
SEY	Seymchan	70.52	10	P	P	20 17 02.0	+0.8
	3.9nm,0.7s,baz=190,slow=7.8,SNR=20						
AML	Almayashu	70.69	318	P	P	20 17 04.8	+1.6
	SNR=14						
USP	Ospenovka	70.69	320	P	P	20 17 03.8	+1.0
	SNR=7.4						
EKS2	Erkin-Say	70.88	319	P	P	20 17 05.6	+1.5
	SNR=9.0						
ZAA0	Zalesovo Array	71.07	333	eP	P	20 17 03.9	-0.8
	6.5nm,0.8s						
ZALV	Zalesovo Beam	71.07	333	P	P	20 17 04.2	-0.5
	5.7nm,0.6s,baz=122,slow=5.1,SNR=36						
ZALV				pP	pP	20 17 38.9	+3.9
	3.9nm,0.7s,baz=118,slow=4.8,SNR=6.3						
ZAA1	Zalesovo Array	71.08	333	eP	P	20 17 04.2	-0.5
ZAA1				esP	pP	20 17 38.9	+3.9
KURBB	Kurchatov Arra	72.14	328	P	P	20 17 11.7	+0.4
	5.2nm,0.7s,baz=127,slow=5.0,SNR=62						
KURBB				pP	pP	20 17 45.3	+3.8
	3.7nm,0.9s,baz=123,slow=5.0,SNR=5.9						
KURK	Kurchatov	72.14	328	eP	P	20 17 11.2	-0.1
	6.6nm,0.8s						
KURK				esP	pP	20 17 45.3	+3.8
KK06	Karatay Array	73.21	318	eP	P	20 17 17.8	0.0
KK05	Karatay Array	73.22	318	eP	P	20 17 18.7	+0.8
KK02	Karatay Array	73.23	318	eP	P	20 17 17.9	0.0
KK31	Karatay Array	73.23	318	eP	P	20 17 18.1	+0.2
KKAR	Karatay Array	73.23	318	eP	P	20 17 18.3	+0.4
KK07	Karatay Array	73.23	318	eP	P	20 17 18.0	+0.1
KK01	Karatay Array	73.23	318	eP	P	20 17 18.0	+0.1
KK04	Karatay Array	73.23	318	eP	P	20 17 17.8	-0.2
KK03	Karatay Array	73.23	318	eP	P	20 17 18.6	+0.6
KK09	Karatay Array	73.24	318	eP	P	20 17 18.1	+0.1
KK08	Karatay Array	73.24	318	eP	P	20 17 18.2	+0.2
VNDA	Vanda	73.42	173	P	P	20 17 19.3	+0.9
	1.2nm,0.8s,baz=308,slow=7.2,SNR=5.8						
VNDA	Vanda	73.42	173	eP	P	20 17 19.3	+0.9
	12nm,2.0s						
MAW	Mawson	76.38	201	eP	P	20 17 36.9	+1.3
	7.8nm,2.0s						
TIXI	Tiksi	77.39	359	eP	P	20 17 40.9	-0.2
	4.2nm,0.9s						
BVAR	Borovoye Array	77.71	327	P	P	20 17 43.6	+0.4
	4.6nm,0.7s,baz=125,slow=7.2,SNR=24						
BRVK	Borovoye	77.78	327	eP	P	20 17 44.0	+0.4
	6.8nm,0.8s						
GYB1	ALIBECK ARRAY	80.32	310	eP	P	20 17 58.7	+0.8
	3.2nm,0.8s						
GYB2	ALIBECK ARRAY	80.32	310	eP	P	20 17 58.2	+0.3
	3.4nm,0.8s						
GYA2	ALIBECK ARRAY	80.33	310	eP	P	20 17 58.3	+0.4
	3.3nm,1.0s						
GEYT	Alibeck	80.33	310	P	P	20 17 58.8	+0.9
	2.4nm,0.7s,baz=98,slow=6.0,SNR=7.6						
GYA0	ALIBECK ARRAY	80.33	310	eP	P	20 17 57.6	-0.3
	2.9nm,0.8s						
GYA0B	ALIBECK ARRAY	80.33	310	eP	P	20 17 57.5	-0.5
	3.1nm,0.8s						
GYB5	ALIBECK ARRAY	80.33	310	eP	P	20 17 58.0	+0.1
	2.0nm,0.6s						
GYB4	ALIBECK ARRAY	80.34	310	eP	P	20 17 57.7	-0.3
	3.4nm,0.8s						
AB06	Akbulak array	82.30	321	eP	P	20 18 08.0	-0.1
AB07	Akbulak array	82.30	321	eP	P	20 18 07.7	-0.3
AB02	Akbulak array	82.31	321	eP	P	20 18 07.8	-0.3
AB03	Akbulak array	82.31	321	eP	P	20 18 07.9	-0.2
AB01	Akbulak array	82.32	321	eP	P	20 18 08.0	-0.1
AB31	Akbulak array	82.32	321	eP	P	20 18 07.8	-0.2
ABKAR	Akbulak array	82.32	321	eP	P	20 18 07.6	-0.5
	11nm,0.9s						
AB04	Akbulak array	82.32	321	eP	P	20 18 07.8	-0.3
AB08	Akbulak array	82.32	321	eP	P	20 18 08.0	-0.1
AB05	Akbulak array	82.32	321	eP	P	20 18 07.8	-0.3
AB09	Akbulak array	82.33	321	eP	P	20 18 07.0	-1.2
SDPT	Sand Point	82.80	32	eP	P	20 18 10.5	0.0
	106nm,1.7s						
QSPA	South Pole Qui	84.09	180	P	P	20 18 16.8	-0.3
	3.6nm,0.7s,baz=317,slow=7.8,SNR=9.1						
CHGN	Chignik	84.22	32	eP	P	20 18 17.3	-0.4
	35nm,1.4s						
ARU	Arti	85.34	328	eP	P	20 18 22.0	-1.3
	4.3nm,0.7s						
OHAK	Old Harbor	87.19	32	eP	P	20 18 33.5	+1.1
	47nm,1.8s						
KDAK	Kodiak Island	87.71	31	eP	P	20 18 35.9	+1.1
	32nm,1.6s						
RAYN	Ar Rayn	88.29	294	eP	P	20 18 38.2	-0.3
	3.2nm,1.1s						
PPLA	Purkeypile	89.19	26	eP	P	20 18 41.7	-0.2
	20nm,1.6s						
SKT	Skwentna	89.26	27	eP	P	20 18 42.2	+0.1
	20nm,1.8s						
IM3	Indian Mountai	89.35	23	eP	P	20 18 43.0	+0.6
CAST	Castle Rocks	89.36	26	eP	P	20 18 43.7	+1.2
	13nm,1.9s						
RC01	Rabbit Creek A	89.89	29	eP	P	20 18 45.5	+0.5
	5.8nm,1.0s						
KTH	Kantishna Hill	89.90	26	eP	P	20 18 46.4	+1.3
	27nm,1.9s						
ILAR	Eielson Array	91.88	25	P	P	20 18 52.9	-1.3
	0.5nm,0.7s,baz=268,slow=4.4,SNR=8.4						
ILAR				pP	pP	20 19 28.6	+3.0
	0.4nm,0.6s,baz=264,slow=4.3,SNR=3.4						

BJI ***07*** *20:09:37.4, 6.°19S×130.°90E, h83km, mb5.4/71, mB5.2/45, Ms4.7/30, Ms7 4.6/14*

MOS ***07*** *20:09:38.4±0.9, 6.°01S×130.°69E, h72km, mb5.3/51, Error ellipse: s-maj=9.4km s-min=5.3km az=115.3*

ISCJB ***07*** *20:09:38.9±0.4, 6.°03S±0.°02×130.°79E±0.°02, h79km±3km, mb5.2/164, Error ellipse: s-maj=3.8km s-min=2.9km az=156.3*

NEIC ***07*** *20:09:40.5±0.1, 6.°06S×130.°68E, mb5.2/93, Error ellipse: s-maj=4.0km s-min=2.9km az=60.0*

GCMT ***07*** *20:09:40.5±0.2, 6.°02S×130.°80E, h80km±3km, MW5.1/88, Moment Tensor Solution. s52,c74; s88,c133; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.13±.18; $M_{\theta\theta}$-0.48±.15; $M_{\phi\phi}$0.60±.18; $M_{r\theta}$-2.26±.08; $M_{\theta\phi}$-0.72±.13; $M_{\phi r}$-4.22±.10; Best double couple: $M_0$4.86400×10^{16} NP1:ϕ_s207.00000°,δ90.00000°,λ80.00000°. NP2: ϕ_s116.00000°,δ10.00000°,λ179.00000°. Principal axes: T 4.6880, Plg44.0000°, Azm107.0000°; N 0.3510, Plg10.0000°, Azm207.0000°; P -5.0390, Plg44.0000°, Azm307.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

IDC ***07*** *20:09:41.0±0.3, 6.°04S×130.°68E, h79km±2km, mb4.8/46, mb1 4.8/49, mb1mx4.7/56, mbtmp5.1/49, MS3.8/18, Ms1 3.9/18, ms1mx3.7/35 Error ellipse: s-maj=10.1km s-min=7.0km az=74.0*

DJA ***07*** *20:09:41.3±0.2, 6°S±2°×13°1E±°, h88km±3km, M5.1/37, mb5.3/37, mB5.6/25, MLv5.4/8, Mw(mB)5.1/25*

ISC 07 20:09:40.1±0.2**, 6.°01S**±0.°03×**130.°83E**±0.°04**, h76**km±1km**, h76**km**:pP-P, n540,** σ1.°**50**/659**, mb5.2**/165**, 12C-18D, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BNDI	Bandanaira	1.75	328	P	Pn	20 10 08.6	+0.1
BNDI				S	Sn	20 10 29.3	-0.8
SAUI	Saumlaki	2.01	167	P	Pn	20 10 13.0	+0.9
SAUI				S	Sn	20 10 38.5	+2.1
SAUI	Saumlaki	2.01	167	ePn	Pn	20 10 12.5	+0.4
SAUI				eSn	Sn	20 10 32.7	-3.7
MSAI	Masohi	3.26	324	P	Pn	20 10 30.0	+1.1
MSAI				S	Sn	20 11 06.3	-0.3
FAKI	Fak Fak	3.38	25	P	Pn	20 10 30.7	+0.1
FAKI				S	Sn	20 11 10.5	+0.9
FAKI	Fak Fak	3.38	25	ePn	Pn	20 10 30.8	+0.1
FAKI				eSn	Sn	20 11 03.6	-6.0
AAI	Ambon	3.50	311	P	Pn	20 10 31.1	-1.1
NLAI	Namlea	4.63	306	P	Pn	20 10 48.9	+1.3
SIJI	Sorong	5.13	5	P	Pn	20 10 53.8	-0.7
	64nm,0.3s,baz=193,slow=23,SNR=30						
SIJI				S	Sn	20 11 48.7	-3.6
	111nm,0.3s,baz=221,slow=23,SNR=12						
SWI	Sorong	5.13	5	P	Pn	20 10 54.7	+0.2
	259nm,0.5s,13μm3.8nm						
SWI				S	Sn	20 11 49.1	-3.3
	259nm,0.5s,13μm3.8nm						
SANI	Sanana	6.23	309	P	Pn	20 11 10.3	+0.8
	2μm,1.1s,15μm6.4nm						
SANI				S	Sn	20 12 20.6	+1.2
	2μm,1.1s,15μm6.4nm						
LBMI	Labuha	6.29	328	P	Pn	20 11 09.7	-0.6
	366nm,0.8s,6μm2.0nm						
MTN	Manton Dam	6.79	178	ePn	Pn	20 11 15.2	-2.0
MTN				eSn	Sn	20 12 28.6	-4.5
SOEI	Soe	7.49	240	P	Pn	20 11 26.4	-0.4
	497nm,0.9s,5μm2.4nm						
SOEI	Soe	7.49	240	ePn	Pn	20 11 26.5	-0.3
SOEI				eSn	Sn	20 12 51.7	+1.3
TNTI	Ternate	7.58	333	ePn	Pn	20 11 26.5	-1.3
BATI	Baumata	8.23	239	P	Pn	20 11 36.1	-0.7
	30nm,0.3s,baz=266,slow=10,SNR=39						
BATI				S	Sn	20 13 08.9	+0.5
	13nm,0.3s,baz=287,slow=19,SNR=3.4						
BATI	Baumata	8.23	239	P	Pn	20 11 36.5	-0.4
	186nm,0.6s,2μm						
BBSI	Bau Bau	8.24	273	P	Pn	20 11 39.5	+2.6
	179nm,1.3s,2μm						
LUWI	Luwuk	9.44	301	P	Pn	20 11 56.2	+2.9
	644nm,1.7s,10μm						
LUWI	Luwuk	9.44	301	ePn	Pn	20 11 54.2	+0.9
KMSI	Cibinong	9.47	313	P	Pn	20 11 54.8	+1.1
BSSI	Bau Bau, Buton	10.29	269	P	Pn	20 12 08.3	+3.4
	630nm,0.8s,7μm						
JAY	Jayapura	10.44	71	P	Pn	20 12 08.3	+1.3
	413nm,0.9s,8μm						
APSI	Ampana	10.47	299	P	Pn	20 12 09.3	+1.9
	344nm,1.4s,9μm						
BNSI	Bone	10.80	278	P	Pn	20 12 13.8	+1.9
	217nm,0.8s,2μm						
MRSI	Marisa	10.97	306	P	Pn	20 12 15.4	+1.2
	179nm,1.0s,2μm						
KAPI	Kappang	11.08	275	P	Pn	20 12 18.0	+2.4
	SNR=32						
KAPI	Kappang	11.08	275	Pn	Pn	20 12 18.0	+2.4
	SNR=32						
MPSI	Mapaga	12.61	300	P	Pn	20 12 37.8	+1.3
	51nm,0.9s,1μm						
PLAI	Plampang	13.25	257	P	P	20 12 50.1	-2.1
	87nm,0.8s,1μm						
DAV	Davao City (W)	14.01	338	P	Pn	20 12 57.2	+2.1
	33nm,0.3s,baz=171,slow=2.4,SNR=5.6						
DAV	Davao City (W)	14.01	338	ePn	Pn	20 12 52.0	-3.2
DAV	Davao City (W)	14.01	338	P	P	20 13 03.3	+2.6
	SNR=14						
DAV	Davao City (W)	14.01	338	Pn	P	20 13 03.3	+2.6
	SNR=14						
WR1	Warramunga Arr	14.26	166	ePn	Pn	20 12 52.6	-5.8
WR1				eSn	Sn	20 15 23.4	-12
WRA	Warramunga Arr	14.26	166	P	Pn	20 12 52.6	-5.8
	14nm,0.3s,baz=345,slow=13,SNR=7.7						
WRA				S	Sn	20 15 23.4	-12
	41nm,0.3s,baz=349,slow=22,SNR=10						
SGKI	Sangatta, Kali	14.28	292	P	P	20 13 11.3	+7.6
COEN	Coen	14.49	124	ePn	Pn	20 12 57.6	-3.7
COEN				eSn	Sn	20 15 26.9	-14
KBKI	Kotabaru	14.86	280	P	Pn	20 13 07.9	+1.7
SRBI	Singaraja	15.64	262	P	P	20 13 17.8	-0.9
BUTP	Butuan	15.76	341	eP	Pn	20 13 18.1	+0.4
PMG	Port Moresby	16.52	103	P	P	20 13 29.2	+0.7
	8.0nm,0.3s,baz=296,slow=8.1,SNR=27						
PMG				S	Sn	20 16 21.1	-9.1
	3.7nm,0.3s,baz=37,slow=20,SNR=4.3						
PMG	Port Moresby	16.52	103	ePn	P	20 13 29.2	+0.7
	214nm,1.1s						
PMG				eSn	Sn	20 16 21.1	-9.1
PMG	Port Moresby	16.52	103c	iP	P	20 13 29.1	+0.5
PMG				pmax	pmax		
	comp=Z,764nm,1.1s						
MYLDM	Lahad Datu	16.59	312	ePn	Pn	20 13 28.2	+0.2
	comp=Z,318nm,1.3s						
MTKI	Muara Teweh, K	16.68	287	P	Pn	20 13 29.7	+0.5
JAGI	Jajag, Banyuwa	16.73	261	ePn	Pn	20 13 26.7	-3.0
	comp=Z,82nm,1.0s						
KMMI	Kalianget	16.79	266	P	P	20 13 31.6	+0.1
MANU	Manus Island	16.95	77	ePn	P	20 13 35.1	+1.8
	comp=Z,601nm,0.1s						
MSLP	Maasin	17.11	340	eP	P	20 13 37.1	+2.1
BLJI	Banyuglugur	17.20	263	P	P	20 13 36.3	+0.2
LLP	Lapu-Lapu	17.61	337⇓	eP	P	20 13 40.4	-0.1
AS31	Alice Springs	17.80	171	eP	P	20 13 40.0	-2.7
	comp=Z,70nm,0.6s						
AS31				eSn	Sn	20 16 43.6	-17
ASAR	Alice Springs	17.80	171	P	P	20 13 39.9	-2.7
	comp=Z,11nm,0.3s,baz=354,slow=11,SNR=6.1						
ASAR				S	Sn	20 16 48.6	-12
	comp=Z,11nm,0.3s,baz=0.7,slow=27,SNR=7.3						
ASAR				LR	LR	20 21 13.1	
	comp=Z,672nm,21.7s,baz=355,slow=39						
AS01	Alice Springs	17.81	171	eP	P	20 13 40.8	-1.9
MTSU	Mount Surprise	17.84	134	P	P	20 13 43.3	+0.1
	baz=18,SNR=6.4						
PLP	Palo	18.03	341⇓	eP	P	20 13 44.0	-1.2
MBWA	Marble Bar	18.51	214	eP	P	20 13 48.8	-1.6
	comp=Z,58nm,0.8s						
KKM	Kota Kinabalu	18.88	309	eP	P	20 13 54.6	0.0
	comp=Z,138nm,0.8s						
TBJI	Tambak Boyo	18.88	267	P	Pn	20 13 56.3	+0.3
RCP	Roxas	19.22	335⇑	eP	Pn	20 14 00.3	+0.4
PBKI	Pangkalan Bun	19.39	279	P	P	20 14 00.1	0.0
STKI	Sintang	20.24	287	P	P	20 14 09.2	-0.2
OTRP	Odiongan	20.25	334	eP	Pn	20 14 10.9	-1.1
UGM	Wanagama	20.25	263	eP	P	20 14 07.1	-2.3
	comp=Z,151nm,1.1s						
SBUM	Sibu	20.40	294	eP	P	20 14 09.9	-1.2
	comp=Z,74nm,1.0s						
CTA	Charters Tower	20.50	134	P	P	20 14 13.3	+1.2
	comp=Z,98nm,0.8s,baz=311,slow=12,SNR=53						
CTA				S	Sn	20 18 07.2	+1.4
	comp=Z,18nm,1.0s,baz=45,slow=20,SNR=4.1						
CTA				LR	LR	20 22 57.1	
	comp=Z,1μm,21.5s,baz=318,slow=39						
CTAO	Charters Tower	20.50	134	eP	P	20 14 13.6	+1.5
	comp=Z,296nm,1.3s						
CTAO	Charters Tower	20.50	134	eP	Pn	20 14 13.6	-1.3
CTAO				pmax	pmax		
	comp=Z,296nm,1.3s						
PVCP	Virac	20.58	341	eP	Pn	20 14 14.6	-1.3
SJMP	San Jose	20.74	332	eP	P	20 14 15.9	+1.3
AUQP	San Andres	20.85	337	eP	Pn	20 14 21.6	+2.5
BOAC	Boac	21.30	335	eP	P	20 14 22.2	+1.5
RABL	Rabaul	21.32	86	eP	P	20 14 23.1	+2.1
	comp=Z,211nm,1.1s						
KPJI	Karang Pucung	21.79	265	P	P	20 14 26.1	+0.1
KSM	Kuching	21.80	289	eP	P	20 14 24.7	-1.4
	comp=Z,44nm,1.0s						
LUBP	Lubang	22.26	332	eP	P	20 14 31.6	+0.6
TGY	Tagaytay City	22.27	334	P	P	20 14 32.0	+0.9
	comp=Z,126nm,0.3s,baz=128,slow=17,SNR=12						
JCJI	Jatiwangi	22.43	268	P	P	20 14 34.5	+1.6
	comp=Z,118nm,0.8s,comp=Z,4μm						
CISI	Cisompet, Garu	22.91	265	P	P	20 14 33.9	-4.0
CISI	Cisompet, Garu	22.91	265	eP	P	20 14 33.5	-4.4
	comp=Z,180nm,0.8s						
GIRL	Giralia	23.02	222	P	P	20 14 38.8	-0.1
	baz=23,SNR=9.6						
LEM	Lembang	23.09	267	P	P	20 14 38.5	-1.2
	comp=Z,115nm,0.9s,baz=52,slow=8.5,SNR=25						
LEM				LR	LR	20 24 41.0	
	comp=Z,654nm,20.1s,baz=74,slow=39						
LEM	Lembang	23.09	267	ePcP	P	20 14 38.5	-1.2
BALP	Baler	23.48	337	eP	P	20 14 42.4	-0.7
MEEK	Meekatharra	23.59	208	P	P	20 14 43.3	-0.9
	baz=24,SNR=17						
CBJI	Citeko	23.85	268	P	P	20 14 43.9	-2.7
GUMO	Guam	23.95	36	P	P	20 14 48.6	+1.2
	comp=Z,84nm,0.7s,baz=176,slow=23,SNR=4.8						
GUMO				LR	LR	20 25 52.0	
	comp=Z,54nm,19.1s,baz=204,slow=40						
QLP	Quilpie	24.12	149	P	P	20 14 49.9	+1.0
	baz=24,SNR=14						
SKJI	Sukabumi	24.14	266	P	P	20 14 49.1	-0.1
	comp=Z,163nm,0.8s,comp=Z,2μm						
SCZP	Santa Cruz	24.20	334	eP	P	20 14 48.4	-1.3
BOLP	Bolinao	24.73	334	eP	P	20 14 53.6	-0.9
FORT	Forrest	24.77	186	P	P	20 14 54.6	-0.2
	baz=25,SNR=18						
FORT	Forrest	24.77	186	eP	P	20 14 54.3	-0.5
	comp=Z,3μm,0.8s						
CGJI	Cibinong	25.00	267	P	P	20 14 55.7	-1.3
APYP	Conner	25.54	338	eP	P	20 15 00.7	-1.2
ABRA	Dolores	25.55	337	eP	P	20 15 01.0	-0.9
KMBL	Kambalda	26.58	197	P	P	20 15 11.0	-0.2
	baz=27,SNR=33						
MDSI	Maura Dua	26.59	272	P	P	20 15 09.7	-1.7
RMQ	Roma	26.59	142	P	P	20 15 12.2	+0.9
	baz=27,SNR=6.3						
MORW	Morawa	26.86	210	P	P	20 15 12.9	-0.8
	baz=27,SNR=11						
BBOO	Buckleboo	27.10	170	P	P	20 15 15.3	-0.5
	baz=27,SNR=11						
BBOO	Buckleboo	27.10	170	eP	P	20 15 15.1	-0.8
	comp=Z,124nm,1.3s						
TPRI	Tanjung Pinang	27.15	284	P	P	20 15 16.5	0.0
EIDS	Eidsvold	27.32	137	P	P	20 15 17.6	-0.2
	baz=27,SNR=6.3						
STKA	Stephens Creek	27.63	160	P	P	20 15 20.6	+0.1
	comp=Z,7.9nm,0.4s,baz=331,slow=9.1,SNR=23						
STKA				LR	LR	20 27 46.8	
	comp=Z,1μm,20.2s,baz=332,slow=39						
STKA	Stephens Creek	27.63	160	P	P	20 15 20.7	+0.1
	baz=28,SNR=5.0						
STKA	Stephens Creek	27.63	160	eP	P	20 15 20.2	-0.3
	comp=Z,8.3nm,0.6s						
BLDU	Ballidu	27.84	207	P	P	20 15 22.1	-0.4
	baz=28,SNR=21						
KLBR	Kellerberrin	28.24	204	P	P	20 15 25.6	-0.4
	baz=28,SNR=27						
HTT	Hallett	28.30	166	P	P	20 15 26.8	+0.3
	baz=28,SNR=7.5						
CMSA	Cobar Meteorol	28.96	153	P	P	20 15 33.6	+1.2
	baz=29,SNR=20						
HNR	Honiara	29.04	99	P	P	20 15 34.0	+0.6
	comp=Z,112nm,0.7s,baz=175,slow=4.7,SNR=5.1						
HNR	Honiara	29.04	99	P	P	20 15 34.0	+0.6
HNR				pmax	pmax		
	comp=Z,112nm,0.7s						
MUN	Mundaring	29.23	206	P	P	20 15 34.1	-0.7
	baz=29,SNR=5.3						
NWAO	Narrogin (SRO)	29.62	204	P	P	20 15 36.8	-1.5
	comp=Z,20nm,0.5s,baz=271,slow=7.1,SNR=16						
NWAO				pP	pP	20 15 57.2	+1.0
	comp=Z,12nm,0.5s,baz=256,slow=7.2,SNR=3.8						
YULB	Yu-li	30.67	343	eP	P	20 15 46.2	-1.4
	comp=Z,23nm,1.0s						
PDSI	Padang	30.73	278	P	P	20 15 48.1	-0.2
	comp=Z,10nm,0.7s						
ARMA	Armidale	31.18	144	P	P	20 15 53.1	+0.9
	baz=31,SNR=7.1						
ARMA	Armidale	31.18	144	eP	P	20 15 53.6	+1.5
	comp=Z,27nm,1.1s						
RKGY	Rocky Gully	31.21	202	P	P	20 15 53.6	+1.4
	baz=31,SNR=12						
NACB	Ninganchiao	31.33	344	eP	P	20 15 51.8	-1.5
	comp=Z,119nm,1.8s						
YHNB	Yeheng	31.86	344	eP	P	20 15 57.4	-0.7
	comp=Z,114nm,1.4s						
MNSI	Mandailing Nat	31.93	281	P	P	20 15 56.9	-1.9

TATO	**Taipei**	**32.12**	**344**	*e*P	**P**	**20 15 59.7**	**-0.6**
	comp=Z,215nm,1.4s						
KULM	**Kulim**	**32.16**	**290**	*e*P	**P**	**20 15 59.0**	**-1.9**
	comp=Z,18nm,0.9s						
ARPS	**Mount Arapiles**	**32.23**	**163**	P	**P**	**20 16 02.1**	**+1.0**
	baz=32,SNR=11						
QIZ	**Qiongzhong**	**32.36**	**321**	P	**P**	**20 16 00.9**	**-1.6**
QIZ				S	**S**	**20 21 11.8**	**+0.5**
QIZ				pmax	pmax		
	comp=Z,110nm,3.0s						
YNG	**Young**	**32.50**	**152**	P	**P**	**20 16 05.0**	**+1.3**
	baz=33,SNR=21						
JOW	**Kunigami**	**32.74**	**356**	P	**P**	**20 16 06.4**	**+0.7**
	comp=Z,89nm,0.7s,baz=174,slow=2.0,SNR=13						
JOW				pP	**pP**	**20 16 25.9**	**+2.1**
	comp=Z,60nm,0.8s,baz=326,slow=4.6,SNR=5.3						
JOW	**Kunigami**	**32.74**	**356**	*e*P	**P**	**20 16 06.8**	**+1.0**
	comp=Z,100nm,0.8s						
JOW				pP	**pP**	**20 16 25.9**	**+2.1**
MGCD	**Mangrove Creek**	**32.98**	**148**	P	**P**	**20 16 10.1**	**+2.3**
	baz=33,SNR=6.1						
PSI	**Prapat**	**33.05**	**284**	P	**P**	**20 16 06.2**	**-2.6**
	comp=Z,12nm,0.7s,baz=169,slow=5.2,SNR=8.4						
PSI				pP	**pP**	**20 16 27.1**	**+0.2**
	comp=Z,6.9nm,0.7s,baz=103,slow=6.0,SNR=2.8						
PSI				LR	LR	20 30 18.3	
	comp=Z,598nm,20.6s,baz=98,slow=38						
PSI	**Prapat**	**33.05**	**284**	*e*P	**P**	**20 16 05.4**	**-3.4**
	comp=Z,32nm,1.2s						
PSI				pP	**pP**	**20 16 27.1**	**+0.2**
CAN	**Canberra**	**33.63**	**153**	*e*P	**P**	**20 16 14.5**	**+1.0**
	comp=Z,51nm,0.9s						
CAN	**Canberra**	**33.63**	**153**	*e*P	**P**	**20 16 14.5**	**+1.0**
CAN				pmax	pmax		
	comp=Z,51nm,0.9s						
CNB	**Canberra Magne**	**33.79**	**152**	P	**P**	**20 16 16.4**	**+1.5**
	baz=34,SNR=14						
GSI	**Gunungsitoli**	**33.99**	**281**	P	**P**	**20 16 19.3**	**+2.4**
	comp=Z,36nm,1.0s						
GSI	**Gunungsitoli**	**33.99**	**281**	*e*P	**P**	**20 16 14.3**	**-2.6**
	comp=Z,39nm,1.1s						
TOO	**Toolangi**	**34.14**	**159**	P	**P**	**20 16 18.8**	**+1.0**
	baz=34,SNR=11						
CBIJ	**Chichi jima**	**34.70**	**18**	P	**P**	**20 16 22.7**	**0.0**
JCJ	**Chichijima**	**34.70**	**18**	P	**P**	**20 16 22.7**	**0.0**
	comp=Z,64nm,0.4s,baz=240,slow=16,SNR=4.3						
SKNT	**Sakolnakorn**	**35.02**	**311**	P	**P**	**20 16 24.0**	**-1.6**
	comp=Z,31nm,0.9s						
KHON	**Khomkaen**	**35.51**	**309**	P	**P**	**20 16 29.5**	**-0.4**
	comp=Z,74nm,0.8s,comp=Z,655nm						
NAYO	**Nakonayok**	**35.57**	**305**	P	**P**	**20 16 30.0**	**-0.4**
	comp=Z,29nm,1.0s,comp=Z,15µm						
LHMI	**Lhok Sumawe**	**35.63**	**288**	*e*P	**P**	**20 16 28.2**	**-2.7**
	comp=Z,73nm,1.0s						
MLSI	**Meulaboh, Aceh**	**35.86**	**286**	P	**P**	**20 16 33.6**	**+0.6**
CHAI	**Chaiyaphum**	**35.91**	**308**	P	**P**	**20 16 32.4**	**-0.9**
	comp=Z,35nm,0.8s,comp=Z,279nm						
PBKT	**Sadao Pong**	**37.09**	**308**	P	**P**	**20 16 41.5**	**-1.8**
	comp=Z,28nm,0.8s,comp=Z,932nm						
SRDT	**SRDT**	**37.40**	**303**	P	**P**	**20 16 44.9**	**-1.1**
	comp=Z,57nm,1.1s,comp=Z,2µm						
PHIT	**Phitsanulok**	**37.88**	**308**	P	**P**	**20 16 49.8**	**-0.2**
	comp=Z,149nm,0.8s,comp=Z,1µm						
DZM	**Mont Dzumac**	**37.92**	**118**	*e*P	**P**	**20 16 51.1**	**+0.7**
	comp=Z,74nm,1.1s						
DZM	**Mont Dzumac**	**37.92**	**118**	*e*LR	LR	20 27 16.3	
	comp=Z,2µm,33.5s						
DZM	**Mont Dzumac**	**37.92**	**118**	P	**P**	**20 16 51.7**	**+1.3**
	comp=Z,12nm,0.9s,baz=250,slow=5.9,SNR=13						
DZM	**Mont Dzumac**	**37.92**	**118**	*e*P	**P**	**20 16 51.6**	**+1.3**
	comp=Z,34nm,1.0s						
JNU	**Nakatsue**	**38.92**	**0**	P	**P**	**20 16 58.8**	**+0.3**
	comp=Z,26nm,1.0s,baz=319,slow=1.4,SNR=13						
JNU	**Nakatsue**	**38.92**	**0**	*e*P	**P**	**20 16 58.5**	**0.0**
	comp=Z,47nm,1.1s						
MOO	**Moorlands**	**39.07**	**161**	P	**P**	**20 17 01.5**	**+1.9**
	baz=39,SNR=4.8						
NJ2	**Nanjing**	**39.54**	**344**	*e*P	**P**	**20 17 04.9**	**+1.3**
NJ2				pmax	pmax		
	comp=Z,62nm,0.7s						
PAYA	**Payao**	**39.56**	**310**	P	**P**	**20 17 03.6**	**-0.5**
	comp=Z,21nm,0.9s,comp=Z,193nm						
WHN	**Wuhan**	**39.63**	**337**	⇓*i*P	**P**	**20 17 05.5**	**+1.1**
WHN				sP	**sP**	**20 17 30.3**	**-1.4**
WHN				pmax	pmax		
	comp=Z,250nm,0.9s						
CM01	**Chiang Mai Arr**	**39.72**	**308**	*e*P	**P**	**20 17 04.7**	**-0.7**
CM31	**Chiang Mai Arr**	**39.75**	**308**	*e*P	**P**	**20 17 05.3**	**-0.3**
CM31				*e*PcP	**PcP**	**20 19 12.1**	**+1.2**
CMAR	**Chiang Mai Arr**	**39.75**	**308**	P	**P**	**20 17 05.2**	**-0.5**
	comp=Z,42nm,0.7s,baz=136,slow=7.4,SNR=269						
CMAR				PcP	**PcP**	**20 19 12.4**	**+1.5**
	comp=Z,5.5nm,0.8s,baz=170,slow=2.7,SNR=6.0						
CMAR				LR	LR	20 34 01.1	
	comp=Z,192nm,21.8s,baz=149,slow=37						
GYA	**Guiyang**	**39.89**	**325**	⇑*i*P	**P**	**20 17 07.0**	**+0.2**
GYA				pP	pP	20 17 27.4	+2.1
GYA				sP	sP	20 17 36.8	+2.8
GYA				PP	**PnPn**	**20 18 45.0**	**+1.1**
GYA				PcP	**PcP**	**20 19 13.3**	**+2.0**
GYA				ScP	**ScP**	**20 22 54.0**	**+0.3**
GYA				S	**S**	**20 23 08.9**	**+2.5**
GYA				sS	sS	20 23 41.4	+3.5
GYA				SS	**SS**	**20 26 01.0**	**-4.8**
GYA				pmax	pmax		
	comp=Z,20nm,0.8s						
GYA				pmax	pmax		
	comp=Z,130nm,5.2s						
GYA				LR	LR		
	comp=Z,580nm,18.0s						
GYA				LR	LR		
	comp=Z,520nm,18.4s						
GYA				LR	LR		
	comp=Z,540nm,18.9s						
CHTO	**Chiang Mai**	**39.96**	**309**	P	**P**	**20 17 06.8**	**-0.6**
	comp=Z,574nm,1.0s,comp=Z,5µm						
CHTO	**Chiang Mai**	**39.96**	**309**	*e*P	**P**	**20 17 06.6**	**-0.8**
	comp=Z,86nm,0.8s						
CHTO	**Chiang Mai**	**39.96**	**309**	*e*P	**P**	**20 17 06.6**	**-0.8**
CHTO				pmax	pmax		
	comp=Z,86nm,0.8s						
CMAI	**Chiengmai2**	**40.53**	**310**	P	**P**	**20 17 11.6**	**-0.7**
	comp=Z,539nm,1.0s,comp=Z,155µm						
KMI	**Kunming**	**41.29**	**320**	P	**P**	**20 17 19.2**	**+0.7**
KMI				PP	**PnPn**	**20 18 57.9**	**-2.5**
KMI				S	**S**	**20 23 28.1**	**+0.6**
KMI				pmax	pmax		
	comp=Z,35nm,1.4s						
KMI				pmax	pmax		
	comp=Z,150nm,3.1s						
KMI				LR	LR		
	comp=Z,100nm,15.9s						
KMI				LR	LR		
	comp=Z,170nm,18.6s						
ENH	**Enshi**	**41.48**	**332**	*e*P	**P**	**20 17 19.4**	**-0.4**
	comp=Z,97nm,0.8s						
NFK	**Norfolk Island**	**41.86**	**128**	P	**P**	**20 17 21.4**	**-1.5**
	baz=42,SNR=4.6						
TJN	**Taejon**	**42.29**	**356**	⇑*i*P	**P**	**20 17 26.9**	**+0.7**
MAJO	**Matsushiro**	**42.89**	**9**	*e*P	**P**	**20 17 30.9**	**-0.2**
	comp=Z,53nm,0.8s						
MAJO				*e*		20 34 19.1	
MAJO	**Matsushiro**	**42.89**	**9**	*i*P	**P**	**20 17 30.2**	**-0.9**
MAJO				pmax	pmax		
	comp=Z,25nm,0.9s						
MJAR	**Matsushiro Arr**	**42.89**	**9**	P	**P**	**20 17 30.5**	**-0.6**
	comp=Z,12nm,0.8s,baz=194,slow=11,SNR=34						
MJAR				LR	LR	20 34 19.1	
	comp=Z,105nm,21.5s,baz=215,slow=34						
MJAR	**Matsushiro Arr**	**42.89**	**9**	P	**P**	**20 17 30.5**	**-0.6**
MJAR				pmax	pmax		
	comp=Z,14nm,0.9s						
MJAR				MLR	MLR		
	comp=Z,105nm,21.5s						
MJB9	**Matsu-Tunnel**	**42.89**	**9**	*e*P	**P**	**20 17 30.8**	**-0.4**
	comp=Z,53nm,0.8s						
KS15	**Wonju Array Si**	**43.32**	**357**	*e*P	**P**	**20 17 35.1**	**+0.7**
KS15				*e*PP	**PcP**	**20 19 22.7**	**+0.5**
KSAR	**Wonju Array Be**	**43.32**	**357**	P	**P**	**20 17 35.3**	**+0.8**
KSAR				PcP	**PcP**	**20 19 23.3**	**+1.2**
KSAR	**Wonju Array Be**	**43.32**	**357**	P	**P**	**20 17 35.3**	**+0.8**
KSAR						20 19 23.3	
KSRS	**Korea Array**	**43.33**	**357**	P	**P**	**20 17 35.3**	**+0.8**
	comp=Z,7.9nm,0.6s,baz=170,slow=8.2,SNR=47						
KSRS				PcP	**PcP**	**20 19 23.3**	**+1.1**
	comp=Z,3.4nm,0.7s,baz=181,slow=3.1,SNR=5.4						
KS01	**Wonju Array Si**	**43.35**	**357**	*e*P	**P**	**20 17 35.1**	**+0.3**
KS01				*e*PP	**PcP**	**20 19 23.4**	**+1.1**
TIA	**Tai'an**	**43.93**	**344**	P	**P**	**20 17 38.7**	**-0.8**
TIA				pmax	pmax		
	comp=Z,23nm,0.9s						
XAN	**Xi'an**	**44.91**	**334**	P	**P**	**20 17 47.0**	**-0.4**
XAN				pP	pP	20 18 05.6	-0.5
XAN				sP	sP	20 18 14.5	-0.3
XAN				PP	**PP**	**20 19 37.4**	**+3.7**
XAN				S	**S**	**20 24 14.9**	**-5.0**
XAN				pmax	pmax		
	comp=Z,110nm,0.8s						
XAN				pmax	pmax		
	comp=Z,240nm,2.6s						
CD2	**Chengdu**	**44.93**	**326**	⇓P	**P**	**20 17 47.2**	**-0.4**
CD2				pP	pP	20 18 05.9	-0.5
CD2				sP	sP	20 18 14.9	-0.2
CD2				PcS	**PcS**	**20 23 20.6**	**-1.2**
CD2				S	**S**	**20 24 21.1**	**+0.8**
CD2				pmax	pmax		
	comp=Z,60nm,0.6s						
CD2				pmax	pmax		
	comp=Z,160nm,5.0s						
MSVF	**Nonsavu**	**47.52**	**108**	*i*P	**P**	**20 18 08.7**	**+0.5**
MSVF				pmax	pmax		
	comp=Z,13nm,1.0s						
BJT	**Baijiatuau**	**47.76**	**345**	*e*P	**P**	**20 18 09.8**	**+0.3**
	comp=Z,90nm,0.7s						
BJT	**Baijiatuau**	**47.76**	**345**	*e*P	**P**	**20 18 09.8**	**+0.3**
BJT				pmax	pmax		
	comp=Z,90nm,0.7s						
BJI	**Beijing**	**47.78**	**345**	⇓*i*P	**P**	**20 18 10.2**	**+0.5**
BJI				pP	**pP**	**20 18 30.9**	**+2.3**
BJI				PcP	**PcP**	**20 19 38.6**	**+1.0**
BJI				pmax	pmax		
	comp=Z,150nm,0.6s						
LZH	**Lanzhou**	**48.94**	**331**	*e*P	**P**	**20 18 19.7**	**+0.8**
LZH				pP	pP	20 18 40.5	+2.6
LZH				sP	sP	20 18 48.2	+1.6
LZH				PcP	**PcP**	**20 19 43.9**	**+1.7**
LZH				PP	**PP**	**20 20 10.0**	**-3.1**
LZH				*e*S	**S**	**20 25 15.5**	**-2.0**
LZH				pmax	pmax		
	comp=Z,61nm,1.1s						
LZH				pmax	pmax		
	comp=Z,250nm,4.3s						
SHL	**Shillong**	**49.16**	**311**	*e*P	**P**	**20 18 19.8**	**-1.0**
	comp=Z,35nm,0.7s						
SHL				*e*PcP	**PcP**	**20 19 43.7**	**+0.5**
SHL	**Shillong**	**49.16**	**311**	*e*P	**P**	**20 18 19.8**	**-1.0**
SHL				*e*		20 19 43.7	
SHL				pmax	pmax		
	comp=Z,35nm,0.7s						
SHL	**Shillong**	**49.16**	**311**	*e*P	**P**	**20 18 20.0**	**-0.8**
CN2	**Changchun**	**49.82**	**355**	*e*P	**P**	**20 18 24.8**	**-0.5**
CN2				*e*PP	**PP**	**20 20 22.2**	**+1.4**
CN2				*e*S	**S**	**20 25 29.3**	**+0.1**
CN2				*e*sS	sS	20 26 01.2	-0.5
CN2				*e*SS	**SS**	**20 28 58.9**	**-4.1**
CN2				pmax	pmax		
	comp=Z,30nm,0.7s						
CN2				pmax	pmax		
	comp=Z,200nm,3.0s						
CN2				LR	LR		
	comp=Z,180nm,18.0s						
CN2				LR	LR		
	comp=Z,110nm,18.0s						
HHC	**Hu-ho-hao-te**	**49.88**	**341**	*e*P	**P**	**20 18 27.6**	**+1.7**
HHC				PP	**PP**	**20 20 25.3**	**+3.8**
HHC				S	**S**	**20 25 32.2**	**+1.8**
HHC				ScS	**ScS**	**20 28 02.8**	**-7.5**
HHC				pmax	pmax		
	comp=Z,160nm,1.1s						
HHC				pmax	pmax		
	comp=Z,300nm,6.4s						
HHC				LR	LR		
	comp=Z,2µm,16.4s						
HHC				LR	LR		
	comp=Z,1µm,16.0s						
HHC				LR	LR		
	comp=Z,2µm,16.3s						
USRK	**Ussuriysk Ar.**	**49.99**	**1**	P	**P**	**20 18 27.3**	**+0.8**
	comp=Z,20nm,0.6s,baz=182,slow=7.2,SNR=32						
BTO	**Baotou**	**50.18**	**339**	*e*P	**P**	**20 18 27.5**	**-0.7**
MDJ	**Mudanjiang**	**50.41**	**359**	P	**P**	**20 18 29.0**	**-0.7**
MDJ				pP	pP	20 18 47.8	-1.0
MDJ				pmax	pmax		
	comp=Z,44nm,0.8s						
MDJ				pmax	pmax		
	comp=Z,240nm,4.0s						
MDJ	**Mudanjiang**	**50.41**	**359**	*e*P	**P**	**20 18 30.6**	**+0.9**
	comp=Z,30nm,0.8s						
ASAJ	**Asahikawa**	**51.01**	**11**	P	**P**	**20 18 35.6**	**+1.4**
	comp=Z,12nm,0.6s,baz=210,slow=10.0,SNR=25						
ASAJ	**Asahikawa**	**51.01**	**11**	*e*P	**P**	**20 18 35.5**	**+1.2**
	comp=Z,13nm,0.8s						
LBZ	**Lake Benmore**	**51.39**	**144**	*e*P	**P**	**20 18 38.1**	**+0.9**
	comp=Z,55nm,1.0s						
RPZ	**Rata Peaks**	**51.52**	**143**	P	**P**	**20 18 39.2**	**+1.0**
	comp=Z,13nm,0.8s,baz=257,slow=8.4,SNR=5.7						
THZ	**Tophouse**	**51.58**	**140**	*e*P	**P**	**20 18 40.3**	**+1.5**
	comp=Z,24nm,0.7s						
PALK	**Pallekele**	**51.73**	**284**	LR	LR	20 42 12.9	
	comp=Z,177nm,19.8s,baz=116,slow=38						
PALK	**Pallekele**	**51.73**	**284**	*e*P	**P**	**20 18 38.6**	**-1.6**
	comp=Z,9.4nm,0.8s						
PALK	**Pallekele**	**51.73**	**284**	*e*P	**P**	**20 18 38.6**	**-1.6**
PALK				pmax	pmax		
	comp=Z,9.0nm,0.8s						
LSA	**Lhasa**	**52.07**	**315**	*e*P	**P**	**20 18 42.8**	**-0.2**
	comp=Z,18nm,0.8s						
LSA	**Lhasa**	**52.07**	**315**	*e*P	**P**	**20 18 42.8**	**-0.2**
LSA				pmax	pmax		
	comp=Z,19nm,0.8s						
BKZ	**Black Stump Fm**	**52.71**	**136**	*e*P	**P**	**20 18 47.9**	**+0.7**
	comp=Z,45nm,0.7s						
URZ	**Urewera**	**52.75**	**134**	P	**P**	**20 18 48.0**	**+0.7**
	comp=Z,6.5nm,0.3s,baz=262,slow=7.2,SNR=12						
ODAN	**Odare**	**53.25**	**310**	*e*P	**P**	**20 18 51.1**	**-0.4**
	comp=Z,154nm,1.0s						
GTA	**Gaotai**	**53.52**	**330**	⇓P	**P**	**20 18 53.8**	**+0.7**
GTA				pP	pP	20 19 15.5	+3.1
GTA				sP	sP	20 19 24.8	+3.8
GTA				S	**S**	**20 26 21.5**	**+1.0**
GTA				sS	sS	20 26 54.2	+0.9
GTA				ScS	**ScS**	**20 28 35.4**	**-0.3**
GTA				SS	**SS**	**20 30 04.3**	**+2.3**
GTA				pmax	pmax		
	comp=Z,64nm,1.0s						
GTA				pmax	pmax		
	comp=Z,200nm,6.7s						
GTA				LR	LR		
	comp=Z,69nm,16.6s						
GTA				LR	LR		
	comp=Z,120nm,18.5s						
YSS	**Yuzh-Sakhalins**	**53.78**	**10**	*e*P	**P**	**20 18 55.2**	**+0.5**
	comp=Z,34nm,0.5s						
YSS	**Yuzh-Sakhalins**	**53.78**	**10**	⇓*e*P	**P**	**20 18 55.5**	**+0.8**
YSS				*e*		20 19 18.6	
YSS				*e*		20 21 04.8	
YSS				*e*S	**S**	**20 26 21.4**	**-2.1**
YSS				pmax	pmax		
	comp=Z,30nm,0.5s						
YSS				pmax	pmax		
	comp=N,20nm,0.4s						
YSS				MLR	MLR		
	comp=Z,100nm,12.0s						
RAMN	**Ramite**	**53.90**	**310**	*e*P	**P**	**20 18 56.2**	**-0.1**
	comp=Z,197nm,0.7s						
JIRN	**Jiri**	**54.58**	**310**	*e*P	**P**	**20 19 01.0**	**-0.3**
GUN	**Gumba**	**54.94**	**310**	*e*P	**P**	**20 19 03.6**	**-0.3**
	comp=Z,222nm,0.8s						
KLR	**Kul'dur**	**55.02**	**1**	P	**P**	**20 19 04.5**	**+0.9**
	comp=Z,1.0nm,0.8s,baz=194,slow=4.0,SNR=39						
KLR	**Kul'dur**	**55.02**	**1***c*	*i*P	**P**	**20 19 04.0**	**+0.4**
PKIN	**Phulchoki**	**55.14**	**310**	*e*P	**P**	**20 19 04.8**	**-0.5**
KKN	**Kakani**	**55.34**	**310**	*e*P	**P**	**20 19 06.1**	**-0.5**
DMN	**Daman**	**55.38**	**309**	*e*P	**P**	**20 19 06.6**	**-0.4**
HIA	**Hailar**	**55.90**	**351**	*e*P	**P**	**20 19 10.4**	**+0.4**
	comp=Z,8.6nm,0.8s						
HIA	**Hailar**	**55.90**	**351**	*e*P	**P**	**20 19 10.4**	**+0.4**
HIA				pmax	pmax		
	comp=Z,9.0nm,0.8s						
GKN	**Gorkha**	**55.94**	**310**	*e*P	**P**	**20 19 10.5**	**-0.3**
	comp=Z,66nm,0.3s						
KOLN	**Koldanda**	**56.62**	**309**	*e*P	**P**	**20 19 15.6**	**-0.2**
	comp=Z,146nm,0.8s						
HYB	**Hyderabad**	**56.63**	**295**	*i*P	**P**	**20 19 13.0**	**-2.8**
GRNR	**Gornyy**	**56.76**	**4**	*e*P	**P**	**20 19 16.5**	**+0.4**
GRNR				pmax	pmax		
	comp=Z,26nm,1.0s						
DANN	**Dangsing**	**56.78**	**310**	*e*P	**P**	**20 19 16.7**	**-0.3**
AFI	**Afiamalu**	**56.95**	**103**	P	**P**	**20 19 20.2**	**+2.0**
	comp=Z,16nm,0.6s,baz=125,slow=23,SNR=2.6						
AFI				LR	LR	20 44 00.7	
	comp=Z,73nm,20.0s,baz=262,slow=36						
AFI	**Afiamalu**	**56.95**	**103**	*e*P	**P**	**20 19 19.9**	**+1.7**
	comp=Z,102nm,1.2s						
PYUN	**Piuthan**	**57.25**	**309**	*e*P	**P**	**20 19 20.1**	**-0.1**
	comp=Z,382nm,1.0s						
TYV	**Tymovskoe**	**57.56**	**9**	*e*P	**P**	**20 19 23.5**	**+1.8**
TYV				pmax	pmax		
	comp=Z,9.0nm,0.7s						
ULN	**Ulaanbaatar**	**57.59**	**341**	*e*P	**P**	**20 19 23.2**	**+1.1**
	comp=Z,55nm,0.7s						
ULN	**Ulaanbaatar**	**57.59**	**341**	P	**P**	**20 19 23.8**	**+1.6**
	SNR=17						
ULN	**Ulaanbaatar**	**57.59**	**341**	P	**P**	**20 19 23.8**	**+1.6**
	SNR=17						
ULN	**Ulaanbaatar**	**57.59**	**341***d*	*i*P	**P**	**20 19 23.3**	**+1.1**
SONA0	**Songino Array**	**57.78**	**341**	*e*P	**P**	**20 19 24.7**	**+1.2**
SONA0				*e*		20 46 39.4	
SONM	**Songino Array**	**57.78**	**341**	P	**P**	**20 19 24.7**	**+1.2**
	comp=Z,22nm,0.6s,baz=161,slow=6.6,SNR=136						
SONM				LR	LR	20 46 39.4	
	comp=Z,45nm,20.0s,baz=159,slow=38						
SONA1	**Songino Array**	**57.79**	**341**	*e*P	**P**	**20 19 24.3**	**+0.8**
NKL	**Nikolayevsk**	**59.53**	**7**	*i*P	**P**	**20 19 36.8**	**+1.5**
NKL				pmax	pmax		
	comp=N,29nm,0.9s						
NKL				pmax	pmax		
	comp=Z,49nm,0.9s						
ZEA	**Zeya**	**59.60**	**358**	*e*P	**P**	**20 19 36.4**	**+0.6**
ZEA				pmax	pmax		
	comp=N,24nm,1.0s						
ZEA				pmax	pmax		
	comp=Z,41nm,1.0s						
CIT	**Chita**	**59.67**	**348**	*e*P	**P**	**20 19 37.6**	**+1.2**
CIT				*e*		20 19 52.4	
CIT				*e*		20 20 03.4	
CIT				*e*		20 20 23.0	
ZAK	**Zakamensk**	**61.02**	**340**	*e*P	**P**	**20 19 46.2**	**+0.5**
ZAK				pmax	pmax		
	comp=Z,13nm,1.2s						
TLY	**Talaya**	**62.01**	**341**	P	**P**	**20 19 53.8**	**+1.5**
	comp=Z,9.6nm,0.7s,baz=166,slow=4.7,SNR=8.4						
TLY				LR	LR	20 49 18.9	
	comp=Z,37nm,20.6s,baz=138,slow=38						
TLY	**Talaya**	**62.01**	**341**	*e*P	**P**	**20 19 53.4**	**+1.2**
	comp=Z,14nm,0.8s						
TLY				*e*		20 49 18.9	
TLY	**Talaya**	**62.01**	**341**	P	**P**	**20 19 54.1**	**+1.8**
	SNR=7.3						
TLY	**Talaya**	**62.01**	**341**	P	**P**	**20 19 54.1**	**+1.8**
	SNR=7.3						
TLY	**Talaya**	**62.01**	**341**	*e*P	**P**	**20 19 53.5**	**+1.3**
TLY				*e*S	**S**	**20 28 09.1**	**-1.7**
TLY				pmax	pmax		
	comp=Z,16nm,0.9s						
TLY				MLR	MLR		
	comp=Z,54nm,15.0s						
IRK	**Irkutsk**	**62.29**	**342**	*e*P	**P**	**20 19 54.5**	**+0.4**
IRK				pmax	pmax		
	comp=Z,59nm,1.6s						
MOY	**Mondy**	**62.88**	**340**	*e*P	**P**	**20 19 59.9**	**+1.7**
MOY				pmax	pmax		
	comp=Z,63nm,2.1s						
WMQ	**Urumqi**	**63.03**	**326**	P	**P**	**20 20 00.1**	**+0.8**
WMQ				sP	sP	20 20 27.6	+0.1
WMQ				S	**S**	**20 28 25.5**	**+1.4**
WMQ				pmax	pmax		
	comp=Z,170nm,1.1s						
WMQ				pmax	pmax		
	comp=Z,650nm,3.6s						
WMQ				LR	LR		
	comp=Z,260nm,32.9s						
WMQ				LR	LR		
	comp=Z,330nm,29.3s						
PETK	**Petropavlovsk-**	**63.13**	**18**	P	**P**	**20 20 01.3**	**+1.6**
	comp=Z,13nm,0.9s,baz=188,slow=4.1,SNR=20						
PETK				LR	LR	20 45 47.8	
	comp=Z,30nm,21.1s,baz=213,slow=34						
PETK	**Petropavlovsk-**	**63.13**	**18**	*e*P	**P**	**20 20 00.9**	**+1.2**
PETK	**Petropavlovsk-**	**63.13**	**18**	*e*P	**P**	**20 20 00.9**	**+1.2**
PEA1	**Petropavlovsk-**	**63.14**	**18**	*e*P	**P**	**20 20 01.3**	**+1.6**
PEA1				*e*		20 45 47.8	
KNGR	**Kungurtug, Tuv**	**63.29**	**337**	*i*P	**P**	**20 20 01.3**	**+0.4**
PET	**Petropavlovsk**	**63.36**	**18**	*i*P	**P**	**20 20 02.8**	**+1.7**
PET				pmax	pmax		
	comp=Z,19nm,1.7s						
BOD	**Bodaibo**	**65.07**	**350**	*e*P	**P**	**20 20 12.9**	**+0.7**
BOD				pmax	pmax		
	comp=Z,28nm,1.8s						
HVS	**Khovu-Aksy**	**65.24**	**335**	⇓*i*P	**P**	**20 20 14.0**	**+0.4**
HVS				pmax	pmax		
	comp=Z,83nm,1.0s						
NIL	**Nilore**	**67.21**	**310**	*e*P	**P**	**20 20 25.9**	**-0.6**
	comp=Z,32nm,0.8s						
NIL	**Nilore**	**67.21**	**310**	*e*P	**P**	**20 20 25.9**	**-0.6**
NIL				pmax	pmax		
	comp=Z,32nm,0.8s						
TARG	**Taragay, Kyrgy**	**67.75**	**320**	*e*P	**P**	**20 20 30.8**	**+0.6**
	comp=Z,44nm,1.5s						
MK01	**Makanchi Array**	**67.84**	**326**	*e*P	**P**	**20 20 31.0**	**+0.7**
YAK	**Yakutsk**	**67.85**	**359**	P	**P**	**20 20 30.8**	**+0.9**
	comp=Z,67nm,0.6s,baz=320,slow=0.3,SNR=57						
YAK				pP	**pP**	**20 20 52.5**	**+2.7**
	comp=Z,71nm,0.7s,baz=7.4,slow=1.1,SNR=7.2						
YAK				LR	LR	20 49 04.8	
	comp=Z,25nm,21.7s,baz=272,slow=35						
YAK	**Yakutsk**	**67.85**	**359**	*e*P	**P**	**20 20 30.7**	**+0.8**
	comp=Z,113nm,0.8s						
YAK				*e*pP	**pP**	**20 20 52.1**	**+2.3**
YAK	**Yakutsk**	**67.85**	**359***d*	*i*P	**P**	**20 20 30.6**	**+0.8**
YAK				*e**PP	**pP**	**20 20 51.8**	**+2.0**
YAK				*e*		20 20 58.1	
YAK				*e*		20 23 03.4	
YAK				*e*S	**S**	**20 29 21.3**	**-0.7**
YAK				*e**SS	sS	20 30 05.6	+10
YAK				*e*		20 30 18.6	
YAK				*e*SS	**SS**	**20 33 46.4**	**+1.2**
YAK				pmax	pmax		
	comp=Z,73nm,0.9s						
YAK				pmax	pmax		
	comp=N,14nm,1.1s						
YAK				pmax	pmax		
	comp=E,2.0nm,0.8s						
YAK				pmax	pmax		
	comp=Z,65nm,3.3s						
YAK				pmax	pmax		
	comp=E,44nm,3.8s						
YAK				pmax	pmax		
	comp=N,23nm,3.6s						
YAK				smax	smax		
	comp=E,162nm,4.6s						
YAK				smax	smax		
	comp=N,65nm,4.0s						
KSH	**Kashi**	**67.86**	**317**	P	**P**	**20 20 32.0**	**+1.4**
KSH				PcP	**sP**	**20 20 58.4**	**-0.6**
KSH				sP	PcP	20 21 01.5	+4.8
KSH				S	**S**	**20 29 21.5**	**-1.9**
KSH				ScS	**ScS**	**20 30 23.4**	**+0.5**
KSH				pmax	pmax		
	comp=N,26nm,0.7s						
KSH				LR	LR		
	comp=N,95nm,7.1s						
KSH				LR	LR		
	comp=N,120nm,6.0s						
KSH				LR	LR		
	comp=N,130nm,7.2s						
MK31	**Makanchi Array**	**67.86**	**326**	*e*P	**P**	**20 20 30.8**	**+0.4**
MK31	**Makanchi Array**	**67.86**	**326**	*e*P	**P**	**20 20 30.8**	**+0.4**
MK32	**Makanchi Array**	**67.86**	**326**	*e*P	**P**	**20 20 31.3**	**+0.9**
MKAR	**Makanchi Array**	**67.86**	**326**	P	**P**	**20 20 31.3**	**+0.9**
	comp=N,69nm,0.6s,baz=126,slow=7.7,SNR=342						
MKAR	**Makanchi Array**	**67.86**	**326**	*e*P	**P**	**20 20 30.8**	**+0.4**
	comp=N,493nm,0.8s						
MKAR	**Makanchi Array**	**67.86**	**326**	*e*P	**P**	**20 20 30.8**	**+0.4**
MKAR				pmax	pmax		
	comp=Z,493nm,0.8s						

MAKZ Makanchi 68.05 326 *e*P **P** **20 20 32.1 +0.6**
comp=Z,65nm,0.8s
MAKZ Makanchi 68.05 326 *e*P **P** **20 20 32.1 +0.6**
MAKZ pmax pmax
comp=Z,65nm,0.8s
NRN Naryn 68.77 319 *e*P **P** **20 20 36.6 +0.1**
comp=Z,25nm,1.0s
NRN Naryn 68.77 319 *e*P **P** **20 20 36.6 +0.1**
NRN pmax pmax
comp=Z,25nm,1.0s
ULHL Ulahol 69.01 320 P **P** **20 20 38.8 +1.0**
SNR=8.6
KZA Kyzart 69.57 319 P **P** **20 20 43.0 +1.4**
SNR=57
TKM2 Tokmak 2 69.76 320 P **P** **20 20 43.4 +0.9**
SNR=68
KBK Karagaybulak 70.05 319 P **P** **20 20 45.3 +1.1**
SNR=35
UCH Uchtor 70.12 319 P **P** **20 20 46.3 +1.3**
SNR=85
AAK Ala-Archa 70.33 319 LR LR 20 55 41.8
comp=Z,34nm,22.0s,baz=92,slow=39
AAK Ala-Archa 70.33 319 P **P** **20 20 47.1 +1.2**
SNR=41
AAK Ala-Archa 70.33 319 *e*P **P** **20 20 46.7 +0.8**
comp=Z,46nm,0.9s
AAK *e* 20 55 41.8
AAK Ala-Archa 70.33 319 P **P** **20 20 47.4 +1.4**
SNR=24
AAK Ala-Archa 70.33 319 P **P** **20 20 47.4 +1.4**
SNR=24
AAK Ala-Archa 70.33 319*d i*P **P** **20 20 46.9 +1.0**
AAK pmax pmax
comp=Z,36nm,1.0s
CHMS Chumysh 70.34 320 P **P** **20 20 46.5 +0.7**
SNR=19
FRU Bishkek 70.35 320⇓*i*P **P** **20 20 46.0 +0.2**
FRU *e* 20 21 09.0
FRU *e* 20 21 13.0
FRU pmax pmax
comp=Z,70nm,2.1s
AML Almayashu 70.62 319 P **P** **20 20 49.3 +1.3**
SNR=111
USP Ospenovka 70.63 320 P **P** **20 20 48.4 +0.8**
SNR=97
SEY Seymchan 70.69 10 P **P** **20 20 48.6 +1.2**
comp=Z,33nm,0.8s,baz=188,slow=4.4,SNR=128
SEY Seymchan 70.69 10*ce*P **P** **20 20 48.1 +0.7**
KBL Kabul 70.77 310 *e*P **P** **20 20 48.6 -0.2**
comp=Z,27nm,0.8s
KBL Kabul 70.77 310 *e*P **P** **20 20 48.6 -0.2**
KBL pmax pmax
comp=Z,27nm,0.8s
EKS2 Erkin-Say 70.81 319 P **P** **20 20 50.2 +1.4**
SNR=100
ZAA0 Zalesovo Array 71.07 333 *e*P **P** **20 20 49.8 -0.1**
comp=Z,36nm,1.1s
ZALV Zalesovo Beam 71.07 333 P **P** **20 20 49.8 -0.1**
comp=Z,13nm,0.5s,baz=117,slow=4.7,SNR=77
ZALV LR LR 20 55 05.7
comp=Z,42nm,18.2s,baz=70,slow=38
ZALV Zalesovo Beam 71.07 333 *e*P **P** **20 20 49.4 -0.5**
ZALV Zalesovo Beam 71.07 333 *e*P **P** **20 20 49.4 -0.5**
ZAA1 Zalesovo Array 71.08 333 *e*P **P** **20 20 49.8 -0.2**
ZAA1 *e* 20 55 05.7
KURBB Kurchatov Arra 72.11 328 P **P** **20 20 56.8 +0.6**
comp=Z,28nm,0.7s,baz=128,slow=5.0,SNR=252
KURK Kurchatov 72.12 328 *e*P **P** **20 20 56.3 0.0**
comp=Z,118nm,1.4s
KURK Kurchatov 72.12 328 P **P** **20 20 57.2 +0.9**
SNR=24
KURK Kurchatov 72.12 328 P **P** **20 20 57.2 +0.9**
SNR=24
KURK Kurchatov 72.12 328*d i*P **P** **20 20 56.7 +0.4**
KURK pmax pmax
comp=Z,260nm,1.2s
NVS Novosibirsk 72.36 333⇑*i*P **P** **20 20 58.0 +0.4**
NVS *i* *PP **sP** **20 21 23.6 -2.6**
NVS *eS* **S** **20 30 15.5 +0.5**
NVS pmax pmax
comp=Z,33nm,1.4s
NVS pmax pmax
comp=N,9.0nm,0.8s
NVS pmax pmax
comp=E,10.0nm,0.8s
NVS smax smax
comp=N,2.0nm,0.7s
KK06 Karatay Array 73.14 318 *e*P **P** **20 21 02.5 -0.1**
KK05 Karatay Array 73.15 318 *e*P **P** **20 21 02.6 -0.1**
KK02 Karatay Array 73.15 318 *e*P **P** **20 21 02.7 +0.1**
KK31 Karatay Array 73.15 318 *e*P **P** **20 21 02.7 +0.1**
KK31 Karatay Array 73.15 318 *e*P **P** **20 21 02.7 +0.1**
KKAR Karatay Array 73.15 318 *e*P **P** **20 21 02.9 +0.2**
KKAR Karatay Array 73.15 318 *e*P **P** **20 21 02.9 +0.2**
KK07 Karatay Array 73.15 318 *e*P **P** **20 21 02.7 +0.1**
KK01 Karatay Array 73.16 318 *e*P **P** **20 21 02.5 -0.2**
KK03 Karatay Array 73.16 318 *e*P **P** **20 21 02.6 -0.1**
KK04 Karatay Array 73.16 318 *e*P **P** **20 21 02.9 +0.2**
KK09 Karatay Array 73.17 318 *e*P **P** **20 21 02.7 -0.1**
KK08 Karatay Array 73.17 318 *e*P **P** **20 21 02.7 -0.1**
VNDA Vanda 73.32 173 P **P** **20 21 03.9 +0.9**
comp=N,3.1nm,0.6s,baz=316,slow=7.4,SNR=15
VNDA Vanda 73.32 173 *e*P **P** **20 21 03.6 +0.6**
comp=N,9.7nm,0.8s
SBA Scott Base 74.20 173 *e*P **P** **20 21 10.0 +1.8**
SBA *ep*P **pP** **20 21 30.2 +1.8**
SBA Scott Base 74.20 173 *e*P **P** **20 21 10.0 +1.8**
SBA *e**PP **pP** **20 21 30.2 +1.8**
WBK Wadi Bani Khal 75.74 295 P **P** **20 21 20.0 +1.9**
SNR=6.3
WBK Wadi Bani Khal 75.74 295 P **P** **20 21 20.0 +1.9**
SNR=6.3
MAW Mawson 76.17 201 P **P** **20 21 19.9 +0.3**
comp=N,15nm,0.7s,baz=80,slow=6.3,SNR=30
MAW Mawson 76.17 201 P **P** **20 21 20.6 +1.0**
baz=76,SNR=22
MAW Mawson 76.17 201 *e*P **P** **20 21 20.4 +0.8**
MAW *ep*P **pP** **20 21 41.3 +1.4**
MAW Mawson 76.17 201 *e*P **P** **20 21 20.4 +0.8**
MAW *e**PP **pP** **20 21 41.3 +1.4**
WSAR Wadi Sarin 76.19 296 P **P** **20 21 20.8 +0.2**
comp=N,39nm,0.9s,baz=144,slow=8.5,SNR=32
WSAR LR LR 20 57 46.7
comp=N,60nm,20.6s,baz=112,slow=38
SMDO Samad 76.67 295 P P 20 21 30.0 +6.5
SNR=5.6
BIDO Bidbid 76.70 296 P **P** **20 21 24.0 +0.5**
SNR=19
BIDO Bidbid 76.70 296 P **P** **20 21 24.0 +0.5**
SNR=19
TIXI Tiksi 77.52 359 P **P** **20 21 27.0 0.0**
comp=N,18nm,0.7s,baz=208,slow=4.1,SNR=86
TIXI pP **pP** **20 21 49.1 +1.6**
comp=N,16nm,0.8s,baz=225,slow=3.8,SNR=7.8
TIXI Tiksi 77.52 359 *e*P **P** **20 21 26.9 -0.1**
comp=N,18nm,0.7s
TIXI *ep*P **pP** **20 21 49.0 +1.6**
TIXI Tiksi 77.52 359*d i*P **P** **20 21 26.7 -0.3**
TIXI pmax pmax
comp=Z,19nm,0.7s
BVAR Borovoye Array 77.68 327 P **P** **20 21 28.5 +0.1**
comp=Z,18nm,0.8s,baz=130,slow=9.9,SNR=96
BVAR pP **pP** **20 21 49.4 +0.7**
comp=Z,13nm,0.8s,baz=126,slow=9.2,SNR=6.9
BRVK Borovoye 77.75 327 *e*P **P** **20 21 28.5 -0.2**
comp=Z,28nm,0.8s
BRVK *ep*P **pP** **20 21 50.6 +1.5**
BRVK Borovoye 77.75 327 P **P** **20 21 29.4 +0.7**
SNR=14
BRVK Borovoye 77.75 327 P **P** **20 21 29.4 +0.7**
SNR=14
BRVK Borovoye 77.75 327*ce*P **P** **20 21 29.0 +0.3**
BRVK pmax pmax
comp=Z,109nm,1.2s
BILL Bilibino 77.97 13⇑*i*P **P** **20 21 30.4 +0.8**
BILL *e* 20 21 38.8
BILL *e* 20 24 32.3
BILL *eS* **SKSac** **20 31 31.3 -5.3**
BILL pmax pmax
comp=Z,3.0nm,1.2s
BILL pmax pmax
comp=Z,67nm,19.0s
PPT2 Papeete2 78.31 107 *e*LR LR 20 46 06.0
comp=Z,350nm,28.5s
PPT Papeete 78.31 107 LR LR 20 53 38.2
comp=Z,95nm,18.6s,baz=176,slow=34

UOSS Minazif 78.72 297 *e*P **P** **20 21 33.9 -0.8**
comp=Z,121nm,1.8s
HATD Hatta, Dubai 78.75 297 P P **20 21 37.0 +2.0**
SNR=7.4
HATD Hatta, Dubai 78.75 297 P **P** **20 21 37.0 +2.0**
SNR=7.4
ASHO Ashiyiah 78.79 297 P **P** **20 21 36.8 +1.6**
SNR=8.0
ASHO Ashiyiah 78.79 297 P **P** **20 21 36.8 +1.6**
SNR=8.0
BANOM Banah 78.84 298 P **P** **20 21 36.9 +1.5**
SNR=5.2
BANOM Banah 78.84 298 P **P** **20 21 36.9 +1.5**
SNR=5.2
GYB1 ALIBECK ARRAY 80.20 310 *e*P **P** **20 21 43.0 +0.4**
comp=Z,20nm,0.8s
GYB2 ALIBECK ARRAY 80.21 310 *e*P **P** **20 21 43.0 +0.5**
comp=Z,21nm,0.8s
GYA1 ALIBECK ARRAY 80.21 310 *e*P **P** **20 21 42.9 +0.3**
comp=Z,20nm,0.9s
GYA2 ALIBECK ARRAY 80.21 310 *e*P **P** **20 21 42.9 +0.3**
comp=Z,20nm,0.8s
GEYT Alibeck 80.21 310 P **P** **20 21 43.1 +0.5**
comp=Z,16nm,0.7s,baz=151,slow=3.4,SNR=56
GYA0 ALIBECK ARRAY 80.21 310 *e*P **P** **20 21 42.5 -0.1**
comp=Z,20nm,0.8s
GYA0B ALIBECK ARRAY 80.21 310 *e*P **P** **20 21 43.2 +0.6**
comp=Z,20nm,0.8s
GYB5 ALIBECK ARRAY 80.22 310 *e*P **P** **20 21 43.0 +0.3**
comp=Z,18nm,0.8s
GYB3 ALIBECK ARRAY 80.22 310 *e*P **P** **20 21 43.0 +0.3**
comp=Z,21nm,0.8s
GYB4 ALIBECK ARRAY 80.23 310 *e*P **P** **20 21 42.9 +0.2**
comp=Z,20nm,0.8s
GAMB Gambell 81.70 22 *e*P **P** **20 21 51.2 +1.4**
GAMB *ep*P **pP** **20 22 12.7 +2.3**
OPO Ambohidratompo 82.11 252 P P **20 21 52.8 -0.4**
comp=Z,4.1nm,0.6s,baz=48,slow=2.4,SNR=5.1
AB07 Akbulak array 82.24 321 *e*P **P** **20 21 52.7 -0.3**
AB06 Akbulak array 82.24 321 *e*P **P** **20 21 52.2 -0.8**
AB02 Akbulak array 82.26 321 *e*P **P** **20 21 52.5 -0.6**
AB03 Akbulak array 82.26 321 *e*P **P** **20 21 52.5 -0.6**
AB01 Akbulak array 82.26 321 *e*P **P** **20 21 52.8 -0.3**
AB31 Akbulak array 82.26 321 *e*P **P** **20 21 52.7 -0.4**
AB31 Akbulak array 82.26 321 *e*P **P** **20 21 52.7 -0.4**
ABKAR Akbulak array 82.26 321 *e*P **P** **20 21 52.7 -0.4**
comp=Z,76nm,0.9s
AB08 Akbulak array 82.26 321 *e*P **P** **20 21 52.5 -0.6**
AB04 Akbulak array 82.26 321 *e*P **P** **20 21 52.6 -0.6**
AB05 Akbulak array 82.26 321 *e*P **P** **20 21 52.4 -0.7**
AB09 Akbulak array 82.28 321 *e*P **P** **20 21 52.8 -0.4**
SDPT Sand Point 83.05 32 *e*P **P** **20 21 57.7 +0.7**
SDPT *ep*P **pP** **20 22 19.6 +2.0**
AKTO Aktyubinsk 83.81 322 P **P** **20 21 01.2 +0.1**
comp=Z,9.1nm,0.7s,baz=101,slow=9.7,SNR=32
QSPA South Pole Qui 83.96 180 P **P** **20 22 02.2 +0.5**
comp=Z,5.8nm,0.7s,baz=327,slow=2.6,SNR=15
QSPA pP **pP** **20 22 23.2 +0.8**
comp=Z,44nm,0.8s,baz=357,slow=1.8,SNR=23
QSPA South Pole Qui 83.96 180 *e*P **P** **20 22 02.0 +0.2**
QSPA *ep*P **pP** **20 22 23.4 +1.0**
SVE Sverdlovsk 84.36 329*ce*P **P** **20 22 04.2 +0.5**
SVE pmax pmax
comp=Z,50nm,1.4s
SYO Syowa Base 84.88 201⇓*e*P **P** **20 22 04.8 -1.3**
SYO Syowa Base 84.88 201⇓*ep*P pP 20 22 28.0 +1.2
ARU Arti 85.31 328 *e*P **P** **20 22 07.8 -0.7**
comp=Z,22nm,1.1s
ARU *ep*P **pP** **20 22 29.8 +0.6**
ARU Arti 85.31 328*c i*P **P** **20 22 08.2 -0.3**
ARU *PP **pP** **20 22 29.0 -0.2**
ARU 20 25 24.9
ARU S **SKSac** **20 32 24.9 -1.7**
ARU pmax pmax
comp=Z,35nm,1.7s
SVW2 Sparrevohn 87.39 28 *e*P **P** **20 22 20.3 +1.7**
SVW2 *ep*P **pP** **20 22 41.7 +2.3**
OHAK Old Harbor 87.44 32 *e*P **P** **20 22 20.1 +1.2**
OHAK *ep*P **pP** **20 22 40.7 +1.0**
KDAK Kodiak Island 87.95 31 *e*P **P** **20 22 22.4 +1.1**
comp=Z,21nm,0.9s
KDAK Kodiak Island 87.95 31 *i* P **P** **20 22 22.8 +1.5**
DAMY Dhamar 88.07 285 *e*P **P** **20 22 23.9 +0.7**
comp=Z,93nm,1.7s
RAYN Ar Rayn 88.11 294 *e*P **P** **20 22 22.4 -0.6**
comp=Z,35nm,1.1s
TAOE Nuku Hiva Isla 88.12 99 *e*LR LR 20 50 27.7
comp=Z,209nm,30.2s
MAK Makhachkala 89.19 313 *e*P **P** **20 22 25.1 -2.4**
MAK *e**PP **pP** **20 22 46.3 -2.0**
MAK *e**SP **sP** **20 22 54.1 -2.5**
MAK *e* 20 25 55.2
MAK *eS* **SKSac** **20 32 47.1 -3.7**
MAK *eSS* **SS** **20 39 00.2 -6.2**
MAK *eSSS* SSS 20 42 37.4
MAK pmax pmax
comp=Z,289nm,1.1s
SKT Skwentna 89.49 27 *e*P **P** **20 22 28.4 -0.1**
comp=Z,22nm,1.8s
CAST Castle Rocks 89.59 26 *e*P **P** **20 22 28.8 -0.3**
CAST *ep*P **pP** **20 22 52.8 +3.0**
SUA Susitna One 89.74 28 *e*P **P** **20 22 30.1 +0.3**
comp=Z,7.8nm,0.8s
RC01 Rabbit Creek A 90.13 29 *e*P **P** **20 22 32.1 +0.6**
RC01 *ep*P **pP** **20 22 53.5 +1.1**
MLY Manley 90.55 25 *e*P **P** **20 22 33.5 0.0**
comp=Z,12nm,1.4s
GNI Garni 90.85 310 P **P** **20 22 34.5 -1.1**
comp=Z,1.5nm,0.5s,baz=212,slow=18,SNR=3.4
GNI Garni 90.85 310⇓*e*P **P** **20 22 35.4 -0.2**
RND Reindeer 91.01 26 *e*P **P** **20 22 35.4 -0.3**
comp=Z,7.8nm,0.7s
RND *ep*P **pP** **20 22 56.3 -0.2**
RND Reindeer 91.01 26 *e*P **P** **20 22 35.4 -0.3**
RND *e**PP **pP** **20 22 56.3 -0.2**
RND pmax pmax
comp=Z,8.0nm,0.7s
MCK McKinley 91.04 26 *e*P **P** **20 22 35.6 -0.1**
comp=Z,34nm,1.8s
MCK McKinley 91.04 26 *e*P **P** **20 22 35.6 -0.1**
MCK pmax pmax
comp=Z,34nm,1.8s
COLD Coldfoot 91.25 22 *e*P **P** **20 22 37.5 +0.9**
comp=Z,6.9nm,1.0s
RKT Rikitea 91.51 113 *e*LR LR 20 52 13.4
comp=Z,296nm,37.0s
WRH Wood River Hil 91.54 25 *e*P **P** **20 22 37.3 -0.7**
comp=Z,7.3nm,1.0s
DHY Denali Highway 91.61 27 *e*P **P** **20 22 38.8 +0.2**
comp=Z,9.5nm,0.8s
CCB Clear Creek Bu 91.70 25 *e*P **P** **20 22 38.5 -0.2**
comp=Z,7.1nm,0.8s
CCB *ep*P **pP** **20 23 00.1 +0.6**
TOLK Toolik Lake Re 91.78 21 P **P** **20 22 40.1 +1.0**
baz=258
TOLK Toolik Lake Re 91.78 21 *e*P **P** **20 22 39.8 +0.7**
comp=Z,8.7nm,1.3s
ZEI Tsey 91.79 313 *e*P **P** **20 22 35.8 -4.2**
ZEI pmax pmax
comp=Z,8.0nm,1.3s
AKH Akhalkalaki 91.94 311 *e*P **P** **20 22 40.8 +0.2**
comp=Z,21nm,1.5s
AKH Akhalkalaki 91.94 311 *e*P **P** **20 22 40.8 +0.2**
AKH pmax pmax
comp=Z,21nm,1.5s
HDA Harding Lake 92.02 26 *e*P **P** **20 22 39.5 -0.7**
comp=Z,6.6nm,0.9s
NCK Nalchik 92.09 313 *i* P **P** **20 22 40.6 -0.5**
NCK pmax pmax
comp=Z,7.0nm,1.4s
IL1 Eielson Array 92.11 25 *e*P **P** **20 22 39.5 -1.1**
ILAR Eielson Array 92.11 25 P **P** **20 22 40.1 -0.6**
comp=Z,2.6nm,0.7s,baz=268,slow=4.3,SNR=39
ILAR pP **pP** **20 23 02.3 +0.8**
comp=Z,3.2nm,0.6s,baz=266,slow=4.6,SNR=8.8
ILB Eielson Array 92.11 25 *e*P **P** **20 22 39.5 -1.2**
ILB *ep*P **pP** **20 23 02.0 +0.5**
PAX Paxson 92.45 27 *e*P **P** **20 22 43.4 +1.0**
PAX *ep*P **pP** **20 23 04.6 +1.4**
PAX Paxson 92.45 27 *e*P **P** **20 22 43.4 +1.0**
PAX *e**PP **pP** **20 23 04.6 +1.4**
KBZ Khabaz 92.62 314 P **P** **20 22 42.3 -1.1**
comp=Z,1.5nm,0.7s,baz=139,slow=4.9,SNR=5.8
KIV Kislovodsk 92.79 314 *e*P **P** **20 22 43.4 -1.0**
KIV pmax pmax
comp=Z,4.0nm,1.1s
RIDG Independ'e Rid 92.83 26 *e*P **P** **20 22 44.1 0.0**
comp=Z,5.4nm,0.8s
FYU Fort Yukon 93.06 23 *e*P **P** **20 22 45.8 +0.8**
comp=Z,47nm,1.7s
DOT Dot Lake 93.17 26 *e*P **P** **20 22 46.0 +0.4**
comp=Z,47nm,1.8s
KMBO Kilima Mbogo 93.44 269 P **P** **20 22 47.7 -0.6**
comp=Z,1.0nm,0.6s,baz=53,slow=9.9,SNR=4.8
KMBO pP **pP** **20 23 08.3 -0.8**
comp=Z,3.4nm,0.8s,baz=58,slow=7.0,SNR=6.0
KMBO Kilima Mbogo 93.44 269 *e*P **P** **20 22 47.4 -0.9**
comp=Z,6.6nm,1.2s
KMBO pP **pP** **20 23 08.3 -0.8**
KMBO Kilima Mbogo 93.44 269 *e*P **P** **20 22 47.4 -0.9**
KMBO *PP **pP** **20 23 08.4 -0.8**
KMBO pmax pmax
comp=Z,7.0nm,1.2s
EGAK Eagle 94.54 25 *e*P **P** **20 22 52.3 +0.5**
comp=Z,5.3nm,0.9s
DAWY Dawson 95.26 26 *e*P **P** **20 22 56.2 +0.9**
comp=Z,11nm,1.1s
KLMR Klimovskoe 95.85 331 *e*P **P** **20 22 54.7 -3.2**
KLMR AMP 20 22 59.2
comp=Z,15nm,1.4s
KLMR *ep*P **pP** **20 23 16.0 -2.8**
KLMR *es*P **sP** **20 23 21.8 -5.2**
KLMR Klimovskoe 95.85 331 *e*P **P** **20 22 54.6 -3.3**
KLMR *e**PP **pP** **20 23 15.9 -2.8**
KLMR *e**SP **sP** **20 23 21.8 -5.2**
KLMR pmax pmax
comp=Z,15nm,1.4s
ASF Jabal al Asfar 96.49 302 P **P** **20 23 01.3 -0.4**
comp=Z,2.4nm,0.8s,baz=52,slow=0.9,SNR=6.9
ASF pP **pP** **20 23 22.5 0.0**
comp=Z,1.3nm,0.5s,baz=133,slow=11,SNR=3.1
ANN Anapa 96.61 314 *e*P **P** **20 23 02.1 +0.4**
ANN *e**PP **pP** **20 23 23.6 +1.0**
ANN *e* 20 33 31.5
ANN pmax pmax
comp=Z,187nm,1.9s
SNAA Sanae 96.81 193 P **P** **20 23 03.1 +0.9**
SNAA Sanae 96.81 193 P **P** **20 23 02.5 +0.3**
comp=Z,3.1nm,0.9s,baz=124,slow=7.0,SNR=8.6
SNAA pP **pP** **20 23 23.9 +0.8**
comp=Z,3.8nm,0.7s,baz=168,slow=4.9,SNR=5.0
SNAA Sanae 96.81 193 *e*P **P** **20 23 02.2 0.0**
SNAA *ep*P **pP** **20 23 24.1 +1.1**
SNAA Sanae 96.81 193 *e*P **P** **20 23 02.2 0.0**
SNAA *e**PP **pP** **20 23 24.2 +1.1**
OBN Obninsk 97.33 325⇑*e*P **P** **20 23 03.7 -1.0**
OBN *e* 20 27 00.6
OBN pmax pmax
comp=Z,23nm,1.2s
INK Inuvik 97.64 22 P **P** **20 23 05.6 -0.2**
comp=Z,3.0nm,0.9s,baz=255,slow=1.6,SNR=9.4
INK Inuvik 97.64 22 *e*P **P** **20 23 05.4 -0.4**
comp=Z,7.4nm,1.3s
MMAI Mount Meron Ar 97.79 302 P **P** **20 23 07.4 -0.1**
comp=Z,1.5nm,0.7s,baz=79,slow=5.5,SNR=6.9
MMAI pP **pP** **20 23 28.2 -0.1**
comp=Z,0.8nm,0.6s,baz=54,slow=4.2,SNR=3.8
APA Apatity 98.36 337⇓*i*P Pdif 20 23 14.0 +4.9
APA MLR MLR
comp=Z,700nm,15.0s
VNA2 Neumayer--Watz 98.37 193 P Pdif 20 23 11.2 +2.0
baz=136,slow=4.2
VNA3 Neumayer Olymp 98.62 192 P Pdif 20 23 11.0 +0.7
BR101 Keskin Array S 99.34 309 *e*P **Pdif** **20 23 12.6 -1.7**
BR101 *ep*P **pP** **20 23 34.4 -0.9**
BR101 *e*PP **PP** **20 27 17.8 -0.5**
BR131 Keskin Array S 99.34 309 *e*P **Pdif** **20 23 12.6 -1.7**
BRTR Keskin Array B 99.34 309 P **Pdif** **20 23 12.6 -1.7**
comp=Z,1.2nm,0.9s,baz=120,slow=5.0,SNR=8.8
BRTR pP **pP** **20 23 34.4 -0.9**
comp=Z,0.9nm,0.9s,baz=115,slow=3.8,SNR=3.5
BRTR PP **PP** **20 27 17.8 -0.5**
comp=Z,1.3nm,1.1s,baz=144,slow=4.6,SNR=3.7
SPITS Spitsbergen Ar 100.76 349 P **Pdif** **20 23 19.1 -0.6**
comp=Z,4.4nm,0.9s,baz=350,slow=4.4,SNR=6.5
SPITS PKiKP **PKiKP** **20 27 45.7 +0.6**
comp=Z,10.0nm,1.0s,baz=190,slow=0.9,SNR=3.2
ARA0 ARCESS Array S 100.94 340 *e*Pdif **Pdif** **20 23 20.1 -0.5**
ARA0 *e*PKiKP **PKiKP** **20 27 46.1 +0.5**
ARCES ARCESS Array B 100.94 340 P **Pdif** **20 23 20.1 -0.5**
comp=Z,4.3nm,0.9s,baz=338,slow=9.2,SNR=4.0
ARCES PKiKP **PKiKP** **20 27 46.1 +0.5**
comp=Z,2.0nm,0.8s,baz=104,slow=1.6,SNR=5.8
FIA0 FINESS Array S 102.30 332 *e*Pdif **Pdif** **20 23 25.2 -1.5**
FIA0 FINESS Array S 102.30 332 *e*P **Pdif** **20 23 25.2 -1.5**
FINES FINESS Array B 102.30 332 P **Pdif** **20 23 25.2 -1.5**
comp=Z,1.1nm,0.7s,baz=270,slow=1.4,SNR=3.7
BUR04 Bucovina Ar. S 104.94 318 *e*Pdif **Pdif** **20 23 38.8 -0.2**
BUR08 Bucovina Ar. S 104.94 318 *e*Pdif **Pdif** **20 23 38.9 -0.1**
YKA Yellowknife Ar 106.50 26 Pdiff **Pdif** **20 23 46.6 +1.2**
comp=Z,0.2nm,0.6s,baz=293,slow=4.6,SNR=4.4
YKA PKiKP **PKiKP** **20 27 56.4 +0.5**
comp=Z,0.4nm,0.6s,baz=288,slow=1.7,SNR=7.6
YKA pPKiKP **pPKiKP** **20 28 17.8 +0.3**
comp=Z,1.2nm,0.5s,baz=294,slow=1.8,SNR=12
YKA PKKPbc **PKKPbc** **20 39 15.7 -2.8**
comp=Z,0.3nm,0.3s,baz=108,slow=2.9,SNR=10
KECS Kecovo 107.92 319 *e*PDIFF **Pdif** **20 23 56.3 +4.2**
KECS Kecovo 107.92 319 *e*P **Pdif** **20 23 56.3 +4.2**
HFS Hagfors 108.49 332 Pdiff **Pdif** **20 23 53.5 -0.8**
comp=Z,2.2nm,1.0s,baz=99,slow=9.1,SNR=4.8
OKC Ostrava-Krasne 109.13 321 *e*PKP **PKiKP** **20 28 01.6 +0.4**
NVAR Mina Array Bea 110.03 51 PKKPbc PKKPbc 20 39 07.4 +0.5
comp=Z,0.3nm,0.4s,baz=96,slow=3.6,SNR=4.4
DPC Dobruska-Polom 110.14 322 *e*PKP **PKiKP** **20 28 03.5 +0.3**
DPC *ep*PKP **pPKiKP** **20 28 26.1 +1.3**
DPC *e*PP **PP** **20 28 37.9 +0.1**
PRU Pruhonice 111.33 322 *e*PKP **PKiKP** **20 28 05.7 +0.3**
PRU Pruhonice 111.33 322 *e*PKiKP **PKiKP** **20 28 05.7 +0.3**
CLL Collm 111.87 323 *e*PKiKP **PKiKP** **20 28 06.0 -0.3**
SOKA Soboth 111.93 318 *e*PKiKP **PKiKP** **20 28 06.4 -0.3**
comp=Z,1.0nm,0.7s
MOA Molln 112.12 319 *e*PKiKP **PKiKP** **20 28 05.1 -1.8**
comp=Z,0.7nm,0.5s
KHC Kasperske Hory 112.19 321 *e*PKP **PKiKP** **20 28 07.4 +0.3**
KHC *ep*PKP **pPKiKP** **20 28 29.5 +0.8**
KHC Kasperske Hory 112.19 321 *e*PKiKP **PKiKP** **20 28 07.4 +0.3**
KHC *e* 20 28 29.5
GERES GERESS Array B 112.19 321 PKiKP **PKiKP** **20 28 07.5 +0.3**
comp=Z,2.3nm,0.6s,baz=67,slow=1.9,SNR=28
GERES pPKiKP **pPKiKP** **20 28 28.7 -0.1**
comp=Z,1.3nm,0.5s,baz=58,slow=2.4,SNR=7.6
GERES SKiKP **SKiKP** **20 31 36.7 +0.6**
comp=Z,0.2nm,0.4s,baz=42,slow=1.6,SNR=4.5
ABTA Abfaltersbach 113.58 319 *e*PKiKP **PKiKP** **20 28 09.6 -0.2**
comp=Z,3.6nm,0.7s,SNR=4.9
ABTA *ep*PKiKP **pPKiKP** **20 28 30.5 -1.0**
comp=Z,2.9nm,0.7s
WTTA Wattenberg 113.99 319 *e*PKiKP **PKiKP** **20 28 10.9 +0.1**
comp=Z,4.0nm,0.3s,SNR=5.4
WTTA *ep*PKPdf **pPKiKP** **20 28 32.2 -0.2**
comp=Z,2.3nm,0.4s
SQTA Sankt Quirin 114.28 319 *e*PKiKP **PKiKP** **20 28 11.8 +0.6**
MOTA Moosalm 114.31 320 *e*PKiKP PKPdf 20 28 11.3 0.0
comp=Z,3.0nm,0.5s,SNR=7.0
RETA Reutte 114.48 320 *e*PKPdf PKPdf 20 28 10.6 -1.0
comp=Z,0.5nm,0.4s
FETA Feichten 114.66 319 *e*PKiKP PKPdf 20 28 12.3 +0.2
comp=Z,1.6nm,0.5s
FETA *ep*PKPdf pPKiKP 20 28 33.6 -0.1
comp=Z,1.4nm,0.7s
DAVA Damuels 115.12 320 *i* PKiKP **PKPdf** **20 28 13.1 +0.2**
SNR=5.7
DAVA *ep*PKPdf **pPKiKP** **20 28 33.3 -1.2**
comp=Z,10nm,1.3s
DAVA *ep*PKiKP **pPKiKP** **20 28 34.7 +0.1**
comp=Z,1.2nm,0.4s
PDAR Pinedale Array 115.61 45 PKP **PKPdf** **20 28 14.8 +0.7**
comp=Z,0.2nm,0.3s,baz=350,slow=2.7,SNR=3.3
PDAR pPKP pPKP 20 28 36.2
comp=Z,0.5nm,0.6s,baz=219,slow=1.9,SNR=2.7
EKA Eskdalemuir Ar 118.69 332 PKP **PKPdf** **20 28 19.2 -0.1**
comp=Z,1.3nm,0.5s,baz=29,slow=3.0,SNR=12
EKA pPKP **pPKPdf** **20 28 41.2 +0.3**
comp=Z,1.3nm,0.5s,baz=35,slow=2.8,SNR=4.7
EKA Eskdalemuir Ar 118.69 332 PKiKP **PKPdf** **20 28 19.2 -0.1**
EKA 20 28 41.2
EKA pmax pmax
comp=Z,1.0nm,0.5s
EKA pmax pmax
comp=Z,1.0nm,0.5s

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
KEST	**Kesra**	**118.89**	**308**	PKP	**PKPdf**	**20 28 20.6**	**+0.1**
	comp=Z,4.4nm,0.9s,baz=275,slow=14,SNR=3.7						
ULM	**Lac du Bonnet**	**121.17**	**33**	pPKP	pPKPdf	20 28 45.4	-0.5
	comp=Z,2.3nm,0.4s,baz=290,slow=2.7,SNR=2.4						
C31A	**Landman Farms,**	**121.37**	**36**	P	**PKPdf**	**20 28 25.5**	**+0.8**
	baz=299						
MNTX	**Cornudas Mount**	**121.72**	**56**	P	**PKPdf**	**20 28 26.9**	**+1.0**
	baz=284						
LTX	**Lajitas**	**123.71**	**59**	*e*PKPdf	**PKPdf**	**20 28 31.4**	**+1.5**
LTX				*e*pPKPdf	**pPKPdf**	**20 28 51.8**	**+0.2**
LTX	**Lajitas**	**123.71**	**59**	*e*PKIKP	**PKPdf**	**20 28 31.4**	**+1.5**
LTX				*e*		20 28 51.8	
TX31	**Lajitas Ar. Si**	**123.71**	**59**	*e*PKPdf	**PKPdf**	**20 28 30.5**	**+0.6**
TXAR	**Lajitas Array**	**123.71**	**59**	PKP	**PKPdf**	**20 28 31.4**	**+1.5**
	comp=Z,0.6nm,0.8s,baz=189,slow=2.0,SNR=6.0						
TXAR				pPKP	**pPKPdf**	**20 28 51.7**	**+0.2**
	comp=Z,1.0nm,0.8s,baz=249,slow=1.4,SNR=6.2						
ECSD	**EROS Data Cent**	**124.00**	**40**	P	**PKPdf**	**20 28 30.1**	**+0.2**
	baz=298						
G38A	**Ridgeland**	**126.21**	**36**	P	**PKPdf**	**20 28 34.2**	**+0.1**
	baz=304						
F39A	**Loretta**	**126.33**	**35**	P	**PKPdf**	**20 28 34.8**	**+0.5**
	baz=305						
JCT	**Junction City**	**126.66**	**56**	P	**PKPdf**	**20 28 35.7**	**+0.3**
	baz=287						
JCT	**Junction City**	**126.66**	**56**	*e*PKPdf	**PKPdf**	**20 28 36.2**	**+0.8**
JCT	**Junction City**	**126.66**	**56**	*e*PKIKP	**PKPdf**	**20 28 36.2**	**+0.8**
H39A	**Augusta**	**126.81**	**37**	P	**PKPdf**	**20 28 35.5**	**+0.2**
	baz=304						
ES19	**SONSECA Array**	**127.32**	**316**	*e*PKPdf	**PKPdf**	**20 28 37.0**	**+0.5**
ESDC	**Sonseca Array**	**127.37**	**316**	PKP	**PKPdf**	**20 28 36.9**	**+0.4**
	comp=Z,0.4nm,0.5s,baz=41,slow=3.0,SNR=5.0						
ESDC				pPKP	**pPKPdf**	**20 28 58.2**	**0.0**
	comp=Z,0.3nm,0.5s,baz=24,slow=2.6,SNR=3.2						
ESDC				PP	**PP**	**20 30 39.5**	**+2.6**
	comp=Z,0.7nm,0.7s,baz=63,slow=8.1,SNR=6.8						
R39A	**Chumby, Stover**	**128.92**	**44**	P	**PKPdf**	**20 28 39.9**	**+0.5**
	baz=298						
S39A	**Bolivar**	**129.01**	**45**	P	**PKPdf**	**20 28 40.2**	**+0.5**
	baz=297						
TOA0	**Torodi Ar. Sit**	**129.42**	**282**	*e*PKPdf	**PKPdf**	**20 28 41.0**	**0.0**
TORD	**Torodi Ar. Bea**	**129.42**	**282**	PKP	**PKPdf**	**20 28 41.6**	**+0.6**
	comp=Z,3.1nm,0.8s,baz=71,slow=1.9,SNR=12						
TORD				pPKP	**pPKPdf**	**20 29 02.4**	**-0.3**
	comp=Z,3.9nm,0.6s,baz=73,slow=1.8,SNR=12						
TORD				SKPbc	SKPab	20 31 55.9	+0.4
	comp=Z,0.9nm,0.5s,baz=72,slow=3.6,SNR=6.3						
TOA1	**Torodi Ar. Sit**	**129.43**	**282**	*e*PKPdf	**PKPdf**	**20 28 41.6**	**+0.6**
TOA1				*e*pPKPdf	**pPKPdf**	**20 29 02.4**	**-0.3**
TOA1				*e*		20 31 55.9	
PLCA	**Paso Flores**	**129.50**	**159**	PKP	**PKPdf**	**20 28 42.2**	**+1.6**
	comp=Z,1.2nm,0.7s,baz=260,slow=3.8,SNR=4.8						
PLCA				pPKP	**pPKPdf**	**20 29 02.8**	**+0.5**
	comp=Z,3.4nm,0.8s,baz=89,slow=5.6,SNR=3.9						
PLCA	**Paso Flores**	**129.50**	**159**	*e*PKPdf	**PKPdf**	**20 28 40.7**	**0.0**
PLCA				pPKP	**pPKPdf**	**20 29 02.8**	**+0.5**
PLCA	**Paso Flores**	**129.50**	**159**	*e*PKIKP	**PKPdf**	**20 28 40.7**	**0.0**
PLCA						20 29 02.8	
S40A	**Lebanon**	**129.63**	**45**	P	**PKPdf**	**20 28 41.6**	**+0.7**
	baz=298						
X39A	**Fountain Ranch**	**129.79**	**49**	P	**PKPdf**	**20 28 43.0**	**+1.7**
	baz=294						
T40A	**Mansfield**	**129.82**	**46**	P	**PKPdf**	**20 28 41.1**	**-0.2**
	baz=297						
U40A	**Yellville**	**129.94**	**47**	P	**PKPdf**	**20 28 42.1**	**+0.7**
	baz=297						
R41A	**Rosebud**	**130.08**	**44**	P	**PKPdf**	**20 28 42.3**	**+0.6**
	baz=299						
V40A	**Witts Springs**	**130.20**	**47**	P	**PKPdf**	**20 28 40.3**	**-1.7**
	baz=296						
V40A	**Witts Springs**	**130.20**	**47**	*e*PKPdf	**PKPdf**	**20 28 42.4**	**+0.4**
M44A	**Midewin, Midew**	**130.63**	**38**	P	**PKPdf**	**20 28 43.2**	**+0.6**
	baz=305						
S42A	**Caledonia**	**130.74**	**44**	P	**PKPdf**	**20 28 43.4**	**+0.4**
	baz=300						
T42A	**Van Buren**	**130.89**	**45**	P	**PKPdf**	**20 28 43.6**	**+0.4**
	baz=299						
R47A	**Wooly Knot Far**	**133.33**	**41**	P	**PKPdf**	**20 28 49.4**	**+1.6**
	baz=304						
W47A	**Westpoint**	**134.22**	**45**	P	**PKPdf**	**20 28 50.0**	**+0.5**
	baz=301						
KOWA	**Kowa**	**134.85**	**284**	PKP	**PKPdf**	**20 28 51.0**	**-0.2**
	comp=Z,1.0nm,0.3s,baz=47,slow=1.5,SNR=6.6						
DBIC	**Dimbokro**	**135.97**	**273**	PKP	**PKPdf**	**20 28 54.8**	**+1.4**
	comp=Z,1.8nm,0.7s,baz=61,slow=3.0,SNR=3.6						
DBIC				pPKP	**pPKPdf**	**20 29 15.2**	**+0.2**
	comp=Z,3.4nm,0.6s,baz=68,slow=2.7,SNR=3.6						
TKL	**Tuckaleechee C**	**136.64**	**42**	PKP	**PKPdf**	**20 28 56.0**	**+1.9**
	comp=Z,5.4nm,0.9s,baz=198,slow=3.2,SNR=3.7						
JTS	**JuntasAbangare**	**144.34**	**81**	PKP	**PKPdf**	**20 29 09.4**	**+0.9**
	comp=Z,5.6nm,0.7s,baz=293,slow=7.7,SNR=7.6						
BBTS	**Babate**	**146.81**	**288**	PKPbc	**PKPbc**	**20 29 15.2**	**+0.7**
	comp=Z,34nm,0.6s,baz=35,slow=0.2,SNR=8.7						
BBTS				pPKPbc	pPKPab	20 29 37.2	+0.1
	comp=Z,32nm,0.6s,baz=278,slow=0.9,SNR=3.9						
CPUP	**Villa Florida**	**146.89**	**167**	PKPbc	**PKPbc**	**20 29 15.2**	**+0.7**
	comp=Z,9.5nm,0.9s,baz=171,slow=2.7,SNR=16						
CPUP				pPKPbc	pPKPab	20 29 37.1	+0.1
	comp=Z,22nm,1.0s,baz=178,slow=2.8,SNR=8.9						
CPUP	**Villa Florida**	**146.89**	**167**	*e*PKPbc	**PKPab**	**20 29 15.8**	**-0.1**
CPUP				pPKPbc	pPKPab	20 29 37.1	+0.1
NNA	**Nana**	**147.18**	**123**	pPKPbc	pPKPbc	20 29 39.1	+1.9
	comp=Z,46nm,0.8s,baz=257,slow=7.7,SNR=6.7						
PB11	**IPOC Station P**	**147.40**	**142**	*e*PKPbc	**PKPab**	**20 29 17.6**	**-0.8**
MNMC	**Minye Minye**	**147.92**	**142**	*e*PKPbc	**PKPab**	**20 29 19.6**	**-0.9**
ATAH	**Atahualpa**	**148.05**	**114**	PKPbc	**PKPab**	**20 29 20.9**	**-0.5**
	comp=Z,7.7nm,0.8s,baz=187,slow=5.5,SNR=6.4						
ATAH				pPKPbc	**pPKPab**	**20 29 42.3**	**-0.2**
	comp=Z,58nm,0.9s,baz=296,slow=3.1,SNR=14						
OTAV	**Otavalo**	**150.21**	**100**	*e*PKPbc	**PKPbc**	**20 29 23.1**	**-1.0**
LPAZ	**La Paz**	**150.96**	**140**	PKPbc	**PKPbc**	**20 29 27.6**	**+1.7**
	comp=Z,4.1nm,0.4s,baz=166,slow=5.5,SNR=3.6						
LPAZ				pPKPbc	**sPKPdf**	**20 29 50.5**	**+0.5**
	comp=Z,52nm,0.8s,baz=130,slow=2.0,SNR=21						
LPAZ	**La Paz**	**150.96**	**140**	*e*PKPdf	**PKPdf**	**20 29 22.1**	**+1.9**
LPAZ				*e*PKPbc	**PKiKP**	**20 29 28.0**	**+1.5**
LPAZ				pPKPbc	**sPKPdf**	**20 29 50.5**	**+0.5**
LPAZ	**La Paz**	**150.96**	**140**	*e*PKIKP	**PKPdf**	**20 29 22.1**	**+1.9**
LPAZ						20 29 50.5	
SIV	**San Ignacio**	**155.16**	**152**	PKPab	**PKPab**	**20 29 50.2**	**-0.1**
	comp=Z,1.5nm,0.6s,baz=217,slow=7.5,SNR=5.5						
SIV				pPKPab	**pPKPab**	**20 30 12.9**	**+1.5**
	comp=Z,6.2nm,0.6s,baz=212,slow=4.1,SNR=7.5						

TAP 07 20:15:06.0, 21°44N×122°25E, h176^{km}±1^{km}, ML3.2, C, Taiwan region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TWKBT	**Hengchun**	**1.42**	**291**	*e*P	Pn	20 15 36.6	-0.2
	baz=288						
TWKBT				S	Sn	20 16 00.3	-0.5
	baz=288						
EAST	**Anshuo**	**1.60**	**306**	P	Pn	20 15 38.6	-0.1
	baz=311						
EAST				S	Sn	20 16 02.4	-1.6
	baz=311						
ECL	**Taimali**	**1.66**	**314**	*e*P	Pn	20 15 39.7	+0.4
	baz=311						
MASBT	**Mashibuluo**	**1.90**	**308**	*e*P	Pn	20 15 42.1	+0.4
	baz=308						
MASBT				*e*S	Sn	20 16 07.8	-1.6
	baz=308						
SSD	**Sandimen**	**1.98**	**311**	*e*P	Pn	20 15 42.9	+0.3
	baz=306						
ELDTW	**Lidau**	**2.08**	**327**	*e*P	Pn	20 15 45.9	+2.1
	baz=327						
ELDTW				*e*S	Sn	20 16 12.2	-1.0
	baz=327						
YULB	**Yu-li**	**2.13**	**336**	*e*P	Pn	20 15 45.1	+0.8
	baz=336						
YULB				*e*S	Sn	20 16 14.1	0.0
	baz=336						
STYT	**Tauyuan**	**2.20**	**321**	*e*P	Pn	20 15 45.8	+0.7
	baz=316						
SGST	**Jiashian**	**2.25**	**317**	*e*P	Pn	20 15 46.0	+0.5
	baz=311						
WTP	**Ta-pu**	**2.35**	**320**	*e*P	Pn	20 15 47.1	+0.3
	baz=313						
YUS	**Yu-Shan**	**2.36**	**330**	*e*P	Pn	20 15 48.9	+1.5
	baz=330						
TPUB	**Ta-pu**	**2.38**	**321**	*e*P	Pn	20 15 47.2	+0.1
	baz=321						
TPUB	**Ta-pu**	**2.38**	**321**	*e*P	Pn	20 15 47.2	+0.1
	172nm,2.0s						
TWK	**Hsinying**	**2.44**	**319**	*e*P	Pn	20 15 47.8	0.0
	baz=313						
CHN5	**Tsauling**	**2.59**	**326**	*e*P	Pn	20 15 50.0	+0.4
	baz=326						
SSLB	**Suanglung**	**2.62**	**333**	*e*P	Pn	20 15 50.5	+0.5
	baz=324						
SSLB	**Suanglung**	**2.62**	**333**	*e*P	Pn	20 15 50.3	+0.3
	24nm,0.7s						
SMLT	**Sun Moon Lake**	**2.73**	**333**	*e*P	Pn	20 15 51.9	+0.6
	baz=325						
TYC	**Yuchr**	**2.77**	**333**	*e*P	Pn	20 15 51.8	+0.2
	baz=325						
CHGB	**Renai**	**2.79**	**339**	*e*P	Pn	20 15 53.0	+0.8
	baz=342						
WHF	**Hehuan Shan**	**2.84**	**342**	*e*P	Pn	20 15 53.2	+0.2
	baz=346						
DPDB	**Guoxing**	**2.85**	**335**	*e*P	Pn	20 15 52.4	-0.3
	baz=327						
ENA	**Nanau**	**3.01**	**351**	*e*P	Pn	20 15 53.9	-0.7
	baz=351						
NNSB	**Datong**	**3.08**	**345**	*e*P	Pn	20 15 55.6	0.0
	baz=350						
NNS	**Nan Shan**	**3.09**	**345**	*e*P	Pn	20 15 56.0	+0.3
	baz=350						

DJA 07 20:29:36.1±0.4**, 9°S**±7°×**11°8E**±°**, h10^{km}, M3.9**/7**, MLv3.9**/7**, Sumbawa region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PLAI	**Plampang**	**0.26**	**89**	P	Pg	20 29 41.5	0.0
PLAI				S	Sg	20 29 45.9	+0.8
DNP	**Denpasar**	**2.28**	**274**	S	Sn	20 30 42.6	+0.6
IGBI	**Denpasar**	**2.34**	**270**	P	Pn	20 30 15.0	+0.4
IGBI				S	Sn	20 30 44.8	+1.4
SRBI	**Singaraja**	**2.39**	**288**	P	Pn	20 30 15.8	+0.5
JAGI	**Jajag, Banyuwa**	**3.34**	**276**	P	Pn	20 30 28.6	+0.2
BSSI	**Bau Bau, Buton**	**3.98**	**48**	P	Pn	20 30 38.5	+1.2
GMJI	**Gumukmas**	**4.06**	**278**	P	Pn	20 30 38.7	+0.4
BNSI	**Bone**	**5.10**	**31**	P	Pn	20 30 54.2	+1.6

*ISCJB **07** 20:32:26.9±0.6, 9°00S±0°06×110°55E±0°03, h100^{km}, mb3.9/14, Error ellipse: s-maj=9.2km s-min=4.3km az=7.5*
*DJA **07** 20:32:28.3±0.3, 9°S±3°×11°1E±°, h43^{km}, M4.4/10, mB5.2/2, mb4.5/2, MLv4.4/10, Mw(mB)4.5/2*
*IDC **07** 20:32:45.8±1.7, 7°19S×110°36E, h158^{km}±20^{km}, mb3.5/16, mb1 3.5/17, mb1mx3.3/68, mbtmp3.9/17, Error ellipse: s-maj=30.1km s-min=14.5km az=38.0*
ISC 07 20:32:28.6±1.0**, 9°0S**±0°1×**110°56E**±0°04**, h100^{km}, n38, σ1§06**/43**, mb3.9**/16**, Jawa**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PCJI	**Pacitan**	**0.97**	**39**	P	**Pn**	**20 32 47.5**	**-1.2**
PCJI				S	**Sn**	**20 33 01.5**	**-2.3**
UGM	**Wanagama**	**1.03**	**358**	P	**Pn**	**20 32 49.0**	**-0.4**
UGM				S	**Sn**	**20 33 04.2**	**-0.9**
WOJI	**Wonogiri, Jawa**	**1.16**	**18**	P	**Pn**	**20 32 50.4**	**-0.5**
WOJI				S	**Sn**	**20 33 06.1**	**-1.5**
KPJI	**Karang Pucung**	**2.27**	**315**	P	**Pn**	**20 33 05.2**	**+0.5**
KPJI				S	**Sn**	**20 33 33.7**	**+1.3**
TBJI	**Tambak Boyo**	**2.48**	**31**	P	**Pn**	**20 33 08.8**	**+1.4**
GRJI	**Gresik**	**2.78**	**43**	P	**Pn**	**20 33 12.5**	**+1.1**
GRJI				S	**Sn**	**20 33 45.5**	**+1.1**
GMJI	**Gumukmas**	**2.94**	**77**	P	**Pn**	**20 33 13.4**	**-0.1**
CISI	**Cisompet, Garu**	**3.04**	**297**	P	**Pn**	**20 33 13.9**	**-1.1**
CISI				S	**Sn**	**20 33 47.4**	**-3.4**
BLJI	**Banyuglugur**	**3.24**	**69**	P	**Pn**	**20 33 18.5**	**+1.0**
JAGI	**Jajag, Banyuwa**	**3.59**	**83**	P	**Pn**	**20 33 22.2**	**0.0**
JAGI				S	**Sn**	**20 34 03.1**	**-0.7**
LEM	**Lembang**	**3.59**	**306**	P	Pn	20 33 28.9	+6.4
	5.1nm,0.3s,baz=134,slow=16,SNR=3.6						
LEM				S	**Sn**	**20 34 05.8**	**+1.6**
	7.2nm,0.3s,baz=12,slow=23,SNR=7.9						
KMMI	**Kalianget**	**3.87**	**61**	P	**Pn**	**20 33 26.6**	**+0.6**
SKJI	**Sukabumi**	**4.41**	**296**	P	**Pn**	**20 33 34.1**	**+0.8**
IGBI	**Denpasar**	**4.54**	**89**	P	**Pn**	**20 33 35.6**	**+0.5**
SRBI	**Singaraja**	**4.69**	**80**	P	**Pn**	**20 33 37.6**	**+0.5**
CGJI	**Cibinong**	**5.35**	**295**	P	**Pn**	**20 33 46.1**	**0.0**
	28nm,0.5s,3µm0.4nm						
PLAI	**Plampang**	**7.14**	**90**	P	**Pn**	**20 34 10.7**	**+0.3**
WRA	**Warramunga Arr**	**25.45**	**118**	P	P	20 38 09.6	+22
	1.2nm,0.8s,baz=293,slow=11,SNR=6.0						
ASAR	**Alice Springs**	**26.70**	**126**	P	P	20 38 21.9	+23
	0.3nm,0.5s,baz=300,slow=8.7,SNR=4.4						
CMAR	**Chiang Mai Arr**	**29.55**	**337**	P	**P**	**20 38 22.3**	**-1.7**
	0.4nm,0.7s,baz=169,slow=7.8,SNR=5.1						
JIRN	**Jiri**	**43.37**	**328**	*e*P	**P**	**20 40 21.6**	**-0.1**
	9.6nm,0.6s						
PKIN	**Phulchoki**	**43.73**	**327**	*e*P	**P**	**20 40 25.0**	**+0.6**
GUN	**Gumba**	**43.74**	**328**	*e*P	**P**	**20 40 24.3**	**-0.3**
	4.8nm,0.5s						
GKN	**Gorkha**	**44.48**	**327**	*e*P	**P**	**20 40 29.5**	**-0.8**
KOLN	**Koldanda**	**44.87**	**325**	*e*P	**P**	**20 40 33.6**	**+0.2**
	3.9nm,0.3s						
KSRS	**Korea Array**	**48.94**	**18**	P	**P**	**20 41 04.4**	**-0.3**
	1.8nm,0.8s,baz=205,slow=7.9,SNR=5.3						
MJAR	**Matsushiro Arr**	**52.18**	**28**	P	**P**	**20 41 28.2**	**-1.0**
	1.1nm,0.6s,baz=210,slow=8.1,SNR=6.5						
USRK	**Ussuriysk Ar.**	**56.35**	**18**	P	**P**	**20 41 59.3**	**+0.1**
	1.0nm,0.6s,baz=152,slow=7.5,SNR=2.5						
SONM	**Songino Array**	**56.65**	**357**	P	**P**	**20 42 01.9**	**+0.4**
	2.6nm,0.7s,baz=178,slow=8.5,SNR=26						
KLR	**Kul'dur**	**60.85**	**16**	P	**P**	**20 42 29.7**	**-0.6**
	0.1nm,0.4s,baz=187,slow=9.1,SNR=12						
MKAR	**Makanchi Array**	**60.95**	**338**	P	**P**	**20 42 31.5**	**+0.4**
	2.7nm,0.4s,baz=151,slow=7.4,SNR=72						
KURBB	**Kurchatov Arra**	**65.52**	**338**	P	**P**	**20 43 01.3**	**+0.1**
	1.0nm,0.5s,baz=153,slow=5.1,SNR=9.6						
ZALV	**Zalesovo Beam**	**66.33**	**344**	P	**P**	**20 43 05.9**	**-0.4**
	1.9nm,0.4s,baz=155,slow=6.3,SNR=13						
GEYT	**Alibeck**	**67.56**	**317**	P	**P**	**20 43 15.6**	**+1.1**
	0.4nm,0.5s,baz=96,slow=12,SNR=2.9						
BVAR	**Borovoye Array**	**70.56**	**336**	P	**P**	**20 43 33.1**	**+0.4**
	0.2nm,0.3s,baz=154,slow=4.6,SNR=4.0						
PETK	**Petropavlovsk-**	**73.63**	**27**	P	**P**	**20 43 51.7**	**+0.7**
	1.5nm,0.8s,baz=253,slow=4.4,SNR=4.1						
AKTO	**Aktyubinsk**	**74.61**	**328**	P	**P**	**20 43 58.1**	**+1.4**
	0.9nm,0.5s,baz=63,slow=4.5,SNR=4.1						
TIXI	**Tiksi**	**81.34**	**6**	P	**P**	**20 44 33.4**	**-0.2**
	0.9nm,0.4s,baz=194,slow=3.2,SNR=8.4						

IDC 07 20:35:33.3±7.6**, 5°23S**×**146°35E, h150^{km}**±79^{km}**, mb3.7**/3**, mb1 4.0**/4**, mb1mx3.1**/52**, mbtmp4.2**/4**, Error ellipse: s-maj=81.4km s-min=25.2km az=141.0, Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.23**	**169**	P	Pn	20 36 37.9	+1.3
	0.9nm,0.3s,baz=294,slow=12,SNR=3.6						
PMG				S	Sn	20 37 25.7	-0.1
	8.7nm,0.3s,baz=171,slow=19,SNR=25						
WRA	**Warramunga Arr**	**18.72**	**218**	P	P	20 39 41.0	+0.4
	2.0nm,0.3s,baz=36,slow=12,SNR=75						
ASAR	**Alice Springs**	**21.90**	**212**	P	P	20 40 15.2	+0.5
	1.6nm,0.4s,baz=44,slow=7.9,SNR=42						
FITZ	**Fitzroy Crossi**	**23.93**	**236**	P	P	20 40 33.1	-0.6
	8.0nm,0.5s,baz=78,slow=7.8						
ILAR	**Eielson Array**	**85.03**	**23**	P	P	20 47 51.5	-0.1
	0.8nm,0.6s,baz=250,slow=5.1,SNR=9.5						

*MOS **07** 20:37:49.4±0.9, 1°04N×28°10W, h10^{km}, mb4.9/44, MS4.5/29, Error ellipse: s-maj=11.5km s-min=5.7km az=56.0*
*IDC **07** 20:37:49.7±0.4, 1°07N×28°07W, h0^{km}, mb4.4/39, mb1 4.6/41, mb1mx4.4/70, mbtmp4.5/41, ML4.9/2, MS4.5/48, Ms1 4.5/48, ms1mx4.4/50, Error ellipse: s-maj=14.6km s-min=9.6km az=157.0*
*ISCJB **07** 20:37:50.3±0.2, 0°97N±0°05×28°10W±0°03, h17^{km}, mb4.8/124, MS4.5/66, Error ellipse: s-maj=6.8km s-min=3.6km az=164.0*
*GCMT **07** 20:37:51.2±0.1, 1°16N×27°95W, h15^{km}, MW5.3/119, Moment Tensor Solution. s90,c149; s119,c227; Duration: 1§1 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.02±.01; $M_{\theta\theta}$0.16±.01; $M_{\phi\phi}$-0.13±.01; $M_{r\theta}$0.18±.04; $M_{\theta\phi}$-1.04±.01; $M_{\phi r}$-0.18±.04; Best double couple: $M_0$1.07900×10^{17} NP1:ϕ_s177.00000°, δ82.00000°, λ10.00000°. NP2:ϕ_s85.00000°, δ80.00000°, λ172.00000°. Principal axes: T 1.1180, Plg13.0000°, Azm41.0000°; N -0.0790, Plg77.0000°, Azm215.0000°; P -1.0390, Plg1.0000°, Azm311.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **07** 20:37:51.2±0.2, 1°05N×28°09W, h10^{km}, mb5.0/75 Error ellipse: s-maj=6.2km s-min=3.9km az=164.0*
ISC 07 20:37:52.1±0.3**, 0°86N**±0°06×**28°17W**±0°05**, h17^{km}, n395, σ1§65**/392**, mb4.8**/128**, MS4.5**/66**, 15C-10D, Central Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RCBR	**Riachuelo**	**10.19**	**229**	Pn	**Pn**	**20 40 18.7**	**+1.0**
	12nm,0.3s,baz=48,slow=13,SNR=71						
RCBR				Sn	**Sn**	**20 42 05.6**	**-6.1**
	1.5nm,0.3s,baz=307,slow=20,SNR=3.2						
RCBR	**Riachuelo**	**10.19**	**229**	*e*Pn	**Pn**	**20 40 17.6**	**-0.2**
SACV	**Santiago Islan**	**14.73**	**18**	*e*Pn	Pn	20 41 14.3	-5.5
H10N3	**ASCENSION HYDR**	**16.14**	**123**	T	T	20 58 04.6	
	baz=302,slow=74						
H10N2	**ASCENSION HYDR**	**16.14**	**123**	T	T	20 58 14.0	
	baz=302,slow=74						
H10N1	**ASCENSION HYDR**	**16.16**	**123**	T	T	20 58 09.1	
	baz=302,slow=74						
ASCN	**Ascension**	**16.31**	**123**	*e*Pn	**Pn**	**20 41 40.1**	**-0.4**
	428nm,1.5s						
H10S3	**ASCENSION HYDR**	**16.62**	**126**	T	T	20 58 43.7	
	baz=306,slow=74						
H10S1	**ASCENSION HYDR**	**16.62**	**126**	T	T	20 58 45.8	
	baz=306,slow=74						
H10S2	**ASCENSION HYDR**	**16.63**	**126**	T	T	20 58 42.4	
	baz=306,slow=74						
BBTS	**Babate**	**17.90**	**39**	P	**Pn**	**20 41 56.9**	**-3.5**
	3.9nm,0.3s,baz=242,slow=4.4,SNR=6.0						
BBTS				LR	LR	20 47 08.4	
	comp=Z,2µm,20.8s,baz=178,slow=32						
LIC	**Lamto**	**23.70**	**76**	*e*P	**P**	**20 43 00.3**	**-3.0**
	132nm,0.9s						
TIC	**Toumodi**	**23.79**	**75**	*e*P	**P**	**20 43 02.1**	**-2.2**
DBIC	**Dimbokro**	**23.96**	**75**	P	**P**	**20 43 03.5**	**-2.3**
	28nm,0.8s,baz=241,slow=11,SNR=28						
DBIC				S	**S**	**20 47 22.9**	**+0.9**
	2.1nm,0.5s,baz=134,slow=17,SNR=3.3						
DBIC				LR	LR	20 49 57.2	
	comp=Z,1µm,21.6s,baz=238,slow=31						
DBIC	**Dimbokro**	**23.96**	**75**	*e*P	**P**	**20 43 02.8**	**-3.0**
	31nm,0.8s						
DBIC				S	**S**	**20 47 22.9**	**+0.9**
DBIC	**Dimbokro**	**23.96**	**75**	*e*P	**P**	**20 43 02.8**	**-3.0**
DBIC				S	**S**	**20 47 22.9**	**+0.9**
DBIC				pmax	pmax		
	comp=Z,31nm,0.8s						
KIC	**Kosan Boka**	**24.00**	**76**	*e*P	**P**	**20 43 03.5**	**-2.8**
	comp=Z,65nm,0.9s						
KOWA	**Kowa**	**27.45**	**59**	P	**P**	**20 43 35.0**	**-2.6**
	comp=Z,30nm,0.7s,baz=239,slow=7.1,SNR=68						
KOWA				LR	LR	20 53 11.2	
	comp=Z,3µm,18.8s,baz=236,slow=34						
KOWA	**Kowa**	**27.45**	**59**	*e*P	**P**	**20 43 34.6**	**-3.0**
	comp=Z,42nm,0.9s						
TOA1	**Torodi Ar. Sit**	**32.00**	**66**	*e*P	**P**	**20 44 15.5**	**-2.4**
TOA0	**Torodi Ar. Sit**	**32.00**	**66**	*e*P	**P**	**20 44 14.9**	**-2.9**
TORD	**Torodi Ar. Bea**	**32.00**	**66**	P	**P**	**20 44 15.5**	**-2.4**
	comp=Z,29nm,0.9s,baz=256,slow=9.1,SNR=83						
TORD				LR	LR	20 55 11.3	
	comp=Z,1µm,21.5s,baz=235,slow=33						
PMOZ	**Porto Moniz, M**	**33.43**	**17**	*e*LR	LR	20 53 12.5	
	comp=Z,874nm,22.0s						
SIV	**San Ignacio**	**36.55**	**241**	LR	LR	20 59 06.6	
	comp=Z,2µm,18.0s,baz=95,slow=35						
PCRV	**Puerto La Cruz**	**37.42**	**286**	LR	LR	20 59 12.7	
	comp=Z,248nm,21.2s,baz=94,slow=34						
SMRT	**St. Maarten**	**38.30**	**299**	*e*P	**P**	**20 45 12.2**	**0.0**
	comp=Z,66nm,1.3s						
CPUP	**Villa Florida**	**39.01**	**224**	P	**P**	**20 45 20.0**	**+2.1**
	comp=Z,27nm,1.1s,baz=58,slow=8.8,SNR=24						
CPUP				LR	LR	21 01 09.8	
	comp=Z,3µm,19.0s,baz=53,slow=36						
CPUP	**Villa Florida**	**39.01**	**224**	*e*P	**P**	**20 45 20.1**	**+2.1**
	comp=Z,59nm,1.4s						
TAM	**Tamanrasset**	**39.33**	**54**	*e*P	**P**	**20 45 19.6**	**-1.3**
	comp=Z,17nm,1.1s						
TAM	**Tamanrasset**	**39.33**	**54**	*e*P	**P**	**20 45 19.6**	**-1.3**
TAM				pmax	pmax		
	comp=Z,17nm,1.1s						
MORF	**Marmelete**	**40.50**	**24**	*e*P	**P**	**20 45 29.4**	**-0.9**
MORF				*e*S	**S**	**20 51 38.5**	**-0.1**
MORF				AMS	AMS	20 59 10.2	
	comp=Z,775nm,17.7s						
MORF	**Marmelete**	**40.50**	**24**	*e*P	**P**	**20 45 29.6**	**-0.7**
MORF				*e*S	S	20 51 47.3	+8.7
MORF	**Marmelete**	**40.50**	**24**	*e*P	**P**	**20 45 29.4**	**-0.9**
MORF				*e*S	**S**	**20 51 38.4**	**-0.1**
H09N1	**TRISTAN DA CUN**	**40.50**	**160**	T	T	21 28 54.1	
	SNR=8.2						
H09W1	**TRISTAN DA CUN**	**40.52**	**160**	T	T	21 28 52.0	
	SNR=13						
PTEO	**Sao Teotonio**	**40.67**	**24**	*e*P	**P**	**20 45 30.8**	**-0.8**
PBDV	**Barranco-do-Ve**	**40.74**	**25**	*e*P	**P**	**20 45 34.0**	**+1.7**
PBDV				*e*S	S	20 51 52.9	+11
CBYP	**Canovanas**	**40.84**	**297**	*e*P	**P**	**20 45 33.6**	**+0.2**
	comp=Z,27nm,1.1s						
PVAQ	**Vaqueiros**	**40.97**	**25**	*e*P	**P**	**20 45 34.0**	**-0.1**
PVAQ				*e*S	S	20 51 53.5	+8.0
PVAQ				*e*LR	LR	20 56 57.0	
	comp=Z,533nm,18.0s						
PCVE	**Castro Verde**	**41.03**	**25**	*e*P	**P**	**20 45 34.1**	**-0.5**
SJG	**San Juan**	**41.05**	**297**	P	**P**	**20 45 34.5**	**-0.5**
	comp=Z,9.0nm,0.8s,baz=117,slow=4.5,SNR=6.1						
SJG				LR	LR	20 58 55.5	
	comp=Z,589nm,21.8s,baz=114,slow=31						
MESJ	**Messejana**	**41.13**	**24**	*e*P	**P**	**20 45 34.6**	**-0.8**
MESJ				*e*S	**S**	**20 51 47.6**	**-0.2**
MESJ				AMS	AMS	20 59 38.2	
	comp=Z,884nm,18.7s						
MESJ	**Messejana**	**41.13**	**24**	*e*P	**P**	**20 45 34.9**	**-0.5**
MESJ	**Messejana**	**41.13**	**24**	*e*P	**P**	**20 45 34.6**	**-0.8**
MESJ				*e*S	**S**	**20 51 47.6**	**-0.2**
PNCL	**Nicolau / Gran**	**41.24**	**24**	*e*P	**P**	**20 45 36.8**	**+0.5**
PNCL				*e*S	S	20 52 01.4	+12
PBEJ	**Beja**	**41.43**	**24**	*e*P	**P**	**20 45 38.5**	**+0.6**
AOPR	**Arecibo Observ**	**41.67**	**297**	*e*P	**P**	**20 45 39.5**	**-0.7**
	comp=Z,22nm,0.9s						
EVO	**Evora**	**41.80**	**24**	*e*P	**P**	**20 45 40.2**	**-0.7**
CRPR	**Cabo Rojo, PR**	**41.87**	**296**	*e*P	**P**	**20 45 41.4**	**-0.3**
	comp=Z,33nm,0.8s						
PBAR	**Barrancos**	**41.91**	**25**	*e*P	**P**	**20 45 43.0**	**+1.2**
PBAR				*e*S	S	20 52 09.9	+11
ALMR	**Almeirim**	**42.12**	**23**	*e*P	**P**	**20 45 42.6**	**-0.9**
ALMR				AMS	AMS	20 59 42.5	
	comp=Z,514nm,18.5s						
ALMR	**Almeirim**	**42.12**	**23**	*e*P	**P**	**20 45 42.6**	**-0.9**
PMTG	**Montargil**	**42.18**	**23**	*e*P	**P**	**20 45 44.0**	**0.0**
PMTG				*e*S	S	20 52 14.6	+11
PESTR	**Estremoz**	**42.26**	**24**	*e*P	**P**	**20 45 46.2**	**+1.5**
PESTR				*e*S	**S**	**20 52 11.0**	**+6.3**
PTOM	**Tomar**	**42.58**	**23**	*e*P	**P**	**20 45 46.2**	**-1.1**
PMRV	**Marv??o**	**42.82**	**24**	*e*P	**P**	**20 45 48.8**	**-0.4**
PMRV				*e*S	**S**	**20 52 19.0**	**+6.1**
PMRV				*e*LQ	LQ	20 55 35.5	
PMRV				*e*LR	LR	20 58 01.8	
	comp=Z,570nm,18.0s						
PCAS	**Casmilo, Conde**	**42.92**	**22**	*e*S	S	20 52 25.9	+12
LPAZ	**La Paz**	**42.96**	**245**	P	**P**	**20 45 52.9**	**+1.5**
	comp=Z,15nm,1.0s,baz=63,slow=6.2,SNR=45						
LPAZ				LR	LR	21 03 37.4	
	comp=Z,1µm,18.2s,baz=69,slow=36						
LPAZ	**La Paz**	**42.96**	**245**	*e*P	**P**	**20 45 52.9**	**+1.5**
	comp=Z,27nm,1.1s						
SDV	**Santo Domingo**	**43.02**	**282**	P	**P**	**20 45 50.9**	**-0.5**
	comp=Z,5.5nm,0.9s,baz=68,slow=5.0,SNR=8.2						
SDV				LR	LR	21 04 35.7	
	comp=Z,216nm,18.1s,baz=102,slow=37						
SDV	**Santo Domingo**	**43.02**	**282**	*e*P	**P**	**20 45 52.2**	**+0.8**
	comp=Z,9.5nm,0.9s						
SDV	**Santo Domingo**	**43.02**	**282**	*e*P	**P**	**20 45 50.6**	**-0.8**
PCBR	**Castelo Branco**	**43.14**	**23**	*e*P	**P**	**20 45 52.0**	**+0.2**
MTE	**Manteigas**	**43.59**	**23**	*e*P	**P**	**20 45 56.2**	**+0.7**
MTE				*e*S	S	20 52 32.1	+7.8
MTE				*e*LQ	LQ	20 55 50.8	
MTE				*e*LR	LR	20 57 52.2	
	comp=Z,514nm,18.0s						
PAB	**San Pablo**	**44.22**	**27**	*e*P	**P**	**20 45 59.5**	**-1.1**
	comp=Z,17nm,1.3s						
PAB	**San Pablo**	**44.22**	**27**	*e*P	**P**	**20 45 59.5**	**-1.1**

PAB pmax pmax
comp=Z,17nm,1.3s
PVRL Vila Real 44.28 22 *e*P **P 20 46 01.1 +0.1**
POLO Lamas de Olo 44.34 22 *e*P **P 20 46 01.7 +0.2**
POLO *e*S S 20 52 45.3 +10
MVO Moncorvo 44.45 23 *e*P **P 20 46 03.1 +0.7**
MVO *e*S S 20 52 48.7 +12
MVO *e*LQ LQ 20 56 07.6
MVO *e*LR LR 20 58 15.3
comp=Z,480nm,20.0s
ESLA Sonseca Array 44.49 27 *e*P **P 20 46 01.7 -1.1**
comp=Z,12nm,1.0s
ESDC Sonseca Array 44.49 27 P **P 20 46 01.6 -1.1**
comp=Z,9.8nm,0.9s,baz=222,slow=8.9,SNR=39
ESDC LR LR 21 04 04.7
comp=Z,259nm,19.4s,baz=215,slow=36
ES19 SONSECA Array 44.54 27 *e*P **P 20 46 01.6 -1.5**
PGAV Gavieira, Arco 44.67 21 *e*P **P 20 46 04.6 +0.4**
PGAV *e*S **S 20 52 42.0 +1.9**
PGAV *e*LQ LQ 20 55 55.3
PGAV *e*LR LR 20 58 39.5
comp=Z,574nm,20.0s
PAMC Pamplona, Colo 44.85 279 *e*P **P 20 46 06.2 -0.4**
RUSC La Rusia 45.10 277 *e*P **P 20 46 08.9 +0.4**
comp=Z,12nm,1.5s
RUSC La Rusia 45.10 277 *e*P **P 20 46 10.0 +1.5**
PBRG Braganca 45.11 23 *e*P **P 20 46 06.9 -0.7**
PBRG *e*S S 20 52 55.4 +9.2
PB11 IPOC Station P 45.54 241 *e*P **P 20 46 12.4 +0.9**
comp=Z,18nm,1.1s
OCAC Ocana 45.56 281 *e*P P 20 46 22.8 +11
PB01 IPOC Station P 45.88 239 *e*P **P 20 46 14.8 +0.7**
comp=Z,74nm,2.0s
SDDR Presa de Saban 45.94 296 *e*P **P 20 46 14.7 +0.2**
comp=Z,17nm,0.8s
ROSC El Rosal 46.25 276 P **P 20 46 18.5 +1.0**
comp=Z,2.6nm,0.4s,baz=107,slow=14,SNR=2.8
ROSC LR LR 21 04 16.0
comp=Z,738nm,19.3s,baz=118,slow=34
ROSC El Rosal 46.25 276 *e*P **P 20 46 18.0 +0.5**
comp=Z,44nm,1.8s
PTBC PUERTO BERRIO, 46.51 278 *e*P P 20 46 10.2 -9.0
NORC Norcasia 46.84 277 *e*P **P 20 46 22.3 +0.6**
ZARC Zaragoza, Cauc 47.00 279 *e*P **P 20 46 26.0 +3.1**
HELC Santa Helena 47.55 278 *e*P **P 20 46 28.3 +0.7**
comp=Z,25nm,1.2s
YOTC Yotoco, Valle 48.23 275 *e*P **P 20 46 29.3 -3.3**
SOTA Rioblanco 48.44 272 *e*P **P 20 46 35.8 +1.2**
TSUM Tsumeb 49.12 116 P **P 20 46 40.9 +1.5**
comp=Z,4.7nm,1.0s,baz=295,slow=9.7,SNR=3.7
KEST Kesra 49.16 41 P **P 20 46 38.7 -0.7**
comp=Z,6.2nm,0.7s,baz=242,slow=7.2,SNR=8.6
KEST LR LR 21 07 06.3
comp=Z,863nm,22.0s,baz=193,slow=36
KEST Kesra 49.16 41 *e*P **P 20 46 38.8 -0.7**
comp=Z,20nm,1.1s
TRQA Tornquist 49.71 215 *e*P **P 20 46 44.6 +1.1**
comp=Z,115nm,1.9s
VAL Valentia 53.08 14 *e*S **S 20 54 44.4 +6.6**
VAE Valguarnera 53.51 42 LR LR 21 10 37.4
comp=Z,921nm,18.4s,baz=192,slow=37
CBCY The Bluff, Cay 53.83 294 *e*P **P 20 47 14.9 +0.4**
comp=Z,70nm,1.0s
AQU L'Aquila 55.63 37 *e*P **P 20 47 27.0 -0.3**
comp=Z,30nm,1.0s
AQU L'Aquila 55.63 37 *e*P **P 20 47 27.0 -0.3**
AQU pmax pmax
comp=Z,30nm,1.0s
ECH Echery 56.17 28 *e*P **P 20 47 30.1 -0.9**
comp=Z,6.8nm,1.1s
ECH Echery 56.17 28 *e*P **P 20 47 30.1 -0.9**
ECH pmax pmax
comp=Z,7.0nm,1.1s
DOU Dourbes 56.43 25 ⇑P **P 20 47 32.8 0.0**
DOU ⇓XP **pP 20 47 37.5 -0.7**
PLCA Paso Flores 56.52 218 P **P 20 47 34.1 +0.4**
comp=Z,5.7nm,1.1s,baz=19,slow=6.4,SNR=2.9
PLCA LR LR 21 12 06.7
comp=Z,650nm,18.3s,baz=88,slow=36
PLCA Paso Flores 56.52 218 *e*P **P 20 47 34.5 +0.7**
comp=Z,29nm,1.5s
BFO Black Forest 56.80 28 *i* P **P 20 47 37.1 +1.6**
DAVA Damuels 56.84 30 *e*P **P 20 47 34.9 -1.1**
comp=Z,7.6nm,0.9s
FETA Feichten 57.09 31 *e*P **P 20 47 36.7 -1.0**
comp=Z,14nm,1.3s
JTS JuntasAbangare 57.20 282 LR LR 21 12 51.8
comp=Z,174nm,19.1s,baz=172,slow=37
MEM Membach 57.41 25 ⇑P **P 20 47 39.9 +0.2**
MEM ⇑AP **pP 20 47 43.1 -2.1**
comp=Z,10nm,1.4s
RETA Reutte 57.42 30 *e*P **P 20 47 39.3 -0.7**
comp=Z,7.3nm,1.3s
MOTA Moosalm 57.50 31 *e*P **P 20 47 40.3 -0.4**
comp=Z,8.4nm,1.0s,SNR=5.6
WTTA Wattenberg 57.72 31 *e*pP **P 20 47 43.4 +1.2**
comp=Z,6.2nm,1.0s
WATA Walderalm 57.73 31 *e*P **P 20 47 41.1 -1.1**
comp=Z,7.3nm,1.1s
ABTA Abfaltersbach 57.84 32 P **P 20 47 42.8 -0.1**
comp=Z,22nm,1.2s,SNR=12
EKA Eskdalemuir Ar 57.99 17 P **P 20 47 41.9 -1.9**
comp=Z,1.7nm,0.8s,baz=195,slow=5.1,SNR=3.1
EKA LR LR 21 08 44.7
comp=Z,480nm,19.3s,baz=205,slow=32
LBTB Lobatse 58.00 120 *e*P **P 20 47 44.6 +0.1**
comp=Z,13nm,1.0s
LBTB Lobatse 58.00 120 *e*P **P 20 47 44.6 +0.1**
LBTB pmax pmax
comp=Z,13nm,1.0s
MYKA Terra Mystica 58.37 33 *e*P **P 20 47 46.5 -0.2**
comp=Z,9.2nm,1.1s
KBA Koelnbreinsper 58.49 32 *e*pP **P 20 47 48.8 +1.2**
comp=Z,15nm,1.7s
ITM Ithomi 58.58 46 *e*P **P 20 47 47.1 -1.1**
comp=Z,23nm,1.0s
BOSA Boshof 58.89 124 P **P 20 47 50.5 -0.1**
comp=Z,5.1nm,0.9s,baz=274,slow=6.3,SNR=6.9
BOSA LR LR 21 08 09.1
comp=Z,557nm,21.9s,baz=272,slow=31
SOKA Soboth 59.16 33 *e*P **P 20 47 51.4 -0.7**
comp=Z,14nm,1.2s,SNR=11
BINY Binghamton 59.41 320 P **P 20 47 52.8 -1.1**
baz=120
BINY Binghamton 59.41 320 *e*P **P 20 47 53.1 -0.8**
comp=Z,35nm,1.1s
MOA Molln 59.46 32 *e*P **P 20 47 51.5 -2.6**
comp=Z,7.0nm,1.1s
AGG Agios Georgios 59.68 44 *e*P **P 20 47 55.2 -0.7**
AGG Agios Georgios 59.68 44 *e*P **P 20 47 55.2 -0.7**
ARSA Arzberg 59.77 33 *e*P **P 20 47 55.7 -0.6**
comp=Z,6.4nm,1.4s
GEA0 GERESS Array S 59.79 31 *e*P **P 20 47 55.1 -1.4**
GEC2 GERESS Array S 59.80 31 *e*P **P 20 47 55.1 -1.4**
comp=Z,6.9nm,0.9s
GEC2 GERESS Array S 59.80 31 *e*P **P 20 47 55.1 -1.4**
GEC2 pmax pmax
comp=Z,7.0nm,0.9s
GERES GERESS Array B 59.80 31 P **P 20 47 54.9 -1.6**
comp=Z,4.6nm,0.9s,baz=234,slow=4.5,SNR=23
GERES LR LR 21 12 36.8
comp=Z,270nm,20.0s,baz=232,slow=35
FNA Florina 59.84 42 *e*P **P 20 47 56.4 -0.6**
comp=Z,27nm,1.0s
FNA Florina 59.84 42 *e*P **P 20 47 56.4 -0.6**
FNA pmax pmax
comp=Z,27nm,1.0s
KHC Kasperske Hory 59.92 30 *e*P **P 20 47 56.1 -1.2**
KHC *e*S **S 20 56 09.1 +0.4**
KHC AMS AMS 21 11 20.0
comp=Z,500nm,20.9s
KHC Kasperske Hory 59.92 30 *e*P **P 20 47 55.5 -1.8**
comp=Z,3.6nm,1.0s
KHC Kasperske Hory 59.92 30 *e*P **P 20 47 55.5 -1.8**
KHC pmax pmax
comp=Z,4.0nm,1.0s
IDI Anoyia 59.99 49 P **P 20 47 57.5 -0.6**
comp=Z,6.7nm,0.8s,baz=282,slow=10.0,SNR=8.0
IDI LR LR 21 15 21.3
comp=Z,509nm,20.0s,baz=264,slow=38
IDI Anoyia 59.99 49 ⇑*i*P **P 20 47 59.1 +1.0**
IDI Anoyia 59.99 49 *e*P **P 20 47 58.6 +0.6**
comp=Z,9.3nm,0.9s
CONA Conrad Observa 60.36 33 *e*P **P 20 47 59.4 -1.0**
comp=Z,4.3nm,1.0s
DIVS Divibare 60.60 38 *e*P **P 20 48 01.9 -0.2**
comp=Z,9.1nm,1.0s
TRQ Mont Tremblant 60.69 325 *e*P **P 20 48 01.9 -0.8**
MCWV Mont Chateau 60.78 316 *e*P **P 20 48 02.4 -0.9**
comp=Z,52nm,1.6s
SANT Santorini 60.83 48 *e*P **P 20 48 02.0 -1.8**
comp=Z,32nm,1.1s
MMNY Mt. Morris Dam 60.91 320 *e*P **P 20 48 03.6 -0.5**
comp=Z,80nm,1.9s
PRU Pruhonice 60.95 30 *e*P **P 20 48 01.9 -2.3**
PRU *ex* x 20 48 12.6
PRU *e*S **S 20 56 21.8 +0.1**
PRU AMS AMS 21 11 50.0
comp=Z,500nm,14.9s
PRU Pruhonice 60.95 30 *e*P **P 20 48 01.9 -2.3**
PRU *e*S **S 20 56 21.8 +0.1**
PRU MLR MLR
comp=Z,500nm,14.9s
TREC Trest 61.00 31 *e*S **S 20 56 24.9 +2.4**
GOPC GO Pecny, Ondr 61.02 30 *e*P **P 20 48 04.3 -0.5**
GOPC *ex* x 20 48 13.2
GOPC *e*S **S 20 56 27.0 +4.2**
GOPC AMS AMS 21 12 00.0
comp=Z,500nm,20.3s
GOPC GO Pecny, Ondr 61.02 30 *e*P **P 20 48 04.3 -0.5**
GOPC *e* 20 48 13.2
GOPC *e*S **S 20 56 27.0 +4.2**
GOPC MLR MLR
comp=Z,500nm,20.3s
CLL Collm 61.05 28 *e*(P) **P 20 48 06.0 +1.1**
CLL *i* (sP) **sP 20 48 14.4 +1.9**
comp=Z,14nm,1.5s
CLL *e*S **S 20 56 29.0 +6.0**
comp=N,300nm,27.8s
CLL *e*S **S 20 56 29.0 +6.0**
comp=E,300nm,26.4s
CLL *e*S **S 20 56 29.0 +6.0**
comp=Z,200nm,22.5s
CLL *e*SSS SSS 21 03 18.0
CLL Lm MLR 21 10 00.0
comp=N,300nm,21.5s
CLL Lm MLR 21 10 00.0
comp=E,200nm,20.9s
CLL Lm MLR 21 10 00.0
comp=Z,200nm,20.2s
CLL Collm 61.05 28 *i* P P 20 48 14.4 +9.5
CLL *e*S **S 20 56 29.0 +6.0**
CLL MLR MLR
comp=Z,200nm,20.2s
BRG Berggiesshubel 61.22 29 *e*P **P 20 48 04.5 -1.5**
comp=Z,6.1nm,1.0s
BRG S **S 20 56 31.0 +5.9**
comp=N,259nm,12.7s
comp=E,362nm,16.7s
comp=Z,358nm,22.7s
BRG Berggiesshubel 61.22 29 *e*P **P 20 48 04.5 -1.5**
BRG S **S 20 56 31.0 +5.9**
BRG pmax pmax
comp=Z,6.0nm,1.0s
BRG MLR MLR
comp=N,259nm,12.7s
BRG MLR MLR
comp=E,362nm,16.7s
BRG MLR MLR
comp=Z,358nm,22.7s
PVCC Panska Ves 61.30 30 *e*P **P 20 48 06.5 -0.1**
PVCC AMS AMS 21 12 00.0
comp=Z,400nm,18.6s
PVCC Panska Ves 61.30 30 *e*P **P 20 48 06.5 -0.1**
PVCC MLR MLR
comp=Z,400nm,18.6s
MODS Modra-Piesok 61.39 33 *e*P **P 20 48 07.3 0.0**
MODS *e* 20 48 15.4
MODS Modra-Piesok 61.39 33 *e*P **P 20 48 07.3 0.0**
MODS *e* 20 48 15.4
comp=Z,8.2nm,1.1s
VTS Vitosha 61.91 41 *e*P **P 20 48 10.5 -0.6**
comp=Z,8.2nm,1.1s
VTS Vitosha 61.91 41 *e*P **P 20 48 10.9 -0.1**
VTS Vitosha 61.91 41 *e*P **P 20 48 10.5 -0.6**
VTS pmax pmax
comp=Z,8.0nm,1.1s
UPC Upice 62.01 30 *e*P **P 20 48 11.6 +0.2**
UPC *ex* x 20 48 20.0
UPC *ex* x 20 56 45.4
UPC AMS AMS 21 12 20.0
comp=Z,400nm,19.7s
UPC Upice 62.01 30 *e*P **P 20 48 11.6 +0.2**
UPC *e* 20 48 20.0
UPC *e*S S 20 56 45.4 +10
UPC MLR MLR
comp=Z,400nm,19.7s
TKL Tuckaleechee C 62.05 310 P **P 20 48 13.9 +1.8**
comp=Z,5.6nm,1.1s,baz=85,slow=5.2,SNR=2.0
TKL LR LR 21 09 10.9
comp=Z,335nm,21.6s,baz=130,slow=30
TKL Tuckaleechee C 62.05 310 *e*P **P 20 48 12.3 +0.2**
comp=Z,55nm,1.9s
TKL Tuckaleechee C 62.05 310 *e*P **P 20 48 12.3 +0.2**
TKL pmax pmax
comp=Z,55nm,1.9s
DPC Dobruska-Polom 62.07 31 *e*P **P 20 48 11.2 -0.7**
DPC *ex* x 20 48 20.0
DPC *e*S **S 20 56 39.3 +3.2**
DPC AMS AMS 21 12 40.0
comp=Z,400nm,17.6s
DPC Dobruska-Polom 62.07 31 *e*P **P 20 48 11.2 -0.7**
DPC *e* 20 48 20.0
DPC *e*S **S 20 56 39.3 +3.2**
DPC MLR MLR
comp=Z,400nm,17.6s
KRLC Kraliky 62.14 31 *e*P **P 20 48 12.3 -0.1**
KRLC *ex* x 20 48 21.2
KRLC Kraliky 62.14 31 *e*P **P 20 48 12.3 -0.1**
KRLC *e* 20 48 21.2
VYHS Vyhne 62.31 33 *e*P **P 20 48 12.8 -0.7**
VYHS *e* 20 48 21.4
VYHS Vyhne 62.31 33 *e*P **P 20 48 12.8 -0.7**
VYHS *e* 20 48 21.4
MORC Moravsky Berou 62.36 32 *i*P **P 20 48 12.7 -1.1**
MORC Moravsky Berou 62.36 32 *e*P **P 20 48 13.2 -0.6**
comp=Z,48nm,1.1s
MORC Moravsky Berou 62.36 32 *e*P **P 20 48 13.2 -0.6**
MORC pmax pmax
comp=Z,48nm,1.1s
SCHQ Schefferville 62.36 336 P **P 20 48 14.2 +0.5**
comp=Z,1.4nm,0.4s,baz=170,slow=12,SNR=2.1
SCHQ LR LR 21 10 35.1
comp=Z,215nm,21.1s,baz=132,slow=32
SCHQ Schefferville 62.36 336 *e*P **P 20 48 14.3 +0.5**
comp=Z,34nm,1.5s
BZS Buzias 62.37 37 ⇓*i*P **P 20 48 13.6 -0.4**
RZN Rozhen 62.50 42 *e*P **P 20 48 14.5 -0.6**
PSZ Piszkesteto 62.58 34 ⇑*i*P **P 20 48 14.5 -0.9**
PSZ Piszkesteto 62.58 34 *e*P **P 20 48 14.8 -0.6**
comp=Z,29nm,1.0s
PSZ Piszkesteto 62.58 34 *e*P **P 20 48 14.8 -0.6**
PSZ pmax pmax
comp=Z,29nm,1.0s
OKC Ostrava-Krasne 62.71 32 *e*P **P 20 48 15.6 -0.5**
OKC *ex* x 20 48 24.7
OKC AMS AMS 21 12 30.0
comp=Z,300nm,18.9s
OKC Ostrava-Krasne 62.71 32 *e*P **P 20 48 15.6 -0.5**
OKC *e* 20 48 24.7
OKC MLR MLR
comp=Z,300nm,18.9s
KDZ Kurdzhali 62.95 43 *e*P **P 20 48 16.5 -1.4**
APG El Apazote 63.06 286 LR LR 21 14 41.6
comp=Z,243nm,21.4s,baz=100,slow=35
KECS Kecovo 63.22 34 *e*P **P 20 48 20.5 +1.0**
KECS Kecovo 63.22 34 *e*P **P 20 48 20.5 +1.0**
DRGR 63.62 37 ⇑*i*P **P 20 48 21.7 -0.6**
NIE Niedzica 63.63 33 *e*P **P 20 48 22.6 +0.4**
NIE Niedzica 63.63 33 *e*P **P 20 48 22.6 +0.4**
OJC Ojcow 63.80 32 *e*P **P 20 48 23.3 0.0**
OJC Ojcow 63.80 32 *e*P **P 20 48 23.1 -0.3**
comp=Z,17nm,1.0s
OJC Ojcow 63.80 32 *e*P **P 20 48 23.1 -0.3**
OJC pmax pmax
comp=Z,17nm,1.0s
BORG Borgarnes 63.94 3 LR LR 21 11 04.7
comp=Z,107nm,19.1s,baz=176,slow=31
CRVS Cervenica-Dubn 63.99 34 *e* P 20 48 33.0 +8.4
CRVS Cervenica-Dubn 63.99 34 *e*P P 20 48 33.0 +8.4
SZH Strazhica 64.00 41 *e*P **P 20 48 23.8 -1.0**
ARR Arges 64.11 39 ⇓*i*P **P 20 48 25.2 -0.4**
UZH Uzhgorod 64.31 35 ⇓*i*P **P 20 48 27.0 +0.3**
UZH *i* 20 48 29.7
UZH *i* 20 48 33.7
VOIR 64.40 39 ⇓*i*P **P 20 48 26.9 -0.6**
S48A Wiedeman Farm, 64.47 312 P **P 20 48 28.4 +0.4**
baz=110
T48A Bowling Green 64.54 311 P **P 20 48 28.1 -0.4**
baz=110
DOPR Dopca 64.85 38 ⇑*i*P **P 20 48 30.0 -0.4**
W47A Westpoint 64.86 309 P **P 20 48 30.6 0.0**
baz=108
PRD Provadia 64.94 42 *e*P **P 20 48 30.0 -0.9**
MLR Muntele Rosu 64.98 39 P **P 20 48 30.1 -1.2**
comp=Z,3.9nm,1.1s,baz=258,slow=3.8,SNR=19
MLR LR LR 21 18 01.2
comp=Z,102nm,19.9s,baz=254,slow=37
MLR Muntele Rosu 64.98 39 ⇓*i*P **P 20 48 31.1 -0.3**
MLR Muntele Rosu 64.98 39 *e*P **P 20 48 29.8 -1.6**
comp=Z,30nm,1.2s
MLR Muntele Rosu 64.98 39 *e*P **P 20 48 29.8 -1.6**
MLR pmax pmax
comp=Z,30nm,1.2s
U47A Clarksville 65.00 310 P **P 20 48 31.8 +0.3**
baz=109
T47A Sharon Grove 65.04 311 P **P 20 48 31.4 -0.3**
baz=109
R47A Wooly Knot Far 65.04 312 P **P 20 48 31.6 -0.2**
baz=110
ISR Istrita 65.20 40 ⇑*i*P **P 20 48 32.6 -0.1**
V46A Holladay 65.44 309 P **P 20 48 33.9 -0.5**
baz=108
KMBO Kilima Mbogo 65.45 92 P **P 20 48 37.2 +2.1**
comp=Z,1.4nm,0.8s,baz=258,slow=3.8,SNR=4.2
KMBO LR LR 21 13 23.4
comp=Z,270nm,20.0s,baz=280,slow=33
BUR04 Bucovina Ar. S 65.51 37 *e*P **P 20 48 33.9 -0.9**
BURAR Bucovina Array 65.52 37 ⇑*i*P **P 20 48 34.4 -0.3**
PLOR Plostina 65.59 39 ⇑*i*P **P 20 48 34.8 -0.4**
VRI Vrincioaia 65.64 39 ⇓*i*P **P 20 48 35.0 -0.5**
TESR Tescani 65.88 38 ⇑*i*P **P 20 48 36.5 -0.5**
LVV L'vov 65.90 34 *e*P **P 20 48 36.4 -0.6**
N46A Monticello 66.11 315 P **P 20 48 38.2 -0.3**
baz=111
GLMI Grayling 66.19 320 P **P 20 48 39.0 0.0**
baz=114
CFR Carcaliu 66.24 40 ⇑*i*P **P 20 48 38.7 -0.6**
R45A Skylar, Fairfi 66.34 312 P **P 20 48 39.8 -0.3**
baz=109
CSS Mathiatis 66.40 52 *e*P **P 20 48 38.8 -1.8**
comp=Z,2.7nm,0.9s
F46A Macinaw City C 66.67 320 P **P 20 48 40.5 -1.5**
baz=114
NBO02 NORSAR Array S 66.99 19 *e*P **P 20 48 43.6 -0.2**
NB2 NORSAR Subarra 67.10 20 P **P 20 48 44.6 +0.1**
comp=Z,1.6nm,0.8s,baz=224,slow=6.5
NB200 NORSAR Array S 67.10 20 *e*P **P 20 48 44.3 -0.2**
NOA NORSAR Array B 67.10 20 P **P 20 48 44.3 -0.2**
comp=Z,3.8nm,1.0s,baz=223,slow=6.3,SNR=4.8
NOA LR LR 21 13 01.9
comp=Z,233nm,21.7s,baz=230,slow=32
F45A CMU Biological 67.12 320 P **P 20 48 44.3 -0.6**
baz=114
HFS Hagfors 67.32 21 P **P 20 48 44.7 -1.2**
comp=Z,5.1nm,1.1s,baz=234,slow=9.8,SNR=3.2
HFS LR LR 21 16 07.2
comp=Z,288nm,19.0s,baz=224,slow=34
BR231 Keskin MP Arra 67.46 47 *e*P **P 20 48 46.6 -0.7**
ANTO Ankara 67.48 47 *e*P **P 20 48 46.1 -1.3**
comp=Z,20nm,1.1s
ANTO Ankara 67.48 47 *e*P **P 20 48 46.1 -1.3**
ANTO pmax pmax
comp=Z,20nm,1.1s
MMAI Mount Meron Ar 67.54 55 P **P 20 48 47.0 -1.0**
comp=Z,3.3nm,0.7s,baz=240,slow=4.8,SNR=13
MMAI LR LR 21 19 40.4
comp=Z,348nm,18.3s,baz=220,slow=37
SUW Suwalki 67.63 30 *e*P **P 20 48 47.5 -0.4**
SUW Suwalki 67.63 30 *e*P **P 20 48 47.7 -0.3**
comp=Z,45nm,1.0s
SUW Suwalki 67.63 30 *e*P **P 20 48 47.5 -0.4**
SORM Soroca 67.63 37 ⇓*i*P **P 20 48 46.3 -1.8**
SFJD Kangerlussuaq 67.86 351 P **P 20 48 46.6 -2.5**
comp=Z,1.9nm,0.4s,baz=175,slow=12,SNR=2.6
SFJD LR LR 21 12 33.4
comp=Z,223nm,19.1s,baz=158,slow=31
U42A Revenden 68.01 309 P **P 20 48 49.5 -1.3**
baz=106
BR101 Keskin Array S 68.05 47 *e*P **P 20 48 50.1 -1.0**
BR131 Keskin Array S 68.05 47 *e*P **P 20 48 50.0 -1.2**
BRTR Keskin Array B 68.05 47 P **P 20 48 50.1 -1.0**
comp=Z,8.3nm,0.9s,baz=234,slow=6.0,SNR=39
BRTR LR LR 21 19 30.8
comp=Z,311nm,21.0s,baz=234,slow=37
S42A Caledonia 68.07 311 P **P 20 48 50.0 -1.1**
baz=107
CCM Cathedral Cave 68.50 311 P **P 20 48 51.5 -2.2**
baz=106
CCM Cathedral Cave 68.50 311 *e*P **P 20 48 52.2 -1.6**
comp=Z,15nm,1.3s
CCM Cathedral Cave 68.50 311 *e*P **P 20 48 52.2 -1.6**
CCM pmax pmax
comp=Z,15nm,1.3s
ILGA Ilgaz 68.52 46 *e*P **P 20 48 51.6 -2.6**
comp=Z,12nm,1.0s
ASF Jabal al Asfar 68.57 56 P **P 20 48 53.6 -0.9**
comp=Z,4.2nm,0.9s,baz=297,slow=6.8,SNR=8.0
ASF LR LR 21 20 45.4
comp=Z,419nm,18.0s,baz=204,slow=38
R41A Rosebud 68.67 311 P **P 20 48 52.0 -2.8**
baz=106
S41A Jillco Farms, 68.75 310 P **P 20 48 53.5 -1.9**
baz=106
X40A Basin Creek Fa 68.79 307 P **P 20 48 53.8 -1.9**
baz=104
G42A Mountain 68.84 319 P **P 20 48 53.0 -2.8**
baz=111
AK11 Malin Array Si 69.22 35 *e*P **P 20 48 56.4 -1.6**
T40A Mansfield 69.22 310 P **P 20 48 57.3 -1.1**
baz=105
KIEV Kiev 69.25 35 *e*P **P 20 48 56.7 -1.5**
comp=Z,28nm,1.0s
KIEV Kiev 69.25 35 *i* P **P 20 48 57.2 -0.9**
KIEV pmax pmax
comp=Z,17nm,1.1s
AKASG Malin Array Be 69.26 35 P **P 20 48 56.9 -1.4**
comp=Z,11nm,0.8s,baz=241,slow=6.6,SNR=41
AKASG LR LR 21 18 42.3
comp=Z,129nm,20.4s,baz=220,slow=36
AKBB Malin Array Si 69.26 35 *e*P **P 20 48 56.7 -1.5**
comp=Z,26nm,0.9s
AKBB Malin Array Si 69.26 35 *e*P **P 20 48 56.7 -1.5**
AKBB pmax pmax
comp=Z,26nm,0.9s
S40A Lebanon 69.33 310 P **P 20 48 57.3 -1.7**
baz=105
Q40A Laux Farm, Aux 69.39 312 P **P 20 48 58.2 -1.1**
baz=106
P40A Paris 69.52 312 P **P 20 48 58.7 -1.4**
baz=106
D41A Chassel 69.60 321 P **P 20 49 00.1 -0.4**
baz=112
T39A Clever 69.85 309 P **P 20 49 01.1 -1.1**
baz=105
R39A Chumby, Stover 69.93 311 P **P 20 49 01.6 -1.0**
baz=105
S39A Bolivar 69.98 310 P **P 20 49 01.9 -1.1**
baz=105
J39A Decorah 70.41 316 P **P 20 49 03.9 -1.6**
baz=108
S38A Stockton 70.41 310 P **P 20 49 04.7 -1.0**
baz=104
R38A Fenwick Farm, 70.55 310 P **P 20 49 05.3 -1.1**
baz=105
G38A Ridgeland 71.09 318 P **P 20 49 08.5 -1.1**
baz=108
ATD Arta Tunnel 71.23 78 LR LR 21 19 53.1
comp=Z,115nm,20.9s,baz=262,slow=36
SPMN Marine on St. 71.75 318 P **P 20 49 12.7 -0.9**
baz=108
SPMN Marine on St. 71.75 318 *e*P **P 20 49 11.9 -1.6**
comp=Z,25nm,1.4s
D36A Goodland 72.59 320 P **P 20 49 17.6 -1.0**
baz=108

FIA0	FINESS Array S	72.91	24	eP	P	20 49 19.8	-0.4
FIA0	FINESS Array S	72.91	24	eP	P	20 49 19.8	-0.4
FINES	FINESS Array B	72.91	24	P	P	20 49 19.8	-0.4
	comp=Z,4.6nm,0.9s,baz=272,slow=4.0,SNR=6.5						
FINES				LR	LR	21 18 21.5	
	comp=Z,429nm,20.2s,baz=236,slow=34						
VNA2	Neumayer--Watz	72.94	173	P	P	20 49 23.8	+3.6
	baz=325,slow=6.0						
VNA3	Neumayer Olymp	72.98	174	P	P	20 49 22.2	+1.7
SOC	Sochi	73.52	45	eP	P	20 49 22.7	-1.4
SOC				e		20 52 03.5	
SOC				eS	SKiKP	20 58 53.9	-0.4
SOC				eSS	SS	21 03 32.5	-3.8
SOC				pmax	pmax		
	comp=Z,5.0nm,0.6s						
SOC				MLR	MLR		
	comp=Z,115nm,17.0s						
ECSD	EROS Data Cent	73.95	315	eP	P	20 49 25.0	-1.7
	comp=Z,7.4nm,1.0s						
SNAA	Sanae	74.23	172	P	P	20 49 32.1	+4.3
SNAA	Sanae	74.23	172	P	P	20 49 29.6	+1.8
	comp=Z,3.7nm,0.8s,baz=306,slow=9.2,SNR=7.0						
SNAA	Sanae	74.23	172	eP	P	20 49 30.0	+2.2
	comp=Z,34nm,2.0s						
SNAA	Sanae	74.23	172	P	P	20 49 29.6	+1.8
SNAA				pmax	pmax		
	comp=Z,3.0nm,1.0s						
RAYN	Ar Rayn	74.70	66	eP	P	20 49 31.4	-0.1
	comp=Z,8.1nm,1.0s						
H32A	Carlson Farm,	74.71	316	P	P	20 49 26.5	-4.6
	baz=104						
OBN	Obninsk	75.09	33	eP	P	20 49 31.7	-1.3
OBN				e		20 49 50.9	
OBN				e		20 52 24.1	
OBN				pmax	pmax		
	comp=Z,4.0nm,1.0s						
OBN				MLR	MLR		
	comp=Z,203nm,17.0s						
ULM	Lac du Bonnet	75.23	322	P	P	20 49 33.3	-0.7
	comp=Z,4.8nm,0.9s,baz=135,slow=5.2,SNR=3.9						
ULM				LR	LR	21 17 19.7	
	comp=Z,321nm,21.2s,baz=102,slow=32						
ULM	Lac du Bonnet	75.23	322	P	P	20 49 33.3	-0.7
ULM				pmax	pmax		
	comp=Z,3.0nm,0.7s						
ULM				MLR	MLR		
	comp=Z,321nm,21.2s						
VSR	Storozhevoye	75.29	37	eP	P	20 49 34.1	-0.2
VSR				pmax	pmax		
	comp=Z,9.0nm,0.9s						
NEY	Neytrino	75.56	45	i P	P	20 49 36.3	0.0
NEY				pmax	pmax		
	comp=Z,2.0nm,0.9s						
LPSR	Galich'ya Gora	75.57	35	eP	P	20 49 35.2	-0.7
LPSR				pmax	pmax		
	comp=Z,10.0nm,0.8s						
KIV	Kislovodsk	75.69	45	eP	P	20 49 35.9	-1.0
	comp=Z,18nm,1.3s						
KIV	Kislovodsk	75.69	45	eP	P	20 49 36.8	-0.1
KIV				pmax	pmax		
	comp=Z,10.0nm,1.1s						
KIV				MLR	MLR		
	comp=Z,186nm,18.0s						
KBZ	Khabaz	75.79	45	P	P	20 49 37.1	-0.2
	comp=Z,4.2nm,0.9s,baz=326,slow=2.1,SNR=9.0						
KBZ				LR	LR	21 25 37.4	
	comp=Z,167nm,18.4s,baz=258,slow=38						
MOS	Moscow	75.87	32	eP	P	20 49 46.0	+8.5
MOS				pmax	pmax		
	comp=Z,58nm,1.0s						
NCK	Nalchik	76.24	45	i P	P	20 49 40.3	+0.4
NCK				pmax	pmax		
	comp=Z,11nm,0.8s						
ZEI	Tsey	76.31	46	eP	P	20 49 39.5	-1.1
ZEI				pmax	pmax		
	comp=Z,8.0nm,1.2s						
OPO	Ambohidratompo	76.41	109	LR	LR	21 19 05.9	
	comp=Z,141nm,21.7s,baz=262,slow=32						
GNI	Garni	76.42	49	LR	LR	21 25 47.8	
	comp=Z,205nm,18.8s,baz=260,slow=38						
GNI	Garni	76.42	49	i P	P	20 49 41.6	+0.4
GNI				pmax	pmax		
	comp=Z,17nm,1.0s						
VRH	Novokhopyorsk	76.83	37	eP	P	20 49 42.5	-0.5
VRH				pmax	pmax		
	comp=Z,9.0nm,1.6s						
LTX	Lajitas	76.94	300	eP	P	20 49 44.9	+0.6
LTX	Lajitas	76.94	300	eP	P	20 49 44.9	+0.6
TX31	Lajitas Ar. Si	76.94	300	eP	P	20 49 43.2	-1.1
TXAR	Lajitas Array	76.94	300	P	P	20 49 44.9	+0.5
	comp=Z,0.6nm,0.8s,baz=124,slow=5.5,SNR=7.5						
FCC	Fort Churchill	76.98	331	eP	P	20 49 42.1	-1.6
	comp=Z,12nm,0.8s						
FCC	Fort Churchill	76.98	331	eP	P	20 49 42.1	-1.6
FCC				pmax	pmax		
	comp=Z,12nm,0.8s						
ARCES	ARCESS Array B	77.16	17	LR	LR	21 19 25.2	
	comp=Z,296nm,20.0s,baz=236,slow=32						
KLMR	Klimovskoe	78.53	28	eP	P	20 49 50.6	-1.8
KLMR				AMP		20 50 07.1	
	comp=Z,22nm,1.3s						
KLMR				LQ	LQ	21 16 22.4	
KLMR				LQ	LQ	21 16 22.4	
KLMR	Klimovskoe	78.53	28	eP	P	20 49 50.5	-1.8
KLMR				pmax	pmax		
	comp=Z,22nm,1.3s						
APA	Apatity	78.67	20	⇓iP	P	20 49 57.2	+4.2
APA				i		20 50 02.7	
APA				pmax	pmax		
	comp=Z,6.0nm,1.1s						
APA				MLR	MLR		
	comp=Z,900nm,19.0s						
MNTX	Cornudas Mount	78.67	302	P	P	20 49 53.7	-0.1
	baz=96						
Q24A	Divide	79.34	309	P	P	20 49 58.2	+0.5
	baz=97						
SDCO	Great Sand Dun	79.46	308	P	P	20 49 58.7	+0.3
	baz=97						
SDCO	Great Sand Dun	79.46	308	eP	P	20 49 58.6	+0.3
	comp=Z,6.9nm,1.4s						
FFC	Flin Flon	79.99	326	eP	P	20 49 59.6	-0.8
	comp=Z,4.4nm,0.8s						
FFC	Flin Flon	79.99	326	eP	P	20 49 59.6	-0.8
FFC				pmax	pmax		
	comp=Z,4.0nm,0.8s						
N23A	Red Feather La	80.20	311	eP	P	20 50 02.5	+0.2
	comp=Z,12nm,1.0s						
SPITS	Spitsbergen Ar	80.70	8	LR	LR	21 18 17.2	
	comp=Z,170nm,20.7s,baz=220,slow=30						
LAO	LASA Array	81.18	317	eP	P	20 50 07.4	+0.2
	comp=Z,26nm,1.1s						
PV01	Paradox Valley	81.92	308	eP	P	20 50 12.0	+0.6
LPIG	La Paz	82.47	294	LR	LR	21 25 47.1	
	comp=Z,142nm,18.4s,baz=24,slow=35						
RPN	Rapa Nui	82.52	243	LR	LR	21 23 12.9	
	comp=Z,321nm,21.9s,baz=42,slow=33						
SYO	Syowa Base	82.97	160	⇑ePcP	PcP	20 50 22.4	+1.8
PD31	Pinedale Array	83.09	313	eP	P	20 50 16.2	-1.2
PDAR	Pinedale Array	83.09	313	P	P	20 50 16.8	-0.7
	comp=Z,0.6nm,0.9s,baz=114,slow=4.0,SNR=3.5						
PDAR				LR	LR	21 22 10.4	
	comp=Z,368nm,21.6s,baz=119,slow=32						
PDAR	Pinedale Array	83.09	313	eP	P	20 50 15.8	-1.6
RLMT	Red Lodge	83.10	315	P	P	20 50 17.3	-0.1
	baz=96						
RLMT	Red Lodge	83.10	315	eP	P	20 50 16.9	-0.5
	comp=Z,36nm,1.8s						
RES	Resolute Bay	83.15	346	P	P	20 50 16.7	-0.1
	comp=Z,2.0nm,0.9s,baz=90,slow=6.2,SNR=7.5						
RES	Resolute Bay	83.15	346	eP	P	20 50 17.5	+0.8
	comp=Z,5.8nm,1.1s						
P18A	Preston Nutter	83.34	310	eP	P	20 50 18.9	0.0
	comp=Z,16nm,1.4s						
LOHW	Long Hollow	83.92	314	eP	P	20 50 20.6	-1.1
	comp=Z,6.1nm,1.1s						
WUAZ	Wupatki	83.97	305	eP	P	20 50 22.5	+0.5
	comp=Z,5.3nm,1.0s						
MOOW	Moose Ponds	84.04	314	eP	P	20 50 24.1	+1.8
	comp=Z,4.6nm,1.1s						
REDW	Red Top Meadow	84.08	313	eP	P	20 50 22.3	-0.3
	comp=Z,28nm,1.8s						
TPAW	Teton Pass	84.17	313	eP	P	20 50 23.7	+0.7
	comp=Z,8.8nm,1.1s						
YHH	Holmes Hill	84.19	315	eP	P	20 50 23.2	0.0
	comp=Z,8.7nm,1.1s						
FXWY	Fox Creek	84.23	314	eP	P	20 50 21.5	-1.8
	comp=Z,8.2nm,1.3s						
HWUT	Hardware Ranch	84.49	312	eP	P	20 50 24.4	-0.2
	comp=Z,4.9nm,0.9s						
MTPU	Mount Pierson	84.75	308	eP	P	20 50 26.6	+0.3
	comp=Z,16nm,1.5s						
LRM	Limekiln Ridge	85.39	316	eP	P	20 50 27.6	-1.5
MCMT	McKenzie Canyo	85.62	315	eP	P	20 50 30.9	+0.6
EDM	Edmonton	86.42	323	eP	P	20 50 33.1	-0.6
	comp=Z,27nm,1.1s						
EDM	Edmonton	86.42	323	eP	P	20 50 33.2	-0.6
EDM				pmax	pmax		
	comp=Z,27nm,1.1s						
GEYT	Alibeck	86.54	52	P	P	20 50 34.0	-0.7
	comp=Z,0.3nm,0.4s,baz=265,slow=5.2,SNR=2.9						
HLID	Hailey	86.68	313	P	P	20 50 36.2	+0.7
	baz=92						
WSAR	Wadi Sarin	86.72	67	P	P	20 50 35.1	-0.7
	comp=Z,2.1nm,0.8s,baz=270,slow=7.1,SNR=2.2						
AKTO	Aktyubinsk	86.91	40	P	P	20 50 37.0	+0.8
	comp=Z,0.8nm,0.5s,baz=279,slow=5.3,SNR=3.9						
AKTO				LR	LR	21 32 10.0	
	comp=Z,162nm,20.8s,baz=270,slow=38						
AKTO	Aktyubinsk	86.91	40	P	P	20 50 37.0	+0.8
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.5s						
AKTO				MLR	MLR		
	comp=Z,162nm,20.8s						
ELK	Elko	87.22	311	P	P	20 50 39.5	+1.3
	comp=Z,1.5nm,0.9s,baz=106,slow=2.4,SNR=2.5						
R11A	Troy Canyon, C	87.44	308	P	P	20 50 39.8	+0.5
	baz=91						
R11A	Troy Canyon, C	87.44	308	eP	P	20 50 39.6	+0.4
	comp=Z,14nm,1.5s						
ARU	Arti	87.47	34	P	P	20 50 38.8	+0.1
ARU						20 54 04.9	
ARU				PPP	PPP	20 56 00.2	
ARU				S	SKSac	21 01 06.2	+0.4
ARU				SS	SS	21 07 01.2	-3.0
ARU				MLR	MLR		
	comp=Z,266nm,19.0s						
SWSC	Sam W. Stewart	87.55	303	eP	P	20 50 36.5	-3.1
YKA	Yellowknife Ar	87.59	332	P	P	20 50 37.9	-1.2
	comp=Z,0.3nm,0.7s,baz=90,slow=4.7,SNR=6.9						
TPNV	Topopah Spring	87.95	307	P	P	20 50 43.2	+1.5
	baz=90						
TPNV	Topopah Spring	87.95	307	eP	P	20 50 44.4	+2.7
	comp=Z,18nm,1.5s						
TPNV	Topopah Spring	87.95	307	eP	P	20 50 44.4	+2.7
TPNV				pmax	pmax		
	comp=Z,18nm,1.5s						
TIN	Tinemaha, Big	89.54	307	eP	P	20 50 49.4	+0.3
TIN	Tinemaha, Big	89.54	307	eP	P	20 50 49.4	+0.3
NV01	Mina Array Sit	89.58	308	eP	P	20 50 49.9	+0.5
NVAR	Mina Array Bea	89.58	308	P	P	20 50 50.5	+1.1
	comp=Z,0.4nm,0.6s,baz=102,slow=6.2,SNR=4.0						
MAW	Mawson	91.19	157	LR	LR	21 23 11.7	
	comp=Z,246nm,20.6s,baz=246,slow=30						
JLK	June Lake	92.15	316	eP	P	20 51 02.3	+1.2
LVP	Lakeview Peak	92.34	316	eP	P	20 51 06.0	+4.1
YBH	Yreka Blue Hor	92.83	312	LR	LR	21 32 10.5	
	comp=Z,89nm,18.0s,baz=88,slow=35						
MAC	Mark West Spri	93.04	308	eP	P	20 51 05.2	0.0
BVAR	Borovoye Array	94.47	37	LR	LR	21 33 20.8	
	comp=Z,251nm,20.9s,baz=284,slow=35						
KSH	Kashi	100.34	50	eP	Pdif	20 51 39.7	+1.3
RKT	Rikitea	105.78	246	eLR	LR	21 27 06.1	
	comp=Z,276nm,28.2s						
PPT2	Papeete2	120.10	250	eLR	LR	21 33 30.4	
	comp=Z,176nm,24.5s						
LZH	Lanzhou	122.23	45	ePKP	PKPdf	20 56 45.6	-1.3
LZH				LR	LR		
	comp=Z,97nm,18.1s						
LZH				LR	LR		
	comp=Z,100nm,18.0s						
LZH				LR	LR		
	comp=Z,160nm,20.0s						
CD2	Chengdu	124.51	51	PKP	PKPdf	20 56 50.2	-1.1
HHC	Hu-ho-hao-te	124.69	37	ePKP	PKPdf	20 56 52.0	+0.6
HHC				SS	SS	21 15 31.8	+0.6
HHC				LR	LR		
	comp=Z,320nm,19.3s						
HHC				LR	LR		
	comp=Z,340nm,20.1s						
HHC				LR	LR		
	comp=Z,370nm,20.5s						
GYA	Guiyang	128.71	55	ePdif	Pdif	20 53 44.0	-0.8
GYA				PKP	PKPdf	20 56 58.9	-0.6
GYA				PP	PP	20 59 08.4	+3.0
GYA				AMB	AMB		
	comp=Z,120nm,7.9s						
NJ2	Nanjing	134.78	41	ePKP	PKPdf	20 57 09.8	-0.9
STKA	Stephens Creek	147.67	164	PKPbc	PKPab	20 57 38.7	+0.1
	comp=Z,1.3nm,0.7s,baz=270,slow=3.6,SNR=4.9						
STKA	Stephens Creek	147.67	164	ePKPbc	PKPab	20 57 38.6	0.0
STKA	Stephens Creek	147.67	164	ePKP2	PKPab	20 57 38.6	0.0
ASAR	Alice Springs	151.43	144	PKPbc	PKPbc	20 57 46.6	+0.6
	comp=Z,1.5nm,0.6s,baz=196,slow=1.8,SNR=9.0						
WR1	Warramunga Arr	154.45	139	ePKPbc	PKPbc	20 57 54.4	+1.6
WRA	Warramunga Arr	154.45	139	PKPbc	PKPbc	20 57 54.4	+1.6
	comp=Z,0.8nm,1.0s,baz=232,slow=1.7,SNR=3.8						
DZM	Mont Dzumac	154.56	213	eLR	LR	21 49 39.6	
	comp=Z,384nm,23.9s						

*JMA **07** 20:39:50.4, 24.°35N×122.°97E, h50km±1km, M3.4*
*TAP **07** 20:39:51.0, 24.°33N×122.°91E, h39km, ML3.9, D*
ISC 07 20:39:47.5±1.1, **24.°31N**±0.°03×**122.°95E**±0.°02, **h7**km±10km,
n86, σ1.s18/154, **2D, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JYNG	Yonagunijimaku	0.14	358	P	Pg	20 39 58.1	+7.6
JYNG				S	Sg	20 40 03.6	+11
YOJ	Yonaguni jima	0.17	20	P	Pg	20 39 58.3	+7.4
YOJ				S	Sg	20 40 03.7	+11
IRIF	Iriomote-Funau	0.71	88	P	Pn	20 40 04.0	0.0
IRIF				S	Sb	20 40 13.8	+1.6
EOS1	EOS1	0.79	288	eP	Pn	20 40 05.3	+0.3
	baz=292						
EOS1				eS	Sn	20 40 16.3	-0.7
	baz=292						
HATJ	Hateruma jima	0.82	107	P	Pn	20 40 05.9	+0.5
HATJ				eS	Sb	20 40 17.0	+1.7
JKRS	Kuro-shima	0.97	94	P	Pn	20 40 08.1	+0.6
JKRS				S	Sb	20 40 20.6	+1.0
TWC	Suao	1.05	287	⇓P	Pb	20 40 08.4	+0.5
	baz=297						
TWC				S	Sg	20 40 21.5	+0.3
	baz=297						
ENAH	Nanao	1.05	278	eS	Sb	20 40 22.4	+0.5
	baz=288						
EGS		1.07	300	P	Pn	20 40 09.3	+0.4
	baz=308						
EGS				S	Sb	20 40 22.4	-0.2
	baz=308						
JIJ	Ishigaki jima	1.09	87	P	Pb	20 40 09.1	+0.4
JIJ				S	Sg	20 40 22.3	-0.3
NANB	Nanao	1.10	277	eP	Pn	20 40 09.8	+0.5
	baz=287						
NANB				eS	Sg	20 40 23.2	+0.2
	baz=287						
ENA	Nanau	1.11	277	P	Pn	20 40 10.1	+0.6
	baz=287						
ENA				S	Sg	20 40 23.3	+0.1
	baz=287						
TWB1	Santiao Chiao	1.12	309	P	Pn	20 40 09.7	+0.1
	baz=319						
TWB1				S	Sg	20 40 22.9	-0.6
	baz=319						
ILA	Ilan	1.19	293	P	Pn	20 40 11.2	+0.7
	baz=293						
ILA				S	Sb	20 40 25.8	-0.1
	baz=293						
TIPB	Shuangxi	1.22	303	⇓eP	Pg	20 40 10.3	-0.6
	baz=313						
TIPB				S	Sg	20 40 24.8	-2.0
	baz=313						
TWE	Neicheng	1.24	290	P	Pn	20 40 11.7	+0.5
	baz=290						
TWE				S	Sg	20 40 26.6	-0.8
	baz=290						
NACB	Ninganchiao	1.24	264	eP	Pg	20 40 11.7	+0.3
	baz=263						
NACB				eS	Sg	20 40 27.6	+0.1
	baz=263						
JISG	Ishigakijimahi	1.27	77	P	Pn	20 40 11.6	-0.1
JISG				S	Sg	20 40 27.2	-1.2
ENLB	Shoufeng	1.30	252	eP	Pg	20 40 12.8	+0.5
	baz=239						
ENLB				eS	Sg	20 40 29.2	0.0
	baz=239						
ENTT	Nioudou	1.30	285	P	Pg	20 40 13.1	+0.6
	baz=293						
ENTT				S	Sg	20 40 28.8	-0.7
	baz=293						
NWF	Wu-fen Shan	1.31	306	P	Pb	20 40 12.8	+0.3
	baz=306						
NWF				eS	Sg	20 40 28.1	-1.5
	baz=306						
WFSB	Wu-fen Shan	1.31	306	eP	Pg	20 40 12.8	+0.2
	baz=306						
WFSB				eS	Sg	20 40 28.1	-1.5
	baz=306						
NWLT	Wulai	1.40	290	P	Pg	20 40 14.9	+0.6
	baz=301						
NWLT				S	Sb	20 40 31.2	-0.9
	baz=301						
NNSB	Datong	1.44	275	eP	Pb	20 40 15.0	+0.4
	baz=275						
NNSB				eS	Sb	20 40 33.5	+0.3
	baz=275						
NNS	Nan Shan	1.45	276	P	Pg	20 40 15.6	+0.4
	baz=275						
NNS				S	Sg	20 40 34.4	+0.4
	baz=275						
ESL	Shilin	1.47	251	P	Pn	20 40 14.6	+0.2
	baz=250						
ESL				eS	Sn	20 40 32.4	-1.5
	baz=250						
YHNB	Yeheng	1.48	285	eP	Pg	20 40 16.0	+0.1
	baz=294						
YHNB				eS	Sn	20 40 33.6	-0.6
	baz=294						
WHF	Hehuan Shan	1.55	264	P	Pn	20 40 16.3	+0.4
	baz=250						
WHF				S	Sn	20 40 35.5	-0.9
	baz=250						
HGSD	Ruisui	1.61	240	eP	Pn	20 40 16.1	-0.3
	baz=239						
HGSD				eS	Sn	20 40 33.9	-3.6
	baz=239						
TWT	Tachien	1.62	269	P	Pg	20 40 18.8	+0.2
	baz=268						
TWT				S	Sn	20 40 38.2	+0.3
	baz=268						
JTJ	Tarama	1.63	78	P	Pn	20 40 17.1	+0.5
JTJ				S	Sn	20 40 36.3	-1.6
TDCB	Techi	1.64	269	eP	Pb	20 40 18.2	+0.1
	baz=268						
TDCB				eS	Sn	20 40 38.8	+0.5
	baz=268						
WLTB	Daxi	1.64	290	eS	Sb	20 40 39.1	+0.2
	baz=301						
CHGB	Renai	1.64	262	eP	Pn	20 40 17.9	+0.9
	baz=248						
CHGB				eS	Sn	20 40 37.6	-0.9
	baz=248						
OWD	Renai	1.66	258	P	Pn	20 40 17.8	+0.7
	baz=257						
OWD				S	Sn	20 40 38.0	-0.8
	baz=257						
EHY	Hungye	1.69	242	P	Pn	20 40 17.6	+0.1
	baz=254						
EHY				S	Sn	20 40 37.5	-1.9
	baz=254						
YULB	Yu-li	1.77	239	eP	Pn	20 40 18.5	0.0
	baz=253						
YULB				eS	Sn	20 40 39.6	-1.6
	baz=253						
TWF1	Yuli	1.79	238	eP	Pn	20 40 18.9	+0.1
	baz=237						
TWF1				eS	Sn	20 40 40.3	-1.4
	baz=237						
LIOB	Emei	1.79	281	eP	Pb	20 40 21.5	+0.8
	baz=294						
LIOB				eS	Sb	20 40 43.4	-0.1
	baz=294						
NSTT	Nanjuang	1.81	281	eP	Pb	20 40 21.2	+0.3
	baz=293						
NSTT				eS	Sb	20 40 43.3	-0.4
	baz=293						
DPDB	Guoxing	1.87	262	eP	Pb	20 40 21.6	-0.4
	baz=252						
DPDB				eS	Sn	20 40 44.0	+0.2
	baz=252						
FULB	Fuli	1.88	234	eP	Pn	20 40 19.4	-0.6
	baz=224						
FULB				eS	Sn	20 40 43.0	-1.0
	baz=224						
CHKT	Chengkung	1.89	231	eS	Sn	20 40 40.6	-3.6
	baz=219						
SSLB	Suanglung	1.90	255	eP	Pn	20 40 21.3	+1.0
	baz=254						
SSLB				eS	Sn	20 40 42.8	-1.8
	baz=254						
SMLT	Sun Moon Lake	1.92	258	eP	Pn	20 40 22.0	+1.2
	baz=257						
SMLT				eS	Sn	20 40 45.1	-0.1
	baz=257						
TYC	Yuchr	1.95	259	eP	Pn	20 40 22.4	+1.4
	baz=247						
TYC				eS	Sn	20 40 45.4	-0.5
	baz=247						
NMLH	Miaoli	1.98	277	eS	Sb	20 40 48.6	-0.2
	baz=277						
TWQ1	Liyutan	1.99	272	eP	Pb	20 40 24.7	+0.7
	baz=271						
TWQ1				eS	Sb	20 40 48.8	-0.2
	baz=271						
NSY	Sanyi	2.00	274	eP	Pb	20 40 24.9	+0.7
	baz=273						
YUS	Yu-Shan	2.00	246	eP	Pn	20 40 23.2	+1.0
	baz=246						
YUS				eS	Sn	20 40 46.0	-1.7
	baz=246						
TCU	Taichung	2.08	266	eP	Pb	20 40 25.5	-0.1
	baz=254						
TCU				eS	Sb	20 40 51.6	-0.1
	baz=254						
WJS	Zhushan	2.09	257	eP	Pb	20 40 25.4	-0.3
	baz=257						
WJS				eS	Sb	20 40 51.7	-0.1
	baz=257						
JIRB	Irabujima	2.09	75	P	Pn	20 40 23.5	+0.6
JIRB				S	Sn	20 40 47.9	-1.3
ELDTW	Lidau	2.09	238	eP	Pn	20 40 22.8	-0.3
	baz=237						
ELDTW				eS	Sn	20 40 46.9	-2.6
	baz=237						
WNT	Mingjian	2.11	259	eP	Pb	20 40 25.9	-0.3
	baz=246						
WNT				eS	Sn	20 40 51.4	+1.6
	baz=246						
ALS	Alishan	2.12	248	eP	Pn	20 40 25.3	+1.7
	baz=248						
ALS				eS	Sn	20 40 49.6	-0.7
	baz=248						
JIKM	Ikemajima	2.18	73	P	Pn	20 40 25.1	+0.9
JIKM				S	Sn	20 40 49.9	-1.5
CHN5	Tsauling	2.19	252	eP	Pn	20 40 26.4	+1.9
	baz=241						
CHN5				eS	Sn	20 40 52.8	+0.8
	baz=241						
WCHH	Zhanghua	2.20	265	eS	Sn	20 40 53.7	+1.9
	baz=253						
WGK	Gukeng	2.27	255	eP	Pb	20 40 27.9	-0.9
	baz=243						
WGK				eS	Sn	20 40 55.4	+1.7
	baz=243						
WDLH	Douliu	2.29	255	eP	Pb	20 40 28.1	-1.0
	baz=244						
WDLH				eS	Sn	20 40 56.4	+2.2
	baz=244						
STYT	Tauyuan	2.31	241	eP	Pn	20 40 27.4	+1.4
	baz=232						
STYT				eS	Sn	20 40 54.3	-0.4
	baz=232						
TPUB	Ta-pu	2.35	245	eP	Pn	20 40 28.3	+1.8
	baz=245						
TPUB				eS	Sn	20 40 56.6	+0.9
	baz=245						
CHN4	Tsaushan	2.36	247	eP	Pn	20 40 29.0	+2.3
	baz=246						
CHN4				eS	Sn	20 40 57.7	+1.9

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
	baz=246						
WTP	**Ta-pu**	**2.39**	**244**	*e*P	**Pn**	**20 40 29.0**	**+2.0**
	baz=243						
WTP				*e*S	**Sn**	**20 40 57.5**	**+0.9**
	baz=243						
RLNB	**Erlin**	**2.40**	**261**	*e*P	**Pn**	**20 40 29.2**	**+1.9**
	baz=260						
RLNB				*e*S	**Sn**	**20 40 58.6**	**+1.7**
	baz=260						
WTCT	**Ta-ch'eng**	**2.48**	**260**	*e*P	**Pn**	**20 40 30.3**	**+2.0**
	baz=260						
WTCT				*e*S	**Sn**	**20 41 00.2**	**+1.4**
	baz=260						
TWK	**Hsinying**	**2.48**	**246**	*e*P	**Pn**	**20 40 30.9**	**+2.5**
	baz=245						
TWK				*e*S	**Sn**	**20 40 59.9**	**+0.9**
	baz=245						
CHN1	**Nanshi**	**2.48**	**244**	*e*P	**Pn**	**20 40 30.8**	**+2.4**
	baz=243						
CHN1				*e*S	**Sn**	**20 41 00.4**	**+1.4**
	baz=243						
SLGT	**Liugui**	**2.48**	**239**	*e*S	**Sn**	**20 41 00.0**	**+1.0**
	baz=230						
SGST	**Jiashian**	**2.49**	**241**	*e*P	**Pb**	**20 40 31.3**	**-1.2**
	baz=240						
SGST				*e*S	**Sn**	**20 41 00.6**	**+1.5**
	baz=240						
ECL	**Taimali**	**2.50**	**228**	*e*P	**Pn**	**20 40 28.1**	**-0.4**
	baz=236						
WSF	**Szhu**	**2.58**	**256**	*e*S	**Sn**	**20 41 03.2**	**+1.8**
	baz=268						
SSD	**Sandimen**	**2.63**	**234**	*e*P	**Pn**	**20 40 32.5**	**+2.1**
	baz=226						
CHN3	**Shinhua**	**2.67**	**243**	*e*S	**Sb**	**20 41 07.1**	**-1.5**
	baz=242						
CHN8	**Yiju**	**2.68**	**250**	*e*S	**Sn**	**20 41 05.1**	**+1.3**
	baz=249						
MASBT	**Mashibuluo**	**2.71**	**232**	*e*P	**Pn**	**20 40 32.5**	**+1.0**
	baz=223						
MASBT				*e*S	**Sn**	**20 41 06.4**	**+1.7**
	baz=223						
EAST	**Anshuo**	**2.72**	**226**	*e*P	**Pn**	**20 40 31.4**	**-0.2**
	baz=224						
TWM1	**Shoushan**	**2.75**	**238**	*e*S	**Sb**	**20 41 09.6**	**-1.3**
	baz=237						
SCZT	**Fangliau**	**2.88**	**229**	*e*P	**Pn**	**20 40 34.6**	**+0.8**
	baz=222						
SCZT				*e*S	**Sn**	**20 41 09.1**	**+0.4**
	baz=222						
TWKBT	**Hengchun**	**3.07**	**220**	*e*P	**Pn**	**20 40 36.5**	**+0.1**
	baz=219						
TWKBT				*e*S	**Sn**	**20 41 12.5**	**-0.9**
	baz=219						
WDGT	**Dungji**	**3.19**	**252**	*e*P	**Pn**	**20 40 39.5**	**+1.5**
	baz=251						
WDGT				*e*S	**Sn**	**20 41 15.5**	**-0.8**
	baz=251						
PHUB	**P'eng-hu**	**3.19**	**256**	*e*P	**Pn**	**20 40 38.9**	**+0.8**
	baz=256						
PHUB				*e*S	**Sn**	**20 41 15.9**	**-0.4**
	baz=256						
PNG	**Penghu**	**3.19**	**257**	*e*P	**Pn**	**20 40 39.3**	**+1.2**
	baz=257						
PNG				*e*S	**Sn**	**20 41 16.1**	**-0.3**
	baz=257						
VWUC	**VWUC**	**3.26**	**283**	*e*P	**Pn**	**20 40 39.9**	**+0.8**
	baz=284						
VWUC				*e*S	**Sn**	**20 41 15.7**	**-2.4**
	baz=284						
KNMB	**Chin-men Tao**	**4.16**	**273**	*e*P	**Pn**	**20 40 51.9**	**+0.4**
	baz=274						
KNMB				*e*S	**Sn**	**20 41 38.0**	**-2.4**
	baz=274						

*ISCJB **07** 20:43:20.0±0.5, 4°.47S±0°.07×127°.47E±0°.08, h250km, mb3.4/6, Error ellipse: s-maj=10.8km s-min=9.5km az=179.9*
*IDC **07** 20:43:23.9±1.4, 4°.37S×127°.83E, h285km±17km, mb3.0/7, mb1 3.2/10, mb1mx2.9/56, mbtmp3.8/10, Error ellipse: s-maj=22.0km s-min=9.9km az=73.0*
ISC 07 20:43:21.4±0.7**, 4°.45S**±0°.08×**127°.5E**±0°.1**, h250**km**, n16, σ1.s30**/18**, mb3.4**/6**, 1D, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SIJI	**Sorong**	**5.16**	**47**	P	**Pn**	**20 44 40.1**	**+0.9**
	21nm,0.3s,baz=233,slow=15,SNR=147						
SIJI				S	**S**	**20 45 40.3**	**-0.9**
	6.2nm,0.3s,baz=70,slow=22,SNR=19						
BATI	**Baumata**	**6.88**	**214**	P	Pn	20 45 05.7	+5.1
	1.5nm,0.3s,baz=180,slow=2.0,SNR=4.4						
BATI				S	S	20 46 40.2	+20
	2.4nm,0.3s,baz=22,slow=19,SNR=5.7						
WRA	**Warramunga Arr**	**16.77**	**157**	P	**P**	**20 47 00.6**	**-0.1**
	0.3nm,0.3s,baz=334,slow=12,SNR=13						
WRA				S	**S**	**20 50 06.7**	**+3.7**
	0.3nm,0.3s,baz=342,slow=17,SNR=7.8						
ASAR	**Alice Springs**	**20.07**	**163**	P	**P**	**20 47 36.7**	**+0.4**
	0.5nm,0.3s,baz=343,slow=11,SNR=9.6						
ASAR				S	**S**	**20 51 05.6**	**-2.3**
	0.6nm,0.8s,baz=348,slow=22,SNR=5.4						
STKA	**Stephens Creek**	**30.31**	**156**	P	**P**	**20 49 09.1**	**-0.7**
	0.4nm,0.4s,baz=336,slow=14,SNR=3.8						
CMAR	**Chiang Mai Arr**	**36.21**	**310**	P	**P**	**20 50 02.0**	**+1.2**
	0.7nm,0.5s,baz=130,slow=6.5,SNR=8.2						
RAMN	**Ramite**	**50.38**	**311**	*e*P	**P**	**20 51 54.4**	**+0.5**
JIRN	**Jiri**	**51.06**	**311**	*e*P	**P**	**20 51 59.4**	**+0.3**
GUN	**Gumba**	**51.43**	**311**	*e*P	**P**	**20 52 02.1**	**+0.3**
	6.3nm,0.6s						
GKN	**Gorkha**	**52.41**	**311**	*e*P	**P**	**20 52 08.9**	**+0.1**
KOLN	**Koldanda**	**53.08**	**310**	*e*P	**P**	**20 52 14.0**	**+0.2**
MKAR	**Makanchi Array**	**64.76**	**327**	P	**P**	**20 53 33.2**	**0.0**
	0.6nm,0.5s,baz=117,slow=8.1,SNR=14						
AAK	**Ala-Archa**	**67.02**	**320**	P	**P**	**20 53 47.2**	**-0.7**
	0.3nm,0.3s,baz=194,slow=4.2,SNR=3.1						
KURBB	**Kurchatov Arra**	**69.06**	**329**	P	**P**	**20 53 59.2**	**-1.0**
	0.6nm,0.8s,baz=135,slow=5.8,SNR=4.5						
BVAR	**Borovoye Array**	**74.61**	**328**	P	**P**	**20 54 32.1**	**-0.9**
	0.2nm,0.3s,baz=137,slow=5.3,SNR=4.4						
SYO	**Syowa Base**	**85.13**	**201**	⇓*e*X	**P**	**20 55 28.4**	**-0.6**

*IDC **07** 20:52:32.8±1.5, 34°.03N×90°.11E, h0km, mb3.2/3, mb1 3.3/7, mb1mx3.1/65, mbtmp3.2/7, ML3.0/4, MS3.3/1, Ms1 3.3/1, ms1mx2.6/34, Error ellipse: s-maj=55.3km s-min=21.0km az=60.0*
*ISCJB **07** 20:52:34.0±0.8, 33°.79N±0°.07×89°.4E±0°.2, h33km, mb3.2/2, MS3.1/1, Error ellipse: s-maj=19.3km s-min=9.4km az=6.2*
ISC 07 20:52:35.6±0.9**, 33°.83N**±0°.10×**89°.6E**±0°.1**, h35**km**, n13, σ1.s29**/13**, Xizang**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GUN	**Gumba**	**6.71**	**209**	*e*P	**Pn**	**20 54 11.4**	**-0.6**
	10nm,0.5s						
JIRN	**Jiri**	**6.81**	**206**	*e*P	**Pn**	**20 54 13.1**	**-0.3**
	14nm,0.6s						
KKN	**Kakani**	**7.07**	**213**	*e*P	**Pn**	**20 54 16.3**	**-0.5**
	4.0nm,0.4s						
GKN	**Gorkha**	**7.20**	**218**	*e*P	**Pn**	**20 54 18.4**	**-0.2**
ODAN	**Odare**	**7.20**	**196**	*e*P	**Pn**	**20 54 17.4**	**-1.2**
	12nm,0.4s						
RAMN	**Ramite**	**7.33**	**201**	*e*P	**Pn**	**20 54 19.2**	**-1.2**
	14nm,0.6s						
AAK	**Ala-Archa**	**14.76**	**311**	Pn	**P**	**20 56 06.5**	**-0.9**
	0.1nm,0.3s,baz=129,slow=16,SNR=5.3						
CMAR	**Chiang Mai Arr**	**17.44**	**149**	P	**P**	**20 56 37.7**	**+0.6**
	0.0nm,0.3s,baz=328,slow=12,SNR=4.7						
KURBB	**Kurchatov Arra**	**18.64**	**338**	P	**P**	**20 56 50.5**	**+0.4**
	0.0nm,0.3s,baz=146,slow=12,SNR=4.7						
SONM	**Songino Array**	**18.84**	**37**	P	**P**	**20 56 50.4**	**-2.1**
	0.1nm,0.3s,baz=219,slow=11,SNR=2.6						
ZALV	**Zalesovo Beam**	**20.40**	**352**	P	**P**	**20 57 09.9**	**+0.7**
	0.7nm,0.7s,baz=172,slow=12,SNR=4.1						
ZALV				LR	LR	21 06 33.9	
	comp=Z,74nm,18.4s,baz=236,slow=42						
BVAR	**Borovoye Array**	**23.59**	**330**	P	**P**	**20 57 45.1**	**+2.2**
	0.2nm,0.4s,baz=133,slow=10,SNR=4.3						
WRA	**Warramunga Arr**	**68.39**	**135**	P	**P**	**21 03 35.3**	**+1.5**
	0.3nm,0.7s,baz=329,slow=6.4,SNR=8.7						

*ISCJB **07** 21:06:36.5±0.9, 39°.11N±0°.04×142°.1E±0°.1, h52km±6km, mb3.5/5, Error ellipse: s-maj=14.1km s-min=6.1km az=19.5*
*JMA **07** 21:06:37.6±0.1, 39°.11N×142°.12E, h46km±1km, M3.4*
JMA Felt I J1.
*IDC **07** 21:06:37.8±2.8, 39°.10N×142°.38E, h58km±26km, mb3.3/5, mb1 3.3/7, mb1mx3.0/62, mbtmp3.5/7, ML2.6/2, Error ellipse: s-maj=41.7km s-min=17.2km az=95.0*
ISC 07 21:06:37.3±1.4**, 39°.10N**±0°.05×**142°.13E**±0°.10**, h44**km±11km**, n23, σ0.s78**/25**, mb3.5**/5**, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**0.36**	**266**	P	**Pn**	**21 06 46.9**	**+0.3**
OFUJ				*e*S	**Sn**	**21 06 53.3**	**+0.2**
MIYJ	**Miyakonagasawa**	**0.53**	**333**	P	**Pn**	**21 06 48.7**	**0.0**
MIYJ				S	**Sn**	**21 06 56.3**	**-0.4**
JMK	**Ichinoseki**	**0.72**	**258**	P	**Pn**	**21 06 51.3**	**+0.1**
JMK				*e*S	**Sn**	**21 07 01.1**	**-0.1**
JOM	**Ohasama**	**0.75**	**300**	P	**Pn**	**21 06 51.7**	**+0.2**
JOM				*e*S	**Sn**	**21 07 01.8**	**0.0**
JTH	**Tanohata**	**0.86**	**346**	P	**Pn**	**21 06 53.1**	**+0.1**
JTH				*e*S	**Sn**	**21 07 03.9**	**-0.6**
JIO	**Ouri**	**0.89**	**223**	P	**Pn**	**21 06 53.3**	**-0.1**
JIO				*e*S	**Sn**	**21 07 04.1**	**-1.1**
JRG	**Rokugo**	**1.20**	**285**	P	**Pn**	**21 06 58.0**	**+0.4**
JRG				*e*S	**Sn**	**21 07 12.0**	**-0.7**
JANG	**Nango**	**1.35**	**340**	P	**Pn**	**21 07 00.0**	**+0.2**
JOU	**Okura**	**1.36**	**238**	P	**Pn**	**21 07 00.0**	**+0.1**
JYK	**Kaneyama**	**1.39**	**263**	P	**Pn**	**21 07 00.7**	**+0.4**
MJAR	**Matsushiro Arr**	**4.02**	**232**	P	**Pn**	**21 07 38.8**	**+2.4**
	0.7nm,0.3s,baz=36,slow=12,SNR=19						
ASAJ	**Asahikawa**	**5.02**	**4**	P	**Pn**	**21 07 50.9**	**+0.8**
	0.1nm,0.3s,baz=234,slow=14,SNR=4.3						
ASAJ				S	**Sn**	**21 08 47.3**	**+0.5**
	0.3nm,0.3s,baz=35,slow=16,SNR=2.7						
H11N2	**WAKE ISLAND Hy**	**28.80**	**125**	T	T	21 42 54.6	
	baz=318,slow=75,SNR=318						
H11N1	**WAKE ISLAND Hy**	**28.80**	**125**	T	T	21 42 56.9	
	baz=318,slow=75,SNR=460						
H11N3	**WAKE ISLAND Hy**	**28.81**	**125**	T	T	21 42 56.1	
	baz=318,slow=75,SNR=268						
H11S1	**WAKE ISLAND Hy**	**29.58**	**127**	T	T	21 43 50.8	
	baz=319,slow=76,SNR=31						
H11S3	**WAKE ISLAND Hy**	**29.58**	**127**	T	T	21 43 50.9	
	baz=319,slow=76,SNR=37						
H11S2	**WAKE ISLAND Hy**	**29.60**	**127**	T	T	21 43 55.2	
	baz=319,slow=76,SNR=40						
ZALV	**Zalesovo Beam**	**40.97**	**311**	P	**P**	**21 14 17.0**	**+1.5**
	0.3nm,0.4s,baz=98,slow=9.5,SNR=2.9						
MKAR	**Makanchi Array**	**43.53**	**300**	P	**P**	**21 14 36.5**	**0.0**
	0.3nm,0.5s,baz=84,slow=9.9,SNR=5.5						
KURBB	**Kurchatov Arra**	**45.20**	**306**	P	**P**	**21 14 49.0**	**-0.7**
	1.0nm,0.5s,baz=80,slow=8.3,SNR=8.9						
BVAR	**Borovoye Array**	**49.62**	**311**	P	**P**	**21 15 24.0**	**0.0**
	0.4nm,0.4s,baz=62,slow=8.8,SNR=5.4						
WRA	**Warramunga Arr**	**59.19**	**189**	P	**P**	**21 16 32.9**	**-0.9**
	0.4nm,1.0s,baz=7.4,slow=7.1,SNR=2.3						

*NIED **07** 21:12:00, 37°.50N×141°.90E, h8km, Mw3.4 Best double couple: M0 1.48000×10^14 NP1:φs 18.00000°, δ35.00000°, λ-89.00000°. NP2:φs 197.00000°, δ55.00000°, λ-91.00000°.*
*JMA **07** 21:12:36.3±0.1, 37°.52N×141°.94E, h23km±2km, M3.8*
*IDC **07** 21:12:41.1±3.3, 37°.42N×141°.84E, h45km±30km, mb3.1/5, mb1 3.3/8, mb1mx3.1/65, mbtmp3.4/8, ML2.7/3, MS2.4/1, Ms1 2.4/1, ms1mx1.9/18, Error ellipse: s-maj=36.5km s-min=19.2km az=81.0*
ISC 07 21:12:34.7±1.9**, 37°.53N**±0°.04×**141°.98E**±0°.07**, h3**km±11km**, n26, σ1.s50**/31**, mb3.4**/5**, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.89**	**260**	P	**Pb**	**21 12 52.4**	**-0.5**
JFK				*e*S	**Sg**	**21 13 04.0**	**+0.6**
JMM	**Marumori**	**1.00**	**290**	P	**Pg**	**21 12 53.9**	**0.0**
JMM				*e*S	**Sg**	**21 13 06.9**	**+0.1**
ONAJ	**Iwakimizuishiy**	**1.03**	**246**	P	**Pg**	**21 12 54.4**	**-0.1**
ONAJ				*e*S	**Sg**	**21 13 08.0**	**+0.1**
JIO	**Ouri**	**1.05**	**332**	P	**Pn**	**21 12 55.2**	**-1.1**
JIO				*e*S	**Sb**	**21 13 08.3**	**-1.4**
JFT	**Otama**	**1.30**	**270**	P	**Pb**	**21 12 59.3**	**-0.6**
JFT				*e*S	**Sb**	**21 13 16.2**	**-0.8**
JOU	**Okura**	**1.33**	**309**	P	**Pg**	**21 13 00.1**	**-0.2**
JOU				*e*S	**Sn**	**21 13 17.2**	**-1.3**
JMK	**Ichinoseki**	**1.54**	**337**	P	**Pb**	**21 13 03.0**	**-0.9**
JMK				*e*S	**Sb**	**21 13 22.2**	**-1.7**
JYS	**Shirataka**	**1.66**	**295**	P	**Pb**	**21 13 05.3**	**-0.7**
JYS				*e*S	**Sb**	**21 13 27.0**	**-0.4**
JFY	**Yanaizu**	**1.81**	**267**	P	**Pb**	**21 13 07.2**	**-1.4**
JFY				*e*S	**Sn**	**21 13 30.3**	**0.0**
JYK	**Kaneyama**	**1.89**	**318**	P	**Pb**	**21 13 07.9**	**-1.9**
MJAR	**Matsushiro Arr**	**3.17**	**253**	P	**Pn**	**21 13 26.8**	**+1.2**
	1.3nm,0.3s,baz=79,slow=16,SNR=17						
MJAR				S	**Sn**	**21 14 04.0**	**+0.1**
	2.2nm,0.3s,baz=80,slow=31,SNR=5.0						
MAT	**Matsushiro**	**3.17**	**253**	P	**Pn**	**21 13 27.6**	**+2.0**
MAT				S	**Sb**	**21 14 07.0**	**-3.8**
JHJ	**Hachijo jima 2**	**4.75**	**203**	P	**Pn**	**21 13 47.3**	**+0.1**
	6.6nm,0.3s,baz=66,slow=20,SNR=4.5						
JHJ				S	**Sn**	**21 14 39.4**	**-3.3**
	6.1nm,0.3s,baz=34,slow=7.3,SNR=2.6						
USRK	**Ussuriysk Ar.**	**10.08**	**315**	P	**Pn**	**21 15 03.4**	**+3.1**
	0.1nm,0.3s,baz=133,slow=12,SNR=3.0						
KSRS	**Korea Array**	**11.17**	**274**	LR	LR	21 19 26.1	
	comp=Z,20nm,21.4s,baz=320,slow=36						
H11N2	**WAKE ISLAND Hy**	**28.02**	**122**	T	T	21 47 48.6	
	baz=315,slow=75,SNR=24						
H11N1	**WAKE ISLAND Hy**	**28.03**	**122**	T	T	21 47 48.1	
	baz=315,slow=75,SNR=39						
H11N3	**WAKE ISLAND Hy**	**28.04**	**122**	T	T	21 47 49.8	
	baz=315,slow=75,SNR=27						
H11S1	**WAKE ISLAND Hy**	**28.76**	**124**	T	T	21 48 40.3	
	baz=316,slow=76,SNR=36						
H11S3	**WAKE ISLAND Hy**	**28.76**	**124**	T	T	21 48 40.1	
	baz=316,slow=76,SNR=55						
H11S2	**WAKE ISLAND Hy**	**28.77**	**124**	T	T	21 48 41.6	
	baz=316,slow=76,SNR=36						
MKAR	**Makanchi Array**	**44.24**	**302**	P	**P**	**21 20 45.6**	**+0.4**
	0.5nm,0.8s,baz=79,slow=7.5,SNR=5.0						
KURBB	**Kurchatov Arra**	**46.05**	**308**	P	**P**	**21 20 59.6**	**0.0**
	0.5nm,0.6s,baz=82,slow=7.8,SNR=4.9						
WRA	**Warramunga Arr**	**57.61**	**189**	P	**P**	**21 22 26.2**	**+0.2**
	0.3nm,0.5s,baz=6.8,slow=7.3,SNR=8.7						
ASAR	**Alice Springs**	**61.34**	**188**	P	**P**	**21 22 50.9**	**-0.8**
	0.2nm,0.7s,baz=15,slow=7.7,SNR=2.8						
YKA	**Yellowknife Ar**	**63.16**	**30**	P	**P**	**21 23 04.9**	**+1.4**
	0.1nm,0.6s,baz=300,slow=6.2,SNR=3.4						

*NIED **07** 21:20:00, 40°.70N×144°.90E, h5km, Mw3.6 Best double couple: M0 2.46000×10^14 NP1:φs 167.00000°, δ44.00000°, λ-95.00000°. NP2:φs 353.00000°, δ46.00000°, λ-86.00000°.*
*IDC **07** 21:20:06.1±1.4, 40°.70N×144°.72E, h0km, mb3.7/4, mb1 3.9/5, mb1mx3.4/68, mbtmp3.6/5, ML3.1/2, MS2.3/1, Ms1 2.3/1, ms1mx2.0/63, Error ellipse: s-maj=37.6km s-min=26.3km az=77.0*
*JMA **07** 21:20:07.4±0.2, 40°.74N×144°.89E, h65km±3km, M3.7*
*ISCJB **07** 21:20:08.4±0.7, 40°.77N±0°.03×144°.71E±0°.06, h36km, mb3.7/4, Error ellipse: s-maj=6.9km s-min=4.1km az=26.6*
ISC 07 21:20:09.5±1.2**, 40°.74N**±0°.05×**144°.81E**±0°.07**, h36**km**, n24, σ1.s35**/35**, mb3.6**/4**, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JEM	**Erimo**	**1.78**	**316**	P	**Pn**	**21 20 37.5**	**-0.1**
JEM				*e*S	**Sn**	**21 20 57.7**	**-1.3**
JCH	**Churui**	**2.16**	**330**	P	**Pn**	**21 20 42.2**	**-0.7**
JCH				*e*S	**Sn**	**21 21 06.9**	**-1.5**
JNBK	**Urakawa-nobuka**	**2.18**	**316**	P	**Pn**	**21 20 43.3**	**+0.2**
JNBK				*e*S	**Sn**	**21 21 08.9**	**+0.1**
JAK	**Akkeshi**	**2.25**	**358**	P	**Pn**	**21 20 43.3**	**-0.9**
JOB	**Onbets**	**2.28**	**342**	P	**Pn**	**21 20 44.5**	**0.0**
JANG	**Nango**	**2.54**	**263**	P	**Pn**	**21 20 46.9**	**-1.2**
JANG				*e*S	**Sn**	**21 21 15.1**	**-2.6**
JAR	**Ashorobuto**	**2.67**	**343**	P	**Pn**	**21 20 48.9**	**-1.0**
JAR				*e*S	**Sn**	**21 21 18.8**	**-2.1**
NEM2	**Nemuro 2**	**2.71**	**15**	P	**Pn**	**21 20 49.0**	**-1.5**
NEM2				*e*S	**Sn**	**21 21 20.3**	**-1.7**
JOT	**Ohata**	**2.91**	**284**	P	**Pn**	**21 20 52.9**	**-0.4**
JOT				*e*S	**Sn**	**21 21 25.2**	**-1.8**
JFR	**Furan**	**2.93**	**326**	P	**Pn**	**21 20 53.2**	**-0.3**
JFR				*e*S	**Sn**	**21 21 25.5**	**-1.9**
JOM	**Ohasama**	**2.98**	**246**	P	**Pn**	**21 20 53.8**	**-0.4**
JOM				*e*S	**Sn**	**21 21 26.6**	**-2.1**
JKB	**Kayabe**	**3.06**	**293**	P	**Pn**	**21 20 55.3**	**0.0**
JKB				*e*S	**Sn**	**21 21 29.6**	**-1.1**
JRA	**Rausu**	**3.20**	**4**	P	**Pn**	**21 20 56.1**	**-1.1**
JEW	**Eniwo**	**3.27**	**311**	P	**Pn**	**21 20 59.3**	**+1.1**
JMK	**Ichinoseki**	**3.29**	**238**	P	**Pn**	**21 20 58.0**	**-0.5**
JMK				*e*S	**Sn**	**21 21 33.9**	**-2.4**
JTKR	**Abashiri--Toko**	**3.29**	**349**	P	**Pn**	**21 20 58.5**	**0.0**
JTKR				*e*S	**Sn**	**21 21 35.2**	**-1.1**
JKK2	**Kamakawa 2**	**3.48**	**335**	P	**Pn**	**21 21 01.1**	**0.0**
ASAJ	**Asahikawa**	**3.75**	**335**	Pn	**Pn**	**21 21 04.3**	**-0.4**
	1.3nm,0.3s,baz=212,slow=15,SNR=19						
ASAJ				Sn	**Sn**	**21 21 45.5**	**-2.1**
	1.4nm,0.3s,baz=187,slow=16,SNR=3.1						
MJAR	**Matsushiro Arr**	**6.65**	**233**	Pn	**Pn**	**21 21 44.3**	**-0.4**
	0.4nm,0.3s,baz=35,slow=13,SNR=5.4						
KSRS	**Korea Array**	**13.52**	**261**	LR	LR	21 28 10.7	
	comp=Z,13nm,19.9s,baz=345,slow=36						
ZALV	**Zalesovo Beam**	**41.49**	**309**	P	**P**	**21 27 54.4**	**+1.7**
	0.2nm,0.3s,baz=76,slow=12,SNR=3.0						
KURBB	**Kurchatov Arra**	**45.90**	**306**	P	**P**	**21 28 30.0**	**+1.7**
	0.5nm,0.5s,baz=77,slow=8.8,SNR=4.0						
WRA	**Warramunga Arr**	**61.15**	**191**	P	**P**	**21 30 21.6**	**+1.3**
	2.1nm,0.7s,baz=8.0,slow=6.8,SNR=5.7						
TXAR	**Lajitas Array**	**85.79**	**55**	P	P	21 32 48.3	+2.9
	0.2nm,0.6s,baz=292,slow=3.6,SNR=3.8						

*ISCJB **07** 21:24:15.0±1.3, 4°.6S±0°.2×153°.8E±0°.2, h100km, mb3.6/8, Error ellipse: s-maj=36.5km s-min=11.6km az=36.5*
*IDC **07** 21:24:17.9±8.2, 4°.65S×153°.83E, h116km±59km, mb3.5/8, mb1 3.8/9, mb1mx3.4/52, mbtmp4.0/9, Error ellipse: s-maj=68.5km s-min=23.8km az=91.0*
ISC 07 21:24:15.9±1.5**, 4°.6S**±0°.2×**153°.9E**±0°.2**, h100**km**, n10, σ0.s81**/11**, mb3.6**/8**, New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**8.23**	**234**	P	**Pn**	**21 26 13.8**	**+1.3**
	11nm,0.3s,baz=50,slow=6.4,SNR=44						
PMG				S	**Sn**	**21 27 42.5**	**-1.3**
	5.2nm,0.3s,baz=162,slow=20,SNR=5.7						
WRA	**Warramunga Arr**	**24.41**	**230**	P	**P**	**21 29 25.4**	**+0.1**
	7.3nm,0.8s,baz=54,slow=10.0,SNR=51						
ASAR	**Alice Springs**	**27.04**	**224**	P	**P**	**21 29 49.1**	**+0.1**
	0.7nm,0.6s,baz=55,slow=8.5,SNR=9.5						
CMAR	**Chiang Mai Arr**	**58.84**	**295**	P	**P**	**21 34 04.5**	**+0.1**
	0.4nm,0.6s,baz=110,slow=5.2,SNR=5.6						
SONM	**Songino Array**	**66.80**	**327**	P	**P**	**21 34 57.3**	**+0.3**
	0.2nm,0.4s,baz=135,slow=6.7,SNR=5.8						
MKAR	**Makanchi Array**	**80.95**	**319**	P	**P**	**21 36 19.4**	**0.0**
	0.4nm,0.7s,baz=92,slow=6.4,SNR=5.4						
KURBB	**Kurchatov Arra**	**84.37**	**322**	P	**P**	**21 36 37.1**	**+0.1**
	0.2nm,0.3s,baz=114,slow=4.2,SNR=4.0						
MAW	**Mawson**	**86.16**	**203**	P	**P**	**21 36 45.4**	**-0.1**
	1.1nm,0.3s,baz=90,slow=8.1,SNR=16						
BVAR	**Borovoye Array**	**89.79**	**323**	P	**P**	**21 37 02.2**	**-1.0**
	0.5nm,0.7s,baz=111,slow=6.3,SNR=4.8						
TORD	**Torodi Ar. Bea**	**151.33**	**289**	PKPbc	**PKPbc**	**21 43 58.1**	**-0.8**
	0.6nm,0.8s,baz=57,slow=1.7,SNR=4.1						

*IDC **07** 21:24:14.9±1.8, 7°.89S×124°.09E, h0km, mb3.4/1, mb1 3.4/4, mb1mx3.1/53, mbtmp3.3/4, ML3.2/3, MS4.0/1, Ms1 4.0/1, ms1mx2.8/27, Error ellipse: s-maj=71.6km s-min=26.4km az=72.0*
*DJA **07** 21:24:27.0±1.4, 9°S±7°×12°3E±°, h10km, M2.8/2, MLv2.8/2*
ISC 07 21:24:16.6±1.5**, 8°.00S**±0°.08×**124°.3E**±0°.2**, h10**km**, n7, σ4.s78**/10**, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SOEI	**Soe**	**1.75**	**180**	P	**Pg**	**21 24 54.9**	**+4.7**
SOEI				S	**Sg**	**21 25 15.0**	**+2.1**
BATI	**Baumata**	**2.27**	**195**	Pn	**Pn**	**21 24 55.2**	**+0.9**
	9.4nm,0.3s,baz=337,slow=7.1,SNR=20						
BATI				Sn	**Sn**	**21 25 16.4**	**-6.0**
	20nm,0.3s,baz=241,slow=19,SNR=11						
BATI	**Baumata**	**2.27**	**195**	P	**Pn**	**21 24 55.1**	**+0.8**
BATI				S	**Sn**	**21 25 16.9**	**-5.5**
WRA	**Warramunga Arr**	**15.37**	**142**	Pn	**Pn**	**21 27 56.5**	**+2.7**
	0.1nm,0.3s,baz=313,slow=14,SNR=7.4						
WRA				Sn	**Sn**	**21 30 36.8**	**-7.5**
	0.1nm,0.3s,baz=332,slow=26,SNR=2.5						
ASAR	**Alice Springs**	**18.12**	**150**	P	**P**	**21 28 29.4**	**+0.4**
	0.1nm,0.3s,baz=322,slow=11,SNR=5.2						
ASAR				S	Sn	21 31 38.8	-12
	0.0nm,0.3s,baz=325,slow=22,SNR=4.2						
USRK	**Ussuriysk Ar.**	**52.42**	**7**	LR	LR	21 55 48.4	
	comp=Z,166nm,20.8s,baz=327,slow=36						
MKAR	**Makanchi Array**	**66.08**	**330**	P	**P**	**21 35 02.6**	**-1.3**
	0.2nm,0.5s,baz=149,slow=6.1,SNR=5.2						

*TIR **07** 21:24:45.4, 40°.51N×21°.06E, h7km, Md2.0/2*
*SKO **07** 21:24:45.3, 40°.86N×20°.91E, h23km, M0.7, ML1.1*
*CSEM **07** 21:24:46.0±0.4, 40°.86N×20°.94E, h10km, ML1.4, Error ellipse: s-maj=7.8km s-min=4.5km az=146.0*
ATH 07 21:24:46.3, 40°.82N×20°.98E, h26km±1km**, ML1.4**/6**, Error ellipse: s-maj=2.6km s-min=1.2km az=130.0, Greece-Albania border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KBN	**Korca**	**0.25**	**217**	*i* Pg	Pb	21 24 50.8	-1.9
	baz=304						
KBN				*i* Sg	Sb	21 24 54.7	-2.4
	baz=304						
KBN	**Korca**	**0.25**	**217**	*i* PG	Pb	21 24 50.8	-2.0
KBN				*i* SG	Sb	21 24 54.7	-2.4
FNA	**Florina**	**0.30**	**97**	P	Pb	21 24 53.2	-0.2
FNA				S	Sn	21 25 00.3	-0.4
FNA				AML	AML	21 25 02.1	
	comp=N,390μm,0.3s						
FNA				AML	AML	21 25 02.1	
	comp=E,513μm,0.2s						
FNA	**Florina**	**0.30**	**97**	P	Pb	21 24 53.4	-0.1
FNA				S	Sn	21 24 59.6	-1.1
OHR	**Ohrid**	**0.32**	**335**	*i* Pg	Pb	21 24 52.3	-1.5
OHR				*i* Sg	Sb	21 24 56.9	-1.9
OHR				*e*Lg	Lg	21 24 57.3	
	comp=E,62nm,0.6s						
OHR				*e*Lg	Lg	21 24 57.5	
	comp=N,18nm,0.3s						
BIA	**Bitola**	**0.33**	**53**	*i* Pg	Pb	21 24 53.7	-0.1
BIA				*i* Sg	Sb	21 24 59.9	+0.9
NEST	**Nestorio**	**0.41**	**173**	P	Pb	21 24 53.7	-1.4
NEST				S	Sn	21 25 02.8	-0.6
NEST				AML	AML	21 25 03.6	
	comp=N,78μm,0.1s						
NEST				AML	AML	21 25 06.0	
	comp=E,126μm,0.3s						
NEST	**Nestorio**	**0.41**	**173**	P	Pb	21 24 54.5	-0.7
NEST				S	Sn	21 25 02.3	-1.1
KRUS	**Krusevo**	**0.58**	**20**	*i* Pg	Pb	21 24 56.5	-1.4
KRUS				*i* Sg	Sb	21 25 06.2	+0.2
PENT	**Pentalofos**	**0.64**	**169**	P	Pb	21 24 58.1	-0.8
PENT				AML	AML	21 25 11.1	
	comp=E,83μm,0.7s						
PENT				AML	AML	21 25 13.4	
	comp=N,64μm,0.4s						
PENT	**Pentalofos**	**0.64**	**169**	P	Pb	21 24 58.6	-0.3
KZN	**Kozani**	**0.79**	**130**	P	Pn	21 25 03.9	+2.0
KZN				S	Sb	21 25 12.0	+0.2
KZN				AML	AML	21 25 17.1	
	comp=N,52μm,0.3s						
KZN				AML	AML	21 25 17.6	
	comp=E,89μm,0.5s						
KZN	**Kozani**	**0.79**	**130**	P	Pn	21 25 02.9	+1.1
KZN				S	Sn	21 25 12.7	-0.1
KPRO	**Kipourio**	**0.91**	**161**	P	Pb	21 25 04.6	+1.1
KPRO				S	Sn	21 25 16.6	+0.8
KPRO				AML	AML	21 25 22.8	
	comp=E,35μm,0.2s						
KPRO				AML	AML	21 25 27.8	
	comp=N,40μm,0.6s						
KPRO	**Kipourio**	**0.91**	**161**	P	Pb	21 25 04.3	+0.8
KPRO				S	Sn	21 25 16.8	+1.0
GRG	**Griva**	**1.08**	**82**	P	Pn	21 25 05.8	0.0
GRG	**Griva**	**1.08**	**82**	P	Pb	21 25 06.5	+0.1

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SGD	Sagiada	1.34	206	P	Pb	21 25 11.3	+0.7
SGD	Sagiada	1.34	206	P	Pb	21 25 11.3	+0.7
KEK	Kerkira	1.43	220	P	Pb	21 25 13.9	+1.6
KEK				S	Sb	21 25 32.1	+2.0
KEK	Kerkira	1.43	220	P	Pb	21 25 13.2	+0.9
KEK				S	Sb	21 25 31.9	+1.9
THL	Klokotos Trika	1.48	147	P	Pb	21 25 12.8	-0.4
THL				S	Sb	21 25 34.0	+2.4
THL				AML	AML	21 25 39.6	
	comp=E,18µm,0.4s						
THL				AML	AML	21 25 40.8	
	comp=N,20µm,0.5s						
THL	Klokotos Trika	1.48	147	P	Pb	21 25 13.0	-0.2
THL				S	Sb	21 25 33.5	+1.9
KNT	Kendrikon	1.49	76	P	Pb	21 25 13.1	-0.1
KNT	Kendrikon	1.49	76	P	Pb	21 25 13.3	0.0
AGG	Agios Georgios	2.08	150	P	Pn	21 25 21.3	+1.9
AGG				S	Sb	21 25 47.1	-1.6
AGG	Agios Georgios	2.08	150	P	Pb	21 25 21.5	-1.8
AGG				S	Sb	21 25 47.3	-1.3

*TIR **07** 21:27:45.8, 40°.81N×21°.91E, h7km, Md2.2/2*
*CSEM **07** 21:27:45.7±0.5, 40°.88N×20°.91E, h10km, ML1.6, Error ellipse: s-maj=9.6km s-min=5.5km az=146.0*
*SKO **07** 21:27:46.6, 40°.90N×21°.02E, h21km, M1.1, ML1.5*
ATH 07 21:27:45.9, 40°.85N×20°.96E, h26km, ML1.6/5, Error ellipse: s-maj=2.3km s-min=1.1km az=131.0, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KBN	Korca	0.26	210	*i* Pg	Pb	21 27 50.9	-1.7
	baz=226						
KBN				*i* Sg	Sb	21 27 55.0	-2.1
	baz=226						
KBN	Korca	0.26	210	*i* PG	Pb	21 27 50.9	-1.7
KBN				*i* SG	Sb	21 27 55.0	-2.1
OHR	Ohrid	0.29	334	*i* Pg	Pb	21 27 52.7	-0.2
OHR				*i* Sg	Sb	21 27 57.3	-0.4
OHR				*e*Lg	Lg	21 27 57.5	
	comp=E,129nm,0.6s						
OHR				*e*Lg	Lg	21 27 57.5	
	comp=N,33nm,0.3s						
BIA	Bitola	0.32	58	*i* Pg	Pb	21 27 52.5	-0.9
BIA				*i* Sg	Sn	21 28 00.1	-0.9
FNA	Florina	0.32	102	P	Pb	21 27 53.7	+0.4
FNA				S	Sb	21 27 59.2	+0.7
FNA				AML	AML	21 28 02.3	
	comp=N,605µm,0.3s						
FNA				AML	AML	21 28 02.4	
	comp=E,772µm,0.2s						
FNA	Florina	0.32	102	P	Pb	21 27 53.6	+0.2
FNA				S	Sb	21 27 59.1	+0.6
NEST	Nestorio	0.44	171	P	Pb	21 27 54.1	-1.2
NEST				S	Sb	21 28 02.2	+0.6
NEST				AML	AML	21 28 03.7	
	comp=E,153µm,0.3s						
NEST				AML	AML	21 28 05.1	
	comp=N,129µm,0.3s						
NEST	Nestorio	0.44	171	P	Pb	21 27 54.7	-0.6
NEST				S	Sb	21 28 02.2	+0.6
KRUS	Krusevo	0.56	23	*i* Pg	Pb	21 27 57.1	-0.2
KRUS				*i* Sg	Sn	21 28 06.3	-0.6
PENT	Pentalofos	0.67	168	P	Pb	21 27 58.8	-0.3
PENT				S	Sn	21 28 10.3	+0.8
PENT				AML	AML	21 28 11.3	
	comp=E,110µm,0.7s						
PENT				AML	AML	21 28 13.7	
	comp=N,95µm,0.4s						
PENT	Pentalofos	0.67	168	P	Pb	21 27 59.0	-0.1
PENT				S	Sn	21 28 09.6	+0.1
KZN	Kozani	0.82	131	P	Pn	21 28 03.4	+1.4
KZN				S	Sn	21 28 12.8	-0.5
KZN				AML	AML	21 28 16.8	
	comp=E,123µm,0.3s						
KZN				AML	AML	21 28 17.3	
	comp=N,95µm,0.3s						
KZN	Kozani	0.82	131	P	Pn	21 28 02.7	+0.8
KZN				S	Sn	21 28 13.4	+0.1
KPRO	Kipourio	0.95	161	P	Pb	21 28 04.0	+0.2
KPRO	Kipourio	0.95	161	P	Pb	21 28 04.1	+0.4
GRG	Griva	1.09	84	P	Pb	21 28 06.1	-0.1
GRG	Griva	1.09	84	P	Pb	21 28 06.5	+0.3
SGD	Sagiada	1.36	205	P	Pb	21 28 11.9	+1.2
SGD	Sagiada	1.36	205	P	Pb	21 28 11.6	+0.9
KEK	Kerkira	1.44	218	P	Pb	21 28 12.8	+0.7
KEK				S	Sb	21 28 31.1	+1.0
KEK	Kerkira	1.44	218	P	Pb	21 28 12.6	+0.4
KEK				S	Sb	21 28 31.5	+1.4
KNT	Kendrikon	1.50	77	P	Pb	21 28 13.6	+0.6
KNT	Kendrikon	1.50	77	P	Pb	21 28 13.4	+0.3
THL	Klokotos Trika	1.52	148	P	Pb	21 28 13.6	+0.2
THL				S	Sb	21 28 34.0	+1.8
THL				AML	AML	21 28 40.4	
	comp=E,25µm,0.4s						
THL				AML	AML	21 28 41.0	
	comp=N,29µm,0.7s						
THL	Klokotos Trika	1.52	148	P	Pb	21 28 13.5	+0.1
THL				S	Sb	21 28 33.8	+1.6
DSL	Palaion Diasel	1.72	177	P	Pn	21 28 15.5	+1.2
DSL	Palaion Diasel	1.72	177	P	Pb	21 28 15.9	-1.0
AGG	Agios Georgios	2.11	150	P	Pb	21 28 21.7	-1.8
AGG				S	Sb	21 28 47.4	-1.8
AGG	Agios Georgios	2.11	150	P	Pb	21 28 21.8	-1.7
AGG				S	Sb	21 28 47.7	-1.5
ANX	Ano Chora	2.37	162	P	Pb	21 28 26.6	-1.5
ANX	Ano Chora	2.37	162	P	Pb	21 28 26.1	-1.9

*ISCJB **07** 21:31:03.3±1.6, 15°.2N±0°.3×92°.7W±0°.2, h100km, mb3.6/5, Error ellipse: s-maj=55.1km s-min=8.6km az=33.8*
*IDC **07** 21:31:04.0±2.3, 15°.34N×92°.64W, h81km±13km, mb3.4/5, mb1 3.7/8, mb1mx3.4/47, mbtmp3.7/8, MS2.6/1, Ms1 2.6/1, ms1mx2.2/32, Error ellipse: s-maj=76.5km s-min=12.3km az=32.0*
ISC 07 21:31:04.8±1.3, 15°.2N±0°.3×92°.7W±0°.2, h100km, n10, σ1s.77/11, mb3.8/5, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
APG	El Apazote	2.18	95	P	Pn	21 31 38.1	-1.8
	4.0nm,0.3s,baz=275,slow=13,SNR=43						
APG				LR	LR	21 32 37.3	
	comp=Z,136nm,20.6s,baz=76,slow=44						
CMIG	Matias Romero	2.80	312	P	Pn	21 31 45.7	-2.2
	6.2nm,0.3s,baz=131,slow=14,SNR=32						
CMIG				S	Sn	21 32 19.2	-1.8
	34nm,0.3s,baz=260,slow=19,SNR=11						
JTS	JuntasAbangare	9.01	122	P	Pn	21 33 11.9	-0.2
	0.4nm,0.3s,baz=310,slow=16,SNR=2.9						
TXAR	Lajitas Array	17.31	326	P	P	21 35 02.9	+2.6
	0.1nm,0.3s,baz=153,slow=13,SNR=24						
ANMO	Albuquerque	23.21	330	P	P	21 36 04.2	+0.8
	1.3nm,0.8s,baz=337,slow=11,SNR=4.6						
NVAR	Mina Array Bea	32.30	321	P	P	21 37 26.6	+2.0
	1.2nm,0.6s,baz=139,slow=8.4,SNR=8.5						
YKA	Yellowknife Ar	49.69	347	P	P	21 39 46.0	-0.2
	0.2nm,0.5s,baz=152,slow=7.4,SNR=5.6						
INK	Inuvik	59.08	344	P	P	21 40 54.6	+0.4
	1.2nm,0.7s,baz=115,slow=5.6,SNR=5.8						
ILAR	Eielson Array	61.45	337	P	P	21 41 11.1	+0.5
	0.8nm,0.7s,baz=130,slow=5.9,SNR=11						
CMAR	Chiang Mai Arr	144.62	341	PKP	PKPdf	21 50 29.5	-1.2
	0.5nm,0.7s,baz=347,slow=3.7,SNR=3.7						

IDC 07 21:33:53.0±2.2, 6°.00S×129°.61E, h0km, mb3.3/1, mb1 3.5/4, mb1mx3.2/55, mbtmp3.4/4, ML3.6/3, Error ellipse: s-maj=54.9km s-min=32.0km az=76.0, Banda Sea

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BATI	Baumata	7.22	234	Pn	Pn	21 35 40.8	+0.9
	2.5nm,0.3s,baz=11,slow=19,SNR=5.2						
BATI				Sn	Sn	21 36 43.6	-19
	1.7nm,0.3s,baz=37,slow=20,SNR=3.2						
WRA	Warramunga Arr	14.60	162	Pn	Pn	21 37 20.7	-0.5
	0.3nm,0.3s,baz=340,slow=11,SNR=26						
WRA				Sn	Sn	21 39 41.0	-23
	0.2nm,0.3s,baz=324,slow=25,SNR=7.5						
ASAR	Alice Springs	18.05	167	P	Pn	21 38 05.0	-0.5
	0.1nm,0.3s,baz=338,slow=10,SNR=4.8						
ASAR				S	Sn	21 41 04.6	-23
	0.1nm,0.3s,baz=341,slow=25,SNR=3.7						
MKAR	Makanchi Array	67.18	327	P	P	21 44 49.0	0.0
	0.2nm,0.7s,baz=138,slow=7.7,SNR=3.6						

*IDC **07** 21:37:29.5±2.3, 35°.97S×179°.82E, h0km, mb3.6/2, mb1 3.9/3, mb1mx3.6/41, mbtmp3.7/3, ML4.1/1, Error ellipse: s-maj=64.5km s-min=41.1km az=139.0*
*ISCJB **07** 21:37:33.1±1.0, 36°.33S±0°.05×180°.0W±0°.1, h35km, mb3.4/2, Error ellipse: s-maj=12.6km s-min=6.6km az=17.0*
*WEL **07** 21:37:34.8, 36°S±9°×18°0E±°, h33km, ML3.8/17*
ISC 07 21:37:33.4±1.6, 36°.35S±0°.08×179°.9W±0°.1, h35km, n59, σ0s.98/60, East of North Island

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	1.90	230	S	Sn	21 38 25.0	-1.0
WMGZ	Waiomatatini S	2.01	223	S	Sn	21 38 31.1	+2.3
WMGZ	Waiomatatini S	2.01	223	P	Pn	21 38 06.5	+1.6
PKGZ	Pakihiroa	2.25	226	P	Pn	21 38 09.3	+1.2
PKGZ	Pakihiroa	2.25	226	S	Sn	21 38 35.0	+0.2
PUZ	Puketiti	2.28	220	P	Pn	21 38 09.7	+1.1
PUZ	Puketiti	2.28	220	S	Sn	21 38 35.0	-0.5
HAZ	Te Kaha	2.35	232	P	Pn	21 38 10.2	+0.8
HAZ	Te Kaha	2.35	232	S	Sn	21 38 38.3	+1.3
TWGZ	Tauwhareparae	2.51	223	P	Pn	21 38 13.0	+1.3
RUGZ	Raukumara Rang	2.54	230	P	Pn	21 38 13.6	+1.4
CNGZ	Carnagh Statio	2.63	215	P	Pn	21 38 14.8	+1.5
MWZ	Matawai	2.87	226	P	Pn	21 38 17.7	+1.0
MWZ	Matawai	2.87	226	S	Sn	21 38 49.6	-0.5
RIGZ	Rimuhau	3.02	218	P	Pn	21 38 19.3	+0.6
RIGZ	Rimuhau	3.02	218	S	Sn	21 38 54.2	+0.6
RAGZ	Rawiri	3.05	224	P	Pn	21 38 20.0	+0.9
RAGZ	Rawiri	3.05	224	S	Sn	21 38 53.4	-1.0
URZ	Urewera	3.08	231	Pn	Pn	21 38 20.0	+0.6
	24nm,0.3s,baz=356,slow=7.1,SNR=79						
URZ				Sn	Sn	21 38 53.7	-1.3
	10nm,0.3s,baz=124,slow=23,SNR=7.8						
URZ	Urewera	3.08	231	P	Pn	21 38 20.0	+0.6
URZ	Urewera	3.08	231	S	Sn	21 38 53.8	-1.2
PRGZ	Paritu Road	3.13	214	P	Pn	21 38 20.7	+0.5
PRGZ	Paritu Road	3.13	214	S	Sn	21 38 56.1	-0.3
OPRZ	Ohinepanea	3.23	241	P	Pn	21 38 22.1	+0.6
EDRZ	Edgecumbe	3.23	236	P	Pn	21 38 22.4	+0.7
EDRZ	Edgecumbe	3.23	236	S	Sn	21 38 57.9	-1.0
RTZ	Ruatahuna	3.38	227	P	Pn	21 38 23.8	+0.1
TGRZ	Tauranga	3.39	245	P	Pn	21 38 24.0	+0.2
MUGZ	Murupara	3.42	231	P	Pn	21 38 24.2	0.0
TARZ	Mount Tarawera	3.45	236	P	Pn	21 38 26.7	+1.9
KARZ	Kaharoa	3.53	241	P	Pn	21 38 26.1	+0.4
HLRZ	Highlands Stat	3.57	237	P	Pn	21 38 26.9	+0.6
KUZ	Kuaotunu	3.58	262	P	Pn	21 38 26.1	-0.2
MTHZ	Maungataniwha	3.62	225	P	Pn	21 38 28.1	+1.1
KMRZ	Kaimai	3.67	245	P	Pn	21 38 27.9	+0.3
ALRZ	Allen Road	3.74	233	P	Pn	21 38 29.6	+1.0
ARHZ	Aropaoanui	3.83	220	P	Pn	21 38 30.0	+0.2
TOZ	Tahuroa Road	3.96	248	P	Pn	21 38 32.0	+0.5
BKZ	Black Stump Fm	4.03	225	P	Pn	21 38 32.3	-0.3
MKAZ	Moumakai	4.07	258	P	Pn	21 38 33.5	+0.5
ETAZ	East Tamaki Re	4.23	260	P	Pn	21 38 36.2	+0.9
KWHZ	Kaweka Forest	4.25	223	P	Pn	21 38 35.2	-0.4
RATZ	Rangitukua	4.28	233	P	Pn	21 38 37.1	+1.1
RITZ	Rihia Road	4.29	231	P	Pn	21 38 37.4	+1.2
KAHZ	Kahuranaki	4.30	216	P	Pn	21 38 35.2	-1.1
AWAZ	Awhitu Peninsu	4.47	259	P	Pn	21 38 40.1	+1.5
BHHZ	Black Hill Sta	4.50	224	P	Pn	21 38 39.5	+0.5
WTAZ	Waiatarua	4.51	261	P	Pn	21 38 40.9	+1.7
WTVZ	West Tongariro	4.54	231	P	Pn	21 38 40.7	+1.0
TUVZ	Tukino	4.59	229	P	Pn	21 38 40.7	+0.3
TWVZ	Taurewa	4.61	232	P	Pn	21 38 41.1	+0.5
TRVZ	Turoa	4.68	230	P	Pn	21 38 41.7	+0.1
WCZ	Waipu Caves	4.70	273	P	Pn	21 38 42.8	+1.0
PNHZ	Pukenui	4.72	220	P	Pn	21 38 40.9	-1.2
OUZ	Omahuta	5.43	280	P	Pn	21 38 52.1	+0.2
ASAR	Alice Springs	41.62	274	P	P	21 45 17.2	-1.0
	0.5nm,0.6s,baz=118,slow=7.9,SNR=11						
WRA	Warramunga Arr	43.14	280	P	P	21 45 29.4	-1.3
	0.4nm,0.4s,baz=120,slow=7.8,SNR=14						
FINES	FINESS Array B	150.03	335	PKPbc	PKPbc	21 57 20.0	+0.7
	1.0nm,0.6s,baz=48,slow=4.1,SNR=5.7						
BRTR	Keskin Array B	153.48	288	PKPbc	PKPbc	21 57 28.6	+0.5
	0.3nm,0.6s,baz=48,slow=2.1,SNR=3.6						

IDC 07 21:41:41.1±8.5, 4°.56S×153°.33E, h147km±61km, mb3.1/4, mb1 3.4/5, mb1mx3.0/46, mbtmp3.7/5, Error ellipse: s-maj=79.5km s-min=32.9km az=92.0, New Ireland region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	7.79	231	P	Pn	21 43 31.7	-0.1
	3.5nm,0.3s,baz=44,slow=5.9,SNR=9.3						
PMG				S	Sn	21 44 59.6	+0.9
	0.6nm,0.3s,baz=131,slow=20,SNR=3.8						
WRA	Warramunga Arr	24.00	229	P	P	21 46 42.9	+0.4
	1.5nm,0.5s,baz=53,slow=10.0,SNR=21						
ASAR	Alice Springs	26.68	223	P	P	21 47 06.1	-0.7
	0.1nm,0.4s,baz=54,slow=8.6,SNR=4.1						
STKA	Stephens Creek	29.32	201	P	P	21 47 30.1	+0.1
	1.4nm,0.8s,baz=34,slow=8.7,SNR=3.4						
MKAR	Makanchi Array	80.49	319	P	P	21 53 37.0	+0.1
	0.2nm,0.5s,baz=96,slow=7.2,SNR=3.5						

*ISCJB **07** 21:44:26.9±1.0, 39°.71N±0°.03×142°.27E±0°.08, h23km±6km, mb3.5/10, Error ellipse: s-maj=9.8km s-min=5.4km az=5.4*
*JMA **07** 21:44:27.7, 39°.71N×142°.22E, h23km±1km, M3.9*
JMA Felt II J1.
*IDC **07** 21:44:31.6±2.2, 39°.71N×142°.18E, h46km±21km, mb3.3/10, mb1 3.5/12, mb1mx3.2/65, mbtmp3.6/12, ML3.3/2, Error ellipse: s-maj=24.4km s-min=13.8km az=99.0*
ISC 07 21:44:28.0±1.4, 39°.71N±0°.03×142°.19E±0°.07, h18km±7km, n27, σ0s.95/31, mb3.6/10, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MIYJ	Miyakonagasawa	0.32	245	P	Pg	21 44 35.2	+0.4
MIYJ				*e*S	Sg	21 44 40.1	+0.6
JTH	Tanohata	0.34	312	P	Pg	21 44 35.4	+0.2
JTH				*e*S	Sg	21 44 40.5	+0.4
JKZ	Kuzumaki	0.72	293	P	Pg	21 44 41.8	-0.3
JKZ				*e*S	Sg	21 44 51.3	-0.4
JOM	Ohasama	0.73	251	P	Pg	21 44 42.1	-0.3
JOM				*e*S	Sg	21 44 52.0	-0.2
OFUJ	Ofunato	0.75	213	P	Pg	21 44 41.7	-1.0
OFUJ				*e*S	Sg	21 44 51.6	-1.1
JANG	Nango	0.84	322	P	Pg	21 44 43.1	-1.3
JANG				*e*S	Sg	21 44 54.1	-1.5
JMK	Ichinoseki	1.07	225	P	Pb	21 44 47.3	-0.7
JMK				*e*S	Sb	21 45 01.3	-0.4
JRG	Rokugo	1.25	256	P	Pn	21 44 51.0	+0.4
JRG				*e*S	Sb	21 45 07.9	+1.2
JAH	Hinai	1.29	292	P	Pn	21 44 51.3	+0.1
JAH				*e*S	Sb	21 45 08.4	+0.4
ASAJ	Asahikawa	4.41	4	P	Pn	21 45 35.5	+1.4
	1.9nm,0.3s,baz=217,slow=9.1,SNR=7.4						
ASAJ				S	Sn	21 46 26.2	+1.2
	0.7nm,0.3s,baz=234,slow=18,SNR=3.6						
MJAR	Matsushiro Arr	4.46	226	P	Pn	21 45 37.5	+2.7
	0.8nm,0.3s,baz=35,slow=12,SNR=22						
H11N2	WAKE ISLAND Hy	29.11	126	T	T	22 20 53.7	
	baz=319,slow=75,SNR=1212						
H11N1	WAKE ISLAND Hy	29.12	126	T	T	22 20 56.5	
	baz=319,slow=75,SNR=1509						
H11N3	WAKE ISLAND Hy	29.13	126	T	T	22 20 53.4	
	baz=319,slow=75,SNR=1565						
H11S1	WAKE ISLAND Hy	29.91	128	T	T	22 21 55.7	
	baz=320,slow=76,SNR=227						
H11S3	WAKE ISLAND Hy	29.91	128	T	T	22 21 55.8	
	baz=320,slow=76,SNR=120						
H11S2	WAKE ISLAND Hy	29.93	128	T	T	22 21 56.9	
	baz=320,slow=76,SNR=160						
ZALV	Zalesovo Beam	40.61	310	P	P	21 52 06.8	+0.3
	0.5nm,0.4s,baz=88,slow=7.7,SNR=2.5						
MKAR	Makanchi Array	43.27	300	P	P	21 52 28.1	-0.3
	0.2nm,0.6s,baz=90,slow=9.9,SNR=4.7						
KURBB	Kurchatov Arra	44.88	306	P	P	21 52 41.1	-0.2
	0.5nm,0.4s,baz=80,slow=9.3,SNR=4.2						
ILAR	Eielson Array	46.92	34	P	P	21 52 57.6	+0.4
	0.6nm,0.8s,baz=253,slow=6.1,SNR=6.9						
BVAR	Borovoye Array	49.26	311	P	P	21 53 16.1	+0.7
	0.2nm,0.4s,baz=90,slow=7.2,SNR=2.7						
INK	Inuvik	51.73	28	P	P	21 53 34.6	+0.8
	0.3nm,0.6s,baz=269,slow=5.3,SNR=2.6						
WRA	Warramunga Arr	59.80	189	P	P	21 54 31.4	-0.8
	0.6nm,0.5s,baz=6.8,slow=7.0,SNR=23						
ASAR	Alice Springs	63.52	188	P	P	21 54 57.0	-0.3
	0.2nm,0.5s,baz=1.5,slow=4.6,SNR=7.8						
HFS	Hagfors	71.90	336	P	P	21 55 48.6	-1.2
	1.1nm,0.7s,baz=46,slow=6.2,SNR=4.5						
AKASG	Malin Array Be	72.56	322	P	P	21 55 53.2	-0.6
	0.3nm,0.4s,baz=70,slow=1.7,SNR=3.8						

*ISCJB **07** 22:14:19.0±0.6, 36°.65S±0°.04×177°.18E±0°.04, h10km, mb4.1/4, MS3.6/21, Error ellipse: s-maj=7.3km s-min=3.2km az=38.5*
*WEL **07** 22:14:19.4, 37°S±9°×17°7E±°, h33km, ML4.3/17*
*NEIC **07** 22:14:19.0±0.0, 36°.57S×177°.20E, h12km, ML4.7(WEL), After WEL.*
*IDC **07** 22:14:19.7±1.9, 36°.80S×177°.16E, h0km, mb4.2/4, mb1 4.4/4, mb1mx3.9/40, mbtmp4.2/4, MS3.6/22, Ms1 3.6/22, ms1mx3.5/36, Error ellipse: s-maj=54.9km s-min=19.8km az=66.0*
ISC 07 22:14:19.4±0.8, 36°.62S±0°.05×177°.19E±0°.04, h10km, n147, σ1s.42/130, mb4.1/4, MS3.7/21, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WIZ	White Island	0.91	180	P*	Pg	22 14 35.5	-1.4
WIZ	White Island	0.91	180	P	Pg	22 14 36.6	-0.3
WIZ	White Island	0.91	180	S	Sg	22 14 48.3	-0.4
KUZ	Kuaotunu	1.19	263	P*	Pb	22 14 39.4	-2.6
KUZ	Kuaotunu	1.19	263	P	Pb	22 14 39.7	-2.4
KUZ	Kuaotunu	1.19	263	P	Pb	22 14 40.4	-1.7
KUZ	Kuaotunu	1.19	263	S	Sb	22 14 55.5	-2.0
HAZ	Te Kaha	1.23	158	P	Pn	22 14 40.0	-2.7
WHRZ	Whale Island	1.25	188	P	Pn	22 14 41.6	-1.4
MXZ	Matakaoa Point	1.30	137	P*	Pn	22 14 41.0	-2.6
MXZ	Matakaoa Point	1.30	137	P	Pn	22 14 41.7	-1.9
MXZ	Matakaoa Point	1.30	137	S	Sb	22 14 58.0	-2.6
OPRZ	Ohinepanea	1.33	202	P*	Pn	22 14 41.7	-2.3
OPRZ	Ohinepanea	1.33	202	P	Pn	22 14 42.0	-2.0
TGRZ	Tauranga	1.34	214	P*	Pn	22 14 42.2	-1.9
TGRZ	Tauranga	1.34	214	P	Pn	22 14 42.4	-1.8
RUGZ	Raukumara Rang	1.40	164	P	Pn	22 14 43.2	-1.9
MARZ	Manawahe	1.43	197	P	Pn	22 14 44.2	-1.3
GRZ	Great Barrier	1.45	284	P	Pn	22 14 44.6	-1.0
GRZ	Great Barrier	1.45	284	S	Sn	22 15 03.7	-1.0
PKGZ	Pakihiroa	1.45	151	P	Pn	22 14 43.6	-2.2
LIRZ	Lichensteins R	1.53	205	P	Pn	22 14 45.3	-1.5
EDRZ	Edgecumbe	1.53	194	P	Pn	22 14 47.1	+0.2
WMGZ	Waiomatatini S	1.55	141	Pn	Pn	22 14 46.6	-0.4
WMGZ	Waiomatatini S	1.55	141	P	Pn	22 14 46.8	-0.2
KMRZ	Kaimai	1.58	219	P	Pn	22 14 46.1	-1.5
KARZ	Kaharoa	1.59	208	P*	Pn	22 14 46.1	-1.5
KARZ	Kaharoa	1.59	208	P	Pn	22 14 46.5	-1.2
URZ	Urewera	1.64	182	Pn	Pn	22 14 46.3	-2.0
	14nm,0.3s,baz=3.6,slow=12,SNR=74						
URZ				Sn	Sn	22 15 08.5	-1.0
	74nm,0.3s,baz=143,slow=20,SNR=14						
URZ				LR	LR	22 15 31.8	
	comp=Z,2µm,20.9s,baz=248,slow=50						
URZ	Urewera	1.64	182	P	Pn	22 14 46.5	-1.9
WIAZ	Waiheke Island	1.67	263	P	Pn	22 14 47.2	-1.5
TWGZ	Tauwhareparae	1.68	158	Pn	Pn	22 14 48.3	-0.6
TWGZ	Tauwhareparae	1.68	158	P	Pn	22 14 48.5	-0.5
PUZ	Puketiti	1.68	150	Pn	Pn	22 14 48.2	-0.7
PUZ	Puketiti	1.68	150	P	Pn	22 14 48.9	0.0
NGRZ	Ngongotaha	1.69	208	P	Pn	22 14 48.0	-1.0
MKAZ	Moumakai	1.70	253	Pn	Pn	22 14 47.6	-1.5
MKAZ	Moumakai	1.70	253	P	Pn	22 14 47.8	-1.3
TARZ	Mount Tarawera	1.71	199	P	Pn	22 14 48.6	-0.7
MWZ	Matawai	1.74	171	P*	Pn	22 14 47.5	-2.1
MWZ	Matawai	1.74	171	P	Pn	22 14 47.8	-1.9
HLRZ	Highlands Stat	1.77	202	P	Pn	22 14 49.1	-1.0
MTAZ	Motutapu	1.85	264	Pn	Pn	22 14 52.0	+0.8
ETAZ	East Tamaki Re	1.85	259	Pn	Pn	22 14 49.7	-1.5
ETAZ	East Tamaki Re	1.85	259	P	Pn	22 14 50.6	-0.5
RAGZ	Rawiri	1.89	175	P	Pn	22 14 50.7	-1.0
MUGZ	Murupara	1.89	190	P	Pn	22 14 52.2	+0.4
TKGZ	Te Karaka	1.89	164	P	Pn	22 14 52.4	+0.6
ABAZ	Army Bay	1.90	270	P	Pb	22 14 53.2	-1.0
KBAZ	Karaka Road Bo	1.91	255	P	Pn	22 14 52.2	+0.2
GRRZ	Galatos Road	1.93	206	P	Pn	22 14 51.3	-1.0
EPAZ	Eden Park BICE	1.98	262	P	Pb	22 14 54.7	-0.9
HBAZ	Herne Bay Bore	1.99	263	P	Pb	22 14 54.8	-0.9
RTZ	Ruatahuna	2.00	185	P	Pn	22 14 52.1	-1.3
CNGZ	Carnagh Statio	2.03	157	*e*Pn	Pn	22 14 54.5	+0.8
CNGZ	Carnagh Statio	2.03	157	P	Pb	22 14 55.3	-1.1
AWAZ	Awhitu Peninsu	2.10	257	P	Pn	22 14 54.3	-0.3
RVAZ	Riverhead Bore	2.11	265	Pn	Pn	22 14 54.0	-0.7
RVAZ	Riverhead Bore	2.11	265	P	Pn	22 14 54.3	-0.4
WTAZ	Waiatarua	2.13	261	P	Pn	22 14 55.3	+0.2
RIGZ	Rimuhau	2.13	168	P	Pn	22 14 56.4	+1.2
TLZ	Tolley Road	2.16	217	P*	Pn	22 14 54.2	-1.3
TLZ	Tolley Road	2.16	217	P	Pn	22 14 54.4	-1.1
SNGZ	Shannon Statio	2.17	177	P	Pb	22 14 58.1	-0.6
MTHZ	Maungataniwha	2.25	187	P	Pn	22 14 57.7	+1.0
PRGZ	Paritu Road	2.37	167	P	Pg	22 15 04.3	-0.5
WCZ	Waipu Caves	2.40	286	Pn	Pn	22 14 57.3	-1.5
WCZ	Waipu Caves	2.40	286	P	Pn	22 14 57.6	-1.2
RATZ	Rangitukua	2.51	206	P	Pb	22 15 03.7	-1.0
RATZ	Rangitukua	2.51	206	P	Pb	22 15 03.7	-1.0
RITZ	Rihia Road	2.58	204	P	Pb	22 15 06.6	+0.8
MHGZ	Mahia Peninsul	2.59	168	P	Pn	22 15 03.0	+1.6
BKZ	Black Stump Fm	2.60	192	P*	Pn	22 15 02.3	+0.7
BKZ	Black Stump Fm	2.60	192	P	Pn	22 15 02.8	+1.2
BKZ	Black Stump Fm	2.60	192	P	Pn	22 15 04.1	+2.5
KATZ	Kakaramea	2.64	206	P	Pb	22 15 04.8	-2.0
ARHZ	Aropaoanui	2.65	183	P	Pb	22 15 05.2	-1.7
HIZ	Hauiti	2.65	224	Pn	Pn	22 15 01.2	-1.0
HIZ	Hauiti	2.65	224	P	Pn	22 15 01.7	-0.6
KRVZ	Karewarewa	2.76	206	P	Pb	22 15 08.7	-0.2
KRVZ	Karewarewa	2.76	206	P	Pb	22 15 09.5	+0.5
WTVZ	West Tongariro	2.80	206	P	Pn	22 15 04.7	+0.3
WTVZ	West Tongariro	2.80	206	P	Pb	22 15 09.7	+0.1
OTVZ	Oturere	2.82	205	P*	Pn	22 15 04.5	-0.1
TWVZ	Taurewa	2.82	209	P	Pn	22 15 04.3	-0.3
NGZ	Ngauruhoe	2.85	206	P	Pb	22 15 09.9	-0.5
NGZ	Ngauruhoe	2.85	206	P	Pb	22 15 10.0	-0.4
MCHZ	McNeill Hill	2.85	188	P	Pb	22 15 08.5	-1.9
KWHZ	Kaweka Forest	2.87	192	P	Pn	22 15 07.0	+1.7
TUVZ	Tukino	2.91	204	P	Pb	22 15 09.9	-1.7
FWVZ	Far West T-bar	2.94	206	P*	Pn	22 15 06.3	0.0
FWVZ	Far West T-bar	2.94	206	P	Pb	22 15 10.4	-1.5
TRVZ	Turoa	2.98	205	P*	Pn	22 15 06.8	-0.1
TRVZ	Turoa	2.98	205	P	Pn	22 15 08.9	+1.9
WNVZ	Wahianoa	2.99	205	P*	Pn	22 15 07.0	0.0
BHHZ	Black Hill Sta	3.00	197	P	Pn	22 15 09.2	+2.0
MOVZ	Moawhango	3.01	202	P*	Pn	22 15 09.5	+2.3
MOVZ	Moawhango	3.01	202	P	Pn	22 15 09.8	+2.5
PKVZ	Pokaka	3.04	208	P	Pb	22 15 13.7	0.0
MTVZ	Mangateitei	3.08	206	P	Pb	22 15 14.0	-0.3
KRHZ	Kereru	3.09	192	P	Pn	22 15 09.2	+0.9
VRZ	Vera Road	3.16	217	P*	Pn	22 15 08.9	-0.3
VRZ	Vera Road	3.16	217	P	Pn	22 15 09.2	0.0
KAHZ	Kahuranaki	3.18	184	P	Pn	22 15 11.2	+1.6
OUZ	Omahuta	3.23	294	Pn	Pn	22 15 09.4	-0.8
OUZ	Omahuta	3.23	294	P	Pn	22 15 09.6	-0.6
PNHZ	Pukenui	3.38	193	P	Pn	22 15 12.6	+0.2
PKE	Pukeiti	3.61	224	P	Pn	22 15 16.6	+1.1
BFZ	Birch Farm	4.13	190	Pn	Pn	22 15 22.6	+0.1
BFZ	Birch Farm	4.13	190	P	Pn	22 15 23.0	+0.5
HOWZ	Holdsworth Sta	4.47	197	P	Pn	22 15 25.9	-1.3
OGWZ	Otaki Gorge	4.48	200	P	Pn	22 15 28.0	+0.6
KIW	Kapiti Island	4.60	202	P	Pn	22 15 30.2	+1.2
DUWZ	D'Urville Isla	4.90	210	P	Pn	22 15 36.1	+2.9
BHW	Baring Head	5.12	200	P	Pn	22 15 34.7	-1.4
TUWZ	Tuamarina	5.43	207	P	Pn	22 15 42.7	+2.3
QRZ	Quartz Range	5.56	220	Pn	Pn	22 15 43.7	+1.4
QRZ	Quartz Range	5.56	220	P	Pn	22 15 42.0	-0.2
QRZ	Quartz Range	5.56	220	P	Pn	22 15 44.5	+2.3
THZ	Tophouse	6.12	212	P	Pn	22 15 51.0	+1.0
KHZ	Kahutara	6.44	205	P	Pn	22 15 56.4	+2.1
LTZ	Lake Taylor	7.23	210	P	Pn	22 16 03.5	-1.6

INZ	**Inchbonnie**	**7.54**	**214**	P	**Pn**	**22 16 09.7**	**+0.3**
DZM	**Mont Dzumac**	**17.24**	**324**	LR	LR	22 23 43.5	
	comp=Z,478nm,19.2s,baz=202,slow=32						
AFI	**Afiamalu**	**24.67**	**26**	LR	LR	22 29 08.7	
	comp=Z,74nm,19.2s,baz=146,slow=36						
STKA	**Stephens Creek**	**29.70**	**269**	LR	LR	22 32 12.2	
	comp=Z,87nm,18.7s,baz=31,slow=36						
HNR	**Honiara**	**31.26**	**326**	LR	LR	22 32 31.6	
	comp=Z,43nm,19.3s,baz=134,slow=35						
PMG	**Port Moresby**	**38.40**	**307**	LR	LR	22 36 34.8	
	comp=Z,108nm,18.2s,baz=132,slow=35						
ASAR	**Alice Springs**	**39.28**	**277**	P	**P**	**22 21 51.8**	**+3.2**
	2.1nm,0.6s,baz=121,slow=8.2,SNR=48						
ASAR				LR	LR	22 37 16.1	
	comp=Z,114nm,20.9s,baz=86,slow=35						
WRA	**Warramunga Arr**	**40.87**	**282**	P	**P**	**22 22 01.6**	**-0.1**
	0.8nm,0.5s,baz=120,slow=8.0,SNR=13						
WRA				LR	LR	22 38 48.6	
	comp=Z,197nm,19.8s,baz=125,slow=36						
VNDA	**Vanda**	**41.55**	**185**	LR	LR	22 35 56.5	
	comp=Z,76nm,18.5s,baz=347,slow=31						
QSPA	**South Pole Qui**	**53.51**	**180**	P	**P**	**22 23 41.2**	**+1.4**
	5.9nm,0.7s,baz=13,slow=1.0,SNR=16						
QSPA				LR	LR	22 43 34.0	
	comp=Z,114nm,19.1s,baz=34,slow=33						
BATI	**Baumata**	**54.88**	**285**	LR	LR	22 47 43.4	
	comp=Z,187nm,18.2s,baz=169,slow=36						
GUMO	**Guam**	**58.50**	**322**	LR	LR	22 49 29.9	
	comp=Z,14nm,18.0s,baz=98,slow=36						
LEM	**Lembang**	**69.58**	**277**	LR	LR	22 58 44.5	
	comp=Z,47nm,18.0s,baz=120,slow=38						
SNAA	**Sanae**	**72.01**	**180**	LR	LR	22 55 24.9	
	comp=Z,52nm,19.8s,baz=167,slow=34						
PLCA	**Paso Flores**	**81.11**	**135**	LR	LR	22 54 45.3	
	comp=Z,36nm,21.7s,baz=240,slow=30						
MJAR	**Matsushiro Arr**	**81.28**	**329**	LR	LR	23 03 34.3	
	comp=Z,8.6nm,19.0s,baz=210,slow=36						
JNU	**Nakatsue**	**81.76**	**322**	LR	LR	22 57 39.5	
	comp=Z,20nm,21.3s,baz=117,slow=32						
PSI	**Prapat**	**82.27**	**279**	LR	LR	23 06 08.5	
	comp=Z,97nm,18.0s,baz=112,slow=38						
KSRS	**Korea Array**	**86.67**	**323**	LR	LR	23 04 04.1	
	comp=Z,13nm,19.3s,baz=235,slow=34						
CMAR	**Chiang Mai Arr**	**91.80**	**292**	P	**P**	**22 27 29.4**	**+1.6**
	0.3nm,0.3s,baz=143,slow=3.2,SNR=6.2						
CMAR				LR	LR	23 11 34.4	
	comp=Z,15nm,19.3s,baz=196,slow=37						
CMIG	**Matias Romero**	**98.37**	**75**	LR	LR	23 08 37.3	
	comp=Z,18nm,18.6s,baz=178,slow=33						
LPAZ	**La Paz**	**99.03**	**118**	LR	LR	23 03 23.3	
	comp=Z,33nm,21.1s,baz=184,slow=30						
CPUP	**Villa Florida**	**99.04**	**132**	LR	LR	23 06 05.3	
	comp=Z,81nm,19.1s,baz=222,slow=31						
BRTR	**Keskin Array B**	**151.30**	**287**	PKPbc	**PKPbc**	**22 34 16.5**	**+3.3**
	0.4nm,1.0s,baz=108,slow=4.7,SNR=3.2						
TORD	**Torodi Ar. Bea**	**156.28**	**191**	PKPab	**PKPab**	**22 34 41.2**	**-1.4**
	1.0nm,0.8s,baz=193,slow=2.9,SNR=4.7						

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*NIED **07** 22:15:00, 36°.40N×140°.80E, h62^{km}, Mw4.0 Best double couple: $M_0$1.29000×10^{15} NP1:ϕ_s161.00000°, δ31.00000°, λ57.00000°. NP2:ϕ_s18.00000°, δ64.00000°, λ108.00000°.*
*ISCJB **07** 22:15:35.1±0.5, 36°.43N±0°.04×140°.82E±0°.05, h66^{km}±3^{km}, mb4.1/33, Error ellipse: s-maj=8.1km s-min=4.8km az=40.4*
*JMA **07** 22:15:36.2, 36°.41N×140°.76E, h59^{km}±1^{km}, M3.8*
JMA Felt II J1.
*BJI **07** 22:15:36.6, 36°.67N×140°.77E, h72^{km}, mb4.4/20, mB4.7/13, Ms4.2/2, Ms7 4.0/1*
*NEIC **07** 22:15:38.1±1.1, 36°.61N×140°.71E, h68^{km}±6^{km}, mb4.6/10, Error ellipse: s-maj=19.0km s-min=6.5km az=152.0*
NEIC Felt at Tokai. Recorded [2 JMA] in Ibaraki.
*IDC **07** 22:15:38.3±1.7, 36°.30N×140°.69E, h81^{km}±16^{km}, mb3.6/18, mb1 3.8/21, mb1mx3.6/67, mbtmp3.9/21, Error ellipse: s-maj=17.1km s-min=9.6km az=57.0*
ISC 07 22:15:36.8±0.8**, 36°.46N**±0°.06×**140°.75E**±0°.06**, h59**^{km}±6^{km}**, n88,** σ**1^{s}55**/97**, mb4.2**/33**, 1D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHO	**Hitachi**	**0.21**	**315**	P	**Pn**	**22 15 45.9**	**-0.2**
JHO				S	**Sn**	**22 15 52.8**	**-0.1**
JYT	**Yasato**	**0.51**	**242**	P	**Pn**	**22 15 48.1**	**-0.6**
JYT				S	**Sn**	**22 15 56.6**	**-0.7**
ONAJ	**Iwakimizuishiy**	**0.64**	**3**	P	**Pn**	**22 15 49.8**	**-0.5**
ONAJ				S	**Sn**	**22 15 59.4**	**-0.7**
JFK	**Kawauchi**	**0.91**	**6**	P	**Pn**	**22 15 53.0**	**-0.6**
JFK				S	**Sn**	**22 16 05.5**	**-0.5**
JAG	**Ashikaga**	**1.05**	**268**	P	**Pn**	**22 15 55.3**	**0.0**
JAG				S	**Sn**	**22 16 09.2**	**+0.1**
JFT	**Otama**	**1.10**	**343**	P	**Pn**	**22 15 56.8**	**+0.7**
JFT				S	**Sn**	**22 16 11.8**	**+1.3**
JKT	**Katashina**	**1.25**	**284**	P	**Pn**	**22 15 58.5**	**+0.4**
MJAR	**Matsushiro Arr**	**2.05**	**273**	P	**Pn**	**22 16 09.6**	**+0.7**
	27nm,0.3s,baz=111,slow=8.4,SNR=399						
MJAR				S	**Sn**	**22 16 34.9**	**+1.5**
	15nm,0.3s,baz=96,slow=17,SNR=7.0						
MJAR				LR	LR	22 17 16.9	
	comp=Z,128nm,21.2s,baz=90,slow=50						
MAJO	**Matsushiro**	**2.05**	**273**	*e*Pn	**Pn**	**22 16 09.9**	**+1.0**
MAJO				*e*Sn	**Sn**	**22 16 26.9**	**-6.5**
MAT	**Matsushiro**	**2.05**	**273**	P	**Pn**	**22 16 09.6**	**+0.7**
MAT				S	**Sn**	**22 16 32.0**	**-1.4**
MJB9	**Matsu-Tunnel**	**2.05**	**273**	*e*Pn	**Pn**	**22 16 10.0**	**+1.0**
MJB9				*e*Sn	**Sn**	**22 16 27.0**	**-6.4**
INU	**Inuyama**	**3.23**	**251**	*e*Pn	**Pn**	**22 16 26.9**	**+2.0**
JHJ	**Hachijo jima 2**	**3.43**	**194**	P	**Pn**	**22 16 28.1**	**+0.3**
	5.0nm,0.3s,baz=291,slow=17,SNR=3.5						
JHJ				S	**Sn**	**22 17 04.5**	**-2.7**
	20nm,0.3s,baz=253,slow=19,SNR=4.9						
ERM	**Erimo**	**5.85**	**18**	*e*Pn	**Pn**	**22 17 01.2**	**+0.4**
ERM				*e*Sn	**Sn**	**22 18 06.4**	**0.0**
ASAJ	**Asahikawa**	**7.77**	**10**	P	**Pn**	**22 17 24.7**	**-2.4**
	2.1nm,0.3s,baz=234,slow=12,SNR=26						
ASAJ				S	**Sn**	**22 18 48.4**	**-5.3**
	1.2nm,0.3s,baz=112,slow=28,SNR=5.8						
ASAJ	**Asahikawa**	**7.77**	**10**	*e*Pn	**Pn**	**22 17 24.9**	**-2.2**
USRK	**Ussuriysk Ar.**	**10.21**	**322**	P	**Pn**	**22 18 03.1**	**+2.6**
	0.2nm,0.3s,baz=140,slow=11,SNR=4.3						
KSRS	**Korea Array**	**10.31**	**279**	P	**Pn**	**22 18 05.2**	**+3.3**
	0.2nm,0.3s,baz=94,slow=14,SNR=6.8						
NJ2	**Nanjing**	**18.62**	**263**	*e*P	**P**	**22 19 49.1**	**-0.3**
NJ2				pmax	pmax		
	comp=Z,12nm,0.5s						
BJI	**Beijing**	**19.61**	**288**	⇓*e*P	**Pn**	**22 20 01.3**	**-0.7**
BJI				pmax	pmax		
	comp=Z,10.0nm,0.8s						
HHC	**Hu-ho-hao-te**	**23.16**	**290**	*e*P	**P**	**22 20 37.2**	**-1.0**
HHC				pmax	pmax		
	comp=Z,14nm,0.7s						
HHC				pmax	pmax		
	comp=Z,36nm,4.1s						
SONM	**Songino Array**	**27.67**	**305**	P	**P**	**22 21 18.6**	**-0.6**
	1.0nm,0.6s,baz=104,slow=8.7,SNR=9.3						
H11N2	**WAKE ISLAND Hy**	**28.33**	**119**	T	T	22 51 27.2	
	baz=312,slow=75,SNR=125						
H11N1	**WAKE ISLAND Hy**	**28.33**	**119**	T	T	22 51 27.8	
	baz=312,slow=75,SNR=112						
H11N3	**WAKE ISLAND Hy**	**28.34**	**119**	T	T	22 51 28.6	
	baz=312,slow=75,SNR=84						
H11S1	**WAKE ISLAND Hy**	**29.01**	**121**	T	T	22 52 18.1	
	baz=314,slow=75,SNR=294						
H11S3	**WAKE ISLAND Hy**	**29.01**	**121**	T	T	22 52 17.9	
	baz=314,slow=75,SNR=178						
H11S2	**WAKE ISLAND Hy**	**29.02**	**121**	T	T	22 52 19.9	
	baz=314,slow=75,SNR=177						
LZH	**Lanzhou**	**29.64**	**280**	*e*P	**P**	**22 21 40.7**	**+3.9**
LZH				pP	pP	22 21 52.8	+1.4
LZH				pmax	pmax		
	comp=Z,14nm,1.0s						
CD2	**Chengdu**	**31.14**	**271**	*e*P	**P**	**22 21 50.0**	**0.0**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,120nm,5.0s						
GTA	**Gaotai**	**32.23**	**288**	*e*P	**P**	**22 22 00.8**	**+1.3**
GTA				pP	pP	22 22 15.8	+1.7
GTA				sP	sP	22 22 23.2	+2.2
GTA				PcP	**PcP**	**22 24 47.4**	**+0.5**
GTA				S	**S**	**22 27 10.9**	**+2.3**
GTA				sS	sS	22 27 36.0	+2.6
GTA				pmax	pmax		
	comp=Z,3.0nm,1.0s						
GTA				pmax	pmax		
	comp=Z,86nm,4.4s						
GTA				LR	LR		
	comp=N,300nm,19.0s						
GTA				LR	LR		
	comp=E,170nm,19.0s						
KMI	**Kunming**	**34.35**	**262**	P	**P**	**22 22 20.7**	**+2.4**
KMI				pmax	pmax		
	comp=Z,6.0nm,1.6s						
WMQ	**Urumqi**	**40.62**	**297**	P	**P**	**22 23 10.8**	**-0.1**
WMQ				pmax	pmax		
	comp=Z,24nm,0.9s						
WMQ				pmax	pmax		
	comp=Z,100nm,5.5s						
ZAA0	**Zalesovo Array**	**41.91**	**313**	*e*P	**P**	**22 23 21.1**	**-0.1**
	3.0nm,0.8s						
ZALV	**Zalesovo Beam**	**41.91**	**313**	P	**P**	**22 23 20.4**	**-0.9**
	1.6nm,0.6s,baz=94,slow=7.0,SNR=9.9						
ZALV	**Zalesovo Beam**	**41.91**	**313**	*e*P	**P**	**22 23 21.0**	**-0.2**
MK01	**Makanchi Array**	**43.97**	**302**	*e*P	**P**	**22 23 37.6**	**-0.4**
MK31	**Makanchi Array**	**43.97**	**303**	*e*P	**P**	**22 23 38.8**	**+0.7**
MKAR	**Makanchi Array**	**43.97**	**303**	P	**P**	**22 23 38.0**	**-0.1**
	1.1nm,0.7s,baz=89,slow=10.0,SNR=17						
MKAR	**Makanchi Array**	**43.97**	**303**	*e*P	**P**	**22 23 38.8**	**+0.7**
	9.3nm,0.8s						
KURK	**Kurchatov**	**45.87**	**308**	*e*P	**P**	**22 23 52.3**	**-0.7**
	5.3nm,1.2s						
KURBB	**Kurchatov Arra**	**45.93**	**308**	P	**P**	**22 23 52.9**	**-0.6**
	1.8nm,0.4s,baz=82,slow=7.7,SNR=23						
MDM	**Murphy Dome**	**49.68**	**32**	*e*P	**P**	**22 24 23.5**	**+1.2**
	3.7nm,0.7s						
ILAR	**Eielson Array**	**50.26**	**32**	P	**P**	**22 24 27.1**	**+0.3**
	1.8nm,0.7s,baz=271,slow=6.5,SNR=24						
ILB	**Eielson Array**	**50.26**	**32**	*e*P	**P**	**22 24 27.1**	**+0.3**
IL1	**Eielson Array**	**50.26**	**32**	*e*P	**P**	**22 24 26.3**	**-0.4**
BVAR	**Borovoye Array**	**50.56**	**313**	P	**P**	**22 24 29.0**	**-0.1**
	0.5nm,0.5s,baz=78,slow=7.1,SNR=5.5						
BMRM	**Bremner River**	**51.63**	**37**	*e*P	**P**	**22 24 36.9**	**-0.3**
	7.1nm,1.2s						
KK05	**Karatay Array**	**52.94**	**300**	*e*P	**P**	**22 24 46.4**	**-0.6**
KK06	**Karatay Array**	**52.94**	**300**	*e*P	**P**	**22 24 46.6**	**-0.5**
KK02	**Karatay Array**	**52.95**	**300**	*e*P	**P**	**22 24 47.2**	**0.0**
KK04	**Karatay Array**	**52.95**	**300**	*e*P	**P**	**22 24 47.2**	**+0.1**
KK01	**Karatay Array**	**52.95**	**300**	*e*P	**P**	**22 24 46.2**	**-1.0**
KK03	**Karatay Array**	**52.96**	**300**	*e*P	**P**	**22 24 46.8**	**-0.4**
KK07	**Karatay Array**	**52.96**	**300**	*e*P	**P**	**22 24 46.8**	**-0.4**
KK08	**Karatay Array**	**52.97**	**300**	*e*P	**P**	**22 24 46.6**	**-0.7**
INK	**Inuvik**	**55.14**	**27**	P	**P**	**22 25 02.4**	**-0.2**
	1.5nm,0.6s,baz=304,slow=6.2,SNR=11						
INK	**Inuvik**	**55.14**	**27**	*e*P	**P**	**22 25 02.9**	**+0.3**
	18nm,1.9s						
WRA	**Warramunga Arr**	**56.43**	**187**	P	**P**	**22 25 11.2**	**-1.2**
	0.6nm,0.8s,baz=3.2,slow=7.4,SNR=7.8						
ARU	**Arti**	**56.44**	**319**	*e*P	**P**	**22 25 11.7**	**-0.4**
	4.9nm,0.7s						
AB06	**Akbulak array**	**57.88**	**310**	*e*P	**P**	**22 25 21.3**	**-1.1**
AB05	**Akbulak array**	**57.89**	**310**	*e*P	**P**	**22 25 21.9**	**-0.5**
AB07	**Akbulak array**	**57.89**	**310**	*e*P	**P**	**22 25 21.6**	**-1.0**
AB02	**Akbulak array**	**57.90**	**310**	*e*P	**P**	**22 25 21.9**	**-0.6**
AB01	**Akbulak array**	**57.90**	**310**	*e*P	**P**	**22 25 21.9**	**-0.6**
AB31	**Akbulak array**	**57.90**	**310**	*e*P	**P**	**22 25 22.2**	**-0.3**
ABKAR	**Akbulak array**	**57.90**	**310**	*e*P	**P**	**22 25 22.2**	**-0.3**
	21nm,0.7s						
AB03	**Akbulak array**	**57.90**	**310**	*e*P	**P**	**22 25 22.0**	**-0.5**
AB04	**Akbulak array**	**57.90**	**310**	*e*P	**P**	**22 25 21.2**	**-1.3**
AB09	**Akbulak array**	**57.91**	**310**	*e*P	**P**	**22 25 21.9**	**-0.7**
AB08	**Akbulak array**	**57.91**	**310**	*e*P	**P**	**22 25 22.3**	**-0.3**
ARCES	**ARCESS Array B**	**64.34**	**339**	P	**P**	**22 26 05.7**	**-0.1**
	3.2nm,0.9s,baz=54,slow=9.1,SNR=4.8						
YKA	**Yellowknife Ar**	**64.57**	**30**	P	**P**	**22 26 07.6**	**+0.2**
	0.4nm,0.7s,baz=301,slow=6.8,SNR=9.2						
FINES	**FINESS Array B**	**69.07**	**332**	P	**P**	**22 26 35.6**	**-0.4**
	2.5nm,0.8s,baz=81,slow=6.0,SNR=6.4						
KBZ	**Khabaz**	**70.87**	**311**	P	**P**	**22 26 46.9**	**-0.4**
	0.9nm,0.8s,baz=32,slow=4.4,SNR=5.4						
AKASG	**Malin Array Be**	**74.42**	**322**	P	**P**	**22 27 07.5**	**-0.8**
	1.0nm,0.5s,baz=44,slow=6.2,SNR=11						
NB2	**NORSAR Subarra**	**74.50**	**337**	P	**P**	**22 27 08.1**	**-0.6**
	comp=Z,2.1nm,0.8s,baz=40,slow=5.9						
NOA	**NORSAR Array B**	**74.50**	**337**	P	**P**	**22 27 08.1**	**-0.6**
	comp=Z,1.6nm,0.7s,baz=39,slow=5.8,SNR=6.7						
NVAR	**Mina Array Bea**	**75.76**	**53**	P	**P**	**22 27 17.3**	**+0.8**
	comp=Z,0.3nm,0.5s,baz=298,slow=7.7,SNR=3.3						
ILGA	**Ilgaz**	**77.96**	**312**	*e*P	**P**	**22 27 26.7**	**-2.2**
	comp=Z,6.8nm,0.7s						
PDAR	**Pinedale Array**	**78.44**	**45**	P	**P**	**22 27 31.9**	**+0.4**
	comp=Z,0.3nm,0.5s,baz=302,slow=3.3,SNR=4.7						
BRTR	**Keskin Array B**	**78.83**	**311**	P	**P**	**22 27 34.0**	**+0.4**
	comp=Z,0.5nm,0.8s,baz=77,slow=3.1,SNR=3.9						
BR231	**Keskin MP Arra**	**79.28**	**312**	*e*P	**P**	**22 27 34.8**	**-1.2**
SRU	**San Rafael Swe**	**80.19**	**48**	*e*P	**P**	**22 27 39.0**	**-2.1**
	comp=Z,4.1nm,0.7s						
DPC	**Dobruska-Polom**	**80.66**	**328**	*e*P	**P**	**22 27 43.4**	**+0.2**
CLL	**Collm**	**81.32**	**330**	*e*P	**P**	**22 27 46.0**	**-0.6**
GERES	**GERESS Array B**	**82.91**	**328**	P	**P**	**22 27 54.9**	**-0.3**
	comp=Z,0.2nm,0.5s,baz=45,slow=5.7,SNR=4.8						
TTG	**Podgorica**	**85.07**	**321**	*e*P	**P**	**22 28 07.2**	**+1.1**
	comp=Z,170nm,2.0s						

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*ATA **07** 22:33:03.2±0.6, 38°.49N×43°.18E, h66^{km}±10^{km}, ML2.7, MW2.9*
*ISK **07** 22:33:06.3, 38°.67N×43°.20E, h22^{km}, ML2.4/5*
*CSEM **07** 22:33:07.4±0.2, 38°.70N×43°.18E, h20^{km}, ML2.4, Error ellipse: s-maj=3.8km s-min=3.2km az=91.0*
*DDA **07** 22:33:07.4, 38°.71N×43°.23E, h7^{km}, Ml3.0*
*ISCJB **07** 22:33:08.0±0.6, 38°.69N±0°.03×43°.19E±0°.04, h19^{km}±9^{km}, Error ellipse: s-maj=5.2km s-min=4.5km az=172.5*
ISC 07 22:33:06.5±1.0**, 38°.73N**±0°.03×**43°.09E**±0°.04**, h13**^{km}±9^{km}**, n26,** σ**0^{s}70**/48**, 1C-2D, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.27**	**121**	PG	**Pg**	**22 33 12.5**	**+0.3**
VANB				SG	**Sg**	**22 33 16.5**	**+0.5**
VANB	**Van**	**0.27**	**121**	*e*Pg	**Pg**	**22 33 12.5**	**+0.3**
VANB				*e*Sg	**Sg**	**22 33 16.5**	**+0.5**
ADCV	**BITLIS_Adilcev**	**0.30**	**285**	*i* P	**Pn**	**22 33 15.8**	**-1.0**
ADCV				*i* S	**Sn**	**22 33 21.9**	**-1.3**
ADCV	**BITLIS_Adilcev**	**0.30**	**285**	P	**Pn**	**22 33 15.8**	**-1.0**
ADCV				S	**Sn**	**22 33 21.9**	**-1.3**
TVAN	**Van**	**0.32**	**130**	⇑*i*Pg	**Pg**	**22 33 12.7**	**-0.4**
TVAN				*i* Sg	**Sg**	**22 33 17.1**	**-0.5**
TVAN	**Van**	**0.32**	**130**	Pg	**Pg**	**22 33 12.7**	**-0.4**
TVAN				Sg	**Sg**	**22 33 17.1**	**-0.5**
ERCV	**ERCIS-VAN**	**0.34**	**34**	PG	**Pb**	**22 33 14.6**	**0.0**
ERCV				SG	**Sb**	**22 33 20.7**	**+0.6**
ERCV	**ERCIS-VAN**	**0.34**	**34**	*e*Pg	**Pb**	**22 33 14.6**	**0.0**
ERCV				*e*Sg	**Sb**	**22 33 20.7**	**+0.6**
GEVA	**Gevas**	**0.42**	**184**	*e*P	**Pg**	**22 33 14.8**	**-0.2**
GEVA				*e*S	**Sb**	**22 33 23.0**	**+0.8**
GEVA				IAML		22 33 26.3	
	comp=Z,44nm,0.5s						
GEVA	**Gevas**	**0.42**	**184**	⇓*i*Pg	**Pg**	**22 33 15.1**	**+0.2**
GEVA				*i* Sg	**Sb**	**22 33 22.2**	**-0.1**
GEVA	**Gevas**	**0.42**	**184**	Pg	**Pg**	**22 33 15.1**	**+0.2**
GEVA				Sg	**Sb**	**22 33 22.2**	**-0.1**
VMUR	**Van-Muradiye**	**0.45**	**55**	⇓*i*Pg	**Pb**	**22 33 16.8**	**+0.4**
VMUR				*i* Sg	**Sb**	**22 33 23.6**	**+0.4**
VMUR	**Van-Muradiye**	**0.45**	**55**	Pg	**Pb**	**22 33 16.8**	**+0.4**
VMUR				Sg	**Sb**	**22 33 23.5**	**+0.4**
TUTA	**Tutak**	**0.70**	**342**	*e*P	**Pn**	**22 33 22.6**	**+0.2**
TUTA	**Tutak**	**0.70**	**342**	*i* P	**Pn**	**22 33 22.4**	**0.0**
TUTA				*i* S	**Sn**	**22 33 33.1**	**-0.1**
TUTA	**Tutak**	**0.70**	**342**	P	**Pn**	**22 33 22.4**	**0.0**
TUTA				S	**Sn**	**22 33 33.1**	**-0.1**
CLDR	**Caldiran**	**0.76**	**57**	PG	**Pg**	**22 33 20.9**	**-0.4**
CLDR				SG	**Sb**	**22 33 32.2**	**+0.1**
CLDR	**Caldiran**	**0.76**	**57**	*i* P	**Pg**	**22 33 20.7**	**-0.6**
CLDR				*i* S	**Sg**	**22 33 30.6**	**-0.8**
CLDR	**Caldiran**	**0.76**	**57**	*e*Pg	**Pg**	**22 33 20.9**	**-0.4**
CLDR				S	**Sg**	**22 33 30.6**	**-0.8**
CLDR				*e*Sg	**Sb**	**22 33 32.2**	**+0.1**
AGRB	**Hanur-Agry**	**0.84**	**355**	PG	**Pn**	**22 33 24.4**	**+0.1**
AGRB	**Hanur-Agry**	**0.84**	**355**	*e*Pg	**Pn**	**22 33 24.4**	**+0.1**
GURO	**Guroymak-BITLI**	**0.85**	**258**	PG	**Pn**	**22 33 24.5**	**+0.2**
GURO	**Guroymak-BITLI**	**0.85**	**258**	*e*Pg	**Pn**	**22 33 24.5**	**+0.2**
EKAR	**Karacoban**	**0.96**	**303**	*e*P	**Pg**	**22 33 25.1**	**0.0**
EKAR				*e*S	**Sn**	**22 33 42.8**	**+3.3**
EKAR				IAML		22 33 54.8	
	comp=Z,4.8nm,0.5s						
HAKT	**HAKKARI**	**1.27**	**157**	*e*P	**Pb**	**22 33 30.2**	**-0.2**
HAKT				*e*S	**Sg**	**22 33 47.6**	**+0.2**
HAKT	**HAKKARI**	**1.27**	**157**	P	**Pb**	**22 33 30.2**	**-0.2**
HAKT				S	**Sg**	**22 33 47.6**	**+0.2**

TRN 07 23:07:37.4, 10°.43N×62°.01W, h3^{km}, MD3.5, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPP	**Pointe-a-Pierr**	**0.56**	**101**	*e*P	Pg	23 07 48.7	+0.5
TPP				*e*S	Sg	23 07 56.4	+1.0
TRN	**Trinidad (W)**	**0.64**	**70**	*e*P	Pg	23 07 48.9	-0.7
TRN				*e*S	Sg	23 07 58.8	+1.0
TBH	**Brigand Hill**	**0.93**	**86**	*e*P	Pg	23 07 54.8	-0.5
TBH				*e*S	Sb	23 08 08.6	-0.4
TOSP	**Speyside**	**1.69**	**59**	*e*P	Pb	23 08 09.0	-0.1
TOSP				*e*S	Sg	23 08 31.9	+0.2
GRGR	**Grenville**	**1.73**	**12**	*e*P	Pn	23 08 08.5	+0.1
GRGR				*e*S	Sb	23 08 31.6	-0.4
GRHS	**Sauteurs**	**1.82**	**11**	*e*P	Pn	23 08 10.2	+0.5
GRHS				*e*S	Sb	23 08 34.6	-0.1
GRSS	**Sisters**	**1.90**	**12**	*e*P	Pn	23 08 11.4	+0.6
GRSS				*e*S	Sn	23 08 36.0	+0.8
SVB	**Belmont**	**2.92**	**15**	*e*P	Pn	23 08 25.5	+0.7
SVB				*e*S	Sn	23 09 01.1	+0.6
SVCV	**St. Vincent, C**	**2.95**	**17**	*e*P	Pn	23 08 25.8	+0.5
SVCV				*e*S	Sn	23 09 00.9	-0.3
SVV	**Soufriere Volc**	**2.98**	**15**	*e*P	Pn	23 08 25.9	+0.4
SVV				*e*S	Sn	23 09 01.1	-0.7
SSV	**Crater Summit**	**2.99**	**15**	*e*S	Sn	23 09 01.7	-0.6

IDC 07 23:16:53.1±3.1**, 5°.82S×133°.59E, h0**^{km}**, mb3.4**/1**, mb1 3.6**/5**, mb1mx3.4**/52**, mbtmp3.4**/5**, ML3.2**/3**, Error ellipse: s-maj=119.1km s-min=26.2km az=81.0, Aru Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**5.43**	**335**	Pn	Pn	23 18 14.1	-1.4
	0.9nm,0.3s,baz=127,slow=20,SNR=2.5						
SIJI				Sn	Sn	23 19 12.4	-6.4
	1.1nm,0.3s,baz=156,slow=22,SNR=4.1						
WRA	**Warramunga Arr**	**14.06**	**177**	Pn	Pn	23 20 12.0	-1.8
	0.1nm,0.3s,baz=350,slow=13,SNR=5.8						
WRA				Sn	Sn	23 22 40.2	-10
	0.1nm,0.3s,baz=351,slow=24,SNR=3.3						
FITZ	**Fitzroy Crossi**	**14.47**	**212**	Pn	Pn	23 20 20.9	+1.6
	baz=33,slow=12						
ASAR	**Alice Springs**	**17.75**	**179**	P	Pn	23 21 01.7	-0.2
	0.1nm,0.3s,baz=358,slow=13,SNR=3.7						
MKAR	**Makanchi Array**	**69.25**	**325**	P	P	23 28 02.6	+0.5
	0.2nm,0.4s,baz=106,slow=6.4,SNR=4.0						

NNC 07 23:44:08.2±2.9**, 37°.44N×71°.16E, h0**^{km}**, mb3.5, mpv3.1, 3C-5D, Error ellipse: s-maj=22.1km s-min=20.6km az=150.0, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**3.16**	**35**	⇓P	Pn	23 44 59.2	-0.1
	1.3nm,0.3s						
SFK				⇓S	Sn	23 45 39.9	+2.1
	4.4nm,0.2s						
MNAS	**Manas**	**5.15**	**11**	⇑P	Pn	23 45 26.9	+0.3
	1.1nm,0.4s						
MNAS				⇑S	Sn	23 46 27.9	+1.1
	1.9nm,0.3s						
KK31	**Karatay Array**	**5.68**	**355**	⇑P	Pn	23 45 34.4	+0.6
	1.0nm,0.3s,baz=179,slow=13,SNR=53						
KK31				⇓S	Sn	23 46 41.3	+1.6
	0.4nm,0.3s,baz=176,slow=23,SNR=5.8						
AAK	**Ala-Archa**	**5.79**	**25**	⇓P	Pn	23 45 34.6	-0.8
	1.8nm,0.6s						
AAK				⇓S	Sn	23 46 41.7	-0.9
	1.0nm,0.5s						

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*NEIC **07** 23:44:23.7±0.0, 16°.32N×98°.49W, h0^{km}, MD4.0(MEX), After MEX.*
MEX 07 23:44:24.0±0.6**, 16°.28N×98°.46W, h5**^{km}**, MD4.0, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.34**	**70**	*e*P	Pg	23 44 30.0	-0.6
PNIG				*e*S	Sg	23 44 35.4	+0.3
PNIG	**Pinotepa**	**0.34**	**70**	*e*P	Pg	23 44 29.9	-0.7
PNIG				*e*S	Sg	23 44 35.5	+0.4
VHO	**Vista Hermosa**	**1.83**	**64**	*e*P	Pn	23 44 53.4	-3.0
VHO				*e*S	Sn	23 45 18.6	-1.5
VHO	**Vista Hermosa**	**1.83**	**64**	*e*P	Pn	23 44 53.4	-3.0
VHO				*e*S	Sn	23 45 18.6	-1.5
CAIG	**El Cayaco**	**1.90**	**294**	*e*P	Pn	23 44 50.5	-6.6
CAIG				*e*S	Sn	23 45 17.3	-4.0
CAIG	**El Cayaco**	**1.90**	**294**	*e*P	Pn	23 44 50.5	-6.6
CAIG				*e*S	Sn	23 45 17.3	-4.0
MOIG	**Morelia**	**4.26**	**323**	*e*Pn	Pn	23 45 29.2	-0.7

IDC 07 23:46:04.0±1.1**, 29°.15S×75°.48E, h0**^{km}**, mb3.9**/4**, mb1 4.0**/4**, mb1mx3.4**/60**, mbtmp3.9**/4**, Error ellipse: s-maj=44.3km s-min=26.3km az=5.0, Mid-Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S2	**Diego Garcia H**	**21.58**	**352**	T	T	00 14 01.7	
	baz=174,slow=76,SNR=28						
H08S1	**Diego Carcia H**	**21.58**	**352**	T	T	00 14 03.9	
	baz=174,slow=76,SNR=15						
H08S3	**Diego Garcia H**	**21.60**	**352**	T	T	00 14 02.2	
	baz=174,slow=76,SNR=24						
LSZ	**Lusaka**	**45.62**	**277**	P	P	23 54 25.8	-0.7
	1.0nm,0.6s,baz=143,slow=5.1,SNR=3.3						
ASAR	**Alice Springs**	**52.16**	**98**	P	P	23 55 16.1	-0.6
	0.7nm,0.8s,baz=251,slow=6.6,SNR=10						
WRA	**Warramunga Arr**	**53.85**	**94**	P	P	23 55 28.9	-0.3
	1.1nm,0.8s,baz=250,slow=6.7,SNR=5.5						
QSPA	**South Pole Qui**	**60.98**	**180**	P	P	23 56 19.3	+0.3
	1.0nm,0.4s,baz=315,slow=14,SNR=5.3						
YKA	**Yellowknife Ar**	**146.01**	**8**	PKPbc	PKPab	00 05 45.4	-0.2
	0.2nm,0.7s,baz=327,slow=3.6,SNR=5.2						

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*IGQ **07** 23:54:28.3±0.8, 4°S±14°×8°2W±1°2, h10^{km}, M5.0/19, mb5.2/13, mB5.4/12, MLv5.3/19, Mw(mB)4.8/12*
*ISCJB **07** 23:54:40.4±0.6, 3°.81S±0°.04×81°.28W±0°.06, h39^{km}, mb3.9/16, MS3.9/19, Error ellipse: s-maj=8.4km s-min=5.7km az=4.6*
*NEIC **07** 23:54:42.6±1.7, 3°.83S×81°.22W, h42^{km}±15^{km}, mb4.2/4, Error ellipse: s-maj=15.9km s-min=9.2km az=74.0*
*IDC **07** 23:54:42.8±2.9, 3°.82S×81°.18W, h43^{km}±26^{km}, mb3.7/12, mb1 3.9/15, mb1mx3.7/45, mbtmp4.0/15, ML3.8/3, MS4.0/25, Ms1 4.0/25, ms1mx3.8/43, Error ellipse: s-maj=26.7km s-min=15.3km az=64.0*
ISC 07 23:54:42.7±0.7**, 3°.73S**±0°.07×**81°.2W**±0°.1**, h39**^{km}**, n104,** σ**1^{s}37**/86**, mb4.0**/16**, MS3.9**/19**, 1C, Near coast of northern Peru**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGUAY	**Guayaquil**	**2.08**	**37**	P	**Pn**	**23 55 15.6**	**+0.6**
AGUAY				S	**Sn**	**23 55 39.4**	**-0.2**
BMAS	**Trigal station**	**3.50**	**51**	P	**Pn**	**23 55 35.9**	**+1.0**
BMAS				S	Sn	23 56 32.2	+17
BMAS	**Trigal station**	**3.50**	**51**	P	**Pn**	**23 55 35.9**	**+1.0**
BMAS				S	Sn	23 56 32.2	+17
ARRY	**Arrayan**	**3.52**	**51**	P	**Pn**	**23 55 35.4**	**+0.2**
ARRY	**Arrayan**	**3.52**	**51**	P	**Pn**	**23 55 35.4**	**+0.2**
BPAT	**Tungurahua Vol**	**3.54**	**51**	P	**Pn**	**23 55 35.4**	**-0.2**
BPAT	**Tungurahua Vol**	**3.54**	**51**	P	**Pn**	**23 55 35.4**	**-0.2**
RETU	**Refugio**	**3.56**	**51**	P	**Pn**	**23 55 37.5**	**+1.6**
RETU	**Refugio**	**3.56**	**51**	P	**Pn**	**23 55 37.5**	**+1.6**
POND	**Pondoa**	**3.57**	**50**	P	**Pn**	**23 55 36.0**	**+0.1**
POND	**Pondoa**	**3.57**	**50**	P	**Pn**	**23 55 36.0**	**+0.1**
BULB	**Ulba Tungurahu**	**3.59**	**51**	P	**Pn**	**23 55 36.9**	**+0.7**
BULB	**Ulba Tungurahu**	**3.59**	**51**	P	**Pn**	**23 55 36.9**	**+0.7**
ILLI	**Illinizas Sur**	**3.88**	**40**	P	**Pn**	**23 55 40.5**	**+0.2**
ILLI	**Illinizas Sur**	**3.88**	**40**	P	**Pn**	**23 55 40.5**	**+0.2**
BMOR	**Cotopaxi Volca**	**4.04**	**43**	P	**Pn**	**23 55 43.0**	**+0.4**
	223nm,0.9s,4µm2.0nm						
BMOR	**Cotopaxi Volca**	**4.04**	**43**	P	**Pn**	**23 55 43.0**	**+0.4**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
CAMI	Rancho Maria	4.05	42	P	Pn	23 55 44.9	+2.3
	579nm,0.6s,7μm3.5nm						
CAMI	Rancho Maria	4.05	42	P	Pn	23 55 44.9	+2.3
BNAS	Cotopaxi Volca	4.07	42	P	Pn	23 55 43.4	+0.5
	448nm,0.8s,6μm4.8nm						
BNAS				S	Sn	23 56 43.6	+14
	448nm,0.8s,6μm4.8nm						
BNAS	Cotopaxi Volca	4.07	42	P	Pn	23 55 43.4	+0.5
BNAS				S	Sn	23 56 43.6	+14
BREF	Cotopaxi Volca	4.10	42	P	Pn	23 55 44.1	+0.7
	228nm,0.6s,5μm5.1nm						
BREF				S	Sn	23 56 45.0	+15
	228nm,0.6s,5μm5.1nm						
BREF	Cotopaxi Volca	4.10	42	P	Pn	23 55 44.1	+0.7
BREF				S	Sn	23 56 45.0	+15
BTAM	Cotopaxi Volca	4.12	43	P	Pn	23 55 44.0	+0.3
	301nm,0.8s,4μm3.1nm						
BTAM	Cotopaxi Volca	4.12	43	P	Pn	23 55 44.0	+0.3
BVC2	Cotopaxi Volca	4.13	42	P	Pn	23 55 44.4	+0.6
BVC2	Cotopaxi Volca	4.13	42	P	Pn	23 55 44.4	+0.6
VC1	Cotopaxi 1	4.14	42	P	Pn	23 55 45.1	+1.2
VC1	Cotopaxi 1	4.14	42	P	Pn	23 55 45.1	+1.2
ANTM	Antisana-La Mi	4.34	43	P	Pn	23 55 49.3	+2.6
	101nm,0.6s,2μm0.9nm						
ANTM	Antisana-La Mi	4.34	43	P	Pn	23 55 49.3	+2.6
ATAH	Atahualpa	4.39	141	P	Pn	23 55 46.2	-1.0
	5.8nm,0.3s,baz=354,slow=3.7,SNR=13						
ATAH				S	Sn	23 56 36.4	-0.9
	8.2nm,0.3s,baz=169,slow=15,SNR=4.3						
ATAH				LR	LR	23 57 31.6	
	comp=Z,2μm,19.8s,baz=310,slow=39						
ANTS	Antisana-Sarah	4.41	43	P	Pn	23 55 49.1	+1.5
	267nm,0.8s,3μm1.8nm						
ANTS	Antisana-Sarah	4.41	43	P	Pn	23 55 49.1	+1.5
YANA	Yana	4.44	36	P	Pn	23 55 48.0	0.0
	807nm,0.8s,15μm6.8nm						
YANA	Yana	4.44	36	P	Pn	23 55 48.0	0.0
OTAV	Otavalo	4.80	35	eP	Pn	23 55 52.2	-0.7
OTAV	Otavalo	4.80	35	P	Pn	23 55 53.3	+0.4
	48nm,0.6s,2μm						
OTAV	Otavalo	4.80	35	eP	Pn	23 55 52.2	-0.7
OTAV	Otavalo	4.80	35	P	Pn	23 55 53.3	+0.4
CUIC	Cuicocha-Domo	4.91	35	P	Pn	23 55 54.7	+0.4
	187nm,0.8s,2μm2.6nm						
CUIC	Cuicocha-Domo	4.91	35	P	Pn	23 55 54.7	+0.4
COTA	Cotacachi	4.94	35	P	Pn	23 55 52.8	-2.1
COTA	Cotacachi	4.94	35	P	Pn	23 55 52.8	-2.1
IMBA	Imbabura, San	4.98	37	P	Pn	23 55 57.9	+2.5
	105nm,0.6s,3μm1.5nm						
IMBA	Imbabura, San	4.98	37	P	Pn	23 55 57.9	+2.5
URCU	Urcuqui	5.08	35	P	Pn	23 55 58.2	+1.5
	203nm,0.6s,2μm1.9nm						
URCU	Urcuqui	5.08	35	P	Pn	23 55 58.2	+1.5
YAHU	Yahuarcocha	5.13	38	P	Pn	23 55 57.7	+0.3
YAHU	Yahuarcocha	5.13	38	P	Pn	23 55 57.7	+0.3
LITE1	Lita	5.31	32	P	Pn	23 55 59.8	+0.1
LITE1	Lita	5.31	32	P	Pn	23 55 59.8	+0.1
CMBC	Cumbal	5.73	36	eP	Pn	23 56 08.2	+2.5
CMBC	Cumbal	5.73	36	eP	Pn	23 56 08.2	+2.5
GCUF	Volcan Galeras	6.25	38	eP	Pn	23 56 16.1	+3.3
GCUF	Volcan Galeras	6.25	38	eP	Pn	23 56 16.1	+3.3
CRUC	La Cruz	6.76	39	eP	Pn	23 56 25.4	+5.7
CRUC	La Cruz	6.76	39	eP	Pn	23 56 25.4	+5.7
SOTA	Rioblanco	7.41	38	eP	Pn	23 56 27.5	-1.3
SOTA	Rioblanco	7.41	38	eP	Pn	23 56 27.5	-1.3
PCON	Cinco Dias	7.69	39	eP	Pn	23 56 29.4	-3.3
PCON	Cinco Dias	7.69	39	eP	Pn	23 56 29.4	-3.3
YOTC	Yotoco, Valle	9.06	32	eP	Pn	23 56 45.1	-6.1
YOTC	Yotoco, Valle	9.06	32	eP	Pn	23 56 45.1	-6.1
NNA	Nana	9.27	153	LR	LR	00 00 29.3	
	comp=Z,614nm,18.2s,slow=38						
ROSC	El Rosal	10.94	39	LR	LR	00 02 26.7	
	comp=Z,2μm,18.3s,baz=222,slow=42						
JTS	JuntasAbangare	14.42	345	LR	LR	00 02 41.9	
	comp=Z,537nm,20.9s,baz=230,slow=33						
SDV	Santo Domingo	16.37	40	P	P	23 58 31.4	-1.0
	0.5nm,0.3s,baz=213,slow=9.7,SNR=18						
SDV				LR	LR	00 05 59.8	
	comp=Z,2μm,20.8s,baz=221,slow=41						
LPAZ	La Paz	17.91	135	P	P	23 58 49.0	-0.8
	0.4nm,0.3s,baz=359,slow=2.1,SNR=11						
LPAZ				LR	LR	00 07 04.0	
	comp=Z,663nm,19.7s,baz=292,slow=42						
APG	El Apazote	20.75	334	LR	LR	00 06 01.9	
	comp=Z,362nm,20.2s,baz=105,slow=33						
PCRV	Puerto La Cruz	21.51	50	P	P	23 59 29.0	+0.4
	25nm,0.9s,baz=289,slow=5.4,SNR=7.0						
PCRV				LR	LR	00 08 51.3	
	comp=Z,816nm,18.9s,baz=219,slow=39						
SIV	San Ignacio	23.24	123	P	P	23 59 45.5	-1.2
	1.7nm,0.5s,baz=302,slow=6.1,SNR=14						
SIV				LR	LR	00 09 28.8	
	comp=Z,446nm,19.7s,baz=330,slow=38						
CMIG	Matias Romero	24.71	327	LR	LR	00 08 05.0	
	comp=Z,112nm,21.5s,baz=160,slow=32						
SJG	San Juan	26.29	34	P	P	00 00 14.5	-0.1
	4.2nm,0.5s,baz=248,slow=5.4,SNR=3.3						
CPUP	Villa Florida	32.06	137	LR	LR	00 15 45.3	
	comp=Z,386nm,21.1s,baz=319,slow=40						
RPN	Rapa Nui	35.56	226	LR	LR	00 12 45.3	
	comp=Z,251nm,18.4s,baz=35,slow=30						
OXF	Oxford	38.81	349	P	P	00 02 03.7	-0.2
	1.8nm,0.5s						
TKL	Tuckaleechee C	39.25	357	LR	LR	00 17 24.0	
	comp=Z,179nm,21.2s,baz=176,slow=35						
TXAR	Lajitas Array	39.31	328	LR	LR	00 17 02.7	
	comp=Z,85nm,20.5s,baz=0.0,slow=34						
BRNJ	Basking Ridge	44.61	7	eP	P	00 02 51.8	+0.7
	1.7nm,0.3s						
PDAR	Pinedale Array	52.92	334	P	P	00 03 55.7	+0.4
	0.6nm,0.7s,baz=131,slow=8.9,SNR=5.1						
PDAR				LR	LR	00 26 45.9	
	comp=Z,86nm,18.1s,baz=163,slow=36						
NVAR	Mina Array Bea	54.19	324	P	P	00 04 02.9	-1.8
	0.2nm,0.5s,baz=147,slow=5.4,SNR=3.0						
NVAR				LR	LR	00 24 41.7	
	comp=Z,83nm,21.7s,baz=270,slow=33						
ULM	Lac du Bonnet	55.23	349	P	P	00 04 12.5	+0.8
	2.3nm,0.7s,baz=152,slow=5.8,SNR=2.7						
HLID	Hailey	55.77	331	P	P	00 04 16.1	+0.2
	0.3nm,0.4s						
YBH	Yreka Blue Hor	58.90	325	LR	LR	00 29 17.2	
	comp=Z,76nm,19.3s,baz=138,slow=35						
BBTS	Babate	66.60	72	LR	LR	00 32 48.3	
	comp=Z,182nm,21.2s,baz=227,slow=34						
YKA	Yellowknife Ar	70.76	344	P	P	00 05 56.0	+1.4
	0.1nm,0.4s,baz=138,slow=6.6,SNR=3.1						
YKA	Yellowknife Ar	70.76	344	P	P	00 05 56.0	+1.4
DBIC	Dimbokro	76.90	82	P	P	00 06 31.1	-0.5
	1.7nm,0.7s,baz=267,slow=8.1,SNR=3.2						
DBIC				LR	LR	00 38 46.2	
	comp=Z,93nm,19.4s,baz=235,slow=34						
KOWA	Kowa	78.56	74	P	P	00 06 40.3	-0.5
	0.9nm,0.7s,baz=240,slow=8.1,SNR=3.2						
KOWA				LR	LR	00 41 29.9	
	comp=Z,164nm,18.3s,baz=216,slow=36						
SUMG	Summit	80.84	12	P	P	00 06 52.6	+0.1
	2.2nm,0.8s						
BORG	Borgarnes	80.99	22	LR	LR	00 39 56.4	
	comp=Z,55nm,21.8s,baz=185,slow=34						
ESDC	Sonseca Array	82.58	49	P	P	00 07 02.7	+0.6
	0.4nm,0.7s,baz=255,slow=3.9,SNR=3.8						
SNAA	Sanae	82.82	162	P	P	00 07 01.2	-1.5
	1.6nm,0.7s,baz=309,slow=11,SNR=4.5						
ILAR	Eielson Array	83.24	337	LR	LR	00 45 53.5	
	comp=Z,52nm,18.8s,baz=152,slow=37						
TORD	Torodi Ar. Bea	83.93	76	P	P	00 07 08.1	-1.3
	0.2nm,0.7s,baz=249,slow=6.8,SNR=2.8						
TORD				LR	LR	00 44 47.4	
	comp=Z,108nm,18.7s,baz=225,slow=36						
KEST	Kesra	92.59	55	LR	LR	00 46 04.2	
	comp=Z,36nm,21.8s,baz=276,slow=33						
NOA	NORSAR Array B	94.41	29	LR	LR	00 48 28.4	
	comp=Z,17nm,20.2s,baz=265,slow=34						
SYO	Syowa Base	97.11	162	⇑eX	P	00 08 05.0	-5.5
KURK	Kurchatov	130.19	17	PKP	PKPdf	00 13 49.7	+1.0
KURBB	Kurchatov Arra	130.24	17	PKP	PKPdf	00 13 49.7	+0.9
	0.4nm,0.4s,baz=332,slow=2.4,SNR=4.2						
MKAR	Makanchi Array	134.77	16	PKP	PKPdf	00 13 57.6	+0.1
	0.2nm,0.5s,baz=302,slow=2.3,SNR=4.6						
ASAR	Alice Springs	136.29	230	PKP	PKPdf	00 14 02.1	+1.1
	0.4nm,0.9s,baz=129,slow=2.6,SNR=3.8						
WRA	Warramunga Arr	137.91	235	PKP	PKPdf	00 14 02.2	-1.9
	0.5nm,0.8s,baz=114,slow=1.9,SNR=3.7						

IDC 08 00:09:44.9±8.7**, 4°.57S×153°.48E, h147**km±63km**, mb3.3**/4**, mb1 3.5**/5**, mb1mx3.1**/46**, mbtmp3.8**/5**, Error ellipse: s-maj=79.3km s-min=33.1km az=91.0, New Ireland region**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
PMG	Port Moresby	7.90	232	P	Pn	00 11 37.7	+0.7
	3.6nm,0.3s,baz=52,slow=6.4,SNR=7.1						
PMG				S	Sn	00 13 04.7	-0.3
	1.0nm,0.3s,baz=122,slow=21,SNR=6.5						
WRA	Warramunga Arr	24.10	229	P	P	00 14 48.0	+0.8
	1.9nm,0.5s,baz=53,slow=9.9,SNR=21						
ASAR	Alice Springs	26.77	223	P	P	00 15 10.9	-0.4
	0.4nm,0.7s,baz=56,slow=8.8,SNR=5.2						
STKA	Stephens Creek	29.36	201	P	P	00 15 33.4	-0.7
	1.7nm,0.7s,baz=34,slow=15,SNR=3.5						
MKAR	Makanchi Array	80.60	319	P	P	00 21 41.0	-0.2
	0.3nm,0.8s,baz=104,slow=4.6,SNR=3.4						
TORD	Torodi Ar. Bea	150.88	289	PKPbc	PKPbc	00 29 21.1	-0.1
	0.9nm,0.7s,baz=74,slow=1.6,SNR=7.1						

*ISK **08** 00:38:07.8, 37°.25N×44°.40E, h13km, ML3.6/13*
*DDA **08** 00:38:08.6, 37°.32N×44°.25E, h2km, Ml3.5*
*ISN **08** 00:38:08.9±0.4, 37°.32N×44°.31E, h3km±999km, ML3.3*
*CSEM **08** 00:38:09.0±0.3, 37°.30N×44°.36E, h5km, ML3.5, Error ellipse: s-maj=6.8km s-min=5.3km az=177.0*
*TEH **08** 00:38:10.2, 37°.38N×44°.29E, h10km, ML3.3*
ISC 08 00:38:09.3±1.1**, 37°.31N**±0°.03×**44°.28E**±0°.03**, h10**km±8km**, n69, σ1s.25**/93**, 5C-4D, Turkey-Iran border region**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
YOVA	Hakkari_Yˆ…kse	0.27	2	iP	Pg	00 38 14.6	-0.4
YOVA				iS	Sg	00 38 19.2	+0.4
YOVA	Hakkari_Yˆ…kse	0.27	2	P	Pg	00 38 14.6	-0.4
YOVA				S	Sg	00 38 19.2	+0.4
HAKT	HAKKARI	0.52	298	iP	Pg	00 38 18.5	-1.0
HAKT				iS	Sg	00 38 26.4	0.0
HAKT	HAKKARI	0.52	298	P	Pg	00 38 18.5	-1.0
HAKT				S	Sg	00 38 26.4	0.0
GEVA	Gevas	1.39	316	iP	Pn	00 38 35.0	+0.1
GEVA				iS	Sg	00 38 55.1	+1.0
GEVA	Gevas	1.39	316	P	Pn	00 38 35.0	+0.1
GEVA				S	Sg	00 38 55.1	+1.0
TVAN	Van	1.40	331	iP	Pn	00 38 35.2	+0.2
TVAN				iS	Sg	00 38 54.4	+0.1
TVAN	Van	1.40	331	P	Pn	00 38 35.2	+0.2
TVAN				S	Sg	00 38 54.4	+0.1
ISHB	Shabestar	1.44	47	ePg	Pn	00 38 34.1	-1.5
ISHB				eAMB	AMB	00 39 02.5	
	comp=Z,4μm,0.2s						
VANB	Van	1.46	331	PN	Pn	00 38 34.8	-1.0
VANB				SN	Sn	00 38 54.4	-0.7
VANB	Van	1.46	331	ePn	Pn	00 38 34.8	-1.0
VANB				eSn	Sn	00 38 54.4	-0.7
SIRT	Sirnak	1.48	278	PN	Pn	00 38 36.3	+0.3
SIRT				SN	Sg	00 38 57.2	+0.3
SIRT	Sirnak	1.48	278	ePn	Pn	00 38 36.3	+0.3
SIRT				eSn	Sg	00 38 57.2	+0.3
SIRN	S˜–rnak	1.50	278	iP	Pn	00 38 36.7	+0.4
SIRN				iS	Sg	00 38 58.4	+0.8
SIRN	S˜–rnak	1.50	278	P	Pn	00 38 36.7	+0.4
SIRN				S	Sg	00 38 58.4	+0.8
ITBZ	Tabriz	1.74	58	ePn	Pn	00 38 39.5	-0.2
ITBZ				eSg	Sb	00 39 03.3	-0.1
ITBZ				eAMB	AMB	00 39 09.6	
	comp=Z,2μm,0.3s						
VMUR	Van-Muradiye	1.76	342	iP	Pg	00 38 43.1	-0.1
VMUR				iS	Sg	00 39 12.7	+6.6
VMUR	Van-Muradiye	1.76	342	P	Pg	00 38 43.1	-0.1
IMRD	Marand	1.79	38	ePn	Pn	00 38 40.8	+0.3
IMRD				eAMB	AMB	00 38 55.1	
	comp=Z,3μm,0.2s						
IMRD				eSg	Sb	00 39 04.5	-0.5
CLDR	Caldiran	1.85	351	PN	Pn	00 38 41.3	0.0
CLDR	Caldiran	1.85	351	iP	Pn	00 38 42.5	+1.2
CLDR				iS	Sg	00 39 11.0	+2.2
CLDR	Caldiran	1.85	351	ePn	Pn	00 38 41.3	0.0
CLDR	Caldiran	1.85	351	P	Pn	00 38 42.5	+1.2
ADCV	BITLIS_Adilcev	1.93	321	iP	Pb	00 38 45.2	+0.5
ADCV				iS	Sg	00 39 12.5	+1.0
ADCV	BITLIS_Adilcev	1.93	321	P	Pb	00 38 45.2	+0.5
SRTM	Siirt_Merkez	1.99	291	iP	Pb	00 38 45.5	-0.1
SRTM				iS	Sg	00 39 13.9	+0.6
SRTM	Siirt_Merkez	1.99	291	P	Pb	00 38 45.5	-0.1
ORD	Ordubad	2.10	39	⇑P	Pb	00 38 47.6	0.0
IBST	Bostanabad	2.11	79	eAMB	AMB	00 39 17.9	
	comp=Z,2μm,0.4s						
GURO	Guroymak-BITLI	2.16	305	PN	Pn	00 38 46.3	+0.8
TUTA	Tutak	2.38	332	iP	Pb	00 38 51.4	-1.0
TUTA	Tutak	2.38	332	P	Pb	00 38 51.4	-1.0
IHRS	Heris	2.41	65	ePn	Pn	00 38 50.5	+1.6
IHRS				eAMB	AMB	00 39 37.4	
	comp=Z,1μm,0.4s						
BTMN	Batman	2.46	284	iP	Pb	00 38 53.5	-0.1
AGRB	Hanur-Agry	2.48	336	PN	Pn	00 38 50.4	+0.6
IGDI	IGDIR	2.56	357	iP	Pb	00 38 56.4	+1.1
SVAN	Silvan-Diyarba	2.58	290	PN	Pn	00 38 52.3	+1.1
SVAN	Silvan-Diyarba	2.58	290	iP	Pb	00 38 55.0	-0.8
SVAN	Silvan-Diyarba	2.58	290	ePn	Pn	00 38 52.3	+1.1
TASB	TASBURUN-IGDIR	2.67	359	PN	Pn	00 38 52.8	+0.4
TASB	TASBURUN-IGDIR	2.67	359	ePn	Pn	00 38 52.8	+0.4
MARD	Mardin	2.79	271	iP	Pn	00 38 55.9	+1.8
VRTB	Varto-Mus	2.89	311	PN	Pn	00 38 56.8	+1.3
VRTB	Varto-Mus	2.89	311	ePn	Pn	00 38 56.8	+1.3
EATA	Eleskirt	2.91	332	iP	Pb	00 39 00.6	-0.8
MAZI	Mazidag	3.06	274	PN	Pn	00 38 57.9	+0.1
MAZI	Mazidag	3.06	274	ePn	Pn	00 38 57.9	+0.1
HANI	Diyarbakir_Han	3.26	291	iP	Pb	00 39 07.1	-0.2
DIY	Diyarbakir	3.27	281	ePn	Pn	00 39 03.1	+2.4
BNGB	Bingˆ¶l	3.30	302	PN	Pn	00 39 02.4	+1.3
DYBB	Diyarbakir	3.35	282	PN	Pn	00 39 03.1	+1.4
BINT	Bingol	3.37	299	ePn	Pn	00 39 02.4	+0.3
LRK	Lerik	3.47	66	⇑P	Pn	00 39 02.0	-1.5
LRK				⇓S	Sn	00 39 44.7	-0.1
IVIS	Veis	3.48	142	ePn	Pn	00 39 04.3	+0.8
IVIS				eAMB	AMB	00 40 16.5	
	comp=Z,849nm,0.4s						
IGHG	Ghaleghazi	3.51	147	ePn	Pn	00 39 05.4	+1.3
IGHG				eAMB	AMB	00 40 15.4	
	comp=Z,1μm,0.4s						
SENK	Senkaya-Erzuru	3.58	336	PN	Pn	00 39 06.1	+1.1
SENK	Senkaya-Erzuru	3.58	336	ePn	Pn	00 39 06.1	+1.1
GLBA	Clilabad	3.77	58	⇑P	Pn	00 39 07.5	+0.1
GLBA				⇓S	Sn	00 39 52.1	+0.4
ASTR	Astara	3.78	69	⇓P	Pn	00 39 06.8	-0.8
ASTR				⇑S	Sn	00 39 50.2	-1.8
LKRN	Lenkeran, Azer	3.82	67	⇓P	Pn	00 39 08.1	0.0
LKRN				⇑S	Sn	00 39 52.2	-0.8
BHD	Baghdad	4.04	179	ePn	Pn	00 39 13.0	+1.9
	SNR=3.0						
BHD				iSn	Sn	00 39 58.0	-0.4
	SNR=3.0						
PTK	Pertek	4.17	294	PN	Pn	00 39 14.6	+1.5
PTK	Pertek	4.17	294	ePn	Pn	00 39 14.6	+1.5
URFA	Urfa	4.35	273	PN	Pn	00 39 14.3	-1.2
URFA	Urfa	4.35	273	ePn	Pn	00 39 14.3	-1.2
MALT	Malatya	4.74	284	PN	Pn	00 39 22.8	+1.9
MALT	Malatya	4.74	284	ePn	Pn	00 39 22.8	+1.9
YURE	YUREGIR	6.93	269	iP	Pb	00 40 10.5	+0.7
COAL	Corum-Alaca	7.83	295	iP	Pb	00 40 21.1	-4.0

*ISK **08** 00:40:03.4, 37°.89N×36°.33E, h9km, ML2.4/6*
*CSEM **08** 00:40:04.4±0.2, 37°.89N×36°.35E, h2km, ML2.3, Error ellipse: s-maj=5.8km s-min=4.7km az=50.0*
*DDA **08** 00:40:04.4, 37°.84N×36°.29E, h7km, Ml2.3*
ISC 08 00:40:04.5±1.1**, 37°.88N**±0°.02×**36°.34E**±0°.02**, h8**km±11km**, n28, σ0s.57**/45**, Turkey**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
SAIM	ADANA	0.22	296	iP	Pg	00 40 09.3	+0.3
SAIM				iS	Sg	00 40 12.4	+0.3
SAIM	ADANA	0.22	296	P	Pg	00 40 09.3	+0.3
SAIM				S	Sg	00 40 12.4	+0.3
ANDN	Andirin	0.30	179	iP	Pg	00 40 10.2	-0.2
ANDN				iS	Sg	00 40 14.0	-0.4
ANDN	Andirin	0.30	179	P	Pg	00 40 10.2	-0.2
ANDN				S	Sg	00 40 14.0	-0.4
KOZT	Kozan	0.57	226	PG	Pg	00 40 15.1	-0.4
KOZT				SG	Sg	00 40 23.7	+0.8
KOZT	Kozan	0.57	226	ePg	Pg	00 40 15.1	-0.4
KOZT				eSg	Sg	00 40 23.7	+0.8
KMRS	Kahramanmaras	0.58	130	PG	Pg	00 40 15.7	0.0
KMRS				SG	Sg	00 40 23.7	+0.4
KMRS	Kahramanmaras	0.58	130	ePg	Pg	00 40 15.7	0.0
KMRS				eSg	Sg	00 40 23.7	+0.4
YAHY	KAYSERI_Yahyal	0.80	286	iP	Pg	00 40 19.8	-0.1
YAHY				iS	Sg	00 40 30.4	+0.1
YAHY	KAYSERI_Yahyal	0.80	286	P	Pg	00 40 19.8	-0.1
YAHY				S	Sg	00 40 30.4	+0.1
CEYT	Ceyhan	0.99	209	PG	Pg	00 40 23.1	-0.3
CEYT				SG	Sg	00 40 36.4	+0.1
CEYT	Ceyhan	0.99	209	ePg	Pg	00 40 23.1	-0.3
GAZ	Gaziantep	0.99	135	PG	Pg	00 40 23.2	-0.3
GAZ	Gaziantep	0.99	135	ePg	Pg	00 40 23.2	-0.3
BNN	Bunyan	1.04	338	PG	Pg	00 40 23.5	-1.1
BNN				SG	Sg	00 40 38.2	0.0
BNN	Bunyan	1.04	338	ePg	Pg	00 40 23.5	-1.1
CUGUR	Gurin_S˜VAS	1.12	41	eP	Pg	00 40 25.7	-0.3
CUGUR				iS	Sn	00 40 43.6	+1.3
CUGUR	Gurin_S˜VAS	1.12	41	P	Pg	00 40 25.7	-0.3
DARE	Darende-Malaty	1.14	52	PN	Pg	00 40 25.3	-1.0
DARE	Darende-Malaty	1.14	52	ePn	Pg	00 40 25.3	-1.0
KUZU	Kuzuini	1.25	152	iP	Pg	00 40 29.1	+0.6
KUZU				iS	Sg	00 40 44.5	-0.2
KUZU	Kuzuini	1.25	152	P	Pg	00 40 29.1	+0.6
KUZU				S	Sg	00 40 44.5	-0.2
AVNS	Nevsehir-Avano	1.49	309	eP	Pg	00 40 33.4	+0.3
AVNS				iS	Sg	00 40 52.9	+0.4
AVNS	Nevsehir-Avano	1.49	309	P	Pg	00 40 33.4	+0.3
AVNS				S	Sg	00 40 52.9	+0.4
HEKM	Malatya_Hekimh	1.62	51	iP	Pg	00 40 36.5	+1.0
HEKM	Malatya_Hekimh	1.62	51	P	Pg	00 40 36.5	+1.0
YOZ	Yozgat	1.93	336	PN	Pn	00 40 37.1	-0.7
YOZ	Yozgat	1.93	336	ePn	Pn	00 40 37.1	-0.7

IDC 08 00:48:31.5±1.7**, 6°.59S×129°.22E, h0**km**, mb3.3**/1**, mb1 3.9**/4**, mb1mx3.4**/62**, mbtmp3.7**/4**, ML3.9**/3**, Error ellipse: s-maj=64.5km s-min=28.2km az=79.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
SIJI	Sorong	6.03	20	Pn	Pn	00 50 01.7	-0.4
	8.0nm,0.3s,baz=169,slow=24,SNR=46						
SIJI				Sn	Sn	00 50 59.6	-12
	9.8nm,0.3s,baz=180,slow=22,SNR=20						
WRA	Warramunga Arr	14.18	160	Pn	Pn	00 51 52.1	-1.7
	0.4nm,0.3s,baz=341,slow=14,SNR=18						
WRA				Sn	Sn	00 54 20.0	-12
	0.3nm,0.3s,baz=347,slow=24,SNR=5.2						
ASAR	Alice Springs	17.57	166	P	P	00 52 39.0	-0.2
	0.3nm,0.3s,baz=343,slow=12,SNR=25						
MKAR	Makanchi Array	67.46	327	P	P	00 59 29.3	+0.1
	0.1nm,0.5s,baz=117,slow=5.0,SNR=3.5						

*IDC **08** 00:53:53.6±5.0, 36°.16N×71°.07E, h196km±51km, mb3.2/4, mb1 3.1/7, mb1mx2.7/73, mbtmp3.6/7, MS3.0/2, Ms1 3.2/2, ms1mx2.4/40, Error ellipse: s-maj=56.5km s-min=36.1km az=129.0*
*ISCJB **08** 00:53:56.1±0.7, 36°.62N±0°.05×70°.75E±0°.10, h200km, mb3.5/3, Error ellipse: s-maj=11.4km s-min=5.7km az=163.2*
*NNC **08** 00:53:59.5±5.0, 37°.12N×70°.27E, h0km, mb3.6, mpv3.2, Error ellipse: s-maj=38.5km s-min=33.0km az=167.0*
ISC 08 00:53:57.0±1.0**, 36°.64N**±0°.08×**70°.79E**±0°.10**, h200**km**, n21, σ1s.54**/24**, mb3.5**/3**, 4C-4D, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
SFK	Sufi-Kurgan	3.99	32	⇓Pn	Pn	00 54 59.9	+1.0
	3.4nm,0.4s						
SFK				⇑Sn	Sn	00 55 47.6	+0.1
	9.2nm,0.2s						
MNAS	Manas	5.99	12	⇓Pn	Pn	00 55 25.4	+1.2
	1.1nm,0.4s						
MNAS				⇓Sn	Sn	00 56 31.1	-2.1
	8.3nm,0.5s						
KK31	Karatay Array	6.46	358	⇑Pn	Pn	00 55 31.2	+1.0
	1.0nm,0.5s,baz=178,slow=13,SNR=14						
KK31				⇓Sn	Sn	00 56 40.8	-3.3
	3.6nm,0.5s,baz=187,slow=24,SNR=13						
AAK	Ala-Archa	6.64	24	P	Pn	00 55 33.8	+1.2
	0.5nm,0.3s,baz=184,slow=5.4,SNR=9.1						
AAK				S	Sn	00 56 44.9	-3.6
	0.2nm,0.3s,baz=173,slow=12,SNR=3.8						
AAK	Ala-Archa	6.64	24	⇑Pn	Pn	00 55 33.9	+1.2
	1.4nm,0.6s						
AAK				⇑Sn	Sn	00 56 48.4	0.0
	6.4nm,0.8s						
MKAR	Makanchi Array	13.28	37	P	Pn	00 56 58.4	+0.4
	0.1nm,0.3s,baz=213,slow=13,SNR=4.2						
PYUN	Piuthan	13.36	126	eP	Pn	00 56 57.6	-1.7
	8.1nm,0.4s						
KOLN	Koldanda	13.98	126	eP	Pn	00 57 06.9	-0.1
	3.3nm,0.3s						
DMN	Daman	15.09	123	eP	Pn	00 57 20.3	-0.4
	8.4nm,0.4s						
KKN	Kakani	15.09	122	eP	Pn	00 57 21.1	+0.4
	13nm,0.4s						
PKIN	Phulchoki	15.31	122	eP	Pn	00 57 23.5	+0.2
	13nm,0.4s						
GUN	Gumba	15.43	120	eP	P	00 57 25.7	+0.6
	7.7nm,0.4s						
JIRN	Jiri	15.80	120	eP	Pn	00 57 30.7	+1.3
	16nm,0.4s						
RAMN	Ramite	16.53	121	eP	P	00 57 35.6	-1.5
AKTO	Aktyubinsk	16.58	330	P	Pn	00 57 39.1	+1.1
	0.2nm,0.3s,baz=117,slow=13,SNR=4.2						
ZALV	Zalesovo Beam	19.86	25	P	P	00 58 13.1	+0.4
	0.4nm,0.3s,baz=213,slow=9.6,SNR=2.5						
CMAR	Chiang Mai Arr	30.67	119	LR	LR	01 15 08.3	
	comp=Z,26nm,18.1s,baz=285,slow=42						
FINES	FINESS Array B	37.27	326	P	P	01 00 50.7	+1.4
	0.5nm,0.4s,baz=126,slow=9.8,SNR=6.5						
ARCES	ARCESS Array B	40.95	338	P	P	01 01 20.9	+1.2
	2.1nm,0.9s,baz=113,slow=9.5,SNR=5.0						
ESDC	Sonseca Array	57.24	298	LR	LR	01 32 23.7	
	comp=Z,14nm,18.7s,baz=65,slow=40						
TORD	Torodi Ar. Bea	65.55	268	P	P	01 04 17.9	-1.6
	0.3nm,0.3s,baz=48,slow=6.1,SNR=10						

IDC 08 01:06:25.9±9.5**, 4°.25S×153°.48E, h102**km±66km**, mb3.2**/2**, mb1 3.6**/3**, mb1mx3.1**/46**, mbtmp3.8**/3**, ML2.6**/1**, Error ellipse: s-maj=133.1km s-min=56.9km az=122.0, New Ireland region**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
PMG	Port Moresby	8.10	230	P	Pn	01 08 20.9	+0.2
	3.9nm,0.3s,baz=46,slow=4.9,SNR=7.7						
PMG				S	Sn	01 09 51.2	+0.6
	1.3nm,0.3s,baz=125,slow=16,SNR=6.0						
WRA	Warramunga Arr	24.31	229	P	P	01 11 34.5	+0.3
	1.4nm,0.5s,baz=53,slow=9.9,SNR=16						
ASAR	Alice Springs	27.00	223	P	P	01 11 58.1	-0.5
	0.3nm,0.6s,baz=55,slow=8.9,SNR=4.5						
TORD	Torodi Ar. Bea	150.77	289	PKPbc	PKPbc	01 26 07.2	-0.3
	0.4nm,0.5s,baz=58,slow=2.4,SNR=7.6						

*NIED **08** 01:23:00, 37°.60N×142°.20E, h32km, Mw3.5 Best double couple: M0 1.85000×10^14 NP1:φs 174.00000°, δ46.00000°, λ55.00000°. NP2:φs 39.00000°, δ54.00000°, λ120.00000°.*
*IDC **08** 01:23:04.8±1.3, 37°.53N×142°.33E, h0km, mb3.5/5, mb1 3.6/7, mb1mx3.3/64, mbtmp3.4/7, ML3.1/2, MS2.6/1, Ms1 2.6/1, ms1mx2.1/53, Error ellipse: s-maj=30.1km s-min=23.3km az=117.0*
*JMA **08** 01:23:09.7±0.1, 37°.57N×142°.21E, h37km±3km, M3.7*
ISC 08 01:23:04.7±2.1**, 37°.55N**±0°.05×**142°.31E**±0°.07**, h1**km±12km**, n26, σ1s.25**/28**, mb3.7**/5**, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
JFK	Kawauchi	1.15	262	P	Pn	01 23 28.6	+0.6
JFK				eS	Sb	01 23 42.3	-0.7
JIO	Ouri	1.18	320	P	Pn	01 23 29.4	+1.0

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
JIO				S	Sb	01 23 43.3	-0.4
JMM	Marumori	1.24	285	P	Pn	01 23 30.0	+0.8
JMM				S	Sg	01 23 44.4	-0.2
JOU	Okura	1.54	303	P	Pg	01 23 34.7	+0.6
JOU				S	Sn	01 23 53.3	-0.6
JFT	Otama	1.57	270	P	Pg	01 23 35.4	+0.7
JFT				S	Sb	01 23 54.1	-0.7
JMK	Ichinoseki	1.65	329	P	Pg	01 23 36.4	+0.2
JYS	Shirataka	1.90	292	P	Pb	01 23 40.1	0.0
JYS				S	Sb	01 24 03.3	-1.1
JYK	Kaneyama	2.06	312	P	Pb	01 23 42.3	-0.6
JFY	Yanaizu	2.08	267	P	Pb	01 23 42.8	-0.4
JOM	Ohasama	2.08	338	P	Pb	01 23 42.5	-0.8
JAG	Ashikaga	2.54	245	P	Pb	01 23 48.8	-2.3
MJAR	Matsushiro Arr	3.43	254	Pn	Pn	01 24 00.9	+1.6
	0.9nm,0.3s,baz=76,slow=14,SNR=10						
MJAR				Sn	Sn	01 24 43.3	+2.7
	1.3nm,0.3s,baz=324,slow=32,SNR=4.7						
MAT	Matsushiro	3.43	254	P	Pb	01 24 03.9	-2.4
MAT				S	Sn	01 24 41.0	+0.4
ASAJ	Asahikawa	6.57	2	Pn	Pn	01 24 44.0	+1.6
	0.6nm,0.3s,baz=207,slow=17,SNR=5.0						
ASAJ				Sn	Sn	01 25 55.4	-2.5
	0.4nm,0.3s,baz=315,slow=20,SNR=2.7						
JNU	Nakatsue	10.32	248	LR	LR	01 30 09.0	
	comp=Z,30nm,18.4s,baz=280,slow=41						
H11N2	WAKE ISLAND Hy	27.81	123	T	T	01 58 03.5	
	baz=315,slow=75,SNR=30						
H11N1	WAKE ISLAND Hy	27.82	123	T	T	01 58 02.3	
	baz=315,slow=75,SNR=20						
H11N3	WAKE ISLAND Hy	27.83	123	T	T	01 58 07.4	
	baz=315,slow=75,SNR=21						
H11S1	WAKE ISLAND Hy	28.55	125	T	T	01 59 01.4	
	baz=317,slow=76,SNR=14						
H11S3	WAKE ISLAND Hy	28.55	125	T	T	01 59 03.4	
	baz=317,slow=76,SNR=16						
H11S2	WAKE ISLAND Hy	28.57	125	T	T	01 59 03.1	
	baz=317,slow=76,SNR=12						
MKAR	Makanchi Array	44.45	302	P	P	01 31 17.5	+0.2
	0.1nm,0.4s,baz=78,slow=7.9,SNR=2.9						
KURBB	Kurchatov Arra	46.25	308	P	P	01 31 30.7	-0.7
	0.5nm,0.4s,baz=80,slow=7.5,SNR=4.1						
ILAR	Eielson Array	48.68	33	P	P	01 31 51.0	+0.8
	0.2nm,0.6s,baz=266,slow=6.6,SNR=5.0						
WRA	Warramunga Arr	57.67	189	P	P	01 32 56.7	-0.1
	0.8nm,1.0s,baz=6.0,slow=7.2,SNR=4.5						
FINES	FINESS Array B	68.69	332	P	P	01 34 09.4	-0.1
	2.1nm,0.9s,baz=35,slow=7.9,SNR=5.5						

IDC 08 01:36:24.1±1.5, 3°.25S×130°.53E, h0km, mb3.2/2, mb1 3.4/4, mb1mx3.2/51, mbtmp3.2/4, ML3.1/2, Error ellipse: s-maj=55.6km s-min=21.9km az=89.0, Seram

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
SIJI	Sorong	2.48	17	Pn	Pn	01 37 05.9	+0.1
	2.0nm,0.3s,baz=195,slow=18,SNR=26						
SIJI				Sn	Sn	01 37 38.0	+1.2
	2.0nm,0.3s,baz=76,slow=22,SNR=3.8						
WRA	Warramunga Arr	17.00	168	Pn	Pn	01 40 21.6	-1.9
	0.1nm,0.3s,baz=348,slow=12,SNR=4.7						
ASAR	Alice Springs	20.55	171	P	P	01 41 05.5	+0.9
	1.0nm,0.6s,baz=349,slow=11,SNR=12						
MKAR	Makanchi Array	65.42	326	P	P	01 47 08.7	-0.1
	0.2nm,0.7s,baz=127,slow=5.1,SNR=2.1						

IDC 08 01:54:05.5±1.0, 0°.87S×136°.64E, h0km, mb3.8/5, mb1 4.0/7, mb1mx3.6/47, mbtmp3.8/7, ML3.8/2, MS2.6/1, Ms1 2.6/1, ms1mx2.2/48, Error ellipse: s-maj=31.3km s-min=19.8km az=94.0

ISCJB 08 01:54:07.2±0.8, 0°.9S±0°.1×136°.64E±0°.08, h25km, mb3.8/5, Error ellipse: s-maj=15.0km s-min=11.2km az=10.2

ISC 08 01:54:09.1±1.0, 0°.9S±0°.1×136°.7E±0°.1, h25km, n11, σ1s.06/8, mb3.9/5, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
SIJI	Sorong	5.39	270	Pn	Pn	01 55 27.4	-0.6
	7.8nm,0.3s,baz=271,slow=23,SNR=21						
SIJI				Sn	Sn	01 56 30.0	+0.7
	baz=342,slow=19,SNR=1.4						
PMG	Port Moresby	13.44	129	LR	LR	02 03 27.7	
	comp=Z,25nm,19.1s,baz=206,slow=42						
WRA	Warramunga Arr	19.05	187	P	Pn	01 58 30.1	-0.5
	0.2nm,0.3s,baz=8.7,slow=12,SNR=10						
ASAR	Alice Springs	22.78	187	P	P	01 59 11.1	+1.0
	3.9nm,0.6s,baz=12,slow=11,SNR=81						
STKA	Stephens Creek	31.15	172	P	P	02 00 26.1	-0.1
	1.0nm,0.6s,baz=345,slow=9.5,SNR=4.7						
H11S3	WAKE ISLAND Hy	35.26	55	T	T	02 38 21.0	
	baz=240,slow=76,SNR=5.0						
H11S2	WAKE ISLAND Hy	35.27	55	T	T	02 38 23.1	
	baz=240,slow=76,SNR=4.4						
H11S1	WAKE ISLAND Hy	35.28	55	T	T	02 38 22.9	
	baz=240,slow=76,SNR=3.7						
PETK	Petropavlovsk-	56.63	15	P	P	02 03 51.4	+1.4
	1.0nm,0.7s,baz=222,slow=7.6,SNR=2.8						
MKAR	Makanchi Array	67.12	323	P	P	02 05 00.5	-0.3
	0.2nm,0.4s,baz=105,slow=7.6,SNR=3.7						
ILAR	Eielson Array	85.06	25	P	P	02 06 41.4	-1.1
	0.3nm,0.6s,baz=249,slow=4.9,SNR=6.1						

IDC 08 02:17:28.2±9.9, 1°.15N×100°.19W, h0km, mb3.4/4, mb1 3.8/4, mb1mx3.5/43, mbtmp3.4/4, Error ellipse: s-maj=383.7km s-min=128.6km az=104.0, Galapagos Triple Junction region

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
TXAR	Lajitas Array	28.22	354	P	P	02 23 24.4	+1.3
	0.4nm,0.8s,baz=171,slow=12,SNR=2.5						
PDAR	Pinedale Array	42.27	350	P	P	02 25 22.4	-1.4
	0.5nm,0.7s,baz=161,slow=8.4,SNR=3.1						
YKA	Yellowknife Ar	62.14	352	P	P	02 27 50.3	-0.6
	0.4nm,0.9s,baz=165,slow=6.4,SNR=7.5						
ILAR	Eielson Array	71.82	341	P	P	02 28 53.2	+0.6
	0.3nm,0.8s,baz=153,slow=6.1,SNR=3.5						

ISCJB 08 02:19:40.0±1.7, 1°.5N±0°.2×101°.1W±0°.3, h14km, mb3.9/18, MS3.9/1, Error ellipse: s-maj=47.2km s-min=19.6km az=137.2

NEIC 08 02:19:40.7±1.2, 1°.44N×101°.12W, h10km, mb4.1/13, Error ellipse: s-maj=33.1km s-min=14.6km az=48.0

IDC 08 02:19:40.4±6.6, 1°.75N×100°.82W, h0km, mb3.7/6, mb1 4.0/6, mb1mx3.7/45, mbtmp3.7/6, MS3.9/1, Ms1 3.9/1, ms1mx2.9/48, Error ellipse: s-maj=170.9km s-min=123.5km az=96.0

ISC 08 02:19:41.0±2.5, 1°.4N±0°.4×101°.2W±0°.4, h14km, n28, σ0s.76/27, mb3.9/18, Galapagos Triple Junction region

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
ZAIG	Zacatecas	21.30	356	eP	P	02 24 27.6	-0.2
TXAR	Lajitas Array	27.90	355	P	P	02 25 30.0	-0.8
	1.3nm,0.9s,baz=170,slow=11,SNR=5.8						
LTX	Lajitas	27.90	355	eP	P	02 25 30.0	-0.8
TX31	Lajitas Ar. Si	27.90	355	eP	P	02 25 30.6	-0.3
JCT	Junction City	28.97	2	eP	P	02 25 40.8	+0.5
	6.4nm,1.0s						
MNTX	Cornudas Mount	30.41	353	eP	P	02 25 52.8	-0.2
	6.0nm,1.4s						
MIAR	Mount Ida	33.75	11	eP	P	02 26 21.9	-0.4
	3.4nm,0.8s						
ANMO	Albuquerque	33.75	352	LR	LR	02 38 46.1	
	comp=Z,205nm,19.5s,baz=49,slow=34						
S22A	4UR Ranch, Cre	36.56	352	eP	P	02 26 48.5	+1.7
	7.3nm,1.6s						
SAML	Samuel	39.23	106	eP	P	02 27 09.4	+0.1
	2.0nm,0.9s						
MPU	Maple Canyon	39.61	347	eP	P	02 27 13.9	+1.5
	5.5nm,1.3s						
NV01	Mina Array Sit	40.08	339	eP	P	02 27 15.3	-1.1
NVAR	Mina Array Bea	40.08	339	P	P	02 27 15.3	-1.1
	0.4nm,0.8s,baz=153,slow=9.8,SNR=4.6						
HVU	Hansel Valley	41.55	347	eP	P	02 27 28.5	+0.1
	1.9nm,0.8s						
PAHR	Pah Rah Range	41.59	339	eP	P	02 27 29.2	+0.5
	2.7nm,0.9s						
BW06	Boulder Array	41.88	351	eP	P	02 27 31.2	+0.1
	5.0nm,1.3s						
PD31	Pinedale Array	41.88	351	eP	P	02 27 30.4	-0.7
PDAR	Pinedale Array	41.88	351	P	P	02 27 30.4	-0.7
	1.6nm,0.9s,baz=152,slow=6.0,SNR=8.3						
PDAR	Pinedale Array	41.88	351	eP	P	02 27 30.7	-0.4
ORV	Oroville	42.27	336	eP	P	02 27 35.7	+1.6
	7.8nm,1.6s						
HLID	Hailey	43.62	346	eP	P	02 27 45.1	-0.2
	1.5nm,1.0s						
MCMT	McKenzie Canyo	44.48	348	eP	P	02 27 51.8	-0.4
	2.3nm,1.3s						
YKA	Yellowknife Ar	61.79	353	P	P	02 29 58.7	-0.4
	0.4nm,0.8s,baz=158,slow=6.8,SNR=5.8						
YKB5	Yellowknife Ar	61.79	353	eP	P	02 29 58.7	-0.4
INK	Inuvik	70.35	348	P	P	02 30 54.0	+0.1
	1.4nm,1.0s,baz=118,slow=7.7,SNR=3.9						
INK	Inuvik	70.35	348	eP	P	02 30 54.0	+0.1
	6.6nm,1.5s						
ILAR	Eielson Array	71.28	341	P	P	02 31 00.1	+0.3
	0.4nm,0.7s,baz=142,slow=5.3,SNR=4.8						
ILB	Eielson Array	71.28	341	eP	P	02 31 00.1	+0.3

IDC 08 02:21:32.6±6.3, 1°.87N×100°.32W, h0km, mb3.6/6, mb1 4.0/6, mb1mx3.7/46, mbtmp3.6/6, Error ellipse: s-maj=185.2km s-min=119.6km az=94.0, Galapagos Triple Junction region

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
TXAR	Lajitas Array	27.50	354	P	P	02 27 21.7	+0.7
	1.2nm,0.8s,baz=172,slow=11,SNR=5.8						
NVAR	Mina Array Bea	39.94	338	P	P	02 29 08.9	-0.1
	0.4nm,0.7s,baz=125,slow=8.9,SNR=3.9						
PDAR	Pinedale Array	41.55	350	P	P	02 29 20.9	-1.3
	1.2nm,1.0s,baz=152,slow=6.7,SNR=5.6						
YKA	Yellowknife Ar	61.42	353	P	P	02 31 50.9	+0.5
	0.6nm,1.0s,baz=162,slow=6.1,SNR=6.0						
INK	Inuvik	70.06	347	P	P	02 32 45.8	-0.3
	0.9nm,0.8s,baz=113,slow=6.4,SNR=4.0						
ILAR	Eielson Array	71.11	341	P	P	02 32 52.9	+0.3
	0.3nm,0.7s,baz=136,slow=5.4,SNR=2.8						

ISCJB 08 02:23:35.1±1.7, 1°.1N±0°.2×100°.8W±0°.2, h10km, mb4.1/18, MS3.7/2, Error ellipse: s-maj=46.1km s-min=19.3km az=136.1

NEIC 08 02:23:36.9±1.1, 1°.08N×100°.81W, h10km, mb4.4/13, Error ellipse: s-maj=30.5km s-min=13.5km az=47.0

IDC 08 02:23:38.4±6.3, 1°.54N×100°.66W, h0km, mb3.8/6, mb1 4.2/6, mb1mx3.7/47, mbtmp3.8/6, MS3.7/2, Ms1 3.7/2, ms1mx3.0/47, Error ellipse: s-maj=172.6km s-min=118.8km az=97.0

ISC 08 02:23:36.2±2.5, 1°.0N±0°.4×100°.9W±0°.4, h10km, n33, σ0s.81/31, mb4.3/18, Galapagos Triple Junction region

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
ZAIG	Zacatecas	21.74	356	eP	P	02 28 27.3	-1.0
LTX	Lajitas	28.34	355	eP	P	02 29 29.9	-0.7
TXAR	Lajitas Array	28.34	355	P	P	02 29 29.9	-0.7
	1.6nm,0.8s,baz=173,slow=11,SNR=7.8						
TX31	Lajitas Ar. Si	28.34	355	eP	P	02 29 29.8	-0.8
JCT	Junction City	29.37	2	eP	P	02 29 39.9	+0.1
	20nm,1.4s						
MNTX	Cornudas Mount	30.86	353	eP	P	02 29 51.0	-1.9
	3.9nm,1.3s						
MIAR	Mount Ida	34.10	11	eP	P	02 30 20.7	-0.5
	4.0nm,0.8s						
FULC	Fullerton	36.42	336	eP	P	02 30 40.4	-0.8
S22A	4UR Ranch, Cre	37.01	352	eP	P	02 30 46.9	+0.4
	18nm,1.9s						
SAML	Samuel	38.83	105	eP	P	02 31 01.5	-0.4
	3.1nm,0.9s						
MPU	Maple Canyon	40.08	347	eP	P	02 31 12.0	-0.2
	30nm,1.4s						
O16A	Springville	40.24	347	eP	P	02 31 13.3	-0.2
NV01	Mina Array Sit	40.57	339	eP	P	02 31 15.9	-0.4
NVAR	Mina Array Bea	40.57	339	P	P	02 31 15.9	-0.4
	0.6nm,0.8s,baz=152,slow=7.9,SNR=5.8						
HWUT	Hardware Ranch	41.59	348	eP	P	02 31 25.2	+0.6
	9.2nm,1.4s						
ELK	Elko	41.68	344	LR	LR	02 45 38.9	
	comp=Z,125nm,21.2s,baz=176,slow=32						
HVU	Hansel Valley	42.02	347	eP	P	02 31 27.2	-0.9
PAHR	Pah Rah Range	42.09	339	eP	P	02 31 28.5	-0.2
	17nm,1.6s						
PD31	Pinedale Array	42.34	351	eP	P	02 31 30.3	-0.5
PDAR	Pinedale Array	42.34	351	P	P	02 31 29.9	-0.9
	1.8nm,0.8s,baz=146,slow=6.7,SNR=8.6						
PDAR	Pinedale Array	42.34	351	eP	P	02 31 29.8	-1.0
ECSD	EROS Data Cent	42.76	5	eP	P	02 31 35.2	+1.3
	8.0nm,1.4s						
SNOW	Snow King Moun	43.22	350	eP	P	02 31 38.3	+0.4
	44nm,2.0s						
LOHW	Long Hollow	43.34	350	eP	P	02 31 38.4	-0.4
	15nm,1.9s						
HLID	Hailey	44.10	346	eP	P	02 31 44.2	-0.7
	1.4nm,0.9s						
MCMT	McKenzie Canyo	44.95	348	eP	P	02 31 52.2	+0.4
NEW	Newport	49.17	346	LR	LR	02 49 29.8	
	comp=Z,65nm,21.8s,baz=170,slow=32						
YKA	Yellowknife Ar	62.24	353	P	P	02 33 57.7	-0.3
	0.6nm,0.8s,baz=161,slow=6.6,SNR=6.8						
YKB5	Yellowknife Ar	62.24	353	eP	P	02 33 57.7	-0.3
INK	Inuvik	70.82	348	P	P	02 34 54.0	+1.3
	1.0nm,0.8s,baz=121,slow=4.4,SNR=5.7						
INK	Inuvik	70.82	348	eP	P	02 34 54.0	+1.3
	9.3nm,1.8s						
ILAR	Eielson Array	71.77	341	P	P	02 34 59.2	+0.6
	0.4nm,0.7s,baz=149,slow=5.9,SNR=5.6						
ILB	Eielson Array	71.77	341	eP	P	02 34 59.2	+0.6

IDC 08 02:24:19.8±13.0, 4°.67N×93°.42E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.1/62, mbtmp3.2/3, Error ellipse: s-maj=650.8km s-min=29.4km az=57.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
H08S2	Diego Garcia H	24.20	240	T	T	02 55 56.1	
	baz=58						
H08S3	Diego Garcia H	24.20	240	T	T	02 56 00.0	
	baz=58						
H08S1	Diego Carcia H	24.21	240	T	T	02 56 00.9	
	baz=58						
MKAR	Makanchi Array	43.05	349	P	P	02 32 21.2	-0.1
	0.3nm,0.5s,baz=166,slow=7.0,SNR=5.2						
WRA	Warramunga Arr	47.07	123	P	P	02 32 54.2	+0.5
	0.1nm,0.4s,baz=295,slow=7.8,SNR=3.3						
ASAR	Alice Springs	48.49	127	P	P	02 33 04.0	-0.7
	0.2nm,0.8s,baz=312,slow=8.7,SNR=3.0						

IDC 08 02:26:39.0±6.5, 1°.15N×100°.12W, h0km, mb3.6/6, mb1 4.0/6, mb1mx3.6/47, mbtmp3.6/6, Error ellipse: s-maj=179.6km s-min=125.0km az=91.0, Galapagos Triple Junction region

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
TXAR	Lajitas Array	28.23	353	P	P	02 32 34.2	+0.3
	1.0nm,0.8s,baz=174,slow=12,SNR=6.3						
NVAR	Mina Array Bea	40.67	338	P	P	02 34 21.0	-0.5
	0.4nm,0.8s,baz=156,slow=6.7,SNR=3.5						
PDAR	Pinedale Array	42.28	350	P	P	02 34 34.8	+0.1
	1.8nm,1.0s,baz=150,slow=6.3,SNR=7.0						
YKA	Yellowknife Ar	62.15	352	P	P	02 37 01.5	-0.2
	0.4nm,0.8s,baz=160,slow=6.8,SNR=5.3						
INK	Inuvik	70.80	347	P	P	02 37 56.6	-0.4
	1.5nm,1.1s,baz=185,slow=3.9,SNR=3.6						
ILAR	Eielson Array	71.84	341	P	P	02 38 04.0	+0.5
	0.2nm,0.8s,baz=164,slow=5.0,SNR=4.6						

IDC 08 02:29:18.8±10.0, 1°.19N×100°.45W, h0km, mb3.4/4, mb1 3.9/4, mb1mx3.5/45, mbtmp3.4/4, MS3.6/1, Ms1 3.6/1, ms1mx2.8/30, Error ellipse: s-maj=398.7km s-min=133.4km az=105.0, Galapagos Triple Junction region

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
TXAR	Lajitas Array	28.16	354	P	P	02 35 12.9	-0.2
	1.0nm,0.9s,baz=158,slow=7.8,SNR=5.2						
PCRV	Puerto La Cruz	36.70	75	LR	LR	02 51 43.5	
	comp=Z,101nm,21.5s,baz=266,slow=37						
PDAR	Pinedale Array	42.19	350	P	P	02 37 13.9	+0.2
	0.6nm,0.8s,baz=163,slow=7.3,SNR=3.9						
YKA	Yellowknife Ar	62.07	353	P	P	02 39 41.3	+0.3
	0.4nm,0.9s,baz=160,slow=7.7,SNR=4.8						
ILAR	Eielson Array	71.70	341	P	P	02 40 42.0	-0.4
	0.2nm,0.8s,baz=140,slow=6.3,SNR=3.8						

IDC 08 02:31:19.9±1.1, 1°.98N×101°.62W, h0km, mb3.9/8, mb1 4.3/8, mb1mx3.9/44, mbtmp3.9/8, MS3.5/8, Ms1 3.5/8, ms1mx3.2/46, Error ellipse: s-maj=53.5km s-min=18.6km az=62.0

NEIC 08 02:31:21.8±0.6, 1°.99N×101°.51W, h10km, mb4.4/43, Error ellipse: s-maj=16.3km s-min=10.0km az=62.0

ISC 08 02:31:21.3±1.1, 2°.0N±0°.2×101°.7W±0°.2, h10km, n70, σ1s.29/65, mb4.3/52, MS3.5/8, Galapagos Triple Junction region

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
OTAV	Otavalo	23.28	94	eP	P	02 36 31.1	+1.2
	12nm,1.4s						
ATAH	Atahualpa	24.93	112	LR	LR	02 43 59.8	
	comp=Z,76nm,20.1s,baz=258,slow=30						
KVTX	Kingsville	25.67	8	eP	P	02 36 51.9	+0.5
	383nm,1.8s						
LTX	Lajitas	27.26	356	eP	P	02 37 06.8	+0.8
TXAR	Lajitas Array	27.26	356	P	P	02 37 06.8	+0.8
	2.3nm,0.8s,baz=175,slow=12,SNR=16						
TX31	Lajitas Ar. Si	27.26	356	eP	P	02 37 06.8	+0.8
NNA	Nana	28.31	120	LR	LR	02 45 18.6	
	comp=Z,108nm,21.1s,baz=304,slow=30						
HKT	Hockley	28.35	11	eP	P	02 37 14.8	-0.7
	4.7nm,1.1s						
JCT	Junction City	28.39	3	eP	P	02 37 14.9	-1.1
	28nm,1.5s						
MNTX	Cornudas Mount	29.76	354	eP	P	02 37 28.4	+0.2
	7.1nm,1.4s						
NATX	Nacogdoches	30.34	12	eP	P	02 37 33.1	-0.1
	18nm,1.1s						
TUC	Tucson	31.36	345	eP	P	02 37 43.8	+1.5
	4.8nm,1.3s						
MSTX	Muleshoe	31.83	358	eP	P	02 37 47.4	+0.9
	10nm,1.0s						
ANMO	Albuquerque	33.09	353	P	P	02 37 56.4	-1.2
	0.8nm,0.6s,baz=332,slow=9.3,SNR=4.5						
MIAR	Mount Ida	33.26	12	eP	P	02 37 58.1	-0.7
	8.2nm,1.0s						
WUAZ	Wupatki	34.55	346	eP	P	02 38 12.3	+2.0
	7.3nm,1.2s						
HHAR	Hobbs	34.86	11	eP	P	02 38 12.0	-0.8
	7.4nm,1.2s						
T25A	Trinidad	35.07	356	eP	P	02 38 16.4	+1.6
	13nm,1.4s						
LDFC	Landfair	35.22	341	eP	P	02 38 17.5	+1.5
	15nm,1.5s						
MVCO	Mesa Verde	35.61	351	eP	P	02 38 19.5	0.0
	5.8nm,1.1s						
CHFC	Chilao Flat St	35.62	336	eP	P	02 38 18.6	-1.0
U15A	North Rim	35.65	345	eP	P	02 38 20.9	+1.0
	10nm,1.9s						
S22A	4UR Ranch, Cre	35.90	353	eP	P	02 38 23.4	+1.3
	6.9nm,1.3s						
CCM	Cathedral Cave	37.15	14	eP	P	02 38 31.4	-1.0
	6.2nm,1.0s						
MTPU	Mount Pierson	37.15	346	eP	P	02 38 35.7	+2.9
	9.5nm,1.6s						
TPNV	Topopah Spring	37.30	341	eP	P	02 38 35.8	+1.9
	17nm,2.0s						
SMCO	Snowmass	37.33	353	eP	P	02 38 33.8	-0.5
	14nm,1.9s						
LPAZ	La Paz	37.78	120	P	P	02 38 39.0	+0.4
	2.1nm,1.0s,baz=309,slow=11,SNR=5.7						
ISCO	Idaho Springs	37.80	355	eP	P	02 38 39.7	+1.5
	13nm,1.7s						
TMUT	Trail Mountain	38.14	348	eP	P	02 38 42.4	+1.3
	7.7nm,1.2s						
P18A	Preston Nutter	38.27	349	eP	P	02 38 42.7	+0.5
	4.1nm,1.1s						
O20A	White River Ci	38.44	352	eP	P	02 38 44.9	+1.5
	20nm,1.8s						
MPU	Maple Canyon	38.92	348	eP	P	02 38 48.7	+1.2
	9.1nm,1.3s						
N23A	Red Feather La	38.92	355	eP	P	02 38 48.6	+1.0
	30nm,2.0s						
NV01	Mina Array Sit	39.34	339	eP	P	02 38 53.3	+2.2
NVAR	Mina Array Bea	39.34	339	P	P	02 38 53.3	+2.2
	0.7nm,0.7s,baz=167,slow=9.6,SNR=7.3						
NVAR				LR	LR	02 53 13.1	
	comp=Z,37nm,19.5s,baz=273,slow=33						
TCUT	Toone Canyon	39.93	349	eP	P	02 38 55.6	-0.4
	21nm,1.6s						
HDIL	Hopedale	39.99	15	eP	P	02 38 55.7	-0.5
	23nm,1.2s						
SPUT	South Promonto	40.33	347	eP	P	02 39 01.1	+1.8
	9.1nm,1.5s						
HWUT	Hardware Ranch	40.44	349	eP	P	02 39 02.1	+2.0
	6.6nm,1.0s						
HVU	Hansel Valley	40.85	347	eP	P	02 39 03.9	+0.4
	4.2nm,1.1s						
PAHR	Pah Rah Range	40.86	339	eP	P	02 39 05.3	+1.8
	5.3nm,1.2s						
BW06	Boulder Array	41.21	351	eP	P	02 39 07.3	+0.8
	21nm,1.9s						
PD31	Pinedale Array	41.21	351	eP	P	02 39 07.2	+0.7
PDAR	Pinedale Array	41.21	351	P	P	02 39 07.2	+0.7
	2.7nm,0.8s,baz=156,slow=7.5,SNR=15						
PDAR				LR	LR	02 54 20.9	
	comp=Z,78nm,19.3s,baz=186,slow=34						
PDAR	Pinedale Array	41.21	351	eP	P	02 39 06.5	0.0
ORV	Oroville	41.52	337	eP	P	02 39 11.7	+2.9
	11nm,1.6s						
ECSD	EROS Data Cent	41.81	5	eP	P	02 39 10.2	-0.9
	8.2nm,1.4s						
REDW	Red Top Meadow	42.00	350	eP	P	02 39 14.8	+1.8
	8.8nm,1.4s						
SNOW	Snow King Moun	42.08	350	eP	P	02 39 15.4	+1.7
	13nm,1.5s						
LOHW	Long Hollow	42.20	350	eP	P	02 39 15.3	+0.7
	17nm,1.6s						
FXWY	Fox Creek	42.30	350	eP	P	02 39 16.0	+0.6
	3.1nm,1.0s						
IMW	Indian Meadow	42.53	350	eP	P	02 39 18.1	+0.6
	14nm,1.8s						
WVOR	Wild Horse Val	43.04	342	eP	P	02 39 22.9	+1.5
	5.0nm,1.2s						
YHH	Holmes Hill	43.38	350	eP	P	02 39 25.2	+0.9
	9.4nm,1.9s						
MCMT	McKenzie Canyo	43.79	348	eP	P	02 39 29.3	+1.8
GCMT	Greycliff	44.18	352	eP	P	02 39 30.6	0.0
PINE	Pine Mountain	45.01	340	eP	P	02 39 39.4	+2.1
	7.4nm,1.0s						
ULM	Lac du Bonnet	48.34	5	LR	LR	03 00 02.2	
	comp=Z,74nm,18.4s,baz=356,slow=36						
PLCA	Paso Flores	51.11	150	LR	LR	02 56 24.1	
	comp=Z,171nm,21.6s,baz=326,slow=30						
CPUP	Villa Florida	51.23	126	P	P	02 40 24.8	-0.6
	3.4nm,0.9s,baz=306,slow=8.5,SNR=7.4						
CPUP				LR	LR	02 59 07.6	
	comp=Z,38nm,18.8s,baz=284,slow=33						
YKA	Yellowknife Ar	61.13	353	P	P	02 41 34.7	-0.8
	0.9nm,0.8s,baz=161,slow=6.8,SNR=12						
YKB5	Yellowknife Ar	61.13	353	eP	P	02 41 34.7	-0.8
INK	Inuvik	69.66	348	P	P	02 42 30.8	+0.1
	1.0nm,0.8s,baz=134,slow=4.7,SNR=5.2						
MDM	Murphy Dome	71.11	341	eP	P	02 42 37.1	-2.6
	2.1nm,0.7s						
PETK	Petropavlovsk-	94.80	324	LR	LR	03 20 14.7	
	comp=Z,15nm,19.1s,baz=89,slow=31						
AS31	Alice Springs	122.13	243	ePKPdf	PKPdf	02 50 16.9	-0.4
ASAR	Alice Springs	122.13	243	PKP	PKPdf	02 50 16.9	-0.4
	0.6nm,0.8s,baz=120,slow=1.9,SNR=5.7						
WR1	Warramunga Arr	122.50	248	ePKPdf	PKPdf	02 50 18.4	+0.4
WRA	Warramunga Arr	122.50	248	PKP	PKPdf	02 50 18.4	+0.4
	0.6nm,0.8s,baz=89,slow=1.6,SNR=5.5						

IDC 08 02:35:54.4±7.5, 1°.06N×100°.39W, h0km, mb3.3/5, mb1 3.8/5, mb1mx3.5/43, mbtmp3.3/5, Error ellipse: s-maj=193.1km s-min=132.9km az=102.0, Galapagos Triple Junction region

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
TXAR	Lajitas Array	28.29	354	P	P	02 41 51.4	+1.5
	0.5nm,0.7s,baz=175,slow=10.0,SNR=4.5						

NVAR	**Mina Array Bea**	**40.66**	**338**	P	P	02 43 36.4	-0.4
	0.2nm,0.5s,baz=148,slow=8.6,SNR=2.7						
PDAR	**Pinedale Array**	**42.33**	**350**	P	P	02 43 49.2	-1.2
	0.4nm,0.6s,baz=153,slow=6.1,SNR=3.9						
YKA	**Yellowknife Ar**	**62.20**	**353**	P	P	02 46 17.1	-0.4
	0.2nm,0.6s,baz=160,slow=7.0,SNR=3.6						
ILAR	**Eielson Array**	**71.84**	**341**	P	P	02 47 19.3	+0.4
	0.2nm,0.6s,baz=142,slow=4.6,SNR=4.6						

IDC 08 02:38:21.3±8.4**,5°.91S**×**150°.19E,h76**km±61km**,mb2.9**/2**, mb1 3.4**/3**,mb1mx2.9**/45**,mbtmp3.5**/3**,ML2.2**/1**,Error ellipse: s-maj=128.9km s-min=54.6km az=124.0,New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.59**	**221**	P	Pn	02 39 28.4	+0.1
	8.2nm,0.3s,baz=42,slow=10,SNR=19						
PMG				S	Sn	02 40 21.3	+0.9
	19nm,0.3s,baz=95,slow=16,SNR=15						
WRA	**Warramunga Arr**	**20.79**	**226**	P	P	02 42 56.4	-0.1
	0.7nm,0.6s,baz=52,slow=10,SNR=8.0						
ASAR	**Alice Springs**	**23.61**	**220**	P	P	02 43 25.5	-0.2
	0.4nm,0.6s,baz=53,slow=9.2,SNR=5.1						
TORD	**Torodi Ar. Bea**	**148.14**	**285**	PKPbc	PKPbc	02 57 59.0	-0.6
	0.6nm,0.5s,baz=75,slow=2.7,SNR=12						

IDC 08 02:38:23.6±2.6**,1°.87N**×**100°.54W,h0**km**,mb3.8**/6**, mb1 4.1**/6**,mb1mx3.8**/44**,mbtmp3.8**/6**,MS3.7**/7**,Ms1 3.7**/7**, ms1mx3.3**/42**,Error ellipse: s-maj=182.0km s-min=33.4km az=91.0,Galapagos Triple Junction region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**16.12**	**20**	LR	LR	02 46 57.4	
	comp=Z,435nm,19.2s,baz=198,slow=32						
APG	**El Apazote**	**16.41**	**37**	LR	LR	02 47 12.1	
	comp=Z,408nm,20.4s,baz=244,slow=32						
JTS	**JuntasAbangare**	**17.60**	**61**	LR	LR	02 47 33.2	
	comp=Z,207nm,20.8s,baz=308,slow=31						
TXAR	**Lajitas Array**	**27.48**	**354**	P	P	02 44 12.3	+0.5
	1.0nm,0.8s,baz=157,slow=6.8,SNR=7.1						
RPN	**Rapa Nui**	**30.05**	**196**	LR	LR	02 53 52.1	
	comp=Z,249nm,21.2s,baz=38,slow=31						
SDV	**Santo Domingo**	**30.56**	**76**	LR	LR	02 55 11.5	
	comp=Z,58nm,21.2s,baz=56,slow=33						
NVAR	**Mina Array Bea**	**39.86**	**338**	P	P	02 45 59.6	+0.2
	0.5nm,0.8s,baz=156,slow=9.1,SNR=5.4						
PDAR	**Pinedale Array**	**41.51**	**350**	P	P	02 46 13.1	+0.1
	0.8nm,0.7s,baz=152,slow=6.7,SNR=6.2						
YKA	**Yellowknife Ar**	**61.39**	**353**	P	P	02 48 40.8	-0.4
	0.8nm,0.8s,baz=160,slow=6.9,SNR=9.9						
INK	**Inuvik**	**70.01**	**348**	P	P	02 49 37.0	+0.2
	1.3nm,0.8s,baz=128,slow=9.5,SNR=5.8						
ILAR	**Eielson Array**	**71.04**	**341**	P	P	02 49 42.5	-0.7
	1.2nm,0.9s,baz=152,slow=4.8,SNR=11						
JMIC	**Jan Mayen**	**88.91**	**19**	LR	LR	03 30 22.1	
	comp=Z,41nm,21.4s,baz=254,slow=35						
SPITS	**Spitsbergen Ar**	**93.53**	**11**	LR	LR	03 35 15.0	
	comp=Z,49nm,18.1s,baz=210,slow=36						
ASAR	**Alice Springs**	**123.08**	**243**	PKP	PKPdf	02 57 23.1	0.0
	0.3nm,0.6s,baz=96,slow=1.9,SNR=4.0						
WRA	**Warramunga Arr**	**123.50**	**247**	PKP	PKPdf	02 57 23.9	-0.1
	0.5nm,0.9s,baz=89,slow=2.4,SNR=4.3						

IDC 08 02:41:47.0±7.9**,1°.51N**×**100°.03W,h0**km**,mb3.4**/5**, mb1 3.8**/5**,mb1mx3.5**/45**,mbtmp3.4**/5**,MS3.9**/1**,Ms1 3.9**/1**, ms1mx2.9**/25**,Error ellipse: s-maj=185.2km s-min=142.4km az=101.0,Galapagos Triple Junction region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TXAR	**Lajitas Array**	**27.88**	**353**	P	P	02 47 39.5	+0.7
	0.8nm,0.8s,baz=178,slow=9.9,SNR=5.2						
ANMO	**Albuquerque**	**33.80**	**350**	LR	LR	03 00 57.4	
	comp=Z,201nm,20.5s,baz=60,slow=34						
NVAR	**Mina Array Bea**	**40.38**	**338**	P	P	02 49 26.8	-0.3
	0.2nm,0.7s,baz=156,slow=9.3,SNR=3.4						
PDAR	**Pinedale Array**	**41.95**	**349**	P	P	02 49 39.5	-0.4
	0.6nm,0.7s,baz=152,slow=7.7,SNR=6.1						
YKA	**Yellowknife Ar**	**61.81**	**352**	P	P	02 52 07.6	+0.1
	0.4nm,0.9s,baz=158,slow=7.4,SNR=4.4						
ILAR	**Eielson Array**	**71.54**	**341**	P	P	02 53 09.4	-0.2
	0.4nm,0.8s,baz=132,slow=5.8,SNR=4.1						

*ISCJB **08** 02:46:35.8±0.3,24°.06N±0°.02×122°.28E±0°.02,h20km±4km, Error ellipse: s-maj=3.2km s-min=2.1km az=148.9*
*TAP **08** 02:46:35.4,24°.10N×122°.26E,h18km,ML3.5,D*
*JMA **08** 02:46:35.4±0.1,24°.03N×122°.27E,h20km±3km,M3.4*
ISC 08 02:46:35.0±1.1**,24°.06N**±0°.02×**122°.27E**±0°.02**,h19**km±3km**, n61,**σ**0s46**/119**,Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS1	**EOS1**	**0.51**	**346**	P	**Pb**	**02 46 45.7**	**+0.4**
	baz=344						
EOS1				S	**Sb**	**02 46 52.8**	**+0.5**
	baz=344						
ENAH	**Nanao**	**0.57**	**314**	P	**Pg**	**02 46 46.8**	**+0.3**
	baz=310						
ENAH				*e*S	**Sg**	**02 46 54.5**	**+0.4**
	baz=310						
ENA	**Nanau**	**0.60**	**308**	*e*P	**Pn**	**02 46 47.8**	**-0.7**
	baz=304						
ENA				*e*S	**Sg**	**02 46 55.6**	**+0.4**
	baz=304						
TWD	**Chiawan**	**0.61**	**272**	*e*P	**Pn**	**02 46 48.0**	**-0.7**
	baz=268						
TWD				*e*S	**Sg**	**02 46 56.5**	**+1.2**
	baz=268						
NACB	**Ninganchiao**	**0.62**	**281**	P	**Pn**	**02 46 48.1**	**-0.8**
	baz=277						
NACB				S	**Sn**	**02 46 57.2**	**-1.1**
	baz=277						
ENLB	**Shoufeng**	**0.62**	**256**	P	**Pn**	**02 46 48.6**	**-0.2**
	baz=252						
ENLB				S	**Sn**	**02 46 58.3**	**0.0**
	baz=252						
TWC	**Suao**	**0.67**	**326**	*i* P	**Pg**	**02 46 48.0**	**-0.2**
	baz=324						
TWC				*i* S	**Sb**	**02 46 56.4**	**-0.4**
	baz=324						
JYNG	**Yonagunijimaku**	**0.74**	**57**	P	**Pg**	**02 46 49.6**	**+0.1**
JYNG				*e*S	**Sb**	**02 46 58.7**	**-0.1**
YOJ	**Yonaguni jima**	**0.79**	**59**	P	**Pn**	**02 46 50.7**	**-0.4**
	baz=61						
YOJ				S	**Sg**	**02 47 00.8**	**-0.3**
	baz=61						
YOJ	**Yonaguni jima**	**0.79**	**59**	P	**Pg**	**02 46 50.6**	**+0.1**
YOJ				*e*S	**Sb**	**02 47 00.1**	**-0.4**
ESL	**Shilin**	**0.80**	**253**	*e*P	**Pb**	**02 46 50.3**	**0.0**
	baz=249						
ESL				*e*S	**Sn**	**02 47 02.1**	**-0.5**
	baz=249						
EGS		**0.84**	**339**	S	**Sg**	**02 47 02.3**	**-0.4**
	baz=338						
ILA	**Ilan**	**0.85**	**326**	*e*P	**Pn**	**02 46 52.1**	**+0.2**
	baz=325						
ILA				S	**Sg**	**02 47 03.1**	**+0.2**
	baz=325						
TWE	**Neicheng**	**0.86**	**321**	*i* P	**Pn**	**02 46 52.0**	**-0.1**
	baz=319						
TWE				S	**Sg**	**02 47 02.6**	**-0.5**
	baz=319						
ENTT	**Nioudou**	**0.86**	**313**	P	**Pn**	**02 46 52.2**	**+0.1**
	baz=310						
ENTT				S	**Sn**	**02 47 04.0**	**-0.3**
	baz=310						
NNSB	**Datong**	**0.89**	**295**	P	**Pn**	**02 46 52.5**	**-0.1**
	baz=292						
NNSB				S	**Sn**	**02 47 05.0**	**+0.1**
	baz=292						
NTC	**Toucheng**	**0.89**	**334**	*e*P	**Pn**	**02 46 52.6**	**+0.1**
	baz=332						
NTC				*e*S	**Sg**	**02 47 04.1**	**-0.1**
	baz=332						
NNS	**Nan Shan**	**0.90**	**295**	*i* P	**Pn**	**02 46 52.7**	**0.0**
	baz=292						
NNS				*i* S	**Sn**	**02 47 05.3**	**0.0**
	baz=292						
WHF	**Hehuan Shan**	**0.92**	**276**	*e*P	**Pg**	**02 46 53.0**	**0.0**
	baz=272						
WHF				S	**Sg**	**02 47 05.4**	**+0.2**
	baz=272						
HGSD	**Ruisui**	**0.95**	**234**	*e*P	**Pb**	**02 46 52.9**	**0.0**
	baz=231						
HGSD				*e*S	**Sn**	**02 47 06.6**	**+0.2**
	baz=231						
TWB1	**Santiao Chiao**	**0.98**	**345**	*e*P	**Pn**	**02 46 53.7**	**-0.1**
	baz=345						
TWB1				S	**Sg**	**02 47 06.5**	**-0.5**
	baz=345						
CHGB	**Renai**	**1.00**	**271**	P	**Pg**	**02 46 54.2**	**-0.2**
	baz=267						
CHGB				S	**Sg**	**02 47 07.2**	**-0.4**
	baz=267						
TIPB	**Shuangxi**	**1.00**	**336**	*i* P	**Pb**	**02 46 53.4**	**-0.3**
	baz=335						
TIPB				*i* S	**Sb**	**02 47 06.0**	**-0.4**
	baz=335						
NWLT	**Wulai**	**1.00**	**316**	*e*P	**Pg**	**02 46 54.9**	**+0.4**
	baz=314						
NWLT				*e*S	**Sg**	**02 47 08.1**	**+0.5**
	baz=314						
OWD	**Renai**	**1.00**	**264**	*e*P	**Pn**	**02 46 54.1**	**0.0**
	baz=261						
OWD				*e*S	**Sb**	**02 47 06.5**	**-0.1**
	baz=261						
TWT	**Tachien**	**1.01**	**281**	P	**Pg**	**02 46 55.3**	**+0.5**
	baz=278						
TWT				S	**Sn**	**02 47 08.6**	**+0.5**
	baz=278						
YHNB	**Yeheng**	**1.02**	**307**	P	**Pg**	**02 46 54.8**	**0.0**
	baz=305						
YHNB				*e*S	**Sg**	**02 47 08.7**	**+0.5**
	baz=305						
TDCB	**Techi**	**1.03**	**281**	*e*P	**Pg**	**02 46 55.1**	**+0.1**
	baz=278						
TDCB				S	**Sg**	**02 47 09.1**	**+0.4**
	baz=278						
NWF	**Wu-fen Shan**	**1.10**	**337**	*e*P	**Pg**	**02 46 55.8**	**-0.6**
	baz=335						
NWF				S	**Sn**	**02 47 10.4**	**+0.1**
	baz=335						
WFSB	**Wu-fen Shan**	**1.10**	**337**	*e*P	**Pb**	**02 46 55.6**	**+0.1**
	baz=335						
WFSB				*e*S	**Sn**	**02 47 10.2**	**0.0**
	baz=335						
YULB	**Yu-li**	**1.10**	**234**	*e*P	**Pn**	**02 46 55.2**	**-0.3**
	baz=231						
YULB				S	**Sn**	**02 47 10.3**	**+0.1**
	baz=231						
TWA	**Mucha**	**1.11**	**326**	P	**Pg**	**02 46 57.0**	**+0.4**
	baz=325						
TWA				S	**Sg**	**02 47 11.0**	**-0.1**
	baz=325						
TWF1	**Yuli**	**1.13**	**232**	P	**Pn**	**02 46 55.4**	**-0.4**
	baz=229						
TWF1				*e*S	**Sg**	**02 47 11.5**	**-0.2**
	baz=229						
TATO	**Taipei**	**1.16**	**322**	*e*P	**Pg**	**02 46 57.0**	**-0.4**
	baz=321						
TATO				*e*S	**Sg**	**02 47 12.6**	**-0.1**
	baz=321						
WLTB	**Daxi**	**1.22**	**311**	*e*P	**Pb**	**02 46 57.5**	**+0.2**
	baz=309						
WLTB				*e*S	**Sn**	**02 47 13.3**	**+0.4**
	baz=309						
DPDB	**Guoxing**	**1.22**	**269**	*e*S	**Sg**	**02 47 14.4**	**-0.3**
	baz=267						
SSLB	**Suanglung**	**1.23**	**258**	*e*P	**Pb**	**02 46 57.8**	**+0.2**
	baz=255						
SSLB				S	**Sb**	**02 47 12.5**	**-0.6**
	baz=255						
FULB	**Fuli**	**1.23**	**226**	*e*P	**Pn**	**02 46 56.6**	**-0.6**
	baz=224						
FULB				*e*S	**Sn**	**02 47 13.3**	**0.0**
	baz=224						
SMLT	**Sun Moon Lake**	**1.26**	**262**	P	**Pb**	**02 46 58.3**	**+0.1**
	baz=260						
SMLT				S	**Sn**	**02 47 14.5**	**+0.3**
	baz=260						
YM07	**YM07**	**1.26**	**332**	*e*P	**Pb**	**02 46 57.9**	**-0.3**
	baz=331						
YM07				*e*S	**Sn**	**02 47 14.1**	**0.0**
	baz=331						
YM10	**YM10**	**1.27**	**330**	*e*P	**Pb**	**02 46 58.4**	**0.0**
	baz=328						
YM10				*e*S	**Sn**	**02 47 15.0**	**+0.6**
	baz=328						
NSTT	**Nanjuang**	**1.29**	**297**	*i* P	**Pg**	**02 46 59.5**	**-0.4**
	baz=294						
NSTT				S	**Sg**	**02 47 16.3**	**-0.5**
	baz=294						
TWS1	**Kuangyinshan**	**1.30**	**324**	*e*P	**Pb**	**02 46 58.8**	**0.0**
	baz=322						
TWS1				*e*S	**Sn**	**02 47 14.6**	**-0.2**
	baz=322						
TYC	**Yuchr**	**1.30**	**264**	*e*P	**Pb**	**02 46 58.7**	**-0.1**
	baz=261						
TYC				*e*S	**Sb**	**02 47 15.3**	**+0.3**
	baz=261						
IRIF	**Iriomote-Funau**	**1.37**	**78**	P	**Pb**	**02 47 00.0**	**+0.1**
IRIF				*e*S	**Sb**	**02 47 17.9**	**+0.9**
TWQ1	**Liyutan**	**1.39**	**282**	*e*P	**Pb**	**02 47 00.5**	**+0.1**
	baz=280						
TWQ1				*e*S	**Sb**	**02 47 18.5**	**+0.7**
	baz=280						
HATJ	**Hateruma jima**	**1.41**	**90**	P	**Pg**	**02 47 01.9**	**-0.3**
HATJ				S	**Sg**	**02 47 19.4**	**-1.2**
ALS	**Alishan**	**1.44**	**248**	*i* P	**Pb**	**02 47 01.4**	**-0.1**
	baz=246						
ALS				*e*S	**Sb**	**02 47 19.4**	**-0.1**
	baz=246						
CHN5	**Tsauling**	**1.52**	**253**	P	**Pb**	**02 47 02.9**	**+0.2**
	baz=251						
CHN5				*e*S	**Sb**	**02 47 21.2**	**-0.5**
	baz=251						
JKRS	**Kuro-shima**	**1.60**	**83**	P	**Pb**	**02 47 04.2**	**+0.2**
JKRS				*e*S	**Sb**	**02 47 24.8**	**+0.9**
STYT	**Tauyuan**	**1.64**	**238**	P	**Pb**	**02 47 03.9**	**-0.8**
	baz=235						
STYT				*e*S	**Sb**	**02 47 24.7**	**-0.3**
	baz=235						
TWGBT	**Beinan**	**1.64**	**222**	*e*P	**Pn**	**02 47 03.2**	**+0.3**
	baz=220						
TWGBT				*e*S	**Sn**	**02 47 23.9**	**+0.5**
	baz=220						
TWG	**Pinlang**	**1.65**	**222**	*e*P	**Pn**	**02 47 03.0**	**+0.1**
	baz=220						
TWG				*e*S	**Sb**	**02 47 25.6**	**+0.5**
	baz=220						
TPUB	**Ta-pu**	**1.68**	**244**	*e*P	**Pb**	**02 47 04.4**	**-0.9**
	baz=242						
TPUB				*e*S	**Sb**	**02 47 25.9**	**-0.1**
	baz=242						
WTP	**Ta-pu**	**1.71**	**242**	*e*P	**Pb**	**02 47 05.8**	**-0.1**
	baz=240						
JIJ	**Ishigaki jima**	**1.74**	**79**	P	**Pn**	**02 47 04.5**	**+0.3**
JIJ				S	**Sb**	**02 47 26.8**	**-1.1**
TWK	**Hsinying**	**1.81**	**245**	P	**Pb**	**02 47 07.5**	**-0.1**
	baz=242						
TWK				*e*S	**Sn**	**02 47 27.6**	**-0.1**
	baz=242						
CHN1	**Nanshi**	**1.81**	**242**	P	**Pb**	**02 47 07.6**	**0.0**
	baz=240						
CHN1				S	**Sb**	**02 47 30.8**	**+0.9**
	baz=240						
SGST	**Jiashian**	**1.82**	**238**	P	**Pb**	**02 47 08.0**	**+0.2**
	baz=236						
SGST				S	**Sb**	**02 47 30.9**	**+0.7**
	baz=236						
JISG	**Ishigakijimahi**	**1.94**	**74**	P	**Pn**	**02 47 07.5**	**+0.6**
JISG				S	**Sn**	**02 47 31.4**	**+0.6**
EAST	**Anshuo**	**2.11**	**218**	*e*P	**Pn**	**02 47 10.7**	**+1.3**
	baz=217						
EAST				*e*S	**Sb**	**02 47 37.5**	**-1.1**
	baz=217						

*ISCJB **08** 02:58:27.2±0.5,41°.04N±0°.04×29°.4W±0°.1,h10km, mb3.6/13,MS3.0/2,Error ellipse: s-maj=13.0km s-min=5.9km az=167.2*
*IDC **08** 02:58:28.0±1.1,41°.14N×29°.35W,h0km,mb3.6/13, mb1 3.7/14,mb1mx3.5/74,mbtmp3.5/14,ML3.9/1,MS3.0/2, Ms1 3.0/2,ms1mx2.6/59,Error ellipse: s-maj=35.0km s-min=16.2km az=5.0*
ISC 08 02:58:28.5±0.6**,40°.97N**±0°.07×**29°.51W**±0°.09**,h10**km**,n21, σ1s30**/20**,mb3.8**/13**,Azores Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H07S1	**FLORES T-PHASE**	**2.06**	**220**	*e*S	**Sn**	**02 59 26.4**	**-2.5**
CALA	**Caldeira**	**2.47**	**165**	*e*S	**Sn**	**02 59 39.7**	**+0.6**
PICO	**Pico**	**2.61**	**161**	*e*P	**Pn**	**02 59 10.2**	**-0.6**
PICO				*e*S	**Sn**	**02 59 42.8**	**+0.3**
PICO				A	A	02 59 54.9	
	43nm,0.5s						
PCAN	**Candelaria**	**2.63**	**162**	*e*S	**Sn**	**02 59 43.9**	**+1.0**
PCAN				A	A	02 59 50.6	
	53nm,0.6s						
ESDC	**Sonseca Array**	**19.50**	**85**	P	**P**	**03 02 54.9**	**-0.9**
	0.1nm,0.3s,baz=290,slow=10,SNR=3.0						
KOWA	**Kowa**	**34.46**	**133**	LR	LR	03 17 21.0	
	comp=Z,43nm,21.5s,baz=4.5,slow=33						
SJG	**San Juan**	**38.77**	**245**	LR	LR	03 18 20.1	
	comp=Z,15nm,20.9s,baz=60,slow=31						
TORD	**Torodi Ar. Bea**	**38.87**	**126**	P	**P**	**03 05 54.8**	**+0.6**
	0.9nm,0.9s,baz=314,slow=5.6,SNR=4.7						
AKASG	**Malin Array Be**	**41.06**	**56**	P	**P**	**03 06 10.6**	**-1.4**
	0.1nm,0.3s,baz=280,slow=7.9,SNR=2.9						
BRTR	**Keskin Array B**	**47.19**	**70**	P	**P**	**03 06 59.5**	**-1.9**
	0.4nm,0.7s,baz=316,slow=5.2,SNR=3.8						
YKA	**Yellowknife Ar**	**52.51**	**324**	P	**P**	**03 07 40.6**	**-0.7**
	0.2nm,0.7s,baz=73,slow=7.6,SNR=5.1						
PDAR	**Pinedale Array**	**57.44**	**301**	P	**P**	**03 08 19.2**	**+1.6**
	0.9nm,1.0s,baz=68,slow=5.9,SNR=3.5						
ANMO	**Albuquerque**	**59.14**	**291**	P	**P**	**03 08 31.4**	**+1.7**
	0.5nm,0.5s,baz=39,slow=9.8,SNR=2.3						
TXAR	**Lajitas Array**	**60.08**	**284**	P	**P**	**03 08 37.8**	**+1.8**
	1.1nm,0.8s,baz=64,slow=6.3,SNR=7.0						
BVAR	**Borovoye Array**	**63.77**	**42**	P	**P**	**03 09 01.0**	**+0.6**
	0.7nm,0.8s,baz=305,slow=5.1,SNR=5.0						
ILAR	**Eielson Array**	**63.84**	**335**	P	**P**	**03 08 59.6**	**-1.0**
	0.2nm,0.7s,baz=52,slow=5.8,SNR=2.6						
KURBB	**Kurchatov Arra**	**69.25**	**40**	P	**P**	**03 09 35.3**	**-0.1**
	0.9nm,0.8s,baz=313,slow=6.6,SNR=5.5						
ZALV	**Zalesovo Beam**	**69.97**	**35**	P	**P**	**03 09 41.1**	**+1.3**
	0.3nm,0.3s,baz=316,slow=6.0,SNR=2.5						
MKAR	**Makanchi Array**	**73.65**	**42**	P	**P**	**03 10 02.2**	**+0.1**
	0.7nm,0.9s,baz=335,slow=5.4,SNR=6.5						
SONM	**Songino Array**	**83.32**	**28**	P	**P**	**03 10 56.8**	**+1.2**
	0.5nm,0.8s,baz=332,slow=5.0,SNR=4.6						
ASAR	**Alice Springs**	**157.83**	**44**	PKPab	**PKPab**	**03 18 58.6**	**+0.3**
	0.9nm,1.1s,baz=340,slow=4.2,SNR=5.4						

IDC 08 03:04:58.9±6.0**,1°.81N**×**100°.30W,h0**km**,mb3.5**/6**, mb1 3.9**/6**,mb1mx3.7**/45**,mbtmp3.5**/6**,MS3.5**/7**,Ms1 3.5**/7**, ms1mx3.1**/30**,Error ellipse: s-maj=168.4km s-min=114.8km az=94.0,Galapagos Triple Junction region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**16.10**	**19**	LR	LR	03 13 35.7	
	comp=Z,198nm,20.1s,baz=194,slow=32						
APG	**El Apazote**	**16.32**	**36**	LR	LR	03 13 51.1	
	comp=Z,151nm,21.0s,baz=329,slow=33						
JTS	**JuntasAbangare**	**17.42**	**60**	LR	LR	03 14 11.0	
	comp=Z,57nm,21.8s,baz=296,slow=32						
LPIG	**La Paz**	**24.19**	**337**	LR	LR	03 17 23.4	
	comp=Z,122nm,18.6s,baz=158,slow=31						
TXAR	**Lajitas Array**	**27.56**	**354**	P	P	03 10 48.6	+0.8
	0.3nm,0.6s,baz=178,slow=10,SNR=2.8						
TXAR				LR	LR	03 20 35.7	
	comp=Z,141nm,19.6s,baz=0.0,slow=34						
RPN	**Rapa Nui**	**30.05**	**196**	LR	LR	03 20 11.3	
	comp=Z,80nm,21.9s,baz=52,slow=30						
TKL	**Tuckaleechee C**	**37.01**	**23**	LR	LR	03 26 40.8	
	comp=Z,70nm,19.6s,baz=11,slow=35						
NVAR	**Mina Array Bea**	**40.01**	**338**	P	P	03 12 35.2	-0.6
	0.2nm,0.7s,baz=161,slow=8.6,SNR=3.1						
PDAR	**Pinedale Array**	**41.62**	**350**	P	P	03 12 49.3	+0.3
	0.6nm,0.7s,baz=159,slow=5.8,SNR=6.2						
YKA	**Yellowknife Ar**	**61.48**	**352**	P	P	03 15 16.8	-0.3
	0.4nm,0.6s,baz=160,slow=8.0,SNR=8.0						
INK	**Inuvik**	**70.13**	**347**	P	P	03 16 12.8	0.0
	1.4nm,0.9s,baz=154,slow=5.1,SNR=5.9						
ILAR	**Eielson Array**	**71.18**	**341**	P	P	03 16 19.1	-0.1
	0.5nm,0.7s,baz=146,slow=5.1,SNR=13						

IDC 08 03:07:49.8±11.0**,0°.95N**×**100°.38W,h0**km**,mb3.4**/4**, mb1 3.8**/4**,mb1mx3.5**/45**,mbtmp3.4**/4**,MS3.6**/1**,Ms1 3.6**/1**, ms1mx2.7**/19**,Error ellipse: s-maj=431.4km s-min=130.2km az=105.0,Galapagos Triple Junction region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TXAR	**Lajitas Array**	**28.40**	**354**	P	P	03 13 46.5	+0.3
	0.4nm,0.8s,baz=175,slow=10.0,SNR=2.6						
PDAR	**Pinedale Array**	**42.43**	**350**	P	P	03 15 46.0	-0.7
	0.6nm,0.8s,baz=156,slow=8.1,SNR=3.7						
PDAR				LR	LR	03 31 37.3	
	comp=Z,80nm,19.8s,baz=110,slow=34						
YKA	**Yellowknife Ar**	**62.31**	**353**	P	P	03 18 13.9	+0.3
	0.4nm,1.0s,baz=161,slow=6.5,SNR=4.7						
ILAR	**Eielson Array**	**71.95**	**341**	P	P	03 19 14.8	-0.1
	0.3nm,0.8s,baz=138,slow=5.6,SNR=4.1						

*NEIC **08** 03:08:27.8±0.0,16°.38N×98°.42W,h4km,MD4.0(MEX), After MEX.*
MEX 08 03:08:27.7±0.5**,16°.37N**×**98°.42W,h4**km**,MD4.0,Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.28**	**85**	*i* P	Pg	03 08 32.6	-0.6
PNIG				*e*S	Sg	03 08 37.1	+0.2
PNIG	**Pinotepa**	**0.28**	**85**	*i* P	Pg	03 08 32.6	-0.6
PNIG				*e*S	Sg	03 08 37.1	+0.2
TLIG	**Tlapa**	**1.20**	**353**	*e*P	Pg	03 08 46.0	-4.7
TLIG				*i* S	Sg	03 09 01.0	-5.3
TLIG	**Tlapa**	**1.20**	**353**	*e*P	Pg	03 08 46.0	-4.7
TLIG				*e*S	Sg	03 09 00.0	-6.3
VHO	**Vista Hermosa**	**1.76**	**66**	*e*P	Pn	03 08 57.5	-1.7
VHO				*e*S	Sn	03 09 20.1	-2.2
VHO	**Vista Hermosa**	**1.76**	**66**	*e*P	Pn	03 08 57.5	-1.7
VHO				*e*S	Sn	03 09 20.1	-2.2
CAIG	**El Cayaco**	**1.90**	**291**	*e*P	Pn	03 08 57.7	-3.1
CAIG				*e*S	Sn	03 09 20.2	-5.0
CAIG	**El Cayaco**	**1.90**	**291**	*e*P	Pn	03 08 57.7	-3.1
CAIG				*e*S	Sn	03 09 23.1	-2.1
HUIG	**Huatulco**	**2.30**	**105**	*e*P	Pn	03 09 03.5	-3.0
HUIG				*e*S	Sg	03 09 40.2	-1.5

*NIED **08** 03:11:00,45°.50N×150°.10E,h41km,Mw3.9 Best double couple: M0 8.15000×10^14 NP1:φs 218.00000°,δ35.00000°, λ143.00000°. NP2:φs 340.00000°,δ70.00000°,λ60.00000°.*
*JMA **08** 03:11:13.3±0.8,45°.46N×150°.07E,h30km,M4.7*
*SKHL **08** 03:11:13.0±0.6,45°.13N×150°.39E,h68km±4km,mb5.0/3, msh5.0/1*
*ISCJB **08** 03:11:13.4±0.4,45°.26N±0°.05×150°.15E±0°.06,h61km, mb3.7/24,Error ellipse: s-maj=7.9km s-min=3.6km az=142.0*
*MOS **08** 03:11:14.2±1.1,45°.32N×150°.10E,h62km,mb4.0/16,Error ellipse: s-maj=9.3km s-min=7.6km az=71.0*
*IDC **08** 03:11:18.4±2.1,45°.37N×150°.06E,h91km±19km,mb3.4/22, mb1 3.7/26,mb1mx3.5/71,mbtmp3.8/26,MS2.8/2, Ms1 2.8/2,ms1mx2.4/48,Error ellipse: s-maj=16.8km s-min=11.4km az=152.0*
ISC 08 03:11:14.6±0.6**,45°.19N**±0°.07×**150°.21E**±0°.07**,h61**km**,n86, σ1s61**/99**,mb3.7**/24**,1C-1D,Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.66**	**272**	*e*P	**Pn**	**03 11 40.3**	**-1.2**
KUR				AMB	AMB	03 11 41.3	
	2μm,0.3s						
KUR				*e*S	**Sn**	**03 12 00.4**	**-1.2**
KUR				A	A	03 12 04.1	
	2μm,0.4s						
KUR	**Kuril'sk**	**1.66**	**272***d*	*i*PN	**Pn**	**03 11 40.2**	**-1.2**
KUR				*i* S	**Sn**	**03 11 59.8**	**-1.8**
KUR				pmax	pmax		
	comp=Z,1μm,0.2s						
KUR				pmax	pmax		

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=E,289nm,0.1s						
KUR				pmax	pmax		
	comp=N,526nm,0.3s						
KUR				smax	smax		
	comp=N,1µm,0.4s						
KUR				smax	smax		
	comp=E,1µm,0.4s						
SHO	**Shikotan**	**2.75**	**243**	*e*P	**Pn**	**03 11 55.0**	**-1.3**
SHO				AMB	AMB	03 11 55.2	
	comp=E,61nm,0.2s						
SHO				AMB	AMB	03 11 57.7	
	comp=E,407nm,3.0s						
SHO				*e*S	**Sn**	**03 12 26.5**	**-1.9**
SHO				A	A	03 12 39.4	
	comp=E,770nm,0.5s						
SHO	**Shikotan**	**2.75**	**243**	*e*PN	**Pn**	**03 11 57.1**	**+0.8**
SHO				*e*S	**Sn**	**03 12 30.8**	**+2.4**
SHO				pmax	pmax		
	comp=Z,82nm,0.4s						
SHO				pmax	pmax		
	comp=E,58nm,0.5s						
SHO				smax	smax		
	comp=E,672nm,0.4s						
SHO				smax	smax		
	comp=N,272nm,0.2s						
YUK	**Yuzh-Kuril'sk**	**3.31**	**251**	*e*P	**Pn**	**03 12 04.4**	**+0.4**
YUK				AMB	AMB	03 12 05.8	
	comp=N,300nm,0.2s						
YUK				*e*S	**Sn**	**03 12 42.4**	**+0.3**
YUK				A	A	03 12 55.7	
	comp=N,900nm,0.7s						
YUK	**Yuzh-Kuril'sk**	**3.31**	**251**	*e*PN	**Pn**	**03 12 03.9**	**-0.1**
YUK				*e*S	**Sn**	**03 12 43.9**	**+1.8**
YUK				pmax	pmax		
	comp=Z,332nm,0.3s						
YUK				pmax	pmax		
	comp=N,78nm,0.2s						
YUK				pmax	pmax		
	comp=E,123nm,0.2s						
YUK				smax	smax		
	comp=E,694nm,0.4s						
YUK				smax	smax		
	comp=N,223nm,0.5s						
GRPR	**Tuman**	**3.39**	**251**	*e*P	**Pn**	**03 12 06.1**	**+1.1**
GRPR				AMB	AMB	03 12 09.8	
	comp=N,213nm,0.3s						
GRPR				*e*S	**Sn**	**03 12 46.4**	**+2.5**
GRPR				A	A	03 13 00.1	
	comp=N,354nm,0.3s						
GRPR				A	A	03 13 00.1	
	comp=N,765nm,0.3s						
GRPR	**Tuman**	**3.39**	**251**	*e*PN	**Pn**	**03 12 06.1**	**+1.1**
GRPR				*e*S	**Sn**	**03 12 46.4**	**+2.5**
GRPR				pmax	pmax		
	comp=E,82nm,0.3s						
GRPR				pmax	pmax		
	comp=Z,213nm,0.3s						
GRPR				pmax	pmax		
	comp=N,70nm,0.1s						
GRPR				smax	smax		
	comp=N,354nm,0.3s						
GRPR				smax	smax		
	comp=E,763nm,0.3s						
GLVR	**Golovnino**	**3.66**	**248**	*e*P	**Pn**	**03 12 09.5**	**+0.8**
GLVR				AMB	AMB	03 12 10.8	
	comp=E,164nm,0.3s						
GLVR				*e*S	**Sn**	**03 12 52.3**	**+1.8**
GLVR				A	A	03 13 04.3	
	comp=E,940nm,0.4s						
GLVR				A	A	03 13 04.3	
	comp=E,950nm,0.4s						
GLVR	**Golovnino**	**3.66**	**248**	*e*PN	**Pn**	**03 12 09.5**	**+0.8**
GLVR				*e*S	**Sn**	**03 12 52.3**	**+1.8**
GLVR				pmax	pmax		
	comp=N,44nm,0.3s						
GLVR				pmax	pmax		
	comp=Z,164nm,0.3s						
GLVR				pmax	pmax		
	comp=E,27nm,0.1s						
GLVR				smax	smax		
	comp=E,937nm,0.4s						
GLVR				smax	smax		
	comp=N,948nm,0.5s						
NEM2	**Nemuro 2**	**3.69**	**242**	P	**Pn**	**03 12 07.2**	**-1.9**
NEM2				*e*S	**Sn**	**03 12 47.4**	**-3.9**
JRA	**Rausu**	**3.84**	**253**	P	**Pn**	**03 12 11.9**	**+0.7**
JNK	**Nakash**	**4.25**	**250**	P	**Pn**	**03 12 17.0**	**+0.2**
JAK	**Akkeshi**	**4.53**	**243**	P	**Pn**	**03 12 19.4**	**-1.3**
JAK				*e*S	**Sn**	**03 13 09.4**	**-2.7**
JTKR	**Abashiri--Toko**	**4.66**	**257**	P	**Pn**	**03 12 23.1**	**+0.7**
JAR	**Ashorobuto**	**5.00**	**250**	P	**Pn**	**03 12 28.1**	**+1.1**
JAR				*e*S	**Sn**	**03 13 23.2**	**-0.3**
JMP	**Maruseppu**	**5.03**	**259**	P	**Pn**	**03 12 28.8**	**+1.3**
JOB	**Onbets**	**5.13**	**246**	P	**Pn**	**03 12 29.1**	**+0.3**
JOB				*e*S	**Sn**	**03 13 24.7**	**-2.0**
YSS	**Yuzh-Sakhalins**	**5.48**	**291**	*e*P	**Pn**	**03 12 34.8**	**+1.2**
YSS				AMB	AMB	03 12 36.4	
	comp=N,8.0nm,0.2s						
YSS				AMB	AMB	03 12 38.4	
	comp=N,118nm,5.0s						
YSS	**Yuzh-Sakhalins**	**5.48**	**291**	⇑*i*PN	**Pn**	**03 12 34.0**	**+0.4**
YSS				pmax	pmax		
	comp=Z,10.0nm,0.8s						
YSS				MLR	MLR		
	comp=Z,110µm,19.0s						
JKK2	**Kamakawa 2**	**5.49**	**259**	P	**Pn**	**03 12 35.3**	**+1.5**
ASAJ	**Asahikawa**	**5.54**	**262**	P	**Pn**	**03 12 36.0**	**+1.6**
	comp=Z,2.3nm,0.3s,baz=75,slow=22,SNR=20						
ASAJ				S	**Sn**	**03 13 40.3**	**+3.6**
	baz=3.4,slow=19,SNR=2.0						
JCH	**Churui**	**5.58**	**245**	P	**Pn**	**03 12 34.6**	**-0.3**
JCH				*e*S	**Sn**	**03 13 35.6**	**-2.0**
ERM	**Erimo**	**6.02**	**241**	*e*P	**Pn**	**03 12 42.1**	**+1.1**
ERM	**Erimo**	**6.02**	**241**	*i* PN	**Pn**	**03 12 42.1**	**+1.1**
JNBK	**Urakawa-nobuka**	**6.13**	**244**	P	**Pn**	**03 12 41.7**	**-0.9**
JNBK				*e*S	**Sn**	**03 13 49.2**	**-2.1**
JBT2	**Biratori 2**	**6.15**	**250**	P	**Pn**	**03 12 42.8**	**0.0**
SKR	**Severo-Kuril's**	**6.78**	**34**	*e*P	**Pn**	**03 12 51.0**	**-0.4**
SKR				AMB	AMB	03 12 57.0	
	comp=Z,50nm,1.0s						
SKR				AMB	AMB	03 13 01.5	
	comp=Z,500nm,5.0s						
SKR				*e*S	**Sn**	**03 14 03.9**	**-3.2**
SKR				A	A	03 14 45.2	
	comp=Z,1µm,5.0s						
SKR	**Severo-Kuril's**	**6.78**	**34**	*e*PN	**Pn**	**03 12 55.4**	**+4.0**
JNB	**Noboribetsu**	**7.17**	**251**	P	**Pn**	**03 12 57.3**	**+0.6**
JKB	**Kayabe**	**7.44**	**247**	P	**Pn**	**03 13 00.1**	**-0.3**
JKB				*e*S	**Sn**	**03 14 18.8**	**-4.5**
TYV	**Tymovskoe**	**7.61**	**321**	*e*P	**Pn**	**03 13 03.5**	**+0.8**
TYV				AMB	AMB	03 13 05.1	
	comp=Z,10.0nm,0.3s						
TYV	**Tymovskoe**	**7.61**	**321**	*e*PN	**Pn**	**03 13 03.3**	**+0.6**
TYV				*e*S	**Sn**	**03 14 25.7**	**-1.6**
TYV				pmax	pmax		
	comp=Z,13nm,0.5s						
TYV				smax	smax		
	comp=E,6.0nm,0.8s						
PETK	**Petropavlovsk-**	**9.32**	**29**	P	**Pn**	**03 13 28.8**	**+2.7**
	comp=E,0.4nm,0.3s,baz=208,slow=11,SNR=10						
NKL	**Nikolayevsk**	**10.11**	**325**	*e*PN	**Pn**	**03 13 36.0**	**-0.9**
MJAR	**Matsushiro Arr**	**12.52**	**231**	P	**Pn**	**03 14 14.1**	**+4.2**
	comp=E,0.2nm,0.3s,baz=35,slow=15,SNR=2.9						
KLR	**Kul'dur**	**13.18**	**294**	*i* PN	**Pn**	**03 14 19.7**	**+0.9**
SEY	**Seymchan**	**17.82**	**3**	*e*P	**P**	**03 15 18.0**	**-0.1**
SEY	**Seymchan**	**17.82**	**3**	*i* P	**P**	**03 15 18.0**	**-0.1**
KSRS	**Korea Array**	**18.40**	**253**	P	**Pn**	**03 15 25.6**	**+0.3**
	comp=E,0.2nm,0.3s,baz=58,slow=11,SNR=6.3						
KSRS				LR	LR	03 21 39.8	
	comp=E,27nm,20.8s,baz=65,slow=34						
JNU	**Nakatsue**	**19.18**	**238**	LR	LR	03 22 36.2	
	comp=E,36nm,19.7s,baz=241,slow=35						
YAK	**Yakutsk**	**20.65**	**332**	*e*P	Pn	03 15 50.6	-1.1
YAK				pmax	pmax		
	comp=Z,25nm,0.8s						
YAK				pmax	pmax		
	comp=N,9.0nm,1.0s						
YAK				pmax	pmax		
	comp=E,5.0nm,0.8s						
TIXI	**Tiksi**	**28.45**	**346**	*e*P	**P**	**03 17 03.5**	**+0.3**
TIXI	**Tiksi**	**28.45**	**346**	*i* P	**P**	**03 17 03.5**	**+0.3**
TIXI				pmax	pmax		
	comp=Z,1.0nm,0.6s						
H11N2	**WAKE ISLAND Hy**	**28.91**	**146**	T	T	03 47 55.2	
	baz=335,slow=76,SNR=725						
H11N1	**WAKE ISLAND Hy**	**28.92**	**146**	T	T	03 47 56.2	
	baz=335,slow=76,SNR=386						
H11N3	**WAKE ISLAND Hy**	**28.93**	**146**	T	T	03 47 56.5	
	baz=335,slow=76,SNR=568						
H11S1	**WAKE ISLAND Hy**	**29.94**	**147**	T	T	03 49 03.8	
	baz=336,slow=76,SNR=766						
H11S3	**WAKE ISLAND Hy**	**29.95**	**147**	T	T	03 49 11.4	
	baz=336,slow=76,SNR=750						
H11S2	**WAKE ISLAND Hy**	**29.96**	**147**	T	T	03 49 02.6	
	baz=336,slow=76,SNR=692						
ILAR	**Eielson Array**	**39.03**	**37**	P	**P**	**03 18 34.8**	**-0.1**
	comp=Z,0.3nm,0.6s,baz=261,slow=6.9,SNR=6.1						
ILAR	**Eielson Array**	**39.03**	**37**	*e*P	**P**	**03 18 38.6**	**+3.7**
ZALV	**Zalesovo Beam**	**41.90**	**306**	PcP	**PcP**	**03 20 52.7**	**-0.5**
	comp=Z,0.9nm,0.6s,baz=70,slow=3.2,SNR=5.1						
INK	**Inuvik**	**44.05**	**31**	P	**P**	**03 19 16.3**	**+0.4**
	comp=Z,0.7nm,0.5s,baz=285,slow=4.5,SNR=5.9						
MKAR	**Makanchi Array**	**45.86**	**297**	P	**P**	**03 19 30.0**	**-0.7**
	comp=Z,0.4nm,0.5s,baz=80,slow=8.5,SNR=6.0						
MKAR				PcP	**PcP**	**03 21 07.2**	**+0.4**
	comp=Z,0.5nm,0.6s,baz=56,slow=3.1,SNR=5.1						
MKAR	**Makanchi Array**	**45.86**	**297**	*e*P	**P**	**03 19 31.1**	**+0.5**
MKAR	**Makanchi Array**	**45.86**	**297**	*e*P	**P**	**03 19 31.1**	**+0.5**
KURK	**Kurchatov**	**46.55**	**304**	P	**P**	**03 19 34.2**	**-1.7**
KURK				pmax	pmax		
	comp=Z,1.0nm,0.5s						
KURBB	**Kurchatov Arra**	**46.63**	**304**	P	**P**	**03 19 34.2**	**-2.3**
	comp=Z,0.6nm,0.5s,baz=75,slow=8.4,SNR=4.8						
CMAR	**Chiang Mai Arr**	**50.02**	**255**	P	**P**	**03 20 03.1**	**+0.1**
	comp=Z,0.5nm,0.3s,baz=40,slow=7.8,SNR=4.0						
CMAR	**Chiang Mai Arr**	**50.02**	**255**	*e*P	**P**	**03 20 05.4**	**+2.4**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
BVAR	**Borovoye Array**	**50.28**	**309**	P	**P**	**03 20 04.5**	**-0.1**
	comp=Z,0.3nm,0.4s,baz=74,slow=11,SNR=3.3						
YKA	**Yellowknife Ar**	**53.38**	**35**	P	**P**	**03 20 27.0**	**-0.4**
	comp=Z,0.7nm,0.7s,baz=297,slow=6.8,SNR=11						
YKA	**Yellowknife Ar**	**53.38**	**35**	*e*P	**P**	**03 20 27.7**	**+0.3**
YKA	**Yellowknife Ar**	**53.38**	**35**	*e*P	**P**	**03 20 27.7**	**+0.3**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
AKTO	**Aktyubinsk**	**58.25**	**311**	P	**P**	**03 21 01.1**	**-1.3**
	comp=Z,0.6nm,0.6s,baz=76,slow=9.2,SNR=3.6						
ARCES	**ARCESS Array B**	**58.65**	**340**	P	**P**	**03 21 02.8**	**-2.2**
	comp=Z,1.3nm,0.7s,baz=37,slow=7.9,SNR=2.7						
NVAR	**Mina Array Bea**	**64.96**	**60**	P	**P**	**03 21 48.2**	**+0.1**
	comp=Z,0.5nm,0.7s,baz=294,slow=6.0,SNR=6.5						
GEYT	**Alibeck**	**65.64**	**300**	P	**P**	**03 21 52.2**	**-0.1**
	comp=Z,1.8nm,0.6s,baz=63,slow=6.8,SNR=4.7						
WRA	**Warramunga Arr**	**66.41**	**196**	P	**P**	**03 21 57.7**	**+0.5**
	comp=Z,0.4nm,0.7s,baz=17,slow=6.6,SNR=6.0						
WRA	**Warramunga Arr**	**66.41**	**196**	*e*P	**P**	**03 21 59.1**	**+1.9**
WRA	**Warramunga Arr**	**66.41**	**196**	*e*P	**P**	**03 21 59.1**	**+1.9**
PDAR	**Pinedale Array**	**67.30**	**52**	P	**P**	**03 22 03.9**	**+0.8**
	comp=Z,0.2nm,0.6s,baz=307,slow=5.3,SNR=3.4						
NOA	**NORSAR Array B**	**69.03**	**340**	P	**P**	**03 22 11.6**	**-1.7**
	comp=Z,0.5nm,0.7s,baz=35,slow=7.4,SNR=3.1						
ASAR	**Alice Springs**	**70.12**	**196**	P	**P**	**03 22 22.1**	**+1.8**
	comp=Z,0.3nm,0.5s,baz=9.4,slow=5.8,SNR=8.6						
KBZ	**Khabaz**	**70.46**	**313**	P	**P**	**03 22 23.0**	**+0.7**
	comp=Z,2.0nm,0.8s,baz=74,slow=6.0,SNR=5.9						
AKASG	**Malin Array Be**	**71.69**	**325**	P	**P**	**03 22 27.6**	**-2.0**
	comp=Z,0.6nm,0.4s,baz=37,slow=6.2,SNR=6.0						
AKASG	**Malin Array Be**	**71.69**	**325**	*e*P	**P**	**03 22 28.0**	**-1.7**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
MLR	**Muntele Rosu**	**77.14**	**323**	P	**P**	**03 23 01.7**	**0.0**
	comp=Z,0.3nm,0.5s,baz=278,slow=19,SNR=5.8						
EKA	**Eskdalemuir Ar**	**77.35**	**345**	P	**P**	**03 23 02.0**	**-0.3**
	comp=Z,0.6nm,0.4s,baz=17,slow=5.1,SNR=5.4						
BRTR	**Keskin Array B**	**78.10**	**315**	P	**P**	**03 23 06.9**	**-0.2**
	comp=Z,0.5nm,0.8s,baz=110,slow=1.3,SNR=5.3						
KHC	**Kasperske Hory**	**78.73**	**333**	*e*P	**P**	**03 23 10.1**	**-0.1**
KHC	**Kasperske Hory**	**78.73**	**333**	*e*P	**P**	**03 23 10.1**	**-0.1**
GERES	**GERESS Array B**	**78.94**	**332**	P	**P**	**03 23 10.8**	**-0.6**
	comp=Z,0.6nm,0.5s,baz=36,slow=6.3,SNR=14						
TXAR	**Lajitas Array**	**80.03**	**58**	P	**P**	**03 23 18.4**	**+0.7**
	comp=Z,0.5nm,0.4s,baz=302,slow=4.2,SNR=9.3						
TORD	**Torodi Ar. Bea**	**115.32**	**326**	PKP	**PKPdf**	**03 29 48.2**	**-1.4**
	comp=Z,0.5nm,0.9s,baz=12,slow=2.7,SNR=3.8						

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*STR **08** 03:19:39.2±1.8, 48°N±14°×°±1°1, h5km, M3.1/3, MLv3.1/3*
*CSEM **08** 03:19:44.5, 46.°38N×2.°86W, h3km, ML2.6/17*
LDG 08 03:19:44.5±0.1**, 46.°38N×2.°86W, h3**km**, Md2.8**/4**, Ml2.6**/17**,**
Error ellipse: s-maj=2.1km s-min=1.2km az=62.0, Bay of Biscay

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QUIF	**Quistinic**	**1.56**	**352**	*e*Pn	Pn	03 20 11.0	-2.1
QUIF	**Quistinic**	**1.56**	**352**	*e*Pg	Pn	03 20 13.4	+0.3
QUIF				*e*Sg	Sb	03 20 34.1	+0.1
	13nm,0.2s						
QUIF	**Quistinic**	**1.56**	**352**	*e*Pn	Pn	03 20 11.0	-2.1
QUIF	**Quistinic**	**1.56**	**352**	*e*Pg	Pn	03 20 13.4	+0.3
QUIF				*e*Sg	Sb	03 20 34.1	+0.1
	6.5nm,0.2s						
CHIF	**Chize**	**1.71**	**97**	Pn	Pn	03 20 13.6	-1.6
CHIF	**Chize**	**1.71**	**97**	Pg	Pb	03 20 16.9	+0.3
MFF	**Saint Martin d**	**1.89**	**82**	*e*Pn	Pn	03 20 16.0	-1.6
MFF	**Saint Martin d**	**1.89**	**82**	*e*Pg	Pb	03 20 19.8	+0.2
MFF				*e*Sg	Sb	03 20 43.8	+0.3
	6.4nm,0.2s						
MFF	**Saint Martin d**	**1.89**	**82**	*e*Pn	Pn	03 20 16.0	-1.6
MFF	**Saint Martin d**	**1.89**	**82**	*e*Pg	Pb	03 20 19.8	+0.2
MFF				*e*Sg	Sb	03 20 43.8	+0.3
	3.2nm,0.2s						
SGMF	**Saint Gilles**	**1.89**	**6**	*e*Pn	Pn	03 20 15.9	-1.8
SGMF	**Saint Gilles**	**1.89**	**6**	*e*Pg	Pb	03 20 19.5	-0.1
SGMF				*e*Sg	Sb	03 20 44.1	+0.4
	6.1nm,0.2s						
SGMF	**Saint Gilles**	**1.89**	**6**	*e*Pn	Pn	03 20 15.9	-1.8
SGMF	**Saint Gilles**	**1.89**	**6**	*e*Pg	Pb	03 20 19.5	-0.1
SGMF				*e*Sg	Sb	03 20 44.1	+0.4
	3.0nm,0.2s						
ROSF	**Rostrenen**	**1.98**	**352**	*e*Pn	Pn	03 20 16.7	-2.2
ROSF	**Rostrenen**	**1.98**	**352**	*e*Pg	Pb	03 20 21.5	+0.3
ROSF				*e*Sg	Sb	03 20 46.9	+0.6
	6.5nm,0.2s						
ROSF	**Rostrenen**	**1.98**	**352**	*e*Pn	Pn	03 20 16.7	-2.2
ROSF	**Rostrenen**	**1.98**	**352**	*e*Pg	Pb	03 20 21.5	+0.3
ROSF				*e*Sg	Sb	03 20 46.9	+0.6
	3.2nm,0.2s						
ROSF	**Rostrenen**	**1.98**	**352**	Pn	Pn	03 20 16.5	-2.4
ROSF	**Rostrenen**	**1.98**	**352**	Sn	Sg	03 20 47.5	-0.7
GRR	**Gorron**	**2.43**	**33**	*e*Pn	Pn	03 20 23.4	-1.7
GRR	**Gorron**	**2.43**	**33**	*e*Pg	Pb	03 20 29.3	+0.5
GRR				*e*Sn	Sn	03 20 51.6	-3.7
GRR				*e*Sg	Sb	03 21 00.1	+1.0
	4.7nm,0.2s						
GRR	**Gorron**	**2.43**	**33**	*e*Pn	Pn	03 20 23.4	-1.7
GRR	**Gorron**	**2.43**	**33**	*e*Pg	Pb	03 20 29.3	+0.5
GRR				*e*Sn	Sn	03 20 51.6	-3.7
GRR				*e*Sg	Sb	03 21 00.1	+1.0
	2.3nm,0.2s						
FLN	**La Foliniere**	**2.88**	**33**	*e*Pn	Pn	03 20 29.5	-1.8
	baz=204						
FLN				*e*Sn	Sn	03 21 03.2	-3.2
	baz=214						
FLN				*e*Sg	Sg	03 21 14.9	-2.0
	2.1nm,0.2s,baz=214						
FLN	**La Foliniere**	**2.88**	**33**	*e*Pn	Pn	03 20 29.5	-1.8
FLN				*e*Sn	Sn	03 21 03.2	-3.2
FLN				*e*Sg	Sg	03 21 14.9	-2.0
	1.0nm,0.2s						
LDF	**La Druitiere**	**2.89**	**39**	*e*Pn	Pn	03 20 29.5	-1.9
LDF				*e*Sn	Sn	03 21 03.4	-3.3
LDF				*e*Sg	Sg	03 21 15.3	-2.1
	2.0nm,0.2s						
LDF	**La Druitiere**	**2.89**	**39**	*e*Pn	Pn	03 20 29.5	-1.9
LDF				*e*Sn	Sn	03 21 03.4	-3.3
LDF				*e*Sg	Sg	03 21 15.3	-2.1
	1.0nm,0.2s						
LFF	**La Frestale**	**2.90**	**118**	*e*Pn	Pn	03 20 30.9	-0.7
LFF	**La Frestale**	**2.90**	**118**	*e*Pg	Pb	03 20 38.0	+1.1
LFF				*e*Sn	Sn	03 21 02.9	-4.0
LFF				*e*Sg	Sb	03 21 13.5	+0.8
	5.5nm,0.2s						
LFF	**La Frestale**	**2.90**	**118**	*e*Pn	Pn	03 20 30.9	-0.7
LFF	**La Frestale**	**2.90**	**118**	*e*Pg	Pb	03 20 38.0	+1.1
LFF				*e*Sn	Sn	03 21 02.9	-4.0
LFF				*e*Sg	Sb	03 21 13.5	+0.8
	2.8nm,0.2s						
RJF	**Les Rejaudoux**	**3.24**	**108**	*e*Pn	Pn	03 20 35.9	-0.3
RJF	**Les Rejaudoux**	**3.24**	**108**	*e*Pg	Pg	03 20 44.6	-1.9
RJF				*e*Sn	Sn	03 21 10.3	-5.0
RJF				*e*Sg	Sg	03 21 25.6	-2.9
	6.5nm,0.2s						
RJF	**Les Rejaudoux**	**3.24**	**108**	*e*Pn	Pn	03 20 35.9	-0.3
RJF	**Les Rejaudoux**	**3.24**	**108**	*e*Pg	Pg	03 20 44.6	-1.9
RJF				*e*Sn	Sn	03 21 10.3	-5.0
RJF				*e*Sg	Sg	03 21 25.6	-2.9
	3.2nm,0.2s						
SJPF	**Ste Jean**	**3.46**	**160**	*e*Pn	Pn	03 20 37.7	-1.6
SJPF	**Ste Jean**	**3.46**	**160**	*e*Pg	Pg	03 20 49.1	-1.7
SJPF				*e*Sn	Sn	03 21 16.4	-4.4
SJPF	**Ste Jean**	**3.46**	**160**	*e*Pn	Pn	03 20 37.7	-1.6
SJPF	**Ste Jean**	**3.46**	**160**	*e*Pg	Pg	03 20 49.1	-1.7
SJPF				*e*Sn	Sn	03 21 16.4	-4.4
MONQ	**Montcuq**	**3.49**	**124**	Pn	Pn	03 20 37.8	-1.8
TCF	**Toulx Ste Croi**	**3.51**	**90**	*e*Pn	Pn	03 20 37.9	-2.1
TCF	**Toulx Ste Croi**	**3.51**	**90**	*e*Pg	Pg	03 20 50.7	-1.0
TCF				*e*Sn	Sn	03 21 17.8	-4.2
TCF				*e*Sg	Sg	03 21 35.7	-1.5
	4.2nm,0.4s						
TCF	**Toulx Ste Croi**	**3.51**	**90**	*e*Pn	Pn	03 20 37.9	-2.1
TCF	**Toulx Ste Croi**	**3.51**	**90**	*e*Pg	Pg	03 20 50.7	-1.0
TCF				*e*Sn	Sn	03 21 17.8	-4.2
TCF				*e*Sg	Sg	03 21 35.7	-1.5
	2.1nm,0.4s						
CAF	**Calviac**	**3.74**	**111**	*e*Pn	Pn	03 20 41.7	-1.5
CAF	**Calviac**	**3.74**	**111**	*e*Pg	Pb	03 20 53.5	+2.3
CAF				*e*Sn	Sn	03 21 23.3	-4.4
CAF				*e*Sg	Sg	03 21 41.4	-3.3
	4.3nm,0.2s						
CAF	**Calviac**	**3.74**	**111**	*e*Pn	Pn	03 20 41.7	-1.5
CAF	**Calviac**	**3.74**	**111**	*e*Pg	Pb	03 20 53.5	+2.3
CAF				*e*Sn	Sn	03 21 23.3	-4.4
CAF				*e*Sg	Sg	03 21 41.4	-3.3
	2.2nm,0.2s						
ETSF	**Etsaut**	**3.84**	**154**	*e*Pn	Pn	03 20 43.0	-1.6
ETSF	**Etsaut**	**3.84**	**154**	*e*Pn	Pn	03 20 43.0	-1.6
BGF	**Bois d'Agland**	**3.94**	**85**	*e*Pn	Pn	03 20 43.0	-2.9
BGF	**Bois d'Agland**	**3.94**	**85**	*e*Pg	Pg	03 20 57.5	-2.6
BGF				*e*Sn	Sn	03 21 27.6	-5.1
BGF				*e*Sg	Sg	03 21 48.3	-2.8
	5.1nm,0.3s						
BGF	**Bois d'Agland**	**3.94**	**85**	*e*Pn	Pn	03 20 43.0	-2.9
BGF	**Bois d'Agland**	**3.94**	**85**	*e*Pg	Pg	03 20 57.5	-2.6
BGF				*e*Sn	Sn	03 21 27.6	-5.1
BGF				*e*Sg	Sg	03 21 48.3	-2.8
	2.5nm,0.3s						
EPF	**Esparros**	**4.04**	**145**	*e*Pn	Pn	03 20 44.6	-2.7
EPF	**Esparros**	**4.04**	**145**	*e*Pg	Pb	03 20 58.4	+2.0
EPF				*e*Sn	Sn	03 21 30.4	-4.8
EPF				*e*Sg	Sg	03 21 51.3	-3.1
	1.7nm,0.3s						
EPF	**Esparros**	**4.04**	**145**	*e*Pn	Pn	03 20 44.6	-2.7
EPF	**Esparros**	**4.04**	**145**	*e*Pg	Pb	03 20 58.4	+2.0
EPF				*e*Sn	Sn	03 21 30.4	-4.8
EPF				*e*Sg	Sg	03 21 51.3	-3.1
	0.9nm,0.3s						
AVF	**Avril sur Loir**	**4.30**	**82**	*e*Pn	Pn	03 20 48.3	-2.5
AVF	**Avril sur Loir**	**4.30**	**82**	*e*Pg	Pg	03 21 04.6	-2.3
AVF				*e*Sn	Sn	03 21 36.0	-5.4
AVF				*e*Sg	Sb	03 21 57.5	+4.5
	1.1nm,0.3s						
AVF	**Avril sur Loir**	**4.30**	**82**	*e*Pn	Pn	03 20 48.3	-2.5
AVF	**Avril sur Loir**	**4.30**	**82**	*e*Pg	Pg	03 21 04.6	-2.3
AVF				*e*Sn	Sn	03 21 36.0	-5.4
AVF				*e*Sg	Sb	03 21 57.5	+4.5
	0.6nm,0.3s						
SSF	**Saint Saulge**	**4.43**	**79**	*e*Pn	Pn	03 20 50.5	-2.1
SSF				*e*Sn	Sn	03 21 39.2	-5.4
SSF	**Saint Saulge**	**4.43**	**79**	*e*Pn	Pn	03 20 50.5	-2.1
SSF				*e*Sn	Sn	03 21 39.2	-5.4
SMF	**Signal de Mont**	**4.63**	**84**	*e*Pn	Pn	03 20 53.1	-2.3
SMF				*e*Sg	Sg	03 22 10.8	-2.4
	0.7nm,0.2s						
SMF	**Signal de Mont**	**4.63**	**84**	*e*Pn	Pn	03 20 53.1	-2.3
SMF				*e*Sg	Sg	03 22 10.8	-2.4
	0.3nm,0.2s						
LOR	**Lormes**	**4.70**	**77**	*e*Pn	Pn	03 20 54.4	-1.8
	baz=263						
LOR				*e*Sn	Sn	03 21 45.8	-5.4
	baz=250						
LOR	**Lormes**	**4.70**	**77**	*e*Pn	Pn	03 20 54.4	-1.8
LOR				*e*Sn	Sn	03 21 45.8	-5.4
MTLF	**Montolieu**	**4.71**	**128**	*e*Pn	Pn	03 20 54.3	-2.2
MTLF				*e*Sn	Sn	03 21 46.0	-5.6
MTLF	**Montolieu**	**4.71**	**128**	*e*Pn	Pn	03 20 54.3	-2.2
MTLF				*e*Sn	Sn	03 21 46.0	-5.6
BAIF	**Baives**	**5.99**	**49**	*e*Pn	Pn	03 21 11.7	-2.2
BAIF	**Baives**	**5.99**	**49**	*e*Pn	Pn	03 21 11.7	-2.2
SMRF	**Simiane la Rot**	**6.42**	**109**	*e*Pn	Pn	03 21 19.0	-1.0
SMRF	**Simiane la Rot**	**6.42**	**109**	*e*Pn	Pn	03 21 19.0	-1.0

IDC 08 03:20:54.4±2.9**, 31.°82S×179.°14W, h0**km**, mb3.3**/2**,**
mb1 3.6/3**, mb1mx3.5**/44**, mbtmp3.4**/3**, ML3.5**/1**, MS3.8**/1**,**
Ms1 3.8/1**, ms1mx2.8**/14**, Error ellipse: s-maj=65.9km s-min=45.1km az=111.0, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.77**	**23**	LR	LR	03 22 32.8	
	comp=Z,2µm,20.7s,baz=257,slow=36						
URZ	**Urewera**	**7.12**	**205**	Pn	Pn	03 22 39.2	-0.6
	0.9nm,0.3s,baz=265,slow=2.9,SNR=11						
URZ				Sn	Sn	03 23 52.3	-9.2
	1.6nm,0.3s,baz=155,slow=21,SNR=11						
ASAR	**Alice Springs**	**42.08**	**269**	P	P	03 28 47.7	-0.5
	0.1nm,0.5s,baz=107,slow=7.4,SNR=2.7						
WRA	**Warramunga Arr**	**43.20**	**274**	P	P	03 28 57.7	+0.3
	0.2nm,0.4s,baz=113,slow=7.9,SNR=11						
FINES	**FINESS Array B**	**146.12**	**338**	PKPbc	PKPdf	03 40 34.9	+0.1
	1.3nm,0.7s,baz=58,slow=5.0,SNR=6.5						

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*ATA **08** 03:23:33.8±0.6, 38.°78N×43.°21E, h24km±6km, ML3.2, MW3.1*
*ISK **08** 03:23:33.1, 38.°81N×43.°29E, h8km, ML2.6/4*
*CSEM **08** 03:23:34.1±0.2, 38.°82N×43.°31E, h10km, ML2.6, Error ellipse: s-maj=4.8km s-min=3.7km az=110.0*
*DDA **08** 03:23:34.1, 38.°81N×43.°30E, h7km, Ml2.6*
ISC 08 03:23:34.5±0.8**, 38.°80N**±0.°02×**43.°31E**±0.°02**, h17**km±7km**,**
n39, σ0.s90/63**, 1D, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.22**	**163**	PG	**Pg**	**03 23 39.8**	**+0.1**
VANB				SG	**Sb**	**03 23 44.7**	**+1.0**
VANB	**Van**	**0.22**	**163**	*e*Pg	**Pg**	**03 23 39.8**	**+0.1**
VANB				*e*Sg	**Sb**	**03 23 44.7**	**+1.0**
VMUR	**Van-Muradiye**	**0.28**	**48**	*i* P	**Pg**	**03 23 40.7**	**-0.1**
VMUR				*i* S	**Sb**	**03 23 45.6**	**0.0**
VMUR	**Van-Muradiye**	**0.28**	**48**	P	**Pg**	**03 23 40.7**	**-0.1**
VMUR				S	**Sb**	**03 23 45.6**	**0.0**
TVAN	**Van**	**0.28**	**164**	*i* P	**Pg**	**03 23 40.1**	**-0.7**
TVAN				*i* S	**Sg**	**03 23 45.0**	**-0.2**
TVAN	**Van**	**0.28**	**164**	P	**Pg**	**03 23 40.1**	**-0.7**
TVAN				S	**Sg**	**03 23 45.0**	**-0.2**
ADCV	**BITLIS_Adilcev**	**0.46**	**271**	*i* P	**Pg**	**03 23 43.7**	**-0.1**
ADCV				*i* S	**Sg**	**03 23 50.2**	**+0.1**
ADCV	**BITLIS_Adilcev**	**0.46**	**271**	P	**Pg**	**03 23 43.7**	**-0.1**
ADCV				S	**Sg**	**03 23 50.2**	**+0.1**
GEVA	**Gevas**	**0.53**	**202**	*i* P	**Pg**	**03 23 43.8**	**-1.3**
GEVA				*e*S	**Sb**	**03 23 52.7**	**0.0**
GEVA				IAML		03 23 55.0	
	comp=Z,72nm,0.3s						
GEVA	**Gevas**	**0.53**	**202**	*i* P	**Pg**	**03 23 43.8**	**-1.3**
GEVA				*i* S	**Sg**	**03 23 52.4**	**+0.2**
GEVA	**Gevas**	**0.53**	**202**	P	**Pg**	**03 23 43.8**	**-1.3**
GEVA				S	**Sg**	**03 23 52.4**	**+0.2**
CLDR	**Caldiran**	**0.58**	**54**	PG	**Pg**	**03 23 44.2**	**-2.0**
CLDR				SG	**Sg**	**03 23 53.9**	**-0.2**
CLDR	**Caldiran**	**0.58**	**54**	*i* P	**Pg**	**03 23 44.7**	**-1.5**
CLDR				*i* S	**Sg**	**03 23 53.6**	**-0.5**
CLDR	**Caldiran**	**0.58**	**54**	*e*Pg	**Pg**	**03 23 44.2**	**-2.0**
CLDR	**Caldiran**	**0.58**	**54**	P	**Pg**	**03 23 44.7**	**-1.5**
CLDR				S	**Sg**	**03 23 53.6**	**-0.5**
TUTA	**Tutak**	**0.71**	**327**	*e*P	**Pg**	**03 23 48.0**	**-0.6**
TUTA				*e*S	**Sb**	**03 23 59.1**	**+0.9**
TUTA				IAML		03 24 00.0	
	comp=Z,104nm,0.2s						
TUTA	**Tutak**	**0.71**	**327**	*i* P	**Pg**	**03 23 48.0**	**-0.6**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TUTA				i S	Sg	03 23 57.5	-0.6
TUTA	Tutak	0.71	327	P	Pg	03 23 48.0	-0.6
TUTA				S	Sg	03 23 57.5	-0.6
AGRB	Hanur-Agry	0.81	342	PG	Pg	03 23 49.0	-1.4
AGRB				SG	Sg	03 24 00.9	-0.3
AGRB	Hanur-Agry	0.81	342	ePg	Pg	03 23 49.0	-1.4
AGRB				eSg	Sg	03 24 00.9	-0.3
GURO	Guroymak-BITLI	1.03	256	PG	Pb	03 23 52.8	-1.1
GURO	Guroymak-BITLI	1.03	256	ePg	Pb	03 23 52.8	-1.1
EKAR	Karacoban	1.07	295	eP	Pb	03 23 53.5	-1.1
IGDI	IGDIR	1.22	29	i P	Pg	03 23 58.1	0.0
IGDI				eS	Sg	03 24 17.2	+3.1
IGDI	IGDIR	1.22	29	i P	Pg	03 24 03.6	+5.5
EATA	Eleskirt	1.23	329	⇓iP	Pn	03 23 57.3	+0.1
EATA				eS	Sg	03 24 16.1	+1.5
EATA	Eleskirt	1.23	329	i P	Pb	03 23 57.6	+0.1
EATA				i S	Sg	03 24 15.6	+1.0
EATA	Eleskirt	1.23	329	P	Pb	03 23 57.6	+0.1
EATA				S	Sg	03 24 15.6	+1.0
SRTM	Siirt_Merkez	1.36	234	i P	Pb	03 23 59.8	+0.3
SRTM				i S	Sn	03 24 16.3	-0.1
SRTM	Siirt_Merkez	1.36	234	P	Pb	03 23 59.8	+0.3
SRTM				S	Sn	03 24 16.3	-0.1
SIRT	Sirnak	1.47	208	PN	Pn	03 24 00.6	+0.4
SIRT	Sirnak	1.47	208	ePn	Pn	03 24 00.6	+0.4
SIRN	S˜–rnak	1.48	209	i P	Pb	03 24 02.2	+0.6
SIRN	S˜–rnak	1.48	209	P	Pb	03 24 02.2	+0.6
DIGO	Kars	1.61	2	eP	Pb	03 24 04.1	+0.1
DIGO	Kars	1.61	2	i P	Pb	03 24 04.3	+0.4
DIGO	Kars	1.61	2	P	Pb	03 24 04.3	+0.4
HOMI	Horasan	1.65	319	eP	Pb	03 24 04.3	-0.3
HOMI	Horasan	1.65	319	i P	Pn	03 24 03.3	+0.4

*ISCJB **08** 03:28:19.7±0.8, 2.°1N±0.°1×101.°3W±0.°1, h10km, mb4.3/64, MS3.5/18, Error ellipse: s-maj=22.8km s-min=8.4km az=136.0*

*IDC **08** 03:28:19.3±0.9, 2.°17N×101.°30W, h0km, mb4.1/14, mb1 4.3/14, mb1mx4.1/44, mbtmp4.1/14, MS3.6/20, Ms1 3.6/20, ms1mx3.4/42, Error ellipse: s-maj=37.9km s-min=15.5km az=53.0*

*NEIC **08** 03:28:20.8±0.4, 2.°01N×101.°36W, h10km, mb4.5/55, Error ellipse: s-maj=13.3km s-min=6.9km az=55.0*

ISC 08 03:28:20.8±0.9, 2.°1N±0.°1×101.°4W±0.°2, h10km, n107, σ1.s05/92, mb4.4/64, MS3.5/18, Galapagos Triple Junction region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
APG	El Apazote	16.76	39	LR	LR	03 37 05.5	
	comp=Z,248nm,20.5s,baz=256,slow=32						
JTS	JuntasAbangare	18.24	63	LR	LR	03 37 16.2	
	comp=Z,134nm,21.7s,baz=322,slow=30						
ZAIG	Zacatecas	20.60	357	ePn	P	03 33 00.6	+0.2
OTAV	Otavalo	22.99	94	eP	P	03 33 27.0	+0.6
	10nm,1.2s						
LPIG	La Paz	23.54	339	LR	LR	03 40 38.9	
	comp=Z,167nm,20.2s,baz=144,slow=32						
LTX	Lajitas	27.19	356	eP	P	03 34 05.5	+0.6
TX31	Lajitas Ar. Si	27.19	356	eP	P	03 34 05.5	+0.6
TXAR	Lajitas Array	27.19	356	P	P	03 34 05.5	+0.7
	1.5nm,0.8s,baz=174,slow=14,SNR=7.5						
TXAR				LR	LR	03 43 51.0	
	comp=Z,256nm,18.9s,baz=0.0,slow=34						
JCT	Junction City	28.28	3	eP	P	03 34 15.4	+0.8
	30nm,1.6s						
MNTX	Cornudas Mount	29.70	353	eP	P	03 34 27.4	+0.3
	7.2nm,1.4s						
RPN	Rapa Nui	30.04	194	LR	LR	03 43 32.4	
	comp=Z,303nm,21.4s,baz=38,slow=30						
SDV	Santo Domingo	31.32	76	P	P	03 34 40.6	-1.2
	5.5nm,0.8s,baz=290,slow=4.6,SNR=7.7						
SDV				LR	LR	03 44 54.2	
	comp=Z,56nm,18.1s,baz=48,slow=32						
SDV	Santo Domingo	31.32	76	eP	P	03 34 42.7	+0.9
	9.1nm,1.0s						
MSTX	Muleshoe	31.75	358	eP	P	03 34 46.0	+0.7
	12nm,1.2s						
113A	Mohawk Valley,	32.67	340	eP	P	03 34 54.7	+1.4
	13nm,1.8s						
ANMO	Albuquerque	33.04	352	LR	LR	03 47 20.1	
	comp=Z,258nm,18.9s,baz=39,slow=35						
MIAR	Mount Ida	33.11	12	eP	P	03 34 57.4	+0.4
	14nm,1.2s						
WUAZ	Wupatki	34.54	346	eP	P	03 35 11.4	+1.8
	8.9nm,1.3s						
T25A	Trinidad	35.00	356	eP	P	03 35 15.0	+1.3
	25nm,1.8s						
MVCO	Mesa Verde	35.57	350	eP	P	03 35 19.6	+1.0
	12nm,1.5s						
S22A	4UR Ranch, Cre	35.85	353	eP	P	03 35 22.4	+1.3
	15nm,1.6s						
WVT	Waverly	36.13	19	eP	P	03 35 23.0	-0.1
	13nm,1.4s						
KNB	Kanab	36.33	344	eP	P	03 35 26.9	+1.8
	13nm,1.5s						
PV05	Paradox Valley	36.52	350	eP	P	03 35 28.1	+1.3
SIUC	Southern Illin	37.18	16	eP	P	03 35 32.4	+0.3
	14nm,1.0s						
TKL	Tuckaleechee C	37.19	24	LR	LR	03 51 18.3	
	comp=Z,40nm,18.2s,baz=162,slow=37						
SMCO	Snowmass	37.27	353	eP	P	03 35 34.6	+1.2
	7.1nm,1.4s						
LPAZ	La Paz	37.57	120	P	P	03 35 37.3	+0.9
	2.0nm,1.0s,baz=305,slow=8.7,SNR=4.8						
LPAZ				LR	LR	03 49 24.2	
	comp=Z,51nm,21.8s,baz=331,slow=34						
LPAZ	La Paz	37.57	120	eP	P	03 35 37.6	+1.2
	3.2nm,1.1s						
Q16A	Castle Valley	37.74	347	eP	P	03 35 38.8	+1.7
	5.8nm,1.2s						
ISCO	Idaho Springs	37.74	355	eP	P	03 35 38.5	+1.3
	4.7nm,1.3s						
TMUT	Trail Mountain	38.11	348	eP	P	03 35 41.6	+1.3
	8.8nm,1.3s						
P17A	Butcher Ranch,	38.18	348	eP	P	03 35 42.1	+1.3
	5.6nm,1.2s						
P18A	Preston Nutter	38.23	349	eP	P	03 35 42.7	+1.3
	17nm,1.7s						
O20A	White River Ci	38.39	352	eP	P	03 35 44.6	+2.1
	19nm,1.5s						
N23A	Red Feather La	38.86	354	eP	P	03 35 47.1	+0.5
	33nm,1.8s						
MPU	Maple Canyon	38.89	347	eP	P	03 35 48.2	+1.4
	15nm,1.5s						
NV01	Mina Array Sit	39.36	339	eP	P	03 35 51.5	+0.8
NVAR	Mina Array Bea	39.36	339	P	P	03 35 51.5	+0.8
	0.8nm,0.8s,baz=167,slow=8.4,SNR=7.0						
NVAR				LR	LR	03 49 01.0	
	comp=Z,60nm,20.3s,baz=258,slow=32						
HDIL	Hopedale	39.83	14	eP	P	03 35 54.8	+0.5
	24nm,1.1s						
WAKR	Walker	39.84	338	eP	P	03 35 56.9	+2.1
	7.3nm,1.3s						
BGU	Big Grassy Mou	40.08	346	eP	P	03 35 58.1	+1.5
	4.1nm,1.1s						
SPUT	South Promonto	40.31	347	eP	P	03 36 00.1	+1.6
	5.5nm,1.1s						
HWUT	Hardware Ranch	40.41	348	eP	P	03 36 00.3	+0.9
	10nm,1.2s						
VCNR	Virginia City	40.62	338	eP	P	03 36 02.8	+1.7
	3.6nm,1.0s						
AFDM	Forest Hills D	40.83	336	eP	P	03 36 04.3	+1.7
	15nm,1.9s						
HVU	Hansel Valley	40.83	347	eP	P	03 36 04.1	+1.2
	12nm,1.5s						
PAHR	Pah Rah Range	40.88	339	eP	P	03 36 05.3	+2.0
	20nm,1.7s						
BW06	Boulder Array	41.16	351	eP	P	03 36 05.9	+0.3
	11nm,1.3s						
PD31	Pinedale Array	41.16	351	eP	P	03 36 06.2	+0.6
PDAR	Pinedale Array	41.16	351	P	P	03 36 05.8	+0.2
	4.2nm,1.0s,baz=152,slow=6.7,SNR=21						
PDAR				LR	LR	03 51 08.8	
	comp=Z,52nm,21.5s,baz=190,slow=33						
PDAR	Pinedale Array	41.16	351	eP	P	03 36 05.1	-0.5
PTGA	Pitinga	41.50	93	eP	P	03 36 08.1	-0.4
	14nm,1.3s						
ORV	Oroville	41.56	336	eP	P	03 36 10.6	+2.0
	6.8nm,1.2s						
ECSD	EROS Data Cent	41.69	5	eP	P	03 36 09.4	-0.3
	20nm,1.7s						
RSSD	Black Hills	41.93	357	eP	P	03 36 13.4	+1.5
	8.4nm,1.2s						
REDW	Red Top Meadow	41.96	350	eP	P	03 36 12.4	+0.2
	14nm,1.5s						
REDW				epP	sP	03 36 18.4	+1.9
LOHW	Long Hollow	42.16	350	eP	P	03 36 13.9	+0.1
	4.7nm,1.0s						
FXWY	Fox Creek	42.26	350	eP	P	03 36 14.7	+0.1
	3.9nm,1.0s						
MOOW	Moose Ponds	42.32	350	eP	P	03 36 15.0	0.0
	5.4nm,1.2s						
HLID	Hailey	42.90	346	eP	P	03 36 21.1	+1.3
	6.6nm,1.4s						
SIV	San Ignacio	43.69	116	P	P	03 36 26.1	-0.3
	0.6nm,0.7s,baz=324,slow=12,SNR=3.3						
MCMT	McKenzie Canyo	43.76	348	eP	P	03 36 27.8	+1.1
YBH	Yreka Blue Hor	43.89	337	P	P	03 36 27.7	0.0
	1.8nm,0.9s,baz=72,slow=3.2,SNR=3.0						
GCMT	Greycliff	44.14	352	eP	P	03 36 30.4	+0.7
PINE	Pine Mountain	45.03	340	eP	P	03 36 38.1	+1.3
	10nm,1.2s						
SADO	Sadowa	46.83	22	LR	LR	03 55 39.4	
	comp=Z,39nm,21.6s,baz=294,slow=35						
NEW	Newport	47.97	346	P	P	03 36 59.2	-0.5
	2.8nm,0.9s,baz=245,slow=19						
NEW				LR	LR	03 54 05.6	
	comp=Z,58nm,18.7s,baz=172,slow=32						
ULM	Lac du Bonnet	48.22	5	P	P	03 36 59.5	-2.0
	3.7nm,0.8s,baz=52,slow=0.7,SNR=3.3						
ULM				LR	LR	03 57 31.5	
	comp=Z,87nm,18.2s,baz=38,slow=36						
CPUP	Villa Florida	51.04	127	P	P	03 37 23.9	+0.4
	3.7nm,1.0s,baz=280,slow=9.1,SNR=6.2						
CPUP	Villa Florida	51.04	127	eP	P	03 37 23.9	+0.4
	7.4nm,1.1s						
PLCA	Paso Flores	51.05	150	LR	LR	03 53 35.3	
	comp=Z,91nm,20.7s,baz=330,slow=30						
EDM	Edmonton	51.93	351	eP	P	03 37 29.8	+0.1
	21nm,1.4s						
BBB	Bella Bella	54.70	340	LR	LR	03 58 04.3	
	comp=Z,40nm,20.3s,baz=222,slow=33						
DLBC	Dease Lake	60.53	343	eP	P	03 38 31.8	+0.7
	6.6nm,1.1s						
YKA	Yellowknife Ar	61.08	353	P	P	03 38 33.6	-1.0
	2.3nm,1.0s,baz=161,slow=6.6,SNR=27						
YKB5	Yellowknife Ar	61.08	353	eP	P	03 38 33.6	-1.0
BESE	Bessie Mountai	62.13	341	eP	P	03 38 43.0	+1.0
	7.9nm,1.2s						
DAWY	Dawson	67.75	343	eP	P	03 39 18.5	0.0
	9.5nm,1.4s						
EGAK	Eagle	68.80	343	eP	P	03 39 25.4	+0.5
	5.5nm,1.1s						
INK	Inuvik	69.63	348	P	P	03 39 29.9	-0.2
	3.6nm,1.0s,baz=155,slow=7.3,SNR=9.6						
INK	Inuvik	69.63	348	eP	P	03 39 29.8	-0.2
	6.3nm,1.1s						
IL1	Eielson Array	70.57	341	eP	P	03 39 34.7	-1.1
ILAR	Eielson Array	70.57	341	P	P	03 39 34.8	-1.1
	1.6nm,0.9s,baz=160,slow=4.7,SNR=8.7						
ILB	Eielson Array	70.57	341	eP	P	03 39 34.8	-1.1
CAST	Castle Rocks	71.52	338	eP	P	03 39 41.5	-0.2
	12nm,1.3s						
MLY	Manley	72.01	340	eP	P	03 39 44.7	+0.1
	12nm,1.4s						
RES	Resolute Bay	72.62	2	P	P	03 39 46.5	-1.5
	2.7nm,0.9s,baz=193,slow=9.6,SNR=11						
RES	Resolute Bay	72.62	2	eP	P	03 39 47.2	-0.8
	3.7nm,0.9s						
COLD	Coldfoot	73.18	342	eP	P	03 39 52.2	+0.7
	19nm,1.9s						
BORG	Borgarnes	83.88	25	LR	LR	04 20 48.2	
	comp=Z,16nm,18.8s,baz=189,slow=38						
H11S2	WAKE ISLAND Hy	91.17	288	T	T	05 22 30.1	
	baz=86,slow=74,SNR=5.4						
H11S1	WAKE ISLAND Hy	91.17	288	T	T	05 22 25.1	
	baz=86,slow=74,SNR=4.3						
H11S3	WAKE ISLAND Hy	91.19	288	T	T	05 22 33.1	
	baz=86						
QSPA	South Pole Qui	92.10	180	LR	LR	04 14 12.4	
	comp=Z,36nm,21.8s,baz=194,slow=30						
SPITS	Spitsbergen Ar	93.48	11	LR	LR	04 24 38.0	
	comp=Z,50nm,19.1s,baz=15,slow=36						
NOA	NORSAR Array B	98.94	27	LR	LR	04 25 04.7	
	comp=Z,5.5nm,19.0s,baz=280,slow=34						
WR1	Warramunga Arr	122.81	248	ePKPdf	PKPdf	03 47 17.5	-0.6
WRA	Warramunga Arr	122.81	248	PKP	PKPdf	03 47 17.5	-0.6
	0.8nm,1.0s,baz=94,slow=2.5,SNR=4.9						
SONA0	Songino Array	124.69	338	ePKPdf	PKPdf	03 47 20.2	-0.9
SONM	Songino Array	124.69	338	PKP	PKPdf	03 47 20.2	-0.9
	0.2nm,0.5s,baz=165,slow=6.2,SNR=3.6						
KURK	Kurchatov	127.41	0	ePKPdf	PKPdf	03 47 26.1	+0.2
KURBB	Kurchatov Arra	127.50	0	PKP	PKPdf	03 47 26.2	0.0
	1.1nm,1.0s,baz=343,slow=2.9,SNR=5.1						
MK32	Makanchi Array	131.22	357	ePKPdf	PKPdf	03 47 32.9	-0.6
MKAR	Makanchi Array	131.22	357	PKP	PKPdf	03 47 32.9	-0.6
	0.8nm,1.0s,baz=26,slow=3.4,SNR=5.0						
CM31	Chiang Mai Arr	151.43	316	ePKPbc	PKPbc	03 48 16.6	+0.6
CMAR	Chiang Mai Arr	151.43	316	PKPbc	PKPbc	03 48 16.6	+0.6
	0.9nm,0.3s,baz=331,slow=2.3,SNR=8.4						

IDC 08 03:30:55.7±2.1, 6.°79S×129.°14E, h0km, mb3.5/1, mb1 3.5/4, mb1mx3.3/50, mbtmp3.4/4, ML3.5/2, Error ellipse: s-maj=51.3km s-min=31.8km az=75.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BATI	Baumata	6.39	238	Pn	Pn	03 32 31.8	+0.5
	3.8nm,0.3s,baz=20,slow=4.4,SNR=5.0						
BATI				Sn	Sn	03 33 31.9	-13
	2.9nm,0.3s,baz=117,slow=2.3,SNR=2.8						
WRA	Warramunga Arr	14.02	159	Pn	Pn	03 34 14.6	-1.2
	0.1nm,0.3s,baz=337,slow=14,SNR=9.7						
WRA				Sn	Sn	03 36 38.7	-14
	0.3nm,0.3s,baz=332,slow=23,SNR=7.0						
ASAR	Alice Springs	17.40	165	P	Pn	03 35 00.7	+0.6
	baz=342,slow=11,SNR=2.7						
MKAR	Makanchi Array	67.58	327	P	P	03 41 54.2	0.0
	0.2nm,0.5s,baz=125,slow=7.6,SNR=4.6						

*ISCJB **08** 03:38:19.1±0.4, 32.°15N±0.°02×115.°12W±0.°02, h8km±3km, Error ellipse: s-maj=3.3km s-min=2.9km az=7.9*

*ECX **08** 03:38:21.6±0.6, 32.°14N×115.°19W, h8km, MD3.4, ML3.6, Fault plane solution: NP1:φs30.00000°, δ90.00000°, λ0.00000°.*

*NEIC **08** 03:38:21.0±0.0, 32.°13N×115.°18W, h10km, ML3.4(ECX), ML3.5(PAS), After PAS.*

ISC 08 03:38:18.7±1.2, 32.°12N±0.°02×115.°18W±0.°02, h3km±10km, n84, σ1.s40/123, 2C-5D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MBIG	Mexicali	0.29	357	eP	Pb	03 38 27.1	+0.5
CPBX	Cerro Prieto	0.32	340	eP	Pb	03 38 26.7	-0.5
CPBX				eS	Sb	03 38 31.2	-1.5
CPBX				⇓e		03 38 34.9	
CPBX				IAML		03 38 34.9	
	comp=N,21μm,0.5s						
EMSC	East Mesa	0.64	15	ePg	Pb	03 38 33.0	+0.3
EMSC	East Mesa	0.64	15	⇓iP	Pb	03 38 33.0	+0.3
ECBX	El Chinero	0.65	170	⇑eP	Pb	03 38 33.0	+0.2
ECBX				eS	Sb	03 38 42.4	+0.1
YMD	Yuma Desert	0.69	51	i P	Pb	03 38 33.6	+0.1
YMD	Yuma Desert	0.69	51	⇑iP	Pb	03 38 33.6	+0.1
SGL	Mount Signal	0.70	319	i P	Pb	03 38 33.7	-0.1
SGL	Mount Signal	0.70	319	⇓iP	Pb	03 38 33.7	-0.1
DREC	Desert Rsrch C	0.72	342	ePg	Pn	03 38 35.2	-0.7
DREC	Desert Rsrch C	0.72	342	eP	Pb	03 38 34.4	+0.4
COA	Coachella	0.75	4	ePg	Pb	03 38 34.3	-0.1
ERPC	Ernies Place	0.75	327	ePg	Pn	03 38 35.4	-0.9
WESC	Westside Schoo	0.79	324	ePn	Pn	03 38 37.4	+0.5
WESC				eSg	Sn	03 38 47.7	-1.6
WESC	Westside Schoo	0.79	324	eP	Pb	03 38 35.2	-0.1
YUH	Yuha Desert	0.82	310	i P	Pb	03 38 35.5	-0.3
YUH	Yuha Desert	0.82	310	⇓iP	Pb	03 38 35.5	-0.3
RMX	La Rumorosa	0.90	303	eP	Pg	03 38 36.3	+0.2
RMX				eS	Sg	03 38 47.5	-0.4
RMX	La Rumorosa	0.90	303	eP	Pg	03 38 36.3	+0.2
RMX				eP	Pb	03 38 36.7	-0.5
RMX				eS	Sg	03 38 47.5	-0.4
IKP	In-Ko-Pah, Jac	0.95	304	P	Pb	03 38 37.7	-0.3
	baz=130,SNR=117						
IKP				S	Sb	03 38 50.5	-0.6
	baz=130						
IKP	In-Ko-Pah, Jac	0.95	304	eP	Pb	03 38 37.8	-0.3
GLA	Glamis	0.98	18	P	Pg	03 38 37.5	0.0
	baz=195,SNR=42						
GLA				S	Sg	03 38 50.9	+0.7
	baz=195						
GLA	Glamis	0.98	18	ePg	Pg	03 38 37.5	0.0
GLA				eSg	Sg	03 38 50.3	+0.1
GLA				eSn	Sb	03 38 51.2	-0.6
SWSC	Sam W. Stewart	0.98	328	P	Pg	03 38 37.3	-0.2
	baz=151,SNR=78						
CRR	Carrizo Plain	1.02	319	ePg	Pg	03 38 38.3	0.0
SPX	San Pedro Mart	1.10	193	eP	Pn	03 38 41.0	-0.4
SPX	San Pedro Mart	1.10	193	eP	Pn	03 38 41.0	-0.4
SPX				eS	Sn	03 38 56.4	-0.9
ZAX	El Zacaton	1.11	237	eP	Pb	03 38 40.7	0.0
ZAX				eS	Sb	03 38 55.9	+0.3
ZAX				⇓e		03 38 58.3	
ZAX				IAML		03 38 58.3	
	comp=E,1μm,0.6s						
ERRC	Elmore Ranch	1.14	332	eSg	Sn	03 38 58.1	+0.4
CBKC	Canebrake	1.20	311	ePg	Pn	03 38 43.0	+0.5
CBX	Cerro Bola	1.27	279	eP	Pn	03 38 43.2	-0.5
CBX				eS	Sn	03 39 00.4	-0.9
CBX	Cerro Bola	1.27	279	eP	Pn	03 38 43.2	-0.5
CBX				eS	Sn	03 39 00.4	-0.9
ECNX	Esteban Cantu	1.29	250	eP	Pg	03 38 43.9	+0.4
ECNX				eP	Pg	03 38 44.0	+0.4
MONP2	Monument Peak	1.30	307	P	Pn	03 38 43.0	-1.2
	baz=131,SNR=75						
MONP2				S	Sn	03 39 01.2	-1.0
	baz=131						
113A	Mohawk Valley,	1.36	61	ePn	Pn	03 38 43.6	-1.1
113A				eSn	Sb	03 39 00.1	-2.5
PBX	Punta Banda	1.37	255	eP	Pb	03 38 45.0	-0.1
PBX	Punta Banda	1.37	255	eP	Pb	03 38 45.0	-0.1
BAR	Barrett	1.38	294	ePn	Pn	03 38 44.5	-0.6
BAR				eSg	Sb	03 39 03.1	-0.4
BAR				eSn	Sg	03 39 03.8	+0.6
BC3	Big Chuckawall	1.55	351	P	Pn	03 38 46.0	-1.4
	baz=172,SNR=53						
EML	El Monte Cty P	1.61	299	eSn	Sb	03 39 09.8	0.0
Y12C	Blythe	1.72	18	P	Pn	03 38 48.5	-1.1
	baz=197,SNR=17						
Y12C	Blythe	1.72	18	ePn	Pn	03 38 48.8	-0.8
DPP	Dos Picos Cty	1.73	301	eSn	Sg	03 39 13.9	-0.5
HWB	Hans Werner Br	1.76	302	ePn	Pg	03 38 52.6	+0.2
HWB				eSn	Sg	03 39 14.9	-0.4
109C	Camp Elliot, M	1.80	296	P	Pn	03 38 50.6	-0.2
	baz=119,SNR=65						
CPE	Camp Elliot	1.80	296	ePn	Pg	03 38 53.2	-0.1
CPE				eSn	Sb	03 39 15.6	+0.1
XPFO	Piæon Flat	1.84	325	ePn	Pn	03 38 49.5	-1.9
XPFO				eSn	Sn	03 39 09.7	-5.6
PFO	Pinyon Flats O	1.84	324	P	Pn	03 38 50.0	-1.5
	baz=146,SNR=19						
PFO	Pinyon Flats O	1.84	324	ePn	Pn	03 38 50.0	-1.5
PFO				eSn	Sb	03 39 15.5	-1.2
CRY	Cary Ranch	1.95	318	eSn	Sg	03 39 21.9	+0.4
214A	Organ Pipe Nat	2.02	94	P	Pn	03 38 52.4	-1.3
	baz=271,SNR=33						
214A	Organ Pipe Nat	2.02	94	ePn	Pn	03 38 52.2	-1.5
SVD	Seven Oaks Dam	2.56	321	eSn	Sb	03 39 38.0	+0.7
Y14A	Wickenburg	2.58	45	ePn	Pn	03 39 01.7	+0.2
GMRC	Granite Mounta	2.69	352	P	Pn	03 39 02.3	-0.8
	baz=172,SNR=6.7						
LDFC	Landfair	2.95	1	ePn	Pn	03 39 06.6	-0.2
BFSC	Mount Baldy Ra	2.97	316	ePn	Pn	03 39 08.6	+1.7
W13A	Hualapai Mount	3.16	20	ePn	Pn	03 39 10.5	+0.8
W13A				ePg	Pg	03 39 18.1	-1.3
W13A				eSg	Sb	03 39 57.2	+2.3
MWC	Mount Wilson	3.20	312	ePg	Pg	03 39 18.6	-1.5
MWC				eSg	Sg	03 39 58.8	-2.9
PASC	Pasadena Art C	3.25	310	ePn	Pn	03 39 11.3	+0.6
PASC				ePg	Pg	03 39 19.9	-1.1
PASC				eSn	Sn	03 39 50.3	+0.3
PASC				eSg	Sb	03 39 59.7	+2.6
TUC	Tucson	3.73	86	ePn	Pn	03 39 17.9	+0.6
CCCA	Chr Cany lake	3.86	332	ePg	Pb	03 39 29.9	+2.4
X16A	Lo Mia Camp, P	3.88	53	ePn	Pn	03 39 20.2	+0.7
ARVC	Arvin	4.28	316	ePn	Pb	03 39 34.7	+0.1
ARVC				ePg	Pg	03 39 44.4	+3.7
ARVC				eSn	Sn	03 40 18.4	+3.1
SHPR	Sheep Range	4.38	0	ePn	Pn	03 39 27.7	+1.3
WORM	Onyx Ranch	4.39	325	ePn	Pb	03 39 35.3	-1.3
WORM				ePg	Pg	03 39 40.4	-2.4
ISA	Isabella, Lake	4.47	323	ePn	Pn	03 39 28.6	+1.0
ISA				ePg	Pg	03 39 42.8	-1.8
ISA				eSg	Sg	03 40 39.7	-2.8
DAC	Darwin (Calif)	4.61	335	ePg	Pg	03 39 46.5	-0.5
WUAZ	Wupatki	4.64	42	ePn	Pn	03 39 30.0	0.0
TPNV	Topopah Spring	4.90	350	ePg	Pg	03 39 54.4	+1.8
U15A	North Rim	4.92	28	ePn	Pn	03 39 35.7	+1.8
X18A	Snowflake	4.99	60	ePn	Pn	03 39 36.1	+1.2
319A	Douglas	5.08	97	ePn	Pn	03 39 36.3	+0.4
LCMT	Little Creek M	5.14	18	ePn	Pn	03 39 38.1	+1.4
KNB	Kanab	5.26	21	ePn	Pn	03 39 40.2	+1.7
W18A	Petrified Fore	5.44	55	ePn	Pn	03 39 41.6	+0.7
CCUT	Cedar City	5.62	15	ePn	Pn	03 39 41.6	-1.9
CCUT				ePg	Pg	03 40 08.0	+1.5
CCUT				eLg	Lg	03 41 21.8	
SZCU	Shurtz Canyon	5.73	17	ePn	Pn	03 39 46.7	+1.7
PKCU	Pink Cliffs	5.81	23	ePn	Pn	03 39 48.1	+1.8
PKCU				ePg	Pg	03 40 11.0	+0.8
R11A	Troy Canyon, C	6.23	357	ePn	Pn	03 39 52.4	+0.6
R11A				ePg	Pg	03 40 18.9	+0.8
121A	Cookes Peak, D	6.27	84	ePn	Pn	03 39 52.0	-0.4
121A				eSn	Sn	03 41 01.6	-3.1
121A				eSg	Sg	03 41 38.8	-1.4
SBT	San Benito	6.56	314	ePn	Pn	03 39 52.7	-3.5
JHUM	Huhtala Lane,	7.68	313	ePn	Pn	03 40 15.8	+4.2
TX31	Lajitas Ar. Si	10.29	103	ePn	Pn	03 40 50.3	+2.9

*ATA **08** 03:42:21.4±1.3, 38.°85N×43.°55E, h6km±25km, ML3.1, MW3.3*

*ISK **08** 03:42:21.6, 38.°88N×43.°55E, h5km, ML2.8/6*

*CSEM **08** 03:42:22.5±0.2, 38.°89N×43.°56E, h10km, ML2.7, Error ellipse: s-maj=4.9km s-min=3.4km az=102.0*

DDA 08 03:42:22.6, 38.°87N×43.°56E, h13km, Ml2.7, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VMUR	Van-Muradiye	0.12	5	i P	Pg	03 42 25.7	-0.4
VMUR				i S	Sg	03 42 28.8	+0.3
VMUR	Van-Muradiye	0.12	5	P	Pg	03 42 25.7	-0.4
VMUR				S	Sg	03 42 28.8	+0.3
ERCV	ERCIS-VAN	0.23	311	PG	Pg	03 42 26.7	-1.0
ERCV				SG	Sg	03 42 29.9	-1.2
ERCV	ERCIS-VAN	0.23	311	ePg	Pg	03 42 26.7	-1.0
ERCV				eSg	Sg	03 42 29.9	-1.2
VANB	Van	0.30	206	PG	Pb	03 42 29.6	-0.4
VANB				SG	Sb	03 42 35.6	+0.6
VANB	Van	0.30	206	ePg	Pb	03 42 29.6	-0.4
VANB				eSg	Sb	03 42 35.6	+0.6
TVAN	Van	0.36	199	i P	Pg	03 42 29.7	-0.3
TVAN				i S	Sb	03 42 36.7	0.0
TVAN	Van	0.36	199	P	Pg	03 42 29.7	-0.3
TVAN				S	Sb	03 42 36.7	0.0
CLDR	Caldiran	0.39	45	PG	Pg	03 42 29.4	-1.1
CLDR	Caldiran	0.39	45	i P	Pg	03 42 29.6	-0.9
CLDR				i S	Sb	03 42 37.4	-0.2
CLDR	Caldiran	0.39	45	ePg	Pg	03 42 29.4	-1.1
CLDR	Caldiran	0.39	45	P	Pg	03 42 29.6	-0.9
ADCV	BITLIS_Adilcev	0.66	265	i P	Pg	03 42 35.1	-0.3
ADCV				i S	Sg	03 42 44.5	+0.4
ADCV	BITLIS_Adilcev	0.66	265	P	Pg	03 42 35.1	-0.3
ADCV				S	Sg	03 42 44.5	+0.4
DYDN	Diyadin	0.68	8	eP	Pg	03 42 35.7	-0.3
DYDN				eS	Sb	03 42 46.3	+0.4
DYDN	Diyadin	0.68	8	eP	Pg	03 42 35.7	-0.2
DYDN				i Pg	Pb	03 42 36.5	0.0
DYDN				eS	Sn	03 42 48.2	-0.6
DYDN				IAML		03 42 51.5	
	comp=Z,54nm,0.3s						
DYDN	Diyadin	0.68	8	i P	Pg	03 42 36.1	+0.2
DYDN				i S	Sb	03 42 45.8	-0.2
DYDN	Diyadin	0.68	8	P	Pg	03 42 36.1	+0.2
DYDN				S	Sb	03 42 45.8	-0.1
GEVA	Gevas	0.68	215	eP	Pg	03 42 34.7	-1.2
GEVA				eS	Sg	03 42 44.5	-0.4
GEVA				IAML		03 42 54.5	
	comp=Z,55nm,0.4s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
GEVA	Gevas	0.68	215	eP	Pg	03 42 35.0	-0.9
GEVA				eS	Sb	03 42 46.5	+0.6
GEVA	Gevas	0.68	215	i P	Pg	03 42 34.8	-1.1
GEVA				i S	Sb	03 42 47.2	+1.4
GEVA	Gevas	0.68	215	P	Pg	03 42 34.8	-1.1
GEVA				S	Sb	03 42 47.2	+1.4
TUTA	Tutak	0.79	313	eP	Pg	03 42 37.5	-0.4
TUTA				eS	Sb	03 42 48.9	-0.1
TUTA				IAML		03 42 57.4	
	comp=Z,100nm,0.2s						
TUTA	Tutak	0.79	313	eP	Pg	03 42 37.4	-0.5
TUTA				eS	Sn	03 42 50.8	-0.7
TUTA				IAML		03 42 57.4	
	comp=Z,100nm,0.2s						
TUTA	Tutak	0.79	313	i P	Pg	03 42 37.4	-0.5
TUTA				i S	Sb	03 42 49.2	+0.2
TUTA	Tutak	0.79	313	P	Pg	03 42 37.4	-0.5
TUTA				S	Sb	03 42 49.2	+0.2
AGRB	Hanur-Agry	0.83	328	PG	Pg	03 42 37.9	-0.9
AGRB	Hanur-Agry	0.83	328	ePg	Pg	03 42 37.9	-0.9
IGDI	IGDIR	1.07	22	eP	Pb	03 42 43.2	+0.1
IGDI				eS	Sn	03 42 59.3	+1.0
IGDI				IAML		03 43 05.1	
	comp=Z,8.4nm,0.3s						
IGDI	IGDIR	1.07	22	eP	Pg	03 42 43.2	-0.1
IGDI				i Pg	Pn	03 42 45.4	+1.9
IGDI				eS	Sn	03 43 00.8	+2.5
IGDI				IAML		03 43 05.1	
	comp=Z,8.4nm,0.3s						
IGDI	IGDIR	1.07	22	i P	Pg	03 42 43.3	0.0
IGDI				i S	Sn	03 43 00.7	+2.4
EKAR	Karacoban	1.23	289	eP	Pn	03 42 45.7	0.0
EKAR				eS	Sn	03 43 05.0	+2.7
EKAR				IAML		03 43 09.9	
	comp=Z,19nm,0.3s						
EKAR	Karacoban	1.23	289	eP	Pn	03 42 45.5	-0.2
EKAR				eS	Sn	03 43 05.7	+3.5
EKAR				IAML		03 43 09.9	
	comp=Z,19nm,0.3s						
EKAR	Karacoban	1.23	289	i P	Pn	03 42 45.7	+0.1
EKAR				i S	Sn	03 43 05.1	+2.9
EKAR	Karacoban	1.23	289	P	Pn	03 42 45.7	0.0
TASB	TASBURUN-IGDIR	1.23	25	PN	Pn	03 42 45.6	0.0
TASB	TASBURUN-IGDIR	1.23	25	ePn	Pn	03 42 45.6	0.0
GURO	Guroymak-BITLI	1.24	256	PN	Pn	03 42 45.2	-0.5
GURO	Guroymak-BITLI	1.24	256	ePn	Pn	03 42 45.2	-0.5
EATA	Eleskirt	1.29	320	eP	Pn	03 42 46.8	+0.1
EATA	Eleskirt	1.29	320	eP	Pg	03 42 47.9	+0.3
EATA				eS	Sg	03 43 07.3	+3.0
EATA	Eleskirt	1.29	320	i P	Pg	03 42 48.3	+0.8
EATA				i S	Sg	03 43 06.2	+1.9
EATA	Eleskirt	1.29	320	P	Pg	03 42 48.3	+0.8
HAKT	HAKKARI	1.31	175	i P	Pn	03 42 46.7	-0.2
HAKT				i S	Sg	03 43 08.3	+3.3
HAKT	HAKKARI	1.31	175	P	Pn	03 42 46.7	-0.2
YOVA	Hakkari_Yˆ…kse	1.40	156	i P	Pg	03 42 49.2	-0.4
YOVA				i S	Sg	03 43 09.7	+1.9
YOVA	Hakkari_Yˆ…kse	1.40	156	P	Pb	03 42 49.2	+0.4
YOVA				S	Sg	03 43 09.7	+1.8
DIGO	Kars	1.55	355	eP	Pb	03 42 50.8	-0.5
DIGO	Kars	1.55	355	eP	Pb	03 42 50.8	-0.5
DIGO	Kars	1.55	355	i P	Pb	03 42 51.7	+0.3
DIGO				i S	Sg	03 43 14.4	+1.9
DIGO	Kars	1.55	355	P	Pb	03 42 51.7	+0.4
SRTM	Siirt_Merkez	1.56	236	i P	Pg	03 42 51.9	-0.6
SRTM				i S	Sg	03 43 14.6	+1.9
SRTM	Siirt_Merkez	1.56	236	P	Pb	03 42 51.9	+0.6
SIRT	Sirnak	1.63	213	PN	Pn	03 42 51.7	+0.6
SIRT	Sirnak	1.63	213	ePn	Pn	03 42 51.7	+0.6
VRTB	Varto-Mus	1.66	281	PN	Pn	03 42 52.1	+0.5
VRTB	Varto-Mus	1.66	281	ePn	Pn	03 42 52.1	+0.5
HOMI	Horasan	1.74	313	eP	Pb	03 42 54.7	+0.2
HOMI	Horasan	1.74	313	eP	Pb	03 42 54.7	+0.1
KARS	Kars	1.79	348	PN	Pn	03 42 53.5	+0.1
KARS	Kars	1.79	348	ePn	Pn	03 42 53.5	+0.1
EAK	Akyaka	1.81	1	eP	Pg	03 42 57.7	+0.2
EAK	Akyaka	1.81	1	eP	Pg	03 42 57.8	+0.4
EAK	Akyaka	1.81	1	i P	Pg	03 42 59.2	+1.8
SENK	Senkaya-Erzuru	1.93	331	PN	Pn	03 42 55.8	+0.5
SENK	Senkaya-Erzuru	1.93	331	ePn	Pn	03 42 55.8	+0.5
SVAN	Silvan-Diyarba	1.99	250	PN	Pn	03 42 56.6	+0.6
SVAN	Silvan-Diyarba	1.99	250	ePn	Pn	03 42 56.6	+0.6
ERZM	Erzurum	1.99	302	eP	Pb	03 42 59.0	+0.1
ERZM	Erzurum	1.99	302	eP	Pb	03 42 57.8	-1.1
ERZM	Erzurum	1.99	302	i P	Pg	03 42 59.8	-1.0
BNGB	Bingˆ¶l	2.25	274	PN	Pn	03 43 00.4	+0.8
BINT	Bingol	2.40	271	ePn	Pn	03 43 00.4	-1.3
KOPT	Kop Dagi	2.63	297	eP	Pb	03 43 08.7	-1.1
KOPT	Kop Dagi	2.63	297	eP	Pb	03 43 09.8	-0.1
EPOS	Posof	2.71	347	eP	Pn	03 43 08.0	+2.0
BAYB	BAYBURT	2.91	300	eP	Pb	03 43 12.0	-2.4
BAYB	BAYBURT	2.91	300	eP	Pn	03 43 10.9	+2.1
KELT	Kelkit	3.57	292	eP	Pn	03 43 20.5	+2.7

IDC 08 03:45:39.1±3.1**, 23°.90S×69°.69E, h0^{km}, mb3.6**/8**, mb1 3.7**/8**, mb1mx3.5**/64**, mbtmp3.6**/8**, MS3.3**/5**, Ms1 3.3**/5**, ms1mx2.8**/63**, Error ellipse: s-maj=105.2km s-min=26.2km az=42.0, Mid-Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	Diego Carcia H	16.38	10	T	T	04 06 24.2	
	baz=190,slow=76,SNR=35						
H08S2	Diego Garcia H	16.38	10	T	T	04 06 24.3	
	baz=190,slow=76,SNR=40						
H08S3	Diego Garcia H	16.40	10	T	T	04 06 26.2	
	baz=190,slow=76,SNR=31						
LSZ	Lusaka	39.91	275	LR	LR	04 07 36.4	
	comp=Z,60nm,18.1s,baz=179,slow=33						
BOSA	Boshof	39.95	253	LR	LR	04 06 12.7	
	comp=Z,58nm,21.8s,baz=165,slow=31						
LBTB	Lobatse	40.02	259	LR	LR	04 08 08.2	
	comp=Z,59nm,18.9s,baz=115,slow=34						
SUR	Sutherland	43.61	248	LR	LR	04 09 14.6	
	comp=Z,5.0nm,18.1s,baz=164,slow=32						
TSUM	Tsumeb	48.47	265	LR	LR	04 12 32.7	
	comp=Z,50nm,18.8s,baz=64,slow=33						
ASAR	Alice Springs	58.28	104	P	P	03 55 36.4	+0.4
	0.2nm,0.5s,baz=246,slow=6.8,SNR=4.8						
WRA	Warramunga Arr	59.65	100	P	P	03 55 45.0	-0.6
	0.4nm,0.8s,baz=250,slow=10.0,SNR=2.8						
MKAR	Makanchi Array	71.27	9	P	P	03 56 59.7	-0.4
	0.7nm,0.8s,baz=199,slow=7.2,SNR=7.0						
BRTR	Keskin Array B	71.68	331	P	P	03 57 03.0	0.0
	0.2nm,0.5s,baz=147,slow=6.7,SNR=3.3						
KURBB	Kurchatov Arra	74.60	6	P	P	03 57 19.6	-0.2
	0.2nm,0.4s,baz=199,slow=6.9,SNR=3.6						
BVAR	Borovoye Array	76.59	0	P	P	03 57 31.2	+0.1
	0.2nm,0.5s,baz=183,slow=7.7,SNR=2.6						
ZALV	Zalesovo Beam	78.62	9	P	P	03 57 42.9	+0.5
	0.4nm,0.4s,baz=204,slow=3.2,SNR=3.1						
KSRS	Korea Array	81.98	43	P	P	03 58 01.1	+0.2
	1.4nm,0.9s,baz=217,slow=5.8,SNR=3.2						

*KRNET **08** 04:06:50.2±0.1, 39°.94N×75°.98E, mb3.2*
*NNC **08** 04:06:50.1±2.6, 40°.01N×76°.08E, h0^{km}, mb3.5, mpv3.1, Error ellipse: s-maj=22.7km s-min=12.3km az=123.0*
ISC 08 04:06:49.5±1.9**, 39°.98N**±0°.07×**75°.93E**±0°.05**, h4^{km}**±18^{km}**, n22,** σ1^{s}.**31**/31**, 14C-14D, Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRN	Naryn	1.46	2	⇑eP	Pg	04 07 18.0	+0.6
	baz=60						
NRN				⇑iS	Sg	04 07 39.2	+2.9
	baz=60						
SFK	Sufi-Kurgan	1.87	272	⇓Pn	Pg	04 07 24.6	-0.6
	6.2nm,0.3s						
SFK				⇓Lg	Lg	04 07 52.9	
	22nm,0.6s						
SFK	Sufi-Kurgan	1.87	272	⇓iP	Pg	04 07 26.2	+1.0
	baz=73						
SFK				⇓iS	Sg	04 07 51.9	+2.5
	baz=73						
KZA	Kyzart	2.16	346	P	Pg	04 07 31.4	+0.5
	SNR=20						
KZA	Kyzart	2.16	346	⇓eP	Pg	04 07 30.8	-0.1
	baz=46						
KZA				⇓iS	Sg	04 08 00.2	+1.2
	baz=46						
TARG	Taragay, Kyrgy	2.26	38	⇓eP	Pg	04 07 31.9	-0.8
	baz=37						
TARG				⇓iS	Sg	04 08 01.6	-0.4
	baz=37						
ULHL	Ulahol	2.28	6	P	Pg	04 07 32.9	-0.3
	SNR=17						
KDJ	Kajisay	2.35	23	⇑eP	Pb	04 07 32.8	+0.3
	baz=22						
KDJ				⇑eS	Sg	04 08 03.1	-1.9
	baz=22						
UCH	Uchtor	2.49	335	P	Pg	04 07 36.0	-1.2
	SNR=32						
UCH	Uchtor	2.49	335	⇑iP	Pb	04 07 35.5	+0.5
	baz=35						
UCH				⇑iS	Sg	04 08 08.5	-1.1
	baz=35						
BOOM	Boomskoye usch	2.51	0	⇓eP	Pb	04 07 35.7	+0.5
	baz=59						
BOOM				⇓iS	Sb	04 08 08.1	+1.6
	baz=59						
AML	Almayashu	2.74	323	P	Pb	04 07 39.3	0.0
	SNR=11						
AML	Almayashu	2.74	323	⇑eP	Pb	04 07 39.2	0.0
	baz=22						
AML				⇑iS	Sb	04 08 14.3	+1.0
	baz=22						
KBK	Karagaybulak	2.78	345	P	Pg	04 07 42.1	-0.6
	SNR=16						
AAK	Ala-Archa	2.87	338	⇑Pg	Pb	04 07 41.1	-0.2
	5.8nm,0.3s						
AAK				⇑Lg	Lg	04 08 23.3	
	24nm,0.7s						
AAK	Ala-Archa	2.87	338	P	Pb	04 07 41.1	-0.2
	SNR=25						
AAK	Ala-Archa	2.87	338	⇓eP	Pb	04 07 40.7	-0.6
	baz=38						
AAK				⇓iS	Sb	04 08 16.4	-0.5
	baz=38						
TKM2	Tokmak 2	2.95	355	⇑Pg	Pb	04 07 43.4	+0.7
	6.7nm,0.5s						
TKM2				⇓Lg	Lg	04 08 23.9	
	16nm,0.6s						
TKM2	Tokmak 2	2.95	355	P	Pb	04 07 43.3	+0.5
	SNR=24						
USP	Ospenovka	3.46	342	P	Pb	04 07 49.8	-1.5
	SNR=8.5						
MNAS	Manas	3.60	315	⇓Pn	Pb	04 07 50.4	-3.3
	2.5nm,0.5s						
MNAS				⇑Lg	Lg	04 08 45.7	
	3.5nm,0.5s						
KK31	Karatay Array	5.13	309	⇑Pg	Pg	04 08 26.0	-1.7
	0.6nm,0.5s,baz=130,slow=16,SNR=6.7						
KK31				⇑Lg	Lg	04 09 32.8	
	1.0nm,0.4s,baz=126,slow=29,SNR=3.5						

IDC 08 04:10:56.5±2.5**, 4°.53S×135°.72E, h0^{km}, mb3.3**/1**, mb1 3.4**/3**, mb1mx3.2**/49**, mbtmp3.2**/3**, ML2.9**/2**, MS2.6**/2**, Ms1 2.6**/2**, ms1mx2.4**/23**, Error ellipse: s-maj=91.8km s-min=28.6km az=81.0, Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	15.38	185	Pn	Pn	04 14 35.1	0.0
	0.1nm,0.3s,baz=5.5,slow=13,SNR=6.1						
WRA				Sn	Sn	04 17 24.7	-1.6
	0.1nm,0.3s,baz=11,slow=23,SNR=5.3						
ASAR	Alice Springs	19.11	185	P	Pn	04 15 21.6	-0.3
	0.0nm,0.3s,baz=9.0,slow=11,SNR=3.0						
GUMO	Guam	20.16	27	LR	LR	04 23 23.8	
	comp=Z,8.5nm,18.1s,baz=110,slow=37						
HNR	Honiara	24.52	103	LR	LR	04 26 33.2	
	comp=Z,26nm,18.5s,baz=320,slow=38						
MKAR	Makanchi Array	69.45	324	P	P	04 22 06.6	0.0
	0.2nm,0.5s,baz=111,slow=7.9,SNR=2.4						

IDC 08 04:14:27.8±7.4**, 1°.92N×100°.57W, h0^{km}, mb3.5**/5**, mb1 4.0**/5**, mb1mx3.7**/44**, mbtmp3.5**/5**, MS3.4**/10**, Ms1 3.4**/10**, ms1mx3.2**/30**, Error ellipse: s-maj=184.6km s-min=128.0km az=104.0, Galapagos Triple Junction region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	Matias Romero	16.08	20	LR	LR	04 22 52.2	
	comp=Z,193nm,20.5s,baz=169,slow=31						
APG	El Apazote	16.39	37	LR	LR	04 23 14.6	
	comp=Z,177nm,18.8s,baz=256,slow=32						
JTS	JuntasAbangare	17.60	61	LR	LR	04 23 34.1	
	comp=Z,73nm,18.9s,baz=316,slow=31						
LPIG	La Paz	23.98	338	LR	LR	04 26 52.2	
	comp=Z,79nm,19.3s,baz=175,slow=31						
TXAR	Lajitas Array	27.42	354	P	P	04 20 15.7	+0.3
	0.8nm,0.9s,baz=165,slow=11,SNR=2.5						
TXAR				LR	LR	04 30 04.0	
	comp=Z,96nm,20.2s,baz=0.0,slow=34						
ANMO	Albuquerque	33.31	351	LR	LR	04 33 33.2	
	comp=Z,114nm,19.8s,baz=65,slow=34						
TKL	Tuckaleechee C	37.01	23	LR	LR	04 37 30.6	
	comp=Z,27nm,18.5s,baz=29,slow=37						
NVAR	Mina Array Bea	39.80	338	P	P	04 22 02.5	-0.4
	0.6nm,0.8s,baz=129,slow=9.4,SNR=6.5						
PDAR	Pinedale Array	41.45	350	P	P	04 22 16.5	-0.1
	0.5nm,0.6s,baz=150,slow=9.1,SNR=4.8						
PLCA	Paso Flores	50.51	150	LR	LR	04 39 44.8	
	comp=Z,45nm,21.8s,baz=260,slow=30						
YKA	Yellowknife Ar	61.33	353	P	P	04 24 45.0	0.0
	0.4nm,0.9s,baz=160,slow=6.7,SNR=6.0						
ILAR	Eielson Array	70.97	341	P	P	04 25 47.0	0.0
	0.4nm,0.6s,baz=150,slow=5.1,SNR=8.6						
SFJD	Kangerlussuaq	73.54	18	LR	LR	04 58 47.1	
	comp=Z,22nm,18.4s,baz=224,slow=36						
NOA	NORSAR Array B	98.71	27	LR	LR	05 10 12.7	
	comp=Z,13nm,20.6s,baz=80,slow=34						

*ISCJB **08** 04:14:53.7±0.8, 14°.4N±0°.1×86°.78W±0°.10, h10^{km}, mb3.3/5, Error ellipse: s-maj=18.9km s-min=11.3km az=28.1*
*IDC **08** 04:14:54.3±1.4, 14°.45N×86°.78W, h0^{km}, mb3.4/6, mb1 3.7/9, mb1mx3.5/47, mbtmp3.4/9, ML2.8/3, Error ellipse: s-maj=33.2km s-min=14.8km az=10.0*
ISC 08 04:14:55.9±0.9**, 14°.4N**±0°.1×**86°.75W**±0°.10**, h10^{km}, n9,** σ0^{s}.**97**/9**, mb3.3**/5**, Honduras**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APG	El Apazote	3.65	280	Pn	Pn	04 15 52.1	-0.5
	0.5nm,0.3s,baz=95,slow=14,SNR=8.2						
APG				Pg	Pb	04 16 01.5	+0.9
	7.6nm,0.3s,baz=92,slow=14,SNR=47						
APG				Lg	Lg	04 16 47.5	
	15nm,0.3s,baz=99,slow=21,SNR=9.9						
JTS	JuntasAbangare	4.44	157	Pn	Pn	04 16 03.3	0.0
	1.1nm,0.3s,baz=356,slow=18,SNR=5.0						
JTS				Lg	Lg	04 17 10.4	
	2.6nm,0.3s,baz=338,slow=19,SNR=2.2						
CMIG	Matias Romero	8.28	290	Pn	Pn	04 16 54.8	-1.3
	0.1nm,0.3s,baz=128,slow=19,SNR=1.9						
CMIG				Lg	Lg	04 19 15.2	
	0.2nm,0.3s,baz=90,slow=18,SNR=2.1						
SJG	San Juan	20.11	77	P	P	04 19 30.9	+0.8
	2.5nm,0.8s,baz=306,slow=18,SNR=1.7						
TXAR	Lajitas Array	21.58	316	P	P	04 19 47.1	+1.1
	0.5nm,0.6s,baz=129,slow=11,SNR=4.2						
PDAR	Pinedale Array	34.42	330	P	P	04 21 42.0	-1.8
	0.3nm,0.7s,baz=138,slow=9.6,SNR=3.1						
YKA	Yellowknife Ar	51.93	344	P	P	04 24 03.7	-0.9
	0.3nm,0.7s,baz=138,slow=7.9,SNR=10.0						
ILAR	Eielson Array	64.53	336	P	P	04 25 33.0	+0.2
	0.2nm,0.7s,baz=153,slow=4.8,SNR=3.1						
ESDC	Sonseca Array	75.46	52	P	P	04 26 40.3	-0.2
	0.5nm,0.8s,baz=293,slow=6.3,SNR=3.1						

*ISCJB **08** 04:21:36.2±1.4, 14°.3N±0°.1×93°.17W±0°.08, h51^{km}, mb3.7/2, Error ellipse: s-maj=20.4km s-min=7.9km az=25.5*
*IDC **08** 04:21:38.1±4.2, 14°.34N×93°.13W, h39^{km}±31^{km}, mb3.4/2, mb1 3.7/6, mb1mx3.3/46, mbtmp3.5/6, ML3.0/4, Error ellipse: s-maj=61.9km s-min=21.5km az=30.0*
ISC 08 04:21:38.6±1.4**, 14°.3N**±0°.2×**93°.14W**±0°.09**, h51^{km}, n6,** σ0^{s}.**97**/9**, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APG	El Apazote	2.68	75	Pn	Pn	04 22 18.7	-0.8
	2.6nm,0.3s,baz=274,slow=10,SNR=28						
APG				Sn	Sn	04 22 50.7	-0.1
	5.5nm,0.3s,baz=292,slow=15,SNR=4.8						
CMIG	Matias Romero	3.23	329	Pn	Pn	04 22 25.2	-1.6
	1.6nm,0.3s,baz=141,slow=12,SNR=19						
CMIG				Sn	Sn	04 23 03.9	0.0
	3.5nm,0.3s,baz=151,slow=19,SNR=10.0						
JTS	JuntasAbangare	8.95	116	Pn	Pn	04 23 44.8	-0.5
	0.1nm,0.3s,baz=307,slow=20,SNR=4.4						
TXAR	Lajitas Array	17.83	329	P	P	04 25 44.7	+1.3
	0.0nm,0.3s,baz=146,slow=13,SNR=2.9						
NVAR	Mina Array Bea	32.73	322	P	P	04 28 07.1	+0.3
	0.4nm,0.7s,baz=133,slow=10,SNR=4.6						
YKA	Yellowknife Ar	50.47	347	P	P	04 30 31.5	+0.5
	1.1nm,0.7s,baz=152,slow=7.5,SNR=26						
YKA				PcP	PcP	04 31 49.1	+0.6
	0.1nm,0.6s,baz=148,slow=3.6,SNR=3.4						

*NIED **08** 04:27:00, 27°.10N×129°.90E, h11^{km}, Mw3.6 Best double couple: $M_0$3.30000×10^{14} NP1:ϕ_s68.00000°, δ62.00000°, λ-9.00000°. NP2:ϕ_s162.00000°, δ82.00000°, λ-151.00000°.*
JMA 08 04:27:27.9±0.1**, 27°.07N×129°.91E, h53^{km}, M3.8, Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTK	Tokunoshima	1.11	310	P	Pn	04 27 47.7	+0.5
JTK				eS	Sn	04 28 02.0	+0.5
JOKE	Okinoerabujima	1.23	284	P	Pn	04 27 49.3	+0.5
JOKE				S	Sn	04 28 04.1	-0.2
JZK	Kikaishima	1.24	3	P	Pn	04 27 49.7	+0.7
JZK				eS	Sn	04 28 06.1	+1.5
JAMN	Amaminishikomi	1.34	331	P	Pn	04 27 50.6	+0.3
JAMN				S	Sn	04 28 06.4	-0.6
JAM	Amami Oshima	1.36	349	P	Pn	04 27 51.1	+0.5
JAM				S	Sn	04 28 07.4	-0.2
JOW	Kunigami	1.48	261	P	Pn	04 27 53.0	+0.8
JOW				S	Sn	04 28 10.1	-0.3
JMZ	Minamidaito 2	1.71	136	P	Pn	04 27 55.5	+0.2
JMZ				S	Sn	04 28 15.6	-0.5
JIH	Iheya	1.73	269	P	Pn	04 27 56.4	+0.8
JIH				eS	Sn	04 28 16.8	+0.2
JNTH	Nagotoyohara	1.77	252	P	Pn	04 27 56.7	+0.5
JNTH				S	Sn	04 28 16.6	-1.0
JJT3	Tamagusuku3	2.12	245	P	Pn	04 28 01.7	+0.8
JJT3				S	Sn	04 28 26.3	+0.3
JTAJ	Takarajima	2.17	343	P	Pn	04 28 02.0	+0.4
JTAJ				S	Sn	04 28 26.6	-0.6
JAGN	Aguni-jima	2.43	259	P	Pn	04 28 05.9	+0.7
JAGN				S	Sn	04 28 33.2	-0.5
JNN	Nakanoshima	2.76	359	P	Pn	04 28 10.8	+1.1
JNN				eS	Sn	04 28 41.0	-0.8
JKE	Kume jima 2	2.89	256	P	Pn	04 28 12.0	+0.5
JKE				eS	Sn	04 28 44.7	-0.3

IDC 08 04:41:32.1±1.8**, 0°.49N×127°.28E, h0^{km}, mb3.3**/3**, mb1 3.5**/3**, mb1mx3.2**/53**, mbtmp3.3**/3**, MS3.0**/1**, Ms1 3.0**/1**, ms1mx2.4**/26**, Error ellipse: s-maj=168.8km s-min=28.4km az=73.0, Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	21.45	162	P	P	04 46 22.3	+0.1
	0.5nm,0.3s,baz=340,slow=11,SNR=8.7						
ASAR	Alice Springs	24.86	165	P	P	04 46 56.5	-0.1
	0.2nm,0.3s,baz=343,slow=11,SNR=5.5						
KSRS	Korea Array	36.78	1	LR	LR	05 02 59.3	
	comp=Z,27nm,21.4s,baz=190,slow=35						
SONM	Songino Array	50.52	342	P	P	04 50 32.2	-0.1
	0.2nm,0.5s,baz=145,slow=7.9,SNR=2.4						

MAN 08 04:41:53, 12°.76N×123°.55E, h33^{km}, mb4.5, ML3.4, MS3.2, 1C-2D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AUQP	San Andres	1.02	304	eP	Pb	04 42 12.8	+0.7
AUQP				eS	Sb	04 42 29.9	+4.6
PVCP	Virac	1.02	35	eP	Pn	04 42 11.2	+0.2
CNP	Catarman	1.12	103	eP	Pn	04 42 12.8	+0.5
CNP				eS	Sb	04 42 28.0	0.0
RCP	Roxas	1.43	213	⇓eP	Pn	04 42 17.0	+0.4
OTRP	Odiongan	1.54	255	eP	Pn	04 42 19.3	+1.1
GQP	Guinayangan	1.56	317	⇑eP	Pn	04 42 19.8	+1.3
GQP				eS	Sb	04 42 42.0	+1.2
BOAC	Boac	1.80	293	eP	Pn	04 42 23.5	+1.8
BOAC				eS	Sn	04 42 44.4	+0.9
PLP	Palo	2.12	138	⇓eP	Pn	04 42 27.1	+1.0
PLP				eS	Sn	04 42 53.5	+2.2
LLP	Lapu-Lapu	2.46	170	eP	Pb	04 42 34.4	-2.2
LLP				eS	Sn	04 42 58.3	-1.5

*IDC **08** 04:44:42.2±1.0, 17°.90N×147°.68E, h0^{km}, mb3.4/9, mb1 3.6/9, mb1mx3.4/63, mbtmp3.4/9, ML4.0/1, Error ellipse: s-maj=32.5km s-min=19.6km az=95.0*
*ISCJB **08** 04:44:47.8±0.8, 17°.88N±0°.08×147°.4E±0°.2, h53^{km}, mb3.5/8, Error ellipse: s-maj=26.7km s-min=8.9km az=17.2*
ISC 08 04:44:49.3±1.0**, 17°.8N**±0°.1×**147°.5E**±0°.2**, h53^{km}, n13,** σ0^{s}.**75**/11**, mb3.5**/8**, Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	Guam	4.94	212	Pn	Pn	04 46 00.6	-0.5
	6.0nm,0.3s,baz=22,slow=15,SNR=3.5						
GUMO				Sn	Sn	04 46 56.7	-0.2
	1.2nm,0.3s,baz=0.0,slow=20,SNR=2.1						
H11S3	WAKE ISLAND Hy	18.21	85	T	T	05 07 43.1	
	baz=272						
H11S1	WAKE ISLAND Hy	18.22	85	T	T	05 07 47.2	
	baz=272						
H11S2	WAKE ISLAND Hy	18.23	85	T	T	05 07 40.5	
	baz=272						
MJAR	Matsushiro Arr	20.38	338	P	P	04 49 20.2	-1.5
	0.3nm,0.5s,baz=168,slow=10,SNR=3.2						
WRA	Warramunga Arr	39.72	200	P	P	04 52 17.4	+0.6
	0.4nm,0.7s,baz=22,slow=9.4,SNR=4.8						
ASAR	Alice Springs	43.34	198	P	P	04 52 46.5	+0.1
	0.4nm,0.8s,baz=25,slow=8.7,SNR=4.5						
ZALV	Zalesovo Beam	59.76	323	P	P	04 54 48.8	+0.1
	0.8nm,0.7s,baz=112,slow=9.0,SNR=3.8						
MKAR	Makanchi Array	60.32	314	P	P	04 54 53.6	+0.9
	0.2nm,0.5s,baz=96,slow=7.1,SNR=2.6						
KURBB	Kurchatov Arra	63.13	318	P	P	04 55 11.2	-0.3
	0.6nm,0.7s,baz=96,slow=6.8,SNR=5.0						
BVAR	Borovoye Array	68.25	321	P	P	04 55 45.1	+0.7
	0.5nm,0.5s,baz=122,slow=4.6,SNR=4.1						
YKA	Yellowknife Ar	77.92	28	P	P	04 56 41.8	+0.4
	0.2nm,0.6s,baz=285,slow=5.7,SNR=6.6						
NVAR	Mina Array Bea	82.29	52	P	P	04 57 05.1	-0.6
	0.1nm,0.5s,baz=292,slow=5.7,SNR=2.7						

*NNC **08** 04:45:23.4±7.2, 37°.13N×71°.70E, h0^{km}, mb4.2, mpv3.9, Error ellipse: s-maj=60.3km s-min=23.8km az=164.0*
ISC 08 04:45:23.2±3.2**, 37°.1N**±0°.2×**71°.57E**±0°.08**, h10^{km}, n14,** σ2^{s}.**21**/20**, 6C-6D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	Dzherino	2.73	308	⇓Pn	Pb	04 46 12.6	+0.3
	13nm,0.4s						
DZET				⇓Sn	Sb	04 46 46.2	+0.3
	117nm,0.5s						
SFK	Sufi-Kurgan	3.25	27	⇓Pn	Pn	04 46 14.9	+0.5
	46nm,0.4s						
SFK				⇑Sn	Sb	04 46 57.2	-3.5
	14nm,0.2s						
AML	Almayashu	5.25	18	P	Pn	04 46 40.2	-1.9
	SNR=89						
MNAS	Manas	5.39	7	⇑Pn	Pn	04 46 41.9	-1.9
	6.8nm,0.6s						
MNAS				⇑Sn	Sn	04 47 47.9	+1.9
	7.7nm,0.6s						
UCH	Uchtor	5.57	23	P	Pn	04 46 44.6	-1.8
	SNR=14						
KZA	Kyzart	5.69	29	P	Pn	04 46 46.2	-1.9
	SNR=7.2						
EKS2	Erkin-Say	5.77	16	P	Pn	04 46 47.2	-1.8
	SNR=6.2						
AAK	Ala-Archa	5.94	21	⇑Pn	Pn	04 46 50.0	-1.2

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	4.3nm,0.3s						
AAK				⇓Sn	Sn	04 48 03.2	+3.8
	9.8nm,0.7s						
AAK	Ala-Archa	5.94	21	P	Pn	04 46 49.8	-1.5
	SNR=20						
KK31	Karatay Array	6.01	353	⇓Pn	Pn	04 46 50.2	-2.1
	6.1nm,0.3s,baz=175,slow=13,SNR=194						
KK31				⇑Sn	Sn	04 48 02.4	+1.3
	3.9nm,0.3s,baz=186,slow=23						
CHMS	Chumysh	6.34	22	P	Pn	04 46 55.7	-1.1
	SNR=5.7						
USP	Ospenovka	6.52	19	P	Pn	04 46 57.3	-1.9
	SNR=7.1						
TKM2	Tokmak 2	6.55	27	⇑Pn	Pn	04 46 57.9	-1.8
	2.4nm,0.5s						
TKM2				⇓Sn	Sn	04 48 18.1	+3.5
	3.1nm,0.7s						
TKM2	Tokmak 2	6.55	27	P	Pn	04 47 02.1	+2.4
	SNR=8.8						

*ISK **08** 04:53:03.5, 39°.61N×26°.06E, h12km, ML2.1/4*
*ISCJB **08** 04:53:04.0±0.7, 39°.63N±0°.03×26°.04E±0°.05, h11km±5km, Error ellipse: s-maj=6.9km s-min=5.2km az=13.8*
*CSEM **08** 04:53:04.2±0.3, 39°.64N×26°.03E, h12km, ML2.1, Error ellipse: s-maj=7.4km s-min=5.1km az=86.0*
*DDA **08** 04:53:05.2, 39°.67N×26°.13E, h6km, Ml2.7*
ISC 08 04:53:04.2±0.9**, 39°.64N**±0°.03×**26°.03E**±0°.04**, h15**km±8km**, n26, σ0s.91**/39**, Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BOZC	Bozcaada	0.20	5	PG	Pg	04 53 09.1	+0.1
BOZC				SG	Sb	04 53 12.8	-0.5
BOZC	Bozcaada	0.20	5	*i* P	Pg	04 53 09.0	+0.1
BOZC				*i* S	Sg	04 53 12.3	+0.2
BOZC	Bozcaada	0.20	5	*e*Pg	Pg	04 53 09.1	+0.1
BOZC				*e*Sg	Sb	04 53 12.8	-0.5
EZN	Ezine	0.29	51	PG	Pg	04 53 10.0	-0.4
EZN				SG	Sg	04 53 14.9	+0.2
EZN	Ezine	0.29	51	*e*Pg	Pg	04 53 10.0	-0.4
EZN				*e*Sg	Sg	04 53 14.9	+0.2
BAYC	CANAKKALE_Bayr	0.41	76	*i* P	Pg	04 53 12.3	-0.2
BAYC				*i* S	Sg	04 53 17.2	-1.0
BAYC	CANAKKALE_Bayr	0.41	76	P	Pg	04 53 12.3	-0.2
BAYC				S	Sg	04 53 17.2	-1.0
SIGR	SIGRI	0.45	198	PG	Pg	04 53 12.4	-0.8
SIGR				SG	Sg	04 53 18.9	-0.4
SIGR	SIGRI	0.45	198	*e*Pg	Pg	04 53 12.4	-0.8
SIGR				*e*Sg	Sg	04 53 18.9	-0.4
AYVA	Ayvalik	0.61	123	*i* P	Pb	04 53 16.6	+0.1
AYVA				*i* S	Sb	04 53 24.8	-0.1
AYVA	Ayvalik	0.61	123	P	Pb	04 53 16.6	+0.1
AYVA				S	Sb	04 53 24.8	-0.1
GELI	Tayfur-Gelibol	0.83	24	PG	Pb	04 53 20.2	-0.1
GELI	Tayfur-Gelibol	0.83	24	*e*Pg	Pb	04 53 20.2	-0.1
ERIK	Erikli-Kesan	1.09	20	PN	Pn	04 53 24.8	-0.2
ERIK	Erikli-Kesan	1.09	20	*e*Pn	Pn	04 53 24.8	-0.2
KRBG	Karabiga-Canak	1.23	52	PN	Pb	04 53 27.0	-0.1
KRBG	Karabiga-Canak	1.23	52	*e*Pn	Pb	04 53 27.0	-0.1
BALY	Balya	1.23	85	*i* P	Pn	04 53 26.1	-0.8
BALY				*i* S	Sb	04 53 41.6	-1.3
BALY	Balya	1.23	85	P	Pn	04 53 26.1	-0.8
BALY				S	Sb	04 53 41.6	-1.3
ALN	Alexandroupoli	1.26	1	PN	Pb	04 53 27.9	+0.3
ALN	Alexandroupoli	1.26	1	*e*Pn	Pb	04 53 27.9	+0.3
GDZ	Gediz	2.73	101	*i* P	Pn	04 53 48.9	+1.2
GDZ	Gediz	2.73	101	P	Pn	04 53 48.8	+1.2
BOLV	Bolvadin	3.93	102	*i* P	Pn	04 54 07.0	+2.8
BOLV	Bolvadin	3.93	102	P	Pn	04 54 07.0	+2.8
BAGO	Egridir - ISPA	4.07	112	*i* P	Pb	04 54 16.3	+0.8

*IDC **08** 04:54:53.5±1.1, 37°.14N×31°.03E, h116km±13km, mb3.2/4, mb1 3.1/8, mb1mx2.9/64, mbtmp3.4/8, MS3.1/1, Ms1 3.1/1, ms1mx1.9/38, Error ellipse: s-maj=12.5km s-min=10.7km az=116.0*
*ISK **08** 04:54:54.4, 37°.29N×31°.07E, h130km, ML3.2/20*
*ISCJB **08** 04:54:54.2±0.4, 37°.22N±0°.03×31°.07E±0°.03, h133km±3km, mb3.4/4, Error ellipse: s-maj=4.9km s-min=4.1km az=40.5*
*CSEM **08** 04:54:55.1±0.3, 37°.23N×31°.06E, h126km±3km, ML3.2, Error ellipse: s-maj=5.0km s-min=3.9km az=27.0*
*NIC **08** 04:54:57.8±0.5, 37°.17N×31°.07E, h25km, mb4.0, ML3.5*
*DDA **08** 04:55:01.0, 37°.60N×31°.18E, h7km, Ml3.1*
ISC 08 04:54:55.2±0.8**, 37°.23N**±0°.03×**31°.09E**±0°.03**, h127**km±5km**, n95, σ1s.29**/121**, mb3.5**/4**, Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SUTC	Sutluce-Ispart	0.25	344	PG	Pn	04 55 12.2	-0.8
SUTC	Sutluce-Ispart	0.25	344	*e*Pg	Pn	04 55 12.2	-0.8
BCK	Bucak	0.46	300	PG	Pn	04 55 13.7	0.0
BCK				SG	Sn	04 55 27.3	-0.5
BCK	Bucak	0.46	300	*e*Pg	Pn	04 55 13.7	0.0
BCK				*e*Sg	Sn	04 55 27.3	-0.5
ANTB	Antalya	0.48	226	PG	Pn	04 55 14.1	+0.4
ANTB				SG	Sn	04 55 28.1	+0.3
ANTB	Antalya	0.48	226	*e*Pg	Pn	04 55 14.1	+0.4
ANTB				*e*Sg	Sn	04 55 28.1	+0.3
MNVG	Manavgat-Antal	0.51	149	*i* Pg	Pn	04 55 14.3	+0.4
KEPZ	Antalya-Kepez	0.53	128	*i* P	Pn	04 55 14.6	+0.5
KEPZ				*i* S	Sn	04 55 27.9	-0.5
KEPZ	Antalya-Kepez	0.53	128	P	Pn	04 55 14.6	+0.5
KEPZ				S	Sn	04 55 27.9	-0.5
KORT	Korkueli	0.63	249	PG	Pn	04 55 15.5	+0.7
KORT	Korkueli	0.63	249	*i* P	Pn	04 55 15.6	+0.7
KORT				*i* S	Sn	04 55 31.5	+1.7
KORT	Korkueli	0.63	249	P	Pn	04 55 15.6	+0.7
KORT				S	Sn	04 55 31.5	+1.7
BAGO	Egridir - ISPA	0.79	343	*i* P	Pn	04 55 16.5	+0.5
BAGO				*i* S	Sn	04 55 31.6	-0.3
BRDR	BURDUR-Merkez	0.94	300	*i* P	Pn	04 55 17.3	0.0
BRDR				*i* S	Sn	04 55 32.5	-1.6
BRDR	BURDUR-Merkez	0.94	300	P	Pn	04 55 17.3	0.0
BRDR				S	Sn	04 55 32.5	-1.6
DOGA	KONYA_Doganhis	0.99	28	*i* P	Pn	04 55 18.2	+0.4
DOGA				*i* S	Sn	04 55 33.3	-1.7
DOGA	KONYA_Doganhis	0.99	28	P	Pn	04 55 18.2	+0.4
DOGA				S	Sn	04 55 33.3	-1.7
ELL	Elmali	1.06	243	PG	Pn	04 55 19.4	+0.9
ELL	Elmali	1.06	243	*e*Pg	Pn	04 55 19.4	+0.9
KMER	Konya-Meram	1.15	62	*i* P	Pn	04 55 20.3	+0.9
KMER				*i* S	Sn	04 55 37.5	-0.3
KMER	Konya-Meram	1.15	62	P	Pn	04 55 20.3	+0.9
KMER				S	Sn	04 55 37.5	-0.3
GOLH	Golhisar	1.22	271	*i* P	Pn	04 55 20.0	0.0
GOLH				*i* S	Sn	04 55 39.5	+0.5
GOLH	Golhisar	1.22	271	P	Pn	04 55 20.0	0.0
GOLH				S	Sn	04 55 39.5	+0.5
KZIL	AFYON_Kizioren	1.27	324	*i* P	Pn	04 55 20.2	-0.4
KZIL				*i* S	Sn	04 55 36.8	-3.2
KZIL	AFYON_Kizioren	1.27	324	P	Pn	04 55 20.2	-0.4
KZIL				S	Sn	04 55 36.8	-3.2
SHUT	Suhut-Afyon	1.38	342	PN	Pn	04 55 21.3	-0.6
SHUT	Suhut-Afyon	1.38	342	*e*Pn	Pn	04 55 21.3	-0.6
LADK	Ladik-KONYA	1.40	46	PN	Pn	04 55 21.4	-0.6
LADK	Ladik-KONYA	1.40	46	*e*Pn	Pn	04 55 21.4	-0.6
KDHN	Kadinhani	1.52	32	*i* P	Pn	04 55 23.6	+0.2
KDHN				*i* S	Sn	04 55 43.7	-1.3
KDHN	Kadinhani	1.52	32	P	Pn	04 55 23.6	+0.2
KDHN				S	Sn	04 55 43.7	-1.3
AKAS	Kas	1.55	230	PN	Pn	04 55 23.4	-0.4
AKAS	Kas	1.55	230	*e*Pn	Pn	04 55 23.4	-0.4
ERMK	Ermenek	1.58	111	*i* P	Pn	04 55 25.3	+1.2
ERMK				*i* S	Sn	04 55 47.2	+1.0
ERMK	Ermenek	1.58	111	P	Pn	04 55 25.3	+1.2
ERMK	Ermenek	1.58	111	S	Sn	04 55 47.2	+1.0
FETY	Fethiye	1.71	250	PN	Pn	04 55 25.0	-0.5
FETY	Fethiye	1.71	250	*e*Pn	Pn	04 55 25.0	-0.5
BOZY	Bozyazi-Mersin	1.89	126	PN	Pn	04 55 28.3	+0.7
BOZY	Bozyazi-Mersin	1.89	126	*e*Pn	Pn	04 55 28.3	+0.7
TEKE	Tekeli-Mersin	1.96	123	PN	Pn	04 55 29.2	+0.7
TEKE	Tekeli-Mersin	1.96	123	*e*Pn	Pn	04 55 29.2	+0.7
DALY	Dalyan (Mu˜la	1.99	259	PN	Pn	04 55 29.2	+0.4
DALY	Dalyan (Mu˜la	1.99	259	*e*Pn	Pn	04 55 29.2	+0.4
TURN	Turunc	2.02	260	PN	Pn	04 55 33.1	+4.0
TEVE	Tevekalti-Mers	2.05	112	PN	Pn	04 55 30.7	+1.0
TEVE	Tevekalti-Mers	2.05	112	*e*Pn	Pn	04 55 30.7	+1.0
TEPE	Tepekoy-Mersin	2.23	116	PN	Pn	04 55 32.4	+0.5
TEPE	Tepekoy-Mersin	2.23	116	*e*Pn	Pn	04 55 32.4	+0.5
GDZ	Gediz	2.24	326	*i* P	Pn	04 55 31.4	-0.7
GDZ	Gediz	2.24	326	P	Pn	04 55 31.4	-0.7
AKKU	Akkuyu-Mersin	2.25	118	PN	Pn	04 55 32.8	+0.7
AKKU	Akkuyu-Mersin	2.25	118	*e*Pn	Pn	04 55 32.8	+0.7
ESKT	Eskisehir	2.29	355	*i* P	Pn	04 55 35.5	+2.8
SEYT	Eskypehyr	2.29	355	P	Pn	04 55 35.5	+2.8
KULA	Kula-Manisa	2.31	304	PN	Pn	04 55 32.7	-0.1
KULA	Kula-Manisa	2.31	304	*e*Pn	Pn	04 55 32.7	-0.1
ALFC	Alefka	2.41	149	P	Pn	04 55 33.1	-1.0
	baz=328						
ALFC				S	Sn	04 56 00.7	-3.3
ALFC	Alefka	2.41	149	P	Pn	04 55 33.1	-1.0
ALFC	Alefka	2.41	149	S	Sn	04 56 00.7	-3.3
KKUL	Konya-Kulu	2.41	36	*i* P	Pn	04 55 35.4	+1.2
KKUL	Konya-Kulu	2.41	36	P	Pn	04 55 35.4	+1.2
AKMC	Akamas	2.42	155	P	Pn	04 55 33.8	-0.5
	baz=334						
AKMC	Akamas	2.42	155	P	Pn	04 55 33.8	-0.5
SILI	Silifke-Mersin	2.44	110	PN	Pn	04 55 35.1	+0.7
SILI	Silifke-Mersin	2.44	110	*e*Pn	Pn	04 55 35.1	+0.7
PPCY	Paphos	2.56	156	P	Pn	04 55 35.7	-0.2
	baz=336						
PPCY	Paphos	2.56	156	P	Pn	04 55 35.7	-0.2
KIZK	Mersin	2.56	106	PN	Pn	04 55 36.8	+0.8
LEF	Lefka	2.56	145	PN	Pn	04 55 35.0	-1.0
LEF	Lefka	2.56	145	*e*Pn	Pn	04 55 35.0	-1.0
AYDB	Zeytinkoy-Aydi	2.64	287	PN	Pn	04 55 36.9	-0.2
AYDB	Zeytinkoy-Aydi	2.64	287	*e*Pn	Pn	04 55 36.9	-0.2
AUMIH	MIHALICIK	2.65	7	*i* P	Pn	04 55 24.9	-12
SZAC	Souni	2.87	149	P	Pn	04 55 39.7	-0.3
	baz=329						
SZAC				S	Sn	04 56 13.9	-0.7
SZAC	Souni	2.87	149	P	Pn	04 55 39.7	-0.3
SZAC	Souni	2.87	149	S	Sn	04 56 13.9	-0.7
CSS	Mathiatis	2.91	141	PN	Pn	04 55 40.9	+0.4
CSS	Mathiatis	2.91	141	P	Pn	04 55 40.9	+0.4
	baz=320						
CSS	Mathiatis	2.91	141	P	Pn	04 55 40.9	+0.4
DAD	Ankara	2.97	26	*i* P	Pn	04 55 38.2	-3.2
DAD	Ankara	2.97	26	P	Pn	04 55 38.2	-3.2
BODT	Bodrum	3.02	268	PN	Pn	04 55 41.1	-0.8
BODT	Bodrum	3.02	268	*e*Pn	Pn	04 55 41.1	-0.8
BRTR	Keskin Array B	3.19	38	P	Pn	04 55 44.8	+0.5
	0.5nm,0.3s,baz=202,slow=14,SNR=24						
BRTR				S	Sn	04 56 22.6	+0.4
	0.2nm,0.3s,baz=218,slow=22,SNR=9.9						
IDI	Anoyia	5.37	251	P	Pn	04 56 10.7	-2.5
	0.2nm,0.3s,baz=65,slow=14,SNR=2.2						
IDI				S	Sn	04 57 10.7	-3.3
	0.5nm,0.3s,baz=99,slow=19,SNR=4.2						
MMAI	Mount Meron Ar	5.50	139	P	Pn	04 56 14.6	-0.3
	2.7nm,0.3s,baz=316,slow=12,SNR=8.2						
MMAI				S	Sn	04 57 13.8	-3.3
	7.9nm,0.3s,baz=313,slow=27,SNR=9.3						
ASF	Jabal al Asfar	6.96	135	P	Pn	04 56 32.3	-2.3
	0.1nm,0.3s,baz=331,slow=19,SNR=3.0						
ASF				S	Sn	04 57 49.5	-2.8
	0.2nm,0.3s,baz=0.0,slow=20,SNR=2.6						
EIL	Elat	8.20	156	S	Sn	04 58 22.1	-0.4
	1.0nm,0.3s,baz=84,slow=19,SNR=5.0						
AKASG	Malin Array Be	13.53	355	P	P	04 58 07.3	+0.9
	0.4nm,0.3s,baz=179,slow=9.5,SNR=12						
FINES	FINESS Array B	24.44	354	P	P	05 00 01.2	-0.4
	0.6nm,0.4s,baz=170,slow=9.9,SNR=7.0						
ARCES	ARCESS Array B	32.50	356	P	P	05 01 13.0	-0.3
	1.2nm,0.7s,baz=166,slow=8.3,SNR=7.0						
KURBB	Kurchatov Arra	36.07	53	P	P	05 01 44.7	+0.4
	0.2nm,0.3s,baz=273,slow=8.6,SNR=3.3						
KMBO	Kilima Mbogo	38.59	170	LR	LR	05 18 57.6	
	comp=Z,27nm,19.3s,baz=96,slow=38						
MKAR	Makanchi Array	38.62	59	P	P	05 02 06.8	+0.9
	0.4nm,0.6s,baz=282,slow=6.5,SNR=5.9						

*IDC **08** 05:00:27.4±1.2, 24°.77N×110°.36W, h0km, mb3.5/1, mb1 3.9/4, mb1mx3.5/52, mbtmp3.4/4, ML3.7/3, MS3.1/6, Ms1 3.1/6, ms1mx2.8/33, Error ellipse: s-maj=22.7km s-min=8.5km az=92.0*
*ISCJB **08** 05:00:29.1±0.4, 24°.62N±0°.03×110°.10W±0°.04, h15km, mb3.6/1, MS2.8/3, Error ellipse: s-maj=5.2km s-min=4.3km az=29.3*
*MEX **08** 05:00:30.6±0.5, 24°.46N×109°.96W, h5km, MD4.2*
*NEIC **08** 05:00:31.2±0.0, 24°.49N×109°.96W, h5km, mb3.7/7, MD4.1(MEX), After MEX.*
ISC 08 05:00:30.3±0.8**, 24°.52N**±0°.05×**110°.15W**±0°.06**, h15**km**, n58, σ1s.66**/60**, MS2.9**/3**, Baja California**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LPIG	La Paz	0.44	199	Pg	Pb	05 00 39.8	+0.1
	3μm,0.3s,baz=0.0,slow=20,SNR=2074						
LPIG				Lg	Lg	05 00 49.8	
	2μm,0.3s,baz=7.3,slow=19,SNR=26						
LPIG	La Paz	0.44	199	*e*P	Pb	05 00 39.9	+0.1
LPIG				*e*S	Sn	05 00 48.7	-1.1
LPIG	La Paz	0.44	199	*e*Pg	Pb	05 00 39.9	+0.1
LPIG				*e*Sg	Sn	05 00 48.7	-1.1
SRIG	Santa Rosalia	3.37	326	*e*P	Pn	05 01 13.2	-9.1
SRIG				*e*S	Sn	05 02 00.5	-1.6
SRIG	Santa Rosalia	3.37	326	*e*Pn	Pn	05 01 20.9	-1.4
SRIG				*e*Sn	Sn	05 02 00.5	-1.6
SRIG				*e*Sn	Sn	05 02 01.4	-0.6
HSIG		4.54	351	*e*Pn	Pn	05 01 31.8	-6.7
HPIG		4.71	58	*e*P	Pn	05 01 40.8	-0.2
HPIG		4.71	58	*e*Pn	Pn	05 01 40.8	-0.2
HPIG				*e*Sn	Sn	05 02 35.8	+0.4
319A	Douglas	6.87	6	*e*Pn	Pn	05 02 07.0	-3.7
TX31	Lajitas Ar. Si	7.51	49	*e*Pn	Pn	05 02 18.0	-1.4
TX31				*e*Sn	Sn	05 03 43.5	-0.9
TXAR	Lajitas Array	7.51	49	Pn	Pn	05 02 17.9	-1.5
	0.3nm,0.3s,baz=226,slow=14,SNR=9.8						
TXAR				Sn	Sn	05 03 43.5	-1.0
	0.2nm,0.3s,baz=228,slow=25,SNR=5.2						
TXAR				Lg	Lg	05 04 26.3	
	0.1nm,0.3s,baz=239,slow=24,SNR=2.4						
TUC	Tucson	7.78	356	*e*Pn	Pn	05 02 18.0	-5.1
GLA	Glamis	9.44	335	*e*Pn	Pn	05 02 42.4	-3.5
Y14A	Wickenburg	9.71	346	*e*Pn	Pn	05 02 48.3	-1.3
X16A	Lo Mia Camp, P	9.93	354	*e*Pn	Pn	05 02 52.7	0.0
LAZ	Ladron	10.19	14	*e*Pn	Pn	05 02 53.8	-2.5
BORC	Borrego Spring	10.30	329	*e*Pn	Pn	05 03 03.4	+5.8
XPFO	Piæon Flat	10.60	330	*e*Pn	Pn	05 03 01.2	-0.7
XPFO				*e*Sn	Sn	05 05 03.6	+3.2
PFO	Pinyon Flats O	10.61	330	*e*Pn	Pn	05 03 02.0	+0.1
PFO				*e*Sn	Sn	05 05 03.6	+3.1
ANMO	Albuquerque	10.87	16	LR	LR	05 06 31.2	
	comp=Z,71nm,20.5s,baz=263,slow=34						
JCT	Junction City	10.93	55	*e*Pn	Pn	05 03 07.4	+1.1
JCT				*e*Sn	Sn	05 05 11.0	+2.6
W13A	Hualapai Mount	11.03	344	*e*Pn	Pn	05 03 06.3	-1.5
LDFC	Landfair	11.37	339	*e*Pn	Pn	05 03 13.8	+1.5
U15A	North Rim	12.01	352	*e*Pn	Pn	05 03 21.2	-0.1
KNB	Kanab	12.67	350	*e*Pn	Pn	05 03 30.2	+0.1
SHPR	Sheep Range	12.70	341	*e*Pn	Pn	05 03 29.7	-0.9
LCMT	Little Creek M	12.73	349	*e*Pn	Pn	05 03 31.1	+0.1
CCUT	Cedar City	13.28	349	*e*Pn	Pn	05 03 38.5	0.0
DAC	Darwin (Calif)	13.36	333	*e*Pn	Pn	05 03 39.4	-0.1
TPNV	Topopah Spring	13.45	339	*e*Pn	Pn	05 03 41.0	+0.2
MTPU	Mount Pierson	13.59	353	*e*Pn	Pn	05 03 42.9	0.0
Q16A	Castle Valley	14.38	357	*e*Pn	Pn	05 03 53.5	-0.1
R11A	Troy Canyon, C	14.54	343	*e*Pn	Pn	05 03 54.9	-0.9
SRU	San Rafael Swe	14.55	359	*e*Pn	Pn	05 03 54.5	-1.4
P17A	Butcher Ranch,	14.92	358	*e*Pn	Pn	05 03 58.6	-2.2
P18A	Preston Nutter	15.06	360	*e*Pn	Pn	05 04 01.7	-1.2
	8.2nm,1.1s						
NV11	Mina Array Sit	15.45	336	*e*Pn	Pn	05 04 09.5	+1.6
	0.7nm,1.5s						
NV01	Mina Array Sit	15.50	335	*e*Pn	P	05 04 10.9	-2.1
NVAR	Mina Array Bea	15.50	335	Pn	Pn	05 04 06.2	-2.5
	baz=160,slow=12,SNR=4.3						
O20A	White River Ci	15.65	5	*e*Pn	Pn	05 04 11.9	+1.3
	11nm,1.4s						
DUG	Dugway, Tooele	15.79	352	*e*Pn	Pn	05 04 11.7	-0.6
	6.7nm,1.1s						
KVN	Kaiserville	15.97	337	*e*Pn	Pn	05 04 15.1	+0.3
	9.4nm,1.5s						
WAKR	Walker	16.02	333	*e*Pn	P	05 04 22.6	+3.8
	6.5nm,1.2s						
CMIG	Matias Romero	16.06	114	LR	LR	05 10 25.1	
	comp=Z,85nm,20.2s,baz=201,slow=37						
VCNR	Virginia City	16.78	334	*e*Pn	Pn	05 04 25.3	+0.4
	4.6nm,0.8s						
HVU	Hansel Valley	17.35	353	*e*Pn	P	05 04 34.1	+0.6
	3.8nm,1.1s						
BEKR	Beckworth	17.55	333	*e*Pn	P	05 04 37.8	+2.1
	3.3nm,1.0s						
PD31	Pinedale Array	18.21	1	*e*Pn	Pn	05 04 40.7	-2.0
PDAR	Pinedale Array	18.21	1	P	Pn	05 04 40.2	-2.6
	0.1nm,0.3s,baz=160,slow=13,SNR=9.2						
PDAR				LR	LR	05 11 39.2	
	comp=Z,72nm,19.0s,baz=198,slow=37						
PDAR	Pinedale Array	18.21	1	*e*Pn	Pn	05 04 40.9	-1.9
TPAW	Teton Pass	18.93	358	*e*P	Pn	05 04 53.1	+1.5
	4.6nm,1.1s						
FXWY	Fox Creek	19.09	358	*e*P	P	05 04 52.0	-0.6
	3.4nm,1.0s						
MOOW	Moose Ponds	19.19	359	*e*P	P	05 04 52.6	-1.1
	2.6nm,1.0s						
YBH	Yreka Blue Hor	20.09	332	LR	LR	05 12 54.6	
	comp=Z,27nm,21.0s,baz=150,slow=38						
GCMT	Greycliff	21.23	1	*e*P	P	05 05 17.4	+1.7
NEW	Newport	24.33	349	LR	LR	05 15 41.4	
	comp=Z,59nm,21.0s,baz=197,slow=38						
TKL	Tuckaleechee C	25.30	58	LR	LR	05 17 00.3	
	comp=Z,32nm,18.6s,baz=222,slow=39						
ILAR	Eielson Array	46.71	339	P	P	05 08 55.3	-3.1
	0.8nm,1.0s,baz=136,slow=6.3,SNR=4.8						

JMA 08 05:02:07.6±0.1**, 35°.55N**×**141°.03E, h36**km±1km**, M2.5, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CHOJ	Chosi	0.21	318	P	Pn	05 02 14.3	-2.0
CHOJ				S	Sn	05 02 19.1	-5.2
BSO4	Boso 4	0.80	226	P	Pn	05 02 22.6	+0.4
BSO3	Boso 3	0.86	210	P	Pn	05 02 23.1	+0.2
MAT	Matsushiro	2.49	294	P	Pn	05 02 47.1	+1.5
MAT				*e*S	Sn	05 03 14.1	-0.7

*ISCJB **08** 05:16:29.0±0.4, 43°.15N±0°.02×13°.57E±0°.03, h3km±7km, Error ellipse: s-maj=4.8km s-min=3.3km az=139.5*
*CSEM **08** 05:16:29.8±0.2, 43°.12N×13°.50E, h20km, ML3.1/11, Error ellipse: s-maj=4.1km s-min=3.4km az=61.0*
*ROM **08** 05:16:30.0±0.1, 43°.13N×13°.48E, h18km±2km, Md2.4/21, Ml2.3/17, Error ellipse: s-maj=1.5km s-min=1.0km az=68.0*
ISC 08 05:16:28.3±0.9**, 43°.19N**±0°.02×**13°.60E**±0°.02**, h13**km±8km**, n53, σ0s.50**/82**, Central Italy**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GUMA	Gualdo di Mace	0.28	117	Pg	Pg	05 16 34.2	+0.1
GUMA				Sg	Sg	05 16 37.5	-0.5
GUMA	Gualdo di Mace	0.28	117	Pg	Pg	05 16 34.2	+0.1
GUMA				Sg	Sg	05 16 37.5	-0.5
CING	Cingoli	0.35	303	Pg	Pb	05 16 36.8	+0.4
CING				Sg	Sb	05 16 42.0	+0.2
	137nm,0.2s						
CING	Cingoli	0.35	303	Pg	Pb	05 16 36.8	+0.4
CING				Sg	Sb	05 16 42.0	+0.2
	137nm,0.2s						
AOI	Ancona	0.36	1	Pg	Pn	05 16 38.8	-0.5
AOI	Ancona	0.36	1	Pg	Pn	05 16 38.8	-0.5
AOI				Sg	Sn	05 16 46.3	0.0
	170nm,0.2s						
FDMO	Fiordimonte	0.40	248	Pg	Pg	05 16 36.4	+0.1
FDMO				Sg	Sg	05 16 41.5	-0.2
	308nm,0.2s						
FDMO	Fiordimonte	0.40	248	Pg	Pg	05 16 36.4	+0.1
FDMO				Sg	Sg	05 16 41.5	-0.2
	308nm,0.2s						
SNTG	Esanatoglia	0.48	278	Pg	Pg	05 16 38.2	+0.4
SNTG				Sg	Sg	05 16 44.7	+0.4
	363nm,0.2s						
SNTG	Esanatoglia	0.48	278	Pg	Pg	05 16 38.2	+0.4
SNTG				Sg	Sg	05 16 44.7	+0.4
	363nm,0.2s						
NRCA	Norcia	0.50	225	Pg	Pg	05 16 38.2	+0.1
NRCA				Sg	Sg	05 16 44.7	-0.1
	1μm,0.1s						
NRCA	Norcia	0.50	225	Pg	Pg	05 16 38.2	+0.1
NRCA				Sg	Sg	05 16 44.7	-0.1
	1μm,0.1s						
CESI	CESI - Serrava	0.54	250	Pg	Pg	05 16 38.8	-0.1
CESI				Sg	Sg	05 16 45.8	-0.2
	122nm,0.3s						
CESI	CESI - Serrava	0.54	250	Pg	Pg	05 16 38.8	-0.1
CESI				Sg	Sg	05 16 45.8	-0.2
	122nm,0.3s						
TERO	Teramo	0.56	179	Pg	Pb	05 16 40.4	+0.4
TERO	Teramo	0.56	179	Pg	Pb	05 16 40.4	+0.4
ARVD	Arcevia	0.57	303	Pg	Pb	05 16 40.7	+0.6
ARVD				Sg	Sb	05 16 49.1	+0.9
	33nm,0.2s						
ARVD	Arcevia	0.57	303	Pg	Pb	05 16 40.7	+0.6
ARVD				Sg	Sb	05 16 49.1	+0.9
	33nm,0.2s						
SMA1	SAN MARTINO	0.59	199	Pg	Pg	05 16 40.1	+0.3
SMA1				Sg	Sb	05 16 48.7	-0.1
	282nm,0.3s						
SMA1	SAN MARTINO	0.59	199	Pg	Pg	05 16 40.1	+0.3
SMA1				Sg	Sb	05 16 48.7	-0.1
	282nm,0.3s						
CAMP	Campotosto	0.67	192	Pg	Pg	05 16 41.8	+0.5
CAMP				Sg	Sb	05 16 51.4	+0.4
	136nm,0.5s						
CAMP	Campotosto	0.67	192	Pg	Pg	05 16 41.8	+0.5
CAMP				Sg	Sb	05 16 51.4	+0.4
	136nm,0.5s						
ATCC	AVT- Casa Cast	0.70	270	Pg	Pg	05 16 41.8	-0.1
ATCC				Sg	Sb	05 16 51.6	-0.3
	129nm,0.3s						
ATCC	AVT- Casa Cast	0.70	270	Pg	Pg	05 16 41.8	-0.1
ATCC				Sg	Sb	05 16 51.6	-0.3
	129nm,0.3s						
FRON	Frontone	0.71	298	Pg	Pn	05 16 43.4	-0.7
FRON				Sg	Sb	05 16 53.2	+0.8
	13μm,5.5s						
FRON	Frontone	0.71	298	Pg	Pn	05 16 43.4	-0.7
FRON				Sg	Sb	05 16 53.2	+0.8
	13μm,5.5s						
MPAG	Monte Paganucc	0.75	306	Pg	Pn	05 16 44.1	-0.6
MPAG	Monte Paganucc	0.75	306	Pg	Pn	05 16 44.1	-0.6
FSSB	Fossombrone	0.78	310	Pg	Pn	05 16 44.6	-0.4
	130nm,0.3s						
FSSB	Fossombrone	0.78	310	Pg	Pn	05 16 44.6	-0.4
	130nm,0.3s						
MURB	Monte Urbino	0.79	276	Pg	Pg	05 16 43.6	+0.1
MURB				Sg	Sb	05 16 54.7	+0.3
	261nm,0.3s						
MURB	Monte Urbino	0.79	276	Pg	Pg	05 16 43.6	+0.1
MURB				Sg	Sb	05 16 54.7	+0.3
	261nm,0.3s						
AQU	L'Aquila	0.85	190	Pg	Pg	05 16 45.0	+0.4
	81nm,0.3s						
AQU	L'Aquila	0.85	190	Pg	Pg	05 16 45.0	+0.4
	81nm,0.3s						
PIEI	Pieia	0.85	295	Pg	Pb	05 16 45.0	+0.1
	25nm,0.3s						
PIEI	Pieia	0.85	295	Pg	Pb	05 16 45.0	+0.1
	25nm,0.3s						
T0104	Madonna delle	0.85	193	Pg	Pg	05 16 44.8	+0.1
ATVO	AVT- Monte Val	0.89	283	Pg	Pb	05 16 45.3	-0.3
	27nm,0.4s						
ATVO	AVT- Monte Val	0.89	283	Pg	Pb	05 16 45.3	-0.3
	27nm,0.4s						
FAGN	Fagnano	0.92	181	Pg	Pn	05 16 47.2	+0.2
	104nm,0.3s						
FAGN	Fagnano	0.92	181	Pg	Pn	05 16 47.2	+0.2
	104nm,0.3s						
FIAM	Fiamignano	0.98	201	Pg	Pb	05 16 46.7	-0.5
FIAM	Fiamignano	0.98	201	Pg	Pb	05 16 46.7	-0.5
BADI	Badiali	1.04	289	Pg	Pb	05 16 48.0	-0.1
BADI	Badiali	1.04	289	Pg	Pb	05 16 48.0	-0.1
PARC	Parchiule	1.09	295	Pg	Pg	05 16 49.6	+0.3
PARC	Parchiule	1.09	295	Pg	Pg	05 16 49.6	+0.3
MGAB	Montegabbione	1.12	256	Pg	Pb	05 16 49.2	-0.3
MGAB	Montegabbione	1.12	256	Pg	Pb	05 16 49.2	-0.3
NVLJ	Novalja	1.66	33	*e*Pn	Pg	05 16 59.8	-0.3
NVLJ				Sn	Sg	05 17 21.1	-0.4
NVLJ	Novalja	1.66	33	*e*Pn	Pg	05 16 59.7	-0.3
NVLJ				Sn	Sg	05 17 21.1	-0.4
UDBI	Udbina	2.06	49	*e*Pn	Pb	05 17 07.0	+1.3
UDBI				Sn	Sg	05 17 33.3	-1.3

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
UDBI	Udbina	2.06	49	ePn	Pb	05 17 06.9	+1.3
UDBI				Sn	Sg	05 17 33.2	-1.3

IDC 08 05:16:43.6±9.4, 0.80N×99.21W, h0km, mb3.6/4, mb1 4.0/4, mb1mx3.6/38, mbtmp3.6/4, MS2.9/3, Ms1 2.9/3, ms1mx2.6/25, Error ellipse: s-maj=381.6km s-min=135.6km az=100.0, West of Galapagos Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APG	El Apazote	16.55	31	LR	LR	05 25 41.7	
	comp=Z,80nm,21.0s,baz=212,slow=32						
CMIG	Matias Romero	16.74	15	LR	LR	05 24 51.8	
	comp=Z,64nm,20.4s,baz=194,slow=29						
JTS	JuntasAbangare	17.03	56	LR	LR	05 24 57.2	
	comp=Z,21nm,20.6s,baz=349,slow=29						
TXAR	Lajitas Array	28.70	352	P	P	05 22 42.5	-0.2
	0.7nm,0.9s,baz=182,slow=9.0,SNR=4.4						
PDAR	Pinedale Array	42.80	349	P	P	05 24 43.9	+0.4
	1.0nm,0.9s,baz=165,slow=8.1,SNR=7.8						
YKA	Yellowknife Ar	62.62	352	P	P	05 27 09.2	-0.3
	0.5nm,0.9s,baz=161,slow=7.0,SNR=5.9						
ILAR	Eielson Array	72.48	341	P	P	05 28 11.8	0.0
	0.3nm,0.8s,baz=147,slow=6.0,SNR=4.6						

IDC 08 05:33:16.0±9.1, 6.99S×151.06E, h100km±64km, mb2.7/3, mb1 2.9/4, mb1mx2.8/46, mbtmp3.1/4, ML0.7/1, Error ellipse: s-maj=92.9km s-min=46.5km az=111.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	4.55	238	P	Pn	05 34 22.2	-0.4
	0.3nm,0.3s,baz=32,slow=19,SNR=2.6						
PMG				S	Sn	05 35 15.5	+1.2
	3.8nm,0.3s,baz=38,slow=19,SNR=9.5						
WRA	Warramunga Arr	20.71	230	P	P	05 37 46.8	-1.7
	0.3nm,0.4s,baz=57,slow=12,SNR=3.3						
ASAR	Alice Springs	23.38	223	P	P	05 38 16.8	+0.8
	0.1nm,0.4s,baz=53,slow=9.2,SNR=2.4						
MKAR	Makanchi Array	80.85	320	P	P	05 45 19.2	+0.2
	0.1nm,0.3s,baz=101,slow=7.8,SNR=1.8						

*MOS **08** 05:44:04.4±1.0, 4.33N×126.34E, h37km, mb4.8/18, Error ellipse: s-maj=16.2km s-min=6.9km az=106.8*
*DJA **08** 05:44:05.2±0.7, 4°N±7°×12°7E±°, h10km, M4.8/6, mb4.7/6, mB5.1/3, MLv4.9/3, Mw(mB)4.4/3*
*IDC **08** 05:44:06.9±3.5, 4.30N×126.34E, h41km±33km, mb4.2/26, mb1 4.3/27, mb1mx4.1/58, mbtmp4.4/27, ML4.0/1, MS3.3/17, Ms1 3.3/17, ms1mx3.1/54, Error ellipse: s-maj=23.2km s-min=11.7km az=67.0*
*ISCJB **08** 05:44:07.9±0.5, 4.24N±0.03×126.47E±0.04, h72km±5km, mb4.5/71, Error ellipse: s-maj=7.3km s-min=4.4km az=155.1*
*BJI **08** 05:44:09.6, 4.24N×126.64E, h91km, mb4.7/23, mB5.0/14*
*NEIC **08** 05:44:11.4±0.7, 4.21N×126.47E, h89km±6km, mb4.5/29, Error ellipse: s-maj=7.7km s-min=4.6km az=60.0*
ISC 08 05:44:10.6±0.8, 4.20N±0.04×126.36E±0.06, h80km±7km, n159, σ1s66/167, mb4.5/70, 11C-9D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	Sangihe	0.97	239	P	Pn	05 44 27.1	-2.2
SGSI				S	Sn	05 44 42.8	-0.4
GSPH	General Santos	2.35	323⇑	iP	Pn	05 44 42.6	-4.7
DAV	Davao City (W)	2.96	345	P	Pn	05 44 57.7	+2.3
	35nm,0.3s,baz=163,slow=17,SNR=3.7						
DAV				S	Sn	05 45 29.0	-1.0
	74nm,0.3s,baz=180,slow=18,SNR=4.8						
DAV				LR	LR	05 46 20.4	
	comp=Z,678nm,21.2s,baz=150,slow=47						
KCP	Kidapawan	3.07	336⇓	eP	Pn	05 44 55.9	-1.0
KCP				i S	Sn	05 45 40.0	+7.4
TNTI	Ternate	3.55	163	ePn	Pn	05 45 02.6	-0.8
TNTI				eSn	Sn	05 45 46.0	+1.7
BUKP	Musuan	3.88	341	eP	Pn	05 45 05.2	-2.8
BUKP				eS	Sn	05 45 57.1	+4.6
BUTP	Butuan	4.80	351	eP	Pn	05 45 21.8	+1.3
BUTP				eS	Sn	05 46 18.3	+3.5
LBMI	Labuha	4.94	167	P	Pn	05 45 21.6	-0.7
IPIL	Ipil	5.19	314	eP	Pn	05 45 24.4	-1.4
IPIL				eS	Sn	05 46 21.0	-3.3
MRSI	Marisa	5.76	230	P	Pn	05 45 34.6	+1.1
SANI	Sanana	6.21	183	P	Pn	05 45 38.8	-1.0
LUWI	Luwuk	6.32	215	P	Pn	05 45 42.3	+1.1
	338nm,1.1s,1.2nm						
LUWI	Luwuk	6.32	215	ePn	Pn	05 45 45.1	+3.9
APSI	Ampana	6.92	223	P	Pn	05 45 50.2	+0.8
	133nm,0.8s,1µm						
SWI	Sorong	7.02	136	P	Pn	05 45 48.0	-2.7
	45nm,1.0s						
SIJI	Sorong	7.03	136	P	Pn	05 45 48.5	-2.4
	2.8nm,0.3s,baz=323,slow=20,SNR=5.2						
SIJI				LR	LR	05 48 41.9	
	comp=Z,266nm,21.1s,baz=352,slow=39						
MPSI	Mapaga	7.51	239	P	Pn	05 45 58.0	+0.6
	15nm,0.8s,854nm						
MYLDM	Lahad Datu	7.89	277	ePn	Pn	05 46 06.1	+3.4
FAKI	Fak Fak	9.20	140	P	Pn	05 46 18.7	-1.8
FAKI	Fak Fak	9.20	140	ePn	Pn	05 46 19.9	-0.6
TGY	Tagaytay City	11.20	332	LR	LR	05 52 13.4	
	comp=Z,198nm,20.0s,baz=221,slow=44						
SBUM	Sibu	14.22	263	ePn	Pn	05 47 30.0	+1.7
KSM	Kuching	16.26	261	ePn	P	05 47 56.2	+0.3
	15nm,1.0s						
MTN	Manton Dam	17.58	164	eP	P	05 48 08.0	-2.5
	24nm,1.4s						
YULB	Yu-li	19.70	346	eP	P	05 48 33.8	+0.2
	70nm,1.6s						
GUMO	Guam	20.51	62	LR	LR	05 55 13.8	
	comp=Z,65nm,19.1s,baz=120,slow=33						
PMG	Port Moresby	24.74	123	LR	LR	05 59 27.4	
	comp=Z,71nm,19.1s,baz=334,slow=37						
WRAB	Tennant Creek	25.23	162	eP	P	05 49 29.1	-0.2
	22nm,1.1s						
WRAB	Tennant Creek	25.23	162	eP	P	05 49 29.1	-0.2
WRAB				pmax	pmax		
	comp=Z,22nm,1.1s						
WRA	Warramunga Arr	25.24	162	P	P	05 49 29.2	-0.1
	comp=Z,8.6nm,0.9s,baz=342,slow=10.0,SNR=37						
WB2	Warramunga Arr	25.24	162	eP	P	05 49 29.1	-0.3
PSI	Prapat	27.42	268	LR	LR	06 03 07.3	
	comp=Z,58nm,19.0s,baz=39,slow=42						
AS31	Alice Springs	28.65	165	eP	P	05 49 58.2	-1.8
	comp=Z,1.4nm,0.7s						
ASAR	Alice Springs	28.65	165	P	P	05 50 00.5	+0.5
	comp=Z,1.4nm,0.8s,baz=345,slow=7.1,SNR=23						
ASAR				PcP	PcP	05 53 10.6	+1.4
	comp=Z,0.3nm,0.8s,baz=352,slow=1.9,SNR=5.9						
AS01	Alice Springs	28.66	165	eP	P	05 49 59.4	-0.7
GSI	Gunungsitoli	28.89	265	eP	P	05 50 03.2	+1.0
	comp=Z,12nm,1.0s						
JNU	Nakatsue	29.09	8	LR	LR	06 01 12.2	
	comp=Z,41nm,21.5s,baz=118,slow=35						
CM01	Chiang Mai Arr	30.29	300	eP	P	05 50 14.9	+0.3
CMAR	Chiang Mai Arr	30.32	300	P	P	05 50 15.5	+0.7
	comp=Z,1.5nm,0.4s,baz=120,slow=7.1,SNR=7.3						
CMAR				LR	LR	06 04 21.4	
	comp=Z,44nm,18.0s,baz=124,slow=40						
CHTO	Chiang Mai	30.47	301	eP	P	05 50 16.1	0.0
	comp=Z,3.7nm,0.9s						
CHTO	Chiang Mai	30.47	301	eP	P	05 50 16.1	0.0
CHTO				pmax	pmax		
	comp=Z,4.0nm,0.9s						
KMI	Kunming	30.79	315	P	P	05 50 21.3	+2.1
KMI				pmax	pmax		
	comp=Z,6.0nm,0.5s						
CTA	Charters Tower	31.06	142	P	P	05 50 22.9	+1.6
	comp=Z,7.8nm,0.9s,baz=333,slow=13,SNR=6.6						
KSAR	Wonju Array Be	33.12	2	P	P	05 50 38.6	-0.4
KSAR	Wonju Array Be	33.12	2	P	P	05 50 38.7	-0.4
KSRS	Korea Array	33.13	2	P	P	05 50 38.6	-0.6
	comp=Z,2.8nm,0.8s,baz=179,slow=10,SNR=9.5						
KSRS				LR	LR	06 06 35.3	
	comp=Z,21nm,18.9s,baz=176,slow=41						
MAJO	Matsushiro	33.99	17⇑	eP	P	05 50 45.0	-1.7
MAJO				pmax	pmax		
	comp=Z,6.0nm,1.0s						
MJAR	Matsushiro Arr	33.99	17	PcP	PcP	05 53 23.5	+0.3
	comp=Z,1.4nm,1.1s,baz=191,slow=3.0,SNR=2.6						
MJAR				LR	LR	06 02 54.9	
	comp=Z,55nm,21.9s,baz=190,slow=33						
CD2	Chengdu	34.05	324	eP	P	05 50 48.0	+0.6
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,120nm,5.0s						
HNR	Honiara	36.11	112	LR	LR	06 05 05.0	
	comp=Z,34nm,21.1s,baz=338,slow=35						
BJI	Beijing	36.85	347	P	P	05 51 10.6	-0.6
BJI				pmax	pmax		
	comp=Z,21nm,0.7s						
LZH	Lanzhou	37.92	330	eP	P	05 51 21.0	+0.5
LZH				pP	pP	05 51 43.3	+3.8
LZH				sP	sP	05 51 56.1	+7.4
LZH				pmax	pmax		
	comp=Z,23nm,1.1s						
EIDS	Eidsvold	37.94	142	eP	P	05 51 17.8	-2.8
	comp=Z,17nm,1.0s						
STKA	Stephens Creek	38.69	159	P	P	05 51 27.6	+0.8
	comp=Z,4.9nm,0.8s,baz=332,slow=7.9,SNR=8.2						
STKA				LR	LR	06 07 51.3	
	comp=Z,33nm,21.8s,baz=19,slow=37						
STKA	Stephens Creek	38.69	159	eP	P	05 51 27.2	+0.4
	comp=Z,2.6nm,1.2s						
STKA	Stephens Creek	38.69	159	eP	P	05 51 27.2	+0.4
STKA				pmax	pmax		
	comp=Z,3.0nm,1.2s						
HHC	Hu-ho-hao-te	38.84	342	eP	P	05 51 29.8	+1.7
HHC				pmax	pmax		
	comp=Z,31nm,0.9s						
HHC				pmax	pmax		
	comp=Z,93nm,5.8s						
USRK	Ussuriysk Ar.	40.15	6	LR	LR	06 05 53.6	
	comp=Z,45nm,19.6s,baz=160,slow=33						
ARMA	Armidale	42.06	147	eP	P	05 51 55.7	+1.0
	comp=Z,18nm,0.9s						
ASAJ	Asahikawa	42.26	17	P	P	05 51 55.3	-0.8
	comp=Z,4.2nm,0.7s,baz=233,slow=20,SNR=4.4						
GTA	Gaotai	42.51	329	P	P	05 51 57.8	-0.6
GTA				pP	pP	05 52 21.7	+4.1
GTA				sP	sP	05 52 34.7	+7.9
GTA				PcP	PcP	05 53 52.1	+2.3
GTA				S	S	05 58 12.7	-2.3
GTA				sS	sS	05 58 53.2	+5.3
GTA				SS	SS	06 01 17.0	-10
GTA				pmax	pmax		
	comp=Z,5.0nm,0.9s						
GTA				pmax	pmax		
	comp=Z,49nm,5.2s						
GTA				LR	LR		
	comp=Z,110nm,17.1s						
GTA				LR	LR		
	comp=Z,150nm,17.1s						
GTA				LR	LR		
	comp=Z,110nm,15.7s						
ODAN	Odare	43.50	305	eP	P	05 52 06.8	+0.1
RAMN	Ramite	44.18	305	eP	P	05 52 12.5	+0.3
	comp=Z,12nm,0.8s						
JIRN	Jiri	44.80	306	eP	P	05 52 17.4	+0.1
	comp=Z,17nm,0.7s						
KLR	Kul'dur	45.11	5⇓	eP	P	05 52 17.6	-1.2
GUN	Gumba	45.16	306	eP	P	05 52 20.0	0.0
	comp=Z,16nm,0.7s						
PALK	Pallekele	45.52	276	LR	LR	06 13 05.6	
	comp=Z,30nm,18.1s,baz=116,slow=38						
DMN	Daman	45.66	305	eP	P	05 52 23.9	0.0
ULN	Ulaanbaatar	46.56	342⇑	eP	P	05 52 29.8	-0.8
ULN				pmax	pmax		
	comp=Z,4.0nm,1.2s						
SONM	Songino Array	46.74	342	P	P	05 52 31.2	-0.7
	comp=Z,1.4nm,0.6s,baz=150,slow=7.3,SNR=5.9						
SONM				PcP	PcP	05 54 04.8	+0.6
	comp=Z,0.5nm,0.5s,baz=136,slow=2.0,SNR=2.8						
SONA1	Songino Array	46.75	342	eP	P	05 52 31.3	-0.7
KOLN	Koldanda	46.96	305	eP	P	05 52 34.2	+0.2
	comp=Z,24nm,0.7s						
PYUN	Piuthan	47.58	305	eP	P	05 52 39.2	+0.3
	comp=Z,18nm,0.8s						
NKL	Nikolayevsk	50.20	11	eP	P	05 52 56.0	-2.2
NKL				pmax	pmax		
	comp=N,9.0nm,0.9s						
NKL				pmax	pmax		
	comp=Z,11nm,0.9s						
TLY	Talaya	50.98	342	eP	P	05 53 04.3	+0.2
TLY				pmax	pmax		
	comp=Z,4.0nm,0.7s						
MOY	Mondy	51.82	340	eP	P	05 53 11.1	+0.5
WMQ	Urumqi	52.13	325	P	P	05 53 13.7	+0.7
WMQ				pmax	pmax		
	comp=Z,18nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,240nm,4.9s						
WMQ				LR	LR		
	comp=Z,160nm,36.1s						
WMQ				LR	LR		
	comp=Z,88nm,30.9s						
HVS	Khovu-Aksy	54.16	335⇑	eP	P	05 53 27.7	-0.1
HVS				pmax	pmax		
	comp=Z,11nm,1.0s						
BOD	Bodaibo	54.35	352	eP	P	05 53 28.3	-0.6
BOD				pmax	pmax		
	comp=Z,8.0nm,1.7s						
PETK	Petropavlovsk-	55.14	22	P	P	05 53 34.2	-0.5
	comp=Z,3.0nm,0.8s,baz=212,slow=5.1,SNR=4.5						
PETK				LR	LR	06 16 51.6	
	comp=Z,17nm,21.9s,baz=219,slow=36						
MKAR	Makanchi Array	56.97	325	P	P	05 53 47.9	+0.1
	comp=Z,3.2nm,0.6s,baz=125,slow=7.8,SNR=12						
MKAR				PcP	PcP	05 54 42.9	+0.6
	comp=Z,2.7nm,0.8s,baz=123,slow=4.8,SNR=4.4						
MAKZ	Makanchi	57.15	325	eP	P	05 53 48.8	-0.4
	comp=Z,4.8nm,0.8s						
MAKZ	Makanchi	57.15	325	eP	P	05 53 48.8	-0.4
MAKZ				pmax	pmax		
	comp=Z,5.0nm,0.8s						
YAK	Yakutsk	57.76	2	eP	P	05 53 53.0	-0.1
	comp=Z,32nm,0.7s						
YAK	Yakutsk	57.76	2	eP	P	05 53 52.5	-0.6
YAK				pmax	pmax		
	comp=Z,27nm,0.9s						
YAK				pmax	pmax		
	comp=E,3.0nm,0.9s						
YAK				pmax	pmax		
	comp=N,6.0nm,1.0s						
AAK	Ala-Archa	59.77	318	eP	P	05 54 07.7	0.0
	comp=N,1.6nm,0.8s						
AAK	Ala-Archa	59.77	318⇑	eP	P	05 54 07.9	+0.3
AAK				pmax	pmax		
	comp=Z,3.0nm,0.8s						
ZALV	Zalesovo Beam	60.01	333	P	P	05 54 07.5	-1.3
	comp=Z,1.5nm,0.5s,baz=120,slow=8.5,SNR=4.8						
KURBB	Kurchatov Arra	61.15	327	P	P	05 54 16.6	-0.1
	comp=Z,8.2nm,0.7s,baz=124,slow=6.2,SNR=29						
KURK	Kurchatov	61.15	328	eP	P	05 54 15.9	-0.7
	comp=Z,12nm,0.6s						
KURK	Kurchatov	61.15	328d	iP	P	05 54 16.1	-0.6
KURK				pmax	pmax		
	comp=Z,9.0nm,0.6s						
NVS	Novosibirsk	61.29	333	eP	P	05 54 16.4	-1.1
SEY	Seymchan	61.66	13⇓	eP	P	05 54 20.7	+0.8
KK07	Karatay Array	62.64	317	eP	P	05 54 26.9	0.0
KK03	Karatay Array	62.65	317	eP	P	05 54 26.8	-0.2
KK08	Karatay Array	62.66	317	eP	P	05 54 27.1	+0.1
BVAR	Borovoye Array	66.73	327	P	P	05 54 52.5	-0.8
	comp=Z,4.4nm,0.6s,baz=115,slow=6.8,SNR=13						
BRVK	Borovoye	66.80	327	eP	P	05 54 53.1	-0.6
	comp=Z,7.5nm,0.9s						
BRVK	Borovoye	66.80	327⇓	iP	P	05 54 53.2	-0.5
BRVK				pmax	pmax		
	comp=Z,8.0nm,1.0s						
TIXI	Tiksi	67.39	1	eP	P	05 54 56.2	-0.9
	comp=Z,5.5nm,0.7s						
TIXI	Tiksi	67.39	1⇓	eP	P	05 54 56.1	-0.9
TIXI				pmax	pmax		
	comp=Z,5.0nm,0.7s						
BILL	Bilibino	69.20	15⇑	iP	P	05 55 08.0	-0.4
BILL				e		05 57 41.0	
BILL				pmax	pmax		
	comp=Z,2.0nm,0.8s						
BILL				pmax	pmax		
	comp=Z,70nm,20.0s						
GEYT	Alibeck	70.32	309	P	P	05 55 17.1	+1.1
	comp=Z,0.8nm,0.4s,baz=197,slow=3.1,SNR=3.9						
AB08	Akbulak array	71.56	321	eP	P	05 55 23.9	+0.7
AB09	Akbulak array	71.58	321	eP	P	05 55 23.4	+0.1
AKTO	Aktyubinsk	73.07	322	P	P	05 55 31.8	-0.3
	comp=Z,4.0nm,0.7s,baz=90,slow=8.0,SNR=6.8						
AKTO				LR	LR	06 30 17.2	
	comp=Z,32nm,18.9s,baz=93,slow=38						
SVE	Sverdlovsk	73.37	328	eP	P	05 55 33.8	0.0
SVE				pmax	pmax		
	comp=Z,11nm,0.7s						
ARU	Arti	74.35	328	eP	P	05 55 38.8	-0.8
	comp=Z,10nm,0.6s						
ARU	Arti	74.35	328c	iP	P	05 55 38.9	-0.6
ARU				*PP	PcP	05 55 54.0	+0.1
ARU						05 58 20.4	
ARU				S	S	06 05 09.9	+2.5
ARU				SS	SS	06 09 53.8	-1.1
ARU				pmax	pmax		
	comp=Z,9.0nm,0.6s						
KDAK	Kodiak Island	81.70	32	P	P	05 56 20.3	+0.2
	comp=Z,7.4nm,0.7s,baz=264,slow=3.9,SNR=11						
KDAK	Kodiak Island	81.70	32	eP	P	05 56 19.9	-0.2
	comp=Z,9.4nm,0.8s						
NCK	Nalchik	81.88	313⇑	eP	P	05 56 21.9	+0.4
NCK				pmax	pmax		
	comp=Z,19nm,0.4s						
IM3	Indian Mountai	82.07	24	eP	P	05 56 22.3	+0.3
PPLA	Purkeypile	82.39	27	eP	P	05 56 23.9	0.0
CAST	Castle Rocks	82.49	27	eP	P	05 56 24.5	+0.3
	comp=Z,5.4nm,0.7s						
NEY	Neytrino	82.51	313⇑	eP	P	05 56 23.7	-1.3
NEY				pmax	pmax		
	comp=Z,2.0nm,1.6s						
SUA	Susitna One	82.94	29	eP	P	05 56 26.1	-0.6
	comp=Z,6.6nm,0.8s						
BPAW	Bear Paw Mtn.	83.03	26	eP	P	05 56 27.5	+0.4
	comp=Z,5.2nm,0.9s						
MLY	Manley	83.22	25	eP	P	05 56 26.4	-1.7
	comp=Z,5.2nm,0.8s						
TRF	Thorofare Moun	83.29	27	eP	P	05 56 28.7	+0.1
	comp=Z,4.5nm,0.9s						
COLD	Coldfoot	83.61	23	eP	P	05 56 29.5	-0.4
	comp=Z,5.6nm,0.8s						
PMR	Palmer	83.72	29	eP	P	05 56 29.5	-1.1
	comp=Z,4.4nm,0.7s						
PMR	Palmer	83.72	29	eP	P	05 56 29.5	-1.1
PMR				pmax	pmax		
	comp=Z,4.0nm,0.7s						
MCK	McKinley	83.91	26	eP	P	05 56 31.7	+0.1
	comp=Z,7.0nm,0.9s						
VNDA	Vanda	83.93	173	P	P	05 56 32.9	+1.6
	comp=Z,1.7nm,1.0s,baz=308,slow=6.0,SNR=5.2						
RND	Reindeer	83.93	27	eP	P	05 56 31.4	-0.4
	comp=Z,3.7nm,0.9s						
RND	Reindeer	83.93	27	eP	P	05 56 31.4	-0.4
RND				pmax	pmax		
	comp=Z,4.0nm,0.9s						
TOLK	Toolik Lake Re	83.95	21	eP	P	05 56 31.4	-0.3
	comp=Z,4.4nm,0.8s						
SML	Sawmill	84.11	28	eP	P	05 56 32.3	-0.3
	comp=Z,7.4nm,0.8s						
SML	Sawmill	84.11	28	eP	P	05 56 32.3	-0.3
SML				pmax	pmax		
	comp=Z,7.0nm,0.8s						
WRH	Wood River Hil	84.32	26	eP	P	05 56 32.3	-1.3
	comp=Z,16nm,1.7s						
HDA	Harding Lake	84.81	26	eP	P	05 56 34.9	-1.2
	comp=Z,16nm,1.5s						
KLMR	Klimovskoe	84.82	331	eP	P	05 56 33.4	-2.8
KLMR				AMP		05 56 37.5	
	comp=Z,25nm,0.9s						
KLMR	Klimovskoe	84.82	331	eP	P	05 56 33.3	-2.9
KLMR				pmax	pmax		
	comp=Z,25nm,0.9s						
ILAR	Eielson Array	84.84	25	P	P	05 56 36.6	+0.4
	comp=Z,1.2nm,0.8s,baz=250,slow=6.3,SNR=13						
ILB	Eielson Array	84.84	25	eP	P	05 56 33.7	-2.5
OBN	Obninsk	86.47	325⇓	eP	P	05 56 46.0	+1.6
OBN				e		06 00 07.4	
OBN				eS	S	06 07 15.7	+1.5
OBN				pmax	pmax		
	comp=Z,11nm,0.5s						
OBN				MLR	MLR		
	comp=Z,30nm,17.0s						
BRTR	Keskin Array B	89.44	310	P	P	05 56 58.6	-0.6
	comp=Z,1.4nm,0.9s,baz=101,slow=3.9,SNR=6.5						
INK	Inuvik	89.87	21	P	P	05 56 59.8	-0.5
	comp=Z,1.1nm,0.9s,baz=288,slow=3.2,SNR=4.3						
ARCES	ARCESS Array B	89.89	340	P	P	05 57 00.8	+0.4
	comp=Z,3.3nm,0.8s,baz=76,slow=7.6,SNR=5.1						
SPITS	Spitsbergen Ar	89.95	349	P	P	05 57 02.0	+1.4
	comp=Z,6.9nm,1.0s,baz=56,slow=5.4,SNR=5.2						
SPITS	Spitsbergen Ar	89.95	349	P	P	05 57 02.0	+1.4
SPITS	Spitsbergen Ar	89.95	349	P	P	05 57 02.0	+1.4
BR231	Keskin MP Arra	90.09	310	eP	P	05 56 59.2	-3.0
FINES	FINESS Array B	91.25	332	P	P	05 57 07.2	+0.3
	comp=Z,2.1nm,0.8s,baz=76,slow=5.9,SNR=5.1						
AKASG	Malin Array Be	91.30	321	P	P	05 57 06.8	-0.6
	comp=Z,1.5nm,0.7s,baz=64,slow=5.2,SNR=9.0						
VRI	Vrincioaia	93.70	316⇓	iP	P	05 57 19.7	+1.0
MLR	Muntele Rosu	94.31	316⇑	iP	P	05 57 21.1	-0.5
BURAR	Bucovina Array	94.41	318⇑	iP	P	05 57 22.3	+0.3
BUR04	Bucovina Ar. S	94.41	318	eP	P	05 57 21.3	-0.7
BUR08	Bucovina Ar. S	94.42	318	eP	P	05 57 22.0	0.0
BMR	Baia Mare	95.54	319⇓	iP	P	05 57 21.6	-5.4
NOA	NORSAR Array B	98.21	334	P	P	05 57 37.5	-1.4
	comp=Z,1.1nm,0.7s,baz=66,slow=4.5,SNR=3.4						
NOA				LR	LR	06 46 18.6	
	comp=Z,19nm,19.8s,baz=285,slow=38						
YKA	Yellowknife Ar	99.23	24	P	Pdif	05 57 43.0	-0.2
	comp=Z,0.3nm,0.7s,baz=303,slow=4.7,SNR=5.3						
TXAR	Lajitas Array	121.61	52	PKP	PKPdf	06 02 57.4	+1.4
	comp=Z,0.3nm,0.8s,baz=236,slow=2.3,SNR=4.5						
TORD	Torodi Ar. Bea	122.42	288	PKP	PKPdf	06 02 58.5	+0.8
	comp=Z,0.6nm,0.8s,baz=67,slow=1.5,SNR=3.1						
JCT	Junction City	124.03	49	ePKPdf	PKPdf	06 03 01.4	+0.8
JCT	Junction City	124.03	49	ePKIKP	PKPdf	06 03 01.4	+0.8
JTS	JuntasAbangare	145.66	65	PKPbc	PKPab	06 03 42.5	+0.7
	comp=Z,6.9nm,0.8s,baz=7.9,slow=9.4,SNR=6.9						

*NIED **08** 05:44:00, 37.50N×141.50E, h47km, Mw4.2 Best double couple: M₀2.00000×10^15 NP1:φs192.00000°, δ16.00000°, λ76.00000°. NP2:φs26.00000°, δ75.00000°, λ94.00000°.*
*BJI **08** 05:44:47.8, 37.18N×142.37E, h35km, mb4.6/21, mB4.9/12, Ms3.9/7, Ms7 3.8/3*
*MOS **08** 05:44:54.9±1.1, 37.57N×141.63E, h43km, mb4.5/29, Error ellipse: s-maj=8.5km s-min=6.0km az=95.2*
*ISCJB **08** 05:44:55.3±0.5, 37.49N±0.03×141.64E±0.05, h51km±3km, mb4.3/48, MS3.5/6, Error ellipse: s-maj=6.6km s-min=3.9km az=30.9*
*JMA **08** 05:44:57.2±0.1, 37.49N×141.51E, h44km±2km, M4.0*
JMA Felt II J1.
*IDC **08** 05:44:58.1±0.4, 37.48N×141.54E, h53km±3km, mb3.9/26, mb1 4.0/30, mb1mx3.9/64, mbtmp4.1/30, MS3.2/7, Ms1 3.2/7, ms1mx2.8/63, Error ellipse: s-maj=10.9km s-min=7.3km az=128.0*
*NEIC **08** 05:44:58.2±0.5, 37.54N×141.43E, h53km±4km, mb4.4/9, Error ellipse: s-maj=5.4km s-min=4.1km az=130.0*
NEIC Felt at Kawasaki. Recorded [2 JMA] in Fukushima.
ISC 08 05:44:57.3±0.5, 37.47N±0.04×141.64E±0.05, h49km±4km, h49km:pP-P, n150, σ1s50/172, mb4.2/48, MS3.5/7, 10C-9D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	Kawauchi	0.62	260	P	Pn	05 45 08.4	-1.7
JFK				S	Sn	05 45 15.8	-3.4
ONAJ	Iwakimizuishiy	0.77	241	P	Pn	05 45 10.5	-1.5
ONAJ				S	Sn	05 45 19.6	-3.0
JMM	Marumori	0.78	300	P	Pn	05 45 10.6	-1.5
JMM				S	Sn	05 45 19.8	-3.0
JIO	Ouri	1.01	347	P	Pn	05 45 14.5	-0.6
JIO				S	Sn	05 45 26.2	-2.0
JFT	Otama	1.04	273	P	Pn	05 45 14.5	-1.1
JFT				S	Sn	05 45 26.4	-2.7
JOU	Okura	1.18	319	P	Pn	05 45 16.2	-1.3
JOU				S	Sn	05 45 30.8	-1.7
JYS	Shirataka	1.46	301	P	Pn	05 45 20.1	-1.1
JMK	Ichinoseki	1.51	347	P	Pn	05 45 21.6	-0.4
JFY	Yanaizu	1.54	268	P	Pn	05 45 21.2	-1.3
JYK	Kaneyama	1.76	325	P	Pn	05 45 24.8	-0.6
MJAR	Matsushiro Arr	2.90	252	P	Pn	05 45 40.7	-0.4
	13nm,0.3s,baz=80,slow=14,SNR=96						
MJAR				S	Sn	05 46 15.9	+1.2
	9.7nm,0.3s,baz=2.3,slow=2.9,SNR=6.0						

MJAR LR LR 05 47 01.8
comp=Z,395nm,19.0s,baz=75,slow=44
MAJO Matsushiro 2.90 252 *e*Pn **Pn 05 45 41.0 -0.1**
MAJO Matsushiro 2.90 252 *d iP* **Pn 05 45 41.0 -0.1**
MAT Matsushiro 2.90 252 P **Pn 05 45 40.9 -0.2**
MAT S **Sn 05 46 15.2 +0.4**
MJB9 Matsu-Tunnel 2.91 252 *e*Pn **Pn 05 45 41.0 -0.1**
INU Inuyama 4.29 242 *e*Pn **Pn 05 46 00.8 +0.7**
JHJ2 Mitsune 4.60 199 *e*Pn **Pn 05 46 04.1 -0.2**
JHJ Hachijo jima 2 4.60 200 P **Pn 05 46 04.1 -0.3**
47nm,0.3s,baz=318,slow=21,SNR=11
JHJ S **Sn 05 46 55.5 -1.0**
58nm,0.3s,baz=53,slow=20,SNR=8.2
ERM Erimo 4.68 14 *e*Pn **Pn 05 46 06.2 +0.7**
ERM *e*Sn **Sn 05 47 00.7 +2.2**
ERM Erimo 4.68 14⇑ *e*P **Pn 05 46 05.9 +0.5**
ASAJ Asahikawa 6.68 6 P **Pn 05 46 32.3 -0.5**
1.7nm,0.3s,baz=201,slow=13,SNR=12
ASAJ S **Sn 05 47 47.4 -0.1**
1.2nm,0.3s,baz=180,slow=18,SNR=3.1
ASAJ Asahikawa 6.68 6 *e*Pn **Pn 05 46 31.9 -0.8**
ASAJ *e*Sn **Sn 05 47 49.8 +2.4**
GLVR Golovnino 6.92 24 P **Pn 05 46 34.4 -1.7**
GLVR S **Sn 05 47 51.3 -2.1**
GLVR pmax pmax
comp=Z,25nm,0.1s
GLVR pmax pmax
comp=N,24nm,0.2s
GLVR pmax pmax
comp=E,12nm,0.1s
YUK Yuzh-Kuril'sk 7.29 25 P **Pn 05 46 39.4 -1.8**
YUK *e*S **Sn 05 47 59.7 -2.9**
YUK pmax pmax
comp=Z,53nm,0.2s
YUK pmax pmax
comp=N,18nm,0.1s
YUK pmax pmax
comp=E,12nm,0.1s
SHO Shikotan 7.51 30 *e*P **Pn 05 46 42.1 -2.0**
SHO *e*S **Sn 05 48 02.2 -5.6**
SHO pmax pmax
comp=Z,23nm,0.6s
SHO pmax pmax
comp=N,4.0nm,0.2s
SHO pmax pmax
comp=E,8.0nm,0.3s
KUR Kuril'sk 9.05 29 P **Pn 05 47 03.3 -2.0**
KUR *e*S **Sn 05 48 41.2 -4.6**
KUR pmax pmax
comp=Z,17nm,0.6s
KUR pmax pmax
comp=E,12nm,0.2s
KUR pmax pmax
comp=N,10.0nm,0.1s
YSS Yuzh-Sakhalins 9.51 5⇓ *e*P Pn 05 47 20.7 +9.1
YSS pmax pmax
comp=Z,10.0nm,0.9s
JNU Nakatsue 9.81 247 P **Pn 05 47 13.2 -2.6**
comp=Z,0.1nm,0.3s,baz=72,slow=19,SNR=1.6
JNU LR LR 05 51 24.8
comp=Z,138nm,20.5s,baz=106,slow=40
USRK Ussuriysk Ar. 9.93 316 P **Pn 05 47 17.6 +0.3**
comp=Z,0.6nm,0.3s,baz=128,slow=13,SNR=4.4
USRK LR LR 05 50 50.9
comp=Z,151nm,19.2s,baz=139,slow=36
CBIJ Chichi jima 10.36 177 *e*Pn Pn 05 47 18.4 -4.8
KSRS Korea Array 10.91 274 P **Pn 05 47 33.4 +2.6**
comp=Z,0.4nm,0.3s,baz=88,slow=13,SNR=12
KSAR Wonju Array Be 10.94 274 P **Pn 05 47 33.4 +2.2**
KSAR Wonju Array Be 10.94 274 P **Pn 05 47 33.4 +2.2**
MDJ Mudanjiang 11.56 312 P **Pn 05 47 42.4 +2.8**
MDJ sP 05 47 49.6
MDJ S **Sn 05 49 47.8 +0.7**
MDJ pmax pmax
comp=Z,17nm,1.2s
MDJ pmax pmax
comp=Z,110nm,5.2s
MDJ LR LR
comp=Z,220nm,3.8s
MDJ LR LR
comp=Z,180nm,3.0s
TYV Tymovskoe 13.41 3 *e*P **P 05 48 14.2 +1.3**
TYV pmax pmax
comp=Z,6.0nm,0.7s
KLR Kul'dur 13.77 332⇓ *e*P **Pn 05 48 12.0 +2.3**
PETK Petropavlovsk- 19.22 30 LR LR 05 56 26.2
comp=Z,23nm,21.2s,baz=232,slow=36
HIA Hailar 19.73 314⇓ *e*P **P 05 49 21.5 -1.3**
HIA pmax pmax
comp=Z,5.0nm,0.5s
HHC Hu-ho-hao-te 23.51 288 *e*P **P 05 50 02.2 -0.8**
HHC pmax pmax
comp=Z,18nm,0.9s
HHC pmax pmax
comp=Z,92nm,4.0s
YAK Yakutsk 25.68 347 *e*P **P 05 50 20.9 -1.6**
comp=Z,22nm,0.8s
YAK Yakutsk 25.68 347 *e*P **P 05 50 20.7 -1.7**
YAK pmax pmax
comp=Z,29nm,1.0s
YAK pmax pmax
comp=N,8.0nm,1.0s
YAK pmax pmax
comp=E,2.0nm,0.9s
SEY Seymchan 26.32 11⇑ *e*P **P 05 50 28.0 -0.3**
XAN Xi'an 26.70 273 P **P 05 50 34.8 +2.8**
XAN pmax pmax
comp=E,11nm,0.9s
XAN pmax pmax
comp=E,130nm,4.3s
BOD Bodaibo 27.26 327 *e*P **P 05 50 38.1 +1.4**
BOD pmax pmax
comp=Z,4.0nm,0.9s
ULN Ulaanbaatar 27.26 303 *e*P **P 05 50 35.3 -1.8**
comp=Z,1.9nm,0.6s
ULN Ulaanbaatar 27.26 303⇓ *e*P **P 05 50 36.1 -1.0**
ULN pmax pmax
comp=Z,2.0nm,0.6s
SONA1 Songino Array 27.69 303 *e*P **P 05 50 39.6 -1.3**
SONM Songino Array 27.70 303 P **P 05 50 40.1 -0.8**
comp=Z,2.1nm,0.4s,baz=101,slow=8.6,SNR=16
SONM Songino Array 27.70 303 P **P 05 50 40.1 -0.8**
SONM pmax pmax
comp=Z,3.0nm,0.6s
H11N2 WAKE ISLAND Hy 28.22 122 T T 06 20 56.1
baz=315
H11N1 WAKE ISLAND Hy 28.23 122 T T 06 21 04.3
baz=315
H11N3 WAKE ISLAND Hy 28.24 122 T T 06 21 04.2
baz=315
H11S1 WAKE ISLAND Hy 28.95 124 T T 06 21 55.7
baz=316,slow=76
H11S3 WAKE ISLAND Hy 28.95 124 T T 06 21 55.7
baz=316,slow=76
H11S2 WAKE ISLAND Hy 28.96 124 T T 06 21 56.9
baz=316,slow=76
TLY Talaya 30.18 310 *e*P **P 05 51 01.5 -1.3**
comp=Z,2.7nm,0.6s
TLY Talaya 30.18 310 *e*P **P 05 51 01.5 -1.3**
TLY pmax pmax
comp=Z,3.0nm,0.6s
GTA Gaotai 32.61 287 *e*P **P 05 51 24.7 +0.2**
GTA pP pP 05 51 33.5 -3.6
GTA sP sP 05 51 36.8 -6.1
GTA S **S 05 56 40.5 +3.5**
GTA pmax pmax
comp=Z,3.0nm,0.9s
GTA pmax pmax
comp=Z,47nm,4.3s
GTA LR LR
comp=Z,93nm,20.9s
GTA LR LR
comp=Z,180nm,20.4s
GTA LR LR
comp=Z,170nm,21.4s
BILL Bilibino 33.55 16⇑ *e*P **P 05 51 30.6 -1.6**
BILL *e* 05 52 42.1
BILL *e*S S 05 56 41.3 -9.4
BILL pmax pmax
comp=Z,1.0nm,1.0s
BILL pmax pmax
comp=Z,73nm,21.0s
TIXI Tiksi 34.88 353 *e*P **P 05 51 42.7 -0.8**
comp=Z,3.4nm,1.2s
TIXI Tiksi 34.88 353⇑ *e*P **P 05 51 42.6 -1.0**
TIXI pmax pmax
comp=Z,3.0nm,1.2s
KMI Kunming 35.21 261 P **P 05 51 46.4 -0.9**
KMI pmax pmax
comp=Z,11nm,0.9s
WMQ Urumqi 40.81 296 P **P 05 52 32.1 -1.9**
WMQ pmax pmax
comp=Z,380nm,4.9s
WMQ LR LR
comp=Z,200nm,27.5s
ZAA0 Zalesovo Array 41.76 312 *e*P **P 05 52 40.5 -1.1**
comp=Z,4.2nm,0.9s
ZALV Zalesovo Beam 41.76 312 P **P 05 52 41.0 -0.6**
comp=Z,2.1nm,0.5s,baz=93,slow=7.4,SNR=16
ZALV PcP **PcP 05 54 35.2 -1.9**
comp=Z,1.6nm,0.5s,baz=102,slow=2.8,SNR=3.8
ZALV Zalesovo Beam 41.76 312 *e*P **P 05 52 40.3 -1.2**
ZALV PcP **PcP 05 54 35.2 -1.9**
CMAR Chiang Mai Arr 41.79 255 P **P 05 52 42.9 +0.6**
comp=Z,1.3nm,0.3s,baz=45,slow=7.8,SNR=3.7
MK01 Makanchi Array 44.04 302 *e*P **P 05 52 59.2 -1.0**
MK31 Makanchi Array 44.04 302 Pn **P 05 52 59.4 -0.8**
comp=Z,5.5nm,1.0s,baz=168,slow=15,SNR=25
MK31 Makanchi Array 44.04 302 *e*P **P 05 52 59.4 -0.8**
MK31 Makanchi Array 44.04 302 *e*P **P 05 52 59.4 -0.8**
MKAR Makanchi Array 44.04 302 P **P 05 52 59.6 -0.6**
comp=Z,1.4nm,0.4s,baz=85,slow=9.4,SNR=23
MKAR Makanchi Array 44.04 302 *e*P **P 05 52 59.4 -0.9**
comp=Z,22nm,0.6s
MAKZ Makanchi 44.25 302 ⇑Pn **P 05 53 00.7 -1.2**
comp=Z,3.8nm,0.9s
MAKZ Makanchi 44.25 302 *e*P **P 05 53 01.2 -0.7**
comp=Z,4.8nm,0.8s
MAKZ Makanchi 44.25 302 *e*P **P 05 53 01.2 -0.7**
MAKZ pmax pmax
comp=Z,5.0nm,0.8s
KURK Kurchatov 45.81 308 *e*P **P 05 53 12.8 -1.4**
comp=Z,13nm,0.7s
KURK Kurchatov 45.81 308 *c iP* **P 05 53 13.0 -1.1**
KURK pmax pmax
comp=Z,6.0nm,0.6s
KURBB Kurchatov Arra 45.88 308 P **P 05 53 13.9 -0.8**
comp=Z,5.3nm,0.7s,baz=83,slow=8.2,SNR=40
KDAK Kodiak Island 46.65 42 P **P 05 53 21.8 +1.2**
comp=Z,2.0nm,0.8s,baz=278,slow=7.1,SNR=3.8
ILAR Eielson Array 49.03 33 P **P 05 53 40.2 +1.2**
comp=Z,1.0nm,0.8s,baz=270,slow=7.1,SNR=12
ILAR pP **pP 05 53 53.0 +0.8**
comp=Z,1.1nm,0.7s,baz=262,slow=5.1,SNR=7.6
BVAR Borovoye Array 50.41 312 P **P 05 53 48.6 -1.1**
comp=Z,1.6nm,0.6s,baz=64,slow=6.6,SNR=12
AAK Ala-Archa 50.44 298 LR LR 06 17 00.7
comp=Z,39nm,18.9s,baz=85,slow=38
AAK Ala-Archa 50.44 298 *e*P **P 05 53 48.8 -1.5**
comp=Z,2.9nm,0.6s
AAK Ala-Archa 50.44 298⇓ *iP* **P 05 53 48.7 -1.5**
AAK pmax pmax
comp=Z,3.0nm,0.7s
BRVK Borovoye 50.47 312 *e*P **P 05 53 49.3 -0.7**
comp=Z,7.5nm,0.9s
BRVK Borovoye 50.47 312⇑ *e*P **P 05 53 49.4 -0.7**
BRVK pmax pmax
comp=Z,4.0nm,0.7s
KK05 Karatay Array 53.05 300 *e*P **P 05 54 08.3 -1.2**
KK05 *e*pP **pP 05 54 19.6 -3.3**
KK06 Karatay Array 53.06 300 *e*P **P 05 54 08.4 -1.2**
KK02 Karatay Array 53.06 300 *e*P **P 05 54 08.5 -1.1**
KK31 Karatay Array 53.06 300 *e*P **P 05 54 08.5 -1.1**
KK31 Karatay Array 53.06 300 *e*P **P 05 54 08.5 -1.1**
KKAR Karatay Array 53.06 300 *e*P **P 05 54 08.5 -1.1**
KKAR Karatay Array 53.06 300 *e*P **P 05 54 08.5 -1.1**
KK04 Karatay Array 53.07 300 *e*P **P 05 54 08.7 -1.0**
KK01 Karatay Array 53.07 300 *e*P **P 05 54 08.7 -1.0**
KK03 Karatay Array 53.07 300 *e*P **P 05 54 08.5 -1.2**
KK08 Karatay Array 53.08 300 *e*P **P 05 54 08.8 -0.9**
INK Inuvik 53.91 27 P **P 05 54 16.9 +1.5**
comp=Z,1.3nm,0.5s,baz=296,slow=7.8,SNR=12
INK pP **pP 05 54 31.4 +2.7**
comp=Z,0.8nm,0.5s,baz=334,slow=4.8,SNR=3.9
SVE Sverdlovsk 54.94 318 *e*P **P 05 54 22.6 -0.4**
ARU Arti 56.16 318 *e*P **P 05 54 30.2 -1.6**
comp=Z,10nm,0.6s
ARU Arti 56.16 318 *c iP* **P 05 54 31.0 -0.7**
ARU 05 55 24.5
ARU 05 56 33.5
ARU S **S 06 02 19.3 +2.1**
ARU 06 04 15.8
ARU SS **SS 06 06 03.8 +0.3**
ARU pmax pmax
comp=Z,8.0nm,0.9s
WRA Warramunga Arr 57.52 188 P **P 05 54 41.7 -0.1**
comp=Z,1.3nm,0.5s,baz=6.2,slow=7.4,SNR=19
WRA pP **pP 05 54 55.5 +0.3**
comp=Z,2.1nm,0.4s,baz=7.8,slow=7.7,SNR=10
AB06 Akbulak array 57.78 310 *e*P **P 05 54 42.4 -1.0**
AB05 Akbulak array 57.79 310 *e*P **P 05 54 42.5 -0.9**
AB07 Akbulak array 57.79 310 *e*P **P 05 54 42.4 -1.1**
AB02 Akbulak array 57.80 310 *e*P **P 05 54 42.5 -1.0**
AB01 Akbulak array 57.80 310 *e*P **P 05 54 42.5 -1.0**
AB31 Akbulak array 57.80 310 *e*P **P 05 54 42.3 -1.2**
AB31 Akbulak array 57.80 310 *e*P **P 05 54 42.3 -1.2**
ABKAR Akbulak array 57.80 310 *e*P **P 05 54 42.4 -1.1**
comp=Z,46nm,0.6s
AB03 Akbulak array 57.80 310 *e*P **P 05 54 42.3 -1.2**
AB04 Akbulak array 57.80 310 *e*P **P 05 54 42.5 -1.0**
AB09 Akbulak array 57.81 310 *e*P **P 05 54 42.6 -1.0**
AB08 Akbulak array 57.81 310 *e*P **P 05 54 42.6 -1.0**
AKTO Aktyubinsk 58.52 312 P **P 05 54 48.0 -0.5**
comp=Z,2.6nm,0.7s,baz=70,slow=12,SNR=9.4
SPITS Spitsbergen Ar 60.13 349 P **P 05 54 59.1 -0.1**
comp=Z,7.1nm,1.0s,baz=314,slow=22,SNR=1.5
ASAR Alice Springs 61.25 188 P **P 05 55 07.8 +0.3**
comp=Z,0.8nm,0.7s,baz=15,slow=8.3,SNR=7.4
ASAR pP **pP 05 55 22.2 +1.1**
comp=Z,1.1nm,0.7s,baz=7.5,slow=7.9,SNR=8.2
YKA Yellowknife Ar 63.34 30 P **P 05 55 21.7 +0.7**
comp=Z,0.6nm,0.7s,baz=303,slow=6.5,SNR=15
YKA pP **pP 05 55 35.2 +0.5**
comp=Z,0.4nm,0.6s,baz=302,slow=6.6,SNR=6.5
KLMR Klimovskoe 63.48 328 *e*P **P 05 55 18.8 -3.2**
KLMR AMP 05 55 22.2
comp=Z,8.0nm,1.0s
KLMR Klimovskoe 63.48 328 *e*P **P 05 55 18.8 -3.2**
KLMR pmax pmax
comp=Z,8.0nm,1.0s
GEYT Alibeck 63.78 299 P **P 05 55 23.8 -0.7**
comp=Z,2.5nm,0.6s,baz=53,slow=5.6,SNR=5.2
OBN Obninsk 67.86 323⇓ *e*P **P 05 55 49.1 -1.1**
OBN *e* 05 58 22.7
OBN *e*S **S 06 04 45.4 +0.7**
OBN pmax pmax
comp=Z,5.0nm,0.9s
OBN MLR MLR
comp=Z,29nm,15.0s
FINES FINESS Array B 68.51 332 P **P 05 55 53.7 -0.5**
comp=Z,4.4nm,0.7s,baz=38,slow=9.1,SNR=13
STKA Stephens Creek 68.99 180 P **P 05 55 57.5 +0.1**
comp=Z,1.3nm,0.7s,baz=325,slow=7.2,SNR=3.1
STKA pP **pP 05 56 12.3 +1.0**
comp=Z,4.1nm,0.8s,baz=13,slow=5.7,SNR=5.2
KIV Kislovodsk 70.76 311 *e*P **P 05 56 09.3 +0.8**
KIV pmax pmax
comp=Z,8.0nm,1.1s
KIV MLR MLR
comp=Z,19nm,18.0s
GNI Garni 71.59 307 LR LR 06 29 55.8
comp=Z,27nm,18.3s,baz=79,slow=38
GNI Garni 71.59 307⇑ *e*P **P 05 56 13.0 -0.7**
GNI pmax pmax
comp=Z,23nm,1.2s
HFS Hagfors 73.76 336 P **P 05 56 25.9 -0.2**
comp=Z,1.3nm,0.5s,baz=48,slow=4.3,SNR=17
NB2 NORSAR Subarra 73.85 337 P **P 05 56 26.3 -0.3**
comp=Z,1.4nm,0.6s,baz=39,slow=6.2
NOA NORSAR Array B 73.85 337 P **P 05 56 26.4 -0.3**
comp=Z,1.7nm,0.6s,baz=38,slow=5.9,SNR=8.2
AKASG Malin Array Be 74.06 322 P **P 05 56 27.2 -0.7**
comp=Z,2.9nm,0.5s,baz=47,slow=5.9,SNR=25
AKASG Malin Array Be 74.06 322 P **P 05 56 27.2 -0.7**
AKASG pmax pmax
comp=Z,2.0nm,0.4s
KIEV Kiev 74.08 322⇓ *e*P **P 05 56 27.3 -0.7**
KIEV pmax pmax
comp=Z,4.0nm,0.7s
NVAR Mina Array Bea 74.58 53 P **P 05 56 32.3 +0.8**
comp=Z,0.1nm,0.3s,baz=297,slow=6.0,SNR=3.6
NVAR pP **PcP 05 56 47.8 +2.1**
comp=Z,0.8nm,0.8s,baz=290,slow=5.8,SNR=6.0
PDAR Pinedale Array 77.23 46 P **P 05 56 47.9 +1.3**
comp=Z,0.5nm,0.7s,baz=290,slow=3.7,SNR=3.3
PDAR pP **pP 05 57 01.5 +0.9**
comp=Z,0.5nm,0.6s,baz=276,slow=2.1,SNR=3.8
BRTR Keskin Array B 78.70 312 P **P 05 56 54.6 -0.1**
comp=Z,1.3nm,1.0s,baz=66,slow=3.5,SNR=3.4
MLR Muntele Rosu 79.17 320 LR LR 06 34 08.4
comp=Z,8.7nm,18.1s,baz=64,slow=37
ARR Arges 79.92 320⇑ *iP* **P 05 57 01.9 +0.8**
DPC Dobruska-Polom 80.18 328 *e*P **P 05 57 03.0 +0.6**
DPC Dobruska-Polom 80.18 328 *e*P **P 05 57 03.0 +0.6**
CLL Collm 80.81 330 *e*P **P 05 57 05.0 -0.6**
KHC Kasperske Hory 82.27 329 *e*P **P 05 57 13.5 0.0**
KHC Kasperske Hory 82.27 329 *e*P **P 05 57 13.5 0.0**
GERES GERESS Array B 82.44 328 P **P 05 57 14.1 -0.4**
comp=Z,0.5nm,0.5s,baz=32,slow=5.8,SNR=5.0
VTS Vitosha 82.60 319⇓ *iP* **P 05 57 15.2 -0.3**
EKA Eskdalemuir Ar 82.78 341 P **P 05 57 16.1 +0.2**
comp=Z,1.0nm,0.7s,baz=36,slow=5.2,SNR=3.0
TXAR Lajitas Array 89.71 53 P **P 05 57 52.0 +1.4**
comp=Z,0.5nm,0.5s,baz=306,slow=3.0,SNR=12
TXAR pP **pP 05 58 06.5 +1.6**
comp=Z,0.5nm,0.5s,baz=309,slow=3.0,SNR=6.9
TXAR Lajitas Array 89.71 53 P **P 05 57 52.1 +1.4**
TXAR *PP **pP 05 58 06.5 +1.6**
TXAR pmax pmax
comp=Z,1.0nm,0.5s
TXAR pmax pmax
comp=Z,1.0nm,0.5s
LPAZ La Paz 146.31 59 PKPbc **PKPab 06 04 34.7 0.0**
comp=Z,1.1nm,0.5s,baz=357,slow=2.2,SNR=14
LPAZ pPKPbc pPKPab 06 04 49.6 +0.5
comp=Z,2.8nm,0.6s,baz=270,slow=2.0,SNR=8.3

IDC 08 05:48:35.0±9.6, 1°.67N×98°.96W, h0km, mb3.4/4, mb1 3.9/4, mb1mx3.5/41, mbtmp3.4/4, MS3.2/5, Ms1 3.2/5, ms1mx2.9/24, Error ellipse: s-maj=392.4km s-min=142.4km az=98.0, West of Galapagos Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
APG	**El Apazote**	**15.68**	**32**	LR	LR	05 56 53.3	
	comp=Z,58nm,20.9s,baz=256,slow=32						
CMIG	**Matias Romero**	**15.84**	**14**	LR	LR	05 57 02.9	
	comp=Z,136nm,21.9s,baz=186,slow=32						
JTS	**JuntasAbangare**	**16.34**	**58**	LR	LR	05 56 33.8	
	comp=Z,36nm,19.0s,baz=356,slow=29						
LPIG	**La Paz**	**24.86**	**335**	LR	LR	06 00 54.3	
	comp=Z,62nm,18.9s,baz=166,slow=30						
TXAR	**Lajitas Array**	**27.87**	**351**	P	P	05 54 26.9	+0.2
	0.5nm,0.9s,baz=179,slow=12,SNR=5.6						
TXAR				LR	LR	06 04 14.4	
	comp=Z,65nm,19.5s,baz=0.0,slow=34						
PDAR	**Pinedale Array**	**42.00**	**348**	P	P	05 56 27.8	-0.5
	1.0nm,1.0s,baz=151,slow=10,SNR=6.1						
YKA	**Yellowknife Ar**	**61.80**	**352**	P	P	05 58 55.9	+0.5
	0.3nm,0.9s,baz=157,slow=6.8,SNR=4.7						
ILAR	**Eielson Array**	**71.75**	**340**	P	P	05 59 58.5	-0.3
	0.2nm,0.6s,baz=154,slow=4.7,SNR=4.8						

*ISCJB **08** 05:52:26.4±0.4, 36°.90N±0°.03×29°.04E±0°.03, h0km, Error ellipse: s-maj=4.3km s-min=3.6km az=162.8*
*CSEM **08** 05:52:26.3±0.2, 36°.92N×29°.08E, h1km, ML2.5, Error ellipse: s-maj=4.4km s-min=3.6km az=3.0, Suspected Mining explosion.*
*ISK **08** 05:52:26.1, 36°.90N×29°.05E, h9km, ML2.5/9*
*DDA **08** 05:52:26.6, 36°.93N×29°.04E, h7km, Md2.6, Suspected Mining explosion.*

ISC 08 05:52:26.7±0.8, 36°.95N±0°.02×29°.09E±0°.02, h0km, n37, σ1°50/55, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FETY	**Fethiye**	**0.32**	**182**	PG	**Pg**	**05 52 31.7**	**-1.1**
FETY				SG	**Sg**	**05 52 36.2**	**-0.7**
FETY	**Fethiye**	**0.32**	**182**	P	**Pg**	**05 52 31.4**	**-1.4**
FETY	**Fethiye**	**0.32**	**182**	*e*Pg	**Pg**	**05 52 31.7**	**-1.1**
FETY				S	**Sg**	**05 52 35.8**	**-1.1**
FETY				*e*Sg	**Sg**	**05 52 36.2**	**-0.7**
DALY	**Dalyan (Mu¨la**	**0.38**	**249**	PG	**Pg**	**05 52 33.4**	**-0.5**
DALY				SG	**Sg**	**05 52 38.2**	**-0.6**
DALY	**Dalyan (Mu¨la**	**0.38**	**249**	*i* P	**Pg**	**05 52 34.0**	**+0.1**
DALY				*i* S	**Sg**	**05 52 37.7**	**-1.1**
DALY	**Dalyan (Mu¨la**	**0.38**	**249**	*e*Pg	**Pg**	**05 52 33.4**	**-0.5**
DALY	**Dalyan (Mu¨la**	**0.38**	**249**	P	**Pg**	**05 52 34.0**	**+0.1**
DALY				S	**Sg**	**05 52 37.7**	**-1.1**
DALY				*e*Sg	**Sg**	**05 52 38.2**	**-0.6**
TURN	**Turunc**	**0.40**	**259**	PG	**Pn**	**05 52 39.2**	**-0.5**
TURN				SG	**Sb**	**05 52 48.7**	**+5.4**
TURN	**Turunc**	**0.40**	**259**	*i* P	**Pn**	**05 52 39.7**	**0.0**
TURN				*i* S	**Sb**	**05 52 48.6**	**+5.3**
GOLH	**Golhisar**	**0.47**	**53**	*i* P	**Pg**	**05 52 35.9**	**+0.3**
GOLH				*i* S	**Sb**	**05 52 44.6**	**-0.8**
GOLH	**Golhisar**	**0.47**	**53**	P	**Pg**	**05 52 35.9**	**+0.3**
GOLH				S	**Sb**	**05 52 44.6**	**-0.8**
TAVA	**DENIZLI_Tavas**	**0.53**	**344**	*i* P	**Pg**	**05 52 37.6**	**+0.8**
TAVA				*i* S	**Sb**	**05 52 46.2**	**-1.0**
TAVA	**DENIZLI_Tavas**	**0.53**	**344**	P	**Pg**	**05 52 37.7**	**+0.8**
TAVA				S	**Sb**	**05 52 46.2**	**-1.0**
ELL	**Elmali**	**0.69**	**107**	PG	**Pg**	**05 52 40.1**	**+0.3**
ELL	**Elmali**	**0.69**	**107**	*e*Pg	**Pg**	**05 52 40.1**	**+0.3**
AKAS	**Kas**	**0.83**	**150**	PG	**Pg**	**05 52 42.2**	**-0.4**
AKAS	**Kas**	**0.83**	**150**	*i* P	**Pb**	**05 52 43.0**	**-1.0**
AKAS				*i* S	**Sn**	**05 52 59.7**	**+0.9**
AKAS	**Kas**	**0.83**	**150**	*e*Pg	**Pg**	**05 52 42.2**	**-0.4**
AKAS	**Kas**	**0.83**	**150**	P	**Pb**	**05 52 43.0**	**-1.0**
KORT	**Korkueli**	**1.01**	**87**	PG	**Pb**	**05 52 46.6**	**-0.5**
KORT	**Korkueli**	**1.01**	**87**	*i* P	**Pg**	**05 52 44.7**	**-1.3**
KORT				*i* S	**Sn**	**05 53 08.1**	**+4.9**
KORT	**Korkueli**	**1.01**	**87**	P	**Pg**	**05 52 44.7**	**-1.3**
KORT	**Korkueli**	**1.01**	**87**	*e*Pg	**Pb**	**05 52 46.6**	**-0.5**
BRDR	**BURDUR-Merkez**	**1.07**	**46**	*i* S	**Sn**	**05 53 05.3**	**+0.7**
BRDR	**BURDUR-Merkez**	**1.07**	**46**	S	**Sb**	**05 53 05.3**	**+0.7**
MLSB	**Milas**	**1.11**	**288**	PN	**Pg**	**05 52 47.4**	**-0.5**
MLSB	**Milas**	**1.11**	**288**	*e*Pn	**Pg**	**05 52 47.4**	**-0.5**
BDRM	**Kayabasi**	**1.32**	**275**	*i* P	**Pn**	**05 52 52.4**	**-0.1**
BDRM				*i* S	**Sg**	**05 53 07.3**	**-1.9**
BDRM	**Kayabasi**	**1.32**	**275**	P	**Pn**	**05 52 52.4**	**-0.1**
BDRM				S	**Sg**	**05 53 07.3**	**-1.9**
AYDB	**Zeytinkoy-Aydi**	**1.38**	**316**	PN	**Pg**	**05 52 52.3**	**-0.8**
AYDB	**Zeytinkoy-Aydi**	**1.38**	**316**	*e*Pn	**Pg**	**05 52 52.3**	**-0.8**
BODT	**Bodrum**	**1.43**	**275**	PN	**Pn**	**05 52 52.6**	**-1.3**
BODT	**Bodrum**	**1.43**	**275**	*e*Pn	**Pn**	**05 52 52.6**	**-1.3**
SUTC	**Sutluce-Ispart**	**1.61**	**70**	PN	**Pn**	**05 52 56.2**	**-0.3**
SUTC	**Sutluce-Ispart**	**1.61**	**70**	*e*Pn	**Pn**	**05 52 56.2**	**-0.3**
KEPZ	**Antalya-Kepez**	**2.01**	**91**	*i* P	**Pg**	**05 53 05.5**	**+0.3**
KEPZ				*i* S	**Sg**	**05 53 32.3**	**+1.0**
KEPZ	**Antalya-Kepez**	**2.01**	**91**	P	**Pg**	**05 53 05.5**	**+0.3**

*IASPEI **08** 05:59:35.9±0.9, 32°.61N±0°.03×115°.80W±0°.03, h15km±6km, Error ellipse: s-maj=4.6km s-min=3.7km az=164.1, GT5 selection from ISC bulletin GT5 identified by Bond¨jr and McLaughlin (2009) selection criteria Bond¨jr and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009*
*ISCJB **08** 05:59:36.1±0.3, 32°.64N±0°.03×115°.80W±0°.02, h15km±2km, Error ellipse: s-maj=4.3km s-min=3.5km az=8.1*
*NEIC **08** 05:59:37.0±0.0, 32°.63N×115°.81W, h9km, ML3.0(PAS), After PAS.*
*ECX **08** 05:59:37.5±0.6, 32°.61N×115°.82W, h5km, ML2.8*

ISC 08 05:59:36.1±0.8, 32°.59N±0°.02×115°.78W±0°.02, h15km±5km, n46, σ1°20/62, 7C-4D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SGL	**Mount Signal**	**0.07**	**39**	Pg	**Pg**	**05 59 39.2**	**+0.1**
SGL	**Mount Signal**	**0.07**	**39**⇑ *iP*		**Pg**	**05 59 39.2**	**+0.1**
YUH	**Yuha Desert**	**0.13**	**295**	Pg	**Pg**	**05 59 39.4**	**-0.4**
YUH	**Yuha Desert**	**0.13**	**295**⇑ *iP*		**Pg**	**05 59 39.4**	**-0.4**
WESC	**Westside Schoo**	**0.17**	**14**	Pg	**Pg**	**05 59 40.6**	**+0.3**
ERPC	**Ernies Place**	**0.18**	**33**⇑ *iP*		**Pg**	**05 59 41.1**	**+0.7**
RMX	**La Rumorosa**	**0.25**	**273**⇑ *iP*		**Pg**	**05 59 41.3**	**-0.4**
RMX				*e*S	**Sg**	**05 59 44.2**	**-1.3**
RMX				IAML		05 59 46.8	
	comp=E,2μm,0.1s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RMX				e		05 59 46.8	
COK	Cook Ranch	0.26	10	⇓iP	Pg	05 59 42.1	+0.4
IKP	In-Ko-Pah, Jac	0.28	282	P	Pg	05 59 41.8	-0.4
	baz=98,SNR=534						
IKP				S	Sg	05 59 45.4	-1.0
	baz=98						
IKP				P	Pn	05 59 47.2	+1.3
	baz=91						
IKP	In-Ko-Pah, Jac	0.28	282	⇑iP	Pg	05 59 42.1	-0.1
CRR	Carrizo Plain	0.34	332	⇓iP	Pg	05 59 42.8	-0.3
DREC	Desert Rsrch C	0.35	53	⇑eP	Pb	05 59 44.6	+0.5
SWSC	Sam W. Stewart	0.35	357	P	Pg	05 59 43.2	-0.2
	baz=185,SNR=478						
SWSC				S	Sg	05 59 47.7	-0.6
	baz=185						
SWSC	Sam W. Stewart	0.35	357	⇓iP	Pg	05 59 43.2	-0.2
CPBX	Cerro Prieto	0.44	113	P	Pb	05 59 45.5	-0.1
CPBX	Cerro Prieto	0.44	113	eP	Pb	05 59 45.4	-0.1
CPBX				eS	Sb	05 59 52.4	+0.4
CPBX				⇓e		05 59 54.0	
CPBX				IAML		05 59 54.0	
	comp=N,3µm,0.2s						
MONP2	Monument Peak	0.62	299	P	Pg	05 59 47.8	-0.6
	baz=119,SNR=150						
MONP2				P	Pn	05 59 53.0	+2.4
	baz=116						
BAR	Barrett	0.76	277	ePg	Pg	05 59 50.4	-0.4
BAR	Barrett	0.76	277	eP	Pg	05 59 50.5	-0.4
TJIG	Tijuana	0.77	258	eP	Pg	05 59 50.5	-0.6
CBX	Cerro Bola	0.80	250	P	Pg	05 59 51.5	-0.1
CBX				S	Sn	06 00 07.4	+2.7
CBX	Cerro Bola	0.80	250	⇑eP	Pg	05 59 51.6	-0.1
CBX				eS	Sg	06 00 01.9	-0.3
CBX				IAML		06 00 03.4	
	comp=N,312nm,0.3s						
GLA	Glamis	0.93	60	P	Pg	05 59 53.3	-0.8
	baz=243,SNR=42						
GLA	Glamis	0.93	60	ePg	Pg	05 59 53.3	-0.8
SDRC	San Diego Road	0.99	279	eP	Pg	05 59 54.3	-1.0
BC3	Big Chuckawall	1.10	14	P	Pg	05 59 55.4	-2.0
	baz=197,SNR=47						
109C	Camp Elliot, M	1.16	285	P	Pg	05 59 57.0	-1.4
	baz=104,SNR=127						
109C				S	Sg	06 00 11.3	-2.2
	baz=104						
ECNX	Esteban Cantu	1.16	217	eP	Pb	05 59 57.8	-0.2
ECNX				eP	Pg	05 59 55.1	-3.5
PFO	Pinyon Flats O	1.17	331	P	Pg	05 59 56.1	-2.5
	baz=152,SNR=22						
PFO				S	Sn	06 00 16.5	+2.7
	baz=151						
PFO	Pinyon Flats O	1.17	331	ePg	Pg	05 59 56.0	-2.6
ECBX	El Chinero	1.28	151	eP	Pn	05 59 59.9	+0.4
ECBX				eS	Sn	06 00 17.4	+1.1
BELC	Belle Mtn. Jos	1.42	353	P	Pn	06 00 00.0	-1.6
	baz=174,SNR=33						
BELC				P	Pg	06 00 05.3	+1.8
	baz=174						
MURC	Murrieta	1.56	311	P	Pn	06 00 02.3	-1.1
	baz=130,SNR=125						
MURC				Sb	Sn	06 00 24.0	+0.7
	baz=130						
Y12C	Blythe	1.56	42	P	Pn	06 00 02.5	-0.9
	baz=224,SNR=14						
SPX	San Pedro Mart	1.56	170	P	Pn	06 00 04.1	+0.4
SPX				S	Sg	06 00 26.9	+0.3
SPX	San Pedro Mart	1.56	170	eP	Pn	06 00 04.3	+0.6
SPX				eS	Sb	06 00 25.6	+0.8
IRM	Iron Mountain	1.65	19	P	Pn	06 00 04.0	-0.7
	baz=201						
BBRC	Big Bear Solar	1.92	331	P	Pn	06 00 07.8	-0.8
	baz=151						
BFSC	Mount Baldy Ra	2.27	317	Pb	Pb	06 00 16.7	-0.3
	baz=136						
CIS	Catalina Islan	2.36	291	Pb	Pg	06 00 22.7	+1.3
	baz=109						
MWC	Mount Wilson	2.51	311	Pn	Pn	06 00 16.7	+0.1
LDFC	Landfair	2.54	12	Pn	Pn	06 00 16.6	-0.4
PASC	Pasadena Art C	2.56	309	ePn	Pn	06 00 16.1	-1.0
214A	Organ Pipe Nat	2.59	103	ePn	Pn	06 00 16.6	-1.0
GSC	Goldstone, Bar	2.83	343	ePn	Pn	06 00 20.2	-0.8
ISA	Isabella, Lake	3.79	325	Pn	Pn	06 00 34.5	+0.4

*ISCJB **08** 05:59:41.5±1.0, 32°.61N±0°.09×115°.81W±0°.04, h22km±6km, Error ellipse: s-maj=14.7km s-min=6.0km az=0.8*
*NEIC **08** 05:59:42.5±0.0, 32°.66N×115°.84W, h2km, MD3.6(ECX), ML3.2(PAS), After PAS.*
NEIC Felt [II] at El Centro. Also felt at Escondido, Imperial and San Diego. Felt at Mexicali, Baja California.
ISC 08 05:59:41.4±1.4**, 32°.60N**±0°.08×**115°.82W**±0°.03**, h15**km±7km**, n14, σ0s.85**/21**, 1D, California-Baja California border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WESC	Westside Schoo	0.17	25	⇓iP	Pg	05 59 45.6	0.0
WESC				eS	Sg	05 59 48.7	+0.2
DREC	Desert Rsrch C	0.37	57	eP	Pb	05 59 50.2	+0.5
DREC				iS	Sb	05 59 56.5	+1.3
BAR	Barrett	0.73	276	ePg	Pg	05 59 55.8	+0.3
GLA	Glamis	0.95	62	ePg	Pb	05 59 59.0	-0.5
GLA				eSg	Sb	06 00 10.8	-1.0
GLA	Glamis	0.95	62	P	Pb	05 59 58.8	-0.6
	baz=245						
GLA				S	Sb	06 00 10.7	-1.1
	baz=245						
109C	Camp Elliot, M	1.12	285	P	Pb	06 00 02.3	-0.1
	baz=102						
109C				S	Sb	06 00 16.4	-0.5
	baz=102						
PFO	Pinyon Flats O	1.14	332	Pg	Pb	06 00 02.3	-0.5
MURC	Murrieta	1.52	311	Pb	Pb	06 00 09.6	+0.3
	baz=130						
IRM	Iron Mountain	1.65	20	Pb	Pn	06 00 10.6	+0.8
	baz=201						
BBRC	Big Bear Solar	1.89	331	P	Pn	06 00 11.6	-1.8
	baz=150						
MWC	Mount Wilson	2.48	311	ePn	Pn	06 00 20.9	-0.4
MWC				eSn	Sn	06 00 51.4	+0.1
PASC	Pasadena Art C	2.52	309	ePn	Pn	06 00 22.1	+0.3
PASC				eSn	Sn	06 00 53.8	+1.5
214A	Organ Pipe Nat	2.63	103	ePn	Pn	06 00 23.0	-0.2
GSC	Goldstone, Bar	2.81	343	ePn	Pn	06 00 25.5	-0.4

*ISN **08** 06:00:31.6±1.1, 38°.99N×43°.60E, h16km±142km, ML3.2*
*ISK **08** 06:00:33.9, 38°.89N×43°.58E, h5km, ML3.1/9*
*ATA **08** 06:00:34.4±1.0, 38°.91N×43°.49E, h0km±3km, ML3.5, MW3.6*
*DDA **08** 06:00:35.4, 38°.89N×43°.55E, h16km, Md2.9*
*CSEM **08** 06:00:35.5±0.2, 38°.90N×43°.58E, h10km, MD2.9, Error ellipse: s-maj=5.2km s-min=3.7km az=102.0*
*ISCJB **08** 06:00:36.1±0.4, 38°.90N±0°.02×43°.54E±0°.03, h7km±3km, Error ellipse: s-maj=4.4km s-min=2.9km az=14.3*
ISC 08 06:00:35.6±0.8**, 38°.88N**±0°.02×**43°.57E**±0°.02**, h14**km±5km**, n73, σ0s.98**/106**, 1D, Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VMUR	Van-Muradiye	0.11	2	iP	Pg	06 00 38.9	-0.1
VMUR				iS	Sg	06 00 41.9	+0.5
VMUR	Van-Muradiye	0.11	2	P	Pg	06 00 38.9	-0.1
VMUR				S	Sg	06 00 41.9	+0.5
ERCV	ERCIS-VAN	0.22	308	PG	Pg	06 00 39.8	-0.9
ERCV	ERCIS-VAN	0.22	308	iPg	Pg	06 00 39.8	-0.9
VANB	Van	0.32	206	PG	Pb	06 00 42.8	-0.4
VANB				SG	Sb	06 00 49.6	+1.3
VANB	Van	0.32	206	ePg	Pb	06 00 42.8	-0.4
VANB				eSg	Sb	06 00 49.6	+1.3
TVAN	Van	0.38	199	iP	Pb	06 00 43.3	-0.9
TVAN				iS	Sb	06 00 49.4	-0.6
TVAN	Van	0.38	199	P	Pb	06 00 43.3	-0.9
TVAN				S	Sb	06 00 49.4	-0.6
CLDR	Caldiran	0.38	46	PG	Pg	06 00 42.1	-1.2
CLDR				SG	Sb	06 00 48.6	-1.5
CLDR	Caldiran	0.38	46	iP	Pg	06 00 42.6	-0.7
CLDR				iS	Sb	06 00 49.0	-1.1
CLDR	Caldiran	0.38	46	ePg	Pg	06 00 42.1	-1.2
CLDR	Caldiran	0.38	46	P	Pg	06 00 42.6	-0.7
CLDR				eSg	Sb	06 00 48.6	-1.5
CLDR				S	Sb	06 00 49.0	-1.1
ADCV	BITLIS_Adilcev	0.66	264	iP	Pg	06 00 48.2	-0.3
ADCV				iS	Sb	06 00 57.9	-0.4
ADCV	BITLIS_Adilcev	0.66	264	P	Pg	06 00 48.2	-0.3
ADCV				S	Sb	06 00 57.8	-0.4
DYDN	Diyadin	0.67	8	iP	Pb	06 00 48.7	-0.5
DYDN				⇓eS	Sb	06 00 58.9	+0.5
DYDN				IAML		06 01 01.4	
	comp=Z,196nm,0.2s						
DYDN	Diyadin	0.67	8	iP	Pb	06 00 49.0	-0.2
DYDN				iS	Sb	06 00 58.2	-0.2
DYDN	Diyadin	0.67	8	P	Pb	06 00 49.0	-0.2
DYDN				S	Sb	06 00 58.2	-0.2
GEVA	Gevas	0.69	215	eP	Pg	06 00 48.0	-1.2
GEVA				eS	Sn	06 01 00.6	-1.3
GEVA				IAML		06 01 03.7	
	comp=Z,158nm,0.5s						
GEVA	Gevas	0.69	215	iP	Pg	06 00 48.0	-1.2
GEVA	Gevas	0.69	215	P	Pg	06 00 48.0	-1.2
TUTA	Tutak	0.78	312	eP	Pg	06 00 49.8	-1.1
TUTA	Tutak	0.78	312	iP	Pg	06 00 50.0	-0.9
TUTA				iS	Sb	06 01 01.2	-0.5
TUTA	Tutak	0.78	312	P	Pg	06 00 50.0	-0.9
TUTA				S	Sb	06 01 01.2	-0.5
AGRB	Hanur-Agry	0.82	327	PG	Pg	06 00 50.8	-0.8
AGRB				SG	Sb	06 01 03.5	+0.6
AGRB	Hanur-Agry	0.82	327	ePg	Pg	06 00 50.8	-0.8
AGRB				eSg	Sb	06 01 03.5	+0.6
IGDI	IGDIR	1.06	22	eP	Pn	06 00 55.8	-0.4
IGDI				eS	Sn	06 01 12.2	+1.4
IGDI				IAML		06 01 18.6	
	comp=Z,52nm,0.6s						
IGDI	IGDIR	1.06	22	iP	Pn	06 00 56.3	+0.1
IGDI				iS	Sn	06 01 13.5	+2.7
TASB	TASBURUN-IGDIR	1.22	25	PN	Pg	06 00 58.3	-0.8
TASB	TASBURUN-IGDIR	1.22	25	ePn	Pg	06 00 58.3	-0.8
EKAR	Karacoban	1.23	288	eP	Pn	06 00 57.8	-0.8
EKAR	Karacoban	1.23	288	iP	Pn	06 00 58.0	-0.6
EKAR				iS	Sn	06 01 16.0	+0.9
EKAR	Karacoban	1.23	288	P	Pn	06 00 58.0	-0.6
EKAR				S	Sn	06 01 16.0	+0.9
GURO	Guroymak-BITLI	1.25	255	PN	Pn	06 00 58.3	-0.4
GURO	Guroymak-BITLI	1.25	255	ePn	Pn	06 00 58.3	-0.4
EATA	Eleskirt	1.28	320	eP	Pb	06 00 59.1	-0.6
EATA	Eleskirt	1.28	320	iP	Pb	06 00 59.2	-0.6
EATA				iS	Sg	06 01 16.3	-0.8
EATA	Eleskirt	1.28	320	P	Pb	06 00 59.2	-0.6
EATA				S	Sg	06 01 16.3	-0.8
HAKT	HAKKARI	1.33	175	iP	Pb	06 00 59.8	-0.6
HAKT	HAKKARI	1.33	175	P	Pb	06 00 59.8	-0.6
YOVA	Hakkari_Yˆ…kse	1.41	156	iP	Pg	06 01 02.1	-0.7
YOVA				iS	Sg	06 01 22.8	+1.5
YOVA	Hakkari_Yˆ…kse	1.41	156	P	Pg	06 01 02.1	-0.7
YOVA				S	Sg	06 01 22.8	+1.5
DIGO	Kars	1.54	355	eP	Pg	06 01 04.3	-0.9
DIGO				eS	Sg	06 01 27.8	+2.6
DIGO	Kars	1.54	355	iP	Pg	06 01 04.7	-0.5
DIGO	Kars	1.54	355	P	Pg	06 01 04.7	-0.5
SRTM	Siirt_Merkez	1.57	236	iP	Pg	06 01 05.0	-0.8
SRTM	Siirt_Merkez	1.57	236	P	Pg	06 01 05.0	-0.8
SIRT	Sirnak	1.64	213	PN	Pb	06 01 05.3	-0.4
SIRT	Sirnak	1.64	213	ePn	Pb	06 01 05.3	-0.4
SIRN	S˜–rnak	1.66	214	iP	Pb	06 01 06.1	+0.1
SIRN	S˜–rnak	1.66	214	P	Pb	06 01 06.1	+0.1
VRTB	Varto-Mus	1.67	280	PN	Pb	06 01 05.5	-0.7
VRTB	Varto-Mus	1.67	280	ePn	Pb	06 01 05.5	-0.7
HOMI	Horasan	1.73	313	eP	Pb	06 01 06.3	-1.0
HOMI	Horasan	1.73	313	iP	Pb	06 01 07.2	-0.2
KARS	Kars	1.78	348	PN	Pb	06 01 06.8	-1.4
KARS	Kars	1.78	348	ePn	Pb	06 01 06.8	-1.4
EAK	Akyaka	1.80	1	eP	Pg	06 01 10.5	+0.3
EAK				eS	Sg	06 01 37.3	+3.7
SENK	Senkaya-Erzuru	1.92	331	PN	Pb	06 01 09.3	-1.3
SENK	Senkaya-Erzuru	1.92	331	ePn	Pb	06 01 09.3	-1.3
ERZM	Erzurum	1.99	302	eP	Pb	06 01 11.5	-0.2
ERZM	Erzurum	1.99	302	iP	Pb	06 01 11.3	-0.4
ERZM	Erzurum	1.99	302	P	Pb	06 01 11.3	-0.4
BTMN	Batman	2.06	242	iP	Pb	06 01 12.7	-0.1
BTMN				iS	Sb	06 01 38.5	+0.2
BTMN	Batman	2.06	242	P	Pb	06 01 12.7	-0.1
BTMN				S	Sb	06 01 38.5	+0.2
BNGB	Bingˆ¶l	2.25	274	PN	Pn	06 01 13.9	+1.3
BINT	Bingol	2.40	271	ePn	Pn	06 01 13.9	-0.7
DDEM	Demirkent	2.44	326	iP	Pg	06 01 21.4	-1.1
HANI	Diyarbakir_Han	2.52	260	iP	Pb	06 01 21.0	+0.2
KOPT	Kop Dagi	2.63	296	eP	Pb	06 01 21.7	-1.1
KOPT				IAML		06 01 52.7	
	comp=Z,6.2nm,0.6s						
KOPT	Kop Dagi	2.63	296	iP	Pb	06 01 23.7	+0.9
MARD	Mardin	2.70	235	iP	Pn	06 01 19.7	+0.9
MARD				iS	Sn	06 01 52.6	+1.3
BAYB	BAYBURT	2.90	299	iP	Pg	06 01 29.9	-1.4
RTB	Rutbah	6.41	205	ePn	Pn	06 02 09.0	-0.7
	SNR=5.0						

*SJA **08** 06:00:37.3±1.2, 34°.54S×72°.33W, h4km±8km, ML3.7, MW3.5*
*GUC **08** 06:00:42.6±0.6, 34°.84S×71°.81W, h51km±2km, ML3.3*
ISC 08 06:00:41.3±2.2**, 34°.64S**±0°.03×**72°.10W**±0°.06**, h16**km±17km**, n26, σ1s.33**/45**, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GO05	HualaæØ	0.39	160	eP	Pb	06 00 50.6	+0.7
GO05				iS	Sb	06 00 56.6	+0.8
GO05				IAML		06 00 57.4	
	comp=N,6µm,0.2s						
COCH	Cobquecura	1.59	201	eP	Pn	06 01 08.9	+0.1
COCH				eS	Sb	06 01 31.2	+1.0
COCH	Cobquecura	1.59	201	eP	Pn	06 01 08.4	-0.5
COCH				iS	Sn	06 01 27.4	-1.6
COCH				IAML		06 01 34.9	
	comp=E,450nm,0.9s						
LMEL	Las Melosas	1.76	64	eP	Pn	06 01 10.4	-0.9
LMEL				iS	Sn	06 01 32.1	-1.3
ROC1	El Roble	1.89	29	eP	Pn	06 01 14.2	+0.9
ROC1				eS	Sb	06 01 39.7	+0.6
ROCH	El Roble	1.90	29	eP	Pb	06 01 15.2	-0.5
ROCH				iS	Sb	06 01 40.2	+1.0
PEL	Peldehue	1.90	38	eP	Pn	06 01 13.5	+0.3
PEL				iS	Sn	06 01 38.1	+1.2
PEL				IAML		06 01 44.0	
	comp=N,374nm,0.5s						
CCHI	Chillan	1.96	180	iP	Pn	06 01 14.3	+0.4
CCHI				iS	Sg	06 01 43.7	-0.5
FCH	Farellones	1.99	49	eP	Pn	06 01 14.4	-0.3
FCH				iS	Sn	06 01 39.6	+0.1
AAGR	Agrelo	3.13	61	eP	Pn	06 01 32.6	+2.5
ARCO	CERRO ARCO	3.19	57	eP	Pn	06 01 32.7	+1.7
ARCO				IAML		06 01 44.8	
	comp=Z,93nm,0.5s						
ARCO				eS	Sb	06 02 16.7	+0.2
AUSP	Uspallata	3.31	44	eP	Pn	06 01 35.1	+2.3
AUSP				iS	Sb	06 02 20.8	+0.8
ASAL	Salagasta	3.40	54	eP	Pn	06 01 35.8	+1.9
ASAL				eS	Sb	06 02 23.1	+0.5
RTLS	Leoncito	3.68	40	eP	Pn	06 01 40.0	+2.1
RTLS				eS	Sb	06 02 31.9	+1.2
RTLS				IAML		06 02 36.8	
	comp=Z,120nm,0.4s						
RTCV	Cerro Valdivia	4.07	48	eP	Pn	06 01 44.0	+1.0
RTCV				eS	Sb	06 02 40.7	-1.0
RTLL	Cerro Villicun	4.49	44	iP	Pn	06 01 50.1	+1.3
RTLL				eS	Sb	06 02 50.9	-2.9
RTLL				IAML		06 02 53.7	
	comp=Z,98nm,0.5s						
ACAN	Cantantal	4.73	61	eP	Pn	06 01 52.2	+0.1
AMOG	MOGNA	4.78	40	eP	Pn	06 01 53.2	+0.4
AROD	Rodeo	4.98	27	iP	Pn	06 01 57.6	+1.8
AROD				eS	Sb	06 03 05.3	-3.0
ACDV	Cuesta del Vie	5.12	30	iP	Pn	06 01 58.8	+1.2
LCO	Las Campanas	5.74	12	iP	Pn	06 02 06.7	+0.5
LCO				eS	Sn	06 03 11.7	-0.2
MRA	San Martin	5.77	69	eP	Pn	06 02 07.0	+0.6
MRA				IAML		06 03 44.6	
	comp=Z,12nm,0.6s						
AGUA	GUANDACOL	5.98	32	eP	Pn	06 02 09.7	+0.4
APLL	PUNTA DE LOS L	6.33	50	eP	Pn	06 02 12.3	-1.8
APLL				eS	Sn	06 03 24.6	-1.5
APLL				IAML		06 03 32.9	
	comp=Z,18nm,0.5s						
VCA	Vinchina	6.76	30	eP	Pn	06 02 20.8	+0.7
VCA				eS	Sb	06 03 50.9	-8.2
VCA				IAML		06 03 56.6	
	comp=Z,42nm,0.7s						
TCA	Tanti	7.11	64	eP	Pn	06 02 23.4	-1.4
TCA				eS	Sn	06 03 46.6	+1.2
TCA				IAML		06 03 49.3	
	comp=Z,13nm,0.8s						

*IDC **08** 06:05:02.5±1.0, 0°.72N×121°.36E, h0km, mb4.0/6, mb1 4.2/6, mb1mx3.7/56, mbtmp4.0/6, MS3.0/3, Ms1 3.0/3, ms1mx2.5/52, Error ellipse: s-maj=155.1km s-min=16.9km az=64.0*
*DJA **08** 06:05:07.1±0.4, 1°N±3°×12°2E±°, h10km, M4.3/3, mB4.8/1, mb4.7/1, MLv4.1/3, Mw(mB)4.1/1*
*NEIC **08** 06:05:09.8±1.0, 0°.62N×121°.20E, h58km±11km, mb4.4/1, Error ellipse: s-maj=49.4km s-min=7.9km az=56.0*
ISC 08 06:05:03.7±1.7**, 1°.01N**±0°.05×**121°.71E**±0°.05**, h7**km±12km**, n19, σ1s.83**/24**, mb4.1**/7**, Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MRSI	Marisa	0.58	157	P	Pn	06 05 17.8	-0.5
MRSI				S	Sn	06 05 25.8	-2.2
APSI	Ampana	1.91	182	P	Pg	06 05 39.6	-0.8
APSI				S	Sg	06 06 04.6	-0.6
MPSI	Mapaga	1.94	250	P	Pn	06 05 37.7	+0.7
MPSI				S	Sn	06 06 01.2	-0.4
LUWI	Luwuk	2.30	153	P	Pb	06 05 46.1	+0.6
LUWI				S	Sg	06 06 16.7	-0.9
LUWI	Luwuk	2.30	153	ePn	Pb	06 05 45.3	-0.2
LUWI				eSn	Sg	06 06 17.4	-0.2
KMSI	Cibinong	2.31	101	P	Pg	06 05 48.0	0.0
KMSI				S	Sg	06 06 17.3	-0.7
SANI	Sanana	5.25	125	P	Pn	06 06 26.7	+4.1
BNSI	Bone	5.61	197	P	Pn	06 06 31.6	+4.0
DAV	Davao City (W)	7.15	33	LR	LR	06 09 51.5	
	comp=Z,74nm,20.3s,baz=334,slow=38						
KKM	Kota Kinabalu	7.42	312	ePn	Pn	06 06 54.4	+1.8
	27nm,0.6s						
KKM				eSn	Sn	06 08 13.2	-4.0
WRAB	Tennant Creek	24.22	150	eP	P	06 10 20.3	-1.1
	9.3nm,0.6s						
WRA	Warramunga Arr	24.23	150	P	P	06 10 20.0	-1.4
	10nm,0.5s,baz=324,slow=10,SNR=139						
ASAR	Alice Springs	27.24	155	P	P	06 10 48.0	-0.7
	2.3nm,0.5s,baz=343,slow=13,SNR=88						
ASAR				LR	LR	06 22 15.1	
	comp=Z,37nm,18.2s,baz=66,slow=38						
CMAR	Chiang Mai Arr	28.29	309	LR	LR	06 22 48.4	
	comp=Z,25nm,18.8s,baz=150,slow=38						
STKA	Stephens Creek	37.75	152	P	P	06 12 19.7	-0.7
	2.9nm,0.5s,baz=316,slow=9.2,SNR=8.5						
SONM	Songino Array	48.50	346	P	P	06 13 48.5	+1.2
	0.6nm,0.6s,baz=168,slow=9.2,SNR=5.0						
ZALV	Zalesovo Beam	60.87	336	P	P	06 15 17.7	+0.9
	0.4nm,0.4s,baz=145,slow=5.3,SNR=3.0						
KURBB	Kurchatov Arra	61.45	330	P	P	06 15 21.1	+0.3
	0.5nm,0.8s,baz=133,slow=5.7,SNR=4.8						
KURK	Kurchatov	61.47	330	P	P	06 15 21.1	+0.2

IDC 08 06:20:15.1±8.3**, 1°.14N**×**96°.89W, h0**km**, mb3.4**/4**, mb1 3.8**/4**, mb1mx3.5**/40**, mbtmp3.4**/4**, Error ellipse: s-maj=392.6km s-min=146.8km az=88.0, West of Galapagos Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TXAR	Lajitas Array	28.77	348	P	P	06 26 15.1	+0.3
	0.5nm,0.8s,baz=168,slow=10.0,SNR=4.9						
PDAR	Pinedale Array	42.97	346	P	P	06 28 15.8	-0.6
	0.5nm,0.7s,baz=135,slow=9.0,SNR=4.7						
YKA	Yellowknife Ar	62.63	351	P	P	06 30 41.5	+0.3
	0.3nm,1.0s,baz=160,slow=6.4,SNR=4.6						
ILAR	Eielson Array	72.94	340	P	P	06 31 46.0	-0.1
	0.3nm,0.6s,baz=156,slow=4.6,SNR=5.2						

MAN 08 06:20:25, 10°.10N×123°.16E, h2km, mb4.5, ML3.3, MS3.1, 3C, Cebu

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SNPH	Sibulan	0.76	174	eP	Pb	06 20 41.1	+0.2
SNPH				eS	Sb	06 20 52.0	+0.3
GUIM	Jordan	0.76	313	eP	Pg	06 20 40.2	+0.5
GUIM				eS	Sb	06 20 51.0	-0.9
TBP	Tagbilaran	0.81	120	eP	Pg	06 20 40.8	+0.3
LLP	Lapu-Lapu	0.83	75	⇑iP	Pg	06 20 40.5	-0.4
LLP				eS	Sg	06 20 41.4	-10
RCP	Roxas	1.50	345	⇑eP	Pn	06 20 53.0	0.0
DCPH	Dipolog City	1.52	173	⇑eP	Pn	06 20 53.0	-0.2
DCPH				eS	Sn	06 21 13.6	0.0
MSLP	Maasin	1.68	89	eP	Pn	06 20 55.2	-0.2
MSLP				eS	Sg	06 21 19.0	0.0

MEX 08 06:22:58.8±0.9**, 16°.03N**×**98°.05W, h5**km**, MD3.6, 1D, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.36	348	iP	Pg	06 23 04.9	-1.1
PNIG				iS	Sg	06 23 10.8	+0.1
TLIG	Tlapa	1.60	342	eP	Pn	06 23 25.5	-2.4
TLIG				eS	Sn	06 23 45.0	-4.0
VHO	Vista Hermosa	1.63	50	eP	Pn	06 23 24.6	-3.8
VHO				eS	Sn	06 23 44.8	-5.1
HUIG	Huatulco	1.88	98	⇓eP	Pn	06 23 29.2	-2.5

*ISCJB **08** 06:24:38.5±0.4, 2°.15N±0°.05×101°.23W±0°.03, h10km, mb4.8/206, MS3.9/28, Error ellipse: s-maj=6.8km s-min=4.6km az=20.0*
*MOS **08** 06:24:38.9±0.8, 2°.26N×101°.17W, h10km, mb5.0/51, Error ellipse: s-maj=15.1km s-min=5.5km az=100.6*
*IDC **08** 06:24:38.0±0.5, 2°.14N×101°.34W, h0km, mb4.6/18, mb1 4.7/21, mb1mx4.5/47, mbtmp4.5/21, ML3.2/3, MS3.9/30, Ms1 4.0/30, ms1mx3.9/37, Error ellipse: s-maj=20.6km s-min=11.8km az=56.0*
*NEIC **08** 06:24:39.6±0.2, 2°.06N×101°.32W, h10km, mb4.8/196, Error ellipse: s-maj=5.5km s-min=3.6km az=224.0*
*GCMT **08** 06:24:39.6±0.4, 2°.15N×100°.97W, h13km±1km, MW4.8/76, Moment Tensor Solution. s25,c31; s76,c112; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.08±.14; $M_{\theta\theta}$2.00±.10; $M_{\phi\phi}$0.07±.09; $M_{r\theta}$-0.35±.22; $M_{\theta\phi}$-0.41±.06; $M_{\phi r}$-0.57±.31; Best double couple: $M_0$2.18100×10^{16} NP1:ϕ_s86.00000°, δ50.00000°, λ-110.00000°. NP2: ϕ_s296.00000°, δ44.00000°, λ-67.00000°. Principal axes: T 2.0980, Plg3.0000°, Azm191.0000°; N 0.1600, Plg15.0000°, Azm100.0000°; P -2.2650, Plg74.0000°, Azm292.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 08 06:24:40.0±0.4**, 2°.15N**±0°.07×**101°.34W**±0°.08**, h10**km**, n596, σ0s.86**/599**, mb4.8**/206**, MS3.9**/28**, 8C-2D, Galapagos Triple Junction region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CMIG	Matias Romero	16.14	23	Pn	Pn	06 28 28.4	+1.2
	0.1nm,0.3s,baz=183,slow=11,SNR=5.8						
CMIG				LR	LR	06 33 08.4	
	comp=Z,2µm,18.8s,baz=200,slow=32						
APG	El Apazote	16.68	39	Pn	P	06 28 35.8	-0.8
	0.1nm,0.3s,baz=223,slow=14,SNR=13						
APG				LR	LR	06 33 23.6	
	comp=Z,1µm,20.1s,baz=258,slow=32						
UNM	Universidad Na	17.20	7	eP	P	06 28 43.9	+1.4
	39nm,0.6s						
UNM	Universidad Na	17.20	7	eP	P	06 28 43.9	+1.4
UNM				pmax	pmax		
	comp=Z,39nm,0.6s						
MOIG	Morelia	17.42	0	ePn	Pn	06 28 43.1	-0.4
	comp=Z,78nm,1.9s						
LVIG	Laguna Verde	18.11	15	ePn	P	06 28 54.1	+1.9
	comp=Z,49nm,1.2s						
JTS	JuntasAbangare	18.17	63	P	P	06 28 54.0	+1.0
	comp=Z,0.1nm,0.3s,baz=264,slow=6.6,SNR=4.7						
JTS				LR	LR	06 33 44.2	

comp=Z,640nm,20.5s,baz=304,slow=30
JTS **JuntasAbangare** 18.17 63 *e*P P 06 28 55.0 +2.0
comp=Z,52nm,1.5s
JTS **JuntasAbangare** 18.17 63 *e*P P 06 28 55.0 +2.0
JTS pmax pmax
comp=Z,52nm,1.5s
HDC **Heredia** 18.80 65 *e*P Pn 06 29 01.4 +0.8
comp=Z,45nm,1.3s
H06E1 **SOCORRO T-PHAS** 19.01 331 T T 06 48 48.3
SNR=10
ZAIG **Zacatecas** 20.53 357 *e*P Pn 06 29 21.4 +0.2
TEIG **Tepich** 22.03 34 *e*P P 06 29 36.2 +1.3
comp=Z,0.3nm,1.0s
BCIP **Isla Barro Col** 22.49 71 *e*P P 06 29 40.6 +0.8
comp=Z,52nm,1.2s
TUMC **Tumaco** 22.60 90 *e*P P 06 29 47.5 +6.5
comp=Z,290nm,0.8s
LNIG **Linares** 22.69 4 *e*P P 06 29 43.3 +1.4
comp=Z,30nm,1.5s
OTAV **Otavalo** 22.96 94 *e*P P 06 29 45.1 -0.3
comp=Z,40nm,1.4s
OTAV **Otavalo** 22.96 94 *e*P P 06 29 45.1 -0.3
OTAV pmax pmax
comp=Z,40nm,1.4s
LPIG **La Paz** 23.48 339 P P 06 29 51.1 +1.1
comp=Z,5.5nm,0.3s,baz=264,slow=7.1,SNR=3.2
LPIG LR LR 06 36 58.6
comp=Z,814nm,19.0s,baz=164,slow=32
ATAH **Atahualpa** 24.68 112 P P 06 30 03.0 +1.0
comp=Z,7.6nm,1.0s,baz=319,slow=11,SNR=5.4
ATAH LR LR 06 37 14.5
comp=Z,167nm,20.2s,baz=299,slow=31
HPIG 24.99 351 *e*P P 06 30 05.4 +1.1
comp=Z,9.8nm,1.1s
HELC **Santa Helena** 26.04 80 *e*P P 06 30 14.2 -0.1
comp=Z,50nm,1.5s
833A **Chaparral WMA,** 26.09 4 P P 06 30 15.0 +0.9
baz=184
PRAC **Prado** 26.46 86 *e*P P 06 30 18.7 +1.0
comp=Z,86nm,1.8s
ROSC **El Rosal** 27.09 84 *e*P P 06 30 28.9 +5.1
comp=Z,15nm,0.4s
TX31 **Lajitas Ar. Si** 27.12 356 *e*P P 06 30 23.9 +0.4
TX31 *e*PcP PcP 06 33 43.7 -0.7
TX31 *e*PcP PcP 06 33 44.5 +0.1
TXAR **Lajitas Array** 27.12 356 P P 06 30 24.3 +0.8
comp=Z,4.7nm,1.0s,baz=180,slow=11,SNR=34
TXAR PcP PcP 06 33 44.0 -0.4
comp=Z,2.3nm,0.9s,baz=175,slow=5.4,SNR=14
TXAR LR LR 06 40 10.4
comp=Z,1μm,19.5s,baz=0.0,slow=34
NNA **Nana** 28.10 121 LR LR 06 38 48.0
comp=Z,234nm,21.4s,baz=300,slow=30
HKT **Hockley** 28.14 10 *e*P P 06 30 33.3 +1.0
comp=Z,37nm,2.0s
HKT **Hockley** 28.14 10 *e*P P 06 30 33.3 +1.0
HKT pmax pmax
comp=Z,37nm,2.0s
JCT **Junction City** 28.21 3 P P 06 30 33.7 +0.6
baz=183,SNR=8.0
JCT **Junction City** 28.21 3 *e*P P 06 30 33.8 +0.6
comp=Z,32nm,1.1s
JCT **Junction City** 28.21 3 *e*P P 06 30 33.8 +0.6
JCT pmax pmax
comp=Z,32nm,1.1s
RUSC **La Rusia** 28.42 82 *e*P P 06 30 36.1 +0.4
comp=Z,9.4nm,1.3s
MNTX **Cornudas Mount** 29.64 353 P P 06 30 45.7 0.0
baz=172,SNR=7.3
MNTX **Cornudas Mount** 29.64 353 *e*P P 06 30 46.0 +0.2
comp=Z,13nm,1.4s
EPT **El Paso** 29.86 351 *e*P P 06 30 48.8 +0.9
comp=Z,35nm,1.9s
WHTX **Lake Whitney,** 29.91 7 P P 06 30 48.4 +0.2
baz=188
WHTX **Lake Whitney,** 29.91 7 *e*P P 06 30 48.1 0.0
comp=Z,20nm,1.2s
319A **Douglas** 30.02 346 *e*P P 06 30 50.5 +1.2
comp=Z,45nm,1.8s
GDL2 **Guadalupe Moun** 30.02 355 *e*P P 06 30 50.5 +1.1
RPN **Rapa Nui** 30.11 194 LR LR 06 40 04.3
comp=Z,433nm,20.6s,baz=344,slow=31
NATX **Nacogdoches** 30.12 11 P P 06 30 51.0 +1.0
baz=193
NATX **Nacogdoches** 30.12 11 *e*P P 06 30 50.5 +0.6
comp=Z,36nm,1.0s
342A **Flagon Creek P** 30.29 15 P P 06 30 51.7 +0.2
baz=198
ABTX **Abilene, Hawle** 30.35 3 P P 06 30 52.3 +0.2
baz=183,SNR=7.5
ABTX **Abilene, Hawle** 30.35 3 *e*P P 06 30 52.4 +0.2
comp=Z,18nm,1.0s
344A **Westbrook Farm** 30.82 18 P P 06 30 56.9 +0.7
baz=201
121A **Cookes Peak, D** 30.82 349 P P 06 30 57.3 +0.8
baz=167
121A **Cookes Peak, D** 30.82 349 *e*P P 06 30 57.3 +0.8
comp=Z,11nm,1.1s
242A **Grayson** 30.98 15 P P 06 30 58.5 +0.8
baz=198
SDV **Santo Domingo** 31.27 76 P P 06 30 59.7 -1.0
comp=Z,36nm,0.4s,baz=34,slow=10,SNR=2.9
TUC **Tucson** 31.29 344 P P 06 31 01.3 +0.8
baz=162
TUC **Tucson** 31.29 344 *e*P P 06 31 01.2 +0.8
comp=Z,6.6nm,1.0s
TUC *e*PcP PcP 06 33 55.2 +0.4
TUC **Tucson** 31.29 344 *e*P P 06 31 01.3 +0.8
TUC *e* 06 33 55.2
TUC pmax pmax
comp=Z,7.0nm,1.0s
347A **Saraland** 31.50 21 P P 06 31 03.1 +0.9
baz=205
214A **Organ Pipe Nat** 31.56 341 P P 06 31 04.1 +1.4
baz=158
MSTX **Muleshoe** 31.68 358 P P 06 31 04.6 +0.7
baz=177,SNR=8.1
MSTX **Muleshoe** 31.68 358 *e*P P 06 31 04.4 +0.5
comp=Z,22nm,1.1s
349A **Repton** 31.97 23 P P 06 31 06.9 +0.6
baz=207
145A **Houston Renfro** 32.13 18 P P 06 31 08.6 +0.8
baz=202
BNM **Barren Site** 32.22 352 *e*P P 06 31 09.8 +1.0
LPM **Los Pinos Moun** 32.38 352 *e*P P 06 31 06.5 -3.6
248A **Dixon Mills** 32.42 22 P P 06 31 10.9 +0.6
baz=206
146A **Union** 32.45 20 P P 06 31 11.1 +0.5
baz=203
LAZ **Ladron** 32.54 351 *e*P P 06 31 11.7 +0.1
249A **Camden** 32.55 23 P P 06 31 12.2 +0.8
baz=207
351A **Pinckard** 32.56 26 P P 06 31 12.2 +0.7
baz=210
AMTX **Amarillo** 32.57 359 *e*P P 06 31 12.2 +0.6
comp=Z,11nm,1.1s
Y41A **Eaglette Beard** 32.60 14 P P 06 31 13.2 +1.3
baz=196
113A **Mohawk Valley,** 32.62 340 *e*P P 06 31 12.6 +0.5
comp=Z,18nm,1.3s
CCAR **Cane Creek** 32.84 15 *e*P P 06 31 14.6 +0.7
comp=Z,58nm,1.5s
X39A **Fountain Ranch** 32.89 11 P P 06 31 14.8 +0.4
baz=193,SNR=7.7
Z45A **Winona** 32.92 18 P P 06 31 15.4 +0.8
baz=202
ANMO **Albuquerque** 32.97 352 P P 06 31 16.2 +0.8
baz=171
ANMO **Albuquerque** 32.97 352 *e*P P 06 31 15.8 +0.5
comp=Z,6.6nm,1.0s
ANMO **Albuquerque** 32.97 352 *c i*P P 06 31 16.3 +0.9
ANMO pmax pmax
comp=Z,11nm,1.7s
352A **Blakely** 33.03 26 P P 06 31 15.8 +0.1
baz=211
MIAR **Mount Ida** 33.03 12 P P 06 31 16.0 +0.3
baz=194,SNR=11
MIAR **Mount Ida** 33.03 12 *e*P P 06 31 15.9 +0.3
comp=Z,22nm,1.1s
MIAR **Mount Ida** 33.03 12 *e*P P 06 31 15.9 +0.3
MIAR pmax pmax
comp=Z,23nm,1.1s
X18A **Snowflake** 33.20 347 *e*P P 06 31 18.7 +1.4
comp=Z,33nm,1.9s
149A **Jones** 33.23 23 P P 06 31 17.3 -0.1
baz=207
GLA **Glamis** 33.24 339 P P 06 31 18.5 +0.9
baz=155
GLA **Glamis** 33.24 339 *e*P P 06 31 18.7 +1.2
comp=Z,28nm,1.4s
GLA **Glamis** 33.24 339 *e*P P 06 31 18.7 +1.2
GLA pmax pmax
comp=Z,28nm,1.4s
251A **Midway** 33.35 25 P P 06 31 18.5 +0.1
baz=210
Y45A **Yeager Farm, C** 33.42 18 P P 06 31 19.6 +0.6
baz=202
Y14A **Wickenburg** 33.45 342 *e*P P 06 31 18.9 -0.5
comp=Z,12nm,1.4s
Y14A *e*PcP PcP 06 34 00.8 +0.2
X16A **Lo Mia Camp, P** 33.46 345 *e*P P 06 31 20.1 +0.5
comp=Z,17nm,1.6s
X16A *e*PcP PcP 06 34 01.2 +0.4
SWSC **Sam W. Stewart** 33.51 338 P P 06 31 19.6 -0.2
baz=153
LRAL **Lakeview Retre** 33.54 22 *e*P P 06 31 18.9 -1.1
comp=Z,22nm,1.4s
150A **Eclectic** 33.54 24 P P 06 31 20.4 +0.3
baz=208
252A **Lumpkin** 33.55 26 P P 06 31 20.5 +0.2
baz=211
TIGA **Tifton** 33.60 28 *e*P P 06 31 20.4 -0.3
comp=Z,48nm,1.4s
BAR **Barrett** 33.61 336 *e*P P 06 31 21.8 +1.0
comp=Z,18nm,1.3s
W39A **Magazine** 33.62 11 P P 06 31 21.2 +0.5
baz=194,SNR=5.2
Y46A **Houston** 33.66 19 P P 06 31 21.4 +0.3
baz=203,SNR=7.8
W18A **Petrified Fore** 33.72 348 *e*P P 06 31 22.5 +0.7
comp=Z,12nm,1.1s
151A **Opelika** 33.76 25 P P 06 31 22.2 +0.2
baz=210
W40A **Ferguson Farm,** 33.76 12 *e*P P 06 31 22.1 +0.2
comp=Z,23nm,1.1s
Y12C **Blythe** 33.77 340 *e*P P 06 31 22.9 +0.8
comp=Z,8.8nm,1.2s
Z49A **Columbiana** 33.86 23 P P 06 31 23.3 +0.4
baz=207,SNR=7.6
253A **Americus** 33.88 27 P P 06 31 22.7 -0.4
baz=212
W41B **Gary Mavity, V** 33.92 13 P P 06 31 23.4 0.0
baz=196
TUL1 **Leonard** 33.98 8 P P 06 31 23.9 0.0
baz=190
TUL1 **Leonard** 33.98 8 *e*P P 06 31 23.3 -0.6
comp=Z,30nm,1.1s
Y47A **UCPARC, Winfie** 34.01 20 P P 06 31 24.4 +0.2
baz=204
BC3 **Big Chuckawall** 34.01 339 P P 06 31 25.6 +1.3
baz=154
WHAR **Wooly Hollow** 34.03 13 *e*P P 06 31 24.0 -0.3
comp=Z,38nm,1.4s
PDMCI **Parker Dam,Lak** 34.15 341 P P 06 31 26.8 +1.4
baz=157,SNR=11
Z50A **Ashland** 34.15 23 P P 06 31 25.6 +0.2
baz=208
Y48A **Jasper** 34.26 21 P P 06 31 25.4 -0.9
baz=206
V39A **Pettigrew** 34.27 11 P P 06 31 26.6 +0.1
baz=194,SNR=7.1
XPFO **Piæon Flat** 34.35 337 *e*P P 06 31 28.2 +1.0
comp=Z,28nm,1.5s
PFO **Pinyon Flats O** 34.35 337 P P 06 31 28.5 +1.2
baz=153,SNR=5.0
PFO **Pinyon Flats O** 34.35 337 *e*P P 06 31 28.4 +1.1
comp=Z,28nm,1.6s
PFO **Pinyon Flats O** 34.35 337 *e*P P 06 31 28.4 +1.1
PFO pmax pmax
comp=Z,28nm,1.6s
IRM **Iron Mountain** 34.35 339 P P 06 31 28.3 +1.0
baz=155,SNR=9.5
X46A **Booneville** 34.36 19 P P 06 31 27.4 +0.2
baz=203
V40A **Witts Springs** 34.40 12 P P 06 31 27.6 0.0
baz=195
WUAZ **Wupatki** 34.48 345 P P 06 31 29.9 +1.4
baz=162,SNR=8.3
WUAZ **Wupatki** 34.48 345 *e*P P 06 31 29.5 +1.0
comp=Z,14nm,1.0s
WUAZ *e*PcP PcP 06 34 04.3 +0.6
BELC **Belle Mtn. Jos** 34.52 338 P P 06 31 29.4 +0.6
baz=154
X47A **Russelville** 34.57 20 P P 06 31 28.4 -0.6
baz=204
HHAR **Hobbs** 34.64 11 *e*P P 06 31 29.2 -0.5
comp=Z,14nm,1.1s
V42A **Cord** 34.73 14 P P 06 31 30.0 -0.4
baz=198
Y50A **Piedmont** 34.78 23 P P 06 31 30.8 -0.1
baz=208
W13A **Hualapai Mount** 34.80 342 *e*P P 06 31 31.9 +0.6
comp=Z,27nm,1.8s
U39A **Green Forest** 34.83 11 P P 06 31 31.2 0.0
baz=194,SNR=8.4
PLAL **Pickwick Lake** 34.92 19 *e*P P 06 31 31.8 -0.2
PLAL *e*pwP sP 06 31 37.8 +1.4
U40A **Yellville** 34.93 12 P P 06 31 32.2 +0.1
baz=195
T25A **Trinidad** 34.93 356 P P 06 31 33.3 +0.9
baz=153,SNR=6.0
T25A **Trinidad** 34.93 356 *e*P P 06 31 33.3 +0.9
comp=Z,29nm,1.5s
T25A *e*PcP PcP 06 34 05.8 +0.7
MHTCO **State Highway** 34.94 355 *e*P P 06 31 33.1 +0.7
comp=Z,16nm,1.4s
MHTCO *e*PcP PcP 06 34 06.0 +0.9
W46A **Michie** 34.96 19 P P 06 31 31.5 -0.8
baz=203
GMRC **Granite Mounta** 35.10 339 P P 06 31 34.6 +0.8
baz=155
X49A **Woodville** 35.11 22 P P 06 31 33.4 -0.3
baz=207
LDFC **Landfair** 35.18 340 *e*P P 06 31 36.0 +1.6
comp=Z,26nm,1.3s
U42A **Revenden** 35.29 14 P P 06 31 35.4 +0.2
baz=198
T38A **Diamond** 35.31 10 P P 06 31 35.3 -0.2
baz=192,SNR=9.0
GOGA **Godfrey** 35.32 26 P P 06 31 35.4 -0.1
baz=212
GOGA **Godfrey** 35.32 26 *e*P P 06 31 33.8 -1.7
GOGA **Godfrey** 35.32 26 *e*P P 06 31 33.8 -1.7
W47A **Westpoint** 35.32 20 P P 06 31 35.8 +0.3
baz=204
V45A **Humboldt** 35.34 18 P P 06 31 35.9 +0.2
baz=202
BFSC **Mount Baldy Ra** 35.37 336 P P 06 31 37.1 +0.9
baz=151
HEC **Hector,Ludlow** 35.38 338 P P 06 31 37.9 +1.8
baz=154
W48A **Pulaski** 35.45 21 P P 06 31 36.4 -0.2
baz=205,SNR=8.5
T39A **Clever** 35.47 11 P P 06 31 36.4 -0.4
baz=194,SNR=8.0
MVCO **Mesa Verde** 35.51 350 P P 06 31 37.9 +0.5
baz=168,SNR=7.6
MVCO **Mesa Verde** 35.51 350 *e*P P 06 31 38.2 +0.8
U15A **North Rim** 35.58 345 *e*P P 06 31 39.1 +1.1
comp=Z,18nm,1.4s
SDCO **Great Sand Dun** 35.63 354 P P 06 31 39.1 +0.6
baz=173
SDCO **Great Sand Dun** 35.63 354 *e*P P 06 31 38.4 -0.1
comp=Z,8.7nm,1.4s
SDCO *e*PcP PcP 06 34 07.2 0.0
V46A **Holladay** 35.65 19 P P 06 31 38.0 -0.3
baz=203
GLAT **Glass** 35.73 17 *e*P P 06 31 38.8 -0.3
T40A **Mansfield** 35.76 12 P P 06 31 39.1 -0.2
baz=195
S22A **4UR Ranch, Cre** 35.78 353 P P 06 31 41.2 +1.4
baz=171,SNR=13
S22A **4UR Ranch, Cre** 35.78 353 *e*P P 06 31 40.3 +0.5
comp=Z,32nm,1.6s
S22A *e*PcP PcP 06 34 08.1 +0.5
TUQ **Turquoise Moun** 35.78 339 P P 06 31 41.2 +1.6
baz=155,SNR=5.9
T41A **Mountain View** 35.83 13 P P 06 31 40.2 +0.3
baz=196,SNR=8.7
V47A **Nunnelly** 35.87 19 P P 06 31 40.5 +0.2
baz=204
PBMO **Poplar Bluff** 35.90 15 *e*P P 06 31 39.9 -0.5
comp=Z,18nm,1.3s
S38A **Stockton** 35.96 10 P P 06 31 40.6 -0.4
baz=193,SNR=6.9
T42A **Van Buren** 35.97 14 P P 06 31 40.8 -0.2
baz=198,SNR=9.4
GSC **Goldstone, Bar** 35.98 338 P P 06 31 42.1 +0.8
baz=153,SNR=10
GSC **Goldstone, Bar** 35.98 338 *e*P P 06 31 42.1 +0.8
comp=Z,20nm,1.3s
V48A **Smith Brothers** 36.03 20 P P 06 31 41.3 -0.3
baz=205,SNR=6.9
WVT **Waverly** 36.05 19 P P 06 31 41.4 -0.4
baz=203
WVT **Waverly** 36.05 19 *e*P P 06 31 40.7 -1.0
comp=Z,28nm,1.3s
WVT **Waverly** 36.05 19 *e*P P 06 31 40.7 -1.0
WVT pmax pmax
comp=Z,28nm,1.3s
EDW2 **Edwards Air Fo** 36.07 336 P P 06 31 42.8 +0.8
baz=151,SNR=5.9
S39A **Bolivar** 36.13 11 P P 06 31 42.3 -0.1
baz=194,SNR=11
S40A **Lebanon** 36.20 12 P P 06 31 43.0 0.0
baz=195
T43A **Greenville** 36.22 15 P P 06 31 43.0 -0.2
baz=199
KNB **Kanab** 36.27 344 *e*P P 06 31 45.0 +1.1
comp=Z,23nm,1.3s
KNB **Kanab** 36.27 344 *e*P P 06 31 45.0 +1.1
KNB pmax pmax
comp=Z,23nm,1.3s
SHOC **Shoshone, Teco** 36.32 339 P P 06 31 45.5 +1.4
baz=154,SNR=6.4
S41A **Jillco Farms,** 36.35 13 P P 06 31 44.4 +0.1
baz=196,SNR=8.5
LCMT **Little Creek M** 36.39 344 *e*P P 06 31 45.2 +0.4
comp=Z,14nm,1.4s
PV01 **Paradox Valley** 36.42 350 *e*P P 06 31 46.0 +0.9
PV05 **Paradox Valley** 36.46 350 *e*P P 06 31 46.5 +1.0
LRMC **Laurel Mtn Rad** 36.47 337 P P 06 31 46.9 +1.4
baz=152,SNR=8.4
SHPR **Sheep Range** 36.49 341 *e*P P 06 31 46.2 +0.4
comp=Z,20nm,1.7s
R38A **Fenwick Farm,** 36.50 10 P P 06 31 45.5 -0.1
baz=192
U47A **Clarksville** 36.51 19 P P 06 31 45.2 -0.4
baz=204,SNR=6.9
HODGE **Hodges** 36.55 27 *e*P P 06 31 45.8 -0.2
comp=Z,17nm,1.2s
CPCT **Cooper Cave** 36.63 23 *e*P P 06 31 46.5 -0.2
KSCO **Kaye Shedlock'** 36.70 358 P P 06 31 48.3 +0.8
baz=178
PV04 **Paradox Valley** 36.73 350 *e*P P 06 31 48.6 +0.8
PV10 **Paradox Valley** 36.74 350 *e*P P 06 31 48.2 +0.3
S42A **Caledonia** 36.75 14 P P 06 31 47.5 -0.2
baz=198,SNR=7.3
R39A **Chumby, Stover** 36.78 11 P P 06 31 48.3 +0.3
baz=194,SNR=6.2
Q24A **Divide** 36.80 355 P P 06 31 48.9 +0.4
baz=174
Q24A **Divide** 36.80 355 *e*P P 06 31 49.3 +0.8
comp=Z,6.6nm,0.8s
U48A **Cassie Pea, Po** 36.82 20 P P 06 31 48.1 -0.2
baz=205,SNR=6.3
PKM **Mcpherson Peak** 36.83 334 P P 06 31 49.2 +0.5
baz=148
T46A **Princeton** 36.87 18 P P 06 31 48.5 -0.2
baz=203
PV09 **Paradox Valley** 36.87 350 *e*P P 06 31 49.0 -0.1
PV09 *e*PcP PcP 06 34 11.6 +0.7
BG3 **Lake Jocassee** 36.89 26 *e*P P 06 31 48.8 -0.2
comp=Z,14nm,1.0s
SZCU **Shurtz Canyon** 36.89 344 *e*P P 06 31 50.6 +1.4
comp=Z,14nm,1.5s
MPMC **Manual Prospec** 36.91 338 P P 06 31 50.6 +1.3
baz=153,SNR=13
CCM **Cathedral Cave** 36.91 13 P P 06 31 48.8 -0.2
baz=197
CCM **Cathedral Cave** 36.91 13 *e*P P 06 31 48.6 -0.4
comp=Z,15nm,1.1s
CCM **Cathedral Cave** 36.91 13 *e*P P 06 31 48.7 -0.4
CCM pmax pmax
comp=Z,15nm,1.1s
R40A **Maddies Statio** 36.91 12 P P 06 31 49.1 0.0
baz=195,SNR=18
CCUT **Cedar City** 36.92 344 *e*P P 06 31 50.6 +1.1
comp=Z,9.5nm,1.4s
ISA **Isabella, Lake** 36.94 336 P P 06 31 50.9 +1.4
baz=151,SNR=8.6
ISA **Isabella, Lake** 36.94 336 *e*P P 06 31 50.6 +1.1
comp=Z,9.5nm,1.1s
ISA *e*PcP PcP 06 34 12.0 +1.1
ISA **Isabella, Lake** 36.94 336 *e*P P 06 31 50.6 +1.1
ISA *e* 06 34 12.0
ISA pmax pmax
comp=Z,9.0nm,1.1s
FURC **Furnace Creek,** 37.04 339 P P 06 31 51.8 +1.7
baz=154,SNR=6.3
T47A **Sharon Grove** 37.07 19 P P 06 31 50.3 -0.1
baz=204,SNR=11
MTPU **Mount Pierson** 37.08 346 *e*P P 06 31 52.8 +1.9
comp=Z,31nm,1.5s
SIUC **Southern Illin** 37.10 16 *e*P P 06 31 50.2 -0.5
comp=Z,42nm,1.2s
TKL **Tuckaleechee C** 37.11 24 P P 06 31 50.2 -0.6
comp=Z,7.5nm,1.0s,baz=231,slow=4.6,SNR=4.0
TKL LR LR 06 47 36.9
comp=Z,166nm,18.1s,baz=200,slow=37
TKL **Tuckaleechee C** 37.11 24 *e*P P 06 31 51.0 +0.2
comp=Z,20nm,1.3s
TKL **Tuckaleechee C** 37.11 24 *e*P P 06 31 51.0 +0.2
TKL pmax pmax
comp=Z,21nm,1.3s
R41A **Rosebud** 37.11 13 P P 06 31 50.6 -0.2
baz=196,SNR=9.7
DAC **Darwin (Calif)** 37.14 338 *e*P P 06 31 51.7 +0.4
comp=Z,9.0nm,1.2s
DAC **Darwin (Calif)** 37.14 338 *e*P P 06 31 51.7 +0.4
DAC pmax pmax
comp=Z,9.0nm,1.2s
SMCO **Snowmass** 37.21 353 *e*P P 06 31 52.6 +0.6
comp=Z,13nm,1.3s
SMCO *e*PcP PcP 06 34 12.4 +0.4
R42A **Luebbering** 37.23 14 P P 06 31 51.9 +0.1
baz=198
S45A **Carrier Mills** 37.25 17 P P 06 31 52.1 +0.2
baz=201,SNR=10
TPNV **Topopah Spring** 37.26 340 P P 06 31 52.8 +0.6
baz=155,SNR=7.2
TPNV **Topopah Spring** 37.26 340 *e*P P 06 31 54.1 +1.9
comp=Z,11nm,1.3s
TPNV **Topopah Spring** 37.26 340 *e*P P 06 31 54.2 +1.9
TPNV pmax pmax
comp=Z,11nm,1.3s
SMMC **Simmler** 37.27 334 P P 06 31 52.8 +0.6
baz=148
Q38A **Cooks Store, C** 37.31 10 P P 06 31 52.7 +0.3
baz=193,SNR=8.0
PCRV **Puerto La Cruz** 37.31 76 P P 06 31 52.2 -0.6
comp=Z,15nm,1.1s,baz=253,slow=6.5,SNR=8.4
VES **Vestal, Richgr** 37.34 336 P P 06 31 53.5 +0.7
baz=150
T48A **Bowling Green** 37.41 20 P P 06 31 52.4 -0.9
baz=205,SNR=8.6
R43A **Red Bud** 37.44 15 P P 06 31 53.2 -0.3
baz=199
CWC **Cottonwood Cre** 37.47 338 P P 06 31 55.3 +1.3
Q39A **Willow Grove F** 37.51 11 P P 06 31 54.6 +0.5
baz=194
S46A **Don Dixon Farm** 37.51 18 P P 06 31 54.1 -0.1
baz=203
MSU **Marysvale** 37.52 346 *e*P P 06 31 56.3 +1.8
LPAZ **La Paz** 37.57 120 P P 06 31 55.5 -0.2
comp=Z,8.7nm,1.1s,baz=305,slow=6.9,SNR=17
LPAZ PcP PcP 06 34 13.1 -0.7
comp=Z,2.3nm,1.0s,baz=333,slow=5.2,SNR=3.8
LPAZ LR LR 06 45 42.7
comp=Z,71nm,21.0s,baz=313,slow=34
LPAZ **La Paz** 37.57 120 *e*P P 06 31 55.0 -0.7
comp=Z,13nm,1.2s
LPAZ PcP PcP 06 34 13.1 -0.7
LPAZ **La Paz** 37.57 120 *e*P P 06 31 55.0 -0.7
LPAZ 06 34 13.1
LPAZ pmax pmax
comp=Z,13nm,1.2s
Q40A **Laux Farm, Aux** 37.63 12 P P 06 31 55.0 -0.1
baz=195
R44A **Waltonville** 37.64 16 P P 06 31 55.7 +0.5
baz=200
ISCO **Idaho Springs** 37.67 355 P P 06 31 56.3 +0.4

baz=173,SNR=8.8
ISCO Idaho Springs 37.67 355 *e*P P 06 31 55.9 0.0
comp=Z,18nm,1.4s
ISCO *e*PcP PcP 06 34 14.3 +1.0
ISCO Idaho Springs 37.67 355 *e*P P 06 31 55.9 0.0
ISCO *e* 06 34 14.3
ISCO pmax pmax
comp=Z,18nm,1.4s
Q16A Castle Valley 37.68 347 *e*P P 06 31 57.1 +1.2
comp=Z,24nm,1.5s
Q16A *e*PcP PcP 06 34 13.8 +0.6
GRAC Grapevine Rang 37.69 339 P P 06 31 56.4 +0.6
baz=153,SNR=5.2
KMSC Kings Mountain 37.73 27 P P 06 31 56.0 -0.1
baz=214
KMSC Kings Mountain 37.73 27 *e*P P 06 31 55.5 -0.5
comp=Z,18nm,1.3s
SRU San Rafael Swe 37.73 348 *e*P P 06 31 56.8 +0.5
comp=Z,22nm,1.6s
SRU *e*PcP PcP 06 34 13.2 -0.1
SRU San Rafael Swe 37.73 348 *e*P P 06 31 56.8 +0.5
SRU *e* 06 34 13.2
SRU pmax pmax
comp=Z,22nm,1.6s
Q41A Truxton 37.77 13 P P 06 31 56.2 -0.2
baz=196,SNR=7.3
P37A Lathrop 37.80 9 P P 06 31 55.8 -0.8
baz=191
Q42A Golden Eagle 37.89 14 P P 06 31 57.7 +0.3
baz=198,SNR=9.0
R45A Skylar, Fairfi 37.91 17 P P 06 31 57.7 +0.2
baz=201
TZTN Tazewell 37.96 24 P P 06 31 58.2 +0.2
baz=210
TZTN Tazewell 37.96 24 *e*P P 06 31 57.6 -0.4
comp=Z,26nm,1.3s
P38A Dawn 37.97 10 P P 06 31 58.1 +0.1
baz=193
P39B Salisbury 37.98 11 P P 06 31 58.0 -0.1
baz=194,SNR=5.7
SJG San Juan 37.98 63 LR LR 06 45 05.0
comp=Z,66nm,18.6s,baz=247,slow=32
S48A Wiedeman Farm, 38.02 20 P P 06 31 57.6 -0.9
baz=205
TMUT Trail Mountain 38.05 348 *e*P P 06 31 59.9 +0.8
comp=Z,19nm,1.2s
R46A Gibon Southern 38.06 18 P P 06 31 59.3 +0.5
baz=203
TIN Tinemaha, Big 38.06 338 P P 06 32 00.0 +1.0
baz=152
O34A Beatrice 38.09 6 P P 06 31 59.4 +0.3
baz=188
P17A Butcher Ranch, 38.12 348 *e*P P 06 32 00.2 +0.7
comp=Z,12nm,1.1s
Q43A New Douglas 38.13 15 P P 06 31 59.7 +0.3
baz=199
P40A Paris 38.15 12 P P 06 31 59.4 -0.1
baz=195,SNR=8.9
P18A Preston Nutter 38.17 349 *e*P P 06 32 01.1 +0.9
comp=Z,11nm,1.2s
O35A Humboldt 38.26 7 P P 06 32 01.1 +0.7
baz=189
Q44A Meyer Farm, Va 38.27 16 P P 06 32 00.7 +0.2
baz=200
R11A Troy Canyon, C 38.32 342 P P 06 32 01.7 +0.5
baz=157,SNR=7.0
R11A Troy Canyon, C 38.32 342 *e*P P 06 32 02.5 +1.3
comp=Z,18nm,1.6s
O20A White River Ci 38.32 351 P P 06 32 02.0 +0.7
baz=169,SNR=5.9
O20A White River Ci 38.32 351 *e*P P 06 32 02.4 +1.1
comp=Z,28nm,1.3s
OLIL Olney 38.37 17 *e*P P 06 32 00.8 -0.6
comp=Z,28nm,1.1s
R47A Wooly Knot Far 38.45 19 P P 06 32 02.1 0.0
baz=204,SNR=9.9
WCI Wyandotte Cave 38.46 19 P P 06 32 02.3 +0.1
baz=204
WCI Wyandotte Cave 38.46 19 *e*P P 06 32 01.9 -0.3
comp=Z,25nm,1.3s
WCI Wyandotte Cave 38.46 19 *e*P P 06 32 01.9 -0.3
WCI pmax pmax
comp=Z,25nm,1.3s
O38A Galt 38.46 10 P P 06 32 02.2 0.0
baz=193
P41A Barry, Barry 38.50 13 P P 06 32 02.5 0.0
baz=196,SNR=7.6
Q45A Warren Harvey, 38.50 17 P P 06 32 02.5 0.0
baz=201
P42A Winchester 38.58 14 P P 06 32 03.1 -0.1
baz=198,SNR=7.5
R48A Northridge Ran 38.76 20 P P 06 32 04.9 +0.2
baz=205
N34A Lincoln 38.76 6 P P 06 32 04.9 +0.3
baz=188
O39A Kirksville 38.76 11 P P 06 32 04.9 +0.2
baz=194,SNR=7.3
O40A La Belle 38.76 12 P P 06 32 04.6 -0.1
baz=195,SNR=8.5
N23A Red Feather La 38.79 354 P P 06 32 05.9 +0.6
baz=173,SNR=6.7
N23A Red Feather La 38.79 354 *e*P P 06 32 05.8 +0.6
comp=Z,28nm,1.4s
MPU Maple Canyon 38.83 347 *e*P P 06 32 06.8 +1.2
comp=Z,30nm,1.3s
NLU North Lily Min 38.87 347 *e*P P 06 32 06.7 +0.8
comp=Z,43nm,2.0s
N35A Tabor 38.88 7 P P 06 32 05.8 +0.2
baz=189
MDPB Devils Postpil 38.89 337 *e*P P 06 32 06.4 +0.2
comp=Z,5.5nm,1.1s
O41A Passleys Farm, 38.96 13 P P 06 32 06.3 0.0
baz=197,SNR=9.0
N37A Lee Faris, Mou 38.97 9 P P 06 32 06.5 +0.1
baz=191
NV11 Mina Array Sit 39.25 339 *e*P P 06 32 10.3 +1.2
comp=Z,1.0nm,1.6s
DUG Dugway, Tooele 39.27 346 P P 06 32 10.4 +1.2
baz=162,SNR=11
DUG Dugway, Tooele 39.27 346 *e*P P 06 32 09.8 +0.6
comp=Z,24nm,1.4s
DUG Dugway, Tooele 39.27 346 *e*P P 06 32 09.8 +0.6
DUG pmax pmax
comp=Z,23nm,1.4s
NV01 Mina Array Sit 39.30 339 *e*P P 06 32 10.3 +0.8
NV01 *e*PcP PcP 06 34 18.9 +0.6
NVAR Mina Array Bea 39.30 339 P P 06 32 10.7 +1.2
comp=Z,1.8nm,0.9s,baz=163,slow=9.5,SNR=16
NVAR PcP PcP 06 34 18.4 +0.1
comp=Z,2.5nm,1.1s,baz=152,slow=4.6,SNR=7.9
NVAR LR LR 06 46 54.0
comp=Z,71nm,18.7s,baz=251,slow=34
JLU Jordanelle 39.35 348 *e*P P 06 32 10.1 +0.1
comp=Z,16nm,1.3s
N39A Derby Farms, D 39.37 11 P P 06 32 09.2 -0.6
baz=194
P46A Rosedale 39.45 17 P P 06 32 10.7 +0.3
baz=202
O43A Sugar Creek Fa 39.49 15 P P 06 32 10.8 0.0
baz=199
CTU Camp Tracy 39.51 348 *e*P P 06 32 12.4 +1.3
comp=Z,23nm,1.4s
N40A Mertquake, Sal 39.55 12 P P 06 32 10.8 -0.5
baz=195
RYN Ryan 39.56 339 *e*P P 06 32 12.7 +1.1
comp=Z,24nm,1.8s
O44A Mansfield 39.59 16 P P 06 32 11.9 +0.3
baz=200
M37A Trindle Farm, 39.62 9 P P 06 32 11.7 -0.1
baz=191
HDIL Hopedale 39.75 14 P P 06 32 13.1 +0.1
baz=199,SNR=7.1
HDIL Hopedale 39.75 14 *e*P P 06 32 12.8 -0.1
comp=Z,55nm,1.1s
CMB Columbia Colle 39.76 336 *e*P P 06 32 14.2 +1.1
comp=Z,10nm,1.5s
CMB Columbia Colle 39.76 336 *e*P P 06 32 14.2 +1.1
CMB pmax pmax
comp=Z,10.0nm,1.5s
M38A Pleasantville 39.77 10 P P 06 32 12.8 -0.3
baz=193,SNR=7.6
WAKR Walker 39.79 338 *e*P P 06 32 13.7 +0.1
comp=Z,10nm,1.1s
RDG13 Poverty Ridge 39.81 334 *e*P P 06 32 14.4 +0.8
comp=Z,42nm,1.8s
N42A Yates City 39.84 13 P P 06 32 13.4 -0.2
baz=198,SNR=7.4
TCUT Toone Canyon 39.84 348 *e*P P 06 32 14.9 +0.9
comp=Z,23nm,1.0s
M39A Webster 40.01 11 P P 06 32 14.2 -0.9
baz=194
BGU Big Grassy Mou 40.02 346 *e*P P 06 32 16.1 +0.8
comp=Z,19nm,1.4s
M40A Post Highland 40.07 12 P P 06 32 15.7 +0.1
baz=195
L35A Bielow Farm, R 40.12 7 P P 06 32 16.1 0.0
baz=189
YERR Yerington 40.14 338 *e*P P 06 32 17.9 +1.5
comp=Z,16nm,1.4s
TAOE Nuku Hiva Isla 40.20 254 *e*LR LR 06 43 10.3
comp=Z,286nm,25.3s
M41A Milan 40.24 13 P P 06 32 17.2 +0.2
baz=197
SPUT South Promonto 40.25 347 *e*P P 06 32 17.9 +0.6
comp=Z,21nm,1.3s
O47A Sheridan 40.33 18 P P 06 32 17.7 0.0
baz=204
HWUT Hardware Ranch 40.34 348 *e*P P 06 32 19.2 +1.1
comp=Z,33nm,1.3s
VCNR Virginia City 40.56 338 *e*P P 06 32 22.0 +2.0
comp=Z,13nm,1.1s
K22A Casper 40.59 354 P P 06 32 20.9 +0.8
baz=172
K22A Casper 40.59 354 *e*P P 06 32 20.8 +0.7
comp=Z,47nm,2.0s
K22A *e*PcP PcP 06 34 22.1 -0.1
M43A Waltham Townsh 40.67 14 P P 06 32 20.9 +0.3
baz=199
BMN Battle Mountai 40.73 341 *e*P P 06 32 21.8 +0.5
comp=Z,16nm,1.4s
BMN Battle Mountai 40.73 341 *e*P P 06 32 21.8 +0.5
BMN pmax pmax
comp=Z,16nm,1.4s
HVU Hansel Valley 40.77 347 *e*P P 06 32 22.2 +0.7
comp=Z,28nm,1.4s
HVU Hansel Valley 40.77 347 *e*P P 06 32 22.3 +0.7
HVU pmax pmax
comp=Z,28nm,1.4s
AFDM Forest Hills D 40.78 336 *e*P P 06 32 22.4 +0.9
comp=Z,9.1nm,1.2s
AFDM *e*PcP PcP 06 34 23.2 +0.5
K36A Gilmore City 40.78 8 P P 06 32 21.7 +0.3
baz=190
PAHR Pah Rah Range 40.83 339 *e*P P 06 32 23.4 +1.3
comp=Z,28nm,1.5s
M44A Midewin, Midew 40.86 15 P P 06 32 21.7 -0.4
baz=200
L42A Oliver, Polo 41.04 13 P P 06 32 23.4 -0.2
baz=198
BW06 Boulder Array 41.10 351 P P 06 32 24.9 +0.5
baz=168,SNR=14
BW06 Boulder Array 41.10 351 *e*P P 06 32 24.5 +0.1
comp=Z,23nm,1.1s
PD31 Pinale Array 41.10 351 *e*P P 06 32 24.3 -0.1
PDAR Pinedale Array 41.10 351 P P 06 32 24.5 +0.1
comp=Z,13nm,1.1s,baz=162,slow=7.3,SNR=44
PDAR PcP PcP 06 34 22.8 -1.2
comp=Z,1.9nm,0.9s,baz=149,slow=3.5,SNR=4.5
PDAR LR LR 06 48 13.2
comp=Z,227nm,21.4s,baz=178,slow=34
J32A Parkston 41.16 4 P P 06 32 24.7 +0.1
baz=185
J33A Davis 41.17 5 P P 06 32 24.9 +0.2
baz=187
RKT Rikitea 41.29 231 *e*LR LR 06 43 56.2
comp=Z,310nm,29.0s
RKT Rikitea 41.29 231 *e*T T 07 16 18.8
comp=Z,3.0nm,0.4s
K40A Colesburg 41.39 11 P P 06 32 27.0 +0.5
baz=195
PTGA Pitinga 41.46 94 *e*P P 06 32 26.2 -1.4
comp=Z,40nm,1.4s
K41A Shullsburg 41.47 12 P P 06 32 26.9 -0.3
baz=197
ORV Oroville 41.51 336 *e*P P 06 32 29.5 +2.0
comp=Z,30nm,1.5s
ECSD EROS Data Cent 41.62 5 P P 06 32 28.4 +0.1
baz=187,SNR=7.7
ECSD EROS Data Cent 41.62 5 *e*P P 06 32 27.5 -0.8
comp=Z,20nm,1.3s
L44A Lake County Fo 41.63 15 P P 06 32 28.7 +0.2
baz=200
JFWS Jewell Farm 41.78 12 *e*P P 06 32 28.9 -0.8
comp=Z,36nm,1.3s
JFWS Jewell Farm 41.78 12 *e*P P 06 32 28.9 -0.8
JFWS pmax pmax
comp=Z,36nm,1.3s
RSSD Black Hills 41.86 357 P P 06 32 31.1 +0.5
baz=176
RSSD Black Hills 41.86 357 *e*P P 06 32 30.5 -0.1
comp=Z,15nm,1.1s
RSSD Black Hills 41.86 357 *e*P P 06 32 30.5 -0.1
RSSD pmax pmax
comp=Z,15nm,1.1s
REDW Red Top Meadow 41.90 350 *e*P P 06 32 31.3 +0.4
comp=Z,25nm,1.4s
SNOW Snow King Moun 41.98 350 *e*P P 06 32 32.1 +0.5
comp=Z,24nm,1.4s
TPAW Teton Pass 42.04 350 *e*P P 06 32 32.5 +0.3
comp=Z,21nm,1.4s
LOHW Long Hollow 42.10 350 *e*P P 06 32 33.0 +0.5
comp=Z,17nm,1.1s
J40A Soldiers Grove 42.14 12 P P 06 32 32.5 -0.1
baz=196,SNR=6.7
FXWY Fox Creek 42.20 350 *e*P P 06 32 33.8 +0.4
comp=Z,10nm,1.1s
FXWY *e*PcP PcP 06 34 27.7 +0.1
MOOW Moose Ponds 42.26 350 *e*P P 06 32 34.1 +0.3
comp=Z,12nm,1.2s
I37A Lemond, Waseca 42.28 9 P P 06 32 33.0 -0.7
baz=192
H32A Carlson Farm, 42.31 4 P P 06 32 33.8 -0.2
baz=186,SNR=12
IMW Indian Meadow 42.43 350 *e*P P 06 32 35.3 0.0
comp=Z,17nm,1.2s
IMW *e*PcP PcP 06 34 29.2 +0.7
I38A Scanlan Farm, 42.47 10 P P 06 32 34.5 -0.8
baz=193
H33A Prehn Over Nor 42.55 5 P P 06 32 36.6 +0.7
baz=187
H34A Spellman Lake, 42.62 6 P P 06 32 36.2 -0.3
baz=188,SNR=7.0
I40A Norwalk 42.64 11 P P 06 32 36.3 -0.4
baz=196
H36A Jessenland, He 42.75 8 P P 06 32 37.7 +0.1
baz=191,SNR=7.7
YPP Pitchstone Pla 42.77 350 *e*P P 06 32 38.5 +0.4
comp=Z,21nm,1.7s
WDC Whiskeytown Da 42.80 336 *e*P P 06 32 38.0 0.0
comp=Z,31nm,1.9s
WDC Whiskeytown Da 42.80 336 *e*P P 06 32 38.0 0.0
WDC pmax pmax
comp=Z,31nm,1.9s
HLID Hailey 42.84 346 P P 06 32 39.3 +0.8
baz=161,SNR=7.6
HLID Hailey 42.84 346 *e*P P 06 32 39.5 +0.9
comp=Z,20nm,1.5s
H17A Grant Village 42.85 350 *e*P P 06 32 39.3 +0.6
comp=Z,14nm,1.5s
YFT Old Faithful 42.95 350 *e*P P 06 32 39.7 +0.2
comp=Z,11nm,1.2s
KMRM Mail Ridge 42.98 335 *e*P P 06 32 39.3 -0.3
comp=Z,55nm,1.3s
WVOR Wild Horse Val 43.00 341 *e*P P 06 32 40.2 +0.4
comp=Z,26nm,1.4s
WVOR Wild Horse Val 43.00 341 *e*P P 06 32 40.2 +0.4
WVOR pmax pmax
comp=Z,26nm,1.4s
MFID Casas Ranch 43.07 345 *e*P P 06 32 41.0 +0.7
comp=Z,7.3nm,1.1s
MOD Modoc Plateau 43.09 339 *e*P P 06 32 41.4 +0.8
comp=Z,29nm,1.6s
H38A Maiden Rock 43.09 9 P P 06 32 39.7 -0.7
baz=193
YMR Madison River 43.19 350 *e*P P 06 32 42.0 +0.6
comp=Z,32nm,1.6s
N02D Trinity Center 43.20 336 P P 06 32 41.5 +0.1
baz=148
H39A Augusta 43.27 10 P P 06 32 42.0 +0.2
baz=195
YHH Holmes Hill 43.28 350 *e*P P 06 32 42.8 +0.6
comp=Z,29nm,2.0s
YHB Horse Butte 43.31 350 *e*P P 06 32 41.9 -0.4
comp=Z,23nm,1.6s
RLMT Red Lodge 43.36 352 P P 06 32 43.1 +0.3
baz=168,SNR=5.4
RLMT Red Lodge 43.36 352 *e*P P 06 32 42.1 -0.6
comp=Z,13nm,1.4s
G36A St. Michael 43.42 8 P P 06 32 42.8 -0.1
baz=191
QLMT Earthquake Lak 43.43 350 *e*P P 06 32 44.8 +1.5
M04C Macdoel 43.55 338 P P 06 32 45.1 +0.9
baz=150,SNR=8.0
SPMN Marine on St. 43.55 9 P P 06 32 43.3 -0.7
baz=192
SPMN Marine on St. 43.55 9 *e*P P 06 32 42.9 -1.1
comp=Z,23nm,1.3s
SIV San Ignacio 43.68 116 P P 06 32 44.7 -0.9
comp=Z,5.6nm,1.3s,baz=308,slow=12,SNR=7.1
SIV LR LR 06 48 59.7
comp=Z,126nm,21.8s,baz=4.0,slow=34
MCMT McKenzie Canyo 43.70 348 *e*P P 06 32 46.8 +1.3
SSPA Standing Stone 43.79 26 P P 06 32 45.8 -0.2
baz=215
YBH Yreka Blue Hor 43.84 337 LR LR 06 49 13.5
comp=Z,91nm,19.4s,baz=142,slow=34
G39A Holcombe 43.88 10 P P 06 32 46.1 -0.6
baz=195
F35A Swanville 43.93 7 P P 06 32 46.2 -0.8
baz=190
K05A Summer Lake 44.02 339 *e*P P 06 32 49.7 +1.6
comp=Z,70nm,1.6s
F37A Hinrichs Farm, 44.06 9 P P 06 32 47.6 -0.5
baz=192,SNR=7.5
F36A Milaca 44.07 8 P P 06 32 47.9 -0.3
baz=191
GCMT Greycliff 44.07 352 *e*P P 06 32 48.9 +0.5
DLMT Dillon 44.16 349 *e*P P 06 32 49.4 +0.2
comp=Z,18nm,1.3s
BOZ Bozeman (W) 44.20 350 P P 06 32 49.8 +0.3
baz=165,SNR=5.1
BOZ Bozeman (W) 44.20 350 *e*P P 06 32 49.8 +0.3
comp=Z,13nm,1.6s
BOZ Bozeman (W) 44.20 350 *e*P P 06 32 49.8 +0.3
BOZ pmax pmax
comp=Z,13nm,1.6s
F38A Pierce - Schro 44.41 9 P P 06 32 50.2 -0.8
baz=194,SNR=8.0
E33A Westby DABS, E 44.42 5 P P 06 32 49.8 -1.2
baz=188
LRM Limekiln Ridge 44.57 349 *e*P P 06 32 52.9 +0.3
J05D Fort Rock, OR 44.63 339 P P 06 32 53.8 +0.8
baz=151,SNR=7.8
E35A Pequot Lakes 44.64 7 P P 06 32 52.8 0.0
baz=190
PINE Pine Mountain 44.97 340 *e*P P 06 32 56.2 +0.5
comp=Z,19nm,1.0s
TYNO Tyneside 45.04 22 P P 06 32 56.0 0.0
baz=211
BASO Ashfield 45.19 20 P P 06 32 56.7 -0.5
baz=208
D35A Remer 45.20 7 P P 06 32 56.0 -1.2
baz=190
D37A Cotton 45.49 9 P P 06 32 59.0 -0.6
baz=192,SNR=7.4
I04A Tendick Farm, 45.49 339 P P 06 33 00.0 +0.3
baz=150
MDND Maddock 45.54 2 *e*P P 06 32 58.5 -1.5
comp=Z,43nm,1.3s
C31A Landman Farms, 45.57 3 P P 06 32 59.5 -0.6
baz=185
MEDO Medina 45.65 23 P P 06 33 00.8 0.0
baz=213
G08A Pilot Rock 45.67 343 *e*P P 06 33 01.9 +0.7
comp=Z,25nm,1.5s
F46A Macinaw City C 45.81 16 P P 06 33 01.3 -0.8
baz=203
MSO Missoula 45.84 348 P P 06 33 02.7 +0.3
baz=162
MSO Missoula 45.84 348 *e*P P 06 33 02.0 -0.4
comp=Z,10nm,1.3s
BMRO Meriville Lake 45.85 20 P P 06 33 01.6 -0.8
baz=208
C36A Pine Crest Far 46.02 8 P P 06 33 03.5 -0.2
baz=192
C37A Embarrass 46.09 9 P P 06 33 03.7 -0.5
baz=193
B33A Robert and Kas 46.21 5 P P 06 33 04.3 -0.9
baz=188
AGMN Agassiz Nation 46.21 5 P P 06 33 04.6 -0.6
baz=188
AGMN Agassiz Nation 46.21 5 *e*P P 06 33 04.0 -1.1
comp=Z,33nm,1.4s
TOBO Tobermory, Bru 46.31 19 P P 06 33 05.4 -0.5
baz=208
WLVO Wesleyville 46.31 23 P P 06 33 06.2 +0.2
baz=212
EYMN Ely 46.40 9 P P 06 33 06.6 -0.1
baz=194
EYMN Ely 46.40 9 *e*P P 06 33 05.9 -0.8
EYMN *es*P sP 06 33 11.8 +0.7
COR Corvallis 46.50 338 *e*P P 06 33 08.5 +1.0
comp=Z,35nm,1.1s
COR Corvallis 46.50 338 *e*P P 06 33 08.5 +1.0
COR pmax pmax
comp=Z,35nm,1.1s
SADO Sadowa 46.74 22 *e*P P 06 33 08.2 -1.2
comp=Z,55nm,1.6s
JTMT Jette 46.78 348 *e*P P 06 33 08.8 -1.0
JTMT *e*PcP PcP 06 34 43.5 +0.4
KLBO Killbear Provi 46.87 20 P P 06 33 09.8 -0.6
baz=209
A33A Warroad 46.89 5 P P 06 33 09.8 -0.7
baz=188
DELO Deloro Mine 47.11 23 P P 06 33 12.2 -0.1
baz=213
PLVO Plevna 47.76 23 P P 06 33 16.9 -0.5
baz=214
LON Longmire 47.87 341 *e*P P 06 33 17.1 -1.2
comp=Z,8.2nm,1.2s
LON Longmire 47.87 341 *e*P P 06 33 17.1 -1.2
LON pmax pmax
comp=Z,8.0nm,1.2s
NEW Newport 47.91 346 LR LR 06 51 01.8
comp=Z,106nm,20.9s,baz=168,slow=33
NEW Newport 47.91 346 P P 06 33 18.5 0.0
baz=159,SNR=6.6
NEW Newport 47.91 346 *e*P P 06 33 18.6 0.0
comp=Z,9.9nm,1.0s
NEW Newport 47.91 346 *e*P P 06 33 18.6 +0.1
NEW pmax pmax
comp=Z,10.0nm,1.0s
WALA Waterton Lakes 47.96 349 *e*P P 06 33 19.2 +0.2
comp=Z,8.8nm,1.3s
LTY Liberty 47.96 342 *e*P P 06 33 18.7 -0.3
comp=Z,21nm,1.6s
ULM Lac du Bonnet 48.15 5 P P 06 33 18.0 -2.3
comp=Z,16nm,1.2s,baz=186,slow=8.8,SNR=7.9
ULM LR LR 06 53 18.3
comp=Z,154nm,19.6s,baz=202,slow=36
ULM Lac du Bonnet 48.15 5 *e*P P 06 33 19.2 -1.0
comp=Z,33nm,1.4s
ULM Lac du Bonnet 48.15 5 *e*P P 06 33 19.2 -1.0
ULM pmax pmax
comp=Z,33nm,1.4s
PEMO Pembroke 48.23 23 P P 06 33 20.7 -0.2
baz=213
D05A Enumclaw 48.31 341 *e*P P 06 33 21.8 +0.2
comp=Z,39nm,1.4s
B08A Colville Reser 48.57 344 *e*P P 06 33 21.1 -2.6
comp=Z,9.8nm,1.4s
ALFO Alfred 49.13 24 P P 06 33 27.4 -0.4
baz=216
B05A Bryant 49.30 342 P P 06 33 29.1 0.0
baz=152,SNR=5.6
TRQ Mont Tremblant 49.74 24 *e*P P 06 33 31.1 -1.6
CPUP Villa Florida 51.05 127 P P 06 33 42.2 -0.7
comp=Z,10nm,1.1s,baz=308,slow=8.7,SNR=9.8
CPUP LR LR 06 52 06.5
comp=Z,47nm,20.4s,baz=300,slow=32
CPUP Villa Florida 51.05 127 *e*P P 06 33 43.1 +0.3
comp=Z,27nm,1.4s
CPUP Villa Florida 51.05 127 *e*P P 06 33 43.1 +0.3
CPUP pmax pmax
comp=Z,27nm,1.4s
PLCA Paso Flores 51.09 150 P P 06 33 42.9 0.0
comp=Z,12nm,1.1s,baz=353,slow=8.9,SNR=7.2
PLCA LR LR 06 50 14.1
comp=Z,347nm,19.5s,baz=340,slow=30
PLCA Paso Flores 51.09 150 *e*P P 06 33 43.2 +0.3
comp=Z,27nm,1.3s
PLCA Paso Flores 51.09 150 *e*P P 06 33 43.2 +0.3
PLCA pmax pmax
comp=Z,27nm,1.3s

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
LLLB	**Lillooet**	**51.32**	**343**	*e*P	**P**	**06 33 44.3**	**-0.2**
	comp=Z,17nm,1.4s						
PPT	**Papeete**	**51.41**	**246**	LR	LR	06 49 12.1	
	comp=Z,138nm,20.2s,baz=108,slow=29						
PPT2	**Papeete2**	**51.42**	**246**	*e*LR	LR	06 48 29.7	
	comp=Z,314nm,26.5s						
EDM	**Edmonton**	**51.86**	**351**	*e*P	**P**	**06 33 48.5**	**0.0**
	comp=Z,50nm,1.4s						
EDM	**Edmonton**	**51.86**	**351**	*e*P	**P**	**06 33 48.5**	**0.0**
EDM				pmax	pmax		
	comp=Z,50nm,1.4s						
FFC	**Flin Flon**	**52.41**	**360**	*e*P	**P**	**06 33 51.3**	**-1.2**
	comp=Z,32nm,1.9s						
FFC	**Flin Flon**	**52.41**	**360**	*e*P	**P**	**06 33 51.3**	**-1.2**
FFC				pmax	pmax		
	comp=Z,32nm,1.9s						
TRQA	**Tornquist**	**54.05**	**142**	*e*P	**P**	**06 34 04.5**	**-0.4**
	comp=Z,25nm,1.3s						
TRQA	**Tornquist**	**54.05**	**142**	*e*P	**P**	**06 34 04.5**	**-0.4**
TRQA				pmax	pmax		
	comp=Z,25nm,1.3s						
FCC	**Fort Churchill**	**56.74**	**5**	*e*P	**P**	**06 34 23.0**	**-0.8**
	comp=Z,18nm,1.3s						
FCC	**Fort Churchill**	**56.74**	**5**	*e*P	**P**	**06 34 23.0**	**-0.8**
FCC				pmax	pmax		
	comp=Z,18nm,1.3s						
SCHQ	**Schefferville**	**59.54**	**22**	P	**P**	**06 34 41.7**	**-1.9**
	comp=Z,24nm,1.2s,baz=212,slow=4.3,SNR=5.3						
SCHQ	**Schefferville**	**59.54**	**22**	*e*P	**P**	**06 34 41.8**	**-1.9**
	comp=Z,46nm,1.4s						
DLBC	**Dease Lake**	**60.47**	**343**	*e*P	**P**	**06 34 49.8**	**-0.3**
	comp=Z,11nm,1.0s						
YKA	**Yellowknife Ar**	**61.01**	**353**	P	**P**	**06 34 52.3**	**-1.1**
	comp=Z,6.3nm,1.0s,baz=161,slow=6.6,SNR=56						
RAR	**Rarotonga**	**61.66**	**245**	LR	LR	06 54 18.0	
	comp=Z,153nm,21.9s,baz=102,slow=29						
BESE	**Bessie Mountai**	**62.08**	**341**	*e*P	**P**	**06 35 01.2**	**+0.3**
	comp=Z,34nm,1.4s						
WHY	**Whitehorse**	**63.73**	**342**	*e*P	**P**	**06 35 12.0**	**+0.2**
	comp=Z,22nm,1.8s						
HYT	**Haines Junctio**	**64.67**	**341**	*e*P	**P**	**06 35 18.1**	**0.0**
	comp=Z,26nm,1.6s						
BALM	**Baldy**	**66.44**	**340**	*e*P	**P**	**06 35 29.9**	**+0.4**
	comp=Z,11nm,1.2s						
BALM	**Baldy**	**66.44**	**340**	*e*P	**P**	**06 35 29.9**	**+0.4**
BALM				pmax	pmax		
	comp=Z,11nm,1.2s						
BMRM	**Bremner River**	**67.20**	**339**	*e*P	**P**	**06 35 34.7**	**+0.4**
	comp=Z,42nm,1.4s						
DAWY	**Dawson**	**67.70**	**343**	*e*P	**P**	**06 35 37.1**	**-0.3**
	comp=Z,22nm,1.4s						
MENT	**Mentasta**	**68.24**	**341**	*e*P	**P**	**06 35 40.9**	**+0.2**
	comp=Z,9.8nm,1.3s						
OHAK	**Old Harbor**	**68.51**	**333**	*e*P	**P**	**06 35 42.8**	**+0.3**
	comp=Z,21nm,1.1s						
EGAK	**Eagle**	**68.74**	**343**	*e*P	**P**	**06 35 43.8**	**0.0**
	comp=Z,15nm,1.2s						
PAX	**Paxson**	**68.85**	**340**	*e*P	**P**	**06 35 44.6**	**0.0**
	comp=Z,18nm,1.8s						
PAX	**Paxson**	**68.85**	**340**	*e*P	**P**	**06 35 44.6**	**0.0**
PAX				pmax	pmax		
	comp=Z,18nm,1.8s						
SCRK	**Sand Creek**	**69.04**	**341**	*e*P	**P**	**06 35 45.4**	**-0.5**
	comp=Z,6.9nm,1.3s						
SML	**Sawmill**	**69.11**	**338**	*e*P	**P**	**06 35 46.1**	**-0.1**
	comp=Z,41nm,1.3s						
SML	**Sawmill**	**69.11**	**338**	*e*P	**P**	**06 35 46.2**	**-0.1**
SML				pmax	pmax		
	comp=Z,41nm,1.3s						
RIDG	**Independ'e Rid**	**69.16**	**341**	*e*P	**P**	**06 35 46.5**	**0.0**
	comp=Z,15nm,1.2s						
RC01	**Rabbit Creek A**	**69.21**	**337**	*e*P	**P**	**06 35 46.8**	**0.0**
	comp=Z,20nm,1.2s						
PMR	**Palmer**	**69.28**	**338**	*e*P	**P**	**06 35 47.2**	**0.0**
	comp=Z,23nm,1.4s						
PMR	**Palmer**	**69.28**	**338**	*e*P	**P**	**06 35 47.2**	**0.0**
PMR				pmax	pmax		
	comp=Z,23nm,1.4s						
INK	**Inuvik**	**69.57**	**348**	P	**P**	**06 35 48.5**	**-0.3**
	comp=Z,11nm,1.1s,baz=135,slow=5.9,SNR=25						
INK	**Inuvik**	**69.57**	**348**	*e*P	**P**	**06 35 48.9**	**+0.1**
	comp=Z,29nm,1.4s						
INK	**Inuvik**	**69.57**	**348**	*e*P	**P**	**06 35 48.9**	**+0.1**
INK				pmax	pmax		
	comp=Z,29nm,1.4s						
DHY	**Denali Highway**	**69.57**	**340**	*e*P	**P**	**06 35 48.3**	**-0.9**
	comp=Z,24nm,1.6s						
SUA	**Susitna One**	**69.82**	**337**	*e*P	**P**	**06 35 50.7**	**0.0**
	comp=Z,11nm,1.1s						
SPU	**Mount Spurr**	**70.17**	**337**	*e*P	**P**	**06 35 53.0**	**+0.2**
RND	**Reindeer**	**70.30**	**339**	*e*P	**P**	**06 35 53.6**	**0.0**
	comp=Z,49nm,1.3s						
RND	**Reindeer**	**70.30**	**339**	*e*P	**P**	**06 35 53.6**	**0.0**
RND				pmax	pmax		
	comp=Z,49nm,1.3s						
IL1	**Eielson Array**	**70.51**	**341**	*e*P	**P**	**06 35 54.0**	**-0.7**
ILAR	**Eielson Array**	**70.51**	**341**	P	**P**	**06 35 54.0**	**-0.7**
	comp=Z,4.6nm,0.9s,baz=153,slow=5.0,SNR=39						
ILAR				LR	LR	07 04 01.4	
	comp=Z,47nm,18.1s,baz=140,slow=34						
ILAR	**Eielson Array**	**70.51**	**341**	P	**P**	**06 35 54.0**	**-0.7**
ILB	**Eielson Array**	**70.51**	**341**	*e*P	**P**	**06 35 54.0**	**-0.7**
MCK	**McKinley**	**70.53**	**340**	*e*P	**P**	**06 35 55.1**	**+0.2**
	comp=Z,27nm,1.5s						
MCK	**McKinley**	**70.53**	**340**	*e*P	**P**	**06 35 55.2**	**+0.2**
MCK				pmax	pmax		
	comp=Z,27nm,1.5s						
WRH	**Wood River Hil**	**70.71**	**340**	*e*P	**P**	**06 35 56.1**	**+0.1**
	comp=Z,29nm,1.6s						
CCB	**Clear Creek Bu**	**70.73**	**341**	*e*P	**P**	**06 35 55.4**	**-0.7**
	comp=Z,7.5nm,1.4s						
MDM	**Murphy Dome**	**71.07**	**341**	*e*P	**P**	**06 35 58.0**	**-0.2**
	comp=Z,16nm,1.3s						
KTH	**Kantishna Hill**	**71.13**	**339**	*e*P	**P**	**06 35 58.0**	**-0.6**
	comp=Z,14nm,1.3s						
FYU	**Fort Yukon**	**71.20**	**343**	*e*P	**P**	**06 35 58.9**	**0.0**
	comp=Z,35nm,1.4s						
PPLA	**Purkeypile**	**71.21**	**338**	*e*P	**P**	**06 35 58.8**	**-0.5**
	comp=Z,47nm,1.3s						
CAST	**Castle Rocks**	**71.47**	**338**	*e*P	**P**	**06 36 00.1**	**-0.6**
	comp=Z,38nm,1.3s						
BPAW	**Bear Paw Mtn.**	**71.48**	**339**	*e*P	**P**	**06 35 60.0**	**-0.7**
	comp=Z,25nm,2.0s						
SVW2	**Sparrevohn**	**71.56**	**335**	*e*P	**P**	**06 35 60.0**	**-1.2**
	comp=Z,16nm,1.3s						
AFI	**Afiamalu**	**71.58**	**255**	LR	LR	06 58 51.9	
	comp=Z,77nm,21.1s,baz=112,slow=29						
MLY	**Manley**	**71.95**	**340**	*e*P	**P**	**06 36 02.8**	**-0.7**
	comp=Z,23nm,1.3s						
RES	**Resolute Bay**	**72.55**	**2**	P	**P**	**06 36 05.8**	**-1.0**
	comp=Z,7.2nm,0.9s,baz=199,slow=11						
RES	**Resolute Bay**	**72.55**	**2**	*e*P	**P**	**06 36 06.2**	**-0.7**
	comp=Z,14nm,1.1s						
RES	**Resolute Bay**	**72.55**	**2**	*e*P	**P**	**06 36 06.2**	**-0.7**
RES				pmax	pmax		
	comp=Z,14nm,1.1s						
COLD	**Coldfoot**	**73.13**	**342**	*e*P	**P**	**06 36 10.4**	**0.0**
	comp=Z,19nm,1.2s						
IM3	**Indian Mountai**	**73.53**	**340**	*e*P	**P**	**06 36 11.6**	**-1.2**
SFJD	**Kangerlussuaq**	**73.56**	**18**	LR	LR	07 09 44.3	
	comp=Z,87nm,18.7s,baz=244,slow=37						
TOLK	**Toolik Lake Re**	**73.83**	**343**	P	**P**	**06 36 14.7**	**+0.1**
	baz=129						
TOLK	**Toolik Lake Re**	**73.83**	**343**	*e*P	**P**	**06 36 14.4**	**-0.2**
	comp=Z,5.8nm,0.9s						
SUMG	**Summit**	**80.05**	**16**	*i* P	**P**	**06 36 48.9**	**-1.1**
	comp=Z,7.9nm,1.0s						
SUMG	**Summit**	**80.05**	**16**	*e*P	**P**	**06 36 49.6**	**-0.5**
	comp=Z,18nm,1.3s						
SUMG	**Summit**	**80.05**	**16**	*i* P	**P**	**06 36 48.9**	**-1.1**
SUMG				pmax	pmax		
	comp=Z,8.0nm,1.0s						
BKZ	**Black Stump Fm**	**85.28**	**231**	*e*P	**P**	**06 37 20.2**	**+2.7**
	comp=Z,97nm,1.7s						
BILL	**Bilibino**	**88.92**	**338***c*	*i*P	**P**	**06 37 35.2**	**+0.7**
BILL				*e*PPP	PPP	06 43 00.3	
BILL				*e*SS	SS	06 54 16.3	+2.0
BILL				pmax	pmax		
	comp=Z,9.0nm,1.2s						
BILL				pmax	pmax		
	comp=Z,146nm,18.0s						
H11N3	**WAKE ISLAND Hy**	**90.93**	**290**	T	T	08 18 29.0	
	baz=87,slow=75,SNR=8.7						
H11N2	**WAKE ISLAND Hy**	**90.95**	**290**	T	T	08 18 32.2	
	baz=87,slow=75,SNR=8.2						
H11N1	**WAKE ISLAND Hy**	**90.95**	**290**	T	T	08 18 44.5	
	baz=87,slow=75,SNR=8.8						
H11S2	**WAKE ISLAND Hy**	**91.18**	**288**	T	T	08 18 54.2	
	baz=86,slow=74,SNR=18						
H11S1	**WAKE ISLAND Hy**	**91.19**	**288**	T	T	08 18 46.8	
	baz=86,slow=74,SNR=17						
H11S3	**WAKE ISLAND Hy**	**91.20**	**288**	T	T	08 18 47.9	
	baz=86,slow=74,SNR=14						
EKA	**Eskdalemuir Ar**	**92.90**	**34**	LR	LR	07 19 27.7	
	comp=Z,53nm,18.1s,baz=295,slow=35						
SPITS	**Spitsbergen Ar**	**93.40**	**11**	LR	LR	07 21 16.5	
	comp=Z,194nm,18.5s,baz=315,slow=36						
VNDA	**Vanda**	**93.57**	**192**	*e*P	**P**	**06 37 57.9**	**+2.1**
	comp=Z,20nm,1.9s						
VNDA	**Vanda**	**93.57**	**192**	*e*P	**P**	**06 37 57.9**	**+2.1**
VNDA				pmax	pmax		
	comp=Z,20nm,1.9s						
ESDC	**Sonseca Array**	**94.32**	**50**	LR	LR	07 16 35.0	
	comp=Z,37nm,18.7s,baz=235,slow=33						
PETK	**Petropavlovsk-**	**94.87**	**324**	LR	LR	07 11 42.3	
	comp=Z,21nm,20.6s,baz=88,slow=30						
SEY	**Seymchan**	**95.45**	**334**⇑	*e*P	**P**	**06 38 04.3**	**-0.5**
KOWA	**Kowa**	**96.55**	**75**	LR	LR	07 17 44.4	
	comp=Z,40nm,18.9s,baz=190,slow=33						
NOA	**NORSAR Array B**	**98.86**	**27**	LR	LR	07 19 46.5	
	comp=Z,72nm,22.0s,baz=305,slow=34						
TIXI	**Tiksi**	**99.63**	**346**⇑	*e*P	**Pdif**	**06 38 23.7**	**+0.3**
TIXI				pmax	pmax		
	comp=Z,3.0nm,1.7s						
OBN	**Obninsk**	**113.30**	**25**⇓	*i*PKIKP	**PKiKP**	**06 43 18.1**	**+0.1**
OBN				*e*		06 44 10.1	
OBN				pmax	pmax		
	comp=Z,6.0nm,0.5s						
CN2	**Changchun**	**118.02**	**323**	*e*PKP	**PKPdf**	**06 43 28.8**	**+1.3**
BRTR	**Keskin Array B**	**121.40**	**40**	PKP	**PKPdf**	**06 43 33.6**	**-0.7**
	comp=Z,0.8nm,0.8s,baz=11,slow=2.6,SNR=6.4						
ASAR	**Alice Springs**	**122.50**	**243**	PKP	**PKPdf**	**06 43 35.2**	**-1.5**
	comp=Z,1.8nm,0.9s,baz=91,slow=1.9,SNR=14						
BOSA	**Boshof**	**122.79**	**123**	PKP	**PKPdf**	**06 43 36.2**	**-1.0**
	comp=Z,5.0nm,1.0s,baz=317,slow=19,SNR=3.1						
WRA	**Warramunga Arr**	**122.87**	**248**	PKP	**PKPdf**	**06 43 36.6**	**-0.9**
	comp=Z,2.5nm,0.9s,baz=87,slow=1.8,SNR=19						
ZALV	**Zalesovo Beam**	**123.86**	**356**	PKP	**PKPdf**	**06 43 36.7**	**-1.7**
	comp=Z,1.0nm,0.7s,baz=350,slow=1.8,SNR=5.8						
ULN	**Ulaanbaatar**	**124.36**	**337**⇑	*i*PKIKP	**PKPdf**	**06 43 39.6**	**-0.2**
ULN				pmax	pmax		
	comp=Z,5.0nm,1.7s						
NEY	**Neytrino**	**124.45**	**31**⇑	*i*PKIKP	**PKPdf**	**06 43 39.9**	**-0.2**
BRVK	**Borovoye**	**124.54**	**6***c*	*i*PKIKP	**PKPdf**	**06 43 39.4**	**-0.3**
BRVK				pmax	pmax		
	comp=Z,15nm,1.7s						
BVAR	**Borovoye Array**	**124.58**	**6**	PKP	**PKPdf**	**06 43 39.4**	**-0.4**
	comp=Z,2.2nm,0.9s,baz=333,slow=1.6,SNR=12						
SONM	**Songino Array**	**124.64**	**338**	PKP	**PKPdf**	**06 43 39.8**	**-0.4**
	comp=Z,1.8nm,0.9s,baz=158,slow=0.7,SNR=9.6						
ABKAR	**Akbulak array**	**126.29**	**15**	*e*PKPdf	**PKPdf**	**06 43 42.4**	**-0.8**
KURK	**Kurchatov**	**127.33**	**0**	PKP	**PKPdf**	**06 43 44.5**	**-0.6**
KURK	**Kurchatov**	**127.33**	**0**	PKIKP	**PKPdf**	**06 43 44.5**	**-0.6**
KURBB	**Kurchatov Arra**	**127.43**	**0**	PKP	**PKPdf**	**06 43 44.5**	**-0.9**
	comp=Z,2.7nm,0.9s,baz=8.3,slow=1.7,SNR=21						
GNI	**Garni**	**127.71**	**33**⇑	*i*PKIKP	**PKPdf**	**06 43 45.4**	**-1.0**
HHC	**Hu-ho-hao-te**	**127.75**	**329**	*e*PKP	**PKPdf**	**06 43 46.9**	**+0.5**
NJ2	**Nanjing**	**128.94**	**315**	*e*PKP	**PKPdf**	**06 43 47.5**	**-1.2**
MKAR	**Makanchi Array**	**131.16**	**357**	PKP	**PKPdf**	**06 43 51.7**	**-0.9**
	comp=Z,3.2nm,1.1s,baz=11,slow=2.5,SNR=15						
WMQ	**Urumqi**	**133.52**	**351**	*e*PKP	**PKPdf**	**06 43 56.6**	**-0.6**
WMQ				LR	LR		
	comp=Z,150nm,39.9s						
WMQ				LR	LR		
	comp=Z,530nm,38.9s						
WMQ				LR	LR		
	comp=Z,110nm,28.5s						
AAK	**Ala-Archa**	**135.26**	**4**⇓	*e*PKIKP	**PKPdf**	**06 43 59.3**	**-1.3**
GEYT	**Alibeck**	**135.82**	**23**	PKP	**PKPdf**	**06 44 01.4**	**-0.3**
	comp=Z,1.9nm,0.6s,baz=343,slow=4.6,SNR=5.6						
CD2	**Chengdu**	**139.35**	**326**	PKP	**PKPdf**	**06 44 07.0**	**-1.4**
GYA	**Guiyang**	**140.75**	**318**	*e*PKP	**PKPdf**	**06 44 10.0**	**-1.1**
GYA				PP	**PP**	**06 47 13.2**	**+3.0**
GYA				AMB	AMB		
	comp=Z,120nm,8.2s						
NIL	**Nilore**	**144.03**	**8**	*e*PKPdf	**PKPab**	**06 44 13.9**	**0.0**
NIL	**Nilore**	**144.03**	**8**	*e*PKIKP	**PKPab**	**06 44 13.9**	**0.0**
KMI	**Kunming**	**144.22**	**321**	PKP	PKPbc	06 44 15.7	+0.1
OPO	**Ambohidratompo**	**145.11**	**120**	PKPbc	**PKPdf**	**06 44 18.2**	**-0.8**
	comp=Z,9.8nm,1.0s,baz=236,slow=6.8,SNR=4.1						
CMAR	**Chiang Mai Arr**	**151.40**	**317**	PKP	**PKPdf**	**06 44 29.6**	**+0.5**
	comp=Z,1.5nm,0.5s,baz=335,slow=1.4,SNR=18						
CMAR				PKPbc	**PKiKP**	**06 44 36.0**	**+0.3**
	comp=Z,4.4nm,0.9s,baz=329,slow=1.3,SNR=18						
PSI	**Prapat**	**159.16**	**284**	PKP	**PKPdf**	**06 44 39.0**	**-0.9**
	comp=Z,4.8nm,0.8s,baz=149,slow=12,SNR=5.6						

ISCJB ***08*** *06:31:50.1±0.7, 5°.23N±0°.03×75°.59W±0°.03, h4km±6km, mb3.3/1, MS3.6/1, Error ellipse: s-maj=5.8km s-min=5.1km az=34.8*

RSNC ***08*** *06:31:50.8±1.1, 5°.21N×75°.57W, h0km±4km, ML3.1*

IDC ***08*** *06:31:51.2±1.3, 5°.40N×75°.59W, h0km, mb3.2/1, mb1 3.5/1, mb1mx3.0/45, mbtmp3.2/1, MS3.6/1, Ms1 3.5/1, ms1mx2.7/16, Error ellipse: s-maj=56.6km s-min=15.2km az=27.0*

ISC 08 06:31:50.2±1.3**, 5°.26N**±0°.04×**75°.60W**±0°.04**, h5**km±10km**, n17,** σ**1.48**/21**, 1D, Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUYC	**Guyana, Colomb**	**0.21**	**99**	*e*P	**Pg**	**06 31 54.3**	**-0.2**
RREF	**El Recreo**	**0.44**	**144**⇓	*i*P	**Pg**	**06 31 58.5**	**-0.3**
RREF				*i*		06 32 06.9	
	comp=Z,3μm,0.3s						
TOLC	**Tolima**	**0.73**	**157**	*e*P	**Pg**	**06 32 03.6**	**-0.6**
PLMC	**San Jos˜' del**	**0.76**	**243**	*e*P	**Pg**	**06 32 05.7**	**+0.9**
PLMC				*e*S	**Sg**	**06 32 16.1**	**+1.3**
ANIL	**Santa Ana**	**0.79**	**165**	*e*P	**Pg**	**06 32 04.6**	**-0.7**
ANIL				*e*S	**Sg**	**06 32 15.7**	**+0.1**
NORC	**Norcasia**	**0.79**	**67**	*e*P	**Pg**	**06 32 04.9**	**-0.5**
HELC	**Santa Helena**	**0.93**	**4**	*e*P	**Pb**	**06 32 08.4**	**-0.6**
HELC				*e*S	**Sn**	**06 32 23.0**	**-1.1**
HELC				*i*		06 32 26.7	
	comp=Z,333nm,0.6s						
ROSC	**El Rosal**	**1.34**	**108**	Pg	**Pg**	**06 32 16.5**	**+0.5**
	comp=Z,54nm,0.3s,baz=304,slow=15,SNR=46						
ROSC				Lg	Lg	06 32 36.2	
	comp=Z,48nm,0.3s,baz=193,slow=22,SNR=11						
ROSC	**El Rosal**	**1.34**	**108**	*i*	**Pg**	**06 32 20.7**	**+4.7**
	comp=Z,294nm,0.4s						
ROSC				*e*S	**Sb**	**06 32 32.9**	**-0.8**
YOTC	**Yotoco, Valle**	**1.47**	**210**	*e*P	**Pn**	**06 32 16.3**	**-1.1**
YOTC				*e*S	**Sn**	**06 32 35.9**	**-1.3**
YOTC				*i*		06 32 40.0	
	comp=Z,142nm,0.4s						
PTBC	**PUERTO BERRIO,**	**1.71**	**42**	*e*P	**Pb**	**06 32 21.0**	**-1.1**
PTBC				*i*		06 32 45.8	
	comp=Z,208nm,0.6s						
VILC	**Villavicencio,**	**2.22**	**121**	*e*S	**Sn**	**06 32 55.9**	**+0.3**
VILC				*i*		06 33 05.4	
	comp=Z,116nm,0.5s						
ZARC	**Zaragoza, Cauc**	**2.34**	**18**	*e*S	**Sb**	**06 33 00.9**	**-1.2**
ZARC				*i*		06 33 12.4	
	comp=Z,192nm,0.6s						
SCHQ	**Schefferville**	**49.93**	**7**	LR	LR	07 01 27.8	
	comp=Z,63nm,20.6s,baz=343,slow=36						
YKA	**Yellowknife Ar**	**63.90**	**341**	P	**P**	**06 42 24.9**	**+1.1**
	comp=Z,0.2nm,0.6s,baz=134,slow=6.3,SNR=6.1						
ASAR	**Alice Springs**	**146.20**	**234**	PKPbc	**PKPab**	**06 51 34.6**	**+1.3**
	comp=Z,0.3nm,0.7s,baz=125,slow=4.0,SNR=6.2						
WRA	**Warramunga Arr**	**147.43**	**241**	PKPbc	**PKPbc**	**06 51 37.0**	**+0.7**
	comp=Z,0.2nm,0.7s,baz=108,slow=1.7,SNR=4.1						

ISCJB ***08*** *06:36:23.8±0.3, 43°.15N±0°.02×13°.52E±0°.03, h21km±4km, Error ellipse: s-maj=4.3km s-min=2.5km az=165.0*

CSEM ***08*** *06:36:23.5±0.1, 43°.12N×13°.49E, h12km, ML2.9, Error ellipse: s-maj=2.2km s-min=1.6km az=78.0*

ROM ***08*** *06:36:24.0±0.1, 43°.13N×13°.47E, h18km±1km, Ml2.9/37, Error ellipse: s-maj=1.7km s-min=1.0km az=74.0*

PRU ***08*** *06:36:24.2, 43°.14N×13°.20E, h20km*

ISC 08 06:36:23.6±0.9**, 43°.13N**±0°.01×**13°.51E**±0°.02**, h11**km±7km**, n110,** σ**0.98**/162**, Central Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FDMO	**Fiordimonte**	**0.32**	**254**	Pg	**Pg**	**06 36 30.2**	**+0.1**
FDMO				Sg	**Sg**	**06 36 34.7**	**+0.3**
	3μm,0.2s						
FDMO	**Fiordimonte**	**0.32**	**254**	Pg	**Pg**	**06 36 30.2**	**+0.1**
FDMO				Sg	**Sg**	**06 36 34.7**	**+0.3**
	3μm,0.2s						
GUMA	**Gualdo di Mace**	**0.32**	**101**	Pg	**Pg**	**06 36 28.0**	**-2.1**
GUMA	**Gualdo di Mace**	**0.32**	**101**	Pg	**Pg**	**06 36 28.0**	**-2.1**
GUMA				Sg	**Sg**	**06 36 31.3**	**-3.1**
	7μm,0.2s						
CING	**Cingoli**	**0.34**	**318**	Pg	**Pg**	**06 36 30.6**	**+0.2**
CING				Sg	**Sg**	**06 36 35.6**	**+0.7**
	792nm,0.3s						
CING	**Cingoli**	**0.34**	**318**	Pg	**Pg**	**06 36 30.6**	**+0.2**
CING				Sg	**Sg**	**06 36 35.6**	**+0.7**
	792nm,0.3s						
NRCA	**Norcia**	**0.41**	**225**	Pg	**Pg**	**06 36 31.9**	**+0.2**
NRCA				Sg	**Sg**	**06 36 38.5**	**+1.3**
	8μm,0.2s						
NRCA	**Norcia**	**0.41**	**225**	Pg	**Pg**	**06 36 31.9**	**+0.2**
NRCA				Sg	**Sg**	**06 36 38.5**	**+1.3**
	8μm,0.2s						
AOI	**Ancona**	**0.43**	**9**	Pg	**Pg**	**06 36 32.6**	**+0.5**
AOI				Sg	**Sg**	**06 36 40.0**	**+2.2**
	822nm,0.2s						
AOI	**Ancona**	**0.43**	**9**	Pg	**Pg**	**06 36 32.6**	**+0.5**
AOI				Sg	**Sg**	**06 36 40.0**	**+2.2**
	822nm,0.2s						
SNTG	**Esanatoglia**	**0.43**	**287**	Pg	**Pg**	**06 36 31.9**	**-0.2**
SNTG				Sg	**Sg**	**06 36 38.4**	**+0.5**
	2μm,0.2s						
SNTG	**Esanatoglia**	**0.43**	**287**	Pg	**Pg**	**06 36 31.9**	**-0.2**
SNTG				Sg	**Sg**	**06 36 38.4**	**+0.5**
	2μm,0.2s						
CESI	**CESI - Serrava**	**0.46**	**255**	Pg	**Pg**	**06 36 32.6**	**0.0**
CESI				Sg	**Sg**	**06 36 39.5**	**+0.8**
	969nm,0.3s						
CESI	**CESI - Serrava**	**0.46**	**255**	Pg	**Pg**	**06 36 32.6**	**0.0**
CESI				Sg	**Sg**	**06 36 39.5**	**+0.8**
	969nm,0.3s						
TERO	**Teramo**	**0.51**	**172**	Pg	**Pg**	**06 36 34.0**	**+0.5**
TERO				Sg	**Sb**	**06 36 42.2**	**+0.3**
	720nm,0.1s						
TERO	**Teramo**	**0.51**	**172**	Pg	**Pg**	**06 36 34.0**	**+0.5**
TERO				Sg	**Sb**	**06 36 42.2**	**+0.3**
	720nm,0.1s						
SMA1	**SAN MARTINO**	**0.51**	**194**	Pg	**Pg**	**06 36 33.8**	**+0.2**
SMA1				Sg	**Sg**	**06 36 42.2**	**+1.8**
	2μm,0.3s						
SMA1	**SAN MARTINO**	**0.51**	**194**	Pg	**Pg**	**06 36 33.8**	**+0.2**
SMA1				Sg	**Sg**	**06 36 42.2**	**+1.8**
	2μm,0.3s						
ARVD	**Arcevia**	**0.56**	**312**	Pg	**Pg**	**06 36 34.1**	**-0.3**
ARVD				Sg	**Sg**	**06 36 42.3**	**+0.5**
	206nm,0.3s						
ARVD	**Arcevia**	**0.56**	**312**	Pg	**Pg**	**06 36 34.1**	**-0.3**
ARVD				Sg	**Sg**	**06 36 42.3**	**+0.5**
	206nm,0.3s						
CAMP	**Campotosto**	**0.59**	**187**	Pg	**Pg**	**06 36 35.2**	**0.0**
CAMP				Sg	**Sb**	**06 36 45.2**	**+0.7**
	907nm,0.5s						
CAMP	**Campotosto**	**0.59**	**187**	Pg	**Pg**	**06 36 35.2**	**0.0**
CAMP				Sg	**Sb**	**06 36 45.2**	**+0.7**
	907nm,0.5s						
SENI	**Senigallia**	**0.61**	**341**	Pg	**Pg**	**06 36 36.4**	**+0.9**
	348nm,0.6s						
SENI	**Senigallia**	**0.61**	**341**	Pg	**Pg**	**06 36 36.4**	**+0.9**
	348nm,0.6s						
ATCC	**AVT- Casa Cast**	**0.64**	**276**	Pg	**Pg**	**06 36 35.6**	**-0.4**
ATCC				Sg	**Sg**	**06 36 45.1**	**+0.7**
	886nm,0.3s						
ATCC	**AVT- Casa Cast**	**0.64**	**276**	Pg	**Pg**	**06 36 35.6**	**-0.4**
ATCC				Sg	**Sg**	**06 36 45.1**	**+0.7**
	886nm,0.3s						
FRON	**Frontone**	**0.69**	**305**	Pg	**Pb**	**06 36 36.7**	**-0.9**
FRON				Sg	**Sg**	**06 36 46.8**	**+0.7**
	345nm,0.6s						
FRON	**Frontone**	**0.69**	**305**	Pg	**Pb**	**06 36 36.7**	**-0.9**
FRON				Sg	**Sg**	**06 36 46.8**	**+0.7**
	345nm,0.6s						
MURB	**Monte Urbino**	**0.73**	**281**	Pg	**Pb**	**06 36 37.3**	**-1.0**
MURB				Sg	**Sb**	**06 36 48.3**	**-0.1**
	1μm,0.3s						
MURB	**Monte Urbino**	**0.73**	**281**	Pg	**Pb**	**06 36 37.3**	**-1.0**
MURB				Sg	**Sb**	**06 36 48.3**	**-0.1**
	1μm,0.3s						
MPAG	**Monte Paganucc**	**0.74**	**313**	Pg	**Pb**	**06 36 37.6**	**-0.9**
MPAG				Sg	**Sb**	**06 36 48.8**	**+0.1**
	232nm,0.4s						
MPAG	**Monte Paganucc**	**0.74**	**313**	Pg	**Pb**	**06 36 37.6**	**-0.9**
MPAG				Sg	**Sb**	**06 36 48.8**	**+0.1**
	232nm,0.4s						
VCEL	**Villa Celiera**	**0.77**	**161**	Pg	**Pb**	**06 36 39.1**	**0.0**
	491nm,0.5s						
VCEL	**Villa Celiera**	**0.77**	**161**	Pg	**Pb**	**06 36 39.1**	**0.0**
	491nm,0.5s						
AQU	**L'Aquila**	**0.78**	**186**	Pg	**Pb**	**06 36 38.6**	**-0.5**
	593nm,0.5s						
AQU	**L'Aquila**	**0.78**	**186**	Pg	**Pb**	**06 36 38.6**	**-0.5**
	593nm,0.5s						
FSSB	**Fossombrone**	**0.78**	**317**	Pg	**Pb**	**06 36 38.4**	**-0.7**
FSSB				Sg	**Sb**	**06 36 49.9**	**+0.3**
	867nm,0.3s						
FSSB	**Fossombrone**	**0.78**	**317**	Pg	**Pb**	**06 36 38.4**	**-0.7**
FSSB				Sg	**Sb**	**06 36 49.9**	**+0.3**
	867nm,0.3s						
T0104	**Madonna delle**	**0.78**	**189**	Pg	**Pb**	**06 36 38.6**	**-0.5**
PIEI	**Pieia**	**0.82**	**300**	Pg	**Pb**	**06 36 38.6**	**-1.2**
PIEI				Sg	**Sb**	**06 36 50.6**	**-0.3**
	161nm,0.2s						
PIEI	**Pieia**	**0.82**	**300**	Pg	**Pb**	**06 36 38.6**	**-1.2**
PIEI				Sg	**Sb**	**06 36 50.6**	**-0.3**
	161nm,0.2s						
ATVO	**AVT- Monte Val**	**0.84**	**288**	Pg	**Pb**	**06 36 38.8**	**-1.4**
ATVO				Sg	**Sb**	**06 36 51.3**	**-0.3**
	209nm,0.5s						
ATVO	**AVT- Monte Val**	**0.84**	**288**	Pg	**Pb**	**06 36 38.8**	**-1.4**
ATVO				Sg	**Sb**	**06 36 51.3**	**-0.3**
	209nm,0.5s						
ATPC	**Poggio Castell**	**0.84**	**295**	Pg	**Pb**	**06 36 39.3**	**-1.0**
	371nm,0.7s						
ATPC	**Poggio Castell**	**0.84**	**295**	Pg	**Pb**	**06 36 39.3**	**-1.0**
	371nm,0.7s						
FAGN	**Fagnano**	**0.86**	**176**	Pg	**Pb**	**06 36 40.4**	**-0.2**
	899nm,0.5s						
FAGN	**Fagnano**	**0.86**	**176**	Pg	**Pb**	**06 36 40.4**	**-0.2**
	899nm,0.5s						
FIAM	**Fiamignano**	**0.91**	**199**	Pg	**Pb**	**06 36 40.6**	**-0.7**
FIAM				Sg	**Sb**	**06 36 54.1**	**+0.7**
	361nm,0.5s						
FIAM	**Fiamignano**	**0.91**	**199**	Pg	**Pb**	**06 36 40.6**	**-0.7**
FIAM				Sg	**Sb**	**06 36 54.1**	**+0.7**
	361nm,0.5s						
PESA	**Pesaro**	**0.95**	**329**	Pg	**Pb**	**06 36 41.8**	**-0.2**
	501nm,0.4s						
PESA	**Pesaro**	**0.95**	**329**	Pg	**Pb**	**06 36 41.8**	**-0.2**
	501nm,0.4s						
BADI	**Badiali**	**1.00**	**293**	Pg	**Pb**	**06 36 41.9**	**-1.0**
	235nm,0.5s						
BADI	**Badiali**	**1.00**	**293**	Pg	**Pb**	**06 36 41.9**	**-1.0**
	235nm,0.5s						
ATMC	**Monte Cedrone**	**1.01**	**289**	Pg	**Pb**	**06 36 42.2**	**-0.9**
	311nm,0.4s						
ATMC	**Monte Cedrone**	**1.01**	**289**	Pg	**Pb**	**06 36 42.2**	**-0.9**
	311nm,0.4s						
MGAB	**Montegabbione**	**1.04**	**259**	Pg	**Pb**	**06 36 42.7**	**-1.0**
	278nm,0.5s						
MGAB	**Montegabbione**	**1.04**	**259**	Pg	**Pb**	**06 36 42.7**	**-1.0**
	278nm,0.5s						
PARC	**Parchiule**	**1.06**	**300**	Pg	**Pb**	**06 36 43.1**	**-0.9**
	144nm,0.3s						
PARC	**Parchiule**	**1.06**	**300**	Pg	**Pb**	**06 36 43.1**	**-0.9**
	144nm,0.3s						
CPGN	**Carpegna, Ital**	**1.09**	**308**	Pg	**Pb**	**06 36 45.5**	**+0.9**
	141μm,19.0s						
CPGN	**Carpegna, Ital**	**1.09**	**308**	Pg	**Pb**	**06 36 45.5**	**+0.9**
	141μm,19.0s						
PTQR	**Pietraquaria**	**1.11**	**184**	Pg	**Pb**	**06 36 44.5**	**-0.3**
PTQR	**Pietraquaria**	**1.11**	**184**	Pg	**Pb**	**06 36 44.5**	**-0.3**
CAFI	**Castiglion Fio**	**1.14**	**281**	Pg	**Pn**	**06 36 44.8**	**-0.7**
CAFI	**Castiglion Fio**	**1.14**	**281**	Pg	**Pn**	**06 36 44.8**	**-0.7**
INTR	**Introdacqua**	**1.15**	**165**	Pg	**Pn**	**06 36 45.2**	**-0.5**
	265nm,0.7s						
INTR	**Introdacqua**	**1.15**	**165**	Pg	**Pn**	**06 36 45.2**	**-0.5**
	265nm,0.7s						
LPEL	**Lama dei Pelig**	**1.19**	**155**	Pg	**Pb**	**06 36 47.1**	**+0.9**
	99nm,0.4s						
LPEL	**Lama dei Pelig**	**1.19**	**155**	Pg	**Pb**	**06 36 47.1**	**+0.9**
	99nm,0.4s						
SACS	**San Casciano d**	**1.20**	**257**	Pg	**Pn**	**06 36 45.8**	**-0.6**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CERT	Cerreto	1.24	198	Pg	Pn	06 36 46.1	-0.8
	151nm,0.5s						
CERT	Cerreto	1.24	198	Pg	Pn	06 36 46.1	-0.8
	151nm,0.5s						
VVLD	Villa Vallelon	1.26	176	Pg	Pn	06 36 47.2	+0.1
	83nm,0.4s						
VVLD	Villa Vallelon	1.26	176	Pg	Pn	06 36 47.2	+0.1
	83nm,0.4s						
GUAR	Guarcino	1.34	186	Pg	Pb	06 36 49.7	+1.0
	34nm,0.3s						
GUAR	Guarcino	1.34	186	Pg	Pb	06 36 49.7	+1.0
	34nm,0.3s						
LATE	Laterza	1.35	248	Pg	Pn	06 36 48.7	+0.3
	186nm,0.5s						
LATE	Laterza	1.35	248	Pg	Pn	06 36 48.7	+0.3
	186nm,0.5s						
MCIV	Monte Civitell	1.39	256	Pg	Pn	06 36 49.5	+0.6
	56nm,0.5s						
MCIV	Monte Civitell	1.39	256	Pg	Pn	06 36 49.5	+0.6
	56nm,0.5s						
NVLJ	Novalja	1.74	34	i Pn	Pn	06 36 53.5	-0.3
NVLJ				Sn	Sn	06 37 15.2	-0.8
NVLJ	Novalja	1.74	34	i Pn	Pn	06 36 53.4	-0.3
NVLJ				Sn	Sn	06 37 15.1	-0.8
UDBI	Udbina	2.15	49	ePn	Pn	06 37 00.7	+1.2
UDBI	Udbina	2.15	49	ePn	Pn	06 37 00.6	+1.2
OZLJ	Ozalj	2.86	29	ePn	Pn	06 37 09.2	+0.1
OZLJ	Ozalj	2.86	29	ePn	Pn	06 37 09.1	+0.1
OBKA	Obir	3.46	12	Pn	Pn	06 37 17.7	+0.2
	0.3nm,0.2s						
OBKA	Obir	3.46	12	ePn	Pn	06 37 17.7	+0.2
	0.3nm,0.2s						
OBKA				eS	Sg	06 38 18.0	+3.2
	7.7nm,0.5s						
MYKA	Terra Mystica	3.50	2	Pn	Pn	06 37 18.2	+0.2
	1.1nm,0.2s						
MYKA	Terra Mystica	3.50	2	ePn	Pn	06 37 18.2	+0.2
	1.1nm,0.2s						
MYKA				eS	Sg	06 38 18.6	+2.4
	9.0nm,0.7s						
ABTA	Abfaltersbach	3.69	349	Pn	Pn	06 37 20.5	0.0
	1.6nm,0.2s,SNR=9.5						
ABTA				Sn	Sn	06 38 04.4	+0.4
	0.5nm,0.1s						
ABTA	Abfaltersbach	3.69	349	i Pn	Pn	06 37 20.5	0.0
	1.6nm,0.2s,SNR=9.5						
ABTA				eSn	Sn	06 38 04.4	+0.4
	0.5nm,0.1s						
KBA	Koelnbreinsper	3.95	358	Pn	Pn	06 37 24.0	-0.3
	0.4nm,0.2s						
KBA				Sn	Sn	06 38 09.6	-1.1
	1.7nm,0.4s						
KBA	Koelnbreinsper	3.95	358	ePn	Pn	06 37 24.0	-0.3
	0.4nm,0.2s						
KBA				eSn	Sn	06 38 09.6	-1.1
	1.7nm,0.4s						
ARSA	Arzberg	4.36	18	Sn	Sn	06 38 18.1	-2.5
	0.8nm,0.3s						
ARSA	Arzberg	4.36	18	eSn	Sn	06 38 18.1	-2.5
	0.8nm,0.3s						
FETA	Feichten	4.36	334	Pn	Pn	06 37 30.1	+0.2
	0.2nm,0.1s						
FETA	Feichten	4.36	334	ePn	Pn	06 37 30.1	+0.2
	0.2nm,0.1s						
WATA	Walderalm	4.42	343	Pn	Pn	06 37 30.7	0.0
	1.9nm,0.3s,SNR=4.4						
WATA	Walderalm	4.42	343	ePn	Pn	06 37 30.7	0.0
	1.9nm,0.3s,SNR=4.4						
MOTA	Moosalm	4.55	339	Pn	Pn	06 37 32.7	+0.3
	0.5nm,0.3s						
MOTA	Moosalm	4.55	339	ePn	Pn	06 37 32.7	+0.3
	0.5nm,0.3s						
MOA	Molln	4.75	6	Pn	Pn	06 37 35.5	+0.4
	0.1nm,0.1s						
MOA				Sn	Sn	06 38 30.5	+0.3
	0.6nm,0.3s						
MOA	Molln	4.75	6	ePn	Pn	06 37 35.5	+0.4
	0.1nm,0.1s						
MOA				eSn	Sn	06 38 30.5	+0.3
	0.6nm,0.3s						
RETA	Reutte	4.77	337	Pn	Pn	06 37 35.7	+0.3
	0.3nm,0.2s						
RETA				Sn	Sn	06 38 31.0	+0.3
	0.6nm,0.3s						
RETA	Reutte	4.77	337	ePn	Pn	06 37 35.7	+0.3
	0.3nm,0.2s						
RETA				eSn	Sn	06 38 31.0	+0.3
	0.6nm,0.3s						
CONA	Conrad Observa	5.08	18	Pn	Pn	06 37 40.1	+0.4
	0.7nm,0.3s						
CONA				Sn	Sn	06 38 37.8	-0.5
	0.5nm,0.2s						
CONA	Conrad Observa	5.08	18	ePn	Pn	06 37 40.1	+0.4
	0.7nm,0.3s						
CONA				eSn	Sn	06 38 37.8	-0.5
	0.5nm,0.2s						
KHC	Kasperske Hory	6.01	0	ePN	Pn	06 37 51.3	-1.0
KHC				ex	x	06 37 56.0	
KHC				eSN	Sn	06 38 55.8	-5.3
KHC	Kasperske Hory	6.01	0	Pn	Pn	06 37 51.3	-1.0

*ISCJB **08** 06:52:47.8±0.7, 48°.89N±0°.06×68°.70E±0°.09, h0km, mb3.3/1, Error ellipse: s-maj=9.0km s-min=7.5km az=140.8*

*NNC **08** 06:52:50.1±0.6, 48°.94N×68°.68E, h0km, mb3.2, mpv2.9, Error ellipse: s-maj=6.7km s-min=4.5km az=66.0, Suspected Mining explosion.*

*IDC **08** 06:52:50.4±1.4, 48°.96N×68°.58E, h0km, mb2.8/1, mb1 3.0/6, mb1mx2.9/62, mbtmp2.9/6, ML2.6/5, Error ellipse: s-maj=17.4km s-min=12.5km az=31.0*

ISC 08 06:52:50.1±1.0, **48°.91N**±0°.07×**68°.66E**±0°.09, **h0km, n13, σ1s02**/15, **5C-9D, Central Kazakhstan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
OTUK	Ortayu	2.53	104	⇓Pg	Pb	06 53 35.8	-0.6
	1.9nm,0.3s						
OTUK				⇓Lg	Lg	06 54 10.9	
	14nm,0.4s						
BVA0	Borovoye Array	4.26	14	⇑Pn	Pn	06 53 56.6	+0.4
	2.2nm,1.0s,baz=205,slow=12,SNR=9.9						
BVA0				⇓Pg	Pb	06 54 07.0	+1.1
	1.5nm,0.4s,baz=188,slow=16,SNR=12						
BVA0				⇓Lg	Lg	06 55 03.1	
	3.7nm,0.5s,baz=200,slow=31,SNR=4.8						
BVAR	Borovoye Array	4.26	14	Pn	Pn	06 53 56.0	-0.2
	0.4nm,0.3s,baz=214,slow=8.6,SNR=9.8						
BVAR				Pg	Pb	06 54 04.7	-1.1
	1.4nm,0.3s,baz=197,slow=13,SNR=19						
BVAR				Lg	Lg	06 55 03.7	
	1.4nm,0.3s,baz=188,slow=26,SNR=7.6						
BRVK	Borovoye	4.28	13	⇑Pn	Pn	06 53 56.3	-0.1
	1.3nm,0.6s						
BRVK				⇑Pg	Pb	06 54 07.1	+1.0
	1.7nm,0.5s						
BRVK				⇓Lg	Lg	06 55 02.3	
	4.4nm,0.6s						
AB31	Akbulak array	5.74	277	⇑Pn	Pn	06 54 16.8	+0.3
	0.2nm,0.3s,baz=96,slow=7.2,SNR=3.1						
AB31				⇓Lg	Lg	06 55 50.4	
	2.5nm,0.8s						
KK31	Karatay Array	5.95	167	⇓Sn	Sn	06 55 29.7	+1.5
	1.0nm,0.6s,baz=337,slow=19,SNR=10						
KK31				⇓Lg	Lg	06 56 01.2	
	2.1nm,0.6s,baz=322,slow=21,SNR=3.8						
KURBB	Kurchatov Arra	6.62	71	Pn	Pn	06 54 28.8	+0.3
	0.1nm,0.3s,baz=264,slow=13,SNR=11						
I31KZ	AKTYUBINSK INF	7.06	286	i		07 35 00.0	
	baz=98,slow=332,SNR=0.2						
AKTO	Aktyubinsk	7.08	286	Pn	Pn	06 54 34.9	+0.1
	0.1nm,0.3s,baz=246,slow=20,SNR=2.6						
AKTO				Lg	Lg	06 56 23.5	
	0.1nm,0.3s,baz=0.0,slow=11,SNR=2.1						
MK31	Makanchi Array	9.40	98	⇑Pn	Pn	06 55 07.6	+0.8
	0.1nm,0.2s,baz=277,slow=13,SNR=14						
MK31				⇓Lg	Lg	06 57 48.2	
	2.5nm,0.9s,baz=289,slow=39,SNR=3.6						
MKAR	Makanchi Array	9.40	98	Pn	Pn	06 55 06.8	0.0
	0.2nm,0.3s,baz=287,slow=12,SNR=15						
MKAR				Lg	Lg	06 57 52.2	
	0.1nm,0.3s,baz=287,slow=34,SNR=6.5						
ZALV	Zalesovo Beam	11.27	57	Pn	Pn	06 55 33.7	+1.5
	0.1nm,0.3s,baz=246,slow=11,SNR=2.7						
YKA	Yellowknife Ar	68.91	2	P	P	07 03 54.4	-1.8
	0.1nm,0.5s,baz=356,slow=6.4,SNR=3.8						

IDC 08 06:54:12.3±8.0, **48°.52S**×**120°.73E, h0km, mb3.7**/2, **mb1 4.0**/2, **mb1mx3.6**/37, **mbtmp3.7**/2, **MS3.5**/8, **Ms1 3.5**/8, **ms1mx3.2**/38, **Error ellipse: s-maj=802.8km s-min=73.3km az=108.0, Western Indian-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
H01W1	Cape Leeuwin H	14.46	338	T	T	07 13 08.9	
	baz=161,slow=74,SNR=13						
H01W2	Cape Leeuwin H	14.46	338	T	T	07 13 07.8	
	baz=161,slow=74,SNR=12						
H01W3	Cape Leeuwin H	14.48	338	T	T	07 13 09.9	
	baz=161,slow=74,SNR=10						
STKA	Stephens Creek	22.91	51	LR	LR	07 06 33.7	
	comp=Z,83nm,20.5s,baz=205,slow=32						
ASAR	Alice Springs	26.91	28	P	P	06 59 55.5	+0.5
	1.4nm,1.1s,baz=202,slow=8.8,SNR=5.3						
WRA	Warramunga Arr	30.55	26	P	P	07 00 27.0	-0.5
	0.9nm,1.0s,baz=194,slow=9.1,SNR=3.3						
WRA				LR	LR	07 11 39.4	
	comp=Z,98nm,20.5s,baz=140,slow=34						
BATI	Baumata	38.27	5	LR	LR	07 16 52.7	
	comp=Z,116nm,20.6s,baz=144,slow=36						
LEM	Lembang	43.01	341	LR	LR	07 19 17.4	
	comp=Z,49nm,18.7s,baz=228,slow=35						
PMG	Port Moresby	44.87	39	LR	LR	07 21 46.1	
	comp=Z,72nm,18.3s,baz=74,slow=37						
SIJI	Sorong	48.33	14	LR	LR	07 24 02.6	
	comp=Z,49nm,20.9s,slow=37						
HNR	Honiara	50.96	53	LR	LR	07 22 48.0	
	comp=Z,35nm,21.6s,baz=78,slow=34						
SNAA	Sanae	53.68	199	LR	LR	07 24 36.4	
	comp=Z,104nm,19.9s,baz=291,slow=34						
YKA	Yellowknife Ar	146.84	44	PKPbc	PKPbc	07 13 54.3	-0.8
	0.3nm,0.8s,baz=267,slow=2.6,SNR=5.2						

*GUC **08** 06:57:58.7±1.1, 28°.46S×69°.81W, h80km±124km, ML3.1*

*SJA **08** 06:58:00.5±1.2, 28°.42S×69°.92W, h134km±13km, ML2.8, MW3.0*

ISC 08 06:58:02.9±1.3, **28°.43S**±0°.04×**69°.95W**±0°.04, **h33**km±8km, **n23, σ1s60**/38, **Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VACH	Vallenar	0.73	258	eP	Pn	06 58 31.2	+14
VACH				i S	Sn	06 58 43.8	+17
GO03	Copiap	0.87	343	eP	Pb	06 58 18.0	-1.6
GO03				i S	Sn	06 58 32.2	+1.7
GO03				IAML		06 58 33.0	
	comp=E,921nm,0.1s						
LCO	Las Campanas	0.88	229	i P	Pb	06 58 19.2	-0.7
LCO				i S	Sn	06 58 34.0	+2.9
LCO	Las Campanas	0.88	229	eP	Pb	06 58 18.9	-1.0
LCO				i S	Sn	06 58 34.0	+2.9
LCO				IAML		06 58 35.0	
	comp=E,613nm,0.2s						
VCA	Vinchina	1.56	102	i P	Pb	06 58 31.0	-0.4
VCA				eS	Sb	06 58 54.9	+4.0
VCA				IAML		06 58 56.3	
	comp=Z,97nm,0.2s						
AGUA	GUANDACOL	1.66	130	eP	Pb	06 58 32.1	-0.8
AGUA				eS	Sb	06 58 56.6	+3.2
AROD	Rodeo	1.78	167	eP	Pb	06 58 33.0	-2.1
AROD				i S	Sb	06 58 57.8	+0.5
ACDV	Cuesta del Vie	1.88	158	eP	Pb	06 58 34.7	-2.1
ACDV				i S	Sb	06 59 00.7	+0.8
TLL	Tololo Astrono	1.89	203	eP	Pn	06 58 31.4	-1.8
TLL				i S	Sn	06 58 55.8	-0.2
TLL				IAML		06 58 56.9	
	comp=E,172nm,0.7s						
GO04	Tololo Observa	1.89	203	eP	Pn	06 58 31.0	-2.1
GO04				i S	Sn	06 58 55.7	-0.3
GO04				IAML		06 58 56.9	
	comp=E,312nm,0.1s						
AMOG	MOGNA	2.80	153	eP	Pn	06 58 45.5	0.0
AMOG				i S	Sn	06 59 19.4	+1.1
RTLL	Cerro Villicun	3.16	156	eP	Pn	06 58 51.1	+0.6
RTLL				eS	Sn	06 59 28.7	+1.6
RTLL				IAML		06 59 30.7	
	comp=Z,30nm,0.4s						
RTLS	Leoncito	3.41	171	IAML		06 58 54.0	
	comp=Z,15nm,0.2s						
RTLS				eP	Pn	06 58 54.0	0.0
RTLS				eS	Sn	06 59 33.7	+0.2
APLL	PUNTA DE LOS L	3.57	124	i P	Pn	06 58 55.8	-0.3
APLL				eS	Sn	06 59 36.2	-1.0
APLL				IAML		06 59 38.4	
	comp=Z,15nm,0.6s						
RTCV	Cerro Valdivia	3.63	161	i P	Pn	06 58 56.6	-0.4
RTCV				i S	Sn	06 59 38.6	-0.1
CYA	Choya	3.65	91	i P	Pn	06 58 56.3	-0.9
CYA				IAML		06 58 57.6	
	comp=Z,12nm,0.4s						
CYA				eS	Sn	06 59 37.2	-2.0
AUSP	Uspallata	3.81	173	i P	Pn	06 58 59.2	-0.4
AUSP				eS	Sn	06 59 43.9	+0.4
ASAL	Salagasta	4.26	167	eP	Pn	06 59 05.1	-0.5
ARCO	CERRO ARCO	4.48	169	eP	Pn	06 59 08.3	-0.4
ARCO				IAML		06 59 09.1	
	comp=Z,6.0nm,0.3s						
ROC1	El Roble	4.62	191	eP	Pn	06 59 06.0	-4.7
ROC1				eS	Sn	07 00 05.5	+2.0
AAGR	Agrelo	4.74	169	i P	Pn	06 59 11.2	-1.0
AAGR				i S	Sn	07 00 06.2	+0.1
MRA	San Martin	5.40	138	eP	Pn	06 59 20.0	-1.3
MRA				eS	Sn	07 00 07.2	-15
MRA				IAML		07 00 20.7	
	comp=Z,4.2nm,0.3s						
TCA	Tanti	5.48	123	IAML		07 00 37.4	
	comp=Z,2.2nm,0.4s						

*IDC **08** 07:17:20.1±1.9, 10°.78N×124°.70E, h0km, mb3.6/5, mb1 3.7/5, mb1mx3.4/61, mbtmp3.6/5, MS2.9/4, Ms1 2.9/4, ms1mx2.6/54, Error ellipse: s-maj=220.7km s-min=20.3km az=67.0*

*MAN **08** 07:17:23, 10°.30N×123°.38E, h1km, mb4.7, ML3.6, MS3.5*

ISC 08 07:17:24.5±1.2, **10°.27N**±0°.03×**123°.45E**±0°.03, **h23**km±11km, **n24, σ1s69**/29, **mb3.5**/5, **MS2.8**/3, **2C-3D, Cebu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LLP	Lapu-Lapu	0.52	85	⇓iP	Pn	07 17 34.9	-1.6
LLP				i S	Sn	07 17 43.5	-1.1
TBP	Tagbilaran	0.71	144	eP	Pn	07 17 38.2	-0.9
TBP				i S	Sn	07 17 49.6	+0.3
GUIM	Jordan	0.91	293	eP	Pn	07 17 39.8	-2.2
GUIM				eS	Sn	07 17 52.2	-2.1
SNPH	Sibulan	0.94	193	eP	Pn	07 17 41.1	-1.3
SNPH				i S	Sn	07 17 54.7	-0.5
MSLP	Maasin	1.40	95	eP	Pb	07 17 50.5	+0.5
MSLP				eS	Sb	07 18 11.3	+3.9
RCP	Roxas	1.45	332	⇑eP	Pn	07 17 49.4	0.0
JAP	San Jose, Anti	1.55	288	⇓eP	Pb	07 17 55.3	+2.8
JAP				eS	Sb	07 18 42.5	+31
DCPH	Dipolog City	1.68	183	⇑eP	Pn	07 17 52.5	+0.1
DCPH				eS	Sb	07 18 15.8	+0.4
PLP	Palo	1.75	59	⇓eP	Pb	07 17 54.7	-1.2
BESP	Borongan	2.36	56	eP	Pb	07 18 07.1	+0.7
PAGZ	Pagadian	2.41	181	eP	Pn	07 18 04.4	+1.9
PAGZ				eS	Sb	07 18 36.4	-0.1
OTRP	Odiongan	2.50	326	eP	Pb	07 18 07.3	-1.5
OTRP				eS	Sb	07 18 38.8	-0.4
CNP	Catarman	2.53	28	eP	Pb	07 18 14.5	+5.4
IPIL	Ipil	2.61	199	eP	Pn	07 18 07.8	+2.4
IPIL				eS	Sb	07 18 40.2	-2.2
BUKP	Musuan	2.86	146	eP	Pb	07 18 11.8	-3.1
BUKP				eS	Sb	07 18 49.4	-0.2
DAV	Davao City (W)	3.82	146	LR	LR	07 20 02.1	
	comp=Z,109nm,21.2s,baz=336,slow=43						
JNU	Nakatsue	23.75	16	LR	LR	07 30 42.0	
	comp=Z,34nm,21.4s,baz=110,slow=35						
KSRS	Korea Array	27.36	8	LR	LR	07 33 43.9	
	comp=Z,16nm,21.9s,baz=15,slow=37						
WRA	Warramunga Arr	31.88	160	P	P	07 23 48.4	+0.1
	0.3nm,0.8s,baz=343,slow=9.6,SNR=3.1						
ASAR	Alice Springs	35.25	163	P	P	07 24 17.8	+0.2
	0.4nm,0.6s,baz=343,slow=7.0,SNR=9.1						
MKAR	Makanchi Array	50.37	324	P	P	07 26 21.8	+2.0
	0.5nm,0.9s,baz=138,slow=8.9,SNR=2.9						
ZALV	Zalesovo Beam	53.32	333	P	P	07 26 41.8	+0.1
	0.4nm,0.3s,baz=132,slow=6.0,SNR=1.7						
FINES	FINESS Array B	84.56	331	P	P	07 29 55.4	-0.3
	1.9nm,0.9s,baz=90,slow=8.3,SNR=3.3						
NOA	NORSAR Array B	91.52	333	LR	LR	08 16 47.4	
	comp=Z,13nm,20.7s,baz=30,slow=39						

*ISCJB **08** 07:20:14.4±1.0, 24°.0S±0°.2×69°.8E±0°.2, h10km, mb3.9/14, MS3.6/12, Error ellipse: s-maj=29.7km s-min=19.4km az=21.1*

*IDC **08** 07:20:14.6±1.2, 23°.97S×69°.69E, h0km, mb4.0/12, mb1 4.1/12, mb1mx3.8/67, mbtmp4.0/12, MS3.6/12, Ms1 3.6/12, ms1mx3.2/56, Error ellipse: s-maj=38.1km s-min=22.9km az=25.0*

*NEIC **08** 07:20:16.0±0.7, 24°.02S×69°.69E, h10km, mb4.1/2, Error ellipse: s-maj=22.9km s-min=15.1km az=201.0*

ISC 08 07:20:16.5±1.1, **24°.0S**±0°.2×**69°.7E**±0°.2, **h10km, n28, σ1s21**/18, **mb4.0**/14, **MS3.6**/12, **Mid-Indian Ridge**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
H08S1	Diego Carcia H	16.44	10	T	T	07 41 25.3	
	baz=190,slow=76,SNR=92						
H08S2	Diego Garcia H	16.44	10	T	T	07 41 01.3	
	baz=190,slow=76,SNR=74						
H08S3	Diego Garcia H	16.46	10	T	T	07 41 24.4	
	baz=190,slow=76,SNR=75						
PSI	Prapat	38.94	51	LR	LR	07 40 11.8	
	comp=Z,73nm,20.2s,baz=232,slow=31						
BOSA	Boshof	39.95	253	LR	LR	07 41 41.0	
	comp=Z,173nm,19.0s,baz=38,slow=32						
CMAR	Chiang Mai Arr	50.90	37	P	P	07 29 18.5	+0.4
	0.8nm,0.4s,baz=238,slow=6.3,SNR=4.1						
CMAR				LR	LR	07 49 19.7	
	comp=Z,44nm,18.1s,baz=255,slow=34						
ASAR	Alice Springs	58.25	104	P	P	07 30 11.7	+0.1
	0.7nm,0.7s,baz=253,slow=6.1,SNR=11						
WRA	Warramunga Arr	59.63	100	P	P	07 30 20.4	-0.9
	1.4nm,1.0s,baz=255,slow=7.6,SNR=6.5						
WRA				LR	LR	07 54 09.8	
	comp=Z,63nm,18.7s,baz=280,slow=34						
STKA	Stephens Creek	63.00	115	LR	LR	07 55 04.5	
	comp=Z,52nm,19.4s,baz=204,slow=33						
KKAR	Karatay Array	66.73	1	eP	P	07 31 08.5	+0.7
	1.0nm,0.6s						
MKAR	Makanchi Array	71.33	9	P	P	07 31 36.1	-0.2
	1.4nm,0.8s,baz=187,slow=6.1,SNR=13						
BRTR	Keskin Array B	71.74	331	P	P	07 31 39.0	0.0
	0.3nm,0.4s,baz=161,slow=12,SNR=3.6						
ABKAR	Akbulak array	73.40	353	eP	P	07 31 48.3	-0.2
	1.3nm,0.8s						
KURBB	Kurchatov Arra	74.66	6	P	P	07 31 55.8	0.0
	1.1nm,0.9s,baz=202,slow=6.5,SNR=6.8						
KURK	Kurchatov	74.76	6	P	P	07 31 55.8	-0.6
PMG	Port Moresby	74.84	94	LR	LR	08 04 01.1	
	comp=Z,26nm,19.5s,baz=165,slow=35						
TORD	Torodi Ar. Bea	75.97	291	P	P	07 32 04.2	0.0
	1.1nm,1.1s,baz=111,slow=3.6,SNR=3.9						
TORD				LR	LR	08 04 03.3	
	comp=Z,50nm,19.1s,baz=165,slow=35						
BVAR	Borovoye Array	76.66	0	P	P	07 32 06.7	-0.5
	0.6nm,0.7s,baz=177,slow=9.8,SNR=3.7						
ZALV	Zalesovo Beam	78.68	9	P	P	07 32 17.4	-1.1
	0.8nm,0.5s,baz=193,slow=4.6,SNR=5.2						
SONM	Songino Array	78.71	24	P	P	07 32 19.5	+0.6
	0.3nm,0.5s,baz=207,slow=4.8,SNR=4.6						
DBIC	Dimbokro	78.73	283	P	P	07 32 19.8	0.0
	12nm,1.3s,baz=130,slow=14,SNR=3.0						
DBIC				LR	LR	08 05 29.9	
	comp=Z,64nm,18.1s,baz=95,slow=34						
JNU	Nakatsue	81.34	48	LR	LR	08 07 52.0	
	comp=Z,18nm,18.1s,baz=292,slow=35						
KSRS	Korea Array	82.02	43	LR	LR	08 08 21.2	
	comp=Z,7.3nm,20.1s,baz=330,slow=35						
AKASG	Malin Array Be	82.48	335	P	P	07 32 38.5	-0.5
	0.2nm,0.4s,baz=137,slow=4.5,SNR=3.7						
MJAR	Matsushiro Arr	88.25	49	LR	LR	08 13 12.6	
	comp=Z,12nm,18.7s,baz=255,slow=36						
USRK	Ussuriysk Ar.	88.54	40	LR	LR	08 10 38.8	
	comp=Z,38nm,21.8s,baz=225,slow=34						
YKA	Yellowknife Ar	141.37	3	PKP	PKPdf	07 39 45.0	-2.0
	0.1nm,0.7s,baz=356,slow=3.7,SNR=3.7						
WMOK	Wichita Mounta	165.31	320	ePKPdf	PKPdf	07 40 24.9	+3.3
WMOK				ePKPab	pPKPab	07 41 20.8	-1.7

MAN 08 07:20:25, 10°.21N×123°.28E, h21km, mb4.2, ML3.0, MS2.7, 2C-1D, Cebu

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LLP	Lapu-Lapu	0.68	81	⇓iP	Pb	07 20 35.6	-2.6
LLP				i S	Sb	07 20 44.2	-3.0
TBP	Tagbilaran	0.77	132	eP	Pb	07 20 39.3	-0.4
TBP				i S	Sb	07 20 49.1	-0.6
GUIM	Jordan	0.80	301	eP	Pb	07 20 40.2	+0.1
GUIM				eS	Sn	07 20 52.7	+0.5
SNPH	Sibulan	0.87	183	eP	Pn	07 20 41.9	-0.1
SNPH				eS	Sn	07 20 54.7	+0.7
RCP	Roxas	1.44	339	⇑eP	Pn	07 20 50.4	+0.5
MSLP	Maasin	1.55	93	eP	Pn	07 20 51.3	-0.1
MSLP				eS	Sb	07 21 12.1	-0.2
DCPH	Dipolog City	1.62	178	⇑eP	Pn	07 20 52.7	+0.4
PAGZ	Pagadian	2.35	178	eP	Pn	07 21 00.9	-1.5

*SSS **08** 07:34:28.2, 12°.51N×87°.21W, h154km, MD3.5*

*INET **08** 07:34:29.5, 11°.80N×87°.81W, h10km, ML3.1*

UCR 08 07:34:27.4±5.4, **11°.72N**×**87°.83W, h22**km±176km, **MD3.6, ML3.1, 1D, Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CRIN	San Cristobal	1.24	38	eP	Pb	07 34 50.6	+0.4
CRIN				AML	AML	07 35 11.0	
	comp=E,382nm,0.2s						
CSGN	Cosiguina Volc	1.28	12	eP	Pb	07 34 51.3	+0.4
CSGN				eS	Sb	07 35 07.8	+0.9
COPN	Copaltepe	1.29	69	eP	Pb	07 34 51.7	+0.6
COPN				eS	Sb	07 35 08.7	+1.5
COPN				AML	AML	07 35 09.2	
	comp=Z,346nm,0.1s						
CNGN	Cerro Negro	1.35	55	eP	Pn	07 34 50.4	-0.7
MOMN	Momotombo	1.44	61	eP	Pn	07 34 51.1	-1.1
LCND	La Caˆ–ada	1.58	358	eP	Pn	07 34 53.2	-1.0
BRAN	Las Pilas	1.75	55	eP	Pn	07 34 54.2	-2.4
TECA	Tecapa	1.89	340	eP	Pn	07 34 59.8	+1.2
ESTN	Estel	1.98	46	⇓iP	Pn	07 34 53.7	-6.0

*SJA **08** 07:39:30.6±0.5, 33°.43S×72°.38W, h3km±11km, ML3.5, MW3.6*

*ISCJB **08** 07:39:31.5±2.0, 33°.90S±0°.04×72°.04W±0°.09, h8km±15km, Error ellipse: s-maj=13.7km s-min=4.8km az=24.3*

*GUC **08** 07:39:32.0±0.6, 33°.90S×72°.02W, h20km±5km, ML3.5*

ISC 08 07:39:31.5±2.6, **33°.92S**±0°.06×**72°.08W**±0°.09, **h13**km±17km, **n21, σ1s52**/23, **1C-2D, Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GO05	HualaæØ	1.09	174	⇓iP	Pb	07 39 51.8	-0.5
GO05				i S	Sg	07 40 06.2	-0.5
GO05				IAML		07 40 10.2	
	comp=E,1μm,0.3s						
ROC1	El Roble	1.30	43	eP	Pn	07 39 54.9	-0.6
ROC1				i S	Sn	07 40 12.9	0.0
ROCH	El Roble	1.30	43	⇑iP	Pn	07 39 54.7	-1.0
ROCH				i S	Sb	07 40 11.4	-1.3
ROCH				IAML		07 40 19.3	
	comp=N,2μm,0.5s						
PEL	Peldehue	1.40	57	eP	Pn	07 39 56.2	-0.5
PEL				i S	Sb	07 40 13.2	-2.1
LMEL	Las Melosas	1.56	88	⇓iP	Pb	07 39 59.2	-1.2
LMEL				i S	Sn	07 40 18.7	-0.7
LMEL				IAML		07 40 26.3	
	comp=N,2μm,0.2s						
FCH	Farellones	1.60	69	eP	Pn	07 39 59.7	-0.2
FCH				i S	Sb	07 40 20.7	-0.8
FCH				IAML		07 40 27.5	
	comp=E,1μm,0.2s						
CCHI	Chillan	2.67	180	eP	Pn	07 40 16.1	+1.9
CCHI				i S	Sb	07 40 49.8	-2.1
CCHI				IAML		07 40 59.4	

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
	comp=E,406nm,0.5s						
AAGR	Agrelo	2.84	74	eP	Pb	07 40 22.1	0.0
ARCO	CERRO ARCO	2.84	69	eP	Pb	07 40 21.1	-1.2
ARCO				IAML		07 40 27.5	
	comp=Z,129nm,0.5s						
AVIZ	Vizcacheras	3.00	82	eP	Pb	07 40 25.5	+0.6
AVIZ				i S	Sg	07 41 09.5	+1.5
RTLS	Leoncito	3.16	49	eP	Pn	07 40 23.7	+2.5
RTLS				IAML		07 40 31.7	
	comp=Z,114nm,0.4s						
SJA	San Juan	3.81	52	IAML		07 41 34.2	
	comp=Z,74nm,0.3s						
RTLL	Cerro Villicun	3.99	51	IAML		07 41 37.2	
	comp=Z,52nm,0.4s						
ACAN	Cantantal	4.42	69	eP	Pn	07 40 41.5	+3.2
ACDV	Cuesta del Vie	4.51	35	eP	Pn	07 40 41.3	+1.6
AGUA	GUANDACOL	5.38	36	eP	Pn	07 40 52.2	+0.7
AGUA				eS	Sn	07 41 54.7	+1.3
MRA	San Martin	5.54	76	IAML		07 42 42.1	
	comp=Z,21nm,0.6s						
APLL	PUNTA DE LOS L	5.88	55	IAML		07 42 20.3	
	comp=Z,19nm,0.8s						
VCA	Vinchina	6.14	34	IAML		07 42 47.9	
	comp=Z,26nm,0.5s						
TCA	Tanti	6.82	70	IAML		07 43 12.8	
	comp=Z,9.0nm,0.6s						
CYA	Choya	7.67	46	IAML		07 43 02.7	
	comp=Z,6.2nm,0.5s						

IDC 08 07:48:05.0±1.3, 33°.90S×72°.15W, h0km, mb4.0/5, mb1 4.0/7, mb1mx3.7/38, mbtmp3.9/7, ML3.8/2, MS3.1/5, Ms1 3.1/5, ms1mx2.8/32, Error ellipse: s-maj=52.9km s-min=19.4km az=94.0
GUC 08 07:48:08.8±0.6, 33°.89S×72°.14W, h50km±7km, ML3.7
ISCJB 08 07:48:09.5±0.7, 33°.86S±0°.03×72°.22W±0°.07, h46km±8km, mb4.2/4, MS3.2/3, Error ellipse: s-maj=10.9km s-min=4.2km az=22.3
SJA 08 07:48:09.1±1.1, 33°.53S×72°.28W, h10km±15km, ML3.8, MW3.9
ISC 08 07:48:09.0±1.8, 33°.84S±0°.04×72°.25W±0°.07, h26km±12km, n48, σ1s85/59, mb4.3/4, MS3.3/3, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GO05	HualaæØ	1.19	167	eP	Pn	07 48 28.9	-1.2
GO05				i S	Sn	07 48 43.8	-1.7
GO05				IAML		07 48 46.7	
	comp=E,4µm,1.0s						
ROC1	El Roble	1.34	50	eP	Pn	07 48 31.9	-0.5
ROC1				eS	Sn	07 48 48.8	-0.7
ROCH	El Roble	1.35	50	eP	Pn	07 48 31.8	-0.6
ROCH				i S	Sn	07 48 48.5	-1.1
ROCH				IAML		07 48 54.2	
	comp=N,3µm,0.5s						
PEL	Peldehue	1.48	62	eP	Pn	07 48 33.7	-0.3
PEL				i S	Sn	07 48 52.0	-0.5
PEL				IAML		07 48 59.1	
	comp=N,753nm,0.6s						
LMEL	Las Melosas	1.70	91	eP	Pn	07 48 36.4	-0.8
LMEL				i S	Sn	07 48 57.0	-1.1
LMEL				IAML		07 48 59.5	
	comp=N,2µm,0.8s						
FCH	Farellones	1.71	73	eP	Pn	07 48 36.9	-0.5
FCH				i S	Sn	07 48 58.4	-0.2
FCH				IAML		07 49 04.2	
	comp=E,1µm,0.6s						
COCH	Cobquecura	2.33	191	eP	Pn	07 48 45.3	-0.3
COCH				i S	Sn	07 49 12.7	-0.6
COCH				IAML		07 49 28.1	
	comp=E,300nm,0.5s						
CCHI	Chillan	2.76	177	eP	Pn	07 48 54.0	+2.4
CCHI				eS	Sn	07 49 25.9	+1.9
CCHI	Chillan	2.76	177	eP	Pn	07 48 53.9	+2.3
CCHI				i S	Sn	07 49 26.2	+2.2
CCHI				IAML		07 49 36.6	
	comp=E,2µm,0.5s						
AUSP	Uspallata	2.89	57	eP	Pn	07 48 56.0	+2.4
AUSP				i S	Sb	07 49 36.3	+1.1
ARCO	CERRO ARCO	2.95	71	eP	Pb	07 48 58.4	-2.5
ARCO				IAML		07 49 04.7	
	comp=Z,253nm,0.6s						
ARCO				eS	Sb	07 49 38.7	+2.0
AAGR	Agrelo	2.95	76	eP	Pn	07 48 57.6	+3.2
ASAL	Salagasta	3.12	67	eP	Pb	07 49 00.8	-3.1
ASAL				eS	Sb	07 49 40.4	-1.1
AVIZ	Vizcacheras	3.13	84	eP	Pn	07 49 00.4	+3.7
AVIZ				eS	Sb	07 49 47.1	+5.2
RTLS	Leoncito	3.21	51	eP	Pn	07 49 00.4	+2.3
RTLS				IAML		07 49 09.0	
	comp=Z,261nm,0.4s						
RTLS				eS	Sb	07 49 45.8	+1.5
RTCV	Cerro Valdivia	3.69	59	eP	Pn	07 49 06.0	+1.6
GO04	Tololo Observa	3.86	19	eP	Pn	07 49 07.1	+0.2
TLL	Tololo Astrono	3.86	19	eP	Pn	07 49 07.5	+0.6
SJA	San Juan	3.87	54	IAML		07 50 13.7	
	comp=Z,168nm,0.8s						
RTLL	Cerro Villicun	4.05	53	eP	Pn	07 49 12.0	+2.6
RTLL				IAML		07 50 14.5	
	comp=Z,91nm,0.5s						
AMOG	MOGNA	4.29	49	eP	Pn	07 49 14.0	+1.2
AROD	Rodeo	4.36	33	eP	Pn	07 49 16.2	+2.4
AROD				eS	Sb	07 50 21.9	+4.6
ACDV	Cuesta del Vie	4.52	37	eP	Pn	07 49 18.4	+2.5
ACAN	Cantantal	4.52	71	i P	Pn	07 49 14.8	-1.1
TMU	Temuco	4.89	183	eP	Pn	07 49 23.1	+2.3
AGUA	GUANDACOL	5.39	37	i P	Pn	07 49 29.7	+1.8
MRA	San Martin	5.66	77	eP	Pn	07 49 32.3	+0.8
MRA				IAML		07 51 19.4	
	comp=Z,37nm,0.5s						
APLL	PUNTA DE LOS L	5.94	56	eP	Pn	07 49 34.8	-0.6
APLL				IAML		07 50 57.7	
	comp=Z,32nm,0.7s						
VCA	Vinchina	6.15	35	eP	Pn	07 49 40.1	+1.7
VCA				IAML		07 51 34.2	
	comp=Z,45nm,0.6s						
VCA				IAML		07 51 42.5	
	comp=Z,52nm,0.7s						
SUCO	SUCO	6.16	87	i P	Pn	07 49 40.8	+2.3
SUCO				IAML		07 51 27.2	
	comp=Z,15nm,0.5s						
TCA	Tanti	6.92	71	eP	Pn	07 49 49.7	+0.8
TCA				IAML		07 51 47.0	
	comp=Z,18nm,0.6s						
PLCA	Paso Flores	7.01	169	Pn	Pn	07 49 50.1	+0.1
	comp=Z,0.6nm,0.3s,baz=357,slow=11,SNR=30						
PLCA				Lg	Lg	07 51 43.5	
	comp=Z,0.4nm,0.3s,baz=300,slow=20,SNR=2.5						
PLCA				LR	LR	07 52 09.1	
	comp=Z,49nm,20.8s,baz=8.0,slow=35						
CYA	Choya	7.71	47	i P	Pn	07 49 57.1	-2.6
CYA				IAML		07 52 18.8	
	comp=Z,11nm,0.6s						
CPUP	Villa Florida	14.91	64	Pn	P	07 51 43.8	+0.3
	comp=Z,0.1nm,0.3s,baz=248,slow=4.8,SNR=4.1						
CPUP				LR	LR	07 57 43.9	
	comp=Z,139nm,18.5s,baz=231,slow=39						
LPAZ	La Paz	17.87	13	P	Pn	07 52 16.9	+0.5
	comp=Z,0.1nm,0.3s,baz=219,slow=5.0,SNR=5.3						
SIV	San Ignacio	20.43	32	P	P	07 52 43.7	-0.7
	comp=Z,0.5nm,0.6s,baz=182,slow=15,SNR=5.4						
NNA	Nana	22.16	348	LR	LR	07 58 55.9	
	comp=Z,27nm,19.2s,baz=166,slow=29						
RPN	Rapa Nui	32.53	272	LR	LR	08 03 06.0	
	comp=Z,66nm,19.3s,baz=52,slow=28						
SNAA	Sanae	51.80	158	P	P	07 57 13.5	-0.7
	comp=Z,1.4nm,0.9s,baz=243,slow=2.8,SNR=7.7						
DBIC	Dimbokro	75.29	71	P	P	07 59 49.9	-0.3
	comp=Z,4.2nm,1.1s,baz=180,slow=7.1,SNR=2.7						
BOSA	Boshof	80.30	118	LR	LR	08 34 08.0	
	comp=Z,18nm,18.6s,baz=26,slow=34						
KOWA	Kowa	80.73	66	P	P	08 00 20.3	+0.1
	comp=Z,1.8nm,0.5s,baz=228,slow=6.0,SNR=4.6						
TORD	Torodi Ar. Bea	84.32	70	P	P	08 00 39.0	0.0
	comp=Z,1.5nm,0.7s,baz=263,slow=4.1,SNR=9.7						
WRA	Warramunga Arr	120.82	209	PKP	PKPdf	08 06 59.1	-0.3
	comp=Z,0.3nm,0.8s,baz=173,slow=1.3,SNR=2.8						
BVAR	Borovoye Array	147.28	43	PKPbc	PKPbc	08 07 49.4	-0.2
	comp=Z,0.3nm,0.3s,baz=328,slow=5.1,SNR=3.5						
KURBB	Kurchatov Arra	152.87	43	PKPbc	PKPbc	08 08 03.3	+0.1
	comp=Z,0.3nm,0.6s,baz=291,slow=2.7,SNR=5.0						
ZALV	Zalesovo Beam	154.18	32	PKPbc	PKPbc	08 08 06.3	+0.3
	comp=Z,0.6nm,0.5s,baz=302,slow=3.5,SNR=3.2						
MKAR	Makanchi Array	156.79	49	PKPab	PKPab	08 08 31.6	+0.2
	comp=Z,0.3nm,0.6s,baz=294,slow=2.4,SNR=3.8						

IDC 08 07:49:52.9±1.6, 4°.11N×63°.32E, h0km, mb3.5/7, mb1 3.7/7, mb1mx3.4/66, mbtmp3.5/7, MS3.2/2, Ms1 3.2/2, ms1mx2.6/56, Error ellipse: s-maj=48.1km s-min=26.1km az=62.0, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
H08N2	Diego Garcia H	12.89	143	T	T	08 05 49.7	
	baz=322,slow=76,SNR=121						
H08N3	Diego Garcia H	12.90	144	T	T	08 05 50.1	
	baz=322,slow=76,SNR=121						
H08N1	Diego Carcia H	12.91	143	T	T	08 05 51.3	
	baz=322,slow=76,SNR=103						
GEYT	Alibeck	34.00	353	LR	LR	08 11 00.6	
	comp=Z,42nm,18.1s,baz=185,slow=37						
MMAI	Mount Meron Ar	38.82	321	LR	LR	08 11 08.3	
	comp=Z,36nm,20.2s,baz=215,slow=33						
MKAR	Makanchi Array	45.59	18	P	P	07 58 13.5	-1.4
	0.1nm,0.4s,baz=219,slow=11,SNR=3.0						
KURBB	Kurchatov Arra	48.09	13	P	P	07 58 35.0	+0.7
	0.5nm,0.9s,baz=217,slow=4.5,SNR=3.1						
ZALV	Zalesovo Beam	52.70	16	P	P	07 59 08.0	-1.1
	0.8nm,0.7s,baz=218,slow=8.9,SNR=3.3						
SONM	Songino Array	57.08	33	P	P	07 59 42.9	+1.7
	0.5nm,0.7s,baz=221,slow=7.1,SNR=4.3						
ESDC	Sonseca Array	69.97	311	P	P	08 01 06.8	+0.2
	0.5nm,0.8s,baz=85,slow=6.8,SNR=4.2						
WRA	Warramunga Arr	73.67	112	P	P	08 01 28.9	-0.3
	0.5nm,0.7s,baz=292,slow=5.1,SNR=7.3						
ASAR	Alice Springs	74.00	116	P	P	08 01 31.2	+0.1
	0.6nm,0.7s,baz=288,slow=5.6,SNR=7.5						

ISCJB 08 07:52:31.4±0.6, 33°.78S±0°.03×70°.50W±0°.05, h113km±5km, Error ellipse: s-maj=7.8km s-min=4.0km az=32.9
SJA 08 07:52:31.0±0.9, 33°.80S×70°.51W, h110km±6km, ML3.3, MW3.5
GUC 08 07:52:32.5±0.8, 33°.76S×70°.49W, h102km±6km, ML3.5
ISC 08 07:52:32.7±1.3, 33°.78S±0°.04×70°.48W±0°.05, h102km±8km, n27, σ0s87/46, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LMEL	Las Melosas	0.24	106	eP	Pn	07 52 47.2	-0.2
LMEL				i S	Sn	07 52 57.8	-0.7
LMEL				IAML		07 53 00.8	
	comp=N,6µm,0.3s						
FCH	Farellones	0.48	20	eP	Pn	07 52 48.5	-0.4
FCH				i S	Sn	07 53 00.9	-0.1
FCH				IAML		07 53 02.0	
	comp=N,2µm,0.7s						
PEL	Peldehue	0.66	345	eP	Pn	07 52 49.4	-0.6
PEL				i S	Sn	07 53 02.5	-0.4
PEL				IAML		07 53 03.8	
	comp=N,904nm,0.2s						
ROC1	El Roble	0.92	331	eP	Pn	07 52 52.4	-0.2
ROC1				i S	Sn	07 53 08.2	+0.6
ROCH	El Roble	0.92	331	eP	Pn	07 52 52.3	-0.3
ROCH				i S	Sn	07 53 07.1	-0.5
ROCH				IAML		07 53 10.7	
	comp=E,3µm,0.4s						
NICH	Los Niches	1.37	207	eP	Pn	07 52 58.3	+0.9
NICH				i S	Sn	07 53 17.6	+1.5
AAGR	Agrelo	1.55	64	i P	Pn	07 53 00.0	+0.3
ARCO	CERRO ARCO	1.60	55	eP	Pn	07 53 00.7	+0.3
ARCO				i S	Sn	07 53 22.3	+0.8
ARCO				IAML		07 53 24.7	
	comp=Z,235nm,0.4s						
AVIZ	Vizcacheras	1.67	80	i P	Pn	07 53 01.5	+0.3
AVIZ				i S	Sn	07 53 23.9	+1.0
GO05	HualaæØ	1.71	224	eP	Pn	07 53 01.5	-0.1
GO05				i S	Sn	07 53 23.5	-0.2
GO05				IAML		07 53 26.4	
	comp=E,661nm,1.0s						
AUSP	Uspallata	1.81	31	eP	Pn	07 53 03.5	+0.4
AUSP				i S	Sn	07 53 28.1	+1.9
ASAL	Salagasta	1.82	50	eP	Pn	07 53 03.6	+0.5
ASAL				eS	Sn	07 53 27.6	+1.3
RTLS	Leoncito	2.21	27	i P	Pn	07 53 09.5	+1.1
RTLS				i S	Sn	07 53 37.9	+2.3
RTLS				IAML		07 53 39.0	
	comp=Z,175nm,0.7s						
RTCV	Cerro Valdivia	2.52	41	i P	Pn	07 53 12.0	-0.1
RTCV				i S	Sn	07 53 42.5	+0.1
SJA	San Juan	2.77	36	i P	Pn	07 53 15.6	+0.2
SJA				i S	Sn	07 53 48.8	+0.5
SJA				IAML		07 53 49.4	
	comp=Z,117nm,0.3s						
RTLL	Cerro Villicun	2.97	35	i P	Pn	07 53 18.6	+0.4
RTLL				i S	Sn	07 53 53.5	+0.2
RTLL				IAML		07 53 57.5	
	comp=Z,156nm,0.4s						
CCHI	Chillan	3.10	204	i P	Pn	07 53 19.6	-0.1
CCHI				eS	Sn	07 53 55.8	-0.4
ACAN	Cantantal	3.15	62	i P	Pn	07 53 20.1	-0.3
ACAN				i S	Sn	07 53 55.4	-2.0
AMOG	MOGNA	3.30	31	i P	Pn	07 53 22.5	0.0
AMOG				eS	Sn	07 54 00.0	-0.9
AROD	Rodeo	3.70	14	i P	Pn	07 53 28.8	+0.6
AROD				eS	Sn	07 54 12.1	+1.1
ACDV	Cuesta del Vie	3.78	18	eP	Pn	07 53 29.1	+0.1
ACDV				i S	Sn	07 54 02.9	-10
MRA	San Martin	4.22	73	i P	Pn	07 53 34.1	-0.9
MRA				IAML		07 53 34.5	
	comp=Z,25nm,0.5s						
MRA				i S	Sn	07 54 35.5	+12
AGUA	GUANDACOL	4.60	22	eP	Pn	07 53 39.8	-0.4
AGUA				i S	Sn	07 54 32.4	-0.1
SUCO	SUCO	4.70	86	IAML		07 53 50.6	
	comp=Z,11nm,0.4s						
APLL	PUNTA DE LOS L	4.76	46	eP	Pn	07 53 40.3	-1.9
APLL				IAML		07 54 34.9	
	comp=Z,20nm,0.4s						
VCA	Vinchina	5.39	22	i P	Pn	07 53 50.2	-0.7
VCA				i S	Sn	07 54 51.1	-0.7
VCA				IAML		07 55 04.9	
	comp=Z,37nm,0.4s						
TCA	Tanti	5.54	66	IAML		07 55 15.7	
	comp=Z,10nm,0.6s						

ISCJB 08 08:06:46.1±0.5, 6°.87S±0°.08×105°.92E±0°.06, h123km±4km, mb4.2/8, Error ellipse: s-maj=15.8km s-min=4.3km az=32.4
NEIC 08 08:06:47.9±1.0, 6°.73S×105°.97E, h123km±7km, mb4.4/2, Error ellipse: s-maj=32.1km s-min=7.8km az=213.0
DJA 08 08:06:47.1±0.3, 7°S±3°×10°6E±°, h100km±4km, M4.6/9, mB5.2/1, mb5.2/1, MLv4.3/9, Mw(mB)4.6/1
IDC 08 08:06:50.1±1.8, 6°.56S×106°.10E, h139km±11km, mb3.8/6, mb1 4.0/7, mb1mx3.4/64, mbtmp4.3/7, Error ellipse: s-maj=38.3km s-min=14.2km az=38.0
ISC 08 08:06:46.7±0.8, 6°.91S±0°.09×105°.92E±0°.06, h113km±7km, n38, σ1s44/49, mb4.3/8, Sunda Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CGJI	Cibinong	0.37	322	P	Pn	08 07 03.8	+0.6
CGJI				S	Sn	08 07 16.1	+0.5
SKJI	Sukabumi	0.64	99	P	Pn	08 07 05.5	+0.6
SKJI				S	Sn	08 07 19.1	+0.5
SBJI	Serang	0.81	15	P	Pn	08 07 06.8	+0.4
SBJI				S	Sn	08 07 21.2	+0.1
TNG	Tangerang	1.02	45	P	Pn	08 07 10.5	+2.1
TNG				P	Pn	08 07 09.2	+0.8
TNG				S	Sn	08 07 24.8	0.0
TNG				S	Sn	08 07 24.8	0.0
BLSI	Bandar Lampung	1.67	336	P	Pn	08 07 16.4	+0.5
BLSI				S	Sn	08 07 37.7	-0.3
LEM	Lembang	1.68	87	P	Pn	08 07 18.1	+2.0
	354nm,0.3s,baz=338,slow=4.0,SNR=223						
LEM				S	Sn	08 07 42.3	+3.8
	58nm,0.3s,baz=342,slow=20,SNR=5.7						
LEM				LR	LR	08 07 54.8	
	comp=Z,126nm,19.1s,baz=353,slow=42						
LEM	Lembang	1.68	87	P	Pn	08 07 17.4	+1.3
KASI	Kota Agung	1.98	314	P	Pn	08 07 20.8	+1.2
KASI				S	Sn	08 07 43.9	-0.8
CISI	Cisompet, Garu	1.98	109	P	Pn	08 07 20.0	+0.2
CISI	Cisompet, Garu	1.98	109	ePn	Pn	08 07 19.9	+0.2
CISI				eSn	Sn	08 07 43.5	-1.4
KLI	Kotabumi	2.29	332	P	Pn	08 07 24.2	+0.6
KLI				S	Sn	08 07 52.4	+0.5
JCJI	Jatiwangi	2.37	80	P	Pn	08 07 24.8	+0.2
LWLI	Liwa	2.64	315	P	Pn	08 07 29.4	+1.2
LWLI				S	Sn	08 07 59.7	-0.4
MDSI	Maura Dua	2.97	324	P	Pn	08 07 25.6	-6.8
MDSI				S	Sn	08 08 07.3	-0.3
KPJI	Karang Pucung	3.01	98	P	Pn	08 07 34.3	+1.3
MNAI	Manna	3.89	310	P	Pn	08 07 45.4	+0.7
MNAI	Manna	3.89	310	ePn	Pn	08 07 45.3	+0.6
MNAI				eSn	Sn	08 08 29.1	-0.6
UGM	Wanagama	4.67	103	P	Pn	08 07 56.1	+0.9
MASI	Maura Aman, Be	5.24	315	P	Pn	08 08 04.1	+1.2
PPSI	Pulau Pagai	7.19	305	P	Pn	08 08 28.8	-0.5
JAGI	Jajag, Banyuwa	8.30	101	ePn	Pn	08 08 46.4	+2.0
JAGI				eSn	Sn	08 10 10.2	-6.3
BATI	Baumata	17.84	102	P	Pn	08 10 47.9	-0.1
	4.6nm,0.3s,baz=270,slow=1.0,SNR=4.2						
BATI				S	S	08 14 05.5	-1.2
	3.4nm,0.3s,baz=287,slow=18,SNR=4.1						
SOEI	Soe	18.37	100	eP	P	08 10 51.9	-1.1
	15nm,0.6s						
H01W3	Cape Leeuwin H	28.85	166	T	T	08 43 20.3	
	baz=344,slow=76,SNR=7.7						
H01W1	Cape Leeuwin H	28.86	166	T	T	08 43 21.3	
	baz=344,slow=76,SNR=7.8						
H01W2	Cape Leeuwin H	28.86	166	T	T	08 43 21.4	
	baz=344,slow=76,SNR=9.0						
WRA	Warramunga Arr	30.46	118	P	P	08 12 49.5	+0.5
	4.8nm,0.8s,baz=293,slow=10,SNR=41						
WRA				PcP	PcP	08 15 46.3	+0.4
	0.4nm,0.5s,baz=312,slow=2.0,SNR=6.5						
WRAB	Tennant Creek	30.46	118	eP	P	08 12 49.8	+0.7
	3.0nm,0.5s						
ASAR	Alice Springs	31.61	125	P	P	08 12 59.9	+0.7
	1.0nm,0.5s,baz=303,slow=7.9,SNR=40						
ASAR				PcP	PcP	08 15 49.8	+0.8
	0.5nm,0.8s,baz=316,slow=2.6,SNR=4.4						
H08S2	Diego Garcia H	33.16	267	T	T	08 47 34.8	
	baz=90,slow=76,SNR=21						
H08S3	Diego Garcia H	33.17	267	T	T	08 47 32.6	
	baz=90,slow=76,SNR=15						
H08S1	Diego Carcia H	33.18	267	T	T	08 47 41.9	
	baz=90,slow=76,SNR=24						
PMG	Port Moresby	40.88	96	P	P	08 14 18.0	-0.1
	15nm,0.8s,baz=244,slow=3.1,SNR=4.7						
STKA	Stephens Creek	41.50	132	P	P	08 14 24.7	+1.7
	8.1nm,0.5s,baz=308,slow=8.9,SNR=26						
MKAR	Makanchi Array	57.44	341	P	P	08 16 22.3	-1.5
	0.4nm,0.5s,baz=145,slow=8.6,SNR=5.1						
BVAR	Borovoye Array	66.87	338	P	P	08 17 25.5	-1.1
	0.4nm,0.5s,baz=134,slow=6.2,SNR=3.3						
ABKAR	Akbulak array	68.79	330	eP	P	08 17 38.0	-0.6
	40nm,1.3s						
TXAR	Lajitas Array	144.30	48	PKP	PKPdf	08 26 09.7	-0.6
	0.8nm,0.7s,baz=299,slow=1.9,SNR=6.6						

NNC 08 08:10:07.4±3.7, 36°.88N×71°.03E, h0km, mb3.6, mpv3.3, 2C-6D, Error ellipse: s-maj=30.0km s-min=12.8km az=174.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZET	Dzherino	2.59	318	⇓Pn	Pn	08 10 50.2	-0.5
	6.4nm,0.3s						
DZET				⇓Sn	Sn	08 11 24.6	+1.6
	11nm,0.2s						
SFK	Sufi-Kurgan	3.68	31	⇑Pn	Pn	08 11 07.7	+2.0
	1.1nm,0.1s						
SFK				⇑Sn	Sn	08 11 51.3	+1.4
	1.7nm,0.4s						
MNAS	Manas	5.71	11	⇓Pn	Pn	08 11 31.5	-2.1
	2.3nm,1.2s						
MNAS				⇓Sn	Sn	08 12 40.8	+0.9
	2.7nm,0.7s						
KK31	Karatay Array	6.22	357	⇓Pn	Pn	08 11 38.6	-1.9
	0.7nm,0.2s,baz=178,slow=12,SNR=47						
KK31				⇓Sn	Sn	08 12 52.5	+0.1
	0.5nm,0.3s,baz=178,slow=22,SNR=4.3						

ISCJB 08 08:12:17.3±1.1, 33°.94S±0°.03×72°.1W±0°.1, h10km, Error ellipse: s-maj=13.1km s-min=4.0km az=13.7
GUC 08 08:12:18.1±0.4, 33°.97S×72°.04W, h16km±2km, ML2.7
SJA 08 08:12:19.2±0.8, 33°.54S×72°.20W, h8km, ML2.9, MW3.1
ISC 08 08:12:16.2±1.5, 33°.89S±0°.04×72°.17W±0°.10, h10km, n19, σ2s04/25, 1C, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CHPI	Pichilemu	0.52	164	eP	Pb	08 12 26.6	-0.9
CHPI				i S	Sg	08 12 33.1	-0.2
CHPI				IAML		08 12 34.7	
	comp=N,677nm,0.4s						
GO05	HualaæØ	1.14	170	⇑i P	Pb	08 12 37.0	-1.0
GO05				i S	Sb	08 12 51.4	-1.5
GO05				IAML		08 12 55.5	
	comp=E,432nm,0.2s						
ROC1	El Roble	1.33	47	i P	Pg	08 12 40.5	-1.2
ROC1				i S	Sn	08 12 57.8	-1.1
NICH	Los Niches	1.36	145	eP	Pg	08 12 41.1	-1.2
NICH				i S	Sb	08 12 57.9	-1.3
NICH				IAML		08 13 05.0	
	comp=N,1µm,0.1s						
FSR	Penalolen	1.43	74	eP	Pg	08 12 42.5	-1.2
FSR				i S	Sb	08 13 00.4	-0.9
FSR				IAML		08 13 09.0	
	comp=E,67nm,0.5s						
CCHI	Chillan	2.71	178	i P	Pb	08 13 05.4	+0.6
CCHI				i S	Sg	08 13 43.2	-0.1
AUSP	Uspallata	2.87	55	eP	Pb	08 13 06.8	-0.8
AUSP				eS	Sb	08 13 44.3	+1.3
ARCO	CERRO ARCO	2.91	70	eP	Pb	08 13 07.3	-0.9
ARCO				IAML		08 13 12.1	
	comp=Z,37nm,0.3s						
AVIZ	Vizcacheras	3.08	83	i P	Pb	08 13 11.0	-0.1
ASAL	Salagasta	3.08	66	eP	Pb	08 13 11.3	+0.1
RTLS	Leoncito	3.19	50	eP	Pb	08 13 12.9	-0.3
RTLS				IAML		08 13 17.2	
	comp=Z,33nm,0.4s						
RTLL	Cerro Villicun	4.03	52	eP	Pn	08 13 20.7	+2.6
AMOG	MOGNA	4.28	48	eP	Pn	08 13 22.8	+1.3
AROD	Rodeo	4.36	32	i P	Pn	08 13 24.7	+1.8
AROD				eS	Sg	08 14 31.7	-4.6
AGUA	GUANDACOL	5.39	37	eP	Pn	08 13 37.9	+1.0
MRA	San Martin	5.61	77	eP	Pn	08 13 41.2	+1.4
MRA				IAML		08 14 58.9	
	comp=Z,4.4nm,0.7s						
APLL	PUNTA DE LOS L	5.92	55	eP	Pn	08 13 48.5	+4.5
APLL				eS	Sn	08 14 58.2	+6.3
APLL				IAML		08 15 05.7	
	comp=Z,4.9nm,0.5s						
VCA	Vinchina	6.16	35	IAML		08 15 51.2	
	comp=Z,8.7nm,0.6s						
TCA	Tanti	6.88	70	IAML		08 14 02.1	
	comp=Z,3.2nm,0.8s						

ISCJB 08 08:15:19.4±0.2, 32°.65N±0°.02×115°.82W±0°.01, h13km±1km, Error ellipse: s-maj=2.7km s-min=2.0km az=10.2
NEIC 08 08:15:20.8±0.0, 32°.62N×115°.83W, h3km, MD3.2(ECX), ML3.1(PAS), After ECX.
ECX 08 08:15:20.8±0.5, 32°.62N×115°.83W, h3km, MD3.0, ML3.2
MEX 08 08:15:21.1±1.9, 32°.71N×115°.75W, h16km±61km, MD3.5
ISC 08 08:15:19.6±0.8, 32°.61N±0°.02×115°.81W±0°.02, h15km±5km, n85, σ1s05/129, 13C-6D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SGL	Mount Signal	0.08	62	⇑i P	Pg	08 15 22.6	0.0
YUH	Yuha Desert	0.10	290	ePg	Pb	08 15 22.7	-0.6
YUH	Yuha Desert	0.10	290	⇑i P	Pb	08 15 22.7	-0.6
WESC	Westside Schoo	0.16	23	ePg	Pg	08 15 24.0	+0.4
WESC				eSg	Sg	08 15 27.2	+1.0
WESC	Westside Schoo	0.16	23	⇓eP	Pg	08 15 23.9	+0.3
ERPC	Ernies Place	0.18	43	ePg	Pg	08 15 24.5	+0.7
ERPC	Ernies Place	0.18	43	⇑i P	Pg	08 15 24.5	+0.7
RMX	La Rumorosa	0.23	268	⇑i P	Pg	08 15 24.4	-0.3
RMX				⇑i P		08 15 24.6	
RMX				eS	Sg	08 15 27.1	-1.2

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
COK	**Cook Ranch**	**0.25**	**16**	⇓*i*P	**Pg**	**08 15 25.5**	**+0.6**
IKP	**In-Ko-Pah, Jac**	**0.26**	**279**	P	**Pg**	**08 15 25.4**	**+0.2**
	baz=100,SNR=451						
IKP				S	**Sg**	**08 15 28.9**	**-0.2**
	baz=100						
IKP	**In-Ko-Pah, Jac**	**0.26**	**279**	⇑*i*P	**Pg**	**08 15 25.4**	**+0.2**
CRR	**Carrizo Plain**	**0.31**	**334**	*e*Pg	**Pg**	**08 15 26.1**	**+0.1**
CRR	**Carrizo Plain**	**0.31**	**334**	⇓*i*P	**Pg**	**08 15 26.1**	**+0.1**
SWSC	**Sam W. Stewart**	**0.33**	**1**	P	**Pg**	**08 15 26.5**	**+0.1**
	baz=186,SNR=302						
SWSC				S	**Sg**	**08 15 30.5**	**-0.6**
	baz=186						
SWSC	**Sam W. Stewart**	**0.33**	**1**	*e*Pg	**Pg**	**08 15 26.6**	**+0.1**
SWSC	**Sam W. Stewart**	**0.33**	**1**	⇓*i*P	**Pg**	**08 15 26.6**	**+0.1**
DREC	**Desert Rsrch C**	**0.36**	**58**	*e*Pg	**Pb**	**08 15 28.1**	**+0.3**
DREC	**Desert Rsrch C**	**0.36**	**58**	⇑*i*P	**Pb**	**08 15 28.0**	**+0.3**
CPBX	**Cerro Prieto**	**0.47**	**114**	*e*Pg	**Pb**	**08 15 28.8**	**-0.7**
CPBX				*e*Sg	**Sb**	**08 15 36.6**	**+0.4**
CPBX	**Cerro Prieto**	**0.47**	**114**	*e*P	**Pb**	**08 15 29.6**	**+0.1**
CPBX				*e*S	**Sb**	**08 15 36.3**	**+0.1**
CPBX				IAML		08 15 39.2	
	comp=E,8μm,0.3s						
CPBX				⇓*e*		08 15 39.2	
CBKC	**Canebrake**	**0.47**	**308**	*e*Pg	**Pg**	**08 15 29.5**	**+0.5**
ERRC	**Elmore Ranch**	**0.50**	**359**	*e*Pg	**Pb**	**08 15 30.5**	**+0.4**
ERRC				*e*Sg	**Sb**	**08 15 38.2**	**+1.0**
MBIG	**Mexicali**	**0.55**	**112**	*e*P	**Pn**	**08 15 31.3**	**-1.6**
MBIG				*e*S	**Sb**	**08 15 38.1**	**-0.6**
CLIC	**Calipatria**	**0.58**	**24**	*e*Pg	**Pg**	**08 15 31.5**	**+0.6**
MONP2	**Monument Peak**	**0.59**	**298**	P	**Pb**	**08 15 31.2**	**-0.5**
	baz=120,SNR=64						
MONP2				S	**Sb**	**08 15 38.7**	**-1.2**
	baz=120						
BTCC	**Brunts Corner**	**0.64**	**51**	*e*Pg	**Pg**	**08 15 32.5**	**+0.5**
EMSC	**East Mesa**	**0.70**	**79**	*e*Pg	**Pn**	**08 15 33.6**	**-1.4**
EMSC	**East Mesa**	**0.70**	**79**	⇑*i*P	**Pn**	**08 15 33.6**	**-1.4**
BAR	**Barrett**	**0.73**	**276**	*e*Pg	**Pb**	**08 15 33.7**	**-0.3**
BAR				*e*		08 15 43.0	
BAR				*e*Sg	**Sb**	**08 15 43.4**	**-0.6**
BAR	**Barrett**	**0.73**	**276**	⇑*e*P	**Pb**	**08 15 33.8**	**-0.3**
TJIG	**Tijuana**	**0.75**	**257**	*i* P	**Pb**	**08 15 34.1**	**-0.3**
TJIG				*i* S	**Sb**	**08 15 43.5**	**-1.0**
CBX	**Cerro Bola**	**0.78**	**248**	*i* P	**Pb**	**08 15 34.9**	**0.0**
CBX				*i* S	**Sb**	**08 15 45.2**	**-0.2**
CBX	**Cerro Bola**	**0.78**	**248**	*e*Pn	**Pb**	**08 15 34.9**	**0.0**
CBX				*e*Sn	**Sb**	**08 15 45.2**	**-0.2**
CBX	**Cerro Bola**	**0.78**	**248**	⇑*e*P	**Pb**	**08 15 34.9**	**0.0**
CBX				*e*S	**Sb**	**08 15 45.3**	**-0.2**
CBX				IAML		08 15 45.9	
	comp=E,588nm,0.2s						
CBX				⇑*e*		08 15 45.9	
FRK	**Frink**	**0.80**	**10**	*e*Pg	**Pb**	**08 15 34.9**	**-0.3**
BORC	**Borrego Spring**	**0.83**	**322**	*e*Pg	**Pb**	**08 15 35.6**	**-0.2**
BORC				*e*Sg	**Sb**	**08 15 46.0**	**-0.8**
BATC	**Bat Cave Butte**	**0.84**	**358**	*e*Pg	**Pb**	**08 15 35.1**	**-0.8**
EML	**El Monte Cty P**	**0.92**	**288**	*e*Pn	**Pb**	**08 15 36.9**	**-0.3**
EML				*e*Sg	**Sb**	**08 15 48.5**	**-0.8**
GLA	**Glamis**	**0.93**	**62**	P	**Pb**	**08 15 36.6**	**-0.9**
	baz=243,SNR=71						
GLA				S	**Sb**	**08 15 48.7**	**-1.1**
	baz=243						
GLA	**Glamis**	**0.93**	**62**	*e*Pg	**Pb**	**08 15 36.7**	**-0.9**
GLA				*e*Sg	**Sg**	**08 15 49.4**	**-0.6**
SDRC	**San Diego Road**	**0.96**	**278**	⇑*e*P	**Pb**	**08 15 37.7**	**-0.3**
DPP	**Dos Picos Cty**	**1.03**	**292**	*e*Pn	**Pb**	**08 15 38.7**	**-0.4**
DPP				*e*Sn	**Sb**	**08 15 51.9**	**-0.6**
HWB	**Hans Werner Br**	**1.05**	**293**	*e*Pn	**Pb**	**08 15 39.3**	**-0.3**
HWB				*e*Sn	**Sb**	**08 15 52.6**	**-0.6**
CTW	**Cottonwood Mou**	**1.06**	**357**	*e*Pg	**Pb**	**08 15 38.1**	**-1.6**
BC3	**Big Chuckawall**	**1.08**	**16**	P	**Pb**	**08 15 39.0**	**-1.0**
	baz=197,SNR=36						
BC3				S	**Sb**	**08 15 52.7**	**-1.3**
	baz=197						
FRD	**Ford Ranch, An**	**1.10**	**323**	*e*Pg	**Pn**	**08 15 39.3**	**-1.3**
FRD				*e*Sn	**Sb**	**08 15 53.3**	**-1.4**
109C	**Camp Elliot, M**	**1.13**	**285**	P	**Pn**	**08 15 40.4**	**-0.4**
	baz=104,SNR=92						
109C				S	**Sb**	**08 15 54.5**	**-0.8**
	baz=104						
CPE	**Camp Elliot**	**1.13**	**285**	*e*Pg	**Pn**	**08 15 40.4**	**-0.5**
CPE				*e*Pn	**Pb**	**08 15 40.5**	**-0.2**
CPE				*e*Sg	**Sb**	**08 15 54.5**	**-0.7**
CPE				*e*Sn	**Sn**	**08 15 54.7**	**-1.4**
XPFO	**Piæon Flat**	**1.14**	**332**	*e*Pn	**Pn**	**08 15 39.5**	**-1.6**
XPFO				*e*Sg	**Sb**	**08 15 53.9**	**-1.7**
PFO	**Pinyon Flats O**	**1.14**	**331**	P	**Pn**	**08 15 39.5**	**-1.6**
	baz=152,SNR=46						
PFO				S	**Sb**	**08 15 55.3**	**-0.4**
	baz=152						
PFO	**Pinyon Flats O**	**1.14**	**331**	*e*Pn	**Pn**	**08 15 39.6**	**-1.6**
PFO				*e*Sg	**Sb**	**08 15 54.0**	**-1.7**
PLM	**Palomar**	**1.15**	**310**	*e*Pn	**Pn**	**08 15 40.6**	**-0.8**
PLM				*e*Sn	**Sb**	**08 15 57.0**	**+0.8**
SNDA	**J Saunders Pla**	**1.16**	**324**	*e*Pn	**Pn**	**08 15 40.3**	**-1.1**
SNDA				*e*Sn	**Sb**	**08 15 55.6**	**-0.7**
ECNX	**Esteban Cantu**	**1.17**	**215**	*e*P	**Pb**	**08 15 41.2**	**-0.3**
ECNX				*e*P	**Pn**	**08 15 38.5**	**-3.0**
ZAX	**El Zacaton**	**1.17**	**200**	*e*P	**Pn**	**08 15 41.2**	**-0.3**
ZAX				*e*S	**Sb**	**08 15 56.8**	**+0.4**
ZAX				⇓*e*		08 15 58.1	
ZAX				IAML		08 15 58.1	
	comp=N,632nm,0.3s						
PBX	**Punta Banda**	**1.17**	**222**	*e*P	**Pn**	**08 15 41.1**	**-0.3**
DNR	**Dunn Ranch,Anz**	**1.18**	**324**	*e*Pn	**Pn**	**08 15 40.7**	**-0.9**
CRY	**Cary Ranch**	**1.23**	**321**	*e*Pn	**Pn**	**08 15 41.2**	**-1.1**
CRY				*e*Sn	**Sb**	**08 15 58.7**	**+0.4**
ECBX	**El Chinero**	**1.30**	**150**	*e*P	**Pb**	**08 15 43.6**	**-0.2**
ECBX				*e*S	**Sg**	**08 16 01.3**	**-0.4**
ECBX				IAML		08 16 04.3	
	comp=N,293nm,0.5s						
ECBX				⇑*e*		08 16 04.3	
BELC	**Belle Mtn. Jos**	**1.39**	**353**	P	**Pn**	**08 15 43.3**	**-1.3**
	baz=174,SNR=35						
BELC	**Belle Mtn. Jos**	**1.39**	**353**	*e*Pn	**Pn**	**08 15 43.4**	**-1.2**
DGR	**Domenigoni Val**	**1.45**	**316**	*e*Pn	**Pn**	**08 15 44.3**	**-1.0**
DGR				*e*Pg	**Pb**	**08 15 46.6**	**+0.4**
DGR				*e*Sn	**Sn**	**08 16 04.4**	**+0.4**
TPC	**Twentynine Pal**	**1.50**	**352**	*e*Pn	**Pn**	**08 15 45.0**	**-1.1**
MURC	**Murrieta**	**1.53**	**311**	P	**Pn**	**08 15 45.6**	**-0.8**
	baz=131,SNR=23						
MURC				S	**Sb**	**08 16 07.4**	**+0.6**
	baz=131						
Y12C	**Blythe**	**1.56**	**43**	P	**Pn**	**08 15 45.8**	**-1.1**
	baz=224						
Y12C	**Blythe**	**1.56**	**43**	*e*Pn	**Pn**	**08 15 45.6**	**-1.3**
Y12C				*e*Sn	**Sb**	**08 16 06.3**	**-1.5**
SPX	**San Pedro Mart**	**1.59**	**169**	*e*P	**Pb**	**08 15 48.2**	**-0.7**
SPX				*e*S	**Sb**	**08 16 09.5**	**+0.7**
IRM	**Iron Mountain**	**1.64**	**20**	P	**Pb**	**08 15 48.4**	**-1.1**
	baz=201,SNR=31						
113A	**Mohawk Valley,**	**1.73**	**84**	*e*Pn	**Pn**	**08 15 48.2**	**-0.9**
BBRC	**Big Bear Solar**	**1.89**	**331**	P	**Pn**	**08 15 51.2**	**-0.3**
	baz=151,SNR=14						
BBRC				S	**Sb**	**08 16 17.7**	**+0.2**
	baz=151						
CIS	**Catalina Islan**	**2.33**	**290**	P	**Pn**	**08 15 58.5**	**+1.1**
	baz=110						
CIS				S	**Sn**	**08 16 28.3**	**+2.5**
	baz=110						
SCI2	**San Clemente I**	**2.34**	**280**	P	**Pn**	**08 15 58.4**	**+0.9**
	baz=98						
SCI2				S	**Sn**	**08 16 27.7**	**+1.7**
	baz=98						
MWC	**Mount Wilson**	**2.48**	**311**	*e*Pn	**Pb**	**08 16 03.7**	**-0.2**
MWC				*e*Sn	**Sb**	**08 16 34.8**	**+0.6**
LDFC	**Landfair**	**2.53**	**13**	*e*Pn	**Pg**	**08 16 07.2**	**-0.8**
Y14A	**Wickenburg**	**2.69**	**60**	*e*Pn	**Pn**	**08 16 03.7**	**+1.3**
GSC	**Goldstone, Bar**	**2.81**	**343**	*e*Pn	**Pb**	**08 16 10.9**	**+1.4**
W13A	**Hualapai Mount**	**2.95**	**32**	*e*Pn	**Pn**	**08 16 06.0**	**-0.1**
ISA	**Isabella, Lake**	**3.76**	**325**	*e*Pg	**Pb**	**08 16 28.4**	**+2.7**
SHPR	**Sheep Range**	**3.92**	**8**	*e*Pg	**Pg**	**08 16 36.2**	**+1.5**
X16A	**Lo Mia Camp, P**	**4.07**	**63**	*e*Pn	**Pn**	**08 16 22.4**	**+1.0**
TPNV	**Topopah Spring**	**4.34**	**355**	*e*Pg	**Pg**	**08 16 39.9**	**-2.8**
GATR	**Gnd/Air Tx Cnt**	**4.37**	**298**	*e*Pg	**Pb**	**08 16 35.0**	**-1.1**
GATR				*e*Sn	**Sn**	**08 17 20.7**	**+4.5**
WUAZ	**Wupatki**	**4.68**	**51**	*e*Pn	**Pn**	**08 16 30.2**	**+0.3**
U15A	**North Rim**	**4.79**	**36**	*e*Pn	**Pn**	**08 16 32.2**	**+0.8**
X18A	**Snowflake**	**5.25**	**67**	*e*Pn	Pn	08 16 38.9	+1.2

IDC 08 08:16:47.2±9.1**,4°.22S**×**152°.77E,h176**km±61km**,mb3.0**/2**, mb1 3.3**/3**,mb1mx2.9**/50**,mbtmp3.6**/3**,Error ellipse: s-maj=130.9km s-min=55.2km az=115.0,New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.58**	**227**	P	Pn	08 18 34.3	-0.8
	1.6nm,0.3s,baz=50,slow=11,SNR=4.4						
PMG				S	Sn	08 20 01.3	+0.9
	0.5nm,0.3s,baz=128,slow=19,SNR=2.5						
WRA	**Warramunga Arr**	**23.80**	**227**	P	P	08 21 45.0	+0.8
	1.3nm,0.5s,baz=54,slow=10.0,SNR=15						
ASAR	**Alice Springs**	**26.55**	**222**	P	P	08 22 08.5	-0.5
	0.3nm,0.8s,baz=56,slow=9.5,SNR=3.6						
TORD	**Torodi Ar. Bea**	**150.09**	**289**	PKPbc	PKPbc	08 36 17.6	-0.6
	0.5nm,0.9s,baz=48,slow=2.1,SNR=2.3						

MEX 08 08:28:33.4±0.6**,16°.35N**×**98°.48W,h5**km**,MD3.5,Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.34**	**83**	*i* P	Pg	08 28 39.4	-0.5
PNIG				*i* S	Sg	08 28 44.6	+0.2
TLIG	**Tlapa**	**1.21**	**356**	*e*P	Pg	08 28 53.3	-3.3
TLIG				*i* S	Sg	08 29 08.5	-3.8
VHO	**Vista Hermosa**	**1.82**	**67**	*e*P	Pn	08 29 02.9	-2.6
HUIG	**Huatulco**	**2.35**	**104**	*e*P	Pn	08 29 11.9	-0.8

IDC 08 08:34:49.6±7.9**,17°.12S**×**177°.65W,h0**km**,mb3.3**/3**, mb1 3.7**/3**,mb1mx3.4**/45**,mbtmp3.3**/3**,Error ellipse: s-maj=351.8km s-min=35.7km az=142.0,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**45.49**	**259**	P	P	08 43 11.2	+0.1
	0.1nm,0.3s,baz=94,slow=7.3,SNR=8.4						
ASAR	**Alice Springs**	**45.70**	**253**	P	P	08 43 12.4	-0.4
	0.4nm,0.6s,baz=84,slow=8.6,SNR=9.2						
ILAR	**Eielson Array**	**84.96**	**13**	P	P	08 47 26.3	0.0
	0.1nm,0.4s,baz=223,slow=6.2,SNR=3.9						

*SJA **08** 08:35:46.3±0.5,33°.48S×72°.46W,h11km±6km,ML3.5, MW4.0*
*ISCJB **08** 08:35:48.0±1.9,33°.92S±0°.07×72°.1W±0°.2,h13km±21km, Error ellipse: s-maj=24.0km s-min=4.8km az=26.5*
*GUC **08** 08:35:48.0±0.5,33°.90S×72°.11W,h41km±4km,ML3.5*
ISC 08 08:35:45.0±2.0**,33°.90S**±0°.08×**72°.2W**±0°.1**,h4**km±16km**,n18, σ1**s**76**/25**,1C-4D,Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GO05	**HualaæØ**	**1.12**	**169**	⇓*i*P	**Pn**	**08 36 07.7**	**+0.1**
GO05				*i* S	**Sn**	**08 36 23.0**	**-0.6**
GO05				IAML		08 36 26.0	
	comp=E,2μm,0.8s						
ROC1	**El Roble**	**1.35**	**47**	*e*P	**Pg**	**08 36 11.2**	**+0.3**
ROC1				*e*S	**Sb**	**08 36 29.6**	**+0.8**
ROCH	**El Roble**	**1.36**	**47**	⇑*i*P	**Pb**	**08 36 10.9**	**-0.2**
ROCH				*i* S	**Sn**	**08 36 27.9**	**-1.7**
ROCH				IAML		08 36 32.4	
	comp=N,2μm,0.4s						
PEL	**Peldehue**	**1.47**	**59**	⇓*i*P	**Pb**	**08 36 12.8**	**-0.2**
PEL				*i* S	**Sn**	**08 36 31.0**	**-1.1**
PEL				IAML		08 36 38.1	
	comp=N,665nm,0.6s						
LMEL	**Las Melosas**	**1.66**	**89**	⇓*i*P	**Pn**	**08 36 15.5**	**+0.4**
LMEL				*i* S	**Sn**	**08 36 36.1**	**-0.8**
LMEL				IAML		08 36 40.2	
	comp=N,2μm,0.6s						
FCH	**Farellones**	**1.69**	**71**	⇓*i*P	**Pn**	**08 36 16.2**	**+0.5**
FCH				*i* S	**Sn**	**08 36 37.9**	**-0.1**
FCH				IAML		08 36 43.4	
	comp=N,1μm,0.3s						
COCH	**Cobquecura**	**2.27**	**192**	*e*P	**Pb**	**08 36 24.9**	**-1.7**
COCH				*i* S	**Sn**	**08 36 49.3**	**-2.6**
COCH				IAML		08 37 07.6	
	comp=E,123nm,0.7s						
CCHI	**Chillan**	**2.69**	**178**	*e*P	**Pn**	**08 36 32.2**	**+3.1**
CCHI	**Chillan**	**2.69**	**178**	*e*P	**Pn**	**08 36 30.8**	**+1.6**
CCHI				*i* S	**Sn**	**08 37 04.2**	**+1.9**
CCHI				IAML		08 37 16.0	
	comp=E,630nm,0.6s						
AUSP	**Uspallata**	**2.89**	**55**	*e*P	**Pb**	**08 36 35.1**	**-2.3**
ARCO	**CERRO ARCO**	**2.93**	**70**	*e*P	**Pb**	**08 36 37.0**	**-0.9**
ARCO				IAML		08 36 43.3	
	comp=Z,134nm,0.3s						
AAGR	**Agrelo**	**2.93**	**75**	*e*P	**Pb**	**08 36 37.5**	**-0.4**
ASAL	**Salagasta**	**3.11**	**66**	*e*P	**Pb**	**08 36 39.2**	**-1.7**
RTLS	**Leoncito**	**3.22**	**50**	*e*P	**Pb**	**08 36 40.3**	**-2.6**
RTLS				IAML		08 36 48.0	
	comp=Z,116nm,0.3s						
RTCV	**Cerro Valdivia**	**3.69**	**57**	*e*P	**Pn**	**08 36 45.9**	**+3.0**
RTLL	**Cerro Villicun**	**4.06**	**52**	*e*P	**Pn**	**08 36 50.9**	**+2.9**
RTLL				IAML		08 37 52.8	
	comp=Z,69nm,0.7s						
APLL	**PUNTA DE LOS L**	**5.95**	**55**	*e*P	**Pn**	**08 37 13.9**	**0.0**
APLL				IAML		08 38 36.7	
	comp=Z,18nm,0.6s						
SUCO	**SUCO**	**6.13**	**87**	IAML		08 39 19.0	
	comp=Z,11nm,0.5s						

MEX 08 08:38:57.3±0.6**,16°.37N**×**98°.46W,h5**km**,MD3.8,Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.32**	**86**	*i* P	Pg	08 39 03.0	-0.6
PNIG				*i* S	Sg	08 39 08.1	+0.2
TLIG	**Tlapa**	**1.19**	**355**	*i* P	Pg	08 39 16.9	-3.3
TLIG				*e*S	Sg	08 39 31.8	-3.9
VHO	**Vista Hermosa**	**1.80**	**67**	*e*P	Pn	08 39 26.7	-2.5
HUIG	**Huatulco**	**2.34**	**104**	*e*P	Pn	08 39 33.5	-3.0

*IDC **08** 08:42:19.6±3.8,41°.30S×174°.78E,h0km,mb3.5/3, mb1 3.6/5,mb1mx3.5/43,mbtmp3.5/5,ML3.2/2,Error ellipse: s-maj=81.0km s-min=30.0km az=135.0*
*ISCJB **08** 08:42:20.7±0.3,41°.71S±0°.02×175°.22E±0°.04,h29km, mb3.3/3,Error ellipse: s-maj=5.1km s-min=2.3km az=36.9*
*NEIC **08** 08:42:24.7±0.0,41°.49S×174°.99E,h44km,ML3.8(WEL), After WEL.*
NEIC Felt at Wellington.
*WEL **08** 08:42:24.9,41°S±1°×175°.0E±0°.6,h39km±1km,ML3.9/12*
ISC 08 08:42:20.8±0.9**,41°.77S**±0°.03×**175°.23E**±0°.03**,h29**km**,n216, σ1**s**48**/216**,mb3.1**/3**,1C,North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PLWZ	**Palliser**	**0.20**	**4**	P*	**Pn**	**08 42 32.5**	**+4.7**
PLWZ	**Palliser**	**0.20**	**4**	P	**Pn**	**08 42 32.5**	**+4.7**
PLWZ	**Palliser**	**0.20**	**4**	S	**Sn**	**08 42 38.4**	**+7.3**
MSWZ	**Moikau Station**	**0.35**	**2**	P*	**Pn**	**08 42 32.4**	**+2.5**
MSWZ				S*	**Sn**	**08 42 37.9**	**+2.0**
MSWZ	**Moikau Station**	**0.35**	**2**	P	**Pn**	**08 42 32.4**	**+2.5**
MSWZ	**Moikau Station**	**0.35**	**2**	S	**Sn**	**08 42 38.0**	**+2.0**
PAWZ	**Paruwai Farm**	**0.41**	**21**	P*	**Pn**	**08 42 33.6**	**+2.8**
PAWZ	**Paruwai Farm**	**0.41**	**21**	P	**Pn**	**08 42 33.6**	**+2.8**
BHW	**Baring Head**	**0.45**	**323**	P*	**Pb**	**08 42 31.8**	**+1.5**
BHW				S*	**Sb**	**08 42 36.8**	**0.0**
BHW	**Baring Head**	**0.45**	**323**	P	**Pb**	**08 42 31.8**	**+1.5**
BHW	**Baring Head**	**0.45**	**323**	S	**Sb**	**08 42 36.8**	**0.0**
TRWZ	**Traveller**	**0.50**	**43**	P*	Pn	08 42 35.9	+3.9
TRWZ	**Traveller**	**0.50**	**43**	P	Pn	08 42 35.9	+3.9
WEL	**Wellington**	**0.59**	**324**	P*	**Pb**	**08 42 32.8**	**+0.1**
MTW	**Mount Morrison**	**0.64**	**18**	P*	**Pn**	**08 42 35.4**	**+1.5**
MTW	**Mount Morrison**	**0.64**	**18**	P	**Pn**	**08 42 35.4**	**+1.5**
CAW	**Cannon Point**	**0.67**	**349**	P*	**Pb**	**08 42 34.1**	**+0.2**
CAW	**Cannon Point**	**0.67**	**349**	P	**Pb**	**08 42 34.2**	**+0.2**
CMWZ	**Cape Campbell**	**0.76**	**271**	P*	**Pb**	**08 42 37.5**	**+2.0**
CMWZ	**Cape Campbell**	**0.76**	**271**	P	**Pb**	**08 42 37.6**	**+2.0**
TMWZ	**Te Maipa**	**0.82**	**37**	Pn	**Pb**	**08 42 38.8**	**+2.2**
TMWZ	**Te Maipa**	**0.82**	**37**	P	**Pb**	**08 42 38.8**	**+2.2**
HOWZ	**Holdsworth Sta**	**0.89**	**14**	P*	**Pb**	**08 42 38.0**	**+0.2**
HOWZ	**Holdsworth Sta**	**0.89**	**14**	P	**Pb**	**08 42 38.0**	**+0.2**
TCW	**Tory Channel**	**0.91**	**307**	P*	**Pn**	**08 42 36.7**	**-0.9**
TCW	**Tory Channel**	**0.91**	**307**	P	**Pn**	**08 42 36.7**	**-0.9**
KIW	**Kapiti Island**	**0.94**	**345**	P*	**Pn**	**08 42 37.4**	**-0.7**
KIW	**Kapiti Island**	**0.94**	**345**	P	**Pn**	**08 42 37.4**	**-0.7**
OGWZ	**Otaki Gorge**	**0.95**	**357**	P*	**Pn**	**08 42 37.9**	**-0.3**
OGWZ	**Otaki Gorge**	**0.95**	**357**	P	**Pn**	**08 42 37.9**	**-0.3**
BSWZ	**Blackbirch Sta**	**1.02**	**272**	Pn	**Pn**	**08 42 40.1**	**+1.0**
BSWZ	**Blackbirch Sta**	**1.02**	**272**	P	**Pn**	**08 42 40.1**	**+1.0**
BSWZ	**Blackbirch Sta**	**1.02**	**272**	P	**Pn**	**08 42 40.2**	**+1.0**
TUWZ	**Tuamarina**	**1.02**	**289**	Pn	**Pn**	**08 42 38.6**	**-0.5**
TUWZ	**Tuamarina**	**1.02**	**289**	P	**Pn**	**08 42 38.7**	**-0.5**
TIWZ	**Tintock**	**1.10**	**27**	Pn	**Pb**	**08 42 41.4**	**+0.1**
TIWZ	**Tintock**	**1.10**	**27**	P	**Pb**	**08 42 41.4**	**+0.1**
CPWZ	**Castlepoint**	**1.12**	**41**	Pn	**Pb**	**08 42 43.0**	**+1.4**
CPWZ	**Castlepoint**	**1.12**	**41**	P	**Pb**	**08 42 42.8**	**+1.2**
MRZ	**Mangatainoka R**	**1.13**	**13**	⇑Pn	**Pn**	**08 42 41.0**	**+0.3**
MRZ	**Mangatainoka R**	**1.13**	**13**	P	**Pn**	**08 42 41.1**	**+0.3**
BFZ	**Birch Farm**	**1.32**	**36**	Pn	**Pb**	**08 42 44.5**	**-0.5**
BFZ	**Birch Farm**	**1.32**	**36**	P	**Pb**	**08 42 44.5**	**-0.5**
PRWZ	**Pori Road**	**1.33**	**25**	Pn	**Pb**	**08 42 44.3**	**-0.8**
PRWZ	**Pori Road**	**1.33**	**25**	P	**Pb**	**08 42 44.3**	**-0.8**
DUWZ	**D'Urville Isla**	**1.38**	**314**	Pn	**Pn**	**08 42 43.5**	**-0.6**
DUWZ	**D'Urville Isla**	**1.38**	**314**	P	**Pn**	**08 42 43.5**	**-0.6**
KHZ	**Kahutara**	**1.42**	**242**	Pn	**Pb**	**08 42 47.1**	**+0.5**
KHZ	**Kahutara**	**1.42**	**242**	P	**Pb**	**08 42 47.2**	**+0.5**
POWZ	**Post Office Ro**	**1.43**	**17**	Pn	**Pn**	**08 42 45.1**	**+0.3**
POWZ	**Post Office Ro**	**1.43**	**17**	P	**Pn**	**08 42 45.1**	**+0.3**
NNZ	**Nelson**	**1.50**	**291**	Pn	**Pn**	**08 42 45.2**	**-0.5**
NNZ	**Nelson**	**1.50**	**291**	P	**Pn**	**08 42 45.2**	**-0.5**
OHWZ	**Ohakea**	**1.56**	**2**	P	**Pn**	**08 42 47.5**	**+0.9**
ANWZ	**Angora Road**	**1.61**	**36**	P	**Pb**	**08 42 48.2**	**-1.6**
DVHZ	**Dannevirke**	**1.63**	**26**	Pn	**Pn**	**08 42 47.8**	**+0.3**
DVHZ	**Dannevirke**	**1.63**	**26**	P	**Pn**	**08 42 47.8**	**+0.3**
THZ	**Tophouse**	**1.74**	**269**	Pn	**Pn**	**08 42 49.4**	**+0.2**
THZ	**Tophouse**	**1.74**	**269**	P	**Pn**	**08 42 49.5**	**+0.4**
TSZ	**Takapari Road**	**1.79**	**18**	Pn	**Pn**	**08 42 49.9**	**+0.1**
TSZ	**Takapari Road**	**1.79**	**18**	P	**Pn**	**08 42 50.0**	**+0.1**
PRHZ	**Porangahau**	**1.83**	**36**	Pn	**Pb**	**08 42 51.1**	**-2.6**
PRHZ	**Porangahau**	**1.83**	**36**	P	**Pb**	**08 42 51.2**	**-2.5**
WPHZ	**Waipukurau**	**1.93**	**29**	Pn	**Pn**	**08 42 52.3**	**+0.6**
WPHZ	**Waipukurau**	**1.93**	**29**	P	**Pn**	**08 42 52.3**	**+0.6**
PNHZ	**Pukenui**	**1.99**	**22**	Pn	**Pn**	**08 42 52.6**	**+0.1**
PNHZ	**Pukenui**	**1.99**	**22**	P	**Pn**	**08 42 52.6**	**+0.1**
WAZ	**Wanganui**	**2.02**	**355**	Pn	**Pn**	**08 42 53.8**	**+0.9**
WAZ	**Wanganui**	**2.02**	**355**	P	**Pn**	**08 42 53.9**	**+1.0**
PXZ	**Pawanui**	**2.13**	**36**	Pn	**Pn**	**08 42 54.6**	**+0.3**
PXZ	**Pawanui**	**2.13**	**36**	P	**Pn**	**08 42 54.7**	**+0.3**
QRZ	**Quartz Range**	**2.24**	**294**	Pn	**Pn**	**08 42 56.1**	**+0.2**
QRZ	**Quartz Range**	**2.24**	**294**	P	**Pn**	**08 42 56.1**	**+0.2**
KRHZ	**Kereru**	**2.29**	**23**	P	**Pn**	**08 42 56.5**	**-0.1**
KAHZ	**Kahuranaki**	**2.33**	**33**	Pn	**Pn**	**08 42 57.3**	**+0.1**
KAHZ	**Kahuranaki**	**2.33**	**33**	P	**Pn**	**08 42 57.3**	**+0.1**
BHHZ	**Black Hill Sta**	**2.36**	**16**	Pn	**Pn**	**08 42 57.6**	**0.0**
BHHZ	**Black Hill Sta**	**2.36**	**16**	P	**Pn**	**08 42 57.6**	**0.0**
MTVZ	**Mangateitei**	**2.38**	**4**	Pn	**Pn**	**08 42 58.4**	**+0.5**
MTVZ	**Mangateitei**	**2.38**	**4**	P	**Pn**	**08 42 58.5**	**+0.5**
LREZ	**Lake Rotokare**	**2.39**	**344**	P	**Pn**	**08 42 58.8**	**+0.9**
MOVZ	**Moawhango**	**2.39**	**10**	Pn	**Pn**	**08 42 58.0**	**0.0**
MOVZ	**Moawhango**	**2.39**	**10**	P	**Pn**	**08 42 58.1**	**0.0**
LTZ	**Lake Taylor**	**2.42**	**244**	Pn	**Pn**	**08 43 00.2**	**+1.7**
LTZ	**Lake Taylor**	**2.42**	**244**	P	**Pn**	**08 43 00.2**	**+1.7**
WNVZ	**Wahianoa**	**2.45**	**7**	Pn	**Pn**	**08 42 59.2**	**+0.3**
PKVZ	**Pokaka**	**2.48**	**2**	Pn	**Pn**	**08 42 59.7**	**+0.5**
PKVZ	**Pokaka**	**2.48**	**2**	P	**Pn**	**08 42 59.6**	**+0.4**
TRVZ	**Turoa**	**2.48**	**6**	Pn	**Pn**	**08 42 59.7**	**+0.3**
TRVZ	**Turoa**	**2.48**	**6**	P	**Pn**	**08 42 59.9**	**+0.5**
WHVZ	**Whangaehu Hut**	**2.50**	**6**	Pn	**Pn**	**08 43 00.0**	**+0.4**
WHVZ	**Whangaehu Hut**	**2.50**	**6**	P	**Pn**	**08 43 00.1**	**+0.5**
DRZ	**Dome Shelter**	**2.50**	**6**	Pn	**Pn**	**08 43 00.4**	**+0.6**
DRZ	**Dome Shelter**	**2.50**	**6**	P	**Pn**	**08 43 00.4**	**+0.6**
KWHZ	**Kaweka Forest**	**2.51**	**22**	P	**Pn**	**08 42 59.4**	**-0.2**
TUVZ	**Tukino**	**2.52**	**7**	Pn	**Pn**	**08 43 00.5**	**+0.6**
TUVZ	**Tukino**	**2.52**	**7**	P	**Pn**	**08 43 00.5**	**+0.6**
FWVZ	**Far West T-bar**	**2.52**	**6**	Pn	**Pn**	**08 43 00.3**	**+0.4**
FWVZ	**Far West T-bar**	**2.52**	**6**	P	**Pn**	**08 43 00.4**	**+0.4**
OKCZ	**Okains Bay**	**2.53**	**219**	P	**Pb**	**08 43 03.1**	**-2.4**
PREZ	**Palmer Road**	**2.56**	**341**	Pn	**Pn**	**08 43 01.3**	**+1.0**
PREZ	**Palmer Road**	**2.56**	**341**	P	**Pn**	**08 43 01.3**	**+1.0**
DSZ	**Denniston Nort**	**2.57**	**269**	Pn	**Pn**	**08 43 00.9**	**+0.4**
DSZ	**Denniston Nort**	**2.57**	**269**	P	**Pn**	**08 43 00.9**	**+0.4**
NMEZ	**Namu Road**	**2.57**	**336**	Pn	**Pn**	**08 43 01.0**	**+0.5**
NMEZ	**Namu Road**	**2.57**	**336**	P	**Pn**	**08 43 00.9**	**+0.5**
MCHZ	**McNeill Hill**	**2.57**	**26**	Pn	**Pn**	**08 43 00.3**	**-0.2**
MCHZ	**McNeill Hill**	**2.57**	**26**	P	**Pn**	**08 43 00.7**	**+0.2**
COVZ	**Chateau Observ**	**2.57**	**5**	P	**Pn**	**08 43 01.1**	**+0.5**
NGZ	**Ngauruhoe**	**2.60**	**6**	Pn	**Pn**	**08 43 01.6**	**+0.5**
NGZ	**Ngauruhoe**	**2.60**	**6**	P	**Pn**	**08 43 01.6**	**+0.5**
NGZ	**Ngauruhoe**	**2.60**	**6**	P	**Pn**	**08 43 01.6**	**+0.5**
OTVZ	**Oturere**	**2.62**	**7**	Pn	**Pn**	**08 43 01.6**	**+0.3**
KHEZ	**Kahui Hut**	**2.64**	**339**	Pn	**Pn**	**08 43 02.0**	**+0.5**
NEZ	**North Egmont**	**2.64**	**340**	Pn	**Pn**	**08 43 02.0**	**+0.5**
CRLZ	**Canterbury Las**	**2.64**	**226**	Pn	**Pb**	**08 43 04.8**	**-2.6**
CRLZ	**Canterbury Las**	**2.64**	**226**	P	**Pn**	**08 43 04.3**	**+2.9**
WTVZ	**West Tongariro**	**2.66**	**6**	Pn	**Pn**	**08 43 02.2**	**+0.4**
WTVZ	**West Tongariro**	**2.66**	**6**	P	**Pn**	**08 43 02.3**	**+0.4**
VRZ	**Vera Road**	**2.66**	**352**	P	**Pn**	**08 43 02.2**	**+0.5**
KRVZ	**Karewarewa**	**2.69**	**7**	Pn	**Pn**	**08 43 02.6**	**+0.5**
KRVZ	**Karewarewa**	**2.69**	**7**	P	**Pn**	**08 43 02.7**	**+0.5**
DREZ	**Durham Road**	**2.69**	**343**	Pn	**Pn**	**08 43 03.1**	**+1.0**
DREZ	**Durham Road**	**2.69**	**343**	P	**Pn**	**08 43 03.1**	**+1.0**
EYCZ	**Eyrewell**	**2.69**	**231**	P	**Pn**	**08 43 04.2**	**+2.1**
NWEZ	**Newall Road**	**2.70**	**337**	Pn	**Pn**	**08 43 02.4**	**+0.2**
TWVZ	**Taurewa**	**2.70**	**3**	Pn	**Pn**	**08 43 02.5**	**+0.2**
TWVZ	**Taurewa**	**2.70**	**3**	P	**Pn**	**08 43 02.5**	**+0.2**
AKCZ	**Akaroa Harbour**	**2.71**	**218**	P	**Pn**	**08 43 05.4**	**+3.0**
MQZ	**McQueen's Vall**	**2.71**	**224**	Pn	**Pn**	**08 43 04.6**	**+2.2**
MQZ	**McQueen's Vall**	**2.71**	**224**	P	**Pn**	**08 43 04.6**	**+2.2**
PKE	**Pukeiti**	**2.74**	**339**	P	**Pn**	**08 43 03.5**	**+0.6**
BKZ	**Black Stump Fm**	**2.77**	**21**	Pn	**Pn**	**08 43 02.6**	**-0.7**
BKZ	**Black Stump Fm**	**2.77**	**21**	P	**Pn**	**08 43 02.6**	**-0.7**
MHEZ	**Mangahewa**	**2.77**	**345**	Pn	**Pn**	**08 43 04.5**	**+1.2**
MHEZ	**Mangahewa**	**2.77**	**345**	P	**Pn**	**08 43 04.5**	**+1.2**
KATZ	**Kakaramea**	**2.81**	**7**	Pn	**Pn**	**08 43 04.2**	**+0.3**
KATZ	**Kakaramea**	**2.81**	**7**	P	**Pn**	**08 43 04.2**	**+0.3**
RITZ	**Rihia Road**	**2.83**	**10**	Pn	**Pn**	**08 43 04.1**	**+0.1**
RITZ	**Rihia Road**	**2.83**	**10**	P	**Pn**	**08 43 04.2**	**+0.1**
OXZ	**Oxford**	**2.83**	**236**	P	**Pn**	**08 43 05.5**	**+1.5**
ARHZ	**Aropaoanui**	**2.84**	**29**	P	**Pn**	**08 43 04.0**	**-0.1**
RATZ	**Rangitukua**	**2.92**	**8**	Pn	**Pn**	**08 43 06.0**	**+0.6**
RATZ	**Rangitukua**	**2.92**	**8**	P	**Pn**	**08 43 06.2**	**+0.8**
INZ	**Inchbonnie**	**2.97**	**250**	P	**Pn**	**08 43 07.2**	**+1.2**
MRHZ	**Matea Rd**	**3.06**	**18**	P	**Pn**	**08 43 06.5**	**-0.8**
WATZ	**Wairara**	**3.08**	**7**	P	**Pn**	**08 43 07.7**	**+0.2**
MTHZ	**Maungataniwha**	**3.16**	**23**	P	**Pn**	**08 43 07.9**	**-0.7**
HIZ	**Hauiti**	**3.26**	**355**	Pn	**Pn**	**08 43 10.3**	**+0.4**
HIZ	**Hauiti**	**3.26**	**355**	P	**Pn**	**08 43 10.4**	**+0.4**
KUTZ	**Kaahu Road**	**3.30**	**8**	P	**Pn**	**08 43 11.4**	**+0.9**
ALRZ	**Allen Road**	**3.31**	**15**	P	**Pn**	**08 43 10.1**	**-0.6**
PRRZ	**Plateau Road**	**3.38**	**16**	P	**Pn**	**08 43 11.0**	**-0.6**
TLZ	**Tolley Road**	**3.44**	**4**	Pn	**Pn**	**08 43 12.1**	**-0.4**
TLZ	**Tolley Road**	**3.44**	**4**	P	**Pn**	**08 43 12.1**	**-0.4**
MUGZ	**Murupara**	**3.49**	**20**	P	**Pn**	**08 43 12.2**	**-0.9**
WVZ	**Waitaha Valley**	**3.58**	**247**	Pn	**Pn**	**08 43 15.3**	**+1.0**
WVZ	**Waitaha Valley**	**3.58**	**247**	P	**Pn**	**08 43 15.3**	**+1.0**
RPZ	**Rata Peaks**	**3.64**	**236**	Pn	**Pn**	**08 43 17.1**	**+1.9**
	4.3nm,0.3s,baz=48,slow=16,SNR=30						
RPZ				Sn	**Sn**	**08 43 55.2**	**-2.0**
	27nm,0.3s,baz=22,slow=20,SNR=67						
RPZ	**Rata Peaks**	**3.64**	**236**	Pn	**Pn**	**08 43 16.7**	**+1.5**
RPZ	**Rata Peaks**	**3.64**	**236**	P	**Pn**	**08 43 16.9**	**+1.7**
TARZ	**Mount Tarawera**	**3.66**	**16**	Pn	**Pn**	**08 43 13.3**	**-2.2**
TARZ	**Mount Tarawera**	**3.66**	**16**	P	**Pn**	**08 43 13.3**	**-2.2**
RAGZ	**Rawiri**	**3.67**	**28**	P	**Pn**	**08 43 14.3**	**-1.4**
URZ	**Urewera**	**3.79**	**23**	Pn	**Pn**	**08 43 15.8**	**-1.4**
	1.1nm,0.3s,baz=217,slow=15,SNR=15						
URZ				Sn	**Sn**	**08 43 52.6**	**-8.1**
	9.3nm,0.3s,baz=74,slow=2.1,SNR=29						
URZ	**Urewera**	**3.79**	**23**	P	**Pn**	**08 43 15.2**	**-2.0**
URZ	**Urewera**	**3.79**	**23**	P	**Pn**	**08 43 15.2**	**-2.0**
MWZ	**Matawai**	**3.85**	**28**	Pn	**Pn**	**08 43 16.2**	**-1.9**
TKGZ	**Te Karaka**	**3.88**	**32**	P	**Pn**	**08 43 18.6**	**+0.2**
KMRZ	**Kaimai**	**3.95**	**8**	P	**Pn**	**08 43 19.9**	**+0.4**
TOZ	**Tahuroa Road**	**4.04**	**3**	P	**Pn**	**08 43 20.1**	**-0.5**
TGRZ	**Tauranga**	**4.11**	**11**	P	**Pn**	**08 43 21.9**	**+0.3**
TWGZ	**Tauwhareparae**	**4.16**	**31**	P	**Pn**	**08 43 22.0**	**-0.4**
RUGZ	**Raukumara Rang**	**4.24**	**27**	P	**Pn**	**08 43 21.8**	**-1.7**
FOZ	**Fox Glacier**	**4.37**	**244**	Pn	**Pn**	**08 43 26.1**	**+1.0**
FOZ	**Fox Glacier**	**4.37**	**244**	P	**Pn**	**08 43 26.2**	**+1.0**
PKGZ	**Pakihiroa**	**4.45**	**30**	P	**Pn**	**08 43 26.8**	**+0.5**
HAZ	**Te Kaha**	**4.46**	**27**	P	**Pn**	**08 43 25.5**	**-0.9**
LBZ	**Lake Benmore**	**4.53**	**233**	Pn	**Pn**	**08 43 29.5**	**+2.1**
LBZ	**Lake Benmore**	**4.53**	**233**	P	**Pn**	**08 43 29.7**	**+2.3**
MKAZ	**Moumakai**	**4.66**	**359**	Pn	**Pn**	**08 43 28.6**	**-0.4**
MKAZ	**Moumakai**	**4.66**	**359**	P	**Pn**	**08 43 28.7**	**-0.4**

KBAZ	Karaka Road Bo	4.67	357	Pn	Pn	08 43 29.4	0.0
KBAZ	Karaka Road Bo	4.67	357	P	Pn	08 43 29.5	+0.1
ODZ	Otahua Downs	4.68	224	Pn	Pn	08 43 31.5	+2.0
ODZ	Otahua Downs	4.68	224	P	Pn	08 43 31.5	+2.0
AWAZ	Awhitu Peninsu	4.72	354	P	Pn	08 43 30.1	+0.2
ETAZ	East Tamaki Re	4.81	357	Pn	Pn	08 43 31.1	-0.2
ETAZ	East Tamaki Re	4.81	357	P	Pn	08 43 31.2	-0.1
WTAZ	Waiatarua	4.85	354	Pn	Pn	08 43 32.2	+0.3
WTAZ	Waiatarua	4.85	354	P	Pn	08 43 32.4	+0.5
WIAZ	Waiheke Island	4.97	359	P	Pn	08 43 33.2	-0.2
RVAZ	Riverhead Bore	5.01	354	Pn	Pn	08 43 34.1	0.0
RVAZ	Riverhead Bore	5.01	354	P	Pn	08 43 34.1	0.0
KUZ	Kuaotunu	5.03	4	P	Pn	08 43 34.0	-0.3
JCZ	Jackson Bay	5.27	242	Pn	Pn	08 43 38.4	+0.8
JCZ	Jackson Bay	5.27	242	P	Pn	08 43 38.4	+0.8
JCZ	Jackson Bay	5.27	242	P	Pn	08 43 39.2	+1.6
HHSZ	Highcliff Hill	5.31	218	Pn	Pn	08 43 40.9	+2.8
HHSZ	Highcliff Hill	5.31	218	P	Pn	08 43 41.3	+3.2
WKZ	Wanaka	5.47	234	P	Pn	08 43 41.7	+1.4
EAZ	Earnscleugh	5.53	229	Pn	Pn	08 43 42.9	+1.8
EAZ	Earnscleugh	5.53	229	P	Pn	08 43 43.0	+1.8
TUZ	Tuapeka	5.82	222	Pn	Pn	08 43 47.5	+2.3
TUZ	Tuapeka	5.82	222	P	Pn	08 43 47.5	+2.3
WCZ	Waipu Caves	5.86	353	P	Pn	08 43 45.7	0.0
MLZ	Mavora Lakes	6.30	233	P	Pn	08 43 53.0	+1.3
CTZ	Chatham Island	6.31	111	Pn	Pn	08 43 57.0	+5.2
CTZ	Chatham Island	6.31	111	P	Pn	08 43 57.2	+5.4
SYZ	Scrubby Hill	6.48	221	Pn	Pn	08 43 57.1	+3.0
SYZ	Scrubby Hill	6.48	221	P	Pn	08 43 57.1	+3.0
WHZ	Wether Hill Ro	6.69	229	Pn	Pn	08 43 58.1	+1.1
WHZ	Wether Hill Ro	6.69	229	P	Pn	08 43 58.2	+1.1
STKA	Stephens Creek	28.52	279	P	P	08 48 14.4	+0.7
	1.0nm,0.3s,baz=115,slow=14,SNR=3.6						
ASAR	Alice Springs	38.74	285	P	P	08 49 41.4	-1.2
	0.2nm,0.7s,baz=120,slow=7.3,SNR=3.5						
WRA	Warramunga Arr	40.80	290	P	P	08 49 58.2	-1.5
	0.4nm,1.0s,baz=127,slow=8.4,SNR=4.7						

*ISCJB **08** 08:50:02.1±0.2, 6°.88S±0°.03×125°.27E±0°.04, h550km, mb4.2/37, Error ellipse: s-maj=5.5km s-min=3.7km az=156.5*

*NEIC **08** 08:50:02.8±0.4, 6°.93S×125°.33E, h561km±6km, mb4.3/19, Error ellipse: s-maj=9.5km s-min=6.4km az=224.0*

*IDC **08** 08:50:02.2±0.7, 6°.94S×125°.28E, h545km±8km, mb3.5/20, mb1 3.5/26, mb1mx3.4/56, mbtmp4.4/26, Error ellipse: s-maj=13.1km s-min=7.3km az=71.0*

*DJA **08** 08:50:04.0±0.5, 7°S±4°×12°5E±°, h539km±6km, M4.3/8, mb4.4/8, mB4.6/6, MLv4.6/2, Mw(mB)3.8/6*

ISC 08 08:50:02.5±0.3**, 6°.93S**±0°.05×**125°.32E**±0°.06**, h550**km**, n96,** σ**1°.06**/111**, mb4.1**/37**, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SOEI	Soe	2.99	200	P	P	08 51 18.9	+1.3
SOEI				S	S	08 52 19.3	+0.5
SOEI	Soe	2.99	200	eP	P	08 51 18.9	+1.3
BATI	Baumata	3.64	207	P	P	08 51 22.5	+0.6
	46nm,0.3s,baz=78,slow=5.9,SNR=37						
BATI				S	S	08 52 24.1	-2.4
	31nm,0.3s,baz=257,slow=19,SNR=6.2						
BATI	Baumata	3.64	207	P	P	08 51 23.1	+1.2
BATI				S	S	08 52 26.0	-0.5
AAI	Ambon	4.31	42	P	P	08 51 29.1	+2.2
BSSI	Bau Bau, Buton	4.86	279	P	P	08 51 32.7	+1.4
SANI	Sanana	4.90	8	P	P	08 51 32.6	+1.0
SANI				S	S	08 52 43.1	-1.1
MSAI	Masohi	5.06	45	P	P	08 51 35.9	+2.9
	20nm,0.6s,1µm						
BNSI	Bone	5.76	296	P	P	08 51 41.3	+2.2
	95nm,0.8s,839nm						
KAPI	Kappang	5.86	289	eP	P	08 51 41.8	+1.8
	87nm,0.9s						
LBMI	Labuha	6.62	19	P	P	08 51 49.2	+2.2
	169nm,0.8s,2µm						
APSI	Ampana	7.01	328	P	P	08 51 51.6	+0.9
PLAI	Plampang	7.71	255	P	P	08 51 57.8	+0.4
	80nm,0.9s						
TNTI	Ternate	7.92	15	eP	P	08 52 00.3	+0.7
FAKI	Fak Fak	7.97	60	P	P	08 52 00.6	+0.5
FAKI	Fak Fak	7.97	60	eP	P	08 51 59.6	-0.5
MTN	Manton Dam	8.20	136	eP	P	08 52 03.4	+1.1
MTN				eS	S	08 53 39.3	-1.2
SIJI	Sorong	8.45	45	P	P	08 52 04.7	-0.2
	20nm,0.3s,baz=204,slow=8.1,SNR=24						
SIJI				S	S	08 53 44.5	-0.7
	3.1nm,0.3s,baz=209,slow=12,SNR=13						
MPSI	Mapaga	9.02	323	P	P	08 52 10.4	-0.2
	7.8nm,0.8s						
KBKI	Kotabaru	9.80	291	P	P	08 52 19.2	+0.7
FITZ	Fitzroy Crossi	11.10	178	P	P	08 52 31.2	-0.6
	baz=38,slow=3.4						
FITZ				S	S	08 54 33.6	-0.9
	baz=356,slow=19						
JAGI	Jajag, Banyuwa	11.17	261	eP	P	08 52 30.4	-2.2
MBWA	Marble Bar	15.14	200	eP	P	08 53 13.3	-0.2
	79nm,1.9s						
WRAB	Tennant Creek	15.62	147	eP	P	08 53 18.2	-0.1
	3.1nm,0.6s						
WRA	Warramunga Arr	15.62	147	P	P	08 53 17.8	-0.6
	1.8nm,0.3s,baz=328,slow=10,SNR=102						
WRA				S	S	08 55 58.1	-0.7
	0.4nm,0.3s,baz=328,slow=17,SNR=9.2						
WB2	Warramunga Arr	15.62	147	eP	P	08 53 18.4	-0.1
	5.5nm,0.6s						
SBUM	Sibu	16.06	305	eP	P	08 53 22.7	-0.1
	4.9nm,0.6s						
KSM	Kuching	17.15	299	eP	P	08 53 32.5	-0.2
	10nm,0.8s						
CISI	Cisompet, Garu	17.38	267	eP	P	08 53 34.5	-0.4
	38nm,0.8s						
LEM	Lembang	17.57	269	P	P	08 53 37.3	+0.5
	baz=300,slow=20,SNR=3.5						
AS31	Alice Springs	18.57	155	eP	P	08 53 46.7	+1.0
	0.8nm,0.6s						
ASAR	Alice Springs	18.57	155	P	P	08 53 46.4	+0.7
	0.7nm,0.3s,baz=347,slow=11,SNR=49						
ASAR				S	S	08 56 48.1	+1.0
	0.2nm,0.3s,baz=350,slow=25,SNR=14						
ASAR				PcP	PcP	08 57 45.9	-0.7
	baz=342,slow=1.0,SNR=2.8						
ASAR				ScP	ScP	09 00 28.7	-1.8
	0.1nm,0.3s,baz=1.0,slow=2.2,SNR=4.8						
AS01	Alice Springs	18.59	154	eP	P	08 53 46.7	+0.9
COEN	Coen	18.89	113	eP	P	08 53 49.0	+0.3
	30nm,1.4s						
PMG	Port Moresby	21.76	98	eP	P	08 54 15.3	+0.6
	15nm,0.9s						
MNAI	Manna	22.40	275	eP	P	08 54 20.6	+0.1
	120nm,1.1s						
FORT	Forrest	23.86	174	eP	P	08 54 33.9	+0.8
	161nm,1.0s						
CTA	Charters Tower	24.15	125	P	P	08 54 36.5	+0.5
	4.0nm,0.9s,baz=27,slow=2.3,SNR=3.3						
CTAO	Charters Tower	24.15	125	eP	P	08 54 34.0	-2.0
	29nm,1.8s						
RABL	Rabaul	26.85	86	eP	P	08 54 57.1	-2.8
	24nm,0.5s						
PSI	Prapat	28.07	289	P	P	08 55 10.1	-0.5
	9.6nm,0.8s,baz=107,slow=7.6,SNR=3.9						
STKA	Stephens Creek	29.10	151	P	P	08 55 20.3	+1.2
	1.8nm,0.6s,baz=333,slow=14,SNR=3.2						
CMAR	Chiang Mai Arr	36.24	314	P	P	08 56 20.1	+0.3
	1.4nm,0.3s,baz=148,slow=6.7,SNR=7.8						
CMAR				PcP	PcP	08 58 30.2	+0.2
	0.6nm,0.3s,baz=158,slow=2.6,SNR=6.9						
KMI	Kunming	38.71	326	P	P	08 56 41.7	+1.6
KMI				pmax	pmax		
	comp=Z,9.0nm,0.5s						
CD2	Chengdu	42.92	332	P	P	08 57 13.6	+0.3
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,120nm,5.2s						
KSRS	Korea Array	44.22	3	P	P	08 57 23.9	+0.7
	comp=Z,2.6nm,1.0s,baz=173,slow=8.8,SNR=5.3						
KSRS				PcP	PcP	08 58 56.2	+0.5
	comp=Z,1.7nm,0.8s,baz=217,slow=2.9,SNR=3.5						
MJAR	Matsushiro Arr	44.91	15	P	P	08 57 27.7	-0.8
	comp=Z,1.7nm,0.7s,baz=196,slow=9.4,SNR=8.1						
HHC	Hu-ho-hao-te	49.20	346	eP	P	08 58 03.7	+2.8
HHC				pmax	pmax		
	comp=Z,18nm,1.0s						
HHC				pmax	pmax		
	comp=Z,77nm,6.5s						
RAMN	Ramite	50.41	314	eP	P	08 58 10.4	+0.3
JIRN	Jiri	51.12	314	eP	P	08 58 15.3	-0.2
USRK	Ussuriysk Ar.	51.25	6	P	P	08 58 15.9	+0.3
	comp=Z,3.4nm,0.6s,baz=200,slow=8.2,SNR=6.5						
GUN	Gumba	51.49	314	eP	P	08 58 17.9	-0.2
	comp=Z,17nm,0.7s						
GTA	Gaotai	51.80	335	eP	P	08 58 20.4	+0.5
GTA				pP	pP	09 00 04.2	+0.3
GTA				sP	sP	09 01 02.5	-1.4
GTA				pmax	pmax		
	comp=Z,7.0nm,1.0s						
DMN	Daman	51.87	313	eP	P	08 58 20.4	-0.3
GKN	Gorkha	52.43	313	eP	P	08 58 24.6	-0.1
KOLN	Koldanda	53.05	312	eP	P	08 58 29.2	0.0
	comp=Z,19nm,0.8s						
PYUN	Piuthan	53.69	312	eP	P	08 58 33.6	0.0
	comp=Z,36nm,0.8s						
ULN	Ulaanbaatar	56.90	345	eP	P	08 58 55.7	+0.2
	comp=Z,5.5nm,1.0s						
SONM	Songino Array	57.04	345	P	P	08 58 56.6	+0.2
	comp=Z,2.4nm,0.7s,baz=160,slow=9.1,SNR=14						
SONM				PcP	PcP	08 59 43.9	+0.2
	comp=Z,0.8nm,0.8s,baz=150,slow=4.4,SNR=2.8						
SONA1	Songino Array	57.05	345	eP	P	08 58 56.6	+0.1
WMQ	Urumqi	60.90	330	P	P	08 59 22.9	+0.6
WMQ				pmax	pmax		
	comp=Z,15nm,0.9s						
WMQ				pmax	pmax		
	comp=Z,190nm,4.5s						
MK01	Makanchi Array	65.68	329	eP	P	08 59 52.7	-0.2
MK31	Makanchi Array	65.70	329	eP	P	08 59 52.3	-0.7
MKAR	Makanchi Array	65.70	329	P	P	08 59 53.0	0.0
	comp=Z,3.9nm,0.6s,baz=129,slow=7.7,SNR=42						
MKAR				PcP	PcP	09 00 19.2	+0.3
	comp=Z,0.4nm,0.5s,baz=140,slow=6.1,SNR=2.3						
MKAR	Makanchi Array	65.70	329	eP	P	08 59 52.4	-0.6
	comp=Z,23nm,0.8s						
PETK	Petropavlovsk-	65.81	21	P	P	08 59 54.4	+0.9
	comp=Z,4.5nm,0.7s,baz=187,slow=2.8,SNR=11						
PETK				PcP	PcP	09 00 19.0	-0.2
	comp=Z,0.9nm,0.5s,baz=209,slow=4.5,SNR=2.9						
MAKZ	Makanchi	65.87	329	eP	P	08 59 54.1	+0.1
	comp=Z,3.3nm,0.8s						
ZAA0	Zalesovo Array	69.54	336	eP	P	09 00 15.3	-0.9
	comp=Z,9.5nm,0.9s						
ZALV	Zalesovo Beam	69.54	336	P	P	09 00 15.4	-0.8
	comp=Z,7.2nm,0.5s,baz=138,slow=4.8,SNR=32						
ZALV	Zalesovo Beam	69.54	336	eP	P	09 00 15.3	-0.9
KURBB	Kurchatov Arra	70.09	330	P	P	09 00 19.4	-0.2
	comp=Z,4.9nm,0.6s,baz=137,slow=5.1,SNR=37						
KURK	Kurchatov	70.11	331	eP	P	09 00 19.5	-0.2
	comp=Z,9.5nm,0.9s						
VNDA	Vanda	73.11	172	P	P	09 00 36.8	0.0
	comp=Z,1.0nm,0.6s,baz=318,slow=7.1,SNR=7.0						
BVAR	Borovoye Array	75.58	329	P	P	09 00 50.9	-0.1
	comp=Z,4.7nm,0.8s,baz=117,slow=7.6,SNR=24						
BRVK	Borovoye	75.65	329	eP	P	09 00 51.2	-0.2
	comp=Z,6.9nm,1.0s						
GEYT	Alibeck	76.66	311	P	P	09 00 57.7	+0.3
	comp=Z,2.9nm,0.8s,baz=116,slow=6.6,SNR=6.8						
TIXI	Tiksi	78.46	1	eP	P	09 01 05.2	-1.0
	comp=Z,5.1nm,0.5s						
AB31	Akbulak array	79.61	323	eP	P	09 01 12.2	-0.7
ABKAR	Akbulak array	79.61	323	eP	P	09 01 12.3	-0.5
	comp=Z,15nm,0.6s						
AKTO	Aktyubinsk	81.21	323	P	P	09 01 21.2	0.0
	comp=Z,4.2nm,0.7s,baz=105,slow=8.9,SNR=16						
QSPA	South Pole Qui	83.04	180	P	P	09 01 30.4	+0.1
	comp=Z,1.4nm,0.5s,baz=349,slow=5.2,SNR=6.1						
RAYN	Ar Rayn	83.48	295	eP	P	09 01 32.7	-0.6
	comp=Z,5.2nm,1.0s						
SNAA	Sanae	94.61	194	P	P	09 02 24.6	+0.1
	comp=Z,1.5nm,0.9s,baz=98,slow=15,SNR=4.1						
ILAR	Eielson Array	95.28	25	P	P	09 02 25.6	-1.9
	comp=Z,0.2nm,0.6s,baz=245,slow=5.3,SNR=6.4						
BRTR	Keskin Array B	95.67	309	P	P	09 02 28.4	-1.6
	comp=Z,0.5nm,0.6s,baz=132,slow=6.4,SNR=3.2						
VYHS	Vyhne	106.08	318	ePDIFF	Pdif	09 03 18.4	+2.4
YKA	Yellowknife Ar	109.71	25	PKiKP	PKiKP	09 07 29.5	-1.2
	comp=Z,0.2nm,0.6s,baz=310,slow=1.7,SNR=5.3						
PDAR	Pinedale Array	120.12	44	PKP	PKPdf	09 07 50.9	-0.8
	comp=Z,0.2nm,0.6s,baz=274,slow=2.5,SNR=3.2						
TOA0	Torodi Ar. Sit	124.24	281	ePKPdf	PKPdf	09 07 59.3	-0.7
TORD	Torodi Ar. Bea	124.24	281	PKP	PKPdf	09 07 59.4	-0.7
	comp=Z,1.5nm,0.7s,baz=74,slow=2.0,SNR=10.0						
APG	El Apazote	144.01	74	PKP	PKPab	09 08 36.8	+0.2
	comp=Z,4.2nm,0.9s,baz=240,slow=20,SNR=4.5						
CPUP	Villa Florida	146.84	176	PKPbc	PKPbc	09 08 43.6	-0.4
	comp=Z,4.6nm,1.0s,baz=215,slow=2.4,SNR=9.0						
CPUP	Villa Florida	146.84	176	ePKPbc	PKPdf	09 08 42.9	+1.6
JTS	JuntasAbangare	149.89	81	PKPbc	PKPbc	09 08 52.1	0.0
	comp=Z,2.5nm,0.7s,baz=270,slow=12,SNR=4.1						
MNMC	Minye Minye	150.22	151	ePKPbc	PKPdf	09 08 49.8	+2.6
LPAZ	La Paz	153.36	150	PKPab	PKPab	09 09 15.8	+0.7
	comp=Z,1.4nm,0.6s,baz=194,slow=3.3,SNR=8.7						

*ISCJB **08** 08:52:47.7±0.7, 10°.37S±0°.07×161°.59E±0°.09, h61km, mb3.7/7, Error ellipse: s-maj=14.2km s-min=7.4km az=141.4*

*IDC **08** 08:52:48.6±0.8, 10°.36S×161°.61E, h58km±6km, mb3.5/7, mb1 3.8/9, mb1mx3.5/44, mbtmp3.8/9, MS3.1/6, Ms1 3.1/6, ms1mx2.8/28, Error ellipse: s-maj=19.8km s-min=9.7km az=25.0*

ISC 08 08:52:48.9±0.7**, 10°.31S**±0°.09×**161°.59E**±0°.10**, h61**km**, n22,** σ**1°.08**/18**, mb3.8**/7**, Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HNR	Honiara	1.84	298	iP	Pn	08 53 19.0	+0.8
HNR				iS	Sn	08 53 39.0	-1.4
HNR	Honiara	1.84	298	P	Pn	08 53 19.0	+0.8
	182nm,0.3s,baz=158,slow=4.7,SNR=54						
HNR				S	Sn	08 53 41.6	+1.2
	2µm,0.3s,baz=165,slow=20,SNR=33						
DZM	Mont Dzumac	12.59	159	P	Pn	08 55 45.7	+0.3
	0.5nm,0.3s,baz=274,slow=19,SNR=18						
DZM				S	Sn	08 58 03.5	-0.5
	0.4nm,0.3s,baz=283,slow=18,SNR=5.1						
DZM				LR	LR	08 59 14.1	
	comp=Z,116nm,18.3s,baz=26,slow=31						
PMG	Port Moresby	14.25	272	LR	LR	09 00 51.3	
	comp=Z,92nm,19.9s,baz=74,slow=34						
CTA	Charters Tower	17.69	235	P	P	08 56 52.8	+1.3
	0.2nm,0.3s,baz=43,slow=10,SNR=5.4						
AFI	Afiamalu	26.28	101	LR	LR	09 06 37.5	
	comp=Z,60nm,18.0s,baz=94,slow=32						
WRA	Warramunga Arr	27.96	247	P	P	08 58 33.5	-0.5
	1.2nm,0.6s,baz=76,slow=9.1,SNR=5.7						
STKA	Stephens Creek	28.34	218	LR	LR	09 09 22.2	
	comp=Z,62nm,19.3s,baz=24,slow=35						
H11S2	WAKE ISLAND Hy	29.06	10	T	T	09 27 40.8	
	baz=190						
H11S3	WAKE ISLAND Hy	29.06	10	T	T	09 27 52.9	
	baz=190						
H11S1	WAKE ISLAND Hy	29.07	10	T	T	09 27 42.1	
	baz=190						
ASAR	Alice Springs	29.55	240	P	P	08 58 47.6	-0.5
	0.4nm,0.6s,baz=60,slow=10,SNR=2.9						
H11N1	WAKE ISLAND Hy	30.28	10	T	T	09 29 36.1	
	baz=193,slow=76,SNR=14						
H11N3	WAKE ISLAND Hy	30.29	10	T	T	09 29 31.1	
	baz=193,slow=76,SNR=9.9						
H11N2	WAKE ISLAND Hy	30.30	10	T	T	09 29 33.9	
	baz=193,slow=76,SNR=14						
SIJI	Sorong	31.57	285	LR	LR	09 13 13.7	
	comp=Z,21nm,18.4s,baz=153,slow=39						
KSRS	Korea Array	57.03	328	LR	LR	09 25 09.0	
	comp=Z,8.5nm,20.5s,baz=120,slow=34						
SONM	Songino Array	75.69	325	P	P	09 04 28.1	+0.2
	0.8nm,0.7s,baz=141,slow=6.2,SNR=5.1						
SONM				pP	pP	09 04 44.4	-0.5
	3.2nm,0.6s,baz=138,slow=5.4,SNR=15						
ILAR	Eielson Array	84.16	20	P	P	09 05 13.2	0.0
	0.4nm,0.8s,baz=248,slow=5.0,SNR=6.3						
ILAR				pP	pP	09 05 30.7	+0.5
	0.6nm,0.8s,baz=244,slow=5.1,SNR=5.0						
NVAR	Mina Array Bea	88.69	51	P	P	09 05 38.1	+1.8
	0.5nm,0.8s,baz=217,slow=5.3,SNR=4.1						
MKAR	Makanchi Array	90.21	318	P	P	09 05 41.8	-1.0
	0.3nm,0.7s,baz=85,slow=6.5,SNR=3.3						
MKAR				pP	pP	09 05 58.0	-2.1
	0.3nm,0.4s,baz=104,slow=5.6,SNR=3.5						
YKA	Yellowknife Ar	96.21	28	P	P	09 06 09.9	-0.2
	0.2nm,0.7s,baz=258,slow=4.6,SNR=4.0						
YKA				pP	pP	09 06 26.5	-0.9
	0.3nm,0.8s,baz=258,slow=4.8,SNR=5.2						

IDC 08 09:08:16.9±8.2**, 6°.03S**×**150°.01E, h66**km±62km**, mb3.0**/2**, mb1 3.3**/3**, mb1mx3.0**/42**, mbtmp3.4**/3**, ML1.3**/1**, Error ellipse: s-maj=122.3km s-min=53.4km az=125.0, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	4.38	220	P	Pn	09 09 21.2	+0.2
	1.1nm,0.3s,baz=37,slow=10,SNR=3.2						
PMG				S	Sn	09 10 11.7	+0.9
	0.6nm,0.3s,baz=18,slow=20,SNR=3.2						
WRA	Warramunga Arr	20.57	226	P	P	09 12 50.4	-0.1
	0.8nm,0.4s,baz=52,slow=11,SNR=14						
ASAR	Alice Springs	23.40	220	P	P	09 13 20.1	-0.1
	0.5nm,1.0s,baz=57,slow=9.1,SNR=5.5						
TORD	Torodi Ar. Bea	148.00	285	PKPbc	PKPbc	09 27 55.2	-0.7
	0.3nm,0.9s,baz=123,slow=0.8,SNR=2.5						

MAN 08 09:32:23, 10°.24N×123°.28E, h23km, mb3.8, ML2.6, MS2.1, 1D, Cebu

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LLP	Lapu-Lapu	0.68	83	⇓iP	Pb	09 32 34.2	-2.0
LLP				iS	Sb	09 32 42.7	-2.6
GUIM	Jordan	0.78	300	eP	Pn	09 32 38.7	+0.2
GUIM				eS	Sn	09 32 50.3	+0.8
TBP	Tagbilaran	0.79	133	eP	Pb	09 32 37.7	-0.5
TBP				iS	Sb	09 32 48.8	+0.3
SNPH	Sibulan	0.89	183	eP	Pn	09 32 40.3	+0.1
SNPH				iS	Sn	09 32 53.2	+0.8
MSLP	Maasin	1.56	94	eP	Pn	09 32 49.7	+0.3
MSLP				eS	Sb	09 33 10.3	-0.3

*JMA **08** 09:33:31.8±0.2, 24°.07N×121°.66E, h0km*

*ISCJB **08** 09:33:32.8±0.3, 24°.12N±0°.01×121°.71E±0°.02, h6km±2km, mb3.1/7, Error ellipse: s-maj=2.6km s-min=1.6km az=32.7*

*TAP **08** 09:33:32.4, 24°.12N×121°.71E, h11km, ML3.7, C*

*IDC **08** 09:33:46.5±7.0, 24°.14N×121°.62E, h133km±68km, mb2.9/7, mb1 3.1/8, mb1mx2.9/57, mbtmp3.3/8, Error ellipse: s-maj=37.0km s-min=16.2km az=70.0*

ISC 08 09:33:32.7±0.8**, 24°.12N**±0°.01×**121°.68E**±0°.02**, h11**km±5km**, n107,** σ**0°.86**/161**, mb3.3**/7**, 7C-15D, Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TWD	Chiawan	0.09	243	eP	Pg	09 33 35.0	-0.3
	baz=256						
TWD				S	Sg	09 33 36.9	-0.2
	baz=256						
NACB	Ninganchiao	0.10	303	⇓iP	Pg	09 33 35.2	-0.1
	baz=294						
NACB				iS	Sg	09 33 37.3	0.0
	baz=294						
HWA	Hwalien	0.16	206	eP	Pg	09 33 36.4	+0.2
	baz=221						
ENLB	Shoufeng	0.23	199	⇓P	Pb	09 33 38.2	-0.6
	baz=217						
ENLB				S	Sg	09 33 43.6	+2.9
	baz=217						
ENA	Nanau	0.31	10	⇓iP	Pg	09 33 38.8	-0.2
	baz=4.0						
ENA				iS	Sg	09 33 43.3	+0.2
	baz=4.0						
ENAH	Nanao	0.35	20	P	Pg	09 33 39.4	-0.3
	baz=12						
ENAH				eS	Sg	09 33 44.6	+0.3
	baz=12						
ESL	Shilin	0.38	217	P	Pg	09 33 40.0	-0.3
	baz=228						
WHF	Hehuan Shan	0.38	274	eP	Pb	09 33 40.5	-1.2
	baz=273						
WHF				eS	Sb	09 33 46.2	-1.6
	baz=273						
NNSB	Datong	0.41	318	⇓iP	Pb	09 33 41.3	-0.7
	baz=314						
NNSB				iS	Sb	09 33 47.2	-1.1
	baz=314						
NNS	Nan Shan	0.42	318	⇓iP	Pb	09 33 41.5	-0.8
	baz=315						
NNS				iS	Sb	09 33 47.7	-1.1
	baz=315						
CHGB	Renai	0.47	263	⇑P	Pb	09 33 42.4	-0.7
	baz=256						
CHGB				S	Sb	09 33 49.0	-1.1
	baz=256						
TWT	Tachien	0.48	286	eP	Pb	09 33 43.2	-0.1
	baz=284						
TWT				S	Sb	09 33 49.9	-0.5
	baz=284						
OWD	Renai	0.49	250	eP	Pb	09 33 42.6	-0.9
	baz=253						
OWD				eS	Sb	09 33 49.0	-1.7
	baz=253						
TDCB	Techi	0.50	285	eP	Pb	09 33 43.3	-0.3
	baz=284						
TDCB				S	Sb	09 33 50.1	-0.8
	baz=284						
TWC	Suao	0.51	17	⇓iP	Pg	09 33 42.4	-0.2
	baz=7.0						
TWC				eS	Sg	09 33 49.8	+0.4
	baz=7.0						
ENTT	Nioudou	0.53	348	⇓P	Pb	09 33 43.2	-0.7
	baz=344						
ENTT				S	Sb	09 33 50.9	-0.8
	baz=344						
EOS1	EOS1	0.59	44	⇑P	Pb	09 33 44.8	-0.2
	baz=29						
EOS1				eS	Sb	09 33 53.7	+0.4
	baz=29						
TWE	Neicheng	0.60	359	⇓iP	Pb	09 33 44.6	-0.6
	baz=356						
TWE				iS	Sb	09 33 53.2	-0.4
	baz=356						
YHNB	Yeheng	0.61	333	⇓P	Pb	09 33 45.1	-0.3
	baz=329						
YHNB				eS	Sb	09 33 53.5	-0.7
	baz=329						
ILA	Ilan	0.64	5	eP	Pb	09 33 45.4	-0.6
	baz=352						
HGSD	Ruisui	0.67	201	⇓P	Pb	09 33 45.9	-0.5
	baz=193						
HGSD				eS	Sn	09 33 57.3	-1.3
	baz=193						
NWLT	Wulai	0.67	346	eP	Pb	09 33 46.2	-0.3
	baz=331						
NWLT				eS	Sb	09 33 55.0	-0.9
	baz=331						
EHY	Hungye	0.70	208	eP	Pg	09 33 45.4	-0.8
	baz=213						
DPDB	Guoxing	0.70	263	⇑P	Pb	09 33 46.8	-0.1
	baz=256						
DPDB				eS	Sb	09 33 56.8	+0.3
	baz=256						
NTC	Toucheng	0.74	10	eP	Pg	09 33 47.0	-0.1
	baz=5.0						
SSLB	Suanglung	0.74	244	⇑P	Pb	09 33 47.2	-0.5
	baz=255						
SSLB				eS	Sb	09 33 56.7	-1.2
	baz=255						
SMLT	Sun Moon Lake	0.75	252	⇑P	Pb	09 33 47.7	-0.2
	baz=253						
SMLT				S	Sb	09 33 58.2	0.0
	baz=253						
EGS		0.76	17	eP	Pg	09 33 47.1	-0.1
	baz=21						
TYC	Yuchr	0.79	254	⇑P	Pb	09 33 48.0	-0.3
	baz=255						
TYC				S	Sb	09 33 58.2	-0.8
	baz=255						
LIOB	Emei	0.80	311	eP	Pn	09 33 49.2	-0.7
	baz=308						
LIOB				S	Sn	09 34 00.6	-1.4
	baz=308						
NSTT	Nanjuang	0.80	309	⇓P	Pn	09 33 49.0	-0.9
	baz=307						
NSTT				eS	Sb	09 33 59.8	+0.3
	baz=307						
YULB	Yu-li	0.81	206	eP	Pg	09 33 47.2	-1.1
	baz=221						
YULB				eS	Sb	09 33 59.7	0.0

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	baz=221						
TWF1	Yuli	0.84	205	eP	Pg	09 33 47.7	-1.3
	baz=219						
TWF1				eS	Sb	09 34 00.7	0.0
	baz=219						
TIPB	Shuangxi	0.86	9	⇓P	Pg	09 33 48.2	-1.0
	baz=355						
TIPB				eS	Sg	09 33 59.4	-1.0
	baz=355						
TWQ1	Liyutan	0.86	285	⇓P	Pn	09 33 50.8	+0.1
	baz=294						
TWQ1				S	Sn	09 34 03.3	-0.1
	baz=294						
TATO	Taipei	0.87	348	eP	Pn	09 33 50.0	-0.8
	baz=336						
TATO				eS	Sb	09 34 00.8	-0.6
	baz=336						
NSY	Sanyi	0.89	289	eP	Pn	09 33 51.4	+0.2
	baz=288						
NMLH	Miaoli	0.91	297	eP	Pn	09 33 52.2	+0.7
	baz=295						
YUS	Yu-Shan	0.92	227	P	Pb	09 33 50.9	-0.1
	baz=230						
YUS				S	Sb	09 34 03.6	+0.3
	baz=230						
TCU	Taichung	0.92	272	eP	Pn	09 33 52.3	+0.8
	baz=272						
SBCB	Hsinchu	0.92	317	eP	Pn	09 33 52.4	+0.8
	baz=314						
WJS	Zhushan	0.92	251	eP	Pn	09 33 51.5	-0.1
	baz=253						
WJS				eS	Sn	09 34 05.0	+0.2
	baz=253						
TWB1	Santiao Chiao	0.93	17	eP	Pg	09 33 50.3	-0.3
	baz=7.0						
TWB1				eS	Sb	09 34 03.5	+0.4
	baz=7.0						
HSN	Hsinchu	0.94	316	eP	Pn	09 33 52.0	+0.1
	baz=317						
WNT	Mingjian	0.94	255	eP	Pn	09 33 52.1	+0.2
	baz=250						
NWF	Wu-fen Shan	0.95	5	eP	Pb	09 33 51.0	-0.2
PTSB	Yuanli	0.95	290	eP	Pn	09 33 52.8	+0.8
	baz=289						
WFSB	Wu-fen Shan	0.95	5	⇓P	Pb	09 33 51.2	0.0
	baz=353						
WFSB				eS	Sb	09 34 03.8	+0.1
	baz=353						
NCUH	Zhongli	0.96	332	eP	Pn	09 33 52.7	+0.6
	baz=328						
NCU	National Centr	0.96	332	eP	Pn	09 33 51.3	-0.8
	baz=329						
FULB	Fuli	0.98	201	eP	Pg	09 33 51.3	-0.4
	baz=221						
TWS1	Kuangyinshan	1.00	346	eP	Pn	09 33 52.5	-0.2
	baz=350						
TWS1				eS	Sn	09 34 06.9	0.0
	baz=350						
WCHH	Zhanghua	1.03	268	eP	Pn	09 33 54.1	+1.1
	baz=269						
YM04	YM04	1.04	353	eP	Pn	09 33 53.0	-0.2
	baz=348						
YM10	YM10	1.04	354	eP	Pn	09 33 53.2	0.0
YM07	YM07	1.05	357	eP	Pg	09 33 52.4	-0.5
	baz=352						
YM07				eS	Sb	09 34 07.0	+0.2
	baz=352						
CHKT	Chengkung	1.06	196	eP	Pb	09 33 52.0	-1.1
	baz=192						
CHKT				eS	Sn	09 34 08.4	+0.2
	baz=192						
CHN5	Tsauling	1.06	241	⇑P	Pn	09 33 53.9	+0.4
	baz=243						
CHN5				S	Sn	09 34 10.1	+1.8
	baz=243						
NTST	Danshui	1.06	348	eP	Pn	09 33 54.6	+1.1
	baz=344						
YM03	YM03	1.06	353	eP	Pn	09 33 53.5	0.0
	baz=348						
YM08	YM08	1.06	355	eP	Pb	09 33 52.8	-0.3
	baz=336						
ELDTW	Lidau	1.11	213	eP	Pb	09 33 52.6	-1.3
	baz=203						
ELDTW				eS	Sn	09 34 09.5	-0.2
	baz=203						
WGK	Gukeng	1.11	247	eP	Pn	09 33 54.1	-0.1
	baz=250						
WDLH	Douliu	1.13	248	eP	Pn	09 33 54.9	+0.4
	baz=251						
TWY	Chenhua	1.15	356	eP	Pg	09 33 55.2	+0.3
	baz=338						
JYNG	Yonagunijimaku	1.20	74	P	Pg	09 33 56.6	+0.9
JYNG				S	Sn	09 34 12.0	+0.4
RLNB	Erlin	1.23	260	eP	Pg	09 33 56.9	+0.6
	baz=261						
RLNB				eS	Sn	09 34 14.8	+2.4
	baz=261						
CHN2	Minshiung	1.25	242	eP	Pg	09 33 58.1	+1.3
	baz=245						
YOJ	Yonaguni jima	1.26	74	eP	Pn	09 33 55.4	-0.8
	baz=68						
CHN4	Tsaushan	1.26	233	eP	Pg	09 33 57.2	+0.3
	baz=223						
CHN4				eS	Sn	09 34 16.0	+2.8
	baz=223						
TPUB	Ta-pu	1.27	230	eP	Pg	09 33 56.3	-0.7
	baz=221						
TPUB				eS	Sn	09 34 14.4	+1.0
	baz=221						
STYT	Tauyuan	1.28	222	P	Pb	09 33 56.5	-0.3
	baz=225						
STYT				eS	Sg	09 34 13.7	-0.1
	baz=225						
CHY	Chiayi	1.31	242	eP	Pg	09 33 58.2	+0.4
	baz=245						
WTP	Ta-pu	1.31	229	eP	Pg	09 33 57.7	-0.2
	baz=232						
WTP				eS	Sg	09 34 15.9	+1.0
	baz=232						
TWK	Hsinying	1.39	232	⇓P	Pg	09 33 59.3	-0.1
	baz=235						
TWK				eS	Sg	09 34 19.4	+2.1
	baz=235						
CHN1	Nanshi	1.41	229	eP	Pg	09 33 59.7	-0.1
	baz=232						
CHN1				eS	Sg	09 34 18.7	+0.6
	baz=232						
TWG	Pinlang	1.41	204	eP	Pn	09 33 57.6	-0.7
	baz=208						
TWGBT	Beinan	1.41	203	eP	Pn	09 33 56.0	-2.3
	baz=208						
WSF	Szhu	1.42	251	eP	Pg	09 33 59.7	-0.2
	baz=253						
WSF				eS	Sg	09 34 21.0	+2.5
	baz=253						
SGST	Jiashian	1.45	225	eP	Pg	09 33 59.7	-0.8
	baz=228						
SLGT	Liugui	1.47	220	eP	Pb	09 33 59.9	-0.2
	baz=224						
SCLT	Jiali	1.66	236	eP	Pb	09 34 03.0	-0.2
	baz=239						
SSD	Sandimen	1.68	215	eP	Pb	09 34 02.6	-0.9
	baz=232						
TWM1	Shoushan	1.73	222	eP	Pb	09 34 04.5	0.0
	baz=225						
MASBT	Mashibuluo	1.79	213	eP	Pb	09 34 04.1	-1.3
	baz=209						
IRIF	Iriomote-Funau	1.88	83	P	Pb	09 34 07.3	+0.3
EAST	Anshuo	1.89	204	eP	Pb	09 34 05.9	-1.4
	baz=195						
SSPT	Xinbi	1.93	212	eP	Pb	09 34 06.3	-1.5
	baz=208						
HATJ	Hateruma jima	1.94	91	P	Pb	09 34 08.4	+0.3
HATJ				eS	Sb	09 34 32.3	0.0
PNG	Penghu	2.02	255	eP	Pn	09 34 07.1	+0.3
	baz=258						
PNG				eS	Sb	09 34 34.5	-0.2
	baz=258						
PHUB	P'eng-hu	2.03	253	eP	Pn	09 34 07.0	+0.2
	baz=257						
PHUB				S	Sb	09 34 34.4	-0.4
	baz=257						
WDGT	Dungji	2.04	246	eP	Pn	09 34 07.7	+0.7
	baz=235						
WDGT				eS	Sb	09 34 33.6	-1.6
	baz=235						
JKRS	Kuro-shima	2.13	86	P	Pn	09 34 09.5	+1.3
JKRS				S	Sn	09 34 35.6	+1.0
WLCH	Liuqiu	2.13	214	eP	Pg	09 34 12.4	-1.1
	baz=217						
VWUC	VWUC	2.21	294	eP	Pn	09 34 09.4	+0.1
	baz=292						
VWUC				eS	Sn	09 34 37.1	+0.5
	baz=292						
JIJ	Ishigaki jima	2.26	83	P	Pn	09 34 09.1	-0.9
JISG	Ishigakijimahi	2.44	79	P	Pb	09 34 15.7	-0.9
MATB	Ma-tsu	2.56	322	eP	Pn	09 34 13.6	-0.5
	baz=319						
KNMB	Chin-men Tao	3.02	277	eP	Pn	09 34 20.8	+0.3
	baz=279						
KSRS	Korea Array	14.32	20	P	P	09 37 03.1	+0.5
	0.1nm,0.3s,baz=202,slow=12,SNR=5.6						
SONM	Songino Array	26.60	337	P	P	09 39 12.3	+1.2
	0.3nm,0.4s,baz=132,slow=6.0,SNR=2.0						
MKAR	Makanchi Array	38.70	316	P	P	09 40 57.1	+0.5
	0.4nm,0.6s,baz=101,slow=7.5,SNR=5.3						
KURBB	Kurchatov Arra	42.45	320	P	P	09 41 27.1	-0.4
	0.2nm,0.6s,baz=113,slow=7.9,SNR=2.6						
WRA	Warramunga Arr	45.50	163	P	P	09 41 51.7	-0.6
	0.3nm,0.9s,baz=344,slow=8.6,SNR=2.6						
ASAR	Alice Springs	48.96	165	P	P	09 42 20.7	+1.4
	0.2nm,0.8s,baz=356,slow=7.6,SNR=3.0						
ILAR	Eielson Array	69.06	27	P	P	09 44 37.3	-1.0
	0.1nm,0.5s,baz=268,slow=5.4,SNR=3.3						
YKA	Yellowknife Ar	82.85	23	P	P	09 45 56.1	-0.8
	0.1nm,0.5s,baz=309,slow=4.9,SNR=4.2						

MAN 08 09:33:38, 10°.28N×123°.32E, h12km, mb4.3, ML3.1, MS2.8, 1D, Cebu

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LLP	Lapu-Lapu	0.64	87	⇓iP	Pg	09 33 49.4	-1.0
LLP				i S	Sg	09 33 57.9	-0.9
TBP	Tagbilaran	0.79	138	eP	Pg	09 33 52.8	-0.6
TBP				i S	Sn	09 34 06.5	-0.3
GUIM	Jordan	0.80	295	eP	Pg	09 33 53.6	+0.2
GUIM				eS	Sn	09 34 06.5	-0.4
SNPH	Sibulan	0.94	185	eP	Pg	09 33 55.7	-0.5
SNPH				eS	Sg	09 34 08.4	+0.1
MSLP	Maasin	1.52	95	eP	Pn	09 34 05.1	0.0
MSLP				eS	Sb	09 34 25.8	+0.4

ISCJB 08 09:44:19.3±0.5, 33°.09N±0°.04×119°.26E±0°.06, h10km, mb3.4/7, MS3.1/3, Error ellipse: s-maj=7.5km s-min=5.2km az=158.4

BJI 08 09:44:20.8, 33°.10N×119°.11E, h12km, mb4.2/3, ML4.3/19, Ms3.6/1, Ms7 3.5/1

IDC 08 09:44:20.1±1.0, 33°.05N×119°.16E, h0km, mb3.4/7, mb1 3.6/9, mb1mx3.4/63, mbtmp3.4/9, ML3.0/2, MS2.8/3, Ms1 2.8/3, ms1mx2.4/42, Error ellipse: s-maj=23.6km s-min=19.8km az=154.0

ISC 08 09:44:20.9±0.6, 33°.15N±0°.03×119°.16E±0°.04, h10km, n21, σ2s57/26, mb3.4/7, MS3.0/3, 1D, Southeastern China

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NJ2	Nanjing	1.13	193	ePg	Pg	09 44 41.3	-1.3
NJ2				Sg	Sb	09 44 55.8	-1.4
NJ2				smax	smax		
	comp=N,7µm,0.4s						
NJ2				smax	smax		
	comp=E,10µm,0.5s						
SSE	Sheshan	2.68	139	Pn	Pn	09 45 03.8	-0.3
SSE				Pg	Pb	09 45 10.1	+1.2
SSE				Sg	Sg	09 45 44.2	-2.8
SSE				smax	smax		
	comp=N,260nm,0.7s						
SSE				smax	smax		
	comp=E,240nm,0.6s						
TIA	Tai'an	3.48	332	Pn	Pn	09 45 15.1	0.0
TIA				Pg	Pb	09 45 19.8	-2.8
TIA				Sg	Sb	09 46 08.7	+3.8
TIA				smax	smax		
	comp=N,480nm,0.7s						
TIA				smax	smax		
	comp=E,480nm,0.7s						
WHN	Wuhan	4.85	239	⇓Pg	Pb	09 45 47.8	+1.9
WHN				Sg	Sg	09 46 49.6	-6.9
WHN				smax	smax		
	comp=N,600nm,0.7s						
WHN				smax	smax		
	comp=E,680nm,0.5s						
DL2	Dalian	6.08	19	Pg	Pg	09 46 18.2	+0.9
DL2				Sn	Sb	09 47 17.2	-2.5
DL2				Sg	Sg	09 47 30.4	-5.6
DL2				smax	smax		
	comp=N,170nm,0.6s						
DL2				smax	smax		
	comp=E,300nm,0.7s						
KSRS	Korea Array	8.35	57	Pn	Pn	09 46 21.8	-0.1
	comp=E,0.1nm,0.3s,baz=242,slow=13,SNR=3.1						
KSRS				Pg	Pb	09 46 54.0	+8.4
	comp=E,0.5nm,0.3s,baz=243,slow=19,SNR=5.5						
KSRS				Lg	Lg	09 48 47.1	
	comp=E,1.1nm,0.3s,baz=244,slow=29,SNR=4.4						
KSRS				LR	LR	09 49 46.5	
	comp=E,33nm,18.6s,baz=230,slow=39						
XAN	Xi'an	8.58	279	Pg	Pg	09 47 25.8	+21
XAN				Sg	Sg	09 48 54.8	-1.5
XAN				smax	smax		
	comp=N,52nm,0.8s						
XAN				smax	smax		
	comp=E,55nm,1.1s						
JNU	Nakatsue	9.83	87	Lg	Lg	09 49 34.1	
	comp=E,0.1nm,0.3s,baz=195,slow=16,SNR=2.0						
LZH	Lanzhou	12.95	287	eP	Pn	09 47 27.3	+2.2
LZH				pP		09 47 29.6	
LZH				sP		09 47 31.0	
LZH				pmax	pmax		
	comp=E,54nm,1.5s						
LZH				LR	LR		
	comp=E,220nm,11.7s						
LZH				LR	LR		
	comp=E,220nm,13.2s						
CD2	Chengdu	13.26	264	eP	Pn	09 47 28.5	-0.7
MJAR	Matsushiro Arr	16.00	72	Pn	P	09 48 08.6	-1.0
	comp=E,0.1nm,0.3s,baz=265,slow=11,SNR=3.9						
CMAR	Chiang Mai Arr	23.29	236	P	P	09 49 29.4	+0.4
	comp=E,0.4nm,0.3s,baz=33,slow=10,SNR=4.0						
WMQ	Urumqi	26.68	303	eP	P	09 50 03.4	+3.3
WMQ				LR	LR		
	comp=N,80nm,14.9s						
WMQ				LR	LR		
	comp=Z,71nm,14.9s						
MKAR	Makanchi Array	31.06	307	P	P	09 50 40.5	+1.5
	comp=Z,0.4nm,0.8s,baz=94,slow=9.6,SNR=3.8						
PETK	Petropavlovsk-	33.92	42	LR	LR	10 04 57.6	
	comp=Z,20nm,18.5s,baz=131,slow=36						
KURBB	Kurchatov Arra	34.40	313	P	P	09 51 09.8	+1.7
	comp=Z,0.7nm,0.6s,baz=108,slow=8.7,SNR=4.9						
BVAR	Borovoye Array	39.84	315	LR	LR	10 10 09.2	
	comp=Z,19nm,18.1s,baz=56,slow=39						
WRA	Warramunga Arr	54.75	162	P	P	09 53 50.7	0.0
	comp=Z,0.3nm,0.7s,baz=349,slow=7.9,SNR=3.0						
ASAR	Alice Springs	58.23	164	P	P	09 54 15.4	0.0
	comp=Z,0.1nm,0.7s,baz=347,slow=6.2,SNR=3.2						
BRTR	Keskin Array B	66.61	303	P	P	09 55 12.8	+1.1
	comp=Z,0.6nm,0.7s,baz=98,slow=6.0,SNR=3.4						
YKA	Yellowknife Ar	75.41	23	P	P	09 56 05.3	+0.8
	comp=Z,0.3nm,0.6s,baz=317,slow=5.3,SNR=4.1						

IDC 08 09:50:20.7±3.1, 12°.84S×73°.00W, h0km, mb3.6/3, mb1 3.8/4, mb1mx3.5/41, mbtmp3.5/4, ML3.3/1, Error ellipse: s-maj=140.5km s-min=25.0km az=39.0, Central Peru

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LPAZ	La Paz	5.82	127	Pn	Pn	09 51 48.6	-0.3
	0.5nm,0.3s,baz=296,slow=6.5,SNR=19						
LPAZ				Sn	Sn	09 52 59.0	+2.2
	0.3nm,0.3s,baz=252,slow=16,SNR=2.5						
TXAR	Lajitas Array	51.33	325	P	P	09 59 26.6	-0.6
	0.3nm,0.5s,baz=150,slow=7.3,SNR=3.7						
TORD	Torodi Ar. Bea	78.41	74	P	P	10 02 23.8	-0.2
	0.7nm,0.7s,baz=259,slow=5.5,SNR=5.8						
YKA	Yellowknife Ar	81.78	342	P	P	10 02 41.8	+0.7
	0.2nm,0.6s,baz=140,slow=5.8,SNR=7.6						

IDC 08 09:51:47.8±16.0, 25°.78S×179°.88W, h240km±151km, mb3.5/7, mb1 3.7/7, mb1mx3.4/38, mbtmp4.0/7, Error ellipse: s-maj=43.7km s-min=25.3km az=62.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	34.17	251	P	P	09 58 11.7	+1.1
	0.9nm,0.4s,baz=107,slow=14,SNR=5.8						
ASAR	Alice Springs	41.87	263	P	P	09 59 14.8	-0.1
	1.9nm,0.4s,baz=91,slow=7.3,SNR=72						
WRA	Warramunga Arr	42.42	268	P	P	09 59 18.9	-0.5
	1.6nm,0.5s,baz=104,slow=7.9,SNR=16						
QSPA	South Pole Qui	64.31	180	P	P	10 01 57.0	-0.6
	2.7nm,0.7s,baz=108,slow=2.8,SNR=7.1						
MJAR	Matsushiro Arr	73.50	326	P	P	10 02 53.2	-1.0
	0.6nm,0.5s,baz=167,slow=5.2,SNR=3.5						
NVAR	Mina Array Bea	86.02	44	P	P	10 04 02.2	+0.7
	0.1nm,0.3s,baz=208,slow=7.8,SNR=5.1						
TXAR	Lajitas Array	91.33	58	P	P	10 04 27.1	+0.5
	0.6nm,0.8s,baz=219,slow=5.8,SNR=3.6						
BRTR	Keskin Array B	148.77	305	PKPbc	PKPbc	10 11 07.5	+0.4
	0.6nm,0.7s,baz=150,slow=2.7,SNR=3.8						

IDC 08 10:24:53.6±1.9, 4°.79S×130°.95E, h0km, mb3.4/1, mb1 3.3/4, mb1mx3.2/51, mbtmp3.2/4, ML3.0/3, Error ellipse: s-maj=109.3km s-min=26.9km az=81.0, Banda Sea

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SIJI	Sorong	3.91	5	Pn	Pn	10 25 55.5	+0.6
	2.3nm,0.3s,baz=229,slow=19,SNR=12						
SIJI				Sn	Sn	10 26 39.2	-2.3
	1.5nm,0.3s,baz=180,slow=20,SNR=3.8						
WRA	Warramunga Arr	15.42	168	Pn	Pn	10 28 32.6	0.0
	0.0nm,0.3s,baz=354,slow=13,SNR=4.0						
WRA				Sn	Sn	10 31 14.3	-10
	0.1nm,0.3s,baz=350,slow=25,SNR=3.8						
ASAR	Alice Springs	18.98	172	P	P	10 29 16.9	+0.1
	0.1nm,0.3s,baz=348,slow=9.4,SNR=5.4						
MKAR	Makanchi Array	66.92	326	P	P	10 35 47.7	-0.2
	0.2nm,0.5s,baz=116,slow=8.5,SNR=3.5						

MEX 08 10:30:46.3±1.1, 16°.93N×102°.36W, h16km±26km, MD3.8, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ZIIG	Zihuatanejo	1.09	51	eP	Pb	10 31 03.0	-3.8
ZIIG				eS	Sb	10 31 16.0	-4.8
MMIG	Aquila	1.65	325	eP	Pn	10 31 10.0	-4.7
CAIG	El Cayaco	2.00	86	eP	Pn	10 31 16.6	-2.8
CAIG				eS	Sn	10 31 38.5	-5.7
ARIG	Puente Sto Nin	2.34	55	eP	Pn	10 31 21.9	-2.3
ARIG				eS	Sn	10 31 48.3	-4.4
PLIG	Platanillo	3.09	61	eP	Pn	10 31 32.6	-1.9

DJA 08 10:37:08.3±1.8, 6°N±14°×12°8E±1°0, h137km±29km, M4.6/6, mB5.1/2, mb4.3/6, MLv4.8/6, Mw(mB)4.5/2

ISCJB 08 10:37:27.2±0.3, 4°.78N±0°.04×127°.63E±0°.06, h35km, mb4.4/37, MS3.2/18, Error ellipse: s-maj=8.4km s-min=5.0km az=172.1

IDC 08 10:37:30.7±2.8, 4°.66N×127°.39E, h49km±27km, mb3.8/20, mb1 3.9/21, mb1mx3.7/59, mbtmp4.1/21, ML4.3/1, MS3.3/21, Ms1 3.3/21, ms1mx3.1/62, Error ellipse: s-maj=26.8km s-min=12.5km az=72.0

NEIC 08 10:37:31.3±0.9, 4°.75N×127°.60E, h56km±9km, mb4.8/19, Error ellipse: s-maj=10.0km s-min=5.1km az=65.0

ISC 08 10:37:29.1±0.5, 4°.74N±0°.06×127°.64E±0°.09, h35km, n101, σ1s17/83, mb4.5/37, MS3.2/18, 1C, Talaud Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SGSI	Sangihe	2.35	244	P	Pn	10 38 03.4	-1.9
SGSI				S	Sn	10 38 46.1	+13
DAV	Davao City (W)	3.09	319	P	Pn	10 38 16.0	+0.6
	39nm,0.3s,baz=174,slow=5.7,SNR=6.3						
DAV				LR	LR	10 39 56.0	
	comp=Z,1µm,19.3s,baz=121,slow=48						
DAV	Davao City (W)	3.09	319	ePn	Pn	10 38 17.3	+1.9
TNTI	Ternate	3.95	184	ePn	Pn	10 38 28.4	+1.1
LBMI	Labuha	5.35	182	P	Pn	10 38 44.2	-2.3
	57nm,0.8s,932nm0.3nm						
KMSI	Cibinong	5.52	222	P	Pn	10 38 50.0	+1.1
	110nm,0.7s,6µm0.6nm						
SIJI	Sorong	6.65	147	LR	LR	10 41 45.4	
	comp=Z,210nm,20.2s,baz=352,slow=38						
SANI	Sanana	6.95	194	P	Pn	10 39 06.8	-1.6
	16nm,0.9s						
SANI				S	Sn	10 40 17.4	-8.9
	16nm,0.9s						
MRSI	Marisa	7.10	234	P	Pn	10 39 08.0	-2.5
LUWI	Luwuk	7.53	220	ePn	Pn	10 39 19.0	+2.5
MYLDM	Lahad Datu	9.12	273	ePn	Pn	10 39 40.0	+1.7
TGY	Tagaytay City	11.41	325	LR	LR	10 45 33.7	
	comp=Z,184nm,18.3s,baz=180,slow=43						
SBUM	Sibu	15.56	262	ePn	Pn	10 41 08.5	+2.5
KSM	Kuching	17.61	260	ePn	Pn	10 41 31.9	0.0
	10nm,0.8s						
MTN	Manton Dam	17.81	169	ePn	Pn	10 41 34.1	-0.3
	52nm,1.9s						
YOJ	Yonaguni jima	20.11	348	eP	P	10 41 58.2	-1.8
	282nm,1.6s						
ANA2	Anatahan	21.15	56	eP	P	10 42 07.5	-3.8
LEM	Lembang	23.05	240	LR	LR	10 52 55.0	
	comp=Z,53nm,18.0s,baz=52,slow=40						
PMG	Port Moresby	24.00	126	LR	LR	10 52 33.0	
	comp=Z,82nm,18.3s,baz=315,slow=37						
WRAB	Tennant Creek	25.39	165	eP	P	10 42 54.2	+0.8
	6.3nm,0.8s						
WRA	Warramunga Arr	25.40	165	P	P	10 42 53.4	-0.1
	1.2nm,0.6s,baz=343,slow=10.0,SNR=20						
WB2	Warramunga Arr	25.40	165	eP	P	10 42 54.0	+0.6
	6.1nm,0.8s						
RABL	Rabaul	26.05	110	eP	P	10 42 59.9	+0.3
	16nm,0.8s						
JNU	Nakatsue	28.40	6	LR	LR	10 55 12.8	
	comp=Z,34nm,21.3s,baz=188,slow=37						
PSI	Prapat	28.72	267	LR	LR	10 56 20.6	
	comp=Z,54nm,18.9s,baz=148,slow=40						
AS31	Alice Springs	28.89	168	eP	P	10 43 26.1	+1.3
	0.8nm,0.9s						
ASAR	Alice Springs	28.89	168	P	P	10 43 24.8	-0.1
	0.3nm,0.5s,baz=352,slow=6.5,SNR=15						
ASAR				PcP	PcP	10 46 33.6	-0.1
	0.3nm,0.7s,baz=360,slow=2.3,SNR=3.1						
AS01	Alice Springs	28.90	168	eP	P	10 43 25.8	+0.9
JHJ	Hachijo jima 2	30.42	20	LR	LR	10 54 53.8	
	comp=Z,41nm,20.4s,baz=261,slow=34						
CMAR	Chiang Mai Arr	31.17	298	P	P	10 43 41.0	-4.1
	0.4nm,0.4s,baz=115,slow=6.4,SNR=3.2						
CMAR				LR	LR	10 56 31.9	
	comp=Z,26nm,18.5s,baz=181,slow=37						
KSAR	Wonju Array Be	32.55	0	P	P	10 43 56.5	-0.3
KSRS	Korea Array	32.56	0	P	P	10 43 56.5	-0.4
	1.7nm,0.7s,baz=174,slow=9.8,SNR=5.5						
KSRS				LR	LR	11 01 09.1	
	comp=Z,30nm,18.7s,baz=174,slow=44						
MJAR	Matsushiro Arr	33.10	16	P	P	10 44 02.6	+0.8
	0.6nm,0.5s,baz=196,slow=9.5,SNR=4.4						
MJAR				LR	LR	10 56 35.3	
	comp=Z,24nm,21.5s,baz=200,slow=34						
HNR	Honiara	35.14	114	LR	LR	10 57 05.8	
	comp=Z,44nm,20.3s,baz=235,slow=33						
FORT	Forrest	35.32	179	eP	P	10 44 21.8	+0.7
	176nm,0.8s						
STKA	Stephens Creek	38.77	161	P	P	10 44 50.5	+0.1
	1.9nm,0.8s,baz=342,slow=3.7,SNR=5.1						
STKA				LR	LR	11 03 28.4	
	comp=Z,46nm,19.3s,baz=26,slow=40						
STKA	Stephens Creek	38.77	161	eP	P	10 44 51.0	+0.6
	8.3nm,1.9s						
H11S3	WAKE ISLAND Hy	40.50	67	T	T	11 28 45.4	
	baz=253,slow=75,SNR=6.9						
H11S1	WAKE ISLAND Hy	40.51	67	T	T	11 28 47.6	
	baz=253,slow=75,SNR=4.9						
H11S2	WAKE ISLAND Hy	40.51	67	T	T	11 28 42.8	
	baz=253,slow=75,SNR=6.1						
H11N1	WAKE ISLAND Hy	41.01	65	T	T	11 29 14.6	
	baz=255,slow=75,SNR=7.0						
H11N2	WAKE ISLAND Hy	41.02	65	T	T	11 29 15.5	

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	baz=255,slow=75,SNR=7.7						
H11N3	**WAKE ISLAND Hy**	**41.02**	**65**	T	T	11 29 11.6	
	baz=255,slow=75,SNR=5.6						
ASAJ	**Asahikawa**	**41.37**	**16**	P	**P**	**10 45 13.8**	**+2.0**
	3.8nm,0.8s,baz=167,slow=6.7,SNR=4.6						
SONM	**Songino Array**	**46.65**	**340**	P	**P**	**10 45 54.3**	**+0.1**
	1.4nm,1.0s,baz=154,slow=8.2,SNR=6.2						
SONA1	**Songino Array**	**46.65**	**340**	*e*P	**P**	**10 45 54.5**	**+0.2**
PETK	**Petropavlovsk-**	**54.16**	**22**	P	**P**	**10 46 53.3**	**+2.5**
	4.6nm,0.7s,baz=190,slow=4.1,SNR=9.9						
YAK	**Yakutsk**	**57.18**	**1**	*e*P	**P**	**10 47 13.2**	**+0.9**
	19nm,0.8s						
MK01	**Makanchi Array**	**57.24**	**324**	*e*P	**P**	**10 47 14.0**	**+0.9**
MK31	**Makanchi Array**	**57.26**	**324**	*e*P	**P**	**10 47 13.8**	**+0.6**
MKAR	**Makanchi Array**	**57.26**	**324**	P	**P**	**10 47 12.4**	**-0.8**
	3.6nm,0.6s,baz=141,slow=7.8,SNR=40						
MKAR	**Makanchi Array**	**57.26**	**324**	*e*P	**P**	**10 47 14.1**	**+0.9**
	26nm,0.8s						
MAKZ	**Makanchi**	**57.45**	**324**	*e*P	**P**	**10 47 14.8**	**+0.3**
	5.5nm,0.8s						
KDJ	**Kajisay**	**58.21**	**318**	*e*P	**P**	**10 47 20.6**	**+0.4**
	4.1nm,1.0s						
ZAA0	**Zalesovo Array**	**60.11**	**332**	*e*P	**P**	**10 47 32.0**	**-0.8**
	10nm,1.1s						
ZALV	**Zalesovo Beam**	**60.11**	**332**	P	**P**	**10 47 32.6**	**-0.2**
	3.1nm,0.8s,baz=111,slow=8.1,SNR=12						
ZALV				LR	LR	11 17 15.2	
	comp=Z,17nm,19.0s,baz=226,slow=40						
ZALV	**Zalesovo Beam**	**60.11**	**332**	*e*P	**P**	**10 47 32.4**	**-0.5**
AAK	**Ala-Archa**	**60.23**	**317**	P	**P**	**10 47 33.3**	**-0.8**
	1.2nm,0.8s,baz=144,slow=8.7,SNR=2.7						
AAK				LR	LR	11 15 54.0	
	comp=Z,31nm,18.8s,baz=91,slow=38						
KURK	**Kurchatov**	**61.39**	**327**	*e*P	**P**	**10 47 41.7**	**+0.1**
	31nm,1.4s						
KURBB	**Kurchatov Arra**	**61.39**	**327**	P	**P**	**10 47 41.4**	**-0.2**
	8.7nm,0.9s,baz=125,slow=6.0,SNR=32						
KK06	**Karatay Array**	**63.11**	**316**	*e*P	**P**	**10 47 52.2**	**-1.2**
KK05	**Karatay Array**	**63.12**	**316**	*e*P	**P**	**10 47 53.2**	**-0.2**
KK02	**Karatay Array**	**63.12**	**316**	*e*P	**P**	**10 47 51.7**	**-1.7**
KK31	**Karatay Array**	**63.12**	**316**	*e*P	**P**	**10 47 51.8**	**-1.6**
KKAR	**Karatay Array**	**63.12**	**316**	*e*P	**P**	**10 47 51.9**	**-1.5**
KK07	**Karatay Array**	**63.13**	**316**	*e*P	**P**	**10 47 54.1**	**+0.7**
KK01	**Karatay Array**	**63.13**	**316**	*e*P	**P**	**10 47 51.0**	**-2.5**
KK04	**Karatay Array**	**63.13**	**316**	*e*P	**P**	**10 47 51.3**	**-2.2**
KK03	**Karatay Array**	**63.13**	**316**	*e*P	**P**	**10 47 51.6**	**-1.9**
KK08	**Karatay Array**	**63.14**	**316**	*e*P	**P**	**10 47 54.3**	**+0.7**
TIXI	**Tiksi**	**66.83**	**0**	*e*P	**P**	**10 48 16.6**	**-0.4**
	8.0nm,1.4s						
BVAR	**Borovoye Array**	**66.98**	**326**	P	**P**	**10 48 18.3**	**0.0**
	3.4nm,0.7s,baz=121,slow=7.4,SNR=26						
BVAR				LR	LR	11 19 21.6	
	comp=Z,34nm,18.5s,baz=146,slow=38						
BRVK	**Borovoye**	**67.05**	**326**	*e*P	**P**	**10 48 17.5**	**-1.2**
	15nm,1.1s						
GEYT	**Alibeck**	**70.98**	**308**	P	**P**	**10 48 43.3**	**-0.2**
	0.7nm,0.4s,baz=160,slow=6.1,SNR=3.9						
AB06	**Akbulak array**	**71.94**	**320**	*e*P	**P**	**10 48 48.9**	**-0.1**
AB07	**Akbulak array**	**71.94**	**320**	*e*P	**P**	**10 48 48.9**	**0.0**
AB02	**Akbulak array**	**71.95**	**320**	*e*P	**P**	**10 48 49.1**	**+0.1**
AB03	**Akbulak array**	**71.95**	**320**	*e*P	**P**	**10 48 49.0**	**0.0**
AB01	**Akbulak array**	**71.95**	**320**	*e*P	**P**	**10 48 48.7**	**-0.3**
AB31	**Akbulak array**	**71.95**	**320**	*e*P	**P**	**10 48 49.1**	**0.0**
ABKAR	**Akbulak array**	**71.95**	**320**	*e*P	**P**	**10 48 48.9**	**-0.2**
	18nm,0.6s						
AB04	**Akbulak array**	**71.95**	**320**	*e*P	**P**	**10 48 49.1**	**0.0**
AB05	**Akbulak array**	**71.96**	**320**	*e*P	**P**	**10 48 48.8**	**-0.3**
AB08	**Akbulak array**	**71.96**	**320**	*e*P	**P**	**10 48 49.7**	**+0.6**
AB09	**Akbulak array**	**71.97**	**320**	*e*P	**P**	**10 48 49.8**	**+0.7**
AKTO	**Aktyubinsk**	**73.44**	**321**	P	**P**	**10 48 57.7**	**-0.2**
	2.6nm,0.5s,baz=98,slow=11,SNR=8.0						
AKTO				LR	LR	11 24 51.3	
	comp=Z,71nm,18.8s,baz=95,slow=39						
ARU	**Arti**	**74.58**	**327**	*e*P	**P**	**10 49 04.1**	**-0.3**
	16nm,1.4s						
ILAR	**Eielson Array**	**83.81**	**25**	P	**P**	**10 49 55.0**	**+0.4**
	0.2nm,0.4s,baz=280,slow=5.2,SNR=3.1						
DOT	**Dot Lake**	**85.03**	**27**	*e*P	P	10 49 58.0	-2.8
	22nm,0.8s						
ARCES	**ARCESS Array B**	**89.82**	**340**	P	**P**	**10 50 23.3**	**-0.5**
	1.5nm,0.8s,baz=86,slow=6.6,SNR=6.4						
BRTR	**Keskin Array B**	**90.08**	**310**	P	**P**	**10 50 25.2**	**-0.7**
	0.6nm,0.7s,baz=123,slow=4.6,SNR=4.2						
FINES	**FINESS Array B**	**91.38**	**332**	P	**P**	**10 50 30.4**	**-0.8**
	1.0nm,0.9s,baz=30,slow=6.7,SNR=3.0						
AKASG	**Malin Array Be**	**91.69**	**321**	P	**P**	**10 50 32.0**	**-0.9**
	0.2nm,0.4s,baz=64,slow=5.3,SNR=3.6						
AKASG				LR	LR	11 35 26.8	
	comp=Z,14nm,18.2s,baz=325,slow=38						
SYO	**Syowa Base**	**93.69**	**201⇑**	*e*P	**P**	**10 50 42.1**	**+0.4**
MLR	**Muntele Rosu**	**94.81**	**316**	LR	LR	11 38 55.2	
	comp=Z,7.0nm,20.9s,baz=20,slow=39						
MLR	**Muntele Rosu**	**94.81**	**316**	*e*P	**P**	**10 50 47.3**	**-0.3**
	18nm,1.9s						
BUR04	**Bucovina Ar. S**	**94.86**	**318**	*e*P	**P**	**10 50 48.1**	**+0.4**
IDI	**Anoyia**	**97.63**	**306**	LR	LR	11 39 59.0	
	comp=Z,9.4nm,21.8s,baz=29,slow=38						
NOA	**NORSAR Array B**	**98.29**	**334**	LR	LR	11 42 59.4	
	comp=Z,13nm,18.1s,baz=55,slow=40						
TOA0	**Torodi Ar. Sit**	**123.46**	**289**	*e*PKPdf	**PKPdf**	**10 56 23.3**	**-0.5**
TORD	**Torodi Ar. Bea**	**123.46**	**289**	PKP	**PKPdf**	**10 56 23.1**	**-0.7**
	0.7nm,1.0s,baz=61,slow=2.8,SNR=3.3						

*ISCJB **08** 10:44:05.0±0.8, 21°.6N±0°.1×143°.2E±0°.2, h311km, mb3.4/10, Error ellipse: s-maj=27.1km s-min=14.8km az=176.8*

*IDC **08** 10:44:07.3±5.0, 21°.61N×143°.09E, h317km±50km, mb3.0/10, mb1 3.1/11, mb1mx2.9/70, mbtmp3.6/11, Error ellipse: s-maj=25.3km s-min=14.1km az=85.0*

ISC 08 10:44:06.6±0.9**, 21°.6N**±0°.1×**143°.1E**±0°.2**, h311km, n13, σ0.s48**/14**, mb3.4**/10**, Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**15.48**	**345**	P	**P**	**10 47 27.8**	**-0.5**
	0.3nm,0.3s,baz=170,slow=12,SNR=5.1						
KSRS	**Korea Array**	**20.54**	**324**	P	**P**	**10 48 22.8**	**+0.7**
	0.7nm,0.8s,baz=143,slow=8.7,SNR=4.5						
WRA	**Warramunga Arr**	**42.18**	**192**	P	**P**	**10 51 29.4**	**-0.3**
	0.3nm,0.6s,baz=17,slow=9.2,SNR=9.9						
ASAR	**Alice Springs**	**45.88**	**192**	P	**P**	**10 51 59.1**	**+0.2**
	0.1nm,0.3s,baz=9.7,slow=7.2,SNR=4.9						
MKAR	**Makanchi Array**	**54.70**	**313**	P	**P**	**10 53 04.9**	**+0.6**
	0.3nm,0.6s,baz=94,slow=9.2,SNR=4.1						
MKAR				PcP	**PcP**	**10 54 02.5**	**-0.2**
	0.2nm,0.5s,baz=59,slow=5.6,SNR=2.9						
KURBB	**Kurchatov Arra**	**57.54**	**317**	P	**P**	**10 53 24.1**	**0.0**
	4.4nm,0.2s,baz=97,slow=7.4,SNR=5.9						
ILAR	**Eielson Array**	**62.15**	**27**	P	**P**	**10 53 54.9**	**-0.2**
	0.2nm,0.6s,baz=263,slow=4.3,SNR=4.9						
BVAR	**Borovoye Array**	**62.69**	**320**	P	**P**	**10 53 59.0**	**+0.2**
	1.7nm,0.4s,baz=99,slow=7.4,SNR=18						
INK	**Inuvik**	**67.68**	**24**	P	**P**	**10 54 30.6**	**+0.3**
	0.3nm,0.5s,baz=273,slow=1.8,SNR=2.8						
YKA	**Yellowknife Ar**	**76.57**	**28**	P	**P**	**10 55 23.2**	**+0.4**
	0.5nm,0.6s,baz=291,slow=5.7,SNR=10						
ARCES	**ARCESS Array B**	**78.98**	**341**	P	**P**	**10 55 35.5**	**-0.4**
	1.3nm,0.7s,baz=72,slow=8.6,SNR=5.6						
FINES	**FINESS Array B**	**83.23**	**334**	P	**P**	**10 55 57.4**	**-0.9**
	0.6nm,0.4s,baz=69,slow=4.8,SNR=11						
LPAZ	**La Paz**	**150.02**	**85**	PKPbc	**PKPbc**	**11 03 22.4**	**+0.3**
	0.6nm,0.7s,baz=0.0,slow=3.0,SNR=3.5						

*ISCJB **08** 10:46:22.9±0.4, 17°.38N±0°.04×94°.68W±0°.06, h133km, Error ellipse: s-maj=8.5km s-min=5.3km az=20.3*

*NEIC **08** 10:46:25.2±0.0, 17°.24N×94°.70W, h150km, mb4.1/1, MD4.0(MEX), After MEX.*

*MEX **08** 10:46:25.2±1.3, 17°.24N×94°.70W, h150km±26km, MD4.0*

ISC 08 10:46:25.5±0.8**, 17°.22N**±0°.06×**94°.77W**±0°.05**, h133km, n70, σ2.s60**/75**, Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TUIG	**Tuzandepetl**	**0.87**	**22**	*i* P	**Pn**	**10 46 47.0**	**-0.5**
TUIG	**Tuzandepetl**	**0.87**	**22**	*i* P	**Pn**	**10 46 47.0**	**-0.5**
VHO	**Vista Hermosa**	**1.89**	**266**	*i* P	**Pn**	**10 46 59.4**	**+0.9**
VHO				*e*S	**Sn**	**10 47 25.3**	**+1.7**
VHO	**Vista Hermosa**	**1.89**	**266**	*i* P	**Pn**	**10 46 59.4**	**+0.9**
VHO				*e*S	**Sn**	**10 47 25.3**	**+1.7**
HUIG	**Huatulco**	**1.94**	**222**	*i* P	**Pn**	**10 46 58.3**	**-0.5**
HUIG				*i* S	**Sn**	**10 47 25.4**	**+1.0**
HUIG	**Huatulco**	**1.94**	**222**	*i* P	**Pn**	**10 46 58.3**	**-0.5**
HUIG				*i* S	**Sn**	**10 47 25.4**	**+1.0**
PCIG		**2.12**	**135**	*e*P	**Pn**	**10 47 02.2**	**+1.2**
PCIG				*e*S	**Sn**	**10 47 27.1**	**-1.1**
PCIG		**2.12**	**135**	*e*P	**Pn**	**10 47 02.2**	**+1.2**
PCIG				*e*S	**Sn**	**10 47 27.1**	**-1.1**
PNIG	**Pinotepa**	**3.32**	**256**	*e*P	**Pn**	**10 47 14.9**	**-1.5**
PNIG	**Pinotepa**	**3.32**	**256**	*e*P	**Pn**	**10 47 14.9**	**-1.5**
833A	**Chaparral WMA,**	**11.85**	**340**	P	**P**	**10 49 14.4**	**-3.4**
	baz=158,SNR=5.9						
435B	**Jarrell**	**13.74**	**350**	P	**P**	**10 49 38.9**	**0.0**
	baz=168,SNR=5.1						
344A	**Westbrook Farm**	**14.64**	**14**	P	**P**	**10 49 47.3**	**-1.5**
	baz=195						
345A	**Thompson Farm,**	**14.67**	**16**	P	**P**	**10 49 47.2**	**-1.9**
	baz=198						
346A	**Big Creek Wild**	**14.90**	**18**	P	**P**	**10 49 50.8**	**-1.0**
	baz=200						
Z44A	**Pea Ridge, Bel**	**16.46**	**13**	P	**P**	**10 50 10.9**	**+2.0**
	baz=194						
147A	**Livingston**	**16.47**	**20**	P	**P**	**10 50 11.8**	**+2.7**
	baz=202						
148A	**Greensboro**	**16.68**	**22**	P	**Pn**	**10 50 13.9**	**+2.6**
	baz=204						
Y40A	**Okolona**	**16.77**	**4**	P	**P**	**10 50 10.7**	**-1.7**
	baz=185						
149A	**Jones**	**16.92**	**24**	P	**Pn**	**10 50 17.2**	**+2.9**
	baz=207						
Z47A	**Carrollton**	**17.02**	**20**	P	**Pn**	**10 50 19.1**	**+3.7**
	baz=202,SNR=6.7						
Y45A	**Yeager Farm, C**	**17.23**	**15**	P	**Pn**	**10 50 22.7**	**+4.8**
	baz=197						
X39A	**Fountain Ranch**	**17.23**	**2**	P	**P**	**10 50 16.1**	**-1.3**
	baz=182						
LRAL	**Lakeview Retre**	**17.23**	**23**	P	**Pn**	**10 50 20.8**	**+2.7**
	baz=206						
150A	**Eclectic**	**17.24**	**26**	P	**Pn**	**10 50 21.1**	**+3.1**
	baz=209						
MIAR	**Mount Ida**	**17.29**	**3**	P	**P**	**10 50 16.7**	**-1.4**
	baz=184						
Y46A	**Houston**	**17.42**	**17**	P	**Pn**	**10 50 21.9**	**+1.6**
	baz=199						
Z49A	**Columbiana**	**17.55**	**23**	P	**Pn**	**10 50 25.5**	**+3.6**
	baz=207,SNR=5.6						
UALR	**University of**	**17.62**	**7**	*e*P	**P**	**10 50 20.3**	**-1.4**
	4.9nm,0.5s						
X44A	**Crenshaw**	**17.70**	**13**	P	**Pn**	**10 50 28.2**	**+4.7**
	baz=194						
Y47A	**UCPARC, Winfie**	**17.73**	**19**	P	**Pn**	**10 50 26.9**	**+2.8**
	baz=202						
WMOK	**Wichita Mounta**	**17.81**	**349**	P	P	10 50 15.0	-8.9
	baz=167						
Z50A	**Ashland**	**17.84**	**25**	P	**Pn**	**10 50 29.1**	**+3.7**
	baz=208						
W39A	**Magazine**	**17.92**	**3**	P	**P**	**10 50 23.4**	**-1.7**
	baz=183						
W40A	**Ferguson Farm,**	**17.96**	**5**	P	**P**	**10 50 24.5**	**-1.0**
	baz=185						
W41B	**Gary Mavity, V**	**18.02**	**7**	P	**P**	**10 50 24.6**	**-1.5**
	baz=188						
V39A	**Pettigrew**	**18.57**	**3**	P	**P**	**10 50 30.4**	**-1.8**
	baz=183,SNR=6.6						
V40A	**Witts Springs**	**18.59**	**5**	P	**P**	**10 50 30.2**	**-2.2**
	baz=186						
V41A	**Mountainview**	**18.64**	**7**	P	**P**	**10 50 31.0**	**-1.9**
	baz=188,SNR=6.1						
V42A	**Cord**	**18.75**	**9**	P	**P**	**10 50 32.1**	**-2.0**
	baz=190						
U39A	**Green Forest**	**19.12**	**3**	P	**P**	**10 50 35.7**	**-2.4**
	baz=184						
U40A	**Yellville**	**19.14**	**5**	P	**P**	**10 50 36.4**	**-1.8**
	baz=185,SNR=8.7						
U41A	**Viola**	**19.21**	**7**	P	**P**	**10 50 37.3**	**-1.8**
	baz=188						
U42A	**Revenden**	**19.31**	**9**	P	**P**	**10 50 38.1**	**-2.1**
	baz=190						
U43A	**Rector**	**19.46**	**11**	P	**P**	**10 50 40.0**	**-1.8**
	baz=192						
T41A	**Mountain View**	**19.92**	**7**	P	**P**	**10 50 45.1**	**-1.7**
	baz=188,SNR=8.4						
T40A	**Mansfield**	**19.95**	**5**	P	**P**	**10 50 45.0**	**-2.1**
	baz=186						
T42A	**Van Buren**	**20.00**	**9**	P	**P**	**10 50 45.1**	**-2.5**
	baz=190						
T43A	**Greenville**	**20.18**	**10**	P	**P**	**10 50 46.5**	**-3.0**
	baz=192						
S38A	**Stockton**	**20.35**	**2**	P	**P**	**10 50 48.6**	**-2.8**
	baz=182						
S40A	**Lebanon**	**20.40**	**5**	P	**P**	**10 50 49.2**	**-2.7**
	baz=186						
S41A	**Jillco Farms,**	**20.46**	**7**	P	**P**	**10 50 49.0**	**-3.5**
	baz=188						
T47A	**Sharon Grove**	**20.82**	**17**	P	**P**	**10 50 55.3**	**-1.1**
	baz=201						
R38A	**Fenwick Farm,**	**20.90**	**2**	P	**P**	**10 50 55.0**	**-2.2**
	baz=182						
CCM	**Cathedral Cave**	**20.99**	**8**	P	**P**	**10 50 54.5**	**-3.7**
	baz=189						
R39A	**Chumby, Stover**	**21.07**	**4**	P	**P**	**10 50 55.1**	**-4.0**
	baz=184						
R40A	**Maddies Statio**	**21.11**	**5**	P	**P**	**10 50 55.3**	**-4.2**
	baz=186						
R41A	**Rosebud**	**21.21**	**7**	P	**P**	**10 50 56.8**	**-3.7**
	baz=189						
Q40A	**Laux Farm, Aux**	**21.82**	**6**	P	**P**	**10 51 03.2**	**-3.9**
	baz=187						
R47A	**Wooly Knot Far**	**22.20**	**17**	P	**P**	**10 51 07.5**	**-3.5**
	baz=201						
P40A	**Paris**	**22.36**	**6**	P	**P**	**10 51 08.1**	**-4.4**
	baz=187						
P41A	**Barry, Barry**	**22.61**	**7**	P	**P**	**10 51 10.1**	**-4.8**
	baz=189						
P42A	**Winchester**	**22.61**	**9**	P	**P**	**10 51 11.5**	**-3.6**
	baz=191						
O40A	**La Belle**	**22.96**	**6**	P	**P**	**10 51 14.4**	**-3.9**
	baz=187,SNR=5.2						
O41A	**Passleys Farm,**	**23.06**	**8**	P	**P**	**10 51 15.8**	**-3.4**
	baz=189						
N39A	**Derby Farms, D**	**23.66**	**4**	P	**P**	**10 51 22.1**	**-2.6**
	baz=185						
M38A	**Pleasantville**	**24.15**	**3**	P	**P**	**10 51 26.8**	**-2.4**
	baz=184						
L38A	**Oak Wood Farm,**	**24.89**	**3**	P	**P**	**10 51 33.4**	**-2.4**
	baz=184						
AGMN	**Agassiz Nation**	**31.01**	**359**	P	**P**	**10 52 27.7**	**-2.6**
	baz=178						
B32A	**Ashes, Strandq**	**31.13**	**358**	P	**P**	**10 52 28.5**	**-2.8**
	baz=177						

MAN 08 10:49:11, 10°.29N×123°.37E, h1km, mb4.6, ML3.5, MS3.4, 3C-3D, Cebu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LLP	**Lapu-Lapu**	**0.59**	**88⇓**	*i*P	Pb	10 49 23.4	-0.8
LLP				*i* S	Sb	10 49 31.9	-1.1
TBP	**Tagbilaran**	**0.77**	**141**	*e*P	Pb	10 49 26.6	-0.7
TBP				*i* S	Sb	10 49 37.9	-0.3
GUIM	**Jordan**	**0.84**	**293**	*e*P	Pb	10 49 27.9	-0.5
GUIM				*e*S	Sb	10 49 40.7	+0.6
SNPH	**Sibulan**	**0.95**	**188⇑**	*e*P	Pg	10 49 29.6	+0.3
SNPH				*e*S	Sb	10 49 43.0	-0.5
RCP	**Roxas**	**1.40**	**334⇑**	*e*P	Pg	10 49 37.8	-0.1
RCP				*e*S	Sn	10 49 57.6	+0.7
JAP	**San Jose, Anti**	**1.47**	**288⇓**	*e*P	Pg	10 49 41.2	+2.0
MSLP	**Maasin**	**1.48**	**96**	*e*P	Pn	10 49 38.8	0.0
MSLP				*e*S	Sn	10 49 59.7	+1.0
DCPH	**Dipolog City**	**1.70**	**181⇑**	*e*P	Pn	10 49 40.9	-0.9
DCPH				*e*S	Sn	10 50 02.4	-1.8
PLP	**Palo**	**1.80**	**61⇓**	*e*P	Pn	10 49 43.0	-0.2
PLP				*e*S	Sb	10 50 07.4	-0.6
IPIL	**Ipil**	**2.61**	**198**	*e*P	Pn	10 49 54.3	0.0
IPIL				*e*S	Sb	10 50 29.2	-2.0
BUKP	**Musuan**	**2.92**	**145**	*e*P	Pn	10 50 00.3	+1.6
BUKP				*e*S	Sb	10 50 37.8	-2.5

UCR 08 10:50:04.0±1.6**, 12°.39N**×**87°.67W, h61**km±15km**, ML3.6, 1C, Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CSGN	**Cosiguina Volc**	**0.59**	**10**	*e*P	Pn	10 50 18.3	+1.1
CSGN				*e*S	Sn	10 50 28.0	+1.2
CRIN	**San Cristobal**	**0.68**	**63**	*e*P	Pn	10 50 18.9	+0.7
CRIN				*e*S	Sn	10 50 30.5	+2.1
CRIN				AML	AML	10 50 35.1	
	comp=N,6μm,0.1s						
CNCH	**Conchagua**	**0.90**	**350**	*e*P	Pn	10 50 21.0	+0.1
CNCH				*e*S	Sn	10 50 33.6	+0.3
LCND	**La Caˆ–ada**	**0.94**	**347**	*e*P	Pn	10 50 21.4	0.0
LCND				*e*S	Sn	10 50 34.1	0.0
CNGN	**Cerro Negro**	**0.95**	**83**	*e*P	Pn	10 50 20.9	-0.7
CNGN				*e*S	Sn	10 50 34.8	+0.3
COPN	**Copaltepe**	**1.07**	**101⇑**	*e*P	Pn	10 50 22.9	-0.1
COPN				*e*S	Sn	10 50 37.0	-0.2
COPN				AML	AML	10 50 37.2	
	comp=Z,793nm,0.1s						
MOMN	**Momotombo**	**1.10**	**89**	*e*P	Pn	10 50 23.5	+0.1
MOMN				*e*S	Sn	10 50 37.9	-0.1
VSM	**San Miguel**	**1.19**	**330**	*e*P	Pn	10 50 25.3	+0.4
LCY	**Lacayo**	**1.20**	**329**	*e*P	Pn	10 50 24.4	-0.4
LCY				*e*S	Sn	10 50 40.9	+0.6
PACA	**Pacayal**	**1.25**	**329**	*e*P	Pn	10 50 26.0	+0.5
PACA				*e*S	Sn	10 50 42.0	+0.5
XAVN	**Gruta Xavier**	**1.33**	**100**	*e*P	Pn	10 50 26.4	-0.1
TECA	**Tecapa**	**1.37**	**324**	*e*P	Pn	10 50 27.1	0.0
CRUN	**El Crucero**	**1.40**	**107**	*e*P	Pn	10 50 28.8	+1.3
MGAN	**Managua**	**1.41**	**100**	*e*P	Pn	10 50 27.1	-0.4
MGAN				*e*S	Sn	10 50 45.1	0.0
ESTN	**Estel**	**1.45**	**61**	*e*P	Pn	10 50 28.5	+0.3
ESTN				*e*S	Sn	10 50 47.5	+1.2
CAHU	**Cacacuatique**	**1.47**	**339**	*e*P	Pn	10 50 29.4	+0.8
MATN	**Matagalpa**	**1.78**	**72**	*e*P	Pn	10 50 32.9	+0.2
LFRS	**El Faro**	**1.83**	**312**	*e*P	Pn	10 50 33.4	+0.1
LFU	**La Fuente**	**1.95**	**314**	*e*P	Pn	10 50 35.3	+0.4
SNET	**Serv Nac Est T**	**2.00**	**310**	IAML		10 51 03.2	
	comp=Z,382nm,0.3s						
UEES	**San Salvador**	**2.03**	**311**	*e*P	Pn	10 50 35.6	-0.4
UEES				IAML		10 51 07.0	
	comp=Z,460nm,0.2s						
BOQS	**Boqueron**	**2.06**	**311**	*e*P	Pn	10 50 37.3	+0.7
ESPN	**Las Esperanzas**	**3.29**	**93**	*e*P	Pn	10 50 54.4	+1.2
JTS	**JuntasAbangare**	**3.38**	**128**	*e*P	Pn	10 50 55.3	+0.9

MAN 08 11:06:14, 10°.25N×123°.35E, h3km, mb4.4, ML3.3, MS3.1, 3C-1D, Cebu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LLP	**Lapu-Lapu**	**0.61**	**83⇓**	*i*P	Pg	11 06 25.8	+0.1
LLP				*i* S	Sg	11 06 34.3	+0.7
TBP	**Tagbilaran**	**0.74**	**138**	*e*P	Pb	11 06 29.7	0.0
TBP				*i* S	Sb	11 06 40.8	+0.6
GUIM	**Jordan**	**0.84**	**297**	*e*P	Pg	11 06 30.3	+0.1
GUIM				*e*S	Sg	11 06 41.2	+0.1
SNPH	**Sibulan**	**0.90**	**187⇑**	*e*P	Pg	11 06 31.6	+0.2
SNPH				*e*S	Sb	11 06 44.5	-0.4
RCP	**Roxas**	**1.44**	**335⇑**	*e*P	Pn	11 06 40.6	-0.4
RCP				*e*S	Sn	11 07 01.1	+0.7
MSLP	**Maasin**	**1.49**	**94**	*e*P	Pn	11 06 41.5	-0.2
MSLP				*e*S	Sb	11 07 01.5	-0.1
DCPH	**Dipolog City**	**1.65**	**180⇑**	*e*P	Pn	11 06 43.1	-0.8
DCPH				*e*S	Sb	11 07 06.5	+0.2
IPIL	**Ipil**	**2.56**	**198**	*e*P	Pn	11 06 56.6	+0.2
BUKP	**Musuan**	**2.89**	**144**	*e*P	Pn	11 07 02.4	+1.4

*IDC **08** 11:07:59.6±1.2, 15°.48S×172°.00W, h0km, mb3.9/6, mb1 4.2/6, mb1mx3.8/51, mbtmp3.9/6, MS3.5/3, Ms1 3.5/3, ms1mx2.8/44, Error ellipse: s-maj=49.2km s-min=17.5km az=116.0*

*ISCJB **08** 11:08:02.2±0.7, 15°.52S±0°.09×172°.1W±0°.2, h23km, mb4.1/15, MS3.4/3, Error ellipse: s-maj=24.9km s-min=7.3km az=25.3*

*NEIC **08** 11:08:03.4±5.0, 15°.34S×172°.20W, h16km±29km, mb4.1/9, Error ellipse: s-maj=26.4km s-min=7.7km az=130.0*

ISC 08 11:08:03.4±1.1**, 15°.5S**±0°.1×**172°.1W**±0°.3**, h23km, n34, σ0.s86**/26**, mb4.1**/15**, MS3.3**/3**, Samoa Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.57**	**11**	Pn	**Pn**	**11 08 29.4**	**-0.6**
	36nm,0.3s,baz=190,slow=17,SNR=38						
AFI				Sn	**Sb**	**11 08 51.4**	**+0.2**
	122nm,0.3s,baz=166,slow=20,SNR=16						
DZM	**Mont Dzumac**	**21.36**	**249**	*e*LR	LR	11 18 21.8	
	167nm,26.1s						
DZM	**Mont Dzumac**	**21.36**	**249**	LR	LR	11 19 33.0	
	comp=Z,120nm,21.1s,baz=49,slow=32						
PPT2	**Papeete2**	**21.68**	**99**	*e*LR	LR	11 17 32.2	
	74nm,23.5s						
OUZ	**Omahuta**	**23.50**	**211**	*e*P	**P**	**11 13 09.6**	**-2.0**
	12nm,1.2s						
URZ	**Urewera**	**24.64**	**201**	P	**P**	**11 13 22.1**	**-0.1**
	4.9nm,0.4s,baz=73,slow=11,SNR=9.6						
BKZ	**Black Stump Fm**	**25.66**	**201**	*e*P	**P**	**11 13 33.1**	**+1.5**
	9.3nm,1.2s						
HNR	**Honiara**	**27.95**	**279**	LR	LR	11 23 35.8	
	comp=Z,59nm,19.8s,baz=158,slow=33						
TAOE	**Nuku Hiva Isla**	**31.87**	**82**	*e*LR	LR	11 22 11.6	
	91nm,25.7s						
H11S2	**WAKE ISLAND Hy**	**39.68**	**327**	T	T	11 58 05.2	
	baz=145						
H11S3	**WAKE ISLAND Hy**	**39.70**	**327**	T	T	11 58 10.6	
	baz=145						
H11S1	**WAKE ISLAND Hy**	**39.70**	**327**	T	T	11 58 04.1	
	baz=145						
WB2	**Warramunga Arr**	**51.06**	**257**	*e*P	**P**	**11 17 05.0**	**+0.6**
WRAB	**Tennant Creek**	**51.06**	**257**	*e*P	**P**	**11 17 04.7**	**+0.2**
	2.9nm,1.1s						
WR1	**Warramunga Arr**	**51.07**	**257**	*e*P	**P**	**11 17 04.7**	**+0.2**
	4.3nm,1.1s						
WRA	**Warramunga Arr**	**51.07**	**257**	P	**P**	**11 17 04.7**	**+0.2**
	1.6nm,1.0s,baz=91,slow=7.2,SNR=8.0						
AS01	**Alice Springs**	**51.26**	**252**	*e*P	**P**	**11 17 06.5**	**+0.6**
AS31	**Alice Springs**	**51.30**	**252**	*e*P	**P**	**11 17 06.7**	**+0.5**
	1.0nm,1.1s						
ASAR	**Alice Springs**	**51.30**	**252**	P	**P**	**11 17 06.4**	**+0.2**
	2.5nm,0.8s,baz=86,slow=8.6,SNR=25						
QSPA	**South Pole Qui**	**74.59**	**180**	LR	LR	11 47 35.1	
	comp=Z,42nm,20.1s,baz=21,slow=32						
TRF	**Thorofare Moun**	**80.46**	**10**	*e*P	**P**	**11 20 13.8**	**+0.6**
	2.0nm,1.2s						
WRH	**Wood River Hil**	**81.78**	**10**	*e*P	**P**	**11 20 20.6**	**+0.7**
	2.6nm,1.0s						
DOT	**Dot Lake**	**81.79**	**12**	*e*P	**P**	**11 20 21.6**	**+1.5**
	30nm,0.8s						
MLY	**Manley**	**81.87**	**9**	*e*P	**P**	**11 20 21.0**	**+0.5**
	0.8nm,0.8s						
ILAR	**Eielson Array**	**82.26**	**11**	P	**P**	**11 20 22.9**	**+0.4**
	0.4nm,0.7s,baz=223,slow=5.9,SNR=7.9						
IM3	**Indian Mountai**	**82.36**	**7**	*e*P	**P**	**11 20 24.4**	**+1.5**
INK	**Inuvik**	**88.03**	**13**	P	**P**	**11 20 50.3**	**-1.0**
	0.7nm,0.9s,baz=210,slow=4.7,SNR=4.0						
INK	**Inuvik**	**88.03**	**13**	*e*P	**P**	**11 20 50.6**	**-0.7**
	1.0nm,1.0s						
YKA	**Yellowknife Ar**	**89.65**	**23**	P	**P**	**11 20 58.8**	**-0.3**
	0.3nm,0.8s,baz=240,slow=4.6,SNR=6.6						
BUR04	**Bucovina Ar. S**	**144.88**	**340**	*e*PKPdf	**PKPdf**	**11 27 39.6**	**+0.8**
GEA0	**GERESS Array S**	**146.38**	**353**	*e*PKPdf	**PKPbc**	**11 27 42.6**	**0.0**
MLR	**Muntele Rosu**	**146.44**	**337**	*e*PKPdf	**PKPab**	**11 27 43.6**	**-0.2**
BR101	**Keskin Array S**	**147.00**	**322**	*e*PKPdf	**PKPbc**	**11 27 43.9**	**-0.9**
BRTR	**Keskin Array B**	**147.00**	**322**	PKPbc	**PKPbc**	**11 27 43.9**	**-0.9**
	0.3nm,0.4s,baz=127,slow=4.3,SNR=3.3						

MAN 08 11:10:14, 10°.32N×123°.42E, h1km, mb3.9, ML2.6, MS2.1, 1C, Cebu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LLP	**Lapu-Lapu**	**0.54**	**90⇑**	*e*P	Pg	11 10 25.1	+0.8
LLP				*i* S	Sb	11 10 33.7	-0.8
TBP	**Tagbilaran**	**0.76**	**145**	*e*P	Pb	11 10 29.4	-0.6
TBP				*i* S	Sb	11 10 40.8	-0.1
MSLP	**Maasin**	**1.43**	**97**	*e*P	Pn	11 10 40.9	-0.2
MSLP				*e*S	Sn	11 11 01.4	+0.8

IDC 08 11:16:05.3±6.0**, 4°.51S**×**153°.98E, h92**km±48km**, mb3.2**/5**, mb1 3.6**/6**, mb1mx3.3**/49**, mbtmp3.7**/6**, Error ellipse: s-maj=61.0km s-min=27.1km az=115.0, New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**8.33**	**234**	P	Pn	11 18 04.5	+1.1
	5.6nm,0.3s,baz=46,slow=2.8,SNR=16						
PMG				S	Sn	11 19 35.3	-0.6
	2.0nm,0.3s,baz=122,slow=20,SNR=8.2						

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	24.52	230	P	P	11 21 16.5	+0.1
	2.7nm,0.5s,baz=53,slow=9.9,SNR=46						
ASAR	Alice Springs	27.16	224	P	P	11 21 40.1	-0.2
	0.4nm,0.5s,baz=56,slow=9.2,SNR=10						
SONM	Songino Array	66.71	327	P	P	11 26 46.2	-0.5
	0.2nm,0.5s,baz=103,slow=6.2,SNR=3.1						
MKAR	Makanchi Array	80.88	319	P	P	11 28 10.1	+0.7
	0.3nm,0.7s,baz=104,slow=4.6,SNR=3.2						
ILAR	Eielson Array	81.45	22	P	P	11 28 11.7	-0.3
	0.4nm,1.0s,baz=244,slow=5.6,SNR=3.2						
TORD	Torodi Ar. Bea	151.32	289	PKPbc	PKPbc	11 35 49.3	-0.1
	1.0nm,0.7s,baz=66,slow=2.5,SNR=6.2						

MAN 08 11:31:04, 9.°30N×125.°74E, h14km, mb4.0, ML2.8, MS2.4, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BUTP	Butuan	0.35	200	eP	Pb	11 31 11.8	-0.2
BUTP				eS	Sb	11 31 17.9	+0.5
SCPH	Surigao	0.54	333	⇓eP	Pb	11 31 15.8	+0.5
SCPH				eS	Sb	11 31 24.5	+1.5
MSLP	Maasin	1.20	314	eP	Pn	11 31 24.5	-1.9
BUKP	Musuan	1.56	206	eP	Pn	11 31 31.3	-0.1
BUKP				eS	Sb	11 31 52.7	+0.3

NNC 08 11:46:58.3±4.6, 43.°59N×83.°68E, h0km, mb2.7, mpv2.4, Error ellipse: s-maj=39.0km s-min=13.5km az=123.0
SOME 08 11:47:04.2, 43.°45N×83.°50E, h10km
ISC 08 11:47:07.7±2.8, 43.°5N±0.°1×83.°4E±0.°1, h10km, n6, σ1.s72/9, 3C-2D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DJR	Jarkent	2.70	288	eP	Pb	11 47 55.1	-1.0
	2.7nm,0.2s						
DJR				eS	Sb	11 48 31.5	+2.1
	3.1nm,0.4s						
PDGK	Podgornoye	2.83	267	⇓Pg	Pn	11 47 53.4	+0.4
	1.8nm,0.9s						
PDGK				⇑Lg	Lg	11 48 37.4	
	2.3nm,0.5s						
MK31	Makanchi Array	3.35	347	⇑Pg	Pn	11 48 00.3	+0.2
	0.3nm,0.4s,baz=161,slow=17,SNR=10						
MK31				Lg	Lg	11 48 43.3	
	0.5nm,0.3s,baz=157,slow=28,SNR=7.1						
KAPS	Kapalarasan	3.36	303	eP	Pb	11 48 07.7	+0.3
	0.4nm,0.3s						
KAPS				eS	Sg	11 48 53.4	-2.2
	2.1nm,0.5s						
MAKZ	Makanchi	3.42	344	⇑Pg	Pn	11 48 01.5	+0.4
	0.7nm,0.6s						
MAKZ				⇓Lg	Lg	11 48 46.8	
	1.4nm,0.6s						
MNBS	Baschi	3.63	280	eP	Pb	11 48 10.5	-1.5
	1.1nm,0.3s						
MNBS				eS	Sb	11 48 58.3	+2.1
	3.0nm,0.4s						

MEX 08 11:47:47.8±1.1, 16.°38N×98.°55W, h5km, MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.40	88	i P	Pg	11 47 54.8	-0.8
PNIG				i S	Sg	11 48 01.0	+0.1
TLIG	Tlapa	1.18	359	eP	Pg	11 48 06.8	-3.6
TLIG				eS	Sg	11 48 22.1	-3.6
VHO	Vista Hermosa	1.87	68	eP	Pn	11 48 18.9	-1.7
HUIG	Huatulco	2.42	104	eP	Pn	11 48 26.9	-1.2

IDC 08 11:54:40.9±1.3, 51.°80N×173.°86W, h0km, mb3.6/3, mb1 3.9/5, mb1mx3.3/85, mbtmp3.7/5, ML3.6/2, Error ellipse: s-maj=98.5km s-min=23.0km az=142.0
ISCJB 08 11:55:02.3±0.8, 53.°5N±0.°1×174.°3W±0.°1, h200km, mb3.2/3, Error ellipse: s-maj=17.0km s-min=4.8km az=148.5
NEIC 08 11:55:04.8±0.0, 52.°88N×174.°05W, h219km, ML3.5(AEIC), After AEIC.
ISC 08 11:55:03.4±0.9, 53.°3N±0.°2×174.°16W±0.°09, h200km, n16, σ1.s77/23, mb3.2/3, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KOWE	Korovin West	0.89	184	P	Pn	11 55 33.2	+0.7
KOKL	Mount Kliuchef	0.93	182	P	Pn	11 55 33.6	+0.8
KOKL				S	Sn	11 55 57.9	+2.4
KOFP	Korovin Flat P	0.97	178	P	Pn	11 55 33.6	+0.5
KOFP				S	Sn	11 55 57.5	+1.5
GSTD	Great Sitkin T	1.70	226	P	Pn	11 55 40.0	+0.9
GSTD				S	Sn	11 56 06.8	+0.2
ETKA	Kagalaska Isla	1.95	226	P	Pn	11 55 42.0	+0.6
ETKA				S	Sn	11 56 10.5	-0.4
KIRH	Kanaga Island	2.24	234	P	Pn	11 55 44.8	+0.3
TAPA	Tanaga Point A	2.65	239	P	Pn	11 55 50.7	+1.6
OKTU	Okmok Mt. Tuli	3.67	85	P	Pn	11 56 01.4	+0.3
MSOM	Makushin Julie	4.34	80	P	Pn	11 56 10.6	+1.3
MSOM				S	Sn	11 57 02.9	+1.8
MREP	Makushin Rep't	4.46	80	P	Pn	11 56 12.1	+1.1
UNV	Unalaska Valle	4.61	79	P	Pn	11 56 13.5	+0.8
UNV				S	Sn	11 57 06.5	-0.7
KDAK	Kodiak Island	13.02	61	Pn	Pn	11 57 59.3	-1.6
	0.6nm,0.3s,baz=257,slow=9.3,SNR=24						
KDAK				Sn	S	12 00 22.6	-3.2
	0.1nm,0.3s,baz=47,slow=22,SNR=7.1						
ILAR	Eielson Array	17.99	39	P	P	11 59 03.3	+4.5
	0.1nm,0.3s,baz=225,slow=10,SNR=12						
PDAR	Pinedale Array	43.06	77	P	P	12 02 43.2	-0.4
	0.3nm,0.5s,baz=326,slow=3.7,SNR=4.1						
WRA	Warramunga Arr	85.36	228	P	P	12 07 15.6	-2.3
	0.3nm,0.6s,baz=33,slow=5.9,SNR=3.3						
ASAR	Alice Springs	88.82	226	P	P	12 07 32.7	-1.7
	0.6nm,0.8s,baz=33,slow=4.9,SNR=4.7						

ISCJB 08 11:56:05.9±0.6, 26.°24S±0.°04×132.°24E±0.°06, h10km, Error ellipse: s-maj=8.2km s-min=5.9km az=1.0
IDC 08 11:56:05.1±2.6, 26.°08S×132.°07E, h0km, mb1 4.0/5, mb1mx3.6/45, mbtmp4.0/5, ML3.8/4, Error ellipse: s-maj=23.7km s-min=18.3km az=91.0
AUST 08 11:56:06.2±0.1, 26.°09S×131.°90E, h0km, Error ellipse: s-maj=0.6km s-min=0.4km az=228.0
ISC 08 11:56:06.7±0.9, 26.°16S±0.°06×132.°16E±0.°07, h10km, n18, σ2.s48/24, South Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AS10	Alice Springs	2.92	33	P	Pn	11 56 55.7	+2.3
	baz=3.0						
ASAR	Alice Springs	2.94	33	Pn	Pn	11 56 55.1	+1.4
	3.3nm,0.3s,baz=215,slow=13,SNR=387						
ASAR				Pg	Pg	11 57 04.5	+1.3
	10.0nm,0.3s,baz=207,slow=16,SNR=83						
ASAR				Sn	Sn	11 57 31.4	+2.3
	8.5nm,0.3s,baz=216,slow=22,SNR=7.4						
ASAR				Lg	Lg	11 57 37.2	
	25nm,0.3s,baz=214,slow=29,SNR=24						
AS02	Alice Springs	2.95	34	P	Pn	11 56 56.1	+2.4
	baz=3.0						
AS05	Alice Springs	2.98	33	P	Pn	11 56 56.4	+2.2
	baz=3.1						
WRKA	Warakurna	3.66	287	P	Pn	11 57 05.5	+1.9
	baz=3.4,SNR=36						
FORT	Forrest	5.85	217	P	Pn	11 57 34.2	+0.7
	baz=5.8,SNR=6.4						
WB1	Warramunga Ar.	6.49	19	P	Pn	11 57 43.3	+0.8
	baz=6.5						
WRA	Warramunga Arr	6.50	18	Pn	Pn	11 57 43.4	+0.8
	1.8nm,0.3s,baz=196,slow=14,SNR=186						
WRA				Sn	Sn	11 58 55.0	-2.0
	4.5nm,0.3s,baz=200,slow=24,SNR=12						
WRA				Lg	Lg	11 59 26.7	
	3.3nm,0.3s,baz=199,slow=30,SNR=9.2						
WC2	Warramunga Arr	6.53	19	P	Pn	11 57 44.0	+1.1
	baz=6.6						
WR8	Warramunga Arr	6.54	20	P	Pn	11 57 44.0	+0.9
	baz=6.6						
BBOO	Buckleboo	7.45	154	P	Pn	11 57 57.6	+2.1
	baz=7.6,SNR=21						
QIS	Mount Isa	8.82	52	P	Pn	11 58 16.1	+1.7
	baz=9.0,SNR=29						
QIS				S	Sn	11 59 50.7	-3.3
	baz=9.0						
HTT	Hallett	9.33	143	P	Pn	11 58 23.2	+1.8
	baz=9.5,SNR=7.4						
STKA	Stephens Creek	10.03	127	Pn	Pn	11 58 31.9	+1.0
	1.4nm,0.3s,baz=305,slow=12,SNR=31						
STKA				Sn	Sn	12 00 23.1	-0.5
	1.5nm,0.3s,baz=229,slow=13,SNR=6.2						
STKA				Lg	Lg	12 01 23.9	
	0.2nm,0.3s,baz=15,slow=19,SNR=1.5						
STKA	Stephens Creek	10.03	127	P	Pn	11 58 33.0	+2.0
	baz=10,SNR=26						
QLP	Quilpie	10.84	95	S	Sn	12 00 42.2	-1.2
	baz=11						
CTA	Charters Tower	14.30	68	Pn	Pn	11 59 29.6	+0.2
	0.3nm,0.3s,baz=245,slow=13,SNR=4.2						
CTA				Sn	Sn	12 02 00.7	-7.5
	0.4nm,0.3s,baz=133,slow=22,SNR=1.1						
NWAO	Narrogin (SRO)	14.63	239	Pn	Pn	11 59 31.1	-2.8
	0.8nm,0.3s,baz=254,slow=14,SNR=6.7						
NWAO				Sn	Sn	12 02 03.7	-12
	0.7nm,0.3s,baz=200,slow=11,SNR=2.5						

SOME 08 11:58:55.1, 41.°05N×71.°05E, h20km
KRNET 08 11:58:56.9±0.1, 41.°36N×71.°04E, h12km, mb2.7
NNC 08 11:58:57.3±1.2, 41.°22N×71.°09E, h0km, mb3.0, mpv2.7, Error ellipse: s-maj=9.3km s-min=7.1km az=73.0
ISC 08 11:58:57.3±1.3, 41.°34N±0.°04×71.°08E±0.°04, h14km±11km, n17, σ1.s14/30, 23C-4D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ARK	Arkit	0.81	55	⇑iP	Pg	11 59 12.7	-0.4
	baz=59						
ARK				⇑iS	Sb	11 59 24.8	+0.7
	baz=59						
IUG	Iuzhnay	1.13	316	eP	Pn	11 59 18.3	-0.5
	13nm,0.3s						
IUG				eS	Sn	11 59 34.1	0.0
	39nm,0.6s						
BTK	Batken	1.29	189	⇑iP	Pg	11 59 21.8	-0.4
	baz=87						
BTK				⇑iS	Sn	11 59 40.2	+2.0
	baz=87						
ARSB	Arslanbob	1.44	90	⇑iP	Pg	11 59 24.4	-0.5
	baz=91						
ARSB				⇑iS	Sg	11 59 44.8	+1.2
	baz=91						
TOKL	Toktogul	1.47	65	⇑iP	Pg	11 59 25.3	-0.4
	baz=66						
TOKL				⇑iS	Sg	11 59 46.1	+1.3
	baz=66						
MNAS	Manas	1.57	42	⇑P	Pg	11 59 27.4	0.0
	2.2nm,0.3s						
MNAS				⇑S	Sg	11 59 50.1	+2.3
	3.9nm,0.4s						
MNAS	Manas	1.57	42	⇑iP	Pb	11 59 26.6	+0.4
	baz=44						
MNAS				⇑iS	Sg	11 59 48.2	+0.4
	baz=44						
KK31	Karatay Array	1.81	347	⇑Pn	Pg	11 59 31.1	-1.1
	5.2nm,0.3s,baz=164,slow=18,SNR=122						
KK31				⇑Lg	Lg	11 59 59.4	
	17nm,0.5s,baz=169,slow=32,SNR=22						
BRLS	Borolday	1.93	332	eP	Pb	11 59 31.7	-0.6
	1.2nm,0.4s						
BRLS				eS	Sb	11 59 57.3	+1.1
	22nm,0.5s						
AML	Almayashu	2.11	67	⇑iP	Pb	11 59 36.2	+0.6
	baz=68						
AML				⇑iS	Sg	12 00 04.7	-0.7
	baz=68						
MRKS	Merke	2.13	48	eP	Pg	11 59 37.6	-0.6
	5.3nm,0.2s						
MRKS				eS	Sg	12 00 07.2	+1.3
	9.5nm,0.3s						
SFK	Sufi-Kurgan	2.27	125	⇑Pg	Pb	11 59 37.9	-0.3
	0.6nm,0.3s						
SFK				⇑Lg	Lg	12 00 08.9	
	4.0nm,0.4s						
UCH	Uchtor	2.72	70	⇓iP	Pb	11 59 45.0	-1.0
	baz=70						
UCH				⇓iS	Sb	12 00 19.2	-0.2
	baz=70						
AAK	Ala-Archa	2.86	62	⇑Pg	Pb	11 59 49.0	+0.7
	1.9nm,0.5s						
AAK				⇓Lg	Lg	12 00 28.4	
	1.9nm,0.5s						
AAK	Ala-Archa	2.86	62	⇑iP	Pb	11 59 46.8	-1.4
	baz=62						
AAK				⇑iS	Sb	12 00 22.3	-0.8
	baz=62						
KZA	Kyzart	3.21	75	⇑iP	Pb	11 59 52.1	-2.3
	baz=76						
KZA				⇑iS	Sb	12 00 31.6	-1.9
	baz=76						
TKM2	Tokmak 2	3.72	63	Pg	Pb	12 00 04.0	+1.2
	1.6nm,0.7s						
TKM2				⇓Lg	Lg	12 00 54.0	
	1.4nm,0.6s						

ATA 08 11:59:24.8±1.3, 38.°75N×43.°32E, h10km±10km, ML3.1, MW2.9
ISK 08 11:59:25.5, 38.°71N×43.°17E, h14km, ML2.6/4
CSEM 08 11:59:26.6±0.2, 38.°73N×43.°20E, h10km, ML2.6, Error ellipse: s-maj=4.5km s-min=4.2km az=146.0
DDA 08 11:59:26.9, 38.°72N×43.°20E, h7km, Md2.7
ISCJB 08 11:59:27.0±0.5, 38.°73N±0.°03×43.°21E±0.°04, h13km±6km, Error ellipse: s-maj=5.5km s-min=4.2km az=30.6
ISC 08 11:59:26.9±0.9, 38.°73N±0.°02×43.°21E±0.°03, h16km±7km, n32, σ0.s77/49, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VANB	Van	0.20	133	PG	Pg	11 59 31.6	-0.1
VANB				SG	Sg	11 59 35.9	+0.9
VANB	Van	0.20	133	ePg	Pg	11 59 31.6	-0.1
VANB				eSg	Sg	11 59 35.9	+0.9
TVAN	Van	0.26	142	i P	Pg	11 59 31.9	-0.8
TVAN				i S	Sg	11 59 36.4	-0.2
TVAN	Van	0.26	142	P	Pg	11 59 31.9	-0.8
TVAN				S	Sg	11 59 36.4	-0.2
ERCV	ERCIS-VAN	0.31	20	PG	Pg	11 59 32.9	-0.7
ERCV				SG	Sg	11 59 38.3	+0.2
ERCV	ERCIS-VAN	0.31	20	ePg	Pg	11 59 32.9	-0.7
ERCV				i Sg	Sg	11 59 38.3	+0.2
ADCV	BITLIS_Adilcev	0.38	282	i P	Pg	11 59 34.6	-0.3
ADCV				i S	Sb	11 59 41.4	+0.2
ADCV	BITLIS_Adilcev	0.38	282	P	Pg	11 59 34.6	-0.3
ADCV				S	Sb	11 59 41.4	+0.2
VMUR	Van-Muradiye	0.39	48	i P	Pb	11 59 35.2	-0.3
VMUR				i S	Sb	11 59 41.7	+0.3
VMUR	Van-Muradiye	0.39	48	P	Pb	11 59 35.2	-0.3
VMUR				S	Sb	11 59 41.7	+0.3
GEVA	Gevas	0.43	195	i P	Pg	11 59 34.7	-0.9
GEVA				eS	Sb	11 59 42.5	-0.1
GEVA				IAML		11 59 45.4	
	comp=Z,46nm,0.7s						
GEVA	Gevas	0.43	195	i P	Pg	11 59 34.8	-0.9
GEVA	Gevas	0.43	195	P	Pg	11 59 34.8	-0.9
CLDR	Caldiran	0.69	53	PG	Pg	11 59 40.1	-0.5
CLDR				SG	Sb	11 59 50.7	+0.5
CLDR	Caldiran	0.69	53	i P	Pg	11 59 38.9	-1.7
CLDR	Caldiran	0.69	53	P	Pg	11 59 38.9	-1.7
CLDR	Caldiran	0.69	53	ePg	Pg	11 59 40.1	-0.5
CLDR				i Sg	Sb	11 59 50.7	+0.5
TUTA	Tutak	0.74	336	i P	Pg	11 59 40.8	-0.6
TUTA				eS	Sb	11 59 51.5	+0.1
TUTA				IAML		11 59 53.3	
	comp=Z,102nm,0.2s						
TUTA	Tutak	0.74	336	i P	Pg	11 59 41.0	-0.4
TUTA				i S	Sb	11 59 51.3	-0.2
TUTA	Tutak	0.74	336	P	Pg	11 59 41.0	-0.4
TUTA				S	Sb	11 59 51.3	-0.2
AGRB	Hanur-Agry	0.86	349	PG	Pg	11 59 42.9	-0.8
AGRB	Hanur-Agry	0.86	349	ePg	Pg	11 59 42.9	-0.8
GURO	Guroymak-BITLI	0.94	259	PG	Pg	11 59 43.4	-1.7
GURO	Guroymak-BITLI	0.94	259	ePg	Pg	11 59 43.4	-1.7
EKAR	Karacoban	1.03	301	eP	Pn	11 59 47.1	+0.1
EKAR	Karacoban	1.03	301	i P	Pn	11 59 47.4	+0.4
EKAR	Karacoban	1.03	301	P	Pn	11 59 47.4	+0.4
SRTM	Siirt_Merkez	1.25	234	i P	Pg	11 59 51.0	0.0
SRTM	Siirt_Merkez	1.25	234	P	Pg	11 59 51.0	0.0
EATA	Eleskirt	1.26	334	eP	Pn	11 59 49.2	-0.9
EATA				eS	Sn	12 00 08.8	+1.8
EATA	Eleskirt	1.26	334	i P	Pn	11 59 50.3	+0.1
EATA	Eleskirt	1.26	334	P	Pn	11 59 50.3	+0.1

NNC 08 12:00:59.6±3.5, 36.°43N×70.°21E, h0km, mb3.6, mpv3.2, 7C-3D, Error ellipse: s-maj=27.2km s-min=14.9km az=7.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZET	Dzherino	2.61	336	⇑Pn	Pn	12 01 42.8	-0.4
	5.7nm,0.3s						
DZET				⇑Sn	Sn	12 02 17.3	+1.6
	16nm,0.4s						
SFK	Sufi-Kurgan	4.42	35	⇑Pn	Pn	12 02 09.6	+1.5
	1.3nm,0.3s						
SFK				⇓Sn	Sn	12 03 02.5	+2.1
	10nm,0.4s						
MNAS	Manas	6.30	16	⇑Pn	Pn	12 02 33.6	-0.3
	0.6nm,0.5s						
MNAS				⇑Sn	Sn	12 03 46.3	-0.4
	3.4nm,0.7s						
KK31	Karatay Array	6.67	2	⇓Pn	Pn	12 02 38.8	0.0
	0.8nm,0.3s,baz=184,slow=13,SNR=17						
KK31				⇑Sn	Sn	12 03 55.7	+0.2
	4.6nm,0.8s,baz=187,slow=22,SNR=6.6						
AAK	Ala-Archa	7.02	27	⇓Pn	Pn	12 02 41.9	-1.9
	1.1nm,0.5s						
AAK				⇑Sn	Sn	12 04 04.3	-0.3
	3.3nm,0.6s						

IDC 08 12:03:58.9±1.2, 28.°11N×56.°46E, h0km, mb3.8/7, mb1 3.9/8, mb1mx3.5/61, mbtmp3.8/8, ML3.6/1, Error ellipse: s-maj=28.5km s-min=22.5km az=93.0
CSEM 08 12:03:59.9, 28.°24N×56.°59E, h6km, ML3.4
ISCJB 08 12:04:00.4±0.5, 28.°17N±0.°04×56.°55E±0.°05, h10km, mb3.8/7, Error ellipse: s-maj=7.0km s-min=5.5km az=28.4
TEH 08 12:04:02.9, 28.°23N×56.°53E, h6km, ML3.4
ISC 08 12:04:01.4±0.7, 28.°19N±0.°04×56.°58E±0.°05, h10km, n23, σ1.s23/27, mb3.7/7, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NIAN	Nian	0.67	160	ePg	Pg	12 04 15.5	+1.3
NIAN				eAMB	AMB	12 04 35.6	
	comp=E,35μm,0.2s						
GENO	Geno	0.86	205	ePg	Pg	12 04 19.2	+1.2
GENO				eAMB	AMB	12 04 40.8	
	comp=Z,12μm,0.2s						
NGRK	Negar Kerman	1.46	5	ePn	Pn	12 04 28.9	+0.7
NGRK				eAMB	AMB	12 04 54.6	
	comp=E,99nm,0.1s						
KHSK	Kohestak	1.48	163	ePn	Pb	12 04 31.0	+1.9
KRBR	Kerman	1.80	5	ePn	Pn	12 04 33.0	+0.3
KHGB	Koh Gabri	2.18	358	ePn	Pn	12 04 39.2	+1.2
KHGB				eAMB	AMB	12 04 43.9	
	comp=Z,99nm,0.3s						
KHGB				eSg	Sb	12 05 09.7	+1.3
GHIR	Ghir-Karzin	3.17	273	ePn	Pn	12 04 52.5	+1.1
GHIR				eS	Sn	12 05 30.8	+1.4
IBAF	Bafgh	3.50	346	ePn	Pn	12 04 57.4	+1.3
IBAF				eAMB	AMB	12 05 53.8	
	comp=Z,602nm,0.2s						
IMEH	Mehriz	3.62	332	ePn	Pn	12 04 58.9	+1.1
IMEH				eAMB	AMB	12 06 12.4	
	comp=Z,671nm,0.4s						
ZHSF	Zahedan	3.95	68	ePn	Pn	12 05 02.7	+0.5
IKAZ	Kazeroun	4.44	292	ePn	Pn	12 05 09.0	-0.1
IKAZ				eAMB	AMB	12 06 07.1	
	comp=Z,699nm,0.1s						
WSAR	Wadi Sarin	5.26	159	Pn	Pn	12 05 20.3	+0.2
	comp=Z,2.3nm,0.3s,baz=349,slow=11,SNR=12						
WSAR				Sn	Sn	12 06 18.3	-2.6
	comp=Z,1.6nm,0.3s,baz=12,slow=6.1,SNR=3.6						
NASN	Na'in	5.63	326	ePn	Pn	12 05 26.0	+0.5
SLWS		6.29	239	P	Pn	12 05 35.8	+1.5
SLWS				S	Sn	12 06 45.6	-0.7
BTHS		6.60	233	P	Pn	12 05 39.0	+0.6
BOQSS		6.82	252	P	Pn	12 05 40.2	-1.4
BRTR	Keskin Array B	22.17	307	P	P	12 08 57.0	-0.8
	comp=Z,0.9nm,0.8s,baz=133,slow=12,SNR=5.1						
AKTO	Aktyubinsk	22.25	2	P	P	12 08 58.3	0.0
	comp=Z,1.0nm,0.4s,baz=168,slow=12,SNR=2.6						
BVAR	Borovoye Array	26.84	19	P	P	12 09 42.1	+0.2
	comp=Z,0.7nm,0.7s,baz=195,slow=10,SNR=2.6						
ZALV	Zalesovo Beam	33.00	31	P	P	12 10 35.8	-0.7
	comp=Z,1.2nm,0.5s,baz=240,slow=10,SNR=4.4						
FINES	FINESS Array B	38.96	337	P	P	12 11 26.8	-0.6
	comp=Z,4.9nm,1.1s,baz=147,slow=13,SNR=3.8						
TORD	Torodi Ar. Bea	53.07	265	P	P	12 13 17.0	-2.2
	comp=Z,1.6nm,0.6s,baz=62,slow=7.1,SNR=12						
YKA	Yellowknife Ar	89.36	356	P	P	12 16 57.0	-0.8
	comp=Z,0.4nm,0.8s,baz=4.5,slow=5.0,SNR=4.2						

ISCJB 08 12:04:02.2±0.8, 5.°37S±0.°06×147.°2E±0.°2, h200km, mb3.4/8, Error ellipse: s-maj=29.8km s-min=8.7km az=3.0
IDC 08 12:04:04.5±1.4, 5.°54S×147.°27E, h214km±18km, mb3.2/8, mb1 3.4/10, mb1mx3.3/49, mbtmp3.8/10, Error ellipse: s-maj=42.1km s-min=11.2km az=108.0
ISC 08 12:04:03.7±0.9, 5.°44S±0.°08×147.°1E±0.°3, h200km, n11, σ0.s90/13, mb3.5/8, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	3.94	179	P	Pn	12 05 06.1	+1.3
	2.4nm,0.3s,baz=284,slow=15,SNR=14						
PMG				S	Sn	12 05 52.0	-0.9
	11nm,0.3s,baz=163,slow=21,SNR=12						
WRA	Warramunga Arr	19.04	220	P	P	12 08 11.4	+0.5
	1.1nm,0.3s,baz=38,slow=12,SNR=38						
ASAR	Alice Springs	22.15	214	P	P	12 08 43.7	+0.2
	5.8nm,0.8s,baz=47,slow=8.4,SNR=58						
ASAR				S	S	12 12 31.9	-0.9
	0.7nm,0.9s,baz=35,slow=18,SNR=5.6						
KSRS	Korea Array	46.27	339	P	P	12 12 09.5	+0.3
	0.6nm,0.4s,baz=156,slow=9.7,SNR=3.7						
PETK	Petropavlovsk-	59.01	7	P	P	12 13 43.2	+0.9
	0.6nm,0.4s,baz=167,slow=8.4,SNR=6.7						
SONM	Songino Array	63.97	331	P	P	12 14 16.4	+0.6
	1.3nm,1.0s,baz=142,slow=5.6,SNR=6.0						
MKAR	Makanchi Array	77.14	320	P	P	12 15 35.0	-0.3
	0.3nm,0.6s,baz=108,slow=6.5,SNR=4.4						
ZALV	Zalesovo Beam	78.60	328	P	P	12 15 42.5	-0.6
	0.5nm,0.3s,baz=103,slow=4.6,SNR=3.6						
KURBB	Kurchatov Arra	80.85	323	P	P	12 15 54.8	-0.5
	0.3nm,0.7s,baz=97,slow=3.9,SNR=3.4						
ILAR	Eielson Array	84.92	23	P	P	12 16 14.8	-1.2
	0.4nm,0.6s,baz=257,slow=4.7,SNR=9.4						
TORD	Torodi Ar. Bea	145.06	285	PKPbc	PKPdf	12 23 17.1	-1.1
	0.7nm,0.5s,baz=68,slow=2.4,SNR=13						

IDC 08 12:04:06.1±3.1, 54.°10N×87.°30E, h0km, mb1 2.8/2, mb1mx2.7/69, mbtmp2.8/2, ML2.5/2, Error ellipse: s-maj=27.3km s-min=19.4km az=52.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.47	265	i		12 13 15.0	
	baz=87,slow=328,SNR=7.1						
ZALV	Zalesovo Beam	1.47	265	Pg	Pn	12 04 31.7	-2.1
	2.0nm,0.3s,baz=86,slow=15,SNR=20						
ZALV				Lg	Lg	12 04 53.3	
	2.7nm,0.3s,baz=79,slow=30,SNR=10						
KURBB	Kurchatov Arra	6.40	241	Pn	Pn	12 05 41.9	+0.4
	0.1nm,0.3s,baz=54,slow=14,SNR=7.9						
KURBB				Lg	Lg	12 07 28.6	
	0.0nm,0.3s,baz=51,slow=35,SNR=3.2						
MKAR	Makanchi Array	7.98	206	Pn	Pn	12 06 05.3	+2.1
	0.1nm,0.3s,baz=25,slow=14,SNR=3.0						
MKAR				Lg	Lg	12 08 19.5	
	baz=28,slow=34,SNR=2.7						

IDC 08 12:08:12.9±51.0, 22.°48S×176.°73W, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.7/42, mbtmp4.0/3, Error ellipse: s-maj=943.8km s-min=153.5km az=86.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.04**	**247**	P	P	12 15 33.4	+0.2
	1.4nm,0.8s,baz=86,slow=13,SNR=2.9						
ASAR	**Alice Springs**	**45.25**	**258**	P	P	12 16 32.2	-0.2
	1.7nm,0.8s,baz=98,slow=7.6,SNR=42						
WRA	**Warramunga Arr**	**45.53**	**264**	P	P	12 16 34.3	-0.3
	1.5nm,0.4s,baz=102,slow=8.3,SNR=95						

MAN 08 12:11:10,10°.04N×123°.24E,h7km,mb4.5,ML3.4,MS3.2, 1C-2D,Cebu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNPH	**Sibulan**	**0.69**	**180**	eP	Pb	12 11 25.3	+0.9
SNPH				eS	Sb	12 11 33.8	-0.3
TBP	**Tagbilaran**	**0.71**	**119**	eP	Pb	12 11 25.1	+0.4
TBP				i S	Sn	12 11 37.2	-0.3
LLP	**Lapu-Lapu**	**0.77**	**69⇓**	eP	Pg	12 11 25.3	+0.4
LLP				eS	Sg	12 11 34.8	-0.1
GUIM	**Jordan**	**0.86**	**313**	eP	Pg	12 11 27.0	+0.3
GUIM				eS	Sb	12 11 39.4	+0.2
DCPH	**Dipolog City**	**1.45**	**175⇑**	eP	Pn	12 11 36.5	-0.1
DCPH				eS	Sg	12 11 56.8	+0.2
RCP	**Roxas**	**1.59**	**342⇓**	eP	Pb	12 11 39.5	-0.2
MSLP	**Maasin**	**1.60**	**86**	eP	Pb	12 11 39.5	-0.4
MSLP				eS	Sg	12 12 01.7	+0.1

IDC ***08*** *12:57:34.9±1.5,0°.75N×96°.82E,h0km,mb3.8/7,mb1 3.9/9, mb1mx3.6/65,mbtmp3.8/9,ML3.7/2,MS3.1/2,Ms1 3.1/2, ms1mx2.5/55,Error ellipse: s-maj=47.7km s-min=18.1km az=57.0*

NEIC ***08*** *12:57:36.7±1.9,0°.81N×96°.84E,h11km±10km,mb4.4/8, Error ellipse: s-maj=10.7km s-min=4.5km az=50.0*

DJA ***08*** *12:57:49.4±0.7,1°N±4°×9°8E±°,h24km±6km,M3.8/5, mB4.5/1,mb4.4/1,MLv3.5/5,Mw(mB)3.7/1*

ISC 08 12:57:40.0±0.9**,0°.96N**±0°.07×**97°.06E**±0°.09**,h25km,n57, σ1s18**/51**,mb4.2**/14**,1C,Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSI	**Gunungsitoli**	**0.62**	**56**	P	**Pn**	**12 57 54.2**	**+1.0**
GSI	**Gunungsitoli**	**0.62**	**56**	ePg	**Pn**	**12 57 54.1**	**+0.9**
GSI				eSn	**Sb**	**12 58 00.0**	**-0.5**
MNSI	**Mandailing Nat**	**2.52**	**94**	P	**Pn**	**12 58 20.5**	**+1.1**
PSI	**Prapat**	**2.61**	**45**	Pn	**Pn**	**12 58 21.5**	**+0.8**
	5.0nm,0.3s,baz=207,slow=8.3,SNR=11						
PSI				LR	LR	12 59 40.4	
	comp=Z,153nm,18.9s,baz=321,slow=44						
PSI	**Prapat**	**2.61**	**45**	ePn	**Pn**	**12 58 21.1**	**+0.4**
SISI	**Saibi**	**3.04**	**138**	P	**Pb**	**12 58 35.5**	**+1.9**
PDSI	**Padang**	**3.88**	**119**	P	**Pb**	**12 58 44.7**	**-3.0**
BKNI	**Bangkinang**	**4.03**	**99**	ePn	**Pn**	**12 58 42.0**	**+1.9**
IPM	**Ipoh**	**5.28**	**48**	ePn	**Pn**	**12 58 59.6**	**+2.2**
KULM	**Kulim**	**5.60**	**40**	ePn	**Pn**	**12 59 02.5**	**+0.7**
MYKOM	**Kota Tinggi**	**6.84**	**83**	ePn	**Pn**	**12 59 19.6**	**+0.8**
MNAI	**Manna**	**7.91**	**132**	ePn	**Pn**	**12 59 33.2**	**-0.4**
MNAI				eSn	**Sn**	**13 01 01.4**	**-1.0**
MDSI	**Maura Dua**	**8.94**	**127**	P	**Pn**	**12 59 46.9**	**-0.7**
SBUM	**Sibu**	**15.22**	**84**	ePn	**P**	**13 01 20.0**	**+1.7**
	4.1nm,0.7s						
CMAR	**Chiang Mai Arr**	**17.49**	**6**	P	**P**	**13 01 43.8**	**+0.5**
	0.2nm,0.3s,baz=198,slow=12,SNR=6.9						
KKM	**Kota Kinabalu**	**19.77**	**75**	eP	**P**	**13 02 09.5**	**+0.9**
	22nm,1.2s						
MYLDM	**Lahad Datu**	**21.81**	**78**	eP	**P**	**13 02 33.1**	**+2.5**
	18nm,1.2s						
H08S2	**Diego Garcia H**	**25.95**	**250**	T	T	13 29 55.1	
	baz=71,slow=75,SNR=398						
H08S3	**Diego Garcia H**	**25.95**	**250**	T	T	13 29 55.3	
	baz=71,slow=75,SNR=379						
H08S1	**Diego Carcia H**	**25.97**	**250**	T	T	13 29 48.8	
	baz=71,slow=75,SNR=604						
H01W3	**Cape Leeuwin H**	**39.08**	**157**	T	T	13 46 27.6	
	baz=333,slow=76,SNR=189						
H01W2	**Cape Leeuwin H**	**39.09**	**157**	T	T	13 46 28.6	
	baz=333,slow=76,SNR=201						
H01W1	**Cape Leeuwin H**	**39.09**	**157**	T	T	13 46 28.2	
	baz=333,slow=76,SNR=136						
WR1	**Warramunga Arr**	**42.03**	**122**	eP	**P**	**13 05 29.1**	**-0.8**
	10nm,1.4s						
WRA	**Warramunga Arr**	**42.03**	**122**	P	**P**	**13 05 29.1**	**-0.8**
	0.9nm,0.7s,baz=301,slow=9.1,SNR=14						
WRAB	**Tennant Creek**	**42.03**	**122**	eP	**P**	**13 05 29.2**	**-0.7**
	16nm,1.8s						
WB2	**Warramunga Arr**	**42.04**	**122**	eP	**P**	**13 05 29.2**	**-0.7**
	3.4nm,1.1s						
AS31	**Alice Springs**	**43.36**	**127**	eP	**P**	**13 05 40.1**	**-0.6**
	0.5nm,0.9s						
ASAR	**Alice Springs**	**43.36**	**127**	P	**P**	**13 05 39.9**	**-0.8**
	0.5nm,0.6s,baz=297,slow=8.2,SNR=16						
ASAR				LR	LR	13 26 15.3	
	comp=Z,41nm,18.7s,baz=36,slow=40						
AS01	**Alice Springs**	**43.40**	**127**	eP	**P**	**13 05 41.4**	**+0.4**
SONA0	**Songino Array**	**47.39**	**9**	eP	**P**	**13 06 12.7**	**+0.4**
SONM	**Songino Array**	**47.39**	**9**	P	**P**	**13 06 12.7**	**+0.4**
	0.2nm,0.3s,baz=177,slow=8.7,SNR=3.3						
MK01	**Makanchi Array**	**47.41**	**346**	eP	**P**	**13 06 12.6**	**+0.2**
MK31	**Makanchi Array**	**47.44**	**346**	eP	**P**	**13 06 12.7**	**+0.1**
MK32	**Makanchi Array**	**47.44**	**346**	eP	**P**	**13 06 12.6**	**0.0**
MKAR	**Makanchi Array**	**47.44**	**346**	P	**P**	**13 06 12.6**	**0.0**
	1.4nm,0.7s,baz=161,slow=8.7,SNR=13						
MKAR	**Makanchi Array**	**47.44**	**346**	eP	**P**	**13 06 12.9**	**+0.3**
	9.2nm,0.6s						
KURBB	**Kurchatov Arra**	**51.92**	**345**	P	**P**	**13 06 46.5**	**-0.1**
	0.7nm,0.6s,baz=166,slow=6.8,SNR=6.7						
KURK	**Kurchatov**	**51.99**	**345**	eP	**P**	**13 06 46.5**	**-0.6**
ZAA0	**Zalesovo Array**	**53.77**	**351**	eP	**P**	**13 07 00.3**	**+0.1**
	2.9nm,0.5s						
ZALV	**Zalesovo Beam**	**53.77**	**351**	P	**P**	**13 07 00.1**	**-0.1**
	2.6nm,0.4s,baz=175,slow=7.0,SNR=18						
ZALV	**Zalesovo Beam**	**53.77**	**351**	eP	**P**	**13 07 00.3**	**+0.1**
ZAA1	**Zalesovo Array**	**53.78**	**351**	eP	**P**	**13 07 00.1**	**-0.1**
BVAR	**Borovoye Array**	**56.43**	**341**	P	**P**	**13 07 18.4**	**-1.1**
	0.5nm,0.6s,baz=134,slow=10,SNR=3.2						
AB07	**Akbulak array**	**57.64**	**332**	eP	**P**	**13 07 27.2**	**-0.9**
AB06	**Akbulak array**	**57.65**	**332**	eP	**P**	**13 07 27.4**	**-0.7**
AB08	**Akbulak array**	**57.65**	**332**	eP	**P**	**13 07 26.5**	**-1.7**
AB03	**Akbulak array**	**57.66**	**332**	eP	**P**	**13 07 27.0**	**-1.2**
AB01	**Akbulak array**	**57.66**	**332**	eP	**P**	**13 07 26.8**	**-1.5**
AB31	**Akbulak array**	**57.66**	**332**	eP	**P**	**13 07 27.1**	**-1.2**
ABKAR	**Akbulak array**	**57.66**	**332**	eP	**P**	**13 07 27.0**	**-1.2**
	70nm,0.8s						
AB02	**Akbulak array**	**57.66**	**332**	eP	**P**	**13 07 26.6**	**-1.6**
AB04	**Akbulak array**	**57.66**	**332**	eP	**P**	**13 07 27.2**	**-1.1**
AB05	**Akbulak array**	**57.67**	**332**	eP	**P**	**13 07 26.6**	**-1.7**
AB09	**Akbulak array**	**57.67**	**332**	eP	**P**	**13 07 25.9**	**-2.4**
SYO	**Syowa Base**	**79.73**	**198⇑**	eX	P	13 09 38.2	-7.2
CHGN	**Chignik**	**97.24**	**33**	eP	Pdif	13 11 11.9	+1.3
	29nm,0.9s						

MAN 08 13:05:00,10°.29N×123°.33E,h7km,mb4.3,ML3.1,MS2.8, 1C-1D,Cebu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LLP	**Lapu-Lapu**	**0.62**	**88⇓**	eP	Pg	13 05 12.3	+0.3
LLP				eS	Sg	13 05 20.0	-0.1
TBP	**Tagbilaran**	**0.79**	**139**	eP	Pg	13 05 15.4	+0.1
GUIM	**Jordan**	**0.80**	**294**	eP	Pb	13 05 16.9	+0.5
GUIM				eS	Sn	13 05 29.8	-0.2
SNPH	**Sibulan**	**0.95**	**186⇑**	eP	Pg	13 05 18.5	+0.3
SNPH				eS	Sb	13 05 31.2	-0.5
MSLP	**Maasin**	**1.51**	**96**	eP	Pb	13 05 28.1	-0.2
MSLP				eS	Sg	13 05 48.7	+0.1

MOS ***08*** *13:11:18.1±1.0,53°.79N×163°.47W,h10km,mb4.9/44, Error ellipse: s-maj=9.4km s-min=4.8km az=84.6*

IDC ***08*** *13:11:18.1±0.7,53°.69N×163°.52W,h0km,mb4.3/39, mb1 4.4/41,mb1mx4.2/83,mbtmp4.3/41,ML3.4/2,MS3.6/34, Ms1 3.6/34,ms1mx3.4/71,Error ellipse: s-maj=17.8km s-min=10.2km az=172.0*

BJI ***08*** *13:11:19.9,53°.70N×163°.50W,h35km,mb4.6/30, mB4.9/21,Ms4.5/10,Ms7 4.2/11*

ISCJB ***08*** *13:11:20.8±0.2,53°.73N±0°.03×163°.36W±0°.03,h29km, mb4.5/118,MS3.8/43,Error ellipse: s-maj=4.8km s-min=2.5km az=170.8*

NEIC ***08*** *13:11:23.1±0.4,53°.71N×163°.46W,h36km±3km,mb4.5/50, ML4.2(AEIC),Error ellipse: s-maj=5.3km s-min=2.5km az=174.0*

ISC 08 13:11:21.9±0.5**,53°.66N**±0°.07×**163°.39W**±0°.03**,h29km, n345,σ1s24**/343**,mb4.6**/119**,MS3.8**/43**,21C-16D,Unimak Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WESE	**West Dahl East**	**1.08**	**320**	P	**Pb**	**13 11 41.7**	**-0.3**
ISLZ	**Isanotski Laza**	**1.09**	**350**	P	**Pb**	**13 11 42.0**	**-0.1**
WESP	**Westdahl Peak**	**1.15**	**317**	P	**Pb**	**13 11 43.0**	**-0.2**
WESP				S	**Sn**	**13 11 56.5**	**-0.4**
WESN	**West Dahl Nort**	**1.15**	**323**	P	**Pb**	**13 11 43.0**	**-0.2**
SSLW	**Shishaldin Wes**	**1.20**	**339**	P	**Pb**	**13 11 44.0**	**0.0**
FALS	**False Pass**	**1.20**	**359**	P	**Pb**	**13 11 43.9**	**-0.1**
AKSA	**Akutan Strait**	**1.45**	**290**	P	**Pn**	**13 11 46.1**	**-0.1**
AKUT	**Akutan**	**1.49**	**290**	P	**Pn**	**13 11 46.8**	**+0.2**
AKUT				S	**Sb**	**13 12 06.2**	**-1.2**
AHB	**Akutan Harbor**	**1.51**	**289**	P	**Pn**	**13 11 47.1**	**+0.1**
BALA	**Baldy Mountain**	**1.58**	**13**	P	**Pb**	**13 11 50.5**	**+0.1**
DT1	**Dutton Round H**	**1.59**	**24**	P	**Pn**	**13 11 48.8**	**+0.8**
AKRB	**Akutan Reef Bi**	**1.66**	**288**	P	**Pn**	**13 11 49.2**	**+0.2**
AKRB				S	**Sn**	**13 12 10.3**	**+1.0**
DOL	**Dolgoi Island**	**1.74**	**30**	P	**Pn**	**13 11 50.9**	**+0.8**
UNV	**Unalaska Valle**	**1.86**	**277**	P	**Pn**	**13 11 51.0**	**-0.7**
PS4A	**Pavlof South-4**	**1.91**	**27**	P	**Pb**	**13 11 54.5**	**-1.6**
PVV	**Pavlof Volcano**	**1.95**	**28**	P	**Pb**	**13 11 55.7**	**-1.1**
MGOD	**Makushin Gods**	**2.08**	**275**	P	**Pn**	**13 11 54.7**	**-0.1**
MCIR	**Makushin Cirqu**	**2.10**	**279**	P	**Pn**	**13 11 55.1**	**-0.1**
SDPT	**Sand Point**	**2.40**	**44**	P	**Pn**	**13 12 00.6**	**+1.4**
OKWE	**Okmok W'ng Wal**	**2.90**	**268**	P	**Pn**	**13 12 06.0**	**-0.1**
OKAK	**Okmok**	**2.96**	**270**	P	**Pn**	**13 12 06.6**	**-0.4**
CHGN	**Chignik**	**3.90**	**45**	ePn	**Pn**	**13 12 21.6**	**+1.9**
OHAK	**Old Harbor**	**6.76**	**54**	ePn	**Pn**	**13 12 58.5**	**-0.6**
KDAK	**Kodiak Island**	**7.37**	**52**	Pn	**Pn**	**13 13 07.5**	**+0.1**
	1.5nm,0.3s,baz=172,slow=4.5,SNR=19						
KDAK				Sn	**Sn**	**13 14 26.0**	**-3.8**
	baz=248,slow=16,SNR=2.9						
SVW2	**Sparrevohn**	**8.56**	**26**	ePn	**Pn**	**13 13 24.4**	**+0.7**
HOM	**Homer**	**8.82**	**42**	ePn	**Pn**	**13 13 29.8**	**+2.5**
BRLK	**Bradley Lake**	**9.19**	**43**	ePn	**Pn**	**13 13 32.4**	**-0.1**
SPU	**Mount Spurr**	**9.69**	**34**	ePn	**Pn**	**13 13 40.8**	**+1.5**
SUA	**Susitna One**	**10.34**	**36**	ePn	**Pn**	**13 13 49.0**	**+0.8**
RC01	**Rabbit Creek A**	**10.46**	**39**	ePn	**Pn**	**13 13 51.1**	**+1.4**
PMR	**Palmer**	**11.00**	**38**	ePn	**Pn**	**13 13 56.5**	**-0.6**
PMR	**Palmer**	**11.00**	**38**	eP	**Pn**	**13 13 56.5**	**-0.6**
MID	**Middleton Isla**	**11.03**	**52**	ePn	**Pn**	**13 13 58.4**	**+1.0**
MID	**Middleton Isla**	**11.03**	**52**	eP	**Pn**	**13 13 58.4**	**+1.0**
CAST	**Castle Rocks**	**11.41**	**26**	ePn	**Pn**	**13 14 04.1**	**+1.4**
SML	**Sawmill**	**11.44**	**38**	ePn	**Pn**	**13 14 02.4**	**-0.7**
SML	**Sawmill**	**11.44**	**38**	eP	**Pn**	**13 14 02.4**	**-0.7**
EYAK	**Cordova Ski Ar**	**11.79**	**47**	ePn	**Pn**	**13 14 06.9**	**-1.0**
SCM	**Sheep Creek Mo**	**11.83**	**40**	ePn	**Pn**	**13 14 06.8**	**-1.6**
SCM	**Sheep Creek Mo**	**11.83**	**40**	eP	**Pn**	**13 14 06.9**	**-1.6**
KTH	**Kantishna Hill**	**11.83**	**28**	ePn	**Pn**	**13 14 09.7**	**+1.2**
TRF	**Thorofare Moun**	**11.93**	**30**	ePn	**Pn**	**13 14 11.5**	**+1.5**
DIV	**Divide**	**12.06**	**45**	ePn	**Pn**	**13 14 12.4**	**+0.7**
RAGM	**Ragged Mountai**	**12.19**	**49**	ePn	**Pn**	**13 14 13.2**	**-0.3**
KLU	**Klutina**	**12.19**	**43**	ePn	**Pn**	**13 14 12.4**	**-1.0**
BPAW	**Bear Paw Mtn.**	**12.25**	**26**	ePn	**Pn**	**13 14 15.4**	**+1.2**
RND	**Reindeer**	**12.34**	**32**	ePn	**Pn**	**13 14 15.8**	**+0.4**
RND	**Reindeer**	**12.34**	**32**	eP	**Pn**	**13 14 15.8**	**+0.4**
BMRM	**Bremner River**	**12.48**	**47**	ePn	**Pn**	**13 14 17.1**	**-0.2**
MCK	**McKinley**	**12.55**	**31**	ePn	**Pn**	**13 14 19.2**	**+0.9**
MCK	**McKinley**	**12.55**	**31**	eP	**Pn**	**13 14 19.2**	**+0.9**
DHY	**Denali Highway**	**12.60**	**35**	ePn	**Pn**	**13 14 17.8**	**-1.3**
HARP	**HAARP**	**12.99**	**40**	ePn	**Pn**	**13 14 24.1**	**-0.3**
MLY	**Manley**	**13.06**	**24**	ePn	**Pn**	**13 14 26.3**	**+1.0**
PAX	**Paxson**	**13.21**	**38**	ePn	**Pn**	**13 14 26.5**	**-0.8**
PAX	**Paxson**	**13.21**	**38**	eP	**Pn**	**13 14 26.5**	**-0.8**
IM3	**Indian Mountai**	**13.25**	**17**	ePn	**Pn**	**13 14 29.1**	**+1.2**
WRH	**Wood River Hil**	**13.34**	**30**	ePn	**Pn**	**13 14 29.4**	**+0.3**
BALM	**Baldy**	**13.50**	**48**	ePn	**Pn**	**13 14 31.5**	**+0.1**
BALM	**Baldy**	**13.50**	**48**	eP	**Pn**	**13 14 31.5**	**+0.1**
CCB	**Clear Creek Bu**	**13.56**	**30**	ePn	**Pn**	**13 14 31.9**	**-0.1**
HDA	**Harding Lake**	**13.64**	**31**	ePn	**Pn**	**13 14 32.4**	**-0.8**
MDM	**Murphy Dome**	**13.67**	**28**	ePn	**Pn**	**13 14 31.9**	**-1.6**
COLA	**College**	**13.71**	**29**	ePn	**Pn**	**13 14 33.2**	**-0.9**
COLA	**College**	**13.71**	**29**	eP	**Pn**	**13 14 33.2**	**-0.9**
MENT	**Mentasta**	**13.84**	**40**	ePn	**Pn**	**13 14 36.1**	**+0.2**
RIDG	**Independ'e Rid**	**13.90**	**36**	ePn	**Pn**	**13 14 36.2**	**-0.5**
ILAR	**Eielson Array**	**13.92**	**30**	Pn	**Pn**	**13 14 35.1**	**-1.8**
	0.1nm,0.3s,baz=222,slow=15,SNR=3.6						
ILAR				LR	LR	13 20 35.5	
	comp=Z,384nm,18.6s,baz=240,slow=40						
ILB	**Eielson Array**	**13.92**	**30**	ePn	**Pn**	**13 14 35.1**	**-1.8**
IL1	**Eielson Array**	**13.92**	**30**	ePn	**Pn**	**13 14 36.9**	**0.0**
DOT	**Dot Lake**	**14.12**	**37**	ePn	**Pn**	**13 14 39.0**	**-0.7**
SCRK	**Sand Creek**	**14.34**	**36**	ePn	**Pn**	**13 14 42.8**	**-0.1**
COLD	**Coldfoot**	**15.03**	**20**	ePn	**Pn**	**13 14 53.2**	**+1.3**
	34nm,1.0s						
HYT	**Haines Junctio**	**15.66**	**52**	ePn	**P**	**13 15 02.6**	**-1.6**
	18nm,0.9s						
FYU	**Fort Yukon**	**15.69**	**27**	ePn	**Pn**	**13 15 01.3**	**+0.7**
	24nm,1.4s						
EGAK	**Eagle**	**15.81**	**37**	ePn	**Pn**	**13 15 00.5**	**-1.7**
DAWY	**Dawson**	**16.09**	**40**	ePn	**Pn**	**13 15 04.9**	**-0.9**
DAWY				eP	**P**	**13 15 10.4**	**+1.5**
TOLK	**Toolik Lake Re**	**16.37**	**18**	ePn	**Pn**	**13 15 07.7**	**-1.6**
TOLK				eP	**P**	**13 15 13.3**	**+1.4**
SKAG	**Skagway**	**16.44**	**58**	ePn	**P**	**13 15 11.8**	**-0.8**
	21nm,0.9s						
BESE	**Bessie Mountai**	**16.58**	**61**	ePn	**P**	**13 15 14.1**	**-0.3**
	44nm,1.4s						
WHY	**Whitehorse**	**16.87**	**54**	ePn	**P**	**13 15 17.0**	**-0.6**
	16nm,0.9s						
DLBC	**Dease Lake**	**19.10**	**62**	eP	**Pn**	**13 15 43.8**	**+0.7**
	30nm,1.4s						
INK	**Inuvik**	**20.30**	**32**	P	**P**	**13 15 53.5**	**-1.5**
	6.4nm,0.9s,baz=234,slow=8.8,SNR=17						
INK				LR	LR	13 24 02.7	
	comp=Z,198nm,18.1s,baz=248,slow=38						
INK	**Inuvik**	**20.30**	**32**	eP	**P**	**13 15 53.8**	**-1.2**
	25nm,1.4s						
INK	**Inuvik**	**20.30**	**32**	eP	**P**	**13 15 53.8**	**-1.2**
INK				pmax	pmax		
	comp=Z,25nm,1.4s						
BILL	**Bilibino**	**20.32**	**327⇑**	eP	**P**	**13 15 55.5**	**+0.3**
BILL				eS	Sn	13 20 04.8	+20
BILL				pmax	pmax		
	comp=Z,8.0nm,1.0s						
BILL				smax	smax		
	comp=Z,521nm,18.0s						
PET	**Petropavlovsk**	**22.50**	**284**	eP	P	13 16 27.5	+8.7
PET				eS	**S**	**13 20 25.0**	**+1.3**
PET				MLR	MLR		
	comp=Z,400nm,16.0s						
PET				MLR	MLR		
	comp=Z,300nm,16.0s						
PETK	**Petropavlovsk-**	**23.03**	**284**	P	**P**	**13 16 23.3**	**-1.1**
	comp=Z,3.1nm,0.5s,baz=82,slow=13,SNR=11						
PETK				LR	LR	13 25 31.2	
	comp=Z,119nm,20.5s,baz=91,slow=37						
SEY	**Seymchan**	**24.54**	**310⇓**	eP	**P**	**13 16 36.9**	**-1.7**
YKA	**Yellowknife Ar**	**26.64**	**51**	P	**P**	**13 16 58.5**	**+0.9**
	comp=Z,2.8nm,0.9s,baz=270,slow=8.3,SNR=37						
HAWA	**Hanford**	**28.71**	**87**	eP	**P**	**13 17 18.1**	**+1.8**
NEW	**Newport**	**29.21**	**82**	LR	LR	13 27 09.4	
	comp=Z,57nm,21.1s,baz=303,slow=32						
EDM	**Edmonton**	**29.31**	**70**	eP	**P**	**13 17 21.9**	**+0.3**
	comp=Z,6.3nm,0.9s						
EDM	**Edmonton**	**29.31**	**70**	eP	**P**	**13 17 21.9**	**+0.3**
EDM				pmax	pmax		
	comp=Z,6.0nm,0.9s						
YBH	**Yreka Blue Hor**	**29.45**	**97**	LR	LR	13 27 19.1	
	comp=Z,115nm,18.4s,baz=304,slow=32						
WVOR	**Wild Horse Val**	**31.44**	**92**	eP	**P**	**13 17 41.9**	**+1.3**
	comp=Z,17nm,1.4s						
WVOR	**Wild Horse Val**	**31.44**	**92**	eP	**P**	**13 17 41.9**	**+1.3**
WVOR				pmax	pmax		
	comp=Z,17nm,1.4s						
MFID	**Camas Ranch**	**32.54**	**89**	eP	**P**	**13 17 51.4**	**+1.1**
	comp=Z,5.8nm,0.8s						
NKL	**Nikolayevsk**	**32.62**	**292**	eP	**P**	**13 17 49.0**	**-1.6**
NKL				e		13 17 50.7	
HLID	**Hailey**	**33.30**	**87**	eP	**P**	**13 17 58.5**	**+1.6**
	comp=Z,4.7nm,1.3s						
TIXI	**Tiksi**	**33.53**	**328**	P	**P**	**13 17 57.5**	**-0.9**
	comp=Z,3.9nm,1.0s,baz=90,slow=10,SNR=7.1						
TIXI	**Tiksi**	**33.53**	**328**	eP	**P**	**13 17 57.2**	**-1.2**
	comp=Z,4.4nm,1.0s						
TIXI	**Tiksi**	**33.53**	**328⇑**	iP	**P**	**13 17 57.5**	**-0.9**
TIXI				pmax	pmax		
	comp=Z,6.0nm,1.1s						
RES	**Resolute Bay**	**33.62**	**27**	P	**P**	**13 17 59.2**	**0.0**
	comp=Z,1.8nm,0.8s,baz=253,slow=13,SNR=6.4						
RES	**Resolute Bay**	**33.62**	**27**	eP	**P**	**13 17 59.0**	**-0.2**
	comp=Z,7.1nm,1.4s						
RES	**Resolute Bay**	**33.62**	**27**	eP	**P**	**13 17 59.0**	**-0.2**
RES				pmax	pmax		
	comp=Z,7.0nm,1.4s						
NV01	**Mina Array Sit**	**34.16**	**98**	eP	**P**	**13 18 06.0**	**+1.5**
NVAR	**Mina Array Bea**	**34.16**	**98**	P	**P**	**13 18 05.7**	**+1.2**
	comp=Z,0.6nm,0.7s,baz=292,slow=8.8,SNR=6.3						
NVAR				LR	LR	13 29 01.5	
	comp=Z,67nm,18.4s,baz=102,slow=31						
YSS	**Yuzh-Sakhalins**	**34.32**	**281⇑**	eP	P	13 18 20.9	+15
YSS				e		13 18 27.7	
YSS				pmax	pmax		
	comp=Z,10.0nm,1.2s						
YHH	**Holmes Hill**	**34.71**	**83**	eP	**P**	**13 18 10.3**	**+0.9**
	comp=Z,3.8nm,0.9s						
YMR	**Madison River**	**34.71**	**83**	eP	**P**	**13 18 07.7**	**-1.6**
YAK	**Yakutsk**	**35.05**	**311**	eP	**P**	**13 18 08.9**	**-2.8**
YAK				pmax	pmax		
	comp=Z,4.0nm,0.8s						
YAK				MLR	MLR		
	comp=Z,266nm,18.0s						
YAK				MLR	MLR		
	comp=N,278nm,24.0s						
YAK				MLR	MLR		
	comp=E,144nm,17.0s						
HVU	**Hansel Valley**	**35.32**	**89**	eP	**P**	**13 18 15.5**	**+1.0**
	comp=E,5.3nm,1.1s						
HVU	**Hansel Valley**	**35.32**	**89**	eP	**P**	**13 18 15.5**	**+1.0**
HVU				pmax	pmax		
	comp=Z,5.0nm,1.1s						
BGU	**Big Grassy Mou**	**35.70**	**90**	eP	**P**	**13 18 18.8**	**+1.1**
	comp=Z,6.4nm,1.2s						
AHID	**Auburn Hatcher**	**35.73**	**86**	eP	**P**	**13 18 19.0**	**+1.0**
	comp=Z,11nm,0.6s						
R11A	**Troy Canyon, C**	**35.82**	**96**	eP	**P**	**13 18 20.5**	**+1.7**
	comp=Z,4.9nm,0.9s						
ASAJ	**Asahikawa**	**35.97**	**277**	P	**P**	**13 18 19.9**	**+0.1**
	comp=Z,7.9nm,0.8s,baz=338,slow=0.4,SNR=6.7						
DUG	**Dugway, Tooele**	**36.28**	**91**	eP	**P**	**13 18 23.3**	**+0.6**
	comp=Z,5.6nm,1.0s						
DUG	**Dugway, Tooele**	**36.28**	**91**	eP	**P**	**13 18 23.3**	**+0.6**
DUG				pmax	pmax		
	comp=Z,6.0nm,1.0s						
TPNV	**Topopah Spring**	**36.36**	**98**	eP	**P**	**13 18 24.6**	**+1.2**
	comp=Z,12nm,1.3s						
TPNV	**Topopah Spring**	**36.36**	**98**	eP	**P**	**13 18 24.6**	**+1.2**
TPNV				pmax	pmax		
	comp=Z,13nm,1.3s						
PDAR	**Pinedale Array**	**36.64**	**85**	P	**P**	**13 18 26.6**	**+0.8**
	comp=Z,0.4nm,0.7s,baz=291,slow=4.1,SNR=3.9						
PDAR				LR	LR	13 30 53.7	
	comp=Z,70nm,19.9s,baz=313,slow=32						
GSC	**Goldstone, Bar**	**37.16**	**100**	eP	**P**	**13 18 30.5**	**+0.3**
	comp=Z,4.7nm,1.0s						
GSC	**Goldstone, Bar**	**37.16**	**100**	eP	**P**	**13 18 30.5**	**+0.3**
GSC				pmax	pmax		
	comp=Z,5.0nm,1.0s						
FCC	**Fort Churchill**	**37.30**	**54**	eP	**P**	**13 18 31.3**	**+0.4**
	comp=Z,12nm,1.1s						
FCC	**Fort Churchill**	**37.30**	**54**	eP	**P**	**13 18 31.3**	**+0.4**
FCC				pmax	pmax		
	comp=Z,12nm,1.1s						
TMUT	**Trail Mountain**	**37.80**	**91**	eP	**P**	**13 18 36.5**	**+0.6**
	comp=Z,7.3nm,1.1s						
Q16A	**Castle Valley**	**38.07**	**91**	eP	**P**	**13 18 38.2**	**+0.3**
	comp=Z,9.1nm,1.2s						
SRU	**San Rafael Swe**	**38.33**	**90**	eP	**P**	**13 18 41.1**	**+0.9**
	comp=Z,6.4nm,1.0s						
SRU	**San Rafael Swe**	**38.33**	**90**	eP	**P**	**13 18 41.1**	**+0.9**
SRU				pmax	pmax		
	comp=Z,6.0nm,1.0s						
O20A	**White River Ci**	**39.04**	**87**	P	**P**	**13 18 47.0**	**+1.0**
	comp=Z,8.4nm,0.9s						
KLR	**Kul'dur**	**39.41**	**291**	P	**P**	**13 18 47.5**	**-1.4**
	comp=Z,0.3nm,0.9s,baz=70,slow=6.4,SNR=5.8						
ZEA	**Zeya**	**39.55**	**299**	eP	**P**	**13 18 48.2**	**-1.7**
ZEA				pmax	pmax		
	comp=Z,15nm,1.0s						
ZEA				MLR	MLR		
	comp=Z,200nm,14.0s						
ZEA				MLR	MLR		
	comp=E,200nm,13.0s						
PV01	**Paradox Valley**	**40.13**	**90**	eP	**P**	**13 18 55.7**	**+0.5**
WUAZ	**Wupatki**	**40.22**	**95**	eP	**P**	**13 18 57.0**	**+1.1**
	comp=E,5.7nm,0.8s						
ULM	**Lac du Bonnet**	**40.33**	**66**	P	**P**	**13 18 57.6**	**+1.2**
	comp=E,1.8nm,0.9s,baz=317,slow=19,SNR=2.4						
ULM				LR	LR	13 35 38.2	
	comp=E,80nm,20.8s,baz=258,slow=36						
H11N2	**WAKE ISLAND Hy**	**40.83**	**226**	T	T	14 02 41.5	
	baz=26,slow=76,SNR=122						
H11N3	**WAKE ISLAND Hy**	**40.84**	**226**	T	T	14 02 34.2	
	baz=26,slow=76,SNR=95						
H11N1	**WAKE ISLAND Hy**	**40.85**	**226**	T	T	14 02 42.2	
	baz=26,slow=76,SNR=92						
AGMN	**Agassiz Nation**	**41.40**	**69**	eP	**P**	**13 19 05.3**	**0.0**
	comp=E,29nm,1.4s						
H11S1	**WAKE ISLAND Hy**	**42.01**	**225**	T	T	14 04 08.9	
	baz=26,slow=76,SNR=163						
H11S2	**WAKE ISLAND Hy**	**42.02**	**225**	T	T	14 04 16.0	
	baz=26,slow=76,SNR=133						
H11S3	**WAKE ISLAND Hy**	**42.02**	**225**	T	T	14 04 09.9	
	baz=26,slow=76,SNR=162						
USRK	**Ussuriysk Ar.**	**42.12**	**284**	LR	LR	13 36 47.6	
	comp=E,53nm,20.7s,baz=69,slow=36						
MJAR	**Matsushiro Arr**	**43.32**	**271**	P	**P**	**13 19 21.6**	**+0.5**
	comp=E,3.0nm,0.9s,baz=28,slow=6.6,SNR=8.8						
MJAR				LR	LR	13 35 57.6	
	comp=E,53nm,21.8s,baz=70,slow=34						
MAJO	**Matsushiro**	**43.32**	**271**	eP	**P**	**13 19 21.0**	**0.0**
	comp=E,19nm,1.0s						
MAJO	**Matsushiro**	**43.32**	**271⇑**	eP	**P**	**13 19 21.1**	**0.0**
MAJO				pmax	pmax		
	comp=Z,11nm,1.3s						
MAT	**Matsushiro**	**43.32**	**271**	P	**P**	**13 19 20.6**	**-0.5**
MJB9	**Matsu-Tunnel**	**43.32**	**271**	eP	**P**	**13 19 21.0**	**-0.1**
	comp=Z,19nm,1.0s						
ANMO	**Albuquerque**	**43.53**	**92**	P	**P**	**13 19 24.9**	**+1.9**
	comp=Z,0.9nm,1.0s,baz=150,slow=14,SNR=2.0						
ECSD	**EROS Data Cent**	**43.64**	**75**	eP	**P**	**13 19 24.0**	**+0.4**
	comp=Z,13nm,1.4s						
BOD	**Bodaibo**	**43.96**	**310**	eP	**P**	**13 19 23.4**	**-2.5**
BOD				pmax	pmax		
	comp=Z,9.0nm,1.4s						
JHJ	**Hachijo jima 2**	**44.74**	**266**	LR	LR	13 34 24.4	
	comp=Z,49nm,21.4s,baz=65,slow=31						
MNTX	**Cornudas Mount**	**46.45**	**94**	eP	**P**	**13 19 45.6**	**-0.4**
	comp=Z,2.6nm,0.8s						
KBS	**Kingsbay**	**47.64**	**1**	eP	**P**	**13 19 52.6**	**-2.1**
	comp=Z,28nm,1.1s						
KBS	**Kingsbay**	**47.64**	**1**	eP	**P**	**13 19 52.6**	**-2.1**
KBS				pmax	pmax		
	comp=Z,29nm,1.1s						
DAG	**Danmarks Havn**	**47.93**	**10⇑**	iP	**P**	**13 19 57.0**	**+0.1**
	comp=Z,14nm,0.9s						
DAG	**Danmarks Havn**	**47.93**	**10⇑**	iP	**P**	**13 19 57.0**	**+0.1**
DAG				pmax	pmax		
	comp=Z,14nm,0.9s						
SPITS	**Spitsbergen Ar**	**48.42**	**0**	P	**P**	**13 20 01.5**	**+0.8**
	comp=Z,4.2nm,0.8s,baz=359,slow=8.3,SNR=6.9						
SPITS				LR	LR	13 41 16.7	
	comp=Z,94nm,19.3s,baz=330,slow=37						
SUMG	**Summit**	**48.42**	**19**	i P	**P**	**13 20 02.5**	**+1.2**
	comp=Z,17nm,0.9s						
SUMG	**Summit**	**48.42**	**19**	eP	**P**	**13 20 01.3**	**0.0**
	comp=Z,20nm,1.0s						
SUMG	**Summit**	**48.42**	**19**	i P	**P**	**13 20 02.5**	**+1.2**
SUMG				pmax	pmax		
	comp=Z,17nm,0.9s						
KSRS	**Korea Array**	**48.80**	**280**	P	**P**	**13 20 05.1**	**+1.0**
	comp=Z,3.2nm,0.9s,baz=51,slow=6.4,SNR=5.9						
KSRS				LR	LR	13 38 20.0	
	comp=Z,21nm,21.2s,baz=68,slow=33						
KS01	**Wonju Array Si**	**48.80**	**280**	eP	**P**	**13 20 03.4**	**-0.8**
KSAR	**Wonju Array Be**	**48.83**	**280**	P	**P**	**13 20 05.1**	**+0.8**
KSAR	**Wonju Array Be**	**48.83**	**280**	P	**P**	**13 20 05.1**	**+0.8**
TX31	**Lajitas Ar. Si**	**49.18**	**95**	eP	**P**	**13 20 08.2**	**+0.9**
TXAR	**Lajitas Array**	**49.18**	**95**	P	**P**	**13 20 08.2**	**+1.0**
	comp=Z,0.8nm,0.6s,baz=295,slow=5.3,SNR=8.8						
TXAR				LR	LR	13 40 03.4	
	comp=Z,42nm,18.9s,baz=0.0,slow=35						
LPIG	**La Paz**	**49.23**	**105**	LR	LR	13 38 54.2	
	comp=Z,27nm,18.2s,baz=291,slow=34						

SFJD Kangerlussuaq 49.58 28 P P 13 20 10.7 +1.0
comp=Z,12nm,0.9s,baz=327,slow=9.9,SNR=4.0
SFJD Kangerlussuaq 49.58 28 *i* P **P 13 20 10.7 +1.0**
comp=Z,15nm,1.1s
HDIL Hopedale 49.85 73 *e*P **P 13 20 11.7 -0.5**
comp=Z,76nm,1.5s
JNU Nakatsue 50.04 273 LR LR 13 41 27.5
comp=Z,72nm,20.8s,baz=48,slow=36
SCHQ Scheffer ville 51.96 47 P **P 13 20 28.2 +0.3**
comp=Z,4.0nm,0.7s,baz=228,slow=15,SNR=2.9
SCHQ LR LR 13 45 02.0
comp=Z,109nm,18.2s,baz=314,slow=39
TLY Talaya 52.44 308 *e*P **P 13 20 30.7 -0.7**
TLY pmax pmax
comp=Z,10.0nm,1.1s
TLY MLR MLR
comp=Z,142nm,17.0s
ULN Ulaanbaatar 53.33 303 *e*P **P 13 20 36.8 -1.4**
comp=Z,7.1nm,1.0s
ULN Ulaanbaatar 53.33 303*c i*P **P 13 20 38.0 -0.3**
ULN pmax pmax
comp=Z,8.0nm,1.0s
ZAK Zakamensk 53.48 307 *e*P **P 13 20 34.6 -4.6**
ZAK pmax pmax
comp=Z,2.0nm,1.4s
SONA1 Songino Array 53.67 303 *e*P **P 13 20 40.2 -0.5**
MOY Mondy 53.67 310 *e*P **P 13 20 41.3 +0.7**
SONM Songino Array 53.68 303 P **P 13 20 40.9 +0.1**
comp=Z,4.1nm,0.9s,baz=50,slow=7.3,SNR=27
SONM LR LR 13 44 47.5
comp=Z,91nm,19.4s,baz=44,slow=38
WVT Waverly 53.71 77 *e*P **P 13 20 40.5 -0.5**
comp=Z,33nm,1.7s
WVT Waverly 53.71 77 *e*P **P 13 20 40.5 -0.5**
WVT pmax pmax
comp=Z,33nm,1.7s
KRAR Krasnoyarsk 54.16 318⇑*e*P **P 13 20 44.2 +0.2**
HHC Hu-ho-hao-te 55.77 294 *e*P **P 13 20 56.4 +0.4**
HHC S **S 13 28 38.3 -2.5**
HHC pmax pmax
comp=Z,19nm,1.1s
HHC pmax pmax
comp=Z,97nm,6.7s
HHC LR LR
comp=Z,170nm,17.3s
HHC LR LR
comp=Z,160nm,16.9s
BTO Baotou 56.78 295 *e*P **P 13 21 01.0 -2.2**
ARCES ARCESS Array B 56.94 356 P **P 13 21 03.8 0.0**
comp=Z,3.2nm,0.8s,baz=12,slow=7.4,SNR=3.7
HVS Khovu-Aksy 57.30 313⇓*e*P **P 13 21 06.9 +0.2**
HVS pmax pmax
comp=Z,25nm,1.0s
NJ2 Nanjing 57.89 282 *e*P **P 13 21 10.2 -0.8**
NJ2 pmax pmax
comp=Z,14nm,0.5s
ZAA0 Zalesovo Array 58.83 320 *e*P **P 13 21 16.2 -1.0**
comp=Z,2.6nm,0.8s
ZALV Zalesovo Beam 58.83 320 P **P 13 21 17.6 +0.4**
comp=Z,0.7nm,0.3s,baz=47,slow=6.9,SNR=8.6
ZALV LR LR 13 49 21.7
comp=Z,102nm,18.2s,baz=70,slow=39
ZALV Zalesovo Beam 58.83 320 *e*P **P 13 21 15.9 -1.4**
ZALV Zalesovo Beam 58.83 320 *e*P **P 13 21 15.9 -1.4**
TMCR Tamitsa 61.34 349 *e*P **P 13 21 34.4 +0.2**
TMCR pmax pmax
comp=Z,24nm,1.1s
GTA Gaotai 63.03 300 *e*P **P 13 21 46.3 +0.1**
GTA pP sP 13 21 57.8 -0.8
GTA sP pP 13 22 02.8 +7.6
GTA S **S 13 30 14.7 0.0**
GTA pmax pmax
comp=Z,6.0nm,1.0s
GTA pmax pmax
comp=Z,88nm,5.0s
GTA LR LR
comp=Z,150nm,15.7s
GTA LR LR
comp=Z,130nm,17.1s
GTA LR LR
comp=Z,160nm,17.1s
LZH Lanzhou 63.39 295 *e*P **P 13 21 50.0 +1.4**
LZH pP sP 13 22 02.3 +1.3
LZH sP pP 13 22 05.8 +8.2
LZH pmax pmax
comp=Z,25nm,1.3s
KURK Kurchatov 63.72 321 *e*P **P 13 21 49.6 -0.7**
comp=Z,15nm,1.1s
KURK Kurchatov 63.72 321⇓*i*P **P 13 21 50.9 +0.5**
KURK pmax pmax
comp=Z,14nm,1.2s
KURBB Kurchatov Arra 63.83 321 P **P 13 21 51.8 +0.7**
comp=Z,7.4nm,1.1s,baz=39,slow=6.7,SNR=29
KLMR Klimovskoe 64.38 348 *e*P **P 13 21 52.2 -2.3**
KLMR AMP 13 21 56.0
comp=Z,15nm,1.3s
KLMR Klimovskoe 64.38 348 *e*P **P 13 21 52.1 -2.4**
KLMR pmax pmax
comp=Z,15nm,1.3s
BVAR Borovoye Array 64.66 327 P **P 13 21 57.0 +0.5**
comp=Z,7.5nm,0.8s,baz=46,slow=6.4,SNR=34
BVAR LR LR 13 53 47.2
comp=Z,67nm,19.9s,baz=48,slow=40
BVAR Borovoye Array 64.66 327 P **P 13 21 57.0 +0.5**
BRVK Borovoye 64.67 327 *e*P **P 13 21 56.8 +0.3**
comp=Z,12nm,0.8s
BRVK Borovoye 64.67 327*c i*P **P 13 21 57.0 +0.5**
BRVK pmax pmax
comp=Z,15nm,1.1s
FINES FINESS Array B 65.00 355 P **P 13 21 59.0 +0.5**
comp=Z,5.6nm,0.9s,baz=18,slow=8.0,SNR=11
FINES LR LR 13 52 53.9
comp=Z,46nm,18.1s,baz=358,slow=38
MK31 Makanchi Array 65.45 317 *e*P **P 13 22 00.8 -1.0**
MK31 Makanchi Array 65.45 317 *e*P **P 13 22 00.8 -1.0**
MKAR Makanchi Array 65.45 317 P **P 13 22 01.7 -0.1**
comp=Z,2.2nm,0.8s,baz=53,slow=6.2,SNR=19
MKAR LR LR 13 51 55.5
comp=Z,79nm,18.3s,baz=12,slow=37
MKAR Makanchi Array 65.45 317 *e*P **P 13 22 00.5 -1.3**
comp=Z,15nm,0.9s
MKAR Makanchi Array 65.45 317 *e*P **P 13 22 00.5 -1.3**
MKAR pmax pmax
comp=Z,15nm,0.9s
MK01 Makanchi Array 65.47 316 *e*P **P 13 22 01.0 -0.9**
WMQ Urumqi 65.49 311 P **P 13 22 04.3 +2.1**
WMQ LR LR
comp=Z,180nm,25.3s
WMQ LR LR
comp=Z,170nm,26.9s
WMQ LR LR
comp=Z,120nm,20.7s
NB2 NORSAR Subarra 65.57 3 P **P 13 22 02.7 +0.4**
comp=Z,2.0nm,0.8s,baz=357,slow=6.5
NOA NORSAR Array B 65.57 3 P **P 13 22 03.4 +1.1**
comp=Z,5.8nm,0.9s,baz=357,slow=6.6,SNR=8.4
MAKZ Makanchi 65.57 317 *e*P **P 13 22 01.6 -1.0**
comp=Z,4.6nm,1.1s
MAKZ Makanchi 65.57 317 *e*P **P 13 22 01.6 -1.0**
MAKZ pmax pmax
comp=Z,5.0nm,1.1s
HFS Hagfors 66.53 2 P **P 13 22 08.8 +0.4**
comp=Z,7.8nm,0.8s,baz=356,slow=2.2,SNR=12
HFS LR LR 13 52 32.1
comp=Z,34nm,21.6s,baz=341,slow=37
KONO Kongsberg 66.90 4⇓*e*P **P 13 22 11.1 +0.3**
KONO pmax pmax
comp=Z,56nm,2.6s
CD2 Chengdu 67.34 292 *e*P **P 13 22 12.0 -2.1**
VSU Vasula 67.93 354*c i*P **P 13 22 18.7 +1.4**
VSU pmax pmax
comp=Z,92nm,2.5s
APG El Apazote 67.94 95 LR LR 13 52 40.0
comp=Z,31nm,18.0s,baz=76,slow=36
EKA Eskdalemuir Ar 70.16 12 P **P 13 22 32.2 +1.0**
comp=Z,4.7nm,0.9s,baz=347,slow=4.2,SNR=7.1
OBN Obninsk 70.35 348 P **P 13 22 32.6 +0.2**
comp=Z,8.8nm,0.5s,baz=317,slow=23,SNR=3.9
OBN Obninsk 70.35 348*d i*P **P 13 22 32.3 0.0**
OBN *e* 13 22 53.3
OBN *e* 13 25 04.2
OBN *e*S **S 13 31 47.5 +5.2**
OBN pmax pmax
comp=Z,9.0nm,0.7s
OBN MLR MLR
comp=Z,65nm,18.0s

AKTO Aktyubinsk 70.59 333 P **P 13 22 34.1 +0.1**
comp=Z,15nm,0.8s,baz=22,slow=6.1,SNR=3.2
AKTO LR LR 13 55 58.5
comp=Z,58nm,21.7s,baz=16,slow=38
AAK Ala-Archa 72.01 319 *e*P **P 13 22 42.5 -0.3**
comp=Z,9.8nm,0.9s
AAK Ala-Archa 72.01 319*c i*P **P 13 22 43.3 +0.4**
AAK pmax pmax
comp=Z,8.0nm,1.0s
KMI Kunming 72.37 288 P **P 13 22 45.1 -0.2**
KMI pmax pmax
comp=Z,5.0nm,0.7s
LPSR Galich'ya Gora 72.48 346 *e*P **P 13 22 43.7 -1.6**
LPSR pmax pmax
comp=Z,10.0nm,1.0s
KK05 Karatay Array 73.11 322 *e*P **P 13 22 49.2 0.0**
KK04 Karatay Array 73.12 322 *e*P **P 13 22 49.2 -0.1**
KK01 Karatay Array 73.12 322 *e*P **P 13 22 48.6 -0.7**
KK02 Karatay Array 73.12 322 *e*P **P 13 22 48.7 -0.6**
KK31 Karatay Array 73.12 322 *e*P **P 13 22 49.0 -0.3**
KK31 Karatay Array 73.12 322 *e*P **P 13 22 49.0 -0.3**
KKAR Karatay Array 73.12 322 *e*P **P 13 22 49.0 -0.3**
KKAR Karatay Array 73.12 322 *e*P **P 13 22 49.0 -0.3**
KK06 Karatay Array 73.13 322 *e*P **P 13 22 48.9 -0.5**
DAV Davao City (W) 73.13 259 LR LR 13 51 56.5
comp=Z,82nm,19.8s,baz=94,slow=33
KK03 Karatay Array 73.13 322 *e*P **P 13 22 49.0 -0.3**
KK08 Karatay Array 73.13 322 *e*P **P 13 22 49.2 -0.2**
KK07 Karatay Array 73.14 322 *e*P **P 13 22 49.0 -0.5**
VSR Storozhevoye 73.80 345 *e*P **P 13 22 51.6 -1.5**
VSR pmax pmax
comp=Z,8.0nm,1.0s
KSH Kashi 74.06 316 P P 13 22 59.7 +4.7
KSH sP PcP 13 23 12.7 +2.6
KSH PP **PP 13 25 45.7 +5.9**
KSH S **S 13 32 29.3 +3.6**
KSH SKS **SKSac 13 32 59.4 -0.8**
KSH pmax pmax
comp=Z,7.0nm,0.9s
KSH pmax pmax
comp=Z,26nm,3.0s
KSH LR LR
comp=Z,210nm,16.7s
CLL Collm 75.36 2 *i* P **P 13 23 02.6 +0.5**
comp=Z,7.0nm,1.0s
CLL Collm 75.36 2 *e*P **P 13 23 02.3 +0.1**
comp=Z,5.4nm,0.9s
CLL Collm 75.36 2 *i* P **P 13 23 02.6 +0.5**
CLL pmax pmax
comp=Z,7.0nm,1.0s
AKASG Malin Array Be 75.47 352 P **P 13 23 02.8 0.0**
comp=Z,5.1nm,0.7s,baz=10,slow=5.7,SNR=22
AKASG LR LR 14 01 02.1
comp=Z,52nm,18.1s,baz=40,slow=40
AKBB Malin Array Si 75.47 352 *e*P **P 13 23 02.4 -0.4**
comp=Z,16nm,1.3s
KIEV Kiev 75.48 352 *e*P **P 13 23 02.3 -0.5**
comp=Z,17nm,1.3s
KIEV Kiev 75.48 352 *e*P **P 13 23 02.3 -0.5**
KIEV pmax pmax
comp=Z,17nm,1.3s
AK11 Malin Array Si 75.50 352 *e*P **P 13 23 02.2 -0.8**
BRG Berggiesshubel 75.82 2 *e*P **P 13 23 05.9 +1.1**
comp=Z,8.4nm,1.2s
BRG Berggiesshubel 75.82 2 *e*P **P 13 23 05.9 +1.1**
BRG pmax pmax
comp=Z,8.0nm,1.2s
SIJI Sorong 76.34 249 LR LR 13 49 54.1
comp=Z,42nm,20.7s,slow=30
DPC Dobruska-Polom 76.36 0 *e*P **P 13 23 09.2 +1.2**
DPC *ep*P **PcP 13 23 18.6 -1.1**
DPC Dobruska-Polom 76.36 0 *e*P **P 13 23 09.2 +1.2**
DPC *e* 13 23 18.6
NKC Novy Kostel 76.42 3 *e*P **P 13 23 09.6 +1.3**
NKC Novy Kostel 76.42 3 *e*P **P 13 23 09.6 +1.3**
PRU Pruhonice 76.71 1 *e*P **P 13 23 10.9 +1.0**
PRU Pruhonice 76.71 1 *e*P **P 13 23 10.9 +1.0**
MORC Moravsky Berou 76.94 359⇑*i*P **P 13 23 11.1 -0.1**
MORC Moravsky Berou 76.94 359 *e*P **P 13 23 11.0 -0.2**
comp=Z,19nm,1.0s
MORC Moravsky Berou 76.94 359⇑*i*P **P 13 23 11.1 -0.1**
KWP Kalwaria Pacla 76.95 356 *e*P **P 13 23 12.0 +0.7**
comp=Z,465nm,1.1s
KWP Kalwaria Pacla 76.95 356 *e*P **P 13 23 12.0 +0.7**
KWP pmax pmax
comp=Z,465nm,1.1s
STHS Stebnicka Huta 77.22 357 *e*P **P 13 23 14.9 +2.1**
STHS Stebnicka Huta 77.22 357 *e*P **P 13 23 14.9 +2.1**
STHS pmax pmax
comp=Z,8.0nm,1.2s
VRAC Vranov 77.41 0 P **P 13 23 14.0 +0.2**
comp=Z,3.7nm,0.8s,baz=29,slow=7.4,SNR=4.9
VRAC Vranov 77.41 0⇓*i*P **P 13 23 14.3 +0.5**
VRAC Vranov 77.41 0⇓P **P 13 23 14.3 +0.5**
KHC Kasperske Hory 77.55 2 *e*P **P 13 23 16.0 +1.3**
KHC *ep*P **PcP 13 23 24.5 -0.4**
KHC Kasperske Hory 77.55 2 *e*P **P 13 23 15.0 +0.4**
comp=Z,5.3nm,1.3s
KHC Kasperske Hory 77.55 2 *e*P **P 13 23 15.0 +0.4**
KHC pmax pmax
comp=Z,5.0nm,1.3s
GERES GERESS Array B 77.84 2 P **P 13 23 16.5 +0.1**
comp=Z,2.1nm,0.8s,baz=4.8,slow=3.2,SNR=11
GEA0 GERESS Array S 77.85 2 *e*P **P 13 23 16.4 0.0**
SORM Soroca 78.09 352⇓*i*P **P 13 23 17.5 -0.1**
SORM Soroca 78.09 352⇓P **P 13 23 17.5 -0.1**
KECS Kecovo 78.18 357 *e*P **P 13 23 19.5 +1.4**
KECS Kecovo 78.18 357 *e*P **P 13 23 19.5 +1.4**
KECS pmax pmax
comp=Z,4.0nm,1.2s
ECH Echery 78.18 6 *e*P **P 13 23 18.8 +0.6**
comp=Z,5.3nm,0.9s
ECH Echery 78.18 6 *e*P **P 13 23 18.8 +0.6**
ECH pmax pmax
comp=Z,5.0nm,0.9s
VYHS Vyhne 78.20 358 *e*P **P 13 23 19.4 +1.1**
VYHS Vyhne 78.20 358 *e*P **P 13 23 19.4 +1.1**
VYHS pmax pmax
comp=Z,5.0nm,1.3s
MODS Modra-Piesok 78.34 360 *e*P **P 13 23 20.7 +1.7**
MODS Modra-Piesok 78.34 360 *e*P **P 13 23 20.7 +1.7**
PSZ Piszkesteto 78.76 358⇓*i*P **P 13 23 21.2 -0.2**
PSZ Piszkesteto 78.76 358 *e*P **P 13 23 22.9 +1.5**
comp=Z,9.9nm,1.1s
PSZ Piszkesteto 78.76 358 *e*P **P 13 23 22.9 +1.5**
PSZ pmax pmax
comp=Z,10.0nm,1.1s
CONA Conrad Observa 78.79 1 *i* P **P 13 23 23.1 +1.6**
comp=Z,7.7nm,1.1s
BUR08 Bucovina Ar. S 78.83 354 *e*P **P 13 23 21.9 +0.2**
BUR04 Bucovina Ar. S 78.83 354 *e*P **P 13 23 22.0 +0.1**
BURAR Bucovina Array 78.84 354⇓*i*P **P 13 23 22.8 +0.9**
BURAR Bucovina Array 78.84 354⇓P **P 13 23 22.8 +0.9**
MOA Molln 78.85 2 *i* PcP **P 13 23 26.3 +4.5**
comp=Z,5.5nm,1.4s
GUN Gumba 79.18 303 *e*P **P 13 23 24.8 +0.4**
JIRN Jiri 79.23 302 *e*P **P 13 23 25.2 +0.5**
MOTA Moosalm 79.26 4 *i* P **P 13 23 24.3 0.0**
comp=Z,9.9nm,0.9s
WATA Walderalm 79.29 3 *i* P **P 13 23 25.6 +1.2**
comp=Z,6.4nm,1.0s
WTTA Wattenberg 79.36 3 *i* P **P 13 23 26.1 +1.2**
comp=Z,7.0nm,0.8s
ARSA Arzberg 79.46 1 *i* P **P 13 23 26.9 +1.7**
comp=Z,8.0nm,1.2s
FETA Feichten 79.57 4 *i* P **P 13 23 27.4 +1.5**
comp=Z,11nm,1.0s,SNR=6.6
KBA Koelnbreinsper 79.60 2 *i* P **P 13 23 27.9 +1.8**
comp=Z,17nm,1.1s,SNR=5.9
RAMN Ramite 79.61 301 *e*P **P 13 23 26.8 +0.2**
comp=Z,34nm,1.0s
PKIN Phulchoki 79.70 303 *e*P **P 13 23 27.3 +0.2**
GKN Gorkha 79.72 304 *e*P **P 13 23 27.3 +0.2**
comp=Z,38nm,1.1s
CMAR Chiang Mai Arr 79.78 287 P **P 13 23 27.9 +0.5**
comp=Z,3.6nm,1.0s,baz=16,slow=5.6,SNR=16
CMAR LR LR 14 01 06.6
comp=Z,32nm,19.9s,baz=34,slow=38
DRGR 79.79 356⇓*i*P **P 13 23 27.7 +0.6**
DRGR 79.79 356⇓P **P 13 23 27.7 +0.6**
CM01 Chiang Mai Arr 79.80 287 *e*P **P 13 23 27.1 -0.3**
DMN Daman 79.82 303 *e*P **P 13 23 28.1 +0.4**
DANN Dangsing 79.87 304 *e*P **P 13 23 29.1 +1.0**
ABTA Abfaltersbach 79.91 3 *i* P **P 13 23 29.8 +2.1**
comp=Z,11nm,1.1s,SNR=4.5

SOKA Soboth 80.03 1 *i* P **P 13 23 29.4 +1.0**
comp=Z,19nm,1.3s
MAK Makhachkala 80.17 338 *e*P **P 13 23 28.1 -0.9**
MAK *e*S **S 13 33 25.0 -6.6**
MAK pmax pmax
comp=Z,73nm,1.0s
NIL Nilore 80.20 315 *e*P **P 13 23 29.7 +0.3**
NIL Nilore 80.20 315 *e*P **P 13 23 29.7 +0.3**
KIV Kislovodsk 80.23 341 *e*P **P 13 23 31.0 +1.5**
KIV pmax pmax
comp=Z,7.0nm,1.0s
KIV MLR MLR
comp=Z,46nm,18.0s
KBZ Khabaz 80.41 341 P **P 13 23 31.7 +1.4**
comp=Z,3.2nm,0.9s,baz=306,slow=5.0,SNR=6.6
KBZ LR LR 14 04 20.5
comp=Z,61nm,18.6s,baz=14,slow=40
KOLN Koldanda 80.43 304 *e*P **P 13 23 31.1 +0.1**
comp=Z,20nm,1.0s
PYUN Piuthan 80.45 305 *e*P **P 13 23 31.5 +0.4**
comp=Z,73nm,1.1s
NCK Nalchik 80.49 340⇑*e*P **P 13 23 32.7 +1.9**
NCK pmax pmax
comp=Z,7.0nm,0.2s
PLOR Plostina 80.50 353⇑*i*P **P 13 23 30.9 +0.1**
PLOR Plostina 80.50 353⇑P **P 13 23 30.9 +0.1**
BZS Buzias 81.01 356⇑*i*P **P 13 23 34.3 +0.8**
BZS Buzias 81.01 356⇑P **P 13 23 34.3 +0.8**
VOIR 81.02 354⇓*i*P **P 13 23 33.3 -0.4**
VOIR 81.02 354⇓P **P 13 23 33.3 -0.4**
ZEI Tsey 81.11 340 *e*P **P 13 23 33.9 -0.5**
ZEI pmax pmax
comp=Z,2.0nm,0.4s
SOC Sochi 81.13 343 *e*P **P 13 23 34.5 +0.3**
SOC *e* 13 26 36.2
SOC *e*S **S 13 33 37.8 -3.9**
SOC *e*SSS SSS 13 42 24.7
SOC pmax pmax
comp=Z,10.0nm,0.4s
GEYT Alibeck 81.98 328 P **P 13 23 40.5 +1.6**
comp=Z,3.2nm,0.8s,baz=323,slow=6.1,SNR=7.4
GEYT LR LR 14 05 22.7
comp=Z,54nm,18.0s,baz=85,slow=40
GNI Garni 83.47 339 P **P 13 23 48.3 +1.6**
comp=Z,3.0nm,0.5s,baz=189,slow=13,SNR=2.7
GNI LR LR 14 04 10.7
comp=Z,54nm,21.0s,baz=11,slow=38
GNI Garni 83.47 339⇑*e*P **P 13 23 48.8 +2.1**
GNI pmax pmax
comp=Z,24nm,1.2s
VTS Vitosha 83.96 355⇑*i*P **P 13 23 48.2 -1.0**
VTS Vitosha 83.96 355⇑P **P 13 23 48.2 -1.0**
ESDC Sonseca Array 85.36 16 P **P 13 23 57.0 +0.8**
comp=Z,1.0nm,0.9s,baz=45,slow=0.4,SNR=3.8
BR231 Keskin MP Arra 85.83 348 *e*P **P 13 23 59.0 +0.4**
BR131 Keskin Array S 85.83 347 *e*P **P 13 23 58.5 -0.2**
BRTR Keskin Array B 85.83 347 P **P 13 23 59.6 +1.0**
comp=Z,4.7nm,1.0s,baz=40,slow=2.1,SNR=18
BRTR LR LR 14 05 40.2
comp=Z,25nm,20.1s,baz=64,slow=38
WRA Warramunga Arr 90.69 236 P **P 13 24 20.4 -1.3**
comp=Z,0.6nm,1.0s,baz=35,slow=5.5,SNR=2.9
HYB Hyderabad 91.62 303 *i* P **P 13 24 25.0 -1.3**
MMAI Mount Meron Ar 92.16 344 LR LR 14 11 22.2
comp=Z,16nm,18.3s,baz=310,slow=39
ASAR Alice Springs 94.05 235 P **P 13 24 37.9 +0.7**
comp=Z,0.6nm,1.1s,baz=31,slow=4.3,SNR=3.0

*ISCJB **08** 13:16:47.5±0.5,38.°73N±0.°04×43.°13E±0.°04, h6km±8km,*
Error ellipse: s-maj=6.3km s-min=5.1km az=34.5
*CSEM **08** 13:16:47.2,38.°70N×43.°12E, h7km, MD2.6*
*DDA **08** 13:16:47.2,38.°70N×43.°12E, h7km, Md2.6*
ISC 08 13:16:47.4±1.0, 38.°66N±0.°03×43.°09E±0.°04, h11km±10km, n21, σ1°52/28, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VANB	**Van**	**0.25**	**106**	PG		**Pg 13 16 52.9**	**+0.4**
VANB				SG		**Sg 13 16 57.3**	**+1.3**
TVAN	**Van**	**0.28**	**118**	*i* P		**Pg 13 16 53.3**	**0.0**
TVAN				*i* S		**Sg 13 16 57.7**	**+0.5**
TVAN	**Van**	**0.28**	**118**	P		**Pg 13 16 53.3**	**0.0**
TVAN				S		**Sg 13 16 57.7**	**+0.5**
ADCV	**BITLIS_Adilcev**	**0.32**	**297**	*i* P		**Pg 13 16 54.4**	**+0.5**
ADCV				*i* S		**Sb 13 16 59.7**	**-0.7**
ADCV	**BITLIS_Adilcev**	**0.32**	**297**	P		**Pg 13 16 54.4**	**+0.5**
ADCV				S		**Sb 13 16 59.7**	**-0.7**
GEVA	**Gevas**	**0.35**	**184**	*i* P		**Pg 13 16 51.0**	**-3.5**
GEVA	**Gevas**	**0.35**	**184**	P		**Pg 13 16 51.0**	**-3.5**
VMUR	**Van-Muradiye**	**0.50**	**49**	*i* P		Pg 13 16 51.0	-6.2
VMUR	**Van-Muradiye**	**0.50**	**49**	P		Pg 13 16 51.0	-6.2
TUTA	**Tutak**	**0.77**	**344**	*i* P		**Pg 13 17 01.5**	**-0.8**
TUTA	**Tutak**	**0.77**	**344**	P		**Pg 13 17 01.5**	**-0.8**
CLDR	**Caldiran**	**0.81**	**53**	*i* S		**Sg 13 17 11.4**	**-2.2**
CLDR	**Caldiran**	**0.81**	**53**	S		**Sg 13 17 11.4**	**-2.2**
GURO	**Gurowmak-BITLI**	**0.83**	**263**	PG		**Pg 13 17 02.9**	**-0.6**
AGRB	**Hanuy-Agry**	**0.92**	**355**	*e*PG		**Pg 13 17 03.9**	**-1.1**
EKAR	**Karacoban**	**0.99**	**307**	*i* P		**Pg 13 17 05.5**	**-1.0**
EKAR	**Karacoban**	**0.99**	**307**	P		**Pg 13 17 05.5**	**-1.0**
SRTM	**Siirt_Merkez**	**1.13**	**234**	*i* P		**Pn 13 17 10.7**	**+1.4**
SRTM				*i* S		**Sb 13 17 25.5**	**+1.7**
SRTM	**Siirt_Merkez**	**1.13**	**234**	P		**Pn 13 17 10.7**	**+1.4**
SRTM				S		**Sb 13 17 25.5**	**+1.7**
EATA	**Eleskirt**	**1.28**	**339**	*i* P		**Pg 13 17 10.7**	**-1.4**
EATA				*i* S		**Sn 13 17 28.8**	**-0.1**
EATA	**Eleskirt**	**1.28**	**339**	P		**Pg 13 17 10.7**	**-1.4**
EATA				S		**Sn 13 17 28.8**	**-0.1**

*JMA **08** 13:18:11.2±0.1, 22.°59N×121.°21E, h51km±3km, M3.4*
*ISCJB **08** 13:18:12.5±0.3, 22.°57N±0.°02×121.°37E±0.°02, h29km±2km,*
Error ellipse: s-maj=3.2km s-min=2.5km az=160.6
*TAP **08** 13:18:13.5, 22.°63N×121.°24E, h39km, ML3.5, B*
ISC 08 13:18:12.8±0.9, 22.°58N±0.°02×121.°34E±0.°02, h31km±7km, n94, σ0°87/149, 1C-3D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TTN	**Taitung**	**0.25**	**315**	P		**Pn 13 18 21.2**	**+0.9**
	baz=328						
TTN				S		**Sn 13 18 27.5**	**+2.4**
	baz=328						
TWGBT	**Beinan**	**0.34**	**315**	*e*P		**Pb 13 18 20.9**	**+0.1**
	baz=313						
TWGBT				*e*S		**Sb 13 18 26.4**	**+0.1**
	baz=313						
TWG	**Pinlang**	**0.34**	**315**	⇓*i*P		**Pb 13 18 21.0**	**0.0**
	baz=322						
TWG				*i* S		**Sb 13 18 26.5**	**0.0**
	baz=322						
ECL	**Taimali**	**0.35**	**273**	⇓*i*P		**Pb 13 18 20.8**	**-0.3**
	baz=261						
ECL				*i* S		**Sb 13 18 26.4**	**-0.3**
	baz=261						
TAW	**Tawu**	**0.46**	**242**	*e*P		**Pb 13 18 22.4**	**-0.2**
	baz=230						
TAW				*e*S		**Sn 13 18 30.0**	**-0.4**
	baz=230						
EAST	**Anshuo**	**0.49**	**247**	⇓*i*P		**Pb 13 18 22.8**	**-0.4**
	baz=232						
EAST				S		**Sb 13 18 29.5**	**-0.7**
	baz=232						
CHKT	**Chengkung**	**0.52**	**3**⇑	*i*P		**Pb 13 18 23.6**	**0.0**
	baz=21						
CHKT				S		**Sb 13 18 31.3**	**+0.3**
	baz=21						
LAY	**Lan-yu**	**0.57**	**160**	*e*P		**Pn 13 18 25.7**	**+0.9**
	baz=154						
FULB	**Fuli**	**0.62**	**357**	P		**Pb 13 18 25.1**	**-0.1**
	baz=357						
FULB				*e*S		**Sn 13 18 34.8**	**+0.5**
	baz=357						
MASBT	**Mashibuluo**	**0.65**	**273**	P		**Pn 13 18 25.6**	**-0.2**
	baz=268						
MASBT				S		**Sb 13 18 33.9**	**-0.6**
	baz=268						
SSD	**Sandimen**	**0.67**	**285**	P		**Pb 13 18 25.6**	**-0.4**
	baz=281						
SSD				S		**Sb 13 18 34.1**	**-1.1**
	baz=281						
ELDTW	**Lidau**	**0.68**	**334**	*e*P		**Pb 13 18 25.3**	**-1.0**
	baz=344						
ELDTW				*e*S		**Sb 13 18 33.9**	**-1.5**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
	baz=344						
SCZT	Fangliau	0.69	253	P	Pb	13 18 25.9	-0.5
	baz=245						
SCZT				eS	Sb	13 18 35.1	-0.6
	baz=245						
SSPT	Xinbi	0.71	263	eP	Pn	13 18 26.9	+0.2
	baz=251						
SSPT				eS	Sb	13 18 35.9	-0.4
	baz=251						
SLGT	Liugui	0.76	303	eP	Pn	13 18 27.3	-0.1
	baz=304						
SLGT				eS	Sb	13 18 37.6	+0.1
	baz=304						
TWF1	Yuli	0.77	357	eP	Pn	13 18 26.4	-1.2
	baz=6.0						
TSEB	Hengchuen, Pin	0.79	211	eS	Sn	13 18 38.7	+0.3
	baz=195						
STYT	Tauyuan	0.79	318	eP	Pn	13 18 27.8	0.0
	baz=321						
STYT				eS	Sb	13 18 38.4	-0.1
	baz=321						
SGLT	Jiouru	0.79	281	eP	Pb	13 18 28.1	0.0
	baz=271						
HEN	Hengchun	0.79	224	eP	Pn	13 18 27.1	-0.7
	baz=206						
HEN				eS	Sb	13 18 38.1	-0.4
	baz=206						
TWKBT	Hengchun	0.80	217	P	Pn	13 18 27.3	-0.6
	baz=200						
TWKBT				eS	Sb	13 18 37.9	-0.8
	baz=200						
YULB	Yu-li	0.81	358	eP	Pn	13 18 26.8	-1.3
	baz=5.0						
SGST	Jiashian	0.86	306	eP	Pb	13 18 29.7	+0.5
	baz=307						
SGST				eS	Sb	13 18 40.4	+0.1
	baz=307						
TWM1	Shoushan	0.88	286	eP	Pb	13 18 30.1	+0.6
	baz=284						
TWM1				eS	Sb	13 18 41.6	+0.6
	baz=284						
WLCH	Liuqiu	0.91	256	eP	Pb	13 18 31.0	+0.9
	baz=249						
WLCH				eS	Sb	13 18 44.0	+2.0
	baz=249						
HGSD	Ruisui	0.91	5	eP	Pn	13 18 29.0	-0.4
	baz=12						
HGSD				eS	Sn	13 18 41.8	+0.3
	baz=12						
TWP	Hsiaoliuchiu	0.93	256	eP	Pb	13 18 30.9	+0.5
	baz=249						
TWP				eS	Sb	13 18 43.8	+1.4
	baz=249						
WTP	Ta-pu	0.94	315	P	Pb	13 18 31.0	+0.3
	baz=318						
WTP				eS	Sb	13 18 43.2	+0.4
	baz=318						
CHN1	Nanshi	0.96	309	eP	Pb	13 18 30.7	-0.2
	baz=311						
CHN1				eS	Sb	13 18 43.7	+0.4
	baz=311						
TPUB	Ta-pu	0.97	318	eP	Pb	13 18 30.7	-0.4
	baz=320						
TPUB				eS	Sn	13 18 43.2	+0.2
	baz=320						
YUS	Yu-Shan	0.97	339	eP	Pn	13 18 30.5	-0.2
	baz=349						
YUS				eS	Sn	13 18 42.8	-0.9
	baz=349						
WSSB	Gushan	0.99	274	eP	Pb	13 18 31.5	0.0
	baz=269						
CHN3	Shinhua	1.02	299	eP	Pb	13 18 31.8	-0.2
	baz=299						
CHN3				eS	Sb	13 18 46.5	+1.5
	baz=299						
CHN4	Tsaushan	1.03	319	eP	Pb	13 18 32.4	+0.3
	baz=321						
CHN4				eS	Sb	13 18 45.3	+0.1
	baz=321						
TWK	Hsinying	1.04	311	eP	Pb	13 18 31.8	-0.5
	baz=313						
TWK				eS	Sn	13 18 44.7	0.0
	baz=313						
ALS	Alishan	1.05	332	P	Pb	13 18 32.3	-0.3
	baz=328						
ALS				eS	Sb	13 18 46.1	0.0
	baz=328						
EGFH	Guangfu	1.09	4	eP	Pb	13 18 32.7	-0.4
	baz=11						
TAI1	Yung-k'ang	1.12	294	eS	Sn	13 18 46.7	+0.1
	baz=294						
CHN5	Tsauling	1.18	329	eP	Pb	13 18 34.6	-0.1
	baz=333						
CHN5				eS	Sb	13 18 49.1	-0.6
	baz=333						
SCLT	Jiali	1.21	300	eP	Pn	13 18 33.6	+0.1
	baz=300						
SCLT				eS	Sn	13 18 49.2	+0.4
	baz=300						
ESL	Shilin	1.23	4	eP	Pn	13 18 33.6	-0.3
	baz=20						
CHN2	Minshiung	1.24	320	eP	Pb	13 18 34.8	-0.8
	baz=323						
CHN2				eS	Sb	13 18 50.8	-0.4
	baz=323						
CHY	Chiayi	1.24	318	eP	Pn	13 18 33.9	-0.1
	baz=320						
CHY				eS	Sn	13 18 49.4	-0.3
	baz=320						
SSLB	Suanglung	1.25	344	P	Pb	13 18 35.0	-0.9
	baz=348						
CHN8	Yiju	1.29	307	eS	Sn	13 18 50.9	+0.1
	baz=308						
WGK	Gukeng	1.31	327	eP	Pn	13 18 35.5	+0.6
	baz=331						
WGK				eS	Sn	13 18 52.4	+1.0
	baz=331						
WDLH	Douliu	1.33	327	eP	Pn	13 18 35.7	+0.5
	baz=330						
WDLH				eS	Sb	13 18 53.3	-0.4
	baz=330						
ENLB	Shoufeng	1.34	10	P	Pn	13 18 35.8	+0.5
	baz=16						
ENLB				eS	Sb	13 18 53.9	-0.3
	baz=16						
WJS	Zhushan	1.36	336	eP	Pb	13 18 37.7	0.0
	baz=340						
WJS				eS	Sb	13 18 54.1	-0.6
	baz=340						
SMLT	Sun Moon Lake	1.36	343	eP	Pb	13 18 37.2	-0.5
	baz=348						
SMLT				eS	Sb	13 18 54.2	-0.6
	baz=348						
OWD	Renai	1.38	354	P	Pn	13 18 36.6	+0.6
	baz=11						
OWD				eS	Sb	13 18 54.5	-0.8
	baz=11						
TYC	Yuchr	1.39	342	eP	Pb	13 18 38.0	-0.2
	baz=347						
TYC				eS	Sn	13 18 54.4	+1.0
	baz=347						
WNT	Mingjian	1.43	335	eP	Pn	13 18 37.4	+0.8
	baz=339						
WNT				eS	Sn	13 18 54.8	+0.6
	baz=339						
WSF	Szhu	1.47	316	eS	Sn	13 18 55.3	0.0
	baz=318						
CHGB	Renai	1.48	354	P	Pn	13 18 38.1	+0.6
	baz=11						
DPDB	Guoxing	1.50	346	eP	Pb	13 18 39.3	-0.7
	baz=350						
TWD	Chiawan	1.51	9	eP	Pn	13 18 37.6	-0.1
	baz=15						
WHF	Hehuan Shan	1.56	358	P	Pn	13 18 39.2	+0.4
	baz=12						
RLNB	Erlin	1.58	326	eP	Pn	13 18 38.4	-0.3
	baz=328						
RLNB				eS	Sn	13 18 59.0	+0.9
	baz=328						
NACB	Ninganchiao	1.61	8	P	Pn	13 18 39.4	+0.4
	baz=14						
WCHH	Zhanghua	1.66	335	eP	Pn	13 18 40.5	+0.8
	baz=324						
TWT	Tachien	1.67	355	eP	Pn	13 18 41.2	+1.1
	baz=359						
TDCB	Techi	1.68	354	P	Pn	13 18 41.3	+1.2
	baz=359						
TCU	Taichung	1.68	339	eP	Pn	13 18 41.1	+1.2
	baz=328						
TWQ1	Liyutan	1.84	344	eP	Pn	13 18 43.4	+1.2
	baz=348						
TWQ1				eS	Sn	13 19 05.2	+0.8
	baz=348						
NNSB	Datong	1.84	1	eP	Pn	13 18 42.8	+0.4
	baz=18						
NNS	Nan Shan	1.85	1	P	Pn	13 18 43.5	+0.9
	baz=18						
PHUB	P'eng-hu	1.87	300	eP	Pn	13 18 42.2	-0.5
	baz=300						
PHUB				eS	Sn	13 19 02.9	-2.3
	baz=300						
ENA	Nanau	1.88	11	eP	Pn	13 18 42.5	-0.2
	baz=17						
NANB	Nanao	1.88	12	eP	Pn	13 18 42.2	-0.5
	baz=17						
NSY	Sanyi	1.90	344	eP	Pb	13 18 45.0	-1.9
	baz=348						
PNG	Penghu	1.91	301	eP	Pn	13 18 42.5	-0.7
	baz=301						
PNG				eS	Sn	13 19 03.4	-2.8
	baz=301						
PTSB	Yuanli	1.95	343	eP	Pn	13 18 45.0	+1.3
	baz=332						
NMLH	Miaoli	2.01	346	eP	Pn	13 18 45.8	+1.2
	baz=350						
NMLH				eS	Sn	13 19 10.0	+1.3
	baz=350						
ENTT	Nioudou	2.06	6	P	Pn	13 18 46.0	+0.7
	baz=21						
NSTT	Nanjuang	2.07	352	eP	Pn	13 18 47.1	+1.8
	baz=343						
TWC	Suao	2.08	13	P	Pn	13 18 46.7	+1.2
	baz=18						
LIOB	Emei	2.08	352	eP	Pn	13 18 46.9	+1.4
	baz=343						
YHNB	Yeheng	2.08	1	P	Pn	13 18 46.6	+1.0
	baz=16						
EOS1	EOS1	2.09	20	eP	Pn	13 18 46.7	+1.0
	baz=33						
TWE	Neicheng	2.15	8	P	Pn	13 18 47.5	+1.0
	baz=23						
SLBB	Yuanshan	2.18	7	eP	Pn	13 18 47.3	+0.3
	baz=23						
NWLT	Wulai	2.19	4	eP	Pn	13 18 48.7	+1.6
	baz=21						
NTC	Toucheng	2.31	11	eP	Pb	13 18 51.2	-2.6
	baz=16						
JYNG	Yonagunijimaku	2.38	38	P	Pn	13 18 50.7	+1.1
JYNG				eS	Sn	13 19 19.7	+2.0
TIPB	Shuangxi	2.42	11	P	Pn	13 18 51.3	+1.0
	baz=15						
YOJ	Yonaguni jima	2.42	39	P	Pn	13 18 51.3	+1.0
YOJ				eS	Sn	13 19 19.8	+0.9
HATJ	Hateruma jima	2.71	57	P	Pn	13 18 54.6	+0.5
HATJ				eS	Sn	13 19 24.8	-1.0
IRIF	Iriomote-Funau	2.81	51	P	Pn	13 18 56.4	+0.9
IRIF				eS	Sn	13 19 30.0	+1.6
JKRS	Kuro-shima	2.96	56	P	Pn	13 18 58.6	+1.0
JKRS				S	Sn	13 19 31.8	-0.3
JIJ	Ishigaki jima	3.13	55	P	Pn	13 19 00.7	+0.7
JIJ				S	Sn	13 19 35.3	-1.0
JISG	Ishigakijimahi	3.38	53	P	Pn	13 19 03.8	+0.4
JISG				eS	Sn	13 19 42.7	+0.2
JTJ	Tarama	3.71	56	P	Pn	13 19 08.7	+0.8
JTJ				eS	Sn	13 19 50.6	+0.1
JIRB	Irabujima	4.17	57	P	Pn	13 19 14.7	+0.4

NNC 08 13:19:35.1±2.6**, 52°.90N×56°.52E, h0km, mb3.8, mpv3.4, 7C-5D, Error ellipse: s-maj=21.4km s-min=10.8km az=114.0, Suspected Mining explosion., Ural Mountains region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AKTO	Aktyubinsk	2.64	159	⇑Pn	Pn	13 20 18.2	-0.7
	4.3nm,0.6s						
AKTO				⇑Pg	Pg	13 20 24.5	-1.1
	7.8nm,0.5s						
AKTO				⇓Sn	Sn	13 20 52.1	+0.5
	15nm,0.5s						
AKTO				⇑Lg	Lg	13 21 00.2	
	53nm,0.8s						
AB31	Akbulak array	4.24	148	Pn	Pn	13 20 41.4	+0.5
	0.6nm,0.3s,baz=326,slow=12,SNR=52						
AB31				Pg	Pg	13 20 54.1	-2.2
	1.2nm,0.3s,baz=329,slow=17,SNR=6.5						
AB31				⇓Sn	Sn	13 21 32.2	+1.2
	1.5nm,0.3s,baz=319,slow=31,SNR=5.0						
AB31				⇓Lg	Lg	13 21 47.7	
	3.0nm,0.3s,baz=324,slow=29,SNR=4.0						
BRVK	Borovoye	8.31	83	⇑Pg	Pb	13 22 05.6	+5.9
	14nm,1.1s						
BRVK				⇑Sn	Sn	13 23 14.7	+3.5
	3.9nm,0.8s						
BRVK				⇑Lg	Lg	13 24 00.0	
	7.9nm,0.8s						
BVA0	Borovoye Array	8.38	84	⇓Pg	Pb	13 22 05.6	+4.8
	14nm,1.1s,baz=298,slow=10,SNR=39						
BVA0				⇑Sn	Sn	13 23 11.9	-1.0
	6.3nm,1.0s,baz=274,slow=24,SNR=4.3						
BVA0				⇓Lg	Lg	13 24 02.4	
	12nm,0.9s,baz=282,slow=26,SNR=3.0						

MAN 08 13:42:14, 10°.20N×123°.21E, h73km, mb4.2, ML3.0, MS2.7, Cebu

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GUIM	Jordan	0.74	305	eP	Pn	13 42 30.9	+1.3
GUIM				eS	Sn	13 42 44.0	+2.9
SNPH	Sibulan	0.85	178	eP	Pn	13 42 32.7	+1.8
SNPH				eS	Sn	13 42 45.2	+1.7
MSLP	Maasin	1.63	92	eP	Pn	13 42 41.4	+0.7
MSLP				eS	Sn	13 43 02.5	+1.5

IDC 08 13:48:30.9±2.8**, 6°.02N×126°.84E, h0km, mb3.4**/4**, mb1 3.5**/4**, mb1mx3.3**/58**, mbtmp3.4**/4**, Error ellipse: s-maj=264.0km s-min=21.4km az=67.0, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	26.83	164	P	P	13 54 13.9	+0.6
	0.2nm,0.8s,baz=345,slow=10,SNR=3.8						
ASAR	Alice Springs	30.30	167	P	P	13 54 43.5	-0.7
	0.3nm,1.0s,baz=338,slow=7.0,SNR=2.9						
MKAR	Makanchi Array	55.76	324	P	P	13 58 09.8	0.0
	0.3nm,0.4s,baz=116,slow=8.1,SNR=8.0						
KURBB	Kurchatov Arra	59.89	327	P	P	13 58 38.5	-0.2
	0.4nm,0.6s,baz=118,slow=5.3,SNR=5.0						

*IDC **08** 13:59:29.2±4.7, 24°.01N×120°.34E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.1/60, mbtmp3.4/3, MS2.2/1, Ms1 2.2/1, ms1mx2.0/31, Error ellipse: s-maj=349.3km s-min=28.1km az=59.0*

ISC 08 13:59:33.9±2.3**, 23°.8N**±0°.6×**120°.0E**±0°.7**, h26km, n6, σ1s.00**/6**, mb3.3**/3**, 1C, Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
QZH	Quanzhou	1.72	312	⇑iPn	Pb	14 00 04.1	-0.7
QZH				Sn	Sb	14 00 26.5	+0.5
QZH				smax	smax		
	comp=N,990nm,0.3s						
QZH				smax	smax		
	comp=E,2μm,0.6s						
KSRS	Korea Array	15.22	25	LR	LR	14 10 06.1	
	comp=E,9.5nm,18.4s,baz=160,slow=43						
WMQ	Urumqi	33.15	315	eP	P	14 06 09.6	+1.4
MKAR	Makanchi Array	37.87	317	P	P	14 06 48.1	-0.5
	comp=E,0.4nm,0.8s,baz=107,slow=9.2,SNR=4.0						
WRA	Warramunga Arr	45.66	161	P	P	14 07 52.4	-0.2
	comp=E,0.3nm,0.8s,baz=343,slow=8.8,SNR=4.0						
ASAR	Alice Springs	49.07	163	P	P	14 08 19.3	+0.2
	comp=E,0.6nm,0.7s,baz=340,slow=7.0,SNR=13						

*JMA **08** 14:13:44.3±0.2, 22°.34N×121°.84E, h9km, M3.2*

*TAP **08** 14:13:45.1, 22°.20N×121°.67E, h22km, ML3.0, C*

ISC 08 14:13:42.9±1.5**, 22°.26N**±0°.04×**121°.78E**±0°.05**, h6km**±12km**, n37, σ0s.76**/49**, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LAY	Lan-yu	0.30	224	iP	Pb	14 13 50.0	-0.8
	baz=214						
LAY				iS	Sg	14 13 53.8	+1.0
	baz=214						
ECL	Taimali	0.84	294	P	Pg	14 13 58.9	-0.1
	baz=303						
TWGBT	Beinan	0.85	311	P	Pb	14 14 00.3	+0.2
	baz=328						
TWGBT				S	Sb	14 14 12.4	+0.5
	baz=328						
TWG	Pinlang	0.86	311	P	Pb	14 14 00.5	+0.2
	baz=328						
TWG				S	Sb	14 14 12.3	+0.2
	baz=328						
EAST	Anshuo	0.87	278	P	Pg	14 13 59.3	-0.4
	baz=285						
CHKT	Chengkung	0.92	336	iP	Pb	14 14 01.2	-0.1
	baz=344						
CHKT				iS	Sb	14 14 13.4	-0.4
	baz=344						
FULB	Fuli	1.04	335	P	Pb	14 14 03.1	-0.3
	baz=351						
FULB				S	Sb	14 14 16.9	-0.4
	baz=351						
SCZT	Fangliau	1.08	276	eP	Pg	14 14 02.6	-1.0
	baz=282						
MASBT	Mashibuluo	1.12	289	eP	Pg	14 14 03.4	-1.0
	baz=295						
ELDTW	Lidau	1.17	323	P	Pg	14 14 05.0	-0.3
	baz=335						
SSD	Sandimen	1.17	295	eP	Pg	14 14 04.2	-1.1
	baz=309						
TWF1	Yuli	1.18	338	P	Pg	14 14 05.2	-0.3
	baz=353						
YULB	Yu-li	1.22	339	P	Pg	14 14 05.3	-0.9
	baz=351						
HGSD	Ruisui	1.27	345	eP	Pg	14 14 06.9	-0.4
EHY	Hungye	1.31	341	eP	Pg	14 14 07.6	-0.5
	baz=354						
EHY				eS	Sg	14 14 24.5	-0.6
	baz=354						
SGST	Jiashian	1.38	307	eP	Pb	14 14 09.0	0.0
	baz=310						
WTP	Ta-pu	1.46	313	eP	Pg	14 14 10.6	-0.2
	baz=328						
CHN1	Nanshi	1.48	309	eP	Pg	14 14 11.6	+0.3
	baz=301						
TPUB	Ta-pu	1.48	315	eP	Pb	14 14 10.8	-0.1
	baz=328						
ALS	Alishan	1.54	324	eP	Pb	14 14 11.9	-0.1
	baz=330						
CHN4	Tsaushan	1.54	315	eP	Pg	14 14 12.4	-0.1
	baz=329						
TWK	Hsinying	1.56	310	eP	Pg	14 14 12.7	-0.1
	baz=304						
ESL	Shilin	1.58	348	eP	Pn	14 14 11.9	+0.4
	baz=2.0						
CHN5	Tsauling	1.68	323	eP	Pb	14 14 14.3	+0.1
	baz=328						
SMLT	Sun Moon Lake	1.81	334	eP	Pb	14 14 16.4	-0.1
	baz=347						
TYC	Yuchr	1.85	333	eP	Pb	14 14 17.4	+0.3
	baz=344						
CHGB	Renai	1.88	343	eP	Pn	14 14 16.8	+1.0
	baz=347						
CHGB				eS	Sn	14 14 40.5	+0.5
	baz=347						
NACB	Ninganchiao	1.92	355	eP	Pn	14 14 15.8	-0.3
	baz=7.0						
DPDB	Guoxing	1.94	336	eP	Pb	14 14 18.4	-0.2
	baz=350						
YHNB	Yeheng	2.43	351	eP	Pn	14 14 24.4	+1.1
	baz=1.0						
YOJ	Yonaguni jima	2.47	27	P	Pn	14 14 24.0	+0.3
YOJ				eS	Sn	14 14 54.1	-0.1
IRIF	Iriomote-Funau	2.74	41	P	Pn	14 14 28.9	+1.5
IRIF				S	Sn	14 15 00.7	-0.1
JKRS	Kuro-shima	2.84	46	P	Pn	14 14 30.4	+1.6
JKRS				S	Sn	14 15 02.2	-1.2
JIJ	Ishigaki jima	3.02	46	P	Pn	14 14 32.8	+1.5
JIJ				S	Sn	14 15 06.2	-1.6
JISG	Ishigakijimahi	3.28	45	P	Pn	14 14 36.4	+1.5
JISG				S	Sn	14 15 13.4	-0.9
JTJ	Tarama	3.58	48	S	Sn	14 15 20.9	-0.8
JIRB	Irabujima	4.03	50	eS	Sn	14 15 31.8	-0.9

*WEL **08** 14:21:07.0±1.3, 32°S±5°×17°7W±1°7, h33km, ML5.0/8, ML5.0/9*

*IDC **08** 14:21:23.9±5.6, 29°.56S×179°.51W, h518km±52km, mb3.3/4, mb1 3.4/5, mb1mx3.0/39, mbtmp4.3/5, Error ellipse: s-maj=57.4km s-min=21.9km az=40.0*

ISC 08 14:21:03.9±1.4**, 31°.8S**±0°.1×**178°.1W**±0°.3**, h350km, n40, σ2s.49**/36**, mb3.6**/4**, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GLKZ	Green Lake	2.52	4	P	Pn	14 21 56.5	-2.7
GLKZ	Green Lake	2.52	4	S	S	14 22 34.4	-9.2
RIZ	Raoul Island	2.54	4	P	Pn	14 21 57.0	-2.4
HAZ	Te Kaha	6.84	208	P	Pn	14 22 45.9	+1.7
HAZ	Te Kaha	6.84	208	S	S	14 24 04.0	-1.7
PKGZ	Pakihiroa	6.84	206	P	Pn	14 22 45.7	+1.4
PUZ	Puketiti	6.93	204	P	Pn	14 22 46.8	+1.4
PUZ	Puketiti	6.93	204	S	S	14 24 05.8	-2.1
RUGZ	Raukumara Rang	7.06	208	P	Pn	14 22 48.5	+1.6
RUGZ	Raukumara Rang	7.06	208	S	S	14 24 07.8	-3.0
TWGZ	Tauwhareparae	7.13	205	S	S	14 24 11.3	-0.8
MWZ	Matawai	7.44	207	P	Pn	14 22 54.6	+3.3
MWZ	Matawai	7.44	207	S	S	14 24 16.8	-2.0
URZ	Urewera	7.54	210	P	Pn	14 22 53.4	+0.9
URZ	Urewera	7.54	210	S	S	14 24 17.2	-3.8
RAGZ	Rawiri	7.62	207	P	Pn	14 22 54.5	+1.0
RAGZ	Rawiri	7.62	207	S	S	14 24 20.6	-2.3
OUZ	Omahuta	7.71	241	P	Pn	14 23 10.7	+16
MUGZ	Murupara	7.87	211	P	Pn	14 23 00.4	+4.0
RTZ	Ruatahuna	7.90	209	P	Pn	14 22 56.8	0.0
MTHZ	Maungataniwha	8.16	209	P	P	14 23 02.9	+0.1
MTHZ	Maungataniwha	8.16	209	S	S	14 24 32.1	-2.3
BKZ	Black Stump Fm	8.57	209	P	P	14 23 08.3	+1.0
BKZ	Black Stump Fm	8.57	209	S	S	14 24 40.4	-3.0
KWHZ	Kaweka Forest	8.81	209	P	P	14 23 10.9	+0.8
KWHZ	Kaweka Forest	8.81	209	S	S	14 24 47.8	-1.0
HIZ	Hauiti	8.83	219	P	P	14 23 13.2	+3.1
BHHZ	Black Hill Sta	9.02	210	P	P	14 23 13.3	+0.9
BHHZ	Black Hill Sta	9.02	210	S	S	14 24 50.3	-3.0
KRHZ	Kereru	9.02	208	P	P	14 23 12.8	+0.5
KRHZ	Kereru	9.02	208	S	S	14 24 49.3	-3.9
PKVZ	Pokaka	9.18	214	P	P	14 23 15.7	+1.6
PNHZ	Pukenui	9.32	208	P	P	14 23 17.4	+1.7
TSZ	Takapari Road	9.54	208	P	P	14 23 18.4	+0.3
STKA	Stephens Creek	34.08	259	P	P	14 27 20.3	+3.6
	1.8nm,0.4s,baz=105,slow=13,SNR=9.3						
ASAR	Alice Springs	42.94	268	P	P	14 28 28.2	-1.6
	1.6nm,0.5s,baz=96,slow=6.4,SNR=66						
WRA	Warramunga Arr	44.05	274	P	P	14 28 34.6	-4.0
	2.0nm,0.6s,baz=108,slow=7.9,SNR=30						
QSPA	South Pole Qui	58.33	180	P	P	14 30 42.8	+20
	3.1nm,0.6s,baz=45,slow=1.4,SNR=9.3						
FINES	FINESS Array B	146.40	339	PKP	PKPdf	14 39 58.6	-2.8
	1.0nm,0.8s,baz=54,slow=3.3,SNR=5.7						
AKASG	Malin Array Be	152.32	321	PKPbc	PKPdf	14 40 16.1	+5.0
	0.4nm,0.3s,baz=52,slow=3.4,SNR=5.4						

IDC 08 14:36:31.4±4.8**, 5°.17S×146°.21E, h99km**±48km**, mb3.6**/4**, mb1 3.8**/6**, mb1mx3.4**/44**, mbtmp4.0**/6**, Error ellipse: s-maj=43.8km s-min=27.4km az=118.0, Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	4.32	167	P	Pn	14 37 36.9	+2.0
	10.0nm,0.3s,baz=331,slow=6.9,SNR=34						
PMG				S	Sn	14 38 23.7	-0.5
	13nm,0.3s,baz=109,slow=22,SNR=14						
CTA	Charters Tower	14.83	180	P	P	14 40 01.1	+1.6
	0.3nm,0.3s,baz=0.0,slow=11,SNR=4.9						
WRA	Warramunga Arr	18.69	217	P	P	14 40 42.0	-0.1
	1.7nm,0.3s,baz=37,slow=11,SNR=111						
ASAR	Alice Springs	21.89	212	P	P	14 41 16.7	+0.2
	2.8nm,0.4s,baz=42,slow=7.5,SNR=99						
STKA	Stephens Creek	26.92	189	P	P	14 42 03.9	+0.4

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
	2.3nm,0.5s,baz=13,slow=8.3,SNR=8.5						
MKAR	Makanchi Array	76.36	321	P	P	14 48 09.6	-0.3
	0.2nm,0.5s,baz=105,slow=5.3,SNR=2.8						
ILAR	Eielson Array	85.03	23	P	P	14 48 55.6	0.0
	0.7nm,0.6s,baz=258,slow=5.3,SNR=14						

MEX 08 14:45:04.2±1.0, 16°.41N×98°.15W, h9km±6km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.03	136	*i* P	Pg	14 45 04.4	-1.5
PNIG				*i* S	Sg	14 45 07.0	-0.1
TLIG	Tlapa	1.21	341	*e*P	Pb	14 45 23.7	-3.7
TLIG				*i* S	Sb	14 45 39.1	-4.2
VHO	Vista Hermosa	1.51	64	*e*P	Pn	14 45 27.7	-3.9
VHO				*e*S	Sn	14 45 47.1	-4.4
HUIG	Huatulco	2.06	108	*e*P	Pn	14 45 35.8	-3.2
CAIG	El Cayaco	2.13	288	*e*P	Pn	14 45 37.0	-2.9
CAIG				*e*S	Sn	14 46 02.3	-4.2

IDC 08 14:50:23.9±22.0, 14°.79N×39°.89W, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.3/56, mbtmp3.5/3, Error ellipse: s-maj=908.1km s-min=36.1km az=23.0, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H05S1	Guadeloupe/Mar	20.27	272	T	T	15 12 24.6	
	SNR=48						
H10N3	ASCENSION HYDR	33.75	130	T	T	15 30 44.4	
	baz=305						
H10N2	ASCENSION HYDR	33.76	130	T	T	15 30 47.3	
	baz=305						
H10N1	ASCENSION HYDR	33.77	130	T	T	15 30 42.0	
	baz=305,SNR=4.1						
TORD	Torodi Ar. Bea	40.35	87	P	P	14 58 03.5	-0.1
	0.9nm,0.7s,baz=280,slow=8.1,SNR=4.8						
YKA	Yellowknife Ar	69.94	332	P	P	15 01 36.7	0.0
	0.1nm,0.6s,baz=98,slow=6.6,SNR=2.7						
ILAR	Eielson Array	83.80	336	P	P	15 02 55.0	0.0
	0.5nm,0.9s,baz=74,slow=4.5,SNR=5.0						

BJI 08 15:03:28.3, 4°.69N×93°.95E, h70km, mb4.4/9, mB4.7/8
ISCJB 08 15:03:29.5±0.7, 4°.98N±0°.09×94°.15E±0°.08, h50km, mb4.0/15, Error ellipse: s-maj=16.6km s-min=6.7km az=40.5
NEIC 08 15:03:31.4±3.6, 4°.84N×94°.14E, h73km±42km, mb4.3/3, Error ellipse: s-maj=42.8km s-min=22.0km az=103.0
IDC 08 15:03:32.6±1.0, 5°.13N×94°.20E, h50km±6km, mb3.6/10, mb1 3.8/12, mb1mx3.5/66, mbtmp3.9/12, MS3.1/3, Ms1 3.2/3, ms1mx2.6/61, Error ellipse: s-maj=37.8km s-min=13.2km az=52.0
ISC 08 15:03:31.5±0.8, 4°.98N±0°.09×94°.15E±0°.10, h50km, n33, σ$1^{s}27$/34, mb4.0/15, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LHMI	Lhok Sumawe	2.80	85	*e*Pn	Pn	15 04 14.2	+0.3
GSI	Gunungsitoli	5.00	137	*e*Pn	Pn	15 04 42.4	-1.8
PSI	Prapat	5.23	114	P	Pn	15 04 49.6	+2.2
	2.9nm,0.3s,baz=319,slow=15,SNR=10						
PSI				S	Sn	15 05 44.4	-2.1
	0.7nm,0.3s,baz=283,slow=14,SNR=2.5						
PSI	Prapat	5.23	114	*e*Pn	Pn	15 04 48.1	+0.7
KULM	Kulim	6.49	87	*e*Pn	Pn	15 05 04.2	-0.3
IPM	Ipoh	6.87	94	*e*Pn	Pn	15 05 09.9	+0.1
PALK	Pallekele	13.56	280	LR	LR	15 11 16.4	
	comp=Z,114nm,19.7s,baz=116,slow=34						
CMAR	Chiang Mai Arr	14.20	19	P	Pn	15 06 50.5	+0.6
	0.2nm,0.3s,baz=214,slow=12,SNR=16						
CMAR				LR	LR	15 11 45.0	
	comp=Z,40nm,21.2s,baz=208,slow=35						
LEM	Lembang	17.84	131	LR	LR	15 15 01.2	
	comp=Z,88nm,18.9s,baz=324,slow=38						
KMI	Kunming	21.67	22	P	P	15 08 20.1	+1.8
KMI				pmax	pmax		
	comp=Z,4.0nm,0.6s						
H08S2	Diego Garcia H	24.98	240	T	T	15 34 48.7	
	baz=60,slow=75,SNR=63						
H08S3	Diego Garcia H	24.98	240	T	T	15 34 52.9	
	baz=60,slow=75,SNR=68						
H08S1	Diego Carcia H	24.99	240	T	T	15 34 54.1	
	baz=60,slow=75,SNR=78						
GTA	Gaotai	34.66	8	*e*P	P	15 10 15.8	-0.7
GTA				pP	sP	15 10 33.1	-2.2
GTA				sP	pP	15 10 42.9	+13
GTA				pmax	pmax		
	comp=Z,4.0nm,0.7s						
HHC	Hu-ho-hao-te	38.99	21	*e*P	P	15 10 53.3	0.0
HHC				pmax	pmax		
	comp=Z,17nm,0.8s						
HHC				pmax	pmax		
	comp=Z,74nm,7.4s						
WMQ	Urumqi	39.10	353	P	P	15 10 53.1	-1.0
MK01	Makanchi Array	42.88	348	*e*P	P	15 11 24.5	-0.6
MK31	Makanchi Array	42.90	348	*e*P	P	15 11 24.4	-0.9
MKAR	Makanchi Array	42.90	348	P	P	15 11 25.1	-0.2
	1.6nm,0.8s,baz=166,slow=8.0,SNR=18						
MKAR	Makanchi Array	42.90	348	*e*P	P	15 11 24.4	-0.9
	9.9nm,0.6s						
MAKZ	Makanchi	42.98	348	*e*P	P	15 11 22.9	-3.1
	3.1nm,1.3s						
SONM	Songino Array	43.98	12	P	P	15 11 33.1	-1.0
	1.5nm,0.8s,baz=190,slow=8.2,SNR=12						
SONM				PcP	PcP	15 13 20.3	+1.2
	0.5nm,0.8s,baz=187,slow=5.7,SNR=2.4						
SONA1	Songino Array	43.99	12	*e*P	P	15 11 32.2	-2.0
WRA	Warramunga Arr	46.63	123	P	P	15 11 56.6	+1.2
	1.7nm,0.7s,baz=302,slow=9.2,SNR=28						
WRA				pP	pP	15 12 09.8	+1.0
	4.7nm,0.9s,baz=302,slow=9.2,SNR=12						
KURBB	Kurchatov Arra	47.34	347	P	P	15 12 00.5	+0.1
	1.0nm,0.6s,baz=171,slow=6.9,SNR=18						
KURBB				pP	pP	15 12 13.7	-0.1
	3.2nm,0.8s,baz=169,slow=6.7,SNR=15						
ASAR	Alice Springs	48.10	128	P	P	15 12 08.0	+1.2
	0.8nm,0.7s,baz=297,slow=7.7,SNR=18						
ZALV	Zalesovo Beam	49.41	353	P	P	15 12 16.2	-0.1
	1.7nm,0.7s,baz=187,slow=6.7,SNR=9.5						
ZALV				pP	pP	15 12 29.2	-0.5
	1.5nm,0.6s,baz=181,slow=8.2,SNR=5.0						
ZALV	Zalesovo Beam	49.41	353	*e*P	P	15 12 14.9	-1.4
BVAR	Borovoye Array	51.72	342	P	P	15 12 33.1	-0.7
	0.6nm,0.6s,baz=138,slow=9.2,SNR=4.5						
BRTR	Keskin Array B	64.33	312	P	P	15 14 02.6	+0.1
	0.9nm,0.8s,baz=128,slow=8.1,SNR=6.1						
TIXI	Tiksi	70.06	11	*e*P	P	15 14 36.0	-1.9
	2.6nm,0.7s						
FINES	FINESS Array B	75.26	333	P	P	15 15 09.4	+0.3
	1.6nm,0.7s,baz=86,slow=2.9,SNR=4.3						
GERES	GERESS Array B	79.98	319	P	P	15 15 37.3	+1.5
	0.3nm,0.7s,baz=115,slow=3.8,SNR=4.4						
GERES				pP	pP	15 15 51.2	+1.0
	0.5nm,0.7s,baz=128,slow=6.4,SNR=3.3						

IDC 08 15:03:59.7±18.0, 4°.69N×94°.34E, h80km±118km, mb3.6/7, mb1 3.6/8, mb1mx3.3/65, mbtmp3.9/8, ML4.2/1, MS3.5/1, Ms1 3.5/1, ms1mx2.4/56, Error ellipse: s-maj=182.7km s-min=65.2km az=152.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	14.40	18	P	Pn	15 07 20.1	+0.5
	0.4nm,0.3s,baz=214,slow=12,SNR=8.4						
MKAR	Makanchi Array	43.22	348	P	P	15 11 52.0	-0.8
	1.1nm,0.6s,baz=164,slow=8.3,SNR=5.4						
SONM	Songino Array	44.21	12	P	P	15 12 00.6	-0.4
	1.1nm,0.7s,baz=195,slow=8.7,SNR=5.5						
KURBB	Kurchatov Arra	47.66	346	P	P	15 12 28.1	+0.2
	1.3nm,0.5s,baz=172,slow=7.0,SNR=9.1						
ZALV	Zalesovo Beam	49.72	353	P	P	15 12 43.6	0.0
	0.9nm,0.4s,baz=168,slow=6.6,SNR=4.0						
OPO	Ambohidratompo	51.88	242	LR	LR	15 32 28.1	
	comp=Z,46nm,18.8s,baz=232,slow=33						
BVAR	Borovoye Array	52.05	342	P	P	15 13 01.3	+0.2
	0.8nm,0.7s,baz=150,slow=11,SNR=3.5						
BRTR	Keskin Array B	64.67	312	P	P	15 14 29.2	-0.2
	0.5nm,0.5s,baz=129,slow=4.6,SNR=3.4						
FINES	FINESS Array B	75.60	333	P	P	15 15 36.0	+0.3
	1.1nm,0.7s,baz=96,slow=3.8,SNR=6.2						

BJI 08 15:11:44.9, 4°.82N×93°.95E, h44km, mb4.4/21, mB4.6/15, Ms4.2/4, Ms7 4.2/2
ISCJB 08 15:11:46.7±1.1, 5°.05N±0°.05×94°.19E±0°.06, h49km±10km, mb4.3/41, MS3.3/6, Error ellipse: s-maj=12.1km s-min=6.9km az=144.3
NEIC 08 15:11:48.5±0.6, 5°.10N×94°.22E, h49km±6km, mb4.5/11, Error ellipse: s-maj=8.6km s-min=4.5km az=51.0
IDC 08 15:11:48.9±0.8, 5°.15N×94°.23E, h46km±6km, mb3.9/21, mb1 4.1/24, mb1mx3.8/72, mbtmp4.2/24, ML4.2/3, MS3.3/9, Ms1 3.3/9, ms1mx2.9/64, Error ellipse: s-maj=27.3km s-min=11.0km az=49.0
ISC 08 15:11:48.4±0.7, 5°.08N±0°.06×94°.21E±0°.07, h48km±6km, h48km:pP-P, n105, σ$1^{s}57$/107, mb4.3/41, MS3.2/6, 3C-1D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LHMI	Lhok Sumawe	2.73	87	*e*Pn	Pn	15 12 30.7	+0.9
PKDT	Phuket	4.96	55	P	Pn	15 13 01.2	+0.7
GSI	Gunungsitoli	5.03	138	*e*Pn	Pn	15 13 00.7	-0.7
PSI	Prapat	5.22	115	P	Pn	15 13 05.2	+1.2
	5.6nm,0.3s,baz=325,slow=15,SNR=15						
PSI				S	Sn	15 14 01.4	-1.6
	3.9nm,0.3s,baz=329,slow=12,SNR=2.6						
PSI	Prapat	5.22	115	*e*Pn	Pn	15 13 04.9	+0.8
PSI				S	Sn	15 14 01.4	-1.6
SURT	Suratani	5.97	49	P	Pn	15 13 14.4	+0.2
TRTT	Trang	6.10	63	P	Pn	15 13 16.8	+0.8
KULM	Kulim	6.42	88	*e*Pn	Pn	15 13 20.9	+0.5
IPM	Ipoh	6.82	95	*e*Pn	Pn	15 13 26.4	+0.5
BKNI	Bangkinang	8.29	124	*e*Pn	Pn	15 13 47.6	+1.5
MYKOM	Kota Tinggi	10.16	108	*e*Pn	Pn	15 14 10.6	-1.2
NAYO	Nakonayok	11.55	37	P	Pn	15 14 36.8	+6.1
	26nm,0.9s						
PBKT	Sadao Pong	13.21	30	P	P	15 15 02.4	+0.3
	14nm,0.8s						
PALK	Pallekele	13.60	280	P	Pn	15 14 59.5	+0.7
	0.4nm,0.3s,baz=114,slow=16,SNR=2.7						
PALK				S	Sn	15 17 16.9	-12
	1.5nm,0.3s,baz=113,slow=0.6,SNR=11						
PALK				LR	LR	15 19 53.5	
	comp=Z,150nm,19.2s,baz=116,slow=36						
CMAR	Chiang Mai Arr	14.08	19	P	Pn	15 15 06.2	+1.0
	1.0nm,0.3s,baz=209,slow=14,SNR=24						
CMAR				LR	LR	15 20 11.6	
	comp=Z,66nm,19.9s,baz=199,slow=36						
CHTO	Chiang Mai	14.42	18	*e*Pn	Pn	15 15 10.1	+0.3
CMMT	Chiang Mai	14.42	18	P	P	15 15 13.8	-1.7
	14nm,0.8s,362nm						
PAYA	Payao	15.23	21	P	P	15 15 25.2	+0.6
	5.3nm,0.8s						
LEM	Lembang	17.86	131	LR	LR	15 23 47.8	
	comp=Z,82nm,19.4s,baz=315,slow=40						
KMI	Kunming	21.55	21	P	P	15 16 36.5	+2.4
KMI				pmax	pmax		
	comp=Z,6.0nm,0.5s						
RAMN	Ramite	22.93	342	*e*P	P	15 16 49.6	+0.8
JIRN	Jiri	23.72	342	*e*P	P	15 16 56.1	-0.5
GUN	Gumba	24.05	342	*e*P	P	15 16 58.8	-0.8
GKN	Gorkha	24.55	339	*e*P	P	15 17 03.9	-0.1
LSA	Lhasa	24.66	354	*e*P	P	15 17 04.8	-0.5
	6.2nm,0.8s						
KOLN	Koldanda	24.73	337	*e*P	P	15 17 05.9	+0.3
H08S3	Diego Garcia H	25.08	240	T	T	15 43 04.9	
	baz=60,slow=75,SNR=254						
H08S2	Diego Garcia H	25.08	240	T	T	15 43 04.9	
	baz=60,slow=75,SNR=285						
H08S1	Diego Carcia H	25.10	240	T	T	15 43 05.4	
	baz=60,slow=75,SNR=242						
DANN	Dangsing	25.18	338	*e*P	P	15 17 09.8	-0.1
PYUN	Piuthan	25.26	336	*e*P	P	15 17 10.6	+0.1
CD2	Chengdu	27.23	18	*e*P	P	15 17 29.7	+1.7
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,120nm,5.0s						
XAN	Xi'an	31.89	24	P	P	15 18 08.1	-1.3
XAN				pP	pP	15 18 21.6	-0.4
XAN				pmax	pmax		
	comp=Z,10.0nm,0.6s						
LZH	Lanzhou	32.11	15	*e*P	P	15 18 13.8	+2.4
LZH				pP	pP	15 18 24.3	+0.3
LZH				sP	sP	15 18 27.9	-1.8
LZH				pmax	pmax		
	comp=Z,32nm,1.1s						
NIL	Nilore	34.47	328	*e*P	P	15 18 31.1	-0.7
	11nm,0.6s						
GTA	Gaotai	34.55	8	*e*P	P	15 18 31.7	-0.9
GTA				pP	pP	15 18 44.0	-1.3
GTA				sP	sP	15 18 48.0	-3.0
GTA				pmax	pmax		
	comp=Z,4.0nm,0.7s						
NJ2	Nanjing	35.39	38	*e*P	P	15 18 41.3	+1.6
NJ2				pmax	pmax		
	comp=Z,20nm,0.6s						
FITZ	Fitzroy Crossi	38.62	127	P	P	15 19 07.5	+0.2
	2.3nm,0.6s,baz=312,slow=5.4						
WSAR	Wadi Sarin	38.77	301	LR	LR	15 34 36.9	
	comp=Z,35nm,18.9s,baz=195,slow=35						
HHC	Hu-ho-hao-te	38.88	21	*e*P	P	15 19 11.8	+2.5
HHC				pmax	pmax		
	comp=Z,25nm,0.9s						
HHC				pmax	pmax		
	comp=Z,77nm,5.7s						
WMQ	Urumqi	39.01	353	P	P	15 19 10.2	-0.2
SFK	Sufi-Kurgan	39.47	335	⇑Pn	P	15 19 08.6	-5.9
	1.6nm,0.5s						
AAK	Ala-Archa	41.30	338	*e*P	P	15 19 28.2	-1.2
	3.3nm,0.9s						
MNAS	Manas	41.95	336	⇑Pn	P	15 19 34.9	+0.1
	2.1nm,0.8s						
MK01	Makanchi Array	42.79	348	*e*P	P	15 19 41.2	-0.2
MK31	Makanchi Array	42.82	348	*e*P	P	15 19 41.4	-0.2
MKAR	Makanchi Array	42.82	348	P	P	15 19 41.8	+0.2
	3.4nm,0.6s,baz=166,slow=8.4,SNR=48						
MKAR				pP	pP	15 19 54.5	-0.1
	3.4nm,0.7s,baz=163,slow=7.4,SNR=10						
MKAR				PcP	PcP	15 21 33.6	+1.5
	0.6nm,0.6s,baz=167,slow=2.8,SNR=3.9						
MKAR				LR	LR	15 40 18.8	
	comp=Z,29nm,20.7s,baz=195,slow=40						
MKAR	Makanchi Array	42.82	348	*e*P	P	15 19 41.3	-0.3
	23nm,0.7s						
MKAR				pP	pP	15 19 54.5	-0.1
MKAR				PcP	PcP	15 21 33.6	+1.5
MAKZ	Makanchi	42.90	348	*e*P	P	15 19 42.0	-0.3
	3.9nm,0.8s						
KK06	Karatay Array	43.28	335	*e*P	P	15 19 41.4	-4.0
KK07	Karatay Array	43.28	335	*e*P	P	15 19 41.2	-4.2
KK02	Karatay Array	43.29	335	*e*P	P	15 19 41.3	-4.1
KK31	Karatay Array	43.29	335	*e*P	P	15 19 41.3	-4.2
KK31	Karatay Array	43.29	335	⇑Pn	P	15 19 41.1	-4.3
	1.3nm,0.5s,baz=181,slow=13,SNR=14						
KKAR	Karatay Array	43.29	335	*e*P	P	15 19 41.2	-4.3
KK01	Karatay Array	43.29	335	*e*P	P	15 19 40.9	-4.6
KK03	Karatay Array	43.29	335	*e*P	P	15 19 41.5	-4.0
KK05	Karatay Array	43.30	335	*e*P	P	15 19 41.6	-3.9
KK08	Karatay Array	43.30	335	*e*P	P	15 19 41.5	-4.0
SONM	Songino Array	43.87	12	P	P	15 19 49.4	-0.8
	2.4nm,0.7s,baz=192,slow=8.2,SNR=19						
SONM				PcP	PcP	15 21 36.7	+0.9
	0.6nm,0.3s,baz=251,slow=3.9,SNR=5.5						
SONA1	Songino Array	43.88	12	*e*P	P	15 19 48.9	-1.4
JNU	Nakatsue	44.09	46	LR	LR	15 39 04.0	
	comp=Z,30nm,18.2s,baz=230,slow=37						
KSRS	Korea Array	44.55	39	LR	LR	15 39 22.7	
	comp=Z,29nm,18.3s,baz=226,slow=37						
GYA1	ALIBECK ARRAY	46.34	320	*e*P	P	15 20 10.8	+0.9
	3.9nm,0.8s						
GEYT	Alibeck	46.34	320	P	P	15 20 11.6	+1.7
	3.1nm,0.8s,baz=157,slow=9.6,SNR=7.4						
WRA	Warramunga Arr	46.63	123	P	P	15 20 13.1	+0.7
	3.2nm,0.7s,baz=302,slow=9.1,SNR=54						
WRA				pP	pP	15 20 25.8	+0.4
	6.9nm,0.7s,baz=303,slow=8.9,SNR=9.9						
WB2	Warramunga Arr	46.64	123	*e*P	P	15 20 12.9	+0.4
KURBB	Kurchatov Arra	47.26	346	P	P	15 20 17.1	+0.3
	3.2nm,0.5s,baz=175,slow=7.0,SNR=44						
KURBB				pP	pP	15 20 29.4	-0.5
	6.6nm,0.8s,baz=169,slow=6.7,SNR=13						
KURK	Kurchatov	47.33	347	*e*P	P	15 20 17.4	+0.2
	5.0nm,0.8s						
KURK				pP	pP	15 20 29.4	-1.0
ASAR	Alice Springs	48.11	128	P	P	15 20 24.6	+0.7
	1.5nm,0.6s,baz=300,slow=7.8,SNR=36						
AS31	Alice Springs	48.11	128	*e*P	P	15 20 24.2	+0.3
	1.1nm,0.9s						
AS01	Alice Springs	48.15	128	*e*P	P	15 20 24.5	+0.4
ZAA0	Zalesovo Array	49.32	353	*e*P	P	15 20 32.1	-0.5
	5.3nm,0.9s						
ZALV	Zalesovo Beam	49.32	353	P	P	15 20 33.0	+0.5
	1.9nm,0.3s,baz=186,slow=7.2,SNR=18						
ZALV				pP	pP	15 20 45.7	0.0
	1.7nm,0.3s,baz=180,slow=7.6,SNR=7.3						
ZALV				LR	LR	15 45 21.6	
	comp=Z,40nm,18.4s,baz=66,slow=41						
ZALV	Zalesovo Beam	49.32	353	*e*P	P	15 20 32.4	-0.2
ZALV				pP	pP	15 20 45.7	0.0
BVAR	Borovoye Array	51.65	342	P	P	15 20 50.0	-0.2
	1.4nm,0.6s,baz=133,slow=9.2,SNR=12						
BVAR				PcP	PcP	15 22 04.9	+1.6
	0.7nm,0.6s,baz=116,slow=3.4,SNR=2.1						
AB07	Akbulak array	52.70	332	*e*P	P	15 20 57.8	-0.3
AB06	Akbulak array	52.71	332	*e*P	P	15 20 57.1	-1.0
AB01	Akbulak array	52.72	332	*e*P	P	15 20 58.2	0.0
AB31	Akbulak array	52.72	332	*e*P	P	15 20 57.9	-0.3
ABKAR	Akbulak array	52.72	332	*e*P	P	15 20 58.2	0.0
	22nm,0.8s						
AB02	Akbulak array	52.72	332	*e*P	P	15 20 58.1	-0.1
AB04	Akbulak array	52.72	332	*e*P	P	15 20 58.0	-0.2
AB05	Akbulak array	52.73	332	*e*P	P	15 20 58.3	0.0
AB09	Akbulak array	52.73	332	*e*P	P	15 20 58.0	-0.3
AKTO	Aktyubinsk	54.43	332	P	P	15 21 10.6	-0.1
	0.8nm,0.5s,baz=147,slow=5.6,SNR=4.3						
KBZ	Khabaz	59.21	319	P	P	15 21 43.7	-1.0
	1.4nm,0.8s,baz=133,slow=5.5,SNR=5.2						
BR131	Keskin Array S	64.31	312	*e*P	P	15 22 19.0	-0.4
BRTR	Keskin Array B	64.31	312	P	P	15 22 19.4	+0.1
	2.0nm,0.7s,baz=127,slow=7.3,SNR=14						
TIXI	Tiksi	69.95	11	*e*P	P	15 22 52.9	-1.4
	4.9nm,0.7s						
PETK	Petropavlovsk-	70.23	35	LR	LR	15 59 10.1	
	comp=Z,16nm,18.3s,baz=218,slow=40						
AKASG	Malin Array Be	70.39	322	P	P	15 22 56.0	-1.4
	0.9nm,0.6s,baz=97,slow=5.8,SNR=5.7						
MLR	Muntele Rosu	71.22	316	P	P	15 23 04.2	+1.5
	1.2nm,0.6s,baz=123,slow=17,SNR=3.6						
FINES	FINESS Array B	75.20	333	P	P	15 23 25.9	+0.2
	2.5nm,0.6s,baz=95,slow=5.4,SNR=25						
ARCES	ARCESS Array B	77.91	340	P	P	15 23 41.3	+0.4
	1.7nm,0.8s,baz=79,slow=6.3,SNR=3.6						
GEA0	GERESS Array S	79.95	319	*e*P	P	15 23 51.7	-0.9
GERES	GERESS Array B	79.95	319	P	P	15 23 53.9	+1.2
	1.4nm,0.7s,baz=79,slow=6.9,SNR=8.7						
HFS	Hagfors	80.89	330	P	P	15 23 57.6	+0.2
	1.5nm,0.5s,baz=125,slow=7.2,SNR=11						
NOA	NORSAR Array B	82.19	331	P	P	15 24 04.5	+0.2
	0.9nm,0.8s,baz=92,slow=5.3,SNR=3.2						
SPITS	Spitsbergen Ar	82.57	348	P	P	15 24 06.1	+0.2
	3.9nm,0.9s,baz=110,slow=12,SNR=3.5						
SYO	Syowa Base	82.77	197	⇓*e*sP	sP	15 24 28.8	+2.5
EKA	Eskdalemuir Ar	90.05	325	P	P	15 24 44.2	+1.2
	2.4nm,0.8s,baz=98,slow=5.2,SNR=4.2						
PDAR	Pinedale Array	127.73	22	PKP	PKPdf	15 30 49.8	+0.5
	0.3nm,0.8s,baz=273,slow=3.2,SNR=3.2						
TXAR	Lajitas Array	141.72	26	PKhKP	PKPpre	15 31 10.1	
	0.3nm,0.7s,baz=354,slow=3.6,SNR=2.9						
TXAR				PKP	PKPdf	15 31 14.9	-0.6
	0.2nm,0.6s,baz=254,slow=2.3,SNR=2.5						
CPUP	Villa Florida	145.56	229	PKPbc	PKPab	15 31 22.8	+0.1
	1.6nm,0.7s,baz=127,slow=3.8,SNR=5.8						

ISCJB 08 15:26:48.6±0.6, 56°.40N±0°.05×152°.39W±0°.08, h20km, mb3.8/17, MS3.9/1, Error ellipse: s-maj=6.5km s-min=6.0km az=0.6
IDC 08 15:26:49.1±1.0, 56°.58N×152°.72W, h0km, mb3.8/16, mb1 3.9/18, mb1mx3.8/74, mbtmp3.8/18, ML3.0/2, MS3.4/2, Ms1 3.4/2, ms1mx2.5/70, Error ellipse: s-maj=29.0km s-min=14.9km az=38.0
NEIC 08 15:26:50.8±0.0, 56°.34N×152°.54W, h18km, mb3.9/1, ML3.5(AEIC), After AEIC.
ISC 08 15:26:51.9±0.7, 56°.53N±0°.07×152°.50W±0°.06, h20km, n63, σ$1^{s}53$/61, mb3.9/17, Kodiak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	Old Harbor	0.82	329	P	Pb	15 27 06.7	-0.8
OHAK				S	Sb	15 27 18.3	+0.3
KDAK	Kodiak Island	1.26	358	Pn	Pn	15 27 13.7	-0.6
	20nm,0.3s,baz=141,slow=20,SNR=494						
KDAK				LR	LR	15 27 39.6	
	comp=Z,114nm,21.5s,baz=331,slow=42						
KDAK	Kodiak Island	1.26	358	P	Pn	15 27 13.6	-0.7
CAHL	Cahill	2.16	316	P	Pn	15 27 25.7	-1.0
KJL	Kejulik	2.26	314	P	Pn	15 27 27.2	-1.0
KARR	Katmai Rainbow	2.31	330	P	Pn	15 27 29.4	+0.6
FOSS	Fourpeaked Sta	2.37	345	P	Pn	15 27 30.3	+0.7
FOSS				S	Sn	15 28 00.1	+2.1
FONW	Fourpeaked Sta	2.44	342	P	Pn	15 27 31.3	+0.8
CDD	Cape Douglas	2.49	346	P	Pn	15 27 32.5	+1.3
KAHC	Katmai Hardscr	2.52	329	P	Pn	15 27 32.1	+0.4
AUI	Augustine Isla	2.86	350	P	Pn	15 27 37.3	+1.0
AUI				S	Sn	15 28 12.5	+2.4
AUW	Augustine West	2.90	350	P	Pn	15 27 38.0	+1.1
AUNW	Augustine NWes	2.91	350	P	Pn	15 27 38.1	+1.2
ANNE	Aniakchak Nort	3.09	280	P	Pn	15 27 37.6	-1.9
ANPK	Aniakchak Peak	3.12	278	P	Pn	15 27 37.9	-2.0
CHGN	Chignik	3.29	269	P	Pn	15 27 39.5	-2.7
BRLK	Bradley Lake	3.36	14	P	Pn	15 27 42.2	-1.0
IVE	Iliamna Volcan	3.51	356	P	Pn	15 27 45.7	+0.3
ILW	Iliamna West	3.56	355	P	Pn	15 27 46.5	+0.4
RSO	Redoubt South	3.95	358	Pn	Pn	15 27 53.0	+1.5
SLKM	Skilak Lake	4.17	16	P	Pn	15 27 53.3	-1.0
SDPT	Sand Point	4.64	259	P	Pn	15 27 57.8	-2.9
CKL	Chakachamna La	4.69	1	P	Pn	15 28 01.8	+0.3
RC01	Rabbit Creek A	4.80	16	P	Pn	15 28 01.7	-1.2
PMR	Palmer	5.37	17	*e*Pn	Pn	15 28 09.0	-1.7
	35nm,1.1s						
SML	Sawmill	5.71	20	*e*Pn	Pn	15 28 14.8	-0.7
	7.4nm,0.9s						
DIV	Divide	5.79	34	*e*Pn	Pn	15 28 15.1	-1.5
	13nm,0.5s						
BMRM	Bremner River	6.06	39	*e*Pn	Pn	15 28 19.0	-1.3
	20nm,0.5s						
PPLA	Purkeypile	6.39	1	*e*Pn	Pn	15 28 25.6	+0.6
	13nm,0.7s						
TRF	Thorofare Moun	7.04	8	*e*Pn	Pn	15 28 33.6	-0.1
	18nm,0.9s						
KTH	Kantishna Hill	7.09	6	*e*Pn	Pn	15 28 34.8	+0.3
	14nm,0.9s						
PAX	Paxson	7.37	26	*e*Pn	Pn	15 28 37.5	-0.8
	7.0nm,0.7s						
MCK	McKinley	7.44	12	*e*Pn	Pn	15 28 38.7	-0.6
	16nm,1.1s						
BPAW	Bear Paw Mtn.	7.64	5	*e*Pn	Pn	15 28 42.2	+0.3
	1.7nm,0.8s						
ILAR	Eielson Array	8.71	16	Pn	Pn	15 28 55.1	-1.5
	0.5nm,0.3s,baz=205,slow=14,SNR=33						
ILAR				Sn	Sn	15 30 26.5	-7.7
	0.2nm,0.3s,baz=200,slow=24,SNR=5.4						
ILAR				LR	LR	15 32 46.1	
	comp=Z,104nm,18.1s,baz=282,slow=41						
SKAG	Skagway	9.58	65	*e*Pn	Pn	15 29 08.3	-0.1
	11nm,0.6s						
INK	Inuvik	14.63	29	Pn	Pn	15 30 17.2	-0.1
	0.0nm,0.3s,baz=265,slow=15,SNR=4.6						
YKA	Yellowknife Ar	19.90	57	P	P	15 31 22.1	+0.4
	0.1nm,0.3s,baz=270,slow=9.8,SNR=26						
YKA				PcP	PcP	15 35 37.4	-0.4
	0.0nm,0.3s,baz=251,slow=1.4,SNR=5.5						
YBH	Yreka Blue Hor	24.22	115	P	P	15 32 10.0	+2.9
	2.7nm,1.1s,baz=250,slow=8.6,SNR=4.2						
NVAR	Mina Array Bea	28.93	114	P	P	15 32 50.7	+1.0
	0.8nm,0.8s,baz=295,slow=8.5,SNR=5.2						
PDAR	Pinedale Array	30.47	98	P	P	15 33 04.5	+1.2
	0.4nm,0.5s,baz=300,slow=5.7,SNR=6.0						
TXAR	Lajitas Array	43.60	108	P	P	15 34 55.9	+1.3
	0.6nm,0.7s,baz=315,slow=5.5,SNR=9.3						
H11N2	WAKE ISLAND Hy	47.49	236	T	T	16 26 25.2	
	baz=29,slow=76,SNR=3.4						
H11N3	WAKE ISLAND Hy	47.50	236	T	T	16 26 28.3	
	baz=29,slow=76,SNR=4.6						
H11N1	WAKE ISLAND Hy	47.51	236	T	T	16 26 28.7	
	baz=29,slow=76,SNR=3.8						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
H11S1	WAKE ISLAND Hy	48.65	236	T	T	16 27 48.1	
	baz=29,slow=76,SNR=6.0						
H11S2	WAKE ISLAND Hy	48.66	236	T	T	16 27 56.4	
	baz=29,slow=76,SNR=5.7						
H11S3	WAKE ISLAND Hy	48.66	236	T	T	16 27 57.1	
	baz=29,slow=76,SNR=5.6						
ARCES	ARCESS Array B	54.23	1	P	P	15 36 15.4	-0.2
	2.9nm,0.9s,baz=2.5,slow=6.3,SNR=3.7						
SONM	Songino Array	57.09	308	P	P	15 36 36.4	-0.1
	1.4nm,0.7s,baz=51,slow=5.6,SNR=10						
ZALV	Zalesovo Beam	60.36	325	P	P	15 36 58.3	-0.6
	1.0nm,0.6s,baz=46,slow=8.7,SNR=4.8						
NOA	NORSAR Array B	62.08	9	P	P	15 37 10.7	+0.2
	0.5nm,0.6s,baz=350,slow=6.7,SNR=2.7						
FINES	FINESS Array B	62.36	1	P	P	15 37 12.1	-0.2
	1.5nm,0.8s,baz=20,slow=6.1,SNR=4.7						
HFS	Hagfors	63.17	8	P	P	15 37 18.0	+0.2
	6.3nm,1.2s,baz=54,slow=7.3,SNR=4.3						
KURK	Kurchatov	65.07	327	P	P	15 37 30.8	+0.4
KURBB	Kurchatov Arra	65.18	327	P	P	15 37 30.8	-0.3
	0.5nm,0.7s,baz=33,slow=6.7,SNR=4.8						
BVAR	Borovoye Array	65.28	333	P	P	15 37 31.4	-0.3
	1.5nm,0.6s,baz=26,slow=6.4,SNR=16						
MKAR	Makanchi Array	67.33	323	P	P	15 37 44.5	-0.5
	0.5nm,0.6s,baz=48,slow=7.8,SNR=7.3						
ABKAR	Akbulak array	71.19	338	*e*P	P	15 38 08.4	-0.4
	0.6nm,0.6s						
AKASG	Malin Array Be	73.13	359	P	P	15 38 19.9	-0.5
	0.5nm,0.4s,baz=0.9,slow=5.6,SNR=5.8						
GERES	GERESS Array B	74.37	9	P	P	15 38 28.6	+0.7
	0.4nm,0.6s,baz=18,slow=4.8,SNR=4.7						
ESDC	Sonseca Array	80.53	24	P	P	15 39 03.2	+0.9
	0.3nm,0.4s,baz=347,slow=6.1,SNR=5.0						
RPN	Rapa Nui	90.99	142	LR	LR	16 15 25.9	
	comp=Z,36nm,18.2s,baz=47,slow=32						

*ISK **08** 15:43:03.4, 38°.59N×43°.13E, h19km, ML2.0/3*
*CSEM **08** 15:43:04.6±0.3, 38°.62N×43°.14E, h10km, ML2.6, Error ellipse: s-maj=7.9km s-min=6.1km az=179.0*
*DDA **08** 15:43:05.4, 38°.62N×43°.18E, h7km, Ml2.6*
ISC 08 15:43:04.8±1.0**, 38°.64N**±0°.03×**43°.12E**±0°.03**, h12**km±11km**, n14, σ0.59**/26**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	Van	0.21	101	PG	Pg	15 43 09.2	-0.2
VANB				SG	Sg	15 43 13.4	+0.8
VANB	Van	0.21	101	*e*Pg	Pg	15 43 09.2	-0.2
VANB				*e*Sg	Sg	15 43 13.4	+0.8
TVAN	Van	0.24	116	*i* P	Pg	15 43 09.1	-1.0
TVAN				*i* S	Sg	15 43 13.5	-0.1
TVAN	Van	0.24	116	P	Pg	15 43 09.1	-1.0
TVAN				S	Sg	15 43 13.5	-0.1
GEVA	Gevas	0.33	189	*i* P	Pg	15 43 11.6	+0.1
GEVA				*i* S	Sb	15 43 18.1	+0.2
GEVA	Gevas	0.33	189	P	Pg	15 43 11.6	+0.1
GEVA				S	Sb	15 43 18.1	+0.2
ADCV	BITLIS_Adilcev	0.36	299	*i* P	Pb	15 43 13.0	-0.2
ADCV				*i* S	Sb	15 43 19.8	+0.9
ADCV	BITLIS_Adilcev	0.36	299	P	Pb	15 43 13.0	-0.2
ADCV				S	Sb	15 43 19.8	+0.9
VMUR	Van-Muradiye	0.50	44	*i* P	Pg	15 43 14.2	-0.4
VMUR				*i* S	Sb	15 43 23.2	+0.3
VMUR	Van-Muradiye	0.50	44	P	Pg	15 43 14.2	-0.4
VMUR				S	Sb	15 43 23.2	+0.3
GURO	Guroymak-BITLI	0.86	265	PG	Pg	15 43 20.5	-0.9
GURO				SG	Sg	15 43 32.9	+0.2
GURO	Guroymak-BITLI	0.86	265	*e*Pg	Pg	15 43 20.5	-0.9
GURO				*e*Sg	Sg	15 43 32.9	+0.2
AGRB	Hanur-Agry	0.94	354	PG	Pg	15 43 22.7	-0.4
AGRB	Hanur-Agry	0.94	354	*e*Pg	Pg	15 43 22.7	-0.4

JMA 08 15:43:20.2±0.4**, 45°.34N×150°.78E, h30**km**, M3.8, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	Nemuro 2	4.12	243	P	Pn	15 44 20.1	-0.9
NEM2				*e*S	Sn	15 45 04.4	-3.7
JRA	Rausu	4.28	253	P	Pn	15 44 25.1	+1.9
JNK	Nakash	4.68	250	P	Pn	15 44 29.6	+0.8
JNK				*e*S	Sn	15 45 21.7	-0.3
JAK	Akkeshi	4.96	244	P	Pn	15 44 31.7	-0.9
JAK				*e*S	Sn	15 45 24.4	-4.6
JTKR	Abashiri--Toko	5.09	257	P	Pn	15 44 36.5	+2.1
JAR	Ashorobuto	5.43	250	P	Pn	15 44 40.4	+1.4
JMP	Maruseppu	5.46	258	P	Pn	15 44 42.1	+2.6
JOB	Onbets	5.56	246	P	Pn	15 44 41.0	+0.2
JOB				*e*S	Sn	15 45 40.9	-2.8
JKK2	Kamakawa 2	5.92	258	P	Pn	15 44 48.7	+2.9
JCH	Churui	6.00	246	P	Pn	15 44 46.4	-0.5
JCH				*e*S	Sn	15 45 50.7	-4.0
JFR	Furan	6.27	253	P	Pn	15 44 53.3	+2.7
JEM	Erimo	6.45	242	*e*S	Sn	15 46 00.3	-5.2
JNBK	Urakawa-nobuka	6.56	245	P	Pn	15 44 53.8	-0.8
JNBK				*e*S	Sn	15 46 01.9	-6.5
JBT2	Biratori 2	6.58	250	P	Pn	15 44 55.2	+0.3
JNB	Noboribetsu	7.60	251	P	Pn	15 45 09.1	+0.3
JNB				*e*S	Sn	15 46 30.0	-3.8
JKB	Kayabe	7.87	247	P	Pn	15 45 12.0	-0.5
JYM2	Yakumo 2	8.20	251	P	Pn	15 45 17.2	+0.2

*MAN **08** 16:00:03, 20°.63N×120°.91E, h11km, mb5.0, ML4.0, MS4.0*
*IDC **08** 16:00:03.8±0.7, 20°.47N×121°.14E, h0km, mb3.9/10, mb1 4.1/12, mb1mx3.8/62, mbtmp3.9/12, ML3.8/2, MS3.3/17, Ms1 3.3/17, ms1mx3.0/58, Error ellipse: s-maj=27.7km s-min=14.9km az=66.0*
*NEIC **08** 16:00:05.4±0.5, 20°.47N×121°.06E, h10km, mb4.5/1, Error ellipse: s-maj=10.2km s-min=6.9km az=108.0*
*ISCJB **08** 16:00:06.6±0.3, 20°.57N±0°.02×121°.12E±0°.04, h29km, mb4.1/13, MS3.3/16, Error ellipse: s-maj=5.3km s-min=2.8km az=18.6*
*JMA **08** 16:00:08.7±0.7, 20°.65N×121°.07E, h126km, M3.4*
*BJI **08** 16:00:10.7, 21°.08N×120°.65E, h10km, mb4.1/13, mB4.5/16, ML4.0/1, Ms4.0/10, Ms7 3.9/6*
ISC 08 16:00:08.2±0.5**, 20°.60N**±0°.04×**120°.91E**±0°.05**, h29**km**, n69, σ1.98**/70**, mb4.1**/12**, MS3.2**/16**, 2C-1D, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWG	Pinlang	2.22	4	*e*Pn	Pn	16 00 43.3	+0.2
TPUB	Ta-pu	2.70	355	*e*Pn	Pn	16 00 49.5	-0.3
APYP	Conner	2.74	173	*e*P	Pn	16 00 48.5	-1.8
APYP				*e*S	Sn	16 01 20.2	-2.2
YULB	Yu-li	2.80	7	*e*Pn	Pn	16 00 51.4	+0.2
ABRA	Dolores	2.94	184	*e*P	Pn	16 00 51.1	-1.9
ABRA				*e*S	Sn	16 01 27.6	+0.2
SSLB	Suanglung	3.17	1	*e*Pn	Pn	16 00 56.1	-0.1
NACB	Ninganchiao	3.61	10	*e*Pn	Pn	16 01 02.8	+0.5
CAUP	Cauayan	3.74	166	*e*P	Pn	16 01 04.3	+0.3
YHNB	Yeheng	4.07	6	*e*Pn	Pn	16 01 10.0	+1.3
JYNG	Yonagunijimaku	4.27	26	P	Pn	16 01 13.2	+1.9
JYNG				*e*S	Sn	16 02 00.4	+0.2
YOJ	Yonaguni jima	4.31	26	*e*Pn	Pn	16 01 13.1	+1.3
HATJ	Hateruma jima	4.36	37	P	Pn	16 01 12.3	-0.3
HATJ				*e*S	Sn	16 01 59.6	-2.8
IRIF	Iriomote-Funau	4.54	35	P	Pn	16 01 15.4	+0.4
IRIF				*e*S	Sn	16 02 07.0	+0.1
JKRS	Kuro-shima	4.62	38	P	Pn	16 01 16.4	+0.3
JKRS				*e*S	Sn	16 02 06.6	-2.2
JIJ	Ishigaki jima	4.79	38	P	Pn	16 01 18.4	-0.1
JIJ				S	Sn	16 02 10.5	-2.6
QZH	Quanzhou	4.82	334⇓	*i*Pn	Pn	16 01 18.7	-0.2
QZH				Sn	Sn	16 02 06.9	-6.9
BALP	Baler	4.87	172	*e*P	Pn	16 01 18.2	-1.4
SCZP	Santa Cruz	4.89	191	*e*P	Pn	16 01 19.2	-0.6
PCPH	Palayan	5.01	178⇑	*e*P	Pn	16 01 21.9	+0.3
JISG	Ishigakijimahi	5.06	38	P	Pn	16 01 21.5	-0.7
JISG				*e*S	Sn	16 02 17.3	-2.4
JTJ	Tarama	5.33	40	P	Pn	16 01 26.0	+0.1
JTJ				S	Sn	16 02 24.3	-2.1
JIRB	Irabujima	5.76	42	P	Pn	16 01 30.7	-1.1
JIRB				*e*S	Sn	16 02 33.5	-3.5
JIKM	Ikemajima	5.88	42	S	Sn	16 02 36.5	-3.3
GQP	Guinayangan	6.82	167⇑	*e*P	Pn	16 01 42.4	-3.9
MCO	Taipa Grande	7.02	284	P	Sn	16 03 03.0	-4.9
JOW	Kunigami	9.16	46	Pn	Pn	16 02 16.9	-1.7
	3.5nm,0.3s,baz=21,slow=14,SNR=15						
JOW	Kunigami	9.16	46	*e*Pn	Pn	16 02 18.3	-0.2
QIZ	Qiongzhong	10.53	263	*e*Pn	Pn	16 02 37.8	+0.4
NJ2	Nanjing	11.55	351	*e*P	Pn	16 02 49.6	-1.6
NJ2				pmax	pmax		
	comp=Z,14nm,0.5s						
DAV	Davao City (W)	14.19	161	LR	LR	16 09 27.4	
	comp=Z,141nm,19.0s,baz=332,slow=40						
JNU	Nakatsue	15.31	33	LR	LR	16 09 39.2	
	comp=Z,83nm,21.9s,baz=239,slow=38						
XAN	Xi'an	17.09	324	P	P	16 04 18.2	+12
XAN				pP	sP	16 04 20.8	+2.7
XAN				pmax	pmax		
	comp=Z,7.0nm,0.9s						
KMI	Kunming	17.34	288	P	P	16 04 09.5	-0.1
KMI				pmax	pmax		
	comp=Z,6.0nm,0.6s						
KSAR	Wonju Array Be	17.85	18	P	Pn	16 04 14.6	+0.2
KSRS	Korea Array	17.87	18	P	Pn	16 04 14.6	-0.1
	comp=Z,0.1nm,0.3s,baz=200,slow=12,SNR=8.1						
KSRS				LR	LR	16 12 03.6	
	comp=Z,39nm,18.6s,baz=189,slow=40						
CD2	Chengdu	18.53	307	*e*P	P	16 04 22.5	0.0
CD2				pP	Pn	16 04 25.7	+2.9
CD2				sP	pP	16 04 27.1	-3.2
CD2				S	Sn	16 07 48.2	-0.9
CD2				pmax	pmax		
	comp=Z,40nm,0.4s						
CD2				pmax	pmax		
	comp=Z,160nm,4.8s						
CD2				LR	LR		
	comp=Z,190nm,10.4s						
CD2				LR	LR		
	comp=Z,300nm,11.9s						
MRSI	Marisa	20.02	177	P	Pn	16 04 41.7	+0.9
JCJ	Chichijima	20.49	68	LR	LR	16 11 24.1	
	comp=Z,48nm,19.7s,baz=265,slow=33						
CMAR	Chiang Mai Arr	20.81	268	P	Pn	16 04 50.1	+0.1
	comp=Z,1.9nm,0.6s,baz=72,slow=9.4,SNR=21						
CMAR				PcP	PcP	16 08 56.6	+0.7
	comp=Z,0.5nm,0.6s,baz=353,slow=0.9,SNR=6.2						
CMAR				LR	LR	16 13 14.2	
	comp=Z,82nm,18.4s,baz=92,slow=38						
JHJ	Hachijo jima 2	20.91	50	LR	LR	16 11 45.7	
	comp=Z,50nm,21.7s,baz=266,slow=34						
APSI	Ampana	21.39	178	P	P	16 04 55.7	+2.0
HHC	Hu-ho-hao-te	21.70	341	*e*P	P	16 04 57.7	+0.8
HHC				S	S	16 08 51.0	-4.7
HHC				pmax	pmax		
	comp=Z,16nm,0.8s						
HHC				pmax	pmax		
	comp=Z,87nm,3.9s						
HHC				LR	LR		
	comp=Z,1μm,10.3s						
HHC				LR	LR		
	comp=Z,1μm,11.0s						
HHC				LR	LR		
	comp=Z,1μm,11.3s						
SANI	Sanana	23.05	167	P	P	16 05 10.2	-1.2
CN2	Changchun	23.45	8	*e*P	P	16 05 18.2	+3.1
CN2				*e*sP	sP	16 05 25.2	-1.7
CN2				*e*S	S	16 09 27.0	+0.4
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
CN2				pmax	pmax		
	comp=Z,200nm,3.0s						
CN2				LR	LR		
	comp=Z,200nm,16.0s						
CN2				LR	LR		
	comp=Z,200nm,16.0s						
CN2				LR	LR		
	comp=Z,200nm,17.0s						
SIJI	Sorong	23.62	153	LR	LR	16 16 50.2	
	comp=Z,28nm,18.9s,baz=52,slow=43						
GUMO	Guam	23.92	103	LR	LR	16 14 24.2	
	comp=Z,66nm,19.1s,baz=240,slow=36						
NLAI	Namlea	24.46	165	P	P	16 05 25.2	+0.4
GTA	Gaotai	26.06	321	*e*P	P	16 05 41.4	+2.0
GTA				pP	pP	16 05 46.9	-0.9
GTA				sP	sP	16 05 50.0	-1.4
PSI	Prapat	27.79	233	LR	LR	16 17 31.6	
	comp=Z,48nm,19.8s,baz=94,slow=38						
SONM	Songino Array	29.60	340	P	P	16 06 14.2	+3.3
	comp=Z,0.5nm,0.7s,baz=161,slow=7.6,SNR=3.6						
SONM				LR	LR	16 19 36.6	
	comp=Z,31nm,19.1s,baz=130,slow=39						
WMQ	Urumqi	36.03	318	P	P	16 07 10.4	+3.3
MK01	Makanchi Array	40.78	319	*e*P	P	16 07 48.9	+2.0
MKAR	Makanchi Array	40.80	319	P	P	16 07 48.7	+1.7
	comp=Z,0.9nm,0.7s,baz=114,slow=9.6,SNR=11						
MKAR				PcP	PcP	16 09 47.8	+0.1
	comp=Z,0.4nm,0.7s,baz=110,slow=4.0,SNR=3.5						
MKAR	Makanchi Array	40.80	319	*e*P	P	16 07 48.5	+1.5
	comp=Z,8.8nm,0.8s						
MKAR				PcP	PcP	16 09 47.8	+0.1
WRA	Warramunga Arr	42.38	161	P	P	16 07 57.6	-2.6
	comp=Z,16nm,0.7s,baz=343,slow=9.0,SNR=88						
PETK	Petropavlovsk-	43.00	32	LR	LR	16 28 23.8	
	comp=Z,25nm,18.4s,baz=243,slow=40						
ZALV	Zalesovo Beam	43.15	329	P	P	16 08 06.7	+0.7
	comp=Z,1.0nm,0.6s,baz=99,slow=9.6,SNR=6.0						
ZALV				LR	LR	16 27 39.8	
	comp=Z,41nm,18.7s,baz=70,slow=38						
AAK	Ala-Archa	44.55	310	LR	LR	16 29 13.2	
	comp=Z,46nm,18.0s,baz=88,slow=39						
KURK	Kurchatov	44.72	323	P	P	16 08 20.4	+1.7
KURBB	Kurchatov Arra	44.73	322	P	P	16 08 20.4	+1.7
	comp=Z,2.0nm,0.9s,baz=121,slow=7.5,SNR=8.8						
ASAR	Alice Springs	45.78	163	P	P	16 08 26.1	-1.4
	comp=Z,4.3nm,0.5s,baz=352,slow=6.7,SNR=137						
STKA	Stephens Creek	55.82	159	P	P	16 09 42.0	-1.0
	comp=Z,2.7nm,0.7s,baz=336,slow=8.5,SNR=7.9						
AKTO	Aktyubinsk	57.19	317	LR	LR	16 38 32.4	
	comp=Z,22nm,18.3s,baz=96,slow=40						
KBZ	Khabaz	67.54	310	P	P	16 11 03.5	+1.6
	comp=Z,1.1nm,0.8s,baz=175,slow=5.1,SNR=3.7						
HFS	Hagfors	80.56	331	LR	LR	16 53 03.6	
	comp=Z,33nm,18.0s,baz=18,slow=39						
NOA	NORSAR Array B	81.26	332	LR	LR	16 53 01.9	
	comp=Z,28nm,18.9s,baz=105,slow=39						
GERES	GERESS Array B	85.44	321	P	P	16 12 44.0	+0.7
	comp=Z,1.5nm,1.0s,baz=90,slow=2.7,SNR=6.1						
YKA	Yellowknife Ar	86.36	23	P	P	16 12 47.7	+0.3
	comp=Z,0.2nm,0.5s,baz=306,slow=4.7,SNR=5.8						
EKA	Eskdalemuir Ar	90.73	332	LR	LR	16 58 41.4	
	comp=Z,26nm,18.7s,baz=265,slow=39						

IDC 08 16:05:27.9±52.0**, 14°.96S×171°.46W, h0**km**, mb3.8**/3**, mb1 4.0**/3**, mb1mx3.5**/48**, mbtmp3.8**/3**, Error ellipse: s-maj=1011.0km s-min=180.0km az=79.0, Samoa Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	45.88	240	P	P	16 13 52.1	-0.2
	1.3nm,0.8s,baz=82,slow=7.1,SNR=3.8						
WRA	Warramunga Arr	51.77	256	P	P	16 14 37.6	-0.2
	0.2nm,0.4s,baz=92,slow=6.9,SNR=11						
ASAR	Alice Springs	52.03	252	P	P	16 14 39.6	0.0
	2.8nm,0.5s,baz=89,slow=7.8,SNR=104						

*ISCJB **08** 16:15:56.0±0.3, 23°.20N±0°.02×121°.67E±0°.02, h30km±2km, Error ellipse: s-maj=3.2km s-min=2.3km az=157.4*
*JMA **08** 16:15:55.8±0.1, 23°.19N×121°.57E, h48km±3km, M2.8*
*TAP **08** 16:15:56.3, 23°.22N×121°.59E, h44km, ML3.4, C*
ISC 08 16:15:56.3±1.0**, 23°.22N**±0°.02×**121°.62E**±0°.02**, h31**km±4km**, n72, σ0.84**/123**, Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHKT	Chengkung	0.26	243	*i* P	Pb	16 16 04.2	+0.8
	baz=239						
CHKT				*i* S	Sn	16 16 09.8	+0.9
	baz=239						
FULB	Fuli	0.30	266	P	Pb	16 16 04.5	+0.6
	baz=267						
FULB				S	Sn	16 16 12.1	+2.2
	baz=267						
HGSD	Ruisui	0.32	326	P	Pn	16 16 04.8	0.0
	baz=330						
YULB	Yu-li	0.34	300	P	Pn	16 16 05.1	0.0
	baz=303						
EHY	Hungye	0.39	316	P	Pb	16 16 05.6	+0.4
	baz=309						
EHY				S	Sn	16 16 12.1	-0.1
	baz=309						
TWH	Lutao	0.53	194	*e*P	Pb	16 16 07.7	+0.6
	baz=190						
TWH				*e*S	Sb	16 16 15.8	+1.1
	baz=190						
ELDTW	Lidau	0.56	267	*i* P	Pb	16 16 07.3	-0.4
	baz=264						
ELDTW				*i* S	Sb	16 16 14.7	-0.9
	baz=264						
ESL	Shilin	0.61	344	P	Pb	16 16 08.3	-0.3
	baz=336						
TWGBT	Beinan	0.64	231	P	Pb	16 16 08.2	-0.9
	baz=240						
TWGBT				S	Sb	16 16 16.9	-0.9
	baz=240						
TWG	Pinlang	0.64	232	P	Pb	16 16 08.3	-0.8
	baz=240						
TWG				S	Sb	16 16 17.0	-0.9
	baz=240						
YUS	Yu-Shan	0.67	294	P	Pb	16 16 09.9	+0.1
	baz=295						
YUS				S	Sb	16 16 19.1	0.0
	baz=295						
ENLB	Shoufeng	0.68	359	*e*P	Pb	16 16 09.7	0.0
	baz=6.0						
ENLB				*e*S	Sn	16 16 19.7	+0.5
	baz=6.0						
STYT	Tauyuan	0.80	266	P	Pn	16 16 11.2	-0.2
	baz=261						
STYT				S	Sb	16 16 21.8	-0.4
	baz=261						
ALS	Alishan	0.80	291	P	Pb	16 16 12.0	0.0
	baz=288						
ALS				S	Sn	16 16 23.1	+0.4
	baz=288						
SSLB	Suanglung	0.83	313	*e*P	Pn	16 16 11.7	-0.1
	baz=317						
SSLB				*e*S	Sb	16 16 22.1	-1.1
	baz=317						
OWD	Renai	0.83	331	*e*P	Pn	16 16 12.3	+0.3
	baz=339						
TWD	Chiawan	0.85	359	*e*P	Pn	16 16 11.9	-0.3
	baz=5.0						
TWD				*e*S	Sb	16 16 23.3	-0.5
	baz=5.0						
ECL	Taimali	0.87	225	*e*P	Pn	16 16 11.1	-1.3
	baz=224						
ECL				*e*S	Sn	16 16 21.7	-2.4
	baz=224						
TPUB	Ta-pu	0.91	275	P	Pn	16 16 13.6	+0.6
	baz=275						
TPUB				S	Sb	16 16 25.8	+0.3
	baz=275						
SLGT	Liugui	0.92	256	P	Pn	16 16 13.5	+0.4
	baz=256						
SLGT				S	Sn	16 16 25.8	+0.5
	baz=256						
WTP	Ta-pu	0.93	272	P	Pb	16 16 14.0	+0.1
	baz=272						
WTP				*e*S	Sb	16 16 27.3	+1.4
	baz=272						
CHGB	Renai	0.93	334	P	Pn	16 16 13.3	-0.1
	baz=343						
CHGB				S	Sb	16 16 25.4	-0.8
	baz=343						
SMLT	Sun Moon Lake	0.93	315	P	Pn	16 16 13.8	+0.5
	baz=318						
SMLT				S	Sn	16 16 25.8	+0.1
	baz=318						
CHN5	Tsauling	0.94	294	P	Pb	16 16 14.2	0.0
	baz=305						
CHN5				S	Sb	16 16 27.6	+1.3
	baz=305						
NACB	Ninganchiao	0.95	359	*e*P	Pn	16 16 12.3	-1.1
	baz=348						
NACB				*e*S	Sn	16 16 24.6	-1.3
	baz=348						
CHN4	Tsaushan	0.95	278	*e*P	Pb	16 16 14.3	0.0
	baz=278						
CHN4				*e*S	Sb	16 16 28.0	+1.4
	baz=278						
SGST	Jiashian	0.96	262	P	Pn	16 16 14.4	+0.8
	baz=262						
SGST				S	Sb	16 16 27.8	+0.9
	baz=262						
TYC	Yuchr	0.97	314	P	Pb	16 16 14.4	-0.2
	baz=322						
TYC				S	Sb	16 16 27.8	+0.6
	baz=322						
WHF	Hehuan Shan	0.97	341	P	Pn	16 16 13.9	-0.3
	baz=342						
WHF				S	Sn	16 16 26.0	-1.2
	baz=342						
CHN1	Nanshi	1.00	268	*e*P	Pn	16 16 15.1	+0.8
	baz=268						
CHN1				*e*S	Sb	16 16 29.4	+1.3
	baz=268						
WJS	Zhushan	1.01	306	*e*P	Pb	16 16 15.6	+0.3
	baz=307						
SSD	Sandimen	1.03	243	*e*P	Pn	16 16 14.3	-0.2
	baz=243						
DPDB	Guoxing	1.03	322	P	Pn	16 16 15.2	+0.6
	baz=328						
DPDB				*e*S	Sb	16 16 28.4	-0.4
	baz=328						
TWK	Hsinying	1.04	273	P	Pb	16 16 15.8	0.0
	baz=273						
TWK				S	Sb	16 16 30.1	+0.9
	baz=273						
WGK	Gukeng	1.07	296	P	Pb	16 16 16.0	-0.3
	baz=305						
WGK				S	Sb	16 16 30.9	+0.8
	baz=305						
WNT	Mingjian	1.08	307	P	Pb	16 16 16.0	-0.4
	baz=308						
WNT				S	Sb	16 16 31.1	+0.9
	baz=308						
MASBT	Mashibuluo	1.09	236	*e*P	Pn	16 16 15.2	-0.2
	baz=234						
CHN2	Minshiung	1.10	287	*e*P	Pb	16 16 16.4	-0.3
	baz=274						
TWT	Tachien	1.10	338	*e*P	Pn	16 16 16.4	+0.6
	baz=345						
TWT				*e*S	Sn	16 16 29.3	-0.8
	baz=345						
CHN3	Shinhua	1.16	263	*e*P	Pb	16 16 18.4	+0.6
	baz=263						
CHN3				*e*S	Sb	16 16 35.2	+2.6
	baz=263						
TWM1	Shoushan	1.17	250	*e*P	Pb	16 16 18.6	+0.7
	baz=251						
LAY	Lan-yu	1.18	183	*e*P	Pn	16 16 15.2	-1.5
	baz=176						
ENA	Nanau	1.21	5	*e*P	Pn	16 16 16.6	-0.4
	baz=15						
ENA				*e*S	Sn	16 16 32.3	+0.1
	baz=15						
NANB	Nanao	1.21	6	*e*P	Pn	16 16 16.4	-0.6
	baz=14						
NNSB	Datong	1.22	350	*e*P	Pn	16 16 17.4	+0.1
	baz=357						
NNS	Nan Shan	1.23	350	*e*P	Pn	16 16 18.3	+0.8
	baz=357						
TCU	Taichung	1.26	317	*e*P	Pb	16 16 19.7	+0.1
	baz=317						
WCHH	Zhanghua	1.29	311	*e*P	Pn	16 16 18.8	+0.7
	baz=311						
WCHH				*e*S	Sb	16 16 36.6	+0.3
	baz=311						
CHN8	Yiju	1.30	276	P	Pn	16 16 18.8	+0.6
	baz=276						
CHN8				S	Sb	16 16 35.8	-0.7
	baz=276						
RLNB	Erlin	1.33	300	*e*P	Pn	16 16 18.8	+0.1
	baz=300						
WSF	Szhu	1.35	288	*e*P	Pn	16 16 19.5	+0.5
	baz=287						
TWQ1	Liyutan	1.36	326	*e*P	Pb	16 16 20.9	-0.3
	baz=335						
TWQ1				*e*S	Sb	16 16 39.1	+0.8
	baz=335						
WSSB	Gushan	1.38	246	*e*P	Pn	16 16 20.5	+1.1
	baz=246						
WTCT	Ta-ch'eng	1.39	298	*e*P	Pn	16 16 20.1	+0.6
	baz=298						
WTCT				*e*S	Sb	16 16 38.0	-0.8
	baz=298						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
TWC	**Suao**	**1.40**	**9**	*e*P	**Pn**	**16 16 20.9**	**+1.3**
	baz=9.0						
TWC				*e*S	**Sn**	**16 16 37.4**	**+0.5**
	baz=9.0						
ENTT	**Nioudou**	**1.41**	**358**	*e*P	**Pn**	**16 16 19.9**	**0.0**
	baz=358						
NSY	**Sanyi**	**1.43**	**327**	*e*P	**Pb**	**16 16 21.5**	**-0.8**
	baz=339						
NSY				*e*S	**Sb**	**16 16 40.9**	**+0.8**
	baz=339						
YHNB	**Yeheng**	**1.46**	**351**	*e*P	**Pn**	**16 16 20.5**	**-0.1**
	baz=351						
TWKBT	**Hengchun**	**1.48**	**210**	*e*P	**Pn**	**16 16 20.1**	**-0.6**
	baz=211						
NSTT	**Nanjuang**	**1.51**	**338**	*e*P	**Pn**	**16 16 22.3**	**+1.1**
	baz=338						
NSTT				*e*S	**Sb**	**16 16 41.3**	**-1.2**
	baz=338						
LIOB	**Emei**	**1.52**	**339**	*e*P	**Pn**	**16 16 22.5**	**+1.2**
	baz=338						
LIOB				*e*S	**Sb**	**16 16 41.3**	**-1.5**
	baz=338						
JYNG	**Yonagunijimaku**	**1.72**	**45**	P	**Pn**	**16 16 25.1**	**+1.0**
JYNG				*e*S	**Sn**	**16 16 46.3**	**+1.3**
TIPB	**Shuangxi**	**1.75**	**6**	*e*P	**Pn**	**16 16 25.4**	**+0.8**
	baz=355						
YOJ	**Yonaguni jima**	**1.77**	**46**	P	**Pn**	**16 16 25.5**	**+0.7**
YOJ				*e*S	**Sn**	**16 16 47.3**	**+1.0**
PNG	**Penghu**	**1.93**	**281**	*e*P	**Pn**	**16 16 26.0**	**-0.9**
	baz=269						
PNG				*e*S	**Sn**	**16 16 49.1**	**-1.0**
	baz=269						
HATJ	**Hateruma jima**	**2.17**	**67**	P	**Pn**	**16 16 30.7**	**+0.5**
HATJ				S	**Sn**	**16 16 56.3**	**+0.3**
IRIF	**Iriomote-Funau**	**2.23**	**60**	P	**Pn**	**16 16 32.4**	**+1.4**
IRIF				*e*S	**Sn**	**16 16 59.5**	**+2.0**
JKRS	**Kuro-shima**	**2.41**	**65**	P	**Pn**	**16 16 34.5**	**+0.9**
JKRS				*e*S	**Sn**	**16 17 02.5**	**+0.5**
JIJ	**Ishigaki jima**	**2.58**	**63**	P	**Pn**	**16 16 36.0**	**+0.2**
JIJ				S	**Sn**	**16 17 05.2**	**-0.9**
JISG	**Ishigakijimahi**	**2.81**	**61**	P	**Pn**	**16 16 39.1**	**0.0**
JISG				*e*S	**Sn**	**16 17 11.8**	**-0.1**
JTJ	**Tarama**	**3.15**	**63**	P	**Pn**	**16 16 44.6**	**+0.8**
JTJ				*e*S	**Sn**	**16 17 20.6**	**+0.2**
JIRB	**Irabujima**	**3.62**	**63**	P	**Pn**	**16 16 50.5**	**+0.3**
JIRB				*e*S	**Sn**	**16 17 31.9**	**0.0**

*NEIC **08** 16:20:37.3±0.6, 5°.84S×133°.73E, h10km, mb4.1/1, Error ellipse: s-maj=28.2km s-min=8.3km az=69.0*
*ISCJB **08** 16:20:38.5±0.7, 6°.02S±0°.07×133°.7E±0°.2, h33km, mb3.7/7, Error ellipse: s-maj=26.1km s-min=8.1km az=164.7*
*IDC **08** 16:20:38.4±1.7, 6°.27S×132°.17E, h0km, mb3.9/5, mb1 4.0/7, mb1mx3.7/49, mbtmp3.9/7, ML4.0/2, Error ellipse: s-maj=162.1km s-min=20.9km az=70.0*
ISC 08 16:20:40.5±0.8**, 6°.01S**±0°.09×**133°.6E**±0°.2**, h35km, n14, σ2s.23**/15**, mb3.9**/7**, 1D, Aru Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**3.35**	**336**	*e*Pn	**Pn**	**16 21 26.9**	**-3.5**
COEN	**Coen**	**12.30**	**131**	*e*Pn	**Pn**	**16 23 32.5**	**-0.8**
WRAB	**Tennant Creek**	**13.86**	**177**	*e*Pn	**Pn**	**16 23 55.8**	**+1.2**
	4.6nm,0.7s						
WRA	**Warramunga Arr**	**13.87**	**177**	Pn	**Pn**	**16 23 55.1**	**+0.3**
	0.8nm,0.3s,baz=5.0,slow=13,SNR=49						
WRA				Sn	**Sn**	**16 26 25.2**	**-2.4**
	0.4nm,0.3s,baz=359,slow=23,SNR=4.7						
ASAR	**Alice Springs**	**17.56**	**179**	P	**P**	**16 24 44.1**	**+0.7**
	0.4nm,0.3s,baz=356,slow=15,SNR=37						
ASAR				S	**Sn**	**16 27 52.7**	**-4.6**
	0.1nm,0.3s,baz=2.4,slow=24,SNR=3.2						
STKA	**Stephens Creek**	**26.80**	**165**	P	**P**	**16 26 21.0**	**+3.6**
	2.7nm,0.8s,baz=347,slow=9.5,SNR=7.2						
CMAR	**Chiang Mai Arr**	**41.94**	**306**	P	**P**	**16 28 29.8**	**+1.6**
	0.4nm,0.5s,baz=123,slow=6.6,SNR=4.1						
MKAR	**Makanchi Array**	**69.41**	**325**	P	**P**	**16 31 45.9**	**+0.9**
	0.4nm,0.5s,baz=112,slow=8.1,SNR=7.7						
ZALV	**Zalesovo Beam**	**72.33**	**332**	P	**P**	**16 32 02.1**	**-0.4**
	0.8nm,0.6s,baz=143,slow=3.7,SNR=4.4						
KURBB	**Kurchatov Arra**	**73.58**	**327**	P	**P**	**16 32 10.7**	**+0.7**
	0.8nm,0.8s,baz=116,slow=4.2,SNR=4.6						
KURK	**Kurchatov**	**73.58**	**327**	P	**P**	**16 32 10.7**	**+0.7**
BVAR	**Borovoye Array**	**79.17**	**327**	P	**P**	**16 32 41.3**	**-0.4**
	1.0nm,0.8s,baz=141,slow=7.4,SNR=3.8						
ABKAR	**Akbulak array**	**83.98**	**321**	*e*P	**P**	**16 33 08.1**	**+0.9**
	0.7nm,0.6s						
SYO	**Syowa Base**	**85.88**	**201**	⇓*e*pP	pP	16 33 23.6	-3.8

*ISCJB **08** 16:24:39.4±1.0, 38°.9N±0°.1×66°.11E±0°.07, h10km, mb3.2/1, Error ellipse: s-maj=17.9km s-min=5.6km az=160.5*
*IDC **08** 16:24:39.3±2.6, 38°.42N×66°.46E, h0km, mb3.4/1, mb1 3.5/6, mb1mx3.2/64, mbtmp3.5/6, ML3.3/5, Error ellipse: s-maj=54.4km s-min=15.3km az=160.0*
*NNC **08** 16:24:41.9±1.4, 38°.98N×66°.23E, h0km, mb3.9, mpv3.5, Error ellipse: s-maj=10.2km s-min=9.7km az=116.0*
ISC 08 16:24:42.4±1.2**, 38°.9N**±0°.1×**66°.14E**±0°.07**, h10km, n10, σ1s.21**/16**, 6C-5D, Southeastern Uzbekistan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**5.31**	**37**	⇑Pn	**Pn**	**16 26 01.6**	**-0.1**
	0.8nm,0.3s,baz=225,slow=16,SNR=32						
KK31				⇓Sn	**Sn**	**16 27 03.9**	**+0.9**
	1.1nm,0.3s,baz=224,slow=20,SNR=3.9						
KK31				⇓Lg	Lg	16 27 28.3	
	4.2nm,0.4s,baz=220,slow=29,SNR=6.9						
SFK	**Sufi-Kurgan**	**5.80**	**77**	⇓Pn	**Pn**	**16 26 07.9**	**-0.7**
	4.8nm,0.4s						
SFK				⇑Sn	**Sn**	**16 27 15.9**	**+0.7**
	11nm,0.4s						
SFK				⇓Lg	Lg	16 27 46.5	
	17nm,0.8s						
MNAS	**Manas**	**5.99**	**52**	⇑Pn	**Pn**	**16 26 11.7**	**+0.5**
	4.4nm,0.6s						
MNAS				⇑Sn	**Sn**	**16 27 20.2**	**+0.2**
	6.5nm,0.8s						
MNAS				⇑Lg	Lg	16 27 51.0	
	6.2nm,0.6s						
GEYT	**Alibeck**	**6.38**	**263**	Pn	**Pn**	**16 26 16.5**	**+0.1**
	0.3nm,0.3s,baz=91,slow=9.7,SNR=3.8						
GEYT				Sn	**Sn**	**16 27 28.0**	**-1.4**
	0.8nm,0.3s,baz=69,slow=8.1,SNR=3.7						
AAK	**Ala-Archa**	**7.33**	**57**	Pn	**Pn**	**16 26 28.4**	**-1.2**
	0.9nm,0.3s,baz=210,slow=1.7,SNR=13						
AAK				Sn	**Sn**	**16 27 53.6**	**+0.6**
	0.7nm,0.3s,baz=150,slow=20,SNR=3.2						
AAK	**Ala-Archa**	**7.33**	**57**	⇑Pn	**Pn**	**16 26 29.2**	**-0.5**
	1.5nm,0.4s						
AAK				⇓Sn	**Sn**	**16 27 53.3**	**+0.3**
	2.1nm,0.5s						
AAK				Lg	Lg	16 28 33.5	
	7.1nm,1.1s						
MKAR	**Makanchi Array**	**14.19**	**51**	Pn	**Pn**	**16 28 01.0**	**-2.4**
	0.1nm,0.3s,baz=238,slow=13,SNR=7.1						
BVAR	**Borovoye Array**	**14.39**	**10**	Pn	**Pn**	**16 28 04.8**	**-1.2**
	0.4nm,0.3s,baz=179,slow=12,SNR=9.1						
ZALV	**Zalesovo Beam**	**19.68**	**34**	P	**Pn**	**16 29 13.4**	**+0.6**
	0.2nm,0.3s,baz=228,slow=6.8,SNR=3.1						
BRTR	**Keskin Array B**	**25.08**	**282**	P	**P**	**16 30 09.6**	**+2.4**
	0.3nm,0.4s,baz=90,slow=7.4,SNR=3.5						

*ISCJB **08** 16:30:35.8±0.4, 39°.61N±0°.02×26°.04E±0°.03, h8km±3km, Error ellipse: s-maj=3.9km s-min=2.9km az=169.1*
*ATH **08** 16:30:35.6, 39°.61N×26°.07E, h21km±2km, ML2.1/5, Error ellipse: s-maj=2.7km s-min=0.8km az=220.0*
*DDA **08** 16:30:35.0, 39°.59N×26°.02E, h6km, Ml3.1*
*ISK **08** 16:30:35.6, 39°.62N×26°.05E, h6km, ML2.8/23*
*CSEM **08** 16:30:36.1±0.1, 39°.61N×26°.05E, h10km, ML2.8, Error ellipse: s-maj=2.7km s-min=2.0km az=74.0*
ISC 08 16:30:35.9±0.8**, 39°.61N**±0°.02×**26°.05E**±0°.02**, h13km**±6km**, n83, σ0s.71**/110**, Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GPNR	**Gulpinar-Canak**	**0.16**	**156**	PG	**Pg**	**16 30 39.6**	**-0.1**
GPNR				SG	**Sg**	**16 30 42.3**	**-0.1**
GPNR	**Gulpinar-Canak**	**0.16**	**156**	*e*Pg	**Pg**	**16 30 39.6**	**-0.1**
GPNR				*e*Sg	**Sg**	**16 30 42.3**	**-0.1**
BOZC	**Bozcaada**	**0.24**	**1**	PG	**Pg**	**16 30 41.1**	**+0.1**
BOZC				SG	**Sg**	**16 30 44.2**	**-0.2**
BOZC	**Bozcaada**	**0.24**	**1**	*i* P	**Pg**	**16 30 41.0**	**0.0**
BOZC				*i* S	**Sg**	**16 30 44.8**	**+0.3**
BOZC	**Bozcaada**	**0.24**	**1**	*e*Pg	**Pg**	**16 30 41.1**	**+0.1**
BOZC				*e*Sg	**Sg**	**16 30 44.2**	**-0.2**
EZN	**Ezine**	**0.31**	**44**	PG	**Pg**	**16 30 42.2**	**0.0**
EZN				SG	**Sg**	**16 30 46.8**	**+0.4**
EZN	**Ezine**	**0.31**	**44**	*e*Pg	**Pg**	**16 30 42.2**	**0.0**
EZN				*e*Sg	**Sg**	**16 30 46.8**	**+0.4**
PRK	**Paraskevi**	**0.40**	**154**	P	**Pg**	**16 30 43.9**	**0.0**
PRK				S	**Sg**	**16 30 49.7**	**+0.5**
PRK				AML	AML	16 30 50.7	
	comp=N,2208µm,0.3s						
PRK				AML	AML	16 30 51.9	
	comp=E,1896µm,0.3s						
PRK	**Paraskevi**	**0.40**	**154**	P	**Pg**	**16 30 43.9**	**0.0**
PRK				S	**Sg**	**16 30 49.8**	**+0.6**
BAYC	**CANAKKALE_Bayr**	**0.41**	**70**	*i* P	**Pb**	**16 30 44.2**	**-0.8**
BAYC				*i* S	**Sg**	**16 30 49.9**	**+0.3**
BAYC	**CANAKKALE_Bayr**	**0.41**	**70**	P	**Pb**	**16 30 44.2**	**-0.8**
BAYC				S	**Sg**	**16 30 49.8**	**+0.3**
SIGR	**SIGRI**	**0.42**	**201**	PG	**Pb**	**16 30 44.6**	**-0.6**
SIGR	**SIGRI**	**0.42**	**201**	P	**Pb**	**16 30 44.7**	**-0.5**
SIGR				S	**Sg**	**16 30 50.4**	**+0.5**
SIGR				AML	AML	16 30 51.7	
	comp=N,646µm,0.3s						
SIGR				AML	AML	16 30 51.9	
	comp=E,761µm,0.2s						
SIGR	**SIGRI**	**0.42**	**201**	P	**Pb**	**16 30 44.6**	**-0.6**
SIGR				S	**Sb**	**16 30 50.7**	**-0.8**
AYVA	**Ayvalik**	**0.58**	**121**	*i* P	**Pb**	**16 30 47.4**	**-0.5**
AYVA				*i* S	**Sb**	**16 30 55.7**	**-0.3**
AYVA	**Ayvalik**	**0.58**	**121**	P	**Pb**	**16 30 47.4**	**-0.5**
AYVA				S	**Sb**	**16 30 55.7**	**-0.3**
GADA	**Gvkgeada**	**0.60**	**349**	PG	**Pg**	**16 30 47.4**	**-0.2**
GADA	**Gvkgeada**	**0.60**	**349**	*e*Pg	**Pg**	**16 30 47.4**	**-0.2**
LIA	**Limnos Island**	**0.73**	**294**	P	**Pb**	**16 30 50.2**	**-0.2**
LIA				S	**Sb**	**16 30 59.9**	**-0.5**
LIA				AML	AML	16 31 03.5	
	comp=E,343µm,0.4s						
LIA				AML	AML	16 31 06.0	
	comp=N,261µm,0.3s						
LIA	**Limnos Island**	**0.73**	**294**	P	**Pb**	**16 30 50.1**	**-0.4**
LIA				S	**Sb**	**16 31 00.2**	**-0.2**
EFSA	**Agios Efstrati**	**0.82**	**266**	P	**Pb**	**16 30 52.1**	**0.0**
EFSA	**Agios Efstrati**	**0.82**	**266**	P	**Pb**	**16 30 51.9**	**-0.2**
DKL	**Dikili**	**0.85**	**128**	PG	**Pb**	**16 30 52.8**	**+0.2**
DKL	**Dikili**	**0.85**	**128**	*e*Pg	**Pb**	**16 30 52.8**	**+0.2**
GELI	**Tayfur-Gelibol**	**0.86**	**22**	PG	**Pg**	**16 30 52.0**	**-0.5**
GELI	**Tayfur-Gelibol**	**0.86**	**22**	*e*Pg	**Pg**	**16 30 52.0**	**-0.5**
LPK	**Lapseki**	**0.94**	**35**	PG	**Pg**	**16 30 53.0**	**-1.1**
LPK	**Lapseki**	**0.94**	**35**	*e*Pg	**Pg**	**16 30 53.0**	**-1.1**
SMTH	**Samothraki Isl**	**0.95**	**335**	P	**Pb**	**16 30 54.0**	**-0.3**
SMTH				S	**Sb**	**16 31 07.5**	**+0.6**
SMTH				AML	AML	16 31 10.0	
	comp=E,122µm,0.2s						
SMTH				AML	AML	16 31 10.2	
	comp=N,215µm,0.3s						
SMTH	**Samothraki Isl**	**0.95**	**335**	P	**Pg**	**16 30 53.9**	**-0.4**
SMTH				S	**Sb**	**16 31 07.3**	**+0.4**
FOCM	**Foˆ§a**	**1.04**	**149**	PG	**Pn**	**16 30 56.3**	**+0.1**
FOCM	**Foˆ§a**	**1.04**	**149**	*e*Pg	**Pn**	**16 30 56.3**	**+0.1**
KRBN	**Karaburun**	**1.08**	**159**	PN	**Pn**	**16 30 57.2**	**+0.4**
KRBN	**Karaburun**	**1.08**	**159**	*e*Pn	**Pn**	**16 30 57.2**	**+0.4**
ERIK	**Erikli-Kesan**	**1.12**	**18**	PN	**Pb**	**16 30 56.6**	**-0.6**
ERIK	**Erikli-Kesan**	**1.12**	**18**	*e*Pn	**Pb**	**16 30 56.6**	**-0.6**
ENEZ	**Enez**	**1.13**	**4**	PN	**Pb**	**16 30 57.2**	**-0.2**
ENEZ	**Enez**	**1.13**	**4**	*e*Pn	**Pb**	**16 30 57.2**	**-0.2**
CHOS	**Chios island**	**1.22**	**180**	PN	**Pg**	**16 30 59.6**	**+0.3**
CHOS	**Chios island**	**1.22**	**180**	P	**Pn**	**16 30 58.8**	**0.0**
CHOS	**Chios island**	**1.22**	**180**	P	**Pn**	**16 30 58.8**	**0.0**
CHOS	**Chios island**	**1.22**	**180**	*e*Pn	**Pg**	**16 30 59.6**	**+0.3**
BALY	**Balya**	**1.22**	**83**	*i* P	**Pn**	**16 30 58.1**	**-0.7**
BALY				*i* S	**Sb**	**16 31 13.8**	**-0.8**
BALY	**Balya**	**1.22**	**83**	P	**Pn**	**16 30 58.1**	**-0.7**
BALY				S	**Sb**	**16 31 13.8**	**-0.8**
KRBG	**Karabiga-Canak**	**1.24**	**50**	PN	**Pg**	**16 30 59.3**	**-0.5**
KRBG	**Karabiga-Canak**	**1.24**	**50**	*e*Pn	**Pg**	**16 30 59.3**	**-0.5**
ALN	**Alexandroupoli**	**1.29**	**360**	PN	**Pg**	**16 31 00.3**	**-0.5**
ALN	**Alexandroupoli**	**1.29**	**360**	P	**Pb**	**16 30 59.8**	**-0.3**
ALN				S	**Sg**	**16 31 17.1**	**-0.5**
ALN				AML	AML	16 31 18.1	
	comp=E,131µm,0.4s						
ALN				AML	AML	16 31 25.3	
	comp=N,67µm,0.6s						
ALN	**Alexandroupoli**	**1.29**	**360**	P	**Pb**	**16 30 59.8**	**-0.3**
ALN	**Alexandroupoli**	**1.29**	**360**	*e*Pn	**Pg**	**16 31 00.3**	**-0.5**
ALN				S	**Sg**	**16 31 17.4**	**-0.2**
STEP	**BALIKESIR_Sava**	**1.31**	**99**	*i* P	**Pg**	**16 31 00.7**	**-0.4**
STEP				*i* S	**Sg**	**16 31 19.9**	**+1.7**
STEP	**BALIKESIR_Sava**	**1.31**	**99**	P	**Pg**	**16 31 00.7**	**-0.4**
STEP				S	**Sg**	**16 31 19.9**	**+1.7**
URLA	**Izmir**	**1.31**	**161**	PN	**Pn**	**16 30 59.0**	**-1.0**
URLA	**Izmir**	**1.31**	**161**	*i* P	**Pn**	**16 30 59.1**	**-1.0**
URLA				*i* S	**Sb**	**16 31 16.6**	**-0.7**
URLA	**Izmir**	**1.31**	**161**	P	**Pn**	**16 30 59.1**	**-1.0**
URLA				S	**Sb**	**16 31 16.6**	**-0.7**
GONE	**Gonen-Balikesi**	**1.34**	**70**	PN	**Pg**	**16 31 01.1**	**-0.5**
GONE	**Gonen-Balikesi**	**1.34**	**70**	*e*Pn	**Pg**	**16 31 01.1**	**-0.5**
RKY	**Sarkoy-Tekirda**	**1.39**	**38**	PN	**Pb**	**16 31 01.6**	**-0.1**
RKY	**Sarkoy-Tekirda**	**1.39**	**38**	*e*Pn	**Pb**	**16 31 01.6**	**-0.1**
BALB	**Balikesir**	**1.42**	**88**	PN	**Pb**	**16 31 01.9**	**-0.3**
BALB	**Balikesir**	**1.42**	**88**	*e*Pn	**Pb**	**16 31 01.9**	**-0.3**
EDC	**Edincik**	**1.58**	**61**	PN	**Pb**	**16 31 04.9**	**-0.1**
EDC	**Edincik**	**1.58**	**61**	*e*Pn	**Pb**	**16 31 04.9**	**-0.1**
RDO	**Rodhopi**	**1.59**	**346**	P	**Pb**	**16 31 04.7**	**-0.5**
RDO	**Rodhopi**	**1.59**	**346**	P	**Pb**	**16 31 04.7**	**-0.5**
OUR	**Ouranopolis**	**1.75**	**295**	PN	**Pb**	**16 31 07.3**	**-0.6**
OUR	**Ouranopolis**	**1.75**	**295**	*e*Pn	**Pb**	**16 31 07.3**	**-0.6**
KAVA	**Kavala**	**1.82**	**320**	P	**Pn**	**16 31 07.2**	**+0.3**
KAVA	**Kavala**	**1.82**	**320**	P	**Pn**	**16 31 07.6**	**+0.6**
KCTX	**Karacabey (Bur**	**1.89**	**69**	PN	**Pn**	**16 31 08.9**	**+0.9**
KCTX	**Karacabey (Bur**	**1.89**	**69**	*e*Pn	**Pn**	**16 31 08.9**	**+0.9**
SBT3	**Marmara-Eregli**	**1.95**	**48**	PN	**Pb**	**16 31 10.0**	**-1.2**
SBT3	**Marmara-Eregli**	**1.95**	**48**	*e*Pn	**Pb**	**16 31 10.0**	**-1.2**
AYDB	**Zeytinkoy-Aydi**	**2.19**	**138**	PN	**Pn**	**16 31 13.7**	**+1.5**
AYDB	**Zeytinkoy-Aydi**	**2.19**	**138**	*e*Pn	**Pn**	**16 31 13.7**	**+1.5**
EDRB	**Edirne**	**2.30**	**13**	PN	**Pn**	**16 31 14.9**	**+1.3**
EDRB	**Edirne**	**2.30**	**13**	*e*Pn	**Pn**	**16 31 14.9**	**+1.3**
SLVT	**Silivri**	**2.31**	**45**	PN	**Pn**	**16 31 15.3**	**+1.5**
SLVT	**Silivri**	**2.31**	**45**	*e*Pn	**Pn**	**16 31 15.3**	**+1.5**
ARMT	**Armutlu**	**2.36**	**65**	PN	**Pn**	**16 31 16.0**	**+1.5**
ARMT	**Armutlu**	**2.36**	**65**	*e*Pn	**Pn**	**16 31 16.0**	**+1.5**
CTKS	**Kestanelik-??a**	**2.48**	**48**	PN	**Pn**	**16 31 17.6**	**+1.5**
CTKS	**Kestanelik-??a**	**2.48**	**48**	*e*Pn	**Pn**	**16 31 17.6**	**+1.5**

*ISCJB **08** 16:36:21.3±0.9, 33°.92S±0°.07×69°.21W±0°.06, h162km±7km, Error ellipse: s-maj=13.1km s-min=7.0km az=152.3*
*SJA **08** 16:36:21.1±0.6, 33°.93S×69°.20W, h160km±3km, ML3.1, MW3.4*
*GUC **08** 16:36:23.3±0.7, 33°.94S×69°.35W, h154km±14km, ML3.1*
ISC 08 16:36:20.7±1.8**, 33°.92S**±0°.07×**69°.20W**±0°.06**, h168km**±11km**, n22, σ1s.04**/31**, 3C-2D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LMEL	**Las Melosas**	**0.84**	**275**	⇑*i*P	**Pn**	**16 36 47.2**	**+1.0**
AAGR	**Agrelo**	**0.89**	**20**	*e*P	**Pn**	**16 36 47.0**	**+0.5**
AAGR				*e*S	**Sn**	**16 37 05.3**	**-1.0**
FCH	**Farellones**	**1.09**	**303**	⇑*i*P	**Pn**	**16 36 49.3**	**+1.0**
FCH				*e*S	**Sn**	**16 37 09.2**	**-0.2**
FCH				IAML		16 37 17.6	
	comp=E,115nm,0.1s						
ARCO	**CERRO ARCO**	**1.10**	**12**	*e*P	**Pn**	**16 36 48.4**	**+0.2**
ARCO				*e*S	**Sn**	**16 37 08.8**	**-0.6**
ASAL	**Salagasta**	**1.36**	**13**	*e*P	**Pn**	**16 36 51.1**	**+0.7**
ASAL				*e*S	**Sn**	**16 37 12.9**	**-0.4**
PEL	**Peldehue**	**1.47**	**302**	⇓*e*P	**Pn**	**16 36 52.1**	**+0.8**
PEL				*e*S	**Sn**	**16 37 14.5**	**-0.4**
PEL				IAML		16 37 15.5	
	comp=E,112nm,0.2s						
AUSP	**Uspallata**	**1.70**	**355**	*e*P	**Pn**	**16 36 55.2**	**+1.2**
ROCH	**El Roble**	**1.79**	**301**	⇓*i*P	**Pn**	**16 36 55.7**	**+0.8**
ROCH				*i* S	**Sn**	**16 37 20.4**	**-0.8**
ROCH				IAML		16 37 22.2	
	comp=E,376nm,0.3s						
ROC1	**El Roble**	**1.79**	**301**	*e*P	**Pn**	**16 36 55.7**	**+0.9**
ROC1				*e*S	**Sn**	**16 37 20.5**	**-0.7**
RTLS	**Leoncito**	**2.12**	**358**	*e*P	**Pn**	**16 36 59.8**	**+1.2**
RTLS				IAML		16 37 31.1	
	comp=Z,50nm,0.3s						
RTCV	**Cerro Valdivia**	**2.13**	**15**	*e*P	**Pn**	**16 36 58.8**	**+0.4**
ACAN	**Cantantal**	**2.35**	**46**	*e*P	**Pn**	**16 37 01.9**	**+0.8**
GO05	**HualaæØ**	**2.50**	**244**	*e*P	**Pn**	**16 37 03.2**	**+0.4**
GO05				*e*S	**Sn**	**16 37 34.1**	**-1.3**
GO05				IAML		16 37 35.7	
	comp=E,178nm,0.2s						
RTLL	**Cerro Villicun**	**2.66**	**13**	*e*P	**Pn**	**16 37 05.6**	**+0.9**
RTLL				IAML		16 37 40.1	
	comp=Z,128nm,0.3s						
AMOG	**MOGNA**	**3.03**	**12**	*e*P	**Pn**	**16 37 10.1**	**+0.8**
MRA	**San Martin**	**3.28**	**64**	*e*P	**Pn**	**16 37 13.0**	**+0.7**
MRA				IAML		16 37 13.3	
	comp=Z,8.5nm,0.7s						
AROD	**Rodeo**	**3.75**	**356**	*e*P	**Pn**	**16 37 20.2**	**+1.6**
TLL	**Tololo Astrono**	**3.98**	**340**	⇑*i*P	**Pn**	**16 37 22.3**	**+0.8**
TLL				*e*S	**Sn**	**16 38 06.0**	**-2.9**
APLL	**PUNTA DE LOS L**	**4.18**	**33**	*e*P	**Pn**	**16 37 23.7**	**-0.1**
APLL				IAML		16 38 12.7	
	comp=Z,25nm,0.6s						
AGUA	**GUANDACOL**	**4.46**	**8**	*e*P	**Pn**	**16 37 28.5**	**+1.0**
TCA	**Tanti**	**4.66**	**58**	*e*P	**Pn**	**16 37 30.8**	**+0.8**
VCA	**Vinchina**	**5.24**	**10**	*e*P	**Pn**	**16 37 38.7**	**+1.0**
VCA				IAML		16 38 44.2	
	comp=Z,28nm,0.2s						

*ISCJB **08** 16:47:53.3±0.4, 39°.62N±0°.02×26°.07E±0°.03, h0km, Error ellipse: s-maj=3.8km s-min=2.7km az=172.5*
*CSEM **08** 16:47:53.5±0.2, 39°.62N×26°.09E, h1km, ML2.5, Error ellipse: s-maj=4.3km s-min=2.9km az=89.0, Suspected Mining explosion.*
*ATH **08** 16:47:53.4, 39°.59N×26°.04E, h25km±3km, ML1.6/4, Error ellipse: s-maj=4.2km s-min=0.9km az=222.0*
*ISK **08** 16:47:53.3, 39°.62N×26°.09E, h9km, ML2.5/10*
*DDA **08** 16:47:55.5, 39°.84N×26°.19E, h7km, Ml2.2, Suspected Mining explosion.*
ISC 08 16:47:52.9±0.8**, 39°.62N**±0°.02×**26°.13E**±0°.03**, h0km, n48, σ0s.77**/69**, Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GPNR	**Gulpinar-Canak**	**0.16**	**180**	PG	**Pg**	**16 47 57.2**	**+1.2**
GPNR				SG	**Sg**	**16 47 59.8**	**+1.8**
GPNR	**Gulpinar-Canak**	**0.16**	**180**	*e*Pg	**Pg**	**16 47 57.2**	**+1.2**
GPNR				*e*Sg	**Sg**	**16 47 59.8**	**+1.8**
BOZC	**Bozcaada**	**0.23**	**345**	PG	**Pg**	**16 47 58.6**	**+1.2**
BOZC				SG	**Sg**	**16 48 02.2**	**+1.7**
BOZC	**Bozcaada**	**0.23**	**345**	*i* P	**Pg**	**16 47 58.6**	**+1.2**
BOZC				*i* S	**Sg**	**16 48 02.4**	**+1.8**
BOZC	**Bozcaada**	**0.23**	**345**	*e*Pg	**Pg**	**16 47 58.6**	**+1.2**
BOZC				*e*Sg	**Sg**	**16 48 02.2**	**+1.7**
EZN	**Ezine**	**0.26**	**35**	PG	**Pb**	**16 47 59.6**	**-0.9**
EZN				SG	**Sb**	**16 48 04.0**	**-1.5**
EZN	**Ezine**	**0.26**	**35**	*e*Pg	**Pb**	**16 47 59.6**	**-0.9**
EZN				*e*Sg	**Sb**	**16 48 04.0**	**-1.5**
BAYC	**CANAKKALE_Bayr**	**0.34**	**68**	*i* P	**Pb**	**16 48 01.7**	**-0.3**
BAYC				*i* S	**Sb**	**16 48 07.4**	**-0.6**
BAYC	**CANAKKALE_Bayr**	**0.34**	**68**	P	**Pb**	**16 48 01.7**	**-0.3**
BAYC				S	**Sb**	**16 48 07.4**	**-0.6**
PRK	**Paraskevi**	**0.38**	**164**	P	**Pb**	**16 48 02.2**	**-0.4**
PRK				S	**Sb**	**16 48 07.9**	**-1.2**
PRK				AML	AML	16 48 08.2	
	comp=N,542µm,0.3s						
PRK				AML	AML	16 48 09.5	
	comp=E,478µm,0.3s						
PRK	**Paraskevi**	**0.38**	**164**	P	**Pb**	**16 48 02.0**	**-0.6**
PRK				S	**Sb**	**16 48 07.9**	**-1.2**
SIGR	**SIGRI**	**0.46**	**208**	PG	**Pb**	**16 48 03.1**	**-0.8**
SIGR	**SIGRI**	**0.46**	**208**	P	**Pg**	**16 48 02.0**	**+0.4**
SIGR				S	**Sg**	**16 48 08.0**	**+0.4**
SIGR				AML	AML	16 48 09.2	
	comp=N,155µm,0.3s						
SIGR				AML	AML	16 48 09.2	
	comp=E,218µm,0.2s						
SIGR	**SIGRI**	**0.46**	**208**	P	**Pg**	**16 48 02.1**	**+0.4**
SIGR	**SIGRI**	**0.46**	**208**	*e*Pg	**Pb**	**16 48 03.1**	**-0.8**
SIGR				S	**Sg**	**16 48 08.2**	**+0.6**
AYVA	**Ayvalik**	**0.53**	**125**	*i* P	**Pg**	**16 48 03.7**	**+0.6**
AYVA				*i* S	**Sn**	**16 48 17.2**	**-0.2**
AYVA	**Ayvalik**	**0.53**	**125**	P	**Pg**	**16 48 03.7**	**+0.6**
AYVA				S	**Sn**	**16 48 17.2**	**-0.2**
GADA	**Gvkgeada**	**0.60**	**343**	PG	**Pg**	**16 48 04.9**	**+0.4**
GADA	**Gvkgeada**	**0.60**	**343**	*e*Pg	**Pg**	**16 48 04.9**	**+0.4**
LIA	**Limnos Island**	**0.79**	**291**	P	**Pg**	**16 48 08.1**	**+0.1**
LIA				S	**Sg**	**16 48 18.5**	**+0.3**
LIA				AML	AML	16 48 21.1	
	comp=E,96µm,0.4s						
LIA				AML	AML	16 48 21.6	
	comp=N,80µm,0.3s						
LIA	**Limnos Island**	**0.79**	**291**	P	**Pg**	**16 48 07.9**	**-0.1**
LIA				S	**Sg**	**16 48 18.4**	**+0.3**
DKL	**Dikili**	**0.81**	**132**	PG	**Pb**	**16 48 09.9**	**0.0**
DKL	**Dikili**	**0.81**	**132**	*e*Pg	**Pb**	**16 48 09.9**	**0.0**
GELI	**Tayfur-Gelibol**	**0.82**	**18**	PG	**Pb**	**16 48 09.9**	**-0.2**
GELI	**Tayfur-Gelibol**	**0.82**	**18**	*e*Pg	**Pb**	**16 48 09.9**	**-0.2**
LPK	**Lapseki**	**0.90**	**32**	PG	**Pb**	**16 48 10.7**	**-0.7**
LPK	**Lapseki**	**0.90**	**32**	*e*Pg	**Pb**	**16 48 10.7**	**-0.7**
SMTH	**Samothraki Isl**	**0.97**	**332**	P	**Pg**	**16 48 12.0**	**+0.4**
SMTH				S	**Sg**	**16 48 24.9**	**+0.7**
SMTH				AML	AML	16 48 27.6	
	comp=E,42µm,0.1s						
SMTH				AML	AML	16 48 27.6	
	comp=N,57µm,0.2s						
SMTH	**Samothraki Isl**	**0.97**	**332**	P	**Pg**	**16 48 12.0**	**+0.4**
SMTH				S	**Sb**	**16 48 25.2**	**-0.9**
ERIK	**Erikli-Kesan**	**1.09**	**15**	PN	**Pb**	**16 48 14.5**	**-0.2**
ERIK	**Erikli-Kesan**	**1.09**	**15**	*e*Pn	**Pb**	**16 48 14.5**	**-0.2**
ENEZ	**Enez**	**1.12**	**1**	PN	**Pg**	**16 48 14.6**	**+0.2**
ENEZ	**Enez**	**1.12**	**1**	*e*Pn	**Pg**	**16 48 14.6**	**+0.2**
BALY	**Balya**	**1.15**	**83**	*e*P	**Pg**	**16 48 15.0**	**-0.1**
BALY				*i* S	**Sn**	**16 48 32.3**	**-0.6**
BALY	**Balya**	**1.15**	**83**	P	**Pg**	**16 48 15.0**	**-0.1**
BALY				S	**Sn**	**16 48 32.3**	**-0.6**
KRBG	**Karabiga-Canak**	**1.18**	**49**	PN	**Pn**	**16 48 16.9**	**+0.1**
KRBG	**Karabiga-Canak**	**1.18**	**49**	*e*Pn	**Pn**	**16 48 16.9**	**+0.1**
CHOS	**Chios island**	**1.23**	**183**	PN	**Pb**	**16 48 17.3**	**+0.2**
CHOS	**Chios island**	**1.23**	**183**	P	**Pg**	**16 48 16.4**	**-0.1**
CHOS	**Chios island**	**1.23**	**183**	P	**Pg**	**16 48 16.4**	**-0.1**
CHOS	**Chios island**	**1.23**	**183**	*e*Pn	**Pb**	**16 48 17.3**	**+0.2**
ALN	**Alexandroupoli**	**1.28**	**357**	PN	**Pb**	**16 48 17.8**	**-0.1**
ALN	**Alexandroupoli**	**1.28**	**357**	P	**Pb**	**16 48 17.8**	**-0.1**
ALN	**Alexandroupoli**	**1.28**	**357**	*e*Pn	**Pb**	**16 48 17.8**	**-0.1**
URLA	**Izmir**	**1.30**	**164**	PN	**Pg**	**16 48 18.1**	**+0.2**
URLA	**Izmir**	**1.30**	**164**	*e*Pn	**Pg**	**16 48 18.1**	**+0.2**
RKY	**Sarkoy-Tekirda**	**1.34**	**36**	PN	**Pn**	**16 48 19.1**	**+0.2**
RKY	**Sarkoy-Tekirda**	**1.34**	**36**	*e*Pn	**Pn**	**16 48 19.1**	**+0.2**

MAN 08 17:27:49, 10°.24N×123°.27E, h1km, mb4.5, ML3.4, MS3.2, 3C-1D, Cebu

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LLP	**Lapu-Lapu**	**0.69**	**84**	⇑*e*P	Pg	17 28 02.6	+0.5
LLP				*i* S	Sb	17 28 12.6	-1.2
GUIM	**Jordan**	**0.77**	**300**	*e*P	Pg	17 28 04.5	+0.6
GUIM				*e*S	Sb	17 28 15.2	-1.1
TBP	**Tagbilaran**	**0.80**	**133**	*e*P	Pb	17 28 05.4	-0.3
TBP				*i* S	Sn	17 28 19.4	-0.6
SNPH	**Sibulan**	**0.89**	**182**	*e*P	Pb	17 28 07.3	0.0
SNPH				*e*S	Sb	17 28 20.6	+0.8
JAP	**San Jose, Anti**	**1.40**	**291**	⇓*e*P	Pb	17 28 17.1	+1.1
RCP	**Roxas**	**1.41**	**338**	⇑*e*P	Pn	17 28 15.5	-0.4
MSLP	**Maasin**	**1.56**	**94**	*e*P	Pb	17 28 18.4	-0.3
MSLP				*e*S	Sg	17 28 40.3	+1.0
DCPH	**Dipolog City**	**1.65**	**177**	⇑*e*P	Pn	17 28 18.7	-0.4
IPIL	**Ipil**	**2.53**	**196**	*e*P	Pb	17 28 34.1	-1.2
IPIL				*e*S	Sn	17 29 04.5	+1.7
BUKP	**Musuan**	**2.94**	**143**	*e*P	Pn	17 28 38.4	+1.5

*IDC **08** 17:35:16.2±2.0, 5°.38S×152°.75E, h0km, mb3.6/7, mb1 3.7/8, mb1mx3.5/49, mbtmp3.6/8, ML1.7/1, Error ellipse: s-maj=73.1km s-min=22.8km az=121.0*
*ISCJB **08** 17:35:21.8±1.6, 5°.4S±0°.3×152°.4E±0°.3, h40km, mb3.5/7, Error ellipse: s-maj=55.3km s-min=11.2km az=39.4*
ISC 08 17:35:22.7±2.1**, 5°.4S**±0°.4×**152°.6E**±0°.4**, h40km, n8, σ1s.04**/9**, mb3.4**/7**, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.66**	**233**	Pn	**Pn**	**17 36 59.3**	**+1.2**
	0.9nm,0.3s,baz=51,slow=11,SNR=6.0						
PMG				Sn	**Sn**	**17 38 11.2**	**-1.5**
	1.2nm,0.3s,baz=355,slow=11,SNR=3.7						
WRA	**Warramunga Arr**	**22.86**	**229**	P	**P**	**17 40 22.8**	**0.0**
	0.7nm,0.7s,baz=53,slow=9.9,SNR=11						
ASAR	**Alice Springs**	**25.54**	**223**	P	**P**	**17 40 47.8**	**-0.1**
	0.6nm,0.8s,baz=54,slow=9.5,SNR=8.0						
MKAR	**Makanchi Array**	**80.62**	**319**	P	**P**	**17 47 30.8**	**-0.6**
	0.5nm,0.8s,baz=96,slow=8.0,SNR=4.5						
ILAR	**Eielson Array**	**82.82**	**22**	P	**P**	**17 47 41.7**	**-0.8**
	0.3nm,0.9s,baz=253,slow=2.7,SNR=3.7						
KURBB	**Kurchatov Arra**	**84.13**	**322**	P	**P**	**17 47 50.0**	**+0.4**
	0.1nm,0.5s,baz=124,slow=3.8,SNR=4.1						
AAK	**Ala-Archa**	**84.91**	**314**	P	**P**	**17 47 55.1**	**+1.2**
	0.8nm,0.9s,baz=124,slow=7.3,SNR=3.7						
BVAR	**Borovoye Array**	**89.58**	**323**	P	**P**	**17 48 15.8**	**-0.2**
	0.4nm,0.6s,baz=103,slow=4.6,SNR=3.5						

MAN 08 17:37:16, 10°.26N×123°.36E, h2km, mb4.6, ML3.5, MS3.3, 3C-1D, Cebu

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LLP	**Lapu-Lapu**	**0.60**	**84**⇓	*i*P	Pb	17 37 28.7	-0.5
LLP				*e*S	Sb	17 37 37.2	-0.9
TBP	**Tagbilaran**	**0.75**	**139**	*e*P	Pb	17 37 32.2	+0.5
TBP				*i* S	Sb	17 37 43.6	+1.2
GUIM	**Jordan**	**0.84**	**296**	*e*P	Pb	17 37 33.0	-0.3
GUIM				*e*S	Sb	17 37 44.4	-0.8
SNPH	**Sibulan**	**0.92**	**188**	*e*P	Pb	17 37 34.9	+0.2
SNPH				*e*S	Sb	17 37 47.8	+0.4
RCP	**Roxas**	**1.43**	**335**⇑	*e*P	Pg	17 37 43.6	+0.2
JAP	**San Jose, Anti**	**1.47**	**289**⇑	*e*P	Pg	17 37 46.8	+2.6
MSLP	**Maasin**	**1.48**	**95**	*e*P	Pb	17 37 44.3	0.0
MSLP				*e*S	Sg	17 38 04.4	+0.8
DCPH	**Dipolog City**	**1.66**	**180**⇑	*e*P	Pn	17 37 46.0	-0.2
DCPH				*e*S	Sg	17 38 09.5	-0.1
IPIL	**Ipil**	**2.58**	**198**	*e*P	Pb	17 38 00.8	-2.1
BUKP	**Musuan**	**2.90**	**144**	*e*P	Pn	17 38 05.2	+2.0
BUKP				*e*S	Sn	17 38 41.0	+2.2

MEX 08 17:41:34.0±0.5, 16°.57N×98°.49W, h5km±5km, MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.39**	**117**	*e*P	Pg	17 41 41.2	-0.3
PNIG				*e*S	Sg	17 41 46.5	-0.2
TLIG	**Tlapa**	**0.99**	**356**	*e*P	Pg	17 41 50.7	-2.4
TLIG				*i* S	Sg	17 42 03.1	-2.9
VHO	**Vista Hermosa**	**1.75**	**73**	*e*P	Pn	17 42 02.0	-3.2
VHO				*i* S	Sn	17 42 23.4	-4.6
CAIG	**El Cayaco**	**1.77**	**286**	*e*P	Pn	17 42 01.9	-3.4
CAIG				*e*S	Sn	17 42 23.2	-5.0
HUIG	**Huatulco**	**2.42**	**109**	*e*P	Pn	17 42 11.1	-3.1

*NIED **08** 17:42:00, 36°.40N×142°.60E, h11km, Mw4.1 Best double couple: M₀1.72000×10^15 NP1:φs211.00000°, δ40.00000°, λ115.00000°. NP2:φs0.00000°, δ54.00000°, λ70.00000°.*
*BJI **08** 17:42:45.4, 36°.27N×142°.73E, h14km, mb4.4/40, mB4.8/28, Ms4.0/20, Ms7 3.8/19*
*IDC **08** 17:42:46.2±0.6, 36°.29N×142°.58E, h0km, mb3.8/21, mb1 4.0/27, mb1mx3.9/69, mbtmp3.9/27, ML4.1/5, MS3.3/5, Ms1 3.4/5, ms1mx2.8/58, Error ellipse: s-maj=15.6km s-min=13.9km az=137.0*
*ISCJB **08** 17:42:46.7±0.3, 36°.37N±0°.03×142°.62E±0°.04, h15km, mb4.1/37, MS3.8/7, Error ellipse: s-maj=5.2km s-min=3.9km az=144.5*
*JMA **08** 17:42:48.6±0.1, 36°.41N×142°.60E, h56km, M3.9*
*MOS **08** 17:42:49.6±1.3, 36°.47N×142°.60E, h33km, mb4.3/20, Error ellipse: s-maj=9.7km s-min=6.3km az=105.8*
*NEIC **08** 17:42:50.9±0.5, 36°.35N×142°.62E, h35km, mb4.4/7, Error ellipse: s-maj=10.2km s-min=7.5km az=137.0*
ISC 08 17:42:48.2±0.5, 36°.32N±0°.04×142°.68E±0°.05, h15km, n126, σ1$.82/136, mb4.2/37, MS3.8/8, 7C-2D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**1.60**	**248**	P	**Pn**	**17 43 15.0**	**-0.8**
CHOJ				*e*S	**Sn**	**17 43 33.7**	**-2.5**
ONAJ	**Iwakimizuishiy**	**1.70**	**298**	P	**Pn**	**17 43 15.2**	**-2.1**
JHO	**Hitachi**	**1.72**	**280**	P	**Pn**	**17 43 15.7**	**-1.9**
JHO				S	**Sn**	**17 43 35.8**	**-3.5**
JFK	**Kawauchi**	**1.78**	**306**	P	**Pn**	**17 43 16.2**	**-2.2**
JFT	**Otama**	**2.22**	**303**	S	**Sn**	**17 43 47.8**	**-3.9**
JAG	**Ashikaga**	**2.60**	**273**	P	**Pn**	**17 43 28.2**	**-1.5**
JMK	**Ichinoseki**	**2.87**	**337**	P	**Pn**	**17 43 31.6**	**-1.8**
JMK				S	**Sn**	**17 44 04.8**	**-2.8**
JRY	**Ryogami san**	**3.07**	**265**	P	**Pn**	**17 43 34.8**	**-1.3**
JRY				S	**Sn**	**17 44 10.1**	**-2.5**
JOD2	**Odawara 2**	**3.10**	**251**	P	**Pn**	**17 43 35.7**	**-0.9**
JYK	**Kaneyama**	**3.18**	**325**	P	**Pn**	**17 43 36.2**	**-1.4**
JOM	**Ohasama**	**3.33**	**341**	P	**Pn**	**17 43 37.6**	**-2.1**
JOM				S	**Sn**	**17 44 15.5**	**-3.5**
JYN	**Shimob**	**3.45**	**257**	P	**Pn**	**17 43 41.2**	**-0.2**
MJAR	**Matsushiro Arr**	**3.61**	**275**	Pn	**Pn**	**17 43 42.6**	**-1.0**
	8.9nm,0.3s,baz=143,slow=13,SNR=189						
MAJO	**Matsushiro**	**3.61**	**275**	*e*Pn	**Pn**	**17 43 43.6**	**+0.1**
MAJO	**Matsushiro**	**3.61**	**275**⇓	*e*P	**Pn**	**17 43 43.1**	**-0.5**
MAT	**Matsushiro**	**3.61**	**275**	P	**Pn**	**17 43 43.5**	**0.0**
MAT				*e*S	**Sn**	**17 44 24.0**	**-1.9**
MAT	**Matsushiro**	**3.61**	**275**	P	**Pn**	**17 43 43.6**	**0.0**
MJB9	**Matsu-Tunnel**	**3.61**	**275**	*e*Pn	**Pn**	**17 43 43.6**	**0.0**
JSD	**Sado**	**3.92**	**297**	P	**Pn**	**17 43 47.3**	**-0.5**
JHJ2	**Mitsune**	**3.97**	**217**	*e*Pn	**Pn**	**17 43 47.7**	**-0.9**
JHJ	**Hachijo jima 2**	**3.98**	**218**	Pn	**Pn**	**17 43 47.4**	**-1.3**
	20nm,0.3s,baz=338,slow=23,SNR=15						
JHJ				Sn	**Sn**	**17 44 30.3**	**-4.8**
	48nm,0.3s,baz=50,slow=23,SNR=8.8						
INU	**Inuyama**	**4.70**	**260**	*e*Pn	**Pn**	**17 43 58.7**	**+0.2**
ERM	**Erimo**	**5.70**	**4**	*e*Pn	**Pn**	**17 44 09.4**	**-2.7**
ERM	**Erimo**	**5.70**	**4***c*	*i*P	**Pn**	**17 44 09.5**	**-2.7**
ASAJ	**Asahikawa**	**7.79**	**360**	Pn	**Pn**	**17 44 39.1**	**-1.8**
	7.4nm,0.3s,baz=218,slow=9.4,SNR=66						
ASAJ				Sn	**Sn**	**17 46 03.6**	**-5.1**
	2.0nm,0.3s,baz=30,slow=20,SNR=3.3						
ASAJ	**Asahikawa**	**7.79**	**360**	*e*Pn	**Pn**	**17 44 38.8**	**-2.1**
ASAJ				*e*Sn	**Sn**	**17 46 03.0**	**-5.8**
CBIJ	**Chichi jima**	**9.21**	**183**	*e*Pn	**Pn**	**17 44 58.4**	**-2.0**
JCJ	**Chichijima**	**9.21**	**183**	Pn	**Pn**	**17 44 58.6**	**-1.8**
	6.9nm,0.3s,baz=246,slow=20,SNR=4.0						
JCJ				Sn	Sn	17 46 35.2	-8.5
	baz=308,slow=19						
KUR	**Kuril'sk**	**9.73**	**22**	P	**Pn**	**17 45 06.5**	**-1.0**
KUR				pmax	pmax		
	comp=Z,15nm,0.6s						
JNU	**Nakatsue**	**10.22**	**255**	Pn	**Pn**	**17 45 15.8**	**+1.5**
	comp=Z,0.4nm,0.3s,baz=239,slow=5.5,SNR=5.0						
JNU				LR	LR	17 49 13.8	
	comp=Z,118nm,21.8s,baz=50,slow=38						
YSS	**Yuzh-Sakhalins**	**10.63**	**0**	*e*Pn	**Pn**	**17 45 17.9**	**-1.9**
YSS	**Yuzh-Sakhalins**	**10.63**	**0**⇑	*e*P	**Pn**	**17 45 18.4**	**-1.4**
YSS				*e*S	**Sn**	**17 47 16.3**	**-2.1**
YSS				pmax	pmax		
	comp=E,20nm,0.6s						
YSS				pmax	pmax		
	comp=Z,20nm,0.6s						
YSS				MLR	MLR		
	comp=Z,270µm,15.0s						
YSS				MLR	MLR		
	comp=N,200nm,12.0s						
USRK	**Ussuriysk Ar.**	**11.33**	**317**	Pn	**Pn**	**17 45 31.9**	**+2.4**
	comp=N,0.4nm,0.3s,baz=129,slow=14,SNR=5.7						
KSRS	**Korea Array**	**11.87**	**280**	Pn	**Pn**	**17 45 38.3**	**+1.5**
	comp=N,0.2nm,0.3s,baz=99,slow=13,SNR=7.0						
KSAR	**Wonju Array Be**	**11.90**	**280**	Pn	**Pn**	**17 45 38.3**	**+1.1**
KSAR	**Wonju Array Be**	**11.90**	**280**	P	**Pn**	**17 45 38.3**	**+1.1**
MDJ	**Mudanjiang**	**12.95**	**314**	P	**Pn**	**17 45 53.2**	**+1.7**
MDJ				pP	P	17 45 57.2	-4.9
MDJ				sP		17 46 01.9	
MDJ				S	**Sn**	**17 48 18.1**	**+2.9**
MDJ				sS		17 48 25.1	
MDJ				ScP	**ScP**	**17 54 56.6**	**-1.1**
MDJ				pmax	pmax		
	comp=N,7.0nm,1.9s						
MDJ				pmax	pmax		
	comp=N,140nm,4.1s						
MDJ				LR	LR		
	comp=N,380nm,12.9s						
MDJ				LR	LR		
	comp=N,290nm,14.7s						
MDJ				LR	LR		
	comp=N,310nm,14.0s						
TYV	**Tymovskoe**	**14.54**	**360**	*e*P	**Pn**	**17 46 09.2**	**-4.0**
TYV				pmax	pmax		
	comp=Z,10.0nm,0.7s						
GRNR	**Gornyy**	**15.13**	**345**	*e*P	**P**	**17 46 26.0**	**-0.3**
GRNR				pmax	pmax		
	comp=Z,26nm,1.0s						
CN2	**Changchun**	**15.14**	**305**	*e*P	**P**	**17 46 24.3**	**-2.2**
CN2				*e*sP	sP	17 46 34.2	+1.5
CN2				*e*S	**Sn**	**17 49 14.7**	**+5.9**
CN2				pmax	pmax		
	comp=Z,200nm,3.0s						
CN2				LR	LR		
	comp=Z,200nm,13.0s						
CN2				LR	LR		
	comp=Z,300nm,13.0s						
CN2				LR	LR		
	comp=Z,300nm,15.0s						
SNY	**Shenyang**	**15.81**	**296**	*e*P	**P**	**17 46 37.4**	**+3.5**
SNY				S	**S**	**17 49 34.8**	**-4.7**
SNY				LR	LR		
	comp=N,280nm,11.0s						
SNY				LR	LR		
	comp=E,490nm,14.2s						
SNY				LR	LR		
	comp=Z,520nm,16.4s						
NKL	**Nikolayevsk**	**16.89**	**356**	*e*P	**Pn**	**17 46 43.0**	**-0.8**
SKR	**Severo-Kuril's**	**17.31**	**30**	*e*P	**P**	**17 46 52.2**	**+1.7**
SKR				MLR	MLR		
	comp=Z,300nm,19.0s						
PETK	**Petropavlovsk-**	**19.82**	**27**	P	**Pn**	**17 47 19.3**	**-0.4**
	comp=Z,0.1nm,0.3s,baz=234,slow=6.9,SNR=3.0						
PETK				LR	LR	17 56 51.0	
	comp=Z,63nm,18.5s,baz=203,slow=42						
NJ2	**Nanjing**	**20.15**	**265**	*e*P	**P**	**17 47 22.6**	**+0.8**
NJ2				pmax	pmax		
	comp=Z,13nm,0.5s						
ZEA	**Zeya**	**20.47**	**333**	*e*P	**P**	**17 47 24.8**	**-0.3**
ZEA				pmax	pmax		
	comp=Z,12nm,0.6s						
ZEA				MLR	MLR		
	comp=N,400nm,14.0s						
ZEA				MLR	MLR		
	comp=Z,400nm,14.0s						
MA2	**Magadan**	**23.86**	**10**	*e*P	**P**	**17 48 00.2**	**-0.4**
HHC	**Hu-ho-hao-te**	**24.66**	**290**	*e*P	**P**	**17 48 07.2**	**-1.2**
HHC				S	S	17 52 18.2	-11
HHC				pmax	pmax		
	comp=Z,19nm,0.9s						
HHC				pmax	pmax		
	comp=Z,120nm,4.1s						
HHC				LR	LR		
	comp=Z,840nm,12.8s						
HHC				LR	LR		
	comp=Z,960nm,13.0s						
HHC				LR	LR		
	comp=Z,970nm,12.0s						
H11N2	**WAKE ISLAND Hy**	**26.91**	**121**	T	T	18 16 37.7	
	baz=313,slow=75,SNR=7.3						
H11N1	**WAKE ISLAND Hy**	**26.92**	**121**	T	T	18 16 42.6	
	baz=313,slow=75,SNR=7.6						
H11N3	**WAKE ISLAND Hy**	**26.93**	**121**	T	T	18 16 42.6	
	baz=313,slow=75,SNR=6.4						
YAK	**Yakutsk**	**26.99**	**346**	*e*P	**P**	**17 48 27.1**	**-2.0**
	comp=Z,20nm,0.8s						
YAK	**Yakutsk**	**26.99**	**346**	*e*P	**P**	**17 48 29.5**	**+0.4**
YAK				*e*		17 48 38.6	
YAK				*e*S	**S**	**17 53 09.2**	**+3.5**
YAK				pmax	pmax		
	comp=Z,6.0nm,1.0s						
YAK				pmax	pmax		
	comp=N,3.0nm,1.0s						
YAK				smax	smax		
	comp=N,122nm,17.5s						
YAK				smax	smax		
	comp=E,22nm,14.4s						
YAK				MLR	MLR		
	comp=Z,223nm,16.0s						
YAK				MLR	MLR		
	comp=N,202nm,14.0s						
YAK				MLR	MLR		
	comp=E,63nm,16.0s						
SEY	**Seymchan**	**27.31**	**10**⇑	*e*P	**P**	**17 48 33.2**	**+1.3**
XAN	**Xi'an**	**27.60**	**275**	P	**P**	**17 48 34.9**	**-0.1**
XAN				pmax	pmax		
	comp=E,11nm,0.6s						
H11S1	**WAKE ISLAND Hy**	**27.62**	**124**	T	T	18 17 38.1	
	baz=315,slow=75,SNR=6.2						
H11S3	**WAKE ISLAND Hy**	**27.62**	**124**	T	T	18 17 41.0	
	baz=315,slow=75,SNR=5.2						
H11S2	**WAKE ISLAND Hy**	**27.64**	**124**	T	T	18 17 50.5	
	baz=315,slow=75,SNR=4.0						
ENH	**Enshi**	**28.30**	**267**	*e*P	**P**	**17 48 40.6**	**-0.5**
	comp=E,13nm,0.8s						
ULN	**Ulaanbaatar**	**28.59**	**305**	*e*P	**P**	**17 48 43.7**	**-0.1**
	comp=E,8.9nm,1.3s						
ULN	**Ulaanbaatar**	**28.59**	**305**⇓	*i*P	**P**	**17 48 44.4**	**+0.6**
ULN				pmax	pmax		
	comp=Z,5.0nm,1.0s						
BOD	**Bodaibo**	**28.67**	**328**	*e*P	**P**	**17 48 43.3**	**-0.9**
BOD				pmax	pmax		
	comp=Z,11nm,1.5s						
SONA1	**Songino Array**	**29.02**	**305**	*e*P	**P**	**17 48 47.8**	**+0.2**
SONM	**Songino Array**	**29.02**	**305**	P	**P**	**17 48 48.1**	**+0.5**
	comp=Z,1.8nm,0.5s,baz=109,slow=7.8,SNR=19						
LZH	**Lanzhou**	**31.19**	**281**	*e*P	**P**	**17 49 08.7**	**+1.8**
LZH				pP	sP	17 49 15.7	+2.3
LZH				sP	pP	17 49 18.8	+7.3
LZH				pmax	pmax		
	comp=Z,21nm,1.1s						
CD2	**Chengdu**	**32.70**	**272**	*e*P	**P**	**17 49 20.0**	**-0.1**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,120nm,5.0s						
GTA	**Gaotai**	**33.75**	**288**	*e*P	**P**	**17 49 29.6**	**+0.4**
GTA				pP	sP	17 49 36.7	+1.0
GTA				sP	pP	17 49 40.4	+6.6
GTA				S	**S**	**17 54 53.5**	**+1.2**
GTA				sS	sS	17 55 04.9	+5.0
GTA				pmax	pmax		
	comp=Z,5.0nm,1.2s						
GTA				pmax	pmax		
	comp=Z,41nm,4.7s						
GTA				LR	LR		
	comp=Z,97nm,13.3s						
GTA				LR	LR		
	comp=Z,120nm,13.8s						
GTA				LR	LR		
	comp=Z,87nm,14.3s						
BILL	**Bilibino**	**34.43**	**15**⇑	*e*P	**P**	**17 49 36.0**	**+1.3**
BILL				*e*		17 50 52.8	
BILL				*e*SS	SS	17 57 32.2	+1.2
BILL				pmax	pmax		
	comp=Z,2.0nm,0.9s						
BILL				pmax	pmax		
	comp=Z,58nm,15.0s						
KMI	**Kunming**	**35.87**	**263**	P	**P**	**17 49 49.0**	**+1.2**
KMI				pmax	pmax		
	comp=Z,3.0nm,0.5s						
WMQ	**Urumqi**	**42.07**	**298**	P	**P**	**17 50 40.2**	**+0.9**
WMQ				pP	sP	17 50 47.0	+1.1
WMQ				LR	LR		
	comp=Z,200nm,17.5s						
WMQ				LR	LR		
	comp=Z,65nm,27.1s						
CMAR	**Chiang Mai Arr**	**42.31**	**257**	P	**P**	**17 50 42.0**	**+0.4**
	comp=Z,0.4nm,0.5s,baz=46,slow=7.8,SNR=7.0						
CMAR				LR	LR	18 08 25.0	
	comp=Z,38nm,18.1s,baz=155,slow=36						
ZAA0	**Zalesovo Array**	**43.14**	**313**	*e*P	**P**	**17 50 47.3**	**-0.5**
	comp=Z,7.1nm,1.4s						
ZALV	**Zalesovo Beam**	**43.14**	**313**	P	**P**	**17 50 48.0**	**+0.2**
	comp=Z,2.2nm,0.6s,baz=92,slow=7.1,SNR=9.3						
ZALV	**Zalesovo Beam**	**43.14**	**313**	*e*P	**P**	**17 50 47.8**	**-0.1**
ZALV	**Zalesovo Beam**	**43.14**	**313**	P	**P**	**17 50 48.0**	**+0.2**
ZALV				pmax	pmax		
	comp=Z,2.0nm,0.6s						
NVS	**Novosibirsk**	**44.06**	**314**	*e*P	**P**	**17 50 54.6**	**-0.6**
MK01	**Makanchi Array**	**45.35**	**303**	*e*P	**P**	**17 51 05.3**	**-0.4**
MK31	**Makanchi Array**	**45.36**	**303**	*e*P	**P**	**17 51 05.3**	**-0.4**
MK31	**Makanchi Array**	**45.36**	**303**	*e*P	**P**	**17 51 05.3**	**-0.4**
MKAR	**Makanchi Array**	**45.36**	**303**	P	**P**	**17 51 05.4**	**-0.3**
	comp=Z,2.8nm,0.7s,baz=90,slow=11,SNR=20						
MAKZ	**Makanchi**	**45.57**	**303**	*e*P	**P**	**17 51 08.5**	**+1.1**
	comp=Z,8.9nm,1.4s						
MAKZ	**Makanchi**	**45.57**	**303**	*e*P	**P**	**17 51 08.5**	**+1.1**
MAKZ				pmax	pmax		
	comp=Z,9.0nm,1.4s						
KURK	**Kurchatov**	**47.17**	**309**	*e*P	**P**	**17 51 19.1**	**-0.8**
	comp=Z,5.4nm,0.9s						
KURK	**Kurchatov**	**47.17**	**309***c*	*e*P	**P**	**17 51 19.4**	**-0.4**
KURK				pmax	pmax		
	comp=Z,9.0nm,1.7s						
KURBB	**Kurchatov Arra**	**47.24**	**309**	P	**P**	**17 51 20.1**	**-0.3**
	comp=Z,1.6nm,0.5s,baz=84,slow=8.1,SNR=16						
ILAR	**Eielson Array**	**49.56**	**32**	P	**P**	**17 51 38.6**	**+0.5**
	comp=Z,0.7nm,0.9s,baz=272,slow=6.1,SNR=8.0						
ILAR	**Eielson Array**	**49.56**	**32**	*e*P	**P**	**17 51 38.2**	**+0.1**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
AAK	**Ala-Archa**	**51.72**	**299**	P	**P**	**17 51 54.9**	**0.0**
	comp=Z,0.8nm,0.5s,baz=48,slow=3.8,SNR=7.2						
AAK	**Ala-Archa**	**51.72**	**299**	*e*P	**P**	**17 51 54.6**	**-0.3**
	comp=Z,3.7nm,1.2s						
AAK	**Ala-Archa**	**51.72**	**299**	*e*P	**P**	**17 51 54.6**	**-0.3**
AAK				pmax	pmax		
	comp=Z,4.0nm,1.2s						
BVAR	**Borovoye Array**	**51.80**	**313**	P	**P**	**17 51 55.2**	**0.0**
	comp=Z,0.4nm,0.5s,baz=72,slow=6.5,SNR=3.2						
BRVK	**Borovoye**	**51.86**	**313**⇑	*e*P	**P**	**17 51 55.2**	**-0.4**
KK05	**Karatay Array**	**54.35**	**301**	*e*P	**P**	**17 52 12.4**	**-1.7**
KK06	**Karatay Array**	**54.35**	**301**	*e*P	**P**	**17 52 12.9**	**-1.3**
KK07	**Karatay Array**	**54.37**	**301**	*e*P	**P**	**17 52 13.9**	**-0.4**
INK	**Inuvik**	**54.56**	**27**	P	**P**	**17 52 16.3**	**+1.1**
	comp=Z,0.6nm,0.6s,baz=300,slow=8.7,SNR=6.4						
WRA	**Warramunga Arr**	**56.51**	**189**	P	**P**	**17 52 29.4**	**-0.4**
	comp=Z,1.2nm,0.8s,baz=7.7,slow=7.7,SNR=15						
ARU	**Arti**	**57.56**	**319***c*	*i*P	**P**	**17 52 37.0**	**+0.1**
ARU						17 53 28.9	
ARU						17 54 46.7	
ARU				S	**S**	**18 00 36.6**	**+2.6**
ARU				SS	**SS**	**18 04 20.7**	**-2.7**
ARU				pmax	pmax		
	comp=Z,16nm,2.5s						
AB07	**Akbulak array**	**59.17**	**311**	*e*P	**P**	**17 52 47.0**	**-1.2**
AB31	**Akbulak array**	**59.17**	**311**	*e*P	**P**	**17 52 45.9**	**-2.3**
AB31	**Akbulak array**	**59.17**	**311**	*e*P	**P**	**17 52 45.9**	**-2.3**
AKTO	**Aktyubinsk**	**59.90**	**313**	P	**P**	**17 52 52.9**	**-0.4**
	comp=Z,0.8nm,0.5s,baz=94,slow=11,SNR=3.1						
ASAR	**Alice Springs**	**60.23**	**189**	P	**P**	**17 52 55.6**	**-0.2**
	comp=Z,0.5nm,0.9s,baz=3.6,slow=7.2,SNR=6.3						
ASAR	**Alice Springs**	**60.23**	**189**	*e*P	**P**	**17 52 55.9**	**+0.1**
SPITS	**Spitsbergen Ar**	**61.42**	**349**	LR	LR	18 22 58.7	
	comp=Z,40nm,18.8s,baz=140,slow=39						
YKA	**Yellowknife Ar**	**63.91**	**30**	P	**P**	**17 53 20.9**	**+0.9**
	comp=Z,0.5nm,0.8s,baz=301,slow=6.6,SNR=8.6						
YKA	**Yellowknife Ar**	**63.91**	**30**	*e*P	**P**	**17 53 20.5**	**+0.5**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
FINES	**FINESS Array B**	**69.91**	**333**	P	**P**	**17 53 58.0**	**-0.2**
	comp=Z,1.5nm,0.7s,baz=68,slow=5.1,SNR=5.1						
FINES	**FINESS Array B**	**69.91**	**333**	*e*P	**P**	**17 53 58.9**	**+0.7**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.7s						
KBZ	**Khabaz**	**72.14**	**311**	P	**P**	**17 54 12.9**	**+0.9**
	comp=Z,1.2nm,0.8s,baz=42,slow=5.2,SNR=4.4						
KIV	**Kislovodsk**	**72.14**	**312**	*e*P	**P**	**17 54 13.5**	**+1.3**
KIV				pmax	pmax		
	comp=Z,4.0nm,0.9s						
BBGB	**Big Mountain B**	**73.82**	**56**	*e*P	**P**	**17 54 19.8**	**-2.5**
NVAR	**Mina Array Bea**	**74.60**	**54**	P	**P**	**17 54 28.7**	**+1.8**
	comp=Z,0.2nm,0.3s,baz=295,slow=5.1,SNR=4.3						
AKASG	**Malin Array Be**	**75.48**	**323**	P	**P**	**17 54 30.9**	**-0.6**
	comp=Z,0.6nm,0.6s,baz=45,slow=5.9,SNR=4.4						
AKASG	**Malin Array Be**	**75.48**	**323**	*e*P	**P**	**17 54 32.0**	**+0.5**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.6s						
SFJD	**Kangerlussuaq**	**76.51**	**5**	LR	LR	18 31 25.9	
	comp=Z,27nm,18.1s,baz=309,slow=38						
PDAR	**Pinedale Array**	**77.44**	**46**	P	**P**	**17 54 44.5**	**+1.4**
	comp=Z,0.2nm,0.7s,baz=282,slow=4.5,SNR=2.7						
BRTR	**Keskin Array B**	**80.08**	**312**	P	**P**	**17 54 58.4**	**+0.8**
	comp=Z,0.7nm,0.7s,baz=81,slow=3.9,SNR=5.1						
STHS	**Stebnicka Huta**	**80.12**	**326**	*e*P	**P**	**17 54 58.0**	**+0.6**
STHS	**Stebnicka Huta**	**80.12**	**326**	*e*P	**P**	**17 54 58.0**	**+0.6**
CRVS	**Cervenica-Dubn**	**80.39**	**325**	*e*P	**P**	**17 54 57.9**	**-1.0**
CRVS	**Cervenica-Dubn**	**80.39**	**325**	*e*P	**P**	**17 54 57.9**	**-1.0**
CLL	**Collm**	**82.22**	**331**	*i* P	**P**	**17 55 04.7**	**-3.8**
GERES	**GERESS Array B**	**83.85**	**329**	P	**P**	**17 55 17.1**	**-0.1**
	comp=Z,0.3nm,0.5s,baz=39,slow=9.5,SNR=3.0						
TXAR	**Lajitas Array**	**89.75**	**53**	P	**P**	**17 55 47.8**	**+1.5**
	comp=Z,0.2nm,0.7s,baz=314,slow=1.2,SNR=4.1						
LPAZ	**La Paz**	**146.16**	**62**	PKPbc	**PKPab**	**18 02 30.2**	**+0.5**
	comp=Z,0.9nm,0.6s,baz=40,slow=1.1,SNR=3.8						

*ISN **08** 17:57:04.8±0.3, 34°.61N×46°.08E, h0km, ML2.6*
TEH 08 17:57:09.4, 34°.75N×46°.08E, h6km, ML2.6, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
IGHG	**Ghaleghazi**	**0.58**	**136**	*e*Pg	Pb	17 57 21.9	-0.2
IGHG				*e*Sg	Sb	17 57 31.4	+0.6
IGHG				*e*AMB	AMB	17 57 32.9	
	comp=Z,9µm,0.1s						
IVIS	**Veis**	**0.67**	**109**	*e*Pg	Pb	17 57 23.4	-0.2
IVIS				*e*Sg	Sb	17 57 33.7	+0.5
IVIS				*e*AMB	AMB	17 57 35.6	
	comp=Z,2µm,0.1s						
ILIN	**Lien**	**0.75**	**77**	*e*Pg	Pb	17 57 25.2	+0.3
ILIN				*e*Sg	Sb	17 57 36.5	+1.0
ILIN				*e*AMB	AMB	17 57 40.8	
	comp=Z,5µm,0.1s						
IKOM	**Komasi**	**1.31**	**116**	*e*Pg	Pg	17 57 35.7	+1.1
IKOM				*e*AMB	AMB	17 57 41.7	
	comp=Z,1µm,0.1s						
IKFM	**Kafar-mosalman**	**1.91**	**129**	*e*Pn	Pg	17 57 45.6	-0.4
IKFM				*e*AMB	AMB	17 57 48.9	
	comp=Z,99nm,0.1s						

*ISK **08** 18:02:11.3, 37°.53N×38°.78E, h6km, ML2.3/4*
*CSEM **08** 18:02:12.8±0.2, 37°.48N×38°.72E, h5km, ML2.3, Error ellipse: s-maj=5.3km s-min=5.1km az=166.0*
*DDA **08** 18:02:13.1, 37°.46N×38°.72E, h10km, Ml2.8*
ISC 08 18:02:12.1±1.0, 37°.50N±0°.03×38°.75E±0°.02, h4km±8km, n29, σ1$.07/48, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URFA	**Urfa**	**0.09**	**138**	PG	**Pg**	**18 02 13.9**	**0.0**
URFA				SG	**Sg**	**18 02 15.5**	**+0.4**
URFA	**Urfa**	**0.09**	**138**	*e*Pg	**Pg**	**18 02 13.9**	**0.0**
URFA				*e*Sg	**Sg**	**18 02 15.5**	**+0.4**
SANL	**SANLIURFA_Merk**	**0.38**	**150**	*i* P	**Pb**	**18 02 20.6**	**-0.9**
SANL				*i* S	**Sb**	**18 02 26.2**	**-1.5**
SANL	**SANLIURFA_Merk**	**0.38**	**150**	P	**Pb**	**18 02 20.6**	**-0.9**
SANL				S	**Sb**	**18 02 26.2**	**-1.5**
SURC	**SANLIURFA_SURC**	**0.63**	**190**	*i* P	**Pb**	**18 02 24.6**	**-1.1**
SURC				*i* S	**Sg**	**18 02 33.6**	**+1.1**
SURC	**SANLIURFA_SURC**	**0.63**	**190**	P	**Pb**	**18 02 24.6**	**-1.1**
SURC				S	**Sg**	**18 02 33.6**	**+1.1**
ELZG	**Elazig**	**1.01**	**10**	*i* P	**Pn**	**18 02 32.9**	**-0.3**
ELZG				*i* S	**Sn**	**18 02 48.7**	**+0.8**
ELZG	**Elazig**	**1.01**	**10**	P	**Pn**	**18 02 32.9**	**-0.3**
ELZG				S	**Sn**	**18 02 48.7**	**+0.8**
AKCD	**Akcadag**	**1.03**	**321**	*i* P	**Pn**	**18 02 32.7**	**-0.7**
AKCD				*i* S	**Sn**	**18 02 48.3**	**0.0**
AKCD	**Akcadag**	**1.03**	**321**	P	**Pn**	**18 02 32.7**	**-0.7**
AKCD				S	**Sn**	**18 02 48.3**	**0.0**
DIYA	**Diyarbakir**	**1.16**	**69**	*e*P	**Pn**	**18 02 36.5**	**+1.3**
DIYA				*i* S	**Sn**	**18 02 53.7**	**+2.1**
DIYA	**Diyarbakir**	**1.16**	**69**	P	**Pn**	**18 02 36.5**	**+1.3**
DIYA				S	**Sn**	**18 02 53.7**	**+2.1**
DYBB	**Diyarbakir**	**1.19**	**67**	PN	**Pb**	**18 02 33.9**	**-1.3**
GAZ	**Gaziantep**	**1.27**	**255**	PN	**Pg**	**18 02 36.5**	**+0.1**
GAZ				SN	**Sn**	**18 02 55.1**	**+0.9**
GAZ	**Gaziantep**	**1.27**	**255**	*e*Pn	**Pg**	**18 02 36.5**	**+0.1**
GAZ				*e*Sn	**Sn**	**18 02 55.1**	**+0.9**
MAZI	**Mazidag**	**1.35**	**91**	PN	**Pg**	**18 02 37.1**	**-0.9**
MAZI	**Mazidag**	**1.35**	**91**	*e*Pn	**Pg**	**18 02 37.1**	**-0.9**
DARE	**Darende-Malaty**	**1.46**	**317**	PN	**Pn**	**18 02 38.5**	**-0.8**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DARE	Darende-Malaty	1.46	317	ePn	Pn	18 02 38.5	-0.8
KMRS	Kahramanmaras	1.47	271	PN	Pb	18 02 39.3	-0.7
KMRS	Kahramanmaras	1.47	271	ePn	Pb	18 02 39.3	-0.7
PTK	Pertek	1.48	20	PN	Pn	18 02 38.5	-1.1
KUZU	Kuzuini	1.52	242	i P	Pg	18 02 41.4	+0.1
KUZU				i S	Sg	18 03 03.3	+2.2
KUZU	Kuzuini	1.52	242	P	Pg	18 02 41.4	+0.1
KUZU				S	Sg	18 03 03.3	+2.2
HANI	Diyarbakir_Han	1.59	55	i P	Pg	18 02 42.9	+0.4
HANI				i S	Sg	18 03 04.8	+1.7
HANI	Diyarbakir_Han	1.59	55	P	Pg	18 02 42.9	+0.4
HANI				S	Sg	18 03 04.8	+1.7
MARD	Mardin	1.63	96	i P	Pg	18 02 43.2	0.0
MARD				i S	Sg	18 03 04.5	+0.2
YAYL	Yayladag	2.58	236	PN	Pn	18 02 54.9	+0.2
YAYL	Yayladag	2.58	236	ePn	Pn	18 02 54.9	+0.2

IDC 08 18:12:18.4±2.2, 4°76N×94°47E, h0km, mb3.6/7, mb1 3.6/7, mb1mx3.4/63, mbtmp3.6/7, Error ellipse: s-maj=99.0km s-min=20.2km az=57.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	14.30	17	Pn	P	18 15 48.1	-1.6
	0.1nm,0.3s,baz=212,slow=12,SNR=12						
H08S2	Diego Garcia H	25.15	241	T	T	18 43 34.9	
	baz=61,slow=76,SNR=28						
H08S3	Diego Garcia H	25.15	241	T	T	18 43 38.4	
	baz=61,slow=76,SNR=40						
H08S1	Diego Carcia H	25.17	241	T	T	18 43 38.3	
	baz=61,slow=76,SNR=16						
MKAR	Makanchi Array	43.18	348	P	P	18 20 21.3	+0.3
	1.1nm,0.7s,baz=167,slow=8.4,SNR=14						
SONM	Songino Array	44.12	12	P	P	18 20 27.9	-0.8
	0.2nm,0.5s,baz=168,slow=7.4,SNR=4.0						
WRA	Warramunga Arr	46.24	123	P	P	18 20 46.4	+0.6
	0.4nm,0.9s,baz=301,slow=9.4,SNR=3.5						
KURBB	Kurchatov Arra	47.63	346	P	P	18 20 56.6	+0.4
	0.3nm,0.4s,baz=169,slow=7.1,SNR=7.4						
ASAR	Alice Springs	47.71	128	P	P	18 20 56.6	-0.7
	0.2nm,0.9s,baz=298,slow=7.4,SNR=3.0						
ZALV	Zalesovo Beam	49.66	353	P	P	18 21 11.6	-0.2
	0.9nm,0.5s,baz=190,slow=6.1,SNR=5.4						
FINES	FINESS Array B	75.60	333	P	P	18 24 04.5	-0.5
	1.4nm,0.9s,baz=86,slow=5.9,SNR=3.9						

IDC 08 18:22:10.3±2.0, 20°04S×177°60W, h474km±21km, mb3.5/15, mb1 3.7/18, mb1mx3.5/46, mbtmp4.3/18, Error ellipse: s-maj=18.9km s-min=12.0km az=148.0

ISC 08 18:22:11.8±0.5, 19°9S±0°1×177°6W±0°1, h500km, n42, σ2s20/47, mb3.9/15, Fiji Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	8.13	44	P	P	18 24 08.2	-1.6
	8.5nm,0.3s,baz=193,slow=1.6,SNR=9.0						
AFI				S	S	18 25 39.9	-6.6
	5.4nm,0.3s,baz=30,slow=20,SNR=5.4						
DZM	Mont Dzumac	15.09	259	P	P	18 25 22.8	-0.3
	0.9nm,0.3s,baz=262,slow=24,SNR=10						
URZ	Urewera	18.87	193	P	P	18 25 57.5	-2.4
	0.9nm,0.3s,baz=279,slow=4.5,SNR=6.6						
STKA	Stephens Creek	38.42	244	P	P	18 28 49.8	-0.1
	5.2nm,0.7s,baz=81,slow=9.7,SNR=12						
ASAR	Alice Springs	45.05	256	P	P	18 29 42.2	-0.5
	11nm,0.8s,baz=96,slow=7.9,SNR=173						
ASAR				PcP	pP	18 31 13.5	-2.2
	2.1nm,0.5s,baz=107,slow=3.8,SNR=10.0						
ASAR				S	S	18 35 41.7	-3.1
	0.2nm,0.6s,baz=94,slow=13,SNR=4.7						
WRA	Warramunga Arr	45.09	261	P	P	18 29 42.0	-1.0
	3.2nm,0.5s,baz=97,slow=8.0,SNR=105						
WRA				PcP	pP	18 31 13.8	-2.3
	1.2nm,0.8s,baz=93,slow=3.4,SNR=5.8						
SIJI	Sorong	53.48	284	P	P	18 30 45.8	+0.6
	11nm,0.7s,baz=70,slow=5.6,SNR=11						
FITZ	Fitzroy Crossi	53.51	262	P	P	18 30 45.5	+0.2
	2.7nm,0.5s,baz=94,slow=6.5						
BATI	Baumata	57.33	270	P	P	18 31 13.7	+1.7
	8.9nm,0.6s,baz=101,slow=5.2,SNR=3.6						
MJAR	Matsushiro Arr	69.97	323	P	P	18 32 33.3	+0.8
	1.3nm,0.7s,baz=164,slow=6.2,SNR=5.9						
QSPA	South Pole Qui	70.17	180	P	P	18 32 34.0	+0.6
	4.4nm,0.8s,baz=39,slow=1.3,SNR=8.6						
PETK	Petropavlovsk-	75.80	345	P	P	18 33 07.6	+2.0
	2.6nm,0.8s,baz=113,slow=4.9,SNR=4.1						
NVAR	Mina Array Bea	80.31	43	P	P	18 33 33.1	+2.5
	0.8nm,0.9s,baz=218,slow=5.7,SNR=3.6						
TXAR	Lajitas Array	86.39	57	P	P	18 34 04.0	+2.9
	0.7nm,0.7s,baz=218,slow=6.3,SNR=10						
ILAR	Eielson Array	87.64	13	P	P	18 34 06.9	+0.9
	0.7nm,0.7s,baz=221,slow=5.5,SNR=10						
PDAR	Pinedale Array	88.25	43	P	P	18 34 11.3	+1.6
	0.4nm,0.6s,baz=216,slow=3.6,SNR=5.8						
VNA3	Neumayer Olymp	88.71	176	P	P	18 34 10.6	-0.5
VNA2	Neumayer--Watz	89.16	177	P	P	18 34 13.0	-0.2
	baz=195,slow=4.4						
VNA1	Neumayer--Stat	89.38	176	P	P	18 34 13.7	-0.5
CMAR	Chiang Mai Arr	90.30	289	P	P	18 34 21.8	+2.4
	2.0nm,0.9s,baz=121,slow=2.7,SNR=15						
YKA	Yellowknife Ar	95.80	25	P	P	18 34 44.6	+1.0
	0.1nm,0.6s,baz=250,slow=3.9,SNR=2.9						
MKAR	Makanchi Array	111.08	314	PKiKP	PKiKP	18 39 47.8	-0.2
	0.5nm,0.6s,baz=183,slow=1.0,SNR=7.3						
BVAR	Borovoye Array	118.88	320	PKP	PKPdf	18 40 03.0	+0.2
	1.3nm,0.6s,baz=75,slow=2.5,SNR=8.0						
ARCES	ARCESS Array B	128.41	350	PKP	PKPdf	18 40 21.1	+0.5
	5.8nm,1.1s,baz=14,slow=4.1,SNR=4.0						
FINES	FINESS Array B	135.31	344	PKP	PKPdf	18 40 33.4	-0.3
	0.8nm,0.6s,baz=27,slow=0.6,SNR=5.2						
AKASG	Malin Array Be	142.68	332	PKhKP	PKPpre	18 40 44.9	
	1.4nm,0.4s,baz=44,slow=4.5,SNR=18						
EKA	Eskdalemuir Ar	144.37	5	PKP	PKPab	18 40 50.8	+0.4
	0.6nm,0.5s,baz=318,slow=3.1,SNR=5.5						
BRTR	Keskin Array B	146.73	313	PKPbc	PKPab	18 40 58.1	-2.2
	2.6nm,0.6s,baz=136,slow=5.0,SNR=20						
CLL	Collm	147.57	348	i PKPbc	PKPab	18 41 00.5	-2.6
	comp=Z,9.0nm,0.6s						
CLL				i PKPab	PKiKP	18 41 04.0	+3.2
UPC	Upice	147.61	344	ePKP	PKPab	18 41 01.1	-2.2
DPC	Dobruska-Polom	147.67	343	ePKP	PKPab	18 41 01.2	-2.4
DPC				ex	x	18 41 05.7	
MMAI	Mount Meron Ar	147.86	301	PKPbc	PKPab	18 41 02.4	-2.6
	comp=Z,3.3nm,0.5s,baz=69,slow=6.0,SNR=16						
PVCC	Panska Ves	147.96	345	ePKP	PKPab	18 41 02.0	-2.7
PRU	Pruhonice	148.47	345	ePKP	PKPab	18 41 02.9	-3.9
PRU				ex	x	18 41 08.3	
GOPC	GO Pecny, Ondr	148.47	345	ePKP	PKPab	18 41 03.2	-3.6
TREC	Trest	148.86	343	ePKP	PKPab	18 41 04.0	-4.5
KHC	Kasperske Hory	149.49	346	ePKP	PKPbc	18 41 05.4	+1.2
KHC				epPKP	PKPab	18 41 13.3	+2.2
GERES	GERESS Array B	149.73	345	PKPbc	PKPbc	18 41 06.0	+1.2
	comp=Z,2.9nm,0.8s,baz=36,slow=2.5,SNR=31						
CONA	Conrad Observa	149.99	342	i PKPbc	PKPbc	18 41 06.9	+1.4
	comp=Z,2.1nm,0.5s						
SOKA	Soboth	151.37	342	i PKPbc	PKPbc	18 41 09.0	+0.4
	comp=Z,0.6nm,0.4s						
ABTA	Abfaltersbach	151.98	345	i PKPbc	PKPbc	18 41 10.4	+0.4
	comp=Z,3.0nm,0.7s						
TORD	Torodi Ar. Bea	173.25	174	PKP	PKPdf	18 41 22.7	-1.4
	comp=Z,0.9nm,0.8s,baz=200,slow=2.7,SNR=4.1						

ATA 08 18:22:53.9±1.6, 39°66N×39°56E, h10km±12km, ML2.5, MW2.2
ISK 08 18:22:53.9, 39°65N×39°60E, h7km, MD2.6/2
ISCJB 08 18:22:54.4±0.4, 39°66N±0°02×39°53E±0°03, h2km±12km, Error ellipse: s-maj=4.3km s-min=3.9km az=40.0
DDA 08 18:22:54.3, 39°66N×39°53E, h7km, Ml2.2
CSEM 08 18:22:54.3±0.2, 39°67N×39°53E, h2km, ML2.2, Error ellipse: s-maj=4.2km s-min=3.2km az=102.0

ISC 08 18:22:54.2±0.9, 39°65N±0°02×39°54E±0°03, h8km±7km, n26, σ0s67/42, Turkey

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
EUZM	Uzumlu	0.14	64	i P	Pg	18 22 57.6	+0.3
EUZM				eS	Sg	18 22 59.8	+0.5
EUZM				IAML		18 22 59.9	
	comp=Z,71nm,0.2s						
EUZM	Uzumlu	0.14	64	i P	Pg	18 22 57.5	+0.3
EUZM				i S	Sg	18 22 59.9	+0.5
EUZM	Uzumlu	0.14	64	P	Pg	18 22 57.5	+0.3
EUZM				S	Sg	18 22 59.8	+0.5
ERZN	Erzincan	0.15	113	PG	Pg	18 22 56.9	-0.6
ERZN				SG	Sg	18 22 59.2	-0.6
EZC	Erzincan	0.18	306	ePg	Pg	18 22 56.9	-1.0
EZC				eSg	Sg	18 22 59.2	-1.3
TNCL	Tunceli-Merkez	0.53	180	eP	Pg	18 23 04.8	+0.3
TNCL				eS	Sb	18 23 13.3	-0.4
TNCL				IAML		18 23 14.2	
	comp=Z,40nm,0.5s						
TNCL	Tunceli-Merkez	0.53	180	i P	Pg	18 23 04.8	+0.3
TNCL				i S	Sb	18 23 13.4	-0.4
TNCL	Tunceli-Merkez	0.53	180	P	Pg	18 23 04.8	+0.3
TNCL				S	Sb	18 23 13.4	-0.4
KELT	Kelkit	0.55	337	eP	Pg	18 23 05.0	+0.1
KELT	Kelkit	0.55	337	i P	Pg	18 23 05.2	+0.4
KELT				i S	Sg	18 23 12.6	+0.6
KELT	Kelkit	0.55	337	P	Pg	18 23 05.2	+0.4
KELT				S	Sg	18 23 12.6	+0.6
PTK	Pertek	0.76	189	PG	Pg	18 23 09.4	+0.5
PTK				SG	Sb	18 23 20.6	+0.1
PTK	Pertek	0.76	189	ePg	Pg	18 23 09.4	+0.5
PTK				eSg	Sb	18 23 20.6	+0.1
BAYB	BAYBURT	0.82	42	eP	Pg	18 23 09.4	-0.7
BAYB	BAYBURT	0.82	42	i P	Pg	18 23 10.0	-0.1
BAYB				i S	Sn	18 23 23.4	-1.5
BAYB	BAYBURT	0.82	42	P	Pg	18 23 10.0	-0.1
KOPT	Kop Dagi	0.82	63	eP	Pb	18 23 10.3	-0.6
KOPT	Kop Dagi	0.82	63	i P	Pb	18 23 10.4	-0.6
KOPT				i S	Sb	18 23 23.1	+0.7
KOPT	Kop Dagi	0.82	63	P	Pb	18 23 10.4	-0.6
KOPT				S	Sb	18 23 23.1	+0.7
BAYT	Ayd˜–ntepe-Bay	0.88	32	PG	Pg	18 23 10.7	-0.4
BAYT	Ayd˜–ntepe-Bay	0.88	32	ePg	Pg	18 23 10.7	-0.4
KEMA	Kemaliye	0.89	245	eP	Pn	18 23 13.2	0.0
KEMA				eS	Sb	18 23 24.7	+0.5
KEMA				IAML		18 23 26.1	
	comp=Z,6.1nm,0.4s						
MALT	Malatya	1.59	213	PN	Pn	18 23 23.3	+0.5
MALT	Malatya	1.59	213	ePn	Pn	18 23 23.3	+0.5
SVSK	Karacayir	1.98	279	PN	Pn	18 23 29.5	+1.5
SVSK	Karacayir	1.98	279	ePn	Pn	18 23 29.5	+1.5

ATA 08 18:28:03.2±1.4, 38°70N×43°31E, h7km±57km, ML2.6, MW2.6
ISK 08 18:28:03.7, 38°68N×43°15E, h13km, ML2.1/4
CSEM 08 18:28:04.6±0.3, 38°68N×43°15E, h10km, ML2.1, Error ellipse: s-maj=5.9km s-min=5.7km az=16.0
ISCJB 08 18:28:05.3±0.5, 38°68N±0°04×43°17E±0°04, h10km±9km, Error ellipse: s-maj=6.4km s-min=5.0km az=151.1
DDA 08 18:28:05.3, 38°67N×43°17E, h7km, Ml2.8

ISC 08 18:28:05.2±0.9, 38°67N±0°03×43°18E±0°03, h17km±7km, n22, σ1s08/39, Turkey

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VANB	Van	0.18	114	PG	Pg	18 28 09.7	-0.2
VANB				SG	Sg	18 28 14.1	+1.0
VANB	Van	0.18	114	ePg	Pg	18 28 09.7	-0.2
VANB				eSg	Sg	18 28 14.1	+1.0
TVAN	Van	0.23	128	i P	Pg	18 28 09.6	-1.1
TVAN				i S	Sg	18 28 14.4	0.0
TVAN	Van	0.23	128	P	Pg	18 28 09.6	-1.1
TVAN				S	Sg	18 28 14.4	0.0
GEVA	Gevas	0.37	195	eP	Pg	18 28 11.9	-1.0
GEVA				eS	Sb	18 28 19.1	+0.2
GEVA				IAML		18 28 22.9	
	comp=Z,38nm,0.3s						
GEVA	Gevas	0.37	195	i P	Pg	18 28 12.0	-1.0
GEVA				i S	Sb	18 28 19.2	+0.3
GEVA	Gevas	0.37	195	P	Pg	18 28 12.0	-1.0
GEVA				S	Sb	18 28 19.2	+0.3
ADCV	BITLIS_Adilcev	0.38	292	i P	Pg	18 28 12.7	-0.5
ADCV				i S	Sb	18 28 19.5	+0.2
ADCV	BITLIS_Adilcev	0.38	292	P	Pg	18 28 12.7	-0.5
ADCV				S	Sb	18 28 19.5	+0.2
VMUR	Van-Muradiye	0.45	44	i P	Pb	18 28 13.9	-0.8
VMUR				i S	Sb	18 28 21.9	+0.7
VMUR	Van-Muradiye	0.45	44	P	Pb	18 28 13.9	-0.8
VMUR				S	Sb	18 28 21.9	+0.7
CLDR	Caldiran	0.75	50	PG	Pg	18 28 18.7	-1.2
CLDR				SG	Sb	18 28 29.6	-0.3
CLDR	Caldiran	0.75	50	ePg	Pg	18 28 18.7	-1.2
CLDR				eSg	Sb	18 28 29.6	-0.3
TUTA	Tutak	0.79	339	eP	Pg	18 28 19.5	-1.2
TUTA				eS	Sb	18 28 30.7	-0.4
TUTA	Tutak	0.79	339	i P	Pg	18 28 19.6	-1.0
TUTA				i S	Sb	18 28 32.1	+1.2
TUTA	Tutak	0.79	339	P	Pg	18 28 19.6	-1.0
TUTA				S	Sb	18 28 32.2	+1.2
GURO	Guroymak-BITLI	0.90	263	PG	Pg	18 28 21.2	-1.6
GURO	Guroymak-BITLI	0.90	263	ePg	Pg	18 28 21.2	-1.6
AGRB	Hanur-Agry	0.92	351	PG	Pg	18 28 21.4	-1.7
AGRB	Hanur-Agry	0.92	351	ePg	Pg	18 28 21.4	-1.7
EKAR	Karacoban	1.05	304	eP	Pn	18 28 25.9	+0.5
EATA	Eleskirt	1.30	336	eP	Pn	18 28 28.9	0.0
EATA				eS	Sn	18 28 49.2	+3.0

IDC 08 18:41:42.8±1.0, 8°96N×125°09E, h0km, mb3.5/6, mb1 3.8/7, mb1mx3.4/57, mbtmp3.6/7, ML3.9/1, MS2.8/2, Ms1 2.9/2, ms1mx2.3/39, Error ellipse: s-maj=55.8km s-min=19.3km az=69.0
ISCJB 08 18:41:45.0±0.8, 9°22N±0°03×125°48E±0°06, h1km±7km, mb3.5/6, MS2.8/2, Error ellipse: s-maj=9.6km s-min=4.4km az=178.0
MAN 08 18:41:47, 9°24N×125°38E, h15km, mb4.8, ML3.8, MS3.7

ISC 08 18:41:44.3±1.1, 9°20N±0°02×125°42E±0°04, h3km±9km, n31, σ1s54/34, mb3.5/6, 2C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BUTP	Butuan	0.30	138	eP	Pg	18 41 50.2	+0.1
BUTP				eS	Sg	18 41 55.5	+1.4
SCPH	Surigao	0.59	7⇓	eP	Pg	18 41 56.5	+0.9
SCPH				eS	Sg	18 42 03.7	+0.5
MSLP	Maasin	1.08	330	eP	Pb	18 42 06.0	+0.3
MSLP				eS	Sn	18 42 24.4	+2.6
BUKP	Musuan	1.35	195	eP	Pg	18 42 11.1	+0.8
BUKP				eS	Sn	18 42 31.5	+2.9
TBP	Tagbilaran	1.61	288	eP	Pn	18 42 12.7	-0.8
LLP	Lapu-Lapu	1.81	308⇑	eP	Pb	18 42 17.3	-0.8
LLP				eS	Sn	18 42 40.0	+0.1
PLP	Palo	2.00	348⇓	eP	Pn	18 42 19.9	+0.9
PLP				eS	Sb	18 42 48.1	+1.4
DAV	Davao City (W)	2.12	176	Pg	Pg	18 42 24.7	-0.2
	58nm,0.3s,baz=26,slow=2.7,SNR=7.4						
DAV				Lg	Lg	18 43 02.6	
	baz=120,slow=23,SNR=6.7						
DCPH	Dipolog City	2.13	254⇑	eP	Pb	18 42 22.8	-0.6
DCPH				eS	Sg	18 42 51.5	-1.2
SNPH	Sibulan	2.16	274	eP	Pb	18 42 23.6	-0.4
SNPH				eS	Sb	18 42 51.6	+0.4
CTBH	Cotabato--PC H	2.28	211	eP	Pb	18 42 25.2	-0.8
CTBH				i S	Sg	18 42 58.5	+1.0
BESP	Borongan	2.39	1	eP	Pb	18 42 26.7	-1.3
BESP				eS	Sg	18 43 00.8	-0.4
PAGZ	Pagadian	2.42	237	eP	Pb	18 42 28.3	-0.1
GUIM	Jordan	3.13	297	eP	Pn	18 42 37.1	+2.7
IPIL	Ipil	3.14	244	eP	Pb	18 42 37.9	-2.9
CNP	Catarman	3.38	347	eP	Pb	18 42 41.5	-3.2
CNP				eS	Sb	18 43 25.5	-0.7
SIJI	Sorong	11.57	149	Pn	Pn	18 44 30.4	-0.1
	0.8nm,0.3s,baz=317,slow=9.1,SNR=4.6						
KSRS	Korea Array	28.23	4	LR	LR	18 57 45.3	
	comp=Z,12nm,21.9s,baz=220,slow=34						
WRA	Warramunga Arr	30.26	163	P	P	18 47 53.7	-2.9
	0.3nm,0.8s,baz=346,slow=9.5,SNR=4.0						
ASAR	Alice Springs	33.70	166	P	P	18 48 25.1	-1.8
	0.3nm,0.5s,baz=343,slow=7.5,SNR=7.5						
H11S3	WAKE ISLAND Hy	41.04	72	T	T	19 32 30.4	
	baz=299						
H11S1	WAKE ISLAND Hy	41.05	72	T	T	19 32 31.2	
	baz=299						
H11S2	WAKE ISLAND Hy	41.05	72	T	T	19 32 29.0	
	baz=299						
H11N1	WAKE ISLAND Hy	41.40	71	T	T	19 33 02.1	
	baz=265,slow=74,SNR=6.6						
H11N2	WAKE ISLAND Hy	41.40	71	T	T	19 32 51.7	
	baz=265,slow=74,SNR=5.5						
H11N3	WAKE ISLAND Hy	41.41	71	T	T	19 32 58.8	
	baz=265,slow=74,SNR=4.5						
MKAR	Makanchi Array	52.38	324	P	P	18 50 57.3	-0.4
	0.5nm,0.6s,baz=120,slow=8.3,SNR=7.6						
KURBB	Kurchatov Arra	56.48	326	P	P	18 51 25.9	-1.6
	0.3nm,0.5s,baz=123,slow=7.1,SNR=4.5						
ILAR	Eielson Array	80.77	26	P	P	18 53 59.8	+0.9
	0.4nm,0.9s,baz=243,slow=5.0,SNR=3.7						
NOA	NORSAR Array B	93.34	334	LR	LR	19 42 44.7	
	comp=Z,6.8nm,18.8s,baz=60,slow=39						
YKA	Yellowknife Ar	95.08	24	P	P	18 55 09.5	+1.1
	0.2nm,0.6s,baz=299,slow=4.2,SNR=5.2						

IDC 08 18:45:45.6±3.4, 28°42S×139°90E, h0km, mb1 2.9/3, mb1mx2.9/40, mbtmp2.7/3, ML2.5/3, Error ellipse: s-maj=130.6km s-min=19.6km az=61.0, South Australia

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	3.75	157	Pn	Pn	18 46 43.4	-1.3
	0.1nm,0.3s,baz=342,slow=10,SNR=2.6						
STKA				Sn	Sn	18 47 22.9	-6.6
	0.5nm,0.3s,baz=227,slow=19,SNR=3.9						
STKA				Lg	Lg	18 47 46.0	
	0.6nm,0.3s,baz=68,slow=19,SNR=3.0						
ASAR	Alice Springs	7.18	310	Pn	Pn	18 47 32.6	+0.7
	0.1nm,0.3s,baz=137,slow=13,SNR=12						
ASAR				Sn	Sn	18 48 50.1	-4.0
	0.1nm,0.3s,baz=140,slow=23,SNR=5.6						
WRA	Warramunga Arr	9.85	328	Pn	Pn	18 48 08.3	-0.2
	0.1nm,0.3s,baz=150,slow=13,SNR=9.8						
WRA				Sn	Sn	18 49 53.6	-6.2
	0.1nm,0.3s,baz=146,slow=27,SNR=4.2						

MAN 08 18:46:22, 6°71N×123°71E, h1km, mb4.6, ML3.5, MS3.3, 2C, Mindanao

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CTBH	Cotabato--PC H	0.73	46	eP	Pg	18 46 36.7	+0.6
CTBH				i S	Sn	18 46 53.0	+1.7
PAGZ	Pagadian	1.18	344	eP	Pn	18 46 46.2	+0.5
PAGZ				eS	Sg	18 46 57.8	-2.1
GSPH	General Santos	1.38	117⇑	i P	Pb	18 46 52.5	+3.9
GSPH				i S	Sn	18 47 14.0	+6.6
IPIL	Ipil	1.56	313	eP	Pg	18 46 52.6	+0.7
IPIL				eS	Sg	18 47 12.7	+0.5
BUKP	Musuan	1.77	49	eP	Pn	18 46 54.5	+0.6
BUKP				eS	Sb	18 47 18.3	+0.2
DCPH	Dipolog City	1.90	349⇑	eP	Pb	18 46 57.1	-0.3

IDC 08 18:46:35.4±1.8, 5°81S×148°55E, h0km, mb3.7/3, mb1 4.1/5, mb1mx3.6/44, mbtmp3.9/5, ML4.0/1, Error ellipse: s-maj=78.4km s-min=26.1km az=123.0, New Britain region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	3.83	201	Pn	Pn	18 47 37.5	+1.9
	12nm,0.3s,baz=39,slow=4.5,SNR=56						
PMG				Sn	Sn	18 48 19.1	-2.4
	4.6nm,0.3s,baz=167,slow=14,SNR=7.9						
WRA	Warramunga Arr	19.71	223	P	P	18 51 06.5	0.0
	0.5nm,0.3s,baz=50,slow=11,SNR=23						
ASAR	Alice Springs	22.67	217	P	P	18 51 37.8	-0.8
	0.8nm,0.4s,baz=30,slow=12,SNR=25						
FITZ	Fitzroy Crossi	25.48	239	P	P	18 52 05.6	+0.1
	4.5nm,0.9s,baz=45,slow=8.6						
ILAR	Eielson Array	84.70	23	P	P	18 59 10.9	0.0
	0.2nm,0.5s,baz=254,slow=4.8,SNR=5.8						

MAN 08 19:11:40, 10°04N×123°11E, h30km, mb4.5, ML3.4, MS3.2, 1D, Cebu

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SNPH	Sibulan	0.71	170	eP	Pn	19 11 55.3	+1.3
SNPH				eS	Sn	19 12 05.6	+1.7
GUIM	Jordan	0.77	319	eP	Pb	19 11 55.7	+0.8
GUIM				eS	Sn	19 12 07.3	+1.9
TBP	Tagbilaran	0.82	115	eP	Pn	19 11 54.3	-1.3
LLP	Lapu-Lapu	0.89	72⇓	eP	Pn	19 11 54.2	-2.2
LLP				eS	Sn	19 12 04.6	-3.8
MSLP	Maasin	1.73	87	eP	Pn	19 12 09.2	+1.2
MSLP				eS	Sn	19 12 30.6	+1.5

MAN 08 19:13:52, 6°81N×123°78E, h16km, mb4.7, ML3.5, MS3.4, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CTBH	Cotabato--PC H	0.62	48	eP	Pg	19 14 03.8	-0.4
CTBH				i S	Sg	19 14 10.1	-2.3
PAGZ	Pagadian	1.11	339	eP	Pn	19 14 13.0	+0.1
PAGZ				eS	Sn	19 14 27.9	0.0
GSPH	General Santos	1.36	122⇑	i P	Pg	19 14 18.8	+0.5
GSPH				i S	Sg	19 14 40.4	+4.4
IPIL	Ipil	1.55	309	eP	Pb	19 14 19.9	-0.4
IPIL				eS	Sb	19 14 39.8	+0.1
BUKP	Musuan	1.66	50	eP	Pn	19 14 21.3	+0.8
BUKP				eS	Sb	19 14 42.9	0.0

IDC 08 19:18:01.8±1.7, 16°69N×97°90W, h0km, mb3.8/8, mb1 4.0/13, mb1mx3.8/49, mbtmp3.8/13, ML3.5/5, MS3.2/10, Ms1 3.2/10, ms1mx2.9/46, Error ellipse: s-maj=38.0km s-min=13.1km az=19.0
NEIC 08 19:18:03.8±0.0, 16°28N×98°10W, h16km, mb4.2/28, MD4.2(MEX), After MEX.
MEX 08 19:18:03.8±0.5, 16°28N×98°10W, h16km±1km, MD4.2

ISC 08 19:18:02.8±0.9, 16°38N±0°08×98°01W±0°05, h18km±5km, n186, σ1s42/188, mb4.1/26, MS3.1/9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.12	275	i P	Pg	19 18 06.5	-0.3
PNIG				i S	Sg	19 18 09.3	-0.1
PNIG	Pinotepa	0.12	275	i P	Pg	19 18 06.5	-0.3
PNIG				i S	Sg	19 18 09.3	-0.1
TLIG	Tlapa	1.29	335	eP	Pn	19 18 24.9	-1.2
TLIG				eS	Sn	19 18 40.4	-2.6
TLIG	Tlapa	1.29	335	eP	Pn	19 18 24.9	-1.2
TLIG				eS	Sn	19 18 40.4	-2.6
VHO	Vista Hermosa	1.40	60	eP	Pn	19 18 27.2	-0.4
VHO				eS	Sn	19 18 45.5	-0.3
VHO	Vista Hermosa	1.40	60	eP	Pn	19 18 27.2	-0.4
VHO				eS	Sn	19 18 45.5	-0.3
HUIG	Huatulco	1.92	108	eP	Pn	19 18 33.5	-1.2
HUIG	Huatulco	1.92	108	eP	Pn	19 18 33.5	-1.2
CAIG	El Cayaco	2.27	287	eP	Pn	19 18 36.8	-2.6
CAIG	El Cayaco	2.27	287	eP	Pn	19 18 36.8	-2.6
CMIG	Matias Romero	3.07	76	Pn	Pn	19 18 49.6	-0.9
	5.8nm,0.3s,baz=244,slow=10,SNR=50						
CMIG				Pg	Pb	19 18 56.4	-0.6
	31nm,0.3s,baz=259,slow=15,SNR=60						
CMIG				Sn	Sn	19 19 26.2	-0.6
	33nm,0.3s,baz=231,slow=15,SNR=4.8						
CMIG				Lg	Lg	19 19 35.4	
	102nm,0.3s,baz=209,slow=16,SNR=8.1						
UNM	Universidad Na	3.14	339	ePn	Pn	19 18 53.6	+2.0
LVIG	Laguna Verde	3.65	24	ePn	Pn	19 18 57.5	-0.9
MOIG	Morelia	4.46	318	ePn	Pn	19 19 12.7	+2.8
MOIG				Sn	Sn	19 20 06.6	+5.1
APG	El Apazote	7.39	100	Pn	Pn	19 19 51.8	+1.7
	0.5nm,0.3s,baz=326,slow=18,SNR=7.4						
APG				Sn	Sn	19 21 11.1	-2.6
	1.4nm,0.3s,baz=316,slow=17,SNR=3.8						
APG				Lg	Lg	19 22 02.0	
	1.5nm,0.3s,baz=313,slow=19,SNR=2.4						
ZAIG	Zacatecas	7.67	327	ePn	Pn	19 19 56.5	+2.5
MYIG	MØrida	9.06	59	ePn	Pn	19 20 06.5	-6.2
833A	Chaparral WMA,	11.95	354	P	Pn	19 20 54.1	+1.7
	baz=174						
H06E1	SOCORRO T-PHAS	12.55	283	T	T	19 33 16.8	
	SNR=6.8						
TXAR	Lajitas Array	13.90	339	Pn	Pn	19 21 19.8	+0.6
	0.0nm,0.3s,baz=164,slow=14,SNR=3.5						
TXAR				Lg	Lg	19 25 19.6	

0.0nm,0.3s,baz=155,slow=28,SNR=2.9
TXAR LR LR 19 27 30.7
comp=Z,162nm,19.4s,baz=0.0,slow=42
JTS JuntasAbangare 14.07 114 Pn Pn 19 21 25.2 +3.8
1.1nm,0.3s,baz=9.6,slow=12,SNR=5.6
JCT Junction City 14.13 354 ePn Pn 19 21 23.2 +1.0
WHTX Lake Whitney, 15.55 2 P Pn 19 21 44.8 +3.6
baz=182,SNR=5.9
WHTX Lake Whitney, 15.55 2 ePn Pn 19 21 40.9 -0.3
14nm,0.8s
ABTX Abilene, Hawle 16.24 355 P Pn 19 21 53.5 +3.4
baz=175,SNR=14
ABTX Abilene, Hawle 16.24 355 ePn Pn 19 21 50.9 +0.7
31nm,1.1s
MNTX Cornudas Mount 16.66 338 P Pn 19 21 58.2 +2.7
baz=155
MNTX Cornudas Mount 16.66 338 ePn P 19 21 59.0 +1.2
2.4nm,0.9s
244A Avery, Jackson 16.95 22 P Pn 19 21 59.8 +0.7
baz=205
SRIG Santa Rosalia 17.10 312 ePn Pn 19 21 58.5 -2.6
6.5nm,0.6s
EPT El Paso 17.16 335 ePn Pn 19 22 00.8 -1.1
6.4nm,0.4s
121A Cookes Peak, D 18.36 333 P P 19 22 18.4 +1.6
baz=149
X39A Fountain Ranch 18.39 10 P P 19 22 16.8 -0.1
baz=192
MIAR Mount Ida 18.52 12 P P 19 22 17.5 -0.8
baz=194
MIAR Mount Ida 18.52 12 eP P 19 22 18.1 -0.2
6.1nm,0.8s
AMTX Amarillo 18.72 351 P P 19 22 20.3 -0.3
baz=169
149A Jones 19.07 30 P P 19 22 23.2 -1.2
baz=215
W39A Magazine 19.11 11 P P 19 22 24.2 -0.6
baz=193
Y46A Houston 19.27 24 P P 19 22 25.8 -0.7
baz=208,SNR=7.0
LRAL Lakeview Retre 19.34 29 P P 19 22 26.4 -0.9
baz=214
LRAL Lakeview Retre 19.34 29 eP P 19 22 26.6 -0.7
4.1nm,0.7s
Z48A Northport 19.37 27 P P 19 22 26.6 -1.1
baz=212,SNR=5.1
251A Midway 19.38 34 P P 19 22 26.4 -1.3
baz=219
W41B Gary Mavity, V 19.41 14 P P 19 22 27.4 -0.6
baz=197
TUL1 Leonard 19.55 5 P P 19 22 27.8 -1.8
baz=187
TUC Tucson 19.64 326 P P 19 22 32.8 +2.1
baz=141
Z49A Columbiana 19.69 30 P P 19 22 29.8 -1.3
baz=214
151A Opelika 19.76 33 P P 19 22 30.6 -1.3
baz=218
V39A Pettigrew 19.76 11 P P 19 22 31.4 -0.6
baz=193
V40A Witts Springs 19.89 12 P P 19 22 32.5 -0.9
baz=195
X46A Booneville 19.98 23 P P 19 22 33.4 -0.9
baz=207
ANMO Albuquerque 19.98 339 Pn P 19 22 35.3 +0.8
0.2nm,0.3s,baz=236,slow=11,SNR=8.5
ANMO Albuquerque 19.98 339 P P 19 22 35.5 +1.0
baz=156
ANMO Albuquerque 19.98 339 eP P 19 22 34.0 -0.5
7.3nm,1.4s
Y48A Jasper 20.00 27 P P 19 22 32.8 -1.6
baz=212
V41A Mountainview 20.02 14 P P 19 22 33.6 -1.1
baz=197
Z50A Ashland 20.03 31 P P 19 22 33.6 -1.3
baz=216
V42A Cord 20.22 16 P P 19 22 36.0 -1.0
baz=199
X47A Russelville 20.23 25 P P 19 22 35.9 -1.1
baz=209
Y49A Blount Mountai 20.29 29 P P 19 22 36.6 -1.1
baz=214
U39A Green Forest 20.32 11 P P 19 22 36.5 -1.5
baz=193
U40A Yellville 20.41 12 P P 19 22 38.0 -1.0
baz=194
X48A Hartselle 20.51 27 P P 19 22 38.2 -1.9
baz=211
214A Organ Pipe Nat 20.53 322 P P 19 22 41.6 +1.3
baz=136
PLAL Pickwick Lake 20.55 24 eP P 19 22 39.1 -1.4
9.4nm,0.8s
U41A Viola 20.61 14 P P 19 22 40.4 -0.6
baz=197
U42A Revenden 20.78 16 P P 19 22 41.3 -1.6
baz=199
T38A Diamond 20.83 8 P P 19 22 42.1 -1.5
baz=190
X49A Woodville 20.88 28 P P 19 22 42.8 -1.3
baz=213
T39A Clever 20.96 10 P P 19 22 43.7 -1.3
baz=193
W47A Westpoint 20.97 24 P P 19 22 43.5 -1.6
baz=209
X18A Snowflake 21.01 332 eP P 19 22 46.1 +0.4
10nm,1.1s
W48A Pulaski 21.14 26 P P 19 22 45.4 -1.5
baz=211
T40A Mansfield 21.25 12 P P 19 22 46.7 -1.4
baz=195
V46A Holladay 21.25 23 P P 19 22 46.8 -1.3
baz=207,SNR=7.5
T41A Mountain View 21.31 14 P P 19 22 48.0 -0.7
baz=197
PBMO Poplar Bluff 21.40 17 eP P 19 22 51.6 +1.9
13nm,0.6s
155A Kite 21.43 38 P P 19 22 47.8 -2.2
baz=225
GOGA Godfrey 21.44 35 P P 19 22 48.0 -2.1
baz=221
T25A Trinidad 21.44 346 P P 19 22 50.9 +0.6
baz=163,SNR=10
T42A Van Buren 21.46 15 P P 19 22 50.6 +0.4
baz=198
S38A Stockton 21.47 9 P P 19 22 49.0 -1.5
baz=191
V47A Nunnelly 21.50 24 P P 19 22 49.3 -1.4
baz=208,SNR=5.3
S39A Bolivar 21.62 10 P P 19 22 51.4 -0.6
baz=192
X16A Lo Mia Camp, P 21.64 329 eP P 19 22 54.2 +1.8
7.1nm,0.8s
SWET Sewanee 21.64 28 eP P 19 22 50.9 -1.4
6.6nm,0.8s
WVT Waverly 21.65 23 P P 19 22 50.7 -1.6
baz=207
S40A Lebanon 21.69 12 P P 19 22 51.4 -1.3
baz=195
V48A Smith Brothers 21.71 25 P P 19 22 51.4 -1.6
baz=210,SNR=5.4
T43A Greenville 21.72 17 P P 19 22 51.0 -2.1
baz=200
S41A Jillco Farms, 21.84 13 P P 19 22 53.2 -1.1
baz=196
R38A Fenwick Farm, 22.02 9 P P 19 22 56.2 -0.1
baz=191
U47A Clarksville 22.13 23 P P 19 22 54.9 -2.6
baz=208
S42A Caledonia 22.23 15 P P 19 22 57.5 -1.1
baz=199
S43A Fulton Ridge, 22.24 17 P P 19 22 57.9 -0.7
baz=201
R39A Chumby, Stover 22.28 10 P P 19 22 57.2 -1.9
baz=193
SDCO Great Sand Dun 22.29 344 P P 19 23 00.1 +0.6
baz=161,SNR=7.5
SDCO Great Sand Dun 22.29 344 eP P 19 22 59.9 +0.4
9.3nm,1.4s
CCM Cathedral Cave 22.40 14 eP P 19 22 59.7 -0.7
14nm,0.8s
R40A Maddies Statio 22.40 12 P P 19 22 59.6 -0.8
baz=195
T46A Princeton 22.44 22 P P 19 22 59.3 -1.5
baz=206
WUAZ Wupatki 22.48 330 P P 19 23 02.8 +1.3
baz=145,SNR=6.4
WUAZ Wupatki 22.48 330 P P 19 23 01.1 -0.4
8.1nm,1.0s

U48A Cassie Pea, Po 22.49 25 P P 19 22 59.7 -1.6
baz=210
R41A Rosebud 22.60 14 P P 19 23 01.8 -0.7
baz=197
S22A 4UR Ranch, Cre 22.66 342 P P 19 23 04.2 +0.7
baz=158
S22A 4UR Ranch, Cre 22.66 342 eP P 19 23 04.4 +0.9
8.3nm,1.2s
KSU1 Kansas State U 22.67 3 P P 19 23 03.0 -0.2
baz=184
T47A Sharon Grove 22.68 23 P P 19 23 01.0 -2.4
baz=208
HODGE Hodges 22.72 36 eP P 19 23 01.6 -2.2
9.7nm,0.9s
R42A Luebbering 22.72 15 P P 19 23 03.3 -0.5
baz=198
MVCO Mesa Verde 22.73 338 P P 19 23 05.0 +0.8
baz=154
MVCO Mesa Verde 22.73 338 P P 19 23 03.7 -0.5
12nm,1.1s
S45A Carrier Mills 22.79 20 P P 19 23 03.7 -0.7
baz=204,SNR=9.8
Q38A Cooks Store, C 22.82 9 P P 19 23 04.7 -0.1
baz=191
BG3 Lake Jocassee 22.92 33 eP P 19 23 04.7 -1.3
21nm,1.5s
R43A Red Bud 22.94 16 P P 19 23 05.4 -0.7
baz=200
Q39A Willow Grove F 23.00 10 P P 19 23 06.7 -0.1
baz=193
TKL Tuckaleechee C 23.02 31 P P 19 23 04.0 -2.9
4.0nm,0.9s,baz=284,slow=5.2,SNR=3.6
TKL LR LR 19 33 15.8
comp=Z,23nm,21.2s,baz=5.5,slow=40
T48A Bowling Green 23.06 24 P P 19 23 05.8 -1.5
baz=210
R44A Waltonville 23.15 18 P P 19 23 07.6 -0.7
baz=202
Q41A Truxton 23.26 13 P P 19 23 08.5 -0.8
baz=197
BC3 Big Chuckawall 23.30 321 P P 19 23 11.1 +1.1
baz=134
R45A Skylar, Fairfi 23.44 20 P P 19 23 10.4 -0.7
baz=204
IRM Iron Mountain 23.46 322 P P 19 23 12.4 +0.9
baz=135
P39B Salisbury 23.47 10 P P 19 23 11.0 -0.5
baz=193
P38A Dawn 23.48 9 P P 19 23 10.2 -1.3
baz=191
P40A Paris 23.64 12 P P 19 23 11.1 -2.0
baz=194,SNR=5.8
O34A Beatrice 23.74 2 P P 19 23 13.8 -0.2
baz=183,SNR=12
Q44A Meyer Farm, Va 23.78 18 P P 19 23 13.1 -1.4
baz=202
TZTN Tazewell 23.83 30 eP P 19 23 13.7 -1.3
12nm,1.0s
O38A Galt 23.98 9 P P 19 23 15.5 -0.9
baz=191
P41A Barry, Barry 23.98 13 P P 19 23 15.5 -0.9
baz=197
Q45A Warren Harvey, 24.03 19 P P 19 23 15.7 -1.2
baz=204
R47A Wooly Knot Far 24.05 23 P P 19 23 15.8 -1.2
baz=208,SNR=5.9
P42A Winchester 24.07 15 P P 19 23 16.0 -1.1
baz=198,SNR=5.2
WCI Wyandotte Cave 24.08 23 P P 19 23 15.5 -1.8
baz=208
O40A La Belle 24.25 12 P P 19 23 17.1 -1.7
baz=195,SNR=6.6
ISCO Idaho Springs 24.26 346 P P 19 23 19.9 +0.6
baz=162,SNR=17
ISCO Idaho Springs 24.26 346 eP P 19 23 19.8 +0.6
8.8nm,0.8s
N33A J Bar K, Exete 24.27 1 P P 19 23 19.2 +0.1
baz=182
R48A Northridge Ran 24.39 24 P P 19 23 18.8 -1.3
baz=209
N34A Lincoln 24.40 3 P P 19 23 19.6 -0.7
baz=184
O41A Passleys Farm, 24.45 13 P P 19 23 18.9 -1.7
baz=197,SNR=6.6
Q47A Bedord North L 24.65 22 P P 19 23 21.4 -1.1
baz=208
N38A Joes South For 24.67 9 P P 19 23 22.2 -0.5
baz=191
N39A Derby Farms, D 24.87 10 P P 19 23 23.5 -0.9
baz=193
MTPU Mount Pierson 24.93 333 eP P 19 23 26.1 +0.6
7.6nm,0.9s
SRU San Rafael Swe 25.16 337 eP P 19 23 28.1 +0.8
5.7nm,0.9s
M37A Trindle Farm, 25.16 7 P P 19 23 26.8 -0.3
baz=189
Q16A Castle Valley 25.24 335 eP P 19 23 27.5 -0.6
3.9nm,0.8s
O20A White River Ci 25.29 341 P P 19 23 29.8 +1.3
baz=157,SNR=5.4
M38A Pleasantville 25.29 8 P P 19 23 27.5 -0.7
baz=191
N23A Red Feather La 25.38 346 P P 19 23 30.4 +1.1
baz=162,SNR=7.4
M40A Post Highland 25.56 11 P P 19 23 29.8 -0.8
baz=195
M41A Milan 25.73 13 P P 19 23 31.0 -1.2
baz=197
N44A Piper City 25.79 17 P P 19 23 31.4 -1.3
baz=202
O47A Sheridan 25.90 21 P P 19 23 32.4 -1.4
baz=207
M43A Waltham Townsh 26.16 16 P P 19 23 34.8 -1.3
baz=200
L40A Anamosa 26.25 11 P P 19 23 35.9 -1.0
baz=195
L41A Preston 26.41 13 P P 19 23 36.8 -1.5
baz=196
L42A Oliver, Polo 26.52 14 P P 19 23 38.2 -1.2
baz=198
DUG Dugway, Tooele 26.99 334 P P 19 23 45.3 +1.5
baz=148
J36A Seneca 1, Swea 27.04 6 P P 19 23 42.4 -1.6
baz=188
K22A Casper 27.18 346 P P 19 23 46.8 +1.3
baz=162
ECSD EROS Data Cent 27.29 2 P P 19 23 44.9 -1.5
baz=183
SDV Santo Domingo 27.70 102 P P 19 23 51.8 +1.3
2.5nm,0.7s,baz=338,slow=5.6,SNR=5.3
SDV LR LR 19 34 52.2
comp=Z,46nm,20.5s,baz=194,slow=36
J41A Loganville 27.74 13 P P 19 23 48.8 -1.6
baz=197
PDAR Pinedale Array 28.09 342 P P 19 23 53.8 0.0
0.4nm,0.6s,baz=106,slow=4.8,SNR=4.1
PDAR LR LR 19 36 08.9
comp=Z,79nm,19.9s,baz=168,slow=39
NVAR Mina Array Bea 28.29 325 P P 19 23 57.1 +1.5
1.4nm,0.9s,baz=148,slow=9.8,SNR=9.2
NVAR LR LR 19 36 41.3
comp=Z,47nm,19.4s,baz=270,slow=40
HVU Hansel Valley 28.32 336 eP P 19 23 57.0 +1.2
1.7nm,0.8s
H41A Junction City 29.02 12 P P 19 23 59.2 -2.5
baz=195
F40A Park Falls 30.18 11 P P 19 24 10.8 -1.2
baz=195
RLMT Red Lodge 30.18 344 P P 19 24 13.0 +0.7
baz=158
SJG San Juan 30.45 82 LR LR 19 37 55.7
comp=Z,29nm,19.5s,baz=246,slow=39
E40A Wakefield 30.73 11 P P 19 24 15.3 -1.5
baz=196
YBH Yreka Blue Hor 33.01 325 LR LR 19 39 31.7
comp=Z,39nm,18.3s,baz=173,slow=39
ULM Lac du Bonnet 33.83 2 LR LR 19 40 39.6
comp=Z,28nm,19.6s,baz=94,slow=40
SCHQ Schefferville 45.27 25 LR LR 19 47 15.9
comp=Z,36nm,20.2s,baz=344,slow=39
YKA Yellowknife Ar 47.52 350 P P 19 26 35.8 -0.9
0.8nm,0.7s,baz=157,slow=7.5,SNR=10
INK Inuvik 56.59 345 P P 19 27 43.9 -0.2
3.0nm,0.9s,baz=122,slow=6.8,SNR=12
INK Inuvik 56.59 345 eP P 19 27 44.1 -0.1
2.9nm,0.8s
ILAR Eielson Array 58.41 338 P P 19 27 57.3 +0.2
0.5nm,0.8s,baz=148,slow=4.8,SNR=8.5

TRF Thorofare Moun 59.05 336 eP P 19 28 02.6 +0.8
5.5nm,0.8s
SFJD Kangerlussuaq 59.12 20 LR LR 19 55 38.9
comp=Z,36nm,18.1s,baz=224,slow=38
ESDC Sonseca Array 82.76 51 P P 19 30 24.8 -1.3
0.1nm,0.4s,baz=277,slow=5.2,SNR=3.3

IDC 08 19:37:30.4±11.0, 1°.62N×101°.15W, h0km, mb3.1/4, mb1 3.6/4, mb1mx3.4/43, mbtmp3.1/4, MS3.1/3, Ms1 3.1/3, ms1mx2.7/14, Error ellipse: s-maj=402.7km s-min=127.6km az=108.0, Galapagos Triple Junction region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CMIG	**Matias Romero**	**16.56**	**21**	LR		LR	19 45 56.0	
	comp=Z,78nm,20.9s,baz=194,slow=30							
APG	**El Apazote**	**16.98**	**38**	LR		LR	19 46 19.8	
	comp=Z,50nm,18.5s,baz=30,slow=31							
TXAR	**Lajitas Array**	**27.66**	**355**	P		P	19 43 20.3	+0.1
	0.2nm,0.7s,baz=169,slow=10,SNR=3.2							
TKL	**Tuckaleechee C**	**37.52**	**24**	LR		LR	20 00 17.2	
	comp=Z,21nm,18.1s,baz=344,slow=36							
PDAR	**Pinedale Array**	**41.65**	**351**	P		P	19 45 20.5	-0.3
	0.4nm,0.6s,baz=156,slow=9.4,SNR=4.1							
YKA	**Yellowknife Ar**	**61.56**	**353**	P		P	19 47 49.4	+0.3
	0.1nm,0.8s,baz=163,slow=6.6,SNR=3.8							
ILAR	**Eielson Array**	**71.07**	**341**	P		P	19 48 50.0	-0.2
	0.1nm,0.5s,baz=144,slow=5.2,SNR=3.8							

*ISCJB **08** 19:38:60.0±0.5, 17°.0S±0°.1×174°.22W±0°.08, h35km, mb4.1/14, Error ellipse: s-maj=16.8km s-min=7.6km az=144.7*
*NEIC **08** 19:39:03.2±1.3, 17°.14S×174°.19W, h48km±13km, mb4.2/3, Error ellipse: s-maj=16.8km s-min=8.5km az=145.0*
*IDC **08** 19:39:03.4±2.6, 17°.14S×174°.13W, h47km±26km, mb3.9/11, mb1 4.1/13, mb1mx3.8/55, mbtmp4.2/13, ML3.5/2, Error ellipse: s-maj=33.2km s-min=13.9km az=145.0*
ISC 08 19:39:02.2±0.6, 17°.0S±0°.1×174°.2W±0°.1, h35km, n28, σ1s28/29, mb4.1/14, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
AFI	**Afiamalu**	**3.90**	**37**	P		**Pn**	**19 40 02.3**	**+2.6**
	11nm,0.3s,baz=161,slow=4.1,SNR=14							
AFI				S		**Sn**	**19 40 41.5**	**-2.7**
	31nm,0.3s,baz=47,slow=22,SNR=17							
RAR	**Rarotonga**	**14.25**	**109**	P		**Pn**	**19 42 21.4**	**-0.2**
	0.5nm,0.3s,baz=322,slow=18,SNR=1.9							
URZ	**Urewera**	**22.47**	**198**	P		**P**	**19 43 57.9**	**-0.4**
	2.0nm,0.3s,baz=11,slow=5.2,SNR=3.1							
CTA	**Charters Tower**	**37.55**	**259**	P		**P**	**19 46 13.2**	**-0.1**
	2.9nm,0.8s,baz=69,slow=8.6,SNR=3.4							
STKA	**Stephens Creek**	**42.56**	**241**	P		**P**	**19 46 55.0**	**+0.2**
	2.0nm,0.5s,baz=88,slow=9.9,SNR=11							
WB2	**Warramunga Arr**	**48.73**	**258**	eP		**P**	**19 47 42.2**	**-1.6**
WRAB	**Tennant Creek**	**48.73**	**258**	P		P	19 47 39.9	-3.8
	0.8nm,0.6s							
WR1	**Warramunga Arr**	**48.74**	**258**	eP		**P**	**19 47 43.1**	**-0.6**
	4.4nm,1.2s							
WRA	**Warramunga Arr**	**48.74**	**258**	P		**P**	**19 47 43.1**	**-0.7**
	0.9nm,0.5s,baz=96,slow=7.2,SNR=26							
WRA				PcP		**PcP**	**19 49 08.6**	**0.0**
	0.3nm,0.6s,baz=99,slow=3.3,SNR=2.8							
AS01	**Alice Springs**	**48.84**	**253**	eP		**P**	**19 47 44.0**	**-0.6**
AS31	**Alice Springs**	**48.88**	**253**	eP		**P**	**19 47 44.2**	**-0.7**
	2.5nm,0.9s							
ASAR	**Alice Springs**	**48.88**	**253**	P		**P**	**19 47 44.9**	**0.0**
	9.2nm,0.7s,baz=88,slow=8.5,SNR=105							
ASAR				PcP		**PcP**	**19 49 08.7**	**-0.4**
	0.4nm,0.5s,baz=100,slow=4.0,SNR=3.2							
SIJI	**Sorong**	**55.98**	**281**	P		**P**	**19 48 38.8**	**+1.2**
	5.5nm,0.5s,baz=46,slow=7.0,SNR=6.4							
RVR	**Riverside**	**74.17**	**46**	eP		**P**	**19 50 38.8**	**+3.4**
YBH	**Yreka Blue Hor**	**75.37**	**37**	P		**P**	**19 50 42.4**	**+0.1**
	1.6nm,0.8s,baz=88,slow=14,SNR=3.9							
NVAR	**Mina Array Bea**	**76.06**	**42**	P		**P**	**19 50 46.4**	**-0.1**
	1.5nm,0.8s,baz=225,slow=9.7,SNR=7.4							
NV01	**Mina Array Sit**	**76.06**	**42**	eP		**P**	**19 50 44.4**	**-2.1**
LTX	**Lajitas**	**82.16**	**56**	eP		**P**	**19 51 20.2**	**+0.3**
TXAR	**Lajitas Array**	**82.16**	**56**	P		**P**	**19 51 20.2**	**+0.3**
	1.0nm,1.1s,baz=198,slow=7.5,SNR=3.5							
PDAR	**Pinedale Array**	**84.00**	**42**	P		**P**	**19 51 28.4**	**-0.9**
	0.4nm,0.7s,baz=195,slow=4.0,SNR=6.2							
PDAR	**Pinedale Array**	**84.00**	**42**	eP		P	19 51 24.1	-5.1
ILAR	**Eielson Array**	**84.20**	**11**	P		**P**	**19 51 27.9**	**-1.6**
	0.4nm,0.6s,baz=226,slow=6.6,SNR=5.6							
BVAR	**Borovoye Array**	**118.69**	**322**	PKP		**PKPdf**	**19 57 45.6**	**-0.8**
	0.4nm,0.6s,baz=132,slow=2.1,SNR=3.5							
CLL	**Collm**	**145.34**	**352**	*i* PKPbc		**PKPbc**	**19 58 36.0**	**0.0**
BR101	**Keskin Array S**	**146.91**	**319**	*e*PKPbc		**PKPbc**	**19 58 42.5**	**+1.1**
BRTR	**Keskin Array B**	**146.91**	**319**	PKPbc		**PKPbc**	**19 58 42.5**	**+1.1**
	0.7nm,0.5s,baz=143,slow=3.6,SNR=7.2							
GERES	**GERESS Array B**	**147.63**	**350**	PKPbc		**PKPbc**	**19 58 43.3**	**+0.3**
	0.2nm,0.5s,baz=32,slow=4.6,SNR=3.4							
MMAI	**Mount Meron Ar**	**148.96**	**306**	PKPbc		**PKPbc**	**19 58 47.7**	**+0.8**
	0.9nm,0.5s,baz=55,slow=8.7,SNR=5.0							

*IDC **08** 19:44:29.7±2.4, 23°.59N×109°.95W, h0km, mb3.1/2, mb1 3.7/5, mb1mx3.4/54, mbtmp3.3/5, ML3.7/3, MS2.7/2, Ms1 2.7/2, ms1mx2.4/14, Error ellipse: s-maj=37.0km s-min=13.6km az=42.0*
*MEX **08** 19:44:30.9±0.3, 23°.72N×109°.77W, h20km, MD3.6*
ISC 08 19:44:31.1±2.9, 23°.6N±0°.2×110°.0W±0°.2, h10km, n7, σ1s21/8, Baja California

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
LPIG	**La Paz**	**0.56**	**329**	LR		LR	19 44 28.6	
	comp=Z,17nm,21.4s,baz=191,slow=18							
LPIG				Pg		**Pg**	**19 44 41.1**	**-0.8**
	250nm,0.3s,baz=149,slow=7.5,SNR=86							
LPIG				Lg		Lg	19 44 49.7	
	799nm,0.3s,baz=108,slow=20,SNR=126							
LPIG	**La Paz**	**0.56**	**329**	*i* P		**Pg**	**19 44 41.1**	**-0.8**
	baz=128,slow=3.7							
LPIG				*e*S		**Sg**	**19 44 49.0**	**-0.3**
TXAR	**Lajitas Array**	**8.03**	**44**	Pn		**Pn**	**19 46 27.2**	**-0.7**
	0.1nm,0.3s,baz=223,slow=13,SNR=7.7							
TXAR				LR		LR	19 49 13.7	
	comp=Z,37nm,22.0s,baz=0.0,slow=35							
ANMO	**Albuquerque**	**11.69**	**14**	Pn		**Pn**	**19 47 20.4**	**+2.2**
	0.1nm,0.3s,baz=232,slow=11,SNR=5.5							
ANMO				LR		LR	19 52 11.9	
	comp=Z,50nm,19.8s,baz=30,slow=39							
PDAR	**Pinedale Array**	**19.09**	**1**	P		**Pn**	**19 48 55.5**	**+0.5**
	0.1nm,0.3s,baz=169,slow=11,SNR=18							
YKA	**Yellowknife Ar**	**38.98**	**357**	P		**P**	**19 51 57.1**	**-0.1**
	0.1nm,0.7s,baz=174,slow=7.5,SNR=3.3							
ILAR	**Eielson Array**	**47.59**	**340**	P		**P**	**19 53 07.5**	**+0.7**
	0.5nm,0.9s,baz=152,slow=7.4,SNR=5.9							

*IDC **08** 19:49:00.7±1.0, 39°.06N×71°.69E, h0km, mb3.5/4, mb1 3.5/9, mb1mx3.3/69, mbtmp3.4/9, ML3.1/5, MS3.3/3, Ms1 3.3/3, ms1mx2.4/48, Error ellipse: s-maj=17.0km s-min=13.6km az=125.0*
*ISCJB **08** 19:49:01.6±0.7, 39°.10N±0°.04×71°.59E±0°.04, h10km, mb3.5/4, MS3.3/3, Error ellipse: s-maj=6.2km s-min=4.7km az=169.5*
*KRNET **08** 19:49:02.2±0.1, 39°.23N×71°.59E, mb3.5*
*NNC **08** 19:49:05.1±3.7, 39°.20N×71°.91E, h0km, mb3.6, mpv3.4, Error ellipse: s-maj=27.6km s-min=13.0km az=9.0*
ISC 08 19:49:02.5±0.8, 39°.22N±0°.06×71°.60E±0°.04, h10km, n40, σ2s73/55, mb3.6/4, MS3.4/3, 24C-15D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
BTK	**Batken**	**1.03**	**325**	⇓ *i* P		**Pg**	**19 49 21.3**	**-1.1**
	baz=25							
BTK				⇓ *i* S		**Sb**	**19 49 35.8**	**-0.4**
	baz=25							
SFK	**Sufi-Kurgan**	**1.68**	**61**	⇑ P		**Pn**	**19 49 32.5**	**+0.4**
	20nm,0.5s							
SFK				⇓ S		**Sn**	**19 49 52.8**	**-0.9**
	72nm,0.4s							
SFK	**Sufi-Kurgan**	**1.68**	**61**	⇓ *i* P		**Pb**	**19 49 33.1**	**-0.5**
	baz=61							
SFK				⇓ *i* S		**Sg**	**19 49 56.3**	**-0.1**
	baz=61							
ARSB	**Arslanbob**	**2.36**	**26**	⇑ *e*P		**Pb**	**19 49 43.9**	**-1.3**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
	baz=26						
ARSB				⇑iS	Sb	19 50 13.7	-0.7
	baz=26						
ARK	Arkit	2.60	6	⇓iP	Pb	19 49 46.8	-2.4
	baz=7.0						
ARK				⇓iS	Sb	19 50 19.4	-1.8
	baz=7.0						
TAS	Tashkent	2.75	321	⇓iP	Pb	19 49 49.3	-2.5
	baz=21						
TAS				⇓iS	Sb	19 50 22.7	-2.9
	baz=21						
AML	Almayashu	3.32	28	P	Pb	19 49 59.4	-2.4
	SNR=24						
AML	Almayashu	3.32	28	⇓eP	Pn	19 49 56.9	+2.0
	baz=28						
AML				⇓iS	Sn	19 50 36.8	+2.2
	baz=28						
MNAS	Manas	3.34	12	⇑Pn	Pb	19 49 58.6	-3.3
	11nm,0.8s						
MNAS				⇓Sn	Sb	19 50 41.8	-0.9
	34nm,0.6s						
MNAS				⇑Lg	Lg	19 50 53.6	
	42nm,0.9s						
MNAS	Manas	3.34	12	⇓iP	Pn	19 49 57.2	+2.3
	baz=12						
MNAS				⇓iS	Sn	19 50 37.1	+2.4
	baz=12						
UCH	Uchtor	3.74	35	P	Pb	19 50 05.4	-3.4
	SNR=18						
UCH	Uchtor	3.74	35	⇑iP	Pn	19 50 02.5	+1.8
	baz=36						
UCH				⇑iS	Sn	19 50 47.0	+2.1
	baz=36						
EKS2	Erkin-Say	3.82	25	P	Pb	19 50 05.6	-4.4
	SNR=13						
EKS2	Erkin-Say	3.82	25	⇑iP	Pn	19 50 03.5	+2.0
	baz=25						
EKS2				⇑iS	Sn	19 50 48.6	+2.1
	baz=25						
KK31	Karatay Array	3.97	348	⇑Pn	Pn	19 50 07.0	+3.6
	3.9nm,0.3s,baz=157,slow=12,SNR=102						
KK31				⇓Sn	Sb	19 50 55.6	-5.0
	5.2nm,0.3s,baz=155,slow=25,SNR=4.9						
KK31				⇑Lg	Lg	19 51 11.6	
	18nm,0.5s						
KZA	Kyzart	3.99	43	P	Pb	19 50 09.3	-3.8
	SNR=29						
NRN	Naryn	4.03	55	⇑iP	Pn	19 50 06.4	+1.9
	baz=55						
NRN				⇑iS	Sn	19 50 53.4	+1.4
	baz=55						
AAK	Ala-Archa	4.06	32	Pn	Pb	19 50 09.5	-4.7
	2.8nm,0.3s,baz=201,slow=5.7,SNR=32						
AAK				Sn	Sb	19 51 00.3	-3.2
	1.4nm,0.3s,baz=185,slow=15,SNR=7.2						
AAK	Ala-Archa	4.06	32	P	Pb	19 50 09.8	-4.5
	SNR=7.6						
AAK	Ala-Archa	4.06	32	⇑iP	Pn	19 50 06.9	+2.0
	baz=32						
AAK				⇑iS	Sn	19 50 54.2	+1.6
	baz=32						
KBK	Karagaybulak	4.27	35	P	Pb	19 50 12.7	-5.1
	SNR=24						
KBK	Karagaybulak	4.27	35	⇑iP	Pn	19 50 10.2	+2.4
	baz=36						
KBK				⇑iS	Sn	19 50 59.5	+1.7
	baz=36						
CHMS	Chumysh	4.47	31	P	Pn	19 50 14.9	+4.6
	SNR=22						
CHMS	Chumysh	4.47	31	⇑iP	Pn	19 50 12.4	+2.1
	baz=31						
CHMS				⇑iS	Sn	19 51 03.6	+1.2
	baz=31						
USP	Ospenovka	4.60	27	P	Pn	19 50 16.2	+4.0
	SNR=18						
TKM2	Tokmak 2	4.78	38	⇑Pn	Pn	19 50 18.9	+4.1
	3.1nm,0.6s						
TKM2				⇑Sn	Sn	19 51 12.6	+2.3
	3.5nm,0.5s						
TKM2				⇑Lg	Lg	19 51 30.2	
	11nm,0.8s						
TKM2	Tokmak 2	4.78	38	P	Pn	19 50 20.1	+5.4
	SNR=9.0						
GEYT	Alibeck	10.63	267	Pn	Pn	19 51 34.4	-0.5
	0.1nm,0.3s,baz=74,slow=11,SNR=2.4						
GEYT				Sn	Sn	19 53 32.5	-1.6
	0.1nm,0.3s,baz=97,slow=33,SNR=2.6						
MKAR	Makanchi Array	10.89	42	Pn	Pn	19 51 40.4	+2.0
	0.0nm,0.3s,baz=226,slow=12,SNR=2.8						
AB31	Akbulak array	13.04	324	⇑Pn	Pn	19 52 10.4	+2.7
	0.3nm,0.3s,baz=54,slow=9.6,SNR=24						
AB31				⇑Sn	Sn	19 54 40.6	+7.8
	3.0nm,0.8s,baz=135,slow=26,SNR=16						
BVAR	Borovoye Array	13.84	357	Pn	Pn	19 52 17.5	-1.0
	0.2nm,0.3s,baz=154,slow=11,SNR=5.8						
AKTO	Aktyubinsk	14.76	324	Pn	Pn	19 52 31.5	+0.3
	0.2nm,0.3s,baz=111,slow=14,SNR=3.6						
AKTO				Sn	Sn	19 55 10.3	-4.4
	0.1nm,0.3s,baz=212,slow=18,SNR=3.1						
ZALV	Zalesovo Beam	17.27	27	Pn	P	19 53 08.1	+3.1
	0.2nm,0.3s,baz=214,slow=13,SNR=5.7						
PALK	Pallekele	32.84	163	LR	LR	20 08 05.2	
	comp=Z,30nm,20.8s,baz=116,slow=35						
JOW	Kunigami	48.39	87	LR	LR	20 20 54.5	
	comp=Z,46nm,19.4s,baz=131,slow=40						
KMBO	Kilima Mbogo	51.02	227	LR	LR	20 22 46.0	
	comp=Z,36nm,19.6s,baz=92,slow=40						
TORD	Torodi Ar. Bea	66.27	268	P	P	19 59 50.7	-0.5
	0.6nm,0.9s,baz=57,slow=4.9,SNR=3.0						
YKA	Yellowknife Ar	78.52	3	P	P	20 01 03.8	+0.3
	0.2nm,0.6s,baz=352,slow=5.7,SNR=6.4						
WRA	Warramunga Arr	83.04	123	P	P	20 01 27.7	-0.6
	0.4nm,0.8s,baz=328,slow=4.9,SNR=4.1						
ASAR	Alice Springs	85.43	125	P	P	20 01 40.3	-0.1
	0.5nm,1.1s,baz=312,slow=4.9,SNR=4.0						

IDC 08 19:55:43.6±5.8, 19°.70S×176°.15W, h0km, mb3.5/2, mb1 3.8/2, mb1mx3.4/43, mbtmp3.5/2, MS3.2/1, Ms1 3.2/1, ms1mx2.5/32, Error ellipse: s-maj=304.7km s-min=50.8km az=149.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	36.88	281	LR	LR	20 14 31.2	
	comp=Z,36nm,19.0s,baz=221,slow=31						
ASAR	Alice Springs	46.40	256	P	P	20 04 11.3	-0.9
	0.2nm,0.4s,baz=93,slow=7.3,SNR=13						
WRA	Warramunga Arr	46.44	261	P	P	20 04 13.3	+0.7
	0.6nm,0.7s,baz=96,slow=8.3,SNR=13						
BRTR	Keskin Array B	147.56	314	PKPbc	PKPbc	20 15 29.4	-0.9
	0.3nm,0.6s,baz=104,slow=4.6,SNR=2.6						
MMAI	Mount Meron Ar	148.91	302	PKPbc	PKPbc	20 15 33.6	-0.4
	0.2nm,0.3s,baz=101,slow=4.6,SNR=2.9						

IDC 08 20:03:08.3±8.9, 1°.13N×96°.83W, h0km, mb3.3/4, mb1 3.8/4, mb1mx3.5/39, mbtmp3.3/4, MS3.0/2, Ms1 3.0/2, ms1mx2.6/17, Error ellipse: s-maj=249.0km s-min=154.4km az=91.0, West of Galapagos Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TXAR	Lajitas Array	28.79	348	P	P	20 09 08.7	+0.5
	0.5nm,0.8s,baz=175,slow=12,SNR=4.5						
TXAR				LR	LR	20 18 45.0	
	comp=Z,37nm,20.0s,baz=0.0,slow=32						
TKL	Tuckaleechee C	36.44	18	LR	LR	20 26 30.5	
	comp=Z,17nm,18.3s,baz=9.0,slow=38						
NVAR	Mina Array Bea	42.02	335	P	P	20 11 02.0	+0.2
	0.1nm,0.3s,baz=150,slow=9.3,SNR=2.8						
PDAR	Pinedale Array	42.99	346	P	P	20 11 08.9	-0.8
	0.2nm,0.5s,baz=129,slow=7.2,SNR=2.5						
ILAR	Eielson Array	72.97	340	P	P	20 14 39.5	+0.1
	0.2nm,0.5s,baz=137,slow=7.7,SNR=4.3						

MEX 08 20:03:54.2±0.3, 23°.76N×109°.68W, h20km, MD3.6, Baja California

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LPIG	La Paz	0.67	301	eP	Pb	20 04 05.0	-2.2
	baz=121,slow=6.9						
LPIG				i S	Sb	20 04 13.5	-2.6

ISCJB 08 20:26:32.7±0.4, 37°.06N±0°.03×104°.95W±0°.04, h10km, Error ellipse: s-maj=4.9km s-min=3.5km az=44.3
NEIC 08 20:26:32.8±0.4, 37°.07N×104°.88W, h5km, ML2.8, Error ellipse: s-maj=6.6km s-min=5.5km az=12.0
IDC 08 20:26:32.9±1.6, 37°.05N×105°.47W, h0km, mb1 3.0/3, mb1mx2.9/60, mbtmp2.6/3, ML3.1/3, Error ellipse: s-maj=35.3km s-min=10.9km az=80.0
ISC 08 20:26:32.5±0.8, 37°.13N±0°.04×104°.96W±0°.03, h10km, n29, σ1s.96/39, Colorado

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MHTCO	State Highway	0.21	89	ePg	Pg	20 26 35.9	-1.1
T25A	Trinidad	0.43	88	ePg	Pg	20 26 39.6	-1.5
SDCO	Great Sand Dun	0.76	325	ePg	Pg	20 26 46.5	-0.7
SDCO				eSg	Sg	20 26 57.6	+0.5
S22A	4UR Ranch, Cre	1.61	293	ePn	Pn	20 27 01.6	+0.3
Q24A	Divide	1.84	355	ePn	Pb	20 27 06.7	+0.2
ANMO	Albuquerque	2.49	210	Pn	Pn	20 27 12.7	-0.7
	1.0nm,0.3s,baz=286,slow=18,SNR=16						
ANMO				Lg	Lg	20 27 43.2	
	10nm,0.3s,baz=290,slow=12,SNR=14						
ANMO	Albuquerque	2.49	210	ePn	Pn	20 27 12.0	-1.3
KSCO	Kaye Shedlock'	2.63	44	ePn	Pn	20 27 16.9	+1.7
KSCO				Sn	Sb	20 27 51.0	-1.3
ISCO	Idaho Springs	2.72	349	ePn	Pb	20 27 19.8	-1.6
ISCO				eSn	Sb	20 27 52.7	-2.3
MVCO	Mesa Verde	2.83	273	ePn	Pb	20 27 21.5	-1.8
MVCO				eSn	Sn	20 27 52.7	+0.4
PV01	Paradox Valley	3.04	290	ePn	Pn	20 27 22.5	+1.6
PV01				eSn	Sb	20 28 02.4	-1.8
LPM	Los Pinos Moun	3.12	206	ePn	Pn	20 27 22.6	+0.6
BNM	Barren Site	3.27	205	ePn	Pn	20 27 24.7	+0.7
PV10	Paradox Valley	3.47	292	ePn	Pn	20 27 28.6	+1.8
AMTX	Amarillo	3.47	129	ePn	Pn	20 27 27.6	+1.0
AMTX				ePg	Pb	20 27 33.8	-0.3
AMTX				eSn	Sn	20 28 09.3	+1.4
PV09	Paradox Valley	3.58	294	ePn	Pn	20 27 31.3	+2.9
MSTX	Muleshoe	3.62	150	ePn	Pn	20 27 29.0	+0.3
MSTX				Sn	Sn	20 28 11.1	-0.4
O20A	White River Ci	3.96	320	Pn	Pn	20 27 35.7	+2.2
O20A				eSn	Sn	20 28 24.2	+4.2
PHWY	Pilot Hill	4.19	355	ePn	Pn	20 27 39.2	+2.4
CBKS	Cedar Bluff	4.45	66	ePn	Pn	20 27 39.1	-1.0
P18A	Preston Nutter	4.85	303	ePn	Pn	20 27 49.1	+3.3
Q16A	Castle Valley	5.22	292	ePn	Pn	20 27 52.2	+1.3
TMUT	Trail Mountain	5.38	296	Pn	Pn	20 27 52.9	-0.2
WMOK	Wichita Mounta	5.55	114	Pn	Pn	20 27 57.8	+2.7
U15A	North Rim	5.93	265	ePn	Pn	20 28 02.2	+1.6
PDAR	Pinedale Array	6.65	329	Pn	Pn	20 28 13.1	+2.6
	0.1nm,0.3s,baz=130,slow=15,SNR=3.0						
PDAR				Pg	Pg	20 28 37.0	-2.9
	0.6nm,0.3s,baz=140,slow=15,SNR=13						
PDAR				Lg	Lg	20 29 58.2	
	baz=141,slow=23,SNR=2.0						
SPUT	South Promonto	7.16	308	ePn	Pn	20 28 21.4	+4.0
TXAR	Lajitas Array	7.84	172	Pn	Pn	20 28 29.8	+3.0
	0.1nm,0.3s,baz=356,slow=10,SNR=5.3						
TXAR				Pg	Pb	20 28 50.5	+1.9
	0.2nm,0.3s,baz=3.9,slow=12,SNR=5.8						
TXAR				Lg	Lg	20 30 27.0	
	0.5nm,0.3s,baz=14,slow=31,SNR=5.7						
NVAR	Mina Array Bea	10.65	281	Pg	Pg	20 29 45.1	
	baz=95,slow=19,SNR=2.2						

ISCJB 08 20:28:55.0±0.4, 43°.60N±0°.02×44°.62E±0°.04, h10km±3km, mb3.6/1, Error ellipse: s-maj=4.3km s-min=3.6km az=0.5
MOS 08 20:28:55.2±1.0, 43°.55N×44°.53E, h17km, mb3.8/1, Error ellipse: s-maj=8.4km s-min=5.9km az=79.1
CSEM 08 20:28:56.0±0.2, 43°.53N×44°.57E, h12km, mb3.8, Error ellipse: s-maj=4.1km s-min=3.8km az=102.0
ISC 08 20:28:55.7±0.9, 43°.54N±0°.02×44°.56E±0°.02, h13km±7km, n45, σ0s.77/74, 8C-2D, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BTKR	Batakoyurt	0.17	184	i Pg	Pg	20 28 59.4	-0.3
BTKR				eSg	Sb	20 29 03.9	-0.3
BTKR	Batakoyurt	0.17	184	⇑iPG	Pg	20 28 59.4	-0.3
BTKR				eS	Sb	20 29 03.9	-0.3
TRKR	Terskaya	0.22	35	i Pg	Pg	20 29 00.2	-0.2
TRKR				eSg	Sb	20 29 05.7	+0.2
TRKR	Terskaya	0.22	35	⇑iPG	Pg	20 29 00.2	-0.2
TRKR				eS	Sb	20 29 05.7	+0.2
PRTR	Priterechnaya	0.29	316	i Pg	Pg	20 29 01.9	+0.2
PRTR				eSg	Sb	20 29 07.9	+0.4
PRTR	Priterechnaya	0.29	316	⇑iPG	Pg	20 29 01.9	+0.2
PRTR				eS	Sb	20 29 07.9	+0.4
STDR	Stavd-Durt	0.40	244	i Pg	Pb	20 29 04.1	-0.6
STDR				eSg	Sb	20 29 11.8	+1.0
STDR	Stavd-Durt	0.40	244	⇓iPG	Pb	20 29 04.1	-0.6
STDR				eS	Sb	20 29 11.8	+1.0
ARNR	Ardon	0.42	209	ePg	Pb	20 29 04.7	-0.2
ARNR	Ardon	0.42	209	ePG	Pb	20 29 04.7	-0.2
ARNR				eS	Sn	20 29 12.8	-2.2
VLKR	Vladikavkaz	0.51	170	ePg	Pg	20 29 05.9	+0.3
VLKR				eSg	Sg	20 29 12.8	+0.5
VLKR	Vladikavkaz	0.51	170	ePG	Pg	20 29 05.9	+0.3
VLKR				eS	Sg	20 29 12.8	+0.5
KMGR	Komgaron	0.54	155	ePg	Pg	20 29 06.3	+0.1
KMGR				eSg	Sb	20 29 14.6	0.0
KMGR	Komgaron	0.54	155	ePG	Pg	20 29 06.3	+0.1
KMGR				eS	Sb	20 29 14.6	0.0
KORR	Kora	0.58	218	ePg	Pb	20 29 07.4	-0.4
KORR				eSg	Sb	20 29 16.2	+0.2
KORR	Kora	0.58	218	ePG	Pb	20 29 07.4	-0.4
KORR				eS	Sb	20 29 16.2	+0.2
LSNR	Lesken	0.60	244	⇑iPG	Pb	20 29 08.1	+0.1
LSNR				eS	Sn	20 29 19.3	-0.3
NCK	Nalchik	0.70	266	ePg	Pn	20 29 10.5	-0.9
NCK				eSg	Sn	20 29 20.8	-1.4
NCK	Nalchik	0.70	266	ePG	Pn	20 29 10.5	-0.9
NCK				eS	Sn	20 29 20.8	-1.4
LACR	Lac	0.74	195	ePg	Pg	20 29 09.9	-0.2
LACR				eSg	Sn	20 29 23.0	-0.2
LACR	Lac	0.74	195	ePG	Pg	20 29 09.9	-0.2
LACR				eS	Sn	20 29 23.0	-0.2
ZEI	Tsey	0.90	213	i PG	Pg	20 29 12.4	-0.6
ZEI				eS	Sn	20 29 26.1	-1.1
DIGR	Digorskoe uzhe	0.96	228	ePg	Pb	20 29 13.1	-1.3
DIGR				eSg	Sn	20 29 27.7	-1.1
DIGR	Digorskoe uzhe	0.96	228	ePG	Pb	20 29 13.1	-1.3
DIGR				eS	Sn	20 29 27.7	-1.1
GROC	Groznyy	0.96	110	ePg	Pn	20 29 15.2	+0.3
	20nm,0.6s						
GROC	Groznyy	0.96	110	ePG	Pn	20 29 15.2	+0.3
GROC				e		20 29 31.1	
GROC				pmax	pmax		
	comp=Z,20nm,0.6s						
GROC				smax	smax		
	comp=N,151nm,0.5s						
GROC				smax	smax		
	comp=N,116nm,0.4s						
GUDG	Gudauri	1.08	183	P	Pb	20 29 15.7	-0.7
GUDG				S	Sn	20 29 31.1	-0.6
GUDG	Gudauri	1.08	183	P	Pb	20 29 15.7	-0.7
GUDG				S	Sn	20 29 31.1	-0.6
ONI	Oni	1.25	221	P	Pn	20 29 18.5	-0.5
ONI				S	Sg	20 29 37.1	+1.1
ONI	Oni	1.25	221	ePG	Pn	20 29 18.5	-0.5
ONI				eS	Sg	20 29 37.1	+1.1
NEY	Neytrino	1.37	258	c iPG	Pn	20 29 19.9	-0.8
KIV	Kislovodsk	1.42	287	i PG	Pn	20 29 20.8	-0.5
KIV				pmax	pmax		
	comp=Z,114nm,0.7s						
BTLR	Botlikh	1.50	125	i Pg	Pb	20 29 22.8	-0.7
BTLR	Botlikh	1.50	125	i PG	Pb	20 29 22.8	-0.7
GOF	Gofitskoye	1.86	325	ePn	Pn	20 29 27.0	-0.4
	comp=Z,6.0nm,0.5s						
GOF				eSg	Sg	20 29 54.8	-0.8
	comp=Z,97nm,0.8s						
GOF	Gofitskoye	1.86	325	⇑ePN	Pn	20 29 27.0	-0.4
GOF				eS	Sg	20 29 54.8	-0.8
GOF				pmax	pmax		
	comp=Z,6.0nm,0.5s						
GOF				smax	smax		
	comp=E,114nm,0.7s						
GOF				smax	smax		
	comp=N,97nm,0.8s						
GNBR	Gunib	2.11	122	ePn	Pb	20 29 32.2	-1.6
GNBR	Gunib	2.11	122	ePN	Pb	20 29 32.2	-1.6
RPOR	Krasnaya Polya	3.12	274	ePn	Pn	20 29 45.6	+0.9
RPOR	Krasnaya Polya	3.12	274	ePN	Pn	20 29 45.6	+0.9
OBN	Obninsk	12.69	339	eP	Pn	20 31 56.2	+0.5
	comp=N,19nm,13.0s						
OBN	Obninsk	12.69	339	⇓eP	Pn	20 31 56.2	+0.5
OBN				pmax	pmax		
	comp=Z,19nm,2.1s						
OBN				MLR	MLR		
	comp=Z,19nm,13.0s						
ARU	Arti	15.69	30	eP	Pn	20 32 37.1	+0.9
ARU				pmax	pmax		
	comp=Z,3.0nm,1.5s						
BRVK	Borovoye	19.48	52	⇑eP	Pn	20 33 24.1	+0.7
BRVK				pmax	pmax		
	comp=Z,3.0nm,1.9s						
KURK	Kurchatov	24.09	61	⇑eP	P	20 34 12.2	+1.4
KURK				pmax	pmax		
	comp=Z,4.0nm,1.6s						

IDC 08 20:31:27.0±9.1, 4°.51S×153°.54E, h120km±62km, mb3.3/6, mb1 3.5/7, mb1mx3.2/46, mbtmp3.8/7, Error ellipse: s-maj=95.4km s-min=28.6km az=101.0
ISC 08 20:31:26.9±2.4, 4°.3S±0°.3×153°.3E±0°.4, h100km, n8, σ1s.91/9, mb3.4/6, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	7.97	230	P	Pn	20 33 20.5	+0.5
	3.2nm,0.3s,baz=47,slow=8.1,SNR=15						
PMG				S	Sn	20 34 49.2	+0.6
	0.9nm,0.3s,baz=351,slow=19,SNR=5.1						
WRA	Warramunga Arr	24.19	228	P	P	20 36 33.2	-1.0
	3.3nm,0.4s,baz=54,slow=10,SNR=77						
ASAR	Alice Springs	26.89	222	P	P	20 36 56.3	-2.4
	0.4nm,0.6s,baz=54,slow=9.1,SNR=8.1						
SONM	Songino Array	66.18	327	P	P	20 42 04.3	+0.3
	0.2nm,0.3s,baz=134,slow=6.2,SNR=3.1						
MKAR	Makanchi Array	80.29	319	P	P	20 43 27.1	+0.2
	0.2nm,0.6s,baz=90,slow=5.7,SNR=2.8						
KURBB	Kurchatov Arra	83.72	322	P	P	20 43 43.7	-1.0
	0.4nm,0.8s,baz=143,slow=3.2,SNR=2.8						
BVAR	Borovoye Array	89.15	323	P	P	20 44 09.8	-1.4
	0.3nm,0.6s,baz=54,slow=3.7,SNR=3.5						
TORD	Torodi Ar. Bea	150.65	289	PKPbc	PKPdf	20 51 06.2	+3.4
	0.5nm,0.6s,baz=87,slow=2.2,SNR=3.8						

ISCJB 08 20:42:10.3±0.4, 24°.22N±0°.01×122°.17E±0°.01, h13km±2km, Error ellipse: s-maj=2.2km s-min=1.8km az=33.2
JMA 08 20:42:10.9±0.1, 24°.15N×122°.10E, h46km±3km, M2.3
TAP 08 20:42:11.2, 24°.29N×122°.07E, h27km, ML3.0, C
ISC 08 20:42:08.6±1.1, 24°.18N±0°.02×122°.18E±0°.02, h8km±9km, n89, σ0s.75/174, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EOS1	EOS1	0.37	353	P	Pb	20 42 17.9	+0.5
	baz=17						
EOS1				S	Sb	20 42 23.3	0.0
	baz=17						
ENAH	Nanao	0.43	308	P	Pb	20 42 18.1	-0.3
	baz=308						
ENAH				S	Sg	20 42 23.7	+1.0
	baz=308						
NANB	Nanao	0.46	302	eP	Pb	20 42 18.8	-0.3
	baz=299						
NANB				eS	Sg	20 42 24.5	+0.8
	baz=299						
ENA	Nanau	0.47	302	i P	Pb	20 42 18.8	-0.3
	baz=299						
ENA				i S	Sg	20 42 24.6	+0.7
	baz=299						
TWC	Suao	0.52	325	P	Pb	20 42 19.4	-0.6
	baz=332						
TWC				S	Sg	20 42 25.0	-0.6
	baz=332						
NACB	Ninganchiao	0.53	269	eP	Pb	20 42 21.2	+1.0
	baz=255						
NACB				eS	Sb	20 42 29.5	+1.4
	baz=255						
TWD	Chiawan	0.54	259	P	Pb	20 42 21.6	+1.2
	baz=229						
TWD				S	Sb	20 42 30.3	+1.9
	baz=229						
HWA	Hwalien	0.56	249	eP	Pn	20 42 22.4	-0.5
	baz=233						
ENLB	Shoufeng	0.60	242	eP	Pn	20 42 23.5	+0.1
	baz=215						
ENLB				eS	Sn	20 42 32.9	-0.4
	baz=215						
EGS		0.70	341	P	Pb	20 42 23.0	0.0
	baz=348						
EGS				eS	Sg	20 42 31.6	+0.4
	baz=348						
TWE	Neicheng	0.71	319	P	Pb	20 42 22.9	-0.4
	baz=324						
TWE				eS	Sg	20 42 31.0	-0.7
	baz=324						
ENTT	Nioudou	0.72	309	eP	Pb	20 42 23.2	-0.3
	baz=308						
ENTT				eS	Sg	20 42 31.7	-0.2
	baz=308						
NTC	Toucheng	0.74	335	P	Pb	20 42 23.5	-0.3
	baz=348						
NTC				S	Sg	20 42 33.1	+0.5
	baz=348						
JYNG	Yonagunijimaku	0.75	69	P	Pn	20 42 26.4	+0.9
JYNG				eS	Sn	20 42 37.0	-0.1
NNSB	Datong	0.77	289	eP	Pb	20 42 24.7	+0.4
	baz=289						
NNSB				eS	Sb	20 42 34.2	-0.7
	baz=289						
ESL	Shilin	0.77	242	P	Pn	20 42 25.9	+0.1
	baz=230						
ESL				eS	Sb	20 42 36.1	+1.1
	baz=230						
NNS	Nan Shan	0.78	289	P	Pb	20 42 24.9	+0.3
	baz=290						
NNS				eS	Sb	20 42 35.2	-0.1
	baz=290						
YOJ	Yonaguni jima	0.81	70	eP	Pn	20 42 27.0	+0.7
	baz=71						
YOJ				eS	Sn	20 42 38.9	+0.4
	baz=71						
YOJ	Yonaguni jima	0.81	70	P	Pn	20 42 26.9	+0.6
YOJ				eS	Sn	20 42 39.1	+0.5
WHF	Hehuan Shan	0.83	268	P	Pb	20 42 26.0	+0.3
	baz=258						
WHF				S	Sb	20 42 37.9	+0.7
	baz=258						
TWB1	Santiao Chiao	0.84	348	eP	Pb	20 42 25.6	+0.1
	baz=347						
TWB1				eS	Sg	20 42 36.0	+0.3
	baz=347						
TIPB	Shuangxi	0.85	338	eP	Pg	20 42 24.5	-0.5
	baz=349						
TIPB				eS	Sg	20 42 34.3	-1.8
	baz=349						
NWLT	Wulai	0.85	314	eP	Pb	20 42 25.6	-0.1
	baz=314						
NWLT				eS	Sg	20 42 36.0	-0.3
	baz=314						
YHNB	Yeheng	0.88	304	eP	Pb	20 42 26.2	0.0
	baz=309						
YHNB				eS	Sg	20 42 36.4	-0.6
	baz=309						
TWT	Tachien	0.92	275	eP	Pn	20 42 28.3	+0.3
	baz=258						
TWT				eS	Sb	20 42 40.0	+0.6
	baz=258						
CHGB	Renai	0.93	263	eP	Pb	20 42 27.4	+0.3
	baz=241						
CHGB				eS	Sb	20 42 40.5	+0.8
	baz=241						
TDCB	Techi	0.93	275	eP	Pn	20 42 28.0	-0.2
	baz=258						
TDCB				eS	Sb	20 42 39.6	-0.2
	baz=258						
OWD	Renai	0.94	256	P	Pb	20 42 27.7	+0.4
	baz=247						
OWD				eS	Sb	20 42 40.7	+0.6
	baz=247						
NWF	Wu-fen Shan	0.96	338	eP	Pn	20 42 28.4	-0.1
	baz=356						
NWF				eS	Sg	20 42 39.4	0.0
	baz=356						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
WFSB	Wu-fen Shan	0.96	338	eP	Pb	20 42 27.5	0.0
	baz=356						
WFSB				eS	Sg	20 42 39.6	+0.1
	baz=356						
TWA	Mucha	0.96	326	eP	Pb	20 42 27.8	+0.2
	baz=320						
TWA				eS	Sg	20 42 39.4	-0.3
	baz=320						
HGSD	Ruisui	0.97	225	eP	Pb	20 42 28.3	+0.5
	baz=205						
HGSD				eS	Sn	20 42 43.4	+0.8
	baz=205						
TATO	Taipei	1.01	322	eP	Pn	20 42 29.1	-0.1
	baz=323						
TATO				eS	Sb	20 42 41.5	-0.3
	baz=323						
EHY	Hungye	1.03	230	eP	Pg	20 42 28.6	+0.2
	baz=219						
EHY				eS	Sn	20 42 44.7	+0.5
	baz=219						
YM07	YM07	1.11	333	eP	Pg	20 42 29.3	-0.7
	baz=337						
YM07				eS	Sg	20 42 42.9	-1.6
	baz=337						
YM10	YM10	1.12	330	eP	Pb	20 42 30.5	+0.2
	baz=346						
YM10				eS	Sg	20 42 43.6	-1.2
	baz=346						
YULB	Yu-li	1.13	226	eP	Pg	20 42 29.8	-0.5
	baz=217						
YULB				eS	Sg	20 42 44.5	-0.5
	baz=217						
YM04	YM04	1.13	329	eP	Pn	20 42 30.7	-0.1
	baz=344						
YM04				eS	Sg	20 42 43.7	-1.4
	baz=344						
YM08	YM08	1.14	332	eP	Pb	20 42 30.5	0.0
	baz=336						
YM08				eS	Sg	20 42 44.4	-0.9
	baz=336						
TWS1	Kuangyinshan	1.15	323	eP	Pn	20 42 31.1	0.0
	baz=337						
TWS1				eS	Sg	20 42 45.5	-0.1
	baz=337						
YM03	YM03	1.15	330	eP	Pb	20 42 30.9	+0.1
	baz=344						
YM03				eS	Sg	20 42 44.8	-0.9
	baz=344						
DPDB	Guoxing	1.15	263	eP	Pb	20 42 31.0	+0.1
	baz=245						
DPDB				eS	Sb	20 42 46.8	+0.8
	baz=245						
TWF1	Yuli	1.16	225	eP	Pb	20 42 31.1	+0.2
	baz=215						
TWF1				eS	Sb	20 42 46.9	+0.8
	baz=215						
LIOB	Emei	1.16	294	eP	Pn	20 42 31.4	+0.2
	baz=291						
LIOB				eS	Sb	20 42 46.8	+0.7
	baz=291						
NSTT	Nanjuang	1.16	293	eP	Pn	20 42 31.4	+0.2
	baz=290						
NSTT				eS	Sg	20 42 45.8	-0.3
	baz=290						
NTST	Danshui	1.18	326	eP	Pn	20 42 31.7	+0.2
	baz=340						
NTST				eS	Sg	20 42 46.5	-0.2
	baz=340						
SSLB	Suanglung	1.19	251	eP	Pg	20 42 31.3	-0.1
	baz=242						
SSLB				eS	Sg	20 42 46.7	-0.2
	baz=242						
NCUH	Zhongli	1.20	311	eP	Pn	20 42 31.8	+0.1
	baz=311						
NCUH				eS	Sb	20 42 47.4	+0.2
	baz=311						
SMLT	Sun Moon Lake	1.21	256	P	Pb	20 42 32.0	+0.2
	baz=236						
SMLT				eS	Sg	20 42 47.0	-0.5
	baz=236						
TWY	Chenhua	1.21	334	eP	Pn	20 42 32.5	+0.6
	baz=338						
TWY				eS	Sg	20 42 46.8	-0.8
	baz=338						
TYC	Yuchr	1.24	257	eP	Pn	20 42 32.5	+0.2
	baz=237						
TYC				eS	Sb	20 42 48.7	+0.3
	baz=237						
SBCB	Hsinchu	1.25	299	eP	Pn	20 42 33.0	+0.6
	baz=297						
FULB	Fuli	1.27	220	eP	Pn	20 42 32.2	-0.5
	baz=199						
FULB				eS	Sb	20 42 49.9	+0.5
	baz=199						
TWQ1	Liyutan	1.29	278	eP	Pg	20 42 34.3	+0.9
	baz=272						
TWQ1				eS	Sg	20 42 49.2	-1.0
	baz=272						
CHKT	Chengkung	1.31	215	eP	Pn	20 42 32.3	-0.9
	baz=195						
CHKT				eS	Sb	20 42 48.1	-2.4
	baz=195						
NMLH	Miaoli	1.31	286	eP	Pg	20 42 34.1	+0.2
	baz=282						
NSY	Sanyi	1.31	280	eP	Pg	20 42 35.2	+1.4
	baz=275						
NSY				eS	Sb	20 42 51.0	+0.4
	baz=275						
YUS	Yu-Shan	1.32	239	eP	Pn	20 42 34.0	+0.2
	baz=216						
YUS				eS	Sb	20 42 51.4	+0.2
	baz=216						
TCU	Taichung	1.37	269	eP	Pg	20 42 35.2	+0.2
	baz=261						
TCU				eS	Sn	20 42 53.9	+1.4
	baz=261						
WJS	Zhushan	1.37	255	eP	Pg	20 42 35.9	+0.9
	baz=238						
WJS				eS	Sn	20 42 54.2	+1.7
	baz=238						
WNT	Mingjian	1.40	258	eP	Pg	20 42 36.8	+1.3
	baz=235						
WNT				eS	Sg	20 42 54.3	+0.6
	baz=235						
ALS	Alishan	1.42	242	eP	Pg	20 42 36.2	+0.2
	baz=221						
ALS				eS	Sg	20 42 54.5	0.0
	baz=221						
IRIF	Iriomote-Funau	1.42	84	P	Pg	20 42 36.2	+0.2
IRIF				eS	Sg	20 42 55.0	+0.5
ELDTW	Lidau	1.45	227	eP	Pn	20 42 34.6	-0.8
	baz=209						
ELDTW				eS	Sb	20 42 53.7	-1.0
	baz=209						
CHN5	Tsauling	1.49	247	eP	Pg	20 42 37.2	-0.1
	baz=225						
CHN5				eS	Sg	20 42 57.1	+0.5
	baz=225						
WGK	Gukeng	1.56	252	eP	Pg	20 42 39.1	+0.6
	baz=243						
WGK				eS	Sg	20 42 59.2	+0.4
	baz=243						
WDLH	Douliu	1.58	252	eP	Pb	20 42 38.3	+0.2
	baz=244						
WDLH				eS	Sb	20 42 58.8	+0.6
	baz=244						
STYT	Tauyuan	1.65	232	eP	Pb	20 42 39.5	+0.1
	baz=213						
STYT				eS	Sb	20 43 00.3	-0.1
	baz=213						
TPUB	Ta-pu	1.67	239	eP	Pg	20 42 40.3	-0.3
	baz=221						
TPUB				eS	Sb	20 43 01.2	+0.3
	baz=221						
JKRS	Kuro-shima	1.67	88	P	Pb	20 42 40.1	+0.4
JKRS				S	Sg	20 43 02.1	-0.3
RLNB	Erlin	1.69	260	eP	Pb	20 42 40.2	+0.2
	baz=253						
RLNB				eS	Sb	20 43 01.8	+0.5
	baz=253						
TWGBT	Beinan	1.69	217	eP	Pn	20 42 38.5	0.0
	baz=210						
TWGBT				eS	Sn	20 42 58.7	-1.6
	baz=210						
TWG	Pinlang	1.69	217	eP	Pn	20 42 38.9	+0.4
	baz=210						
TWG				eS	Sn	20 42 59.3	-1.1
	baz=210						
WTP	Ta-pu	1.71	237	eP	Pg	20 42 41.3	-0.2
	baz=215						
WTP				eS	Sb	20 43 02.5	+0.5
	baz=215						
TWK	Hsinying	1.80	240	eP	Pg	20 42 42.8	-0.3
	baz=219						
TWK				eS	Sn	20 43 04.0	+0.9
	baz=219						
JIJ	Ishigaki jima	1.80	84	P	Pb	20 42 41.2	-0.7
JIJ				eS	Sn	20 43 03.6	+0.5
CHN1	Nanshi	1.81	237	eP	Pg	20 42 43.2	-0.2
	baz=228						
CHN1				eS	Sb	20 43 05.6	+0.7
	baz=228						
SGST	Jiashian	1.83	234	eP	Pb	20 42 42.1	-0.3
	baz=213						
SGST				eS	Sb	20 43 06.0	+0.6
	baz=213						
SLGT	Liugui	1.84	230	eP	Pb	20 42 42.2	-0.3
	baz=214						
SLGT				eS	Sb	20 43 05.7	0.0
	baz=214						
WSF	Szhu	1.87	254	eP	Pb	20 42 42.9	-0.2
	baz=245						
WSF				eS	Sb	20 43 06.6	0.0
	baz=245						
ECL	Taimali	1.94	216	eP	Pn	20 42 42.4	+0.5
	baz=209						
ECL				eS	Sn	20 43 04.1	-2.3
	baz=209						
JISG	Ishigakijimahi	1.99	78	P	Pb	20 42 43.9	-1.1
JISG				eS	Sn	20 43 08.7	+1.1
SSD	Sandimen	2.02	225	eP	Pb	20 42 44.9	-0.6
	baz=206						
SSD				eS	Sb	20 43 10.1	-0.7
	baz=206						
MASBT	Mashibuluo	2.11	223	eP	Pn	20 42 45.2	+0.9
	baz=207						
MASBT				eS	Sn	20 43 12.2	+1.5
	baz=207						
EAST	Anshuo	2.17	215	eP	Pn	20 42 45.0	-0.1
	baz=208						
EAST				eS	Sn	20 43 11.3	-0.9
	baz=208						
SCZT	Fangliau	2.30	219	eP	Pb	20 42 49.6	-0.8
	baz=202						
SCZT				eS	Sb	20 43 17.7	-1.4
	baz=202						
JTJ	Tarama	2.34	78	eS	Sn	20 43 17.9	+1.4
PNG	Penghu	2.48	256	eP	Pn	20 42 49.2	-0.1
	baz=246						
PNG				eS	Sn	20 43 18.7	-1.1
	baz=246						
VWUC	VWUC	2.61	289	eP	Pn	20 42 50.0	-1.1
	baz=286						
VWUC				eS	Sn	20 43 20.0	-3.1
	baz=286						

*CSEM **08** 20:42:11.7, 39.°09N×43.°21E, h7km, ML2.9*

DDA 08 20:42:11.7, 39.°09N×43.°21E, h7km, Ml2.9, Turkey

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VMUR	Van-Muradiye	0.30	110	i P	Pb	20 42 18.8	-0.7
VMUR				i S	Sg	20 42 23.0	+1.3
VMUR	Van-Muradiye	0.30	110	P	Pb	20 42 18.8	-0.8
VMUR				S	Sg	20 42 23.0	+1.3
TUTA	Tutak	0.43	315	i P	Pg	20 42 20.4	+0.2
TUTA				i S	Sg	20 42 27.2	+1.3
TUTA	Tutak	0.43	315	P	Pg	20 42 20.4	+0.2
TUTA				S	Sg	20 42 27.2	+1.3
ADCV	BITLIS_Adilcev	0.47	233	i P	Pg	20 42 21.0	+0.1
ADCV				i S	Sg	20 42 28.1	+1.0
ADCV	BITLIS_Adilcev	0.47	233	P	Pg	20 42 21.0	+0.1
ADCV				S	Sg	20 42 28.1	+1.0
VANB	Van	0.52	164	PG	Pg	20 42 20.3	-1.4
VANB				SG	Sg	20 42 28.4	-0.1
VANB	Van	0.52	164	ePg	Pg	20 42 20.3	-1.4
VANB				eSg	Sg	20 42 28.4	-0.1
CLDR	Caldiran	0.55	85	i P	Pg	20 42 22.0	-0.4
CLDR				i S	Sg	20 42 30.4	+0.7
CLDR	Caldiran	0.55	85	P	Pg	20 42 22.0	-0.4
CLDR				S	Sg	20 42 30.4	+0.7
TVAN	Van	0.59	165	i P	Pg	20 42 21.0	-2.0
TVAN				i S	Sg	20 42 27.9	-2.8
TVAN	Van	0.59	165	P	Pg	20 42 21.0	-2.0
TVAN				S	Sg	20 42 27.9	-2.8

*ATA **08** 20:42:07.7±1.2, 39.°05N×42.°27E, h14km±9km, ML3.2, MW3.0*

*ISK **08** 20:42:08.7, 38.°85N×42.°83E, h13km, ML2.7/5*

*CSEM **08** 20:42:10.3±0.2, 39.°18N×42.°25E, h8km, ML2.9, Error ellipse: s-maj=5.4km s-min=3.9km az=114.0*

DDA 08 20:42:13.2, 39.°35N×42.°09E, h6km, Ml2.9, Turkey

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
EKAR	Karacoban	0.09	192	i P	Pg	20 42 14.5	-0.9
EKAR				eS	Sg	20 42 18.8	+1.8
EKAR				IAML		20 42 19.9	
	comp=Z,289nm,0.3s						
EKAR	Karacoban	0.09	192	i P	Pg	20 42 14.6	-0.8
EKAR				i S	Sg	20 42 17.6	+0.6
EKAR	Karacoban	0.09	192	P	Pg	20 42 14.6	-0.8
EKAR				S	Sg	20 42 17.6	+0.6
TUTA	Tutak	0.56	84	eP	Pg	20 42 19.6	-4.5
TUTA				eS	Sg	20 42 27.8	-3.7
TUTA				IAML		20 42 29.3	
	comp=Z,104nm,0.2s						
TUTA	Tutak	0.56	84	eP	Pn	20 42 33.1	+5.1
TUTA				i S	Sn	20 42 43.4	+5.6
EATA	Eleskirt	0.60	31	i P	Pg	20 42 24.4	-0.4
EATA	Eleskirt	0.60	31	i P	Pg	20 42 24.4	-0.4
EATA				i S	Sb	20 42 35.2	0.0
EATA	Eleskirt	0.60	31	P	Pg	20 42 24.4	-0.4
EATA				S	Sb	20 42 35.2	0.0
HOMI	Horasan	0.71	349	eP	Pg	20 42 27.3	+0.4
HOMI	Horasan	0.71	349	i P	Pg	20 42 27.3	+0.4
HOMI				i S	Sn	20 42 42.1	+0.6
ADCV	BITLIS_Adilcev	0.73	137	eP	Pn	20 42 29.5	-0.8
ADCV				i S	Sb	20 42 38.9	+0.1
AGRB	Hanur-Agry	0.73	72	PG	Pg	20 42 23.6	-3.8
AGRB				SG	Sg	20 42 34.2	-2.7
AGRB	Hanur-Agry	0.73	72	ePg	Pg	20 42 23.6	-3.8
AGRB				eSg	Sg	20 42 34.2	-2.7
ERZM	Erzurum	0.79	315	i P	Pg	20 42 28.8	+0.4
ERZM	Erzurum	0.79	315	i P	Pg	20 42 28.6	+0.2
ERZM				i S	Sn	20 42 44.3	+0.9
ERZM	Erzurum	0.79	315	P	Pg	20 42 28.6	+0.2
ERZM				S	Sn	20 42 44.3	+0.9
GURO	Guroymak-BITLI	0.80	183	PG	Pg	20 42 23.1	-5.4
GURO				SG	Sg	20 42 32.4	-6.5
GURO	Guroymak-BITLI	0.80	183	ePg	Pg	20 42 23.1	-5.4
GURO				eSg	Sg	20 42 32.4	-6.5
ECAT	Cat-ERZURUM	0.90	287	eP	Pg	20 42 30.8	+0.3
ECAT				eS	Sn	20 42 46.9	+0.8
ECAT	Cat-ERZURUM	0.90	287	i P	Pg	20 42 30.9	+0.4
ECAT				i S	Sn	20 42 46.3	+0.2
ECAT	Cat-ERZURUM	0.90	287	P	Pg	20 42 30.9	+0.4
ECAT				S	Sn	20 42 46.3	+0.2
DYDN	Diyadin	1.25	81	eP	Pg	20 42 31.4	-5.9
GEVA	Gevas	1.28	143	eP	Pg	20 42 26.0	-12
GEVA				IAML		20 42 47.8	
	comp=Z,46nm,0.5s						
SVAN	Silvan-Diyarba	1.38	211	PN	Pn	20 42 35.1	-4.0
SVAN	Silvan-Diyarba	1.38	211	ePn	Pn	20 42 35.1	-4.0
KOPT	Kop Dagi	1.40	299	eP	Pn	20 42 39.7	+0.1
DIGO	Kars	1.45	42	eP	Pn	20 42 38.9	-1.4
IGDI	IGDIR	1.62	71	eP	Pn	20 42 38.5	-4.0
MAZI	Mazidag	2.29	215	PN	Pn	20 42 48.0	-3.6
MAZI	Mazidag	2.29	215	ePn	Pn	20 42 48.0	-3.6

MEX 08 20:55:24.8±0.3, 27.°76N×111.°73W, h2km, MD3.5, Gulf of California

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SRIG	Santa Rosalia	0.63	226	i P	Pg	20 55 36.5	-0.4
	baz=46,slow=5.9						
SRIG				i S	Sg	20 55 45.7	+0.6

*ISCJB **08** 21:08:48.1±0.7, 36.°19N±0.°06×13.°88W±0.°06, h10km, Error ellipse: s-maj=9.6km s-min=4.3km az=145.6*

*CSEM **08** 21:08:54.0±0.3, 35.°98N×13.°96W, h30km, mb3.8, Error ellipse: s-maj=13.9km s-min=6.2km az=140.0*

*MDD **08** 21:08:54.5±0.8, 36.°13N×14.°17W, h45km, mb3.8/14, Error ellipse: s-maj=16.8km s-min=5.7km az=138.0, PRXIMO*

*INMG **08** 21:09:01.0±1.4, 36.°27N×14.°02W, h10km, ML2.4, Error ellipse: s-maj=7.5km s-min=5.8km az=84.0*

ISC 08 21:08:48.1±1.0, 36.°26N±0.°06×14.°11W±0.°06, h10km, n97, σ2.s26/108, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMPS	Porto Santo	3.68	211	eP	Pn	21 09 45.8	+0.8
PMPS				eS	Sn	21 10 23.4	-5.0
PMPS				A	A	21 10 27.5	
	15nm,0.1s						
PMPS	Porto Santo	3.68	211	P	Pn	21 09 45.8	+0.8
PMPS				S	Sn	21 10 23.4	-5.0
	7.6nm,0.1s						
PMPS	Porto Santo	3.68	211	P	Pn	21 09 45.8	+0.8
PMPS				eS	Sn	21 10 23.4	-5.0
	15nm,0.1s						
PMAR	Madeira	4.22	214	eP	Pn	21 09 54.0	+1.4
PMAR				eS	Sn	21 10 37.1	-4.9
PMAR	Madeira	4.22	214	P	Pn	21 09 54.0	+1.4
PMAR				S	Sn	21 10 37.1	-4.9
PMAR	Madeira	4.22	214	P	Pn	21 09 54.0	+1.4
PMAR				S	Sn	21 10 37.1	-4.9
PMOZ	Porto Moniz, M	4.27	218	eP	Pn	21 09 54.3	+1.1
PMOZ				eS	Sn	21 10 38.2	-4.9
PMOZ	Porto Moniz, M	4.27	218	P	Pn	21 09 54.0	+0.8
	2.7nm,0.1s,SNR=7.9						
PMOZ				S	Sn	21 10 39.3	-3.8
PMOZ	Porto Moniz, M	4.27	218	eP	Pn	21 09 54.3	+1.1
PMOZ				S	Sn	21 10 39.3	-3.8
PFVI	Vila Bisbo	4.33	77	eSn	Sn	21 10 44.2	-0.3
PFVI				A	A	21 10 45.8	
	5.2nm,0.7s						
PFVI	Vila Bisbo	4.33	77	S	Sn	21 10 45.0	+0.5
	5.5nm,0.1s,SNR=7.9						
PFVI	Vila Bisbo	4.33	77	eSn	Sn	21 10 44.2	-0.3
	5.2nm,0.7s						
PFVI				S	Sn	21 10 45.0	+0.5
	5.5nm,0.1s,SNR=7.9						
PTEO	Sao Teotonio	4.50	72	eSn	Sn	21 10 48.0	-0.7
PTEO				A	A	21 10 59.3	
	6.5nm,0.6s						
PTEO	Sao Teotonio	4.50	72	S	Sn	21 10 48.0	-0.7
	3.2nm,0.6s						
PTEO	Sao Teotonio	4.50	72	S	Sn	21 10 48.0	-0.7
	3.2nm,0.6s						
MORF	Marmelete	4.50	75	eSn	Sn	21 10 48.4	-0.4
MORF				A	A	21 10 58.3	
	4.5nm,0.1s						
MORF	Marmelete	4.50	75	S	Sn	21 10 48.4	-0.4
	4.5nm,0.1s						
MORF	Marmelete	4.50	75	S	Sn	21 10 48.4	-0.4
	4.5nm,0.1s						
PMAFR	Mafra	4.68	53	ePn	Pb	21 10 06.6	-3.7
PMAFR				eSn	Sn	21 10 53.9	+0.7
PMAFR				A	A	21 10 55.6	
	8.0nm,0.6s						
PMAFR	Mafra	4.68	53	P	Pn	21 10 04.1	+5.3
	1.8nm,0.2s,SNR=6.0						
PMAFR				S	Sn	21 10 53.9	+0.7
	9.6nm,0.2s,SNR=7.9						
PMAFR	Mafra	4.68	53	P	Pn	21 10 04.1	+5.3
	1.8nm,0.2s,SNR=6.0						
PMAFR	Mafra	4.68	53	ePn	Pb	21 10 06.6	-3.7
PMAFR				eSn	Sn	21 10 53.9	+0.7
	8.0nm,0.6s						
PNCL	Nicolau / Gran	4.82	66	ePn	Pb	21 10 07.1	-5.6
PNCL				eSn	Sn	21 10 55.9	-0.7
PNCL				A	A	21 10 58.0	
	3.2nm,0.4s						
PNCL	Nicolau / Gran	4.82	66	ePn	Pb	21 10 07.1	-5.6
PNCL				eSn	Sn	21 10 55.9	-0.7
	3.2nm,0.4s						
MESJ	Messejana	4.97	70	eSn	Sn	21 10 59.0	-1.2
MESJ				A	A	21 11 05.3	
	3.2nm,0.5s						
MESJ	Messejana	4.97	70	S	Sn	21 10 59.0	-1.2
	3.2nm,0.5s						
MESJ	Messejana	4.97	70	S	Sn	21 10 59.0	-1.2
	3.2nm,0.5s						
PCVE	Castro Verde	5.05	72	ePn	Pb	21 10 10.1	-6.4
PCVE				eSn	Sn	21 11 01.3	-1.0
PCVE				A	A	21 11 04.5	
	3.0nm,0.8s						
PCVE	Castro Verde	5.05	72	P	Pb	21 10 10.1	-6.4
PCVE				S	Sn	21 11 01.3	-1.0
	3.0nm,0.8s						
PCVE	Castro Verde	5.05	72	ePn	Pb	21 10 10.1	-6.4
PCVE				S	Sn	21 11 01.3	-1.0
	3.0nm,0.8s						
PBDV	Barranco-do-Ve	5.06	77	eSn	Sn	21 11 03.1	+0.7
PBDV	Barranco-do-Ve	5.06	77	S	Sn	21 11 03.1	+0.7
PBDV	Barranco-do-Ve	5.06	77	S	Sn	21 11 03.1	+0.7
PVAQ	Vaqueiros	5.25	75	eSn	Sn	21 11 07.8	+0.6
PVAQ				A	A	21 11 11.0	
	2.4nm,0.3s						
PVAQ	Vaqueiros	5.25	75	S	Sn	21 11 07.8	+0.6
	2.4nm,0.3s						
PVAQ	Vaqueiros	5.25	75	S	Sn	21 11 07.8	+0.6
	2.4nm,0.3s						
ALMR	Almeirim	5.25	55	ePn	Pn	21 10 12.7	+6.1
ALMR				eSn	Sn	21 11 06.8	-0.4
ALMR				A	A	21 11 21.0	
	6.9nm,0.6s						
ALMR	Almeirim	5.25	55	P	Pn	21 10 12.7	+6.1
ALMR				S	Sn	21 11 06.8	-0.4
	3.5nm,0.6s						
ALMR	Almeirim	5.25	55	P	Pn	21 10 12.7	+6.1
ALMR				eSn	Sn	21 11 06.8	-0.4
	6.9nm,0.6s						
PBEJ	Beja	5.29	69	eSn	Sn	21 11 07.2	-0.9
PBEJ	Beja	5.29	69	S	Sn	21 11 07.2	-0.9
PBEJ	Beja	5.29	69	S	Sn	21 11 07.2	-0.9
PMTG	Montargil	5.45	57	ePn	Pn	21 10 14.2	+4.9
PMTG				eSn	Sn	21 11 11.1	-0.9
PMTG				A	A	21 11 15.1	
	2.3nm,0.6s						
PMTG	Montargil	5.45	57	ePn	Pn	21 10 14.2	+4.9
EGRO	El Granado	5.46	75	S	Sn	21 11 11.7	-0.6
	2.0nm,0.1s,SNR=7.9						
EGRO	El Granado	5.46	75	S	Sn	21 11 11.7	-0.6
	2.0nm,0.1s,SNR=7.9						
PTOM	Tomar	5.62	52	ePn	Pn	21 10 18.2	+6.6
PTOM				eSn	Sn	21 11 17.3	+1.1
PTOM				A	A	21 11 20.5	
	3.9nm,0.2s						
PTOM	Tomar	5.62	52	P	Pn	21 10 18.2	+6.6
PTOM				S	Sn	21 11 17.3	+1.1
	1.9nm,0.2s						
PTOM	Tomar	5.62	52	P	Pn	21 10 18.2	+6.6
PTOM				S	Sn	21 11 17.3	+1.1
	1.9nm,0.2s						
PESTR	Estremoz	5.80	61	eSn	Sn	21 11 19.5	-1.2
PESTR				A	A	21 11 28.6	
	1.3nm,0.8s						
PCAS	Casmilo, Conde	5.82	48	ePn	Pn	21 10 20.1	+5.6
PCAS				eSn	Sn	21 11 22.0	+0.7
PCAS				A	A	21 11 32.3	
	2.1nm,0.5s						
PCAS	Casmilo, Conde	5.82	48	ePn	Pn	21 10 20.1	+5.6
PBAR	Barrancos	5.96	69	eSn	Sn	21 11 22.4	-2.2
PBAR				A	A	21 11 24.8	
	3.5nm,0.6s						
PBAR	Barrancos	5.96	69	S	Sn	21 11 22.4	-2.2
	3.5nm,0.6s						
PBAR	Barrancos	5.96	69	S	Sn	21 11 22.4	-2.2
	3.5nm,0.6s						
EMIN	Mina Concepcio	6.14	74	P	Pn	21 10 22.6	+3.8
	0.2nm,0.2s,SNR=4.0						
EMIN				S	Sn	21 11 27.2	-1.8
	1.2nm,0.2s,SNR=7.9						
EMIN	Mina Concepcio	6.14	74	P	Pn	21 10 22.6	+3.8
	0.2nm,0.2s,SNR=4.0						
EMIN				S	Sn	21 11 27.2	-1.8
	1.2nm,0.2s,SNR=7.9						
EBAD	Badajoz	6.17	64	P	Pn	21 10 23.9	+4.7
	0.2nm,0.1s,SNR=7.9						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
EBAD				S	Sn	21 11 28.2	-1.5
	1.8nm,0.1s,SNR=5.1						
EBAD	Badajoz	6.17	64	P	Pn	21 10 23.9	+4.7
	0.2nm,0.1s,SNR=7.9						
EBAD				S	Sn	21 11 28.2	-1.5
	1.8nm,0.1s,SNR=5.1						
PMRV	Marv??o	6.19	57	ePn	Pn	21 10 24.3	+4.8
PMRV				eSn	Sn	21 11 28.2	-2.1
PMRV				A	A	21 11 41.1	
	1.8nm,0.8s						
PMRV	Marv??o	6.19	57	P	Pn	21 10 24.3	+4.8
PMRV				S	Sn	21 11 28.2	-2.1
	1.8nm,0.8s						
PMRV	Marv??o	6.19	57	P	Pn	21 10 24.3	+4.8
PMRV				S	Sn	21 11 28.2	-2.1
	1.8nm,0.8s						
PVIS	Viseu	6.60	46	ePn	Pn	21 10 30.3	+5.1
PVIS				eSn	Sn	21 11 38.6	-1.9
PVIS				A	A	21 11 42.2	
	2.8nm,0.1s						
PVIS	Viseu	6.60	46	P	Pn	21 10 30.3	+5.1
PVIS				S	Sn	21 11 38.6	-1.9
	1.4nm,0.1s						
PVIS	Viseu	6.60	46	P	Pn	21 10 30.3	+5.1
PVIS				S	Sn	21 11 38.6	-1.9
	1.4nm,0.1s						
ESPR	Espera	6.67	82	P	Pn	21 10 30.5	+4.4
	0.9nm,0.7s,SNR=7.9						
ESPR				S	Sn	21 11 40.5	-1.6
	3.1nm,0.2s,SNR=7.9						
ESPR	Espera	6.67	82	P	Pn	21 10 30.5	+4.4
	0.9nm,0.7s,SNR=7.9						
ESPR				S	Sn	21 11 40.5	-1.6
	3.1nm,0.2s,SNR=7.9						
POLO	Lamas de Olo	7.10	42	ePn	Pn	21 10 37.5	+5.4
POLO				eSn	Sn	21 11 50.2	-2.6
POLO				A	A	21 11 55.8	
	0.3nm,0.1s						
POLO	Lamas de Olo	7.10	42	ePn	Pn	21 10 37.5	+5.4
ECAB	El Cabril	7.17	73	P	Pn	21 10 37.5	+4.5
	0.2nm,0.1s,SNR=7.9						
ECAB				S	Sn	21 11 52.0	-2.5
	1.4nm,0.3s,SNR=6.0						
ECAB	El Cabril	7.17	73	P	Pn	21 10 37.5	+4.5
	0.2nm,0.1s,SNR=7.9						
ECAB				S	Sn	21 11 52.0	-2.5
	1.4nm,0.3s,SNR=6.0						
PCAB	Cabril	7.22	39	ePn	Pn	21 10 40.0	+6.4
PCAB				eSn	Sn	21 11 55.4	-0.2
PCAB				A	A	21 11 56.6	
	1.8nm,0.1s						
PCAB	Cabril	7.22	39	P	Pn	21 10 40.0	+6.4
PCAB				S	Sn	21 11 55.4	-0.2
	0.9nm,0.1s						
PCAB	Cabril	7.22	39	P	Pn	21 10 40.0	+6.4
PCAB				S	Sn	21 11 55.4	-0.2
	0.9nm,0.1s						
PGAV	Gavieira, Arco	7.29	37	ePn	Pn	21 10 40.8	+6.2
PGAV				eSn	Sn	21 11 56.2	-1.2
PGAV				A	A	21 12 02.1	
	3.1nm,0.7s						
PGAV	Gavieira, Arco	7.29	37	ePn	Pn	21 10 40.8	+6.2
ELOB	Lobios	7.32	38	P	Pn	21 10 40.2	+5.2
	0.3nm,0.1s,SNR=6.2						
ELOB				S	Sn	21 11 56.8	-1.4
	0.7nm,0.1s,SNR=7.9						
ELOB	Lobios	7.32	38	P	Pn	21 10 40.2	+5.2
	0.3nm,0.1s,SNR=6.2						
ELOB				S	Sn	21 11 56.8	-1.4
	0.7nm,0.1s,SNR=7.9						
MVO	Moncorvo	7.39	46	ePn	Pn	21 10 40.9	+4.8
MVO				eSn	Sn	21 11 57.2	-2.8
MVO				A	A	21 12 13.5	
	1.8nm,0.6s						
MVO	Moncorvo	7.39	46	P	Pn	21 10 40.8	+4.7
	0.5nm,0.1s,SNR=6.7						
MVO				S	Sn	21 11 58.4	-1.6
	0.8nm,0.1s,SNR=6.0						
MVO	Moncorvo	7.39	46	P	Pn	21 10 40.8	+4.7
	0.5nm,0.1s,SNR=6.7						
MVO				S	Sn	21 11 58.4	-1.6
	0.8nm,0.1s,SNR=6.0						
EMAZ	Mazaricos	7.77	29	P	Pn	21 10 46.5	+5.4
	1.2nm,0.2s,SNR=7.9						
EMAZ				S	Sn	21 12 08.3	-0.9
	7.7nm,1.0s,SNR=7.9						
EMAZ	Mazaricos	7.77	29	P	Pn	21 10 46.5	+5.3
	1.2nm,0.2s,SNR=7.9						
EMAZ				S	Sn	21 12 08.3	-0.9
	7.7nm,1.0s,SNR=7.9						
EADA	Adamuz	7.84	73	P	Pn	21 10 47.1	+5.0
	0.2nm,0.1s,SNR=4.0						
EADA	Adamuz	7.84	73	P	Pn	21 10 47.1	+4.9
	0.2nm,0.1s,SNR=4.0						
EAGO	Agolada(Pontev	8.02	34	P	Pn	21 10 49.8	+5.1
	0.5nm,0.1s,SNR=7.9						
EAGO				S	Sn	21 12 13.3	-2.1
	0.6nm,0.1s,SNR=7.9						
EAGO	Agolada(Pontev	8.02	34	P	Pn	21 10 49.8	+5.1
	0.5nm,0.1s,SNR=7.9						
EAGO				S	Sn	21 12 13.3	-2.1
	0.6nm,0.1s,SNR=7.9						
ECAL	Calabor	8.06	43	P	Pn	21 10 50.5	+5.2
	0.8nm,0.1s,SNR=6.4						
ECAL				S	Sn	21 12 14.8	-1.7
	0.6nm,0.1s,SNR=7.9						
ECAL	Calabor	8.06	43	P	Pn	21 10 50.5	+5.2
	0.8nm,0.1s,SNR=6.4						
ECAL				S	Sn	21 12 14.8	-1.7
	0.6nm,0.1s,SNR=7.9						
PAB	San Pablo	8.38	64	P	Pn	21 10 54.5	+4.8
	0.1nm,0.1s,SNR=7.9						
PAB				S	Sn	21 12 21.7	-2.7
	0.3nm,0.2s,SNR=7.9						
PAB	San Pablo	8.38	64	P	Pn	21 10 54.5	+4.8
	0.1nm,0.1s,SNR=7.9						
PAB				S	Sn	21 12 21.7	-2.7
	0.3nm,0.2s,SNR=7.9						
ESDC	Sonseca Array	8.71	64	S	Sn	21 12 29.3	-3.1
	0.4nm,0.3s,baz=257,slow=22,SNR=7.9						
ESDC	Sonseca Array	8.71	64	S	Sn	21 12 29.3	-3.1
	0.4nm,0.3s,SNR=7.9						
EPON	Pontenova	8.86	35	P	Pn	21 11 01.5	+5.4
	0.4nm,0.1s,SNR=7.9						
EPON				S	Sn	21 12 34.3	-1.7
	0.2nm,0.1s,SNR=4.0						
EPON	Pontenova	8.86	35	P	Pn	21 11 01.5	+5.4
	0.4nm,0.1s,SNR=7.9						
EPON				S	Sn	21 12 34.3	-1.7
	0.2nm,0.1s,SNR=4.0						
EQES	Quesada	8.96	77	S	Sn	21 12 36.0	-2.6
	0.2nm,0.2s,SNR=7.9						
EQES	Quesada	8.96	77	S	Sn	21 12 36.0	-2.6
	0.2nm,0.2s,SNR=7.9						

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*ISCJB **08** 21:15:47.9±1.2, 29°.5S±0°.3×60°.9E±0°.2, h14km, mb3.6/7, MS3.8/2, Error ellipse: s-maj=50.5km s-min=16.7km az=25.4*

*IDC **08** 21:15:47.7±1.2, 29°.46S×60°.91E, h0km, mb3.7/7, mb1 3.8/8, mb1mx3.5/58, mbtmp3.7/8, ML3.7/1, MS3.6/3, Ms1 3.6/3, ms1mx3.0/59, Error ellipse: s-maj=54.5km s-min=22.5km az=25.0*

ISC 08 21:15:49.9±1.6, **29°.4S**±0°.4×**60°.9E**±0°.2, **h14**km, **n20**, σ**0s.57**/9, **mb3.8**/7, **Southwest Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPO	Ambohidratompo	16.53	308	Pn	Pn	21 19 41.2	-0.3
	0.3nm,0.3s,baz=134,slow=16,SNR=2.7						
OPO				Sn	Sn	21 22 29.4	-16
	0.2nm,0.3s,baz=49,slow=6.0,SNR=3.3						
OPO				LR	LR	21 24 51.8	
	comp=Z,113nm,20.7s,baz=114,slow=33						
H08S1	Diego Carcia H	24.26	29	T	T	21 46 28.8	
	baz=203,slow=76,SNR=4.8						
H08S2	Diego Garcia H	24.27	29	T	T	21 46 28.8	
	baz=203						
H08S3	Diego Garcia H	24.28	29	T	T	21 46 29.3	
	baz=203,slow=76,SNR=7.0						
H08N3	Diego Garcia H	24.86	24	T	T	21 47 09.2	
	baz=209,slow=76,SNR=6.1						
H08N1	Diego Carcia H	24.87	25	T	T	21 47 10.4	
	baz=209,slow=76,SNR=4.2						
H08N2	Diego Garcia H	24.88	24	T	T	21 47 10.4	
	baz=209,slow=76,SNR=4.5						
KMBO	Kilima Mbogo	36.05	317	LR	LR	21 34 48.9	
	comp=Z,62nm,21.6s,baz=96,slow=32						
H01W2	Cape Leeuwin H	44.96	111	T	T	22 12 32.0	
	baz=261,slow=75,SNR=5.0						
H01W3	Cape Leeuwin H	44.97	111	T	T	22 12 33.2	
	baz=261,slow=75,SNR=5.2						
H01W1	Cape Leeuwin H	44.98	111	T	T	22 12 30.3	
	baz=261,slow=75,SNR=3.2						
ASAR	Alice Springs	64.60	104	P	P	21 26 27.5	+0.2
	0.5nm,0.7s,baz=248,slow=5.8,SNR=5.9						
WRA	Warramunga Arr	66.44	100	P	P	21 26 38.9	-0.3
	0.7nm,0.9s,baz=244,slow=5.8,SNR=3.6						
TORD	Torodi Ar. Bea	71.06	298	P	P	21 27 08.2	+0.4
	0.4nm,0.5s,baz=123,slow=5.8,SNR=4.6						
AAK	Ala-Archa	72.80	10	LR	LR	21 53 37.8	
	comp=Z,120nm,19.6s,baz=342,slow=31						
BRTR	Keskin Array B	73.33	338	P	P	21 27 21.6	+0.5
	0.6nm,0.8s,baz=163,slow=5.3,SNR=4.2						
KOWA	Kowa	76.31	295	P	P	21 27 38.7	0.0
	1.1nm,0.7s,baz=72,slow=6.4,SNR=3.1						
MKAR	Makanchi Array	78.30	15	P	P	21 27 49.1	-0.1
	0.3nm,0.8s,baz=179,slow=7.2,SNR=3.0						
KURBB	Kurchatov Arra	81.22	11	P	P	21 28 05.3	+0.4
	0.5nm,0.8s,baz=211,slow=6.0,SNR=3.4						
YKA	Yellowknife Ar	146.80	356	PKPbc	PKPab	21 35 31.0	-1.1
	0.6nm,0.5s,baz=349,slow=3.1,SNR=24						

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*NIED **08** 21:43:00, 24°.00N×122°.30E, h29km, Mw5.5 Best double couple: Mo2.05000×10^17 NP1:φs295.00000°, δ15.00000°, λ142.00000°. NP2:φs62.00000°, δ81.00000°, λ78.00000°.*

*BJI **08** 21:43:27.2, 24°.00N×122°.35E, h10km, mb5.2/68, mB5.6/61, ML5.3/8, Ms5.6/93, Ms7 5.6/83*

*GCMT **08** 21:43:30.9±0.1, 23°.89N×122°.20E, h33km, MW5.5/116, Moment Tensor Solution. s104,c204; s116,c214; Duration: 1s.3 Moment tensor: Scale 10^17Nm; Mrr1.15±.03; Mθθ-1.38±.02; Mφφ0.23±.02; Mrθ0.97±.03; Mθφ-0.10±.01; Mφr0.86±.03; Best double couple: Mo1.82700×10^17 NP1:φs61.00000°, δ69.00000°, λ68.00000°. NP2:φs290.00000°, δ30.00000°, λ135.00000°. Principal axes: T 1.8650, Plg60.0000°, Azm299.0000°; N -0.0760, Plg21.0000°, Azm69.0000°; P -1.7880, Plg21.0000°, Azm168.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **08** 21:43:30.9±0.0, 24°.00N×122°.35E, h10km, mb5.4/216, MS5.2/270, MW5.3, ML5.5(TAP) Best double couple: NP1:φs277.00000°, δ26.00000°, λ121.00000°. NP2: φs64.00000°, δ68.00000°, λ76.00000°. Principal axes: T 1.1600, Plg64.0000°, Azm311.0000°; N -0.1700, Plg13.0000°, Azm69.0000°; P -0.9800, Plg22.0000°, Azm164.0000°; After TAP.*

NEIC Felt [II] at Taipei and Taoyuan. Also felt at Hsinchu, Shulin, Taichung, Xinying and Zhonghe. Recorded [3 TAP] in Hualien and Yilan; [2 TAP] in Changhua, Nantou, Taitung and Yunlin; [1 TAP] in Chiayi, Miaoli and Taoyuan. Recorded [2 JMA] on Yonaguni-jima, Ryukyu Islands.

*MOS **08** 21:43:31.8±1.1, 24°.22N×122°.35E, h34km, mb5.7/100, MS5.2/82 Error ellipse: s-maj=6.0km s-min=3.6km az=113.7*

*JMA **08** 21:43:31.2±0.1, 23°.96N×122°.33E, h24km±3km, M5.8*

JMA Felt II J1.

*TAP **08** 21:43:31.5, 24°.04N×122°.36E, h29km, ML5.7, D*

*IDC **08** 21:43:32.3±1.6, 24°.16N×122°.46E, h30km±11km, mb4.9/45, mb1 5.0/49, mb1mx4.9/59, mbtmp5.1/49, ML4.2/3, MS5.0/56, Ms1 5.0/56, ms1mx4.9/65, Error ellipse: s-maj=10.7km s-min=8.9km az=71.0*

*ISCJB **08** 21:43:32.3±0.2, 24°.04N±0°.01×122°.34E±0°.01, h42km±1km, mb5.4/358, MS5.2/353, Error ellipse: s-maj=1.9km s-min=1.6km az=138.4*

ISC 08 21:43:31.8±0.5, **24°.02N**±0°.02×**122°.36E**±0°.02, **h29**km±2km, **n1399**, σ**1s.50**/1418, **mb5.4**/361, **MS5.2**/354, **208C-42D, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS1	EOS1	0.57	338	⇓P	Pb	21 43 42.8	-0.5
	baz=331						
EOS1				eS	Sn	21 43 52.4	0.0
	baz=331						
ENAH	Nanao	0.66	311	eP	Pb	21 43 43.8	-1.0
	baz=317						
JYNG	Yonagunijimaku	0.69	51	P	Pn	21 43 45.1	-0.5
JYNG				eS	Sn	21 43 54.8	-0.5
NANB	Nanao	0.69	306	⇓eP	Pb	21 43 44.2	-1.1
	baz=311						
NANB				eS	Sn	21 43 54.5	-0.9
	baz=311						
HWA	Hwalien	0.69	267	eP	Pb	21 43 44.9	-0.4
	baz=252						
ENA	Nanau	0.69	306	⇓eP	Pb	21 43 44.2	-1.1
	baz=311						
TWD	Chiawan	0.70	275	⇑eP	Pb	21 43 44.3	-1.1
	baz=273						
TWD				S	Sb	21 43 54.3	-0.5
	baz=273						
ENLB	Shoufeng	0.70	261	eP	Pb	21 43 45.1	-0.4
	baz=248						
ENLB				S	Sn	21 43 55.1	-0.6
	baz=248						
NACB	Ninganchiao	0.71	283	⇑P	Pb	21 43 44.7	-1.1
	baz=268						
NACB				eS	Sb	21 43 55.2	0.0
	baz=268						
NACB	Ninganchiao	0.71	283	ePg	Pb	21 43 44.8	-0.9
NACB				eSn	Sb	21 43 51.6	-3.6
YOJ	Yonaguni jima	0.74	53	⇓P	Pn	21 43 46.2	-0.1
	baz=62						
YOJ				S	Sn	21 43 56.2	-0.5
	baz=62						
YOJ	Yonaguni jima	0.74	53	P	Pn	21 43 46.2	-0.1
YOJ				eS	Sn	21 43 56.0	-0.7
YOJ	Yonaguni jima	0.74	53	ePg	Pn	21 43 45.9	-0.4
YOJ				ePn	Pb	21 43 46.5	+0.4
YOJ	Yonaguni jima	0.74	53	eP	Pn	21 43 45.9	-0.4
TWC	Suao	0.75	322	⇓P	Pb	21 43 45.0	-1.3
	baz=321						
TWC				eS	Sb	21 43 55.1	-1.1
	baz=321						
ESL	Shilin	0.87	257	⇑eP	Pb	21 43 46.9	-1.5
	baz=245						
EGS		0.91	335	⇓P	Pn	21 43 48.3	-0.3
	baz=325						
EGS				eS	Sn	21 44 00.9	+0.1
	baz=325						
ILA	Ilan	0.93	323	eP	Pn	21 43 49.0	+0.1
	baz=322						
ILA				eS	Sn	21 44 01.9	+0.7
	baz=322						
TWE	Neicheng	0.94	318	⇓P	Pb	21 43 48.7	-0.8
	baz=317						
TWE				eS	Sn	21 44 01.4	-0.1
	baz=317						
ENTT	Nioudou	0.95	311	eP	Pb	21 43 48.9	-0.8
	baz=296						
NTC	Toucheng	0.96	330	eP	Pn	21 43 49.5	+0.1
	baz=340						
NNSB	Datong	0.98	295	⇑eP	Pn	21 43 49.4	-0.4
	baz=283						
NNS	Nan Shan	0.99	295	⇑iP	Pn	21 43 49.4	-0.6
	baz=294						
NNS				eS	Sn	21 44 02.8	-0.2
	baz=294						
HGSD	Ruisui	1.00	239	⇓P	Pn	21 43 48.6	-1.4
	baz=238						
HGSD				eS	Sb	21 44 01.5	-2.0
	baz=238						
WHF	Hehuan Shan	1.01	277	⇑P	Pn	21 43 49.3	-1.1
	baz=264						
WHF				eS	Sb	21 44 03.5	-0.5
	baz=264						
TWB1	Santiao Chiao	1.04	341	eP	Pb	21 43 50.4	-0.8
	baz=355						
TWB1				eS	Sn	21 44 04.8	+0.8
	baz=355						
TIPB	Shuangxi	1.06	333	⇑iP	Pn	21 43 49.9	-0.9
	baz=331						
TIPB				S	Sb	21 44 04.0	-1.2
	baz=331						
EHY	Hungye	1.08	242	⇑P	Pn	21 43 50.1	-0.9
	baz=256						
EHY				eS	Sb	21 44 04.0	-1.5
	baz=256						
CHGB	Renai	1.08	272	⇑P	Pn	21 43 50.6	-0.7
	baz=260						
CHGB				S	Sb	21 44 04.5	-1.4
	baz=260						
OWD	Renai	1.08	267	eP	Pn	21 43 50.5	-0.7
	baz=266						
NWLT	Wulai	1.08	314	eP	Pb	21 43 51.5	-0.5
	baz=312						
YHNB	Yeheng	1.10	306	⇑P	Pn	21 43 51.3	-0.1
	baz=293						
YHNB				eS	Sn	21 44 06.0	+0.2
	baz=293						
YHNB	Yeheng	1.10	306	ePn	Pn	21 43 51.4	-0.1
YHNB				eSn	Sb	21 44 02.7	-3.7
TDCB	Techi	1.12	282	⇑eP	Pn	21 43 51.5	-0.3
	baz=269						
TDCB				eS	Sn	21 44 06.3	+0.1
	baz=269						
YULB	Yu-li	1.16	237	⇓P	Pn	21 43 51.0	-1.1
	baz=252						
YULB				eS	Sn	21 44 05.3	-1.6
	baz=252						
YULB	Yu-li	1.16	237	ePn	Pn	21 43 51.0	-1.1
YULB				eSn	Sn	21 43 59.8	-7.2
NWF	Wu-fen Shan	1.17	333	⇑eP	Pb	21 43 52.5	-0.9
	baz=331						
NWF				eS	Sb	21 44 08.4	+0.1
	baz=331						
WFSB	Wu-fen Shan	1.17	333	⇑P	Pb	21 43 52.5	-0.9
	baz=331						
WFSB				eS	Sb	21 44 08.6	+0.4
	baz=331						
TWF1	Yuli	1.18	236	⇓P	Pn	21 43 51.4	-1.0
	baz=225						
TWF1				eS	Sn	21 44 07.1	-0.4
	baz=225						
TATO	Taipei	1.24	320	⇑P	Pb	21 43 54.2	-0.4
	baz=318						
TATO				eS	Sb	21 44 10.9	+0.7
	baz=318						
TATO	Taipei	1.24	320	ePn	Pb	21 43 53.9	-0.7
TATO				eSn	Sn	21 44 08.6	-0.4
TATO	Taipei	1.24	320	P	Pb	21 43 54.3	-0.2
	SNR=372						
FULB	Fuli	1.27	230	⇓P	Pn	21 43 52.3	-1.4
	baz=218						
FULB				eS	Sn	21 44 08.4	-1.5
	baz=218						
CHKT	Chengkung	1.29	225	eP	Pn	21 43 52.5	-1.5
	baz=225						
IRIF	Iriomote-Funau	1.29	76	P	Pb	21 43 55.2	-0.2
IRIF				eS	Sb	21 44 12.7	+1.0
SSLB	Suanglung	1.31	260	⇑P	Pn	21 43 53.9	-0.3
	baz=259						
SSLB				eS	Sn	21 44 08.9	-1.7
	baz=259						
SSLB	Suanglung	1.31	260	ePn	Pn	21 43 54.0	-0.1
SSLB				eSn	Sn	21 44 05.3	-5.4
DPDB	Guoxing	1.31	271	⇑P	Pn	21 43 54.2	0.0
	baz=262						
DPDB				eS	Sn	21 44 10.4	-0.4
	baz=262						
HATJ	Hateruma jima	1.32	88	P	Pb	21 43 55.5	-0.5
HATJ				eS	Sb	21 44 12.2	-0.4
YM07	YM07	1.33	330	⇑eP	Pn	21 43 53.5	-1.1
	baz=327						
YM07				eS	Sb	21 44 12.3	-0.6
	baz=327						
SMLT	Sun Moon Lake	1.34	264	⇑P	Pn	21 43 54.6	-0.1
	baz=263						
SMLT				eS	Sn	21 44 11.0	-0.6
	baz=263						
YM10	YM10	1.34	327	⇑eP	Pn	21 43 54.9	+0.2
	baz=340						
YM04	YM04	1.35	327	eP	Pb	21 43 55.3	-1.3
	baz=339						
YM04				eS	Sb	21 44 12.9	-0.6
	baz=339						
YM08	YM08	1.36	329	eP	Pn	21 43 54.9	0.0
	baz=327						
YM08				eS	Sb	21 44 13.3	-0.3
	baz=327						
LIOB	Emei	1.37	297	⇑P	Pb	21 43 56.2	-0.7
	baz=296						
LIOB				eS	Sb	21 44 13.3	-0.7
	baz=296						
TWS1	Kuangyinshan	1.38	322	eP	Pb	21 43 55.8	-1.1
	baz=337						
TYC	Yuchr	1.38	265	⇑P	Pn	21 43 55.0	0.0
	baz=265						
NSTT	Nanjuang	1.38	296	⇑eP	Pb	21 43 55.9	-1.0
	baz=295						
YUS	Yu-Shan	1.39	248	⇑P	Pn	21 43 55.7	0.0
	baz=247						
YUS				eS	Sn	21 44 12.6	-0.9
	baz=247						
NTST	Danshui	1.41	324	eP	Pb	21 43 56.2	-1.2
	baz=337						
NCU	National Centr	1.43	312	eP	Pb	21 43 56.5	-1.3
	baz=310						
NCUH	Zhongli	1.43	312	eP	Pb	21 43 56.4	-1.3
	baz=310						
TWY	Chenhua	1.43	331	⇑eP	Pb	21 43 56.5	-1.2
	baz=329						
SBCB	Hsinchu	1.47	302	eP	Pb	21 43 57.3	-1.2
	baz=300						
ELDTW	Lidau	1.48	236	eP	Pn	21 43 55.5	-1.2
	baz=236						
TWQ1	Liyutan	1.48	283	eP	Pb	21 43 57.9	-0.8
	baz=282						
TWQ1				eS	Sb	21 44 16.2	-0.9
	baz=282						
HSN	Hsinchu	1.49	302	eP	Pb	21 43 57.5	-1.3
	baz=302						
WJS	Zhushan	1.50	263	eP	Pb	21 43 58.1	-1.0
	baz=262						
NSY	Sanyi	1.51	285	eP	Pb	21 43 58.3	-0.9
	baz=284						
NSY				eS	Sb	21 44 17.8	-0.2
	baz=284						
NMLH	Miaoli	1.52	290	eP	Pb	21 43 58.3	-1.1
	baz=288						
JKRS	Kuro-shima	1.52	82	P	Pb	21 43 58.5	-0.9
JKRS				S	Sb	21 44 17.9	-0.4
WNT	Mingjian	1.54	265	⇑P	Pb	21 43 59.0	-0.7
	baz=264						
WNT				eS	Sb	21 44 17.9	-0.9
	baz=264						
TCU	Taichung	1.54	275	eP	Pb	21 43 59.3	-0.4
	baz=274						
TCU				eS	Sb	21 44 19.6	+0.7
	baz=274						
CHN5	Tsauling	1.59	255	⇑iP	Pb	21 43 59.4	-1.3
	baz=255						
WCHH	Zhanghua	1.65	272	eP	Pb	21 44 00.3	-1.1
	baz=271						
JIJ	Ishigaki jima	1.67	78	P	Pn	21 43 59.7	+0.6
JIJ				eS	Sb	21 44 21.4	-1.0
TWGBT	Beinan	1.68	225	⇓eP	Pn	21 43 57.8	-1.4
	baz=236						
WGK	Gukeng	1.68	259	eP	Pb	21 44 00.7	-1.3
	baz=258						
WGK				eS	Sb	21 44 21.7	-1.0
	baz=258						
TWG	Pinlang	1.68	225	⇓P	Pn	21 43 57.9	-1.4
	baz=236						
TWG	Pinlang	1.68	225	ePn	Pn	21 43 57.9	-1.4
TWG				eSn	Sn	21 44 18.5	-1.4
STYT	Tauyuan	1.70	240	⇓eP	Pn	21 43 59.7	+0.1
	baz=230						
STYT				eS	Sn	21 44 19.7	-0.7
	baz=230						
WDLH	Douliu	1.70	259	eP	Pb	21 44 01.1	-1.2
	baz=259						
TPUB	Ta-pu	1.74	246	⇑P	Pb	21 44 01.4	-1.7
	baz=246						
TPUB				eS	Sn	21 44 21.9	+0.6
	baz=246						
TPUB	Ta-pu	1.74	246	ePn	Pn	21 44 00.6	+0.4
TPUB				eSn	Sn	21 44 20.9	-0.5
WTP	Ta-pu	1.77	245	⇓eP	Pn	21 44 01.4	+0.8
	baz=244						
WTP				eS	Sn	21 44 23.4	+1.1
	baz=244						
CHN2	Minshiung	1.79	255	eP	Pb	21 44 02.8	-1.1
	baz=254						

RLNB Erlin 1.83 266 ⇑P **Pb 21 44 03.0 -1.6**
baz=279
RLNB eS **Sb 21 44 26.3 -0.9**
baz=279
CHY Chiayi 1.85 254 eP **Pb 21 44 03.1 -1.7**
baz=254
JISG Ishigakijimahi 1.87 72 P **Pn 21 44 02.5 +0.6**
JISG eS **Sb 21 44 26.4 -1.8**
TWK Hsinying 1.87 247 ⇑P **Pb 21 44 03.5 -1.8**
baz=246
TWK S **Sb 21 44 26.9 -1.5**
baz=246
CHN1 Nanshi 1.87 244⇑eP **Pb 21 44 03.4 -1.9**
baz=244
CHN1 eS **Sn 21 44 26.2 +1.5**
baz=244
SLGT Liugui 1.87 237 eP **Pn 21 44 02.6 +0.6**
baz=229
SGST Jiashian 1.88 241 eP **Pn 21 44 02.6 +0.6**
baz=232
SGST eS **Sb 21 44 26.6 -1.9**
baz=232
WTCT Ta-ch'eng 1.91 266 eP **Pb 21 44 03.9 -2.0**
baz=278
WTCT eS **Sb 21 44 28.4 -0.9**
baz=278
ECL Taimali 1.92 223 eP **Pn 21 44 01.1 -1.5**
baz=233
WSF Szhu 1.99 259 ⇑P **Pb 21 44 05.1 -2.2**
baz=259
WSF eS **Sb 21 44 30.4 -1.4**
baz=259
SSD Sandimen 2.03 232 eP **Pn 21 44 04.2 +0.1**
baz=224
CHN3 Shinhua 2.06 243⇓eP **Pb 21 44 06.9 -1.5**
baz=243
CHN3 eS **Sb 21 44 32.4 -1.2**
baz=243
CHN8 Yiju 2.08 252 ⇑P **Pn 21 44 06.2 +1.4**
baz=251
CHN8 eS **Sb 21 44 32.0 -2.2**
baz=251
LAY Lan-yu 2.11 201 eP **Pn 21 44 03.4 -1.8**
baz=202
MASBT Mashibuluo 2.12 229 eP **Pn 21 44 05.2 -0.1**
baz=224
MASBT eS **Sn 21 44 30.4 -0.3**
baz=224
TAW Tawu 2.13 219 eP **Pn 21 44 04.7 -0.8**
baz=229
TWM1 Shoushan 2.14 237 eP **Pb 21 44 08.3 -1.6**
baz=236
EAST Anshuo 2.14 221⇓eP **Pn 21 44 04.6 -1.1**
baz=221
SGLT Jiouru 2.15 233 eP **Pb 21 44 08.3 -1.7**
baz=234
SCLT Jiali 2.16 247 eP **Pn 21 44 07.5 +1.6**
baz=247
SCLT eS **Sn 21 44 33.5 +1.9**
baz=247
TAI1 Yung-k'ang 2.19 244 eP **Pn 21 44 07.8 +1.6**
baz=244
JTJ Tarama 2.23 73 P **Pn 21 44 07.9 +1.1**
JTJ S **Sb 21 44 36.4 -2.1**
SSPT Xinbi 2.25 227 eP **Pn 21 44 08.3 +1.2**
baz=223
WSSB Gushan 2.37 235 eP **Pb 21 44 11.1 -2.7**
baz=236
KAU Kaohsiung 2.38 233 eP **Pn 21 44 09.8 +0.9**
baz=234
WLCH Liuqiu 2.46 228 eP **Pb 21 44 13.9 -1.5**
baz=243
TWP Hsiaoliuchiu 2.48 228 eP **Pb 21 44 13.7 -2.0**
baz=243
HEN Hengchun 2.50 217 eP **Pn 21 44 10.9 +0.4**
baz=218
HEN eS **Sn 21 44 40.1 0.0**
baz=218
TSEB Hengchuen, Pin 2.50 213 eP **Pn 21 44 11.2 +0.6**
baz=215
TSEB eS **Sn 21 44 40.1 -0.1**
baz=215
TWKBT Hengchun 2.51 215⇓eP **Pn 21 44 10.8 +0.1**
baz=216
TWKBT eS **Sn 21 44 39.0 -1.4**
baz=216
WDGT Dungji 2.59 254⇑*i*P **Pn 21 44 12.6 +0.9**
baz=242
WDGT eS **Sn 21 44 41.9 -0.3**
baz=242
PHUB P'eng-hu 2.60 259 P **Pn 21 44 12.7 +0.7**
baz=259
PHUB eS **Sn 21 44 42.7 +0.1**
baz=259
PNG Penghu 2.61 261 eP **Pn 21 44 12.3 +0.3**
baz=260
PNG eS **Sn 21 44 43.0 +0.3**
baz=260
JMJ Miyako jima 2 2.79 73 eP **Pn 21 44 15.8 +1.3**
baz=75
VWUC VWUC 2.82 291⇑eP **Pn 21 44 14.6 -0.4**
baz=288
VWUC eS **Sn 21 44 47.0 -1.0**
baz=288
MATB Ma-tsu 3.05 315⇑eP **Pn 21 44 17.5 -0.6**
baz=312
QZH Quanzhou 3.55 286⇑*i*Pn **Pn 21 44 24.5 -0.5**
QZH Sn **Sn 21 45 04.3 -1.8**
QZH LR LR
comp=N,44μm,15.5s
QZH LR LR
comp=E,48μm,15.1s
QZH LR LR
comp=Z,59μm,13.7s
KNMB Chin-men Tao 3.65 278⇑eP **Pn 21 44 26.0 -0.4**
baz=276
JOW Kunigami 6.04 61 Pn **Pn 21 44 58.6 -0.6**
18nm,0.3s,baz=20,slow=12,SNR=42
JOW Sn **Sn 21 46 09.1 +1.7**
13nm,0.3s,baz=180,slow=19,SNR=1.7
JOW Kunigami 6.04 61 eP **Pn 21 44 58.5 -0.7**
baz=66
JOW Kunigami 6.04 61 ePn **Pn 21 44 58.8 -0.4**
JOW eSn **Sn 21 46 11.3 +3.9**
VDOS Pratas Island 6.17 239 eP **Pn 21 45 03.1 +2.1**
baz=241
VDOS eS **Sn 21 46 08.2 -2.4**
baz=241
APYP Conner 6.21 190 eP **Pn 21 45 01.6 -0.1**
ABRA Dolores 6.52 194 eP **Pn 21 45 07.2 +1.3**
CAUP Cauayan 7.06 184 eP **Pn 21 45 15.5 +2.2**
SSE Sheshan 7.12 352 P **Pn 21 45 14.4 +0.3**
SSE S **Sn 21 46 34.0 -0.1**
BOLP Bolinao 7.94 197 eP **Pn 21 45 26.4 +1.1**
BALP Baler 8.27 185 eP **Pn 21 45 30.7 +0.8**
MCO Taipa Grande 8.32 259 P **Pn 21 45 32.0 +1.4**
PCPH Palayan 8.50 188⇓eP **Pn 21 45 34.4 +1.4**
SCZP Santa Cruz 8.52 196 eP **Pn 21 45 34.9 +1.6**
NJ2 Nanjing 8.58 340 eP **Pn 21 45 33.1 -0.9**
NJ2 pP 21 45 35.5
NJ2 S **Sn 21 47 12.7 +2.8**
NJ2 pmax pmax
comp=Z,110nm,0.6s
NJ2 smax smax
comp=N,740nm,1.0s
NJ2 smax smax
comp=E,780nm,1.8s
NJ2 LR LR
comp=N,37μm,13.0s
NJ2 LR LR
comp=E,22μm,9.3s
NJ2 LR LR
comp=Z,47μm,11.3s
WHN Wuhan 9.64 314 ⇓P **Pn 21 45 47.9 -0.7**
WHN S **Sn 21 47 43.0 +7.1**
WHN LR LR
comp=N,49μm,11.7s
WHN LR LR
comp=E,26μm,9.2s
WHN LR LR
comp=Z,67μm,13.4s
TGY Tagaytay City 9.96 188 Pn **Pn 21 45 54.7 +1.6**
43nm,0.3s,baz=335,slow=3.2,SNR=6.3
TGY LR LR 21 49 53.1
comp=Z,8μm,21.6s,baz=26,slow=38
SJMP San Jose 11.56 186 eP **Pn 21 46 17.2 +2.3**
OTRP Odiongan 11.60 182 eP **Pn 21 46 16.5 +1.0**

JNU Nakatsue 11.75 38 Pn **Pn 21 46 19.0 +1.4**
0.5nm,0.3s,baz=259,slow=5.2,SNR=3.4
JNU LR LR 21 51 10.1
comp=Z,8μm,19.6s,baz=218,slow=40
JNU Nakatsue 11.75 38 ePn **Pn 21 46 17.3 -0.3**
RCP Roxas 12.40 178⇑eP **Pn 21 46 29.6 +3.2**
QIZ Qiongzhong 12.66 249 P **Pn 21 46 31.8 +1.8**
QIZ S **Sn 21 48 53.3 +3.2**
QIZ LR LR
comp=N,6μm,19.2s
QIZ LR LR
comp=E,5μm,17.5s
TIA Tai'an 12.96 341 P **Pn 21 46 38.0 +3.9**
TIA S Sn 21 49 09.6 +12
TIA pmax pmax
comp=Z,47nm,1.0s
TIA pmax pmax
comp=Z,1μm,5.6s
TIA LR LR
comp=N,19μm,12.8s
TIA LR LR
comp=E,8μm,13.7s
TIA LR LR
comp=Z,31μm,12.4s
PLP Palo 13.03 169⇓eP **Pn 21 46 36.9 +1.9**
ENH Enshi 13.04 301 ePn **Pn 21 46 36.1 +0.9**
TJN Taejon 13.05 18⇓eP **Pn 21 46 37.5 +2.2**
INCN Inchon 13.91 14 ePn **Pn 21 46 49.3 +2.2**
INCN eSn Sn 21 49 29.4 +8.9
INCN Inchon 13.91 14 Pn **P 21 46 53.0 -1.9**
SNR=7.7
INCN Inchon 13.91 14 P **P 21 46 53.0 -1.9**
SNR=7.7
MSLP Maasin 14.01 170 eP **Pn 21 46 50.8 +2.3**
KS15 Wonju Array Si 14.19 18 ePn **P 21 46 55.2 -2.7**
KSAR Wonju Array Be 14.19 18 Pn **Pn 21 46 53.8 +3.0**
KSAR Wonju Array Be 14.19 18 P **Pn 21 46 53.8 +3.0**
KSRS Korea Array 14.21 18 Pn **Pn 21 46 53.8 +2.7**
2.5nm,0.3s,baz=200,slow=12,SNR=34
KSRS LR LR 21 53 03.1
comp=Z,7μm,18.1s,baz=198,slow=41
KS01 Wonju Array Si 14.23 18 ePn **Pn 21 46 53.3 +2.0**
GYA Guiyang 14.41 283⇑*i*P **Pn 21 46 54.7 +0.7**
GYA PP **PnPn 21 47 06.0 +4.0**
GYA S **Sn 21 49 29.9 -3.0**
GYA SS **S 21 49 51.5 -0.8**
GYA pmax pmax
comp=Z,70nm,0.8s
GYA pmax pmax
comp=Z,820nm,8.7s
GYA LR LR
comp=N,12μm,13.1s
GYA LR LR
comp=E,17μm,14.3s
GYA LR LR
comp=Z,22μm,14.2s
DL2 Dalian 14.85 358 ⇑P **Pn 21 47 00.4 +0.6**
DL2 S **Sn 21 49 48.0 +4.6**
DL2 pmax pmax
comp=Z,110nm,1.3s
DL2 pmax pmax
comp=Z,2μm,3.7s
DL2 LR LR
comp=N,13μm,13.8s
DL2 LR LR
comp=E,2μm,10.4s
DL2 LR LR
comp=Z,18μm,13.1s
BUTP Butuan 15.29 168 eP **Pn 21 47 06.7 +1.0**
XAN Xi'an 15.40 313 P **Pn 21 47 06.4 -0.8**
XAN pmax pmax
comp=Z,180nm,0.9s
XAN pmax pmax
comp=Z,1μm,4.1s
XAN LR LR
comp=N,6μm,7.8s
XAN LR LR
comp=E,13μm,14.3s
XAN LR LR
comp=Z,15μm,13.7s
TIY Taiyuan 16.07 330 eP **P 21 47 17.5 -1.5**
TIY PP **sP 21 47 27.1 -3.2**
TIY S **Sn 21 50 15.0 +1.8**
TIY SS **SnSn 21 50 34.3 +7.8**
TIY pmax pmax
comp=Z,140nm,1.0s
TIY pmax pmax
comp=Z,2μm,4.9s
TIY LR LR
comp=N,20μm,12.2s
TIY LR LR
comp=E,10μm,14.5s
TIY LR LR
comp=Z,21μm,14.3s
BUKP Musuan 16.26 170 eP **P 21 47 20.2 -0.9**
BJT Baijiatuan 16.78 343 ePn **P 21 47 26.4 -0.3**
98nm,1.1s
BJT Baijiatuan 16.78 343 eP **P 21 47 26.4 -0.3**
BJT pmax pmax
comp=Z,98nm,1.1s
BJI Beijing 16.80 343 eP **P 21 47 26.2 -0.7**
BJI S **Sn 21 50 32.7 +2.0**
BJI pmax pmax
comp=Z,80nm,1.8s
BJI pmax pmax
comp=Z,3μm,4.7s
BJI LR LR
comp=Z,3μm,13.1s
BJI LR LR
comp=Z,850nm,20.8s
BJI LR LR
comp=Z,9μm,25.0s
DAV Davao City (W) 17.14 169 LR LR 21 54 05.9
comp=Z,5μm,20.1s,baz=360,slow=37
JHJ Hachijo jima 2 17.77 55 P **Pn 21 47 37.0 -0.1**
comp=Z,2.7nm,0.3s,baz=253,slow=19,SNR=3.2
JHJ LR LR 21 53 54.1
comp=Z,2μm,20.6s,baz=262,slow=35
SNY Shenyang 17.79 3 ⇑P **P 21 47 39.2 +1.4**
SNY S **Sn 21 50 56.2 +1.6**
SNY pmax pmax
comp=Z,53nm,1.2s
SNY LR LR
comp=Z,14μm,12.8s
SNY LR LR
comp=Z,5μm,12.8s
SNY LR LR
comp=Z,18μm,12.8s
JHJ2 Mitsune 17.79 55 ePn **Pn 21 47 35.1 -2.2**
comp=Z,448nm,1.0s
CD2 Chengdu 17.86 297 P **P 21 47 38.5 -0.3**
CD2 pP pP 21 47 46.6 +0.1
CD2 sP sP 21 47 50.1 0.0
CD2 S **Sn 21 50 57.2 +0.5**
CD2 pmax pmax
comp=Z,240nm,0.7s
CD2 pmax pmax
comp=Z,3μm,8.4s
CD2 LR LR
comp=Z,13μm,9.4s
CD2 LR LR
comp=Z,21μm,12.4s
CD2 LR LR
comp=Z,29μm,13.9s
KMI Kunming 17.88 278 P **P 21 47 40.0 +0.8**
KMI pP pP 21 47 46.6 -0.3
KMI sP sP 21 47 50.2 -0.3
KMI PP **PnPn 21 47 55.9 +6.2**
KMI S **Sn 21 50 56.1 -1.3**
KMI SS **SnSn 21 51 18.9 +7.9**
KMI pmax pmax
comp=Z,62nm,1.8s
KMI pmax pmax
comp=Z,2μm,9.4s
KMI LR LR
comp=Z,5μm,9.4s
KMI LR LR
comp=Z,14μm,14.6s
KMI LR LR
comp=Z,18μm,15.4s
MAJO Matsushiro 18.49 44 eP **P 21 47 44.1 -1.5**
MAJO Matsushiro 18.49 44⇑eP **P 21 47 44.3 -1.3**
MAT Matsushiro 18.49 44 P **P 21 47 43.8 -1.8**
MAT S **Sn 21 51 09.8 -2.0**
MJAR Matsushiro Arr 18.49 44 P **P 21 47 44.1 -1.5**
comp=Z,0.4nm,0.3s,baz=242,slow=10,SNR=8.6
MJAR LR LR 21 56 23.1
comp=Z,1μm,18.7s,baz=235,slow=42
SKNT Sakolnakorn 18.58 251 P **Pn 21 47 49.8 +2.7**
comp=Z,94nm,2.5s
KKM Kota Kinabalu 18.82 199 eP **Pn 21 47 52.7 +2.5**
comp=Z,150nm,1.3s
HHC Hu-ho-hao-te 19.07 334 eP **Pn 21 47 53.8 +0.9**
HHC sP sP 21 48 03.3 -0.1
HHC PP **PnPn 21 48 09.9 +4.0**
HHC S **Sn 21 51 22.8 -2.9**
HHC SS **SnSn 21 51 47.4 +7.4**
HHC pmax pmax
comp=Z,130nm,0.8s
HHC pmax pmax
comp=Z,2μm,4.0s
HHC LR LR
comp=Z,18μm,13.6s
HHC LR LR
comp=Z,9μm,13.6s
HHC LR LR
comp=Z,19μm,12.2s
MYLDM Lahad Datu 19.10 192 eP **Pn 21 47 56.6 +3.2**
comp=Z,160nm,1.2s
BTO Baotou 19.52 331 eP **Pn 21 47 57.9 -0.4**
BTO S **S 21 51 33.4 -2.4**
BTO pmax pmax
comp=Z,23nm,0.7s
BTO LR LR
comp=Z,8μm,12.5s
BTO LR LR
comp=Z,4μm,12.5s
BTO LR LR
comp=Z,8μm,13.6s
KHON Khomkaen 19.85 251 P **Pn 21 48 05.6 +3.2**
comp=Z,30nm,1.1s
CN2 Changchun 19.89 7 eP **P 21 48 01.2 +0.3**
CN2 eSP sP 21 48 11.5 -0.8
CN2 eS **S 21 51 37.6 -5.7**
CN2 pmax pmax
comp=Z,30nm,1.0s
CN2 LR LR
comp=Z,16μm,14.0s
CN2 LR LR
comp=Z,5μm,14.0s
CN2 LR LR
comp=Z,18μm,15.0s
MSHR Mys Shultsa 19.89 19⇓*i*P **P 21 48 01.3 +0.4**
LZH Lanzhou 20.00 311 eP **Pn 21 48 05.0 +0.9**
LZH pP pP 21 48 10.2 +0.2
LZH sP sP 21 48 13.2 -0.5
LZH eS **S 21 51 46.9 +1.1**
LZH sS Sn 21 51 50.1 +1.8
LZH SS **SnSn 21 52 06.5 +3.6**
LZH pmax pmax
comp=Z,260nm,1.2s
LZH pmax pmax
comp=Z,1μm,5.0s
LZH LR LR
comp=Z,12μm,13.3s
LZH LR LR
comp=Z,10μm,13.6s
LZH LR LR
comp=Z,22μm,15.3s
CHAI Chaiyaphum 20.76 251 P Pn 21 48 12.7 -0.4
comp=Z,30nm,0.8s,comp=Z,228nm
PBKT Sadao Pong 21.37 254 P **P 21 48 18.4 +1.3**
comp=Z,115nm,1.4s,comp=Z,2μm
MDJ Mudanjiang 21.38 14 P **P 21 48 15.5 -1.5**
MDJ pP pP 21 48 19.8 -4.9
MDJ sP sP 21 48 22.7 -5.7
MDJ S **S 21 52 13.0 +0.2**
MDJ pmax pmax
comp=Z,810nm,6.5s
MDJ LR LR
comp=Z,7μm,19.9s
MDJ LR LR
comp=Z,12μm,15.1s
MDJ LR LR
comp=Z,8μm,19.1s
MDJ Mudanjiang 21.38 14 eP **P 21 48 18.6 +1.6**
comp=Z,49nm,1.0s
MDJ LR LR
comp=Z,6μm,19.0s
PAYA Payao 21.40 262 P **P 21 48 20.5 +3.1**
comp=Z,22nm,1.2s,comp=Z,198nm
SRAK Srakaew 21.61 246 P **P 21 48 17.0 -2.6**
PHIT Phitsanulok 21.62 256 P **P 21 48 21.7 +2.0**
comp=Z,75nm,0.8s,comp=Z,510nm
USRK Ussuriysk Ar. 21.62 19 P **P 21 48 18.2 -1.3**
comp=Z,27nm,0.7s,baz=204,slow=10,SNR=67
USRK LR LR 21 57 24.4
comp=Z,5μm,18.2s,baz=187,slow=39
CMAI Chiengmai2 21.99 264 P **P 21 48 26.4 +2.5**
comp=Z,910nm,1.1s
NAYO Nakonayok 22.07 248 P **P 21 48 26.9 +2.3**
comp=Z,150nm,0.9s
CMMT Chiang Mai 22.39 261 P **P 21 48 28.6 +0.5**
comp=Z,76nm,1.4s,comp=Z,1μm
CHTO Chiang Mai 22.39 261 P **P 21 48 29.6 +1.5**
comp=Z,344nm,1.4s,comp=Z,7μm
CHTO Chiang Mai 22.39 261 eP **P 21 48 29.7 +1.6**
comp=Z,66nm,1.0s
CHTO LR LR
comp=Z,5μm,20.0s
CHTO Chiang Mai 22.39 261 P **P 21 48 30.1 +2.0**
SNR=46
CHTO Chiang Mai 22.39 261 P **P 21 48 30.1 +2.0**
SNR=46
CHTO Chiang Mai 22.39 261 eP **P 21 48 29.7 +1.6**
CHTO pmax pmax
comp=Z,66nm,1.0s
CHTO MLR MLR
comp=Z,5μm,20.0s
CM01 Chiang Mai Arr 22.50 260 eP **P 21 48 30.2 +0.9**
CM31 Chiang Mai Arr 22.50 260 eP **P 21 48 31.6 +2.3**
CM31 ePcP **PcP 21 52 24.3 +1.5**
CM31 eScP **ScP 21 55 58.9 +0.4**
CM31 e 21 58 28.3
CMAR Chiang Mai Arr 22.50 260 P **P 21 48 31.2 +2.0**
comp=Z,18nm,0.9s,baz=67,slow=8.4,SNR=80
CMAR PcP **PcP 21 52 24.3 +1.5**
comp=Z,5.3nm,0.7s,baz=38,slow=0.7,SNR=12
CMAR ScP **ScP 21 55 58.9 +0.4**
comp=Z,0.7nm,0.8s,baz=34,slow=2.1,SNR=5.0
CMAR LR LR 21 58 28.3
comp=Z,4μm,19.0s,baz=74,slow=40
KMSI Cibinong 23.36 176 P P 21 48 51.9 +14
MRSI Marisa 23.41 181 P **P 21 48 40.9 +2.4**
SBUM Sibu 23.58 206 eP **P 21 48 41.0 +0.8**
comp=Z,46nm,0.9s
SBUM LR LR
comp=Z,1μm,20.0s
MPSI Mapaga 23.66 186 P **P 21 48 42.5 +1.5**
comp=Z,68nm,1.3s,comp=Z,1μm
GUMO Guam 23.67 112 LR LR 21 57 45.1
comp=Z,3μm,18.9s,baz=302,slow=36
SRDT SRDT 23.93 251 P **P 21 48 44.7 +1.1**
comp=Z,66nm,1.3s,comp=Z,1μm
PHET Kaeng Krachan 24.18 247 P **P 21 48 48.0 +2.1**
comp=Z,13nm,0.8s
GTA Gaotai 24.46 314 ⇑P **P 21 48 48.6 +0.1**
GTA pP pP 21 48 53.0 -3.8
GTA sP sP 21 48 55.6 -4.7
GTA PcP **PcP 21 52 27.7 +0.9**
GTA S **S 21 53 11.8 +4.8**
GTA sS sS 21 53 18.9 -1.8
GTA ScP **ScP 21 56 04.2 +0.6**
GTA pmax pmax
comp=Z,72nm,2.1s
GTA pmax pmax
comp=Z,1μm,5.4s
GTA LR LR
comp=Z,4μm,13.3s
GTA LR LR
comp=Z,8μm,15.7s
GTA LR LR
comp=Z,9μm,15.2s
APSI Ampana 24.79 182 P P 21 48 59.5 +8.1
comp=Z,192nm,1.1s,comp=Z,2μm
ERM Erimo 24.91 39 eP **P 21 48 48.5 -3.8**
comp=Z,31nm,1.1s
ERM LR LR
comp=Z,2μm,20.0s
ERM Erimo 24.91 39⇑eP **P 21 48 50.4 -1.9**
ERM pmax pmax
comp=Z,18nm,0.8s

ERM MLR MLR
comp=Z,2μm,14.0s
LUWI Luwuk 24.92 179 P **P 21 48 58.0 +5.5**
comp=Z,192nm,1.0s,comp=Z,2μm
LUWI Luwuk 24.92 179 *e*P **P 21 48 56.4 +3.9**
comp=Z,344nm,1.4s
LBMI Labuha 25.02 168 P **P 21 48 55.2 +1.8**
comp=Z,343nm,1.1s,comp=Z,5μm
KSM Kuching 25.27 209 *e*P **P 21 48 58.1 +2.4**
comp=Z,95nm,1.3s
HIA Hailar 25.28 356 *e*P **P 21 48 55.8 +0.2**
comp=Z,61nm,1.1s
HIA LR LR
comp=Z,5μm,18.0s
HIA Hailar 25.28 356 *d i*P **P 21 48 55.5 -0.1**
HIA pmax pmax
comp=Z,90nm,2.8s
HIA MLR MLR
comp=Z,5μm,15.0s
MTKI Muara Teweh, K 25.85 197 P **P 21 49 02.5 +1.5**
comp=Z,86nm,0.9s
ASAJ Asahikawa 26.01 35 P **P 21 48 60.0 -2.3**
comp=Z,6.9nm,0.5s,baz=223,slow=8.4,SNR=11
ASAJ Asahikawa 26.01 35 *e*P **P 21 49 01.0 -1.2**
comp=Z,8.7nm,0.8s
STKI Sintang 26.05 205 P **P 21 49 06.1 +3.3**
SANI Sanana 26.15 172 P **P 21 49 04.8 +1.0**
comp=Z,82nm,1.2s,comp=Z,2μm
SWI Sorong 26.20 159 P **P 21 49 05.8 +1.6**
comp=Z,69nm,0.9s,comp=Z,1μm
SIJI Sorong 26.21 159 P **P 21 49 05.2 +0.9**
comp=Z,38nm,0.8s,baz=345,slow=6.8,SNR=16
SIJI LR LR 21 58 13.4
comp=Z,2μm,20.1s,baz=328,slow=34
KLR Kul'dur 26.22 14⇓ *e*P **P 21 49 02.8 -1.3**
ULN Ulaanbaatar 26.73 337 *e*P **P 21 49 08.2 -0.7**
comp=Z,245nm,1.1s
ULN LR LR
comp=Z,14μm,20.0s
ULN Ulaanbaatar 26.73 337 P **P 21 49 08.6 -0.3**
SNR=81
ULN Ulaanbaatar 26.73 337 P **P 21 49 08.6 -0.3**
SNR=81
ULN Ulaanbaatar 26.73 337 *c i*P **P 21 49 08.1 -0.8**
ULN pmax pmax
comp=Z,246nm,1.1s
ULN MLR MLR
comp=Z,13μm,16.0s
SONA0 Songino Array 26.94 336 *e*P **P 21 49 10.3 -0.5**
SONA0 *e*PcP **PcP 21 52 32.3 +0.1**
SONA0 *e*ScP **ScP 21 56 10.3 -0.3**
SONM Songino Array 26.94 336 P **P 21 49 10.3 -0.5**
comp=Z,247nm,0.8s,baz=150,slow=8.3,SNR=877
SONM PcP **PcP 21 52 32.3 +0.1**
comp=Z,5.3nm,0.9s,baz=182,slow=1.7,SNR=5.1
SONM ScP **ScP 21 56 10.3 -0.3**
comp=Z,6.6nm,1.1s,baz=168,slow=4.1,SNR=13
SONM LR LR 22 01 02.7
comp=Z,13μm,18.1s,baz=152,slow=39
SONA1 Songino Array 26.95 336 *e*P **P 21 49 09.4 -1.5**
SURT Suratani 27.04 240 P **P 21 49 12.5 +0.7**
comp=Z,27nm,0.9s,comp=Z,341nm
NLAI Namlea 27.48 170 P **P 21 49 18.6 +2.8**
comp=Z,215nm,0.9s,comp=Z,2μm
SHL Shillong 27.68 280⇑ *i*P **P 21 49 19.0 +1.3**
SHL *e*S S 21 54 14.0 +16
SHL Shillong 27.68 280 *e*P **P 21 49 18.3 +0.6**
comp=Z,91nm,1.2s
SHL LR LR
comp=Z,6μm,19.0s
SHL Shillong 27.68 280 *e*P **P 21 49 18.3 +0.6**
SHL pmax pmax
comp=Z,91nm,1.2s
SHL MLR MLR
comp=Z,6μm,19.0s
YUK Yuzh-Kuril'sk 27.73 38 *e*P **P 21 49 14.1 -3.6**
YUK *e*S **S 21 53 50.0 -8.3**
YUK MLR MLR
comp=Z,2μm,16.0s
YUK MLR MLR
comp=N,1μm,15.0s
YUK MLR MLR
comp=E,570nm,15.0s
MSAI Masohi 27.94 166 P P 21 49 33.5 +14
PKDT Phuket 28.04 239 P **P 21 49 22.9 +2.1**
comp=E,17nm,0.7s,comp=E,282nm
YSS Yuzh-Sakhalins 28.11 30 PFAKE 21 49 30.0 +8.9
YSS LR LR
comp=Z,2μm,18.0s
YSS Yuzh-Sakhalins 28.11 30⇑ *e*P **P 21 49 22.2 +1.1**
YSS *e**SP **sP 21 49 33.5 +0.5**
YSS *i* 21 50 19.4
YSS *e*S **S 21 54 03.9 -0.4**
YSS pmax pmax
comp=Z,20nm,0.7s
YSS pmax pmax
comp=Z,450nm,7.5s
YSS MLR MLR
comp=Z,3μm,17.0s
AAI Ambon 28.12 168 P **P 21 49 22.7 +1.3**
comp=Z,125nm,0.7s
IPM Ipoh 28.29 230 *e*P **P 21 49 23.0 0.0**
IPM LR LR
comp=Z,2μm,18.0s
LSA Lhasa 28.36 288 P **P 21 49 25.8 +1.7**
LSA pmax pmax
comp=Z,38nm,0.8s
LSA pmax pmax
comp=Z,500nm,11.8s
LSA LR LR
comp=Z,1μm,20.2s
LSA LR LR
comp=Z,3μm,17.5s
LSA LR LR
comp=Z,11μm,16.6s
LSA Lhasa 28.36 288 *e*P **P 21 49 25.5 +1.4**
comp=Z,26nm,0.8s
LSA LR LR
comp=Z,9μm,19.0s
LSA Lhasa 28.36 288 *e*P **P 21 49 25.5 +1.4**
LSA pmax pmax
comp=Z,26nm,0.8s
LSA MLR MLR
comp=Z,9μm,19.0s
MYKOM Kota Tinggi 28.45 222 *e*P **P 21 49 25.6 +1.2**
comp=Z,52nm,1.3s
FAKI Fak Fak 28.45 159 P **P 21 49 25.9 +1.5**
comp=Z,95nm,1.2s,comp=Z,952nm
FAKI Fak Fak 28.45 159 *e*P **P 21 49 25.2 +0.8**
comp=Z,202nm,1.5s
FAKI LR LR
comp=Z,2μm,20.0s
TPRI Tanjung Pinang 28.74 220 P P 21 49 32.7 +5.7
comp=Z,37nm,1.4s
GRNR Gornyy 28.84 19 *i*P **P 21 49 25.0 -2.6**
KAPI Kappang 28.97 185 PFAKE 21 49 40.0 +11
KAPI LR LR
comp=Z,1μm,21.0s
KUR Kuril'sk 29.59 38 *e*P P 21 49 49.2 +15
KUR pmax pmax
comp=Z,107nm,1.2s
KUR MLR MLR
comp=Z,2μm,16.0s
KUR MLR MLR
comp=E,602nm,18.0s
KUR MLR MLR
comp=N,3μm,15.0s
ZEA Zeya 29.91 6 *e*P **P 21 49 36.0 -0.9**
ZEA *e* 21 50 51.0
ZEA *e*S **S 21 54 36.0 +3.6**
ZEA pmax pmax
comp=Z,49nm,1.0s
ZEA pmax pmax
comp=Z,300nm,11.0s
ZEA smax smax
comp=N,300nm,10.0s
ZEA MLR MLR
comp=N,7μm,14.0s
ZEA MLR MLR
comp=E,2μm,14.0s
ZEA MLR MLR
comp=Z,8μm,14.0s
ZAK Zakamensk 30.21 335 *e*P **P 21 49 38.8 -1.0**
ZAK pmax pmax
comp=Z,43nm,1.1s
PBA Port Blair 30.68 252 PFAKE 21 50 00.0 +16
PBA LR LR
comp=Z,4μm,19.0s
LHMI Lhok Sumawe 30.77 237 P **P 21 49 48.6 +3.6**
comp=Z,65nm,1.1s
LHMI Lhok Sumawe 30.77 237 *e*P **P 21 49 47.0 +2.0**
comp=Z,40nm,0.8s
PSI Prapat 30.95 231 P **P 21 49 47.4 +0.7**
comp=Z,12nm,0.7s,baz=33,slow=4.6,SNR=14
PSI PcP **PcP 21 52 43.0 +0.2**
comp=Z,4.0nm,0.4s,baz=8.3,slow=10,SNR=6.2
PSI LR LR 22 03 17.3
comp=Z,2μm,18.2s,baz=36,slow=38
PSI Prapat 30.95 231 *e*P **P 21 49 46.8 +0.1**
comp=Z,36nm,1.1s
PSI *e*PcP **PcP 21 52 43.0 +0.2**
PSI Prapat 30.95 231 *e*P **P 21 49 46.8 +0.1**
PSI *e* 21 52 43.0
PSI pmax pmax
comp=Z,36nm,1.1s
TLY Talaya 31.13 337 *e*P **P 21 49 47.2 -0.6**
comp=Z,119nm,0.8s
TLY LR LR
comp=Z,4μm,21.0s
TLY Talaya 31.13 337 *c i*P **P 21 49 47.1 -0.8**
TLY *e* 22 00 19.6
TLY pmax pmax
comp=Z,196nm,1.3s
TLY MLR MLR
comp=Z,10μm,15.0s
BKNI Bangkinang 31.34 224 PFAKE 21 50 00.0 +10
BKNI LR LR
comp=Z,2μm,19.0s
IRK Irkutsk 31.38 338 *e*P **P 21 49 49.1 -1.0**
IRK *e* 22 00 15.9
IRK pmax pmax
comp=Z,199nm,2.2s
ODAN Odare 31.64 283 *e*P **P 21 49 53.9 +1.0**
comp=Z,86nm,0.8s
MLSI Meulaboh, Aceh 31.80 236 P **P 21 49 55.7 +1.6**
comp=Z,85nm,0.7s
MNSI Mandailing Nat 31.94 227 P **P 21 49 56.1 +0.8**
comp=Z,54nm,1.0s
MOY Mondy 32.11 335 *e*P **P 21 49 56.3 -0.3**
MOY pmax pmax
comp=Z,118nm,2.3s
NKL Nikolayevsk 32.23 21 *e*P **P 21 49 55.0 -2.4**
NKL *e* 21 51 10.0
NKL pmax pmax
comp=Z,22nm,1.0s
NKL MLR MLR
comp=Z,9μm,17.0s
NKL MLR MLR
comp=N,5μm,17.0s
NKL MLR MLR
comp=E,5μm,17.0s
RAMN Ramite 32.34 283 *e*P **P 21 49 59.9 +0.8**
comp=E,75nm,0.8s
MMRI Maumere 32.46 180 PFAKE 21 50 10.0 +10
MMRI LR LR
comp=Z,1μm,19.0s
PDSI Padang 32.65 224 P P 21 50 14.7 +13
JIRN Jiri 32.68 284 *e*P **P 21 50 03.0 +0.8**
comp=Z,82nm,0.6s
KNGR Kungurtug, Tuv 32.78 330 *i*P **P 21 50 02.0 -0.5**
GUN Gumba 32.95 285 *e*P **P 21 50 05.2 +0.7**
comp=Z,64nm,0.7s
GSI Gunungsitoli 32.95 230 *e*P **P 21 50 03.6 -0.6**
comp=Z,44nm,0.8s
GSI LR LR
comp=Z,2μm,19.0s
MASI Maura Aman, Be 33.35 219 P **P 21 50 10.3 +2.6**
comp=Z,109nm,1.2s,comp=Z,1μm
PKIN Phulchoki 33.39 284 *e*P **P 21 50 08.9 +0.7**
comp=Z,39nm,0.7s
MDSI Maura Dua 33.42 214 P **P 21 50 10.0 +1.8**
comp=Z,36nm,1.0s,comp=Z,448nm
KKN Kakani 33.48 284 *e*P **P 21 50 09.4 +0.4**
comp=Z,104nm,1.1s
WOJI Wonogiri, Jawa 33.57 201 P **P 21 50 11.8 +2.3**
comp=Z,118nm,1.1s
DMN Daman 33.64 284 *e*P **P 21 50 10.9 +0.4**
comp=Z,62nm,0.9s
KPJI Karang Pucung 33.81 204 P P 21 50 17.9 +6.3
comp=Z,44nm,1.3s
LEM Lembang 33.87 207 P **P 21 50 14.3 +2.0**
comp=Z,30nm,0.7s,baz=346,slow=16,SNR=4.9
LEM Lembang 33.87 207 P **P 21 50 13.5 +1.2**
comp=Z,313nm,0.8s
LWLI Liwa 33.93 214 P **P 21 50 16.0 +3.2**
comp=Z,66nm,0.8s,comp=Z,3μm
MNAI Manna 33.96 216 PFAKE 21 50 30.0 +17
MNAI LR LR
comp=Z,2μm,21.0s
BATI Baumata 34.04 178 P **P 21 50 11.1 -2.5**
comp=Z,9.5nm,0.6s,baz=34,slow=3.6,SNR=3.5
BATI LR LR 22 05 32.5
comp=Z,761nm,19.2s,baz=353,slow=39
BATI Baumata 34.04 178 P P 21 50 25.6 +12
GKN Gorkha 34.04 285 *e*P **P 21 50 14.0 +0.2**
KASI Kota Agung 34.14 213 P **P 21 50 17.4 +2.9**
comp=Z,35nm,1.0s
BOD Bodaibo 34.30 352 *e*P **P 21 50 13.0 -2.4**
BOD pmax pmax
comp=Z,15nm,1.9s
CISI Cisompet, Garu 34.45 206 *e*P **P 21 50 17.8 +0.6**
CISI LR LR
comp=Z,800nm,22.0s
WMQ Urumqi 34.54 313 P **P 21 50 19.0 +1.1**
WMQ pP sP 21 50 27.4 -2.4
WMQ sP pP 21 50 32.2 +5.9
WMQ PP **PnPn 21 51 33.7 +0.2**
WMQ S **S 21 55 53.0 +8.0**
WMQ pmax pmax
comp=Z,110nm,2.1s
WMQ pmax pmax
comp=Z,1μm,3.7s
WMQ LR LR
comp=Z,4μm,17.9s
WMQ LR LR
comp=Z,4μm,16.3s
WMQ LR LR
comp=Z,4μm,14.9s
DANN Dangsing 34.80 286 *e*P **P 21 50 21.4 +0.8**
HVS Khovu-Aksy 34.93 328 *c i*P **P 21 50 21.3 +0.2**
HVS pmax pmax
comp=Z,120nm,1.0s
HVS MLR MLR
comp=Z,20μm,15.0s
KOLN Koldanda 34.97 285 *e*P **P 21 50 22.3 +0.4**
comp=Z,50nm,0.8s
PYUN Piuthan 35.49 285 *e*P **P 21 50 27.0 +0.6**
comp=Z,86nm,0.9s
MANU Manus Island 35.53 133 PFAKE 21 50 40.0 +13
MANU LR LR
comp=Z,3μm,22.0s
SKR Severo-Kuril's 37.26 36 *e*P **P 21 50 39.7 -1.2**
SKR *e*SS SS 21 59 32.5 +23
SKR MLR MLR
comp=Z,900nm,16.0s
SKR MLR MLR
comp=Z,1μm,16.0s
MTN Manton Dam 37.63 166 *e*P **P 21 50 43.6 -0.7**
comp=Z,126nm,0.7s
YAK Yakutsk 38.32 6 *e*P **P 21 50 48.0 -1.7**
comp=Z,46nm,0.9s
YAK LR LR
comp=Z,3μm,20.0s
YAK Yakutsk 38.32 6 *e*P **P 21 50 47.0 -2.7**
YAK *e* 21 52 14.6
YAK *e* 21 53 01.5
YAK *e*S **S 21 56 39.2 -2.8**
YAK *e*SSS SSS 21 59 51.2
YAK *e* 22 00 55.1
YAK pmax pmax
comp=Z,51nm,0.9s
YAK pmax pmax
comp=E,8.0nm,1.3s
YAK pmax pmax
comp=N,23nm,1.2s
YAK pmax pmax
comp=Z,18nm,0.9s
YAK pmax pmax
comp=N,22nm,1.6s
YAK pmax pmax
comp=E,15nm,1.3s
YAK smax smax
comp=E,21nm,2.0s
YAK MLR MLR
comp=Z,5μm,16.0s
YAK MLR MLR
comp=N,5μm,16.0s
PATS Pohnpei 38.48 110 PFAKE 21 51 10.0 +18
PATS LR LR
comp=Z,3μm,20.0s
KRAR Krasnoyarsk 38.56 334⇑ *e*P **P 21 50 50.6 -1.2**
MK01 Makanchi Array 39.19 316 *e*P **P 21 50 57.8 +0.5**
MK01 *e*S **S 21 56 52.6 -3.0**
MK31 Makanchi Array 39.20 316 *e*P **P 21 50 57.1 -0.3**
MK31 Makanchi Array 39.20 316 *i*P **P 21 50 57.2 -0.2**
MK31 pmax pmax
comp=Z,43nm,0.6s
MK32 Makanchi Array 39.20 316 *e*P **P 21 50 57.5 +0.2**
MK32 *e*PcP **PcP 21 53 06.1 -0.2**
MK32 *e*ScP **ScP 21 56 53.1 +0.3**
MKAR Makanchi Array 39.20 316 P **P 21 50 57.5 +0.2**
comp=Z,59nm,0.7s,baz=104,slow=9.8,SNR=532
MKAR PcP **PcP 21 53 06.1 -0.2**
comp=Z,7.5nm,0.7s,baz=82,slow=3.9,SNR=4.4
MKAR ScP **ScP 21 56 53.1 +0.3**
comp=Z,2.6nm,0.8s,baz=116,slow=5.6,SNR=5.8
MKAR LR LR 22 08 40.5
comp=Z,6μm,18.5s,baz=104,slow=38
MKAR Makanchi Array 39.20 316 *e*P **P 21 50 57.1 -0.3**
comp=Z,342nm,0.6s
MKAR LR LR
comp=Z,1μm,18.0s
MKAR Makanchi Array 39.20 316 *e*P **P 21 50 57.1 -0.3**
MKAR pmax pmax
comp=Z,342nm,0.6s
MKAR MLR MLR
comp=Z,1μm,18.0s
PEA0B Petropavlovsk- 39.41 33 PFAKE 21 51 10.0 +11
PEA0B LR LR
comp=Z,2μm,19.0s
PETK Petropavlovsk- 39.41 33 P **P 21 50 58.1 -0.8**
comp=Z,2.0nm,0.6s,baz=216,slow=7.1,SNR=4.0
PETK LR LR 22 08 05.7
comp=Z,2μm,18.9s,baz=227,slow=38
MAKZ Makanchi 39.41 315 *e*P **P 21 50 56.4 -2.7**
comp=Z,230nm,1.4s
MAKZ LR LR
comp=Z,7μm,18.0s
MAKZ Makanchi 39.41 315 *e*P **P 21 50 56.4 -2.7**
MAKZ pmax pmax
comp=Z,230nm,1.4s
MAKZ MLR MLR
comp=Z,7μm,18.0s
PEA1 Petropavlovsk- 39.41 33 *e*P **P 21 50 58.1 -0.9**
PET Petropavlovsk 39.84 34 PFAKE 21 51 20.0 +17
PET LR LR
comp=Z,1μm,19.0s
PET Petropavlovsk 39.84 34 *e*P P 21 50 53.8 -8.8
PET *e*S S 21 56 54.4 -11
PET pmax pmax
comp=Z,200nm,10.7s
PET MLR MLR
comp=Z,2μm,16.0s
PET MLR MLR
comp=Z,2μm,15.0s
PDGK Podgornoye 40.02 309 *i*P **P 21 51 04.8 +0.4**
PDGK pmax pmax
comp=Z,144nm,0.7s
UZB Uzynbulak 40.31 309 *i*P **P 21 51 05.0 -1.8**
comp=Z,493nm,1.1s
UZB *e*S **S 21 57 12.0 -0.8**
UZB LR LR 22 08 10.0
comp=Z,820nm,13.1s
RABL Rabaul 40.36 130 PFAKE 21 51 20.0 +13
RABL LR LR
comp=Z,2μm,21.0s
KPKS Kokpek 40.62 309 *i*P **P 21 51 07.6 -1.7**
comp=Z,205nm,0.8s
KPKS *e*S **S 21 57 16.9 -0.5**
SATY Saty 40.72 309 *i*P **P 21 51 08.4 -1.8**
comp=Z,947nm,1.0s
SATY LR LR 22 08 24.4
comp=Z,1μm,13.1s
TARG Taragay, Kyrgy 40.87 307 *e*P **P 21 51 13.5 +1.7**
comp=Z,75nm,1.3s
TARG LR LR
comp=Z,3μm,19.0s
ZAA0 Zalesovo Array 40.97 327 *e*P **P 21 51 10.4 -1.5**
comp=Z,196nm,1.0s
ZAA0 LR LR
comp=Z,8μm,18.0s
ZALV Zalesovo Beam 40.97 327 P **P 21 51 10.4 -1.5**
comp=Z,172nm,0.8s,baz=114,slow=7.6,SNR=462
ZALV PcP **PcP 21 53 10.7 -1.0**
comp=Z,5.0nm,0.5s,baz=101,slow=4.3,SNR=5.2
ZALV ScP **ScP 21 56 57.9 -1.6**
comp=Z,3.2nm,0.9s,baz=186,slow=3.0,SNR=5.2
ZALV LR LR 22 10 18.7
comp=Z,2μm,19.6s,baz=78,slow=39
ZALV Zalesovo Beam 40.97 327 *e*P **P 21 51 09.6 -2.3**
ZALV Zalesovo Beam 40.97 327 *e*P **P 21 51 09.6 -2.3**
ZAA1 Zalesovo Array 40.97 327 *e*P **P 21 51 10.4 -1.5**
ZAA1 *e*PcP **PcP 21 53 10.7 -1.0**
ZAA1 *e*ScP **ScP 21 56 57.9 -1.6**
PMG Port Moresby 41.12 141 P **P 21 51 14.2 +0.7**
comp=Z,25nm,0.9s,baz=334,slow=2.7,SNR=8.8
PMG LR LR 22 07 49.9
comp=Z,2μm,19.2s,baz=312,slow=35
PMG Port Moresby 41.12 141 *e*P **P 21 51 15.3 +1.8**
comp=Z,29nm,0.9s
PMG Port Moresby 41.12 141 *d i*P **P 21 51 14.9 +1.4**
PMG pmax pmax
comp=Z,83nm,0.8s
PMG MLR MLR
comp=Z,7μm,20.0s
TDK Taldygorghan 41.21 312 *i*P **P 21 51 12.5 -1.5**
comp=Z,2μm,0.8s
TDK *e*S **S 21 57 25.2 -0.7**
TDK LR LR 22 08 41.6
comp=Z,3μm,17.2s
HYB Hyderabad 41.37 269 *i*P **P 21 51 15.0 -0.7**
H11N1 WAKE ISLAND Hy 41.42 87 T T 22 36 44.1
baz=283,slow=75,SNR=10
H11N2 WAKE ISLAND Hy 41.43 87 T T 22 36 45.8
baz=283,slow=75,SNR=16
H11N3 WAKE ISLAND Hy 41.44 87 T T 22 36 45.2
baz=283,slow=75,SNR=12
H11S3 WAKE ISLAND Hy 41.55 89 T T 22 36 55.1
baz=284,slow=75,SNR=6.3
H11S1 WAKE ISLAND Hy 41.56 89 T T 22 36 56.2
baz=284,slow=75,SNR=14
H11S2 WAKE ISLAND Hy 41.57 89 T T 22 36 54.5
baz=284,slow=75,SNR=15
MDOK Medeo 41.72 309 *i*P **P 21 51 16.6 -1.8**
comp=Z,372nm,0.9s
MDOK *e*S **S 21 57 33.1 -0.6**
MDOK LR LR 22 09 01.5
comp=Z,1μm,15.8s
AAA Alma-Ata 41.82 309 *i*P **P 21 51 18.0 -1.1**
comp=Z,195nm,1.0s
AAA LR LR 22 09 09.8
comp=Z,650nm,15.1s
AAA Alma-Ata 41.82 309 *e*P **P 21 51 20.3 +1.2**
AAA *e*S **S 21 57 36.0 +0.9**
AAA pmax pmax
comp=Z,300nm,3.9s
AAA smax smax
comp=E,500nm,17.3s
AAA smax smax
comp=Z,2μm,13.0s
KSH Kashi 41.89 303 P **P 21 51 23.2 +3.4**
KSH sP sP 21 51 33.5 +1.7
KSH PP **PnPn 21 53 04.8 +2.8**
KSH PcP **PcP 21 53 17.1 +1.9**
KSH S **S 21 57 39.1 +2.8**
KSH pmax pmax
comp=Z,72nm,1.2s
KSH pmax pmax
comp=Z,500nm,4.3s
KSH LR LR
comp=Z,2μm,12.8s
KSH LR LR
comp=Z,5μm,17.8s
KSH LR LR
comp=Z,5μm,16.7s
ULHL Ulahol 42.12 307 P **P 21 51 23.4 +1.7**
SNR=29
NVS Novosibirsk 42.22 327⇑ *i*P **P 21 51 21.5 -0.6**
NVS *e* 21 53 01.1

NVS *e* 22 01 18.0
NVS pmax pmax
comp=N,41nm,0.9s
NVS pmax pmax
comp=E,60nm,0.9s
NVS pmax pmax
comp=Z,97nm,0.9s
KUU Kurty 42.38 309 *i* P **P 21 51 21.9 -1.7**
comp=Z,383nm,0.9s
KUU LR LR 22 08 58.1
comp=Z,492nm,13.7s
BMNS Besmoynak 42.69 308 *i* P **P 21 51 24.4 -1.9**
comp=Z,681nm,1.0s
BMNS *e*S **S 21 57 47.3 -0.9**
BMNS LR LR 22 09 40.7
comp=Z,1µm,15.8s
TKM2 Tokmak 2 42.71 308 P **P 21 51 27.5 +1.0**
SNR=156
TKM2 Tokmak 2 42.71 308 *i* P **P 21 51 27.6 +1.0**
TKM2 pmax pmax
comp=Z,99nm,0.7s
KZA Kyzart 42.81 307 P **P 21 51 29.8 +2.1**
SNR=52
COEN Coen 42.88 150 *e*P **P 21 51 29.4 +1.5**
comp=Z,77nm,1.0s
COEN LR LR
comp=Z,2µm,19.0s
KURK Kurchatov 42.91 320 *e*P **P 21 51 26.9 -0.8**
comp=Z,173nm,1.2s
KURK *e*PcP **PcP 21 53 17.7 -0.4**
KURK *e*ScP **ScP 21 57 06.8 -0.5**
KURK LR LR
comp=Z,2µm,18.0s
KURK Kurchatov 42.91 320 P **P 21 51 27.5 -0.3**
SNR=60
KURK Kurchatov 42.91 320 P **P 21 51 27.5 -0.3**
SNR=60
KURK Kurchatov 42.91 320*c* *i*P **P 21 51 27.4 -0.3**
KURK pmax pmax
comp=Z,189nm,1.3s
KURK MLR MLR
comp=Z,2µm,16.0s
KURBB Kurchatov Arra 42.92 320 P **P 21 51 27.8 -0.2**
comp=Z,43nm,0.9s,baz=114,slow=7.5,SNR=180
KURBB PcP **PcP 21 53 17.7 -0.5**
comp=Z,9.2nm,0.9s,baz=110,slow=3.3,SNR=5.4
KURBB ScP **ScP 21 57 06.8 -0.6**
comp=Z,2.5nm,0.9s,baz=114,slow=3.5,SNR=7.0
KBK Karagaybulak 43.13 307 P **P 21 51 31.2 +1.2**
SNR=94
PALK Pallekele 43.22 254 P **P 21 51 32.2 +1.3**
comp=Z,5.3nm,0.6s,baz=116,slow=6.4,SNR=6.5
PALK PcP **PcP 21 53 21.1 +1.1**
comp=Z,5.7nm,0.9s,baz=116,slow=1.7,SNR=3.4
PALK Pallekele 43.22 254 *e*P **P 21 51 32.6 +1.7**
comp=Z,11nm,0.9s
PALK *e*PP **PcP 21 53 21.1 +1.1**
PALK LR LR
comp=Z,1µm,21.0s
PALK Pallekele 43.22 254 *i* P **P 21 51 32.9 +2.1**
CHMS Chumysh 43.33 308 P **P 21 51 32.0 +0.6**
SNR=80
UCH Uchtor 43.38 307 P **P 21 51 33.9 +1.6**
SNR=179
FRU Bishkek 43.40 308⇑ *e*P **P 21 51 33.5 +1.5**
FRU *e* 21 53 22.0
FRU *e*SS SS 22 01 20.0 +7.3
FRU pmax pmax
comp=Z,180nm,2.0s
FRU MLR MLR
comp=E,5µm,16.0s
FRU MLR MLR
comp=Z,5µm,16.0s
AAK Ala-Archa 43.46 307 P **P 21 51 33.9 +1.3**
comp=Z,33nm,0.8s,baz=108,slow=6.1,SNR=118
AAK Ala-Archa 43.46 307 P **P 21 51 33.6 +1.0**
SNR=55
AAK Ala-Archa 43.46 307 *e*P **P 21 51 33.4 +0.8**
comp=Z,45nm,0.9s
AAK LR LR
comp=Z,5µm,19.0s
AAK Ala-Archa 43.46 307 P **P 21 51 34.4 +1.9**
SNR=22
AAK Ala-Archa 43.46 307 P **P 21 51 34.4 +1.9**
SNR=22
AAK Ala-Archa 43.46 307*c* *i*P **P 21 51 33.9 +1.3**
AAK pmax pmax
comp=Z,40nm,0.8s
AAK MLR MLR
comp=Z,5µm,18.0s
USP Ospenovka 43.56 308 P **P 21 51 34.4 +1.1**
SNR=33
NIL Nilore 43.73 294 *e*P **P 21 51 35.4 +0.7**
comp=Z,68nm,1.1s
NIL LR LR
comp=Z,3µm,18.0s
NIL Nilore 43.73 294 *e*P **P 21 51 35.4 +0.7**
NIL pmax pmax
comp=Z,68nm,1.1s
NIL MLR MLR
comp=Z,3µm,18.0s
SEY Seymchan 43.77 19⇑ *e*P **P 21 51 33.5 -1.0**
SFK Sufi-Kurgan 43.84 303 *i* P **P 21 51 36.9 +1.2**
SFK pmax pmax
comp=Z,99nm,1.2s
AML Almayashu 43.96 306 P **P 21 51 38.2 +1.3**
SNR=109
EKS2 Erkin-Say 43.98 307 P **P 21 51 37.6 +0.9**
SNR=63
BTLS Baital 44.22 311 *i* P **P 21 51 36.7 -1.8**
comp=Z,429nm,1.2s
BTLS *e*S **S 21 58 09.3 -0.9**
BTLS LR LR 22 10 48.0
comp=Z,614nm,13.1s
MNAS Manas 44.89 307 *i* P **P 21 51 45.4 +1.4**
MNAS pmax pmax
comp=Z,99nm,0.8s
MBWA Marble Bar 44.98 183 *e*P **P 21 51 43.8 -0.9**
comp=Z,20nm,0.9s
WRAB Tennant Creek 45.22 164 *e*P **P 21 51 47.8 +1.2**
comp=Z,54nm,0.8s
WRAB Tennant Creek 45.22 164 *e*P **P 21 51 47.8 +1.2**
WRAB pmax pmax
comp=Z,54nm,0.8s
WR1 Warramunga Arr 45.23 164 *e*P **P 21 51 47.2 +0.6**
comp=Z,63nm,0.8s
WRA Warramunga Ar 45.23 164 P **P 21 51 47.2 +0.6**
comp=Z,32nm,0.8s,baz=346,slow=8.8,SNR=173
WRA S **S 21 58 22.8 -2.3**
comp=Z,0.9nm,1.1s,baz=351,slow=15,SNR=10
WB2 Warramunga Arr 45.23 164 *e*P **P 21 51 47.0 +0.3**
comp=Z,65nm,0.8s
DZA Taraz 45.80 307 *e*P **P 21 51 48.5 -2.5**
comp=Z,818nm,0.8s
BRZS Berezniki 46.28 317 *i* P **P 21 51 52.9 -1.8**
comp=Z,146nm,0.9s
KK06 Karatay Array 46.41 307 *e*P **P 21 51 56.0 +0.2**
KK05 Karatay Array 46.41 307 *e*P **P 21 51 56.1 +0.2**
KK02 Karatay Array 46.42 307 *e*P **P 21 51 56.2 +0.3**
KK31 Karatay Array 46.42 307 *e*P **P 21 51 56.5 +0.6**
KK31 Karatay Array 46.42 307 *i* P **P 21 51 56.6 +0.6**
KK31 pmax pmax
comp=Z,21nm,0.5s
KKAR Karatay Array 46.42 307 *e*P **P 21 51 56.5 +0.5**
KKAR Karatay Array 46.42 307 *e*P **P 21 51 56.5 +0.5**
KK01 Karatay Array 46.43 307 *e*P **P 21 51 56.7 +0.7**
KK04 Karatay Array 46.43 307 *e*P **P 21 51 56.7 +0.7**
KK07 Karatay Array 46.43 307 *e*P **P 21 51 56.4 +0.3**
KK03 Karatay Array 46.43 307 *e*P **P 21 51 56.5 +0.5**
KK09 Karatay Array 46.43 307 *e*P **P 21 51 56.8 +0.7**
KK08 Karatay Array 46.44 307 *e*P **P 21 51 56.4 +0.3**
IUG Iuzhnay 46.67 306 *i* P **P 21 51 56.3 -1.8**
comp=Z,2µm,0.9s
IUG *e*S **S 21 58 45.3 -0.4**
IUG LR LR 22 12 28.4
comp=Z,611nm,12.4s
CHM Chimkent 47.00 306 *i* P **P 21 51 58.8 -1.8**
comp=Z,733nm,0.8s
CHM *e*S **S 21 58 49.9 -0.5**
CHM LR LR 22 12 33.2
comp=Z,516nm,17.2s
KBL Kabul 47.20 296 *e*P **P 21 52 03.5 +1.1**
comp=Z,85nm,0.8s
KBL LR LR
comp=Z,1µm,19.0s
KBL Kabul 47.20 296 *e*P **P 21 52 03.5 +1.1**
KBL pmax pmax
comp=Z,85nm,0.8s
KBL MLR MLR
comp=Z,1µm,19.0s
TIXI Tiksi 47.80 3 *e*P **P 21 52 03.6 -2.6**
comp=Z,26nm,0.8s
TIXI LR LR
comp=Z,8µm,19.0s
TIXI Tiksi 47.80 3*c* *i*P **P 21 52 03.8 -2.4**
TIXI pmax pmax
comp=Z,30nm,0.8s
TIXI MLR MLR
comp=Z,8µm,16.0s
BVAR Borovoye Array 48.48 321 P **P 21 52 11.7 -0.1**
comp=Z,34nm,0.6s,baz=108,slow=8.3,SNR=199
BVAR PcP **PcP 21 53 37.3 -0.3**
comp=Z,13nm,0.7s,baz=111,slow=3.0,SNR=7.1
BVAR ScP **ScP 21 57 30.2 -0.2**
comp=Z,3.9nm,0.9s,baz=106,slow=5.3,SNR=7.1
BVAR LR LR 22 15 01.2
comp=Z,2µm,18.1s,baz=104,slow=39
BRVK Borovoye 48.55 321 *e*P **P 21 52 11.9 -0.4**
comp=Z,100nm,0.9s
BRVK LR LR
comp=Z,2µm,18.0s
BRVK Borovoye 48.55 321 P **P 21 52 12.1 -0.2**
SNR=36
BRVK Borovoye 48.55 321 P **P 21 52 12.1 -0.2**
SNR=36
BRVK Borovoye 48.55 321*c* *i*P **P 21 52 12.3 0.0**
BRVK pmax pmax
comp=Z,101nm,0.9s
BRVK MLR MLR
comp=Z,2µm,16.0s
AS31 Alice Springs 48.71 166 *e*P **P 21 52 14.6 +0.7**
comp=Z,9.4nm,0.8s
AS31 *e*ScP **ScP 21 57 30.7 -1.1**
ASAR Alice Springs 48.71 166 P **P 21 52 15.1 +1.2**
comp=Z,17nm,0.8s,baz=343,slow=6.7,SNR=129
ASAR ScP **ScP 21 57 30.7 -1.1**
comp=Z,1.8nm,1.0s,baz=349,slow=5.1,SNR=4.1
ASAR LR LR 22 12 48.9
comp=Z,575nm,20.4s,baz=334,slow=36
AS01 Alice Springs 48.72 166 *e*P **P 21 52 14.7 +0.8**
HNR Honiara 49.53 128 LR LR 22 11 57.5
comp=Z,1µm,20.1s,baz=288,slow=34
CTA Charters Tower 49.64 150 PcP **PcP 21 53 42.1 -0.1**
baz=307,slow=6.7
CTA LR LR 22 11 06.8
comp=Z,1µm,21.4s,baz=342,slow=33
CTAO Charters Tower 49.64 150 *e*P **P 21 52 23.9 +2.9**
comp=Z,53nm,1.3s
CTAO LR LR
comp=Z,1µm,20.0s
CTAO Charters Tower 49.64 150 *e*P **P 21 52 23.9 +2.9**
CTAO pmax pmax
comp=Z,53nm,1.3s
CTAO MLR MLR
comp=Z,1µm,20.0s
BILL Bilibino 51.48 19⇑ *i*P **P 21 52 34.8 +0.5**
BILL *e* 21 53 45.9
BILL *e* 21 54 29.4
BILL *i*S **S 21 59 51.0 -1.3**
BILL pmax pmax
comp=Z,4.0nm,1.0s
BILL pmax pmax
comp=Z,4µm,18.0s
AB06 Akbulak array 54.30 314 *e*P **P 21 52 55.3 -0.2**
AB07 Akbulak array 54.31 314 *e*P **P 21 52 55.4 -0.1**
AB02 Akbulak array 54.32 314 *e*P **P 21 52 55.5 -0.1**
AB01 Akbulak array 54.32 314 *e*P **P 21 52 55.4 -0.2**
AB03 Akbulak array 54.32 314 *e*P **P 21 52 55.5 -0.1**
AB31 Akbulak array 54.32 314 *e*P **P 21 52 55.5 -0.1**
AB31 Akbulak array 54.32 314 *i* P **P 21 52 55.8 +0.2**
AB31 pmax pmax
comp=Z,172nm,0.8s
ABKAR Akbulak array 54.32 314 *e*P **P 21 52 55.5 -0.1**
comp=Z,858nm,0.6s
ABKAR LR LR
comp=Z,1µm,19.0s
AB05 Akbulak array 54.32 314 *e*P **P 21 52 55.4 -0.2**
AB04 Akbulak array 54.33 314 *e*P **P 21 52 55.5 -0.1**
AB08 Akbulak array 54.33 314 *e*P **P 21 52 55.4 -0.2**
AB09 Akbulak array 54.34 314 *e*P **P 21 52 54.9 -0.8**
FORT Forrest 54.76 174 *e*P **P 21 53 01.8 +3.0**
comp=Z,1µm,0.9s
SVE Sverdlovsk 54.81 324*d* *i*P **P 21 52 58.8 -0.2**
SVE pmax pmax
comp=Z,79nm,0.9s
SVE MLR MLR
comp=Z,4µm,15.0s
SVE MLR MLR
comp=E,3µm,16.0s
AKTO Aktyubinsk 55.64 316 P **P 21 53 05.5 +0.4**
comp=E,32nm,1.0s,baz=87,slow=12,SNR=58
AKTO LR LR 22 18 53.0
comp=E,2µm,18.4s,baz=97,slow=38
AKTO Aktyubinsk 55.64 316 *i* P **P 21 53 05.2 +0.1**
AKTO pmax pmax
comp=Z,82nm,1.2s
GYB2 ALIBECK ARRAY 55.80 301 *e*P **P 21 53 08.2 +1.8**
comp=Z,190nm,1.5s
GYB1 ALIBECK ARRAY 55.80 301 *e*P **P 21 53 08.0 +1.5**
comp=Z,140nm,1.4s
GYA2 ALIBECK ARRAY 55.80 301 *e*P **P 21 53 08.1 +1.5**
comp=Z,183nm,1.5s
GEYT Alibeck 55.80 301 P **P 21 53 08.2 +1.6**
comp=Z,28nm,0.7s,baz=82,slow=3.1,SNR=126
GEYT LR LR 22 22 04.9
comp=Z,2µm,18.3s,baz=95,slow=41
GYA0 ALIBECK ARRAY 55.80 301 *e*P **P 21 53 08.0 +1.4**
comp=Z,163nm,1.5s
GYA0B ALIBECK ARRAY 55.80 301 *e*P **P 21 53 08.0 +1.5**
comp=Z,167nm,1.5s
GYA0B LR LR
comp=Z,2µm,20.0s
GYB3 ALIBECK ARRAY 55.80 301 *e*P **P 21 53 08.2 +1.7**
comp=Z,137nm,1.4s
GYA1 ALIBECK ARRAY 55.80 301 *e*P **P 21 53 08.1 +1.5**
comp=Z,117nm,1.4s
GYB5 ALIBECK ARRAY 55.81 301 *e*P **P 21 53 07.7 +1.1**
comp=Z,156nm,1.5s
GYB4 ALIBECK ARRAY 55.82 301 *e*P **P 21 53 08.3 +1.7**
comp=Z,116nm,1.4s
ARU Arti 55.88 323 *e*P **P 21 53 05.8 -0.9**
comp=Z,102nm,1.2s
ARU LR LR
comp=Z,2µm,21.0s
ARU Arti 55.88 323*c* *i*P **P 21 53 06.0 -0.7**
ARU 21 54 03.4
ARU 21 55 09.6
ARU PPP PPP 21 56 25.6
ARU S **S 22 00 53.4 +1.1**
ARU SS **SS 22 04 34.2 -3.8**
ARU pmax pmax
comp=Z,69nm,1.0s
ARU MLR MLR
comp=Z,2µm,19.0s
EIDS Eidsvold 56.43 149 *e*P **P 21 53 12.2 +1.3**
comp=Z,14nm,0.9s
EIDS LR LR
comp=Z,1µm,19.0s
NWAO Narrogin (SRO) 56.84 185 LR LR 22 20 51.6
comp=Z,222nm,18.8s,baz=238,slow=39
NWAO Narrogin (SRO) 56.84 185 *e*P **P 21 53 15.2 +1.5**
comp=Z,43nm,0.9s
NWAO Narrogin (SRO) 56.84 185 *e*P **P 21 53 15.2 +1.5**
NWAO pmax pmax
comp=Z,43nm,0.9s
SOKR Solikamsk 57.26 327*c* *i*P **P 21 53 13.8 -2.6**
SOKR pmax pmax
comp=Z,44nm,1.2s
SOKR MLR MLR
comp=Z,816nm,24.0s
WSAR Wadi Sarin 57.92 283 P **P 21 53 22.2 +0.5**
comp=Z,14nm,1.0s,baz=124,slow=5.7,SNR=8.6
WSAR LR LR 22 23 46.9
comp=Z,991nm,18.1s,baz=99,slow=42
BBOO Buckleboo 58.01 166 *e*P **P 21 53 23.3 +1.3**
comp=Z,74nm,0.8s
GAMB Gambell 58.11 29 PFAKE 21 53 40.0 +18
GAMB LR LR
comp=Z,2µm,18.0s
BIDO Bidbid 58.30 284 P **P 21 53 27.0 +2.7**
SNR=6.8
BIDO Bidbid 58.30 284 P **P 21 53 27.0 +2.7**
SNR=6.8
STKA Stephens Creek 58.55 161 P **P 21 53 27.0 +1.3**
comp=Z,7.4nm,0.8s,baz=339,slow=6.9,SNR=14
STKA LR LR 22 20 53.7
comp=Z,748nm,19.3s,baz=341,slow=38
STKA Stephens Creek 58.55 161 *e*P **P 21 53 27.1 +1.3**
comp=Z,9.3nm,0.7s
STKA Stephens Creek 58.55 161 *e*P **P 21 53 27.1 +1.3**
STKA pmax pmax
comp=Z,9.0nm,0.7s
UOSS Minazif 59.64 286 *e*P **P 21 53 34.0 +0.3**
comp=Z,8.5nm,0.9s
UOSS LR LR
comp=Z,1µm,21.0s
ASHO Ashiyiah 59.84 286 P **P 21 53 36.8 +1.7**
SNR=9.3
ASHO Ashiyiah 59.84 286 P **P 21 53 36.8 +1.7**
SNR=9.3
ARMA Armidale 60.98 151 PFAKE 21 54 00.0 +17
ARMA LR LR
comp=Z,1µm,22.0s
DZM Mont Dzumac 62.74 133 *e*S **S 22 02 23.7 +1.7**
comp=Z,3µm,29.8s
DZM *e*SS **SS 22 06 26.8 -0.6**
comp=Z,866nm,24.1s
DZM *e*LR LR 22 12 39.8
comp=Z,4µm,24.1s
DZM Mont Dzumac 62.74 133 LR LR 22 16 44.6
comp=Z,1µm,21.4s,baz=277,slow=32
MAK Makhachkala 63.24 307 *e*P **P 21 53 57.7 0.0**
MAK *e* 21 56 15.6
MAK *e*S **S 22 02 27.3 -0.3**
MAK *e*SS **SS 22 06 33.9 0.0**
MAK pmax pmax
comp=Z,82nm,0.9s
MAK MLR MLR
comp=Z,1µm,17.0s
AKT Akhty 63.30 306 *e*P **P 21 53 58.6 +0.3**
AKT *e* 21 54 34.5
AKT pmax pmax
comp=Z,67nm,0.7s
GROC Groznyy 64.44 308 *e*P **P 21 54 04.9 -0.7**
GROC *e* 21 54 39.2
GROC *e*S **S 22 02 42.7 +0.2**
GROC pmax pmax
comp=Z,126nm,1.3s
TBLG Delisi 65.47 307 *e*P **P 21 54 13.6 +1.2**
TBLG Delisi 65.47 307 *e*P **P 21 54 13.4 +1.1**
comp=Z,50nm,1.2s
TBLG Delisi 65.47 307 *e*P **P 21 54 13.5 +1.1**
TBLG pmax pmax
comp=Z,51nm,1.2s
GNI Garni 65.78 305 P **P 21 54 16.0 +1.4**
comp=Z,37nm,1.0s,baz=45,slow=1.4,SNR=46
GNI LR LR 22 27 03.4
comp=Z,995nm,19.2s,baz=87,slow=40
GNI Garni 65.78 305 P **P 21 54 16.3 +1.8**
SNR=26
GNI Garni 65.78 305 P **P 21 54 16.3 +1.8**
SNR=26
GNI Garni 65.78 305*c* *i*P **P 21 54 15.8 +1.2**
GNI pmax pmax
comp=Z,421nm,1.7s
GNI MLR MLR
comp=Z,3µm,16.0s
IM3 Indian Mountai 65.85 26 *e*P **P 21 54 13.1 -1.3**
KLMR Klimovskoe 65.87 328 *e*P **P 21 54 12.6 -2.0**
KLMR AMP 21 54 15.8
comp=Z,82nm,1.3s
KLMR *e*PcP **PcP 21 54 44.0 -1.3**
KLMR *e*PP **PP 21 56 37.1 -2.3**
KLMR *e*S **S 22 02 56.8 -2.8**
KLMR *e*S **S 22 02 56.8 -2.8**
KLMR LQ LQ 22 18 20.2
KLMR LQ LQ 22 18 20.2
KLMR LR LR 22 21 59.0
KLMR AMP 22 25 50.9
comp=Z,561nm,14.4s
KLMR Klimovskoe 65.87 328 *e*P **P 21 54 12.5 -2.0**
KLMR *e* 21 54 44.0
KLMR *e* 21 56 37.0
KLMR *e*S **S 22 02 56.7 -2.8**
KLMR pmax pmax
comp=Z,82nm,1.3s
KLMR MLR MLR
comp=Z,561nm,14.0s
ZEI Tsey 65.88 308 *e*P **P 21 54 11.3 -3.9**
ZEI pmax pmax
comp=Z,64nm,0.7s
VRH Novokhopyorsk 65.91 317 *e*P **P 21 54 14.1 -0.8**
VRH pmax pmax
comp=Z,130nm,0.8s
NCK Nalchik 65.96 309*c* *i*P **P 21 54 15.8 +0.3**
NCK pmax pmax
comp=Z,57nm,1.3s
NCK MLR MLR
comp=Z,2µm,16.0s
GOF Gofitskoye 66.06 310⇑ *i*P **P 21 54 16.5 +0.4**
GOF pmax pmax
comp=Z,177nm,1.3s
TASB TASBURUN-IGDIR 66.19 305 *e*P **P 21 54 17.8 +0.7**
TMCR Tamitsa 66.20 332 *e*P **P 21 54 15.5 -1.1**
TMCR pmax pmax
comp=Z,59nm,0.9s
IGDI IGDIR 66.33 305⇑ *i*P **P 21 54 18.9 +0.9**
KBZ Khabaz 66.42 309 P **P 21 54 19.3 +1.0**
comp=Z,54nm,0.9s,baz=91,slow=6.2,SNR=109
KBZ LR LR 22 26 58.3
comp=Z,2µm,19.4s,baz=68,slow=39
AKH Akhalkalaki 66.45 306 *e*P **P 21 54 20.1 +1.2**
AKH Akhalkalaki 66.45 306⇑ *i*P **P 21 54 20.7 +1.8**
AKH Akhalkalaki 66.45 306 *e*P **P 21 54 20.5 +1.6**
comp=Z,125nm,1.0s
AKH LR LR
comp=Z,2µm,19.0s
AKH Akhalkalaki 66.45 306 *e*P **P 21 54 20.5 +1.6**
AKH pmax pmax
comp=Z,125nm,1.0s
AKH MLR MLR
comp=Z,2µm,19.0s
EAK Akyaka 66.52 306⇑ *i*P **P 21 54 19.6 +0.3**
KIV Kislovodsk 66.52 309 *e*P **P 21 54 19.3 +0.1**
comp=Z,239nm,1.2s
KIV LR LR
comp=Z,2µm,19.0s
KIV Kislovodsk 66.52 309 P **P 21 54 20.9 +1.8**
SNR=51
KIV Kislovodsk 66.52 309 P **P 21 54 20.9 +1.8**
SNR=51
KIV Kislovodsk 66.52 309 *e*P **P 21 54 20.0 +0.8**
KIV *e* 21 56 46.5
KIV *e*S **S 22 03 10.2 +1.9**
KIV *e*SS **SS 22 07 28.2 +3.0**
KIV pmax pmax
comp=Z,178nm,1.1s
KIV pmax pmax
comp=Z,87nm,2.7s
KIV MLR MLR
comp=Z,2µm,17.0s
CLDR Caldiran 66.61 304 *e*P **P 21 54 19.9 -0.1**
CLDR Caldiran 66.61 304⇑ *i*P **P 21 54 20.0 0.0**
NEY Neytrino 66.64 308*ce*P **P 21 54 21.0 +1.0**
NEY pmax pmax
comp=Z,11nm,0.8s
NEY MLR MLR
comp=Z,716nm,17.0s
CAST Castle Rocks 66.84 29 *e*P **P 21 54 20.9 +0.2**
comp=Z,12nm,0.8s
CAST LR LR
comp=Z,600nm,20.0s
PPLA Purkeypile 66.86 30 *e*P **P 21 54 22.2 +1.2**
comp=Z,17nm,0.9s
PPLA LR LR
comp=Z,800nm,18.0s
VMUR Van-Muradiye 66.91 304⇑ *i*P **P 21 54 23.1 +1.3**
KARS Kars 66.92 306 *e*P **P 21 54 23.0 +1.1**
EPOS Posof 66.99 307⇑ *i*P **P 21 54 22.6 +0.3**
COLD Coldfoot 67.12 25 *e*P **P 21 54 23.8 +1.3**
comp=Z,13nm,1.3s
COLD LR LR
comp=Z,598nm,20.0s
HAKT HAKKARI 67.13 302⇑ *i*P **P 21 54 23.2 -0.2**
TVAN Van 67.14 303⇑ *i*P **P 21 54 23.5 +0.1**
LVZ Lovozero 67.14 336 *e*P **P 21 54 22.1 -0.5**
comp=Z,50nm,1.2s
LVZ LR LR
comp=Z,2µm,19.0s

LVZ **Lovozero** 67.14 336⇓ *i*P P 21 54 22.0 -0.5
LVZ pmax pmax
comp=Z,21nm,0.9s
LVZ MLR MLR
comp=Z,2µm,16.0s
SPU **Mount Spurr** 67.16 32 *e*P P 21 54 24.0 +1.2
TOLK **Toolik Lake Re** 67.17 23 P P 21 54 22.6 -0.3
baz=278
TOLK **Toolik Lake Re** 67.17 23 *e*P P 21 54 22.5 -0.3
comp=Z,15nm,0.8s
TOLK LR LR
comp=Z,2µm,18.0s
MLY **Manley** 67.20 27 *e*P P 21 54 23.3 +0.3
comp=Z,15nm,1.0s
MLY LR LR
comp=Z,700nm,19.0s
AGRB **Hanur-Agry** 67.22 305 *e*P P 21 54 24.5 +0.7
BPAW **Bear Paw Mtn.** 67.23 28 *e*P P 21 54 23.3 +0.1
comp=Z,11nm,0.9s
BPAW LR LR
comp=Z,900nm,19.0s
SKT **Skwentna** 67.29 31 *e*P P 21 54 23.8 +0.1
comp=Z,12nm,1.0s
SKT LR LR
comp=Z,1µm,19.0s
KTH **Kantishna Hill** 67.33 29 *e*P P 21 54 23.5 -0.4
comp=Z,18nm,1.1s
KTH LR LR
comp=Z,800nm,21.0s
VORR **Voronezh** 67.38 318 *e*P P 21 54 24.0 -0.3
VORR pmax pmax
comp=Z,250nm,1.0s
LPSR **Galich'ya Gora** 67.38 319 *e*P P 21 54 23.6 -0.7
LPSR pmax pmax
comp=Z,120nm,0.9s
KDAK **Kodiak Island** 67.42 35 PFAKE 21 54 40.0 +16
KDAK LR LR
comp=Z,800nm,18.0s
KDAK **Kodiak Island** 67.42 35 *i* P P 21 54 25.3 +0.8
GEVA **Gevas** 67.45 303⇑ *i*P P 21 54 25.8 +0.5
SENK **Senkaya-Erzuru** 67.47 306 *e*P P 21 54 26.5 +1.0
VSR **Storozhevoye** 67.49 317 *e*P P 21 54 24.5 -0.5
VSR pmax pmax
comp=Z,130nm,1.1s
EATA **Eleskirt** 67.53 305⇑ *i*P P 21 54 26.9 +1.0
MOS **Moscow** 67.59 322 *e*P P 21 54 23.4 -2.2
MOS *e*S S 22 03 15.8 -4.6
MOS pmax pmax
comp=Z,79nm,0.8s
MOS pmax pmax
comp=N,100nm,1.0s
MOS pmax pmax
comp=Z,200nm,1.3s
MOS MLR MLR
comp=Z,2µm,17.0s
MOS MLR MLR
comp=E,1µm,16.0s
ADCV **BITLIS_Adilcev** 67.59 304⇑ *i*P P 21 54 27.6 +1.4
TRF **Thorofare Moun** 67.63 29 *e*P P 21 54 26.7 +0.7
comp=E,9.7nm,0.9s
TRF LR LR
comp=Z,700nm,19.0s
ARTV **Artvin** 67.65 306⇑ *i*P P 21 54 26.5 -0.1
APA **Apatity** 67.65 335 *i* P P 21 54 24.3 -1.5
APA *i* PPP PPP 21 58 31.5
APA *i* S S 22 03 13.0 -7.9
APA *i* 22 03 59.0
APA pmax pmax
comp=Z,29nm,0.8s
APA MLR MLR
comp=Z,4µm,16.0s
SUA **Susitna One** 67.74 31 *e*P P 21 54 27.4 +0.8
comp=Z,32nm,0.8s
SUA LR LR
comp=Z,700nm,20.0s
DBOC **Borcka** 67.81 307⇑ *i*P P 21 54 27.4 +0.1
DDEM **Demirkent** 67.85 306⇑ *i*P P 21 54 28.3 +0.7
DBAD **Bademkaya** 67.86 306⇑ *i*P P 21 54 28.1 +0.3
HOMI **Horasan** 67.92 305⇑ *i*P P 21 54 28.6 +0.3
BRLK **Bradley Lake** 67.96 33 *e*P P 21 54 30.4 +2.5
comp=Z,21nm,0.9s
EKAR **Karacoban** 67.99 304⇑ *i*P P 21 54 29.1 +0.4
GURO **Guroymak-BITLI** 68.18 304 *e*P P 21 54 30.6 +0.8
MCK **McKinley** 68.18 29 *e*P P 21 54 29.6 +0.3
comp=Z,12nm,0.9s
MCK LR LR
comp=Z,800nm,18.0s
MCK **McKinley** 68.18 29 *e*P P 21 54 29.6 +0.3
MCK pmax pmax
comp=Z,12nm,0.9s
MCK MLR MLR
comp=Z,800nm,18.0s
MDM **Murphy Dome** 68.27 27 *e*P P 21 54 29.8 0.0
comp=Z,24nm,1.0s
MDM LR LR
comp=Z,700nm,18.0s
RND **Reindeer** 68.27 29 *e*P P 21 54 29.0 -0.9
comp=Z,27nm,0.9s
RND LR LR
comp=Z,700nm,20.0s
RND **Reindeer** 68.27 29 *e*P P 21 54 29.0 -0.9
RND pmax pmax
comp=Z,27nm,0.9s
RND MLR MLR
comp=Z,700nm,20.0s
RC01 **Rabbit Creek A** 68.28 32 *e*P P 21 54 31.0 +1.1
comp=Z,10nm,0.9s
OBN **Obninsk** 68.29 322 *e*P P 21 54 29.1 -0.9
comp=Z,95nm,1.2s
OBN LR LR
comp=Z,2µm,20.0s
OBN **Obninsk** 68.29 322 *c i*P P 21 54 29.1 -0.9
OBN *e* 21 54 54.3
OBN *e* 21 56 58.6
OBN *e*S S 22 03 23.0 -5.8
OBN pmax pmax
comp=Z,97nm,1.2s
OBN MLR MLR
comp=Z,2µm,18.0s
ERZM **Erzurum** 68.36 305 *i* P P 21 54 31.0 -0.1
WRH **Wood River Hil** 68.41 28 *e*P P 21 54 30.5 -0.2
comp=Z,9.0nm,0.8s
WRH LR LR
comp=Z,600nm,18.0s
COLA **College** 68.44 27 *e*P P 21 54 32.6 +1.8
comp=Z,9.9nm,0.8s
COLA LR LR
comp=Z,600nm,18.0s
COLA **College** 68.44 27 *e*P P 21 54 32.6 +1.8
COLA pmax pmax
comp=Z,10.0nm,0.8s
COLA MLR MLR
comp=Z,600nm,18.0s
VRTB **Varto-Mus** 68.47 304 *e*P P 21 54 32.9 +1.2
VRTB **Varto-Mus** 68.47 304⇑ *i*P P 21 54 32.6 +1.0
PMR **Palmer** 68.48 31 *e*P P 21 54 30.0 -1.0
comp=Z,11nm,0.7s
PMR LR LR
comp=Z,700nm,19.0s
PMR **Palmer** 68.48 31 *e*P P 21 54 30.0 -1.0
PMR pmax pmax
comp=Z,11nm,0.7s
PMR MLR MLR
comp=Z,700nm,19.0s
CCB **Clear Creek Bu** 68.50 28 *e*P P 21 54 31.9 +0.8
comp=Z,14nm,1.6s
CCB LR LR
comp=Z,600nm,18.0s
CHOM **Cayeli-Rize** 68.53 307 *e*P P 21 54 32.3 +0.5
HOPEN **Hopen** 68.53 346 *e*P P 21 54 29.9 -1.2
GHO **Glory Hole Cre** 68.54 31 *e*P P 21 54 31.7 +0.1
comp=Z,10nm,0.8s
GHO LR LR
comp=Z,1µm,18.0s
SOC **Sochi** 68.70 309 *c i*P P 21 54 32.9 +0.1
SOC *e**SP pP 21 54 40.8 -1.0
SOC *e* 21 57 03.2
SOC *e*PPP PPP 21 58 42.4
SOC *e*S S 22 03 36.2 +2.0
SOC pmax pmax
comp=Z,93nm,0.8s
SOC MLR MLR
comp=Z,1µm,17.0s
ECAT **Cat-ERZURUM** 68.72 305⇑ *i*P P 21 54 33.5 +0.2
SML **Sawmill** 68.81 31 *e*P P 21 54 33.5 +0.4
comp=Z,15nm,0.8s
SML LR LR
comp=Z,800nm,20.0s
SML **Sawmill** 68.81 31 *e*P P 21 54 33.6 +0.4
SML pmax pmax
comp=Z,15nm,0.8s
SML MLR MLR
comp=Z,800nm,20.0s
IL1 **Eielson Array** 68.87 27 *e*P P 21 54 31.8 -1.6
ILAR **Eielson Array** 68.87 27 P P 21 54 32.6 -0.9
comp=Z,2.3nm,0.8s,baz=297,slow=7.9,SNR=23
ILAR PKP2bc 22 22 45.5
comp=Z,0.4nm,1.1s,baz=61,slow=2.8,SNR=4.1
ILAR LR LR 22 27 16.4
comp=Z,374nm,18.3s,baz=300,slow=38
ILB **Eielson Array** 68.87 27 *e*P P 21 54 33.9 +0.4
HDA **Harding Lake** 68.91 28 *e*P P 21 54 31.8 -1.9
comp=Z,36nm,1.2s
HDA LR LR
comp=Z,700nm,20.0s
SVAN **Silvan-Diyarba** 68.91 303⇑ *i*P P 21 54 34.8 +0.5
KOPT **Kop Dagi** 68.98 305⇑ *i*P P 21 54 35.4 +0.4
DHY **Denali Highway** 69.00 29 *e*P P 21 54 34.6 +0.1
comp=Z,7.1nm,0.8s
DHY LR LR
comp=Z,700nm,18.0s
BNGB **Bing¶ll** 69.10 304 *e*P P 21 54 36.1 +0.6
BAYB **BAYBURT** 69.10 306⇑ *i*P P 21 54 36.3 +0.6
BAYT **Ayd¯ntepe-Bay** 69.15 306 *e*P P 21 54 36.5 +0.6
FYU **Fort Yukon** 69.17 25 *e*P P 21 54 36.0 +0.7
comp=Z,13nm,1.0s
FYU LR LR
comp=Z,500nm,19.0s
SCM **Sheep Creek Mo** 69.27 30 *e*P P 21 54 36.8 +0.6
comp=Z,27nm,0.9s
SCM LR LR
comp=Z,700nm,19.0s
SCM **Sheep Creek Mo** 69.27 30 *e*P P 21 54 36.8 +0.6
SCM pmax pmax
comp=Z,27nm,0.9s
SCM MLR MLR
comp=Z,700nm,19.0s
KTUT **Trabzon** 69.28 307 *e*P P 21 54 37.1 +0.6
RAYN **Ar Rayn** 69.42 287 *e*P P 21 54 37.8 +0.1
comp=Z,59nm,1.1s
RAYN LR LR
comp=Z,900nm,18.0s
RAYN **Ar Rayn** 69.42 287 P P 21 54 37.8 +0.1
HANI **Diyarbakir_Han** 69.45 304⇑ *i*P P 21 54 38.4 +0.7
KEV **Kevo** 69.53 338 *e*P P 21 54 37.0 -0.4
comp=Z,46nm,0.9s
KEV LR LR
comp=Z,2µm,19.0s
KEV **Kevo** 69.53 338 *e*P P 21 54 37.0 -0.4
KEV pmax pmax
comp=Z,46nm,0.9s
KEV MLR MLR
comp=Z,2µm,19.0s
EUZM **Uzumlu** 69.65 305⇑ *i*P P 21 54 40.1 +1.1
MAZI **Mazidag** 69.66 303 *e*P P 21 54 39.3 +0.2
DYBB **Diyarbakir** 69.77 303 *e*P P 21 54 40.5 +0.9
DIYA **Diyarbakir** 69.79 303⇑ *i*P P 21 54 40.4 +0.6
PAX **Paxson** 69.86 29 *e*P P 21 54 39.3 -0.5
comp=Z,8.7nm,1.0s
PAX LR LR
comp=Z,800nm,20.0s
PAX **Paxson** 69.86 29 *e*P P 21 54 39.3 -0.5
PAX pmax pmax
comp=Z,9.0nm,1.0s
PAX MLR MLR
comp=Z,800nm,20.0s
KELT **Kelkit** 69.87 306⇑ *i*P P 21 54 41.3 +0.9
SPA0 **Spitsbergen Ar** 69.87 348 *e*P P 21 54 38.9 -0.7
SPA0 **Spitsbergen Ar** 69.87 348 *e*P P 21 54 38.8 -0.7
SPITS **Spitsbergen Ar** 69.87 348 P P 21 54 38.8 -0.7
comp=Z,33nm,0.6s,baz=51,slow=7.6,SNR=125
SPITS LR LR 22 29 27.9
comp=Z,3µm,18.6s,baz=45,slow=40
TNCL **Tunceli-Merkez** 69.92 305⇑ *i*P P 21 54 41.5 +0.9
RIDG **Independ'e Rid** 69.96 28 *e*P P 21 54 39.5 -0.9
comp=Z,21nm,1.2s
RIDG LR LR
comp=Z,600nm,18.0s
KLU **Klutina** 70.00 31 *e*P P 21 54 41.0 +0.4
comp=Z,53nm,1.7s
KLU LR LR
comp=Z,800nm,19.0s
ANN **Anapa** 70.01 311 *e*P P 21 54 38.9 -2.0
ANN *e**PP pP 21 54 44.7 -5.2
ANN *e*S S 22 03 48.4 -1.1
ANN pmax pmax
comp=Z,327nm,1.0s
ANN MLR MLR
comp=E,943nm,17.0s
ANN MLR MLR
comp=N,608nm,17.0s
ANN MLR MLR
comp=Z,2µm,17.0s
ARA0 **ARCESS Array S** 70.09 338 *e*P P 21 54 40.5 -0.5
ARCES **ARCESS Array B** 70.09 338 P P 21 54 40.5 -0.5
comp=Z,16nm,0.8s,baz=76,slow=6.4,SNR=24
ARCES LR LR 22 30 19.2
comp=Z,1µm,18.0s,baz=80,slow=40
ARE0 **ARCESS Array S** 70.09 338 *e*P P 21 54 40.9 0.0
comp=Z,57nm,1.2s
ARE0 LR LR
comp=Z,2µm,18.0s
ARE0 **ARCESS Array S** 70.09 338 *e*P P 21 54 40.1 -0.8
PTK **Pertek** 70.09 305 *e*P P 21 54 42.4 +0.6
HARP **HAARP** 70.14 30 *e*P P 21 54 42.9 +1.5
comp=Z,17nm,0.8s
DIV **Divide** 70.16 31 *e*P P 21 54 42.9 +1.3
comp=Z,21nm,1.0s
DIV LR LR
comp=Z,900nm,22.0s
SCRK **Sand Creek** 70.27 28 *e*P P 21 54 41.9 -0.4
comp=Z,7.8nm,1.0s
SCRK LR LR
comp=Z,700nm,18.0s
EYAK **Cordova Ski Ar** 70.31 32 *e*P P 21 54 43.2 +0.9
comp=Z,28nm,1.2s
EYAK LR LR
comp=Z,1µm,18.0s
DOT **Dot Lake** 70.32 28 *e*P P 21 54 41.7 -0.8
comp=Z,23nm,0.9s
HAMF **Hammerfest** 70.39 340 *e*P P 21 54 42.1 -0.6
GRSN **GIRESUNGRSN** 70.40 307 *i* P P 21 54 41.0 -2.4
KBS **Kingsbay** 70.40 349 *e*P P 21 54 42.0 -0.7
comp=Z,56nm,1.5s
KBS LR LR
comp=Z,3µm,19.0s
KBS **Kingsbay** 70.40 349 *e*P P 21 54 41.8 -0.9
KBS IAmb IAmb 21 54 42.6
comp=Z,31nm,1.1s
KBS **Kingsbay** 70.40 349 *e*P P 21 54 42.0 -0.7
KBS pmax pmax
comp=Z,56nm,1.5s
KBS MLR MLR
comp=Z,3µm,19.0s
REFA **Refahiye_ERZ¯** 70.43 305⇑ *i*P P 21 54 43.9 +0.1
HSPB **Hornsund (broa** 70.47 347 *e*P P 21 54 42.5 -0.6
HSPB IAmb IAmb 21 54 43.4
comp=Z,91nm,1.0s
HSPB **Hornsund (broa** 70.47 347 *e*P P 21 54 42.6 -0.5
ELZG **Elazig** 70.50 304⇑ *i*P P 21 54 45.6 +1.3
PUL **Pulkovo** 70.57 328⇓ *e*P P 21 54 44.3 +0.3
PUL pmax pmax
comp=Z,35nm,0.9s
PUL MLR MLR
comp=Z,4µm,18.0s
MENT **Mentasta** 70.65 29 *e*P P 21 54 45.0 +0.5
comp=Z,21nm,1.3s
MENT LR LR
comp=Z,800nm,20.0s
KEMA **Kemaliye** 70.67 305⇑ *i*P P 21 54 45.5 +0.3
BMRM **Bremner River** 70.75 31 *e*P P 21 54 45.5 +0.3
comp=Z,23nm,0.9s
BMRM LR LR
comp=Z,900nm,20.0s
SANL **SANLIURFA_Merk** 70.86 303⇑ *i*P P 21 54 46.9 +0.7
RAGM **Ragged Mountai** 70.86 32 *e*P P 21 54 46.9 +1.0
comp=Z,18nm,0.8s
RAGM LR LR
comp=Z,1µm,19.0s
URFA **Urfa** 70.92 303 *e*P P 21 54 46.2 -0.5
MALT **Malatya** 70.98 304 *e*P P 21 54 47.9 +0.8
KTK1 **Kautokeino** 71.01 338 *e*P P 21 54 46.2 -0.4
KTK1 IAmb IAmb 21 54 46.9
comp=Z,23nm,0.8s
CUZAR **Zara_SIVAS** 71.04 306⇑ *i*P P 21 54 47.9 +0.4
HEF **Hetta** 71.04 337 *e*P P 21 54 46.1 -0.6
HEKM **Malatya_Hekimh** 71.17 305⇑ *i*P P 21 54 49.3 +0.9
RSDY **Resadiye-TOKAT** 71.23 307 *e*P P 21 54 46.8 -1.7
SURC **SANLIURFA_SURC** 71.23 303⇑ *i*P P 21 54 48.8 +0.2
EGAK **Eagle** 71.25 27 *e*P P 21 54 47.6 -0.5
comp=Z,8.9nm,0.7s
EGAK LR LR
comp=Z,500nm,19.0s
AKCD **Akcadag** 71.36 304⇑ *i*P P 21 54 50.8 +1.4
CUKAN **kangal_SIVAS** 71.42 305⇑ *i*P P 21 54 50.2 +0.4
ERBA **Erbaa** 71.57 307⇑ *i*P P 21 54 50.8 +0.3
SVSK **Karacayir** 71.60 306 *e*P P 21 54 51.2 +0.6
DARE **Darende-Malaty** 71.62 305 *e*P P 21 54 51.8 +0.9
CUGUR **Gurin_S¯VAS** 71.73 305⇑ *i*P P 21 54 53.2 +1.6
BALM **Baldy** 71.79 31 *e*P P 21 54 52.1 +0.6
comp=Z,13nm,1.1s
BALM LR LR
comp=Z,600nm,22.0s
BALM **Baldy** 71.79 31 *e*P P 21 54 52.1 +0.6
BALM pmax pmax
comp=Z,13nm,1.1s
BALM MLR MLR
comp=Z,600nm,22.0s
SAMS **Samsun-Alacam** 71.79 308⇑ *i*P P 21 54 52.2 +0.4
TOKT **Tokat** 71.82 307 *e*P P 21 54 52.1 0.0
KIF **Kilpisjarvi** 71.85 338 *e*P P 21 54 51.1 -0.4
TOKA **Tokat** 71.87 307⇑ *i*P P 21 54 52.4 +0.1
ELBS **KAHRAMANMARAS** 71.95 304⇑ *i*P P 21 54 54.0 +1.0
KVT **Kavak** 71.97 308 *e*P P 21 54 53.5 +0.5
FIA1 **FINESS Array S** 72.12 330 *e*P P 21 54 53.0 -0.4
FIA0 **FINESS Array S** 72.13 330 *e*P P 21 54 53.0 -0.3
FIA0 **FINESS Array S** 72.13 330 *e*P P 21 54 53.1 -0.3
FINES **FINESS Array B** 72.13 330 P P 21 54 53.0 -0.3
comp=Z,8.6nm,0.4s,baz=57,slow=5.8,SNR=150
FINES LR LR 22 29 52.9
comp=Z,6µm,18.7s,baz=74,slow=39
DAWY **Dawson** 72.19 27 *e*P P 21 54 53.4 -0.5
comp=Z,61nm,1.9s
DAWY LR LR
comp=Z,700nm,19.0s
HAVZ **Havza** 72.21 308⇑ *i*P P 21 54 56.1 +1.7
GAZ **Gaziantep** 72.22 303 *e*P P 21 54 55.0 +0.5
SIM **Simferopol'** 72.25 312 *ce*P P 21 54 55.0 +0.6
SIM *e*S S 22 04 22.0 +6.5
SIM pmax pmax
comp=Z,132nm,0.9s
TRO **Tromso** 72.25 339 *e*P P 21 54 53.3 -0.7
CUSAR **Sarkisla-SIVAS** 72.30 306⇑ *i*P P 21 54 55.9 +0.8
SNOP **Sinop** 72.31 309 *e*P P 21 54 54.6 -0.3
KMRS **Kahramanmaras** 72.36 304 *e*P P 21 54 55.6 +0.3
KUZU **Kuzuini** 72.44 303⇑ *i*P P 21 54 56.0 +0.1
BOYT **Boyabat** 72.70 308 *i* P P 21 54 56.4 -0.9
VSU **Vasula** 72.71 327 *c i*P P 21 54 56.6 -0.3
VSU pmax pmax
comp=Z,135nm,0.8s
VSU MLR MLR
comp=Z,11µm,19.0s
ANDN **Andirin** 72.76 304⇑ *i*P P 21 54 58.4 +0.6
BNN **Bunyan** 72.76 305 *e*P P 21 54 56.7 -1.1
SAIM **ADANA** 72.84 304⇑ *i*P P 21 54 58.8 +0.5
INK **Inuvik** 72.97 22 *e*P P 21 54 57.3 -1.0
comp=Z,17nm,0.8s
INK LR LR
comp=Z,1µm,20.0s
INK **Inuvik** 72.97 22 *e*P P 21 54 57.3 -1.0
INK pmax pmax
comp=Z,17nm,0.8s
INK MLR MLR
comp=Z,1µm,20.0s
COAL **Corum-Alaca** 72.98 307⇑ *i*P P 21 54 59.3 +0.2
CTAK **Corum_Osmancik** 73.01 307⇑ *i*P P 21 54 60.0 +0.7
KOZT **Kozan** 73.19 304 *e*P P 21 55 00.4 +0.2
CORM **Corum** 73.27 307 *e*P P 21 54 59.9 -0.9
MICGM **Minsk** 73.31 323 *e*P P 21 55 04.0 +3.5
YAHY **KAYSERI_Yahyal** 73.35 305⇑ *i*P P 21 55 01.5 +0.2
CEYT **Ceyhan** 73.39 304 *e*P P 21 55 01.9 +0.6
DAMY **Dhamar** 73.39 279 *e*P P 21 55 03.6 +1.5
comp=Z,50nm,1.0s
DAMY LR LR
comp=Z,500nm,19.0s
YAYL **Yayladag** 73.41 302 *e*P P 21 55 01.5 -0.2
YAYL **Yayladag** 73.41 302⇑ *i*P P 21 55 01.5 -0.2
AVNS **Nevsehir-Avano** 73.52 306⇑ *i*P P 21 55 02.6 +0.3
CDAG **Cicekdag** 73.62 306⇑ *i*P P 21 55 02.7 -0.2
ILGA **Ilgaz** 73.67 308⇑ *i*P P 21 55 03.4 +0.1
ILGA **Ilgaz** 73.67 308 *e*P P 21 55 04.2 +1.0
comp=Z,68nm,1.1s
ILGA LR LR
comp=Z,700nm,22.0s
IDID **Didziasalis** 73.68 324 *e*P P 21 55 03.0 +0.2
IDID IAmb IAmb 21 55 04.5
comp=Z,37nm,0.7s
AKASG **Malin Array Be** 73.70 319 P P 21 55 02.1 -0.8
comp=Z,36nm,0.8s,baz=58,slow=6.6,SNR=146
AKASG LR LR 22 30 46.2
comp=Z,978nm,18.8s,baz=355,slow=38
AKBB **Malin Array Si** 73.70 319 *e*P P 21 55 02.3 -0.6
comp=Z,51nm,0.9s
AKBB **Malin Array Si** 73.70 319 *e*P P 21 55 02.3 -0.6
AKBB pmax pmax
comp=Z,51nm,0.9s
AK11 **Malin Array Si** 73.75 319 *e*P P 21 55 02.3 -0.9
NACGM **Naroch** 73.79 323 *e*P P 21 55 03.0 -0.4
NACGM PM 21 55 05.0
comp=Z,0.5nm,0.9s
NACGM *e*PsP 22 01 20.0
NACGM *e*S **SKiKP** 22 04 32.0 +1.3
NACGM *e*PS **PnS** 22 05 03.0 -4.6
NACGM *e*LQ LQ 22 22 20.0
NACGM *e*LR LR 22 27 52.0
NACGM LRM MLR 22 32 09.0
comp=Z,4.3nm,15.0s
IIGN **Ignalina** 73.95 324 *e*P P 21 55 04.5 +0.2
IIGN IAmb IAmb 21 55 06.1
comp=Z,23nm,0.8s
ASF **Jabal al Asfar** 73.99 298 P P 21 55 06.2 +1.1
comp=Z,34nm,1.0s,baz=16,slow=0.7,SNR=64
HYT **Haines Junctio** 74.10 30 *e*P P 21 55 05.0 -0.2
comp=Z,20nm,1.1s
BR101 **Keskin Array S** 74.13 307 *e*P P 21 55 06.3 +0.4
BR131 **Keskin Array S** 74.13 307 *e*P P 21 55 06.1 +0.2
BRTR **Keskin Array B** 74.13 307 *e*P P 21 55 06.3 +0.4
comp=Z,68nm,0.8s,baz=104,slow=5.1,SNR=394
BRTR LR LR 22 32 55.8
comp=Z,487nm,19.0s,baz=71,slow=40
STEI **Steigen** 74.15 338 *e*P P 21 55 04.7 -0.6
STEI IAmb IAmb 21 55 05.3
comp=Z,33nm,0.9s
AKSY **AKSARAY - Alti** 74.38 306⇑ *i*P P 21 55 07.6 +0.4
BTIN **Bart¯–n** 74.53 309⇑ *i*P P 21 55 07.5 -0.5
AFI **Afiamalu** 74.55 113 LR LR 22 25 14.7
comp=Z,559nm,18.4s,baz=333,slow=34
BBAL **Bala** 74.57 307⇑ *i*P P 21 55 09.3 +0.9
AFSR **Af¯ar-Bala (A** 74.64 307 *e*P P 21 55 07.6 -1.2
SULT **Sultanhani-AKS** 74.70 305 *e*P P 21 55 08.9 -0.3
ANTO **Ankara** 74.70 307 *e*P P 21 55 08.9 -0.1
ANTO **Ankara** 74.70 307 *e*P P 21 55 09.0 -0.1
comp=Z,141nm,0.8s
ANTO LR LR
comp=Z,500nm,20.0s
ANTO **Ankara** 74.70 307 P P 21 55 10.0 +0.9
SNR=24
ANTO **Ankara** 74.70 307 P P 21 55 10.0 +0.9
SNR=24
ANTO **Ankara** 74.70 307 *e*P P 21 55 09.0 -0.1
ANTO pmax pmax
comp=Z,141nm,0.8s
ANTO MLR MLR
comp=Z,500nm,20.0s
LOD **Lodumlu** 74.72 307 *e*P P 21 55 08.0 -1.2
BR231 **Keskin MP Arra** 74.73 307 *e*P P 21 55 09.1 -0.2
CMDR **Camlidere-ANKA** 74.74 308⇑ *i*P P 21 55 09.9 +0.6
KIZK **Mersin** 74.78 303 *e*P P 21 55 09.0 -0.5
KIZK **Mersin** 74.78 303⇑ *i*P P 21 55 08.7 -0.8
KKUL **Konya-Kulu** 74.84 306⇑ *i*P P 21 55 10.3 +0.4
MMAI **Mount Meron Ar** 74.91 300 P P 21 55 11.3 +0.9
comp=Z,14nm,0.7s,baz=68,slow=9.5,SNR=58
MMAI LR LR 22 34 25.6
comp=Z,1µm,18.1s,baz=55,slow=41
BCAM **Yenicaga** 74.93 308⇑ *i*P P 21 55 10.4 -0.1
SILI **Silifke-Mersin** 74.98 303 *e*P P 21 55 10.3 -0.4

EREN Erenkoy 75.06 302 eP P 21 55 11.0 -0.1
SORM Soroca 75.06 316⇓iP P 21 55 10.2 -0.7
KIS Kishinev 75.14 315⇑iP P 21 55 09.0 -2.4
comp=Z,200nm,2.0s
KIS eS S 22 04 44.0 -4.1
KIS LRM MLR 22 31 45.0
comp=Z,2µm,16.0s
KIS Kishinev 75.14 315α iP P 21 55 09.0 -2.4
KIS e 21 59 41.0
KIS eS S 22 04 44.0 -4.1
KIS pmax pmax
comp=Z,200nm,2.0s
KIS pmax pmax
comp=Z,200nm,2.0s
KIS MLR MLR
comp=Z,1µm,15.0s
KIS MLR MLR
comp=Z,2µm,16.0s
MOR8 Moi Rana 75.19 336 eP P 21 55 09.8 -1.5
GULN MERSIN_Gulnar 75.33 303⇑iP P 21 55 12.2 -0.5
AKKU Akkuyu-Mersin 75.33 303 eP P 21 55 11.6 -1.1
WHY Whitehorse 75.36 30 eP P 21 55 12.8 +0.3
comp=Z,30nm,1.1s
LADK Ladik-KONYA 75.56 306 eP P 21 55 12.1 -2.0
SKAG Skagway 75.61 31 eP P 21 55 14.3 +0.5
comp=Z,26nm,0.9s
SKAG LR LR
comp=Z,800nm,21.0s
STOK Stokkvaagen 75.64 337 eP P 21 55 12.9 -0.9
STOK IAmb IAmb 21 55 13.6
comp=Z,34nm,1.0s
KDHN Kadinhani 75.64 306⇑iP P 21 55 14.1 -0.5
ERMK Ermenek 75.66 304⇑iP P 21 55 14.8 -0.1
MDUB Mudurnu 75.67 308 eP P 21 55 13.2 -1.5
TEKE Tekeli-Mersin 75.67 303 eP P 21 55 13.7 -0.9
TLCR 75.75 313⇑iP P 21 55 15.1 +0.2
AUSIV SIVRIHISAR 75.76 307⇑iP P 21 55 14.3 -1.0
BTAS Taskesti 75.78 308⇑iP P 21 55 15.2 0.0
SAHE Sakarya_HENDEK 75.79 309⇑iP P 21 55 14.4 -0.8
CSS Mathiatis 75.90 302 eP P 21 55 16.6 +0.6
CSS Mathiatis 75.90 302 eP P 21 55 15.3 -0.7
comp=Z,37nm,1.0s
CSS LR LR
comp=Z,200nm,20.0s
CSS Mathiatis 75.90 302 P P 21 55 15.3 -0.7
ATD Arta Tunnel 75.90 276 P P 21 55 17.9 +1.5
comp=Z,22nm,0.9s,baz=48,slow=19,SNR=5.4
ATD LR LR 22 29 51.7
comp=Z,213nm,18.3s,baz=62,slow=37
MAMC Mammari 75.92 302 P P 21 55 16.6 +0.5
SUW Suwalki 76.07 323 eP P 21 55 16.0 -0.6
SUW Suwalki 76.07 323 eP P 21 55 16.6 +0.1
comp=Z,248nm,1.0s
SUW LR LR
comp=Z,3µm,18.0s
SUW Suwalki 76.07 323 eP P 21 55 16.0 -0.6
DOGA KONYA_Doganhis 76.11 306⇑iP P 21 55 17.1 -0.2
GULT Gulveren 76.17 308 eP P 21 55 16.9 -0.6
LEF Lefka 76.19 302 eP P 21 55 17.1 -0.5
BESE Bessie Mountai 76.19 32 eP P 21 55 18.9 +1.7
comp=Z,37nm,1.2s
BESE LR LR
comp=Z,500nm,20.0s
HRFI Mount Harif 76.19 297 eP P 21 55 18.9 +1.1
CFR Carcaliu 76.20 313⇑iP P 21 55 17.1 -0.3
ESKT Eskisehir 76.23 307 i P P 21 55 16.2 -1.7
TIRR Tirgusor 76.26 313⇑iP P 21 55 18.0 +0.2
TIRR Tirgusor 76.26 313 PFAKE 21 55 30.0 +12
TIRR LR LR
comp=Z,1µm,19.0s
GEYV SAKARYA_Geyve 76.31 308⇑iP P 21 55 17.9 -0.3
SZAC Souni 76.31 302 P P 21 55 18.6 +0.2
EIL Elat 76.39 297 eP P 21 55 18.9 +0.1
ALFC Alefka 76.40 303 P P 21 55 18.6 -0.3
BORA Eskisehir 76.40 308⇑iP P 21 55 18.1 -0.8
BOLV Bolvadin 76.43 306⇑iP P 21 55 19.3 +0.2
TLB Topalu 76.47 313⇑iP P 21 55 19.1 +0.1
HARR Harsova 76.50 313⇓iP P 21 55 19.4 +0.2
SIT Sitka 76.56 33 eP P 21 55 19.9 +0.7
comp=Z,40nm,0.9s
SIT Sitka 76.56 33 eP P 21 55 19.9 +0.7
SIT pmax pmax
comp=Z,40nm,0.9s
KEPZ Antalya-Kepez 76.56 305⇑iP P 21 55 16.4 -3.4
PETR Petresti 76.61 314⇑iP P 21 55 20.9 +1.1
PRAR RASCA 76.67 316⇑iP P 21 55 20.0 -0.2
PPCY Paphos 76.69 302 P P 21 55 19.7 -0.7
AUKUT KUTAHYA 76.69 308⇑iP P 21 55 21.9 +1.5
DAG Danmarks Havn 76.69 351⇑iP P 21 55 18.3 -1.4
comp=Z,22nm,0.9s
DAG Danmarks Havn 76.69 351⇑iP P 21 55 18.3 -1.4
DAG pmax pmax
comp=Z,22nm,0.9s
AUBOZ BOZOYUK 76.69 308⇑iP P 21 55 20.3 -0.2
TESR Tescani 76.71 315⇑iP P 21 55 19.8 -0.6
ADVT Abdulvahap 76.73 308 eP P 21 55 19.9 -0.7
SHUT Suhut-Afyon 76.78 306 eP P 21 55 20.9 -0.2
BAGO Egridir - ISPA 76.80 306⇑iP P 21 55 20.9 -0.2
SUTC Sutluce-Ispart 76.82 305 eP P 21 55 20.2 -1.1
NSS Namsos 76.87 335 eP P 21 55 19.9 -0.9
NSS IAmb IAmb 21 55 20.6
comp=Z,15nm,0.8s
VRI Vrincioaia 76.89 314 eP P 21 55 22.1 +0.7
VRI Vrincioaia 76.89 314⇑iP P 21 55 21.7 +0.3
AMRR Amara 76.93 313⇑iP P 21 55 22.5 +0.9
YLV Yalova 76.94 309 eP P 21 55 20.9 -1.0
PLOR Plostina 76.94 314⇑iP P 21 55 22.0 +0.3
ISK Istanbul-Kandi 76.99 309 eP P 21 55 21.3 -0.7
BUY Buyukada 77.02 309 eP P 21 55 21.6 -0.6
BUY Buyukada 77.02 309⇑iP P 21 55 22.2 0.0
ISP Isparta 77.06 306 eP P 21 55 21.9 -0.7
comp=Z,170nm,1.2s
ISP LR LR
comp=Z,600nm,19.0s
ISP Isparta 77.06 306 eP P 21 55 21.9 -0.7
ISP pmax pmax
comp=Z,169nm,1.2s
ISP MLR MLR
comp=Z,600nm,19.0s
PGOR Pogoanele 77.06 313⇓iP P 21 55 22.9 +0.6
LVV L'vov 77.14 319 eP P 21 55 23.0 +0.3
LVV MLR MLR
comp=Z,900nm,18.0s
KZIL AFYON_Kizioren 77.19 306⇑iP P 21 55 22.7 -0.7
BUR08 Bucovina Ar. S 77.22 317 eP P 21 55 23.5 +0.1
BURAR Bucovina Array 77.22 316⇑iP P 21 55 23.4 0.0
BUR04 Bucovina Ar. S 77.22 317 eP P 21 55 23.4 0.0
TVSB Tavsanli 77.27 308 eP P 21 55 22.4 -1.4
ISR Istrita 77.28 314⇓iP P 21 55 24.7 +1.1
ARMT Armutlu 77.31 309 eP P 21 55 23.1 -0.8
CTYL Yalikoy Yolu 77.39 310 eP P 21 55 23.8 -0.4
BRDR BURDUR-Merkez 77.44 306⇑iP P 21 55 23.4 -1.3
KORT Korkueli 77.47 305 eP P 21 55 23.8 -1.2
KORT Korkueli 77.47 305⇑iP P 21 55 23.7 -1.2
MLR Muntele Rosu 77.53 314 P P 21 55 25.5 +0.4
comp=Z,11nm,0.9s,baz=148,slow=6.5,SNR=33
MLR LR LR 22 33 54.5
comp=Z,390nm,19.3s,baz=64,slow=39
MLR Muntele Rosu 77.53 314⇓iP P 21 55 25.2 +0.1
MLR Muntele Rosu 77.53 314 eP P 21 55 25.3 +0.1
comp=Z,53nm,0.9s
MLR LR LR
comp=Z,2µm,20.0s
MLR Muntele Rosu 77.53 314 eP P 21 55 25.3 +0.1
MLR pmax pmax
comp=Z,53nm,0.9s
MLR MLR MLR
comp=Z,2µm,20.0s
SECR 77.62 314⇓iP P 21 55 26.4 +0.9
SULR 77.63 313⇑iP P 21 55 26.2 +0.7
DOPR Dopca 77.72 315⇑iP P 21 55 26.6 +0.5
KCTX Karacabey (Bur 77.77 309 eP P 21 55 25.8 -0.7
ELL Elmali 77.89 305 eP P 21 55 26.4 -0.9
DURS Dursunbey 77.93 308⇑iP P 21 55 26.4 -1.0
DEMI Demirci 77.95 307⇑iP P 21 55 26.3 -1.2
ARCR ARCALIA 77.97 316⇑iP P 21 55 28.1 +0.7
KWP Kalwaria Pacla 78.00 319 eP P 21 55 27.8 +0.3
KWP Kalwaria Pacla 78.00 319 eP P 21 55 27.4 -0.1
comp=Z,1µm,1.1s
KWP LR LR
comp=Z,13µm,18.0s
KWP Kalwaria Pacla 78.00 319 eP P 21 55 27.4 -0.1
KWP pmax pmax
comp=Z,1µm,1.1s
KWP MLR MLR
comp=Z,13µm,18.0s
EDC Edincik 78.10 309 eP P 21 55 28.0 -0.2
VOIR 78.14 314⇑iP P 21 55 28.4 -0.1
TBLU Trondheim 78.15 335 eP P 21 55 26.1 -1.9
KULA Kula-Manisa 78.18 307 eP P 21 55 28.5 -0.4
HFS Hagfors 78.23 331 P P 21 55 27.9 -0.7
comp=Z,9.6nm,0.6s,baz=84,slow=5.9,SNR=24
HFS PP PP 21 58 24.4 -0.6
comp=Z,8.9nm,1.0s,baz=105,slow=11,SNR=4.3
HFS LR LR 22 33 23.5
comp=Z,5µm,20.0s,baz=64,slow=38
BEL Belsk 78.25 322 eP P 21 55 29.1 +0.3
BEL Belsk 78.25 322 eP P 21 55 29.1 +0.3
BMR Baia Mare 78.28 317⇑iP P 21 55 29.7 +0.6
CRAG Craig 78.33 34 eP P 21 55 30.5 +1.3
comp=Z,37nm,1.0s
GOLR 78.42 314⇑iP P 21 55 30.8 +0.9
ARR Arges 78.44 315⇑iP P 21 55 30.4 +0.3
BALY Balya 78.49 308⇑iP P 21 55 29.1 -1.4
HUMR Humele 78.53 314⇑iP P 21 55 30.2 -0.3
DLBC Dease Lake 78.54 31 eP P 21 55 31.9 +1.5
comp=Z,41nm,1.2s
DLBC LR LR
comp=Z,800nm,19.0s
FETY Fethiye 78.55 305 eP P 21 55 28.8 -2.1
FETY Fethiye 78.55 305 eP P 21 55 27.8 -3.1
FETY Fethiye 78.55 305 P P 21 55 27.8 -3.1
STEP BALIKESIR_Sava 78.55 308⇑iP P 21 55 30.5 -0.4
CJR Cluj-Napoca 78.59 316⇓iP P 21 55 31.6 +0.7
ZIMR 78.60 313⇓iP P 21 55 31.9 +1.0
NC405 NORSAR Array S 78.62 332 eP P 21 55 28.9 -1.8
UZH Uzhgorod 78.65 318⇓iP P 21 55 31.0 -0.1
UZH e 21 55 41.4
UZH e 21 58 33.0
UZH eS S 22 05 28.0 +1.8
UZH MLR MLR
comp=N,1µm,20.0s
UZH MLR MLR
comp=E,1µm,20.0s
UZH MLR MLR
comp=Z,600nm,20.0s
RES Resolute Bay 78.65 9 eP P 21 55 30.2 -0.3
comp=Z,14nm,1.0s
RES LR LR
comp=Z,2µm,19.0s
RES Resolute Bay 78.65 9 eP P 21 55 30.3 -0.3
RES pmax pmax
comp=Z,14nm,1.0s
RES MLR MLR
comp=Z,2µm,19.0s
NC303 NORSAR Array S 78.71 333 eP P 21 55 30.8 -0.5
NB201 NORSAR Array S 78.83 332 eP P 21 55 29.9 -2.0
NB2 NORSAR Subarra 78.87 332 P P 21 55 31.1 -1.0
comp=Z,20nm,0.7s,baz=61,slow=5.3
NB2 NORSAR Subarra 78.87 332 P P 21 55 31.1 -1.0
baz=61,slow=5.3
NB200 NORSAR Array S 78.87 332 eP P 21 55 31.1 -1.0
NB200 ePP PP 21 58 29.5 -0.9
NOA NORSAR Array B 78.87 332 P P 21 55 31.1 -1.0
comp=Z,11nm,0.7s,baz=58,slow=5.6,SNR=31
NOA PP PP 21 58 29.5 -0.9
comp=Z,2.8nm,0.8s,baz=66,slow=8.0,SNR=5.2
NOA LR LR 22 34 14.6
comp=Z,4µm,18.3s,baz=70,slow=39
NC602 NORSAR Array S 78.88 332 eP P 21 55 31.6 -0.6
ERIK Erikli-Kesan 78.93 310 eP P 21 55 32.8 0.0
NC204 NORSAR Array S 78.94 333 eP P 21 55 32.1 -0.5
AYDB Zeytinkoy-Aydi 78.96 307 eP P 21 55 32.9 -0.3
STHS Stebnicka Huta 78.96 319 eP P 21 55 33.3 +0.4
STHS Stebnicka Huta 78.96 319 eP P 21 55 33.3 +0.4
STHS pmax pmax
comp=Z,17nm,1.1s
LOT Lotru 78.97 315⇑iP P 21 55 33.4 +0.3
NBO02 NORSAR Array S 79.01 333 eP P 21 55 32.2 -0.7
CRVS Cervenica-Dubn 79.04 319 eP P 21 55 33.7 +0.4
CRVS Cervenica-Dubn 79.04 319 eP P 21 55 33.7 +0.4
DRGR 79.12 316⇓iP P 21 55 34.1 +0.3
ALN Alexandroupoli 79.18 310 eP P 21 55 34.0 -0.2
comp=Z,26nm,1.0s
ALN LR LR
comp=Z,200nm,20.0s
ALN Alexandroupoli 79.18 310 eP P 21 55 34.0 -0.2
ALN pmax pmax
comp=Z,26nm,1.0s
ALN MLR MLR
comp=Z,200nm,20.0s
BAYC CANAKKALE_Bayr 79.26 309⇑iP P 21 55 34.3 -0.3
HIZ Hauiti 79.30 141 PFAKE 21 55 50.0 +15
HIZ LR LR
comp=Z,800nm,18.0s
TULEG Thule 79.44 3 PFAKE 21 55 50.0 +15
TULEG LR LR
comp=Z,1µm,19.0s
RDO Rodhopi 79.44 310 eP P 21 55 35.2 -0.4
RDO Rodhopi 79.44 310 P P 21 55 35.2 -0.4
OJC Ojcow 79.48 320 eP P 21 55 35.8 +0.1
OJC Ojcow 79.48 320 eP P 21 55 35.9 +0.1
comp=Z,95nm,1.1s
OJC Ojcow 79.48 320 eP P 21 55 35.8 +0.1
NIE Niedzica 79.53 319 eP P 21 55 36.5 +0.5
NIE Niedzica 79.53 319 eP P 21 55 36.5 +0.5
MOL Molde 79.57 335 eP P 21 55 34.7 -1.2
GKP Gorka Klasztor 79.61 324 eP P 21 55 36.0 -0.3
GKP Gorka Klasztor 79.61 324 eP P 21 55 36.0 -0.3
DIB Dawson Inlet, 79.66 36 eP P 21 55 37.0 +0.5
comp=Z,26nm,0.9s
KECS Kecovo 79.80 319 eP P 21 55 38.0 +0.6
KECS ePP PP 21 58 38.4 -0.1
KECS Kecovo 79.80 319 eP P 21 55 38.0 +0.6
KECS pmax pmax
comp=Z,17nm,1.3s
BSD Bornholm Skovb 79.99 326 i P P 21 55 38.0 -0.3
comp=Z,4µm,14.0s
BSD Bornholm Skovb 79.99 326 eP P 21 55 38.0 -0.3
BSD MLR MLR
comp=Z,4µm,14.0s
HERR Herculane 80.07 315⇑iP P 21 55 39.0 0.0
LANS Liptovska Anna 80.13 319 eP P 21 55 40.1 +0.8
LANS Liptovska Anna 80.13 319 eP P 21 55 40.1 +0.8
KONO Kongsberg 80.27 332 PFAKE 21 55 50.0 +10
KONO LR LR
comp=Z,4µm,19.0s
BZS Buzias 80.29 316⇑iP P 21 55 39.8 -0.3
PSZ Piszkesteto 80.40 318⇑iP P 21 55 40.5 -0.3
PSZ Piszkesteto 80.40 318 eP P 21 55 40.8 0.0
comp=Z,48nm,1.1s
PSZ LR LR
comp=Z,1µm,19.0s
PSZ Piszkesteto 80.40 318 eP P 21 55 40.8 0.0
PSZ pmax pmax
comp=Z,48nm,1.1s
PSZ MLR MLR
comp=Z,1µm,19.0s
VTS Vitosha 80.47 312⇑iP P 21 55 41.9 +0.5
VTS Vitosha 80.47 312 P P 21 55 41.0 -0.4
VTS Vitosha 80.47 312 P P 21 55 41.0 -0.4
VTS Vitosha 80.47 312 P P 21 55 41.0 -0.4
OKC Ostrava-Krasne 80.61 320 eP P 21 55 41.8 0.0
OKC AMS AMS 22 36 40.0
comp=Z,1µm,15.0s
OKC Ostrava-Krasne 80.61 320 eP P 21 55 41.8 0.0
OKC MLR MLR
comp=Z,1µm,15.0s
VYHS Vyhne 80.79 319 eP P 21 55 43.4 +0.6
VYHS Vyhne 80.79 319 eP P 21 55 43.4 +0.6
VYHS pmax pmax
comp=Z,48nm,1.1s
SRS Serrai 80.80 311 eP P 21 55 40.3 -2.7
SRS Serrai 80.80 311 P P 21 55 40.3 -2.7
SRS Serrai 80.80 311 eP P 21 55 40.3 -2.7
COP Copenhagen 80.96 327 i P P 21 55 45.1 +1.6
comp=Z,2µm,16.0s
COP Copenhagen 80.96 327 eP P 21 55 45.1 +1.6
COP MLR MLR
comp=Z,2µm,16.0s
MORC Moravsky Berou 80.99 321⇑iP P 21 55 43.5 -0.4
MORC Moravsky Berou 80.99 321 eP P 21 55 43.2 -0.7
comp=Z,149nm,1.2s
MORC LR LR
comp=Z,4µm,18.0s
MORC Moravsky Berou 80.99 321 eP P 21 55 43.2 -0.7
MORC pmax pmax
comp=Z,149nm,1.2s
MORC MLR MLR
comp=Z,4µm,18.0s
RGN Rugen 81.07 326 PFAKE 21 56 00.0 +16
RGN LR LR
comp=Z,3µm,21.0s
KSP Ksiaz 81.22 322 eP P 21 55 44.9 -0.1
KSP Ksiaz 81.22 322 eP P 21 55 44.9 -0.1
KRLC Kraliky 81.29 321 eP P 21 55 45.5 0.0
KRLC Kraliky 81.29 321 eP P 21 55 45.5 0.0
SANT Santorini 81.35 306⇓iP P 21 55 44.4 -1.6
SANT Santorini 81.35 306 eP P 21 55 43.8 -2.2
comp=Z,298nm,1.2s
THR6 Thira Island, 81.40 306 eP P 21 55 43.8 -2.4
THR6 Thira Island, 81.40 306 P P 21 55 43.8 -2.4
SRO Srobarova 81.41 319 eP P 21 55 46.7 +0.7
SRO Srobarova 81.41 319 eP P 21 55 46.7 +0.7
VAY Valandovo 81.42 311 eP P 21 55 45.5 -0.7
VAY Valandovo 81.42 311 P P 21 55 45.5 -0.7
VAY Valandovo 81.42 311 i P P 21 55 45.9 -0.3
VAY Valandovo 81.42 311 eP P 21 55 45.5 -0.7
DPC Dobruska-Polom 81.43 321 eP P 21 55 46.6 +0.4
DPC eS S 22 05 53.1 -2.6
DPC AMS AMS 22 35 30.0
comp=Z,2µm,15.0s
DPC Dobruska-Polom 81.43 321 eP P 21 55 46.6 +0.4
DPC e 22 05 53.1
DPC MLR MLR
comp=Z,2µm,15.0s
UPC Upice 81.53 322 eP P 21 55 47.2 +0.5
UPC AMS AMS 22 35 10.0
comp=Z,2µm,20.7s
UPC Upice 81.53 322 eP P 21 55 47.2 +0.5
UPC MLR MLR
comp=Z,2µm,20.7s
BFZ Birch Farm 81.55 142 PFAKE 21 56 00.0 +13
BFZ LR LR
comp=Z,2µm,18.0s
SMOL Smolenice 81.62 320 eP P 21 55 48.5 +1.3
SMOL Smolenice 81.62 320 eP P 21 55 48.5 +1.3
KULLO Kullorsuaq 81.64 360⇑iP P 21 55 46.3 -0.5
KULLO Kullorsuaq 81.64 360⇑iP P 21 55 46.3 -0.5
NPS Neapolis 81.68 305 eP P 21 55 46.5 -1.2
NPS Neapolis 81.68 305 P P 21 55 46.5 -1.2
NPS Neapolis 81.68 305 eP P 21 55 46.5 -1.2
GRG Griva 81.69 311 eP P 21 55 46.1 -1.6
GRG Griva 81.69 311 P P 21 55 46.1 -1.6
GRG Griva 81.69 311 eP P 21 55 46.1 -1.6
VRAC Vranov 81.75 320⇑iP P 21 55 48.0 +0.1
MODS Modra-Piesok 81.78 319 eP P 21 55 48.7 +0.7
MODS Modra-Piesok 81.78 319 eP P 21 55 48.7 +0.7
LAST Lasithi 81.82 305 eP P 21 55 48.3 -0.3
LAST Lasithi 81.82 305 P P 21 55 48.3 -0.3
SKO Skopje 81.92 312 i P P 21 55 49.1 +0.2
DIVS Divibare 81.97 315 eP P 21 55 48.4 -0.8
comp=Z,52nm,1.2s
DIVS LR LR
comp=Z,700nm,20.0s
IDI Anoyia 82.21 305 P P 21 55 49.6 -1.0
comp=Z,30nm,0.6s,baz=32,slow=16,SNR=22
IDI LR LR 22 39 01.5
comp=Z,374nm,20.4s,baz=63,slow=40
IDI Anoyia 82.21 305⇑iP P 21 55 50.9 +0.3
IDI Anoyia 82.21 305 eP P 21 55 50.0 -0.6
comp=Z,53nm,0.9s
KRUS Krusevo 82.31 312 i P P 21 55 50.3 -0.8
PVCC Panska Ves 82.34 322 eP P 21 55 51.4 +0.5
PVCC AMS AMS 22 37 10.0
comp=Z,3µm,17.0s
PVCC Panska Ves 82.34 322 eP P 21 55 51.4 +0.5
PVCC MLR MLR
comp=Z,3µm,17.0s
KZN Kozani 82.39 311 eP P 21 55 48.8 -2.7
KZN Kozani 82.39 311 P P 21 55 48.8 -2.7
KZN Kozani 82.39 311 eP P 21 55 48.8 -2.7
SCO Scoresbysund 82.44 349 i P P 21 55 51.0 0.0
comp=Z,20nm,1.0s
SCO Scoresbysund 82.44 349 eP P 21 55 51.1 +0.2
comp=Z,20nm,1.0s
SCO Scoresbysund 82.44 349 i P P 21 55 51.0 0.0
SCO pmax pmax
comp=Z,20nm,1.0s
FNA Florina 82.47 311 eP P 21 55 50.8 -1.0
comp=Z,61nm,1.4s
FNA Florina 82.47 311 eP P 21 55 50.8 -1.0
FNA pmax pmax
comp=Z,61nm,1.4s
GOPC GO Pecny, Ondr 82.51 322 eP P 21 55 52.2 +0.4
GOPC eS S 22 06 05.8 -0.9
GOPC AMS AMS 22 37 20.0
comp=Z,2µm,17.5s
GOPC GO Pecny, Ondr 82.51 322 eP P 21 55 52.2 +0.4
GOPC e 22 06 05.8
GOPC MLR MLR
comp=Z,2µm,17.5s
BRG Berggiesshubel 82.52 323 eP P 21 55 51.6 -0.2
comp=Z,27nm,1.3s
BRG PP PP 21 58 59.0 -1.8
BRG S S 22 06 05.0 -1.7
BRG SS SS 22 11 42.0 +15
comp=N,1µm,16.5s
comp=E,2µm,15.1s
comp=Z,4µm,15.8s
BRG Berggiesshubel 82.52 323 eP P 21 55 51.6 -0.2
BRG 21 58 59.0
BRG S S 22 06 05.0 -1.7
BRG pmax pmax
comp=Z,27nm,1.3s
BRG MLR MLR
comp=N,1µm,16.5s
BRG MLR MLR
comp=E,2µm,15.1s
BRG MLR MLR
comp=Z,4µm,15.8s
AGG Agios Georgios 82.54 309 eP P 21 55 51.0 -1.3
comp=Z,182nm,0.9s
AGG Agios Georgios 82.54 309 eP P 21 55 51.0 -1.3
AGG pmax pmax
comp=Z,182nm,0.9s
IVA Berane 82.57 314⇑iP P 21 55 52.4 0.0
PRU Pruhonice 82.61 322 eP P 21 55 52.5 +0.2
PRU ex x 21 56 03.2
PRU eS S 22 06 03.5 -4.2
PRU AMS AMS 22 36 00.0
comp=Z,2µm,19.7s
PRU Pruhonice 82.61 322 eP P 21 55 52.5 +0.2
PRU e 21 56 03.2
PRU e 22 06 03.5
PRU MLR MLR
comp=Z,2µm,19.7s
PRA Prague 82.64 322 eP P 21 55 53.0 +0.6
PRA AMS AMS 22 37 10.0
comp=Z,2µm,15.9s
PRA Prague 82.64 322 eP P 21 55 53.0 +0.6
PRA MLR MLR
comp=Z,2µm,15.9s
PVY Plav 82.65 313⇑iP P 21 55 52.3 -0.5
VAM Vamos 82.68 305 eP P 21 55 52.1 -0.9
VAM Vamos 82.68 305 P P 21 55 52.1 -0.9
VAM Vamos 82.68 305 eP P 21 55 52.1 -0.9
YKA Yellowknife Ar 82.70 23 P P 21 55 52.1 -0.4
comp=Z,12nm,0.7s,baz=313,slow=4.9,SNR=236
YKA PKKPbc PKKPbc 22 14 14.9 -3.1
comp=Z,0.3nm,0.5s,baz=130,slow=2.3,SNR=11
YKB5 Yellowknife Ar 82.70 23 eP P 21 55 52.1 -0.4
SUMG Summit 82.77 354 i P P 21 55 52.6 -0.6
comp=Z,35nm,0.9s
SUMG Summit 82.77 354 eP P 21 55 52.0 -1.3
comp=Z,38nm,0.9s
SUMG Summit 82.77 354 i P P 21 55 52.6 -0.6
SUMG pmax pmax
comp=Z,35nm,0.9s
CONA Conrad Observa 82.82 319 i P P 21 55 54.2 +0.6
comp=Z,42nm,1.4s,SNR=18
CLL Collm 82.83 323⇑iP P 21 55 52.8 -0.6
comp=Z,40nm,1.3s
CLL i PP PP 21 59 03.4 +0.1
comp=Z,15nm,1.1s
CLL eS S 22 06 14.0 +4.2
comp=N,200nm,25.4s
CLL eS S 22 06 14.0 +4.2
comp=E,200nm,31.1s
CLL eS S 22 06 14.0 +4.2
comp=Z,100nm,32.4s

CLL eSS SS 22 11 48.0 +16
CLL Lm MLR 22 37 00.0
comp=Z,3µm,18.1s
CLL Collm 82.83 323 eP **P 21 55 52.5 -0.9**
comp=Z,48nm,1.3s
CLL LR LR
comp=Z,3µm,18.0s
CLL Collm 82.83 323⇑ iP **P 21 55 52.8 -0.6**
CLL eS **S 22 06 14.0 +4.2**
CLL pmax pmax
comp=Z,40nm,1.3s
CLL MLR MLR
comp=Z,3µm,18.1s
KOME Kolasin 82.83 314⇑ iP **P 21 55 53.6 -0.1**
KBN Korca 82.94 311 P **P 21 55 50.8 -3.5**
KBN Korca 82.94 311 P **P 21 55 50.8 -3.5**
KBN Korca 82.94 311 P **P 21 55 50.8 -3.5**
ANX Ano Chora 83.01 309 P **P 21 55 50.6 -4.2**
PDG Podgorica 83.19 313⇑ iP **P 21 55 55.5 +0.1**
TTG Podgorica 83.19 313⇑ iP **P 21 55 55.3 -0.1**
TTG Podgorica 83.19 313 PFAKE 21 56 10.0 +15
TTG LR LR
comp=Z,800nm,20.0s
NKY Niksic 83.19 314⇑ iP **P 21 55 55.2 -0.4**
TIR Tirane 83.25 312⇑ iP **P 21 55 56.0 +0.2**
TIR Tirane 83.25 312 eP **P 21 55 55.2 -0.6**
comp=Z,34nm,0.9s
TIR LR LR
comp=Z,1µm,20.0s
TIR Tirane 83.25 312 eP **P 21 55 55.2 -0.6**
TIR pmax pmax
comp=Z,34nm,0.9s
TIR MLR MLR
comp=Z,1µm,20.0s
DRME Dracevica, Mon 83.34 313⇑ iP **P 21 55 56.2 -0.1**
ARSA Arzberg 83.34 319 i P **P 21 55 56.4 +0.2**
comp=Z,22nm,1.2s,SNR=9.9
CEME Cevo 83.36 314⇑ iP **P 21 55 56.3 -0.1**
ULC Ulcinj 83.40 313⇑ iP **P 21 55 56.7 +0.1**
BRY Bratogost 83.45 314⇑ iP **P 21 55 56.5 -0.5**
BUM Brajici-Budva 83.48 313⇑ iP **P 21 55 56.6 -0.5**
BLY Banja Luka 83.49 316⇓ iP **P 21 55 56.8 -0.2**
BLY Banja Luka 83.49 316 eP **P 21 55 57.1 +0.1**
comp=Z,42nm,1.0s
BLY LR LR
comp=Z,1µm,20.0s
KHC Kasperske Hory 83.58 321 eP **P 21 55 57.5 +0.1**
KHC ex x 21 56 11.4
KHC ePP **PP 21 59 02.5 -7.1**
KHC AMS AMS 22 36 40.0
comp=Z,2µm,15.9s
KHC Kasperske Hory 83.58 321 eP **P 21 55 56.5 -0.8**
comp=Z,20nm,1.3s
KHC LR LR
comp=Z,800nm,19.0s
KHC Kasperske Hory 83.58 321 eP **P 21 55 56.6 -0.8**
KHC pmax pmax
comp=Z,20nm,1.3s
KHC MLR MLR
comp=Z,800nm,19.0s
GEC2 GERESS Array S 83.65 321 eP **P 21 55 58.3 +0.4**
comp=Z,39nm,1.0s
GEC2 LR LR
comp=Z,2µm,18.0s
GEC2 GERESS Array S 83.65 321 eP **P 21 55 58.3 +0.4**
GEC2 pmax pmax
comp=Z,39nm,1.0s
GEC2 MLR MLR
comp=Z,2µm,18.0s
GERES GERESS Array B 83.65 321 P **P 21 55 58.1 +0.3**
comp=Z,21nm,0.9s,baz=57,slow=4.9,SNR=160
GERES PP **PP 21 59 08.9 -1.3**
comp=Z,1.2nm,0.8s,baz=54,slow=7.1,SNR=3.7
GERES PKKPbc PKKPbc 22 14 26.7 +11
comp=Z,0.2nm,0.5s,baz=243,slow=5.8,SNR=3.9
GERES LR LR 22 37 22.7
comp=Z,2µm,18.3s,baz=61,slow=39
GEA0 GERESS Array S 83.65 321 eP **P 21 55 56.5 -1.3**
NKC Novy Kostel 83.67 323 eP **P 21 55 58.2 +0.4**
NKC AMS AMS 22 37 40.0
comp=Z,3µm,15.7s
NKC Novy Kostel 83.67 323 eP **P 21 55 58.2 +0.4**
NKC MLR MLR
comp=Z,3µm,15.7s
HCY Herceg Novi 83.68 314⇑ iP **P 21 55 57.6 -0.4**
MOA Molln 83.80 320 i P **P 21 55 59.1 +0.6**
comp=Z,34nm,1.1s,SNR=16
PERS Pernice 83.88 319 i P **P 21 55 58.8 -0.2**
SOKA Soboth 83.91 319 i P **P 21 55 59.3 +0.1**
comp=Z,35nm,0.9s,SNR=8.8
OBKA Obir 84.29 319 i P **P 21 56 01.1 0.0**
comp=Z,28nm,0.8s,SNR=5.6
BOJS Bojanci 84.34 318 i P **P 21 56 01.4 +0.1**
VISS Visnje 84.45 318 i P **P 21 56 01.7 -0.2**
OPO Ambohidratompo 84.61 247 P **P 21 56 04.1 +0.8**
comp=Z,9.1nm,0.8s,baz=30,slow=3.2,SNR=11
OPO LR LR 22 33 05.8
comp=Z,417nm,18.3s,baz=60,slow=35
GRFO Grafenberg 84.63 323 eP **P 21 56 03.5 +0.8**
comp=Z,87nm,1.4s
GRFO LR LR
comp=Z,2µm,19.0s
GRFO Grafenberg 84.63 323 eP **P 21 56 03.5 +0.8**
GRFO pmax pmax
comp=Z,87nm,1.4s
GRFO MLR MLR
comp=Z,2µm,19.0s
KBA Koelnbreinsper 84.73 320 i P **P 21 56 03.0 -0.5**
comp=Z,14nm,0.7s,SNR=7.7
MYKA Terra Mystica 84.77 319 i P **P 21 56 03.1 -0.5**
comp=Z,22nm,1.3s
ABPO Ambohimpanom 84.78 247 eP **P 21 56 05.1 +1.0**
comp=Z,25nm,1.1s
ABPO Ambohimpanom 84.78 247 eP **P 21 56 05.1 +1.0**
ABPO pmax pmax
comp=Z,25nm,1.1s
JAVS Javornik 84.88 318 i P **P 21 56 03.6 -0.6**
TRI Trieste 85.15 318 PFAKE 21 56 20.0 +15
TRI LR LR
comp=Z,1µm,19.0s
ABTA Abfaltersbach 85.39 320 i P **P 21 56 05.6 -1.1**
comp=Z,50nm,1.3s,SNR=12
WATA Walderalm 85.64 320 eP **P 21 56 07.4 -0.6**
comp=Z,21nm,1.0s,SNR=13
WATA Walderalm 85.64 320 i PP PP 21 59 28.0 +1.5
comp=Z,10.0nm,1.1s
WTTA Wattenberg 85.64 320 i P **P 21 56 07.8 -0.2**
comp=Z,28nm,0.9s,SNR=7.8
WTTA Wattenberg 85.64 320 i PP PP 21 59 30.0 +3.4
comp=Z,14nm,1.5s
MATE Matera 85.70 313⇑ iP **P 21 56 07.9 -0.3**
WTSB Winterswijk 85.76 326 eP **P 21 56 08.0 -0.3**
comp=Z,124nm,1.3s
MOTA Moosalm 85.91 321 i P **P 21 56 08.5 -0.9**
comp=Z,15nm,1.0s,SNR=11
MOTA Moosalm 85.91 321 i PP PP 21 59 29.4 +0.7
comp=Z,12nm,1.2s
KMBO Kilima Mbogo 85.98 267 P **P 21 56 11.7 +1.3**
comp=Z,16nm,0.9s,baz=49,slow=6.6,SNR=50
KMBO LR LR 22 36 29.4
comp=Z,244nm,18.7s,baz=80,slow=37
KMBO Kilima Mbogo 85.98 267 eP **P 21 56 11.9 +1.6**
comp=Z,32nm,1.1s
KMBO Kilima Mbogo 85.98 267 P **P 21 56 12.2 +1.9**
SNR=12
KMBO Kilima Mbogo 85.98 267 P **P 21 56 12.2 +1.9**
SNR=12
KMBO Kilima Mbogo 85.98 267 eP **P 21 56 11.9 +1.6**
KMBO pmax pmax
comp=Z,33nm,1.1s
STU Stuttgart 86.24 322 eP **P 21 56 10.6 -0.1**
comp=Z,67nm,1.6s
STU LR LR
comp=Z,3µm,20.0s
STU Stuttgart 86.24 322 eP **P 21 56 10.6 -0.1**
STU pmax pmax
comp=Z,67nm,1.6s
STU MLR MLR
comp=Z,3µm,20.0s
FETA Feichten 86.30 320 i P **P 21 56 11.0 -0.2**
SNR=8.6
FETA Feichten 86.30 320 i PP PP 21 59 32.2 +0.3
comp=Z,14nm,1.3s
TIP Timpagrande 86.36 311⇑ iP **P 21 56 11.9 +0.3**
TIP Timpagrande 86.36 311 eP **P 21 56 11.9 +0.3**
comp=Z,65nm,1.3s

LLLB Lillooet 86.63 35 eP **P 21 56 13.4 +0.8**
comp=Z,39nm,1.0s
DAVA Damuels 86.65 321 i P **P 21 56 12.7 -0.3**
comp=Z,16nm,1.1s,SNR=6.0
DAVA Damuels 86.65 321 i PP PP 21 59 35.4 +0.8
comp=Z,12nm,1.1s
HGN Heimansgroeve 86.89 325 eP **P 21 56 13.2 -0.6**
comp=Z,75nm,1.2s
HGN ePP **PP 21 59 38.1 +1.8**
HGN eS **S 22 06 47.2 -3.0**
ILULI Ilulissat 86.92 358 i P **P 21 56 13.1 -0.5**
comp=Z,50nm,1.1s
ILULI Ilulissat 86.92 358 eP **P 21 56 13.3 -0.3**
comp=Z,53nm,1.1s
ILULI Ilulissat 86.92 358 eP **P 21 56 13.1 -0.5**
ILULI pmax pmax
comp=Z,51nm,1.1s
MEM Membach 86.94 325⇑ P **P 21 56 13.8 -0.3**
comp=Z,16nm,1.1s
BFO Black Forest 86.96 322 eP **P 21 56 13.8 -0.6**
comp=Z,59nm,1.6s
BFO LR LR
comp=Z,2µm,19.0s
BFO Black Forest 86.96 322 i P **P 21 56 14.6 +0.3**
BEBN Eben Emael 87.00 325⇑ P **P 21 56 14.2 -0.2**
AQU L'Aquila 87.05 315 eP **P 21 56 16.2 +1.4**
comp=Z,120nm,1.2s
AQU L'Aquila 87.05 315 eP **P 21 56 16.3 +1.4**
AQU pmax pmax
comp=Z,120nm,1.2s
BORG Borgarnes 87.16 345 LR LR 22 39 43.3
comp=Z,2µm,18.3s,baz=27,slow=39
CEL Celeste 87.39 311 eP **P 21 56 17.6 +1.0**
comp=Z,121nm,1.1s
TUE Stuetta 87.39 320 eP **P 21 56 16.7 0.0**
comp=Z,75nm,1.6s
TUE LR LR
comp=Z,2µm,18.0s
WLF Walferdange 87.40 324⇑ P **P 21 56 17.0 +0.7**
comp=Z,68nm,1.5s
WLF Walferdange 87.40 324 eP **P 21 56 17.1 +0.7**
comp=Z,86nm,1.1s
WLF LR LR
comp=Z,2µm,19.0s
WLF Walferdange 87.40 324 eP **P 21 56 17.1 +0.7**
WLF pmax pmax
comp=Z,86nm,1.1s
WLF MLR MLR
comp=Z,2µm,19.0s
BCLA Clavier 87.42 325⇑ P **P 21 56 16.1 -0.3**
comp=Z,26nm,2.0s
ECH Echery 87.68 323 eP **P 21 56 15.4 -2.4**
comp=Z,40nm,1.4s
ECH LR LR
comp=Z,2µm,18.0s
ECH Echery 87.68 323 eP **P 21 56 15.4 -2.4**
ECH pmax pmax
comp=Z,40nm,1.4s
ECH MLR MLR
comp=Z,2µm,18.0s
UCC Uccle 87.68 326⇓ P **P 21 56 17.7 0.0**
UCC Uccle 87.68 326 PFAKE 21 56 30.0 +12
UCC LR LR
comp=Z,3µm,18.0s
B05A Bryant 87.84 37 P **P 21 56 19.3 +0.8**
baz=304
SNF Seneffe 87.89 326⇓ P **P 21 56 18.9 +0.3**
E03A Lebam 87.97 39 eP **P 21 56 20.1 +0.9**
comp=Z,55nm,1.0s
DOU Dourbes 87.97 325⇑ P **P 21 56 18.6 -0.5**
VLC Villacollemand 88.01 318 PFAKE 21 56 30.0 +11
VLC LR LR
comp=Z,2µm,18.0s
B06A Marblemount 88.03 37 eP **P 21 56 20.2 +0.9**
comp=Z,64nm,0.9s
RAR Rarotonga 88.07 114 LR LR 22 32 02.5
comp=Z,333nm,18.1s,baz=299,slow=33
F03A Seaside 88.31 40 eP **P 21 56 22.5 +1.7**
EKA Eskdalemuir Ar 88.36 332 P **P 21 56 20.1 -0.7**
comp=Z,3.7nm,0.7s,baz=37,slow=3.8,SNR=13
EKA LR LR 22 40 54.6
comp=Z,2µm,18.4s,baz=55,slow=39
ESK Eskdalemuir 88.39 332 PFAKE 21 56 30.0 +9.0
ESK LR LR
comp=Z,3µm,18.0s
D05A Enumclaw 88.51 38 eP **P 21 56 23.1 +1.4**
comp=Z,80nm,0.9s
F04D Rainier, OR 88.55 39 P **P 21 56 22.9 +1.0**
baz=304
TDL Tradedollar La 88.85 39 eP **P 21 56 24.8 +1.3**
LON Longmire 88.86 38 eP **P 21 56 24.3 +0.8**
comp=Z,30nm,1.0s
LON Longmire 88.86 38 eP **P 21 56 24.3 +0.8**
LON pmax pmax
comp=Z,30nm,1.0s
G03D McMinnville, O 88.88 40 P **P 21 56 24.5 +1.0**
baz=304
SFJD Kangerlussuaq 89.11 357 P **P 21 56 23.2 -0.8**
comp=Z,16nm,0.6s,baz=11,slow=3.9,SNR=12
SFJD LR LR 22 38 34.6
comp=Z,564nm,20.6s,baz=350,slow=37
SFJD Kangerlussuaq 89.11 357 i P **P 21 56 23.3 -0.8**
comp=Z,20nm,0.7s
SFJD Kangerlussuaq 89.11 357 i P **P 21 56 23.3 -0.8**
SFJD pmax pmax
comp=Z,20nm,0.7s
COR Corvallis 89.20 41 eP **P 21 56 27.2 +2.2**
comp=Z,70nm,1.1s
COR Corvallis 89.20 41 eP **P 21 56 27.2 +2.2**
COR pmax pmax
comp=Z,70nm,1.1s
LTY Liberty 89.21 37 eP **P 21 56 25.8 +0.7**
comp=Z,37nm,1.0s
EDM Edmonton 89.22 30 eP **P 21 56 25.6 +0.6**
comp=Z,53nm,0.9s
EDM LR LR
comp=Z,900nm,19.0s
EDM Edmonton 89.22 30 eP **P 21 56 25.6 +0.6**
EDM pmax pmax
comp=Z,53nm,0.9s
EDM MLR MLR
comp=Z,900nm,19.0s
B08A Colville Reser 89.29 36 eP **P 21 56 25.9 +0.5**
comp=Z,65nm,0.9s
B08A LR LR
comp=Z,500nm,19.0s
ANGG Ammassalik, Gr 89.34 352 eP **P 21 56 24.4 -0.8**
comp=Z,23nm,0.9s
I03D Drain, OR 89.67 41 P **P 21 56 28.3 +1.1**
baz=304
BNI Bardonecchia 89.73 320 eP **P 21 56 27.4 -0.3**
comp=Z,38nm,1.3s
BNI LR LR
comp=Z,3µm,19.0s
BNI Bardonecchia 89.73 320 eP **P 21 56 27.4 -0.3**
BNI pmax pmax
comp=Z,38nm,1.3s
BNI MLR MLR
comp=Z,3µm,19.0s
H04A Detroit Lake 89.81 40 eP **P 21 56 29.0 +1.1**
comp=Z,43nm,1.4s
G05D Wamic, OR 90.00 39 P **P 21 56 29.8 +1.0**
baz=305
I04A Tendick Farm, 90.18 41 P **P 21 56 30.2 +0.6**
baz=304
C09A Chrisman Ranch 90.19 36 eP **P 21 56 30.8 +1.1**
comp=Z,45nm,1.0s
D08A Wollman Farm, 90.29 37 eP **P 21 56 31.2 +1.2**
comp=Z,50nm,0.9s
HAWA Hanford 90.35 38 eP **P 21 56 31.7 +1.3**
comp=Z,44nm,1.0s
L02D Cave Junction, 90.36 43 P **P 21 56 30.9 +0.4**
baz=304
G06A Carlson Farm, 90.40 39 eP **P 21 56 32.3 +1.6**
comp=Z,43nm,1.1s
F07A Phinny Hill Vi 90.42 38 eP **P 21 56 32.5 +1.9**
I05D Terrebonne, OR 90.50 40 P **P 21 56 31.9 +0.7**
baz=305,SNR=6.0
HUMO Hull Mountain 90.51 42 eP **P 21 56 32.8 +1.6**
comp=Z,31nm,1.6s
NEW Newport 90.52 35 P **P 21 56 31.6 +0.4**
baz=308
NEW Newport 90.52 35 eP **P 21 56 31.6 +0.4**
comp=Z,49nm,1.0s
NEW LR LR
comp=Z,800nm,18.0s
NEW Newport 90.52 35 eP **P 21 56 31.6 +0.4**
NEW pmax pmax
comp=Z,49nm,1.0s
NEW MLR MLR
comp=Z,800nm,18.0s
E08A Dider Farm, El 90.55 37 eP **P 21 56 33.0 +1.7**
comp=Z,32nm,0.9s
J04D Umpqua Nationa 90.67 41 P **P 21 56 32.9 +0.7**
baz=304
SSB Saint Sauveur 90.84 321 PFAKE 21 56 50.0 +17
SSB LR LR
comp=Z,2µm,20.0s
E09A Wood Farm, Sta 91.04 37 eP **P 21 56 35.2 +1.7**
comp=Z,44nm,1.0s
E09A LR LR
comp=Z,500nm,19.0s
PINE Pine Mountain 91.06 40 eP **P 21 56 35.6 +1.6**
comp=Z,46nm,1.0s
YBH Yreka Blue Hor 91.15 43 P **P 21 56 35.4 +1.1**
comp=Z,7.3nm,1.0s,baz=252,slow=2.6,SNR=10.0
YBH LR LR 22 33 13.9
comp=Z,200nm,19.7s,baz=310,slow=33
DSB Dublin 91.16 332 PFAKE 21 56 50.0 +16
DSB LR LR
comp=Z,2µm,20.0s
J05D Fort Rock, OR 91.17 41 P **P 21 56 35.4 +0.9**
baz=305,SNR=9.4
K04D Chiloquin, OR 91.23 42 P **P 21 56 35.4 +0.7**
baz=305
M02C Callahan 91.25 43 P **P 21 56 35.5 +0.8**
baz=304
G08A Pilot Rock 91.32 38 eP **P 21 56 36.5 +1.5**
comp=Z,29nm,1.4s
M04C Macdoel 91.66 42 P **P 21 56 37.5 +0.7**
baz=305
WALA Waterton Lakes 91.67 33 eP **P 21 56 37.8 +1.2**
comp=Z,50nm,1.1s
WALA LR LR
comp=Z,200nm,22.0s
K05A Summer Lake 91.70 41 eP **P 21 56 38.4 +1.5**
comp=Z,33nm,1.0s
MBAR Mbarara 91.72 270 eP **P 21 56 35.5 -2.0**
comp=Z,24nm,1.4s
MBAR Mbarara 91.72 270 eP **P 21 56 35.5 -2.0**
MBAR pmax pmax
comp=Z,24nm,1.4s
I07A Izee 91.73 39 eP **P 21 56 38.8 +1.8**
comp=Z,18nm,1.4s
I07A LR LR
comp=Z,400nm,21.0s
F10A Beach Ranch, E 91.88 37 eP **P 21 56 38.9 +1.3**
comp=Z,70nm,1.9s
WDC Whiskeytown Da 91.90 44 eP **P 21 56 38.8 +1.1**
comp=Z,23nm,1.5s
WDC Whiskeytown Da 91.90 44 eP **P 21 56 38.8 +1.1**
WDC pmax pmax
comp=Z,23nm,1.5s
FCC Fort Churchill 92.17 18 eP **P 21 56 37.9 -0.6**
comp=Z,39nm,1.2s
FCC Fort Churchill 92.17 18 eP **P 21 56 37.9 -0.6**
FCC pmax pmax
comp=Z,39nm,1.2s
JTMT Jette 92.33 34 eP **P 21 56 40.4 +0.7**
comp=Z,22nm,1.0s
JTMT LR LR
comp=Z,600nm,18.0s
LBCM Butte Creek Ri 92.50 43 eP **P 21 56 43.4 +2.8**
BMO Blue Mountains 92.52 38 eP **P 21 56 41.6 +1.0**
comp=Z,35nm,1.5s
BMO LR LR
comp=Z,400nm,21.0s
BMO Blue Mountains 92.52 38 eP **P 21 56 41.6 +1.0**
BMO pmax pmax
comp=Z,35nm,1.5s
BMO MLR MLR
comp=Z,400nm,21.0s
O03D Paynes Creek 92.53 44 P **P 21 56 41.4 +0.7**
baz=305
MOD Modoc Plateau 92.53 42 eP **P 21 56 41.7 +1.0**
comp=Z,23nm,1.0s
J08A Circle Bar Ran 92.76 40 eP **P 21 56 43.1 +1.4**
comp=Z,31nm,1.1s
FFC Flin Flon 92.85 24 eP **P 21 56 41.1 -0.6**
comp=Z,43nm,1.0s
FFC LR LR
comp=Z,700nm,18.0s
FFC Flin Flon 92.85 24 eP **P 21 56 41.1 -0.6**
FFC pmax pmax
comp=Z,43nm,1.0s
FFC MLR MLR
comp=Z,700nm,18.0s
MSO Missoula 93.10 35 P **P 21 56 43.7 +0.5**
baz=310
MSO Missoula 93.10 35 eP **P 21 56 43.9 +0.6**
comp=Z,20nm,1.2s
MSO LR LR
comp=Z,700nm,18.0s
ORV Oroville 93.14 44 eP **P 21 56 43.7 +0.3**
comp=Z,6.0nm,0.8s
ORV LR LR
comp=Z,300nm,18.0s
ORV Oroville 93.14 44 eP **P 21 56 43.7 +0.3**
ORV pmax pmax
comp=Z,6.0nm,0.8s
ORV MLR MLR
comp=Z,300nm,18.0s
KEST Kesra 93.18 311 P **P 21 56 44.0 +0.2**
comp=Z,17nm,0.9s,baz=318,slow=3.6,SNR=9.1
KEST LR LR 22 45 55.3
comp=Z,767nm,18.2s,baz=349,slow=40
KEST Kesra 93.18 311 eP **P 21 56 44.2 +0.5**
comp=Z,27nm,1.0s
WVOR Wild Horse Val 93.22 40 eP **P 21 56 45.3 +1.4**
comp=Z,50nm,1.8s
WVOR Wild Horse Val 93.22 40 eP **P 21 56 45.3 +1.4**
WVOR pmax pmax
comp=Z,51nm,1.8s
AFDM Forest Hills D 93.82 44 eP **P 21 56 47.2 +0.6**
comp=Z,7.3nm,1.1s
MFID Camas Ranch 94.25 38 eP **P 21 56 49.9 +1.3**
comp=Z,33nm,1.5s
HRY Holter Researc 94.27 34 eP **P 21 56 49.6 +0.9**
PAHR Pah Rah Range 94.38 43 eP **P 21 56 50.2 +0.9**
comp=Z,7.9nm,0.8s
VCNR Virginia City 94.46 43 eP **P 21 56 50.9 +1.2**
comp=Z,8.9nm,0.8s
LRM Limekiln Ridge 94.54 35 eP **P 21 56 50.9 +0.8**
CMB Columbia Colle 94.72 45 eP **P 21 56 51.2 +0.4**
comp=Z,7.2nm,0.8s
CMB Columbia Colle 94.72 45 eP **P 21 56 51.2 +0.4**
CMB pmax pmax
comp=Z,7.0nm,0.8s
DLMT Dillon 94.77 35 eP **P 21 56 52.2 +1.2**
comp=Z,24nm,1.3s
YERR Yerington 94.90 43 eP **P 21 56 52.6 +0.9**
comp=Z,23nm,1.8s
HLID Hailey 94.95 38 P **P 21 56 52.8 +0.9**
baz=310
HLID Hailey 94.95 38 eP **P 21 56 53.1 +1.2**
comp=Z,19nm,1.6s
MCMT McKenzie Canyo 94.98 36 eP **P 21 56 53.8 +1.6**
WAKR Walker 95.06 44 eP **P 21 56 53.4 +0.8**
comp=Z,4.6nm,0.8s
BOZ Bozeman (W) 95.12 35 P **P 21 56 52.8 +0.2**
baz=312
BOZ Bozeman (W) 95.12 35 eP **P 21 56 53.0 +0.4**
comp=Z,22nm,1.8s
BOZ LR LR
comp=Z,600nm,19.0s
BOZ Bozeman (W) 95.12 35 eP **P 21 56 53.0 +0.4**
BOZ pmax pmax
comp=Z,22nm,1.8s
BOZ MLR MLR
comp=Z,600nm,19.0s
BMN Battle Mountai 95.28 41 eP **P 21 56 54.8 +1.4**
comp=Z,17nm,1.5s
BMN Battle Mountai 95.28 41 eP **P 21 56 54.8 +1.4**
BMN pmax pmax
comp=Z,17nm,1.5s
PPT Papeete 95.28 107 LR LR 22 31 16.6
comp=Z,564nm,21.8s,baz=356,slow=30
PPT2 Papeete2 95.29 107 eS **S 22 08 00.7 -7.3**
comp=Z,242nm,23.8s
PPT2 Papeete2 95.29 107 eLR LR 22 27 34.4
comp=Z,1µm,23.5s,baz=280
PMPB Monarch Peak 95.50 46 eP **P 21 56 56.9 +2.5**
comp=Z,12nm,0.8s
RYN Ryan 95.56 43 eP **P 21 56 54.1 -0.6**
comp=Z,7.2nm,0.9s

KVN **Kaiserville** 95.57 43 *e*P P 21 56 55.5 +0.7
comp=Z,7.7nm,1.0s
KVN **Kaiserville** 95.57 43 *e*P P 21 56 55.5 +0.7
KVN pmax pmax
comp=Z,8.0nm,1.0s
MDPB **Devils Postpil** 95.80 44 *e*P P 21 56 58.4 +2.4
comp=Z,16nm,1.1s
NV01 **Mina Array Sit** 95.82 43 *e*P P 21 56 56.5 +0.5
NVAR **Mina Array Bea** 95.82 43 P P 21 56 56.6 +0.6
comp=Z,4.3nm,0.8s,baz=287,slow=4.8,SNR=27
NVAR LR LR 22 36 46.7
comp=Z,169nm,19.9s,baz=87,slow=33
NV11 **Mina Array Sit** 95.91 43 *e*P P 21 56 57.3 +1.0
comp=Z,0.3nm,0.9s
YHB **Horse Butte** 95.92 35 *e*P P 21 56 57.9 +1.5
comp=Z,11nm,1.1s
GCMT **Greycliff** 96.00 34 *e*P P 21 56 57.9 +1.3
YHH **Holmes Hill** 96.07 35 *e*P P 21 56 58.2 +1.0
comp=Z,5.0nm,1.3s
YHH LR LR
comp=Z,500nm,20.0s
YMR **Madison River** 96.09 35 *e*P P 21 56 58.8 +1.6
comp=Z,4.6nm,0.8s
PAGB **Antelope Grade** 96.14 47 *e*P P 21 56 58.1 +0.8
comp=Z,7.7nm,0.8s
YFT **Old Faithful** 96.31 35 PFAKE 21 57 10.0 +12
YFT LR LR
comp=Z,1μm,19.0s
YPP **Pitchstone Pla** 96.45 35 *e*P P 21 57 01.7 +2.8
comp=Z,20nm,2.0s
YPP LR LR
comp=Z,500nm,20.0s
LKWY **Lake** 96.46 35 PFAKE 21 57 10.0 +11
LKWY LR LR
comp=Z,500nm,18.0s
H17A **Grant Village** 96.48 35 P P 21 57 00.6 +1.6
baz=313
H17A **Grant Village** 96.48 35 *e*P P 21 57 01.6 +2.7
comp=Z,11nm,1.3s
H17A LR LR
comp=Z,900nm,22.0s
IMW **Indian Meadow** 96.63 36 PFAKE 21 57 10.0 +10
IMW LR LR
comp=Z,400nm,18.0s
RLMT **Red Lodge** 96.66 34 P P 21 56 60.0 +0.3
baz=314
RLMT **Red Lodge** 96.66 34 *e*P P 21 57 00.6 +0.8
comp=Z,9.9nm,1.3s
PKM **Mcpherson Peak** 96.92 47 P P 21 57 00.8 -0.2
baz=306
LOHW **Long Hollow** 97.00 36 PFAKE 21 57 10.0 +8.7
LOHW LR LR
comp=Z,100nm,22.0s
HVU **Hansel Valley** 97.02 38 *e*P Pdif 21 57 02.5 +1.0
comp=Z,3.0nm,1.0s
HVU **Hansel Valley** 97.02 38 *e*P Pdif 21 57 02.5 +1.1
HVU pmax pmax
comp=Z,3.0nm,1.0s
LAO **LASA Array** 97.06 31 PFAKE 21 57 10.0 +8.7
LAO LR LR
comp=Z,600nm,18.0s
AHID **Auburn Hatcher** 97.30 37 PFAKE 21 57 20.0 +17
AHID LR LR
comp=Z,800nm,18.0s
BGU **Big Grassy Mou** 97.44 39 *e*P Pdif 21 57 05.2 +1.9
comp=Z,2.2nm,1.0s
BGU LR LR
comp=Z,400nm,21.0s
R11A **Troy Canyon, C** 97.56 42 P Pdif 21 57 04.2 +0.3
baz=309
R11A **Troy Canyon, C** 97.56 42 *e*P Pdif 21 57 04.4 +0.5
comp=Z,4.0nm,1.2s
DAC **Darwin (Calif)** 97.56 45 *e*P Pdif 21 57 04.4 +0.5
comp=Z,3.0nm,0.9s
DAC **Darwin (Calif)** 97.56 45 *e*P Pdif 21 57 04.4 +0.4
DAC pmax pmax
comp=Z,3.0nm,0.9s
MPMC **Manual Prospec** 97.76 45 P P 21 57 04.8 0.0
baz=307
HWUT **Hardware Ranch** 97.82 38 *e*P Pdif 21 57 05.8 +0.8
comp=Z,10nm,1.6s
HWUT LR LR
comp=Z,600nm,22.0s
FURC **Furnace Creek,** 97.91 44 P Pdif 21 57 05.3 +0.1
baz=308
LRMC **Laurel Mtn Rad** 97.98 46 P P 21 57 05.6 -0.2
baz=307
TPNV **Topopah Spring** 98.01 44 P P 21 57 05.7 -0.2
baz=308
DUG **Dugway, Tooele** 98.04 39 P Pdif 21 57 06.1 +0.1
baz=311
PD31 **Pinedale Array** 98.13 36 *e*P P 21 57 05.9 -0.5
PDAR **Pinedale Array** 98.13 36 P P 21 57 05.9 -0.5
comp=Z,0.2nm,0.5s,baz=63,slow=0.3,SNR=4.5
PDAR LR LR 22 40 17.6
comp=Z,202nm,21.9s,baz=346,slow=35
CTU **Camp Tracy** 98.32 39 PFAKE 21 57 20.0 +13
CTU LR LR
comp=Z,500nm,20.0s
JLU **Jordanelle** 98.55 38 PFAKE 21 57 20.0 +12
JLU LR LR
comp=Z,600nm,21.0s
ULM **Lac du Bonnet** 98.67 24 LR LR 22 46 33.3
comp=Z,590nm,19.1s,baz=324,slow=38
ULM **Lac du Bonnet** 98.67 24 PFAKE 21 57 20.0 +12
ULM LR LR
comp=Z,700nm,19.0s
CART **Cartagena** 98.83 318 PFAKE 21 57 20.0 +11
CART LR LR
comp=Z,600nm,19.0s
MDND **Maddock** 99.14 27 PFAKE 21 57 20.0 +9.5
MDND LR LR
comp=Z,800nm,19.0s
ESDC **Sonseca Array** 99.24 321 P Pdif 21 57 10.4 -0.8
comp=Z,0.1nm,0.3s,baz=76,slow=15,SNR=3.7
ESDC PP PP 22 01 03.4 -10
comp=Z,0.2nm,0.4s,baz=47,slow=7.6,SNR=4.7
ESDC LR LR 22 47 25.0
comp=Z,868nm,18.2s,baz=25,slow=39
ESLA **Sonseca Array** 99.24 321 PFAKE 21 57 20.0 +8.8
ESLA LR LR
comp=Z,1μm,18.0s
TCRU **Three Creeks R** 99.28 40 PFAKE 21 57 30.0 +18
TCRU LR LR
comp=Z,400nm,19.0s
PAB **San Pablo** 99.55 321 PFAKE 21 57 30.0 +17
PAB LR LR
comp=Z,1μm,21.0s
P17A **Butcher Ranch,** 99.71 39 PFAKE 21 57 30.0 +17
P17A LR LR
comp=Z,500nm,21.0s
P18A **Preston Nutter** 99.89 39 PFAKE 21 57 30.0 +16
P18A LR LR
comp=Z,600nm,19.0s
RSSD **Black Hills** 99.98 32 PFAKE 21 57 30.0 +15
RSSD LR LR
comp=Z,700nm,19.0s
AGMN **Agassiz Nation** 100.28 25 PFAKE 21 57 30.0 +14
AGMN LR LR
comp=Z,800nm,20.0s
TAOE **Nuku Hiva Isla** 100.36 95 *e*LR LR 22 29 58.6
comp=Z,558nm,22.0s
MTE **Manteigas** 100.76 323 PFAKE 21 57 30.0 +12
MTE LR LR
comp=Z,2μm,18.0s
Y12C **Blythe** 101.09 45 PFAKE 21 57 30.0 +11
Y12C LR LR
comp=Z,400nm,19.0s
GLA **Glamis** 101.33 46 PFAKE 21 57 30.0 +9.4
GLA LR LR
comp=Z,300nm,20.0s
PHWY **Pilot Hill** 101.33 35 PFAKE 21 57 30.0 +9.2
PHWY LR LR
comp=Z,300nm,19.0s
PESTR **Estremoz** 101.85 322 PFAKE 21 57 40.0 +17
PESTR LR LR
comp=Z,800nm,20.0s
SMCO **Snowmass** 102.03 37 PFAKE 21 57 40.0 +16
SMCO LR LR
comp=Z,600nm,19.0s
EYMN **Ely** 102.17 23 PFAKE 21 57 40.0 +16
EYMN LR LR
comp=Z,1μm,18.0s
ISCO **Idaho Springs** 102.33 36 PFAKE 21 57 40.0 +15
ISCO LR LR
comp=Z,600nm,19.0s
MESJ **Messejana** 102.92 322 *e*PP PP 22 01 41.5 +0.4
MESJ *e*SKSac **SKSac** 22 08 05.0 -0.6
MESJ AMS AMS 22 51 34.9
comp=Z,2μm,20.0s
TAM **Tamanrasset** 103.00 302 PFAKE 21 57 40.0 +12
TAM LR LR
comp=Z,400nm,20.0s
OGNE **Ogallala** 103.34 33 PFAKE 21 57 40.0 +11
OGNE LR LR
comp=Z,700nm,18.0s
ECSD **EROS Data Cent** 103.68 28 PFAKE 21 57 40.0 +9.2
ECSD LR LR
comp=Z,900nm,18.0s
PFVI **Vila Bisbo** 103.76 322 PFAKE 21 57 40.0 +8.7
PFVI LR LR
comp=Z,2μm,18.0s
SPMN **Marine on St.** 104.00 25 PFAKE 21 57 50.0 +18
SPMN LR LR
comp=Z,700nm,18.0s
KSCO **Kaye Shedlock'** 104.48 35 PFAKE 21 57 50.0 +15
KSCO LR LR
comp=Z,700nm,20.0s
COWI **Conover** 104.58 22 PFAKE 21 57 50.0 +15
COWI LR LR
comp=Z,900nm,19.0s
RTC **Rabat Centre** 104.78 318 PFAKE 21 57 50.0 +14
RTC LR LR
comp=Z,4μm,20.0s
BGNE **Belgrade** 104.85 30 PFAKE 21 57 50.0 +14
BGNE LR LR
comp=Z,600nm,18.0s
G42A **Mountain** 105.58 22 PFAKE 22 02 10.0
G42A LR LR
comp=Z,700nm,18.0s
Y22D **IRIS PASSCAL I** 105.63 41 PFAKE 22 02 10.0
Y22D LR LR
comp=Z,500nm,20.0s
H41A **Junction City** 105.69 23 PFAKE 22 02 10.0
H41A LR LR
comp=Z,1μm,18.0s
G43A **Wallace** 105.81 22 PFAKE 22 02 10.0
G43A LR LR
comp=Z,700nm,18.0s
WI04 **River Road, Cl** 105.98 23 PFAKE 22 02 10.0
WI04 LR LR
comp=Z,800nm,20.0s
WI03 **Lunz Road, Cli** 105.98 23 PFAKE 22 02 10.0
WI03 LR LR
comp=Z,1μm,20.0s
WI02 **Reinke Road, C** 106.02 23 PFAKE 22 02 10.0
WI02 LR LR
comp=Z,900nm,19.0s
CBKS **Cedar Bluff** 106.11 33 PFAKE 22 02 10.0
CBKS LR LR
comp=Z,700nm,19.0s
H42A **Shiocton** 106.18 22 PFAKE 22 02 10.0
H42A LR LR
comp=Z,1μm,19.0s
H43A **Windswept, Lux** 106.48 22 PFAKE 22 02 10.0
H43A LR LR
comp=Z,700nm,22.0s
I42A **Draeger Farm,** 106.58 23 PFAKE 22 02 10.0
I42A LR LR
comp=Z,1μm,19.0s
JFWS **Jewell Farm** 106.93 24 PFAKE 22 02 10.0
JFWS LR LR
comp=Z,800nm,18.0s
GLMI **Grayling** 107.19 20 PFAKE 22 02 10.0
GLMI LR LR
comp=Z,900nm,20.0s
KSU1 **Kansas State U** 107.39 31 PFAKE 22 02 10.0
KSU1 LR LR
comp=Z,700nm,18.0s
MNTX **Cornudas Mount** 108.21 42 PFAKE 22 02 10.0
MNTX LR LR
comp=Z,600nm,21.0s
SADO **Sadowa** 108.78 16 PFAKE 22 02 10.0
SADO LR LR
comp=Z,800nm,20.0s
PLVO **Plevna** 109.02 14 PFAKE 22 02 10.0
PLVO LR LR
comp=Z,1μm,19.0s
WMOK **Wichita Mounta** 109.73 35 PFAKE 22 02 10.0
WMOK LR LR
comp=Z,600nm,18.0s
AAM **Ann Arbor** 109.77 20 PFAKE 22 02 10.0
AAM LR LR
comp=Z,700nm,20.0s
LONY **Lake Ozonia** 109.96 13 PFAKE 22 02 10.0
LONY LR LR
comp=Z,1μm,19.0s
RKT **Rikitea** 110.04 107 *e*SS SS 22 18 00.8 +1.5
comp=Z,242nm,29.5s
RKT **Rikitea** 110.04 107 *e*LR LR 22 34 29.2
comp=Z,927nm,24.0s,baz=292
S39A **Bolivar** 110.05 30 P PKiKP 22 02 00.2 -0.8
baz=326
SFIN **Lafayette** 110.31 24 PFAKE 22 02 10.0
SFIN LR LR
comp=Z,700nm,18.0s
TUL1 **Leonard** 110.33 32 PFAKE 22 02 20.0
TUL1 LR LR
comp=Z,500nm,18.0s
SLM **Saint Louis** 110.59 27 PFAKE 22 02 20.0
SLM LR LR
comp=Z,800nm,18.0s
NCB **Newcomb** 110.65 13 PFAKE 22 02 20.0
NCB LR LR
comp=Z,800nm,20.0s
CCM **Cathedral Cave** 110.66 28 PFAKE 22 02 20.0
CCM LR LR
comp=Z,700nm,21.0s
ABTX **Abilene, Hawle** 110.87 37 PFAKE 22 02 20.0
ABTX LR LR
comp=Z,700nm,19.0s
HHAR **Hobbs** 110.92 31 PFAKE 22 02 20.0
HHAR LR LR
comp=Z,900nm,20.0s
LTX **Lajitas** 110.92 42 *e*Pdif **Pdif** 21 58 07.4 +4.0
LTX *e*PKiKP **PKiKP** 22 02 03.1 +0.2
TXAR **Lajitas Array** 110.92 42 Pdiff **Pdif** 21 58 07.4 +3.9
comp=Z,0.2nm,0.8s,baz=197,slow=2.8,SNR=3.0
TXAR PKiKP **PKiKP** 22 02 03.1 +0.2
comp=Z,1.1nm,0.7s,baz=223,slow=1.2,SNR=11
MMNY **Mt. Morris Dam** 111.00 16 PFAKE 22 02 20.0
MMNY LR LR
comp=Z,1μm,20.0s
ERPA **Erie** 111.03 18 PFAKE 22 02 20.0
ERPA LR LR
comp=Z,900nm,20.0s
TOA1 **Torodi Ar. Sit** 111.27 296 *e*PKiKP **PKiKP** 22 02 03.1 -0.6
TOA1 *e*PKKPab **PKKPab** 22 13 10.7 +0.5
TORD **Torodi Ar. Bea** 111.27 296 PKiKP **PKiKP** 22 02 03.1 -0.6
comp=Z,1.8nm,0.7s,baz=17,slow=2.9,SNR=10
TORD PKKP **PKKPab** 22 13 10.7 +0.5
comp=Z,0.4nm,0.7s,baz=275,slow=3.0,SNR=3.8
ACCN **Adirondack Com** 111.33 12 PFAKE 22 02 20.0
ACCN LR LR
comp=Z,1μm,20.0s
U40A **Yellville** 111.36 30 P PKiKP 22 02 02.7 -0.7
baz=326
OLIL **Olney** 111.36 25 PFAKE 22 02 20.0
OLIL LR LR
comp=Z,800nm,18.0s
M54A **Oil Creek Stat** 111.68 18 PFAKE 22 02 20.0
M54A LR LR
comp=Z,700nm,19.0s
SIUC **Southern Illin** 111.79 27 PFAKE 22 02 20.0
SIUC LR LR
comp=Z,500nm,18.0s
V40A **Witts Springs** 111.83 30 P PKiKP 22 02 03.9 -0.5
baz=326
ACSO **Alum Creek Sta** 111.86 21 PFAKE 22 02 20.0
ACSO LR LR
comp=Z,800nm,22.0s
BINY **Binghamton** 111.97 15 PFAKE 22 02 20.0
BINY LR LR
comp=Z,1μm,19.0s
PBMO **Poplar Bluff** 112.08 28 PFAKE 22 02 20.0
PBMO LR LR
comp=Z,600nm,20.0s
N54A **Moraine State** 112.10 18 PFAKE 22 02 20.0
N54A LR LR
comp=Z,1μm,19.0s
USIN **University of** 112.20 25 PFAKE 22 02 20.0
USIN LR LR
comp=Z,700nm,20.0s
JCT **Junction City** 112.39 39 PFAKE 22 02 20.0
JCT LR LR
comp=Z,600nm,22.0s
WHAR **Wooly Hollow** 112.49 30 PFAKE 22 02 20.0
WHAR LR LR
comp=Z,800nm,19.0s
MIAR **Mount Ida** 112.50 32 PFAKE 22 02 20.0
MIAR LR LR
comp=Z,800nm,18.0s
WHTX **Lake Whitney,** 112.55 36 PFAKE 22 02 20.0
WHTX LR LR
comp=Z,600nm,19.0s
HRV **Adam Dziewonsk** 112.57 11 PFAKE 22 02 20.0
HRV LR LR
comp=Z,1μm,20.0s
PVMO **Portageville** 112.70 28 PFAKE 22 02 20.0
PVMO LR LR
comp=Z,700nm,19.0s
UALR **University of** 112.89 31 PFAKE 22 02 20.0
UALR LR LR
comp=Z,900nm,18.0s
SSPA **Standing Stone** 112.97 17 PFAKE 22 02 20.0
SSPA LR LR
comp=Z,900nm,20.0s
N59A **State Game Lan** 113.23 15 PFAKE 22 02 20.0
N59A LR LR
comp=Z,800nm,20.0s
ODNJ **Ogdensburg** 113.34 14 PFAKE 22 02 20.0
ODNJ LR LR
comp=Z,1μm,20.0s
MCWV **Mont Chateau** 113.34 19 PFAKE 22 02 20.0
MCWV LR LR
comp=Z,1μm,19.0s
WLAR **White Oak Lake** 113.42 32 PFAKE 22 02 20.0
WLAR LR LR
comp=Z,700nm,18.0s
YLE **Yale** 113.47 13 PFAKE 22 02 20.0
YLE LR LR
comp=Z,400nm,18.0s
LUPA **Lehigh Univers** 113.63 15 PFAKE 22 02 20.0
LUPA LR LR
comp=Z,100nm,20.0s
PAGS **Pennsylvania G** 113.66 16 PFAKE 22 02 20.0
PAGS LR LR
comp=Z,1μm,20.0s
U47A **Clarksville** 113.67 26 P **PKiKP** 22 02 07.1 -0.7
baz=330
WVT **Waverly** 113.72 26 P **PKiKP** 22 02 06.9 -1.0
baz=330
WVT **Waverly** 113.72 26 PFAKE 22 02 20.0
WVT LR LR
comp=Z,700nm,19.0s
NATX **Nacogdoches** 114.20 34 PFAKE 22 02 20.0 +11
NATX LR LR
comp=Z,700nm,19.0s
PSUB **Penn St. - Bra** 114.25 15 PFAKE 22 02 20.0 +11
PSUB LR LR
comp=Z,1μm,20.0s
SDMD **Soldier's Deli** 114.40 16 PFAKE 22 02 20.0 +11
SDMD LR LR
comp=Z,600nm,18.0s
OXF **Oxford** 114.44 29 PFAKE 22 02 20.0 +11
OXF LR LR
comp=Z,600nm,20.0s
W47A **Westpoint** 114.57 27 P PKPdf 22 02 08.5 -1.2
baz=330
PLAL **Pickwick Lake** 114.61 27 PFAKE 22 02 20.0 +10
PLAL LR LR
comp=Z,700nm,18.0s
TZTN **Tazewell** 114.99 23 PFAKE 22 02 20.0 +10
TZTN LR LR
comp=Z,800nm,18.0s
HKT **Hockley** 115.00 36 PFAKE 22 02 20.0 +10
HKT LR LR
comp=Z,600nm,19.0s
KOWA **Kowa** 115.12 301 PKP **PKPdf** 22 02 10.5 -0.6
comp=Z,3.2nm,0.6s,baz=79,slow=2.4,SNR=20
KOWA **Kowa** 115.12 301 *e*PKiKP **PKPdf** 22 02 10.5 -0.6
KOWA LR LR
comp=Z,700nm,19.0s
Y46A **Houston** 115.21 28 P **PKPdf** 22 02 10.2 -0.7
baz=328
CBN **Corbin Frederi** 115.39 17 PFAKE 22 02 20.0 +8.9
CBN LR LR
comp=Z,1μm,19.0s
BLA **Blacksburg** 115.43 20 PFAKE 22 02 20.0 +8.7
BLA LR LR
comp=Z,1μm,18.0s
TKL **Tuckaleechee C** 115.70 23 PKP **PKPdf** 22 02 10.4 -1.3
comp=Z,3.1nm,0.8s,baz=13,slow=11,SNR=6.5
VBMS **Vicksburg** 115.86 31 PFAKE 22 02 30.0 +18
VBMS LR LR
comp=Z,600nm,18.0s
BG3 **Lake Jocassee** 116.60 23 PFAKE 22 02 30.0 +16
BG3 LR LR
comp=Z,1μm,18.0s
NCAT **North Carolina** 116.67 20 PFAKE 22 02 30.0 +16
NCAT LR LR
comp=Z,800nm,21.0s
LNIG **Linares** 116.70 43 *e*PKPdf **PKPdf** 22 02 14.0 0.0
LRAL **Lakeview Retre** 116.73 27 PFAKE 22 02 30.0 +16
LRAL LR LR
comp=Z,600nm,19.0s
KMSC **Kings Mountain** 117.02 22 PFAKE 22 02 30.0 +16
KMSC LR LR
comp=Z,800nm,22.0s
HODGE **Hodges** 117.52 23 PFAKE 22 02 30.0 +15
HODGE LR LR
comp=Z,700nm,20.0s
GOGA **Godfrey** 117.81 24 PFAKE 22 02 30.0 +14
GOGA LR LR
comp=Z,800nm,21.0s
JSC **Jenkinsville** 117.83 22 PFAKE 22 02 30.0 +14
JSC LR LR
comp=Z,800nm,18.0s
CNNC **Cliffs of the** 118.02 19 PFAKE 22 02 30.0 +14
CNNC LR LR
comp=Z,1μm,18.0s
JRQG **Juriquilla Cam** 119.07 47 PFAKE 22 02 30.0 +11
JRQG LR LR
comp=Z,800nm,19.0s
NHSC **New Hope** 119.26 22 PFAKE 22 02 30.0 +11
NHSC LR LR
comp=Z,700nm,19.0s
TIGA **Tifton** 119.52 25 PFAKE 22 02 30.0 +11
TIGA LR LR
comp=Z,699nm,21.0s
DBIC **Dimbokro** 120.17 294 PKP **PKPdf** 22 02 20.4 -0.5
comp=Z,5.7nm,0.7s,baz=74,slow=2.7,SNR=8.2
KIC **Kosan Boka** 120.24 293 *e*PKiKP **PKPdf** 22 02 20.5 -0.5
comp=Z,24nm,0.9s
TIC **Toumodi** 120.33 294 *e*PKiKP **PKPdf** 22 02 20.6 -0.6
LIC **Lamto** 120.56 293 *e*PKiKP **PKPdf** 22 02 20.9 -0.7
comp=Z,64nm,1.7s
SNAA **Sanae** 123.42 198 PKP **PKPdf** 22 02 25.4 -0.1
SNAA **Sanae** 123.42 198 PKP **PKPdf** 22 02 25.1 -0.4
comp=Z,0.9nm,0.5s,baz=97,slow=2.8,SNR=13
VNA2 **Neumayer--Watz** 125.07 198 PKP **PKPdf** 22 02 28.9 +0.3
baz=62,slow=1.3
VNA1 **Neumayer--Stat** 125.45 198 PKP **PKPdf** 22 02 29.8 +0.5
VNA3 **Neumayer Olymp** 125.53 197 PKP **PKPdf** 22 02 29.0 -0.5
MTDJ **Mount Denham** 133.74 27 PFAKE 22 03 00.0 +13
MTDJ LR LR
comp=Z,600nm,19.0s
SDDR **Presa de Saban** 135.24 18 PFAKE 22 03 00.0 +10
SDDR LR LR
comp=Z,700nm,20.0s
MPR **Mayaguez** 137.01 13 PFAKE 22 03 10.0 +17
MPR LR LR
comp=Z,400nm,20.0s
CRPR **Cabo Rojo, PR** 137.22 13 PFAKE 22 03 10.0 +17
CRPR LR LR
comp=Z,800nm,20.0s
STVI **Saint Thomas** 137.29 10 PFAKE 22 03 10.0 +17
STVI LR LR
comp=Z,600nm,19.0s
SJG **San Juan** 137.31 12 PFAKE 22 03 10.0 +17
SJG LR LR
comp=Z,400nm,20.0s
PMSA **Palmer Station** 139.04 176 PFAKE 22 03 10.0 +15
PMSA LR LR
comp=Z,300nm,22.0s
MOTC **Monteria, Cord** 142.95 31 *e*P **PKPdf** 22 02 58.5 -5.1
ZARC **Zaragoza, Cauc** 144.45 30 *e*P **PKPab** 22 03 01.4 -3.1

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
OCAC	Ocana	144.47	27	eP	PKPbc	22 03 05.4	+0.4
SDV	Santo Domingo	144.92	23	PKP	PKPab	22 03 06.4	0.0
	comp=Z,51nm,0.7s,baz=24,slow=2.4,SNR=67						
SDV	Santo Domingo	144.92	23	ePKPdf	PKPab	22 03 06.4	0.0
SDV				LR	LR		
	comp=Z,600nm,20.0s						
SDV	Santo Domingo	144.92	23	eP	PKPab	22 03 06.1	-0.4
HELC	Santa Helena	145.27	32	ePKPbc	PKPbc	22 03 06.8	-1.0
HELC				LR	LR		
	comp=Z,1µm,20.0s						
HELC	Santa Helena	145.27	32	eP	PKPbc	22 03 05.9	-1.9
BRRC	Barranca, Sant	145.31	29	eP	PKPbc	22 03 06.8	-0.8
PCRV	Puerto La Cruz	145.33	12	PKPbc	PKPbc	22 03 06.1	-1.5
	comp=Z,21nm,0.6s,baz=315,slow=1.4,SNR=12						
PTBC	PUERTO BERRIO;	145.48	30	eP	PKPbc	22 03 06.2	-1.9
PAMC	Pamplona, Colo	145.54	27	eP	PKPdf	22 03 08.2	-0.6
PLMC	San Jos˜' del	145.99	35	eP	PKPab	22 03 10.1	-0.2
BARC	Barichara	146.00	28	eP	PKPdf	22 03 09.2	0.0
NORC	Norcasia	146.13	32	eP	PKPbc	22 03 10.4	+0.3
GUYC	Guyana, Colomb	146.17	33	eP	PKPdf	22 03 09.5	-0.3
RREF	El Recreo	146.47	33	eP	PKPbc	22 03 11.8	-0.1
GRGC	Isla de Gorgon	146.53	39	eP	PKPdf	22 03 10.4	+0.5
RUSC	La Rusia	146.67	29	ePKPdf	PKPdf	22 03 11.1	+0.4
RUSC	La Rusia	146.67	29	eP	PKPdf	22 03 11.3	+0.6
YOTC	Yotoco, Valle	146.73	36	eP	PKPdf	22 03 10.7	+0.4
TOLC	Tolima	146.75	34	eP	PKPbc	22 03 12.1	-0.3
ANIL	Santa Ana	146.79	34	eP	PKPbc	22 03 11.8	-0.7
ROSC	El Rosal	147.03	32	PKPbc	PKPbc	22 03 13.7	+0.5
	comp=Z,12nm,0.7s,baz=53,slow=5.1,SNR=14						
ROSC	El Rosal	147.03	32	ePKPbc	PKPbc	22 03 13.8	+0.6
ROSC	El Rosal	147.03	32	eP	PKPbc	22 03 13.8	+0.6
CHIC	Chingaza	147.49	31	eP	PKPdf	22 03 12.3	+0.3
PRAC	Prado	147.72	34	ePKPdf	PKPbc	22 03 14.0	-0.7
PRAC				LR	LR		
	comp=Z,100nm,19.0s						
PRAC	Prado	147.72	34	eP	PKPbc	22 03 13.9	-0.7
MARP	Paez Belalcaza	147.90	36	eP	PKPbc	22 03 14.6	-0.9
VILC	Villavicencio,	147.96	31	eP	PKPdf	22 03 13.4	+0.9
PCON	Cinco Dias	148.08	37	eP	PKPbc	22 03 16.4	+0.1
SOTA	Rioblanco	148.12	38	eP	PKPbc	22 03 16.2	-0.2
BETC	Betania	148.31	36	eP	PKPbc	22 03 16.7	+0.5
CRUC	La Cruz	148.39	39	eP	PKPbc	22 03 17.0	+0.1
GCUF	Volcan Galeras	148.44	40	eP	PKPbc	22 03 17.3	+0.1
OTAV	Otavalo	148.55	43	ePKPdf	PKPdf	22 03 15.0	+1.2
OTAV				LR	LR		
	comp=Z,500nm,21.0s						
OTAV	Otavalo	148.55	43	eP	PKPbc	22 03 18.4	+1.0
FLOC	Florencia	149.11	37	eP	PKPbc	22 03 17.6	-0.8
RCBR	Riachuelo	152.36	307	ePKPbc	PKPbc	22 03 26.5	+0.5
RCBR				LR	LR		
	comp=Z,70µm,20.0s						
PTGA	Pitinga	156.74	6	ePKPdf	PKPdf	22 03 26.0	+0.8
PLCA	Paso Flores	160.12	150	PKP	PKPdf	22 03 30.8	+2.2
	comp=Z,1.5nm,0.9s,baz=221,slow=20,SNR=1.8						
PLCA				PKPab	PKPab	22 04 08.4	-0.1
	comp=Z,2.7nm,0.9s,baz=250,slow=3.4,SNR=5.1						
LPAZ	La Paz	167.51	54	PKP	PKPdf	22 03 38.0	+1.3
	comp=Z,6.8nm,0.9s,baz=14,slow=3.2,SNR=14						
LPAZ				PKPab	PKPab	22 04 41.1	-1.3
	comp=Z,4.0nm,0.9s,baz=360,slow=7.1,SNR=4.0						
LPAZ	La Paz	167.51	54	ePKPdf	PKPdf	22 03 38.5	+1.8
LPAZ				ePKPab	PKPab	22 04 41.1	-1.3
LPAZ	La Paz	167.51	54	ePKIKP	PKPdf	22 03 38.6	+1.8
LPAZ				e		22 04 41.1	
MNMC	Minye Minye	167.86	69	ePKPdf	PKPdf	22 03 38.1	+1.6
PB11	IPOC Station P	168.07	72	ePKPdf	PKPdf	22 03 38.0	+1.6
CPUP	Villa Florida	177.68	187	PKP	PKPdf	22 03 40.1	+0.1
	comp=Z,3.2nm,1.1s,baz=122,slow=8.8,SNR=3.0						

*IGIL **08** 21:54:01.4, 37°.31N×14°.15W, h2km, ML2.2*
*MDD **08** 21:54:01.7±1.7, 37°.12N×14°.36W, h45km, mb4.1/20, Error ellipse: s-maj=15.8km s-min=13.1km az=40.0, PRXIMO*
*INMG **08** 21:54:03.2±1.3, 37°.02N×14°.45W, h10km, ML2.4, Error ellipse: s-maj=6.2km s-min=4.0km az=127.0*
*CSEM **08** 21:54:06.1±0.3, 37°.36N×13°.81W, h20km, ML3.0/9, Error ellipse: s-maj=5.9km s-min=4.8km az=37.0*
ISC 08 21:54:00.6±3.4**, 37°.26N**±0°.09×**14°.0W**±0°.2**, h10**km**, n107, σ1s80**/197**, Azores-Cape St. Vincent Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMAFR	Mafra	4.11	64	ePn	Pn	21 55 05.5	+2.0
PMAFR				eSn	Sn	21 55 53.5	+1.9
PMAFR				A	A	21 55 56.2	
	8.5nm,0.2s						
PMAFR	Mafra	4.11	64	P	Pn	21 55 05.4	+2.0
	2.6nm,0.1s,SNR=18						
PMAFR				S	Sn	21 55 51.9	+0.3
	11nm,0.2s,SNR=7.6						
PMAFR	Mafra	4.11	64	P	Pn	21 55 05.4	+2.0
	2.6nm,0.1s,SNR=18						
PMAFR				S	Sn	21 55 51.9	+0.3
	11nm,0.2s,SNR=7.6						
PFVI	Vila Bisbo	4.16	90	ePn	Pn	21 55 05.4	+1.3
PFVI				eSn	Sn	21 55 51.4	-1.4
PFVI				A	A	21 55 54.5	
	2.9nm,0.1s						
PFVI	Vila Bisbo	4.16	90	P	Pn	21 55 05.4	+1.3
	1.6nm,0.1s,SNR=7.9						
PFVI				S	Sn	21 55 52.2	-0.6
	4.8nm,0.1s,SNR=7.9						
PFVI	Vila Bisbo	4.16	90	P	Pn	21 55 05.4	+1.3
	1.6nm,0.1s,SNR=7.9						
PFVI				eSn	Sn	21 55 51.4	-1.4
	2.9nm,0.1s						
PFVI				S	Sn	21 55 52.2	-0.6
	4.8nm,0.1s,SNR=7.9						
PTEO	Sao Teotonio	4.24	85	ePn	Pn	21 55 06.6	+1.4
PTEO				eSn	Sn	21 55 53.1	-1.6
PTEO				A	A	21 55 59.4	
	5.7nm,0.9s						
PTEO	Sao Teotonio	4.24	85	P	Pn	21 55 06.6	+1.4
PTEO				S	Sn	21 55 53.1	-1.6
	2.8nm,0.9s						
PTEO	Sao Teotonio	4.24	85	P	Pn	21 55 06.6	+1.4
PTEO				S	Sn	21 55 53.1	-1.6
	2.8nm,0.9s						
MORF	Marmelete	4.29	88	eP	Pn	21 55 07.2	+1.2
MORF				eS	Sn	21 55 55.0	-1.2
MORF				AML	AML	21 55 56.4	
	comp=E,4.3nm,0.1s						
MORF	Marmelete	4.29	88	ePn	Pn	21 55 07.2	+1.2
MORF				eSn	Sn	21 55 55.0	-1.2
MORF				A	A	21 56 00.1	
	comp=E,3.6nm,0.3s						
MORF	Marmelete	4.29	88	P	Pn	21 55 07.2	+1.2
MORF				S	Sn	21 55 55.0	-1.2
	comp=E,4.3nm,0.1s						
MORF	Marmelete	4.29	88	P	Pn	21 55 07.2	+1.2
MORF				S	Sn	21 55 55.0	-1.2
	comp=E,4.3nm,0.1s						
PNCL	Nicolau / Gran	4.45	77	ePn	Pn	21 55 09.4	+1.3
PNCL				eSn	Sn	21 55 59.8	-0.1
PNCL				A	A	21 56 07.5	
	comp=E,3.3nm,0.9s						
PNCL	Nicolau / Gran	4.45	77	ePn	Pn	21 55 09.4	+1.3
PNCL				eSn	Sn	21 55 59.8	-0.1
	comp=E,3.3nm,0.9s						
PMPS	Porto Santo	4.60	205	eS	Sn	21 55 45.9	-18
PMPS				A	A	21 55 48.0	
	comp=E,7.8nm,0.3s						
MESJ	Messejana	4.65	81	eP	Pn	21 55 12.2	+1.2
MESJ				eS	Sn	21 56 03.3	-1.7
MESJ				AML	AML	21 56 08.1	
	comp=N,3.9nm,0.2s						
MESJ	Messejana	4.65	81	ePn	Pn	21 55 12.2	+1.2
MESJ				eSn	Sn	21 56 04.5	-0.5
MESJ				A	A	21 56 09.4	
	comp=N,2.2nm,0.5s						
MESJ	Messejana	4.65	81	P	Pn	21 55 12.2	+1.2
MESJ				S	Sn	21 56 03.3	-1.7
	comp=N,3.9nm,0.2s						
MESJ	Messejana	4.65	81	P	Pn	21 55 12.2	+1.2
MESJ				S	Sn	21 56 03.3	-1.7
	comp=N,3.9nm,0.2s						
MESJ				eSn	Sn	21 56 04.5	-0.5
	comp=N,2.2nm,0.5s						
ALMR	Almeirim	4.69	65	ePn	Pn	21 55 14.3	+2.8
ALMR				eSn	Sn	21 56 07.0	+1.0
ALMR				A	A	21 56 15.2	
	comp=N,7.3nm,0.6s						
ALMR	Almeirim	4.69	65	P	Pn	21 55 14.3	+2.8
ALMR				S	Sn	21 56 07.0	+1.0
	comp=N,3.7nm,0.6s						
ALMR	Almeirim	4.69	65	P	Pn	21 55 14.3	+2.8
ALMR				S	Sn	21 56 07.0	+1.0
	comp=N,3.7nm,0.6s						
PCVE	Castro Verde	4.78	84	ePn	Pn	21 55 14.1	+1.4
PCVE				eSn	Sn	21 56 06.6	-1.6
PCVE				A	A	21 56 20.1	
	comp=N,2.1nm,0.9s						
PCVE	Castro Verde	4.78	84	P	Pn	21 55 14.1	+1.4
PCVE				S	Sn	21 56 06.6	-1.6
	comp=N,2.1nm,0.9s						
PCVE	Castro Verde	4.78	84	P	Pn	21 55 14.1	+1.4
PCVE				S	Sn	21 56 06.6	-1.6
	comp=N,2.1nm,0.9s						
PBDV	Barranco-do-Ve	4.87	88	eSn	Sn	21 56 08.9	-1.4
PBDV				A	A	21 56 19.4	
	comp=N,3.5nm,0.8s						
PBDV	Barranco-do-Ve	4.87	88	S	Sn	21 56 08.9	-1.4
	comp=N,3.5nm,0.8s						
PBDV	Barranco-do-Ve	4.87	88	S	Sn	21 56 08.9	-1.4
	comp=N,3.5nm,0.8s						
PMTG	Montargil	4.92	67	ePn	Pn	21 55 17.0	+2.4
PMTG				eSn	Sn	21 56 11.7	+0.2
PMTG				A	A	21 56 16.5	
	comp=N,1.8nm,0.1s						
PMTG	Montargil	4.92	67	ePn	Pn	21 55 17.0	+2.4
PMTG				eSn	Sn	21 56 11.7	+0.2
	comp=N,1.8nm,0.1s						
PBEJ	Beja	4.95	79	ePn	Pn	21 55 17.1	+2.0
PBEJ				eSn	Sn	21 56 11.7	-0.7
PBEJ				A	A	21 56 14.9	
	comp=N,2.1nm,0.1s						
PBEJ	Beja	4.95	79	P	Pn	21 55 17.1	+2.0
PBEJ				S	Sn	21 56 11.7	-0.7
	comp=N,1.1nm,0.1s						
PBEJ	Beja	4.95	79	P	Pn	21 55 17.1	+2.0
PBEJ				S	Sn	21 56 11.7	-0.7
	comp=N,1.1nm,0.1s						
PTOM	Tomar	5.00	60	ePn	Pn	21 55 17.9	+2.2
PTOM				eSn	Sn	21 56 14.2	+0.7
PTOM				A	A	21 56 16.1	
	comp=N,4.5nm,0.3s						
PTOM	Tomar	5.00	60	P	Pn	21 55 17.9	+2.2
PTOM				S	Sn	21 56 14.2	+0.7
	comp=N,2.2nm,0.3s						
PTOM	Tomar	5.00	60	P	Pn	21 55 17.9	+2.2
PTOM				S	Sn	21 56 14.2	+0.7
	comp=N,2.2nm,0.3s						
PVAQ	Vaqueiros	5.03	86	eSn	Sn	21 56 13.6	-0.8
PVAQ				A	A	21 56 17.9	
	comp=N,3.7nm,0.1s						
PVAQ	Vaqueiros	5.03	86	S	Sn	21 56 13.6	-0.8
	comp=N,3.7nm,0.1s						
PVAQ	Vaqueiros	5.03	86	S	Sn	21 56 13.6	-0.8
	comp=N,3.7nm,0.1s						
PCAS	Casmilo, Conde	5.15	56	ePn	Pn	21 55 19.1	+1.3
PCAS				eSn	Sn	21 56 18.0	+0.8
PCAS				A	A	21 56 20.1	
	comp=N,2.1nm,0.7s						
PCAS	Casmilo, Conde	5.15	56	ePn	Pn	21 55 19.1	+1.3
PCAS				eSn	Sn	21 56 18.0	+0.8
	comp=N,2.1nm,0.7s						
EGRO	El Granado	5.22	85	P	Pn	21 55 20.6	+1.9
	comp=N,1.1nm,0.1s,SNR=7.9						
EGRO				S	Sn	21 56 17.7	-1.3
	comp=N,1.7nm,0.1s,SNR=7.9						
EGRO	El Granado	5.22	85	P	Pn	21 55 20.6	+1.9
	comp=N,1.1nm,0.1s,SNR=7.9						
EGRO				S	Sn	21 56 17.7	-1.3
	comp=N,1.7nm,0.1s,SNR=7.9						
PESTR	Estremoz	5.33	71	ePn	Pn	21 55 22.3	+2.0
PESTR				eSn	Sn	21 56 21.5	-0.2
PESTR				A	A	21 56 27.4	
	comp=N,1.7nm,0.7s						
PESTR	Estremoz	5.33	71	ePn	Pn	21 55 22.3	+2.0
PESTR				eSn	Sn	21 56 21.5	-0.2
	comp=N,1.7nm,0.7s						
PBAR	Barrancos	5.62	79	ePn	Pn	21 55 26.3	+2.1
PBAR				eSn	Sn	21 56 27.9	-0.9
PBAR				A	A	21 56 29.6	
	comp=N,3.4nm,0.5s						
PBAR	Barrancos	5.62	79	P	Pn	21 55 26.3	+2.1
PBAR				S	Sn	21 56 27.9	-0.9
	comp=N,3.4nm,0.5s						
PBAR	Barrancos	5.62	79	P	Pn	21 55 26.3	+2.1
PBAR				S	Sn	21 56 27.9	-0.9
	comp=N,3.4nm,0.5s						
PMRV	Marv??o	5.65	65	ePn	Pn	21 55 26.1	+1.4
PMRV				eSn	Sn	21 56 29.3	-0.3
PMRV				A	A	21 56 35.2	
	comp=N,2.5nm,0.3s						
PMRV	Marv??o	5.65	65	P	Pn	21 55 26.1	+1.4
PMRV				S	Sn	21 56 29.3	-0.3
	comp=N,2.5nm,0.3s						
PMRV	Marv??o	5.65	65	P	Pn	21 55 26.1	+1.4
PMRV				S	Sn	21 56 29.3	-0.3
	comp=N,2.5nm,0.3s						
EBAD	Badajoz	5.74	73	P	Pn	21 55 27.6	+1.8
	comp=N,1.0nm,0.1s,SNR=13						
EBAD				S	Sn	21 56 30.4	-1.3
	comp=N,0.9nm,0.1s,SNR=7.9						
EBAD	Badajoz	5.74	73	P	Pn	21 55 27.6	+1.8
	comp=N,1.0nm,0.1s,SNR=13						
EBAD				S	Sn	21 56 30.4	-1.3
	comp=N,0.9nm,0.1s,SNR=7.9						
PCBR	Castelo Branco	5.75	61	ePn	Pn	21 55 28.5	+2.6
PCBR				eSn	Sn	21 56 32.4	+0.5
PCBR				A	A	21 56 34.2	
	comp=N,4.2nm,0.2s						
PCBR	Castelo Branco	5.75	61	P	Pn	21 55 28.5	+2.6
PCBR				S	Sn	21 56 32.4	+0.5
	comp=N,2.1nm,0.2s						
PCBR	Castelo Branco	5.75	61	P	Pn	21 55 28.5	+2.6
PCBR				S	Sn	21 56 32.4	+0.5
	comp=N,2.1nm,0.2s						
EMIN	Mina Concepcio	5.87	83	P	Pn	21 55 29.3	+1.6
	comp=N,0.4nm,0.1s,SNR=7.9						
EMIN				S	Sn	21 56 33.4	-1.7
	comp=N,0.4nm,0.1s,SNR=7.9						
EMIN	Mina Concepcio	5.87	83	P	Pn	21 55 29.3	+1.6
	comp=N,0.4nm,0.1s,SNR=7.9						
EMIN				S	Sn	21 56 33.4	-1.7
	comp=N,0.4nm,0.1s,SNR=7.9						
PVIS	Viseu	5.89	52	ePn	Pn	21 55 30.3	+2.3
PVIS				eSn	Sn	21 56 34.8	-0.9
PVIS				A	A	21 56 36.4	
	comp=N,2.5nm,0.7s						
PVIS	Viseu	5.89	52	P	Pn	21 55 30.3	+2.3
PVIS				S	Sn	21 56 34.8	-0.9
	comp=N,1.2nm,0.7s						
PVIS	Viseu	5.89	52	P	Pn	21 55 30.3	+2.3
PVIS				S	Sn	21 56 34.8	-0.9
	comp=N,1.2nm,0.7s						
PVRL	Vila Real	6.33	49	ePn	Pn	21 55 35.9	+1.9
PVRL				eSn	Sn	21 56 46.2	-0.2
PVRL				A	A	21 56 48.2	
	comp=N,2.2nm,0.4s						
PVRL	Vila Real	6.33	49	P	Pn	21 55 35.9	+1.9
PVRL				S	Sn	21 56 46.2	-0.2
	comp=N,1.1nm,0.4s						
PVRL	Vila Real	6.33	49	P	Pn	21 55 35.9	+1.9
PVRL				S	Sn	21 56 46.2	-0.2
	comp=N,1.1nm,0.4s						
POLO	Lamas de Olo	6.34	48	ePn	Pn	21 55 35.6	+1.4
POLO				eSn	Sn	21 56 44.0	-2.8
POLO				A	A	21 56 54.4	
	comp=N,0.8nm,0.9s						
POLO	Lamas de Olo	6.34	48	ePn	Pn	21 55 35.6	+1.4
POLO				eSn	Sn	21 56 44.0	-2.8
	comp=N,0.8nm,0.9s						
PCAB	Cabril	6.42	44	ePn	Pn	21 55 36.4	+1.1
PCAB				eSn	Sn	21 56 47.4	-1.3
PCAB				A	A	21 56 49.4	
	comp=N,2.3nm,0.2s						
PCAB	Cabril	6.42	44	P	Pn	21 55 36.4	+1.1
PCAB				S	Sn	21 56 47.4	-1.3
	comp=N,1.2nm,0.2s						
PCAB	Cabril	6.42	44	P	Pn	21 55 36.4	+1.1
PCAB				S	Sn	21 56 47.4	-1.3
	comp=N,1.2nm,0.2s						
PGAV	Gavieira, Arco	6.47	42	ePn	Pn	21 55 37.1	+1.1
PGAV				eSn	Sn	21 56 47.7	-2.1
PGAV				A	A	21 56 53.8	
	comp=N,2.1nm,0.2s						
PGAV	Gavieira, Arco	6.47	42	ePn	Pn	21 55 37.1	+1.1
PGAV				eSn	Sn	21 56 47.7	-2.1
	comp=N,2.1nm,0.2s						
ELOB	Lobios	6.51	43	P	Pn	21 55 37.8	+1.2
	comp=N,1.0nm,0.1s,SNR=13						
ELOB				S	Sn	21 56 47.7	-3.2
	comp=N,0.8nm,0.1s						
ELOB	Lobios	6.51	43	P	Pn	21 55 37.8	+1.2
	comp=N,1.0nm,0.1s,SNR=13						
ESPR	Espera	6.55	91	P	Pn	21 55 39.2	+2.2
	comp=N,0.5nm,0.1s,SNR=7.9						
ESPR				S	Sn	21 56 49.4	-2.3
	comp=N,2.9nm,0.4s,SNR=7.9						
ESPR	Espera	6.55	91	P	Pn	21 55 39.2	+2.2
	comp=N,0.5nm,0.1s,SNR=7.9						
ESPR				S	Sn	21 56 49.4	-2.3
	comp=N,2.9nm,0.4s,SNR=7.9						
MVO	Moncorvo	6.69	52	ePn	Pn	21 55 40.2	+1.2
MVO				eSn	Sn	21 56 52.7	-2.5
MVO				A	A	21 56 55.3	
	comp=N,1.7nm,0.2s						
MVO	Moncorvo	6.69	52	P	Pn	21 55 40.2	+1.2
	comp=N,1.8nm,0.1s,SNR=16						
MVO				S	Sn	21 56 52.4	-2.9
	comp=N,1.2nm,0.3s						
MVO	Moncorvo	6.69	52	P	Pn	21 55 40.2	+1.2
	comp=N,1.8nm,0.1s,SNR=16						
MVO				S	Sn	21 56 52.3	-2.9
	comp=N,1.2nm,0.3s						
MVO				eSn	Sn	21 56 52.7	-2.5
	comp=N,1.7nm,0.2s						
EMAZ	Mazaricos	6.87	33	P	Pn	21 55 42.8	+1.3
	comp=N,1.7nm,0.2s,SNR=7.9						
EMAZ				S	Sn	21 56 56.0	-3.7
	comp=N,1.7nm,0.1s,SNR=7.9						
EMAZ	Mazaricos	6.87	33	P	Pn	21 55 42.8	+1.3
	comp=N,1.7nm,0.2s,SNR=7.9						
ECAB	El Cabril	6.88	81	P	Pn	21 55 43.3	+1.7
	comp=N,0.4nm,0.1s,SNR=8.4						
ECAB				S	Sn	21 56 58.3	-1.6
	comp=N,0.4nm,0.1s,SNR=7.9						
ECAB	El Cabril	6.88	81	P	Pn	21 55 43.3	+1.7
	comp=N,0.4nm,0.1s,SNR=8.4						
ECAB				S	Sn	21 56 58.3	-1.6
	comp=N,0.4nm,0.1s,SNR=7.9						
EAGO	Agolada(Pontev	7.17	38	P	Pn	21 55 46.6	+1.1
	comp=N,1.2nm,0.1s,SNR=7.9						
EAGO				S	Sn	21 57 03.6	-3.3
	comp=N,1.0nm,0.1s,SNR=7.9						
EAGO	Agolada(Pontev	7.17	38	P	Pn	21 55 46.6	+1.1
	comp=N,1.2nm,0.1s,SNR=7.9						
PBRG	Braganca	7.23	49	ePn	Pn	21 55 48.3	+1.9
PBRG				eSn	Sn	21 57 06.6	-2.0
PBRG	Braganca	7.23	49	P	Pn	21 55 48.3	+1.9
PBRG				S	Sn	21 57 06.6	-2.0
PBRG	Braganca	7.23	49	P	Pn	21 55 48.3	+1.9
PBRG				S	Sn	21 57 06.6	-2.0
ECAL	Calabor	7.32	48	P	Pn	21 55 49.3	+1.7
	comp=N,1.2nm,0.2s,SNR=14						
ECAL				S	Sn	21 57 07.6	-3.1
	comp=N,1.3nm,0.2s						
ECAL	Calabor	7.32	48	P	Pn	21 55 49.3	+1.7
	comp=N,1.2nm,0.2s,SNR=14						
ECAL				S	Sn	21 57 07.6	-3.1
	comp=N,1.3nm,0.2s						
EADA	Adamuz	7.55	80	P	Pn	21 55 52.3	+1.5
	comp=N,0.7nm,0.1s,SNR=7.9						
EADA				S	Sn	21 57 13.8	-2.6
	comp=N,1.1nm,0.2s,SNR=7.9						
EADA	Adamuz	7.55	80	P	Pn	21 55 52.3	+1.5
	comp=N,0.7nm,0.1s,SNR=7.9						
EADA				S	Sn	21 57 13.8	-2.6
	comp=N,1.1nm,0.2s,SNR=7.9						
EGOR	Sierra Gorda,	7.92	88	S	Sn	21 57 21.8	-3.9
	comp=N,0.0nm,0.1s,SNR=4.0						
EGOR	Sierra Gorda,	7.92	88	S	Sn	21 57 21.8	-3.9
	SNR=4.0						
PAB	San Pablo	7.94	70	P	Pn	21 55 57.3	+1.2
	comp=N,0.2nm,0.1s,SNR=7.9						
PAB				S	Sn	21 57 22.9	-3.1
	comp=N,0.3nm,0.4s,SNR=7.9						
PAB	San Pablo	7.94	70	P	Pn	21 55 57.3	+1.2
	comp=N,0.2nm,0.1s,SNR=7.9						
PAB				S	Sn	21 57 22.9	-3.1
	comp=N,0.3nm,0.4s,SNR=7.9						
EPON	Pontenova	8.02	39	P	Pn	21 55 58.0	+0.8
	comp=N,0.7nm,0.2s,SNR=7.9						
EPON				S	Sn	21 57 24.7	-3.2
	comp=N,0.3nm,0.3s,SNR=7.9						
EPON	Pontenova	8.02	39	P	Pn	21 55 58.0	+0.8
	comp=N,0.7nm,0.2s,SNR=7.9						
ESDC	Sonseca Array	8.26	70	P	Pn	21 56 01.7	+1.2
	comp=N,0.8nm,0.1s,baz=255,slow=13,SNR=18						
ESDC				S	Sn	21 57 30.1	-3.7
	comp=N,0.2nm,0.3s,baz=257,slow=23,SNR=7.9						
ESDC	Sonseca Array	8.26	70	P	Pn	21 56 01.7	+1.2
	comp=N,0.8nm,0.1s,baz=255,slow=13,SNR=18						
ESDC				S	Sn	21 57 30.1	-3.7
	comp=N,0.2nm,0.3s,baz=257,slow=23,SNR=7.9						
EQES	Quesada	8.72	83	P	Pn	21 56 09.2	+2.2
	comp=N,0.2nm,0.2s,SNR=4.0						
EQES				S	Sn	21 57 41.3	-4.1
	comp=N,0.2nm,0.1s,SNR=7.9						
EQES	Quesada	8.72	83	P	Pn	21 56 09.2	+2.2
	comp=N,0.2nm,0.2s,SNR=4.0						
EARI	Arriondas	9.04	45	P	Pn	21 56 13.1	+1.9
	comp=N,0.3nm,0.1s,SNR=5.8						
EARI	Arriondas	9.04	45	P	Pn	21 56 13.1	+1.9
	comp=N,0.3nm,0.1s,SNR=5.8						
ETOR	Torete	9.97	65	P	Pn	21 56 26.0	+2.0
	comp=N,1.0nm,2.1s,SNR=7.9						
ETOR	Torete	9.97	65	P	Pn	21 56 26.0	+2.0
	comp=N,1.0nm,2.1s,SNR=7.9						
ELAN	Lanestosa	10.05	50	P	Pn	21 56 27.3	+2.2
	comp=N,1.9nm,2.6s,SNR=7.9						

*ISCJB **08** 22:06:15.5±0.7, 7°.18S±0°.05×130°.07E±0°.08, h104km, mb3.3/4, Error ellipse: s-maj=11.0km s-min=6.8km az=2.8*
*IDC **08** 22:06:19.9±2.3, 7°.09S×129°.86E, h119km±22km, mb3.1/4, mb1 3.2/8, mb1mx3.1/49, mbtmp3.6/8, Error ellipse: s-maj=28.4km s-min=20.8km az=120.0*
ISC 08 22:06:18.0±0.8**, 7°.21S**±0°.06×**130°.1E**±0°.1**, h104**km**, n8, σ3s00**/12**, mb3.4**/4**, Tanimbar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SIJI	Sorong	6.41	11	P	Pn	22 07 51.3	+1.4
	1.9nm,0.3s,baz=254,slow=20,SNR=9.4						
SIJI				S	Sn	22 08 58.4	-3.3
	0.8nm,0.3s,baz=217,slow=22,SNR=5.7						
BATI	Baumata	7.00	244	P	Pn	22 07 58.5	+0.5
	5.8nm,0.3s,baz=76,slow=4.2,SNR=8.2						
BATI				S	Sn	22 09 14.9	-1.3
	1.7nm,0.3s,baz=58,slow=19,SNR=3.4						
WRA	Warramunga Arr	13.32	162	P	Pn	22 09 24.9	+1.8
	0.2nm,0.3s,baz=345,slow=13,SNR=8.8						
WRA				S	Sn	22 11 46.1	-3.6
	0.5nm,0.3s,baz=332,slow=23,SNR=9.3						
ASAR	Alice Springs	16.77	168	P	P	22 10 11.2	+4.1
	0.1nm,0.3s,baz=341,slow=10,SNR=6.6						
ASAR				S	Sn	22 13 07.8	-5.3
	0.1nm,0.3s,baz=351,slow=28,SNR=2.9						
MKAR	Makanchi Array	68.44	327	P	P	22 17 08.2	-0.6
	0.3nm,0.5s,baz=123,slow=7.0,SNR=8.9						
ZALV	Zalesovo Beam	71.80	334	P	P	22 17 27.3	-1.8
	0.2nm,0.3s,baz=125,slow=7.6,SNR=2.5						
KURBB	Kurchatov Arra	72.72	329	P	P	22 17 33.3	-1.4
	0.2nm,0.4s,baz=129,slow=5.2,SNR=3.2						
BVAR	Borovoye Array	78.28	328	P	P	22 18 06.5	+0.1
	0.1nm,0.3s,baz=113,slow=3.3,SNR=2.5						

*ISCJB **08** 22:12:47.7±0.3, 23°.97N±0°.02×122°.31E±0°.01, h19km±3km, Error ellipse: s-maj=2.9km s-min=2.0km az=148.7*
*JMA **08** 22:12:47.2±0.1, 23°.93N×122°.30E, h17km±3km, M2.8*
*TAP **08** 22:12:48.4, 24°.04N×122°.30E, h31km, ML3.0, D*
ISC 08 22:12:47.7±0.9**, 23°.98N**±0°.02×**122°.29E**±0°.02**, h22**km±7km**, n76, σ0s69**/144**, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EOS1	EOS1	0.59	345	eP	Pb	22 12 59.3	-0.1
	baz=337						
EOS1				S	Sb	22 13 07.3	0.0
	baz=337						
ENLB	Shoufeng	0.64	263	P	Pn	22 13 00.9	-0.5

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	baz=247						
ENLB				S	Sn	22 13 10.8	0.0
	baz=247						
ENAH	**Nanao**	**0.64**	**317**	P	**Pb**	**22 13 00.4**	**+0.1**
	baz=321						
ENAH				*e*S	**Sb**	**22 13 08.6**	**-0.3**
	baz=321						
TWD	**Chiawan**	**0.65**	**279**	*i* P	**Pb**	**22 13 00.4**	**+0.1**
	baz=273						
TWD				S	**Sb**	**22 13 09.7**	**+0.8**
	baz=273						
NACB	**Ninganchiao**	**0.67**	**287**	P	**Pb**	**22 13 00.7**	**0.0**
	baz=269						
NACB				S	**Sb**	**22 13 09.7**	**+0.2**
	baz=269						
NANB	**Nanao**	**0.67**	**312**	P	**Pb**	**22 13 00.7**	**0.0**
	baz=314						
NANB				*e*S	**Sb**	**22 13 09.4**	**-0.2**
	baz=314						
ENA	**Nanau**	**0.67**	**312**	P	**Pb**	**22 13 00.9**	**0.0**
	baz=314						
ENA				*e*S	**Sn**	**22 13 10.9**	**-0.9**
	baz=314						
TWC	**Suao**	**0.75**	**327**	P	**Pb**	**22 13 01.5**	**-0.6**
	baz=324						
TWC				S	**Sb**	**22 13 10.4**	**-1.4**
	baz=324						
JYNG	**Yonagunijimaku**	**0.76**	**52**	P	**Pb**	**22 13 01.9**	**-0.3**
JYNG				S	**Sn**	**22 13 13.1**	**-0.8**
YOJ	**Yonaguni jima**	**0.81**	**54**	*e*P	**Pb**	**22 13 03.0**	**-0.2**
	baz=56						
YOJ				*e*S	**Sn**	**22 13 14.3**	**-0.9**
	baz=56						
YOJ	**Yonaguni jima**	**0.81**	**54**	P	**Pb**	**22 13 02.8**	**-0.3**
YOJ				S	**Sn**	**22 13 14.4**	**-0.8**
EGFH	**Guangfu**	**0.85**	**249**	*e*P	**Pb**	**22 13 03.7**	**-0.1**
	baz=236						
EGFH				*e*S	**Sn**	**22 13 15.9**	**-0.2**
	baz=236						
EGS		**0.92**	**339**	*e*P	**Pb**	**22 13 04.8**	**-0.2**
	baz=337						
EGS				*e*S	**Sb**	**22 13 16.6**	**-0.2**
	baz=337						
ILA	**Ilan**	**0.93**	**328**	*e*S	**Sn**	**22 13 18.0**	**-0.1**
	baz=331						
HGSD	**Ruisui**	**0.93**	**239**	*e*P	**Pb**	**22 13 04.5**	**-0.6**
	baz=236						
HGSD				*e*S	**Sb**	**22 13 17.3**	**+0.2**
	baz=236						
TWE	**Neicheng**	**0.93**	**322**	*e*P	**Pb**	**22 13 05.3**	**+0.1**
	baz=320						
TWE				*e*S	**Sb**	**22 13 17.4**	**+0.2**
	baz=320						
ENTT	**Nioudou**	**0.94**	**315**	*e*P	**Pn**	**22 13 05.8**	**+0.2**
	baz=311						
ENTT				*e*S	**Sb**	**22 13 17.0**	**-0.2**
	baz=311						
NNSB	**Datong**	**0.94**	**298**	*e*P	**Pb**	**22 13 05.6**	**+0.1**
	baz=283						
NNSB				*e*S	**Sn**	**22 13 18.2**	**-0.4**
	baz=283						
WHF	**Hehuan Shan**	**0.95**	**280**	P	**Pb**	**22 13 05.5**	**-0.3**
	baz=263						
WHF				S	**Sb**	**22 13 18.3**	**+0.1**
	baz=263						
NNS	**Nan Shan**	**0.96**	**299**	*e*P	**Pb**	**22 13 05.8**	**+0.1**
	baz=284						
NNS				*e*S	**Sn**	**22 13 18.8**	**-0.2**
	baz=284						
NTC	**Toucheng**	**0.97**	**334**	*e*P	**Pn**	**22 13 06.3**	**+0.3**
	baz=343						
NTC				*e*S	**Sb**	**22 13 18.5**	**+0.3**
	baz=343						
OWD	**Renai**	**1.02**	**269**	*e*P	**Pn**	**22 13 06.4**	**-0.5**
	baz=265						
OWD				*e*S	**Sb**	**22 13 19.4**	**-0.5**
	baz=265						
CHGB	**Renai**	**1.03**	**275**	*e*P	**Pn**	**22 13 06.7**	**-0.3**
	baz=260						
CHGB				*e*S	**Sb**	**22 13 20.3**	**+0.2**
	baz=260						
TWB1	**Santiao Chiao**	**1.06**	**345**	*e*P	**Pn**	**22 13 07.1**	**-0.2**
	baz=332						
TWB1				*e*S	**Sb**	**22 13 20.3**	**-0.6**
	baz=332						
NWLT	**Wulai**	**1.07**	**318**	*e*P	**Pb**	**22 13 08.1**	**+0.4**
	baz=314						
NWLT				*e*S	**Sn**	**22 13 21.5**	**-0.2**
	baz=314						
TDCB	**Techi**	**1.07**	**285**	*e*P	**Pn**	**22 13 07.5**	**-0.1**
	baz=269						
TDCB				*e*S	**Sb**	**22 13 21.6**	**+0.2**
	baz=269						
TIPB	**Shuangxi**	**1.08**	**337**	P	**Pn**	**22 13 06.7**	**-0.8**
	baz=334						
TIPB				S	**Sb**	**22 13 20.2**	**-1.2**
	baz=334						
YHNB	**Yeheng**	**1.08**	**310**	*e*P	**Pb**	**22 13 08.0**	**+0.2**
	baz=306						
YHNB				*e*S	**Sb**	**22 13 21.3**	**-0.3**
	baz=306						
YULB	**Yu-li**	**1.08**	**238**	*e*P	**Pn**	**22 13 07.0**	**-0.6**
	baz=250						
YULB				*e*S	**Sb**	**22 13 20.9**	**-0.6**
	baz=250						
TWF1	**Yuli**	**1.11**	**236**	*e*P	**Pn**	**22 13 07.6**	**-0.3**
	baz=222						
TWF1				*e*S	**Sb**	**22 13 22.2**	**+0.1**
	baz=222						
WFSB	**Wu-fen Shan**	**1.18**	**337**	*e*S	**Sn**	**22 13 23.8**	**-0.6**
	baz=348						
FULB	**Fuli**	**1.20**	**230**	*e*P	**Pn**	**22 13 08.3**	**-0.9**
	baz=217						
FULB				*e*S	**Sb**	**22 13 25.5**	**+0.6**
	baz=217						
TATO	**Taipei**	**1.23**	**324**	*e*P	**Pb**	**22 13 10.8**	**+0.4**
	baz=320						
TATO				*e*S	**Sb**	**22 13 26.3**	**+0.5**
	baz=320						
SSLB	**Suanglung**	**1.24**	**261**	*e*P	**Pn**	**22 13 09.7**	**0.0**
	baz=258						
SSLB				*e*S	**Sn**	**22 13 25.6**	**-0.2**
	baz=258						
DPDB	**Guoxing**	**1.25**	**273**	*e*P	**Pn**	**22 13 10.2**	**+0.3**
	baz=262						
DPDB				*e*S	**Sb**	**22 13 26.8**	**+0.5**
	baz=262						
SMLT	**Sun Moon Lake**	**1.28**	**266**	*e*P	**Pn**	**22 13 10.5**	**+0.2**
	baz=253						
SMLT				*e*S	**Sn**	**22 13 26.8**	**-0.1**
	baz=253						
TYC	**Yuchr**	**1.32**	**267**	*e*P	**Pn**	**22 13 11.1**	**+0.3**
	baz=264						
TYC				*e*S	**Sn**	**22 13 27.7**	**+0.1**
	baz=264						
YUS	**Yu-Shan**	**1.32**	**249**	*e*P	**Pn**	**22 13 11.4**	**+0.1**
	baz=246						
YUS				*e*S	**Sn**	**22 13 28.3**	**-0.2**
	baz=246						
YM07	**YM07**	**1.34**	**333**	*e*P	**Pn**	**22 13 10.8**	**-0.3**
	baz=330						
YM07				*e*S	**Sn**	**22 13 28.3**	**0.0**
	baz=330						
LIOB	**Emei**	**1.34**	**300**	*e*P	**Pb**	**22 13 12.5**	**+0.3**
	baz=296						
LIOB				*e*S	**Sb**	**22 13 29.7**	**+0.7**
	baz=296						
NSTT	**Nanjuang**	**1.35**	**299**	*e*P	**Pb**	**22 13 12.6**	**+0.3**
	baz=295						
NSTT				*e*S	**Sb**	**22 13 29.7**	**+0.7**
	baz=295						
YM10	**YM10**	**1.35**	**330**	*e*P	**Pb**	**22 13 12.0**	**-0.3**
	baz=342						
YM10				*e*S	**Sn**	**22 13 28.2**	**-0.3**
	baz=342						
YM04	**YM04**	**1.36**	**330**	*e*P	**Pn**	**22 13 11.8**	**+0.5**
	baz=341						
YM04				*e*S	**Sn**	**22 13 28.6**	**-0.1**
	baz=341						
IRIF	**Iriomote-Funau**	**1.36**	**75**	P	**Pn**	**22 13 11.8**	**+0.5**
IRIF				S	**Sb**	**22 13 30.8**	**+1.4**
TWS1	**Kuangyinshan**	**1.37**	**325**	*e*S	**Sb**	**22 13 30.2**	**+0.4**
	baz=332						
HATJ	**Hateruma jima**	**1.38**	**86**	S	**Sb**	**22 13 30.6**	**+0.5**
ELDTW	**Lidau**	**1.41**	**236**	*e*P	**Pn**	**22 13 11.4**	**-0.8**
	baz=234						
ELDTW				*e*S	**Sn**	**22 13 29.0**	**-1.1**
	baz=234						
TWQ1	**Liyutan**	**1.44**	**285**	*e*P	**Pb**	**22 13 13.9**	**+0.1**
	baz=281						
TWQ1				*e*S	**Sb**	**22 13 32.5**	**+0.9**
	baz=281						
TWY	**Chenhua**	**1.44**	**334**	*e*P	**Pn**	**22 13 12.9**	**+0.4**
	baz=331						
TWY				*e*S	**Sb**	**22 13 31.4**	**-0.2**
	baz=331						
ALS	**Alishan**	**1.44**	**251**	*e*P	**Pn**	**22 13 13.4**	**+0.7**
	baz=249						
ALS				*e*S	**Sn**	**22 13 31.5**	**+0.3**
	baz=249						
WJS	**Zhushan**	**1.44**	**264**	*e*S	**Sb**	**22 13 33.8**	**+2.0**
	baz=261						
WNT	**Mingjian**	**1.48**	**266**	*e*P	**Pb**	**22 13 15.5**	**+1.0**
	baz=263						
WNT				*e*S	**Sb**	**22 13 34.8**	**+2.0**
	baz=263						
CHN5	**Tsauling**	**1.53**	**256**	*e*P	**Pb**	**22 13 15.4**	**0.0**
	baz=244						
CHN5				*e*S	**Sb**	**22 13 34.5**	**+0.1**
	baz=244						
JKRS	**Kuro-shima**	**1.59**	**80**	P	**Pn**	**22 13 15.1**	**+0.6**
JKRS				S	**Sb**	**22 13 36.0**	**0.0**
TWGBT	**Beinan**	**1.61**	**224**	*e*P	**Pn**	**22 13 14.0**	**-0.7**
	baz=234						
TWGBT				*e*S	**Sn**	**22 13 34.1**	**-0.7**
	baz=234						
TWG	**Pinlang**	**1.61**	**224**	*e*P	**Pn**	**22 13 15.1**	**+0.3**
	baz=234						
TWG				*e*S	**Sn**	**22 13 33.5**	**-1.4**
	baz=234						
STYT	**Tauyuan**	**1.63**	**240**	*e*P	**Pn**	**22 13 15.8**	**+0.7**
	baz=230						
STYT				*e*S	**Sn**	**22 13 36.1**	**+0.7**
	baz=230						
TPUB	**Ta-pu**	**1.67**	**246**	*e*P	**Pb**	**22 13 16.9**	**-0.8**
	baz=244						
TPUB				*e*S	**Sb**	**22 13 38.7**	**+0.4**
	baz=244						
WTP	**Ta-pu**	**1.70**	**245**	*e*P	**Pb**	**22 13 17.6**	**-0.8**
	baz=243						
WTP				*e*S	**Sb**	**22 13 39.6**	**+0.2**
	baz=243						
JIJ	**Ishigaki jima**	**1.73**	**77**	P	**Pn**	**22 13 16.3**	**-0.2**
JIJ				S	**Sn**	**22 13 38.5**	**+0.6**
TWK	**Hsinying**	**1.80**	**247**	*e*P	**Pb**	**22 13 19.3**	**-0.7**
	baz=245						
TWK				*e*S	**Sb**	**22 13 42.7**	**+0.5**
	baz=245						
CHN1	**Nanshi**	**1.80**	**244**	*e*P	**Pb**	**22 13 20.1**	**+0.1**
	baz=243						
CHN1				*e*S	**Sb**	**22 13 42.6**	**+0.4**
	baz=243						
SLGT	**Liugui**	**1.80**	**237**	*e*P	**Pb**	**22 13 19.1**	**-0.9**
	baz=228						
SLGT				*e*S	**Sb**	**22 13 41.7**	**-0.5**
	baz=228						
SGST	**Jiashian**	**1.81**	**241**	*e*P	**Pb**	**22 13 19.6**	**-0.5**
	baz=239						
SGST				*e*S	**Sb**	**22 13 42.5**	**+0.2**
	baz=239						
ECL	**Taimali**	**1.85**	**222**	*e*P	**Pn**	**22 13 18.5**	**+0.5**
	baz=222						
ECL				*e*S	**Sn**	**22 13 38.9**	**-1.9**
	baz=222						
JISG	**Ishigakijimahi**	**1.94**	**71**	P	**Pn**	**22 13 19.1**	**-0.2**
JISG				S	**Sn**	**22 13 43.5**	**+0.5**
SSD	**Sandimen**	**1.96**	**232**	*e*P	**Pn**	**22 13 21.1**	**+1.5**
	baz=225						
SSD				*e*S	**Sb**	**22 13 45.9**	**-0.8**
	baz=225						
MASBT	**Mashibuluo**	**2.04**	**229**	*e*P	**Pn**	**22 13 22.0**	**+1.2**
	baz=224						
MASBT				*e*S	**Sn**	**22 13 47.4**	**+1.7**
	baz=224						
LAY	**Lan-yu**	**2.05**	**200**	*e*P	**Pn**	**22 13 21.1**	**+0.2**
	baz=201						
LAY				*e*S	**Sn**	**22 13 44.7**	**-1.1**
	baz=201						
EAST	**Anshuo**	**2.07**	**220**	*e*P	**Pn**	**22 13 22.5**	**+1.3**
	baz=220						
EAST				*e*S	**Sn**	**22 13 45.9**	**-0.5**
	baz=220						
SCZT	**Fangliau**	**2.22**	**224**	*e*P	**Pb**	**22 13 25.9**	**-1.3**
	baz=219						
SCZT				*e*S	**Sn**	**22 13 50.4**	**+0.5**
	baz=219						
JTJ	**Tarama**	**2.29**	**73**	S	**Sn**	**22 13 53.1**	**+1.3**
WDGT	**Dungji**	**2.52**	**254**	*e*P	**Pn**	**22 13 28.5**	**+1.2**
	baz=253						
PHUB	**P'eng-hu**	**2.54**	**260**	*e*P	**Pn**	**22 13 28.3**	**+0.8**
	baz=258						
PHUB				*e*S	**Sn**	**22 13 58.6**	**+0.8**
	baz=258						
PNG	**Penghu**	**2.54**	**261**	*e*S	**Sn**	**22 13 59.0**	**+1.1**
	baz=259						
VWUC	**VWUC**	**2.78**	**292**	*e*P	**Pn**	**22 13 30.8**	**-0.1**
	baz=288						
VWUC				*e*S	**Sn**	**22 14 01.6**	**-2.2**
	baz=288						

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*ISCJB **08** 22:16:06.7±0.4, 6°.50S±0°.04×128°.66E±0°.05, h334km, mb3.5/5, Error ellipse: s-maj=7.7km s-min=4.7km az=24.8*
*IDC **08** 22:16:07.5±1.2, 6°.46S×128°.47E, h358km±13km, mb3.3/5, mb1 3.6/11, mb1mx3.1/52, mbtmp4.3/11, Error ellipse: s-maj=16.0km s-min=10.9km az=74.0*
*DJA **08** 22:16:12.2±1.1, 6°S±3°×12°9E±°, h15km±7km, M4.4/7, mB5.2/2, mb4.5/6, MLv4.4/7, Mw(mB)4.6/2*
ISC 08 22:16:06.6±0.6**, 6°.52S**±0°.05×**128°.66E**±0°.07**, h334**km**, n21, σ2s60**/30**, mb3.7**/5**, Banda Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**2.33**	**32**	P	Pn	22 16 49.7	-9.3
NLAI	**Namlea**	**3.61**	**334**	P	Pn	22 17 05.8	-4.9
NLAI				S	**S**	**22 18 04.9**	**+2.7**
FAKI	**Fak Fak**	**5.05**	**45**	P	**Pn**	**22 17 29.0**	**+2.8**
	580nm,0.7s,5μm1.8nm						
FAKI				S	**S**	**22 18 27.3**	**-3.1**
	580nm,0.7s,5μm1.8nm						
SANI	**Sanana**	**5.18**	**329**	P	**Pn**	**22 17 27.2**	**-0.3**
	20nm,0.5s,0.1nm						
SANI				S	**S**	**22 18 26.7**	**-6.2**
	20nm,0.5s,0.1nm						
SOEI	**Soe**	**5.41**	**233**	P	**Pn**	**22 17 31.5**	**+1.2**
	39nm,0.7s,1μm1.0nm						
SOEI				S	**S**	**22 18 34.6**	**-3.3**
	39nm,0.7s,1μm1.0nm						
LBMI	**Labuha**	**5.95**	**349**	P	**Pn**	**22 17 39.1**	**+2.7**
	30nm,0.6s,0.2nm						
BBSI	**Bau Bau**	**6.14**	**279**	P	**Pn**	**22 17 41.3**	**+2.7**
BATI	**Baumata**	**6.16**	**233**	P	**Pn**	**22 17 40.5**	**+1.8**
	16nm,0.3s,baz=74,slow=4.7,SNR=20						
BATI				S	**S**	**22 18 51.5**	**-1.8**
	40nm,0.3s,baz=94,slow=16,SNR=33						
BATI	**Baumata**	**6.16**	**233**	P	**Pn**	**22 17 40.3**	**+1.5**
BATI				S	**S**	**22 18 51.4**	**-2.0**
SIJI	**Sorong**	**6.18**	**25**	P	**Pn**	**22 17 40.3**	**+1.3**
	21nm,0.3s,baz=160,slow=18,SNR=37						
SIJI				S	**S**	**22 18 51.2**	**-2.8**
	7.9nm,0.3s,baz=287,slow=20,SNR=16						
SWI	**Sorong**	**6.18**	**25**	P	**Pn**	**22 17 40.5**	**+1.4**
SWI				S	**S**	**22 18 52.3**	**-1.7**
PCI	**Palu**	**10.42**	**302**	P	**P**	**22 18 34.9**	**+3.4**
FITZ	**Fitzroy Crossi**	**11.88**	**194**	P	**Pn**	**22 18 48.1**	**+0.9**
	baz=29,slow=0.8						
WRA	**Warramunga Arr**	**14.44**	**158**	P	**Pn**	**22 19 18.0**	**+0.5**
	3.1nm,0.3s,baz=340,slow=11,SNR=106						
WRA				S	**S**	**22 21 52.5**	**-0.5**
	1.1nm,0.3s,baz=332,slow=20,SNR=15						
ASAR	**Alice Springs**	**17.78**	**164**	P	**P**	**22 19 54.1**	**+2.0**
	1.5nm,0.3s,baz=345,slow=12,SNR=56						
ASAR				S	**S**	**22 22 59.6**	**+0.4**
	1.3nm,0.3s,baz=342,slow=22,SNR=54						
ASAR				ScP	**ScP**	**22 27 10.0**	**-5.2**
	0.1nm,0.3s,baz=349,slow=2.3,SNR=4.7						
PMG	**Port Moresby**	**18.54**	**100**	P	**P**	**22 20 00.7**	**+0.4**
	0.9nm,0.3s,baz=259,slow=18,SNR=2.3						
CTA	**Charters Tower**	**21.76**	**130**	P	**P**	**22 20 34.5**	**+2.6**
	5.0nm,0.6s,baz=323,slow=14,SNR=4.6						
STKA	**Stephens Creek**	**27.98**	**156**	P	**P**	**22 21 27.8**	**+0.2**
	3.0nm,0.9s,baz=330,slow=10,SNR=3.9						
NWAO	**Narrogin (SRO)**	**28.35**	**201**	P	**P**	**22 21 29.1**	**-1.6**
	3.8nm,0.7s,baz=16,slow=16,SNR=3.6						
MKAR	**Makanchi Array**	**67.10**	**327**	P	**P**	**22 26 22.7**	**-2.2**
	0.5nm,0.6s,baz=120,slow=7.4,SNR=9.0						
KURBB	**Kurchatov Arra**	**71.41**	**329**	P	**P**	**22 26 48.3**	**-2.7**
	0.2nm,0.5s,baz=126,slow=4.7,SNR=3.2						

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*IDC **08** 22:26:10.4±2.0, 35°.80N×141°.27E, h0km, mb3.4/5, mb1 3.4/7, mb1mx3.3/59, mbtmp3.4/7, ML2.9/2, Error ellipse: s-maj=51.3km s-min=19.2km az=70.0*
*ISCJB **08** 22:26:14.0±1.0, 35°.83N±0°.05×141°.02E±0°.10, h26km, mb3.3/5, Error ellipse: s-maj=11.9km s-min=6.1km az=157.4*
*JMA **08** 22:26:15.0±0.1, 35°.81N×140°.97E, h16km±1km, M3.5*
ISC 08 22:26:14.6±1.3**, 35°.85N**±0°.06×**141°.0E**±0°.1**, h26**km**, n18, σ1s46**/17**, mb3.5**/5**, 1C, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.20**	**224**	⇑P	**Pb**	**22 26 18.7**	**-1.7**
CHOJ				S	**Sb**	**22 26 21.5**	**-2.8**
JYT	**Yasato**	**0.78**	**299**	P	**Pn**	**22 26 29.0**	**-0.9**
JYT				S	**Sb**	**22 26 39.1**	**-0.6**
JHO	**Hitachi**	**0.85**	**334**	P	**Pn**	**22 26 30.6**	**-0.3**
BSO4	**Boso 4**	**1.03**	**214**	P	**Pb**	**22 26 34.3**	**+0.6**
MJAR	**Matsushiro Arr**	**2.39**	**288**	Pn	**Pn**	**22 26 52.8**	**+0.7**
	3.1nm,0.3s,baz=110,slow=7.8,SNR=25						
MJAR				Sn	**Sn**	**22 27 21.3**	**+0.9**
	2.7nm,0.3s,baz=105,slow=36,SNR=8.3						
MAT	**Matsushiro**	**2.39**	**288**	P	**Pn**	**22 26 52.7**	**+0.6**
MAT				S	**Sn**	**22 27 20.4**	**-0.1**
JHJ	**Hachijo jima 2**	**2.91**	**201**	Pn	**Pn**	**22 26 59.6**	**+0.4**
	3.7nm,0.3s,baz=62,slow=15,SNR=2.0						
JHJ				Sn	**Sn**	**22 27 34.8**	**+1.4**
	11nm,0.3s,baz=90,slow=20,SNR=5.9						
H11N2	**WAKE ISLAND Hy**	**27.83**	**118**	T	T	23 01 06.1	
	baz=311,slow=75,SNR=24						
H11N1	**WAKE ISLAND Hy**	**27.84**	**118**	T	T	23 01 03.9	
	baz=311,slow=75,SNR=30						
H11N3	**WAKE ISLAND Hy**	**27.85**	**118**	T	T	23 01 05.8	
	baz=311,slow=75,SNR=35						
SONM	**Songino Array**	**28.21**	**306**	P	**P**	**22 32 04.8**	**-0.5**
	0.4nm,0.9s,baz=99,slow=7.3,SNR=2.4						
H11S1	**WAKE ISLAND Hy**	**28.50**	**121**	T	T	23 01 52.3	
	baz=312,slow=76,SNR=23						
H11S3	**WAKE ISLAND Hy**	**28.50**	**121**	T	T	23 01 55.0	
	baz=312,slow=76,SNR=23						
H11S2	**WAKE ISLAND Hy**	**28.52**	**121**	T	T	23 01 52.1	
	baz=312,slow=76,SNR=17						
MKAR	**Makanchi Array**	**44.50**	**303**	P	**P**	**22 34 25.4**	**+1.7**
	0.3nm,0.7s,baz=97,slow=7.9,SNR=2.6						
KURBB	**Kurchatov Arra**	**46.49**	**309**	P	**P**	**22 34 41.7**	**+2.2**
	0.3nm,0.5s,baz=83,slow=7.8,SNR=3.5						
WRA	**Warramunga Arr**	**55.85**	**188**	P	**P**	**22 35 47.7**	**-2.2**
	0.3nm,0.5s,baz=6.1,slow=7.7,SNR=3.5						
ASAR	**Alice Springs**	**59.58**	**188**	P	**P**	**22 36 16.9**	**+0.8**
	0.3nm,0.7s,baz=15,slow=7.1,SNR=2.7						

NNC 08 22:29:35.9±4.4**, 37°.16N**×**70°.50E, h0**km**, mb3.8, mpv3.4, 2C-6D, Error ellipse: s-maj=33.9km s-min=28.6km az=166.0, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**3.70**	**39**	⇑Pn	Pn	22 30 34.3	-0.2
	10nm,0.4s						
SFK				⇑Sn	Sn	22 31 20.7	+1.8
	16nm,0.3s						
MNAS	**Manas**	**5.54**	**16**	⇓Pn	Pn	22 31 00.3	+0.6
	1.1nm,0.3s						
MNAS				⇓Sn	Sn	22 32 05.6	+1.3
	19nm,0.7s						
KK31	**Karatay Array**	**5.94**	**0**	⇓Pn	Pn	22 31 06.5	+1.4
	0.8nm,0.3s,baz=178,slow=13,SNR=7.4						
KK31				⇓Sn	Sn	22 32 15.7	+1.9
	6.9nm,0.5s,baz=184,slow=24,SNR=20						
AAK	**Ala-Archa**	**6.28**	**28**	⇓Pn	Pn	22 31 08.6	-1.3
	1.7nm,0.6s						
AAK				⇓Sn	Sn	22 32 21.1	-1.3
	4.7nm,0.7s						

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*CSEM **08** 22:48:26.9±0.4, 36°.36N×40°.96E, h2km, MD3.1, Error ellipse: s-maj=7.9km s-min=4.7km az=179.0*
*ISK **08** 22:48:27.8, 36°.47N×40°.96E, h6km, MD3.1/2*
*ISN **08** 22:49:10.0±1.5, 36°.68N×40°.96E, h0km±32km, ML3.0*
*DDA **08** 22:49:15.4, 36°.58N×40°.99E, h18km, Ml3.0*
ISC 08 22:48:26.7±2.7**, 36°.39N**±0°.10×**40°.95E**±0°.04**, h3**km±16km**, n29, σ0s84**/46**, Jordan-Syria region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MARD	**Mardin**	**0.93**	**352**	*i* P	**Pg**	**22 48 43.8**	**-0.8**
MARD				*i* S	**Sg**	**22 48 58.0**	**+1.3**
MAZI	**Mazidag**	**1.14**	**340**	PG	**Pb**	**22 48 48.7**	**-0.5**
MAZI				SG	**Sb**	**22 49 03.8**	**-0.7**
MAZI	**Mazidag**	**1.14**	**340**	*e*Pg	**Pb**	**22 48 48.7**	**-0.5**
MAZI				*e*Sg	**Sb**	**22 49 03.8**	**-0.7**
BTMN	**Batman**	**1.52**	**10**	*i* P	**Pb**	**22 48 55.4**	**-0.3**
BTMN				*i* S	**Sg**	**22 49 17.0**	**+1.4**
BTMN	**Batman**	**1.52**	**10**	P	**Pb**	**22 48 55.3**	**-0.3**
BTMN				S	**Sg**	**22 49 17.0**	**+1.4**
DIY	**Diyarbakir**	**1.61**	**339**	*e*Pn	**Pb**	**22 48 57.6**	**+0.4**
SIRN	**S˜–rnak**	**1.61**	**46**	*i* P	**Pb**	**22 48 56.5**	**-0.7**
SIRN				*i* S	**Sb**	**22 49 17.7**	**-0.3**
SIRN	**S˜–rnak**	**1.61**	**46**	P	**Pb**	**22 48 56.5**	**-0.7**
SIRN				S	**Sb**	**22 49 17.7**	**-0.3**
SIRT	**Sirnak**	**1.63**	**47**	PN	**Pb**	**22 48 56.8**	**-0.7**
SIRT				SN	**Sb**	**22 49 18.1**	**-0.4**
SIRT	**Sirnak**	**1.63**	**47**	*e*Pn	**Pb**	**22 48 56.8**	**-0.7**
SIRT				*e*Sn	**Sb**	**22 49 18.1**	**-0.4**
DIYA	**Diyarbakir**	**1.67**	**337**	*i* P	**Pn**	**22 48 57.4**	**+0.5**
DIYA				*i* S	**Sg**	**22 49 20.8**	**+0.4**
DIYA	**Diyarbakir**	**1.67**	**337**	P	**Pn**	**22 48 57.4**	**+0.5**
DIYA				S	**Sg**	**22 49 20.8**	**+0.4**
DYBB	**Diyarbakir**	**1.69**	**338**	PN	**Pn**	**22 48 57.6**	**+0.4**
SVAN	**Silvan-Diyarba**	**1.77**	**6**	PN	**Pn**	**22 48 58.5**	**+0.2**
SVAN	**Silvan-Diyarba**	**1.77**	**6**	*i* P	**Pb**	**22 48 59.0**	**-0.9**
SVAN				*i* S	**Sb**	**22 49 23.4**	**+1.0**
SVAN	**Silvan-Diyarba**	**1.77**	**6**	*e*Pn	**Pn**	**22 48 58.5**	**+0.2**
SVAN	**Silvan-Diyarba**	**1.77**	**6**	P	**Pb**	**22 48 59.0**	**-0.9**
SVAN				S	**Sb**	**22 49 23.5**	**+1.0**
SRTM	**Siirt_Merkez**	**1.78**	**26**	*i* P	**Pb**	**22 48 59.4**	**-0.7**
SRTM				*i* S	**Sb**	**22 49 23.5**	**+0.7**
SRTM	**Siirt_Merkez**	**1.78**	**26**	P	**Pb**	**22 48 59.4**	**-0.7**
SRTM				S	**Sb**	**22 49 23.5**	**+0.7**
URFA	**Urfa**	**2.00**	**302**	PN	**Pn**	**22 49 02.5**	**+1.0**
URFA	**Urfa**	**2.00**	**302**	*e*Pn	**Pn**	**22 49 02.5**	**+1.0**
HANI	**Diyarbakir_Han**	**2.07**	**348**	*i* P	**Pb**	**22 49 03.6**	**-1.4**
HANI				*i* S	**Sb**	**22 49 29.8**	**-1.3**
HANI	**Diyarbakir_Han**	**2.07**	**348**	P	**Pb**	**22 49 03.6**	**-1.4**
HANI				S	**Sb**	**22 49 29.8**	**-1.3**
GURO	**Guroymak-BITLI**	**2.32**	**21**	PN	**Pn**	**22 49 06.7**	**+0.7**
GURO	**Guroymak-BITLI**	**2.32**	**21**	*e*Pn	**Pn**	**22 49 06.7**	**+0.7**
MALT	**Malatya**	**2.78**	**314**	PN	**Pn**	**22 49 13.4**	**+1.2**
MALT	**Malatya**	**2.78**	**314**	*e*Pn	**Pn**	**22 49 13.4**	**+1.2**
PTK	**Pertek**	**2.79**	**334**	PN	**Pn**	**22 49 12.3**	**-0.1**
PTK	**Pertek**	**2.79**	**334**	*e*Pn	**Pn**	**22 49 12.3**	**-0.1**

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*ISCJB **08** 22:50:52.0±1.4, 36°.36N±0°.03×40°.94E±0°.06, h2km±9km, Error ellipse: s-maj=8.0km s-min=5.4km az=9.7*
*ISN **08** 22:50:51.6±1.4, 36°.39N×40°.96E, h0km±13km, ML2.5*
*DDA **08** 22:50:51.1, 36°.38N×40°.99E, h7km, Ml2.8*
*CSEM **08** 22:50:52.5±0.2, 36°.37N×40°.98E, h2km, MD3.0, Error ellipse: s-maj=5.1km s-min=4.7km az=79.0*
*ISK **08** 22:50:53.4, 36°.44N×40°.93E, h7km, MD3.0/2*
ISC 08 22:50:52.2±1.6**, 36°.39N**±0°.04×**40°.98E**±0°.04**, h1**km±12km**, n28, σ0s53**/46**, Jordan-Syria region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MARD	**Mardin**	**0.94**	**350**	*i* P	**Pg**	**22 51 09.2**	**-1.0**
MARD				*i* S	**Sb**	**22 51 23.5**	**-0.9**
MAZI	**Mazidag**	**1.15**	**338**	PN	**Pg**	**22 51 14.6**	**+0.3**
MAZI				SN	**Sb**	**22 51 30.1**	**-0.4**
MAZI	**Mazidag**	**1.15**	**338**	*e*Pn	**Pg**	**22 51 14.6**	**+0.3**
MAZI				*e*Sn	**Sb**	**22 51 30.1**	**-0.4**
BTMN	**Batman**	**1.52**	**9**	*i* P	**Pb**	**22 51 20.9**	**-0.3**
BTMN				*i* S	**Sg**	**22 51 41.8**	**+0.8**
BTMN	**Batman**	**1.52**	**9**	P	**Pb**	**22 51 20.9**	**-0.3**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BTMN				S	Sg	22 51 41.8	+0.8
SIRN	S˜–rnak	1.59	46	*i* P	Pn	22 51 21.4	-0.3
SIRN				*i* S	Sg	22 51 43.3	-0.1
SIRN	S˜–rnak	1.59	46	P	Pn	22 51 21.4	-0.3
SIRN				S	Sg	22 51 43.3	-0.1
SIRT	Sirnak	1.61	46	PN	Pb	22 51 22.9	+0.1
SIRT				SN	Sg	22 51 44.4	+0.4
SIRT	Sirnak	1.61	46	*e*Pn	Pb	22 51 22.9	+0.1
SIRT				*e*Sn	Sg	22 51 44.4	+0.4
DIY	Diyarbakir	1.62	338	*e*Pn	Pg	22 51 23.4	+0.1
DIYA	Diyarbakir	1.68	336	*i* P	Pb	22 51 23.4	-0.6
DIYA				*i* S	Sg	22 51 46.2	0.0
DIYA	Diyarbakir	1.68	336	P	Pb	22 51 23.4	-0.6
DIYA				S	Sg	22 51 46.2	0.0
DYBB	Diyarbakir	1.70	337	PN	Pn	22 51 23.4	+0.3
SRTM	Siirt_Merkez	1.77	25	*i* P	Pn	22 51 24.3	+0.2
SRTM				*i* S	Sg	22 51 49.5	+0.5
SRTM	Siirt_Merkez	1.77	25	P	Pn	22 51 24.3	+0.2
SRTM				S	Sg	22 51 49.5	+0.5
SVAN	Silvan-Diyarba	1.77	6	PN	Pb	22 51 24.5	-1.0
SVAN	Silvan-Diyarba	1.77	6	*i* P	Pn	22 51 24.0	0.0
SVAN				*i* S	Sb	22 51 48.2	0.0
SVAN	Silvan-Diyarba	1.77	6	P	Pn	22 51 24.0	0.0
SVAN	Silvan-Diyarba	1.77	6	*e*Pn	Pb	22 51 24.5	-1.0
SVAN				S	Sb	22 51 48.2	0.0
URFA	Urfa	2.02	302	PN	Pn	22 51 27.7	+0.1
URFA	Urfa	2.02	302	*e*Pn	Pn	22 51 27.7	+0.1
HANI	Diyarbakir_Han	2.07	347	*i* P	Pn	22 51 28.6	+0.4
HANI				*i* S	Sn	22 51 55.2	+0.4
HANI	Diyarbakir_Han	2.07	347	P	Pn	22 51 28.6	+0.4
HANI				S	Sn	22 51 55.2	+0.4
GURO	Guroymak-BITLI	2.31	21	PN	Pn	22 51 32.5	+0.9
GURO	Guroymak-BITLI	2.31	21	*e*Pn	Pn	22 51 32.5	+0.9
MALT	Malatya	2.80	314	PN	Pn	22 51 39.1	+0.9
MALT	Malatya	2.80	314	*e*Pn	Pn	22 51 39.1	+0.9
RTB	Rutbah	3.40	190	*e*Pn	Pn	22 51 47.0	+0.6
	SNR=3.0						
RTB				*i* Sn	Sn	22 52 27.0	-0.4
	SNR=3.0						

CSEM ***08*** *23:39:16.4±0.1, 43°.11N×13°.45E, h15km, ML3.3/20, Error ellipse: s-maj=2.5km s-min=2.0km az=87.0*
ROM ***08*** *23:39:16.5±0.1, 43°.13N×13°.47E, h18km±1km, Ml3.1/25, Error ellipse: s-maj=1.4km s-min=0.8km az=67.0*
PRU ***08*** *23:39:16.9, 43°.16N×13°.61E, h10km*
LDG ***08*** *23:39:17.0±0.2, 43°.14N×13°.49E, h2km, Md2.9/3, Ml2.9/8, Error ellipse: s-maj=4.2km s-min=2.7km az=83.0*
ISC 08 23:39:16.0±0.9**, 43°.12N**±0°.02×**13°.47E**±0°.02**, h16**km±6km**, n131, σ1^{s}54**/195**, Central Italy**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FDMO	Fiordimonte	0.30	253	Pg	Pg	23 39 22.8	+0.5
FDMO				Sg	Sb	23 39 27.9	+0.3
	4μm,0.2s						
FDMO	Fiordimonte	0.30	253	Pg	Pg	23 39 22.8	+0.5
FDMO				Sg	Sb	23 39 27.9	+0.3
	4μm,0.2s						
CING	Cingoli	0.32	321	Pg	Pg	23 39 23.2	+0.4
CING				Sg	Sg	23 39 28.0	+0.5
	1μm,0.3s						
CING	Cingoli	0.32	321	Pg	Pg	23 39 23.2	+0.4
CING				Sg	Sg	23 39 28.0	+0.5
	1μm,0.3s						
GUMA	Gualdo di Mace	0.34	100	Pg	Pg	23 39 20.6	-2.6
GUMA				Sg	Sg	23 39 23.7	-4.3
	7μm,0.2s						
NRCA	Norcia	0.39	222	Pg	Pg	23 39 24.6	+0.6
NRCA				Sg	Sg	23 39 30.3	+0.8
	14μm,0.1s						
NRCA	Norcia	0.39	222	Pg	Pg	23 39 24.6	+0.6
NRCA				Sg	Sg	23 39 30.3	+0.8
	14μm,0.1s						
SNTG	Esanatoglia	0.41	289	Pg	Pg	23 39 24.6	+0.2
SNTG				Sg	Sb	23 39 31.0	0.0
	3μm,0.2s						
SNTG	Esanatoglia	0.41	289	Pg	Pg	23 39 24.6	+0.2
SNTG				Sg	Sb	23 39 31.0	0.0
	3μm,0.2s						
CESI	CESI - Serrava	0.43	254	Pg	Pg	23 39 25.2	+0.4
CESI				Sg	Sb	23 39 31.8	+0.2
	794nm,0.3s						
CESI	CESI - Serrava	0.43	254	Pg	Pg	23 39 25.2	+0.4
CESI				Sg	Sb	23 39 31.8	+0.2
	794nm,0.3s						
AOI	Ancona	0.44	12	Pg	Pb	23 39 25.4	0.0
AOI				Sg	Sb	23 39 32.5	+0.7
	1μm,0.3s						
AOI	Ancona	0.44	12	Pg	Pb	23 39 25.4	0.0
AOI				Sg	Sb	23 39 32.5	+0.7
	1μm,0.3s						
SMA1	SAN MARTINO	0.50	192	Pg	Pg	23 39 26.5	+0.5
SMA1				Sg	Sb	23 39 34.8	+1.1
	2μm,0.2s						
SMA1	SAN MARTINO	0.50	192	Pg	Pg	23 39 26.5	+0.5
SMA1				Sg	Sb	23 39 34.8	+1.1
	2μm,0.2s						
TERO	Teramo	0.51	169	Pg	Pg	23 39 26.8	+0.7
	942nm,0.5s						
TERO	Teramo	0.51	169	Pg	Pg	23 39 26.8	+0.7
	942nm,0.5s						
ARVD	Arcevia	0.54	314	Pg	Pg	23 39 26.8	+0.1
ARVD				Sg	Sb	23 39 34.9	+0.2
	273nm,0.2s						
ARVD	Arcevia	0.54	314	Pg	Pg	23 39 26.8	+0.1
ARVD				Sg	Sb	23 39 34.9	+0.2
	273nm,0.2s						
CAMP	Campotosto	0.59	185	Pg	Pg	23 39 28.1	+0.4
	1μm,0.6s						
CAMP	Campotosto	0.59	185	Pg	Pg	23 39 28.1	+0.4
	1μm,0.6s						
ATCC	AVT- Casa Cast	0.61	276	Pg	Pg	23 39 28.2	+0.1
ATCC				Sg	Sb	23 39 37.7	+0.9
	1μm,0.3s						
ATCC	AVT- Casa Cast	0.61	276	Pg	Pg	23 39 28.2	+0.1
ATCC				Sg	Sb	23 39 37.7	+0.9
	1μm,0.3s						
MURB	Monte Urbino	0.71	282	Pg	Pg	23 39 30.0	+0.1
MURB				Sg	Sb	23 39 40.7	+1.1
	2μm,0.2s						
MURB	Monte Urbino	0.71	282	Pg	Pg	23 39 30.0	+0.1
MURB				Sg	Sb	23 39 40.7	+1.1
	2μm,0.2s						
MPAG	Monte Paganucc	0.73	314	Pg	Pg	23 39 30.3	+0.1
MPAG				Sg	Sb	23 39 40.7	+0.6
	224nm,0.3s						
MPAG	Monte Paganucc	0.73	314	Pg	Pg	23 39 30.3	+0.1
MPAG				Sg	Sb	23 39 40.7	+0.6
	224nm,0.3s						
FSSB	Fossombrone	0.76	319	Pg	Pb	23 39 30.8	-0.1
FSSB				Sg	Sg	23 39 41.6	+0.6
	1μm,0.3s						
FSSB	Fossombrone	0.76	319	Pg	Pb	23 39 30.8	-0.1
FSSB				Sg	Sg	23 39 41.6	+0.6
	1μm,0.3s						
T0104	Madonna delle	0.77	187	Pg	Pb	23 39 31.2	+0.2
AQU	L'Aquila	0.77	184	Pg	Pb	23 39 31.3	+0.2
	607nm,0.2s						
AQU	L'Aquila	0.77	184	Pg	Pb	23 39 31.3	+0.2
	607nm,0.2s						
VCEL	Villa Celiera	0.78	159	Pg	Pg	23 39 31.9	+0.7
	470nm,0.5s						
VCEL	Villa Celiera	0.78	159	Pg	Pg	23 39 31.9	+0.7
	470nm,0.5s						
PIEI	Pieia	0.80	301	Pg	Pb	23 39 31.3	-0.3
	313nm,0.2s						
PIEI	Pieia	0.80	301	Pg	Pb	23 39 31.3	-0.3
	313nm,0.2s						
ATVO	AVT- Monte Val	0.82	289	Pg	Pb	23 39 31.8	-0.1
	351nm,0.3s						
ATVO	AVT- Monte Val	0.82	289	Pg	Pb	23 39 31.8	-0.1
	351nm,0.3s						
ATPC	Poggio Castell	0.82	296	Pg	Pb	23 39 31.9	-0.1
	644nm,0.8s						
ATPC	Poggio Castell	0.82	296	Pg	Pb	23 39 31.9	-0.1
	644nm,0.8s						
FAGN	Fagnano	0.86	175	Pg	Pg	23 39 33.1	+0.4
	905nm,0.3s						
FAGN	Fagnano	0.86	175	Pg	Pg	23 39 33.1	+0.4
	905nm,0.3s						
FIAM	Fiamignano	0.89	197	Pg	Pb	23 39 33.2	0.0
FIAM				Sg	Sn	23 39 46.7	0.0
	398nm,0.4s						
FIAM	Fiamignano	0.89	197	Pg	Pb	23 39 33.2	0.0
FIAM				Sg	Sn	23 39 46.7	0.0
	398nm,0.4s						
BADI	Badiali	0.98	294	Pg	Pb	23 39 34.7	+0.1
	556nm,1.0s						
BADI	Badiali	0.98	294	Pg	Pb	23 39 34.7	+0.1
	556nm,1.0s						
ATMC	Monte Cedrone	0.99	290	Pg	Pb	23 39 35.0	+0.2
ATMC	Monte Cedrone	0.99	290	Pg	Pb	23 39 35.0	+0.2
MGAB	Montegabbione	1.02	259	Pg	Pb	23 39 34.2	-1.1
	400nm,0.8s						
MGAB	Montegabbione	1.02	259	Pg	Pb	23 39 34.2	-1.1
	400nm,0.8s						
PARC	Parchiule	1.04	301	Pg	Pb	23 39 36.1	+0.4
PARC	Parchiule	1.04	301	Pg	Pb	23 39 36.1	+0.4
PTQR	Pietraquaria	1.10	183	Pg	Pb	23 39 37.0	+0.3
PTQR	Pietraquaria	1.10	183	Pg	Pb	23 39 37.0	+0.3
CAFI	Castiglion Fio	1.12	281	Pg	Pn	23 39 37.6	+0.5
	169nm,0.6s						
CAFI	Castiglion Fio	1.12	281	Pg	Pn	23 39 37.6	+0.5
	169nm,0.6s						
INTR	Introdacqua	1.16	164	Pg	Pb	23 39 38.0	+0.3
INTR	Introdacqua	1.16	164	Pg	Pb	23 39 38.0	+0.3
CERT	Cerreto	1.23	197	Pg	Pn	23 39 38.9	+0.3
CERT	Cerreto	1.23	197	Pg	Pn	23 39 38.9	+0.3
NVLJ	Novalja	1.76	35	*e*Pn	Pn	23 39 46.2	+0.3
NVLJ				Sn	Sn	23 40 08.3	+0.4
NVLJ	Novalja	1.76	35	*e*Pn	Pn	23 39 46.1	+0.3
NVLJ				Sn	Sn	23 40 08.2	+0.4
UDBI	Udbina	2.17	49	*e*Pn	Pn	23 39 52.9	+1.3
UDBI				Sn	Sb	23 40 20.3	-1.4
UDBI	Udbina	2.17	49	*e*Pn	Pn	23 39 52.9	+1.3
UDBI				Sn	Sb	23 40 20.3	-1.4
OZLJ	Ozalj	2.87	29	*e*Pn	Pn	23 40 02.0	+0.8
OZLJ	Ozalj	2.87	29	*e*Pn	Pn	23 40 01.9	+0.8
STON	Ston	3.11	93	*e*Pn	Pn	23 40 04.1	-0.3
STON	Ston	3.11	93	*e*Pn	Pn	23 40 04.0	-0.3
PGF	Pioggiola	3.34	262	*e*Pn	Pn	23 40 09.3	+1.6
PGF	Pioggiola	3.34	262	*e*Pn	Pn	23 40 09.3	+1.6
OBKA	Obir	3.47	12	Pn	Pn	23 40 10.8	+1.3
	0.4nm,0.1s						
OBKA				Sg	Sg	23 41 10.0	+2.5
	2.8nm,0.2s						
OBKA	Obir	3.47	12	*e*Pn	Pn	23 40 10.8	+1.3
	0.4nm,0.1s						
OBKA				Sg	Sg	23 41 10.0	+2.5
	2.8nm,0.2s						
MYKA	Terra Mystica	3.51	2	Pn	Pn	23 40 11.2	+1.2
	0.7nm,0.3s						
MYKA	Terra Mystica	3.51	2	*e*Pn	Pn	23 40 11.2	+1.2
	0.7nm,0.3s						
ABTA	Abfaltersbach	3.69	350	Pn	Pn	23 40 13.3	+0.9
	2.4nm,0.3s						
ABTA				Sn	Sn	23 40 55.8	+0.2
	1.1nm,0.2s						
ABTA	Abfaltersbach	3.69	350	*e*Pn	Pn	23 40 13.3	+0.9
	2.4nm,0.3s						
ABTA				*e*Sn	Sn	23 40 55.8	+0.2
	1.1nm,0.2s						
SOKA	Soboth	3.72	17	Pn	Pn	23 40 13.9	+1.0
	0.4nm,0.2s						
SOKA				Sg	Sg	23 41 17.6	+2.0
	3.1nm,0.5s						
SOKA	Soboth	3.72	17	*e*Pn	Pn	23 40 13.9	+1.0
	0.4nm,0.2s						
SOKA				Sg	Sg	23 41 17.6	+2.0
	3.1nm,0.5s						
KBA	Koelnbreinsper	3.96	359	Pn	Pn	23 40 16.9	+0.7
	2.6nm,0.3s						
KBA				Sn	Sn	23 41 01.3	-1.1
	0.8nm,0.2s						
KBA	Koelnbreinsper	3.96	359	*e*Pn	Pn	23 40 16.9	+0.7
	2.6nm,0.3s						
KBA				*e*Sn	Sn	23 41 01.3	-1.1
	0.8nm,0.2s						
FETA	Feichten	4.36	334	Pn	Pn	23 40 24.7	+3.0
	0.6nm,0.3s						
FETA	Feichten	4.36	334	*e*Pn	Pn	23 40 24.7	+3.0
	0.6nm,0.3s						
ARSA	Arzberg	4.37	19	Pn	Pn	23 40 25.7	+3.9
	0.8nm,0.3s						
ARSA				Sn	Sn	23 41 11.0	-1.4
	0.7nm,0.4s						
ARSA	Arzberg	4.37	19	*e*Pn	Pn	23 40 25.7	+3.9
	0.8nm,0.3s						
ARSA				Sn	Sn	23 41 11.0	-1.4
	0.7nm,0.4s						
WATA	Walderalm	4.42	343	Pn	Pn	23 40 24.7	+2.1
	0.6nm,0.2s						
WATA	Walderalm	4.42	343	*e*Pn	Pn	23 40 24.7	+2.1
	0.6nm,0.2s						
SBF	Sospel	4.46	282	*e*Pn	Pn	23 40 22.7	-0.3
SBF				*e*Sn	Sn	23 41 11.5	-3.0
	2.5nm,0.2s						
SBF	Sospel	4.46	282	*e*Pn	Pn	23 40 22.7	-0.3
SBF				*e*Sn	Sn	23 41 11.5	-3.0
	1.2nm,0.2s						
MOTA	Moosalm	4.54	339	Pn	Pn	23 40 25.2	+1.0
	0.1nm,0.1s						
MOTA	Moosalm	4.54	339	*e*Pn	Pn	23 40 25.2	+1.0
	0.1nm,0.1s						
MOA	Molln	4.76	6	Pn	Pn	23 40 28.3	+1.2
	0.2nm,0.1s						
MOA				Sn	Sn	23 41 21.6	-0.4
	0.1nm,0.1s						
MOA	Molln	4.76	6	*e*Pn	Pn	23 40 28.3	+1.2
	0.2nm,0.1s						
MOA				*e*Sn	Sn	23 41 21.6	-0.4
	0.1nm,0.1s						
RETA	Reutte	4.76	337	Pn	Pn	23 40 31.4	+4.2
	0.7nm,0.3s						
RETA				Sn	Sn	23 41 23.9	+1.8
	0.8nm,0.3s						
RETA	Reutte	4.76	337	*e*Pn	Pn	23 40 31.4	+4.2
	0.7nm,0.3s						
RETA				*e*Sn	Sn	23 41 23.9	+1.8
	0.8nm,0.3s						
DAVA	Damuels	4.88	330	Pn	Pn	23 40 30.7	+1.9
	0.2nm,0.2s						
DAVA				Sn	Sn	23 41 25.6	+0.6
	2.2nm,0.4s						
DAVA	Damuels	4.88	330	*e*Pn	Pn	23 40 30.7	+1.9
	0.2nm,0.2s						
DAVA				*e*Sn	Sn	23 41 25.6	+0.6
	2.2nm,0.4s						
FRF	La Foret Royal	5.00	277	*e*Pn	Pn	23 40 31.8	+1.4
FRF	La Foret Royal	5.00	277	*e*Pn	Pn	23 40 31.8	+1.4
CONA	Conrad Observa	5.09	18	Pn	Pn	23 40 32.6	+0.9
	0.5nm,0.2s						
CONA				Sn	Sn	23 41 30.5	+0.4
	1.2nm,0.3s						
CONA	Conrad Observa	5.09	18	*e*Pn	Pn	23 40 32.6	+0.9
	0.5nm,0.2s						
CONA				*e*Sn	Sn	23 41 30.5	+0.4
	1.2nm,0.3s						
LMR	La Mourre	5.09	275	*e*Pn	Pn	23 40 32.6	+1.0
LMR	La Mourre	5.09	275	*e*Pn	Pn	23 40 32.6	+1.0
MBDF	Montbardon	5.10	291	*e*Pn	Pn	23 40 33.4	+1.5
MBDF				*e*Sn	Sn	23 41 26.6	-3.9
	0.6nm,0.2s						
MBDF	Montbardon	5.10	291	*e*Pn	Pn	23 40 33.4	+1.5
MBDF				*e*Sn	Sn	23 41 26.6	-3.9
	0.3nm,0.2s						
LPG	La Plagne	5.38	299	*e*Pn	Pn	23 40 35.8	0.0
LPG				*e*Sn	Sn	23 41 35.3	-2.2
	1.9nm,0.3s						
LPG	La Plagne	5.38	299	*e*Pn	Pn	23 40 35.8	0.0
LPG				*e*Sn	Sn	23 41 35.3	-2.2
	0.9nm,0.3s						
LPL	La Plagne	5.40	299	*e*Pn	Pn	23 40 36.6	+0.6
LPL				*e*Sn	Sn	23 41 35.7	-2.2
	1.8nm,0.3s						
LPL	La Plagne	5.40	299	*e*Pn	Pn	23 40 36.6	+0.6
LPL				*e*Sn	Sn	23 41 35.7	-2.2
	0.9nm,0.3s						
ORIF	Oris-en-Rattie	5.76	291	*e*Pn	Pn	23 40 41.8	+0.9
ORIF	Oris-en-Rattie	5.76	291	*e*Pn	Pn	23 40 41.8	+0.9
SMRF	Simiane la Rot	5.80	281	*e*Pn	Pn	23 40 40.4	-1.1
SMRF	Simiane la Rot	5.80	281	*e*P	Pn	23 40 44.9	+3.4
SMRF	Simiane la Rot	5.80	281	*e*Pn	Pn	23 40 40.4	-1.1
KHC	Kasperske Hory	6.01	1	*e*PN	Pn	23 40 45.6	+1.3
KHC				*e*x	x	23 40 48.8	
KHC				*e*PB	Pb	23 40 57.8	-2.5
KHC				*e*SN	Sn	23 41 49.2	-3.5
KHC	Kasperske Hory	6.01	1	Pn	Pn	23 40 45.6	+1.3
HINF	Hinteralfeld	6.61	318	*e*Pn	Pn	23 40 52.1	-0.4
HINF				*e*Sn	Sn	23 42 02.8	-4.7
	3.1nm,0.3s						
HINF	Hinteralfeld	6.61	318	*e*Pn	Pn	23 40 52.1	-0.4
CDF	Champ du Feu	6.84	323	*e*Pn	Pn	23 40 55.8	+0.1
CDF	Champ du Feu	6.84	323	*e*Pn	Pn	23 40 55.8	+0.1
HAU	Haudompre	6.99	317	*e*Pn	Pn	23 40 57.8	+0.1
HAU				*e*Sn	Sn	23 42 12.2	-4.6
	3.6nm,0.3s						
HAU	Haudompre	6.99	317	*e*Pn	Pn	23 40 57.8	+0.1
SMF	Signal de Mont	7.69	301	*e*Pn	Pn	23 41 07.8	+0.5
SMF				*e*Sn	Sn	23 42 29.8	-4.3
	1.4nm,0.3s						
SMF	Signal de Mont	7.69	301	*e*Pn	Pn	23 41 07.8	+0.5
LOR	Lormes	7.95	305	*e*Pn	Pn	23 41 11.2	+0.3
	baz=122						
LOR				*e*Sn	Sn	23 42 34.7	-5.9
	2.9nm,0.3s						
LOR	Lormes	7.95	305	*e*Pn	Pn	23 41 11.2	+0.3
AVF	Avril sur Loir	8.06	301	*e*Pn	Pn	23 41 13.1	+0.8
AVF				*e*Sn	Sn	23 42 38.1	-5.0
AVF	Avril sur Loir	8.06	301	*e*Pn	Pn	23 41 13.1	+0.8
SSF	Saint Saulge	8.08	303	*e*Pn	Pn	23 41 13.2	+0.6
SSF	Saint Saulge	8.08	303	*e*Pn	Pn	23 41 13.2	+0.6
BGF	Bois d'Agland	8.29	298	*e*Pn	Pn	23 41 15.4	-0.2
BGF	Bois d'Agland	8.29	298	*e*Pn	Pn	23 41 15.4	-0.2

IDC 08 23:49:25.8±4.4**, 17°.15S**×**168°.76E, h176**km±42km**, mb3.6**/6**, mb1 3.7**/7**, mb1mx3.4**/47**, mbtmp4.1**/7**, Error ellipse: s-maj=33.7km s-min=25.5km az=179.0, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	5.36	204	P	Pn	23 50 44.8	+0.3
	3.6nm,0.3s,baz=67,slow=9.6,SNR=44						
DZM				S	Sn	23 51 42.2	-4.1
	2.7nm,0.3s,baz=307,slow=20,SNR=4.0						
URZ	Urewera	22.27	162	P	P	23 54 08.0	-0.5
	3.9nm,0.5s,baz=14,slow=8.3,SNR=4.0						
STKA	Stephens Creek	28.64	234	P	P	23 55 05.7	-0.2
	4.6nm,0.7s,baz=62,slow=8.3,SNR=8.0						
WRA	Warramunga Arr	32.72	260	P	P	23 55 41.5	-0.4
	0.4nm,0.3s,baz=85,slow=8.3,SNR=8.4						
ASAR	Alice Springs	33.25	253	P	P	23 55 46.8	+0.2
	11nm,0.6s,baz=82,slow=8.9,SNR=38						
SONM	Songino Array	85.28	323	P	P	00 01 43.0	+0.2
	0.2nm,0.4s,baz=116,slow=3.4,SNR=2.3						
ILAR	Eielson Array	88.38	17	P	P	00 01 57.4	+0.2
	0.4nm,1.1s,baz=224,slow=5.0,SNR=3.7						

IDC 08 23:54:38.6±13.0**, 3°.18N**×**101°.99W, h0**km**, mb3.2**/4**, mb1 3.6**/4**, mb1mx3.4**/47**, mbtmp3.2**/4**, MS3.1**/1**, Ms1 3.1**/1**, ms1mx2.5**/13**, Error ellipse: s-maj=453.6km s-min=123.6km az=111.0, Galapagos Triple Junction region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CMIG	Matias Romero	15.49	26	LR	LR	00 03 04.0	
	comp=Z,68nm,21.4s,baz=194,slow=33						
TXAR	Lajitas Array	26.07	357	P	P	00 00 12.8	-1.3
	0.1nm,0.5s,baz=190,slow=9.1,SNR=2.6						
PDAR	Pinedale Array	40.00	351	P	P	00 02 16.5	+1.1
	0.3nm,0.8s,baz=156,slow=9.3,SNR=2.5						
YKA	Yellowknife Ar	59.92	353	P	P	00 04 47.0	+0.8
	0.4nm,1.0s,baz=158,slow=5.9,SNR=4.9						
ILAR	Eielson Array	69.34	341	P	P	00 05 47.1	-0.7
	0.4nm,1.1s,baz=134,slow=5.2,SNR=3.2						
H11S2	WAKE ISLAND Hy	90.24	288	T	T	01 48 43.9	
	baz=80						
H11S1	WAKE ISLAND Hy	90.25	288	T	T	01 48 44.7	
	baz=80						
H11S3	WAKE ISLAND Hy	90.26	288	T	T	01 48 42.6	
	baz=80						

DJA 09 00:05:32.1±1.3**, 4°S**±13°×**12°9E**±°**, h10**km**, M3.5**/7**, MLv3.5**/7**, Seram**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MSAI	Masohi	0.48	7	P	Pb	00 05 42.4	-0.3
AAI	Ambon	0.69	282	P	Pg	00 05 42.3	-3.1
NLAI	Namlea	1.86	288	P	Pb	00 06 05.6	-0.6
SANI	Sanana	3.38	301	P	Pb	00 06 28.7	-3.4
LBMI	Labuha	3.45	337	P	Pg	00 06 49.4	+11
SWI	Sorong	3.79	39	P	Pn	00 06 30.3	-0.4

NIED ***09*** *00:07:00, 39°.10N×144°.30E, h5km, Mw3.9 Best double couple: $M_0$9.27000×10^{14} NP1:ϕ_s19.00000°, δ25.00000°, λ-65.00000°. NP2:ϕ_s171.00000°, δ67.00000°, λ-101.00000°.*
IDC ***09*** *00:07:01.7±0.9, 38°.88N×144°.71E, h0km, mb3.8/14, mb1 4.0/18, mb1mx3.8/70, mbtmp3.8/18, ML3.7/4, MS2.9/5, Ms1 2.9/5, ms1mx2.5/59, Error ellipse: s-maj=23.2km s-min=17.1km az=100.0*
ISCJB ***09*** *00:07:04.3±0.6, 39°.10N±0°.04×144°.40E±0°.05, h19km, mb3.8/16, Error ellipse: s-maj=6.2km s-min=4.2km az=135.8*
JMA ***09*** *00:07:06.7±0.1, 39°.06N×144°.35E, h49km, M3.8*
NEIC ***09*** *00:07:07.2±0.6, 38°.93N×144°.62E, h35km, mb4.4/2, Error ellipse: s-maj=12.6km s-min=9.2km az=122.0*
ISC 09 00:07:05.3±0.7**, 39°.01N**±0°.05×**144°.49E**±0°.07**, h19**km**, n42, σ2^{s}47**/60**, mb3.9**/16**, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MIYJ	Miyakonagasawa	2.15	286	P	Pn	00 07 39.2	-0.9
MIYJ				*e*S	Sn	00 08 03.0	-3.2
OFUJ	Ofunato	2.20	273	P	Pn	00 07 40.2	-0.5
OFUJ				*e*S	Sn	00 08 04.8	-2.6
JTH	Tanohata	2.23	295	P	Pn	00 07 40.6	-0.6
JTH				*e*S	Sn	00 08 05.9	-2.4
JOM	Ohasama	2.52	282	P	Pn	00 07 45.2	0.0
JOM				*e*S	Sn	00 08 13.6	-1.9
JMK	Ichinoseki	2.55	270	P	Pn	00 07 45.5	-0.1
JMK				*e*S	Sn	00 08 14.0	-2.0
JANG	Nango	2.67	302	P	Pn	00 07 46.2	-1.0
JANG				*e*S	Sn	00 08 15.6	-3.4
JYK	Kaneyama	3.22	270	P	Pn	00 07 55.0	+0.2
JNBK	Urakawa-nobuka	3.52	339	P	Pn	00 07 58.7	-0.3
JNBK				*e*S	Sn	00 08 38.1	-2.0
JOT	Ohata	3.54	313	P	Pn	00 08 01.1	+1.9
JOT				*e*S	Sn	00 08 38.0	-2.6
JFT	Otama	3.59	247	P	Pn	00 07 59.2	-0.7
JFT				*e*S	Sn	00 08 40.5	-1.3
JCH	Churui	3.70	347	P	Pn	00 08 00.2	-1.2
JCH				*e*S	Sn	00 08 39.6	-4.9
JAK	Akkeshi	3.99	2	P	Pn	00 08 03.4	-1.9
JAK				*e*S	Sn	00 08 46.9	-4.6
NEM2	Nemuro 2	4.45	12	P	Pn	00 08 08.8	-2.9
NEM2				*e*S	Sn	00 08 56.6	-6.4
JOSM	Okushiri--Mats	4.90	310	P	Pn	00 08 19.6	+1.7
JTKR	Abashiri--Toko	4.98	355	P	Pn	00 08 17.6	-1.3
JTKR				*e*S	Sn	00 09 11.9	-4.0
BSO1	Boso 1	5.18	214	P	Pn	00 08 17.7	-3.5
BSO1				*e*S	Sn	00 09 16.9	-3.3
ASAJ	Asahikawa	5.30	345	Pn	Pn	00 08 23.9	+0.6
	1.0nm,0.3s,baz=169,slow=15,SNR=4.9						
ASAJ				Sn	Sn	00 09 20.5	-3.3
	0.7nm,0.3s,baz=35,slow=18,SNR=3.5						
JRY	Ryogami san	5.35	238	P	Pn	00 08 23.3	-0.8
JRY				*e*S	Sn	00 09 21.2	-4.1
MJAR	Matsushiro Arr	5.55	246	Pn	Pn	00 08 27.8	+1.0
	5.2nm,0.3s,baz=63,slow=10,SNR=34						
MJAR				Sn	Sn	00 09 30.7	+0.6
	baz=42,slow=15,SNR=3.3						
MJAR				LR	LR	00 10 52.6	
	comp=Z,134nm,18.1s,baz=85,slow=41						
MAT	Matsushiro	5.55	246	P	Pn	00 08 27.9	+1.0
MAT				S	Sn	00 09 31.1	+0.9
JOD2	Odawara 2	5.71	231	*e*S	Sn	00 09 28.8	-5.2
JHJ	Hachijo jima 2	7.00	214	Pn	Pn	00 08 44.1	-2.6
	14nm,0.3s,baz=43,slow=19,SNR=2.9						
JHJ				Sn	Sn	00 09 58.3	-7.6
	6.0nm,0.3s,baz=252,slow=19,SNR=4.4						
JHJ				LR	LR	00 12 30.4	
	comp=Z,82nm,18.7s,baz=116,slow=47						
USRK	Ussuriysk Ar.	10.70	303	LR	LR	00 13 35.5	
	comp=Z,63nm,20.9s,baz=128,slow=36						
JNU	Nakatsue	12.48	246	LR	LR	00 15 03.7	

comp=Z,94nm,20.2s,baz=80,slow=38
KSRS Korea Array 13.12 268 Pn **Pn 00 10 12.1 +1.6**
0.2nm,0.3s,baz=72,slow=17,SNR=2.8
KSRS LR LR 00 14 55.3
comp=Z,36nm,18.6s,baz=56,slow=36
KSAR Wonju Array Be 13.15 268 Pn **Pn 00 10 12.2 +1.2**
ZALV Zalesovo Beam 42.42 311 P **P 00 14 59.3 +0.9**
0.7nm,0.5s,baz=99,slow=9.2,SNR=5.0
ZALV PcP **PcP 00 16 51.3 +0.1**
0.8nm,0.7s,baz=106,slow=4.6,SNR=3.4
CMAR Chiang Mai Arr 44.34 256 P **P 00 15 15.7 +1.3**
0.5nm,0.4s,baz=36,slow=7.8,SNR=4.0
MKAR Makanchi Array 45.16 301 P **P 00 15 21.4 +0.8**
1.1nm,0.8s,baz=81,slow=9.4,SNR=12
ILAR Eielson Array 46.52 33 P **P 00 15 31.1 0.0**
0.3nm,0.6s,baz=265,slow=6.8,SNR=6.9
KURK Kurchatov 46.66 307 *eP* **P 00 15 32.5 +0.3**
3.1nm,0.6s
KURBB Kurchatov Arra 46.73 307 P **P 00 15 33.1 +0.3**
1.6nm,0.6s,baz=80,slow=8.1,SNR=15
BVAR Borovoye Array 51.06 312 P **P 00 16 06.9 +0.9**
0.8nm,0.8s,baz=80,slow=9.2,SNR=7.1
ABKAR Abkulak array 58.53 310 *eP* **P 00 17 01.1 +1.0**
1.7nm,0.6s
AKTO Aktyubinsk 59.16 312 P **P 00 17 05.3 +0.7**
1.6nm,0.7s,baz=73,slow=12,SNR=6.5
WRA Warramunga Arr 59.41 191 P **P 00 17 05.3 -1.2**
1.8nm,0.8s,baz=10,slow=7.4,SNR=11
YKA Yellowknife Ar 60.87 31 P **P 00 17 15.6 -0.5**
0.2nm,0.8s,baz=306,slow=7.1,SNR=4.5
ASAR Alice Springs 63.13 191 P **P 00 17 30.1 -1.6**
0.6nm,0.8s,baz=22,slow=4.4,SNR=5.6
FINES FINESS Array B 68.18 333 P **P 00 18 04.6 +0.7**
1.0nm,0.6s,baz=35,slow=7.0,SNR=5.5
KBZ Khabaz 71.44 311 P **P 00 18 26.0 +1.8**
2.3nm,0.8s,baz=54,slow=2.8,SNR=6.0
GERES GERESS Array B 82.28 330 P **P 00 19 25.9 +0.5**
0.2nm,0.5s,baz=30,slow=8.0,SNR=2.9
MMAI Mount Meron Ar 82.77 307 P **P 00 19 29.7 +1.4**
0.5nm,0.5s,baz=44,slow=8.5,SNR=3.2

OTT 09 00:12:00.2±0.6, 44°.63N×55°.67W, h18km, ML3.5/6, 275km south from Grand Bank, NI Eastern Background Seismic Zone., North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJNN	**Saint John's**	**3.62**	**34**	PN	Pn	00 12 54.8	-0.6
SJNN				SN	Sn	00 13 35.0	-2.7
SJNN				Trac		00 13 37.6	
	comp=Z,22nm,0.2s						
GBN	**Guysborough**	**4.22**	**283**	PN	Pn	00 13 03.6	0.0
GBN				SN	Sn	00 13 50.0	-2.3
GBN				Trac		00 13 52.5	
	comp=Z,9.4nm,0.1s						
DRLN	**Deer Lake**	**4.80**	**345**	PN	Pn	00 13 11.7	+0.1
DRLN				SN	Sn	00 14 03.7	-3.0
DRLN				Trac		00 14 05.8	
	comp=Z,23nm,0.4s						
HAL	**Halifax**	**5.66**	**273**	PN	Pn	00 13 23.0	-0.3
HAL				SN	Sn	00 14 22.1	-5.6
HAL				Trac		00 14 23.5	
	comp=Z,4.2nm,0.1s						
LMN	**Caledonia Moun**	**6.57**	**284**	PN	Pn	00 13 35.4	-0.5
LMN				SN	Sn	00 14 45.3	-5.0
NATG	**Natashquan Que**	**7.45**	**322**	PN	Pn	00 13 48.1	+0.2
NATG				SN	Sn	00 15 07.1	-4.7
BATG	**Bathurst New B**	**7.71**	**294**	PN	Pn	00 13 50.6	-1.0
BATG				SN	Sn	00 15 11.3	-7.2
BATG				Trac		00 15 14.8	
	comp=Z,6.0nm,0.1s						
GGN	**Saint George**	**7.96**	**277**	PN	Pn	00 13 53.5	-1.4
GGN				SN	Sn	00 15 15.2	-9.1
GGN				Trac		00 15 20.0	
	comp=Z,8.0nm,0.2s						
ICQ	**Pointe Anglais**	**9.31**	**306**	SN	Sn	00 15 50.5	-7.0
SMQ	**Clarke City**	**9.34**	**311**	SN	Sn	00 15 50.3	-8.0
CNQ	**Baie Comeau**	**9.68**	**303**	PN	Pn	00 14 17.7	-0.9
PKME	**Peaks-Kenny Pk**	**9.69**	**279**	PN	Pn	00 14 17.4	-1.1
PKME				SN	Sn	00 15 57.9	-8.9

*IDC **09** 00:15:45.0±1.6, 42°.26N×67°.79E, h0km, mb4.0/2, mb1 3.5/8, mb1mx3.3/65, mbtmp3.6/8, ML3.1/6, Error ellipse: s-maj=21.9km s-min=10.2km az=16.0*
*SOME **09** 00:15:46.3, 42°.08N×68°.07E, h0km*
*NNC **09** 00:15:46.7±1.1, 42°.33N×67°.86E, h27km±7km, mb3.7, mpv3.4, Error ellipse: s-maj=8.0km s-min=4.6km az=61.0*
ISC 09 00:15:44.2±1.5, 42°.39N±0°.04×67°.93E±0°.04, h8km±10km, n32, σ2$52/53, 19C-13D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHM	**Chimkent**	**1.24**	**93**	⇓*iP*	**Pg**	**00 16 09.9**	**+1.8**
CHM				*eS*	**Sn**	**00 16 27.0**	**+2.1**
	107nm,0.2s						
	2μm,0.3s						
TAS	**Tashkent**	**1.47**	**136**	⇓P	**Pb**	**00 16 11.1**	**-0.7**
TAS				⇑S	**Sn**	**00 16 30.0**	**-0.4**
	138nm,0.3s						
	428nm,0.3s						
BRLS	**Borolday**	**1.54**	**65**	*eP*	**Pb**	**00 16 12.2**	**-0.9**
BRLS	8.5nm,0.1s			*eS*	**Sb**	**00 16 31.5**	**-1.3**
	188nm,0.2s						
IUG	**Iuzhnay**	**1.58**	**98**	*eP*	**Pg**	**00 16 14.4**	**-0.1**
IUG	155nm,0.3s			*eS*	**Sg**	**00 16 36.0**	**+1.1**
	394nm,0.2s						
KK31	**Karatay Array**	**2.03**	**69**	⇓Pn	**Pb**	**00 16 21.1**	**-0.2**
	0.4nm,0.2s,baz=243,slow=16,SNR=122						
KK31				⇑Pg	**Pg**	**00 16 26.9**	**+3.8**
	4.4nm,0.3s,baz=249,slow=16,SNR=6.9						
KK31				⇑Lg	Lg	00 16 52.4	
	89nm,0.6s,baz=253,slow=27,SNR=23						
DZA	**Taraz**	**2.56**	**78**	*eP*	**Pg**	**00 16 33.1**	**-0.1**
DZA	22nm,0.2s			*eS*	**Sg**	**00 17 07.9**	**+1.5**
	159nm,0.3s						
MNAS	**Manas**	**3.39**	**87**	⇑Pg	**Pg**	**00 16 48.7**	**-0.5**
MNAS	7.7nm,0.6s			⇑Lg	Lg	00 17 33.5	
	28nm,0.4s						
DZET	**Dzherino**	**3.65**	**169**	Pg	**Pb**	**00 16 50.9**	**+1.9**
DZET	5.4nm,0.3s			Sn	**Sn**	**00 17 22.6**	**-1.7**
	25nm,0.5s						
MRKS	**Merke**	**3.93**	**83**	*eP*	**Pg**	**00 16 58.4**	**-1.1**
MRKS	12nm,0.4s			*eS*	**Sg**	**00 17 49.1**	**-1.2**
	28nm,0.4s						
SFK	**Sufi-Kurgan**	**4.83**	**118**	⇓Pn	**Pn**	**00 17 00.3**	**+2.9**
SFK	2.1nm,0.2s			⇑Sn	**Sn**	**00 17 52.6**	**-1.1**
	7.5nm,0.2s						
SFK				⇑Lg	Lg	00 18 17.0	
	16nm,0.4s						
AAK	**Ala-Archa**	**4.86**	**85**	Pn	Pb	00 17 03.2	-6.4
	0.3nm,0.3s,baz=252,slow=6.4,SNR=4.5						
AAK				Pg	**Pg**	**00 17 16.4**	**-0.9**
	1.5nm,0.3s,baz=198,slow=6.6,SNR=19						
AAK				Lg	Lg	00 18 20.6	
	2.1nm,0.3s,baz=7.0,slow=22,SNR=6.5						
AAK	**Ala-Archa**	**4.86**	**85**	⇑Pg	**Pg**	**00 17 15.8**	**-1.5**
AAK	4.1nm,0.6s			⇓Lg	Lg	00 18 20.4	
	9.8nm,0.4s						
TKM2	**Tokmak 2**	**5.68**	**82**	⇑Pg	**Pg**	**00 17 31.2**	**-1.8**
TKM2	2.3nm,0.6s			⇑Lg	Lg	00 18 49.4	
	31nm,0.9s						
DGS	**Degeres**	**5.83**	**79**	*eP*	**Pg**	**00 17 31.6**	**-4.2**
DGS	1.6nm,0.5s			*eS*	**Sg**	**00 18 47.8**	**-3.6**
	7.1nm,0.4s						
KST	**Kastek**	**5.95**	**81**	*eP*	Pb	00 17 32.5	+4.2
KST	1.0nm,0.2s			*eS*	**Sg**	**00 18 50.3**	**-5.0**
	6.6nm,0.6s						
IZV	**Izvestkoviy**	**6.43**	**81**	*eP*	**Pg**	**00 17 43.8**	**-3.6**
IZV	1.3nm,0.4s			*eS*	**Sg**	**00 19 08.4**	**-2.2**
	13nm,0.8s						
KTBS	**Karatobe**	**6.55**	**75**	*eP*	**Pg**	**00 17 45.4**	**-4.2**
KTBS				*eS*	**Sg**	**00 19 11.2**	**-3.1**

MDOK	**Medeo**	**6.75**	**80**	⇑Pg	**Pg**	**00 17 51.2**	**-2.4**
	4.3nm,1.0s						
MDOK				⇓Lg	Lg	00 19 21.3	
	18nm,1.2s						
KOTS	**Kotyrbulak**	**6.80**	**80**	*eP*	**Pg**	**00 17 52.1**	**-2.4**
KOTS				*eS*	**Sg**	**00 19 22.0**	**-0.6**
GEYT	**Alibeck**	**8.73**	**243**	Pn	**Pn**	**00 17 49.9**	**-1.0**
	0.3nm,0.3s,baz=63,slow=13,SNR=5.4						
GEYT				Sn	**Sn**	**00 19 20.6**	**-8.8**
	0.8nm,0.3s,baz=103,slow=18,SNR=5.1						
AB31	**Akbulak array**	**8.84**	**324**	⇓Pn	**Pn**	**00 17 53.4**	**+1.2**
	0.4nm,0.3s,baz=138,slow=10.0,SNR=21						
AB31				Sn	**Sn**	**00 19 31.1**	**-0.8**
	0.4nm,0.3s,baz=293,slow=49,SNR=3.9						
AB31				⇑Lg	Lg	00 20 30.8	
	1.6nm,0.5s,baz=149,slow=29,SNR=3.5						
AKTO	**Aktyubinsk**	**10.55**	**323**	Pn	**Pn**	**00 18 16.9**	**+1.2**
	0.1nm,0.3s,baz=112,slow=11,SNR=2.2						
AKTO				Sn	**Sn**	**00 20 11.7**	**-2.3**
	0.0nm,0.3s,baz=119,slow=19,SNR=1.5						
AKTO				Lg	Lg	00 21 23.5	
	0.2nm,0.3s,baz=252,slow=20,SNR=1.6						
AKTO	**Aktyubinsk**	**10.55**	**323**	⇓Pn	**Pn**	**00 18 15.4**	**-0.2**
	0.6nm,0.7s						
AKTO				⇓Sn	**Sn**	**00 20 14.5**	**+0.5**
	1.0nm,0.6s						
AKTO				⇓Lg	Lg	00 21 23.6	
	1.9nm,0.8s						
BVA0	**Borovoye Array**	**10.77**	**8**	⇑Pn	**Pn**	**00 18 20.7**	**+2.1**
	1.3nm,0.8s,baz=175,slow=12,SNR=10						
BVA0				⇓Sn	**Sn**	**00 20 19.9**	**+0.7**
	1.5nm,0.9s						
BVA0				⇑Lg	Lg	00 21 33.3	
	4.1nm,0.9s						
BVAR	**Borovoye Array**	**10.77**	**8**	Pn	**Pn**	**00 18 20.5**	**+1.9**
	0.3nm,0.3s,baz=185,slow=10,SNR=6.8						
BVAR				Sn	**Sn**	**00 20 14.1**	**-5.1**
	0.1nm,0.3s,baz=186,slow=13,SNR=1.4						
BVAR				Lg	Lg	00 21 33.2	
	0.2nm,0.3s,baz=190,slow=25,SNR=2.3						
BRVK	**Borovoye**	**10.79**	**8**	⇑Pn	**Pn**	**00 18 20.1**	**+1.2**
	0.8nm,0.6s						
BRVK				⇑Sn	**Sn**	**00 20 19.2**	**-0.6**
	0.7nm,0.4s						
BRVK				⇑Lg	Lg	00 21 30.0	
	1.8nm,0.8s						
MAKZ	**Makanchi**	**10.94**	**61**	⇑Pn	**Pn**	**00 18 21.8**	**+0.8**
	0.4nm,0.6s						
MAKZ				⇑Lg	Lg	00 21 35.3	
	1.9nm,0.8s						
MK31	**Makanchi Array**	**11.14**	**62**	⇓Pn	**Pn**	**00 18 24.7**	**+0.9**
	0.1nm,0.3s,baz=244,slow=15,SNR=13						
MK31				⇓Lg	Lg	00 21 44.5	
	1.1nm,0.6s						
MKAR	**Makanchi Array**	**11.14**	**62**	Pn	**Pn**	**00 18 25.8**	**+2.0**
	0.3nm,0.3s,baz=247,slow=16,SNR=9.5						
MKAR				Sn	**Sn**	**00 20 28.1**	**-0.4**
	0.1nm,0.3s,baz=265,slow=10.0,SNR=1.2						
MKAR				Lg	Lg	00 21 43.2	
	0.1nm,0.3s,baz=278,slow=28,SNR=2.5						
ZALV	**Zalesovo Beam**	**16.09**	**38**	Pn	**P**	**00 19 33.8**	**-0.3**
	0.2nm,0.3s,baz=237,slow=11,SNR=5.0						
HFS	**Hagfors**	**37.04**	**318**	P	**P**	**00 22 56.2**	**+2.0**
	0.5nm,0.4s,baz=108,slow=9.3,SNR=1.1						
SPITS	**Spitsbergen Ar**	**41.21**	**346**	P	**P**	**00 23 32.4**	**+3.5**
	3.9nm,0.9s,baz=115,slow=9.7,SNR=5.4						

*ISCJB **09** 00:16:09.8±0.5, 41°.04N±0°.02×33°.52E±0°.02, h3km±3km, Error ellipse: s-maj=2.7km s-min=2.3km az=32.1*
*DDA **09** 00:16:09.7, 41°.03N×33°.57E, h16km, Ml3.8*
*ISK **09** 00:16:09.4, 41°.00N×33°.51E, h5km, ML3.3/22*
*CSEM **09** 00:16:11.1±0.1, 40°.99N×33°.57E, h10km, ML3.8, Error ellipse: s-maj=3.9km s-min=3.2km az=36.0*
ISC 09 00:16:10.3±0.8, 41°.00N±0°.02×33°.58E±0°.01, h9km±6km, n142, σ1$28/192, 10C-22D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILGA	**Ilgaz**	**0.12**	**61**	*iP*	**Pg**	**00 16 13.1**	**-0.2**
ILGA				*iS*	**Sg**	**00 16 15.9**	**+0.5**
ILGA	**Ilgaz**	**0.12**	**61**	P	**Pg**	**00 16 13.1**	**-0.2**
ILGA				S	**Sg**	**00 16 15.9**	**+0.5**
CANT	**Cankiri**	**0.39**	**175**	PG	**Pb**	**00 16 18.4**	**-1.0**
ELDT	**Eldivan**	**0.52**	**193**	*iP*	**Pg**	**00 16 20.2**	**-0.2**
ELDT				*iS*	**Sb**	**00 16 29.5**	**+0.2**
ELDT	**Eldivan**	**0.52**	**193**	P	**Pg**	**00 16 20.2**	**-0.2**
KAST	**KASTAMONU**	**0.56**	**28**	*iP*	**Pg**	**00 16 20.8**	**-0.4**
KAST				*iS*	**Sg**	**00 16 28.4**	**-0.2**
KAST	**KASTAMONU**	**0.56**	**28**	P	**Pg**	**00 16 20.8**	**-0.4**
KAST				S	**Sg**	**00 16 28.4**	**-0.2**
CMDR	**Camlidere-ANKA**	**0.98**	**240**	*iP*	**Pg**	**00 16 28.4**	**-0.7**
CMDR				*iS*	**Sn**	**00 16 43.7**	**-0.6**
CMDR	**Camlidere-ANKA**	**0.98**	**240**	P	**Pg**	**00 16 28.4**	**-0.7**
CTAK	**Corum_Osmancik**	**0.98**	**110**	*iP*	**Pb**	**00 16 29.2**	**-0.4**
CTAK				*iS*	**Sn**	**00 16 44.1**	**-0.5**
CTAK	**Corum_Osmancik**	**0.98**	**110**	P	**Pb**	**00 16 29.2**	**-0.4**
CTAK				S	**Sn**	**00 16 44.1**	**-0.5**
BZK	**Bozkurt**	**1.02**	**18**	PG	**Pg**	**00 16 29.1**	**-0.7**
BZK				SG	**Sn**	**00 16 44.6**	**-0.5**
BZK	**Bozkurt**	**1.02**	**18**	*ePg*	**Pg**	**00 16 29.1**	**-0.7**
BZK				*eSg*	**Sn**	**00 16 44.6**	**-0.5**
KURC	**Kurucasile-Bar**	**1.06**	**324**	PG	**Pg**	**00 16 29.6**	**-1.0**
KURC	**Kurucasile-Bar**	**1.06**	**324**	*ePg*	**Pg**	**00 16 29.6**	**-1.0**
BOYT	**Boyabat**	**1.09**	**67**	*iP*	**Pg**	**00 16 29.6**	**-1.6**
BOYT				*iS*	**Sg**	**00 16 45.0**	**-0.3**
BOYT	**Boyabat**	**1.09**	**67**	P	**Pg**	**00 16 29.6**	**-1.6**
BOYT				S	**Sg**	**00 16 45.0**	**-0.3**
MASR	**Amasra-Bartin**	**1.13**	**313**	PN	**Pb**	**00 16 30.9**	**-1.2**
MASR				SN	**Sn**	**00 16 46.6**	**-1.4**
MASR	**Amasra-Bartin**	**1.13**	**313**	*ePn*	**Pb**	**00 16 30.9**	**-1.2**
MASR				*eSn*	**Sn**	**00 16 46.6**	**-1.4**
CORM	**Corum**	**1.14**	**135**	PN	**Pg**	**00 16 31.8**	**-0.5**
CORM	**Corum**	**1.14**	**135**	*ePn*	**Pg**	**00 16 31.8**	**-0.5**
BCAM	**Yenicaga**	**1.16**	**262**	*iP*	**Pb**	**00 16 31.7**	**-0.9**
BCAM				*iS*	**Sn**	**00 16 47.7**	**-1.2**
BCAM	**Yenicaga**	**1.16**	**262**	P	**Pb**	**00 16 31.7**	**-0.9**
BCAM				S	**Sn**	**00 16 47.7**	**-1.2**
BTIN	**Bart¯–n**	**1.19**	**303**	*iP*	**Pb**	**00 16 31.7**	**-1.3**
BTIN				*iS*	**Sg**	**00 16 47.8**	**-0.7**
BTIN	**Bart¯–n**	**1.19**	**303**	P	**Pb**	**00 16 31.7**	**-1.3**
BTIN				S	**Sg**	**00 16 47.8**	**-0.7**
LOD	**Lodumlu**	**1.27**	**210**	PN	**Pn**	**00 16 33.3**	**-1.0**
LOD				SN	**Sn**	**00 16 51.3**	**-0.2**
LOD	**Lodumlu**	**1.27**	**210**	*ePn*	**Pn**	**00 16 33.3**	**-1.0**
LOD				*eSn*	**Sn**	**00 16 51.3**	**-0.2**
ANTO	**Ankara**	**1.27**	**208**	PN	**Pb**	**00 16 33.8**	**-0.7**
ANTO	**Ankara**	**1.27**	**208**	*ePn*	**Pb**	**00 16 33.8**	**-0.7**
COAL	**Corum-Alaca**	**1.30**	**124**	*iP*	**Pb**	**00 16 34.6**	**-0.4**
COAL				*iS*	**Sg**	**00 16 52.7**	**+0.5**
COAL	**Corum-Alaca**	**1.30**	**124**	P	**Pb**	**00 16 34.6**	**-0.4**
COAL				S	**Sg**	**00 16 52.7**	**+0.5**
DIKM	**Dikmen**	**1.42**	**62**	PN	**Pg**	**00 16 37.2**	**-0.4**
DIKM				SN	**Sg**	**00 16 57.5**	**+1.4**
DIKM	**Dikmen**	**1.42**	**62**	*ePn*	**Pg**	**00 16 37.2**	**-0.4**
DIKM				*eSn*	**Sg**	**00 16 57.5**	**+1.4**
BBAL	**Bala**	**1.49**	**194**	*iP*	**Pg**	**00 16 39.1**	**+0.2**
BBAL				*iS*	**Sg**	**00 16 58.9**	**+0.6**
BBAL	**Bala**	**1.49**	**194**	P	**Pg**	**00 16 39.1**	**+0.2**
BBAL				S	**Sg**	**00 16 58.9**	**+0.6**
CDAG	**Cicekdag**	**1.50**	**156**	*iP*	**Pn**	**00 16 36.8**	**-0.7**
CDAG				*iS*	**Sg**	**00 16 57.6**	**-0.9**
CDAG	**Cicekdag**	**1.50**	**156**	P	**Pn**	**00 16 36.8**	**-0.7**
CDAG				S	**Sg**	**00 16 57.6**	**-0.9**
AFSR	**Af¯ar-Bala (A**	**1.59**	**194**	PN	**Pb**	**00 16 38.9**	**-1.1**
AFSR	**Af¯ar-Bala (A**	**1.59**	**194**	*ePn*	**Pb**	**00 16 38.9**	**-1.1**
SNOP	**Sinop**	**1.59**	**50**	PN	**Pb**	**00 16 39.6**	**-0.3**
SNOP	**Sinop**	**1.59**	**50**	*ePn*	**Pb**	**00 16 39.6**	**-0.3**
HAVZ	**Havza**	**1.62**	**87**	*iP*	**Pg**	**00 16 41.2**	**-0.2**
HAVZ				*iS*	**Sg**	**00 17 03.3**	**+0.9**
HAVZ	**Havza**	**1.62**	**87**	P	**Pg**	**00 16 41.2**	**-0.2**
HAVZ				S	**Sg**	**00 17 03.3**	**+0.9**
KVT	**Kavak**	**1.87**	**87**	PN	**Pb**	**00 16 43.9**	**-0.8**
KVT	**Kavak**	**1.87**	**87**	*ePn*	**Pb**	**00 16 43.9**	**-0.8**
MDUB	**Mudurnu**	**1.88**	**255**	PN	**Pn**	**00 16 42.5**	**-0.3**
MDUB	**Mudurnu**	**1.88**	**255**	*ePn*	**Pn**	**00 16 42.5**	**-0.3**
KKUL	**Konya-Kulu**	**1.89**	**196**	*iP*	**Pb**	**00 16 44.8**	**-0.3**
KKUL				*iS*	**Sg**	**00 17 11.0**	**-0.1**
KKUL	**Konya-Kulu**	**1.89**	**196**	P	**Pb**	**00 16 44.8**	**-0.3**
YOZ	**Yozgat**	**1.90**	**135**	PN	**Pb**	**00 16 44.6**	**-0.6**
YOZ	**Yozgat**	**1.90**	**135**	*ePn*	**Pb**	**00 16 44.6**	**-0.6**
AUMIH	**MIHALICIK**	**1.96**	**236**	*iP*	**Pb**	**00 16 45.8**	**-0.4**
AUMIH				*iS*	**Sg**	**00 17 12.9**	**-0.2**

AUMIH	**MIHALICIK**	**1.96**	**236**	P	**Pb**	**00 16 45.8**	**-0.4**
SAMS	**Samsun-Alacam**	**2.00**	**79**	*iP*	**Pb**	**00 16 45.5**	**-1.4**
SAMS				*iS*	**Sg**	**00 17 14.1**	**-0.6**
SAMS	**Samsun-Alacam**	**2.00**	**79**	P	**Pb**	**00 16 45.5**	**-1.4**
SAMS				S	**Sg**	**00 17 14.1**	**-0.6**
SERE	**Sereflikochisa**	**2.05**	**180**	PN	**Pn**	**00 16 45.3**	**+0.3**
SERE	**Sereflikochisa**	**2.05**	**180**	*ePn*	**Pn**	**00 16 45.3**	**+0.3**
SAHE	**Sakarya_HENDEK**	**2.07**	**267**	*iP*	**Pb**	**00 16 47.7**	**-0.4**
SAHE				*iS*	**Sg**	**00 17 17.4**	**+0.6**
SAHE	**Sakarya_HENDEK**	**2.07**	**267**	P	**Pb**	**00 16 47.7**	**-0.4**
SVRH	**Sivrihisar-ESK**	**2.21**	**226**	PN	**Pn**	**00 16 47.2**	**0.0**
SVRH	**Sivrihisar-ESK**	**2.21**	**226**	*ePn*	**Pn**	**00 16 47.2**	**0.0**
AKSY	**AKSARAY - Alti**	**2.35**	**177**	*iP*	**Pb**	**00 16 52.1**	**-0.7**
AKSY				*iS*	**Sg**	**00 17 24.4**	**-1.3**
AKSY	**AKSARAY - Alti**	**2.35**	**177**	P	**Pb**	**00 16 52.1**	**-0.7**
TOKT	**Tokat**	**2.35**	**106**	PN	**Pb**	**00 16 50.6**	**-2.4**
TOKT	**Tokat**	**2.35**	**106**	*ePn*	**Pb**	**00 16 50.6**	**-2.4**
AVNS	**Nevsehir-Avano**	**2.39**	**156**	*iP*	**Pb**	**00 16 51.1**	**-2.5**
AVNS				*iS*	**Sb**	**00 17 24.6**	**+1.3**
AVNS	**Nevsehir-Avano**	**2.39**	**156**	P	**Pb**	**00 16 51.1**	**-2.5**
GULT	**Gulveren**	**2.40**	**257**	PN	**Pn**	**00 16 50.0**	**+0.2**
GULT	**Gulveren**	**2.40**	**257**	*ePn*	**Pn**	**00 16 50.0**	**+0.2**
ERBA	**Erbaa**	**2.43**	**96**	*iP*	**Pn**	**00 16 51.2**	**+1.0**
ERBA				*iS*	**Sb**	**00 17 23.8**	**-0.5**
ERBA	**Erbaa**	**2.43**	**96**	P	**Pn**	**00 16 51.2**	**+1.0**
ERBA				S	**Sb**	**00 17 23.8**	**-0.5**
SAUV	**Serdivan-Sakar**	**2.48**	**265**	PN	**Pn**	**00 16 50.5**	**-0.3**
SAUV	**Serdivan-Sakar**	**2.48**	**265**	*ePn*	**Pn**	**00 16 50.5**	**-0.3**
GEYV	**SAKARYA_Geyve**	**2.54**	**260**	*iP*	**Pb**	**00 16 54.1**	**-2.0**
GEYV				*iS*	**Sg**	**00 17 33.7**	**+1.6**
GEYV	**SAKARYA_Geyve**	**2.54**	**260**	P	**Pb**	**00 16 54.1**	**-2.0**
KAND	**Kocaeli-Kandir**	**2.56**	**273**	*ePn*	**Pn**	**00 16 53.1**	**+1.1**
KAND				*iS*	**Sg**	**00 17 29.4**	**-3.2**
KAND	**Kocaeli-Kandir**	**2.56**	**273**	P	**Pn**	**00 16 53.1**	**+1.1**
CUSAR	**Sarkisla-SIVAS**	**2.58**	**127**	*iP*	**Pn**	**00 16 53.8**	**+1.4**
CUSAR				*iS*	**Sg**	**00 17 34.6**	**+1.5**
CUSAR	**Sarkisla-SIVAS**	**2.58**	**127**	P	**Pn**	**00 16 53.8**	**+1.4**
BORA	**Eskisehir**	**2.63**	**246**	*iP*	**Pn**	**00 16 53.1**	**0.0**
BORA				*iS*	**Sg**	**00 17 36.9**	**+2.0**
BORA	**Eskisehir**	**2.63**	**246**	P	**Pn**	**00 16 53.1**	**0.0**
KDHN	**Kadinhani**	**2.72**	**205**	*iP*	**Pn**	**00 16 54.4**	**+0.2**
KDHN				*iS*	**Sg**	**00 17 37.2**	**-0.3**
KDHN	**Kadinhani**	**2.72**	**205**	P	**Pn**	**00 16 54.4**	**+0.2**
BNN	**Bunyan**	**2.76**	**140**	PN	**Pn**	**00 16 55.7**	**+0.8**
BNN	**Bunyan**	**2.76**	**140**	*ePn*	**Pn**	**00 16 55.7**	**+0.8**
SULT	**Sultanhani-AKS**	**2.79**	**181**	PN	**Pn**	**00 16 56.4**	**+1.1**
SULT	**Sultanhani-AKS**	**2.79**	**181**	*ePn*	**Pn**	**00 16 56.4**	**+1.1**
SVSK	**Karacayir**	**2.82**	**111**	PN	**Pn**	**00 16 56.9**	**+1.3**
SVSK	**Karacayir**	**2.82**	**111**	*ePn*	**Pn**	**00 16 56.9**	**+1.3**
RSDY	**Resadiye-TOKAT**	**2.91**	**101**	PN	**Pn**	**00 16 58.5**	**+1.6**
RSDY	**Resadiye-TOKAT**	**2.91**	**101**	*ePn*	**Pn**	**00 16 58.5**	**+1.6**
LADK	**Ladik-KONYA**	**2.94**	**199**	PN	**Pn**	**00 16 57.9**	**+0.5**
LADK	**Ladik-KONYA**	**2.94**	**199**	*ePn*	**Pn**	**00 16 57.9**	**+0.5**
HRT	**Hereke**	**2.97**	**268**	PN	**Pn**	**00 16 58.1**	**+0.5**
HRT	**Hereke**	**2.97**	**268**	*ePn*	**Pn**	**00 16 58.1**	**+0.5**
SILT	**Sile**	**2.98**	**274**	PN	**Pn**	**00 16 58.1**	**+0.4**
SILT	**Sile**	**2.98**	**274**	*ePn*	**Pn**	**00 16 58.1**	**+0.4**
YLV	**Yalova**	**3.22**	**264**	PN	**Pn**	**00 17 01.1**	**0.0**
YLV	**Yalova**	**3.22**	**264**	*ePn*	**Pn**	**00 17 01.1**	**0.0**
SHUT	**Suhut-Afyon**	**3.38**	**225**	PN	**Pn**	**00 17 04.1**	**+0.8**
SHUT	**Suhut-Afyon**	**3.38**	**225**	*ePn*	**Pn**	**00 17 04.1**	**+0.8**
ISK	**Istanbul-Kandi**	**3.42**	**273**	PN	**Pn**	**00 17 03.9**	**+0.1**
ISK	**Istanbul-Kandi**	**3.42**	**273**	*ePn*	**Pn**	**00 17 03.9**	**+0.1**
KARA	**Karaisali**	**3.90**	**162**	PN	**Pn**	**00 17 12.4**	**+2.0**
KARA	**Karaisali**	**3.90**	**162**	*ePn*	**Pn**	**00 17 12.4**	**+2.0**
KOZT	**Kozan**	**3.92**	**153**	PN	**Pn**	**00 17 12.5**	**+1.8**
KOZT	**Kozan**	**3.92**	**153**	*ePn*	**Pn**	**00 17 12.5**	**+1.8**
MANR	**Mangalia**	**4.65**

CMIG	**Matias Romero**	**13.82**	**97**	LR	LR	00 26 15.3	
	comp=Z,64nm,21.0s,baz=295,slow=36						
NVAR	**Mina Array Bea**	**20.50**	**339**	P	**P**	**00 22 42.0**	**+1.0**
	1.7nm,0.9s,baz=169,slow=10,SNR=3.9						
NVAR				LR	LR	00 30 39.7	
	comp=Z,30nm,19.4s,baz=155,slow=37						
PDAR	**Pinedale Array**	**23.26**	**359**	P	**P**	**00 23 10.6**	**+0.3**
	0.3nm,0.7s,baz=178,slow=4.2,SNR=4.1						
YKA	**Yellowknife Ar**	**43.18**	**356**	P	**P**	**00 26 00.7**	**-2.2**
	0.4nm,0.8s,baz=175,slow=7.6,SNR=7.1						
ILAR	**Eielson Array**	**51.75**	**341**	P	**P**	**00 27 10.2**	**+0.5**
	1.0nm,0.9s,baz=146,slow=5.7,SNR=12						

*IDC **09** 00:30:20.1±1.5,28°.23N×56°.32E, h0km, mb3.4/6, mb1 3.5/7, mb1mx3.3/59, mbtmp3.5/7, ML3.2/1, MS3.5/3, Ms1 3.5/3, ms1mx2.5/45, Error ellipse: s-maj=29.8km s-min=26.3km az=132.0*
*TEH **09** 00:30:22.1,28°.23N×56°.45E, h18km, ML3.3*
*CSEM **09** 00:30:23.3±0.2,28°.24N×56°.56E, h10km, ML3.3, Error ellipse: s-maj=9.9km s-min=5.3km az=90.0*
*DSN **09** 00:30:25.9±1.0,27°.97N×57°.04E, h16km, ML3.6/6, Error ellipse: s-maj=45.9km s-min=9.0km az=107.0*
*OMAN **09** 00:30:27.4±2.8,28°.03N×56°.69E, h20km, Error ellipse: s-maj=66.1km s-min=22.1km az=105.0*

ISC 09 00:30:24.6±1.3, 28°.22N±0°.03×56°.52E±0°.04, h32km±11km, n56, σ1§47/66, mb3.3/6, MS3.6/3, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
NIAN	**Nian**	**0.71**	**157**	*e*Pg	**Pb**		**00 30 37.7**	**-0.9**
NIAN				*e*Sg	**Sn**		**00 30 48.8**	**+0.5**
NIAN				*e*AMB	AMB		00 30 51.2	
	comp=Z,25μm,0.4s							
GENO	**Geno**	**0.87**	**201**	*e*Pg	**Pb**		**00 30 39.5**	**-1.9**
GENO				*e*Sg	**Sn**		**00 30 53.5**	**+1.0**
GENO				*e*AMB	AMB		00 30 57.2	
	comp=Z,12μm,0.1s							
NGRK	**Negar Kerman**	**1.44**	**7**	*e*Pn	**Pn**		**00 30 49.0**	**+0.2**
NGRK				*e*Sg	**Sb**		**00 31 11.8**	**+2.7**
NGRK				*e*AMB	AMB		00 31 15.6	
	comp=Z,99nm,0.1s							
KHSK	**Kohestak**	**1.53**	**162**	*e*Pn	**Pn**		**00 30 51.0**	**+1.3**
KHSK				*e*AMB	AMB		00 31 21.6	
	comp=Z,9μm,0.2s							
KRBR	**Kerman**	**1.77**	**7**	*e*Pn	**Pn**		**00 30 54.3**	**+0.9**
TVBK	**TV Kerman**	**1.78**	**7**	*e*Pn	**Pb**		**00 30 55.2**	**-1.6**
TVBK				*e*AMB	AMB		00 30 58.3	
	comp=Z,99nm,0.2s							
CHMN	**Cheshme madani**	**1.87**	**28**	*e*Pn	**Pn**		**00 30 56.3**	**+1.6**
CHMN				*e*AMB	AMB		00 31 32.7	
	comp=Z,99nm,0.3s							
KHGB	**Koh Gabri**	**2.15**	**359**	*e*Pn	**Pn**		**00 31 00.4**	**+1.9**
KHGB				*e*AMB	AMB		00 31 10.4	
	comp=Z,99nm,0.4s							
SHME	**Shamm**	**2.18**	**189**	P	**Pb**		**00 31 02.2**	**-1.3**
SHME				S	**Sn**		**00 31 27.1**	**+2.3**
SHME	**Shamm**	**2.18**	**189**	P	**Pn**		**00 30 59.8**	**+1.0**
BANOM	**Banah**	**2.29**	**185**	P	**Pn**		**00 31 02.0**	**+1.8**
	SNR=17							
BANOM	**Banah**	**2.29**	**185**	P	**Pn**		**00 31 01.9**	**+1.6**
	SNR=12							
BANOM				S	**Sn**		**00 31 28.5**	**+1.1**
BANOM	**Banah**	**2.29**	**185**	*e*P	**Pn**		**00 31 01.9**	**+1.6**
	SNR=12							
BANOM				S	**Sn**		**00 31 28.5**	**+1.1**
MSFE	**Esma-Masafi**	**2.86**	**187**	P	**Pn**		**00 31 09.7**	**+1.6**
MSFE	**Esma-Masafi**	**2.86**	**187**	*e*P	**Pn**		**00 31 09.6**	**+1.4**
	SNR=7.1							
GHIR	**Ghir-Karzin**	**3.12**	**272**	*e*Pn	**Pn**		**00 31 11.8**	**+0.1**
GHIR				*e*S	**Sn**		**00 31 50.0**	**+2.1**
ISRV	**Sarvestan**	**3.21**	**292**	*e*Pn	**Pn**		**00 31 13.7**	**+0.6**
ISRV				*e*AMB	AMB		00 32 32.9	
	comp=Z,2μm,0.6s							
UOSS	**Minazif**	**3.27**	**185**	P	**Pn**		**00 31 14.6**	**+0.9**
UOSS	**Minazif**	**3.27**	**185**	P	**Pn**		**00 31 14.6**	**+0.9**
UOSS	**Minazif**	**3.27**	**185**	*i* P	**Pn**		**00 31 13.6**	**-0.1**
	SNR=7.4							
NAZ	**Nazwa, Dubai**	**3.31**	**194**	P	**Pn**		**00 31 16.3**	**+2.2**
NAZ	**Nazwa, Dubai**	**3.31**	**194**	P	**Pn**		**00 31 16.3**	**+2.2**
HATD	**Hatta, Dubai**	**3.39**	**186**	P	**Pn**		**00 31 17.3**	**+1.9**
HATD	**Hatta, Dubai**	**3.39**	**186**	P	**Pn**		**00 31 16.7**	**+1.3**
HATD	**Hatta, Dubai**	**3.39**	**186**	P	**Pn**		**00 31 16.7**	**+1.3**
IPAR	**Pars**	**3.44**	**299**	*e*Pn	**Pn**		**00 31 18.0**	**+1.6**
IPAR				*e*AMB	AMB		00 32 33.8	
	comp=Z,1μm,0.4s							
IBAF	**Bafgh**	**3.46**	**346**	*e*Pn	**Pn**		**00 31 17.6**	**+1.1**
IBAF				*e*AMB	AMB		00 32 27.3	
	comp=Z,486nm,0.4s							
ASHO	**Ashiyiah**	**3.54**	**187**	P	**Pn**		**00 31 19.0**	**+1.5**
	SNR=21							
ASHO				S	**Sn**		**00 32 00.1**	**+1.8**
ASHO	**Ashiyiah**	**3.54**	**187**	P	**Pn**		**00 31 19.0**	**+1.5**
	SNR=21							
ASHO				S	**Sn**		**00 32 00.1**	**+1.8**
ASHO	**Ashiyiah**	**3.54**	**187**	*i* P	**Pn**		**00 31 18.3**	**+0.9**
	SNR=21							
IMEH	**Mehriz**	**3.57**	**333**	*e*Pn	**Pn**		**00 31 19.4**	**+1.3**
IMEH				*e*AMB	AMB		00 32 22.4	
	comp=Z,711nm,0.5s							
ZHSF	**Zahedan**	**3.98**	**69**	*e*Pn	**Pn**		**00 31 22.7**	**-0.9**
ALNE	**Al Ain**	**4.20**	**190**	P	**Pn**		**00 31 27.8**	**+1.3**
	SNR=5.7							
ALNE				S	**Sn**		**00 32 16.0**	**+1.5**
ALNE	**Al Ain**	**4.20**	**190**	*i* P	**Pn**		**00 31 27.3**	**+0.8**
	SNR=5.7							
IKAZ	**Kazeroun**	**4.39**	**292**	*e*Pn	**Pn**		**00 31 28.8**	**-0.5**
IKAZ				*e*AMB	AMB		00 32 33.5	
	comp=Z,528nm,0.3s							
ICHK	**Chekchek**	**4.41**	**336**	*e*Pn	**Pn**		**00 31 30.9**	**+1.3**
ICHK				*e*AMB	AMB		00 32 54.0	
	comp=Z,391nm,0.4s							
ISAD	**Sadrabad**	**4.43**	**327**	*e*Pn	**Pn**		**00 31 31.5**	**+1.6**
ISAD				*e*AMB	AMB		00 32 58.5	
	comp=Z,296nm,0.4s							
IKOO	**Kooshah**	**4.71**	**26**	*e*Pn	**Pn**		**00 31 36.5**	**+2.8**
IKOO				*e*AMB	AMB		00 31 57.4	
	comp=Z,248nm,0.2s							
ITEG	**Tejag**	**5.05**	**22**	*e*Pn	**Pn**		**00 31 40.7**	**+2.4**
ITEG				*e*AMB	AMB		00 33 14.7	
	comp=Z,186nm,0.4s							
IRAM	**Ramesheh**	**5.07**	**316**	*e*Pn	**Pn**		**00 31 39.4**	**+0.8**
IRAM				*e*AMB	AMB		00 31 52.0	
	comp=Z,158nm,0.2s							
WSAR	**Wadi Sarin**	**5.31**	**159**	Pn	**Pn**		**00 31 43.0**	**+1.2**
	comp=Z,0.8nm,0.3s,baz=343,slow=11,SNR=8.2							
WSAR				Sn	**Sn**		**00 32 39.1**	**-2.7**
	comp=Z,1.5nm,0.3s,baz=176,slow=18,SNR=5.5							
WSAR	**Wadi Sarin**	**5.31**	**159**	P	**Pn**		**00 31 43.2**	**+1.5**
WSAR				S	**Sn**		**00 32 41.9**	**0.0**
WSAR	**Wadi Sarin**	**5.31**	**159**	P	**Pn**		**00 31 43.2**	**+1.5**
WSAR				S	**Sn**		**00 32 41.9**	**0.0**
TABS	**Tabas**	**5.44**	**5**	*e*Pn	**Pn**		**00 31 44.7**	**+1.1**
NASN	**Na'in**	**5.58**	**326**	*e*P	**Pn**		**00 31 47.1**	**+1.4**
IZEF	**Zefreh**	**5.90**	**323**	*e*Pn	**Pn**		**00 31 50.4**	**+0.3**
IZEF				*e*AMB	AMB		00 32 19.6	
	comp=Z,71nm,0.2s							
IKLH	**Kolahrood**	**6.63**	**321**	*e*Pn	**Pn**		**00 32 00.4**	**+0.3**
IKLH				*e*AMB	AMB		00 32 11.4	
	comp=Z,64nm,0.1s							
BRTR	**Keskin Array B**	**22.11**	**307**	P	**P**		**00 35 17.4**	**-0.1**
	comp=Z,0.8nm,0.7s,baz=124,slow=12,SNR=6.3							
AKTO	**Aktyubinsk**	**22.22**	**3**	P	**P**		**00 35 18.4**	**0.0**
	comp=Z,1.0nm,0.7s,baz=186,slow=9.2,SNR=3.5							
BVAR	**Borovoye Array**	**26.83**	**19**	P	**P**		**00 36 02.1**	**+0.2**
	comp=Z,0.6nm,0.6s,baz=198,slow=9.1,SNR=5.2							
MKAR	**Makanchi Array**	**27.41**	**40**	P	**P**		**00 36 08.2**	**+1.0**
	comp=Z,0.3nm,0.7s,baz=225,slow=8.0,SNR=2.8							
GERES	**GERESS Array B**	**38.67**	**314**	P	**P**		**00 37 43.8**	**-1.6**
	comp=Z,0.2nm,0.5s,baz=117,slow=10.0,SNR=3.0							
TORD	**Torodi Ar. Bea**	**53.02**	**265**	P	**P**		**00 39 37.1**	**-1.7**
	comp=Z,0.7nm,0.6s,baz=62,slow=7.6,SNR=8.1							
KSRS	**Korea Array**	**59.42**	**61**	LR	LR		01 08 29.5	
	comp=Z,27nm,19.9s,baz=139,slow=38							
USRK	**Ussuriysk Ar.**	**60.92**	**53**	LR	LR		01 11 51.0	
	comp=Z,43nm,19.2s,baz=93,slow=41							
DAV	**Davao City (W)**	**68.25**	**94**	LR	LR		01 15 08.1	
	comp=Z,41nm,18.8s,baz=340,slow=39							

GUC 09 00:40:39.5±0.5, 17°.81S×70°.65W, h123km±4km, ML3.5, 1C-4D, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
ARCH	**Arica**	**0.76**	**153**	⇓*i* P		Pn	00 40 59.8	+0.3
ARCH				*i* S		Sn	00 41 14.9	+0.1
ARCH				IAML			00 41 18.1	
	comp=E,2μm,0.2s							
PB12	**IPOC Station P**	**0.86**	**159**	⇑*i* P		Pn	00 41 01.0	+0.4
PB12				*i* S		Sn	00 41 17.3	+0.8
PB12				IAML			00 41 18.2	
	comp=E,3μm,0.4s							
MNMC	**Minye Minye**	**1.65**	**143**	⇓*i* P		Pn	00 41 10.0	+0.8
MNMC				*i* S		Sn	00 41 32.9	+1.1
MNMC				IAML			00 41 36.1	
	comp=N,723nm,0.1s							
PSGC	**Pisagua**	**1.85**	**164**	⇓*i* P		Pn	00 41 12.9	+1.6
PSGC				*i* S		Sn	00 41 37.8	+2.1
PB11	**IPOC Station P**	**2.16**	**154**	*e*P		Pn	00 41 16.1	+0.9
PB11				*i* S		Sn	00 41 44.6	+2.0
GO01	**Chusmiza**	**2.31**	**143**	*e*P		Pn	00 41 19.0	+1.6
GO01				*i* S		Sn	00 41 48.6	+2.2
GO01				IAML			00 41 55.9	
	comp=N,191nm,0.2s							
PB08	**IPOC Station P**	**2.72**	**149**	*e*P		Pn	00 41 24.4	+1.8
PB08				*i* S		Sn	00 41 57.5	+1.9
PB08				IAML			00 42 07.3	
	comp=N,115nm,0.3s							
PB01	**IPOC Station P**	**3.40**	**161**	*e*P		Pn	00 41 32.4	+1.2
PB01				*i* S		Sn	00 42 12.1	+0.9
PB01				IAML			00 42 14.9	
	comp=E,49nm,0.3s							
PB04	**IPOC Station P**	**4.52**	**174**	⇓*i* P		Pn	00 41 48.5	+2.2

*ISCJB **09** 00:44:20.2±0.5, 7°.76S±0°.05×123°.37E±0°.07, h275km±5km, mb3.4/4, Error ellipse: s-maj=12.3km s-min=6.9km az=156.8*
*IDC **09** 00:44:21.4±1.7,8°.00S×123°.08E, h281km±18km, mb3.1/4, mb1 3.4/7, mb1mx3.1/52, mbtmp4.0/7, Error ellipse: s-maj=120.4km s-min=11.7km az=58.0*
*DJA **09** 00:44:23.3±0.5,8°.S±3°×12°.3E±°, h239km±6km, M3.8/7, mb3.6/1, MLv3.9/7*

ISC 09 00:44:20.4±0.8, 7°.78S±0°.06×123°.40E±0°.09, h271km±8km, n18, σ1§33/25, mb3.3/4, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
MMRI	**Maumere**	**1.43**	**234**	P		**Pn**	**00 45 00.3**	**+0.1**
EDFI	**Ende, Flores**	**1.95**	**240**	P		**Pn**	**00 45 05.4**	**+1.1**
EDFI				S		**S**	**00 45 38.1**	**-1.0**
SOEI	**Soe**	**2.14**	**157**	P		**Pn**	**00 45 06.8**	**+0.8**
SOEI				S		**S**	**00 45 40.9**	**-1.3**
BATI	**Baumata**	**2.42**	**174**	P		**Pn**	**00 45 09.7**	**+1.2**
	105nm,0.3s,baz=354,slow=2.9,SNR=61							
BATI				S		**S**	**00 45 46.5**	**-0.2**
	108nm,0.3s,baz=248,slow=19,SNR=6.5							
BATI	**Baumata**	**2.42**	**174**	P		**Pn**	**00 45 09.3**	**+0.8**
BATI				S		**S**	**00 45 46.5**	**-0.2**
BBSI	**Bau Bau**	**2.42**	**340**	P		**Pn**	**00 45 09.3**	**+0.8**
BBSI				S		**S**	**00 45 44.8**	**-1.9**
BSSI	**Bau Bau, Buton**	**3.32**	**299**	P		**Pn**	**00 45 18.5**	**+0.9**
BASI	**Baing, Sumba**	**3.69**	**229**	P		**Pn**	**00 45 23.6**	**+1.9**
PLAI	**Plampang**	**5.66**	**259**	P		**Pn**	**00 45 45.6**	**+0.7**
NLAI	**Namlea**	**5.82**	**39**	P		**Pn**	**00 45 49.0**	**+2.1**
SANI	**Sanana**	**6.25**	**24**	P		**Pn**	**00 45 53.4**	**+1.3**
WRA	**Warramunga Arr**	**16.08**	**140**	P		**Pn**	**00 47 52.1**	**-0.5**
	1.1nm,0.3s,baz=312,slow=13,SNR=40							
WRA				S		**S**	**00 50 43.7**	**-2.2**
	0.2nm,0.3s,baz=310,slow=20,SNR=5.2							
ASAR	**Alice Springs**	**18.73**	**149**	P		**Pn**	**00 48 21.9**	**-1.8**
	1.5nm,0.3s,baz=335,slow=13,SNR=71							
ASAR				S		**S**	**00 51 37.1**	**-1.4**
	baz=331,slow=21,SNR=15							
STKA	**Stephens Creek**	**29.36**	**147**	P		**P**	**00 50 00.5**	**+1.8**
	2.1nm,0.6s,baz=332,slow=9.9,SNR=3.8							
MKAR	**Makanchi Array**	**65.47**	**330**	P		**P**	**00 54 34.5**	**-0.2**
	0.3nm,0.5s,baz=134,slow=7.2,SNR=6.1							
ZALV	**Zalesovo Beam**	**69.55**	**337**	P		**P**	**00 54 59.3**	**-0.6**
	0.2nm,0.3s,baz=125,slow=6.7,SNR=2.4							
KURBB	**Kurchatov Arra**	**69.90**	**331**	P		**P**	**00 55 02.0**	**-0.1**
	0.2nm,0.3s,baz=125,slow=6.7,SNR=2.1							
TORD	**Torodi Ar. Bea**	**122.53**	**281**	PKP		**PKPdf**	**01 02 45.1**	**+0.5**
	0.4nm,0.7s,baz=76,slow=2.1,SNR=1.6							

*ISCJB **09** 00:44:26.7±0.9, 39°.12N±0°.05×144°.40E±0°.07, h19km, mb3.5/3, Error ellipse: s-maj=8.7km s-min=5.2km az=34.1*
*JMA **09** 00:44:28.9±0.2, 39°.11N×144°.36E, h46km, M3.6*
*IDC **09** 00:44:43.8±43.0, 39°.90N×141°.60E, h0km, mb3.6/3, mb1 3.5/4, mb1mx3.2/61, mbtmp3.5/4, ML3.5/1, MS1.8/1, Ms1 1.8/1, ms1mx1.8/52, Error ellipse: s-maj=868.4km s-min=42.5km az=98.0*

ISC 09 00:44:26.8±1.5, 39°.10N±0°.06×144°.36E±0°.08, h19km, n21, σ2§00/31, mb3.6/3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
MIYJ	**Miyakonagasawa**	**2.03**	**284**	P		**Pb**	**00 45 01.8**	**-1.2**
MIYJ				*e*S		**Sb**	**00 45 25.0**	**-1.9**
OFUJ	**Ofunato**	**2.10**	**270**	P		**Pb**	**00 45 02.5**	**-1.7**
OFUJ				*e*S		**Sn**	**00 45 27.4**	**+1.0**
JTH	**Tanohata**	**2.11**	**294**	P		**Pb**	**00 45 02.4**	**-2.0**
JTH				*e*S		**Sb**	**00 45 28.2**	**-1.9**
JOM	**Ohasama**	**2.41**	**280**	P		**Pb**	**00 45 07.5**	**-2.1**
JOM				S		**Sb**	**00 45 36.1**	**-2.8**
JMK	**Ichinoseki**	**2.45**	**268**	P		**Pb**	**00 45 07.6**	**-2.6**
JMK				*e*S		**Sn**	**00 45 36.3**	**+1.1**
JANG	**Nango**	**2.54**	**301**	P		**Pb**	**00 45 08.7**	**-3.0**
JYK	**Kaneyama**	**3.12**	**268**	P		**Pn**	**00 45 17.3**	**+2.3**
JNBK	**Urakawa-nobuka**	**3.41**	**339**	P		**Pn**	**00 45 20.8**	**+1.9**
JNBK				*e*S		**Sn**	**00 46 00.4**	**+1.7**
JOT	**Ohata**	**3.41**	**313**	P		**Pn**	**00 45 21.2**	**+2.2**
JOT				*e*S		**Sn**	**00 45 59.8**	**+0.9**
JFT	**Otama**	**3.54**	**245**	P		**Pn**	**00 45 22.2**	**+1.5**
JFT				*e*S		**Sn**	**00 46 03.1**	**+1.1**
JCH	**Churui**	**3.59**	**348**	P		**Pn**	**00 45 22.5**	**+1.0**
JCH				*e*S		**Sn**	**00 46 03.4**	**0.0**
JAK	**Akkeshi**	**3.90**	**4**	P		**Pn**	**00 45 25.5**	**-0.2**
JAK				*e*S		**Sn**	**00 46 09.1**	**-1.9**
JOSM	**Okushiri--Mats**	**4.77**	**310**	P		Pn	00 45 41.9	+4.3
JTKR	**Abashiri--Toko**	**4.88**	**356**	P		**Pn**	**00 45 39.7**	**+0.6**
JRY	**Ryogami san**	**5.32**	**236**	P		**Pn**	**00 45 45.8**	**+0.6**
JRY				*e*S		**Sn**	**00 46 44.5**	**-1.4**
MJAR	**Matsushiro Arr**	**5.50**	**244**	Pn		**Pn**	**00 45 50.2**	**+2.5**
	2.4nm,0.3s,baz=56,slow=10,SNR=8.8							
MJAR				LR		LR	00 47 11.9	
	comp=Z,10nm,18.1s,baz=85,slow=35							
MAT	**Matsushiro**	**5.50**	**244**	P		**Pn**	**00 45 50.1**	**+2.4**
JOD2	**Odawara 2**	**5.69**	**229**	*e*S		**Sn**	**00 46 51.7**	**-3.4**
ZALV	**Zalesovo Beam**	**42.29**	**311**	P		**P**	**00 52 20.9**	**+2.0**
	0.4nm,0.5s,baz=94,slow=7.1,SNR=3.0							
MKAR	**Makanchi Array**	**45.03**	**301**	P		**P**	**00 52 42.9**	**+1.8**
	0.7nm,1.0s,baz=77,slow=9.9,SNR=4.6							
KURBB	**Kurchatov Arra**	**46.60**	**307**	P		**P**	**00 52 55.8**	**+2.5**
	0.7nm,0.6s,baz=79,slow=8.1,SNR=6.1							

*SJA **09** 00:51:49.0±0.5, 31°.33S×64°.89W, h48km±8km, ML3.2, MW3.8*
*IDC **09** 00:51:49.7±2.0, 31°.45S×64°.56W, h0km, mb3.5/1, mb1 3.8/5, mb1mx3.6/40, mbtmp3.6/5, ML3.7/4, MS3.0/2, Ms1 3.0/2, ms1mx2.6/24, Error ellipse: s-maj=54.2km s-min=22.2km az=127.0*
*ISCJB **09** 00:51:50.9±0.6, 31°.28S±0°.05×64°.91W±0°.05, h33km, mb3.3/1, Error ellipse: s-maj=8.0km s-min=5.5km az=156.4*

ISC 09 00:51:52.5±0.9, 31°.27S±0°.07×64°.91W±0°.05, h35km, n8, σ1§60/12, Cordoba Province

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
TCA	**Tanti**	**0.28**	**104**	*e*P		**Pn**	**00 51 58.3**	**-2.0**
TCA				*e*S		**Sn**	**00 52 05.2**	**-0.4**
TCA				IAML			00 52 06.4	
	comp=Z,2μm,0.4s							
APLL	**PUNTA DE LOS L**	**1.64**	**302**	*e*P		**Pn**	**00 52 17.4**	**-1.5**
APLL				*e*S		**Sn**	**00 52 39.0**	**+0.1**
ACAN	**Cantantal**	**2.18**	**242**	*e*P		**Pn**	**00 52 24.7**	**-1.6**
ACAN				*e*S		**Sn**	**00 52 50.6**	**-1.5**
CPUP	**Villa Florida**	**8.28**	**55**	Pn		**Pn**	**00 53 50.2**	**+0.2**
	comp=Z,0.4nm,0.3s,baz=228,slow=12,SNR=8.0							
CPUP				Sn		**Sn**	**00 55 23.1**	**+0.8**
	comp=Z,0.4nm,0.3s,baz=252,slow=20,SNR=1.8							
CPUP				Lg		Lg	00 56 08.2	
	comp=Z,1.1nm,0.3s,baz=223,slow=19,SNR=3.8							
PLCA	**Paso Flores**	**10.48**	**204**	Pn		Pn	00 54 22.0	+1.6
	comp=Z,0.1nm,0.3s,baz=42,slow=12,SNR=3.2							
PLCA				Sn		**Sn**	**00 56 19.5**	**+2.9**
	comp=Z,0.1nm,0.3s,baz=150,slow=20,SNR=1.8							
PLCA				Lg		Lg	00 57 13.9	
	comp=Z,0.4nm,0.3s,baz=126,slow=17,SNR=3.4							
PLCA				LR		LR	00 58 50.3	
	comp=Z,91nm,21.7s,baz=72,slow=40							
LPAZ	**La Paz**	**15.20**	**348**	Pn		**P**	**00 55 29.7**	**-0.2**
	comp=Z,0.1nm,0.3s,baz=198,slow=7.2,SNR=2.4							
LPAZ				LR		LR	01 01 25.5	
	comp=Z,47nm,20.1s,baz=190,slow=37							
SIV	**San Ignacio**	**15.61**	**14**	Pn		**P**	**00 55 32.5**	**-1.3**
	comp=Z,0.4nm,0.3s,baz=195,slow=14,SNR=10.0							
SIV				Lg		Lg	01 00 14.1	
	comp=Z,0.1nm,0.3s,baz=266,slow=19,SNR=2.5							
TORD	**Torodi Ar. Bea**	**77.62**	**66**	P		**P**	**01 03 46.4**	**+0.9**
	comp=Z,0.3nm,0.7s,baz=240,slow=4.8,SNR=2.3							

IDC 09 00:54:50.6±2.8, 30°.12S×177°.57W, h0km, mb4.4/2, mb1 4.6/2, mb1mx3.8/42, mbtmp4.4/2, MS3.6/1, Ms1 3.6/1, ms1mx2.5/42, Error ellipse: s-maj=60.2km s-min=24.5km az=93.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.91**	**340**	Pn		Pn	00 55 11.4	+0.7
	288nm,0.3s,baz=69,slow=18,SNR=11							
RAO				Sn		Sn	00 55 24.3	-0.3
	505nm,0.3s,baz=90,slow=20,SNR=8.0							
RAO				LR		LR	00 55 33.6	
	comp=Z,172nm,19.9s,baz=319,slow=47							
ASAR	**Alice Springs**	**43.50**	**266**	P		P	01 02 55.7	-0.3
	0.2nm,0.4s,baz=107,slow=6.7,SNR=2.1							
WRA	**Warramunga Arr**	**44.46**	**272**	P		P	01 03 03.6	-0.1
	1.1nm,0.5s,baz=110,slow=7.9,SNR=7.7							
PLCA	**Paso Flores**	**82.43**	**133**	LR		LR	01 41 43.7	
	comp=Z,30nm,18.1s,baz=211,slow=34							
FINES	**FINESS Array B**	**145.00**	**340**	PKPbc		PKPbc	01 14 27.3	-1.1
	1.2nm,0.5s,baz=34,slow=4.0,SNR=10.0							

*ISCJB **09** 01:06:10.3±0.9, 5°.87N±0°.08×125°.9E±0°.1, h151km±8km, mb3.4/4, Error ellipse: s-maj=24.4km s-min=13.3km az=6.5*
*MAN **09** 01:06:10, 5°.94N×126°.22E, h138km, mb4.6, ML3.5, MS3.5*
*IDC **09** 01:06:12.2±2.4, 5°.81N×125°.68E, h145km±43km, mb3.1/3, mb1 3.2/3, mb1mx2.9/53, mbtmp3.5/3, Error ellipse: s-maj=231.3km s-min=19.0km az=67.0*

ISC 09 01:06:11.4±1.3, 5°.9N±0°.1×126°.0E±0°.2, h141km±12km, n9, σ1§18/14, mb3.4/4, 1C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
GSPH	**General Santos**	**1.04**	**283**	⇓*i* P		**Pn**	**01 06 35.0**	**-0.8**
GSPH				*i* S		**Sn**	**01 06 53.1**	**-1.2**
DAV	**Davao City (W)**	**1.27**	**342**	P		**Pn**	**01 06 38.1**	**+0.2**
	55nm,0.3s,baz=114,slow=3.0,SNR=8.7							
DAV				S		**Sn**	**01 06 59.5**	**+1.4**
	271nm,0.3s,baz=110,slow=22,SNR=9.3							
DMPH	**Davao City--Mi**	**1.30**	**340**	⇑*e*P		**Pn**	**01 06 38.8**	**+0.5**
DMPH				*e*S		**Sn**	**01 06 59.9**	**+1.1**
BUKP	**Musuan**	**2.20**	**336**	*e*P		**Pn**	**01 06 48.5**	**0.0**
BUKP				*e*S		**Sn**	**01 07 18.1**	**+1.1**
BIPH	**Bislig**	**2.35**	**10**	‖*e*P		**Pn**	**01 06 49.6**	**-0.6**
BIPH				*e*S		**Sn**	**01 07 18.0**	**-2.1**
WRA	**Warramunga Arr**	**26.93**	**162**	P		**P**	**01 11 40.2**	**+0.5**
	0.3nm,0.4s,baz=342,slow=10.0,SNR=2.8							
ASAR	**Alice Springs**	**30.35**	**165**	P		**P**	**01 12 11.1**	**+1.0**
	0.3nm,0.5s,baz=341,slow=7.4,SNR=5.3							
MKAR	**Makanchi Array**	**55.39**	**325**	P		**P**	**01 15 30.1**	**-0.9**
	0.3nm,0.5s,baz=121,slow=7.8,SNR=4.7							
KURBB	**Kurchatov Arra**	**59.55**	**327**	P		**P**	**01 15 59.8**	**-0.2**
	0.6nm,0.6s,baz=124,slow=6.9,SNR=4.1							

**IDC 09 01:08:20.9±12.0, 4°.48S×154°.01E, h107km±77km, mb3.6/4, mb1 3.9/5, mb1mx3.4/44, mbtmp4.0/5, ML

WSAR				Sn		Sn	01 13 45.5	-1.1
	comp=Z,0.4nm,0.3s,baz=49,slow=20,SNR=1.5							
BRTR	**Keskin Array B**	**22.09**	**307**	P		**P**	**01 16 23.1**	**+0.5**
	comp=Z,0.3nm,0.5s,baz=132,slow=9.9,SNR=2.7							
MKAR	**Makanchi Array**	**27.50**	**40**	P		**P**	**01 17 12.6**	**-0.9**
	comp=Z,0.1nm,0.4s,baz=222,slow=9.5,SNR=3.3							
TORD	**Torodi Ar. Bea**	**52.94**	**265**	P		**P**	**01 20 42.1**	**-1.5**
	comp=Z,0.2nm,0.4s,baz=64,slow=7.3,SNR=8.5							

*IDC **09** 01:40:29.6±6.2, 36˚05N×71˚54E, h33km±46km, mb3.4/8, mb1 3.6/14, mb1mx3.3/63, mbtmp3.6/14, ML3.7/5, Error ellipse: s-maj=31.6km s-min=23.0km az=10.0*
*NNC **09** 01:40:42.7±4.4, 37˚04N×70˚79E, h125km±88km, mb3.2, mpv3.9, Error ellipse: s-maj=38.8km s-min=34.2km az=63.0*

ISC 09 01:40:30.9±1.1, 36˚24N±0˚10×71˚4E±0˚1, h35km, n27, σ3.906/31, mb3.5/7, 6C-6D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SFK	**Sufi-Kurgan**	**4.13**	**24**	⇑P		Pn	01 41 37.8	+6.2
	10nm,0.3s							
SFK				⇓S		**Sn**	**01 42 21.7**	**+2.8**
	53nm,0.5s							
AML	**Almayashu**	**6.16**	**16**	P		**Pn**	**01 42 03.3**	**+3.6**
	SNR=102							
MNAS	**Manas**	**6.30**	**8**	⇓P		**Pn**	**01 42 03.9**	**+2.5**
	3.0nm,0.4s							
MNAS				⇓S		**Sn**	**01 43 07.5**	**-4.7**
	12nm,0.4s							
UCH	**Uchtor**	**6.46**	**21**	P		**Pn**	**01 42 08.6**	**+4.7**
	SNR=10							
KZA	**Kyzart**	**6.57**	**26**	P		**Pn**	**01 42 10.0**	**+4.7**
	SNR=6.6							
EKS2	**Erkin-Say**	**6.68**	**16**	P		**Pn**	**01 42 10.3**	**+3.7**
	SNR=16							
AAK	**Ala-Archa**	**6.83**	**20**	Pn		**Pn**	**01 42 12.7**	**+4.0**
	3.6nm,0.3s,baz=154,slow=5.7,SNR=41							
AAK						Sn	**01 43 23.0**	**-2.4**
	1.5nm,0.3s,baz=17,slow=20,SNR=9.1							
AAK	**Ala-Archa**	**6.83**	**20**	Pn		**Pn**	**01 42 12.5**	**+3.8**
	4.6nm,0.3s							
AAK						Sn	**01 43 22.7**	**-2.7**
	9.8nm,0.6s							
AAK	**Ala-Archa**	**6.83**	**20**	P		**Pn**	**01 42 12.8**	**+4.0**
	SNR=16							
KK31	**Karatay Array**	**6.88**	**355**	⇓Pn		**Pn**	**01 42 10.5**	**+1.3**
	6.5nm,0.6s,baz=179,slow=12,SNR=80							
KK31				⇑Sn		Sn	01 43 19.6	-6.7
	8.2nm,0.5s,baz=186,slow=24,SNR=5.8							
TKM2	**Tokmak 2**	**7.43**	**25**	⇑Pn		**Pn**	**01 42 21.4**	**+4.3**
	4.8nm,0.5s							
TKM2				⇑Sn		**Sn**	**01 43 37.3**	**-2.9**
	9.5nm,1.0s							
TKM2	**Tokmak 2**	**7.43**	**25**	P		**Pn**	**01 42 21.7**	**+4.7**
	SNR=20							
GEYT	**Alibeck**	**10.70**	**283**	Pn		**Pn**	**01 43 03.1**	**+1.4**
	0.6nm,0.3s,baz=114,slow=12,SNR=6.1							
GEYT						Sn	01 44 50.9	-9.4
	0.8nm,0.3s,baz=114,slow=18,SNR=5.4							
MKAR	**Makanchi Array**	**13.34**	**34**	Pn		**Pn**	**01 43 39.0**	**+1.3**
	0.1nm,0.3s,baz=224,slow=13,SNR=16							
KURBB	**Kurchatov Arra**	**15.28**	**18**	Pn		**Pn**	**01 44 02.8**	**-1.0**
	baz=208,slow=14,SNR=2.8							
AB31	**Akbulak array**	**15.45**	**331**	⇑P		**Pn**	**01 44 02.2**	**-3.7**
	1.2nm,0.6s,baz=133,slow=14,SNR=34							
AB31				⇑S		Sn	01 46 41.0	-15
	0.4nm,0.5s,baz=152,slow=23,SNR=2.5							
BVAR	**Borovoye Array**	**16.79**	**358**	Pn		**Pn**	**01 44 21.6**	**-1.6**
	0.2nm,0.3s,baz=154,slow=14,SNR=5.5							
AKTO	**Aktyubinsk**	**17.14**	**330**	P		**Pn**	**01 44 28.6**	**+1.0**
	0.5nm,0.3s,baz=119,slow=10,SNR=3.8							
AKTO	**Aktyubinsk**	**17.14**	**330**	⇓P		**Pn**	**01 44 24.6**	**-2.9**
	2.3nm,0.7s							
AKTO				⇓S		Sn	01 47 29.4	-7.6
	1.2nm,0.8s							
ZALV	**Zalesovo Beam**	**20.04**	**24**	P		**P**	**01 45 00.1**	**-0.5**
	1.8nm,0.4s,baz=214,slow=11,SNR=7.4							
ARCES	**ARCESS Array B**	**41.49**	**338**	P		**P**	**01 48 14.1**	**0.0**
	1.6nm,0.8s,baz=116,slow=10,SNR=3.6							
HFS	**Hagfors**	**43.44**	**322**	P		**P**	**01 48 31.9**	**+1.8**
	1.0nm,0.6s,baz=102,slow=12,SNR=5.7							
NOA	**NORSAR Array B**	**44.75**	**323**	P		**P**	**01 48 40.1**	**-0.6**
	0.7nm,0.8s,baz=93,slow=7.6,SNR=2.7							
TORD	**Torodi Ar. Bea**	**65.99**	**269**	P		**P**	**01 51 14.3**	**+0.2**
	0.3nm,0.7s,baz=71,slow=5.2,SNR=3.6							
YKA	**Yellowknife Ar**	**81.49**	**3**	P		**P**	**01 52 44.1**	**0.0**
	0.1nm,0.5s,baz=351,slow=5.6,SNR=5.8							
WRA	**Warramunga Arr**	**81.62**	**122**	P		**P**	**01 52 42.4**	**-3.0**
	0.3nm,0.7s,baz=311,slow=7.8,SNR=3.7							
ASAR	**Alice Springs**	**83.88**	**125**	P		**P**	**01 52 55.6**	**-1.5**
	0.2nm,0.6s,baz=310,slow=4.7,SNR=2.9							

*CSEM **09** 01:50:58.7±0.2, 38˚91N×43˚59E, h15km, ML2.6, Error ellipse: s-maj=5.7km s-min=4.1km az=121.0*
*ISK **09** 01:50:58.7, 38˚89N×43˚54E, h14km, ML2.3/2*
*ISCJB **09** 01:50:59.9±0.6, 38˚88N±0˚03×43˚56E±0˚05, h8km±5km, Error ellipse: s-maj=6.2km s-min=3.9km az=21.7*
*DDA **09** 01:50:59.5, 38˚88N×43˚60E, h7km, Ml2.6*
*ATA **09** 01:51:00.1±1.9, 38˚89N×43˚43E, h24km±30km, ML2.3, MW2.4*

ISC 09 01:50:57.2±1.3, 38˚88N±0˚02×43˚72E±0˚04, h15km±9km, n30, σ0.971/48, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
VMUR	**Van-Muradiye**	**0.15**	**313**	*i* P		**Pb**	**01 51 01.8**	**0.0**
VMUR				*i* S		**Sb**	**01 51 05.3**	**+0.4**
VMUR	**Van-Muradiye**	**0.15**	**313**	P		**Pb**	**01 51 01.8**	**0.0**
VMUR				S		**Sb**	**01 51 05.3**	**+0.4**
CLDR	**Caldiran**	**0.30**	**31**	PG		**Pn**	**01 51 06.5**	**-0.8**
CLDR				SG		**Sn**	**01 51 13.2**	**-0.4**
CLDR	**Caldiran**	**0.30**	**31**	*i* P		**Pn**	**01 51 05.8**	**-1.4**
CLDR				*i* S		**Sn**	**01 51 13.3**	**-0.2**
CLDR	**Caldiran**	**0.30**	**31**	P		**Pn**	**01 51 05.8**	**-1.4**
CLDR	**Caldiran**	**0.30**	**31**	*e*Pg		**Pn**	**01 51 06.5**	**-0.8**
CLDR				S		**Sn**	**01 51 13.4**	**-0.2**
ERCV	**ERCIS-VAN**	**0.32**	**295**	PG		**Pg**	**01 51 03.4**	**-0.6**
ERCV	**ERCIS-VAN**	**0.32**	**295**	*e*Pg		**Pg**	**01 51 03.4**	**-0.6**
VANB	**Van**	**0.39**	**222**	PG		**Pn**	**01 51 07.2**	**-1.1**
VANB	**Van**	**0.39**	**222**	*e*Pg		**Pn**	**01 51 07.2**	**-1.1**
TVAN	**Van**	**0.43**	**214**	*i* P		**Pb**	**01 51 07.0**	**+0.4**
TVAN				*i* S		**Sb**	**01 51 14.3**	**+1.4**
TVAN	**Van**	**0.43**	**214**	P		**Pb**	**01 51 07.0**	**+0.4**
TVAN				S		**Sb**	**01 51 14.3**	**+1.4**
GEVA	**Gevas**	**0.77**	**222**	*e*P		**Pg**	**01 51 12.1**	**-0.2**
GEVA				*e*S		**Sn**	**01 51 24.3**	**-0.7**
GEVA				IAML			01 51 30.0	
	comp=Z,8.4nm,0.5s							
GEVA	**Gevas**	**0.77**	**222**	*i* P		**Pg**	**01 51 12.0**	**-0.2**
GEVA				*i* S		**Sn**	**01 51 24.5**	**-0.5**
GEVA	**Gevas**	**0.77**	**222**	P		**Pg**	**01 51 12.0**	**-0.2**
GEVA				S		**Sn**	**01 51 24.5**	**-0.5**
ADCV	**BITLIS_Adilcev**	**0.78**	**265**	*i* P		**Pg**	**01 51 12.1**	**-0.3**
ADCV				*i* S		**Sg**	**01 51 22.5**	**-0.1**
ADCV	**BITLIS_Adilcev**	**0.78**	**265**	P		**Pg**	**01 51 12.1**	**-0.3**
ADCV				S		**Sg**	**01 51 22.5**	**-0.1**
TUTA	**Tutak**	**0.87**	**307**	*e*P		**Pg**	**01 51 13.6**	**-0.6**
TUTA	**Tutak**	**0.87**	**307**	*i* P		**Pg**	**01 51 14.2**	**+0.1**
TUTA				*i* S		**Sn**	**01 51 27.2**	**-0.4**
TUTA	**Tutak**	**0.87**	**307**	P		**Pb**	**01 51 14.2**	**+0.1**
AGRB	**Hanur-Agry**	**0.89**	**321**	PG		**Pn**	**01 51 14.9**	**-0.4**
AGRB				SG		**Sb**	**01 51 26.3**	**+0.1**
AGRB	**Hanur-Agry**	**0.89**	**321**	*e*Pg		**Pn**	**01 51 14.9**	**-0.4**
AGRB				*e*Sg		**Sb**	**01 51 26.3**	**+0.1**
IGDI	**IGDIR**	**1.02**	**16**	*e*P		Pn	01 51 21.7	+4.7
EKAR	**Karacoban**	**1.34**	**287**	*e*P		**Pg**	**01 51 22.6**	**-0.4**
EKAR	**Karacoban**	**1.34**	**287**	*i* P		**Pg**	**01 51 22.4**	**-0.6**
EKAR				*i* S		**Sg**	**01 51 41.8**	**+1.3**
EKAR	**Karacoban**	**1.34**	**287**	P		**Pg**	**01 51 22.4**	**-0.6**
GURO	**Guroymak-BITLI**	**1.36**	**256**	PN		**Pn**	**01 51 21.9**	**+0.2**
GURO				SN		**Sn**	**01 51 39.0**	**-0.5**
GURO	**Guroymak-BITLI**	**1.36**	**256**	*e*Pn		**Pn**	**01 51 21.9**	**+0.2**
GURO				*e*Sn		**Sn**	**01 51 39.0**	**-0.5**
EATA	**Eleskirt**	**1.36**	**316**	*e*P		**Pg**	**01 51 24.6**	**+1.1**
EATA				*e*S		**Sg**	**01 51 41.9**	**+0.7**
DIGO	**Kars**	**1.55**	**350**	*e*P		**Pg**	**01 51 28.6**	**+1.5**

TRN 09 02:09:16.6, 10˚55N×62˚02W, h1km, MD3.5, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
TPP	**Pointe-a-Pierr**	**0.60**	**112**	*e*P		Pn	02 09 32.3	0.0
TRN	**Trinidad (W)**	**0.61**	**81**	*e*P		Pn	02 09 32.0	-0.4
TBH	**Brigand Hill**	**0.94**	**94**	*e*P		Pn	02 09 39.1	+2.2
TBH				*e*S		Sn	02 09 54.5	+3.5
GRGR	**Grenville**	**1.61**	**13**	*e*P		Pg	02 09 48.1	+0.6
GRGR				*e*S		Sg	02 10 11.6	+3.1
TOSP	**Speyside**	**1.64**	**63**	*e*P		Pg	02 09 50.3	+2.3
GRHS	**Sauteurs**	**1.70**	**12**	*e*P		Pg	02 09 50.4	+1.1
GRHS				*e*S		Sg	02 10 14.3	+2.9
GRSS	**Sisters**	**1.78**	**13**	*e*P		Pg	02 09 51.8	+1.0
GRSS				*e*S		Sg	02 10 16.4	+2.4
SVB	**Belmont**	**2.81**	**15**	*e*P		Pb	02 10 06.6	-1.0
SVB				*e*S		Sb	02 10 40.1	-2.4
SVV	**Soufriere Volc**	**2.86**	**16**	*e*P		Pb	02 10 06.4	-2.0
SVV				*e*S		Sb	02 10 41.9	-2.1
SSV	**Crater Summit**	**2.88**	**16**	*e*P		Pb	02 10 06.8	-2.0
SSV				*e*S		Sb	02 10 42.1	-2.4
MCLT	**Moule a Chique**	**3.31**	**18**	*e*P		Pb	02 10 13.7	-2.5
MCLT				*e*S		Sb	02 10 53.9	-3.1
SLB	**Belfond**	**3.40**	**16**	*e*P		Pb	02 10 15.0	-2.6
SLB				*e*S		Sn	02 10 54.8	+3.0
TRMF	**Trois Ilets**	**4.07**	**13**	*e*P		Pn	02 10 22.2	+2.2
LPMF	**Morne Lapointe**	**4.13**	**14**	*e*P		Pn	02 10 23.4	+2.5
FDF	**Fort de France**	**4.24**	**11**	*e*P		Pn	02 10 24.4	+1.9
FDF	**Fort de France**	**4.24**	**11**	*e*S		Sn	02 11 12.0	-0.7
PML	**Morne Lenard**	**4.28**	**11**	*e*P		Pn	02 10 24.9	+2.0
PCM	**Pelee Case Pet**	**4.31**	**10**	*e*P		Pn	02 10 24.6	+1.3
PCM	**Pelee Case Pet**	**4.31**	**10**	*e*P		Pn	02 10 25.1	+1.8
BAMF	**Morne Balai**	**4.32**	**11**	*e*P		Pn	02 10 25.7	+2.2

*DJA **09** 02:30:20.4±1.2, 5˚S±7˚×14˚8E±1˚2, h190km±9km, M5.3/6, mb5.1/6, mB6.3/3, MLv5.4/2, Mw(mB)6.0/3*
*ISCJB **09** 02:30:22.2±0.3, 5˚44S±0˚03×147˚36E±0˚05, h200km, mb4.3/29, Error ellipse: s-maj=7.5km s-min=4.8km az=6.0*
*NEIC **09** 02:30:24.8±0.5, 5˚48S×147˚39E, h216km±5km, mb4.8/9, Error ellipse: s-maj=7.3km s-min=4.9km az=105.0*
*BJI **09** 02:30:25.7, 5˚23S×147˚30E, h214km, mb4.4/16, mB4.7/8*
*IDC **09** 02:30:25.7±0.6, 5˚49S×147˚41E, h224km±5km, mb3.8/16, mb1 4.0/19, mb1mx3.8/44, mbtmp4.4/19, Error ellipse: s-maj=14.2km s-min=8.6km az=95.0*

ISC 09 02:30:23.8±0.4, 5˚54S±0˚05×147˚41E±0˚07, h200km, n85, σ1.972/98, mb4.3/29, 1D, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MANU	**Manus Island**	**3.47**	**359**	*e*Pn		**Pn**	**02 31 20.8**	**+1.7**
PMG	**Port Moresby**	**3.85**	**184**	P		**Pn**	**02 31 23.8**	**+0.1**
	25nm,0.3s,baz=9.3,slow=5.5,SNR=52							
PMG				S		**Sn**	**02 32 08.5**	**-2.4**
	66nm,0.3s,baz=7.1,slow=7.9,SNR=8.5							
PMG	**Port Moresby**	**3.85**	**184**	*e*Pn		**Pn**	**02 31 23.8**	**+0.1**
PMG				*e*S		**Sn**	**02 32 05.7**	**-5.2**
RABL	**Rabaul**	**4.92**	**74**	*e*Pn		**Pn**	**02 31 39.1**	**+1.8**
JAY	**Jayapura**	**7.33**	**294**	P		**Pn**	**02 32 08.1**	**-0.3**
COEN	**Coen**	**9.35**	**206**	P		**Pn**	**02 32 36.2**	**+1.6**
	baz=9.4,SNR=7.8							
COEN	**Coen**	**9.35**	**206**	*e*Pn		**Pn**	**02 32 35.9**	**+1.3**
COEN				*e*S		**Sn**	**02 34 20.3**	**+0.9**
MTSU	**Mount Surprise**	**12.88**	**193**	P		**Pn**	**02 33 21.8**	**+2.0**
	baz=13,SNR=19							
HNR	**Honiara**	**13.02**	**108**	P		**Pn**	**02 33 22.7**	**+1.1**
	12nm,0.3s,baz=90,slow=3.1,SNR=4.0							
CTA	**Charters Tower**	**14.51**	**184**	P		**Pn**	**02 33 42.0**	**+2.0**
	3.6nm,0.3s,baz=6.2,slow=13,SNR=57							
CTAO	**Charters Tower**	**14.51**	**184**	*e*Pn		**Pn**	**02 33 41.9**	**+1.9**
QIS	**Mount Isa**	**16.75**	**206**	P		**P**	**02 34 06.9**	**+0.9**
	baz=17,SNR=87							
MTN	**Manton Dam**	**17.62**	**245**	P		**P**	**02 34 15.5**	**-0.1**
	baz=18,SNR=23							
MTN	**Manton Dam**	**17.62**	**245**	*e*P		**P**	**02 34 15.7**	**+0.1**
	20nm,0.4s							
WB2	**Warramunga Arr**	**19.14**	**220**	*e*P		**P**	**02 34 32.1**	**0.0**
WRA	**Warramunga Arr**	**19.15**	**220**	P		**P**	**02 34 32.0**	**-0.2**
	15nm,0.3s,baz=41,slow=11,SNR=400							
WRA				S		**S**	**02 37 55.9**	**-2.7**
	baz=34,slow=22,SNR=7.8							
EIDS	**Eidsvold**	**20.03**	**170**	P		**P**	**02 34 43.1**	**+1.6**
	baz=20,SNR=14							
EIDS	**Eidsvold**	**20.03**	**170**	*e*P		**P**	**02 34 42.9**	**+1.4**
	17nm,0.7s							
RMQ	**Roma**	**20.87**	**177**	P		**P**	**02 34 52.1**	**+1.6**
	baz=21,SNR=10							
QLP	**Quilpie**	**21.15**	**188**	P		**P**	**02 34 54.4**	**+1.1**
	baz=21,SNR=49							
AS01	**Alice Springs**	**22.20**	**214**	*e*P		**P**	**02 35 04.1**	**+0.1**
AS31	**Alice Springs**	**22.23**	**214**	*e*P		**P**	**02 35 04.6**	**+0.3**
	48nm,1.3s							
ASAR	**Alice Springs**	**22.23**	**214**	P		**P**	**02 35 04.6**	**+0.3**
	47nm,0.7s,baz=47,slow=8.6,SNR=575							
ASAR				S		**S**	**02 38 53.0**	**-1.1**
	4.6nm,1.0s,baz=32,slow=16,SNR=6.6							
FITZ	**Fitzroy Crossi**	**24.66**	**238**	P		**P**	**02 35 28.1**	**+1.8**
	baz=259,slow=5.8							
DZM	**Mont Dzumac**	**24.68**	**134**	P		**P**	**02 35 26.3**	**-0.3**
	5.8nm,0.8s,baz=285,slow=12,SNR=3.7							
ARMA	**Armidale**	**25.07**	**171**	P		**P**	**02 35 31.3**	**+1.2**
	baz=25,SNR=19							
ARMA	**Armidale**	**25.07**	**171**	*e*P		**P**	**02 35 30.9**	**+0.9**
	20nm,0.6s							
CMSA	**Cobar Meteorol**	**25.92**	**183**	P		**P**	**02 35 38.9**	**+1.4**
	baz=26,SNR=6.2							
WRKA	**Warakurna**	**26.68**	**221**	P		**P**	**02 35 44.2**	**-0.4**
	baz=27,SNR=112							
STKA	**Stephens Creek**	**26.76**	**191**	P		**P**	**02 35 45.0**	**-0.1**
	6.0nm,0.6s,baz=12,slow=7.9,SNR=16							
STKA	**Stephens Creek**	**26.76**	**191**	P		**P**	**02 35 45.0**	**-0.1**
	baz=27,SNR=10							
STKA	**Stephens Creek**	**26.76**	**191**	*e*P		**P**	**02 35 45.3**	**+0.2**
	7.4nm,1.6s							
HTT	**Hallett**	**28.86**	**195**	P		**P**	**02 36 03.9**	**+0.2**
	baz=29,SNR=10							
BBOO	**Buckleboo**	**29.13**	**200**	P		**P**	**02 36 05.8**	**-0.3**
	baz=29,SNR=7.5							
BBOO	**Buckleboo**	**29.13**	**200**	*e*P		**P**	**02 36 05.9**	**-0.2**
	58nm,1.7s							
CAN	**Canberra**	**29.68**	**177**	*e*P		**P**	**02 36 12.0**	**+1.1**
	101nm,1.9s							
MBWA	**Marble Bar**	**31.00**	**237**	*e*P		**P**	**02 36 21.8**	**-0.9**
	22nm,1.2s							
FORT	**Forrest**	**31.01**	**214**	P		**P**	**02 36 22.4**	**-0.2**
	baz=31,SNR=27							
FORT	**Forrest**	**31.01**	**214**	*e*P		**P**	**02 36 22.3**	**-0.3**
	799nm,0.7s							
ARPS	**Mount Arapiles**	**31.50**	**189**	P		**P**	**02 36 27.7**	**+0.8**
	baz=32,SNR=4.8							
MEEK	**Meekatharra**	**34.56**	**229**	P		**P**	**02 36 53.0**	**-0.6**
	baz=35,SNR=33							
KMBL	**Kambalda**	**35.12**	**220**	P		**P**	**02 36 57.8**	**-0.5**
	baz=35,SNR=9.8							
MORW	**Morawa**	**37.78**	**228**	P		**P**	**02 37 20.4**	**-0.5**
	baz=38,SNR=9.6							
KLBR	**Kellerberrin**	**37.99**	**223**	P		**P**	**02 37 21.7**	**-0.9**
	baz=38,SNR=17							
BLDU	**Ballidu**	**38.15**	**225**	P		**P**	**02 37 23.3**	**-0.6**
	baz=38,SNR=20							
NWAO	**Narrogin (SRO)**	**39.14**	**222**	P		**P**	**02 37 31.6**	**-0.5**
	baz=39,SNR=4.6							
NWAO				P		**P**	**02 37 31.6**	**-0.5**
	baz=39,SNR=4.6							
MUN	**Mundaring**	**39.28**	**224**	P		**P**	**02 37 33.0**	**-0.3**
	baz=39,SNR=5.8							
RKGY	**Rocky Gully**	**40.35**	**220**	P		**P**	**02 37 42.1**	**+0.1**
	baz=40,SNR=8.0							
URZ	**Urewera**	**42.29**	**145**	P		**P**	**02 37 58.0**	**+0.3**
	3.5nm,0.5s,baz=264,slow=3.7,SNR=5.7							
MJAR	**Matsushiro Arr**	**42.74**	**349**	P		**P**	**02 38 00.3**	**-1.0**
	1.9nm,0.6s,baz=184,slow=9.9,SNR=5.6							
NJ2	**Nanjing**	**46.23**	**326**	*e*P		**P**	**02 38 28.6**	**-0.4**
NJ2				pmax		pmax		
	comp=Z,12nm,1.0s							
GYA	**Guiyang**	**50.69**	**311**	*e*P		**P**	**02 39 02.4**	**-0.9**
GYA				pmax		pmax		
	comp=Z,10.0nm,1.0s							
KMI	**Kunming**	**53.04**	**307**	P		**P**	**02 39 23.2**	**+2.3**
KMI				pmax		pmax		
	comp=Z,9.0nm,0.8s							
CD2	**Chengdu**	**55.25**	**314**	*e*P		**P**	**02 39 36.0**	**-0.5**
CD2				pmax		pmax		
	comp=Z,10.0nm,0.5s							
CD2				pmax		pmax		
	comp=Z,120nm,5.0s							
HHC	**Hu-ho-hao-te**	**56.66**	**328**	*e*P		**P**	**02 39 48.2**	**+1.8**
HHC				S		**S**	**02 47 19.2**	**-3.8**
HHC				pmax		pmax		
	comp=Z,17nm,1.1s							
HHC				pmax		pmax		
	comp=Z,55nm,6.6s							
LZH	**Lanzhou**	**58.13**	**319**	⇓P		**P**	**02 39 57.6**	**+0.8**
LZH				pP		PcP	02 40 48.2	+2.0
LZH				PP		**PP**	**02 42 11.0**	**+3.0**
LZH				pmax		pmax		
	comp=Z,25nm,1.3s							
LZH				pmax		pmax		
	comp=Z,96nm,7.5s							
PETK	**Petropavlovsk-**	**59.07**	**7**	P		**P**	**02 40 03.3**	**+0.5**
	2.1nm,0.8s,baz=165,slow=11,SNR=3.9							
SONM	**Songino Array**	**64.20**	**331**	P		**P**	**02 40 37.2**	**-0.2**
	0.9nm,0.7s,baz=148,slow=7.4,SNR=6.0							
SONM				pP		**pP**	**02 41 26.3**	**+2.6**
	0.4nm,0.6s,baz=147,slow=2.9,SNR=1.9							
SONA1	**Songino Array**	**64.21**	**331**	*e*P		**P**	**02 40 37.5**	**+0.1**
VNDA	**Vanda**	**72.35**	**177**	P		**P**	**02 41 27.6**	**+0.3**
	4.1nm,0.6s,baz=331,slow=7.6,SNR=23							
WMQ	**Urumqi**	**72.71**	**319**	P		**P**	**02 41 31.3**	**+1.2**
MK01	**Makanchi Array**	**77.39**	**320**	*e*P		**P**	**02 41 55.5**	**-1.1**
MK31	**Makanchi Array**	**77.40**	**320**	*e*P		**P**	**02 41 56.0**	**-0.8**
MKAR	**Makanchi Array**	**77.40**	**320**	P		**P**	**02 41 56.0**	**-0.8**
	0.9nm,0.4s,baz=96,slow=8.9,SNR=19							
MKAR				pP		**pP**	**02 42 50.0**	**+5.1**
	0.7nm,0.6s,baz=95,slow=6.4,SNR=2.1							
MKAR	**Makanchi Array**	**77.40**	**320**	*e*P		**P**	**02 41 56.0**	**-0.8**
	7.7nm,0.6s							
MKAR				pP		**pP**	**02 42 50.0**	**+5.1**
ZALV	**Zalesovo Beam**	**78.84**	**328**	P		**P**	**02 42 02.8**	**-1.7**
	0.9nm,0.4s,baz=104,slow=5.9,SNR=5.9							
KURK	**Kurchatov**	**81.09**	**323**	P		**P**	**02 42 15.5**	**-1.0**
KURBB	**Kurchatov Arra**	**81.11**	**323**	P		**P**	**02 42 15.5**	**-1.1**
	0.3nm,0.5s,baz=111,slow=4.4,SNR=4.7							
MAW	**Mawson**	**82.83**	**203**	P		**P**	**02 42 24.8**	**-0.5**
	1.9nm,0.7s,baz=92,slow=10.0,SNR=3.8							
QSPA	**South Pole Qui**	**84.43**	**180**	P		**P**	**02 42 32.9**	**-0.7**
	3.4nm,0.6s,baz=8.0,slow=0.7,SNR=7.5							
ILAR	**Eielson Array**	**84.90**	**23**	P		**P**	**02 42 33.9**	**-2.0**
	1.1nm,0.6s,baz=253,slow=4.7,SNR=14							
BVAR	**Borovoye Array**	**86.64**	**324**	P		**P**	**02 42 43.2**	**-1.4**
	0.6nm,0.5s,baz=116,slow=10,SNR=2.6							
NVAR	**Mina Array Bea**	**96.76**	**52**	P		**P**	**02 43 31.8**	**-0.4**
	0.3nm,0.5s,baz=251,slow=7.5,SNR=4.1							
YKA	**Yellowknife Ar**	**98.58**	**28**	P		**P**	**02 43 37.4**	**-2.0**
	0.2nm,0.8s,baz=282,slow=4.3,SNR=3.8							
YKA				PP		**PP**	**02 47 38.7**	**-4.0**
	0.1nm,0.7s,baz=282,slow=9.4,SNR=3.8							
STHS	**Stebnicka Huta**	**117.14**	**324**	*e*PKP		**PKPdf**	**02 48 43.6**	**-1.5**
CRVS	**Cervenica-Dubn**	**117.23**	**323**	*e*PKP		**PKPdf**	**02 48 44.0**	**-1.3**
GERES	**GERESS Array B**	**121.76**	**326**	PKP		**PKPdf**	**02 48 52.8**	**-1.4**
	0.6nm,0.6s,baz=80,slow=1.5,SNR=8.6							
PLCA	**Paso Flores**	**122.28**	**146**	PKP		**PKPdf**	**02 48 54.8**	**-0.7**
	1.0nm,0.8s,baz=231,slow=6.5,SNR=3.2							
EKA	**Eskdalemuir Ar**	**125.03**	**340**	PKP		**PKPdf**	**02 48 58.6**	**-1.5**
	1.1nm,0.6s,baz=23,slow=2.3,SNR=6.8							
SDV	**Santo Domingo**	**142.12**	**83**	PKP		**PKPdf**	**02 49 30.7**	**-2.7**
	2.1nm,0.4s,baz=310,slow=7.9,SNR=5.0							
OBIP

	baz=245							
HGSD				*e*S		**Sb**	**03 06 49.6**	**+0.6**
	baz=245							
EHY	**Hungye**	**0.65**	**246**	P		**Pb**	**03 06 42.1**	**-0.1**
	baz=245							
EHY				*e*S		**Sn**	**03 06 51.9**	**+0.3**
	baz=245							
ENA	**Nanau**	**0.69**	**342**	*e*P		**Pb**	**03 06 42.5**	**-0.3**
	baz=334							
ENA				*e*S		**Sb**	**03 06 51.8**	**-0.3**
	baz=334							
YULB	**Yu-li**	**0.72**	**239**	P		**Pn**	**03 06 43.4**	**0.0**
	baz=252							
YULB				*e*S		**Sb**	**03 06 53.0**	**-0.1**
	baz=252							
WHF	**Hehuan Shan**	**0.74**	**300**	P		**Pn**	**03 06 43.5**	**-0.5**
	baz=289							
WHF				S		**Sb**	**03 06 54.3**	**+0.1**
	baz=289							
TWF1	**Yuli**	**0.75**	**236**	P		**Pn**	**03 06 43.8**	**+0.1**
	baz=226							
TWF1				*e*S		**Sn**	**03 06 54.5**	**+0.5**
	baz=226							
OWD	**Renai**	**0.75**	**284**	P		**Pn**	**03 06 43.6**	**-0.2**
	baz=282							
OWD				S		**Sb**	**03 06 53.9**	**-0.1**
	baz=282							
CHGB	**Renai**	**0.78**	**292**	*e*P		**Pn**	**03 06 44.3**	**0.0**
	baz=289							
CHGB				*e*S		**Sb**	**03 06 54.5**	**-0.5**
	baz=289							
EOS1	**EOS1**	**0.79**	**11**	*e*P		**Pb**	**03 06 44.4**	**-0.2**
	baz=17							
EOS1				*e*S		**Sn**	**03 06 55.3**	**+0.4**
	baz=17							
TWC	**Suao**	**0.84**	**352**	*e*P		**Pb**	**03 06 45.4**	**-0.1**
	baz=351							
TWC				*e*S		**Sb**	**03 06 56.3**	**-0.1**
	baz=351							
NNSB	**Datong**	**0.84**	**321**	P		**Pn**	**03 06 45.1**	**-0.1**
	baz=318							
NNSB				S		**Sn**	**03 06 56.3**	**-0.2**
	baz=318							
NNS	**Nan Shan**	**0.86**	**321**	P		**Pn**	**03 06 45.3**	**0.0**
	baz=319							
NNS				S		**Sn**	**03 06 56.6**	**-0.3**
	baz=319							
CHKT	**Chengkung**	**0.87**	**220**	*e*P		**Pn**	**03 06 44.8**	**-0.6**
	baz=210							
CHKT				*e*S		**Sn**	**03 06 55.1**	**-1.8**
	baz=210							
TWT	**Tachien**	**0.87**	**304**	*e*P		**Pb**	**03 06 46.0**	**0.0**
	baz=301							
TWT				*e*S		**Sn**	**03 06 57.4**	**+0.2**
	baz=301							
TDCB	**Techi**	**0.88**	**303**	P		**Pn**	**03 06 45.9**	**+0.2**
	baz=301							
TDCB				*e*S		**Sn**	**03 06 57.0**	**-0.6**
	baz=301							
SSLB	**Suanglung**	**0.93**	**271**	*e*P		**Pn**	**03 06 46.8**	**+0.5**
	baz=269							
SSLB				*e*S		**Sn**	**03 06 58.6**	**+0.1**
	baz=269							
ENTT	**Nioudou**	**0.94**	**337**	*e*P		**Pn**	**03 06 46.6**	**+0.2**
	baz=335							
ENTT				*e*S		**Sb**	**03 06 58.9**	**-0.3**
	baz=335							
SMLT	**Sun Moon Lake**	**0.99**	**277**	P		**Pn**	**03 06 47.6**	**+0.6**
	baz=275							
SMLT				*e*S		**Sb**	**03 07 01.1**	**+0.4**
	baz=275							
DPDB	**Guoxing**	**0.99**	**285**	P		**Pb**	**03 06 47.8**	**-0.1**
	baz=278							
DPDB				*e*S		**Sn**	**03 07 00.1**	**+0.1**
	baz=278							
TYC	**Yuchr**	**1.03**	**278**	P		**Pn**	**03 06 48.2**	**+0.7**
	baz=283							
TYC				*e*S		**Sn**	**03 07 01.4**	**+0.6**
	baz=283							
YHNB	**Yeheng**	**1.04**	**329**	*e*P		**Pb**	**03 06 48.4**	**-0.5**
	baz=316							
YHNB				*e*S		**Sn**	**03 07 01.0**	**-0.5**
	baz=316							
ELDTW	**Lidau**	**1.05**	**237**	*e*P		**Pn**	**03 06 47.8**	**-0.2**
	baz=224							
ELDTW				*e*S		**Sn**	**03 07 00.2**	**-1.3**
	baz=224							
NWLT	**Wulai**	**1.09**	**337**	*e*P		**Pb**	**03 06 48.9**	**-0.7**
	baz=324							
NWLT				*e*S		**Sn**	**03 07 02.2**	**-0.2**
	baz=324							
ALS	**Alishan**	**1.10**	**257**	P		**Pb**	**03 06 49.9**	**-0.1**
	baz=255							
ALS				*e*S		**Sn**	**03 07 03.8**	**+0.8**
	baz=255							
JYNG	**Yonagunijimaku**	**1.12**	**53**	P		**Pn**	**03 06 49.1**	**+0.3**
JYNG				S		**Sb**	**03 07 03.4**	**-0.9**
TWH	**Lutao**	**1.15**	**203**	*e*S		**Sn**	**03 07 02.6**	**-1.3**
	baz=202							
CHN5	**Tsauling**	**1.20**	**262**	*e*P		**Pb**	**03 06 51.6**	**+0.1**
	baz=260							
CHN5				*e*S		**Sb**	**03 07 07.5**	**+0.8**
	baz=260							
TIPB	**Shuangxi**	**1.20**	**354**	*e*P		**Pb**	**03 06 50.6**	**-0.9**
	baz=360							
TIPB				*e*S		**Sn**	**03 07 05.3**	**+0.1**
	baz=360							
NSTT	**Nanjuang**	**1.23**	**314**	*e*P		**Pb**	**03 06 51.9**	**-0.1**
	baz=313							
NSTT				*e*S		**Sb**	**03 07 07.1**	**-0.4**
	baz=313							
LIOB	**Emei**	**1.23**	**315**	*e*P		**Pb**	**03 06 52.2**	**+0.2**
	baz=313							
LIOB				*e*S		**Sb**	**03 07 08.0**	**+0.4**
	baz=313							
TWQ1	**Liyutan**	**1.23**	**298**	*e*P		**Pb**	**03 06 52.2**	**+0.2**
	baz=296							
TWQ1				*e*S		**Sb**	**03 07 08.2**	**+0.5**
	baz=296							
SLGT	**Liugui**	**1.44**	**238**	*e*P		**Pb**	**03 06 55.2**	**-0.4**
	baz=230							
SLGT				*e*S		**Sb**	**03 07 14.1**	**+0.6**
	baz=230							
CHN1	**Nanshi**	**1.45**	**246**	*e*P		**Pb**	**03 06 56.0**	**+0.3**
	baz=245							
CHN1				*e*S		**Sb**	**03 07 15.3**	**+1.6**
	baz=245							
TWK	**Hsinying**	**1.45**	**250**	*e*P		**Pb**	**03 06 55.7**	**-0.1**
	baz=248							
TWK				*e*S		**Sb**	**03 07 14.7**	**+0.9**
	baz=248							
MASBT	**Mashibuluo**	**1.69**	**227**	*e*P		**Pb**	**03 06 59.0**	**-0.7**
	baz=219							
MASBT				*e*S		**Sb**	**03 07 20.0**	**-0.6**
	baz=219							
HATJ	**Hateruma jima**	**1.70**	**80**	P		**Pn**	**03 06 57.2**	**+0.4**
IRIF	**Iriomote-Funau**	**1.70**	**70**	P		**Pn**	**03 06 57.7**	**+0.9**
IRIF				S		**Sn**	**03 07 18.3**	**+0.8**
JKRS	**Kuro-shima**	**1.92**	**76**	P		**Pn**	**03 07 00.8**	**+1.0**
JKRS				S		**Sn**	**03 07 23.8**	**+0.9**
JIJ	**Ishigaki jima**	**2.07**	**73**	P		**Pn**	**03 07 02.2**	**+0.3**
JIJ				S		**Sn**	**03 07 25.6**	**-1.0**
JISG	**Ishigakijimahi**	**2.29**	**69**	P		**Pn**	**03 07 05.0**	**+0.2**
JISG				S		**Sn**	**03 07 31.8**	**-0.1**
VWUC	**VWUC**	**2.60**	**298**	*e*P		**Pn**	**03 07 09.6**	**+0.4**
	baz=297							
VWUC				*e*S		**Sn**	**03 07 38.3**	**-1.3**
	baz=297							
JTJ	**Tarama**	**2.64**	**70**	P		**Pn**	**03 07 10.0**	**+0.3**
JTJ				S		**Sn**	**03 07 41.5**	**+0.8**

*IDC **09** 03:18:01.1±4.8, 16°.75N×98°.37W, h0km, mb3.5/4, mb1 3.7/6, mb1mx3.5/49, mbtmp3.4/6, ML2.9/2, MS3.1/4, Ms1 3.1/4, ms1mx2.6/31, Error ellipse: s-maj=117.3km s-min=20.9km az=24.0*

*NEIC **09** 03:18:02.0±0.0, 16°.42N×98°.41W, h7km, mb4.2/11, MD4.2(MEX), After MEX.*

*MEX **09** 03:18:02.9±0.6, 16°.42N×98°.41W, h8km±5km, MD4.2*

*ISCJB **09** 03:18:04.3±0.6, 16°.53N±0°.05×98°.19W±0°.05, h20km, mb3.8/13, MS3.0/1, Error ellipse: s-maj=9.4km s-min=4.7km az=43.9*

ISC 09 03:18:04.1±0.8, 16°.53N±0°.06×98°.25W±0°.05, h20km, n36, σ3§19/34, mb4.0/13, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.18**	**138**	*i* P		**Pb**	**03 18 08.0**	**-1.0**
PNIG				*e*S		**Sb**	**03 18 12.0**	**-0.4**
TLIG	**Tlapa**	**1.07**	**344**	*e*P		**Pb**	**03 18 21.8**	**-2.2**
TLIG				*e*S		**Sb**	**03 18 36.0**	**-1.6**
VHO	**Vista Hermosa**	**1.55**	**69**	*e*P		**Pb**	**03 18 30.8**	**-1.4**
VHO				*e*S		**Sb**	**03 18 50.6**	**-0.9**
CAIG	**El Cayaco**	**2.00**	**285**	*e*P		Pn	03 18 31.8	-4.9
CAIG				*e*S		**Sn**	**03 18 54.8**	**-6.3**
HUIG	**Huatulco**	**2.20**	**110**	*e*P		**Pn**	**03 18 38.1**	**-1.3**
HUIG				*i* S		**Sn**	**03 19 06.0**	**0.0**
UNM	**Universidad Na**	**2.92**	**343**	*e*Pn		**Pb**	**03 18 52.5**	**-3.1**
CMIG	**Matias Romero**	**3.27**	**80**	Pn		**Pn**	**03 18 54.2**	**-0.1**
	1.7nm,0.3s,baz=266,slow=14,SNR=18							
CMIG				Lg		Lg	03 19 47.1	
	28nm,0.3s,baz=229,slow=7.8,SNR=5.0							
CMIG				LR		LR	03 20 02.3	
	comp=Z,62nm,20.5s,baz=246,slow=36							
LVIG	**Laguna Verde**	**3.62**	**29**	*e*Pn		**Pb**	**03 19 06.0**	**-1.5**
MOIG	**Morelia**	**4.20**	**319**	*e*Pn		**Pn**	**03 19 09.6**	**+2.4**
MOIG				*e*S		**Sb**	**03 20 11.8**	**+4.1**
JRQG	**Juriquilla Cam**	**4.64**	**334**	*e*Pn		**Pn**	**03 19 15.9**	**+2.6**
ZAIG	**Zacatecas**	**7.42**	**327**	*e*Pn		**Pn**	**03 19 51.2**	**-0.3**
APG	**El Apazote**	**7.65**	**100**	Pn		**Pn**	**03 19 57.1**	**+2.5**
	0.1nm,0.3s,baz=234,slow=19,SNR=2.6							
APG				Sn		**Sn**	**03 21 17.6**	**-3.3**
	0.4nm,0.3s,baz=335,slow=12,SNR=3.7							
APG				Lg		Lg	03 22 07.9	
	1.2nm,0.3s,baz=33,slow=22,SNR=3.8							
TXAR	**Lajitas Array**	**13.68**	**340**	LR		LR	03 27 01.9	
	comp=Z,144nm,18.5s,baz=0.0,slow=40							
WMOK	**Wichita Mounta**	**18.14**	**359**	*e*Pn		**P**	**03 22 17.3**	**+2.2**
MIAR	**Mount Ida**	**18.43**	**12**	*e*Pn		**P**	**03 22 20.6**	**+2.4**
	34nm,2.0s							
TUL1	**Leonard**	**19.43**	**6**	*e*Pn		**Pn**	**03 22 31.1**	**+0.7**
	14nm,1.2s							
ANMO	**Albuquerque**	**19.76**	**340**	LR		LR	03 30 39.0	
	comp=Z,98nm,20.3s,baz=344,slow=39							
X16A	**Lo Mia Camp, P**	**21.39**	**329**	*e*P		**P**	**03 22 54.3**	**+3.6**
	6.0nm,0.8s							
WUAZ	**Wupatki**	**22.24**	**331**	*e*P		**P**	**03 23 03.2**	**+3.4**
	6.9nm,0.9s							
BTCC	**Brunts Corner**	**22.45**	**320**	*e*P		**P**	**03 23 08.8**	**+6.9**
YUH	**Yuha Desert**	**22.65**	**318**	*e*P		**P**	**03 23 06.0**	**+1.9**
SMCO	**Snowmass**	**23.82**	**343**	*e*P		**P**	**03 23 17.1**	**+0.9**
	19nm,2.0s							
ISCO	**Idaho Springs**	**24.06**	**346**	*e*P		**P**	**03 23 19.0**	**+0.7**
	2.8nm,1.0s							
MTPU	**Mount Pierson**	**24.69**	**333**	*e*P		**P**	**03 23 28.7**	**+4.5**
	7.9nm,0.9s							
Q16A	**Castle Valley**	**25.01**	**336**	*e*P		**P**	**03 23 33.8**	**+6.9**
	4.6nm,1.2s							
MSU	**Marysvale**	**25.08**	**334**	Pn		**P**	**03 23 33.4**	**+5.8**
P18A	**Preston Nutter**	**25.28**	**338**	*e*P		P	03 23 38.6	+9.1
	13nm,1.6s							
JLU	**Jordanelle**	**26.57**	**337**	*e*P		P	03 23 48.9	+7.7
	3.4nm,0.9s							
PDAR	**Pinedale Array**	**27.88**	**342**	P		**P**	**03 23 51.3**	**-1.5**
	0.1nm,0.3s,baz=158,slow=12,SNR=2.3							
NVAR	**Mina Array Bea**	**28.03**	**325**	P		**P**	**03 23 51.0**	**-3.1**
	0.5nm,0.9s,baz=154,slow=13,SNR=2.8							
SLD	**San Luis Dam**	**28.83**	**320**	*e*P		P	03 24 09.7	+8.6
RLMT	**Red Lodge**	**29.97**	**344**	*e*P		P	03 24 19.1	+7.8
	18nm,2.0s							
ATAH	**Atahualpa**	**30.64**	**139**	LR		LR	03 33 14.6	
	comp=Z,36nm,20.7s,baz=68,slow=30							
WRW	**Wenatchee Ridg**	**36.36**	**334**	*e*P		P	03 25 13.0	+6.1
YKA	**Yellowknife Ar**	**47.33**	**350**	P		**P**	**03 26 34.7**	**-1.4**
	0.5nm,0.6s,baz=155,slow=7.6,SNR=4.1							
INK	**Inuvik**	**56.38**	**345**	P		**P**	**03 27 42.8**	**-0.8**
	0.4nm,0.6s,baz=113,slow=3.0,SNR=4.3							

DJA 09 03:18:44.7±0.7, 7°.S±13°.×10°.6E±1°.0, h94km±8km, M3.6/6, MLv3.6/6, Sunda Strait

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
CGJI	**Cibinong**	**0.14**	**71**	P		Pn	03 18 59.1	+1.1
CGJI				S		Sn	03 19 09.5	+1.6
SKJI	**Sukabumi**	**1.05**	**109**	P		Pn	03 19 04.7	-0.5
SKJI				S		Sn	03 19 21.5	+0.9
KASI	**Kota Agung**	**1.55**	**317**	P		Pn	03 19 11.0	-0.2
KASI				S		Sn	03 19 31.9	+0.6
LEM	**Lembang**	**2.05**	**95**	P		Pn	03 19 17.5	-0.4
CISI	**Cisompet, Garu**	**2.41**	**112**	P		Pn	03 19 22.5	0.0
CISI				S		Sn	03 19 47.7	-3.8
MDSI	**Maura Dua**	**2.56**	**327**	S		Sn	03 19 55.6	+0.6
MNAI	**Manna**	**3.46**	**311**	P		Pn	03 19 37.0	+0.5
MNAI				S		Sn	03 20 17.3	+0.8

JMA 09 03:22:11.2, 37°.67N×141°.66E, h53km±1km, M3.6, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.69**	**244**	P		Pn	03 22 25.0	0.0
JFK				S		Sn	03 22 34.7	-0.4
JMM	**Marumori**	**0.71**	**286**	P		Pn	03 22 25.3	+0.1
JMM				*e*S		Sn	03 22 35.7	+0.2
JIO	**Ouri**	**0.82**	**343**	P		Pn	03 22 26.8	+0.2
JIO				S		Sn	03 22 37.7	-0.2
ONAJ	**Iwakimizuishiy**	**0.89**	**231**	P		Pn	03 22 27.4	-0.2
ONAJ				S		Sn	03 22 38.9	-0.7
JOU	**Okura**	**1.05**	**312**	P		Pn	03 22 29.7	0.0
JOU				S		Sn	03 22 43.9	+0.6
JFT	**Otama**	**1.06**	**262**	P		Pn	03 22 30.4	+0.6
JFT				S		Sn	03 22 44.0	+0.4
JMK	**Ichinoseki**	**1.33**	**345**	P		Pn	03 22 33.7	+0.3
JMK				S		Sn	03 22 50.2	+0.2
JFY	**Yanaizu**	**1.58**	**261**	P		Pn	03 22 37.3	+0.5
JFY				S		Sn	03 22 56.7	+0.6
JYK	**Kaneyama**	**1.61**	**321**	P		Pn	03 22 37.7	+0.4
JYK				S		Sn	03 22 57.9	+0.9

*ISCJB **09** 03:25:40.4±0.6, 45°.28N±0°.03×22°.86E±0°.03, h2km±7km, Error ellipse: s-maj=4.7km s-min=3.2km az=173.9*

*CSEM **09** 03:25:41.6±0.1, 45°.32N×22°.86E, h10km, ML2.0, Error ellipse: s-maj=3.1km s-min=2.2km az=147.0*

*BUC **09** 03:25:41.2±0.6, 45°.39N×22°.88E, h8km, MD2.5/3, Error ellipse: s-maj=5.5km s-min=4.6km az=321.0*

*BEO **09** 03:25:44.8±0.7, 45°.26N×22°.74E, h0km*

ISC 09 03:25:41.4±1.1, 45°.32N±0°.02×22°.87E±0°.02, h8km±9km, n56, σ0§48/88, 11C-24D, Romania

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
HERR	**Herculane**	**0.54**	**216**	*i* P		**Pb**	**03 25 53.3**	**+0.2**
HERR				S		**Sb**	**03 26 01.7**	**+0.6**
HERR	**Herculane**	**0.54**	**216**	*i* P		**Pb**	**03 25 53.3**	**+0.2**
HERR				*i* S		**Sb**	**03 26 01.7**	**+0.6**
LOT	**Lotru**	**0.65**	**78**	↓*i* P		**Pg**	**03 25 54.1**	**+0.2**
LOT	**Lotru**	**0.65**	**78**	↓*i* P		**Pg**	**03 25 54.1**	**+0.2**
LOT				*i* S		**Sg**	**03 26 02.4**	**0.0**
LOT	**Lotru**	**0.65**	**78**	↓*i* P		**Pg**	**03 25 54.1**	**+0.2**
LOT				S		**Sg**	**03 26 02.4**	**0.0**
SRE	**Strehaia**	**0.70**	**160**	↓*i* P		**Pn**	**03 25 57.2**	**-0.4**
SRE	**Strehaia**	**0.70**	**160**	↓*i* P		**Pn**	**03 25 57.2**	**-0.4**
SRE				*i* S		**Sn**	**03 26 08.7**	**+0.1**
SRE	**Strehaia**	**0.70**	**160**	↓*i* P		**Pn**	**03 25 57.2**	**-0.4**
SRE				S		**Sn**	**03 26 08.7**	**+0.1**
BZS	**Buzias**	**0.93**	**289**	*e*Pg		**Pb**	**03 26 00.1**	**+0.4**
BZS				*e*Sg		**Sb**	**03 26 12.1**	**-0.1**
BZS	**Buzias**	**0.93**	**289**	↓*i* P		**Pg**	**03 25 59.6**	**+0.4**
BZS	**Buzias**	**0.93**	**289**	↓*i* P		**Pg**	**03 25 59.6**	**+0.4**
BZS				*i* S		**Sb**	**03 26 12.5**	**+0.3**
BZS	**Buzias**	**0.93**	**289**	↓*i* P		**Pg**	**03 25 59.6**	**+0.4**
BZS	**Buzias**	**0.93**	**289**	*e*Pg		**Pb**	**03 26 00.1**	**+0.4**
	baz=2.0							
BZS				*e*Sg		**Sb**	**03 26 12.1**	**-0.1**
	baz=2.0							
BANR	**Banloc**	**1.22**	**274**	↓*i* P		**Pg**	**03 26 05.5**	**+0.7**
BANR	**Banloc**	**1.22**	**274**	↓*i* P		**Pg**	**03 26 05.5**	**+0.7**
BANR				*i* S		**Sn**	**03 26 22.6**	**+1.1**
BANR	**Banloc**	**1.22**	**274**	↓*i* P		**Pg**	**03 26 05.5**	**+0.7**
BANR				S		**Sn**	**03 26 22.6**	**+1.1**
KUBS	**Kucevo**	**1.24**	**224**	*e*Pg		**Pb**	**03 26 04.5**	**-0.6**
KUBS				*e*Sg		**Sg**	**03 26 21.0**	**-0.2**
KUBS	**Kucevo**	**1.24**	**224**	*e*Pg		**Pb**	**03 26 04.5**	**-0.6**
	baz=7.0							
KUBS				*e*Sg		**Sg**	**03 26 21.0**	**-0.2**
ARR	**Arges**	**1.25**	**87**	↓*i* P		**Pn**	**03 26 05.0**	**-0.2**
ARR	**Arges**	**1.25**	**87**	↓*i* P		**Pn**	**03 26 05.0**	**-0.2**
ARR				*i* S		**Sg**	**03 26 21.3**	**-0.1**
ARR	**Arges**	**1.25**	**87**	↓*i* P		**Pn**	**03 26 05.0**	**-0.2**
ARR				S		**Sg**	**03 26 21.3**	**-0.1**
SIRR	**Siria**	**1.27**	**319**	S		**Sb**	**03 26 22.4**	**+0.3**
SIRR	**Siria**	**1.27**	**319**	*i* S		**Sb**	**03 26 22.4**	**+0.3**
SIRR	**Siria**	**1.27**	**319**	S		**Sb**	**03 26 22.4**	**+0.3**
MDB	**Medias**	**1.34**	**52**	↑*i* P		**Pn**	**03 26 06.0**	**-0.4**
MDB	**Medias**	**1.34**	**52**	↑*i* P		**Pn**	**03 26 06.0**	**-0.4**
MDB				*i* S		**Sb**	**03 26 24.0**	**-0.1**
MDB	**Medias**	**1.34**	**52**	↑*i* P		**Pn**	**03 26 06.0**	**-0.4**
MDB				S		**Sb**	**03 26 24.0**	**-0.1**
DRGR		**1.48**	**356**	↑*i* P		**Pn**	**03 26 07.9**	**-0.5**
DRGR		**1.48**	**356**	↑*i* P		**Pn**	**03 26 07.9**	**-0.5**
DRGR				*i* S		**Sn**	**03 26 27.8**	**-0.1**
DRGR		**1.48**	**356**	↑*i* P		**Pn**	**03 26 07.9**	**-0.5**
DRGR				S		**Sn**	**03 26 27.8**	**-0.1**
CJR	**Cluj-Napoca**	**1.48**	**20**	↑*i* P		**Pn**	**03 26 08.0**	**-0.5**
CJR	**Cluj-Napoca**	**1.48**	**20**	↑*i* P		**Pn**	**03 26 08.0**	**-0.5**
CJR				*i* S		**Sn**	**03 26 27.6**	**-0.5**
CJR	**Cluj-Napoca**	**1.48**	**20**	↑*i* P		**Pn**	**03 26 08.0**	**-0.5**
CJR				S		**Sn**	**03 26 27.6**	**-0.5**
VOIR		**1.54**	**85**	↓*i* P		**Pn**	**03 26 09.4**	**+0.1**
VOIR		**1.54**	**85**	↓*i* P		**Pn**	**03 26 09.4**	**+0.1**
VOIR				*i* S		**Sn**	**03 26 30.0**	**+0.5**
VOIR		**1.54**	**85**	↓*i* P		**Pn**	**03 26 09.4**	**+0.1**
VOIR				S		**Sn**	**03 26 30.0**	**+0.5**
MTUR	**Matau**	**1.55**	**93**	↓*i* P		**Pn**	**03 26 09.4**	**0.0**
MTUR	**Matau**	**1.55**	**93**	↓*i* P		**Pn**	**03 26 09.4**	**0.0**
MTUR	**Matau**	**1.55**	**93**	↓*i* P		**Pn**	**03 26 09.4**	**0.0**
ZAGS	**Zajecar**	**1.57**	**197**	*e*Pg		**Pg**	**03 26 11.6**	**+0.1**
ZAGS				*e*Sg		**Sg**	**03 26 32.6**	**+0.7**
ZAGS	**Zajecar**	**1.57**	**197**	*e*Pg		**Pg**	**03 26 11.6**	**+0.1**
ZAGS				*e*Sg		**Sg**	**03 26 32.6**	**+0.7**
	baz=3.0							
BOVS	**Bovan**	**1.88**	**207**	*e*Pg		**Pg**	**03 26 17.1**	**-0.2**
BOVS				*e*Sg		**Sg**	**03 26 41.6**	**-0.1**
BOVS	**Bovan**	**1.88**	**207**	*e*Pg		**Pg**	**03 26 17.1**	**-0.2**
	baz=3.0							
BOVS				*e*Sg		**Sg**	**03 26 41.6**	**-0.1**
DOPR	**Dopca**	**1.88**	**69**	↓*i* P		**Pn**	**03 26 14.2**	**+0.3**
DOPR	**Dopca**	**1.88**	**69**	↓*i* P		**Pn**	**03 26 14.2**	**+0.3**
DOPR				*i* S		**Sn**	**03 26 37.6**	**-0.3**
DOPR	**Dopca**	**1.88**	**69**	↓*i* P		**Pn**	**03 26 14.2**	**+0.3**
DOPR				S		**Sn**	**03 26 37.6**	**-0.3**
ZAPS	**Zavoj**	**2.05**	**185**	*e*Pg		**Pg**	**03 26 20.8**	**+0.1**
ZAPS				*e*Sg		**Sg**	**03 26 47.3**	**+0.1**
TRUS	**Trudelj**	**2.07**	**239**	*e*Pg		**Pg**	**03 26 20.8**	**-0.2**
TRUS				*e*Sg		**Sg**	**03 26 46.7**	**-1.0**
TRUS	**Trudelj**	**2.07**	**239**	*e*Pg		**Pg**	**03 26 20.8**	**-0.2**
	baz=8.0							
TRUS				*e*Sg		**Sg**	**03 26 46.7**	**-1.0**
	baz=3.0							
GRUS	**Gruza**	**2.10**	**228**	*e*Sg		**Sg**	**03 26 48.7**	**-0.1**
GRUS	**Gruza**	**2.10**	**228**	*e*Sg		**Sg**	**03 26 48.7**	**-0.1**
	baz=6.0							
DIVS	**Divibare**	**2.39**	**240**	*e*Sg		**Sg**	**03 26 57.7**	**-0.3**
DIVS	**Divibare**	**2.39**	**240**	*e*Sg		**Sg**	**03 26 57.7**	**-0.3**
	baz=5.0							
SELS	**Selova**	**2.45**	**212**	*e*Sg		**Sg**	**03 26 59.3**	**-0.6**
IVAS	**Ivanjica**	**2.61**	**229**	*e*Sg		**Sg**	**03 27 03.7**	**-1.5**
IVAS	**Ivanjica**	**2.61**	**229**	*e*Sg		**Sg**	**03 27 03.7**	**-1.5**
	baz=7.0							

*ISCJB **09** 03:54:30.7±0.5, 5°.66N±0°.03×124°.76E±0°.05, h65km±6km, mb4.0/16, Error ellipse: s-maj=8.9km s-min=5.7km az=5.3*

*NEIC **09** 03:54:32.7±1.5, 5°.72N×124°.98E, h66km±14km, mb4.1/2, Error ellipse: s-maj=24.4km s-min=6.8km az=75.0*

NEIC Felt [II PIVS] at General Santos.

*IDC **09** 03:54:33.3±2.5, 5°.69N×124°.92E, h71km±24km, mb3.8/14, mb1 3.9/14, mb1mx3.6/56, mbtmp4.0/14, MS3.2/11, Ms1 3.3/11, ms1mx3.0/51, Error ellipse: s-maj=35.7km s-min=11.3km az=77.0*

*MAN **09** 03:54:35, 6°.18N×124°.63E, h4km, mb5.0, ML3.9, MS3.9*

*DJA **09** 03:54:45.3±0.8, 5°.N±8°.×12°.4E±°, h10km, M4.4/4, mB4.8/1, mb4.5/4, MLv4.4/2, Mw(mB)4.0/1*

ISC 09 03:54:30.4±1.1, 5°.65N±0°.06×124°.81E±0°.06, h43km±10km, n44, σ1§68/42, mb4.0/16, MS3.2/11, 4C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
GSPH	**General Santos**	**0.46**	**17**	↓*i* P		**Pn**	**03 54 38.9**	**-1.9**
GSPH				*i* S		**Sn**	**03 54 45.9**	**-2.3**
KCP	**Kidapawan**	**1.38**	**11**	↓*i* P		**Pn**	**03 54 52.2**	**-1.1**
KCP				*i* S		**Sn**	**03 55 10.5**	**+0.1**
DMPH	**Davao City--Mi**	**1.59**	**26**	↑*e*P		**Pn**	**03 54 59.5**	**+3.5**
DMPH				*i* S		**Sn**	**03 55 19.6**	**+4.2**
DAV	**Davao City (W)**	**1.61**	**28**	P		**Pn**	**03 54 57.1**	**+0.8**
	530nm,0.3s,baz=251,slow=6.5,SNR=25							

AKTO	**Aktyubinsk**	**70.98**	**322**	P	**P**	**04 05 44.3**	**+0.7**
	2.2nm,0.7s,baz=89,slow=11,SNR=9.9						
AKTO				LR	LR	04 39 09.9	
	comp=Z,25nm,18.4s,baz=69,slow=38						
ILAR	**Eielson Array**	**84.21**	**26**	P	**P**	**04 06 55.8**	**-1.3**
	0.8nm,0.9s,baz=241,slow=6.4,SNR=8.5						
FINES	**FINESS Array B**	**89.25**	**332**	P	**P**	**04 07 19.9**	**-1.7**
	1.0nm,0.8s,baz=66,slow=7.8,SNR=4.0						
SYO	**Syowa Base**	**93.51**	**201**⇑	*e*P	**P**	**04 07 40.0**	**-1.2**
NOA	**NORSAR Array B**	**96.23**	**333**	LR	LR	04 54 08.6	
	comp=Z,14nm,18.4s,baz=10.0,slow=37						
YKA	**Yellowknife Ar**	**98.54**	**24**	P	**P**	**04 08 03.5**	**-0.8**
	0.3nm,0.9s,baz=301,slow=5.0,SNR=3.3						

NEIC ***09*** *03:58:13.0±0.0,35°.69N×97°.11W,h5km,ML2.6(TUL), After TUL.*
NEIC Felt [II] at Wellston. Also felt at Choctaw, Edmond, Luther, McAlester, Newalla, Norman, Oklahoma City, Shawnee and Tulsa.

ISC 09 03:58:11.8±1.3,35°.70N±0°.05×97°.06W±0°.03,h0km±12km, n19,σ1§50/30,Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK005	**Luther M Schoo**	**0.11**	**247**	*e*Pg	**Pg**	**03 58 14.4**	**+0.5**
OK002	**Wilshire Harra**	**0.18**	**216**	*e*Pg	**Pg**	**03 58 16.1**	**+0.8**
TUL1	**Leonard**	**1.05**	**78**	P	**Pg**	**03 58 32.6**	**+0.7**
	baz=254						
TUL1				S	**Sn**	**03 58 47.8**	**-1.3**
	baz=254						
TUL1	**Leonard**	**1.05**	**78**	*e*Pg	**Pb**	**03 58 32.2**	**-0.7**
TUL1				*e*S	**Sn**	**03 58 47.6**	**-1.6**
WMOK	**Wichita Mounta**	**1.70**	**236**	P	**Pb**	**03 58 42.5**	**-1.4**
	baz=57						
WMOK				S	**Sb**	**03 59 04.5**	**-1.3**
	baz=57						
WMOK	**Wichita Mounta**	**1.70**	**236**	*e*Pn	**Pb**	**03 58 42.4**	**-1.4**
WMOK				*e*S	**Sb**	**03 59 04.7**	**-1.2**
HHAR	**Hobbs**	**2.60**	**76**	*e*Pn	**Pn**	**03 58 56.3**	**+1.3**
HHAR				*e*Sn	**Sb**	**03 59 29.9**	**-1.8**
T38A	**Diamond**	**2.60**	**58**	P	**Pb**	**03 58 58.3**	**-1.0**
	baz=238						
X39A	**Fountain Ranch**	**2.69**	**115**	P	**Pn**	**03 58 57.7**	**+1.4**
	baz=295						
W39A	**Magazine**	**2.72**	**100**	P	**Pn**	**03 58 57.8**	**+1.1**
	baz=280						
V39A	**Pettigrew**	**2.78**	**86**	P	**Pn**	**03 58 58.7**	**+1.1**
	baz=266						
V39A				S	**Sb**	**03 59 34.3**	**-2.8**
	baz=266						
MIAR	**Mount Ida**	**3.08**	**111**	P	**Pn**	**03 59 03.1**	**+1.5**
	baz=292						
MIAR	**Mount Ida**	**3.08**	**111**	*e*Pn	**Pn**	**03 59 03.5**	**+1.8**
MIAR				*e*Sn	**Sn**	**03 59 40.7**	**+1.5**
KSU1	**Kansas State U**	**3.42**	**6**	Pn	**Pn**	**03 59 06.2**	**0.0**
KSU1				*e*S	**Sg**	**04 00 03.5**	**+2.0**
V40A	**Witts Springs**	**3.45**	**87**	P	**Pn**	**03 59 07.9**	**+1.1**
	baz=268						
V40A				S	**Sn**	**03 59 50.5**	**+2.1**
	baz=268						
S39A	**Bolivar**	**3.60**	**55**	S	**Sn**	**03 59 54.0**	**+1.9**
	baz=236						
CBKS	**Cedar Bluff**	**3.77**	**326**	Sb	**Sg**	**04 00 12.3**	**-0.6**
	baz=146						
AMTX	**Amarillo**	**3.86**	**259**	Pn	**Pn**	**03 59 13.2**	**+0.7**
AMTX				*e*S	**Sn**	**04 00 00.2**	**+1.6**
WHAR	**Wooly Hollow**	**3.92**	**95**	*e*Pn	**Pn**	**03 59 14.4**	**+1.2**
WHAR				*e*Sg	**Sg**	**04 00 16.5**	**-1.1**

ISN ***09*** *04:17:22.9±0.3,32°.99N×45°.80E,h0km,ML2.9*
TEH 09 04:17:27.9,32°.95N×45°.95E,h10km,ML2.9,Iraq

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGHG	**Ghaleghazi**	**1.46**	**20**	*e*Pn	Pn	04 17 54.8	+0.2
IGHG				*e*AMB	AMB	04 18 18.5	
	comp=N,1μm,0.1s						
IGHG				*e*AMB	AMB	04 18 20.5	
	comp=Z,3μm,0.5s						
IVIS	**Veis**	**1.74**	**25**	*e*Pn	Pn	04 17 58.2	-0.1
IVIS				*e*Sg	Sb	04 18 22.1	+0.2
IVIS				*e*AMB	AMB	04 18 26.2	
	comp=Z,847nm,0.3s						
IKOM	**Komasi**	**1.78**	**46**	*e*Pn	Pn	04 17 59.0	+0.1
IKOM				*e*AMB	AMB	04 18 30.7	
	comp=Z,2μm,0.2s						
ILIN	**Lien**	**2.13**	**23**	*e*AMB	AMB	04 18 07.0	
	comp=Z,400nm,0.2s						
ILIN				*e*Pn	Pn	04 18 03.2	-0.6
IKLH	**Kolahrood**	**4.73**	**84**	*e*Pn	Pn	04 18 38.8	-0.8
IKLH				*e*AMB	AMB	04 18 39.7	
	comp=Z,85nm,0.2s						

TRN 09 04:52:11.6,16°.80N×61°.95W,h29km,MD3.5,2C, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBWH		**0.24**	**257**	*e*P	Pn	04 52 19.8	+0.6
MBWH				*e*S	Sb	04 52 24.4	+1.7
MLYT	**Lee's Yard**	**0.24**	**252**	*e*P	Pn	04 52 20.5	+1.2
MLYT				*e*S	Sb	04 52 25.1	+2.4
BPA	**Boggy Peak**	**0.27**	**19**	*e*P	Pn	04 52 20.2	+0.6
BPA				*e*S	Sn	04 52 26.3	+1.6
SEG	**Port Louis**	**0.58**	**132**⇑	*i*P	Pn	04 52 24.4	+0.5
LZG	**Guadaloupe-1**	**0.67**	**166**	*e*P	Pn	04 52 25.9	+0.7
SSG	**Sans Toucher**	**0.75**	**160**⇑	*i*P	Pn	04 52 27.2	+0.8
ANWB	**Willy Bob**	**0.88**	**10**	*e*P	Pb	04 52 30.1	+1.7
ANWB				*e*S	Sn	04 52 42.2	+2.3
DEG	**La Desirade**	**0.98**	**119**	*e*P	Pb	04 52 30.9	+0.8
DEG				*e*S	Sb	04 52 44.4	+1.8
MGG	**Marie-Galante**	**1.06**	**145**	*e*P	Pb	04 52 32.3	+0.9
MGG				*e*S	Sb	04 52 48.0	+3.0
MDVC	**Dominica, Viel**	**1.28**	**156**	*e*P	Pb	04 52 35.5	+0.3
MDVC				*e*S	Sb	04 52 53.0	+1.7
MDMP	**Dominica, Moor**	**1.30**	**157**	*e*P	Pb	04 52 35.1	-0.3
MDMP				*e*S	Sb	04 52 53.0	+1.3
MDPO	**Dominica; Chan**	**1.30**	**158**	*e*P	Pb	04 52 35.0	-0.5
MDPO				*e*S	Sb	04 52 52.4	+0.5
BBL	**Barber's Block**	**1.34**	**160**	*e*P	Pb	04 52 37.0	+0.8
BBL				*e*S	Sb	04 52 54.1	+1.1

NEIC ***09*** *04:59:55.6±0.0, 16°.37N×98°.42W,h5km,MD4.1(MEX), After MEX.*
MEX 09 04:59:55.6±0.9,16°.37N×98°.42W,h5km±6km,MD4.1,Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.28**	**86**	*e*P	Pg	05 00 00.6	-0.6
PNIG				*i* S	Sg	05 00 05.3	+0.4
PNIG	**Pinotepa**	**0.28**	**86**	*e*P	Pg	05 00 00.6	-0.6
PNIG				*i* S	Sg	05 00 05.3	+0.4
TLIG	**Tlapa**	**1.19**	**353**	*e*P	Pg	05 00 15.2	-3.4
TLIG				*e*S	Sg	05 00 30.1	-3.9
TLIG	**Tlapa**	**1.19**	**353**	*e*P	Pg	05 00 15.2	-3.4
TLIG				*e*S	Sg	05 00 30.1	-3.9
VHO	**Vista Hermosa**	**1.76**	**66**	*e*P	Pn	05 00 24.9	-2.1
VHO				*e*S	Sn	05 00 45.4	-4.5
VHO	**Vista Hermosa**	**1.76**	**66**	*e*P	Pn	05 00 24.9	-2.1
VHO				*e*S	Sn	05 00 45.4	-4.5
CAIG	**El Cayaco**	**1.89**	**291**	*e*P	Pn	05 00 25.1	-3.5
CAIG				*e*S	Sn	05 00 48.6	-4.3
CAIG	**El Cayaco**	**1.89**	**291**	*e*P	Pn	05 00 25.1	-3.5
CAIG				*e*S	Sn	05 00 48.6	-4.3
HUIG	**Huatulco**	**2.30**	**105**	*e*P	Pn	05 00 31.7	-2.6
HUIG				*e*S	Sn	05 00 57.4	-5.7
HUIG	**Huatulco**	**2.30**	**105**	*e*P	Pn	05 00 31.7	-2.6
HUIG				*e*S	Sn	05 00 57.4	-5.7
MOIG	**Morelia**	**4.21**	**322**	*e*Pn	Pn	05 01 02.0	+1.3
MOIG				*e*S	Sn	05 01 47.7	-2.9

IDC ***09*** *05:16:06.3±0.8,0°.78S×131°.50E,h0km,mb4.1/9, mb1 4.2/11,mb1mx3.9/50,mbtmp4.1/11,ML4.0/1,MS3.1/10, Ms1 3.1/10,ms1mx2.8/49,Error ellipse: s-maj=39.8km s-min=11.5km az=73.0*
ISCJB ***09*** *05:16:09.7±0.4,0°.80S±0°.03×131°.40E±0°.06,h33km, mb4.1/11,MS3.0/8,Error ellipse: s-maj=8.2km s-min=4.5km az=167.0*
DJA ***09*** *05:16:11.4±0.3,1°.S±4°×13°.1E±°,h10km,M4.1/7,mb4.0/1, MLv4.2/7*
NEIC ***09*** *05:16:11.7±0.4,0°.82S×131°.44E,h35km,mb4.2/6,Error ellipse: s-maj=19.2km s-min=4.6km az=75.0*
NEIC Felt [IV] at Sorong.
ISC 09 05:16:12.2±0.7,0°.88S±0°.06×131°.24E±0°.05,h35km,n58, σ2§08/53,mb4.2/11,MS3.0/8,1D,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SWI	**Sorong**	**0.02**	**46**	P	Pn	05 16 13.0	-5.0
FAKI	**Fak Fak**	**2.26**	**154**	P	**Pn**	**05 16 49.9**	**+2.7**
FAKI				S	**Sn**	**05 17 18.9**	**+5.0**
FAKI	**Fak Fak**	**2.26**	**154**	*e*Pn	**Pn**	**05 16 47.5**	**+0.3**
FAKI				*e*Sn	**Sn**	**05 17 14.0**	**+0.2**
RKPI	**Ransiki, Papua**	**3.00**	**102**	P	**Pn**	**05 16 59.7**	**+2.4**
RKPI				S	**Sn**	**05 17 37.0**	**+4.9**
MSAI	**Masohi**	**3.37**	**223**	P	**Pn**	**05 17 04.0**	**+1.6**
MSAI				S	**Sn**	**05 17 46.1**	**+4.9**
KMPI	**Kaimana, Papua**	**3.70**	**138**	P	**Pn**	**05 17 09.0**	**+2.1**
LBMI	**Labuha**	**3.75**	**274**	P	**Pn**	**05 17 09.6**	**+2.0**
BNDI	**Bandanaira**	**3.86**	**200**	P	**Pn**	**05 17 11.6**	**+2.5**
AAI	**Ambon**	**4.13**	**227**	P	**Pn**	**05 17 14.9**	**+2.0**
NLAI	**Namlea**	**4.76**	**240**	P	**Pn**	**05 17 22.9**	**+1.4**
SANI	**Sanana**	**5.38**	**257**	P	**Pn**	**05 17 31.7**	**+1.6**
SAUI	**Saumlaki**	**7.06**	**180**	*e*Sn	**Sn**	**05 19 13.8**	**+1.6**
DAV	**Davao City (W)**	**9.71**	**324**	LR	LR	05 22 38.4	
	comp=Z,195nm,19.1s,baz=148,slow=40						
MTN	**Manton Dam**	**11.89**	**181**	*e*Pn	**Pn**	**05 18 57.2**	**-2.2**
PMG	**Port Moresby**	**17.96**	**119**	LR	LR	05 28 13.7	
	comp=Z,92nm,20.4s,baz=157,slow=41						
FITZ	**Fitzroy Crossi**	**17.98**	**198**	P	**P**	**05 20 20.7**	**+0.9**
	baz=26,slow=15						
WRAB	**Tennant Creek**	**19.18**	**171**	*e*P	**P**	**05 20 29.1**	**-3.9**
	14nm,1.1s						
WR1	**Warramunga Arr**	**19.19**	**171**	*e*P	**P**	**05 20 32.8**	**-0.3**
	12nm,1.1s						
WRA	**Warramunga Arr**	**19.19**	**171**	P	**P**	**05 20 32.8**	**-0.3**
	0.5nm,0.3s,baz=353,slow=12,SNR=22						
WRA				S	Sn	05 23 56.6	-12
	0.7nm,0.3s,baz=347,slow=22,SNR=7.5						
WB2	**Warramunga Arr**	**19.19**	**171**	*e*P	**P**	**05 20 32.8**	**-0.3**
WB2				*e*Sn	**Sn**	**05 24 02.3**	**-6.1**
WC3	**Warramunga Arr**	**19.21**	**171**	*e*P	**P**	**05 20 32.3**	**-1.1**
	12nm,1.0s						
AS31	**Alice Springs**	**22.80**	**174**	*e*P	**P**	**05 21 13.6**	**+1.5**
	4.9nm,0.6s						
AS31				*e*Sn	Sn	05 25 31.2	-3.9
ASAR	**Alice Springs**	**22.80**	**174**	P	**P**	**05 21 13.2**	**+1.0**
	4.8nm,0.7s,baz=352,slow=10.0,SNR=35						
ASAR				PcP	**PcP**	**05 25 03.2**	**+0.3**
	0.4nm,0.4s,baz=9.3,slow=2.7,SNR=4.4						
ASAR				S	**S**	**05 25 22.9**	**+3.8**
	0.8nm,0.8s,baz=353,slow=23,SNR=4.7						
AS01	**Alice Springs**	**22.80**	**174**	*e*P	**P**	**05 21 11.9**	**-0.2**
CTA	**Charters Tower**	**24.09**	**143**	P	**P**	**05 21 24.7**	**0.0**
	2.9nm,0.8s,baz=326,slow=11,SNR=3.4						
JOW	**Kunigami**	**27.70**	**354**	LR	LR	05 33 49.6	
	comp=Z,22nm,18.6s,baz=126,slow=38						
HNR	**Honiara**	**29.80**	**108**	LR	LR	05 34 54.8	
	comp=Z,70nm,18.2s,baz=40,slow=38						
STKA	**Stephens Creek**	**32.35**	**163**	P	**P**	**05 22 35.6**	**-2.7**
	1.7nm,0.8s,baz=324,slow=8.7,SNR=2.6						
JNU	**Nakatsue**	**33.82**	**359**	LR	LR	05 35 11.1	
	comp=Z,32nm,21.5s,baz=102,slow=34						
CMAR	**Chiang Mai Arr**	**37.12**	**303**	P	**P**	**05 23 20.3**	**+0.5**
	0.5nm,0.4s,baz=129,slow=7.0,SNR=6.9						
CMAR				LR	LR	05 39 21.9	
	comp=Z,20nm,18.6s,baz=168,slow=37						
MJAR	**Matsushiro Arr**	**37.79**	**9**	LR	LR	05 35 52.4	
	comp=Z,19nm,21.3s,baz=165,slow=32						
KSRS	**Korea Array**	**38.27**	**356**	LR	LR	05 38 25.9	
	comp=Z,30nm,20.2s,baz=155,slow=35						
DZM	**Mont Dzumac**	**40.22**	**124**	LR	LR	05 40 42.4	
	comp=Z,34nm,19.6s,baz=346,slow=37						
H11N1	**WAKE ISLAND Hy**	**40.50**	**58**	T	T	06 06 41.5	
	baz=245,slow=75,SNR=9.0						
H11N2	**WAKE ISLAND Hy**	**40.52**	**58**	T	T	06 06 42.8	
	baz=245,slow=75,SNR=10						
H11N3	**WAKE ISLAND Hy**	**40.52**	**58**	T	T	06 06 43.3	
	baz=245,slow=75,SNR=14						
MK01	**Makanchi Array**	**63.87**	**325**	*e*P	**P**	**05 26 41.6**	**+0.1**
MK31	**Makanchi Array**	**63.89**	**325**	*e*P	**P**	**05 26 42.0**	**+0.4**
MK32	**Makanchi Array**	**63.89**	**325**	*e*P	**P**	**05 26 42.0**	**+0.4**
MKAR	**Makanchi Array**	**63.89**	**325**	P	**P**	**05 26 42.0**	**+0.4**
	2.6nm,0.9s,baz=114,slow=7.4,SNR=16						
MKAR	**Makanchi Array**	**63.89**	**325**	*e*P	**P**	**05 26 42.0**	**+0.4**
	13nm,0.8s						
MAKZ	**Makanchi**	**64.08**	**325**	*e*P	**P**	**05 26 43.3**	**+0.5**
	7.2nm,1.2s						
ZALV	**Zalesovo Beam**	**66.73**	**332**	P	**P**	**05 26 58.1**	**-1.6**
	0.8nm,0.3s,baz=111,slow=7.9,SNR=3.4						
ZALV				LR	LR	06 01 18.9	
	comp=Z,5.2nm,18.1s,baz=70,slow=41						
ZAA1	**Zalesovo Array**	**66.73**	**332**	*e*P	**P**	**05 26 58.1**	**-1.6**
KURK	**Kurchatov**	**68.03**	**327**	*e*P	**P**	**05 27 08.1**	**+0.1**
KURBB	**Kurchatov Arra**	**68.03**	**327**	P	**P**	**05 27 08.1**	**0.0**
	3.6nm,0.8s,baz=126,slow=5.8,SNR=24						
KK06	**Karatay Array**	**69.64**	**317**	*e*P	**P**	**05 27 18.4**	**+0.1**
KK05	**Karatay Array**	**69.65**	**317**	*e*P	**P**	**05 27 17.8**	**-0.6**
KK02	**Karatay Array**	**69.66**	**317**	*e*P	**P**	**05 27 18.5**	**+0.2**
KK07	**Karatay Array**	**69.66**	**317**	*e*P	**P**	**05 27 18.7**	**+0.3**
KK01	**Karatay Array**	**69.66**	**317**	*e*P	**P**	**05 27 18.5**	**+0.1**
KK04	**Karatay Array**	**69.66**	**317**	*e*P	**P**	**05 27 18.4**	**0.0**
KK03	**Karatay Array**	**69.66**	**317**	*e*P	**P**	**05 27 18.8**	**+0.3**
KK09	**Karatay Array**	**69.67**	**317**	*e*P	**P**	**05 27 18.8**	**+0.3**
KK08	**Karatay Array**	**69.67**	**317**	*e*P	**P**	**05 27 18.7**	**+0.2**
BVAR	**Borovoye Array**	**73.62**	**327**	P	**P**	**05 27 42.3**	**+0.2**
	2.1nm,0.8s,baz=123,slow=5.3,SNR=7.1						
ILAR	**Eielson Array**	**87.32**	**25**	P	**P**	**05 28 53.4**	**-1.9**
	0.6nm,1.1s,baz=245,slow=6.3,SNR=3.3						
SYO	**Syowa Base**	**89.78**	**201**⇓	*e*X	**P**	**05 29 04.4**	**-2.4**

NEIC ***09*** *05:56:35.3±0.0, 16°.42N×98°.43W,h2km,MD4.0(MEX), After MEX.*
MEX 09 05:56:35.3±0.7,16°.42N×98°.43W,h2km±6km,MD4.0,Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.29**	**95**	*e*P	Pg	05 56 40.7	-0.2
PNIG				*e*S	Sg	05 56 44.5	-0.1
PNIG	**Pinotepa**	**0.29**	**95**	*e*P	Pg	05 56 40.7	-0.2
PNIG				*e*S	Sg	05 56 44.5	-0.1
TLIG	**Tlapa**	**1.15**	**353**	*e*P	Pg	05 56 54.5	-2.7
TLIG				*e*S	Sg	05 57 09.2	-3.0
TLIG	**Tlapa**	**1.15**	**353**	*e*P	Pg	05 56 54.5	-2.7
TLIG				*e*S	Sg	05 57 09.2	-3.0
VHO	**Vista Hermosa**	**1.75**	**68**	*e*P	Pn	05 57 03.6	-3.3
VHO				*e*S	Sn	05 57 25.2	-4.7
VHO	**Vista Hermosa**	**1.75**	**68**	*e*P	Pn	05 57 03.6	-3.3
VHO				*e*S	Sn	05 57 25.2	-4.7
CAIG	**El Cayaco**	**1.87**	**290**	*e*P	Pn	05 57 04.6	-3.8
CAIG				*e*S	Sn	05 57 28.4	-4.2
CAIG	**El Cayaco**	**1.87**	**290**	*e*P	Pn	05 57 04.6	-3.8
CAIG				*e*S	Sn	05 57 28.4	-4.2
HUIG	**Huatulco**	**2.32**	**106**	*e*P	Pn	05 57 10.8	-3.8
HUIG				*e*S	Sn	05 57 40.1	-3.7
HUIG	**Huatulco**	**2.32**	**106**	*e*P	Pn	05 57 10.8	-3.8
HUIG				*e*S	Sn	05 57 40.1	-3.7
MOIG	**Morelia**	**4.17**	**321**	*e*Pn	Pn	05 57 35.6	-4.7
MOIG				*e*Sn	Sn	05 58 25.8	-4.0

ISCJB ***09*** *06:01:03.0±1.3,15°.57S±0°.04×167°.52E±0°.05,h79km±11km, mb4.6/52,Error ellipse: s-maj=8.6km s-min=6.4km az=152.2*
IDC ***09*** *06:01:04.6±0.8,15°.59S×167°.53E,h78km±5km,mb4.2/23, mb1 4.3/25,mb1mx4.2/47,mbtmp4.6/25,MS3.1/10, Ms1 3.1/10,ms1mx2.9/41,Error ellipse: s-maj=14.8km s-min=10.0km az=85.0*
NEIC ***09*** *06:01:04.8±0.9,15°.51S×167°.53E,h82km±8km,mb4.8/24, Error ellipse: s-maj=6.9km s-min=6.6km az=216.0*
MOS ***09*** *06:01:05.6±1.6,15°.53S×167°.32E,h92km,mb4.7/11,Error ellipse: s-maj=14.0km s-min=9.3km az=127.6*
BJI ***09*** *06:01:12.9,14°.85S×167°.16E,h126km,mb4.6/27, mB4.8/14*
ISC 09 06:01:04.5±0.5,15°.56S±0°.05×167°.58E±0°.05,h79km±4km, h79km:pP-P,n238,σ1§35/261,mb4.7/52,6C-4D,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**6.57**	**189**	*e*Pn	**Pn**	**06 02 39.6**	**+1.1**
	51nm,0.3s						
DZM				*e*Sn	**Sn**	**06 03 47.4**	**-4.6**
	84nm,0.3s						
DZM				*e*LR	LR	06 04 08.5	
	511nm,29.1s						
DZM	**Mont Dzumac**	**6.57**	**189**	P	**Pn**	**06 02 39.6**	**+1.1**
	15nm,0.3s,baz=40,slow=16,SNR=75						
DZM				S	**Sn**	**06 03 51.1**	**-0.9**
	15nm,0.3s,baz=134,slow=22,SNR=8.6						
DZM				LR	LR	06 04 07.7	
	comp=Z,53nm,20.0s,baz=24,slow=28						
HNR	**Honiara**	**9.62**	**308**	*e*P	**Pn**	**06 03 22.0**	**+1.8**
HNR	**Honiara**	**9.62**	**308**	P	**Pn**	**06 03 21.8**	**+1.6**
	54nm,0.3s,baz=189,slow=4.8,SNR=9.7						
HNR				S	**Sn**	**06 05 07.0**	**+0.3**
	8.4nm,0.3s,baz=30,slow=20,SNR=1.8						
HNR				LR	LR	06 06 57.4	
	comp=Z,124nm,18.0s,baz=151,slow=37						
HNR	**Honiara**	**9.62**	**308**	*e*Pn	**Pn**	**06 03 19.1**	**-1.1**
HNR				*e*Sn	**Sn**	**06 05 07.0**	**+0.3**
HNR	**Honiara**	**9.62**	**308**	*e*P	**Pn**	**06 03 19.1**	**-1.1**
HNR				*e*		06 05 07.0	
MSVF	**Nonsavu**	**10.27**	**104**	*e*Pn	**Pn**	**06 03 30.4**	**+1.4**
MSVF	**Nonsavu**	**10.27**	**104**	*i* P	Pn	06 03 35.7	+6.7
EIDS	**Eidsvold**	**18.26**	**235**	*e*P	**Pn**	**06 05 14.2**	**+1.6**
	10nm,0.8s						
RAO	**Raoul Island**	**19.09**	**138**	P	**Pn**	**06 05 22.4**	**-0.1**
	48nm,0.3s,baz=136,slow=23,SNR=2.9						
RAO	**Raoul Island**	**19.09**	**138**	*e*P	**Pn**	**06 05 22.4**	**-0.1**
RAO				*e*S	**Sn**	**06 08 57.3**	**+1.2**
RAO	**Raoul Island**	**19.09**	**138**	*e*P	**Pn**	**06 05 22.4**	**-0.1**
RAO				*e*S	**Sn**	**06 08 57.3**	**+1.2**
AFI	**Afiamalu**	**20.03**	**88**	*e*P	**P**	**06 05 31.1**	**-0.2**
	35nm,0.9s						
AFI				*e*S	**Sn**	**06 09 18.0**	**-1.1**
AFI	**Afiamalu**	**20.03**	**88**	*e*P	**P**	**06 05 31.1**	**-0.2**
AFI				*e*S	**Sn**	**06 09 18.0**	**-1.1**
AFI				pmax	pmax		
	comp=Z,35nm,0.9s						
OUZ	**Omahuta**	**20.31**	**166**	*e*P	**P**	**06 05 34.0**	**0.0**
	comp=Z,75nm,1.5s						
OUZ				*e*S	Sn	06 09 23.7	-1.6
CTA	**Charters Tower**	**20.79**	**254**	P	**P**	**06 05 40.2**	**+0.8**
	comp=Z,5.5nm,0.8s,baz=90,slow=13,SNR=7.0						
PMG	**Port Moresby**	**20.85**	**285**	LR	LR	06 12 18.7	
	comp=Z,42nm,19.0s,baz=81,slow=32						
PMG	**Port Moresby**	**20.85**	**285**	*i* P	Pn	06 05 48.9	+5.7
PMG				pmax	pmax		
	comp=Z,25nm,0.8s						
URZ	**Urewera**	**24.13**	**161**	P	**P**	**06 06 13.8**	**+0.9**
	comp=Z,10.0nm,0.6s,baz=258,slow=1.2,SNR=7.6						
BKZ	**Black Stump Fm**	**24.79**	**163**	*e*P	**P**	**06 06 20.9**	**+1.9**
	comp=Z,12nm,0.6s						
STKA	**Stephens Creek**	**28.70**	**231**	P	**P**	**06 06 54.6**	**+0.4**
	comp=Z,2.1nm,0.5s,baz=41,slow=10,SNR=7.1						
STKA				PcP	**PcP**	**06 10 02.9**	**-0.2**
	comp=Z,3.1nm,0.6s,baz=52,slow=2.4,SNR=5.6						
STKA				LR	LR	06 16 54.0	
	comp=Z,70nm,19.8s,baz=33,slow=33						
STKA	**Stephens Creek**	**28.70**	**231**	*e*P	**P**	**06 06 54.8**	**+0.6**
	comp=Z,7.7nm,1.3s						
STKA	**Stephens Creek**	**28.70**	**231**	*e*P	**P**	**06 06 54.8**	**+0.6**
STKA				pmax	pmax		
	comp=Z,3.0nm,1.3s						
WKZ	**Wanaka**	**29.20**	**178**	*e*P	**P**	**06 06 58.9**	**+0.3**
	comp=Z,84nm,1.5s						
WB2	**Warramunga Arr**	**31.91**	**257**	*e*P	**P**	**06 07 21.7**	**-1.1**
WRAB	**Tennant Creek**	**31.91**	**257**	*e*P	**P**	**06 07 20.7**	**-2.1**
	comp=Z,10nm,0.8s						
WRAB	**Tennant Creek**	**31.91**	**257**	*e*P	**P**	**06 07 20.7**	**-2.1**
WRAB				pmax	pmax		
	comp=Z,10.0nm,0.8s						
WR1	**Warramunga Arr**	**31.93**	**257**	*e*P	**P**	**06 07 21.2**	**-1.7**
WR1				*e*pP	**pP**	**06 07 40.3**	**-1.1**
WR1				*e*PcP	**PcP**	**06 10 11.1**	**-0.6**
WRA	**Warramunga Arr**	**31.93**	**257**	P	**P**	**06 07 21.2**	**-1.7**
	comp=Z,1.4nm,0.8s,baz=85,slow=8.8,SNR=12						
WRA				pP	**pP**	**06 07 40.3**	**-1.1**
	comp=Z,1.9nm,0.9s,baz=86,slow=8.9,SNR=4.6						
WRA				PcP	**PcP**	**06 10 11.1**	**-0.7**
	comp=Z,0.5nm,0.6s,baz=90,slow=3.2,SNR=3.5						
WRA				ScP	**ScP**	**06 13 47.1**	**-1.2**
	comp=Z,0.6nm,1.0s,baz=75,slow=3.3,SNR=3.3						
AS01	**Alice Springs**	**32.63**	**250**	*e*P	**P**	**06 07 27.6**	**-1.4**
AS31	**Alice Springs**	**32.67**	**250**	*e*P	**P**	**06 07 28.8**	**-0.6**
	comp=Z,2.7nm,0.8s						
ASAR	**Alice Springs**	**32.67**	**250**	P	**P**	**06 07 28.5**	**-0.9**
	comp=Z,8.1nm,0.7s,baz=78,slow=9.0,SNR=71						

GRNR pmax pmax
comp=Z,46nm,1.0s
KLR Kul'dur 71.88 336 *e*P **P** **06 12 18.0 -0.9**
NKL Nikolayevsk 72.25 343 *i* P **P** **06 12 22.0 +1.1**
NKL pmax pmax
comp=N,20nm,0.9s
NKL pmax pmax
comp=Z,50nm,0.9s
GYA Guiyang 72.43 305 *e*P **P** **06 12 24.0 +1.2**
GYA pmax pmax
comp=Z,10.0nm,1.0s
XAN Xi'an 74.47 313 P **P** **06 12 35.4 +0.9**
XAN pP sP 06 13 04.1 0.0
XAN pmax pmax
comp=Z,5.0nm,0.4s
QSPA South Pole Qui 74.47 180 P **P** **06 12 34.4 +0.2**
comp=Z,13nm,0.9s,baz=357,slow=3.7,SNR=21
QSPA South Pole Qui 74.47 180 *e*P **P** **06 12 34.4 +0.2**
comp=Z,15nm,1.0s
KMI Kunming 75.00 302 P **P** **06 12 39.4 +1.4**
KMI pmax pmax
comp=Z,10.0nm,0.5s
CM01 Chiang Mai Arr 75.53 294 *e*P **P** **06 12 41.4 +0.5**
CMAR Chiang Mai Arr 75.56 294 P **P** **06 12 42.4 +1.3**
comp=Z,3.8nm,0.7s,baz=131,slow=4.8,SNR=4.9
MA2 Magadan 76.11 351 *e*P **P** **06 12 43.9 +0.6**
HHC Hu-ho-hao-te 76.41 320 *e*P **P** **06 12 47.0 +1.4**
HHC pmax pmax
comp=Z,9.0nm,1.3s
HHC pmax pmax
comp=Z,55nm,7.2s
CD2 Chengdu 76.75 308 *e*P **P** **06 12 47.0 -0.7**
LZH Lanzhou 79.10 312 *e*P **P** **06 13 02.2 +1.5**
LZH pP sP 06 13 34.1 +3.7
LZH sP pP 06 13 47.8 +26
LZH *e*PP **PP** **06 16 05.0 +3.8**
LZH pmax pmax
comp=Z,21nm,1.4s
LZH pmax pmax
comp=Z,73nm,7.8s
LZH LR LR
comp=Z,170nm,15.7s
LZH LR LR
comp=Z,160nm,16.0s
LZH LR LR
comp=Z,200nm,18.5s
SEY Seymchan 79.14 353 *ce*P **P** **06 13 00.8 +0.7**
MAW Mawson 81.23 202 P **P** **06 13 10.5 -0.9**
comp=Z,6.7nm,1.1s,baz=83,slow=8.1,SNR=4.2
MAW Mawson 81.23 202 *e*P **P** **06 13 10.2 -1.3**
comp=Z,9.8nm,1.8s
MAW Mawson 81.23 202 *e*P **P** **06 13 10.2 -1.3**
MAW pmax pmax
comp=Z,10.0nm,1.8s
YAK Yakutsk 82.91 343 *e*P **P** **06 13 20.2 +0.1**
YAK *e**PP **sP** **06 13 49.3 -0.6**
YAK *e*PPP PPP 06 18 33.8
YAK *e*S **S** **06 23 27.9 -4.2**
YAK *e* 06 23 36.7
YAK pmax pmax
comp=Z,42nm,0.9s
YAK pmax pmax
comp=N,9.0nm,1.1s
YAK pmax pmax
comp=E,5.0nm,1.2s
YAK pmax pmax
comp=Z,43nm,2.5s
YAK pmax pmax
comp=N,16nm,2.3s
YAK pmax pmax
comp=E,31nm,2.7s
YAK smax smax
comp=N,15nm,2.0s
YAK smax smax
comp=E,19nm,2.5s
ULN Ulaanbaatar 82.98 324 *e*P **P** **06 13 22.3 +1.2**
comp=E,8.9nm,1.0s
ULN Ulaanbaatar 82.98 324 *de*P **P** **06 13 22.1 +1.0**
ULN pmax pmax
comp=Z,8.0nm,1.0s
SONA0 Songino Array 83.34 324 *e*P **P** **06 13 22.9 0.0**
SONM Songino Array 83.34 324 P **P** **06 13 22.9 0.0**
comp=Z,2.0nm,0.6s,baz=136,slow=4.8,SNR=8.7
SONA1 Songino Array 83.34 324 *e*P **P** **06 13 22.7 -0.2**
GTA Gaotai 83.45 314 P **P** **06 13 24.9 +1.2**
GTA pP sP 06 14 01.0 +7.5
GTA sP pP 06 14 15.9 +31
GTA pmax pmax
comp=Z,7.0nm,1.1s
SUA Susitna One 83.58 19 *e*P **P** **06 13 24.2 +0.4**
comp=Z,37nm,1.9s
SHL Shillong 84.22 298 *e*P **P** **06 13 28.1 +0.1**
comp=Z,13nm,0.9s
SHL Shillong 84.22 298 *e*P **P** **06 13 28.1 +0.1**
SHL pmax pmax
comp=Z,13nm,0.9s
CAST Castle Rocks 84.70 17 *e*P **P** **06 13 28.4 -0.8**
comp=Z,22nm,1.6s
YBH Yreka Blue Hor 85.79 45 P **P** **06 13 35.9 +0.6**
comp=Z,2.3nm,1.1s,baz=240,slow=8.1,SNR=2.8
IM3 Indian Mountai 86.28 15 *e*P **P** **06 13 38.1 +1.0**
ZAK Zakamensk 86.40 325 *e*P **P** **06 13 34.8 -3.3**
ZAK pmax pmax
comp=Z,5.0nm,1.4s
ILAR Eielson Array 87.22 18 P **P** **06 13 40.5 -1.2**
comp=Z,1.4nm,0.5s,baz=236,slow=5.1,SNR=38
ILB Eielson Array 87.22 18 *e*P **P** **06 13 40.4 -1.2**
NV01 Mina Array Sit 87.58 49 *e*P **P** **06 13 42.6 -1.7**
NVAR Mina Array Bea 87.58 49 P **P** **06 13 43.0 -1.3**
comp=Z,0.6nm,0.8s,baz=225,slow=9.0,SNR=4.6
SYO Syowa Base 88.00 197 ⇑ *e*P **P** **06 13 44.4 -1.1**
J08A Circle Bar Ran 89.31 45 *e*P **P** **06 13 53.2 +1.0**
comp=Z,3.0nm,0.9s
G08A Pilot Rock 89.72 43 *e*P **P** **06 13 52.2 -1.9**
comp=Z,3.0nm,0.8s
TIXI Tiksi 90.84 349 *e*P **P** **06 13 58.2 -0.3**
comp=Z,6.5nm,1.1s
TIXI Tiksi 90.84 349 *ce*P **P** **06 13 58.5 0.0**
TIXI pmax pmax
comp=Z,7.0nm,1.2s
SNAA Sanae 92.74 183 P **P** **06 14 07.0 -0.6**
SNAA Sanae 92.74 183 P **P** **06 14 06.8 -0.8**
comp=Z,6.5nm,0.6s,baz=201,slow=6.5,SNR=21
SNAA Sanae 92.74 183 *e*P **P** **06 14 07.1 -0.6**
comp=Z,8.2nm,0.7s
SNAA Sanae 92.74 183 *i* P **P** **06 14 11.7 +4.0**
VNA3 Neumayer Olymp 93.39 181 P **P** **06 14 09.9 -0.7**
WMQ Urumqi 93.52 314 P **P** **06 14 12.1 +0.4**
VNA2 Neumayer--Watz 93.67 182 P **P** **06 14 11.5 -0.4**
baz=183,slow=3.4
VNA1 Neumayer--Stat 93.96 181 P **P** **06 14 12.8 -0.4**
ANMO Albuquerque 95.52 55 *i* P **P** **06 14 19.9 -1.3**
MK01 Makanchi Array 98.00 316 *e*P Pdif 06 14 32.3 +0.3
MK31 Makanchi Array 98.01 316 *e*P **P** **06 14 30.3 -1.7**
MK31 Makanchi Array 98.01 316 *e*P **P** **06 14 30.3 -1.7**
MK32 Makanchi Array 98.01 316 *e*P Pdif 06 14 32.3 +0.3
MK32 *ep*P pP 06 14 53.4 -0.2
MK32 *e*PKiKP **PKiKP** **06 19 05.3 +0.4**
MKAR Makanchi Array 98.01 316 P Pdif 06 14 32.3 +0.3
comp=Z,1.1nm,0.6s,baz=97,slow=5.9,SNR=14
MKAR pP pP 06 14 53.4 -0.2
comp=Z,0.5nm,0.7s,baz=94,slow=4.3,SNR=2.3
MKAR PKiKP **PKiKP** **06 19 05.3 +0.4**
comp=Z,0.2nm,0.5s,baz=104,slow=1.4,SNR=6.4
MKAR Makanchi Array 98.01 316 *e*P **P** **06 14 28.6 -3.4**
comp=Z,13nm,1.1s
MKAR Makanchi Array 98.01 316 *e*P **P** **06 14 28.6 -3.4**
MKAR pmax pmax
comp=Z,13nm,1.1s
YKA Yellowknife Ar 98.14 27 P **P** **06 14 31.6 -0.5**
comp=Z,1.0nm,0.7s,baz=254,slow=4.6,SNR=30
ZALV Zalesovo Beam 98.23 324 P **P** **06 14 31.1 -1.6**
comp=Z,0.8nm,0.4s,baz=128,slow=6.3,SNR=5.5
ZALV pP **pP** **06 14 54.9 +0.6**
comp=Z,0.4nm,0.3s,baz=114,slow=3.5,SNR=2.0
ZALV Zalesovo Beam 98.23 324 *e*P **P** **06 14 31.9 -0.9**
ZALV Zalesovo Beam 98.23 324 *e*P **P** **06 14 31.9 -0.9**
ZAA1 Zalesovo Array 98.23 324 *e*P **P** **06 14 31.1 -1.6**
ZAA1 *ep*P **pP** **06 14 54.9 +0.6**
KURK Kurchatov 101.22 320 *i* P **Pdif** **06 14 47.8 +1.6**
KURK pmax pmax
comp=Z,3.0nm,0.8s
BVAR Borovoye Array 106.58 321 PKiKP **PKiKP** **06 19 19.8 -0.5**
comp=Z,0.5nm,0.4s,baz=150,slow=4.3,SNR=3.8
AKTO Aktyubinsk 114.29 319 PKiKP **PKiKP** **06 19 35.1 +0.2**
comp=Z,1.9nm,0.5s,baz=90,slow=6.2,SNR=7.5
GEYT Alibeck 114.65 305 PKP PKPdf 06 19 36.2 +0.1
comp=Z,1.8nm,0.5s,baz=126,slow=7.4,SNR=3.6
SPITS Spitsbergen Ar 115.78 354 PKP **PKPdf** **06 19 36.5 -0.5**
comp=Z,3.4nm,0.6s,baz=5.7,slow=1.4,SNR=7.5
TMCR Tamitsa 120.56 337 *e*PKIKP **PKPdf** **06 19 46.4 -0.1**
ARA0 ARCESS Array S 121.12 345 *e*PKPdf **PKPdf** **06 19 47.4 -0.1**
ARCES ARCESS Array B 121.12 345 PKP **PKPdf** **06 19 47.4 -0.1**
comp=Z,12nm,0.6s,baz=77,slow=0.7,SNR=53
ARCES ARCESS Array B 121.12 345 *e*PKPdf **PKPdf** **06 19 47.2 -0.3**
ARCES ARCESS Array B 121.12 345 *e*PKIKP **PKPdf** **06 19 47.2 -0.3**
KLMR Klimovskoe 121.56 333 *e*PKIKP **PKPdf** **06 19 45.3 -3.2**
KLMR pmax pmax
comp=Z,12nm,1.2s
KLMR Klimovskoe 121.56 333 *e*PKPdf **PKPdf** **06 19 45.4 -3.1**
KLMR AMP 06 19 50.2
comp=Z,12nm,1.2s
BOSA Boshof 122.94 220 PKP **PKPdf** **06 19 52.6 +0.2**
comp=Z,3.3nm,0.9s,baz=76,slow=7.7,SNR=3.8
VRH Novokhopyorsk 124.22 322 *e*PKIKP **PKPdf** **06 19 53.9 0.0**
VRH pmax pmax
comp=Z,10.0nm,0.6s
ZEI Tsey 125.02 312 *i* PKIKP **PKPdf** **06 19 58.6 +2.5**
ZEI pmax pmax
comp=Z,7.0nm,1.2s
LPSR Galich'ya Gora 125.34 324 *e*PKIKP **PKPdf** **06 19 56.1 +0.1**
LPSR pmax pmax
comp=Z,20nm,0.9s
OBN Obninsk 125.56 328 *d i*PKIKP **PKPdf** **06 19 55.5 -0.9**
OBN *e* 06 21 51.0
OBN pmax pmax
comp=Z,18nm,1.1s
KIV Kislovodsk 125.63 313 *e*PKIKP **PKPdf** **06 19 56.4 -0.6**
KIV pmax pmax
comp=Z,8.0nm,1.1s
VSR Storozhevoye 125.72 323 *e*PKIKP **PKPdf** **06 19 56.9 +0.1**
VSR pmax pmax
comp=Z,7.0nm,0.6s
FIA1 FINESS Array S 126.60 338 *e*PKPdf **PKPdf** **06 19 58.1 -0.1**
FIA0 FINESS Array S 126.60 338 *e*PKPdf **PKPdf** **06 19 58.1 -0.1**
FIA0 FINESS Array S 126.60 338 *e*PKIKP **PKPdf** **06 19 58.1 -0.1**
FINES FINESS Array B 126.60 338 PKP **PKPdf** **06 19 58.1 -0.1**
comp=Z,7.0nm,0.9s,baz=87,slow=4.2,SNR=14
ANN Anapa 129.02 316 *i* PKIKP **PKPdf** **06 20 07.0 +3.7**
ANN *e* 06 20 44.2
ANN pmax pmax
comp=Z,113nm,1.8s
NB2 NORSAR Subarra 131.50 345 PKPdf **PKPdf** **06 20 08.1 +0.5**
comp=Z,2.3nm,0.6s,baz=31,slow=1.9
NB200 NORSAR Array S 131.50 345 *e*PKPdf **PKPdf** **06 20 08.4 +0.8**
NOA NORSAR Array B 131.50 345 PKP **PKPdf** **06 20 08.4 +0.8**
comp=Z,3.3nm,0.7s,baz=32,slow=2.0,SNR=12
NOA SKPbc **SKPab** **06 23 26.6 0.0**
comp=Z,1.1nm,0.7s,baz=32,slow=3.0,SNR=3.3
AKASG Malin Array Be 131.59 326 PKP **PKPdf** **06 20 08.1 +0.1**
comp=Z,2.6nm,0.8s,baz=66,slow=1.9,SNR=8.1
AKASG SKPbc **SKPab** **06 23 27.1 -0.1**
comp=Z,0.5nm,0.5s,baz=47,slow=4.7,SNR=5.1
AKBB Malin Array Si 131.59 326 *e*PKPdf **PKPdf** **06 20 08.6 +0.6**
AKBB Malin Array Si 131.59 326 *e*PKIKP **PKPdf** **06 20 08.6 +0.6**
HFS Hagfors 131.60 343 PKP **PKPdf** **06 20 08.4 +0.7**
comp=Z,2.6nm,0.7s,baz=318,slow=1.9,SNR=5.6
AK11 Malin Array Si 131.63 326 *e*PKPdf **PKPdf** **06 20 08.2 +0.1**
BR101 Keskin Array S 133.27 310 *e*PKPdf **PKPdf** **06 20 12.0 +0.2**
BRTR Keskin Array B 133.27 310 PKP **PKPdf** **06 20 12.0 +0.2**
comp=Z,1.3nm,0.5s,baz=144,slow=3.9,SNR=7.0
BR231 Keskin MP Arra 133.87 311 *e*PKPdf **PKPdf** **06 20 12.3 -0.6**
BUR08 Bucovina Ar. S 135.45 324 *e*PKPdf **PKPdf** **06 20 16.3 +0.7**
BUR04 Bucovina Ar. S 135.45 324 *e*PKPdf **PKPdf** **06 20 17.3 +1.8**
STHS Stebnicka Huta 136.53 328 *e*PKP **PKPdf** **06 20 18.7 +1.3**
STHS Stebnicka Huta 136.53 328 *e*PKIKP **PKPdf** **06 20 18.7 +1.3**
CRVS Cervenica-Dubn 136.74 328 *e*PKP **PKPdf** **06 20 19.0 +1.2**
CRVS Cervenica-Dubn 136.74 328 *e*PKIKP **PKPdf** **06 20 19.0 +1.2**
LANS Liptovska Anna 137.59 329 *e*PKP **PKPdf** **06 20 22.4 +3.0**
LANS Liptovska Anna 137.59 329 *e*PKIKP **PKPdf** **06 20 22.4 +3.0**
MORC Moravsky Berou 138.10 331 *e*PKPdf **PKPdf** **06 20 21.2 +0.9**
MORC Moravsky Berou 138.10 331 *e*PKIKP **PKPdf** **06 20 21.2 +0.9**
KRLC Kraliky 138.24 332 *e*PKP **PKPdf** **06 20 21.1 +0.5**
KRLC *ex* x 06 20 27.7
KRLC Kraliky 138.24 332 *e*PKIKP **PKPdf** **06 20 21.1 +0.5**
DPC Dobruska-Polom 138.25 332 *e*PKP **PKPdf** **06 20 21.0 +0.4**
DPC *ex* x 06 20 25.3
DPC Dobruska-Polom 138.25 332 *e*PKIKP **PKPdf** **06 20 21.0 +0.4**
VYHS Vyhne 138.34 329 *e*PKP **PKPdf** **06 20 21.8 +1.1**
VYHS Vyhne 138.34 329 *e*PKIKP **PKPdf** **06 20 21.8 +1.1**
PVCC Panska Ves 138.88 334 *e*PKP **PKPdf** **06 20 23.2 +1.6**
PVCC Panska Ves 138.88 334 *e*PKIKP **PKPdf** **06 20 23.2 +1.6**
CLL Collm 138.93 336 *i* PKPdf **PKPdf** **06 20 22.5 +0.8**
comp=Z,4.0nm,0.9s
CLL Collm 138.93 336 *i* PKIKP **PKPdf** **06 20 22.5 +0.8**
CLL pmax pmax
comp=Z,4.0nm,0.9s
GOPC GO Pecny, Ondr 139.25 333 *e*PKP **PKPdf** **06 20 23.2 +0.8**
GOPC GO Pecny, Ondr 139.25 333 *e*PKIKP **PKPdf** **06 20 23.2 +0.8**
PRU Pruhonice 139.30 333 *e*PKP **PKPdf** **06 20 22.9 +0.5**
PRU *ex* x 06 20 25.7
PRU Pruhonice 139.30 333 *e*PKIKP **PKPdf** **06 20 22.9 +0.5**
CONA Conrad Observa 140.18 330 *e*PKiKP **PKPdf** **06 20 25.1 +0.8**
comp=Z,8.6nm,1.9s
KHC Kasperske Hory 140.35 333 *e*PKP **PKPdf** **06 20 21.1 -3.3**
KHC *ex* x 06 20 25.2
KHC Kasperske Hory 140.35 333 *e*PKPdf **PKPdf** **06 20 25.4 +1.0**
KHC Kasperske Hory 140.35 333 *e*PKIKP **PKPdf** **06 20 21.1 -3.3**
GEC2 GERESS Array S 140.51 333 *e*PKPdf **PKPdf** **06 20 24.6 -0.2**
GEC2 GERESS Array S 140.51 333 *e*PKIKP **PKPdf** **06 20 24.6 -0.2**
GERES GERESS Array B 140.51 333 PKP **PKPdf** **06 20 24.7 -0.2**
comp=Z,1.4nm,0.8s,baz=48,slow=2.0,SNR=9.4
GEA0 GERESS Array S 140.52 333 *e*PKPdf **PKPdf** **06 20 24.5 -0.3**
KBA Koelnbreinsper 141.98 331 *e*PKiKP **PKPdf** **06 20 28.7 +1.1**
comp=Z,7.4nm,1.1s
MEM Membach 142.00 341 ⇓ PKP **PKPdf** **06 20 27.6 +0.3**
WATA Walderalm 142.59 333 *e*PKPdf **PKPdf** **06 20 26.8 -1.9**
comp=Z,3.0nm,0.7s
ABTA Abfaltersbach 142.61 331 *e*PKPdf **PKPdf** **06 20 25.7 -3.0**
comp=Z,7.5nm,1.1s
WTTA Wattenberg 142.62 333 *e*PKPdf **PKPdf** **06 20 27.9 -0.8**
comp=Z,3.2nm,0.7s
WLF Walferdange 142.78 340 ⇑ PKP **PKPdf** **06 20 30.6 +1.9**
MOTA Moosalm 142.79 333 *e*PKPdf **PKPdf** **06 20 26.3 -2.7**
comp=Z,6.1nm,0.9s
SQTA Sankt Quirin 142.84 333 *e*PKPdf **PKPdf** **06 20 26.9 -2.2**
comp=Z,0.1nm,0.6s
DOU Dourbes 142.89 342 ⇑ PKP **PKPdf** **06 20 29.0 +0.1**
FETA Feichten 143.20 333 *e*PKPdf PKPbc 06 20 28.1 +1.2
comp=Z,6.3nm,0.7s
DAVA Damuels 143.35 334 *e*PKPdf PKPbc 06 20 28.7 +1.4
comp=Z,8.1nm,0.8s
ECH Echery 143.66 338 *e*PKPdf PKPbc 06 20 28.3 +0.4
ECH Echery 143.66 338 *e*PKIKP PKPbc 06 20 28.3 +0.3
TUE Stuetta 144.22 334 *e*PKPdf **PKPdf** **06 20 30.9 -0.7**
KEST Kesra 152.04 320 PKPbc **PKPbc** **06 20 52.2 +1.1**
comp=Z,7.9nm,0.6s,baz=135,slow=4.9,SNR=8.8
KEST Kesra 152.04 320 *e*PKPdf **PKPdf** **06 20 46.0 +1.4**
PBRG Braganca 153.39 350 *e*PKPab **PKPab** **06 21 07.2 +1.0**
PCAB Cabril 153.66 353 *e*PKPab **PKPab** **06 21 07.7 +0.4**
POLO Lamas de Olo 153.97 352 *e*PKPdf **PKPdf** **06 20 47.8 +0.6**
POLO Lamas de Olo 153.97 352 *e*PKPbc **PKPbc** **06 20 55.9 +0.6**
POLO Lamas de Olo 153.97 352 *e*PKPab **PKPab** **06 21 10.0 +1.3**
PVRL Vila Real 154.05 352 *e*PKPbc **PKPbc** **06 20 56.1 +0.7**
PVRL Vila Real 154.05 352 *e*PKPab **PKPab** **06 21 10.4 +1.4**
MVO Moncorvo 154.06 351 *e*PKPbc **PKPbc** **06 20 56.1 +0.7**
MVO Moncorvo 154.06 351 *e*PKPab **PKPab** **06 21 10.2 +1.2**
VSIS Viseu 154.63 352 *e*PKPab **PKPab** **06 21 12.7 +1.3**
ES19 SONSECA Array 154.82 344 *e*PKPdf **PKPdf** **06 20 48.7 +0.3**
ES19 *e*PKPbc **PKiKP** **06 20 57.8 +0.7**
ESDC Sonseca Array 154.86 345 PKP **PKPdf** **06 20 48.3 -0.2**
comp=Z,0.2nm,0.2s,baz=0.0,slow=3.0,SNR=5.0
ESDC PKPbc **PKiKP** **06 20 57.2 0.0**
comp=Z,0.5nm,0.5s,baz=21,slow=3.1,SNR=5.8
ESDC PKPab **PKPab** **06 21 12.6 +0.1**
comp=Z,2.5nm,0.9s,baz=16,slow=3.3,SNR=8.3
MTE Manteigas 154.89 351 *e*PKPbc **PKPbc** **06 20 57.8 +0.6**
MTE Manteigas 154.89 351 *e*PKPab **PKPab** **06 21 13.7 +1.1**
MTE Manteigas 154.89 351 *e*PKPdf **PKPdf** **06 20 46.5 -2.0**
MTE *e*PKPbc **PKPbc** **06 20 56.5 -0.8**
MTE *e*PKPab **PKPab** **06 21 13.1 +0.5**
PCBR Castelo Branco 155.43 351 *e*PKPab **PKPab** **06 21 16.4 +1.6**
PTOM Tomar 155.77 352 *e*PKPab **PKPab** **06 21 17.5 +1.2**
PMRV Marv??o 155.81 350 *e*PKPab **PKPab** **06 21 18.8 +2.3**
PMTG Montargil 156.29 352 *e*PKPab **PKPab** **06 21 20.4 +1.9**
PESTR Estremoz 156.40 351 *e*PKPab **PKPab** **06 21 20.2 +1.2**
PBAR Barrancos 156.98 349 *e*PKPab **PKPab** **06 21 22.9 +1.4**
PBEJ Beja 157.26 351 *e*PKPab **PKPab** **06 21 24.5 +1.8**
PNCL Nicolau / Gran 157.27 352 *e*PKPab **PKPab** **06 21 24.8 +2.0**
MESJ Messejana 157.50 351 *e*PKPab **PKPab** **06 21 25.3 +1.6**
PCVE Castro Verde 157.67 351 *e*PKPab **PKPab** **06 21 26.3 +1.8**
PVAQ Vaqueiros 157.84 350 *e*PKPab **PKPab** **06 21 26.4 +1.1**
MORF Marmelete 158.08 352 *e*PKPab **PKPab** **06 21 28.1 +1.7**
TOA0 Torodi Ar. Sit 166.12 262 *e*PKPdf **PKPdf** **06 21 00.4 -0.9**
TORD Torodi Ar. Bea 166.12 262 PKP **PKPdf** **06 21 00.6 -0.7**
comp=Z,1.4nm,0.8s,baz=49,slow=1.2,SNR=6.4
TORD pPKP **pPKPdf** **06 21 23.6 -0.3**
comp=Z,0.3nm,0.6s,baz=159,slow=1.6,SNR=1.8
TORD PKPab **PKPab** **06 22 01.3 -1.0**
comp=Z,1.3nm,0.8s,baz=112,slow=4.0,SNR=5.5
TORD pPKPab **pPKPab** **06 22 22.9 -1.1**
comp=Z,1.1nm,0.7s,baz=92,slow=3.6,SNR=4.9
TOA1 Torodi Ar. Sit 166.12 262 *e*PKPdf **PKPdf** **06 21 00.6 -0.7**
TOA1 *ep*PKPdf **pPKPdf** **06 21 23.6 -0.3**
TOA1 *e*PKPab **PKPab** **06 22 01.3 -1.1**
TOA1 *ep*PKPab **pPKPab** **06 22 22.9 -1.1**

IDC 09 06:13:14.3±2.7, 7°.83N×95°.05E, h0km, mb3.6/6, mb1 3.7/6, mb1mx3.4/63, mbtmp3.6/6, Error ellipse: s-maj=152.2km s-min=20.8km az=56.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**40.34**	**346**	P	P	06 20 52.8	-0.9
	1.2nm,0.7s,baz=161,slow=7.7,SNR=13						
KURBB	**Kurchatov Arra**	**44.82**	**345**	P	P	06 21 29.6	-0.3
	1.1nm,0.6s,baz=167,slow=6.9,SNR=9.2						
ZALV	**Zalesovo Beam**	**46.73**	**352**	P	P	06 21 45.7	+0.7
	0.4nm,0.3s,baz=177,slow=7.9,SNR=2.8						
WRA	**Warramunga Arr**	**47.50**	**126**	P	P	06 21 51.8	+0.1
	0.3nm,0.8s,baz=308,slow=8.7,SNR=4.7						
ASAR	**Alice Springs**	**49.20**	**131**	P	P	06 22 04.3	-0.4
	0.3nm,0.7s,baz=302,slow=7.6,SNR=4.5						
AKTO	**Aktyubinsk**	**52.42**	**331**	P	P	06 22 28.9	+0.2
	0.8nm,0.6s,baz=126,slow=8.7,SNR=3.1						

*GEN **09** 06:35:47.3, 44°.88N×9°.61E, h25km, ML2.1*
*CSEM **09** 06:35:47.3±0.2, 44°.87N×9°.60E, h10km, ML2.7/5, Error ellipse: s-maj=5.0km s-min=3.5km az=145.0*
*LDG **09** 06:35:47.2±0.1, 44°.87N×9°.62E, h25km, Md2.3/1, Ml2.5/13, Error ellipse: s-maj=1.8km s-min=1.7km az=106.0*
*ROM **09** 06:35:48.1±0.2, 44°.83N×9°.70E, h11km±2km, Ml2.5/7, Error ellipse: s-maj=3.1km s-min=1.5km az=106.0*

ISC 09 06:35:46.9±1.0, 44°.83N±0°.02×9°.65E±0°.02, h20km±1km, n105, σ2°33/141, Northern Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BOB	**Bobbio (Coli)**	**0.16**	**245**	Pg	**Pb**	**06 35 52.8**	**+0.5**
BOB				Sg	**Sb**	**06 35 56.6**	**+0.6**
GORR	**Gorreto**	**0.34**	**229**	P	**Pb**	**06 35 55.2**	**+0.9**
GRAM	**Graiana**	**0.45**	**139**	P	**Pn**	**06 35 57.6**	**-0.7**
CODM	**Codolo**	**0.47**	**162**	P	**Pn**	**06 35 57.7**	**-0.7**
MSSA	**Maissana**	**0.53**	**191**	Pg	**Pb**	**06 35 58.4**	**+0.9**
MSSA				Sg	**Sb**	**06 36 06.6**	**+1.9**
MSSA	**Maissana**	**0.53**	**191**	Pg	**Pb**	**06 35 58.4**	**+0.9**
MSSA				Sg	**Sb**	**06 36 06.6**	**+1.9**
SALO	**Salr**	**1.00**	**38**	Pg	**Pn**	**06 36 05.8**	**0.0**
	147nm,0.4s						
SALO	**Salr**	**1.00**	**38**	Pg	**Pn**	**06 36 05.8**	**0.0**
	147nm,0.4s						
MAGA	**Magasa**	**1.17**	**36**	Pg	**Pb**	**06 36 09.8**	**+1.4**
MAGA				Sg	**Sn**	**06 36 25.1**	**+1.5**
	274nm,0.4s						
MAGA	**Magasa**	**1.17**	**36**	Pg	**Pb**	**06 36 09.8**	**+1.4**
MAGA				Sg	**Sn**	**06 36 25.1**	**+1.5**
	274nm,0.4s						
MUGIO	**Muggio**	**1.17**	**339**	Pg	**Pb**	**06 36 09.5**	**+1.0**
MUGIO	**Muggio**	**1.17**	**339**	Pg	**Pb**	**06 36 09.5**	**+1.0**
MUGIO				Sg	**Sn**	**06 36 25.7**	**+2.1**
BALD	**Monte Baldo**	**1.18**	**44**	*e*Pg	**Pb**	**06 36 10.0**	**+1.2**
BALD				*e*Sg	**Sn**	**06 36 26.0**	**+1.9**
BALD	**Monte Baldo**	**1.18**	**44**	*e*Pg	**Pb**	**06 36 10.0**	**+1.2**
BALD				*e*Sg	**Sn**	**06 36 25.9**	**+1.9**
VARE	**Varese**	**1.21**	**329**	Pg	**Pb**	**06 36 10.3**	**+1.2**
VARE	**Varese**	**1.21**	**329**	Pg	**Pb**	**06 36 10.3**	**+1.2**
ROVR	**Rover¯¤ Verone**	**1.29**	**50**	Pg	**Pb**	**06 36 11.0**	**+0.4**
ROVR				Sg	**Sb**	**06 36 28.3**	**+1.5**
	129nm,0.3s						
ROVR	**Rover¯¤ Verone**	**1.29**	**50**	Pg	**Pb**	**06 36 11.0**	**+0.4**
ROVR				Sg	**Sb**	**06 36 28.3**	**+1.5**
	129nm,0.3s						
RNI	**Roncone**	**1.33**	**30**	*e*Pg	**Pb**	**06 36 11.5**	**+0.1**
RNI	**Roncone**	**1.33**	**30**	*e*Pg	**Pb**	**06 36 11.5**	**+0.1**
MABI	**Malga Bissina**	**1.36**	**26**	Pg	**Pb**	**06 36 12.4**	**+0.6**
	46nm,0.4s						
MABI	**Malga Bissina**	**1.36**	**26**	Pg	**Pb**	**06 36 12.4**	**+0.6**
	46nm,0.4s						
MARN	**Marana (Italy)**	**1.36**	**53**	*e*Pg	**Pb**	**06 36 11.9**	**+0.2**
MARN	**Marana (Italy)**	**1.36**	**53**	*e*Pg	**Pb**	**06 36 11.9**	**+0.2**
TEOL	**Teolo**	**1.52**	**69**	*e*Pg	**Pb**	**06 36 15.5**	**+1.1**
TEOL	**Teolo**	**1.52**	**69**	*e*Pg	**Pb**	**06 36 15.5**	**+1.1**
BERNI	**Berninapass**	**1.60**	**9**	Pg	**Pb**	**06 36 17.5**	**+1.6**
	13nm,0.3s						
BERNI	**Berninapass**	**1.60**	**9**	Pg	**Pb**	**06 36 17.5**	**+1.6**
	13nm,0.3s						
SBF	**Sospel**	**1.86**	**239**	*e*Pn	**Pn**	**06 36 15.8**	**-1.9**
SBF	**Sospel**	**1.86**	**239**	*e*P	**Pn**	**06 36 18.5**	**+0.8**
SBF				*e*Sn	**Sn**	**06 36 37.2**	**-3.5**
	18nm,0.3s						
SBF	**Sospel**	**1.86**	**239**	*e*Pn	**Pn**	**06 36 15.8**	**-1.9**
SBF	**Sospel**	**1.86**	**239**	*e*P	**Pn**	**06 36 18.5**	**+0.8**
MOSI	**Grossmontoni**	**1.89**	**19**	Pg	**Pb**	**06 36 21.5**	**+0.7**
	35nm,0.4s						
MOSI	**Grossmontoni**	**1.89**	**19**	Pg	**Pb**	**06 36 21.5**	**+0.7**
	35nm,0.4s						
APPI	**Appiano**	**1.98**	**33**	Pg	**Pb**	**06 36 22.3**	**0.0**
	87nm,1.3s						
MBDF	**Montbardon**	**2.06**	**268**	*e*P	**Pn**	**06 36 20.4**	**0.0**
MBDF	**Montbardon**	**2.06**	**268**	*e*Pg	**Pb**	**06 36 25.2**	**+1.6**
MBDF				*e*Sg	**Sb**	**06 36 51.3**	**+2.6**
	2.2nm,0.2s						
MBDF	**Montbardon**	**2.06**	**268**	*e*P	**Pn**	**06 36 20.4**	**0.0**
MBDF	**Montbardon**	**2.06**	**268**	*e*Pg	**Pb**	**06 36 25.2**	**+1.6**
MBDF				*e*Sg	**Sb**	**06 36 51.3**	**+2.6**
	1.1nm,0.2s						
LPG	**La Plagne**	**2.16**	**289**	*e*Pn	**Pn**	**06 36 19.4**	**-2.6**
LPG	**La Plagne**	**2.16**	**289**	*e*Pg	**Pb**	**06 36 27.3**	**+1.9**
LPG				*e*Sn	**Sn**	**06 36 43.4**	**-4.8**
	5.3nm,0.3s						
LPG	**La Plagne**	**2.16**	**289**	*e*Pn	**Pn**	**06 36 19.4**	**-2.6**
LPG	**La Plagne**	**2.16**	**289**	*e*Pg	**Pb**	**06 36 27.3**	**+1.9**
LPL	**La Plagne**	**2.17**	**289**	*e*Pn	**Pn**	**06 36 19.9**	**-2.2**
LPL	**La Plagne**	**2.17**	**289**	*e*Pg	**Pb**	**06 36 27.5**	**+1.8**
LPL				*e*Sn	**Sn**	**06 36 43.4**	**-5.2**
LPL				*e*Sg	**Sb**	**06 36 54.8**	**+2.5**
	9.8nm,0.5s						
LPL	**La Plagne**	**2.17**	**289**	*e*Pn	**Pn**	**06 36 19.9**	**-2.2**
**

ORIF	**Oris-en-Rattie**	**2.68**	**273**	*e*Pn	**Pn**	**06 36 26.1**	**-2.9**
ORIF	**Oris-en-Rattie**	**2.68**	**273**	*e*P	**Pn**	**06 36 29.8**	**+0.8**
ORIF				*e*Sg	**Sb**	**06 37 10.1**	**+3.3**
	3.0nm,0.3s							
ORIF	**Oris-en-Rattie**	**2.68**	**273**	*e*Pn	**Pn**	**06 36 26.1**	**-2.9**
ORIF	**Oris-en-Rattie**	**2.68**	**273**	*e*P	**Pn**	**06 36 29.8**	**+0.8**
ORIF				*e*Sg	**Sb**	**06 37 10.1**	**+3.3**
	1.5nm,0.3s							
MOTA	**Moosalm**	**2.71**	**21**	Pn	**Pb**	**06 36 33.0**	**-1.7**
	0.8nm,0.1s							
MOTA	**Moosalm**	**2.71**	**21**	*e*Pn	**Pb**	**06 36 33.0**	**-1.7**
	0.8nm,0.1s							
LMR	**La Mourre**	**2.72**	**238**	*e*Pn	**Pn**	**06 36 27.3**	**-2.1**
LMR	**La Mourre**	**2.72**	**238**	*e*P	**Pn**	**06 36 30.3**	**+0.9**
LMR	**La Mourre**	**2.72**	**238**	*e*Pn	**Pn**	**06 36 27.3**	**-2.1**
LMR	**La Mourre**	**2.72**	**238**	*e*P	**Pn**	**06 36 30.3**	**+0.9**
ABTA	**Abfaltersbach**	**2.77**	**45**	Pn	**Pb**	**06 36 33.7**	**-2.0**
	0.1nm,0.1s							
ABTA				Sn	**Sb**	**06 37 06.6**	**-2.6**
	2.2nm,0.3s							
ABTA	**Abfaltersbach**	**2.77**	**45**	*e*Pn	**Pb**	**06 36 33.7**	**-2.0**
	0.1nm,0.1s							
ABTA				*e*Sn	**Sb**	**06 37 06.6**	**-2.6**
	2.2nm,0.3s							
WTTA	**Wattenberg**	**2.79**	**29**	Pn	**Pb**	**06 36 34.8**	**-1.4**
	0.8nm,0.2s							
WTTA	**Wattenberg**	**2.79**	**29**	*e*Pn	**Pb**	**06 36 34.8**	**-1.4**
	0.8nm,0.2s							
WTTA				Sn	**Sb**	**06 37 16.3**	**+6.2**
	3.6nm,0.3s							
WATA	**Walderalm**	**2.84**	**27**	Pn	**Pb**	**06 36 34.8**	**-2.1**
	1.0nm,0.1s							
WATA	**Walderalm**	**2.84**	**27**	*i* Pn	**Pb**	**06 36 34.8**	**-2.1**
	1.0nm,0.1s							
SMRF	**Simiane la Rot**	**3.05**	**255**	*e*Pn	**Pn**	**06 36 31.3**	**-2.6**
SMRF	**Simiane la Rot**	**3.05**	**255**	*e*P	**Pn**	**06 36 35.0**	**+1.1**
SMRF	**Simiane la Rot**	**3.05**	**255**	*e*Pn	**Pn**	**06 36 31.3**	**-2.6**
SMRF	**Simiane la Rot**	**3.05**	**255**	*e*P	**Pn**	**06 36 35.0**	**+1.1**
CABF	**La Chapelle**	**3.06**	**307**	*e*P	**Pn**	**06 36 34.6**	**+0.3**
CABF				*e*Sn	**Sn**	**06 37 12.7**	**+2.4**
CABF	**La Chapelle**	**3.06**	**307**	*e*P	**Pn**	**06 36 34.6**	**+0.3**
CABF				*e*Sn	**Sn**	**06 37 12.7**	**+2.4**
VIVF	**Saint-Julien-l**	**3.54**	**272**	*e*P	**Pn**	**06 36 42.1**	**+1.3**
VIVF				*e*Sn	**Sn**	**06 37 16.6**	**-5.4**
	0.7nm,0.2s							
VIVF	**Saint-Julien-l**	**3.54**	**272**	*e*P	**Pn**	**06 36 42.1**	**+1.3**
HINF	**Hinteralfeld**	**3.56**	**328**	*e*Pn	**Pn**	**06 36 37.5**	**-3.5**
HINF	**Hinteralfeld**	**3.56**	**328**	*e*P	**Pn**	**06 36 42.0**	**+1.0**
HINF				*e*Sn	**Sn**	**06 37 16.5**	**-5.9**
	2.0nm,0.2s							
HINF	**Hinteralfeld**	**3.56**	**328**	*e*Pn	**Pn**	**06 36 37.5**	**-3.5**
HINF	**Hinteralfeld**	**3.56**	**328**	*e*P	**Pn**	**06 36 42.0**	**+1.0**
HAU	**Haudompre**	**3.91**	**325**	*e*P	**Pn**	**06 36 47.1**	**+1.3**
HAU				*e*Sn	**Sn**	**06 37 24.8**	**-6.3**
	3.6nm,0.2s							
HAU	**Haudompre**	**3.91**	**325**	*e*P	**Pn**	**06 36 47.1**	**+1.3**
CDF	**Champ du Feu**	**3.94**	**336**	*e*P	**Pn**	**06 36 47.2**	**+1.0**
CDF				*e*Sn	**Sn**	**06 37 25.4**	**-6.4**
	5.5nm,0.6s							
CDF	**Champ du Feu**	**3.94**	**336**	*e*P	**Pn**	**06 36 47.2**	**+1.0**
LASF	**Ste Croix**	**4.22**	**262**	*e*P	**Pn**	**06 36 51.6**	**+1.6**
LASF	**Ste Croix**	**4.22**	**262**	*e*P	**Pn**	**06 36 51.6**	**+1.6**
SMF	**Signal de Mont**	**4.45**	**296**	*e*Pn	**Pn**	**06 36 50.1**	**-3.2**
SMF	**Signal de Mont**	**4.45**	**296**	*e*P	**Pn**	**06 36 54.2**	**+0.9**
SMF				*e*Sn	**Sn**	**06 37 37.7**	**-6.8**
SMF	**Signal de Mont**	**4.45**	**296**	*e*Pn	**Pn**	**06 36 50.1**	**-3.2**
SMF	**Signal de Mont**	**4.45**	**296**	*e*P	**Pn**	**06 36 54.2**	**+0.9**
LOR	**Lormes**	**4.71**	**303**	*e*P	**Pn**	**06 36 58.6**	**+1.8**
LOR				*e*Sn	**Sn**	**06 37 43.6**	**-7.2**
	2.4nm,0.3s							
LOR	**Lormes**	**4.71**	**303**	*e*P	**Pn**	**06 36 58.6**	**+1.8**
AVF	**Avril sur Loir**	**4.82**	**296**	*e*Pn	**Pn**	**06 36 55.3**	**-3.0**
AVF	**Avril sur Loir**	**4.82**	**296**	*e*P	**Pn**	**06 36 59.4**	**+1.1**
AVF	**Avril sur Loir**	**4.82**	**296**	*e*Pn	**Pn**	**06 36 55.3**	**-3.0**
AVF	**Avril sur Loir**	**4.82**	**296**	*e*P	**Pn**	**06 36 59.4**	**+1.1**
BGF	**Bois d'Agland**	**5.07**	**292**	*e*P	**Pn**	**06 37 02.9**	**+1.2**
BGF	**Bois d'Agland**	**5.07**	**292**	*e*P	**Pn**	**06 37 02.9**	**+1.2**

IDC 09 06:38:18.6±7.2, 23°.75N×95°.96E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.2/66, mbtmp3.4/3, MS3.6/1, Ms1 3.6/1, ms1mx2.4/44, Error ellipse: s-maj=742.4km s-min=26.8km az=59.0, Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHL	**Shillong**	**4.12**	**297**	*e*PN	Pn	06 39 17.0	-6.1
SHL				*i* SN	Sn	06 39 52.0	-20
MKAR	**Makanchi Array**	**25.48**	**338**	P	P	06 43 48.5	0.0
	0.7nm,0.6s,baz=145,slow=10,SNR=8.4						
ASF	**Jabal al Asfar**	**52.28**	**293**	LR	LR	07 13 36.4	
	comp=Z,65nm,21.3s,baz=70,slow=40						
WRA	**Warramunga Arr**	**57.32**	**136**	P	P	06 48 08.7	0.0
	0.1nm,0.4s,baz=318,slow=7.7,SNR=4.9						
ASAR	**Alice Springs**	**59.82**	**139**	P	P	06 48 26.0	-0.1
	0.2nm,0.6s,baz=318,slow=6.9,SNR=3.9						

*ISCJB **09** 06:43:04.1±0.3, 48°.62N±0°.04×152°.80E±0°.05, h174km, mb4.0/62, Error ellipse: s-maj=7.2km s-min=3.1km az=146.4*

*MOS **09** 06:43:05.2±0.8, 48°.60N×152°.80E, h189km, mb4.1/25, Error ellipse: s-maj=9.7km s-min=6.7km az=70.8*

*NEIC **09** 06:43:05.2±0.6, 48°.52N×152°.82E, h174km±6km, mb4.2/33, Error ellipse: s-maj=9.0km s-min=3.8km az=153.0*

*SKHL **09** 06:43:05.5±0.9, 48°.75N×152°.79E, h162km±4km, mb4.7/4, msh5.8/5*

*IDC **09** 06:43:06.0±1.6, 48°.60N×152°.81E, h182km±14km, mb3.6/23, mb1 3.7/27, mb1mx3.6/73, mbtmp4.1/27, Error ellipse: s-maj=12.8km s-min=8.6km az=146.0*

ISC 09 06:43:05.4±0.5, 48°.63N±0°.06×152°.82E±0°.06, h174km, n161, σ1§28/170, mb4.1/62, 1C-1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.97**	**45**	*e*P	**Pn**	**06 43 54.0**	**+0.8**
SKR				AMB	AMB	06 43 55.0	
	81nm,0.5s						
SKR				*e*S	**Sn**	**06 44 31.1**	**+0.4**
SKR				A	A	06 44 34.6	
	980nm,0.6s						
SKR				A	A	06 44 34.6	
	628nm,0.6s						
SKR	**Severo-Kuril's**	**2.97**	**45**	*e*PN	**Pn**	**06 43 54.1**	**+0.8**
SKR				*e*S	**Sn**	**06 44 30.5**	**-0.2**
SKR				pmax	pmax		
	comp=Z,81nm,0.5s						
SKR				smax	smax		
	comp=N,983nm,0.6s						
SKR				smax	smax		
	comp=E,628nm,0.4s						
PAU	**Pauzhetka**	**3.83**	**41**	*e*P	**Pn**	**06 44 04.1**	**0.0**
PAU				AMB	AMB	06 44 05.3	
	comp=E,110nm,0.6s						
PAU				*e*S	**Sn**	**06 44 50.4**	**+0.4**
PAU				A	A	06 44 51.4	
	comp=E,2μm,0.4s						
KUR	**Kuril'sk**	**4.80**	**227**	*e*P	**Pn**	**06 44 18.4**	**+1.9**
KUR				AMB	AMB	06 44 20.6	
	comp=E,52nm,0.5s						
KUR				*e*S	**Sn**	**06 45 15.3**	**+3.0**
KUR				A	A	06 45 21.0	
	comp=E,170nm,0.6s						
KUR				A	A	06 45 21.0	
	comp=E,200nm,0.6s						
KUR	**Kuril'sk**	**4.80**	**227**	*e*PN	**Pn**	**06 44 17.3**	**+0.8**
KUR				*e*S	**Sn**	**06 45 13.4**	**+1.1**
KUR				smax	smax		
	comp=N,120nm,0.5s						
KUR				smax	smax		
	comp=E,45nm,0.4s						
PEA0B	**Petropavlovsk-**	**5.45**	**33**	*e*Pn	**Pn**	**06 44 26.3**	**+1.4**
PETK	**Petropavlovsk-**	**5.45**	**33**	P	**Pn**	**06 44 26.1**	**+1.2**
	comp=E,2.1nm,0.3s,baz=190,slow=11,SNR=32						
PETK				S	**Sn**	**06 45 27.7**	**+0.3**
	comp=E,1.3nm,0.3s,baz=222,slow=18,SNR=5.2						
PETK	**Petropavlovsk-**	**5.45**	**33**	*e*Pn	**Pn**	**06 44 26.3**	**+1.4**
PETK				*e*Sn	**Sn**	**06 45 24.1**	**-3.4**
PET	**Petropavlovsk**	**5.75**	**38**	*e*P	**Pn**	**06 44 27.2**	**-1.6**
PET				AMB	AMB	06 44 27.8	
	comp=E,30nm,0.8s						
PET				*e*S	**Sn**	**06 45 34.7**	**+0.2**
PET				A	A	06 45 36.6	
	comp=E,89nm,0.4s						
PET				A	A	06 45 36.6	
	comp=E,71nm,0.4s						
SHO	**Shikotan**	**6.31**	**223**	*e*P	**Pn**	**06 44 32.7**	**-3.7**
SHO				*e*rx	rx	06 45 40.3	
SHO				A	A	06 45 48.9	
	comp=E,93nm,0.4s						
SHO				A	A	06 45 48.9	
	comp=E,127nm,0.4s						
SHO	**Shikotan**	**6.31**	**223**	*e*PN	**Pn**	**06 44 32.2**	**-4.2**
YUK	**Yuzh-Kuril'sk**	**6.65**	**229**	*e*P	**Pn**	**06 44 42.7**	**+1.8**
YUK	**Yuzh-Kuril'sk**	**6.65**	**229**	*i* PN	**Pn**	**06 44 42.7**	**+1.8**
TYV	**Tymovskoe**	**6.95**	**293**	*e*P	**Pn**	**06 44 43.8**	**-0.9**
YSS	**Yuzh-Sakhalins**	**6.98**	**260**	*e*P	**Pn**	**06 44 46.6**	**+1.4**
YSS	**Yuzh-Sakhalins**	**6.98**	**260**	*e*PN	**Pn**	**06 44 44.3**	**-0.9**
YSS				pmax	pmax		
	comp=Z,10.0nm,0.4s						
UGL	**Uglegorsk**	**7.11**	**278**	*e*P	**Pn**	**06 44 47.7**	**+0.9**
ASAJ	**Asahikawa**	**8.38**	**241**	P	**Pn**	**06 45 05.0**	**+1.3**
	comp=Z,1.2nm,0.3s,baz=77,slow=14,SNR=11						
ASAJ	**Asahikawa**	**8.38**	**241**	*e*Pn	**Pn**	**06 45 01.6**	**-2.1**
ASAJ				*e*Sn	**Sn**	**06 46 32.6**	**-4.7**
NKL	**Nikolayevsk**	**8.90**	**305**	*e*PN	**Pn**	**06 45 13.0**	**+2.6**
ERM	**Erimo**	**9.48**	**229**	*e*Pn	**Pn**	**06 45 17.9**	**-0.2**
ERM	**Erimo**	**9.48**	**229**	*e*PN	**Pn**	**06 45 17.8**	**-0.3**
KLR	**Kul'dur**	**13.86**	**280**	*e*P	**Pn**	**06 46 14.3**	**-0.1**
KLR	**Kul'dur**	**13.86**	**280**	*e*P	**Pn**	**06 46 14.3**	**-0.1**
SMY	**Shemya**	**14.09**	**65**	*e*Pn	**Pn**	**06 46 16.2**	**-1.0**
SMY	**Shemya**	**14.09**	**65**	*e*P	**Pn**	**06 46 16.2**	**-1.0**
SEY	**Seymchan**	**14.34**	**359**	*e*P	**Pn**	**06 46 20.5**	**+0.3**
SEY	**Seymchan**	**14.34**	**359**	*i* P	**Pn**	**06 46 20.5**	**+0.3**
USRK	**Ussuriysk Ar.**	**15.02**	**261**	P	**P**	**06 46 30.8**	**+0.8**
	comp=Z,0.4nm,0.3s,baz=85,slow=8.8,SNR=4.0						
MJA0	**Matsu Arr-Jizo**	**16.12**	**227**	*e*P	**P**	**06 46 43.0**	**+0.7**
MJA0				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MAJO	**Matsushiro**	**16.14**	**227**	*e*Pn	**Pn**	**06 46 41.9**	**-0.6**
	comp=Z,7.6nm,0.6s						
MAJO	**Matsushiro**	**16.14**	**227**	*e*P	**Pn**	**06 46 41.9**	**-0.6**
MAJO				pmax	pmax		
	comp=Z,8.0nm,0.6s						
MJAR	**Matsushiro Arr**	**16.14**	**227**	P	**P**	**06 46 41.1**	**-1.3**
	comp=Z,0.5nm,0.3s,baz=27,slow=10,SNR=7.5						
MJAR	**Matsushiro Arr**	**16.14**	**227**	*e*P	**Pn**	**06 46 43.0**	**+0.4**
KSRS	**Korea Array**	**21.25**	**248**	P	**P**	**06 47 37.8**	**+0.1**
	comp=Z,5.2nm,0.6s,baz=50,slow=10.0,SNR=18						
KSRS	**Korea Array**	**21.25**	**248**	*e*P	**P**	**06 47 38.5**	**+0.8**
KS01	**Wonju Array Si**	**21.25**	**248**	*e*P	**P**	**06 47 38.2**	**+0.4**
HIA	**Hailar**	**21.64**	**284**	*e*P	**P**	**06 47 39.4**	**-2.4**
	comp=Z,5.2nm,0.7s						
HIA	**Hailar**	**21.64**	**284**	*e*P	**P**	**06 47 39.4**	**-2.4**
HIA				pmax	pmax		
	comp=Z,5.0nm,0.7s						
JNU	**Nakatsue**	**22.58**	**235**	P	**P**	**06 47 51.5**	**+0.5**
	comp=Z,12nm,1.0s,baz=31,slow=5.2,SNR=3.9						
JNU	**Nakatsue**	**22.58**	**235**	*e*P	**P**	**06 47 50.5**	**-0.6**
JNU	**Nakatsue**	**22.58**	**235**	*e*P	**P**	**06 47 50.5**	**-0.6**
	comp=Z,43nm,1.4s						
TIXI	**Tiksi**	**25.61**	**343**	*e*P	**P**	**06 48 17.1**	**-1.0**
TIXI	**Tiksi**	**25.61**	**343**	*e*P	**P**	**06 48 17.1**	**-1.0**
TIXI				pmax	pmax		
	comp=Z,5.0nm,1.8s						
HHC	**Hu-ho-hao-te**	**30.02**	**271**	*e*P	**P**	**06 48 57.4**	**-0.3**
HHC				pmax	pmax		
	comp=Z,13nm,0.8s						
HHC				pmax	pmax		
	comp=Z,100nm,4.1s						
ULN	**Ulaanbaatar**	**30.14**	**286**	*e*P	**P**	**06 48 58.6**	**-0.2**
ULN	**Ulaanbaatar**	**30.14**	**286**	*i* P	**P**	**06 48 58.6**	**-0.2**
ULN				pmax	pmax		
	comp=Z,1.0nm,0.7s						
SONM	**Songino Array**	**30.57**	**286**	P	**P**	**06 49 02.6**	**+0.1**
	comp=Z,1.2nm,0.8s,baz=81,slow=8.9,SNR=2.8						
H11N2	**WAKE ISLAND Hy**	**30.99**	**154**	T	T	07 21 30.3	
	baz=342,slow=76,SNR=10						
H11N1	**WAKE ISLAND Hy**	**31.00**	**154**	T	T	07 21 31.4	
	baz=342,slow=76,SNR=14						
H11N3	**WAKE ISLAND Hy**	**31.00**	**154**	T	T	07 21 28.1	
	baz=342,slow=76,SNR=8.0						
H11S1	**WAKE ISLAND Hy**	**32.09**	**155**	T	T	07 22 51.7	
	baz=344,slow=76,SNR=69						
H11S3	**WAKE ISLAND Hy**	**32.10**	**155**	T	T	07 22 52.7	
	baz=344,slow=76,SNR=73						
H11S2	**WAKE ISLAND Hy**	**32.10**	**155**	T	T	07 22 52.9	
	baz=344,slow=76,SNR=47						
IM3	**Indian Mountai**	**32.39**	**38**	*e*P	**P**	**06 49 18.3**	**+0.2**
CAST	**Castle Rocks**	**32.97**	**43**	*e*P	**P**	**06 49 23.7**	**+0.5**
	comp=Z,2.5nm,0.7s						
SUA	**Susitna One**	**33.65**	**46**	*e*P	**P**	**06 49 28.3**	**-0.9**
	comp=Z,7.8nm,1.3s						
TRF	**Thorofare Moun**	**33.77**	**43**	*e*P	**P**	**06 49 31.2**	**+0.9**
	comp=Z,9.3nm,1.4s						
COLD	**Coldfoot**	**33.91**	**36**	*e*P	**P**	**06 49 32.2**	**+1.0**
	comp=Z,2.2nm,1.1s						
TOLK	**Toolik Lake Re**	**34.27**	**33**	*e*P	**P**	**06 49 35.3**	**+0.9**
	comp=Z,1.8nm,0.6s						
PMR	**Palmer**	**34.41**	**46**	*e*P	**P**	**06 49 35.8**	**+0.2**
	comp=Z,3.8nm,1.4s						
PMR	**Palmer**	**34.41**	**46**	*e*P	**P**	**06 49 35.8**	**+0.2**
PMR				pmax	pmax		
	comp=Z,4.0nm,1.4s						
RND	**Reindeer**	**34.42**	**43**	*e*P	**P**	**06 49 36.2**	**+0.4**
	comp=Z,4.0nm,0.7s						
RND	**Reindeer**	**34.42**	**43**	*e*P	**P**	**06 49 36.2**	**+0.4**
RND				pmax	pmax		
	comp=Z,4.0nm,0.7s						
GHO	**Glory Hole Cre**	**34.49**	**46**	*e*P	**P**	**06 49 37.0**	**+0.6**
	comp=Z,4.6nm,1.1s						
MDM	**Murphy Dome**	**34.64**	**40**	*e*P	**P**	**06 49 39.3**	**+1.6**
	comp=Z,2.7nm,0.7s						
WRH	**Wood River Hil**	**34.72**	**41**	*e*P	**P**	**06 49 39.2**	**+1.0**
	comp=Z,6.3nm,1.2s						
SML	**Sawmill**	**34.77**	**45**	*e*P	**P**	**06 49 39.5**	**+0.7**
SML	**Sawmill**	**34.77**	**45**	*e*P	**P**	**06 49 39.3**	**+0.6**
	comp=Z,12nm,0.6s						
SML	**Sawmill**	**34.77**	**45**	*e*P	**P**	**06 49 39.3**	**+0.6**
SML				pmax	pmax		
	comp=Z,12nm,0.6s						
COLA	**College**	**34.81**	**40**	*e*P	**P**	**06 49 40.3**	**+1.4**
COLA	**College**	**34.81**	**40**	*e*P	**P**	**06 49 40.4**	**+1.4**
	comp=Z,9.3nm,0.8s						
COLA	**College**	**34.81**	**40**	*e*P	**P**	**06 49 40.4**	**+1.5**
COLA				pmax	pmax		
	comp=Z,9.0nm,0.8s						
CCB	**Clear Creek Bu**	**34.83**	**40**	*e*P	**P**	**06 49 40.0**	**+0.9**
	comp=Z,4.1nm,1.2s						
DHY	**Denali Highway**	**35.11**	**43**	*e*P	**P**	**06 49 42.1**	**+0.4**
	comp=Z,2.2nm,0.6s						
HDA	**Harding Lake**	**35.21**	**41**	*e*P	**P**	**06 49 40.4**	**-2.1**
	comp=Z,14nm,1.2s						
ILAR	**Eielson Array**	**35.22**	**40**	P	**P**	**06 49 43.0**	**+0.5**
	comp=Z,1.0nm,0.7s,baz=259,slow=5.9,SNR=21						
ILB	**Eielson Array**	**35.22**	**40**	*e*P	**P**	**06 49 43.2**	**+0.6**
KLU	**Klutina**	**35.95**	**46**	*e*P	**P**	**06 49 49.5**	**+0.6**
	comp=Z,8.0nm,1.4s						
MID	**Middleton Isla**	**36.07**	**49**	*e*P	**P**	**06 49 53.6**	**+3.9**
	comp=Z,37nm,1.3s						
MID	**Middleton Isla**	**36.07**	**49**	*e*P	**P**	**06 49 53.6**	**+3.9**
MID				pmax	pmax		
	comp=Z,37nm,1.3s						
HARP	**HAARP**	**36.19**	**44**	*e*P	**P**	**06 49 52.0**	**+1.1**
	comp=Z,6.0nm,1.1s						
SCRK	**Sand Creek**	**36.54**	**41**	*e*P	**P**	**06 49 53.9**	**+0.1**
	comp=Z,1.5nm,0.8s						
DOT	**Dot Lake**	**36.54**	**42**	*e*P	**P**	**06 49 53.5**	**-0.3**
	comp=Z,4.9nm,0.7s						
BMRM	**Bremner River**	**36.66**	**46**	*e*P	**P**	**06 49 55.6**	**+0.7**
	comp=Z,12nm,1.3s						
RAGM	**Ragged Mountai**	**36.72**	**47**	*e*P	**P**	**06 49 56.6**	**+1.2**
	comp=Z,3.0nm,0.6s						
LZH	**Lanzhou**	**37.67**	**269**	⇑P	**P**	**06 50 01.5**	**-2.3**
LZH				pP	pP	06 50 38.6	-2.3
LZH				sP	sP	06 50 58.3	-2.4
LZH				PP	**PnPn**	**06 51 36.0**	**-0.6**
LZH				pmax	pmax		
	comp=Z,16nm,1.2s						
LZH				pmax	pmax		
	comp=Z,43nm,5.0s						
GTA	**Gaotai**	**38.52**	**277**	*e*P	**P**	**06 50 13.0**	**+2.2**
GTA				pP	pP	06 50 52.6	+4.6
GTA				sP	sP	06 51 15.0	+7.2
GTA				pmax	pmax		
	comp=Z,2.0nm,1.1s						
HYT	**Haines Junctio**	**40.08**	**46**	*e*P	**P**	**06 50 24.2**	**+0.8**
	comp=Z,2.1nm,0.8s						
INK	**Inuvik**	**40.18**	**34**	*e*P	**P**	**06 50 25.3**	**+1.3**
INK				pmax	pmax		
	comp=Z,4.0nm,1.4s						
ZALV	**Zalesovo Beam**	**41.37**	**304**	P	**P**	**06 50 34.0**	**+0.1**
	comp=Z,1.8nm,0.5s,baz=47,slow=6.3,SNR=6.8						
WMQ	**Urumqi**	**44.09**	**289**	P	**P**	**06 50 55.9**	**-0.1**
KMI	**Kunming**	**45.42**	**257**	P	**P**	**06 51 07.8**	**+0.8**
KMI				pmax	pmax		
	comp=Z,1.1nm,0.8s						
MK31	**Makanchi Array**	**45.92**	**296**	*e*P	**P**	**06 51 10.6**	**+0.2**
MK31	**Makanchi Array**	**45.92**	**296**	*e*P	**P**	**06 51 10.6**	**+0.2**
MKAR	**Makanchi Array**	**45.92**	**296**	P	**P**	**06 51 10.6**	**+0.2**
	comp=Z,1.9nm,0.6s,baz=67,slow=8.2,SNR=24						
MKAR				PcP	**PcP**	**06 52 44.1**	**-0.2**
	comp=Z,0.6nm,0.6s,baz=70,slow=3.1,SNR=4.8						
MKAR	**Makanchi Array**	**45.92**	**296**	*e*P	**P**	**06 51 10.6**	**+0.2**
	comp=Z,19nm,0.8s						
MK01	**Makanchi Array**	**45.93**	**296**	*e*P	**P**	**06 51 10.4**	**-0.1**
MAKZ	**Makanchi**	**46.10**	**296**	*e*P	**P**	**06 51 12.6**	**+0.8**
	comp=Z,2.0nm,0.6s						
MAKZ	**Makanchi**	**46.10**	**296**	*e*P	**P**	**06 51 12.8**	**+1.0**
KURK	**Kurchatov**	**46.18**	**302**	*e*P	**P**	**06 51 12.3**	**+0.1**
KURK	**Kurchatov**	**46.18**	**302**	*e*P	**P**	**06 51 12.5**	**+0.2**
	comp=Z,4.9nm,0.8s						
KURK	**Kurchatov**	**46.18**	**302**	*e*P	**P**	**06 51 12.5**	**+0.2**
KURK				pmax	pmax		
	comp=Z,5.0nm,0.8s						
KURBB	**Kurchatov Arra**	**46.27**	**302**	P	**P**	**06 51 13.4**	**+0.4**
	comp=Z,4.1nm,0.8s,baz=65,slow=8.0,SNR=22						
KURBB				PcP	**PcP**	**06 52 43.9**	**-1.4**
	comp=Z,0.3nm,0.4s,baz=57,slow=3.4,SNR=2.8						
BVAR	**Borovoye Array**	**49.53**	**308**	P	**P**	**06 51 38.5**	**+0.6**
	comp=Z,4.4nm,0.5s,baz=54,slow=8.2,SNR=17						
YKA	**Yellowknife Ar**	**49.55**	**38**	P	**P**	**06 51 38.7**	**+0.8**
	comp=Z,1.2nm,0.6s,baz=299,slow=7.0,SNR=27						
BRVK	**Borovoye**	**49.56**	**308**	*e*P	**P**	**06 51 38.3**	**+0.1**
BRVK	**Borovoye**	**49.56**	**308**	*e*P	**P**	**06 51 38.8**	**+0.5**
	comp=Z,5.2nm,0.7s						
BRVK	**Borovoye**	**49.56**	**308**	*i* P	**P**	**06 51 38.3**	**+0.1**
BRVK				pmax	pmax		
	comp=Z,5.0nm,0.7s						
AAK	**Ala-Archa**	**52.84**	**295**	P	**P**	**06 52 02.1**	**-0.8**
	comp=Z,0.5nm,0.3s,baz=198,slow=11,SNR=3.6						
AAK	**Ala-Archa**	**52.84**	**295**	*e*P	**P**	**06 52 03.5**	**+0.5**
AAK	**Ala-Archa**	**52.84**	**295**	*i* P	**P**	**06 52 03.5**	**+0.5**
AAK				pmax	pmax		
	comp=Z,4.0nm,1.5s						
ARU	**Arti**	**53.50**	**316**	*e*P	**P**	**06 52 06.7**	**-0.6**
ARU	**Arti**	**53.50**	**316**	*d*P	**P**	**06 52 06.8**	**-0.6**
ARU				*PP	**pP**	**06 52 46.2**	**-0.6**
ARU						06 53 09.4	
ARU						06 54 05.9	
ARU				S	**S**	**06 59 27.2**	**+1.0**
ARU				SS	**SS**	**07 03 06.2**	**-1.9**
ARU				pmax	pmax		
	comp=Z,12nm,2.5s						
AB06	**Akbulak array**	**57.06**	**309**	*e*P	**P**	**06 52 33.1**	**+0.2**
AB05	**Akbulak array**	**57.07**	**309**	*e*P	**P**	**06 52 33.2**	**+0.2**
AB02	**Akbulak array**	**57.08**	**309**	*e*P	**P**	**06 52 33.2**	**+0.2**
AB01	**Akbulak array**	**57.08**	**309**	*e*P	**P**	**06 52 33.3**	**+0.3**
AB31	**Akbulak array**	**57.08**	**309**	*e*P	**P**	**06 52 33.5**	**+0.5**
AB31	**Akbulak array**	**57.08**	**309**	*e*P	**P**	**06 52 33.5**	**+0.5**
ABKAR	**Akbulak array**	**57.08**	**309**	*e*P	**P**	**06 52 33.5**	**+0.5**
AB07	**Akbulak array**	**57.08**	**309**	*e*P	**P**	**06 52 33.3**	**+0.3**
AB04	**Akbulak array**	**57.08**	**309**	*e*P	**P**	**06 52 33.2**	**+0.2**
AB03	**Akbulak array**	**57.08**	**309**	*e*P	**P**	**06 52 33.3**	**+0.3**
AB09	**Akbulak array**	**57.09**	**309**	*e*P	**P**	**06 52 33.3**	**+0.2**
AB08	**Akbulak array**	**57.10**	**309**	*e*P	**P**	**06 52 33.4**	**+0.2**
AKTO	**Aktyubinsk**	**57.34**	**311**	P	**P**	**06 52 34.2**	**-0.6**
	comp=Z,0.8nm,0.5s,baz=52,slow=5.4,SNR=3.2						
CBSNC	**Byron Hot Spri**	**60.15**	**66**	*e*P	**P**	**06 52 51.9**	**-2.5**
NVAR	**Mina Array Bea**	**61.75**	**63**	P	**P**	**06 53 05.1**	**-0

MSZ	Milford Sound	0.48	37	S	Sn	06 48 40.9	+3.3		
DCZ	Deep Cove	0.48	212	Pn	Pn	06 48 26.2	+0.8		
DCZ				Sn	Sn	06 48 38.4	+0.8		
DCZ	Deep Cove	0.48	212	P	Pn	06 48 26.3	+0.8		
DCZ	Deep Cove	0.48	212	S	Sn	06 48 38.5	+0.9		
MLZ	Mavora Lakes	0.53	126	Pn	Pn	06 48 27.6	+1.8		
MLZ				Sn	Sn	06 48 40.9	+2.6		
MLZ	Mavora Lakes	0.53	126	P	Pn	06 48 27.6	+1.8		
MLZ	Mavora Lakes	0.53	126	S	Sn	06 48 41.1	+2.8		
WHZ	Wether Hill Ro	0.89	160	Pn	Pn	06 48 30.2	+1.3		
WHZ	Wether Hill Ro	0.89	160	P	Pn	06 48 30.2	+1.3		
WHZ	Wether Hill Ro	0.89	160	S	Sn	06 48 45.5	+1.8		
WKZ	Wanaka	1.09	78	Pn	Pn	06 48 33.1	+2.2		
WKZ				Sn	Sn	06 48 50.0	+2.5		
WKZ	Wanaka	1.09	78	P	Pn	06 48 33.2	+2.2		
WKZ	Wanaka	1.09	78	S	Sn	06 48 50.0	+2.5		
PYZ	Puysegur Point	1.25	208	Pn	Pn	06 48 33.0	+0.2		
PYZ	Puysegur Point	1.25	208	P	Pn	06 48 33.0	+0.2		
PYZ	Puysegur Point	1.25	208	P	Pn	06 48 33.1	+0.2		
PYZ	Puysegur Point	1.25	208	S	Sn	06 48 50.8	+0.1		
EAZ	Earnscleugh	1.28	98	Pn	Pn	06 48 34.9	+1.9		
EAZ	Earnscleugh	1.28	98	P	Pn	06 48 35.0	+1.9		
EAZ	Earnscleugh	1.28	98	P	Pn	06 48 35.0	+1.9		
EAZ	Earnscleugh	1.28	98	S	Sn	06 48 52.7	+1.5		
JCZ	Jackson Bay	1.34	43	Pn	Pn	06 48 35.3	+1.4		
JCZ	Jackson Bay	1.34	43	P	Pn	06 48 35.3	+1.4		
JCZ	Jackson Bay	1.34	43	S	Sn	06 48 54.0	+1.4		
TUZ	Tuapeka	1.73	122	Pn	Pn	06 48 40.0	+1.4		
TUZ	Tuapeka	1.73	122	P	Pn	06 48 40.0	+1.4		
TUZ	Tuapeka	1.73	122	S	Sn	06 49 00.8	-0.1		
APZ	The Paps	1.81	170	Pn	Pn	06 48 39.9	+0.3		
APZ	The Paps	1.81	170	P	Pn	06 48 39.9	+0.3		
SYZ	Scrubby Hill	1.86	143	Pn	Pn	06 48 41.3	+1.2		
SYZ	Scrubby Hill	1.86	143	P	Pn	06 48 41.4	+1.2		
SYZ	Scrubby Hill	1.86	143	S	Sn	06 49 04.1	+0.2		
LBZ	Lake Benmore	2.02	71	Pn	Pn	06 48 42.7	+0.5		
LBZ	Lake Benmore	2.02	71	P	Pn	06 48 42.7	+0.5		
LBZ	Lake Benmore	2.02	71	S	Sn	06 49 07.4	0.0		
ODZ	Otahua Downs	2.21	91	Pn	Pn	06 48 45.5	+0.8		
ODZ	Otahua Downs	2.21	91	P	Pn	06 48 45.6	+0.8		
ODZ	Otahua Downs	2.21	91	S	Sn	06 49 11.7	-0.3		
FOZ	Fox Glacier	2.25	48	Pn	Pn	06 48 45.1	0.0		
FOZ	Fox Glacier	2.25	48	P	Pn	06 48 45.2	0.0		
FOZ	Fox Glacier	2.25	48	S	Sn	06 49 12.8	+0.2		
HHSZ	Highcliff Hill	2.32	112	P	Pn	06 48 47.3	+1.2		
RPZ	Rata Peaks	2.87	63	Pn	Pn	06 48 52.9	-0.4		
RPZ	Rata Peaks	2.87	63	P	Pn	06 48 53.1	-0.2		
WVZ	Waitaha Valley	3.05	51	P	Pn	06 48 55.1	-0.6		
INZ	Inchbonnie	3.67	52	P	Pn	06 49 03.2	-0.8		
OXZ	Oxford	3.68	64	P	Pn	06 49 04.2	+0.1		
EYCZ	Eyrewell	3.84	66	P	Pn	06 49 07.4	+1.1		
MQZ	McQueen's Vall	3.92	72	Pn	Pn	06 49 07.3	0.0		
MQZ	McQueen's Vall	3.92	72	P	Pn	06 49 06.7	-0.6		
CRLZ	Canterbury Las	3.95	70	P	Pn	06 49 09.2	+1.5		
AKCZ	Akaroa Harbour	4.04	75	P	Pn	06 49 09.4	+0.5		
LTZ	Lake Taylor	4.12	58	Pn	Pn	06 49 08.7	-1.3		
LTZ	Lake Taylor	4.12	58	P	Pn	06 49 08.8	-1.3		
OKCZ	Okains Bay	4.19	73	P	Pn	06 49 12.0	+1.0		
DSZ	Denniston Nort	4.55	45	Pn	Pn	06 49 14.8	-1.1		
DSZ	Denniston Nort	4.55	45	P	Pn	06 49 14.8	-1.1		
KHZ	Kahutara	5.10	61	Pn	Pn	06 49 23.5	+0.3		
KHZ	Kahutara	5.10	61	P	Pn	06 49 23.4	+0.3		
THZ	Tophouse	5.12	52	Pn	Pn	06 49 22.0	-1.6		
THZ	Tophouse	5.12	52	P	Pn	06 49 22.0	-1.6		
QRZ	Quartz Range	5.60	43	Pn	Pn	06 49 29.4	-0.7		
QRZ	Quartz Range	5.60	43	P	Pn	06 49 29.4	-0.7		
BSWZ	Blackbirch Sta	5.71	56	P	Pn	06 49 32.0	+0.5		
NNZ	Nelson	5.75	50	Pn	Pn	06 49 32.0	0.0		
NNZ	Nelson	5.75	50	P	Pn	06 49 32.1	0.0		
TUWZ	Tuamarina	5.93	55	P	Pn	06 49 35.0	+0.5		
TCW	Tory Channel	6.26	54	P	Pn	06 49 39.1	+0.1		
BHW	Baring Head	6.49	58	P	Pn	06 49 39.4	-2.7		
MSWZ	Moikau Station	6.72	60	P	Pn	06 49 44.0	-1.2		
CAW	Cannon Point	6.79	57	P	Pn	06 49 44.4	-1.7		
PAWZ	Paruwai Farm	6.84	60	P	Pn	06 49 45.6	-1.3		
KIW	Kapiti Island	6.85	55	Pn	Pn	06 49 45.8	-1.2		
KIW	Kapiti Island	6.85	55	P	Pn	06 49 45.8	-1.2		
TRWZ	Traveller	7.00	61	P	Pn	06 49 46.9	-2.1		
MTW	Mount Morrison	7.02	59	Pn	Pn	06 49 47.8	-1.5		
MTW	Mount Morrison	7.02	59	P	Pn	06 49 47.8	-1.5		
OGWZ	Otaki Gorge	7.03	56	P	Pn	06 49 46.5	-2.9		
HOWZ	Holdsworth Sta	7.19	57	P	Pn	06 49 50.2	-1.4		
MRZ	Mangatainoka R	7.37	56	P	Pn	06 49 52.3	-1.8		
PREZ	Palmer Road	7.54	43	P	Pn	06 49 56.5	0.0		
PKEZ	Pukeiti	7.54	42	P	Pn	06 49 57.4	+0.5		
PRWZ	Pori Road	7.67	57	P	Pn	06 49 56.7	-1.4		
BFZ	Birch Farm	7.76	59	P	Pn	06 49 57.4	-1.9		
FWVZ	Far West T-bar	8.32	49	P	Pn	06 50 04.0	-3.1		
NGZ	Ngauruhoe	8.40	48	P	Pn	06 50 07.9	-0.3		
BHHZ	Black Hill Sta	8.43	52	P	Pn	06 50 06.3	-2.2		
WTVZ	West Tongariro	8.44	48	P	Pn	06 50 07.1	-1.6		
HIZ	Hauiti	8.53	42	P	Pn	06 50 08.3	-1.4		
HIZ	Hauiti	8.53	42	P	Pn	06 50 08.4	-1.4		
KAHZ	Kahuranaki	8.69	56	P	Pn	06 50 10.4	-1.6		
BKZ	Black Stump Fm	8.89	52	P	Pn	06 50 14.2	-0.6		
TLZ	Tolley Road	9.01	45	P	Pn	06 50 15.0	-1.3		
TOZ	Tahuroa Road	9.46	42	P	Pn	06 50 22.0	-0.4		
MKAZ	Moumakai	9.81	39	P	Pn	06 50 26.6	-0.6		
RAGZ	Rawiri	9.88	52	P	Pn	06 50 27.1	-1.1		
URZ	Urewera	9.88	50	P	Pn	06 50 25.7	-2.3		
MWZ	Matawai	10.05	52	P	Pn	06 50 27.6	-2.9		
RUGZ	Raukumara Rang	10.40	51	P	Pn	06 50 32.8	-2.5		
WCZ	Waipu Caves	10.48	32	P	Pn	06 50 37.4	+1.1		
ASAR	Alice Springs	34.64	297	P	pP	06 55 18.8	+6.7		
	0.5nm,0.5s,baz=96,slow=7.5,SNR=12								
WRA	Warramunga Arr	37.13	301	P	P	06 55 21.7	+12		
	0.5nm,0.3s,baz=101,slow=8.2,SNR=24								
TORD	Torodi Ar. Bea	145.98	205	PKP	PKPdf	07 07 33.4	-2.5		
	1.5nm,0.7s,baz=157,slow=1.9,SNR=9.9								

IDC 09 06:53:40.8±10.0, 7°90N×95°81E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.3/71, mbtmp3.4/3, MS3.2/2, Ms1 3.2/2, ms1mx2.4/48, Error ellipse: s-maj=417.8km s-min=45.8km az=65.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PALK	Pallekele	14.99	269	LR	LR	07 01 53.0	
	comp=Z,41nm,19.7s,baz=295,slow=33						
WRA	Warramunga Arr	46.94	127	P	P	07 02 14.2	+0.4
	0.3nm,1.0s,baz=306,slow=8.3,SNR=5.2						
ASAR	Alice Springs	48.68	131	P	P	07 02 26.5	-0.6
	0.3nm,0.7s,baz=311,slow=8.5,SNR=3.6						
PMG	Port Moresby	53.96	108	LR	LR	07 29 22.4	
	comp=Z,44nm,18.2s,baz=22,slow=40						
ILAR	Eielson Array	94.09	22	P	P	07 07 01.0	0.0
	0.3nm,0.6s,baz=292,slow=4.3,SNR=4.5						

IDC 09 06:54:27.1±0.5, 51°23N×179°78W, h0km, mb4.4/37, mb1 4.5/39, mb1mx4.4/80, mbtmp4.4/39, ML4.3/1, MS3.4/27, Ms1 3.4/27, ms1mx3.2/69, Error ellipse: s-maj=16.5km s-min=9.9km az=170.0

MOS 09 06:54:32.9±0.9, 51°34N×179°76W, h49km, mb4.7/85, Error ellipse: s-maj=7.1km s-min=5.5km az=85.0

NEIC 09 06:54:33.7±0.0, 51°12N×179°68W, h48km, mb4.5/201, ML4.3(AEIC), After AEIC.

ISCJB 09 06:54:35.1±0.5, 51°32N±0°04×179°68W±0°02, h72km±3km, mb4.5/253, Error ellipse: s-maj=6.4km s-min=2.5km az=3.8

BJI 09 06:54:35.3, 51°30N×179°70W, h90km, mb4.7/29, mB4.9/20, Ms4.6/8, Ms7 4.3/6

ISC 09 06:54:37.0±0.7, 51°32N±0°08×179°74W±0°03, h75km±5km, n864, σ0.996/871, mb4.5/253, 13C-8D, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GALAA	Gareloi Lava P	0.75	53	P	Pn	06 54 50.0	-2.7
TAPA	Tanaga Point A	1.30	67	P	Pn	06 54 56.5	-3.1
KIKV	Kanaga Island	1.70	70	P	Pn	06 55 02.0	-2.7
KINC	Kanaga Island	1.74	68	P	Pn	06 55 03.4	-1.8
KIRH	Kanaga Island	1.75	70	P	Pn	06 55 03.1	-2.2
KIRH				S	Sn	06 55 27.2	+0.3
ADAG	Mount Adagdak	2.06	70	P	Pn	06 55 07.8	-1.8
ETKA	Kagalaska Isla	2.15	74	P	Pn	06 55 08.0	-2.7
ETKA				S	Sn	06 55 34.3	-2.2
GSTD	Great Sitkin T	2.36	70	P	Pn	06 55 12.1	-1.5
GSTD				S	Sn	06 55 41.5	0.0
KOWE	Korovin West	3.56	71	P	Pn	06 55 28.7	-1.1
KOKL	Mount Kliuchef	3.58	72	P	Pn	06 55 28.7	-1.4
KOFP	Korovin Flat P	3.63	73	P	Pn	06 55 29.3	-1.5
SMY	Shemya	4.06	293	*e*Pn	Pn	06 55 35.6	-0.9
SMY				*e*Sn	Sn	06 56 20.8	-2.0
SMY	Shemya	4.06	293	*e*P	Pn	06 55 35.7	-0.9
SMY				*e*		06 56 20.8	
OKTU	Okmok Mt. Tuli	7.46	69	P	Pn	06 56 21.8	-1.2
MSOM	Makushin Julie	8.19	67	P	Pn	06 56 32.1	-0.7
MSOM	Makushin Julie	8.19	67	P	Pn	06 56 32.1	-0.7
UNV	Unalaska Valle	8.45	67	*e*Pn	Pn	06 56 35.9	-0.6
FALS	False Pass	10.44	64	*e*Pn	Pn	06 57 02.8	-0.7
SDPT	Sand Point	12.19	63	*e*Pn	Pn	06 57 25.5	-1.9
GAMB	Gambell	13.20	16	*e*Pn	Pn	06 57 43.7	+2.7
PET	Petropavlovsk	13.36	286	*e*P	Pn	06 57 45.4	+2.2
CHGN	Chignik	13.53	60	*e*Pn	Pn	06 57 46.5	+1.2
PEA1	Petropavlovsk-	13.94	286	*e*Pn	Pn	06 57 47.3	-3.5
PETK	Petropavlovsk-	13.94	286	Pn	Pn	06 57 47.3	-3.5
	baz=87,slow=17,SNR=2.3						
PETK				LR	LR	07 02 59.6	
	comp=Z,171nm,21.5s,baz=97,slow=37						
OHAK	Old Harbor	16.48	59	*e*Pn	Pn	06 58 19.7	-3.4
	21nm,0.7s						
SVW2	Sparrevohn	16.52	44	*e*Pn	P	06 58 25.6	+0.4
	21nm,0.9s						
KDAK	Kodiak Island	16.95	57	P	Pn	06 58 25.6	-3.3
	1.1nm,0.3s,baz=290,slow=3.7,SNR=66						
KDAK	Kodiak Island	16.95	57	*e*Pn	Pn	06 58 25.8	-3.2
	19nm,0.8s						
KDAK	Kodiak Island	16.95	57	*ce*P	Pn	06 58 25.8	-3.2
HOM	Homer	17.86	51	*e*P	Pn	06 58 39.7	-0.3
	127nm,1.1s						
BILL	Bilibino	18.11	343	*e*P	Pn	06 58 45.1	+2.0
BILL				pmax	pmax		
	comp=Z,1.0nm,0.3s						
SPU	Mount Spurr	18.13	46	*e*P	Pn	06 58 45.6	+2.1
SPU				*e*Sn	Sn	07 02 00.8	-4.3
BRLK	Bradley Lake	18.25	51	*e*P	P	06 58 43.9	-0.3
	comp=Z,10nm,0.8s						
SKT	Skwentna	18.66	44	*e*P	Pn	06 58 50.2	+0.5
	comp=Z,30nm,0.8s						
PPLA	Purkeypile	18.75	41	*e*P	Pn	06 58 51.1	+0.2
	comp=Z,19nm,0.7s						
SUA	Susitna One	18.82	46	*e*P	P	06 58 50.5	0.0
	comp=Z,15nm,0.9s						
SEY	Seychan	18.90	319	*e*P	P	06 58 51.0	-0.1
CAST	Castle Rocks	19.02	40	*e*P	Pn	06 58 54.4	+0.3
	comp=Z,43nm,0.7s						
RC01	Rabbit Creek A	19.17	48	*e*P	Pn	06 58 54.7	-1.1
	comp=Z,4.4nm,0.6s						
KTH	Kantishna Hill	19.55	40	*e*P	Pn	06 58 59.5	-0.8
	comp=Z,71nm,0.8s						
PMR	Palmer	19.60	47	*e*P	Pn	06 59 01.1	+0.3
	comp=Z,9.3nm,0.6s						
PMR	Palmer	19.60	47	*e*P	Pn	06 59 01.1	+0.3
PMR				pmax	pmax		
	comp=Z,9.0nm,0.6s						
IM3	Indian Mountai	19.74	32	*e*P	Pn	06 59 01.4	-1.0
GHO	Glory Hole Cre	19.75	46	*e*P	P	06 58 59.6	-0.9
	comp=Z,15nm,0.8s						
BPAW	Bear Paw Mtn.	19.76	39	*e*P	Pn	06 59 01.8	-1.0
	comp=Z,20nm,0.8s						
TRF	Thorofare Moun	19.76	41	*e*P	Pn	06 59 01.7	-1.3
	comp=Z,13nm,0.8s						
SML	Sawmill	20.03	46	*e*P	P	06 59 02.9	-0.6
	comp=Z,13nm,0.6s						
SML	Sawmill	20.03	46	*e*P	P	06 59 02.9	-0.6
SML				pmax	pmax		
	comp=Z,13nm,0.6s						
MLY	Manley	20.29	36	*e*P	Pn	06 59 07.6	-1.3
	comp=Z,11nm,0.9s						
RND	Reindeer	20.34	42	*e*P	P	06 59 06.9	0.0
	comp=Z,9.2nm,0.8s						
RND	Reindeer	20.34	42	*e*P	P	06 59 06.9	0.0
RND				pmax	pmax		
	comp=Z,9.0nm,0.8s						
MCK	McKinley	20.43	41	*e*P	P	06 59 07.4	-0.4
	comp=Z,6.9nm,0.8s						
MCK	McKinley	20.43	41	*e*P	P	06 59 07.4	-0.4
MCK				pmax	pmax		
	comp=Z,7.0nm,0.8s						
SCM	Sheep Creek Mo	20.49	47	*e*P	P	06 59 07.4	-1.1
	comp=Z,28nm,1.0s						
SCM	Sheep Creek Mo	20.49	47	*e*P	P	06 59 07.4	-1.1
SCM				pmax	pmax		
	comp=Z,28nm,1.0s						
DHY	Denali Highway	20.85	43	*e*P	P	06 59 11.6	-0.9
	comp=Z,64nm,0.7s						
EYAK	Cordova Ski Ar	20.93	51	*e*P	Pn	06 59 14.9	-1.5
	comp=Z,8.8nm,1.0s						
DIV	Divide	21.04	49	*e*P	P	06 59 15.2	+0.8
	comp=Z,18nm,0.8s						
KLU	Klutina	21.05	48	*e*P	P	06 59 15.4	+0.8
	comp=Z,11nm,0.7s						
WRH	Wood River Hil	21.07	39	*e*P	P	06 59 13.2	-1.4
	comp=Z,7.7nm,0.8s						
MDM	Murphy Dome	21.21	38	*e*P	P	06 59 15.9	-0.3
	comp=Z,14nm,0.7s						
CCB	Clear Creek Bu	21.25	39	*e*P	P	06 59 15.3	-1.2
	comp=Z,5.2nm,0.6s						
COLA	College	21.32	38	*e*P	P	06 59 16.5	-0.8
COLA				pmax	pmax		
	comp=Z,7.0nm,0.7s						
RAGM	Ragged Mountai	21.43	51	*e*P	P	06 59 20.1	+1.5
	comp=Z,11nm,0.6s						
HDA	Harding Lake	21.50	40	*e*P	P	06 59 19.0	-0.2
	comp=Z,43nm,1.3s						
BMRM	Bremner River	21.57	50	*e*P	P	06 59 17.2	-2.8
	comp=Z,17nm,0.7s						
COLD	Coldfoot	21.61	31	*e*P	P	06 59 21.6	+1.1
	comp=Z,7.0nm,0.9s						
HARP	HAARP	21.63	46	*e*P	P	06 59 20.6	-0.1
	comp=Z,18nm,0.6s						
PAX	Paxson	21.64	44	*e*P	P	06 59 20.4	-0.5
	comp=Z,14nm,0.7s						
PAX	Paxson	21.64	44	*e*P	P	06 59 20.4	-0.5
PAX				pmax	pmax		
	comp=Z,14nm,0.7s						
ILAR	Eielson Array	21.66	39	P	P	06 59 19.0	-2.0
	comp=Z,2.2nm,0.7s,baz=239,slow=9.2,SNR=21						
ILAR				PcP	PcP	07 03 19.1	-0.1
	comp=Z,0.4nm,0.7s,baz=276,slow=3.5,SNR=4.3						
ILB	Eielson Array	21.66	39	*e*P	P	06 59 19.2	-1.7
IL1	Eielson Array	21.66	39	*e*P	P	06 59 19.9	-1.0
RIDG	Independ'e Rid	22.14	42	*e*P	P	06 59 25.1	-1.1
	comp=Z,10.0nm,0.6s						
MENT	Mentasta	22.40	45	*e*P	P	06 59 29.7	+0.6
	comp=Z,9.2nm,0.6s						
DOT	Dot Lake	22.45	43	*e*P	P	06 59 28.4	-1.0
	comp=Z,55nm,0.7s						
SCRK	Sand Creek	22.57	42	*e*P	P	06 59 29.3	-1.6
	comp=Z,6.5nm,0.8s						
TOLK	Toolik Lake Re	22.60	29	P	P	06 59 31.8	+0.7
	baz=235,SNR=9.9						
TOLK	Toolik Lake Re	22.60	29	*e*P	P	06 59 31.4	+0.4
	comp=Z,7.1nm,0.6s						
BALM	Baldy	22.66	50	*e*P	P	06 59 31.5	-0.3
	comp=Z,5.0nm,0.7s						
BALM	Baldy	22.66	50	*e*P	P	06 59 31.5	-0.3
BALM				pmax	pmax		
	comp=Z,5.0nm,0.7s						
FYU	Fort Yukon	23.01	35	*e*P	P	06 59 35.5	+0.3
	comp=Z,26nm,1.2s						
EGAK	Eagle	23.98	41	*e*P	P	06 59 43.7	-0.4
	comp=Z,26nm,0.8s						
NKL	Nikolayevsk	24.10	290	*e*P	P	06 59 45.0	-0.2
NKL				pmax	pmax		
	comp=Z,65nm,1.0s						
DAWY	Dawson	24.55	43	*e*P	P	06 59 48.7	-0.6
	comp=Z,7.2nm,0.8s						
YSS	Yuzh-Sakhalins	24.74	275	*e*P	P	06 59 51.9	+0.8
YSS				*e*		07 00 08.6	
YSS				pmax	pmax		
	comp=Z,20nm,0.7s						
HYT	Haines Junctio	24.99	51	*e*P	P	06 59 52.3	-1.2
	comp=Z,5.2nm,0.7s						
ASAJ	Asahikawa	26.11	269	P	P	07 00 02.4	-1.2
	comp=Z,4.9nm,0.6s,baz=37,slow=8.0,SNR=4.4						
ASAJ	Asahikawa	26.11	269	*e*P	P	07 00 02.8	-0.8
	comp=Z,9.4nm,0.9s						
WHY	Whitehorse	26.27	52	*e*P	P	07 00 05.9	+0.8
	comp=Z,1.4nm,0.8s						
INK	Inuvik	27.85	35	P	P	07 00 18.8	-0.1
	comp=Z,3.7nm,0.8s,baz=254,slow=9.2,SNR=15						
INK				PcP	PcP	07 03 33.2	+0.5
	comp=Z,1.4nm,0.8s,baz=191,slow=3.7,SNR=4.3						
INK	Inuvik	27.85	35	*e*P	P	07 00 18.4	-0.5
	comp=Z,4.4nm,0.9s						
INK				*e*PcP	PcP	07 03 33.2	+0.5
INK	Inuvik	27.85	35	*e*P	P	07 00 18.4	-0.5
INK				*e*		07 03 33.2	
INK				pmax	pmax		
	comp=Z,4.0nm,0.9s						
KLR	Kul'dur	30.63	285	*c i*P	P	07 00 43.5	-0.3
USRK	Ussuriysk Ar.	32.72	277	P	P	07 01 01.4	-0.7
	comp=Z,2.5nm,0.7s,baz=64,slow=8.8,SNR=4.2						
MJAR	Matsushiro Arr	33.19	260	LR	LR	07 12 39.0	
	comp=Z,60nm,21.7s,baz=75,slow=33						
H11N2	WAKE ISLAND Hy	33.23	203	T	T	07 36 34.1	
	baz=16						
H11N3	WAKE ISLAND Hy	33.24	203	T	T	07 36 29.0	
	baz=16,slow=74						
H11N1	WAKE ISLAND Hy	33.25	203	T	T	07 36 32.4	
	baz=16,slow=74						
H11S1	WAKE ISLAND Hy	34.46	203	T	T	07 38 02.9	
	baz=16						
H11S2	WAKE ISLAND Hy	34.47	203	T	T	07 38 02.3	
	baz=16,slow=74						
H11S3	WAKE ISLAND Hy	34.47	203	T	T	07 38 06.8	
	baz=16,slow=74						
LLLB	Lillooet	35.63	68	*e*P	P	07 01 28.7	+1.4
	comp=Z,2.5nm,0.7s						
YKB5	Yellowknife Ar	35.70	46	*e*P	P	07 01 27.6	-0.1
YKA	Yellowknife Ar	35.70	46	P	P	07 01 27.5	-0.1
	comp=Z,5.7nm,0.6s,baz=281,slow=8.0,SNR=130						
YKA				PcP	PcP	07 03 55.4	+1.2
	comp=Z,0.8nm,0.8s,baz=288,slow=3.0,SNR=10						
YKA				ScP	ScP	07 07 39.5	+6.3
	comp=Z,0.4nm,0.9s,baz=291,slow=3.5,SNR=4.4						
B05A	Bryant	36.52	72	P	P	07 01 35.8	+0.9
	baz=297,SNR=7.4						
CN2	Changchun	36.98	280	*e*P	P	07 01 34.1	-4.7
CN2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
F04D	Rainier, OR	37.00	75	P	P	07 01 40.4	+1.5
	baz=299						
D05A	Enumclaw	37.08	73	*e*P	P	07 01 41.8	+2.1
	comp=Z,13nm,0.8s						
G03D	McMinnville, O	37.28	77	P	P	07 01 41.7	+0.4
	baz=300						
C06D	Leavenworth	37.39	71	P	P	07 01 43.2	+0.9
	baz=298						
LON	Longmire	37.40	74	*e*P	P	07 01 43.9	+1.4
	comp=Z,5.3nm,0.8s						
LON	Longmire	37.40	74	*e*P	P	07 01 43.9	+1.4
LON				pmax	pmax		
	comp=Z,5.0nm,0.8s						
STD	Studebaker Rid	37.40	75	*e*P	P	07 01 42.6	+0.1
BOD	Bodaibo	37.54	306	*e*P	P	07 01 41.4	-2.0
BOD				pmax	pmax		
	comp=Z,10.0nm,0.8s						
HIA	Hailar	37.76	291	*i* P	P	07 01 44.9	-0.5
HIA				pmax	pmax		
	comp=Z,5.0nm,0.5s						
LTY	Liberty	37.84	72	*e*P	P	07 01 46.9	+0.7
	comp=Z,3.4nm,0.8s						
I03D	Drain, OR	38.01	79	P	P	07 01 48.7	+1.2
	baz=302						
B08A	Colville Reser	38.11	70	*e*P	P	07 01 49.4	+1.0
	comp=Z,7.7nm,0.8s						
H04A	Detroit Lake	38.20	77	*e*P	P	07 01 50.8	+1.5
	comp=Z,14nm,0.8s						
G05D	Wamic, OR	38.45	75	P	P	07 01 52.7	+1.5
	baz=300						
I04A	Tendick Farm,	38.53	78	P	P	07 01 52.8	+0.8
	baz=302						
L02D	Cave Junction,	38.68	81	P	P	07 01 54.5	+1.3
	baz=303						
I05D	Terrebonne, OR	38.90	77	P	P	07 01 55.9	+0.8
	baz=301						
HAWA	Hanford	38.94	73	*e*P	P	07 01 56.7	+1.4
	comp=Z,10nm,0.9s						
D08A	Wollman Farm,	38.98	72	*e*P	P	07 01 56.2	+0.6
	comp=Z,7.8nm,0.8s						
C09A	Chrisman Ranch	39.00	70	*e*P	P	07 01 56.8	+1.0
	comp=Z,8.7nm,0.8s						
KSRS	Korea Array	39.05	270	P	P	07 01 56.6	+0.3
	comp=Z,2.6nm,0.7s,baz=59,slow=8.4,SNR=10						
KSRS				LR	LR	07 18 48.3	
	comp=Z,19nm,20.1s,baz=82,slow=37						

comp=Z,5.8nm,0.8s
BMN Battle Mountai 43.61 79 *e*P P **07 02 35.2 +1.4**
comp=Z,4.1nm,0.7s
BMN Battle Mountai 43.61 79 *e*P P **07 02 35.3 +1.4**
BMN pmax pmax
comp=Z,4.0nm,0.7s
DLMT Dillon 43.61 70 *e*P P **07 02 34.7 +0.9**
comp=Z,4.4nm,1.1s
MCMT McKenzie Canyo 43.76 71 *e*P P **07 02 35.4 +0.4**
KVN Kaiserville 43.89 81 *e*P P **07 02 37.6 +1.4**
comp=Z,4.7nm,1.4s
KVN Kaiserville 43.89 81 *e*P P **07 02 37.6 +1.4**
KVN pmax pmax
comp=Z,5.0nm,1.4s
BOZ Bozeman (W) 44.05 70 P P **07 02 37.5 +0.2**
baz=303,SNR=55
BOZ Bozeman (W) 44.05 70 *e*P P **07 02 37.7 +0.4**
comp=Z,21nm,0.8s
BOZ Bozeman (W) 44.05 70 *e*P P **07 02 37.7 +0.4**
BOZ pmax pmax
comp=Z,21nm,0.8s
NV01 Mina Array Sit 44.14 82 *e*P P **07 02 38.5 +0.3**
NVAR Mina Array Bea 44.14 82 P P **07 02 39.2 +1.0**
comp=Z,1.7nm,0.7s,baz=297,slow=6.8,SNR=14
NVAR LR LR 07 19 39.6
comp=Z,52nm,18.0s,baz=116,slow=34
MDPB Devils Postpil 44.15 84 *e*P P **07 02 38.9 +0.6**
comp=Z,4.4nm,0.8s
OMMB Old Mammoth Mi 44.21 83 *e*P P **07 02 40.1 +1.3**
comp=Z,2.3nm,0.9s
QLMT Earthquake Lak 44.60 70 *e*P P **07 02 42.9 +1.2**
PAGB Antelope Grade 44.61 86 *e*P P **07 02 40.1 -1.6**
comp=Z,5.2nm,0.8s
YHB Horse Butte 44.78 70 *e*P P **07 02 43.6 +0.4**
comp=Z,20nm,0.8s
YHH Holmes Hill 44.96 70 *e*P P **07 02 45.2 +0.5**
comp=Z,20nm,0.9s
YMR Madison River 44.96 70 *e*P P **07 02 45.5 +0.9**
comp=Z,16nm,0.9s
TIN Tinemaha, Big 45.04 84 P P **07 02 46.3 +1.1**
baz=309
GCMT Greycliff 45.10 68 *e*P P **07 02 46.1 +0.6**
YFT Old Faithful 45.16 70 *e*P P **07 02 48.2 +1.9**
comp=Z,12nm,0.8s
VES Vestal, Richgr 45.27 85 P P **07 02 47.3 +0.5**
baz=310
YPP Pitchstone Pla 45.28 71 *e*P P **07 02 48.8 +1.5**
comp=Z,4.3nm,1.0s
H17A Grant Village 45.34 70 P P **07 02 49.6 +1.9**
baz=304,SNR=15
H17A Grant Village 45.34 70 *e*P P **07 02 49.8 +2.0**
comp=Z,21nm,1.1s
IMW Indian Meadow 45.41 71 *e*P P **07 02 49.4 +1.1**
comp=Z,7.4nm,1.1s
PKM Mcpherson Peak 45.43 87 P P **07 02 49.3 +0.9**
baz=310
FXWY Fox Creek 45.51 72 *e*P P **07 02 50.5 +1.5**
comp=Z,3.2nm,1.4s
CWC Cottonwood Cre 45.52 84 P P **07 02 49.5 +0.4**
baz=309
HVU Hansel Valley 45.54 75 *e*P P **07 02 50.2 +1.1**
comp=Z,5.3nm,0.8s
HVU Hansel Valley 45.54 75 *e*P P **07 02 50.2 +1.1**
HVU pmax pmax
comp=Z,5.0nm,0.8s
TLY Talaya 45.60 302 *e*P P **07 02 50.3 +1.0**
comp=Z,5.8nm,0.7s
TLY Talaya 45.60 302 *e*P P **07 02 50.5 +1.2**
TLY pmax pmax
comp=Z,4.0nm,0.6s
TLY MLR MLR
comp=Z,82nm,17.0s
MOOW Moose Ponds 45.61 71 *e*P P **07 02 50.7 +0.9**
comp=Z,5.5nm,1.4s
TPAW Teton Pass 45.64 72 *e*P P **07 02 51.3 +1.2**
comp=Z,2.5nm,0.8s
RLMT Red Lodge 45.70 69 P P **07 02 51.2 +0.7**
baz=304,SNR=38
RLMT Red Lodge 45.70 69 *e*P P **07 02 51.3 +0.8**
comp=Z,25nm,0.8s
ULN Ulaanbaatar 45.76 296 *e*P P **07 02 51.5 +0.7**
comp=Z,5.0nm,0.8s
ULN Ulaanbaatar 45.76 296 *de*P P **07 02 51.6 +0.8**
ULN pmax pmax
comp=Z,7.0nm,1.2s
ISA Isabella, Lake 45.77 85 P P **07 02 50.4 -0.5**
baz=310
REDW Red Top Meadow 45.77 72 *e*P P **07 02 52.2 +1.2**
comp=Z,3.2nm,0.9s
SNOW Snow King Moun 45.77 72 *e*P P **07 02 53.0 +1.9**
comp=Z,3.3nm,0.8s
LOHW Long Hollow 45.77 71 *e*P P **07 02 52.1 +1.1**
comp=Z,2.6nm,1.1s
R11A Troy Canyon, C 45.88 80 P P **07 02 52.1 +0.2**
baz=308,SNR=7.8
R11A Troy Canyon, C 45.88 80 *e*P P **07 02 52.5 +0.6**
comp=Z,4.3nm,0.8s
BGU Big Grassy Mou 45.89 76 *e*P P **07 02 53.0 +1.1**
comp=Z,3.6nm,1.0s
SPUT South Promonto 46.01 75 *e*P P **07 02 52.6 -0.3**
comp=Z,4.7nm,1.1s
MPMC Manual Prospec 46.13 84 P P **07 02 53.9 0.0**
baz=309
SONA1 Songino Array 46.13 296 *e*P P **07 02 54.4 +0.6**
SONA0 Songino Array 46.14 296 *e*P P **07 02 54.3 +0.5**
SONA0 *e*PcP PcP **07 04 27.8 -0.7**
SONM Songino Array 46.14 296 P P **07 02 54.3 +0.5**
comp=Z,2.7nm,0.7s,baz=57,slow=8.9,SNR=7.2
SONM PcP PcP **07 04 27.8 -0.7**
comp=Z,1.1nm,0.5s,baz=48,slow=2.1,SNR=3.2
FURC Furnace Creek, 46.26 83 P P **07 02 55.5 +0.9**
baz=309
TPNV Topopah Spring 46.34 82 P P **07 02 55.7 +0.2**
baz=309,SNR=7.9
TPNV Topopah Spring 46.34 82 *e*P P **07 02 55.9 +0.4**
comp=Z,5.6nm,0.9s
TPNV Topopah Spring 46.34 82 *e*P P **07 02 55.9 +0.4**
TPNV pmax pmax
comp=Z,6.0nm,0.9s
HWUT Hardware Ranch 46.37 74 *e*P P **07 02 56.5 +0.8**
comp=Z,5.4nm,1.3s
FCC Fort Churchill 46.43 46 *e*P P **07 02 55.4 -0.3**
comp=Z,4.7nm,0.8s
FCC Fort Churchill 46.43 46 *e*P P **07 02 55.4 -0.3**
FCC pmax pmax
comp=Z,5.0nm,0.8s
DUG Dugway, Tooele 46.46 76 P P **07 02 56.6 +0.3**
baz=307,SNR=17
DUG Dugway, Tooele 46.46 76 *e*P P **07 02 56.3 -0.1**
comp=Z,11nm,1.0s
DUG Dugway, Tooele 46.46 76 *e*P P **07 02 56.3 -0.1**
DUG pmax pmax
comp=Z,11nm,1.0s
ZAK Zakamensk 46.48 301 *e*P P **07 02 56.4 +0.1**
ZAK pmax pmax
comp=Z,4.0nm,1.2s
LAO LASA Array 46.58 65 P P **07 02 57.3 +0.1**
baz=304,SNR=9.3
LAO LASA Array 46.58 65 *e*P P **07 02 58.1 +0.9**
comp=Z,12nm,0.6s
TCUT Toone Canyon 46.76 75 *e*P P **07 02 59.7 +0.9**
comp=Z,7.2nm,0.8s
CTU Camp Tracy 46.80 75 *e*P P **07 03 00.1 +1.0**
comp=Z,4.6nm,1.0s
BW06 Boulder Array 46.89 72 P P **07 03 00.0 +0.2**
baz=306,SNR=7.3
PD31 Pinedale Array 46.89 72 *e*P P **07 03 00.3 +0.5**
PDAR Pinedale Array 46.89 72 P P **07 03 00.2 +0.5**
comp=Z,6.6nm,0.6s,baz=298,slow=3.5,SNR=68
PDAR LR LR 07 22 51.1
comp=Z,24nm,18.1s,baz=295,slow=36
PDAR Pinedale Array 46.89 72 *e*P P **07 02 59.9 +0.1**
SHOC Shoshone, Teco 46.99 83 P P **07 03 00.6 +0.2**
baz=310
JLU Jordanelle 47.04 75 *e*P P **07 03 00.8 -0.3**
comp=Z,4.9nm,1.0s
GSC Goldstone, Bar 47.04 84 P P **07 03 01.0 +0.1**
baz=310
NLU North Lily Min 47.05 76 *e*P P **07 03 01.9 +0.8**
comp=Z,4.3nm,0.9s
HHC Hu-ho-hao-te 47.14 285 *e*P P **07 03 02.2 +0.6**
HHC pmax pmax
comp=Z,15nm,1.0s
HHC pmax pmax
comp=Z,53nm,6.8s
HHC LR LR
comp=Z,410nm,15.8s
HHC LR LR
comp=Z,460nm,15.8s
HHC LR LR
comp=Z,500nm,15.6s
MPU Maple Canyon 47.28 76 *e*P P **07 03 03.7 +0.8**
comp=Z,2.3nm,0.7s
SHPR Sheep Range 47.30 82 *e*P P **07 03 03.9 +1.0**
comp=Z,1.4nm,0.8s
TCRU Three Creeks R 47.65 78 *e*P P **07 03 07.1 +1.3**
comp=Z,4.3nm,0.8s
CCUT Cedar City 47.75 80 *e*P P **07 03 07.5 +0.9**
comp=Z,2.9nm,0.7s
MSU Marysvale 47.88 78 *e*P P **07 03 08.9 +1.4**
MSU Marysvale 47.88 78 *e*P P **07 03 08.9 +1.4**
MURC Murrieta 47.91 86 P P **07 03 07.7 +0.1**
baz=311
TMUT Trail Mountain 47.98 76 *e*P P **07 03 09.8 +1.3**
comp=Z,8.5nm,0.7s
P17A Butcher Ranch, 48.16 76 *e*P P **07 03 10.4 +0.8**
comp=Z,3.3nm,0.8s
LCMT Little Creek M 48.16 80 *e*P P **07 03 10.7 +1.1**
comp=Z,3.8nm,0.9s
MTPU Mount Pierson 48.17 78 *e*P P **07 03 11.2 +1.3**
comp=Z,3.7nm,0.9s
NJ2 Nanjing 48.22 271 *e*P P **07 03 11.4 +1.5**
NJ2 pmax pmax
comp=Z,16nm,1.0s
Q16A Castle Valley 48.24 77 *e*P P **07 03 11.0 +0.7**
comp=Z,4.2nm,0.7s
SNDA J Saunders Pla 48.30 86 *e*P P **07 03 11.0 +0.3**
FRD Ford Ranch, An 48.35 86 *e*P P **07 03 10.7 -0.3**
PFO Pinyon Flats O 48.36 86 P P **07 03 11.4 +0.2**
baz=311
P18A Preston Nutter 48.37 75 *e*P P **07 03 11.9 +0.6**
comp=Z,4.8nm,0.8s
BELC Belle Mtn. Jos 48.39 85 P P **07 03 11.4 0.0**
baz=311
KNB Kanab 48.42 80 *e*P P **07 03 12.2 +0.5**
comp=Z,3.6nm,0.7s
KNB Kanab 48.42 80 *e*P P **07 03 12.2 +0.5**
KNB pmax pmax
comp=Z,4.0nm,0.7s
109C Camp Elliot, M 48.44 87 P P **07 03 11.9 +0.3**
baz=312
SRU San Rafael Swe 48.52 76 *e*P P **07 03 13.9 +1.5**
comp=Z,19nm,1.4s
SRU San Rafael Swe 48.52 76 *e*P P **07 03 13.9 +1.5**
SRU pmax pmax
comp=Z,19nm,1.4s
K22A Casper 48.76 70 P P **07 03 13.9 -0.2**
baz=307,SNR=8.1
K22A Casper 48.76 70 *e*P P **07 03 14.4 +0.2**
comp=Z,12nm,0.9s
IRM Iron Mountain 48.82 84 P P **07 03 14.8 +0.1**
baz=311
MONP2 Monument Peak 48.86 87 P P **07 03 15.1 0.0**
baz=312
RWWY Rawlins 48.93 71 *e*P P **07 03 15.8 +0.2**
comp=Z,4.8nm,0.9s
BC3 Big Chuckawall 48.96 85 P P **07 03 15.7 -0.1**
baz=311
W13A Hualapai Mount 48.99 83 *e*P P **07 03 16.1 0.0**
comp=Z,2.0nm,0.8s
U15A North Rim 49.12 80 *e*P P **07 03 17.7 +0.5**
comp=Z,6.6nm,0.9s
SWSC Sam W. Stewart 49.22 86 P P **07 03 17.7 +0.2**
baz=312
IKP In-Ko-Pah, Jac 49.22 87 P P **07 03 17.5 -0.2**
baz=312
O20A White River Ci 49.27 74 P P **07 03 18.4 +0.3**
baz=308,SNR=8.6
O20A White River Ci 49.27 74 *e*P P **07 03 18.6 +0.5**
comp=Z,7.9nm,0.8s
RSSD Black Hills 49.33 67 P P **07 03 18.2 -0.4**
baz=306
RSSD Black Hills 49.33 67 *e*P P **07 03 18.5 0.0**
comp=Z,4.3nm,0.8s
RSSD Black Hills 49.33 67 *e*P P **07 03 18.5 0.0**
RSSD pmax pmax
comp=Z,4.0nm,0.8s
PDMCI Parker Dam,Lak 49.35 84 P P **07 03 18.6 0.0**
baz=311
MDND Maddock 49.62 61 P P **07 03 20.0 -0.5**
baz=306
PV09 Paradox Valley 49.75 76 *e*P P **07 03 22.2 +0.3**
GLA Glamis 49.75 85 P P **07 03 21.8 +0.1**
baz=312
PV10 Paradox Valley 49.88 76 *e*P P **07 03 23.8 +0.9**
PV04 Paradox Valley 49.95 76 *e*P P **07 03 23.8 +0.4**
PV05 Paradox Valley 50.03 76 *e*P P **07 03 24.9 +0.9**
comp=Z,19nm,1.5s
N23A Red Feather La 50.17 71 P P **07 03 25.4 +0.3**
baz=308
N23A Red Feather La 50.17 71 *e*P P **07 03 26.5 +1.4**
comp=Z,13nm,1.4s
ULM Lac du Bonnet 50.21 56 P P **07 03 23.6 -1.2**
comp=Z,2.1nm,0.7s,baz=3.7,slow=5.7,SNR=3.4
ULM LR LR 07 24 53.2
comp=Z,50nm,20.9s,baz=310,slow=36
PV15 Paradox Valley 50.24 76 *e*P P **07 03 26.0 +0.4**
comp=Z,6.6nm,0.9s
WUAZ Wupatki 50.28 80 P P **07 03 26.4 +0.6**
baz=310
WUAZ Wupatki 50.28 80 *e*P P **07 03 25.9 +0.1**
comp=Z,4.5nm,0.8s
A31A Linda, St. Vin 50.29 58 P P **07 03 24.8 -0.7**
baz=306
Y14A Wickenburg 50.30 83 *e*P P **07 03 26.2 +0.3**
comp=Z,2.3nm,0.9s
PV01 Paradox Valley 50.32 76 *e*P P **07 03 26.4 +0.2**
comp=Z,6.0nm,0.8s
B31A Greenbush Farm 50.34 59 P P **07 03 25.5 -0.4**
baz=306
SPITS Spitsbergen Ar 50.39 356 P P **07 03 25.8 -0.1**
comp=Z,4.9nm,0.6s,baz=12,slow=7.4,SNR=16
SPITS LR LR 07 24 38.9
comp=Z,33nm,21.6s,baz=40,slow=36
A32A Rocking H Ranc 50.67 58 P P **07 03 27.9 -0.5**
baz=306
C31A Landman Farms, 50.67 60 P P **07 03 27.7 -0.7**
baz=306
MVCO Mesa Verde 50.95 77 P P **07 03 31.2 +0.2**
baz=310
MVCO Mesa Verde 50.95 77 *e*P P **07 03 31.6 +0.7**
comp=Z,9.9nm,1.4s
X16A Lo Mia Camp, P 50.96 81 *e*P P **07 03 32.0 +1.0**
comp=Z,2.1nm,0.7s
ISCO Idaho Springs 51.05 72 P P **07 03 32.0 +0.2**
baz=309
ISCO Idaho Springs 51.05 72 *e*P P **07 03 32.8 +1.0**
comp=Z,2.9nm,0.9s
ISCO Idaho Springs 51.05 72 *e*P P **07 03 32.8 +1.0**
ISCO pmax pmax
comp=Z,3.0nm,0.9s
A33A Warroad 51.24 57 P P **07 03 31.9 -0.7**
baz=307
E31A Nome 51.33 61 P P **07 03 32.5 -0.8**
baz=307
AGMN Agassiz Nation 51.37 58 P P **07 03 32.9 -0.8**
baz=307
AGMN Agassiz Nation 51.37 58 *e*P P **07 03 33.0 -0.6**
comp=Z,4.7nm,1.0s
F31A Hecla 51.55 62 P P **07 03 34.6 -0.4**
baz=307
DAG Danmarks Havn 51.62 5 *i*P P **07 03 34.9 -0.1**
comp=Z,1.3nm,0.7s
DAG Danmarks Havn 51.62 5 *i*P P **07 03 34.9 -0.1**
DAG pmax pmax
comp=Z,1.0nm,0.7s
S22A 4UR Ranch, Cre 51.63 75 P P **07 03 36.6 +0.5**
baz=310,SNR=6.0
S22A 4UR Ranch, Cre 51.63 75 *e*P P **07 03 37.2 +1.2**
comp=Z,3.8nm,1.0s
214A Organ Pipe Nat 51.75 85 P P **07 03 36.7 -0.1**
baz=313
X18A Snowflake 51.81 80 *e*P P **07 03 38.2 +0.9**
comp=Z,3.4nm,0.8s
B34A Aery, Baudette 51.90 57 P P **07 03 36.6 -1.0**
baz=307
G31A Conde 51.96 63 P P **07 03 37.5 -0.6**
baz=308
SUSD Miller 52.03 64 P P **07 03 38.8 +0.2**
baz=308
D33A AnnSam, Waubun 52.09 59 P P **07 03 38.0 -0.9**
baz=308
H31A Wolsey 52.27 63 P P **07 03 39.7 -0.7**
baz=308
G32A Webster 52.34 62 P P **07 03 40.6 -0.4**
baz=308
SDCO Great Sand Dun 52.43 74 P P **07 03 42.7 +0.6**
baz=310,SNR=5.2
SDCO Great Sand Dun 52.43 74 *e*P P **07 03 42.6 +0.6**
comp=Z,2.1nm,0.9s
B35A Bob, Littlefor 52.47 57 P P **07 03 40.9 -0.9**
baz=308
D34A Park Rapids 52.47 59 P P **07 03 40.9 -0.9**
baz=308
F33A 5 Mile Ranch, 52.64 61 P P **07 03 42.3 -0.8**
baz=308
C35A Jirik Farms, M 52.74 58 P P **07 03 43.0 -0.9**
baz=308
TUC Tucson 52.77 83 P P **07 03 44.3 0.0**
baz=312
TUC Tucson 52.77 83 *e*P P **07 03 44.9 +0.6**
comp=Z,4.7nm,1.1s
TUC Tucson 52.77 83 *e*P P **07 03 44.9 +0.6**
TUC pmax pmax
comp=Z,5.0nm,1.1s
H32A Carlson Farm, 52.84 63 P P **07 03 43.7 -0.9**
baz=309
D35A Remer 53.08 58 P P **07 03 45.6 -0.8**
baz=308
H33A Prehn Over Nor 53.12 62 P P **07 03 45.5 -1.1**
baz=309,SNR=7.4
E35A Pequot Lakes 53.22 59 P P **07 03 46.7 -0.7**
baz=308
K31A O'Neill 53.28 65 P P **07 03 47.9 0.0**
baz=309
C36A Pine Crest Far 53.31 57 P P **07 03 47.4 -0.6**
baz=308,SNR=5.8
MHTCO State Highway 53.32 74 *e*P P **07 03 50.0 +1.5**
comp=Z,6.8nm,1.0s
J32A Parkston 53.32 64 P P **07 03 47.6 -0.5**
baz=309
G34A Benson 53.38 61 P P **07 03 47.6 -0.9**
baz=309
T25A Trinidad 53.48 74 P P **07 03 50.2 +0.5**
baz=311,SNR=5.5
T25A Trinidad 53.48 74 *e*P P **07 03 50.4 +0.7**
comp=Z,7.8nm,1.0s
SUMG Summit 53.49 14 *i*P P **07 03 50.0 +0.5**
comp=Z,4.5nm,0.8s
SUMG Summit 53.49 14 *e*P P **07 03 50.2 +0.7**
comp=Z,5.6nm,0.9s
SUMG Summit 53.49 14 *i*P P **07 03 50.0 +0.5**
SUMG pmax pmax
comp=Z,5.0nm,0.8s
D36A Goodland 53.50 58 P P **07 03 48.7 -0.7**
baz=309
F35A Swanville 53.57 60 P P **07 03 49.2 -0.8**
baz=309
LAZ Ladron 53.63 79 *e*P P **07 03 52.1 +1.3**
ZAA1 Zalesovo Array 53.64 313 *e*P P **07 03 49.8 -0.5**
ZAA1 *e*PcP PcP **07 04 57.1 +1.4**
ZALV Zalesovo Beam 53.64 313 P P **07 03 49.8 -0.5**
comp=Z,1.1nm,0.3s,baz=46,slow=4.2,SNR=5.0
ZALV PcP PcP **07 04 57.1 +1.4**
comp=Z,1.1nm,0.3s,baz=16,slow=2.9,SNR=4.6
ZALV LR LR 07 27 10.5
comp=Z,37nm,21.1s,baz=70,slow=37
ZALV Zalesovo Beam 53.64 313 P P **07 03 49.8 -0.5**
ZALV 07 04 57.1
ZALV pmax pmax
comp=Z,1.0nm,0.3s
ZALV pmax pmax
comp=Z,1.0nm,0.4s
ZALV MLR MLR
comp=Z,37nm,21.1s
H34A Spellman Lake, 53.66 62 P P **07 03 50.1 -0.5**
baz=309
C37A Embarrass 53.67 57 P P **07 03 49.9 -0.7**
baz=309
ANMO Albuquerque 53.68 78 P P **07 03 51.1 0.0**
baz=312
ANMO Albuquerque 53.68 78 *e*P P **07 03 51.9 +0.8**
comp=Z,1.9nm,1.0s
ANMO Albuquerque 53.68 78 *de*P P **07 03 51.8 +0.7**
ANMO pmax pmax
comp=Z,2.0nm,1.1s
ECSD EROS Data Cent 53.79 63 P P **07 03 50.7 -0.8**
baz=309
ECSD EROS Data Cent 53.79 63 *e*P P **07 03 50.8 -0.8**
comp=Z,2.6nm,0.9s
E36A McGregor 53.86 59 P P **07 03 51.4 -0.6**
baz=309
EYMN Ely 53.89 56 P P **07 03 51.6 -0.7**
baz=309
EYMN Ely 53.89 56 *e*P P **07 03 51.9 -0.4**
comp=Z,8.0nm,1.0s
D37A Cotton 53.90 58 P P **07 03 51.6 -0.7**
baz=309
LPM Los Pinos Moun 54.00 78 *e*P P **07 03 53.9 +0.5**
BNM Barren Site 54.11 78 *e*P P **07 03 55.5 +1.2**
F36A Milaca 54.13 59 P P **07 03 53.6 -0.4**
baz=309
C38A Sawbill Land. 54.16 56 P P **07 03 53.2 -1.0**
baz=309
H35A Sunnyside Ranc 54.16 61 P P **07 03 53.5 -0.8**
baz=309
319A Douglas 54.34 83 *e*P P **07 03 55.9 -0.1**
comp=Z,3.4nm,0.8s
BGNE Belgrade 54.41 66 P P **07 03 55.7 -0.4**
baz=310
BGNE Belgrade 54.41 66 *e*P P **07 03 56.5 +0.4**
comp=Z,21nm,0.8s
G36A St. Michael 54.41 60 P P **07 03 55.5 -0.5**
baz=310
J34A George 54.44 63 P P **07 03 55.8 -0.5**
baz=310
C39A Grand Marais 54.69 56 P P **07 03 57.2 -0.8**
baz=310
F37A Hinrichs Farm, 54.71 59 P P **07 03 57.5 -0.7**
baz=310
E38A The Farm, Brul 54.72 58 P P **07 03 57.5 -0.7**
baz=310
H36A Jessenland, He 54.74 61 P P **07 03 58.4 0.0**
baz=310
K34A Le Mars 54.75 64 P P **07 03 58.0 -0.6**
baz=310,SNR=5.4
LZH Lanzhou 54.83 286 *e*P P **07 03 58.0 -1.4**
LZH pP sP 07 04 20.6 -6.1
LZH sP pP 07 04 31.0 +13
LZH PP PP **07 06 03.2 +0.6**
LZH pmax pmax
comp=Z,20nm,1.3s
LZH pmax pmax
comp=Z,67nm,7.9s
LZH LR LR
comp=Z,190nm,14.9s
LZH LR LR
comp=Z,200nm,15.4s
LZH LR LR
comp=Z,250nm,18.3s
SPMN Marine on St. 54.93 60 P P **07 03 59.2 -0.6**
baz=310
F38A Pierce - Schro 54.96 58 P P **07 03 59.7 -0.3**
baz=310,SNR=13
GTA Gaotai 55.04 291 *e*P P **07 04 01.5 +0.7**
GTA pP pP 07 04 21.2 +1.5
GTA sP sP 07 04 29.1 +1.0
GTA S S **07 11 34.5 -3.0**
GTA pmax pmax
comp=Z,7.0nm,1.3s
GTA pmax pmax
comp=Z,72nm,4.9s
GTA LR LR
comp=Z,170nm,19.0s
GTA LR LR
comp=Z,170nm,19.0s
I36A Fitzsimmons Fa 55.05 61 P P **07 04 00.3 -0.4**
baz=310
L34A Svendsen Farm, 55.06 65 P P **07 04 00.3 -0.5**
baz=310
C40A Isle Royale Na 55.13 55 P P **07 04 01.2 0.0**
baz=310
CBKS Cedar Bluff 55.17 70 P P **07 04 01.6 -0.1**
baz=311
CBKS Cedar Bluff 55.17 70 *e*P P **07 04 02.2 +0.5**
comp=Z,18nm,0.8s
CBKS Cedar Bluff 55.17 70 *e*P P **07 04 02.2 +0.5**
CBKS pmax pmax
comp=Z,18nm,0.8s
K35A Storm Lake 55.21 63 P P **07 04 01.2 -0.7**
baz=310
H37A Dierke Farm, C 55.28 60 P P **07 04 02.4 0.0**

baz=310
J36A **Seneca 1, Swea** 55.31 62 P P 07 04 02.3 -0.3
baz=310
I37A **Lemond, Waseca** 55.39 61 P P 07 04 02.7 -0.4
baz=310
E39A **Mellen** 55.39 57 P P 07 04 02.3 -0.8
baz=310
L35A **Bielow Farm, R** 55.43 64 P P 07 04 02.9 -0.5
baz=311
G38A **Ridgeland** 55.48 59 P P 07 04 03.0 -0.8
baz=310
F39A **Loretta** 55.50 58 P P 07 04 03.4 -0.4
baz=310,SNR=5.0
H38A **Maiden Rock** 55.57 60 P P 07 04 04.1 -0.3
baz=310
O33A **Hebron** 55.60 67 P P 07 04 04.3 -0.4
baz=311,SNR=5.2
E40A **Wakefield** 55.69 57 P P 07 04 04.9 -0.3
baz=310,SNR=5.4
K36A **Gilmore City** 55.70 63 P P 07 04 05.0 -0.4
baz=311
N34A **Lincoln** 55.72 66 P P 07 04 04.8 -0.7
baz=311
J37A **Redenius Farm,** 55.76 62 P P 07 04 05.4 -0.5
baz=311
G39A **Holcombe** 55.77 59 P P 07 04 05.3 -0.6
baz=310
F40A **Park Falls** 55.92 57 P P 07 04 06.2 -0.7
baz=311
SFJD **Kangerlussuaq** 55.92 22 LR LR 07 31 31.7
comp=Z,17nm,18.6s,baz=326,slow=40
L36A **Harm Buss Farm** 55.93 64 P P 07 04 06.9 -0.2
baz=311
I38A **Scanlan Farm,** 55.96 60 P P 07 04 06.6 -0.6
baz=311
O34A **Beatrice** 56.04 66 P P 07 04 07.3 -0.6
baz=311,SNR=6.4
K37A **Belmond** 56.07 62 P P 07 04 07.8 -0.3
baz=311
H39A **Augusta** 56.11 59 P P 07 04 07.7 -0.5
baz=311
E41A **Kenton** 56.17 56 P P 07 04 08.2 -0.5
baz=311
N35A **Tabor** 56.20 65 P P 07 04 09.0 0.0
baz=311,SNR=15
M36A **Felix, Anita** 56.28 64 P P 07 04 09.6 0.0
baz=311
G40A **Rib Lake** 56.30 58 P P 07 04 09.5 -0.2
baz=311
J38A **Wedel Dairy, R** 56.35 61 P P 07 04 10.0 -0.1
baz=311
L37A **Phoenix Point,** 56.43 63 P P 07 04 10.2 -0.4
baz=311
O35A **Humboldt** 56.44 66 P P 07 04 10.0 -0.6
baz=311
I39A **Houston** 56.52 60 P P 07 04 10.8 -0.4
baz=311
MNTX **Cornudas Mount** 56.54 80 P P 07 04 11.7 +0.2
baz=314
MNTX **Cornudas Mount** 56.54 80 *e*P P 07 04 12.2 +0.7
comp=Z,3.0nm,0.9s
F41A **Three Lakes** 56.57 57 P P 07 04 11.2 -0.4
baz=311,SNR=5.5
MSTX **Muleshoe** 56.59 76 P P 07 04 12.0 0.0
baz=313
N36A **Muff Farm, Cla** 56.61 65 P P 07 04 11.9 -0.1
baz=311
H40A **Chili** 56.62 59 P P 07 04 11.7 -0.3
baz=311
E42A **Champion** 56.74 56 P P 07 04 12.3 -0.5
baz=311
J39A **Decorah** 56.76 61 P P 07 04 12.0 -0.9
baz=311,SNR=5.4
KSU1 **Kansas State U** 56.81 67 P P 07 04 12.9 -0.4
baz=312,SNR=5.7
KSU1 **Kansas State U** 56.81 67 *e*P P 07 04 13.2 -0.1
comp=Z,18nm,0.8s
L38A **Oak Wood Farm,** 56.86 62 P P 07 04 13.3 -0.4
baz=311
G41A **Antigo** 56.88 58 P P 07 04 13.4 -0.3
baz=311
I40A **Norwalk** 56.99 60 P P 07 04 14.2 -0.3
baz=311
H41A **Junction City** 57.02 58 P P 07 04 14.2 -0.6
baz=311
F42A **Maple Grove Fa** 57.07 56 P P 07 04 14.6 -0.5
baz=312
N37A **Lee Faris, Mou** 57.08 64 P P 07 04 15.1 -0.1
baz=312,SNR=6.2
K39A **Oelwein** 57.08 61 P P 07 04 14.8 -0.4
baz=312
M38A **Pleasantville** 57.21 63 P P 07 04 15.7 -0.4
baz=312
J40A **Soldiers Grove** 57.25 60 P P 07 04 15.7 -0.7
baz=312
E43A **Lone Tree Farm** 57.25 55 P P 07 04 16.0 -0.3
baz=312
G42A **Mountain** 57.26 57 P P 07 04 16.0 -0.4
baz=312
G42A **Mountain** 57.26 57 *e*P P 07 04 16.5 +0.1
comp=Z,8.9nm,1.0s
I41A **Arkdale** 57.28 59 P P 07 04 16.2 -0.3
baz=312
L39A **Vinton** 57.41 62 P P 07 04 17.2 -0.3
baz=312
K40A **Colesburg** 57.49 61 P P 07 04 17.8 -0.3
baz=312
WI02 **Reinke Road, C** 57.51 58 *e*P P 07 04 17.8 -0.4
comp=Z,4.6nm,0.8s
O37A **Wolven Farm, M** 57.51 65 P P 07 04 18.1 -0.1
baz=312
N38A **Joes South For** 57.60 64 P P 07 04 18.6 -0.4
baz=312
E44A **Grand Marais A** 57.64 55 P P 07 04 18.3 -0.7
baz=312
G43A **Wallace** 57.64 57 P P 07 04 18.7 -0.3
baz=312
G43A **Wallace** 57.64 57 *e*P P 07 04 20.6 +1.6
comp=Z,7.3nm,0.9s
J41A **Loganville** 57.66 60 P P 07 04 18.7 -0.6
baz=312
M39A **Webster** 57.74 63 P P 07 04 19.5 -0.4
baz=312
P37A **Lathrop** 57.78 66 P P 07 04 19.7 -0.4
baz=312
F44A **Big Bay de Noc** 57.81 55 P P 07 04 20.0 -0.2
baz=312
JFWS **Jewell Farm** 57.84 60 P P 07 04 20.2 -0.3
baz=312
JFWS **Jewell Farm** 57.84 60 *e*P P 07 04 20.1 -0.4
comp=Z,9.4nm,0.8s
JFWS **Jewell Farm** 57.84 60 *e*P P 07 04 20.1 -0.4
JFWS pmax pmax
comp=Z,9.0nm,0.8s
L40A **Anamosa** 57.88 62 P P 07 04 20.3 -0.5
baz=312
I42A **Draeger Farm,** 57.90 59 P P 07 04 20.6 -0.3
baz=312
O38A **Galt** 57.92 65 P P 07 04 20.6 -0.6
baz=312
N39A **Derby Farms, D** 57.96 63 P P 07 04 21.1 -0.3
baz=312
K41A **Shullsburg** 58.01 61 P P 07 04 21.1 -0.6
baz=312,SNR=5.9
ARA0 **ARCESS Array S** 58.05 350 *e*P P 07 04 21.6 0.0
ARCES **ARCESS Array B** 58.05 350 P P 07 04 21.6 0.0
comp=Z,4.0nm,0.8s,baz=9.8,slow=7.9,SNR=5.3
H43A **Windswept, Lux** 58.12 57 P P 07 04 21.9 -0.5
baz=312
M40A **Post Highland** 58.16 62 P P 07 04 22.5 -0.2
baz=312
J42A **Columbus** 58.18 59 P P 07 04 22.4 -0.5
baz=312
Q37A **Longview Farm,** 58.20 66 P P 07 04 22.4 -0.7
baz=312
P38A **Dawn** 58.22 65 P P 07 04 22.8 -0.5
baz=312,SNR=8.9
L41A **Preston** 58.27 61 P P 07 04 22.8 -0.7
baz=312,SNR=6.0
I43A **Langenfeld Bro** 58.32 58 P P 07 04 23.4 -0.4
baz=312
O39A **Kirksville** 58.36 64 P P 07 04 23.9 -0.3
baz=312
CD2 **Chengdu** 58.41 281 *e*P P 07 04 24.5 -0.2
CD2 pmax pmax
comp=Z,10.0nm,0.5s
K42A **Prairie Point,** 58.42 60 P P 07 04 24.0 -0.5
baz=312
WMOK **Wichita Mounta** 58.48 73 P P 07 04 25.0 -0.1
baz=313
WMOK **Wichita Mounta** 58.48 73 *e*P P 07 04 25.7 +0.6
comp=Z,2.4nm,0.8s
WMOK **Wichita Mounta** 58.48 73 *e*P P 07 04 25.7 +0.6
WMOK pmax pmax
comp=Z,2.0nm,0.8s
F45A **CMU Biological** 58.48 55 P P 07 04 24.6 -0.3
baz=313
J43A **Natural Harves** 58.51 59 P P 07 04 24.6 -0.6
baz=312
Q38A **Cooks Store, C** 58.62 66 P P 07 04 25.5 -0.6
baz=313
KURK **Kurchatov** 58.63 313 *e*P P 07 04 27.0 +1.1
comp=Z,9.2nm,0.7s
KURK **Kurchatov** 58.63 313 *ce*P P 07 04 27.2 +1.3
KURK pmax pmax
comp=Z,15nm,0.6s
M41A **Milan** 58.72 62 P P 07 04 26.0 -0.7
baz=313
KURBB **Kurchatov Arra** 58.74 313 P P 07 04 27.6 +0.9
comp=Z,8.6nm,0.6s,baz=43,slow=6.6,SNR=91
P39B **Salisbury** 58.76 65 P P 07 04 26.5 -0.5
baz=313,SNR=14
L42A **Oliver, Polo** 58.77 61 P P 07 04 26.0 -1.0
baz=313
O40A **La Belle** 58.82 64 P P 07 04 26.8 -0.6
baz=313,SNR=8.9
WMQ **Urumqi** 58.88 302 P P 07 04 28.3 +0.5
WMQ LR LR
comp=Z,120nm,22.7s
WMQ LR LR
comp=Z,250nm,32.9s
WMQ LR LR
comp=Z,160nm,22.7s
Q39A **Willow Grove F** 58.93 65 P P 07 04 27.4 -0.8
baz=313,SNR=5.4
R38A **Fenwick Farm,** 58.98 66 P P 07 04 27.1 -1.4
baz=313,SNR=7.4
K43A **Burlington** 59.02 59 P P 07 04 27.1 -1.6
baz=313
P40A **Paris** 59.13 64 P P 07 04 29.2 -0.3
baz=313,SNR=14
L43A **Garden Prairie** 59.15 60 P P 07 04 29.0 -0.6
baz=313
TX31 **Lajitas Ar. Si** 59.24 80 *e*P P 07 04 30.4 -0.2
LTX **Lajitas** 59.25 80 *e*P P 07 04 30.6 0.0
LTX **Lajitas** 59.25 80 *e*P P 07 04 30.6 0.0
TXAR **Lajitas Array** 59.25 80 P P 07 04 30.6 0.0
comp=Z,1.1nm,0.7s,baz=296,slow=4.4,SNR=16
S38A **Stockton** 59.36 67 P P 07 04 30.2 -1.0
baz=313,SNR=9.3
N42A **Yates City** 59.37 62 P P 07 04 30.5 -0.7
baz=313
O41A **Passleys Farm,** 59.38 63 P P 07 04 30.9 -0.4
baz=313,SNR=6.7
R39A **Chumbay, Stover** 59.40 66 P P 07 04 31.1 -0.3
baz=313
ABTX **Abilene, Hawle** 59.41 75 P P 07 04 31.5 -0.1
baz=314
ABTX **Abilene, Hawle** 59.41 75 *e*P P 07 04 32.5 +0.9
comp=Z,9.8nm,1.3s
TUL1 **Leonard** 59.45 70 P P 07 04 31.2 -0.6
baz=313
TUL1 **Leonard** 59.45 70 *e*P P 07 04 32.4 +0.7
comp=Z,7.6nm,0.8s
Q40A **Laux Farm, Aux** 59.48 65 P P 07 04 31.3 -0.6
baz=313,SNR=8.0
M43A **Waltham Townsh** 59.55 61 P P 07 04 31.6 -0.7
baz=313
T38A **Diamond** 59.55 68 P P 07 04 31.8 -0.7
baz=313
P41A **Barry, Barry** 59.59 63 P P 07 04 32.1 -0.5
baz=313
L44A **Lake County Fo** 59.60 59 P P 07 04 32.3 -0.5
baz=313
MK31 **Makanchi Array** 59.61 308 *e*P P 07 04 32.3 -0.4
MK31 **Makanchi Array** 59.61 308 *i*P P 07 04 32.0 -0.7
MK31 pmax pmax
comp=Z,7.0nm,0.7s
MK32 **Makanchi Array** 59.61 308 *e*P P 07 04 32.6 -0.1
MKAR **Makanchi Array** 59.61 308 P P 07 04 32.6 -0.1
comp=Z,8.7nm,0.7s,baz=52,slow=7.1,SNR=97
MKAR LR LR 07 31 47.9
comp=Z,37nm,19.9s,baz=43,slow=38
MKAR **Makanchi Array** 59.61 308 *e*P P 07 04 32.5 -0.3
comp=Z,48nm,0.6s
MKAR **Makanchi Array** 59.61 308 *e*P P 07 04 32.5 -0.3
MKAR pmax pmax
comp=Z,48nm,0.6s
MK01 **Makanchi Array** 59.62 308 *e*P P 07 04 32.6 -0.2
S39A **Bolivar** 59.66 67 P P 07 04 32.3 -1.0
baz=313
MAKZ **Makanchi** 59.75 308 *e*P P 07 04 33.7 -0.1
comp=Z,9.9nm,0.8s
MAKZ **Makanchi** 59.75 308 P P 07 04 33.0 -0.7
MAKZ pmax pmax
comp=Z,10.0nm,0.8s
R40A **Maddies Statio** 59.85 65 P P 07 04 33.5 -1.0
baz=313
HDIL **Hopedale** 59.97 62 *e*P P 07 04 35.4 +0.1
comp=Z,12nm,0.6s
Q41A **Truxton** 59.98 64 P P 07 04 35.0 -0.4
baz=314,SNR=5.1
P42A **Winchester** 60.05 63 P P 07 04 35.4 -0.4
baz=314
M44A **Midewin, Midew** 60.08 60 P P 07 04 35.2 -0.8
baz=314
T39A **Clever** 60.09 67 P P 07 04 35.1 -1.1
baz=314,SNR=8.5
S40A **Lebanon** 60.20 66 P P 07 04 35.7 -1.2
baz=314
HHAR **Hobbs** 60.27 68 *e*P P 07 04 37.1 -0.3
comp=Z,3.7nm,0.8s
R41A **Rosebud** 60.35 65 P P 07 04 37.3 -0.7
baz=314,SNR=7.7
Q42A **Golden Eagle** 60.41 64 P P 07 04 38.3 0.0
baz=314,SNR=10
SCHQ **Schefferville** 60.41 38 P P 07 04 37.7 -0.4
comp=Z,6.6nm,0.9s,baz=315,slow=8.1,SNR=5.2
SCHQ **Schefferville** 60.41 38 *e*P P 07 04 38.3 +0.2
comp=Z,12nm,1.0s
N44A **Piper City** 60.44 61 P P 07 04 38.2 -0.2
baz=314
P43A **Skaggs, Pawnee** 60.47 63 P P 07 04 38.2 -0.5
baz=314
U39A **Green Forest** 60.47 68 P P 07 04 38.1 -0.7
baz=314
T40A **Mansfield** 60.49 66 P P 07 04 37.8 -1.1
baz=314
BVA0 **Borovoye Array** 60.55 319 *i*P P 07 04 39.2 +0.1
BVA0 pmax pmax
comp=Z,6.0nm,0.9s
BVAR **Borovoye Array** 60.55 319 P P 07 04 39.3 +0.2
comp=Z,5.4nm,0.7s,baz=44,slow=8.5,SNR=22
BVAR LR LR 07 32 27.8
comp=Z,68nm,21.6s,baz=44,slow=38
BRVK **Borovoye** 60.57 319 *e*P P 07 04 40.3 +1.2
comp=Z,6.6nm,1.0s
BRVK **Borovoye** 60.57 319 *e*P P 07 04 38.7 -0.5
BRVK pmax pmax
comp=Z,8.0nm,0.8s
CCM **Cathedral Cave** 60.60 65 P P 07 04 38.9 -0.6
baz=314
CCM **Cathedral Cave** 60.60 65 *e*P P 07 04 39.0 -0.6
comp=Z,3.2nm,0.6s
CCM **Cathedral Cave** 60.60 65 *e*P P 07 04 39.0 -0.6
CCM pmax pmax
comp=Z,3.0nm,0.6s
S41A **Jillco Farms,** 60.64 66 P P 07 04 39.1 -0.8
baz=314,SNR=13
R42A **Luebbering** 60.70 64 P P 07 04 39.8 -0.5
baz=314
O44A **Mansfield** 60.70 61 P P 07 04 39.7 -0.5
baz=314
N45A **Kentland** 60.74 60 P P 07 04 40.3 -0.2
baz=314
V39A **Pettigrew** 60.75 68 P P 07 04 40.3 -0.5
baz=314
U40A **Yellville** 60.85 67 P P 07 04 40.7 -0.7
baz=314,SNR=6.7
Q43A **New Douglas** 60.86 63 P P 07 04 41.3 0.0
baz=314
M46A **Old House Fiel** 60.98 59 P P 07 04 41.9 -0.3
baz=314
T41A **Mountain View** 61.00 66 P P 07 04 41.3 -1.1
baz=314
O45A **Potomac** 61.04 61 P P 07 04 42.4 -0.2
baz=314
S42A **Caledonia** 61.05 65 P P 07 04 42.2 -0.5
baz=314,SNR=8.4
P44A **Sand Creek, Wi** 61.09 62 P P 07 04 42.8 -0.1
baz=314,SNR=6.8
W39A **Magazine** 61.12 69 P P 07 04 43.1 -0.1
baz=314
W39A **Magazine** 61.12 69 *e*P P 07 04 43.7 +0.6
comp=Z,6.8nm,0.8s
N46A **Monticello** 61.13 60 P P 07 04 42.8 -0.4
baz=314
WHTX **Lake Whitney,** 61.18 74 P P 07 04 43.6 0.0
baz=315
WHTX **Lake Whitney,** 61.18 74 *e*P P 07 04 44.4 +0.8
comp=Z,6.8nm,0.8s
R43A **Red Bud** 61.19 64 P P 07 04 43.2 -0.4
baz=314
V40A **Witts Springs** 61.26 68 P P 07 04 43.6 -0.5
baz=314,SNR=6.3
V40A **Witts Springs** 61.26 68 *e*P P 07 04 43.8 -0.4
comp=Z,5.7nm,0.7s
Q44A **Meyer Farm, Va** 61.26 63 P P 07 04 43.6 -0.5
baz=314
SFIN **Lafayette** 61.29 60 P P 07 04 44.0 -0.3
baz=314,SNR=5.9
SFIN **Lafayette** 61.29 60 *e*P P 07 04 44.4 +0.1
comp=Z,16nm,0.8s
T42A **Van Buren** 61.40 66 P P 07 04 44.0 -1.0
baz=314
U41A **Viola** 61.40 67 P P 07 04 44.4 -0.7
baz=314,SNR=9.3
X39A **Fountain Ranch** 61.41 70 P P 07 04 45.1 0.0
baz=314
P45A **Graceland, Par** 61.53 62 P P 07 04 45.7 -0.2
baz=314
W40A **Ferguson Farm,** 61.54 68 P P 07 04 46.2 +0.2
baz=314
W40A **Ferguson Farm,** 61.54 68 *e*P P 07 04 46.2 +0.2
comp=Z,19nm,1.0s
S43A **Fulton Ridge,** 61.60 65 P P 07 04 46.0 -0.3
baz=314,SNR=7.2
V41A **Mountainview** 61.66 67 P P 07 04 46.2 -0.6
baz=314,SNR=9.5
R44A **Waltonville** 61.69 63 P P 07 04 46.6 -0.3
baz=314
MIAR **Mount Ida** 61.70 69 P P 07 04 47.3 +0.2
baz=315,SNR=5.7
MIAR **Mount Ida** 61.70 69 *e*P P 07 04 47.7 +0.6
comp=Z,7.5nm,1.1s
MIAR **Mount Ida** 61.70 69 *e*P P 07 04 47.7 +0.6
MIAR pmax pmax
comp=Z,8.0nm,1.1s
Q45A **Warren Harvey,** 61.75 62 P P 07 04 47.3 0.0
baz=314,SNR=5.3
P46A **Rosedale** 61.77 61 P P 07 04 47.3 -0.2
baz=314
U42A **Revenden** 61.79 66 P P 07 04 46.6 -1.1
baz=314,SNR=6.8
T43A **Greenville** 61.82 65 P P 07 04 47.4 -0.5
baz=314,SNR=19
OLIL **Olney** 61.89 62 *e*P P 07 04 48.9 +0.5
comp=Z,13nm,0.9s
O47A **Sheridan** 61.90 60 P P 07 04 47.9 -0.5
baz=315
WHAR **Wooly Hollow** 61.93 68 *e*P P 07 04 48.8 +0.2
comp=Z,9.3nm,1.0s
PBMO **Poplar Bluff** 61.95 65 *e*P P 07 04 48.7 -0.1
comp=Z,15nm,0.8s
S44A **Carbondale** 61.98 64 P P 07 04 48.7 -0.2
baz=315
SIUC **Southern Illin** 61.98 64 *e*P P 07 04 49.5 +0.5
comp=Z,14nm,0.9s
W41B **Gary Mavity, V** 62.03 68 P P 07 04 48.9 -0.4
baz=315,SNR=6.3
W41B **Gary Mavity, V** 62.03 68 *e*P P 07 04 49.4 +0.1
comp=Z,8.1nm,0.8s
V42A **Cord** 62.08 67 P P 07 04 49.0 -0.6
baz=315
R45A **Skylar, Fairfi** 62.10 63 P P 07 04 49.7 0.0
baz=315
X40A **Basin Creek Fa** 62.17 69 P P 07 04 50.2 -0.1
baz=315
T44A **Benton** 62.21 65 P P 07 04 50.2 -0.3
baz=315
U43A **Rector** 62.25 66 P P 07 04 50.3 -0.5
baz=315
ARU **Arti** 62.34 328 *d i*P P 07 04 50.2 -0.8
ARU S S 07 13 09.6 -1.8
ARU pmax pmax
comp=Z,10.0nm,2.5s
S45A **Carrier Mills** 62.37 64 P P 07 04 51.5 0.0
baz=315
P47A **Martinsville** 62.37 61 P P 07 04 51.3 -0.2
baz=315
PARMO **Parma** 62.42 65 *e*P P 07 04 52.3 +0.4
comp=Z,40nm,0.8s
WLAR **White Oak Lake** 62.57 70 *e*P P 07 04 54.5 +1.6
comp=Z,9.4nm,0.7s
Q47A **Bedord North L** 62.68 61 P P 07 04 53.4 -0.2
baz=315
DAV **Davao City (W)** 62.92 245 LR LR 07 28 15.6
comp=Z,36nm,20.7s,baz=74,slow=32
HNR **Honiara** 63.01 203 LR LR 07 25 53.1
comp=Z,33nm,20.8s,baz=314,slow=30
R47A **Wooly Knot Far** 63.08 62 P P 07 04 55.9 -0.4
baz=315
KMI **Kunming** 63.15 277 P P 07 04 57.7 +0.5
KMI pmax pmax
comp=Z,10.0nm,0.5s
UTMT **University of** 63.15 65 *e*P P 07 04 58.1 +1.4
comp=Z,82nm,1.0s
T46A **Princeton** 63.20 64 P P 07 04 57.2 +0.2
baz=315,SNR=6.2
U45A **Rockin P Farm,** 63.20 65 P P 07 04 57.3 +0.2
baz=315
WCI **Wyandotte Cave** 63.25 62 P P 07 04 57.2 -0.1
baz=315
WCI **Wyandotte Cave** 63.25 62 *e*P P 07 04 55.3 -2.1
comp=Z,8.8nm,1.0s
WCI **Wyandotte Cave** 63.25 62 *e*P P 07 04 55.3 -2.1
WCI pmax pmax
comp=Z,9.0nm,1.0s
OTUK **Ortayu** 63.26 315 P P 07 04 57.3 0.0
OTUK pmax pmax
comp=Z,4.0nm,0.6s
X43A **Marvell** 63.29 68 P P 07 04 57.5 -0.2
baz=315
PDGK **Podgornoye** 63.46 307 *i*P P 07 04 59.1 +0.2
PDGK pmax pmax
comp=Z,12nm,0.8s
V45A **Humboldt** 63.52 65 P P 07 04 59.3 0.0
baz=315
T47A **Sharon Grove** 63.68 63 P P 07 05 00.5 +0.3
baz=316,SNR=14
X44A **Crenshaw** 63.73 67 P P 07 05 00.6 +0.1
baz=316
S48A **Wiedeman Farm,** 63.79 62 P P 07 05 01.3 +0.4
baz=316
KLMR **Klimovskoe** 63.83 340 *e*P P 07 05 00.5 -0.3
KLMR AMP 07 05 12.3
comp=Z,16nm,1.5s
KLMR **Klimovskoe** 63.83 340 *e*P P 07 05 00.5 -0.3
KLMR pmax pmax
comp=Z,16nm,1.5s
WVT **Waverly** 63.89 64 P P 07 05 02.0 +0.4
baz=316
WVT **Waverly** 63.89 64 *e*P P 07 05 02.2 +0.6
WVT **Waverly** 63.89 64 *e*P P 07 05 02.2 +0.6
V46A **Holladay** 63.96 65 P P 07 05 02.0 -0.1
baz=316
U47A **Clarksville** 63.97 64 P P 07 05 02.2 0.0
baz=316
T48A **Bowling Green** 63.99 63 P P 07 05 02.3 0.0
baz=316
OXF **Oxford** 64.14 67 P P 07 05 03.5 +0.2
baz=316,SNR=7.0
OXF **Oxford** 64.14 67 *e*P P 07 05 03.9 +0.6
comp=Z,31nm,0.8s
OXF **Oxford** 64.14 67 *e*P P 07 05 03.9 +0.6
OXF pmax pmax
comp=Z,31nm,0.8s
X45A **UM Field Stati** 64.22 67 P P 07 05 03.9 +0.1
baz=316
V47A **Nunnelly** 64.28 64 P P 07 05 04.2 0.0
baz=316,SNR=5.1
W46A **Michie** 64.29 65 P P 07 05 04.2 0.0
baz=316
U48A **Cassie Pea, Po** 64.34 63 P P 07 05 04.9 +0.3

baz=316,SNR=7.9
M54A Oil Creek Stat 64.43 55 P P 07 05 05.2 +0.1
baz=317
Z44A Pea Ridge, Bel 64.44 68 P P 07 05 05.6 +0.4
baz=316
Y45A Yeager Farm, C 64.53 67 P P 07 05 05.9 +0.1
baz=316
PLAL Pickwick Lake 64.57 65 eP P 07 05 06.2 +0.1
comp=Z,17nm,0.7s
X46A Booneville 64.59 66 P P 07 05 06.2 +0.1
baz=316
W47A Westpoint 64.65 65 P P 07 05 06.5 -0.1
baz=316,SNR=8.9
V48A Smith Brothers 64.74 64 P P 07 05 07.2 0.0
baz=316
Y46A Houston 64.91 67 P P 07 05 08.6 +0.2
baz=316,SNR=6.9
X47A Russellville 65.03 66 P P 07 05 08.8 -0.3
baz=316,SNR=5.5
W48A Pulaski 65.11 64 P P 07 05 09.7 +0.1
baz=316,SNR=10.0
244A Avery, Jackson 65.17 69 P P 07 05 10.6 +0.6
baz=316,SNR=6.0
145A Houston Renfro 65.21 68 P P 07 05 10.7 +0.4
baz=316
Y47A UCPARC, Winfie 65.48 66 P P 07 05 11.7 -0.3
baz=316,SNR=7.4
KDJ Kajisay 65.50 307 eP P 07 05 10.0 -2.2
X48A Hartselle 65.54 65 P P 07 05 12.0 -0.4
baz=316
SWET Sewanee 65.62 64 eP P 07 05 12.7 -0.2
comp=Z,13nm,1.2s
TKM2 Tokmak 2 65.69 309 P P 07 05 14.7 +1.1
SNR=14
TKM2 Tokmak 2 65.69 309 P P 07 05 14.2 +0.7
TKM2 pmax pmax
comp=Z,11nm,0.9s
146A Union 65.70 68 P P 07 05 13.7 +0.3
baz=316,SNR=5.0
FIA1 FINESS Array S 65.71 347 eP P 07 05 12.7 -0.3
comp=Z,7.4nm,0.8s
FIA0 FINESS Array S 65.71 347 eP P 07 05 12.9 0.0
FIA0 FINESS Array S 65.71 347 eP P 07 05 13.0 0.0
FINES FINESS Array B 65.71 347 P P 07 05 12.9 0.0
comp=Z,5.9nm,0.7s,baz=27,slow=8.8,SNR=20
FINES FINESS Array B 65.71 347 P P 07 05 13.0 0.0
FINES pmax pmax
comp=Z,6.0nm,0.7s
BINY Binghamton 65.78 52 P P 07 05 13.4 -0.4
baz=318
Y48A Jasper 65.86 66 P P 07 05 14.1 -0.4
baz=316,SNR=7.0
Z47A Carrollton 65.86 67 P P 07 05 14.3 -0.1
baz=316,SNR=14
X49A Woodville 65.91 65 P P 07 05 14.3 -0.4
baz=317,SNR=8.1
USP Ospenovka 65.97 310 P P 07 05 16.9 +1.8
SNR=6.9
TZTN Tazewell 65.98 61 P P 07 05 15.4 +0.2
baz=317
Z48A Northport 66.03 66 P P 07 05 15.3 -0.2
baz=317,SNR=9.2
147A Livingston 66.12 67 P P 07 05 16.2 0.0
baz=317
Y49A Blount Mountai 66.33 65 P P 07 05 17.4 -0.1
baz=317
AAK Ala-Archa 66.44 309 P P 07 05 18.9 +0.6
comp=Z,9.0nm,0.8s,baz=114,slow=2.9,SNR=26
AAK Ala-Archa 66.44 309 P P 07 05 19.5 +1.2
SNR=11
AAK Ala-Archa 66.44 309 eP P 07 05 19.3 +1.0
AAK Ala-Archa 66.44 309 P P 07 05 19.3 +1.0
AAK pmax pmax
comp=Z,2.0nm,0.7s
KZA Kyzart 66.49 308 P P 07 05 20.5 +1.6
SNR=7.2
TKL Tuckaleechee C 66.50 62 P P 07 05 18.8 +0.2
comp=Z,9.3nm,1.0s,baz=274,slow=4.8,SNR=7.2
TKL LR LR 07 36 22.5
comp=Z,38nm,18.0s,baz=318,slow=38
TKL Tuckaleechee C 66.50 62 eP P 07 05 18.3 -0.2
comp=Z,12nm,1.0s
TKL Tuckaleechee C 66.50 62 eP P 07 05 18.3 -0.2
TKL pmax pmax
comp=Z,12nm,1.0s
148A Greensboro 66.55 67 P P 07 05 18.6 -0.3
baz=317
LRAL Lakeview Retre 66.60 66 P P 07 05 19.1 -0.1
baz=317
LRAL Lakeview Retre 66.60 66 eP P 07 05 19.2 0.0
comp=Z,6.1nm,0.8s
NRN Naryn 66.61 307 eP P 07 05 21.4 +1.9
comp=Z,6.2nm,0.9s
NRN Naryn 66.61 307 eP P 07 05 21.4 +1.9
NRN pmax pmax
comp=Z,6.0nm,0.9s
Y50A Piedmont 66.69 65 P P 07 05 19.7 0.0
baz=317
UCH Uchtor 66.74 309 P P 07 05 21.6 +1.0
SNR=5.5
Z49A Columbiana 66.75 66 P P 07 05 20.0 -0.2
baz=317,SNR=7.7
EKS2 Erkin-Say 66.77 310 P P 07 05 21.9 +1.6
SNR=7.1
N59A State Game Lan 66.85 53 P P 07 05 21.2 +0.5
baz=318
248A Dixon Mills 66.85 67 P P 07 05 21.4 +0.6
baz=317
WVL Waterville 67.02 47 eP P 07 05 23.1 +1.4
comp=Z,53nm,1.4s
149A Jones 67.03 66 P P 07 05 22.0 +0.1
baz=317,SNR=9.4
Z50A Ashland 67.05 65 P P 07 05 21.8 -0.2
baz=317,SNR=10
AML Almayashu 67.21 309 P P 07 05 25.2 +1.8
SNR=14
348A Jackson 67.26 68 P P 07 05 23.2 -0.2
baz=317
447A Lucedale 67.27 69 P P 07 05 23.0 -0.4
baz=317
LUPA Lehigh Univers 67.29 53 eP P 07 05 22.8 -0.7
comp=Z,1.4nm,1.1s
249A Camden 67.30 67 P P 07 05 23.5 -0.1
baz=317
AKTO Aktyubinsk 67.39 324 P P 07 05 23.9 0.0
comp=Z,1.5nm,0.5s,baz=53,slow=5.1,SNR=6.4
AKTO LR LR 07 37 52.1
comp=Z,79nm,18.1s,baz=33,slow=39
AKTO Aktyubinsk 67.39 324 P P 07 05 24.0 0.0
AKTO pmax pmax
comp=Z,2.0nm,0.5s
AKTO MLR MLR
comp=Z,79nm,18.1s
NC204 NORSAR Array S 67.44 355 eP P 07 05 25.4 +1.3
150A Eclectic 67.47 66 P P 07 05 24.4 -0.3
baz=317
MNAS Manas 67.52 310 P P 07 05 26.3 +1.2
AB05 Akbulak array 67.61 322 eP P 07 05 25.6 +0.3
AB06 Akbulak array 67.61 322 eP P 07 05 25.6 +0.3
AB02 Akbulak array 67.62 322 eP P 07 05 25.6 +0.2
AB01 Akbulak array 67.63 322 eP P 07 05 25.9 +0.4
AB31 Akbulak array 67.63 322 eP P 07 05 25.8 +0.4
AB31 Akbulak array 67.63 322 eP P 07 05 25.4 0.0
ABKAR Akbulak array 67.63 322 eP P 07 05 25.8 +0.4
AB04 Akbulak array 67.63 322 eP P 07 05 25.6 +0.2
AB03 Akbulak array 67.63 322 eP P 07 05 26.0 +0.6
AB09 Akbulak array 67.63 322 eP P 07 05 25.9 +0.4
AB07 Akbulak array 67.63 322 eP P 07 05 25.4 -0.1
NB201 NORSAR Array S 67.63 354 eP P 07 05 24.9 -0.4
NB2 NORSAR Subarra 67.65 354 P P 07 05 25.8 +0.4
comp=Z,3.7nm,0.7s,baz=6.9,slow=6.5
NB200 NORSAR Array S 67.65 354 eP P 07 05 26.1 +0.7
NOA NORSAR Array B 67.65 354 P P 07 05 26.1 +0.7
comp=Z,5.8nm,0.8s,baz=8.2,slow=6.4,SNR=17
NOA LR LR 07 37 49.9
comp=Z,12nm,18.3s,baz=345,slow=38
PAL Palisades 67.71 52 P P 07 05 26.3 +0.2
baz=319
349A Repton 67.72 67 P P 07 05 26.9 +0.6
baz=317
250A Grady 67.79 66 P P 07 05 26.7 0.0
baz=317,SNR=9.6
151A Opelika 67.92 65 P P 07 05 27.0 -0.5
baz=317
KK05 Karatay Array 67.97 312 eP P 07 05 28.4 +0.7
KK09 Karatay Array 67.98 312 eP P 07 05 28.6 +0.8
KK04 Karatay Array 67.98 312 eP P 07 05 28.5 +0.6
KK02 Karatay Array 67.99 312 eP P 07 05 28.6 +0.8
KK06 Karatay Array 67.99 312 eP P 07 05 28.6 +0.7
KK31 Karatay Array 67.99 312 eP P 07 05 28.8 +0.9
KK31 Karatay Array 67.99 312 i P P 07 05 28.6 +0.8
KK31 pmax pmax
comp=Z,6.0nm,0.7s
KKAR Karatay Array 67.99 312 eP P 07 05 29.0 +1.1
KKAR Karatay Array 67.99 312 eP P 07 05 29.0 +1.1
KK01 Karatay Array 67.99 312 eP P 07 05 28.6 +0.7
KK03 Karatay Array 67.99 312 eP P 07 05 28.6 +0.8
KK08 Karatay Array 68.00 312 eP P 07 05 28.8 +0.8
KK07 Karatay Array 68.00 312 eP P 07 05 28.5 +0.5
KSH Kashi 68.06 306 P P 07 05 33.6 +5.1
KSH sP PcP 07 06 06.5 +12
KSH PP PP 07 08 06.9 +8.0
KSH S S 07 14 23.2 +1.1
KSH ScS SKiKP 07 15 17.1 +0.7
KSH pmax pmax
comp=Z,40nm,1.0s
KSH pmax pmax
comp=Z,250nm,5.3s
KSH LR LR
comp=Z,160nm,4.8s
KSH LR LR
comp=Z,200nm,5.3s
KSH LR LR
comp=Z,280nm,5.8s
350A Dozier 68.16 67 P P 07 05 29.0 -0.1
baz=318
251A Midway 68.20 66 P P 07 05 28.0 -1.2
baz=318
KMSC Kings Mountain 68.23 61 eP P 07 05 30.4 +1.0
comp=Z,8.3nm,0.7s
GOGA Godfrey 68.32 63 P P 07 05 29.9 -0.1
baz=316
HFS Hagfors 68.37 353 P P 07 05 29.7 -0.2
comp=Z,5.6nm,0.7s,baz=15,slow=6.0,SNR=12
HFS LR LR 07 35 22.0
comp=Z,11nm,20.6s,baz=354,slow=36
HODGE Hodges 68.39 62 eP P 07 05 31.6 +1.1
comp=Z,7.9nm,0.7s
153A Fort Valley 68.68 64 P P 07 05 32.1 -0.2
baz=318
351A Pinckard 68.69 66 P P 07 05 32.3 -0.1
baz=318
MSVF Nonsavu 68.78 182 eP P 07 05 32.6 -0.4
comp=Z,24nm,0.4s
MSVF Nonsavu 68.78 182 eP P 07 05 32.6 -0.4
MSVF pmax pmax
comp=Z,24nm,0.4s
JSC Jenkinsville 68.91 61 eP P 07 05 34.5 +0.8
comp=Z,7.2nm,0.7s
JSC Jenkinsville 68.91 61 eP P 07 05 34.5 +0.8
JSC pmax pmax
comp=Z,7.0nm,0.7s
SFK Sufi-Kurgan 68.92 308 P P 07 05 34.6 +0.6
SFK pmax pmax
comp=Z,8.0nm,0.8s
352A Blakely 68.92 66 P P 07 05 33.9 +0.1
baz=318
154A Montrose 69.12 64 P P 07 05 34.8 -0.2
baz=318
353A Camilla 69.43 65 P P 07 05 37.0 +0.1
baz=318
155A Kite 69.47 63 P P 07 05 37.2 0.0
baz=318
254A Abbeville 69.51 64 P P 07 05 37.2 -0.2
baz=318
OBN Obninsk 69.71 339 eP P 07 05 39.0 +0.7
OBN pmax pmax
comp=Z,7.0nm,0.9s
OBN MLR MLR
comp=Z,39nm,15.0s
453A Whigham 69.74 66 P P 07 05 39.0 +0.2
baz=318
355A Pearson 70.21 65 P P 07 05 41.9 +0.2
baz=318
CM31 Chiang Mai Arr 70.43 275 eP P 07 05 43.4 +0.1
CMAR Chiang Mai Arr 70.43 275 P P 07 05 43.4 +0.1
comp=Z,2.5nm,0.8s,baz=25,slow=7.1,SNR=12
CMAR LR LR 07 37 38.3
comp=Z,12nm,20.1s,baz=200,slow=37
CM01 Chiang Mai Arr 70.45 275 eP P 07 05 43.4 0.0
455A Stateville 70.56 65 P P 07 05 44.2 +0.3
baz=319
555A McAlpin 71.06 65 P P 07 05 46.7 -0.2
baz=319
ODAN Odare 71.23 290 eP P 07 05 48.8 +0.5
comp=Z,9.5nm,0.5s
GUN Gumba 71.33 291 eP P 07 05 50.1 +1.1
comp=Z,59nm,0.8s
JIRN Jiri 71.33 291 eP P 07 05 50.1 +1.0
comp=Z,40nm,0.7s
RAMN Ramite 71.62 290 eP P 07 05 51.3 +0.6
comp=Z,39nm,0.8s
KKN Kakani 71.77 292 eP P 07 05 52.6 +1.1
PKIN Phulchoki 71.86 291 eP P 07 05 52.9 +0.8
comp=Z,12nm,0.6s
GKN Gorkha 71.98 292 eP P 07 05 53.6 +0.9
DMN Daman 72.01 292 eP P 07 05 53.9 +0.9
DANN Dangsing 72.23 293 eP P 07 05 55.6 +1.2
757A Oxford 72.46 66 P P 07 05 55.4 +0.1
baz=319
KOLN Koldanda 72.76 293 eP P 07 05 57.7 +0.3
PYUN Piuthan 72.86 294 eP P 07 05 58.8 +0.8
comp=Z,23nm,0.7s
DWPF Disney Wildern 73.45 66 P P 07 06 01.6 +0.4
baz=320
EKA Eskdalemuir Ar 73.68 2 P P 07 06 03.0 +1.0
comp=Z,5.5nm,0.7s,baz=0.1,slow=4.9,SNR=15
NIL Nilore 73.96 304 eP P 07 06 05.8 +1.6
comp=Z,20nm,1.1s
NIL Nilore 73.96 304 eP P 07 06 05.8 +1.6
NIL pmax pmax
comp=Z,20nm,1.1s
KBL Kabul 75.41 307 eP P 07 06 13.2 +0.5
comp=Z,22nm,0.9s
KBL Kabul 75.41 307 eP P 07 06 13.2 +0.5
KBL pmax pmax
comp=Z,22nm,0.9s
AKASG Malin Array Be 75.42 341 P P 07 06 12.3 +0.1
comp=Z,4.6nm,0.6s,baz=24,slow=6.5,SNR=15
AKBB Malin Array Si 75.42 341 eP P 07 06 12.3 +0.1
comp=Z,7.3nm,1.1s
AKBB Malin Array Si 75.42 341 eP P 07 06 12.3 +0.1
AKBB pmax pmax
comp=Z,7.0nm,1.1s
KIEV Kiev 75.43 341 eP P 07 06 12.3 0.0
comp=Z,7.8nm,1.2s
KIEV Kiev 75.43 341 eP P 07 06 12.3 0.0
KIEV pmax pmax
comp=Z,8.0nm,1.2s
AK11 Malin Array Si 75.45 341 eP P 07 06 11.6 -0.8
CLL Collm 77.18 352 i P P 07 06 22.7 +0.5
comp=Z,5.0nm,1.0s
CLL Collm 77.18 352 i P P 07 06 22.7 +0.5
CLL pmax pmax
comp=Z,5.0nm,1.0s
OJC Ojcow 77.48 347 eP P 07 06 24.5 +0.6
comp=Z,4.9nm,0.9s
OJC Ojcow 77.48 347 eP P 07 06 24.5 +0.6
OJC pmax pmax
comp=Z,5.0nm,0.9s
BRG Berggiesshubel 77.52 351 eP P 07 06 24.6 +0.5
comp=Z,5.2nm,1.1s
BRG Berggiesshubel 77.52 351 eP P 07 06 24.6 +0.5
BRG pmax pmax
comp=Z,5.0nm,1.1s
MAK Makhachkala 77.53 326 eP P 07 06 23.3 -1.0
MAK e*PP pP 07 06 45.5 +1.3
MAK e 07 09 28.2
MAK eS S 07 16 05.1 -4.1
MAK e*SS sS 07 16 45.8 +2.7
MAK pmax pmax
comp=Z,36nm,0.4s
MAK MLR MLR
comp=Z,62nm,11.0s
KWP Kalwaria Pacla 77.62 345 eP P 07 06 26.0 +1.3
comp=Z,145nm,0.6s
KWP Kalwaria Pacla 77.62 345 eP P 07 06 26.0 +1.3
KWP pmax pmax
comp=Z,145nm,0.6s
GEYT Alibeck 77.73 317 P P 07 06 26.5 +1.0
comp=Z,1.7nm,0.7s,baz=339,slow=3.7,SNR=4.0
GEYT LR LR 07 44 30.8
comp=Z,44nm,18.2s,baz=50,slow=39
DPC Dobruska-Polom 77.79 350 eP P 07 06 26.4 +0.7
DPC Dobruska-Polom 77.79 350 eP P 07 06 26.4 +0.7
KRLC Kraliky 78.01 349 eP P 07 06 27.9 +1.0
KRLC Kraliky 78.01 349 eP P 07 06 27.9 +1.0
MORC Moravsky Berou 78.21 349 ⇓iP P 07 06 28.9 +0.9
NKC Novy Kostel 78.29 352 eP P 07 06 29.4 +0.9
NKC Novy Kostel 78.29 352 eP P 07 06 29.4 +0.9
MEM Membach 78.33 356 ⇓P P 07 06 29.8 +1.2
comp=Z,11nm,0.9s
PRU Pruhonice 78.34 351 eP P 07 06 29.6 +0.9
PRU Pruhonice 78.34 351 eP P 07 06 29.6 +0.9
GOPC GO Pecny, Ondr 78.39 350 eP P 07 06 30.3 +1.3
GOPC GO Pecny, Ondr 78.39 350 eP P 07 06 30.3 +1.3
SNF Seneffe 78.49 357 ⇑P P 07 06 28.7 -0.8
CRVS Cervenica-Dubn 78.52 346 eP P 07 06 31.3 +1.6
CRVS Cervenica-Dubn 78.52 346 eP P 07 06 31.3 +1.6
BCLA Clavier 78.55 357 ⇑P P 07 06 30.5 +0.8
comp=Z,6.8nm,1.0s
LANS Liptovska Anna 78.57 347 eP P 07 06 32.1 +2.1
LANS Liptovska Anna 78.57 347 eP P 07 06 32.1 +2.1
VRAC Vranov 78.78 349 P P 07 06 31.7 +0.6
comp=Z,4.2nm,0.7s,baz=21,slow=4.3,SNR=6.8
VRAC Vranov 78.78 349 ⇑iP P 07 06 32.4 +1.2
DOU Dourbes 78.89 357 ⇑P P 07 06 32.5 +0.8
KECS Kecovo 79.08 346 eP P 07 06 35.8 +3.0
KECS Kecovo 79.08 346 eP P 07 06 35.8 +3.0
KECS pmax pmax
comp=Z,3.0nm,1.0s
BUR08 Bucovina Ar. S 79.12 343 eP P 07 06 34.2 +1.0
BUR04 Bucovina Ar. S 79.14 343 eP P 07 06 34.1 +0.9
BURAR Bucovina Array 79.14 343 ⇓iP P 07 06 34.5 +1.3
WLF Walferdange 79.27 356 ⇑P P 07 06 34.4 +0.6
KHC Kasperske Hory 79.28 351 eP P 07 06 34.7 +0.8
KHC Kasperske Hory 79.28 351 eP P 07 06 34.9 +0.9
comp=Z,1.4nm,0.8s
KHC Kasperske Hory 79.28 351 eP P 07 06 34.7 +0.8
VYHS Vyhne 79.30 348 eP P 07 06 35.4 +1.4
VYHS Vyhne 79.30 348 eP P 07 06 35.4 +1.4
VYHS pmax pmax
comp=Z,2.0nm,0.9s
GEC2 GERESS Array S 79.55 351 eP P 07 06 36.2 +0.8
comp=Z,2.3nm,0.8s
GEC2 GERESS Array S 79.55 351 eP P 07 06 36.2 +0.8
GEC2 pmax pmax
comp=Z,2.0nm,0.8s
GERES GERESS Array B 79.55 351 P P 07 06 35.8 +0.3
comp=Z,1.7nm,0.6s,baz=26,slow=5.2,SNR=19
GERES LR LR 07 45 53.2
comp=Z,18nm,18.4s,baz=18,slow=39
GEA0 GERESS Array S 79.56 351 eP P 07 06 35.9 +0.4
ARCR ARCALIA 79.81 344 ⇑iP P 07 06 38.6 +1.9
CONA Conrad Observa 80.23 349 eP P 07 06 40.7 +1.6
comp=Z,4.0nm,0.7s
DRGR 80.38 345 ⇑iP P 07 06 41.0 +1.1
ARSA Arzberg 80.94 350 eP P 07 06 43.3 +0.5
comp=Z,6.2nm,1.1s
GNI Garni 80.97 327 LR LR 07 47 38.5
comp=Z,54nm,20.0s,baz=12,slow=39
MLR Muntele Rosu 81.05 342 P P 07 06 43.9 +0.3
comp=Z,0.6nm,0.5s,baz=56,slow=7.3,SNR=3.9
MLR LR LR 07 47 01.7
comp=Z,6.0nm,18.8s,baz=35,slow=39
MLR Muntele Rosu 81.05 342 ⇑iP P 07 06 44.6 +1.0
WATA Walderalm 81.24 352 i P P 07 06 45.8 +1.2
comp=Z,5.5nm,0.7s
VOIR 81.27 343 ⇑iP P 07 06 46.4 +1.7
MOTA Moosalm 81.27 353 eP P 07 06 45.7 +0.9
comp=Z,2.3nm,0.9s
WTTA Wattenberg 81.31 352 i P P 07 06 46.4 +1.4
comp=Z,7.5nm,0.8s
KBA Koelnbreinsper 81.34 351 eP P 07 06 47.0 +1.9
comp=Z,16nm,0.7s,SNR=21
SOKA Soboth 81.56 350 i P P 07 06 47.7 +1.5
comp=Z,6.2nm,0.8s
WR1 Warramunga Arr 81.56 223 eP P 07 06 44.7 -1.7
comp=Z,5.3nm,1.2s
WRA Warramunga Arr 81.56 223 P P 07 06 44.7 -1.7
comp=Z,1.2nm,0.8s,baz=33,slow=6.2,SNR=10.0
FETA Feichten 81.63 353 eP P 07 06 48.0 +1.4
comp=Z,6.0nm,0.9s
BZS Buzias 81.70 345 ⇓iP P 07 06 47.8 +1.0
ABTA Abfaltersbach 81.75 352 eP P 07 06 48.6 +1.4
comp=Z,7.1nm,0.9s,SNR=5.1
OBKA Obir 81.78 350 i P P 07 06 48.5 +1.1
comp=Z,6.1nm,0.7s
PSI Prapat 82.40 265 P P 07 06 50.1 -1.0
comp=Z,4.2nm,0.4s,baz=14,slow=8.7,SNR=4.7
PSI Prapat 82.40 265 eP P 07 06 50.6 -0.5
comp=Z,7.1nm,0.6s
PSI Prapat 82.40 265 eP P 07 06 50.6 -0.5
PSI pmax pmax
comp=Z,7.0nm,0.6s
BR101 Keskin Array S 84.75 335 eP P 07 07 03.0 +0.2
BR131 Keskin Array S 84.75 335 eP P 07 07 04.0 +1.1
BRTR Keskin Array B 84.75 335 P P 07 07 03.0 +0.2
comp=Z,2.4nm,0.9s,baz=32,slow=3.1,SNR=8.6
BRTR LR LR 07 48 37.9
comp=Z,13nm,19.4s,baz=18,slow=38
BR231 Keskin MP Arra 84.87 335 eP P 07 07 03.9 +0.4
AS01 Alice Springs 85.03 222 eP P 07 07 03.3 -0.8
JTS SantasAbangare 85.03 80 LR LR 07 45 23.4
comp=Z,14nm,18.6s,baz=330,slow=36
AS31 Alice Springs 85.05 222 eP P 07 07 03.5 -0.7
comp=Z,1.0nm,0.5s
ASAR Alice Springs 85.05 222 P P 07 07 03.5 -0.7
comp=Z,1.2nm,0.8s,baz=29,slow=6.0,SNR=13
IDI Anoyia 91.08 340 LR LR 07 53 00.7
comp=Z,18nm,18.9s,baz=49,slow=38
TOA1 Torodi Ar. Sit 115.79 358 ePKPdf PKPdf 07 13 10.7 -0.3
TORD Torodi Ar. Bea 115.79 358 PKP PKPdf 07 13 10.7 -0.3
comp=Z,0.2nm,0.7s,baz=346,slow=1.3,SNR=2.7
VNDA Vanda 129.08 185 PKP PKPdf 07 13 34.0 -0.4
comp=Z,0.7nm,0.2s,baz=1.1,slow=2.5,SNR=15
PLCA Paso Flores 131.52 107 PKP PKPdf 07 13 40.9 +0.5
comp=Z,1.6nm,0.9s,baz=297,slow=4.5,SNR=3.3
TSUM Tsumeb 145.15 330 PKPbc PKPdf 07 14 06.5 +0.6
comp=Z,7.6nm,0.8s,baz=353,slow=8.2,SNR=9.2
LBTB Lobatse 147.35 314 PKPbc PKPbc 07 14 13.0 +1.0
comp=Z,7.4nm,0.8s,baz=45,slow=1.9,SNR=11
BOSA Boshof 150.57 311 PKPbc PKPbc 07 14 19.8 -0.2
comp=Z,4.7nm,0.7s,baz=15,slow=3.1,SNR=12

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*IDC **09** 07:02:42.2±1.0, 4.°66S×154.°18E, h83km±5km, mb3.9/10, mb1 4.2/11,mb1mx3.7/48,mbtmp4.4/11,MS2.6/3, Ms1 2.6/3,ms1mx2.4/46,Error ellipse: s-maj=38.0km s-min=16.2km az=113.0*
*ISCJB **09** 07:02:43.8±2.3, 4.°64S±0.°08×153.°8E±0.°2, h102km±15km, mb4.3/17, Error ellipse: s-maj=29.7km s-min=10.7km az=16.9*
*NEIC **09** 07:02:45.2±2.5, 4.°62S×153.°81E, h103km±16km, mb4.7/4, Error ellipse: s-maj=32.1km s-min=11.4km az=104.0*

ISC 09 07:02:44.5±0.8, 4.°64S±0.°08×153.°8E±0.°1, h96km±5km, h96km:pP-P, n29, σ1s62/44, mb4.2/17, 1C, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.69**	**285**	*e*Pn			**Pn**	**07 03 13.3**	**+0.4**
RABL				*e*Sn			**Sn**	**07 03 34.1**	**-0.4**
PMG	**Port Moresby**	**8.11**	**234**	P			**Pn**	**07 04 41.3**	**+1.7**
	20nm,0.3s,baz=45,slow=6.1,SNR=51								
PMG				S			**Sn**	**07 06 08.8**	**-0.9**
	4.7nm,0.3s,baz=139,slow=20,SNR=4.9								
PMG				LR			LR	07 07 02.8	
	comp=Z,44nm,21.7s,baz=67,slow=31								
PMG	**Port Moresby**	**8.11**	**234**	*e*Pn			**Pn**	**07 04 41.3**	**+1.7**
PMG				*e*Sn			**Sn**	**07 06 11.4**	**+1.7**
COEN	**Coen**	**13.98**	**228**	*e*Pn			**P**	**07 06 01.5**	**-1.9**
SAUI	**Saumlaki**	**22.60**	**260**	*e*P			**P**	**07 07 36.3**	**-1.2**
	632nm,1.2s								
MTN	**Manton Dam**	**23.82**	**249**	*e*P			**P**	**07 07 47.7**	**-1.2**
	15nm,1.4s								
WRAB	**Tennant Creek**	**24.29**	**230**	*e*P			**P**	**07 07 50.6**	**-2.5**
	23nm,0.6s								
WB2	**Warramunga Arr**	**24.29**	**230**	*e*P			**P**	**07 07 53.6**	**+0.5**
WR1	**Warramunga Arr**	**24.30**	**230**	*e*P			**P**	**07 07 53.5**	**+0.2**
	18nm,0.6s								
WR1				*e*PcP			**PcP**	**07 11 30.8**	**-0.2**
WRA	**Warramunga Arr**	**24.30**	**230**	P			**P**	**07 07 53.5**	**+0.2**
	18nm,0.7s,baz=54,slow=10.0,SNR=106								
WRA				pP			**pP**	**07 08 18.7**	**+4.4**
	3.3nm,0.8s,baz=53,slow=9.6,SNR=2.6								
WRA				PcP			**PcP**	**07 11 30.8**	**-0.2**

	0.6nm,1.1s,baz=50,slow=2.6,SNR=4.0						
WRA				LR	LR	07 18 29.7	
	comp=Z,27nm,19.2s,baz=35,slow=39						
AS01	**Alice Springs**	**26.91**	**223**	*eP*	**P**	**07 08 16.9**	**+0.1**
AS31	**Alice Springs**	**26.94**	**224**	*eP*	**P**	**07 08 17.6**	**+0.4**
	0.9nm,0.4s						
ASAR	**Alice Springs**	**26.95**	**224**	P	**P**	**07 08 17.4**	**+0.2**
	1.8nm,0.5s,baz=56,slow=8.9,SNR=31						
ASAR				pP			
	0.8nm,0.6s,baz=54,slow=12,SNR=3.8						
ASAR				sP	**sP**	**07 08 47.0**	**-2.8**
	2.2nm,0.8s,baz=53,slow=8.9,SNR=7.1						
ASAR				PP	**PnPn**	**07 09 00.8**	**-4.4**
	1.3nm,0.8s,baz=40,slow=14,SNR=4.9						
STKA	**Stephens Creek**	**29.42**	**201**	P	**P**	**07 08 39.5**	**+0.5**
	2.5nm,0.6s,baz=33,slow=14,SNR=7.9						
STKA				LR	LR	07 20 24.0	
	comp=Z,8.0nm,21.4s,baz=207,slow=36						
FORT	**Forrest**	**35.55**	**220**	*eP*	**P**	**07 09 32.5**	**0.0**
	22nm,0.6s						
ASAJ	**Asahikawa**	**49.57**	**349**	*eP*	**P**	**07 11 25.0**	**-0.7**
	19nm,1.4s						
CMAR	**Chiang Mai Arr**	**58.71**	**295**	P	**P**	**07 12 35.5**	**+2.8**
	1.1nm,0.3s,baz=108,slow=4.8,SNR=5.0						
MK32	**Makanchi Array**	**80.86**	**319**	*eP*	**P**	**07 14 48.5**	**+0.4**
MKAR	**Makanchi Array**	**80.86**	**319**	P	**P**	**07 14 48.5**	**+0.4**
	0.4nm,0.4s,baz=96,slow=6.8,SNR=6.8						
MKAR				pP	**pP**	**07 15 13.2**	**+0.2**
	0.3nm,0.9s,baz=101,slow=5.0,SNR=1.8						
ILAR	**Eielson Array**	**81.64**	**22**	P	**P**	**07 14 50.3**	**-1.4**
	0.5nm,0.9s,baz=242,slow=5.7,SNR=5.0						
ILAR				sP	**pP**	**07 15 20.1**	**+3.4**
	0.3nm,0.6s,baz=250,slow=5.4,SNR=3.0						
KURK	**Kurchatov**	**84.25**	**322**	*eP*	**P**	**07 15 05.5**	**0.0**
KURBB	**Kurchatov Arra**	**84.29**	**322**	P	**P**	**07 15 05.5**	**-0.2**
	0.2nm,0.2s,baz=99,slow=4.1,SNR=4.3						
AAK	**Ala-Archa**			P	**P**	**07 15 12.0**	**+0.9**
	1.2nm,0.5s,baz=168,slow=8.9,SNR=4.9						
MAW	**Mawson**	**86.10**	**203**	P	**P**	**07 15 14.3**	**-0.1**
	1.5nm,0.6s,baz=97,slow=9.5,SNR=4.1						
BVAR	**Borovoye Array**	**89.71**	**323**	P	**P**	**07 15 31.4**	**-0.6**
	1.2nm,0.7s,baz=114,slow=6.6,SNR=4.9						
SYO	**Syowa Base**	**94.15**	**199**⇑	*eP*	**P**	**07 15 52.5**	**+0.4**
VAE	**Valguarnera**	**130.59**	**317**	PKP	**PKPdf**	**07 21 45.7**	**+0.9**
	17nm,0.4s,baz=12,slow=1.4,SNR=7.7						
TORD	**Torodi Ar. Bea**	**151.20**	**289**	PKPbc	**PKPbc**	**07 22 27.4**	**-0.4**
	1.4nm,0.7s,baz=83,slow=2.1,SNR=9.2						
TORD				PKPab	**PKPab**	**07 22 35.9**	**-0.1**
	1.1nm,0.6s,baz=91,slow=4.6,SNR=6.5						
TORD				pPKPbc	**pPKPbc**	**07 22 52.0**	**-2.1**
	0.7nm,0.9s,baz=89,slow=1.5,SNR=2.0						
TOA1	**Torodi Ar. Sit**	**151.20**	**289**	*e*PKPbc	**PKPbc**	**07 22 27.4**	**-0.4**
TOA1				*e*PKPab	**PKPab**	**07 22 35.9**	**-0.1**
TOA1				*ep*PKPdf	**pPKPbc**	**07 22 52.0**	**-2.1**

*IDC **09** 07:07:21.3±1.4,40.80N×144.95E,h0km,mb3.5/4, mb1 3.6/5,mb1mx3.6/66,mbtmpb3.4/5,ML3.0/1,Error ellipse: s-maj=40.9km s-min=29.3km az=77.0*
*ISCJB **09** 07:07:22.9±0.8,40.91N±0.03×144.86E±0.06,h33km, mb3.5/4,Error ellipse: s-maj=7.0km s-min=4.5km az=23.8*
*JMA **09** 07:07:22.2±0.1,40.91N×144.98E,h68km±3km,M3.4*
ISC 09 07:07:24.3±1.3,40.89N±0.05×144.94E±0.08,h35km,n20, σ1§81/25,mb3.5/4,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JEM	**Erimo**	**1.75**	**311**	*e*S	**Sn**	**07 08 11.9**	**-1.4**
JCH	**Churui**	**2.09**	**326**	P	**Pn**	**07 07 55.9**	**-1.0**
JCH				*e*S	**Sn**	**07 08 19.3**	**-2.3**
JNBK	**Urakawa-nobuka**	**2.15**	**311**	*e*S	**Sn**	**07 08 22.9**	**-0.3**
JOB	**Onbets**	**2.18**	**338**	*e*S	**Sn**	**07 08 23.4**	**-0.3**
NEM2	**Nemuro 2**	**2.55**	**13**	P	**Pn**	**07 08 01.8**	**-1.3**
NEM2				*e*S	**Sn**	**07 08 30.3**	**-2.5**
JAR	**Ashorobuto**	**2.56**	**340**	P	**Pn**	**07 08 02.2**	**-1.1**
JAR				*e*S	**Sn**	**07 08 31.3**	**-1.9**
JANG	**Nango**	**2.66**	**260**	P	**Pn**	**07 08 03.5**	**-1.2**
JBT2	**Biratori 2**	**2.70**	**315**	*e*S	**Sn**	**07 08 36.7**	**+0.1**
JNK	**Nakash**	**2.70**	**357**	P	**Pn**	**07 08 03.5**	**-1.7**
JNK				*e*S	**Sn**	**07 08 33.8**	**-2.9**
JTM	**Tenmabayashi**	**2.94**	**269**	P	**Pn**	**07 08 08.1**	**-0.4**
JTM				*e*S	**Sn**	**07 08 40.0**	**-2.6**
JOT	**Ohata**	**2.98**	**281**	*e*S	**Sn**	**07 08 40.7**	**-2.9**
JOM	**Ohasama**	**3.13**	**244**	*e*S	**Sn**	**07 08 45.4**	**-2.0**
JTKR	**Abashiri--Toko**	**3.17**	**346**	*e*S	**Sn**	**07 08 47.4**	**-0.9**
JEW	**Eniwo**	**3.26**	**308**	*e*S	**Sn**	**07 08 49.9**	**-0.5**
JMK	**Ichinoseki**	**3.45**	**237**	P	**Pn**	**07 08 15.1**	**-0.5**
JMK				*e*S	**Sn**	**07 08 52.9**	**-2.4**
ASAJ	**Asahikawa**	**3.66**	**333**	Pn	**Pn**	**07 08 20.7**	**+2.3**
	0.9nm,0.3s,baz=146,slow=18,SNR=2.8						
ASAJ				Sn	**Sn**	**07 09 00.3**	**-0.1**
	1.0nm,0.3s,baz=340,slow=28,SNR=4.2						
MKAR	**Makanchi Array**	**44.51**	**299**	P	P	07 15 34.9	+2.6
	0.3nm,0.7s,baz=85,slow=8.3,SNR=2.3						
KURBB	**Kurchatov Arra**	**45.90**	**306**	P	**P**	**07 15 45.0**	**+1.9**
	0.6nm,0.7s,baz=78,slow=8.8,SNR=3.0						
YKA	**Yellowknife Ar**	**59.09**	**32**	P	P	07 17 23.3	+2.7
	0.2nm,0.6s,baz=301,slow=6.9,SNR=4.2						
WRA	**Warramunga Arr**	**61.32**	**191**	P	**P**	**07 17 38.1**	**+1.8**
	1.1nm,1.0s,baz=9.1,slow=7.4,SNR=5.4						

IDC 09 07:17:04.9±1.2,24°10N×101°81E,h0km,mb3.5/4, mb1 3.7/5,mb1mx3.4/64,mbtmpb3.5/5,ML3.6/1,Error ellipse: s-maj=54.5km s-min=21.4km az=66.0,Yunnan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**6.21**	**206**	Pn	Pn	07 18 37.6	-0.3
	0.4nm,0.3s,baz=21,slow=14,SNR=3.2						
MKAR	**Makanchi Array**	**27.53**	**330**	P	P	07 22 53.1	-0.2
	0.4nm,0.6s,baz=137,slow=9.6,SNR=5.3						
ZALV	**Zalesovo Beam**	**32.43**	**341**	P	P	07 23 36.5	0.0
	0.3nm,0.3s,baz=167,slow=7.1,SNR=3.6						
WRA	**Warramunga Arr**	**54.04**	**141**	P	P	07 26 30.9	-0.5
	0.7nm,0.8s,baz=328,slow=8.5,SNR=6.5						
ASAR	**Alice Springs**	**56.78**	**144**	P	P	07 26 51.5	+0.5
	0.5nm,0.9s,baz=343,slow=6.0,SNR=4.9						

IDC 09 07:41:45.3±7.4,17°31S×178°83W,h551km±80km, mb3.0/5,mb1 3.3/5,mb1mx2.9/47,mbtmpb4.0/5,Error ellipse: s-maj=83.3km s-min=33.6km az=146.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**38.57**	**240**	P	P	07 48 21.3	-0.1
	1.8nm,0.6s,baz=78,slow=6.4,SNR=6.8						
WRA	**Warramunga Arr**	**44.35**	**259**	P	P	07 49 07.1	-0.2
	1.2nm,0.6s,baz=94,slow=7.0,SNR=35						
WRA				PcP	PcP	07 50 39.0	-0.4
	0.4nm,0.7s,baz=90,slow=4.0,SNR=3.8						
ASAR	**Alice Springs**	**44.57**	**254**	P	P	07 49 08.9	-0.1
	12nm,0.6s,baz=89,slow=8.1,SNR=225						
ASAR				PcP	PcP	07 50 39.1	-1.0
	0.4nm,0.4s,baz=101,slow=4.1,SNR=4.6						
ILAR	**Eielson Array**	**85.40**	**13**	P	P	07 53 23.5	-0.8
	0.1nm,0.5s,baz=214,slow=4.9,SNR=4.4						
TXAR	**Lajitas Array**	**86.02**	**58**	P	P	07 53 28.3	+0.1
	0.1nm,0.5s,baz=231,slow=5.7,SNR=3.7						
GERES	**GERESS Array B**	**146.94**	**345**	PKPbc	PKPbc	08 00 26.4	0.0
	0.6nm,0.5s,baz=28,slow=3.8,SNR=6.5						

*IDC **09** 07:47:20.3±1.6,0.84N×123.02E,h0km,mb3.3/3, mb1 3.6/3,mb1mx3.3/55,mbtmpb3.3/3,Error ellipse: s-maj=194.2km s-min=24.6km az=62.0*
*ISCJB **09** 07:47:33.9±0.8,1.75N±0.08×125.23E±0.07,h154km, mb3.2/3,Error ellipse: s-maj=12.6km s-min=8.5km az=34.4*
*DJA **09** 07:47:34.5±0.3,2°N±4°×12°5E±°,h10km,M3.9/7,mB4.5/1, mb3.6/1,MLv4.0/7,Mw(mB)3.6/1*
ISC 09 07:47:34.9±1.1,1.69N±0.07×125.21E±0.07,h154km,n12, σ1§89/14,mb3.2/3,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KMSI	**Cibinong**	**1.66**	**228**	P	**Pn**	**07 48 02.8**	**-3.6**
SGSI	**Sangihe**	**2.01**	**9**	P	**Pn**	**07 48 09.2**	**-1.2**
LBMI	**Labuha**	**3.25**	**135**	P	**Pn**	**07 48 25.2**	**-0.5**
LBMI				S	**Sn**	**07 49 05.4**	**+0.3**
MRSI	**Marisa**	**3.48**	**250**	P	**Pn**	**07 48 28.9**	**+0.3**
LUWI	**Luwuk**	**3.65**	**222**	P	**Pn**	**07 48 30.3**	**-0.4**
SANI	**Sanana**	**3.79**	**168**	P	**Pn**	**07 48 32.2**	**-0.5**
SANI				S	**Sn**	**07 49 13.9**	**-3.7**
APSI	**Ampana**	**4.40**	**234**	P	**Pn**	**07 48 41.3**	**+0.8**
NLAI	**Namlea**	**5.25**	**159**	P	**Pn**	**07 48 52.7**	**+1.0**
MPSI	**Mapaga**	**5.48**	**256**	P	**Pn**	**07 48 55.9**	**+1.1**
WRA	**Warramunga Arr**	**23.29**	**158**	P	P	**07 52 31.2**	**+2.0**
	0.6nm,0.5s,baz=330,slow=11,SNR=10						
ASAR	**Alice Springs**	**26.59**	**162**	P	**P**	**07 53 00.8**	**+1.8**
	0.4nm,0.6s,baz=338,slow=8.4,SNR=5.7						
MKAR	**Makanchi Array**	**58.38**	**327**	P	**P**	**07 57 14.2**	**0.0**
	0.1nm,0.3s,baz=122,slow=5.4,SNR=2.4						

*ISK **09** 07:54:32.9,37.92N×26.88E,h3km,ML2.7/5*
*CSEM **09** 07:54:33.7±0.2,37.94N×26.91E,h10km,ML2.7,Error ellipse: s-maj=7.5km s-min=3.5km az=49.0*
*ISCJB **09** 07:54:34.0±0.9,37.98N±0.07×26.96E±0.09,h24km±8km, Error ellipse: s-maj=15.4km s-min=5.5km az=137.2*
*DDA **09** 07:54:35.5,37.93N×26.75E,h6km,Ml2.6*
ISC 09 07:54:34.2±1.1,37.93N±0.04×26.90E±0.05,h19km±3km, n16,σ0§83/25,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DGB	**˜zmir**	**0.12**	**354**	*i* P	**Pg**	**07 54 39.0**	**+0.7**
DGB				*i* S	**Sg**	**07 54 41.8**	**+0.8**
GCAM	**G?zlecaml?**	**0.35**	**131**	PG	**Pg**	**07 54 40.9**	**-0.8**
GCAM	**G?zlecaml?**	**0.35**	**131**	*e*Pg	**Pg**	**07 54 40.9**	**-0.8**
ZEY	**˜zmir**	**0.44**	**315**	*i* P	**Pg**	**07 54 42.6**	**-0.7**
ZEY				*i* S	**Sg**	**07 54 49.1**	**-0.2**
URLA	**Izmir**	**0.49**	**331**	PG	**Pg**	**07 54 43.5**	**-0.7**
URLA				SG	**Sg**	**07 54 50.9**	**0.0**
URLA	**Izmir**	**0.49**	**331**	*i* P	**Pg**	**07 54 42.8**	**-1.4**
URLA				*i* S	**Sg**	**07 54 51.0**	**0.0**
URLA	**Izmir**	**0.49**	**331**	P	**Pg**	**07 54 42.8**	**-1.4**
URLA	**Izmir**	**0.49**	**331**	*e*Pg	**Pg**	**07 54 43.5**	**-0.7**
URLA				*e*Sg	**Sg**	**07 54 50.9**	**0.0**
AYDB	**Zeytinkoy-Aydi**	**0.79**	**89**	PG	**Pb**	**07 54 48.9**	**-0.5**
AYDB	**Zeytinkoy-Aydi**	**0.79**	**89**	*e*Pg	**Pb**	**07 54 48.9**	**-0.5**
CHOS	**Chios island**	**0.81**	**305**	PG	**Pb**	**07 54 48.9**	**-0.8**
CHOS				SG	**Sb**	**07 55 00.9**	**+0.7**
CHOS	**Chios island**	**0.81**	**305**	*e*Pg	**Pb**	**07 54 48.9**	**-0.8**
CHOS				*e*Sg	**Sb**	**07 55 00.9**	**+0.7**
BODT	**Bodrum**	**0.93**	**159**	PG	**Pb**	**07 54 50.9**	**-0.8**
BODT				SG	**Sg**	**07 55 04.8**	**+0.2**
BODT	**Bodrum**	**0.93**	**159**	*e*Pg	**Pb**	**07 54 50.9**	**-0.8**
BODT				*e*Sg	**Sg**	**07 55 04.8**	**+0.2**
APE	**Apeiranthos**	**1.39**	**232**	PN	**Pn**	**07 54 59.7**	**+1.1**
APE	**Apeiranthos**	**1.39**	**232**	*e*Pn	**Pn**	**07 54 59.7**	**+1.1**

GUC 09 08:05:17.5±0.6,36.87S×73.45W,h26km±4km,ML3.5, 1C-1D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CCSP	**San Pedro de C**	**0.28**	**85**	*e*P	Pb	08 05 23.3	-0.9
CCSP				*i* S	Sb	08 05 28.5	-0.4
CCSP				IAML		08 05 32.1	
	comp=N,9μm,0.2s						
COCH	**Cobquecura**	**0.91**	**36**⇑	*i* P	Pn	08 05 33.0	-1.7
COCH				*i* S	Sb	08 05 45.3	-1.1
COCH				IAML		08 05 48.9	
	comp=N,2μm,0.3s						
CCHI	**Chillan**	**1.14**	**77**⇓	*i* P	Pb	08 05 38.5	0.0
CCHI				*i* S	Sb	08 05 55.1	+2.3
CCHI				IAML		08 06 03.1	
	comp=E,2μm,0.7s						
TMU	**Temuco**	**1.98**	**160**	*e*P	Pn	08 05 50.2	+0.9
TMU				*i* S	Sn	08 06 14.7	+1.4
GO05	**HualaæØ**	**2.23**	**34**	*e*P	Pn	08 05 52.2	-0.6
GO05				*i* S	Sb	08 06 26.8	+2.5
GO05				IAML		08 06 38.8	
	comp=E,427nm,0.8s						
GO06	**Curarrehue**	**3.13**	**151**	*e*P	Pn	08 06 06.7	+1.5
GO06				*i* S	Sb	08 06 56.0	+5.9

*IDC **09** 08:11:45.0±1.4,36.71N×141.78E,h0km,mb3.4/4, mb1 3.5/5,mb1mx3.3/64,mbtmpb3.3/5,ML3.1/1,MS3.0/3, Ms1 3.0/3,ms1mx2.4/40,Error ellipse: s-maj=32.7km s-min=28.1km az=175.0*
*JMA **09** 08:11:45.0±0.1,36.33N×141.89E,h24km,M3.4*
ISC 09 08:11:48.3±1.2,36.35N±0.05×141.65E±0.10,h26km,n19, σ1§51/13,mb3.4/4,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CHOJ	**Chosi**	**0.91**	**225**	P	**Pn**	**08 12 04.1**	**-1.2**
CHOJ				*e*S	**Sb**	**08 12 16.9**	**-0.2**
ONAJ	**Iwakimizuishiy**	**1.01**	**318**	P	**Pn**	**08 12 05.9**	**-1.0**
JFK	**Kawauchi**	**1.19**	**329**	P	**Pn**	**08 12 08.1**	**-1.2**
JFK				*e*S	**Sb**	**08 12 25.9**	**+0.7**
BSO3	**Boso 3**	**1.80**	**211**	P	**Pn**	**08 12 16.5**	**-0.9**
JFY	**Yanaizu**	**1.88**	**305**	P	**Pn**	**08 12 19.7**	**+0.9**
MJAR	**Matsushiro Arr**	**2.78**	**275**	Pn	**Pn**	**08 12 32.2**	**+1.1**
	2.6nm,0.3s,baz=94,slow=15,SNR=6.5						
MJAR				Sn	**Sb**	**08 13 09.3**	**-1.5**
	3.9nm,0.3s,baz=74,slow=16,SNR=4.7						
JNU	**Nakatsue**	**9.43**	**253**	LR	LR	08 17 44.7	
	comp=Z,40nm,20.8s,baz=109,slow=37						
PETK	**Petropavlovsk-**	**20.19**	**29**	LR	LR	08 23 30.5	
	comp=Z,16nm,20.5s,baz=90,slow=36						
H11N2	**WAKE ISLAND Hy**	**27.64**	**120**	T	T	08 46 03.2	
	baz=312,slow=75,SNR=18						
H11N1	**WAKE ISLAND Hy**	**27.65**	**120**	T	T	08 46 05.6	
	baz=312,slow=75,SNR=13						
H11N3	**WAKE ISLAND Hy**	**27.66**	**120**	T	T	08 46 08.3	
	baz=312,slow=75,SNR=12						
H11S1	**WAKE ISLAND Hy**	**28.34**	**122**	T	T	08 47 04.4	
	baz=315,slow=75,SNR=6.7						
H11S3	**WAKE ISLAND Hy**	**28.34**	**122**	T	T	08 47 02.1	
	baz=315,slow=75,SNR=7.0						
H11S2	**WAKE ISLAND Hy**	**28.35**	**122**	T	T	08 47 05.6	
	baz=315,slow=75,SNR=5.2						
MKAR	**Makanchi Array**	**44.64**	**303**	P	**P**	**08 19 58.3**	**-0.3**
	0.2nm,0.7s,baz=83,slow=12,SNR=2.8						
KURBB	**Kurchatov Arra**	**46.57**	**309**	P	**P**	**08 20 12.4**	**-1.3**
	0.8nm,0.6s,baz=84,slow=8.1,SNR=4.9						
CTA	**Charters Tower**	**56.30**	**175**	LR	LR	08 44 56.2	
	comp=Z,111nm,21.9s,baz=111,slow=35						
WRA	**Warramunga Arr**	**56.41**	**188**	P	**P**	**08 21 30.7**	**+3.2**
	0.3nm,0.5s,baz=5.9,slow=7.7,SNR=4.7						
YKA	**Yellowknife Ar**	**64.31**	**30**	P	**P**	**08 22 19.8**	**-1.2**
	0.1nm,0.5s,baz=304,slow=7.0,SNR=4.3						

IDC 09 08:16:11.1±12.0,8.17N×93.84E,h0km,mb3.6/3, mb1 3.7/3,mb1mx3.3/67,mbtmpb3.6/3,Error ellipse: s-maj=421.4km s-min=31.0km az=72.0,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H08S3	**Diego Garcia H**	**26.45**	**234**	T	T	08 48 38.1	
	baz=56,slow=76,SNR=6.3						
H08S2	**Diego Garcia H**	**26.45**	**234**	T	T	08 48 30.3	
	baz=56,slow=76,SNR=7.2						
H08S1	**Diego Carcia H**	**26.47**	**234**	T	T	08 48 37.8	
	baz=56,slow=76,SNR=6.7						
SONM	**Songino Array**	**40.94**	**13**	P	P	08 23 55.5	-0.1
	1.6nm,0.6s,baz=193,slow=12,SNR=3.3						
WRA	**Warramunga Arr**	**48.67**	**126**	P	P	08 24 57.7	+0.3
	0.2nm,0.4s,baz=306,slow=8.4,SNR=8.7						
ASAR	**Alice Springs**	**50.33**	**130**	P	P	08 25 09.5	-0.6
	0.2nm,0.6s,baz=300,slow=7.1,SNR=5.6						

*ISCJB **09** 08:24:59.1±0.6,35.95N±0.04×140.14E±0.06,h77km±5km, mb3.5/6,Error ellipse: s-maj=8.8km s-min=6.3km az=8.1*
*JMA **09** 08:25:00.8±0.1,35.98N×140.09E,h63km±1km,M3.4 Broadband fault plane solution: P waves. NP1: ϕ_s=356.00000°,δ67.00000°,λ67.00000°. NP2: ϕ_s=223.00000°,δ32.00000°,λ133.00000°. Principal axes: T Plg61.0000°, Azm232.0000°; N Plg21.0000°, Azm5.0000°; P Plg19.0000°, Azm103.0000°;*
JMA Felt I J1.
*NIED **09** 08:25:00,36.00N×140.10E,h77km,Mw3.7 Best double couple: M0=4.30000×10^{14} NP1:ϕ_s=207.00000°,δ25.00000°, λ133.00000°. NP2:ϕ_s=342.00000°,δ72.00000°,λ72.00000°.*
*IDC **09** 08:25:01.1±2.1,35.90N×140.09E,h82km±17km,mb3.3/6, mb1 3.4/7,mb1mx3.1/61,mbtmpb3.6/7,MS2.2/2,Ms1 2.2/2, ms1mx2.0/24,Error ellipse: s-maj=29.2km s-min=8.6km az=64.0*
ISC 09 08:25:00.0±0.8,35.96N±0.04×140.12E±0.06,h69km±7km, n19,σ0§68/29,mb3.7/6,1C-4D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JYT	**Yasato**	**0.28**	**13**⇑	P	**Pn**	**08 25 11.1**	**+0.2**
JYT				S	**Sn**	**08 25 18.5**	**-0.3**
JAG	**Ashikaga**	**0.71**	**311**	⇓P	**Pn**	**08 25 15.3**	**+0.3**
JAG				S	**Sn**	**08 25 25.7**	**-0.3**
JRY	**Ryogami san**	**0.99**	**274**	⇓P	**Pn**	**08 25 18.8**	**+0.5**
JRY				S	**Sn**	**08 25 32.1**	**+0.2**
JKT	**Katashina**	**1.07**	**319**	⇓P	**Pn**	**08 25 19.6**	**+0.2**
JKT				S	**Sn**	**08 25 34.1**	**+0.3**
JOD2	**Odawara 2**	**1.09**	**231**	P	**Pn**	**08 25 19.7**	**+0.1**
JOD2				S	**Sn**	**08 25 34.1**	**-0.1**
JYN	**Shimob**	**1.36**	**251**	⇓P	**Pn**	**08 25 23.8**	**+0.6**
JYN				S	**Sn**	**08 25 40.5**	**0.0**
JFY	**Yanaizu**	**1.48**	**347**	P	**Pn**	**08 25 25.8**	**+1.1**
JFY				S	**Sn**	**08 25 44.4**	**+1.0**
JFK	**Kawauchi**	**1.53**	**23**	P	**Pn**	**08 25 26.1**	**+0.7**
MJAR	**Matsushiro Arr**	**1.65**	**291**	P	**Pn**	**08 25 27.4**	**+0.5**
	27nm,0.3s,baz=100,slow=7.9,SNR=182						
MJAR				S	**Sn**	**08 25 48.4**	**+1.1**
	11nm,0.3s,baz=77,slow=16,SNR=12						
MAT	**Matsushiro**	**1.65**	**291**	P	**Pn**	**08 25 28.0**	**+1.0**
MAT				S	**Sn**	**08 25 47.3**	**0.0**
JHJ	**Hachijo jima 2**	**2.85**	**186**	P	**Pn**	**08 25 44.6**	**+1.4**
	26nm,0.3s,baz=93,slow=18,SNR=3.8						
JHJ				S	**Sn**	**08 26 16.8**	**+0.5**
	34nm,0.3s,baz=226,slow=23,SNR=4.2						
JNU	**Nakatsue**	**8.13**	**252**	LR	LR	08 30 45.4	
	comp=Z,18nm,20.2s,baz=111,slow=43						
KSRS	**Korea Array**	**9.90**	**282**	LR	LR	08 31 03.2	
	comp=Z,14nm,21.7s,baz=41,slow=36						
ZALV	**Zalesovo Beam**	**41.88**	**313**	P	**P**	**08 32 42.7**	**-0.6**
	0.6nm,0.3s,baz=91,slow=12,SNR=2.2						
MKAR	**Makanchi Array**	**43.81**	**303**	P	**P**	**08 32 59.1**	**0.0**
	1.0nm,0.9s,baz=88,slow=8.3,SNR=6.3						
KURBB	**Kurchatov Arra**	**45.85**	**309**	P	**P**	**08 33 15.0**	**-0.1**
	0.8nm,0.5s,baz=86,slow=8.0,SNR=8.4						
ILAR	**Eielson Array**	**50.96**	**32**	P	**P**	**08 33 54.2**	**0.0**
	0.2nm,0.6s,baz=274,slow=7.0,SNR=2.8						
ILAR				pP	**pP**	**08 34 11.1**	**-0.6**
	0.3nm,0.6s,baz=271,slow=6.8,SNR=4.7						
WRA	**Warramunga Arr**	**55.86**	**187**	P	**P**	**08 34 29.5**	**-1.1**
	0.5nm,0.5s,baz=2.6,slow=7.4,SNR=11						
ASAR	**Alice Springs**	**59.59**	**187**	P	**P**	**08 34 56.0**	**-0.8**
	0.2nm,0.8s,baz=15,slow=12,SNR=3.7						
ASAR				pP	**pP**	**08 35 15.2**	**+0.6**
	0.2nm,0.5s,baz=16,slow=11,SNR=3.7						

IDC 09 08:35:31.0±10.0,1°31N×100°48W,h0km,mb3.1/4, mb1 3.6/4,mb1mx3.4/36,mbtmpb3.1/4,MS2.9/2,Ms1 2.9/2, ms1mx2.6/10,Error ellipse: s-maj=376.9km s-min=138.5km az=105.0,Galapagos Triple Junction region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
APG	**El Apazote**	**16.83**	**36**	LR	LR	08 44 15.9	
	comp=Z,46nm,21.6s,baz=4.0,slow=31						
TXAR	**Lajitas Array**	**28.04**	**354**	P	P	08 41 25.1	+0.9
	0.2nm,0.6s,baz=180,slow=13,SNR=3.5						
TXAR				LR	LR	08 50 01.4	
	comp=Z,19nm,18.5s,baz=0.0,slow=31						
PDAR	**Pinedale Array**	**42.07**	**350**	P	P	08 43 24.5	-0.4
	0.1nm,0.4s,baz=156,slow=8.9,SNR=3.2						
YKA	**Yellowknife Ar**	**61.95**	**353**	P	P	08 45 52.0	-0.4
	0.2nm,0.9s,baz=160,slow=7.9,SNR=3.2						
ILAR	**Eielson Array**	**71.58**	**341**	P	P	08 46 54.0	+0.2
	0.2nm,0.5s,baz=146,slow=6.9,SNR=5.9						

*IDC **09** 08:38:33.4±1.0,4.19S×129.34E,h0km,mb4.0/4, mb1 4.0/7,mb1mx3.7/53,mbtmpb3.9/7,ML3.5/3,MS2.6/1, Ms1 2.6/1,ms1mx2.1/45,Error ellipse: s-maj=44.1km s-min=19.6km az=64.0*
*ISCJB **09** 08:38:36.9±0.4,4.15S±0.04×129.55E±0.04,h36km, mb4.4/6,Error ellipse: s-maj=6.0km s-min=4.9km az=27.6*
*DJA **09** 08:38:37.0±0.4,4°S±4°×13°0E±°,h10km,M4.0/5,mB5.1/1, mb4.4/1,MLv3.9/5,Mw(mB)4.5/1*
*NEIC **09** 08:38:38.8±0.5,4.21S×129.56E,h35km,mb4.2/6,Error ellipse: s-maj=15.3km s-min=7.7km az=69.0*
ISC 09 08:38:38.9±0.7,4.09S±0.06×129.59E±0.05,h36km,n34, σ1§67/37,mb4.3/6,1C,Banda Sea

| Code | Station

KMSI	**Cibinong**	**0.34 11**	P	**Pn**	**08 48 54.2**	**+1.4**
KMSI			S	Sn	08 49 29.6	+26
LUWI	**Luwuk**	**1.71 222**	P	**Pn**	**08 49 09.6**	**+2.8**
LUWI			S	**Sn**	**08 49 28.3**	**-0.5**
MRSI	**Marisa**	**1.99 277**	P	**Pn**	**08 49 11.7**	**+1.3**
MRSI			S	**Sn**	**08 49 36.1**	**+1.0**
APSI	**Ampana**	**2.54 243**	P	**Pn**	**08 49 16.7**	**-0.8**
SANI	**Sanana**	**3.08 138**	P	**Pn**	**08 49 24.5**	**-0.3**
LBMI	**Labuha**	**3.69 104**	P	**Pn**	**08 49 33.8**	**+0.8**
MPSI	**Mapaga**	**4.02 271**	P	**Pn**	**08 49 38.1**	**+0.7**
PCI	**Palu**	**4.23 254**	P	**Pn**	**08 49 41.0**	**+0.7**
NLAI	**Namlea**	**4.70 137**	P	**Pn**	**08 49 46.2**	**-0.4**
LEM	**Lembang**	**17.71 246**	P	**P**	**08 52 34.2**	**-3.8**
	9.3nm,0.3s,baz=317,slow=14,SNR=3.6					
FITZ	**Fitzroy Crossi**	**18.30 175**	P	**P**	**08 52 44.5**	**+0.2**
	baz=3.7,slow=9.2					
WRA	**Warramunga Arr**	**22.51 154**	P	**P**	**08 53 31.3**	**+1.8**
	1.6nm,0.5s,baz=330,slow=10,SNR=40					
ASAR	**Alice Springs**	**25.67 158**	P	**P**	**08 54 01.6**	**+2.8**
	0.3nm,0.5s,baz=345,slow=16,SNR=5.9					
STKA	**Stephens Creek**	**36.06 154**	P	**P**	**08 55 30.9**	**+0.9**
	4.1nm,1.2s,baz=336,slow=12,SNR=3.1					
MKAR	**Makanchi Array**	**58.90 328**	P	**P**	**08 58 24.5**	**-2.1**
	0.2nm,0.3s,baz=125,slow=7.8,SNR=4.8					

*DDA **09** 08:50:19.5,39.76N×29.70E,h7km,Ml2.5,Suspected Mining explosion.*
*ISK **09** 08:50:20.7,39.64N×29.46E,h20km,ML2.2/5,Suspected Mining explosion.*
*ISCJB **09** 08:50:21.6±0.7,39.71N±0.03×29.49E±0.06,h0km,Error ellipse: s-maj=6.9km s-min=4.0km az=170.0*
*CSEM **09** 08:50:21.9±0.3,39.69N×29.49E,h2km,ML2.2,Error ellipse: s-maj=8.5km s-min=4.8km az=87.0,Suspected Mining explosion.*

ISC 09 08:50:20.7±0.9,39.71N±0.03×29.49E±0.04,h0km,n18, σ0s55/28,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TVSB	**Tavsanli**	**0.26 185**		**Pg**	**Pg**	**08 50 25.7**	**0.0**
TVSB				SG	**Sg**	**08 50 30.1**	**+1.0**
TVSB	**Tavsanli**	**0.26 185**		*e*Pg	**Pg**	**08 50 25.7**	**0.0**
TVSB				*e*Sg	**Sg**	**08 50 30.1**	**+1.0**
CAVI	**Cavuskoy**	**0.56 29**		PG	**Pb**	**08 50 33.6**	**+0.2**
CAVI	**Cavuskoy**	**0.56 29**		*e*Pg	**Pb**	**08 50 33.6**	**+0.2**
GDZ	**Gediz**	**0.62 181**		*i* P	**Pg**	**08 50 32.8**	**+0.2**
GDZ				*i* S	**Sb**	**08 50 43.0**	**-0.8**
GDZ	**Gediz**	**0.62 181**		P	**Pg**	**08 50 32.8**	**+0.2**
GDZ				S	**Sb**	**08 50 43.0**	**-0.8**
DURS	**Dursunbey**	**0.79 262**		*i* P	**Pb**	**08 50 37.5**	**+0.1**
DURS				*i* S	**Sb**	**08 50 47.7**	**-1.0**
DURS	**Dursunbey**	**0.79 262**		P	**Pb**	**08 50 37.5**	**+0.1**
DURS				S	**Sb**	**08 50 47.7**	**-1.0**
MDNY	**Mudanya-Bursa**	**0.81 325**		PG	**Pb**	**08 50 37.8**	**+0.2**
MDNY	**Mudanya-Bursa**	**0.81 325**		*e*Pg	**Pb**	**08 50 37.8**	**+0.2**
YLV	**Yalova**	**0.86 354**		PG	**Pn**	**08 50 39.4**	**-0.7**
YLV	**Yalova**	**0.86 354**		*e*Pg	**Pn**	**08 50 39.4**	**-0.7**
DEMI	**Demirci**	**0.90 222**		*i* P	**Pn**	**08 50 40.3**	**-0.3**
DEMI				*i* S	**Sn**	**08 50 54.5**	**+0.1**
DEMI	**Demirci**	**0.90 222**		P	**Pn**	**08 50 40.3**	**-0.3**
DEMI				S	**Sn**	**08 50 54.5**	**+0.1**
ARMT	**Armutlu**	**0.98 331**		PG	**Pb**	**08 50 40.6**	**0.0**
ARMT	**Armutlu**	**0.98 331**		*e*Pg	**Pb**	**08 50 40.6**	**0.0**
KCTX	**Karacabey (Bur**	**1.03 303**		PG	**Pg**	**08 50 40.7**	**+0.2**
KCTX				SG	**Sb**	**08 50 55.9**	**+0.3**
KCTX	**Karacabey (Bur**	**1.03 303**		*e*Pg	**Pg**	**08 50 40.7**	**+0.2**
KCTX				*e*Sg	**Sb**	**08 50 55.9**	**+0.3**

IDC 09 09:04:29.1±1.0,38.45N×110.01E,h0km,mb3.6/6, mb1 3.8/7,mb1mx3.5/68,mbtmp3.6/7,ML3.5/1,Error ellipse: s-maj=35.5km s-min=19.3km az=64.0,Western Nei Mongol

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SONM	**Songino Array**	**9.74 345**		Pn		09 06 51.5	+1.0
	0.4nm,0.3s,baz=158,slow=12,SNR=2.5						
MKAR	**Makanchi Array**	**21.95 301**		P		09 09 24.3	0.0
	0.9nm,0.6s,baz=101,slow=13,SNR=9.0						
CMAR	**Chiang Mai Arr**	**22.14 209**		P		09 09 26.5	+0.1
	1.3nm,0.4s,baz=17,slow=9.4,SNR=7.5						
KURBB	**Kurchatov Arra**	**25.32 309**		P		09 09 57.0	-0.3
	1.5nm,0.7s,baz=107,slow=11,SNR=6.3						
WRA	**Warramunga Arr**	**62.41 154**		P		09 14 53.4	-0.6
	0.8nm,0.7s,baz=347,slow=7.2,SNR=8.6						
ASAR	**Alice Springs**	**65.73 156**		P		09 15 16.2	+0.6
	0.9nm,0.8s,baz=332,slow=6.3,SNR=8.6						
YKA	**Yellowknife Ar**	**73.20 20**		P		09 16 01.2	-0.1
	0.3nm,1.0s,baz=328,slow=5.8,SNR=4.3						

IDC 09 09:05:23.2±2.4,38.39N×109.98E,h0km,mb3.3/3, mb1 3.7/3,mb1mx3.2/66,mbtmp3.4/3,Error ellipse: s-maj=62.6km s-min=31.4km az=48.0,Western Nei Mongol

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**21.96 301**		P		09 10 18.5	+0.1
	0.3nm,0.6s,baz=108,slow=9.5,SNR=2.4						
CMAR	**Chiang Mai Arr**	**22.07 209**		P		09 10 19.8	0.0
	0.7nm,0.3s,baz=12,slow=9.5,SNR=3.0						
WRA	**Warramunga Arr**	**62.37 154**		P		09 15 47.7	0.0
	0.9nm,1.1s,baz=341,slow=6.3,SNR=3.2						

IDC 09 09:05:55.9±2.1,38.34N×109.88E,h0km,mb3.4/4, mb1 3.8/4,mb1mx3.3/65,mbtmp3.5/4,Error ellipse: s-maj=59.7km s-min=31.0km az=43.0,Western Nei Mongol

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**21.92 302**		P		09 10 50.6	-0.1
	0.7nm,0.8s,baz=102,slow=11,SNR=4.4						
CMAR	**Chiang Mai Arr**	**21.99 209**		P		09 10 51.5	-0.1
	0.9nm,0.4s,baz=19,slow=9.6,SNR=2.8						
WRA	**Warramunga Arr**	**62.36 154**		P		09 16 20.3	0.0
	0.5nm,0.7s,baz=348,slow=7.4,SNR=4.4						
ASAR	**Alice Springs**	**65.67 156**		P		09 16 42.1	+0.1
	0.5nm,0.7s,baz=344,slow=6.4,SNR=4.7						

IDC 09 09:24:02.7±3.3,4.69S×135.72E,h0km,mb3.3/1, mb1 3.5/3,mb1mx3.2/42,mbtmp3.3/3,ML3.1/2,Error ellipse: s-maj=143.3km s-min=31.0km az=81.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**15.22 185**		Pn	Pn	09 27 37.0	-2.1
	0.1nm,0.3s,baz=4.1,slow=13,SNR=7.0						
WRA					Sn	09 30 19.5	-9.0
	0.1nm,0.3s,baz=9.4,slow=22,SNR=4.2						
ASAR	**Alice Springs**	**18.94 185**		P	Pn	09 28 26.2	+0.2
	0.1nm,0.3s,baz=9.8,slow=10,SNR=16						
MKAR	**Makanchi Array**	**69.58 324**		P	P	09 35 13.7	0.0
	0.2nm,0.5s,baz=122,slow=5.4,SNR=2.8						

*NIED **09** 09:41:00,39.10N×144.40E,h5km,Mw3.6 Best double couple: M₀2.54000×10¹⁴ NP1:φs357.00000°,δ39.00000°, λ-96.00000°. NP2:φs184.00000°,δ51.00000°, λ-85.00000°.*
*ISCJB **09** 09:41:23.3±0.8,39.13N±0.04×144.38E±0.06,h11km, mb3.6/4, Error ellipse: s-maj=7.4km s-min=4.7km az=34.6*
*JMA **09** 09:41:26.2±0.2,39.09N×144.37E,h44km,M3.6*
*IDC **09** 09:41:30.4±2.7,39.47N×143.36E,h0km,mb3.6/4, mb1 3.5/8,mb1mx3.4/70,mbtmp3.5/8,ML3.1/4,MS2.4/1, Ms1 2.4/1,ms1mx2.1/57,Error ellipse: s-maj=52.3km s-min=27.6km az=142.0*

ISC 09 09:41:24.1±1.6,39.12N±0.07×144.42E±0.10,h11km,n28, σ1s25/39,mb3.6/4,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MIYJ	**Miyakonagasawa**	**2.06 284**		P	**Pn**	**09 41 59.0**	**+0.3**
MIYJ				*e*S	**Sn**	**09 42 23.2**	**-1.2**
OFUJ	**Ofunato**	**2.14 270**		P	**Pn**	**09 41 59.9**	**+0.2**
OFUJ				*e*S	**Sn**	**09 42 24.8**	**-1.5**
JOM	**Ohasama**	**2.45 279**		P	**Pn**	**09 42 04.9**	**+0.9**
JOM				*e*S	**Sn**	**09 42 33.5**	**-0.5**
JMK	**Ichinoseki**	**2.50 267**		P	**Pn**	**09 42 05.0**	**+0.4**
JMK				*e*S	**Sn**	**09 42 33.8**	**-1.3**
JANG	**Nango**	**2.56 300**		P	**Pn**	**09 42 05.7**	**+0.1**
JANG				*e*S	**Sn**	**09 42 35.8**	**-1.0**
JRG	**Rokugo**	**2.95 277**		P	**Pn**	**09 42 12.1**	**+1.2**
JRG				*e*S	**Sn**	**09 42 46.9**	**+0.6**
JOU	**Okura**	**3.03 257**		P	**Pn**	**09 42 12.5**	**+0.5**
JOU				*e*S	**Sn**	**09 42 47.3**	**-1.0**
JTM	**Tenmabayashi**	**3.06 304**		P	**Pn**	**09 42 13.3**	**+0.8**
JTM				*e*S	**Sn**	**09 42 48.4**	**-0.7**
JAH	**Hinai**	**3.11 291**		P	**Pn**	**09 42 14.5**	**+1.4**
JAH				*e*S	**Sn**	**09 42 51.1**	**+0.9**
JYK	**Kaneyama**	**3.17 268**		P	**Pn**	**09 42 14.8**	**+0.9**
JNBK	**Urakawa-nobuka**	**3.40 339**		P	**Pn**	**09 42 18.2**	**+1.1**
JNBK				*e*S	**Sn**	**09 42 57.1**	**-0.3**
JOT	**Ohata**	**3.43 312**		*e*S	**Sn**	**09 42 57.3**	**-0.7**
JCH	**Churui**	**3.58 347**		P	**Pn**	**09 42 20.0**	**+0.4**
JCH				*e*S	**Sn**	**09 43 00.3**	**-1.5**
JFT	**Otama**	**3.59 245**		P	**Pn**	**09 42 19.8**	**+0.1**
JFT				*e*S	**Sn**	**09 43 00.2**	**-1.8**
JKB	**Kayabe**	**3.78 318**		P	**Pn**	**09 42 25.6**	**+3.3**
NEM2	**Nemuro 2**	**4.36 13**		P	**Pn**	**09 42 28.2**	**-2.0**
JTKR	**Abashiri--Toko**	**4.86 356**		P	**Pn**	**09 42 37.1**	**0.0**
ASAJ	**Asahikawa**	**5.17 345**		Pn	**Pn**	**09 42 42.9**	**+1.4**
	0.9nm,0.3s,baz=209,slow=7.5,SNR=8.0						
JRY	**Ryogami san**	**5.37 236**		P	**Pn**	**09 42 43.1**	**-1.1**
MJAR	**Matsushiro Arr**	**5.55 244**		Pn	**Pn**	**09 42 46.8**	**+0.2**
	2.6nm,0.3s,baz=54,slow=10,SNR=26						
MAT	**Matsushiro**	**5.55 244**		P	**Pn**	**09 42 47.5**	**+0.8**
MAT				*e*S	**Sn**	**09 43 51.6**	**+1.2**
USRK	**Ussuriysk Ar.**	**10.59 303**		Pn	**Pn**	**09 43 52.4**	**-3.3**
	0.2nm,0.3s,baz=116,slow=16,SNR=2.6						
JNU	**Nakatsue**	**12.47 245**		LR	LR	09 49 12.4	
	comp=Z,22nm,21.7s,baz=94,slow=39						
KSRS	**Korea Array**	**13.07 268**		Pn	**Pn**	**09 44 28.8**	**-0.8**
	0.2nm,0.3s,baz=83,slow=14,SNR=2.8						
MKAR	**Makanchi Array**	**45.05 301**		P	**P**	**09 49 40.8**	**+0.9**
	0.4nm,0.7s,baz=81,slow=8.9,SNR=3.9						
KURBB	**Kurchatov Arra**	**46.62 307**		P	**P**	**09 49 52.9**	**+0.8**
	0.8nm,0.6s,baz=79,slow=8.1,SNR=3.5						
BVAR	**Borovoye Array**	**50.94 312**		P	**P**	**09 50 25.6**	**+0.3**
	0.4nm,0.6s,baz=64,slow=6.7,SNR=2.6						
INK	**Inuvik**	**51.44 28**		P	P	09 50 38.0	+9.2
	0.9nm,1.0s,baz=277,slow=4.4,SNR=4.3						

*ISCJB **09** 09:42:33.9±0.8,44.51N±0.04×148.39E±0.07,h61km±6km, mb3.8/19,Error ellipse: s-maj=9.5km s-min=5.2km az=31.9*
*MOS **09** 09:42:33.4±1.0,44.51N×148.44E,h60km,mb4.1/13,Error ellipse: s-maj=9.9km s-min=8.2km az=91.1*
*JMA **09** 09:42:34.8±0.3,44.04N×148.18E,h0km,M4.8*
*SKHL **09** 09:42:34.4±0.9,44.53N×148.46E,h64km±3km,mb5.2/3*
*IDC **09** 09:42:35.9±2.6,44.58N×148.24E,h62km±23km,mb3.6/16, mb1 3.8/20,mb1mx3.6/70,mbtmp3.8/20,ML3.0/4,MS2.9/5, Ms1 2.9/5,ms1mx2.5/62,Error ellipse: s-maj=19.5km s-min=14.1km az=145.0*

ISC 09 09:42:34.2±1.3,44.47N±0.05×148.44E±0.08,h48km±11km, n70,σ1s29/82,mb3.8/19,MS3.2/3,2D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**0.86 332**		*e*P	**Pn**	**09 42 49.1**	**-1.0**
KUR				AMB	AMB	09 42 50.7	
	2μm,0.3s						
KUR				*e*S	**Sn**	**09 43 00.0**	**-1.6**
KUR				A	A	09 43 02.9	
	7μm,0.2s						
KUR				A	A	09 43 02.9	
	5μm,0.2s						
KUR	**Kuril'sk**	**0.86 332**		*d i*PN	**Pn**	**09 42 50.3**	**+0.2**
KUR				*i* S	**Sn**	**09 43 02.4**	**+0.8**
KUR				pmax	pmax		
	comp=Z,2μm,0.3s						
KUR				pmax	pmax		
	comp=E,379nm,0.2s						
KUR				pmax	pmax		
	comp=N,7μm,1.2s						
KUR				pmax	pmax		
	comp=Z,3μm,1.1s						
KUR				smax	smax		
	comp=N,7μm,0.2s						
KUR				smax	smax		
	comp=E,4μm,0.2s						
KUR				smax	smax		
	comp=E,9μm,1.8s						
KUR				smax	smax		
	comp=N,7μm,1.2s						
SHO	**Shikotan**	**1.31 243**		*e*P	**Pn**	**09 42 55.2**	**-0.8**
SHO				*e*S	**Sn**	**09 43 11.0**	**-1.3**
SHO				A	A	09 43 13.3	
	comp=N,2μm,0.3s						
SHO				A	A	09 43 13.3	
	comp=N,6μm,0.3s						
SHO	**Shikotan**	**1.31 243**		PN	**Pn**	**09 42 54.8**	**-1.2**
SHO				*e*S	**Sn**	**09 43 10.3**	**-2.0**
SHO				smax	smax		
	comp=N,2μm,0.3s						
SHO				smax	smax		
	comp=E,2μm,0.2s						
YUK	**Yuzh-Kuril'sk**	**1.90 258**		*e*P	**Pn**	**09 43 04.6**	**+0.4**
YUK				AMB	AMB	09 43 08.3	
	comp=E,550nm,0.3s						
YUK				*e*S	**Sn**	**09 43 27.2**	**+0.2**
YUK				A	A	09 43 32.5	
	comp=E,2μm,0.3s						
YUK				A	A	09 43 32.5	
	comp=E,2μm,0.3s						
YUK	**Yuzh-Kuril'sk**	**1.90 258**		*e*PN	**Pn**	**09 43 04.8**	**+0.6**
YUK				*e*S	**Sn**	**09 43 26.2**	**-0.8**
YUK				pmax	pmax		
	comp=Z,550nm,0.4s						
YUK				pmax	pmax		
	comp=E,251nm,0.2s						
YUK				pmax	pmax		
	comp=N,1μm,0.1s						
YUK				smax	smax		
	comp=E,2μm,0.5s						
GRPR	**Tuman**	**1.98 257**		*e*P	**Pn**	**09 43 05.9**	**+0.7**
GRPR				AMB	AMB	09 43 07.8	
	comp=E,440nm,0.2s						
GRPR				*e*S	**Sn**	**09 43 28.4**	**-0.4**
GRPR				A	A	09 43 32.8	
	comp=E,1μm,0.2s						
GRPR				A	A	09 43 32.8	
	comp=E,2μm,0.2s						
GRPR	**Tuman**	**1.98 257**		*e*PN	**Pn**	**09 43 05.9**	**+0.7**
GRPR				*e*S	**Sn**	**09 43 28.4**	**-0.4**
GRPR				pmax	pmax		
	comp=N,117nm,0.2s						
GRPR				pmax	pmax		
	comp=Z,437nm,0.2s						
GRPR				pmax	pmax		
	comp=E,69nm,0.1s						
GRPR				smax	smax		
	comp=N,1μm,0.2s						
GRPR				smax	smax		
	comp=E,2μm,0.6s						
GLVR	**Golovnino**	**2.23 252**		*e*P	**Pn**	**09 43 09.1**	**+0.5**
GLVR				*e*S	**Sn**	**09 43 36.1**	**+1.2**
GLVR	**Golovnino**	**2.23 252**		*e*PN	**Pn**	**09 43 09.1**	**+0.5**
GLVR				*e*S	**Sn**	**09 43 36.1**	**+1.2**
NEM2	**Nemuro 2**	**2.24 241**		P	**Pn**	**09 43 08.7**	**-0.1**
NEM2				*e*S	**Sn**	**09 43 33.2**	**-2.1**
JRA	**Rausu**	**2.44 259**		P	**Pn**	**09 43 13.4**	**+1.8**
JRA				*e*S	**Sn**	**09 43 42.3**	**+2.0**
JNK	**Nakash**	**2.83 253**		*e*S	**Sn**	**09 43 49.5**	**-0.2**
JAK	**Akkeshi**	**3.09 243**		P	**Pn**	**09 43 20.9**	**+0.5**
JAR	**Ashorobuto**	**3.58 252**		P	**Pn**	**09 43 29.5**	**+2.4**
JAR				*e*S	**Sn**	**09 44 09.3**	**+1.2**
JCH	**Churui**	**4.13 245**		P	**Pn**	**09 43 36.0**	**+1.2**
JKK2	**Kamakawa 2**	**4.14 264**		P	**Pn**	**09 43 37.5**	**+2.6**
ASAJ	**Asahikawa**	**4.21 267**		P	**Pn**	**09 43 36.8**	**+0.9**
	comp=E,4.1nm,0.3s,baz=64,slow=18,SNR=14						
ERM	**Erimo**	**4.57 239**		*e*P	**Pn**	**09 43 43.9**	**+3.1**
ERM	**Erimo**	**4.57 239**		*i* PN	**Pn**	**09 43 43.9**	**+3.1**
JNBK	**Urakawa-nobuka**	**4.69 244**		P	**Pn**	**09 43 44.0**	**+1.6**
YSS	**Yuzh-Sakhalins**	**4.69 304**		*e*P	**Pn**	**09 43 43.5**	**+1.1**
YSS				AMB	AMB	09 43 44.0	
	comp=E,17nm,0.3s						
YSS				*e*S	**Sn**	**09 44 34.4**	**-1.1**
YSS				A	A	09 44 38.8	
	comp=E,29nm,0.3s						
YSS	**Yuzh-Sakhalins**	**4.69 304**		*μ e*PN	**Pn**	**09 43 43.6**	**+1.1**
YSS				*e*S	**Sn**	**09 44 37.4**	**+1.9**
YSS				pmax	pmax		
	comp=Z,20nm,0.2s						
YSS				smax	smax		
	comp=N,20nm,0.4s						
YSS				MLR	MLR		
	comp=Z,200nm,17.0s						
JKB	**Kayabe**	**6.00 247**		P	**Pn**	**09 44 01.9**	**+1.5**
JKB				*e*S	**Sn**	**09 45 06.3**	**-1.4**
JOT	**Ohata**	**6.24 243**		P	**Pn**	**09 44 04.6**	**+0.9**
JOT				*e*S	**Sn**	**09 45 11.7**	**-2.0**
UGL	**Uglegorsk**	**6.35 319**		*e*P	**Pn**	**09 44 05.9**	**+0.7**
TYV	**Tymovskoe**	**7.49 331**		*e*P	**Pn**	**09 44 22.0**	**+1.2**
TYV				AMB	AMB	09 44 25.0	
	comp=Z,80nm,0.5s						
TYV				*e*S	**Sn**	**09 45 41.0**	**-3.3**
TYV				A	A	09 45 46.0	
	comp=Z,2μm,0.6s						
TYV	**Tymovskoe**	**7.49 331**		*e*PN	**Pn**	**09 44 22.7**	**+1.9**
TYV				*e*S	**Sn**	**09 45 45.7**	**+1.4**
TYV				pmax	pmax		
	comp=Z,8.0nm,0.5s						
TYV				smax	smax		
	comp=E,3.0nm,0.6s						
NKL	**Nikolayevsk**	**10.07 332**		*e*PN	**Pn**	**09 44 58.0**	**+1.9**
NKL				pmax	pmax		
	comp=N,13nm,0.9s						
NKL				pmax	pmax		
	comp=Z,16nm,0.9s						
PETK	**Petropavlovsk-**	**10.57 32**		P	**Pn**	**09 45 03.4**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=196,slow=11,SNR=3.0						
MAJO	**Matsushiro**	**11.10 228**		*e*P	**Pn**	**09 45 11.8**	**+1.5**
USRK	**Ussuriysk Ar.**	**11.79 274**		P	**Pn**	**09 45 18.9**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=88,slow=15,SNR=3.5						
KLR	**Kul'dur**	**12.37 299**		*e*PN	**Pn**	**09 45 29.6**	**+2.1**
MA2	**Magadan**	**15.19 5**		LR	LR	09 51 25.3	
	comp=Z,20nm,18.9s,baz=122,slow=35						
KSRS	**Korea Array**	**16.98 253**		P	**Pn**	**09 46 27.1**	**-1.2**
	comp=Z,0.1nm,0.3s,baz=62,slow=9.5,SNR=3.0						
KSRS				LR	LR	09 52 05.5	
	comp=Z,21nm,20.0s,baz=44,slow=34						
SEY	**Seymchan**	**18.64 6**		*i* P	**P**	**09 46 46.0**	**-1.6**
YAK	**Yakutsk**	**20.72 335**		*e*P	**P**	**09 47 10.0**	**-0.3**
YAK	**Yakutsk**	**20.72 335**		*e*P	**P**	**09 47 10.0**	**-0.3**
YAK				pmax	pmax		
	comp=Z,9.0nm,0.5s						
ULN	**Ulaanbaatar**	**28.62 292**		*e*P	**P**	**09 48 26.5**	**+0.5**
ULN	**Ulaanbaatar**	**28.62 292**		*i* P	**P**	**09 48 26.5**	**+0.5**
ULN				pmax	pmax		
	comp=Z,1.0nm,0.9s						
SONM	**Songino Array**	**29.06 292**		P	**P**	**09 48 29.0**	**-0.9**
	comp=Z,1.1nm,0.7s,baz=54,slow=14,SNR=2.5						
H11N2	**WAKE ISLAND Hy**	**29.07 142**		T	T	10 19 18.2	
	baz=332,slow=76,SNR=130						
H11N1	**WAKE ISLAND Hy**	**29.08 142**		T	T	10 19 20.6	
	baz=332,slow=76,SNR=148						
H11N3	**WAKE ISLAND Hy**	**29.09 142**		T	T	10 19 21.0	
	baz=332,slow=76,SNR=147						
H11S1	**WAKE ISLAND Hy**	**30.07 144**		T	T	10 20 35.4	
	baz=333,slow=76,SNR=253						
H11S3	**WAKE ISLAND Hy**	**30.07 144**		T	T	10 20 35.9	
	baz=333,slow=76,SNR=116						
H11S2	**WAKE ISLAND Hy**	**30.08 144**		T	T	10 20 36.8	
	baz=333,slow=76,SNR=113						
ILAR	**Eielson Array**	**40.35 37**		P	**P**	**09 50 07.2**	**+0.4**
	comp=Z,0.6nm,0.6s,baz=269,slow=7.2,SNR=9.0						
MKAR	**Makanchi Array**	**45.08 297**		PcP	**PcP**	**09 52 25.1**	**-0.2**
	comp=Z,0.4nm,0.6s,baz=60,slow=2.9,SNR=3.9						
INK	**Inuvik**	**45.31 31**		P	**P**	**09 50 47.0**	**+0.2**
	comp=Z,0.8nm,0.3s,baz=299,slow=6.8,SNR=34						
KURK	**Kurchatov**	**45.90 304**		*e*P	**P**	**09 50 51.9**	**+0.2**
KURK	**Kurchatov**	**45.90 304**		*e*P	**P**	**09 50 51.9**	**+0.2**
KURK				pmax	pmax		
	comp=Z,1.0nm,0.7s						
KURBB	**Kurchatov Arra**	**45.98 304**		P	**P**	**09 50 52.3**	**-0.1**
	comp=Z,0.3nm,0.3s,baz=77,slow=8.2,SNR=2.6						
ARU	**Arti**	**54.45 317**		*e*P	**P**	**09 51 57.0**	**+0.6**
ARU	**Arti**	**54.45 317**		*e*P	**P**	**09 51 57.0**	**+0.6**
ARU				pmax	pmax		
	comp=Z,1.0nm,0.9s						
YKA	**Yellowknife Ar**	**54.68 34**		P	**P**	**09 51 58.4**	**+0.5**
	comp=Z,0.7nm,0.6s,baz=298,slow=6.8,SNR=12						
FINES	**FINESS Array B**	**64.65 333**		P	**P**	**09 53 05.0**	**-1.5**
	comp=Z,1.1nm,0.5s,baz=32,slow=7.6,SNR=6.9						
WRA	**Warramunga Arr**	**65.39 195**		P	**P**	**09 53 11.8**	**+0.1**
	comp=Z,0.7nm,0.7s,baz=13,slow=6.6,SNR=4.6						
NVAR	**Mina Array Bea**	**66.41 59**		P	**P**	**09 53 19.2**	**+0.7**
	comp=Z,0.5nm,0.7s,baz=294,slow=6.7,SNR=5.3						
PDAR	**Pinedale Array**	**68.73 51**		P	**P**	**09 53 33.6**	**+0.4**
	comp=Z,0.2nm,0.4s,baz=345,slow=1.0,SNR=3.5						
ASAR	**Alice Springs**	**69.10 194**		P	**P**	**09 53 35.9**	**+0.7**
	comp=Z,0.6nm,0.6s,baz=9.7,slow=6.0,SNR=7.4						
ASAR	**Alice Springs**	**69.10 194**		*e*P	**P**	**09 53 35.3**	**+0.1**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
NOA	**NORSAR Array B**	**69.26 339**		P	**P**	**09 53 34.7**	**-1.2**
	comp=Z,0.5nm,0.5s,baz=32,slow=6.6,SNR=5.7						
NOA				LR	LR	10 27 02.0	
	comp=Z,3.8nm,20.2s,baz=305,slow=39						
HFS	**Hagfors**	**69.38 338**		P	**P**	**09 53 35.1**	**-1.4**
	comp=Z,2.3nm,0.9s,baz=20,slow=4.7,SNR=5.6						
HFS				LR	LR	10 29 03.6	
	comp=Z,12nm,18.1s,baz=320,slow=40						
EKA	**Eskdalemuir Ar**	**77.69 344**		P	**P**	**09 54 24.6**	**-0.8**
	comp=Z,0.3nm,0.3s,baz=38,slow=4.2,SNR=4.7						
KHC	**Kasperske Hory**	**78.77 332**		*e*P	**P**	**09 54 31.1**	**-0.5**
KHC	**Kasperske H

	1.5nm,0.6s,baz=80,slow=6.1,SNR=4.2								
ASAR	**Alice Springs**	**44.75**	**256**	P		P	10 02 14.5	0.0	
	2.4nm,0.6s,baz=99,slow=7.6,SNR=50								
WRA	**Warramunga Arr**	**44.77**	**261**	P		P	10 02 14.4	-0.3	
	0.5nm,0.3s,baz=97,slow=7.0,SNR=47								
NVAR	**Mina Array Bea**	**80.52**	**43**	P		P	10 06 07.1	+0.5	
	0.6nm,0.8s,baz=218,slow=7.6,SNR=4.3								
TXAR	**Lajitas Array**	**86.65**	**57**	P		P	10 06 37.0	-0.2	
	0.4nm,0.7s,baz=213,slow=6.7,SNR=7.5								
ILAR	**Eielson Array**	**87.69**	**13**	P		P	10 06 41.0	-0.2	
	0.1nm,0.4s,baz=212,slow=6.4,SNR=2.9								
PDAR	**Pinedale Array**	**88.45**	**43**	P		P	10 06 45.2	-0.3	
	0.3nm,0.7s,baz=224,slow=5.0,SNR=3.1								
GERES	**GERESS Array B**	**149.63**	**345**	PKPbc		PKPbc	10 13 39.5	-0.3	
	0.4nm,0.6s,baz=17,slow=1.0,SNR=3.4								

IDC 09 10:03:36.3±7.9, 6°35S×146°58E, h116km±74km, mb2.3/1, mb1 2.7/3, mb1mx2.6/45, mbtmp3.0/3, Error ellipse: s-maj=84.8km s-min=56.6km az=132.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.10**	**169**	P	Pn	10 04 24.1	+0.3
	3.7nm,0.3s,baz=352,slow=5.7,SNR=10						
PMG				S	Sn	10 05 00.7	+0.4
	5.2nm,0.3s,baz=343,slow=8.4,SNR=4.1						
WRA	**Warramunga Arr**	**18.00**	**220**	P	P	10 07 37.9	-0.3
	0.1nm,0.3s,baz=40,slow=11,SNR=7.3						
ASAR	**Alice Springs**	**21.10**	**214**	P	P	10 08 12.0	+0.3
	0.2nm,0.7s,baz=35,slow=11,SNR=3.9						
TORD	**Torodi Ar. Bea**	**144.77**	**284**	PKP	PKPab	10 22 59.7	0.0
	1.0nm,0.7s,baz=81,slow=3.2,SNR=8.2						

*MOS **09** 10:15:13.3±1.3, 52°.73N×107°.29E, h13km, mb4.2/1, Error ellipse: s-maj=17.4km s-min=10.2km az=135.2*
BYKL 09 10:15:14.1±0.2, 52°.75N×107°.17E, h20km±3km, 3C-2D, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZRHB	**Zarechye**	**0.20**	**183**	⇑*i*Pg	Pb	10 15 19.1	-0.1
ZRHB				*i* Sg	Sb	10 15 22.7	0.0
ZRHB				*e*		10 15 24.7	
TRG	**Tyrgan**	**0.50**	**271**	*e*Pg	Pb	10 15 24.1	-0.1
TRG				*e*Sg	Sb	10 15 31.6	+0.5
TRG				*e*		10 15 32.7	
TRG				Pmax			
	315nm,0.1s						
TRG				max			
	816nm,0.3s						
TRG	**Tyrgan**	**0.50**	**271**	*e*PG	Pb	10 15 24.0	-0.2
TRG				*e*		10 15 31.5	
TRG				pmax	pmax		
	comp=Z,331nm,0.1s						
TRG				smax	smax		
	comp=E,904nm,0.4s						
FFNB	**Fofonovo**	**0.75**	**200**	*e*Pg	Pb	10 15 28.0	-0.4
FFNB				*e*Sg	Sb	10 15 37.9	-0.3
FFNB				Pmax			
	comp=E,84nm,0.1s						
FFNB				Smax			
	comp=E,1μm,0.2s						
STDB	**Stepnoy Dvoret**	**0.76**	**221**	*e*Pg	Pb	10 15 28.9	+0.2
STDB				*e*Pb	Pn	10 15 30.7	+1.0
STDB				*e*Sg	Sn	10 15 40.6	0.0
STDB				*e*Sb	Sb	10 15 43.7	+5.1
STDB				max			
	comp=E,161nm,0.1s						
STDB				max			
	comp=E,3μm,0.2s						
KAB	**Kabansk**	**0.77**	**204**	*e*Pg	Pb	10 15 28.6	-0.2
KAB				*e*Sg	Sb	10 15 39.6	+0.8
KAB				Pmax			
	comp=E,178nm,0.2s						
KAB				Smax			
	comp=E,1μm,0.2s						
KAB	**Kabansk**	**0.77**	**204**	*e*PG	Pn	10 15 29.9	+0.1
KAB				*e*		10 15 39.2	
KAB				pmax	pmax		
	comp=Z,179nm,0.2s						
KAB				smax	smax		
	comp=N,1μm,0.2s						
OGRR	**Ongureny**	**0.93**	**16**	*e*Pg	Pb	10 15 31.3	-0.3
OGRR				*i* Sg	Sb	10 15 44.0	+0.5
OGRR				Pmax			
	comp=N,69nm,0.2s						
OGRR				Smax			
	comp=N,507nm,0.3s						
OGRR	**Ongureny**	**0.93**	**16**	*e*PG	Pb	10 15 31.5	-0.1
OGRR				*e*		10 15 44.0	
OGRR				pmax	pmax		
	comp=Z,68nm,0.2s						
OGRR				smax	smax		
	comp=E,506nm,0.3s						
UUDB	**Ulan-Yde**	**0.94**	**161**	⇑*i*Pg	Pb	10 15 31.0	-0.6
UUDB				*e*Pb	Pn	10 15 32.7	+0.6
UUDB				*e*Sg	Sb	10 15 43.0	-0.6
UUDB				max			
	comp=E,178nm,0.1s						
UUDB				Smax			
	comp=E,576nm,0.2s						
BGT	**Bolshoye Golou**	**1.29**	**238**	*e*Pg	Pb	10 15 37.8	+0.1
BGT				*e*Sg	Sb	10 15 55.8	+2.0
BGT				Pmax			
	comp=E,70nm,0.4s						
BGT				Smax			
	comp=E,372nm,0.4s						
BGT	**Bolshoye Golou**	**1.29**	**238**	*e*PG	Pb	10 15 38.0	+0.3
BGT				*e*		10 15 55.2	
BGT				pmax	pmax		
	comp=Z,69nm,0.4s						
BGT				smax	smax		
	comp=E,369nm,0.4s						
LSTR	**Listvyanka**	**1.69**	**239**	*e*Pn	Pn	10 15 43.2	+0.8
LSTR				*e*Pg	Pb	10 15 44.4	0.0
LSTR				*e*		10 15 51.8	
LSTR				*e*Sg	Sb	10 16 06.4	+1.2
LSTR				*e*Sb	Sn	10 16 07.4	+4.0
LSTR				Pmax			
	comp=E,24nm,0.2s						
LSTR				Smax			
	comp=E,266nm,0.3s						
LSTR	**Listvyanka**	**1.69**	**239**	*e*PN	Pn	10 15 43.2	+0.8
LSTR				*e*		10 16 05.7	
LSTR				pmax	pmax		
	comp=Z,22nm,0.2s						
LSTR				smax	smax		
	comp=N,265nm,0.4s						
IRK	**Irkutsk**	**1.84**	**255**	*e*Pg	Pb	10 15 47.4	+0.3
IRK				*i* Sg	Sb	10 16 12.2	+2.5
IRK				Smax			
	comp=N,1μm,0.4s						
IRK	**Irkutsk**	**1.84**	**255**	*e*PN	Pb	10 15 46.6	-0.5
IRK				*e*		10 16 11.0	
IRK				pmax	pmax		
	comp=Z,190nm,0.2s						
IRK				smax	smax		
	comp=N,1μm,0.5s						
SYVR	**Suvo**	**1.93**	**61**	⇓*i*Pn	Pn	10 15 46.3	+0.5
SYVR				*e*Pg	Pb	10 15 48.6	0.0
SYVR				*e*		10 15 52.6	
SYVR				*e*Sg	Sb	10 16 14.4	+2.2
SYVR				Pmax			
	comp=N,26nm,0.3s						
SYVR				Smax			
	comp=N,139nm,0.3s						
IVK	**Ivanovka**	**1.94**	**242**	⇓*i*Pn	Pn	10 15 47.2	+1.3
IVK				*e*Pg	Pb	10 15 48.7	-0.1
IVK				*e*Sg	Sb	10 16 13.9	+1.4
IVK				Pmax			
	comp=N,26nm,0.5s						
IVK				Smax			
	comp=N,215nm,0.3s						
IVK	**Ivanovka**	**1.94**	**242**	*e*PN	Pn	10 15 47.1	+1.2
IVK				*e*		10 16 13.8	
IVK				pmax	pmax		
	comp=Z,26nm,0.4s						
IVK				smax	smax		
	comp=N,284nm,0.5s						
TLY	**Talaya**	**2.42**	**245**	*e*Pn	Pn	10 15 52.7	+0.2
TLY				*e*		10 15 55.3	
TLY				*e*Pg	Pb	10 15 57.0	+0.1
TLY				*e*Sn	Sn	10 16 20.6	-0.9
TLY				*e*Sg	Sb	10 16 29.2	+2.9
TLY				Pmax			
	comp=N,14nm,0.3s						
TLY				Smax			
	comp=N,158nm,0.3s						
TLY	**Talaya**	**2.42**	**245**	*e*PN	Pb	10 15 57.5	+0.6
TLY				*e*		10 16 27.9	
TLY				pmax	pmax		
	comp=Z,13nm,0.2s						
TLY				smax	smax		
	comp=N,159nm,0.3s						
ARS	**Arshan**	**3.03**	**256**	*e*Pn	Pn	10 16 03.2	+2.3
ARS				*e*Pg	Pb	10 16 07.4	+0.1
ARS				*e*		10 16 42.6	
ARS				*e*Sg	Sb	10 16 46.8	+2.9
ARS				*e*SgSg	SbSb	10 16 51.0	+2.0
ARS				Pmax			
	comp=N,86nm,0.3s						
ARS				max			
	comp=N,509nm,0.5s						
ARS	**Arshan**	**3.03**	**256**	*e*PN	Pn	10 16 03.2	+2.3
ARS				*e*		10 16 08.1	
ARS				*e*		10 16 46.6	
ARS				pmax	pmax		
	comp=Z,86nm,0.3s						
ARS				smax	smax		
	comp=E,506nm,0.6s						
YLYR	**Ulyunkhan**	**3.18**	**46**	*e*Pn	Pn	10 16 03.8	+0.8
YLYR				*e*Pg	Pb	10 16 10.8	+0.9
YLYR				*e*Sg	Sb	10 16 52.5	+4.2
YLYR				*e*		10 16 53.9	
YLYR				Pmax			
	comp=E,6.0nm,0.2s						
YLYR				max			
	comp=E,60nm,1.1s						
NIZ	**Nizh Angarsk**	**3.33**	**24**	⇑*i*Pn	Pn	10 16 06.6	+1.5
NIZ				*e*Pg	Pb	10 16 12.7	+0.2
NIZ				*e*PgPg	PbPb	10 16 14.6	-1.0
NIZ				*e*Sn	Sn	10 16 44.6	+0.5
NIZ				*e*Sg	Sb	10 16 57.1	+4.5
NIZ				*e*		10 17 01.9	
NIZ				max			
	comp=E,13nm,0.3s						
NIZ				max			
	comp=E,105nm,0.4s						
ZAK	**Zakamensk**	**3.39**	**227**	*e*	Pb	10 16 11.4	-2.2
ZAK				Pg	Pn	10 16 15.2	+9.2
ZAK				*e*		10 16 47.3	
ZAK				*e*Sg	Sb	10 16 59.7	+5.3
ZAK				Pmax			
	comp=E,6.0nm,0.3s						
ZAK				Smax			
	comp=E,33nm,0.4s						
KMO	**Kumora**	**3.93**	**35**	*e*Pn	Pn	10 16 13.6	+0.3
KMO				*e*		10 16 21.3	
KMO				*e*Sg	Sb	10 17 14.5	+4.8
KMO				max			
	comp=E,12nm,0.6s						
KMO				Smax			
	comp=E,57nm,1.0s						
MOY	**Mondy**	**3.95**	**257**	*e*Pn	Pn	10 16 13.8	+0.1
MOY				*e*		10 16 17.5	
MOY				Pg	Pb	10 16 24.0	+0.9
MOY				*e*		10 16 52.4	
MOY				*e*		10 17 02.9	
MOY				*e*Sg	Sb	10 17 16.0	+5.5
MOY				Pmax			
	comp=E,29nm,1.3s						
MOY				Smax			
	comp=E,149nm,0.7s						
MOY	**Mondy**	**3.95**	**257**	*e*PN	Pn	10 16 17.4	+3.7
MOY				*e*		10 16 25.9	
MOY				*e*		10 17 15.2	
MOY				pmax	pmax		
	comp=Z,23nm,0.8s						
MOY				smax	smax		
	comp=N,150nm,0.7s						
CIT	**Chita**	**3.98**	**98**	*e*	Pb	10 16 29.9	+6.4
CIT				*e*Sg	Sb	10 17 17.3	+6.2
CIT				Smax			
	comp=N,190nm,0.2s						
YOA	**Uoyan**	**4.31**	**36**	Sg	Sb	10 17 28.8	+8.2
YOA				Smax			
	comp=N,112nm,0.4s						
KPC	**Khapcheranga**	**4.47**	**131**	*e*Pn	Pn	10 16 20.2	-0.6
KPC				*e*		10 16 24.0	
KPC				*e*Pg	Pb	10 16 34.0	+2.0
KPC				*e*Sg	Sb	10 17 32.2	+6.8
KPC				*e*		10 17 35.6	
KPC				Pmax			
	comp=N,10.0nm,0.4s						
KPC				max			
	comp=N,119nm,0.8s						
KPC	**Khapcheranga**	**4.47**	**131**	*e*PN	Pn	10 16 20.4	-0.4
KPC				*e*		10 16 32.4	
KPC				*e*S	Sn	10 17 11.3	-1.0
KPC				*e*		10 17 30.8	
KPC				pmax	pmax		
	comp=Z,13nm,0.2s						
KPC				smax	smax		
	comp=N,106nm,0.6s						
ORL	**Orlik**	**4.49**	**270**	*e*Pn	Pn	10 16 23.4	+2.4
ORL				*e*		10 16 31.6	
ORL				Pg	Pb	10 16 34.9	+2.7
ORL				*e*		10 17 12.7	
ORL				*e*Sg	Sb	10 17 33.5	+7.6
ORL				Pmax			
	comp=N,9.0nm,0.4s						
ORL				Smax			
	comp=N,55nm,0.6s						
ORL	**Orlik**	**4.49**	**270**	*e*PN	Pn	10 16 23.3	+2.3
ORL				*e*		10 16 35.2	
ORL				*e*		10 17 31.8	
ORL				pmax	pmax		
	comp=Z,9.0nm,0.5s						
ORL				smax	smax		
	comp=N,56nm,0.6s						
UKT	**Uakit**	**4.69**	**52**	*e*Pn	Pn	10 16 25.0	+1.3
UKT				*e*Pg	Pb	10 16 38.0	+2.4
UKT				*e*Sg	Sb	10 17 39.6	+8.1
UKT				Pmax			
	comp=N,4.0nm,0.7s						
UKT				Smax			
	comp=N,17nm,0.5s						
ULN	**Ulaanbaatar**	**4.89**	**181**	*e*Pn	Pn	10 16 27.8	+1.2
ULN				*e*Pg	Pb	10 16 41.8	+2.7
ULN				*e*Sg	Sb	10 17 46.6	+9.1
SVKR	**Severomuysk**	**5.03**	**45**	*e*Sg	Sb	10 17 51.0	+10
SVKR				Smax			
	comp=N,81nm,0.2s						
NLYR	**Nelyaty**	**6.21**	**50**	*e*	Pb	10 17 05.0	+3.5
NLYR				*e*		10 17 08.8	
NLYR				*e*Sg	Sb	10 18 25.2	+10
NLYR				max			
	comp=N,2.0nm,0.5s						
NLYR				Smax			
	comp=N,35nm,1.5s						
KNGR	**Kungurtug, Tuv**	**6.38**	**254**	Sg	Sb	10 18 32.2	+12
KNGR				*e*		10 18 38.0	
BOD	**Bodaibo**	**6.40**	**35**	*e*Sg	Sb	10 18 33.8	+13
BOD				Smax			
	comp=N,12nm,1.4s						
TDJR	**Todzha**	**6.76**	**271**	*e*	Pb	10 17 18.6	+7.8
TDJR				*e*Sg	Sb	10 18 42.9	+12
CRS	**Chara**	**7.64**	**53**	*e*	Pb	10 17 25.5	-0.3
CRS				Pg	Pn	10 17 31.6	+27
CRS				*e*Sg	Sb	10 19 12.2	+16
CRS				*e*		10 19 15.9	
CRS				max			
	comp=N,22nm,1.0s						
TUP	**Tupik**	**7.79**	**72**	*e*Sg	Sb	10 19 16.4	+16
TUP				Smax			
	comp=N,34nm,0.9s						
TUP	**Tupik**	**7.79**	**72**	*e*PN	Pn	10 17 09.2	+2.9
TUP				*e*		10 17 34.6	
TUP				*e*S	Sn	10 18 32.1	-1.7
TUP				pmax	pmax		
	comp=Z,3.0nm,0.4s						
TUP				smax	smax		
	comp=N,34nm,0.9s						
ERNS	**Erzin**	**7.90**	**256**	Sg	Sb	10 19 17.4	+13

MEX 09 10:31:49.2±0.7, 16°.42N×98°.48W, h9km±6km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.34**	**94**	*e*P	Pg	10 31 55.3	-0.6
PNIG				*e*S	Sg	10 32 00.5	+0.1
TLIG	**Tlapa**	**1.15**	**356**	*e*P	Pg	10 32 07.4	-3.8
TLIG				*e*S	Sg	10 32 21.8	-4.4
VHO	**Vista Hermosa**	**1.79**	**68**	*e*P	Pn	10 32 18.8	-1.7
VHO				*e*S	Sn	10 32 41.1	-2.4
CAIG	**El Cayaco**	**1.83**	**290**	*e*P	Pn	10 32 17.6	-3.2
CAIG				*e*S	Sn	10 32 39.2	-4.8
HUIG	**Huatulco**	**2.37**	**105**	*e*P	Pn	10 32 25.7	-2.6
HUIG				*e*S	Sn	10 32 52.5	-4.9

*IDC **09** 10:33:15.0±0.8, 30°.99N×103°.33E, h0km, mb3.9/12, mb1 4.0/12, mb1mx3.7/63, mbtmp3.9/12, MS3.0/2, Ms1 3.1/2, ms1mx2.4/60, Error ellipse: s-maj=31.3km s-min=16.1km az=51.0*
*ISCJB **09** 10:33:15.2±0.8, 30°.9N±0°.1×103°.10E±0°.06, h16km, mb3.8/12, MS3.4/1, Error ellipse: s-maj=17.9km s-min=7.3km az=11.4*
*BJI **09** 10:33:18.8, 30°.99N×103°.18E, h22km, mb4.0/2, ML3.8/15, Ms3.6/6, Ms7 3.4/5*
ISC 09 10:33:17.6±0.9, 31°.03N±0°.07×103°.26E±0°.07, h16km, n18, σ1§68/20, mb3.9/12, 1D, Sichuan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CD2	**Chengdu**	**0.44**	**106**	⇓*i*Pg	**Pb**	**10 33 27.1**	**0.0**
CD2				Sg	**Sb**	**10 33 34.6**	**+1.1**
CD2				smax	smax		
	comp=N,9μm,0.7s						
CD2				smax	smax		
	comp=E,9μm,0.7s						
LZH	**Lanzhou**	**5.07**	**5**	*e*Pg	**Pb**	**10 34 48.9**	**+2.9**
LZH				Sg	**Sg**	**10 35 55.7**	**-4.6**
LZH				smax	smax		
	comp=N,90nm,1.0s						
LZH				smax	smax		
	comp=E,100nm,1.0s						
LZH				LR	LR		
	comp=N,650nm,7.2s						
LZH				LR	LR		
	comp=Z,660nm,8.5s						
XAN	**Xi'an**	**5.64**	**56**	Pn	**Pn**	**10 34 40.5**	**-0.4**
XAN				Pg	**Pb**	**10 34 58.8**	**+3.0**
XAN				Sn	**Sn**	**10 35 44.9**	**-0.5**
XAN				smax	smax		
	comp=N,210nm,1.0s						
XAN				smax	smax		
	comp=E,140nm,0.9s						
XAN				LR	LR		
	comp=Z,130nm,4.1s						
CMAR	**Chiang Mai Arr**	**13.12**	**198**	LR	LR	10 41 39.3	
	comp=Z,26nm,19.9s,baz=20,slow=38						
WMQ	**Urumqi**	**17.73**	**320**	P	**Pn**	**10 37 22.8**	**-1.1**
WMQ				pP	pP	10 37 27.8	-1.4
WMQ				LR	LR		
	comp=N,60nm,25.1s						
WMQ				LR	LR		
	comp=E,190nm,30.9s						
WMQ				LR	LR		
	comp=Z,44nm,16.3s						
KSRS	**Korea Array**	**21.34**	**66**	P	**P**	**10 38 04.8**	**+0.8**
	1.1nm,0.6s,baz=252,slow=9.2,SNR=6.3						
MKAR	**Makanchi Array**	**22.57**	**320**	P	**P**	**10 38 17.9**	**+0.8**
	3.0nm,1.0s,baz=133,slow=13,SNR=5.0						
AAK	**Ala-Archa**	**25.65**	**305**	P	**P**	**10 38 48.6**	**+1.8**
	2.2nm,0.7s,baz=89,slow=6.5,SNR=6.2						
ZALV	**Zalesovo Beam**	**26.48**	**335**	P	**P**	**10 38 54.1**	**+0.1**
	0.6nm,0.5s,baz=149,slow=13,SNR=2.7						
KURBB	**Kurchatov Arra**	**26.87**	**324**	P	**P**	**10 38 58.1**	**+0.6**
	1.6nm,0.2s,baz=131,slow=9.6,SNR=4.7						
FINES	**FINESS Array B**	**57.23**	**326**	P	**P**	**10 43 03.6**	**-0.2**
	1.1nm,0.8s,baz=116,slow=8.7,SNR=3.6						
WRA	**Warramunga Arr**	**58.82**	**145**	P	**P**	**10 43 14.8**	**-0.7**
	1.5nm,0.6s,baz=337,slow=7.5,SNR=41						
ASAR	**Alice Springs**	**61.81**	**148**	P	**P**	**10 43 35.3**	**-0.6**
	0.5nm,0.5s,baz=334,slow=6.8,SNR=12						
HFS	**Hagfors**	**63.43**	**326**	P	**P**	**10 43 46.1**	**-0.2**
	2.1nm,0.9s,baz=97,slow=12,SNR=2.4						
GERES	**GERESS Array B**	**67.08**	**314**	LR	LR	11 12 51.3	
	comp=Z,28nm,21.9s,baz=322,slow=35						
ILAR	**Eielson Array**	**70.21**	**25**	P	**P**	**10 44 28.7**	**-0.7**
	0.6nm,1.0s,baz=292,slow=3.8,SNR=5.6						
INK	**Inuvik**	**72.46**	**19**	P	**P**	**10 44 42.7**	**-0.2**
	1.0nm,0.8s,baz=312,slow=5.3						
YKA	**Yellowknife Ar**	**81.97**	**17**	P	**P**	**10 45 36.5**	**+0.1**
	0.6nm,0.6s,baz=330,slow=5.3,SNR=15						

IDC 09 10:33:53.6±2.1, 54°.26N×86°.12E, h0km, mb1 3.6/3, mb1mx3.2/65, mbtmp3.6/3, ML3.2/3, Error ellipse: s-maj=17.7km s-min=10.2km az=61.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**0.83**	**249**	*i*		10 38 25.8	
	baz=68,slow=332,SNR=3.9						
ZALV	**Zalesovo Beam**	**0.83**	**249**	Pg	Pg	10 34 07.6	-1.8
	2.1nm,0.3s,baz=64,slow=17,SNR=27						
ZALV				Lg	Lg	10 34 21.3	
	11nm,0.3s,baz=68,slow=28,SNR=67						
KURBB	**Kurchatov Arra**	**5.90**	**235**	Pn	Pn	10 35 22.6	+0.5
	0.2nm,0.3s,baz=52,slow=14,SNR=28						
KURBB				Lg	Lg	10 37 03.5	
	0.2nm,0.3s,baz=53,slow=32,SNR=6.7						
MKAR	**Makanchi Array**	**7.86**	**200**	Pn	Pn	10 35 49.8	+0.7
	0.8nm,0.3s,baz=23,slow=13,SNR=48						
MKAR				Sn	Sn	10 37 19.0	+0.4
	0.2nm,0.3s,baz=26,slow=27,SNR=7.7						
MKAR				Lg	Lg	10 38 02.6	
	0.1nm,0.3s,baz=29,slow=30,SNR=10						
BVAR	**Borovoye Array**	**9.43**	**269**	Pn	Pn	10 36 10.7	+0.1
	0.3nm,0.3s,baz=74,slow=16,SNR=3.6						
BVAR				Sn	Sn	10 37 44.9	-12
	0.4nm,0.3s,baz=76,slow=24,SNR=2.5						

*ISK **09** 10:50:17.8, 38°.80N×43°.49E, h12km, ML2.4/3*
*CSEM **09** 10:50:18.8±0.2, 38°.82N×43°.46E, h10km, ML2.6, Error ellipse: s-maj=5.4km s-min=4.1km az=119.0*
*ISCJB **09** 10:50:19.3±0.8, 38°.82N±0°.04×43°.46E±0°.07, h21km±9km, Error ellipse: s-maj=9.2km s-min=5.9km az=11.4*
*DDA **09** 10:50:19.5, 38°.84N×43°.41E, h7km, Ml2.6*
ISC 09 10:50:18.8±0.9, 38°.83N±0°.03×43°.48E±0°.03, h15km±7km, n20, σ0§78/31, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VMUR	**Van-Muradiye**	**0.18**	**25**	*i* P	**Pb**	**10 50 24.0**	**+0.1**
VMUR				*i* S	**Sb**	**10 50 29.6**	**+2.2**
VMUR	**Van-Muradiye**	**0.18**	**25**	P	**Pb**	**10 50 24.0**	**+0.1**
VMUR				S	**Sb**	**10 50 29.5**	**+2.2**
ERCV	**ERCIS-VAN**	**0.22**	**331**	PG	**Pg**	**10 50 23.4**	**-0.5**
ERCV				SG	**Sg**	**10 50 27.4**	**+0.1**
ERCV	**ERCIS-VAN**	**0.22**	**331**	*e*Pg	**Pg**	**10 50 23.4**	**-0.5**
ERCV				*e*Sg	**Sg**	**10 50 27.4**	**+0.1**
TVAN	**Van**	**0.30**	**190**	*i* P	**Pg**	**10 50 25.4**	**+0.2**
TVAN				*i* S	**Sb**	**10 50 31.6**	**+0.7**
TVAN	**Van**	**0.30**	**190**	P	**Pg**	**10 50 25.4**	**+0.2**
TVAN				S	**Sb**	**10 50 31.6**	**+0.7**
CLDR	**Caldiran**	**0.47**	**47**	PG	**Pg**	**10 50 27.8**	**-0.4**
CLDR				SG	**Sg**	**10 50 34.8**	**+0.3**
CLDR	**Caldiran**	**0.47**	**47**	*i* P	**Pb**	**10 50 28.7**	**-0.2**
CLDR				*i* S	**Sn**	**10 50 37.5**	**-1.8**
CLDR	**Caldiran**	**0.47**	**47**	*e*Pg	**Pg**	**10 50 27.8**	**-0.4**
CLDR	**Caldiran**	**0.47**	**47**	P	**Pb**	**10 50 28.7**	**-0.2**
CLDR				*e*Sg	**Sg**	**10 50 34.8**	**+0.3**
ADCV	**BITLIS_Adilcev**	**0.59**	**268**	*i* P	**Pg**	**10 50 30.6**	**+0.2**
ADCV	**BITLIS_Adilcev**	**0.59**	**268**	P	**Pg**	**10 50 30.6**	**+0.2**
GEVA	**Gevas**	**0.61**	**213**	*i* P	**Pg**	**10 50 30.6**	**-0.2**
GEVA	**Gevas**	**0.61**	**213**	P	**Pg**	**10 50 30.6**	**-0.2**
TUTA	**Tutak**	**0.77**	**318**	*i* P	**Pg**	**10 50 33.8**	**0.0**
TUTA	**Tutak**	**0.77**	**318**	P	**Pg**	**10 50 33.8**	**0.0**
AGRB	**Hanur-Agry**	**0.84**	**333**	PG	**Pb**	**10 50 34.9**	**-0.2**
AGRB				SG	**Sn**	**10 50 47.5**	**-0.9**
AGRB	**Hanur-Agry**	**0.84**	**333**	*e*Pg	**Pb**	**10 50 34.9**	**-0.2**
AGRB				*e*Sg	**Sn**	**10 50 47.5**	**-0.9**

GURO	**Guroymak-BITLI**	**1.16**	**257**	PN	**Pn**	**10 50 40.5**	**-0.1**
GURO	**Guroymak-BITLI**	**1.16**	**257**	*e*Pn	**Pn**	**10 50 40.5**	**-0.1**

IDC 09 10:53:11.8±2.5, 13°.84N×121°.22E, h129km±9km, mb3.0/4, mb1 3.1/4, mb1mx2.9/59, mbtmp3.4/4, Error ellipse: s-maj=229.0km s-min=17.9km az=62.0, Mindoro

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TGY	**Tagaytay City**	**0.38**	**313**	P	Pn	10 53 31.2	+1.0
	176nm,0.3s,baz=191,slow=11,SNR=6.6						
TGY				S	Sn	10 53 45.5	+1.4
	120nm,0.3s,baz=217,slow=20,SNR=5.5						
WRA	**Warramunga Arr**	**35.96**	**159**	P	P	10 59 59.7	-0.6
	0.2nm,0.9s,baz=340,slow=9.0,SNR=2.9						
ASAR	**Alice Springs**	**39.28**	**161**	P	P	11 00 28.5	+0.3
	0.1nm,0.5s,baz=336,slow=7.0,SNR=2.7						
MKAR	**Makanchi Array**	**46.23**	**323**	P	P	11 01 23.9	-0.1
	0.3nm,0.3s,baz=137,slow=9.5,SNR=4.6						
KURBB	**Kurchatov Arra**	**50.36**	**326**	P	P	11 01 55.4	-0.2
	1.5nm,0.6s,baz=130,slow=7.5,SNR=6.4						

IDC 09 11:09:11.0±9.8, 4°.49S×153°.60E, h139km±67km, mb3.1/2, mb1 3.4/3, mb1mx3.0/45, mbtmp3.7/3, MS3.4/1, Ms1 3.4/1, ms1mx2.4/17, Error ellipse: s-maj=131.6km s-min=57.5km az=119.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**8.04**	**232**	P	Pn	11 11 04.8	-0.2
	1.6nm,0.3s,baz=45,slow=11,SNR=4.6						
PMG				S	Sn	11 12 36.2	+1.7
	1.1nm,0.3s,baz=171,slow=21,SNR=3.6						
WRA	**Warramunga Arr**	**24.24**	**229**	P	P	11 14 15.2	-0.1
	1.3nm,0.4s,baz=54,slow=10.0,SNR=24						
ASAR	**Alice Springs**	**26.91**	**223**	P	P	11 14 39.0	-0.4
	0.2nm,0.6s,baz=53,slow=8.9,SNR=4.7						
NWAO	**Narrogin (SRO)**	**44.17**	**226**	LR	LR	11 36 10.5	
	comp=Z,44nm,18.7s,slow=37						
TORD	**Torodi Ar. Bea**	**150.96**	**289**	PKPbc	PKPbc	11 28 48.4	0.0
	0.4nm,0.8s,baz=98,slow=2.0,SNR=2.7						

MEX 09 11:09:16.4±0.3, 24°.66N×110°.20W, h15km, MD3.6, Baja California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPIG	**La Paz**	**0.56**	**190**	*e*P	Pg	11 09 25.9	-1.7
	baz=10,slow=9.3						
LPIG				*e*S	Sg	11 09 33.2	-1.9

*ISK **09** 11:10:49.5, 38°.77N×26°.57E, h29km, ML2.4/4*
*ISCJB **09** 11:10:50.8±0.6, 38°.83N±0°.03×26°.54E±0°.07, h22km±9km, Error ellipse: s-maj=8.8km s-min=4.8km az=13.7*
*DDA **09** 11:10:50.4, 38°.86N×26°.47E, h7km, Ml2.6*
*CSEM **09** 11:10:50.5±0.2, 38°.81N×26°.53E, h20km, ML2.4, Error ellipse: s-maj=6.3km s-min=3.7km az=99.0*

ISC 09 11:10:50.5±1.0, 38°.82N±0°.02×26°.53E±0°.03, h19km±2km, n26, σ0s56/38, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FOCM	**Foˇşa**	**0.19**	**123**	PG	**Pg**	**11 10 55.4**	**+0.1**
FOCM				SG	**Sg**	**11 10 59.6**	**+1.0**
FOCM	**Foˇşa**	**0.19**	**123**	*e*Pg	**Pg**	**11 10 55.4**	**+0.1**
FOCM				*e*Sg	**Sg**	**11 10 59.6**	**+1.0**
KRBN	**Karaburun**	**0.22**	**175**	PG	**Pb**	**11 10 55.8**	**+0.3**
KRBN				SG	**Sg**	**11 11 00.3**	**+0.8**
KRBN	**Karaburun**	**0.22**	**175**	*e*Pg	**Pb**	**11 10 55.8**	**+0.3**
KRBN				*e*Sg	**Sg**	**11 11 00.3**	**+0.8**
CAND	**Candarli**	**0.25**	**57**	PG	**Pg**	**11 10 56.7**	**+0.4**
DKL	**Dikili**	**0.39**	**49**	PG	**Pg**	**11 10 58.9**	**+0.3**
DKL	**Dikili**	**0.39**	**49**	*e*Pg	**Pg**	**11 10 58.9**	**+0.3**
URLA	**Izmir**	**0.46**	**174**	PG	**Pg**	**11 10 58.8**	**-1.1**
URLA				SG	**Sg**	**11 11 06.1**	**-0.1**
URLA	**Izmir**	**0.46**	**174**	*i* P	**Pg**	**11 10 59.5**	**-0.4**
URLA				*i* S	**Sb**	**11 11 06.8**	**+0.3**
URLA	**Izmir**	**0.46**	**174**	*e*Pg	**Pg**	**11 10 58.8**	**-1.1**
URLA	**Izmir**	**0.46**	**174**	P	**Pg**	**11 10 59.5**	**-0.4**
URLA				*e*Sg	**Sg**	**11 11 06.1**	**-0.1**
AYVA	**Ayvalik**	**0.51**	**14**	*i* P	**Pb**	**11 11 00.3**	**-0.5**
AYVA	**Ayvalik**	**0.51**	**14**	P	**Pb**	**11 11 00.3**	**-0.5**
CHOS	**Chios island**	**0.57**	**221**	PG	**Pb**	**11 11 01.7**	**-0.1**
CHOS				SG	**Sg**	**11 11 10.5**	**+0.9**
CHOS	**Chios island**	**0.57**	**221**	*e*Pg	**Pb**	**11 11 01.7**	**-0.1**
CHOS				*e*Sg	**Sg**	**11 11 10.5**	**+0.9**
ZEY	**ˇzmir**	**0.58**	**182**	*i* P	**Pg**	**11 11 02.3**	**+0.3**
ZEY				*i* S	**Sn**	**11 11 12.6**	**0.0**
SIGR	**SIGRI**	**0.66**	**307**	PG	**Pg**	**11 11 03.8**	**+0.3**
SIGR	**SIGRI**	**0.66**	**307**	*e*Pg	**Pg**	**11 11 03.8**	**+0.3**
DGB	**ˇzmir**	**0.81**	**160**	*i* P	**Pg**	**11 11 06.4**	**+0.1**
BAYC	**CANAKKALE_Bayr**	**0.92**	**1**	*i* P	**Pb**	**11 11 07.6**	**-0.3**
BAYC				*i* S	**Sb**	**11 11 19.8**	**0.0**
BAYC	**CANAKKALE_Bayr**	**0.92**	**1**	P	**Pb**	**11 11 07.6**	**-0.3**
BAYC				S	**Sb**	**11 11 19.8**	**0.0**
STEP	**BALIKESIR_Sava**	**1.08**	**58**	*i* P	**Pg**	**11 11 11.9**	**+0.4**
STEP	**BALIKESIR_Sava**	**1.08**	**58**	P	**Pg**	**11 11 11.9**	**+0.4**
BOZC	**Bozcaada**	**1.09**	**340**	*i* P	**Pn**	**11 11 10.6**	**-0.1**
BALY	**Balya**	**1.25**	**42**	*i* P	**Pn**	**11 11 12.2**	**-0.8**
BALY	**Balya**	**1.25**	**42**	P	**Pn**	**11 11 12.2**	**-0.8**

*ISK **09** 11:20:51.2, 35°.83N×26°.97E, h14km, ML3.2/10*
*ISCJB **09** 11:20:52.1±1.4, 35°.83N±0°.04×27°.00E±0°.03, h10km±10km, Error ellipse: s-maj=7.1km s-min=3.6km az=153.5*
*CSEM **09** 11:20:52.1±0.2, 35°.83N×26°.97E, h10km, ML2.8, Error ellipse: s-maj=5.3km s-min=2.9km az=156.0*
*ATH **09** 11:20:52.1, 35°.80N×27°.02E, h35km±3km, ML2.8/5, Error ellipse: s-maj=3.3km s-min=1.1km az=101.0*
*DDA **09** 11:21:09.2, 35°.61N×26°.96E, h26km, Ml2.9*

ISC 09 11:20:53.0±0.9, 35°.82N±0°.03×26°.99E±0°.02, h22km±9km, n44, σ1s42/75, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZKR	**Zakros**	**0.95**	**222**	P	**Pb**	**11 21 10.2**	**-0.6**
ZKR				S	**Sb**	**11 21 22.7**	**-0.2**
ZKR				AML	AML	11 21 25.2	
	comp=E,569μm,0.4s						
ZKR				AML	AML	11 21 26.8	
	comp=N,285μm,0.6s						
ZKR	**Zakros**	**0.95**	**222**	P	**Pb**	**11 21 10.2**	**-0.6**
ZKR				S	**Sn**	**11 21 23.1**	**-0.7**
ARG	**Arkhangelos**	**1.00**	**67**	P	**Pb**	**11 21 11.4**	**-0.2**
ARG				S	**Sb**	**11 21 24.3**	**-0.1**
ARG				AML	AML	11 21 26.7	
	comp=E,1811μm,0.7s						
ARG				AML	AML	11 21 27.1	
	comp=N,942μm,0.3s						
ARG	**Arkhangelos**	**1.00**	**67**	P	**Pb**	**11 21 11.1**	**-0.5**
ARG				S	**Sb**	**11 21 24.4**	**0.0**
DATC	**Datca-Mugla**	**1.08**	**30**	PN	**Pn**	**11 21 12.5**	**-0.3**
DATC				SN	**Sn**	**11 21 27.9**	**+0.8**
DATC	**Datca-Mugla**	**1.08**	**30**	*e*Pn	**Pn**	**11 21 12.5**	**-0.3**
DATC				*e*Sn	**Sn**	**11 21 27.9**	**+0.8**
ANAF	**Anafi Island**	**1.12**	**299**	P	**Pb**	**11 21 13.5**	**-0.2**
ANAF				S	**Sn**	**11 21 29.8**	**+1.6**
ANAF				AML	AML	11 21 32.1	
	comp=N,2524μm,0.4s						
ANAF				AML	AML	11 21 33.9	
	comp=E,2351μm,0.4s						
ANAF	**Anafi Island**	**1.12**	**299**	P	**Pb**	**11 21 13.5**	**-0.2**
ANAF				S	**Sn**	**11 21 29.5**	**+1.4**
NPS	**Neapolis**	**1.26**	**244**	P	**Pn**	**11 21 15.3**	**0.0**
NPS				S	**Sb**	**11 21 32.2**	**+0.5**
NPS				AML	AML	11 21 35.1	
	comp=N,656μm,0.4s						
NPS				AML	AML	11 21 37.2	
	comp=E,603μm,0.5s						
NPS	**Neapolis**	**1.26**	**244**	P	**Pn**	**11 21 15.2**	**0.0**
NPS				S	**Sb**	**11 21 32.2**	**+0.5**
BODT	**Bodrum**	**1.26**	**12**	PN	**Pn**	**11 21 15.0**	**-0.3**
BODT				SN	**Sb**	**11 21 32.6**	**+0.6**
BODT	**Bodrum**	**1.26**	**12**	*e*Pn	**Pn**	**11 21 15.0**	**-0.3**
BODT				*e*Sn	**Sb**	**11 21 32.6**	**+0.6**
BDRM	**Kayabasi**	**1.29**	**16**	*i* P	**Pb**	**11 21 16.8**	**+0.2**
BDRM	**Kayabasi**	**1.29**	**16**	P	**Pb**	**11 21 16.8**	**+0.2**
LAST	**Lasithi**	**1.40**	**242**	P	**Pn**	**11 21 17.2**	**-0.1**
LAST				S	**Sb**	**11 21 36.2**	**+0.3**
LAST				AML	AML	11 21 40.6	
	comp=E,303μm,0.7s						
LAST				AML	AML	11 21 42.6	
	comp=N,196μm,0.5s						
LAST	**Lasithi**	**1.40**	**242**	P	**Pn**	**11 21 17.2**	**-0.1**
LAST				S	**Sb**	**11 21 35.9**	**-0.1**
MLSB	**Milas**	**1.60**	**23**	PN	**Pn**	**11 21 19.8**	**-0.2**
MLSB	**Milas**	**1.60**	**23**	*e*Pn	**Pn**	**11 21 19.8**	**-0.2**
DALY	**Dalyan (Muˇla**	**1.67**	**53**	PN	**Pn**	**11 21 21.0**	**+0.1**
DALY				SN	**Sn**	**11 21 42.7**	**+1.1**
DALY	**Dalyan (Muˇla**	**1.67**	**53**	*i* P	**Pb**	**11 21 23.0**	**0.0**
DALY				*i* S	**Sb**	**11 21 44.7**	**+1.1**
DALY	**Dalyan (Muˇla**	**1.67**	**53**	*e*Pn	**Pn**	**11 21 21.0**	**+0.1**
DALY	**Dalyan (Muˇla**	**1.67**	**53**	P	**Pb**	**11 21 23.0**	**0.0**
DALY				*e*Sn	**Sn**	**11 21 42.7**	**+1.1**
DALY				S	**Sb**	**11 21 44.7**	**+1.1**
TURN	**Turunc**	**1.67**	**51**	PN	**Pn**	**11 21 17.1**	**-3.8**
TURN				SN	**Sn**	**11 21 35.5**	**-6.1**
TURN	**Turunc**	**1.67**	**51**	*i* P	**Pn**	**11 21 18.3**	**-2.6**
TURN				*i* S	**Sn**	**11 21 36.5**	**-5.1**
TURN	**Turunc**	**1.67**	**51**	*e*Pn	**Pn**	**11 21 17.1**	**-3.8**
TURN	**Turunc**	**1.67**	**51**	P	**Pn**	**11 21 18.3**	**-2.6**
APE	**Apeiranthos**	**1.71**	**317**	PN	**Pn**	**11 21 21.2**	**-0.3**
APE				SN	**Sn**	**11 21 42.9**	**+0.1**
APE	**Apeiranthos**	**1.71**	**317**	P	**Pn**	**11 21 21.8**	**+0.3**
APE				S	**Sn**	**11 21 43.1**	**+0.3**
APE	**Apeiranthos**	**1.71**	**317**	*e*Pn	**Pn**	**11 21 21.2**	**-0.3**
APE	**Apeiranthos**	**1.71**	**317**	P	**Pn**	**11 21 21.9**	**+0.4**
APE				*e*Sn	**Sn**	**11 21 42.9**	**+0.1**
APE				S	**Sb**	**11 21 43.5**	**-1.4**
FETY	**Fethiye**	**1.88**	**64**	PN	**Pn**	**11 21 24.1**	**+0.3**
FETY				SN	**Sn**	**11 21 48.0**	**+1.2**
FETY	**Fethiye**	**1.88**	**64**	*e*Pn	**Pn**	**11 21 24.1**	**+0.3**
FETY				*e*Sn	**Sn**	**11 21 48.0**	**+1.2**
FETY				S	**Sb**	**11 21 50.0**	**+0.4**
AKAS	**Kas**	**2.16**	**78**	PN	**Pn**	**11 21 28.1**	**+0.4**
AKAS				SN	**Sn**	**11 21 55.0**	**+1.1**
AKAS	**Kas**	**2.16**	**78**	*i* P	**Pn**	**11 21 28.4**	**+0.7**
AKAS	**Kas**	**2.16**	**78**	*e*Pn	**Pn**	**11 21 28.1**	**+0.4**
AKAS	**Kas**	**2.16**	**78**	P	**Pn**	**11 21 28.4**	**+0.7**
AKAS				*e*Sn	**Sn**	**11 21 55.0**	**+1.1**
AYDB	**Zeytinkoy-Aydi**	**2.24**	**19**	PN	**Pn**	**11 21 28.9**	**0.0**
AYDB	**Zeytinkoy-Aydi**	**2.24**	**19**	*e*Pn	**Pn**	**11 21 28.9**	**0.0**
TAVA	**DENIZLI_Tavas**	**2.25**	**43**	*i* P	**Pb**	**11 21 31.6**	**-1.4**
TAVA				*i* S	**Sb**	**11 22 01.6**	**+1.1**
TAVA	**DENIZLI_Tavas**	**2.25**	**43**	P	**Pb**	**11 21 31.6**	**-1.4**
TAVA				S	**Sb**	**11 22 01.6**	**+1.1**
GOLH	**Golhisar**	**2.50**	**55**	*i* P	**Pn**	**11 21 34.2**	**+1.7**
GOLH	**Golhisar**	**2.50**	**55**	P	**Pn**	**11 21 34.2**	**+1.7**
ELL	**Elmali**	**2.53**	**68**	PN	**Pn**	**11 21 33.6**	**+0.7**
ELL	**Elmali**	**2.53**	**68**	*e*Pn	**Pn**	**11 21 33.6**	**+0.7**

*VIE **09** 11:25:20.1±1.1, 45°.07N×14°.98E, h12km, mb2.1/6, ML2.8/7, Error ellipse: s-maj=6.4km s-min=4.0km az=170.0*
*ROM **09** 11:25:21.0±0.3, 45°.03N×14°.97E, h5km, Ml2.8/9, Error ellipse: s-maj=6.7km s-min=4.4km az=44.0*
*CSEM **09** 11:25:21.5±0.2, 45°.09N×14°.95E, h5km, ML3.0/17, Error ellipse: s-maj=3.6km s-min=2.9km az=54.0*
*PRU **09** 11:25:23.0, 45°.13N×14°.97E, h3km*

ISC 09 11:25:21.3±1.1, 45°.08N±0°.02×14°.95E±0°.02, h3km±9km, n113, σ0s95/174, 1D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GBRS	**Gornja Briga**	**0.47**	**348**	*i* Pg	**Pg**	**11 25 30.0**	**-0.3**
GBRS				*i* Sg	**Sg**	**11 25 37.4**	**+1.1**
	comp=Z,49nm,0.1s						
GBRS	**Gornja Briga**	**0.47**	**348**	*i* Pg	**Pg**	**11 25 30.0**	**-0.3**
GBRS				*i* Sg	**Sg**	**11 25 37.4**	**+1.1**
	comp=Z,49nm,0.1s						
BOJS	**Bojanci**	**0.48**	**26**	*i* Pg	**Pg**	**11 25 30.2**	**-0.3**
BOJS				*e*Sg	**Sg**	**11 25 37.1**	**+0.4**
	comp=Z,116nm,0.2s						
BOJS	**Bojanci**	**0.48**	**26**	*i* Pg	**Pg**	**11 25 30.2**	**-0.3**
BOJS				*e*Sg	**Sg**	**11 25 37.1**	**+0.4**
	comp=Z,116nm,0.2s						
NVLJ	**Novalja**	**0.52**	**186**	*i* Pg	**Pg**	**11 25 30.2**	**-1.0**
NVLJ				Sg	**Sg**	**11 25 38.1**	**+0.2**
NVLJ	**Novalja**	**0.52**	**186**	*i* Pg	**Pg**	**11 25 30.2**	**-1.0**
NVLJ				Sg	**Sg**	**11 25 38.1**	**+0.2**
KNDS	**Knezji Dol**	**0.60**	**319**	*e*Pg	**Pg**	**11 25 32.1**	**-0.8**
KNDS				*e*Sg	**Sg**	**11 25 42.1**	**+1.3**
	comp=Z,68nm,0.1s						
KNDS	**Knezji Dol**	**0.60**	**319**	*e*Pg	**Pg**	**11 25 32.1**	**-0.8**
KNDS				*e*Sg	**Sg**	**11 25 42.1**	**+1.3**
	comp=Z,68nm,0.1s						
OZLJ	**Ozalj**	**0.65**	**34**	*e*Pg	**Pg**	**11 25 34.3**	**+0.4**
OZLJ				Sg	**Sg**	**11 25 42.8**	**+0.5**
OZLJ	**Ozalj**	**0.65**	**34**	*e*Pg	**Pg**	**11 25 34.2**	**+0.4**
OZLJ				Sg	**Sg**	**11 25 42.8**	**+0.5**
VISS	**Visnje**	**0.73**	**354**	*i* Pg	**Pg**	**11 25 34.6**	**-0.8**
VISS				*e*Sg	**Sg**	**11 25 45.3**	**+0.5**
	comp=Z,47nm,0.1s						
VISS	**Visnje**	**0.73**	**354**	*i* Pg	**Pg**	**11 25 34.6**	**-0.8**
VISS				*e*Sg	**Sg**	**11 25 45.3**	**+0.5**
	comp=Z,47nm,0.1s						
CEY	**Cerknica**	**0.76**	**331**	*i* Pg	**Pg**	**11 25 35.0**	**-0.8**
CEY				*e*Sg	**Sb**	**11 25 47.0**	**-0.9**
	comp=Z,87nm,0.2s						
CEY	**Cerknica**	**0.76**	**331**	*e*Pg	**Pg**	**11 25 35.1**	**-0.8**
CEY				*e*Sg	**Sg**	**11 25 46.5**	**+0.8**
UDBI	**Udbina**	**0.80**	**133**	*e*Pg	**Pg**	**11 25 36.5**	**-0.1**
UDBI				Sg	**Sg**	**11 25 47.0**	**0.0**
UDBI	**Udbina**	**0.80**	**133**	*e*Pg	**Pg**	**11 25 36.5**	**-0.1**
UDBI				Sg	**Sg**	**11 25 47.0**	**0.0**
SKDS	**Skadanscina**	**0.81**	**306**	*i* Pg	**Pg**	**11 25 35.5**	**-1.3**
	comp=Z,118nm,0.3s						
SKDS	**Skadanscina**	**0.81**	**306**	*i* Pg	**Pg**	**11 25 35.5**	**-1.3**
	comp=Z,118nm,0.3s						
CRES	**Cresnjev**	**0.83**	**25**	*e*Pg	**Pg**	**11 25 36.6**	**-0.7**
CRES				*e*Sg	**Sg**	**11 25 48.0**	**-0.1**
	comp=Z,30nm,0.2s						
CRES	**Cresnjev**	**0.83**	**25**	⇓*i* Pg	**Pg**	**11 25 36.7**	**-0.6**
CRES				*e*Sg	**Sg**	**11 25 48.3**	**+0.3**
LEGS	**Legarje**	**0.91**	**16**	*e*Pg	**Pg**	**11 25 38.3**	**-0.5**
LEGS				*e*Sg	**Sb**	**11 25 51.1**	**-1.2**
GCIS	**Gornji Cirnik**	**0.92**	**31**	*i* Pg	**Pg**	**11 25 39.1**	**+0.1**
	comp=Z,18nm,0.2s						
GBAS	**Gorenja Brezov**	**0.93**	**338**	*e*Pg	**Pg**	**11 25 38.2**	**-0.9**
GBAS				*e*Sg	**Sb**	**11 25 52.7**	**-0.2**
	comp=Z,19nm,0.1s						
GBAS	**Gorenja Brezov**	**0.93**	**338**	*e*Pg	**Pg**	**11 25 38.2**	**-0.9**
GBAS				*e*Sg	**Sb**	**11 25 52.7**	**-0.2**
	comp=Z,19nm,0.1s						
PDKS	**Podkum**	**0.99**	**2**	*e*Pg	**Pg**	**11 25 39.9**	**-0.3**
	comp=Z,59nm,0.2s						
LJU	**Ljubljana**	**1.01**	**343**	*e*Pg	**Pb**	**11 25 41.2**	**-0.4**
LJU				*i* Sg	**Sn**	**11 25 55.9**	**-1.3**
	comp=Z,22nm,0.1s						
LJU	**Ljubljana**	**1.01**	**343**	*e*Pg	**Pg**	**11 25 40.4**	**-0.3**
LJU				*e*Sg	**Sb**	**11 25 54.5**	**-0.7**
JAVS	**Javornik**	**1.03**	**323**	*e*Pg	**Pg**	**11 25 39.4**	**-1.6**
JAVS				*e*Sg	**Sb**	**11 25 55.6**	**-0.2**
	comp=Z,52nm,0.2s						
JAVS	**Javornik**	**1.03**	**323**	*e*Pg	**Pg**	**11 25 39.4**	**-1.6**
JAVS				*e*Sg	**Sb**	**11 25 55.6**	**-0.2**
	comp=Z,52nm,0.2s						
VNDS	**Vrh nad Dolski**	**1.04**	**350**	*i* Pg	**Pg**	**11 25 40.4**	**-0.8**
	comp=Z,20nm,0.1s						
TRI	**Trieste**	**1.05**	**308**	*e*Pg	**Pg**	**11 25 40.3**	**-1.1**
TRI				*e*Sg	**Sb**	**11 25 56.9**	**+0.7**
TRI	**Trieste**	**1.05**	**308**	*e*Pg	**Pg**	**11 25 40.3**	**-1.1**
TRI				*e*Sg	**Sb**	**11 25 56.9**	**+0.7**
ZAG	**Zagreb**	**1.05**	**44**	*e*Pg	**Pb**	**11 25 41.9**	**-0.2**
ZAG				*e*Sg	**Sb**	**11 25 55.5**	**-0.7**
CRNS	**Crni Vrh**	**1.11**	**335**	*e*Pg	**Pg**	**11 25 41.8**	**-0.9**
	comp=Z,39nm,0.1s						
DOBS	**Dobrina**	**1.13**	**19**	*e*Pg	**Pg**	**11 25 43.0**	**-0.1**
	comp=Z,29nm,0.2s						
DOBS	**Dobrina**	**1.13**	**19**	*e*Pg	**Pg**	**11 25 43.0**	**-0.1**
	comp=Z,29nm,0.2s						
MOZS	**Mozjanca**	**1.27**	**344**	*i* Pn	**Pg**	**11 25 45.1**	**-0.5**
	comp=Z,28nm,0.3s						
MOZS	**Mozjanca**	**1.27**	**344**	*i* Pn	**Pg**	**11 25 45.1**	**-0.5**
	comp=Z,28nm,0.3s						
SABO	**M.te Sabotino**	**1.31**	**314**	*e*Sg	**Sn**	**11 26 04.3**	**-0.3**
SABO	**M.te Sabotino**	**1.31**	**314**	Pn	**Pn**	**11 25 44.5**	**-2.1**
	comp=Z,142nm,0.4s						
SABO	**M.te Sabotino**	**1.31**	**314**	*e*Pg	**Pn**	**11 25 45.6**	**-0.9**
SABO				*e*Sg	**Sn**	**11 26 04.3**	**-0.3**
GORS	**Gorjuse**	**1.41**	**332**	*e*Pn	**Pn**	**11 25 47.1**	**-0.9**
GORS				*e*Sn	**Sn**	**11 26 08.0**	**+0.9**
	comp=Z,43nm,0.2s						
GORS	**Gorjuse**	**1.41**	**332**	*e*Pn	**Pn**	**11 25 47.1**	**-0.9**
GORS				*e*Sn	**Sn**	**11 26 08.0**	**+0.9**
	comp=Z,43nm,0.2s						
DRE	**Drenchia**	**1.43**	**321**	*e*Pg	**Pn**	**11 25 47.8**	**-0.5**
DRE	**Drenchia**	**1.43**	**321**	*e*Pg	**Pn**	**11 25 47.8**	**-0.5**
OBKA	**Obir**	**1.46**	**349**	Pg	**Pb**	**11 25 48.8**	**-0.4**
	comp=Z,3.2nm,0.1s						
OBKA				Sg	**Sg**	**11 26 09.6**	**+1.4**
	comp=Z,35nm,0.3s						
OBKA	**Obir**	**1.46**	**349**	Pg	**Pb**	**11 25 48.8**	**-0.4**
	comp=Z,3.2nm,0.1s						
OBKA				Sg	**Sg**	**11 26 09.6**	**+1.4**
	comp=Z,35nm,0.3s						
COLI	**Coloredo**	**1.53**	**314**	*e*Pg	**Pb**	**11 25 50.0**	**-0.3**
COLI	**Coloredo**	**1.53**	**314**	*e*Pg	**Pb**	**11 25 50.0**	**-0.3**
ROBS	**Robic**	**1.54**	**320**	*i* Pn	**Pb**	**11 25 50.6**	**0.0**
ROBS				*e*Sn	**Sg**	**11 26 12.7**	**+1.8**
	comp=Z,41nm,0.3s						
ROBS	**Robic**	**1.54**	**320**	*i* Pn	**Pb**	**11 25 50.6**	**0.0**
ROBS				*e*Sn	**Sg**	**11 26 12.7**	**+1.8**
	comp=Z,41nm,0.3s						
PERS	**Pernice**	**1.56**	**4**	*e*Pn	**Pn**	**11 25 49.6**	**-0.5**
	comp=Z,21nm,0.2s						
PERS	**Pernice**	**1.56**	**4**	*e*Pn	**Pn**	**11 25 49.6**	**-0.5**
	comp=Z,21nm,0.2s						
SOKA	**Soboth**	**1.60**	**2**	Pg	**Pn**	**11 25 50.5**	**-0.2**
	comp=Z,1.2nm,0.2s						
SOKA				Sg	**Sg**	**11 26 12.6**	**-0.2**
	comp=Z,16nm,0.4s						
SOKA	**Soboth**	**1.60**	**2**	Pg	**Pn**	**11 25 50.5**	**-0.2**
	comp=Z,1.2nm,0.2s						
SOKA				Sg	**Sg**	**11 26 12.6**	**-0.2**
	comp=Z,16nm,0.4s						
BLY	**Banja Luka**	**1.62**	**101**	*e*Pn	**Pn**	**11 25 50.3**	**-0.5**
BLY				*e*Sn	**Sn**	**11 26 11.7**	**-0.5**
BLY	**Banja Luka**	**1.62**	**101**	Pn	**Pn**	**11 25 50.6**	**-0.2**
	comp=Z,39nm,0.6s						
VINO	**Villanova**	**1.66**	**316**	Pn	**Pn**	**11 25 51.8**	**+0.4**
VINO				Sn	**Sg**	**11 26 15.9**	**+1.2**
	comp=Z,84nm,0.4s						
VINO	**Villanova**	**1.66**	**316**	Pn	**Pn**	**11 25 51.8**	**+0.4**
VINO				Sn	**Sg**	**11 26 15.9**	**+1.2**
	comp=Z,84nm,0.4s						
VINO	**Villanova**	**1.66**	**316**	*e*Pg	**Pb**	**11 25 52.0**	**-0.6**
PRED	**Cave del Predi**	**1.68**	**325**	*e*Pg	**Pn**	**11 25 52.0**	**+0.4**
PRED	**Cave del Predi**	**1.68**	**325**	*e*Pg	**Pn**	**11 25 52.0**	**+0.4**
PTCC	**Patocco-Chiusa**	**1.74**	**321**	Pn	**Pb**	**11 25 53.5**	**-0.4**
PTCC				Sn	**Sg**	**11 26 18.1**	**+1.0**
	comp=Z,48nm,0.5s						
PTCC	**Patocco-Chiusa**	**1.74**	**321**	Pn	**Pb**	**11 25 53.5**	**-0.4**
PTCC				Sn	**Sg**	**11 26 18.1**	**+1.0**
	comp=Z,48nm,0.5s						
ACOM	**Acomizza, Ital**	**1.78**	**326**	Pn	**Pb**	**11 25 54.1**	**-0.6**
	comp=Z,132nm,0.7s						
ACOM	**Acomizza, Ital**	**1.78**	**326**	Pn	**Pb**	**11 25 54.1**	**-0.6**
	comp=Z,132nm,0.7s						
ACOM	**Acomizza, Ital**	**1.78**	**326**	*e*Pg	**Pb**	**11 25 54.0**	**-0.8**
MPRI	**Monte Prat**	**1.80**	**311**	*e*Pg	**Pn**	**11 25 52.8**	**-0.5**
MPRI	**Monte Prat**	**1.80**	**311**	*e*Pg	**Pn**	**11 25 52.9**	**-0.5**
MYKA	**Terra Mystica**	**1.80**	**330**	Pg	**Pb**	**11 25 54.4**	**-0.6**
	comp=Z,5.2nm,0.3s						
MYKA				Sg	**Sg**	**11 26 20.2**	**+1.0**
	comp=Z,12nm,0.3s						
MYKA	**Terra Mystica**	**1.80**	**330**	*e*Pg	**Pb**	**11 25 54.4**	**-0.6**
	comp=Z,5.2nm,0.3s						
MYKA				Sg	**Sg**	**11 26 20.2**	**+1.0**
	comp=Z,12nm,0.3s						
BEHE	**Becsehely**	**1.89**	**42**	*e*Pn	**Pn**	**11

NIED ***09*** *11:36:00.39˚.10N×144˚.30E,h11km,Mw3.6 Best double couple: M₀3.06000×10¹⁴ NP1:φs336.00000°,δ62.00000°, λ-175.00000°. NP2:φs243.00000°,δ86.00000°, λ-28.00000°.*

JMA 09 11:36:36.1±0.1, 39˚.08N×144˚.34E, h40km, M3.6, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
MIYJ	**Miyakonagasawa**	**2.02**	**285**	P		Pn	11 37 08.7	+1.1
MIYJ				eS		Sn	11 37 32.9	+1.3
OFUJ	**Ofunato**	**2.08**	**271**	P		Pn	11 37 09.5	+1.0
OFUJ				eS		Sn	11 37 34.3	+1.2
JTH	**Tanohata**	**2.10**	**295**	eS		Sn	11 37 35.0	+1.4
JOM	**Ohasama**	**2.40**	**280**	P		Pn	11 37 14.4	+1.6
JOM				eS		Sn	11 37 42.9	+1.9
JMK	**Ichinoseki**	**2.43**	**268**	P		Pn	11 37 14.7	+1.4
JMK				eS		Sn	11 37 43.3	+1.4
JANG	**Nango**	**2.53**	**302**	P		Pn	11 37 15.4	+0.7
JRG	**Rokugo**	**2.90**	**277**	eS		Sn	11 37 55.8	+2.6
JOU	**Okura**	**2.96**	**257**	P		Pn	11 37 22.2	+1.6
JOU				eS		Sn	11 37 56.8	+1.9
JTM	**Tenmabayashi**	**3.04**	**305**	P		Pn	11 37 23.0	+1.4
JTM				eS		Sn	11 37 57.8	+1.0
JAH	**Hinai**	**3.07**	**292**	P		Pn	11 37 24.0	+2.0
JAH				eS		Sn	11 38 00.5	+3.0
JYK	**Kaneyama**	**3.11**	**268**	P		Pn	11 37 24.4	+1.8
JOT	**Ohata**	**3.41**	**313**	eS		Sn	11 38 06.8	+0.9
JNBK	**Urakawa-nobuka**	**3.42**	**340**	P		Pn	11 37 28.0	+1.2
JNBK				eS		Sn	11 38 07.4	+1.3
JFT	**Otama**	**3.51**	**245**	P		Pn	11 37 29.5	+1.3
JFT				eS		Sn	11 38 10.0	+1.5
JCH	**Churui**	**3.61**	**348**	P		Pn	11 37 29.1	-0.4
JCH				eS		Sn	11 38 09.0	-1.8
JKB	**Kayabe**	**3.77**	**319**	P		Pn	11 37 34.5	+2.8
JAK	**Akkeshi**	**3.92**	**4**	P		Pn	11 37 32.5	-1.2
JAK				eS		Sn	11 38 15.2	-3.3
NEM2	**Nemuro 2**	**4.41**	**13**	P		Pn	11 37 37.9	-2.5
NEM2				eS		Sn	11 38 24.8	-5.7
JOSM	**Okushiri--Mats**	**4.77**	**311**	P		Pn	11 37 48.8	+3.5
JTKR	**Abashiri--Toko**	**4.90**	**356**	P		Pn	11 37 46.7	-0.4
JTKR				eS		Sn	11 38 39.5	-3.0
JRY	**Ryogami san**	**5.29**	**236**	P		Pn	11 37 52.7	0.0
MAT	**Matsushiro**	**5.48**	**244**	P		Pn	11 37 57.3	+2.1
MAT				eS		Sn	11 39 02.9	+6.0
JOD2	**Odawara 2**	**5.67**	**229**	eS		Sn	11 38 58.3	-3.3

JMA 09 11:40:47.6±0.1, 35˚.49N×138˚.98E, h21km±1km, M2.7, 3D Broadband fault plane solution: P waves. NP1: φs62.00000°,δ55.00000°,λ97.00000°. **NP2:**φs229.00000°, δ35.00000°,λ79.00000°. **Principal axes:** T Plg78.0000°, Azm358.0000°; N Plg6.0000°, Azm238.0000°; P Plg10.0000°, Azm147.0000°; **Eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
JOD2	**Odawara 2**	**0.24**	**159**	⇓P		Pb	11 40 53.1	-0.6
JOD2				S		Sb	11 40 57.0	-1.0
JYN	**Shimob**	**0.36**	**271**	⇓P		Pb	11 40 55.1	-0.1
JYN				S		Sb	11 41 00.9	+0.6
JRY	**Ryogami san**	**0.53**	**353**	⇓P		Pb	11 40 58.1	-0.2
JRY				S		Sb	11 41 05.4	-0.1
SHZ3	**Shizuoka 3**	**0.76**	**236**	P		Pb	11 41 02.3	+0.2
SHZ3				eS		Sb	11 41 13.0	+1.0
JIZS	**Izushimoda**	**0.78**	**186**	S		Sb	11 41 11.7	-0.7
MAT	**Matsushiro**	**1.22**	**329**	P		Pb	11 41 09.9	-0.1
MAT				S		Sn	11 41 25.7	+0.3

ISCJB ***09*** *11:54:38.4±1.2,25˚.85S±0˚.04×177˚.13W±0˚.07, h92km±11km, mb4.7/39 Error ellipse: s-maj=10.7km s-min=5.4km az=13.4*

IDC ***09*** *11:54:42.5±0.6,25˚.57S×177˚.14W,h116km±5km, mb4.3/21, mb1 4.4/23, mb1mx4.3/42, mbtmp4.7/23, MS3.6/26, Ms1 3.6/26, ms1mx3.6/38, Error ellipse: s-maj=14.4km s-min=11.4km az=154.0*

NEIC ***09*** *11:54:44.0±0.9,25˚.63S×177˚.07W,h133km±8km, mb4.5/3, Error ellipse: s-maj=9.2km s-min=7.4km az=166.0*

GCMT ***09*** *11:54:44.0±0.2,25˚.40S×176˚.83W, h124km±1km, MW5.2/112, Moment Tensor Solution. s75,c100; s112,c183; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr3.97±.12; Mθθ-6.36±.13; Mφφ2.39±.13; Mrθ-1.10±.11; Mθφ1.68±.12; Mφr3.29±.09; Best double couple: M₀6.76000×10¹⁶ NP1:φs312.00000°,δ64.00000°, λ132.00000°. NP2:φs68.00000°,δ48.00000°,λ36.00000°. Principal axes: T 6.5660, Plg52.0000°, Azm271.0000°; N 0.3890, Plg37.0000°, Azm111.0000°; P -6.9550, Plg10.0000°, Azm14.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

BJI ***09*** *11:54:48.0,25˚.30S×177˚.20W, h165km, mb5.1/16, mB5.2/14*

ISC 09 11:54:42.8±0.6, 25˚.72S±0˚.05×177˚.12W±0˚.08, h121km±5km, h121km; pP-P, n175, σ2s18/154, mb4.7/39, 7C-12D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
RIZ	**Raoul Island**	**3.59**	**191**	S		Sn	11 56 28.3	+10
RIZ	**Raoul Island**	**3.59**	**191**	P		**Pn**	**11 55 38.3**	**+1.4**
RAO	**Raoul Island**	**3.59**	**191**	P		**Pn**	**11 55 39.0**	**+2.1**
	446nm,0.3s,baz=238,slow=23,SNR=15							
RAO				S		**Sn**	**11 56 26.4**	**+7.6**
	322nm,0.3s,baz=71,slow=24,SNR=4.7							
GLKZ	**Green Lake**	**3.60**	**191**	P		**Pn**	**11 55 39.7**	**+2.6**
GLKZ	**Green Lake**	**3.60**	**191**	S		**Sn**	**11 56 27.3**	**+8.2**
MSVF	**Nonsavu**	**9.12**	**330**	*e*Pn		**Pn**	**11 56 51.4**	**-0.2**
	746nm,1.5s							
OUZ	**Omahuta**	**12.40**	**218**	P		P	11 57 50.5	+8.4
MXZ	**Matakaoa Point**	**12.44**	**197**	S		**Sn**	**11 59 46.7**	**-5.8**
WCZ	**Waipu Caves**	**12.55**	**214**	P		P	11 57 50.1	+6.3
WMGZ	**Waiomatatini S**	**12.65**	**196**	P		Pn	11 57 32.8	-5.6
HAZ	**Te Kaha**	**12.76**	**199**	P		Pn	11 57 34.4	-5.4
HAZ	**Te Kaha**	**12.76**	**199**	S		**Sn**	**11 59 57.0**	**-3.3**
AFI	**Afiamalu**	**12.77**	**24**	P		Pn	11 57 28.7	-12
	27nm,0.3s,baz=208,slow=0.4,SNR=35							
AFI				S		Sn	11 59 38.5	-22
	11nm,0.3s,baz=123,slow=23,SNR=6.5							
AFI				LR		LR	12 02 03.8	
	comp=Z,177nm,21.4s,baz=194,slow=35							
PKGZ	**Pakihiroa**	**12.80**	**197**	P		Pn	11 57 34.0	-6.4
PKGZ	**Pakihiroa**	**12.80**	**197**	S		Sn	11 59 54.5	-7.0
PUZ	**Puketiti**	**12.93**	**197**	P		Pn	11 57 34.9	-7.1
PUZ	**Puketiti**	**12.93**	**197**	S		**Sn**	**11 59 58.7**	**-5.7**
RUGZ	**Raukumara Rang**	**12.99**	**199**	P		Pn	11 57 37.1	-5.8
RUGZ	**Raukumara Rang**	**12.99**	**199**	S		**Sn**	**11 59 59.8**	**-6.2**
TWGZ	**Tauwhareparae**	**13.10**	**197**	P		Pn	11 57 38.1	-6.2
TWGZ	**Tauwhareparae**	**13.10**	**197**	S		**Sn**	**12 00 03.5**	**-5.0**
CNGZ	**Carnagh Station**	**13.33**	**196**	P		Pn	11 57 41.4	-5.8
CNGZ	**Carnagh Station**	**13.33**	**196**	S		**Sn**	**12 00 08.0**	**-6.1**
MWZ	**Matawai**	**13.37**	**198**	P		Pn	11 57 41.5	-6.3
MWZ	**Matawai**	**13.37**	**198**	S		Sn	12 00 08.2	-7.0
URZ	**Urewera**	**13.43**	**200**	P		Pn	11 57 41.5	-6.9
	0.5nm,0.3s,baz=264,slow=4.6,SNR=6.9							
URZ				S		Sn	12 00 09.3	-7.1
	6.6nm,0.3s,baz=259,slow=22,SNR=19							
URZ	**Urewera**	**13.43**	**200**	P		Pn	11 57 42.0	-6.4
URZ	**Urewera**	**13.43**	**200**	S		**Sn**	**12 00 09.6**	**-6.8**
DZM	**Mont Dzumac**	**15.46**	**280**	*e*Pn		**P**	**11 58 19.1**	**+2.7**
	346nm,1.7s							
DZM				*e*LR		LR	12 01 57.2	
	579nm,29.9s							
DZM	**Mont Dzumac**	**15.46**	**280**	P		**P**	**11 58 17.3**	**+0.9**
	0.6nm,0.3s,baz=105,slow=11,SNR=15							
DZM				LR		LR	12 02 25.5	
	comp=Z,272nm,20.7s,baz=160,slow=30							
RAR	**Rarotonga**	**16.53**	**78**	P		**P**	**11 58 27.7**	**-0.4**
	2.4nm,0.3s,baz=198,slow=7.7,SNR=5.2							
RAR				LR		LR	12 03 30.7	
	comp=Z,194nm,21.6s,baz=252,slow=32							
RPZ	**Rata Peaks**	**20.38**	**205**	S		**S**	**12 02 43.5**	**-8.1**
	4.4nm,0.4s,baz=86,slow=17,SNR=5.9							
PAE	**Paea**	**26.77**	**78**	*e*T		T	12 27 17.2	
	20nm,0.4s							
PPT2	**Papeete2**	**26.80**	**78**	*e*LR		LR	12 06 39.6	
	767nm,30.0s							
PPT2	**Papeete2**	**26.80**	**78**	*e*T		T	12 27 22.0	
	10nm,0.3s							
PPT	**Papeete**	**26.81**	**78**	LR		LR	12 08 43.3	
	comp=Z,277nm,19.4s,baz=274,slow=31							
TVO	**Taravao**	**27.02**	**79**	*e*T		T	12 27 35.2	
	3.5nm,0.4s							
HNR	**Honiara**	**27.13**	**303**	LR		LR	12 09 11.9	
	comp=Z,135nm,21.8s,baz=184,slow=32							
EIDS	**Eidsvold**	**28.66**	**264**	*e*P		**P**	**12 00 30.1**	**+1.8**
	53nm,0.8s							
VAH	**Vaihoa**	**29.46**	**75**	*e*T		T	12 30 17.5	
	7.7nm,0.2s							
CTA	**Charters Tower**	**34.13**	**272**	P		**P**	**12 01 17.1**	**+0.7**
	15nm,0.6s,baz=101,slow=11,SNR=32							
STKA	**Stephens Creek**	**36.54**	**251**	P		**P**	**12 01 38.2**	**+1.4**
	5.0nm,0.5s,baz=96,slow=11,SNR=26							
STKA					PcP	**PcP**	**12 03 59.2**	**+1.3**
	5.7nm,0.7s,baz=120,slow=2.9,SNR=5.9							
STKA					LR	LR	12 15 57.1	
	comp=Z,200nm,20.1s,baz=84,slow=35							
PMG	**Port Moresby**	**37.56**	**289**	P		**P**	**12 01 45.2**	**-0.4**
	24nm,0.7s,baz=86,slow=6.1,SNR=7.9							
PMG					PcP	**PcP**	**12 04 01.7**	**+0.5**
	6.5nm,0.6s,baz=58,slow=6.7,SNR=3.7							
PMG					LR	LR	12 14 24.1	
	comp=Z,83nm,18.9s,baz=132,slow=32							
RKT	**Rikitea**	**38.35**	**95**	*e*T		T	12 42 00.3	
	4.1nm,0.3s							
TAOE	**Nuku Hiva Isla**	**38.90**	**71**	*e*LR		LR	12 12 26.8	
	298nm,27.9s							
BBOO	**Buckleboo**	**41.19**	**249**	*e*P		**P**	**12 02 15.4**	**-0.3**
ASAR	**Alice Springs**	**44.35**	**262**	P		**P**	**12 02 41.1**	**-0.1**
	7.8nm,0.7s,baz=93,slow=7.2,SNR=257							
ASAR					PcP	**PcP**	**12 04 23.9**	**+0.5**
	5.5nm,0.8s,baz=110,slow=4.0,SNR=11							
ASAR					S	**S**	**12 09 05.8**	**-1.0**
	0.1nm,0.6s,baz=100,slow=14,SNR=4.1							
ASAR					LR	LR	12 19 14.9	
	comp=Z,93nm,21.7s,baz=103,slow=33							
WRAB	**Tennant Creek**	**44.91**	**267**	*e*P		**P**	**12 02 45.1**	**-0.7**
	3.7nm,0.4s							
WRA	**Warramunga Arr**	**44.91**	**267**	P		**P**	**12 02 44.8**	**-1.0**
	8.6nm,0.6s,baz=104,slow=7.9,SNR=80							
WRA					PcP	**PcP**	**12 04 25.4**	**+0.1**
	11nm,0.9s,baz=100,slow=4.2,SNR=16							
FORT	**Forrest**	**48.16**	**251**	*e*P		**P**	**12 03 10.6**	**-0.4**
	1µm,0.6s							
VNDA	**Vanda**	**52.82**	**186**	P		**P**	**12 03 44.7**	**-0.6**
	0.9nm,0.4s,baz=343,slow=19,SNR=8.6							
VNDA					LR	LR	12 21 53.8	
	comp=Z,23nm,21.3s,baz=341,slow=31							
FITZ	**Fitzroy Crossi**	**53.31**	**266**	P		**P**	**12 03 49.6**	**-0.1**
	8.6nm,0.9s,baz=131,slow=7.9							
SIJI	**Sorong**	**55.49**	**288**	P		**P**	**12 04 04.5**	**-1.1**
	15nm,0.6s,baz=60,slow=4.6,SNR=10							
RPN	**Rapa Nui**	**60.02**	**108**	LR		LR	12 26 57.0	
	comp=Z,9.9nm,18.5s,baz=222,slow=32							
QSPA	**South Pole Qui**	**64.38**	**180**	LR		LR	12 30 14.2	
	comp=Z,35nm,19.2s,baz=64,slow=33							
LEM	**Lembang**	**73.81**	**270**	P		**P**	**12 06 05.0**	**+0.1**
	12nm,0.4s,baz=121,slow=14,SNR=3.9							
LEM					LR	LR	12 37 34.4	
	comp=Z,41nm,21.7s,baz=180,slow=35							
MJAR	**Matsushiro Arr**	**74.88**	**324**	P		**P**	**12 06 09.7**	**-0.6**
	0.9nm,0.6s,baz=157,slow=5.3,SNR=3.6							
MJAR					LR	LR	12 35 31.1	
	comp=Z,46nm,21.5s,baz=130,slow=33							
JNU	**Nakatsue**	**76.62**	**317**	LR		LR	12 36 54.1	
	comp=Z,32nm,18.8s,baz=124,slow=33							
MAW	**Mawson**	**76.96**	**200**	P		**P**	**12 06 24.5**	**+2.8**
	14nm,0.7s,baz=132,slow=4.6,SNR=23							
MAW					LR	LR	12 40 41.0	
	comp=Z,57nm,18.0s,baz=70,slow=36							
H06E1	**SOCORRO T-PHAS**	**78.06**	**62**	T		T	13 31 27.3	
	SNR=12							
ASAJ	**Asahikawa**	**78.68**	**332**	P		**P**	**12 06 32.1**	**+0.7**
	7.2nm,0.6s,baz=151,slow=3.7,SNR=12							
YSS	**Yuzh-Sakhalins**	**80.90**	**333**	*e*P		**P**	**12 06 42.8**	**-0.5**
	16nm,0.6s							
KSRS	**Korea Array**	**81.32**	**319**	P		**P**	**12 06 45.0**	**-0.7**
	2.6nm,0.8s,baz=134,slow=5.8,SNR=14							
KSRS					LR	LR	12 38 12.5	
	comp=Z,32nm,21.8s,baz=140,slow=32							
KSAR	**Wonju Array Be**	**81.34**	**319**	P		**P**	**12 06 45.0**	**-0.8**
LPIG	**La Paz**	**81.41**	**58**	LR		LR	12 35 24.1	
	comp=Z,90nm,18.8s,baz=210,slow=30							
PETK	**Petropavlovsk-**	**81.50**	**345**	P		**P**	**12 06 45.9**	**-0.5**
	6.2nm,0.6s,baz=128,slow=6.2,SNR=8.4							
PETK					LR	LR	12 37 34.5	
	comp=Z,44nm,19.7s,baz=148,slow=32							
SYO	**Syowa Base**	**81.84**	**193**	⇑*e*P		**P**	**12 06 48.0**	**-0.1**
SNAA	**Sanae**	**82.80**	**178**	P		**P**	**12 06 54.5**	**+1.3**
VNA3	**Neumayer Olymp**	**82.91**	**176**	P		**P**	**12 06 54.8**	**+1.2**
VNA2	**Neumayer--Watz**	**83.36**	**177**	P		**P**	**12 06 57.2**	**+1.3**
	baz=188,slow=3.3							
VNA1	**Neumayer--Stat**	**83.58**	**176**	P		**P**	**12 06 53.2**	**-3.9**
USRK	**Ussuriysk Ar.**	**83.72**	**326**	P		**P**	**12 06 58.4**	**+0.3**
	15nm,0.8s,baz=121,slow=3.3,SNR=22							
YBH	**Yreka Blue Hor**	**83.87**	**38**	LR		LR	12 37 25.7	
	comp=Z,39nm,19.1s,baz=228,slow=31							
NVAR	**Mina Array Bea**	**84.28**	**42**	P		**P**	**12 07 01.1**	**-0.2**
	1.3nm,0.9s,baz=222,slow=9.3,SNR=9.5							
NVAR					pP	**pP**	**12 07 31.1**	**-1.0**
	4.2nm,0.9s,baz=224,slow=9.3,SNR=11							
NVAR					LR	LR	12 38 34.6	
	comp=Z,42nm,18.7s,baz=93,slow=31							
PLCA	**Paso Flores**	**85.12**	**133**	P		**P**	**12 07 06.0**	**+0.4**
	3.4nm,0.9s,baz=203,slow=8.2,SNR=5.2							
PLCA					LR	LR	12 38 26.3	
	comp=Z,74nm,18.3s,baz=244,slow=31							
CN2	**Changchun**	**86.91**	**322**	*e*P		**P**	**12 07 13.3**	**-0.6**
CN2					pmax	pmax		
	comp=Z,40nm,1.2s							
TIA	**Tai'an**	**87.38**	**312**	P		**P**	**12 07 16.8**	**+0.4**
TIA					pmax	pmax		
	comp=Z,32nm,0.9s							
SKNT	**Sakolnakorn**	**87.65**	**290**	P		**P**	**12 07 18.5**	**+0.4**
	6.8nm,0.9s							
CHAI	**Chaiyaphum**	**88.86**	**288**	P		**P**	**12 07 27.3**	**+3.4**
	2.3nm,0.7s							
TXAR	**Lajitas Array**	**89.20**	**57**	P		**P**	**12 07 25.6**	**+0.4**
	0.6nm,1.0s,baz=224,slow=8.8,SNR=6.5							
TXAR					pP	**pP**	**12 07 56.7**	**+0.3**
	1.0nm,0.9s,baz=221,slow=6.9,SNR=6.3							
TXAR					LR	LR	12 39 40.5	
	comp=Z,53nm,20.9s,baz=0.0,slow=30							
TMUT	**Trail Mountain**	**89.23**	**45**	*e*P		**P**	**12 07 24.7**	**-0.8**
	34nm,0.9s							
PHET	**Kaeng Krachan**	**89.57**	**284**	P		**P**	**12 07 30.4**	**+3.2**
	6.9nm,0.9s							
PBKT	**Sadao Pong**	**90.03**	**288**	P		**P**	**12 07 30.5**	**+1.2**
	8.0nm,1.1s							
PHIT	**Phitsanulok**	**90.78**	**289**	P		**P**	**12 07 35.6**	**+2.8**
	10nm,1.0s							
NANT	**Nan**	**91.26**	**290**	P		**P**	**12 07 37.7**	**+2.7**
	3.0nm,1.2s,199nm							
XAN	**Xi'an**	**91.92**	**307**	P		**P**	**12 07 38.3**	**+0.5**
XAN					pmax	pmax		
	comp=Z,21nm,0.9s							
PDAR	**Pinedale Array**	**92.20**	**43**	P		**P**	**12 07 38.2**	**-0.9**
	0.8nm,0.8s,baz=204,slow=3.3,SNR=6.5							
PDAR					pP	**pP**	**12 08 08.3**	**-2.0**
	3.7nm,0.9s,baz=220,slow=3.7,SNR=10							
PDAR					LR	LR	12 41 46.8	
	comp=Z,22nm,21.1s,baz=260,slow=31							
PAYA	**Payao**	**92.21**	**290**	P		**P**	**12 07 41.8**	**+2.4**
	3.4nm,1.0s							
BOZ	**Bozeman (W)**	**92.55**	**40**	*e*P		**P**	**12 07 40.5**	**-0.1**
	4.1nm,1.4s							
CMAR	**Chiang Mai Arr**	**92.60**	**289**	P		**P**	**12 07 42.9**	**+1.6**
	4.7nm,0.8s,baz=136,slow=3.1,SNR=27							
CMMT	**Chiang Mai**	**92.75**	**289**	P		**P**	**12 07 42.7**	**+0.8**
	14nm,1.4s							
CMAI	**Chiengmai2**	**93.16**	**290**	P		**P**	**12 07 46.3**	**+2.3**
	102nm,1.4s							
ILAR	**Eielson Array**	**93.20**	**12**	P		**P**	**12 07 41.8**	**-1.1**
	0.5nm,0.9s,baz=229,slow=4.0,SNR=4.9							
ILAR					pP	**pP**	**12 08 11.4**	**-2.7**
	0.9nm,0.9s,baz=227,slow=6.1,SNR=3.7							
APG	**El Apazote**	**93.45**	**75**	LR		LR	12 40 25.0	
	comp=Z,39nm,21.0s,baz=298,slow=29							
JTS	**JuntasAbangare**	**96.32**	**82**	LR		LR	12 42 44.9	
	comp=Z,35nm,19.6s,baz=306,slow=30							
LPAZ	**La Paz**	**99.30**	**113**	LR		LR	12 45 26.8	
	comp=Z,24nm,18.2s,baz=198,slow=31							
GTA	**Gaotai**	**100.87**	**308**	*e*P		**Pdif**	**12 08 19.0**	**+0.7**
GTA					pmax	pmax		
	comp=Z,6.0nm,0.9s							
YKA	**Yellowknife Ar**	**100.89**	**25**	PKKPbc		PKKPbc	12 24 29.8	-2.2
	0.3nm,0.8s,baz=49,slow=2.5,SNR=4.7							
ZALV	**Zalesovo Beam**	**115.02**	**320**	PKP		PKPdf	12 13 07.2	-2.0
	1.4nm,0.6s,baz=111,slow=0.4,SNR=4.6							
MKAR	**Makanchi Array**	**115.31**	**312**	PKP		**PKPdf**	**12 13 08.8**	**-1.1**
	3.1nm,0.7s,baz=86,slow=0.5,SNR=27							
KURK	**Kurchatov**	**118.32**	**316**	PKP		**PKPdf**	**12 13 14.6**	**-1.0**
KURBB	**Kurchatov Arra**	**118.37**	**315**	PKP		**PKPdf**	**12 13 14.6**	**-1.1**
	3.1nm,0.7s,baz=104,slow=1.9,SNR=28							
AAK	**Ala-Archa**	**120.08**	**306**	PKP		**PKPdf**	**12 13 19.5**	**0.0**
	2.3nm,0.7s,baz=122,slow=4.6,SNR=6.6							
KKAR	**Karatay Array**	**123.04**	**306**	*e*PKPdf		**PKPdf**	**12 13 24.3**	**-0.7**
BVAR	**Borovoye Array**	**123.53**	**318**	PKP		**PKPdf**	**12 13 25.1**	**-0.5**
	4.5nm,0.7s,baz=66,slow=1.8,SNR=23							
BRVK	**Borovoye**	**123.59**	**318**	*e*PKPdf		**PKPdf**	**12 13 25.0**	**-0.7**
ABKAR	**Akbulak array**	**130.34**	**314**	*e*PKPdf		**PKPdf**	**12 13 38.5**	**-0.2**
AKTO	**Aktyubinsk**	**131.42**	**316**	PKP		**PKPdf**	**12 13 41.1**	**+0.4**
	2.7nm,0.7s,baz=69,slow=3.4,SNR=9.9							
GEYT	**Alibeck**	**132.14**	**299**	PKP		**PKPdf**	**12 13 44.1**	**+1.6**
	3.9nm,0.7s,baz=107,slow=1.5,SNR=6.6							
GEYT					SKPbc	**SKPab**	**12 16 59.5**	**+0.5**
	3.2nm,0.7s,baz=94,slow=2.0,SNR=8.2							
ARCES	**ARCESS Array B**	**134.17**	**349**	PKP		**PKPdf**	**12 13 44.8**	**-0.6**
	3.1nm,0.8s,baz=54,slow=2.1,SNR=6.0							
KLMR	**Klimovskoe**	**136.94**	**335**	*e*PKPdf		PKPpre	12 13 47.2	
KLMR					AMP		12 13 48.8	
	comp=Z,11nm,1.4s							
KLMR					*e*SKP		12 17 11.5	
FINES	**FINESS Array B**	**140.98**	**343**	PKhKP		PKPpre	12 13 51.6	
	comp=Z,1.2nm,0.7s,baz=29,slow=4.4,SNR=6.9							
NB2	**NORSAR Subarra**	**144.23**	**353**	PKP		**PKPab**	**12 14 00.9**	**-1.1**
	comp=Z,2.2nm,0.7s,baz=12,slow=3.8							
NOA	**NORSAR Array B**	**144.23**	**353**	PKP		**PKPab**	**12 14 01.2**	**-0.8**
	comp=Z,1.6nm,0.7s,baz=16,slow=2.4,SNR=9.9							
HFS	**Hagfors**	**144.79**	**351**	PKP		**PKPab**	**12 14 02.8**	**-1.3**
	comp=Z,9.9nm,0.7s,baz=64,slow=3.4,SNR=26							
IZAR	**Zarasai**	**145.50**	**337**	*e*P		**PKPab**	**12 14 06.7**	**-0.2**
IZAR					IAmb	IAmb	12 14 07.8	
	comp=Z,25nm,0.8s							
IDID	**Didziasalis**	**145.66**	**336**	*e*P		**PKPbc**	**12 14 07.0**	**0.0**
IDID					IAmb	IAmb	12 14 08.1	
	comp=Z,17nm,0.8s							
IIGN	**Ignalina**	**145.82**	**336**	*e*P		**PKPbc**	**12 14 07.4**	**-0.1**
IIGN					IAmb	IAmb	12 14 08.7	
	comp=Z,23nm,0.8s							
MICGM	**Minsk**	**145.83**	**334**	⇓*e*P		**PKPdf**	**12 14 07.0**	**+0.2**
MICGM					PM		12 14 08.0	
	comp=Z,0.2nm,1.0s							
AKASG	**Malin Array Be**	**147.90**	**328**	PKPbc		**PKPbc**	**12 14 12.5**	**-1.0**
	comp=Z,6.9nm,0.6s,baz=44,slow=3.9,SNR=33							
SUW	**Suwalki**	**147.96**	**337**	*e*PKP		**PKPbc**	**12 14 13.3**	**-0.3**
ASF	**Jabal al Asfar**	**149.63**	**290**	PKPbc		**PKPbc**	**12 14 19.0**	**+0.4**
	comp=Z,7.3nm,0.7s,baz=94,slow=1.3,SNR=13							
SORM	**Soroca**	**149.99**	**325**	⇓*i*P		**PKPbc**	**12 14 17.4**	**-1.5**
EKA	**Eskdalemuir Ar**	**150.08**	**7**	PKPbc		**PKPbc**	**12 14 17.7**	**-1.1**
	comp=Z,0.5nm,0.4s,baz=346,slow=2.6,SNR=3.3							
BEL	**Belsk**	**150.58**	**337**	*e*PKP		**PKPbc**	**12 14 20.4**	**+0.2**
BRTR	**Keskin Array B**	**150.76**	**306**	PKPbc		**PKPbc**	**12 14 20.8**	**-0.4**
	comp=Z,8.3nm,0.7s,baz=128,slow=2.7,SNR=28							
MMAI	**Mount Meron Ar**	**150.82**	**292**	PKPbc		**PKPbc**	**12 14 22.0**	**+0.6**
	comp=Z,20nm,0.7s,baz=75,slow=4.4,SNR=26							
EIL	**Elat**	**151.38**	**285**	PKPab		**PKPab**	**12 14 30.2**	**-1.2**
	comp=Z,18nm,0.7s,baz=18,slow=1.7,SNR=13							
TLCR		**151.50**	**320**	⇓*i*P		**PKPbc**	**12 14 22.5**	**0.0**
KWP	**Kalwaria Pacla**	**151.60**	**332**	*e*PKP		**PKPbc**	**12 14 21.9**	**-0.7**
CFR	**Carcaliu**	**151.

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PEL	**Peldehue**	**1.79**	**116**	*eP*	**Pg**	**12 37 16.0**	**-0.6**
PEL				*eS*	**Sn**	**12 37 35.2**	**-1.9**
FCH	**Farellones**	**2.17**	**117**	*eP*	**Pb**	**12 37 21.8**	**-0.4**
FCH				*eS*	**Sn**	**12 37 45.2**	**-1.6**
FCH				IAML		12 37 48.5	
	comp=E,486nm,0.3s						
LMEL	**Las Melosas**	**2.49**	**127**	*eP*	**Pb**	**12 37 28.2**	**+0.6**
LMEL				*eS*	**Sb**	**12 37 57.0**	**-1.8**
LMEL				IAML		12 38 06.2	
	comp=N,491nm,0.4s						
GO04	**Tololo Observa**	**2.69**	**36**	*eP*	**Pn**	**12 37 24.9**	**-1.5**
TLL	**Tololo Astrono**	**2.69**	**35**	*eP*	**Pn**	**12 37 25.6**	**-0.8**
AUSP	**Uspallata**	**2.73**	**88**	*eP*	**Pn**	**12 37 28.6**	**+1.5**
AUSP				*eS*	**Sn**	**12 38 00.3**	**-0.3**
RTLS	**Leoncito**	**2.87**	**79**	*eP*	**Pn**	**12 37 30.1**	**+1.2**
RTLS				IAML		12 38 04.9	
	comp=Z,188nm,0.7s						
ARCO	**CERRO ARCO**	**3.13**	**99**	*eP*	**Pn**	**12 37 34.3**	**+1.8**
ARCO				*eS*	**Sn**	**12 38 10.3**	**-0.2**
ARCO				IAML		12 38 27.8	
	comp=Z,128nm,0.3s						
AAGR	**Agrelo**	**3.26**	**104**	*eP*	**Pn**	**12 37 36.4**	**+2.2**
AAGR				*eS*	**Sn**	**12 38 13.9**	**+0.4**
AROD	**Rodeo**	**3.47**	**51**	*eP*	**Pn**	**12 37 39.3**	**+2.0**
AROD				*eS*	**Sn**	**12 38 19.0**	**0.0**
RTCV	**Cerro Valdivia**	**3.49**	**83**	*eP*	**Pn**	**12 37 38.5**	**+1.3**
RTCV				*eS*	**Sn**	**12 38 17.9**	**-1.1**
RTLL	**Cerro Villicun**	**3.67**	**75**	*eP*	**Pn**	**12 37 41.0**	**+1.2**
RTLL				IAML		12 38 26.2	
	comp=Z,96nm,0.5s						
ACDV	**Cuesta del Vie**	**3.71**	**55**	*eP*	**Pn**	**12 37 42.2**	**+1.8**
ACDV				*eS*	**Sn**	**12 38 24.5**	**-0.1**
AMOG	**MOGNA**	**3.79**	**69**	*eP*	**Pn**	**12 37 42.7**	**+1.3**
AMOG				*eS*	**Sn**	**12 38 25.1**	**-1.4**
AGUA	**GUANDACOL**	**4.56**	**52**	*eP*	**Pn**	**12 37 54.1**	**+2.1**
AGUA				*eS*	**Sn**	**12 38 45.1**	**-0.5**
ACAN	**Cantantal**	**4.59**	**90**	*eP*	**Pn**	**12 37 54.5**	**+2.1**
ACAN				*eS*	**Sn**	**12 38 45.3**	**-0.8**
VCA	**Vinchina**	**5.25**	**47**	*eP*	**Pn**	**12 38 03.9**	**+2.3**
VCA				*eS*	**Sn**	**12 39 02.7**	**+0.1**
VCA				IAML		12 39 12.9	
	comp=Z,76nm,0.3s						
CYA	**Choya**	**7.07**	**58**	IAML		12 39 49.4	
	comp=Z,13nm,0.7s						

*ISK **09** 12:42:14.5, 39.51N×28.86E, h5km, ML2.5/11*
*CSEM **09** 12:42:15.7±0.2, 39.50N×28.88E, h10km, ML2.5, Error ellipse: s-maj=4.8km s-min=3.6km az=5.0*
*ISCJB **09** 12:42:16.2±0.5, 39.56N±0.03×28.89E±0.04, h11km±6km, Error ellipse: s-maj=5.6km s-min=4.6km az=25.6*
*DDA **09** 12:42:16.7, 39.60N×28.88E, h7km, Ml2.6*
ISC 09 12:42:15.5±1.4, **39.52N**±0.03×**28.87E**±0.02, **h7**km±13km, **n32**, σ0**967/44**, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DURS	**Dursunbey**	**0.32**	**286**	*iP*	**Pb**	**12 42 23.2**	**-0.4**
DURS				*iS*	**Sb**	**12 42 28.2**	**-0.8**
DURS	**Dursunbey**	**0.32**	**286**	P	**Pb**	**12 42 23.2**	**-0.4**
DURS				S	**Sb**	**12 42 28.2**	**-0.8**
TVSB	**Tavsanli**	**0.46**	**98**	PG	**Pg**	**12 42 24.7**	**+0.2**
TVSB				SG	**Sb**	**12 42 32.3**	**-0.9**
TVSB	**Tavsanli**	**0.46**	**98**	*ePg*	**Pg**	**12 42 24.7**	**+0.2**
TVSB				*eSg*	**Sb**	**12 42 32.3**	**-0.9**
DEMI	**Demirci**	**0.49**	**194**	*iP*	**Pn**	**12 42 28.3**	**-0.7**
DEMI				*iS*	**Sb**	**12 42 36.0**	**+2.2**
DEMI	**Demirci**	**0.49**	**194**	P	**Pn**	**12 42 28.3**	**-0.7**
DEMI				S	**Sb**	**12 42 36.0**	**+2.2**
BALB	**Balikesir**	**0.78**	**280**	PG	**Pg**	**12 42 30.6**	**+0.1**
BALB				SG	**Sb**	**12 42 42.1**	**0.0**
BALB	**Balikesir**	**0.78**	**280**	*ePg*	**Pg**	**12 42 30.6**	**+0.1**
BALB				*eSg*	**Sb**	**12 42 42.1**	**0.0**
KCTX	**Karacabey (Bur**	**0.85**	**332**	PG	**Pg**	**12 42 31.7**	**-0.1**
KCTX				SG	**Sb**	**12 42 44.7**	**+0.5**
KCTX	**Karacabey (Bur**	**0.85**	**332**	*ePg*	**Pg**	**12 42 31.7**	**-0.1**
KCTX				*eSg*	**Sb**	**12 42 44.7**	**+0.5**
KULA	**Kula-Manisa**	**1.01**	**189**	PG	**Pg**	**12 42 34.7**	**-0.3**
KULA	**Kula-Manisa**	**1.01**	**189**	*ePg*	**Pg**	**12 42 34.7**	**-0.3**
CAVI	**Cavuskoy**	**1.01**	**47**	PG	**Pg**	**12 42 35.1**	**+0.1**
CAVI	**Cavuskoy**	**1.01**	**47**	*ePg*	**Pg**	**12 42 35.1**	**+0.1**
ARMT	**Armutlu**	**1.05**	**360**	PG	**Pg**	**12 42 35.8**	**+0.1**
ARMT				SG	**Sn**	**12 42 51.3**	**-0.3**
ARMT	**Armutlu**	**1.05**	**360**	*ePg*	**Pg**	**12 42 35.8**	**+0.1**
ARMT				*eSg*	**Sn**	**12 42 51.3**	**-0.3**
GONE	**Gonen-Balikesi**	**1.06**	**301**	PG	**Pg**	**12 42 35.8**	**0.0**
GONE	**Gonen-Balikesi**	**1.06**	**301**	*ePg*	**Pg**	**12 42 35.8**	**0.0**
YLV	**Yalova**	**1.12**	**20**	PN	**Pg**	**12 42 36.9**	**-0.1**
YLV	**Yalova**	**1.12**	**20**	*ePn*	**Pg**	**12 42 36.9**	**-0.1**
ADVT	**Abdulvahap**	**1.13**	**36**	PN	**Pg**	**12 42 37.3**	**0.0**
ADVT	**Abdulvahap**	**1.13**	**36**	*ePn*	**Pg**	**12 42 37.3**	**0.0**
EDC	**Edincik**	**1.14**	**317**	PN	**Pg**	**12 42 37.1**	**-0.3**
EDC	**Edincik**	**1.14**	**317**	*ePn*	**Pg**	**12 42 37.1**	**-0.3**
HRT	**Hereke**	**1.44**	**25**	PN	**Pn**	**12 42 42.3**	**+0.2**
HRT	**Hereke**	**1.44**	**25**	*ePn*	**Pn**	**12 42 42.3**	**+0.2**
SBT3	**Marmara-Eregli**	**1.53**	**334**	PN	**Pn**	**12 42 43.9**	**+0.8**
SBT3	**Marmara-Eregli**	**1.53**	**334**	*ePn*	**Pn**	**12 42 43.9**	**+0.8**
GULT	**Gulveren**	**1.56**	**54**	PN	**Pn**	**12 42 44.4**	**+0.6**
GULT	**Gulveren**	**1.56**	**54**	*ePn*	**Pn**	**12 42 44.4**	**+0.6**
RKY	**Sarkoy-Tekirda**	**1.75**	**313**	PN	**Pn**	**12 42 47.1**	**+0.8**
RKY	**Sarkoy-Tekirda**	**1.75**	**313**	*ePn*	**Pn**	**12 42 47.1**	**+0.8**

*ISCJB **09** 12:47:50.9±0.7, 21.08S±0.04×69.0W±0.1, h124km±5km, mb3.6/3, Error ellipse: s-maj=17.7km s-min=5.7km az=3.9*
*GUC **09** 12:47:50.9±0.7, 21.08S×69.02W, h117km±3km, ML4.0*
*IDC **09** 12:47:52.7±1.6, 21.00S×68.65W, h123km±7km, mb3.4/3, mb1 3.6/5, mb1mx3.4/37, mbtmp3.8/5, Error ellipse: s-maj=44.1km s-min=28.7km az=16.0*
ISC 09 12:47:51.4±0.8, **21.07S**±0.04×**68.94W**±0.09, **h117**km±6km, **n16**, σ0**998/29**, **mb3.8/3**, **8C-1D**, **Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB01	**IPOC Station P**	**0.52**	**273**	⇑*iP*	**Pn**	**12 48 08.8**	**-0.3**
PB01				*eS*	**Sn**	**12 48 21.9**	**-0.7**
PB01				IAML		12 48 22.4	
	comp=N,9μm,0.5s						
PB09	**IPOC Station P**	**0.78**	**202**	⇑*iP*	**Pn**	**12 48 11.2**	**0.0**
PB09				*iS*	**Sn**	**12 48 26.2**	**0.0**
PB09				IAML		12 48 29.0	
	comp=E,9μm,0.4s						
PB02	**IPOC Station P**	**0.93**	**254**	⇑*iP*	**Pn**	**12 48 12.5**	**-0.1**
PB02				*eS*	**Sn**	**12 48 27.7**	**-0.8**
PB02				IAML		12 48 29.4	
	comp=E,9μm,0.5s						
PB08	**IPOC Station P**	**0.95**	**348**	⇑*iP*	**Pn**	**12 48 13.3**	**+0.3**
PB08				*eS*	**Sn**	**12 48 29.8**	**+0.5**
PB08				IAML		12 48 30.5	
	comp=E,4μm,0.3s						
PB07	**IPOC Station P**	**1.10**	**233**	⇑*iP*	**Pn**	**12 48 14.1**	**-0.3**
PB07				*eS*	**Sn**	**12 48 31.3**	**-0.4**
PB07				IAML		12 48 32.0	
	comp=E,2μm,0.8s						
PB11	**IPOC Station P**	**1.47**	**332**	*eP*	**Pn**	**12 48 18.2**	**-0.2**
PB11				*eS*	**Sn**	**12 48 38.8**	**-0.1**
PB11				IAML		12 48 40.3	
	comp=N,4μm,0.3s						
PB04	**IPOC Station P**	**1.69**	**222**	⇑*iP*	**Pn**	**12 48 20.7**	**-0.3**
PB04				*eS*	**Sn**	**12 48 43.0**	**-0.5**
PB04				IAML		12 48 44.2	
	comp=N,1μm,0.2s						
PB06	**IPOC Station P**	**1.73**	**200**	⇑*iP*	**Pn**	**12 48 21.5**	**0.0**
PB06				*eS*	**Sn**	**12 48 44.1**	**-0.3**
PB06				IAML		12 48 44.4	
	comp=E,1μm,0.3s						
PSGC	**Pisagua**	**1.84**	**323**	⇑*iP*	**Pn**	**12 48 22.1**	**-0.7**
PSGC				*eS*	**Sn**	**12 48 45.7**	**-1.1**
PSGC				IAML		12 48 48.0	
	comp=E,864nm,0.2s						
MNMC	**Minye Minye**	**2.03**	**342**	⇓*iP*	**Pn**	**12 48 25.4**	**+0.1**
MNMC				*iS*	**Sn**	**12 48 51.6**	**+0.4**
MNMC				IAML		12 48 54.7	
	comp=E,3μm,0.2s						
LPAZ	**La Paz**	**4.82**	**9**	P	**Pn**	**12 49 03.8**	**+1.4**
	comp=E,1.3nm,0.3s,baz=192,slow=7.9,SNR=29						
SIV	**San Ignacio**	**9.01**	**57**	P	**Pn**	**12 49 55.1**	**-3.4**
	comp=E,3.4nm,0.3s,baz=253,slow=9.9,SNR=67						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TXAR	**Lajitas Array**	**60.27**	**325**	P	**P**	**12 57 48.5**	**+0.7**
	comp=E,0.1nm,0.3s,baz=158,slow=9.8,SNR=4.2						
TORD	**Torodi Ar. Bea**	**77.23**	**70**	P	**P**	**12 59 32.3**	**-0.9**
	comp=E,1.3nm,0.8s,baz=255,slow=5.6,SNR=7.8						
TORD				pP	**pP**	**13 00 01.9**	**-0.7**
	comp=E,1.1nm,0.9s,baz=232,slow=5.7,SNR=2.8						
YKA	**Yellowknife Ar**	**90.78**	**341**	P	**P**	**13 00 40.8**	**+0.1**
	comp=E,0.5nm,0.8s,baz=134,slow=4.9,SNR=9.4						
YKA				pP	**pP**	**13 01 12.8**	**+1.7**
	comp=E,0.5nm,0.8s,baz=132,slow=4.8,SNR=6.7						
MKAR	**Makanchi Array**	**145.30**	**36**	PKPbc	**PKPbc**	**13 07 16.0**	**+0.6**
	comp=E,0.5nm,0.6s,baz=312,slow=2.8,SNR=6.0						
MKAR				pPKPbc	**pPKPdf**	**13 07 48.0**	**+0.9**
	comp=E,0.9nm,0.8s,baz=312,slow=2.5,SNR=6.6						

*IDC **09** 12:54:58.4±3.1, 35.92N×70.49E, h49km±27km, mb3.4/7, mb1 3.6/13, mb1mx3.4/63, mbtmp3.7/13, ML3.7/6, Error ellipse: s-maj=26.1km s-min=19.2km az=172.0*
*ISCJB **09** 12:55:01.6±0.6, 36.09N±0.04×70.43E±0.07, h110km, mb3.3/6, Error ellipse: s-maj=8.4km s-min=5.0km az=150.9*
*NNC **09** 12:55:07.3±1.5, 36.52N×70.26E, h138km±16km, mb3.3, mpv3.9, Error ellipse: s-maj=14.5km s-min=7.0km az=164.0*
ISC 09 12:55:04.3±0.9, **36.15N**±0.07×**70.56E**±0.09, **h110**km, **n34**, σ1**881/38**, **mb3.2/6**, **10C-5D**, **Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**2.99**	**333**	⇓P	**Pn**	**12 55 48.0**	**-2.2**
	9.4nm,0.2s						
DZET				⇑S	Sn	12 56 21.2	-4.4
	410nm,0.7s						
SFK	**Sufi-Kurgan**	**4.50**	**30**	⇑P	**Pn**	**12 56 12.1**	**+1.5**
	18nm,0.4s						
SFK				⇑S	**Sn**	**12 57 02.6**	**+0.6**
	25nm,0.3s						
AML	**Almayashu**	**6.45**	**21**	P	**Pn**	**12 56 36.9**	**-0.2**
	SNR=55						
MNAS	**Manas**	**6.50**	**13**	⇑P	**Pn**	**12 56 37.7**	**+0.2**
	3.0nm,0.3s						
MNAS				⇓S	**Sn**	**12 57 46.0**	**-4.4**
	9.0nm,0.4s						
UCH	**Uchtor**	**6.80**	**26**	P	**Pn**	**12 56 42.1**	**+0.3**
	SNR=9.6						
KK31	**Karatay Array**	**6.95**	**360**	⇑P	**Pn**	**12 56 41.7**	**-1.7**
	3.6nm,0.4s,baz=189,slow=14,SNR=54						
KK31				⇓S	Sn	12 57 55.6	-5.2
	7.0nm,0.6s,baz=190,slow=24,SNR=7.4						
KZA	**Kyzart**	**6.95**	**30**	P	**Pn**	**12 56 43.9**	**0.0**
	SNR=7.8						
EKS2	**Erkin-Say**	**6.96**	**20**	P	**Pn**	**12 56 44.5**	**+0.8**
	SNR=20						
AAK	**Ala-Archa**	**7.16**	**24**	P	**Pn**	**12 56 45.7**	**-0.8**
	1.5nm,0.3s,baz=178,slow=6.8,SNR=13						
AAK				S	**Sn**	**12 58 03.9**	**-2.3**
	2.5nm,0.3s,baz=100,slow=21,SNR=8.8						
AAK	**Ala-Archa**	**7.16**	**24**	⇑P	**Pn**	**12 56 46.5**	**+0.1**
	3.8nm,0.5s						
AAK				⇓S	**Sn**	**12 58 03.8**	**-2.5**
	15nm,0.7s						
AAK	**Ala-Archa**	**7.16**	**24**	P	**Pn**	**12 56 48.0**	**+1.5**
	SNR=7.2						
CHMS	**Chumysh**	**7.56**	**24**	P	**Pn**	**12 56 51.9**	**+0.1**
	SNR=5.2						
TKM2	**Tokmak 2**	**7.80**	**28**	⇑P	**Pn**	**12 56 55.2**	**0.0**
	4.0nm,0.6s						
TKM2				⇑S	**Sn**	**12 58 20.7**	**-1.3**
	5.2nm,0.7s						
GEYT	**Alibeck**	**10.11**	**284**	P	Pn	12 57 22.2	-4.1
	1.6nm,0.3s,baz=119,slow=13,SNR=10						
GEYT				S	Sn	12 59 08.4	-9.3
	1.6nm,0.3s,baz=86,slow=23,SNR=7.4						
PYUN	**Piuthan**	**13.23**	**124**	*eP*	**Pn**	**12 58 05.8**	**-2.3**
MKAR	**Makanchi Array**	**13.78**	**36**	P	**Pn**	**12 58 15.8**	**+0.8**
	0.1nm,0.3s,baz=224,slow=16,SNR=10						
KOLN	**Koldanda**	**13.86**	**123**	*eP*	**Pn**	**12 58 14.4**	**-1.8**
	5.8nm,0.3s						
GKN	**Gorkha**	**14.42**	**120**	*eP*	**Pn**	**12 58 21.3**	**-2.1**
	9.4nm,0.3s						
PKIN	**Phulchoki**	**15.22**	**120**	*eP*	**Pn**	**12 58 30.8**	**-2.8**
	7.5nm,0.4s						
AB31	**Akbulak array**	**15.22**	**333**	P	**Pn**	**12 58 31.1**	**-2.1**
	13nm,0.4s,baz=156,slow=12,SNR=169						
AB31				⇓S	Sn	13 01 11.3	-10
	1.1nm,0.4s						
GUN	**Gumba**	**15.36**	**118**	*eP*	**Pn**	**12 58 32.8**	**-2.6**
	8.5nm,0.4s						
KURBB	**Kurchatov Arra**	**15.57**	**19**	P	**Pn**	**12 58 39.4**	**+1.9**
	0.1nm,0.3s,baz=210,slow=10,SNR=2.5						
JIRN	**Jiri**	**15.73**	**118**	*eP*	**Pn**	**12 58 38.3**	**-1.7**
	15nm,0.3s						
RAMN	**Ramite**	**16.45**	**119**	*eP*	**P**	**12 58 47.5**	**-2.1**
	7.2nm,0.4s						
BVAR	**Borovoye Array**	**16.87**	**360**	P	**Pn**	**12 58 52.8**	**-0.8**
	0.3nm,0.3s,baz=165,slow=8.2,SNR=4.7						
AKTO	**Aktyubinsk**	**16.91**	**331**	P	**P**	**12 58 53.9**	**-0.4**
	0.7nm,0.3s,baz=148,slow=14,SNR=17						
AKTO	**Aktyubinsk**	**16.91**	**331**	⇑P	**P**	**12 58 54.0**	**-0.4**
	5.6nm,0.8s						
AKTO				⇑S	Sn	13 01 53.9	-8.1
	8.2nm,1.4s						
ZALV	**Zalesovo Beam**	**20.38**	**25**	P	**P**	**12 59 33.9**	**+1.8**
	12nm,0.5s,baz=218,slow=13,SNR=41						
FINES	**FINESS Array B**	**37.58**	**326**	P	**P**	**13 02 08.8**	**+1.1**
	1.5nm,0.7s,baz=161,slow=14,SNR=3.9						
HFS	**Hagfors**	**43.12**	**322**	P	**P**	**13 02 56.4**	**+3.0**
	1.1nm,0.6s,baz=98,slow=10,SNR=6.0						
ILAR	**Eielson Array**	**75.21**	**16**	P	**P**	**13 06 36.6**	**+2.2**
	0.2nm,0.4s,baz=296,slow=4.7,SNR=5.2						
YKA	**Yellowknife Ar**	**81.61**	**2**	P	**P**	**13 07 11.8**	**+2.2**
	0.1nm,0.3s,baz=349,slow=5.5,SNR=5.0						
WRA	**Warramunga Arr**	**82.11**	**122**	P	**P**	**13 07 13.0**	**+0.2**
	0.3nm,1.0s,baz=326,slow=4.8,SNR=4.0						
ASAR	**Alice Springs**	**84.35**	**125**	P	**P**	**13 07 25.1**	**+0.7**
	0.1nm,0.6s,baz=301,slow=4.5,SNR=4.8						

*ISCJB **09** 13:11:19.1±0.9, 23.95N±0.07×122.85E±0.03, h22km±7km, Error ellipse: s-maj=11.9km s-min=3.9km az=10.1*
*TAP **09** 13:11:19.1, 24.00N×122.87E, h30km±1km, ML2.7, C*
*JMA **09** 13:11:19.4±0.1, 24.01N×122.82E, h33km, M2.4*
ISC 09 13:11:19.0±1.5, **23.98N**±0.09×**122.85E**±0.03, **h31**km±13km, **n16**, σ0**956/28**, **Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.48**	**11**	P	**Pb**	**13 11 29.0**	**-0.2**
JYNG				S	**Sb**	**13 11 35.6**	**-0.5**
YOJ	**Yonaguni jima**	**0.50**	**17**	P	**Pb**	**13 11 29.6**	**+0.1**
	baz=15						
YOJ				*eS*	**Sn**	**13 11 37.0**	**-0.7**
	baz=15						
YOJ	**Yonaguni jima**	**0.50**	**17**	P	**Pb**	**13 11 29.6**	**+0.1**
YOJ				*eS*	**Sb**	**13 11 36.4**	**-0.3**
EOS1	**EOS1**	**0.87**	**311**	P	**Pb**	**13 11 35.9**	**+0.3**
	baz=305						
EOS1				*eS*	**Sb**	**13 11 48.7**	**+1.8**
	baz=305						
HATJ	**Hateruma jima**	**0.88**	**85**	P	**Pn**	**13 11 35.4**	**+0.2**
HATJ				*eS*	**Sn**	**13 11 47.1**	**+0.2**
IRIF	**Iriomote-Funau**	**0.88**	**66**	P	**Pb**	**13 11 35.8**	**0.0**
ENAH	**Nanao**	**1.06**	**296**	*eP*	**Pb**	**13 11 38.4**	**-0.4**
	baz=295						
ENAH				*eS*	**Sb**	**13 11 52.6**	**+0.3**
	baz=295						
JKRS	**Kuro-shima**	**1.09**	**76**	P	**Pb**	**13 11 39.3**	**0.0**
ENA	**Nanau**	**1.11**	**294**	P	**Pb**	**13 11 39.0**	**-0.6**
	baz=293						
ENA				*eS*	**Sb**	**13 11 53.5**	**-0.2**
	baz=293						
TWC	**Suao**	**1.11**	**305**	P	**Pb**	**13 11 39.1**	**-0.5**
	baz=304						
TWC				S	**Sb**	**13 11 53.5**	**-0.2**
	baz=304						
JIJ	**Ishigaki jima**	**1.24**	**72**	P	**Pb**	**13 11 41.5**	**-0.4**
JIJ				*eS*	**Sb**	**13 11 58.4**	**+0.9**
TWE	**Neicheng**	**1.31**	**305**	*eP*	**Pb**	**13 11 43.0**	**0.0**
	baz=304						
TWE				*eS*	**Sb**	**13 11 59.5**	**+0.1**
	baz=304						
ENTT	**Nioudou**	**1.34**	**300**	*eP*	**Pb**	**13 11 43.2**	**-0.4**
	baz=298						
ENTT				*eS*	**Sb**	**13 12 00.2**	**-0.3**
	baz=298						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLBB	**Yuanshan**	**1.35**	**305**	P	**Pb**	**13 11 43.5**	**-0.2**
	baz=304						
SLBB				*eS*	**Sb**	**13 12 00.9**	**+0.2**
	baz=304						
JISG	**Ishigakijimahi**	**1.46**	**65**	P	**Pn**	**13 11 43.7**	**+0.4**
JTJ	**Tarama**	**1.81**	**68**	P	**Pb**	**13 11 50.5**	**-1.1**

IDC 09 13:30:11.3±2.1, **23.17N**×**141.82E**, **h254**km±35km, **mb3.2**/6, **mb1 3.2**/7, **mb1mx2.9**/57, **mbtmp3.8**/7, **Error ellipse: s-maj=94.9km s-min=18.9km az=79.0, Volcano Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**3.92**	**5**	P	Pn	**13 31 15.4**	**+1.2**
	8.2nm,0.3s,baz=318,slow=23,SNR=30						
JCJ				S	S	13 32 04.2	-0.2
	9.9nm,0.3s,baz=275,slow=22,SNR=16						
WRA	**Warramunga Arr**	**43.47**	**190**	P	P	13 37 49.5	-0.3
	0.2nm,0.3s,baz=7.6,slow=8.7,SNR=7.5						
ZALV	**Zalesovo Beam**	**52.27**	**321**	P	P	13 38 56.9	+0.2
	0.5nm,0.4s,baz=97,slow=7.4,SNR=3.3						
MKAR	**Makanchi Array**	**52.77**	**312**	P	P	13 39 00.2	-0.4
	0.3nm,0.5s,baz=92,slow=8.7,SNR=4.9						
KURBB	**Kurchatov Arra**	**55.59**	**316**	P	P	13 39 20.7	0.0
	0.9nm,0.5s,baz=94,slow=7.7,SNR=12						
BVAR	**Borovoye Array**	**60.73**	**319**	P	P	13 39 56.6	+0.4
	1.0nm,0.5s,baz=92,slow=6.5,SNR=7.5						
FINES	**FINESS Array B**	**81.31**	**334**	P	P	13 41 58.4	-0.8
	1.3nm,0.9s,baz=76,slow=5.9,SNR=4.9						

*KRNET **09** 13:32:02.7±0.1, 43.08N×78.41E, h21km, mb2.6*
*ISCJB **09** 13:32:03.4±0.6, 43.10N±0.03×78.44E±0.04, h13km±3km, Error ellipse: s-maj=5.3km s-min=4.5km az=43.6*
*SOME **09** 13:32:03.2, 43.08N×78.43E, h15km*
ISC 09 13:32:02.8±1.0, **43.08N**±0.03×**78.43E**±0.03, **h18**km±5km, **n22**, σ0**952/44**, **4C-6D**, **Lake Issyk-Kul region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SATY	**Saty**	**0.03**	**214**	*eP*	**Pg**	**13 32 06.3**	**+0.1**
	151nm,0.1s						
SATY				*eS*	**Sg**	**13 32 08.7**	**+0.3**
	629nm,0.1s						
KURS	**Kuram**	**0.45**	**335**	*eP*	**Pg**	**13 32 11.8**	**-0.2**
	1.7nm,0.1s						
KURS				*eS*	**Sg**	**13 32 17.9**	**-0.3**
	10nm,0.1s						
KURS	**Kuram**	**0.45**	**335**	*eP*	**Pg**	**13 32 11.8**	**-0.2**
	baz=36						
KURS				*eS*	**Sg**	**13 32 17.8**	**-0.3**
	baz=36						
PDGK	**Podgornoye**	**0.82**	**72**	⇓*iP*	**Pb**	**13 32 18.3**	**-0.3**
	baz=72						
PDGK				⇓*iS*	**Sb**	**13 32 29.3**	**-0.1**
	baz=72						
KOTS	**Kotyrbulak**	**0.97**	**280**	*eP*	**Pb**	**13 32 21.2**	**-0.1**
	1.8nm,0.1s						
KOTS				*eS*	**Sb**	**13 32 34.1**	**+0.2**
	5.3nm,0.1s						
MNBS	**Baschi**	**1.00**	**359**	*eP*	**Pb**	**13 32 21.9**	**+0.1**
	5.8nm,0.2s						
MNBS				*eS*	**Sb**	**13 32 35.0**	**+0.4**
	20nm,0.2s						
MDOK	**Medeo**	**1.01**	**275**	*eP*	**Pb**	**13 32 21.3**	**-0.6**
	1.4nm,0.2s						
MDOK				*eS*	**Sb**	**13 32 34.5**	**-0.5**
	9.8nm,0.2s						
MDOK	**Medeo**	**1.01**	**275**	*eP*	**Pb**	**13 32 21.3**	**-0.6**
	baz=75						
MDOK				*eS*	**Sb**	**13 32 34.5**	**-0.5**
	baz=75						
TNSS	**Tian-Shan**	**1.08**	**268**	*eP*	**Pb**	**13 32 22.7**	**-0.6**
	2.1nm,0.1s						
TNSS				*eS*	**Sb**	**13 32 36.8**	**-0.6**
	8.1nm,0.2s						
TNSS	**Tian-Shan**	**1.08**	**268**	*eP*	**Pb**	**13 32 22.7**	**-0.6**
	baz=68						
TNSS				*eS*	**Sb**	**13 32 36.7**	**-0.6**
	baz=68						
CHKK	**Chushkaly**	**1.30**	**307**	*eP*	**Pb**	**13 32 26.5**	**-0.3**
	2.8nm,0.1s						
CHKK				*eS*	**Sb**	**13 32 43.5**	**+0.2**
	21nm,0.2s						
CHKK	**Chushkaly**	**1.30**	**307**	*eP*	**Pb**	**13 32 26.5**	**-0.3**
	baz=8.0						
CHKK				*eS*	**Sb**	**13 32 43.4**	**+0.2**
	baz=8.0						
KDJ	**Kajisay**	**1.32**	**224**	⇓*iP*	**Pn**	**13 32 26.9**	**+0.3**
	baz=24						
KDJ				⇓*iS*	**Sb**	**13 32 44.3**	**+0.4**
	baz=24						
IZV	**Izvestkoviy**	**1.33**	**269**	*eP*	**Pb**	**13 32 27.6**	**+0.2**
	2.6nm,0.2s						
IZV				*eS*	**Sg**	**13 32 45.3**	**-0.6**
	17nm,0.4s			

BOYT	**Boyabat**	**0.95**	**292**	*i*	P	**Pg**	**13 33 31.4**	**-1.1**
BOYT				*i*	S	**Sb**	**13 33 47.0**	**+0.1**
BOYT	**Boyabat**	**0.95**	**292**		P	**Pg**	**13 33 31.4**	**-1.1**
BOYT					S	**Sb**	**13 33 47.0**	**+0.1**
CTAK	**Corum_Osmancik**	**1.06**	**247**	*i*	P	**Pb**	**13 33 35.3**	**-0.3**
CTAK				*i*	S	**Sb**	**13 33 48.2**	**-1.8**
CTAK	**Corum_Osmancik**	**1.06**	**247**		P	**Pb**	**13 33 35.3**	**-0.3**
CTAK					S	**Sb**	**13 33 48.2**	**-1.8**
SNOP	**Sinop**	**1.16**	**326**	PN		**Pg**	**13 33 35.9**	**-0.5**
SNOP	**Sinop**	**1.16**	**326**	*e*Pn		**Pg**	**13 33 35.9**	**-0.5**
SINO	**SINOP_Merkez**	**1.16**	**326**	*i*	P	**Pg**	**13 33 35.3**	**-1.2**
SINO				*i*	S	**Sb**	**13 33 53.4**	**+0.7**
SINO	**SINOP_Merkez**	**1.16**	**326**		P	**Pg**	**13 33 35.3**	**-1.2**
SINO					S	**Sb**	**13 33 53.4**	**+0.7**
SVSK	**Karacayir**	**1.34**	**148**	PN		**Pg**	**13 33 39.9**	**-0.2**
SVSK				SN		**Sn**	**13 33 58.9**	**+0.1**
SVSK	**Karacayir**	**1.34**	**148**	*e*Pn		**Pg**	**13 33 39.9**	**-0.2**
SVSK				*e*Sn		**Sn**	**13 33 58.9**	**+0.1**
CORM	**Corum**	**1.41**	**232**	PN		**Pg**	**13 33 40.2**	**-1.1**
CORM	**Corum**	**1.41**	**232**	*e*Pn		**Pg**	**13 33 40.2**	**-1.1**
YOZ	**Yozgat**	**1.54**	**202**	PN		**Pn**	**13 33 42.3**	**-0.8**
YOZ	**Yozgat**	**1.54**	**202**	*e*Pn		**Pn**	**13 33 42.3**	**-0.8**

*ISCJB **09** 14:08:57.9±0.5, 45°.55N±0°.02×22°.85E±0°.03, h4km±6km, Error ellipse: s-maj=4.1km s-min=3.7km az=2.5*
*CSEM **09** 14:08:58.2±0.2, 45°.56N×22°.86E, h10km, ML1.8, Error ellipse: s-maj=6.6km s-min=3.2km az=103.0*
*BUC **09** 14:08:58.1±0.8, 45°.56N×22°.88E, h12km±6km, MD2.5/3, Error ellipse: s-maj=6.1km s-min=5.2km az=26.0*
*BEO **09** 14:08:59.8±0.7, 45°.57N×22°.76E, h30km±8km*

ISC 09 14:08:58.4±1.0, 45°.57N±0°.02×22°.86E±0°.02, h12km±9km, n28, σ0°32/48, 15C-5D, Romania

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DEV	**Deva**	**0.32**	**5**	⇑*i*P	**Pg**	**14 09 05.2**	**+0.2**
DEV				*i*S	**Sg**	**14 09 09.4**	**+0.1**
DEV	**Deva**	**0.32**	**5**	⇑*i*P	**Pg**	**14 09 05.2**	**+0.2**
DEV				*i*S	**Sg**	**14 09 09.4**	**+0.1**
LOT	**Lotru**	**0.65**	**100**	⇑*i*P	**Pg**	**14 09 11.1**	**0.0**
LOT	**Lotru**	**0.65**	**100**	⇑*i*P	**Pg**	**14 09 11.1**	**0.0**
LOT				*i*S	**Sb**	**14 09 20.5**	**-0.3**
HERR	**Herculane**	**0.75**	**205**	⇑*i*P	**Pb**	**14 09 13.8**	**+0.3**
HERR				*i*S	**Sb**	**14 09 24.4**	**+0.7**
HERR	**Herculane**	**0.75**	**205**	⇑*i*P	**Pb**	**14 09 13.8**	**+0.3**
HERR				*i*S	**Sb**	**14 09 24.4**	**+0.7**
BZS	**Buzias**	**0.88**	**274**	*e*Pg	**Pg**	**14 09 15.2**	**-0.2**
BZS				*e*Sg	**Sb**	**14 09 27.3**	**+0.1**
BZS	**Buzias**	**0.88**	**274**	⇑*i*P	**Pb**	**14 09 15.4**	**-0.2**
BZS	**Buzias**	**0.88**	**274**	⇑*i*P	**Pb**	**14 09 15.4**	**-0.2**
BZS				*i*S	**Sb**	**14 09 27.1**	**-0.1**
BZS	**Buzias**	**0.88**	**274**	*e*Pg	**Pg**	**14 09 15.2**	**-0.2**
BZS				*e*Sg	**Sb**	**14 09 27.3**	**+0.1**
SIRR	**Siria**	**1.09**	**310**	⇓*i*P	**Pg**	**14 09 19.4**	**-0.1**
SIRR	**Siria**	**1.09**	**310**	⇓*i*P	**Pg**	**14 09 19.4**	**-0.1**
SIRR				*i*S	**Sn**	**14 09 34.4**	**-0.3**
SIRR	**Siria**	**1.09**	**310**	⇓*i*P	**Pg**	**14 09 19.4**	**-0.1**
DRGR		**1.23**	**355**	*e*Pg	**Pg**	**14 09 21.9**	**-0.2**
DRGR				*e*Sg	**Sn**	**14 09 38.8**	**+0.7**
DRGR		**1.23**	**355**	⇑*i*P	**Pg**	**14 09 22.1**	**0.0**
DRGR		**1.23**	**355**	⇑*i*P	**Pg**	**14 09 22.1**	**0.0**
DRGR				*i*S	**Sb**	**14 09 37.6**	**0.0**
DRGR		**1.23**	**355**	*e*Pg	**Pg**	**14 09 21.9**	**-0.2**
DRGR				S	**Sb**	**14 09 37.6**	**0.0**
DRGR				*e*Sg	**Sn**	**14 09 38.8**	**+0.7**
CJR	**Cluj-Napoca**	**1.26**	**24**	⇑*i*P	**Pb**	**14 09 22.3**	**+0.2**
CJR	**Cluj-Napoca**	**1.26**	**24**	⇑*i*P	**Pb**	**14 09 22.3**	**+0.2**
CJR				*i*S	**Sb**	**14 09 38.5**	**+0.2**
CJR	**Cluj-Napoca**	**1.26**	**24**	⇑*i*P	**Pb**	**14 09 22.3**	**+0.2**
ARR	**Arges**	**1.26**	**98**	⇓*i*P	**Pb**	**14 09 22.1**	**-0.1**
ARR	**Arges**	**1.26**	**98**	⇓*i*P	**Pb**	**14 09 22.1**	**-0.1**
ARR				*i*S	**Sb**	**14 09 38.3**	**-0.1**
KUBS	**Kucevo**	**1.43**	**217**	*e*Pg	**Pb**	**14 09 24.5**	**-0.5**
KUBS				*e*Sg	**Sg**	**14 09 44.2**	**-0.2**
KUBS	**Kucevo**	**1.43**	**217**	*e*Pg	**Pb**	**14 09 24.5**	**-0.5**
KUBS				*e*Sg	**Sg**	**14 09 44.2**	**-0.2**
VOIR		**1.54**	**94**	⇑*i*P	**Pn**	**14 09 25.6**	**-0.2**
VOIR		**1.54**	**94**	⇑*i*P	**Pn**	**14 09 25.6**	**-0.2**
VOIR				*i*S	**Sg**	**14 09 47.3**	**-0.8**
ZAGS	**Zajecar**	**1.81**	**195**	*e*Pg	**Pg**	**14 09 33.2**	**+0.1**
ZAGS				*e*Sg	**Sg**	**14 09 56.9**	**+0.3**
ZAGS	**Zajecar**	**1.81**	**195**	*e*Pg	**Pg**	**14 09 33.2**	**+0.1**
ZAGS				*e*Sg	**Sg**	**14 09 56.9**	**+0.3**

MAN 09 14:10:23, 9°.86N×122°.97E, h4km, mb4.4, ML3.2, MS3.0, 1C, Negros

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SNPH	**Sibulan**	**0.57**	**152**	*e*P	Pb	14 10 35.3	-0.3
SNPH				*e*S	Sb	14 10 43.5	-0.8
GUIM	**Jordan**	**0.85**	**334**	*e*P	Pg	14 10 39.5	+0.1
GUIM				*e*S	Sb	14 10 51.4	-0.8
TBP	**Tagbilaran**	**0.90**	**100**	*e*P	Pg	14 10 39.8	-0.4
DCPH	**Dipolog City**	**1.32**	**163**	⇑*e*P	Pn	14 10 48.2	0.0
DCPH				*e*S	Sb	14 11 09.7	+0.1
MSLP	**Maasin**	**1.88**	**81**	*e*P	Pn	14 10 56.2	+0.2
MSLP				*e*S	Sb	14 11 21.3	-0.6

*TIR **09** 14:24:16.2, 39°.66N×20°.36E, h4km, Md2.1/3*
*CSEM **09** 14:24:17.3±0.1, 39°.63N×20°.30E, h5km, ML2.4, Error ellipse: s-maj=3.4km s-min=1.9km az=8.0*
*THE **09** 14:24:17.7, 39°.65N×20°.30E, h1km±2km, ML2.3/4, Error ellipse: s-maj=2.4km s-min=0.6km az=40.0*

ATH 09 14:24:17.5, 39°.64N×20°.29E, h8km±3km, ML2.4/4, Error ellipse: s-maj=4.3km s-min=1.0km az=196.0, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SGD	**Sagiada**	**0.05**	**239**	P	Pg	14 24 18.2	-1.0
SGD				S	Sg	14 24 19.0	-1.5
SGD	**Sagiada**	**0.05**	**239**	P	Pg	14 24 18.7	-0.6
SGD				S	Sg	14 24 19.6	-0.9
SGD	**Sagiada**	**0.05**	**239**	P	Pg	14 24 18.8	-0.5
SGD				S	Sg	14 24 19.8	-0.7
IGT	**Igoumenitsa**	**0.11**	**163**	P	Pg	14 24 20.0	-0.1
IGT				S	Sg	14 24 21.7	-0.2
IGT				AML	AML	14 24 24.9	
	comp=E,3438μm,0.3s						
IGT				AML	AML	14 24 25.0	
	comp=N,3558μm,0.2s						
IGT	**Igoumenitsa**	**0.11**	**163**	P	Pg	14 24 20.0	-0.1
IGT				S	Sg	14 24 22.3	+0.4
IGT	**Igoumenitsa**	**0.11**	**163**	P	Pg	14 24 20.0	-0.1
IGT				S	Sg	14 24 21.9	0.0
KASA	**Kassiopi**	**0.29**	**291**	P	Pg	14 24 23.1	-0.2
KASA				S	Sg	14 24 27.3	0.0
KASA				AML	AML	14 24 30.6	
	comp=E,3503μm,0.3s						
KASA				AML	AML	14 24 32.4	
	comp=N,2548μm,0.3s						
KASA	**Kassiopi**	**0.29**	**291**	P	Pg	14 24 23.2	-0.1
KASA				S	Sg	14 24 27.5	+0.2
SRN	**Sarande**	**0.33**	**317**	P	Pg	14 24 23.3	-0.7
SRN				S	Sg	14 24 29.0	+0.6
SRN	**Sarande**	**0.33**	**317**	P	Pg	14 24 23.3	-0.7
SRN	**Sarande**	**0.33**	**317**	*i* Pg	Pg	14 24 24.2	+0.2
SRN				S	Sg	14 24 29.0	+0.6
SRN	**Sarande**	**0.33**	**317**	*i* PG	Pg	14 24 24.2	+0.3
SRN				*i* SG	Sg	14 24 29.6	+1.3
KEK	**Kerkira**	**0.39**	**281**	P	Pg	14 24 25.3	+0.2
KEK				S	Sg	14 24 30.9	+0.7
KEK				AML	AML	14 24 38.2	
	comp=N,1928μm,0.5s						
KEK				AML	AML	14 24 38.4	
	comp=E,2343μm,0.4s						
KEK	**Kerkira**	**0.39**	**281**	P	Pg	14 24 25.2	+0.1
KEK				S	Sg	14 24 30.9	+0.7
KEK	**Kerkira**	**0.39**	**281**	P	Pg	14 24 25.2	+0.1
KEK				S	Sg	14 24 30.8	+0.6
JAN	**Janina**	**0.43**	**88**	P	Pg	14 24 25.7	-0.3
JAN				S	Sg	14 24 32.8	+1.1
JAN				AML	AML	14 24 35.8	
	comp=E,1457μm,0.3s						
JAN				AML	AML	14 24 36.7	
	comp=N,1763μm,0.2s						
JAN	**Janina**	**0.43**	**88**	P	Pg	14 24 25.5	-0.4
JAN				S	Sg	14 24 32.4	+0.8
JAN	**Janina**	**0.43**	**88**	P	Pg	14 24 25.5	-0.4
JAN				S	Sg	14 24 32.3	+0.7
DSL	**Palaion Diasel**	**0.80**	**129**	P	Pg	14 24 32.4	-0.5
DSL	**Palaion Diasel**	**0.80**	**129**	P	Pg	14 24 32.6	-0.3
PENT	**Pentalofos**	**0.86**	**49**	P	Pg	14 24 33.2	-0.8
PENT	**Pentalofos**	**0.86**	**49**	P	Pg	14 24 33.4	-0.6
PENT				S	Sg	14 24 45.4	+0.3
PENT	**Pentalofos**	**0.86**	**49**	P	Pg	14 24 33.4	-0.6
PENT				S	Sg	14 24 45.4	+0.3
KPRO	**Kipourio**	**0.88**	**69**	P	Pg	14 24 34.3	-0.2
KPRO	**Kipourio**	**0.88**	**69**	P	Pg	14 24 34.3	-0.2
NEST	**Nestorio**	**0.97**	**37**	P	Pg	14 24 35.9	-0.2
NEST	**Nestorio**	**0.97**	**37**	P	Pg	14 24 35.5	-0.6
NEST	**Nestorio**	**0.97**	**37**	P	Pg	14 24 35.8	-0.3
FNA	**Florina**	**1.41**	**36**	P	Pb	14 24 44.0	-0.1
FNA	**Florina**	**1.41**	**36**	P	Pb	14 24 44.0	-0.1
BIA	**Bitola**	**1.59**	**29**	*e*Pn	Pg	14 24 47.9	0.0
KRUS	**Krusevo**	**1.88**	**23**	*e*Pn	Pg	14 24 53.2	-0.3
STON	**Ston**	**3.77**	**330**	*e*Pn	Pn	14 25 13.7	-2.2
STON				Sn	Sn	14 25 57.2	-3.3
STON	**Ston**	**3.77**	**330**	*e*Pn	Pn	14 25 13.6	-2.3
STON				Sn	Sn	14 25 57.1	-3.3

DJA 09 14:36:08.6±0.3, 1°.5E±2°.×12°.3E±°, h58km±6km, M3.9/10, MLv3.9/10, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LUWI	**Luwuk**	**0.54**	**212**	P	Pn	14 36 21.4	+0.5
LUWI				S	Sn	14 36 32.8	+3.0
APSI	**Ampana**	**1.45**	**257**	P	Pn	14 36 33.4	+0.8
KMSI	**Cibinong**	**1.47**	**39**	P	Pn	14 36 33.8	+0.9
KMSI				S	Sn	14 36 52.8	+1.7
MRSI	**Marisa**	**1.54**	**313**	P	Pn	14 36 33.6	-0.1
MRSI				S	Sn	14 36 53.2	+0.5
PCI	**Palu**	**3.24**	**264**	P	Pn	14 36 57.1	+0.1
PCI				S	Sn	14 37 36.1	+1.7
SANI	**Sanana**	**3.27**	**117**	P	Pn	14 36 57.4	0.0
MPSI	**Mapaga**	**3.29**	**286**	P	Pn	14 36 58.1	+0.4
LBMI	**Labuha**	**4.44**	**91**	P	Pn	14 37 13.7	+0.2
LBMI				S	Sn	14 38 06.6	+2.7
NLAI	**Namlea**	**4.82**	**123**	P	Pn	14 37 19.5	+0.8
NLAI				S	Sn	14 38 15.4	+2.1
BBSI	**Bau Bau**	**4.90**	**186**	P	Pn	14 37 19.7	-0.1
BBSI				S	Sn	14 38 17.3	+2.1
SGSI	**Sangihe**	**4.90**	**30**	P	Pn	14 37 02.9	-17
SGSI				S	Sn	14 38 17.1	+1.8

*KRNET **09** 14:38:17.5±0.1, 41°.85N×79°.71E, h16km, mb2.6*
*SOME **09** 14:38:17.3, 41°.88N×79°.65E, h0km*

ISC 09 14:38:17.3±3.3, 41°.8N±0°.1×79°.7E±0°.1, h18km±6km, n6, σ1ᵍ05/12, 6C-4D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TARG	**Taragay, Kyrgy**	**1.40**	**266**	⇑*i*P	**Pg**	**14 38 44.1**	**-0.2**
	baz=66						
TARG				⇑*i*S	**Sg**	**14 39 03.6**	**+1.0**
	baz=66						
PDGK	**Podgornoye**	**1.50**	**355**	⇓*i*P	**Pb**	**14 38 45.1**	**+0.4**
	baz=54						
PDGK				⇓*i*S	**Sg**	**14 39 05.3**	**-0.6**
	baz=54						
SATY	**Saty**	**1.54**	**323**	*e*P	**Pb**	**14 38 46.2**	**+0.9**
	1.5nm,0.2s						
SATY				*e*S	**Sg**	**14 39 07.2**	**+0.1**
	16nm,0.2s						
KDJ	**Kajisay**	**1.88**	**280**	⇑*e*P	**Pb**	**14 38 52.5**	**+1.3**
	baz=79						
KDJ				⇑*i*S	**Sg**	**14 39 17.9**	**+0.1**
	baz=79						
ULHL	**Ulahol**	**2.58**	**280**	⇓*i*P	**Pb**	**14 39 02.6**	**-0.6**
	baz=80						
ULHL				⇓*i*S	**Sb**	**14 39 35.5**	**+0.8**
	baz=80						
BOOM	**Boomskoye usch**	**2.85**	**285**	⇑*i*P	**Pb**	**14 39 06.0**	**-1.7**
	baz=84						
BOOM				⇑*i*S	**Sb**	**14 39 41.3**	**-0.9**
	baz=84						

*IDC **09** 14:45:44.0±0.6, 28°.44N×105°.06E, h0km, mb3.9/19, mb1 4.1/21, mb1mx3.9/62, mbtmp3.9/21, ML3.9/2, MS3.1/8, Ms1 3.2/8, ms1mx2.8/60, Error ellipse: s-maj=21.2km s-min=12.6km az=55.0*
*NEIC **09** 14:45:46.6±1.7, 28°.42N×104°.94E, h16km±11km, mb4.4/7, ML4.0(BJI), Error ellipse: s-maj=8.2km s-min=6.3km az=75.0*
*BJI **09** 14:45:47.5, 28°.41N×104°.94E, h10km, mb4.0/2, mB4.2/2, ML4.0/19, Ms3.9/4, Ms7 3.7/7*

ISC 09 14:45:45.0±1.1, 28°.42N±0°.03×104°.98E±0°.04, h5km±7km, n69, σ1ᵍ14/94, mb4.0/25, MS3.0/7, 1D, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GYA	**Guiyang**	**2.46**	**142**	*i* Pn	**Pb**	**14 46 27.8**	**-1.9**
GYA				Pg	**Pg**	**14 46 32.5**	**+0.4**
GYA				Sn	**Sb**	**14 47 01.3**	**+0.9**
GYA				Sg	**Sg**	**14 47 04.9**	**+1.0**
GYA				smax	smax		
	comp=N,890nm,0.7s						
GYA				smax	smax		
	comp=E,680nm,0.6s						
GYA	**Guiyang**	**2.46**	**142**	*i* Pn	**Pb**	**14 46 27.8**	**-1.9**
GYA				Pg	**Pg**	**14 46 32.5**	**+0.4**
GYA				Sn	**Sb**	**14 47 01.3**	**+0.9**
GYA				Sg	**Sg**	**14 47 04.9**	**+1.0**
CD2	**Chengdu**	**2.70**	**337**	Pn	**Pn**	**14 46 31.2**	**+2.0**
CD2				Pg	**Pg**	**14 46 36.3**	**-0.5**
CD2				Sn	**Sn**	**14 47 03.2**	**+0.8**
CD2				Sg	**Sg**	**14 47 11.4**	**-0.5**
CD2				smax	smax		
	comp=N,2μm,0.8s						
CD2				smax	smax		
	comp=E,2μm,0.7s						
CD2	**Chengdu**	**2.70**	**337**	Pn	**Pn**	**14 46 31.2**	**+2.0**
CD2				Pg	**Pb**	**14 46 35.3**	**+1.4**
CD2				Sn	**Sn**	**14 47 03.2**	**+0.8**
CD2				Sg	**Sg**	**14 47 11.4**	**-0.5**
KMI	**Kunming**	**3.84**	**212**	Pg	**Pg**	**14 46 57.4**	**-1.3**
KMI				Sn	**Sn**	**14 47 31.2**	**+0.4**
KMI				Sg	**Sg**	**14 47 48.2**	**-0.3**
KMI				smax	smax		
	comp=N,59nm,0.9s						
KMI				smax	smax		
	comp=E,49nm,1.1s						
KMI				LR	LR		
	comp=N,510nm,3.8s						
KMI				LR	LR		
	comp=E,440nm,3.8s						
KMI				LR	LR		
	comp=Z,190nm,3.5s						
KMI	**Kunming**	**3.84**	**212**	Pg	**Pg**	**14 46 57.4**	**-1.3**
KMI				Sn	**Sn**	**14 47 31.2**	**+0.4**
KMI				Sg	**Sg**	**14 47 48.2**	**-0.3**
ENH	**Enshi**	**4.34**	**64**	*e*Pn	**Pn**	**14 46 55.3**	**+3.5**
XAN	**Xi'an**	**6.54**	**30**	Pn	**Pn**	**14 47 23.5**	**+1.6**
XAN				Sn	**Sn**	**14 48 36.6**	**-0.4**
XAN				Sg	**Sg**	**14 49 13.1**	**-1.9**
XAN				smax	smax		
	comp=N,250nm,1.2s						
XAN				smax	smax		
	comp=E,170nm,0.9s						
XAN				LR	LR		
	comp=Z,390nm,13.2s						
XAN	**Xi'an**	**6.54**	**30**	Pn	**Pn**	**14 47 23.5**	**+1.6**
XAN				Sn	**Sn**	**14 48 36.6**	**-0.4**
XAN				Sg	**Sg**	**14 49 13.1**	**-1.9**
LZH	**Lanzhou**	**7.71**	**353**	*e*Pg	Pb	14 48 05.1	+5.9
LZH				Sg	Sg	14 49 44.0	-8.5
LZH				smax	smax		
	comp=N,130nm,1.2s						
LZH				smax	smax		
	comp=E,170nm,1.1s						
LZH				LR	LR		
	comp=Z,820nm,9.6s						
WHN	**Wuhan**	**8.44**	**73**	⇓P	**Pn**	**14 47 50.9**	**+3.0**
WHN				S	**Sn**	**14 49 22.5**	**-1.0**
WHN				LR	LR		
	comp=Z,530nm,7.7s						
CMAR	**Chiang Mai Arr**	**11.35**	**210**	Pn	**Pn**	**14 48 30.3**	**+2.3**
	0.1nm,0.3s,baz=18,slow=12,SNR=29						
CMAR				LR	LR	14 53 14.8	
	comp=Z,127nm,19.3s,baz=4.0,slow=40						
CM01	**Chiang Mai Arr**	**11.38**	**210**	*e*Pn	**Pn**	**14 48 30.9**	**+2.6**
RAMN	**Ramite**	**16.35**	**269**	*e*P	**P**	**14 49 39.6**	**+1.0**
	12nm,0.6s						
JIRN	**Jiri**	**16.61**	**272**	*e*P	**P**	**14 49 41.3**	**-0.3**
GUN	**Gumba**	**16.86**	**273**	*e*P	**P**	**14 49 44.1**	**-0.2**
	7.8nm,0.4s						
PKIN	**Phulchoki**	**17.32**	**272**	*e*P	**Pn**	**14 49 48.9**	**+1.0**
	5.5nm,0.4s						
KKN	**Kakani**	**17.40**	**273**	*e*P	**Pn**	**14 49 49.4**	**+0.6**
GKN	**Gorkha**	**17.94**	**274**	*e*P	**Pn**	**14 49 55.5**	**0.0**
	4.3nm,0.3s						
KOLN	**Koldanda**	**18.88**	**273**	*e*P	**P**	**14 50 04.3**	**-2.2**
	6.3nm,0.6s						
SONA0	**Songino Array**	**19.42**	**3**	*e*P	**P**	**14 50 10.3**	**-1.9**
SONM	**Songino Array**	**19.42**	**3**	P	**P**	**14 50 10.3**	**-1.9**
	0.6nm,0.3s,baz=179,slow=10,SNR=3.0						
SONM				LR	LR	14 58 29.3	
	comp=Z,100nm,20.1s,baz=257,slow=40						
SONA1	**Songino Array**	**19.43**	**3**	*e*P	**P**	**14 50 10.9**	**-1.4**
WMQ	**Urumqi**	**20.70**	**323**	P	**P**	**14 50 27.2**	**+1.0**
WMQ				LR	LR		
	comp=N,59nm,13.9s						
WMQ				LR	LR		
	comp=E,85nm,15.1s						
WMQ				LR	LR		
	comp=Z,86nm,21.9s						
KS15	**Wonju Array Si**	**21.18**	**59**	*e*P	**P**	**14 50 32.0**	**+0.7**
KSAR	**Wonju Array Be**	**21.18**	**59**	P	**P**	**14 50 31.4**	**0.0**
KSRS	**Korea Array**	**21.22**	**59**	P	**P**	**14 50 31.4**	**-0.3**
	comp=Z,2.7nm,0.7s,baz=247,slow=9.9,SNR=13						
KSRS				LR	LR	14 59 59.8	
	comp=Z,29nm,18.8s,baz=247,slow=40						
JNU	**Nakatsue**	**22.72**	**72**	LR	LR	15 00 39.4	
	comp=Z,36nm,21.7s,baz=290,slow=40						
MK01	**Makanchi Array**	**25.51**	**322**	*e*P	**P**	**14 51 14.1**	**-0.3**
MK31	**Makanchi Array**	**25.53**	**322**	*e*P	**P**	**14 51 14.9**	**+0.3**
MK32	**Makanchi Array**	**25.53**	**322**	*e*P	**P**	**14 51 14.8**	**+0.3**
MK32				*e*PcP	**PcP**	**14 54 46.1**	**+0.2**
MKAR	**Makanchi Array**	**25.53**	**322**	P	**P**	**14 51 14.8**	**+0.3**
	comp=Z,1.0nm,0.5s,baz=121,slow=12,SNR=14						
MKAR				PcP	**PcP**	**14 54 46.1**	**+0.2**
	comp=Z,0.2nm,0.6s,baz=207,slow=1.6,SNR=4.4						
MAKZ	**Makanchi**	**25.71**	**322**	*e*P	**P**	**14 51 16.4**	**+0.3**
	comp=Z,5.5nm,1.2s						
USRK	**Ussuriysk Ar.**	**26.70**	**47**	P	**P**	**14 51 25.4**	**+0.3**
	comp=Z,2.5nm,0.7s,baz=58,slow=11,SNR=4.2						
MJAR	**Matsushiro Arr**	**29.07**	**65**	LR	LR	15 03 35.5	
	comp=Z,25nm,18.9s,baz=120,slow=37						
ZALV	**Zalesovo Beam**	**29.47**	**336**	P	**P**	**14 51 50.4**	**+0.7**
	comp=Z,1.0nm,0.5s,baz=135,slow=6.9,SNR=6.8						
ZALV				LR	LR	15 04 18.6	
	comp=Z,36nm,20.5s,baz=252,slow=38						
ZALV	**Zalesovo Beam**	**29.47**	**336**	*e*P	**P**	**14 51 49.7**	**-0.1**
ZAA1	**Zalesovo Array**	**29.47**	**336**	*e*P	**P**	**14 51 50.4**	**+0.7**
KURBB	**Kurchatov Arra**	**29.86**	**325**	P	**P**	**14 51 53.5**	**+0.3**
	comp=Z,0.7nm,0.6s,baz=131,slow=9.8,SNR=9.4						
KURBB				PcP	**PcP**	**14 54 55.3**	**-1.0**
	comp=Z,0.3nm,0.5s,baz=115,slow=2.6,SNR=5.1						
KURK	**Kurchatov**	**29.87**	**325**	*e*P	**P**	**14 51 53.5**	**+0.2**
KURK				*e*PcP	**PcP**	**14 54 55.3**	**-1.0**
JHJ	**Hachijo jima 2**	**30.18**	**72**	LR	LR	15 03 16.6	
	comp=Z,85nm,21.5s,baz=72,slow=35						
BVAR	**Borovoye Array**	**35.38**	**324**	P	**P**	**14 52 42.3**	**+0.7**
	comp=Z,0.4nm,0.6s,baz=104,slow=12,SNR=2.9						
BVAR				PcP	**PcP**	**14 55 10.6**	**-0.9**
	comp=Z,0.3nm,0.4s,baz=118,slow=5.4,SNR=3.5						
GEYT	**Alibeck**	**40.00**	**296**	P	**P**	**14 53 22.8**	**+1.9**
	comp=Z,2.3nm,0.7s,baz=120,slow=5.3,SNR=6.3						
AB31	**Akbulak array**	**40.05**	**314**	*e*P	**P**	**14 53 21.4**	**+0.3**
TIXI	**Tiksi**	**45.24**	**10**	*e*P	**P**	**14 54 02.2**	**-0.7**
	comp=Z,1.8nm,0.8s						
WRAB	**Tennant Creek**	**55.82**	**146**	*e*P	**P**	**14 55 22.7**	**-0.8**
	comp=Z,5.7nm,1.0s						
WR1	**Warramunga Arr**	**55.82**	**146**	*e*P	**P**	**14 55 23.0**	**-0.5**
	comp=Z,6.6nm,1.0s						
WRA	**Warramunga AR**	**55.82**	**146**	P	**P**	**14 55 23.0**	**-0.5**
	comp=Z,2.1nm,0.4s,baz=338,slow=8.2,SNR=56						
WB2	**Warramunga AR**	**55.83**	**146**	*e*P	**P**	**14 55 23.1**	**-0.5**
BR101	**Keskin Array S**	**58.76**	**301**	*e*P	**P**	**14 55 44.3**	**0.0**
BRTR	**Keskin Array B**	**58.76**	**301**	P	**P**	**14 55 44.3**	**0.0**
	comp=Z,0.4nm,0.4s,baz=68,slow=7.2,SNR=3.2						
BRTR				LR	LR	15 26 09.9	
	comp=Z,17nm,18.1s,baz=77,slow=41						
AS31	**Alice Springs**	**58.80**	**149**	*e*P	**P**	**14 55 44.1**	**-0.4**
	comp=Z,7nm,0.9s						
ASAR	**Alice Springs**	**58.81**	**149**	P	**P**	**14 55 44.4**	**-0.2**
	comp=Z,1.8nm,0.7s,baz=330,slow=6.9,SNR=42						
ASAR				PcP	**PcP**	**14 56 33.4**	**-0.8**
	comp=Z,0.5nm,0.6s,baz=336,slow=3.7,SNR=4.7						
AKASG	**Malin Array Be**	**59.79**	**315**	P	**P**	**14 55 50.7**	**-0.4**
	comp=Z,0.3nm

JRA	**Rausu**	**3.15**	**360**	P	**Pn**	14 59 19.9	**-1.1**
JRA				*e*S	**Sn**	14 59 56.0	**-2.7**
JOT	**Ohata**	**3.16**	**282**	P	**Pn**	14 59 21.8	**+0.7**
JOT				*e*S	**Sn**	14 59 57.2	**-1.6**
JOM	**Ohasama**	**3.23**	**247**	P	**Pn**	14 59 22.7	**+0.5**
JOM				*e*S	**Sn**	14 59 58.4	**-2.3**
JKB	**Kayabe**	**3.29**	**291**	P	**Pn**	14 59 24.2	**+1.3**
JKB				*e*S	**Sn**	15 00 01.0	**-1.1**
JTKR	**Abashiri--Toko**	**3.31**	**344**	P	**Pn**	14 59 23.8	**+0.5**
JTKR				S	**Sn**	15 00 01.4	**-1.3**
JEW	**Eniwo**	**3.44**	**308**	P	**Pn**	14 59 27.3	**+2.2**
JEW				S	**Sn**	15 00 06.0	**+0.1**
JMK	**Ichinoseki**	**3.53**	**240**	P	**Pn**	14 59 26.4	**+0.1**
JMK				S	**Sn**	15 00 04.8	**-3.3**
JKK2	**Kamakawa 2**	**3.56**	**331**	P	**Pn**	14 59 28.5	**+1.8**
JKK2				*e*S	**Sn**	15 00 10.4	**+1.5**
ASAJ	**Asahikawa**	**3.83**	**331**	Pn	**Pn**	14 59 29.7	**-0.7**
	1.4nm,0.3s,baz=154,slow=18,SNR=23						
ASAJ				Sn	**Sn**	15 00 16.1	**+0.8**
	1.9nm,0.3s,baz=349,slow=32,SNR=7.8						
MJAR	**Matsushiro Arr**	**6.88**	**234**	Pn	**Pn**	15 00 12.7	**+0.3**
	0.2nm,0.3s,baz=36,slow=17,SNR=2.5						
USRK	**Ussuriysk Ar.**	**10.30**	**294**	Pn	**Pn**	15 01 00.8	**+1.7**
	0.2nm,0.3s,baz=111,slow=16,SNR=3.5						
JCJ	**Chichijima**	**13.87**	**191**	LR	LR	15 08 58.7	
	comp=Z,12nm,18.2s,baz=12,slow=45						
ZALV	**Zalesovo Beam**	**41.66**	**309**	P	**P**	**15 06 20.6**	**+0.8**
	0.4nm,0.6s,baz=82,slow=11,SNR=2.7						
MKAR	**Makanchi Array**	**44.70**	**300**	P	**P**	15 06 45.0	**+0.5**
	0.2nm,0.7s,baz=74,slow=11,SNR=2.6						
ILAR	**Eielson Array**	**44.77**	**34**	P	**P**	**15 06 45.8**	**+1.1**
	0.4nm,0.6s,baz=261,slow=7.1,SNR=8.3						
KURBB	**Kurchatov Arra**	**46.09**	**306**	P	**P**	**15 06 56.2**	**+0.9**
	0.8nm,0.7s,baz=79,slow=8.6,SNR=6.0						
INK	**Inuvik**	**49.71**	**29**	P	**P**	**15 07 25.2**	**+2.1**
	0.7nm,0.6s,baz=316,slow=7.2,SNR=6.7						
BVAR	**Borovoye Array**	**50.27**	**311**	P	**P**	**15 07 26.1**	**-1.5**
	0.6nm,0.6s,baz=94,slow=9.3,SNR=3.8						
YKA	**Yellowknife Ar**	**59.10**	**32**	P	**P**	**15 08 32.5**	**+1.0**
	0.2nm,0.7s,baz=298,slow=6.7,SNR=4.7						
WRA	**Warramunga Arr**	**61.25**	**192**	P	**P**	**15 08 46.7**	**+0.1**
	0.8nm,0.7s,baz=7.8,slow=6.7,SNR=7.0						
ASAR	**Alice Springs**	**64.97**	**191**	P	**P**	**15 09 12.5**	**+1.2**
	0.7nm,1.1s,baz=21,slow=7.6,SNR=4.2						
FINES	**FINESS Array B**	**66.83**	**333**	P	**P**	**15 09 23.9**	**+0.9**
	0.9nm,0.7s,baz=48,slow=8.5,SNR=5.8						
HFS	**Hagfors**	**71.84**	**337**	P	**P**	**15 09 55.1**	**+1.2**
	7.5nm,1.2s,baz=31,slow=4.7,SNR=3.3						
AKASG	**Malin Array Be**	**73.08**	**323**	P	**P**	**15 10 00.9**	**-0.6**
	0.3nm,0.4s,baz=38,slow=5.6,SNR=3.6						

MEX 09 15:05:44.3±0.3, 24°.66N×110°.38W, h10km, MD3.6, Baja California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPIG	**La Paz**	**0.56**	**173**	*e*P	Pg	15 05 54.2	-1.0
	baz=353,slow=7.4						
LPIG				*e*S	Sg	15 06 02.0	-0.7

*IDC **09** 15:05:51.9±1.4, 16°.11S×173°.55W, h0km, mb3.9/8, mb1 4.2/9, mb1mx3.9/43, mbtmp3.9/9, ML4.1/1, MS3.2/12, Ms1 3.2/12, ms1mx3.1/41, Error ellipse: s-maj=86.9km s-min=17.7km az=146.0*

*NEIC **09** 15:05:53.0±0.6, 16°.14S×173°.47W, h10km, mb4.4/5, Error ellipse: s-maj=31.7km s-min=7.3km az=147.0*

ISC 09 15:05:53.7±1.0, 15°.95S±0°.3×173°.6W±0°.2, h10km, n63, σ1s12/50, mb4.0/11, MS3.1/10, 5C-6D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.63**	**41**	Pn	**Pn**	**15 06 36.4**	**0.0**
	29nm,0.3s,baz=192,slow=1.9,SNR=46						
AFI				Sn	**Sn**	**15 07 05.5**	**-2.8**
	84nm,0.3s,baz=79,slow=20,SNR=16						
AFI				LR	LR	15 07 39.7	
	comp=Z,372nm,21.6s,baz=266,slow=39						
DZM	**Mont Dzumac**	**19.87**	**249**	LR	LR	15 16 56.7	
	comp=Z,242nm,18.3s,baz=58,slow=34						
DZM	**Mont Dzumac**	**19.87**	**249**	*e*P	**P**	**15 10 24.7**	**-0.7**
	27nm,1.2s						
PPT	**Papeete**	**23.01**	**98**	LR	LR	15 18 26.1	
	comp=Z,45nm,18.8s,baz=244,slow=33						
H11S2	**WAKE ISLAND Hy**	**39.33**	**330**	T	T	15 55 38.3	
	baz=149,slow=76,SNR=3.2						
H11S3	**WAKE ISLAND Hy**	**39.34**	**330**	T	T	15 55 36.7	
	baz=149,slow=76,SNR=2.6						
H11S1	**WAKE ISLAND Hy**	**39.35**	**330**	T	T	15 55 36.3	
	baz=149,slow=76,SNR=3.6						
H11N3	**WAKE ISLAND Hy**	**40.29**	**331**	T	T	15 56 56.0	
	baz=150,slow=76,SNR=4.0						
H11N1	**WAKE ISLAND Hy**	**40.29**	**331**	T	T	15 57 02.3	
	baz=150,slow=76,SNR=3.9						
H11N2	**WAKE ISLAND Hy**	**40.30**	**331**	T	T	15 57 03.2	
	baz=150,slow=76,SNR=5.5						
STKA	**Stephens Creek**	**43.66**	**240**	P	**P**	**15 13 57.5**	**-1.3**
	2.6nm,0.9s,baz=89,slow=9.2,SNR=4.0						
STKA	**Stephens Creek**	**43.66**	**240**	*e*P	**P**	**15 13 58.3**	**-0.5**
	8.5nm,1.9s						
WR1	**Warramunga Arr**	**49.59**	**257**	*e*P	**P**	**15 14 44.4**	**-1.2**
	16nm,1.6s						
WRA	**Warramunga Arr**	**49.59**	**257**	P	**P**	**15 14 44.4**	**-1.2**
	0.7nm,0.7s,baz=92,slow=7.0,SNR=14						
AS31	**Alice Springs**	**49.81**	**252**	*e*P	**P**	**15 14 46.2**	**-1.1**
	1.2nm,0.8s						
ASAR	**Alice Springs**	**49.81**	**252**	P	**P**	**15 14 46.3**	**-1.0**
	3.6nm,0.7s,baz=88,slow=7.9,SNR=43						
GUMO	**Guam**	**50.49**	**303**	LR	LR	15 34 42.3	
	comp=Z,12nm,18.7s,baz=118,slow=34						
DAV	**Davao City (W)**	**64.44**	**286**	LR	LR	15 43 07.2	
	comp=Z,11nm,18.8s,baz=143,slow=35						
MJAR	**Matsushiro Arr**	**69.24**	**320**	LR	LR	15 42 08.9	
	comp=Z,14nm,21.3s,baz=165,slow=31						
BAKC	**Calstate**	**72.52**	**44**	*e*P	**P**	**15 17 20.4**	**-0.6**
DPP	**Dos Picos Cty**	**72.71**	**47**	*e*P	**P**	**15 17 21.1**	**-1.1**
BBRC	**Big Bear Solar**	**73.41**	**46**	*e*P	**P**	**15 17 26.4**	**-0.2**
NV01	**Mina Array Sit**	**74.81**	**42**	*e*P	**P**	**15 17 34.6**	**-0.1**
NVAR	**Mina Array Bea**	**74.81**	**42**	P	**P**	**15 17 35.9**	**+1.2**
	0.8nm,0.8s,baz=226,slow=9.7,SNR=5.8						
NVAR				LR	LR	15 45 23.5	
	comp=Z,38nm,20.5s,baz=267,slow=32						
BEND	**Bend**	**76.35**	**36**	*e*P	**P**	**15 17 42.5**	**-0.8**
KSRS	**Korea Array**	**76.42**	**316**	LR	LR	15 46 27.7	
	comp=Z,8.7nm,21.4s,baz=125,slow=32						
KS15	**Wonju Array Si**	**76.44**	**316**	*e*P	**P**	**15 17 44.0**	**+0.2**
USRK	**Ussuriysk Ar.**	**77.71**	**323**	LR	LR	15 49 32.8	
	comp=Z,11nm,18.3s,baz=76,slow=34						
BMRM	**Bremner River**	**80.05**	**14**	*e*P	**P**	**15 18 05.0**	**+1.7**
LTX	**Lajitas**	**81.02**	**56**	*e*P	**P**	**15 18 09.7**	**+0.4**
TXAR	**Lajitas Array**	**81.02**	**56**	P	**P**	**15 18 09.7**	**+0.4**
	0.4nm,0.9s,baz=134,slow=5.2,SNR=3.4						
TXAR				LR	LR	15 45 42.2	
	comp=Z,18nm,21.8s,baz=0.0,slow=30						
PD31	**Pinedale Array**	**82.74**	**42**	*e*P	**P**	**15 18 16.9**	**-1.3**
PDAR	**Pinedale Array**	**82.74**	**42**	P	**P**	**15 18 18.4**	**+0.2**
	0.9nm,0.7s,baz=204,slow=3.3,SNR=7.8						
PDAR				LR	LR	15 46 11.2	
	comp=Z,29nm,21.4s,baz=256,slow=29						
PDAR	**Pinedale Array**	**82.74**	**42**	*e*P	**P**	**15 18 17.1**	**-1.2**
SCRK	**Sand Creek**	**82.84**	**13**	*e*P	**P**	**15 18 19.6**	**+1.4**
ILAR	**Eielson Array**	**82.98**	**11**	P	**P**	**15 18 19.1**	**+0.5**
	0.8nm,0.7s,baz=233,slow=6.2,SNR=16						
ILB	**Eielson Array**	**82.98**	**11**	*e*P	**P**	**15 18 18.2**	**-0.5**
DAWY	**Dawson**	**83.95**	**14**	*e*P	**P**	**15 18 25.4**	**+1.7**
	2.7nm,0.8s						
YKA	**Yellowknife Ar**	**90.62**	**23**	P	**P**	**15 18 56.4**	**+0.4**
	0.3nm,1.0s,baz=236,slow=3.7,SNR=5.7						
CMAR	**Chiang Mai Arr**	**92.64**	**288**	LR	LR	15 56 06.6	
	comp=Z,5.4nm,21.9s,baz=90,slow=32						
MK32	**Makanchi Array**	**111.08**	**314**	*e*PKiKP	**PKiKP**	**15 24 26.9**	**-0.8**
MKAR	**Makanchi Array**	**111.08**	**314**	PKiKP	**PKiKP**	**15 24 26.9**	**-0.8**
	0.1nm,0.4s,baz=72,slow=4.7,SNR=2.6						
CLL	**Collm**	**144.31**	**353**	*i* PKPdf	**PKPdf**	**15 25 29.3**	**-0.7**
	comp=Z,4.0nm,0.8s						
DPC	**Dobruska-Polom**	**144.74**	**349**	*e*PKP	**PKPdf**	**15 25 31.9**	**+1.0**
BURAR	**Bucovina Array**	**144.79**	**338**	‖*i*P	**PKPdf**	**15 25 32.4**	**+1.3**
OKC	**Ostrava-Krasne**	**144.86**	**347**	*e*PKP	**PKPdf**	**15 25 32.1**	**+1.1**
KRLC	**Kraliky**	**144.91**	**348**	*e*PKP	**PKPdf**	**15 25 32.3**	**+1.1**
MORC	**Moravsky Berou**	**145.04**	**347**	‖*i*P	**PKPdf**	**15 25 32.8**	**+1.4**
TESR	**Tescani**	**145.16**	**335**	⇑*i*P	**PKPab**	**15 25 31.8**	**+0.5**
TLCR		**145.28**	**332**	⇑*i*P	**PKPab**	**15 25 33.5**	**+1.8**
PRU	**Pruhonice**	**145.39**	**351**	*e*PKP	**PKPab**	**15 25 33.4**	**+1.4**
NKC	**Novy Kostel**	**145.43**	**353**	*e*PKP	**PKPab**	**15 25 33.8**	**+1.7**
VRI	**Vrincioaia**	**145.65**	**335**	‖*i*P	**PKPab**	**15 25 34.5**	**+1.4**
MLR	**Muntele Rosu**	**146.27**	**335**	⇑*i*P	**PKPab**	**15 25 37.4**	**+1.8**
KHC	**Kasperske Hory**	**146.37**	**352**	*e*PKP	**PKPab**	**15 25 36.5**	**+0.8**
KHC				*ex*	x	15 25 51.1	
DRGR		**146.37**	**340**	‖*i*P	**PKPab**	**15 25 36.7**	**+0.8**
BR101	**Keskin Array S**	**146.46**	**320**	*e*PKPdf	**PKPab**	**15 25 36.5**	**0.0**
BRTR	**Keskin Array B**	**146.46**	**320**	PKPbc	**PKPab**	**15 25 36.5**	**0.0**
	comp=Z,3.0nm,0.8s,baz=93,slow=2.4,SNR=12						
GERES	**GERESS Array B**	**146.63**	**351**	PKPbc	**PKPab**	**15 25 36.5**	**-0.4**
	comp=Z,2.0nm,0.8s,baz=29,slow=3.0,SNR=12						
VOIR		**146.68**	**336**	⇑*i*P	**PKPab**	**15 25 38.3**	**+1.2**
ARR	**Arges**	**146.90**	**336**	‖*i*P	**PKPab**	**15 25 39.2**	**+1.3**
SIRR	**Siria**	**147.18**	**340**	‖*i*P	**PKPab**	**15 25 38.7**	**-0.2**
MATE	**Matera**	**153.79**	**342**	⇑*i*P	**PKPab**	**15 26 07.4**	**+1.2**

MAN 09 16:06:16, 16°.47N×120°.57E, h22km, mb4.5, ML3.4, MS3.2, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOLP	**Bolinao**	**0.64**	**262**	*e*P	Pn	16 06 30.7	+1.0
BOLP				*e*S	Sn	16 06 41.7	+2.5
SCZP	**Santa Cruz**	**0.94**	**223**	*e*P	Pb	16 06 33.0	-0.6
PCPH	**Palayan**	**1.04**	**151**	*e*P	Pn	16 06 35.2	0.0
PCPH				*i* S	Sb	16 06 47.4	-1.0
ABRA	**Dolores**	**1.18**	**6**	*e*P	Pn	16 06 37.2	0.0
ABRA				*e*S	Sn	16 06 53.5	+1.0
BALP	**Baler**	**1.21**	**127**	*e*P	Pn	16 06 37.0	-0.6
BALP				*e*S	Sb	16 06 54.9	+1.5
CAUP	**Cauayan**	**1.29**	**69**	*e*P	Pb	16 06 39.9	+0.4
CAUP				*e*S	Sb	16 06 56.9	+1.3
APYP	**Conner**	**1.52**	**25**	*e*P	Pb	16 06 43.0	-0.5
APYP				*e*S	Sb	16 07 02.2	-0.2

WEL 09 16:09:30.7, 45°.5S±2°.1×166°.7E±1°, h30km±3km, ML3.7/9, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.14**	**196**	P	Pn	16 09 37.7	+0.8
DCZ	**Deep Cove**	**0.14**	**196**	S	Sb	16 09 41.8	+1.7
MLZ	**Mavora Lakes**	**0.64**	**94**	P	Pb	16 09 43.5	+0.1
MLZ	**Mavora Lakes**	**0.64**	**94**	S	Sn	16 09 53.3	+0.4
WHZ	**Wether Hill Ro**	**0.77**	**138**	P	Pn	16 09 46.3	+0.8
WHZ	**Wether Hill Ro**	**0.77**	**138**	S	Sn	16 09 57.1	+1.1
MSZ	**Milford Sound**	**0.83**	**38**	P	Pn	16 09 45.7	-0.6
MSZ	**Milford Sound**	**0.83**	**38**	S	Sb	16 09 56.6	-0.6
PYZ	**Puysegur Point**	**0.92**	**204**	P	Pn	16 09 47.2	-0.3
PYZ	**Puysegur Point**	**0.92**	**204**	S	Sb	16 10 00.3	+0.5
WKZ	**Wanaka**	**1.37**	**69**	P	Pn	16 09 54.1	+0.3
WKZ	**Wanaka**	**1.37**	**69**	S	Sb	16 10 12.1	-0.8
EAZ	**Earnscleugh**	**1.48**	**87**	P	Pn	16 09 56.2	+0.9
EAZ	**Earnscleugh**	**1.48**	**87**	S	Sn	16 10 14.3	+0.6
APZ	**The Paps**	**1.60**	**160**	P	Pn	16 09 58.0	+1.0
JCZ	**Jackson Bay**	**1.68**	**42**	P	Pn	16 09 58.3	+0.2
SYZ	**Scrubby Hill**	**1.81**	**133**	P	Pn	16 10 00.8	+1.0
TUZ	**Tuapeka**	**1.81**	**111**	P	Pn	16 10 00.5	+0.8
LBZ	**Lake Benmore**	**2.31**	**67**	P	Pn	16 10 06.1	-0.7
HHSZ	**Highcliff Hill**	**2.44**	**104**	P	Pn	16 10 09.3	+0.8
ODZ	**Otahua Downs**	**2.44**	**85**	P	Pn	16 10 08.2	-0.3
FOZ	**Fox Glacier**	**2.59**	**47**	P	Pn	16 10 09.1	-1.4
RPZ	**Rata Peaks**	**3.19**	**61**	P	Pn	16 10 17.2	-1.5
WVZ	**Waitaha Valley**	**3.39**	**50**	P	Pn	16 10 19.7	-1.8
OXZ	**Oxford**	**4.00**	**62**	P	Pn	16 10 27.5	-2.3
INZ	**Inchbonnie**	**4.01**	**51**	P	Pn	16 10 28.8	-1.3
MQZ	**McQueen's Vall**	**4.22**	**69**	P	Pn	16 10 30.8	-2.1
CRLZ	**Canterbury Las**	**4.25**	**68**	P	Pn	16 10 32.3	-1.1
AKCZ	**Akaroa Harbour**	**4.32**	**72**	P	Pn	16 10 32.5	-1.8
LTZ	**Lake Taylor**	**4.45**	**57**	P	Pn	16 10 33.2	-2.9
OKCZ	**Okains Bay**	**4.48**	**71**	P	Pn	16 10 35.0	-1.5
DSZ	**Denniston Nort**	**4.89**	**45**	P	Pn	16 10 40.2	-2.1
KHZ	**Kahutara**	**5.42**	**60**	P	Pn	16 10 47.7	-1.7
THZ	**Tophouse**	**5.46**	**51**	P	Pn	16 10 47.9	-2.1
QRZ	**Quartz Range**	**5.95**	**43**	P	Pn	16 10 54.9	-1.8
NNZ	**Nelson**	**6.09**	**50**	P	Pn	16 10 58.1	-0.5
TUWZ	**Tuamarina**	**6.26**	**54**	P	Pn	16 11 01.5	+0.5
PREZ	**Palmer Road**	**7.89**	**43**	P	Pn	16 11 23.7	+0.4
PKE	**Pukeiti**	**7.92**	**42**	P	Pn	16 11 28.1	-0.7
VRZ	**Vera Road**	**8.35**	**45**	P	Pn	16 11 29.4	-0.2
PKVZ	**Pokaka**	**8.53**	**48**	P	Pn	16 11 34.0	+1.9
FWVZ	**Far West T-bar**	**8.66**	**48**	P	Pn	16 11 36.7	+2.6

*SOME **09** 16:10:10.6, 43°.38N×83°.87E, h10km*
*NNC **09** 16:10:12.0±13.0, 43°.21N×84°.64E, h0km, mb3.3, mpv2.9, Error ellipse: s-maj=110.6km s-min=52.6km az=126.0*

ISC 09 16:10:14.6±3.3, 43°.6N±0°.1×84°.3E±0°.1, h10km, n9, σ2s00/16, 5C-1D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DJR	**Jarkent**	**3.37**	**285**	*e*P	**Pn**	**16 11 06.3**	**-1.0**
	4.5nm,0.4s						
DJR				*e*S	**Sn**	**16 11 46.7**	**-0.8**
	8.2nm,0.5s						
PDGK	**Podgornoye**	**3.53**	**268**	‖Pn	**Pn**	**16 11 10.3**	**+0.8**
	1.8nm,0.3s						
PDGK				⇑Sn	**Sn**	**16 11 55.6**	**+4.2**
	12nm,0.5s						
MK31	**Makanchi Array**	**3.55**	**337**	⇑Pn	**Pb**	**16 11 16.7**	**-0.8**
	0.9nm,0.3s,baz=145,slow=17,SNR=25						
MK31				⇑Sn	**Sb**	**16 12 01.5**	**+0.8**
	11nm,0.5s,baz=143,slow=27						
MAKZ	**Makanchi**	**3.66**	**334**	⇑Pn	**Pb**	**16 11 18.0**	**-1.4**
	1.0nm,0.4s						
MAKZ				⇑Sn	**Sb**	**16 12 04.3**	**+0.5**
	4.3nm,0.5s						
KAPS	**Kapalarasan**	**3.96**	**298**	*e*P	**Pn**	**16 11 15.6**	**+0.1**
	2.2nm,0.5s						
KAPS				*e*S	**Sn**	**16 12 02.7**	**+0.7**
	5.5nm,0.7s						
MNBS	**Baschi**	**4.32**	**279**	*e*P	**Pn**	**16 11 22.0**	**+1.6**
	2.6nm,0.3s						
MNBS				*e*S	**Sn**	**16 12 13.5**	**+2.6**
	13nm,0.7s						
ARXS	**Arharly**	**4.75**	**280**	*e*P	Pb	16 11 33.0	-4.9
	1.6nm,0.4s						
ARXS				*e*S	**Sb**	**16 12 32.5**	**-2.5**
	12nm,0.5s						
CHKK	**Chushkaly**	**5.33**	**276**	*e*P	Pb	16 11 43.7	-4.1
	2.0nm,0.2s						
CHKK				*e*S	**Sb**	**16 12 51.1**	**-0.7**
	3.4nm,0.2s						
DGS	**Degeres**	**6.24**	**270**	*e*P	**Pb**	**16 12 00.6**	**-2.7**
	1.7nm,1.0s						
DGS				*e*S	**Sb**	**16 13 20.4**	**+2.2**
	3.4nm,0.6s						

MAN 09 16:15:02, 9°.12N×123°.48E, h85km, mb4.1, ML2.9, MS2.6, Negros

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNPH	**Sibulan**	**0.33**	**314**	*e*P	Pn	16 15 17.2	+2.1
SNPH				*e*S	Sn	16 15 27.7	+2.9
MSLP	**Maasin**	**1.70**	**53**	*e*P	Pn	16 15 30.4	+0.3
MSLP				*e*S	Sn	16 15 52.3	+0.9
GUIM	**Jordan**	**1.74**	**330**	*e*P	Pn	16 15 31.6	+1.0

IDC 09 16:16:53.5±6.3, 5°.66S×147°.44E, h158km±63km, mb3.1/1, mb1 3.3/3, mb1mx2.9/41, mbtmp3.7/3, Error ellipse: s-maj=101.0km s-min=48.3km az=122.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.73**	**184**	P	Pn	16 17 51.2	+0.8
	1.8nm,0.3s,baz=355,slow=11,SNR=16						
PMG				S	Sn	16 18 34.9	+0.1
	4.6nm,0.3s,baz=31,slow=20,SNR=9.9						
WRA	**Warramunga Arr**	**19.07**	**221**	P	P	16 21 04.4	+0.4
	0.5nm,0.3s,baz=45,slow=11,SNR=14						
ASAR	**Alice Springs**	**22.14**	**215**	P	P	16 21 36.6	0.0
	1.1nm,0.6s,baz=48,slow=8.3,SNR=13						
TORD	**Torodi Ar. Bea**	**145.43**	**285**	PKPbc	PKPdf	16 36 12.9	-0.8
	0.3nm,0.5s,baz=94,slow=3.7,SNR=2.7						

IDC 09 16:30:40.4±2.9, 7°.67S×112°.32E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.3/51, mbtmp3.4/3, Error ellipse: s-maj=172.6km s-min=25.6km az=50.0, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.58**	**122**	P	P	16 36 02.8	+0.4
	0.6nm,0.5s,baz=296,slow=12,SNR=13						
ASAR	**Alice Springs**	**26.10**	**130**	P	P	16 36 15.9	-0.3
	0.2nm,0.3s,baz=306,slow=7.7,SNR=9.9						
MKAR	**Makanchi Array**	**60.45**	**337**	P	P	16 40 51.9	-0.1
	0.2nm,0.5s,baz=148,slow=8.5,SNR=2.5						

*CSEM **09** 16:31:20.2±0.4, 40°.55N×20°.71E, h10km, ML1.1, Error ellipse: s-maj=8.5km s-min=3.6km az=88.0*
*TIR **09** 16:31:22.8, 40°.61N×20°.74E, h13km, Md1.7/2*

ATH 09 16:31:21.0, 40°.53N×20°.80E, h21km±9km, ML1.1/2, Error ellipse: s-maj=12.3km s-min=2.2km az=108.0, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBN	**Korca**	**0.09**	**355**	*i* Pg	Pb	16 31 22.9	-2.2
KBN				*i* Sg	Sb	16 31 24.6	-3.3
KBN	**Korca**	**0.09**	**355**	*i* PG	Pb	16 31 22.9	-2.2
KBN				*i* SG	Sb	16 31 24.6	-3.3
NEST	**Nestorio**	**0.22**	**121**	P	Pb	16 31 26.0	-1.0
NEST				S	Sb	16 31 31.2	-0.1
NEST				AML	AML	16 31 31.4	
	comp=N,69μm,0.1s						
NEST				AML	AML	16 31 34.5	
	comp=E,60μm,0.4s						
NEST	**Nestorio**	**0.22**	**121**	P	Pb	16 31 26.3	-0.8
NEST				S	Sb	16 31 30.9	-0.4
PENT	**Pentalofos**	**0.42**	**142**	P	Pb	16 31 30.6	+0.9
PENT				S	Sb	16 31 35.0	-0.6
PENT	**Pentalofos**	**0.42**	**142**	P	Pb	16 31 30.2	+0.5
PENT				S	Sb	16 31 35.6	-0.1
FNA	**Florina**	**0.51**	**60**	P	Pb	16 31 30.9	-0.4
FNA				S	Sb	16 31 39.2	+1.0
FNA				AML	AML	16 31 39.9	
	comp=E,108μm,0.2s						
FNA				AML	AML	16 31 40.9	
	comp=N,124μm,0.2s						
FNA	**Florina**	**0.51**	**60**	P	Pb	16 31 31.1	-0.1
FNA				S	Sb	16 31 39.0	+0.8

*CSEM **09** 16:38:39.4±0.5, 39°.14N×42°.17E, h10km, ML2.5, Error ellipse: s-maj=14.2km s-min=10.0km az=164.0*
*ISK **09** 16:38:40.0, 39°.20N×42°.13E, h13km, ML2.4/4*
*ATA **09** 16:38:41.5±0.9, 39°.10N×42°.43E, h4km±16km, ML2.4, MW2.6*
*ISCJB **09** 16:38:42.2±0.6, 39°.09N±0°.03×42°.38E±0°.05, h3km±8km, Error ellipse: s-maj=6.2km s-min=4.3km az=7.6*
*DDA **09** 16:38:42.2, 39°.10N×42°.42E, h7km, Ml2.5*

ISC 09 16:38:41.3±1.1, 39°.13N±0°.05×42°.37E±0°.03, h14km±11km, n27, σ0s87/34, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EKAR	**Karacoban**	**0.27**	**299**	*e*P	**Pb**	**16 38 48.5**	**+0.3**
EKAR	**Karacoban**	**0.27**	**299**	*i* P	**Pb**	**16 38 48.7**	**+0.5**
EKAR	**Karacoban**	**0.27**	**299**	P	**Pb**	**16 38 48.7**	**+0.5**
ADCV	**BITLIS_Adilcev**	**0.42**	**139**	*i* P	**Pg**	**16 38 49.5**	**-0.3**
ADCV				*i* S	**Sg**	**16 38 55.5**	**-0.1**
ADCV	**BITLIS_Adilcev**	**0.42**	**139**	P	**Pg**	**16 38 49.5**	**-0.3**
ADCV				S	**Sg**	**16 38 55.5**	**-0.1**
TUTA	**Tutak**	**0.44**	**51**	*e*P	**Pb**	**16 38 50.7**	**-0.4**
TUTA				*e*S	**Sb**	**16 38 57.7**	**0.0**
TUTA				IAML		16 39 00.6	
	comp=Z,49nm,0.4s						
TUTA	**Tutak**	**0.44**	**51**	*i* P	**Pb**	**16 38 50.9**	**-0.2**
TUTA				*i* S	**Sb**	**16 38 57.3**	**-0.4**
TUTA	**Tutak**	**0.44**	**51**	P	**Pb**	**16 38 50.9**	**-0.2**
TUTA				S	**Sb**	**16 38 57.3**	**-0.4**
GURO	**Guroymak-BITLI**	**0.63**	**205**	PG	**Pg**	**16 38 53.6**	**-0.1**
GURO				SG	**Sg**	**16 39 02.6**	**+0.5**
GURO	**Guroymak-BITLI**	**0.63**	**205**	*e*PG	**Pg**	**16 38 53.6**	**-0.1**
GURO				*e*SG	**Sg**	**16 39 02.5**	**+0.5**
GURO	**Guroymak-BITLI**	**0.63**	**

PREZ	**Palmer Road**	**4.30**	**15**	P	Pn	17 07 27.4	+1.9
PKE	**Pukeiti**	**4.42**	**12**	P	Pn	17 07 28.5	+1.5
PNHZ	**Pukenui**	**4.42**	**37**	P	Pn	17 07 25.5	-1.6
DREZ	**Durham Road**	**4.46**	**14**	P	Pn	17 07 29.2	+1.7
MTVZ	**Mangateitei**	**4.60**	**27**	P	Pn	17 07 31.1	+1.6
VRZ	**Vera Road**	**4.64**	**20**	P	Pn	17 07 31.6	+1.5
PKVZ	**Pokaka**	**4.65**	**26**	P	Pn	17 07 31.5	+1.2
MOVZ	**Moawhango**	**4.68**	**30**	P	Pn	17 07 31.3	+0.7
TRVZ	**Turoa**	**4.70**	**27**	P	Pn	17 07 32.4	+1.2
KRHZ	**Kereru**	**4.72**	**36**	P	Pn	17 07 31.0	-0.2
APZ	**The Paps**	**4.73**	**224**	P	Pn	17 07 31.9	+0.5
WHVZ	**Whangaehu Hut**	**4.73**	**28**	P	Pn	17 07 32.5	+0.9
FWVZ	**Far West T-bar**	**4.75**	**27**	P	Pn	17 07 32.3	+0.6
TUVZ	**Tukino**	**4.77**	**28**	P	Pn	17 07 32.6	+0.7
KAHZ	**Kahuranaki**	**4.83**	**41**	P	Pn	17 07 31.8	-0.9
NGZ	**Ngauruhoe**	**4.83**	**27**	P	Pn	17 07 33.4	+0.6
WTVZ	**West Tongariro**	**4.88**	**27**	P	Pn	17 07 33.5	-0.1
BKZ	**Black Stump Fm**	**5.17**	**34**	P	Pn	17 07 36.2	-1.2

*DDA **09** 17:07:56.8, 38°.90N×42°.24E, h22km, Ml2.7*
*ISK **09** 17:07:56.8, 38°.90N×42°.26E, h5km, ML2.3/2*
*CSEM **09** 17:07:57.4±0.3, 38°.90N×42°.27E, h15km, ML2.3, Error ellipse: s-maj=6.9km s-min=5.1km az=140.0*
*ATA **09** 17:07:57.5±1.9, 38°.92N×42°.35E, h2km±14km, ML2.7, MW2.8*
*ISCJB **09** 17:07:58.0±0.6, 38°.88N±0°.03×42°.31E±0°.04, h1km±10km, Error ellipse: s-maj=6.1km s-min=5.1km az=44.2*

ISC 09 17:07:57.6±1.4, **38°.89N**±0°.03×**42°.29E**±0°.03, **h12**km±12km, **n17**, σ0**961**/27, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
ADCV	**BITLIS_Adilcev**	**0.35**	**104**	*i* P	**Pg**		**17 08 05.3**	**+0.6**
ADCV	**BITLIS_Adilcev**	**0.35**	**104**	P	**Pg**		**17 08 05.3**	**+0.6**
GURO	**Guroymak-BITLI**	**0.40**	**211**	PG	**Pg**		**17 08 05.6**	**+0.1**
GURO				SG	**Sb**		**17 08 12.2**	**-0.5**
GURO	**Guroymak-BITLI**	**0.40**	**211**	*e*Pg	**Pg**		**17 08 05.6**	**+0.1**
GURO				*e*Sg	**Sb**		**17 08 12.2**	**-0.5**
EKAR	**Karacoban**	**0.40**	**334**	*e*P	**Pg**		**17 08 05.1**	**-0.5**
EKAR				*e*S	**Sb**		**17 08 12.6**	**-0.4**
EKAR	comp=Z,30nm,0.4s			IAML			17 08 17.7	
EKAR	**Karacoban**	**0.40**	**334**	*i* P	**Pg**		**17 08 05.2**	**-0.5**
EKAR	**Karacoban**	**0.40**	**334**	P	**Pg**		**17 08 05.2**	**-0.5**
TUTA	**Tutak**	**0.65**	**39**	*e*P	**Pg**		**17 08 09.8**	**-0.4**
TUTA				*e*S	**Sb**		**17 08 20.1**	**0.0**
TUTA	comp=Z,54nm,0.2s			IAML			17 08 21.8	
TUTA	**Tutak**	**0.65**	**39**	*i* P	**Pg**		**17 08 09.9**	**-0.4**
TUTA				*i* S	**Sb**		**17 08 20.2**	**0.0**
TUTA	**Tutak**	**0.65**	**39**	P	**Pg**		**17 08 09.9**	**-0.4**
TUTA				S	**Sb**		**17 08 20.2**	**0.0**
VRTB	**Varto-Mus**	**0.70**	**293**	PG	**Pg**		**17 08 10.9**	**-0.3**
VRTB				SG	**Sb**		**17 08 21.7**	**+0.1**
VRTB	**Varto-Mus**	**0.70**	**293**	*e*Pg	**Pg**		**17 08 10.9**	**-0.3**
VRTB				*e*Sg	**Sb**		**17 08 21.7**	**+0.1**
GEVA	**Gevas**	**0.84**	**134**	*e*P	**Pg**		**17 08 13.7**	**-0.1**
AGRB	**Hanur-Agry**	**0.87**	**38**	PG	**Pg**		**17 08 14.9**	**+0.4**
AGRB				SG	**Sn**		**17 08 28.4**	**-0.2**
AGRB	**Hanur-Agry**	**0.87**	**38**	*e*Pg	**Pg**		**17 08 14.9**	**+0.4**
AGRB				*e*Sg	**Sn**		**17 08 28.4**	**-0.2**
ERZM	**Erzurum**	**1.24**	**325**	*e*P	**Pg**		**17 08 23.0**	**+1.5**
ECAT	**Cat-ERZURUM**	**1.25**	**305**	*e*P	**Pg**		**17 08 23.2**	**+1.6**

*ISK **09** 17:27:55.6, 38°.63N×43°.28E, h27km, ML2.5/4*
*CSEM **09** 17:27:57.7±0.6, 38°.70N×43°.15E, h10km, ML2.5, Error ellipse: s-maj=11.3km s-min=10.6km az=171.0*
*DDA **09** 17:28:02.0, 38°.72N×43°.41E, h7km, Ml2.4*

ISC 09 17:27:57.8±1.0, **38°.71N**±0°.03×**43°.21E**±0°.03, **h13**km±10km, **n17**, σ1**941**/27, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.18**	**129**	PG	**Pg**		**17 28 01.4**	**-0.7**
VANB	**Van**	**0.18**	**129**	*e*Pg	**Pg**		**17 28 01.4**	**-0.7**
TVAN	**Van**	**0.24**	**139**	*i* P	**Pb**		**17 28 05.2**	**+1.0**
TVAN				*i* S	**Sb**		**17 28 09.7**	**+1.3**
TVAN	**Van**	**0.24**	**139**	P	**Pb**		**17 28 05.2**	**+1.0**
TVAN				S	**Sb**		**17 28 09.7**	**+1.3**
ERCV	**ERCIS-VAN**	**0.32**	**18**	PG	**Pg**		**17 28 04.9**	**+0.3**
ERCV				SG	**Sb**		**17 28 11.2**	**+0.3**
ERCV	**ERCIS-VAN**	**0.32**	**18**	*e*Pg	**Pg**		**17 28 04.9**	**+0.3**
ERCV				*e*Sg	**Sb**		**17 28 11.2**	**+0.3**
ADCV	**BITLIS_Adilcev**	**0.39**	**284**	*i* P	**Pn**		**17 28 12.7**	**+3.3**
VMUR	**Van-Muradiye**	**0.40**	**46**	*i* P	**Pn**		**17 28 08.2**	**-1.4**
VMUR	**Van-Muradiye**	**0.40**	**46**	P	**Pn**		**17 28 08.1**	**-1.4**
CLDR	**Caldiran**	**0.70**	**52**	PG	**Pg**		**17 28 10.4**	**-1.1**
CLDR				SG	**Sb**		**17 28 20.5**	**-1.3**
CLDR	**Caldiran**	**0.70**	**52**	*e*Pg	**Pg**		**17 28 10.4**	**-1.1**
CLDR				*e*Sg	**Sb**		**17 28 20.5**	**-1.3**
TUTA	**Tutak**	**0.75**	**336**	*i* P	**Pb**		**17 28 14.5**	**+1.5**
TUTA	**Tutak**	**0.75**	**336**	P	**Pb**		**17 28 14.5**	**+1.5**
AGRB	**Hanur-Agry**	**0.88**	**349**	PG	**Pg**		**17 28 13.8**	**-1.1**
AGRB				SG	**Sg**		**17 28 27.1**	**+0.7**
AGRB	**Hanur-Agry**	**0.88**	**349**	*e*Pg	**Pg**		**17 28 13.8**	**-1.1**
AGRB				*e*Sg	**Sg**		**17 28 27.1**	**+0.7**
GURO	**Guroymak-BITLI**	**0.93**	**260**	PG	**Pb**		**17 28 13.8**	**-2.2**
GURO				SG	**Sb**		**17 28 27.5**	**-0.8**
GURO	**Guroymak-BITLI**	**0.93**	**260**	*e*Pg	**Pb**		**17 28 13.8**	**-2.2**
GURO				*e*Sg	**Sb**		**17 28 27.5**	**-0.8**

MAN 09 17:29:07, 9°.93N×122°.37E, h33km, **mb4.1, ML2.9, MS2.6, 1D, Negros**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
GUIM	**Jordan**	**0.72**	**17**	*e*P		Pb	17 29 21.6	+0.4
GUIM				*e*S		Sb	17 29 32.0	+1.1
JAP	**San Jose, Anti**	**0.91**	**333**	*e*P		Pb	17 29 25.1	+0.8
SNPH	**Sibulan**	**1.04**	**124**	*e*P		Pb	17 29 26.0	-0.5
SNPH				*e*S		Sb	17 29 39.7	-0.2
TBP	**Tagbilaran**	**1.49**	**99**	*e*P		Pb	17 29 32.9	-1.2
IPIL	**Ipil**	**2.14**	**175**	*e*P		Pn	17 29 41.9	+1.4
IPIL				*e*S		Sn	17 30 05.6	-0.3
OTRP	**Odiongan**	**2.44**	**352**	*e*P		Pn	17 29 46.6	+2.1
OTRP				*e*S		Sn	17 30 14.6	+1.4
MSLP	**Maasin**	**2.46**	**85**	*e*P		Pn	17 29 46.4	+1.6
OCLP	**Ormoc**	**2.46**	**63**	*e*P		Pn	17 29 45.8	+0.9
SJMP	**San Jose**	**2.80**	**334**	*e*P		Pn	17 29 50.6	+1.1
SJMP				*e*S		Sn	17 30 21.9	-0.1

*IDC **09** 17:47:50.4±1.9, 63°.33N×150°.90W, h108km±16km, mb3.5/12, mb1 3.5/16, mb1mx3.3/73, mbtmp3.8/16, MS2.9/1, Ms1 2.9/1, ms1mx2.1/46, Error ellipse: s-maj=18.4km s-min=15.2km az=81.0*
*NEIC **09** 17:47:52.5±0.0, 63°.25N×150°.46W, h127km, ML3.4(AEIC), After AEIC.*

ISC 09 17:47:52.4±0.7, **63°.26N**±0°.03×**150°.51W**±0°.03, **h131**km±5km, **n105**, σ1**904**/128, **mb3.9**/12, **Central Alaska**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
TRF	**Thorofare Moun**	**0.22**	**27**	P	**Pn**		**17 48 09.8**	**-0.7**
TRF				S	**Sn**		**17 48 23.3**	**-1.0**
KTH	**Kantishna Hill**	**0.35**	**328**	P	**Pn**		**17 48 10.6**	**-0.3**
KTH				S	**Sn**		**17 48 23.8**	**-1.1**
CAST	**Castle Rocks**	**0.73**	**284**	P	**Pn**		**17 48 12.7**	**-0.3**
CAST				S	**Sn**		**17 48 27.4**	**-1.3**
RND	**Reindeer**	**0.76**	**78**	P	**Pn**		**17 48 13.0**	**-0.3**
RND				S	**Sn**		**17 48 28.5**	**-0.7**
PPLA	**Purkeypile**	**0.84**	**246**	P	**Pn**		**17 48 14.1**	**0.0**
PPLA				S	**Sn**		**17 48 30.1**	**-0.5**
MCK	**McKinley**	**0.85**	**55**	P	**Sn**		**17 48 13.8**	**-0.2**
MCK				S	**Sn**		**17 48 29.2**	**-1.2**
BPAW	**Bear Paw Mtn.**	**0.87**	**346**	P	**Pn**		**17 48 13.8**	**-0.4**
BPAW				S	**Sn**		**17 48 29.5**	**-1.3**
SKT	**Skwentna**	**1.36**	**201**	P	**Pn**		**17 48 18.6**	**-0.4**
SKT				S	**Sn**		**17 48 39.4**	**+0.2**
DHY	**Denali Highway**	**1.43**	**96**	P	**Pn**		**17 48 19.6**	**-0.3**
DHY				S	**Sn**		**17 48 40.8**	**-0.1**
WRH	**Wood River Hil**	**1.62**	**40**	P	**Pn**		**17 48 21.4**	**-0.4**
GHO	**Glory Hole Cre**	**1.66**	**153**	P	**Pn**		**17 48 22.2**	**-0.2**
GHO				S	**Sn**		**17 48 46.0**	**+0.7**
SML	**Sawmill**	**1.77**	**144**	P	**Pn**		**17 48 23.0**	**-0.6**
SML				S	**Sn**		**17 48 47.7**	**+0.3**
MLY	**Manley**	**1.79**	**357**	P	**Pn**		**17 48 23.4**	**-0.4**
PMR	**Palmer**	**1.79**	**158**	P	**Pn**		**17 48 23.2**	**-0.5**
PMR				S	**Sn**		**17 48 47.2**	**-0.5**
SUA	**Susitna One**	**1.80**	**184**	P	**Pn**		**17 48 23.9**	**-0.1**
SUA				S	**Sn**		**17 48 48.8**	**+0.5**
CCB	**Clear Creek Bu**	**1.84**	**39**	P	**Pn**		**17 48 23.8**	**-0.5**
CCB				S	**Sn**		**17 48 47.3**	**-1.4**
STLK	**Strandline Lak**	**1.87**	**200**	P	**Pn**		**17 48 24.5**	**-0.3**
HDA	**Harding Lake**	**1.96**	**52**	P	**Pn**		**17 48 25.3**	**-0.5**
MDM	**Murphy Dome**	**1.98**	**29**	P	**Pn**		**17 48 25.6**	**-0.4**
COLA	**College**	**2.00**	**35**	P	**Pn**		**17 48 25.9**	**-0.4**
SCM	**Sheep Creek Mo**	**2.05**	**133**	P	**Pn**		**17 48 26.2**	**-0.8**
PS08	**TAPS Pump Stn8**	**2.08**	**50**	P	**Pn**		**17 48 26.6**	**-0.6**
KNK	**Knik Glacier**	**2.08**	**152**	P	**Pn**		**17 48 26.8**	**-0.5**
FIB	**Fire Island**	**2.10**	**176**	P	**Pn**		**17 48 28.1**	**+1.2**
PS10	**TAPS Pump St10**	**2.14**	**83**	P	**Pn**		**17 48 29.2**	**+1.1**
PS10				S	**Sn**		**17 48 56.4**	**+0.9**
ILAR	**Eielson Array**	**2.20**	**45**	P	**Pn**		**17 48 28.2**	**-0.5**
ILAR	17nm,0.3s,baz=226,slow=12,SNR=946			S	**Sn**		**17 48 54.9**	**-1.9**
ILB	**Eielson Array**	**2.20**	**45**	P	**Pn**		**17 48 28.2**	**-0.5**
RC01	**Rabbit Creek A**	**2.20**	**170**	P	**Pn**		**17 48 28.3**	**-0.5**
RC01				S	**Sn**		**17 48 55.9**	**-0.9**
SPU	**Mount Spurr**	**2.20**	**200**	*e*Pn	**Pn**		**17 48 29.1**	**+0.2**
IL1	**Eielson Array**	**2.21**	**45**	*e*Pn	**Pn**		**17 48 27.5**	**-1.3**
SPWE	**Spurr West**	**2.21**	**207**	P	**Pn**		**17 48 29.7**	**+0.8**
GLM	**Gilmore Dome**	**2.21**	**37**	P	**Pn**		**17 48 28.7**	**-0.2**
CKL	**Chakachamna La**	**2.24**	**203**	P	**Pn**		**17 48 29.9**	**+0.6**
PAX	**Paxson**	**2.31**	**95**	P	**Pn**		**17 48 30.0**	**-0.2**
PAX				S	**Sn**		**17 48 58.8**	**-0.5**
TT01	**Tatalina**	**2.53**	**265**	P	**Pn**		**17 48 32.5**	**-0.4**
RIDG	**Independ'e Rid**	**2.59**	**77**	P	**Pn**		**17 48 33.4**	**-0.2**
RIDG				S	**Sn**		**17 49 04.0**	**-1.4**
HARP	**HAARP**	**2.60**	**107**	P	**Pn**		**17 48 33.6**	**-0.2**
PS11	**TAPS Pump St11**	**2.61**	**115**	P	**Pn**		**17 48 34.0**	**+0.1**
SLKM	**Skilak Lake**	**2.76**	**177**	P	**Pn**		**17 48 35.7**	**-0.2**
KLU	**Klutina**	**2.77**	**128**	P	**Pn**		**17 48 35.0**	**-1.1**
KLU				S	**Sn**		**17 49 08.0**	**-1.7**
JPK	**Jack Peak**	**2.87**	**139**	P	**Pn**		**17 48 36.2**	**-1.1**
VLZ	**Valdez**	**2.89**	**136**	P	**Pn**		**17 48 36.1**	**-1.4**
VLZ				S	**Sn**		**17 49 11.3**	**-1.0**
DOT	**Dot Lake**	**2.92**	**79**	P	**Pn**		**17 48 37.2**	**-0.7**
SCRK	**Sand Creek**	**3.00**	**73**	P	**Pn**		**17 48 38.3**	**-0.7**
IM3	**Indian Mountai**	**3.07**	**334**	P	**Pn**		**17 48 39.5**	**-0.4**
DIV	**Divide**	**3.08**	**132**	*e*Pn	**Pn**		**17 48 38.6**	**-1.5**
MENT	**Mentasta**	**3.10**	**92**	P	**Pn**		**17 48 39.9**	**-0.4**
PRP	**Porcupine Dome**	**3.14**	**41**	P	**Pn**		**17 48 40.1**	**-0.7**
SVW2	**Sparrevohn**	**3.22**	**230**	P	**Pn**		**17 48 41.4**	**-0.3**
BRLK	**Bradley Lake**	**3.51**	**183**	P	**Pn**		**17 48 45.5**	**-0.1**
BRLK				S	**Sn**		**17 49 24.8**	**-1.9**
EYAK	**Cordova Ski Ar**	**3.53**	**138**	*e*Pn	**Pn**		**17 48 45.5**	**-0.3**
BMRM	**Bremner River**	**3.60**	**127**	P	**Pn**		**17 48 45.3**	**-1.5**
HOM	**Homer**	**3.65**	**189**	*e*Pn	**Pn**		**17 48 47.4**	**0.0**
VRDI	**Verde Repeater**	**3.88**	**118**	P	**Pn**		**17 48 49.7**	**-0.9**
BCA3	**Beaver Creek A**	**3.96**	**89**	P	**Pn**		**17 48 50.6**	**-0.9**
COLD	**Coldfoot**	**3.99**	**2**	P	**Pn**		**17 48 51.5**	**-0.3**
RAGM	**Ragged Mountai**	**3.99**	**134**	P	**Pn**		**17 48 51.1**	**-0.9**
FYU	**Fort Yukon**	**4.01**	**32**	P	**Pn**		**17 48 51.7**	**-0.4**
BERG	**Berg Lake**	**4.32**	**129**	P	**Pn**		**17 48 55.3**	**-1.0**
NICHA	**Nichawak Mount**	**4.34**	**131**	P	**Pn**		**17 48 55.6**	**-1.0**
EGAK	**Eagle**	**4.39**	**65**	P	**Pn**		**17 48 56.1**	**-1.0**
BALM	**Baldy**	**4.43**	**117**	P	**Pn**		**17 48 57.0**	**-0.9**
BALM				S	**Sn**		**17 49 46.3**	**-2.4**
KHIT	**Khitrov Hills**	**4.45**	**126**	P	**Pn**		**17 48 57.0**	**-1.1**
KIAG	**Kiagna River**	**4.49**	**118**	P	**Pn**		**17 48 57.5**	**-1.2**
ISLE	**Juniper Island**	**4.69**	**121**	P	**Pn**		**17 49 00.0**	**-1.3**
BARN	**Barnard Glacie**	**4.70**	**114**	P	**Pn**		**17 49 01.1**	**-0.4**
KULT	**Kultieth River**	**4.77**	**126**	P	**Pn**		**17 49 01.3**	**-1.1**
BAGL	**Bagley Icefiel**	**4.85**	**121**	P	**Pn**		**17 49 02.7**	**-0.7**
BM3	**Burnt Mountain**	**4.86**	**28**	P	**Pn**		**17 49 02.9**	**-0.5**
DAWY	**Dawson**	**5.02**	**76**	P	**Pn**		**17 49 05.1**	**-0.5**
MESA	**MESA**	**5.11**	**123**	P	**Pn**		**17 49 06.1**	**-0.9**
KAHC	**Katmai Hardscr**	**5.12**	**207**	P	**Pn**		**17 49 06.8**	**-0.2**
KARR	**Katmai Rainbow**	**5.19**	**205**	P	**Pn**		**17 49 08.5**	**+0.5**
RKAV	**Rock Avalanche**	**5.26**	**120**	P	**Pn**		**17 49 08.6**	**-0.4**
TOLK	**Toolik Lake Re**	**5.42**	**4**	*e*Pn	**Pn**		**17 49 11.8**	**+0.9**
CHX	**Chaix Hills**	**5.50**	**121**	P	**Pn**		**17 49 12.5**	**+0.4**
KDAK	**Kodiak Island**	**5.59**	**192**	P	**Pn**		**17 49 11.5**	**-1.6**
KDAK	2.2nm,0.3s,baz=59,slow=5.7,SNR=126			S	**Sn**		**17 50 10.6**	**-5.5**
KDAK	**Kodiak Island**	**5.59**	**192**	P	**Pn**		**17 49 11.1**	**-2.0**
SAMH	**Samovar Hills**	**5.59**	**120**	P	**Pn**		**17 49 13.5**	**+0.2**
BCPM	**Bancas Point**	**6.15**	**118**	P	**Pn**		**17 49 19.8**	**-1.0**
OHAK	**Old Harbor**	**6.21**	**194**	P	**Pn**		**17 49 19.7**	**-1.9**
PNL	**Peninsula**	**6.42**	**119**	P	**Pn**		**17 49 23.3**	**-1.1**
YUK7	**Dusty Glacier**	**6.45**	**109**	P	**Pn**		**17 49 23.8**	**-1.2**
HYT	**Haines Junctio**	**6.58**	**106**	P	**Pn**		**17 49 25.6**	**-1.1**
INK	**Inuvik**	**8.61**	**47**	P	**Pn**		**17 49 53.0**	**-0.6**
YKA	0.2nm,0.3s,baz=228,slow=16,SNR=8.6 **Yellowknife Ar**	**16.26**	**77**	P	**Pn**		**17 51 32.3**	**-0.5**
RES	0.2nm,0.3s,baz=283,slow=10,SNR=11 **Resolute Bay**	**21.93**	**36**	P	**P**		**17 52 36.0**	**+1.3**
PDAR	0.3nm,0.3s,baz=241,slow=19,SNR=3.7 **Pinedale Array**	**31.24**	**111**	P	**P**		**17 54 01.2**	**+1.7**
SPITS	0.4nm,0.7s,baz=303,slow=5.3,SNR=3.2 **Spitsbergen Ar**	**38.58**	**4**	P	**P**		**17 55 01.5**	**-0.2**
LTX	3.2nm,0.7s,baz=338,slow=11,SNR=9.0 **Lajitas**	**45.18**	**116**	*e*P	**P**		**17 55 57.8**	**+1.8**
TXAR	**Lajitas Array**	**45.18**	**116**	P	**P**		**17 55 57.8**	**+1.8**
ARA0	0.1nm,0.4s,baz=332,slow=7.5,SNR=3.0 **ARCESS Array S**	**47.46**	**2**	*e*P	**P**		**17 56 13.2**	**+0.1**
ARCES	**ARCESS Array B**	**47.46**	**2**	P	**P**		**17 56 13.2**	**+0.1**
JHJ	2.4nm,0.9s,baz=358,slow=9.0,SNR=4.2 **Hachijo jima 2**	**51.93**	**269**	LR	LR		18 16 33.1	
ZAA1	comp=Z,12nm,21.5s,baz=132,slow=33 **Zalesovo Array**	**55.44**	**324**	*e*P	**P**		**17 57 11.8**	**-0.9**
ZALV	**Zalesovo Beam**	**55.45**	**324**	P	**P**		**17 57 11.8**	**-0.9**
HFS	0.9nm,0.3s,baz=28,slow=4.3,SNR=5.5 **Hagfors**	**56.35**	**9**	P	**P**		**17 57 18.6**	**-0.4**
EKA	5.6nm,1.1s,baz=345,slow=4.5,SNR=4.0 **Eskdalemuir Ar**	**59.05**	**21**	P	**P**		**17 57 39.1**	**+1.1**
BVAR	0.2nm,0.4s,baz=334,slow=5.8,SNR=3.4 **Borovoye Array**	**59.73**	**333**	P	**P**		**17 57 42.2**	**-0.5**
KURK	1.1nm,0.6s,baz=36,slow=7.6,SNR=8.3 **Kurchatov**	**59.99**	**326**	*e*P	**P**		**17 57 44.5**	**+0.1**
KURBB	**Kurchatov Arra**	**60.09**	**326**	P	**P**		**17 57 44.5**	**-0.6**
MK32	0.6nm,0.5s,baz=28,slow=7.2,SNR=8.4 **Makanchi Array**	**62.61**	**322**	*e*P	**P**		**17 58 01.2**	**-1.0**
MKAR	**Makanchi Array**	**62.61**	**322**	P	**P**		**17 58 01.2**	**-1.0**
AKASG	0.6nm,0.4s,baz=44,slow=6.9,SNR=15 **Malin Array Be**	**66.39**	**0**	P	**P**		**17 58 26.0**	**-0.6**
AKASG	0.2nm,0.4s,baz=6,slow=6.7,SNR=3.1 **Malin Array Be**	**66.39**	**0**	P	**P**		**17 58 26.0**	**-0.6**

IDC 09 18:02:54.2±5.4, **6°.23S×146°.73E, h89**km±58km, **mb3.1**/2, **mb1 3.4**/4, **mb1mx3.0**/42, **mbtmp3.5**/4, **ML3.4**/1, **Error ellipse: s-maj=67.8km s-min=43.5km az=90.0, Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.19**	**172**	P		Pn	18 03 42.2	0.0
PMG	7.1nm,0.3s,baz=328,slow=6.9,SNR=35			S		Sn	18 04 19.8	+0.6
WRA	7.4nm,0.3s,baz=27,slow=8.0,SNR=4.9 **Warramunga Arr**	**18.18**	**220**	P		P	18 06 59.1	-0.8
ASAR	0.1nm,0.3s,baz=42,slow=11,SNR=6.9 **Alice Springs**	**21.28**	**214**	P		P	18 07 34.0	+0.4
CMAR	0.7nm,0.7s,baz=48,slow=9.1,SNR=12 **Chiang Mai Arr**	**53.12**	**298**	P		P	18 12 03.0	-0.1
TORD	0.5nm,0.5s,baz=115,slow=6.5,SNR=4.1 **Torodi Ar. Bea**	**144.88**	**284**	PKP		PKPbc	18 22 21.3	0.0
	0.5nm,0.6s,baz=71,slow=2.8,SNR=4.9							

*ISCJB **09** 18:18:11.9±0.3, 9°.87S±0°.03×107°.57E±0°.02, h23km, mb4.2/20, Error ellipse: s-maj=4.4km s-min=2.5km az=21.6*
*NEIC **09** 18:18:11.7±0.3, 9°.98S×107°.56E, h10km, mb4.5/9, Error ellipse: s-maj=7.5km s-min=5.5km az=221.0*
*DJA **09** 18:18:15.4±0.3, 10°.S±2°×10°.8E±1°, h101km±5km, M4.6/27, mb4.6/18, mB5.2/9, ML4.7/27, Mw(mB)4.5/9*
*IDC **09** 18:18:18.1±3.3, 9°.68S×107°.86E, h48km±28km, mb3.9/15, mb1 4.0/17, mb1mx3.7/63, mbtmp4.1/17, ML4.6/2, MS2.9/5, Ms1 2.8/5, ms1mx2.6/51, Error ellipse: s-maj=32.5km s-min=12.9km az=49.0*

ISC 09 18:18:14.0±0.6, **9°.85S**±0°.06×**107°.57E**±0°.05, **h23**km, **n86**, σ1**902**/115, **mb4.3**/20, **South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
XMIS	**Christmas Isla**	**1.98**	**251**	*e*Pn		**Pn**	**18 18 43.2**	**-3.0**
CISI	**Cisompet, Garu**	**2.29**	**6**	P		**Pn**	**18 18 50.8**	**+0.3**
CISI				S		**Sn**	**18 19 19.4**	**+1.4**
CISI	**Cisompet, Garu**	**2.29**	**6**	*e*Pn		**Pn**	**18 18 50.7**	**+0.3**
KPJI	**Karang Pucung**	**2.84**	**28**	P		**Pn**	**18 18 59.4**	**+1.4**
SKJI	**Sukabumi**	**3.00**	**340**	P		**Pn**	**18 19 00.7**	**+0.6**
SKJI				S		**Sn**	**18 19 37.6**	**+2.2**
LEM	**Lembang**	**3.00**	**1**	P		**Pn**	**18 19 01.9**	**+1.6**
LEM	72nm,0.3s,baz=331,slow=7.1,SNR=84			S		**Sb**	**18 19 39.6**	**-3.7**
LEM	47nm,0.3s,baz=355,slow=23,SNR=3.9			LR		LR	18 20 45.4	
LEM	comp=Z,231nm,18.2s,baz=202,slow=52 **Lembang**	**3.00**	**1**	P		**Pn**	**18 19 00.1**	**-0.3**
LEM				S		**Sn**	**18 19 37.2**	**+1.5**
UGM	**Wanagama**	**3.50**	**57**	P		**Pn**	**18 19 07.2**	**+0.1**
UGM	**Wanagama**	**3.50**	**57**	*e*Pn		**Pn**	**18 19 06.9**	**-0.1**
CGJI	**Cibinong**	**3.71**	**330**	P		**Pn**	**18 19 09.6**	**-0.3**
CGJI				S		**Sn**	**18 19 52.7**	**-0.3**
TNG	**Tangerang**	**3.77**	**346**	P		**Pn**	**18 19 10.8**	**+0.1**
TNG				P		**Pn**	**18 19 10.8**	**+0.1**
TNG				S		**Sn**	**18 19 54.9**	**+0.6**
TNG				S		Sb	18 19 55.3	-10
WOJI	**Wonogiri, Jawa**	**3.88**	**59**	P		**Pn**	**18 19 12.8**	**+0.6**
WOJI				S		**Sn**	**18 19 58.4**	**+1.4**
PCJI	**Pacitan**	**3.93**	**66**	P		**Pn**	**18 19 13.6**	**+0.7**
PCJI				S		**Sn**	**18 19 59.9**	**+1.6**
SBJI	**Serang**	**3.97**	**339**	P		**Pn**	**18 19 13.3**	**-0.2**
SBJI				S		**Sn**	**18 20 01.0**	**+1.7**
SMRI	**Semarang**	**3.98**	**46**	P		**Pn**	**18 19 14.2**	**+0.6**
SMRI				S		**Sn**	**18 20 00.7**	**+1.1**
SMRI	**Semarang**	**3.98**	**46**	*e*Pn		**Pn**	**18 19 15.5**	**+1.9**
BLSI	**Bandar Lampung**	**5.01**	**333**	S		**Sn**	**18 20 25.2**	**+0.1**
KASI	**Kota Agung**	**5.26**	**324**	P		**Pn**	**18 19 31.0**	**-0.3**
KASI	27nm,0.4s,1μm			S		**Sn**	**18 20 31.0**	**-0.3**
KLI	**Kotabumi**	**5.64**	**331**	P		**Pn**	**18 19 36.8**	**+0.4**
KLI				S		**Sn**	**18 20 41.2**	**+0.7**
GRJI	**Gresik**	**5.67**	**59**	P		**Pn**	**18 19 36.9**	**0.0**
GRJI				S		**Sn**	**18 20 42.1**	**+0.8**
LWLI	**Liwa**	**5.93**	**324**	P		**Pn**	**18 19 39.8**	**-0.7**
LWLI	55nm,0.7s,5μm			S		**Sn**	**18 20 47.6**	**-0.2**
GMJI	55nm,0.7s,5μm **Gumukmas**	**6.01**	**75**	P		**Pn**	**18 19 42.0**	**+0.4**
GMJI	69nm,1.0s			S		**Sn**	**18 20 51.0**	**+1.2**
MDSI	69nm,1.0s **Maura Dua**	**6.30**	**328**	P		**Pn**	**18 19 45.5**	**0.0**
MDSI	15nm,0.5s			S		**Sn**	**18 20 56.8**	**0.0**
BLJI	15nm,0.5

TIXI	**Tiksi**	**82.55**	**7**	*e*P	**P**	**18 30 34.1**	**+0.4**
	4.6nm,0.9s							
BR101	**Keskin Array S**	**84.13**	**312**	*e*P	**P**	**18 30 44.0**	**+0.4**
BRTR	**Keskin Array B**	**84.13**	**312**	P	**P**	**18 30 44.0**	**+0.4**
	0.6nm,0.7s,baz=120,slow=4.8,SNR=3.6							
ARA0	**ARCESS Array S**	**96.39**	**339**	*e*P	**P**	**18 31 40.8**	**+0.1**
ARCES	**ARCESS Array B**	**96.39**	**339**	P	**P**	**18 31 40.8**	**+0.1**
	1.5nm,0.8s,baz=90,slow=5.4,SNR=3.5							
YKA	**Yellowknife Ar**	**119.32**	**21**	PKP	**PKPdf**	**18 37 00.6**	**-0.5**
	0.3nm,0.7s,baz=313,slow=1.9,SNR=5.8							
LTX	**Lajitas**	**144.94**	**52**	*e*PKPbc	**PKPdf**	**18 37 51.0**	**+0.8**
TXAR	**Lajitas Array**	**144.94**	**52**	PKP	**PKPdf**	**18 37 51.0**	**+0.8**
	0.4nm,0.5s,baz=251,slow=2.8,SNR=7.4							

*CSEM **09** 18:21:00.4, 43°.30N×12°.64E, h9km, MD2.2/17*
ROM 09 18:21:00.4±0.1, 43°.30N×12°.64E, h9km, Md2.2/17, Ml1.7/13, Error ellipse: s-maj=0.6km s-min=0.6km az=82.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MURB	**Monte Urbino**	**0.09**	**245**	Pg	Pg	18 21 03.1	+0.4
MURB				Sg	Sg	18 21 05.2	+0.8
	4μm,0.3s						
MURB	**Monte Urbino**	**0.09**	**245**	Pg	Pg	18 21 03.1	+0.4
MURB				Sg	Sg	18 21 05.2	+0.8
	4μm,0.3s						
ATCC	**AVT- Casa Cast**	**0.12**	**178**	Pg	Pg	18 21 03.6	+0.5
ATCC				Sg	Sg	18 21 06.1	+1.1
	630nm,0.1s						
ATCC	**AVT- Casa Cast**	**0.12**	**178**	Pg	Pg	18 21 03.6	+0.5
ATCC				Sg	Sg	18 21 06.1	+1.1
	630nm,0.1s						
ATVO	**AVT- Monte Val**	**0.18**	**296**	Pg	Pg	18 21 04.8	+0.5
ATVO				Sg	Sg	18 21 08.2	+1.3
	115nm,0.3s						
ATVO	**AVT- Monte Val**	**0.18**	**296**	Pg	Pg	18 21 04.8	+0.5
ATVO				Sg	Sg	18 21 08.2	+1.3
	115nm,0.3s						
ATPC	**Poggio Castell**	**0.22**	**324**	Pg	Pg	18 21 05.6	+0.7
ATPC				Sg	Sg	18 21 09.7	+1.7
	117nm,0.2s						
ATPC	**Poggio Castell**	**0.22**	**324**	Pg	Pg	18 21 05.6	+0.7
ATPC				Sg	Sg	18 21 09.7	+1.7
	117nm,0.2s						
FRON	**Frontone**	**0.23**	**17**	Pg	Pg	18 21 05.5	+0.5
FRON				Sg	Sg	18 21 09.8	+1.7
	104nm,0.2s						
FRON	**Frontone**	**0.23**	**17**	Pg	Pg	18 21 05.5	+0.5
FRON				Sg	Sg	18 21 09.8	+1.7
	104nm,0.2s						
SNTG	**Esanatoglia**	**0.23**	**102**	Pg	Pg	18 21 05.6	+0.6
SNTG				Sg	Sg	18 21 09.7	+1.5
	201nm,0.2s						
SNTG	**Esanatoglia**	**0.23**	**102**	Pg	Pg	18 21 05.6	+0.6
SNTG				Sg	Sg	18 21 09.7	+1.5
	201nm,0.2s						
ATTE	**AVT- Monte Tez**	**0.23**	**243**	Pg	Pg	18 21 05.6	+0.5
ATTE				Sg	Sg	18 21 09.3	+1.1
	176nm,0.3s						
ATTE	**AVT- Monte Tez**	**0.23**	**243**	Pg	Pg	18 21 05.6	+0.5
ATTE				Sg	Sg	18 21 09.3	+1.1
	176nm,0.3s						
PIEI	**Pieia**	**0.25**	**343**	Pg	Pg	18 21 06.0	+0.6
PIEI				Sg	Sg	18 21 10.3	+1.6
PIEI	**Pieia**	**0.25**	**343**	Pg	Pg	18 21 06.0	+0.6
PIEI				Sg	Sg	18 21 10.3	+1.6
ARVD	**Arcevia**	**0.30**	**48**	Pg	Pg	18 21 06.9	+0.6
ARVD				Sg	Sb	18 21 12.0	-1.0
	68nm,0.3s						
ARVD	**Arcevia**	**0.30**	**48**	Pg	Pg	18 21 06.9	+0.6
ARVD				Sg	Sb	18 21 12.0	-1.0
	68nm,0.3s						
MPAG	**Monte Paganucc**	**0.34**	**15**	Pg	Pg	18 21 07.7	+0.5
MPAG				Sg	Sb	18 21 13.6	-0.7
	41nm,0.3s						
MPAG	**Monte Paganucc**	**0.34**	**15**	Pg	Pg	18 21 07.7	+0.5
MPAG				Sg	Sb	18 21 13.6	-0.7
	41nm,0.3s						
BADI	**Badiali**	**0.35**	**306**	Pg	Pg	18 21 08.1	+0.7
BADI				Sg	Sb	18 21 14.1	-0.5
	68nm,0.3s						
BADI	**Badiali**	**0.35**	**306**	Pg	Pg	18 21 08.1	+0.7
BADI				Sg	Sb	18 21 14.1	-0.5
	68nm,0.3s						
ATMC	**Monte Cedrone**	**0.35**	**294**	Pg	Pg	18 21 08.1	+0.7
ATMC				Sg	Sb	18 21 14.0	-0.7
	36nm,0.3s						
ATMC	**Monte Cedrone**	**0.35**	**294**	Pg	Pg	18 21 08.1	+0.7
ATMC				Sg	Sb	18 21 14.0	-0.7
	36nm,0.3s						
CESI	**CESI - Serrava**	**0.36**	**146**	Pg	Pg	18 21 07.8	+0.4
CESI				Sg	Sb	18 21 14.0	-0.7
	25nm,0.5s						
CESI	**CESI - Serrava**	**0.36**	**146**	Pg	Pg	18 21 07.8	+0.4
CESI				Sg	Sb	18 21 14.0	-0.7
	25nm,0.5s						
FSSB	**Fossombrone**	**0.41**	**15**	Pg	Pg	18 21 08.9	+0.6
FSSB				Sg	Sb	18 21 15.7	-0.4
	118nm,0.4s						
FSSB	**Fossombrone**	**0.41**	**15**	Pg	Pg	18 21 08.9	+0.6
FSSB				Sg	Sb	18 21 15.7	-0.4
	118nm,0.4s						
CING	**Cingoli**	**0.42**	**79**	Pg	Pg	18 21 09.1	+0.6
CING				Sg	Sb	18 21 16.2	-0.2
CING	**Cingoli**	**0.42**	**79**	Pg	Pg	18 21 09.1	+0.6
CING				Sg	Sb	18 21 16.2	-0.2
PARC	**Parchiule**	**0.45**	**320**	Pg	Pb	18 21 10.0	-0.6
PARC	**Parchiule**	**0.45**	**320**	Pg	Pb	18 21 10.0	-0.6
NRCA	**Norcia**	**0.58**	**143**	Pg	Pg	18 21 11.9	+0.2
NRCA				Sg	Sb	18 21 21.2	-0.1
	44nm,0.1s						
NRCA	**Norcia**	**0.58**	**143**	Pg	Pg	18 21 11.9	+0.2
NRCA				Sg	Sb	18 21 21.2	-0.1
	44nm,0.1s						
SACS	**San Casciano d**	**0.70**	**230**	Pg	Pg	18 21 14.2	+0.3

*CSEM **09** 18:21:38.1, 42°.24N×13°.59E, h6km, MD2.2/2*
ROM 09 18:21:38.1±0.1, 42°.24N×13°.59E, h6km±1km, Md2.2/2, Ml1.7/1, Error ellipse: s-maj=1.4km s-min=1.4km az=11.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAGN	**Fagnano**	**0.03**	**355**	Pg	Pg	18 21 39.5	+0.2
FAGN	**Fagnano**	**0.03**	**355**	Pg	Pg	18 21 39.5	+0.2
FAGN				Sg	Sg	18 21 39.9	-0.3
AQU	**L'Aquila**	**0.18**	**310**	Pg	Pg	18 21 42.5	+0.8
AQU				Sg	Sg	18 21 45.7	+1.6
	289nm,1.0s						
AQU	**L'Aquila**	**0.18**	**310**	Pg	Pg	18 21 42.5	+0.8
AQU				Sg	Sg	18 21 45.7	+1.6
	289nm,1.0s						
T0104	**Madonna delle**	**0.22**	**303**	Pg	Pg	18 21 43.4	+0.9
T0104				Sg	Sg	18 21 47.2	+1.8
VCEL	**Villa Celiera**	**0.24**	**50**	Pg	Pg	18 21 44.0	+1.1
VCEL	**Villa Celiera**	**0.24**	**50**	Pg	Pg	18 21 44.0	+1.1
PTQR	**Pietraquaria**	**0.26**	**213**	Pg	Pg	18 21 44.1	+0.9
PTQR				Sg	Sb	18 21 48.5	-1.5
PTQR	**Pietraquaria**	**0.26**	**213**	Pg	Pg	18 21 44.1	+0.9
PTQR				Sg	Sb	18 21 48.5	-1.5
CAMP	**Campotosto**	**0.33**	**336**	Pg	Pb	18 21 45.6	-0.8
CAMP	**Campotosto**	**0.33**	**336**	Pg	Pb	18 21 45.6	-0.8
FIAM	**Fiamignano**	**0.35**	**275**	Pg	Pg	18 21 45.7	+0.8
FIAM				Sg	Sg	18 21 51.1	+1.5
FIAM	**Fiamignano**	**0.35**	**275**	Pg	Pg	18 21 45.7	+0.8
FIAM				Sg	Sg	18 21 51.1	+1.5
SMA1	**SAN MARTINO**	**0.43**	**335**	Pg	Pb	18 21 47.7	-0.6
SMA1				Sg	Sb	18 21 55.3	+0.2
SMA1	**SAN MARTINO**	**0.43**	**335**	Pg	Pb	18 21 47.7	-0.6
SMA1				Sg	Sb	18 21 55.3	+0.2
LPEL	**Lama dei Pelig**	**0.48**	**113**	Pg	Pb	18 21 48.5	-0.6
LPEL				Sg	Sb	18 21 56.0	-0.5
LPEL	**Lama dei Pelig**	**0.48**	**113**	Pg	Pb	18 21 48.5	-0.6
LPEL				Sg	Sb	18 21 56.0	-0.5
NRCA	**Norcia**	**0.69**	**330**	Pg	Pg	18 21 51.3	-0.1
NRCA				Sg	Sb	18 22 01.7	-0.7
NRCA	**Norcia**	**0.69**	**330**	Pg	Pg	18 21 51.3	-0.1
NRCA				Sg	Sb	18 22 01.7	-0.7

*IDC **09** 18:25:34.9±8.4, 36°.99N×71°.84E, h120km±32km, mb3.4/4, mb1 3.5/9, mb1mx3.1/66, mbtmp3.9/9, MS3.2/2, Ms1 3.2/2, ms1mx2.3/43, Error ellipse: s-maj=118.8km s-min=28.8km az=154.0*
*ISCJB **09** 18:25:35.2±0.4, 37°.05N±0°.04×71°.77E±0°.06, h142km, mb3.6/4, Error ellipse: s-maj=7.7km s-min=4.0km az=146.9*
*NNC **09** 18:25:40.3±2.3, 37°.51N×71°.59E, h162km±20km, mb3.1, mpv4.0, Error ellipse: s-maj=22.4km s-min=8.2km az=159.0*
ISC 09 18:25:34.9±0.7, 37°.03N±0°.05×71°.78E±0°.06, h142km, n39, σ2°54/49, mb3.7/4, 9C-6D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**2.93**	**308**	⇑P	**Pn**	**18 26 22.5**	**+1.4**
	94nm,0.4s						
DZET				⇑S	**Sn**	**18 26 55.9**	**-0.9**
	77nm,0.5s						
SFK	**Sufi-Kurgan**	**3.27**	**24**	⇓P	**Pn**	**18 26 27.8**	**+2.2**
	10.0nm,0.3s						
SFK				⇑S	**Sn**	**18 27 04.0**	**-0.8**
	60nm,0.3s						
AML	**Almayashu**	**5.30**	**16**	P	**Pn**	**18 26 53.6**	**+1.2**
	SNR=82						
MNAS	**Manas**	**5.48**	**6**	⇓P	**Pn**	**18 26 55.5**	**+0.9**
	18nm,0.3s						
MNAS				⇑S	**Sn**	**18 27 52.8**	**-4.0**
	33nm,0.6s						
UCH	**Uchtor**	**5.60**	**21**	P	**Pn**	**18 26 57.7**	**+1.2**
	SNR=37						
KZA	**Kyzart**	**5.71**	**27**	P	**Pn**	**18 26 58.5**	**+0.6**
	SNR=14						
EKS2	**Erkin-Say**	**5.83**	**15**	P	**Pn**	**18 27 00.7**	**+1.5**
	SNR=56						
AAK	**Ala-Archa**	**5.97**	**20**	P	**Pn**	**18 27 02.6**	**+1.3**
	6.2nm,0.3s,baz=186,slow=8.9,SNR=104						
AAK				S	**Sn**	**18 28 05.7**	**-3.0**
	2.2nm,0.3s,baz=137,slow=22,SNR=12						
AAK	**Ala-Archa**	**5.97**	**20**	⇓P	**Pn**	**18 27 02.5**	**+1.3**
	5.6nm,0.3s						
AAK				⇑S	**Sn**	**18 28 05.5**	**-3.2**
	15nm,0.7s						
AAK	**Ala-Archa**	**5.97**	**20**	P	**Pn**	**18 27 02.6**	**+1.3**
	SNR=28						
DHRM	**DHARAMSHALA**	**6.05**	**141**	*e*P	**Pn**	**18 27 03.7**	**+1.3**
DHRM				*e*S	**Sn**	**18 28 09.6**	**-1.1**
DHRM				IAML		18 28 14.0	
	comp=E,404nm,0.1s						
DHRM				IAML		18 28 15.2	
	comp=N,318nm,0.2s						
KBK	**Karagaybulak**	**6.12**	**22**	P	**Pn**	**18 27 05.3**	**+2.1**
	SNR=7.1						
KK31	**Karatay Array**	**6.14**	**351**	⇑P	**Pn**	**18 27 04.4**	**+1.1**
	comp=N,5.6nm,0.3s,baz=177,slow=13,SNR=166						
KK31				⇑S	**Sn**	**18 28 07.5**	**-5.0**
	comp=N,30nm,0.5s,baz=167,slow=21,SNR=39						
CHMS	**Chumysh**	**6.38**	**20**	P	**Pn**	**18 27 07.9**	**+1.4**
	SNR=11						
TKM2	**Tokmak 2**	**6.57**	**25**	⇓P	**Pn**	**18 27 09.8**	**+0.6**
	comp=N,3.7nm,0.5s						
TKM2				⇓S	**Sn**	**18 28 19.5**	**-3.6**
	comp=N,3.7nm,0.7s						
TKM2	**Tokmak 2**	**6.57**	**25**	P	**Pn**	**18 27 10.3**	**+1.0**
	SNR=11						
SMLA	**Simla**	**7.39**	**141**	*e*P	**Pn**	**18 27 22.8**	**+2.7**
SMLA				*e*S	**Sn**	**18 28 39.9**	**-2.7**
SMLA				IAML		18 28 42.5	
	comp=E,186nm,0.0s						
SMLA				IAML		18 28 44.0	
JOSI	**Joshimath**	**9.14**	**133**	*e*P	**Pn**	**18 27 46.5**	**+2.7**
JOSI				*e*S	**Sn**	**18 29 20.4**	**-4.8**
JOSI				IAML		18 29 29.2	
	comp=N,60nm,0.3s						
JOSI				IAML		18 29 31.3	
	comp=E,72nm,0.5s						
KHET	**Khetri**	**9.56**	**158**	*e*S	**Sn**	**18 29 29.2**	**-5.8**
KHET				IAML		18 29 34.5	
	comp=N,8.8nm,1.4s						
KHET				IAML		18 29 36.0	
	comp=E,9.4nm,0.3s						
KUDL	**Kundal**	**9.71**	**155**	*e*S	**Sn**	**18 29 34.9**	**-3.8**
KUDL				IAML		18 29 36.2	
	comp=E,11nm,0.8s						
KUDL				IAML		18 29 36.7	
	comp=N,6.0nm,0.3s						
GEYT	**Alibeck**	**10.90**	**279**	P	**Pn**	**18 28 07.1**	**+0.2**
	comp=N,0.4nm,0.3s,baz=101,slow=21,SNR=7.9						
GEYT				S	**Sn**	**18 30 03.0**	**-4.2**
	comp=N,0.9nm,0.3s,baz=105,slow=15,SNR=4.9						
PYUN	**Piuthan**	**12.98**	**130**	*e*P	**Pn**	**18 28 34.6**	**+0.3**
	comp=N,16nm,0.3s						
GKN	**Gorkha**	**14.09**	**126**	*e*P	**Pn**	**18 28 49.4**	**+1.1**
	comp=N,8.1nm,0.2s						
KURBB	**Kurchatov Arra**	**14.42**	**17**	P	Pn	18 28 49.5	-2.7
	comp=N,0.0nm,0.3s,baz=204,slow=11,SNR=3.4						
KKN	**Kakani**	**14.65**	**125**	*e*P	**Pn**	**18 28 56.2**	**+0.7**
	comp=N,7.9nm,0.4s						
DMN	**Daman**	**14.66**	**126**	*e*P	**Pn**	**18 28 56.6**	**+1.0**
	comp=N,8.1nm,0.4s						
PKIN	**Phulchoki**	**14.87**	**125**	*e*P	**Pn**	**18 28 59.6**	**+1.3**
	comp=N,7.7nm,0.4s						
AB31	**Akbulak array**	**14.94**	**329**	⇓P	**Pn**	**18 28 58.9**	**+0.2**
	comp=N,1.5nm,0.5s,baz=139,slow=13,SNR=42						
AB31				S	Sn	18 31 35.2	-9.0
	comp=N,5.1nm,0.8s,baz=140,slow=22,SNR=12						
GUN	**Gumba**	**14.96**	**123**	*e*P	**Pn**	**18 28 59.8**	**+0.2**
JIRN	**Jiri**	**15.34**	**123**	*e*P	**Pn**	**18 29 05.7**	**+1.5**
	comp=N,30nm,0.3s						
BVAR	**Borovoye Array**	**16.02**	**357**	P	**Pn**	**18 29 12.0**	**0.0**
	comp=N,0.5nm,0.3s,baz=169,slow=10,SNR=12						
AKTO	**Aktyubinsk**	**16.65**	**328**	P	**Pn**	**18 29 21.9**	**+2.2**
	comp=N,1.0nm,0.3s,baz=142,slow=9.4,SNR=11						
AKTO	**Aktyubinsk**	**16.65**	**328**	⇑P	**P**	**18 29 21.6**	**+2.0**
	comp=N,2.5nm,0.5s						
AKTO				⇑S	**S**	**18 32 19.1**	**-6.0**
	comp=N,2.4nm,0.6s						
ZALV	**Zalesovo Beam**	**19.17**	**24**	P	**P**	**18 29 48.6**	**+1.4**
	comp=N,1.2nm,0.3s,baz=213,slow=10,SNR=18						
FINES	**FINESS Array B**	**37.40**	**326**	P	**P**	**18 32 36.5**	**+3.0**
	comp=N,0.3nm,0.3s,baz=116,slow=9.8,SNR=6.2						
ARCES	**ARCESS Array B**	**40.90**	**337**	P	**P**	**18 33 04.3**	**+1.7**
	comp=N,2.9nm,1.0s,baz=114,slow=9.0,SNR=4.0						
ARCES				LR	LR	18 51 04.0	
	comp=N,50nm,19.4s,baz=78,slow=37						
HFS	**Hagfors**	**43.04**	**322**	P	**P**	**18 33 23.0**	**+2.9**
	comp=N,2.7nm,1.0s,baz=81,slow=9.2,SNR=6.5						
NOA	**NORSAR Array B**	**44.34**	**323**	P	**P**	**18 33 33.2**	**+2.7**
	comp=N,1.0nm,0.8s,baz=76,slow=7.6,SNR=3.0						
SPITS	**Spitsbergen Ar**	**47.12**	**347**	LR	LR	18 56 32.6	
	comp=N,16nm,19.6s,baz=325,slow=39						

MAN 09 18:35:19, 10°.07N×123°.21E, h30km, mb4.2, ML3.0, MS2.6, Cebu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIM	**Jordan**	**0.83**	**312**	*e*P	Pb	18 35 34.9	+0.1
GUIM				*e*S	Sn	18 35 47.3	+1.5
MSLP	**Maasin**	**1.62**	**88**	*e*P	Pn	18 35 46.9	+1.3
MSLP				*e*S	Sn	18 36 06.5	+0.9

MAN 09 18:43:49, 9°.85N×123°.03E, h32km, mb4.1, ML2.9, MS2.6, Negros

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNPH	**Sibulan**	**0.54**	**157**	*e*P	Pn	18 44 02.1	+1.5
SNPH				*i* S	Sn	18 44 10.8	+2.1
GUIM	**Jordan**	**0.89**	**331**	*e*P	Pb	18 44 05.9	0.0
GUIM				*e*S	Sb	18 44 18.5	+1.0
MSLP	**Maasin**	**1.83**	**81**	*e*P	Pn	18 44 19.6	+1.4
MSLP				*e*S	Sn	18 44 41.6	+1.3

*SJA **09** 18:44:57.9±0.7, 22°.21S×67°.18W, h195km±7km, ML3.5, MW3.5*
*IDC **09** 18:44:58.6±2.0, 22°.30S×67°.12W, h170km±18km, mb3.6/6, mb1 3.6/9, mb1mx3.4/38, mbtmp4.0/9, Error ellipse: s-maj=23.3km s-min=14.9km az=76.0*
*ISCJB **09** 18:44:59.0±0.3, 22°.31S±0°.03×67°.20W±0°.03, h191km±4km, mb3.7/6, Error ellipse: s-maj=6.1km s-min=3.7km az=33.8*

*GUC **09** 18:45:00.2±0.5, 22°.22S×67°.70W, h230km±7km, ML4.5*
ISC 09 18:44:59.9±0.7, 22°.28S±0°.04×67°.18W±0°.04, h186km±7km, n35, σ1°39/54, mb3.8/6, 9C, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YJA	**Yavi**	**1.54**	**87**	*e*P	**Pn**	**18 45 33.6**	**+0.3**
YJA				*e*S	**Sn**	**18 45 58.8**	**-0.2**
YJA				IAML		18 45 59.9	
	comp=Z,281nm,0.3s						
HJA	**Humahuaca**	**1.88**	**120**	*e*P	**Pn**	**18 45 36.9**	**+0.4**
HJA				*e*S	**Sn**	**18 46 05.6**	**+0.7**
HJA				IAML		18 46 07.8	
	comp=Z,123nm,0.4s						
PB09	**IPOC Station P**	**1.98**	**284**	⇑*i*P	**Pn**	**18 45 38.3**	**+0.9**
PB09				*i* S	**Sn**	**18 46 07.1**	**+0.7**
PB09				IAML		18 46 08.0	
	comp=N,3μm,0.1s						
PB06	**IPOC Station P**	**2.26**	**259**	*e*P	**Pn**	**18 45 40.5**	**+0.1**
PB06				*e*S	**Sn**	**18 46 11.5**	**-0.3**
PB06				IAML		18 46 13.9	
	comp=E,834nm,0.3s						
PB01	**IPOC Station P**	**2.48**	**299**	⇑*i*P	**Pn**	**18 45 42.8**	**0.0**
PB01				*e*S	**Sn**	**18 46 15.6**	**-0.6**
PB01				IAML		18 46 18.9	
	comp=E,1μm,0.2s						
PB07	**IPOC Station P**	**2.58**	**282**	*e*P	**Pn**	**18 45 44.0**	**0.0**
PB07				*e*S	**Sn**	**18 46 16.8**	**-1.5**
PB07				IAML		18 46 18.0	
	comp=E,1μm,0.1s						
PB02	**IPOC Station P**	**2.70**	**290**	⇑*i*P	**Pn**	**18 45 45.2**	**-0.2**
PB02				*i* S	**Sn**	**18 46 19.0**	**-1.8**
PB02				IAML		18 46 20.4	
	comp=N,2μm,0.2s						
AZAP	**Zapla**	**2.74**	**135**	*e*P	**Pn**	**18 45 46.0**	**0.0**
AZAP				IAML		18 45 47.2	
	comp=Z,154nm,0.5s						
AZAP				*e*S	**Sn**	**18 46 21.9**	**-0.1**
PB04	**IPOC Station P**	**2.75**	**268**	⇑*i*P	**Pn**	**18 45 46.0**	**-0.2**
PB04				*i* S	**Sn**	**18 46 20.0**	**-2.1**
PB04				IAML		18 46 22.2	
	comp=N,2μm,0.1s						
PB08	**IPOC Station P**	**2.81**	**319**	⇑*i*P	**Pn**	**18 45 48.1**	**+1.1**
PB08				*i* S	**Sn**	**18 46 24.5**	**+0.7**
PB08				IAML		18 46 25.1	
	comp=N,750nm,0.4s						
ASTB	**Santa Barbara**	**3.01**	**124**	*e*P	**Pn**	**18 45 49.0**	**-0.1**
ASTB				*e*S	**Sn**	**18 46 26.4**	**-1.1**
GO01	**Chusmiza**	**3.21**	**324**	⇑*i*P	**Pn**	**18 45 52.8**	**+0.9**
GO01				*i* S	**Sn**	**18 46 32.6**	**+0.3**
GO01				IAML		18 46 39.9	
	comp=N,885nm,0.5s						
ANCH	**Antofagasta**	**3.29**	**244**	*e*P	Pn	18 46 01.3	+8.9
ANCH				*e*S	**Sn**	**18 46 39.6**	**+6.2**
ALOL	**LOMAS DE OLMED**	**3.32**	**118**	*e*P	**Pn**	**18 45 51.9**	**-0.8**
ALOL				*e*S	**Sn**	**18 46 32.6**	**-1.4**
PB10	**IPOC Station P**	**3.35**	**248**	*e*P	**Pn**	**18 45 52.5**	**-0.6**
PB10				*e*S	**Sn**	**18 46 32.7**	**-2.0**
PB10	**IPOC Station P**	**3.35**	**248**	⇑*i*P	**Pn**	**18 45 52.6**	**-0.6**
PB10				*i* S	**Sn**	**18 46 31.6**	**-3.1**
PB11	**IPOC Station P**	**3.41**	**317**	⇑*i*P	**Pn**	**18 45 53.4**	**-0.6**
PB11				*i* S	**Sn**	**18 46 34.5**	**-1.9**
GO02	**Mina Guanaco**	**3.63**	**217**	*e*P	**Pn**	**18 45 56.6**	**-0.2**
GO02				*i* S	**Sn**	**18 46 40.0**	**-1.4**
PB14	**IPOC Station P**	**3.78**	**231**	*e*P	**Pn**	**18 45 58.3**	**-0.4**
PSGC	**Pisagua**	**3.83**	**313**	*e*P	**Pn**	**18 45 57.7**	**-1.6**
MNMC	**Minye Minye**	**3.86**	**324**	⇑*i*P	**Pn**	**18 45 59.7**	**-0.1**
MNMC				*i* S	**Sn**	**18 46 45.0**	**-1.6**
FSA	**Cafayete**	**3.97**	**164**	*e*P	**Pn**	**18 46 00.9**	**-0.2**
LPAZ	**La Paz**	**6.02**	**351**	P	**Pn**	**18 46 28.1**	**+0.1**
	comp=N,1.9nm,0.3s,baz=152,slow=4.6,SNR=29						
LPAZ				S	**Sn**	**18 47 35.5**	**-1.7**
	comp=N,0.4nm,0.3s,baz=148,slow=24,SNR=4.4						
CPUP	**Villa Florida**	**9.85**	**116**	P	**Pn**	**18 47 15.4**	**-1.9**
	comp=N,0.2nm,0.3s,baz=304,slow=3.6,SNR=2.4						
PLCA	**Paso Flores**	**18.62**	**188**	P	**P**	**18 49 03.0**	**-0.5**
	comp=N,0.3nm,0.3s,baz=18,slow=9.6,SNR=9.7						
QSPA	**South Pole Qui**	**67.92**	**180**	P	**P**	**18 55 38.9**	**+0.6**
	comp=N,2.8nm,0.6s,baz=127,slow=5.1,SNR=7.7						
KOWA	**Kowa**	**71.86**	**65**	P	**P**	**18 56 05.0**	**+2.1**
	comp=N,0.8nm,0.4s,baz=220,slow=7.9,SNR=2.7						
PDAR	**Pinedale Array**	**75.59**	**329**	P	**P**	**18 56 25.2**	**+0.8**
	comp=N,0.2nm,0.4s,baz=129,slow=8.2,SNR=2.8						
TORD	**Torodi Ar. Bea**	**76.11**	**69**	P	**P**	**18 56 26.6**	**-1.1**
	comp=N,1.1nm,0.5s,baz=259,slow=5.6,SNR=18						
BOSA	**Boshof**	**81.66**	**117**	P	**P**	**18 56 57.5**	**-0.3**
	comp=N,1.9nm,0.8s,baz=247,slow=7.7,SNR=5.6						
YKA	**Yellowknife Ar**	**92.46**	**340**	P	**P**	**18 57 49.2**	**+0.2**
	comp=N,0.3nm,0.5s,baz=132,slow=4.7,SNR=8.9						
ASAR	**Alice Springs**	**129.94**	**205**	PKP	**PKPdf**	**19 03 47.9**	**-0.2**
	comp=N,0.4nm,0.4s,baz=130,slow=1.9,SNR=10						
WRA	**Warramunga Arr**	**133.07**	**208**	PKP	**PKPdf**	**19 03 54.3**	**+0.3**
	comp=N,0.4nm,0.3s,baz=151,slow=1.9,SNR=13						
ZALV	**Zalesovo Beam**	**141.94**	**27**	PKP	**PKPdf**	**19 04 09.2**	**0.0**
	comp=N,0.7nm,0.6s,baz=279,slow=3.6,SNR=3.3						
MKAR	**Makanchi Array**	**145.28**	**38**	PKPbc	**PKPdf**	**19 04 15.9**	**+0.5**
	comp=N,0.6nm,0.6s,baz=320,slow=3.2,SNR=7.4						

*NIED **09** 18:48:00, 38°.30N×142°.10E, h35km, Mw3.7 Best double couple: M03.60000×10^14 NP1:φ297.00000°, δ39.00000°, λ-149.00000°. NP2:φ182.00000°, δ71.00000°, λ-55.00000°.*
*JMA **09**

MKAR	**Makanchi Array**	**44.01**	**301**	P		**P**	**18 56 22.1**	**+1.0**
	0.3nm,0.5s,baz=64,slow=9.6,SNR=8.4							
KURBB	**Kurchatov Arra**	**45.75**	**307**	P		**P**	**18 56 35.2**	**+0.4**
	1.3nm,0.8s,baz=83,slow=8.2,SNR=9.5							
BVAR	**Borovoye Array**	**50.22**	**312**	P		**P**	**18 57 10.5**	**+1.1**
	0.2nm,0.5s,baz=72,slow=9.6,SNR=2.3							
HNR	**Honiara**	**50.25**	**157**	LR		LR	19 14 58.8	
	comp=Z,18nm,20.7s,baz=165,slow=32							
WRA	**Warramunga Arr**	**58.35**	**189**	P		**P**	**18 58 09.5**	**+0.6**
	0.1nm,0.4s,baz=7.1,slow=7.1,SNR=4.6							
ASAR	**Alice Springs**	**62.08**	**189**	P		**P**	**18 58 34.6**	**+0.2**
	0.2nm,0.7s,baz=358,slow=5.3,SNR=6.2							

MAN 09 18:49:04,9.98N×123.15E,h28km,mb4.2,ML3.1,MS2.8, 1D,Negros

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNPH	**Sibulan**	**0.64**	**173**	⇓*e*P	Pn	18 49 17.6	+0.3
SNPH				*e*S	Sn	18 49 27.6	+1.1
GUIM	**Jordan**	**0.85**	**319**	*e*P	Pn	18 49 20.0	-0.1
GUIM				*e*S	Sn	18 49 32.5	+0.9
MSLP	**Maasin**	**1.69**	**85**	*e*P	Pn	18 49 31.6	0.0
MSLP				*e*S	Sn	18 49 53.4	+1.0

*ISCJB **09** 18:54:40.2±0.6,37.30N±0.03×28.89E±0.06,h10km±8km, Error ellipse: s-maj=7.4km s-min=5.1km az=177.9*
*ISK **09** 18:54:40.0,37.31N×28.89E,h10km, ML2.8/6*
*CSEM **09** 18:54:40.3±0.1,37.31N×28.90E,h10km,ML2.8,Error ellipse: s-maj=3.8km s-min=2.9km az=67.0*
*DDA **09** 18:54:40.5,37.31N×28.92E,h7km,Ml2.7*
ISC 09 18:54:40.3±0.9,37.30N±0.03×28.87E±0.04,h11km±8km, n20,σ0.26/28,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAVA	**DENIZLI_Tavas**	**0.17**	**11**	*i*P	**Pg**	**18 54 43.8**	**-0.3**
TAVA				*i*S	**Sg**	**18 54 47.0**	**+0.2**
TAVA	**DENIZLI_Tavas**	**0.17**	**11**	P	**Pg**	**18 54 43.8**	**-0.3**
TAVA				S	**Sg**	**18 54 47.0**	**+0.2**
DENT	**Denizli**	**0.47**	**16**	PG	**Pg**	**18 54 49.6**	**+0.1**
DENT				SG	**Sg**	**18 54 56.3**	**+0.6**
DENT	**Denizli**	**0.47**	**16**	*e*Pg	**Pg**	**18 54 49.6**	**+0.1**
DENT				*e*Sg	**Sg**	**18 54 56.3**	**+0.6**
DALY	**Dalyan (Mu˘la**	**0.52**	**200**	PG	**Pg**	**18 54 50.2**	**-0.2**
DALY				SG	**Sb**	**18 54 58.6**	**-0.2**
DALY	**Dalyan (Mu˘la**	**0.52**	**200**	*e*Pg	**Pg**	**18 54 50.2**	**-0.2**
DALY				*e*Sg	**Sb**	**18 54 58.6**	**-0.2**
GOLH	**Golhisar**	**0.55**	**97**	*i*P	**Pg**	**18 54 50.7**	**-0.4**
GOLH	**Golhisar**	**0.55**	**97**	P	**Pg**	**18 54 50.7**	**-0.4**
FETY	**Fethiye**	**0.69**	**166**	PG	**Pg**	**18 54 53.6**	**0.0**
FETY	**Fethiye**	**0.69**	**166**	*e*Pg	**Pg**	**18 54 53.6**	**0.0**
MLSB	**Milas**	**0.88**	**270**	PG	**Pb**	**18 54 57.7**	**+0.2**
MLSB	**Milas**	**0.88**	**270**	*e*Pg	**Pb**	**18 54 57.7**	**+0.2**
ELL	**Elmali**	**1.00**	**123**	PG	**Pb**	**18 54 59.8**	**+0.2**
ELL	**Elmali**	**1.00**	**123**	*e*Pg	**Pb**	**18 54 59.8**	**+0.2**
AYDB	**Zeytinkoy-Aydi**	**1.01**	**310**	PG	**Pg**	**18 54 59.7**	**-0.1**
AYDB				SG	**Sn**	**18 55 14.7**	**-0.1**
AYDB	**Zeytinkoy-Aydi**	**1.01**	**310**	*e*Pg	**Pg**	**18 54 59.7**	**-0.1**
AYDB				*e*Sg	**Sn**	**18 55 14.7**	**-0.1**
AKAS	**Kas**	**1.22**	**151**	PN	**Pg**	**18 55 03.9**	**+0.2**
AKAS	**Kas**	**1.22**	**151**	*e*Pn	**Pg**	**18 55 03.9**	**+0.2**
KULA	**Kula-Manisa**	**1.22**	**352**	PN	**Pn**	**18 55 03.2**	**-0.2**
KULA	**Kula-Manisa**	**1.22**	**352**	*e*Pn	**Pn**	**18 55 03.2**	**-0.2**

MEX 09 18:55:33.5±0.4,17.52N×101.00W,h16km±6km,MD3.9, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.46**	**281**	*e*P	Pg	18 55 40.9	-1.7
ZIIG				*e*S	Sg	18 55 47.4	-1.5
CAIG	**El Cayaco**	**0.84**	**124**	*i*P	Pb	18 55 46.6	-3.1
CAIG				*e*S	Sb	18 55 56.8	-4.0
ARIG	**Puente Sto Nin**	**0.98**	**39**	*i*P	Pb	18 55 48.3	-3.8
ARIG				*e*S	Sb	18 56 00.4	-4.4
MEIG	**Mezcala**	**1.37**	**73**	*e*P	Pn	18 55 54.7	-3.4
MEIG				*e*S	Sn	18 56 10.6	-5.4
PLIG	**Platanillo**	**1.67**	**58**	*e*P	Pn	18 55 58.8	-3.3
PLIG				*e*S	Sn	18 56 18.1	-5.1
TLIG	**Tlapa**	**2.32**	**89**	*e*P	Pn	18 56 08.2	-2.9
TLIG				*e*S	Sn	18 56 34.6	-4.8

*IDC **09** 18:57:37.0±2.1,1.02S×100.08E,h0km,mb3.6/7, mb1 3.7/8,mb1mx3.4/60,mbtmp3.6/8,ML3.4/1,Error ellipse: s-maj=108.7km s-min=18.8km az=53.0*
*ISCJB **09** 18:57:39.0±1.0,1.09S±0.03×100.01E±0.03,h11km±7km, mb3.7/7,Error ellipse: s-maj=5.9km s-min=4.8km az=18.5*
*DJA **09** 18:57:40.0±0.2,1˚S±2˚×10˚0E±˚,h11km,M3.7/12, MLv3.7/12*
ISC 09 18:57:38.1±2.2,1.07S±0.04×100.00E±0.03,h4km±15km, n20,σ1.02/29,mb3.8/7,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDSI	**Padang**	**0.49**	**71**	P	**Pb**	**18 57 49.5**	**+0.3**
PDSI				S	**Sb**	**18 57 56.2**	**-0.5**
SISI	**Saibi**	**0.95**	**254**	P	**Pb**	**18 57 56.3**	**-0.7**
SISI				S	**Sb**	**18 58 10.8**	**+0.9**
SDSI	**Sungai Dareh**	**1.43**	**85**	P	**Pn**	**18 58 05.0**	**+0.2**
SDSI				S	**Sg**	**18 58 24.8**	**+0.6**
PPSI	**Pulau Pagai**	**1.68**	**180**	P	**Pn**	**18 58 08.6**	**+0.4**
PPSI				S	**Sn**	**18 58 31.6**	**+1.4**
BKNI	**Bangkinang**	**1.73**	**37**	P	**Pb**	**18 58 09.8**	**-0.6**
BKNI				S	**Sb**	**18 58 32.9**	**+0.4**
MNSI	**Mandailing Nat**	**1.90**	**347**	P	**Pb**	**18 58 12.9**	**-0.4**
MNSI				S	**Sb**	**18 58 37.0**	**-0.4**
PBSI	**Pulau Batu**	**1.99**	**300**	P	**Pn**	**18 58 14.0**	**+1.5**
PBSI				S	**Sb**	**18 58 39.5**	**-0.6**
RGRI	**Rengat**	**2.44**	**73**	P	**Pn**	**18 58 19.1**	**+0.4**
MASI	**Maura Aman, Be**	**3.04**	**133**	P	**Pn**	**18 58 27.7**	**+0.7**
MASI				S	**Sn**	**18 59 05.4**	**+1.6**
GSI	**Gunungsitoli**	**3.38**	**314**	P	**Pn**	**18 58 32.2**	**+0.6**
GSI				S	**Sn**	**18 59 14.7**	**+2.5**
JMBI	**JAMBI**	**3.68**	**99**	P	**Pn**	**18 58 36.2**	**+0.4**
TPRI	**Tanjung Pinang**	**4.94**	**66**	P	**Pn**	**18 58 54.6**	**+1.6**
CMAR	**Chiang Mai Arr**	**19.43**	**357**	P	**P**	**19 02 04.6**	**-1.0**
	0.1nm,0.3s,baz=186,slow=11,SNR=5.0						
WRA	**Warramunga Arr**	**38.47**	**121**	P	**P**	**19 05 01.3**	**-0.1**
	0.1nm,0.3s,baz=301,slow=9.7,SNR=3.3						
ASAR	**Alice Springs**	**39.80**	**127**	P	**P**	**19 05 11.2**	**-1.4**
	0.3nm,0.8s,baz=306,slow=7.9,SNR=3.2						
MKAR	**Makanchi Array**	**50.14**	**344**	P	**P**	**19 06 34.6**	**+0.1**
	0.7nm,0.3s,baz=160,slow=8.5,SNR=27						
KURBB	**Kurchatov Arra**	**54.66**	**343**	P	**P**	**19 07 07.9**	**-0.1**
	0.4nm,0.7s,baz=176,slow=6.0,SNR=4.3						
ZALV	**Zalesovo Beam**	**56.26**	**349**	P	**P**	**19 07 17.9**	**-1.5**
	0.6nm,0.3s,baz=165,slow=6.0,SNR=5.9						
BVAR	**Borovoye Array**	**59.32**	**340**	P	**P**	**19 07 40.0**	**-1.0**
	0.3nm,0.4s,baz=132,slow=8.6,SNR=4.1						
FINES	**FINESS Array B**	**83.29**	**332**	P	**P**	**19 10 05.6**	**-0.2**
	2.2nm,0.9s,baz=197,slow=4.4,SNR=3.2						

MAN 09 19:04:32,16.48N×120.58E,h25km,mb4.5,ML3.3,MS3.1, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOLP	**Bolinao**	**0.65**	**262**	*e*P	Pn	19 04 46.0	+0.4
BOLP				*e*S	Sn	19 04 56.9	+1.8
SCZP	**Santa Cruz**	**0.95**	**223**	*e*P	Pb	19 04 50.2	+0.4
SCZP				*e*S	Sn	19 05 06.4	+3.9
ABRA	**Dolores**	**1.17**	**6**	*e*P	Pn	19 04 52.5	-0.4
ABRA				*e*S	Sb	19 05 09.2	+0.8
BALP	**Baler**	**1.20**	**127**	*e*P	Pn	19 04 52.3	-0.9
BALP				*e*S	Sb	19 05 10.2	+1.0
CAUP	**Cauayan**	**1.28**	**68**	*e*P	Pb	19 04 55.1	-0.3
CAUP				*e*S	Sb	19 05 15.0	+3.6
APYP	**Conner**	**1.52**	**25**	*e*P	Pn	19 04 58.3	+0.7
APYP				*e*S	Sb	19 05 19.9	+1.7

*IDC **09** 19:12:39.8±4.0,36.49N×140.42E,h56km±31km,mb3.0/4, mb1 3.2/5,mb1mx2.9/59,mbtmp3.4/5,ML3.2/1,Error ellipse: s-maj=35.3km s-min=10.0km az=57.0*
*ISCJB **09** 19:12:43.0±0.6,36.29N±0.04×140.02E±0.06,h86km±4km, mb3.3/4,Error ellipse: s-maj=8.4km s-min=6.8km az=1.2*
*JMA **09** 19:12:44.6±0.1,36.31N×140.02E,h73km±1km,M3.1*
ISC 09 19:12:43.9±1.0,36.30N±0.04×140.02E±0.05,h79km±7km, n16,σ0.76/25,mb3.5/4,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYT	**Yasato**	**0.16**	**116**	P	**Pn**	**19 12 55.5**	**+0.2**
JYT				S	**Sn**	**19 13 03.5**	**-0.2**
JAG	**Ashikaga**	**0.47**	**286**	P	**Pn**	**19 12 57.4**	**+0.1**
JAG				S	**Sn**	**19 13 06.8**	**-0.4**
JKT	**Katashina**	**0.78**	**307**	P	**Pn**	**19 13 00.6**	**+0.2**
JKT				S	**Sn**	**19 13 12.9**	**+0.3**
JRY	**Ryogami san**	**0.95**	**253**	P	**Pn**	**19 13 02.8**	**+0.6**
JRY				S	**Sn**	**19 13 16.1**	**+0.2**
JFY	**Yanaizu**	**1.14**	**347**	P	**Pn**	**19 13 05.2**	**+0.7**
JHK	**Hiroka**	**1.24**	**320**	P	**Pn**	**19 13 06.4**	**+0.6**
JHK				S	**Sn**	**19 13 22.9**	**+0.6**
JFT	**Otama**	**1.25**	**12**	P	**Pn**	**19 13 06.5**	**+0.6**
JFT				S	**Sn**	**19 13 22.9**	**+0.5**
JFK	**Kawauchi**	**1.27**	**33**	P	**Pn**	**19 13 06.5**	**+0.3**
JOD2	**Odawara 2**	**1.28**	**216**	P	**Pn**	**19 13 06.8**	**+0.5**
MJAR	**Matsushiro Arr**	**1.48**	**280**	P	**Pn**	**19 13 09.3**	**+0.4**
	8.7nm,0.3s,baz=83,slow=30,SNR=136						
MJAR				S	**Sn**	**19 13 29.1**	**+1.3**
	5.5nm,0.3s,baz=194,slow=21,SNR=10						
MAT	**Matsushiro**	**1.48**	**280**	P	**Pn**	**19 13 09.8**	**+0.9**
MAT				S	**Sn**	**19 13 25.8**	**-2.0**
JHJ	**Hachijo jima 2**	**3.18**	**184**	P	**Pn**	**19 13 32.3**	**+0.7**
	6.1nm,0.3s,baz=81,slow=19,SNR=12						
JHJ				S	**Sn**	**19 14 09.4**	**+1.0**
	12nm,0.3s,baz=232,slow=19,SNR=5.8						
MKAR	**Makanchi Array**	**43.56**	**303**	P	**P**	**19 20 40.0**	**+0.1**
	0.1nm,0.5s,baz=76,slow=8.2,SNR=2.6						
KURBB	**Kurchatov Arra**	**45.57**	**308**	P	**P**	**19 20 55.4**	**-0.4**
	0.5nm,0.7s,baz=78,slow=7.7,SNR=3.5						
WRA	**Warramunga Arr**	**56.19**	**186**	P	**P**	**19 22 15.2**	**-0.6**
	0.2nm,0.4s,baz=15,slow=7.2,SNR=4.6						
ASAR	**Alice Springs**	**59.92**	**186**	P	**P**	**19 22 40.9**	**-0.9**
	0.4nm,1.1s,baz=0.4,slow=7.3,SNR=2.8						

IDC 09 19:15:52.3±1.3,7.32N×94.00E,h0km,mb3.6/7,mb1 3.6/8, mb1mx3.4/60,mbtmp3.5/8,ML3.4/1,MS3.1/1,Ms1 3.1/1, ms1mx2.2/53,Error ellipse: s-maj=61.7km s-min=19.8km az=57.0,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**12.07**	**23**	Pn	Pn	19 18 44.5	-1.3
	0.1nm,0.3s,baz=214,slow=14,SNR=2.6						
H08S3	**Diego Garcia H**	**26.09**	**236**	T	T	19 48 06.3	
	baz=54,slow=75,SNR=11						
H08S2	**Diego Garcia H**	**26.10**	**236**	T	T	19 48 07.4	
	baz=54,slow=75,SNR=12						
H08S1	**Diego Carcia H**	**26.11**	**236**	T	T	19 48 07.1	
	baz=54,slow=75,SNR=11						
MKAR	**Makanchi Array**	**40.60**	**348**	P	P	19 23 33.0	-0.7
	0.2nm,0.4s,baz=168,slow=8.5,SNR=4.0						
GEYT	**Alibeck**	**44.52**	**319**	LR	LR	19 43 38.1	
	comp=Z,21nm,21.1s,baz=45,slow=37						
KURBB	**Kurchatov Arra**	**45.05**	**346**	P	P	19 24 09.2	-0.6
	0.5nm,0.6s,baz=174,slow=6.7,SNR=5.6						
ZALV	**Zalesovo Beam**	**47.09**	**353**	P	P	19 24 27.5	+1.7
	0.9nm,0.6s,baz=185,slow=6.2,SNR=2.8						
WRA	**Warramunga Arr**	**48.05**	**125**	P	P	19 24 33.8	-0.1
	0.2nm,0.5s,baz=306,slow=8.4,SNR=2.7						
ASAR	**Alice Springs**	**49.67**	**130**	P	P	19 24 46.1	-0.2
	0.3nm,0.8s,baz=308,slow=8.6,SNR=3.4						
FINES	**FINESS Array B**	**73.14**	**332**	P	P	19 27 24.2	-0.3
	1.1nm,0.9s,baz=114,slow=3.5,SNR=2.5						
HFS	**Hagfors**	**78.86**	**330**	P	P	19 27 57.2	0.0
	1.6nm,0.9s,baz=101,slow=2.9,SNR=2.4						

*NNC **09** 19:44:48.8±2.8,44.21N×76.44E,h0km,mb2.4,mpv2.3, Error ellipse: s-maj=19.6km s-min=11.5km az=174.0*
*SOME **09** 19:44:50.8,42.02N×77.05E,h20km*
KRNET 09 19:44:51.2±0.1,42.05N×77.03E,h23km,mb2.4,21C-10D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDJ	**Kajisay**	**0.14**	**54**	⇑*i*P	Pb	19 44 55.5	-0.7
	baz=57						
KDJ				⇑*i*S	Sb	19 44 58.8	-0.7
	baz=57						
ULHL	**Ulahol**	**0.62**	**289**	⇑*i*P	Pb	19 45 03.1	-0.4
	baz=89						
ULHL				⇑*i*S	Sb	19 45 11.8	0.0
	baz=89						
TARG	**Taragay, Kyrgy**	**0.66**	**119**	⇑*i*P	Pb	19 45 03.6	-0.7
	baz=19						
TARG				⇑*i*S	Sb	19 45 12.8	-0.5
	baz=19						
BOOM	**Boomskoye usch**	**0.92**	**299**	⇑*i*P	Pb	19 45 08.4	-0.2
	baz=99						
BOOM				⇑*e*S	Sn	19 45 21.0	-0.5
	baz=99						
NRN	**Naryn**	**0.98**	**232**	⇑*i*P	Pn	19 45 10.0	+0.1
	baz=32						
NRN				⇑*i*S	Sn	19 45 23.4	+0.1
	baz=32						
TNSS	**Tian-Shan**	**0.99**	**357**	*e*P	Pb	19 45 09.7	-0.2
	17nm,0.1s						
TNSS				*e*S	Sb	19 45 23.1	+0.4
	26nm,0.2s						
TNSS	**Tian-Shan**	**0.99**	**357**	*e*P	Pb	19 45 09.7	-0.2
	baz=57						
TNSS				*e*S	Sb	19 45 23.1	+0.4
	baz=57						
IZV	**Izvestkoviy**	**1.03**	**343**	*e*P	Pb	19 45 10.8	+0.3
	5.9nm,0.1s						
IZV				*e*S	Sn	19 45 24.7	+0.4
	52nm,0.2s						
IZV	**Izvestkoviy**	**1.03**	**343**	*e*P	Pb	19 45 10.8	+0.3
	baz=43						
IZV				*e*S	Sn	19 45 24.7	+0.4
	baz=43						
MDOK	**Medeo**	**1.11**	**1**	P	Pn	19 45 11.4	-0.1
	3.6nm,0.5s						
MDOK				⇓S	Sn	19 45 26.5	+0.3
	12nm,0.5s						
MDOK	**Medeo**	**1.11**	**1**	*e*P	Pn	19 45 11.7	+0.2
	6.2nm,0.7s						
MDOK				*e*S	Sn	19 45 26.8	+0.5
	15nm,0.5s						
MDOK	**Medeo**	**1.11**	**1**	*e*P	Pn	19 45 11.7	+0.2
	baz=1.0						
MDOK				*e*S	Sn	19 45 26.8	+0.5
	baz=1.0						
MTBS	**Maitube**	**1.17**	**338**	*e*P	Pn	19 45 12.4	+0.2
	4.4nm,0.1s						
MTBS				*e*S	Sb	19 45 27.9	+0.4
	12nm,0.2s						
MTBS	**Maitube**	**1.17**	**338**	*e*P	Pn	19 45 12.4	+0.2
	baz=38						
MTBS				*e*S	Sb	19 45 27.8	+0.3
	baz=38						
KOTS	**Kotyrbulak**	**1.19**	**3**	*e*P	Pb	19 45 13.1	0.0
	5.9nm,0.2s						
KOTS				*e*S	Sb	19 45 29.1	+1.0
	43nm,0.1s						
KST	**Kastek**	**1.27**	**322**	*e*P	Pb	19 45 14.6	+0.1
KST				*e*S	Sb	19 45 31.4	+1.0
KZA	**Kyzart**	**1.32**	**272**	⇑*i*P	Pb	19 45 15.5	-0.1
	baz=72						
KZA				⇑*i*S	Sb	19 45 33.6	+1.3
	baz=72						
TKM2	**Tokmak 2**	**1.37**	**310**	⇓P	Pb	19 45 16.3	0.0
	0.4nm,0.3s						
TKM2				⇑S	Sb	19 45 34.6	+1.2
	5.7nm,0.3s						
TKM2	**Tokmak 2**	**1.37**	**310**	⇑*i*P	Pb	19 45 16.5	+0.2
	baz=10.0						
TKM2				⇑*i*S	Sb	19 45 34.8	+1.3
	baz=10.0						
SATY	**Saty**	**1.43**	**45**	*e*P	Pb	19 45 17.7	+0.4
	20nm,0.1s						
SATY				*e*S	Sb	19 45 36.4	+1.2
	54nm,0.1s						
KBK	**Karagaybulak**	**1.66**	**292**	⇓*i*P	Pb	19 45 21.3	+0.2
	baz=92						
KBK				⇓*i*S	Sb	19 45 43.5	+1.9
	baz=92						
KURS	**Kuram**	**1.67**	**30**	*e*P	Pb	19 45 21.4	+0.2
	0.6nm,0.2s						
KURS				*e*S	Sb	19 45 43.0	+1.2
	4.0nm,0.3s						
KURS	**Kuram**	**1.67**	**30**	*e*P	Pb	19 45 21.4	+0.2
	baz=30						
KURS				*e*S	Sb	19 45 42.9	+1.1
	baz=30						
CHKK	**Chushkaly**	**1.81**	**359**	*e*P	Pb	19 45 24.1	+0.5
	1.7nm,0.2s						
CHKK				*e*S	Sb	19 45 47.5	+1.8
	28nm,0.3s						
CHKK	**Chushkaly**	**1.81**	**359**	*e*P	Pb	19 45 24.1	+0.6
	baz=59						
CHKK				*e*S	Sb	19 45 47.6	+1.9
	baz=59						
KPKS	**Kokpek**	**1.87**	**40**	*e*P	Pb	19 45 24.6	-0.1
	2.8nm,0.2s						
KPKS				*e*S	Sb	19 45 48.8	+1.1
	45nm,0.2s						
KPKS	**Kokpek**	**1.87**	**40**	*e*P	Pb	19 45 24.6	-0.1
	baz=40						
KPKS				*e*S	Sb	19 45 48.8	+1.1
	baz=40						
UCH	**Uchtor**	**1.88**	**276**	⇓*i*P	Pb	19 45 24.8	-0.3
	baz=76						
UCH				⇓*i*S	Sb	19 45 49.1	+0.8
	baz=76						
KUU	**Kurty**	**1.91**	**345**	*e*P	Pb	19 45 25.4	0.0
	0.7nm,0.4s						
KUU				*e*S	Sb	19 45 49.7	+0.9
	7.3nm,0.5s						
KUU	**Kurty**	**1.91**	**345**	*e*P	Pb	19 45 25.4	0.0
	baz=45						
KUU				*e*S	Sb	19 45 49.8	+1.0
	baz=45						
AAK	**Ala-Archa**	**1.97**	**288**	⇓Pn	Pb	19 45 27.0	+0.6
	0.4nm,0.4s						
AAK				⇑Sn	Sb	19 45 52.6	+2.0
	3.7nm,0.5s						
AAK	**Ala-Archa**	**1.97**	**288**	⇓*i*P	Pb	19 45 25.9	-0.5
	baz=88						
AAK				⇓*i*S	Sb	19 45 50.9	+0.3
	baz=88						
PDGK	**Podgornoye**	**2.22**	**54**	⇓Pn	Pb	19 45 28.9	-1.8
	3.4nm,0.6s						
PDGK				⇑Sn	Sb	19 45 58.4	+0.6
	3.4nm,0.5s						
PDGK	**Podgornoye**	**2.22**	**54**	⇑*i*P	Pb	19 45 29.3	-1.4
	baz=54						
PDGK				⇑*i*S	Sb	19 45 57.0	-0.8
	baz=54						
MNBS	**Baschi**	**2.27**	**26**	*e*P	Pb	19 45 31.9	+0.5
	1.3nm,0.3s						
MNBS				*e*S	Sb	19 46 01.1	+2.1
	27nm,0.3s						
AML	**Almayashu**	**2.48**	**273**	⇑*i*P	Pb	19 45 33.1	-2.2
	baz=73						
AML				⇑*i*S	Sb	19 46 03.7	-1.9
	baz=73						
DJR	**Jarkent**	**3.05**	**41**	*e*P	Pb	19 45 45.1	+0.3
	0.6nm,0.1s						
DJR				*e*S	Sb	19 46 23.2	+1.6
	4.0nm,0.4s						
KAPS	**Kapalarasan**	**3.65**	**27**	*e*P	Pb	19 45 55.6	+0.6
	0.9nm,0.5s						
KAPS				*e*S	Sb	19 46 41.8	+3.0
	1.4nm,0.5s						

*ISK **09** 19:45:42.4,38.05N×38.25E,h4km,ML2.1/4*
*ISCJB **09** 19:45:43.4±0.7,38.07N±0.03×38.25E±0.04,h4km±6km, Error ellipse: s-maj=5.7km s-min=4.3km az=153.5*
*CSEM **09** 19:45:43.7±0.2,38.09N×38.27E,h8km,ML2.1,Error ellipse: s-maj=6.5km s-min=4.5km az=68.0*
*DDA **09** 19:45:43.7,38.09N×38.36E,h7km,Ml2.7*
ISC 09 19:45:43.7±1.1,38.07N±0.02×38.26E±0.03,h7km±9km, n20,σ0.59/38,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MALT	**Malatya**	**0.28**	**28**	PG	**Pg**	**19 45 49.3**	**+0.1**
MALT				SG	**Sg**	**19 45 53.6**	**+0.6**
MALT	**Malatya**	**0.28**	**28**	*e*Pg	**Pg**	**19 45 49.3**	**+0.1**
MALT				*e*Sg	**Sg**	**19 45 53.6**	**+0.6**
URFA	**Urfa**	**0.77**	**144**	PG	**Pg**	**19 45 57.4**	**-1.1**
URFA				SG	**Sg**	**19 46 08.9**	**+0.4**
URFA	**Urfa**	**0.77**	**144**	*e*Pg	**Pg**	**19 45 57.4**	**-1.1**
URFA				*e*Sg	**Sg**	**19 46 08.9**	**+0.4**
DARE	**Darende-Malaty**	**0.79**	**310**	PG	**Pg**	**19 45 58.4**	**-0.5**
DARE				SG	**Sb**	**19 46 10.0**	**-0.8**
DARE	**Darende-Malaty**	**0.79**	**310**	*e*Pg	**Pg**	**19 45 58.4**	**-0.5**
DARE				*e*Sg	**Sb**	**19 46 10.0**	**-0.8**
HEKM	**Malatya_Hekimh**	**0.84**	**344**	*i*P	**Pg**	**19 45 59.6**	**-0.3**
HEKM				*i*S	**Sb**	**19 46 11.7**	**-0.8**
HEKM	**Malatya_Hekimh**	**0.84**	**344**	P	**Pg**	**19 45 59.6**	**-0.3**
HEKM				S	**Sb**	**19 46 11.7**	**-0.8**
SANL	**SANLIURFA_Merk**	**1.07**	**147**	*i*P	**Pb**	**19 46 04.8**	**+0.2**
SANL				*i*S	**Sg**	**19 46 17.8**	**-0.2**
SANL	**SANLIURFA_Merk**	**1.07**	**147**	P	**Pb**	**19 46 04.8**	**+0.2**
SANL				S	**Sg**	**19 46 17.8**	**-0.2**
PTK	**Pertek**	**1.21**	**47**	PN	**Pg**	**19 46 06.3**	**-0.7**
PTK				SN	**Sn**	**19 46 24.3**	**+0.2**
PTK	**Pertek**	**1.21**	**47**	*e*Pn	**Pg**	**19 46 06.3**	**-0.7**
PTK				*e*Sn	**Sn**	**19 46 24.3**	**+0.2**
KMRS	**Kahramanmaras**	**1.22**	**243**	PN	**Pg**	**19 46 06.0**	**-1.0**
KMRS				SN	**Sb**	**19 46 23.3**	**+0.3**
KMRS	**Kahramanmaras**	**1.22**	**243**	*e*Pn	**Pg**	**19 46 06.0**	**-1.0**
KMRS				*e*Sn	**Sb**	**19 46 23.3**	**+0.3**
SURC	**SANLIURFA_SURC**	**1.22**	**167**	*i*P	**Pn**	**19 46 07.7**	**+0.4**
SURC				*i*S	**Sn**	**19 46 24.2**	**+0.1**
SURC	**SANLIURFA_SURC**	**1.22**	**167**	P	**Pn**	**19 46 07.7**	**+0.4**
SURC				S	**Sn**	**19 46 24

CMAR			LR	LR	19 58 07.1	
	comp=Z,21nm,21.1s,baz=206,slow=35					
LEM	**Lembang**	**16.46 131**	LR	LR	19 58 44.3	
	comp=Z,39nm,20.4s,baz=194,slow=34					
H08S2	**Diego Garcia H**	**25.42 243**	T	T	20 20 43.0	
	baz=63,slow=75,SNR=56					
H08S3	**Diego Garcia H**	**25.43 243**	T	T	20 20 43.3	
	baz=63,slow=75,SNR=59					
H08S1	**Diego Carcia H**	**25.44 243**	T	T	20 20 44.4	
	baz=63,slow=75,SNR=63					
MK31	**Makanchi Array**	**44.03 347**	*e*P	**P**	**19 57 26.7**	**+1.6**
MK32	**Makanchi Array**	**44.03 347**	*e*P	**P**	**19 57 25.0**	**0.0**
MKAR	**Makanchi Array**	**44.03 347**	P	**P**	**19 57 25.0**	**0.0**
	0.4nm,0.3s,baz=170,slow=7.9,SNR=18					
MKAR	**Makanchi Array**	**44.03 347**	*e*P	**P**	**19 57 26.7**	**+1.6**
	4.6nm,0.6s					
WR1	**Warramunga Arr**	**45.27 123**	*e*P	**P**	**19 57 35.2**	**-0.1**
	22nm,1.8s					
WRA	**Warramunga Arr**	**45.27 123**	P	**P**	**19 57 35.2**	**-0.1**
	0.7nm,0.7s,baz=302,slow=9.2,SNR=7.3					
ASAR	**Alice Springs**	**46.73 128**	P	**P**	**19 57 47.0**	**+0.2**
	0.6nm,0.5s,baz=296,slow=7.9,SNR=14					
KURBB	**Kurchatov Arra**	**48.49 346**	P	**P**	**19 58 00.9**	**+1.0**
	0.1nm,0.3s,baz=179,slow=6.4,SNR=5.1					
KURK	**Kurchatov**	**48.55 346**	*e*P	**P**	**19 58 00.9**	**+0.5**
ZALV	**Zalesovo Beam**	**50.47 352**	P	**P**	**19 58 15.4**	**+0.4**
	0.5nm,0.5s,baz=179,slow=6.6,SNR=3.5					
ZAA1	**Zalesovo Array**	**50.47 352**	*e*P	**P**	**19 58 15.4**	**+0.4**
BVAR	**Borovoye Array**	**52.92 342**	P	**P**	**19 58 34.4**	**+1.0**
	0.6nm,0.7s,baz=155,slow=7.9,SNR=6.9					
BR101	**Keskin Array S**	**65.71 312**	*e*P	**P**	**20 00 01.9**	**-0.4**
BRTR	**Keskin Array B**	**65.71 312**	P	**P**	**20 00 01.8**	**-0.4**
	0.8nm,0.9s,baz=100,slow=6.0,SNR=2.8					
FIA0	**FINESS Array S**	**76.56 333**	*e*P	**P**	**20 01 07.7**	**+0.5**
FINES	**FINESS Array B**	**76.56 333**	P	**P**	**20 01 07.7**	**+0.5**
	1.3nm,0.9s,baz=114,slow=9.7,SNR=2.5					
ARA0	**ARCESS Array S**	**79.19 340**	*e*P	**P**	**20 01 21.7**	**-0.1**
ARCES	**ARCESS Array B**	**79.19 340**	P	**P**	**20 01 21.7**	**-0.1**
	4.7nm,1.1s,baz=81,slow=6.5,SNR=3.2					
GERES	**GERESS Array B**	**81.35 319**	P	**P**	**20 01 33.8**	**-0.2**
	0.2nm,0.3s,baz=91,slow=6.1,SNR=4.0					

*ISCJB **09** 19:55:33.1±1.3, 16°.36N±0°.09×98°.41W±0°.06, h24km±7km, mb3.4/4, MS3.0/1, Error ellipse: s-maj=16.9km s-min=6.2km az=29.0*

*IDC **09** 19:55:34.9±3.1, 16°.74N×98°.31W, h0km, mb3.5/4, mb1 3.8/7, mb1mx3.6/43, mbtmp3.4/7, ML3.5/3, MS3.1/3, Ms1 3.1/3, ms1mx2.6/36, Error ellipse: s-maj=64.5km s-min=15.8km az=15.0*

*MEX **09** 19:55:34.3±0.5, 16°.33N×98°.43W, h5km, MD4.0*

ISC 09 19:55:33.8±1.5, 16°.47N±0°.08×98°.35W±0°.06, h11km±10km, n11, σ2°13/18, mb3.5/4, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.23**	**110**	*e*P	**Pb**	**19 55 39.8**	**-0.3**
PNIG				*i* S	**Sg**	**19 55 43.9**	**+2.0**
TLIG	**Tlapa**	**1.10**	**349**	*i* P	**Pg**	**19 55 54.2**	**-0.8**
TLIG				*e*S	**Sn**	**19 56 10.0**	**-0.7**
CAIG	**El Cayaco**	**1.92**	**288**	*e*P	**Pn**	**19 56 03.9**	**-2.6**
CAIG				*e*S	**Sn**	**19 56 27.2**	**-3.4**
HUIG	**Huatulco**	**2.27**	**108**	*e*P	**Pn**	**19 56 10.4**	**-0.9**
HUIG				*i* S	**Sn**	**19 56 36.7**	**-2.6**
HUIG				*e*S	**Sb**	**19 56 41.8**	**-1.1**
CMIG	**Matias Romero**	**3.38**	**79**	Pn	**Pn**	**19 56 26.1**	**-0.4**
	3.3nm,0.3s,baz=259,slow=12,SNR=28						
CMIG				Pg	**Pg**	**19 56 36.0**	**-2.6**
	10nm,0.3s,baz=268,slow=15,SNR=28						
CMIG				Lg	Lg	19 57 20.1	
	82nm,0.3s,baz=357,slow=15,SNR=19						
CMIG				LR	LR	19 58 03.7	
	comp=Z,182nm,19.3s,baz=356,slow=45						
APG	**El Apazote**	**7.74**	**100**	Pn	**Pn**	**19 57 30.5**	**+3.8**
	0.5nm,0.3s,baz=325,slow=16,SNR=5.5						
APG				Sn	**Sn**	**19 58 54.5**	**+0.1**
	1.5nm,0.3s,baz=85,slow=11,SNR=4.0						
TXAR	**Lajitas Array**	**13.70**	**340**	Pn	**Pn**	**19 58 50.1**	**+1.9**
	0.1nm,0.3s,baz=165,slow=11,SNR=3.1						
TXAR				Lg	Lg	20 02 47.7	
	0.0nm,0.3s,baz=154,slow=31,SNR=2.4						
TXAR				LR	LR	20 04 52.3	
	comp=Z,100nm,18.5s,baz=0.0,slow=41						
PDAR	**Pinedale Array**	**27.90**	**342**	P	**P**	**20 01 24.8**	**+0.7**
	0.3nm,0.6s,baz=147,slow=11,SNR=2.9						
PDAR				LR	LR	20 11 29.5	
	comp=Z,38nm,21.2s,baz=256,slow=34						
NVAR	**Mina Array Bea**	**28.02**	**325**	P	**P**	**20 01 27.6**	**+2.4**
	0.4nm,0.5s,baz=130,slow=8.4,SNR=2.6						
YKA	**Yellowknife Ar**	**47.37**	**35**	P	**P**	**20 04 07.1**	**-0.5**
	0.4nm,0.6s,baz=157,slow=7.5,SNR=4.2						
ILAR	**Eielson Array**	**58.20**	**338**	P	**P**	**20 05 28.0**	**+0.2**
	0.5nm,0.9s,baz=131,slow=5.2,SNR=5.4						

*ISK **09** 20:06:42.1, 38°.76N×40°.29E, h11km, ML2.1/5*

*ISCJB **09** 20:06:44.5±0.6, 38°.69N±0°.04×40°.20E±0°.05, h9km±6km, Error ellipse: s-maj=7.6km s-min=5.7km az=38.3*

*CSEM **09** 20:06:44.3±0.4, 38°.72N×40°.22E, h15km, ML2.1, Error ellipse: s-maj=10.9km s-min=9.0km az=29.0*

*DDA **09** 20:06:45.1, 38°.69N×40°.27E, h7km, Ml2.5*

ISC 09 20:06:43.9±0.9, 38°.76N±0°.03×40°.27E±0°.03, h16km±8km, n18, σ1°25/28, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BINT	**Bingol**	**0.21**	**55**	*e*Pg	**Pb**	**20 06 50.0**	**+0.6**
BINT				*e*Sg	**Sg**	**20 06 55.9**	**+3.6**
HANI	**Diyarbakir_Han**	**0.36**	**164**	*i* P	**Pg**	**20 06 51.2**	**-0.2**
HANI				*i* S	**Sg**	**20 06 55.8**	**-0.7**
HANI	**Diyarbakir_Han**	**0.36**	**164**	P	**Pg**	**20 06 51.2**	**-0.2**
HANI				S	**Sg**	**20 06 55.8**	**-0.7**
BNGB	**Bing¯¶l**	**0.39**	**54**	PG	**Pg**	**20 06 50.0**	**-2.0**
BNGB				SG	**Sg**	**20 06 55.9**	**-1.6**
TNCL	**Tunceli-Merkez**	**0.67**	**302**	*i* P	**Pb**	**20 06 58.9**	**+1.5**
TNCL				*i* S	**Sn**	**20 07 09.9**	**+0.8**
TNCL	**Tunceli-Merkez**	**0.67**	**302**	P	**Pb**	**20 06 58.8**	**+1.5**
TNCL				S	**Sn**	**20 07 09.9**	**+0.8**
PTK	**Pertek**	**0.70**	**281**	PG	**Pg**	**20 06 56.4**	**-1.3**
PTK				SG	**Sg**	**20 07 06.5**	**-0.6**
PTK	**Pertek**	**0.70**	**281**	*e*Pg	**Pg**	**20 06 56.4**	**-1.3**
PTK				*e*Sg	**Sg**	**20 07 06.5**	**-0.6**
DIYA	**Diyarbakir**	**0.84**	**188**	*i* P	**Pn**	**20 07 01.1**	**-0.1**
DIYA	**Diyarbakir**	**0.84**	**188**	P	**Pn**	**20 07 01.1**	**-0.1**
MAZI	**Mazidag**	**1.30**	**174**	PN	**Pn**	**20 07 06.9**	**-0.6**
MAZI				SN	**Sg**	**20 07 24.8**	**-1.3**
MAZI	**Mazidag**	**1.30**	**174**	*e*Pn	**Pn**	**20 07 06.9**	**-0.6**
MAZI				*e*Sn	**Sg**	**20 07 24.8**	**-1.3**
GURO	**Guroymak-BITLI**	**1.39**	**98**	PN	**Pn**	**20 07 07.9**	**-0.9**
GURO	**Guroymak-BITLI**	**1.39**	**98**	*e*Pn	**Pn**	**20 07 07.9**	**-0.9**
SRTM	**Siirt_Merkez**	**1.51**	**120**	*i* P	**Pg**	**20 07 13.2**	**+0.3**
SRTM	**Siirt_Merkez**	**1.51**	**120**	P	**Pg**	**20 07 13.2**	**+0.3**
URFA	**Urfa**	**1.74**	**221**	PN	**Pn**	**20 07 13.5**	**-0.1**
URFA	**Urfa**	**1.74**	**221**	*e*Pn	**Pn**	**20 07 13.5**	**-0.1**

*ISCJB **09** 20:13:47.1±0.9, 4°.5S±0°.1×154°.0E±0°.2, h33km, mb4.0/12, MS3.1/5, Error ellipse: s-maj=26.9km s-min=10.4km az=36.5*

*IDC **09** 20:13:55.9±5.7, 4°.59S×153°.91E, h94km±45km, mb3.7/12, mb1 3.9/13, mb1mx3.6/48, mbtmp4.1/13, MS3.1/7, Ms1 3.1/7, ms1mx2.7/36, Error ellipse: s-maj=42.0km s-min=20.5km az=96.0*

ISC 09 20:13:48.8±1.1, 4°.5S±0°.2×154°.1E±0°.2, h35km, n20, σ0°83/14, mb3.9/12, MS3.1/5, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**7.57**	**130**	LR	LR	20 19 01.1	
	comp=Z,106nm,21.3s,baz=185,slow=40						
PMG	**Port Moresby**	**8.43**	**234**	P	Pn	20 15 53.7	+5.2
	7.3nm,0.3s,baz=30,slow=6.0,SNR=41						
PMG				S	**Sn**	**20 17 23.2**	**+0.7**
	3.6nm,0.3s,baz=24,slow=22,SNR=12						
PMG				LR	LR	20 19 04.3	
	comp=Z,97nm,21.5s,baz=56,slow=38						
DZM	**Mont Dzumac**	**21.15**	**147**	LR	LR	20 25 48.6	
	comp=Z,68nm,18.6s,baz=26,slow=34						
WRA	**Warramunga Arr**	**24.61**	**230**	P	**P**	**20 19 06.0**	**-0.1**
	9.1nm,0.7s,baz=54,slow=10.0,SNR=82						
ASAR	**Alice Springs**	**27.24**	**224**	P	**P**	**20 19 29.4**	**-0.4**
	1.4nm,0.7s,baz=55,slow=8.9,SNR=22						
STKA	**Stephens Creek**	**29.64**	**202**	P	**P**	**20 19 51.7**	**+0.7**
	3.0nm,0.8s,baz=23,slow=13,SNR=6.8						
FITZ	**Fitzroy Crossi**	**30.94**	**242**	P	**P**	**20 20 01.2**	**-1.5**
	4.0nm,0.7s,baz=59,slow=10,SNR=12						
JOW	**Kunigami**	**39.95**	**323**	LR	LR	20 36 27.8	
	comp=Z,44nm,19.8s,baz=98,slow=34						
JNU	**Nakatsue**	**43.43**	**331**	LR	LR	20 39 13.1	
	comp=Z,9.3nm,19.2s,baz=156,slow=35						
PPT	**Papeete**	**56.57**	**108**	LR	LR	20 43 21.0	
	comp=Z,46nm,20.4s,baz=176,slow=31						
PETK	**Petropavlovsk-**	**57.49**	**3**	LR	LR	20 47 57.6	
	comp=Z,8.9nm,19.1s,baz=85,slow=36						
CMAR	**Chiang Mai Arr**	**58.94**	**295**	P	**P**	**20 23 45.4**	**+0.2**
	1.3nm,1.0s,baz=115,slow=5.5,SNR=6.7						
SONM	**Songino Array**	**66.79**	**327**	P	**P**	**20 24 38.1**	**+1.1**
	0.5nm,0.6s,baz=147,slow=8.2,SNR=2.9						
MKAR	**Makanchi Array**	**80.98**	**319**	P	**P**	**20 25 59.9**	**0.0**
	0.9nm,0.8s,baz=96,slow=6.2,SNR=6.5						
ILAR	**Eielson Array**	**81.42**	**22**	P	**P**	**20 26 02.0**	**+0.2**
	0.3nm,0.9s,baz=248,slow=6.7,SNR=4.2						
ZALV	**Zalesovo Beam**	**81.65**	**326**	P	**P**	**20 26 02.8**	**-0.4**
	0.4nm,0.4s,baz=124,slow=7.8,SNR=3.4						
KURBB	**Kurchatov Arra**	**84.39**	**322**	P	**P**	**20 26 17.9**	**+0.4**
	0.7nm,0.8s,baz=115,slow=4.1,SNR=5.4						
MAW	**Mawson**	**86.33**	**203**	P	**P**	**20 26 27.0**	**+0.2**
	2.5nm,0.7s,baz=119,slow=7.6,SNR=4.7						
BVAR	**Borovoye Array**	**89.80**	**323**	P	**P**	**20 26 42.3**	**-1.4**
	1.2nm,0.8s,baz=101,slow=6.0,SNR=6.9						
TORD	**Torodi Ar. Bea**	**151.45**	**289**	PKPbc	**PKPbc**	**20 33 39.3**	**-0.8**
	1.3nm,0.7s,baz=57,slow=2.7,SNR=8.7						

MEX 09 20:20:40.9±0.7, 16°.91N×100°.09W, h20km±53km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CAIG	**El Cayaco**	**0.22**	**310**	*e*P	Pb	20 20 45.1	-1.2
CAIG				*e*S	Sb	20 20 49.1	-1.0
MEIG	**Mezcala**	**1.11**	**24**	*e*P	Pn	20 20 56.5	-4.9
ARIG	**Puente Sto Nin**	**1.39**	**350**	*e*P	Pn	20 21 02.2	-3.0
ZIIG	**Zihuatanejo**	**1.48**	**298**	*e*P	Pn	20 21 04.9	-1.6
TLIG	**Tlapa**	**1.60**	**66**	*e*P	Pn	20 21 05.4	-2.8

MEX 09 20:27:19.3±0.3, 16°.18N×98°.26W, h2km±3km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.24**	**31**	*i* P	Pg	20 27 23.9	-0.2
PNIG				*e*S	Sg	20 27 27.4	+0.1
TLIG	**Tlapa**	**1.40**	**348**	*e*P	Pn	20 27 42.5	-3.7
TLIG				*e*S	Sg	20 28 00.3	-4.2
VHO	**Vista Hermosa**	**1.71**	**59**	*e*P	Pn	20 27 46.7	-3.7
VHO				*e*S	Sn	20 28 08.4	-4.6
CAIG	**El Cayaco**	**2.11**	**294**	*e*P	Pn	20 27 54.9	-0.8
CAIG				*i* S	Sn	20 28 17.5	-5.1
PLIG	**Platanillo**	**2.50**	**332**	*e*P	Pn	20 27 59.5	-1.6
PLIG				*e*S	Sn	20 28 28.3	-4.0

IDC 09 20:45:17.6±7.1, 19°.26S×168°.98E, h110km±57km, mb3.6/3, mb1 3.8/4, mb1mx3.3/41, mbtmp3.9/4, MS3.5/1, Ms1 3.5/1, ms1mx2.4/31, Error ellipse: s-maj=94.0km s-min=54.9km az=140.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**3.67**	**220**	P	Pn	20 46 13.8	+1.1
	4.4nm,0.3s,baz=30,slow=20,SNR=83						
DZM				S	Sn	20 46 55.1	-0.1
	11nm,0.3s,baz=105,slow=23,SNR=17						
STKA	**Stephens Creek**	**27.63**	**238**	P	P	20 50 55.6	+0.7
	0.8nm,0.5s,baz=72,slow=11,SNR=4.5						
WRA	**Warramunga Arr**	**32.61**	**263**	P	P	20 51 38.8	-0.3
	0.3nm,0.5s,baz=90,slow=9.2,SNR=3.8						
ASAR	**Alice Springs**	**32.89**	**256**	P	P	20 51 41.8	+0.3
	3.7nm,0.6s,baz=86,slow=9.1,SNR=66						
NWAO	**Narrogin (SRO)**	**47.99**	**243**	LR	LR	21 14 11.7	
	comp=Z,52nm,18.1s,slow=36						
GERES	**GERESS Array B**	**144.40**	**332**	PKP	PKPab	21 04 38.7	-0.7
	0.3nm,0.6s,baz=39,slow=5.3,SNR=4.6						

*NDI **09** 21:04:17.7±2.0, 23°.99N×94°.29E, h32km±17km, ML3.0*

ISC 09 21:04:17.2±2.1, 24°.01N±0°.06×94°.30E±0°.10, h83km±22km, n9, σ1°02/17, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IMP	**Imphal**	**0.88**	**339**	*e*P	**Pn**	**21 04 36.0**	**+0.9**
IMP				*e*S	**Sn**	**21 04 47.4**	**-1.1**
KOHI	**KOHIMA**	**1.71**	**354**	*e*P	**Pn**	**21 04 45.3**	**-0.3**
KOHI				*e*S	**Sn**	**21 05 08.0**	**+1.0**
KOHI				IAML		21 05 17.4	
	comp=N,606nm,0.2s						
KOHI				IAML		21 05 18.0	
	comp=E,867nm,0.3s						
KOHI				*ex*	x	21 05 45.6	
SAIH	**SAIHA**	**1.93**	**219**	*e*P	**Pn**	**21 04 48.6**	**+0.2**
SAIH				*e*S	**Sn**	**21 05 11.6**	**-0.6**
SAIH				IAML		21 05 15.8	
	comp=N,30nm,0.2s						
SAIH				IAML		21 05 16.7	
	comp=E,34nm,0.3s						
MOKO	**MOKOCHONG**	**2.31**	**5**	*e*P	**Pn**	**21 04 54.1**	**+0.6**
MOKO				*e*S	**Sn**	**21 05 20.6**	**-0.6**
MOKO				IAML		21 05 33.2	
	comp=N,33nm,0.2s						
MOKO				IAML		21 05 33.3	
	comp=E,48nm,0.3s						
SHL	**Shillong**	**2.68**	**306**	*e*P	**Pn**	**21 04 59.8**	**+1.3**
SHL				*e*S	**Sn**	**21 05 30.4**	**+0.1**
SHL				IAML		21 05 34.5	
TEZP	**TEZPUR**	**2.93**	**333**	*e*P	**Pn**	**21 05 01.2**	**-0.5**
TEZP				*e*S	**Sn**	**21 05 34.8**	**-1.0**
TEZP				*e*S		21 05 35.3	
TEZP				IAML		21 05 37.5	
	comp=E,187nm,0.1s						
TEZP				IAML		21 05 37.9	
	comp=N,186nm,0.2s						
GUWA	**GUWAHATI**	**3.21**	**313**	*e*S	**Sn**	**21 05 41.5**	**-1.2**
TURI	**Tura**	**3.91**	**294**	*e*P	**Pn**	**21 05 16.5**	**+1.4**
TURI				*e*S	**Sn**	**21 05 58.6**	**-1.2**
TURI				IAML		21 06 04.9	
	comp=N,122nm,0.1s						
TURI				IAML		21 06 05.0	
	comp=E,186nm,0.1s						
DHUB	**DHUBRI**	**4.38**	**298**	*e*P	**Pn**	**21 05 22.0**	**+0.6**
DHUB				*e*S	**Sn**	**21 06 10.2**	**-1.0**
DHUB				*e*S		21 06 11.1	
DHUB				IAML		21 06 13.7	
	comp=E,87nm,0.2s						
DHUB				IAML		21 06 14.0	
	comp=N,102nm,0.2s						

*ISCJB **09** 21:09:31.6±0.7, 38°.04N±0°.03×38°.25E±0°.04, h1km±9km, Error ellipse: s-maj=6.5km s-min=4.8km az=137.9*

*ISK **09** 21:09:31.2, 38°.04N×38°.26E, h8km, ML2.3/4*

*CSEM **09** 21:09:32.2±0.2, 38°.06N×38°.28E, h8km, ML2.3, Error ellipse: s-maj=5.9km s-min=5.3km az=101.0*

*DDA **09** 21:09:32.6, 38°.10N×38°.28E, h7km, Ml2.6*

ISC 09 21:09:32.2±1.0, 38°.05N±0°.02×38°.27E±0°.03, h9km±10km, n25, σ0°52/39, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MALT	**Malatya**	**0.29**	**25**	PG	**Pg**	**21 09 38.1**	**+0.1**
MALT				SG	**Sg**	**21 09 42.3**	**+0.5**
MALT	**Malatya**	**0.29**	**25**	*e*Pg	**Pg**	**21 09 38.1**	**+0.1**
MALT				*e*Sg	**Sg**	**21 09 42.3**	**+0.5**
ELZG	**Elazig**	**0.71**	**51**	*i* P	**Pg**	**21 09 45.9**	**-0.1**
ELZG				*i* S	**Sg**	**21 09 55.9**	**+0.6**
ELZG	**Elazig**	**0.71**	**51**	P	**Pg**	**21 09 45.9**	**-0.1**
ELZG				S	**Sg**	**21 09 55.9**	**+0.6**
URFA	**Urfa**	**0.75**	**144**	PG	**Pg**	**21 09 46.1**	**-0.5**
URFA				SG	**Sg**	**21 09 56.1**	**-0.3**
URFA	**Urfa**	**0.75**	**144**	*e*Pg	**Pg**	**21 09 46.1**	**-0.5**
URFA				*e*Sg	**Sg**	**21 09 56.1**	**-0.3**
DARE	**Darende-Malaty**	**0.81**	**310**	PG	**Pg**	**21 09 46.9**	**-0.9**
DARE				SG	**Sg**	**21 09 58.4**	**+0.1**
DARE	**Darende-Malaty**	**0.81**	**310**	*e*Pg	**Pg**	**21 09 46.9**	**-0.9**
DARE				*e*Sg	**Sg**	**21 09 58.4**	**+0.1**
HEKM	**Malatya_Hekimh**	**0.86**	**343**	*i* P	**Pg**	**21 09 48.5**	**-0.3**
HEKM				*i* S	**Sb**	**21 10 01.2**	**0.0**
HEKM	**Malatya_Hekimh**	**0.86**	**343**	P	**Pg**	**21 09 48.5**	**-0.3**
HEKM				S	**Sb**	**21 10 01.2**	**0.0**
SANL	**SANLIURFA_Merk**	**1.05**	**147**	*i* P	**Pn**	**21 09 53.1**	**0.0**
SANL	**SANLIURFA_Merk**	**1.05**	**147**	P	**Pn**	**21 09 53.1**	**0.0**
SURC	**SANLIURFA_SURC**	**1.20**	**167**	*i* P	**Pn**	**21 09 56.5**	**+1.2**
PTK	**Pertek**	**1.21**	**46**	PN	**Pg**	**21 09 55.3**	**-0.2**
PTK	**Pertek**	**1.21**	**46**	*e*Pn	**Pg**	**21 09 55.3**	**-0.2**
KMRS	**Kahramanmaras**	**1.22**	**244**	PN	**Pb**	**21 09 54.6**	**-0.8**
KMRS				SN	**Sn**	**21 10 12.1**	**0.0**
KMRS	**Kahramanmaras**	**1.22**	**244**	*e*Pn	**Pb**	**21 09 54.6**	**-0.8**
KMRS				*e*Sn	**Sn**	**21 10 12.1**	**0.0**
GAZ	**Gaziantep**	**1.22**	**224**	PN	**Pb**	**21 09 54.6**	**-0.9**
GAZ				SN	**Sb**	**21 10 11.8**	**+0.5**
GAZ	**Gaziantep**	**1.22**	**224**	*e*Pn	**Pb**	**21 09 54.6**	**-0.9**
GAZ				*e*Sn	**Sb**	**21 10 11.8**	**+0.5**
KUZU	**Kuzuini**	**1.59**	**217**	*i* P	**Pg**	**21 10 03.4**	**+0.6**
KUZU	**Kuzuini**	**1.59**	**217**	P	**Pg**	**21 10 03.4**	**+0.6**
ANDN	**Andirin**	**1.60**	**253**	*i* P	**Pb**	**21 10 02.3**	**+0.3**
ANDN	**Andirin**	**1.60**	**253**	P	**Pb**	**21 10 02.3**	**+0.3**
MAZI	**Mazidag**	**1.82**	**108**	PN	**Pn**	**21 10 03.8**	**0.0**
MAZI	**Mazidag**	**1.82**	**108**	*e*Pn	**Pn**	**21 10 03.8**	**0.0**

MAN 09 21:22:15.10°.22N×123°.34E, h25km, mb4.6, ML3.5, MS3.4, 3C-1D, Cebu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LLP	**Lapu-Lapu**	**0.62**	**81**	*e*P	Pn	21 22 28.6	+0.3
LLP				*i* S	Sn	21 22 38.8	+1.3
TBP	**Tagbilaran**	**0.73**	**136**	*e*P	Pn	21 22 29.5	-0.3
GUIM	**Jordan**	**0.84**	**299**	*e*P	Pn	21 22 31.4	+0.1
GUIM				*e*S	Sn	21 22 43.6	+0.8
SNPH	**Sibulan**	**0.88**	**187**	*e*P	Pb	21 22 31.1	-0.6
SNPH				*e*S	Sb	21 22 40.9	-2.1
RCP	**Roxas**	**1.45**	**336**	*e*P	Pb	21 22 43.0	+1.6
RCP				*e*S	Sb	21 23 06.4	+6.9
JAP	**San Jose, Anti**	**1.47**	**291**	*e*P	Pb	21 22 43.8	+2.2
JAP				*e*S	Sb	21 23 17.8	+18
OCLP	**Ormoc**	**1.50**	**56**	*e*P	Pb	21 22 44.6	+2.5
DCPH	**Dipolog City**	**1.63**	**180**	*e*P	Pn	21 22 42.7	+0.6
DCPH				*e*S	Sn	21 23 03.1	+0.9
IPIL	**Ipil**	**2.53**	**198**	*e*P	Pb	21 22 57.5	-2.4
IPIL				*e*S	Sn	21 23 26.8	+2.1

*NEIC **09** 21:25:43.5±0.0, 37°.92S×179°.06E, h39km, ML4.4(WEL), After WEL.*

WEL 09 21:25:44.4, 38°.8S±9°×17°.9E±°, h33km, ML4.5/10, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WMGZ	**Waiomatatini S**	**0.47**	**298**	Pn	Pb	21 25 54.5	0.0
WMGZ	**Waiomatatini S**	**0.47**	**298**	P	Pb	21 25 54.5	+0.1
WMGZ	**Waiomatatini S**	**0.47**	**298**	S	Sn	21 26 03.0	+1.1
PUZ	**Puketiti**	**0.54**	**266**	P	Pb	21 25 54.0	-1.6
PUZ	**Puketiti**	**0.54**	**266**	S	Sb	21 26 02.0	-1.3
MXZ	**Matakaoa Point**	**0.69**	**313**	P	Pb	21 25 59.5	+1.5
MXZ	**Matakaoa Point**	**0.69**	**313**	S	Sb	21 26 10.6	+3.3
PKGZ	**Pakihiroa**	**0.70**	**282**	P	Pn	21 25 57.6	-0.3
PKGZ	**Pakihiroa**	**0.70**	**282**	S	Sb	21 26 08.8	+1.2
CNGZ	**Carnagh Statio**	**0.73**	**232**	Pn	Pb	21 25 59.0	+0.3
CNGZ				Sn	Sb	21 26 11.1	+2.7
CNGZ	**Carnagh Statio**	**0.73**	**232**	P	Pb	21 25 59.0	+0.3
TWGZ	**Tauwhareparae**	**0.77**	**259**	Pn	Pn	21 25 58.6	-0.3
TWGZ	**Tauwhareparae**	**0.77**	**259**	P	Pn	21 25 58.6	-0.3
TWGZ	**Tauwhareparae**	**0.77**	**259**	S	Sb	21 26 10.0	+0.4
TKGZ	**Te Karaka**	**0.95**	**245**	P	Pn	21 26 01.8	+0.5
TKGZ	**Te Karaka**	**0.95**	**245**	S	Sb	21 26 14.4	-0.2
HAZ	**Te Kaha**	**0.95**	**287**	P	Pb	21 26 01.9	-0.5
HAZ	**Te Kaha**	**0.95**	**287**	S	Sb	21 26 14.7	-0.1
RUGZ	**Raukumara Rang**	**1.00**	**274**	P	Pn	21 26 02.2	+0.1
RUGZ	**Raukumara Rang**	**1.00**	**274**	S	Sn	21 26 14.5	-0.6
RIGZ	**Rimuhau**	**1.14**	**234**	P	Pn	21 26 04.8	+0.8
RIGZ	**Rimuhau**	**1.14**	**234**	S	Sb	21 26 19.6	-0.5
MWZ	**Matawai**	**1.15**	**255**	Pn	Pn	21 26 04.2	0.0
MWZ	**Matawai**	**1.15**	**255**	P	Pn	21 26 04.5	+0.3
MWZ	**Matawai**	**1.15**	**255**	S	Sn	21 26

MTW	**Mount Morrison**	**4.09**	**219**	Pn	Pn	21 26 42.6	-2.0
WCZ	**Waipu Caves**	**4.23**	**298**	P	Pn	21 26 48.0	+1.5
SNZO	**South Karori**	**4.62**	**224**	Pn	Pn	21 26 50.2	-1.6
SNZO				*e*S	Sn	21 27 37.5	-6.7
QRZ	**Quartz Range**	**5.69**	**239**	P	Pn	21 27 05.7	-0.8
KHZ	**Kahutara**	**6.01**	**222**	P	Pn	21 27 10.0	-0.9
CTZ	**Chatham Island**	**6.61**	**151**	P	Pn	21 27 22.5	+3.3

IDC 09 21:27:12.4±8.8, 4°24'S×152°88'E, h170km±59km, mb3.5/3, mb1 3.7/4, mb1mx3.1/49, mbtmp4.1/4, MS3.3/1, Ms1 3.2/1, ms1mx2.3/24, Error ellipse: s-maj=113.2km s-min=38.9km az=106.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.66**	**228**	P	Pn	21 29 00.0	-1.2
	3.6nm,0.3s,baz=49,slow=13,SNR=15						
PMG				S	Sn	21 30 28.1	+1.0
	0.3nm,0.3s,baz=287,slow=20,SNR=2.8						
WRA	**Warramunga Arr**	**23.88**	**228**	P	P	21 32 11.4	+0.9
	3.4nm,0.6s,baz=54,slow=10.0,SNR=37						
ASAR	**Alice Springs**	**26.62**	**222**	P	P	21 32 35.0	-0.3
	0.9nm,0.8s,baz=54,slow=8.9,SNR=9.6						
STKA	**Stephens Creek**	**29.46**	**200**	LR	LR	21 45 07.3	
	comp=Z,52nm,18.5s,baz=107,slow=36						
BVAR	**Borovoye Array**	**88.84**	**323**	P	P	21 39 47.5	+0.3
	0.6nm,0.8s,baz=96,slow=5.8,SNR=4.9						
TORD	**Torodi Ar. Bea**	**150.21**	**289**	PKPbc	PKPbc	21 46 43.4	-0.9
	0.6nm,0.8s,baz=78,slow=1.4,SNR=3.9						

*ISCJB **09** 21:37:07.9±0.9, 27°.49N±0°.04×111°.37W±0°.03, h1km±6km, mb4.3/15, MS3.5/11, Error ellipse: s-maj=7.3km s-min=4.9km az=169.9*

*MEX **09** 21:37:10.9±0.5, 27°.51N×111°.41W, h12km±6km, MD4.3*

*NEIC **09** 21:37:10.4±0.7, 27°.48N×111°.39W, h10km, mb4.1/17, MD4.3(MEX), Error ellipse: s-maj=9.5km s-min=6.4km az=22.0*

NEIC Felt [III] at Guaymas, Sonora. Also felt at Mulege, Baja California Sur.

*IDC **09** 21:37:10.5±1.1, 27°.79N×111°.23W, h0km, mb3.8/7, mb1 3.9/12, mb1mx3.7/57, mbtmp3.7/12, ML3.6/4, MS3.4/16, Ms1 3.4/16, ms1mx3.2/48, Error ellipse: s-maj=20.2km s-min=13.7km az=43.0*

ISC 09 21:37:10.0±1.2, 27°.48N±0°.04×111°.39W±0°.04, h6km±8km, n91, σ2°.42/96, mb4.2/15, MS3.4/11, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUYB	**Guaymas**	**0.62**	**48**	*e*P	**Pg**	**21 37 21.3**	**-0.7**
GUYB				*i* S	**Sg**	**21 37 29.4**	**-0.7**
SRIG	**Santa Rosalia**	**0.77**	**258**	*i* P	**Pg**	**21 37 23.6**	**-1.2**
SRIG				*e*S	**Sg**	**21 37 33.4**	**-1.4**
SRIG	**Santa Rosalia**	**0.77**	**258**	*e*Pg	**Pg**	**21 37 23.6**	**-1.2**
SRIG				*e*Sg	**Sg**	**21 37 35.1**	**+0.3**
HSIG		**1.58**	**14**	*e*P	**Pn**	**21 37 35.1**	**-3.5**
HSIG				*e*S	**Sn**	**21 37 54.6**	**-4.7**
HSIG		**1.58**	**14**	*e*Pn	**Pn**	**21 37 35.2**	**-3.3**
HSIG				*e*S	**Sn**	**21 37 57.5**	**-1.8**
LPIG	**La Paz**	**3.50**	**164**	Pn	**Pb**	**21 38 11.9**	**-0.5**
	7.3nm,0.3s,baz=331,slow=3.6,SNR=3.3						
LPIG				LR	LR	21 39 21.8	
	comp=Z,338nm,21.9s,baz=273,slow=35						
319A	**Douglas**	**4.30**	**25**	*e*Pn	**Pn**	**21 38 14.6**	**-1.4**
214A	**Organ Pipe Nat**	**4.63**	**345**	*e*Pn	**Pn**	**21 38 18.5**	**-2.0**
214A				*e*S	**Sg**	**21 39 37.4**	**-1.2**
TUC	**Tucson**	**4.84**	**6**	*e*Pn	**Pn**	**21 38 21.6**	**-1.8**
TUC				*e*S	**Sb**	**21 39 39.8**	**+6.0**
HPIG		**5.13**	**95**	*e*Pn	**Pn**	**21 38 26.1**	**-1.4**
113A	**Mohawk Valley,**	**5.66**	**339**	*e*Pn	**Pn**	**21 38 33.2**	**-1.3**
121A	**Cookes Peak, D**	**5.93**	**31**	*e*Pn	**Pn**	**21 38 37.7**	**-0.7**
	53nm,0.8s						
121A				*e*Pg	**Pg**	**21 39 04.9**	**+1.4**
121A				*e*S	Sn	21 39 56.3	+10
GLA	**Glamis**	**6.30**	**333**	*e*Pn	**Pn**	**21 38 42.2**	**-1.2**
GLA				*e*S	**Sn**	**21 39 51.6**	**-4.1**
Y14A	**Wickenburg**	**6.58**	**348**	*e*Pn	**Pn**	**21 38 46.9**	**-0.5**
MNTX	**Cornudas Mount**	**6.71**	**50**	*e*Pn	**Pn**	**21 38 47.7**	**-1.4**
MNTX				*e*S	**Sn**	**21 40 00.7**	**-5.1**
Y12C	**Blythe**	**6.81**	**337**	*e*Pn	**Pn**	**21 38 49.6**	**-0.7**
BAR	**Barrett**	**6.91**	**320**	*e*Pn	**Pn**	**21 38 54.2**	**+2.3**
	6.9nm,0.4s						
X16A	**Lo Mia Camp, P**	**6.92**	**360**	*e*Pn	**Pn**	**21 38 52.1**	**+0.1**
TXAR	**Lajitas Array**	**7.05**	**73**	Pn	**Pn**	**21 38 53.5**	**-0.3**
	0.5nm,0.3s,baz=247,slow=14,SNR=9.9						
TXAR				Sn	**Sn**	**21 40 10.1**	**-4.2**
	0.5nm,0.3s,baz=268,slow=28,SNR=5.1						
TXAR				Lg	Lg	21 40 48.4	
	5.1nm,0.3s,baz=254,slow=31,SNR=12						
X18A	**Snowflake**	**7.13**	**10**	*e*Pn	**Pn**	**21 38 54.9**	**-0.1**
W18A	**Petrified Fore**	**7.75**	**10**	*e*Pn	**Pn**	**21 39 03.1**	**-0.3**
LAZ	**Ladron**	**7.80**	**27**	*e*Pn	**Pn**	**21 39 05.7**	**+1.5**
LAZ				*e*S	**Sg**	**21 41 16.8**	**-3.8**
BNM	**Barren Site**	**7.81**	**30**	*e*Pn	**Pn**	**21 39 04.7**	**+0.4**
WUAZ	**Wupatki**	**8.01**	**0**	*e*Pn	**Pn**	**21 39 08.3**	**+1.3**
ANMO	**Albuquerque**	**8.56**	**28**	Pn	**Pn**	**21 39 13.2**	**-1.4**
	0.2nm,0.3s,baz=59,slow=8.9,SNR=2.4						
ANMO				Sn	**Sn**	**21 40 44.9**	**-6.6**
	0.3nm,0.3s,baz=232,slow=18,SNR=2.9						
ANMO				Lg	Lg	21 41 35.2	
	0.9nm,0.3s,baz=140,slow=22,SNR=11						
U15A	**North Rim**	**8.95**	**355**	*e*Pn	**Pn**	**21 39 21.6**	**+1.6**
GSC	**Goldstone, Bar**	**9.06**	**331**	*e*Pn	**Pn**	**21 39 20.8**	**-0.6**
KNB	**Kanab**	**9.59**	**353**	*e*Pn	**Pn**	**21 39 30.7**	**+2.0**
LCMT	**Little Creek M**	**9.63**	**351**	*e*Pn	**Pn**	**21 39 30.8**	**+1.5**
MSTX	**Muleshoe**	**9.84**	**47**	*e*Pn	**Pn**	**21 39 34.0**	**+2.0**
MVCO	**Mesa Verde**	**10.01**	**13**	*e*Pn	**Pn**	**21 39 36.5**	**+2.0**
	6.1nm,0.8s						
ISA	**Isabella, Lake**	**10.15**	**325**	*e*Pn	**Pn**	**21 39 39.0**	**+2.7**
CCUT	**Cedar City**	**10.18**	**351**	*e*Pn	**Pn**	**21 39 39.5**	**+2.6**
	7.2nm,1.2s						
TPNV	**Topopah Spring**	**10.29**	**338**	*e*Pn	**Pn**	**21 39 39.8**	**+1.4**
MTPU	**Mount Pierson**	**10.55**	**357**	*e*Pn	**Pn**	**21 39 41.8**	**-0.2**
JCT	**Junction City**	**10.58**	**71**	*e*Pn	**Pn**	**21 39 43.6**	**+1.5**
AMTX	**Amarillo**	**11.11**	**46**	*e*Pn	**Pn**	**21 39 53.4**	**+3.9**
T25A	**Trinidad**	**11.29**	**30**	*e*Pn	**Pn**	**21 39 54.2**	**+2.1**
ABTX	**Abilene, Hawle**	**11.39**	**60**	*e*Pn	**Pn**	**21 39 54.4**	**+1.1**
R11A	**Troy Canyon, C**	**11.39**	**343**	*e*Pn	**Pn**	**21 39 54.8**	**+1.3**
Q16A	**Castle Valley**	**11.41**	**1**	*e*Pn	**Pn**	**21 39 57.8**	**+4.2**
SRU	**San Rafael Swe**	**11.62**	**3**	*e*Pn	**Pn**	**21 39 55.3**	**-1.3**
P17A	**Butcher Ranch,**	**11.97**	**2**	*e*Pn	**Pn**	**21 40 05.1**	**+3.8**
NV11	**Mina Array Sit**	**12.30**	**334**	*e*Pn	**Pn**	**21 40 09.6**	**+3.8**
NVAR	**Mina Array Bea**	**12.36**	**334**	Pn	**Pn**	**21 40 07.1**	**+0.5**
	baz=144,slow=17,SNR=2.2						
NVAR				LR	LR	21 44 09.7	
	comp=Z,106nm,21.4s,baz=258,slow=35						
NLU	**North Lily Min**	**12.46**	**358**	*e*Pn	**Pn**	**21 40 11.3**	**+3.3**
WMOK	**Wichita Mounta**	**13.00**	**53**	*e*Pn	**Pn**	**21 40 15.2**	**+0.1**
JLU	**Jordanelle**	**13.09**	**360**	*e*Pn	**Pn**	**21 40 18.1**	**+1.4**
BGU	**Big Grassy Mou**	**13.48**	**355**	*e*Pn	**Pn**	**21 40 26.4**	**+4.5**
ELK	**Elko**	**13.61**	**347**	Pn	**Pn**	**21 40 27.2**	**+3.5**
	0.1nm,0.3s,baz=202,slow=19,SNR=4.2						
ELK				Lg	Lg	21 44 18.9	
	0.1nm,0.3s,baz=232,slow=18,SNR=2.0						
ELK				LR	LR	21 45 31.0	
	comp=Z,164nm,20.1s,baz=228,slow=38						
SPUT	**South Promonto**	**13.82**	**357**	*e*Pn	**Pn**	**21 40 29.6**	**+3.0**
PAHR	**Pah Rah Range**	**13.88**	**333**	*e*Pn	**P**	**21 40 37.5**	**+1.7**
HWUT	**Hardware Ranch**	**14.09**	**359**	*e*Pn	**P**	**21 40 35.1**	**-3.0**
ORV	**Oroville**	**14.69**	**328**	*e*Pn	**P**	**21 40 43.8**	**-0.7**
CBKS	**Cedar Bluff**	**14.92**	**38**	*e*Pn	**Pn**	**21 40 41.0**	**-0.5**
	12nm,0.7s						
PDAR	**Pinedale Array**	**15.32**	**5**	Pn	**Pn**	**21 40 46.8**	**-0.2**
	0.0nm,0.3s,baz=185,slow=9.5,SNR=2.4						
PDAR				Lg	Lg	21 45 06.0	
	0.0nm,0.3s,baz=220,slow=16,SNR=2.0						
PDAR				LR	LR	21 46 50.4	
	comp=Z,232nm,18.4s,baz=194,slow=39						
K22A	**Casper**	**15.65**	**13**	*e*Pn	**P**	**21 40 55.7**	**+0.3**
	24nm,1.1s						
FXWY	**Fox Creek**	**16.13**	**1**	*e*Pn	**P**	**21 41 00.6**	**-0.2**
	6.3nm,1.5s						
MOD	**Modoc Plateau**	**16.13**	**335**	*e*Pn	**P**	**21 41 01.7**	**+0.9**
	16nm,1.5s						
HLID	**Hailey**	**16.23**	**352**	*e*Pn	**P**	**21 41 02.5**	**+0.6**
	5.8nm,1.4s						
MOOW	**Moose Ponds**	**16.24**	**2**	*e*Pn	**P**	**21 41 01.8**	**-0.2**
	2.7nm,1.0s						
YBH	**Yreka Blue Hor**	**16.97**	**330**	LR	LR	21 47 26.4	
	comp=Z,133nm,19.4s,baz=193,slow=37						
K05A	**Summer Lake**	**17.06**	**336**	*e*Pn	**P**	**21 41 13.4**	**+2.3**
	50nm,1.6s						
YHH	**Holmes Hill**	**17.28**	**1**	*e*Pn	**P**	**21 41 20.4**	**+6.8**
	4.6nm,1.2s						
WHAR	**Wooly Hollow**	**18.06**	**60**	*e*Pn	**Pn**	**21 41 21.4**	**-0.1**
	18nm,1.3s						
LON	**Longmire**	**20.92**	**340**	*e*P	**P**	**21 41 55.0**	**+1.8**
	8.2nm,1.3s						
NEW	**Newport**	**21.22**	**349**	P	**P**	**21 41 56.1**	**-0.4**
	4.8nm,0.9s,baz=171,slow=13,SNR=5.1						
NEW				LR	LR	21 50 47.2	
	comp=Z,105nm,18.8s,baz=158,slow=39						
NEW	**Newport**	**21.22**	**349**	*e*P	**P**	**21 41 57.1**	**+0.6**
	4.8nm,0.9s						
PLAL	**Pickwick Lake**	**21.27**	**64**	*e*P	**P**	**21 41 57.6**	**+0.6**
	5.7nm,0.8s						
WALA	**Waterton Lakes**	**21.63**	**356**	*e*P	**P**	**21 42 04.2**	**+3.3**
	13nm,1.4s						
WVT	**Waverly**	**21.76**	**61**	*e*P	**P**	**21 42 03.2**	**+0.9**
	30nm,1.5s						
LLLB	**Lillooet**	**24.44**	**344**	*e*P	**P**	**21 42 24.5**	**-4.9**
	46nm,0.6s						
TKL	**Tuckaleechee C**	**24.84**	**64**	P	**P**	**21 42 32.7**	**-0.5**
	4.7nm,0.8s,baz=258,slow=9.3,SNR=4.7						
TKL				LR	LR	21 52 36.8	
	comp=Z,87nm,18.6s,baz=238,slow=38						
ULM	**Lac du Bonnet**	**25.64**	**23**	LR	LR	21 52 37.2	
	comp=Z,65nm,18.2s,baz=10.0,slow=37						
EDM	**Edmonton**	**25.75**	**357**	*e*P	**P**	**21 42 43.0**	**+1.7**
	18nm,1.1s						
CVRD	**Centerville Ro**	**30.00**	**61**	*e*P	**P**	**21 43 21.6**	**+2.3**
	28nm,1.0s						
JTS	**JuntasAbangare**	**30.19**	**119**	LR	LR	21 55 19.6	
	comp=Z,94nm,20.6s,baz=138,slow=36						
FCC	**Fort Churchill**	**33.51**	**16**	*e*P	**P**	**21 43 53.8**	**+3.9**
	5.5nm,1.3s						
YKA	**Yellowknife Ar**	**35.08**	**357**	P	**P**	**21 44 02.2**	**-1.3**
	0.1nm,0.6s,baz=182,slow=8.1,SNR=3.8						
BRYW	**Bryant College**	**35.46**	**56**	*e*P	**P**	**21 44 05.7**	**-1.4**
	98nm,0.3s						
SDV	**Santo Domingo**	**42.66**	**108**	P	**P**	**21 45 07.9**	**+0.1**
	4.9nm,0.8s,baz=304,slow=5.1,SNR=6.1						
SDV				LR	LR	22 04 04.9	
	comp=Z,23nm,20.9s,baz=306,slow=38						
SDV	**Santo Domingo**	**42.66**	**108**	*e*P	**P**	**21 45 08.3**	**+0.5**
	4.9nm,0.8s						
ILAR	**Eielson Array**	**43.55**	**339**	P	**P**	**21 45 14.5**	**+0.3**
	0.6nm,1.0s,baz=145,slow=7.3,SNR=5.9						
ILAR				LR	LR	22 05 48.0	
	comp=Z,46nm,20.2s,baz=112,slow=40						
IM3	**Indian Mountai**	**46.57**	**338**	*e*P	**P**	**21 45 38.8**	**+0.6**
SFJD	**Kangerlussuaq**	**53.66**	**25**	LR	LR	22 08 25.4	
	comp=Z,56nm,19.9s,baz=250,slow=35						
CPUP	**Villa Florida**	**74.61**	**131**	P	**P**	**21 48 51.4**	**+1.3**
	0.5nm,0.4s,baz=172,slow=11,SNR=2.7						
FINES	**FINESS Array B**	**84.95**	**19**	LR	LR	22 26 54.4	
	comp=Z,36nm,19.0s,baz=271,slow=35						
GERES	**GERESS Array B**	**89.59**	**33**	LR	LR	22 30 14.9	
	comp=Z,41nm,19.0s,baz=290,slow=36						
HNR	**Honiara**	**93.11**	**261**	LR	LR	22 26 00.1	
	comp=Z,32nm,18.5s,baz=88,slow=31						
AKASG	**Malin Array Be**	**94.73**	**24**	P	**P**	**21 50 32.0**	**-0.2**
	0.5nm,0.4s,baz=164,slow=28,SNR=4.5						
BVAR	**Borovoye Array**	**99.82**	**359**	LR	LR	22 38 55.0	
	comp=Z,19nm,21.3s,baz=317,slow=37						

*NIED **09** 21:39:00, 32°.50N×141°.40E, h50km, Mw3.6 Best double couple: M0 2.53000×10^14 NP1:φs274.00000°, δ49.00000°, λ-121.00000°. NP2:φs137.00000°, δ50.00000°, λ-60.00000°.*

JMA 09 21:39:11.9±0.3, 32°.49N×141°.36E, h8km, M3.5, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHCJ	**Hachijojimakas**	**1.44**	**294**	P	Pn	21 39 37.6	-0.7
JHJ2	**Mitsune**	**1.44**	**296**	P	Pn	21 39 38.4	+0.1
BSO1	**Boso 1**	**2.18**	**352**	P	Pn	21 39 49.0	+1.0
BSO1				S	Sn	21 40 16.5	+1.6
BSO3	**Boso 3**	**2.41**	**343**	P	Pn	21 39 52.9	+1.5
BSO3				S	Sn	21 40 22.6	+1.6
BSO4	**Boso 4**	**2.63**	**341**	P	Pn	21 39 56.2	+1.6
BSO4				S	Sn	21 40 28.8	+2.1

MAN 09 21:46:50, 10°.28N×123°.40E, h20km, mb3.7, ML2.4, MS1.8, Cebu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LLP	**Lapu-Lapu**	**0.56**	**86**	*e*P	Pn	21 47 02.7	-0.2
LLP				*e*S	Sn	21 47 13.5	+1.9
TBP	**Tagbilaran**	**0.74**	**142**	*e*P	Pn	21 47 04.9	-0.4
TBP				*i* S	Sn	21 47 17.8	+1.8
GUIM	**Jordan**	**0.87**	**294**	*e*P	Pn	21 47 06.9	-0.1
GUIM				*e*S	Sn	21 47 19.6	+0.4
SNPH	**Sibulan**	**0.94**	**190**	*e*P	Pb	21 47 06.2	-1.4
SNPH				*e*S	Sb	21 47 15.8	-4.0
MSLP	**Maasin**	**1.45**	**95**	*e*P	Pb	21 47 18.8	+2.5
MSLP				*e*S	Sb	21 47 41.0	+6.8

*ISCJB **09** 21:55:53.8±0.3, 43°.14N±0°.02×13°.55E±0°.03, h30km±2km, Error ellipse: s-maj=3.7km s-min=3.1km az=171.8*

*CSEM **09** 21:55:53.6±0.1, 43°.12N×13°.55E, h20km, ML3.1/15, Error ellipse: s-maj=2.7km s-min=2.1km az=65.0*

*ROM **09** 21:55:54.1±0.1, 43°.11N×13°.52E, h20km±2km, Md2.8/37, Ml2.6/35, Error ellipse: s-maj=2.2km s-min=1.2km az=68.0*

*LDG **09** 21:55:54.3±0.3, 43°.17N×13°.54E, h2km, Ml2.7/9, Error ellipse: s-maj=5.7km s-min=4.1km az=76.0*

ISC 09 21:55:53.2±1.0, 43°.12N±0°.02×13°.56E±0°.02, h18km±5km, n122, σ1°.44/170, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMA	**Gualdo di Mace**	**0.28**	**102**	Pg	**Pg**	**21 55 58.7**	**-0.7**
GUMA				Sg	**Sg**	**21 56 02.8**	**-0.9**
	560nm,0.5s						
GUMA	**Gualdo di Mace**	**0.28**	**102**	Pg	**Pg**	**21 55 58.7**	**-0.7**
GUMA				Sg	**Sg**	**21 56 02.8**	**-0.9**
	560nm,0.5s						
CING	**Cingoli**	**0.37**	**314**	Pg	**Pb**	**21 56 01.7**	**+0.4**
CING				Sg	**Sb**	**21 56 07.2**	**+0.4**
	230nm,0.4s						
CING	**Cingoli**	**0.37**	**314**	Pg	**Pb**	**21 56 01.7**	**+0.4**
CING				Sg	**Sb**	**21 56 07.2**	**+0.4**
	230nm,0.4s						
AOI	**Ancona**	**0.43**	**4**	Pg	**Pb**	**21 56 02.8**	**+0.5**
AOI				Sg	**Sn**	**21 56 10.8**	**-1.2**
	467nm,0.4s						
AOI	**Ancona**	**0.43**	**4**	Pg	**Pb**	**21 56 02.8**	**+0.5**
AOI				Sg	**Sn**	**21 56 10.8**	**-1.2**
	467nm,0.4s						
NRCA	**Norcia**	**0.44**	**229**	Pg	**Pg**	**21 56 02.2**	**0.0**
NRCA				Sg	**Sb**	**21 56 09.3**	**+0.6**
	599nm,0.2s						
NRCA	**Norcia**	**0.44**	**229**	Pg	**Pg**	**21 56 02.2**	**0.0**
NRCA				Sg	**Sb**	**21 56 09.3**	**+0.6**
	599nm,0.2s						
SNTG	**Esanatoglia**	**0.47**	**286**	Pg	**Pg**	**21 56 02.7**	**-0.1**
SNTG				Sg	**Sb**	**21 56 09.9**	**+0.2**
	484nm,0.4s						
SNTG	**Esanatoglia**	**0.47**	**286**	Pg	**Pg**	**21 56 02.7**	**-0.1**
SNTG				Sg	**Sb**	**21 56 09.9**	**+0.2**
	484nm,0.4s						
CESI	**CESI - Serrava**	**0.50**	**257**	Pg	**Pg**	**21 56 03.1**	**-0.1**
CESI				Sg	**Sb**	**21 56 10.8**	**+0.4**
	210nm,0.3s						
CESI	**CESI - Serrava**	**0.50**	**257**	Pg	**Pg**	**21 56 03.1**	**-0.1**
CESI				Sg	**Sb**	**21 56 10.8**	**+0.4**
	210nm,0.3s						
TERO	**Teramo**	**0.50**	**176**	Pg	**Pg**	**21 56 03.5**	**+0.2**
	260nm,0.4s						
TERO	**Teramo**	**0.50**	**176**	Pg	**Pg**	**21 56 03.5**	**+0.2**
	260nm,0.4s						
SMA1	**SAN MARTINO**	**0.52**	**199**	Pg	**Pg**	**21 56 03.7**	**0.0**
SMA1				Sg	**Sb**	**21 56 11.5**	**+0.4**
SMA1	**SAN MARTINO**	**0.52**	**199**	Pg	**Pg**	**21 56 03.7**	**0.0**
SMA1				Sg	**Sb**	**21 56 11.5**	**+0.4**
ARVD	**Arcevia**	**0.59**	**310**	Pg	**Pb**	**21 56 04.9**	**-0.1**
ARVD				Sg	**Sn**	**21 56 14.9**	**-1.0**
	113nm,0.5s						
ARVD	**Arcevia**	**0.59**	**310**	Pg	**Pb**	**21 56 04.9**	**-0.1**
ARVD				Sg	**Sn**	**21 56 14.9**	**-1.0**
	113nm,0.5s						
CAMP	**Campotosto**	**0.60**	**191**	Pg	**Pg**	**21 56 05.1**	**0.0**
CAMP				Sg	**Sb**	**21 56 14.5**	**+1.2**
	294nm,0.7s						
CAMP	**Campotosto**	**0.60**	**191**	Pg	**Pg**	**21 56 05.1**	**0.0**
CAMP				Sg	**Sb**	**21 56 14.5**	**+1.2**
	294nm,0.7s						
SENI	**Senigallia**	**0.63**	**338**	Pg	**Pn**	**21 56 07.3**	**0.0**
	341nm,0.7s						
SENI	**Senigallia**	**0.63**	**338**	Pg	**Pn**	**21 56 07.3**	**0.0**
	341nm,0.7s						
ATCC	**AVT- Casa Cast**	**0.68**	**276**	Pg	**Pg**	**21 56 05.8**	**-0.8**
	313nm,0.4s						
ATCC	**AVT- Casa Cast**	**0.68**	**276**	Pg	**Pg**	**21 56 05.8**	**-0.8**
	313nm,0.4s						
FRON	**Frontone**	**0.73**	**303**	Pg	**Pg**	**21 56 07.3**	**-0.2**
FRON				Sg	**Sn**	**21 56 18.6**	**-0.7**
	326nm,0.6s						
FRON	**Frontone**	**0.73**	**303**	Pg	**Pg**	**21 56 07.3**	**-0.2**
FRON				Sg	**Sn**	**21 56 18.6**	**-0.7**
	326nm,0.6s						
VCEL	**Villa Celiera**	**0.76**	**164**	Pg	Pn	**21 56 08.8**	**-0.3**
	363nm,0.5s						
VCEL	**Villa Celiera**	**0.76**	**164**	Pg	Pn	**21 56 08.8**	**-0.3**
	363nm,0.5s						
MURB	**Monte Urbino**	**0.77**	**281**	Pg	**Pb**	**21 56 07.9**	**-0.2**
MURB				Sg	**Sg**	**21 56 19.2**	**+0.6**
	584nm,0.4s						
MURB	**Monte Urbino**	**0.77**	**281**	Pg	**Pb**	**21 56 07.9**	**-0.2**
MURB				Sg	**Sg**	**21 56 19.2**	**+0.6**
	584nm,0.4s						
MPAG	**Monte Paganucc**	**0.77**	**311**	Pg	**Pg**	**21 56 08.5**	**+0.1**
	192nm,0.4s						
MPAG	**Monte Paganucc**	**0.77**	**311**	Pg	**Pg**	**21 56 08.5**	**+0.1**
	192nm,0.4s						
AQU	**L'Aquila**	**0.78**	**189**	Pg	Pn	**21 56 09.2**	**-0.1**
	176nm,0.4s						
AQU	**L'Aquila**	**0.78**	**189**	Pg	Pn	**21 56 09.2**	**-0.1**
	176nm,0.4s						
T0104	**Madonna delle**	**0.78**	**192**	Pg	**Pb**	**21 56 08.2**	**-0.1**
FSSB	**Fossombrone**	**0.81**	**315**	Pg	**Pn**	**21 56 09.7**	**0.0**
	990nm,0.4s						
FSSB	**Fossombrone**	**0.81**	**315**	Pg	Pn	**21 56 09.7**	**0.0**
	990nm,0.4s						
FAGN	**Fagnano**	**0.86**	**179**	Pg	Pn	**21 56 11.0**	**+0.6**
	641nm,0.4s						
FAGN	**Fagnano**	**0.86**	**179**	Pg	Pn	**21 56 11.0**	**+0.6**
	641nm,0.4s						
PIEI	**Pieia**	**0.86**	**299**	Pg	**Pb**	**21 56 09.3**	**-0.3**
PIEI				Sg	**Sn**	**21 56 22.6**	**+0.1**
	144nm,0.4s						
PIEI	**Pieia**	**0.86**	**299**	Pg	**Pb**	**21 56 09.3**	**-0.3**
PIEI				Sg	**Sn**	**21 56 22.6**	**+0.1**
	144nm,0.4s						
ATPC	**Poggio Castell**	**0.88**	**294**	Pg	Pb	**21 56 10.1**	**+0.1**
	302nm,0.5s						
ATPC	**Poggio Castell**	**0.88**	**294**	Pg	Pb	**21 56 10.1**	**+0.1**
	302nm,0.5s						
ATVO	**AVT- Monte Val**	**0.88**	**287**	Pg	**Pb**	**21 56 09.5**	**-0.5**
ATVO				Sg	**Sn**	**21 56 22.8**	**-0.4**
	284nm,0.9s						
ATVO	**AVT- Monte Val**	**0.88**	**287**	Pg	**Pb**	**21 56 09.5**	**-0.5**
ATVO				Sg	**Sn**	**21 56 22.8**	**-0.4**
	284nm,0.9s						
ATTE	**AVT- Monte Tez**	**0.89**	**275**	Pg	Pb	**21 56 09.7**	**-0.4**
	194nm,0.5s						
ATTE	**AVT- Monte Tez**	**0.89**	**275**	Pg	Pb	**21 56 09.7**	**-0.4**
	194nm,0.5s						
FIAM	**Fiamignano**	**0.92**	**201**	Pg	Pg	**21 56 11.2**	**+0.2**
	189nm,0.5s						
FIAM	**Fiamignano**	**0.92**	**201**	Pg	Pg	**21 56 11.2**	**+0.2**
	189nm,0.5s						
BADI	**Badiali**	**1.04**	**292**	Pg	Pg	**21 56 13.3**	**0.0**
	142nm,0.4s						
BADI	**Badiali**	**1.04**	**292**	Pg	Pg	**21 56 13.3**	**0.0**
	142nm,0.4s						
ATMC	**Monte Cedrone**	**1.05**	**288**	Pg	Pg	**21 56 14.1**	**+0.5**
	231nm,0.5s						
ATMC	**Monte Cedrone**	**1.05**	**288**	Pg	Pg	**21 56 14.1**	**+0.5**
	231nm,0.5s						
PARC	**Parchiule**	**1.10**	**299**	Pg	Pn	**21 56 13.8**	**0.0**
	195nm,1.1s						
PARC	**Parchiule**	**1.10**	**299**	Pg	Pn	**21 56 13.8**	**0.0**
	195nm,1.1s						
PTQR	**Pietraquaria**	**1.11**	**186**	Pg	Pn	**21 56 14.4**	**+0.5**
**PTQ

MOA	Molln	4.75	6	Pn	Pn	21 57 05.0	+1.0
	0.6nm,0.2s						
MOA	Molln	4.75	6	*i* Pn	Pn	21 57 05.0	+1.0
	0.6nm,0.2s						
FRF	La Foret Royal	5.06	277	*e*Pn	Pn	21 57 09.9	+1.7
FRF	La Foret Royal	5.06	277	*e*Pn	Pn	21 57 09.9	+1.7
CONA	Conrad Observa	5.07	18	Pn	Pn	21 57 08.5	+0.1
	0.8nm,0.2s						
CONA				Sn	Sn	21 58 02.7	-3.8
	0.7nm,0.2s						
CONA	Conrad Observa	5.07	18	*i* Pn	Pn	21 57 08.5	+0.1
	0.8nm,0.2s						
CONA				*e*Sn	Sn	21 58 02.7	-3.8
	0.7nm,0.2s						
LMR	La Mourre	5.16	275	*e*Pn	Pn	21 57 11.0	+1.5
LMR				*e*Sn	Sn	21 58 07.3	-1.2
LMR	La Mourre	5.16	275	*e*Pn	Pn	21 57 11.0	+1.5
LPG	La Plagne	5.43	298	*e*Pn	Pn	21 57 14.0	+0.5
LPG				*e*Sn	Sn	21 58 10.4	-5.3
	0.5nm,0.2s						
LPG	La Plagne	5.43	298	*e*Pn	Pn	21 57 14.0	+0.5
LPL	La Plagne	5.45	298	*e*Pn	Pn	21 57 14.3	+0.5
LPL				*e*Sn	Sn	21 58 09.9	-6.2
	2.0nm,0.4s						
LPL	La Plagne	5.45	298	*e*Pn	Pn	21 57 14.3	+0.5
SMRF	Simiane la Rot	5.87	281	*e*Pn	Pn	21 57 22.2	+2.9
SMRF				*e*Sn	Sn	21 58 24.5	-1.6
KHC	Kasperske Hory	6.01	0	*e*PN	Pn	21 57 21.6	+0.4
KHC				*e*x	x	21 57 26.8	
KHC				*e*SN	Sn	21 58 25.9	-3.7
KHC				*e*x	x	21 58 47.5	
KHC				*e*SG	Sg	21 59 12.8	+6.8
KHC	Kasperske Hory	6.01	0	Pn	Pn	21 57 21.6	+0.4
CABF	La Chapelle	6.35	306	*e*Pn	Pn	21 57 26.0	0.0
CABF				*e*Sn	Sn	21 58 35.0	-3.1
	1.1nm,0.3s						
CABF	La Chapelle	6.35	306	*e*Pn	Pn	21 57 26.0	0.0
HINF	Hinteralfeld	6.65	317	*e*Pn	Pn	21 57 29.1	-1.0
HINF				*e*Sn	Sn	21 58 40.8	-4.6
	2.7nm,0.4s						
HINF	Hinteralfeld	6.65	317	*e*Pn	Pn	21 57 29.1	-1.0
CDF	Champ du Feu	6.88	322	*e*Pn	Pn	21 57 32.6	-0.6
CDF				*e*Sn	Sn	21 58 47.2	-3.8
	0.8nm,0.3s						
CDF	Champ du Feu	6.88	322	*e*Pn	Pn	21 57 32.6	-0.6
HAU	Haudompre	7.03	316	*e*Pn	Pn	21 57 34.8	-0.5
HAU				*e*Sn	Sn	21 58 48.7	-6.0
	1.6nm,0.3s						
HAU	Haudompre	7.03	316	*e*Pn	Pn	21 57 34.8	-0.5
LOR	Lormes	8.01	305	*e*Pn	Pn	21 57 47.7	-0.9
LOR				*e*Sn	Sn	21 59 13.2	-5.5
	1.8nm,0.3s						
LOR	Lormes	8.01	305	*e*Pn	Pn	21 57 47.7	-0.9

MAN 09 22:08:57, 10°.14N×123°.36E, h32km, mb4.1, ML2.9, MS2.5, 1D, Cebu

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LLP	Lapu-Lapu	0.62	73	*e*P	Pn	22 09 10.6	+0.9
LLP				*e*S	Sn	22 09 20.5	+2.0
SNPH	Sibulan	0.80	189⇓	*e*P	Pb	22 09 13.1	+0.7
SNPH				*e*S	Sb	22 09 24.0	+1.0
GUIM	Jordan	0.90	303	*e*P	Pb	22 09 14.0	-0.2
GUIM				*e*S	Sb	22 09 26.6	+0.6
MSLP	Maasin	1.48	90	*e*P	Pb	22 09 25.6	+1.8
MSLP				*e*S	Sb	22 09 47.0	+4.8

*NEIC **09** 22:26:16.5±1.4, 6°.98N×127°.24E, h39km±12km, mb4.5/3, Error ellipse: s-maj=16.7km s-min=6.2km az=53.0*
*ISCJB **09** 22:26:17.9±0.5, 6°.76N±0°.03×126°.96E±0°.05, h71km±6km, mb4.2/11, Error ellipse: s-maj=7.9km s-min=4.2km az=161.1*
*DJA **09** 22:26:18.5±0.6, 7°N±4°×12°7E±°, h117km±8km, M4.7/12, mb4.8/12, mB4.9/6, MLv5.0/6, Mw(mB)4.2/6*
*IDC **09** 22:26:18.3±3.4, 6°.88N×127°.02E, h52km±32km, mb3.8/8, mb1 4.0/9, mb1mx3.6/52, mbtmp4.1/9, ML4.9/1, MS3.1/9, Ms1 3.1/9, ms1mx2.8/51, Error ellipse: s-maj=34.8km s-min=11.7km az=51.0*
*MAN **09** 22:26:21, 6°.85N×126°.53E, h6km, mb5.0, ML3.9, MS3.9*
ISC 09 22:26:19.3±1.1, **6°.80N**±0°.05×**126°.97E**±0°.07, **h61**km±11km, **n55**, σ**2s.26**/63, **mb4.0**/11, **6C-1D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DAV	Davao City (W)	1.41	281	P	Pn	22 26 42.3	-0.5
	128nm,0.3s,baz=90,slow=4.0,SNR=14						
DAV				S	Sn	22 26 59.8	-0.6
	298nm,0.3s,baz=274,slow=19,SNR=39						
DAV	Davao City (W)	1.41	281	*e*Pn	Pn	22 26 42.8	-0.1
DAV				*e*S	Sn	22 27 01.6	+1.1
DMPH	Davao City--Mi	1.48	281⇑	*e*P	Pn	22 26 46.5	+2.7
DMPH				*e*S	Sn	22 27 04.4	+2.3
BIPH	Bislig	1.50	336⇑	*e*P	Pn	22 26 42.7	-1.4
BIPH				*e*S	Sn	22 27 01.7	-1.0
KCP	Kidapawan	1.88	276⇓	*e*P	Pn	22 26 47.1	-2.1
KCP				*i* S	Sn	22 27 09.2	-2.7
GSPH	General Santos	2.13	251⇑	*i*P	Pn	22 26 48.5	-4.2
GSPH				*i* S	Sn	22 27 11.7	-6.4
BUKP	Musuan	2.17	300	*e*P	Pn	22 26 52.8	-0.5
BUKP				*e*S	Sn	22 27 20.4	+1.3
BUTP	Butuan	2.54	328	*e*P	Pn	22 26 59.9	+1.7
BUTP				*e*S	Sn	22 27 34.7	+6.9
CTBH	Cotabato--PC H	2.74	279⇑	*i*P	Pn	22 26 59.6	-1.2
CTBH				*i* S	Sn	22 27 29.8	-3.0
SCPH	Surigao	3.31	334⇑	*e*P	Pn	22 27 12.5	+3.9
SCPH				*e*S	Sn	22 27 52.7	+5.9
SGSI	Sangihe	3.41	205	P	Pn	22 27 11.7	+1.6
SGSI				S	Sn	22 27 54.1	+4.7
MSLP	Maasin	3.92	328	*e*P	Pn	22 27 17.4	+0.4
IPIL	Ipil	4.47	283	*e*P	Pn	22 27 25.3	+0.6
SNPH	Sibulan	4.48	305	*e*P	Pn	22 27 25.5	+0.7
PLP	Palo	4.76	336⇑	*e*P	Pn	22 27 31.4	+2.8
PLP				*e*S	Sn	22 28 33.4	+11
BESP	Borongan	5.00	343	*e*P	Pn	22 27 37.5	+5.6
TNTI	Ternate	6.00	176	*e*Pn	Pn	22 27 44.9	-0.8
TNTI				*e*S	Sn	22 28 50.1	-2.9
CNP	Catarman	6.11	338	*e*P	Pn	22 27 54.1	+7.0
KMSI	Cibinong	6.87	206	P	Pn	22 27 57.6	+0.1
LBMI	Labuha	7.41	176	P	Pn	22 28 06.3	+1.4
LBMI				S	Sn	22 29 32.8	+5.2
MRSI	Marisa	8.04	219	P	Pn	22 28 12.6	-0.9
SWI	Sorong	8.73	150	P	Pn	22 28 22.4	-0.6
SWI				S	Sn	22 30 03.3	+3.2
SIJI	Sorong	8.74	150	P	Pn	22 28 22.7	-0.5
	13nm,0.3s,baz=0.0,slow=20,SNR=12						
SIJI				S	Sn	22 29 56.4	-3.9
	5.7nm,0.3s,baz=151,slow=24,SNR=9.6						
LUWI	Luwuk	8.85	208	P	Pn	22 28 24.2	-0.4
LUWI				S	Sn	22 30 04.8	+2.0
LUWI	Luwuk	8.85	208	*e*Pn	Pn	22 28 25.3	+0.7
LUWI				*e*S	Sn	22 30 08.9	+6.1
SANI	Sanana	8.85	186	P	Pn	22 28 22.3	-2.3
SANI				S	Sn	22 30 05.7	+2.9
APSI	Ampana	9.32	215	P	Pn	22 28 29.2	-1.9
APSI				S	Sn	22 30 17.0	+2.5
MPSI	Mapaga	9.54	228	P	Pn	22 28 31.4	-2.7
MPSI				S	Sn	22 30 19.8	0.0
NLAI	Namlea	9.97	179	P	Pn	22 28 39.7	-0.3
MSAI	Masohi	10.27	169	P	Pn	22 28 44.0	0.0
FAKI	Fak Fak	11.00	151	*e*Pn	Pn	22 28 51.9	-2.2
SBUM	Sibu	15.32	254	*e*Pn	P	22 29 55.5	-0.2
	20nm,0.7s						
BATI	Baumata	17.21	191	P	Pn	22 30 12.2	-3.7
	2.1nm,0.3s,baz=167,slow=18,SNR=2.2						
BATI				LR	LR	22 36 50.5	
	comp=Z,67nm,21.8s,baz=360,slow=36						
GUMO	Guam	18.85	68	LR	LR	22 36 26.8	
	comp=Z,40nm,20.9s,baz=88,slow=32						
MTN	Manton Dam	19.95	168	*e*P	P	22 30 47.6	+1.0
	24nm,1.0s						
JNU	Nakatsue	26.44	7	LR	LR	22 43 30.6	
	comp=Z,17nm,20.2s,baz=121,slow=39						
WRA	Warramunga Arr	27.55	165	P	P	22 32 00.6	-0.1
	2.9nm,0.7s,baz=346,slow=10,SNR=19						
WB2	Warramunga Arr	27.55	165	*e*P	P	22 31 59.9	-0.9
CMAR	Chiang Mai Arr	29.65	296	LR	LR	22 45 44.8	
	comp=Z,42nm,18.8s,baz=132,slow=39						
KSRS	Korea Array	30.52	1	LR	LR	22 46 15.4	
	comp=Z,24nm,19.1s,baz=204,slow=39						
ASAR	Alice Springs	31.03	168	P	P	22 32 31.6	+0.1
	1.6nm,0.5s,baz=348,slow=7.4,SNR=24						
FORT	Forrest	37.38	178	*e*P	P	22 33 26.6	+0.2
	519nm,1.2s						
GTA	Gaotai	40.63	327	*e*P	P	22 33 56.8	+3.1
GTA				pP	pP	22 34 02.1	-7.0
GTA				sP	sP	22 34 05.0	-11
GTA				pmax	pmax		
	comp=Z,3.0nm,1.0s						
STKA	Stephens Creek	40.92	161	P	P	22 33 56.4	+0.5
	comp=Z,3.7nm,0.5s,baz=332,slow=8.7,SNR=18						
STKA				LR	LR	22 52 39.6	
	comp=Z,16nm,21.7s,baz=23,slow=39						
MK01	Makanchi Array	55.19	324	*e*P	P	22 35 45.4	-0.6
MKAR	Makanchi Array	55.21	324	P	P	22 35 45.8	-0.3
	comp=Z,0.8nm,0.5s,baz=124,slow=8.0,SNR=13						
ZALV	Zalesovo Beam	57.99	332	LR	LR	23 02 13.5	
	comp=Z,14nm,18.1s,baz=70,slow=37						
KURK	Kurchatov	59.31	326	P	P	22 36 14.1	-0.8
KURBB	Kurchatov Arra	59.31	326	P	P	22 36 14.1	-0.8
	comp=Z,1.4nm,0.7s,baz=126,slow=6.4,SNR=11						
BVAR	Borovoye Array	64.91	326	P	P	22 36 52.2	-0.2
	comp=Z,1.1nm,0.8s,baz=150,slow=6.7,SNR=5.5						
AB31	Akbulak array	69.95	320	*e*P	P	22 37 23.7	-0.6
ABKAR	Akbulak array	69.95	320	*e*P	P	22 37 23.5	-0.8
	comp=Z,8.4nm,0.8s						
AKTO	Aktyubinsk	71.43	321	P	P	22 37 32.9	-0.4
	comp=Z,0.8nm,0.5s,baz=107,slow=8.9,SNR=3.5						
AKTO				LR	LR	23 09 42.7	
	comp=Z,20nm,19.6s,baz=94,slow=36						
ILAR	Eielson Array	82.25	26	P	P	22 38 33.0	-0.8
	comp=Z,0.3nm,0.6s,baz=242,slow=5.3,SNR=6.9						
NOA	NORSAR Array B	96.16	334	LR	LR	23 27 14.8	
	comp=Z,15nm,18.5s,baz=105,slow=38						

*NEIC **09** 22:28:56.0±0.0, 15°.99N×94°.30W, h20km, MD4.1(MEX), After MEX.*
MEX 09 22:28:56.0±0.7, **15°.99N**×**94°.30W**, **h20**km±557km, **MD4.1, Near coast of Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PCIG		1.07	105	*e*P	Pb	22 29 12.4	-3.4
PCIG				*e*S	Sb	22 29 26.3	-3.2
PCIG		1.07	105	*e*P	Pb	22 29 12.4	-3.4
PCIG				*e*S	Sb	22 29 26.3	-3.2
TGIG		1.37	55	*i* P	Pn	22 29 17.0	-3.1
TGIG		1.37	55	*i* P	Pn	22 29 17.0	-3.1
HUIG	Huatulco	1.76	263	*i* P	Pn	22 29 22.4	-2.9
HUIG				*e*S	Sn	22 29 42.6	-4.6
HUIG	Huatulco	1.76	263	*i* P	Pn	22 29 22.4	-2.9
HUIG				*e*S	Sn	22 29 42.6	-4.6
CCIG	Comitan	2.10	82	*i* P	Pn	22 29 26.5	-3.7
CCIG	Comitan	2.10	82	*i* P	Pn	22 29 26.5	-3.7
VHO	Vista Hermosa	2.58	295	*e*P	Pn	22 29 36.0	-0.7
VHO	Vista Hermosa	2.58	295	*e*P	Pn	22 29 36.0	-0.7
LVIG	Laguna Verde	4.23	332	Pn	Pn	22 29 55.8	-3.5
LVIG				Sn	Sn	22 30 45.2	-3.0

*CSEM **09** 22:29:28.9±0.3, 67°.18N×20°.69E, h2km, ML0.9, Error ellipse: s-maj=6.1km s-min=4.2km az=45.0, Mining explosion.*
*UPP **09** 22:29:29.6, 67°.18N×20°.60E, h0km, ML0.9, Mining explosion.*
HEL 09 22:29:30.1±0.0, **67°.18N**×**20°.62E, h0**km, **ML1.5, ML0.9**(UPP), **Explosion, Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DUNU	Dundret	0.06	198	P	Pg	22 29 31.0	-0.2
DUNU				S	Sg	22 29 32.0	+0.1
DUNU	Dundret	0.06	198	*i* P	Pg	22 29 31.0	-0.2
DUNU				*i* S	Sg	22 29 32.0	+0.1
MASU	Masugnsbyn	0.61	62	P	Pg	22 29 41.2	-0.5
MASU	Masugnsbyn	0.61	62	*i* P	Pg	22 29 41.2	-0.5
RATU	Laukkuluspa	0.76	329	P	Pg	22 29 43.6	-1.0
RATU	Laukkuluspa	0.76	329	*i* P	Pg	22 29 43.6	-1.0
KUA	Kurravaara	0.79	352	P	Pg	22 29 44.3	-0.9
KUA	Kurravaara	0.79	352	*i* P	Pg	22 29 44.3	-0.9
SALU	Saltoluokta	0.84	285	P	Pg	22 29 45.3	-0.9
SALU	Saltoluokta	0.84	285	*i* P	Pg	22 29 45.3	-0.9
ERTU	Ertsjaerv	0.88	134	P	Pg	22 29 45.8	-1.2
ERTU	Ertsjaerv	0.88	134	*e*P	Pg	22 29 45.8	-1.1
	baz=312						
NIKU	Nikkaluokta	0.92	320	P	Pg	22 29 46.7	-1.0
NIKU	Nikkaluokta	0.92	320	*e*P	Pg	22 29 46.7	-1.1
LANU	Lannavaara	1.02	30	*e*P	Pg	22 29 48.4	-1.3
LANU	Lannavaara	1.02	30	*e*P	Pg	22 29 48.4	-1.2
HEF	Hetta	1.69	42	*e*Pg	Pn	22 30 00.4	-0.5
HEF				*e*Sn	Sn	22 30 23.0	-0.3
HEF	Hetta	1.69	42	*e*PG	Pn	22 30 00.4	-0.5
	baz=230						
HEF				*e*SN	Sn	22 30 23.0	-0.3
KALU	Kalix	1.72	139	*e*Pn	Pn	22 30 01.1	-0.1
KALU				*e*Sn	Sg	22 30 26.3	+1.1
KALU	Kalix	1.72	139	*e*PN	Pn	22 30 01.1	-0.1
	baz=311						
KALU				*e*SN	Sg	22 30 26.3	+1.1
KIF	Kilpisjarvi	1.84	2	*e*Pg	Pb	22 30 03.7	-0.8
KIF				*e*Sg	Sg	22 30 29.1	+0.1
	2.5nm,0.2s						
KIF	Kilpisjarvi	1.84	2	*e*PG	Pb	22 30 03.7	-0.8
	baz=175						
KIF				MSG		22 30 25.9	
	comp=Z,2.5nm,0.2s						
KIF				*e*SG	Sg	22 30 29.1	+0.1
TOF	Tornio	1.84	125	*e*Pg	Pn	22 30 03.3	+0.4
TOF				*e*Sn	Sb	22 30 28.4	+0.2
TOF	Tornio	1.84	125	*e*PG	Pn	22 30 03.3	+0.4
TOF				MSG		22 30 25.4	
	comp=Z,2.3nm,0.2s						
TOF				*e*SN	Sb	22 30 28.4	+0.2
SGF	Sodankyl	2.31	81	*e*Pg	Pb	22 30 11.1	-1.4
SGF				*e*Sg	Sb	22 30 41.8	+0.3
SGF	Sodankyl	2.31	81	*e*PG	Pb	22 30 11.1	-1.4
	baz=262						
SGF				*e*SG	Sb	22 30 41.8	+0.3
OUL	Oulu	3.00	132	*e*Sg	Sb	22 31 03.1	+1.6
OUL	Oulu	3.00	132	*e*SG	Sb	22 31 03.1	+1.6

*ISCJB **09** 22:39:52.1±0.6, 6°.66S±0°.09×155°.54E±0°.06, h150km, mb3.7/9, Error ellipse: s-maj=12.3km s-min=7.7km az=6.8*
*IDC **09** 22:39:52.2±2.2, 6°.61S×155°.52E, h134km±24km, mb3.5/8, mb1 3.6/10, mb1mx3.4/46, mbtmp3.9/10, MS3.1/1, Ms1 3.1/1, ms1mx2.3/31, Error ellipse: s-maj=21.4km s-min=14.1km az=162.0*
ISC 09 22:39:53.4±0.7, **6°.7S**±0°.1×**155°.55E**±0°.08, **h150**km, **n15**, σ**1s.08**/13, **mb3.6**/9, **Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HNR	Honiara	5.14	122	P	Pn	22 41 07.3	-1.4
	18nm,0.3s,baz=200,slow=12,SNR=2.5						
HNR				S	Sn	22 42 08.2	+0.7
	20nm,0.3s,baz=187,slow=16,SNR=3.5						
PMG	Port Moresby	8.74	251	P	Pn	22 41 56.5	-0.2
	1.7nm,0.3s,baz=125,slow=23,SNR=4.6						
PMG				S	Sn	22 43 33.1	-0.8
	1.8nm,0.3s,baz=81,slow=18,SNR=6.5						
WRA	Warramunga Arr	24.45	235	P	P	22 44 58.7	+0.1
	23nm,0.6s,baz=58,slow=10.0,SNR=100						
ASAR	Alice Springs	26.80	229	P	P	22 45 19.3	-0.4
	0.9nm,0.5s,baz=59,slow=9.9,SNR=12						
H11S3	WAKE ISLAND Hy	27.32	24	T	T	23 13 59.7	
	baz=203,slow=74						
H11S2	WAKE ISLAND Hy	27.32	24	T	T	23 14 00.9	
	baz=203,slow=74						
H11S1	WAKE ISLAND Hy	27.33	24	T	T	23 14 00.2	
	baz=203						
STKA	Stephens Creek	28.26	206	P	P	22 45 33.8	+1.2
	2.9nm,1.0s,baz=180,slow=20,SNR=4.5						
MJAR	Matsushiro Arr	45.96	340	P	P	22 48 00.0	-1.5
	0.8nm,0.4s,baz=171,slow=7.8,SNR=3.5						
PETK	Petropavlovsk-	59.58	2	LR	LR	23 11 36.8	
	comp=Z,17nm,21.7s,baz=51,slow=32						
SONM	Songino Array	69.37	327	P	P	22 50 46.7	+1.6
	0.4nm,0.4s,baz=120,slow=4.8,SNR=3.8						
ILAR	Eielson Array	82.88	21	P	P	22 52 00.4	-0.5
	0.2nm,0.5s,baz=248,slow=5.5,SNR=4.9						
MKAR	Makanchi Array	83.53	319	P	P	22 52 05.0	+0.3
	0.6nm,0.6s,baz=100,slow=5.3,SNR=9.5						
ZALV	Zalesovo Beam	84.23	326	P	P	22 52 07.4	-0.5
	0.3nm,0.4s,baz=83,slow=6.0,SNR=2.5						
YKA	Yellowknife Ar	95.80	28	P	P	22 53 03.5	+1.2
	0.2nm,0.7s,baz=262,slow=4.7,SNR=3.5						

*ISCJB **09** 22:49:48.4±0.8, 51°.40N±0°.04×16°.18E±0°.04, h0km, Error ellipse: s-maj=5.8km s-min=3.2km az=22.3*
*CSEM **09** 22:49:49.9±0.5, 51°.40N×16°.17E, h2km, ML2.8/10, Error ellipse: s-maj=7.1km s-min=3.9km az=7.0, Suspected Mining induced.*
*VIE **09** 22:49:53.0±1.1, 51°.15N×16°.22E, h0km, mb1.8/2, ML2.2/4, Error ellipse: s-maj=9.3km s-min=7.1km az=100.0, Suspected Mining induced.*
ISC 09 22:49:50.3±1.2, **51°.39N**±0°.05×**16°.18E**±0°.03, **h0**km, **n32**, σ**0s.71**/62, **Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSP	Ksiaz	0.55	173	*e*Pg	Pg	22 50 01.4	+0.5
KSP				*e*Sg	Sg	22 50 09.3	+1.3
KSP	Ksiaz	0.55	173	*e*Pg	Pg	22 50 01.4	+0.5
KSP				*e*Sg	Sg	22 50 09.3	+1.3
UPC	Upice	0.89	187	*e*PG	Pg	22 50 07.7	+0.4
UPC				*e*SG	Sb	22 50 20.2	-0.8
	comp=Z,29nm,0.3s						
UPC	Upice	0.89	187	Pg	Pg	22 50 07.7	+0.4
UPC				Sg	Sb	22 50 20.2	-0.8
	29nm,0.3s						
DPC	Dobruska-Polom	1.05	175	*e*PG	Pg	22 50 10.4	+0.1
DPC				*e*SG	Sb	22 50 25.2	-0.3
	comp=Z,8.6nm,0.3s						
DPC	Dobruska-Polom	1.05	175	Pg	Pg	22 50 10.4	+0.1
DPC				Sg	Sb	22 50 25.2	-0.3
	8.6nm,0.3s						
PVCC	Panska Ves	1.34	230	*e*PG	Pb	22 50 16.2	0.0
PVCC				*e*SG	Sn	22 50 34.5	-0.1
	comp=Z,49nm,0.3s						
PVCC	Panska Ves	1.34	230	Pg	Pb	22 50 16.2	0.0
PVCC				Sg	Sn	22 50 34.5	-0.1
	49nm,0.3s						
KRLC	Kraliky	1.37	164	*e*PG	Pg	22 50 16.4	-0.1
KRLC				*e*SG	Sg	22 50 34.0	-0.3
	comp=Z,1.5nm,0.2s						
KRLC	Kraliky	1.37	164	Pg	Pg	22 50 16.4	-0.1
KRLC				Sg	Sg	22 50 34.0	-0.3
	1.5nm,0.2s						
BRG	Berggiesshubel	1.50	251	PG	Pn	22 50 18.6	+0.1
BRG				SG	Sn	22 50 39.1	+0.3
	15nm,0.4s						
GOPC	GO Pecny, Ondr	1.73	211	*e*PG	Pb	22 50 22.7	-0.1
GOPC				*e*SG	Sg	22 50 45.7	+0.1
	comp=Z,5.4nm,0.3s						
GOPC	GO Pecny, Ondr	1.73	211	Pg	Pb	22 50 22.7	-0.1
GOPC				Sg	Sg	22 50 45.7	+0.1
	5.4nm,0.3s						
PRA	Prague	1.73	221	*e*SG	Sg	22 50 45.8	+0.1
PRA	Prague	1.73	221	Sg	Sg	22 50 45.8	+0.1
PRU	Pruhonice	1.75	217	*e*PG	Pb	22 50 22.8	-0.4
PRU				*e*SG	Sg	22 50 46.5	+0.1
	comp=Z,8.9nm,0.4s						
PRU	Pruhonice	1.75	217	Pg	Pb	22 50 22.8	-0.4
PRU				Sg	Sg	22 50 46.5	+0.1
	8.9nm,0.4s						
MORC	Moravsky Berou	1.83	151	*e*Pn	Pn	22 50 22.2	-0.9
MORC				*e*Sg	Sb	22 50 48.5	+0.3
CLL	Collm	2.00	269	*i* Pn	Pn	22 50 24.0	-1.2
CLL				*i* Pg	Pb	22 50 26.8	-0.6
CLL				*i* Sg	Sg	22 50 54.5	+0.2
	comp=Z,7.0nm,0.5s						
OKC	Ostrava-Krasne	2.00	140	*e*PG	Pb	22 50 27.6	+0.1
OKC				*e*SG	Sb	22 50 53.5	+0.6
OKC	Ostrava-Krasne	2.00	140	Pg	Pb	22 50 27.6	+0.1
OKC				Sg	Sb	22 50 53.5	+0.6
VRAC	Vranov	2.10	173	*e*Pn	Pn	22 50 26.8	+0.1
VRAC				*e*Sg	Sb	22 50 56.9	+1.0
NKC	Novy Kostel	2.64	245	*e*PG	Pb	22 50 39.6	+1.2
NKC				*e*SG	Sg	22 51 14.6	-0.3
	comp=Z,10nm,0.3s						
NKC	Novy Kostel	2.64	245	Pg	Pb	22 50 39.6	+1.2
NKC				Sg	Sg	22 51 14.6	-0.3
	comp=Z,10nm,0.3s						
KHC	Kasperske Hory	2.81	217	*e*PN	Pn	22 50 36.6	+0.1
KHC				*e*PG	Pb	22 50 42.4	+1.0
KHC				*e*SN	Sn	22 51 11.0	-0.1
KHC				*e*SG	Sg	22 51 18.7	-1.9
	comp=Z,2.6nm,0.3s						
KHC	Kasperske Hory	2.81	217	Pn	Pn	22 50 36.6	+0.1
LANS	Liptovska Anna	3.08	135	*e*Pg	Pg	22 50 50.2	+0.9
LANS				*e*Sg	Sg	22 51 27.7	-1.4
LANS	Liptovska Anna	3.08	135	*e*PG	Pg	22 50 50.2	+0.9
LANS				*e*SG	Sg	22 51 27.7	-1.4
CONA	Conrad Observa	3.47	184	Sg	Sg	22 51 40.4	-1.4
	comp=Z,2.0nm,0.3s						
CONA	Conrad Observa	3.47	184	Sg	Sg	22 51 40.4	-1.4
	comp=Z,2.0nm,0.3s						
MOA	Molln	3.76	200	Pn	Pn	22 50 49.7	+0.2
	comp=Z,0.3nm,0.1s						
MOA				Sg	Sg	22 51 50.2	-0.7
	comp=Z,0.8nm,0.2s						
MOA	Molln	3.76	200	*e*Pn	Pn	22 50 49.7	+0.2
	comp=Z,0.3nm,0.1s						
MOA				Sg	Sg	22 51 50.2	-0.7
	comp=Z,0.8nm,0.2s						

IDC 09 22:52:24.7±1.5, **4°.16S**×**129°.32E, h0**km, **mb3.9**/1, **mb1 3.9**/4, **mb1mx3.5**/49, **mbtmp3.8**/4, **ML3.7**/3, **Error ellipse: s-maj=52.9km s-min=26.0km az=80.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SIJI	Sorong	3.81	31	Pn	Pn	22 53 23.7	-1.0
	8.7nm,0.3s,baz=217,slow=20,SNR=43						
SIJI				Sn	Sn	22 54 03.2	-7.0
	3.0nm,0.3s,baz=246,slow=19,SNR=2.5						
WRA	Warramunga Arr	16.43	163	Pn	Pn	22 56 16.3	-0.5
	0.2nm,0.3s,baz=340,slow=11,SNR=3.9						
ASAR	Alice Springs	19.89	168	P	P	22 56 58.0	+0.1
	0.3nm,0.3s,baz=348,slow=10,SNR=18						
MKAR	Makanchi Array	65.50	326	P	P	23 03 10.2	+0.2
	0.7nm,0.5s,baz=112,slow=8.1,SNR=11						

*IDC **09** 23:11:57.2±2.7, 20°.65S×70°.48W, h0km, mb3.7/2, mb1 3.9/3, mb1mx3.5/38, mbtmp3.8/3, ML3.8/1, Error ellipse: s-maj=68.0km s-min=62.6km az=166.0*
*ISCJB **09** 23:12:16.6±0.8, 19°.52S±0°.04×69°.53W±0°.08, h93km±6km, mb3.5/2, Error ellipse: s-maj=12.1km s-min=6.5km az=169.4*
*GUC **09** 23:12:16.9±0.6, 19°.56S×69°.52W, h84km±3km, ML3.9*
ISC 09 23:12:16.1±1.0, **19°.54S**±0°.04×**69°.56W**±0°.07, **h91**km±6km, **n13**, σ**1s.60**/22, **2C-5D, Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PB11	IPOC Station P	0.24	202⇓	*i*P	Pn	23 12 29.9	+0.4
PB11				*i* S	Sn	23 12 39.6	+0.1
GO01	Chusmiza	0.37	111⇓	*i*P	Pn	23 12 30.7	+0.1
GO01				*e*S	Sn	23 12 41.4	+0.1
GO01				IAML		23 12 42.3	
	comp=N,7μm,0.5s						
MNMC	Minye Minye	0.40	355⇓	*i*P	Pn	23 12 31.3	+0.7
MNMC				*i* S	Sn	23 12 41.8	+0.5
MNMC				IAML		23 12 43.5	
	comp=N,12μm,0.2s						
PSGC	Pisagua	0.53	263⇑	*i*P	Pn	23 12 31.9	+0.6
PSGC				*e*S	Sn	23 12 43.2	+0.6
PSGC				IAML		23 12 44.4	
	comp=E,3μm,0.2s						
PB08	IPOC Station P	0.71	148⇓	*i*P	Pn	23 12 33.7	+0.4
PB08				*i* S	Sn	23 12 45.9	-0.1
PB12	IPOC Station P	1.17	322⇓	*i*P	Pn	23 12 38.7	+0.8
PB12				*i* S	Sn	23 12 56.1	+1.8
PB12				IAML		23 13 02.4	
	comp=E,10μm,0.1s						
PB01	IPOC Station P	1.50	177⇑	*i*P	Pn	23 12 43.0	+1.0
PB01				*i* S	Sn	23 13 02.5	+0.9
PB01				IAML		23 13 04.9	
	comp=N,2μm,0.3s						
PB02	IPOC Station P	1.80	190	*e*P	Pn	23 12 46.8	+1.0

PB02				*i* S		**Sn**	**23 13 10.0**	**+1.5**
PB02				IAML			23 13 17.9	
	comp=E,2µm,0.2s							
PB07	**IPOC Station P**	**2.20**	**188**	*e*P		**Pn**	**23 12 52.2**	**+1.1**
PB07				*i* S		**Sn**	**23 13 20.8**	**+2.9**
PB07				IAML			23 13 25.0	
	comp=E,1µm,0.5s							
PB09	**IPOC Station P**	**2.27**	**172**	*e*P		**Pn**	**23 12 53.9**	**+1.9**
LPAZ	**La Paz**	**3.51**	**23**	Pn		**Pn**	**23 13 12.5**	**+3.5**
	comp=E,2.1nm,0.3s,baz=205,slow=14,SNR=46							
TORD	**Torodi Ar. Bea**	**77.28**	**71**	P		**P**	**23 24 00.7**	**-0.4**
	comp=E,0.4nm,0.4s,baz=245,slow=6.3,SNR=4.7							
YKA	**Yellowknife Ar**	**89.14**	**341**	P		**P**	**23 24 57.7**	**-3.2**
	comp=E,0.3nm,0.6s,baz=136,slow=4.3,SNR=2.8							

IDC 09 23:16:19.0±5.6, 5°17S×133°04E, h0km, mb3.3/1, mb1 3.4/4, mb1mx3.3/46, mbtmp3.3/4, ML3.2/3, Error ellipse: s-maj=343.1km s-min=27.5km az=76.0, Aru Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
SIJI	**Sorong**	**4.62**	**337**	Pn		Pn	23 17 30.2	0.0
	1.0nm,0.3s,baz=233,slow=20,SNR=2.2							
SIJI				Sn		Sn	23 18 20.9	-3.7
	0.8nm,0.3s,baz=162,slow=20,SNR=1.9							
WRA	**Warramunga Arr**	**14.74**	**175**	Pn		Pn	23 19 47.6	-1.4
	0.1nm,0.3s,baz=353,slow=14,SNR=3.3							
ASAR	**Alice Springs**	**18.41**	**178**	P		P	23 20 36.5	+0.5
	0.1nm,0.3s,baz=6.7,slow=11,SNR=4.5							
MKAR	**Makanchi Array**	**68.41**	**325**	P		P	23 27 22.7	0.0
	0.1nm,0.4s,baz=131,slow=5.9,SNR=2.7							

*ISCJB **09** 23:29:54.8±0.4, 32°.19N±0°.02×115°.24W±0°.03, h7km±3km, Error ellipse: s-maj=3.9km s-min=3.2km az=155.2*
*ECX **09** 23:29:56.6±0.6, 32°.19N×115°.26W, h8km, MD2.9, ML3.0*
*MEX **09** 23:29:56.8±0.7, 32°.30N×115°.09W, h19km±11km, MD3.5*
*NEIC **09** 23:29:56.7±0.0, 32°.20N×115°.26W, h8km, ML2.9(PAS), ML3.1(ECX), After ECX.*

ISC 09 23:29:54.7±1.0, 32°21N±0°02×115°26W±0°02, h15km±8km, n53, σ1s07/82, 2C-4D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
MBIG	**Mexicali**	**0.20**	**14**	*e*P		**Pb**	**23 30 00.2**	**0.0**
MBIG				*e*S		**Sb**	**23 30 03.3**	**-0.5**
MBIG	**Mexicali**	**0.20**	**14**	*e*P		**Pb**	**23 30 01.1**	**+0.9**
CPBX	**Cerro Prieto**	**0.21**	**349**	*e*P		**Pb**	**23 29 60.0**	**-0.4**
CPBX				*e*S		**Sg**	**23 30 02.9**	**+0.2**
CPBX	**Cerro Prieto**	**0.21**	**349**	⇓*e*P		**Pb**	**23 30 00.1**	**-0.2**
CPBX				*e*S		**Sb**	**23 30 04.2**	**+0.1**
CPBX				IAML			23 30 07.4	
	comp=N,8µm,0.2s							
CPBX				*e*			23 30 07.4	
EMSC	**East Mesa**	**0.58**	**23**	*e*Pg		**Pn**	**23 30 07.3**	**-1.1**
EMSC	**East Mesa**	**0.58**	**23**	⇑*i*P		**Pn**	**23 30 07.3**	**-1.1**
SGL	**Mount Signal**	**0.59**	**318**	⇓*i*P		**Pb**	**23 30 07.5**	**+0.7**
DREC	**Desert Rsrch C**	**0.62**	**345**	*e*Pg		**Pn**	**23 30 08.5**	**-0.5**
DREC				*e*Sg		**Sn**	**23 30 18.8**	**+0.2**
ERPC	**Ernies Place**	**0.64**	**327**	*e*Pg		**Pn**	**23 30 08.7**	**-0.5**
COA	**Coachella**	**0.66**	**10**	*e*Pg		**Pn**	**23 30 08.5**	**-1.1**
COA	**Coachella**	**0.66**	**10**	*e*P		**Pn**	**23 30 08.4**	**-1.1**
WESC	**Westside Schoo**	**0.68**	**324**	*e*Pg		**Pn**	**23 30 09.3**	**-0.5**
WESC				*e*Sg		**Sn**	**23 30 19.9**	**-0.3**
WESC	**Westside Schoo**	**0.68**	**324**	*e*P		**Pn**	**23 30 09.2**	**-0.7**
YMD	**Yuma Desert**	**0.69**	**60**	⇑*i*P		**Pb**	**23 30 08.8**	**+0.3**
YUH	**Yuha Desert**	**0.71**	**308**	*e*Pg		**Pb**	**23 30 09.5**	**+0.6**
YUH	**Yuha Desert**	**0.71**	**308**	⇓*i*P		**Pb**	**23 30 09.5**	**+0.6**
ECBX	**El Chinero**	**0.76**	**167**	*e*P		**Pg**	**23 30 09.4**	**0.0**
ECBX				*e*S		**Sb**	**23 30 19.8**	**+0.2**
RMX	**La Rumorosa**	**0.80**	**300**	*e*P		**Pb**	**23 30 09.8**	**-0.6**
RMX				*e*S		**Sb**	**23 30 20.0**	**-1.1**
IKP	**In-Ko-Pah, Jac**	**0.84**	**302**	*e*P		**Pn**	**23 30 11.9**	**-0.3**
CRR	**Carrizo Plain**	**0.91**	**319**	*e*Pg		**Pn**	**23 30 12.8**	**-0.1**
GLA	**Glamis**	**0.92**	**23**	*e*Pg		**Pb**	**23 30 11.8**	**-0.5**
GLA				*e*Sg		**Sb**	**23 30 23.5**	**-0.9**
CBKC	**Canebrake**	**1.09**	**310**	*e*Pg		**Pg**	**23 30 13.4**	**+0.7**
ZAX	**El Zacaton**	**1.11**	**232**	*e*P		**Pb**	**23 30 15.7**	**0.0**
ZAX				*e*S		**Sb**	**23 30 30.3**	**+0.3**
SPIG	**San Pedro Mart**	**1.17**	**189**	*e*P		**Pb**	**23 30 17.0**	**+0.2**
SPIG				*e*S		**Sb**	**23 30 32.0**	**0.0**
SPIG	**San Pedro Mart**	**1.17**	**189**	*e*P		**Pb**	**23 30 17.0**	**+0.2**
SPIG				*e*S		**Sb**	**23 30 32.0**	**0.0**
SPIG	**San Pedro Mart**	**1.17**	**189**	*e*P		**Pn**	**23 30 16.7**	**-0.2**
SPIG				*e*S		**Sn**	**23 30 32.6**	**-0.2**
SPX	**San Pedro Mart**	**1.17**	**189**	*e*P		**Pn**	**23 30 16.8**	**-0.2**
SPX				*e*S		**Sb**	**23 30 31.4**	**-0.6**
SPX	**San Pedro Mart**	**1.17**	**189**	*e*P		**Pb**	**23 30 17.1**	**+0.2**
SPX				*e*S		**Sn**	**23 30 32.7**	**-0.1**
CBX	**Cerro Bola**	**1.20**	**275**	*e*P		**Pb**	**23 30 17.3**	**+0.2**
CBX				*e*S		**Sn**	**23 30 33.2**	**0.0**
CBX	**Cerro Bola**	**1.20**	**275**	*e*P		**Pb**	**23 30 17.3**	**+0.2**
CBX				*e*S		**Sn**	**23 30 33.2**	**0.0**
CBX	**Cerro Bola**	**1.20**	**275**	*e*P		**Pb**	**23 30 17.4**	**+0.2**
CBX				*e*S		**Sn**	**23 30 33.4**	**+0.3**
CBX				IAML			23 30 34.9	
	comp=N,483nm,0.6s							
CBX				⇓*e*			23 30 34.9	
TJIG	**Tijuana**	**1.22**	**281**	*e*P		**Pn**	**23 30 17.0**	**-0.2**
TJIG				*e*S		**Sb**	**23 30 32.9**	**-0.2**
ECNX	**Esteban Cantu**	**1.27**	**245**	*e*P		**Pb**	**23 30 18.1**	**-0.2**
ECNX				*e*P		**Pn**	**23 30 18.0**	**0.0**
BAR	**Barrett**	**1.29**	**292**	*e*Pn		**Pg**	**23 30 19.7**	**+0.2**
BAR				*e*Sg		**Sg**	**23 30 35.9**	**-0.3**
BAR	**Barrett**	**1.29**	**292**	*e*P		**Pg**	**23 30 19.2**	**-0.3**
PBX	**Punta Banda**	**1.33**	**250**	*e*P		**Pb**	**23 30 19.2**	**-0.3**
113A	**Mohawk Valley,**	**1.38**	**66**	*e*Pn		**Pn**	**23 30 19.1**	**-0.3**
EML	**El Monte Cty P**	**1.50**	**297**	*e*Pn		**Pn**	**23 30 18.6**	**-2.6**
EML				*e*Sn		**Sg**	**23 30 43.2**	**+0.1**
DPP	**Dos Picos Cty**	**1.63**	**299**	*e*Pn		**Pg**	**23 30 26.4**	**+0.5**
DPP				*e*Sn		**Sg**	**23 30 46.8**	**-0.4**
HWB	**Hans Werner Br**	**1.65**	**300**	*e*Pn		**Pg**	**23 30 26.6**	**+0.2**
HWB				*e*Sn		**Sg**	**23 30 47.6**	**-0.4**
Y12C	**Blythe**	**1.66**	**22**	*e*Pn		**Pg**	**23 30 25.7**	**-0.8**
Y12C				*e*Sn		**Sg**	**23 30 47.9**	**-0.1**
CPE	**Camp Elliot**	**1.70**	**294**	*e*Pn		**Pb**	**23 30 26.5**	**+0.7**
CPE				*e*Sn		**Sb**	**23 30 48.4**	**+1.4**
XPFO	**Piæon Flat**	**1.72**	**325**	*e*Pn		**Pn**	**23 30 24.1**	**-0.2**
PFO	**Pinyon Flats O**	**1.73**	**324**	*e*Pn		**Pn**	**23 30 23.8**	**-0.6**
DGR	**Domenigoni Val**	**2.06**	**315**	*e*Pn		**Pg**	**23 30 33.2**	**-1.0**
214A	**Organ Pipe Nat**	**2.09**	**96**	*e*Pn		**Pn**	**23 30 28.6**	**-0.7**
Y14A	**Wickenburg**	**2.56**	**47**	*e*Pn		**Pn**	**23 30 36.7**	**+1.0**
VTV	**Victorville**	**2.92**	**324**	*e*Pn		**Pb**	**23 30 47.7**	**+1.2**
PASC	**Pasadena Art C**	**3.14**	**309**	*e*Pn		**Pn**	**23 30 42.4**	**-1.3**
TUC	**Tucson**	**3.79**	**87**	Pn		**Pn**	**23 30 55.6**	**+2.9**
TUC				*e*Pg		**Pg**	**23 31 08.9**	**+1.6**
TUC				*e*S		**Sg**	**23 31 53.3**	**-3.1**
BAKC	**Calstate**	**4.48**	**315**	*e*Pn		**Pn**	**23 30 58.1**	**-3.9**
BAKC				*e*Sn		**Sn**	**23 31 57.1**	**+3.3**
TIN	**Tinemaha, Big**	**5.42**	**334**	*e*Pn		**Pn**	**23 31 14.1**	**-1.0**
TIN				*e*Pg		**Pg**	**23 31 41.6**	**+3.1**
HSLM	**San Luis Dam**	**6.84**	**317**	*e*Pn		**Pn**	**23 31 33.2**	**-1.3**

JMA 09 23:31:22.0±0.2, 40°.76N×145°.28E, h66km±4km, M3.5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
JEM	**Erimo**	**2.03**	**309**	P		Pn	23 31 54.8	+0.9
JEM				S		Sn	23 32 17.8	-0.5
JAK	**Akkeshi**	**2.28**	**349**	P		Pn	23 31 58.1	+0.8
JAK				S		Sn	23 32 24.2	0.0
JCH	**Churui**	**2.34**	**323**	P		Pn	23 31 59.2	+1.0
JCH				*e*S		Sn	23 32 24.8	-1.1
JOB	**Onbets**	**2.40**	**334**	P		Pn	23 32 00.3	+1.4
JOB				S		Sn	23 32 27.9	+0.7
JNBK	**Urakawa-nobuka**	**2.43**	**309**	P		Pn	23 32 01.1	+1.7
JNBK				S		Sn	23 32 28.5	+0.5
NEM2	**Nemuro 2**	**2.63**	**7**	*e*S		Sn	23 32 33.5	+0.8
JAR	**Ashorobuto**	**2.77**	**337**	P		Pn	23 32 04.7	+0.7
JAR				S		Sn	23 32 36.5	+0.1
JNK	**Nakash**	**2.85**	**352**	P		Pn	23 32 05.7	+0.6
JNK				S		Sn	23 32 36.9	-1.4
JANG	**Nango**	**2.89**	**264**	P		Pn	23 32 05.0	-0.7
JBT2	**Biratori 2**	**2.97**	**314**	*e*S		Sn	23 32 42.9	+1.7
JFR	**Furan**	**3.13**	**321**	P		Pn	23 32 09.9	+1.0
JFR				*e*S		Sn	23 32 44.2	-0.8
JOT	**Ohata**	**3.26**	**282**	P		Pn	23 32 11.1	+0.5
JOT				*e*S		Sn	23 32 45.4	-2.8
JOM	**Ohasama**	**3.32**	**248**	P		Pn	23 32 11.7	+0.2
JOM				*e*S		Sn	23 32 46.8	-2.9
JTKR	**Abashiri--Toko**	**3.37**	**343**	P		Pn	23 32 13.9	+1.8
JTKR				S		Sn	23 32 52.4	+1.6
JKB	**Kayabe**	**3.39**	**291**	P		Pn	23 32 13.3	+0.9
JKB				*e*S		Sn	23 32 48.5	-2.9
JEW	**Eniwo**	**3.54**	**307**	*e*S		Sn	23 32 55.6	+0.5
JMK	**Ichinoseki**	**3.61**	**241**	P		Pn	23 32 15.7	+0.3
JMK				S		Sn	23 32 53.1	-3.7

*IDC **09** 23:36:53.1±0.9, 36°.75S×73°.52W, h0km, mb4.0/7, mb1 4.1/9, mb1mx3.9/37, mbtmp4.0/9, ML4.1/2, MS3.4/5, Ms1 3.4/5, ms1mx3.0/28, Error ellipse: s-maj=34.7km s-min=18.6km az=77.0*
*NEIC **09** 23:36:54.0±0.0, 36°.86S×73°.59W, h18km, ML4.1(GUC), After GUC.*
NEIC Felt [III] at Arauco, Chiguayante, Concepcion, Coronel, Hualpen, Penco, San Pedro de la Paz, Talcahuano and Tome; [II] at Cauquenes, Hualqui and Parral.
*GUC **09** 23:36:56.4±0.5, 36°.88S×73°.65W, h18km±4km, ML4.2*
*SJA **09** 23:36:59.4±1.5, 36°.70S×73°.47W, h97km±59km, ML3.9, MW4.1*

ISC 09 23:36:55.7±1.9, 36°75S±0°04×73°56W±0°08, h16km±11km, n43, σ1s16/48, mb4.1/6, MS3.6/4, 2C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
CCSP	**San Pedro de C**	**0.38**	**104**	*e*P		**Pg**	**23 37 03.0**	**-0.4**
CCSP				*e*S		**Sb**	**23 37 09.0**	**-0.5**
CCSP				IAML			23 37 10.8	
	comp=N,36µm,0.4s							
COCH	**Cobquecura**	**0.88**	**45**	⇑*i*P		**Pb**	**23 37 12.7**	**+0.1**
COCH				*e*S		**Sn**	**23 37 26.9**	**+1.1**
COCH				IAML			23 37 28.5	
	comp=N,7µm,0.2s							
CCHI	**Chillan**	**1.20**	**83**	*e*S		**Sg**	**23 37 37.6**	**+2.9**
CCHI	**Chillan**	**1.20**	**83**	*e*P		**Pn**	**23 37 17.8**	**0.0**
CCHI				*e*S		**Sg**	**23 37 34.8**	**+0.2**
CCHI				IAML			23 37 39.1	
	comp=N,9µm,0.5s							
TMU	**Temuco**	**2.12**	**159**	*e*P		**Pn**	**23 37 30.0**	**-0.5**
TMU				*e*S		**Sn**	**23 37 58.3**	**+1.8**
GO05	**HualaæØ**	**2.19**	**38**	*e*P		**Pn**	**23 37 32.1**	**+0.7**
GO05				*e*S		**Sb**	**23 38 03.0**	**+1.3**
GO05				IAML			23 38 18.9	
	comp=E,2µm,1.1s							
NICH	**Los Niches**	**2.58**	**48**	*e*P		**Pb**	**23 37 39.9**	**-1.6**
NICH				*e*S		**Sg**	**23 38 16.2**	**-2.3**
GO06	**Curarrehue**	**3.27**	**150**	*e*P		**Pn**	**23 37 46.2**	**-0.2**
GO06				*e*S		**Sb**	**23 38 30.0**	**-3.0**
GO06				IAML			23 38 39.8	
	comp=E,856nm,1.0s							
LMEL	**Las Melosas**	**3.99**	**44**	⇓*i*P		**Pn**	**23 37 57.4**	**+1.0**
PLCA	**Paso Flores**	**4.62**	**150**	Pn		**Pn**	**23 38 05.4**	**+0.5**
	comp=E,1.2nm,0.3s,baz=347,slow=11,SNR=28							
PLCA				Pg		**Pb**	**23 38 17.4**	**+1.0**
	comp=E,2.3nm,0.3s,baz=347,slow=14,SNR=16							
PLCA				Lg		Lg	23 39 14.4	
	comp=E,2.0nm,0.3s,baz=322,slow=18,SNR=2.6							
AAGR	**Agrelo**	**5.34**	**48**	*e*P		**Pn**	**23 38 16.7**	**+1.8**
ARCO	**CERRO ARCO**	**5.45**	**46**	*e*P		**Pn**	**23 38 18.2**	**+1.7**
ARCO				IAML			23 39 33.1	
	comp=Z,45nm,0.6s							
AUSP	**Uspallata**	**5.68**	**39**	*e*P		**Pn**	**23 38 21.1**	**+1.4**
ASAL	**Salagasta**	**5.69**	**45**	*e*P		**Pn**	**23 38 21.5**	**+1.8**
RTLS	**Leoncito**	**6.07**	**37**	*e*P		**Pn**	**23 38 26.2**	**+1.1**
RTLS				IAML			23 40 17.5	
	comp=Z,63nm,0.8s							
RTCV	**Cerro Valdivia**	**6.41**	**42**	*e*P		**Pn**	**23 38 28.9**	**-0.5**
ZON	**Zonda**	**6.58**	**39**	*e*P		**Pn**	**23 38 33.0**	**+1.1**
RTLL	**Cerro Villicun**	**6.86**	**39**	*e*P		**Pn**	**23 38 36.2**	**+0.5**
RTLL				IAML			23 40 22.6	
	comp=Z,29nm,0.5s							
ACAN	**Cantantal**	**6.90**	**52**	*e*P		**Pn**	**23 38 36.4**	**+0.1**
AMOG	**MOGNA**	**7.17**	**37**	*e*P		**Pn**	**23 38 40.0**	**+0.1**
AROD	**Rodeo**	**7.40**	**29**	*e*P		**Pn**	**23 38 44.2**	**+0.8**
MRA	**San Martin**	**7.78**	**59**	*e*P		**Pn**	**23 38 49.0**	**+0.7**
MRA				IAML			23 41 23.6	
	comp=Z,9.5nm,0.7s							
AGUA	**GUANDACOL**	**8.40**	**32**	*e*P		**Pn**	**23 38 56.7**	**-0.2**
APLL	**PUNTA DE LOS L**	**8.64**	**45**	*e*P		**Pn**	**23 38 59.1**	**-0.9**
APLL				IAML			23 41 06.6	
	comp=Z,5.4nm,0.5s							
VCA	**Vinchina**	**9.18**	**31**	*e*P		**Pn**	**23 39 08.2**	**+0.7**
TCA	**Tanti**	**9.19**	**57**	*e*P		**Pn**	**23 39 07.5**	**-0.2**
TCA				IAML			23 39 17.2	
	comp=Z,4.2nm,0.6s							
TRQA	**Tornquist**	**9.31**	**102**	*e*Pn		**Pn**	**23 39 09.5**	**+0.3**
	comp=Z,5.0nm,0.8s							
CPUP	**Villa Florida**	**17.28**	**58**	P		**Pn**	**23 40 56.4**	**+0.1**
	comp=Z,0.4nm,0.3s,baz=219,slow=14,SNR=3.8							
CPUP				LR		LR	23 48 11.1	
	comp=Z,233nm,19.1s,baz=232,slow=39							
LPAZ	**La Paz**	**20.95**	**15**	P		**P**	**23 41 39.2**	**+0.7**
	comp=Z,1.9nm,0.7s,baz=204,slow=9.0,SNR=6.2							
NNA	**Nana**	**24.84**	**352**	LR		LR	23 49 54.1	
	comp=Z,23nm,20.5s,baz=175,slow=31							
SDV	**Santo Domingo**	**45.48**	**4**	P		**P**	**23 45 13.4**	**-1.0**
	comp=Z,2.2nm,0.4s,baz=246,slow=19,SNR=2.7							
QSPA	**South Pole Qui**	**53.49**	**180**	P		**P**	**23 46 14.9**	**-0.1**
	comp=Z,3.4nm,0.9s,baz=135,slow=4.5,SNR=8.8							
SYO	**Syowa Base**	**63.77**	**158**	⇑*e*pP		pP	23 47 29.9	-1.6
TXAR	**Lajitas Array**	**71.56**	**333**	P		**P**	**23 48 16.6**	**+0.6**
	comp=Z,0.8nm,0.9s,baz=151,slow=9.2,SNR=7.9							
TXAR				LR		LR	00 15 01.1	
	comp=Z,30nm,18.1s,baz=0.0,slow=32							
DBIC	**Dimbokro**	**77.23**	**72**	LR		LR	00 20 00.1	
	comp=Z,23nm,18.9s,baz=136,slow=34							
KOWA	**Kowa**	**82.90**	**66**	P		**P**	**23 49 19.8**	**-0.1**
	comp=Z,2.2nm,0.6s,baz=240,slow=5.6,SNR=6.4							
KOWA				LR		LR	00 24 38.3	
	comp=Z,36nm,19.9s,baz=213,slow=35							
PDAR	**Pinedale Array**	**85.67**	**334**	P		**P**	**23 49 34.0**	**+0.4**
	comp=Z,0.5nm,0.9s,baz=128,slow=6.9,SNR=3.4							
PDAR	**Pinedale Array**	**85.67**	**334**	P		**P**	**23 49 34.0**	**+0.4**
TORD	**Torodi Ar. Bea**	**86.31**	**71**	P		**P**	**23 49 36.2**	**-0.9**
	comp=Z,0.5nm,0.8s,baz=217,slow=2.4,SNR=3.1							
ABKAR	**Akbulak array**	**144.33**	**55**	*e*PKPdf		**PKPab**	**23 56 28.4**	**-0.1**
BVAR	**Borovoye Array**	**150.12**	**46**	PKPbc		**PKPbc**	**23 56 43.2**	**-1.8**
	comp=Z,1.3nm,0.8s,baz=270,slow=4.3,SNR=5.9							
ZALV	**Zalesovo Beam**	**157.21**	**34**	PKPab		**PKPab**	**23 57 21.4**	**+0.5**
	comp=Z,0.2nm,0.3s,baz=224,slow=4.0,SNR=3.6							
MKAR	**Makanchi Array**	**159.46**	**53**	PKPab		**PKPab**	**23 57 30.9**	**-0.1**
	comp=Z,0.9nm,0.8s,baz=292,slow=3.2,SNR=7.9							

IDC 09 23:47:38.3±353.0, 62°50N×144°52W, h0km, Error ellipse: s-maj=169.3km s-min=59.8km az=153.0, Central Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
I53US	**FAIRBANKS INFR**	**2.81**	**330**	*i*			00 04 15.0	
	baz=146,slow=328,SNR=2.2							
I18DK	**QAANAAQ INFRAS**	**27.10**	**28**	*i*			02 34 00.0	
	baz=281,slow=337,SNR=1.0							
I10CA	**LAC DU BONNET**	**28.80**	**93**	*i*			02 44 50.0	
	baz=307,slow=363,SNR=0.5							

*MOS **09** 23:51:28.3±0.8, 42°.16N×45°.44E, h13km, mb4.1/1, Error ellipse: s-maj=6.0km s-min=5.5km az=60.3*
*CSEM **09** 23:51:28.5±0.1, 42°.20N×45°.43E, h10km, ML4.1/4, Error ellipse: s-maj=3.2km s-min=2.6km az=10.0*
*TIF **09** 23:51:28.6, 42°.12N×45°.37E, h23km±4km*
*ATA **09** 23:51:28.2±0.4, 42°.14N×45°.40E, h28km±3km, ML3.6, MW3.5*
*AZER **09** 23:51:29.7±0.0, 41°.95N×45°.47E, h19km, ml3.0*
*DDA **09** 23:51:31.0, 42°.03N×45°.28E, h21km, Ml3.3*

ISC 09 23:51:28.0±1.0, 42°17N±0°01×45°43E±0°01, h8km±9km, n127, σ1s17/216, 3C-3D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
DUS	**Dusheti**	**0.55**	**262**	P		**Pg**	**23 51 39.0**	**+0.5**
DUS				S		**Sb**	**23 51 48.0**	**+0.1**
DUS	**Dusheti**	**0.55**	**262**	⇓*i*PG		**Pg**	**23 51 39.0**	**+0.5**
DUS				*e*S		**Sb**	**23 51 48.0**	**+0.1**
SEAG	**Tbilisi Sea**	**0.62**	**229**	P		**Pb**	**23 51 41.1**	**0.0**
SEAG	**Tbilisi Sea**	**0.62**	**229**	P		**Pb**	**23 51 41.1**	**0.0**
SEAG				S		**Sn**	**23 51 51.0**	**-2.3**
SEAG	**Tbilisi Sea**	**0.62**	**229**	P		**Pb**	**23 51 41.1**	**0.0**
BTNK	**Botanikuri**	**0.68**	**224**	P		**Pg**	**23 51 41.4**	**+0.4**
BTNK	**Botanikuri**	**0.68**	**224**	P		**Pg**	**23 51 41.4**	**+0.4**
BTNK				S		**Sb**	**23 51 51.5**	**-0.1**
BTNK	**Botanikuri**	**0.68**	**224**	P		**Pb**	**23 51 41.6**	**-0.5**
TBLG	**Delisi**	**0.68**	**230**	*i* P		**Pb**	**23 51 41.5**	**-0.6**
TBLG				*e*S		**Sb**	**23 51 51.6**	**0.0**
TBLG				IAML			23 52 00.0	
	comp=Z,38nm,0.1s							
TBLG	**Delisi**	**0.68**	**230**	P		**Pg**	**23 51 41.0**	**0.0**
TBLG				S		**Sg**	**23 51 50.0**	**+0.2**
TBLG	**Delisi**	**0.68**	**230**	P		**Pb**	**23 51 41.5**	**-0.6**
TBLG				S		**Sb**	**23 51 51.8**	**+0.2**
TBLG	**Delisi**	**0.68**	**230**	P		**Pb**	**23 51 41.5**	**-0.6**
TBLG				S		**Sg**	**23 51 50.0**	**+0.2**
TBLG				*e*Sg		**Sb**	**23 51 51.8**	**+0.2**
TBLG	**Delisi**	**0.68**	**230**	⇓*e*PG		**Pg**	**23 51 41.0**	**0.0**
TBLG				*e*S		**Sb**	**23 51 51.8**	**+0.2**
DGRG	**David-gareji**	**0.72**	**183**	*i* P		**Pb**	**23 51 42.3**	**-0.5**
DGRG	**David-gareji**	**0.72**	**183**	P		**Pb**	**23 51 42.5**	**-0.4**
DGRG	**David-gareji**	**0.72**	**183**	P		**Pb**	**23 51 42.4**	**-0.4**
DGRG	**David-gareji**	**0.72**	**183**	P		**Pb**	**23 51 42.5**	**-0.4**
DGRG	**David-gareji**	**0.72**	**183**	⇓*i*PG		**Pb**	**23 51 42.5**	**-0.4**
GUDG	**Gudauri**	**0.76**	**293**	P		**Pg**	**23 51 41.1**	**-1.6**
GUDG				S		**Sg**	**23 51 52.1**	**-0.6**
GUDG	**Gudauri**	**0.76**	**293**	P		**Pg**	**23 51 42.1**	**-0.6**
GUDG				S		**Sg**	**23 51 52.7**	**+0.1**
GUDG	**Gudauri**	**0.76**	**293**	P		**Pg**	**23 51 41.1**	**-1.6**
BTLR	**Botlikh**	**0.77**	**50**	*i* Pg		**Pg**	**23 51 41.6**	**-1.1**
	comp=Z,105nm,0.5s							
BTLR				*i* Sg		**Sg**	**23 51 51.2**	**-1.5**
	comp=Z,868nm,0.5s							
BTLR	**Botlikh**	**0.77**	**50**	⇑*i*PG		**Pg**	**23 51 41.6**	**-1.1**
BTLR				*i*			23 51 51.2	
BTLR				pmax		pmax		
	comp=Z,105nm,0.5s							
BTLR				smax		smax		
	comp=N,868nm,0.5s							
DDFL	**Dedoflistskaro**	**0.89**	**144**	P		**Pn**	**23 51 47.0**	**+0.2**
DDFL	**Dedoflistskaro**	**0.89**	**144**	P		**Pn**	**23 51 47.9**	**+1.1**
DDFL				S		**Sn**	**23 52 05.5**	**+5.6**
DDFL	**Dedoflistskaro**	**0.89**	**144**	P		**Pn**	**23 51 47.0**	**+0.2**
DVE	**Vedeno**	**0.94**	**33**	*i* Pg		**Pb**	**23 51 45.1**	**-1.4**
DVE				*e*Sg		**Sb**	**23 51 57.5**	**-1.7**
DVE	**Vedeno**	**0.94**	**33**	⇓*i*PG		**Pb**	**23 51 45.1**	**-1.4**
DVE				*e*S		**Sb**	**23 51 57.5**	**-1.7**
XNZR	**Khunzakh**	**1.02**	**68**	*e*Pg		**Pb**	**23 51 46.7**	**-1.2**
XNZR				*e*Sg		**Sb**	**23 51 59.5**	**-2.0**
XNZR	**Khunzakh**	**1.02**	**68**	⇓*e*PG		**Pb**	**23 51 46.7**	**-1.2**
XNZR				*e*			23 51 59.5	
VLKR	**Vladikavkaz**	**1.03**	**328**	*e*Pg		**Pb**	**23 51 48.0**	**-0.2**
VLKR				*e*Sg		**Sn**	**23 52 03.5**	**-0.1**
VLKR	**Vladikavkaz**	**1.03**	**328**	*e*PG		**Pb**	**23 51 48.0**	**-0.2**
VLKR				*e*S		**Sn**	**23 52 03.5**	**-0.1**
LACR	**Lac**	**1.06**	**308**	*i* Pg		**Pb**	**23 51

GANJ	**Ganja**	**1.67**	**156**	⇓P		**Pn**	**23 51 57.2**	**-0.3**
GANJ				⇓S		**Sb**	**23 52 19.5**	**-0.6**
MAK	**Makhachkala**	**1.73**	**62**	*e*Pn		**Pb**	**23 52 00.5**	**+0.6**
	comp=Z,78nm,0.4s							
MAK				*e*Sg		**Sg**	**23 52 24.6**	**+1.2**
	comp=Z,295nm,0.5s							
MAK	**Makhachkala**	**1.73**	**62**	*e*PN		**Pb**	**23 52 00.5**	**+0.6**
MAK				*e*			23 52 24.6	
MAK				pmax	pmax			
	comp=Z,78nm,0.4s							
MAK				smax	smax			
	comp=N,366nm,0.4s							
MAK				smax	smax			
	comp=N,295nm,0.5s							
AKT	**Akhty**	**1.85**	**111**	*i* Pn		**Pn**	**23 52 00.3**	**+0.1**
	comp=N,39nm,0.6s							
AKT				*e*Sg		**Sb**	**23 52 25.3**	**-0.3**
	comp=N,80nm,0.6s							
AKT	**Akhty**	**1.85**	**111**	⇑*i*PN		**Pn**	**23 52 00.3**	**+0.1**
AKT				*e*			23 52 25.3	
AKT				pmax	pmax			
	comp=Z,39nm,0.6s							
AKT				smax	smax			
	comp=N,80nm,0.6s							
MNGR	**Mingechevir, A**	**1.87**	**138**	⇑P		**Pn**	**23 52 01.2**	**+0.9**
MNGR				⇓S		**Sb**	**23 52 25.2**	**-0.7**
NCK	**Nalchik**	**1.89**	**315**	*e*Pn		**Pb**	**23 52 02.2**	**-0.5**
NCK	**Nalchik**	**1.89**	**315**	*ce*PN		**Pb**	**23 52 02.2**	**-0.5**
EAK	**Akyaka**	**2.02**	**223**	*e*P		**Pn**	**23 52 02.4**	**-0.1**
EAK				*e*S		**Sb**	**23 52 30.0**	**-0.4**
EAK				IAML			23 52 41.8	
	comp=Z,54nm,0.5s							
EAK	**Akyaka**	**2.02**	**223**	*i* P		**Pn**	**23 52 02.9**	**+0.4**
EAK				*i* S		**Sb**	**23 52 30.2**	**-0.2**
EAK	**Akyaka**	**2.02**	**223**	P		**Pn**	**23 52 02.9**	**+0.4**
EAK				S		**Sb**	**23 52 30.2**	**-0.2**
GNI	**Garni**	**2.09**	**195**	*e*Pn		**Pb**	**23 52 04.4**	**-1.8**
	comp=Z,250nm,0.6s							
GNI	**Garni**	**2.09**	**195**	*de*PN		**Pb**	**23 52 04.4**	**-1.8**
GNI				pmax	pmax			
	comp=Z,250nm,0.6s							
KSMR	**Kasumkent**	**2.09**	**105**	*e*Pn		**Pb**	**23 52 06.5**	**+0.3**
KSMR				*i* Sb		**Sg**	**23 52 35.5**	**+0.3**
KSMR	**Kasumkent**	**2.09**	**105**	*e*PN		**Pb**	**23 52 06.5**	**+0.3**
KSMR				*i* S		**Sg**	**23 52 35.5**	**+0.3**
EPOS	**Posof**	**2.12**	**253**	*e*P		**Pn**	**23 52 04.0**	**+0.2**
EPOS				*e*S		**Sb**	**23 52 32.8**	**-0.6**
EPOS				IAML			23 52 39.6	
	comp=Z,14nm,0.4s							
EPOS	**Posof**	**2.12**	**253**	*i* P		**Pn**	**23 52 04.1**	**+0.2**
EPOS				*i* S		**Sb**	**23 52 33.1**	**-0.3**
EPOS	**Posof**	**2.12**	**253**	P		**Pn**	**23 52 04.1**	**+0.2**
EPOS				S		**Sb**	**23 52 33.1**	**-0.3**
DRN	**Derbent**	**2.16**	**93**	*e*Pn		**Pb**	**23 52 07.9**	**+0.5**
	comp=Z,33nm,0.6s							
DRN				*e*Sb		**Sb**	**23 52 36.6**	**+2.3**
	comp=Z,55nm,0.9s							
DRN	**Derbent**	**2.16**	**93**	⇓*e*PN		**Pb**	**23 52 07.9**	**+0.5**
DRN				*e*			23 52 36.6	
DRN				pmax	pmax			
	comp=Z,33nm,0.6s							
DRN				smax	smax			
	comp=N,55nm,0.9s							
QBL	**Gabala**	**2.18**	**123**	⇓P		**Pn**	**23 52 05.8**	**+1.2**
QBL				⇓S		**Sn**	**23 52 33.0**	**+1.1**
QSAR	**Qusar**	**2.22**	**106**	⇑P		**Pb**	**23 52 07.2**	**-1.1**
QSAR				⇑S		**Sb**	**23 52 34.5**	**-1.4**
XNQ	**Khinaliq**	**2.26**	**115**	⇓P		**Pb**	**23 52 07.9**	**-1.3**
XNQ				⇑S		**Sb**	**23 52 36.6**	**-0.9**
NEY	**Neytrino**	**2.27**	**299**	*e*Pn		**Pb**	**23 52 08.9**	**-0.3**
NEY				*e*Sn		**Sb**	**23 52 38.8**	**+1.3**
NEY	**Neytrino**	**2.27**	**299**	*e*PN		**Pb**	**23 52 08.9**	**-0.3**
NEY				*e*S		**Sb**	**23 52 38.8**	**+1.3**
BRDA	**Brd**	**2.32**	**145**	⇓P		**Pn**	**23 52 07.3**	**+0.9**
BRDA				⇓S		**Sn**	**23 52 34.8**	**-0.3**
DIGO	**Kars**	**2.34**	**222**	*e*P		**Pn**	**23 52 07.2**	**+0.3**
DIGO				IAML			23 52 46.4	
	comp=Z,9.9nm,0.4s							
DIGO	**Kars**	**2.34**	**222**	*i* P		**Pb**	**23 52 08.4**	**-2.1**
DIGO	**Kars**	**2.34**	**222**	P		**Pb**	**23 52 08.4**	**-2.1**
QUBA	**Quba, Azerbaij**	**2.43**	**109**	⇑P		**Pb**	**23 52 10.3**	**-1.7**
QUBA				⇑S		**Sb**	**23 52 42.0**	**-0.2**
IML	**Ismayilli**	**2.49**	**123**	⇑P		**Pn**	**23 52 10.5**	**+1.7**
IML				⇓S		**Sb**	**23 52 43.0**	**-0.7**
HYR	**Heyderabad**	**2.49**	**190**	⇑P		**Pn**	**23 52 10.0**	**+1.1**
HYR				⇑S		**Sn**	**23 52 39.2**	**-0.3**
IGDI	**IGDIR**	**2.52**	**204**	*e*P		**Pn**	**23 52 08.9**	**-0.3**
PQL	**Pirkuli**	**2.75**	**119**	⇑P		**Pn**	**23 52 14.8**	**+2.3**
PQL				⇑S		**Sb**	**23 52 49.1**	**-2.3**
SBZ	**Shahbuz**	**2.77**	**178**	⇓P		**Pn**	**23 52 14.2**	**+1.4**
SBZ				⇑S		**Sn**	**23 52 47.4**	**+0.9**
SIZA	**Siyzn**	**2.82**	**112**	⇑P		**Pb**	**23 52 16.4**	**-2.3**
SIZA				⇑S		**Sn**	**23 52 49.9**	**+2.2**
DBOC	**Borcka**	**2.93**	**255**	*i* P		**Pb**	**23 52 17.9**	**-2.6**
DBOC	**Borcka**	**2.93**	**255**	P		**Pb**	**23 52 17.9**	**-2.6**
ATGJ	**Altiaghaj**	**2.94**	**115**	⇑P		**Pn**	**23 52 17.5**	**+2.4**
ATGJ				⇓S		**Sn**	**23 52 53.2**	**+2.5**
DBAD	**Bademkaya**	**3.03**	**249**	*i* P		**Pb**	**23 52 20.3**	**-1.8**
GBS	**Qobustan**	**3.11**	**121**	⇓P		**Pn**	**23 52 19.6**	**+2.2**
GBS				⇓S		**Sn**	**23 52 56.8**	**+2.0**
SAAT	**Saatly**	**3.23**	**135**	⇑P		**Pn**	**23 52 19.0**	**0.0**
ORD	**Ordubad**	**3.27**	**172**	⇑P		**Pn**	**23 52 20.8**	**+1.2**
ORD				⇓S		**Sn**	**23 52 57.4**	**-1.3**
GOF	**Gofitskoye**	**3.37**	**330**	*e*Sb		**Sg**	**23 53 18.0**	**+2.0**
	comp=Z,26nm,0.6s							
GOF	**Gofitskoye**	**3.37**	**330**	⇑*e*PN		**Pg**	**23 52 31.3**	**-1.1**
GOF				*e*S		**Sg**	**23 53 18.0**	**+2.0**
GOF				pmax	pmax			
	comp=Z,9.0nm,0.6s							
GOF				smax	smax			
	comp=N,26nm,0.6s							
GOF				smax	smax			
	comp=E,42nm,0.7s							
ALIB	**Äli-Bayra**	**3.49**	**128**	⇑P		**Pn**	**23 52 24.4**	**+1.8**
GLBA	**Clilabad**	**3.69**	**141**	⇓P		**Pn**	**23 52 25.7**	**+0.4**
GLBA				⇓S		**Sn**	**23 53 09.3**	**+0.3**
ERZM	**Erzurum**	**3.82**	**235**	*e*P		**Pn**	**23 52 28.5**	**+1.2**
LRK	**Lerik**	**4.17**	**147**	⇑P		**Pn**	**23 52 32.5**	**+0.5**
LRK				⇑S		**Sn**	**23 53 19.0**	**-2.0**
LKRN	**Lenkeran, Azer**	**4.30**	**142**	⇑P		**Pn**	**23 52 34.4**	**+0.7**
LKRN				⇓S		**Sn**	**23 53 23.7**	**-0.3**
ASTR	**Astara**	**4.43**	**143**	⇑P		**Pn**	**23 52 36.1**	**+0.7**
ASTR				⇓S		**Sn**	**23 53 25.2**	**-2.0**
KURK	**Kurchatov**	**24.25**	**58**	*i* P		**P**	**23 56 45.8**	**+0.6**
KURK				pmax	pmax			
	comp=Z,2.0nm,1.1s							

CSEM ***10*** *00:42:59.9±0.2, 40°.96N×42°.68E, h2km, ML2.8, Error ellipse: s-maj=5.6km s-min=3.4km az=21.0*
DDA ***10*** *00:42:59.3, 40°.92N×42°.67E, h7km, Ml2.8*
ISK ***10*** *00:42:59.8, 40°.91N×42°.61E, h5km, ML2.2/3*

ISC 10 00:42:59.8±1.0, 40°.94N±0°.04×42°.68E±0°.03, h14km±14km, n17, σ0°.58/30, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARS	**Kars**	**0.43**	**135**	PG	**Pb**	**00 43 10.2**	**+0.9**
KARS	**Kars**	**0.43**	**135**	*e*Pg	**Pb**	**00 43 10.2**	**+0.9**
SENK	**Senkaya-Erzuru**	**0.45**	**214**	PG	**Pg**	**00 43 08.9**	**0.0**
SENK				SG	**Sb**	**00 43 15.4**	**-1.0**
SENK	**Senkaya-Erzuru**	**0.45**	**214**	*e*Pg	**Pg**	**00 43 08.9**	**0.0**
SENK				*e*Sg	**Sb**	**00 43 15.4**	**-1.0**
EPOS	**Posof**	**0.57**	**3**	*i* P	**Pg**	**00 43 10.9**	**-0.2**
EPOS	**Posof**	**0.57**	**3**	P	**Pg**	**00 43 10.9**	**-0.2**
ARTV	**Artvin**	**0.62**	**294**	*i* P	**Pg**	**00 43 11.2**	**-0.9**
ARTV				*i* S	**Sg**	**00 43 20.1**	**-0.3**
ARTV	**Artvin**	**0.62**	**294**	P	**Pg**	**00 43 11.2**	**-0.9**
ARTV				S	**Sg**	**00 43 20.1**	**-0.3**
DDEM	**Demirkent**	**0.71**	**267**	*i* P	**Pg**	**00 43 13.4**	**-0.3**
DDEM				*i* S	**Sg**	**00 43 22.8**	**-0.2**
DDEM	**Demirkent**	**0.71**	**267**	P	**Pg**	**00 43 13.4**	**-0.3**
DDEM				S	**Sg**	**00 43 22.8**	**-0.2**
EAK	**Akyaka**	**0.74**	**109**	*i* P	**Pg**	**00 43 13.5**	**-0.8**
EAK				*i* S	**Sg**	**00 43 24.6**	**+0.4**
EAK	**Akyaka**	**0.74**	**109**	P	**Pg**	**00 43 13.5**	**-0.8**
EAK				S	**Sg**	**00 43 24.6**	**+0.4**
DBAD	**Bademkaya**	**0.75**	**277**	*i* P	**Pg**	**00 43 14.4**	**-0.1**
DBAD				*i* S	**Sg**	**00 43 24.3**	**-0.1**
DBAD	**Bademkaya**	**0.75**	**277**	P	**Pg**	**00 43 14.4**	**-0.1**
DBAD				S	**Sg**	**00 43 24.3**	**-0.1**
DBOC	**Borcka**	**0.87**	**298**	*i* P	**Pg**	**00 43 16.7**	**0.0**
DBOC				*i* S	**Sg**	**00 43 28.5**	**+0.4**
DBOC	**Borcka**	**0.87**	**298**	P	**Pg**	**00 43 16.7**	**0.0**
DBOC				S	**Sg**	**00 43 28.5**	**+0.4**
CHOM	**Cayeli-Rize**	**1.46**	**277**	*e*Pn	**Pb**	**00 43 27.5**	**+0.6**
CHOM				*e*Sn	**Sg**	**00 43 47.9**	**+0.9**

WEL 10 00:50:30.5, 38°S±7°×17°9E±°, h33km, ML3.9/18, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMGZ	**Waiomatatini S**	**0.50**	**306**	P	**Pb**	**00 50 40.3**	**-0.8**
WMGZ	**Waiomatatini S**	**0.50**	**306**	S	**Sb**	**00 50 48.4**	**0.0**
PUZ	**Puketiti**	**0.53**	**275**	P	**Pb**	**00 50 39.7**	**-1.9**
PUZ	**Puketiti**	**0.53**	**275**	S	**Sb**	**00 50 47.5**	**-1.7**
CNGZ	**Carnagh Statio**	**0.68**	**237**	P	**Pb**	**00 50 44.6**	**+0.6**
PKGZ	**Pakihiroa**	**0.71**	**288**	P	**Pn**	**00 50 43.4**	**-0.9**
MXZ	**Matakaoa Point**	**0.74**	**318**	P	**Pb**	**00 50 45.6**	**+0.6**
MXZ	**Matakaoa Point**	**0.74**	**318**	S	**Sb**	**00 50 56.7**	**+1.8**
TWGZ	**Tauwhareparae**	**0.75**	**265**	P	**Pn**	**00 50 44.4**	**-0.4**
TWGZ	**Tauwhareparae**	**0.75**	**265**	S	**Sb**	**00 50 55.9**	**+0.7**
TKGZ	**Te Karaka**	**0.91**	**249**	P	**Pb**	**00 50 47.4**	**-0.4**
TKGZ	**Te Karaka**	**0.91**	**249**	S	**Sb**	**00 50 59.9**	**+0.2**
HAZ	**Te Kaha**	**0.98**	**291**	P	**Pn**	**00 50 47.7**	**-0.1**
HAZ	**Te Kaha**	**0.98**	**291**	S	**Sn**	**00 51 00.1**	**-0.4**
RUGZ	**Raukumara Rang**	**1.00**	**278**	P	**Pn**	**00 50 48.0**	**-0.4**
RIGZ	**Rimuhau**	**1.09**	**237**	P	**Pb**	**00 50 50.4**	**-0.5**
RIGZ	**Rimuhau**	**1.09**	**237**	P	**Pb**	**00 50 50.4**	**-0.5**
RIGZ	**Rimuhau**	**1.09**	**237**	S	**Sb**	**00 51 05.3**	**+0.5**
MWZ	**Matawai**	**1.13**	**258**	P	**Pn**	**00 50 50.3**	**+0.3**
MWZ	**Matawai**	**1.13**	**258**	S	**Sn**	**00 51 04.5**	**+0.1**
PRGZ	**Paritu Road**	**1.15**	**225**	P	**Pb**	**00 50 51.6**	**-0.3**
RAGZ	**Rawiri**	**1.25**	**252**	P	**Pn**	**00 50 52.4**	**+0.7**
RAGZ	**Rawiri**	**1.25**	**252**	S	**Sb**	**00 51 08.9**	**-0.5**
MHGZ	**Mahia Peninsul**	**1.31**	**217**	P	**Pb**	**00 50 53.8**	**-0.7**
SNGZ	**Shannon Statio**	**1.41**	**242**	P	**Pn**	**00 50 54.8**	**+0.9**
URZ	**Urewera**	**1.44**	**264**	P	**Pn**	**00 50 55.1**	**+0.8**
URZ	**Urewera**	**1.44**	**264**	P	**Pb**	**00 50 55.7**	**-1.1**
WHRZ	**Whale Island**	**1.57**	**279**	P	**Pb**	**00 51 00.0**	**+1.2**
RTZ	**Ruatahuna**	**1.61**	**251**	P	**Pn**	**00 50 57.7**	**+1.0**
RTZ	**Ruatahuna**	**1.61**	**251**	S	**Sb**	**00 51 18.1**	**-1.6**
RAHZ	**Arahi**	**1.65**	**241**	P	**Pn**	**00 50 58.3**	**+1.1**
EDRZ	**Edgecumbe**	**1.73**	**270**	P	**Pb**	**00 51 01.7**	**+0.1**
MUGZ	**Murupara**	**1.74**	**257**	P	**Pb**	**00 51 00.2**	**-1.5**
MARZ	**Manawahe**	**1.79**	**274**	P	**Pb**	**00 51 03.3**	**+0.7**
MTHZ	**Maungataniwha**	**1.80**	**245**	P	**Pn**	**00 50 59.8**	**+0.7**
OPRZ	**Ohinepanea**	**1.90**	**278**	P	**Pn**	**00 51 01.9**	**+1.4**
OPRZ	**Ohinepanea**	**1.90**	**278**	P	**Pb**	**00 51 03.2**	**-1.2**
ARHZ	**Aropaoanui**	**1.90**	**232**	P	**Pn**	**00 51 01.9**	**+1.3**
ARHZ	**Aropaoanui**	**1.90**	**232**	S	**Sn**	**00 51 24.5**	**+1.2**
TARZ	**Mount Tarawera**	**1.92**	**266**	P	**Pb**	**00 51 03.2**	**-1.6**
RRRZ	**Republican Roa**	**1.92**	**263**	P	**Pb**	**00 51 05.5**	**+0.7**
NMHZ	**Naumai**	**1.93**	**239**	P	**Pn**	**00 51 02.2**	**+1.1**
MKRZ	**Makatiti**	**1.94**	**269**	P	**Pn**	**00 51 03.3**	**+1.0**
OMRZ	**Omania**	**2.02**	**270**	P	**Pb**	**00 51 09.8**	**+3.2**
PRRZ	**Plateau Road**	**2.03**	**258**	P	**Pb**	**00 51 09.1**	**+2.3**
HLRZ	**Highlands Stat**	**2.04**	**265**	P	**Pb**	**00 51 09.8**	**+2.9**
ALRZ	**Allen Road**	**2.08**	**257**	P	**Pb**	**00 51 10.7**	**+3.1**
MRHZ	**Matea Rd**	**2.10**	**249**	P	**Pn**	**00 51 04.5**	**+1.1**
HRRZ	**Handcock Road**	**2.10**	**262**	P	**Pb**	**00 51 10.8**	**+2.8**
CKHZ	**Cape Kidnapper**	**2.11**	**223**	P	**Pn**	**00 51 03.9**	**+0.4**
KARZ	**Kaharoa**	**2.12**	**272**	P	**Pb**	**00 51 08.0**	**-0.3**
HSRZ	**Hossack Road**	**2.12**	**264**	P	**Pb**	**00 51 09.8**	**+1.5**
TGRZ	**Tauranga**	**2.15**	**280**	P	**Pn**	**00 51 05.0**	**+1.1**
BKZ	**Black Stump Fm**	**2.18**	**240**	P	**Pn**	**00 51 05.3**	**+0.9**
MCHZ	**McNeill Hill**	**2.19**	**232**	P	**Pn**	**00 51 05.7**	**+1.1**
KAHZ	**Kahuranaki**	**2.32**	**223**	P	**Pn**	**00 51 06.5**	**+0.1**
KRHZ	**Kereru**	**2.51**	**232**	P	**Pn**	**00 51 09.2**	**+0.1**
BHHZ	**Black Hill Sta**	**2.63**	**238**	P	**Pn**	**00 51 11.3**	**+0.7**
WPHZ	**Waipukurau**	**2.75**	**224**	P	**Pn**	**00 51 11.9**	**-0.3**
PNHZ	**Pukenui**	**2.78**	**229**	P	**Pn**	**00 51 12.7**	**0.0**
PRHZ	**Porangahau**	**2.79**	**219**	P	**Pn**	**00 51 12.1**	**-0.8**
MOVZ	**Moawhango**	**2.80**	**242**	P	**Pn**	**00 51 13.8**	**+0.8**
TUVZ	**Tukino**	**2.81**	**245**	P	**Pn**	**00 51 14.7**	**+1.5**
NGZ	**Ngauruhoe**	**2.81**	**247**	P	**Pn**	**00 51 14.3**	**+1.1**
DRZ	**Dome Shelter**	**2.88**	**245**	P	**Pn**	**00 51 16.6**	**+2.3**
FWVZ	**Far West T-bar**	**2.88**	**246**	P	**Pn**	**00 51 15.1**	**+0.9**
TRVZ	**Turoa**	**2.90**	**245**	P	**Pn**	**00 51 15.6**	**+1.1**
KUZ	**Kuaotunu**	**2.90**	**297**	P	**Pn**	**00 51 14.6**	**+0.3**
TSZ	**Takapari Road**	**3.02**	**229**	P	**Pn**	**00 51 15.2**	**-0.7**
ANWZ	**Angora Road**	**3.02**	**218**	P	**Pn**	**00 51 16.4**	**+0.5**
DVHZ	**Dannevirke**	**3.06**	**224**	P	**Pn**	**00 51 16.1**	**-0.5**
MKAZ	**Moumakai**	**3.16**	**288**	P	**Pn**	**00 51 20.7**	**+2.9**
HIZ	**Hauiti**	**3.23**	**262**	P	**Pn**	**00 51 20.4**	**+1.5**
VRZ	**Vera Road**	**3.42**	**252**	P	**Pn**	**00 51 23.2**	**+1.7**
VRZ	**Vera Road**	**3.42**	**252**	P	**Pn**	**00 51 23.2**	**+1.8**
PKE	**Pukeiti**	**4.02**	**253**	P	**Pn**	**00 51 32.3**	**+2.6**
WCZ	**Waipu Caves**	**4.26**	**299**	P	**Pn**	**00 51 37.0**	**+3.9**
CTZ	**Chatham Island**	**6.55**	**150**	P	**Pn**	**00 52 08.6**	**+4.2**

ISCJB ***10*** *00:52:17.9±0.6, 31°.23N±0°.03×77°.03E±0°.05, h21km±5km, mb3.7/12, Error ellipse: s-maj=7.2km s-min=4.8km az=143.6*
NDI ***10*** *00:52:18.2±2.4, 31°.24N×77°.08E, h13km±5km, ML3.7*
IDC ***10*** *00:52:22.5±7.7, 31°.24N×77°.04E, h49km±54km, mb3.5/12, mb1 3.5/15, mb1mx3.3/61, mbtmp3.7/15, ML3.3/3, MS2.8/1, Ms1 2.8/1, ms1mx2.1/50, Error ellipse: s-maj=67.6km s-min=28.9km az=145.0*
NNC ***10*** *00:52:27.9±8.1, 31°.63N×74°.73E, h0km, mb4.0, mpv3.8, Error ellipse: s-maj=136.1km s-min=62.7km az=83.0*

ISC 10 00:52:18.2±0.9, 31°.25N±0°.04×77°.13E±0°.05, h20km±4km, n32, σ2s00/42, mb3.8/12, 4C-1D, Northern India

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMLA	**Simla**	**0.12**	**164**	*e*P	**Pg**	**00 52 21.6**	**-0.8**
SMLA				*e*S	**Sg**	**00 52 24.4**	**-0.7**
SMLA				IAML		00 52 25.5	
	comp=E,25µm,0.2s						
SMLA				IAML		00 52 25.5	
	comp=N,22µm,0.2s						
DDI	**Dehra Dun**	**1.22**	**139**	*e*P	**Pb**	**00 52 41.0**	**+0.4**
DDI				*e*S	**Sg**	**00 52 57.0**	**-0.9**
DDI				IAML		00 52 59.9	
	comp=E,2µm,0.2s						
DDI				IAML		00 52 59.9	
	comp=N,1µm,0.4s						
DHRM	**DHARAMSHALA**	**1.22**	**325**	*e*P	**Pn**	**00 52 40.3**	**-0.2**
DHRM				*e*S	**Sn**	**00 52 58.0**	**+1.5**
DHRM				IAML		00 53 03.6	
	comp=E,2µm,0.3s						
DHRM				IAML		00 53 03.7	
	comp=N,1µm,0.2s						

GKD	**Gaurikund**	**1.73**	**111**	*e*P		**Pn**	**00 52 48.1**	**+0.8**
GKD				*e*S		**Sb**	**00 53 11.1**	**+0.3**
GKD				IAML			00 53 13.4	
	comp=E,2µm,0.3s							
GKD				IAML			00 53 13.5	
	comp=N,2µm,0.2s							
JOSI	**Joshimath**	**2.20**	**108**	*e*P		**Pb**	**00 52 56.4**	**-1.0**
JOSI				*e*S		**Sb**	**00 53 23.5**	**-0.9**
JOSI				IAML			00 53 35.8	
	comp=E,1µm,0.5s							
JOSI				IAML			00 53 36.2	
	comp=N,3µm,0.5s							
NDI	**New Delhi**	**2.56**	**178**	*e*P		**Pn**	**00 53 01.0**	**+2.4**
NDI				*ex*		x	00 53 39.0	
KUDL	**Kundal**	**3.14**	**190**	*e*P		**Pn**	**00 53 06.3**	**-0.3**
KUDL				*e*S		**Sn**	**00 53 43.5**	**0.0**
KUDL				IAML			00 53 49.6	
	comp=E,64nm,0.2s							
KUDL				IAML			00 53 49.6	
	comp=N,63nm,0.1s							
KHET	**Khetri**	**3.36**	**200**	*e*P		**Pn**	**00 53 11.3**	**+1.6**
KHET				*e*S		**Sn**	**00 53 46.9**	**-2.2**
KHET				IAML			00 54 11.9	
	comp=E,72nm,0.2s							
KHET				IAML			00 54 12.1	
	comp=N,102nm,0.3s							
SARP	**Sargodha**	**3.86**	**281**	P		**Pn**	**00 53 18.5**	**+2.0**
CHCP	**Chirah Chowk**	**4.05**	**307**	P		**Pn**	**00 53 22.0**	**+2.8**
CHCP				S		**Sg**	**00 54 25.0**	**-3.5**
THW	**Thamme Wali**	**4.83**	**290**	P		**Pn**	**00 53 32.0**	**+2.2**
CEP	**Cherat**	**5.10**	**302**	P		**Pn**	**00 53 35.2**	**+1.5**
BHPL	**Bhopal**	**7.98**	**178**	*e*S		**Sn**	**00 55 38.2**	**-4.7**
SFK	**Sufi-Kurgan**	**9.23**	**342**	⇑Pn		**Pn**	**00 54 32.3**	**+1.9**
	comp=N,1.8nm,0.4s							
SFK				⇑Sn		**Sn**	**00 56 09.8**	**-4.0**
	comp=N,3.0nm,0.3s							
AAK	**Ala-Archa**	**11.56**	**350**	P		**Pn**	**00 55 05.3**	**+3.0**
	comp=N,0.2nm,0.3s,baz=177,slow=15,SNR=2.7							
AAK				S		**Sn**	**00 57 10.1**	**-0.8**
	comp=N,0.0nm,0.3s,baz=215,slow=21,SNR=2.6							
MNAS	**Manas**	**11.81**	**343**	⇑Pn		**Pn**	**00 55 05.2**	**-0.5**
	comp=N,1.3nm,0.4s							
MNAS				⇓Sn		**Sn**	**00 57 10.8**	**-6.2**
	comp=N,3.2nm,0.8s							
KK31	**Karatay Array**	**12.95**	**338**	Pn		**Pn**	**00 55 19.7**	**-1.4**
	comp=N,0.8nm,0.3s,baz=155,slow=13,SNR=18							
KK31				⇑Sn		Sn	00 57 33.4	-11
	comp=N,1.5nm,0.5s,baz=164,slow=23,SNR=4.3							
MKAR	**Makanchi Array**	**16.03**	**13**	P		**P**	**00 56 05.8**	**0.0**
	comp=N,0.2nm,0.3s,baz=207,slow=11,SNR=8.1							
MKAR				S		Sn	00 58 48.1	-11
	comp=N,0.1nm,0.3s,baz=196,slow=21,SNR=5.0							
GEYT	**Alibeck**	**17.00**	**298**	LR		LR	01 04 09.2	
	comp=N,31nm,20.8s,baz=30,slow=42							
KURBB	**Kurchatov Arra**	**19.39**	**3**	P		**P**	**00 56 44.1**	**+1.4**
	comp=N,0.1nm,0.3s,baz=193,slow=11,SNR=4.8							
BVAR	**Borovoye Array**	**22.31**	**349**	P		**P**	**00 57 14.0**	**-0.3**
	comp=N,1.0nm,0.7s,baz=157,slow=12,SNR=7.5							
ZALV	**Zalesovo Beam**	**23.36**	**12**	P		**P**	**00 57 26.6**	**+1.4**
	comp=N,0.4nm,0.3s,baz=205,slow=10,SNR=4.2							
AKTO	**Aktyubinsk**	**23.88**	**329**	P		**P**	**00 57 31.0**	**+0.6**
	comp=N,1.2nm,0.4s,baz=148,slow=10,SNR=3.6							
BRTR	**Keskin Array B**	**36.12**	**296**	P		**P**	**00 59 20.3**	**+1.2**
	comp=N,1.0nm,1.0s,baz=96,slow=8.9,SNR=3.7							
AKASG	**Malin Array Be**	**40.23**	**313**	P		**P**	**00 59 53.8**	**+0.4**
	comp=N,0.5nm,0.5s,baz=84,slow=6.6,SNR=3.9							
ARCES	**ARCESS Array B**	**47.92**	**338**	P		**P**	**01 00 55.6**	**+0.8**
	comp=N,2.0nm,0.8s,baz=113,slow=9.3,SNR=5.2							
HFS	**Hagfors**	**50.31**	**324**	P		**P**	**01 01 13.4**	**+0.2**
	comp=N,1.0nm,0.5s,baz=81,slow=8.9,SNR=5.9							
NOA	**NORSAR Array B**	**51.61**	**325**	P		**P**	**01 01 22.9**	**-0.2**
	comp=N,0.4nm,0.8s,baz=108,slow=6.0,SNR=3.0							
SPITS	**Spitsbergen Ar**	**53.75**	**347**	P		**P**	**01 01 39.9**	**+1.3**
	comp=N,1.5nm,0.6s,baz=122,slow=7.0,SNR=4.8							
KEST	**Kesra**	**55.69**	**294**	P		**P**	**01 01 53.9**	**+0.5**
	comp=N,2.4nm,0.9s,baz=323,slow=4.0,SNR=4.3							
TORD	**Torodi Ar. Bea**	**70.94**	**274**	P		**P**	**01 03 34.3**	**-0.4**
	comp=N,0.7nm,0.5s,baz=52,slow=5.0,SNR=18							
YKA	**Yellowknife Ar**	**86.11**	**5**	P		**P**	**01 04 57.9**	**+0.5**
	comp=N,0.1nm,0.5s,baz=344,slow=5.2,SNR=3.8							

ISCJB ***10*** *00:55:05.5±0.5, 39°.60N±0°.02×27°.06E±0°.03, h4km±4km, Error ellipse: s-maj=4.3km s-min=3.2km az=20.1*
CSEM ***10*** *00:55:05.8±0.1, 39°.60N×27°.05E, h2km, ML2.8, Error ellipse: s-maj=3.1km s-min=2.2km az=15.0*
DDA ***10*** *00:55:05.1, 39°.57N×27°.06E, h7km, Ml2.8*
ATH ***10*** *00:55:06.7, 39°.62N×

RDO				S	**Sn**	**00 56 02.9**	**-0.2**
RDO	**Rodhopi**	**1.94**	**324**	P	**Pn**	**00 55 39.3**	**+0.6**
RDO				S	**Sn**	**00 56 03.3**	**+0.2**

KRSC 10 00:55:57.9±1.5, 48.01N×156.51E, h40km±41km, ML3.7, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.69**	**355**		*eP*		Pn	00 56 41.0	+2.4
SKR					*eS*		Sn	00 57 12.9	+3.0
PAU	**Pauzhetka**	**3.47**	**3**		*eP*		Pn	00 56 53.8	+4.5
PAU					*eS*		Sn	00 57 35.1	+6.0
KDTR	**Khodutka, Kamc**	**3.94**	**14**		*eP*		Pn	00 57 00.7	+5.0
KDTR					*eS*		Sn	00 57 46.1	+5.5
RUS	**Russkaya**	**4.61**	**15**		*eP*		Pn	00 57 09.2	+4.2
RUS					*eS*		Sn	00 58 01.3	+4.1
UGLR	**Uglovaya**	**5.41**	**15**		*eP*		Pn	00 57 20.8	+4.7
AVH	**Avacha**	**5.45**	**14**		*eP*		Pn	00 57 22.0	+5.4
SMAR	**Somma**	**5.46**	**15**		*eP*		Pn	00 57 20.8	+4.0
SDLR	**Sedlovina**	**5.49**	**15**		*eP*		Pn	00 57 20.8	+3.7
GNL	**Ganaly**	**5.77**	**8**		*eP*		Pn	00 57 25.4	+4.5

MAN 10 00:58:32.9, 82.82N×122.99E, h7km, mb4.3, ML3.1, MS2.8, 3C-1D, Negros

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SNPH	**Sibulan**	**0.54**	**153**⇓		*eP*		Pb	00 59 44.5	+0.7
SNPH					*eS*		Sb	00 58 52.0	+0.3
GUIM	**Jordan**	**0.89**	**334**		*eP*		Pg	00 58 49.3	+0.2
GUIM					*eS*		Sg	00 59 00.9	+0.2
LLP	**Lapu-Lapu**	**1.08**	**63**		*eP*		Pg	00 58 49.6	-3.2
LLP					*eS*		Sg	00 59 04.5	-2.3
DCPH	**Dipolog City**	**1.28**	**164**⇑		*eP*		Pn	00 58 56.3	-0.1
DCPH					*eS*		Sn	00 59 14.3	+0.5
JAP	**San Jose, Anti**	**1.38**	**312**⇑		*eP*		Pg	00 59 02.5	+4.1
RCP	**Roxas**	**1.74**	**352**⇑		*eP*		Pn	00 59 03.3	+0.6
RCP					*eS*		Sb	00 59 26.9	+0.4
MSLP	**Maasin**	**1.87**	**80**		*eP*		Pn	00 59 04.5	+0.1
MSLP					*eS*		Sn	00 59 27.4	-0.9
OCLP	**Ormoc**	**2.01**	**52**		*eP*		Pn	00 59 06.0	-0.4
OCLP					*eS*		Sb	00 59 33.5	-0.6
BUKP	**Musuan**	**2.82**	**133**		*eP*		Pn	00 59 10.6	-6.9

MEX 10 01:06:11.3±0.4, 17.01N×99.97W, h5km±10km, MD3.6, Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.28**	**277**		*iP*		Pg	01 06 16.6	-0.2
CAIG					*eS*		Sg	01 06 20.4	-0.2
MEIG	**Mezcala**	**0.97**	**20**		*eP*		Pg	01 06 27.7	-2.2
MEIG					*eS*		Sg	01 06 40.1	-2.4
ARIG	**Puente Sto Nin**	**1.31**	**344**		*eP*		Pn	01 06 32.9	-3.4
ARIG					*eS*		Sg	01 06 49.2	-4.3
PLIG	**Platanillo**	**1.45**	**18**		*iP*		Pn	01 06 36.7	-1.5
PLIG					*eS*		Sb	01 06 52.3	-5.1
TLIG	**Tlapa**	**1.45**	**68**		*eP*		Pn	01 06 34.6	-3.7
TLIG					*eS*		Sb	01 06 53.0	-4.7
ZIIG	**Zihuatanejo**	**1.54**	**293**		*eP*		Pn	01 06 35.7	-3.7
ZIIG					*iS*		Sn	01 06 54.7	-5.1

*ISCJB **10** 01:08:42.8±1.1, 3.2N±0.2×100.36E±0.09, h33km, mb3.8/4, Error ellipse: s-maj=23.8km s-min=11.8km az=160.7*
*IDC **10** 01:08:48.4±3.3, 2.84N×100.03E, h83km±44km, mb3.5/4, mb1 3.7/5, mb1mx3.2/65, mbtmp3.8/5, ML4.4/1, Error ellipse: s-maj=64.1km s-min=21.4km az=53.0*

ISC 10 01:08:44.6±1.2, 3.1N±0.2×100.3E±0.1, h35km, n6, σ0§84/7, mb3.9/4, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**1.44**	**258**		P		**Pn**	**01 09 09.3**	**+1.0**
	6.6nm,0.3s,baz=104,slow=4.2,SNR=32								
PSI					S		**Sn**	**01 09 24.7**	**-1.2**
	1.6nm,0.3s,baz=316,slow=20,SNR=19								
CMAR	**Chiang Mai Arr**	**15.33**	**355**		P		**P**	**01 12 22.5**	**-0.3**
	0.6nm,0.3s,baz=172,slow=11,SNR=5.0								
WRA	**Warramunga Arr**	**40.49**	**126**		P		**P**	**01 16 20.1**	**-0.3**
	0.9nm,0.4s,baz=303,slow=9.0,SNR=10								
MKAR	**Makanchi Array**	**46.26**	**343**		P		**P**	**01 17 06.6**	**0.0**
	0.6nm,0.4s,baz=151,slow=9.3,SNR=13								
KURBB	**Kurchatov Arra**	**50.81**	**342**		P		**P**	**01 17 41.2**	**-0.2**
	0.3nm,0.4s,baz=156,slow=7.3,SNR=3.9								
ZALV	**Zalesovo Beam**	**52.26**	**348**		P		**P**	**01 17 52.6**	**+0.3**
	0.7nm,0.3s,baz=162,slow=7.5,SNR=4.4								

*ISCJB **10** 01:12:14.8±1.0, 4.82S±0.10×145.1E±0.1, h54km, mb3.5/5, Error ellipse: s-maj=21.5km s-min=11.2km az=152.9*
*IDC **10** 01:12:16.8±4.8, 4.83S×145.09E, h58km±44km, mb3.2/5, mb1 3.5/7, mb1mx3.3/49, mbtmp3.5/7, ML3.5/1, Error ellipse: s-maj=30.0km s-min=29.1km az=38.0*

ISC 10 01:12:16.2±1.0, 4.8S±0.1×145.1E±0.2, h54km, n10, σ0§56/10, mb3.5/5, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.03**	**156**		P		**Pn**	**01 13 29.0**	**-0.2**
	1.0nm,0.3s,baz=328,slow=9.5,SNR=2.5								
PMG					S		**Sn**	**01 14 26.8**	**+0.7**
	5.5nm,0.3s,baz=143,slow=20,SNR=8.2								
WRA	**Warramunga Arr**	**18.34**	**214**		P		**P**	**01 16 25.9**	**-0.5**
	0.2nm,0.3s,baz=31,slow=12,SNR=5.3								
ASAR	**Alice Springs**	**21.64**	**209**		P		**P**	**01 17 02.3**	**+0.1**
	0.5nm,0.7s,baz=35,slow=8.2,SNR=4.2								
FITZ	**Fitzroy Crossi**	**23.15**	**234**		P		**P**	**01 17 17.9**	**-0.2**
	2.2nm,0.5s,baz=49,slow=11								
VNDA	**Vanda**	**73.23**	**176**		P		**P**	**01 23 41.0**	**-0.2**
	0.7nm,0.6s,baz=326,slow=5.7,SNR=6.3								
MKAR	**Makanchi Array**	**75.35**	**321**		P		**P**	**01 23 55.0**	**+1.0**
	0.1nm,0.4s,baz=106,slow=5.1,SNR=2.7								
ILAR	**Eielson Array**	**85.14**	**24**		P		**P**	**01 24 45.8**	**-0.5**
	0.3nm,0.7s,baz=262,slow=5.3,SNR=5.2								
TORD	**Torodi Ar. Bea**	**142.93**	**285**		PKhKP		PKPpre	01 31 40.1	
	0.2nm,0.3s,baz=78,slow=3.3,SNR=8.3								
KOWA	**Kowa**	**148.08**	**290**		PKPbc		**PKPbc**	**01 31 56.5**	**-0.4**
	1.9nm,0.4s,baz=62,slow=3.3,SNR=14								
DBIC	**Dimbokro**	**150.03**	**275**		PKPbc		**PKPbc**	**01 32 02.0**	**+0.1**
	2.4nm,0.8s,baz=143,slow=1.3,SNR=4.2								

*ATA **10** 01:16:29.6±1.1, 38.80N×43.51E, h0km±4km, ML3.5, MW3.4*
*DDA **10** 01:16:30.1, 38.80N×43.59E, h21km, MI2.8*
*ISK **10** 01:16:30.3, 38.79N×43.51E, h5km, ML3.0/8*
*ISCJB **10** 01:16:31.6±0.5, 38.78N±0.02×43.54E±0.04, h7km±3km, Error ellipse: s-maj=5.2km s-min=3.2km az=21.2*
*CSEM **10** 01:16:31.1±0.3, 38.80N×43.55E, h5km, ML2.8, Error ellipse: s-maj=6.2km s-min=4.3km az=112.0*

ISC 10 01:16:31.1±0.9, 38.79N±0.02×43.52E±0.02, h16km±6km, n66, σ0§99/89, 1D, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
VMUR	**Van-Muradiye**	**0.20**	**11**		*iP*		**Pg**	**01 16 35.0**	**-1.0**
VMUR					*iS*		**Sg**	**01 16 40.4**	**+1.1**
VMUR	**Van-Muradiye**	**0.20**	**11**		P		**Pg**	**01 16 35.0**	**-1.0**
VMUR					S		**Sg**	**01 16 40.4**	**+1.1**
VANB	**Van**	**0.22**	**208**		PG		**Pb**	**01 16 36.8**	**-0.1**
VANB					SG		**Sb**	**01 16 43.0**	**+2.3**
VANB	**Van**	**0.22**	**208**		*ePg*		**Pb**	**01 16 36.8**	**-0.1**
VANB					*eSg*		**Sb**	**01 16 43.0**	**+2.3**
ERCV	**ERCIS-VAN**	**0.27**	**328**		PG		**Pg**	**01 16 36.5**	**-0.6**
ERCV					SG		**Sg**	**01 16 41.7**	**+0.6**
ERCV	**ERCIS-VAN**	**0.27**	**328**		*ePg*		**Pg**	**01 16 36.5**	**-0.6**
ERCV					*eSg*		**Sg**	**01 16 41.7**	**+0.6**
TVAN	**Van**	**0.28**	**199**		*iP*		**Pg**	**01 16 36.8**	**-0.4**
TVAN					*iS*		**Sb**	**01 16 43.3**	**+0.9**
TVAN	**Van**	**0.28**	**199**		P		**Pg**	**01 16 36.8**	**-0.4**
TVAN					S		**Sb**	**01 16 43.3**	**+0.9**
CLDR	**Caldiran**	**0.47**	**41**		PG		**Pg**	**01 16 40.2**	**-0.3**
CLDR	**Caldiran**	**0.47**	**41**		*iP*		**Pg**	**01 16 38.5**	**-2.0**
CLDR					*iS*		**Sb**	**01 16 48.2**	**+0.3**
CLDR	**Caldiran**	**0.47**	**41**		P		**Pg**	**01 16 38.5**	**-2.0**
CLDR	**Caldiran**	**0.47**	**41**		*ePg*		**Pg**	**01 16 40.2**	**-0.3**
CLDR					S		**Sb**	**01 16 48.2**	**+0.3**

GEVA	**Gevas**	**0.60**	**217**		*eP*		**Pg**	**01 16 42.4**	**-0.6**
GEVA					*eS*		**Sn**	**01 16 52.8**	**-1.9**
GEVA					IAML			01 16 55.1	
	comp=Z,152nm,0.3s								
GEVA	**Gevas**	**0.60**	**217**		*iP*		**Pg**	**01 16 42.1**	**-0.9**
GEVA	**Gevas**	**0.60**	**217**		P		**Pg**	**01 16 42.1**	**-0.9**
ADCV	**BITLIS_Adilcev**	**0.62**	**272**		*iP*		**Pg**	**01 16 43.3**	**-0.1**
ADCV					*iS*		**Sn**	**01 16 53.9**	**-1.4**
ADCV	**BITLIS_Adilcev**	**0.62**	**272**		P		**Pg**	**01 16 43.3**	**-0.1**
ADCV					S		**Sn**	**01 16 53.9**	**-1.4**
DYDN	**Diyadin**	**0.76**	**10**		*eP*		**Pg**	**01 16 45.1**	**-0.9**
DYDN	**Diyadin**	**0.76**	**10**		*iP*		**Pg**	**01 16 44.7**	**-1.3**
DYDN	**Diyadin**	**0.76**	**10**		P		**Pg**	**01 16 44.7**	**-1.3**
TUTA	**Tutak**	**0.82**	**318**		*eP*		**Pg**	**01 16 46.4**	**-0.8**
TUTA					IAML			01 17 03.8	
	comp=Z,200nm,0.3s								
TUTA	**Tutak**	**0.82**	**318**		*iP*		**Pg**	**01 16 46.4**	**-0.8**
TUTA					*iS*		**Sb**	**01 16 58.5**	**+0.4**
TUTA	**Tutak**	**0.82**	**318**		P		**Pg**	**01 16 46.3**	**-0.8**
TUTA					S		**Sb**	**01 16 58.5**	**+0.4**
AGRB	**Hanur-Agry**	**0.88**	**332**		PG		**Pg**	**01 16 48.7**	**+0.4**
AGRB					SG		**Sn**	**01 17 01.4**	**-0.4**
AGRB	**Hanur-Agry**	**0.88**	**332**		*ePg*		**Pg**	**01 16 48.7**	**+0.4**
AGRB					*eSg*		**Sn**	**01 17 01.4**	**-0.4**
IGDI	**IGDIR**	**1.16**	**22**		*eP*		**Pn**	**01 16 52.5**	**-0.3**
IGDI					*eS*		**Sg**	**01 17 10.9**	**+2.3**
IGDI	**IGDIR**	**1.16**	**22**		*iP*		**Pn**	**01 16 52.1**	**-0.7**
GURO	**Guroymak-BITLI**	**1.19**	**259**		PN		**Pn**	**01 16 52.7**	**-0.6**
GURO					SN		**Sg**	**01 17 10.9**	**+1.2**
GURO	**Guroymak-BITLI**	**1.19**	**259**		*ePn*		**Pn**	**01 16 52.7**	**-0.6**
GURO					*eSn*		**Sg**	**01 17 10.9**	**+1.2**
EKAR	**Karacoban**	**1.23**	**293**		*eP*		**Pn**	**01 16 53.2**	**-0.7**
EKAR					IAML			01 17 23.7	
	comp=Z,40nm,0.4s								
EKAR	**Karacoban**	**1.23**	**293**		*iP*		**Pb**	**01 16 54.0**	**-0.1**
EKAR	**Karacoban**	**1.23**	**293**		P		**Pb**	**01 16 54.0**	**-0.1**
HAKT	**HAKKARI**	**1.24**	**173**		*iP*		**Pn**	**01 16 52.4**	**-1.7**
TASB	**TASBURUN-IGDIR**	**1.31**	**25**		PN		**Pg**	**01 16 56.9**	**+0.5**
TASB					SN		**Sg**	**01 17 15.9**	**+2.3**
TASB	**TASBURUN-IGDIR**	**1.31**	**25**		*ePn*		**Pg**	**01 16 56.9**	**+0.5**
TASB					*eSn*		**Sg**	**01 17 15.9**	**+2.3**
EATA	**Eleskirt**	**1.33**	**324**		*eP*		**Pg**	**01 16 56.9**	**+0.1**
EATA					⇓*eS*		**Sg**	**01 17 16.8**	**+2.5**
EATA	**Eleskirt**	**1.33**	**324**		*iP*		**Pb**	**01 16 56.3**	**+0.3**
EATA	**Eleskirt**	**1.33**	**324**		P		**Pb**	**01 16 56.3**	**+0.3**
YOVA	**Hakkari_Y\`...kse**	**1.35**	**153**		*iP*		**Pn**	**01 16 55.4**	**-0.1**
YOVA	**Hakkari_Y\`...kse**	**1.35**	**153**		P		**Pn**	**01 16 55.4**	**-0.1**
SRTM	**Siirt_Merkez**	**1.49**	**238**		*iP*		**Pg**	**01 16 59.4**	**-0.4**
SRTM	**Siirt_Merkez**	**1.49**	**238**		P		**Pg**	**01 16 59.4**	**-0.4**
SIRT	**Sirnak**	**1.55**	**214**		PN		**Pg**	**01 17 00.3**	**-0.5**
SIRT	**Sirnak**	**1.55**	**214**		*ePn*		**Pg**	**01 17 00.3**	**-0.5**
SIRN	**S\`\`-rnak**	**1.56**	**214**		*iP*		**Pg**	**01 17 01.1**	**0.0**
SIRN	**S\`\`-rnak**	**1.56**	**214**		P		**Pg**	**01 17 01.1**	**0.0**
DIGO	**Kars**	**1.62**	**356**		*eP*		**Pb**	**01 17 01.0**	**+0.1**
DIGO	**Kars**	**1.62**	**356**		*iP*		**Pb**	**01 17 01.1**	**+0.2**
DIGO	**Kars**	**1.62**	**356**		P		**Pb**	**01 17 01.1**	**+0.2**
VRTB	**Varto-Mus**	**1.65**	**284**		PN		**Pg**	**01 17 01.9**	**-1.0**
VRTB	**Varto-Mus**	**1.65**	**284**		*iP*		**Pb**	**01 17 01.2**	**-0.1**
VRTB	**Varto-Mus**	**1.65**	**284**		P		**Pb**	**01 17 01.2**	**-0.1**
VRTB	**Varto-Mus**	**1.65**	**284**		*ePn*		**Pg**	**01 17 01.9**	**-1.0**
KARS	**Kars**	**1.86**	**350**		PN		**Pb**	**01 17 04.4**	**-0.5**
KARS	**Kars**	**1.86**	**350**		*ePn*		**Pb**	**01 17 04.4**	**-0.5**
EAK	**Akyaka**	**1.89**	**2**		*eP*		**Pg**	**01 17 06.9**	**-0.5**
EAK	**Akyaka**	**1.89**	**2**		*iP*		**Pg**	**01 17 07.4**	**-0.1**
SENK	**Senkaya-Erzuru**	**1.98**	**333**		PN		**Pb**	**01 17 06.1**	**-0.9**
SENK	**Senkaya-Erzuru**	**1.98**	**333**		*ePn*		**Pb**	**01 17 06.1**	**-0.9**
BTMN	**Batman**	**1.99**	**244**		*iP*		**Pb**	**01 17 07.1**	**+0.2**
BTMN	**Batman**	**1.99**	**244**		P		**Pb**	**01 17 07.1**	**+0.2**
ERZM	**Erzurum**	**2.01**	**304**		*eP*		**Pg**	**01 17 09.2**	**-0.4**
BNGB	**Bing¶ll**	**2.23**	**276**		PN		**Pb**	**01 17 09.5**	**-1.6**
BINT	**Bingol**	**2.37**	**273**		*ePn*		**Pn**	**01 17 09.5**	**0.0**
HANI	**Diyarbakir_Han**	**2.48**	**262**		*iP*		**Pb**	**01 17 14.5**	**-0.8**
HANI	**Diyarbakir_Han**	**2.48**	**262**		P		**Pb**	**01 17 14.5**	**-0.8**

*NIED **10** 01:26:00, 39.80N×142.30E, h8km, Mw3.7 Best double couple: M0 4.18000×10^14 NP1:φ=299.00000°, δ=76.00000°, λ=7.00000°. NP2:φ=208.00000°, δ=83.00000°, λ=166.00000°.*
*ISCJB **10** 01:26:30.6±1.6, 39.79N±0.04×142.4E±0.1, h16km±9km, mb3.7/9, MS2.7/1, Error ellipse: s-maj=13.1km s-min=6.3km az=179.6*
*JMA **10** 01:26:32.0, 39.78N×142.30E, h22km±1km, M3.9*
JMA Felt II J1.
*IDC **10** 01:26:45.1±2.9, 39.47N×141.57E, h110km±26km, mb3.3/9, mb1 3.4/12, mb1mx3.2/60, mbtmp3.6/12, MS2.8/4, Ms1 2.8/4, ms1mx2.6/29, Error ellipse: s-maj=24.3km s-min=17.0km az=79.0*

ISC 10 01:26:33.4±1.7, 39.76N±0.03×142.14E±0.08, h6km±10km, n29, σ1§81/27, mb3.9/9, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**0.28**	**310**		P		**Pg**	**01 26 39.9**	**+0.9**
JTH					S		**Sb**	**01 26 45.3**	**-0.6**
MIYJ	**Miyakonagasawa**	**0.31**	**234**		P		**Pb**	**01 26 40.7**	**-0.6**
MIYJ					S		**Sb**	**01 26 46.6**	**0.0**
JKZ	**Kuzumaki**	**0.67**	**290**		P		**Pg**	**01 26 46.6**	**+0.3**
JKZ					S		**Sb**	**01 26 56.8**	**-0.2**
JOM	**Ohasama**	**0.72**	**247**		P		**Pg**	**01 26 47.6**	**+0.4**
JOM					S		**Sb**	**01 26 58.7**	**+0.3**
OFUJ	**Ofunato**	**0.77**	**209**		P		**Pg**	**01 26 47.5**	**-0.7**
OFUJ					S		**Sg**	**01 26 58.5**	**+0.3**
JANG	**Nango**	**0.78**	**322**		P		**Pg**	**01 26 47.1**	**-1.4**
JANG					S		**Sg**	**01 26 58.0**	**-0.6**
JMK	**Ichinoseki**	**1.08**	**222**		P		**Pg**	**01 26 53.0**	**-1.1**
JMK					S		**Sg**	**01 27 08.1**	**0.0**
MAT	**Matsushiro**	**4.46**	**225**		P		**Pn**	**01 27 43.9**	**+2.3**
MAT					*eS*		**Sn**	**01 28 36.1**	**+2.2**
MJAR	**Matsushiro Arr**	**4.46**	**225**		P		**Pn**	**01 27 44.2**	**+2.6**
	1.3nm,0.3s,baz=33,slow=12,SNR=20								
JHJ	**Hachijo jima 2**	**6.89**	**197**		LR		LR	01 31 06.1	
	comp=Z,135nm,19.7s,baz=80,slow=40								
USRK	**Ussuriysk Ar.**	**8.77**	**304**		P		Pn	01 28 47.0	+6.3
	baz=111,slow=15,SNR=4.2								
JNU	**Nakatsue**	**11.23**	**237**		LR		LR	01 33 49.3	
	comp=Z,51nm,18.9s,baz=106,slow=40								
KSRS	**Korea Array**	**11.36**	**263**		P		**Pn**	**01 29 17.2**	**+1.0**
	0.7nm,0.3s,baz=356,slow=32,SNR=5.7								
KSRS					LR		LR	01 33 11.9	
	comp=Z,27nm,18.9s,baz=92,slow=35								
YAK	**Yakutsk**	**23.56**	**345**		LR		LR	01 42 14.3	
	comp=Z,25nm,18.4s,baz=27,slow=39								
H11N2	**WAKE ISLAND Hy**	**29.16**	**126**		T		T	02 03 02.1	
	baz=319,slow=75,SNR=2917								
H11N1	**WAKE ISLAND Hy**	**29.18**	**126**		T		T	02 03 02.3	
	baz=319,slow=75,SNR=2420								
H11N3	**WAKE ISLAND Hy**	**29.18**	**126**		T		T	02 03 03.5	
	baz=319,slow=75,SNR=1913								
H11S1	**WAKE ISLAND Hy**	**29.37**	**128**		T		T	02 04 02.7	
	baz=321,slow=76,SNR=388								
H11S3	**WAKE ISLAND Hy**	**29.97**	**128**		T		T	02 04 02.0	
	baz=321,slow=76,SNR=175								
H11S2	**WAKE ISLAND Hy**	**29.98**	**128**		T		T	02 04 03.2	
	baz=321,slow=76,SNR=317								
ZALV	**Zalesovo Beam**	**40.55**	**310**		P		**P**	**01 34 10.6**	**-2.7**
	0.7nm,0.5s,baz=84,slow=8.4,SNR=2.6								
MKAR	**Makanchi Array**	**43.21**	**300**		P		**P**	**01 34 33.4**	**-1.7**
	0.6nm,0.5s,baz=84,slow=9.8,SNR=7.4								
KURBB	**Kurchatov Arra**	**44.82**	**306**		P		**P**	**01 34 46.2**	**-1.7**
	2.4nm,0.5s,baz=80,slow=8.6,SNR=6.0								
ILAR	**Eielson Array**	**46.90**	**34**		P		**P**	**01 35 06.9**	**+2.7**
	0.3nm,0.7s,baz=259,slow=6.4,SNR=4.7								
BVAR	**Borovoye Array**	**49.20**	**311**		P		**P**	**01 35 20.8**	**-1.3**
	0.6nm,0.4s,baz=259,slow=38,SNR=3.3								
WRA	**Warramunga Arr**	**59.83**	**188**		P		**P**	**01 36 36.6**	**-3.0**
	1.0nm,0.6s,baz=7.4,slow=7.0,SNR=6.8								
YKA	**Yellowknife Ar**	**61.17**	**31**		P		**P**	**01 36 51.2**	**+2.9**
	0.1nm,0.6s,baz=299,slow=6.3,SNR=3.0								
ASAR	**Alice Springs**	**63.56**	**188**		P		**P**	**01 37 01.3**	**-3.4**
	0.5nm,0.7s,baz=360,slow=5.0,SNR=5.2								
AKASG	**Malin Array Be**	**72.50**	**322**		P		**P**	**01 38 00.3**	**-0.4**
	0.5nm,0.4s,baz=45,slow=6.1,SNR=3.2								

*IDC **10** 01:42:23.7±4.8, 4.64S×153.19E, h175km±39km, mb3.5/5, mb1 3.7/6, mb1mx3.3/49, mbtmp4.1/6, Error ellipse: s-maj=59.6km s-min=24.9km az=120.0*
*ISCJB **10** 01:42:24.7±1.1, 4.75S±0.2×153.2E±0.2, h200km, mb3.7/5, Error ellipse: s-maj=49.8km s-min=14.1km az=138.9*

ISC 10 01:42:26.4±1.2, 4.6S±0.3×153.0E±0.3, h200km, n8, σ1§12/9, mb3.9/5, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.51**	**230**		P		**Pn**	**01 44 11.2**	**-2.1**
	6.2nm,0.3s,baz=38,slow=3.6,SNR=16								
PMG					S		**Sn**	**01 45 39.6**	**+1.3**
	1.5nm,0.3s,baz=67,slow=10,SNR=3.8								
WRA	**Warramunga Arr**	**23.72**	**228**		P		**P**	**01 47 21.4**	**+0.9**
	5.6nm,0.6s,baz=54,slow=10.0,SNR=26								
ASAR	**Alice Springs**	**26.43**	**222**		P		**P**	**01 47 45.1**	**+0.2**
	0.7nm,0.5s,baz=54,slow=9.0,SNR=8.8								
STKA	**Stephens Creek**	**29.16**	**200**		P		**P**	**01 48 09.3**	**+0.3**
	1.9nm,0.6s,baz=12,slow=10,SNR=2.8								
FITZ	**Fitzroy Crossi**	**29.93**	**241**		P		**P**	**01 48 16.7**	**+0.8**
ILAR	**Eielson Array**	**81.91**	**22**		P		**P**	**01 54 23.4**	**+0.2**
	0.3nm,0.7s,baz=233,slow=6.7,SNR=3.0								
MAW	**Mawson**	**85.82**	**203**		P		**P**	**01 54 42.8**	**-0.1**
	1.7nm,0.7s,baz=79,slow=5.2,SNR=4.7								
TORD	**Torodi Ar. Bea**	**150.45**	**289**		PKPbc		**PKPbc**	**02 01 55.3**	**0.0**
	0.3nm,0.6s,baz=98,slow=1.8,SNR=4.1								

*ISCJB **10** 01:42:31.1±1.5, 4.18N±0.05×67.48E±0.03, h2km±9km, mb4.6/102, MS3.9/37, Error ellipse: s-maj=7.7km s-min=5.4km az=4.6*
*MOS **10** 01:42:32.4±1.2, 4.23N×67.52E, h10km, mb5.0/34, Error ellipse: s-maj=8.3km s-min=5.7km az=100.6*
*IDC **10** 01:42:33.0±0.5, 4.21N×67.56E, h0km, mb4.2/33, mb1 4.4/34, mb1mx4.2/70, mbtmp4.3/34, ML4.6/1, MS3.8/28, Ms1 3.8/28, ms1mx3.6/56, Error ellipse: s-maj=14.8km s-min=12.3km az=8.0*
*GCMT **10** 01:42:34.8±0.5, 4.48N×67.31E, h32km±1km, MW4.8/60, Moment Tensor Solution. s27,c33; s60,c75; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=1.49±.19; Mθθ=2.32±.12; Mφφ=0.83±.14; Mrθ=0.73±.13; Mrφ=1.45±.10; Mθφ=0.22±.18; Best double couple: M0=2.32500×10^16 NP1:φ=261.00000°, δ=56.00000°, λ=-73.00000°. NP2: φ=52.00000°, δ=37.00000°, λ=-114.00000°. Principal axes: T 3.0150, Plg10.0000°, Azm339.0000°; N -1.3810, Plg14.0000°, Azm71.0000°; P -1.6350, Plg73.0000°, Azm216.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **10** 01:42:34.8±0.2, 4.23N×67.56E, h10km, mb4.8/30 Error ellipse: s-maj=6.5km s-min=5.3km az=195.0*
*BJI **10** 01:42:34.0, 4.10N×67.60E, h15km, mb4.8/46, mB4.9/33, Ms4.6/19, Ms7 4.2/18*

ISC 10 01:42:34.8±0.9, 4.10N±0.05×67.59E±0.05, h14km±5km, n278, σ1§82/290, mb4.7/103, MS3.9/38, 19C-15D, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HMDM	**Hanimaadhoo**	**6.17**	**64**		*eP*		**Pg**	**01 44 27.7**	**-5.3**
H08N2	**Diego Garcia H**	**10.90**	**162**		T		T	01 56 20.4	
	baz=341,slow=75,SNR=78								
H08N3	**Diego Garcia H**	**10.92**	**162**		T		T	01 56 21.5	
	baz=341,slow=75,SNR=101								
H08N1	**Diego Garcia H**	**10.92**	**162**		T		T	01 56 11.7	
	baz=341,slow=75,SNR=261								
DGAR	**Diego Garcia**	**12.42**	**157**		*ePn*		Pn	01 45 37.1	+5.7
DGAR	**Diego Garcia**	**12.42**	**157**		*iP*		**Pn**	**01 45 32.3**	**+0.9**
PALK	**

KSH S **S** **01 55 12.0 -3.1**
KSH ScS **ScS** **01 59 52.9 -1.1**
KSH pmax pmax
comp=Z,13nm,0.9s
KSH pmax pmax
comp=Z,220nm,4.4s
KSH LR LR
comp=Z,700nm,15.0s
KSH LR LR
comp=Z,400nm,10.5s
KSH LR LR
comp=Z,880nm,16.4s
MYKOM **Kota Tinggi** **36.28 93** *e*P **P** **01 49 33.8 -4.5**
comp=Z,20nm,0.3s
DSRI **Dabo** **37.24 96** P P 01 49 58.6 +12
SKNT **Sakolnakorn** **37.91 68** P **P** **01 49 52.5 +0.5**
comp=Z,7.9nm,0.9s
AAK **Ala-Archa** **38.86 8** *e*P **P** **01 50 01.1 +1.2**
comp=Z,4.2nm,1.1s
AAK **Ala-Archa** **38.86 8** *i* P **P** **01 50 00.2 +0.3**
AAK pmax pmax
comp=Z,5.0nm,1.3s
KK06 **Karatay Array** **38.92 3** *e*P **P** **01 49 58.1 -2.0**
KMI **Kunming** **39.71 55** P **P** **01 50 08.9 +1.6**
KMI pmax pmax
comp=Z,12nm,0.7s
KMI pmax pmax
comp=Z,96nm,5.3s
GNI **Garni** **41.39 333** P **P** **01 50 22.1 +1.2**
comp=Z,11nm,1.1s,baz=129,slow=9.2,SNR=4.3
GNI LR LR 02 08 05.7
comp=Z,125nm,19.6s,baz=122,slow=37
GNI **Garni** **41.39 333** *e*P **P** **01 50 23.1 +2.2**
GNI **Garni** **41.39 333** *i* P **P** **01 50 20.2 -0.7**
GNI pmax pmax
comp=Z,26nm,1.1s
LEM **Lembang** **41.40 105** LR LR 02 05 18.2
comp=Z,158nm,18.9s,baz=198,slow=33
CD2 **Chengdu** **43.25 48** *e*P **P** **01 50 37.0 +0.9**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
WMQ **Urumqi** **43.36 21** P **P** **01 50 37.9 +1.1**
WMQ pP pP 01 50 40.2 -1.0
WMQ sP sP 01 50 47.3 +4.3
WMQ PcP **PcP** **01 52 24.4 -1.0**
WMQ S **S** **01 57 11.3 +7.0**
WMQ pmax pmax
comp=Z,20nm,0.7s
WMQ pmax pmax
comp=Z,270nm,3.9s
WMQ LR LR
comp=Z,110nm,4.1s
WMQ LR LR
comp=Z,190nm,6.5s
GYA **Guiyang** **43.48 55**⇑ *i*P **P** **01 50 38.2 +0.1**
GYA PP **PcP** **01 52 23.6 -2.6**
GYA ScP **ScP** **01 56 17.0 -0.5**
GYA S **S** **01 57 07.4 +0.8**
GYA SS **SS** **02 00 15.0 -6.1**
GYA pmax pmax
comp=Z,10.0nm,0.9s
GYA pmax pmax
comp=Z,110nm,5.2s
GYA LR LR
comp=Z,410nm,18.9s
GYA LR LR
comp=Z,360nm,19.0s
GYA LR LR
comp=Z,380nm,18.6s
LSZ **Lusaka** **43.51 243** P **P** **01 50 39.3 +0.9**
comp=Z,1.8nm,0.5s,baz=63,slow=7.0,SNR=6.2
LSZ **Lusaka** **43.51 243** *e*P **P** **01 50 39.3 +0.9**
comp=Z,13μm,1.6s
LSZ **Lusaka** **43.51 243** *e*P **P** **01 50 39.3 +0.9**
LSZ pmax pmax
comp=Z,10μm,1.6s
MK01 **Makanchi Array** **44.38 14** *e*P **P** **01 50 43.7 -1.1**
MK01 *e*PP **PP** **01 52 27.7 -0.8**
MK31 **Makanchi Array** **44.40 14** *e*P **P** **01 50 44.5 -0.5**
MK31 **Makanchi Array** **44.40 14** *e*P **P** **01 50 44.5 -0.5**
MK32 **Makanchi Array** **44.40 14** *e*P **P** **01 50 44.4 -0.6**
MK32 *e*PP **PcP** **01 52 29.1 +0.3**
MKAR **Makanchi Array** **44.40 14** P **P** **01 50 44.4 -0.5**
comp=Z,1.4nm,0.9s,baz=204,slow=8.7,SNR=12
MKAR PcP **PcP** **01 52 29.1 +0.3**
comp=Z,1.3nm,0.9s,baz=216,slow=3.9,SNR=6.8
MKAR LR LR 02 10 02.2
comp=Z,132nm,19.3s,baz=207,slow=37
MKAR **Makanchi Array** **44.40 14** *e*P **P** **01 50 44.5 -0.5**
comp=Z,13nm,1.0s
MKAR **Makanchi Array** **44.40 14** *e*P **P** **01 50 44.5 -0.5**
MKAR pmax pmax
comp=Z,13nm,1.0s
SBUM **Sibu** **44.58 91** *e*P **P** **01 50 48.2 +1.2**
comp=Z,17nm,1.2s
KBZ **Khabaz** **45.09 335** P **P** **01 50 51.4 +0.9**
comp=Z,2.3nm,0.8s,baz=258,slow=19,SNR=3.4
KIV **Kislovodsk** **45.37 335** *e*P **P** **01 50 49.7 -3.2**
KIV *e*S **S** **01 57 31.0 -2.5**
KIV pmax pmax
comp=Z,8.0nm,1.1s
KIV MLR MLR
comp=Z,63nm,16.0s
AB07 **Akbulak array** **45.44 353** *e*P **P** **01 50 53.2 0.0**
AB08 **Akbulak array** **45.45 353** *e*P **P** **01 50 53.4 +0.1**
AB08 *e*PcP **PcP** **01 52 29.1 -3.2**
AB03 **Akbulak array** **45.46 353** *e*P **P** **01 50 53.4 +0.1**
AB01 **Akbulak array** **45.46 353** *e*P **P** **01 50 53.4 0.0**
AB31 **Akbulak array** **45.46 353** *e*P **P** **01 50 53.8 +0.4**
AB31 **Akbulak array** **45.46 353** *e*P **P** **01 50 53.8 +0.4**
ABKAR **Akbulak array** **45.46 353** *e*P **P** **01 50 53.8 +0.4**
comp=Z,145nm,1.8s
AB06 **Akbulak array** **45.46 353** *e*P **P** **01 50 53.5 +0.1**
AB02 **Akbulak array** **45.46 353** *e*P **P** **01 50 53.5 0.0**
AB04 **Akbulak array** **45.46 353** *e*P **P** **01 50 53.5 +0.1**
AB09 **Akbulak array** **45.47 353** *e*P **P** **01 50 53.5 0.0**
AB05 **Akbulak array** **45.48 353** *e*P **P** **01 50 53.6 +0.1**
GTA **Gaotai** **45.68 35** *e*P **P** **01 50 55.7 +0.2**
GTA pP pP 01 50 59.8 -0.1
GTA sP sP 01 51 03.3 +1.6
GTA S **S** **01 57 39.0 +0.7**
GTA sS sS 01 57 45.9 +0.3
GTA pmax pmax
comp=Z,7.0nm,1.0s
GTA pmax pmax
comp=Z,81nm,5.7s
GTA LR LR
comp=Z,200nm,15.4s
GTA LR LR
comp=Z,210nm,15.7s
GTA LR LR
comp=Z,130nm,13.5s
LZH **Lanzhou** **46.12 42** *e*P **P** **01 51 00.3 +1.3**
LZH pP sP 01 51 04.8 -0.4
LZH sP pP 01 51 07.5 +4.0
LZH PP **PP** **01 52 49.0 +1.7**
LZH pmax pmax
comp=Z,23nm,1.1s
LZH pmax pmax
comp=Z,82nm,6.3s
LZH LR LR
comp=Z,380nm,14.0s
LZH LR LR
comp=Z,390nm,14.3s
LZH LR LR
comp=Z,440nm,18.0s
AKTO **Aktyubinsk** **46.87 352** P **P** **01 51 04.6 +0.1**
comp=Z,2.3nm,0.6s,baz=171,slow=9.1,SNR=11
BRTR **Keskin Array B** **46.89 324** P **P** **01 51 05.2 +0.2**
comp=Z,1.0nm,0.6s,baz=139,slow=10,SNR=7.7
BR101 **Keskin Array S** **46.89 324** *e*P **P** **01 51 05.2 +0.2**
KURBB **Kurchatov Arra** **47.27 9** P **P** **01 51 07.0 -0.6**
comp=Z,3.7nm,0.9s,baz=206,slow=8.2,SNR=15
ENH **Enshi** **47.32 52** *e*P **P** **01 51 06.8 -1.6**
comp=Z,7.6nm,0.9s
KURK **Kurchatov** **47.37 10** *e*P **P** **01 51 07.8 -0.6**
KURK **Kurchatov** **47.37 10** *ce*P **P** **01 51 08.0 -0.4**
KURK pmax pmax
comp=Z,34nm,1.2s
XAN **Xi'an** **48.58 47** P **P** **01 51 17.9 -0.2**
XAN pP pP 01 51 22.8 +0.2
XAN pmax pmax
comp=Z,45nm,0.9s
BVAR **Borovoye Array** **48.82 2** P **P** **01 51 19.1 -0.5**
comp=Z,0.2nm,0.4s,baz=194,slow=3.0,SNR=2.8
BVAR PcP **PcP** **01 52 44.7 +0.5**
comp=Z,1.8nm,0.9s,baz=180,slow=1.2,SNR=8.2
BVAR LR LR 02 13 03.5
comp=Z,164nm,19.0s,baz=180,slow=38
BRVK **Borovoye** **48.85 2** *i* P **P** **01 51 20.1 +0.3**
BRVK pmax pmax
comp=Z,1.0nm,1.1s
WHN **Wuhan** **51.28 54**⇑ P **P** **01 51 39.3 +0.6**
ZAA0 **Zalesovo Array** **51.65 13** *e*P **P** **01 51 40.1 -0.9**
comp=Z,9.2nm,0.9s
ZALV **Zalesovo Beam** **51.65 13** P **P** **01 51 40.0 -1.0**
comp=Z,8.1nm,0.9s,baz=217,slow=7.2,SNR=23
ZALV LR LR 02 14 49.7
comp=Z,149nm,18.1s,baz=250,slow=38
ZALV **Zalesovo Beam** **51.65 13** *e*P **P** **01 51 39.6 -1.4**
ZAA1 **Zalesovo Array** **51.66 13** *e*P **P** **01 51 40.0 -1.0**
VRH **Novokhopyorsk** **51.69 340** *e*P **P** **01 51 39.6 -1.7**
VRH pmax pmax
comp=Z,4.0nm,0.8s
BOSA **Boshof** **52.09 229** P **P** **01 51 44.9 +0.1**
comp=Z,10nm,1.2s,baz=222,slow=13,SNR=3.3
BOSA LR LR 02 11 36.0
comp=Z,121nm,18.3s,baz=52,slow=33
NVS **Novosibirsk** **52.15 11**⇑ *i*P **P** **01 51 43.9 -0.8**
NVS pmax pmax
comp=Z,22nm,1.5s
NVS pmax pmax
comp=N,13nm,1.0s
VSR **Storozhevoye** **52.63 338** *e*P **P** **01 51 45.6 -2.7**
VSR pmax pmax
comp=Z,9.0nm,0.8s
ARU **Arti** **52.67 354** *e*P **P** **01 51 48.4 -0.1**
comp=Z,16nm,1.3s
ARU **Arti** **52.67 354** *d i*P **P** **01 51 48.0 -0.5**
ARU 01 52 55.1
ARU 01 53 44.1
ARU S **S** **01 59 17.2 +1.6**
ARU SS **SS** **02 02 57.2 +3.0**
ARU pmax pmax
comp=Z,19nm,1.7s
ARU MLR MLR
comp=Z,140nm,18.0s
HHC **Hu-ho-hao-te** **53.78 41** *e*P **P** **01 51 59.3 +2.1**
HHC PP **PP** **01 54 05.3 +7.0**
HHC S **S** **01 59 31.9 +0.4**
HHC SS **SS** **02 03 12.2 -0.4**
HHC pmax pmax
comp=Z,12nm,1.1s
HHC pmax pmax
comp=Z,71nm,6.8s
HHC LR LR
comp=Z,180nm,16.9s
HHC LR LR
comp=Z,680nm,16.2s
HHC LR LR
comp=Z,640nm,16.5s
LPSR **Galich'ya Gora** **53.83 339** *e*P **P** **01 51 55.6 -1.5**
LPSR pmax pmax
comp=Z,10.0nm,0.8s
VRI **Vrincioaia** **54.69 326**⇑ *i*P **P** **01 52 04.7 +1.1**
VRI **Vrincioaia** **54.69 326** ⇑P **P** **01 52 04.7 +1.1**
SONA0 **Songino Array** **54.82 31** *e*P **P** **01 52 04.7 +0.1**
SONM **Songino Array** **54.82 31** P **P** **01 52 04.7 +0.1**
comp=Z,6.1nm,0.9s,baz=224,slow=8.0,SNR=28
SONM LR LR 02 15 52.0
comp=Z,219nm,19.9s,baz=195,slow=36
SONA1 **Songino Array** **54.83 31** *e*P **P** **01 52 04.5 -0.2**
MLR **Muntele Rosu** **54.91 325** P **P** **01 52 05.5 +0.1**
comp=Z,1.2nm,1.0s,baz=300,slow=10,SNR=4.3
MLR LR LR 02 17 13.1
comp=Z,19nm,18.8s,baz=124,slow=38
MLR **Muntele Rosu** **54.91 325**⇓ *i*P **P** **01 52 07.0 +1.7**
MLR **Muntele Rosu** **54.91 325** ⇓P **P** **01 52 07.0 +1.7**
TESR **Tescani** **55.13 327**⇓ *i*P **P** **01 52 05.4 -1.3**
ULN **Ulaanbaatar** **55.18 31** *e*P **P** **01 52 07.3 +0.1**
comp=Z,14nm,1.5s
ULN **Ulaanbaatar** **55.18 31** *ce*P **P** **01 52 07.6 +0.4**
ULN pmax pmax
comp=Z,11nm,1.7s
SORM **Soroca** **55.23 329**⇓ *i*P **P** **01 52 05.6 -1.8**
SORM **Soroca** **55.23 329** ⇓P **P** **01 52 05.6 -1.8**
VOIR **55.40 325**⇑ *i*P **P** **01 52 08.6 -0.2**
VOIR **55.40 325** ⇑P **P** **01 52 08.6 -0.2**
NJ2 **Nanjing** **55.42 54** *e*P **P** **01 52 09.7 +0.6**
NJ2 pmax pmax
comp=Z,16nm,0.5s
TIA **Tai'an** **55.58 48** P **P** **01 52 09.7 -0.4**
TIA pmax pmax
comp=Z,12nm,0.9s
ARR **Arges** **55.60 324**⇑ *i*P P 01 52 16.6 +6.4
TLY **Talaya** **56.10 26** *e*P **P** **01 52 12.7 -0.9**
comp=Z,4.0nm,1.0s
TLY **Talaya** **56.10 26** *e*P P 01 52 19.4 +5.7
TLY pmax pmax
comp=Z,6.0nm,1.6s
TLY MLR MLR
comp=Z,86nm,16.0s
BJT **Baijiatuau** **56.48 44** *e*P **P** **01 52 14.2 -2.3**
comp=Z,40nm,1.8s
BJT **Baijiatuau** **56.48 44** *e*P **P** **01 52 14.2 -2.3**
BJT pmax pmax
comp=Z,40nm,1.8s
AKASG **Malin Array Be** **56.48 332** P **P** **01 52 14.6 -1.8**
comp=Z,1.3nm,0.7s,baz=130,slow=5.9,SNR=14
AKASG LR LR 02 18 00.9
comp=Z,38nm,19.2s,baz=135,slow=38
AKBB **Malin Array Si** **56.48 332** *e*P **P** **01 52 15.2 -1.1**
comp=Z,8.4nm,1.6s
KIEV **Kiev** **56.49 332** *e*P **P** **01 52 15.2 -1.1**
comp=Z,14nm,1.4s
KIEV **Kiev** **56.49 332** *i* P **P** **01 52 13.7 -2.6**
KIEV pmax pmax
comp=Z,4.0nm,1.0s
BURAR **Bucovina Array** **56.57 327**⇑ *i*P **P** **01 52 15.3 -1.9**
BURAR **Bucovina Array** **56.57 327** ⇑P **P** **01 52 15.3 -1.9**
BUR04 **Bucovina Ar. S** **56.58 327** *e*P **P** **01 52 16.7 -0.5**
HERR **Herculane** **56.64 323**⇑ *i*P **P** **01 52 17.1 -0.5**
OBN **Obninsk** **56.68 339** *i* P **P** **01 52 16.6 -1.0**
OBN *i* 01 54 22.4
OBN pmax pmax
comp=Z,11nm,1.2s
OBN MLR MLR
comp=Z,49nm,15.0s
MOS **Moscow** **56.82 340** *e*P **P** **01 52 16.2 -2.4**
MOS pmax pmax
comp=Z,43nm,0.9s
DRGR **57.50 325**⇓ *i*P **P** **01 52 24.0 +0.3**
DRGR **57.50 325** ⇓P **P** **01 52 24.0 +0.3**
BZS **Buzias** **57.51 323**⇓ *i*P **P** **01 52 22.5 -1.2**
BZS **Buzias** **57.51 323** ⇓P **P** **01 52 22.6 -1.2**
H01W3 **Cape Leeuwin H** **58.43 136** T T 02 55 38.5
baz=302,slow=75,SNR=18
H01W2 **Cape Leeuwin H** **58.44 136** T T 02 55 38.4
baz=302,slow=75,SNR=22
H01W1 **Cape Leeuwin H** **58.45 136** T T 02 55 37.9
baz=302,slow=75,SNR=18
CRVS **Cervenica-Dubn** **59.37 326** *e*P **P** **01 52 36.1 -0.6**
CRVS **Cervenica-Dubn** **59.37 326** *e*P **P** **01 52 36.1 -0.6**
KLMR **Klimovskoe** **60.47 345** *e*P **P** **01 52 39.9 -4.1**
KLMR AMP 01 52 45.1
comp=Z,23nm,1.5s
KLMR **Klimovskoe** **60.47 345** *e*P **P** **01 52 39.9 -4.1**
KLMR pmax pmax
comp=Z,23nm,1.5s
SUW **Suwalki** **61.45 332** *e*P **P** **01 52 49.5 -1.2**
comp=Z,15nm,0.9s
SUW **Suwalki** **61.45 332** *e*P **P** **01 52 49.5 -1.2**
SUW pmax pmax
comp=Z,15nm,0.9s
ARSA **Arzberg** **61.98 323** P **P** **01 52 53.2 -1.3**
comp=Z,4.3nm,1.3s
MORC **Moravsky Berou** **62.01 326** *e*P **P** **01 52 53.2 -1.5**
comp=Z,26nm,1.2s
MORC **Moravsky Berou** **62.01 326** *e*P **P** **01 52 53.2 -1.5**
MORC pmax pmax
comp=Z,26nm,1.2s
CONA **Conrad Observa** **62.09 323** P **P** **01 52 53.6 -1.7**
comp=Z,10nm,1.3s
OBKA **Obir** **62.25 321** *e*P **P** **01 53 01.1 +4.6**
comp=Z,9.9nm,1.5s
VRAC **Vranov** **62.31 325**⇓ *i*P **P** **01 52 55.5 -1.2**
VRAC **Vranov** **62.31 325** ⇓P **P** **01 52 55.5 -1.2**
TAM **Tamanrasset** **62.70 293** *e*P **P** **01 53 00.3 +0.3**
comp=Z,12nm,1.4s
TAM **Tamanrasset** **62.70 293** *e*P **P** **01 53 00.3 +0.3**
TAM pmax pmax
comp=Z,12nm,1.4s
HIA **Hailar** **62.96 36** *i* P **P** **01 53 00.4 -0.7**
HIA pmax pmax
comp=Z,9.0nm,1.1s
DPC **Dobruska-Polom** **62.98 326** *e*P **P** **01 53 00.4 -0.7**
DPC *e*pP **pP** **01 53 05.9 +0.2**
DPC **Dobruska-Polom** **62.98 326** *e*P **P** **01 53 00.4 -0.7**
DPC *e* 01 53 05.9
MOA **Molln** **63.01 323** *i* P **P** **01 53 00.5 -0.9**
comp=Z,9.1nm,1.2s
TJN **Taejon** **63.44 51** *ce*P **P** **01 53 03.9 -0.5**
ABTA **Abfaltersbach** **63.62 321** *e*P **P** **01 53 03.8 -1.8**
comp=Z,9.3nm,1.4s
KHC **Kasperske Hory** **63.99 324** *e*P **P** **01 53 04.2 -3.7**
KHC *e*pP **pP** **01 53 12.4 0.0**
KHC **Kasperske Hory** **63.99 324** *e*P **P** **01 53 04.2 -3.7**
KHC *e* 01 53 12.4
KS15 **Wonju Array Si** **64.12 50** *e*P **P** **01 53 08.8 -0.2**
KSAR **Wonju Array Be** **64.12 50** P **P** **01 53 08.8 -0.1**
KSAR **Wonju Array Be** **64.12 50** P **P** **01 53 08.8 -0.1**
KS01 **Wonju Array Si** **64.14 50** *e*P **P** **01 53 08.1 -0.9**
KSRS **Korea Array** **64.16 50** P **P** **01 53 08.8 -0.4**
comp=Z,3.1nm,0.8s,baz=253,slow=7.8,SNR=8.9
KSRS LR LR 02 22 18.4
comp=Z,49nm,20.7s,baz=248,slow=37
BRG **Berggiesshubel** **64.56 326** *e*P **P** **01 53 10.1 -1.4**
comp=Z,12nm,1.5s
BRG **Berggiesshubel** **64.56 326** *e*P **P** **01 53 10.1 -1.4**
BRG pmax pmax
comp=Z,12nm,1.5s
MOTA **Moosalm** **64.75 321** *e*P **P** **01 53 10.8 -2.2**
comp=Z,4.4nm,1.1s
FETA **Feichten** **64.86 321** *e*P **P** **01 53 12.6 -1.1**
comp=Z,7.0nm,1.4s
FIA0 **FINESS Array S** **65.09 339** *e*P **P** **01 53 13.8 -0.9**
FIA0 **FINESS Array S** **65.09 339** *e*P **P** **01 53 13.8 -0.9**
FINES **FINESS Array B** **65.09 339** P **P** **01 53 13.8 -0.9**
comp=Z,2.2nm,0.8s,baz=156,slow=7.2,SNR=5.0
FINES LR LR 02 23 28.6
comp=Z,44nm,21.1s,baz=182,slow=38
CLL **Collm** **65.28 326** *i* P **P** **01 53 14.9 -1.3**
comp=Z,14nm,1.4s
CLL *i* sP **pP** **01 53 20.4 -0.4**
CLL L L 02 24 00.0
comp=Z,100nm,18.3s
CLL **Collm** **65.28 326** *e*P **P** **01 53 15.5 -0.7**
comp=Z,13nm,1.3s
CLL **Collm** **65.28 326** *i* P **P** **01 53 14.9 -1.3**
CLL pmax pmax
comp=Z,14nm,1.4s
JNU **Nakatsue** **65.49 55** LR LR 02 24 10.1
comp=Z,56nm,18.6s,baz=292,slow=38
DAVA **Damuels** **65.49 321** *ep*P **P** **01 53 20.1 +2.2**
comp=Z,11nm,1.8s
TOA0 **Torodi Ar. Sit** **65.61 283** *e*P **P** **01 53 19.2 +0.1**
TORD **Torodi Ar. Bea** **65.61 283** P **P** **01 53 18.9 -0.1**
comp=Z,2.1nm,1.1s,baz=158,slow=8.0,SNR=6.7
TORD LR LR 02 19 51.3
comp=Z,75nm,21.9s,baz=35,slow=34
TOA1 **Torodi Ar. Sit** **65.62 283** *e*P **P** **01 53 18.9 -0.2**
MDJ **Mudanjiang** **67.41 43** P **P** **01 53 29.1 -0.9**
MDJ pmax pmax
comp=Z,18nm,1.1s
MDJ pmax pmax
comp=Z,120nm,3.6s
USRK **Ussuriysk Ar.** **68.94 44** P **P** **01 53 39.2 -0.4**
comp=Z,2.4nm,0.9s,baz=240,slow=3.8,SNR=5.1
HFS **Hagfors** **69.16 334** P **P** **01 53 40.0 -0.7**
comp=Z,3.6nm,0.5s,baz=126,slow=7.3,SNR=30
HFS **Hagfors** **69.16 334** P **P** **01 53 40.0 -0.7**
BCLA **Clavier** **69.43 323**⇓P **P** **01 53 41.7 -0.8**
WRA **Warramunga Arr** **69.74 113** P **P** **01 53 45.8 +0.8**
comp=Z,13nm,0.8s,baz=289,slow=5.9,SNR=46
WR1 **Warramunga Arr** **69.74 113** *e*P **P** **01 53 45.8 +0.8**
comp=Z,17nm,0.8s
WB2 **Warramunga Arr** **69.75 113** *e*P **P** **01 53 45.8 +0.7**
DOU **Dourbes** **69.75 322**⇑ P **P** **01 53 46.5 +2.0**
comp=Z,9.2nm,1.4s
ASAR **Alice Springs** **70.18 117** P **P** **01 53 48.3 +0.6**
comp=Z,5.3nm,0.8s,baz=285,slow=6.2,SNR=40
AS31 **Alice Springs** **70.18 117** *e*P **P** **01 53 49.1 +1.4**
comp=Z,1.8nm,0.8s
KLR **Kul'dur** **70.21 39** *i* P **P** **01 53 44.9 -2.4**
AS01 **Alice Springs** **70.22 117** *e*P **P** **01 53 48.3 +0.4**
NB2 **NORSAR Subarra** **70.68 335** P **P** **01 53 47.9 -2.1**
comp=Z,10nm,1.4s,baz=118,slow=6.2
NB200 **NORSAR Array S** **70.68 335** *e*P **P** **01 53 49.0 -1.0**
NOA **NORSAR Array B** **70.68 335** P **P** **01 53 49.0 -1.0**
comp=Z,3.7nm,1.1s,baz=114,slow=6.6,SNR=2.8
NOA LR LR 02 26 47.2
comp=Z,48nm,19.8s,baz=120,slow=38
ARA0 **ARCESS Array S** **70.92 346** *e*P **P** **01 53 50.2 -1.1**
ARCES **ARCESS Array B** **70.92 346** P **P** **01 53 50.2 -1.1**
comp=Z,3.2nm,0.9s,baz=142,slow=6.1,SNR=6.2
KOWA **Kowa** **71.18 284** P **P** **01 53 54.5 +0.6**
comp=Z,2.5nm,0.5s,baz=95,slow=6.1,SNR=20
KOWA LR LR 02 23 12.8
comp=Z,77nm,20.8s,baz=49,slow=34
MAW **Mawson** **71.62 182** LR LR 02 17 36.3
comp=Z,107nm,18.3s,baz=67,slow=29
KIC **Kosan Boka** **72.02 275** *e*PKIKP **P** **01 54 00.2 +1.2**
comp=Z,52nm,1.5s
MAJO **Matsushiro** **72.02 53** *e*P **P** **01 53 59.1 +0.5**
MAJO **Matsushiro** **72.02 53** *e*P **P** **01 53 59.1 +0.5**
MJAR **Matsushiro Arr** **72.02 53** P **P** **01 53 59.1 +0.5**
comp=Z,2.2nm,0.8s,baz=265,slow=4.2,SNR=6.6
MJAR LR LR 02 29 33.1
comp=Z,29nm,18.2s,baz=260,slow=39
DBIC **Dimbokro** **72.12 276** P **P** **01 53 59.9 +0.3**
comp=Z,7.4nm,1.1s,baz=25,slow=10,SNR=3.8
DBIC LR LR 02 25 07.3
comp=Z,63nm,19.3s,baz=76,slow=35
DBIC **Dimbokro** **72.12 276** *e*P **P** **01 53 59.9 +0.3**
comp=Z,12nm,1.4s
DBIC **Dimbokro** **72.12 276** *e*P **P** **01 53 59.9 +0.3**
DBIC pmax pmax
comp=Z,13nm,1.4s
TIC **Toumodi** **72.28 276** *e*PKIKP **P** **01 54 00.4 -0.2**
LIC **Lamto** **72.31 275** *e*PKIKP **P** **01 54 00.4 -0.3**
comp=Z,56nm,1.5s
ES19 **SONSECA Array** **73.17 310** *e*P **P** **01 54 04.7 -0.7**
ESDC **Sonseca Array** **73.22 310** P **P** **01 54 04.7 -1.0**
comp=Z,3.8nm,0.9s,baz=81,slow=5.8,SNR=15
YAK **Yakutsk** **73.58 26** *e*P **P** **01 54 04.8 -2.5**
YAK pmax pmax
comp=Z,16nm,1.0s
YAK pmax pmax
comp=E,6.0nm,1.3s
SYO **Syowa Base** **75.46 190**⇓ *i*X **P** **01 54 17.0 -1.0**
EKA **Eskdalemuir Ar** **75.75 326** P **P** **01 54 18.6 -1.4**
comp=E,0.7nm,0.5s,baz=120,slow=7.0,SNR=3.5
NKL **Nikolayevsk** **76.62 36** *e*P **P** **01 54 25.2 +0.2**
NKL pmax pmax
comp=Z,25nm,1.0s
YSS **Yuzh-Sakhalins** **76.90 43** *e*P **P** **01 54 26.3 -0.4**
YSS pmax pmax
comp=Z,20nm,1.2s
TIXI **Tiksi** **77.34 17** *e*P **P** **01 54 28.4 -0.3**
comp=Z,30nm,1.7s
TIXI **Tiksi** **77.34 17** *ce*P **P** **01 54 28.6 -0.1**
TIXI pmax pmax
comp=Z,18nm,2.5s
TYV **Tymovskoe** **77.42 39** *e*P **P** **01 54 30.1 +0.5**
TYV *e*S **S** **02 04 23.3 +3.5**
TYV pmax pmax
comp=Z,11nm,1.2s
TYV smax smax
comp=N,5.0nm,0.9s
SPA0 **Spitsbergen Ar** **78.56 351** *e*P **P** **01 54 35.4 -0.1**
SPITS **Spitsbergen Ar** **78.56 351** P **P** **01 54 35.4 -0.1**
comp=N,6.7nm,0.9s,baz=152,slow=9.1,SNR=5.0
SPITS LR LR 02 32 35.4
comp=N,57nm,20.1s,baz=345,slow=38
STKA **Stephens Creek** **78.67 123** P **P** **01 54 38.0 +1.1**
comp=N,4.5nm,0.8s,baz=334,slow=9.1,SNR=4.6
STKA **Stephens Creek** **78.67 123** *e*P **P** **01 54 38.0 +1.1**
comp=N,2.2nm,1.1s
STKA **Stephens Creek** **78.67 123** *e*P **P** **01 54 38.0 +1.1**
STKA pmax pmax
comp=Z,2.0nm,1.1s
SEY **Seymchan** **84.00 27** *ce*P **P** **01 55 04.6 +0.1**
PETK **Petropavlovsk-** **86.82 37** LR LR 02 36 42.4
comp=Z,91nm,18.6s,baz=266,slow=38
PET **Petropavlovsk** **87.40 37** *e*P **P** **01 55 21.2 -0.4**
PET pmax pmax

comp=Z,35nm,2.5s
SNAA Sanae 87.80 197 PKiKP **PKiKP** **PKiKP 02 00 19.7 -6.4**
VNA2 Neumayer--Watz 88.98 199 PKiKP **PKiKP** **PKiKP 02 00 20.8 -7.2**
BILL Bilibino 89.47 22*d* iP **P** **01 55 31.0 -0.2**
BILL *e* 01 59 08.5
BILL pmax pmax
comp=Z,7.0nm,0.9s
BILL MLR MLR
comp=Z,75nm,21.0s
VNA3 Neumayer Olymp 89.77 198 PKiKP **PKiKP** **PKiKP 02 00 25.7 -3.5**
DZM Mont Dzumac 99.73 112 LR LR 02 40 03.9
comp=Z,46nm,18.5s,baz=148,slow=35
YKA Yellowknife Ar 113.57 1 PKiKP **PKiKP** **PKiKP 02 01 11.8 -0.6**
comp=Z,0.2nm,0.9s,baz=345,slow=2.6,SNR=3.8
YKA PP **PP** **02 02 04.1 +0.7**
comp=Z,0.6nm,1.0s,baz=0.5,slow=7.2,SNR=8.5
YKB5 Yellowknife Ar 113.57 1 *e*PKiKP **PKiKP** **PKiKP 02 01 11.8 -0.6**
YKB5 *e*PP **PP** **02 02 04.1 +0.7**
LTY Liberty 128.34 7 *e*PKPpre PKPpre 02 01 33.6
LAO LASA Array 129.13 355 *e*PKPdf **PKPdf** **PKPdf 02 01 44.7 +1.8**
MSO Missoula 129.27 1 *e*PKPdf **PKPdf** **PKPdf 02 01 44.1 +0.9**
BOZ Bozeman (W) 130.52 359 *e*PKPdf **PKPdf** **PKPdf 02 01 47.4 +1.7**
BOZ Bozeman (W) 130.52 359 *e*PKIKP **PKPdf** **PKPdf 02 01 47.4 +1.7**
YHB Horse Butte 131.35 359 *e*PKPpre PKPpre 02 01 36.3
YHB *e*PKPdf **PKPdf** **PKPdf 02 01 47.0 -0.4**
YMS Mount Sheridan 131.82 358 *e*PKPdf **PKPdf** **PKPdf 02 01 49.0 +0.5**
FXWY Fox Creek 132.46 359 *e*PKPdf **PKPdf** **PKPdf 02 01 51.3 +1.7**
TPAW Teton Pass 132.61 359 *e*PKPdf **PKPdf** **PKPdf 02 01 51.3 +1.4**
PD31 Pinedale Array 133.28 357 *e*PKPdf **PKPdf** **PKPdf 02 01 51.6 +0.5**
PDAR Pinedale Array 133.28 357 PKP **PKPdf** **PKPdf 02 01 51.7 +0.5**
comp=Z,0.9nm,0.9s,baz=48,slow=4.4,SNR=6.5
PDAR Pinedale Array 133.28 357 *e*PKPdf **PKPdf** **PKPdf 02 01 50.3 -0.8**
BEKR Beckworth 135.64 9 *e*PKPdf **PKPdf** **PKPdf 02 01 58.4 +2.8**
SMCO Snowmass 136.65 354 *e*PKPdf **PKPdf** **PKPdf 02 01 59.0 +1.3**
NV01 Mina Array Sit 137.33 7 *e*PKPdf **PKPdf** **PKPdf 02 02 00.5 +1.7**
NVAR Mina Array Bea 137.33 7 PKP **PKPdf** **PKPdf 02 02 00.2 +1.4**
comp=Z,4.0nm,0.5s,baz=271,slow=1.5,SNR=4.4
PTRM Twissleman Ran 139.78 10 *e*PKPdf **PKPdf** **PKPdf 02 02 04.3 +1.2**
BAKC Calstate 140.26 9 *e*PKPdf **PKPdf** **PKPdf 02 02 03.7 -0.2**
HWB Hans Werner Br 142.82 6 *e*PKPdf **PKPdf** **PKPdf 02 02 09.6 +0.9**
MNTX Cornudas Mount 143.78 350 *e*PKPpre PKPpre 02 02 07.2
NNA Nana 143.96 255*c* *i*PKIKP **PKPdf** **PKPdf 02 02 12.5 +1.4**
319A Douglas 144.59 355 *e*PKPdf **PKPdf** **PKPdf 02 02 11.5 -0.4**
TX31 Lajitas Ar. Si 145.71 346 *e*PKPdf **PKPdf** **PKPdf 02 02 13.9 +0.1**
TX31 *e*PKPdf **PKPab** **02 02 14.3 -0.1**
LTX Lajitas 145.71 346 *e*PKPdf **PKPbc** **02 02 14.2 +0.1**
LTX Lajitas 145.71 346 *e*PKIKP **PKPbc** **02 02 14.3 +0.1**
TXAR Lajitas Array 145.71 346 PKPbc **PKPbc** **02 02 14.2 +0.1**
comp=Z,17nm,0.9s,baz=46,slow=2.2,SNR=87
OTAV Otavalo 145.79 276 *e*PKPdf **PKPab** **02 02 16.9 +1.2**
OTAV Otavalo 145.79 276 *e*PKP2 **PKPab** **02 02 16.9 +1.2**
HPIG 148.46 348 *e*PKPbc **PKPbc** **02 02 22.9 +0.7**
ZAIG Zacatecas 151.62 341 *e*PKPbc **PKPbc** **02 02 31.8 +1.7**

*ISCJB **10** 01:50:21.1±0.5, 3.°32N±0.°04×96.°75E±0.°05, h77km±4km, mb4.3/33, Error ellipse: s-maj=9.0km s-min=4.8km az=143.4*
*IDC **10** 01:50:21.6±0.9, 3.°47N×96.°80E, h60km±7km, mb3.8/18, mb1 3.9/19, mb1mx3.7/65, mbtmp4.1/19, MS4.1/2, Ms1 4.1/2, ms1mx2.7/59, Error ellipse: s-maj=25.5km s-min=8.6km az=37.0*
*NEIC **10** 01:50:22.6±0.6, 3.°34N×96.°82E, h75km±6km, mb4.7/17, Error ellipse: s-maj=8.4km s-min=4.5km az=59.0*
*DJA **10** 01:50:23.1±0.4, 3.°N±3.°×9.°7E±.°, h29km±4km, M4.2/7, MLv4.2/7*

ISC 10 01:50:21.0±0.6, 3.°33N±0.°04×96.°78E±0.°05, h58km±5km, n83, σ1°35/102, mb4.3/33, 1D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TPTI		**0.41**	**100**	P	**Pn**	**01 50 31.8**	**0.0**
TPTI				S	**Sn**	**01 50 38.9**	**-0.8**
MLSI	**Meulaboh, Aceh**	**1.00**	**338**	P	**Pn**	**01 50 40.6**	**+1.6**
MLSI				S	**Sn**	**01 50 53.7**	**+1.5**
KCSI	**Kotacane, Aceh**	**1.01**	**79**	P	**Pn**	**01 50 41.4**	**+2.3**
TSI	**Tuntungan**	**1.79**	**85**	P	**Pn**	**01 50 51.1**	**+1.5**
TSI				S	**Sn**	**01 51 12.8**	**+1.5**
LHMI	**Lhok Sumawe**	**1.89**	**5**	P	**Pn**	**01 50 52.9**	**+1.9**
LHMI				S	**Sn**	**01 51 16.3**	**+2.6**
LHMI	**Lhok Sumawe**	**1.89**	**5**	*e*Pn	**Pn**	**01 50 52.9**	**+1.9**
LHMI				*e*Sn	**Sn**	**01 51 14.3**	**+0.6**
GSI	**Gunungsitoli**	**2.17**	**158**	P	**Pn**	**01 50 58.7**	**+4.0**
GSI	**Gunungsitoli**	**2.17**	**158**	*e*Pn	**Pn**	**01 50 55.4**	**+0.7**
GSI				*e*Sn	**Sn**	**01 51 19.2**	**-1.3**
PSI	**Prapat**	**2.21**	**104**	P	**Pn**	**01 50 58.3**	**+2.9**
	24nm,0.3s,baz=298,slow=12,SNR=31						
PSI				S	**Sn**	**01 51 24.6**	**+2.9**
	34nm,0.3s,baz=303,slow=14,SNR=7.9						
BSI	**Banda Aceh**	**2.61**	**326**	P	**Pn**	**01 51 02.3**	**+1.5**
MNSI	**Mandailing Nat**	**3.77**	**132**	P	**Pn**	**01 51 19.6**	**+3.0**
KULM	**Kulim**	**4.33**	**63**	*e*Pn	**Pn**	**01 51 26.2**	**+1.9**
KULM				*e*Sn	**Sn**	**01 52 11.3**	**-2.1**
IPM	**Ipoh**	**4.39**	**75**	*e*Pn	**Pn**	**01 51 26.1**	**+1.0**
IPM				*e*Sn	**Sn**	**01 52 13.5**	**-1.6**
PKDT	**Phuket**	**4.79**	**19**	P	Pn	01 51 39.3	+8.7
TRTT	**Trang**	**5.33**	**33**	P	**Pn**	**01 51 40.0**	**+1.9**
	28nm,0.5s,399nm0.1nm						
SKLT	**Songkhla**	**5.40**	**45**	P	**Pn**	**01 51 42.2**	**+3.2**
	52nm,0.7s,822nm0.2nm						
SURT	**Suratani**	**5.94**	**20**	P	**Pn**	**01 51 50.3**	**+3.9**
MNAI	**Manna**	**9.82**	**141**	*e*Pn	**Pn**	**01 52 39.7**	**+0.1**
SRAK	**Srakaew**	**11.82**	**26**	P	Pn	01 53 16.2	+9.3
CM31	**Chiang Mai Arr**	**15.18**	**8**	*e*Pn	**P**	**01 53 53.7**	**-2.2**
CMAR	**Chiang Mai Arr**	**15.18**	**8**	P	**P**	**01 53 53.7**	**-2.2**
	0.5nm,0.3s,baz=213,slow=9.4,SNR=9.9						
MYLDM	**Lahad Datu**	**21.74**	**84**	*e*P	**P**	**01 55 09.2**	**+1.4**
	22nm,1.3s						
NRN	**Naryn**	**42.27**	**337**	*e*P	**P**	**01 58 09.4**	**+0.1**
	2.9nm,0.8s						
KDJ	**Kajisay**	**42.42**	**338**	*e*P	**P**	**01 58 10.2**	**-0.1**
	4.6nm,0.7s						
WR1	**Warramunga Arr**	**43.54**	**124**	*e*P	**P**	**01 58 19.3**	**-0.1**
	9.0nm,1.3s						
WR1				*e*PP	**PcP**	**02 00 06.7**	**+0.2**
WRA	**Warramunga Arr**	**43.54**	**124**	P	**P**	**01 58 19.3**	**-0.1**
	2.3nm,0.6s,baz=301,slow=9.2,SNR=28						
WRA				pP	**pP**	**01 58 36.9**	**+2.6**
	1.6nm,0.4s,baz=303,slow=9.2,SNR=5.2						
WRA				PcP	**PcP**	**02 00 06.7**	**+0.2**
	0.3nm,0.4s,baz=314,slow=3.3,SNR=2.8						
WB2	**Warramunga Arr**	**43.55**	**124**	*e*P	**P**	**01 58 19.6**	**+0.1**
AAK	**Ala-Archa**	**43.89**	**336**	*e*P	**P**	**01 58 21.5**	**-0.6**
	18nm,2.0s						
KS15	**Wonju Array Si**	**44.33**	**36**	*e*P	**P**	**01 58 24.1**	**-1.4**
KSAR	**Wonju Array Be**	**44.33**	**36**	P	**P**	**01 58 24.1**	**-1.4**
KSRS	**Korea Array**	**44.36**	**36**	P	**P**	**01 58 24.1**	**-1.6**
	0.4nm,0.3s,baz=214,slow=44,SNR=3.7						
AS31	**Alice Springs**	**45.03**	**129**	*e*P	**P**	**01 58 31.2**	**-0.1**
	1.5nm,0.4s						
ASAR	**Alice Springs**	**45.03**	**129**	P	**P**	**01 58 31.2**	**-0.1**
	1.5nm,0.4s,baz=298,slow=7.8,SNR=19						
ASAR				pP	**pP**	**01 58 46.9**	**+0.6**
	0.5nm,0.4s,baz=295,slow=7.7,SNR=2.5						
MK01	**Makanchi Array**	**45.06**	**346**	*e*P	**P**	**01 58 30.0**	**-1.2**
AS01	**Alice Springs**	**45.06**	**128**	*e*P	**P**	**01 58 30.6**	**-1.0**
MK31	**Makanchi Array**	**45.08**	**346**	*e*P	**P**	**01 58 30.8**	**-0.6**
MK32	**Makanchi Array**	**45.08**	**346**	*e*P	**P**	**01 58 30.8**	**-0.6**
MK32				*e*PcP	**PcP**	**02 00 11.7**	**+0.4**
MKAR	**Makanchi Array**	**45.08**	**346**	P	**P**	**01 58 30.8**	**-0.6**
	1.6nm,0.4s,baz=160,slow=9.1,SNR=35						
MKAR				pP	**pP**	**01 58 44.8**	**-1.6**
	0.5nm,0.4s,baz=156,slow=8.6,SNR=5.1						
MKAR				PcP	**PcP**	**02 00 11.7**	**+0.4**
	0.2nm,0.5s,baz=174,slow=2.9,SNR=2.4						
MKAR	**Makanchi Array**	**45.08**	**346**	*e*P	**P**	**01 58 30.8**	**-0.6**
	12nm,0.5s						
MKAR				pP	**pP**	**01 58 44.8**	**-1.6**
MKAR				PcP	**PcP**	**02 00 11.7**	**+0.4**
SONA0	**Songino Array**	**45.10**	**9**	*e*P	**P**	**01 58 31.8**	**+0.1**
SONA0				*e*PcP	**PcP**	**02 00 11.6**	**+0.2**
SONM	**Songino Array**	**45.10**	**9**	P	**P**	**01 58 31.8**	**+0.1**
	0.7nm,0.3s,baz=196,slow=12,SNR=4.6						
SONM				pP	**pP**	**01 58 45.8**	**-0.8**
	0.4nm,0.4s,baz=201,slow=7.7,SNR=2.4						
SONM				PcP	**PcP**	**02 00 11.6**	**+0.2**
	0.5nm,0.5s,baz=182,slow=4.3,SNR=2.3						
SONA1	**Songino Array**	**45.12**	**9**	*e*P	**P**	**01 58 29.9**	**-1.8**
KK07	**Karatay Array**	**45.97**	**333**	*e*P	**P**	**01 58 36.9**	**-1.5**
KK08	**Karatay Array**	**45.98**	**333**	*e*P	**P**	**01 58 37.9**	**-0.7**
GYB1	**ALIBECK ARRAY**	**49.31**	**319**	*e*P	**P**	**01 59 05.2**	**+0.7**
	6.3nm,0.7s						
GYA1	**ALIBECK ARRAY**	**49.32**	**319**	*e*P	**P**	**01 59 05.2**	**+0.7**
	7.7nm,0.6s						
GEYT	**Alibeck**	**49.32**	**319**	P	**P**	**01 59 04.9**	**+0.4**
	5.4nm,0.6s,baz=154,slow=7.8,SNR=15						
GYA0	**ALIBECK ARRAY**	**49.32**	**319**	*e*P	**P**	**01 59 05.2**	**+0.7**
	6.0nm,0.6s						
GYA0B	**ALIBECK ARRAY**	**49.32**	**319**	*e*P	**P**	**01 59 05.2**	**+0.7**
	6.0nm,0.6s						
GYA2	**ALIBECK ARRAY**	**49.32**	**319**	*e*P	**P**	**01 59 05.3**	**+0.8**
	4.9nm,0.7s						
GYB5	**ALIBECK ARRAY**	**49.32**	**319**	*e*P	**P**	**01 59 05.2**	**+0.7**
	6.5nm,0.6s						
GYB4	**ALIBECK ARRAY**	**49.34**	**319**	*e*P	**P**	**01 59 04.8**	**+0.2**
	5.2nm,0.6s						
KURBB	**Kurchatov Arra**	**49.58**	**345**	P	**P**	**01 59 05.8**	**-0.4**
	0.9nm,0.5s,baz=162,slow=6.9,SNR=9.8						
KURBB				PcP	**PcP**	**02 00 27.6**	**+0.5**
	0.3nm,0.5s,baz=160,slow=3.3,SNR=4.6						
KURK	**Kurchatov**	**49.64**	**345**	*e*P	**P**	**01 59 05.8**	**-0.8**
KURK				*e*PcP	**PcP**	**02 00 27.6**	**+0.3**
ZAA0	**Zalesovo Array**	**51.40**	**351**	*e*P	**P**	**01 59 19.4**	**-0.5**
	3.6nm,0.5s						
ZALV	**Zalesovo Beam**	**51.40**	**351**	P	**P**	**01 59 19.4**	**-0.4**
	3.5nm,0.4s,baz=174,slow=7.0,SNR=13						
ZALV	**Zalesovo Beam**	**51.40**	**351**	*e*P	**P**	**01 59 19.3**	**-0.6**
ZAA1	**Zalesovo Array**	**51.40**	**351**	*e*P	**P**	**01 59 19.4**	**-0.4**
BVAR	**Borovoye Array**	**54.11**	**341**	P	**P**	**01 59 39.0**	**-0.9**
	2.0nm,0.7s,baz=133,slow=6.7,SNR=13						
STKA	**Stephens Creek**	**55.10**	**133**	LR	LR	02 26 31.4	
	comp=Z,166nm,19.4s,baz=217,slow=39						
AB07	**Akbulak array**	**55.43**	**332**	*e*P	**P**	**01 59 48.7**	**-0.8**
AB06	**Akbulak array**	**55.44**	**332**	*e*P	**P**	**01 59 49.2**	**-0.4**
AB31	**Akbulak array**	**55.45**	**332**	*e*P	**P**	**01 59 49.1**	**-0.5**
ABKAR	**Akbulak array**	**55.45**	**332**	*e*P	**P**	**01 59 49.1**	**-0.5**
	24nm,1.1s						
AB05	**Akbulak array**	**55.46**	**332**	*e*P	**P**	**01 59 48.9**	**-0.9**
AKTO	**Aktyubinsk**	**57.16**	**332**	P	**P**	**02 00 00.9**	**-1.0**
	1.1nm,0.4s,baz=106,slow=8.5,SNR=5.3						
MMAI	**Mount Meron Ar**	**64.33**	**305**	P	**P**	**02 00 51.7**	**+0.6**
	1.1nm,0.7s,baz=122,slow=12,SNR=3.1						
BUR04	**Bucovina Ar. S**	**75.16**	**318**	*e*P	**P**	**02 01 56.3**	**-1.1**
FIA0	**FINESS Array S**	**77.92**	**332**	*e*P	**P**	**02 02 11.8**	**-0.8**
FINES	**FINESS Array B**	**77.92**	**332**	P	**P**	**02 02 11.8**	**-0.8**
	0.6nm,0.3s,baz=123,slow=7.0,SNR=6.5						
ARA0	**ARCESS Array S**	**80.40**	**340**	*e*P	**P**	**02 02 25.6**	**-0.3**
ARCES	**ARCESS Array B**	**80.40**	**340**	P	**P**	**02 02 25.6**	**-0.3**
	1.0nm,0.4s,baz=97,slow=4.4,SNR=26						
SYO	**Syowa Base**	**81.89**	**198**	*i*e*P*	**P**	**02 02 35.0**	**+1.2**
GEC2	**GERESS Array S**	**82.94**	**319**	*e*P	**P**	**02 02 40.9**	**+0.9**
	12nm,1.8s						
GERES	**GERESS Array B**	**82.94**	**319**	P	**P**	**02 02 40.8**	**+0.9**
	0.3nm,0.5s,baz=72,slow=4.3,SNR=4.7						
HFS	**Hagfors**	**83.67**	**330**	P	**P**	**02 02 43.2**	**-0.1**
	1.4nm,0.5s,baz=101,slow=6.2,SNR=9.0						
SPA0	**Spitsbergen Ar**	**84.79**	**348**	*e*P	**P**	**02 02 48.0**	**-0.6**
SPITS	**Spitsbergen Ar**	**84.79**	**348**	P	**P**	**02 02 48.0**	**-0.6**
	5.3nm,0.8s,baz=96,slow=6.0,SNR=9.1						
NB200	**NORSAR Array S**	**84.95**	**331**	*e*P	**P**	**02 02 49.7**	**-0.1**
NOA	**NORSAR Array B**	**84.95**	**331**	P	**P**	**02 02 49.7**	**-0.1**
	0.5nm,0.6s,baz=94,slow=4.2,SNR=2.9						
TORD	**Torodi Ar. Bea**	**94.19**	**283**	P	**P**	**02 03 35.4**	**+1.0**
	0.2nm,0.6s,baz=102,slow=5.6,SNR=3.3						
TOA1	**Torodi Ar. Sit**	**94.19**	**283**	*e*P	**P**	**02 03 35.4**	**+1.0**
ILAR	**Eielson Array**	**97.91**	**23**	LR	LR	02 51 05.7	
	comp=Z,68nm,18.2s,baz=338,slow=37						

MAN 10 02:00:23.9±0.9, 0N×123.°11E±0.°9, h9km, mb4.5, ML3.3, MS3.1, 3C, Negros

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SNPH	**Sibulan**	**0.57**	**168**	*i*P	Pb	02 00 35.4	+0.3
SNPH				*i* S	Sb	02 00 44.1	+0.7
GUIM	**Jordan**	**0.89**	**325**	*e*P	Pg	02 00 39.2	-1.0
GUIM				*e*S	Sg	02 00 51.1	-0.5
DCPH	**Dipolog City**	**1.33**	**170**	*i*e*P*	Pn	02 00 47.6	-0.2
DCPH				*e*S	Sg	02 01 06.6	+0.8
RCP	**Roxas**	**1.69**	**348**	*i*e*P*	Pb	02 00 53.6	-0.7
RCP				*e*S	Sb	02 01 16.2	+0.6

*IDC **10** 02:39:46.8±3.4, 19.°44S×169.°21E, h157km±36km, mb3.5/6, mb1 3.7/7, mb1mx3.5/39, mbtmp3.9/7, MS3.7/2, Ms1 3.7/2, ms1mx2.7/29, Error ellipse: s-maj=72.1km s-min=24.1km az=153.0*

ISC 10 02:39:46.1±1.3, 19.°3S±0.°3×169.°2E±0.°3, h150km, n11, σ1°18/10, mb3.6/6, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**3.74**	**223**	P	**Pn**	**02 40 43.3**	**+0.1**
	7.4nm,0.3s,baz=58,slow=16,SNR=61						
DZM				S	**Sn**	**02 41 27.4**	**0.0**
	18nm,0.3s,baz=318,slow=22,SNR=13						
STKA	**Stephens Creek**	**27.75**	**238**	P	**P**	**02 45 21.0**	**+0.2**
	2.7nm,0.6s,baz=64,slow=9.8,SNR=10						
WRA	**Warramunga Arr**	**32.78**	**263**	P	**P**	**02 46 04.3**	**-0.9**
	0.7nm,0.6s,baz=100,slow=8.3,SNR=4.5						
ASAR	**Alice Springs**	**33.05**	**256**	P	**P**	**02 46 07.4**	**-0.2**
	4.4nm,0.6s,baz=84,slow=8.9,SNR=46						
VNDA	**Vanda**	**58.35**	**182**	LR	LR	03 11 42.5	
	comp=Z,65nm,18.1s,baz=318,slow=33						
MAW	**Mawson**	**78.33**	**202**	LR	LR	03 21 29.7	
	comp=Z,50nm,21.5s,baz=57,slow=32						
SONM	**Songino Array**	**87.25**	**323**	P	**P**	**02 52 17.8**	**+2.1**
	0.3nm,0.5s,baz=101,slow=4.6,SNR=2.9						
NVAR	**Mina Array Bea**	**88.90**	**49**	P	**P**	**02 52 24.5**	**+0.6**
	0.1nm,0.3s,baz=230,slow=7.0,SNR=3.6						
ILAR	**Eielson Array**	**90.33**	**17**	P	**P**	**02 52 28.0**	**-1.6**
	0.4nm,0.8s,baz=226,slow=6.4,SNR=4.6						
YKA	**Yellowknife Ar**	**100.77**	**27**	P	**Pdif**	**02 53 17.8**	**+0.7**
	0.1nm,0.5s,baz=255,slow=4.5,SNR=3.9						
GERES	**GERESS Array B**	**144.53**	**332**	PKP	**PKPab**	**02 59 02.6**	**-1.0**
	0.6nm,0.6s,baz=35,slow=4.9,SNR=6.5						

MAN 10 02:50:37.9±1.0, 10N×125.°68E, h7km, mb4.5, ML3.3, MS3.1, 2C, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BUTP	**Butuan**	**0.14**	**205**	*e*P	Pg	02 50 40.6	+0.7
BUTP				*e*S	Sg	02 50 43.4	+1.5
SCPH	**Surigao**	**0.71**	**344**	*i*e*P*	Pb	02 50 51.8	+0.2
SCPH				*e*S	Sn	02 51 03.2	-1.4
BIPH	**Bislig**	**1.13**	**143**	*i*P	Pg	02 50 57.6	-1.0
BIPH				*i* S	Sg	02 51 12.3	-1.0
MSLP	**Maasin**	**1.31**	**322**	*e*P	Pn	02 51 01.0	-0.8
BUKP	**Musuan**	**1.35**	**207**	*e*P	Pn	02 51 02.4	0.0
BUKP				*e*S	Sn	02 51 22.4	+1.7
SNPH	**Sibulan**	**2.43**	**276**	*e*P	Pn	02 51 17.8	+0.6
SNPH				*e*S	Sn	02 51 46.0	-1.1

*ISCJB **10** 02:56:51.8±0.7, 0.°6N±0.°3×28.°0W±0.°2, h10km, mb3.7/7, MS3.2/7, Error ellipse: s-maj=46.3km s-min=11.5km az=144.2*
*IDC **10** 02:56:52.2±0.9, 0.°57N×27.°96W, h0km, mb3.8/7, mb1 4.0/8, mb1mx3.7/55, mbtmp3.9/8, ML4.1/1, MS3.3/7, Ms1 3.3/7, ms1mx2.8/54, Error ellipse: s-maj=57.6km s-min=16.7km az=145.0*

ISC 10 02:56:53.3±0.8, 0.°4N±0.°3×28.°0W±0.°2, h10km, n10, σ2°39/9, mb3.8/7, MS3.3/7, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RCBR	**Riachuelo**	**10.03**	**232**	Pn	**Pn**	**02 59 19.1**	**+1.6**
	1.7nm,0.3s,baz=22,slow=0.2,SNR=26						
RCBR				Sn	**Sn**	**03 01 05.4**	**-4.9**
	12nm,0.3s,baz=85,slow=0.1,SNR=4.3						
DBIC	**Dimbokro**	**23.92**	**74**	P	**P**	**03 02 06.9**	**-0.8**
	2.2nm,0.7s,baz=281,slow=5.2,SNR=2.9						
DBIC				LR	LR	03 09 26.7	
	comp=Z,35nm,21.5s,baz=164,slow=32						
KOWA	**Kowa**	**27.55**	**58**	P	**P**	**03 02 40.3**	**-0.3**
	2.6nm,0.8s,baz=250,slow=11,SNR=5.7						
KOWA				LR	LR	03 12 08.6	
	comp=Z,71nm,18.9s,baz=208,slow=33						
TORD	**Torodi Ar. Bea**	**32.04**	**66**	P	**P**	**03 03 20.5**	**0.0**
	1.3nm,0.5s,baz=256,slow=9.8,SNR=27						
TORD				LR	LR	03 14 40.5	
	comp=Z,27nm,18.6s,baz=195,slow=34						
CPUP	**Villa Florida**	**38.81**	**225**	P	**P**	**03 04 19.8**	**+1.2**
	1.1nm,0.9s,baz=32,slow=14,SNR=2.3						
CPUP				LR	LR	03 20 08.5	
	comp=Z,103nm,18.6s,baz=82,slow=36						
LPAZ	**La Paz**	**42.91**	**245**	P	**P**	**03 04 55.3**	**+2.0**
	1.2nm,0.9s,baz=74,slow=9.3,SNR=4.2						
LPAZ				LR	LR	03 22 24.2	
	comp=Z,49nm,19.1s,baz=102,slow=36						
ESDC	**Sonseca Array**	**44.81**	**27**	P	**P**	**03 05 06.6**	**-1.0**
	0.5nm,0.7s,baz=234,slow=8.8,SNR=3.5						
TSUM	**Tsumeb**	**48.79**	**116**	LR	LR	03 21 16.1	
	comp=Z,19nm,20.1s,baz=281,slow=30						
KEST	**Kesra**	**49.39**	**41**	LR	LR	03 25 22.4	
	comp=Z,55nm,21.4s,baz=313,slow=35						
AKASG	**Malin Array Be**	**69.53**	**35**	P	**P**	**03 08 01.5**	**-0.7**
	0.2nm,0.3s,baz=241,slow=5.8,SNR=4.6						

*NIED **10** 02:57:00, 38.°80N×142.°20E, h47km, Mw4.4 Best double couple: M0 5.03000×10^15 NP1:φ8 193.00000°, δ26.00000°, λ77.00000°. NP2:φ8 27.00000°, δ64.00000°, λ96.00000°.*
*BJI **10** 02:57:28.2, 38.°55N×142.°53E, h10km, mb4.7/29, mB4.8/17, Ms3.8/6, Ms7 3.8/4*
*MOS **10** 02:57:36.2±0.9, 38.°96N×142.°02E, h33km, mb4.8/41, Error ellipse: s-maj=6.9km s-min=4.4km az=104.1*
*ISCJB **10** 02:57:37.9±0.4, 38.°85N±0.°03×142.°03E±0.°04, h54km±3km, mb4.6/107, MS3.5/20, Error ellipse: s-maj=5.8km s-min=3.4km az=32.1*
*JMA **10** 02:57:38.0±0.1, 38.°84N×142.°12E, h44km±1km, M4.3*
JMA Felt II J1.
*IDC **10** 02:57:39.5±0.5, 38.°81N×142.°03E, h53km±4km, mb4.1/31, mb1 4.2/37, mb1mx4.1/71, mbtmp4.4/37, MS3.4/21, Ms1 3.5/21, ms1mx3.2/66, Error ellipse: s-maj=11.7km s-min=9.2km az=111.0*
*NEIC **10** 02:57:40.3±0.6, 38.°82N×142.°01E, h61km±5km, mb4.6/45, Error ellipse: s-maj=4.4km s-min=3.2km az=150.0*
NEIC Recorded [2 JMA] in Iwate and Miyagi.

ISC 10 02:57:38.0±0.5, 38.°86N±0.°04×142.°12E±0.°05, h41km±3km, h41km: pP-P, n293, σ1°35/321, mb4.6/108, MS3.6/20, 13C-15D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OFUJ	**Ofunato**	**0.41**	**303**	P	**Pn**	**02 57 48.2**	**+0.5**
OFUJ				S	**Sn**	**02 57 55.0**	**+0.5**
JMK	**Ichinoseki**	**0.70**	**278**	P	**Pn**	**02 57 51.8**	**+0.3**
JMK				S	**Sn**	**02 58 01.5**	**+0.3**
JIO	**Ouri**	**0.72**	**236**	P	**Pn**	**02 57 51.6**	**-0.1**
JIO				S	**Sn**	**02 58 00.8**	**-0.9**
JOM	**Ohasama**	**0.89**	**314**	P	**Pn**	**02 57 54.6**	**+0.6**
JOM				S	**Sn**	**02 58 06.3**	**+0.6**
JOU	**Okura**	**1.24**	**247**	P	**Pn**	**02 57 59.0**	**+0.2**
JOU				*e*S	**Sn**	**02 58 15.0**	**+0.6**
JRG	**Rokugo**	**1.27**	**295**	P	**Pn**	**02 57 59.9**	**+0.6**
JYK	**Kaneyama**	**1.37**	**273**	P	**Pn**	**02 58 01.2**	**+0.6**
JMM	**Marumori**	**1.44**	**227**	P	**Pn**	**02 58 01.2**	**-0.3**
JMM				*e*S	**Sn**	**02 58 18.1**	**-1.1**
JANG	**Nango**	**1.58**	**343**	P	**Pn**	**02 58 03.9**	**+0.4**
JANG				S	**Sn**	**02 58 24.1**	**+1.3**
ERM	**Erimo**	**3.25**	**14**	*e*Pn	**Pn**	**02 58 27.0**	**+0.5**
ERM				*e*Sn	**Sn**	**02 59 06.9**	**+3.0**
ERM	**Erimo**	**3.25**	**14**	*c*e*P*	**Pn**	**02 58 27.8**	**+1.4**
ERM				pmax	pmax		
	comp=Z,103nm,1.7s						
MJAR	**Matsushiro Arr**	**3.87**	**234**	P	**Pn**	**02 58 36.8**	**+1.9**
	comp=Z,8.5nm,0.3s,baz=34,slow=13,SNR=75						
MJAR				LR	LR	03 00 16.2	
	comp=Z,488nm,19.5s,baz=50,slow=42						
MAJO	**Matsushiro**	**3.87**	**234**	*e*Pn	**Pn**	**02 58 36.8**	**+1.8**
MAJO				*e*Sn	**Sn**	**02 59 18.9**	**-0.2**
MAJO

MA2 Magadan 21.46 12 *e*P P **03 02 22.9 +0.4**
YULB Yu-li 23.48 235 *e*P P **03 02 42.6 -1.4**
comp=E,23nm,1.3s
YAK Yakutsk 24.43 346 *e*P P **03 02 50.5 -1.9**
YAK *e**PP **pP** **03 03 01.8 -1.8**
YAK *e* 03 03 28.1
YAK *e* 03 06 27.2
YAK *e*S **S** **03 07 06.7 -2.5**
YAK *e**SS **sS** **03 07 24.2 -3.5**
YAK *e*SS **SnSn** **03 08 02.4 +6.9**
YAK *e* 03 13 47.7
YAK pmax pmax
comp=Z,38nm,1.0s
YAK pmax pmax
comp=N,11nm,1.1s
YAK pmax pmax
comp=E,11nm,1.1s
YAK pmax pmax
comp=Z,146nm,3.8s
YAK pmax pmax
comp=N,35nm,4.1s
YAK pmax pmax
comp=E,53nm,4.0s
YAK smax smax
comp=N,10.0nm,1.5s
YAK smax smax
comp=E,12nm,1.5s
SEY Seymchan 24.90 11 *ce*P P **03 02 58.4 +1.8**
GUMO Guam 25.29 174 LR LR 03 14 24.9
comp=E,18nm,20.5s,baz=101,slow=40
BOD Bodaibo 26.32 325 *e*P P **03 03 09.1 -0.4**
BOD pmax pmax
comp=Z,13nm,1.2s
ULN Ulaanbaatar 26.84 301 *e*P P **03 03 14.8 +0.2**
comp=Z,4.2nm,0.9s
ULN Ulaanbaatar 26.84 301 *ce*P P **03 03 16.2 +1.6**
ULN pmax pmax
comp=Z,7.0nm,1.2s
XAN Xi'an 27.04 270 P P **03 03 15.9 -0.5**
XAN pP pP 03 03 20.8 -6.8
XAN pmax pmax
comp=Z,11nm,0.6s
SONA1 Songino Array 27.27 301 *e*P P **03 03 18.6 +0.1**
SONA0 Songino Array 27.28 301 *e*P P **03 03 18.5 0.0**
SONM Songino Array 27.28 301 P P **03 03 18.5 0.0**
comp=Z,2.7nm,0.7s,baz=99,slow=8.7,SNR=15
SONM LR LR 03 14 36.1
comp=Z,95nm,18.9s,baz=136,slow=37
ENH Enshi 28.09 262 *e*P P **03 03 25.2 -0.6**
comp=Z,23nm,0.7s
H11N2 WAKE ISLAND Hy 28.66 125 T T 03 33 57.1
baz=317,slow=75,SNR=2419
H11N1 WAKE ISLAND Hy 28.67 125 T T 03 33 57.8
baz=317,slow=75,SNR=2458
H11N3 WAKE ISLAND Hy 28.68 125 T T 03 33 58.5
baz=317,slow=75,SNR=1843
H11S1 WAKE ISLAND Hy 29.44 127 T T 03 34 53.7
baz=318,slow=76,SNR=243
H11S3 WAKE ISLAND Hy 29.44 127 T T 03 34 54.6
baz=318,slow=76,SNR=342
H11S2 WAKE ISLAND Hy 29.46 127 T T 03 34 52.8
baz=318,slow=76,SNR=207
TLY Talaya 29.59 308 *e*P P **03 03 39.5 +0.6**
comp=Z,7.7nm,0.8s
TLY Talaya 29.59 308 *e*P P **03 03 39.6 +0.6**
TLY pmax pmax
comp=Z,9.0nm,1.0s
TLY MLR MLR
comp=Z,113nm,17.0s
ZAK Zakamensk 29.62 306 *e*P P **03 03 38.5 -0.7**
ZAK pmax pmax
comp=Z,12nm,1.0s
MOY Mondy 31.22 308 *e*P P **03 03 53.5 +0.1**
BILL Bilibino 32.12 17 *e*P P **03 04 02.3 +1.3**
BILL *e* 03 05 05.9
BILL *e*PPP PPP 03 05 21.4
BILL pmax pmax
comp=Z,1.0nm,1.2s
GTA Gaotai 32.60 285 *e*P P **03 04 06.4 +0.7**
GTA pP pP 03 04 10.5 -6.5
GTA sP sP 03 04 13.9 -8.0
GTA pmax pmax
comp=Z,9.0nm,1.0s
TIXI Tiksi 33.55 352 P P **03 04 12.9 -0.5**
comp=Z,1.7nm,0.6s,baz=146,slow=6.3,SNR=8.1
TIXI Tiksi 33.55 352 *e*P P **03 04 12.8 -0.6**
comp=Z,4.3nm,1.1s
TIXI Tiksi 33.55 352 *ce*P P **03 04 13.2 -0.2**
TIXI pmax pmax
comp=Z,8.0nm,2.5s
HVS Khovu-Aksy 35.73 306 *i*P P **03 04 32.6 0.0**
HVS pmax pmax
comp=Z,12nm,0.9s
MYLDM Lahad Datu 39.78 219 *e*P P **03 05 07.1 +0.1**
comp=Z,38nm,1.3s
ZAA1 Zalesovo Array 41.12 311 *e*P P **03 05 17.5 -0.2**
ZAA1 *e*PcP PcP **03 07 16.6 +0.1**
ZAA0 Zalesovo Array 41.12 311 *e*P P **03 05 17.9 +0.2**
comp=Z,12nm,0.6s
ZALV Zalesovo Beam 41.12 311 P P **03 05 17.5 -0.2**
comp=Z,9.4nm,0.5s,baz=87,slow=7.5,SNR=30
ZALV PcP PcP **03 07 16.6 +0.1**
comp=Z,1.3nm,0.6s,baz=100,slow=3.4,SNR=4.2
ZALV LR LR 03 23 15.8
comp=Z,112nm,18.2s,baz=70,slow=37
ZALV Zalesovo Beam 41.12 311 *e*P P **03 05 17.4 -0.3**
ZALV *e*PcP PcP **03 07 16.5 0.0**
NVS Novosibirsk 42.00 312 ⇓*i*P P **03 05 25.3 +0.4**
NVS *e* 03 05 42.3
NVS pmax pmax
comp=Z,18nm,1.5s
NVS pmax pmax
comp=N,4.0nm,1.0s
NVS pmax pmax
comp=E,13nm,1.4s
CHTO Chiang Mai 42.30 254 *e*P P **03 05 28.1 +0.3**
comp=E,4.1nm,0.8s
CHTO Chiang Mai 42.30 254 *e*P P **03 05 28.1 +0.3**
CHTO pmax pmax
comp=Z,4.0nm,0.8s
CM31 Chiang Mai Arr 42.52 254 *e*P P **03 05 29.2 -0.3**
CM31 *e*PcP PcP **03 07 22.5 +0.8**
CMAR Chiang Mai Arr 42.52 254 P P **03 05 29.2 -0.3**
comp=Z,1.1nm,0.4s,baz=46,slow=10,SNR=3.2
CMAR PcP PcP **03 07 22.5 +0.8**
comp=Z,0.9nm,0.3s,baz=18,slow=3.1,SNR=3.0
CMAR LR LR 03 22 43.8
comp=Z,16nm,21.6s,baz=20,slow=36
MK01 Makanchi Array 43.64 301 *e*P P **03 05 38.4 0.0**
MK31 Makanchi Array 43.65 301 *e*P P **03 05 38.4 0.0**
MK31 Makanchi Array 43.65 301 *i*P P **03 05 38.2 -0.2**
MK31 pmax pmax
comp=Z,10.0nm,0.7s
MK32 Makanchi Array 43.65 301 *e*P P **03 05 38.5 +0.1**
MKAR Makanchi Array 43.65 301 P P **03 05 38.5 +0.1**
comp=Z,11nm,0.7s,baz=86,slow=9.8,SNR=95
MKAR LR LR 03 24 33.8
comp=Z,52nm,19.5s,baz=46,slow=37
MKAR Makanchi Array 43.65 301 *e*P P **03 05 38.4 +0.1**
comp=Z,77nm,0.6s
SVW2 Sparrevohn 43.74 38 *e*P P **03 05 41.1 +2.1**
comp=Z,11nm,1.3s
IM3 Indian Mountai 44.80 32 *e*P P **03 05 48.9 +1.6**
KURK Kurchatov 45.27 307 *e*P P **03 05 51.1 -0.1**
comp=Z,39nm,0.8s
KURK *e*PcP PcP **03 07 30.4 -0.1**
KURK Kurchatov 45.27 307 *ce*P P **03 05 50.9 -0.3**
KURK pmax pmax
comp=Z,30nm,0.8s
KURBB Kurchatov Arra 45.34 307 P P **03 05 51.7 -0.1**
comp=Z,39nm,0.8s,baz=81,slow=8.2,SNR=231
KURBB PcP PcP **03 07 30.4 -0.4**
comp=Z,1.4nm,0.8s,baz=72,slow=3.7,SNR=3.0
PPLA Purkeypile 45.36 36 *e*P P **03 05 53.0 +1.0**
comp=Z,23nm,1.5s
KDAK Kodiak Island 45.38 43 P P **03 05 52.1 +0.1**
comp=Z,9.2nm,0.9s,baz=307,slow=5.1,SNR=3.3
KDAK LR LR 03 27 44.0
comp=Z,16nm,18.6s,baz=284,slow=40
KDAK Kodiak Island 45.38 43 *e*P P **03 05 52.1 +0.1**
comp=Z,54nm,1.6s
KDAK Kodiak Island 45.38 43 *e*P P **03 05 52.1 +0.1**
KDAK pmax pmax
comp=Z,54nm,1.6s
KTH Kantishna Hill 45.93 35 *e*P P **03 05 57.5 +1.1**
comp=Z,7.1nm,1.1s

MLY Manley 46.02 33 *e*P P **03 05 58.8 +1.8**
comp=Z,12nm,1.7s
PDGK Podgornoye 46.43 297 *i*P P **03 06 00.0 -0.7**
PDGK pmax pmax
comp=Z,5.0nm,0.6s
MCK McKinley 46.81 35 *e*P P **03 06 05.0 +1.7**
comp=Z,4.4nm,1.0s
MCK McKinley 46.81 35 *e*P P **03 06 05.0 +1.7**
MCK pmax pmax
comp=Z,4.0nm,1.0s
RND Reindeer 46.86 35 *e*P P **03 06 05.1 +1.4**
comp=Z,8.7nm,1.3s
RND Reindeer 46.86 35 *e*P P **03 06 05.1 +1.4**
RND pmax pmax
comp=Z,9.0nm,1.3s
ODAN Odare 46.88 272 *e*P P **03 06 05.0 +0.5**
GHO Glory Hole Cre 46.92 37 *e*P P **03 06 05.6 +1.4**
comp=Z,9.7nm,1.2s
MDM Murphy Dome 47.08 33 *e*P P **03 06 07.3 +2.0**
comp=Z,10nm,1.6s
CCB Clear Creek Bu 47.27 33 *e*P P **03 06 09.2 +2.4**
comp=Z,7.1nm,1.6s
JIRN Jiri 47.43 274 *e*P P **03 06 09.2 +0.3**
RAMN Ramite 47.45 273 *e*P P **03 06 09.1 +0.1**
GUN Gumba 47.55 274 *e*P P **03 06 10.1 +0.2**
comp=Z,19nm,0.5s
IL1 Eielson Array 47.66 33 *e*P P **03 06 10.1 +0.3**
ILAR Eielson Array 47.66 33 P P **03 06 10.2 +0.4**
comp=Z,2.1nm,0.6s,baz=265,slow=6.1,SNR=48
ILAR pP pP **03 06 26.0 +4.5**
comp=Z,2.1nm,0.6s,baz=262,slow=5.9,SNR=10.0
ILAR PcP PcP **03 07 38.4 -0.3**
comp=Z,0.6nm,0.9s,baz=268,slow=4.5,SNR=1.8
ILB Eielson Array 47.66 33 *e*P P **03 06 10.8 +0.9**
ILB *e*PcP PcP **03 07 38.4 -0.3**
KKN Kakani 48.07 275 *e*P P **03 06 14.0 +0.2**
comp=Z,30nm,0.7s
PKIN Phulchoki 48.08 274 *e*P P **03 06 14.4 +0.5**
comp=Z,13nm,0.6s
TARG Taragay, Kyrgy 48.11 295 *e*P P **03 06 14.8 +0.7**
comp=Z,5.5nm,0.7s
DMN Daman 48.30 274 *e*P P **03 06 15.6 +0.1**
KLU Klutina 48.38 38 *e*P P **03 06 17.1 +1.6**
comp=Z,4.9nm,1.0s
GKN Gorkha 48.47 275 *e*P P **03 06 16.7 -0.1**
SCRK Sand Creek 48.98 34 *e*P P **03 06 21.1 +1.0**
comp=Z,18nm,1.7s
DOT Dot Lake 48.99 35 *e*P P **03 06 20.7 +0.7**
comp=Z,4.4nm,0.7s
DANN Dangsing 48.99 276 *e*P P **03 06 21.5 +0.6**
comp=Z,3.9nm,0.8s
TKM2 Tokmak 2 49.27 297 P P **03 06 23.0 +0.2**
TKM2 pmax pmax
comp=Z,8.0nm,0.7s
KOLN Koldanda 49.39 275 *e*P P **03 06 23.9 0.0**
comp=Z,13nm,0.6s
PYUN Piuthan 49.71 276 *e*P P **03 06 26.5 +0.2**
comp=Z,62nm,1.0s
BVA0 Borovoye Array 49.77 311 P P **03 06 25.9 -0.3**
BVA0 pmax pmax
comp=Z,6.0nm,0.6s
BVAR Borovoye Array 49.77 311 P P **03 06 26.1 -0.1**
comp=Z,7.5nm,0.5s,baz=69,slow=7.9,SNR=48
BVAR PcP PcP **03 07 46.9 +0.4**
comp=Z,2.6nm,0.6s,baz=76,slow=3.6,SNR=4.9
BVAR LR LR 03 28 34.4
comp=Z,77nm,18.9s,baz=94,slow=37
BRVK Borovoye 49.83 311 *e*P P **03 06 26.7 +0.2**
comp=Z,10nm,0.6s
BRVK Borovoye 49.83 311 *ce*P P **03 06 26.8 +0.2**
BRVK pmax pmax
comp=Z,24nm,0.7s
AAK Ala-Archa 50.13 297 *e*P P **03 06 29.3 +0.1**
comp=Z,2.1nm,0.6s
AAK Ala-Archa 50.13 297 *i*P P **03 06 28.8 -0.5**
AAK pmax pmax
comp=Z,2.0nm,0.7s
HNR Honiara 50.83 157 LR LR 03 26 14.8
comp=Z,60nm,21.2s,baz=334,slow=34
MNAS Manas 51.56 298 P P **03 06 39.9 -0.1**
MNAS pmax pmax
comp=Z,8.0nm,0.7s
SFK Sufi-Kurgan 51.77 294 P P **03 06 41.7 0.0**
SFK pmax pmax
comp=Z,5.0nm,0.9s
INK Inuvik 52.51 28 P P **03 06 47.7 +1.3**
comp=Z,3.9nm,1.1s,baz=298,slow=8.3,SNR=8.3
KK05 Karatay Array 52.69 299 *e*P P **03 06 48.0 -0.3**
KK06 Karatay Array 52.70 299 *e*P P **03 06 48.0 -0.3**
KK02 Karatay Array 52.71 299 *e*P P **03 06 48.0 -0.3**
KK31 Karatay Array 52.71 299 *e*P P **03 06 48.2 -0.2**
KK31 Karatay Array 52.71 299 *i*P P **03 06 48.1 -0.3**
KK31 pmax pmax
comp=Z,6.0nm,0.9s
KKAR Karatay Array 52.71 299 *e*P P **03 06 48.2 -0.2**
KKAR Karatay Array 52.71 299 *e*P P **03 06 48.2 -0.2**
KK04 Karatay Array 52.71 299 *e*P P **03 06 48.1 -0.3**
KK09 Karatay Array 52.71 299 *e*P P **03 06 48.0 -0.3**
KK01 Karatay Array 52.71 299 *e*P P **03 06 48.1 -0.2**
KK03 Karatay Array 52.71 299 *e*P P **03 06 48.2 -0.2**
KK07 Karatay Array 52.72 299 *e*P P **03 06 48.2 -0.2**
KK08 Karatay Array 52.72 299 *e*P P **03 06 48.2 -0.3**
PSI Prapat 53.21 239 LR LR 03 29 19.2
comp=Z,35nm,21.4s,baz=82,slow=36
SVE Sverdlovsk 54.16 318 *e*P P **03 06 59.3 +0.6**
SVE pmax pmax
comp=Z,31nm,0.8s
NIL Nilore 54.59 287 *e*P P **03 07 03.3 +1.1**
comp=Z,20nm,1.0s
NIL Nilore 54.59 287 *e*P P **03 07 03.3 +1.1**
NIL pmax pmax
comp=Z,20nm,1.0s
ARU Arti 55.37 318 *e*P P **03 07 07.2 -0.3**
comp=Z,24nm,1.0s
ARU Arti 55.37 318 *c i*P P **03 07 07.5 0.0**
ARU 03 08 06.7
ARU 03 09 06.8
ARU S S **03 14 49.4 +0.7**
ARU SS SS **03 18 25.2 -7.9**
ARU pmax pmax
comp=Z,25nm,1.0s
ARU MLR MLR
comp=Z,114nm,18.0s
AB06 Akbulak array 57.18 309 *e*P P **03 07 20.0 -0.5**
AB05 Akbulak array 57.19 309 *e*P P **03 07 20.3 -0.3**
AB07 Akbulak array 57.20 309 *e*P P **03 07 20.2 -0.4**
AB02 Akbulak array 57.20 309 *e*P P **03 07 20.2 -0.4**
AB01 Akbulak array 57.20 309 *e*P P **03 07 20.3 -0.4**
AB31 Akbulak array 57.20 309 *e*P P **03 07 19.9 -0.8**
AB31 Akbulak array 57.20 309 *e*P P **03 07 19.9 -0.8**
ABKAR Akbulak array 57.20 309 *e*P P **03 07 19.9 -0.7**
comp=Z,93nm,0.6s
AB03 Akbulak array 57.20 309 *e*P P **03 07 20.3 -0.4**
AB04 Akbulak array 57.20 309 *e*P P **03 07 20.4 -0.3**
AB09 Akbulak array 57.21 309 *e*P P **03 07 20.5 -0.3**
AB08 Akbulak array 57.22 309 *e*P P **03 07 20.4 -0.3**
AKTO Aktyubinsk 57.88 311 P P **03 07 25.7 +0.3**
comp=Z,6.4nm,0.8s,baz=72,slow=12,SNR=18
AKTO LR LR 03 34 01.1
comp=Z,51nm,18.1s,baz=55,slow=38
FITZ Fitzroy Crossi 58.72 198 P P **03 07 31.6 +0.1**
comp=Z,1.9nm,0.6s
WRAB Tennant Creek 58.93 189 *e*P P **03 07 31.9 -1.1**
comp=Z,5.8nm,0.9s
WRAB Tennant Creek 58.93 189 *e*P P **03 07 31.9 -1.1**
WRAB pmax pmax
comp=Z,6.0nm,0.9s
WB2 Warramunga Arr 58.94 189 *e*P P **03 07 32.3 -0.8**
comp=Z,6.9nm,0.9s
WR1 Warramunga Arr 58.94 189 *e*P P **03 07 32.3 -0.8**
comp=Z,6.4nm,0.8s
WRA Warramunga Arr 58.94 189 P P **03 07 32.3 -0.8**
comp=Z,5.0nm,0.5s,baz=6.8,slow=7.0,SNR=50
WRA pP pP **03 07 46.6 +1.5**
comp=Z,3.1nm,0.6s,baz=6.6,slow=7.2,SNR=7.1
RES Resolute Bay 60.70 15 *e*P P **03 07 44.5 0.0**
comp=Z,2.5nm,0.7s
RES Resolute Bay 60.70 15 *e*P P **03 07 44.5 0.0**
RES pmax pmax
comp=Z,3.0nm,0.7s
TMCR Tamitsa 61.42 331 *e*P P **03 07 49.2 -0.3**
TMCR pmax pmax
comp=Z,12nm,1.0s
YKA Yellowknife Ar 61.96 31 P P **03 07 53.8 +0.7**
comp=Z,0.8nm,0.7s,baz=300,slow=6.5,SNR=17

YKA pP pP **03 08 07.0 +1.7**
comp=Z,0.5nm,0.8s,baz=301,slow=6.6,SNR=5.3
YKB5 Yellowknife Ar 61.96 31 *e*P P **03 07 53.9 +0.7**
ARA0 ARCESS Array S 62.49 339 *e*P P **03 07 57.3 +0.6**
ARCES ARCESS Array B 62.49 339 P P **03 07 57.3 +0.6**
comp=Z,2.6nm,0.9s,baz=41,slow=6.4,SNR=7.3
KLMR Klimovskoe 62.52 327 *e*P P **03 07 55.8 -1.2**
KLMR AMP 03 08 14.9
comp=Z,11nm,1.3s
KLMR Klimovskoe 62.52 327 *e*P P **03 07 55.7 -1.2**
KLMR pmax pmax
comp=Z,11nm,1.3s
AS01 Alice Springs 62.66 188 *e*P P **03 07 57.5 -0.8**
AS31 Alice Springs 62.67 188 *e*P P **03 07 58.1 -0.2**
comp=Z,1.0nm,0.7s
ASAR Alice Springs 62.67 188 P P **03 07 58.1 -0.2**
comp=Z,2.2nm,0.6s,baz=9.8,slow=5.7,SNR=24
ASAR pP pP **03 08 11.0 +0.5**
comp=Z,0.9nm,0.7s,baz=15,slow=14,SNR=4.0
GEYT Alibeck 63.45 298 P P **03 08 03.5 -0.1**
comp=Z,3.5nm,0.7s,baz=354,slow=3.0,SNR=7.5
GEYT LR LR 03 37 33.8
comp=Z,38nm,19.2s,baz=50,slow=38
DZM Mont Dzumac 64.76 155 LR LR 03 33 05.5
comp=Z,41nm,21.7s,baz=312,slow=33
VRH Novokhopyorsk 66.61 318 *e*P P **03 08 22.2 -1.6**
VRH pmax pmax
comp=Z,6.0nm,0.8s
OBN Obninsk 66.97 323 *i*P P **03 08 25.3 -0.7**
OBN pmax pmax
comp=Z,8.0nm,1.2s
OBN MLR MLR
comp=Z,50nm,16.0s
LPSR Galich'ya Gora 67.26 320 *e*P P **03 08 26.4 -1.6**
LPSR pmax pmax
comp=Z,10.0nm,0.6s
FIA0 FINESS Array S 67.46 332 *e*P P **03 08 29.0 0.0**
FIA0 FINESS Array S 67.46 332 *e*P P **03 08 29.0 0.0**
FINES FINESS Array B 67.46 332 P P **03 08 29.0 0.0**
comp=Z,5.9nm,0.7s,baz=55,slow=7.2,SNR=19
VSR Storozhevoye 67.93 319 *e*P P **03 08 31.3 -0.9**
VSR pmax pmax
comp=Z,10.0nm,1.2s
YBH Yreka Blue Hor 68.80 53 P P **03 08 40.2 +2.3**
comp=Z,0.8nm,0.6s,baz=296,slow=10,SNR=3.8
SUMG Summit 68.86 0 *e*P P **03 08 39.0 +0.8**
comp=Z,24nm,1.8s
SUMG Summit 68.86 0 *e*P P **03 08 39.0 +0.8**
SUMG pmax pmax
comp=Z,24nm,1.8s
ZEI Tsey 70.08 309 *e*P P **03 08 43.8 -2.2**
ZEI pmax pmax
comp=Z,4.0nm,0.9s
KIV Kislovodsk 70.14 311 *e*P P **03 08 47.6 +1.4**
comp=Z,22nm,0.9s
KIV Kislovodsk 70.14 311 *e*P P **03 08 46.7 +0.5**
KIV pmax pmax
comp=Z,27nm,1.0s
KBZ Khabaz 70.14 310 P P **03 08 46.8 +0.8**
comp=Z,6.5nm,0.9s,baz=56,slow=4.6,SNR=10.0
FFC Flin Flon 71.88 33 *e*P P **03 08 57.5 +1.1**
comp=Z,4.3nm,1.0s
FFC Flin Flon 71.88 33 *e*P P **03 08 57.5 +1.1**
FFC pmax pmax
comp=Z,4.0nm,1.0s
HFS Hagfors 72.66 336 P P **03 09 01.2 +0.3**
comp=Z,5.7nm,0.9s,baz=319,slow=4.3,SNR=8.5
HFS pP PcP **03 09 17.0 -1.2**
comp=Z,1.3nm,0.5s,baz=54,slow=7.5,SNR=2.0
HFS LR LR 03 44 02.6
comp=Z,64nm,18.7s,baz=46,slow=38
NB2 NORSAR Subarra 72.72 337 P P **03 09 00.8 -0.6**
comp=Z,10.0nm,1.2s,baz=41,slow=6.2
NB200 NORSAR Array S 72.72 337 *e*P P **03 09 01.4 0.0**
NOA NORSAR Array B 72.72 337 P P **03 09 01.4 0.0**
comp=Z,3.8nm,0.9s,baz=39,slow=6.0,SNR=6.2
NOA LR LR 03 43 25.2
comp=Z,57nm,21.9s,baz=45,slow=38
AKASG Malin Array Be 73.20 322 P P **03 09 03.9 -0.4**
comp=Z,3.5nm,0.6s,baz=44,slow=6.9,SNR=20
AKASG LR LR 03 44 01.5
comp=Z,43nm,18.8s,baz=35,slow=38
AKBB Malin Array Si 73.20 322 *e*P P **03 09 04.0 -0.3**
comp=Z,14nm,1.2s
AKBB Malin Array Si 73.20 322 *e*P P **03 09 04.0 -0.3**
AKBB pmax pmax
comp=Z,15nm,1.2s
KIEV Kiev 73.21 322 *e*P P **03 09 04.0 -0.3**
comp=Z,14nm,1.2s
KIEV Kiev 73.21 322 *i*P P **03 09 03.1 -1.3**
KIEV *i**PP **pP** **03 09 11.5 -5.2**
KIEV pmax pmax
comp=Z,7.0nm,1.0s
NV01 Mina Array Sit 73.46 54 *e*P P **03 09 07.9 +1.5**
NVAR Mina Array Bea 73.46 54 P P **03 09 07.9 +1.5**
comp=Z,0.7nm,0.8s,baz=291,slow=7.5,SNR=4.7
SORM Soroca 75.33 321 ⇓*i*P P **03 09 15.6 -1.2**
SORM Soroca 75.33 321 ⇓P P **03 09 15.6 -1.2**
PD31 Pinedale Array 76.00 46 *e*P P **03 09 21.4 +0.4**
PDAR Pinedale Array 76.00 46 P P **03 09 21.4 +0.4**
comp=Z,0.5nm,0.7s,baz=158,slow=1.6,SNR=6.2
PDAR Pinedale Array 76.00 46 *e*P P **03 09 21.1 +0.1**
DSCC Desert Studies 76.86 55 *e*P P **03 09 25.4 -0.3**
HEC Hector,Ludlow 76.90 56 *e*P P **03 09 26.1 +0.1**
KWP Kalwaria Pacla 76.97 324 *e*P P **03 09 26.8 +0.7**
comp=Z,210nm,1.3s
KWP Kalwaria Pacla 76.97 324 *e*P P **03 09 26.8 +0.7**
KWP pmax pmax
comp=Z,210nm,1.3s
BUR08 Bucovina Ar. S 77.21 322 *e*P P **03 09 28.1 +0.5**
BUR04 Bucovina Ar. S 77.22 322 *e*P P **03 09 27.8 +0.1**
BURAR Bucovina Array 77.22 322 ⇓*i*P P **03 09 28.0 +0.3**
BURAR Bucovina Array 77.22 322 ⇓P P **03 09 28.0 +0.3**
TESR Tescani 77.29 320 ⇓*i*P P **03 09 27.4 -0.5**
DPP Dos Picos Cty 77.63 58 *e*P P **03 09 30.7 +0.6**
VRI Vrincioaia 77.70 320 ⇓*i*P P **03 09 32.0 +1.8**
VRI Vrincioaia 77.70 320 ⇓P P **03 09 32.0 +1.8**
STHS Stebnicka Huta 77.79 325 *e*P P **03 09 31.9 +1.2**
STHS Stebnicka Huta 77.79 325 *e*P P **03 09 31.9 +1.2**
STHS pmax pmax
comp=Z,3.0nm,1.1s
BR101 Keskin Array S 78.06 312 *e*P P **03 09 32.5 0.0**
BR101 *e*PP PP **03 12 28.7 +0.1**
BR131 Keskin Array S 78.06 312 *e*P P **03 09 32.8 +0.2**
BRTR Keskin Array B 78.06 312 P P **03 09 32.5 0.0**
comp=Z,1.2nm,0.5s,baz=120,slow=3.1,SNR=16
BRTR PP PP **03 12 28.7 +0.1**
comp=Z,0.6nm,0.9s,baz=81,slow=10,SNR=4.3
BRTR LR LR 03 49 07.6
comp=Z,9.3nm,19.3s,baz=251,slow=40
BR231 Keskin MP Arra 78.48 312 *e*P P **03 09 33.1 -1.7**
VOIR 78.84 320 ⇓*i*P P **03 09 37.8 +1.2**
VOIR 78.84 320 ⇓P P **03 09 37.8 +1.2**
ARR Arges 79.09 320 ⇑*i*P P **03 09 39.3 +1.3**
MORC Moravsky Berou 79.13 327 ⇑*i*P P **03 09 38.4 +0.3**
MORC Moravsky Berou 79.13 327 *e*P P **03 09 38.1 0.0**
comp=Z,36nm,1.2s
MORC Moravsky Berou 79.13 327 ⇑P P **03 09 38.4 +0.3**
PV10 Paradox Valley 79.16 49 *e*P P **03 09 40.9 +2.1**
DPC Dobruska-Polom 79.21 328 *e*P P **03 09 39.4 +0.9**
PSZ Piszkesteto 79.50 325 ⇓*i*P P **03 09 40.3 +0.1**
PSZ Piszkesteto 79.50 325 ⇓P P **03 09 40.3 +0.1**
BRG Berggiesshubel 79.76 330 *e*P P **03 09 41.6 +0.1**
comp=Z,6.9nm,1.1s
BRG Berggiesshubel 79.76 330 *e*P P **03 09 41.6 +0.1**
BRG pmax pmax
comp=Z,7.0nm,1.1s
PVCC Panska Ves 79.78 329 *e*P P **03 09 42.4 +0.8**
PVCC Panska Ves 79.78 329 *e*P P **03 09 42.4 +0.8**
CLL Collm 79.79 330 *i*P P **03 09 41.1 -0.5**
comp=Z,5.0nm,0.7s
CLL Collm 79.79 330 *i*P P **03 09 41.1 -0.5**
CLL pmax pmax
comp=Z,5.0nm,0.7s
VRAC Vranov 79.89 327 ⇑*i*P P **03 09 43.1 +0.9**
VRAC Vranov 79.89 327 ⇑P P **03 09 43.1 +0.9**
PRU Pruhonice 80.22 329 *e*P P **03 09 44.8 +0.9**
PRU Pruhonice 80.22 329 *e*P P **03 09 44.8 +0.9**
TREC Trest 80.37 328 *e*P P **03 09 45.4 +0.6**
TREC Trest 80.37 328 *e*P P **03 09 45.4 +0.6**
RAYN Ar Rayn 80.48 292 *e*P P **03 09 45.9 0.0**
comp=Z,8.7nm,1.4s
RAYN Ar Rayn 80.48 292 *e*P P **03 09 45.9 0.0**
RAYN pmax pmax
comp=Z,9.0nm,1.4s

ASF	**Jabal al Asfar**	**80.95**	**304**	P		**P**	**03 09 48.8**	**+0.5**
	comp=Z,1.9nm,0.8s,baz=7.8,slow=3.5,SNR=3.7							
CONA	**Conrad Observa**	**81.26**	**327**	P		**P**	**03 09 50.1**	**+0.4**
	comp=Z,4.0nm,0.9s							
KHC	**Kasperske Hory**	**81.28**	**329**	*e*P		**P**	**03 09 49.9**	**+0.2**
KHC	**Kasperske Hory**	**81.28**	**329**	*e*P		**P**	**03 09 49.5**	**-0.1**
	comp=Z,1.4nm,0.8s							
KHC	**Kasperske Hory**	**81.28**	**329**	*e*P		**P**	**03 09 49.6**	**-0.1**
KHC				pmax		pmax		
	comp=Z,1.0nm,0.8s							
MMAI	**Mount Meron Ar**	**81.36**	**306**	P		**P**	**03 09 51.5**	**+1.0**
	comp=Z,2.0nm,0.6s,baz=48,slow=8.7,SNR=5.9							
MMAI				LR		LR	03 48 47.9	
	comp=Z,26nm,20.1s,baz=270,slow=38							
GEC2	**GERESS Array S**	**81.45**	**328**	*e*P		**P**	**03 09 50.8**	**+0.1**
	comp=Z,3.3nm,0.9s							
GEC2	**GERESS Array S**	**81.45**	**328**	*e*P		**P**	**03 09 50.8**	**+0.1**
GEC2				pmax		pmax		
	comp=Z,3.0nm,0.9s							
GERES	**GERESS Array B**	**81.45**	**328**	P		**P**	**03 09 50.8**	**+0.1**
	comp=Z,1.4nm,0.7s,baz=46,slow=5.8,SNR=11							
GEA0	**GERESS Array S**	**81.46**	**328**	*e*P		**P**	**03 09 50.5**	**-0.3**
EKA	**Eskdalemuir Ar**	**81.60**	**341**	P		**P**	**03 09 52.7**	**+1.5**
	comp=Z,1.2nm,0.6s,baz=204,slow=26,SNR=3.7							
VTS	**Vitosha**	**81.80**	**319**	*i*P		**P**	**03 09 53.2**	**+0.5**
VTS	**Vitosha**	**81.80**	**319**	*e*P		**P**	**03 09 53.2**	**+0.5**
	comp=Z,7.8nm,0.8s							
VTS	**Vitosha**	**81.80**	**319**	*e*P		**P**	**03 09 53.2**	**+0.5**
VTS				pmax		pmax		
	comp=Z,8.0nm,0.8s							
SOKA	**Soboth**	**82.59**	**326**	*e*P		**P**	**03 09 57.1**	**+0.4**
	comp=Z,10nm,1.0s							
ANMO	**Albuquerque**	**82.99**	**50**	*c*eP		**P**	**03 09 59.0**	**-0.2**
ANMO				pmax		pmax		
	comp=Z,1.0nm,1.1s							
KBA	**Koelnbreinsper**	**82.99**	**328**	*e*pP		**P**	**03 10 00.5**	**+1.6**
	comp=Z,7.0nm,1.0s							
WATA	**Walderalm**	**83.52**	**329**	*e*P		**P**	**03 10 02.6**	**+1.0**
	comp=Z,2.2nm,0.7s							
MOTA	**Moosalm**	**83.70**	**329**	*e*P		**P**	**03 10 02.7**	**+0.2**
	comp=Z,9.9nm,1.2s							
RETA	**Reutte**	**83.72**	**329**	*e*P		**P**	**03 10 02.9**	**+0.4**
	comp=Z,9.5nm,0.9s							
FETA	**Feichten**	**84.11**	**329**	*e*P		**P**	**03 10 04.8**	**+0.2**
	comp=Z,6.9nm,1.2s							
DAVA	**Damuels**	**84.24**	**330**	*e*P		**P**	**03 10 05.0**	**-0.2**
	comp=Z,9.0nm,0.9s							
LTX	**Lajitas**	**88.57**	**53**	*e*P		**P**	**03 10 27.5**	**+0.8**
LTX	**Lajitas**	**88.57**	**53**	*e*P		**P**	**03 10 27.5**	**+0.8**
TXAR	**Lajitas Array**	**88.57**	**53**	P		**P**	**03 10 27.5**	**+0.8**
	comp=Z,0.6nm,0.6s,baz=316,slow=2.5,SNR=7.7							
TXAR				pP		**sP**	**03 10 44.3**	**+0.3**
	comp=Z,0.7nm,0.6s,baz=285,slow=2.9,SNR=6.9							
BLO	**Bloomington**	**90.46**	**36**	*e*P		**P**	**03 10 32.9**	**-2.3**
	comp=Z,14nm,0.6s							
BLO	**Bloomington**	**90.46**	**36**	*e*P		**P**	**03 10 32.9**	**-2.3**
BLO				pmax		pmax		
	comp=Z,14nm,0.6s							
TOA1	**Torodi Ar. Sit**	**116.42**	**316**	*e*PKPdf		**PKPdf**	**03 16 16.9**	**-0.7**
TORD	**Torodi Ar. Bea**	**116.42**	**316**	PKP		**PKPdf**	**03 16 16.9**	**-0.7**
	comp=Z,0.3nm,0.7s,baz=33,slow=0.9,SNR=4.1							
KOWA	**Kowa**	**118.19**	**322**	PKP		**PKPdf**	**03 16 20.5**	**-0.5**
	comp=Z,2.0nm,1.0s,baz=39,slow=0.9,SNR=4.6							
SDV	**Santo Domingo**	**123.57**	**40**	PKP		**PKPdf**	**03 16 31.7**	**0.0**
	comp=Z,1.2nm,0.3s,baz=291,slow=4.1,SNR=4.0							
DBIC	**Dimbokro**	**125.32**	**318**	PKP		**PKPdf**	**03 16 35.1**	**+0.3**
	comp=Z,2.7nm,1.0s,baz=233,slow=8.1,SNR=2.8							
LPAZ	**La Paz**	**145.28**	**58**	PKPbc		**PKPbc**	**03 17 11.6**	**-0.5**
	comp=Z,0.8nm,0.7s,baz=312,slow=5.7,SNR=5.6							

*ISCJB **10** 03:09:02.7±0.7,58.19S±0.07×23.21W±0.4,h10km,mb4.4/7, Error ellipse: s-maj=30.1km s-min=9.6km az=170.6*
*IDC **10** 03:09:03.0±0.7,58.15S×23.34W,h0km,mb4.0/3, mb1 4.2/4,mb1mx3.7/38,mbtmp4.1/4,ML4.5/1,Error ellipse: s-maj=49.8km s-min=27.0km az=84.0*
*NEIC **10** 03:09:08.3±0.3,58.20S×23.08W,h35km,mb4.4/4,Error ellipse: s-maj=16.3km s-min=9.5km az=78.0*

ISC 10 03:09:04.3±0.6,58.2S±0.1×23.2W±0.2,h10km,n39, σ0s73/40,mb4.1/7,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**14.03**	**159**	P	**Pn**	**03 12 22.9**	**+0.3**
VNA3	**Neumayer Olymp**	**14.29**	**162**	P	**Pn**	**03 12 25.6**	**-0.7**
VNA3				S	Sn	03 14 49.4	-15
VNA2	**Neumayer--Watz**	**14.42**	**159**	P	**Pn**	**03 12 27.4**	**-0.7**
	baz=327,slow=16						
VNA2				S	Sn	03 14 51.6	-16
SNAA	**Sanae**	**15.92**	**156**	P	**Pn**	**03 12 47.6**	**-0.6**
SNAA				S	Sn	03 15 27.5	-17
SNAA	**Sanae**	**15.92**	**156**	Pn	**Pn**	**03 12 47.7**	**-0.4**
	1.9nm,0.3s,baz=318,slow=16,SNR=69						
SNAA				Sn	Sn	03 15 28.5	-16
	0.2nm,0.3s,baz=341,slow=16,SNR=3.5						
SNAA	**Sanae**	**15.92**	**156**	*e*Pn	**Pn**	**03 12 47.5**	**-0.6**
	48nm,1.5s						
SNAA				*e*Sn	Sn	03 15 28.5	-16
SHEL	**Horse Pasture**	**44.08**	**24**	*e*P	**P**	**03 17 12.3**	**-0.1**
	587nm,1.8s						
VNDA	**Vanda**	**44.55**	**182**	P	**P**	**03 17 16.8**	**+1.3**
	1.3nm,1.0s,baz=179,slow=7.1,SNR=4.5						
LPAZ	**La Paz**	**53.38**	**302**	*e*P	**P**	**03 18 24.1**	**-0.4**
	2.2nm,1.0s						
TOA0	**Torodi Ar. Sit**	**73.92**	**25**	*e*P	**P**	**03 20 39.5**	**+0.2**
TORD	**Torodi Ar. Bea**	**73.92**	**25**	P	**P**	**03 20 40.4**	**+1.1**
	1.3nm,0.8s,baz=203,slow=5.9,SNR=18						
TOA1	**Torodi Ar. Sit**	**73.92**	**25**	*e*P	**P**	**03 20 40.4**	**+1.1**
KOWA	**Kowa**	**74.08**	**19**	*e*P	**P**	**03 20 40.4**	**+0.2**
	42nm,2.0s						
ASAR	**Alice Springs**	**96.27**	**159**	P	**P**	**03 22 32.2**	**-0.6**
	0.4nm,0.7s,baz=193,slow=4.1,SNR=4.6						
AS31	**Alice Springs**	**96.27**	**159**	*e*P	**P**	**03 22 32.2**	**-0.6**
	2.1nm,1.4s						
CM31	**Chiang Mai Arr**	**122.29**	**108**	*e*PKPdf	**PKPdf**	**03 27 59.8**	**+0.6**
CMAR	**Chiang Mai Arr**	**122.29**	**108**	PKP	**PKPdf**	**03 27 59.8**	**+0.6**
	3.7nm,0.3s,baz=224,slow=3.8,SNR=4.8						
FIA0	**FINESS Array S**	**125.25**	**26**	*e*PKPdf	**PKPdf**	**03 28 03.6**	**+0.1**
FINES	**FINESS Array B**	**125.25**	**26**	PKP	**PKPdf**	**03 28 03.6**	**+0.1**
	2.9nm,0.9s,baz=270,slow=5.7,SNR=3.5						
ARA0	**ARCESS Array S**	**132.11**	**21**	*e*PKPdf	**PKPdf**	**03 28 15.9**	**-0.4**
ARCES	**ARCESS Array B**	**132.11**	**21**	PKP	**PKPdf**	**03 28 15.9**	**-0.4**
	3.0nm,1.0s,baz=212,slow=0.9,SNR=4.1						
BVAR	**Borovoye Array**	**134.06**	**57**	PKP	**PKPdf**	**03 28 19.1**	**-1.5**
	0.3nm,0.4s,baz=298,slow=6.2,SNR=2.9						
MK32	**Makanchi Array**	**135.48**	**71**	*e*PKPdf	**PKPdf**	**03 28 22.1**	**-1.3**
MKAR	**Makanchi Array**	**135.48**	**71**	PKP	**PKPdf**	**03 28 22.1**	**-1.3**
	0.3nm,0.7s,baz=222,slow=1.9,SNR=2.8						
YKA	**Yellowknife Ar**	**139.22**	**315**	PKP	**PKPdf**	**03 28 29.5**	**-0.2**
	0.3nm,0.8s,baz=128,slow=2.1,SNR=7.8						
SONA0	**Songino Array**	**148.65**	**87**	*e*PKPbc	**PKPbc**	**03 28 51.3**	**+0.6**
SONM	**Songino Array**	**148.65**	**87**	PKPbc	**PKPbc**	**03 28 51.3**	**+0.6**
	2.3nm,0.7s,baz=219,slow=3.5,SNR=16						
SONA1	**Songino Array**	**148.66**	**87**	*e*PKPbc	**PKPbc**	**03 28 51.0**	**+0.3**
INK	**Inuvik**	**148.84**	**318**	PKPbc	**PKPbc**	**03 28 50.1**	**-0.2**
	1.9nm,0.8s,baz=84,slow=2.2,SNR=8.9						
DOT	**Dot Lake**	**151.68**	**306**	*e*PKPbc	**PKPbc**	**03 28 58.2**	**+0.9**
SCRK	**Sand Creek**	**151.74**	**307**	*e*PKPbc	**PKPbc**	**03 28 58.3**	**+0.7**
KS15	**Wonju Array Si**	**151.94**	**125**	*e*PKPbc	**PKPbc**	**03 28 59.4**	**+0.7**
KSAR	**Wonju Array Be**	**151.94**	**125**	PKPbc	**PKPbc**	**03 28 59.4**	**+0.7**
KSRS	**Korea Array**	**151.97**	**125**	PKPbc	**PKPbc**	**03 28 59.4**	**+0.7**
	0.7nm,0.5s,baz=200,slow=3.7,SNR=2.4						
RIDG	**Independ'e Rid**	**152.04**	**306**	*e*PKPbc	**PKPbc**	**03 28 59.1**	**+0.9**
IL1	**Eielson Array**	**153.16**	**308**	*e*PKPbc	**PKPbc**	**03 29 00.2**	**-0.4**
ILAR	**Eielson Array**	**153.16**	**308**	PKPbc	**PKPbc**	**03 29 00.9**	**+0.4**
	1.0nm,0.9s,baz=136,slow=1.5,SNR=7.7						
ILAR				PKPab	**PKPab**	**03 29 11.7**	**-0.7**
	1.5nm,0.9s,baz=142,slow=1.9,SNR=9.3						
ILB	**Eielson Array**	**153.16**	**308**	*e*PKPbc	**PKPbc**	**03 29 00.9**	**+0.4**
CCB	**Clear Creek Bu**	**153.52**	**307**	*e*PKPab	**PKPab**	**03 29 14.4**	**+0.5**

*ISCJB **10** 03:10:22.6±0.5,14.06N±0.08×147.06E±0.05,h33km, mb4.0/13,Error ellipse: s-maj=11.4km s-min=7.0km az=164.4*
*NEIC **10** 03:10:26.6±1.3,13.96N×146.99E,h56km±13km,mb4.3/2, Error ellipse: s-maj=13.9km s-min=10.2km az=213.0*
*IDC **10** 03:10:27.1±3.7,14.04N×146.90E,h54km±33km,mb3.7/12, mb1 3.9/13,mb1mx3.5/65,mbtmp4.0/13,ML4.1/1,Error ellipse: s-maj=25.0km s-min=24.4km az=177.0*

ISC 10 03:10:24.8±0.6,14.0N±0.1×147.04E±0.07,h35km,n27, σ1s04/29,mb4.1/13,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**2.15**	**259**	P	**Pn**	**03 10 59.5**	**+1.4**
	69nm,0.3s,baz=100,slow=5.4,SNR=22						
GUMO				S	Sn	03 11 23.4	-0.2
	145nm,0.3s,baz=328,slow=18,SNR=4.2						
GUMO	**Guam**	**2.15**	**259**	*e*Pn	**Pn**	**03 11 00.2**	**+2.0**
GUMO				*e*Sn	**Sn**	**03 11 23.2**	**-0.4**
PATS	**Pohnpei**	**13.19**	**122**	*e*Pn	**Pn**	**03 13 30.6**	**+0.9**
PATS				*e*Sn	Sn	03 15 46.2	-9.0
KSRS	**Korea Array**	**28.88**	**327**	P	**P**	**03 16 19.8**	**-0.4**
	0.8nm,0.5s,baz=150,slow=11,SNR=4.5						
KS15	**Wonju Array Si**	**28.89**	**327**	*e*P	**P**	**03 16 19.8**	**-0.5**
KSAR	**Wonju Array Be**	**28.89**	**327**	P	**P**	**03 16 19.8**	**-0.5**
WR1	**Warramunga Arr**	**35.99**	**201**	*e*P	**P**	**03 17 22.3**	**-0.3**
	9.2nm,1.5s						
WRA	**Warramunga Arr**	**35.99**	**201**	P	**P**	**03 17 22.3**	**-0.3**
	1.0nm,0.9s,baz=17,slow=10.0,SNR=3.5						
OUZ	**Omahuta**	**55.07**	**153**	*e*P	**P**	**03 19 51.1**	**-2.2**
ZALV	**Zalesovo Beam**	**62.51**	**324**	P	**P**	**03 20 44.1**	**-0.7**
	0.6nm,0.3s,baz=84,slow=15,SNR=3.4						
ZAA1	**Zalesovo Array**	**62.51**	**324**	*e*P	**P**	**03 20 44.0**	**-0.7**
MK32	**Makanchi Array**	**62.65**	**316**	*e*P	**P**	**03 20 46.0**	**+0.1**
MKAR	**Makanchi Array**	**62.65**	**316**	P	**P**	**03 20 46.0**	**+0.1**
	0.3nm,0.4s,baz=94,slow=8.3,SNR=8.8						
KURK	**Kurchatov**	**65.61**	**320**	*e*P	**P**	**03 21 05.1**	**-0.1**
KURBB	**Kurchatov Arra**	**65.66**	**319**	P	**P**	**03 21 05.1**	**-0.4**
	1.3nm,0.7s,baz=99,slow=6.5,SNR=12						
ILAR	**Eielson Array**	**67.28**	**25**	P	**P**	**03 21 15.3**	**-0.3**
	0.9nm,0.4s,baz=252,slow=5.7,SNR=36						
ILB	**Eielson Array**	**67.28**	**25**	*e*P	**P**	**03 21 15.3**	**-0.3**
BVAR	**Borovoye Array**	**70.89**	**322**	P	**P**	**03 21 38.2**	**-0.1**
	0.9nm,0.4s,baz=106,slow=8.1,SNR=8.0						
INK	**Inuvik**	**73.16**	**22**	P	**P**	**03 21 52.2**	**+0.6**
	0.9nm,0.8s,baz=263,slow=5.2,SNR=6.3						
INK	**Inuvik**	**73.16**	**22**	*e*P	**P**	**03 21 52.2**	**+0.6**
	3.7nm,1.3s						
GEYT	**Alibeck**	**80.68**	**307**	P	**P**	**03 22 34.8**	**+0.2**
	1.0nm,0.5s,baz=59,slow=3.7,SNR=2.8						
YKA	**Yellowknife Ar**	**81.50**	**28**	P	**P**	**03 22 38.6**	**+0.3**
	0.6nm,0.6s,baz=283,slow=5.2,SNR=16						
YKB5	**Yellowknife Ar**	**81.50**	**28**	*e*P	**P**	**03 22 38.6**	**+0.3**
NV01	**Mina Array Sit**	**85.00**	**52**	*e*P	**P**	**03 22 59.1**	**+1.9**
NVAR	**Mina Array Bea**	**85.00**	**52**	P	**P**	**03 22 59.1**	**+1.9**
	0.1nm,0.3s,baz=263,slow=5.0,SNR=2.9						
FIA0	**FINESS Array S**	**91.64**	**336**	*e*P	**P**	**03 23 26.4**	**-1.7**
FINES	**FINESS Array B**	**91.64**	**336**	P	**P**	**03 23 26.4**	**-1.7**
	3.3nm,1.1s,baz=56,slow=3.4,SNR=4.2						

*ISCJB **10** 03:12:33.8±0.3,67.19N±0.02×20.73E±0.05,h0km, mb3.9/3,MS3.5/2,Error ellipse: s-maj=3.1km s-min=2.5km az=21.1*
*CSEM **10** 03:12:34.5±0.1,67.20N×20.63E,h2km,ML2.9,Error ellipse: s-maj=3.3km s-min=2.6km az=88.0,Mining explosion.*
*NAO **10** 03:12:34.6±0.7,67.16N×20.60E,ML3.4*
*UPP **10** 03:12:34.7±0.0,67.19N×20.66E,h0km,ML2.9*
*HEL **10** 03:12:35.2±0.1,67.19N×20.68E,h0km,ML2.9, ML2.9(UPP),Suspected explosion*
*IDC **10** 03:12:35.5±0.7,67.15N×20.90E,h0km,mb4.0/3, mb1 3.7/9,mb1mx3.3/76,mbtmp3.7/9,ML3.4/5,MS3.5/2, Ms1 3.5/2,ms1mx2.3/62,Error ellipse: s-maj=11.6km s-min=6.4km az=111.0*
*BER **10** 03:12:37.1±4.1,67.12N×20.74E,h0km,ML2.8, ML3.4(NAO),Suspected explosion*

ISC 10 03:12:34.4±0.6,67.19N±0.02×20.69E±0.02,h0km,n96, σ1s50/151,mb4.0/3,Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.08**	**217**	P	**Pg**	**03 12 36.5**	**+0.7**
DUNU				S	**Sg**	**03 12 37.7**	**+0.9**
DUNU	**Dundret**	**0.08**	**217**	P	**Pg**	**03 12 36.5**	**+0.7**
DUNU				S	**Sg**	**03 12 37.7**	**+0.9**
DUNU	**Dundret**	**0.08**	**217**	*i*P	**Pg**	**03 12 36.5**	**+0.7**
DUNU				*i*S	**Sg**	**03 12 37.7**	**+0.9**
MASU	**Masugnsbyn**	**0.58**	**61**	P	**Pg**	**03 12 46.0**	**+0.6**
MASU				S	**Sg**	**03 12 53.8**	**+0.9**
MASU	**Masugnsbyn**	**0.58**	**61**	P	**Pg**	**03 12 46.0**	**+0.6**
MASU				S	**Sg**	**03 12 53.8**	**+0.9**
MASU	**Masugnsbyn**	**0.58**	**61**	*i*P	**Pg**	**03 12 46.0**	**+0.6**
MASU				*i*S	**Sg**	**03 12 53.8**	**+0.9**
RATU	**Laukkuluspa**	**0.77**	**327**	P	**Pg**	**03 12 48.9**	**-0.2**
RATU	**Laukkuluspa**	**0.77**	**327**	P	**Pg**	**03 12 48.9**	**-0.2**
RATU	**Laukkuluspa**	**0.77**	**327**	*i*P	**Pg**	**03 12 48.9**	**-0.2**
KUA	**Kurravaara**	**0.79**	**350**	P	**Pg**	**03 12 49.1**	**-0.3**
KUA	**Kurravaara**	**0.79**	**350**	P	**Pg**	**03 12 49.1**	**-0.3**
KUA	**Kurravaara**	**0.79**	**350**	*i*P	**Pg**	**03 12 49.1**	**-0.3**
ERTU	**Ertsjaerv**	**0.87**	**136**	P	**Pg**	**03 12 50.8**	**-0.2**
ERTU	**Ertsjaerv**	**0.87**	**136**	P	**Pg**	**03 12 50.8**	**-0.2**
ERTU	**Ertsjaerv**	**0.87**	**136**	*e*P	**Pg**	**03 12 50.3**	**-0.7**
SALU	**Saltoluokta**	**0.87**	**284**	P	**Pg**	**03 12 50.9**	**-0.1**
SALU	**Saltoluokta**	**0.87**	**284**	P	**Pg**	**03 12 50.9**	**-0.1**
SALU	**Saltoluokta**	**0.87**	**284**	*i*P	**Pg**	**03 12 50.9**	**-0.1**
NIKU	**Nikkaluokta**	**0.94**	**318**	P	**Pg**	**03 12 52.0**	**-0.3**
NIKU	**Nikkaluokta**	**0.94**	**318**	P	**Pg**	**03 12 52.0**	**-0.3**
NIKU	**Nikkaluokta**	**0.94**	**318**	*e*P	**Pg**	**03 12 52.0**	**-0.3**
PAJU	**Pajala**	**0.96**	**99**	P	**Pg**	**03 12 52.6**	**-0.1**
PAJU	**Pajala**	**0.96**	**99**	P	**Pg**	**03 12 52.6**	**-0.1**
PAJU	**Pajala**	**0.96**	**99**	*e*P	**Pg**	**03 12 52.6**	**-0.1**
LANU	**Lannavaara**	**1.00**	**29**	P	**Pg**	**03 12 53.2**	**-0.3**
LANU	**Lannavaara**	**1.00**	**29**	P	**Pg**	**03 12 53.2**	**-0.3**
LANU				*e*S	**Sg**	**03 13 06.3**	**-0.2**
LANU	**Lannavaara**	**1.00**	**29**	*e*P	**Pg**	**03 12 52.9**	**-0.6**
LANU				*e*S	**Sg**	**03 13 06.3**	**-0.2**
HEF	**Hetta**	**1.67**	**41**	*e*P	**Pn**	**03 13 04.6**	**-0.2**
HEF				*e*Sg	**Sn**	**03 13 26.5**	**-0.4**
	114nm,0.2s						
HEF	**Hetta**	**1.67**	**41**	*e*P	**Pn**	**03 13 04.6**	**-0.2**
HEF				MSG		03 13 25.2	
	comp=Z,114nm,0.2s						
HEF				*e*SG	**Sn**	**03 13 26.4**	**-0.4**
HEF	**Hetta**	**1.67**	**41**	*e*P	**Pn**	**03 13 05.0**	**+0.2**
HEF				*e*S	**Sn**	**03 13 26.1**	**-0.8**
KALU	**Kalix**	**1.71**	**140**	P	**Pn**	**03 13 05.7**	**+0.4**
KALU	**Kalix**	**1.71**	**140**	P	**Pn**	**03 13 05.7**	**+0.4**
KALU				*e*Sn	**Sb**	**03 13 28.7**	**+0.2**
KALU	**Kalix**	**1.71**	**140**	*e*P	**Pn**	**03 13 05.4**	**+0.1**
	baz=320						
KALU				*e*SN	**Sb**	**03 13 28.7**	**+0.2**
TOF	**Tornio**	**1.83**	**126**	*e*P	**Pn**	**03 13 07.4**	**+0.5**
TOF				*e*Sn	**Sb**	**03 13 32.1**	**+0.2**
TOF	**Tornio**	**1.83**	**126**	*e*P	**Pn**	**03 13 07.4**	**+0.5**
	baz=304						
TOF				MSG		03 13 29.9	
	comp=Z,122nm,0.2s						
TOF				*e*SN	**Sb**	**03 13 32.1**	**+0.2**
KIF	**Kilpisjarvi**	**1.83**	**1**	Pn	**Pb**	**03 13 08.2**	**-0.4**
KIF				Sn	**Sg**	**03 13 33.6**	**+0.6**
KIF	**Kilpisjarvi**	**1.83**	**1**	*e*P	**Pn**	**03 13 07.7**	**+0.7**
KIF	**Kilpisjarvi**	**1.83**	**1**	Pn	**Pb**	**03 13 08.2**	**-0.4**
KIF				*e*Sg	**Sg**	**03 13 33.2**	**+0.1**
	comp=Z,121nm,0.2s						
KIF				Sn	**Sg**	**03 13 33.6**	**+0.6**
KIF	**Kilpisjarvi**	**1.83**	**1**	*e*P	**Pn**	**03 13 07.7**	**+0.7**
	baz=181						
KIF				MSG		03 13 30.1	
	comp=Z,121nm,0.2s						
KIF				*e*SG	**Sg**	**03 13 33.1**	**+0.1**
KIF	**Kilpisjarvi**	**1.83**	**1**	*e*P	**Pb**	**03 13 08.2**	**-0.4**
KIF				Sn	**Sg**	**03 13 33.6**	**+0.6**
KTK1	**Kautokeino**	**2.07**	**26**	*e*P	**Pb**	**03 13 11.9**	**-0.8**
KTK1				IAML		03 13 40.9	
	comp=Z,152nm,0.5s						
STEI	**Steigen**	**2.22**	**292**	*e*P	**Pb**	**03 13 14.7**	**-0.6**
STEI				*e*S	**Sb**	**03 13 43.9**	**+0.7**
STEI				IAML		03 13 46.6	
	comp=Z,114nm,0.6s						
SGF	**Sodankyl**	**2.28**	**81**	*e*P	**Pn**	**03 13 14.1**	**+1.0**
SGF				*e*Sg	**Sb**	**03 13 45.1**	**+0.2**
SGF	**Sodankyl**	**2.28**	**81**	*e*P	**Pn**	**03 13 14.1**	**+1.0**
	baz=264						
SGF				*e*SG	**Sb**	**03 13 45.1**	**+0.2**
TRO	**Tromso**	**2.54**	**346**	*e*P	**Pn**	**03 13 18.2**	**+1.4**
TRO				*e*S	**Sb**	**03 13 52.8**	**+0.2**
TRO				IAML		03 13 55.8	
	comp=Z,137nm,0.5s						
BURU	**Burvik**	**2.63**	**174**	*e*P	**Pn**	**03 13 19.1**	**+1.1**
BURU	**Burvik**	**2.63**	**174**	*e*P	**Pn**	**03 13 19.1**	**+1.1**
MOR8	**Moi Rana**	**2.69**	**251**	*e*P	**Pn**	**03 13 18.9**	**+0.1**
MOR8				*e*Sg	**Sn**	**03 13 53.4**	**+1.4**
MOR8				IAML		03 13 56.6	
	comp=Z,81nm,0.4s						
LOF	**Lofoten**	**2.89**	**292**	*e*P	**Pn**	**03 13 21.4**	**-0.2**
ARE0	**ARCESS Array S**	**2.96**	**35**	*e*P	**Pn**	**03 13 22.8**	**+0.3**
ARE0				*e*S	**Sn**	**03 13 56.7**	**-2.0**
ARE0	**ARCESS Array S**	**2.96**	**35**	*e*P	**Pn**	**03 13 22.8**	**+0.3**
ARE0				*e*S	**Sn**	**03 13 56.7**	**-2.0**
ARA0	**ARCESS Array S**	**2.96**	**35**	Pn	**Pn**	**03 13 23.1**	**+0.6**
	baz=217,slow=14						
ARA0				Sn	**Sn**	**03 13 58.7**	**0.0**
	baz=215,slow=37						
ARA0	**ARCESS Array S**	**2.96**	**35**	Pn	**Pn**	**03 13 23.1**	**+0.6**
	SNR=484						
ARA0				Sn	**Sn**	**03 13 58.7**	**0.0**
	SNR=3.9						
ARA0	**ARCESS Array S**	**2.96**	**35**	Pn	**Pn**	**03 13 23.1**	**+0.6**
	baz=217,slow=14						
ARA0				Sn	**Sn**	**03 13 58.7**	**0.0**
	baz=215,slow=37						
ARCES	**ARCESS Array B**	**2.96**	**35**	Pn	**Pn**	**03 13 23.3**	**+0.8**
	comp=Z,7.3nm,0.3s,baz=212,slow=13,SNR=90						
ARCES				Sn	**Sn**	**03 13 59.9**	**+1.2**
	comp=Z,12nm,0.3s,baz=216,slow=21,SNR=9.1						
ARCES	**ARCESS Array B**	**2.96**	**35**	n	**Pn**	**03 13 22.8**	**+0.3**
ARCES				n	**Sn**	**03 13 56.7**	**-2.0**
OUL	**Oulu**	**2.99**	**132**	*e*P	**Pn**	**03 13 23.8**	**+0.9**
OUL	**Oulu**	**2.99**	**132**	*e*P	**Pn**	**03 13 23.8**	**+0.9**
OUL				*e*SG	**Sb**	**03 14 06.4**	**+1.1**
KONS	**Konsvik**	**3.07**	**261**	*e*P	**Pn**	**03 13 24.8**	**+0.7**
KONS				*e*S	**Sn**	**03 13 57.5**	**-3.8**
KONS				IAML		03 14 15.9	
	comp=Z,54nm,0.4s						
STOK	**Stokkvaagen**	**3.16**	**258**	*e*P	**Pn**	**03 13 26.4**	**+1.2**
STOK				IAML		03 14 22.7	
	comp=Z,82nm,0.5s						
OUF	**Merijarvi**	**3.28**	**148**	*e*P	**Pn**	**03 13 27.8**	**+0.9**
OUF				*e*Sg	**Sb**	**03 14 16.9**	**+3.1**
OUF	**Merijarvi**	**3.28**	**148**	*e*P	**Pn**	**03 13 27.8**	**+0.9**
	baz=327						
OUF				*e*SG	**Sb**	**03 14 16.9**	**+3.1**
VRF	**Varrio**	**3.48**	**77**	*e*P	**Pn**	**03 13 30.1**	**+0.4**
VRF	**Varrio**	**3.48**	**77**	*e*P	**Pn**	**03 13 30.1**	**+0.4**
VRF				*e*SG	**Sb**	**03 14 20.9**	**+1.4**
MSF	**Maaselka**	**3.58**	**107**	*e*P	**Pn**	**03 13 31.7**	**+0.7**
MSF	**Maaselka**	**3.58**	**107**	*e*P	**Pn**	**03 13 31.7**	**+0.7**
MSF				*e*SG	**Sb**	**03 14 24.4**	**+2.1**
HAMF	**Hammerfest**	**3.64**	**16**	*e*P	**Pn**	**03 13 33.3**	**+1.4**
KU6	**Riekki**	**3.85**	**103**	*e*P	**Pn**	**03 13 35.4**	**+0.6**
KU6				*e*Sg	**Sg**	**03 14 35.2**	**-2.7**
KU6	**Riekki**	**3.85**	**103**	*e*P	**Pn**	**03 13 35.4**	**+0.6**
	baz=289						
KU6				*e*SG	**Sg**	**03 14 35.1**	**-2.7**
VAF	**Ylistaro**	**4.24**	**168**	*e*P	**Pn

SDV	**Santo Domingo**	**24.36**	**256**	P	P	03 23 59.8	+0.2	
	4.2nm,0.8s,baz=37,slow=10,SNR=4.3							
SDV				LR	LR	03 35 13.3		
	comp=Z,32nm,18.1s,baz=183,slow=41							
ROSC	**El Rosal**	**29.27**	**251**	LR	LR	03 38 13.2		
	comp=Z,44nm,18.3s,baz=134,slow=40							
LPAZ	**La Paz**	**38.48**	**214**	P	P	03 26 04.4	+0.2	
	1.0nm,0.9s,baz=41,slow=9.3,SNR=2.5							
ATAH	**Atahualpa**	**38.90**	**236**	LR	LR	03 43 11.5		
	comp=Z,38nm,19.9s,baz=67,slow=38							
SADO	**Sadowa**	**39.48**	**323**	LR	LR	03 39 31.0		
	comp=Z,24nm,19.0s,baz=218,slow=32							
TORD	**Torodi Ar. Bea**	**46.90**	**87**	P	P	03 27 11.4	-0.6	
	0.8nm,0.9s,baz=282,slow=8.3,SNR=4.3							
TXAR	**Lajitas Array**	**53.65**	**295**	P	P	03 28 03.1	-0.1	
	0.1nm,0.8s,baz=120,slow=8.4,SNR=2.1							
PDAR	**Pinedale Array**	**59.32**	**310**	P	P	03 28 44.1	+0.5	
	0.2nm,0.6s,baz=90,slow=5.4,SNR=3.2							
YKA	**Yellowknife Ar**	**65.63**	**332**	P	P	03 29 24.5	-0.6	
	0.2nm,0.9s,baz=111,slow=6.7,SNR=3.6							
BRTR	**Keskin Array B**	**72.60**	**53**	P	P	03 30 09.7	+0.6	
	0.8nm,0.9s,baz=280,slow=8.6,SNR=3.4							
ILAR	**Eielson Array**	**79.82**	**335**	P	P	03 30 49.0	-0.4	
	0.8nm,0.8s,baz=78,slow=5.0,SNR=7.7							

IDC ***10*** *03:21:49.2±1.0,0˚.27S×122˚.97E, h0km, mb3.8/9, mb1 3.9/9, mb1mx3.6/53, mbtmp3.8/9, MS2.7/2, Ms1 2.9/2, ms1mx2.3/50, Error ellipse: s-maj=51.3km s-min=16.6km az=73.0*

ISCJB ***10*** *03:21:57.4±0.4, 0˚.23S±0˚.05×123˚.11E±0˚.05, h78km, mb3.8/10, Error ellipse: s-maj=8.2km s-min=5.6km az=136.2*

DJA ***10*** *03:22:00.2±0.3,0˚S±3˚×12˚3E± ˚, h55km±7km, M4.5/12, mb4.6/4, mB5.1/3, MLv4.5/12, Mw(mB)4.4/3*

ISC 10 03:21:59.0±0.7, 0˚.31S±0˚.05×123˚.02E±0˚.05, h78km, n26, σ1§36/29, mb4.0/10, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LUWI	**Luwuk**	**0.77**	**199**	P	**Pn**	**03 22 15.6**	**+0.3**
LUWI				S	**Sn**	**03 22 28.7**	**+1.4**
KMSI	**Cibinong**	**1.30**	**48**	P	**Pn**	**03 22 22.4**	**+0.7**
MRSI	**Marisa**	**1.33**	**306**	P	**Pn**	**03 22 21.5**	**-0.6**
MRSI				S	**Sn**	**03 22 38.6**	**-0.8**
APSI	**Ampana**	**1.50**	**246**	P	**Pn**	**03 22 24.5**	**+0.3**
MPSI	**Mapaga**	**3.19**	**282**	P	**Pn**	**03 22 48.1**	**+1.2**
PCI	**Palu**	**3.24**	**259**	P	**Pn**	**03 22 47.8**	**+0.2**
SANI	**Sanana**	**3.43**	**120**	P	**Pn**	**03 22 49.4**	**-0.8**
SANI				S	**Sn**	**03 23 26.2**	**-3.6**
LBMI	**Labuha**	**4.49**	**94**	P	**Pn**	**03 23 07.8**	**+3.2**
NLAI	**Namlea**	**5.01**	**126**	P	**Pn**	**03 23 13.2**	**+1.5**
	162nm,0.6s,4µm						
BBSI	**Bau Bau**	**5.16**	**185**	P	**Pn**	**03 23 14.5**	**+0.7**
WRA	**Warramunga Arr**	**22.44**	**151**	P	**P**	**03 26 49.8**	**-1.9**
	1.0nm,0.8s,baz=332,slow=10,SNR=5.4						
ASAR	**Alice Springs**	**25.51**	**156**	P	**P**	**03 27 21.1**	**+0.7**
	0.5nm,0.5s,baz=344,slow=15,SNR=7.4						
ASAR				PcP	**PcP**	**03 30 49.8**	**-0.5**
	0.3nm,0.5s,baz=352,slow=2.2,SNR=4.7						
CHAI	**Chaiyaphum**	**26.28**	**309**	P	**P**	**03 27 29.9**	**+2.5**
	4.0nm,0.9s						
CMAR	**Chiang Mai Arr**	**30.13**	**310**	LR	LR	03 40 50.4	
	comp=Z,19nm,19.2s,baz=260,slow=38						
STKA	**Stephens Creek**	**35.98**	**153**	P	**P**	**03 28 52.9**	**+0.4**
	0.6nm,0.4s,baz=310,slow=17,SNR=2.3						
MJAR	**Matsushiro Arr**	**39.28**	**19**	P	**P**	**03 29 18.9**	**-1.4**
	1.8nm,0.7s,baz=198,slow=8.5,SNR=6.5						
MJAR				LR	LR	03 47 22.0	
	comp=Z,8.1nm,18.5s,baz=145,slow=39						
RAMN	**Ramite**	**44.29**	**311**	*eP*	**P**	**03 30 01.8**	**+0.2**
	9.4nm,0.5s						
JIRN	**Jiri**	**44.97**	**311**	*eP*	**P**	**03 30 06.5**	**-0.6**
	8.7nm,0.4s						
USRK	**Ussuriysk Ar.**	**45.03**	**9**	P	**P**	**03 30 06.7**	**-0.1**
	1.8nm,0.6s,baz=193,slow=5.8,SNR=3.2						
GUN	**Gumba**	**45.34**	**311**	*eP*	**P**	**03 30 09.3**	**-0.7**
	10nm,0.4s						
KOLN	**Koldanda**	**47.00**	**310**	*eP*	**P**	**03 30 22.3**	**-0.6**
	5.6nm,0.5s						
ASAJ	**Asahikawa**	**47.55**	**19**	P	**P**	**03 30 26.4**	**-0.3**
	0.9nm,0.4s,baz=245,slow=14,SNR=2.2						
PYUN	**Piuthan**	**47.63**	**310**	*eP*	**P**	**03 30 27.3**	**-0.5**
SONM	**Songino Array**	**50.09**	**345**	P	**P**	**03 30 46.4**	**+0.2**
	0.6nm,0.6s,baz=157,slow=7.0,SNR=4.1						
MKAR	**Makanchi Array**	**58.88**	**328**	P	**P**	**03 31 48.9**	**-1.0**
	1.0nm,0.3s,baz=127,slow=8.6,SNR=23						
ZALV	**Zalesovo Beam**	**62.60**	**336**	P	**P**	**03 32 15.5**	**+0.7**
	0.4nm,0.3s,baz=140,slow=7.6,SNR=1.7						

IDC 10 03:23:11.2±1.7, 24˚.69S×116˚.32W, h0km, mb3.5/4, mb1 3.9/4, mb1mx3.6/39, mbtmp3.5/4, Error ellipse: s-maj=70.2km s-min=41.1km az=44.0, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**45.72**	**89**	P	P	03 31 34.5	-0.6
	0.6nm,0.7s,baz=240,slow=20,SNR=3.7						
NVAR	**Mina Array Bea**	**62.82**	**358**	P	P	03 33 40.1	+1.2
	0.6nm,0.9s,baz=183,slow=3.6,SNR=4.1						
PDAR	**Pinedale Array**	**67.41**	**5**	P	P	03 34 07.8	-0.9
	0.2nm,0.5s,baz=182,slow=6.3,SNR=3.8						
H11S2	**WAKE ISLAND Hy**	**86.35**	**292**	T	T	05 11 45.5	
	baz=117,slow=75,SNR=36						
H11S1	**WAKE ISLAND Hy**	**86.37**	**292**	T	T	05 11 58.6	
	baz=117,slow=75,SNR=42						
H11S3	**WAKE ISLAND Hy**	**86.37**	**292**	T	T	05 11 48.9	
	baz=117,slow=75,SNR=35						
H11N3	**WAKE ISLAND Hy**	**86.75**	**293**	T	T	05 12 16.1	
	baz=118,slow=74						
H11N1	**WAKE ISLAND Hy**	**86.76**	**293**	T	T	05 12 22.1	
	baz=118						
H11N2	**WAKE ISLAND Hy**	**86.76**	**293**	T	T	05 12 26.8	
	baz=118,slow=74						
YKA	**Yellowknife Ar**	**86.89**	**1**	P	P	03 35 57.2	-0.1
	0.5nm,0.9s,baz=177,slow=4.8,SNR=8.6						
TORD	**Torodi Ar. Bea**	**120.67**	**89**	PKP	PKPdf	03 42 07.0	+1.1
	0.1nm,0.5s,baz=234,slow=5.0,SNR=4.1						
BVAR	**Borovoye Array**	**151.26**	**352**	PKP	PKPdf	03 42 59.3	-1.1
	0.2nm,0.3s,baz=38,slow=5.4,SNR=2.2						
BVAR				PKPbc	PKiKP	03 43 06.9	+0.1
	0.2nm,0.3s,baz=7.8,slow=3.2,SNR=2.5						
KURBB	**Kurchatov Arra**	**151.68**	**340**	PKPbc	PKPbc	03 43 05.1	-2.2
	0.2nm,0.4s,baz=46,slow=2.8,SNR=4.8						

IDC ***10*** *03:31:34.5±1.1,23˚.80S×115˚.51W, h0km, mb4.0/8, mb1 4.2/8, mb1mx3.9/40, mbtmp4.0/8, MS3.7/5, Ms1 3.7/5, ms1mx3.3/32, Error ellipse: s-maj=39.0km s-min=25.5km az=30.0*

ISCJB ***10*** *03:31:36.6±1.0,23˚.85S±0˚.2×115˚.4W±0˚.2, h21km, mb4.4/15, MS3.7/5, Error ellipse: s-maj=27.3km s-min=16.3km az=43.8*

NEIC ***10*** *03:31:36.6±1.0,23˚.91S×115˚.43W, h11km±5km, mb4.5/9, Error ellipse: s-maj=19.0km s-min=15.4km az=56.0*

ISC 10 03:31:38.1±0.8, 23˚.9S±0˚.2×115˚.4W±0˚.2, h21km, n47, σ1§22/36, mb4.2/15, MS3.7/5, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PPT	**Papeete**	**32.49**	**275**	LR	LR	03 47 00.9	
	comp=Z,154nm,19.6s,baz=132,slow=29						
ATAH	**Atahualpa**	**39.21**	**71**	P	**P**	**03 39 04.9**	**-0.7**
	3.1nm,0.7s,baz=247,slow=7.7,SNR=2.3						
PLCA	**Paso Flores**	**41.01**	**125**	P	**P**	**03 39 19.6**	**-0.3**
	1.8nm,1.1s,baz=348,slow=11,SNR=3.2						
PLCA				LR	LR	03 51 45.3	
	comp=Z,170nm,20.4s,baz=288,slow=29						
PLCA	**Paso Flores**	**41.01**	**125**	*eP*	**P**	**03 39 19.6**	**-0.3**
	9.0nm,1.4s						
LPAZ	**La Paz**	**44.89**	**89**	P	**P**	**03 39 53.2**	**+1.0**
	1.0nm,0.6s,baz=325,slow=5.3,SNR=5.5						
LPAZ	**La Paz**	**44.89**	**89**	*eP*	**P**	**03 39 52.5**	**+0.3**
	1.9nm,0.8s						
AFI	**Afiamalu**	**53.93**	**270**	LR	LR	04 00 02.9	
	comp=Z,73nm,18.9s,baz=104,slow=32						
SDV	**Santo Domingo**	**54.54**	**59**	P	**P**	**03 41 05.5**	**+0.3**
	1.7nm,0.6s,baz=169,slow=6.1,SNR=3.0						
JCT	**Junction City**	**56.09**	**16**	*eP*	**P**	**03 41 15.5**	**-0.4**
	8.6nm,1.1s						
MNTX	**Cornudas Mount**	**56.09**	**10**	*eP*	**P**	**03 41 17.0**	**+1.2**
	3.2nm,1.3s						
BREC	**Barre Substati**	**57.42**	**357**	*eP*	**P**	**03 41 27.0**	**+1.9**
URZ	**Urewera**	**58.37**	**239**	LR	LR	04 03 54.1	
	comp=Z,45nm,18.5s,baz=48,slow=33						
WORM	**Onyx Ranch**	**59.31**	**357**	*eP*	P	03 41 43.4	+5.0
U15A	**North Rim**	**60.05**	**3**	*eP*	**P**	**03 41 45.4**	**+1.6**
	6.6nm,1.5s						
CCUT	**Cedar City**	**61.13**	**2**	*eP*	**P**	**03 41 53.2**	**+2.2**
	14nm,1.9s						
NV01	**Mina Array Sit**	**62.04**	**357**	*eP*	**P**	**03 41 57.1**	**0.0**
NVAR	**Mina Array Bea**	**62.04**	**357**	P	**P**	**03 41 57.1**	**0.0**
	0.4nm,0.6s,baz=165,slow=6.2,SNR=3.9						
PD31	**Pinedale Array**	**66.53**	**5**	*eP*	**P**	**03 42 25.9**	**-0.7**
PDAR	**Pinedale Array**	**66.53**	**5**	P	**P**	**03 42 25.9**	**-0.7**
	0.5nm,0.7s,baz=151,slow=3.4,SNR=5.0						
PDAR	**Pinedale Array**	**66.53**	**5**	*eP*	**P**	**03 42 24.8**	**-1.7**
HLID	**Hailey**	**67.11**	**1**	*eP*	**P**	**03 42 30.9**	**+0.8**
	6.3nm,1.5s						
TPAW	**Teton Pass**	**67.16**	**4**	*eP*	**P**	**03 42 31.0**	**+0.4**
	2.7nm,1.0s						
YMS	**Mount Sheridan**	**67.96**	**4**	*eP*	**P**	**03 42 33.9**	**-1.8**
YHB	**Horse Butte**	**68.40**	**3**	*eP*	**P**	**03 42 39.3**	**+0.9**
HNR	**Honiara**	**81.36**	**264**	LR	LR	04 16 26.3	
	comp=Z,24nm,18.3s,baz=48,slow=33						
YKA	**Yellowknife Ar**	**86.07**	**0**	P	**P**	**03 44 15.7**	**-1.0**
	0.7nm,0.9s,baz=174,slow=4.9,SNR=13						
YKB5	**Yellowknife Ar**	**86.07**	**0**	*eP*	**P**	**03 44 15.7**	**-1.0**
H11S2	**WAKE ISLAND Hy**	**86.81**	**292**	T	T	05 20 02.5	
	baz=117,slow=75,SNR=83						
H11S1	**WAKE ISLAND Hy**	**86.82**	**292**	T	T	05 20 06.1	
	baz=117,slow=75,SNR=76						
H11S3	**WAKE ISLAND Hy**	**86.82**	**292**	T	T	05 20 07.2	
	baz=117,slow=75,SNR=42						
H11N3	**WAKE ISLAND Hy**	**87.18**	**293**	T	T	05 20 31.1	
	baz=118,slow=75,SNR=4.5						
H11N1	**WAKE ISLAND Hy**	**87.19**	**293**	T	T	05 20 35.0	
	baz=118,slow=75,SNR=5.1						
H11N2	**WAKE ISLAND Hy**	**87.19**	**293**	T	T	05 20 37.3	
	baz=118,slow=75,SNR=11						
SCHQ	**Schefferville**	**88.74**	**26**	P	**P**	**03 44 30.9**	**+1.1**
	2.8nm,0.6s,baz=212,slow=13,SNR=2.2						
SCHQ	**Schefferville**	**88.74**	**26**	*eP*	**P**	**03 44 30.9**	**+1.1**
	18nm,0.9s						
RABL	**Rabaul**	**90.52**	**265**	*eP*	**P**	**03 44 39.5**	**+0.3**
	334nm,0.3s						
TOA1	**Torodi Ar. Sit**	**119.83**	**88**	*e*PKPdf	**PKPdf**	**03 50 29.4**	**+1.8**
TORD	**Torodi Ar. Bea**	**119.83**	**88**	PKP	**PKPdf**	**03 50 29.4**	**+1.8**
	0.6nm,1.1s,baz=253,slow=0.5,SNR=2.7						
ZAA1	**Zalesovo Array**	**146.34**	**338**	*e*PKPdf	**PKPdf**	**03 51 16.1**	**+0.4**
ZALV	**Zalesovo Beam**	**146.34**	**338**	PKPbc	**PKPdf**	**03 51 16.1**	**+0.4**
	0.7nm,0.4s,baz=60,slow=3.5,SNR=3.3						
CM31	**Chiang Mai Arr**	**147.55**	**267**	*e*PKPbc	**PKPbc**	**03 51 21.8**	**+0.3**
CMAR	**Chiang Mai Arr**	**147.55**	**267**	PKPbc	**PKPbc**	**03 51 21.8**	**+0.3**
	0.9nm,0.5s,baz=128,slow=4.0,SNR=4.5						
BR101	**Keskin Array S**	**149.52**	**51**	*e*PKPdf	**PKPbc**	**03 51 24.6**	**-1.6**
BRTR	**Keskin Array B**	**149.52**	**51**	PKPbc	**PKPbc**	**03 51 24.5**	**-1.6**
	1.0nm,1.0s,baz=260,slow=4.0,SNR=3.8						
BVAR	**Borovoye Array**	**150.56**	**353**	PKPbc	**PKPbc**	**03 51 26.7**	**-1.3**
	0.4nm,0.6s,baz=75,slow=1.6,SNR=3.1						
KURK	**Kurchatov**	**151.07**	**341**	*e*pPKPdf	**PKPbc**	**03 51 27.5**	**-1.8**
KURBB	**Kurchatov Arra**	**151.18**	**341**	PKPbc	**PKPbc**	**03 51 27.5**	**-2.0**
	0.3nm,0.7s,baz=23,slow=4.7,SNR=3.2						

ISCJB ***10*** *03:37:20.7±0.2, 15˚.96N±0˚.05×46˚.68W±0˚.03, h10km, mb4.6/155, MS3.8/31, Error ellipse: s-maj=7.7km s-min=4.5km az=178.3*

MOS ***10*** *03:37:20.8±1.0, 16˚.01N×46˚.71W, h10km, mb4.9/35, Error ellipse: s-maj=9.0km s-min=8.2km az=123.2*

IDC ***10*** *03:37:20.6±0.4, 16˚.00N×46˚.70W, h0km, mb4.2/35, mb1 4.3/36, mb1mx4.2/60, mbtmp4.2/36, ML4.1/1, MS3.7/29, Ms1 3.7/29, ms1mx3.6/43, Error ellipse: s-maj=13.6km s-min=10.6km az=158.0*

NEIC ***10*** *03:37:22.2±0.2, 15˚.91N×46˚.67W, h10km, mb4.8/116, Error ellipse: s-maj=6.1km s-min=4.1km az=182.0*

ISC 10 03:37:23.1±1.0, 15˚.95N±0˚.07×46˚.72W±0˚.06, h16km±5km, n275, σ1§05/267, mb4.7/155, MS3.8/32, 2D, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H05S1	**Guadeloupe/Mar**	**13.72**	**266**	T	T	03 54 37.3	
	SNR=25						
H05N1	**Guadeloupe/Mar**	**13.79**	**273**	T	T	03 54 41.5	
	SNR=10						
SVB	**Belmont**	**14.32**	**261**	*e*Pn	**Pn**	**03 40 42.1**	**-3.3**
GDHS	**Morne Mazeau,**	**14.47**	**273**	*e*Pn	**Pn**	**03 40 47.1**	**-0.4**
SJG	**San Juan**	**18.71**	**279**	P	**Pn**	**03 41 42.7**	**+1.2**
	0.5nm,0.3s,baz=103,slow=14,SNR=2.4						
PTGA	**Pitinga**	**21.12**	**220**	P	**P**	**03 42 08.0**	**+0.6**
	1.4nm,0.3s,baz=44,slow=13,SNR=4.9						
PTGA	**Pitinga**	**21.12**	**220**	*eP*	**P**	**03 42 07.5**	**+0.1**
	63nm,1.9s						
SDV	**Santo Domingo**	**24.38**	**256**	P	**P**	**03 42 41.4**	**+0.4**
	7.7nm,1.1s,baz=100,slow=9.6,SNR=6.6						
SDV	**Santo Domingo**	**24.38**	**256**	*eP*	**P**	**03 42 42.4**	**+1.3**
	29nm,1.4s						
RUSC	**La Rusia**	**27.72**	**252**	*eP*	**P**	**03 43 08.6**	**-3.0**
	13nm,1.4s						
PMOZ	**Porto Moniz, M**	**31.55**	**52**	*e*T	T	04 16 24.5	
FUL	**Funchal**	**31.71**	**53**	*e*T	T	04 16 31.9	
PKME	**Peaks-Kenny Pk**	**34.85**	**332**	*eP*	**P**	**03 44 14.0**	**+0.5**
	135nm,2.0s						
LUPA	**Lehigh Univers**	**34.93**	**320**	*eP*	**P**	**03 44 13.5**	**-0.8**
	3.6nm,1.6s						
OTAV	**Otavalo**	**34.99**	**247**	*eP*	**P**	**03 44 16.9**	**+1.3**
	17nm,1.5s						
OTAV	**Otavalo**	**34.99**	**247**	*eP*	**P**	**03 44 16.9**	**+1.3**
OTAV				pmax	pmax		
	comp=Z,17nm,1.5s						
LPAZ	**La Paz**	**38.38**	**214**	P	**P**	**03 44 45.4**	**+0.9**
	comp=Z,5.2nm,1.2s,baz=18,slow=12,SNR=4.7						
LPAZ				LR	LR	04 00 10.9	
	comp=Z,84nm,19.6s,baz=12,slow=36						
LPAZ	**La Paz**	**38.38**	**214**	*eP*	**P**	**03 44 45.5**	**+0.9**
	comp=Z,11nm,1.3s						
LPAZ	**La Paz**	**38.38**	**214**	*eP*	**P**	**03 44 45.5**	**+0.9**
LPAZ				pmax	pmax		
	comp=Z,11nm,1.3s						
ATAH	**Atahualpa**	**38.86**	**236**	P	**P**	**03 44 48.6**	**+0.1**
	comp=Z,3.8nm,0.7s,baz=93,slow=5.3,SNR=5.0						
H10N3	**ASCENSION HYDR**	**39.70**	**124**	T	T	04 27 01.2	
	baz=306,slow=75,SNR=66						
H10N2	**ASCENSION HYDR**	**39.70**	**124**	T	T	04 27 00.7	
	baz=306,slow=75,SNR=41						
H10N1	**ASCENSION HYDR**	**39.72**	**124**	T	T	04 27 03.2	
	baz=306,slow=75,SNR=66						
H10S3	**ASCENSION HYDR**	**40.24**	**126**	T	T	04 27 41.3	
	baz=308,slow=75,SNR=96						
H10S1	**ASCENSION HYDR**	**40.25**	**126**	T	T	04 27 41.7	
	baz=308,slow=75,SNR=109						
H10S2	**ASCENSION HYDR**	**40.26**	**126**	T	T	04 27 42.6	
	baz=308,slow=75,SNR=116						
KOWA	**Kowa**	**41.17**	**86**	P	**P**	**03 45 06.9**	**-0.4**
	comp=Z,1.9nm,0.6s,baz=273,slow=6.3,SNR=11						
KOWA				LR	LR	03 59 52.3	
	comp=Z,276nm,20.2s,baz=269,slow=33						
KOWA	**Kowa**	**41.17**	**86**	*eP*	**P**	**03 45 06.9**	**-0.4**
	comp=Z,21nm,1.6s						
PLAL	**Pickwick Lake**	**41.52**	**305**	*eP*	**P**	**03 45 10.8**	**+0.9**
	comp=Z,5.8nm,0.9s						
WVT	**Waverly**	**41.66**	**307**	*eP*	**P**	**03 45 11.6**	**+0.6**
	comp=Z,5.2nm,0.9s						
WVT	**Waverly**	**41.66**	**307**	*eP*	**P**	**03 45 11.6**	**+0.6**
WVT				pmax	pmax		
	comp=Z,5.0nm,0.9s						
SCHQ	**Schefferville**	**41.81**	**343**	P	**P**	**03 45 12.8**	**+0.9**
	comp=Z,14nm,0.9s,baz=160,slow=6.2,SNR=6.8						
SCHQ				LR	LR	03 59 38.7	
	comp=Z,59nm,19.9s,baz=10.0,slow=32						
SCHQ	**Schefferville**	**41.81**	**343**	*eP*	**P**	**03 45 12.9**	**+0.9**
	comp=Z,18nm,0.9s						
DBIC	**Dimbokro**	**41.99**	**98**	P	**P**	**03 45 12.5**	**-1.5**
	comp=Z,3.7nm,1.0s,baz=280,slow=11,SNR=2.7						
DBIC				LR	LR	03 59 12.2	
	comp=Z,220nm,21.6s,baz=242,slow=31						
DBIC	**Dimbokro**	**41.99**	**98**	*eP*	**P**	**03 45 12.5**	**-1.5**
	comp=Z,9.4nm,1.2s						
DBIC	**Dimbokro**	**41.99**	**98**	*eP*	**P**	**03 45 12.5**	**-1.5**
DBIC				pmax	pmax		
	comp=Z,9.0nm,1.2s						
PB11	**IPOC Station P**	**42.05**	**213**	*eP*	**P**	**03 45 13.0**	**-1.5**
	comp=Z,11nm,0.9s						
PB01	**IPOC Station P**	**43.02**	**212**	*eP*	**P**	**03 45 19.2**	**-3.1**
	comp=Z,3.2nm,1.1s						
CPUP	**Villa Florida**	**43.28**	**194**	P	**P**	**03 45 24.3**	**+0.2**
	comp=Z,1.1nm,0.8s,baz=16,slow=8.8,SNR=9.9						
CPUP				LR	LR	04 04 13.5	
	comp=Z,66nm,18.3s,baz=338,slow=37						
CPUP	**Villa Florida**	**43.28**	**194**	*eP*	**P**	**03 45 24.4**	**+0.3**
	comp=Z,25nm,1.6s						
CPUP	**Villa Florida**	**43.28**	**194**	*eP*	**P**	**03 45 24.5**	**+0.3**
CPUP				pmax	pmax		
	comp=Z,25nm,1.6s						
ESDC	**Sonseca Array**	**44.04**	**49**	P	**P**	**03 45 28.4**	**-2.0**
	comp=Z,0.3nm,0.5s,baz=243,slow=7.6,SNR=3.8						
CCM	**Cathedral Cave**	**44.84**	**308**	*eP*	**P**	**03 45 37.8**	**+1.1**
	comp=Z,23nm,1.7s						
CCM	**Cathedral Cave**	**44.84**	**308**	*eP*	**P**	**03 45 37.8**	**+1.1**
CCM				pmax	pmax		
	comp=Z,23nm,1.7s						
TOA1	**Torodi Ar. Sit**	**46.86**	**87**	*eP*	**P**	**03 45 52.1**	**-0.8**
TOA0	**Torodi Ar. Sit**	**46.86**	**87**	*eP*	**P**	**03 45 52.0**	**-0.9**
TORD	**Torodi Ar. Bea**	**46.86**	**87**	P	**P**	**03 45 52.1**	**-0.8**
	comp=Z,2.2nm,0.8s,baz=285,slow=7.9,SNR=12						
TORD				LR	LR	04 02 44.3	
	comp=Z,207nm,21.2s,baz=275,slow=32						
KSU1	**Kansas State U**	**49.17**	**308**	*eP*	**P**	**03 46 10.6**	**0.0**
	comp=Z,7.7nm,0.8s						
TAM	**Tamanrasset**	**49.55**	**73**	*eP*	**P**	**03 46 16.5**	**+2.7**
	comp=Z,9.7nm,1.6s						
TAM	**Tamanrasset**	**49.55**	**73**	*eP*	**P**	**03 46 16.5**	**+2.7**
TAM				pmax	pmax		
	comp=Z,10.0nm,1.6s						
ULM	**Lac du Bonnet**	**52.17**	**322**	P	**P**	**03 46 32.1**	**-0.8**
	comp=Z,5.1nm,0.9s,baz=88,slow=4.3,SNR=4.6						
MSTX	**Muleshoe**	**53.25**	**301**	*eP*	**P**	**03 46 41.8**	**+0.4**
	comp=Z,14nm,1.3s						
KEST	**Kesra**	**53.43**	**57**	P	**P**	**03 46 41.9**	**-0.7**
	comp=Z,5.9nm,1.0s,baz=231,slow=2.7,SNR=4.4						
KEST				LR	LR	04 06 41.1	
	comp=Z,151nm,22.0s,baz=316,slow=33						
KEST	**Kesra**	**53.43**	**57**	*eP*	**P**	**03 46 41.9**	**-0.7**
	comp=Z,30nm,1.4s						
LTX	**Lajitas**	**53.76**	**295**	*eP*	**P**	**03 46 45.1**	**0.0**
LTX				*e*PcP	**PcP**	**03 47 51.5**	**+0.3**
LTX	**Lajitas**	**53.76**	**295**	*eP*	**P**	**03 46 45.2**	**0.0**
LTX				*e*		03 47 51.5	
TXAR	**Lajitas Array**	**53.76**	**295**	P	**P**	**03 46 45.1**	**0.0**
	comp=Z,0.2nm,0.6s,baz=104,slow=4.0,SNR=4.6						
TXAR				PcP	**PcP**	**03 47 51.5**	**+0.3**
	comp=Z,1.5nm,0.9s,baz=116,slow=5.7,SNR=9.2						
TXAR				LR	LR	04 10 10.8	
	comp=Z,56nm,20.1s,baz=0.0,slow=37						
GDL2	**Guadalupe Moun**	**54.46**	**298**	*eP*	**P**	**03 46 51.3**	**+1.0**
FCC	**Fort Churchill**	**55.07**	**332**	*eP*	**P**	**03 46 54.0**	**0.0**
	comp=Z,5.9nm,1.1s						
FCC	**Fort Churchill**	**55.07**	**332**	*eP*	**P**	**03 46 54.0**	**0.0**
FCC				pmax	pmax		
	comp=Z,6.0nm,1.1s						
MNTX	**Cornudas Mount**	**55.30**	**298**	*eP*	**P**	**03 46 56.3**	**0.0**
	comp=Z,6.1nm,1.1s						
SDCO	**Great Sand Dun**	**55.83**	**305**	*eP*	**P**	**03 47 01.2**	**+0.9**
	comp=Z,4.3nm,1.2s						
SDCO				*e*PcP	**PcP**	**03 47 59.6**	**+0.4**
ISCO	**Idaho Springs**	**56.16**	**307**	*eP*	**P**	**03 47 03.8**	**+1.2**
	comp=Z,7.0nm,1.1s						
ISCO	**Idaho Springs**	**56.16**	**307**	*eP*	**P**	**03 47 03.8**	**+1.2**
ISCO				pmax	pmax		
	comp=Z,7.0nm,1.1s						
ANMO	**Albuquerque**	**56.36**	**302**	*i* P	**P**	**03 47 03.6**	**-0.5**
ANMO				pmax	pmax		
	comp=Z,4.0nm,1.7s						
FETA	**Feichten**	**56.40**	**44**	P	**P**	**03 47 04.4**	**+0.3**
	comp=Z,5.5nm,1.2s						
RETA	**Reutte**	**56.53**	**43**	*eP*	**P**	**03 47 03.4**	**-1.4**
	comp=Z,11nm,1.4s						
N23A	**Red Feather La**	**56.55**	**309**	*eP*	**P**	**03 47 06.9**	**+1.5**
	comp=Z,14nm

comp=Z,21nm,1.8s
PLCA Paso Flores 60.58 201 eP P 03 47 32.9 -0.2
PLCA pmax pmax
comp=Z,21nm,1.8s
IMW Indian Meadow 60.59 312 eP P 03 47 33.7 +0.2
comp=Z,41nm,1.9s
YHH Holmes Hill 60.62 313 eP P 03 47 34.4 +0.7
comp=Z,1.4nm,0.8s
FXWY Fox Creek 60.62 311 eP P 03 47 33.6 -0.1
comp=Z,3.0nm,1.0s
JLU Jordanelle 60.68 308 eP P 03 47 35.3 +1.2
comp=Z,20nm,1.6s
TCUT Toone Canyon 60.69 308 eP P 03 47 34.8 +0.6
comp=Z,20nm,1.5s
YMR Madison River 60.69 313 eP P 03 47 35.5 +1.4
comp=Z,24nm,1.4s
O16A Springville 60.70 307 eP P 03 47 32.0 -2.2
MPU Maple Canyon 60.78 307 eP P 03 47 36.0 +1.2
comp=Z,11nm,1.5s
HWUT Hardware Ranch 60.84 309 eP P 03 47 35.0 -0.1
comp=Z,4.8nm,1.0s
NB200 NORSAR Array S 60.84 28 eP P 03 47 34.5 -0.1
NOA NORSAR Array B 60.84 28 P P 03 47 34.5 -0.1
comp=Z,1.5nm,0.9s,baz=271,slow=6.5,SNR=2.6
NOA LR LR 04 08 22.3
comp=Z,32nm,21.8s,baz=245,slow=31
NOA NORSAR Array B 60.84 28 P P 03 47 34.5 -0.1
YHB Horse Butte 60.86 313 eP P 03 47 35.4 +0.1
comp=Z,8.3nm,1.0s
NLU North Lily Min 61.12 307 eP P 03 47 38.0 +0.9
comp=Z,13nm,1.7s
MTPU Mount Pierson 61.12 305 eP P 03 47 38.8 +1.4
comp=Z,8.3nm,1.2s
U15A North Rim 61.17 303 eP P 03 47 39.2 +1.6
comp=Z,7.1nm,1.1s
SPUT South Promonto 61.48 309 eP P 03 47 39.7 +0.2
comp=Z,23nm,1.3s
HRY Holter Researc 61.53 315 eP P 03 47 40.3 +0.6
KNB Kanab 61.60 304 eP P 03 47 41.5 +1.1
comp=Z,7.2nm,1.3s
KNB Kanab 61.60 304 eP P 03 47 41.5 +1.1
KNB pmax pmax
comp=Z,7.0nm,1.3s
HFS Hagfors 61.69 30 P P 03 47 40.5 +0.2
comp=Z,6.2nm,1.1s,baz=213,slow=10,SNR=3.6
HFS Hagfors 61.69 30 P P 03 47 40.5 +0.2
DUG Dugway, Tooele 61.70 307 eP P 03 47 41.6 +0.7
comp=Z,21nm,1.8s
DUG Dugway, Tooele 61.70 307 eP P 03 47 41.6 +0.7
DUG pmax pmax
comp=Z,21nm,1.8s
BGU Big Grassy Mou 61.90 308 eP P 03 47 42.8 +0.5
comp=Z,5.2nm,1.1s
DLMT Dillon 61.91 313 eP P 03 47 42.9 +0.6
comp=Z,24nm,1.8s
MCMT McKenzie Canyo 62.04 313 eP P 03 47 43.8 +0.5
CCUT Cedar City 62.04 304 eP P 03 47 44.7 +1.3
comp=Z,7.7nm,1.3s
HLID Hailey 63.07 311 eP P 03 47 50.2 +0.2
comp=Z,9.1nm,1.4s
NIE Niedzica 63.12 42 eP P 03 47 51.9 +1.8
NIE Niedzica 63.12 42 eP P 03 47 51.9 +1.8
JTMT Jette 63.30 316 eP P 03 47 51.6 +0.1
comp=Z,4.9nm,1.0s
R11A Troy Canyon, C 63.81 305 eP P 03 47 55.9 +0.9
comp=Z,9.1nm,1.4s
CRVS Cervenica-Dubn 63.82 43 eP P 03 47 55.9 +1.2
CRVS Cervenica-Dubn 63.82 43 eP P 03 47 55.9 +1.2
MFID Camas Ranch 64.09 311 eP P 03 47 56.9 +0.2
comp=Z,14nm,1.3s
SWSC Sam W. Stewart 64.11 299 eP P 03 47 54.4 -2.6
RES Resolute Bay 64.30 347 eP P 03 47 58.2 +0.9
comp=Z,7.7nm,1.4s
RES Resolute Bay 64.30 347 eP P 03 47 58.2 +0.9
RES pmax pmax
comp=Z,8.0nm,1.4s
TPNV Topopah Spring 64.35 304 eP P 03 48 00.7 +2.0
comp=Z,2.2nm,1.1s
TPNV Topopah Spring 64.35 304 eP P 03 48 00.7 +2.0
TPNV pmax pmax
comp=Z,2.0nm,1.1s
NEW Newport 65.25 316 eP P 03 48 03.9 -0.2
comp=Z,10nm,1.0s
NEW Newport 65.25 316 eP P 03 48 03.9 -0.2
NEW pmax pmax
comp=Z,10.0nm,1.0s
DAC Darwin (Calif) 65.45 303 eP P 03 48 07.3 +1.4
comp=Z,13nm,1.6s
YKA Yellowknife Ar 65.80 332 P P 03 48 05.9 -1.4
comp=Z,1.4nm,0.8s,baz=102,slow=7.6,SNR=19
YKB5 Yellowknife Ar 65.80 332 eP P 03 48 05.9 -1.4
NV01 Mina Array Sit 65.94 305 eP P 03 48 08.4 -0.6
NV01 ePcP PcP 03 48 40.4 +0.6
NVAR Mina Array Bea 65.94 305 P P 03 48 08.5 -0.6
comp=Z,0.2nm,0.4s,baz=72,slow=4.8,SNR=3.8
NVAR PcP PcP 03 48 40.4 +0.6
comp=Z,1.9nm,0.9s,baz=111,slow=4.1,SNR=8.4
NVAR LR LR 04 16 18.5
comp=Z,60nm,19.9s,baz=271,slow=36
J08A Circle Bar Ran 66.02 311 eP P 03 48 10.1 +0.8
comp=Z,16nm,1.5s
IDI Anoyia 66.08 58 LR LR 04 15 29.8
comp=Z,58nm,21.1s,baz=260,slow=35
WVOR Wild Horse Val 66.13 310 eP P 03 48 13.2 +3.2
comp=Z,12nm,1.6s
ISA Isabella, Lake 66.19 302 eP P 03 48 12.2 +1.7
comp=Z,4.7nm,1.0s
ISA Isabella, Lake 66.19 302 eP P 03 48 12.2 +1.7
ISA pmax pmax
comp=Z,5.0nm,1.0s
G08A Pilot Rock 66.39 313 eP P 03 48 11.8 +0.1
comp=Z,19nm,1.9s
MLR Muntele Rosu 66.68 47 P P 03 48 14.2 +0.7
comp=Z,0.9nm,1.0s,baz=252,slow=6.2,SNR=5.7
MLR LR LR 04 14 06.5
comp=Z,16nm,21.3s,baz=228,slow=33
BAKC Calstate 66.72 302 eP P 03 48 14.0 +0.2
WAKR Walker 66.83 305 eP P 03 48 15.9 +1.3
comp=Z,16nm,1.5s
MOD Modoc Plateau 67.38 309 eP P 03 48 19.2 +1.2
comp=Z,13nm,1.5s
G06A Carlson Farm, 67.57 313 eP P 03 48 20.6 +1.5
comp=Z,4.7nm,1.1s
PHFM Heflinger Ranc 67.74 303 eP P 03 48 19.8 -0.5
K05A Summer Lake 67.80 310 eP P 03 48 22.3 +1.5
comp=Z,21nm,1.4s
FIA0 FINESS Array S 67.90 30 eP P 03 48 21.0 +0.3
FIA0 FINESS Array S 67.90 30 eP P 03 48 21.0 +0.3
FINES FINESS Array B 67.90 30 P P 03 48 21.0 +0.3
comp=Z,4.3nm,1.0s,baz=222,slow=2.6,SNR=4.4
FINES LR LR 04 13 05.4
comp=Z,36nm,21.6s,baz=222,slow=32
FINES FINESS Array B 67.90 30 P P 03 48 21.0 +0.3
ORV Oroville 68.38 307 eP P 03 48 24.8 +0.6
comp=Z,16nm,1.6s
ORV Oroville 68.38 307 eP P 03 48 24.8 +0.6
ORV pmax pmax
comp=Z,16nm,1.6s
LLLB Lillooet 68.44 319 eP P 03 48 24.1 -0.4
comp=Z,28nm,1.6s
H04A Detroit Lake 68.68 312 eP P 03 48 26.3 +0.3
comp=Z,40nm,2.0s
AKASG Malin Array Be 68.94 41 P P 03 48 26.9 -0.5
comp=Z,2.2nm,0.8s,baz=272,slow=5.7,SNR=13
AKASG Malin Array Be 68.94 41 P P 03 48 27.0 -0.5
AKBB Malin Array Si 68.94 41 eP P 03 48 26.9 -0.5
comp=Z,3.7nm,0.9s
AKBB Malin Array Si 68.94 41 eP P 03 48 27.0 -0.5
AKBB pmax pmax
comp=Z,4.0nm,0.9s
SPA0 Spitsbergen Ar 69.08 11 eP P 03 48 27.3 -0.6
SPITS Spitsbergen Ar 69.08 11 P P 03 48 27.3 -0.6
comp=Z,6.1nm,0.8s,baz=272,slow=10.0,SNR=3.1
SPITS LR LR 04 12 24.3
comp=Z,24nm,18.4s,baz=260,slow=30
YBH Yreka Blue Hor 69.19 309 P P 03 48 28.8 -0.5
comp=Z,1.7nm,1.0s,baz=98,slow=18,SNR=2.9
YBH LR LR 04 18 19.0
comp=Z,99nm,19.1s,baz=98,slow=36
E03A Lebam 69.59 314 eP P 03 48 32.1 +0.5
comp=Z,26nm,1.3s
BR231 Keskin MP Arra 71.98 53 eP P 03 48 49.6 +3.2
BR101 Keskin Array S 72.65 53 eP P 03 48 50.9 +0.4
BR131 Keskin Array S 72.65 53 eP P 03 48 50.9 +0.4
BRTR Keskin Array B 72.65 53 P P 03 48 50.9 +0.4
comp=Z,4.4nm,1.0s,baz=257,slow=5.4,SNR=14
BRTR LR LR 04 18 53.7
comp=Z,21nm,20.9s,baz=256,slow=34
DLBC Dease Lake 73.07 327 eP P 03 48 53.5 +1.0
comp=Z,15nm,1.4s
OBN Obninsk 73.25 37 iP P 03 48 53.2 -0.3
OBN pmax pmax
comp=Z,9.0nm,1.2s
OBN MLR MLR
comp=Z,42nm,18.0s
INK Inuvik 74.13 337 P P 03 48 57.8 -0.7
comp=Z,4.7nm,0.9s,baz=78,slow=5.8
INK Inuvik 74.13 337 eP P 03 48 57.7 -0.7
comp=Z,14nm,1.3s
INK Inuvik 74.13 337 eP P 03 48 57.7 -0.7
INK pmax pmax
comp=Z,14nm,1.3s
RPN Rapa Nui 74.31 235 LR LR 04 18 37.5
comp=Z,51nm,19.2s,baz=70,slow=33
KLMR Klimovskoe 74.39 30 eP P 03 48 57.1 -3.0
KLMR AMP 03 49 03.2
comp=Z,14nm,1.5s
KLMR Klimovskoe 74.39 30 eP P 03 48 57.1 -3.0
KLMR pmax pmax
comp=Z,14nm,1.5s
MMAI Mount Meron Ar 74.99 60 P P 03 49 04.8 +0.6
comp=Z,0.6nm,0.4s,baz=345,slow=4.5,SNR=3.0
SKAG Skagway 75.72 328 eP P 03 49 08.2 +0.4
comp=Z,12nm,1.0s
ASF Jabal al Asfar 76.38 60 P P 03 49 13.1 +0.8
comp=Z,0.8nm,0.4s,baz=315,slow=1.4,SNR=3.7
HYT Haines Junctio 76.61 330 eP P 03 49 12.8 -0.2
comp=Z,8.8nm,1.2s
DAWY Dawson 76.97 333 eP P 03 49 14.7 -0.1
comp=Z,14nm,1.4s
FYU Fort Yukon 78.85 336 eP P 03 49 26.2 +1.0
comp=Z,2.4nm,0.8s
KBZ Khabaz 78.88 48 LR LR 04 25 26.9
comp=Z,16nm,18.8s,baz=272,slow=37
BALM Baldy 78.89 330 eP P 03 49 26.5 +0.8
comp=Z,4.1nm,0.9s
BALM Baldy 78.89 330 eP P 03 49 26.5 +0.8
BALM pmax pmax
comp=Z,4.0nm,0.9s
DOT Dot Lake 79.08 333 eP P 03 49 27.9 +1.4
comp=Z,49nm,2.0s
MENT Mentasta 79.09 332 eP P 03 49 26.6 0.0
comp=Z,32nm,0.2s
PAX Paxson 79.86 333 eP P 03 49 30.8 -0.1
comp=Z,12nm,1.4s
PAX Paxson 79.86 333 eP P 03 49 30.8 -0.1
PAX pmax pmax
comp=Z,12nm,1.4s
HARP HAARP 79.87 332 eP P 03 49 31.3 +0.4
comp=Z,12nm,0.9s
IL1 Eielson Array 79.98 335 eP P 03 49 30.1 -1.3
ILAR Eielson Array 79.98 335 P P 03 49 31.1 -0.3
comp=Z,6.6nm,0.8s,baz=74,slow=4.7,SNR=79
ILAR LR LR 04 24 52.6
comp=Z,37nm,18.2s,baz=132,slow=36
ILB Eielson Array 79.98 335 eP P 03 49 31.5 +0.1
ILB eS S 03 59 33.0 -1.5
RAGM Ragged Mountai 80.16 330 eP P 03 49 35.4 +2.9
comp=Z,14nm,1.2s
COLA College 80.35 335 eP P 03 49 33.2 -0.2
comp=Z,17nm,1.1s
COLA College 80.35 335 eP P 03 49 33.2 -0.2
COLA pmax pmax
comp=Z,17nm,1.1s
CCB Clear Creek Bu 80.40 335 eP P 03 49 33.7 0.0
comp=Z,21nm,1.5s
KLU Klutina 80.46 331 eP P 03 49 34.4 +0.2
comp=Z,11nm,1.2s
MDM Murphy Dome 80.48 335 eP P 03 49 34.3 +0.1
comp=Z,14nm,1.2s
COLD Coldfoot 80.55 337 eP P 03 49 35.2 +0.8
comp=Z,5.3nm,1.2s
WRH Wood River Hil 80.56 334 eP P 03 49 34.2 -0.4
comp=Z,26nm,1.4s
DHY Denali Highway 80.67 333 eP P 03 49 35.5 +0.2
comp=Z,3.9nm,1.0s
GNI Garni 80.99 51 P P 03 49 38.8 +1.3
comp=Z,5.6nm,0.8s,baz=191,slow=5.9,SNR=6.0
GNI Garni 80.99 51 eP P 03 49 38.9 +1.3
GNI eP P 03 49 39.3 +1.8
GNI Garni 80.99 51 eP P 03 49 37.5 0.0
RND Reindeer 81.21 334 eP P 03 49 39.1 +1.0
comp=Z,27nm,1.6s
RND Reindeer 81.21 334 eP P 03 49 39.1 +1.0
RND pmax pmax
comp=Z,27nm,1.6s
MLY Manley 81.47 335 eP P 03 49 39.6 +0.2
comp=Z,12nm,1.4s
TRF Thorofare Moun 81.81 334 eP P 03 49 41.8 +0.3
comp=Z,13nm,1.0s
BPAW Bear Paw Mtn. 81.88 335 eP P 03 49 41.5 -0.1
comp=Z,6.3nm,1.0s
PMR Palmer 81.90 332 eP P 03 49 41.5 -0.2
comp=Z,3.3nm,0.8s
PMR Palmer 81.90 332 eP P 03 49 41.5 -0.2
PMR pmax pmax
comp=Z,3.0nm,0.8s
IM3 Indian Mountai 82.31 337 eP P 03 49 42.6 -1.1
RC01 Rabbit Creek A 82.34 331 eP P 03 49 44.5 +0.5
comp=Z,5.3nm,1.0s
BOSA Boshof 82.44 123 P P 03 49 45.2 0.0
comp=Z,2.4nm,0.8s,baz=241,slow=2.6,SNR=3.8
BOSA LR LR 04 21 25.3
comp=Z,61nm,18.0s,baz=234,slow=32
SUA Susitna One 82.67 332 eP P 03 49 46.3 +0.4
comp=Z,18nm,1.4s
PPLA Purkeypile 82.81 334 eP P 03 49 47.1 +0.5
comp=Z,6.6nm,1.0s
SKT Skwentna 82.84 333 eP P 03 49 46.8 +0.2
comp=Z,4.1nm,0.9s
AKT Akhty 82.86 49 ||iP P 03 49 49.7 +2.4
AKT e 03 49 51.9
AKT pmax pmax
comp=Z,121nm,0.1s
SPU Mount Spurr 83.36 332 eP P 03 49 49.8 +0.4
KMBO Kilima Mbogo 84.50 93 P P 03 49 57.6 +1.2
comp=Z,1.1nm,0.6s,baz=41,slow=8.2,SNR=4.2
KMBO LR LR 04 25 44.5
comp=Z,127nm,20.1s,baz=96,slow=34
KMBO Kilima Mbogo 84.50 93 eP P 03 49 57.6 +1.2
comp=Z,4.7nm,1.2s
KMBO Kilima Mbogo 84.50 93 eP P 03 49 57.6 +1.2
KMBO pmax pmax
comp=Z,5.0nm,1.2s
ARU Arti 85.05 33 dP P 03 49 58.2 +0.2
ARU 03 53 15.7
ARU S S 04 00 22.7 -4.0
ARU SS SS 04 05 57.7 -1.6
ARU pmax pmax
comp=Z,9.0nm,1.7s
ATD Arta Tunnel 86.48 79 LR LR 04 27 37.1
comp=Z,53nm,19.7s,baz=45,slow=35
AKTO Aktyubinsk 86.93 38 P P 03 50 08.0 +0.5
comp=Z,1.4nm,0.7s,baz=336,slow=4.4,SNR=5.8
AKTO LR LR 04 27 52.9
comp=Z,28nm,18.1s,baz=285,slow=35
AB09 Akbulak array 88.51 39 eP P 03 50 15.8 +0.7
AB05 Akbulak array 88.52 39 eP P 03 50 15.7 +0.6
AB04 Akbulak array 88.53 39 eP P 03 50 15.4 +0.3
AB08 Akbulak array 88.53 39 eP P 03 50 15.8 +0.7
AB01 Akbulak array 88.53 39 eP P 03 50 15.4 +0.2
AB31 Akbulak array 88.53 39 eP P 03 50 15.4 +0.3
AB31 Akbulak array 88.53 39 eP P 03 50 15.4 +0.3
ABKAR Akbulak array 88.53 39 eP P 03 50 15.4 +0.3
comp=Z,14nm,0.8s
AB02 Akbulak array 88.53 39 eP P 03 50 15.5 +0.3
AB03 Akbulak array 88.53 39 eP P 03 50 15.8 +0.6
AB06 Akbulak array 88.54 39 eP P 03 50 15.7 +0.5
AB07 Akbulak array 88.55 39 eP P 03 50 15.4 +0.2
SNAA Sanae 92.28 167 P P 03 50 31.4 -0.6
comp=Z,1.6nm,0.8s,baz=283,slow=12,SNR=4.0
SNAA Sanae 92.28 167 eP P 03 50 31.4 -0.6
comp=Z,4.9nm,1.2s
SNAA Sanae 92.28 167 eP P 03 50 31.4 -0.6
SNAA pmax pmax
comp=Z,5.0nm,1.2s
TIXI Tiksi 92.56 1 eP P 03 50 32.5 -0.9
TIXI pmax pmax
comp=Z,3.0nm,1.1s
BRVK Borovoye 92.63 33 iP P 03 50 35.0 +0.9
BRVK pmax pmax
comp=Z,1.0nm,0.8s
BVAR Borovoye Array 92.70 33 LR LR 04 30 41.1
comp=Z,28nm,18.4s,baz=304,slow=34
BILL Bilibino 92.89 348 eP P 03 50 33.6 -1.5
BILL pmax pmax
comp=Z,1.0nm,0.9s
WSAR Wadi Sarin 97.30 63 LR LR 04 35 27.5
comp=Z,59nm,21.1s,baz=296,slow=36
OPO Ambohidratompo 98.54 107 LR LR 04 32 01.0
comp=Z,55nm,18.6s,baz=244,slow=33
KLR Kul'dur 115.10 1 iPKIKP PKPdf 03 56 04.7 +1.0
LZH Lanzhou 121.23 28 ePKP PKPdf 03 56 16.2 +0.1
LZH pPKP pPKPdf 03 56 19.5 -2.1
LZH sPKP 03 56 21.7
LZH LR LR
comp=N,97nm,18.1s
LZH LR LR
comp=E,100nm,18.0s
LZH LR LR
comp=Z,160nm,20.0s

ISCJB **10** *03:45:56.7±1.1,25°.5N±0°.2×94°.54E±0°.07,h10km,mb3.5/3, Error ellipse: s-maj=27.9km s-min=8.6km az=6.7*
IDC **10** *03:45:58.8±4.0,26°.30N×95°.85E,h0km,mb3.4/3, mb1 3.7/3,mb1mx3.2/69,mbtmp3.4/3, Error ellipse: s-maj=435.1km s-min=28.8km az=59.0*
ISC 10 03:45:58.6±1.4,25°.6N±0°.2×94°.56E±0°.08,h10km,n4, σ1§52/6,mb3.8/3,Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SHL	**Shillong**	**2.42**	**269**	*e*P	N	**Pg**		**03 46 46.0**	**+1.0**
SHL				*e*P	G	Pb		03 46 50.0	+7.6
SHL				*e*S	N	**Sn**		**03 47 06.0**	**-2.2**
SHL				*e*S	G	**Sg**		**03 47 17.0**	**+0.6**
MKAR	**Makanchi Array**	**23.28**	**338**	P		**P**		**03 51 06.3**	**0.0**
	0.3nm,0.5s,baz=144,slow=11,SNR=5.3								
WRA	**Warramunga Arr**	**59.54**	**136**	P		**P**		**03 56 01.8**	**-0.7**
	0.5nm,0.7s,baz=325,slow=7.0,SNR=5.0								
ASAR	**Alice Springs**	**62.06**	**139**	P		**P**		**03 56 20.2**	**+0.6**
	0.3nm,0.4s,baz=321,slow=6.9,SNR=5.1								

CSEM **10** *04:34:01.0±0.6,37°.11N×26°.82E,h20km,ML2.5, Error ellipse: s-maj=10.9km s-min=5.0km az=63.0*
DDA **10** *04:34:01.6,37°.19N×26°.79E,h7km,Ml2.5*
ISK **10** *04:34:01.5,37°.15N×26°.90E,h21km,ML2.5/6*
ISC 10 04:34:00.7±2.1,37°.12N±0°.06×26°.81E±0°.09,h17km±9km, n20,σ0§42/34,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
YKAV	**Yalikavak-Bodr**	**0.38**	**89**	PG		**Pg**		**04 34 08.3**	**-0.2**
YKAV				SG		**Sg**		**04 34 13.7**	**-0.1**
YKAV	**Yalikavak-Bodr**	**0.38**	**89**	*e*Pg		**Pg**		**04 34 08.3**	**-0.2**
YKAV				*e*Sg		**Sg**		**04 34 13.7**	**-0.1**
BODT	**Bodrum**	**0.41**	**98**	PG		**Pb**		**04 34 09.3**	**-0.2**
BODT				SG		**Sg**		**04 34 14.8**	**+0.2**
BODT	**Bodrum**	**0.41**	**98**	*e*Pg		**Pb**		**04 34 09.3**	**-0.2**
BODT				*e*Sg		**Sg**		**04 34 14.8**	**+0.2**
DIDI	**Didim-Aydin**	**0.43**	**53**	PG		**Pb**		**04 34 09.9**	**0.0**
DIDI				SG		**Sg**		**04 34 15.6**	**+0.3**
DIDI	**Didim-Aydin**	**0.43**	**53**	*e*Pg		**Pb**		**04 34 09.9**	**0.0**
DIDI				*e*Sg		**Sg**		**04 34 15.6**	**+0.3**
BDRM	**Kayabasi**	**0.51**	**96**	*i* P		**Pb**		**04 34 12.2**	**+0.9**
BDRM				*i* S		**Sb**		**04 34 19.2**	**+0.7**
BDRM	**Kayabasi**	**0.51**	**96**	P		**Pb**		**04 34 12.2**	**+0.9**
BDRM				S		**Sb**		**04 34 19.2**	**+0.7**
GCAM	**G?zelcaml?**	**0.67**	**30**	PG		**Pb**		**04 34 14.6**	**+0.6**
GCAM				SG		**Sb**		**04 34 23.0**	**-0.1**
GCAM	**G?zelcaml?**	**0.67**	**30**	*i* P		**Pg**		**04 34 13.7**	**-0.2**
GCAM				*i* S		**Sg**		**04 34 22.8**	**-0.1**
GCAM	**G?zelcaml?**	**0.67**	**30**	P		**Pg**		**04 34 13.7**	**-0.2**
GCAM	**G?zelcaml?**	**0.67**	**30**	*e*Pg		**Pb**		**04 34 14.6**	**+0.6**
GCAM				S		**Sg**		**04 34 22.8**	**-0.1**
GCAM				*e*Sg		**Sb**		**04 34 23.0**	**-0.1**
MLSB	**Milas**	**0.79**	**77**	PG		**Pg**		**04 34 15.9**	**-0.3**
MLSB	**Milas**	**0.79**	**77**	*e*Pg		**Pg**		**04 34 15.9**	**-0.3**
DGB	**˜zmir**	**0.93**	**4**	*i* P		**Pg**		**04 34 18.6**	**-0.2**
DGB				*i* S		**Sb**		**04 34 30.8**	**+0.2**
ZEY	**˜zmir**	**1.14**	**348**	*i* P		**Pn**		**04 34 22.0**	**0.0**
ZEY				*i* S		**Sn**		**04 34 37.0**	**-0.3**
YER	**Yerkesik**	**1.18**	**89**	PN		**Pn**		**04 34 21.8**	**-0.7**
YER	**Yerkesik**	**1.18**	**89**	*e*Pn		**Pn**		**04 34 21.8**	**-0.7**
AYDB	**Zeytinkoy-Aydi**	**1.19**	**46**	PN		**Pn**		**04 34 22.7**	**-0.1**
AYDB	**Zeytinkoy-Aydi**	**1.19**	**46**	*e*Pn		**Pn**		**04 34 22.7**	**-0.1**

IDC **10** *05:09:06.8±0.4,1°.16S×14°.02W,h0km,mb4.8/37, mb1 4.9/37,mb1mx4.8/52,mbtmp4.8/37,MS5.2/51, Ms1 5.2/51,ms1mx5.2/53,Error ellipse: s-maj=14.8km s-min=10.2km az=135.0*
ISCJB **10** *05:09:06.8±0.1,1°.32S±0°.03×14°.17W±0°.02,h14km, mb5.2/283,MS5.4/565,Error ellipse: s-maj=4.7km s-min=2.5km az=159.3*
BJI **10** *05:09:07.6,0°.87S×14°.22W,h12km,mb5.5/4,mB5.9/29, Ms5.8/27,Ms7 5.5/30*
MOS **10** *05:09:07.3±1.1,1°.17S×13°.96W,h10km,mb5.5/85, MS5.4/73,Error ellipse: s-maj=7.9km s-min=4.2km az=66.3*
GCMT **10** *05:09:08.4±0.1,0°.87S×13°.92W,h20km,MW5.9/138, Moment Tensor Solution. s131,c255; s138,c459; Duration: 2§1 Moment tensor: Scale 10¹⁷Nm; Mrr=0.49±.05; Mθθ3.35±.06; Mϕϕ-2.86±.05; Mrθ0.70±.11; Mθϕ-7.11±.05; Mϕr2.06±.12; Best double couple: M₀8.06900×10¹⁷ NP1:ϕ§167.00000°,δ82.00000°, λ-14.00000°. NP2:ϕ§259.00000°,δ76.00000°, λ-172.00000°. Principal axes: T 8.0390, Plg4.0000°, Azm214.0000°; N 0.0600, Plg74.0000°, Azm317.0000°; P -8.1000, Plg16.0000°, Azm123.0000°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to surface/mantle waves, cutoff=50s.*
NEIC **10** *05:09:08.4±0.1,1°.26S×13°.97W,h10km,mb5.4/197, MS5.4/298,MW5.8,MW5.8 Error ellipse: s-maj=4.5km s-min=2.9km az=164.0,Moment Tensor Solution. s51 Moment tensor: Scale 10¹⁷Nm; Mrr0.36; Mθθ3.10; Mϕϕ-3.47; Mrθ0.23; Mθϕ-5.48; Mϕr0.25; Best double couple: M₀6.40000×10¹⁷ NP1:ϕ±255.00000°,δ89.00000°, λ-178.00000°. NP2:ϕ±164.00000°,δ88.00000°, λ-1.00000°. Principal axes: T 6.2100, Plg1.0000°, Azm30.0000°; N 0.3800, Plg87.0000°, Azm284.0000°; P -6.5800, Plg3.0000°, Azm120.0000°;*
NEIC **10** *05:09:09.0±0.0,0°.95S×13°.87W,h13km,Moment Tensor Solution. s49 Moment tensor: Scale 1017Nm; Mrr0.21; Mθθ2.22; Mϕϕ-2.43; Mrθ-1.60; Mθϕ-6.38; Mϕr0.88; Best double couple: M₀7.00000×10¹⁷ NP1:ϕ±259.00000°, δ81.00000°,λ168.00000°. NP2:ϕ±351.00000°,δ78.00000°, λ9.00000°. Principal axes: T 7.1600, Plg14.0000°, Azm214.0000°; N -0.2600, Plg75.0000°, Azm41.0000°; P -6.9000, Plg1.0000°, Azm305.0000°;*
ISC 10 05:09:08.4±0.5,1°.20S±0°.05×14°.04W±0°.05,h10km±2km, h10km:pP-P,n1466,σ1§87/1234,mb5.3/285,MS5.4/574, 31C-16D,North of Ascension Island

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
H10N2	**ASCENSION HYDR**	**6.60**	**184**	T		T		05 17 27.4	
	baz=3.2,slow=74,SNR=81								
H10N3	**ASCENSION HYDR**	**6.61**	**184**	T		T		05 17 46.2	
	baz=3.2,slow=74,SNR=80								
H10N1	**ASCENSION HYDR**	**6.62**	**184**	T		T		05 17 46.6	
	baz=3.2,slow=74,SNR=108								
ASCN	**Ascension**	**6.70**	**183**	*e*Pn		**Pn**		**05 10 46.8**	**-0.2**
H10S1	**ASCENSION HYDR**	**7.71**	**185**	T		T		05 18 50.5	
	baz=4.1,slow=75,SNR=125								
H10S3	**ASCENSION HYDR**	**7.73**	**185**	T		T		05 18 51.2	
	baz=4.1,slow=75,SNR=90								
H10S2	**ASCENSION HYDR**	**7.73**	**184**	T		T		05 19 16.4	
	baz=4.1,slow=75,SNR=95								
LIC	**Lamto**	**11.63**	**51**	*e*P		Pn		05 11 49.5	-5.2
	145nm,0.4s								
TIC	**Toumodi**	**11.90**	**49**	*e*P		Pn		05 11 52.3	-6.1
KIC	**Kosan Boka**	**11.94**	**51**	*e*P		Pn		05 11 52.9	-6.0
	199nm,0.8s								
DBIC	**Dimbokro**	**12.04**	**49**	Pn		Pn		05 11 54.3	-6.0
	5.0nm,0.3s,baz=215,slow=12,SNR=122								
DBIC				Sn		Sn		05 13 58.9	-16
	6.9nm,0.3s,baz=299,slow=13,SNR=2.6								

DBIC LR LR 05 15 44.9
comp=Z,19µm,19.8s,baz=208,slow=33
DBIC Dimbokro 12.04 49 *e*Pn Pn 05 11 55.0 -5.4
DBIC Sn Sn 05 13 58.9 -16
DBIC Dimbokro 12.04 49 *e*P Pn 05 11 55.0 -5.3
KOWA Kowa 18.48 32 P **P 05 13 18.4 -6.4**
3.5nm,0.3s,baz=211,slow=12,SNR=80
KOWA S Sn 05 16 33.7 -18
4.4nm,0.3s,baz=232,slow=19,SNR=2.8
KOWA LR LR 05 19 54.1
comp=Z,20µm,18.5s,baz=210,slow=35
KOWA Kowa 18.48 32 *e*Pn **P 05 13 18.4 -6.4**
KOWA *e*Pn **Pn 05 13 20.0 -4.9**
KOWA *e*Sn Sn 05 16 33.7 -18
SACV Santiago Islan 18.65 330 *e*P **P 05 13 21.9 -4.7**
118nm,0.9s
TOC5 Torodi Ar. Sit 21.11 47 PFAKE 05 14 10.0 +17
TOC5 LR LR
comp=Z,22µm,19.0s
TOC6 Torodi Ar. Sit 21.11 47 PFAKE 05 14 10.0 +16
TOC6 LR LR
comp=Z,19µm,19.0s
TOB4 Torodi Ar. Sit 21.12 47 PFAKE 05 14 10.0 +16
TOB4 LR LR
comp=Z,19µm,18.0s
TOC4 Torodi Ar. Sit 21.12 47 PFAKE 05 14 10.0 +16
TOC4 LR LR
comp=Z,19µm,18.0s
TOB5 Torodi Ar. Sit 21.13 47 PFAKE 05 14 10.0 +16
TOB5 LR LR
comp=Z,20µm,18.0s
TOC7 Torodi Ar. Sit 21.13 47 PFAKE 05 14 10.0 +16
TOC7 LR LR
comp=Z,19µm,19.0s
TOA0 Torodi Ar. Sit 21.14 47 *e*P **P 05 13 50.0 -3.8**
TOA0 *e*P **P 05 13 50.5 -3.3**
TOA0 LR LR
comp=Z,19µm,19.0s
TOB3 Torodi Ar. Sit 21.14 47 PFAKE 05 14 10.0 +16
TOB3 LR LR
comp=Z,19µm,19.0s
TORD Torodi Ar. Bea 21.14 47 P **P 05 13 50.4 -3.3**
comp=Z,45nm,0.7s,baz=229,slow=10,SNR=73
TORD S S 05 17 32.5 -17
comp=Z,13nm,0.6s,baz=232,slow=23,SNR=3.5
TORD LR LR 05 21 19.5
comp=Z,18µm,18.2s,baz=230,slow=35
TOA1 Torodi Ar. Sit 21.14 47 *e*P **P 05 13 50.4 -3.4**
TOA1 *e*S S 05 17 32.5 -17
TOA2 Torodi Ar. Sit 21.14 47 PFAKE 05 14 10.0 +16
TOA2 LR LR
comp=Z,19µm,19.0s
TOC3 Torodi Ar. Sit 21.15 47 PFAKE 05 14 10.0 +16
TOC3 LR LR
comp=Z,19µm,19.0s
TOB2 Torodi Ar. Sit 21.15 47 PFAKE 05 14 10.0 +16
TOB2 LR LR
comp=Z,19µm,19.0s
TOC1 Torodi Ar. Sit 21.16 47 PFAKE 05 14 10.0 +16
TOC1 LR LR
comp=Z,21µm,19.0s
TOC2 Torodi Ar. Sit 21.16 47 PFAKE 05 14 10.0 +16
TOC2 LR LR
comp=Z,18µm,18.0s
RCBR Riachuelo 22.30 258 P **P 05 14 07.5 +1.2**
comp=Z,123nm,0.7s,baz=102,slow=1.7,SNR=5.9
RCBR S **S 05 18 10.2 -1.7**
comp=Z,46nm,0.7s,baz=210,slow=3.0,SNR=4.5
RCBR Riachuelo 22.30 258 *e*P **P 05 14 07.4 +1.1**
comp=Z,298nm,1.6s
RCBR *e*P **P 05 14 07.5 +1.2**
RCBR *e*S **S 05 18 10.2 -1.7**
RCBR LR LR
comp=Z,13µm,20.0s
RCBR Riachuelo 22.30 258 P **P 05 14 10.9 +4.5**
TAM Tamanrasset 30.53 37 *e*P **P 05 15 22.2 -0.2**
comp=Z,28nm,1.2s
TAM LR LR
comp=Z,8µm,18.0s
TAM Tamanrasset 30.53 37 *e*P **P 05 15 22.2 -0.2**
TAM pmax pmax
comp=Z,28nm,1.2s
TAM MLR MLR
comp=Z,8µm,18.0s
PMOZ Porto Moniz, M 33.97 355 *e*P **P 05 15 54.5 +2.1**
PMOZ *e*S S 05 21 27.8 +10
PMPS Porto Santo 34.14 357 *e*P **P 05 15 54.4 +0.7**
comp=Z,113nm,1.4s
TSUM Tsumeb 35.77 122 *e*P **P 05 16 08.3 +0.1**
comp=Z,55nm,1.5s
TSUM LR LR
comp=Z,7µm,22.0s
SFS San Fernando 38.17 10 PFAKE 05 16 40.0 +12
SFS LR LR
comp=Z,8µm,18.0s
PFVI Vila Bisbo 38.44 7 *e*P **P 05 16 33.6 +3.1**
PFVI Vila Bisbo 38.44 7 *e*PP PP 05 17 57.9 -0.7
PFVI *e*S **S 05 22 28.7 +2.9**
PFVI Vila Bisbo 38.44 7 PFAKE 05 16 40.0 +10
PFVI LR LR
comp=Z,5µm,19.0s
MORF Marmelete 38.64 7 *e*P **P 05 16 32.3 +0.1**
MORF *e*PP **PP 05 18 00.2 -0.5**
MORF *e*S **S 05 22 29.4 +0.6**
MORF AMS AMS 05 31 09.3
comp=N,6µm,22.4s
MORF Marmelete 38.64 7 *e*P **P 05 16 32.4 +0.2**
comp=N,57nm,2.3s
MORF Marmelete 38.64 7 *e*PP PP 05 18 01.5 +0.8
MORF *e*S **S 05 22 31.0 +2.2**
MORF Marmelete 38.64 7 *e*P **P 05 16 32.0 -0.2**
MORF *e* 05 18 00.2
MORF *e*S **S 05 22 29.4 +0.6**
PBDV Barranco-do-Ve 38.67 8 *e*P **P 05 16 35.3 +2.9**
PBDV Barranco-do-Ve 38.67 8 *e*PP PP 05 18 00.7 -0.3
PBDV *e*S **S 05 22 33.5 +4.3**
PVAQ Vaqueiros 38.85 8 *e*P **P 05 16 33.0 -0.9**
comp=N,62nm,1.7s
PVAQ Vaqueiros 38.85 8 *e*PP PP 05 18 03.8 +0.8
PVAQ *e*S **S 05 22 36.4 +4.5**
PVAQ *e*LR LR 05 30 06.7
comp=N,5µm,20.0s
PTEO Sao Teotonio 38.86 7 *e*P **P 05 16 37.0 +3.0**
comp=N,115nm,1.5s
PCVE Castro Verde 39.03 8 *e*P **P 05 16 37.7 +2.3**
comp=N,48nm,1.4s
PCVE *e*S **S 05 22 38.0 +3.3**
SPB Sao Paulo 39.28 233 PFAKE 05 16 50.0 +12
SPB LR LR
comp=Z,10µm,20.0s
PBEJ Beja 39.45 8 *e*P **P 05 16 39.0 +0.1**
comp=Z,50nm,1.6s
PNCL Nicolau / Gran 39.45 7 *e*P **P 05 16 42.1 +3.2**
comp=Z,51nm,1.8s
PNCL Nicolau / Gran 39.45 7 *e*PP PP 05 18 13.2 +3.7
PNCL *e*S **S 05 22 43.9 +3.1**
EANR 'Ain N'Sour 39.56 19 P **P 05 16 37.6 -2.4**
PBAR Barrancos 39.71 9 *e*P **P 05 16 42.6 +1.5**
comp=Z,55nm,1.7s
PBAR Barrancos 39.71 9 *e*PP PP 05 18 16.8 +4.4
PBAR *e*S **S 05 22 48.5 +3.7**
LIS Lisbon 39.97 6 *e*P **P 05 16 43.1 -0.1**
LIS *e*PP **PP 05 18 14.7 -0.6**
LIS *e*S **S 05 22 49.4 +0.6**
LIS AMS AMS 05 32 51.0
comp=N,9µm,19.9s
LIS Lisbon 39.97 6 *e*P **P 05 16 43.1 -0.1**
LIS *e* 05 18 14.6
LIS *e*S **S 05 22 49.3 +0.6**
PMAFR Mafra 40.20 6 *e*P **P 05 16 48.6 +3.5**
PMAFR *e*S **S 05 22 57.6 +5.5**
PESTR Estremoz 40.31 8 *e*P **P 05 16 49.0 +2.9**
comp=N,28nm,1.5s
PESTR Estremoz 40.31 8 *e*PP PP 05 18 22.2 +3.2
PESTR *e*S **S 05 22 58.3 +4.5**
PESTR Estremoz 40.31 8 PFAKE 05 17 00.0 +14
PESTR LR LR
comp=Z,5µm,19.0s
PMTG Montargil 40.43 7 *e*P **P 05 16 51.1 +4.1**
comp=Z,39nm,1.6s
PMTG Montargil 40.43 7 *e*PP PP 05 18 24.9 +4.7
PMTG *e*S **S 05 22 59.5 +4.0**
CART Cartagena 40.44 16 PFAKE 05 17 00.0 +13
CART LR LR
comp=Z,5µm,19.0s

EMHD Djebel Mahouad 40.44 21 P **P 05 16 51.8 +4.5**
ALMR Almeirim 40.47 7 *e*P **P 05 16 47.3 -0.1**
ALMR *e*S **S 05 22 56.9 +0.7**
ALMR AMS AMS 05 32 48.2
comp=E,7µm,19.9s
ALMR Almeirim 40.47 7 *e*P **P 05 16 51.9 +4.5**
comp=E,110nm,1.3s
ALMR Almeirim 40.47 7 *e*PP PP 05 18 20.9 +0.2
ALMR Almeirim 40.47 7 *e*P **P 05 16 47.2 -0.1**
ALMR *e*S **S 05 22 56.8 +0.7**
PMRV Marv??o 40.89 8 *e*P **P 05 16 54.5 +3.6**
comp=E,53nm,1.5s
PMRV Marv??o 40.89 8 *e*PP PP 05 18 30.3 +5.1
PMRV *e*S **S 05 23 06.6 +4.2**
PMRV *e*LR LR 05 29 59.8
comp=E,6µm,22.0s
PTOM Tomar 40.95 7 *e*P **P 05 16 54.8 +3.5**
comp=E,60nm,1.5s
ABA Alger-Bouzarea 41.00 21 P **P 05 16 55.0 +3.2**
CKHR Kef el Ahmar 41.27 24 P **P 05 16 57.7 +3.5**
PCBR Castelo Branco 41.28 8 *e*P **P 05 16 57.0 +2.9**
comp=E,30nm,1.9s
PCBR Castelo Branco 41.28 8 *e*PP PP 05 18 31.7 +2.2
SET Setif 41.38 24 P **P 05 16 57.0 +2.0**
PAB San Pablo 41.51 11 *e*P **P 05 16 56.4 +0.4**
comp=E,30nm,1.3s
PAB LR LR
comp=Z,5µm,18.0s
PAB San Pablo 41.51 11 *e*P **P 05 16 56.4 +0.4**
PAB pmax pmax
comp=Z,30nm,1.3s
PAB MLR MLR
comp=Z,5µm,18.0s
CTEI Djebel Teioual 41.68 25 P **P 05 16 58.1 +0.5**
ESDC Sonseca Array 41.71 12 P **P 05 16 57.6 0.0**
comp=Z,1.4nm,0.7s,baz=198,slow=7.5,SNR=12
ESDC PP **PP 05 18 34.9 +0.7**
comp=Z,9.8nm,0.9s,baz=192,slow=10,SNR=10.0
ESDC LR LR 05 35 22.9
comp=Z,3µm,18.9s,baz=175,slow=38
ESLA Sonseca Array 41.71 12 PFAKE 05 17 10.0 +12
ESLA LR LR
comp=Z,4µm,19.0s
ES19 SONSECA Array 41.75 12 *e*P **P 05 16 58.6 +0.6**
MTE Manteigas 41.82 7 *e*P **P 05 17 01.7 +3.1**
comp=Z,83nm,1.2s
MTE *e*S **S 05 23 19.9 +3.5**
MTE *e*LR LR 05 30 48.1
comp=Z,6µm,20.0s
MTE Manteigas 41.82 7 *e*P **P 05 16 58.9 +0.3**
comp=Z,59nm,1.1s
MTE LR LR
comp=Z,6µm,19.0s
DFRA Djebel Bou Aff 41.87 24 P **P 05 17 02.1 +3.0**
CASM Ain Smara 41.88 25 P **P 05 17 02.4 +3.3**
PVIS Viseu 42.09 7 *e*P **P 05 17 00.8 0.0**
comp=Z,61nm,1.4s
PVIS Viseu 42.09 7 *e*PP PP 05 18 40.9 +2.6
CKFL Kef-Lekhel 42.10 25 P **P 05 17 03.3 +2.3**
CAEH 'Ain El Ouahch 42.48 25 P **P 05 17 06.9 +3.0**
CMAH Djebel Manchou 42.59 26 P **P 05 17 07.1 +2.2**
MVO Moncorvo 42.64 8 *e*P **P 05 17 08.9 +3.6**
comp=Z,67nm,1.7s
MVO Moncorvo 42.64 8 *e*PP PP 05 18 44.3 0.0
MVO *e*S **S 05 23 33.1 +4.6**
MVO *e*LR LR 05 30 45.9
comp=Z,4µm,18.0s
PVRL Vila Real 42.66 7 *e*PP PP 05 18 44.6 +0.1
KEST Kesra 42.73 28 P **P 05 17 06.5 +0.5**
comp=Z,50nm,1.0s,baz=201,slow=2.4,SNR=25
KEST LR LR 05 36 08.3
comp=Z,7µm,18.3s,baz=182,slow=38
KEST Kesra 42.73 28 *e*P **P 05 17 07.4 +1.3**
comp=Z,70nm,1.1s
POLO Lamas de Olo 42.75 7 *e*P **P 05 17 06.9 +0.7**
comp=Z,25nm,1.4s
POLO Lamas de Olo 42.75 7 *e*PP PP 05 18 49.4 +3.9
POLO *e*S **S 05 23 33.7 +3.6**
PGAV Gavieira, Arco 43.28 6 *e*P **P 05 17 12.3 +1.8**
PGAV *e*S **S 05 23 41.7 +3.8**
PGAV *e*LR LR 05 30 22.8
comp=Z,6µm,16.0s
PBRG Braganca 43.31 8 *e*P **P 05 17 14.0 +3.3**
PBRG *e*S **S 05 23 44.5 +6.2**
LSZ Lusaka 43.95 111 *e*P **P 05 17 16.3 0.0**
comp=Z,33nm,0.9s
LSZ Lusaka 43.95 111 *e*P **P 05 17 16.3 0.0**
LSZ pmax pmax
comp=Z,33nm,0.9s
MBAR Mbarara 44.77 90 *e*P **P 05 17 22.3 -0.7**
comp=Z,90nm,1.1s
MBAR LR LR
comp=Z,400nm,21.0s
MBAR Mbarara 44.77 90 *e*P **P 05 17 22.3 -0.7**
MBAR pmax pmax
comp=Z,90nm,1.1s
MBAR MLR MLR
comp=Z,400nm,21.0s
LBTB Lobatse 44.98 125 *e*P **P 05 17 24.5 +0.1**
LBTB Lobatse 44.98 125 *e*P **P 05 17 24.5 +0.1**
SUR Sutherland 45.14 137 *e*P **P 05 17 26.8 +1.1**
comp=Z,208nm,1.8s
WDD Wied Dalam 45.46 33 PFAKE 05 17 40.0 +12
WDD LR LR
comp=Z,4µm,19.0s
VSL Villasalto 45.84 25 *e*P **P 05 17 32.0 +1.2**
comp=Z,71nm,1.1s
VSL LR LR
comp=Z,9µm,20.0s
PTGA Pitinga 45.93 270 P **P 05 17 32.1 +0.1**
comp=Z,10nm,0.8s,baz=87,slow=10,SNR=10
PTGA Pitinga 45.93 270 *e*P **P 05 17 32.0 +0.1**
comp=Z,34nm,1.2s
PTGA LR LR
comp=Z,2µm,20.0s
CLTB Caltabellotta 46.09 30 *e*P **P 05 17 34.1 +1.1**
comp=Z,47nm,1.1s
CLTB LR LR
comp=Z,7µm,19.0s
BOSA Boshof 46.35 130 P **P 05 17 34.2 -1.0**
comp=Z,14nm,0.8s,baz=303,slow=8.8,SNR=20
BOSA LR LR 05 34 15.2
comp=Z,3µm,19.1s,baz=264,slow=32
BOSA Boshof 46.35 130 *e*P **P 05 17 34.2 -1.0**
BOSA *e*P **P 05 17 35.2 -0.1**
VAE Valguarnera 46.63 31 LR LR 05 38 00.6
comp=Z,6µm,19.0s,baz=158,slow=37
BBGH Gun Hill 47.34 289 PFAKE 05 18 00.0 +17
BBGH LR LR
comp=Z,6µm,19.0s
CEL Celeste 47.99 32 *e*P **P 05 17 47.7 0.0**
comp=Z,68nm,1.0s
CEL LR LR
comp=Z,4µm,20.0s
CPUP Villa Florida 48.53 235 P **P 05 17 52.1 0.0**
comp=Z,31nm,0.8s,baz=71,slow=7.8,SNR=62
CPUP LR LR 05 35 38.4
comp=Z,5µm,21.7s,baz=72,slow=33
CPUP Villa Florida 48.53 235 *e*P **P 05 17 52.0 0.0**
comp=Z,47nm,1.0s
TIP Timpagrande 49.12 32 ⇓*i*P **P 05 17 57.1 +0.6**
TIP Timpagrande 49.12 32 *e*P **P 05 17 56.4 -0.1**
comp=Z,31nm,0.8s
TIP LR LR
comp=Z,3µm,18.0s
SSB Saint Sauveur 49.13 17 *e*P **P 05 17 57.0 +0.6**
comp=Z,68nm,1.6s
SSB LR LR
comp=Z,5µm,18.0s
SSB Saint Sauveur 49.13 17 *e*P **P 05 17 57.0 +0.6**
SSB pmax pmax
comp=Z,68nm,1.6s
SSB MLR MLR
comp=Z,5µm,18.0s
FDF Fort de France 49.23 291 PFAKE 05 18 10.0 +12
FDF LR LR
comp=Z,2µm,18.0s
FDF Fort de France 49.23 291 *e*P **P 05 17 58.8 +1.2**
CUC Castrocucco 49.24 30 *e*P **P 05 17 58.1 +0.7**
comp=Z,59nm,1.7s
CUC LR LR
comp=Z,4µm,18.0s
CXM Morne La Croix 49.27 291 *e*P **P 05 17 58.7 +0.7**
BNI Bardonecchia 49.59 19 *e*P **P 05 17 59.9 -0.2**
comp=Z,45nm,1.1s
BNI LR LR
comp=Z,6µm,18.0s
BNI Bardonecchia 49.59 19 *e*P **P 05 17 59.9 -0.2**
BNI pmax pmax
comp=Z,45nm,1.1s
BNI MLR MLR
comp=Z,6µm,18.0s
AQU L'Aquila 49.93 27 *e*P **P 05 18 03.9 +1.4**
comp=Z,92nm,1.0s
AQU LR LR
comp=Z,12µm,22.0s
AQU L'Aquila 49.93 27 *e*P **P 05 18 03.9 +1.4**
AQU pmax pmax
comp=Z,92nm,1.0s
AQU MLR MLR
comp=Z,12µm,22.0s
VLC Villacollemand 50.15 23 PFAKE 05 18 20.0 +16
VLC LR LR
comp=Z,3µm,19.0s
GDHS Morne Mazeau, 50.20 292 *e*P **P 05 18 05.4 +0.3**
comp=Z,137nm,1.2s
GDHS LR LR
comp=Z,2µm,19.0s
ANWB Willy Bob 50.61 294 PFAKE 05 18 20.0 +12
ANWB LR LR
comp=Z,2µm,22.0s
KMBO Kilima Mbogo 51.28 90 P **P 05 18 14.1 +0.6**
comp=Z,20nm,1.1s,baz=253,slow=7.9,SNR=29
KMBO LR LR 05 38 33.2
comp=Z,14µm,18.8s,baz=256,slow=34
KMBO Kilima Mbogo 51.28 90 *e*P **P 05 18 14.6 +1.1**
KMBO *e*pP **P 05 18 14.8 +1.3**
KMBO Kilima Mbogo 51.28 90 P **P 05 18 15.7 +2.2**
SNR=18
KMBO Kilima Mbogo 51.28 90 P **P 05 18 15.7 +2.2**
SNR=18
KMBO Kilima Mbogo 51.28 90 *i* P **P 05 18 14.9 +1.4**
SNR=21
IDI Anoyia 51.37 41 P **P 05 18 14.5 +1.0**
comp=Z,15nm,0.7s,baz=223,slow=18,SNR=3.7
IDI Anoyia 51.37 41 ⇑*i*P **P 05 18 17.1 +3.5**
IDI Anoyia 51.37 41 *e*P **P 05 18 14.2 +0.6**
comp=Z,70nm,1.1s
IDI LR LR
comp=Z,3µm,18.0s
PCRV Puerto La Cruz 51.60 284 LR LR 05 38 17.7
comp=Z,2µm,21.0s,baz=96,slow=34
SEUS St. Eustatius 51.65 293 PFAKE 05 18 30.0 +14
SEUS LR LR
comp=Z,3µm,22.0s
TUE Stuetta 51.74 20 *e*P **P 05 18 16.3 -0.1**
comp=Z,108nm,1.8s
TUE LR LR
comp=Z,4µm,19.0s
SMRT St. Maarten 51.89 294 *e*P **P 05 18 17.7 0.0**
comp=Z,103nm,1.1s
SMRT LR LR
comp=Z,3µm,22.0s
SABA Saba 51.93 293 PFAKE 05 18 30.0 +12
SABA LR LR
comp=Z,3µm,21.0s
AGG Agios Georgios 52.12 36 PFAKE 05 18 30.0 +11
AGG LR LR
comp=Z,10µm,21.0s
TIR Tirane 52.33 32 PFAKE 05 18 30.0 +9.4
TIR LR LR
comp=Z,6µm,19.0s
ECH Echery 52.56 18 *e*P **P 05 18 22.3 +0.1**
comp=Z,59nm,1.4s
ECH LR LR
comp=Z,3µm,18.0s
ECH Echery 52.56 18 *e*P **P 05 18 22.3 +0.1**
ECH pmax pmax
comp=Z,59nm,1.4s
ECH MLR MLR
comp=Z,3µm,18.0s
DAVA Damuels 52.63 20 *i* P **P 05 18 22.1 -0.7**
comp=Z,74nm,0.9s,SNR=20
FETA Feichten 52.70 21 *i* P **P 05 18 24.3 +0.9**
comp=Z,35nm,1.0s,SNR=11
SKDS Skadanscina 52.75 25 *e*P **P 05 18 23.4 -0.3**
FNA Florina 52.76 34 *e*P **P 05 18 24.1 +0.3**
comp=Z,36nm,0.9s
FNA LR LR
comp=Z,2µm,21.0s
FNA Florina 52.76 34 *e*P **P 05 18 24.1 +0.3**
FNA pmax pmax
comp=Z,36nm,0.9s
FNA MLR MLR
comp=Z,2µm,21.0s
TRI Trieste 52.78 24 *e*P **P 05 18 24.5 +0.7**
comp=Z,61nm,1.0s
TRI LR LR
comp=Z,3µm,20.0s
TRI Trieste 52.78 24 *e*P **P 05 18 24.5 +0.7**
TRI pmax pmax
comp=Z,61nm,1.0s
TRI MLR MLR
comp=Z,3µm,20.0s
TTG Podgorica 52.79 31 PFAKE 05 18 40.0 +16
TTG LR LR
comp=Z,5µm,20.0s
BIA Bitola 52.89 33 *i* P **P 05 18 28.9 +4.1**
BFO Black Forest 53.02 19 *e*P **P 05 18 26.1 +0.5**
comp=Z,99nm,1.6s
BFO LR LR
comp=Z,5µm,22.0s
BFO Black Forest 53.02 19 *e*P **P 05 18 26.1 +0.5**
BFO pmax pmax
comp=Z,99nm,1.6s
BFO MLR MLR
comp=Z,5µm,22.0s
VAL Valentia 53.04 3 *e*P **P 05 18 25.8 +0.2**
VAL *i* S **S 05 25 52.0 -3.4**
JAVS Javornik 53.05 24 *e*P **P 05 18 26.0 0.0**
KRUS Krusevo 53.09 33 *i* P **P 05 18 29.1 +2.7**
RETA Reutte 53.11 21 *i* P **P 05 18 26.6 +0.2**
comp=Z,20nm,0.8s
MOTA Moosalm 53.11 21 *i* P **P 05 18 27.4 +0.9**
comp=Z,32nm,1.2s,SNR=11
ABTA Abfaltersbach 53.14 23 *i* pP **P 05 18 29.3 +2.8**
comp=Z,24nm,0.9s,SNR=9.8
ABVI Anegada Island 53.23 294 PFAKE 05 18 40.0 +12
ABVI LR LR
comp=Z,3µm,21.0s
WTTA Wattenberg 53.24 22 *i* P **P 05 18 28.8 +1.4**
comp=Z,19nm,0.8s
BOJS Bojanci 53.24 25 *i* P **P 05 18 28.0 +0.7**
WATA Walderalm 53.28 22 *i* P **P 05 18 30.1 +2.5**
comp=Z,40nm,1.1s,SNR=6.7
VISS Visnje 53.30 25 *e*P **P 05 18 27.7 0.0**
MYKA Terra Mystica 53.48 23 *i* P **P 05 18 31.3 +2.2**
comp=Z,30nm,0.8s,SNR=12
BLY Banja Luka 53.51 27 *e*P **P 05 18 29.9 +0.7**
comp=Z,91nm,1.7s
BLY LR LR
comp=Z,6µm,19.0s
DOU Dourbes 53.54 15 ⇓P **P 05 18 30.9 +1.6**
comp=Z,20nm,1.4s
WLF Walferdange 53.56 16 ⇓P **P 05 18 32.4 +2.9**
WLF Walferdange 53.56 16 *e*P **P 05 18 30.2 +0.7**
comp=Z,46nm,1.2s
WLF LR LR
comp=Z,6µm,18.0s
WLF Walferdange 53.56 16 *e*P **P 05 18 30.2 +0.7**
WLF pmax pmax
comp=Z,46nm,1.2s
WLF MLR MLR
comp=Z,6µm,18.0s
SKO Skopje 53.61 33 *i* P **P 05 18 33.4 +3.4**
STU Stuttgart 53.69 19 PFAKE 05 18 40.0 +10
STU LR LR
comp=Z,4µm,21.0s
STVI Saint Thomas 53.69 294 *e*P **P 05 18 31.7 +0.7**
comp=Z,74nm,1.1s
STVI LR LR
comp=Z,4µm,21.0s
KBA Koelnbreinsper 53.73 23 *i* P **P 05 18 33.2 +2.2**
comp=Z,29nm,1.2s,SNR=12
OBKA Obir 53.75 24 *i* pP **P 05 18 33.9 +2.8**
comp=Z,24nm,1.0s,SNR=5.6
SNF Seneffe 53.84 14 ⇑P **P 05 18 33.8 +2.3**
BCLA Clavier 54.02 15 ⇑P **P 05 18 34.4 +1.6**
SOKA Soboth 54.08 24 *i* P **P 05 18 35.5 +2.0**
comp=Z,26nm,1.0s,SNR=13
PERS Pernice 54.09 24 *i* P **P 05 18 35.9 +2.4**
UCC Uccle 54.13 14 PFAKE 05 18 50.0 +16
UCC LR LR

comp=Z,6µm,18.0s
DIVS Divibare 54.37 30 *e*P **P** **05 18 36.8 +1.1**
comp=Z,59nm,1.5s
DIVS LR LR
comp=Z,2µm,19.0s
MEM Membach 54.38 16 ⇑P **P** **05 18 37.0 +1.5**
comp=Z,19nm,1.0s
KKB Krupnik 54.44 34 P **P** **05 18 32.3 -3.8**
BEBN Eben Emael 54.46 15 ⇑P **P** **05 18 39.2 +3.2**
CBYP Canovanas 54.50 293 *e*P **P** **05 18 37.8 +0.8**
comp=Z,52nm,1.0s
CBYP LR LR
comp=Z,2µm,21.0s
HGN Heimansgroeve 54.50 15 *e*P **P** **05 18 37.1 +0.8**
comp=Z,61nm,1.0s
HGN *e*PP PP 05 20 48.8 +10
HGN *e*S **S** **05 26 13.9 -1.4**
DSB Dublin 54.63 6 PFAKE 05 18 50.0 +13
DSB LR LR
comp=Z,4µm,18.0s
MOA Molln 54.72 23 *i* P **P** **05 18 38.8 +0.7**
comp=Z,20nm,0.8s,SNR=9.7
SJG San Juan 54.73 293 *e*P **P** **05 18 38.8 +0.2**
comp=Z,69nm,1.3s
SJG LR LR
comp=Z,3µm,21.0s
SJG San Juan 54.73 293 *e*P **P** **05 18 38.8 +0.2**
SJG pmax pmax
comp=Z,69nm,1.3s
SJG MLR MLR
comp=Z,3µm,21.0s
ARSA Arzberg 54.74 24 *i* P **P** **05 18 40.1 +1.9**
comp=Z,19nm,1.1s,SNR=5.4
VTS Vitosha 54.99 33⇓*i*P **P** **05 18 41.1 +0.8**
VTS Vitosha 54.99 33 *e*P **P** **05 18 41.5 +1.2**
comp=Z,23nm,1.1s
VTS LR LR
comp=Z,4µm,19.0s
VTS Vitosha 54.99 33 P **P** **05 18 42.9 +2.6**
VTS Vitosha 54.99 33 ⇓P **P** **05 18 41.1 +0.8**
OBIP Obispado Ponce 55.13 293 *e*P **P** **05 18 42.0 +0.5**
comp=Z,52nm,1.3s
OBIP LR LR
comp=Z,3µm,22.0s
GRFO Grafenberg 55.15 20 *e*P **P** **05 18 41.5 +0.4**
comp=Z,29nm,1.0s
GRFO LR LR
comp=Z,3µm,20.0s
GRFO Grafenberg 55.15 20 *e*P **P** **05 18 41.5 +0.4**
GRFO pmax pmax
comp=Z,29nm,1.0s
GRFO MLR MLR
comp=Z,3µm,20.0s
GEA0 GERESS Array S 55.32 22 *e*P **P** **05 18 41.8 -0.7**
GEC2 GERESS Array S 55.32 22 *e*P **P** **05 18 42.3 -0.2**
comp=Z,153nm,1.7s
GEC2 LR LR
comp=Z,4µm,19.0s
GEC2 GERESS Array S 55.32 22 *e*P **P** **05 18 42.3 -0.2**
GEC2 pmax pmax
comp=Z,153nm,1.7s
GEC2 MLR MLR
comp=Z,4µm,19.0s
GERES GERESS Array B 55.32 22 P **P** **05 18 41.7 -0.8**
comp=Z,24nm,0.8s,baz=205,slow=5.9,SNR=28
GERES LR LR 05 42 58.6
comp=Z,4µm,19.2s,baz=232,slow=37
GERES GERESS Array B 55.32 22 P **P** **05 18 41.7 -0.8**
GERES pmax pmax
comp=Z,24nm,0.8s
GERES MLR MLR
comp=Z,4µm,19.2s
LPAZ La Paz 55.33 251 P **P** **05 18 42.6 -1.1**
comp=Z,4.3nm,0.8s,baz=62,slow=7.5,SNR=17
LPAZ LR LR 05 40 37.2
comp=Z,6µm,21.1s,baz=88,slow=34
LPAZ La Paz 55.33 251 *e*P **P** **05 18 42.6 -1.1**
LPAZ *e*SP **P** **05 18 42.8 -0.9**
AOPR Arecibo Observ 55.34 293 *e*P **P** **05 18 43.0 0.0**
comp=Z,59nm,0.8s
CONA Conrad Observa 55.42 24 *i* P **P** **05 18 44.2 +1.0**
comp=Z,26nm,1.1s,SNR=11
PGB Panagyurishte 55.49 34 P **P** **05 18 46.3 +2.5**
ALN Alexandroupoli 55.51 36 PFAKE 05 19 00.0 +16
ALN LR LR
comp=Z,1µm,20.0s
KHC Kasperske Hory 55.51 22 *e*P **P** **05 18 45.4 +1.6**
KHC *e*PP **PP** **05 20 50.3 +2.4**
KHC *e*S **S** **05 26 28.2 -0.9**
KHC AMS AMS 05 43 20.0
comp=Z,4µm,15.8s
KHC Kasperske Hory 55.51 22 *e*P **P** **05 18 44.2 +0.4**
comp=Z,9.5nm,1.0s
KHC Kasperske Hory 55.51 22 *e*P **P** **05 18 44.2 +0.4**
KHC pmax pmax
comp=Z,10.0nm,1.0s
CRPR Cabo Rojo, PR 55.58 293 *e*P **P** **05 18 43.9 -0.8**
comp=Z,83nm,0.8s
CRPR LR LR
comp=Z,6µm,21.0s
KDZ Kurdzhali 55.61 35 P P 05 18 50.1 +5.5
MPR Mayaguez 55.66 293 *e*P **P** **05 18 45.8 +0.5**
comp=Z,67nm,1.2s
MPR LR LR
comp=Z,1µm,19.0s
NKC Novy Kostel 56.03 20 *e*P **P** **05 18 49.7 +2.3**
NKC *ex* x 05 18 54.7
NKC *e*S **S** **05 26 40.2 +4.3**
NKC AMS AMS 05 41 40.0
comp=Z,3µm,17.4s
NKC Novy Kostel 56.03 20 *e*P **P** **05 18 49.7 +2.3**
NKC *e* 05 18 54.7
NKC *e*S **S** **05 26 40.2 +4.3**
NKC MLR MLR
comp=Z,3µm,17.4s
BZS Buzias 56.26 29⇑*i*P **P** **05 18 51.8 +2.6**
BZS Buzias 56.26 29 ⇑P **P** **05 18 51.8 +2.6**
MODS Modra-Piesok 56.36 25 *e*P **P** **05 18 52.6 +2.8**
MODS Modra-Piesok 56.36 25 *e*P **P** **05 18 52.6 +2.8**
TREC Trest 56.37 23 *e*P **P** **05 18 51.1 +1.2**
TREC *e*S **S** **05 26 40.6 +0.1**
TREC AMS AMS 05 43 50.0
comp=Z,4µm,14.8s
TREC Trest 56.37 23 *e*P **P** **05 18 51.1 +1.2**
TREC *e*S **S** **05 26 40.6 +0.1**
TREC MLR MLR
comp=Z,4µm,14.8s
ISP Isparta 56.53 42 PFAKE 05 19 00.0 +8.6
ISP LR LR
comp=Z,2µm,22.0s
PRU Pruhonice 56.58 22 *e*P **P** **05 18 53.7 +2.4**
PRU *e*PP **PP** **05 20 59.5 +2.2**
PRU *e*S **S** **05 26 45.1 +2.0**
PRU AMS AMS 05 43 40.0
comp=Z,5µm,18.2s
PRU Pruhonice 56.58 22 *e*P **P** **05 18 53.7 +2.4**
PRU *e* 05 20 59.5
PRU *e*S **S** **05 26 45.1 +2.0**
PRU MLR MLR
comp=Z,5µm,18.2s
PRA Prague 56.60 22 *e*S **S** **05 26 46.7 +3.2**
PRA AMS AMS 05 43 30.0
comp=Z,5µm,19.2s
GOPC GO Pecny, Ondr 56.61 22 *e*P **P** **05 18 52.4 +0.8**
GOPC *e*pP **sP** **05 18 57.1 +1.3**
GOPC *e*PP **PP** **05 20 58.5 +0.9**
GOPC *ex* x 05 22 04.8
GOPC *e*S **S** **05 26 45.9 +2.3**
GOPC AMS AMS 05 43 30.0
comp=Z,4µm,18.4s
GOPC GO Pecny, Ondr 56.61 22 *e*P **P** **05 18 52.4 +0.8**
GOPC *e* 05 18 57.1
GOPC *e* 05 20 58.5
GOPC *e*S **S** **05 26 45.9 +2.3**
GOPC MLR MLR
comp=Z,4µm,18.4s
SIRR Siria 56.75 29⇓*i*P **P** **05 18 55.1 +2.5**
VRAC Vranov 56.81 23⇑*i*P **P** **05 18 51.0 -2.0**
VRAC Vranov 56.81 23 ⇑P **P** **05 18 51.0 -2.0**
CSS Mathiatis 57.02 46 PFAKE 05 19 10.0 +15
CSS LR LR
comp=Z,800nm,20.0s
ESK Eskdalemuir 57.03 7 *e*P **P** **05 18 54.9 +0.5**
comp=Z,40nm,0.9s
ESK Eskdalemuir 57.03 7 *e*P **P** **05 18 54.9 +0.5**
ESK pmax pmax
comp=Z,40nm,0.9s
PVCC Panska Ves 57.03 21 *e*P **P** **05 18 55.7 +1.2**
PVCC *e*pP **sP** **05 19 00.8 +2.0**
PVCC *e*S **S** **05 26 53.4 +4.3**
PVCC AMS AMS 05 43 30.0
comp=Z,4µm,16.9s
PVCC Panska Ves 57.03 21 *e*P **P** **05 18 55.7 +1.2**
PVCC *e* 05 19 00.8
PVCC *e*S **S** **05 26 53.4 +4.3**
PVCC MLR MLR
comp=Z,4µm,16.9s
PVCC smax smax
comp=N,11nm,0.2s
EKA Eskdalemuir Ar 57.05 7 P **P** **05 18 53.6 -0.9**
comp=N,23nm,0.9s,baz=185,slow=7.1,SNR=25
EKA LR LR 05 40 32.5
comp=N,806nm,21.7s,baz=205,slow=33
BRG Berggiesshubel 57.09 21 *i* P **P** **05 18 56.0 +1.1**
comp=N,66nm,1.6s
BRG S **S** **05 26 56.0 +6.1**
BRG SS **SS** **05 30 43.0 +4.1**
comp=N,4µm,15.8s
comp=E,5µm,15.6s
comp=Z,3µm,20.2s
BRG Berggiesshubel 57.09 21 *i* P **P** **05 18 56.0 +1.1**
BRG S **S** **05 26 56.0 +6.1**
BRG SS **SS** **05 30 43.0 +4.1**
BRG pmax pmax
comp=Z,66nm,1.6s
BRG MLR MLR
comp=N,4µm,15.8s
BRG MLR MLR
comp=E,5µm,15.6s
BRG MLR MLR
comp=Z,3µm,20.2s
VYHS Vyhne 57.11 25 *e*P **P** **05 18 57.0 +1.9**
VYHS Vyhne 57.11 25 *e*P **P** **05 18 57.0 +1.9**
CLL Collm 57.13 20 *i* P **P** **05 18 55.1 -0.1**
comp=Z,49nm,1.4s
CLL *e*Plp 05 18 58.0
CLL *e*PP **PP** **05 20 58.0 -4.2**
CLL *e*PPP PPP 05 22 21.0
CLL *e*S **S** **05 26 54.0 +3.7**
comp=N,3µm,24.5s
CLL *e*S **S** **05 26 54.0 +3.7**
comp=E,1µm,17.8s
CLL *e*S **S** **05 26 54.0 +3.7**
comp=Z,1µm,18.0s
CLL *e*ScS **ScS** **05 28 49.0 +4.3**
CLL *e*SS **SS** **05 30 48.0 +8.6**
CLL *e*SSS SSS 05 33 18.0
CLL Lm MLR 05 42 00.0
comp=N,4µm,19.8s
CLL Lm MLR 05 42 00.0
comp=E,2µm,20.3s
CLL Lm MLR 05 42 00.0
comp=Z,3µm,20.2s
CLL Collm 57.13 20 *e*P **P** **05 18 55.8 +0.6**
comp=Z,57nm,1.5s
CLL LR LR
comp=Z,3µm,20.0s
CLL Collm 57.13 20 *i* P **P** **05 18 55.1 -0.1**
CLL *e*S **S** **05 26 54.0 +3.7**
CLL pmax pmax
comp=Z,49nm,1.4s
CLL MLR MLR
comp=Z,3µm,20.2s
PSZ Piszkesteto 57.14 27⇑*i*P **P** **05 18 57.7 +2.3**
PSZ Piszkesteto 57.14 27 *e*P **P** **05 18 55.9 +0.4**
comp=Z,41nm,1.1s
PSZ LR LR
comp=Z,5µm,21.0s
PSZ Piszkesteto 57.14 27 ⇑P **P** **05 18 57.7 +2.3**
TRQA Tornquist 57.22 224 *e*P **P** **05 18 55.9 -0.3**
comp=Z,55nm,1.4s
TRQA LR LR
comp=Z,5µm,21.0s
TRQA Tornquist 57.22 224 P **P** **05 18 59.6 +3.4**
MNMC Minye Minye 57.22 248 *e*P **P** **05 18 55.0 -1.8**
comp=Z,30nm,1.0s
MNMC LR LR
comp=Z,4µm,21.0s
SDV Santo Domingo 57.27 281 LR LR 05 42 02.8
comp=Z,2µm,20.4s,baz=98,slow=34
SDV Santo Domingo 57.27 281 *e*P **P** **05 18 56.8 -0.3**
comp=Z,13nm,0.9s
PB11 IPOC Station P 57.40 247 *e*P **P** **05 18 56.3 -1.6**
comp=Z,33nm,0.8s
PB11 LR LR
comp=Z,3µm,20.0s
KRLC Kraliky 57.50 23 *e*P **P** **05 18 59.6 +1.7**
KRLC *e*pP **pP** **05 19 02.5 +1.5**
KRLC Kraliky 57.50 23 *e*P **P** **05 18 59.6 +1.7**
KRLC *e* 05 19 02.5
PB01 IPOC Station P 57.52 246 *e*P **P** **05 18 57.7 -1.0**
comp=Z,16nm,0.7s
PB01 LR LR
comp=Z,3µm,20.0s
DPC Dobruska-Polom 57.54 23 *e*P **P** **05 18 57.9 -0.3**
DPC *e*pP **sP** **05 19 04.4 +1.9**
DPC *e*PP **PP** **05 21 09.6 +3.7**
DPC *ex* x 05 22 26.0
DPC *e*S **S** **05 26 57.6 +1.6**
DPC AMS AMS 05 41 00.0
comp=Z,2µm,19.4s
DPC Dobruska-Polom 57.54 23 *e*P **P** **05 18 57.9 -0.3**
DPC *e* 05 19 04.4
DPC *e* 05 21 09.6
DPC *e* 05 22 26.0
DPC *e*S **S** **05 26 57.6 +1.6**
DPC MLR MLR
comp=Z,2µm,19.4s
UPC Upice 57.55 22 *e*P **P** **05 18 59.1 +0.9**
UPC *e*pP **sP** **05 19 03.9 +1.4**
UPC *e*S **S** **05 26 58.7 +2.7**
UPC AMS AMS 05 44 20.0
comp=Z,4µm,16.9s
UPC Upice 57.55 22 *e*P **P** **05 18 59.1 +0.9**
UPC *e* 05 19 03.9
UPC *e*S **S** **05 26 58.7 +2.7**
UPC MLR MLR
comp=Z,4µm,16.9s
MORC Moravsky Berou 57.56 24⇑*i*P **P** **05 19 00.1 +1.7**
MORC Moravsky Berou 57.56 24 *e*P **P** **05 18 58.5 +0.1**
comp=Z,139nm,1.3s
MORC LR LR
comp=Z,8µm,18.0s
MORC Moravsky Berou 57.56 24 ⇑P **P** **05 19 00.1 +1.7**
ARR Arges 57.62 31⇓*i*P **P** **05 18 59.1 +0.2**
DRGR 57.63 29⇓*i*P **P** **05 19 00.3 +1.3**
DRGR 57.63 29 ⇓P **P** **05 19 00.3 +1.3**
MMAI Mount Meron Ar 57.66 49 P **P** **05 18 59.8 +0.4**
comp=Z,0.5nm,0.4s,baz=299,slow=6.5,SNR=3.0
MMAI LR LR 05 46 35.1
comp=Z,2µm,18.1s,baz=250,slow=39
KECS Kecovo 57.82 26 *e*P **P** **05 19 00.7 +0.5**
KECS *e* 05 19 09.1
KECS *e*PP **PP** **05 21 11.2 +2.8**
KECS Kecovo 57.82 26 *e*P **P** **05 19 00.7 +0.5**
KECS *e* 05 19 09.1
KECS *e* 05 21 11.2
OKC Ostrava-Krasne 57.86 24 *e*P **P** **05 19 00.2 -0.2**
OKC *e*PP PP 05 21 00.5 -8.2
OKC *e*S **S** **05 27 01.2 +1.2**
OKC AMS AMS 05 43 50.0
comp=Z,3µm,15.0s
OKC Ostrava-Krasne 57.86 24 *e*P **P** **05 19 00.2 -0.2**
OKC *e*S **S** **05 27 01.2 +1.2**
OKC MLR MLR
comp=Z,3µm,15.0s
ATD Arta Tunnel 57.91 76 LR LR 05 43 03.8
comp=Z,2µm,18.7s,baz=254,slow=35
KSP Ksiaz 57.92 22 *e*P **P** **05 19 04.6 +3.8**
KSP *e*S **S** **05 27 03.6 +2.7**
KSP LMZ LR 05 44 40.6
comp=Z,4µm,20.5s
KSP Ksiaz 57.92 22 *e*P **P** **05 19 04.6 +3.8**
KSP *e*S **S** **05 27 03.6 +2.7**
KSP MLR MLR
comp=Z,4µm,20.5s
CJR Cluj-Napoca 58.01 30⇑*i*P **P** **05 19 01.9 +0.3**
CJR Cluj-Napoca 58.01 30 ⇑P **P** **05 19 01.9 +0.3**
SDD Santo Domingo 58.28 293 PFAKE 05 19 20.0 +16
SDD LR LR
comp=Z,2µm,22.0s
BBSR BB Station 58.32 310 PFAKE 05 19 20.0 +16
BBSR LR LR
comp=Z,2µm,19.0s
MLR Muntele Rosu 58.39 32 P **P** **05 19 05.0 +0.6**
comp=Z,7.0nm,1.2s,baz=298,slow=5.1,SNR=9.7
MLR LR LR 05 46 18.7
comp=Z,1µm,19.7s,baz=238,slow=38
MLR Muntele Rosu 58.39 32⇓*i*P **P** **05 19 06.2 +1.8**
MLR Muntele Rosu 58.39 32 *e*P **P** **05 19 04.2 -0.2**
comp=Z,83nm,1.3s
MLR *e*P **P** **05 19 05.0 +0.6**
MLR Muntele Rosu 58.39 32 *e*P **P** **05 19 04.2 -0.2**
MLR *e* 05 19 05.0
MLR pmax pmax
comp=Z,83nm,1.3s
PB04 IPOC Station P 58.40 244 *e*P **P** **05 19 04.8 -0.1**
comp=Z,42nm,0.9s
PB04 LR LR
comp=Z,2µm,20.0s
DOPR Dopca 58.41 31⇑*i*P **P** **05 19 06.2 +1.8**
NIE Niedzica 58.44 26 *e*P **P** **05 19 07.8 +3.4**
NIE *e*PP **PP** **05 21 19.1 +5.2**
NIE *e*PPP PPP 05 22 38.2
NIE *e*S **S** **05 27 11.0 +3.2**
NIE LMZ LR 05 43 27.3
comp=Z,3µm,23.0s
NIE Niedzica 58.44 26 *e*P **P** **05 19 07.9 +3.4**
NIE *e* 05 21 19.1
NIE *e*PPP PPP 05 22 38.2
NIE *e*S **S** **05 27 11.0 +3.2**
ASF Jabal al Asfar 58.44 51 LR LR 05 46 05.3
comp=Z,2µm,18.0s,baz=205,slow=38
CRVS Cervenica-Dubn 58.57 27 *e*P **P** **05 19 07.0 +1.6**
CRVS *e* 05 19 19.3
CRVS Cervenica-Dubn 58.57 27 *e*P **P** **05 19 07.0 +1.6**
OJC Ojcow 58.83 25 *e*P **P** **05 19 09.8 +2.6**
OJC *e*PP **PP** **05 21 17.6 +0.2**
OJC *e*PPP PPP 05 22 47.3
OJC *e*S **S** **05 27 15.8 +3.1**
OJC LMZ LR 05 41 01.2
comp=Z,4µm,28.4s
OJC Ojcow 58.83 25 *e*P **P** **05 19 07.5 +0.3**
comp=Z,17nm,0.8s
OJC Ojcow 58.83 25 *e*P **P** **05 19 07.5 +0.3**
OJC pmax pmax
comp=Z,17nm,0.8s
STHS Stebnicka Huta 58.85 26 *e*P **P** **05 19 09.4 +2.0**
STHS Stebnicka Huta 58.85 26 *e*P **P** **05 19 09.4 +2.0**
HARR Harsova 58.96 34⇓*i*P **P** **05 19 09.0 +0.9**
HARR Harsova 58.96 34 ⇓P **P** **05 19 09.0 +0.9**
URIC Uribia, Colomb 58.98 284 *e*P **P** **05 19 04.6 -4.3**
PLOR Plostina 59.00 32⇑*i*P **P** **05 19 07.4 -1.1**
PLOR Plostina 59.00 32 ⇑P **P** **05 19 07.4 -1.1**
PB10 IPOC Station P 59.03 243 PFAKE 05 19 20.0 +11
PB10 LR LR
comp=Z,4µm,18.0s
VRI Vrincioaia 59.05 32⇑*i*P **P** **05 19 07.7 -1.1**
VRI Vrincioaia 59.05 32 ⇑P **P** **05 19 07.7 -1.1**
TIRR Tirgusor 59.08 34 PFAKE 05 19 20.0 +11
TIRR LR LR
comp=Z,2µm,19.0s
BR231 Keskin MP Arra 59.10 41 *e*P **P** **05 19 11.2 +1.8**
ANTO Ankara 59.12 41 *e*P **P** **05 19 10.8 +1.3**
comp=Z,63nm,1.4s
ANTO Ankara 59.12 41 *e*P **P** **05 19 10.8 +1.3**
ANTO pmax pmax
comp=Z,63nm,1.4s
PAMC Pamplona, Colo 59.13 279 *e*P **P** **05 19 10.3 -0.2**
RUSC La Rusia 59.38 278 *e*P **P** **05 19 12.8 +0.6**
comp=Z,36nm,1.3s
RUSC LR LR
comp=Z,900nm,22.0s
RUSC La Rusia 59.38 278 *e*P **P** **05 19 12.4 +0.2**
TESR Tescani 59.43 32⇑*i*P **P** **05 19 12.0 +0.6**
BUR04 Bucovina Ar. S 59.44 30 *e*P **P** **05 19 12.2 +0.7**
BUR08 Bucovina Ar. S 59.45 30 *e*P **P** **05 19 13.3 +1.7**
BARC Barichara 59.53 278 *e*P **P** **05 19 13.1 +0.1**
BR101 Keskin Array S 59.61 41 *e*P **P** **05 19 12.8 -0.1**
BR131 Keskin Array S 59.61 41 *e*P **P** **05 19 13.7 +0.7**
BRTR Keskin Array B 59.61 41 P **P** **05 19 12.8 -0.1**
comp=Z,11nm,0.8s,baz=233,slow=7.1,SNR=25
BRTR LR LR 05 47 39.5
comp=Z,924nm,20.7s,baz=221,slow=39
KWP Kalwaria Pacla 59.66 27 *e*P **P** **05 19 15.9 +2.9**
KWP *e*PPP PPP 05 22 53.9
KWP LMZ LR 05 42 15.0
comp=Z,5µm,26.0s
KWP Kalwaria Pacla 59.66 27 *e*P **P** **05 19 13.5 +0.5**
comp=Z,273nm,0.5s
KWP Kalwaria Pacla 59.66 27 *e*P **P** **05 19 13.5 +0.5**
KWP pmax pmax
comp=Z,273nm,0.5s
SDDR Presa de Saban 59.66 293 *e*P **P** **05 19 13.9 +0.3**
comp=Z,76nm,1.0s
SDDR LR LR
comp=Z,2µm,20.0s
DAMY Dhamar 59.89 72 PFAKE 05 19 30.0 +14
DAMY LR LR
comp=Z,3µm,19.0s
CHIC Chingaza 59.92 276 *e*P **P** **05 19 13.1 -2.7**
RGN Rugen 59.97 18 PFAKE 05 19 30.0 +15
RGN LR LR
comp=Z,2µm,18.0s
CODC Agust`›n Codaz 60.15 282 *e*P **P** **05 19 14.6 -2.4**
GKP Gorka Klasztor 60.22 21 *e*P **P** **05 19 18.1 +1.5**
GKP LMZ LR 05 45 08.6
comp=Z,3µm,20.0s
GKP Gorka Klasztor 60.22 21 *e*P **P** **05 19 18.2 +1.5**
GKP MLR MLR
comp=Z,3µm,20.0s
ILGA Ilgaz 60.35 40 PFAKE 05 19 30.0 +12
ILGA LR LR
comp=Z,2µm,22.0s
LVV L'vov 60.40 27 *e*P **P** **05 19 16.3 -1.7**
LVV *e*S **S** **05 27 28.2 -4.7**
LVV MLR MLR
comp=Z,2µm,17.0s
BEL Belsk 60.47 24 *e*P **P** **05 19 21.9 +3.5**
BEL LMZ LR 05 40 41.9
comp=Z,3µm,31.5s
BEL Belsk 60.47 24 *e*P **P** **05 19 21.9 +3.5**
MUD Monsted U'grnd 60.47 15 *i* P **P** **05 19 20.8 +2.5**
comp=Z,4µm,16.0s
MUD Monsted U'grnd 60.47 15 *i* P **P** **05 19 20.8 +2.5**
MUD MLR MLR
comp=Z,4µm,16.0s
ROSC El Rosal 60.52 276 P **P** **05 19 21.0 +1.0**
comp=Z,23nm,0.8s,baz=129,slow=11,SNR=12
ROSC LR LR 05 43 33.1
comp=Z,2µm,19.2s,baz=130,slow=34
ROSC El Rosal 60.52 276 *e*P **P** **05 19 19.9 -0.1**
comp=Z,37nm,1.1s
ROSC El Rosal 60.52 276 *e*P **P** **05 19 16.0 -4.0**
LCO Las Campanas 60.58 237 PFAKE 05 19 30.0 +10
LCO LR LR
comp=Z,3µm,21.0s
COP Copenhagen 60.68 17 *i* P **P** **05 19 23.5 +3.8**
comp=Z,2µm,16.0s
COP Copenhagen 60.68 17 *e*P **P** **05 19 23.5 +3.8**
COP MLR MLR
comp=Z,2µm,16.0s
PTBC PUERTO BERRIO, 60.79 278 *e*P **P** **05 19 16.7 -4.7**
KIS Kishinev 60.89 32 *e*P **P** **05 19 22.0 +0.6**
comp=Z,600nm,8.0s
KIS Kishinev 60.89 32 *e*P **P** **05 19 22.0 +0.6**
KIS *e* 05 19 31.0
KIS *e*PPP PPP 05 23 05.0
KIS *e*S **S** **05 27 37.0 -2.3**
KIS *e*PS **PnS** **05 27 58.0 +5.3**
KIS *e*SSS SSS 05 34 18.0
KIS pmax pmax
comp=Z,600nm,8.0s
KIS MLR MLR
comp=Z,2µm,18.0s
KIS MLR MLR
comp=N,1µm,16.0s
KIS MLR MLR
comp=E,2µm,16.0s
KIS MLR MLR
comp=Z,2µm,18.0s
BSD Bornholm Skovb 60.95 19 *i* P **P** **05 19 25.1 +3.5**
comp=Z,3µm,16.0s
BSD Bornholm Skovb 60.95 19 *e*P **P** **05 19 25.1 +3.5**

BSD MLR MLR
comp=Z,3µm,16.0s
PRAC Prado 61.01 275 *e*P **P 05 19 22.8 -0.1**
comp=Z,84nm,1.4s
PRAC LR LR
comp=Z,3µm,19.0s
PRAC Prado 61.01 275 *e*P **P 05 19 21.7 -1.2**
NORC Norcasia 61.12 277 *e*P **P 05 19 19.6 -4.1**
ZARC Zaragoza, Cauc 61.27 279 *e*P P 05 19 18.9 -5.8
SORM Soroca 61.37 31 *j*/P **P 05 19 20.6 -4.0**
SORM Soroca 61.37 31 *j*P **P 05 19 20.6 -4.0**
ANIL Santa Ana 61.57 276 *e*P P 05 19 21.7 -5.3
FLOC Florencia 61.67 272 *e*P **P 05 19 23.1 -4.2**
PEL Peldehue 61.81 233 PFAKE 05 19 40.0 +12
PEL LR LR
comp=Z,4µm,22.0s
HELC Santa Helena 61.82 278 *e*P **P 05 19 26.7 -2.1**
comp=Z,243nm,1.9s
HELC LR LR
comp=Z,4µm,19.0s
HELC Santa Helena 61.82 278 *e*P **P 05 19 25.3 -3.5**
EFI East Falkland 62.36 209 PFAKE 05 19 40.0 +8.8
EFI LR LR
comp=Z,4µm,21.0s
OPO Ambohidratompo 62.41 110 LR LR 05 45 41.9
comp=Z,2µm,18.4s,baz=280,slow=35
PCON Cinco Dias 62.45 273 *e*P **P 05 19 31.7 -1.5**
PLMC San Jos¯ del 62.48 276 *e*P **P 05 19 30.3 -2.5**
YOTC Yotoco, Valle 62.48 275 *e*P P 05 19 26.0 -6.9
ABPO Ambohimpanom 62.52 111 *e*P **P 05 19 33.5 +0.4**
comp=Z,34nm,1.4s
ABPO LR LR
comp=Z,2µm,20.0s
ABPO Ambohimpanom 62.52 111 *e*P **P 05 19 33.5 +0.4**
ABPO pmax pmax
comp=Z,34nm,1.4s
ABPO MLR MLR
comp=Z,2µm,20.0s
SOTA Rioblanco 62.65 273 *e*P **P 05 19 31.0 -3.5**
SIM Simferopol' 62.68 37 *e*P **P 05 19 35.5 +2.0**
SIM *e* 05 21 52.0
SIM *e*S **S 05 28 04.0 +1.9**
SIM pmax pmax
comp=Z,730nm,12.9s
RAYN Ar Rayn 62.81 63 *e*P **P 05 19 35.1 +0.2**
comp=Z,36nm,1.4s
RAYN LR LR
comp=Z,1µm,19.0s
RAYN Ar Rayn 62.81 63 *e*P **P 05 19 36.4 +1.5**
SUW Suwalki 63.06 24 *e*P **P 05 19 36.9 +1.1**
SUW LMZ LR 05 43 38.2
comp=Z,2µm,28.0s
SUW Suwalki 63.06 24 *e*P **P 05 19 36.6 +0.8**
comp=Z,106nm,1.0s
SUW LR LR
comp=Z,2µm,21.0s
SUW Suwalki 63.06 24 *e*P **P 05 19 36.6 +0.8**
SUW pmax pmax
comp=Z,106nm,1.0s
SUW MLR MLR
comp=Z,2µm,21.0s
NNA Nana 63.17 257 PFAKE 05 19 50.0 +13
NNA LR LR
comp=Z,5µm,18.0s
GTBY Guantanamo Bay 63.39 293 PFAKE 05 19 50.0 +11
GTBY LR LR
comp=Z,1µm,20.0s
AK11 Malin Array Si 63.41 29 *e*P **P 05 19 37.7 -0.5**
KONO Kongsberg 63.44 13 *e*P **P 05 19 39.2 +1.0**
comp=Z,85nm,1.4s
KONO LR LR
comp=Z,3µm,19.0s
KONO Kongsberg 63.44 13 *ce*P **P 05 19 40.5 +2.3**
KONO pmax pmax
comp=Z,43nm,1.0s
KIEV Kiev 63.44 29 *e*P **P 05 19 37.5 -0.9**
comp=Z,59nm,1.4s
KIEV Kiev 63.44 29 *ce*P **P 05 19 38.4 0.0**
KIEV pmax pmax
comp=Z,52nm,2.5s
AKASG Malin Array Be 63.45 29 P **P 05 19 37.7 -0.8**
comp=Z,5.0nm,0.7s,baz=226,slow=5.8,SNR=16
AKASG LR LR 05 48 26.3
comp=Z,2µm,18.7s,baz=240,slow=37
AKBB Malin Array Si 63.45 29 *e*P **P 05 19 37.6 -0.9**
comp=Z,56nm,1.4s
AKBB Malin Array Si 63.45 29 *e*P **P 05 19 37.6 -0.9**
AKBB pmax pmax
comp=Z,56nm,1.4s
PLCA Paso Flores 64.36 225 P **P 05 19 43.4 -1.5**
comp=Z,5.7nm,0.9s,baz=90,slow=7.7,SNR=15
PLCA LR LR 05 43 16.6
comp=Z,3µm,21.8s,baz=91,slow=32
PLCA Paso Flores 64.36 225 *e*P **P 05 19 44.2 -0.6**
comp=Z,9.4nm,1.0s
PLCA Paso Flores 64.36 225 *e*P **P 05 19 44.3 -0.6**
PLCA pmax pmax
comp=Z,9.0nm,1.0s
ATAH Atahualpa 64.41 263 LR LR 05 46 43.7
comp=Z,6µm,19.6s,baz=136,slow=35
OTAV Otavalo 64.43 271 *e*P **P 05 19 46.4 +0.2**
comp=Z,36nm,1.4s
OTAV LR LR
comp=Z,4µm,19.0s
OTAV Otavalo 64.43 271 *e*P P 05 19 38.9 -7.4
ANN Anapa 64.61 38 *e*P **P 05 19 43.6 -2.6**
ANN *e**PP **pP 05 19 46.8 -2.6**
ANN *e**PP **sP 05 19 48.4 -2.1**
ANN *e*S **S 05 28 21.3 -4.8**
ANN *e* 05 29 34.6
ANN *e*SS **SS 05 32 39.7 +2.8**
ANN pmax pmax
comp=Z,66nm,1.5s
ANN pmax pmax
comp=Z,479nm,5.9s
ANN MLR MLR
comp=E,1µm,20.0s
ANN MLR MLR
comp=N,2µm,20.0s
ANN MLR MLR
comp=Z,1µm,20.0s
NC602 NORSAR Array S 64.85 14 *e*P **P 05 19 49.5 +2.0**
HFS Hagfors 64.85 15 P **P 05 19 46.8 -0.8**
comp=Z,58nm,1.1s,baz=145,slow=5.3,SNR=14
HFS LR LR 05 49 23.7
comp=Z,3µm,18.9s,baz=212,slow=37
NBO00 NORSAR Array S 64.94 13 *e*P **P 05 19 48.8 +0.8**
NBO02 NORSAR Array S 64.97 13 *e*P **P 05 19 49.0 +0.7**
NB2 NORSAR Subarra 65.04 13 P **P 05 19 49.3 +0.5**
comp=Z,44nm,1.2s,baz=212,slow=6.5
NB2 NORSAR Subarra 65.04 13 P **P 05 19 49.3 +0.5**
baz=212,slow=6.5
NB200 NORSAR Array S 65.04 13 *e*P **P 05 19 48.5 -0.3**
NOA NORSAR Array B 65.04 13 P **P 05 19 48.5 -0.3**
comp=Z,9.5nm,0.8s,baz=206,slow=6.9,SNR=17
NOA LR LR 05 47 54.5
comp=Z,1µm,19.8s,baz=225,slow=36
NB201 NORSAR Array S 65.07 13 *e*P **P 05 19 49.8 +0.8**
NC204 NORSAR Array S 65.15 13 *e*P **P 05 19 50.9 +1.4**
NACGM Naroch 65.17 25 *e*P **P 05 19 50.0 +0.4**
NACGM *e*S **S 05 28 34.0 +1.4**
NACGM *e*LQ LQ 05 41 30.0
NACGM *e*LR LR 05 47 44.0
NC405 NORSAR Array S 65.22 13 *e*P **P 05 19 50.5 +0.6**
NC303 NORSAR Array S 65.24 13 *e*P **P 05 19 51.4 +1.3**
MICGM Minsk 65.35 25 *e*P **P 05 19 51.0 +0.1**
MICGM *e*S **S 05 28 34.0 -0.9**
MICGM *e*SS **SS 05 32 41.0 -7.2**
MICGM *e*SSS SSS 05 35 38.0
MICGM *e*LQ LQ 05 41 28.0
MICGM *e*LR LR 05 48 40.0
MICGM LRM MLR 05 51 10.0
comp=Z,4.2nm,16.0s
MNK Minsk 65.35 25 *e*P **P 05 19 51.0 +0.1**
MNK *e*S **S 05 28 34.0 -0.9**
MNK *e*SS **SS 05 32 41.0 -7.2**
MNK *e*SSS SSS 05 35 38.0
MNK MLR MLR
comp=Z,4µm,16.0s
SOC Sochi 65.46 40 *e*P **P 05 19 50.3 -1.5**
SOC *e*S **S 05 28 33.2 -3.5**
SOC *e*SS **SS 05 32 46.3 -4.0**
SOC *e*SSS SSS 05 35 44.5
SOC pmax pmax
comp=Z,18nm,0.7s
SOC MLR MLR
comp=Z,809nm,16.0s
BORG Borgarnes 66.01 357 P **P 05 19 57.3 +2.4**
comp=Z,31nm,1.0s,baz=344,slow=6.4,SNR=3.0
BORG LR LR 05 46 58.9
comp=Z,1µm,18.1s,baz=170,slow=34
AKH Akhalkalaki 67.04 44 *j*/P **P 05 19 59.0 -3.3**
AKH Akhalkalaki 67.04 44 *e*P **P 05 20 01.9 -0.4**
comp=Z,49nm,1.6s
AKH Akhalkalaki 67.04 44 *e*P **P 05 20 01.9 -0.4**
AKH pmax pmax
comp=Z,49nm,1.6s
PKME Peaks-Kenny Pk 67.19 321 P **P 05 20 01.1 -1.7**
baz=117
PKME Peaks-Kenny Pk 67.19 321 PFAKE 05 20 20.0 +17
PKME LR LR
comp=Z,2µm,21.0s
NEY Neytrino 67.28 41 *i* P **P 05 20 05.3 +1.6**
NEY pmax pmax
comp=Z,3.0nm,1.0s
GNI Garni 67.43 45 LR LR 05 52 15.3
comp=Z,668nm,18.2s,baz=260,slow=38
GNI Garni 67.43 45 P **P 05 20 06.6 +1.9**
SNR=6.1
GNI Garni 67.43 45 P **P 05 20 06.6 +1.9**
SNR=6.1
GNI Garni 67.43 45 *de*P **P 05 20 05.5 +0.8**
GNI pmax pmax
comp=Z,34nm,1.1s
HRV Adam Dziewonsk 67.48 318 P **P 05 20 03.4 -1.4**
baz=114
HRV Adam Dziewonsk 67.48 318 PFAKE 05 20 20.0 +15
HRV LR LR
comp=Z,2µm,20.0s
KIV Kislovodsk 67.56 41 PFAKE 05 20 20.0 +15
KIV LR LR
comp=Z,700nm,20.0s
KIV Kislovodsk 67.56 41 *e*P **P 05 20 06.0 +0.7**
KIV *e*S **S 05 29 00.4 -1.9**
KIV pmax pmax
comp=Z,24nm,1.1s
KBZ Khabaz 67.60 41 P **P 05 20 05.5 0.0**
comp=Z,5.7nm,0.8s,baz=267,slow=6.2,SNR=12
KBZ LR LR 05 53 20.1
comp=Z,481nm,19.9s,baz=234,slow=39
VSU Vasula 67.65 22 *i* P **P 05 20 06.4 +0.9**
VSU pmax pmax
comp=Z,37nm,1.0s
CBCY The Bluff, Cay 67.65 292 *e*P **P 05 20 06.6 +0.4**
comp=Z,649nm,1.2s
ZEI Tsey 67.88 42 *e*P **P 05 20 06.4 -1.1**
ZEI pmax pmax
comp=Z,29nm,1.5s
YLE Yale 67.95 316 PFAKE 05 20 20.0 +12
YLE LR LR
comp=Z,2µm,22.0s
NCK Nalchik 67.96 42 *i* P **P 05 20 07.8 0.0**
NCK pmax pmax
comp=Z,12nm,0.8s
CHRN Cochrane 68.25 219 *e*P **P 05 20 11.2 +1.7**
comp=Z,12nm,1.1s
LBNH Lisbon 68.44 319 P **P 05 20 07.6 -3.2**
baz=114
LBNH Lisbon 68.44 319 *e*P **P 05 20 13.0 +2.2**
comp=Z,55nm,1.3s
LBNH LR LR
comp=Z,2µm,22.0s
LBNH Lisbon 68.44 319 *e*P **P 05 20 13.0 +2.2**
LBNH pmax pmax
comp=Z,55nm,1.3s
LBNH MLR MLR
comp=Z,2µm,22.0s
PAL Palisades 68.52 315 P **P 05 20 09.0 -2.3**
baz=112
PAL Palisades 68.52 315 *e*P **P 05 20 12.2 +0.9**
comp=Z,95nm,1.5s
PAL LR LR
comp=Z,2µm,20.0s
PAL Palisades 68.52 315 *e*P **P 05 20 12.2 +0.9**
PAL pmax pmax
comp=Z,95nm,1.5s
PAL MLR MLR
comp=Z,2µm,20.0s
BRNJ Basking Ridge 68.87 315 PFAKE 05 20 30.0 +17
BRNJ LR LR
comp=Z,2µm,21.0s
VSR Storozhevoye 68.87 33 *e*P **P 05 20 12.2 -1.1**
VSR pmax pmax
comp=Z,20nm,1.0s
VSR MLR MLR
comp=Z,2µm,15.0s
ODNJ Ogdensburg 69.04 315 PFAKE 05 20 30.0 +15
ODNJ LR LR
comp=Z,2µm,21.0s
PSUB Penn St. - Bra 69.23 314 *e*P **P 05 20 17.5 +1.7**
comp=Z,37nm,1.2s
PSUB LR LR
comp=Z,2µm,19.0s
GROC Groznyy 69.32 43 *e*P **P 05 20 16.0 -0.3**
GROC *e* 05 22 49.2
GROC *e*S **S 05 29 23.0 -0.1**
GROC pmax pmax
comp=Z,19nm,0.5s
LUPA Lehigh Univers 69.41 314 *e*P **P 05 20 16.7 -0.2**
comp=Z,4.1nm,1.4s
LUPA LR LR
comp=Z,100nm,19.0s
VNA1 Neumayer--Stat 69.44 178 P **P 05 20 18.2 +1.7**
LPSR Galich'ya Gora 69.46 31 *e*P **P 05 20 15.2 -1.7**
LPSR pmax pmax
comp=Z,10.0nm,0.9s
FIA0 FINESS Array S 69.56 19 *e*P **P 05 20 16.8 -0.6**
FIA0 FINESS Array S 69.56 19 *e*P **P 05 20 16.8 -0.6**
FINES FINESS Array B 69.56 19 P **P 05 20 16.8 -0.6**
comp=Z,12nm,0.6s,baz=215,slow=4.8,SNR=37
FINES LR LR 05 51 24.7
comp=Z,3µm,20.5s,baz=232,slow=36
FINES FINESS Array B 69.56 19 *e*P **P 05 20 16.2 -1.2**
FIA1 FINESS Array S 69.56 19 *e*P **P 05 20 16.4 -1.0**
FIA1 *e*P **pP 05 20 16.9 -3.7**
CNNC Cliffs of the 69.59 308 P **P 05 20 15.1 -3.0**
baz=107
CNNC Cliffs of the 69.59 308 PFAKE 05 20 30.0 +12
CNNC LR LR
comp=Z,2µm,18.0s
060A Indiantown 69.59 299 P **P 05 20 16.0 -2.3**
baz=102
OBN Obninsk 69.66 28 PFAKE 05 20 30.0 +12
OBN LR LR
comp=Z,3µm,21.0s
OBN Obninsk 69.66 28 *i* P **P 05 20 15.6 -2.5**
OBN *i* 05 20 22.0
OBN *i* 05 20 38.3
OBN *i* 05 22 52.9
OBN *i*S **S 05 29 20.1 -6.5**
OBN pmax pmax
comp=Z,8.0nm,1.0s
OBN MLR MLR
comp=Z,3µm,21.0s
VNA2 Neumayer--Watz 69.75 178 P **P 05 20 19.3 +0.9**
baz=344,slow=7.8
FRNY Flat Rock 69.77 319 PFAKE 05 20 30.0 +11
FRNY LR LR
comp=Z,2µm,21.0s
N59A State Game Lan 69.80 315 P **P 05 20 18.1 -1.3**
baz=110
N59A State Game Lan 69.80 315 *e*P **P 05 20 20.4 +1.1**
comp=Z,69nm,1.4s
N59A LR LR
comp=Z,2µm,20.0s
NCB Newcomb 69.85 318 PFAKE 05 20 30.0 +10
NCB LR LR
comp=Z,1µm,20.0s
MVL Millersville 69.91 314 PFAKE 05 20 30.0 +10
MVL LR LR
comp=Z,2µm,19.0s
VNA3 Neumayer Olymp 69.99 178 P **P 05 20 20.1 +0.2**
URVA University of 70.01 311 *e*P **P 05 20 21.9 +1.2**
SDMD Soldier's Deli 70.07 313 *e*P **P 05 20 22.6 +1.6**
comp=Z,39nm,1.4s
SDMD LR LR
comp=Z,700nm,20.0s
CBN Corbin Frederi 70.08 312 P **P 05 20 20.5 -0.6**
baz=108
CBN Corbin Frederi 70.08 312 PFAKE 05 20 30.0 +8.9
CBN LR LR
comp=Z,1µm,18.0s
959A Okeechobee 70.15 300 P **P 05 20 20.3 -1.3**
baz=102
PAGS Pennsylvania G 70.25 314 *e*P **P 05 20 23.8 +1.7**
comp=Z,27nm,1.2s
PAGS LR LR
comp=Z,2µm,18.0s
IP05 Hopewell Churc 70.26 311 *e*P **P 05 20 23.1 +0.9**
comp=Z,67nm,1.4s
IP05 LR LR
comp=Z,2µm,22.0s
VRH Novokhopyorsk 70.26 34 *e*P **P 05 20 19.4 -2.5**
VRH pmax pmax
comp=Z,10.0nm,0.8s
VRH MLR MLR
comp=Z,2µm,16.0s
059A Moore Haven 70.26 299 P **P 05 20 20.8 -1.6**
baz=102
859A Kempfer Cattle 70.28 300 P **P 05 20 20.9 -1.6**
baz=102
LONY Lake Ozonia 70.33 319 P **P 05 20 22.5 0.0**
baz=112
LONY Lake Ozonia 70.33 319 *e*P **P 05 20 23.4 +0.8**
comp=Z,26nm,1.3s
LONY LR LR
comp=Z,1µm,20.0s
CVRD Centerville Ro 70.37 311 *e*P **P 05 20 24.0 +1.2**
comp=Z,45nm,1.4s
MAK Makhachkala 70.39 43 *e*P **P 05 20 22.3 -0.5**
MAK *e* 05 22 59.1
MAK *e*PPP PPP 05 24 36.9
MAK *e*S **S 05 29 34.8 -0.8**
MAK *e*SS **SS 05 34 12.1 +5.5**
MAK pmax pmax
comp=Z,29nm,0.4s
059Z Ave Maria 70.40 298 P **P 05 20 22.3 -0.9**
baz=102
BINY Binghamton 70.40 316 P **P 05 20 22.0 -1.0**
baz=111
BINY Binghamton 70.40 316 *e*P **P 05 20 24.6 +1.6**
comp=Z,85nm,1.4s
BINY LR LR
comp=Z,1µm,20.0s
SPRD Spring Road, M 70.41 311 *e*P **P 05 20 24.4 +1.3**
comp=Z,58nm,1.5s
IP01 Cuckoo 70.41 311 *e*P **P 05 20 24.3 +1.2**
comp=Z,49nm,1.3s
IP01 LR LR
comp=Z,2µm,20.0s
IP06 Yanceyville 70.46 311 *e*P **P 05 20 24.1 +0.7**
comp=Z,36nm,1.4s
IP06 LR LR
comp=Z,2µm,20.0s
IP07 Quail 70.49 311 *e*P **P 05 20 24.4 +0.8**
comp=Z,62nm,1.3s
IP07 LR LR
comp=Z,2µm,21.0s
IP03 Louisa 70.51 311 *e*P **P 05 20 24.8 +1.1**
comp=Z,52nm,1.2s
IP03 LR LR
comp=Z,2µm,21.0s
MOS Moscow 70.51 28 *e*P **P 05 20 22.1 -1.2**
MOS *e* 05 20 27.1
MOS *e* 05 20 43.6
MOS pmax pmax
comp=Z,71nm,0.8s
MOS MLR MLR
comp=Z,2µm,19.0s
MOS MLR MLR
comp=E,2µm,21.0s
MOS MLR MLR
comp=N,1µm,19.0s
SCHQ Schefferville 70.56 331 P **P 05 20 24.4 +0.7**
comp=N,1.8nm,0.4s,baz=164,slow=7.4,SNR=2.0
SCHQ LR LR 05 46 50.5
comp=N,1µm,19.3s,baz=128,slow=32
SCHQ Schefferville 70.56 331 *e*P **P 05 20 24.4 +0.7**
comp=N,51nm,1.8s
IP04 Greensprings 70.59 311 *e*P **P 05 20 24.3 +0.1**
comp=N,41nm,1.4s
IP04 LR LR
comp=Z,2µm,18.0s
HDC Heredia 70.61 281 PFAKE 05 20 40.0 +15
HDC LR LR
comp=Z,2µm,21.0s
858A St. Cloud 70.71 300 P **P 05 20 21.7 -3.4**
baz=102
SNAA Sanae 70.73 176 P **P 05 20 26.8 +2.3**
SNAA Sanae 70.73 176 P **P 05 20 25.5 +1.0**
comp=Z,11nm,1.0s,baz=354,slow=9.7,SNR=16
SNAA LR LR 05 43 49.0
comp=Z,2µm,20.1s,baz=344,slow=29
SNAA Sanae 70.73 176 *e*P **P 05 20 26.5 +2.0**
comp=Z,24nm,0.9s
SNAA Sanae 70.73 176 *c i*P **P 05 20 26.4 +2.0**
758A Lake Helen 70.73 301 P **P 05 20 22.5 -2.7**
baz=103
DWPF Disney Wildern 70.75 300 P **P 05 20 23.6 -1.8**
baz=102
DWPF Disney Wildern 70.75 300 *e*P **P 05 20 26.3 +1.0**
comp=Z,152nm,1.4s
DWPF LR LR
comp=Z,2µm,22.0s
NHSC New Hope 70.85 306 P **P 05 20 25.8 -0.1**
baz=105
NHSC New Hope 70.85 306 *e*P **P 05 20 26.6 +0.8**
comp=Z,182nm,1.3s
NHSC LR LR
comp=Z,2µm,20.0s
058A Arcadia 70.86 299 P **P 05 20 22.8 -3.2**
baz=102
958A Wauchula 70.92 300 P **P 05 20 25.3 -1.1**
baz=102
TRQ Mont Tremblant 70.94 320 *e*P **P 05 20 27.5 +1.3**
SSPA Standing Stone 71.23 314 P **P 05 20 24.5 -3.6**
baz=109
SSPA Standing Stone 71.23 314 *e*P **P 05 20 28.9 +0.9**
comp=Z,64nm,1.3s
SSPA LR LR
comp=Z,2µm,18.0s
257A Skidaway Islan 71.27 304 P **P 05 20 26.5 -1.9**
baz=104
NCAT North Carolina 71.30 309 *e*P **P 05 20 29.2 +0.7**
comp=Z,42nm,1.3s
NCAT LR LR
comp=Z,2µm,18.0s
957A Wimauma 71.36 300 P **P 05 20 26.8 -2.3**
baz=102
457A Yulee 71.40 303 P **P 05 20 27.5 -1.7**
baz=103
557A Orange Park 71.41 302 P **P 05 20 27.6 -1.8**
baz=103
657A Interlachen 71.43 302 P **P 05 20 27.5 -2.0**
baz=102
757A Oxford 71.47 301 P **P 05 20 27.9 -1.8**
baz=102
857A Zephyrhills 71.47 300 P **P 05 20 28.4 -1.3**
baz=102
NVL N'lazarevskaya 71.47 171 *e*P **P 05 20 26.1 -2.8**
NVL *e*PPP PPP 05 24 45.1
NVL pmax pmax
comp=Z,8.0nm,0.6s
AJN Ajban 71.50 64 *i* P **P 05 20 31.2 +1.2**
SNR=9.8
357A Townsend 71.52 304 P **P 05 20 28.9 -1.0**
baz=103
O56A Blue Knob Stat 71.60 313 P **P 05 20 29.5 -0.9**
baz=108
O56A Blue Knob Stat 71.60 313 *e*P **P 05 20 31.8 +1.4**
comp=Z,131nm,1.7s
O56A LR LR
comp=Z,2µm,20.0s
VWCC Virginia Weste 71.78 310 *e*P **P 05 20 31.7 +0.3**
456A Hilliard 71.81 303 P **P 05 20 30.2 -1.5**
baz=103
MMNY Mt. Morris Dam 71.92 316 *e*P **P 05 20 33.4 +1.3**
comp=Z,86nm,1.4s
MMNY LR LR
comp=Z,2µm,21.0s
656A Willston 71.96 301 P **P 05 20 31.5 -1.1**
baz=102
256A Glennville 71.98 304 P **P 05 20 32.6 -0.1**
baz=103
556A Lake Butler 71.98 302 P **P 05 20 31.9 -0.9**
baz=102
JSC Jenkinsville 72.01 307 *e*P **P 05 20 33.9 +1.0**
comp=Z,62nm,1.3s
JSC LR LR

comp=Z,2µm,22.0s
JSC Jenkinsville 72.01 307 eP P 05 20 33.9 +1.0
JSC pmax pmax
comp=Z,62nm,1.3s
JSC MLR MLR
comp=Z,2µm,22.0s
356A Blackshear 72.03 303 P **P 05 20 31.8 -1.3**
baz=103
ALNE Al Ain 72.10 64 *i* P **P 05 20 34.8 +1.1**
SNR=11
BLA Blacksburg 72.11 310 P **P 05 20 32.2 -1.2**
baz=106
BLA Blacksburg 72.11 310 *e*P **P 05 20 34.7 +1.2**
comp=Z,62nm,1.2s
BLA LR LR
comp=Z,2µm,20.0s
BLA Blacksburg 72.11 310 *e*P **P 05 20 34.7 +1.2**
BLA pmax pmax
comp=Z,63nm,1.2s
BLA MLR MLR
comp=Z,2µm,20.0s
PLVO Plevna 72.14 318 *e*P **P 05 20 33.5 +0.1**
comp=Z,61nm,1.5s
PLVO LR LR
comp=Z,2µm,21.0s
NAZ Nazwa, Dubai 72.18 63 *i* P **P 05 20 35.3 +1.2**
SNR=11
MRIV Mauritius Mete 72.28 111 PFAKE 05 20 50.0 +15
MRIV LR LR
comp=Z,2µm,18.0s
KMSC Kings Mountain 72.28 307 P **P 05 20 33.0 -1.5**
baz=104
KMSC Kings Mountain 72.28 307 *e*P **P 05 20 35.3 +0.8**
comp=Z,69nm,1.4s
KMSC LR LR
comp=Z,3µm,22.0s
MCWV Mont Chateau 72.36 312 P **P 05 20 33.5 -1.3**
baz=107
MCWV Mont Chateau 72.36 312 PFAKE 05 20 50.0 +15
MCWV LR LR
comp=Z,900nm,20.0s
555A McAlpin 72.48 302 P **P 05 20 34.4 -1.3**
baz=102
ASHO Ashiyiah 72.48 64 P **P 05 20 37.7 +1.8**
SNR=13
ASHO Ashiyiah 72.48 64 P **P 05 20 37.7 +1.8**
SNR=13
ASHO Ashiyiah 72.48 64 *i* P **P 05 20 37.7 +1.8**
SNR=12
HATD Hatta, Dubai 72.57 64 *i* P **P 05 20 38.0 +1.5**
SNR=7.5
155A Kite 72.60 305 P **P 05 20 35.8 -0.6**
baz=103
655A Horseshoe Beac 72.60 301 P **P 05 20 35.8 -0.6**
baz=102
355A Pearson 72.64 303 P **P 05 20 35.6 -1.1**
baz=102
UOSS Minazif 72.66 64 *e*P **P 05 20 36.4 -0.5**
comp=Z,60nm,1.2s
UOSS LR LR
comp=Z,1µm,19.0s
UOSS Minazif 72.66 64 *i* P **P 05 20 38.4 +1.4**
SNR=11
455A Stateville 72.66 303 P **P 05 20 35.0 -1.8**
baz=102
MSFE Esma-Masafi 72.69 63 *i* P **P 05 20 38.8 +1.7**
SNR=6.3
SFJD Kangerlussuaq 72.76 346 P **P 05 20 36.4 -0.2**
comp=Z,8.2nm,0.6s,baz=170,slow=5.2,SNR=2.3
SFJD LR LR 05 45 46.9
comp=Z,1µm,21.8s,baz=150,slow=30
SFJD Kangerlussuaq 72.76 346 *i* P **P 05 20 39.9 +3.3**
comp=Z,15nm,0.7s
SFJD Kangerlussuaq 72.76 346 *e*P **P 05 20 36.4 -0.2**
SFJD *e*P **P 05 20 38.4 +1.7**
SFJD Kangerlussuaq 72.76 346 *i* P **P 05 20 39.9 +3.3**
SFJD pmax pmax
comp=Z,15nm,0.7s
M54A Oil Creek Stat 72.77 314 P **P 05 20 35.5 -1.8**
baz=108,SNR=6.5
M54A Oil Creek Stat 72.77 314 *e*P **P 05 20 38.8 +1.4**
comp=Z,56nm,1.3s
M54A LR LR
comp=Z,1µm,19.0s
SHME Shamm 72.79 62 P **P 05 20 39.7 +2.0**
MDH Madha 72.80 63 *i* P **P 05 20 40.7 +2.9**
SNR=5.6
HODGE Hodges 72.80 306 *e*P **P 05 20 39.4 +1.8**
comp=Z,54nm,1.4s
HODGE LR LR
comp=Z,1µm,21.0s
SOHO SOHO 72.82 64 *i* P **P 05 20 38.2 +0.3**
SNR=13
N54A Moraine State 72.84 314 P **P 05 20 37.2 -0.6**
baz=107,SNR=5.2
N54A Moraine State 72.84 314 *e*P **P 05 20 38.7 +0.9**
comp=Z,68nm,1.4s
N54A LR LR
comp=Z,2µm,20.0s
BANOM Banah 72.91 63 *i* P **P 05 20 39.7 +1.2**
SNR=9.3
554A Perry 73.08 302 P **P 05 20 37.8 -1.6**
baz=102
154A Montrose 73.13 305 P **P 05 20 38.7 -0.8**
baz=103
254A Abbeville 73.14 304 P **P 05 20 37.9 -1.8**
baz=102
ALLY Alegheny Colle 73.16 314 *e*P **P 05 20 40.5 +0.9**
comp=Z,69nm,1.2s
ALLY LR LR
comp=Z,2µm,18.0s
454A Quitman 73.16 303 P **P 05 20 38.3 -1.5**
baz=102
ERPA Erie 73.19 315 P **P 05 20 39.6 -0.2**
baz=108
ERPA Erie 73.19 315 *e*P **P 05 20 40.7 +0.9**
comp=Z,44nm,0.9s
ERPA LR LR
comp=Z,2µm,18.0s
TIGA Tifton 73.28 303 P **P 05 20 38.9 -1.5**
baz=102
TIGA Tifton 73.28 303 *e*P **P 05 20 41.6 +1.1**
comp=Z,55nm,1.0s
TIGA LR LR
comp=Z,3µm,22.0s
SADO Sadowa 73.43 318 *e*P **P 05 20 42.0 +0.9**
comp=Z,164nm,1.9s
SADO LR LR
comp=Z,2µm,19.0s
BG3 Lake Jocassee 73.52 307 *e*P **P 05 20 42.8 +1.0**
comp=Z,115nm,1.6s
BG3 LR LR
comp=Z,2µm,20.0s
GOGA Godfrey 73.59 305 P **P 05 20 41.5 -0.8**
baz=103
GOGA Godfrey 73.59 305 *e*P **P 05 20 44.7 +2.4**
comp=Z,32nm,1.4s
GOGA LR LR
comp=Z,2µm,19.0s
GOGA Godfrey 73.59 305 *e*P **P 05 20 44.7 +2.4**
GOGA pmax pmax
comp=Z,33nm,1.4s
GOGA MLR MLR
comp=Z,2µm,19.0s
153A Fort Valley 73.73 304 P **P 05 20 41.6 -1.5**
baz=102
553A Crawfordville 73.74 302 P **P 05 20 41.4 -1.8**
baz=101
453A Whigham 73.77 303 P **P 05 20 41.8 -1.6**
baz=102
353A Camilla 73.78 303 P **P 05 20 41.0 -2.5**
baz=102
253A Americus 73.86 304 P **P 05 20 42.1 -1.8**
baz=102
BIDO Bidbid 74.17 65 P **P 05 20 50.2 +4.3**
SNR=6.1
BIDO Bidbid 74.17 65 P **P 05 20 50.2 +4.3**
SNR=6.1
KLMR Klimovskoe 74.18 24 *e*P **P 05 20 44.0 -1.2**
KLMR AMP 05 20 54.6
comp=Z,32nm,1.4s
KLMR *e*PP **PP 05 23 26.0 -4.8**
KLMR *e*S **S 05 30 18.0 -0.4**
KLMR *e*S **S 05 30 18.0 -0.4**
KLMR SS SS 05 34 52.2 -12
KLMR SS SS 05 34 52.2 -12
KLMR LQ LQ 05 47 34.5
KLMR LQ LQ 05 47 34.5
KLMR LR LR 05 51 30.2
KLMR Klimovskoe 74.18 24 *e*P **P 05 20 43.9 -1.2**
KLMR *e* 05 23 25.9
KLMR *e*S **S 05 30 18.0 -0.4**
KLMR pmax pmax
comp=Z,32nm,1.4s
TKL Tuckaleechee C 74.34 307 P **P 05 20 47.0 +0.3**
comp=Z,11nm,1.1s,baz=104,slow=7.8,SNR=5.4
TKL LR LR 05 49 28.9
comp=Z,2µm,18.5s,baz=116,slow=33
TKL Tuckaleechee C 74.34 307 *e*P **P 05 20 48.6 +1.9**
comp=Z,54nm,1.4s
TKL Tuckaleechee C 74.34 307 P **P 05 20 47.0 +0.3**
TKL pmax pmax
comp=Z,11nm,1.1s
252A Lumpkin 74.35 304 P **P 05 20 46.1 -0.6**
baz=102,SNR=9.8
TZTN Tazewell 74.37 308 P **P 05 20 46.9 +0.1**
baz=104
TZTN Tazewell 74.37 308 *e*P **P 05 20 48.5 +1.7**
comp=Z,42nm,1.4s
TZTN LR LR
comp=Z,2µm,22.0s
352A Blakely 74.41 303 P **P 05 20 47.7 +0.6**
baz=101,SNR=15
552A Lynn Haven 74.46 302 P **P 05 20 46.5 -0.9**
baz=101
452A Marianna 74.50 302 P **P 05 20 46.8 -0.9**
baz=101
WSAR Wadi Sarin 74.58 66 LR LR 05 53 33.4
comp=Z,2µm,19.9s,baz=266,slow=36
ACSO Alum Creek Sta 74.83 312 P **P 05 20 47.4 -2.1**
baz=105,SNR=6.3
ACSO Alum Creek Sta 74.83 312 *e*P **P 05 20 50.8 +1.4**
comp=Z,66nm,1.1s
ACSO LR LR
comp=Z,1µm,19.0s
251A Midway 74.93 304 P **P 05 20 49.2 -0.9**
baz=101,SNR=19
451A Vernon 74.93 302 P **P 05 20 49.0 -1.1**
baz=101
351A Pinckard 74.93 303 P **P 05 20 48.8 -1.3**
baz=101
151A Opelika 74.94 304 P **P 05 20 50.3 +0.1**
baz=101,SNR=28
SUMG Summit 75.26 353 *i* P **P 05 20 52.8 +1.1**
SUMG Summit 75.26 353 *e*P **P 05 20 52.4 +0.7**
comp=Z,42nm,1.2s
SUMG Summit 75.26 353 *i* P **P 05 20 52.8 +1.1**
ARA0 ARCESS Array S 75.42 13 *e*P **P 05 20 50.9 -1.4**
ARCES ARCESS Array B 75.42 13 P **P 05 20 50.9 -1.4**
comp=Z,8.3nm,0.6s,baz=224,slow=5.1,SNR=18
ARCES LR LR 05 54 32.2
comp=Z,2µm,20.4s,baz=224,slow=36
ARCES ARCESS Array B 75.42 13 *e*P **P 05 20 52.1 -0.1**
ARE0 ARCESS Array S 75.42 13 PFAKE 05 21 00.0 +7.8
ARE0 LR LR
comp=Z,2µm,21.0s
TMCR Tamitsa 75.49 21 *e*P **P 05 20 52.8 +0.2**
TMCR pmax pmax
comp=Z,26nm,1.3s
150A Eclectic 75.53 304 P **P 05 20 49.3 -4.3**
baz=101,SNR=10
Y50A Piedmont 75.55 305 P **P 05 20 51.9 -1.8**
baz=102
Z50A Ashland 75.58 305 P **P 05 20 52.0 -1.8**
baz=101
350A Dozier 75.58 303 P **P 05 20 53.4 -0.4**
baz=100
250A Grady 75.62 303 P **P 05 20 54.4 +0.2**
baz=101,SNR=11
TEIG Tepich 75.65 291 PFAKE 05 21 10.0 +16
TEIG LR LR
comp=Z,2µm,22.0s
450A Crestview 75.68 302 P **P 05 20 53.8 -0.7**
baz=100
AAM Ann Arbor 75.86 314 P **P 05 20 53.7 -1.6**
baz=105
AAM Ann Arbor 75.86 314 *e*P **P 05 20 56.2 +1.0**
comp=Z,87nm,1.4s
AAM LR LR
comp=Z,2µm,20.0s
AAM Ann Arbor 75.86 314 *e*P **P 05 20 56.2 +1.0**
AAM pmax pmax
comp=Z,87nm,1.4s
AAM MLR MLR
comp=Z,2µm,20.0s
SNET Serv Nac Est T 75.91 284 PFAKE 05 21 10.0 +14
SNET LR LR
comp=Z,1µm,20.0s
KEV Kevo 75.94 14 PFAKE 05 21 10.0 +15
KEV LR LR
comp=Z,2µm,20.0s
Z49A Columbiana 76.06 305 P **P 05 20 55.5 -1.1**
baz=101,SNR=11
Y49A Blount Mountai 76.09 305 P **P 05 20 54.3 -2.5**
baz=101
APA Apatity 76.10 17 *i*P **P 05 20 57.9 +1.8**
APA *i* 05 21 10.5
APA *i* 05 23 54.0
APA *i* PPP PPP 05 25 42.0
APA *i* S **S 05 30 40.0 +0.5**
APA *i* 05 31 09.0
APA *i* SS **SS 05 35 33.0 +0.3**
APA pmax pmax
comp=Z,5.0nm,0.9s
BRAL Brewton 76.13 302 P **P 05 20 54.3 -2.7**
baz=100
BRAL Brewton 76.13 302 *e*P **P 05 20 58.3 +1.3**
comp=Z,393nm,1.8s
BRAL LR LR
comp=Z,3µm,21.0s
X49A Woodville 76.15 306 P **P 05 20 56.5 -0.6**
baz=101,SNR=19
149A Jones 76.17 304 P **P 05 20 56.1 -1.1**
baz=100,SNR=9.1
449A Pace 76.20 302 P **P 05 20 56.8 -0.7**
baz=100
349A Repton 76.28 303 P **P 05 20 57.4 -0.5**
baz=100,SNR=15
249A Camden 76.33 303 P **P 05 20 57.3 -0.8**
baz=100,SNR=8.0
LRAL Lakeview Retre 76.42 304 P **P 05 20 58.3 -0.3**
baz=100,SNR=9.4
LRAL Lakeview Retre 76.42 304 *e*P **P 05 20 58.7 0.0**
comp=Z,86nm,1.6s
LRAL LR LR
comp=Z,3µm,22.0s
SYO Syowa Base 76.53 163 *i*eX P 05 20 53.4 -5.1
S48A Wiedeman Farm, 76.57 309 P **P 05 20 55.2 -4.2**
baz=102,SNR=13
R48A Northridge Ran 76.58 310 P **P 05 20 57.6 -1.9**
baz=102
LVZ Lovozero 76.67 17 PFAKE 05 21 10.0 +11
LVZ LR LR
comp=Z,2µm,18.0s
LVZ Lovozero 76.67 17 *e*P **P 05 21 01.0 +1.6**
LVZ pmax pmax
comp=Z,57nm,1.6s
U48A Cassie Pea, Po 76.71 308 P **P 05 20 58.6 -1.6**
baz=102,SNR=14
GYB4 ALIBECK ARRAY 76.71 51 *e*P **P 05 21 00.3 0.0**
comp=Z,16nm,0.9s
T48A Bowling Green 76.72 308 P **P 05 20 59.2 -1.0**
baz=102
X48A Hartselle 76.72 306 P **P 05 20 59.1 -1.2**
baz=101,SNR=13
Y48A Jasper 76.72 305 P **P 05 20 59.8 -0.5**
baz=101,SNR=11
GYA1 ALIBECK ARRAY 76.73 51 *e*P **P 05 21 00.9 +0.6**
comp=Z,22nm,0.9s
GEYT Alibeck 76.73 51 P **P 05 20 59.4 -0.9**
comp=Z,4.1nm,0.7s,baz=257,slow=5.8,SNR=6.6
GEYT LR LR 05 56 10.7
comp=Z,3µm,21.5s,baz=245,slow=37
GYA0B ALIBECK ARRAY 76.73 51 *e*P **P 05 21 00.3 0.0**
comp=Z,22nm,1.0s
GYA0B LR LR
comp=Z,3µm,21.0s
GYB3 ALIBECK ARRAY 76.73 51 *e*P **P 05 20 60.0 -0.4**
comp=Z,15nm,0.9s
GYB1 ALIBECK ARRAY 76.73 51 *e*P **P 05 20 59.6 -0.8**
comp=Z,30nm,1.3s
W48A Pulaski 76.76 306 P **P 05 20 59.9 -0.6**
baz=101
448A Bay Minette 76.78 302 P **P 05 21 00.5 -0.2**
baz=100
V48A Smith Brothers 76.78 307 P **P 05 21 00.1 -0.6**
baz=101,SNR=18
148A Greensboro 76.83 304 P **P 05 21 00.3 -0.7**
baz=100,SNR=12
248A Dixon Mills 76.87 303 P **P 05 20 59.6 -1.6**
baz=100
WCI Wyandotte Cave 76.87 310 P **P 05 21 01.2 +0.1**
baz=102
WCI Wyandotte Cave 76.87 310 *e*P **P 05 21 01.5 +0.4**
comp=Z,25nm,0.9s
WCI LR LR
comp=Z,1µm,18.0s
WCI Wyandotte Cave 76.87 310 *e*P **P 05 21 01.5 +0.4**
WCI pmax pmax
comp=Z,25nm,0.9s
WCI MLR MLR
comp=Z,1µm,18.0s
348A Jackson 76.89 303 P **P 05 21 00.4 -0.9**
baz=100
Z48A Northport 76.94 305 P **P 05 21 00.7 -0.9**
baz=100
R47A Wooly Knot Far 77.06 310 P **P 05 21 00.9 -1.2**
baz=102
MYIG MØrida 77.09 292 PFAKE 05 21 10.0 +7.3
MYIG LR LR
comp=Z,1µm,22.0s
P47A Martinsville 77.12 311 P **P 05 21 01.7 -0.8**
baz=102
Q47A Bedord North L 77.12 310 P **P 05 21 01.0 -1.5**
baz=102
GLMI Grayling 77.18 317 P **P 05 21 02.3 -0.4**
baz=105
GLMI Grayling 77.18 317 PFAKE 05 21 10.0 +7.3
GLMI LR LR
comp=Z,2µm,21.0s
O47A Sheridan 77.21 312 P **P 05 21 02.0 -1.0**
baz=103
APG El Apazote 77.21 286 P **P 05 21 03.9 +0.2**
comp=Z,23nm,1.0s,baz=336,slow=4.0,SNR=17
APG LR LR 05 53 06.5
comp=Z,702nm,19.7s,baz=102,slow=34
BLO Bloomington 77.24 311 PFAKE 05 21 20.0 +17
BLO LR LR
comp=Z,2µm,21.0s
T47A Sharon Grove 77.25 308 P **P 05 21 01.8 -1.5**
baz=101
Y47A UCPARC, Winfie 77.28 305 P **P 05 21 02.7 -0.7**
baz=100,SNR=17
U47A Clarksville 77.29 308 P **P 05 21 02.0 -1.5**
baz=101
W47A Westpoint 77.31 306 P **P 05 21 01.9 -1.8**
baz=101,SNR=14
Z47A Carrollton 77.33 304 P **P 05 21 02.8 -1.0**
baz=100,SNR=21
V47A Nunnelly 77.36 307 P **P 05 21 02.7 -1.2**
baz=101,SNR=16
X47A Russelville 77.39 306 P **P 05 21 01.6 -2.5**
baz=100,SNR=16
147A Livingston 77.41 304 P **P 05 21 02.0 -2.3**
baz=100
347A Saraland 77.43 302 P **P 05 21 02.8 -1.6**
baz=99
447A Lucedale 77.43 302 P **P 05 21 02.3 -2.1**
baz=99
F46A Macinaw City C 77.52 317 P **P 05 21 03.2 -1.3**
baz=105
247A Quitman 77.59 303 P **P 05 21 02.3 -3.0**
baz=99
M46A Old House Fiel 77.60 313 P **P 05 21 01.9 -3.2**
baz=103
PLAL Pickwick Lake 77.65 306 *e*P **P 05 21 05.3 -0.2**
comp=Z,71nm,1.5s
PLAL LR LR
comp=Z,1µm,21.0s
WVT Waverly 77.66 307 P **P 05 21 03.4 -2.2**
baz=101
WVT Waverly 77.66 307 *e*P **P 05 21 04.6 -1.0**
comp=Z,32nm,1.0s
WVT LR LR
comp=Z,2µm,22.0s
WVT Waverly 77.66 307 *e*P **P 05 21 04.6 -1.0**
WVT pmax pmax
comp=Z,32nm,1.0s
WVT MLR MLR
comp=Z,2µm,22.0s
N46A Monticello 77.77 312 P **P 05 21 04.4 -1.6**
baz=102
R46A Gibon Southern 77.81 309 P **P 05 21 04.4 -1.9**
baz=101
V46A Holladay 77.83 307 P **P 05 21 04.3 -2.2**
baz=100,SNR=26
Q46A CEJHS Indians, 77.85 310 P **P 05 21 05.8 -0.8**
baz=103
P46A Rosedale 77.86 311 P **P 05 21 05.8 -0.8**
baz=102
S46A Don Dixon Farm 77.86 309 P **P 05 21 05.6 -1.0**
baz=101
USIN University of 77.88 309 *e*P **P 05 21 07.6 +0.8**
comp=Z,23nm,0.9s
USIN LR LR
comp=Z,2µm,20.0s
T46A Princeton 77.88 308 P **P 05 21 05.3 -1.5**
baz=101,SNR=9.2
DAG Danmarks Havn 77.92 359 *i* P **P 05 21 07.2 +1.0**
comp=Z,26nm,1.0s
DAG Danmarks Havn 77.92 359 *i* P **P 05 21 07.2 +1.0**
DAG pmax pmax
comp=Z,26nm,1.0s
W46A Michie 77.92 306 P **P 05 21 05.7 -1.3**
baz=100
SFIN Lafayette 77.93 312 P **P 05 21 06.0 -1.0**
baz=102
SFIN Lafayette 77.93 312 *e*P **P 05 21 09.1 +2.1**
comp=Z,67nm,1.6s
SFIN LR LR
comp=Z,1µm,20.0s
E45A Wooded Hills, 77.95 318 P **P 05 21 05.2 -1.8**
baz=105
U46A Springville 77.98 307 P **P 05 21 05.8 -1.5**
baz=100
X46A Booneville 77.99 306 P **P 05 21 06.1 -1.3**
baz=100
F45A CMU Biological 78.01 317 P **P 05 21 06.4 -0.8**
baz=104
246A Jackson Lee, B 78.02 303 P **P 05 21 05.8 -1.8**
baz=99
446A Poplarville 78.03 302 P **P 05 21 05.9 -1.9**
baz=99
Z46A Louisville 78.05 304 P **P 05 21 06.9 -0.9**
baz=99
146A Union 78.06 304 P **P 05 21 07.6 -0.2**
baz=99
Y46A Houston 78.10 305 P **P 05 21 07.0 -1.0**
baz=100,SNR=14
346A Big Creek Wild 78.21 302 P **P 05 21 08.0 -0.7**
baz=99
P45A Graceland, Par 78.24 311 P **P 05 21 07.3 -1.5**
baz=102
646A Port Sulphur 78.25 300 P **P 05 21 08.7 -0.3**
baz=98
546A Slidell 78.25 301 P **P 05 21 08.0 -1.0**
baz=98
M45A Boilermakers S 78.25 313 P **P 05 21 07.3 -1.4**
baz=102
N45A Kentland 78.34 312 P **P 05 21 07.8 -1.4**
baz=102
OLIL Olney 78.36 310 *e*P **P 05 21 09.0 -0.4**
comp=Z,52nm,1.0s
OLIL LR LR
comp=Z,1µm,18.0s
O45A Potomac 78.37 311 P **P 05 21 07.8 -1.7**
baz=102
R45A Skylar, Fairfi 78.42 309 P **P 05 21 08.2 -1.5**
baz=101
Q45A Warren Harvey, 78.44 310 P **P 05 21 07.9 -1.9**
baz=101
U45A Rockin P Farm, 78.44 307 P **P 05 21 07.0 -2.9**
baz=100
T45A Paducah 78.47 308 P **P 05 21 07.8 -2.2**
baz=100
V45A Humboldt 78.49 307 P **P 05 21 08.2 -2.0**
baz=100
E44A Grand Marais A 78.51 318 P **P 05 21 08.3 -1.8**
baz=104
S45A Carrier Mills 78.54 309 P **P 05 21 07.1 -3.3**
baz=100
W45A Hickory Valley 78.58 306 P **P 05 21 08.9 -1.8**
baz=100

X45A **UM Field Stati** 78.62 305 P P 05 21 09.4 -1.6
baz=99
OXF **Oxford** 78.65 305 P P 05 21 09.8 -1.3
baz=99,SNR=11
OXF **Oxford** 78.65 305 *e*P P 05 21 11.0 -0.1
comp=Z,42nm,1.0s
OXF LR LR
comp=Z,1µm,20.0s
OXF **Oxford** 78.65 305 *e*P P 05 21 11.0 -0.1
OXF pmax pmax
comp=Z,42nm,1.0s
OXF MLR MLR
comp=Z,1µm,20.0s
Y45A **Yeager Farm, C** 78.66 305 P P 05 21 10.2 -0.9
baz=99
245A **Little AP, Sta** 78.67 303 P P 05 21 11.0 -0.3
baz=99
345A **Thompson Farm,** 78.68 302 P P 05 21 11.5 +0.2
baz=98
F44A **Big Bay de Noc** 78.69 317 P P 05 21 09.7 -1.3
baz=104
Z45A **Winona** 78.70 304 P P 05 21 10.0 -1.4
baz=99
145A **Houston Renfro** 78.78 303 P P 05 21 10.5 -1.4
baz=99
N44A **Piper City** 78.79 312 P P 05 21 10.5 -1.2
baz=102
M44A **Midewin, Midew** 78.84 313 P P 05 21 10.1 -1.9
baz=102
445A **Amite** 78.86 301 P P 05 21 11.5 -0.7
baz=98
P44A **Sand Creek, Wi** 78.90 310 P P 05 21 11.6 -0.8
baz=101
645A **Chauvin** 78.90 300 P P 05 21 12.5 -0.1
baz=98
L44A **Lake County Fo** 78.90 313 P P 05 21 11.4 -1.0
baz=102
U44B **Burton Farm, H** 78.91 307 P P 05 21 10.7 -1.8
baz=100
O44A **Mansfield** 78.91 311 P P 05 21 11.4 -1.0
baz=101
R44A **Waltonville** 79.03 309 P P 05 21 11.1 -2.0
baz=100
SIUC **Southern Illin** 79.04 309 *e*P P 05 21 13.9 +0.7
comp=Z,37nm,1.2s
SIUC LR LR
comp=Z,2µm,19.0s
S44A **Carbondale** 79.07 309 P P 05 21 12.5 -0.8
baz=100
W44A **Shelby Farms P** 79.08 306 P P 05 21 13.5 0.0
baz=99
Q44A **Meyer Farm, Va** 79.10 310 P P 05 21 12.4 -1.0
baz=100
F43A **Flat Rock, Esc** 79.17 317 P P 05 21 14.2 +0.5
baz=103
E43A **Lone Tree Farm** 79.17 318 P P 05 21 14.0 +0.3
baz=103
MET **Memphis--Engin** 79.18 306 PFAKE 05 21 30.0 +16
MET LR LR
comp=Z,1µm,21.0s
144A **Alexander Plac** 79.20 303 P P 05 21 13.7 -0.5
baz=98
PVMO **Portageville** 79.20 307 PFAKE 05 21 30.0 +16
PVMO LR LR
comp=Z,2µm,21.0s
444A **Pine Grove** 79.20 301 P P 05 21 13.4 -0.7
baz=98
U44A **Portageville** 79.20 307 P P 05 21 12.1 -2.0
baz=100
VBMS **Vicksburg** 79.22 303 P P 05 21 13.1 -1.2
baz=98
VBMS **Vicksburg** 79.22 303 *e*P P 05 21 15.1 +0.8
comp=Z,37nm,0.8s
VBMS LR LR
comp=Z,2µm,21.0s
Y44A **Strider, Charl** 79.22 305 P P 05 21 11.5 -2.7
baz=99
T44A **Benton** 79.22 308 P P 05 21 12.9 -1.3
baz=100
X44A **Crenshaw** 79.25 305 P P 05 21 12.3 -2.0
baz=99
H43A **Windswept, Lux** 79.28 316 P P 05 21 13.0 -1.4
baz=102
H43A **Windswept, Lux** 79.28 316 PFAKE 05 21 30.0 +16
H43A LR LR
comp=Z,2µm,21.0s
344A **Westbrook Farm** 79.29 302 P P 05 21 14.2 -0.5
baz=98,SNR=12
Z44A **Pea Ridge, Bel** 79.30 304 P P 05 21 13.8 -0.9
baz=99
K43A **Burlington** 79.31 314 P P 05 21 13.6 -1.0
baz=102
244A **Avery, Jackson** 79.33 303 P P 05 21 14.2 -0.7
baz=98
G43A **Wallace** 79.39 316 P P 05 21 14.3 -0.7
baz=103
G43A **Wallace** 79.39 316 PFAKE 05 21 30.0 +15
G43A LR LR
comp=Z,2µm,20.0s
I43A **Langenfeld Bro** 79.42 315 P P 05 21 14.0 -1.2
baz=102
544A **White Castle** 79.47 301 P P 05 21 15.2 -0.5
baz=98
L43A **Garden Prairie** 79.51 313 P P 05 21 14.9 -0.8
baz=101
J43A **Natural Harves** 79.51 314 P P 05 21 14.4 -1.2
baz=102
M43A **Waltham Townsh** 79.52 312 P P 05 21 14.5 -1.2
baz=101
AKTO **Aktyubinsk** 79.57 38 LR LR 06 00 50.2
comp=Z,629nm,19.0s,baz=267,slow=39
O43A **Sugar Creek Fa** 79.57 311 P P 05 21 13.2 -2.9
baz=101
N43A **Stutzman Famil** 79.59 312 P P 05 21 13.9 -2.2
baz=101
P43A **Skaggs, Pawnee** 79.61 311 P P 05 21 15.2 -1.0
baz=100
Q43A **New Douglas** 79.63 310 P P 05 21 16.0 -0.4
baz=100
S43A **Fulton Ridge,** 79.69 308 P P 05 21 15.6 -1.1
baz=100
R43A **Red Bud** 79.69 309 P P 05 21 14.7 -2.0
baz=100
U43A **Rector** 79.75 307 P P 05 21 15.3 -1.8
baz=99
V43A **Jonesboro** 79.77 307 P P 05 21 14.5 -2.7
baz=99
T43A **Greenville** 79.77 308 P P 05 21 16.4 -0.8
baz=99,SNR=12
W43A **Forest City** 79.80 306 P P 05 21 16.0 -1.4
baz=99
E42A **Champion** 79.80 318 P P 05 21 15.8 -1.4
baz=103
Y43A **Makayla and Ka** 79.80 305 P P 05 21 16.9 -0.5
baz=98
F42A **Maple Grove Fa** 79.81 317 P P 05 21 16.5 -0.7
baz=102
H42A **Shiocton** 79.82 316 P P 05 21 17.3 0.0
H42A **Shiocton** 79.82 316 PFAKE 05 21 30.0 +13
H42A LR LR
comp=Z,2µm,21.0s
PBMO **Poplar Bluff** 79.84 308 *e*P P 05 21 16.5 -1.1
comp=Z,49nm,1.5s
PBMO LR LR
comp=Z,2µm,22.0s
X43A **Marvell** 79.85 305 P P 05 21 17.9 +0.2
baz=98
X43A **Marvell** 79.85 305 *e*P P 05 21 17.8 +0.2
comp=Z,360nm,1.8s
X43A LR LR
comp=Z,2µm,19.0s
G42A **Mountain** 79.90 316 P P 05 21 19.3 +1.6
baz=102
G42A **Mountain** 79.90 316 PFAKE 05 21 30.0 +12
G42A LR LR
comp=Z,2µm,22.0s
KULLO **Kullorsuaq** 79.92 349 *i* P P 05 21 19.4 +2.2
comp=Z,38nm,1.1s
KULLO **Kullorsuaq** 79.92 349 *e*P P 05 21 19.4 +2.2
KULLO pmax pmax
comp=Z,38nm,1.1s
I42A **Draeger Farm,** 79.97 315 P P 05 21 18.7 +0.6
baz=102
I42A **Draeger Farm,** 79.97 315 PFAKE 05 21 30.0 +12
I42A LR LR
comp=Z,1µm,19.0s
243A **Waterproof** 79.98 303 P P 05 21 16.3 -2.1
baz=98
SLM **Saint Louis** 79.99 309 PFAKE 05 21 30.0 +12
SLM LR LR
comp=Z,2µm,20.0s
WI03 **Lunz Road, Cli** 79.99 316 PFAKE 05 21 30.0 +12
WI03 LR LR
comp=Z,2µm,21.0s
WI01 **McKinley Avenu** 80.00 316 PFAKE 05 21 30.0 +12
WI01 LR LR
comp=Z,2µm,19.0s
J42A **Columbus** 80.00 314 P P 05 21 18.0 -0.3
baz=101
WI02 **Reinke Road, C** 80.01 316 PFAKE 05 21 30.0 +12
WI02 LR LR
comp=Z,2µm,20.0s
343A **Vidalia** 80.02 302 P P 05 21 18.1 -0.5
baz=98
WI04 **River Road, Cl** 80.03 316 PFAKE 05 21 30.0 +12
WI04 LR LR
comp=Z,2µm,20.0s
143A **Socs Landing,** 80.03 303 P P 05 21 18.1 -0.5
baz=98,SNR=6.3
K42A **Prairie Point,** 80.06 314 P P 05 21 17.9 -0.8
baz=101
543A **St. Martinvill** 80.07 301 P P 05 21 17.0 -1.9
baz=97
443A **Delano Plantat** 80.09 301 P P 05 21 17.3 -1.7
baz=97
M42A **Sheffield** 80.12 312 P P 05 21 16.6 -2.4
baz=100
O42A **Bath** 80.14 311 P P 05 21 15.3 -3.8
baz=100
L42A **Oliver, Polo** 80.15 313 P P 05 21 16.3 -2.8
baz=101
N42A **Yates City** 80.21 312 P P 05 21 15.9 -3.5
baz=100
P42A **Winchester** 80.23 310 P P 05 21 15.8 -3.8
baz=100
Q42A **Golden Eagle** 80.26 310 P P 05 21 16.7 -3.1
baz=100
S42A **Caledonia** 80.28 308 P P 05 21 17.6 -2.3
baz=99,SNR=15
R42A **Luebbering** 80.36 309 P P 05 21 18.8 -1.6
baz=99
D41A **Chassel** 80.38 318 P P 05 21 19.8 -0.5
baz=102
T42A **Van Buren** 80.40 308 P P 05 21 19.0 -1.6
baz=99
U42A **Revenden** 80.42 307 P P 05 21 19.1 -1.6
baz=99,SNR=12
G41A **Antigo** 80.42 316 P P 05 21 18.6 -1.9
baz=102
V42A **Cord** 80.46 306 P P 05 21 19.9 -1.0
baz=98,SNR=9.8
142A **Monroe** 80.46 303 P P 05 21 19.8 -1.2
baz=98
X42A **Stuttgart** 80.47 305 P P 05 21 20.0 -0.9
baz=98
F41A **Three Lakes** 80.47 317 P P 05 21 19.6 -1.2
baz=102
AB09 **Akbulak array** 80.48 40 *e*P P 05 21 19.7 -1.0
AB08 **Akbulak array** 80.48 40 *e*P P 05 21 19.9 -0.9
W42A **Bald Knob** 80.48 306 P P 05 21 19.9 -1.1
baz=98
AB04 **Akbulak array** 80.50 40 *e*P P 05 21 19.6 -1.2
AB03 **Akbulak array** 80.50 40 *e*P P 05 21 19.7 -1.1
AB01 **Akbulak array** 80.50 40 *e*P P 05 21 19.6 -1.2
AB31 **Akbulak array** 80.50 40 *e*P P 05 21 20.0 -0.8
AB31 **Akbulak array** 80.50 40 *e*P P 05 21 20.0 -0.8
ABKAR **Akbulak array** 80.50 40 *e*P P 05 21 20.0 -0.8
comp=Z,70nm,0.8s
ABKAR LR LR
comp=Z,500nm,18.0s
CCAR **Cane Creek** 80.50 305 *e*P P 05 21 21.2 0.0
comp=Z,56nm,1.0s
CCAR LR LR
comp=Z,3µm,22.0s
AB02 **Akbulak array** 80.50 40 *e*P P 05 21 20.1 -0.8
Y42A **Garnett, Star** 80.50 304 P P 05 21 19.5 -1.6
baz=98
AB05 **Akbulak array** 80.50 40 *e*P P 05 21 20.1 -0.8
AB07 **Akbulak array** 80.50 40 *e*P P 05 21 20.1 -0.8
AB06 **Akbulak array** 80.52 40 *e*P P 05 21 20.2 -0.7
E41A **Kenton** 80.52 317 P P 05 21 20.6 -0.5
baz=102
Z42A **Norrel Spur, H** 80.56 304 P P 05 21 21.0 -0.5
baz=98
COWI **Conover** 80.56 317 PFAKE 05 21 30.0 +8.7
COWI LR LR
comp=Z,2µm,21.0s
242A **Grayson** 80.57 303 P P 05 21 21.5 -0.1
baz=97
342A **Flagon Creek P** 80.63 302 P P 05 21 20.7 -1.2
baz=97
H41A **Junction City** 80.63 315 P P 05 21 21.4 -0.3
baz=101
H41A **Junction City** 80.63 315 *e*P P 05 21 21.3 -0.3
comp=Z,20nm,0.9s
H41A LR LR
comp=Z,2µm,20.0s
442A **Mamou** 80.64 301 P P 05 21 21.2 -0.8
baz=97
J41A **Loganville** 80.65 314 P P 05 21 21.0 -0.8
baz=101
542A **Morse** 80.67 301 P P 05 21 21.1 -1.0
baz=97
I41A **Arkdale** 80.68 315 P P 05 21 21.6 -0.3
baz=101
CCM **Cathedral Cave** 80.68 309 P P 05 21 21.2 -0.9
baz=99
CCM **Cathedral Cave** 80.68 309 *e*P P 05 21 21.2 -0.9
comp=Z,50nm,1.3s
CCM LR LR
comp=Z,2µm,18.0s
CCM **Cathedral Cave** 80.68 309 *e*P P 05 21 21.2 -0.9
CCM pmax pmax
comp=Z,51nm,1.3s
CCM MLR MLR
comp=Z,2µm,18.0s
M41A **Milan** 80.68 312 P P 05 21 20.5 -1.5
baz=100
K41A **Shullsburg** 80.72 313 P P 05 21 21.2 -1.0
baz=100
O41A **Passleys Farm,** 80.73 311 P P 05 21 20.1 -2.2
baz=100
JFWS **Jewell Farm** 80.74 314 P P 05 21 21.0 -1.3
baz=100
JFWS **Jewell Farm** 80.74 314 *e*P P 05 21 23.1 +0.8
comp=Z,25nm,0.8s
JFWS LR LR
comp=Z,2µm,20.0s
JFWS **Jewell Farm** 80.74 314 *e*P P 05 21 23.1 +0.8
JFWS pmax pmax
comp=Z,25nm,0.8s
JFWS MLR MLR
comp=Z,2µm,20.0s
L41A **Preston** 80.77 313 P P 05 21 20.8 -1.7
baz=100
P41A **Barry, Barry** 80.79 310 P P 05 21 20.4 -2.2
baz=99
N41A **Harden Midland** 80.80 311 P P 05 21 19.8 -2.9
baz=100
Q41A **Truxton** 80.81 310 P P 05 21 20.9 -1.8
baz=99
R41A **Rosebud** 80.82 309 P P 05 21 20.8 -2.0
baz=99
T41A **Mountain View** 80.93 308 P P 05 21 21.9 -1.6
baz=98,SNR=13
SPA0 **Spitsbergen Ar** 80.94 6 *e*P P 05 21 21.0 -1.7
SPITS **Spitsbergen Ar** 80.94 6 P P 05 21 21.0 -1.7
comp=Z,4.9nm,1.0s,baz=99,slow=15,SNR=3.0
SPITS LR LR 05 56 44.1
comp=Z,806nm,18.8s,baz=210,slow=35
SPITS **Spitsbergen Ar** 80.94 6 P P 05 21 21.0 -1.7
SPITS pmax pmax
comp=Z,4.0nm,0.8s
SPITS MLR MLR
comp=Z,806nm,18.8s
U41A **Viola** 80.96 307 P P 05 21 22.0 -1.6
baz=98,SNR=7.8
S41A **Jillco Farms,** 81.00 308 P P 05 21 22.9 -0.9
baz=98,SNR=7.9
W41B **Gary Mavity, V** 81.06 306 P P 05 21 22.9 -1.2
baz=98,SNR=12
W41B **Gary Mavity, V** 81.06 306 *e*P P 05 21 23.1 -1.1
comp=Z,29nm,0.9s
W41B LR LR
comp=Z,1µm,19.0s
V41A **Mountainview** 81.07 306 P P 05 21 22.0 -2.2
baz=98,SNR=8.3
UALR **University of** 81.08 305 *e*P P 05 21 24.4 +0.2
comp=Z,34nm,1.1s
UALR LR LR
comp=Z,2µm,19.0s
WHAR **Wooly Hollow** 81.11 306 *e*P P 05 21 24.4 0.0
comp=Z,34nm,1.1s
WHAR LR LR
comp=Z,1µm,19.0s
G40A **Rib Lake** 81.14 316 P P 05 21 21.1 -3.3
baz=101
H40A **Chili** 81.15 315 P P 05 21 24.1 -0.3
baz=100
E40A **Wakefield** 81.15 317 P P 05 21 23.4 -1.0
baz=101
I40A **Norwalk** 81.18 315 P P 05 21 24.0 -0.6
baz=100
J40A **Soldiers Grove** 81.18 314 P P 05 21 21.8 -2.9
baz=100
KBS **Kingsbay** 81.18 5 PFAKE 05 21 40.0 +16
KBS LR LR
comp=Z,1µm,20.0s
X41A **Kaden, Bauxite** 81.19 305 P P 05 21 21.6 -3.2
baz=98
Y41A **Eaglette Beard** 81.19 304 P P 05 21 23.0 -1.9
baz=97,SNR=13
F40A **Park Falls** 81.20 317 P P 05 21 23.0 -1.7
baz=101
241A **Mo Tay, Goldon** 81.21 302 P P 05 21 23.3 -1.7
baz=97
541A **Lake Charles** 81.21 301 P P 05 21 23.1 -1.9
baz=96
Z41A **Richland Creek** 81.27 304 P P 05 21 23.4 -1.9
baz=97
Z41A **Richland Creek** 81.27 304 *e*P P 05 21 25.6 +0.3
comp=Z,61nm,1.2s
Z41A LR LR
comp=Z,3µm,21.0s
141A **Papa Simpson,** 81.27 303 P P 05 21 22.0 -3.3
baz=97
441A **DeRidder** 81.29 301 P P 05 21 25.1 -0.3
baz=97
L40A **Anamosa** 81.30 313 P P 05 21 24.9 -0.4
baz=100
341A **Kurthwood** 81.34 302 P P 05 21 24.9 -0.9
baz=97,SNR=14
K40A **Colesburg** 81.35 313 P P 05 21 23.6 -1.9
baz=100
N40A **Mertquake, Sal** 81.38 312 P P 05 21 21.7 -4.0
baz=99
M40A **Post Highland** 81.41 312 P P 05 21 24.6 -1.3
baz=99
ARU **Arti** 81.44 32 *e*P P 05 21 25.3 -0.4
comp=Z,51nm,1.4s
ARU LR LR
comp=Z,2µm,19.0s
ARU **Arti** 81.44 32 *d i*P P 05 21 25.9 +0.2
ARU 05 24 29.2
ARU S S 05 31 38.3 +1.2
ARU pmax pmax
comp=Z,16nm,1.0s
ARU MLR MLR
comp=Z,2µm,19.0s
X40A **Basin Creek Fa** 81.45 305 P P 05 21 23.9 -2.3
baz=97
X40A **Basin Creek Fa** 81.45 305 *e*P P 05 21 26.2 0.0
comp=Z,25nm,1.0s
X40A LR LR
comp=Z,1µm,19.0s
Q40A **Laux Farm, Aux** 81.46 310 P P 05 21 23.0 -3.2
baz=98
O40A **La Belle** 81.48 311 P P 05 21 23.8 -2.5
baz=99
R40A **Maddies Statio** 81.51 309 P P 05 21 25.1 -1.4
baz=98
P40A **Paris** 81.52 310 P P 05 21 24.5 -2.0
baz=99
T40A **Mansfield** 81.55 308 P P 05 21 25.9 -0.8
baz=98,SNR=13
C39A **Grand Marais** 81.57 319 P P 05 21 24.1 -2.5
baz=101
WLAR **White Oak Lake** 81.58 304 *e*P P 05 21 27.0 +0.1
comp=Z,136nm,1.6s
WLAR LR LR
comp=Z,3µm,22.0s
E39A **Mellen** 81.58 317 P P 05 21 25.0 -1.7
baz=101
S40A **Lebanon** 81.59 308 P P 05 21 25.5 -1.5
baz=98,SNR=19
CMIG **Matias Romero** 81.60 287 LR LR 05 54 38.0
comp=Z,890nm,21.9s,baz=120,slow=34
V40A **Witts Springs** 81.61 306 P P 05 21 25.6 -1.5
baz=98
V40A **Witts Springs** 81.61 306 *e*P P 05 21 27.7 +0.6
comp=Z,56nm,1.6s
V40A LR LR
comp=Z,1µm,21.0s
U40A **Yellville** 81.71 307 P P 05 21 26.0 -1.5
baz=98,SNR=17
W40A **Ferguson Farm,** 81.73 306 P P 05 21 27.0 -0.7
baz=97,SNR=15
W40A **Ferguson Farm,** 81.73 306 *e*P P 05 21 27.3 -0.4
comp=Z,86nm,1.3s
W40A LR LR
comp=Z,1µm,20.0s
F39A **Loretta** 81.75 317 P P 05 21 26.6 -1.0
baz=100
Y40A **Okolona** 81.75 304 P P 05 21 27.3 -0.5
baz=97
Z40A **Long Farm, Mag** 81.76 304 P P 05 21 26.5 -1.4
baz=97
H39A **Augusta** 81.79 315 P P 05 21 26.6 -1.2
baz=100
G39A **Holcombe** 81.81 316 P P 05 21 26.9 -1.0
baz=100
I39A **Houston** 81.82 314 P P 05 21 26.0 -2.0
baz=100
140A **Cam and Jess,** 81.84 303 P P 05 21 27.5 -0.8
baz=97
J39A **Decorah** 81.86 314 P P 05 21 27.4 -0.8
baz=99
L39A **Vinton** 81.88 313 P P 05 21 26.8 -1.5
baz=99
K39A **Oelwein** 81.89 313 P P 05 21 27.4 -1.1
baz=99
M39A **Webster** 81.91 312 P P 05 21 26.8 -1.8
baz=99
240A **Hunter Patters** 81.92 302 P P 05 21 27.3 -1.5
baz=96
O39A **Kirksville** 82.01 311 P P 05 21 27.0 -2.0
baz=98
P39B **Salisbury** 82.06 310 P P 05 21 28.4 -0.9
baz=98
MIAR **Mount Ida** 82.06 305 P P 05 21 28.3 -1.2
baz=97
MIAR **Mount Ida** 82.06 305 *e*P P 05 21 30.2 +0.7
comp=Z,18nm,1.0s
MIAR LR LR
comp=Z,2µm,22.0s
MIAR **Mount Ida** 82.06 305 *e*P P 05 21 30.2 +0.7
MIAR pmax pmax
comp=Z,18nm,1.0s
MIAR MLR MLR
comp=Z,2µm,22.0s
N39A **Derby Farms, D** 82.07 311 P P 05 21 28.0 -1.3
baz=98
R39A **Chumby, Stover** 82.11 309 P P 05 21 28.4 -1.3
baz=98,SNR=22
Q39A **Willow Grove F** 82.17 310 P P 05 21 29.0 -0.9
baz=98
T39A **Clever** 82.21 307 P P 05 21 29.0 -1.2
baz=97
U39A **Green Forest** 82.21 307 P P 05 21 28.5 -1.8
baz=97,SNR=14
S39A **Bolivar** 82.25 308 P P 05 21 28.9 -1.5
baz=98,SNR=17
G38A **Ridgeland** 82.27 316 P P 05 21 29.8 -0.6
baz=100
V39A **Pettigrew** 82.28 306 P P 05 21 30.7 +0.1
baz=97
E38A **The Farm, Brul** 82.30 317 P P 05 21 31.5 +1.1
baz=100
C38A **Sawbill Land.** 82.31 318 P P 05 21 30.2 -0.3
baz=100
W39A **Magazine** 82.31 306 P P 05 21 29.8 -1.0
baz=97

W39A Magazine 82.31 306 *e*P P 05 21 30.9 +0.1
comp=Z,75nm,1.6s
W39A LR LR
comp=Z,2µm,19.0s
J38A Wedel Dairy, R 82.41 314 P P 05 21 30.3 -0.8
baz=99
F38A Pierce - Schro 82.42 317 P P 05 21 30.8 -0.3
baz=100
I38A Scanlan Farm, 82.42 315 P P 05 21 28.7 -2.4
baz=99
H38A Maiden Rock 82.49 315 P P 05 21 29.3 -2.2
baz=99
EYMN Ely 82.50 319 P P 05 21 29.6 -1.9
baz=100
EYMN Ely 82.50 319 PFAKE 05 21 40.0 +8.5
EYMN LR LR
comp=Z,2µm,22.0s
X39A Fountain Ranch 82.50 305 P P 05 21 31.2 -0.6
baz=97
K38A Parkersburg 82.53 313 P P 05 21 30.7 -1.1
baz=99
HHAR Hobbs 82.57 307 *e*P P 05 21 31.5 -0.6
comp=Z,31nm,1.3s
L38A Oak Wood Farm, 82.59 313 P P 05 21 31.7 -0.4
baz=98
N38A Joes South For 82.60 311 P P 05 21 30.8 -1.3
baz=98
Q38A Cooks Store, C 82.65 309 P P 05 21 30.9 -1.6
baz=98
SVE Sverdlovsk 82.65 32 *e*P P 05 21 33.6 +1.6
SVE *e*S S 05 31 45.7 -3.8
SVE *e* 05 37 09.3
SVE pmax pmax
comp=Z,28nm,1.2s
SVE MLR MLR
comp=Z,2µm,17.0s
NATX Nacogdoches 82.66 302 P P 05 21 31.6 -1.1
baz=96
NATX Nacogdoches 82.66 302 *e*P P 05 21 33.2 +0.6
comp=Z,76nm,1.1s
NATX LR LR
comp=Z,1µm,18.0s
M38A Pleasantville 82.66 312 P P 05 21 29.1 -3.4
baz=98
P38A Dawn 82.67 310 P P 05 21 31.4 -1.2
baz=98,SNR=6.6
O38A Galt 82.69 311 P P 05 21 31.5 -1.1
baz=98
S38A Stockton 82.71 308 P P 05 21 31.8 -1.0
baz=97
SCIA State Center 82.75 312 P P 05 21 31.6 -1.3
baz=98
SCIA State Center 82.75 312 PFAKE 05 21 40.0 +7.1
SCIA LR LR
comp=Z,2µm,22.0s
R38A Fenwick Farm, 82.77 309 P P 05 21 32.0 -1.2
baz=97
E37A Wrenshall 82.87 317 P P 05 21 32.2 -1.2
baz=99
F37A Hinrichs Farm, 82.89 316 P P 05 21 31.6 -1.9
baz=99
C37A Embarrass 82.92 318 P P 05 21 32.7 -1.0
baz=100
SPMN Marine on St. 82.94 316 P P 05 21 30.7 -3.1
baz=99
SPMN Marine on St. 82.94 316 PFAKE 05 21 50.0 +16
SPMN LR LR
comp=Z,2µm,21.0s
T38A Diamond 82.94 307 P P 05 21 32.5 -1.6
baz=97,SNR=14
D37A Cotton 82.99 318 P P 05 21 32.6 -1.5
baz=99
L37A Phoenix Point, 83.17 313 P P 05 21 33.5 -1.6
baz=98
K37A Belmond 83.18 313 P P 05 21 35.6 +0.5
baz=98
I37A Lemond, Waseca 83.18 314 P P 05 21 33.6 -1.5
baz=98
J37A Redenius Farm, 83.19 314 P P 05 21 33.9 -1.3
baz=98
O37A Wolven Farm, M 83.21 311 P P 05 21 35.3 0.0
baz=97
LVIG Laguna Verde 83.23 290 PFAKE 05 21 50.0 +14
LVIG LR LR
comp=Z,700nm,21.0s
Q37A Longview Farm, 83.28 309 P P 05 21 34.1 -1.6
baz=97
P37A Lathrop 83.29 310 P P 05 21 34.8 -0.9
baz=97
M37A Trindle Farm, 83.30 312 P P 05 21 35.3 -0.4
baz=98
N37A Lee Faris, Mou 83.33 311 P P 05 21 33.9 -2.1
baz=97
C36A Pine Crest Far 83.36 318 P P 05 21 33.6 -2.4
baz=99
TULEG Thule 83.41 349 *e*P P 05 21 35.8 +0.3
comp=Z,76nm,1.8s
E36A McGregor 83.45 317 P P 05 21 34.9 -1.5
baz=99
HKT Hockley 83.48 300 *e*P P 05 21 37.2 +0.3
comp=Z,34nm,1.5s
HKT LR LR
comp=Z,1µm,20.0s
HKT Hockley 83.48 300 *e*P P 05 21 37.2 +0.3
HKT pmax pmax
comp=Z,34nm,1.5s
HKT MLR MLR
comp=Z,1µm,20.0s
D36A Goodland 83.49 318 P P 05 21 36.5 -0.1
baz=99
F36A Milaca 83.53 316 P P 05 21 36.5 -0.4
baz=98
G36A St. Michael 83.60 316 P P 05 21 36.0 -1.3
baz=98
I36A Fitzsimmons Fa 83.62 314 P P 05 21 36.3 -1.1
baz=98
H36A Jessenland, He 83.64 315 P P 05 21 36.6 -0.8
baz=98
K36A Gilmore City 83.75 313 P P 05 21 37.0 -1.1
baz=97
J36A Seneca 1, Swea 83.76 314 P P 05 21 37.5 -0.7
baz=98
L36A Harm Buss Farm 83.84 312 P P 05 21 37.2 -1.4
baz=97
N36A Muff Farm, Cla 83.91 311 P P 05 21 37.1 -1.9
baz=97
MAW Mawson 83.92 158 P P 05 21 39.6 +1.3
comp=Z,4.2nm,0.6s,baz=260,slow=4.7,SNR=12
MAW LR LR 05 50 34.1
comp=Z,1µm,21.9s,baz=288,slow=30
MAW Mawson 83.92 158 *e*P P 05 21 40.1 +1.8
comp=Z,3.5nm,0.9s
TUL1 Leonard 84.02 306 P P 05 21 37.6 -1.9
baz=96
TUL1 Leonard 84.02 306 *e*P P 05 21 39.5 -0.1
comp=Z,17nm,0.9s
TUL1 LR LR
comp=Z,1µm,21.0s
B35A Bob, Littlefor 84.04 319 P P 05 21 37.7 -1.7
baz=98
D35A Remer 84.07 317 P P 05 21 37.0 -2.7
baz=98
C35A Jirik Farms, M 84.11 318 P P 05 21 38.1 -1.7
baz=98
G35A Watkins 84.11 316 P P 05 21 37.9 -2.0
baz=98
E35A Pequot Lakes 84.24 317 P P 05 21 39.9 -0.6
baz=98
F35A Swanville 84.26 316 P P 05 21 39.3 -1.3
baz=98
H35A Sunnyside Ranc 84.29 315 P P 05 21 39.5 -1.3
baz=97
I35A Creekview Farm 84.29 314 P P 05 21 39.2 -1.6
baz=97
K35A Storm Lake 84.33 313 P P 05 21 39.5 -1.6
baz=97
J35A Milford 84.39 314 P P 05 21 39.3 -2.1
baz=97
N35A Tabor 84.42 311 P P 05 21 40.4 -1.2
baz=96
M35A Neola 84.53 312 P P 05 21 41.8 -0.3
baz=96
O35A Humboldt 84.56 310 P P 05 21 41.1 -1.2
baz=96
B34A Aery, Baudette 84.67 319 P P 05 21 40.4 -2.2
baz=98
C34A RKJ Ranch, Bem 84.73 318 P P 05 21 39.6 -3.4
baz=98

F34A Alexandria 84.73 316 P P 05 21 42.3 -0.6
baz=97
E34A Wadena 84.76 317 P P 05 21 42.2 -0.9
baz=97
D34A Park Rapids 84.85 317 P P 05 21 42.5 -1.1
baz=97
G34A Benson 84.93 315 P P 05 21 42.6 -1.3
baz=97
I34A Hadley 84.94 314 P P 05 21 42.7 -1.4
baz=97
H34A Spellman Lake, 84.96 315 P P 05 21 43.5 -0.7
baz=97
K34A Le Mars 84.96 313 P P 05 21 43.1 -1.2
baz=96
KBL Kabul 84.97 55 PFAKE 05 22 00.0 +15
KBL LR LR
comp=Z,3µm,20.0s
KSU1 Kansas State U 84.98 309 P P 05 21 42.0 -2.4
baz=96
KSU1 Kansas State U 84.98 309 *e*P P 05 21 44.5 +0.1
comp=Z,23nm,0.9s
KSU1 LR LR
comp=Z,2µm,22.0s
WHTX Lake Whitney, 85.04 302 P P 05 21 44.2 -0.7
baz=94
WHTX Lake Whitney, 85.04 302 *e*P P 05 21 45.0 +0.2
comp=Z,31nm,1.1s
WHTX LR LR
comp=Z,2µm,19.0s
435B Jarrell 85.06 301 P P 05 21 44.5 -0.5
baz=94
435B Jarrell 85.06 301 *e*P P 05 21 45.6 +0.6
comp=Z,45nm,0.9s
435B LR LR
comp=Z,2µm,20.0s
N34A Lincoln 85.07 311 P P 05 21 43.1 -1.7
baz=96
L34A Svendsen Farm, 85.09 312 P P 05 21 43.0 -1.9
baz=96
KVTX Kingsville 85.10 298 PFAKE 05 22 00.0 +15
KVTX LR LR
comp=Z,1µm,21.0s
O34A Beatrice 85.15 310 P P 05 21 43.8 -1.5
baz=96
M34A Aspy Farms, Fr 85.20 312 P P 05 21 44.2 -1.2
baz=96
A33A Warroad 85.21 319 P P 05 21 44.1 -1.3
baz=97
B33A Robert and Kas 85.26 318 P P 05 21 42.5 -3.1
baz=97
D33A AnnSam, Waubun 85.29 317 P P 05 21 43.1 -2.7
baz=97
C33A Trail 85.32 318 P P 05 21 43.2 -2.7
baz=97
E33A Westby DABS, E 85.33 317 P P 05 21 43.5 -2.5
baz=97
AGMN Agassiz Nation 85.44 318 P P 05 21 45.0 -1.5
baz=97,SNR=8.8
AGMN Agassiz Nation 85.44 318 *e*P P 05 21 46.1 -0.4
comp=Z,50nm,1.4s
AGMN LR LR
comp=Z,2µm,20.0s
F33A 5 Mile Ranch, 85.45 316 P P 05 21 44.3 -2.2
baz=96
ECSD EROS Data Cent 85.45 314 P P 05 21 45.5 -1.2
baz=96,SNR=12
ECSD EROS Data Cent 85.45 314 *e*P P 05 21 46.2 -0.4
comp=Z,18nm,0.9s
ECSD LR LR
comp=Z,1µm,19.0s
G33A Ortonville 85.48 315 P P 05 21 46.3 -0.4
baz=96
I33A Coleman 85.62 314 P P 05 21 46.5 -1.0
baz=96
K33A Hardington 85.62 313 P P 05 21 46.3 -1.2
baz=96
H33A Prehn Over Nor 85.64 315 P P 05 21 46.6 -1.0
baz=96,SNR=13
M33A Taylor Creek F 85.66 312 P P 05 21 47.2 -0.5
baz=96
J33A Davis 85.67 313 P P 05 21 46.6 -1.2
baz=96
ULM Lac du Bonnet 85.69 320 P P 05 21 49.1 +1.4
comp=Z,5.2nm,0.9s,baz=105,slow=6.8,SNR=5.9
ULM LR LR 05 54 25.9
comp=Z,898nm,21.3s,baz=92,slow=32
ULM Lac du Bonnet 85.69 320 *e*P P 05 21 48.1 +0.5
comp=Z,63nm,1.8s
L33A Hoskins 85.78 312 P P 05 21 48.3 -0.1
baz=95
N33A J Bar K, Exete 85.78 311 P P 05 21 45.1 -3.3
baz=95
UNM Universidad Na 85.81 289 PFAKE 05 22 00.0 +11
UNM LR LR
comp=Z,800nm,22.0s
O33A Hebron 85.82 310 P P 05 21 46.7 -1.9
baz=95
C32A Crookston 85.83 318 P P 05 21 46.7 -1.8
baz=96
FCC Fort Churchill 85.86 329 *e*P P 05 21 48.8 +0.5
comp=Z,20nm,1.3s
FCC LR LR
comp=Z,900nm,20.0s
FCC Fort Churchill 85.86 329 *e*P P 05 21 48.8 +0.5
FCC pmax pmax
comp=Z,20nm,1.3s
FCC MLR MLR
comp=Z,900nm,20.0s
B32A Ashes, Strandq 85.90 319 P P 05 21 47.0 -1.8
baz=96
A32A Rocking H Ranc 85.93 319 P P 05 21 47.2 -1.7
baz=96,SNR=10
E32A Braaten, Kindr 86.07 317 P P 05 21 48.5 -1.1
baz=96
D32A Dogwood Acres, 86.09 317 P P 05 21 47.9 -1.8
baz=96
I32A Karley and Nic 86.09 314 P P 05 21 47.1 -2.8
baz=95
H32A Carlson Farm, 86.12 315 P P 05 21 49.5 -0.5
baz=96,SNR=9.8
G32A Webster 86.23 315 P P 05 21 49.4 -1.2
baz=96
L32A Elgin 86.31 312 P P 05 21 50.2 -0.8
baz=95
J32A Parkston 86.31 313 P P 05 21 50.6 -0.3
baz=95
K32A Verdigre 86.34 313 P P 05 21 50.1 -1.0
baz=95
LNIG Linares 86.35 295 *e*P P 05 21 50.3 -1.2
comp=Z,12nm,0.9s
LNIG LR LR
comp=Z,600nm,20.0s
WMOK Wichita Mounta 86.35 305 P P 05 21 50.2 -1.2
baz=94
WMOK Wichita Mounta 86.35 305 *e*P P 05 21 51.1 -0.2
comp=Z,50nm,1.4s
WMOK LR LR
comp=Z,3µm,22.0s
WMOK Wichita Mounta 86.35 305 *e*P P 05 21 51.2 -0.2
WMOK pmax pmax
comp=Z,50nm,1.4s
WMOK MLR MLR
comp=Z,3µm,22.0s
BGNE Belgrade 86.36 311 P P 05 21 50.9 -0.4
baz=95
BGNE Belgrade 86.36 311 *e*P P 05 21 51.9 +0.6
comp=Z,37nm,1.0s
BGNE LR LR
comp=Z,1µm,19.0s
DGAR Diego Garcia 86.37 97 PFAKE 05 22 00.0 +8.2
DGAR LR LR
comp=Z,3µm,20.0s
A31A Linda, St. Vin 86.39 319 P P 05 21 49.9 -1.3
baz=96
833A Chaparral WMA, 86.47 298 P P 05 21 51.7 -0.3
baz=93
D31A Mcclaflin, Tow 86.56 317 P P 05 21 50.5 -1.6
baz=95
E31A Nome 86.63 317 P P 05 21 50.6 -1.8
baz=95
C31A Landman Farms, 86.64 318 P P 05 21 51.3 -1.1
baz=96
B31A Greenbush Farm 86.64 318 P P 05 21 51.6 -0.9
baz=96
G31A Conde 86.73 315 P P 05 21 52.2 -0.7
baz=95
KK08 Karatay Array 86.81 47 *e*P P 05 21 52.2 -1.1
KK07 Karatay Array 86.81 47 *e*P P 05 21 52.8 -0.7

KK03 Karatay Array 86.81 47 *e*P P 05 21 52.8 -0.7
F31A Hecla 86.82 316 P P 05 21 52.2 -1.2
baz=95
KK09 Karatay Array 86.82 47 *e*P P 05 21 53.0 -0.4
KK01 Karatay Array 86.82 47 *e*P P 05 21 52.8 -0.7
KK04 Karatay Array 86.82 47 *e*P P 05 21 53.1 -0.4
KK02 Karatay Array 86.82 47 *e*P P 05 21 52.6 -0.9
KK31 Karatay Array 86.82 47 *e*P P 05 21 52.9 -0.6
KK31 Karatay Array 86.82 47 *e*P P 05 21 52.9 -0.6
KKAR Karatay Array 86.82 47 *e*P P 05 21 52.8 -0.7
KKAR Karatay Array 86.82 47 *e*P P 05 21 52.8 -0.7
KK05 Karatay Array 86.83 47 *e*P P 05 21 52.8 -0.7
KK06 Karatay Array 86.83 47 *e*P P 05 21 52.9 -0.7
H31A Wolsey 86.86 314 P P 05 21 53.1 -0.5
baz=95
I31A Royce, Wessing 86.86 314 P P 05 21 53.3 -0.3
baz=95
K31A O'Neill 86.91 313 P P 05 21 52.2 -1.7
baz=94
ABTX Abilene, Hawle 86.94 303 P P 05 21 53.3 -1.0
baz=93
ABTX Abilene, Hawle 86.94 303 *e*P P 05 21 54.3 0.0
comp=Z,107nm,1.5s
ABTX LR LR
comp=Z,2µm,21.0s
JCT Junction City 86.95 300 P P 05 21 53.4 -1.0
baz=93
JCT Junction City 86.95 300 *e*P P 05 21 54.5 +0.1
comp=Z,40nm,1.0s
JCT LR LR
comp=Z,1µm,22.0s
JCT Junction City 86.95 300 *e*P P 05 21 54.5 +0.1
JCT pmax pmax
comp=Z,40nm,1.0s
JCT MLR MLR
comp=Z,1µm,22.0s
J31A Geddes 86.95 313 P P 05 21 53.3 -0.8
baz=94
JRQG Juriquilla Cam 87.06 291 *e*P P 05 21 56.8 +1.4
comp=Z,145nm,1.1s
JRQG LR LR
comp=Z,1µm,20.0s
SUSD Miller 87.20 314 P P 05 21 54.9 -0.3
baz=94
MNCI Minicoy 87.30 82 *e*P P 05 21 54.6 -1.7
comp=Z,58nm,1.3s
CBKS Cedar Bluff 87.39 309 P P 05 21 55.7 -0.7
baz=94
CBKS Cedar Bluff 87.39 309 *e*P P 05 21 56.4 +0.1
comp=Z,67nm,1.2s
CBKS LR LR
comp=Z,2µm,21.0s
CBKS Cedar Bluff 87.39 309 *e*P P 05 21 56.4 +0.1
CBKS pmax pmax
comp=Z,67nm,1.2s
CBKS MLR MLR
comp=Z,2µm,21.0s
BRVK Borovoye 87.53 37 *e*P P 05 21 56.5 -0.1
comp=Z,8.4nm,0.9s
BRVK LR LR
comp=Z,2µm,19.0s
BRVK Borovoye 87.53 37 P P 05 22 02.6 +6.0
SNR=5.3
BRVK Borovoye 87.53 37 P P 05 22 02.6 +6.0
SNR=5.3
BRVK Borovoye 87.53 37 *c e*P P 05 21 57.4 +0.8
BRVK pmax pmax
comp=Z,3.0nm,0.8s
BVAR Borovoye Array 87.59 37 P P 05 21 56.1 -0.8
comp=Z,1.7nm,0.6s,baz=298,slow=3.1,SNR=9.4
BVAR LR LR 06 03 36.9
comp=Z,1µm,20.2s,baz=261,slow=37
MOIG Morelia 87.72 290 PFAKE 05 22 10.0 +11
MOIG LR LR
comp=Z,1µm,22.0s
MDND Maddock 87.90 318 P P 05 21 57.6 -1.0
baz=94
MDND Maddock 87.90 318 PFAKE 05 22 10.0 +11
MDND LR LR
comp=Z,2µm,19.0s
NIL Nilore 88.40 56 *e*P P 05 22 00.9 -0.4
comp=Z,19nm,1.0s
NIL LR LR
comp=Z,2µm,20.0s
NIL Nilore 88.40 56 *e*P P 05 22 00.9 -0.4
NIL pmax pmax
comp=Z,19nm,1.0s
NIL MLR MLR
comp=Z,2µm,20.0s
RES Resolute Bay 88.73 345 *e*P P 05 22 02.5 +0.6
comp=Z,6.0nm,0.9s
RES Resolute Bay 88.73 345 *e*P P 05 22 02.5 +0.6
RES pmax pmax
comp=Z,6.0nm,0.9s
AMTX Amarillo 88.74 305 P P 05 22 02.3 -0.6
baz=92
AMTX Amarillo 88.74 305 PFAKE 05 22 10.0 +7.1
AMTX LR LR
comp=Z,2µm,22.0s
QSPA South Pole Qui 88.88 180 P P 05 22 03.3 +0.4
comp=Z,18nm,1.0s,baz=219,slow=3.8,SNR=21
QSPA LR LR 05 55 13.2
comp=Z,769nm,19.9s,baz=206,slow=31
OGNE Ogallala 89.26 311 P P 05 22 04.2 -1.0
baz=92
OGNE Ogallala 89.26 311 *e*P P 05 22 05.9 +0.7
comp=Z,44nm,0.8s
OGNE LR LR
comp=Z,2µm,18.0s
MSTX Muleshoe 89.61 304 P P 05 22 06.6 -0.5
baz=92
MSTX Muleshoe 89.61 304 *e*P P 05 22 07.8 +0.8
comp=Z,49nm,1.3s
MSTX LR LR
comp=Z,2µm,20.0s
KSCO Kaye Shedlock' 89.65 309 P P 05 22 05.4 -1.8
baz=92
KSCO Kaye Shedlock' 89.65 309 *e*P P 05 22 07.8 +0.7
comp=Z,52nm,1.3s
KSCO LR LR
comp=Z,2µm,22.0s
AAK Ala-Archa 89.72 48 *e*P P 05 22 07.6 +0.2
comp=Z,27nm,1.2s
AAK LR LR
comp=Z,1µm,19.0s
AAK Ala-Archa 89.72 48 P P 05 22 08.7 +1.3
SNR=10
AAK Ala-Archa 89.72 48 *i* P P 05 22 08.1 +0.6
SNR=11
AAK Ala-Archa 89.72 48 *c e*P P 05 22 07.6 +0.2
AAK pmax pmax
comp=Z,14nm,1.1s
FFC Flin Flon 89.78 325 *e*P P 05 22 07.6 +0.4
comp=Z,8.4nm,1.0s
FFC LR LR
comp=Z,1µm,19.0s
FFC Flin Flon 89.78 325 *e*P P 05 22 07.6 +0.4
FFC pmax pmax
comp=Z,8.0nm,1.0s
FFC MLR MLR
comp=Z,1µm,19.0s
FRU Bishkek 89.82 47 *e*P P 05 22 08.0 +0.3
FRU pmax pmax
comp=Z,60nm,1.8s
LTX Lajitas 90.26 299 *e*P P 05 22 09.7 -0.5
LTX Lajitas 90.26 299 *e*P P 05 22 09.7 -0.5
TXAR Lajitas Array 90.26 299 P P 05 22 09.7 -0.5
comp=Z,1.7nm,0.6s,baz=300,slow=16,SNR=6.0
TXAR LR LR 05 58 44.3
comp=Z,1µm,21.3s,baz=0.0,slow=33
TX31 Lajitas Ar. Si 90.26 299 *e*P P 05 22 07.4 -2.8
TX31 *e*P P 05 22 08.0 -2.2
KSH Kashi 90.76 51 P P 05 22 12.5 +0.2
KSH pP pP 05 22 16.5 +0.9
KSH PP PP 05 25 49.1 +1.2
KSH SKS SKSac 05 32 40.1 -4.6
KSH S S 05 33 06.9 -2.3
KSH pmax pmax
comp=Z,61nm,1.2s
KSH pmax pmax
comp=Z,390nm,4.0s
KSH LR LR
comp=Z,5µm,18.7s
NRN Naryn 90.81 49 *e*P P 05 22 12.6 -0.2
comp=Z,16nm,0.9s
NRN LR LR
comp=Z,2µm,21.0s

NRN Naryn 90.81 49 *e*P P 05 22 12.6 -0.2
NRN pmax pmax
comp=Z,16nm,0.9s
NRN MLR MLR
comp=Z,2μm,21.0s
RSSD Black Hills 90.83 314 P P 05 22 12.0 -0.7
baz=91
RSSD Black Hills 90.83 314 *e*P P 05 22 14.2 +1.6
comp=Z,7.2nm,1.1s
RSSD LR LR
comp=Z,2μm,18.0s
RSSD Black Hills 90.83 314 *e*P P 05 22 14.3 +1.6
RSSD pmax pmax
comp=Z,7.0nm,1.1s
RSSD MLR MLR
comp=Z,2μm,18.0s
T25A Trinidad 91.02 307 P P 05 22 12.9 -0.8
baz=91
T25A Trinidad 91.02 307 *e*P P 05 22 14.6 +0.9
comp=Z,28nm,1.4s
T25A LR LR
comp=Z,1μm,20.0s
MHTCO State Highway 91.24 307 *e*P P 05 22 15.4 +0.7
comp=Z,47nm,1.7s
MHTCO LR LR
comp=Z,2μm,19.0s
Q24A Divide 91.61 309 P P 05 22 15.6 -0.9
baz=90
Q24A Divide 91.61 309 *e*P P 05 22 16.6 +0.1
comp=Z,23nm,1.4s
Q24A LR LR
comp=Z,2μm,19.0s
KDJ Kajisay 91.70 48 *e*P P 05 22 16.7 0.0
comp=Z,8.5nm,0.9s
KDJ LR LR
comp=Z,900nm,18.0s
MNTX Cornudas Mount 91.77 302 P P 05 22 16.2 -0.9
baz=90
MNTX Cornudas Mount 91.77 302 *e*P P 05 22 17.8 +0.7
comp=Z,8.4nm,1.5s
MNTX LR LR
comp=Z,2μm,20.0s
PHWY Pilot Hill 91.85 311 PFAKE 05 22 30.0 +12
PHWY LR LR
comp=Z,2μm,20.0s
SDCO Great Sand Dun 91.89 308 P P 05 22 16.9 -0.9
baz=90
SDCO Great Sand Dun 91.89 308 *e*P P 05 22 18.8 +1.0
comp=Z,22nm,1.4s
SDCO LR LR
comp=Z,1μm,18.0s
ISCO Idaho Springs 91.97 310 P P 05 22 17.7 -0.5
baz=90
ISCO Idaho Springs 91.97 310 *e*P P 05 22 19.6 +1.4
comp=Z,27nm,1.8s
ISCO LR LR
comp=Z,2μm,19.0s
ISCO Idaho Springs 91.97 310 *e*P P 05 22 19.6 +1.4
ISCO pmax pmax
comp=Z,27nm,1.8s
ISCO MLR MLR
comp=Z,2μm,19.0s
HPIG 91.99 297 *e*P P 05 22 18.8 +0.4
comp=Z,12nm,1.3s
HPIG LR LR
comp=Z,800nm,19.0s
TARG Taragay, Kyrgy 92.17 48 *e*P P 05 22 18.6 -0.6
comp=Z,15nm,0.9s
TARG LR LR
comp=Z,1μm,20.0s
N23A Red Feather La 92.22 311 P P 05 22 19.1 -0.2
baz=90
N23A Red Feather La 92.22 311 *e*P P 05 22 20.4 +1.2
comp=Z,10nm,1.0s
N23A LR LR
comp=Z,2μm,19.0s
LAO LASA Array 92.37 316 P P 05 22 19.1 -0.5
baz=89
LAO LASA Array 92.37 316 *e*P P 05 22 20.7 +1.1
comp=Z,52nm,2.0s
LAO LR LR
comp=Z,2μm,20.0s
KURBB Kurchatov Arra 92.55 40 P P 05 22 19.9 -0.3
comp=Z,1.3nm,0.8s,baz=274,slow=5.3,SNR=5.9
PRZ Przheval'sk 92.60 48 PFAKE 05 22 30.0 +9.1
PRZ LR LR
comp=Z,2μm,20.0s
KURK Kurchatov 92.61 39 *e*P P 05 22 19.9 -0.5
KURK LR LR
comp=Z,2μm,18.0s
KURK Kurchatov 92.61 39 *ce*P P 05 22 20.1 -0.3
KURK pmax pmax
comp=Z,7.0nm,1.2s
K22A Casper 92.64 312 P P 05 22 19.9 -1.2
baz=89
K22A Casper 92.64 312 *e*P P 05 22 21.6 +0.6
comp=Z,52nm,1.8s
K22A LR LR
comp=Z,2μm,19.0s
ANMO Albuquerque 92.67 305 P P 05 22 20.0 -1.3
baz=90
ANMO Albuquerque 92.67 305 *e*P P 05 22 21.3 -0.1
comp=Z,5.3nm,0.9s
ANMO LR LR
comp=Z,2μm,22.0s
ANMO Albuquerque 92.67 305 *ce*P P 05 22 22.0 +0.6
ANMO pmax pmax
comp=Z,5.0nm,0.9s
EPT El Paso 92.73 302 PFAKE 05 22 30.0 +8.4
EPT LR LR
comp=Z,1μm,21.0s
BNM Barren Site 92.81 304 *e*P P 05 22 22.4 +0.3
LPM Los Pinos Moun 92.82 304 *e*P P 05 22 22.9 +0.8
HYB Hyderabad 92.83 73 *i* P P 05 22 21.0 -1.2
S22A 4UR Ranch, Cre 92.94 308 P P 05 22 22.2 -0.5
baz=89
S22A 4UR Ranch, Cre 92.94 308 *e*P P 05 22 24.1 +1.4
comp=Z,12nm,1.4s
S22A LR LR
comp=Z,1μm,20.0s
SMCO Snowmass 93.03 309 *e*P P 05 22 23.3 0.0
comp=Z,3.3nm,0.8s
SMCO LR LR
comp=Z,2μm,20.0s
Y22D IRIS PASSCAL I 93.06 304 PFAKE 05 22 30.0 +6.9
Y22D LR LR
comp=Z,2μm,22.0s
RWWY Rawlins 93.17 311 *e*P P 05 22 23.0 -0.6
comp=Z,22nm,1.5s
RWWY LR LR
comp=Z,2μm,19.0s
LAZ Ladron 93.23 304 *e*P P 05 22 24.2 +0.2
121A Cookes Peak, D 93.80 302 P P 05 22 26.4 -0.2
baz=89
O20A White River Ci 93.99 310 P P 05 22 27.4 +0.1
baz=88
O20A White River Ci 93.99 310 PFAKE 05 22 40.0 +13
O20A LR LR
comp=Z,2μm,20.0s
RPN Rapa Nui 94.18 243 LR LR 06 01 26.0
comp=Z,2μm,18.7s,baz=95,slow=33
MVCO Mesa Verde 94.28 307 *e*P P 05 22 29.3 +0.5
comp=Z,22nm,0.6s
MVCO LR LR
comp=Z,1μm,18.0s
RLMT Red Lodge 94.54 315 P P 05 22 29.0 -0.8
baz=87
RLMT Red Lodge 94.54 315 PFAKE 05 22 40.0 +10
RLMT LR LR
comp=Z,2μm,19.0s
PALK Pallekele 94.85 83 PFAKE 05 22 40.0 +8.4
PALK LR LR
comp=Z,2μm,21.0s
BW06 Boulder Array 94.87 313 PFAKE 05 22 40.0 +8.6
BW06 LR LR
comp=Z,2μm,19.0s
PDAR Pinedale Array 94.87 313 P P 05 22 32.8 +1.4
comp=Z,0.5nm,0.7s,baz=78,slow=6.8,SNR=4.5
PDAR LR LR 06 03 03.1
comp=Z,1μm,18.2s,baz=107,slow=34
MAKZ Makanchi 94.99 43 PFAKE 05 22 40.0 +8.4
MAKZ LR LR
comp=Z,1μm,20.0s
319A Douglas 95.10 301 PFAKE 05 22 40.0 +7.5
319A LR LR
comp=Z,1μm,22.0s
MK31 Makanchi Array 95.21 43 *e*P P 05 22 31.7 -0.9

MK31 Makanchi Array 95.21 43 *e*P P 05 22 31.7 -0.9
MK32 Makanchi Array 95.21 43 *e*P P 05 22 30.5 -2.0
MK32 *e*PP PP 05 26 23.2 +0.8
MKAR Makanchi Array 95.21 43 P P 05 22 30.5 -2.0
comp=Z,2.4nm,0.8s,baz=270,slow=4.3,SNR=12
MKAR PP PP 05 26 23.2 +0.8
comp=Z,0.7nm,0.7s,baz=316,slow=4.0,SNR=4.0
MKAR LR LR 06 11 39.0
comp=Z,1μm,18.2s,baz=266,slow=39
MKAR Makanchi Array 95.21 43 *e*P P 05 22 31.7 -0.9
comp=Z,14nm,0.8s
MKAR PP PP 05 26 23.2 +0.8
MKAR Makanchi Array 95.21 43 *e*P P 05 22 31.7 -0.9
MKAR 05 26 23.2
MKAR pmax pmax
comp=Z,14nm,0.8s
MK01 Makanchi Array 95.22 43 *e*P P 05 22 30.8 -1.8
W18A Petrified Fore 95.35 305 PFAKE 05 22 50.0 +16
W18A LR LR
comp=Z,2μm,22.0s
H17A Grant Village 95.52 314 PFAKE 05 22 50.0 +16
H17A LR LR
comp=Z,2μm,19.0s
P18A Preston Nutter 95.55 310 PFAKE 05 22 50.0 +15
P18A LR LR
comp=Z,2μm,22.0s
X18A Snowflake 95.55 304 PFAKE 05 22 50.0 +15
X18A LR LR
comp=Z,2μm,20.0s
LOHW Long Hollow 95.59 314 PFAKE 05 22 50.0 +15
LOHW LR LR
comp=Z,2μm,19.0s
MOOW Moose Ponds 95.68 314 PFAKE 05 22 50.0 +15
MOOW LR LR
comp=Z,2μm,20.0s
YHH Holmes Hill 95.69 315 PFAKE 05 22 50.0 +15
YHH LR LR
comp=Z,1μm,20.0s
YPP Pitchstone Pla 95.69 314 PFAKE 05 22 50.0 +15
YPP LR LR
comp=Z,2μm,22.0s
YFT Old Faithful 95.70 314 PFAKE 05 22 50.0 +15
YFT LR LR
comp=Z,3μm,20.0s
SNOW Snow King Moun 95.71 313 PFAKE 05 22 50.0 +15
SNOW LR LR
comp=Z,2μm,19.0s
YMR Madison River 95.78 315 PFAKE 05 22 50.0 +15
YMR LR LR
comp=Z,1μm,20.0s
REDW Red Top Meadow 95.78 313 *e*P P 05 22 35.6 0.0
comp=Z,7.7nm,1.3s
REDW LR LR
comp=Z,2μm,19.0s
SRU San Rafael Swe 95.79 309 PFAKE 05 22 50.0 +14
SRU LR LR
comp=Z,1μm,18.0s
IMW Indian Meadow 95.81 314 PFAKE 05 22 50.0 +14
IMW LR LR
comp=Z,2μm,21.0s
TPAW Teton Pass 95.85 313 PFAKE 05 22 50.0 +14
TPAW LR LR
comp=Z,2μm,20.0s
YHB Horse Butte 95.93 315 PFAKE 05 22 50.0 +14
YHB LR LR
comp=Z,800nm,18.0s
P17A Butcher Ranch, 95.94 309 PFAKE 05 22 50.0 +14
P17A LR LR
comp=Z,2μm,20.0s
YKA Yellowknife Ar 95.94 333 P P 05 22 35.1 -0.4
comp=Z,5.7nm,0.9s,baz=79,slow=5.3,SNR=29
AHID Auburn Hatcher 96.00 313 PFAKE 05 22 50.0 +13
AHID LR LR
comp=Z,2μm,18.0s
BOZ Bozeman (W) 96.17 316 P P 05 22 36.4 -0.8
baz=85
BOZ Bozeman (W) 96.17 316 PFAKE 05 22 50.0 +13
BOZ LR LR
comp=Z,2μm,19.0s
ZAA0 Zalesovo Array 96.19 36 PFAKE 05 22 50.0 +13
ZAA0 LR LR
comp=Z,2μm,21.0s
ZALV Zalesovo Beam 96.19 36 LR LR 06 10 31.7
comp=Z,1μm,18.1s,baz=250,slow=38
LPIG La Paz 96.22 294 LR LR 06 04 26.4
comp=Z,298nm,18.5s,baz=87,slow=34
Q16A Castle Valley 96.31 309 PFAKE 05 22 50.0 +12
Q16A LR LR
comp=Z,1μm,18.0s
TMUT Trail Mountain 96.31 309 PFAKE 05 22 50.0 +12
TMUT LR LR
comp=Z,1μm,21.0s
TCUT Toone Canyon 96.35 311 PFAKE 05 22 50.0 +12
TCUT LR LR
comp=Z,3μm,19.0s
TUC Tucson 96.35 302 P P 05 22 38.2 0.0
baz=87
TUC Tucson 96.35 302 PFAKE 05 22 50.0 +12
TUC LR LR
comp=Z,900nm,19.0s
JLU Jordanelle 96.41 311 PFAKE 05 22 50.0 +12
JLU LR LR
comp=Z,2μm,22.0s
HWUT Hardware Ranch 96.43 312 PFAKE 05 22 50.0 +12
HWUT LR LR
comp=Z,2μm,22.0s
EDM Edmonton 96.54 323 PFAKE 05 22 50.0 +12
EDM LR LR
comp=Z,2μm,20.0s
MPU Maple Canyon 96.59 310 PFAKE 05 22 50.0 +11
MPU LR LR
comp=Z,2μm,22.0s
HSIG 96.63 299 PFAKE 05 22 50.0 +11
HSIG LR LR
comp=Z,900nm,20.0s
CTU Camp Tracy 96.64 311 PFAKE 05 22 50.0 +11
CTU LR LR
comp=Z,2μm,20.0s
WUAZ Wupatki 96.67 305 PFAKE 05 22 50.0 +10
WUAZ LR LR
comp=Z,2μm,21.0s
X16A Lo Mia Camp, P 96.79 304 PFAKE 05 22 50.0 +10
X16A LR LR
comp=Z,2μm,21.0s
NLU North Lily Min 96.94 310 PFAKE 05 22 50.0 +9.2
NLU LR LR
comp=Z,2μm,20.0s
SPUT South Promonto 97.11 311 PFAKE 05 22 50.0 +8.4
SPUT LR LR
comp=Z,2μm,22.0s
MTPU Mount Pierson 97.16 308 PFAKE 05 22 50.0 +7.8
MTPU LR LR
comp=Z,2μm,18.0s
HVU Hansel Valley 97.32 312 PFAKE 05 22 50.0 +7.5
HVU LR LR
comp=Z,1μm,20.0s
TCRU Three Creeks R 97.33 309 PFAKE 05 22 50.0 +7.3
TCRU LR LR
comp=Z,1μm,20.0s
U15A North Rim 97.36 306 PFAKE 05 22 50.0 +7.0
U15A LR LR
comp=Z,1μm,22.0s
WALA Waterton Lakes 97.38 319 PFAKE 05 22 50.0 +7.4
WALA LR LR
comp=Z,2μm,20.0s
DUG Dugway, Tooele 97.48 310 P P 05 22 42.7 -0.5
baz=85
DUG Dugway, Tooele 97.48 310 PFAKE 05 22 50.0 +6.7
DUG LR LR
comp=Z,2μm,20.0s
BGU Big Grassy Mou 97.58 311 PFAKE 05 23 00.0 +16
BGU LR LR
comp=Z,2μm,21.0s
MSO Missoula 97.65 317 P P 05 22 43.2 -0.6
baz=84
MSO Missoula 97.65 317 PFAKE 05 23 00.0 +16
MSO LR LR
comp=Z,2μm,19.0s
KNB Kanab 97.74 307 PFAKE 05 23 00.0 +15
KNB LR LR
comp=Z,2μm,22.0s
JTMT Jette 97.78 318 PFAKE 05 23 00.0 +16
JTMT LR LR
comp=Z,2μm,22.0s
SZCU Shurtz Canyon 97.91 308 PFAKE 05 23 00.0 +15

SZCU LR LR
comp=Z,800nm,20.0s
LCMT Little Creek M 98.08 307 PFAKE 05 23 00.0 +14
LCMT LR LR
comp=Z,2μm,22.0s
Y14A Wickenburg 98.11 304 PFAKE 05 23 00.0 +14
Y14A LR LR
comp=Z,2μm,20.0s
CCUT Cedar City 98.13 308 PFAKE 05 23 00.0 +14
CCUT LR LR
comp=Z,800nm,19.0s
DGZ Jazzator, Alta 98.33 40 *i* P Pdif 05 22 47.3 +0.5
HLID Hailey 98.35 314 PFAKE 05 23 00.0 +13
HLID LR LR
comp=Z,1μm,19.0s
W13A Hualapai Mount 98.75 305 PFAKE 05 23 00.0 +11
W13A LR LR
comp=Z,1μm,22.0s
WMQ Urumqi 99.29 46 P **Pdif 05 22 52.1 +1.0**
WMQ PP **PP 05 26 57.9 +3.9**
WMQ SKS **SKSac 05 33 32.5 +2.5**
WMQ S **ScS 05 34 18.1 -5.3**
WMQ SS **SS 05 41 12.4 +0.1**
WMQ pmax pmax
comp=Z,16nm,0.7s
WMQ pmax pmax
comp=Z,230nm,8.9s
WMQ LR LR
comp=Z,3μm,18.5s
WMQ LR LR
comp=Z,2μm,21.1s
WMQ LR LR
comp=Z,2μm,29.1s
MFID Camas Ranch 99.39 314 PFAKE 05 23 00.0 +8.4
MFID LR LR
comp=Z,1μm,22.0s
Y12C Blythe 99.39 304 PFAKE 05 23 00.0 +8.3
Y12C LR LR
comp=Z,2μm,20.0s
NEW Newport 99.60 319 PFAKE 05 23 00.0 +7.7
NEW LR LR
comp=Z,3μm,22.0s
SHPR Sheep Range 99.66 307 PFAKE 05 23 00.0 +7.0
SHPR LR LR
comp=Z,1μm,22.0s
GLA Glamis 99.70 303 PFAKE 05 23 00.0 +6.8
GLA LR LR
comp=Z,1μm,20.0s
LDFC Landfair 99.75 305 PFAKE 05 23 10.0 +17
LDFC LR LR
comp=Z,2μm,22.0s
R11A Troy Canyon, C 99.80 309 PFAKE 05 23 10.0 +16
R11A LR LR
comp=Z,2μm,22.0s
F10A Beach Ranch, E 100.02 316 PFAKE 05 23 10.0 +16
F10A LR LR
comp=Z,2μm,20.0s
BMO Blue Mountains 100.24 315 PFAKE 05 23 10.0 +15
BMO LR LR
comp=Z,2μm,19.0s
C09A Chrisman Ranch 100.44 318 PFAKE 05 23 10.0 +14
C09A LR LR
comp=Z,2μm,21.0s
TPNV Topopah Spring 100.48 307 PFAKE 05 23 10.0 +13
TPNV LR LR
comp=Z,1μm,21.0s
E09A Wood Farm, Sta 100.56 317 PFAKE 05 23 10.0 +13
E09A LR LR
comp=Z,2μm,19.0s
BMN Battle Mountai 100.81 311 PFAKE 05 23 10.0 +12
BMN LR LR
comp=Z,2μm,20.0s
D08A Wollman Farm, 101.00 318 PFAKE 05 23 10.0 +11
D08A LR LR
comp=Z,2μm,19.0s
XPFO Piæon Flat 101.00 304 PFAKE 05 23 10.0 +11
XPFO LR LR
comp=Z,2μm,20.0s
PFO Pinyon Flats O 101.01 304 PFAKE 05 23 10.0 +11
PFO LR LR
comp=Z,2μm,19.0s
B08A Colville Reser 101.03 319 PFAKE 05 23 10.0 +11
B08A LR LR
comp=Z,2μm,21.0s
E08A Dider Farm, El 101.19 317 PFAKE 05 23 10.0 +11
E08A LR LR
comp=Z,2μm,20.0s
J08A Circle Bar Ran 101.31 314 PFAKE 05 23 10.0 +10
J08A LR LR
comp=Z,2μm,18.0s
HAWA Hanford 101.53 317 PFAKE 05 23 10.0 +9.1
HAWA LR LR
comp=Z,2μm,20.0s
WVOR Wild Horse Val 101.57 313 PFAKE 05 23 10.0 +8.6
WVOR LR LR
comp=Z,1μm,18.0s
CPE Camp Elliot 101.62 303 PFAKE 05 23 10.0 +8.4
CPE LR LR
comp=Z,2μm,20.0s
KVN Kaiserville 101.67 310 PFAKE 05 23 10.0 +8.0
KVN LR LR
comp=Z,2μm,20.0s
NV11 Mina Array Sit 101.80 309 PFAKE 05 23 10.0 +7.5
NV11 LR LR
comp=Z,100nm,22.0s
F07A Phinny Hill Vi 101.89 317 PFAKE 05 23 10.0 +7.5
F07A LR LR
comp=Z,2μm,20.0s
I07A Izee 101.92 315 PFAKE 05 23 10.0 +7.1
I07A LR LR
comp=Z,1μm,19.0s
RYN Ryan 102.05 309 PFAKE 05 23 20.0 +16
RYN LR LR
comp=Z,2μm,22.0s
LTY Liberty 102.13 318 PFAKE 05 23 20.0 +16
LTY LR LR
comp=Z,2μm,20.0s
LLLB Lillooet 102.19 322 PFAKE 05 23 20.0 +16
LLLB LR LR
comp=Z,1μm,21.0s
MWC Mount Wilson 102.26 305 PFAKE 05 23 20.0 +15
MWC LR LR
comp=Z,1μm,19.0s
PASC Pasadena Art C 102.37 305 PFAKE 05 23 20.0 +15
PASC LR LR
comp=Z,2μm,22.0s
B06A Marblemount 102.41 320 PFAKE 05 23 20.0 +15
B06A LR LR
comp=Z,2μm,19.0s
G06A Carlson Farm, 102.50 316 PFAKE 05 23 20.0 +15
G06A LR LR
comp=Z,1μm,21.0s
PAHR Pah Rah Range 102.55 310 PFAKE 05 23 20.0 +14
PAHR LR LR
comp=Z,2μm,21.0s
YERR Yerington 102.56 310 PFAKE 05 23 20.0 +14
YERR LR LR
comp=Z,2μm,22.0s
OMMB Old Mammoth Mi 102.57 308 PFAKE 05 23 20.0 +14
OMMB LR LR
comp=Z,1μm,21.0s
MDPB Devils Postpil 102.63 308 PFAKE 05 23 20.0 +14
MDPB LR LR
comp=Z,1μm,21.0s
OSI Osito Audit: C 102.76 305 PFAKE 05 23 20.0 +13
OSI LR LR
comp=Z,2μm,20.0s
WAKR Walker 102.78 309 PFAKE 05 23 20.0 +13
WAKR LR LR
comp=Z,2μm,22.0s
VCNR Virginia City 102.82 310 PFAKE 05 23 20.0 +13
VCNR LR LR
comp=Z,2μm,20.0s
MOD Modoc Plateau 102.88 313 PFAKE 05 23 20.0 +13
MOD LR LR
comp=Z,1μm,20.0s
PINE Pine Mountain 103.00 315 PFAKE 05 23 20.0 +12
PINE LR LR
comp=Z,1μm,22.0s
LON Longmire 103.00 318 PFAKE 05 23 20.0 +12
LON LR LR
comp=Z,2μm,20.0s
D05A Enumclaw 103.03 318 PFAKE 05 23 20.0 +12
D05A LR LR
comp=Z,2μm,22.0s

K05A **Summer Lake** **103.16 314** PFAKE 05 23 20.0 +11
K05A LR LR
comp=Z,2μm,19.0s
RUBR **Rubicon Trail** **103.25 310** PFAKE 05 23 20.0 +11
RUBR LR LR
comp=Z,2μm,22.0s
BEKR **Beckworth** **103.27 311** PFAKE 05 23 20.0 +11
BEKR LR LR
comp=Z,2μm,20.0s
CMB **Columbia Colle** **103.59 309** PFAKE 05 23 20.0 +10
CMB LR LR
comp=Z,1μm,20.0s
PGC **Sidney** **103.65 320** PFAKE 05 23 20.0 +10
PGC LR LR
comp=Z,2μm,20.0s
LSA **Lhasa** **103.78 60** PFAKE 05 23 20.0 +8.1
LSA LR LR
comp=Z,900nm,20.0s
AFDM **Forest Hills D** **103.89 310** PFAKE 05 23 20.0 +8.3
AFDM LR LR
comp=Z,1μm,19.0s
ORV **Oroville** **104.19 310** PFAKE 05 23 20.0 +7.1
ORV LR LR
comp=Z,2μm,19.0s
E03A **Lebam** **104.22 318** PFAKE 05 23 20.0 +7.1
E03A LR LR
comp=Z,2μm,20.0s
NLWA **Neilton Lookou** **104.22 319** PFAKE 05 23 20.0 +7.1
NLWA LR LR
comp=Z,3μm,20.0s
DLBC **Dease Lake** **104.37 331** PFAKE 05 23 20.0 +6.6
DLBC LR LR
comp=Z,2μm,21.0s
COR **Corvallis** **104.49 316** PFAKE 05 23 30.0 +16
COR LR LR
comp=Z,1μm,18.0s
HUMO **Hull Mountain** **104.68 314** PFAKE 05 23 30.0 +15
HUMO LR LR
comp=Z,1μm,20.0s
YBH **Yreka Blue Hor** **104.68 313** PFAKE 05 23 30.0 +15
YBH LR LR
comp=Z,1μm,22.0s
RDG13 **Poverty Ridge** **104.75 308** PFAKE 05 23 30.0 +14
RDG13 LR LR
comp=Z,2μm,22.0s
WDC **Whiskeytown Da** **104.78 312** PFAKE 05 23 30.0 +14
WDC LR LR
comp=Z,1μm,20.0s
GDXM **Geysers** **105.32 310** PFAKE 05 27 40.0
GDXM LR LR
comp=Z,2μm,19.0s
HOPS **Hopland Field** **105.50 310** PFAKE 05 27 40.0
HOPS LR LR
comp=Z,2μm,19.0s
MCCM **Marconi Confer** **105.51 309** PFAKE 05 27 40.0
MCCM LR LR
comp=Z,2μm,18.0s
BBB **Bella Bella** **105.52 324** PFAKE 05 27 40.0
BBB LR LR
comp=Z,1μm,20.0s
KHMM **Horse Mountain** **105.61 312** PFAKE 05 27 40.0
KHMM LR LR
comp=Z,2μm,21.0s
KBO **Bosley Butte** **105.68 314** PFAKE 05 27 40.0
KBO LR LR
comp=Z,1μm,20.0s
WHY **Whitehorse** **105.70 334** PFAKE 05 27 40.0
WHY LR LR
comp=Z,1μm,22.0s
KMRM **Mail Ridge** **105.73 311** PFAKE 05 27 40.0
KMRM LR LR
comp=Z,2μm,20.0s
TIXI **Tiksi** **105.80 11** PFAKE 05 27 40.0
TIXI LR LR
comp=Z,700nm,20.0s
DAWY **Dawson** **105.85 338** PFAKE 05 27 40.0
DAWY LR LR
comp=Z,1μm,19.0s
EGAK **Eagle** **106.10 339** PFAKE 05 27 40.0
EGAK LR LR
comp=Z,900nm,20.0s
WRAK **Wrangell Islan** **106.31 329** PFAKE 05 27 40.0
WRAK LR LR
comp=Z,1μm,20.0s
SKAG **Skagway** **106.44 333** PFAKE 05 27 40.0
SKAG LR LR
comp=Z,800nm,18.0s
BESE **Bessie Mountai** **106.62 332** PFAKE 05 27 50.0
BESE LR LR
comp=Z,700nm,19.0s
HYT **Haines Junctio** **106.75 335** PFAKE 05 27 50.0
HYT LR LR
comp=Z,1μm,18.0s
CRAG **Craig** **107.09 329** PFAKE 05 27 50.0
CRAG LR LR
comp=Z,1μm,21.0s
COLD **Coldfoot** **107.45 344** PFAKE 05 27 50.0
COLD LR LR
comp=Z,600nm,20.0s
SIT **Sitka** **107.53 331** PFAKE 05 27 50.0
SIT LR LR
comp=Z,1μm,21.0s
SCRK **Sand Creek** **107.57 339** PFAKE 05 27 50.0
SCRK LR LR
comp=Z,1μm,18.0s
TLY **Talaya** **107.78 35** PFAKE 05 27 50.0
TLY LR LR
comp=Z,2μm,18.0s
DOT **Dot Lake** **107.79 339** PFAKE 05 27 50.0
DOT LR LR
comp=Z,2μm,20.0s
RIDG **Independ'e Rid** **108.01 339** PFAKE 05 27 50.0
RIDG LR LR
comp=Z,900nm,19.0s
MENT **Mentasta** **108.09 338** PFAKE 05 27 50.0
MENT LR LR
comp=Z,800nm,19.0s
COLA **College** **108.32 341** PFAKE 05 27 50.0
COLA LR LR
comp=Z,1μm,19.0s
HDA **Harding Lake** **108.32 340** PFAKE 05 27 50.0
HDA LR LR
comp=Z,1μm,19.0s
MDM **Murphy Dome** **108.39 341** PFAKE 05 27 50.0
MDM LR LR
comp=Z,700nm,20.0s
CCB **Clear Creek Bu** **108.45 341** PFAKE 05 27 50.0
CCB LR LR
comp=Z,1μm,18.0s
BALM **Baldy** **108.65 336** PFAKE 05 27 50.0
BALM LR LR
comp=Z,800nm,19.0s
WRH **Wood River Hil** **108.66 341** PFAKE 05 27 50.0
WRH LR LR
comp=Z,700nm,18.0s
PAX **Paxson** **108.71 339** PFAKE 05 27 50.0
PAX LR LR
comp=Z,900nm,18.0s
MLY **Manley** **109.13 342** PFAKE 05 27 50.0
MLY LR LR
comp=Z,800nm,22.0s
DHY **Denali Highway** **109.32 339** PFAKE 05 27 50.0
DHY LR LR
comp=Z,900nm,18.0s
MCK **McKinley** **109.43 340** PFAKE 05 27 50.0
MCK LR LR
comp=Z,601nm,20.0s
BMRM **Bremner River** **109.59 337** PFAKE 05 27 50.0
BMRM LR LR
comp=Z,999nm,22.0s
RND **Reindeer** **109.62 340** PFAKE 05 27 50.0
RND LR LR
comp=Z,900nm,21.0s
KLU **Klutina** **109.78 338** PFAKE 05 27 50.0
KLU LR LR
comp=Z,1μm,21.0s
TRF **Thorofare Moun** **110.07 341** PFAKE 05 27 50.0
TRF LR LR
comp=Z,800nm,20.0s
COCO **West Island** **110.11 103** PFAKE 05 27 50.0
COCO LR LR
comp=Z,2μm,20.0s
KTH **Kantishna Hill** **110.21 341** PFAKE 05 27 50.0
KTH LR LR
comp=Z,598nm,18.0s

SML **Sawmill** **110.48 339** PFAKE 05 27 50.0
SML LR LR
comp=Z,700nm,20.0s
CAST **Castle Rocks** **110.67 341** PFAKE 05 27 50.0
CAST LR LR
comp=Z,700nm,20.0s
PMR **Palmer** **110.91 339** PFAKE 05 27 50.0
PMR LR LR
comp=Z,902nm,18.0s
LHMI **Lhok Sumawe** **111.00 85** PFAKE 05 27 50.0
LHMI LR LR
comp=Z,1μm,20.0s
PPLA **Purkeypile** **111.08 341** PFAKE 05 27 50.0
PPLA LR LR
comp=Z,902nm,19.0s
ULN **Ulaanbaatar** **111.28 38** PFAKE 05 27 50.0
ULN LR LR
comp=Z,2μm,19.0s
RC01 **Rabbit Creek A** **111.46 339** PFAKE 05 27 50.0
RC01 LR LR
comp=Z,800nm,20.0s
SKT **Skwentna** **111.49 340** PFAKE 05 27 50.0
SKT LR LR
comp=Z,800nm,21.0s
CHTO **Chiang Mai** **112.11 70** PFAKE 05 28 00.0
CHTO LR LR
comp=Z,800nm,22.0s
CMAR **Chiang Mai Arr** **112.15 71** PKiKP **PKiKP** **05 27 46.0 +0.7**
comp=Z,0.7nm,0.5s,baz=284,slow=3.6,SNR=4.4
PSI **Prapat** **112.99 87** PFAKE 05 28 00.0
PSI LR LR
comp=Z,2μm,20.0s
LZH **Lanzhou** **113.01 51** *e*PKP **PKiKP** **05 27 46.0 -0.8**
LZH sPKP 05 27 50.6
LZH PP **PP** **05 28 39.2 +3.8**
LZH SKKS 05 35 31.0
LZH SS **SS** **05 44 14.9 -4.8**
LZH AMB AMB
comp=Z,510nm,7.8s
LZH LR LR
comp=Z,3μm,19.9s
HOM **Homer** **113.13 338** PFAKE 05 28 00.0
HOM LR LR
comp=Z,1μm,20.0s
BILL **Bilibino** **113.29 360** *i* PKiKP **PKiKP** **05 27 46.3 +0.2**
BILL *e* 05 28 35.5
BILL *e*PPP PPP 05 30 58.4
BILL pmax pmax
comp=Z,1.0nm,0.8s
YAK **Yakutsk** **113.47 18** PFAKE 05 28 00.0
YAK LR LR
comp=Z,1μm,21.0s
CD2 **Chengdu** **114.29 57** PKP PKPdf 05 27 48.8 -0.4
CD2 sPKP 05 27 53.4
CD2 PP **PP** **05 28 43.6 -0.9**
CD2 SKS **SKSdf** **05 35 01.0 -0.9**
CD2 SKKS **SKKSac** **05 35 43.8 -3.3**
CD2 SS **SS** **05 44 36.1 -0.6**
CD2 AMB AMB
comp=Z,180nm,8.9s
CD2 LR LR
comp=Z,2μm,33.8s
CD2 LR LR
comp=Z,1μm,22.8s
CD2 LR LR
comp=Z,1μm,26.8s
KMI **Kunming** **114.65 63** PKP PKPdf 05 27 48.9 -1.4
KMI PP **PP** **05 28 50.9 +3.4**
KMI S **Sdif** **05 36 28.2 -4.4**
KMI SS **SS** **05 44 40.4 -1.8**
KMI AMB AMB
comp=Z,200nm,6.6s
KMI LR LR
comp=Z,600nm,23.8s
KMI LR LR
comp=Z,690nm,22.2s
KMI LR LR
comp=Z,780nm,21.1s
KULM **Kulim** **114.69 85** PFAKE 05 28 00.0 +10
KULM LR LR
comp=Z,1μm,20.0s
BKNI **Bangkinang** **115.08 90** PFAKE 05 28 00.0 +8.9
BKNI LR LR
comp=Z,1μm,20.0s
IPM **Ipoh** **115.08 86** PFAKE 05 28 00.0 +8.9
IPM LR LR
comp=Z,1μm,19.0s
GAMB **Gambell** **115.43 349** PFAKE 05 28 00.0 +10
GAMB LR LR
comp=Z,500nm,22.0s
MNAI **Manna** **116.80 95** PFAKE 05 28 10.0 +16
MNAI LR LR
comp=Z,1μm,21.0s
HHC **Hu-ho-hao-te** **117.07 44** *e*PKP **PKPdf** **05 27 55.7 +1.4**
HHC PP **PP** **05 29 09.0 +5.3**
HHC AMB AMB
comp=Z,100nm,8.7s
HHC LR LR
comp=Z,1μm,19.9s
HHC LR LR
comp=Z,1μm,19.9s
HHC LR LR
comp=Z,1μm,20.2s
RKT **Rikitea** **117.72 243** *e*SS SS 05 45 21.7 -0.1
comp=Z,2μm,31.5s
RKT **Rikitea** **117.72 243** *e*LR LR 06 03 49.5
comp=Z,1μm,25.2s
GYA **Guiyang** **117.83 61** Pdif **Pdif** **05 24 13.0 -1.0**
GYA PKP **PKPdf** **05 27 55.0 -1.2**
GYA PP **PP** **05 29 13.2 +3.6**
GYA PKS **PKSdf** **05 31 31.6 -1.6**
GYA SKKS 05 36 04.4
GYA SS **SS** **05 45 22.8 -0.6**
GYA AMB AMB
comp=Z,170nm,7.9s
GYA LR LR
comp=Z,210nm,20.9s
GYA LR LR
comp=Z,160nm,21.0s
GYA LR LR
comp=Z,180nm,20.6s
HIA **Hailar** **117.96 32** PFAKE 05 28 10.0 +14
HIA LR LR
comp=Z,2μm,20.0s
ENH **Enshi** **119.22 56** PFAKE 05 28 10.0 +11
ENH LR LR
comp=Z,900nm,22.0s
BJT **Baijiatuau** **120.59 43** PFAKE 05 28 10.0 +9.0
BJT LR LR
comp=Z,2μm,18.0s
CISI **Cisompet, Garu** **121.36 100** PFAKE 05 28 10.0 +6.8
CISI LR LR
comp=Z,1μm,22.0s
QIZ **Qiongzhong** **122.28 68** PKP **PKPdf** **05 28 04.5 -0.3**
QIZ PP **PP** **05 29 39.1 -1.2**
QIZ LR LR
comp=Z,590nm,19.4s
QIZ LR LR
comp=Z,790nm,19.1s
QIZ **Qiongzhong** **122.28 68** PFAKE 05 28 20.0 +15
QIZ LR LR
comp=Z,900nm,20.0s
NWAO **Narrogin (SRO)** **122.91 131** PFAKE 05 28 20.0 +14
NWAO LR LR
comp=Z,2μm,20.0s
KSM **Kuching** **124.36 89** PFAKE 05 28 20.0 +11
KSM LR LR
comp=Z,500nm,20.0s
DL2 **Dalian** **124.82 42** *e*PKP **PKPdf** **05 28 02.6 -6.5**
DL2 PP **PP** **05 30 01.5 +5.1**
DL2 AMB AMB
comp=Z,360nm,4.4s
DL2 LR LR
comp=Z,2μm,18.3s
NJ2 **Nanjing** **126.07 50** *e*PKP **PKPdf** **05 28 13.2 +1.5**
NJ2 PP **PP** **05 30 09.4 +4.3**
NJ2 AMB AMB
comp=Z,490nm,7.4s
NJ2 LR LR
comp=Z,940nm,19.0s
NJ2 LR LR
comp=Z,940nm,17.4s
NJ2 LR LR
comp=Z,2μm,17.9s
MDJ **Mudanjiang** **126.12 32** PFAKE 05 28 20.0 +8.5
MDJ LR LR
comp=Z,1μm,21.0s
SBUM **Sibu** **126.27 88** PFAKE 05 28 20.0 +7.4
SBUM LR LR
comp=Z,900nm,20.0s
JAGI **Jajag, Banyuwa** **127.47 102** PFAKE 05 28 30.0 +15
JAGI LR LR
comp=Z,600nm,20.0s
USRK **Ussuriysk Ar.** **127.65 31** PP PP 05 30 16.6 +1.9
comp=Z,0.9nm,0.3s,baz=184,slow=8.1,SNR=5.4
PEA0B **Petropavlovsk-** **127.81 6** PFAKE 05 28 30.0 +16
PEA0B LR LR
comp=Z,700nm,20.0s
PET **Petropavlovsk** **128.00 6** PFAKE 05 28 30.0 +15
PET LR LR
comp=Z,800nm,22.0s
PET **Petropavlovsk** **128.00 6** *i* PKiKP **PKPdf** **05 28 14.3 -0.4**
PET *e* 05 30 22.7
PET *e* 05 35 14.0
PET *e*PS **PS** **05 40 27.5 +3.9**
PET *e*SS SS 05 47 29.7 +0.6
PET *e*SSS SSS 05 52 17.0
SSE **Sheshan** **128.28 50** PKP **PKPdf** **05 28 19.6 +3.6**
SSE PP **PP** **05 30 22.8 +3.1**
SSE SS SS 05 47 38.4 +3.2
SSE AMB AMB
comp=Z,260nm,6.8s
SSE LR LR
comp=Z,420nm,19.4s
SSE LR LR
comp=Z,420nm,19.6s
QZH **Quanzhou** **128.56 59** *e*PKP **PKPdf** **05 28 18.1 +1.4**
QZH PP **PP** **05 30 22.8 +0.9**
QZH AMB AMB
comp=Z,310nm,9.4s
QZH LR LR
comp=Z,460nm,18.6s
QZH LR LR
comp=Z,950nm,19.6s
QZH LR LR
comp=Z,640nm,17.1s
INCN **Inchon** **128.89 40** PFAKE 05 28 30.0 +13
INCN LR LR
comp=Z,2μm,22.0s
MBWA **Marble Bar** **129.65 119** PFAKE 05 28 30.0 +11
MBWA LR LR
comp=Z,2μm,19.0s
KKM **Kota Kinabalu** **130.14 83** PFAKE 05 28 30.0 +10
KKM LR LR
comp=Z,900nm,21.0s
TPUB **Ta-pu** **130.87 60** PFAKE 05 28 30.0 +8.9
TPUB LR LR
comp=Z,700nm,20.0s
SSLB **Suanglung** **130.98 59** PFAKE 05 28 30.0 +8.6
SSLB LR LR
comp=Z,700nm,19.0s
TATO **Taipei** **131.01 57** PFAKE 05 28 30.0 +8.7
TATO LR LR
comp=Z,800nm,19.0s
YHNB **Yeheng** **131.03 58** PFAKE 05 28 30.0 +8.5
YHNB LR LR
comp=Z,1μm,18.0s
NACB **Ninganchiao** **131.39 58** PFAKE 05 28 30.0 +7.9
NACB LR LR
comp=Z,900nm,20.0s
YULB **Yu-li** **131.41 59** PFAKE 05 28 30.0 +7.8
YULB LR LR
comp=Z,1μm,20.0s
TWG **Pinlang** **131.42 60** PFAKE 05 28 30.0 +7.8
TWG LR LR
comp=Z,3μm,20.0s
FORT **Forrest** **131.94 135** PFAKE 05 28 30.0 +7.0
FORT LR LR
comp=Z,16μm,19.0s
PPT2 **Papeete2** **132.41 245** *e*PP PP 05 30 53.7 +6.5
comp=Z,292nm,25.0s
PPT2 **Papeete2** **132.41 245** *e*SS SS 05 48 31.1 +4.0
comp=Z,1μm,27.0s
PPT2 **Papeete2** **132.41 245** *e*LR LR 06 10 41.4
comp=Z,2μm,23.5s
MYLDM **Lahad Datu** **132.46 84** PFAKE 05 28 40.0 +16
MYLDM LR LR
comp=Z,1μm,20.0s
YOJ **Yonaguni jima** **132.49 57** PFAKE 05 28 40.0 +16
YOJ LR LR
comp=Z,800nm,19.0s
KAPI **Kappang** **133.43 98** PFAKE 05 28 40.0 +14
KAPI LR LR
comp=Z,800nm,20.0s
YUK **Yuzh-Kuril'sk** **133.75 20** *i* PKiKP **PKPdf** **05 28 25.7 -0.2**
YUK *e*PPP PPP 05 33 46.2
YUK *e*SSS SSS 05 53 39.3
ERM **Erimo** **134.48 24** PFAKE 05 28 40.0 +13
ERM LR LR
comp=Z,1μm,20.0s
OXZ **Oxford** **135.34 186** PFAKE 05 28 40.0 +11
OXZ LR LR
comp=Z,1μm,20.0s
MMRI **Maumere** **135.34 103** PFAKE 05 28 40.0 +10
MMRI LR LR
comp=Z,700nm,19.0s
JOW **Kunigami** **135.75 52** PFAKE 05 28 40.0 +10
JOW LR LR
comp=Z,1μm,18.0s
MJB9 **Matsu-Tunnel** **136.45 33** PFAKE 05 28 40.0 +8.7
MJB9 LR LR
comp=Z,900nm,18.0s
MAJO **Matsushiro** **136.45 33** *e*PKPdf **PKPdf** **05 28 31.2 -0.1**
MAJO LR LR
comp=Z,800nm,19.0s
MAJO **Matsushiro** **136.45 33** *e*PKiKP **PKPdf** **05 28 31.2 -0.1**
MAJO MLR MLR
comp=Z,800nm,19.0s
MJAR **Matsushiro Arr** **136.46 33** PKP **PKPdf** **05 28 31.2 -0.1**
comp=Z,1.1nm,0.5s,baz=353,slow=1.6,SNR=2.7
INU **Inuyama** **136.65 35** PFAKE 05 28 40.0 +8.4
INU LR LR
comp=Z,900nm,22.0s
LUWI **Luwuk** **136.75 93** PFAKE 05 28 40.0 +7.6
LUWI LR LR
comp=Z,900nm,21.0s
SOEI **Soe** **137.09 106** PFAKE 05 28 40.0 +6.8
SOEI LR LR
comp=Z,2μm,20.0s
JCUZ **Jacuzzi** **137.82 298** PFAKE 05 28 50.0 +16
JCUZ LR LR
comp=Z,3μm,21.0s
NPOC **North of Pu'u** **137.82 298** PFAKE 05 28 50.0 +16
NPOC LR LR
comp=Z,4μm,18.0s
MWH **Moku'aweowe** **138.22 298** PFAKE 05 28 50.0 +14
MWH LR LR
comp=Z,3μm,20.0s
BKZ **Black Stump Fm** **138.68 192** PFAKE 05 28 50.0 +15
BKZ LR LR
comp=Z,2μm,20.0s
URZ **Urewera** **139.41 194** PFAKE 05 28 50.0 +13
URZ LR LR
comp=Z,2μm,20.0s
ASAR **Alice Springs** **140.23 130** PKhKP PKPpre 05 28 31.0
comp=Z,1.5nm,0.6s,baz=228,slow=2.7,SNR=11
ASAR PKP **PKiKP** **05 28 40.2 -0.9**
comp=Z,2.5nm,0.6s,baz=222,slow=2.2,SNR=11
AS31 **Alice Springs** **140.23 130** *e*PKPpre PKPpre 05 28 31.4
WR1 **Warramunga Arr** **142.55 126** *e*PKPpre PKPpre 05 28 37.0
WR1 *e*PKPdf **PKiKP** **05 28 44.0 -1.9**
WRA **Warramunga Arr** **142.55 126** PKhKP PKPpre 05 28 37.0
comp=Z,2.5nm,0.8s,baz=237,slow=2.8,SNR=7.9
WRA PKP **PKiKP** **05 28 44.0 -1.9**
comp=Z,2.3nm,0.8s,baz=242,slow=2.5,SNR=7.5
WRAB **Tennant Creek** **142.56 126** PFAKE 05 28 50.0 +7.2
WRAB LR LR
comp=Z,2μm,19.0s
MTN **Manton Dam** **142.73 113** PFAKE 05 28 50.0 +6.8
MTN LR LR
comp=Z,1μm,19.0s
ARMA **Armidale** **145.72 158** PFAKE 05 29 00.0 +11
ARMA LR LR
comp=Z,1μm,18.0s
FAKI **Fak Fak** **146.05 97** *e*PKPdf **PKPdf** **05 28 46.5 -2.6**
EIDS **Eidsvold** **149.91 152** *e*PKPdf **PKPdf** **05 28 53.9 -1.2**
EIDS LR LR
comp=Z,1μm,18.0s
CTAO **Charters Tower** **151.35 139** *e*PKPdf **PKPdf** **05 28 56.8 -0.7**
CTAO LR LR

comp=Z,2µm,22.0s

CTAO	**Charters Tower**	**151.35**	**139**	*e*PKIKP	**PKPdf**	**05 28 56.8**	**-0.7**
CTAO				MLR	MLR		

comp=Z,2µm,22.0s

COEN	**Coen**	**152.86**	**124**	PFAKE		05 29 10.0	+3.0
COEN				LR	LR		

comp=Z,2µm,22.0s

DZM	**Mont Dzumac**	**156.87**	**181**	*e*LR	LR	06 21 51.5	

comp=Z,2µm,27.9s

PMG	**Port Moresby**	**158.51**	**120**	PFAKE		05 29 20.0	+13
PMG				LR	LR		

comp=Z,1µm,21.0s

IDC 10 05:10:46.2±7.6, 16.01S×173.54W, h0km, mb3.6/3, mb1 3.8/4, mb1mx3.6/47, mbtmp3.6/4, ML3.1/1, Error ellipse: s-maj=352.8km s-min=25.3km az=141.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.69**	**39**	Pn	Pn	05 11 30.1	-0.7

3.5nm,0.3s,baz=198,slow=20,SNR=3.6

AFI				Sn	Sn	05 11 59.5	-4.7

18nm,0.3s,baz=59,slow=21,SNR=11

WRA	**Warramunga Arr**	**49.58**	**257**	P	P	05 19 38.9	-0.6

0.6nm,0.8s,baz=93,slow=6.6,SNR=6.2

ASAR	**Alice Springs**	**49.80**	**252**	P	P	05 19 40.7	-0.5

1.2nm,0.5s,baz=89,slow=8.1,SNR=13

ILAR	**Eielson Array**	**83.06**	**11**	P	P	05 23 12.7	-0.5

0.2nm,0.7s,baz=226,slow=6.8,SNR=3.6

BRTR	**Keskin Array B**	**146.54**	**320**	PKPbc	PKPab	05 30 31.1	+0.1

0.6nm,0.7s,baz=60,slow=3.3,SNR=3.2

*ISCJB **10** 05:17:56.5±0.4, 0.11N±0.06×123.55E±0.04, h150km, mb3.8/10, Error ellipse: s-maj=9.1km s-min=5.3km az=19.1*
*IDC **10** 05:17:59.1±6.1, 0.26N×123.90E, h159km±58km, mb3.6/10, mb1 3.8/10, mb1mx3.5/55, mbtmp4.1/10, Error ellipse: s-maj=56.0km s-min=12.5km az=60.0*
*DJA **10** 05:18:00.8±0.5, 0°S±3°×12°E±°, h100km±6km, M4.6/9, mb4.8/1, MLv4.5/9*

ISC 10 05:17:57.9±0.6, 0.04N±0.09×123.59E±0.07, h150km, n18, σ1°45/23, mb3.8/10, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMSI	**Cibinong**	**0.66**	**37**	P	**Pn**	**05 18 22.1**	**+1.9**
KMSI				S	**Sn**	**05 18 35.8**	**-1.3**
LUWI	**Luwuk**	**1.35**	**217**	P	Pn	05 18 25.4	-0.6
LUWI				S	Sn	05 18 41.6	-5.9
MRSI	**Marisa**	**1.70**	**285**	P	**Pn**	**05 18 29.1**	**-0.6**
MRSI				S	Sn	05 18 50.5	-3.5
APSI	**Ampana**	**2.16**	**244**	P	Pn	05 18 34.6	-0.3
APSI				S	Sn	05 19 00.9	-2.5
SANI	**Sanana**	**3.17**	**131**	P	**Pn**	**05 18 47.1**	**-0.4**
SANI				S	**Sn**	**05 19 22.2**	**-3.7**
MPSI	**Mapaga**	**3.70**	**275**	P	**Pn**	**05 18 55.6**	**+1.3**
LBMI	**Labuha**	**3.97**	**100**	P	**Pn**	**05 18 58.4**	**+0.6**
LBMI				S	**Sn**	**05 19 44.5**	**+0.2**
NLAI	**Namlea**	**4.79**	**133**	P	**Pn**	**05 19 10.5**	**+1.9**
NLAI				S	**Sn**	**05 20 03.8**	**+0.1**
WRA	**Warramunga Arr**	**22.48**	**153**	P	**P**	**05 22 45.5**	**+0.5**

4.8nm,0.5s,baz=333,slow=10.0,SNR=73

WRA				PcP	**PcP**	**05 26 34.2**	**+0.3**

0.6nm,1.0s,baz=68,slow=0.6,SNR=2.5

ASAR	**Alice Springs**	**25.61**	**158**	P	**P**	**05 23 14.1**	**+0.5**

0.7nm,0.4s,baz=344,slow=8.9,SNR=11

ASAR				PcP	**PcP**	**05 26 41.5**	**+0.9**

0.8nm,0.4s,baz=353,slow=2.1,SNR=6.4

CMAR	**Chiang Mai Arr**	**30.35**	**308**	P	**P**	**05 23 57.9**	**+2.1**

0.9nm,0.6s,baz=124,slow=5.6,SNR=7.5

STKA	**Stephens Creek**	**36.03**	**153**	P	**P**	**05 24 46.1**	**+1.2**

3.1nm,0.6s,baz=337,slow=8.1,SNR=8.6

SONM	**Songino Array**	**49.89**	**345**	P	**P**	**05 26 36.7**	**+0.4**

1.1nm,0.7s,baz=163,slow=9.6,SNR=9.3

MKAR	**Makanchi Array**	**58.89**	**328**	P	**P**	**05 27 40.9**	**-0.2**

0.8nm,0.3s,baz=125,slow=8.5,SNR=17

MKAR				PcP	**PcP**	**05 28 28.1**	**-0.7**

0.5nm,0.4s,baz=173,slow=3.0,SNR=6.6

KURBB	**Kurchatov Arra**	**63.22**	**330**	P	**P**	**05 28 09.5**	**-0.7**

1.1nm,0.6s,baz=118,slow=6.7,SNR=8.6

BVAR	**Borovoye Array**	**68.75**	**329**	P	**P**	**05 28 45.0**	**-0.5**

0.3nm,0.4s,baz=114,slow=7.3,SNR=2.8

ILAR	**Eielson Array**	**89.76**	**25**	P	**P**	**05 30 37.6**	**-1.4**

0.2nm,0.5s,baz=245,slow=4.7,SNR=6.2

ARCES	**ARCESS Array B**	**92.79**	**340**	P	**P**	**05 30 50.7**	**-2.3**

1.7nm,0.7s,baz=46,slow=6.9,SNR=4.8

IDC 10 05:28:41.2±2.5, 54.09N×86.41E, h0km, mb1 2.9/2, mb1mx2.8/64, mbtmp2.9/2, ML2.6/2, Error ellipse: s-maj=19.7km s-min=12.5km az=60.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**0.95**	**262**	*i*		05 35 10.0	

baz=85,slow=321,SNR=2.3

ZALV	**Zalesovo Beam**	**0.95**	**262**	Pg	Pg	05 28 57.6	-1.6

2.7nm,0.3s,baz=77,slow=18,SNR=17

ZALV				Lg	Lg	05 29 13.1	

4.6nm,0.3s,baz=82,slow=30,SNR=24

KURBB	**Kurchatov Arra**	**5.94**	**237**	Pn	Pn	05 30 11.0	+0.7

0.1nm,0.3s,baz=54,slow=14,SNR=11

KURBB				Lg	Lg	05 31 50.5	

0.0nm,0.3s,baz=56,slow=32,SNR=3.7

MKAR	**Makanchi Array**	**7.76**	**201**	Pn	Pn	05 30 36.7	+1.4

0.2nm,0.3s,baz=25,slow=13,SNR=5.9

MKAR				Lg	Lg	05 32 48.8	

0.1nm,0.3s,baz=22,slow=32,SNR=5.5

*NIED **10** 05:30:00, 36.20N×143.60E, h8km, Mw4.1 Best double couple: M0 1.38000×10^15 NP1:φ=33.00000°, δ=30.00000°, λ=-78.00000°. NP2:φ=200.00000°, δ=60.00000°, λ=-97.00000°.*
*IDC **10** 05:30:42.1±0.7, 36.03N×143.86E, h0km, mb3.7/12, mb1 3.9/15, mb1mx3.7/63, mbtmp3.7/15, ML3.7/3, Error ellipse: s-maj=20.1km s-min=17.0km az=113.0*
*ISCJB **10** 05:30:45.6±0.6, 36.15N±0.05×143.60E±0.05, h33km, mb3.6/12, Error ellipse: s-maj=7.5km s-min=5.8km az=163.7*
*JMA **10** 05:30:46.1±0.1, 36.18N×143.55E, h72km, M3.7*

ISC 10 05:30:47.3±0.8, 36.14N±0.06×143.65E±0.07, h35km, n32, σ2°03/34, mb3.7/12, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHOJ	**Chosi**	**2.31**	**260**	P	**Pn**	**05 31 22.0**	**-0.8**
CHOJ				S	**Sn**	**05 31 48.3**	**-1.7**
JFK	**Kawauchi**	**2.55**	**300**	P	**Pn**	**05 31 24.6**	**-1.6**
BSO1	**Boso 1**	**2.64**	**237**	P	**Pn**	**05 31 26.2**	**-0.7**
JFT	**Otama**	**3.00**	**298**	P	**Pn**	**05 31 31.2**	**-1.1**
JFT				*e*S	**Sn**	**05 32 05.0**	**-2.1**
JAG	**Ashikaga**	**3.41**	**276**	P	**Pn**	**05 31 37.1**	**-0.8**
JMK	**Ichinoseki**	**3.41**	**326**	P	**Pn**	**05 31 36.4**	**-1.6**
JOD2	**Odawara 2**	**3.81**	**258**	P	**Pn**	**05 31 42.9**	**-0.7**
JOD2				S	**Sn**	**05 32 25.8**	**-1.4**
JYK	**Kaneyama**	**3.82**	**318**	P	**Pn**	**05 31 42.6**	**-1.0**
JYK				*e*S	**Sn**	**05 32 25.0**	**-2.2**
JOM	**Ohasama**	**3.82**	**331**	P	**Pn**	**05 31 42.5**	**-1.1**
JRY	**Ryogami san**	**3.85**	**270**	P	**Pn**	**05 31 43.5**	**-0.6**
JHJ	**Hachijo jima 2**	**4.38**	**228**	Pn	**Pn**	**05 31 49.9**	**-1.5**

25nm,0.3s,baz=283,slow=15,SNR=45

JHJ				Sn	**Sn**	**05 32 35.6**	**-5.7**

16nm,0.3s,baz=221,slow=19,SNR=3.6

MJAR	**Matsushiro Arr**	**4.41**	**277**	Pn	**Pn**	**05 31 53.2**	**+1.4**

1.7nm,0.3s,baz=123,slow=8.8,SNR=15

MJAR				Sn	**Sn**	**05 32 43.4**	**+1.4**

1.0nm,0.3s,baz=159,slow=13,SNR=4.4

MAT	**Matsushiro**	**4.42**	**277**	P	**Pn**	**05 31 52.4**	**+0.6**
MAT				*e*S	**Sn**	**05 32 37.6**	**-4.4**
ASAJ	**Asahikawa**	**8.01**	**355**	Pn	**Pn**	**05 32 40.9**	**-0.3**

1.1nm,0.3s,baz=315,slow=9.0,SNR=4.4

ASAJ				Sn	**Sn**	**05 34 05.1**	**-5.5**

0.7nm,0.3s,baz=313,slow=19,SNR=3.7

H11N2	**WAKE ISLAND Hy**	**26.14**	**122**	T	T	06 03 26.2	

baz=314,slow=75,SNR=16

H11N1	**WAKE ISLAND Hy**	**26.15**	**122**	T	T	06 03 26.8	

baz=314,slow=75,SNR=13

H11N3	**WAKE ISLAND Hy**	**26.16**	**122**	T	T	06 03 27.6	

baz=314,slow=75,SNR=13

H11S1	**WAKE ISLAND Hy**	**26.86**	**125**	T	T	06 04 22.6	

baz=316,slow=76,SNR=7.8

H11S3	**WAKE ISLAND Hy**	**26.86**	**125**	T	T	06 04 23.5	

baz=316,slow=76,SNR=5.9

H11S2	**WAKE ISLAND Hy**	**26.88**	**125**	T	T	06 04 25.6	

baz=316,slow=76,SNR=6.2

SONM	**Songino Array**	**29.78**	**305**	P	**P**	**05 36 53.2**	**+2.5**

0.2nm,0.5s,baz=99,slow=8.0,SNR=2.3

MKAR	**Makanchi Array**	**46.12**	**303**	P	**P**	**05 39 08.8**	**+0.7**

0.2nm,0.6s,baz=81,slow=8.9,SNR=2.8

KURBB	**Kurchatov Arra**	**47.97**	**309**	P	**P**	**05 39 24.0**	**+1.5**

0.9nm,0.6s,baz=86,slow=8.1,SNR=8.1

ILAR	**Eielson Array**	**49.30**	**32**	P	**P**	**05 39 33.2**	**+0.8**

0.5nm,0.9s,baz=254,slow=6.4,SNR=4.9

WRA	**Warramunga Arr**	**56.46**	**191**	P	**P**	**05 40 25.3**	**-0.5**

3.2nm,0.8s,baz=9.0,slow=7.4,SNR=20

ASAR	**Alice Springs**	**60.19**	**190**	P	**P**	**05 40 51.4**	**-0.3**

1.3nm,0.8s,baz=8.7,slow=6.9,SNR=10.0

YKA	**Yellowknife Ar**	**63.67**	**30**	P	**P**	**05 41 15.0**	**+0.4**

0.2nm,0.8s,baz=294,slow=6.0,SNR=3.6

FINES	**FINESS Array B**	**70.44**	**333**	P	**P**	**05 41 58.6**	**+1.0**

1.1nm,0.8s,baz=59,slow=6.0,SNR=2.5

NVAR	**Mina Array Bea**	**74.07**	**54**	P	**P**	**05 42 19.0**	**-1.1**

0.6nm,0.8s,baz=290,slow=19,SNR=3.5

NOA	**NORSAR Array B**	**75.70**	**338**	P	**P**	**05 42 29.8**	**+0.9**

1.2nm,0.9s,baz=61,slow=16,SNR=2.5

AKASG	**Malin Array Be**	**76.10**	**323**	P	**P**	**05 42 32.2**	**+1.0**

0.4nm,0.5s,baz=46,slow=6.2,SNR=4.6

PDAR	**Pinedale Array**	**77.00**	**46**	P	**P**	**05 42 37.4**	**+0.6**

0.3nm,0.6s,baz=268,slow=2.3,SNR=3.4

*ISCJB **10** 05:46:27.0±0.7, 7.75S±0.1×74.63W±0.07, h150km, mb3.6/5, Error ellipse: s-maj=19.2km s-min=9.1km az=8.6*
*IDC **10** 05:46:29.0±1.9, 7.79S×74.76W, h164km±22km, mb3.4/5, mb1 3.5/8, mb1mx3.2/45, mbtmp3.9/8, Error ellipse: s-maj=25.6km s-min=17.1km az=45.0*

ISC 10 05:46:28.1±0.8, 7.7S±0.1×74.67W±0.09, h150km, n9, σ0°82/10, mb3.9/5, Peru-Brazil border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATAH	**Atahualpa**	**3.75**	**279**	P	**Pn**	**05 47 25.9**	**+0.4**

8.1nm,0.3s,baz=58,slow=2.0,SNR=103

ATAH				S	**Sn**	**05 48 10.2**	**+0.3**

11nm,0.3s,baz=349,slow=22,SNR=22

LPAZ	**La Paz**	**10.63**	**144**	P	**Pn**	**05 48 57.6**	**+0.5**

0.3nm,0.3s,baz=322,slow=7.7,SNR=14

PTGA	**Pitinga**	**16.22**	**65**	P	**Pn**	**05 50 08.0**	**+0.3**

0.8nm,0.3s,baz=255,slow=14,SNR=9.0

PLCA	**Paso Flores**	**33.06**	**174**	P	**P**	**05 52 48.5**	**-1.0**

1.2nm,0.4s,baz=323,slow=13,SNR=20

DBIC	**Dimbokro**	**71.08**	**80**	P	**P**	**05 57 31.6**	**+1.0**

2.4nm,0.5s,baz=227,slow=5.9,SNR=6.8

KOWA	**Kowa**	**73.45**	**72**	P	**P**	**05 57 45.1**	**+0.3**

0.8nm,0.3s,baz=231,slow=6.5,SNR=3.2

YKA	**Yellowknife Ar**	**76.45**	**342**	P	**P**	**05 57 60.0**	**-0.9**

0.1nm,0.4s,baz=130,slow=5.5,SNR=3.0

TORD	**Torodi Ar. Bea**	**78.61**	**75**	P	**P**	**05 58 13.2**	**-0.8**

0.2nm,0.3s,baz=269,slow=4.8,SNR=4.7

WRA	**Warramunga Arr**	**140.35**	**226**	PKP	**PKPdf**	**06 05 41.0**	**+0.6**

0.2nm,0.3s,baz=120,slow=1.9,SNR=5.4

*ISCJB **10** 05:49:11.1±0.6, 43.10N±0.04×13.62E±0.05, h29km±5km, Error ellipse: s-maj=6.3km s-min=5.5km az=160.0*
*CSEM **10** 05:49:11.3±0.1, 43.11N×13.59E, h23km±2km, ML2.5/7*
*ROM **10** 05:49:11.5±0.2, 43.11N×13.55E, h28km±2km, Md2.3/14, Ml2.0/15, Error ellipse: s-maj=2.4km s-min=1.5km az=100.0*

ISC 10 05:49:11.3±1.0, 43.12N±0.03×13.60E±0.03, h23km±9km, n32, σ0°44/48, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMA	**Gualdo di Mace**	**0.25**	**103**	Pg	**Pb**	**05 49 17.2**	**-0.3**
GUMA				Sg	**Sb**	**05 49 21.4**	**-0.3**

1µm,0.3s

GUMA	**Gualdo di Mace**	**0.25**	**103**	Pg	**Pb**	**05 49 17.2**	**-0.3**
GUMA				Sg	**Sb**	**05 49 21.4**	**-0.3**

1µm,0.3s

CING	**Cingoli**	**0.39**	**311**	Pg	**Pb**	**05 49 19.7**	**0.0**
CING				Sg	**Sb**	**05 49 25.8**	**+0.5**

130nm,0.5s

CING	**Cingoli**	**0.39**	**311**	Pg	**Pb**	**05 49 19.7**	**0.0**
CING				Sg	**Sb**	**05 49 25.8**	**+0.5**

130nm,0.5s

AOI	**Ancona**	**0.43**	**0**	Pg	**Pb**	**05 49 20.9**	**+0.6**
AOI				Sg	**Sn**	**05 49 28.5**	**-0.9**

59nm,0.3s

AOI	**Ancona**	**0.43**	**0**	Pg	**Pb**	**05 49 20.9**	**+0.6**
AOI				Sg	**Sn**	**05 49 28.5**	**-0.9**

59nm,0.3s

NRCA	**Norcia**	**0.46**	**231**	Pg	**Pb**	**05 49 20.7**	**-0.1**
NRCA				Sg	**Sb**	**05 49 27.8**	**+0.6**

87nm,0.2s

NRCA	**Norcia**	**0.46**	**231**	Pg	**Pb**	**05 49 20.7**	**-0.1**
NRCA				Sg	**Sb**	**05 49 27.8**	**+0.6**

87nm,0.2s

SNTG	**Esanatoglia**	**0.50**	**286**	Pg	**Pb**	**05 49 21.1**	**-0.4**
SNTG				Sg	**Sb**	**05 49 28.7**	**+0.3**

71nm,0.6s

SNTG	**Esanatoglia**	**0.50**	**286**	Pg	**Pb**	**05 49 21.1**	**-0.4**
SNTG				Sg	**Sb**	**05 49 28.7**	**+0.3**

71nm,0.6s

CESI	**CESI - Serrava**	**0.52**	**257**	Pg	**Pb**	**05 49 21.6**	**-0.3**
CESI				Sg	**Sb**	**05 49 29.5**	**+0.5**

26nm,0.4s

CESI	**CESI - Serrava**	**0.52**	**257**	Pg	**Pb**	**05 49 21.6**	**-0.3**
CESI				Sg	**Sb**	**05 49 29.5**	**+0.5**

26nm,0.4s

SMA1	**SAN MARTINO**	**0.53**	**202**	Pg	**Pb**	**05 49 22.1**	**+0.1**

50nm,0.2s

SMA1	**SAN MARTINO**	**0.53**	**202**	Pg	**Pb**	**05 49 22.1**	**+0.1**

50nm,0.2s

CAMP	**Campotosto**	**0.60**	**193**	Pg	**Pb**	**05 49 23.6**	**+0.3**

27nm,0.4s

CAMP	**Campotosto**	**0.60**	**193**	Pg	**Pb**	**05 49 23.6**	**+0.3**

27nm,0.4s

ARVD	**Arcevia**	**0.61**	**308**	Pg	**Pb**	**05 49 23.2**	**-0.2**
ARVD				Sg	**Sn**	**05 49 33.2**	**-0.6**

26nm,0.3s

ARVD	**Arcevia**	**0.61**	**308**	Pg	**Pb**	**05 49 23.2**	**-0.2**
ARVD				Sg	**Sn**	**05 49 33.2**	**-0.6**

26nm,0.3s

ATCC	**AVT- Casa Cast**	**0.70**	**276**	Pg	**Pb**	**05 49 24.6**	**-0.3**

48nm,0.5s

ATCC	**AVT- Casa Cast**	**0.70**	**276**	Pg	**Pb**	**05 49 24.6**	**-0.3**

48nm,0.5s

FRON	**Frontone**	**0.75**	**302**	Pg	**Pb**	**05 49 25.7**	**0.0**

57nm,0.3s

FRON	**Frontone**	**0.75**	**302**	Pg	**Pb**	**05 49 25.7**	**0.0**

57nm,0.3s

MPAG	**Monte Paganucc**	**0.80**	**310**	Pg	**Pb**	**05 49 26.7**	**+0.2**

45nm,0.3s

MPAG	**Monte Paganucc**	**0.80**	**310**	Pg	**Pb**	**05 49 26.7**	**+0.2**

45nm,0.3s

FSSB	**Fossombrone**	**0.83**	**314**	Pg	**Pn**	**05 49 27.6**	**0.0**

182nm,0.4s

FSSB	**Fossombrone**	**0.83**	**314**	Pg	**Pn**	**05 49 27.6**	**0.0**

182nm,0.4s

PIEI	**Pieia**	**0.88**	**299**	Pg	**Pb**	**05 49 27.3**	**-0.7**

29nm,0.4s

PIEI	**Pieia**	**0.88**	**299**	Pg	**Pb**	**05 49 27.3**	**-0.7**

29nm,0.4s

ATPC	**Poggio Castell**	**0.91**	**294**	Pg	**Pb**	**05 49 28.2**	**-0.2**

44nm,0.3s

ATPC	**Poggio Castell**	**0.91**	**294**	Pg	**Pb**	**05 49 28.2**	**-0.2**

44nm,0.3s

NVLJ	**Novalja**	**1.71**	**32**	*e*Pn	**Pn**	**05 49 40.5**	**+0.7**
NVLJ				Sn	**Sn**	**05 50 00.4**	**-0.5**
NVLJ	**Novalja**	**1.71**	**32**	*e*Pn	**Pn**	**05 49 40.4**	**+0.7**
NVLJ				Sn	**Sn**	**05 50 00.4**	**-0.5**

*ISCJB **10** 06:01:01.6±1.9, 40.54N±0.05×20.8E±0.2, h13km±7km, Error ellipse: s-maj=22.6km s-min=7.5km az=175.7*
*CSEM **10** 06:01:01.7±0.6, 40.58N×20.81E, h20km, ML1.4, Error ellipse: s-maj=11.4km s-min=10.0km az=128.0*
*TIR **10** 06:01:01.5, 40.61N×20.74E, h13km, Md1.5/2*
*ATH **10** 06:01:03.0, 40.52N×20.90E, h22km±8km, ML1.4/3, Error ellipse: s-maj=9.1km s-min=1.5km az=100.0*

ISC 10 06:01:01.4±2.3, 40.54N±0.04×20.8E±0.1, h12km±13km, n10, σ0°40/18, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBN	**Korca**	**0.09**	**21**	*i* Pg	**Pg**	**06 01 04.2**	**0.0**

baz=69

KBN				*i* Sg	**Sg**	**06 01 06.3**	**0.0**

baz=69

KBN	**Korca**	**0.09**	**21**	*i* PG	**Pg**	**06 01 04.2**	**0.0**
KBN				*i* SG	**Sg**	**06 01 06.3**	**0.0**
PENT	**Pentalofos**	**0.46**	**139**	P	**Pg**	**06 01 10.7**	**+0.3**
PENT				S	**Sg**	**06 01 17.0**	**+0.5**
PENT				AML	AML	06 01 20.5	

comp=E,76µm,0.2s

PENT				AML	AML	06 01 21.8	

comp=N,98µm,0.2s

PENT	**Pentalofos**	**0.46**	**139**	P	**Pg**	**06 01 10.8**	**+0.3**
PENT				S	**Sg**	**06 01 16.8**	**+0.3**
FNA	**Florina**	**0.54**	**63**	P	**Pg**	**06 01 12.0**	**+0.1**
FNA				S	**Sg**	**06 01 19.3**	**+0.2**
FNA				AML	AML	06 01 22.1	

comp=N,242µm,0.2s

FNA				AML	AML	06 01 22.6	

comp=E,191µm,0.2s

FNA	**Florina**	**0.54**	**63**	P	**Pg**	**06 01 12.2**	**+0.2**
FNA				S	**Sg**	**06 01 19.2**	**+0.1**
KPRO	**Kipourio**	**0.75**	**141**	P	**Pb**	**06 01 16.4**	**-0.1**
KPRO				S	**Sg**	**06 01 24.8**	**-1.0**
KPRO				AML	AML	06 01 31.0	

comp=E,108µm,0.7s

KPRO				AML	AML	06 01 31.0	

comp=N,47µm,0.3s

KPRO	**Kipourio**	**0.75**	**141**	P	**Pg**	**06 01 16.2**	**+0.2**
KPRO				S	**Sg**	**06 01 25.2**	**-0.6**
KZN	**Kozani**	**0.82**	**106**	P	**Pg**	**06 01 17.1**	**-0.1**
KZN	**Kozani**	**0.82**	**106**	P	**Pg**	**06 01 17.0**	**-0.2**

*HLW **10** 06:01:43.4, 36.45N×28.30E, h7km±8km, Md3.7, Ml3.2*
*DDA **10** 06:01:44.3, 36.68N×28.13E, h45km, Ml3.8*
*ATH **10** 06:01:44.6, 36.72N×28.20E, h63km±4km, ML3.4/6, Error ellipse: s-maj=4.4km s-min=1.0km az=173.0*
*ISK **10** 06:01:45.2, 36.77N×28.17E, h54km, ML4.0/47*
*CSEM **10** 06:01:45.4±0.1, 36.65N×28.20E, h54km±4km, ML4.0, Error ellipse: s-maj=3.6km s-min=2.3km az=43.0*
*THE **10** 06:01:46.1, 36.73N×28.19E, h61km±3km, ML3.5/4, Error ellipse: s-maj=3.7km s-min=0.9km az=100.0*
*NIC **10** 06:01:46.4±0.3, 36.72N×28.42E, h38km, mb4.3, ML3.8*
*GII **10** 06:01:50.9±0.0, 35.96N×28.69E, h14km, MD3.3/1*

ISC 10 06:01:45.1±0.9, 36.69N±0.03×28.23E±0.02, h42km±9km, n245, σ1°47/291, 2C, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TURN	**Turunc**	**0.35**	**58**	PG	**Pn**	**06 01 53.9**	**-0.1**
TURN				SG	**Sn**	**06 02 00.1**	**-0.2**
TURN	**Turunc**	**0.35**	**58**	*i* P	**Pn**	**06 01 54.0**	**-0.1**
TURN				*i* S	**Sn**	**06 01 59.8**	**-0.5**
TURN	**Turunc**	**0.35**	**58**	P	**Pn**	**06 01 54.0**	**-0.1**
TURN				S	**Sn**	**06 01 59.8**	**-0.5**
YER	**Y

BCK	Bucak	2.04	67	*e*Pn		Pn	06 02 18.9 +1.9
ZEY	˙zmir	2.07	319	*i* P		Pn	06 02 17.6 +0.3
APE	Apeiranthos	2.20	281	PN		Pn	06 02 19.3 +0.1
APE	Apeiranthos	2.20	281	P		Pn	06 02 20.0 +0.8
APE	Apeiranthos	2.20	281	*e*Pn		Pn	06 02 19.3 +0.1
APE	Apeiranthos	2.20	281	P		Pn	06 02 19.9 +0.8
AKHS	Akhisar	2.21	352	*i* P		Pn	06 02 19.8 +0.5
AKHS	Akhisar	2.21	352	P		Pn	06 02 19.8 +0.5
AKS	Akhisar	2.21	351	PN		Pn	06 02 19.4 +0.1
AKS	Akhisar	2.21	351	*e*Pn		Pn	06 02 19.4 +0.1
ZKR	Zakros	2.27	227	P		Pn	06 02 22.4 +2.3
ZKR				S		Sn	06 02 46.9 +0.2
ZKR	Zakros	2.27	227	P		Pn	06 02 21.8 +1.7
ZKR				S		Sn	06 02 47.4 +0.6
KRBN	Karaburun	2.32	326	PN		Pn	06 02 21.0 +0.2
KRBN	Karaburun	2.32	326	*e*Pn		Pn	06 02 21.0 +0.2
FOCM	Fo˘ça	2.35	330	PN		Pn	06 02 20.7 -0.4
FOCM	Fo˘ça	2.35	330	*e*Pn		Pn	06 02 20.7 -0.4
SUTC	Sutluce-Ispart	2.35	70	PN		Pn	06 02 23.4 +2.1
SUTC	Sutluce-Ispart	2.35	70	*e*Pn		Pn	06 02 23.4 +2.1
DEMI	Demirci	2.38	9	*i* P		Pn	06 02 22.5 +0.8
DEMI	Demirci	2.38	9	P		Pn	06 02 22.5 +0.8
CHOS	Chios island	2.42	315	PN		Pn	06 02 22.6 +0.3
CHOS	Chios island	2.42	315	P		Pn	06 02 22.9 +0.6
CHOS				S		Sn	06 02 50.1 -0.6
CHOS				AML	AML		06 02 53.6
	comp=E,1164µm,0.3s						
CHOS				AML	AML		06 02 54.7
	comp=N,676µm,0.2s						
CHOS	Chios island	2.42	315	P		Pn	06 02 22.8 +0.5
CHOS				S		Sn	06 02 50.3 -0.5
CHOS	Chios island	2.42	315	P		Pn	06 02 22.8 +0.5
CHOS				S		Sn	06 02 50.4 -0.4
SIMA	Simav-Kutahya	2.47	14	PN		Pn	06 02 23.3 +0.4
SIMA	Simav-Kutahya	2.47	14	*e*Pn		Pn	06 02 23.3 +0.4
NPS	Neapolis	2.56	237	P		Pn	06 02 25.4 +1.3
NPS				S		Sn	06 02 53.6 -0.4
NPS				AML	AML		06 02 55.2
	comp=N,440µm,0.4s						
NPS				AML	AML		06 02 56.1
	comp=E,793µm,0.3s						
NPS	Neapolis	2.56	237	P		Pn	06 02 25.3 +1.3
NPS				S		Sn	06 02 54.2 +0.3
GDZ	Gediz	2.59	22	*i* P		Pn	06 02 24.7 0.0
GDZ	Gediz	2.59	22	P		Pn	06 02 24.7 0.0
DKL	Dikili	2.60	337	PN		Pn	06 02 24.7 +0.1
DKL	Dikili	2.60	337	*e*Pn		Pn	06 02 24.7 +0.1
SHUT	Suhut-Afyon	2.62	44	PN		Pn	06 02 26.7 +1.7
SHUT	Suhut-Afyon	2.62	44	*e*Pn		Pn	06 02 26.7 +1.7
LAST	Lasithi	2.70	237	P		Pn	06 02 27.7 +1.6
LAST	Lasithi	2.70	237	P		Pn	06 02 27.5 +1.4
KEPZ	Antalya-Kepez	2.71	84	*i* P		Pn	06 02 29.3 +3.0
KEPZ	Antalya-Kepez	2.71	84	P		Pn	06 02 29.3 +3.0
STEP	BALIKESIR_Sava	2.72	352	*i* P		Pn	06 02 26.9 +0.6
STEP	BALIKESIR_Sava	2.72	352	P		Pn	06 02 26.9 +0.6
DURS	Dursunbey	2.92	4	*i* P		Pn	06 02 30.0 +0.9
DURS	Dursunbey	2.92	4	P		Pn	06 02 30.0 +0.9
TVSB	Tavsanli	2.92	19	PN		Pn	06 02 29.8 +0.6
TVSB	Tavsanli	2.92	19	*e*Pn		Pn	06 02 29.8 +0.6
BALB	Balikesir	2.96	355	PN		Pn	06 02 30.6 +1.0
BALB	Balikesir	2.96	355	*e*Pn		Pn	06 02 30.6 +1.0
PRK	Paraskevi	2.99	329	P		Pn	06 02 31.0 +1.1
PRK				S		Sn	06 03 04.5 -0.1
PRK	Paraskevi	2.99	329	P		Pn	06 02 30.8 +0.9
PRK				S		Sn	06 03 04.4 -0.1
IDI	Anoyia	3.05	244	PN		Pn	06 02 32.9 +2.0
IDI	Anoyia	3.05	244	*e*Pn		Pn	06 02 32.9 +2.0
SIGR	SIGRI	3.14	324	PN		Pn	06 02 32.6 +0.5
SIGR	SIGRI	3.14	324	P		Pn	06 02 32.6 +0.5
SIGR				S		Sn	06 03 07.4 -0.9
SIGR				AML	AML		06 03 10.0
	comp=N,318µm,0.6s						
SIGR				AML	AML		06 03 10.1
	comp=E,330µm,0.4s						
SIGR	SIGRI	3.14	324	*e*Pn		Pn	06 02 32.6 +0.5
SIGR				S		Sn	06 03 07.7 -0.7
GPNR	Gulpinar-Canak	3.22	330	PN		Pn	06 02 33.2 0.0
GPNR	Gulpinar-Canak	3.22	330	*e*Pn		Pn	06 02 33.2 0.0
BAYC	CANAKKALE_Bayr	3.33	337	*i* P		Pn	06 02 35.1 +0.5
BAYC	CANAKKALE_Bayr	3.33	337	P		Pn	06 02 35.1 +0.5
GONE	Gonen-Balikesi	3.38	353	PN		Pn	06 02 36.4 +1.0
GONE	Gonen-Balikesi	3.38	353	*e*Pn		Pn	06 02 36.4 +1.0
ORLT	Orhaneli	3.40	9	PN		Pn	06 02 37.2 +1.6
ORLT	Orhaneli	3.40	9	*e*Pn		Pn	06 02 37.2 +1.6
EZN	Ezine	3.48	335	PN		Pn	06 02 37.2 +0.6
EZN	Ezine	3.48	335	*e*Pn		Pn	06 02 37.2 +0.6
ESKT	Eskisehir	3.50	35	PN		Pn	06 02 38.6 +1.5
ESKT	Eskisehir	3.50	35	*e*Pn		Pn	06 02 38.6 +1.5
KCTX	Karacabey (Bur	3.58	2	PN		Pn	06 02 38.9 +0.9
KCTX	Karacabey (Bur	3.58	2	*e*Pn		Pn	06 02 38.9 +0.9
BOZC	Bozcaada	3.59	332	PN		Pn	06 02 39.0 +0.8
BOZC	Bozcaada	3.59	332	*e*Pn		Pn	06 02 39.0 +0.8
EDC	Edincik	3.67	356	PN		Pn	06 02 39.2 -0.1
EDC	Edincik	3.67	356	*e*Pn		Pn	06 02 39.2 -0.1
CAVI	Cavuskoy	3.73	19	PN		Pn	06 02 41.2 +1.0
CAVI	Cavuskoy	3.73	19	*e*Pn		Pn	06 02 41.2 +1.0
KRBG	Karabiga-Canak	3.77	349	PN		Pn	06 02 41.5 +0.8
KRBG	Karabiga-Canak	3.77	349	*e*Pn		Pn	06 02 41.5 +0.8
SVRH	Sivrihisar-ESK	3.79	42	PN		Pn	06 02 44.5 +3.5
PPCY	Paphos	3.80	117	P		Pn	06 02 41.9 +0.9
	baz=300						
PPCY	Paphos	3.80	117	P		Pn	06 02 41.9 +0.9
LPK	Lapseki	3.86	343	PN		Pn	06 02 41.9 0.0
LPK	Lapseki	3.86	343	*e*Pn		Pn	06 02 41.9 0.0
ALFC	Alefka	3.86	112	P		Pn	06 02 41.8 -0.2
	baz=295						
ALFC				S		Sn	06 03 25.4 -0.7
ALFC	Alefka	3.86	112	P		Pn	06 02 41.8 -0.2
ALFC				S		Sn	06 03 25.4 -0.7
ARMT	Armutlu	3.91	7	PN		Pn	06 02 43.6 +1.0
ARMT	Armutlu	3.91	7	*e*Pn		Pn	06 02 43.6 +1.0
GADA	Gvkgeada	3.95	333	PN		Pn	06 02 43.7 +0.6
GADA	Gvkgeada	3.95	333	*e*Pn		Pn	06 02 43.7 +0.6
GOKC	Gokceada-Canak	3.95	333	PN		Pn	06 02 42.9 -0.3
GOKC	Gokceada-Canak	3.95	333	*e*Pn		Pn	06 02 42.9 -0.3
GELI	Tayfur-Gelibol	3.95	340	PN		Pn	06 02 43.9 +0.7
GELI	Tayfur-Gelibol	3.95	340	*e*Pn		Pn	06 02 43.9 +0.7
TEKE	Tekeli-Mersin	3.97	96	PN		Pn	06 02 45.8 +2.3
TEKE	Tekeli-Mersin	3.97	96	*e*Pn		Pn	06 02 45.8 +2.3
YLV	Yalova	3.98	13	PN		Pn	06 02 44.2 +0.6
YLV	Yalova	3.98	13	*e*Pn		Pn	06 02 44.2 +0.6
AKDN	Akdeniz- K˙–ar	4.08	108	PN		Pn	06 02 44.8 -0.2
AKDN	Akdeniz- K˙–ar	4.08	108	*e*Pn		Pn	06 02 44.8 -0.2
LEF	Lefka	4.09	111	PN		Pn	06 02 43.6 -1.5
LEF	Lefka	4.09	111	*e*Pn		Pn	06 02 43.6 -1.5
GULT	Gulveren	4.15	25	PN		Pn	06 02 47.6 +1.7
GULT	Gulveren	4.15	25	*e*Pn		Pn	06 02 47.6 +1.7
SBT3	Marmara-Eregli	4.20	357	PN		Pn	06 02 46.9 +0.5
SBT3	Marmara-Eregli	4.20	357	*e*Pn		Pn	06 02 46.9 +0.5
ERIK	Erikli-Kesan	4.20	342	PN		Pn	06 02 47.1 +0.5
ERIK	Erikli-Kesan	4.20	342	*e*Pn		Pn	06 02 47.1 +0.5
SZAC	Souni	4.25	116	P		Pn	06 02 47.8 +0.5
	baz=299						
SZAC				S		Sn	06 03 36.0 +0.4
SZAC	Souni	4.25	116	P		Pn	06 02 47.8 +0.5
SZAC				S		Sn	06 03 36.0 +0.4
HRT	Hereke	4.28	15	PN		Pn	06 02 48.9 +1.2
HRT	Hereke	4.28	15	*e*Pn		Pn	06 02 48.9 +1.2
AKKU	Akkuyu-Mersin	4.32	95	PN		Pn	06 02 50.8 +2.5
AKKU	Akkuyu-Mersin	4.32	95	*e*Pn		Pn	06 02 50.8 +2.5
ENEZ	Enez	4.36	339	PN		Pn	06 02 50.3 +1.5
ENEZ	Enez	4.36	339	*e*Pn		Pn	06 02 50.3 +1.5
CSS	Mathiatis	4.49	111	PN		Pn	06 02 53.9 +3.4
CSS	Mathiatis	4.49	111	P		Pn	06 02 50.9 +0.4
	baz=295						
CSS	Mathiatis	4.49	111	P		Pn	06 02 50.9 +0.4
CSS	Mathiatis	4.49	111	Pn		Pn	06 02 51.4 +0.9
CSS	Mathiatis	4.49	111	Pn		Pn	06 02 51.4 +0.9
SLVT	Silivri	4.54	360	PN		Pn	06 02 51.6 +0.4
SLVT	Silivri	4.54	360	*e*Pn		Pn	06 02 51.6 +0.4
ALN	Alexandroupoli	4.54	339	PN		Pn	06 02 51.3 +0.1
ALN	Alexandroupoli	4.54	339	P		Pn	06 02 52.0 +0.8
ALN	Alexandroupoli	4.54	339	*e*Pn		Pn	06 02 51.3 +0.1
ALN	Alexandroupoli	4.54	339	P		Pn	06 02 52.0 +0.8
CTKS	Kestanelik-??a	4.55	3	PN		Pn	06 02 51.6 +0.2
CTKS	Kestanelik-??a	4.55	3	*e*Pn		Pn	06 02 51.6 +0.2
KIZK	Mersin	4.76	91	PN		Pn	06 02 57.8 +3.5
ANTO	Ankara	4.79	47	PN		Pn	06 02 57.2 +2.4
ANTO	Ankara	4.79	47	*e*Pn		Pn	06 02 57.2 +2.4
HORT	Hortiatis	5.60	316	PN		Pn	06 03 07.6 +1.7
HORT	Hortiatis	5.60	316	*e*Pn		Pn	06 03 07.6 +1.7
SLUM	Salum	5.75	207	P		Pn	06 03 07.5 -0.5
	baz=209						
KNT	Kendrikon	6.10	319	PN		Pn	06 03 13.7 +1.0
KNT	Kendrikon	6.10	319	*e*Pn		Pn	06 03 13.7 +1.0
CORM	Corum	6.11	53	PN		Pn	06 03 15.7 +2.7
CORM	Corum	6.11	53	*e*Pn		Pn	06 03 15.7 +2.7
GRG	Griva	6.24	315	PN		Pn	06 03 15.9 +1.3
GRG	Griva	6.24	315	*e*Pn		Pn	06 03 15.9 +1.3
MMA0B	Mount Meron ar	6.94	120	Sn		Sn	06 04 37.2 -4.8
VTS	Vitosha	7.06	328	*i* P		Pn	06 03 28.5 +2.6
KSHT	Keshet	7.24	118	PN		Pn	06 03 28.7 +0.2
KSHT	Keshet	7.24	118	Pn		Pn	06 03 28.7 +0.2
MMLI	Mount Malkishu	7.29	123	Pn		Pn	06 03 28.6 -0.4
MMLI	Mount Malkishu	7.29	123	Pn		Pn	06 03 28.6 -0.4
MMLI				Sn		Sn	06 04 44.7 -5.8
RSH		7.31	140	P		Pn	06 03 28.2 -1.1
	baz=138						
KOT	Kottamia	7.38	155	P		Pn	06 03 29.6 -0.7
	baz=154						
HHAG	Hagoal	7.45	153	P		Pn	06 03 30.6 -0.7
	baz=152						
HMDT	Nahal Hemdat	7.47	124	Pn		Pn	06 03 31.4 -0.1
HMDT	Nahal Hemdat	7.47	124	Pn		Pn	06 03 31.4 -0.1
AMAZ	Amatzia	7.56	131	Pn		Pn	06 03 32.3 -0.4
AMAZ	Amatzia	7.56	131	Pn		Pn	06 03 32.3 -0.4
HSAF	As Saff	7.58	158	P		Pn	06 03 31.6 -1.4
	baz=157						
GLL	Jalalah	7.66	157	P		Pn	06 03 33.0 -1.2
	baz=156						
KZIT	Kziot	7.71	137	Pn		Pn	06 03 34.1 -0.8
KZIT	Kziot	7.71	137	Pn		Pn	06 03 34.1 -0.8
KZIT				Sn		Sn	06 04 53.5 -7.5
SWA2		7.78	198	P		Pn	06 03 34.8 -1.0
	baz=200						
YTIR	Yattir	7.80	131	Pn		Pn	06 03 35.3 -0.8
YTIR	Yattir	7.80	131	Pn		Pn	06 03 35.3 -0.8
DSI	Dead Sea	7.82	129	Pn		Pn	06 03 35.7 -0.6
DSI	Dead Sea	7.82	129	Pn		Pn	06 03 35.7 -0.6
MZDA	Masada	7.99	130	Pn		Pn	06 03 38.0 -0.5
MZDA	Masada	7.99	130	Pn		Pn	06 03 38.0 -0.5
ZFRI	Zfri	8.42	135	Pn		Pn	06 03 43.1 -1.4
ZFRI	Zfri	8.42	135	Pn		Pn	06 03 43.1 -1.4
NBNS	Bani Suef	8.44	161	P		Pn	06 03 43.5 -1.4
	baz=161						
PRNI	Paran	8.47	136	Pn		Pn	06 03 44.0 -1.3
PRNI	Paran	8.47	136	Pn		Pn	06 03 44.0 -1.3
PRNI				Sn		Sn	06 05 13.7 -6.0
KRMI	Paran Flat	8.51	139	Pn		Pn	06 03 44.5 -1.2
KRMI	Paran Flat	8.51	139	Pn		Pn	06 03 44.5 -1.2
HRFI	Mount Harif	8.74	137	Pn		Pn	06 03 47.4 -1.5
HRFI	Mount Harif	8.74	137	Pn		Pn	06 03 47.4 -1.5
HRFI				Sn		Sn	06 05 19.4 -6.7
MBRI	Mt Berech	8.86	139	Pn		Pn	06 03 49.4 -1.3
MBRI	Mt Berech	8.86	139	Pn		Pn	06 03 49.4 -1.3
MLR	Muntele Rosu	8.96	350	*i* P		Pn	06 03 54.2 +2.2
EIL	Elat	8.98	139	Pn		Pn	06 03 51.1 -1.1
EIL	Elat	8.98	139	Pn		Pn	06 03 51.1 -1.1
EIL				Sn		Sn	06 05 25.2 -6.8
HBST	Basata	9.23	142	P		Pn	06 03 55.3 -0.4
	baz=141						
HQLS		9.33	140	P		Pn	06 03 56.0 -1.1
HQLS				S		Sn	06 05 32.0 -8.7
HAQS	Haql	9.46	142	P		Pn	06 03 57.7 -1.1
JLOS		10.01	140	P		Pn	06 04 05.4 -1.0
JLOS				S		Sn	06 05 47.9 -10
BDAS	Al Bad‘	10.06	143	P		Pn	06 04 05.5 -1.6

MEX 10 06:05:39.9±0.4, 15°.89N×98°.75W, h9km±11km, MD3.8, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.78	50	*i* P	Pg	06 05 53.2	-1.7
PNIG				*i* S	Sg	06 06 03.3	-1.9
TLIG	Tlapa	1.67	6	*e*P	Pn	06 06 06.0	-3.6
TLIG				*e*S	Sn	06 06 25.8	-5.4
CAIG	El Cayaco	1.86	309	*e*P	Pn	06 06 08.9	-3.0
CAIG				*i* S	Sn	06 06 31.1	-4.5
VHO	Vista Hermosa	2.26	58	*e*P	Pn	06 06 14.3	-3.4
VHO				*e*S	Sn	06 06 41.6	-4.2
PLIG	Platanillo	2.59	344	*e*P	Pn	06 06 23.3	+1.2
PLIG				*e*S	Sn	06 06 49.5	-4.4

SOME ***10*** *06:16:03.6, 44°.68N×82°.13E, h10km*
NNC ***10*** *06:16:05.5±2.7, 44°.75N×81°.83E, h0km, mb3.3, mpv2.9, Error ellipse: s-maj=50.8km s-min=9.6km az=118.0*
ISC 10 06:16:03.2±1.8, 44°.71N±0°.06×82°.15E±0°.09, h10km, n12, σ2§07/21, 2C-4D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DJR	Jarkent	1.73	258	*e*P	Pb	06 16 35.7	+0.5
	5.8nm,0.1s						
DJR				*e*S	Sg	06 16 59.0	+0.2
	16nm,0.3s						
KTMS	Ketmen	1.81	226	*e*P	Pg	06 16 37.3	-0.6
	7.7nm,0.2s						
KTMS				*e*S	Sg	06 17 02.0	+0.7
	29nm,0.3s						
KAPS	Kapalarasan	2.06	287	*e*P	Pb	06 16 41.2	+0.4
	3.2nm,0.2s						
KAPS				*e*S	Sg	06 17 08.4	-1.1
	9.8nm,0.2s						
MK31	Makanchi Array	2.09	3	⇓Pn	Pb	06 16 41.9	+0.7
	4.7nm,0.2s,baz=180,slow=13,SNR=312						
MK31				⇓Lg	Lg	06 17 09.9	
	2.4nm,0.2s,baz=181,slow=27,SNR=23						
MAKZ	Makanchi	2.10	357	⇓Pn	Pb	06 16 41.9	+0.4
	3.5nm,0.4s						
MAKZ				⇑Lg	Lg	06 17 10.1	
	14nm,0.4s						
PDGK	Podgornoye	2.36	235	⇓Pg	Pb	06 16 44.8	-1.1
	1.0nm,0.3s						
PDGK				⇑Lg	Lg	06 17 17.2	
	10.0nm,0.6s						
KPKS	Kokpek	2.79	245	*e*P	Pb	06 16 53.7	+0.5
	2.4nm,0.1s						
KPKS				*e*S	Sb	06 17 29.6	+2.2
	24nm,0.3s						
KURS	Kuram	3.11	248	*e*P	Pb	06 16 59.8	+1.1
	2.0nm,0.3s						
KURS				*e*S	Sg	06 17 40.0	-3.2
	3.6nm,0.3s						
ARXS	Arharly	3.13	262	*e*P	Pb	06 16 59.6	+0.6
	2.3nm,0.3s						
ARXS				*e*S	Sb	06 17 40.0	+2.6
	12nm,0.3s						
CHKK	Chushkaly	3.80	259	*e*P	Pb	06 17 11.2	+0.8
	1.1nm,0.2s						
CHKK				*e*S	Sb	06 17 59.8	+3.3
	7.8nm,0.3s						
TNSS	Tian-Shan	4.11	248	*e*P	Pg	06 17 19.3	-2.8
	1.4nm,0.3s						
TNSS				*e*S	Sg	06 18 13.5	-1.8
	2.8nm,0.7s						
KST	Kastek	4.77	252	*e*P	Pb	06 17 30.7	+3.7
	1.2nm,0.5s						
KST				*e*S	Sg	06 18 32.8	-3.5
	1.9nm,0.4s						

IDC 10 06:34:49.3±2.2, 4°.03S×129°.79E, h0km, mb4.0/2, mb1 3.8/4, mb1mx3.5/53, mbtmpg3.7/4, ML3.2/2, MS4.0/2, Ms1 4.0/2, ms1mx3.2/53, Error ellipse: s-maj=173.3km s-min=26.0km az=70.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	16.43	165	Pn	Pn	06 38 40.4	-1.0
	0.1nm,0.3s,baz=348,slow=13,SNR=3.6						
ASAR	Alice Springs	19.92	169	P	P	06 39 23.3	+0.4
	0.1nm,0.3s,baz=348,slow=9.8,SNR=12						
GUMO	Guam	23.03	40	LR	LR	06 47 39.3	
	comp=Z,480nm,21.7s,baz=63,slow=33						
USRK	Ussuriysk Ar.	48.05	2	LR	LR	07 03 35.6	
	comp=Z,132nm,21.2s,baz=117,slow=36						
MKAR	Makanchi Array	65.65	326	P	P	06 45 35.4	-0.1
	0.9nm,0.6s,baz=119,slow=8.3,SNR=12						
KURBB	Kurchatov Arra	69.89	328	P	P	06 46 02.2	+0.1
	1.2nm,0.6s,baz=130,slow=5.6,SNR=12						

IDC 10 06:37:51.4±2.6, 7°.68S×128°.84E, h0km, mb3.5/1, mb1 3.7/3, mb1mx3.4/51, mbtmp3.5/3, ML3.6/2, Error ellipse: s-maj=260.1km s-min=32.7km az=66.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	13.31	157	Pn	Pn	06 41 01.9	+0.2
	0.4nm,0.3s,baz=336,slow=15,SNR=17						
WRA				Sn	Sn	06 43 19.6	-11
	0.5nm,0.3s,baz=335,slow=23,SNR=6.8						
ASAR	Alice Springs	16.62	164	Pn	Pn	06 41 45.9	-0.2
	0.1nm,0.3s,baz=342,slow=11,SNR=4.1						
ASAR				Sn	Sn	06 44 39.6	-12
	0.1nm,0.3s,baz=323,slow=16,SNR=3.7						
MKAR	Makanchi Array	68.17	327	P	P	06 48 53.6	0.0
	0.3nm,0.5s,baz=121,slow=7.8,SNR=5.0						

ISK ***10*** *07:00:00.3, 38°.75N×43°.32E, h14km, ML2.1/2*
CSEM ***10*** *07:00:01.5±0.4, 38°.75N×43°.30E, h10km, ML2.1, Error ellipse: s-maj=10.1km s-min=8.4km az=137.0*
DDA ***10*** *07:00:02.6, 38°.69N×43°.37E, h7km, Ml2.6*
ISC 10 07:00:01.9±0.9, 38°.77N±0°.04×43°.33E±0°.03, h12km±12km, n15, σ1§11/27, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	Van	0.18	164	PG	Pg	07 00 05.9	-0.1
VANB				SG	Sg	07 00 10.1	+1.3
VANB	Van	0.18	164	*e*Pg	Pg	07 00 05.9	-0.1
VANB				*e*Sg	Sg	07 00 10.1	+1.3
TVAN	Van	0.25	165	*i* P	Pg	07 00 06.0	-1.3
TVAN				*i* S	Sg	07 00 09.8	-1.0
TVAN	Van	0.25	165	P	Pg	07 00 05.9	-1.3
TVAN				S	Sg	07 00 09.8	-1.0
VMUR	Van-Muradiye	0.29	41	*i* P	Pb	07 00 09.0	-0.2
VMUR				*i* S	Sb	07 00 15.6	+1.4
VMUR	Van-Muradiye	0.29	41	P	Pb	07 00 09.0	-0.2
VMUR				S	Sb	07 00 15.6	+1.4
ADCV	BITLIS_Adilcev	0.47	275	*i* P	Pb	07 00 12.2	-0.1
ADCV				*i* S	Sb	07 00 21.1	+1.8
ADCV	BITLIS_Adilcev	0.47	275	P	Pb	07 00 12.2	-0.1
ADCV				S	Sb	07 00 21.1	+1.8
CLDR	Caldiran	0.59	51	PG	Pg	07 00 12.6	-1.0
CLDR				SG	Sg	07 00 21.7	+0.2
CLDR	Caldiran	0.59	51	*i* P	Pg	07 00 12.8	-0.8
CLDR				*i* S	Sb	07 00 23.4	+0.6
CLDR	Caldiran	0.59	51	*e*Pg	Pg	07 00 12.6	-1.0
CLDR				*e*Sg	Sg	07 00 21.7	+0.2
CLDR				S	Sb	07 00 23.5	+0.6
AGRB	Hanur-Agry	0.85	342	PG	Pg	07 00 17.5	-0.8
AGRB	Hanur-Agry	0.85	342	*e*Pg	Pg	07 00 17.5	-0.8
GURO	Guroymak-BITLI	1.03	258	PG	Pg	07 00 20.4	-1.5
GURO	Guroymak-BITLI	1.03	258	*e*Pg	Pg	07 00 20.4	-1.5

NIED ***10*** *07:13:00, 40°.80N×145°.30E, h5km, Mw4.0 Best double couple: M0 1.25000×10^15 NP1:φs351.00000°, δ45.00000°, λ-99.00000°. NP2:φs184.00000°, δ46.00000°, λ-82.00000°.*
IDC ***10*** *07:13:28.5±0.7, 40°.76N×145°.28E, h0km, mb3.9/18, mb1 4.1/22, mb1mx3.9/67, mbtmp3.9/22, ML3.1/4, MS3.3/2, Ms1 3.3/2, ms1mx2.6/66, Error ellipse: s-maj=17.9km s-min=15.6km az=110.0*
JMA ***10*** *07:13:29.9±0.2, 40°.83N×145°.30E, h63km±3km, M4.0*
ISCJB ***10*** *07:13:32.4±0.3, 40°.88N±0°.03×145°.06E±0°.04, h33km, mb4.2/30, MS3.8/1, Error ellipse: s-maj=4.1km s-min=3.7km az=179.9*
BJI ***10*** *07:13:32.3, 40°.98N×145°.27E, h35km, mb4.6/10, mB4.6/5, Ms3.9/2, Ms7 3.6/2*
NEIC ***10*** *07:13:34.4±0.8, 40°.82N×145°.14E, h35km±7km, mb4.4/11, Error ellipse: s-maj=7.7km s-min=5.8km az=133.0*
ISC 10 07:13:33.8±0.6, 40°.83N±0°.05×145°.17E±0°.06, h35km, n87, σ1§92/101, mb4.2/30, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERM	Erimo	1.92	309	*e*Pn	Pn	07 14 02.5	-1.4
ERM				*e*Sn	Sn	07 14 24.9	-2.0
JEM	Erimo	1.92	309	P	Pn	07 14 02.2	-1.8
JEM				*e*S	Sn	07 14 24.2	-2.7
JAK	Akkeshi	2.19	351	P	Pn	07 14 04.9	-2.8
JAK				*e*S	Sn	07 14 30.8	-2.8
JCH	Churui	2.24	323	P	Pn	07 14 06.2	-2.1
JCH				*e*S	Sn	07 14 31.6	-3.1
JOB	Onbets	2.30	335	P	Pn	07 14 07.4	-1.8
JOB				S	Sn	07 14 34.4

H11S3	**WAKE ISLAND Hy**	**28.92**	**134**	T	T	07 50 05.0		
	baz=318							
H11S2	**WAKE ISLAND Hy**	**28.93**	**134**	T	T	07 50 03.3		
	baz=318,slow=74							
LZH	**Lanzhou**	**32.48**	**275**	*e*P	**P**	**07 20 03.4**	**+2.3**	
LZH				pP	sP	07 20 15.0	-0.4	
LZH				sP	pP	07 20 20.1	+8.9	
LZH				*e*PP	**PnPn**	**07 21 11.5**	**+2.7**	
LZH				pmax	pmax			
	comp=Z,18nm,1.2s							
LZH				pmax	pmax			
	comp=Z,45nm,5.0s							
LZH				LR	LR			
	comp=N,120nm,13.0s							
LZH				LR	LR			
	comp=E,100nm,13.3s							
LZH				LR	LR			
	comp=Z,160nm,16.9s							
ZALV	**Zalesovo Beam**	**41.65**	**309**	P	**P**	**07 21 20.3**	**+1.8**	
	0.7nm,0.4s,baz=104,slow=6.3,SNR=4.0							
ZALV				PcP	**PcP**	**07 23 15.0**	**+0.2**	
	0.8nm,0.4s,baz=94,slow=2.0,SNR=3.6							
WMQ	**Urumqi**	**41.87**	**294**	P	**P**	**07 21 22.1**	**+1.7**	
IM3	**Indian Mountai**	**41.89**	**32**	*e*P	**P**	**07 21 21.3**	**+1.0**	
TOLK	**Toolik Lake Re**	**43.75**	**29**	*e*P	**P**	**07 21 37.2**	**+1.9**	
	3.0nm,0.8s							
MDM	**Murphy Dome**	**44.14**	**34**	*e*P	**P**	**07 21 40.3**	**+1.7**	
	7.1nm,1.2s							
MK01	**Makanchi Array**	**44.69**	**300**	*e*P	**P**	**07 21 43.4**	**+0.2**	
MK31	**Makanchi Array**	**44.69**	**300**	*e*P	**P**	**07 21 43.4**	**+0.2**	
MKAR	**Makanchi Array**	**44.69**	**300**	P	**P**	**07 21 44.1**	**+0.9**	
	0.6nm,0.7s,baz=78,slow=7.3,SNR=6.2							
MKAR	**Makanchi Array**	**44.69**	**300**	*e*P	**P**	**07 21 43.5**	**+0.3**	
	7.5nm,0.7s							
ILAR	**Eielson Array**	**44.72**	**34**	P	**P**	**07 21 43.9**	**+0.8**	
	1.3nm,0.9s,baz=259,slow=6.2,SNR=10							
ILB	**Eielson Array**	**44.72**	**34**	*e*P	**P**	**07 21 43.8**	**+0.6**	
KURK	**Kurchatov**	**45.99**	**306**	*e*P	**P**	**07 21 53.3**	**-0.1**	
	7.0nm,1.2s							
DOT	**Dot Lake**	**46.02**	**36**	*e*P	**P**	**07 21 54.0**	**+0.5**	
	8.6nm,1.3s							
SCRK	**Sand Creek**	**46.03**	**35**	*e*P	**P**	**07 21 54.3**	**+0.6**	
	2.6nm,0.9s							
KURBB	**Kurchatov Arra**	**46.07**	**306**	P	**P**	**07 21 54.3**	**+0.3**	
	3.0nm,0.8s,baz=77,slow=8.6,SNR=14							
RAGM	**Ragged Mountai**	**46.12**	**40**	*e*P	**P**	**07 21 55.2**	**+0.9**	
	5.5nm,1.0s							
HYT	**Haines Junctio**	**49.51**	**39**	*e*P	**P**	**07 22 22.2**	**+1.6**	
	6.9nm,1.0s							
INK	**Inuvik**	**49.67**	**29**	P	**P**	**07 22 22.5**	**+1.0**	
	2.5nm,1.1s,baz=295,slow=5.5,SNR=9.1							
INK	**Inuvik**	**49.67**	**29**	*e*P	**P**	**07 22 22.8**	**+1.3**	
	3.7nm,1.2s							
BVAR	**Borovoye Array**	**50.25**	**311**	P	**P**	**07 22 26.5**	**+0.2**	
	1.5nm,0.7s,baz=80,slow=8.9,SNR=9.5							
AB06	**Akbulak array**	**57.75**	**309**	*e*P	**P**	**07 23 21.7**	**+0.7**	
AB05	**Akbulak array**	**57.76**	**309**	*e*P	**P**	**07 23 21.4**	**+0.4**	
AB02	**Akbulak array**	**57.76**	**309**	*e*P	**P**	**07 23 21.5**	**+0.4**	
AB07	**Akbulak array**	**57.76**	**309**	*e*P	**P**	**07 23 21.7**	**+0.6**	
AB31	**Akbulak array**	**57.76**	**309**	*e*P	**P**	**07 23 21.5**	**+0.4**	
ABKAR	**Akbulak array**	**57.76**	**309**	*e*P	**P**	**07 23 21.6**	**+0.6**	
	13nm,0.6s							
AB04	**Akbulak array**	**57.77**	**309**	*e*P	**P**	**07 23 21.9**	**+0.8**	
AB09	**Akbulak array**	**57.78**	**309**	*e*P	**P**	**07 23 21.5**	**+0.4**	
AB08	**Akbulak array**	**57.78**	**309**	*e*P	**P**	**07 23 21.6**	**+0.4**	
AKTO	**Aktyubinsk**	**58.34**	**311**	P	**P**	**07 23 27.2**	**+2.1**	
	1.1nm,0.7s,baz=60,slow=11,SNR=4.3							
YKA	**Yellowknife Ar**	**59.05**	**32**	P	**P**	**07 23 29.7**	**-0.1**	
	0.5nm,0.8s,baz=296,slow=6.6,SNR=8.7							
WB2	**Warramunga Arr**	**61.29**	**192**	*e*P	**P**	**07 23 45.3**	**-0.3**	
WRA	**Warramunga Arr**	**61.29**	**192**	P	**P**	**07 23 44.6**	**-1.0**	
	4.7nm,0.9s,baz=13,slow=7.1,SNR=24							
ASAR	**Alice Springs**	**65.01**	**191**	P	**P**	**07 24 10.5**	**+0.2**	
	1.0nm,0.8s,baz=15,slow=6.5,SNR=9.5							
FINES	**FINESS Array B**	**66.80**	**333**	P	**P**	**07 24 21.4**	**0.0**	
	2.4nm,0.9s,baz=54,slow=10,SNR=3.2							
KBZ	**Khabaz**	**70.63**	**311**	P	**P**	**07 24 45.8**	**+0.3**	
	3.3nm,0.8s,baz=117,slow=2.6,SNR=5.9							
PDAR	**Pinedale Array**	**72.94**	**48**	P	**P**	**07 25 00.1**	**+0.4**	
	0.2nm,0.6s,baz=276,slow=3.5,SNR=2.9							
AKASG	**Malin Array Be**	**73.05**	**323**	P	**P**	**07 24 59.3**	**-0.6**	
	1.4nm,0.5s,baz=44,slow=6.4,SNR=5.1							
BUR08	**Bucovina Ar. S**	**77.08**	**323**	*e*P	**P**	**07 25 24.6**	**+1.3**	
BUR04	**Bucovina Ar. S**	**77.10**	**323**	*e*P	**P**	**07 25 24.6**	**+1.1**	
BRTR	**Keskin Array B**	**78.47**	**313**	P	**P**	**07 25 31.2**	**-0.1**	
	0.6nm,0.6s,baz=9.5,slow=4.4,SNR=2.7							
GERES	**GERESS Array B**	**80.97**	**330**	P	**P**	**07 25 44.7**	**+0.1**	
	0.7nm,0.8s,baz=49,slow=12,SNR=3.3							
SNAA	**Sanae**	**145.23**	**197**	PKPbc	**PKPbc**	**07 33 05.1**	**-1.1**	
	2.9nm,1.0s,baz=281,slow=3.4,SNR=4.0							
SNAA	**Sanae**	**145.23**	**197**	*e*PKPbc	**PKPbc**	**07 33 06.0**	**-0.3**	

***IDC* 10 07:31:51.9±1.3, 18°.04N×148°.00E, *h*0km, mb 3.6/5, mb1 4.0/5, mb1mx3.5/60, mbtmp3.6/5, Error ellipse: s-maj=155.6km s-min=21.3km az=115.0, Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**40.06**	**200**	P	P	07 39 29.1	0.0
	5.3nm,0.6s,baz=23,slow=9.0,SNR=61						
ASAR	**Alice Springs**	**43.68**	**199**	P	P	07 39 58.5	-0.2
	0.8nm,0.7s,baz=17,slow=8.2,SNR=13						
ILAR	**Eielson Array**	**63.27**	**26**	P	P	07 42 22.4	+0.2
	0.2nm,0.5s,baz=246,slow=5.7,SNR=5.6						
YKA	**Yellowknife Ar**	**77.54**	**28**	P	P	07 43 49.3	-0.1
	0.2nm,0.6s,baz=288,slow=5.3,SNR=4.2						
NVAR	**Mina Array Bea**	**81.81**	**52**	P	P	07 44 13.3	-0.2
	0.5nm,0.6s,baz=278,slow=6.3,SNR=3.7						

ISCJB **10** *07:54:30.7±0.6, 10°.23S×0°.06×121°.04E±0°.04, h33km, mb3.7/1, Error ellipse: s-maj=8.6km s-min=5.2km az=9.7*
DJA **10** *07:54:32.3±0.4, 10°.S×4°×12°.1E±°, h21km±5km, M4.0/10, mB5.9/1, mb4.6/3, MLv3.7/10, Mw(mB)5.5/1*
IDC **10** *07:54:36.9±4.5, 11°.02S×121°.63E, h0km, mb3.9/1, mb1 3.8/4, mb1mx3.5/53, mbtmp3.7/4, ML3.5/3, Error ellipse: s-maj=52.3km s-min=30.7km az=106.0*
ISC 10 07:54:31.7±1.0, 10°.16S±0°.08×121°.01E±0°.04, h35km, n12, σ1**9**51/15**, Savu Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BASI	**Baing, Sumba**	**0.43**	**262**	P	**Pn**	**07 54 42.1**	**+0.7**
BASI				S	**Sn**	**07 54 48.8**	**+0.7**
WSI	**Waingapu**	**0.86**	**305**	P	**Pn**	**07 54 47.4**	**+0.1**
WSI				S	**Sn**	**07 54 59.1**	**+0.4**
EDFI	**Ende, Flores**	**1.55**	**26**	P	**Pn**	**07 54 57.1**	**+0.1**
EDFI				S	**Sn**	**07 55 15.5**	**-0.5**
MMRI	**Maumere**	**1.94**	**39**	P	**Pn**	**07 55 02.9**	**+0.7**
BATI	**Baumata**	**2.61**	**91**	Pn	**Pn**	**07 55 13.7**	**+2.3**
	16nm,0.3s,baz=153,slow=3.2,SNR=35						
BATI				Sn	**Sn**	**07 55 43.3**	**+1.3**
	8.0nm,0.3s,baz=351,slow=19,SNR=5.1						
BATI	**Baumata**	**2.61**	**91**	P	**Pn**	**07 55 14.2**	**+2.8**
PLAI	**Plampang**	**3.46**	**292**	P	**Pn**	**07 55 24.2**	**+1.1**
BLJI	**Banyuglugur**	**7.71**	**288**	P	**Pn**	**07 56 22.5**	**+0.9**
WRA	**Warramunga Arr**	**16.12**	**129**	Pn	**Pn**	**07 58 13.2**	**-2.6**
	0.2nm,0.3s,baz=299,slow=14,SNR=10						
WRA				Sn	Sn	08 01 01.1	-13
	0.2nm,0.3s,baz=305,slow=24,SNR=6.3						
LWLI	**Liwa**	**17.56**	**286**	P	Pn	07 58 22.5	-12
ASAR	**Alice Springs**	**18.21**	**139**	P	**P**	**07 58 40.5**	**-1.4**
	0.2nm,0.3s,baz=329,slow=14,SNR=18						
ASAR				S	Sn	08 01 50.6	-14
	0.0nm,0.3s,baz=309,slow=22,SNR=3.0						
STKA	**Stephens Creek**	**28.81**	**142**	P	**P**	**08 00 27.1**	**+0.4**
	0.8nm,0.5s,baz=323,slow=6.1,SNR=3.7						

ISCJB **10** *07:58:44.0±0.4, 39°.64N×0°.03×29°.42E±0°.03, h0km, Error ellipse: s-maj=4.0km s-min=3.5km az=32.5*
CSEM **10** *07:58:43.7±0.3, 39°.60N×29°.42E, h1km, ML2.6, Error ellipse: s-maj=5.7km s-min=4.8km az=112.0, Suspected Mining explosion.*
DDA **10** *07:58:43.0, 39°.56N×29°.43E, h7km, Ml2.2, Suspected Mining explosion.*
ISK **10** *07:58:43.9, 39°.62N×29°.45E, h12km, ML2.6/7, Suspected Mining explosion.*
ISC 10 07:58:43.9±0.8, 39°.63N±0°.02×29°.40E±0°.03, h0km, n25, σ1**9**01/40**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TVSB	**Tavsanli**	**0.18**	**165**	PG	**Pg**	**07 58 47.9**	**+0.5**
TVSB				SG	**Sg**	**07 58 51.7**	**+1.9**
TVSB	**Tavsanli**	**0.18**	**165**	*e*Pg	**Pg**	**07 58 47.9**	**+0.5**
TVSB				*e*Sg	**Sg**	**07 58 51.7**	**+1.9**
GDZ	**Gediz**	**0.54**	**173**	*i* P	**Pg**	**07 58 52.9**	**-1.4**
GDZ				*i* S	**Sb**	**07 59 03.6**	**-1.2**
GDZ	**Gediz**	**0.54**	**173**	P	**Pg**	**07 58 52.9**	**-1.4**
GDZ				S	**Sb**	**07 59 03.6**	**-1.2**
CAVI	**Cavuskoy**	**0.67**	**31**	PG	**Pg**	**07 58 56.6**	**-0.1**
CAVI				SG	**Sg**	**07 59 06.2**	**+0.8**
CAVI	**Cavuskoy**	**0.67**	**31**	*e*Pg	**Pg**	**07 58 56.6**	**-0.1**
CAVI				*e*Sg	**Sg**	**07 59 06.2**	**+0.8**
DURS	**Dursunbey**	**0.71**	**268**	*i* P	**Pg**	**07 58 57.4**	**-0.3**
DURS				*i* S	**Sb**	**07 59 09.1**	**-0.6**
DURS	**Dursunbey**	**0.71**	**268**	P	**Pg**	**07 58 57.3**	**-0.3**
DURS				S	**Sb**	**07 59 09.1**	**-0.6**
MDNY	**Mudanya-Bursa**	**0.84**	**332**	PG	**Pb**	**07 59 01.0**	**-0.4**
MDNY	**Mudanya-Bursa**	**0.84**	**332**	*e*Pg	**Pb**	**07 59 01.0**	**-0.4**
BORA	**Eskisehir**	**0.85**	**72**	*i* P	**Pg**	**07 58 59.1**	**-1.1**
BORA				*i* S	**Sb**	**07 59 12.8**	**-0.9**
YLV	**Yalova**	**0.94**	**359**	PG	**Pb**	**07 59 02.7**	**-0.4**
YLV				SG	**Sb**	**07 59 16.7**	**+0.6**
YLV	**Yalova**	**0.94**	**359**	*e*Pg	**Pb**	**07 59 02.7**	**-0.4**
YLV				*e*Sg	**Sb**	**07 59 16.7**	**+0.6**
ARMT	**Armutlu**	**1.02**	**336**	PG	**Pb**	**07 59 04.5**	**0.0**
ARMT	**Armutlu**	**1.02**	**336**	*e*Pg	**Pb**	**07 59 04.5**	**0.0**
BALB	**Balikesir**	**1.17**	**271**	PN	**Pb**	**07 59 06.9**	**-0.2**
BALB	**Balikesir**	**1.17**	**271**	*e*Pn	**Pb**	**07 59 06.9**	**-0.2**
GULT	**Gulveren**	**1.18**	**47**	PN	**Pb**	**07 59 06.6**	**-0.6**
GULT	**Gulveren**	**1.18**	**47**	*e*Pn	**Pb**	**07 59 06.6**	**-0.6**
SAUV	**Serdivan-Sakar**	**1.32**	**32**	PN	**Pg**	**07 59 08.7**	**-0.5**
SAUV	**Serdivan-Sakar**	**1.32**	**32**	*e*Pn	**Pg**	**07 59 08.7**	**-0.5**
STEP	**BALIKESIR_Sava**	**1.32**	**260**	*i* P	**Pn**	**07 59 09.2**	**-0.5**
STEP				*i* S	**Sn**	**07 59 30.6**	**+2.5**
STEP	**BALIKESIR_Sava**	**1.32**	**260**	P	**Pn**	**07 59 09.2**	**-0.5**
STEP				S	**Sn**	**07 59 30.5**	**+2.5**
BALY	**Balya**	**1.38**	**275**	*i* P	**Pg**	**07 59 08.9**	**-1.4**
BALY				*i* S	**Sn**	**07 59 29.5**	**+0.1**
BALY	**Balya**	**1.38**	**275**	P	**Pg**	**07 59 08.9**	**-1.4**
BALY				S	**Sn**	**07 59 29.5**	**+0.1**

IDC **10** *08:08:32.9±0.4, 34°.34N×82°.40E, h0km, mb4.2/30, mb1 4.4/35, mb1mx4.3/71, mbtmp4.3/35, ML3.6/5, MS4.3/52, Ms1 4.3/52, ms1mx4.2/63, Error ellipse: s-maj=12.7km s-min=8.2km az=34.0*
BJI **10** *08:08:35.7, 34°.50N×82°.35E, h10km, mb4.7/49, mB4.9/32, ML5.0/3, Ms4.8/52, Ms7 4.5/52*
NDI **10** *08:08:36.6±2.4, 34°.59N×82°.48E, h34km, ML4.5, mb4.7(NEIC)*
NNC **10** *08:08:36.4±6.7, 34°.52N×82°.18E, h0km, mb5.0, mpv4.9, Error ellipse: s-maj=85.7km s-min=39.3km az=138.0*
MOS **10** *08:08:36.5±1.2, 34°.39N×82°.42E, h33km, mb4.6/43, MS4.3/24, Error ellipse: s-maj=7.4km s-min=4.3km az=109.8*
ISCJB **10** *08:08:36.5±0.1, 34°.38N±0°.01×82°.34E±0°.02, h33km, mb4.5/101, MS4.4/62, Error ellipse: s-maj=2.5km s-min=1.8km az=146.9*
NEIC **10** *08:08:38.3±1.1, 34°.38N×82°.39E, h34km±7km, mb4.7/51, Error ellipse: s-maj=3.9km s-min=3.2km az=204.0*
GCMT **10** *08:08:38.3±0.2, 34°.49N×82°.59E, h33km±1km, MW5.2/110, Moment Tensor Solution. s47,c60; s110,c183; Duration: 0 Moment tensor: Scale 10^17Nm; Mrr~0.09±.02; Mθθ~0.65±.01; Mφφ0.73±.02; Mrθ0.01±.02; Mθφ~0.05±.01; Mφr~0.13±.02; Best double couple: M0.70900×10^17 NP1:ϕs133.00000°, δ84.00000°, λ173.00000°. NP2: ϕs223.00000°, δ83.00000°, λ6.00000°. Principal axes: T 0.7620, Plg9.0000°, Azm88.0000°; N -0.1060, Plg81.0000°, Azm272.0000°; P -0.6560, Plg1.0000°, Azm178.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 10 08:08:38.8±0.2, 34°.34N±0°.03×82°.31E±0°.03, h35km, n340, σ2**3**3/377**, mb4.5**/101**, MS4.4**/63**, 16C-17D, Xizang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOSI	**Joshimath**	**4.43**	**212**	*e*P	**Pn**	**08 09 44.9**	**+1.1**
DDI	**Dehra Dun**	**5.39**	**223**	*e*P	**Pn**	**08 09 58.3**	**+1.6**
DDI				*ex*	x	08 11 00.4	
SMLA	**Simla**	**5.39**	**235**	*e*P	**Pn**	**08 09 58.1**	**+1.5**
SMLA				*e*S	**Sn**	**08 10 57.9**	**+0.4**
DHRM	**DHARAMSHALA**	**5.45**	**249**	*e*P	**Pn**	**08 09 58.6**	**+1.0**
DHRM				*e*S	**Sn**	**08 10 58.2**	**-1.0**
DANN	**Dangsing**	**6.10**	**168**	*e*Pn	**Pn**	**08 10 07.9**	**+1.2**
PYUN	**Piuthan**	**6.25**	**174**	*e*Pn	**Pn**	**08 10 08.6**	**-0.1**
GKN	**Gorkha**	**6.62**	**162**	*e*Pn	**Pn**	**08 10 15.3**	**+1.5**
KOLN	**Koldanda**	**6.64**	**170**	*e*Pn	**Pn**	**08 10 14.4**	**+0.3**
KOLN				*e*Sn	**Sn**	**08 11 32.4**	**+3.7**
	309nm,0.7s						
KKN	**Kakani**	**7.01**	**158**	*e*Pn	**Pn**	**08 10 21.0**	**+1.9**
KKN				*e*Sn	**Sn**	**08 11 40.4**	**+2.7**
	328nm,0.8s						
GUN	**Gumba**	**7.10**	**154**	*e*Pn	**Pn**	**08 10 21.5**	**+1.0**
DMN	**Daman**	**7.12**	**160**	*e*Pn	**Pn**	**08 10 22.8**	**+2.0**
DMN				*e*Sn	**Sn**	**08 11 44.3**	**+3.7**
	680nm,1.0s						
KSH	**Kashi**	**7.24**	**317**	Pn	**Pn**	**08 10 24.7**	**+2.5**
KSH				Sn	**Sn**	**08 11 47.3**	**+4.1**
KSH				LR	LR		
	comp=N,31μm,16.1s						
KSH				LR	LR		
	comp=Z,10μm,10.8s						
PKIN	**Phulchoki**	**7.24**	**158**	*e*Pn	**Pn**	**08 10 23.6**	**+1.2**
PKIN				*e*Sn	**Sn**	**08 11 46.0**	**+2.5**
	201nm,0.7s						
PKI	**Pulchoki**	**7.25**	**158**	*e*Pn	**Pn**	**08 10 23.0**	**+0.4**
JIRN	**Jiri**	**7.44**	**152**	*e*Pn	**Pn**	**08 10 26.7**	**+1.5**
JIRN				*e*Sn	**Sn**	**08 11 50.4**	**+1.8**
	292nm,0.7s						
SONA	**Sohna**	**7.54**	**218**	*e*P	**Pn**	**08 10 28.8**	**+2.7**
CHCP	**Chirah Chowk**	**7.54**	**267**	P	**Pn**	**08 10 27.5**	**+1.2**
NIL	**Nilore**	**7.55**	**267**	*e*Pn	**Pn**	**08 10 26.6**	**+0.2**
NIL	**Nilore**	**7.55**	**267**	*e*P	**Pn**	**08 10 26.6**	**+0.2**
KUDL	**Kundal**	**7.94**	**220**	*e*P	**Pn**	**08 10 32.9**	**+1.3**
RAMN	**Ramite**	**8.24**	**152**	*e*Pn	**Pn**	**08 10 35.0**	**-1.0**
RAMN				*e*Sn	**Sn**	**08 12 09.2**	**+1.2**
	447nm,0.9s						
KHET	**Khetri**	**8.37**	**223**	*e*P	**Pn**	**08 10 38.0**	**+0.4**
ODAN	**Odare**	**8.64**	**148**	*e*Pn	**Pn**	**08 10 40.6**	**-1.0**
ODAN				*e*Sn	**Sn**	**08 12 17.3**	**-0.6**
	334nm,1.0s						
LSA	**Lhasa**	**8.81**	**119**	P	**Pn**	**08 10 46.3**	**+2.2**
LSA				S	**Sn**	**08 12 30.6**	**+8.2**
LSA				pmax	pmax		
	comp=Z,47nm,1.0s						
LSA				LR	LR		
	comp=N,7μm,13.2s						
LSA				LR	LR		
	comp=E,4μm,12.4s						
LSA				LR	LR		
	comp=Z,2μm,10.7s						
GTK	**Tadong**	**8.84**	**141**	*e*P	**Pn**	**08 10 42.5**	**-1.7**
SFK	**Sufi-Kurgan**	**9.02**	**311**	⇓P	**Pn**	**08 10 47.5**	**+0.8**
	60nm,1.1s						
SFK	**Sufi-Kurgan**	**9.02**	**311**	P	**Pn**	**08 10 46.5**	**-0.2**
SFK				pmax	pmax		
	comp=Z,60nm,1.1s						
ULHL	**Ulahol**	**9.22**	**331**	P	**Pn**	**08 10 52.3**	**+3.0**
	SNR=23						
PDGK	**Podgornoye**	**9.24**	**347**	⇓P	**Pn**	**08 10 49.6**	**0.0**
	comp=Z,132nm,1.2s						
PDGK	**Podgornoye**	**9.24**	**347**	*i* P	**Pn**	**08 10 49.8**	**+0.2**
PDGK				pmax	pmax		
	comp=Z,132nm,1.2s						
KZA	**Kyzart**	**9.51**	**326**	P	**Pn**	**08 10 55.4**	**+1.9**
	SNR=12						
AAA	**Alma-Ata**	**9.80**	**336**	*e*P	**Pn**	**08 10 58.7**	**+1.5**
AAA				pmax	pmax		
	comp=Z,2μm,7.4s						
UCH	**Uchtor**	**9.97**	**324**	P	**Pn**	**08 11 01.6**	**+1.7**
	SNR=42						
TKM2	**Tokmak 2**	**10.04**	**331**	⇓P	**Pn**	**08 11 00.8**	**+0.1**
	comp=Z,72nm,0.9s						
TKM2	**Tokmak 2**	**10.04**	**331**	P	**Pn**	**08 11 03.1**	**+2.4**
	SNR=44						
TKM2	**Tokmak 2**	**10.04**	**331**	P	**Pn**	**08 11 02.3**	**+1.6**
TKM2				pmax	pmax		
	comp=Z,72nm,0.9s						
KBK	**Karagaybulak**	**10.11**	**327**	P	**Pn**	**08 11 04.9**	**+3.4**
	SNR=13						
AAK	**Ala-Archa**	**10.30**	**326**	Pn	**Pn**	**08 11 05.9**	**+1.7**
	comp=Z,0.2nm,0.3s,baz=138,slow=14,SNR=19						
AAK				Sn	**Sn**	**08 12 58.2**	**-0.1**
	baz=143,slow=20,SNR=1.7						
AAK				Lg	Lg	08 14 02.5	
	comp=Z,0.3nm,0.3s,baz=221,slow=20,SNR=2.7						
AAK				LR	LR	08 15 33.9	
	comp=Z,2μm,18.2s,baz=128,slow=41						
AAK	**Ala-Archa**	**10.30**	**326**	⇑P	**Pn**	**08 11 04.5**	**+0.4**
	comp=Z,38nm,1.2s						
AAK	**Ala-Archa**	**10.30**	**326**	P	**Pn**	**08 11 06.0**	**+1.9**
	SNR=8.4						
AAK	**Ala-Archa**	**10.30**	**326**	*e*Pn	**Pn**	**08 11 06.3**	**+2.2**
AAK				Sn	**Sn**	**08 12 58.2**	**-0.1**
AAK				Lg	Lg	08 14 02.5	
AAK	**Ala-Archa**	**10.30**	**326**	*i* P	**Pn**	**08 11 05.6**	**+1.5**
	SNR=16						
AAK	**Ala-Archa**	**10.30**	**326**	*de*P	**Pn**	**08 11 05.4**	**+1.3**
AML	**Almayashu**	**10.31**	**321**	P	**Pn**	**08 11 06.5**	**+2.0**
	SNR=34						
WMQ	**Urumqi**	**10.35**	**22**	P	**Pn**	**08 11 04.1**	**-0.6**
WMQ				pP		08 11 12.0	
WMQ				S	**Sn**	**08 13 01.8**	**+2.4**
WMQ				SS	**SnSn**	**08 13 15.9**	**+4.4**
WMQ				pmax	pmax		
	comp=Z,83nm,1.3s						
WMQ				pmax	pmax		
	comp=Z,290nm,3.8s						
WMQ				LR	LR		
	comp=Z,7μm,7.9s						
WMQ				LR	LR		
	comp=Z,11μm,16.7s						
WMQ				LR	LR		
	comp=Z,4μm,18.7s						
FRU	**Bishkek**	**10.39**	**327**	⇑*i*P	**Pn**	**08 11 08.0**	**+2.7**
FRU				pmax	pmax		
	comp=Z,280nm,1.6s						
FRU				MLR	MLR		
	comp=E,10μm,12.0s						
CHMS	**Chumysh**	**10.47**	**328**	P	**Pn**	**08 11 08.6**	**+2.3**
	SNR=8.7						
EKS2	**Erkin-Say**	**10.66**	**324**	P	**Pn**	**08 11 11.2**	**+2.2**
	SNR=8.6						
USP	**Ospenovka**	**10.79**	**328**	P	**Pn**	**08 11 12.5**	**+1.8**
	SNR=7.1						
KBL	**Kabul**	**10.96**	**275**	*e*Pn	**Pn**	**08 11 14.0**	**+0.8**
KBL	**Kabul**	**10.96**	**275**	*e*P	**Pn**	**08 11 14.0**	**+0.8**
BOK	**Bokaro**	**10.96**	**163**	*e*P	**Pn**	**08 11 11.6**	**-1.5**
TURI	**Tura**	**11.18**	**139**	*ex*	Pn	08 11 11.1	-5.0
MNAS	**Manas**	**11.19**	**320**	⇑P	**Pn**	**08 11 16.4**	**+0.1**
	comp=E,36nm,1.1s						
MNAS	**Manas**	**11.19**	**320**	P	**Pn**	**08 11 19.9**	**+3.6**
MNAS				pmax	pmax		
	comp=Z,17nm,1.0s						
GUWA	**GUWAHATI**	**11.47**	**133**	*e*P	**Pn**	**08 11 16.0**	**-4.0**
GUWA				*e*S	Sn	08 13 16.9	-10
DZET	**Dzherino**	**11.72**	**296**	⇓P	**Pn**	**08 11 22.5**	**-1.0**
	comp=Z,24nm,0.6s						
DZET	**Dzherino**	**11.72**	**296**	P	**Pn**	**08 11 20.8**	**-2.7**
DZET				pmax	pmax		
	comp=Z,24nm,0.6s						
BHPL	**Bhopal**	**11.86**	**202**	*e*P	**Pn**	**08 11 24.5**	**-0.9**
BHPL				*e*S	**Sn**	**08 13 29.5**	**-7.0**
BHPL				IAML		08 13 37.9	
	comp=E,235nm,0.9s						
BHPL				IAML		08 13 38.2	
	comp=N,234nm,0.7s						
SHL	**Shillong**	**12.05**	**134**	*e*P	**Pn**	**08 11 25.9**	**-2.2**
SHL				*ex*	x	08 13 26.2	
SHL				IAML		08 16 01.4	
	comp=N,34nm,0.1s						
SHL				IAML		08 16 01.6	
	comp=E,30nm,0.1s						
MK01	**Makanchi Array**	**12.42**	**360**	*e*Pn	**Pn**	**08 11 31.5**	**-1.4**
MK31	**Makanchi Array**	**12.44**	**360**	P	**Pn**	**08 11 31.1**	**-2.1**
	comp=E,42nm,0.8s,baz=190,slow=14,SNR=177						
MK31				⇑S	**Sn**	**08 13 50.9**	**+0.3**
	comp=E,46nm,1.4s,baz=191,slow=22						
MK31	**Makanchi Array**	**12.44**	**360**	*e*Pn	**Pn**	**08 11 31.6**	**-1.7**
MK31	**Makanchi Array**	**12.44**	**360**	*i* P	**Pn**	**08 11 31.1**	**-2.1**
MK31				pmax	pmax		
	comp=Z,73nm,1.1s						
MKAR	**Makanchi Array**	**12.44**	**360**	Pn	**Pn**	**08 11 31.7**	**-1.6**
	comp=Z,2.0nm,0.3s,baz=183,slow=12,SNR=142						
MKAR				Sn	**Sn**	**08 13 41.6**	**-9.0**
	comp=Z,0.3nm,0.3s,baz=176,slow=20,SNR=3.0						
MKAR				Lg	Lg	08 15 04.9	
	baz=177,slow=32,SNR=2.2						
MKAR				LR	LR	08 17 17.9	
	comp=Z,2μm,18.9s,baz=168,slow=

comp=Z,57nm,1.0s
HYB Hyderabad 17.19 192 *i* P **Pn** **08 12 31.5 -4.7**
HYB *e* 08 12 35.0
HYB *eS* **Sn** **08 15 46.0 -0.4**
HYB Hyderabad 17.19 192 *ex* **Pn** **08 12 32.5 -3.7**
POO Poona 17.46 208 *eP* **P** **08 12 40.1 -0.5**
LZH Lanzhou 17.68 78 *eP* **Pn** **08 12 39.9 -2.5**
LZH pP pP 08 12 48.2 -4.0
LZH sP sP 08 12 52.5 -4.2
LZH PP **PnPn** **08 12 55.0 +1.9**
LZH *eS* **Sn** **08 15 54.0 -4.4**
LZH sS S 08 16 06.2 +1.3
LZH SS **SnSn** **08 16 14.9 +3.1**
LZH pmax pmax
comp=Z,67nm,1.1s
LZH pmax pmax
comp=Z,220nm,4.3s
LZH LR LR
comp=Z,4μm,12.0s
LZH LR LR
comp=Z,3μm,12.3s
LZH LR LR
comp=Z,6μm,13.2s
NJS Nagarjunasagar 17.92 189 *eP* **Pn** **08 12 42.0 -3.2**
NJS IAmb IAmb 08 12 51.5
comp=Z,129nm,0.9s
CD2 Chengdu 18.38 95 ⇑P **P** **08 12 50.5 -0.2**
CD2 pP pP 08 12 57.8 -2.0
CD2 sP sP 08 13 02.5 -1.8
CD2 S **Sn** **08 16 12.2 -3.0**
CD2 pmax pmax
comp=Z,60nm,0.7s
CD2 pmax pmax
comp=Z,410nm,5.0s
CD2 LR LR
comp=Z,5μm,12.1s
CD2 LR LR
comp=Z,2μm,8.8s
SRLM Srisailam 18.42 190 *eP* **P** **08 12 48.4 -2.8**
SRLM IAmb IAmb 08 12 56.6
comp=Z,93nm,1.0s
ADKI Addanki 18.54 187 *eP* **P** **08 12 50.7 -1.6**
ADKI IAmb IAmb 08 12 58.6
comp=Z,122nm,1.0s
HVS Khovu-Aksy 18.72 23 *deP* **P** **08 12 53.6 -0.6**
HVS pmax pmax
comp=Z,25nm,0.9s
KNGR Kungurtug, Tuv 19.68 30 *eP* **P** **08 13 04.9 +0.1**
ZAA0 Zalesovo Array 19.68 4 ⇑P **P** **08 13 02.6 -2.1**
comp=Z,39nm,1.1s
ZAA0 Zalesovo Array 19.68 4 *eP* **P** **08 13 04.0 -0.6**
comp=Z,31nm,1.0s
ZALV Zalesovo Beam 19.68 4 P **P** **08 13 04.1 -0.6**
comp=Z,0.7nm,0.3s,baz=196,slow=11,SNR=65
ZALV LR LR 08 21 05.1
comp=Z,340nm,18.7s,baz=250,slow=38
URV Uravakonda 19.84 195 *eP* **P** **08 13 07.3 +0.6**
URV IAmb IAmb 08 13 15.3
comp=Z,24nm,0.8s
GYB1 ALIBECK ARRAY 19.84 287 *eP* **P** **08 13 06.7 0.0**
comp=Z,38nm,1.0s
GYB2 ALIBECK ARRAY 19.84 287 *eP* **P** **08 13 06.8 +0.2**
comp=Z,36nm,0.9s
GYA2 ALIBECK ARRAY 19.85 287 *eP* **P** **08 13 06.7 0.0**
comp=Z,45nm,1.0s
GYA1 ALIBECK ARRAY 19.85 287 *eP* **P** **08 13 06.8 +0.1**
comp=Z,38nm,0.9s
GEYT Alibeck 19.85 287 P **P** **08 13 07.3 +0.6**
comp=Z,0.6nm,0.3s,baz=104,slow=12,SNR=18
GEYT S **Sn** **08 16 50.5 -0.1**
comp=Z,0.3nm,0.3s,baz=98,slow=11,SNR=3.0
GEYT LR LR 08 22 33.2
comp=Z,1μm,19.3s,baz=105,slow=42
GYA0 ALIBECK ARRAY 19.85 287 *eP* **P** **08 13 06.9 +0.2**
comp=Z,36nm,0.9s
GYA0B ALIBECK ARRAY 19.85 287 *eP* **P** **08 13 06.9 +0.2**
comp=Z,36nm,0.9s
GYB3 ALIBECK ARRAY 19.85 287 *eP* **P** **08 13 06.9 +0.2**
comp=Z,44nm,1.0s
GYB5 ALIBECK ARRAY 19.86 287 *eP* **P** **08 13 07.1 +0.3**
comp=Z,45nm,1.1s
GYB4 ALIBECK ARRAY 19.87 287 *eP* **P** **08 13 07.0 +0.2**
comp=Z,37nm,1.0s
KMI Kunming 19.95 112 P **Pn** **08 13 09.2 -0.7**
KMI pP pP 08 13 18.1 +0.8
KMI sP sP 08 13 22.6 +0.9
KMI PP **PnPn** **08 13 28.9 +4.5**
KMI S **S** **08 16 46.0 -4.8**
KMI pmax pmax
comp=Z,42nm,0.6s
KMI pmax pmax
comp=Z,130nm,3.9s
KMI LR LR
comp=Z,970nm,10.8s
KMI LR LR
comp=Z,940nm,12.8s
KMI LR LR
comp=Z,990nm,11.8s
GOA Goa 20.27 204 *ex* **P** **08 13 09.1 -2.1**
NVS Novosibirsk 20.51 2 ⇓*i* P **P** **08 13 12.6 -1.0**
NVS pmax pmax
comp=Z,50nm,1.6s
NVS pmax pmax
comp=N,58nm,1.8s
NVS pmax pmax
comp=E,17nm,1.6s
BVA0 Borovoye Array 20.52 339 ⇓P **P** **08 13 13.9 +0.1**
comp=E,58nm,1.4s
BVA0 Borovoye Array 20.52 339 P **P** **08 13 11.4 -2.4**
BVA0 pmax pmax
comp=Z,61nm,1.4s
BVAR Borovoye Array 20.52 339 P **P** **08 13 13.8 0.0**
comp=Z,31nm,1.1s,baz=141,slow=9.6,SNR=53
BVAR LR LR 08 21 27.8
comp=Z,1μm,18.2s,baz=152,slow=38
BRVK Borovoye 20.58 339 ⇓P **P** **08 13 14.3 -0.1**
comp=Z,74nm,1.3s
BRVK Borovoye 20.58 339 *eP* **P** **08 13 14.3 -0.1**
comp=Z,119nm,1.5s
BRVK Borovoye 20.58 339 *deP* **P** **08 13 13.5 -0.9**
BRVK pmax pmax
comp=Z,85nm,1.4s
CMAI Chiengmai2 20.64 130 P **P** **08 13 15.0 -0.5**
comp=Z,204nm,0.9s,comp=Z,9μm
SKHT Srikalahasti 20.64 187 *eP* Pn 08 13 17.4 -0.4
SKHT IAmb IAmb 08 13 23.2
comp=Z,60nm,1.2s
MDRS Chennai 21.26 186 *eP* **P** **08 13 24.0 +2.0**
CHTO Chiang Mai 21.41 132 P **P** **08 13 22.8 -0.8**
comp=Z,102nm,0.9s,comp=Z,1μm
CHTO Chiang Mai 21.41 132 *eP* **P** **08 13 22.8 -0.8**
comp=Z,21nm,1.0s
CHTO Chiang Mai 21.41 132 *eP* **P** **08 13 22.8 -0.8**
CHTO pmax pmax
comp=Z,21nm,1.0s
CM31 Chiang Mai Arr 21.68 133 *eP* **P** **08 13 26.4 -0.2**
CMAR Chiang Mai Arr 21.68 133 P **P** **08 13 25.8 -0.7**
comp=Z,19nm,0.9s,baz=311,slow=10,SNR=91
CMAR S **S** **08 17 27.5 +2.8**
comp=Z,0.6nm,0.3s,baz=325,slow=19,SNR=3.3
CMAR LR LR 08 22 08.6
comp=Z,846nm,20.3s,baz=327,slow=38
CM01 Chiang Mai Arr 21.72 133 *eP* **P** **08 13 26.1 -0.8**
MOY Mondy 21.95 32 *eP* **P** **08 13 25.4 -3.9**
MOY pmax pmax
comp=Z,34nm,3.4s
XAN Xi'an 22.00 83 P **P** **08 13 27.6 -2.3**
XAN S **S** **08 17 27.5 -3.3**
XAN sS Sn 08 17 42.0 -0.2
XAN pmax pmax
comp=Z,34nm,1.2s
XAN pmax pmax
comp=Z,140nm,3.7s
XAN LR LR
comp=Z,3μm,17.4s
XAN LR LR
comp=Z,940nm,18.1s
XAN LR LR
comp=Z,1μm,11.3s
AB07 Akbulak array 22.23 319 *eP* **P** **08 13 31.5 -0.7**
AB06 Akbulak array 22.23 319 *eP* **P** **08 13 31.8 -0.4**
AB03 Akbulak array 22.24 319 *eP* **P** **08 13 31.8 -0.6**
AB08 Akbulak array 22.25 319 *eP* **P** **08 13 31.9 -0.4**
AB01 Akbulak array 22.25 319 *eP* **P** **08 13 31.9 -0.5**
AB02 Akbulak array 22.25 319 *eP* **P** **08 13 31.9 -0.5**
AB31 Akbulak array 22.25 319 ⇑P **P** **08 13 31.6 -0.8**
comp=Z,11nm,0.8s,baz=123,slow=12,SNR=64
AB31 Akbulak array 22.25 319 *eP* **P** **08 13 31.8 -0.5**
AB31 Akbulak array 22.25 319 *i* P **P** **08 13 31.5 -0.8**
AB31 pmax pmax
comp=Z,10.0nm,0.8s
ABKAR Akbulak array 22.25 319 *eP* **P** **08 13 31.9 -0.4**
comp=Z,89nm,0.8s
AB04 Akbulak array 22.25 319 *eP* **P** **08 13 32.0 -0.4**
AB05 Akbulak array 22.26 319 *eP* **P** **08 13 32.1 -0.3**
AB09 Akbulak array 22.26 319 *eP* **P** **08 13 31.9 -0.7**
GYA Guiyang 22.39 104 ⇑*i* P **P** **08 13 32.9 -1.4**
GYA pP pP 08 13 43.0 -0.5
GYA sP sP 08 13 48.2 +0.2
GYA PP **PnPn** **08 14 02.4 +4.7**
GYA PcP **PcP** **08 17 29.6 +1.2**
GYA S **S** **08 17 32.0 -6.3**
GYA sS Sn 08 17 48.8 -3.0
GYA SS **SnSn** **08 18 13.3 +5.8**
GYA ScP **ScP** **08 21 03.0 -0.2**
GYA pmax pmax
comp=Z,80nm,1.1s
GYA pmax pmax
comp=Z,140nm,5.0s
GYA LR LR
comp=Z,610nm,16.9s
GYA LR LR
comp=Z,560nm,17.0s
GYA LR LR
comp=Z,580nm,17.2s
SONM Songino Array 22.50 46 P **P** **08 13 34.9 -0.3**
comp=Z,8.4nm,1.0s,baz=237,slow=9.5,SNR=23
SONM LR LR 08 22 33.1
comp=Z,2μm,19.2s,baz=240,slow=37
SONA1 Songino Array 22.51 46 *eP* **P** **08 13 34.1 -1.2**
BTO Baotou 22.81 66 *eP* **P** **08 13 36.0 -2.6**
ULN Ulaanbaatar 22.90 46 *eP* **P** **08 13 39.3 -0.2**
comp=Z,15nm,1.1s
ULN Ulaanbaatar 22.90 46 *ceP* **P** **08 13 38.8 -0.7**
ULN pmax pmax
comp=Z,10.0nm,1.0s
DGPR DIGLIPUR 23.17 153 *eP* **P** **08 13 42.9 +0.7**
TLY Talaya 23.18 35 LR LR 08 23 17.5
comp=Z,902nm,20.7s,baz=228,slow=38
TLY Talaya 23.18 35 *eP* **P** **08 13 41.0 -1.1**
comp=Z,8.8nm,1.1s
TLY Talaya 23.18 35 *eP* **P** **08 13 41.4 -0.7**
TLY *eS* **S** **08 17 53.4 +2.1**
TLY *eSS* **SnSn** **08 18 28.1 +1.8**
TLY *eSSS* SSS 08 18 40.3
TLY pmax pmax
comp=Z,8.0nm,1.5s
TLY MLR MLR
comp=Z,428nm,12.0s
WSAR Wadi Sarin 23.46 248 P **P** **08 13 46.6 +1.4**
comp=Z,38nm,1.2s,baz=79,slow=7.8,SNR=17
WSAR LR LR 08 25 31.4
comp=Z,581nm,18.4s,baz=76,slow=43
PHIT Phitsanulok 23.55 132 P **P** **08 13 45.8 -0.2**
comp=Z,24nm,1.0s
AKTO Aktyubinsk 23.94 320 P **P** **08 13 49.2 -0.2**
comp=Z,1.5nm,0.6s,baz=116,slow=7.5,SNR=7.3
AKTO LR LR 08 24 08.8
comp=Z,1μm,18.8s,baz=132,slow=39
AKTO Aktyubinsk 23.94 320 ⇓P **P** **08 13 50.8 +1.4**
comp=Z,18nm,1.3s
BANOM Banah 23.96 257 P **P** **08 13 53.7 +3.8**
SNR=6.3
BANOM Banah 23.96 257 *i* P **P** **08 13 52.2 +2.3**
SNR=7.8
HHC Hu-ho-hao-te 24.00 66 *eP* **P** **08 13 50.5 +0.2**
HHC PP **PnPn** **08 14 25.0 +5.4**
HHC S **S** **08 18 02.3 -2.7**
HHC SS **SnSn** **08 18 54.0 +7.2**
HHC pmax pmax
comp=Z,22nm,0.7s
HHC pmax pmax
comp=Z,210nm,4.1s
HHC LR LR
comp=Z,1μm,12.9s
HHC LR LR
comp=Z,2μm,12.2s
HHC LR LR
comp=Z,2μm,12.4s
SHME Shamm 24.03 257 *i* P **P** **08 13 52.0 +1.4**
MSFE Esma-Masafi 24.33 255 P **P** **08 13 55.4 +2.0**
TIY Taiyuan 24.54 73 *eP* **P** **08 13 54.7 -0.5**
TIY PP **PnPn** **08 14 33.7 +6.7**
TIY S **S** **08 18 18.2 +4.5**
TIY SS **SnSn** **08 19 11.6 +12**
TIY pmax pmax
comp=Z,32nm,0.6s
TIY LR LR
comp=Z,790nm,10.3s
TIY LR LR
comp=Z,960nm,10.7s
TIY LR LR
comp=Z,1μm,16.5s
ASHO Ashiyiah 24.73 254 P **P** **08 14 01.7 +4.7**
SNR=8.3
ASHO Ashiyiah 24.73 254 *i* P **P** **08 13 59.2 +2.3**
SNR=11
NAZ Nazwa, Dubai 24.90 255 *i* P **P** **08 14 01.7 +3.3**
SNR=8.0
SRDT SRDT 25.04 139 P P 08 14 10.6 +11
CHAI Chaiyaphum 25.50 131 P **P** **08 14 04.5 +0.6**
comp=Z,9.1nm,0.9s,comp=Z,71nm
SKNT Sakolnakorn 26.00 126 P **P** **08 14 06.8 -1.6**
comp=Z,16nm,0.9s
PHET Kaeng Krachan 26.51 139 P **P** **08 14 16.6 +3.6**
comp=Z,9.6nm,0.8s
SVE Sverdlovsk 26.90 333 *eP* **P** **08 14 17.7 +1.5**
SVE pmax pmax
comp=Z,21nm,1.2s
SVE MLR MLR
comp=Z,878nm,14.0s
PALK Pallekele 26.98 184 LR LR 08 25 27.6
comp=Z,466nm,19.3s,baz=295,slow=38
SRAK Srakaew 26.99 134 P P 08 14 27.1 +10
WHN Wuhan 27.24 89 ⇑P **P** **08 14 19.5 0.0**
WHN S **S** **08 19 03.5 +7.1**
WHN LR LR
comp=Z,2μm,21.6s
ARU Arti 27.42 331 *c i* P **P** **08 14 22.8 +1.9**
ARU 08 15 11.5
ARU 08 17 37.2
ARU S **S** **08 19 03.8 +5.1**
ARU SS **SnSn** **08 20 15.9 +6.1**
ARU pmax pmax
comp=Z,15nm,2.5s
ARU MLR MLR
comp=Z,869nm,15.0s
BJI Beijing 27.46 68 P **P** **08 14 20.7 -0.7**
BJI S **S** **08 18 59.8 +0.1**
BJI pmax pmax
comp=Z,10.0nm,1.0s
BJI LR LR
comp=Z,5μm,18.2s
BJI LR LR
comp=Z,4μm,40.2s
QIZ Qiongzhong 28.82 115 P P 08 14 39.3 +5.6
QIZ S **S** **08 19 19.4 -2.0**
QIZ pmax pmax
comp=Z,15nm,1.6s
QIZ LR LR
comp=Z,720nm,20.1s
QIZ LR LR
comp=Z,560nm,21.6s
QIZ LR LR
comp=Z,540nm,12.7s
PKDT Phuket 30.18 147 P **P** **08 14 49.2 +3.5**
comp=Z,17nm,1.0s,comp=Z,3μm
GNI Garni 30.30 292 LR LR 08 29 36.8
comp=Z,483nm,21.3s,baz=93,slow=42
GNI Garni 30.30 292 ⇓*eP* **P** **08 14 49.9 +3.0**
GNI pmax pmax
comp=Z,136nm,1.5s
NJ2 Nanjing 30.56 84 *eP* **P** **08 14 48.7 -0.4**
NJ2 pmax pmax
comp=Z,12nm,0.5s
NJ2 LR LR
comp=Z,2μm,22.2s
NJ2 LR LR
comp=Z,1μm,22.2s
NJ2 LR LR
comp=Z,1μm,18.4s
BOD Bodaibo 31.66 32 *eP* **P** **08 14 56.9 -1.6**
BOD pmax pmax
comp=Z,7.0nm,1.2s
KBZ Khabaz 31.76 299 LR LR 08 29 39.3
comp=Z,540nm,18.1s,baz=92,slow=40
NEY Neytrino 31.86 298 ⇓*eP* **P** **08 15 02.5 +1.8**
NEY pmax pmax
comp=Z,1.0nm,1.0s
KIV Kislovodsk 31.93 299 *eP* **P** **08 15 00.0 -1.1**
KIV *eS* **S** **08 20 10.0 0.0**
KIV pmax pmax
comp=Z,7.0nm,1.1s
KIV MLR MLR
comp=Z,495nm,15.0s
QZH Quanzhou 32.75 97 *eP* **P** **08 15 11.2 +2.8**
QZH S **S** **08 20 26.0 +3.2**
QZH LR LR
comp=Z,1μm,13.1s
QZH LR LR
comp=Z,530nm,12.0s
QZH LR LR
comp=Z,570nm,10.0s
KULM Kulim 33.53 145 *eP* **P** **08 15 14.4 -0.8**
comp=Z,13nm,0.9s
RAYN Ar Rayn 33.80 261 *eP* **P** **08 15 17.6 -0.1**
comp=Z,18nm,1.2s
RAYN Ar Rayn 33.80 261 P **P** **08 15 17.6 -0.1**
CN2 Changchun 34.46 61 *eP* **P** **08 15 24.0 +0.9**
CN2 *eS* **S** **08 20 48.8 -0.2**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 LR LR
comp=Z,820nm,14.0s
CN2 LR LR
comp=Z,640nm,14.0s
CN2 LR LR
comp=Z,1μm,14.0s
PSI Prapat 34.99 150 P **P** **08 15 26.9 -1.1**
comp=Z,1.8nm,0.4s,baz=329,slow=13,SNR=2.4
PSI LR LR 08 31 12.6
comp=Z,271nm,21.5s,baz=325,slow=39
ANN Anapa 35.73 301 *eP* **P** **08 15 38.3 +4.3**
ANN pmax pmax
comp=Z,32nm,1.0s
ANN MLR MLR
comp=E,566nm,14.0s
ANN MLR MLR
comp=Z,617nm,14.0s
ANN MLR MLR
comp=N,227nm,14.0s
GSI Gunungsitoli 35.83 153 P **P** **08 15 39.0 +3.9**
TJN Taejon 36.55 74 ⇑*eP* **P** **08 15 39.1 -2.0**
KSAR Wonju Array Be 36.78 72 P **P** **08 15 42.5 -0.4**
KSAR Wonju Array Be 36.78 72 P **P** **08 15 42.6 -0.4**
KSRS Korea Array 36.81 72 P **P** **08 15 42.5 -0.7**
comp=N,3.3nm,0.8s,baz=275,slow=9.7,SNR=9.1
KSRS LR LR 08 31 09.8
comp=N,258nm,19.5s,baz=287,slow=37
MNSI Mandailing Nat 37.08 151 P **P** **08 15 49.7 +4.0**
OBN Obninsk 37.69 318 *i* P **P** **08 15 51.9 +1.4**
OBN *i* 08 18 07.5
OBN pmax pmax
comp=Z,5.0nm,0.7s
OBN MLR MLR
comp=Z,333nm,16.0s
ASF Jabal al Asfar 37.80 280 LR LR 08 34 05.6
comp=Z,689nm,18.7s,baz=24,slow=40
KLMR Klimovskoe 38.10 327 *eP* **P** **08 15 56.3 +2.4**
KLMR AMP 08 16 04.1
comp=Z,12nm,1.2s
KLMR *e* PP **PnPn** **08 17 24.7 +1.8**
KLMR *e* PcP **PcP** **08 18 11.4 +3.1**
KLMR *eS* **S** **08 21 50.6 +6.4**
KLMR *eS* **S** **08 21 50.6 +6.4**
KLMR LQ LQ 08 28 44.2
KLMR LQ LQ 08 28 44.2
KLMR LR LR 08 30 30.1
KLMR Klimovskoe 38.10 327 *eP* **P** **08 15 56.3 +2.4**
KLMR *e* 08 17 24.6
KLMR *e* 08 18 11.3
KLMR *eS* **S** **08 21 50.6 +6.4**
KLMR pmax pmax
comp=Z,12nm,1.2s
BKNI Bangkinang 38.11 149 *eP* **P** **08 15 56.7 +2.2**
comp=Z,212nm,1.2s
ILGA Ilgaz 38.62 295 *eP* **P** **08 15 58.9 0.0**
comp=Z,23nm,0.9s
MMAI Mount Meron Ar 38.79 282 P **P** **08 16 00.8 +0.6**
comp=Z,2.5nm,0.4s,baz=134,slow=36,SNR=5.0
MMAI LR LR 08 34 26.0
comp=Z,310nm,19.7s,baz=60,slow=40
BR131 Keskin Array S 38.84 293 *eP* **P** **08 16 01.7 +1.1**
BRTR Keskin Array B 38.84 293 P **P** **08 16 02.0 +1.4**
comp=Z,7.7nm,0.8s,baz=108,slow=7.9,SNR=32
PDSI Padang 38.98 150 P **P** **08 16 04.2 +2.4**
KLR Kul'dur 39.03 52 ⇓*eP* **P** **08 16 01.5 -0.4**
USRK Ussuriysk Ar. 39.17 60 LR LR 08 33 06.0
comp=Z,588nm,18.0s,baz=265,slow=38
ANTO Ankara 39.47 293 *eP* **P** **08 16 05.4 -0.4**
comp=Z,21nm,0.8s
ANTO Ankara 39.47 293 *eP* **P** **08 16 05.4 -0.4**
ANTO pmax pmax
comp=Z,21nm,0.8s
BR231 Keskin MP Arra 39.49 293 *eP* **P** **08 16 02.6 -3.3**
JOW Kunigami 40.00 88 LR LR 08 34 52.8
comp=Z,292nm,21.7s,baz=179,slow=40
JNU Nakatsue 40.10 78 LR LR 08 33 47.6
comp=Z,575nm,18.6s,baz=294,slow=38
EIL Elat 40.15 277 LR LR 08 35 27.3
comp=Z,337nm,18.7s,baz=70,slow=40
TMCR Tamitsa 40.15 332 *eP* **P** **08 16 10.6 -0.4**
TMCR pmax pmax
comp=Z,16nm,1.0s
TGY Tagaytay City 40.26 110 LR LR 08 32 33.7
comp=Z,364nm,19.4s,baz=167,slow=36
YAK Yakutsk 40.59 32 *eP* **P** **08 16 13.1 -1.5**
YAK *e* PP **pP** **08 16 25.6 +0.7**
YAK *e* 08 17 45.7
YAK *e* PPP PPP 08 18 14.2
YAK *e* 08 18 24.7
YAK *eS* **S** **08 22 19.9 -1.6**
YAK *e* SS **sS** **08 22 37.6 -0.8**
YAK *eSS* **SS** **08 25 11.9 -10**
YAK *e* 08 26 13.7
YAK pmax pmax
comp=Z,13nm,0.9s
YAK pmax pmax
comp=N,3.0nm,1.0s
YAK pmax pmax
comp=E,4.0nm,1.2s
YAK pmax pmax
comp=Z,91nm,3.9s
YAK pmax pmax
comp=N,57nm,4.1s
YAK pmax pmax
comp=E,52nm,4.2s
YAK smax smax
comp=N,44nm,2.8s
YAK smax smax
comp=E,37nm,2.8s
AKASG Malin Array Be 41.46 310 P **P** **08 16 21.5 -0.5**
comp=E,0.2nm,0.3s,baz=78,slow=7.9,SNR=5.9
AKASG PP **PnPn** **08 18 04.7 +1.9**
comp=E,0.5nm,0.3s,baz=79,slow=10,SNR=6.1
AKASG LR LR 08 37 02.8
comp=E,539nm,18.4s,baz=85,slow=41
KSM Kuching 41.87 135 *eP* **P** **08 16 25.0 -0.7**
comp=E,6.6nm,0.7s
SBUM Sibu 42.23 132 *eP* **P** **08 16 28.9 +0.3**
comp=E,6.1nm,0.8s
MLR Muntele Rosu 43.82 302 P **P** **08 16 43.4 +2.0**
comp=E,1.8nm,0.8s,baz=79,slow=5.2,SNR=9.2
MLR LR LR 08 38 27.6
comp=E,198nm,20.2s,baz=77,slow=41
MLR Muntele Rosu 43.82 302 *eP* **P** **08 16 43.6 +2.2**
comp=E,18nm,0.9s
FINES FINESS Array B 44.48 325 P **P** **08 16 46.0 -0.3**
comp=E,2.5nm,0.7s,baz=98,slow=7.9,SNR=7.5
FINES LR LR 08 35 57.0
comp=E,1μm,20.0s,baz=114,slow=37
FINES FINESS Array B 44.48 325 P **P** **08 16 46.0 -0.3**
FINES pmax pmax
comp=Z,3.0nm,0.7s
FINES MLR MLR
comp=Z,1μm,20.0s
TIXI Tiksi 44.53 19 *eP* **P** **08 16 45.0 -1.5**

comp=Z,7.2nm,1.4s
TIXI Tiksi 44.53 19 eP P 08 16 45.4 -1.1
TIXI pmax pmax
comp=Z,6.0nm,1.7s
MJB9 Matsu-Tunnel 45.04 70 eP P 08 16 51.5 +0.4
comp=Z,9.3nm,0.8s
MAJO Matsushiro 45.05 70 eP P 08 16 50.1 -1.0
comp=Z,9.1nm,0.8s
MAJO Matsushiro 45.05 70 eP P 08 16 49.7 -1.5
MAJO pmax pmax
comp=Z,8.0nm,1.0s
MAT Matsushiro 45.05 70 P P 08 16 53.2 +2.0
MAT S S 08 23 28.6 +0.9
MJAR Matsushiro Arr 45.05 70 P P 08 16 50.3 -0.9
comp=Z,6.2nm,0.9s,baz=285,slow=9.0,SNR=15
MJAR LR LR 08 36 09.3
comp=Z,247nm,18.3s,baz=280,slow=37
ARCES ARCESS Array B 46.77 336 P P 08 17 03.7 -0.5
comp=Z,3.2nm,0.8s,baz=96,slow=8.3,SNR=5.8
ARCES LR LR 08 38 04.0
comp=Z,959nm,18.5s,baz=113,slow=38
ARCES ARCESS Array B 46.77 336 eP P 08 17 04.2 -0.1
ARE0 ARCESS Array S 46.77 336 eP P 08 17 04.7 +0.4
comp=Z,36nm,1.4s
KECS Kecovo 47.22 307 eP P 08 17 09.3 +1.2
KECS Kecovo 47.22 307 eP P 08 17 09.3 +1.2
JHJ Hachijo jima 2 47.25 74 LR LR 08 38 21.1
comp=Z,530nm,18.3s,baz=288,slow=38
LEM Lembang 47.43 145 LR LR 08 41 58.6
comp=Z,232nm,18.7s,baz=76,slow=42
DAV Davao City (W) 48.19 114 LR LR 08 37 26.8
comp=Z,214nm,21.6s,baz=319,slow=36
COCO West Island 48.29 161 i P P 08 17 17.5 +0.9
MODS Modra-Piesok 49.36 307 eP P 08 17 25.7 +1.1
MODS Modra-Piesok 49.36 307 eP P 08 17 25.7 +1.1
CONA Conrad Observa 50.36 307 P P 08 17 29.7 -2.6
comp=Z,10nm,1.3s
HFS Hagfors 50.42 323 P P 08 17 32.6 +0.2
comp=Z,1.7nm,0.7s,baz=91,slow=12,SNR=3.1
HFS LR LR 08 39 19.6
comp=Z,681nm,21.6s,baz=95,slow=37
ARSA Arzberg 50.71 306 P P 08 17 33.0 -1.8
comp=Z,1.8nm,0.6s
SEY Seymchan 51.07 34 eP P 08 17 36.8 -0.5
SOKA Soboth 51.15 305 P P 08 17 36.2 -2.1
comp=Z,8.1nm,0.9s
MOA Molln 51.43 307 P P 08 17 37.8 -2.5
comp=Z,7.4nm,1.1s
NB2 NORSAR Subarra 51.61 324 P P 08 17 41.3 -0.1
comp=Z,3.7nm,0.9s,baz=88,slow=6.9
NOA NORSAR Array B 51.61 324 P P 08 17 40.6 -0.9
comp=Z,0.9nm,0.6s,baz=88,slow=7.4,SNR=3.3
NOA LR LR 08 40 06.6
comp=Z,657nm,20.4s,baz=80,slow=37
GERES GERESS Array B 51.62 308 P P 08 17 43.1 +1.3
comp=Z,1.1nm,0.8s,baz=76,slow=4.1,SNR=5.1
GERES LR LR 08 41 50.1
comp=Z,321nm,19.5s,baz=75,slow=39
GEA0 GERESS Array S 51.62 308 eP P 08 17 42.9 +1.1
SPITS Spitsbergen Ar 51.76 346 LR LR 08 44 40.4
comp=Z,171nm,18.4s,baz=80,slow=42
WTTA Wattenberg 53.30 307 eP P 08 17 54.0 -0.3
comp=Z,3.1nm,0.6s
WATA Walderalm 53.32 307 eP P 08 17 54.2 -0.3
comp=Z,1.3nm,0.3s
RETA Reutte 53.82 307 eP P 08 17 58.4 +0.3
comp=Z,12nm,1.7s
FETA Feichten 53.96 307 P P 08 17 58.3 -0.9
comp=Z,6.2nm,1.1s
DAVA Damuels 54.45 307 eP P 08 18 02.3 -0.5
comp=Z,7.1nm,0.8s
PETK Petropavlovsk- 54.98 45 LR LR 08 42 49.8
comp=Z,640nm,19.1s,baz=280,slow=37
KMBO Kilima Mbogo 55.01 240 P P 08 18 07.8 +0.6
comp=Z,3.0nm,0.8s,baz=39,slow=13,SNR=7.2
KMBO LR LR 08 41 01.7
comp=Z,181nm,18.1s,baz=91,slow=35
BILL Bilibino 56.42 27 eP P 08 18 18.0 +1.6
BILL e 08 19 06.1
BILL e 08 20 16.9
BILL pmax pmax
comp=Z,1.0nm,1.1s
KEST Kesra 58.42 294 LR LR 08 47 14.5
comp=Z,160nm,20.8s,baz=347,slow=40
MBAR Mbarara 59.44 245 eP P 08 18 38.3 -0.2
comp=Z,16nm,1.2s
MBAR Mbarara 59.44 245 eP P 08 18 38.3 -0.2
MBAR pmax pmax
comp=Z,16nm,1.2s
EKA Eskdalemuir Ar 60.12 319 P P 08 18 42.7 +0.4
comp=Z,1.5nm,0.7s,baz=83,slow=6.7,SNR=3.9
EKA LR LR 08 44 45.8
comp=Z,159nm,18.5s,baz=45,slow=36
OPO Ambohidratompo 62.34 218 LR LR 08 43 03.1
comp=Z,240nm,18.6s,baz=16,slow=33
BORG Borgarnes 64.94 333 LR LR 08 47 27.1
comp=Z,294nm,18.3s,baz=79,slow=36
SUMG Summit 65.93 344 i P P 08 19 20.3 -0.9
comp=Z,39nm,1.6s
SUMG Summit 65.93 344 eP P 08 19 21.2 0.0
comp=Z,11nm,1.1s
SUMG Summit 65.93 344 i P P 08 19 20.3 -0.9
SUMG pmax pmax
comp=Z,39nm,1.6s
ESDC Sonseca Array 66.51 303 P P 08 19 24.8 -0.3
comp=Z,0.2nm,0.3s,baz=46,slow=7.4,SNR=2.6
ESDC LR LR 08 54 12.5
comp=Z,158nm,18.3s,baz=15,slow=41
TOLK Toolik Lake Re 70.41 18 eP P 08 19 48.4 -0.5
comp=Z,4.6nm,0.8s
IM3 Indian Mountai 71.14 21 eP P 08 19 52.6 -0.7
RES Resolute Bay 71.23 359 eP P 08 19 53.6 -0.1
comp=Z,6.0nm,1.8s
RES Resolute Bay 71.23 359 eP P 08 19 53.6 -0.1
RES pmax pmax
comp=Z,6.0nm,1.8s
COLD Coldfoot 71.27 19 eP P 08 19 53.7 -0.3
comp=Z,15nm,1.8s
MLY Manley 72.70 21 eP P 08 20 02.5 -0.3
comp=Z,17nm,1.9s
SFJD Kangerlussuaq 72.85 342 LR LR 08 56 09.1
comp=Z,102nm,20.1s,baz=36,slow=39
WRA Warramunga Arr 73.23 129 P P 08 20 05.1 -1.3
comp=Z,3.7nm,0.8s,baz=328,slow=5.7,SNR=21
WB2 Warramunga Arr 73.24 129 eP P 08 20 05.6 -0.9
comp=Z,5.9nm,0.8s
CAST Castle Rocks 73.45 22 eP P 08 20 07.1 -0.1
comp=Z,5.1nm,1.1s
COLA College 73.65 20 eP P 08 20 07.6 -0.7
comp=Z,6.1nm,0.9s
COLA College 73.65 20 eP P 08 20 07.6 -0.7
COLA pmax pmax
comp=Z,6.0nm,0.9s
PPLA Purkeypile 73.80 23 eP P 08 20 09.0 -0.3
comp=Z,32nm,1.7s
WRH Wood River Hil 73.89 20 eP P 08 20 09.2 -0.5
comp=Z,4.2nm,1.1s
IL1 Eielson Array 74.00 20 eP P 08 20 08.7 -1.6
ILAR Eielson Array 74.00 20 P P 08 20 08.8 -1.5
comp=Z,2.1nm,0.9s,baz=306,slow=5.0,SNR=28
ILAR LR LR 08 56 42.7
comp=Z,357nm,19.5s,baz=333,slow=39
ILB Eielson Array 74.00 20 eP P 08 20 09.3 -1.0
INK Inuvik 74.22 13 P P 08 20 10.8 -0.8
comp=Z,0.6nm,0.5s,baz=330,slow=4.2,SNR=7.2
INK Inuvik 74.22 13 eP P 08 20 10.9 -0.6
comp=Z,2.7nm,0.9s
NWAO Narrogin (SRO) 74.53 150 P P 08 20 15.6 +1.9
comp=Z,13nm,1.0s,baz=320,slow=8.8,SNR=5.1
TOA0 Torodi Ar. Sit 75.03 276 eP P 08 20 16.7 -0.5
comp=Z,6.6nm,0.8s
TORD Torodi Ar. Bea 75.03 276 P P 08 20 16.8 -0.4
comp=Z,8.0nm,1.0s,baz=43,slow=5.2,SNR=34
TORD PP PP 08 23 01.4 -3.8
comp=Z,1.7nm,1.0s,baz=57,slow=8.5,SNR=4.3
TORD LR LR 08 56 54.2
comp=Z,253nm,18.4s,baz=120,slow=39
DHY Denali Highway 75.15 21 eP P 08 20 16.3 -0.9
comp=Z,4.6nm,1.1s
SUA Susitna One 75.30 23 eP P 08 20 17.6 -0.5
comp=Z,14nm,1.4s
RIDG Independ'e Rid 75.37 20 eP P 08 20 17.4 -1.0
comp=Z,7.5nm,1.2s
EGAK Eagle 75.52 18 eP P 08 20 18.1 -1.0
comp=Z,4.5nm,1.1s
ASAR Alice Springs 75.69 132 P P 08 20 19.8 -0.9
comp=Z,1.2nm,0.7s,baz=315,slow=5.8,SNR=15
AS01 Alice Springs 75.72 132 eP P 08 20 19.9 -0.9
SML Sawmill 75.82 22 eP P 08 20 20.4 -0.5
comp=Z,10nm,1.1s
SML Sawmill 75.82 22 eP P 08 20 20.4 -0.5
SML pmax pmax
comp=Z,11nm,1.1s
DAWY Dawson 76.55 18 eP P 08 20 24.5 -0.6
comp=Z,3.7nm,1.1s
KOWA Kowa 78.99 280 P P 08 20 39.1 -0.3
comp=Z,4.9nm,0.7s,baz=49,slow=8.0,SNR=15
KOWA LR LR 09 01 33.3
comp=Z,195nm,18.0s,baz=50,slow=40
KOWA Kowa 78.99 280 eP P 08 20 39.0 -0.5
comp=Z,6.6nm,0.8s
WHY Whitehorse 80.56 18 eP P 08 20 46.4 -0.9
comp=Z,7.8nm,1.4s
CTA Charters Tower 81.38 121 P P 08 20 51.5 -0.6
comp=Z,6.6nm,0.8s,baz=315,slow=7.1,SNR=3.7
CTAO Charters Tower 81.38 121 eP P 08 20 51.9 -0.2
comp=Z,8.5nm,0.9s
CTAO Charters Tower 81.38 121 eP P 08 20 51.9 -0.2
CTAO pmax pmax
comp=Z,9.0nm,0.9s
SKAG Skagway 81.48 18 eP P 08 20 52.6 +0.6
comp=Z,4.6nm,1.0s
YKA Yellowknife Ar 82.54 8 P P 08 20 56.2 -1.3
comp=Z,1.1nm,0.6s,baz=339,slow=5.2,SNR=32
BOSA Boshof 82.64 228 P P 08 20 58.0 -0.6
comp=Z,3.2nm,0.8s,baz=76,slow=8.3,SNR=3.8
BOSA LR LR 08 56 54.7
comp=Z,67nm,19.0s,baz=38,slow=35
BOSA Boshof 82.64 228 P P 08 20 58.0 -0.6
BOSA pmax pmax
comp=Z,2.0nm,0.7s
BOSA MLR MLR
comp=Z,67nm,19.0s
DBIC Dimbokro 83.95 274 P P 08 21 05.5 -0.2
comp=Z,4.2nm,0.9s,baz=24,slow=2.2,SNR=4.5
DBIC LR LR 09 01 48.3
comp=Z,294nm,19.6s,baz=36,slow=38
STKA Stephens Creek 86.30 133 P P 08 21 15.2 -1.8
comp=Z,1.2nm,0.5s,baz=311,slow=9.8,SNR=3.3
STKA LR LR 09 06 08.1
comp=Z,65nm,18.5s,baz=342,slow=40
SCHQ Schefferville 87.31 343 LR LR 09 07 40.6
comp=Z,93nm,18.2s,baz=16,slow=41
BBTS Babate 88.96 287 LR LR 09 08 26.7
comp=Z,152nm,19.0s,baz=72,slow=40
ULM Lac du Bonnet 95.76 359 LR LR 09 08 26.0
comp=Z,176nm,20.2s,baz=13,slow=38
ULM Lac du Bonnet 95.76 359 eP P 08 21 59.8 -1.2
comp=Z,13nm,1.8s
ULM Lac du Bonnet 95.76 359 eP P 08 21 59.8 -1.2
ULM pmax pmax
comp=Z,13nm,1.8s
DZM Mont Dzumac 97.55 111 LR LR 09 10 58.5
comp=Z,26nm,18.3s,baz=276,slow=38
SVB Belmont 121.34 317 ePKPdf PKPdf 08 27 26.1 -2.7
CPUP Villa Florida 144.45 272 PKP PKPab 08 28 08.9 -0.9
comp=Z,3.8nm,0.8s,baz=50,slow=5.3,SNR=9.1
CPUP Villa Florida 144.45 272 ePKPdf PKPab 08 28 09.5 -0.4
CPUP Villa Florida 144.45 272 ePKIKP PKPab 08 28 09.5 -0.4
LPAZ La Paz 147.97 297 PKPbc PKPbc 08 28 20.3 -1.3
comp=Z,0.5nm,0.5s,baz=342,slow=3.2,SNR=3.7
TRQA Tornquist 151.06 252 ePKPbc PKPbc 08 28 28.0 0.0
TRQA Tornquist 151.06 252 PKIKP PKPbc 08 28 28.0 0.0
PB01 IPOC Station P 151.84 291 ePKPbc PKPbc 08 28 29.8 -0.6

*IDC **10** 08:08:36.3±6.9, 44°.52N×148°.65E, h0km, mb3.4/4, mb1 3.8/5, mb1mx3.4/69, mbtmp3.5/5, ML2.9/1, Error ellipse: s-maj=259.5km s-min=79.6km az=102.0*
*SKHL **10** 08:08:59.2±1.0, 44°.78N×150°.64E, h44km±2km, mb3.6/2*
*JMA **10** 08:09:05.1±0.5, 45°.00N×149°.68E, h148km, M2.8*
ISC 10 08:08:52.7±1.1, 44°.6N±0°.1×150°.98E±0°.09, h60km, n23, σ3^{2}8/20, mb3.4/4, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**2.29**	**286**	*eP*	**Pn**	**08 09 30.1**	**+2.1**
KUR				AMB	AMB	08 09 30.7	
	8.0nm,0.4s						
KUR				*eS*	**Sn**	**08 09 54.1**	**-1.0**
KUR				A	A	08 09 54.5	
	185nm,0.3s						
KUR				A	A	08 09 54.5	
	49nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**3.72**	**263**	*eP*	**Pn**	**08 09 51.8**	**+4.2**
YUK				AMB	AMB	08 09 53.1	
	7.0nm,0.3s						
YUK				*eS*	**Sn**	**08 10 30.5**	**+0.4**
YUK				A	A	08 10 32.7	
	92nm,0.3s						
YUK				A	A	08 10 32.7	
	48nm,0.3s						
NEM2	**Nemuro 2**	**3.99**	**253**	P	Pn	08 09 56.2	+5.0
NEM2				*eS*	**Sn**	**08 10 35.6**	**-1.0**
JRA	**Rausu**	**4.26**	**263**	P	**Pn**	**08 09 58.6**	**+3.6**
JNK	**Nakash**	**4.63**	**259**	P	**Pn**	**08 10 03.8**	**+3.8**
JAK	**Akkeshi**	**4.83**	**252**	P	**Pn**	**08 10 07.2**	**+4.4**
JAK				*eS*	**Sn**	**08 10 54.7**	**-2.7**
JAR	**Ashorobuto**	**5.37**	**258**	P	**Pn**	**08 10 13.8**	**+3.6**
JCH	**Churui**	**5.89**	**253**	P	**Pn**	**08 10 21.0**	**+3.8**
JCH				*eS*	**Sn**	**08 11 18.8**	**-4.5**
YSS	**Yuzh-Sakhalins**	**6.20**	**295**	*eP*	**Pn**	**08 10 25.2**	**+3.7**
JNBK	**Urakawa-nobuka**	**6.43**	**251**	*eS*	**Sn**	**08 11 33.1**	**-3.6**
SKR	**Severo-Kuril's**	**6.97**	**28**	*eP*	Pn	08 10 40.0	+8.0
PETK	**Petropavlovsk-**	**9.56**	**25**	Pn	**Pn**	**08 11 09.6**	**+2.1**
	0.5nm,3s,baz=201,slow=12,SNR=4.2						
H11N2	**WAKE ISLAND Hy**	**28.15**	**147**	T	T	08 46 04.9	
	baz=335,slow=76,SNR=6.4						
H11N1	**WAKE ISLAND Hy**	**28.16**	**147**	T	T	08 46 09.7	
	baz=335,slow=76,SNR=5.5						
H11N3	**WAKE ISLAND Hy**	**28.16**	**147**	T	T	08 46 07.8	
	baz=335,slow=76,SNR=4.4						
H11S1	**WAKE ISLAND Hy**	**29.18**	**148**	T	T	08 47 23.8	
	baz=336,slow=76,SNR=7.3						
H11S3	**WAKE ISLAND Hy**	**29.19**	**148**	T	T	08 47 22.9	
	baz=336,slow=76,SNR=6.1						
H11S2	**WAKE ISLAND Hy**	**29.20**	**148**	T	T	08 47 25.1	
	baz=336,slow=76,SNR=5.1						
ILAR	**Eielson Array**	**39.14**	**37**	P	**P**	**08 16 12.5**	**-1.4**
	0.2nm,0.5s,baz=264,slow=7.1,SNR=6.8						
INK	**Inuvik**	**44.24**	**31**	P	**P**	**08 16 54.1**	**-1.4**
	0.4nm,0.5s,baz=293,slow=5.9,SNR=3.7						
YKA	**Yellowknife Ar**	**53.51**	**35**	P	**P**	**08 18 05.7**	**-0.9**
	0.3nm,0.5s,baz=294,slow=5.9,SNR=7.7						
VYHS	**Vyhne**	**78.22**	**330**	*e*	**P**	**08 20 41.2**	**-4.3**
TXAR	**Lajitas Array**	**79.85**	**59**	P	**P**	**08 20 56.5**	**+1.6**
	0.2nm,0.5s,baz=306,slow=3.2,SNR=3.7						

*ISCJB **10** 08:09:17.6±1.9, 23°.6N±0°.2×109°.9W±0°.1, h10km, mb4.0/2, MS3.2/3, Error ellipse: s-maj=28.2km s-min=10.8km az=34.0*
*IDC **10** 08:09:17.3±1.5, 23°.59N×109°.85W, h0km, mb3.9/2, mb1 4.0/4, mb1mx3.4/52, mbtmp3.7/4, ML4.3/2, MS3.2/4, Ms1 3.1/4, ms1mx2.7/48, Error ellipse: s-maj=24.0km s-min=12.5km az=41.0*
*MEX **10** 08:09:20.3±0.3, 24°.64N×110°.08W, h10km, MD3.6*
ISC 10 08:09:19.3±1.7, 23°.6N±0°.2×110°.0W±0°.2, h10km, n10, σ1^{2}07/8, MS3.0/3, Baja California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPIG	**La Paz**	**0.57**	**330**	Pg	**Pg**	**08 09 30.5**	**+0.1**
	261nm,0.3s,baz=140,slow=7.9,SNR=301						
LPIG				Lg	Lg	08 09 38.9	
	2μm,0.3s,baz=135,slow=19,SNR=55						
LPIG	**La Paz**	**0.57**	**330**	*eP*	**Pg**	**08 09 30.5**	**+0.1**
	baz=21,slow=22						
LPIG				*eS*	**Sb**	**08 09 38.5**	**-1.1**
TXAR	**Lajitas Array**	**8.04**	**44**	Pn	**Pn**	**08 11 15.7**	**-0.7**
	0.1nm,0.3s,baz=225,slow=15,SNR=9.8						
TXAR				Lg	Lg	08 13 27.4	
	0.0nm,0.3s,baz=229,slow=33,SNR=3.0						
TXAR				LR	LR	08 14 34.8	
	comp=Z,116nm,18.9s,baz=0.0,slow=40						
PDAR	**Pinedale Array**	**19.11**	**1**	Pn	**Pn**	**08 13 44.9**	**+1.5**
	0.3nm,0.3s,baz=175,slow=11,SNR=23						
ULM	**Lac du Bonnet**	**28.79**	**19**	LR	LR	08 27 10.8	
	comp=Z,30nm,20.2s,baz=308,slow=37						
ILAR	**Eielson Array**	**47.61**	**340**	P	**P**	**08 17 56.1**	**+0.9**
	0.5nm,0.8s,baz=143,slow=7.1,SNR=7.2						
RPN	**Rapa Nui**	**50.44**	**179**	LR	LR	08 35 14.7	
	comp=Z,16nm,21.7s,baz=46,slow=31						
PETK	**Petropavlovsk-**	**72.81**	**321**	P	**P**	**08 20 47.7**	**-0.3**
	2.0nm,0.5s,baz=72,slow=4.7,SNR=5.1						
MJAR	**Matsushiro Arr**	**92.19**	**312**	LR	LR	08 59 30.0	
	comp=Z,26nm,19.2s,baz=265,slow=33						
WRA	**Warramunga Arr**	**120.58**	**260**	PKP	**PKPdf**	**08 28 11.1**	**-0.9**
	0.3nm,0.9s,baz=85,slow=3.6,SNR=3.0						

*CSEM **10** 08:13:33.4, 34°.05N×45°.15E, h0km, ML2.9*
*ISN **10** 08:13:33.4±0.6, 34°.05N×45°.15E, h0km±2km, ML2.9*
TEH 10 08:13:38.8, 34°.01N×45°.12E, h14km, ML2.9, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BHD	**Baghdad**	**0.96**	**220**	*e*Pg	Pb	08 13 56.0	-1.2
	SNR=9.0						
BHD				*e*Sg	Sn	08 14 11.0	-0.3
	SNR=9.0						
IGHG	**Ghaleghazi**	**1.24**	**75**	*e*Pn	Pn	08 14 01.4	-0.5
IDHR	**Dehrash**	**1.25**	**56**	*e*Pn	Pn	08 14 00.9	-1.2
IDHR				*e*AMB	AMB	08 14 22.0	
	comp=Z,3μm,0.2s						
IVIS	**Veis**	**1.52**	**70**	*e*Sg	Sb	08 14 26.4	+0.4
IVIS				*e*Pn	Pn	08 14 05.9	+0.2
IVIS				*e*AMB	AMB	08 14 28.2	
	comp=Z,3μm,0.2s						
ILIN	**Lien**	**1.77**	**59**	*e*Pn	Pb	08 14 10.7	-0.5
ILIN				*e*AMB	AMB	08 14 12.4	
	comp=Z,959nm,0.1s						
IKOM	**Komasi**	**1.99**	**85**	*e*Pn	Pn	08 14 12.3	+0.2
IKOM				*e*AMB	AMB	08 14 46.5	
	comp=Z,2μm,0.2s						
IKFM	**Kafar-mosalman**	**2.32**	**101**	*e*Pn	Pn	08 14 16.7	+0.2
IKFM				*e*AMB	AMB	08 14 52.1	
	comp=Z,99nm,0.2s						

PRU 10 08:15:56.8, 51°.40N×16°.10E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
UPC	**Upice**	**0.90**	**184**	*e*PG	Pg	08 16 13.6	-0.3
DPC	**Dobruska-Polom**	**1.06**	**172**	*e*PG	Pg	08 16 16.5	-0.6
DPC				*e*SG	Sg	08 16 30.7	-0.1
	comp=Z,2.5nm,0.3s						
PVCC	**Panska Ves**	**1.30**	**229**	*e*SG	Sg	08 16 38.4	-0.2
	comp=Z,16nm,0.2s						
BRG	**Berggiesshubel**	**1.46**	**250**	SG	Sg	08 16 41.4	-2.2
	2.4nm,0.5s						

*NDI **10** 08:25:44.6±3.0, 34°.57N×83°.64E, h35km, ML4.0, mb4.1(NEIC)*
*ISCJB **10** 08:25:53.1±0.5, 34°.23N±0°.04×82°.77E±0°.06, h35km, mb4.1/19, MS3.6/2, Error ellipse: s-maj=6.9km s-min=5.2km az=28.4*
*NEIC **10** 08:25:54.6±0.8, 34°.10N×82°.74E, h35km, mb4.1/15, Error ellipse: s-maj=11.6km s-min=7.1km az=132.0*
*IDC **10** 08:25:54.5±0.8, 34°.37N×82°.17E, h0km, mb3.9/11, mb1 4.0/16, mb1mx3.8/64, mbtmp3.9/16, ML3.7/4, MS3.4/3, Ms1 3.4/3, ms1mx2.9/63, Error ellipse: s-maj=21.5km s-min=14.6km az=34.0*
*BJI **10** 08:25:54.7, 34°.36N×82°.40E, h15km, mb4.3/11, mB4.5/3, ML4.2/4, Ms3.9/8, Ms7 3.7/8*
ISC 10 08:25:55.6±0.6, 34°.24N±0°.06×82°.72E±0°.05, h35km, n90, σ2^{2}9^{2}17/72, mb4.0/19, Xizang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DDI	**Dehra Dun**	**5.55**	**227**	*eP*	**Pn**	**08 27 15.4**	**-0.4**
DDI				*eS*	**Sn**	**08 28 22.9**	**+4.4**
DDI				IAML		08 28 47.8	
	comp=N,137nm,0.5s						
DDI				IAML		08 28 48.0	
	comp=E,110nm,1.0s						
SMLA	**Simla**	**5.62**	**238**	*eP*	**Pn**	**08 27 17.7**	**+1.1**
SMLA				*eS*	**Sn**	**08 28 23.5**	**+3.6**
SMLA				IAML		08 28 32.0	
	comp=N,102nm,0.7s						
SMLA				IAML		08 28 33.5	
	comp=E,85nm,0.7s						
DHRM	**DHARAMSHALA**	**5.73**	**252**	*eP*	**Pn**	**08 27 19.0**	**+0.6**
DHRM				*eS*	**Sn**	**08 28 25.2**	**+2.1**
DHRM				IAML		08 28 37.2	
	comp=N,2μm,1.2s						
DHRM				IAML		08 28 43.1	
	comp=E,62nm,0.6s						
NIL	**Nilore**	**7.89**	**268**	*e*Pn	**Pn**	**08 27 47.3**	**-0.6**
WMQ	**Urumqi**	**10.32**	**21**	P	**Pn**	**08 28 21.2**	**+0.1**
WMQ				pP		08 28 27.0	
WMQ				sP		08 28 33.6	
WMQ				LR	LR		
	comp=E,1μm,7.3s						
WMQ				LR	LR		
	comp=E,3μm,8.9s						
WMQ				LR	LR		
	comp=E,470nm,17.1s						
AAK	**Ala-Archa**	**10.57**	**325**	Pn	**Pn**	**08 28 25.7**	**+1.0**
	comp=E,0.2nm,0.3s,baz=156,slow=14,SNR=5.8						
AAK				Lg	Lg	08 31 21.5	
	comp=E,0.2nm,0.3s,baz=191,slow=16,SNR=2.6						
AAK	**Ala-Archa**	**10.57**	**325**	*e*Pn	**Pn**	**08 28 26.0**	**+1.3**
AAK				Lg	Lg	08 31 21.5	
BOK	**Bokaro**	**10.77**	**164**	*eP*	Pn	08 28 17.0	-10
KBL	**Kabul**	**11.31**	**275**	*e*Pn	**Pn**	**08 28 33.7**	**-1.1**
BHPL	**Bhopal**	**11.90**	**204**	*eP*	**Pn**	**08 28 38.3**	**-4.5**
BHPL				*ex*	x	08 30 49.9	
BHPL				IAML		08 30 57.1	
	comp=E,48nm,0.2s						
BHPL				IAML		08 30 57.6	
	comp=N,51nm,0.6s						
MK01	**Makanchi Array**	**12.52**	**359**	*e*Pn	**Pn**	**08 28 50.5**	**-0.8**
MK31	**Makanchi Array**	**12.54**	**359**	*e*Pn	**Pn**	**08 28 51.1**	**-0.4**
MKAR	**Makanchi Array**	**12.54**	**359**	Pn	**Pn**	**08 28 51.1**	**-0.5**
	comp=N,0.5nm,0.3s,baz=182,slow=13,SNR=41						
MKAR				Lg	Lg	08 32 21.2	
	comp=N,0.0nm,0.3s,baz=182,slow=36,SNR=1.8						
MKAR				LR	LR	08 34 35.9	
	comp=N,135nm,18.6s,baz=172,slow=42						
KK06	**Karatay Array**	**12.99**	**316**	*e*Pn	**Pn**	**08 28 57.3**	**-0.3**
KK07	**Karatay Array**	**13.00**	**316**	*e*Pn	**Pn**	**08 28 58.4**	**+0.7**
KK02	**Karatay Array**	**13.00**	**316**	*e*Pn	**Pn**	**08 28 58.9**	**+1.2**
KK31	**Karatay Array**	**13.00**	**316**	*e*Pn	**Pn**	**08 28 58.8**	**+1.0**
KKAR	**Karatay Array**	**13.00**	**316**	*e*Pn	**Pn**	**08 28 58.7**	**+1.0**
KK05	**Karatay Array**	**13.00**	**317**	*e*Pn	**Pn**	**08 28 58.4**	**+0.6**
KK01	**Karatay Array**	**13.00**	**316**	*e*Pn	**Pn**	**08 28 59.1**	**+1.3**
KK03	**Karatay Array**	**13.01**	**316**	*e*Pn	**Pn**	**08 28 58.9**	**+1.1**
KK04	**Karatay Array**	**13.01**	**316**	*e*Pn	**Pn**	**08 28 58.6**	**+0.7**
KK08	**Karatay Array**	**13.01**	**316**	*e*Pn	**Pn**	**08 28 58.8**	**+0.8**
NGP	**Nagpur**	**13.44**	**195**	*eP*	Pn	08 28 57.2	-6.7
KURBB	**Kurchatov Arra**	**16.66**	**351**	Pn	**Pn**	**08 29 43.4**	**-2.8**
	baz=172,slow=12,SNR=18						
KURK	**Kurchatov**	**16.74**	**351**	*e*Pn	**Pn**	**08 29 44.7**	**-2.4**
	comp=N,8.7nm,0.9s						
HYB	**Hyderabad**	**17.16**	**194**	*i* P	**P**	**08 29 51.0**	**-3.1**
LZH	**Lanzhou**	**17.37**	**78**	*eP*	Pn	08 29 46.3	-9.1
LZH				pP	P	08 29 54.8	-1.7
LZH				sP	pP	08 29 59.2	-6.4
LZH				*e*PP	**PnPn**	**08 30 01.9**	**-3.8**
LZH				pmax	pmax		
	comp=Z,18nm,1.0s						
LZH				pmax	pmax		
	comp=Z,52nm,4.6s						
LZH				LR	LR		
	comp=N,120nm,11.5s						
LZH				LR	LR		
	comp=E,130nm,12.0s						
LZH				LR	LR		
	comp=Z,170nm,13.6s						
CD2	**Chengdu**	**18.04**	**95**	*eP*	**P**	**08 30 07.5**	**+3.8**
CD2				S	**S**	**08 33 33.0**	**+4.2**
CD2				pmax	pmax		
	comp=Z,20nm,0.5s						
CD2				pmax	pmax		
	comp=Z,160nm,5.0s						
CD2				LR	LR		
	comp=Z,1μm,11.7s						
CD2				LR	LR		
	comp=Z,460nm,8.1s						
CD2				LR	LR		
	comp=Z,590nm,8.5s						
KMI	**Kunming**	**19.60**	**112**	P	P	08 30 13.0	-8.1

KMI					pmax	pmax			
	comp=Z,16nm,0.5s								
KMI					pmax	pmax			
	comp=Z,100nm,4.0s								
ZAA0	**Zalesovo Array**	**19.76**	**4**	*eP*	**P**		08 30 14.7	-7.6	
	comp=Z,4.2nm,0.8s								
ZALV	**Zalesovo Beam**	**19.76**	**4**	P	**P**		**08 30 23.3**	**+0.9**	
	comp=Z,2.0nm,0.3s,baz=201,slow=10,SNR=6.0								
ZALV				LR	LR		08 38 02.3		
	comp=Z,76nm,19.8s,baz=252,slow=37								
GYB1	**ALIBECK ARRAY**	**20.20**	**288**	*eP*	**P**		**08 30 26.2**	**-1.2**	
	comp=Z,4.6nm,0.6s								
GYB2	**ALIBECK ARRAY**	**20.20**	**288**	*eP*	**P**		**08 30 26.1**	**-1.2**	
	comp=Z,18nm,1.3s								
GYA2	**ALIBECK ARRAY**	**20.20**	**288**	*eP*	**P**		**08 30 26.5**	**-0.9**	
	comp=Z,7.8nm,1.0s								
GYA1	**ALIBECK ARRAY**	**20.20**	**288**	*eP*	**P**		**08 30 26.9**	**-0.5**	
	comp=Z,5.8nm,0.8s								
GEYT	**Alibeck**	**20.20**	**288**	P	**P**		**08 30 26.4**	**-1.0**	
	comp=Z,0.5nm,0.3s,baz=98,slow=11,SNR=8.0								
GYA0	**ALIBECK ARRAY**	**20.20**	**288**	*eP*	**P**		**08 30 26.5**	**-0.9**	
	comp=Z,6.2nm,0.6s								
GYA0B	**ALIBECK ARRAY**	**20.20**	**288**	*eP*	**P**		**08 30 26.5**	**-0.9**	
	comp=Z,6.3nm,0.6s								
GYB3	**ALIBECK ARRAY**	**20.21**	**288**	*eP*	**P**		**08 30 26.9**	**-0.5**	
	comp=Z,9.9nm,1.1s								
GYB5	**ALIBECK ARRAY**	**20.21**	**288**	*eP*	**P**		**08 30 26.6**	**-0.9**	
	comp=Z,6.9nm,0.9s								
GYB4	**ALIBECK ARRAY**	**20.22**	**288**	*eP*	**P**		**08 30 26.5**	**-1.0**	
	comp=Z,5.8nm,0.9s								
CMAI	**Chiengmai2**	**20.32**	**130**	P	P		08 30 15.3	-14	
BVAR	**Borovoye Array**	**20.74**	**339**	P	**P**		**08 30 33.4**	**+0.5**	
	comp=Z,12nm,0.9s,baz=148,slow=12,SNR=27								
BRVK	**Borovoye**	**20.80**	**339**	*eP*	**P**		**08 30 34.1**	**+0.5**	
	comp=Z,28nm,1.3s								
CHTO	**Chiang Mai**	**21.09**	**133**	P	P		08 30 24.0	-13	
CHTO	**Chiang Mai**	**21.09**	**133**	*eP*	P		08 30 24.3	-13	
CMMT	**Chiang Mai**	**21.09**	**133**	P	P		08 30 22.9	-14	
CM31	**Chiang Mai Arr**	**21.36**	**133**	*eP*	P		08 30 31.0	-9.0	
CM01	**Chiang Mai Arr**	**21.40**	**133**	*eP*	P		08 30 30.3	-10	
XAN	**Xi'an**	**21.67**	**83**	P	**P**		**08 30 49.5**	**+6.2**	
XAN				pmax	pmax				
	comp=Z,8.0nm,0.9s								
XAN				LR	LR				
	comp=Z,560nm,17.2s								
XAN				LR	LR				
	comp=Z,220nm,9.8s								
XAN				LR	LR				
	comp=Z,240nm,13.5s								
NANT	**Nan**	**22.20**	**129**	P	**P**		**08 30 45.8**	**-3.2**	
SONM	**Songino Array**	**22.32**	**45**	P	**P**		**08 30 55.6**	**+5.4**	
	comp=Z,2.2nm,0.8s,baz=238,slow=8.3,SNR=6.6								
AB07	**Akbulak array**	**22.53**	**319**	*eP*	**P**		**08 30 52.3**	**0.0**	
AB06	**Akbulak array**	**22.53**	**319**	*eP*	**P**		**08 30 51.8**	**-0.5**	
AB03	**Akbulak array**	**22.54**	**319**	*eP*	**P**		**08 30 53.2**	**+0.8**	
AB08	**Akbulak array**	**22.54**	**319**	*eP*	**P**		**08 30 54.1**	**+1.7**	
AB01	**Akbulak array**	**22.55**	**319**	*eP*	**P**		**08 30 53.1**	**+0.7**	
AB02	**Akbulak array**	**22.55**	**319**	*eP*	**P**		**08 30 53.1**	**+0.7**	
AB31	**Akbulak array**	**22.55**	**319**	*eP*	**P**		**08 30 52.8**	**+0.4**	
ABKAR	**Akbulak array**	**22.55**	**319**	*eP*	**P**		**08 30 52.8**	**+0.4**	
	comp=Z,399nm,7.8s								
AB04	**Akbulak array**	**22.55**	**319**	*eP*	**P**		**08 30 53.0**	**+0.5**	
AB05	**Akbulak array**	**22.55**	**319**	*eP*	**P**		**08 30 53.0**	**+0.5**	
AB09	**Akbulak array**	**22.56**	**319**	*eP*	**P**		**08 30 53.2**	**+0.6**	
PHIT	**Phitsanulok**	**23.23**	**133**	P	**P**		**08 30 56.6**	**-3.1**	
HHC	**Hu-ho-hao-te**	**23.74**	**65**	*eP*	**P**		**08 30 57.6**	**-7.0**	
HHC				pmax	pmax				
	comp=Z,17nm,0.7s								
HHC				pmax	pmax				
	comp=Z,66nm,5.6s								
PBKT	**Sadao Pong**	**24.04**	**133**	P	**P**		**08 31 07.9**	**+0.4**	
AKTO	**Aktyubinsk**	**24.23**	**319**	P	**P**		**08 31 10.4**	**+1.4**	
	comp=Z,1.4nm,0.7s,baz=128,slow=8.9,SNR=5.4								
AKTO				LR	LR		08 41 05.8		
	comp=Z,142nm,19.1s,baz=191,slow=38								
SRDT	**SRDT**	**24.74**	**139**	P	P		08 31 21.4	+7.5	
	comp=Z,20nm,0.7s,comp=Z,0.6nm								
CHAI	**Chaiyaphum**	**25.18**	**132**	P	P		08 31 27.9	+10	
KHON	**Khomkaen**	**25.37**	**130**	P	P		08 31 31.6	+12	
SKNT	**Sakolnakorn**	**25.66**	**127**	P	P		08 31 30.7	+8.4	
	comp=Z,5.6nm,0.9s,comp=Z,0.1nm								
PHET	**Kaeng Krachan**	**26.21**	**140**	P	P		08 31 40.6	+13	
KSAR	**Wonju Array Be**	**36.49**	**72**	P	P		08 33 05.2	+7.8	
KSRS	**Korea Array**	**36.52**	**72**	P	P		08 33 05.2	+7.5	
	comp=Z,0.9nm,0.5s,baz=285,slow=8.0,SNR=4.6								
BR131	**Keskin Array S**	**39.19**	**293**	*eP*	**P**		**08 33 18.2**	**-2.3**	
BRTR	**Keskin Array B**	**39.19**	**293**	P	**P**		**08 33 21.2**	**+0.7**	
	comp=Z,1.8nm,0.7s,baz=110,slow=8.1,SNR=9.3								
BR231	**Keskin MP Arra**	**39.84**	**293**	*eP*	**P**		**08 33 21.6**	**-4.2**	
KIS	**Kishinev**	**42.06**	**304**	*eL*	L		08 33 49.0		
KIS				LRM	MLR		08 37 28.0		
	comp=Z,800nm,14.0s								
MLR	**Muntele Rosu**	**44.16**	**302**	*eP*	**P**		**08 33 59.4**	**-1.6**	
	comp=Z,6.4nm,0.9s								
FINES	**FINESS Array B**	**44.76**	**325**	P	**P**		**08 34 05.9**	**+0.5**	
	comp=Z,1.5nm,0.8s,baz=97,slow=7.6,SNR=3.0								
MJAR	**Matsushiro Arr**	**44.76**	**70**	P	P		08 34 13.4	+7.6	
	comp=Z,1.6nm,0.9s,baz=283,slow=9.4,SNR=5.4								
ESK	**Eskdalemuir**	**60.45**	**319**	*eP*	**P**		**08 35 60.0**	**-1.5**	
	comp=Z,39nm,1.4s								
WRA	**Warramunga Arr**	**72.90**	**130**	P	P		08 37 28.1	+6.8	
	comp=Z,0.9nm,0.7s,baz=326,slow=6.2,SNR=8.6								
SFJD	**Kangerlussuaq**	**73.05**	**343**	*eP*	**P**		**08 37 22.3**	**+0.8**	
	comp=Z,19nm,1.4s								
ILAR	**Eielson Array**	**73.98**	**20**	P	P		08 37 32.2	+5.1	
	comp=Z,0.4nm,0.6s,baz=321,slow=5.7,SNR=7.6								
ASAR	**Alice Springs**	**75.37**	**132**	P	P		08 37 42.9	+7.2	
	comp=Z,0.5nm,0.7s,baz=319,slow=5.9,SNR=6.9								
TOA0	**Torodi Ar. Sit**	**75.38**	**276**	*eP*	**P**		**08 37 36.0**	**0.0**	
TORD	**Torodi Ar. Bea**	**75.38**	**276**	P	**P**		**08 37 36.0**	**0.0**	
	comp=Z,1.4nm,0.7s,baz=47,slow=5.2,SNR=8.7								
YKA	**Yellowknife Ar**	**82.60**	**8**	P	**P**		**08 38 15.5**	**+0.8**	
	comp=Z,0.3nm,0.7s,baz=338,slow=5.6,SNR=4.3								

*ISCJB **10** 08:31:07.3±0.6, 32°.42N±0°.03×115°.24W±0°.03, h12km±4km, Error ellipse: s-maj=4.8km s-min=4.0km az=33.3*
*ECX **10** 08:31:08.8±0.5, 32°.39N×115°.21W, h5km, MD3.0, ML3.2*
*MEX **10** 08:31:09.4±0.6, 32°.42N×115°.21W, h4km±16km, MD3.7*
ISC 10 08:31:06.8±1.0, 32°.38N±0°.03×115°.25W±0°.03, h15km±5km, n24, σ0°91/37, 4C, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MBIG	**Mexicali**	**0.04**	**60**	*i* P	**Pg**	**08 31 09.5**	**0.0**
MBIG				*eS*	**Sg**	**08 31 11.6**	**+0.2**
MBIG	**Mexicali**	**0.04**	**60**	⇑*eP*	**Pg**	**08 31 09.7**	**+0.1**
CPBX	**Cerro Prieto**	**0.06**	**303**	*eP*	**Pg**	**08 31 09.4**	**-0.3**
CPBX				*eS*	**Sg**	**08 31 11.1**	**-0.5**
CPBX				⇑*e*		08 31 15.4	
CPBX				IAML		08 31 15.4	
	comp=N,35μm,0.5s						
SWSC	**Sam W. Stewart**	**0.73**	**320**	P	**Pg**	**08 31 21.3**	**+0.2**
	baz=139,SNR=16						
SWSC				S	**Sg**	**08 31 30.8**	**+0.1**
	baz=139						
RMX	**La Rumorosa**	**0.74**	**287**	*eP*	**Pg**	**08 31 21.5**	**+0.3**
GLA	**Glamis**	**0.75**	**28**	P	**Pg**	**08 31 22.0**	**+0.5**
	baz=211,SNR=20						
GLA				S	**Sg**	**08 31 32.1**	**+0.6**
	baz=211						
IKP	**In-Ko-Pah, Jac**	**0.78**	**290**	P	**Pg**	**08 31 22.7**	**+0.7**
	baz=107,SNR=37						
IKP				S	**Sg**	**08 31 32.0**	**-0.3**
	baz=107						
IKP	**In-Ko-Pah, Jac**	**0.78**	**290**	*eP*	**Pg**	**08 31 22.8**	**+0.8**
ECBX	**El Chinero**	**0.92**	**170**	*eP*	**Pg**	**08 31 24.8**	**0.0**
ECBX				*eS*	**Sg**	**08 31 37.7**	**+0.9**
ECBX				⇑*e*		08 31 39.4	
ECBX				IAML		08 31 39.4	
	comp=E,546nm,0.4s						
MONP2	**Monument Peak**	**1.11**	**297**	P	**Pg**	**08 31 27.7**	**-0.7**
	baz=115,SNR=34						
MONP2				S	**Sg**	**08 31 43.1**	**+0.1**
	baz=115						
CBX	**Cerro Bola**	**1.20**	**267**	*eP*	**Pg**	**08 31 30.1**	**0.0**
CBX				*eS*	**Sg**	**08 31 45.1**	**-0.7**
CBX	**Cerro Bola**	**1.20**	**267**	*eP*	**Pg**	**08 31 30.2**	**+0.1**
CBX				*eS*	**Sg**	**08 31 46.7**	**+0.9**
CBX				⇑*e*		08 31 50.5	
CBX				IAML		08 31 50.5	
	comp=N,321nm,0.5s						
TJIG	**Tijuana**	**1.21**	**273**	*eP*	**Pg**	**08 31 29.6**	**-0.6**
TJIG				*eS*	**Sg**	**08 31 45.1**	**-0.9**

BAR	**Barrett**	**1.24**	**284**	*eP*	**Pg**		**08 31 30.8**	**0.0**	
BC3	**Big Chuckawall**	**1.28**	**352**	P	**Pg**		**08 31 30.0**	**-1.5**	
	baz=173,SNR=21								
SPIG	**San Pedro Mart**	**1.35**	**188**	*eP*	**Pn**		**08 31 31.9**	**+0.4**	
SPIG				*eS*	**Sg**		**08 31 49.2**	**-1.2**	
SPIG	**San Pedro Mart**	**1.35**	**188**	*eP*	**Pn**		**08 31 31.9**	**+0.4**	
SPIG				*eS*	**Sg**		**08 31 50.8**	**+0.4**	
ECNX	**Esteban Cantu**	**1.36**	**238**	*eP*	**Pn**		**08 31 31.7**	**+0.3**	
SDRC	**San Diego Road**	**1.48**	**284**	*eP*	**Pn**		**08 31 34.8**	**+1.8**	
Y12C	**Blythe**	**1.49**	**24**	Pb	**Pn**		**08 31 35.1**	**+1.9**	
	baz=206,SNR=28								
PFO	**Pinyon Flats O**	**1.59**	**320**	P	**Pn**		**08 31 34.0**	**-0.7**	
	baz=139								
PFO				S	**Sn**		**08 31 53.7**	**-1.5**	
	baz=139								
109C	**Camp Elliot, M**	**1.65**	**288**	Pb	**Pn**		**08 31 37.7**	**+2.4**	
	baz=106,SNR=15								
214A	**Organ Pipe Nat**	**2.11**	**101**	P	**Pn**		**08 31 41.4**	**-0.3**	
	baz=284,SNR=12								
GMRC	**Granite Mounta**	**2.42**	**352**	S	**Sn**		**08 32 14.4**	**-1.1**	
	baz=172								

MEX 10 08:31:48.2±0.3, 24°.23N×109°.70W, h10km, MD3.7, Gulf of California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPIG	**La Paz**	**0.57**	**258**	*eP*	Pg	08 31 58.3	-1.0
	baz=78,slow=22						
LPIG				*eS*	Sg	08 32 06.2	-0.7

*TIR **10** 08:36:42.5, 42°.47N×20°.02E, h7km, Md2.2/2*
*CSEM **10** 08:36:49.9±0.3, 42°.47N×19°.89E, h2km, ML2.1/7, Error ellipse: s-maj=5.8km s-min=4.4km az=133.0*
*PDG **10** 08:36:50.1±0.1, 42°.48N×19°.87E, h8km±2km, ML1.9/9, Error ellipse: s-maj=0.2km s-min=0.4km az=0.0*
*BEO **10** 08:36:51.6±0.5, 42°.49N×19°.86E, h3km±5km*
ISC 10 08:36:49.9±0.9, 42°.47N±0°.02×19°.89E±0°.02, h6km±8km, n45, σ0°82/88, 14C-6D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PVY	**Plav**	**0.14**	**24**	⇓*iPg*	**Pg**	**08 36 52.5**	**-0.3**
PVY				*eSg*	**Sg**	**08 36 55.0**	**+0.3**
PVY	**Plav**	**0.14**	**24**	⇓*iPg*	**Pg**	**08 36 52.5**	**-0.3**
PVY				*eSg*	**Sg**	**08 36 55.0**	**+0.3**
BCI	**Bajram Curri**	**0.17**	**127**	*i* Pg	**Pg**	**08 36 52.8**	**-0.5**
	baz=267						
BCI				*i* Sg	**Sg**	**08 36 55.5**	**-0.1**
	baz=267						
BCI	**Bajram Curri**	**0.17**	**127**	*i* PG	**Pg**	**08 36 52.8**	**-0.5**
BCI				*i* SG	**Sg**	**08 36 55.5**	**-0.1**
BEY	**Berane**	**0.40**	**1**	⇑*iPg*	**Pg**	**08 36 57.6**	**-0.1**
BEY				*eSg*	**Sg**	**08 37 03.7**	**+0.7**
IVA	**Berane**	**0.40**	**1**	⇓*iPg*	**Pg**	**08 36 57.6**	**-0.1**
IVA				*eSg*	**Sg**	**08 37 03.7**	**+0.7**
PUK	**Puka**	**0.43**	**179**	*i* Pg	**Pg**	**08 36 58.2**	**+0.1**
	baz=217						
PUK				*i* Sg	**Sg**	**08 37 04.7**	**+1.0**
	baz=217						
PUK	**Puka**	**0.43**	**179**	*i* PG	**Pg**	**08 36 58.2**	**+0.1**
PUK				*i* SG	**Sg**	**08 37 04.7**	**+1.0**
KOME	**Kolasin**	**0.47**	**324**	⇑*iPg*	**Pg**	**08 36 58.8**	**-0.1**
KOME				*eSg*	**Sg**	**08 37 05.8**	**+0.7**
KOME	**Kolasin**	**0.47**	**324**	⇑*iPg*	**Pg**	**08 36 58.8**	**-0.1**
KOME				*eSg*	**Sg**	**08 37 05.8**	**+0.7**
PDG	**Podgorica**	**0.47**	**265**	*ePg*	**Pg**	**08 36 58.6**	**-0.3**
	24nm,0.5s						
PDG				*eSg*	**Sb**	**08 37 06.6**	**-1.1**
	40nm,0.3s						
PDG	**Podgorica**	**0.47**	**265**	⇓*iPg*	**Pg**	**08 36 58.7**	**-0.2**
PDG				*eSg*	**Sg**	**08 37 06.0**	**+1.0**
TTG	**Podgorica**	**0.47**	**265**	⇓*iPg*	**Pg**	**08 36 58.7**	**-0.2**
TTG				*eSg*	**Sg**	**08 37 06.0**	**+1.0**
DRME	**Dracevica, Mon**	**0.59**	**242**	⇓*iPg*	**Pg**	**08 37 00.9**	**-0.4**
DRME				*eSg*	**Sg**	**08 37 10.3**	**+1.3**
DRME	**Dracevica, Mon**	**0.59**	**242**	⇓*iPg*	**Pg**	**08 37 00.9**	**-0.4**
DRME				*eSg*	**Sg**	**08 37 10.3**	**+1.3**
ULC	**Ulcinj**	**0.69**	**223**	*ePg*	**Pg**	**08 37 03.1**	**-0.1**
ULC				*eSg*	**Sb**	**08 37 13.9**	**-0.4**
ULC	**Ulcinj**	**0.69**	**223**	*ePg*	**Pg**	**08 37 03.1**	**-0.1**
ULC				*eSg*	**Sb**	**08 37 13.9**	**-0.4**
CEME	**Cevo**	**0.72**	**276**	⇑*iPg*	**Pg**	**08 37 03.2**	**-0.5**
CEME				*eSg*	**Sb**	**08 37 14.5**	**-0.6**
CEME	**Cevo**	**0.72**	**276**	⇑*iPg*	**Pg**	**08 37 03.2**	**-0.5**
CEME				*eSg*	**Sb**	**08 37 14.5**	**-0.6**
BUM	**Brajici-Budva**	**0.75**	**257**	⇑*iPg*	**Pg**	**08 37 03.9**	**-0.5**
BUM				*eSg*	**Sb**	**08 37 15.8**	**-0.3**
BUM	**Brajici-Budva**	**0.75**	**257**	⇑*iPg*	**Pg**	**08 37 03.9**	**-0.5**
BUM				*eSg*	**Sb**	**08 37 15.8**	**-0.3**
SJES	**Sjenica**	**0.79**	**5**	*ePg*	**Pb**	**08 37 06.2**	**0.0**
	1.7nm,0.3s						
SJES				*eSg*	**Sg**	**08 37 15.9**	**+0.4**
	14nm,0.4s						
SJES	**Sjenica**	**0.79**	**5**	*ePg*	**Pb**	**08 37 06.2**	**0.0**
	1.7nm,0.3s,baz=7.0						
SJES				*eSg*	**Sg**	**08 37 15.9**	**+0.4**
	14nm,0.4s,baz=5.0						
PLE	**Pljevlja**	**0.93**	**337**	⇑*iPg*	**Pg**	**08 37 07.2**	**-0.6**
PLE				*eSg*	**Sb**	**08 37 21.9**	**+0.6**
PLE	**Pljevlja**	**0.93**	**337**	⇑*iPg*	**Pg**	**08 37 07.2**	**-0.6**
PLE				*eSg*	**Sb**	**08 37 21.9**	**+0.6**
HCY	**Herceg Novi**	**1.03**	**269**	⇑*iPg*	**Pg**	**08 37 09.2**	**-0.4**
HCY				*eSg*	**Sn**	**08 37 25.1**	**-0.6**
HCY	**Herceg Novi**	**1.03**	**269**	⇑*iPg*	**Pg**	**08 37 09.2**	**-0.4**
HCY				*eSg*	**Sn**	**08 37 25.1**	**-0.6**
BRY	**Bratogost**	**1.08**	**294**	⇑*iPg*	**Pg**	**08 37 09.8**	**-0.9**
BRY				*eSg*	**Sn**	**08 37 26.7**	**-0.5**
BRY	**Bratogost**	**1.08**	**294**	⇑*iPg*	**Pg**	**08 37 09.8**	**-0.9**
BRY				*eSg*	**Sn**	**08 37 26.7**	**-0.5**
IVAS	**Ivanjica**	**1.12**	**10**	*ePg*	**Pn**	**08 37 12.1**	**-0.2**
	0.1nm,0.3s						
IVAS				*eSg*	**Sb**	**08 37 26.5**	**-0.2**
	3.6nm,0.4s						
IVAS	**Ivanjica**	**1.12**	**10**	*ePg*	**Pn**	**08 37 12.1**	**-0.2**
	0.1nm,0.3s,baz=7.0						
IVAS				*eSg*	**Sb**	**08 37 26.5**	**-0.2**
	3.6nm,0.4s,baz=3.0						
SELS	**Selova**	**1.18**	**50**	*ePg*	**Pn**	**08 37 13.0**	**0.0**
	0.8nm,0.4s						
SELS				*eSg*	**Sb**	**08 37 28.5**	**+0.3**
	2.8nm,0.5s						
SELS	**Selova**	**1.18**	**50**	*ePg*	**Pn**	**08 37 13.0**	**0.0**
	0.8nm,0.4s,baz=3.0						
SELS				*eSg*	**Sb**	**08 37 28.5**	**+0.3**
	2.8nm,0.5s,baz=5.0						
BBLS	**Lazići**	**1.44**	**346**	*ePg*	**Pg**	**08 37 17.8**	**+0.3**
	3.0nm,0.3s						
BBLS				*eSg*	**Sg**	**08 37 37.1**	**+1.0**
	2.2nm,0.5s						
BBLS	**Lazići**	**1.44**	**346**	*ePg*	**Pg**	**08 37 17.8**	**+0.3**
	3.0nm,0.3s,baz=8.0						
BBLS				*eSg*	**Sg**	**08 37 37.1**	**+1.0**
	2.2nm,0.5s,baz=6.0						
BARS	**Barje**	**1.47**	**76**	*ePg*	**Pg**	**08 37 18.0**	**0.0**
	2.4nm,0.3s						
BARS				*eSg*	**Sg**	**08 37 39.4**	**+2.4**
	10nm,0.4s						
BARS	**Barje**	**1.47**	**76**	*ePg*	**Pg**	**08 37 18.0**	**0.0**
	2.4nm,0.3s,baz=2.0						
BARS				*eSg*	**Sg**	**08 37 39.4**	**+2.4**
	10nm,0.4s,baz=8.0						
GRUS	**Gruza**	**1.54**	**23**	*ePg*	**Pb**	**08 37 18.6**	**-0.3**
	1.4nm,0.5s						
GRUS				*eSg*	**Sg**	**08 37 39.7**	**+0.2**
	2.6nm,0.7s						
GRUS	**Gruza**	**1.54**	**23**	*ePg*	**Pb**	**08 37 18.6**	**-0.3**
	1.4nm,0.5s,baz=5.0						
GRUS				*eSg*	**Sg**	**08 37 39.7**	**+0.2**
	2.6nm,0.7s,baz=6.0						
DIVS	**Divibare**	**1.63**	**3**	*ePg*	**Pn**	**08 37 19.5**	**+0.2**
	0.6nm,0.5s						
DIVS				*eSg*	**Sg**	**08 37 43.1**	**+0.8**
	1.5nm,0.5s						
DIVS	**Divibare**	**1.63**	**3**	*ePg*	**Pn**	**08 37 19.5**	**+0.2**
	0.6nm,0.5s,baz=9.0						
DIVS				*eSg*	**Sg**	**08 37 43.1**	**+0.8**
	1.5nm,0.5s,baz=4.0						
STON	**Ston**	**1.66**	**285**	*ePn*	**Pn**	**08 37 19.9**	**+0.4**
STON				Sn	**Sg**	**08 37 46.4**	**+3.1**
STON	**Ston**	**1.66**	**285**	*ePn*	**Pn**	**08 37 19.9**	**+0.4**
STON				Sn	**Sg**	**08 37 46.3**	**+3.1**

TEKS	**Tekeris**	**2.09**	**353**	*ePn*	**Pb**		**08 37 27.2**	**-1.1**	
	0.1nm,0.2s								
TEKS	**Tekeris**	**2.09**	**353**	*ePn*	**Pb**		**08 37 27.2**	**-1.1**	
	0.1nm,0.2s,baz=1.0								

*IDC **10** 08:42:11.8±2.8, 40°.60N×142°.67E, h0km, mb3.3/3, mb1 3.6/4, mb1mx3.2/59, mbtmp3.3/4, ML3.3/1, Error ellipse: s-maj=75.4km s-min=36.0km az=70.0*
*ISCJB **10** 08:42:25.5±1.4, 38°.99N±0°.04×142°.53E±0°.08, h23km±7km, mb3.3/3, Error ellipse: s-maj=11.2km s-min=6.5km az=8.6*
*JMA **10** 08:42:27.7±0.1, 39°.04N×142°.42E, h33km±1km, MS3.4*
ISC 10 08:42:23.3±2.1, 38°.99N±0°.04×142°.46E±0°.09, h9km±11km, n14, σ1°35/23, mb3.2/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OFUJ	**Ofunato**	**0.62**	**278**	P	**Pn**	**08 42 39.5**	**+1.2**
OFUJ				S	**Sn**	**08 42 47.6**	**-0.8**
MIYJ	**Miyakonagasawa**	**0.77**	**320**	P	**Pn**	**08 42 41.1**	**+0.8**
MIYJ				S	**Sn**	**08 42 50.5**	**-1.4**
JMK	**Ichinoseki**	**0.97**	**268**	P	**Pn**	**08 42 44.7**	**+1.7**
JMK				S	**Sn**	**08 42 56.7**	**-0.2**
JIO	**Ouri**	**1.02**	**239**	P	**Pn**	**08 42 45.3**	**+1.6**
JIO				S	**Sn**	**08 42 57.8**	**-0.4**
JOM	**Ohasama**	**1.03**	**298**	P	**Pn**	**08 42 45.5**	**+1.7**
JOM				S	**Sn**	**08 42 58.0**	**-0.3**
JTH	**Tanohata**	**1.05**	**334**	P	**Pn**	**08 42 45.3**	**+1.1**
JTH				*eS*	**Sn**	**08 42 58.8**	**-0.2**
JKZ	**Kuzumaki**	**1.32**	**319**	P	**Pg**	**08 42 49.9**	**+1.3**
JKZ				S	**Sg**	**08 43 06.1**	**+0.3**
JRG	**Rokugo**	**1.48**	**286**	P	**Pg**	**08 42 52.6**	**+1.0**
JRG				S	**Sg**	**08 43 11.2**	**+0.5**
JOU	**Okura**	**1.54**	**247**	P	**Pg**	**08 42 53.7**	**+0.9**
JOU				*eS*	**Sg**	**08 43 12.6**	**-0.1**
JANG	**Nango**	**1.56**	**332**	P	**Pg**	**08 42 53.1**	**-0.1**
JANG				*eS*	**Sg**	**08 43 13.0**	**-0.5**
MJAR	**Matsushiro Arr**	**4.16**	**235**	Pn	**Pb**	**08 43 32.9**	**-3.8**
	1.0nm,0.3s,baz=37,slow=12,SNR=12						
KURBB	**Kurchatov Arra**	**45.48**	**307**	P	P	08 50 25.9	-17
	0.1nm,0.4s,baz=72,slow=5.9,SNR=3.4						
WRA	**Warramunga Arr**	**59.12**	**189**	P	**P**	**08 52 24.8**	**+0.7**
	0.4nm,0.6s,baz=6.2,slow=7.1,SNR=5.2						
ASAR	**Alice Springs**	**62.84**	**189**	P	**P**	**08 52 50.4**	**+1.0**
	0.1nm,0.6s,baz=14,slow=16,SNR=2.1						

*ISCJB **10** 08:57:36.6±0.9, 4°.6S±0°.2×153°.7E±0°.2, h100km, mb3.8/8, Error ellipse: s-maj=30.7km s-min=11.4km az=43.0*
*IDC **10** 08:57:41.7±6.3, 4°.58S×153°.59E, h133km±49km, mb3.6/8, mb1 3.9/9, mb1mx3.5/49, mbtmp4.1/9, Error ellipse: s-maj=50.4km s-min=25.1km az=93.0*
ISC 10 08:57:38.5±1.0, 4°.6S±0°.2×153°.8E±0°.2, h100km, n10, σ1°71/10, mb3.6/8, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**8.14**	**234**	P	**Pn**	**08 59 35.7**	**+1.7**
	23nm,0.3s,baz=34,slow=8.2,SNR=42						
PMG				S	**Sn**	**09 01 03.1**	**-1.3**
	3.3nm,0.3s,baz=37,slow=20,SNR=5.1						
WRA	**Warramunga Arr**	**24.33**	**230**	P	**P**	**09 02 46.1**	**-1.1**
	14nm,0.7s,baz=53,slow=9.9,SNR=92						
ASAR	**Alice Springs**	**26.98**	**223**	P	**P**	**09 03 10.2**	**-0.8**
	1.4nm,0.6s,baz=56,slow=8.7,SNR=17						
VNDA	**Vanda**	**72.98**	**178**	P	**P**	**09 08 56.6**	**-0.2**
	0.3nm,0.7s,baz=319,slow=4.6,SNR=1.9						
MKAR	**Makanchi Array**	**80.85**	**319**	P	**P**	**09 09 41.2**	**-0.3**

	baz=26,slow=16						
FIA0				Pg	**Pb**	09 03 04.8	**-2.4**
	baz=30,slow=16						
FIA0				Lg	Lg	09 03 56.5	
	baz=47,slow=28						
FIA0	**FINESS Array S**	**3.94 213**		Pn	**Pn**	**09 02 57.7**	**-1.0**
FIA0				Lg	Lg	09 03 56.5	
	SNR=7.2						
FIA0				Sg	**Sb**	**09 03 58.9**	**+3.4**
FIA0	**FINESS Array S**	**3.94 213**		PN	**Pn**	**09 02 57.7**	**-1.0**
FIA0				SG	**Sb**	**09 03 58.9**	**+3.4**
FIA0	**FINESS Array S**	**3.94 213**		Pn	**Pn**	**09 02 58.4**	**-0.2**
	baz=26,slow=16						
FIA0				Pg	**Pb**	**09 03 04.8**	**-2.4**
	baz=30,slow=16						
FIA0				Lg	Lg	09 03 56.5	
	baz=47,slow=28						
FINES	**FINESS Array B**	**3.94 213**		Pn	**Pn**	**09 02 58.8**	**+0.1**
	comp=Z,0.3nm,0.3s,baz=34,slow=13,SNR=12						
FINES				Pg	**Pb**	**09 03 06.9**	**-0.4**
	comp=Z,0.4nm,0.3s,baz=36,slow=17,SNR=9.5						
FINES				Sn	**Sn**	**09 03 41.5**	**-4.1**
	comp=Z,0.4nm,0.3s,baz=42,slow=23,SNR=3.8						
FINES				Lg	Lg	09 03 57.6	
	comp=Z,2.0nm,0.3s,baz=31,slow=25,SNR=16						
BURU	**Burvik**	**3.95 271**		Pn	**Pn**	**09 02 59.5**	**+0.8**
BURU	**Burvik**	**3.95 271**		PN	**Pn**	**09 02 59.5**	**+0.8**
VJF	**Virojoki**	**4.51 199**		Sg	**Sb**	**09 04 14.1**	**+2.5**
VJF	**Virojoki**	**4.51 199**		SG	**Sb**	**09 04 14.1**	**+2.5**
HEF	**Hetta**	**4.54 326**		SG	**Sb**	**09 04 17.1**	**+4.7**
PVF	**Pernaja**	**4.80 209**		SG	**Sb**	**09 04 25.2**	**+5.2**
ARA0	**ARCESS Array S**	**5.13 340**		Pn	**Pn**	**09 03 15.3**	**+0.3**
	baz=154,slow=14						
ARA0				Sn	**Sn**	**09 04 14.2**	**-0.7**
	baz=155,slow=28						
ARA0				Lg	Lg	09 04 35.5	
	baz=157,slow=28						
ARA0	**ARCESS Array S**	**5.13 340**		Pn	**Pn**	**09 03 15.3**	**+0.3**
	SNR=4.3						
ARA0				Sn	**Sn**	**09 04 14.2**	**-0.7**
	SNR=0.2						
ARA0				Lg	Lg	09 04 35.5	
	SNR=0.2						
ARA0	**ARCESS Array S**	**5.13 340**		Pn	**Pn**	**09 03 15.3**	**+0.3**
	baz=154,slow=14						
ARA0				Sn	**Sn**	**09 04 14.2**	**-0.7**
	baz=155,slow=28						
ARA0				Lg	Lg	09 04 35.5	
	baz=157,slow=28						
ARCES	**ARCESS Array B**	**5.13 340**		Pn	**Pn**	**09 03 15.7**	**+0.7**
	comp=Z,0.7nm,0.3s,baz=155,slow=13,SNR=40						
ARCES				Sn	**Sn**	**09 04 15.0**	**+0.1**
	comp=Z,0.7nm,0.3s,baz=152,slow=24,SNR=7.1						
ARCES				Lg	Lg	09 04 35.5	
	comp=Z,1.5nm,0.3s,baz=154,slow=29,SNR=13						
HFS	**Hagfors**	**9.09 247**		Pn	**Pn**	**09 04 07.9**	**-1.3**
	baz=60,slow=12						
HFS				Lg	Lg	09 06 36.0	
	baz=62,slow=37						
HFS	**Hagfors**	**9.09 247**		Pn	**Pn**	**09 04 07.6**	**-1.7**
	comp=Z,0.4nm,0.3s,baz=59,slow=13,SNR=9.6						
HFS				Sn	**Sn**	**09 05 48.1**	**-4.0**
	comp=Z,0.2nm,0.3s,baz=56,slow=26,SNR=3.4						
HFS				Lg	Lg	09 06 40.9	
	comp=Z,0.4nm,0.3s,baz=55,slow=26,SNR=5.4						
HFS	**Hagfors**	**9.09 247**		Pn	**Pn**	**09 04 07.9**	**-1.3**
	baz=60,slow=12						
HFS				Lg	Lg	09 06 36.0	
	baz=62,slow=37						
NB2	**NORSAR Subarra**	**9.57 256**		Pn	**Pn**	**09 04 16.1**	**+0.1**
	baz=56,slow=11						
NB2	**NORSAR Subarra**	**9.57 256**		Pn	**Pn**	**09 04 16.1**	**+0.1**
	baz=56,slow=11						
NOA	**NORSAR Array B**	**9.57 256**		Pn	**Pn**	**09 04 15.4**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=52,slow=12,SNR=4.3						
NOA				Lg	Lg	09 06 57.0	
	comp=Z,0.3nm,0.3s,baz=47,slow=26,SNR=3.4						
NRA0	**NORESS Array S**	**9.61 254**		Pn	**Pn**	**09 04 15.3**	**-0.9**
	baz=62,slow=14						
NRA0	**NORESS Array S**	**9.61 254**		Pn	**Pn**	**09 04 15.3**	**-0.9**
	baz=62,slow=14						

NAO ***10*** *09:09:24.6±0.9, 63.°20N×22.°40E, ML2.1*
ISCJB ***10*** *09:09:24.1±0.3, 63.°21N±0.°02×22.°60E±0.°06, h0km, Error ellipse: s-maj=3.6km s-min=2.6km az=170.6*
BER ***10*** *09:09:25.6±4.7, 63.°21N×22.°49E, h0km, ML2.1(NAO), Suspected explosion*
CSEM ***10*** *09:09:25.0±0.1, 63.°18N×22.°61E, h2km, ML1.9, Error ellipse: s-maj=3.8km s-min=3.3km az=65.0, Mining explosion.*
HEL ***10*** *09:09:25.9±0.1, 63.°19N×22.°49E, h0km, ML1.9, ML1.8(UPP), Explosion*
UPP ***10*** *09:09:26.7±0.9, 63.°26N×22.°32E, h0km, ML1.8*
IDC ***10*** *09:09:27.1±0.8, 63.°28N×22.°92E, h0km, mb1 3.1/4, mb1mx2.9/64, mbtmp3.0/4, ML2.3/4, Error ellipse: s-maj=10.1km s-min=6.8km az=54.0*

ISC 10 09:09:24.6±0.7, 63°22N±0°02×22°50E±0°03, h0km, n68, σ1§54/91, Finland

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
VAF	**Ylistaro**	**0.20**	**157**	*e*P		**Pg**	**09 09 28.7**	**+0.3**
VAF				*e*S		**Sg**	**09 09 31.7**	**+0.7**
VAF	**Ylistaro**	**0.20**	**157**	*e*P		**Pg**	**09 09 28.7**	**+0.3**
VAF				*e*S		**Sg**	**09 09 31.7**	**+0.7**
BURU	**Burvik**	**1.45**	**341**	P		**Pn**	**09 09 52.4**	**+0.4**
BURU				S		**Sg**	**09 10 11.2**	**-0.1**
BURU	**Burvik**	**1.45**	**341**	P		**Pn**	**09 09 52.4**	**+0.4**
BURU				S		**Sg**	**09 10 11.1**	**-0.1**
BURU	**Burvik**	**1.45**	**341**	*e*PG		**Pn**	**09 09 52.5**	**+0.4**
BURU				*e*SB		**Sg**	**09 10 11.5**	**+0.3**
HUSU	**Husum**	**1.49**	**276**	P		**Pn**	**09 09 52.6**	**+0.1**
HUSU	**Husum**	**1.49**	**276**	*e*P		**Pn**	**09 09 52.6**	**+0.1**
HUSU	**Husum**	**1.49**	**276**	*e*P		**Pn**	**09 09 52.6**	**+0.1**
OUF	**Merijarvi**	**1.52**	**40**	*e*Pg		**Pg**	**09 09 53.9**	**+0.3**
OUF				*e*Sn		**Sn**	**09 10 14.6**	**+1.2**
OUF	**Merijarvi**	**1.52**	**40**	*e*PG		**Pg**	**09 09 53.9**	**+0.3**
OUF				MSG			09 10 11.9	
	comp=Z,16nm,0.2s							
OUF				*e*SN		**Sn**	**09 10 14.6**	**+1.2**
KEF	**Keuruu**	**1.52**	**133**	*e*Pn		**Pb**	**09 09 53.9**	**+0.2**
KEF	**Keuruu**	**1.52**	**133**	*e*PN		**Pb**	**09 09 53.9**	**+0.2**
KEF				MSG			09 10 11.3	
	comp=Z,7.3nm,0.2s							
KEF				*e*SN		**Sn**	**09 10 14.5**	**+0.9**
SVAU	**Svanoeiden**	**1.82**	**316**	P		**Pn**	**09 09 58.2**	**+1.1**
SVAU	**Svanoeiden**	**1.82**	**316**	*e*P		**Pn**	**09 09 58.2**	**+1.1**
SVAU	**Svanoeiden**	**1.82**	**316**	*e*P		**Pn**	**09 09 58.2**	**+1.1**
BREU	**Bredtraesk**	**1.88**	**293**	P		**Pn**	**09 09 59.2**	**+1.3**
BREU				S		**Sn**	**09 10 23.1**	**+0.8**
BREU	**Bredtraesk**	**1.88**	**293**	*e*P		**Pn**	**09 09 59.2**	**+1.3**
BREU				*e*S		**Sn**	**09 10 23.1**	**+0.8**
BREU	**Bredtraesk**	**1.88**	**293**	*e*P		**Pn**	**09 09 59.2**	**+1.3**
BREU				*e*S		**Sn**	**09 10 23.1**	**+0.8**
KAF	**Kangasniemi**	**2.08**	**121**	*e*Pg		**Pb**	**09 10 02.7**	**-0.5**
KAF				*e*Sg		**Sg**	**09 10 30.8**	**-0.6**
	comp=Z,13nm,0.2s							
KAF	**Kangasniemi**	**2.08**	**121**	*e*PG		**Pb**	**09 10 02.7**	**-0.5**
KAF				MSG			09 10 27.7	
	comp=Z,13nm,0.2s							
KAF				*e*SG		**Sg**	**09 10 30.8**	**-0.6**
HEMU	**Hemsoen**	**2.11**	**257**	P		**Pn**	**09 10 02.4**	**+1.2**
HEMU	**Hemsoen**	**2.11**	**257**	*e*P		**Pn**	**09 10 02.4**	**+1.2**
HEMU	**Hemsoen**	**2.11**	**257**	*e*P		**Pn**	**09 10 02.4**	**+1.2**
HEMU				*e*SG		**Sn**	**09 10 30.7**	**+2.7**
RAF	**Rauma**	**2.24**	**189**	*e*Pb		**Pb**	**09 10 04.9**	**-0.9**
RAF				*e*Sg		**Sb**	**09 10 34.3**	**+0.3**
	comp=Z,3.9nm,0.2s							
RAF	**Rauma**	**2.24**	**189**	*e*PB		**Pb**	**09 10 04.9**	**-0.9**
RAF				MSG			09 10 30.8	
	comp=Z,3.9nm,0.2s							
RAF				*e*SG		**Sb**	**09 10 34.3**	**+0.3**
SJUU	**Sjulsmark**	**2.33**	**351**	P		**Pn**	**09 10 05.7**	**+1.6**
SJUU	**Sjulsmark**	**2.33**	**351**	*e*P		**Pn**	**09 10 05.7**	**+1.6**
SJUU	**Sjulsmark**	**2.33**	**351**	*e*P		**Pn**	**09 10 05.7**	**+1.6**
LILU	**Lilltraesk**	**2.37**	**332**	P		**Pn**	**09 10 06.2**	**+1.5**
LILU	**Lilltraesk**	**2.37**	**332**	*e*P		**Pn**	**09 10 06.2**	**+1.5**
LILU	**Lilltraesk**	**2.37**	**332**	*e*P		**Pn**	**09 10 06.2**	**+1.5**
SOLU	**Sollefteaa**	**2.37**	**273**	P		**Pn**	**09 10 06.3**	**+1.6**
SOLU	**Sollefteaa**	**2.37**	**273**	*e*P		**Pn**	**09 10 06.3**	**+1.6**
SOLU	**Sollefteaa**	**2.37**	**273**	*e*P		**Pn**	**09 10 06.3**	**+1.6**
OUL	**Oulu**	**2.39**	**37**	*e*Pg		**Pg**	**09 10 10.2**	**-0.1**
OUL	**Oulu**	**2.39**	**37**	*e*PG		**Pg**	**09 10 10.2**	**-0.1**
OUL				*e*SB		**Sb**	**09 10 39.1**	**+0.7**
FIA0	**FINESS Array S**	**2.45**	**135**	Pn		**Pb**	**09 10 08.7**	**-0.7**
	baz=321,slow=16							
FIA0				Lg		Lg	09 10 40.8	
	baz=323,slow=28							
FIA0				Rg		Rg	09 10 53.8	
	baz=330,slow=37							
FIA0	**FINESS Array S**	**2.45**	**135**	*e*Pb		**Pb**	**09 10 08.2**	**-1.2**
FIA0	**FINESS Array S**	**2.45**	**135**	Pn		**Pb**	**09 10 08.7**	**-0.7**
	SNR=6.3							
FIA0				*e*Sg		**Sb**	**09 10 40.3**	**+0.3**
FIA0	**FINESS Array S**	**2.45**	**135**	*e*PB		**Pb**	**09 10 08.2**	**-1.2**
FIA0				*e*SG		**Sb**	**09 10 40.3**	**+0.3**
FIA0	**FINESS Array S**	**2.45**	**135**	Pn		**Pb**	**09 10 08.7**	**-0.7**
	baz=321,slow=16							
FIA0				Lg		Lg	09 10 40.8	
	baz=323,slow=28							
FIA0				Rg		Rg	09 10 53.8	
	baz=330,slow=37							
FINES	**FINESS Array B**	**2.45**	**135**	Pn		**Pb**	**09 10 08.8**	**-0.7**
	comp=Z,2.4nm,0.3s,baz=324,slow=14,SNR=74							
FINES				Lg		Lg	09 10 41.0	
	comp=Z,2.9nm,0.3s,baz=319,slow=26,SNR=24							
TOF	**Tornio**	**2.97**	**15**	*e*S		**Sn**	**09 10 51.2**	**+1.9**
TOF	**Tornio**	**2.97**	**15**	*e*S		**Sn**	**09 10 51.2**	**+1.9**
TOF				MSG			09 10 53.3	
	comp=Z,3.3nm,0.2s							
PVF	**Pernaja**	**3.12**	**148**	*e*PB		**Pb**	**09 10 19.3**	**-1.6**
PVF				MSG			09 10 57.2	
	comp=Z,1.4nm,0.2s							
PVF				*e*SB		**Sb**	**09 10 57.7**	**-1.9**
MEF	**Metsahovi**	**3.15**	**162**	*e*SB		**Sb**	**09 10 57.8**	**-2.5**
AAL	**Aland**	**3.28**	**202**	*e*SB		**Sb**	**09 11 03.7**	**-0.3**
ERTU	**Ertsjaerv**	**3.35**	**358**	*e*S		**Sn**	**09 10 58.9**	**+0.4**
ERTU	**Ertsjaerv**	**3.35**	**358**	*e*S		**Sn**	**09 10 58.9**	**+0.4**
MSF	**Maaselka**	**3.90**	**43**	*e*S		**Sn**	**09 11 12.4**	**+0.2**
MSF	**Maaselka**	**3.90**	**43**	*e*PG		**Pb**	**09 10 36.2**	**+2.0**
MSF				*e*S		**Sn**	**09 11 12.3**	**+0.2**
JOF	**Joensuu**	**4.02**	**90**	*e*SG		**Sg**	**09 11 29.6**	**-4.1**
ARBE	**Arbavere**	**4.16**	**155**	*e*SG		**Sb**	**09 11 31.5**	**+2.3**
KU6	**Riekki**	**4.25**	**45**	*e*S		**Sn**	**09 11 21.1**	**+0.5**
KU6	**Riekki**	**4.25**	**45**	*e*S		**Sn**	**09 11 21.1**	**+0.5**
HFS	**Hagfors**	**5.21**	**237**	Sn		**Sn**	**09 11 41.3**	**-3.2**
	baz=51,slow=28							
HFS				Lg		Lg	09 12 02.1	
	baz=57,slow=28							
HFS	**Hagfors**	**5.21**	**237**	Pn		**Pn**	**09 10 45.2**	**+1.4**
	comp=Z,0.1nm,0.3s,baz=53,slow=15,SNR=1.5							
HFS				Pg		**Pb**	**09 10 55.2**	**-1.3**
	comp=Z,0.1nm,0.3s,baz=45,slow=14,SNR=1.6							
HFS				Sn		**Sn**	**09 11 45.7**	**+1.2**
	comp=Z,0.1nm,0.3s,baz=48,slow=28,SNR=2.3							
HFS				Lg		Lg	09 12 02.6	
	comp=Z,0.6nm,0.3s,baz=60,slow=26,SNR=9.6							
HFS	**Hagfors**	**5.21**	**237**	Sn		**Sn**	**09 11 41.3**	**-3.2**
	baz=51,slow=28							
HFS				Lg		Lg	09 12 02.1	
	baz=57,slow=28							
NB2	**NORSAR Subarra**	**5.73**	**253**	Lg		Lg	09 12 22.6	
NB2	**NORSAR Subarra**	**5.73**	**253**	Lg		Lg	09 12 22.6	
NOA	**NORSAR Array B**	**5.73**	**253**	Pn		Pn	09 10 55.7	+4.9
	comp=Z,0.1nm,0.3s,baz=93,slow=17,SNR=2.5							
NOA				Lg		Lg	09 12 18.9	
	comp=Z,0.2nm,0.3s,baz=52,slow=14,SNR=3.3							
NRA0	**NORESS Array S**	**5.74**	**249**	Pn		**Pn**	**09 10 51.1**	**+0.3**
	baz=80,slow=10							
NRA0	**NORESS Array S**	**5.74**	**249**	Pn		**Pn**	**09 10 51.2**	**+0.3**
NRA0	**NORESS Array S**	**5.74**	**249**	Pn		**Pn**	**09 10 51.1**	**+0.3**
	baz=80,slow=10							
ARA0	**ARCESS Array S**	**6.45**	**9**	Pn		**Pn**	**09 11 01.3**	**+0.6**
	baz=192,slow=14							
ARA0				Sn		**Sn**	**09 12 09.8**	**-5.1**
	baz=195,slow=28							
ARA0				Lg		Lg	09 12 43.4	
	baz=178,slow=28							
ARA0	**ARCESS Array S**	**6.45**	**9**	Pn		**Pn**	**09 11 01.3**	**+0.6**
	SNR=6.9							
ARA0				Lg		Lg	09 12 43.3	
	SNR=7.0							
ARA0	**ARCESS Array S**	**6.45**	**9**	Pn		**Pn**	**09 11 01.3**	**+0.6**
	baz=192,slow=14							
ARA0				Sn		**Sn**	**09 12 09.8**	**-5.1**
	baz=195,slow=28							
ARA0				Lg		Lg	09 12 43.4	
	baz=178,slow=28							
ARCES	**ARCESS Array B**	**6.45**	**9**	Pn		**Pn**	**09 11 01.6**	**+0.9**
	comp=Z,0.1nm,0.3s,baz=187,slow=14,SNR=5.5							
ARCES				Sn		**Sn**	**09 12 10.2**	**-4.8**
	comp=Z,0.3nm,0.3s,baz=192,slow=24,SNR=6.5							
ARCES				Lg		Lg	09 12 44.1	
	comp=Z,0.2nm,0.3s,baz=186,slow=30,SNR=3.0							

ISCJB ***10*** *09:11:47.4±0.5, 18.°2S±0.°1×178.°17W±0.°10, h450km, mb3.9/15, Error ellipse: s-maj=17.0km s-min=9.3km az=144.8*
IDC ***10*** *09:11:49.5±2.0, 18.°24S×177.°99W, h466km±23km, mb3.6/15, mb1 3.7/16, mb1mx3.5/48, mbtmp4.4/16, Error ellipse: s-maj=17.4km s-min=12.6km az=121.0*

ISC 10 09:11:48.6±0.6, 18°2S±0°1×178°1W±0°1, h450km, n75, σ1§61/74, mb3.8/15, 8C-13D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AFI	**Afiamalu**	**7.40**	**56**	P		**P**	**09 13 40.2**	**+2.5**
	4.4nm,0.3s,baz=202,slow=19,SNR=6.7							
AFI				S		**S**	**09 15 06.2**	**-0.8**
	5.9nm,0.3s,baz=238,slow=19,SNR=5.7							
URZ	**Urewera**	**20.45**	**191**	P		**P**	**09 15 51.9**	**-2.0**
	7.2nm,0.4s,baz=1.7,slow=16,SNR=17							
STKA	**Stephens Creek**	**38.77**	**242**	P		**P**	**09 18 33.9**	**+0.9**
	2.7nm,0.6s,baz=88,slow=10,SNR=20							
ASAR	**Alice Springs**	**45.02**	**254**	P		**P**	**09 19 23.0**	**+0.2**
	2.9nm,0.7s,baz=87,slow=8.5,SNR=36							
JHJ	**Hachijo jima 2**	**64.97**	**322**	P		**P**	**09 21 43.1**	**+0.2**
	24nm,0.3s,baz=171,slow=4.7,SNR=9.3							
MJAR	**Matsushiro Arr**	**68.30**	**323**	P		**P**	**09 22 03.0**	**-0.6**
	3.0nm,0.6s,baz=167,slow=6.7,SNR=11							
ASAJ	**Asahikawa**	**71.66**	**331**	P		**P**	**09 22 24.4**	**+1.0**
	5.8nm,0.6s,baz=180,slow=4.3,SNR=14							
QSPA	**South Pole Qui**	**71.88**	**180**	P		**P**	**09 22 25.0**	**+0.3**
	3.1nm,0.7s,baz=356,slow=16,SNR=6.7							
PETK	**Petropavlovsk-**	**74.01**	**345**	P		**P**	**09 22 36.1**	**-0.8**
	3.2nm,0.7s,baz=134,slow=8.4,SNR=4.4							
USRK	**Ussuriysk Ar.**	**77.01**	**326**	P		**P**	**09 22 54.1**	**+0.3**
	1.4nm,0.6s,baz=134,slow=4.2,SNR=4.1							
NVAR	**Mina Array Bea**	**79.40**	**44**	P		**P**	**09 23 07.2**	**-0.1**
	0.7nm,0.5s,baz=226,slow=8.7,SNR=6.6							
SEY	**Seymchan**	**84.10**	**347**	P		**P**	**09 23 29.4**	**-1.0**
	4.1nm,0.4s,baz=140,slow=5.8,SNR=28							
TXAR	**Lajitas Array**	**85.88**	**57**	P		**P**	**09 23 40.5**	**+0.4**
	1.0nm,0.8s,baz=218,slow=5.7,SNR=9.5							
ILAR	**Eielson Array**	**86.08**	**13**	P		**P**	**09 23 38.2**	**-1.9**
	0.5nm,0.5s,baz=223,slow=5.4,SNR=13							
PDAR	**Pinedale Array**	**87.33**	**43**	P		**P**	**09 23 45.6**	**-1.2**
	0.4nm,0.6s,baz=180,slow=2.2,SNR=6.0							
CMAR	**Chiang Mai Arr**	**89.26**	**290**	P		**P**	**09 23 56.5**	**+0.3**
	2.9nm,0.3s,baz=111,slow=3.6,SNR=4.1							
YKA	**Yellowknife Ar**	**94.44**	**25**	P		**P**	**09 24 17.5**	**-1.4**
	0.2nm,0.7s,baz=243,slow=4.7,SNR=5.4							
ARCES	**ARCESS Array B**	**126.63**	**350**	PKP		**PKPdf**	**09 29 58.0**	**-1.2**
	3.0nm,0.7s,baz=29,slow=2.1,SNR=9.1							
FINES	**FINESS Array B**	**133.53**	**344**	PKP		**PKPdf**	**09 30 10.3**	**-2.1**
	2.8nm,0.9s,baz=41,slow=2.6,SNR=4.6							
NOA	**NORSAR Array B**	**136.67**	**353**	PKP		**PKPdf**	**09 30 18.7**	**+0.4**
	0.7nm,0.7s,baz=14,slow=3.9,SNR=2.5							
AKASG	**Malin Array Be**	**140.94**	**332**	PKhKP		PKPpre	09 30 18.6	
	0.4nm,0.3s,baz=35,slow=3.2,SNR=3.0							
AKASG				PKP		**PKPdf**	**09 30 26.7**	**+0.4**
	0.9nm,0.5s,baz=42,slow=2.8,SNR=4.4							
SORM	**Soroca**	**143.17**	**330**	*e*P		PKPab	09 30 26.4	-1.4
KWP	**Kalwaria Pacla**	**144.44**	**337**	*e*P		PKPbc	09 30 31.5	-0.8
TLCR		**144.96**	**326**	*e*P		**PKPdf**	**09 30 33.1**	**-0.5**
OJC	**Ojcow**	**144.97**	**340**	*e*P		**PKPdf**	**09 30 33.0**	**-0.4**
BURAR	**Bucovina Array**	**144.99**	**332**	*e*P		**PKPdf**	**09 30 34.4**	**+0.7**
BRTR	**Keskin Array B**	**145.19**	**315**	PKPbc		**PKPdf**	**09 30 34.4**	**0.0**
	4.1nm,0.6s,baz=78,slow=3.5,SNR=16							
CFR	**Carcaliu**	**145.32**	**327**	*e*P		**PKPdf**	**09 30 34.1**	**-0.1**
KSP	**Ksiaz**	**145.45**	**344**	*e*P		**PKPdf**	**09 30 35.0**	**+0.7**
NIE	**Niedzica**	**145.48**	**339**	*e*P		**PKPdf**	**09 30 35.2**	**+0.7**
CRVS	**Cervenica-Dubn**	**145.50**	**337**	*e*		**PKPdf**	**09 30 35.1**	**+0.6**
VRI	**Vrincioaia**	**145.56**	**329**	*e*P		**PKPdf**	**09 30 34.7**	**0.0**
PLOR	**Plostina**	**145.61**	**329**	*e*P		**PKPdf**	**09 30 34.6**	**-0.2**
TLB	**Topalu**	**145.77**	**326**	*e*P		**PKPdf**	**09 30 36.1**	**+1.1**
ARCR	**ARCALIA**	**145.78**	**332**	*e*P		**PKPdf**	**09 30 35.6**	**+0.6**
CLL	**Collm**	**145.79**	**348**	*i* PKPbc		**PKPdf**	**09 30 35.4**	**+0.6**
	comp=Z,21nm,0.8s							
UPC	**Upice**	**145.83**	**344**	*e*PKP		**PKPdf**	**09 30 36.1**	**+1.1**
UPC				*ex*		x	09 30 37.8	
DPC	**Dobruska-Polom**	**145.89**	**343**	*e*PKP		**PKPdf**	**09 30 36.4**	**+1.3**
BRG	**Berggiesshubel**	**146.00**	**346**	*i* PKP		**PKPdf**	**09 30 36.1**	**+0.9**
	comp=Z,11nm,0.8s							
KRLC	**Kraliky**	**146.01**	**343**	*e*PKP		**PKPdf**	**09 30 36.6**	**+1.3**
MORC	**Moravsky Berou**	**146.06**	**342**	*i* P		**PKPdf**	**09 30 36.3**	**+0.9**
DOPR	**Dopca**	**146.14**	**330**	*i* P		**PKPdf**	**09 30 37.7**	**+2.1**
PVCC	**Panska Ves**	**146.17**	**345**	*e*PKP		**PKPdf**	**09 30 37.1**	**+1.6**
KECS	**Kecovo**	**146.21**	**338**	*e*		**PKPab**	**09 30 42.1**	**+2.7**
MLR	**Muntele Rosu**	**146.22**	**329**	⇑*i* P		**PKPdf**	**09 30 37.5**	**+1.6**
CJR	**Cluj-Napoca**	**146.39**	**333**	*i* P		**PKPdf**	**09 30 37.3**	**+1.2**
MMAI	**Mount Meron Ar**	**146.54**	**303**	PKPbc		**PKPdf**	**09 30 38.3**	**+1.5**
	comp=Z,5.5nm,0.5s,baz=84,slow=4.5,SNR=11							
PRU	**Pruhonice**	**146.68**	**345**	*e*PKP		**PKPdf**	**09 30 38.2**	**+1.8**
PRU				*ex*		x	09 30 40.9	
GOPC	**GO Pecny, Ondr**	**146.69**	**345**	*e*PKP		**PKPdf**	**09 30 38.3**	**+1.9**
VOIR		**146.69**	**330**	⇑*i* P		**PKPdf**	**09 30 37.9**	**+1.2**
DRGR		**146.71**	**334**	*i* P		**PKPdf**	**09 30 38.5**	**+1.9**
VRAC	**Vranov**	**146.75**	**342**	*i* P		**PKPdf**	**09 30 38.0**	**+1.4**
PSZ	**Piszkesteto**	**146.90**	**338**	*i* P		**PKPdf**	**09 30 38.2**	**+1.3**
ARR	**Arges**	**146.94**	**330**	*i* P		**PKPdf**	**09 30 39.5**	**+2.4**
LOT	**Lotru**	**147.28**	**331**	⇑*i* P		**PKPdf**	**09 30 39.9**	**+2.2**
MODS	**Modra-Piesok**	**147.38**	**341**	*e*		**PKPbc**	**09 30 40.9**	**+0.1**
SIRR	**Siria**	**147.57**	**334**	*i* P		**PKPdf**	**09 30 40.4**	**+2.4**
KHC	**Kasperske Hory**	**147.71**	**346**	*e*PKP		**PKPbc**	**09 30 41.1**	**-0.6**
GERES	**GERESS Array B**	**147.95**	**345**	PKPbc		**PKPdf**	**09 30 41.5**	**+2.8**
	comp=Z,6.5nm,0.5s,baz=23,slow=3.1,SNR=38							
BZS	**Buzias**	**148.11**	**333**	*i* P		**PKPdf**	**09 30 41.2**	**+2.3**
CONA	**Conrad Observa**	**148.21**	**342**	*i* PKPbc		**PKPbc**	**09 30 42.5**	**-0.6**
	comp=Z,6.1nm,0.6s							
MOA	**Molln**	**148.72**	**344**	*i* PKPbc		**PKPbc**	**09 30 43.4**	**-0.8**
	comp=Z,3.6nm,0.8s							
ARSA	**Arzberg**	**148.92**	**342**	*i* PKPbc		**PKPdf**	**09 30 43.5**	**+3.3**
	comp=Z,4.3nm,1.0s							
SOKA	**Soboth**	**149.58**	**342**	*i* PKPbc		**PKPdf**	**09 30 44.9**	**+3.6**
	comp=Z,5.7nm,1.0s							
VTS	**Vitosha**	**149.68**	**328**	⇑*i* P		**PKPbc**	**09 30 46.1**	**-0.8**
KBA	**Koelnbreinsper**	**149.68**	**344**	*i* PKPbc		**PKPdf**	**09 30 45.3**	**+3.7**
	comp=Z,6.8nm,0.5s							
WATA	**Walderalm**	**149.85**	**347**	*i* PKPbc		**PKPbc**	**09 30 45.9**	**-1.2**
	comp=Z,7.5nm,0.5s							
OBKA	**Obir**	**149.88**	**342**	*i* PKPbc		**PKPbc**	**09 30 46.0**	**-1.2**
	comp=Z,2.1nm,0.6s							
RETA	**Reutte**	**149.88**	**348**	*i* PKPbc		**PKPbc**	**09 30 45.8**	**-1.3**
	comp=Z,2.3nm,0.4s							
WTTA	**Wattenberg**	**149.91**	**347**	*i* PKPbc		**P

WRA PcP PcP 09 27 54.4 +1.2
2.5nm,0.7s,baz=289,slow=11,SNR=7.2
0.5nm,0.8s,baz=298,slow=3.4,SNR=3.4
WRAB Tennant Creek 28.02 117 *e*P **P** 09 24 41.4 +2.2
7.0nm,1.0s
WB2 Warramunga Arr 28.02 117 *e*P **P** 09 24 41.5 +2.2
CMAR Chiang Mai Arr 28.16 342 P **P** 09 24 39.9 -0.5
3.3nm,0.3s,baz=179,slow=9.7,SNR=5.0
CMAR LR LR 09 35 37.1
comp=Z,75nm,20.7s,baz=182,slow=36
ASAR Alice Springs 29.13 124 P **P** 09 24 50.2 +1.1
1.8nm,0.6s,baz=292,slow=7.4,SNR=9.0
ASAR PcP **PcP** 09 27 57.7 +1.8
0.3nm,0.3s,baz=304,slow=2.2,SNR=3.9
ASAR LR LR 09 37 03.6
comp=Z,66nm,21.6s,baz=315,slow=37
AS31 Alice Springs 29.13 124 *e*P **P** 09 24 51.3 +2.2
0.8nm,0.8s
KMI Kunming 33.74 352 P **P** 09 25 32.4 +2.6
KMI pmax pmax
comp=Z,12nm,0.6s
KMI pmax pmax
comp=Z,55nm,3.7s
TPUB Ta-pu 33.92 21 *e*P **P** 09 25 27.7 -3.4
17nm,1.0s
COEN Coen 35.01 102 *e*P **P** 09 25 41.6 +0.9
10nm,0.8s
H08S2 Diego Garcia H 35.06 269 T T 10 03 31.9
baz=93,slow=75,SNR=139
H08S3 Diego Garcia H 35.07 269 T T 10 03 31.8
baz=93,slow=75,SNR=156
H08S1 Diego Garcia H 35.08 269 T T 10 03 32.4
baz=93,slow=75,SNR=145
PMG Port Moresby 38.78 95 LR LR 09 43 52.9
comp=Z,22nm,19.7s,baz=245,slow=39
STKA Stephens Creek 39.02 131 P **P** 09 26 16.9 +2.5
7.6nm,0.6s,baz=310,slow=8.3,SNR=22
STKA LR LR 09 42 04.5
comp=Z,50nm,21.8s,baz=257,slow=36
STKA Stephens Creek 39.02 131 *e*P **P** 09 26 17.0 +2.5
1.8nm,0.6s
CD2 Chengdu 39.33 354 *e*P **P** 09 26 18.5 +1.4
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,120nm,5.0s
JIRN Jiri 41.59 330 *e*P **P** 09 26 35.1 -1.1
24nm,0.6s
NJ2 Nanjing 41.61 14 *e*P **P** 09 26 36.0 +0.2
NJ2 pmax pmax
comp=Z,11nm,0.5s
GUN Gumba 41.95 330 *e*P **P** 09 26 39.3 +0.1
13nm,0.4s
XAN Xi'an 42.26 1 P **P** 09 26 42.9 +1.7
XAN pmax pmax
comp=Z,6.0nm,0.6s
GKN Gorkha 42.65 329 *e*P **P** 09 26 44.6 0.0
9.9nm,0.3s
GUMO Guam 42.73 60 LR LR 09 44 56.5
comp=Z,13nm,18.4s,baz=94,slow=37
KOLN Koldanda 43.00 328 *e*P **P** 09 26 46.9 -0.6
17nm,0.5s
PYUN Piuthan 43.59 327 *e*P **P** 09 26 52.9 +0.6
14nm,0.4s
LZH Lanzhou 44.46 355 *e*P **P** 09 27 03.0 +4.0
LZH pP sP 09 27 18.5 -0.7
LZH sP pP 09 27 25.8 +13
LZH *e*PP **PP** 09 28 49.2 +5.5
LZH pmax pmax
comp=Z,23nm,1.2s
LZH pmax pmax
comp=Z,82nm,6.7s
LZH LR LR
comp=N,320nm,14.7s
LZH LR LR
comp=E,350nm,14.8s
LZH LR LR
comp=Z,420nm,17.9s
HHC Hu-ho-hao-te 49.16 4 *e*P **P** 09 27 38.8 +3.1
HHC pmax pmax
comp=Z,32nm,1.0s
HHC pmax pmax
comp=Z,65nm,6.6s
KS01 Wonju Array Si 49.37 21 *e*P **P** 09 27 37.6 +0.5
JHJ Hachijo jima 2 51.27 35 LR LR 09 48 18.3
comp=Z,9.2nm,20.1s,baz=62,slow=35
NIL Nilore 53.24 324 *e*P **P** 09 28 05.9 -0.4
16nm,0.7s
WMQ Urumqi 55.16 342 P **P** 09 28 21.5 +1.4
WMQ LR LR
comp=N,110nm,26.7s
WMQ LR LR
comp=Z,60nm,24.1s
SONA0 Songino Array 56.05 359 *e*P **P** 09 28 25.6 -0.9
SONM Songino Array 56.05 359 P **P** 09 28 25.6 -0.9
0.9nm,0.5s,baz=179,slow=8.7,SNR=5.7
SONM LR LR 09 53 32.9
comp=Z,50nm,20.5s,baz=231,slow=37
SONA1 Songino Array 56.06 359 *e*P **P** 09 28 25.3 -1.3
KSH Kashi 56.15 330 P **P** 09 28 26.7 -0.7
KSH pP pP 09 28 43.2 +1.4
KSH PcP **PcP** 09 29 24.7 -0.1
KSH PP **PP** 09 30 34.7 +1.6
KSH S **S** 09 36 06.9 -6.0
KSH ScS **ScS** 09 38 05.1 -7.1
KSH pmax pmax
comp=Z,22nm,0.5s
KSH LR LR
comp=N,540nm,10.4s
KSH LR LR
comp=E,370nm,7.5s
KSH LR LR
comp=Z,430nm,5.6s
KBL Kabul 56.39 322 *e*P **P** 09 28 29.0 -0.2
9.4nm,0.6s
WSAR Wadi Sarin 57.55 304 P **P** 09 28 39.5 +2.0
4.8nm,0.7s,baz=122,slow=8.8,SNR=4.7
KDJ Kajisay 57.65 333 *e*P **P** 09 28 38.4 +0.4
6.0nm,0.6s
MK01 Makanchi Array 59.52 340 *e*P **P** 09 28 49.4 -1.3
MK31 Makanchi Array 59.54 340 *e*P **P** 09 28 49.8 -1.1
MK32 Makanchi Array 59.54 340 *e*P **P** 09 28 49.9 -0.9
MKAR Makanchi Array 59.54 340 P **P** 09 28 49.9 -0.9
3.1nm,0.4s,baz=152,slow=7.6,SNR=30
MKAR LR LR 09 56 11.6
comp=Z,26nm,21.9s,baz=178,slow=38
MKAR Makanchi Array 59.54 340 *e*P **P** 09 28 49.8 -1.1
23nm,0.6s
UOSS Minazit 60.30 305 *e*P **P** 09 28 55.0 -1.5
4.3nm,0.7s
ASAJ Asahikawa 61.01 28 P **P** 09 28 59.0 -1.9
1.9nm,0.7s,baz=177,slow=18,SNR=2.9
ASAJ Asahikawa 61.01 28 *e*P **P** 09 28 58.7 -2.3
7.6nm,1.4s
KK06 Karatay Array 61.54 330 *e*P **P** 09 29 03.2 -1.3
KK07 Karatay Array 61.55 330 *e*P **P** 09 29 03.8 -0.8
KK02 Karatay Array 61.55 330 *e*P **P** 09 29 04.4 -0.2
KK31 Karatay Array 61.55 330 *e*P **P** 09 29 04.7 0.0
KKAR Karatay Array 61.55 330 *e*P **P** 09 29 04.7 0.0
KK05 Karatay Array 61.56 330 *e*P **P** 09 29 03.6 -1.1
KK01 Karatay Array 61.56 330 *e*P **P** 09 29 04.3 -0.4
KK03 Karatay Array 61.56 330 *e*P **P** 09 29 04.5 -0.2
KK04 Karatay Array 61.56 330 *e*P **P** 09 29 04.4 -0.3
KK08 Karatay Array 61.57 330 *e*P **P** 09 29 03.6 -1.1
KK09 Karatay Array 61.57 330 *e*P **P** 09 29 03.0 -1.8
WAKE Wake Island 64.10 64 *e*P **P** 09 29 21.3 -0.7
141nm,1.0s
KURBB Kurchatov Arra 64.11 340 P **P** 09 29 20.6 -0.8
0.9nm,0.3s,baz=153,slow=6.1,SNR=12
KURK Kurchatov 64.16 340 *e*P **P** 09 29 20.8 -0.9
ZALV Zalesovo Beam 65.15 345 *e*P **P** 09 29 27.6 -0.5
GYA1 ALIBECK ARRAY 65.43 318 *e*P **P** 09 29 31.1 +0.7
6.1nm,0.9s
GYB2 ALIBECK ARRAY 65.43 318 *e*P **P** 09 29 31.4 +1.0
6.4nm,0.5s
GEYT Alibeck 65.43 318 P **P** 09 29 31.3 +0.9
2.1nm,0.3s,baz=150,slow=6.1,SNR=4.8
GEYT LR LR 10 00 30.9
comp=Z,22nm,18.4s,baz=175,slow=38
GYA0 ALIBECK ARRAY 65.43 318 *e*P **P** 09 29 30.0 -0.4
5.0nm,0.5s
GYA0B ALIBECK ARRAY 65.43 318 *e*P **P** 09 29 30.0 -0.4
5.2nm,0.5s
GYA2 ALIBECK ARRAY 65.43 318 *e*P **P** 09 29 30.2 -0.2
4.4nm,0.4s
BVAR Borovoye Array 69.04 337 P **P** 09 29 52.5 -0.3
3.3nm,0.4s,baz=127,slow=7.6,SNR=21
BRVK Borovoye 69.11 337 *e*P **P** 09 29 52.9 -0.4
4.4nm,0.4s
AB07 Akbulak array 71.09 329 *e*P **P** 09 30 05.6 +0.1
AB06 Akbulak array 71.09 329 *e*P **P** 09 30 05.7 +0.2
AB03 Akbulak array 71.10 329 *e*P **P** 09 30 05.7 +0.1
AB08 Akbulak array 71.10 329 *e*P **P** 09 30 05.8 +0.3
AB01 Akbulak array 71.10 329 *e*P **P** 09 30 05.5 -0.1
AB02 Akbulak array 71.10 329 *e*P **P** 09 30 05.7 +0.1
AB31 Akbulak array 71.10 329 *e*P **P** 09 30 05.8 +0.2
ABKAR Akbulak array 71.10 329 *e*P **P** 09 30 05.8 +0.2
AB04 Akbulak array 71.11 329 *e*P **P** 09 30 05.8 +0.1
AB05 Akbulak array 71.11 329 *e*P **P** 09 30 05.8 +0.1
AB09 Akbulak array 71.12 329 *e*P **P** 09 30 05.5 -0.2
AKTO Aktyubinsk 72.81 329 P **P** 09 30 16.3 +0.4
2.5nm,0.7s,baz=132,slow=6.8,SNR=7.9
VNDA Vanda 74.39 169 P **P** 09 30 27.4 +2.7
0.7nm,0.5s,baz=310,slow=6.0,SNR=6.6
ARU Arti 76.30 334 *e*P **P** 09 30 35.5 -0.4
4.7nm,0.8s
GUDG Gudauri 76.74 317 P **P** 09 30 36.8 -2.2
KBZ Khabaz 78.31 318 P **P** 09 30 48.3 +0.9
4.0nm,0.9s,baz=149,slow=5.1,SNR=7.9
SEY Seymchan 78.86 19 P **P** 09 30 49.5 -0.6
0.7nm,0.4s,baz=221,slow=9.3,SNR=8.5
QSPA South Pole Qui 81.55 180 LR LR 10 06 20.6
comp=Z,20nm,19.6s,baz=281,slow=35
BR101 Keskin Array S 83.45 312 *e*P **P** 09 31 16.3 +1.1
BRTR Keskin Array B 83.45 312 P **P** 09 31 16.3 +1.1
1.8nm,0.7s,baz=139,slow=6.8,SNR=8.0
BR231 Keskin MP Arra 84.12 312 *e*P **P** 09 31 16.9 -1.6
AKASG Malin Array Be 89.37 321 P **P** 09 31 43.8 +0.1
0.2nm,0.3s,baz=91,slow=5.1,SNR=2.9
AKBB Malin Array Si 89.37 321 *e*P **P** 09 31 41.0 -2.7
2.8nm,0.7s
FIA0 FINESS Array S 93.46 332 *e*P **P** 09 32 03.0 +0.5
FINES FINESS Array B 93.46 332 P **P** 09 32 03.0 +0.5
3.4nm,0.8s,baz=113,slow=11,SNR=3.8
ARA0 ARCESS Array S 95.19 340 *e*P **P** 09 32 10.0 -0.2
ARCES ARCESS Array B 95.19 340 P **P** 09 32 10.0 -0.2
5.7nm,1.2s,baz=98,slow=5.5,SNR=3.7
YKA Yellowknife Ar 117.89 21 PKP **PKPdf** 09 37 32.8 -0.4
0.1nm,0.4s,baz=314,slow=0.9,SNR=6.3
BW06 Boulder Array 132.61 37 *e*PKPdf **PKPdf** 09 38 03.3 +1.1
PD31 Pinedale Array 132.61 37 *e*PKPpre PKPpre 09 37 47.6
PD31 *e*PKPdf **PKPdf** 09 38 02.1 -0.2
P38A Dawn 143.50 28 P **PKPdf** 09 38 20.9 -1.1
baz=323
P39B Salisbury 143.97 28 P PKPbc 09 38 21.5 +0.7
baz=324
Q38A Cooks Store, C 143.99 29 P PKPbc 09 38 21.7 +0.8
baz=322
N42A Yates City 144.02 23 P **PKPdf** 09 38 22.0 -0.9
baz=329
WMOK Wichita Mounta 144.17 39 P **PKPdf** 09 38 22.7 -0.7
baz=311
Q39A Willow Grove F 144.23 28 P PKPbc 09 38 22.4 +0.9
baz=323
P40A Paris 144.26 27 P PKPbc 09 38 22.5 +0.8
baz=325
O41A Passleys Farm, 144.28 25 P PKPbc 09 38 22.4 +0.7
baz=327
R38A Fenwick Farm, 144.45 30 P **PKPdf** 09 38 23.1 -0.7
baz=321
P41A Barry, Barry 144.57 26 P **PKPdf** 09 38 23.5 -0.4
baz=327
Q40A Laux Farm, Aux 144.68 27 P PKPbc 09 38 23.2 +0.2
baz=324,SNR=7.7
R39A Chumby, Stover 144.78 29 P PKPbc 09 38 23.4 +0.1
baz=322,SNR=6.7
S38A Stockton 144.88 31 P **PKPab** 09 38 23.6 0.0
baz=321,SNR=7.5
N45A Kentland 144.94 21 P PKPbc 09 38 24.0 +0.2
baz=333
Q41A Truxton 145.09 27 P **PKPdf** 09 38 24.7 -0.1
baz=326
S39A Bolivar 145.12 30 P **PKPdf** 09 38 24.7 -0.2
baz=322
T38A Diamond 145.13 32 P **PKPdf** 09 38 24.9 -0.1
baz=320,SNR=9.8
TUL1 Leonard 145.15 35 P **PKPdf** 09 38 25.2 +0.2
baz=316
TUL1 Leonard 145.15 35 *e*PKPbc **PKPdf** 09 38 25.2 +0.2
R40A Maddies Statio 145.16 28 P **PKPdf** 09 38 25.0 +0.1
baz=324,SNR=18
N46A Monticello 145.16 20 P **PKPdf** 09 38 24.8 -0.1
baz=334
O44A Mansfield 145.21 22 P **PKPdf** 09 38 25.2 +0.2
baz=331
P43A Skaggs, Pawnee 145.24 24 P **PKPdf** 09 38 25.1 +0.1
baz=329
O45A Potomac 145.40 21 P **PKPab** 09 38 25.7 +0.3
baz=332
Q42A Golden Eagle 145.44 26 P **PKPab** 09 38 25.9 +0.3
baz=327
SFIN Lafayette 145.50 20 P **PKPab** 09 38 26.0 +0.2
baz=333
SFIN Lafayette 145.50 20 *e*PKPdf **PKPab** 09 38 26.1 +0.2
R41A Rosebud 145.57 27 P **PKPab** 09 38 26.3 +0.2
baz=325,SNR=7.8
S40A Lebanon 145.60 29 P **PKPab** 09 38 26.3 0.0
baz=323,SNR=7.0
T39A Clever 145.61 31 P **PKPab** 09 38 26.5 +0.1
baz=321,SNR=8.1
P44A Sand Creek, Wi 145.74 23 P **PKPab** 09 38 27.0 +0.2
baz=330
Q43A New Douglas 145.76 25 P **PKPab** 09 38 26.9 +0.1
baz=328
CCM Cathedral Cave 145.82 27 P **PKPab** 09 38 27.0 -0.1
baz=325
R42A Luebbering 145.84 27 P **PKPab** 09 38 27.2 0.0
baz=326,SNR=7.2
T40A Mansfield 145.94 30 P **PKPbc** 09 38 27.3 +0.2
baz=322,SNR=5.3
S41A Jillco Farms, 145.97 29 P **PKPab** 09 38 27.5 -0.2
baz=324,SNR=9.6
P45A Graceland, Par 146.02 22 P **PKPab** 09 38 27.6 -0.2
baz=332
U39A Green Forest 146.05 32 P **PKPab** 09 38 27.9 -0.2
baz=320,SNR=6.2
BINY Binghamton 146.21 5 P **PKPbc** 09 38 27.9 +0.2
baz=353
R43A Red Bud 146.22 26 P **PKPbc** 09 38 28.1 +0.2
baz=327,SNR=5.3
S42A Caledonia 146.26 27 P **PKPab** 09 38 28.5 -0.3
baz=326,SNR=9.6
V39A Pettigrew 146.38 33 P **PKPbc** 09 38 28.8 +0.3
baz=319
M54A Oil Creek Stat 146.40 10 P **PKPbc** 09 38 28.5 +0.2
baz=347
U40A Yellville 146.40 31 P **PKPbc** 09 38 28.8 +0.4
baz=321,SNR=8.2
T41A Mountain View 146.40 29 P **PKPbc** 09 38 28.8 +0.3
baz=323
Q45A Warren Harvey, 146.42 23 P **PKPbc** 09 38 28.7 +0.3
baz=331
P47A Martinsville 146.58 20 P **PKPbc** 09 38 29.4 +0.5
baz=334
R44A Waltonville 146.61 25 P **PKPab** 09 38 29.6 -0.5
baz=329
T42A Van Buren 146.73 28 P **PKPbc** 09 38 29.9 +0.5
baz=324
S43A Fulton Ridge, 146.75 27 P **PKPbc** 09 38 30.0 +0.5
baz=326
WHTX Lake Whitney, 146.78 42 P **PKPab** 09 38 30.3 -0.6
baz=310
W39A Magazine 146.78 34 P **PKPab** 09 38 30.4 -0.5
baz=318
V40A Witts Springs 146.84 32 P **PKPbc** 09 38 30.4 +0.6
baz=321
N54A Moraine State 146.87 11 P **PKPbc** 09 38 30.1 +0.4
baz=346
U41A Viola 146.88 30 P **PKPbc** 09 38 30.2 +0.3
baz=322,SNR=5.8
ACSO Alum Creek Sta 146.89 15 P **PKPbc** 09 38 30.3 +0.6
baz=340
R45A Skylar, Fairfi 146.89 24 P **PKPbc** 09 38 30.0 +0.2
baz=330
S44A Carbondale 147.00 25 P **PKPbc** 09 38 30.3 +0.2
baz=328
Q47A Bedord North L 147.02 21 P **PKPbc** 09 38 30.2 0.0
baz=334
T43A Greenville 147.06 27 P **PKPbc** 09 38 30.5 +0.2
baz=326,SNR=5.7
X39A Fountain Ranch 147.10 35 P **PKPab** 09 38 31.3 -0.8
baz=317,SNR=6.6
W40A Ferguson Farm, 147.17 33 P **PKPbc** 09 38 31.1 +0.4
baz=320
V41A Mountainview 147.19 31 P **PKPbc** 09 38 31.4 +0.6
baz=322
U42A Revenden 147.20 29 P **PKPbc** 09 38 31.4 +0.6
baz=324,SNR=6.0
MIAR Mount Ida 147.38 34 P **PKPbc** 09 38 32.2 +0.9
baz=318,SNR=7.9
MIAR Mount Ida 147.38 34 *e*PKPbc **PKPab** 09 38 32.3 -0.9
N59A State Game Lan 147.50 5 P **PKPbc** 09 38 31.9 +0.4
baz=353
SSPA Standing Stone 147.53 8 P **PKPbc** 09 38 32.1 +0.5
baz=350
PAL Palisades 147.53 3 P **PKPbc** 09 38 32.1 +0.7
baz=357
R47A Wooly Knot Far 147.56 21 P **PKPbc** 09 38 32.5 +0.9
baz=333
833A Chaparral WMA, 147.56 49 P **PKPab** 09 38 33.3 -0.9
baz=303
V42A Cord 147.56 30 P **PKPbc** 09 38 32.8 +1.0
baz=323
W41B Gary Mavity, V 147.62 32 P **PKPab** 09 38 33.0 -1.1
baz=321
S46A Don Dixon Farm 147.64 24 P **PKPbc** 09 38 32.8 +0.9
baz=330
WCI Wyandotte Cave 147.70 21 P **PKPbc** 09 38 33.1 +1.1
baz=333
O56A Blue Knob Stat 147.79 9 P **PKPbc** 09 38 33.4 +1.1
baz=348
U44A Portageville 147.81 27 P **PKPbc** 09 38 33.4 +1.1
baz=326
X40A Basin Creek Fa 147.83 33 P **PKPbc** 09 38 33.6 +1.1
baz=319
Y40A Okolona 147.94 34 P **PKPbc** 09 38 34.0 +1.2
baz=318
V43A Jonesboro 147.99 29 P **PKPab** 09 38 34.3 -1.3
baz=324
X41A Kaden, Bauxite 148.00 33 P **PKPab** 09 38 34.3 -1.3
baz=320
U44B Burton Farm, H 148.09 27 P **PKPbc** 09 38 34.4 +1.2
baz=327
T46A Princeton 148.12 24 P **PKPbc** 09 38 34.6 +1.3
baz=330
MCWV Mont Chateau 148.16 11 P **PKPbc** 09 38 34.2 +0.9
baz=346
S48A Wiedeman Farm, 148.29 21 P **PKPbc** 09 38 34.7 +1.1
baz=333
U45A Rockin P Farm, 148.35 26 P **PKPbc** 09 38 35.0 +1.1
baz=328
Y41A Eaglette Beard 148.41 34 P **PKPbc** 09 38 34.9 +0.9
baz=319
X42A Stuttgart 148.42 32 P **PKPbc** 09 38 34.9 +0.8
baz=321
W43A Forest City 148.47 30 P **PKPbc** 09 38 35.2 +1.0
baz=323
U46A Springville 148.59 25 P **PKPbc** 09 38 35.4 +0.9
baz=329
T48A Bowling Green 148.65 22 P **PKPbc** 09 38 35.4 +0.8
baz=332
U47A Clarksville 148.89 24 P **PKPbc** 09 38 35.8 +0.6
baz=330
WVT Waverly 148.93 25 P **PKPbc** 09 38 36.1 +0.8
baz=329
V46A Holladay 149.09 26 P **PKPbc** 09 38 36.4 +0.7
baz=328
U48A Cassie Pea, Po 149.12 23 P **PKPbc** 09 38 36.6 +0.8
baz=332
W46A Michie 149.53 27 P **PKPbc** 09 38 37.4 +0.6
baz=327
V48A Smith Brothers 149.68 24 P **PKPbc** 09 38 37.6 +0.4
baz=330
W47A Westpoint 149.78 26 P **PKPbc** 09 38 38.0 +0.5
baz=329
341A Kurthwood 149.93 38 P **PKPbc** 09 38 38.4 +0.4
baz=315
143A Socs Landing, 149.96 34 P **PKPbc** 09 38 38.4 +0.4
baz=320
Y45A Yeager Farm, C 150.02 30 P **PKPbc** 09 38 38.3 +0.2
baz=324
TZTN Tazewell 150.15 19 P **PKPbc** 09 38 38.1 -0.3
baz=337
X47A Russelville 150.28 27 P **PKPbc** 09 38 38.8 +0.1
baz=328
Y46A Houston 150.34 29 P **PKPbc** 09 38 39.4 +0.6
baz=325
BLA Blacksburg 150.38 14 P **PKPbc** 09 38 39.0 +0.1
baz=343
X48A Hartselle 150.69 26 P **PKPbc** 09 38 39.7 0.0
baz=329
Y47A UCPARC, Winfie 150.80 28 P **PKPbc** 09 38 39.9 -0.1
baz=327
VBMS Vicksburg 150.81 33 P **PKPbc** 09 38 40.1 +0.1
baz=321
244A Avery, Jackson 150.85 34 P **PKPbc** 09 38 40.4 +0.3
baz=320
Z46A Louisville 150.86 30 P **PKPbc** 09 38 40.0 -0.1
baz=324
TKL Tuckaleechee C 150.88 20 PKPbc **PKPbc** 09 38 41.3 +1.2
3.2nm,0.6s,baz=322,slow=6.4,SNR=7.7
X49A Woodville 150.95 25 P **PKPbc** 09 38 40.6 +0.3
baz=330
Y48A Jasper 151.10 27 P **PKPbc** 09 38 40.6 -0.1
baz=328
Z47A Carrollton 151.28 29 P **PKPbc** 09 38 41.2 +0.1
baz=326
Z48A Northport 151.37 28 P **PKPbc** 09 38 41.7 +0.4
baz=327
Y49A Blount Mountai 151.47 26 P **PKPbc** 09 38 41.8 +0.2
baz=330
147A Livingston 151.61 30 P **PKPbc** 09 38 42.0 +0.2
baz=325
LRAL Lakeview Retre 151.91 27 P **PKPbc** 09 38 43.2 +0.6
baz=328
Z49A Columbiana 151.99 26 P **PKPbc** 09 38 42.9 +0.2
baz=329
KMSC Kings Mountain 152.11 16 P **PKPbc** 09 38 43.2 +0.2
baz=340
Z50A Ashland 152.20 25 P **PKPbc** 09 38 43.6 +0.3
baz=330
248A Dixon Mills 152.34 30 P **PKPbc** 09 38 43.2 -0.3
baz=325
347A Saraland 152.50 32 P **PKPbc** 09 38 44.3 +0.4
baz=323
447A Lucedale 152.91 33 P **PKPbc** 09 38 45.1 +0.2
baz=322
349A Repton 153.22 30 P **PKPbc** 09 38 45.6 +0.1
baz=326
251A Midway 153.42 26 P **PKPbc** 09 38 45.9 -0.1
baz=330
352A Blakely 154.15 26 P **PKPbc** 09 38 46.9 -0.6
baz=330
NHSC New Hope 154.34 16 P **PKPbc** 09 38 47.7 -0.1
baz=342
451A Vernon 154.52 28 P **PKPbc** 09 38 48.5 +0.2
baz=328
256A Glennville 154.88 20 P **PKPbc** 09 38 48.5 -0.5
baz=337
355A Pearson 155.11 22 P PKPbc 09 38 49.6
baz=334

ISK ***10*** *09:26:39.5,39°.03N×42°.41E,h19km,ML2.7/5*
ISCJB ***10*** *09:26:40.6±0.4,39°.06N±0°.03×42°.36E±0°.04,h25km±5km,*
Error ellipse: s-maj=5.6km s-min=4.5km az=170.3
CSEM ***10*** *09:26:40.0±0.2,39°.08N×42°.35E,h17km±2km,ML2.8,*
Error ellipse: s-maj=5.5km s-min=4.6km az=166.0
DDA ***10*** *09:26:40.3,39°.07N×42°.37E,h7km,Ml2.8*
ISC 10 09:26:40.3±1.0,**39°.06N**±0°.02×**42°.37E**±0°.02,**h14**km±9km,
n31,σ**0s79**/45,**Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
EKAR	**Karacoban**	**0.30**	**309**	*i* P		**Pg**	**09 26 46.3**	**-0.4**
EKAR				*i* S		**Sg**	**09 26 53.0**	**+0.5**
EKAR	**Karacoban**	**0.30**	**309**	P		**Pg**	**09 26 46.3**	**-0.4**
EKAR				S		**Sg**	**09 26 53.0**	**+0.5**
ADCV	**BITLIS_Adilcev**	**0.38**	**132**	*i* P		**Pg**	**09 26 48.0**	**0.0**
ADCV				*i* S		**Sb**	**09 26 54.4**	**-0.2**
ADCV	**BITLIS_Adilcev**	**0.38**	**132**	P		**Pg**	**09 26 48.0**	**0.0**
ADCV				S		**Sb**	**09 26 54.4**	**-0.2**
TUTA	**Tutak**	**0.48**	**46**	*i* P		**Pg**	**09 26 49.9**	**-0.1**
TUTA				*i* S		**Sg**	**09 26 57.1**	**+0.7**
TUTA	**Tutak**	**0.48**	**46**	P		**Pg**	**09 26 49.9**	**-0.1**
TUTA				S		**Sg**	**09 26 57.2**	**+0.7**
GURO	**Guroymak-BITLI**	**0.57**	**207**	PG		**Pg**	**09 26 51.2**	**-0.4**
GURO				SG		**Sg**	**09 26 59.7**	**+0.4**
GURO	**Guroymak-BITLI**	**0.57**	**207**	*e*Pg		**Pg**	**09 26 51.2**	**-0.4**
GURO				*e*Sg		**Sg**	**09 26 59.7**	**+0.4**

AGRB	**Hanur-Agry**	**0.70**	**43**	PG		**Pg**	**09 26 53.7**	**-0.4**
AGRB				SG		**Sb**	**09 27 04.5**	**+0.5**
AGRB	**Hanur-Agry**	**0.70**	**43**	*e*Pg		**Pg**	**09 26 53.7**	**-0.4**
AGRB				*e*Sg		**Sb**	**09 27 04.5**	**+0.5**
VRTB	**Varto-Mus**	**0.71**	**278**	PG		**Pb**	**09 26 54.5**	**-0.1**
VRTB				SG		**Sb**	**09 27 05.8**	**+1.5**
VRTB	**Varto-Mus**	**0.71**	**278**	*i* P		**Pb**	**09 26 54.4**	**-0.1**
VRTB	**Varto-Mus**	**0.71**	**278**	*e*Pg		**Pb**	**09 26 54.5**	**-0.1**
VRTB				*e*Sg		**Sb**	**09 27 05.8**	**+1.5**
EATA	**Eleskirt**	**0.80**	**7**	*i* P		**Pg**	**09 26 56.0**	**+0.1**
EATA	**Eleskirt**	**0.80**	**7**	P		**Pg**	**09 26 56.0**	**+0.1**
GEVA	**Gevas**	**0.93**	**144**	*i* P		**Pg**	**09 26 58.0**	**-0.2**
GEVA	**Gevas**	**0.93**	**144**	P		**Pg**	**09 26 58.0**	**-0.2**
VMUR	**Van-Muradiye**	**0.94**	**94**	*i* P		**Pg**	**09 26 58.0**	**-0.5**
VMUR				*i* S		**Sb**	**09 27 12.0**	**+1.2**
VMUR	**Van-Muradiye**	**0.94**	**94**	P		**Pg**	**09 26 58.0**	**-0.5**
VMUR				S		**Sb**	**09 27 12.0**	**+1.2**
TVAN	**Van**	**0.97**	**123**	*i* P		**Pn**	**09 27 00.8**	**+1.2**
TVAN	**Van**	**0.97**	**123**	P		**Pn**	**09 27 00.8**	**+1.2**
CLDR	**Caldiran**	**1.21**	**86**	PN		**Pb**	**09 27 01.7**	**-1.3**
CLDR	**Caldiran**	**1.21**	**86**	*e*Pn		**Pb**	**09 27 01.7**	**-1.3**
BNGB	**Bing¯¶ı**	**1.32**	**267**	PN		**Pn**	**09 27 03.9**	**-0.4**
BINT	**Bingol**	**1.48**	**263**	*e*Pn		**Pn**	**09 27 03.9**	**-2.6**
SENK	**Senkaya-Erzuru**	**1.50**	**360**	PN		**Pn**	**09 27 06.3**	**-0.5**
SENK	**Senkaya-Erzuru**	**1.50**	**360**	*e*Pn		**Pn**	**09 27 06.3**	**-0.5**
MAZI	**Mazidag**	**2.20**	**224**	PN		**Pn**	**09 27 16.2**	**-0.3**
MAZI	**Mazidag**	**2.20**	**224**	*e*Pn		**Pn**	**09 27 16.2**	**-0.3**
PTK	**Pertek**	**2.33**	**267**	PN		**Pn**	**09 27 18.6**	**+0.4**
PTK	**Pertek**	**2.33**	**267**	*e*Pn		**Pn**	**09 27 18.6**	**+0.4**

UCR 10 09:28:55.3±1.5, 12°56N×87°98W, h60km±18km, ML4.0, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CSGN	**Cosiguina Volc**	**0.58**	**45**	*e*P	Pn	09 29 08.8	+0.6
CSGN				*e*S	Sn	09 29 19.2	+1.6
CNCH	**Conchagua**	**0.72**	**11**	*e*P	Pn	09 29 10.2	+0.3
CNCH				*e*S	Sn	09 29 21.6	+0.9
LCND	**La Ca˜–ada**	**0.75**	**7**	*e*P	Pn	09 29 10.4	+0.3
LCND				*e*S	Sn	09 29 21.6	+0.6
LCND				IAML		09 29 25.0	
	comp=Z,6μm,0.2s						
LCY	**Lacayo**	**0.91**	**340**	*e*P	Pn	09 29 12.8	+0.5
CRIN	**San Cristobal**	**0.92**	**81**	*e*P	Pn	09 29 12.8	+0.4
CRIN				AML	AML	09 29 31.5	
	comp=N,4μm,0.3s						
PACA	**Pacayal**	**0.96**	**340**	*e*P	Pn	09 29 14.2	+1.2
PACA				*e*S	Sn	09 29 26.4	+0.3
TECA	**Tecapa**	**1.06**	**331**	*e*P	Pn	09 29 14.4	+0.1
TELN	**Telica**	**1.12**	**88**	*e*P	Pn	09 29 14.9	-0.1
CAHU	**Cacacuatique**	**1.22**	**349**	*e*P	Pn	09 29 17.7	+1.2
CNGN	**Cerro Negro**	**1.25**	**93**	*e*P	Pn	09 29 16.6	-0.1
SNVI	**San Vicente**	**1.34**	**321**	*e*P	Pn	09 29 18.5	+0.5
SNVI				*e*S	Sn	09 29 35.1	+0.2
COPN	**Copaltepe**	**1.41**	**105**	*e*P	Pn	09 29 18.4	-0.4
MOMN	**Momotombo**	**1.41**	**96**	*e*P	Pn	09 29 18.6	-0.3
LFRS	**El Faro**	**1.49**	**315**	*e*P	Pn	09 29 20.1	+0.1
LFRS				*e*S	Sn	09 29 38.6	+0.1
LBRS	**Las Brisas**	**1.56**	**319**	*e*P	Pn	09 29 22.0	+1.1
BRAN	**Las Pilas**	**1.60**	**84**	*e*P	Pn	09 29 22.7	+1.4
LFU	**La Fuente**	**1.60**	**317**	*e*P	Pn	09 29 22.5	+0.8
LFU				*e*S	Sn	09 29 42.3	+0.7
UDBS	**Soyapango**	**1.63**	**315**	*e*P	Pn	09 29 22.1	+0.2
UDBS				*e*S	Sn	09 29 42.1	+0.3
UDBS				IAML		09 29 46.4	
	comp=Z,2μm,0.2s						
UTEC	**San Salvador**	**1.64**	**314**	*e*P	Pn	09 29 22.3	+0.3
UTEC				*e*S	Sn	09 29 42.6	+0.4
OPAM	**San Salvador**	**1.65**	**314**	*e*P	Pn	09 29 22.5	+0.4
OPAM				*e*S	Sn	09 29 42.8	+0.3
OPAM				IAML		09 29 44.8	
	comp=Z,1μm,0.2s						
SNET	**Serv Nac Est T**	**1.66**	**313**	*e*P	Pn	09 29 22.3	+0.1
SNET				*e*P	Pn	09 29 22.3	+0.2
SNET				*e*S	Sn	09 29 42.7	+0.2
ESTN	**Estel**	**1.66**	**71**	*e*P	Pn	09 29 22.4	+0.1
ESTN				*e*S	Sn	09 29 43.5	+0.9
XAVN	**Gruta Xavier**	**1.67**	**104**	*e*P	Pn	09 29 22.2	0.0
COLS	**Colinas**	**1.69**	**311**	*e*P	Pn	09 29 23.0	+0.3
UEES	**San Salvador**	**1.69**	**313**	*e*P	Pn	09 29 22.9	+0.2
UEES				*e*S	Sn	09 29 43.6	+0.2
TISN	**Laguna Tiscapa**	**1.72**	**104**	*e*P	Pn	09 29 22.9	-0.1
BOQS	**Boqueron**	**1.72**	**313**	*e*P	Pn	09 29 23.7	+0.5
BOQS				*e*S	Sn	09 29 45.7	+1.4
MGAN	**Managua**	**1.74**	**103**	*e*P	Pn	09 29 23.1	-0.2
MGAN				*e*S	Sn	09 29 43.7	-0.7
MATN	**Matagalpa**	**2.04**	**79**	*e*P	Pn	09 29 27.3	-0.1
SBLS	**San Blas**	**2.04**	**309**	*e*P	Pn	09 29 28.5	+0.9
SNJE	**San Jose**	**2.05**	**310**	*e*P	Pn	09 29 28.5	+0.9
ESPN	**Las Esperanzas**	**3.61**	**95**	*e*P	Pn	09 29 49.1	+0.3

*ISK **10** 09:34:14.4, 40°.19N×31°.77E, h5km, ML2.6/7, Suspected Mining explosion.*
*ISCJB **10** 09:34:15.7±0.5, 40°.14N±0°.03×31°.77E±0°.04, h0km, Error ellipse: s-maj=4.5km s-min=4.1km az=5.7*
*CSEM **10** 09:34:15.8±0.2, 40°.14N×31°.76E, h1km, ML2.3, Error ellipse: s-maj=4.9km s-min=4.1km az=1.0, Suspected Mining explosion.*
*DDA **10** 09:34:16.2, 40°.13N×31°.80E, h7km, Ml2.3, Suspected Mining explosion.*

ISC 10 09:34:15.2±0.8, 40°.12N±0°.03×31°.71E±0°.03, h0km, n30, σ0s55/39, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AUMIH	**MIHALICIK**	**0.31**	**215**	*i* P	**Pb**	**09 34 22.9**	**-0.8**
AUMIH				*i* S	**Sb**	**09 34 29.5**	**+0.2**
AUMIH	**MIHALICIK**	**0.31**	**215**	P	**Pb**	**09 34 22.9**	**-0.8**
AUMIH				S	**Sb**	**09 34 29.5**	**+0.2**
MDUB	**Mudurnu**	**0.53**	**312**	PG	**Pg**	**09 34 25.3**	**0.0**
MDUB				SG	**Sb**	**09 34 34.2**	**-1.4**
MDUB	**Mudurnu**	**0.53**	**312**	*e*Pg	**Pg**	**09 34 25.3**	**0.0**
SVRH	**Sivrihisar-ESK**	**0.69**	**192**	PG	**Pb**	**09 34 30.1**	**0.0**
SVRH	**Sivrihisar-ESK**	**0.69**	**192**	*e*Pg	**Pb**	**09 34 30.1**	**0.0**
CMDR	**Camlidere-ANKA**	**0.69**	**57**	*i* P	**Pg**	**09 34 28.3**	**-0.2**
CMDR				*i* S	**Sb**	**09 34 41.3**	**+0.8**
CMDR	**Camlidere-ANKA**	**0.69**	**57**	P	**Pg**	**09 34 28.3**	**-0.2**
BCAM	**Yenicaga**	**0.75**	**21**	*i* P	**Pg**	**09 34 29.9**	**+0.4**
BCAM				*i* S	**Sb**	**09 34 41.3**	**-0.7**
BCAM	**Yenicaga**	**0.75**	**21**	P	**Pg**	**09 34 29.9**	**+0.4**
BCAM				S	**Sb**	**09 34 41.3**	**-0.7**
LOD	**Lodumlu**	**0.84**	**106**	PG	**Pg**	**09 34 31.3**	**0.0**
LOD	**Lodumlu**	**0.84**	**106**	*e*Pg	**Pg**	**09 34 31.3**	**0.0**
ANTO	**Ankara**	**0.87**	**106**	PG	**Pg**	**09 34 31.9**	**0.0**
ANTO	**Ankara**	**0.87**	**106**	*e*Pg	**Pg**	**09 34 31.9**	**0.0**
ESKT	**Eskisehir**	**0.89**	**228**	*i* P	**Pb**	**09 34 33.2**	**-0.5**
SEYT	**Eskyşehyr**	**0.89**	**228**	P	**Pb**	**09 34 33.2**	**-0.5**
GULT	**Gulveren**	**0.97**	**289**	PG	**Pb**	**09 34 34.9**	**0.0**
GULT	**Gulveren**	**0.97**	**289**	*e*Pg	**Pb**	**09 34 34.9**	**0.0**
SAHE	**Sakarya_HENDEK**	**0.98**	**318**	*i* P	**Pn**	**09 34 35.8**	**-0.5**
SAHE	**Sakarya_HENDEK**	**0.98**	**318**	P	**Pn**	**09 34 35.8**	**-0.5**
BORA	**Eskisehir**	**0.99**	**256**	*i* P	**Pb**	**09 34 35.3**	**-0.1**
BORA				*i* S	**Sn**	**09 34 53.0**	**+1.7**
BORA	**Eskisehir**	**0.99**	**256**	P	**Pb**	**09 34 35.3**	**-0.1**
AFSR	**Af˙ar-Bala (A**	**1.25**	**122**	PN	**Pg**	**09 34 38.6**	**-0.5**
AFSR				SN	**Sn**	**09 34 57.8**	**+0.3**
AFSR	**Af˙ar-Bala (A**	**1.25**	**122**	*e*Pn	**Pg**	**09 34 38.6**	**-0.5**
AFSR				*e*Sn	**Sn**	**09 34 57.8**	**+0.3**
KKUL	**Konya-Kulu**	**1.33**	**135**	*i* P	**Pn**	**09 34 41.5**	**+0.3**
KKUL	**Konya-Kulu**	**1.33**	**135**	P	**Pn**	**09 34 41.5**	**+0.3**
CAVI	**Cavuskoy**	**1.43**	**274**	PN	**Pb**	**09 34 43.4**	**+0.6**
CAVI	**Cavuskoy**	**1.43**	**274**	*e*Pn	**Pb**	**09 34 43.4**	**+0.6**
TVSB	**Tavsanli**	**1.86**	**250**	PN	**Pb**	**09 34 49.9**	**-0.2**
TVSB	**Tavsanli**	**1.86**	**250**	*e*Pn	**Pb**	**09 34 49.9**	**-0.2**

*ISCJB **10** 09:52:14.6±0.5, 39°.18N±0°.04×29°.12E±0°.04, h4km±6km, Error ellipse: s-maj=7.2km s-min=3.9km az=155.1*
*CSEM **10** 09:52:14.6±0.1, 39°.16N×29°.13E, h5km, ML2.6, Error ellipse: s-maj=3.2km s-min=1.9km az=141.0*
*DDA **10** 09:52:14.5, 39°.15N×29°.15E, h7km, Ml2.5*
*ISK **10** 09:52:14.1, 39°.16N×29°.15E, h5km, ML2.6/12*

ISC 10 09:52:14.8±0.9, 39°.16N±0°.03×29°.14E±0°.02, h9km±8km, n42, σ0s38/56, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIMA	**Simav-Kutahya**	**0.14**	**236**	PG	**Pg**	**09 52 18.1**	**+0.1**
SIMA				SG	**Sg**	**09 52 20.2**	**0.0**
SIMA	**Simav-Kutahya**	**0.14**	**236**	*e*Pg	**Pg**	**09 52 18.1**	**+0.1**
SIMA				*e*Sg	**Sg**	**09 52 20.2**	**0.0**
GDZ	**Gediz**	**0.28**	**105**	*i* P	**Pg**	**09 52 20.1**	**-0.4**
GDZ				*i* S	**Sg**	**09 52 24.4**	**+0.3**
GDZ	**Gediz**	**0.28**	**105**	P	**Pg**	**09 52 20.0**	**-0.4**
GDZ				S	**Sg**	**09 52 24.5**	**+0.3**
DEMI	**Demirci**	**0.35**	**250**	*i* P	**Pg**	**09 52 21.4**	**-0.3**
DEMI				*i* S	**Sg**	**09 52 25.8**	**-0.5**
DEMI	**Demirci**	**0.35**	**250**	P	**Pg**	**09 52 21.4**	**-0.3**
DEMI				S	**Sg**	**09 52 25.8**	**-0.5**
TVSB	**Tavsanli**	**0.38**	**41**	PG	**Pg**	**09 52 22.0**	**-0.3**
TVSB				SG	**Sg**	**09 52 27.7**	**+0.3**
TVSB	**Tavsanli**	**0.38**	**41**	*e*Pg	**Pg**	**09 52 22.0**	**-0.3**
TVSB				*e*Sg	**Sg**	**09 52 27.7**	**+0.3**
DURS	**Dursunbey**	**0.68**	**311**	*i* P	**Pg**	**09 52 27.5**	**-0.3**
DURS	**Dursunbey**	**0.68**	**311**	P	**Pg**	**09 52 27.5**	**-0.3**
KULA	**Kula-Manisa**	**0.75**	**210**	PG	**Pg**	**09 52 28.5**	**-0.7**
KULA	**Kula-Manisa**	**0.75**	**210**	*e*Pg	**Pg**	**09 52 28.5**	**-0.7**
ORLT	**Orhaneli**	**0.90**	**348**	PG	**Pg**	**09 52 31.9**	**-0.2**
ORLT	**Orhaneli**	**0.90**	**348**	*e*Pg	**Pg**	**09 52 31.9**	**-0.2**
AKHS	**Akhisar**	**1.07**	**255**	*i* P	**Pb**	**09 52 35.4**	**-0.1**
AKHS	**Akhisar**	**1.07**	**255**	P	**Pb**	**09 52 35.4**	**-0.1**
BALB	**Balikesir**	**1.08**	**296**	PN	**Pb**	**09 52 35.6**	**-0.1**
BALB	**Balikesir**	**1.08**	**296**	*e*Pn	**Pb**	**09 52 35.6**	**-0.1**
STEP	**BALIKESIR_Sava**	**1.12**	**281**	*i* P	**Pb**	**09 52 36.5**	**+0.1**
STEP	**BALIKESIR_Sava**	**1.12**	**281**	P	**Pb**	**09 52 36.5**	**+0.1**
CAVI	**Cavuskoy**	**1.17**	**27**	PN	**Pb**	**09 52 37.1**	**-0.1**
CAVI				SN	**Sn**	**09 52 53.2**	**-0.4**
CAVI	**Cavuskoy**	**1.17**	**27**	*e*Pn	**Pb**	**09 52 37.1**	**-0.1**
CAVI				*e*Sn	**Sn**	**09 52 53.2**	**-0.4**
MDNY	**Mudanya-Bursa**	**1.22**	**351**	PN	**Pg**	**09 52 37.8**	**-0.4**
MDNY				SN	**Sn**	**09 52 55.2**	**+0.5**
MDNY	**Mudanya-Bursa**	**1.22**	**351**	*e*Pn	**Pg**	**09 52 37.8**	**-0.4**
MDNY				*e*Sn	**Sn**	**09 52 55.2**	**+0.5**
BORA	**Eskisehir**	**1.25**	**54**	*i* P	**Pn**	**09 52 39.1**	**+0.6**
BORA				*i* S	**Sn**	**09 52 55.9**	**+0.4**
BORA	**Eskisehir**	**1.25**	**54**	P	**Pn**	**09 52 39.1**	**+0.6**
BORA				S	**Sn**	**09 52 55.9**	**+0.4**
KCTX	**Karacabey (Bur**	**1.25**	**332**	PN	**Pg**	**09 52 38.5**	**-0.4**
KCTX	**Karacabey (Bur**	**1.25**	**332**	*e*Pn	**Pg**	**09 52 38.5**	**-0.4**
ADVT	**Abdulvahap**	**1.35**	**20**	PN	**Pn**	**09 52 40.0**	**+0.2**
ADVT	**Abdulvahap**	**1.35**	**20**	*e*Pn	**Pn**	**09 52 40.0**	**+0.2**
YLV	**Yalova**	**1.41**	**7**	PN	**Pg**	**09 52 41.5**	**-0.4**
YLV	**Yalova**	**1.41**	**7**	*e*Pn	**Pg**	**09 52 41.5**	**-0.4**
ARMT	**Armutlu**	**1.42**	**351**	PN	**Pn**	**09 52 40.7**	**-0.1**
ARMT	**Armutlu**	**1.42**	**351**	*e*Pn	**Pn**	**09 52 40.7**	**-0.1**
GONE	**Gonen-Balikesi**	**1.43**	**309**	PN	**Pb**	**09 52 41.7**	**+0.1**
GONE	**Gonen-Balikesi**	**1.43**	**309**	*e*Pn	**Pb**	**09 52 41.7**	**+0.1**
EDC	**Edincik**	**1.54**	**321**	PN	**Pn**	**09 52 42.9**	**+0.5**
EDC	**Edincik**	**1.54**	**321**	*e*Pn	**Pn**	**09 52 42.9**	**+0.5**
AYDB	**Zeytinkoy-Aydi**	**1.56**	**219**	PN	**Pn**	**09 52 43.2**	**+0.4**
AYDB	**Zeytinkoy-Aydi**	**1.56**	**219**	*e*Pn	**Pn**	**09 52 43.2**	**+0.4**
GULT	**Gulveren**	**1.65**	**40**	PN	**Pb**	**09 52 44.9**	**-0.6**
GULT	**Gulveren**	**1.65**	**40**	*e*Pn	**Pb**	**09 52 44.9**	**-0.6**

IDC 10 09:57:23.9±27.0, 15°98S×171°53W, h0km, mb4.0/4, mb1 4.2/4, mb1mx3.6/49, mbtmp4.0/4, Error ellipse: s-maj=512.9km s-min=179.3km az=72.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**40.27**	**258**	P	**P**	10 05 03.0	-0.1
	4.1nm,1.1s,baz=90,slow=5.1,SNR=1.7						
STKA	**Stephens Creek**	**45.31**	**241**	P	**P**	10 05 44.0	+0.2
	2.8nm,0.8s,baz=104,slow=8.3,SNR=4.1						
WRA	**Warramunga Arr**	**51.46**	**257**	P	**P**	10 06 31.4	-0.2
	0.4nm,0.4s,baz=95,slow=6.8,SNR=10.0						
ASAR	**Alice Springs**	**51.64**	**252**	P	**P**	10 06 32.6	-0.3
	2.1nm,0.9s,baz=91,slow=7.7,SNR=24						

*ISCJB **10** 10:00:36.9±0.3, 24°.94S±0°.03×69°.12W±0°.06, h112km±5km, mb3.9/4, Error ellipse: s-maj=8.8km s-min=4.7km az=0.4*
*SJA **10** 10:00:37.4±1.0, 24°.98S×69°.04W, h78km±14km, ML3.0, MW4.3*
*NEIC **10** 10:00:38.0±0.0, 24°.85S×69°.12W, h95km, ML4.1(GUC), After GUC.*
*GUC **10** 10:00:38.7±0.6, 24°.85S×69°.12W, h95km±7km, ML4.1*
*IDC **10** 10:00:39.2±0.9, 24°.90S×69°.00W, h108km±6km, mb3.8/4, mb1 3.8/5, mb1mx3.4/36, mbtmp4.1/5, Error ellipse: s-maj=35.3km s-min=27.4km az=109.0*

ISC 10 10:00:38.3±0.6, 24°.93S±0°.05×69°.12W±0°.05, h107km±5km, h107km:pP-P, n43, σ0s95/59, mb4.1/4, 5C, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO02	**Mina Guanaco**	**0.49**	**241**	*i* P	**Pn**	**10 00 54.8**	**-0.3**
GO02				*i* S	**Sn**	**10 01 07.6**	**-0.1**
GO02				IAML		10 01 08.0	
	comp=E,31μm,0.3s						
PB14	**IPOC Station P**	**1.21**	**284**	*e*P	**Pn**	**10 01 01.9**	**+0.1**
PB14				*e*S	**Sn**	**10 01 19.2**	**-0.4**
PB14	**IPOC Station P**	**1.21**	**284**	*i* P	**Pn**	**10 01 01.9**	**+0.1**
PB14				*i* S	**Sn**	**10 01 19.6**	**0.0**
PB14				IAML		10 01 20.3	
	comp=N,3μm,0.5s						
PB10	**IPOC Station P**	**1.92**	**317**	*e*Pn	**Pn**	**10 01 10.8**	**+0.6**
PB10	**IPOC Station P**	**1.92**	**317**	*e*P	**Pn**	**10 01 11.2**	**+1.0**
PB10	**IPOC Station P**	**1.92**	**317**	*e*P	**Pn**	**10 01 10.5**	**+0.3**
PB10				IAML		10 01 46.8	
	comp=E,1μm,0.4s						
PB06	**IPOC Station P**	**2.25**	**349**	*i* P	**Pn**	**10 01 14.7**	**+0.2**
PB06				*i* S	**Sn**	**10 01 41.6**	**-0.6**
PB06				IAML		10 01 50.0	
	comp=E,631nm,0.1s						
PB04	**IPOC Station P**	**2.75**	**340**	*e*Pn	**Pn**	**10 01 20.5**	**-0.6**
GO03	**Copiap**	**2.84**	**200**	*e*P	**Pn**	**10 01 21.1**	**-1.1**
GO03				*i* S	**Sn**	**10 01 55.0**	**-0.9**
GO03				IAML		10 01 56.6	
	comp=N,274nm,0.3s						
FSA	**Cafayete**	**3.07**	**113**	*e*P	**Pn**	**10 01 24.6**	**-0.7**
FSA				IAML		10 01 26.2	
	comp=Z,6.1nm,0.6s						
PB09	**IPOC Station P**	**3.12**	**358**	*i* P	**Pn**	**10 01 26.2**	**+0.2**
PB09				IAML		10 01 57.0	
	comp=E,978nm,0.5s						
AZAP	**Zapla**	**3.75**	**80**	*e*P	**Pn**	**10 01 34.2**	**-0.2**
AZAP				IAML		10 01 35.5	
	comp=Z,21nm,0.8s						
HJA	**Humahuaca**	**3.79**	**64**	*e*P	**Pn**	**10 01 36.5**	**+1.3**
HJA				IAML		10 01 38.0	
	comp=Z,58nm,0.5s						
PB01	**IPOC Station P**	**3.88**	**355**	*e*Pn	**Pn**	**10 01 34.9**	**-1.2**
PB01	**IPOC Station P**	**3.88**	**355**	*i* P	**Pn**	**10 01 34.9**	**-1.2**
PB01				*i* S	**Sn**	**10 02 19.0**	**-1.8**
VCA	**Vinchina**	**3.88**	**168**	*e*P	**Pn**	**10 01 36.4**	**+0.2**
VCA				IAML		10 01 39.2	
	comp=Z,66nm,0.9s						
YJA	**Yavi**	**4.29**	**51**	*e*P	**Pn**	**10 01 42.2**	**+0.3**
YJA				IAML		10 01 43.2	
	comp=Z,22nm,0.3s						
LCO	**Las Campanas**	**4.31**	**199**	*e*Pn	**Pn**	**10 01 39.9**	**-2.1**
ALOL	**LOMAS DE OLMED**	**4.81**	**78**	*e*P	**Pn**	**10 01 48.1**	**-0.4**
PB11	**IPOC Station P**	**5.17**	**354**	*e*Pn	**Pn**	**10 01 51.0**	**-2.5**
AROD	**Rodeo**	**5.23**	**183**	*e*P	**Pn**	**10 01 54.3**	**-0.2**
MNMC	**Minye Minye**	**5.78**	**356**	*e*Pn	**Pn**	**10 01 59.3**	**-2.7**
APLL	**PUNTA DE LOS L**	**5.91**	**158**	*e*P	**Pn**	**10 02 02.3**	**-1.2**
APLL				IAML		10 03 08.6	
	comp=Z,4.3nm,0.7s						
AMOG	**MOGNA**	**6.01**	**175**	*e*P	**Pn**	**10 02 04.7**	**-0.2**
RTLS	**Leoncito**	**6.85**	**181**	*e*P	**Pn**	**10 02 14.0**	**-2.4**
RTLS				IAML		10 03 31.8	
	comp=Z,4.8nm,0.2s						
AUSP	**Uspallata**	**7.28**	**182**	*e*P	**Pn**	**10 02 20.1**	**-2.0**
PEL	**Peldehue**	**8.30**	**189**	*e*Pn	**Pn**	**10 02 36.6**	**+0.7**
LPAZ	**La Paz**	**8.64**	**6**	P	**Pn**	**10 02 40.6**	**-0.6**
	comp=Z,0.8nm,0.3s,baz=197,slow=4.4,SNR=20						
LPAZ	**La Paz**	**8.64**	**6**	*e*Pn	**Pn**	**10 02 40.4**	**-0.7**
PTGA	**Pitinga**	**25.63**	**22**	P	**P**	**10 05 57.8**	**-0.2**
	comp=Z,2.1nm,0.2s,baz=337,slow=23,SNR=9.9						
DBIC	**Dimbokro**	**69.92**	**72**	P	**P**	**10 11 38.2**	**-0.2**
	comp=Z,2.0nm,0.7s,baz=221,slow=13,SNR=3.5						
TORD	**Torodi Ar. Bea**	**78.70**	**70**	P	**P**	**10 12 29.3**	**0.0**
	comp=Z,2.0nm,0.6s,baz=260,slow=5.2,SNR=12						
TORD				PP	**pP**	**10 12 56.6**	**0.0**
	comp=Z,0.6nm,0.6s,baz=253,slow=5.3,SNR=2.0						
TOA1	**Torodi Ar. Sit**	**78.70**	**70**	*e*P	**P**	**10 12 29.3**	**0.0**
TOA1				*e*P	**pP**	**10 12 56.6**	**0.0**
YKA	**Yellowknife Ar**	**94.34**	**341**	P	**P**	**10 13 45.7**	**+0.4**
	comp=Z,0.1nm,0.6s,baz=132,slow=5.1,SNR=3.5						
YKA				pP	**pP**	**10 14 13.7**	**+0.5**
	comp=Z,0.1nm,0.7s,baz=138,slow=4.6,SNR=2.2						
YKB5	**Yellowknife Ar**	**94.34**	**341**	*e*P	**P**	**10 13 45.6**	**+0.4**
YKB5				*e*pP	**pP**	**10 14 13.7**	**+0.5**
AS31	**Alice Springs**	**126.79**	**207**	*e*PKPdf	**PKPdf**	**10 19 30.1**	**-0.1**
AS31				*e*pPKPdf	**pPKPdf**	**10 19 59.9**	**+0.6**
ASAR	**Alice Springs**	**126.79**	**207**	PKP	**PKPdf**	**10 19 30.1**	**-0.1**
	comp=Z,0.3nm,0.5s,baz=118,slow=1.4,SNR=6.6						
ASAR				pPKP	**pPKPdf**	**10 19 59.9**	**+0.6**
	comp=Z,0.4nm,1.0s,baz=110,slow=2.2,SNR=1.7						
WR1	**Warramunga Arr**	**129.90**	**209**	*e*PKPdf	**PKPdf**	**10 19 36.0**	**-0.1**
WRA	**Warramunga Arr**	**129.90**	**209**	PKP	**PKPdf**	**10 19 36.0**	**-0.1**
	comp=Z,0.2nm,0.4s,baz=150,slow=1.7,SNR=7.6						
ZAA1	**Zalesovo Array**	**145.10**	**27**	*e*PKPbc	**PKPbc**	**10 20 03.7**	**+1.2**
ZAA1				*e*pPKPdf	**pPKPdf**	**10 20 32.2**	**+0.2**
ZALV	**Zalesovo Beam**	**145.10**	**27**	PKPbc	**PKPbc**	**10 20 03.7**	**+1.2**
	comp=Z,0.8nm,0.5s,baz=339,slow=7.7,SNR=2.9						
ZALV				pPKPbc	**pPKPdf**	**10 20 32.2**	**+0.2**
	comp=Z,1.4nm,0.7s,baz=325,slow=3.1,SNR=3.5						
MK32	**Makanchi Array**	**148.46**	**39**	*e*PKPbc	**PKPbc**	**10 20 13.1**	**+0.7**
MK32				*e*pPKPdf	**pPKPbc**	**10 20 41.4**	**+0.1**
MKAR	**Makanchi Array**	**148.46**	**39**	PKPbc	**PKPbc**	**10 20 13.1**	**+0.7**
	comp=Z,0.2nm,0.4s,baz=335,slow=4.0,SNR=3.2						
MKAR				pPKPbc	**pPKPbc**	**10 20 41.4**	**+0.1**
	comp=Z,0.9nm,0.8s,baz=298,slow=2.5,SNR=3.9						

IDC 10 10:33:01.8±8.7, 7°.00S×129°.23E, h169km±90km, mb1 4.1/3, mb1mx3.2/49, mbtmp4.6/3, Error ellipse: s-maj=99.0km s-min=30.4km az=44.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**6.36**	**240**	P	Pn	10 34 34.0	+0.5
	19nm,0.3s,baz=122,slow=19,SNR=10						
BATI				S	Sn	10 35 40.6	-5.0
	5.1nm,0.3s,baz=131,slow=20,SNR=4.8						
WRA	**Warramunga Arr**	**13.79**	**159**	P	Pn	10 36 08.8	-1.6
	1.1nm,0.3s,baz=337,slow=12,SNR=26						
WRA				S	Sn	10 38 32.2	-11
	0.2nm,0.3s,baz=336,slow=20,SNR=4.4						
ASAR	**Alice Springs**	**17.17**	**165**	P	Pn	10 36 51.9	+0.1
	2.7nm,0.3s,baz=337,slow=9.5,SNR=265						
ASAR				S	S	10 39 56.0	-5.1
	0.1nm,0.3s,baz=330,slow=20,SNR=3.6						
MKAR	**Makanchi Array**	**67.81**	**327**	P	P	10 43 41.4	-0.1
	baz=116,slow=8.1,SNR=3.4						

*IDC **10** 10:42:26.5±0.8, 18°.90N×67°.24W, h0km, mb3.5/7, mb1

TKL				*e*S	**S**	**10 51 28.6**	**-0.9**
LTX	**Lajitas**	**34.74**	**295**	*e*P	**P**	**10 49 18.5**	**-0.4**
TXAR	**Lajitas Array**	**34.74**	**295**	P	**P**	**10 49 18.5**	**-0.4**
	0.2nm,0.6s,baz=113,slow=11,SNR=4.0						
MNTX	**Cornudas Mount**	**36.62**	**298**	*e*P	**P**	**10 49 35.1**	**+0.2**
	1.8nm,1.0s						
PD31	**Pinedale Array**	**42.91**	**313**	*e*P	**P**	**10 50 26.8**	**-0.6**
PDAR	**Pinedale Array**	**42.91**	**313**	P	**P**	**10 50 26.8**	**-0.6**
	0.2nm,0.7s,baz=81,slow=5.6,SNR=1.9						
NV01	**Mina Array Sit**	**48.25**	**305**	*e*P	**P**	**10 51 10.0**	**+0.4**
NVAR	**Mina Array Bea**	**48.25**	**305**	P	**P**	**10 51 09.8**	**+0.2**
	0.7nm,0.7s,baz=96,slow=5.1,SNR=5.6						
YKA	**Yellowknife Ar**	**54.46**	**335**	P	**P**	**10 51 54.7**	**-0.8**
	0.7nm,0.7s,baz=112,slow=7.5,SNR=11						
YKB5	**Yellowknife Ar**	**54.46**	**335**	*e*P	**P**	**10 51 54.7**	**-0.8**
TOA1	**Torodi Ar. Sit**	**66.19**	**84**	*e*P	**P**	**10 53 16.4**	**-0.1**
TORD	**Torodi Ar. Bea**	**66.20**	**84**	P	**P**	**10 53 16.5**	**-0.2**
	0.6nm,1.0s,baz=295,slow=6.4,SNR=3.0						
ILAR	**Eielson Array**	**68.77**	**333**	P	**P**	**10 53 31.4**	**-0.7**
	0.2nm,0.5s,baz=94,slow=4.3,SNR=6.6						
ILB	**Eielson Array**	**68.77**	**333**	*e*P	**P**	**10 53 31.4**	**-0.7**
VRAC	**Vranov**	**72.06**	**43**	LR	LR	11 22 45.7	
	comp=Z,20nm,18.6s,baz=282,slow=34						
WR1	**Warramunga Arr**	**159.58**	**263**	*e*PKPab	**PKPab**	**11 03 05.0**	**-1.1**
WRA	**Warramunga Arr**	**159.58**	**263**	PKPab	**PKPab**	**11 03 05.0**	**-1.2**
	0.9nm,1.1s,baz=83,slow=4.0,SNR=6.4						
AS31	**Alice Springs**	**159.67**	**252**	*e*PKPab	**PKPab**	**11 03 05.2**	**-1.2**
ASAR	**Alice Springs**	**159.67**	**252**	PKPab	**PKPab**	**11 03 05.2**	**-1.2**
	0.6nm,0.7s,baz=109,slow=4.2,SNR=8.8						

*IDC **10** 10:47:24.7±3.1, 15°.80S×74°.32W, h79km±27km, mb3.2/6, mb1 3.5/8, mb1mx3.4/41, mbtmp3.7/8, MS2.7/3, Ms1 2.7/3, ms1mx2.6/14, Error ellipse: s-maj=35.2km s-min=19.5km az=44.0*

ISC 10 10:47:21.7±1.0, 16°.0S±0°.2×74°.5W±0°.1, h49km, n17, σ1§43/9, mb3.2/5, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**4.58**	**329**	P	**Pn**	**10 48 30.4**	**+1.9**
	4.1nm,0.3s,baz=144,slow=12,SNR=6.9						
NNA				S	Sn	10 49 29.6	+9.2
	56nm,0.3s,baz=147,slow=11,SNR=8.6						
NNA				LR	LR	10 50 09.6	
	comp=Z,84nm,19.2s,baz=238,slow=37						
LPAZ	**La Paz**	**6.09**	**94**	P	**Pn**	**10 48 51.5**	**+1.7**
	1.0nm,0.3s,baz=280,slow=6.7,SNR=45						
LPAZ				LR	LR	10 51 39.7	
	comp=Z,67nm,20.4s,baz=284,slow=43						
ATAH	**Atahualpa**	**9.58**	**336**	P	Pn	10 49 43.0	+5.6
	0.1nm,0.3s,baz=105,slow=20,SNR=2.2						
ATAH				S	Sn	10 51 31.8	+7.8
	0.4nm,0.3s,baz=164,slow=19,SNR=2.0						
ROSC	**El Rosal**	**20.67**	**0**	LR	LR	11 00 56.1	
	comp=Z,21nm,20.2s,baz=248,slow=40						
PTGA	**Pitinga**	**20.82**	**45**	P	**P**	**10 51 57.7**	**-1.6**
	2.2nm,0.6s,baz=218,slow=14,SNR=5.6						
TXAR	**Lajitas Array**	**53.13**	**328**	P	**P**	**10 56 34.8**	**0.0**
	0.1nm,0.5s,baz=148,slow=8.6,SNR=3.7						
NVAR	**Mina Array Bea**	**67.93**	**324**	P	**P**	**10 58 14.7**	**-1.0**
	0.1nm,0.4s,baz=123,slow=7.6,SNR=2.8						
SNAA	**Sanae**	**69.19**	**161**	P	**P**	**10 58 23.4**	**+0.5**
	2.1nm,0.8s,baz=262,slow=7.1,SNR=7.8						
TORD	**Torodi Ar. Bea**	**80.65**	**73**	P	**P**	**10 59 28.6**	**-1.3**
	0.5nm,0.6s,baz=264,slow=5.1,SNR=5.0						
YKA	**Yellowknife Ar**	**84.30**	**342**	P	**P**	**10 59 47.2**	**-0.6**
	0.2nm,0.8s,baz=136,slow=5.1,SNR=5.2						
H11N3	**WAKE ISLAND Hy**	**21.72**	**284**	T	T	13 19 19.8	
	baz=83						
H11N2	**WAKE ISLAND Hy**	**21.74**	**284**	T	T	13 19 15.2	
	baz=83						
H11N1	**WAKE ISLAND Hy**	**21.74**	**284**	T	T	13 19 29.5	
	baz=83						
H11S2	**WAKE ISLAND Hy**	**21.76**	**282**	T	T	13 19 33.1	
	baz=96,slow=75						
H11S1	**WAKE ISLAND Hy**	**21.77**	**282**	T	T	13 19 31.8	
	baz=96						
H11S3	**WAKE ISLAND Hy**	**21.78**	**282**	T	T	13 19 32.3	
	baz=96,slow=75						
WRA	**Warramunga Arr**	**134.45**	**219**	PKP	**PKPdf**	**11 06 35.2**	**-0.1**
	0.3nm,0.8s,baz=138,slow=1.9,SNR=4.4						

*NEIC **10** 11:07:36.9±0.0, 65°.33N×143°.33W, h8km, ML2.8(AEIC), After AEIC.*

PGC 10 11:07:37.0±0.9, 65°.35N×143°.26W, h10km, ML3.0/4, 216km east of Fairbanks, Ak Northern Alaska, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRP	**Porcupine Dome**	**0.96**	**281**	P	Pg	11 07 55.2	-0.4
PRP				S	Sg	11 08 07.3	-0.7
EGAK	**Eagle**	**1.06**	**122**	P	Pg	11 07 57.3	-0.1
EGAK				S	Sn	11 08 12.0	-0.6
SCRK	**Sand Creek**	**1.42**	**193**	P	Pn	11 08 03.1	+0.2
SCRK				S	Sn	11 08 20.6	-1.1
FYU	**Fort Yukon**	**1.47**	**327**	P	Pn	11 08 03.7	+0.2
ILB	**Eielson Array**	**1.65**	**251**	P	Pn	11 08 05.1	-0.9
PS08	**TAPS Pump Stn8**	**1.72**	**243**	P	Pn	11 08 06.2	-0.8
DOT	**Dot Lake**	**1.74**	**192**	Pn	Pn	11 08 07.4	0.0
DOT				S	Sn	11 08 28.3	-1.3
DOT	**Dot Lake**	**1.74**	**192**	P	Pn	11 08 07.0	-0.3
RIDG	**Independ'e Rid**	**1.76**	**204**	P	Pn	11 08 07.6	+0.1
GLM	**Gilmore Dome**	**1.78**	**260**	P	Pn	11 08 07.3	-0.6
GLM				S	Sb	11 08 32.2	0.0
HDA	**Harding Lake**	**1.84**	**241**	P	Pn	11 08 08.2	-0.5
COLA	**College**	**2.00**	**258**	P	Pn	11 08 10.2	-0.7
CCB	**Clear Creek Bu**	**2.06**	**252**	P	Pn	11 08 10.6	-1.0
DAWY	**Dawson**	**2.10**	**126**	Pn	Pn	11 08 11.7	-0.6
DAWY				S	Sg	11 08 43.4	-1.1
DAWY	**Dawson**	**2.10**	**126**	P	Pn	11 08 11.7	-0.6
MDM	**Murphy Dome**	**2.14**	**262**	P	Pn	11 08 11.8	-1.0
BM3	**Burnt Mountain**	**2.15**	**346**	P	Pn	11 08 13.3	+0.4
PS10	**TAPS Pump St10**	**2.22**	**211**	P	Pn	11 08 14.1	+0.2
WRH	**Wood River Hil**	**2.24**	**249**	P	Pn	11 08 13.3	-0.9
BCA3	**Beaver Creek A**	**2.38**	**164**	P	Pn	11 08 16.4	+0.2
PAX	**Paxson**	**2.58**	**203**	Pn	Pn	11 08 19.1	+0.3
PAX				Sn	Sn	11 08 48.7	-1.6
PAX				Sg	Sb	11 08 55.2	+0.1
PAX	**Paxson**	**2.58**	**203**	P	Pn	11 08 19.4	+0.5
PS06	**TAPS Pump Stn6**	**2.74**	**284**	P	Pn	11 08 20.2	-0.7
DHY	**Denali Highway**	**2.91**	**220**	P	Pn	11 08 24.2	+0.8
MCK	**McKinley**	**2.94**	**239**	P	Pn	11 08 23.6	-0.2
HARP	**HAARP**	**3.07**	**197**	Pn	Pn	11 08 26.8	+1.2
RND	**Reindeer**	**3.12**	**234**	P	Pn	11 08 26.4	+0.2
MLY	**Manley**	**3.17**	**268**	P	Pn	11 08 25.5	-1.4
COLD	**Coldfoot**	**3.38**	**307**	Pn	Pn	11 08 30.3	+0.5
COLD				Sn	Sn	11 09 06.6	-3.3
COLD				Sg	Sb	11 09 20.2	+2.2
COLD	**Coldfoot**	**3.38**	**307**	P	Pn	11 08 28.3	-1.5
BPAW	**Bear Paw Mtn.**	**3.54**	**253**	P	Pn	11 08 30.9	-1.2
TRF	**Thorofare Moun**	**3.60**	**241**	P	Pn	11 08 32.5	-0.4
KTH	**Kantishna Hill**	**3.78**	**245**	P	Pn	11 08 34.7	-0.6
TOLK	**Toolik Lake Re**	**4.13**	**326**	P	Pn	11 08 42.0	+1.9
CAST	**Castle Rocks**	**4.29**	**247**	P	Pn	11 08 41.0	-1.3
BALM	**Baldy**	**4.35**	**174**	Pn	Pn	11 08 44.6	+1.4
BALM				Sg	Sb	11 09 51.1	+5.1
BALM	**Baldy**	**4.35**	**174**	P	Pn	11 08 44.3	+1.1
BARN	**Barnard Glacie**	**4.37**	**170**	P	Pn	11 08 44.9	+1.3
DIV	**Divide**	**4.39**	**196**	Sg	Sb	11 09 49.4	+2.4
IM3	**Indian Mountai**	**4.39**	**283**	P	Pn	11 08 42.5	-1.1
KIAG	**Kiagna River**	**4.46**	**174**	P	Pn	11 08 46.9	+2.0
PPLA	**Purkeypile**	**4.62**	**242**	P	Pn	11 08 46.3	-0.6
INK	**Inuvik**	**4.86**	**48**	Pn	Pn	11 08 49.9	-0.1
INK				Sn	Sn	11 09 42.9	-3.2
YUK5	**Granite Creek**	**4.89**	**148**	Pn	Pn	11 08 49.8	-0.8
YUK5				Pg	Pb	11 09 06.3	+3.6
YUK5				Sg	Sb	11 10 06.8	+5.3
YUK5	**Granite Creek**	**4.89**	**148**	P	Pn	11 08 50.1	-0.5
SKT	**Skwentna**	**5.00**	**231**	P	Pn	11 08 52.0	-0.1
RC01	**Rabbit Creek A**	**5.18**	**217**	*e*Pn	Pn	11 08 58.8	+4.2
	3.9nm,0.3s						
RC01				*e*Sn	Sn	11 09 53.3	-1.0
HYT	**Haines Junctio**	**5.24**	**147**	Pn	Pn	11 08 54.8	-0.6
HYT				Sg	Sb	11 10 17.9	+6.3
YUK7	**Dusty Glacier**	**5.37**	**152**	Pn	Pn	11 08 57.7	+0.4
YUK7				Sg	Sg	11 10 25.4	-3.8
WHY	**Whitehorse**	**6.05**	**137**	Pn	Pn	11 09 06.0	-0.6
WHY				Sg	Sg	11 10 44.4	-6.8
PLBC	**Pleasant Camp**	**6.72**	**148**	Sg	Sg	11 11 06.9	-5.7
SMPN	**Simpson Lake**	**7.15**	**59**	Pn	Pn	11 09 20.6	-0.9
SMPN				Sn	Sn	11 10 37.6	-5.1
LDBN	**Lake De Bois**	**7.58**	**71**	Pn	Pn	11 09 24.8	-2.5
DHRN	**Dharma Camp**	**9.72**	**69**	Pn	Pn	11 09 54.8	-2.0
DHRN				Sn	Sn	11 11 35.4	-10
KUKN	**Kugluktuk,NWT**	**11.42**	**65**	Pn	Pn	11 10 17.2	-2.7
KUKN				Sn	Sn	11 12 17.1	-10
HPLN	**Hepburn Lake,**	**11.44**	**72**	Pn	Pn	11 10 17.1	-3.1
HPLN				Sn	Sn	11 12 15.6	-12

*ISN **10** 11:36:18.1±1.1, 38°.84N×43°.50E, h16km±139km, ML3.4*
*ATA **10** 11:36:20.6±1.4, 38°.68N×43°.40E, h5km±15km, ML3.9, MW3.9*
*ISK **10** 11:36:20.8, 38°.69N×43°.40E, h5km, ML3.1/10*
*DDA **10** 11:36:21.7, 38°.70N×43°.47E, h7km, Ml3.5*
*CSEM **10** 11:36:21.7±0.2, 38°.67N×43°.49E, h10km, ML3.1, Error ellipse: s-maj=6.2km s-min=4.0km az=105.0*

ISC 10 11:36:22.3±0.8, 38°.68N±0°.02×43°.45E±0°.02, h14km±5km, n70, σ1§44/101, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.10**	**210**	PG	**Pg**	**11 36 25.5**	**-0.1**
VANB	**Van**	**0.10**	**210**	*e*Pg	**Pg**	**11 36 25.5**	**-0.1**
TVAN	**Van**	**0.16**	**193**	*i* P	**Pg**	**11 36 25.8**	**-0.6**
TVAN				*i* S	**Sg**	**11 36 29.7**	**+0.6**
TVAN	**Van**	**0.16**	**193**	P	**Pg**	**11 36 25.8**	**-0.6**
TVAN				S	**Sg**	**11 36 29.7**	**+0.6**
VMUR	**Van-Muradiye**	**0.32**	**17**	*i* P	**Pb**	**11 36 28.8**	**-1.2**
VMUR				*i* S	**Sb**	**11 36 35.1**	**-0.1**
VMUR	**Van-Muradiye**	**0.32**	**17**	P	**Pb**	**11 36 28.8**	**-1.2**
VMUR				S	**Sb**	**11 36 35.1**	**-0.1**
ERCV	**ERCIS-VAN**	**0.35**	**345**	PG	**Pb**	**11 36 28.5**	**-2.0**
ERCV				SG	**Sb**	**11 36 34.6**	**-1.4**
ERCV	**ERCIS-VAN**	**0.35**	**345**	*e*Pg	**Pb**	**11 36 28.5**	**-2.0**
ERCV				*e*Sg	**Sb**	**11 36 34.6**	**-1.4**
GEVA	**Gevas**	**0.48**	**220**	*i* P	**Pg**	**11 36 30.5**	**-1.4**
GEVA				*e*S	**Sg**	**11 36 36.7**	**-1.7**
GEVA				IAML		11 36 39.9	
	comp=Z,600nm,0.7s						
GEVA	**Gevas**	**0.48**	**220**	*i* P	**Pg**	**11 36 30.6**	**-1.3**
GEVA				*i* S	**Sb**	**11 36 40.5**	**+0.7**
GEVA	**Gevas**	**0.48**	**220**	P	**Pg**	**11 36 30.6**	**-1.3**
GEVA				S	**Sb**	**11 36 40.5**	**+0.7**
ADCV	**BITLIS_Adilcev**	**0.58**	**283**	*i* P	**Pg**	**11 36 32.7**	**-1.1**
ADCV				*i* S	**Sb**	**11 36 42.2**	**-0.5**
ADCV	**BITLIS_Adilcev**	**0.58**	**283**	P	**Pg**	**11 36 32.7**	**-1.1**
ADCV				S	**Sb**	**11 36 42.2**	**-0.5**
CLDR	**Caldiran**	**0.59**	**38**	PG	**Pb**	**11 36 33.0**	**-1.6**
CLDR				SG	**Sb**	**11 36 43.2**	**+0.4**
CLDR	**Caldiran**	**0.59**	**38**	*i* P	**Pb**	**11 36 32.8**	**-1.7**
CLDR				*i* S	**Sb**	**11 36 41.7**	**-1.2**
CLDR	**Caldiran**	**0.59**	**38**	P	**Pb**	**11 36 32.8**	**-1.7**
CLDR	**Caldiran**	**0.59**	**38**	*e*Pg	**Pb**	**11 36 33.0**	**-1.6**
CLDR				S	**Sb**	**11 36 41.7**	**-1.2**
CLDR				*e*Sg	**Sb**	**11 36 43.2**	**+0.4**
TUTA	**Tutak**	**0.87**	**326**	*e*P	**Pg**	**11 36 37.7**	**-1.6**
TUTA				IAML		11 36 53.6	
	comp=Z,523nm,0.5s						
TUTA	**Tutak**	**0.87**	**326**	*i* P	**Pg**	**11 36 37.8**	**-1.6**
TUTA	**Tutak**	**0.87**	**326**	P	**Pg**	**11 36 37.8**	**-1.6**
AGRB	**Hanur-Agry**	**0.96**	**338**	PG	**Pb**	**11 36 40.2**	**-0.7**
AGRB				SG	**Sb**	**11 36 53.8**	**+0.2**
AGRB	**Hanur-Agry**	**0.96**	**338**	*e*Pg	**Pb**	**11 36 40.2**	**-0.7**
AGRB				*e*Sg	**Sb**	**11 36 53.8**	**+0.2**
GURO	**Guroymak-BITLI**	**1.12**	**264**	PN	**Pg**	**11 36 41.9**	**-2.1**
GURO	**Guroymak-BITLI**	**1.12**	**264**	*e*Pn	**Pg**	**11 36 41.9**	**-2.1**
HAKT	**HAKKARI**	**1.14**	**170**	*i* P	**Pg**	**11 36 43.0**	**-1.4**
HAKT				*i* S	**Sn**	**11 37 01.1**	**+1.4**
HAKT	**HAKKARI**	**1.14**	**170**	P	**Pg**	**11 36 43.0**	**-1.4**
HAKT				S	**Sn**	**11 37 01.1**	**+1.4**
EKAR	**Karacoban**	**1.23**	**298**	*e*P	**Pn**	**11 36 44.9**	**-0.4**
EKAR	**Karacoban**	**1.23**	**298**	*i* P	**Pn**	**11 36 45.9**	**+0.5**
EKAR	**Karacoban**	**1.23**	**298**	P	**Pn**	**11 36 45.8**	**+0.5**
YOVA	**Hakkari_Y`…kse**	**1.28**	**149**	*i* P	**Pn**	**11 36 45.2**	**-0.8**
YOVA	**Hakkari_Y`…kse**	**1.28**	**149**	P	**Pn**	**11 36 45.2**	**-0.8**
IGDI	**IGDIR**	**1.28**	**22**	*e*P	**Pg**	**11 36 45.9**	**-1.1**
IGDI				*i* Pg	**Pb**	**11 36 46.9**	**+0.6**
IGDI				*e*S	**Sn**	**11 37 04.6**	**+1.6**
IGDI				IAML		11 37 10.9	
	comp=Z,41nm,0.5s						
IGDI	**IGDIR**	**1.28**	**22**	*i* P	**Pg**	**11 36 46.5**	**-0.5**
IGDI				*i* S	**Sn**	**11 37 07.7**	**+4.7**
SRTM	**Siirt_Merkez**	**1.39**	**241**	*i* P	**Pg**	**11 36 48.2**	**-0.8**
SRTM				*i* S	**Sg**	**11 37 07.5**	**+0.4**
SRTM	**Siirt_Merkez**	**1.39**	**241**	P	**Pg**	**11 36 48.2**	**-0.8**
SRTM				S	**Sg**	**11 37 07.5**	**+0.4**
EATA	**Eleskirt**	**1.39**	**328**	*e*P	**Pg**	**11 36 47.5**	**-1.7**
EATA				*e*S	**Sn**	**11 37 07.2**	**+1.0**
EATA	**Eleskirt**	**1.39**	**328**	*i* P	**Pg**	**11 36 47.6**	**-1.7**
EATA				*i* S	**Sn**	**11 37 07.8**	**+1.6**
EATA	**Eleskirt**	**1.39**	**328**	P	**Pg**	**11 36 47.6**	**-1.7**
EATA				S	**Sn**	**11 37 07.8**	**+1.6**
SIRT	**Sirnak**	**1.43**	**214**	PN	**Pg**	**11 36 48.8**	**-0.9**
SIRT				SN	**Sg**	**11 37 09.2**	**+0.9**
SIRT	**Sirnak**	**1.43**	**214**	*e*Pn	**Pg**	**11 36 48.8**	**-0.9**
SIRT				*e*Sn	**Sg**	**11 37 09.2**	**+0.9**
TASB	**TASBURUN-IGDIR**	**1.44**	**25**	PN	**Pg**	**11 36 49.2**	**-0.8**
TASB	**TASBURUN-IGDIR**	**1.44**	**25**	*e*Pn	**Pg**	**11 36 49.2**	**-0.8**
SIRN	**S¨¨rnak**	**1.44**	**215**	*i* P	**Pg**	**11 36 49.9**	**-0.2**
SIRN	**S¨¨rnak**	**1.44**	**215**	P	**Pg**	**11 36 49.9**	**-0.2**
VRTB	**Varto-Mus**	**1.63**	**288**	PN	**Pb**	**11 36 51.2**	**-1.1**
VRTB	**Varto-Mus**	**1.63**	**288**	*e*Pn	**Pb**	**11 36 51.2**	**-1.1**
DIGO	**Kars**	**1.73**	**358**	*e*P	**Pg**	**11 36 53.9**	**-1.8**
DIGO	**Kars**	**1.73**	**358**	*i* P	**Pg**	**11 36 53.7**	**-1.9**
DIGO				*i* S	**Sg**	**11 37 22.4**	**+4.3**
DIGO	**Kars**	**1.73**	**358**	P	**Pg**	**11 36 53.7**	**-1.9**
HOMI	**Horasan**	**1.81**	**319**	*e*P	**Pb**	**11 36 54.3**	**-1.2**
HOMI				*e*S	**Sg**	**11 37 22.8**	**+2.0**
HOMI				IAML		11 37 26.6	
	comp=Z,45nm,0.6s						
HOMI	**Horasan**	**1.81**	**319**	*i* P	**Pb**	**11 36 54.7**	**-0.8**
SVAN	**Silvan-Diyarba**	**1.85**	**254**	PN	**Pb**	**11 36 54.5**	**-1.5**
SVAN	**Silvan-Diyarba**	**1.85**	**254**	*i* P	**Pg**	**11 37 01.3**	**+3.5**
SVAN	**Silvan-Diyarba**	**1.85**	**254**	*e*Pn	**Pb**	**11 36 54.5**	**-1.5**
BTMN	**Batman**	**1.89**	**246**	*i* P	**Pn**	**11 36 52.7**	**-1.6**
BTMN	**Batman**	**1.89**	**246**	P	**Pn**	**11 36 52.7**	**-1.6**
EAK	**Akyaka**	**2.00**	**3**	*e*P	**Pg**	**11 37 00.1**	**-0.8**
ERZM	**Erzurum**	**2.03**	**308**	*e*P	**Pg**	**11 36 59.3**	**-2.0**
SENK	**Senkaya-Erzuru**	**2.06**	**336**	PN	**Pb**	**11 36 57.9**	**-1.8**
SENK	**Senkaya-Erzuru**	**2.06**	**336**	*e*Pn	**Pb**	**11 36 57.9**	**-1.8**
ECAT	**Cat-ERZURUM**	**2.14**	**296**	*e*P	**Pb**	**11 37 00.7**	**-0.3**
BNGB	**Bing¨¶l**	**2.19**	**279**	PN	**Pn**	**11 36 59.3**	**+0.9**
BINT	**Bingol**	**2.32**	**276**	*e*Pn	**Pn**	**11 36 59.3**	**-1.0**
KOPT	**Kop Dagi**	**2.65**	**301**	*e*P	**Pb**	**11 37 10.3**	**+0.5**
KOPT	**Kop Dagi**	**2.65**	**301**	*i* P	**Pg**	**11 37 11.0**	**-2.2**
DIY	**Diyarbakir**	**2.66**	**254**	*e*Pn	**Pn**	**11 37 06.5**	**+1.6**
MAZI	**Mazidag**	**2.67**	**244**	PN	**Pn**	**11 37 06.2**	**+1.1**
MAZI	**Mazidag**	**2.67**	**244**	*e*Pn	**Pn**	**11 37 06.2**	**+1.1**
DYBB	**Diyarbakir**	**2.71**	**255**	PN	**Pn**	**11 37 06.5**	**+1.0**
BAYB	**BAYBURT**	**2.93**	**303**	*e*P	**Pb**	**11 37 13.6**	**-0.9**

*NIED **10** 11:45:00, 39°.10N×142°.40E, h26km, Mw3.7 Best double couple: M0 3.65000×10^14 NP1:φs320.00000°, δ28.00000°, λ-136.00000°. NP2:φs190.00000°, δ71.00000°, λ-69.00000°.*
*ISCJB **10** 11:45:36.0±1.1, 39°.11N±0°.03×142°.42E±0°.06, h29km±6km, mb3.9/14, MS3.4/4, Error ellipse: s-maj=8.6km s-min=5.4km az=16.0*
*JMA **10** 11:45:36.6±0.1, 39°.14N×142°.40E, h29km±1km, M3.8*
JMA Felt I J1.
*IDC **10** 11:45:40.5±2.5, 39°.07N×142°.37E, h50km±23km, mb3.7/13, mb1 3.8/16, mb1mx3.6/65, mbtmp4.0/16, ML3.6/3, MS3.1/6, Ms1 3.1/6, ms1mx2.6/59, Error ellipse: s-maj=20.7km s-min=13.2km az=91.0*

ISC 10 11:45:35.7±1.9, 39°.12N±0°.04×142°.36E±0°.07, h13km±11km, n38, σ1§26/38, mb4.1/14, MS3.5/4, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**0.54**	**266**	P	**Pn**	**11 45 48.0**	**-1.1**
OFUJ				S	**Sb**	**11 45 55.7**	**+1.1**
MIYJ	**Miyakonagasawa**	**0.61**	**317**	P	**Pb**	**11 45 48.6**	**+0.3**
MIYJ				*e*S	**Sb**	**11 45 57.1**	**+0.2**
JOM	**Ohasama**	**0.90**	**293**	P	**Pn**	**11 45 53.7**	**-0.3**
JOM				S	**Sb**	**11 46 05.8**	**+0.8**
JTH	**Tanohata**	**0.90**	**335**	P	**Pg**	**11 45 52.6**	**-0.5**
JMK	**Ichinoseki**	**0.90**	**259**	P	**Pn**	**11 45 53.6**	**-0.5**
JMK				S	**Sb**	**11 46 05.9**	**+0.8**
JIO	**Ouri**	**1.03**	**230**	P	**Pb**	**11 45 54.9**	**-0.5**
JIO				S	**Sb**	**11 46 08.0**	**-0.9**
JKZ	**Kuzumaki**	**1.17**	**318**	P	**Pb**	**11 45 57.7**	**-0.1**
JKZ				*e*S	**Sb**	**11 46 13.0**	**+0.1**
JRG	**Rokugo**	**1.36**	**282**	P	**Pb**	**11 46 01.1**	**0.0**
JRG				S	**Sg**	**11 46 19.1**	**-0.6**
JANG	**Nango**	**1.41**	**333**	P	**Pn**	**11 46 00.5**	**-0.5**
JANG				*e*S	**Sn**	**11 46 18.3**	**-1.2**
MAT	**Matsushiro**	**4.17**	**233**	P	**Pn**	**11 46 42.6**	**+3.5**
MAT				*e*S	**Sn**	**11 47 27.3**	**-0.5**
MJAR	**Matsushiro Arr**	**4.17**	**233**	P	**Pn**	**11 46 42.1**	**+3.0**
	1.8nm,0.3s,baz=41,slow=10.0,SNR=36						
ASAJ	**Asahikawa**	**4.99**	**2**	P	**Pn**	**11 46 52.7**	**+2.4**
	2.2nm,0.3s,baz=231,slow=9.4,SNR=27						
ASAJ				S	**Sn**	**11 47 47.0**	**-0.8**
	1.3nm,0.3s,baz=233,slow=15,SNR=3.1						
JHJ	**Hachijo jima 2**	**6.34**	**200**	P	**Pn**	**11 47 09.9**	**+1.0**
	5.3nm,0.3s,baz=325,slow=21,SNR=12						
JHJ				S	**Sn**	**11 48 17.9**	**-3.3**
	7.0nm,0.3s,baz=90,slow=20,SNR=2.9						
JNU	**Nakatsue**	**11.04**	**241**	LR	LR	11 52 41.3	
	comp=Z,36nm,20.6s,baz=299,slow=38						
KSRS	**Korea Array**	**11.47**	**266**	P	Pn	11 48 25.2	+6.1
	0.2nm,0.3s,baz=76,slow=13,SNR=3.3						
KSRS				LR	LR	11 52 24.7	
	comp=Z,19nm,18.8s,baz=64,slow=35						
SONM	**Songino Array**	**27.30**	**300**	P	**P**	**11 51 21.1**	**+1.1**
	0.4nm,0.5s,baz=109,slow=10,SNR=2.8						
H11N2	**WAKE ISLAND Hy**	**28.66**	**125**	T	T	12 21 52.7	
	baz=318,slow=75,SNR=626						
H11N1	**WAKE ISLAND Hy**	**28.67**	**125**	T	T	12 21 53.9	
	baz=318,slow=75,SNR=612						
H11N3	**WAKE ISLAND Hy**	**28.68**	**125**	T	T	12 21 54.1	
	baz=318,slow=75,SNR=743						
H11S1	**WAKE ISLAND Hy**	**29.45**	**127**	T	T	12 22 50.1	
	baz=319,slow=76,SNR=45						
H11S3	**WAKE ISLAND Hy**	**29.45**	**127**	T	T	12 22 51.5	
	baz=319,slow=76,SNR=50						
H11S2	**WAKE ISLAND Hy**	**29.47**	**127**	T	T	12 22 52.5	
	baz=319,slow=76,SNR=40						
ZALV	**Zalesovo Beam**	**41.09**	**311**	P	**P**	**11 53 19.5**	**+0.6**
	2.1nm,0.5s,baz=98,slow=8.8,SNR=7.2						
ZALV				LR	LR	12 09 51.4	
	comp=Z,22nm,18.3s,baz=70,slow=35						
MKAR	**Makanchi Array**	**43.67**	**300**	P	**P**	**11 53 40.6**	**+0.5**
	1.5nm,0.7s,baz=82,slow=10,SNR=7.2						
KURBB	**Kurchatov Arra**	**45.33**	**307**	P	**P**	**11 53 53.5**	**+0.3**
	3.7nm,0.5s,baz=81,slow=8.2,SNR=16						
ILAR	**Eielson Array**	**47.34**	**33**	P	**P**	**11 54 09.4**	**+0.6**
	0.4nm,0.6s,baz=265,slow=6.0,SNR=6.9						
BVAR	**Borovoye Array**	**49.74**	**311**	P	**P**	**11 54 27.8**	**+0.4**
	1.5nm,0.5s,baz=94,slow=8.8,SNR=6.3						
**

MK31	**Makanchi Array**	**46.83**	**346**	*e*P	**P**	**12 02 37.5 +0.4**
MK32	**Makanchi Array**	**46.83**	**346**	*e*P	**P**	**12 02 38.4 +1.3**
MKAR	**Makanchi Array**	**46.83**	**346**	P	**P**	**12 02 38.4 +1.3**
	2.8nm,0.5s,baz=161,slow=8.1,SNR=26					
MKAR	**Makanchi Array**	**46.83**	**346**	*e*P	**P**	**12 02 37.4 +0.3**
	26nm,0.6s					
KURBB	**Kurchatov Arra**	**51.32**	**345**	P	**P**	**12 03 12.3 +1.0**
	1.0nm,0.5s,baz=162,slow=7.0,SNR=4.9					
KURK	**Kurchatov**	**51.38**	**345**	*e*P		
ZALV	**Zalesovo Beam**	**53.15**	**351**	P	**P**	**12 03 25.1 +0.2**
	1.6nm,0.3s,baz=182,slow=8.4,SNR=7.2					
ZALV	**Zalesovo Beam**	**53.15**	**351**	*e*P	**P**	**12 03 25.6 +0.7**
ZAA1	**Zalesovo Array**	**53.16**	**351**	*e*P	**P**	**12 03 25.1 +0.1**
STKA	**Stephens Creek**	**53.74**	**132**	P	**P**	**12 03 27.1 -2.6**
	1.7nm,0.8s,baz=276,slow=19,SNR=2.8					
STKA	**Stephens Creek**	**53.74**	**132**	*e*P	**P**	**12 03 27.1 -2.6**
	1.4nm,1.4s					
AB07	**Akbulak array**	**57.08**	**332**	*e*P	**P**	**12 03 53.9 +0.5**
AB06	**Akbulak array**	**57.09**	**332**	*e*P	**P**	**12 03 53.9 +0.5**
AB08	**Akbulak array**	**57.09**	**332**	*e*P	**P**	**12 03 53.3 -0.2**
AB03	**Akbulak array**	**57.09**	**332**	*e*P	**P**	**12 03 53.9 +0.5**
AB01	**Akbulak array**	**57.10**	**332**	*e*P	**P**	**12 03 54.1 +0.6**
AB02	**Akbulak array**	**57.10**	**332**	*e*P	**P**	**12 03 54.0 +0.5**
ABKAR	**Akbulak array**	**57.10**	**332**	*e*P	**P**	**12 03 54.2 +0.7**
AB04	**Akbulak array**	**57.10**	**332**	*e*P	**P**	**12 03 53.8 +0.2**
AB05	**Akbulak array**	**57.11**	**332**	*e*P	**P**	**12 03 54.0 +0.5**
AB09	**Akbulak array**	**57.11**	**332**	*e*P	**P**	**12 03 54.2 +0.6**
FIA0	**FINESS Array S**	**79.58**	**332**	*e*P	**P**	**12 06 14.2 +0.2**
FINES	**FINESS Array B**	**79.58**	**332**	P	**P**	**12 06 14.2 +0.2**
	3.0nm,1.1s,baz=125,slow=9.2,SNR=3.9					
SYO	**Syowa Base**	**80.32**	**198**	⇓*e*X	P	12 06 10.0 -7.8
ARA0	**ARCESS Array S**	**82.12**	**340**	*e*P	**P**	**12 06 27.6 +0.2**
ARCES	**ARCESS Array B**	**82.12**	**340**	P	**P**	**12 06 27.6 +0.2**
	1.9nm,0.8s,baz=54,slow=6.2,SNR=5.1					

BUC 10 11:57:11.3±0.3, 45°86N×25°90E, h89km±4km, MD2.5/2, 4C-6D, Error ellipse: s-maj=8.7km s-min=1.2km az=338.0, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLR	**Muntele Rosu**	**0.37**	**175**	⇓*i* P	Pn	11 57 25.5	+0.3
MLR	**Muntele Rosu**	**0.37**	**175**	⇓*i* P	Pn	11 57 25.5	+0.3
MLR				*i* S	Sn	11 57 35.8	+0.3
PLOR	**Plostina**	**0.52**	**90**	⇓*i* P	Pn	11 57 26.3	+0.1
PLOR	**Plostina**	**0.52**	**90**	⇓*i* P	Pn	11 57 26.3	+0.1
PLOR				*i* S	Sn	11 57 37.6	+0.3
VRI	**Vrincioaia**	**0.58**	**89**	⇓*i* P	Pn	11 57 26.9	+0.3
VRI	**Vrincioaia**	**0.58**	**89**	⇓*i* P	Pn	11 57 26.9	+0.3
VOIR		**0.73**	**235**	⇑*i* P	Pn	11 57 28.4	+0.3
VOIR		**0.73**	**235**	⇑*i* P	Pn	11 57 28.4	+0.3
VOIR				*i* S	Sn	11 57 41.1	+0.4
ARR	**Arges**	**1.02**	**242**	⇑*i* P	Pn	11 57 31.6	+0.4
ARR	**Arges**	**1.02**	**242**	⇑*i* P	Pn	11 57 31.6	+0.4

*NNC **10** 12:24:51.6±4.8, 41°.44N×83°.53E, h0km, mb3.7, mpv3.3, Error ellipse: s-maj=32.3km s-min=15.3km az=141.0*
*SOME **10** 12:24:53.7, 41°.30N×83°.22E, h5km*
ISC 10 12:24:53.5±2.6, 41°4N±0°.1×83°41E±0°.09, h10km, n17, σ3°54/30, 9C-5D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDGK	**Podgornoye**	**3.47**	**304**	⇑Pg	**Pb**	**12 25 52.5**	**-2.6**
	5.1nm,0.4s						
PDGK				⇓Sn	**Sn**	**12 26 32.1**	**+3.3**
	16nm,0.5s						
PDGK				⇑Lg	Lg	12 26 45.1	
	38nm,0.5s						
UZB	**Uzymbulak**	**3.68**	**299**	*e*P	**Pg**	**12 26 01.1**	**-2.8**
	5.9nm,0.4s						
UZB				*e*S	**Sg**	**12 26 49.6**	**-2.0**
	51nm,0.7s						
DJR	**Jarkent**	**3.93**	**319**	*e*P	**Pg**	**12 26 08.6**	**-0.2**
	14nm,0.5s						
DJR				*e*S	**Sg**	**12 27 02.9**	**+3.1**
	18nm,0.8s						
KURS	**Kuram**	**4.39**	**300**	*e*P	**Pg**	**12 26 16.2**	**-1.3**
	4.0nm,0.5s						
KURS				⇓*e*S	**Sg**	**12 27 15.6**	**+1.3**
	17nm,1.1s						
KAPS	**Kapalarasan**	**4.85**	**324**	*e*P	**Pb**	**12 26 21.2**	**+2.6**
	3.6nm,0.3s						
KAPS				*e*S	**Sg**	**12 27 24.0**	**-5.2**
	10.0nm,0.5s						
ARXS	**Arharly**	**4.96**	**306**	*e*P	**Pg**	**12 26 25.7**	**-2.7**
	3.2nm,0.5s						
ARXS				*e*S	**Sg**	**12 27 31.9**	**-0.8**
	21nm,0.7s						
MDOK	**Medeo**	**5.03**	**292**	Pg	**Pg**	**12 26 27.6**	**-2.1**
	4.3nm,0.6s						
MDOK				⇓Lg	Lg	12 27 34.0	
	28nm,1.1s						
MDOK	**Medeo**	**5.03**	**292**	*e*P	**Pb**	**12 26 22.9**	**+1.3**
	2.5nm,0.4s						
MDOK				*e*S	**Sb**	**12 27 27.8**	**+5.7**
	10nm,0.8s						
TNSS	**Tian-Shan**	**5.06**	**291**	*e*P	**Pb**	**12 26 24.8**	**+2.4**
	3.9nm,0.4s						
TNSS				*e*S	**Sg**	**12 27 30.7**	**-5.3**
	15nm,0.7s						
IZV	**Izvestkoviy**	**5.29**	**290**	*e*P	**Pg**	**12 26 30.1**	**-4.8**
	5.2nm,0.5s						
IZV				*e*S	**Sg**	**12 27 39.7**	**-3.8**
	14nm,0.3s						
CHKK	**Chushkaly**	**5.32**	**299**	*e*P	**Pb**	**12 26 29.4**	**+2.9**
	1.6nm,0.4s						
CHKK				*e*S	**Sg**	**12 27 38.2**	**-6.0**
	14nm,0.3s						
MK31	**Makanchi Array**	**5.42**	**352**	⇓Pg	**Pg**	**12 26 33.1**	**-4.1**
	0.6nm,0.3s,baz=170,slow=15,SNR=10						
MK31				⇑Sn	**Sn**	**12 27 17.8**	**+1.1**
	1.0nm,0.4s,baz=144,slow=43,SNR=4.0						
MK31				⇑Lg	Lg	12 27 42.8	
	6.3nm,0.5s,baz=171,slow=29,SNR=7.6						
MAKZ	**Makanchi**	**5.47**	**350**	⇑Pg	**Pb**	**12 26 29.5**	**+0.4**
	1.7nm,0.5s						
MAKZ				⇑Sn	**Sn**	**12 27 19.8**	**+1.8**
	3.0nm,0.5s						
MAKZ				⇑Lg	Lg	12 27 45.5	
	6.3nm,0.7s						
KUU	**Kurty**	**5.76**	**298**	*e*P	**Pg**	**12 26 39.4**	**-4.4**
	2.8nm,0.9s						
KUU				*e*S	**Sg**	**12 27 55.9**	**-2.5**
	9.8nm,0.2s						
DGS	**Degeres**	**5.94**	**290**	*e*P	**Pb**	**12 26 41.1**	**+3.9**
	4.0nm,0.6s						
DGS				*e*S	**Sg**	**12 27 58.4**	**-5.8**
	14nm,0.7s						
TKM2	**Tokmak 2**	**5.99**	**287**	⇑Pn	**Pn**	**12 26 23.8**	**+1.4**
	0.7nm,0.3s						
TKM2				⇓Lg	Lg	12 28 02.1	
	8.6nm,0.7s						
AAK	**Ala-Archa**	**6.75**	**283**	⇑Lg	Lg	12 28 26.4	
	6.5nm,0.7s						

*ISCJB **10** 12:25:14.1±1.5, 38°.65N±0°.06×43°.7E±0°.1, h39km±11km, Error ellipse: s-maj=15.4km s-min=6.9km az=35.6*
*ISK **10** 12:25:15.1, 38°.78N×43°.51E, h5km, ML1.9/3*
*CSEM **10** 12:25:16.5±0.3, 38°.78N×43°.52E, h5km, ML1.9, Error ellipse: s-maj=8.4km s-min=4.8km az=127.0*
*DDA **10** 12:25:16.7, 38°.78N×43°.51E, h7km, Ml2.5*
ISC 10 12:25:15.5±1.3, 38°73N±0°.04×43°57E±0°.05, h29km±8km, n16, σ0°77/30, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.19**	**227**	PG	**Pb**	**12 25 21.5**	**-0.2**
VANB				SG	**Sb**	**12 25 27.1**	**+1.2**
VANB	**Van**	**0.19**	**227**	*e*Pg	**Pb**	**12 25 21.5**	**-0.2**
VANB				*e*Sg	**Sb**	**12 25 27.1**	**+1.2**
TVAN	**Van**	**0.23**	**213**	*i* P	**Pb**	**12 25 21.4**	**-0.8**
TVAN				*i* S	**Sb**	**12 25 27.3**	**+0.4**
TVAN	**Van**	**0.23**	**213**	P	**Pb**	**12 25 21.5**	**-0.8**
TVAN				S	**Sb**	**12 25 27.3**	**+0.4**
VMUR	**Van-Muradiye**	**0.26**	**1**	*i* P	**Pb**	**12 25 21.6**	**-1.0**
VMUR				*i* S	**Sb**	**12 25 27.4**	**0.0**
VMUR	**Van-Muradiye**	**0.26**	**1**	P	**Pb**	**12 25 21.6**	**-1.0**
VMUR				S	**Sb**	**12 25 27.4**	**0.0**
CLDR	**Caldiran**	**0.50**	**33**	PG	**Pb**	**12 25 25.6**	**-0.5**
CLDR				SG	**Sb**	**12 25 33.9**	**+0.7**
CLDR	**Caldiran**	**0.50**	**33**	*i* P	**Pb**	**12 25 25.3**	**-0.8**
CLDR				*i* S	**Sb**	**12 25 34.6**	**+1.4**
CLDR	**Caldiran**	**0.50**	**33**	*e*Pg	**Pb**	**12 25 25.3**	**-0.8**
CLDR	**Caldiran**	**0.50**	**33**	*e*Pg	**Pb**	**12 25 25.6**	**-0.5**
CLDR				*e*Sg	**Sb**	**12 25 33.9**	**+0.7**
CLDR				S	**Sb**	**12 25 34.6**	**+1.4**
GEVA	**Gevas**	**0.57**	**224**	*i* P	Pb	12 25 23.8	-3.5
GEVA				*i* S	**Sb**	**12 25 35.5**	**+0.2**
GEVA	**Gevas**	**0.57**	**224**	P	Pb	12 25 23.8	-3.5
GEVA				S	**Sb**	**12 25 35.5**	**+0.2**
ADCV	**BITLIS_Adilcev**	**0.66**	**277**	*i* P	**Pb**	**12 25 28.4**	**-0.3**
ADCV				*i* S	**Sb**	**12 25 38.0**	**+0.3**
ADCV	**BITLIS_Adilcev**	**0.66**	**277**	P	**Pb**	**12 25 28.4**	**-0.3**
ADCV				S	**Sb**	**12 25 38.0**	**+0.3**
AGRB	**Hanur-Agry**	**0.96**	**332**	PG	**Pn**	**12 25 33.2**	**0.0**
AGRB				SG	**Sb**	**12 25 47.1**	**+1.0**
AGRB	**Hanur-Agry**	**0.96**	**332**	*e*Pg	**Pn**	**12 25 33.2**	**0.0**
AGRB				*e*Sg	**Sb**	**12 25 47.1**	**+1.0**

*IDC **10** 12:29:05.8±1.8, 51°.61N×176°.63E, h0km, mb3.6/10, mb1 3.8/12, mb1mx3.6/81, mbtmp3.7/12, ML3.3/2, MS3.8/2, Ms1 3.8/2, ms1mx2.6/62, Error ellipse: s-maj=51.7km s-min=16.3km az=2.0*
*ISCJB **10** 12:29:07.6±1.0, 51°.4N±0°.2×176°.57E±0°.09, h31km, mb3.7/13, MS3.9/2, Error ellipse: s-maj=27.0km s-min=7.7km az=0.7*
*NEIC **10** 12:29:11.5±1.8, 51°.54N×176°.59E, h43km±14km, mb3.9/3, Error ellipse: s-maj=27.5km s-min=8.4km az=176.0*
ISC 10 12:29:10.2±1.4, 51°5N±0°.3×176°63E±0°.08, h31km, n31, σ1°07/23, mb3.8/13, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMY	**Shemya**	**1.97**	**309**	*e*Pn	**Pn**	**12 29 41.9**	**+0.6**
PEA1	**Petropavlovsk-**	**11.69**	**285**	*e*Pn	**Pn**	**12 31 55.5**	**+0.8**
PETK	**Petropavlovsk-**	**11.69**	**285**	Pn	**Pn**	**12 31 55.5**	**+0.8**
	0.2nm,0.3s,baz=92,slow=16,SNR=12						
PETK				LR	LR	12 36 37.9	
	comp=Z,7.6nm,19.8s,baz=105,slow=39						
KDAK	**Kodiak Island**	**18.77**	**58**	P	**P**	**12 33 26.2**	**-0.2**
	0.5nm,0.3s,baz=284,slow=12,SNR=7.2						
DHY	**Denali Highway**	**22.29**	**45**	*e*P	**P**	**12 34 04.3**	**-0.4**
	10nm,1.5s						
KLU	**Klutina**	**22.63**	**49**	*e*P	**P**	**12 34 10.1**	**+1.9**
	2.5nm,0.6s						
ILAR	**Eielson Array**	**22.96**	**41**	P	**P**	**12 34 09.5**	**-2.1**
	0.2nm,0.4s,baz=247,slow=8.8,SNR=8.8						
DAWY	**Dawson**	**25.98**	**44**	*e*P	**P**	**12 34 42.0**	**+2.2**
	2.9nm,0.8s						
H11N2	**WAKE ISLAND Hy**	**32.64**	**197**	T	T	13 10 34.6	
	baz=11,slow=76,SNR=14						
H11N3	**WAKE ISLAND Hy**	**32.65**	**197**	T	T	13 10 35.2	
	baz=11,slow=76,SNR=11						
H11N1	**WAKE ISLAND Hy**	**32.66**	**197**	T	T	13 10 35.7	
	baz=11,slow=76,SNR=9.9						
H11S1	**WAKE ISLAND Hy**	**33.87**	**197**	T	T	13 12 04.5	
	baz=16						
H11S3	**WAKE ISLAND Hy**	**33.88**	**197**	T	T	13 12 05.1	
	baz=16						
H11S2	**WAKE ISLAND Hy**	**33.88**	**197**	T	T	13 12 04.5	
	baz=16						
YKB5	**Yellowknife Ar**	**37.19**	**46**	*e*P	**P**	**12 36 18.3**	**+0.3**
YKA	**Yellowknife Ar**	**37.19**	**46**	P	**P**	**12 36 18.3**	**+0.3**
	0.3nm,0.5s,baz=271,slow=8.4,SNR=9.8						
SONA0	**Songino Array**	**44.00**	**294**	*e*P	**P**	**12 37 13.2**	**-1.3**
SONM	**Songino Array**	**44.00**	**294**	P	**P**	**12 37 13.2**	**-1.3**
	0.3nm,0.6s,baz=67,slow=8.0,SNR=4.3						
NV01	**Mina Array Sit**	**46.36**	**80**	*e*P	**P**	**12 37 33.2**	**-0.3**
NVAR	**Mina Array Bea**	**46.36**	**80**	P	**P**	**12 37 33.2**	**-0.3**
	0.2nm,0.5s,baz=302,slow=8.4,SNR=2.5						
SPITS	**Spitsbergen Ar**	**50.00**	**355**	P	**P**	**12 38 00.2**	**-0.6**
	5.9nm,0.9s,baz=20,slow=8.0,SNR=5.8						
KURK	**Kurchatov**	**56.81**	**311**	*e*P	**P**	**12 38 52.3**	**+1.2**
KURBB	**Kurchatov Arra**	**56.91**	**311**	P	**P**	**12 38 52.3**	**+0.5**
	0.7nm,0.7s,baz=45,slow=6.7,SNR=6.2						
MK32	**Makanchi Array**	**57.66**	**306**	*e*P	**P**	**12 38 56.9**	**-0.3**
MKAR	**Makanchi Array**	**57.66**	**306**	P	**P**	**12 38 56.9**	**-0.3**
	0.1nm,0.3s,baz=62,slow=6.1,SNR=2.9						
BVAR	**Borovoye Array**	**58.88**	**317**	P	**P**	**12 39 06.7**	**+1.1**
	1.6nm,0.4s,baz=53,slow=6.6,SNR=13						
LTX	**Lajitas**	**61.44**	**78**	*e*P	**P**	**12 39 24.0**	**+0.4**
TXAR	**Lajitas Array**	**61.44**	**78**	P	**P**	**12 39 24.0**	**+0.4**
	0.2nm,0.4s,baz=307,slow=6.0,SNR=6.3						
AKTO	**Aktyubinsk**	**65.86**	**322**	P	**P**	**12 39 51.3**	**-1.0**
	0.6nm,0.3s,baz=53,slow=10,SNR=4.0						
BATI	**Baumata**	**76.53**	**234**	LR	LR	13 07 47.3	
	comp=Z,160nm,21.3s,baz=24,slow=30						
MMAI	**Mount Meron Ar**	**89.19**	**328**	LR	LR	13 29 32.6	
	comp=Z,14nm,18.0s,baz=330,slow=41						

IDC 10 12:43:46.7±10.0, 3°89S×153°.14E, h137km±67km, mb2.8/2, mb1 3.2/3, mb1mx2.8/48, mbtmp3.4/3, Error ellipse: s-maj=151.9km s-min=62.1km az=120.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**8.08**	**227**	P	Pn	12 45 41.9	+0.7
	1.2nm,0.3s,baz=18,slow=6.4,SNR=4.5						
PMG				S	Sn	12 47 10.2	-0.9
	0.4nm,0.3s,baz=254,slow=18,SNR=2.2						
WRA	**Warramunga Arr**	**24.30**	**227**	P	P	12 48 52.5	+0.9
	0.7nm,0.5s,baz=54,slow=9.9,SNR=9.2						
ASAR	**Alice Springs**	**27.05**	**222**	P	P	12 49 16.0	-0.4
	0.1nm,0.4s,baz=53,slow=9.0,SNR=4.8						
TORD	**Torodi Ar. Bea**	**150.33**	**290**	PKPbc	PKPbc	13 03 21.9	-1.0
	0.5nm,1.0s,baz=113,slow=3.3,SNR=3.3						

*IDC **10** 12:53:20.7±1.1, 5°.02S×152°.94E, h0km, mb3.7/12, mb1 3.9/13, mb1mx3.7/45, mbtmp3.7/13, ML2.0/1, MS3.2/3, Ms1 3.2/3, ms1mx2.7/44, Error ellipse: s-maj=40.7km s-min=17.6km az=114.0*
*ISCJB **10** 12:53:25.7±0.9, 5°.1S±0°.1×152°.7E±0°.2, h43km, mb3.6/12, MS3.5/2, Error ellipse: s-maj=32.4km s-min=11.7km az=29.9*
ISC 10 12:53:27.3±1.1, 5°1S±0°.2×152°7E±0°.2, h43km, n15, σ1°21/15, mb3.7/12, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.98**	**232**	Pn	**Pn**	**12 55 06.6**	**-0.5**
	1.3nm,0.3s,baz=9.6,slow=6.1,SNR=3.9						
PMG				Sn	**Sn**	**12 56 23.4**	**-1.9**
	1.0nm,0.3s,baz=338,slow=19,SNR=4.2						
PMG				LR	LR	12 58 16.0	
	comp=Z,51nm,18.0s,baz=45,slow=41						
SIJI	**Sorong**	**21.81**	**280**	LR	LR	13 06 57.9	
	comp=Z,201nm,20.6s,baz=222,slow=37						
WRA	**Warramunga Arr**	**23.19**	**229**	P	**P**	**12 58 30.6**	**0.0**
	0.5nm,0.5s,baz=54,slow=11,SNR=3.6						
ASAR	**Alice Springs**	**25.88**	**222**	P	**P**	**12 58 56.6**	**+1.2**
	0.7nm,0.7s,baz=57,slow=8.8,SNR=7.5						
STKA	**Stephens Creek**	**28.62**	**200**	P	**P**	**12 59 21.3**	**+1.5**
	1.4nm,0.8s,baz=22,slow=5.4,SNR=2.4						
CMAR	**Chiang Mai Arr**	**57.91**	**295**	P	**P**	**13 03 16.9**	**+1.4**
	0.6nm,0.5s,baz=108,slow=5.1,SNR=6.4						
PETK	**Petropavlovsk-**	**58.12**	**4**	P	**P**	**13 03 16.4**	**0.0**
	1.0nm,0.5s,baz=156,slow=6.3,SNR=7.5						
SONM	**Songino Array**	**66.51**	**328**	P	**P**	**13 04 14.0**	**+1.2**
	0.3nm,0.4s,baz=130,slow=3.6,SNR=3.3						
MKAR	**Makanchi Array**	**80.47**	**319**	P	**P**	**13 05 36.2**	**+1.3**
	0.1nm,0.5s,baz=99,slow=9.5,SNR=2.7						
ZALV	**Zalesovo Beam**	**81.33**	**326**	P	**P**	**13 05 38.6**	**-0.6**
	0.5nm,0.4s,baz=111,slow=7.9,SNR=3.1						
ILAR	**Eielson Array**	**82.45**	**22**	P	**P**	**13 05 43.6**	**-1.2**
	1.0nm,0.9s,baz=248,slow=5.4,SNR=9.1						
KURBB	**Kurchatov Arra**	**83.96**	**322**	P	**P**	**13 05 52.5**	**-0.5**
	0.2nm,0.5s,baz=109,slow=5.3,SNR=3.0						
BVAR	**Borovoye Array**	**89.41**	**323**	P	**P**	**13 06 18.7**	**-0.8**
	0.5nm,0.5s,baz=84,slow=5.7,SNR=4.4						
BVAR				LR	LR	13 46 28.3	
	comp=Z,18nm,20.7s,baz=137,slow=36						
YKA	**Yellowknife Ar**	**95.72**	**28**	P	**P**	**13 06 47.2**	**-1.2**
	0.2nm,0.8s,baz=262,slow=4.7,SNR=3.1						
TORD	**Torodi Ar. Bea**	**150.30**	**288**	PKPbc	**PKPbc**	**13 13 14.3**	**-0.7**
	0.5nm,0.3s,baz=81,slow=2.3,SNR=7.8						

IDC 10 12:54:53.2±652.0, 47°41N×47°98E, h0km, Error ellipse: s-maj=214.9km s-min=145.6km az=51.0, Ukraine-Moldova-Southwestern Russia region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I31KZ	**AKTYUBINSK INF**	**7.27**	**62**	*i*		13 39 20.0	
	baz=250,slow=325,SNR=0.9						
I43RU	**DUBNA INFRASON**	**11.42**	**329**	*i*		14 08 30.0	
	baz=141,slow=329,SNR=0.4						
I34MN	**SONGINO INFRAS**	**38.57**	**67**	*i*		17 05 30.0	
	baz=293,slow=326,SNR=0.4						

*BJI **10** 13:00:34.5, 0°.93S×125°.66E, h51km, mb4.7/20, mB4.9/14, Ms4.6/5, Ms7 4.3/5*
*IDC **10** 13:00:35.0±0.5, 0°.26S×125°.15E, h0km, mb4.3/24, mb1 4.3/27, mb1mx4.2/55, mbtmp4.3/27, ML4.2/2, MS3.3/10, Ms1 3.3/10, ms1mx2.9/54, Error ellipse: s-maj=18.1km s-min=12.0km az=62.0*
*ISCJB **10** 13:00:40.2±0.2, 0°.31S±0°.03×125°.27E±0°.03, h57km, mb4.5/56, MS3.4/11, Error ellipse: s-maj=4.8km s-min=3.1km az=34.2*
*MOS **10** 13:00:40.4±1.1, 0°.32S×125°.15E, h55km, mb4.7/15, Error ellipse: s-maj=11.8km s-min=6.8km az=112.5*
*DJA **10** 13:00:41.2±0.3, 0°S±2°×12°5E±°, h66km±11km, M4.5/14, mb4.5/7, mB4.8/4, MLv4.5/14, Mw(mB)4.1/4*
*NEIC **10** 13:00:41.1±0.6, 0°.26S×125°.27E, h49km±6km, mb4.5/16, Error ellipse: s-maj=6.3km s-min=4.6km az=224.0*
ISC 10 13:00:42.4±0.3, 0°26S±0°05×125°28E±0°05, h57km, n164, σ1°27/171, mb4.5/56, MS3.4/11, 8C-3D, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**1.54**	**303**	P	**Pn**	**13 01 05.3**	**-2.3**
KMSI				S	**Sn**	**13 01 28.6**	**+2.0**
SANI	**Sanana**	**1.91**	**158**	P	**Pn**	**13 01 09.6**	**-3.0**
SANI				S	**Sn**	**13 01 37.9**	**+2.3**
LBMI	**Labuha**	**2.25**	**100**	P	**Pn**	**13 01 15.8**	**-1.4**
LBMI				S	**Sn**	**13 01 43.0**	**-0.9**
TNTI	**Ternate**	**2.33**	**64**	*e*Pn	**Pn**	**13 01 17.7**	**-0.5**
LUWI	**Luwuk**	**2.62**	**253**	P	**Pn**	**13 01 23.1**	**+0.8**
LUWI	**Luwuk**	**2.62**	**253**	*e*Pn	**Pn**	**13 01 20.9**	**-1.4**
MRSI	**Marisa**	**3.42**	**282**	P	**Pn**	**13 01 30.8**	**-2.4**
NLAI	**Namlea**	**3.47**	**148**	P	**Pn**	**13 01 31.7**	**-2.3**
APSI	**Ampana**	**3.69**	**260**	P	**Pn**	**13 01 37.2**	**+0.3**
SGSI	**Sangihe**	**3.93**	**4**	S	**Sn**	**13 02 22.9**	**-2.2**
AAI	**Ambon**	**4.48**	**139**	P	**Pn**	**13 01 46.9**	**-0.9**
MSAI	**Masohi**	**4.76**	**130**	P	**Pn**	**13 01 50.6**	**-1.1**
MSAI				S	**Sn**	**13 02 44.7**	**-0.9**
MPSI	**Mapaga**	**5.42**	**276**	P	**Pn**	**13 02 00.2**	**-0.4**
PCI	**Palu**	**5.48**	**263**	P	**Pn**	**13 02 02.7**	**+1.2**
SWI	**Sorong**	**6.01**	**96**	P	**Pn**	**13 02 07.3**	**-1.4**
SIJI	**Sorong**	**6.02**	**96**	Pn	**Pn**	**13 02 08.8**	**-0.1**
	2.9nm,0.3s,baz=297,slow=23,SNR=19						
SIJI				Sn	**Sn**	**13 03 18.1**	**+1.6**
	baz=252,slow=20,SNR=2.1						
KAPI	**Kappang**	**7.26**	**229**	Pn	**Pn**	**13 02 24.7**	**-1.2**
KAPI	**Kappang**	**7.26**	**229**	P	**Pn**	**13 02 24.7**	**-1.2**
DAV	**Davao City (W)**	**7.29**	**2**	LR	LR	13 05 40.1	
	comp=Z,322nm,18.6s,baz=193,slow=42						
FAKI	**Fak Fak**	**7.45**	**111**	P	**Pn**	**13 02 26.1**	**-2.4**
	30nm,0.6s,0.1nm						
FAKI	**Fak Fak**	**7.45**	**111**	*e*Pn	**Pn**	**13 02 25.8**	**-2.7**
MYLDM	**Lahad Datu**	**8.66**	**309**	*e*Pn	**Pn**	**13 02 43.4**	**-1.8**
SOEI	**Soe**	**9.48**	**186**	*e*Pn	**Pn**	**13 02 55.1**	**-1.4**
SBUM	**Sibu**	**13.33**	**282**	*e*Pn	**Pn**	**13 03 48.9**	**-0.1**
MTN	**Manton Dam**	**13.78**	**155**	*e*Pn	**Pn**	**13 03 53.7**	**-1.4**
KSM	**Kuching**	**15.07**	**277**	*e*Pn	**Pn**	**13 04 12.9**	**+0.9**
	15nm,0.6s						
FITZ	**Fitzroy Crossi**	**17.73**	**179**	P	**Pn**	**13 04 43.9**	**-1.4**
	baz=0.0,slow=10						
LEM	**Lembang**	**18.79**	**249**	P	**P**	**13 04 56.3**	**-1.1**
	1.7nm,0.3s,baz=12,slow=19,SNR=2.1						
CISI	**Cisompet, Garu**	**18.86**	**247**	*e*P	**P**	**13 04 56.9**	**-1.2**
	67nm,0.6s						
WRA	**Warramunga Arr**	**21.48**	**156**	P	**P**	**13 05 24.6**	**-1.8**
	3.9nm,0.5s,baz=334,slow=12,SNR=18						
WRA				PcP	**PcP**	**13 09 28.8**	**+1.0**
	0.3nm,0.5s,baz=308,slow=3.4,SNR=3.3						
WB2	**Warramunga Arr**	**21.48**	**156**	*e*P	**P**	**13 05 24.9**	**-1.6**
	10nm,0.8s						
COEN	**Coen**	**22.34**	**128**	*e*P	**P**	**13 05 36.1**	**+0.4**
	17nm,0.7s						
PMG	**Port Moresby**	**23.60**	**113**	P	**P**	**13 05 48.7**	**+0.4**
	5.7nm,0.8s,baz=294,slow=20,SNR=2.2						
AS31	**Alice Springs**	**24.73**	**161**	*e*P	**P**	**13 05 59.2**	**+0.6**
	3.0nm,1.1s						
ASAR	**Alice Springs**	**24.73**	**161**	P	**P

JIRN	**Jiri**	**46.66**	**310**	*eP*		**P**	**13 09 05.7**	**-0.3**
ASAJ	**Asahikawa**	**46.81**	**17**	P		**P**	**13 09 07.7**	**+1.3**
	comp=Z,5.1nm,0.8s,baz=229,slow=20,SNR=5.0							
GUN	**Gumba**	**47.02**	**310**	*eP*		**P**	**13 09 08.1**	**-0.7**
	comp=Z,17nm,0.4s							
DMN	**Daman**	**47.47**	**309**	*eP*		**P**	**13 09 12.2**	**0.0**
	comp=Z,4.7nm,0.4s							
GKN	**Gorkha**	**48.02**	**309**	*eP*		**P**	**13 09 16.0**	**-0.4**
	comp=Z,6.3nm,0.3s							
KOLN	**Koldanda**	**48.72**	**308**	*eP*		**P**	**13 09 21.2**	**-0.6**
	comp=Z,16nm,0.6s							
PYUN	**Piuthan**	**49.35**	**308**	*eP*		**P**	**13 09 26.2**	**-0.4**
	comp=Z,25nm,0.5s							
KLR	**Kul'dur**	**49.61**	**6**	*eP*		**P**	**13 09 28.5**	**+0.6**
ULN	**Ulaanbaatar**	**50.49**	**344**	*de*		**P**	**13 09 35.9**	**+1.1**
ULN					pmax	pmax		
	comp=Z,5.0nm,1.0s							
SONM	**Songino Array**	**50.65**	**344**	P		**P**	**13 09 35.7**	**-0.2**
	comp=Z,3.5nm,0.8s,baz=155,slow=8.2,SNR=16							
SONM				PcP		**PcP**	**13 10 53.1**	**+0.4**
	comp=Z,1.1nm,0.9s,baz=152,slow=5.7,SNR=2.7							
SONM				LR		LR	13 32 15.8	
	comp=Z,22nm,20.5s,baz=167,slow=38							
SONA1	**Songino Array**	**50.65**	**344**	*eP*		**P**	**13 09 34.8**	**-1.3**
TLY	**Talaya**	**54.89**	**344**	*eP*		**P**	**13 10 08.4**	**+1.3**
TLY					pmax	pmax		
	comp=Z,3.0nm,0.9s							
WMQ	**Urumqi**	**55.22**	**327**	P		**P**	**13 10 07.0**	**-2.7**
WMQ				pP		pP	13 10 19.5	-5.4
WMQ				sP		sP	13 10 27.7	-3.7
WMQ					pmax	pmax		
	comp=Z,16nm,0.7s							
WMQ					pmax	pmax		
	comp=Z,230nm,4.7s							
WMQ					LR	LR		
	comp=Z,59nm,31.5s							
WMQ					LR	LR		
	comp=Z,71nm,23.3s							
WMQ					LR	LR		
	comp=Z,69nm,27.5s							
HVS	**Khovu-Aksy**	**57.78**	**337**	*ce*		**P**	**13 10 27.7**	**0.0**
HVS					pmax	pmax		
	comp=Z,8.0nm,1.0s							
BOD	**Bodaibo**	**58.60**	**353**	*eP*		**P**	**13 10 33.6**	**+0.4**
BOD					pmax	pmax		
	comp=Z,8.0nm,0.9s							
DGZ	**Jazzator, Alta**	**59.39**	**332**	*eP*		**P**	**13 10 39.3**	**+0.3**
DGZ					pmax	pmax		
	comp=Z,2.0nm,1.0s							
PETK	**Petropavlovsk-**	**59.65**	**22**	P		**P**	**13 10 42.6**	**+2.0**
	comp=Z,7.7nm,0.7s,baz=181,slow=4.8,SNR=18							
PETK	**Petropavlovsk-**	**59.65**	**22**	*eP*		**P**	**13 10 41.8**	**+1.2**
PETK	**Petropavlovsk-**	**59.65**	**22**	*eP*		**P**	**13 10 41.8**	**+1.2**
KSH	**Kashi**	**59.90**	**317**	P		**P**	**13 10 45.0**	**+2.2**
KSH					pmax	pmax		
	comp=Z,7.0nm,0.4s							
MK01	**Makanchi Array**	**60.03**	**327**	*eP*		**P**	**13 10 42.1**	**-1.2**
MK31	**Makanchi Array**	**60.05**	**327**	*eP*		**P**	**13 10 42.0**	**-1.5**
MK31	**Makanchi Array**	**60.05**	**327**	*eP*		**P**	**13 10 42.0**	**-1.5**
MKAR	**Makanchi Array**	**60.05**	**327**	P		**P**	**13 10 42.5**	**-1.0**
	comp=Z,3.4nm,0.5s,baz=121,slow=8.1,SNR=37							
MKAR				LR		LR	13 36 54.3	
	comp=Z,27nm,21.1s,baz=116,slow=36							
MKAR	**Makanchi Array**	**60.05**	**327**	*eP*		**P**	**13 10 41.9**	**-1.6**
	comp=Z,22nm,0.7s							
MKAR	**Makanchi Array**	**60.05**	**327**	*eP*		**P**	**13 10 41.9**	**-1.6**
MKAR					pmax	pmax		
	comp=Z,22nm,0.7s							
MAKZ	**Makanchi**	**60.23**	**327**	*eP*		**P**	**13 10 44.1**	**-0.6**
	comp=Z,3.7nm,0.6s							
MAKZ	**Makanchi**	**60.23**	**327**	*eP*		**P**	**13 10 44.1**	**-0.6**
MAKZ					pmax	pmax		
	comp=Z,4.0nm,0.6s							
KZA	**Kyzart**	**61.63**	**320**	P		**P**	**13 10 57.2**	**+2.4**
	SNR=7.3							
TKM2	**Tokmak 2**	**61.82**	**321**	P		**P**	**13 10 57.7**	**+1.9**
	SNR=6.4							
UCH	**Uchtor**	**62.18**	**319**	P		**P**	**13 11 00.9**	**+2.3**
	SNR=7.6							
YAK	**Yakutsk**	**62.22**	**2**	*eP*		**P**	**13 10 57.0**	**-0.8**
YAK					pmax	pmax		
	comp=Z,11nm,0.9s							
YAK					pmax	pmax		
	comp=N,2.0nm,1.3s							
AAK	**Ala-Archa**	**62.39**	**320**	P		**P**	**13 10 59.9**	**+0.3**
	comp=N,2.3nm,0.7s,baz=124,slow=5.2,SNR=8.5							
AAK				LR		LR	13 39 54.5	
	comp=N,23nm,20.4s,baz=84,slow=38							
AAK	**Ala-Archa**	**62.39**	**320**	*eP*		**P**	**13 10 58.4**	**-1.2**
	comp=N,6.9nm,1.4s							
AAK	**Ala-Archa**	**62.39**	**320**	*c iP*		**P**	**13 11 00.6**	**+1.0**
AAK					pmax	pmax		
	comp=Z,3.0nm,1.0s							
AML	**Almayashu**	**62.67**	**319**	P		**P**	**13 11 03.9**	**+2.2**
	SNR=9.4							
USP	**Ospenovka**	**62.69**	**320**	P		**P**	**13 11 02.1**	**+0.7**
	SNR=5.9							
MA2	**Magadan**	**62.90**	**14**	*eP*		**P**	**13 11 04.4**	**+1.9**
ZALV	**Zalesovo Beam**	**63.51**	**335**	P		**P**	**13 11 05.3**	**-1.3**
	comp=Z,0.8nm,0.3s,baz=119,slow=5.4,SNR=6.8							
ZALV	**Zalesovo Beam**	**63.51**	**335**	*eP*		**P**	**13 11 04.8**	**-1.8**
ZALV	**Zalesovo Beam**	**63.51**	**335**	*eP*		**P**	**13 11 04.8**	**-1.8**
KURBB	**Kurchatov Arra**	**64.35**	**329**	P		**P**	**13 11 11.0**	**-1.2**
	comp=Z,2.8nm,0.6s,baz=128,slow=6.0,SNR=25							
KURK	**Kurchatov**	**64.36**	**329**	*eP*		**P**	**13 11 10.4**	**-1.8**
	comp=Z,7.9nm,0.6s							
KURK	**Kurchatov**	**64.36**	**329**	*ce*	*P*	**P**	**13 11 10.8**	**-1.4**
KURK					pmax	pmax		
	comp=Z,38nm,1.0s							
KK06	**Karatay Array**	**65.19**	**319**	*eP*		**P**	**13 11 17.5**	**-0.4**
KK05	**Karatay Array**	**65.20**	**319**	*eP*		**P**	**13 11 17.1**	**-0.8**
KK02	**Karatay Array**	**65.20**	**319**	*eP*		**P**	**13 11 18.1**	**+0.1**
KK31	**Karatay Array**	**65.20**	**319**	*eP*		**P**	**13 11 17.8**	**-0.1**
KK31	**Karatay Array**	**65.20**	**319**	*eP*		**P**	**13 11 17.8**	**-0.1**
KKAR	**Karatay Array**	**65.20**	**319**	*eP*		**P**	**13 11 18.3**	**+0.4**
KKAR	**Karatay Array**	**65.20**	**319**	*eP*		**P**	**13 11 18.3**	**+0.4**
KK07	**Karatay Array**	**65.20**	**319**	*eP*		**P**	**13 11 18.7**	**+0.8**
KK01	**Karatay Array**	**65.21**	**319**	*eP*		**P**	**13 11 18.6**	**+0.6**
KK03	**Karatay Array**	**65.21**	**319**	*eP*		**P**	**13 11 18.1**	**+0.1**
KK04	**Karatay Array**	**65.21**	**319**	*eP*		**P**	**13 11 18.0**	**0.0**
SEY	**Seymchan**	**66.22**	**13**	*eP*		**P**	**13 11 25.3**	**+1.3**
BVAR	**Borovoye Array**	**69.89**	**328**	P		**P**	**13 11 46.7**	**-0.6**
	comp=Z,1.7nm,0.6s,baz=131,slow=6.8,SNR=10							
BRVK	**Borovoye**	**69.97**	**328**	*eP*		**P**	**13 11 47.2**	**-0.5**
	comp=Z,4.5nm,1.0s							
BRVK	**Borovoye**	**69.97**	**328**	*eP*		**P**	**13 11 47.2**	**-0.5**
BRVK					pmax	pmax		
	comp=Z,5.0nm,1.0s							
TIXI	**Tiksi**	**71.83**	**1**	*eP*		**P**	**13 11 58.1**	**-0.5**
	comp=Z,3.5nm,1.0s							
TIXI	**Tiksi**	**71.83**	**1**	*eP*		**P**	**13 11 59.1**	**+0.5**
TIXI					pmax	pmax		
	comp=Z,4.0nm,1.7s							
BILL	**Bilibino**	**73.76**	**15**	*eP*		**P**	**13 12 12.3**	**+2.1**
BILL				*e*			13 12 29.0	
BILL				*e*			13 15 02.0	
BILL					pmax	pmax		
	comp=Z,1.0nm,1.1s							
AB06	**Akbulak array**	**74.32**	**322**	*eP*		**P**	**13 12 13.0**	**-0.8**
AB07	**Akbulak array**	**74.32**	**322**	*eP*		**P**	**13 12 13.0**	**-0.8**
AB03	**Akbulak array**	**74.34**	**322**	*eP*		**P**	**13 12 13.0**	**-0.9**
AB02	**Akbulak array**	**74.34**	**322**	*eP*		**P**	**13 12 13.2**	**-0.8**
AB01	**Akbulak array**	**74.34**	**322**	*eP*		**P**	**13 12 12.8**	**-1.1**
AB31	**Akbulak array**	**74.34**	**322**	*eP*		**P**	**13 12 13.0**	**-0.9**
AB31	**Akbulak array**	**74.34**	**322**	*eP*		**P**	**13 12 13.0**	**-0.9**
ABKAR	**Akbulak array**	**74.34**	**322**	*eP*		**P**	**13 12 13.0**	**-0.9**
	comp=Z,25nm,0.6s							
AB08	**Akbulak array**	**74.34**	**322**	*eP*		**P**	**13 12 13.2**	**-0.8**
AB04	**Akbulak array**	**74.34**	**322**	*eP*		**P**	**13 12 12.9**	**-1.0**
AB05	**Akbulak array**	**74.34**	**322**	*eP*		**P**	**13 12 12.9**	**-1.1**
AB09	**Akbulak array**	**74.36**	**322**	*eP*		**P**	**13 12 13.0**	**-1.0**
AKTO	**Aktyubinsk**	**75.90**	**323**	P		**P**	**13 12 22.7**	**-0.2**
	comp=Z,5.8nm,0.6s,baz=110,slow=7.3,SNR=14							
ARU	**Arti**	**77.54**	**328**	P		**P**	**13 12 33.6**	**+1.6**
ARU	**Arti**	**77.54**	**328**	*c iP*		**P**	**13 12 33.8**	**+1.8**
ARU					*PP	**sP**	**13 12 51.1**	**-3.2**
ARU							13 15 27.1	
ARU				S		**S**	**13 22 19.9**	**+1.1**
ARU				SS		**SS**	**13 27 16.8**	**-2.2**
ARU					pmax	pmax		
	comp=Z,7.0nm,1.0s							
RAYN	**Ar Rayn**	**80.73**	**294**	*eP*		**P**	**13 12 48.7**	**-1.5**
RAYN	**Ar Rayn**	**80.73**	**294**	*eP*		**P**	**13 12 48.7**	**-1.5**
ZEI	**Tsey**	**83.84**	**313**	*eP*		**P**	**13 13 06.6**	**+0.3**
ZEI					pmax	pmax		
	comp=Z,4.0nm,0.6s							
NCK	**Nalchik**	**84.14**	**314**	*eP*		**P**	**13 13 08.6**	**+1.1**
NCK					pmax	pmax		
	comp=Z,4.0nm,0.6s							
KBZ	**Khabaz**	**84.67**	**314**	P		**P**	**13 13 10.7**	**+0.6**
	comp=Z,2.1nm,0.8s,baz=190,slow=4.7,SNR=5.1							
KMBO	**Kilima Mbogo**	**88.02**	**269**	P		**P**	**13 13 28.9**	**+1.3**
	comp=Z,1.9nm,0.6s,baz=56,slow=1.4,SNR=6.1							
COLD	**Coldfoot**	**88.11**	**23**	*eP*		**P**	**13 13 27.1**	**+0.5**
	comp=Z,2.1nm,0.6s							
KLMR	**Klimovskoe**	**88.15**	**331**	*eP*		**P**	**13 13 26.8**	**-0.1**
KLMR					AMP		13 13 28.8	
	comp=Z,8.0nm,1.2s							
KLMR	**Klimovskoe**	**88.15**	**331**	*eP*		**P**	**13 13 26.7**	**-0.1**
KLMR					pmax	pmax		
	comp=Z,8.0nm,1.2s							
SYO	**Syowa Base**	**88.20**	**201**	*eX*		P	13 13 20.0	-6.9
ANN	**Anapa**	**88.65**	**315**	*eP*		**P**	**13 13 28.8**	**-0.7**
ANN					pmax	pmax		
	comp=Z,35nm,0.8s							
ILAR	**Eielson Array**	**89.31**	**25**	P		**P**	**13 13 31.7**	**-0.5**
	comp=Z,0.5nm,0.6s,baz=258,slow=5.0,SNR=13							
MMAI	**Mount Meron Ar**	**90.04**	**303**	P		**P**	**13 13 37.5**	**+1.1**
	comp=Z,3.4nm,0.5s,baz=93,slow=8.7,SNR=6.3							
EIL	**Elat**	**90.41**	**300**	LR		LR	13 59 07.3	
	comp=Z,20nm,19.7s,baz=238,slow=39							
BRTR	**Keskin Array B**	**91.43**	**310**	P		**P**	**13 13 41.2**	**-1.7**
	comp=Z,0.8nm,0.8s,baz=129,slow=4.9,SNR=3.3							
ARCES	**ARCESS Array B**	**93.67**	**340**	P		**P**	**13 13 50.8**	**-1.5**
	comp=Z,1.8nm,0.8s,baz=57,slow=6.9,SNR=4.0							
AKASG	**Malin Array Be**	**94.05**	**321**	P		**P**	**13 13 53.2**	**-1.3**
	comp=Z,0.3nm,0.4s,baz=81,slow=4.4,SNR=4.1							
FINES	**FINESS Array B**	**94.64**	**332**	LR		LR	14 00 24.7	
	comp=Z,14nm,18.7s,baz=210,slow=38							
BUR04	**Bucovina Ar. S**	**96.98**	**318**	*eP*		**P**	**13 14 07.5**	**-0.6**
BOSA	**Boshof**	**98.68**	**241**	LR		LR	13 53 52.7	
	comp=Z,23nm,18.7s,baz=174,slow=32							
STHS	**Stebnicka Huta**	**99.33**	**320**	*e*	PDIFF	**Pdif**	**13 14 18.5**	**+0.1**
STHS	**Stebnicka Huta**	**99.31**	**320**	*i*	P	**Pdif**	**13 14 18.5**	**+0.1**
YKA	**Yellowknife Ar**	**103.71**	**24**	Pdiff		**Pdif**	**13 14 38.8**	**+1.2**
	comp=Z,0.1nm,0.3s,baz=292,slow=3.9,SNR=3.6							
TORD	**Torodi Ar. Bea**	**122.68**	**285**	PKP		**PKPdf**	**13 19 33.2**	**+0.4**
	comp=Z,1.0nm,0.7s,baz=62,slow=1.6,SNR=6.7							
TXAR	**Lajitas Array**	**125.15**	**54**	PKP		**PKPdf**	**13 19 39.1**	**+1.7**
	comp=Z,0.2nm,0.6s,baz=204,slow=2.7,SNR=3.5							

MEX 10 13:06:39.7±0.3, 16°.43N×98°.46W, h3km±6km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
					Op			
PNIG	**Pinotepa**	**0.32**	**97**	*i*	P	Pg	13 06 45.7	-0.1
PNIG					*eS*	Sg	13 06 49.9	-0.1
TLIG	**Tlapa**	**1.13**	**355**	*eP*		Pg	13 06 59.8	-1.6
TLIG					*eS*	Sg	13 07 13.5	-2.6
VHO	**Vista Hermosa**	**1.77**	**69**	*eP*		Pn	13 07 08.0	-3.4
VHO					*eS*	Sn	13 07 29.9	-4.7
CAIG	**El Cayaco**	**1.84**	**290**	*eP*		Pn	13 07 08.6	-3.7
CAIG					*eS*	Sn	13 07 31.6	-4.5
PLIG	**Platanillo**	**2.19**	**333**	*eP*		Pn	13 07 16.6	-0.6
PLIG					*eS*	Sn	13 07 40.4	-4.5

IDC ***10*** *13:22:47.7±1.2, 2°.03N×96°.07E, h0km, mb3.7/7, mb1 3.7/9, mb1mx3.5/65, mbtmp3.6/9, ML2.7/1, Error ellipse: s-maj=39.5km s-min=18.7km az=48.0*
DJA ***10*** *13:22:48.5±1.0, 2°.7N±5°×9°.6E±°, h14km±12km, M4.0/8, mb4.3/2, MLv3.8/8*
ISCJB ***10*** *13:22:49.2±0.7, 2°.00N±0°.06×96°.03E±0°.06, h27km, mb3.7/7, Error ellipse: s-maj=9.1km s-min=7.0km az=137.2*

ISC 10 13:22:51.2±1.0, 2°.02N±0°.07×96°.08E±0°.08, h27km, n26, σ1°12/19, mb3.8/7, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
					Op			
TPTI		**1.65**	**42**	P		**Pn**	**13 23 16.0**	**-2.4**
TPTI				S		**Sn**	**13 23 39.5**	**+0.8**
GSI	**Gunungsitoli**	**1.66**	**116**	P		**Pn**	**13 23 17.1**	**-1.4**
GSI				S		**Sn**	**13 23 38.6**	**-0.3**
KCSI	**Kotacane, Aceh**	**2.25**	**49**	S		**Sn**	**13 23 54.6**	**+0.9**
MLSI	**Meulaboh, Aceh**	**2.25**	**8**	P		**Pn**	**13 23 25.4**	**-1.3**
TSI	**Tuntungan**	**2.88**	**59**	P		**Pn**	**13 23 35.2**	**-0.2**
PSI	**Prapat**	**2.94**	**75**	Pn		**Pn**	**13 23 35.5**	**-0.9**
	1.0nm,0.3s,baz=227,slow=14,SNR=3.7							
LHMI	**Lhok Sumawe**	**3.30**	**15**	P		**Pn**	**13 23 40.7**	**-0.4**
BSI	**Banda Aceh**	**3.54**	**347**	P		**Pn**	**13 23 42.8**	**-1.6**
MNSI	**Mandailing Nat**	**3.71**	**109**	P		**Pn**	**13 23 45.6**	**-1.1**
CMAR	**Chiang Mai Arr**	**16.57**	**10**	Pn		**P**	**13 26 43.2**	**-0.9**
	baz=200,slow=12,SNR=5.4							
H08S2	**Diego Garcia H**	**25.41**	**248**	T		T	13 54 54.9	
	baz=68,slow=76,SNR=314							
H08S3	**Diego Garcia H**	**25.42**	**248**	T		T	13 54 55.1	
	baz=68,slow=76,SNR=277							
H08S1	**Diego Carcia H**	**25.43**	**248**	T		T	13 54 53.7	
	baz=68,slow=76,SNR=289							
H08N1	**Diego Carcia H**	**26.37**	**251**	T		T	13 56 16.7	
	baz=218,slow=76,SNR=8.8							
H08N2	**Diego Garcia H**	**26.38**	**252**	T		T	13 56 23.0	
	baz=218,slow=76,SNR=12							
H08N3	**Diego Garcia H**	**26.39**	**251**	T		T	13 56 19.5	
	baz=218,slow=76,SNR=8.9							
H01W3	**Cape Leeuwin H**	**40.43**	**157**	T		T	14 13 34.5	
	baz=333,slow=75,SNR=50							
H01W2	**Cape Leeuwin H**	**40.44**	**157**	T		T	14 13 33.9	
	baz=333,slow=75,SNR=51							
H01W1	**Cape Leeuwin H**	**40.45**	**157**	T		T	14 13 32.2	
	baz=333,slow=75,SNR=50							
WRA	**Warramunga Arr**	**43.42**	**122**	P		**P**	**13 30 52.7**	**+0.7**
	0.4nm,0.7s,baz=302,slow=8.9,SNR=2.9							
ASAR	**Alice Springs**	**44.79**	**127**	P		**P**	**13 31 03.7**	**+0.7**
	0.3nm,1.0s,baz=290,slow=7.8,SNR=3.4							
MKAR	**Makanchi Array**	**46.19**	**347**	P		**P**	**13 31 14.4**	**+0.7**
	1.9nm,0.7s,baz=158,slow=7.5,SNR=17							
SONM	**Songino Array**	**46.50**	**10**	P		**P**	**13 31 15.6**	**-0.7**
	0.4nm,0.4s,baz=185,slow=9.5,SNR=4.9							
ZALV	**Zalesovo Beam**	**52.58**	**352**	P		**P**	**13 32 03.1**	**+0.8**
	1.8nm,0.5s,baz=180,slow=8.3,SNR=11							
BVAR	**Borovoye Array**	**55.12**	**341**	P		**P**	**13 32 21.7**	**+0.8**
	0.6nm,0.6s,baz=104,slow=6.1,SNR=4.1							
MMAI	**Mount Meron Ar**	**64.52**	**306**	P		**P**	**13 33 26.6**	**+0.4**
	1.1nm,0.6s,baz=164,slow=2.6,SNR=2.6							

ISCJB ***10*** *13:31:49.8±0.5, 40°.02N±0°.03×38°.95E±0°.03, h3km±5km, Error ellipse: s-maj=4.3km s-min=3.4km az=166.9*
ISK ***10*** *13:31:49.9, 40°.04N×38°.99E, h9km, ML2.6/9*
CSEM ***10*** *13:31:50.1±0.2, 40°.03N×38°.96E, h8km, ML2.7, Error ellipse: s-maj=4.4km s-min=3.2km az=146.0*
ATA ***10*** *13:31:50.0±1.3, 39°.98N×38°.97E, h5km±33km, ML3.0, MW2.6*
DDA ***10*** *13:31:50.6, 40°.01N×38°.91E, h12km, Ml2.7*

ISC 10 13:31:50.4±0.9, 40°.02N±0°.02×38°.95E±0°.02, h12km±8km, n40, σ0°86/61, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
					Op			
KELT	**Kelkit**	**0.27**	**62**	*i*	P	**Pg**	**13 31 56.4**	**+0.3**
KELT					*eS*	**Sg**	**13 32 00.3**	**+0.3**
KELT					IAML		13 32 00.7	
	comp=Z,272nm,0.2s							
KELT	**Kelkit**	**0.27**	**62**	*i*	P	**Pg**	**13 31 56.6**	**+0.5**
KELT					*i*	S	**Sg**	**13 32 00.2**	**+0.3**
KELT	**Kelkit**	**0.27**	**62**	P		**Pg**	**13 31 56.6**	**+0.5**
KELT					S	**Sg**	**13 32 00.2**	**+0.3**
GUMT	**Gumushane**	**0.60**	**43**	PG		**Pg**	**13 32 01.2**	**-0.9**
GUMT					SG	**Sg**	**13 32 09.7**	**-0.3**
GUMT	**Gumushane**	**0.60**	**43**	*eP*	g	**Pg**	**13 32 01.2**	**-0.9**
GUMT					*eS*	g	**Sg**	**13 32 09.7**	**-0.3**
SUSE	**Susehri**	**0.60**	**288**	*i*	P	**Pg**	**13 32 01.9**	**-0.1**
SUSE					*i*	S	**Sg**	**13 32 10.6**	**+0.6**
SUSE	**Susehri**	**0.60**	**288**	P		**Pg**	**13 32 02.0**	**-0.1**
SUSE					S	**Sg**	**13 32 10.6**	**+0.6**
REFA	**Refahiye_ERZ¯**	**0.64**	**193**	*i*	P	Pg	13 31 54.5	-8.4
REFA					*eS*	Sg	13 31 57.0	-14
REFA					IAML		13 31 58.5	
	comp=Z,274nm,0.1s							
REFA	**Refahiye_ERZ¯**	**0.64**	**193**	*i*	P	Pg	13 31 54.5	-8.3
REFA					*i*	S	Sg	13 31 57.2	-14
ERZN	**Erzincan**	**0.74**	**126**	PG		**Pg**	**13 32 04.4**	**-0.3**
ERZN					SG	**Sb**	**13 32 14.6**	**-0.8**
KEMA	**Kemaliye**	**0.83**	**205**	*eP*		**Pg**	**13 32 06.3**	**-0.2**
KEMA	**Kemaliye**	**0.83**	**205**	*i*	P	**Pg**	**13 32 06.0**	**-0.4**
KEMA				*i*	S	**Sg**	**13 32 17.5**	**+0.2**
KEMA	**Kemaliye**	**0.83**	**205**	P		**Pg**	**13 32 06.0**	**-0.4**
KEMA				S		**Sg**	**13 32 17.5**	**+0.2**
ESPY	**Espiye-Giresun**	**0.91**	**350**	PG		**Pb**	**13 32 07.8**	**-0.3**
ESPY				SG		**Sb**	**13 32 19.8**	**-0.3**
ESPY	**Espiye-Giresun**	**0.91**	**350**	*eP*	g	**Pb**	**13 32 07.8**	**-0.3**
ESPY				*eS*	g	**Sb**	**13 32 19.8**	**-0.3**
CUZAR	**Zara_SIVAS**	**0.91**	**262**	*i*	P	**Pb**	**13 32 08.4**	**+0.2**
CUZAR				*i*	S	**Sg**	**13 32 20.1**	**+0.1**
CUZAR	**Zara_SIVAS**	**0.91**	**262**	P		**Pb**	**13 32 08.4**	**+0.2**
CUZAR				S		**Sg**	**13 32 20.1**	**+0.1**
BAYT	**Ayd¯–ntepe-Bay**	**0.99**	**68**	PG		**Pb**	**13 32 09.1**	**-0.4**
BAYT				SG		**Sb**	**13 32 21.9**	**-0.7**
BAYT	**Ayd¯–ntepe-Bay**	**0.99**	**68**	*eP*	g	**Pb**	**13 32 09.1**	**-0.4**
BAYT				*eS*	g	**Sb**	**13 32 21.9**	**-0.7**
TNCL	**Tunceli-Merkez**	**1.02**	**153**	*eP*		**Pg**	**13 32 09.0**	**-1.0**
TNCL				*eS*		**Sb**	**13 32 23.3**	**-0.1**
TNCL	**Tunceli-Merkez**	**1.02**	**153**	*i*	S	**Sg**	**13 32 21.4**	**-1.9**
TNCL	**Tunceli-Merkez**	**1.02**	**153**	S		**Sg**	**13 32 21.4**	**-1.9**
GRSN	**GIRESUNGRSN**	**1.04**	**330**	*i*	P	**Pg**	**13 32 08.4**	**-2.0**
GRSN	**GIRESUNGRSN**	**1.04**	**330**	P		**Pg**	**13 32 08.4**	**-2.0**
KTUT	**Trabzon**	**1.15**	**33**	PN		**Pb**	**13 32 12.0**	**-0.1**
KTUT	**Trabzon**	**1.15**	**33**	*ePn*		**Pb**	**13 32 12.0**	**-0.1**
PTK	**Pertek**	**1.18**	**163**	PN		**Pg**	**13 32 12.8**	**-0.3**
PTK	**Pertek**	**1.18**	**163**	*ePn*		**Pg**	**13 32 12.8**	**-0.3**
KOPT	**Kop Dagi**	**1.19**	**90**	*eP*		**Pn**	**13 32 13.8**	**+0.7**
KOPT				*eS*		**Sn**	**13 32 31.3**	**+1.9**
KOPT				IAML			13 32 46.1	
	comp=Z,10nm,0.6s							
KOPT	**Kop Dagi**	**1.19**	**90**	*i*	P	**Pn**	**13 32 13.6**	**+0.5**
KOPT				*i*	S	**Sn**	**13 32 31.7**	**+2.3**
KOPT	**Kop Dagi**	**1.19**	**90**	P		**Pn**	**13 32 13.6**	**+0.5**
CUKAN	**kangal_SIVAS**	**1.34**	**239**	*i*	P	**Pn**	**13 32 13.6**	**-1.5**
CUKAN				*i*	S	**Sg**	**13 32 34.3**	**+0.7**
CUKAN	**kangal_SIVAS**	**1.34**	**239**	P		**Pn**	**13 32 13.6**	**-1.5**
CUKAN				S		**Sg**	**13 32 34.3**	**+0.7**
SVSK	**Karacayir**	**1.50**	**267**	PN		**Pn**	**13 32 17.7**	**+0.6**
SVSK				SN		**Sg**	**13 32 39.5**	**+0.9**
SVSK	**Karacayir**	**1.50**	**267**	*ePn*		**Pn**	**13 32 17.7**	**+0.6**
SVSK				*eSn*		**Sg**	**13 32 39.5**	**+0.9**
CHOM	**Cayeli-Rize**	**1.75**	**52**	*ePn*		**Pn**	**13 32 20.4**	**-0.2**
MALT	**Malatya**	**1.75**	**193**	PN		**Pn**	**13 32 21.5**	**+0.8**
MALT	**Malatya**	**1.75**	**193**	*ePn*		**Pn**	**13 32 21.5**	**+0.8**
DARE	**Darende-Malaty**	**1.84**	**218**	PN		**Pb**	**13 32 23.5**	**-0.5**
DARE	**Darende-Malaty**	**1.84**	**218**	*ePn*		**Pb**	**13 32 23.5**	**-0.5**

IDC 10 13:35:07.3±1.5, 34°.38N×82°.70E, h0km, mb3.3/4, mb1 3.4/6, mb1mx3.2/68, mbtmp3.4/6, ML3.1/2, MS3.0/1, Ms1 3.0/1, ms1mx2.2/44, Error ellipse: s-maj=33.8km s-min=25.9km az=66.0, Xizang

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
					Op			
MKAR	**Makanchi Array**	**12.41**	**359**	Pn		Pn	13 38 04.8	-0.4
	0.1nm,0.3s,baz=182,slow=12,SNR=6.6							
ZALV	**Zalesovo Beam**	**19.63**	**4**	P		Pn	13

TK02 **Tokai 2** 0.61 59 ⇓P Pn 13 42 51.3 +1.2
TTO5 **TONANKAI O.B.S** 0.79 38 ⇓P Pn 13 42 51.9 +1.2
JIE **Ise** 0.84 336 ⇓P Pn 13 42 51.9 +0.9
JIE eS S 13 43 28.5 0.0
JWZ **Kozaga** 1.18 266 ⇓P Pn 13 42 52.8 +0.4
JWZ eS S 13 43 30.5 -0.4
JWY **Kouya** 1.40 295 ⇑P Pn 13 42 54.5 +1.0
JWY S S 13 43 32.7 -0.3
INU **Inuyama** 1.72 357 ePn Pn 13 42 55.8 +0.7
JWT **Wachi** 2.18 320 ⇑P Pn 13 42 59.0 +0.8
JWT S S 13 43 40.6 -0.9
JYN **Shimob** 2.20 32 ⇓P Pn 13 42 58.5 0.0
JAI **Aioi** 2.23 275 ⇑P Pn 13 42 59.4 +0.7
JAI eS S 13 43 41.6 -0.7
JHJ **Hachijo jima 2** 2.28 102 P Pn 13 42 59.5 +0.5
169nm,0.3s,baz=339,slow=3.1,SNR=108
JHJ S S 13 43 43.2 +0.3
114nm,0.3s,baz=288,slow=20,SNR=7.7
JOD2 **Odawara 2** 2.30 44 ⇓P Pn 13 42 59.1 0.0
JHJ2 **Mitsune** 2.31 102 P Pn 13 42 59.1 -0.1
JHJ2 **Mitsune** 2.31 102 ePn Pn 13 42 59.1 -0.1
JMN **Monobe** 2.71 273 ⇑P Pn 13 43 03.5 +1.1
JKG **Kaga** 2.72 346 ⇑P Pn 13 43 02.8 +0.4
JKG eS S 13 43 48.7 -0.3
JRY **Ryogami san** 2.79 31 ⇓P Pn 13 43 03.3 +0.2
JRY eS S 13 43 50.0 -0.3
MJAR **Matsushiro Arr** 3.04 17 P Pn 13 43 05.0 -0.1
18nm,0.3s,baz=199,slow=11,SNR=315
MJAR S S 13 43 52.9 -1.2
3.2nm,0.3s,baz=199,slow=30,SNR=5.1
MAJO **Matsushiro** 3.04 17 ePn Pn 13 43 04.8 -0.4
MAJO **Matsushiro** 3.04 17 *d iP Pn 13 43 04.6 -0.6
MAT **Matsushiro** 3.04 17 P Pn 13 43 05.0 -0.1
MAT S S 13 43 52.4 -1.6
MAT **Matsushiro** 3.04 17 P Pn 13 43 05.1 -0.1
MAT eS S 13 43 52.5 -1.6
MJB9 **Matsu-Tunnel** 3.04 17 ePn Pn 13 43 04.9 -0.2
BSO1 **Boso 1** 3.35 71 P Pn 13 43 05.4 -2.0
JAG **Ashikaga** 3.38 34 ⇓P Pn 13 43 06.8 -1.4
JHS **Saijyo** 3.59 294 ⇑P Pn 13 43 11.1 +0.8
JTO **Tosashimizu** 3.70 259 ⇑P Pn 13 43 12.1 +0.7
JSZ **Suzu** 3.82 3 P Pn 13 43 12.5 +0.2
JNA **Nagahama** 3.88 270 ⇑P Pn 13 43 14.2 +1.1
JOI **OKI** 4.15 311 ⇑P Pn 13 43 16.2 +0.5
JNU **Nakatsue** 5.25 266 P Pn 13 43 28.6 +1.1
37nm,0.3s,baz=101,slow=1.6,SNR=317
JNU **Nakatsue** 5.25 266 ePn Pn 13 43 28.4 +0.9
CBIJ **Chichi jima** 7.84 145 ePn Pn 13 43 52.0 -5.1
CBIJ S S 13 45 18.0 -11
JCJ **Chichijima** 7.84 145 P Pn 13 43 52.1 -5.0
21nm,0.3s,baz=12,slow=24,SNR=31
JCJ S S 13 45 18.0 -11
147nm,0.3s,baz=248,slow=22,SNR=18
KSRS **Korea Array** 8.41 300 P P 13 44 05.0 -0.6
7.8nm,0.3s,baz=112,slow=12,SNR=386
KSRS S S 13 45 43.2 +2.2
baz=106,slow=22,SNR=4.8
KS15 **Wonju Array Si** 8.44 299 ePn P 13 44 04.9 -1.0
KSAR **Wonju Array Be** 8.44 299 P P 13 44 05.0 -0.8
KSAR S S 13 45 43.2 +1.7
KSAR **Wonju Array Be** 8.44 299 P P 13 44 05.1 -0.8
KSAR S S 13 45 43.3 +1.7
KS01 **Wonju Array Si** 8.45 300 ePn P 13 44 04.3 -1.6
TJN **Taejon** 8.46 292 *c iP P 13 44 05.3 -0.9
INCN **Inchon** 9.37 297 ePn P 13 44 16.1 -0.3
ERM **Erimo** 9.63 28 ePn Pn 13 44 16.4 -1.5
ERM **Erimo** 9.63 28 *de P Pn 13 44 16.3 -1.6
MSHR **Mys Shultsa** 10.10 334 eP P 13 44 24.7 +0.5
VLA **Vladivostok** 10.33 338 deP P 13 44 26.2 -0.6
USRK **Ussuriysk Ar.** 11.29 341 P P 13 44 37.8 +0.4
3.0nm,0.3s,baz=160,slow=13,SNR=29
ASAJ **Asahikawa** 11.30 21 P Pn 13 44 36.5 -1.1
5.8nm,0.3s,baz=239,slow=11,SNR=43
ASAJ S S 13 46 37.5 -6.1
1.0nm,0.3s,baz=300,slow=20,SNR=4.3
TEY **Ternei** 11.40 358 eP Pn 13 44 35.2 -3.6
YUK **Yuzh-Kuril'sk** 12.41 31 eP Pn 13 44 52.8 +2.0
YUK *i S S 13 47 04.8 -2.2
YUK pmax pmax
comp=Z,38nm,0.4s
YUK pmax pmax
comp=E,22nm,0.5s
MDJ **Mudanjiang** 12.43 334 P Pn 13 44 50.2 -0.8
MDJ pmax pmax
comp=E,44nm,0.8s
MDJ pmax pmax
comp=E,140nm,2.9s
MDJ **Mudanjiang** 12.43 334 eP Pn 13 44 50.1 -0.8
SHO **Shikotan** 12.71 34 eP Pn 13 44 57.7 +3.4
SHO *i S S 13 47 10.2 -2.9
SHO pmax pmax
comp=Z,7.0nm,0.2s
SHO pmax pmax
comp=N,7.0nm,0.5s
SHO pmax pmax
comp=E,14nm,0.5s
CN2 **Changchun** 13.63 322 eP Pn 13 45 05.4 +0.3
CN2 pmax pmax
comp=E,10.0nm,1.2s
YSS **Yuzh-Sakhalins** 13.98 16 keP Pn 13 45 08.5 -0.5
YSS eS S 13 47 36.8 -1.6
YSS pmax pmax
comp=Z,220nm,1.4s
YSS pmax pmax
comp=Z,170nm,0.5s
KUR **Kuril'sk** 14.24 32 eP Pn 13 45 14.2 +2.2
KUR eS S 13 47 52.1 +8.5
KUR pmax pmax
comp=Z,17nm,0.7s
KUR smax smax
comp=N,28nm,0.3s
KUR smax smax
comp=E,14nm,0.3s
YOJ **Yonaguni jima** 15.34 237 eP P 13 45 21.7 -0.6
comp=E,512nm,1.8s
YOJ **Yonaguni jima** 15.34 237 eP P 13 45 21.7 -0.6
YOJ pmax pmax
comp=Z,512nm,1.8s
KLR **Kul'dur** 16.09 347 *c iP P 13 45 29.4 -0.7
YHNB **Yeheng** 16.39 241 eP P 13 45 32.9 -0.8
comp=Z,90nm,1.9s
NACB **Ningcanhiao** 16.53 239 eP P 13 45 33.7 -1.4
comp=Z,73nm,1.6s
TIA **Tai'an** 16.61 285 P P 13 45 36.3 +0.4
TIA pmax pmax
comp=Z,19nm,0.8s
GRNR **Gornyy** 17.14 358 eP P 13 45 42.0 +0.7
GRNR pmax pmax
comp=Z,24nm,0.5s
SSLB **Suanglung** 17.23 239 eP P 13 45 41.1 -1.5
comp=Z,12nm,0.7s
YULB **Yu-li** 17.23 238 eP P 13 45 40.9 -1.8
comp=Z,31nm,1.2s
TYV **Tymovskoe** 17.69 12 P P 13 45 48.9 +1.7
TYV eS S 13 48 48.0 -3.8
TYV pmax pmax
comp=Z,9.0nm,0.6s
TYV smax smax
comp=E,8.0nm,1.4s
TWG **Pinlang** 17.75 237 eP P 13 45 47.8 -0.4
comp=E,282nm,1.7s
BJI **Beijing** 17.93 297 ⇓*iP P 13 45 50.1 +0.2
BJI S S 13 48 57.5 +0.8
BJI pmax pmax
comp=E,55nm,0.6s
BJT **Baijiatuau** 17.93 297 eP P 13 45 50.0 0.0
comp=E,32nm,0.6s
BJT **Baijiatuau** 17.93 297 eP P 13 45 50.0 0.0
BJT pmax pmax
comp=Z,32nm,0.6s
WHN **Wuhan** 19.54 267 ⇑P P 13 46 07.1 +0.2
WHN S S 13 49 26.8 +0.6
HIA **Hailar** 20.27 326 eP P 13 46 14.1 +0.2
comp=Z,2.0nm,0.6s
HIA **Hailar** 20.27 326 *deP P 13 46 12.3 -1.6
HIA pmax pmax
comp=Z,19nm,1.0s
GUMO **Guam** 21.16 159 P P 13 46 23.4 +1.2
comp=Z,60nm,0.7s,baz=261,slow=19,SNR=3.0
ZEA **Zeya** 21.29 344 eP P 13 46 23.4 +0.4
ZEA pmax pmax
comp=N,24nm,1.0s
ZEA pmax pmax
comp=Z,36nm,0.8s

HHC **Hu-ho-hao-te** 21.54 297 eP P 13 46 26.4 +0.8
HHC pmax pmax
comp=Z,28nm,0.9s
HHC pmax pmax
comp=Z,50nm,4.0s
ENH **Enshi** 23.66 269 eP P 13 46 44.5 -0.4
comp=Z,32nm,0.8s
PETK **Petropavlovsk-** 24.39 31 P P 13 46 51.9 +0.8
comp=Z,2.6nm,0.7s,baz=217,slow=5.8,SNR=6.7
CLNS **Chul'man** 24.68 344 eP P 13 46 51.6 -2.1
CLNS pmax pmax
comp=E,5.0nm,0.8s
CLNS pmax pmax
comp=Z,16nm,1.0s
CLNS pmax pmax
comp=N,10.0nm,1.0s
ULN **Ulaanbaatar** 26.66 311 eP P 13 47 12.3 +0.8
comp=N,6.9nm,1.0s
ULN **Ulaanbaatar** 26.66 311 *deP P 13 47 12.7 +1.2
ULN pmax pmax
comp=Z,6.0nm,0.9s
SONA1 **Songino Array** 27.06 311 eP P 13 47 15.8 +0.8
SONM **Songino Array** 27.06 311 P P 13 47 16.3 +1.3
comp=Z,9.0nm,0.9s,baz=123,slow=8.5,SNR=20
SONM PcP PcP 13 50 25.4 0.0
comp=Z,1.1nm,0.7s,baz=120,slow=2.6,SNR=5.7
GYA **Guiyang** 27.25 263 *i P P 13 47 16.7 -0.3
GYA pP pP 13 48 22.8 -0.4
GYA sP sP 13 49 04.0 -2.2
GYA PcP PcP 13 50 28.4 +2.2
GYA S S 13 51 29.6 +0.4
GYA sS ScP 13 53 26.2 -5.2
GYA ScP SS 13 53 33.2 -9.4
GYA ScS ScS 13 57 23.0 -0.8
GYA pmax pmax
comp=Z,30nm,1.0s
LZH **Lanzhou** 27.35 285 ⇓P P 13 47 17.2 -0.6
LZH pP pP 13 48 24.0 -0.1
LZH sP sP 13 49 07.0 -0.1
LZH pmax pmax
comp=Z,20nm,1.1s
LZH pmax pmax
comp=Z,53nm,5.2s
MA2 **Magadan** 27.48 15 *i P P 13 47 18.8 +0.3
BOD **Bodaibo** 28.80 334 eP P 13 47 30.1 0.0
BOD pmax pmax
comp=Z,6.0nm,1.2s
YAK **Yakutsk** 28.82 353 P P 13 47 30.1 0.0
YAK **Yakutsk** 28.82 353 eP P 13 47 29.7 -0.5
comp=Z,23nm,0.6s
YAK **Yakutsk** 28.82 353 eP P 13 47 28.9 -1.3
YAK e 13 48 40.1
YAK e 13 50 26.6
YAK eS S 13 51 52.6 +0.1
YAK e*SS sS 13 53 53.2 -2.8
YAK e 13 57 28.5
YAK pmax pmax
comp=Z,16nm,0.9s
YAK pmax pmax
comp=N,5.0nm,0.9s
YAK pmax pmax
comp=E,2.0nm,0.9s
YAK pmax pmax
comp=Z,107nm,4.4s
YAK pmax pmax
comp=N,28nm,4.1s
YAK pmax pmax
comp=E,63nm,4.3s
YAK smax smax
comp=N,36nm,2.9s
YAK smax smax
comp=E,21nm,3.2s
ZAK **Zakamensk** 29.88 314 eP P 13 47 37.5 -2.3
ZAK pmax pmax
comp=Z,4.0nm,1.4s
GTA **Gaotai** 30.38 292 eP P 13 47 44.4 0.0
GTA pmax pmax
comp=Z,5.0nm,1.0s
SEY **Seymchan** 30.86 14⇑eP P 13 47 47.9 -0.2
KNGR **Kungurtug, Tuv** 33.44 313 eP P 13 48 12.2 +1.5
SKNT **Sakolnakorn** 34.06 249 P P 13 48 15.8 -0.4
comp=Z,8.0nm,1.1s
HVS **Khovu-Aksy** 35.92 312 *ceP P 13 48 32.6 +1.0
HVS pmax pmax
comp=Z,34nm,0.9s
CHAI **Chaiyaphum** 36.23 250 P P 13 48 34.3 -0.3
comp=Z,15nm,0.6s,comp=Z,157nm
PBKT **Sadao Pong** 36.65 251 P P 13 48 37.3 -0.7
comp=Z,25nm,0.6s
PHIT **Phitsanulok** 36.75 253 P P 13 48 40.4 +1.6
comp=Z,8.1nm,0.9s
MANU **Manus Island** 36.77 163 eP P 13 48 38.8 -0.2
comp=Z,7.1nm,0.6s
CMMT **Chiang Mai** 37.06 256 P P 13 48 40.6 -0.9
comp=Z,16nm,1.5s
CHTO **Chiang Mai** 37.07 256 P P 13 48 41.6 +0.1
comp=Z,71nm,1.5s
CHTO **Chiang Mai** 37.07 256 eP P 13 48 41.3 -0.2
comp=Z,11nm,0.7s
CHTO **Chiang Mai** 37.07 256 eP P 13 48 41.3 -0.2
CHTO pmax pmax
comp=Z,11nm,0.7s
CM31 **Chiang Mai Arr** 37.25 256 eP P 13 48 43.1 +0.1
CMAR **Chiang Mai Arr** 37.25 256 P P 13 48 43.5 +0.5
comp=Z,9.7nm,0.8s,baz=48,slow=7.7,SNR=63
CMAR PcP PcP 13 50 55.1 +1.2
comp=Z,0.9nm,0.7s,baz=343,slow=1.0,SNR=4.8
CMAR **Chiang Mai Arr** 37.25 256 P P 13 48 43.5 +0.5
CMAR 13 50 55.1
CMAR pmax pmax
comp=Z,7.0nm,0.6s
CMAR pmax pmax
comp=Z,1.0nm,0.7s
CM01 **Chiang Mai Arr** 37.26 256 eP P 13 48 43.2 +0.1
SRAK **Srakaew** 37.31 247 P P 13 48 40.5 -3.0
comp=Z,32nm,0.8s,comp=Z,316nm
BILL **Bilibino** 38.29 17 *d iP P 13 48 52.1 +1.1
BILL e*PP pP 13 50 02.1 +1.1
BILL e 13 50 27.8
BILL e*SP sP 13 50 44.0 +1.2
BILL e 13 50 57.5
BILL pmax pmax
comp=Z,24nm,0.6s
TIXI **Tiksi** 38.34 356 eP P 13 48 50.8 -0.4
comp=Z,17nm,0.9s
TIXI **Tiksi** 38.34 356 *d iP P 13 48 50.8 -0.4
TIXI pmax pmax
comp=Z,18nm,0.9s
SBUM **Sibu** 38.79 222 eP P 13 48 54.6 -1.1
comp=Z,9.8nm,1.1s
WMQ **Urumqi** 39.37 300 P P 13 49 00.0 -0.2
WMQ pmax pmax
comp=Z,23nm,0.7s
WMQ pmax pmax
comp=Z,180nm,3.6s
WMQ LR LR
comp=Z,58nm,17.3s
WMQ LR LR
comp=Z,42nm,16.3s
SRDT **SRDT** 39.38 250 P P 13 49 00.8 +0.2
comp=Z,21nm,0.8s
DGZ **Jazzator, Alta** 39.68 309 eP P 13 49 03.8 +1.0
DGZ pmax pmax
comp=Z,9.0nm,0.9s
PHET **Kaeng Krachan** 39.84 248 P P 13 49 05.4 +1.1
comp=Z,15nm,0.7s,comp=Z,194nm
KSM **Kuching** 40.67 224 eP P 13 49 11.2 +0.1
comp=Z,20nm,0.7s
ZAA0 **Zalesovo Array** 41.74 315 eP P 13 49 18.9 -0.3
comp=Z,6.1nm,0.8s
ZALV **Zalesovo Beam** 41.74 315 P P 13 49 19.3 +0.1
comp=Z,6.2nm,0.4s,baz=94,slow=8.0,SNR=29
ZALV PcP PcP 13 51 07.4 -0.3
comp=Z,7.6nm,0.6s,baz=107,slow=3.0,SNR=18
NVS **Novosibirsk** 42.77 317 eP P 13 49 27.2 -0.2
NVS pmax pmax
comp=Z,13nm,0.7s
NVS pmax pmax
comp=N,4.0nm,0.6s
NVS pmax pmax
comp=E,13nm,0.8s
SURT **Suratani** 42.95 244 P P 13 49 29.5 +0.1
comp=E,11nm,1.0s
TRTT **Trang** 43.02 242 P P 13 49 29.7 -0.2
comp=E,11nm,0.7s
MK01 **Makanchi Array** 43.05 305 eP P 13 49 29.7 -0.1

MK31 **Makanchi Array** 43.06 305 eP P 13 49 30.1 +0.2
MK31 **Makanchi Array** 43.06 305 eP P 13 49 30.1 +0.2
MKAR **Makanchi Array** 43.06 305 P P 13 49 30.2 +0.4
comp=E,4.1nm,0.4s,baz=86,slow=9.9,SNR=97
MKAR PcP PcP 13 51 12.3 -0.1
comp=E,1.4nm,0.4s,baz=80,slow=4.8,SNR=8.1
MKAR ScP ScP 13 54 27.0 -1.1
comp=E,0.3nm,0.6s,baz=78,slow=6.5,SNR=2.8
MKAR **Makanchi Array** 43.06 305 eP P 13 49 30.0 +0.2
comp=E,56nm,0.3s
MKAR PcP PcP 13 51 12.3 -0.1
MKAR ScP ScP 13 54 27.1 -1.1
MAKZ **Makanchi** 43.27 305 eP P 13 49 31.8 +0.3
comp=E,7.4nm,0.4s
MAKZ **Makanchi** 43.27 305 eP P 13 49 31.8 +0.3
MAKZ pmax pmax
comp=Z,7.0nm,0.4s
RAMN **Ramite** 43.78 275 eP P 13 49 36.1 0.0
JIRN **Jiri** 43.87 276 eP P 13 49 37.4 +0.5
PKDT **Phuket** 43.99 243 P P 13 49 37.6 0.0
comp=Z,22nm,0.6s
GUN **Gumba** 44.04 277 eP P 13 49 38.4 +0.2
comp=Z,20nm,0.5s
KULM **Kulim** 44.06 238 eP P 13 49 38.2 +0.1
comp=Z,17nm,1.2s
IPM **Ipoh** 44.37 237 eP P 13 49 39.9 -0.6
comp=Z,21nm,0.7s
PKIN **Phulchoki** 44.56 277 eP P 13 49 42.4 +0.2
comp=Z,11nm,0.5s
KKN **Kakani** 44.58 277 eP P 13 49 42.3 0.0
DMN **Daman** 44.78 277 eP P 13 49 43.8 -0.2
comp=Z,5.4nm,0.4s
GKN **Gorkha** 45.03 278 eP P 13 49 45.6 -0.2
comp=Z,13nm,0.5s
PDGK **Podgornoye** 45.35 300 *i P P 13 49 46.3 -1.7
PDGK pmax pmax
comp=Z,9.0nm,0.5s
KURK **Kurchatov** 45.36 310 eP P 13 49 47.4 -0.4
comp=Z,25nm,0.6s
KURK PcP PcP 13 51 20.0 -0.2
KURK **Kurchatov** 45.36 310 *d iP P 13 49 47.6 -0.2
KURK pmax pmax
comp=Z,24nm,0.7s
KURBB **Kurchatov Arra** 45.42 310 P P 13 49 48.4 +0.1
comp=Z,13nm,0.5s,baz=86,slow=6.9,SNR=108
KURBB PcP PcP 13 51 20.0 -0.4
comp=Z,2.3nm,0.7s,baz=98,slow=3.8,SNR=6.5
BATI **Baumata** 45.44 199 P P 13 49 49.2 +0.4
comp=Z,11nm,0.3s,baz=60,slow=2.7,SNR=3.4
KOLN **Koldanda** 45.97 278 eP P 13 49 53.1 -0.1
comp=Z,9.0nm,0.4s
PYUN **Piuthan** 46.36 278 eP P 13 49 56.3 +0.2
comp=Z,35nm,0.5s
PSI **Prapat** 47.03 238 P P 13 50 01.2 -0.1
comp=Z,13nm,0.7s,baz=48,slow=4.0,SNR=7.4
PSI **Prapat** 47.03 238 eP P 13 50 00.7 -0.6
comp=Z,12nm,0.7s
PSI **Prapat** 47.03 238 eP P 13 50 00.7 -0.6
PSI pmax pmax
comp=Z,12nm,0.7s
LEM **Lembang** 49.01 220 P P 13 50 16.5 +0.2
comp=Z,46nm,0.6s,baz=324,slow=19,SNR=4.7
GSI **Gunungsitoli** 49.03 237 eP P 13 50 15.8 -0.5
comp=Z,79nm,0.6s
AAK **Ala-Archa** 49.08 300 P P 13 50 16.4 0.0
comp=Z,2.0nm,0.5s,baz=125,slow=7.7,SNR=9.4
AAK PcP PcP 13 51 34.0 0.0
comp=Z,2.4nm,0.6s,baz=143,slow=5.2,SNR=7.0
OTUK **Ortayu** 49.64 307 P P 13 50 20.4 -0.1
OTUK pmax pmax
comp=Z,24nm,0.8s
BVA0 **Borovoye Array** 50.33 314 P P 13 50 24.8 -0.7
BVA0 pmax pmax
comp=Z,5.0nm,0.5s
BVAR **Borovoye Array** 50.33 314 P P 13 50 25.5 0.0
comp=Z,4.3nm,0.3s,baz=93,slow=7.6,SNR=33
BVAR PcP pP 13 51 38.0 -1.9
comp=Z,4.7nm,0.6s,baz=98,slow=3.0,SNR=12
BRVK **Borovoye** 50.39 314 eP P 13 50 25.9 +0.1
comp=Z,9.6nm,0.8s
BRVK ePcP PcP 13 51 38.3 -0.1
BRVK **Borovoye** 50.39 314 *d iP P 13 50 26.0 +0.1
BRVK pmax pmax
comp=Z,35nm,1.2s
IM3 **Indian Mountai** 51.35 29 eP P 13 50 33.6 +0.9
IM3 ePcP PcP 13 51 42.9 +1.3
KK05 **Karatay Array** 51.83 301 eP P 13 50 36.7 0.0
KK06 **Karatay Array** 51.83 301 eP P 13 50 36.5 -0.2
KK02 **Karatay Array** 51.84 301 eP P 13 50 36.4 -0.4
KK02 ePcP PcP 13 51 43.6 -0.4
KK31 **Karatay Array** 51.84 301 eP P 13 50 36.8 +0.1
KK31 **Karatay Array** 51.84 301 *i P P 13 50 36.8 +0.1
KK31 pmax pmax
comp=Z,4.0nm,0.5s
KKAR **Karatay Array** 51.84 301 eP P 13 50 36.8 0.0
KKAR **Karatay Array** 51.84 301 eP P 13 50 36.8 0.0
KK04 **Karatay Array** 51.84 301 eP P 13 50 36.6 -0.2
KK04 ePcP PcP 13 51 43.6 -0.5
KK01 **Karatay Array** 51.84 301 eP P 13 50 36.6 -0.2
KK01 ePcP PcP 13 51 43.4 -0.6
KK03 **Karatay Array** 51.85 301 eP P 13 50 36.7 -0.1
KK07 **Karatay Array** 51.85 301 eP P 13 50 36.7 -0.2
KK07 ePcP PcP 13 51 43.5 -0.5
KK08 **Karatay Array** 51.86 301 eP P 13 50 36.7 -0.2
KK08 ePcP PcP 13 51 43.3 -0.8
PPLA **Purkeypile** 51.95 33 eP P 13 50 39.1 +1.7
comp=Z,8.6nm,0.6s
KDAK **Kodiak Island** 51.96 40 *i P P 13 50 37.6 +0.3
CAST **Castle Rocks** 51.99 33 eP P 13 50 38.9 +1.4
comp=Z,3.5nm,0.7s
NIL **Nilore** 52.38 289 eP P 13 50 41.1 +0.3
comp=Z,26nm,0.7s
NIL **Nilore** 52.38 289 eP P 13 50 41.1 +0.3
NIL pmax pmax
comp=Z,26nm,0.7s
BPAW **Bear Paw Mtn.** 52.47 32 eP P 13 50 42.2 +1.2
comp=Z,13nm,1.7s
MLY **Manley** 52.57 31 eP P 13 50 43.0 +1.2
comp=Z,4.7nm,0.8s
SUA **Susitna One** 52.67 35 eP P 13 50 43.0 +0.5
comp=Z,7.2nm,0.7s
COLD **Coldfoot** 52.81 28 eP P 13 50 44.6 +1.2
comp=Z,1.8nm,0.7s
TOLK **Toolik Lake Re** 53.08 26 eP P 13 50 46.5 +1.1
comp=Z,9.2nm,1.0s
RC01 **Rabbit Creek A** 53.17 36 eP P 13 50 46.3 +0.2
comp=Z,10nm,1.1s
WB2 **Warramunga Arr** 53.34 183 eP P 13 50 46.1 -1.6
WRA **Warramunga Arr** 53.34 183 P P 13 50 47.4 -0.3
comp=Z,6.7nm,0.3s,baz=360,slow=7.6,SNR=140
WRA PcP PcP 13 51 50.1 +0.3
comp=Z,1.4nm,0.7s,baz=360,slow=4.5,SNR=4.7
WRA S S 13 57 49.2 -1.8
comp=Z,0.4nm,0.6s,baz=1.6,slow=12,SNR=4.7
WRA **Warramunga Arr** 53.34 183 P P 13 50 47.4 -0.3
WRA 13 51 50.1
WRA S S 13 57 49.2 -1.8
WRA pmax pmax
comp=Z,8.0nm,0.3s
WRA pmax pmax
comp=Z,1.0nm,0.7s
MCK **McKinley** 53.39 32 eP P 13 50 48.4 +0.8
comp=Z,23nm,1.6s
MCK **McKinley** 53.39 32 eP P 13 50 48.4 +0.8
MCK pmax pmax
comp=Z,23nm,1.6s
PMR **Palmer** 53.43 35 eP P 13 50 47.8 -0.1
comp=Z,9.1nm,0.9s
PMR **Palmer** 53.43 35 eP P 13 50 47.8 -0.1
PMR pmax pmax
comp=Z,9.0nm,0.9s
RND **Reindeer** 53.44 33 eP P 13 50 48.7 +0.6
comp=Z,9.1nm,0.8s
RND **Reindeer** 53.44 33 eP P 13 50 48.7 +0.6
RND pmax pmax
comp=Z,9.0nm,0.8s
MDM **Murphy Dome** 53.64 31 eP P 13 50 50.5 +1.1
comp=Z,16nm,1.1s
WRH **Wood River Hil** 53.72 31 eP P 13 50 50.6 +0.7
comp=Z,4.1nm,0.9s
SML **Sawmill** 53.79 35 eP P 13 50 50.7 +0.1
comp=Z,14nm,1.0s
SML **Sawmill** 53.79 35 eP P 13 50 50.7 +0.1
SML pmax pmax
comp=Z,14nm,1.0s
HDA **Harding Lake** 54.22 31 eP P 13 50 53.3 -0.3

comp=Z,12nm,1.3s
IL1 Eielson Array 54.22 31 *e*P **P** 13 50 53.4 -0.2
ILAR Eielson Array 54.22 31 P **P** 13 50 53.6 +0.1
comp=Z,1.8nm,0.8s,baz=247,slow=5.8,SNR=31
ILAR PcP **PcP** 13 51 50.3 -2.3
comp=Z,0.4nm,0.7s,baz=282,slow=4.3,SNR=3.0
ILB Eielson Array 54.22 31 *e*P **P** 13 50 53.3 -0.3
SCM Sheep Creek Mo 54.27 34 *e*P **P** 13 50 54.6 +0.6
comp=Z,17nm,0.8s
SCM Sheep Creek Mo 54.27 34 *e*P **P** 13 50 54.6 +0.6
SCM pmax pmax
comp=Z,17nm,0.8s
HYB Hyderabad 54.60 268 *i* P **P** 13 50 58.0 +1.0
KLU Klutina 54.97 35 *e*P **P** 13 50 60.0 +0.9
comp=Z,12nm,1.2s
DIV Divide 55.09 35 *e*P **P** 13 51 00.8 +0.9
comp=Z,12nm,0.7s
RIDG Independ'e Rid 55.20 32 *e*P **P** 13 51 00.9 +0.3
comp=Z,40nm,2.0s
HARP HAARP 55.22 34 *e*P **P** 13 51 01.6 +0.9
comp=Z,14nm,0.7s
SVE Sverdlovsk 55.41 320 *e*P **P** 13 51 02.6 +0.5
SVE pmax pmax
comp=Z,18nm,0.9s
SCRK Sand Creek 55.55 32 *e*P **P** 13 51 03.7 +0.5
comp=Z,9.3nm,1.0s
DOT Dot Lake 55.56 32 *e*P **P** 13 51 03.4 +0.3
comp=Z,13nm,0.6s
BMRM Bremner River 55.67 35 *e*P **P** 13 51 04.9 +1.0
comp=Z,14nm,0.7s
MENT Mentasta 55.81 33 *e*P **P** 13 51 06.1 +1.3
comp=Z,12nm,0.6s
ARU Arti 56.62 319 *e*P **P** 13 51 10.0 -0.6
comp=Z,15nm,0.5s
ARU Arti 56.62 319 *d i*P **P** 13 51 10.4 -0.1
ARU 13 51 59.1
ARU *PP **pP** 13 52 25.1 -1.9
ARU S S 13 58 34.5 +1.1
ARU pmax pmax
comp=Z,18nm,1.0s
BALM Baldy 56.75 35 *e*P **P** 13 51 12.1 +0.5
comp=Z,3.9nm,0.6s
BALM Baldy 56.75 35 *e*P **P** 13 51 12.1 +0.5
BALM pmax pmax
comp=Z,4.0nm,0.6s
AS01 Alice Springs 57.05 183 *e*P **P** 13 51 13.7 -0.3
AS31 Alice Springs 57.06 184 *e*P **P** 13 51 13.7 -0.3
comp=Z,2.2nm,0.6s
ASAR Alice Springs 57.06 184 P **P** 13 51 13.9 -0.1
comp=Z,3.0nm,0.3s,baz=355,slow=4.5,SNR=177
ASAR S **S** 13 58 37.0 -2.9
comp=Z,0.4nm,0.8s,baz=16,slow=20,SNR=4.4
AB06 Akbulak array 57.45 311 *e*P **P** 13 51 16.2 -0.3
AB07 Akbulak array 57.47 311 *e*P **P** 13 51 16.3 -0.3
AB07 *e*pP **pP** 13 52 32.5 -0.8
AB05 Akbulak array 57.47 311 *e*P **P** 13 51 16.2 -0.4
AB05 *e*pP **pP** 13 52 32.9 -0.4
AB02 Akbulak array 57.47 311 *e*P **P** 13 51 16.4 -0.2
AB01 Akbulak array 57.47 311 *e*P **P** 13 51 16.4 -0.2
AB01 *e*pP **pP** 13 52 32.8 -0.5
AB31 Akbulak array 57.47 311 *e*P **P** 13 51 16.4 -0.2
AB31 Akbulak array 57.47 311 *i*P **P** 13 51 16.1 -0.5
AB31 pmax pmax
comp=Z,7.0nm,0.4s
ABKAR Akbulak array 57.47 311 *e*P **P** 13 51 16.5 -0.1
comp=Z,242nm,0.4s
AB03 Akbulak array 57.47 311 *e*P **P** 13 51 16.3 -0.3
AB03 *e*pP **pP** 13 52 32.6 -0.7
AB04 Akbulak array 57.48 311 *e*P **P** 13 51 16.4 -0.3
AB04 *e*pP **pP** 13 52 32.5 -0.8
AB08 Akbulak array 57.49 311 *e*P **P** 13 51 16.5 -0.2
AB08 *e*pP **pP** 13 52 33.0 -0.4
AB09 Akbulak array 57.49 311 *e*P **P** 13 51 16.6 -0.2
AB09 *e*pP **pP** 13 52 32.8 -0.7
PALK Pallekele 58.19 257 P **P** 13 51 21.9 -0.2
comp=Z,5.5nm,0.7s,baz=118,slow=2.7,SNR=4.2
AKTO Aktyubinsk 58.36 312 P **P** 13 51 22.1 -0.6
comp=Z,2.9nm,0.6s,baz=69,slow=15,SNR=9.9
INK Inuvik 58.99 26 P **P** 13 51 27.1 +0.5
comp=Z,3.9nm,0.5s,baz=304,slow=6.3,SNR=37
INK Inuvik 58.99 26 *e*P **P** 13 51 27.2 +0.6
comp=Z,4.4nm,0.6s
INK Inuvik 58.99 26 *e*P **P** 13 51 27.2 +0.6
INK pmax pmax
comp=Z,4.0nm,0.6s
WHY Whitehorse 60.39 34 *e*P **P** 13 51 37.8 +1.4
comp=Z,10.0nm,1.3s
DZM Mont Dzumac 62.04 149 P **P** 13 51 48.2 +0.4
comp=Z,5.1nm,0.9s,baz=282,slow=20,SNR=4.7
GEYT Alibeck 62.41 299 P **P** 13 51 50.0 -0.1
comp=Z,3.0nm,0.8s,baz=12,slow=7.6,SNR=6.1
SPITS Spitsbergen Ar 63.17 349 P **P** 13 51 55.1 +0.8
comp=Z,3.7nm,0.6s,baz=10,slow=10,SNR=20
DLBC Dease Lake 63.45 36 *e*P **P** 13 51 58.2 +1.7
TMCR Tamitsa 64.04 331 *e*P **P** 13 52 00.0 -0.1
TMCR pmax pmax
comp=Z,17nm,1.0s
KLMR Klimovskoe 64.75 328 *e*P **P** 13 52 03.4 -1.3
KLMR AMP 13 52 05.3
comp=Z,9.0nm,0.6s
KLMR Klimovskoe 64.75 328 *e*P **P** 13 52 03.3 -1.4
KLMR pmax pmax
comp=Z,9.0nm,0.6s
STKA Stephens Creek 65.29 176 P **P** 13 52 08.6 +0.1
comp=Z,2.1nm,0.6s,baz=336,slow=7.1,SNR=7.6
ARCES ARCESS Array B 65.93 339 P **P** 13 52 12.4 +0.3
comp=Z,9.1nm,0.6s,baz=65,slow=8.6,SNR=66
RES Resolute Bay 66.74 13 *e*P **P** 13 52 17.4 +0.4
comp=Z,11nm,1.0s
RES Resolute Bay 66.74 13 *e*P **P** 13 52 17.5 +0.4
RES pmax pmax
comp=Z,11nm,1.0s
WSAR Wadi Sarin 68.33 284 P **P** 13 52 28.0 +0.1
comp=Z,5.4nm,0.7s,baz=126,slow=4.5,SNR=5.7
YKA Yellowknife Ar 68.48 28 P **P** 13 52 28.4 +0.3
comp=Z,2.4nm,0.8s,baz=299,slow=6.1,SNR=39
OBN Obninsk 68.69 323 *i*P **P** 13 52 29.3 -0.2
OBN *i* 13 52 50.0
OBN pmax pmax
comp=Z,9.0nm,0.5s
TULEG Thule 68.89 6 *e*P **P** 13 52 30.5 +0.1
comp=Z,13nm,0.9s
FIA1 FINESS Array S 70.16 332 *e*P **P** 13 52 38.0 -0.3
comp=Z,33nm,1.0s
FINES FINESS Array B 70.16 332 P **P** 13 52 38.2 0.0
comp=Z,16nm,0.4s,baz=54,slow=6.4,SNR=136
ZEI Tsey 70.21 309 *e*P **P** 13 52 38.3 -0.9
ZEI pmax pmax
comp=Z,4.0nm,0.6s
KBZ Khabaz 70.42 310 P **P** 13 52 41.0 +0.8
comp=Z,11nm,0.8s,baz=76,slow=3.7,SNR=29
KIV Kislovodsk 70.45 310 *e*P **P** 13 52 40.7 +0.2
KIV pmax pmax
comp=Z,19nm,1.1s
NEY Neytrino 70.76 310⇑ *e*P **P** 13 52 43.0 +0.5
NEY pmax pmax
comp=Z,1.0nm,0.8s
GNI Garni 70.89 306 *de*P **P** 13 52 44.4 +1.1
GNI pmax pmax
comp=Z,49nm,0.9s
SUMG Summit 74.04 359 *e*P **P** 13 53 02.8 +1.4
comp=Z,14nm,0.6s
SUMG Summit 74.04 359 *e*P **P** 13 53 02.8 +1.4
SUMG pmax pmax
comp=Z,14nm,0.6s
EDM Edmonton 74.17 36 *e*P **P** 13 53 02.7 +0.7
comp=Z,8.2nm,0.8s
EDM Edmonton 74.17 36 *e*P **P** 13 53 02.7 +0.7
EDM pmax pmax
comp=Z,8.0nm,0.8s
AKASG Malin Array Be 74.79 321 P **P** 13 53 05.2 -0.4
comp=Z,4.9nm,0.4s,baz=50,slow=6.3,SNR=36
AKBB Malin Array Si 74.79 321 *e*P **P** 13 53 04.7 -0.8
comp=Z,12nm,0.4s
AKBB Malin Array Si 74.79 321 *e*P **P** 13 53 04.7 -0.8
AKBB pmax pmax
comp=Z,12nm,0.4s
AK11 Malin Array Si 74.83 321 *e*P **P** 13 53 05.0 -0.7
HFS Hagfors 75.69 334 P **P** 13 53 10.2 -0.2
comp=Z,8.8nm,0.4s,baz=86,slow=4.6,SNR=49
NC405 NORSAR Array S 75.69 336 *e*P **P** 13 53 09.2 -1.2
NB201 NORSAR Array S 75.88 336 *e*P **P** 13 53 10.3 -1.3
NC204 NORSAR Array S 75.90 336 *e*P **P** 13 53 11.7 0.0
NB2 NORSAR Subarra 75.92 336 P **P** 13 53 11.6 -0.2
comp=Z,15nm,0.8s,baz=45,slow=5.9
NB2 NORSAR Subarra 75.92 336 P **P** 13 53 11.6 -0.2
baz=45,slow=5.9
NOA NORSAR Array B 75.92 336 P **P** 13 53 11.6 -0.2
comp=Z,12nm,0.8s,baz=45,slow=5.6,SNR=26
NBO02 NORSAR Array S 76.03 336 *e*P **P** 13 53 12.2 -0.2
WALA Waterton Lakes 76.30 40 *e*P **P** 13 53 13.2 -1.0
comp=Z,6.7nm,0.8s
JTMT Jette 76.87 41 *e*P **P** 13 53 17.0 -0.5
comp=Z,9.7nm,1.1s
J08A Circle Bar Ran 76.95 46 *e*P **P** 13 53 19.1 +1.1
comp=Z,4.4nm,0.5s
BR131 Keskin Array S 78.42 310 *e*P **P** 13 53 26.3 +0.3
BRTR Keskin Array B 78.42 310 P **P** 13 53 26.7 +0.6
comp=Z,6.9nm,0.8s,baz=100,slow=4.3,SNR=23
PAHR Pah Rah Range 78.43 50 *e*P **P** 13 53 26.9 +0.7
comp=Z,3.8nm,1.0s
FFC Flin Flon 78.44 31 *e*P **P** 13 53 26.0 +0.3
comp=Z,2.7nm,0.6s
FFC Flin Flon 78.44 31 *e*P **P** 13 53 26.0 +0.3
FFC pmax pmax
comp=Z,3.0nm,0.6s
FCC Fort Churchill 78.58 24 *e*P **P** 13 53 26.2 -0.1
comp=Z,4.2nm,0.8s
FCC Fort Churchill 78.58 24 *e*P **P** 13 53 26.2 -0.1
FCC pmax pmax
comp=Z,4.0nm,0.8s
RAYN Ar Rayn 78.63 291 *e*P **P** 13 53 27.3 -0.1
comp=Z,11nm,0.7s
TESR Tescani 78.64 319⇑ *i*P **P** 13 53 26.6 -0.4
BUR08 Bucovina Ar. S 78.73 320 *e*P **P** 13 53 27.5 -0.1
BURAR Bucovina Array 78.74 320⇓ *i*P **P** 13 53 28.0 +0.4
BUR04 Bucovina Ar. S 78.74 320 *e*P **P** 13 53 27.6 -0.1
KWP Kalwaria Pacla 78.78 323 *e*P **P** 13 53 27.4 -0.3
KWP Kalwaria Pacla 78.78 323 *e*P **P** 13 53 27.4 -0.3
HRY Holter Researc 78.83 41 *e*P **P** 13 53 28.9 +0.8
BR231 Keskin MP Arra 78.90 311 *e*P **P** 13 53 26.9 -1.8
YERR Yerington 78.92 51 *e*P **P** 13 53 28.8 -0.2
comp=Z,7.1nm,1.2s
VRI Vrincioaia 78.98 318⇑ *i*P **P** 13 53 28.3 -0.6
TLB Topalu 79.01 317⇓ *i*P **P** 13 53 29.3 +0.4
LRM Limekiln Ridge 79.02 42 *e*P **P** 13 53 29.1 -0.2
DLMT Dillon 79.22 42 *e*P **P** 13 53 31.2 +0.9
comp=Z,6.3nm,0.8s
HLID Hailey 79.25 45 *e*P **P** 13 53 31.9 +1.3
comp=Z,2.2nm,0.8s
SFJD Kangerlussuaq 79.52 3 P **P** 13 53 31.6 +0.4
comp=Z,5.6nm,0.7s,baz=288,slow=3.2,SNR=3.0
BOZ Bozeman (W) 79.62 42 *e*P **P** 13 53 33.1 +0.7
comp=Z,2.6nm,0.6s
BOZ Bozeman (W) 79.62 42 *e*P **P** 13 53 33.1 +0.7
BOZ pmax pmax
comp=Z,3.0nm,0.6s
STHS Stebnicka Huta 79.65 323 *e*P **P** 13 53 33.2 +0.8
STHS Stebnicka Huta 79.65 323 *e*P **P** 13 53 33.2 +0.8
STHS pmax pmax
comp=Z,3.0nm,0.9s
OJC Ojcow 79.84 325 *e*P **P** 13 53 33.8 +0.5
OJC Ojcow 79.84 325 *e*P **P** 13 53 33.6 +0.3
comp=Z,12nm,0.9s
OJC Ojcow 79.84 325 *e*P **P** 13 53 33.6 +0.3
OJC pmax pmax
comp=Z,12nm,0.9s
NV01 Mina Array Sit 79.84 51 *e*P **P** 13 53 34.4 +0.5
NVAR Mina Array Bea 79.84 51 P **P** 13 53 35.0 +1.2
comp=Z,2.3nm,0.8s,baz=294,slow=5.0,SNR=13
CRVS Cervenica-Dubn 79.88 323 *e*P **P** 13 53 33.9 +0.3
CRVS Cervenica-Dubn 79.88 323 *e*P **P** 13 53 33.9 +0.3
NIE Niedzica 80.12 324 *e*P **P** 13 53 35.7 +0.8
NIE Niedzica 80.12 324 *e*P **P** 13 53 35.7 +0.8
YHB Horse Butte 80.38 42 *e*P **P** 13 53 37.9 +1.3
comp=Z,4.3nm,0.8s
ASF Jabal al Asfar 80.42 302 P **P** 13 53 37.4 +0.6
comp=Z,2.3nm,0.6s,baz=18,slow=9.6,SNR=3.5
ARR Arges 80.45 319⇓ *i*P **P** 13 53 37.8 +1.1
YHH Holmes Hill 80.55 42 *e*P **P** 13 53 38.8 +1.2
comp=Z,2.6nm,1.1s
DRGR 80.59 321⇓ *i*P **P** 13 53 38.0 +0.6
H17A Grant Village 80.95 42 *e*P **P** 13 53 40.8 +1.2
comp=Z,7.3nm,0.8s
MMAI Mount Meron Ar 81.00 304 P **P** 13 53 40.4 +0.5
comp=Z,3.2nm,0.6s,baz=35,slow=5.1,SNR=6.5
IMW Indian Meadow 81.05 43 *e*P **P** 13 53 40.6 +0.4
comp=Z,5.0nm,1.0s
KSP Ksiaz 81.07 327 *e*P **P** 13 53 40.4 +0.6
FXWY Fox Creek 81.16 43 *e*P **P** 13 53 41.4 +0.7
comp=Z,2.2nm,1.1s
RLMT Red Lodge 81.21 41 *e*P **P** 13 53 41.8 +0.8
comp=Z,3.0nm,0.6s
MORC Moravsky Berou 81.22 325⇑ *i*P **P** 13 53 41.4 +0.7
MORC Moravsky Berou 81.22 325 *e*P **P** 13 53 40.6 -0.1
comp=Z,25nm,1.0s
HVU Hansel Valley 81.29 45 *e*P **P** 13 53 42.4 +1.1
comp=Z,3.7nm,0.6s
TPAW Teton Pass 81.30 43 *e*P **P** 13 53 41.7 +0.2
comp=Z,4.1nm,0.9s
DPC Dobruska-Polom 81.40 326 *e*P **P** 13 53 42.4 +0.8
UPC Upice 81.44 326 *e*P **P** 13 53 42.4 +0.7
UPC Upice 81.44 326 *e*P **P** 13 53 42.4 +0.7
VYHS Vyhne 81.46 324 *e*P **P** 13 53 42.7 +0.8
VYHS Vyhne 81.46 324 *e*P **P** 13 53 42.7 +0.8
VYHS pmax pmax
comp=Z,3.0nm,0.9s
R11A Troy Canyon, C 81.63 49 *e*P **P** 13 53 44.0 +0.8
comp=Z,2.3nm,0.6s
LAO LASA Array 81.83 38 *e*P **P** 13 53 44.9 +1.0
comp=Z,8.8nm,1.0s
VRAC Vranov 81.99 325⇑ *i*P **P** 13 53 45.5 +0.9
TPNV Topopah Spring 82.03 51 *e*P **P** 13 53 45.8 +0.5
comp=Z,3.3nm,0.7s
TPNV Topopah Spring 82.03 51 *e*P **P** 13 53 45.8 +0.5
TPNV pmax pmax
comp=Z,3.0nm,0.7s
PVCC Panska Ves 82.08 327 *e*P **P** 13 53 45.9 +0.9
PVCC Panska Ves 82.08 327 *e*P **P** 13 53 45.9 +0.9
HWUT Hardware Ranch 82.11 45 *e*P **P** 13 53 45.3 -0.3
comp=Z,5.5nm,0.9s
BRG Berggiesshubel 82.12 328 *e*P **P** 13 53 44.1 -1.1
comp=Z,6.2nm,0.7s
BRG Berggiesshubel 82.12 328 *e*P **P** 13 53 44.1 -1.1
BRG pmax pmax
comp=Z,6.0nm,0.7s
CLL Collm 82.22 328 *i*P **P** 13 53 45.8 +0.1
comp=Z,16nm,1.0s
CLL Collm 82.22 328 *e*P **P** 13 53 45.2 -0.5
comp=Z,13nm,0.9s
CLL Collm 82.22 328 *i*P **P** 13 53 45.8 +0.1
CLL pmax pmax
comp=Z,16nm,1.0s
DUG Duguay, Tooele 82.23 47 *e*P **P** 13 53 47.1 +0.9
DUG Duguay, Tooele 82.23 47 *e*P **P** 13 53 47.1 +0.9
GOPC GO Pecny, Ondr 82.41 327 *e*P **P** 13 53 47.3 +0.5
GOPC GO Pecny, Ondr 82.41 327 *e*P **P** 13 53 47.3 +0.5
PRU Pruhonice 82.47 327 *e*P **P** 13 53 47.7 +0.6
PRU Pruhonice 82.47 327 *e*P **P** 13 53 47.7 +0.6
BW06 Boulder Array 82.55 43 *e*P **P** 13 53 47.3 -0.6
comp=Z,3.0nm,0.8s
PD31 Pinedale Array 82.55 43 *e*P **P** 13 53 47.2 -0.7
PDAR Pinedale Array 82.55 43 P **P** 13 53 48.6 +0.8
comp=Z,2.9nm,0.8s,baz=285,slow=1.8,SNR=20
PDAR Pinedale Array 82.55 43 *e*P **P** 13 53 47.0 -0.9
VTS Vitosha 83.00 317⇑ *i*P **P** 13 53 50.9 +0.8
VTS Vitosha 83.00 317 *e*P **P** 13 53 50.3 +0.2
comp=Z,17.1nm,0.8s
VTS Vitosha 83.00 317 *e*P **P** 13 53 50.3 +0.2
VTS pmax pmax
comp=Z,7.0nm,0.8s
EIL Elat 83.20 301 P **P** 13 53 58.3 +7.1
comp=Z,5.5nm,0.6s,baz=353,slow=5.4,SNR=4.8
NKC Novy Kostel 83.24 328 *e*P **P** 13 53 51.5 +0.5
NKC *e*PCP **PcP** 13 53 54.7 +0.1
NKC Novy Kostel 83.24 328 *e*P **P** 13 53 51.5 +0.5
CONA Conrad Observa 83.30 325 *e*PcP **P** 13 53 51.8 +0.4
comp=Z,6.5nm,0.6s
KHC Kasperske Hory 83.53 327 *e*P **P** 13 53 52.7 +0.2
KHC *e*PCP **PcP** 13 53 55.5 -0.4
KHC Kasperske Hory 83.53 327 *e*P **P** 13 53 52.4 -0.1
comp=Z,3.0nm,0.7s
KHC Kasperske Hory 83.53 327 *e*P **P** 13 53 52.4 -0.1
KHC pmax pmax
comp=Z,3.0nm,0.7s
MSU Marysvale 83.66 48 *e*P **P** 13 53 55.4 +1.8
comp=Z,0.2nm,0.7s
MSU Marysvale 83.66 48 *e*P **P** 13 53 55.4 +1.8
GEC2 GERESS Array S 83.67 326 *e*P **P** 13 53 52.5 -0.8
comp=Z,5.3nm,0.7s
GEC2 GERESS Array S 83.67 326 *e*P **P** 13 53 52.5 -0.8
GEC2 pmax pmax
comp=Z,5.0nm,0.7s
GERES GERESS Array B 83.67 326 P **P** 13 53 53.1 -0.2
comp=Z,3.5nm,0.6s,baz=40,slow=5.8,SNR=23
GEA0 GERESS Array S 83.68 326 *e*P **P** 13 53 52.5 -0.9
P17A Butcher Ranch, 83.93 46 *e*P **P** 13 53 55.7 +0.8
comp=Z,6.0nm,0.7s
ARSA Arzberg 83.93 324 *i*P **P** 13 53 52.7 -1.8
comp=Z,0.9nm,0.4s
P18A Preston Nutter 84.13 46 *e*P **P** 13 53 57.4 +1.3
comp=Z,4.7nm,0.7s
KNB Kanab 84.18 49 *e*P **P** 13 53 57.3 +1.1
comp=Z,4.7nm,0.8s
KNB Kanab 84.18 49 *e*P **P** 13 53 57.3 +1.1
KNB pmax pmax
comp=Z,5.0nm,0.8s
SRU San Rafael Swe 84.29 46 *e*P **P** 13 53 57.6 +0.9
comp=Z,5.9nm,0.6s
SRU San Rafael Swe 84.29 46 *e*P **P** 13 53 57.6 +0.9
SRU pmax pmax
comp=Z,6.0nm,0.6s
RWWY Rawlins 84.57 43 *e*P **P** 13 53 58.8 +0.7
comp=Z,9.3nm,0.9s
SOKA Soboth 84.58 324 *e*PcP **P** 13 53 57.9 +0.1
comp=Z,2.5nm,0.5s
OBKA Obir 84.93 324 *e*PcP **P** 13 54 00.3 +0.8
comp=Z,2.8nm,0.6s
EKA Eskdalemuir Ar 85.09 339 P **P** 13 53 59.7 -0.3
comp=Z,2.5nm,0.5s,baz=34,slow=5.4,SNR=10
PDG Podgorica 85.31 319⇑ *i*P **P** 13 54 01.4 0.0
PV10 Paradox Valley 85.65 46 *e*P **P** 13 54 04.8 +1.3
WATA Walderalm 85.75 326 *e*PcP **P** 13 54 03.5 -0.1
comp=Z,3.5nm,0.4s
WTTA Wattenberg 85.77 326 *e*PcP **P** 13 54 04.5 +0.7
comp=Z,2.8nm,0.6s
MOTA Moosalm 85.96 327 *e*P **P** 13 54 02.9 -1.8
comp=Z,1.3nm,0.4s
RETA Reutte 86.01 327 *e*P **P** 13 54 03.9 -0.9
comp=Z,2.4nm,0.5s
FETA Feichten 86.37 327 *e*PcP **P** 13 54 06.0 -0.6
comp=Z,2.3nm,0.7s
DAVA Damuels 86.56 327 *i*PcP **P** 13 54 07.3 -0.3
comp=Z,6.4nm,0.6s
TUE Stuetta 87.41 327 *e*P **P** 13 54 10.7 -1.0
comp=Z,45nm,1.9s
TXAR Lajitas Array 94.98 50 P **P** 13 54 47.8 +0.9
comp=Z,1.2nm,0.8s,baz=287,slow=2.8,SNR=14
TORD Torodi Ar. Bea 117.03 310 PKP **PKPdf** 14 00 06.3 -1.0
comp=Z,0.9nm,0.6s,baz=9.5,slow=2.4,SNR=8.5
KOWA Kowa 119.48 316 PKP **PKPdf** 14 00 11.4 -0.6
comp=Z,1.7nm,0.5s,baz=16,slow=7.4,SNR=4.4
DBIC Dimbokro 126.11 311 PKP **PKPdf** 14 00 24.4 -0.3
comp=Z,1.7nm,0.6s,baz=326,slow=5.2,SNR=3.1
SDV Santo Domingo 130.17 37 PKP **PKPdf** 14 00 32.0 -0.7
comp=Z,2.8nm,0.4s,baz=265,slow=19,SNR=3.4
LPAZ La Paz 151.44 59 PKPbc **PKPbc** 14 01 16.8 -0.4
comp=Z,2.6nm,0.6s,baz=350,slow=4.1,SNR=9.5
LPAZ La Paz 151.44 59 *e*PKPbc **PKPbc** 14 01 16.4 -0.7
LPAZ La Paz 151.44 59 *e*PKIKP **PKPbc** 14 01 16.4 -0.7

IDC 10 13:43:34.2±9.1, 4.6°64S×153.7°3E, h105km±63km, mb3.4/3, mb1 3.7/4, mb1mx3.2/53, mbtmp3.9/4, Error ellipse: s-maj=93.4km s-min=31.4km az=102.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**8.06**	**234**	P	Pn	13 45 28.6	+0.1
	5.7nm,0.3s,baz=44,slow=4.6,SNR=19						
PMG				S	Sn	13 46 58.3	+0.2
	3.1nm,0.3s,baz=7.5,slow=22,SNR=6.3						
WRA	**Warramunga Arr**	**24.25**	**230**	P	P	13 48 42.2	+0.5
	3.1nm,0.3s,baz=55,slow=10,SNR=56						
ASAR	**Alice Springs**	**26.90**	**223**	P	P	13 49 05.3	-0.3
	0.3nm,0.4s,baz=56,slow=8.9,SNR=15						
SONM	**Songino Array**	**66.69**	**327**	P	P	13 54 14.3	+0.3
	0.2nm,0.4s,baz=139,slow=6.8,SNR=3.3						
TORD	**Torodi Ar. Bea**	**151.14**	**289**	PKPbc	PKPbc	14 03 15.4	-0.8
	0.4nm,0.6s,baz=55,slow=3.0,SNR=3.0						

*NIED **10** 13:54:00, 30.7°0N×142.2°0E, h5km, Mw4.2 Best double couple: M0 2.56000×10^15 NP1: φ=177.00000°, δ=35.00000°, λ=44.00000°. NP2: φ=48.00000°, δ=66.00000°, λ=117.00000°.*
*IDC **10** 13:54:19.7±0.5, 30.5°7N×142.0°4E, h0km, mb4.1/24, mb1 4.2/28, mb1mx4.1/68, mbtmp4.1/28, ML3.9/4, MS3.4/15, Ms1 3.4/15, ms1mx3.1/62, Error ellipse: s-maj=15.8km s-min=13.2km az=74.0*
*JMA **10** 13:54:20.7±0.1, 30.7°3N×142.2°3E, h30km, M4.7*
*ISCJB **10** 13:54:21.3±0.3, 30.6°7N±0.0°3×142.1°0E±0.0°5, h23km, mb4.3/35, MS3.4/11, Error ellipse: s-maj=6.6km s-min=3.6km az=164.7*
*NEIC **10** 13:54:23.3±1.5, 30.5°8N×142.0°3E, h24km±10km, mb4.7/19, Error ellipse: s-maj=5.9km s-min=4.4km az=84.0*

ISC 10 13:54:22.7±0.5, 30.6°5N±0.0°5×142.1°0E±0.0°7, h23km, n123, σ1 59/128, mb4.3/35, MS3.4/11, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHCJ	**Hachijojimakas**	**3.11**	**122**	P	**Pn**	**13 55 09.6**	**-0.8**
JHCJ				*e*S	**Sn**	**13 55 45.7**	**-1.1**
JHJ2	**Mitsune**	**3.13**	**322**	P	**Pn**	**13 55 09.5**	**-1.1**
JHJ2	**Mitsune**	**3.13**	**322**	*e*Pn	**Pn**	**13 55 09.7**	**-0.9**
JHJ	**Hachijo jima 2**	**3.15**	**322**	Pn	**Pn**	**13 55 09.3**	**-1.6**
	21nm,0.3s,baz=280,slow=23,SNR=23						
JHJ				Sn	**Sn**	**13 55 43.4**	**-4.5**
	64nm,0.3s,baz=78,slow=22,SNR=7.2						
JHJ				LR	LR	13 56 26.3	
	comp=Z,471nm,18.6s,baz=96,slow=40						
CBIJ	**Chichi jima**	**3.54**	**179**	P	**Pn**	**13 55 16.6**	**+0.3**
CBIJ	**Chichi jima**	**3.54**	**179**	*e*Pn	**Pn**	**13 55 15.6**	**-0.7**
CBIJ					Sn	**Sn**	**13 55 54.3**	**-3.2**
JCJ	**Chichijima**	**3.54**	**179**	Pn	**Pn**	**13 55 13.8**	**-2.5**
	15nm,0.3s,baz=268,slow=23,SNR=14						
JCJ				Sn	**Sn**	**13 55 54.3**	**-3.2**
	34nm,0.3s,baz=297,slow=23,SNR=7.6						
BSO1	**Boso 1**	**4.10**	**347**	P	**Pn**	**13 55 23.0**	**-0.5**
BSO1				*e*S	**Sn**	**13 56 10.1**	**-0.4**
BSO3	**Boso 3**	**4.35**	**343**	P	**Pn**	**13 55 26.6**	**-0.6**
BSO4	**Boso 4**	**4.58**	**342**	P	**Pn**	**13 55 30.4**	**0.0**
JOD2	**Odawara 2**	**5.25**	**332**	P	**Pn**	**13 55 39.2**	**-0.6**
JHU	**Hanno**	**5.70**	**336**	P	**Pn**	**13 55 45.6**	**-0.4**
JHU				*e*S	**Sn**	**13 56 49.4**	**-1.3**
JYT	**Yasato**	**5.79**	**345**	P	**Pn**	**13 55 47.0**	**-0.1**
JIE	**Ise**	**5.89**	**311**	P	**Pn**	**13 55 49.7**	**+1.2**
JRY	**Ryogami san**	**5.98**	**334**	P	**Pn**	**13 55 50.6**	**+0.7**
JHO	**Hitachi**	**6.08**	**348**	P	**Pn**	**13 55 50.0**	**-1.2**
JHO				*e*S	**Sn**	**13 56 55.2**	**-4.9**
JAG	**Ashikaga**	**6.17**	**340**	P	**Pn**	**13 55 51.9**	**-0.5**
JAG				*e*S	**Sn**	**13 56 59.9**	**-2.3**
INU	**Inuyama**	**6.34**	**319**	*e*Pn	**Pn**	**13 55 55.5**	**+0.8**
MJAR	**Matsushiro Arr**	**6.71**	**332**	Pn	**Pn**	**13 56 00.7**	**+0.8**
	8.4nm,0.3s,baz=161,slow=11,SNR=116						
MJAR				Sn	**Sn**	**13 57 16.1**	**+0.5**
	3.3nm,0.3s,baz=231,slow=31,SNR=6.0						
MJAR				LR	LR	13 58 26.8	
	comp=Z,189nm,19.7s,baz=140,slow=37						
MAJO	**Matsushiro**	**6.71**	**332**	*e*Pn	**Pn**	**13 56 00.8**	**+0.9**
MAJO				*e*Sn	**Sn**	**13 57 16.1**	**+0.4**
MAT	**Matsushiro**	**6.71**	**332**	P	**Pn**	**13 56 00.5**	**+0.6**
MAT				S	**Sn**	**13 57 15.9**	**+0.2**
MJB9	**Matsu-Tunnel**	**6.72**	**332**	*e*Pn	**Pn**	**13 56 00.6**	**+0.7**
JFK	**Kawauchi**	**6.78**	**352**	P	**Pn**	**13 56 59.2**	**-1.6**
JFK				*e*S	**Sn**	**13 57 10.4**	**-6.8**
JMK	**Ichinoseki**	**8.31**	**355**	P	**Pn**	**13 56 20.7**	**-1.1**
JMK				*e*S	**Sn**	**13 57 46.8**	**-8.2**
JNU	**Nakatsue**	**9.85**	**287**	LR	LR	14 00 21.3	
	comp=Z,145nm,18.6s,baz=118,slow=37						
JNU	**Nakatsue**	**9.85**	**287**	*e*Pn	**Pn**	**13 56 43.8**	**+0.8**
ERM	**Erimo**	**11.38**	**4**	*e*Pn	**Pn**	**13 57 01.5**	**-2.2**
ASAJ	**Asahikawa**	**13.45**	**2**	Pn	**Pn**	**13 57 29.1**	**-2.9**
	0.8nm,0.3s,baz=230,slow=9.9,SNR=11						
ASAJ				Sn	Sn	13 59 50.5	-10
	0.5nm,0.3s,baz=180,slow=20,SNR=4.7						
KSRS	**Korea Array**	**13.56**	**304**	Pn	**Pn**	**13 57 35.8**	**+2.1**
	0.2nm,0.3s,baz=111,slow=13,SNR=12						
KSRS				LR	LR	14 02 29.9	
	comp=Z,97nm,19.9s,baz=110,slow=36						
KS15	**Wonju Array Si**	**13.59**	**304**	*e*Pn	**Pn**	**13 57 33.4**	**-0.6**
KSAR	**Wonju Array Be**	**13.59**	**304**	Pn	**Pn**	**13 57 35.8**	**+1.8**
INCN	**Inchon**	**14.51**	**302**	*e*Pn	**Pn**	**13 57 45.5**	**-1.2**
YOJ	**Yonaguni jima**	**18.00**	**255**	*e*Pn	**P**	**13 58 32.3**	**+0.5**
	317nm,1.4s						

TATO	**Taipei**	**19.08**	**258**	*e*P		**Pn**	**13 58 43.1**	**-1.4**
	285nm,1.8s								
YHNB	**Yeheng**	**19.29**	**257**	*e*P		**Pn**	**13 58 45.3**	**-1.9**
	46nm,1.2s								
NACB	**Ninganchiao**	**19.30**	**255**	*e*P		**P**	**13 58 44.2**	**-1.9**
	21nm,0.6s								
YULB	**Yu-li**	**19.87**	**254**	*e*P		**Pn**	**13 58 52.7**	**-1.4**
	15nm,0.6s								
SSLB	**Suanglung**	**19.99**	**255**	*e*P		**Pn**	**13 58 54.3**	**-1.2**
	22nm,0.6s								
PETK	**Petropavlovsk-**	**25.16**	**22**	LR		LR	14 10 19.2		
	comp=Z,43nm,20.5s,baz=234,slow=38								
H11S3	**WAKE ISLAND Hy**	**25.36**	**113**	T		T	14 26 19.6		
	baz=311								
H11S1	**WAKE ISLAND Hy**	**25.36**	**113**	T		T	14 26 19.6		
	baz=311								
H11S2	**WAKE ISLAND Hy**	**25.38**	**113**	T		T	14 26 20.1		
	baz=311								
DAV	**Davao City (W)**	**28.11**	**217**	LR		LR	14 13 12.1		
	comp=Z,30nm,18.0s,baz=46,slow=40								
ULN	**Ulaanbaatar**	**31.78**	**313**	*e*P		**P**	**14 00 46.5**	**+1.1**
	5.2nm,0.6s								
SONA0	**Songino Array**	**32.19**	**312**	*e*P		**P**	**14 00 50.9**	**+2.0**
SONM	**Songino Array**	**32.19**	**312**	P		**P**	**14 00 50.9**	**+2.0**
	2.4nm,0.6s,baz=114,slow=8.1,SNR=12								
SONM				LR		LR	14 14 27.6		
	comp=Z,77nm,18.9s,baz=96,slow=38								
TLY	**Talaya**	**35.20**	**318**	*e*P		**P**	**14 01 17.2**	**+2.2**
	8.7nm,0.9s								
CM31	**Chiang Mai Arr**	**40.85**	**263**	*e*P		**P**	**14 02 02.5**	**-0.5**
CMAR	**Chiang Mai Arr**	**40.85**	**263**	P		**P**	**14 02 02.5**	**-0.5**
	1.0nm,0.7s,baz=61,slow=6.4,SNR=11								
CMAR				LR		LR	14 20 31.2		
	comp=Z,49nm,19.0s,baz=64,slow=38								
ZALV	**Zalesovo Beam**	**46.80**	**317**	P		**P**	**14 02 50.8**	**+0.4**
	0.6nm,0.4s,baz=100,slow=7.9,SNR=3.1								
ZALV				PcP		**PcP**	**14 04 23.6**	**+0.4**
	0.8nm,0.4s,baz=136,slow=2.7,SNR=2.7								
ZALV				LR		LR	14 23 14.0		
	comp=Z,66nm,18.1s,baz=70,slow=37								
ZAA1	**Zalesovo Array**	**46.80**	**317**	*e*P		**P**	**14 02 50.8**	**+0.4**
ZAA1				*e*PcP		**PcP**	**14 04 23.6**	**+0.4**
MK01	**Makanchi Array**	**48.21**	**307**	*e*P		**P**	**14 03 01.1**	**-0.3**
MK31	**Makanchi Array**	**48.22**	**307**	*e*P		**P**	**14 03 01.9**	**+0.4**
MK32	**Makanchi Array**	**48.22**	**307**	*e*P		**P**	**14 03 02.3**	**+0.8**
MKAR	**Makanchi Array**	**48.22**	**307**	P		**P**	**14 03 02.3**	**+0.8**
	2.0nm,0.5s,baz=90,slow=9.6,SNR=35								
MKAR				LR		LR	14 23 08.3		
	comp=Z,34nm,19.6s,baz=80,slow=36								
MKAR	**Makanchi Array**	**48.22**	**307**	*e*P		**P**	**14 03 02.1**	**+0.6**
	20nm,0.8s								
MAKZ	**Makanchi**	**48.43**	**307**	*e*P		**P**	**14 03 03.5**	**+0.3**
	20nm,1.8s								
KURK	**Kurchatov**	**50.49**	**313**	*e*P		**P**	**14 03 19.0**	**+0.3**
	4.8nm,0.8s								
KURBB	**Kurchatov Arra**	**50.55**	**312**	P		**P**	**14 03 19.6**	**+0.4**
	2.5nm,0.6s,baz=88,slow=6.8,SNR=18								
WB2	**Warramunga Arr**	**50.85**	**189**	*e*P		**P**	**14 03 21.5**	**-0.2**
WR1	**Warramunga Arr**	**50.85**	**189**	*e*P		**P**	**14 03 21.9**	**+0.2**
	7.7nm,0.9s								
WRA	**Warramunga Arr**	**50.85**	**189**	P		**P**	**14 03 21.9**	**+0.2**
	4.2nm,0.6s,baz=6.7,slow=7.7,SNR=74								
KDAK	**Kodiak Island**	**51.60**	**38**	P		**P**	**14 03 29.1**	**+2.1**
	8.3nm,0.9s,baz=306,slow=8.7,SNR=2.8								
KDJ	**Kajisay**	**52.36**	**302**	*e*P		**P**	**14 03 33.3**	**+0.2**
	2.9nm,1.1s								
AAK	**Ala-Archa**	**54.22**	**303**	LR		LR	14 27 36.0		
	comp=Z,49nm,19.0s,baz=10,slow=37								
AS01	**Alice Springs**	**54.57**	**189**	*e*P		**P**	**14 03 48.8**	**-0.4**
AS31	**Alice Springs**	**54.57**	**189**	*e*P		**P**	**14 03 48.5**	**-0.7**
	1.0nm,0.6s								
ASAR	**Alice Springs**	**54.58**	**189**	P		**P**	**14 03 49.7**	**+0.4**
	1.0nm,0.5s,baz=7.3,slow=5.3,SNR=30								
ILAR	**Eielson Array**	**54.66**	**30**	P		**P**	**14 03 50.2**	**+0.8**
	0.7nm,0.7s,baz=260,slow=5.8,SNR=9.7								
BVAR	**Borovoye Array**	**55.42**	**316**	P		**P**	**14 03 55.7**	**+0.6**
	1.4nm,0.5s,baz=98,slow=8.2,SNR=3.3								
KK05	**Karatay Array**	**56.98**	**304**	*e*P		**P**	**14 04 06.7**	**+0.2**
KK06	**Karatay Array**	**56.99**	**304**	*e*P		**P**	**14 04 06.7**	**+0.2**
KK02	**Karatay Array**	**56.99**	**304**	*e*P		**P**	**14 04 06.8**	**+0.2**
KK31	**Karatay Array**	**56.99**	**304**	*e*P		**P**	**14 04 07.0**	**+0.4**
KKAR	**Karatay Array**	**56.99**	**304**	*e*P		**P**	**14 04 07.1**	**+0.6**
KK04	**Karatay Array**	**57.00**	**304**	*e*P		**P**	**14 04 06.8**	**+0.2**
KK01	**Karatay Array**	**57.00**	**304**	*e*P		**P**	**14 04 07.0**	**+0.4**
KK03	**Karatay Array**	**57.00**	**304**	*e*P		**P**	**14 04 07.0**	**+0.4**
KK07	**Karatay Array**	**57.01**	**304**	*e*P		**P**	**14 04 06.9**	**+0.3**
KK08	**Karatay Array**	**57.01**	**304**	*e*P		**P**	**14 04 07.1**	**+0.4**
NIL	**Nilore**	**57.37**	**293**	*e*P		**P**	**14 04 09.6**	**+0.2**
	8.6nm,0.8s								
INK	**Inuvik**	**59.85**	**25**	P		**P**	**14 04 27.0**	**+1.0**
	1.0nm,0.9s,baz=326,slow=3.6,SNR=3.0								
INK	**Inuvik**	**59.85**	**25**	*e*P		**P**	**14 04 26.9**	**+0.9**
	9.2nm,1.6s								
ARU	**Arti**	**61.60**	**321**	*e*P		**P**	**14 04 38.3**	**+0.2**
	10.0nm,1.0s								
STKA	**Stephens Creek**	**62.19**	**180**	P		**P**	**14 04 41.9**	**-0.3**
	1.3nm,0.7s,baz=347,slow=20,SNR=3.0								
STKA	**Stephens Creek**	**62.19**	**180**	*e*P		**P**	**14 04 41.4**	**-0.8**
	6.5nm,1.9s								
AB06	**Akbulak array**	**62.58**	**313**	*e*P		**P**	**14 04 45.0**	**+0.2**
AB07	**Akbulak array**	**62.59**	**313**	*e*P		**P**	**14 04 44.9**	**0.0**
AB05	**Akbulak array**	**62.59**	**313**	*e*P		**P**	**14 04 45.1**	**+0.2**
AB02	**Akbulak array**	**62.59**	**313**	*e*P		**P**	**14 04 45.1**	**+0.2**
AB01	**Akbulak array**	**62.60**	**313**	*e*P		**P**	**14 04 45.0**	**+0.1**
AB31	**Akbulak array**	**62.60**	**313**	*e*P		**P**	**14 04 45.1**	**+0.2**
ABKAR	**Akbulak array**	**62.60**	**313**	*e*P		**P**	**14 04 45.0**	**+0.1**
	39nm,0.4s								
AB03	**Akbulak array**	**62.60**	**313**	*e*P		**P**	**14 04 44.9**	**0.0**
AB04	**Akbulak array**	**62.60**	**313**	*e*P		**P**	**14 04 44.7**	**-0.2**
AB08	**Akbulak array**	**62.61**	**313**	*e*P		**P**	**14 04 45.3**	**+0.3**
AB09	**Akbulak array**	**62.61**	**313**	*e*P		**P**	**14 04 45.2**	**+0.2**
AKTO	**Aktyubinsk**	**63.46**	**315**	P		**P**	**14 04 52.7**	**+2.0**
	1.9nm,0.7s,baz=66,slow=11,SNR=5.4								
AKTO				LR		LR	14 32 13.0		
	comp=Z,26nm,18.3s,baz=59,slow=36								
SPITS	**Spitsbergen Ar**	**66.89**	**350**	P		**P**	**14 05 14.5**	**+2.1**
	5.9nm,1.0s,baz=39,slow=9.3,SNR=3.3								
GEYT	**Alibeck**	**67.55**	**302**	P		**P**	**14 05 18.1**	**+0.8**
	1.7nm,0.8s,baz=77,slow=9.3,SNR=4.1								
YKA	**Yellowknife Ar**	**69.07**	**29**	P		**P**	**14 05 26.7**	**+0.4**
	0.5nm,0.8s,baz=294,slow=6.2,SNR=4.0								
ARCES	**ARCESS Array B**	**70.17**	**340**	LR		LR	14 40 16.4		
	comp=Z,48nm,19.2s,baz=270,slow=39								
YBH	**Yreka Blue Hor**	**73.86**	**51**	LR		LR	14 32 05.4		
	comp=Z,43nm,20.5s,baz=248,slow=31								
FIA0	**FINESS Array S**	**74.74**	**333**	*e*P		**P**	**14 06 01.4**	**+1.0**
FINES	**FINESS Array B**	**74.74**	**333**	P		**P**	**14 06 01.4**	**+1.0**
	1.3nm,0.4s,baz=67,slow=5.5,SNR=20								
KBZ	**Khabaz**	**75.55**	**312**	P		**P**	**14 06 06.8**	**+1.3**
	4.2nm,0.8s,baz=116,slow=2.6,SNR=10								
CVLM	**Vallecito**	**76.34**	**54**	*e*P		**P**	**14 06 11.6**	**+1.5**
LRM	**Limekiln Ridge**	**78.34**	**43**	*e*P		**P**	**14 06 20.7**	**-0.8**
NV01	**Mina Array Sit**	**78.40**	**52**	*e*P		**P**	**14 06 21.4**	**-0.5**
NVAR	**Mina Array Bea**	**78.40**	**52**	P		**P**	**14 06 24.0**	**+2.2**
	0.5nm,0.5s,baz=292,slow=6.2,SNR=7.2								
AKASG	**Malin Array Be**	**79.72**	**323**	P		**P**	**14 06 28.2**	**-0.4**
	0.4nm,0.3s,baz=51,slow=5.8,SNR=3.2								
NB200	**NORSAR Array S**	**80.30**	**338**	*e*P		**P**	**14 06 32.1**	**+0.6**
NOA	**NORSAR Array B**	**80.30**	**338**	P		**P**	**14 06 32.1**	**+0.6**
	1.3nm,0.7s,baz=41,slow=5.5,SNR=3.7								
PDAR	**Pinedale Array**	**81.75**	**45**	P		**P**	**14 06 40.4**	**+0.5**
	0.2nm,0.4s,baz=272,slow=4.2,SNR=1.3								
BR101	**Keskin Array S**	**83.54**	**313**	*e*P		**P**	**14 06 48.5**	**-0.7**
BRTR	**Keskin Array B**	**83.54**	**313**	P		**P**	**14 06 48.5**	**-0.7**
	0.3nm,0.4s,baz=98,slow=4.3,SNR=2.5								
RAYN	**Ar Rayn**	**83.66**	**293**	*e*P		**P**	**14 06 50.0**	**+0.1**
	8.4nm,0.8s								
STHS	**Stebnicka Huta**	**84.52**	**326**	*e*P		P	14 06 57.9	+4.1
LTX	**Lajitas**	**93.53**	**53**	*e*P		**P**	**14 07 39.4**	**+2.2**
TXAR	**Lajitas Array**	**93.53**	**53**	P		**P**	**14 07 39.4**	**+2.2**
	0.5nm,0.7s,baz=296,slow=3.5,SNR=4.5								
TXAR				LR		LR	14 50 24.4		
	comp=Z,23nm,18.0s,baz=0.0,slow=36								
TOA1	**Torodi Ar. Sit**	**122.16**	**313**	*e*PKPdf		**PKPdf**	**14 13 16.1**	**-0.2**
TORD	**Torodi Ar. Bea**	**122.16**	**313**	PKP		**PKPdf**	**14 13 16.0**	**-0.2**
	0.4nm,0.5s,baz=55,slow=0.8,SNR=6.6								
LPAZ	**La Paz**	**148.92**	**70**	PKPbc		**PKPab**	**14 14 11.3**	**-2.7**
	0.9nm,0.5s,baz=13,slow=4.3,SNR=4.1								

MEX 10 14:12:13.5±0.5, 17.63N×101.17W, h26km±25km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ZIIG	**Zihuatanejo**	**0.28**	**265**	*i* P	Pb	14 12 18.8	-1.5
ZIIG				*i* S	Sb	14 12 23.8	-1.1
ARIG	**Puente Sto Nin**	**1.02**	**50**	*i* P	Pn	14 12 29.6	-2.5
ARIG				*e*S	Sb	14 12 41.5	-4.0
CAIG	**El Cayaco**	**1.04**	**124**	*e*P	Pb	14 12 33.2	+0.4
CAIG				*i* S	Sb	14 12 42.3	-3.8
PLIG	**Platanillo**	**1.76**	**64**	*e*P	Pn	14 12 40.1	-2.3
PLIG				*e*S	Sn	14 13 00.6	-3.5

IDC 10 14:13:33.5±673.0, 47.12N×48.00E, h0km, Error ellipse: s-maj=223.1km s-min=149.5km az=47.0, Western Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I31KZ	**AKTYUBINSK INF**	**7.40**	**60**	*i*		14 59 35.0	
	baz=248,slow=324,SNR=21						
I43RU	**DUBNA INFRASON**	**11.68**	**329**	*i*		15 27 40.0	
	baz=141,slow=332,SNR=0.2						
I34MN	**SONGINO INFRAS**	**38.67**	**67**	*i*		18 24 30.0	
	baz=289,slow=387,SNR=0.5						

MEX 10 14:22:24.2±0.4, 15.38N×93.77W, h88km±7km, MD3.7, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PCIG		**0.62**	**58**	*i* P	Pn	14 22 38.7	-1.1
PCIG				*e*S	Sn	14 22 49.5	-1.9
TGIG		**1.53**	**24**	*e*P	Pn	14 22 48.9	-1.4
TGIG				*e*S	Sn	14 23 08.7	-1.3
CCIG	**Comitan**	**1.81**	**60**	*e*P	Pn	14 22 52.9	-1.1
CCIG				*e*S	Sn	14 23 15.0	-1.7

*IDC **10** 14:24:14.3±2.6, 52.09N×96.50E, h0km, mb3.5/1, mb1 3.2/4, mb1mx3.0/69, mbtmp3.2/4, ML2.7/3, Error ellipse: s-maj=48.8km s-min=21.3km az=20.0*
*MOS **10** 14:24:15.8±1.8, 51.73N×95.96E, h13km, mb3.9/1, Error ellipse: s-maj=12.2km s-min=8.8km az=175.7*
*ASRS **10** 14:24:16.4±0.5, 51.72N×95.98E, h15km, Ms2.8/1*
*NNC **10** 14:24:27.1±8.3, 51.57N×95.25E, h0km, mb3.3, Error ellipse: s-maj=148.1km s-min=63.9km az=170.0*

ISC 10 14:24:16.3±0.7, 51.68N±0.07×96.00E±0.04, h10km, n39, σ3.906/47, 6C-5D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KZLR	**Kyzyl**	**0.96**	**272**	*i* Pg	**Pg**	**14 24 34.0**	**-0.8**
KZLR				*e*Sg	**Sg**	**14 24 46.6**	**-0.7**
KZLR	**Kyzyl**	**0.96**	**272**	*i* Pg	**Pg**	**14 24 33.0**	**-1.8**
KZLR				*e*		14 24 46.6	
KNGR	**Kungurtug, Tuv**	**1.44**	**138**	*i* PG	**Pn**	**14 24 41.8**	**-0.8**
HVS	**Khovu-Aksy**	**1.54**	**250**	*de*P*	**Pn**	**14 24 44.2**	**+0.3**
ORL	**Orlik**	**2.50**	**68**	*e*PN	**Pb**	**14 24 59.9**	**-1.5**
ORL				*e*		14 25 03.6	
ORL				*e*		14 25 32.8	
CERR	**Cheremushki**	**3.05**	**294**	*e*Pn	**Pn**	**14 25 07.3**	**+2.7**
CERR				*e*Pg	**Pb**	**14 25 12.3**	**+1.6**
CERR				*e*Sg	**Sg**	**14 25 50.5**	**-3.8**
CERR	**Cheremushki**	**3.05**	**294**	*e*PN	**Pn**	**14 25 07.3**	**+2.7**
CERR				*e*		14 25 12.3	
CERR				*e*		14 25 50.5	
MOY	**Mondy**	**3.11**	**88**	*e*PN	**Pn**	**14 25 07.9**	**+2.4**
MOY				*e*		14 25 52.7	
ARS	**Arshan**	**4.00**	**84**	*e*PN	**Pn**	**14 25 19.0**	**+1.4**
ARS				*e*		14 25 27.1	
ARS				*e*		14 26 19.9	
ARS				pmax	pmax		
	comp=Z,34nm,0.3s						
ARS				smax	smax		
	comp=E,616nm,0.8s						
KRAR	**Krasnoyarsk**	**4.72**	**338**	*ce*PN	**Pn**	**14 25 25.7**	**-1.7**
TLY	**Talaya**	**4.76**	**87**	*e*PN	**Pb**	**14 25 40.8**	**+1.0**
TLY				*e*		14 26 42.4	
TLY				pmax	pmax		
	comp=Z,7.0nm,0.4s						
ZAK	**Zakamensk**	**4.78**	**103**	*e*PN	**Pb**	**14 25 40.0**	**-0.1**
ZAK				*e*		14 26 43.9	
ZAK				pmax	pmax		
	comp=Z,17nm,0.6s						
ZAK				smax	smax		
	comp=N,109nm,1.2s						
TASR	**Tashtagol**	**5.11**	**285**	*e*Pn	**Pn**	**14 25 35.2**	**+2.4**
TASR				*e*Pg	**Pb**	**14 25 48.7**	**+3.0**
TASR				*e*Sg	**Sg**	**14 26 55.5**	**-4.6**
TASR	**Tashtagol**	**5.11**	**285**	*e*PN	**Pn**	**14 25 35.3**	**+2.4**
TASR				*e*		14 25 48.7	
IRK	**Irkutsk**	**5.15**	**80**	*e*PN	**Pb**	**14 25 46.9**	**+0.5**
IRK				*e*		14 26 53.7	
IRK				pmax	pmax		
	comp=Z,48nm,0.1s						
IRK				smax	smax		
	comp=N,283nm,0.6s						
ARTR	**Artybash**	**5.42**	**275**	*e*Pn	**Pn**	**14 25 40.6**	**+3.5**
ARTR				*e*Pg	**Pg**	**14 25 56.7**	**-3.3**
ARTR				*e*Sg	**Sb**	**14 27 01.0**	**+5.0**
ARTR	**Artybash**	**5.42**	**275**	*e*PN	**Pn**	**14 25 40.6**	**+3.5**
ARTR				*e*		14 25 56.7	
ARTR				*e*		14 27 01.0	
AKAR	**Aktash**	**5.46**	**259**	*e*Pn	**Pn**	**14 25 40.9**	**+3.1**
AKAR				*e*Pg	**Pg**	**14 25 58.6**	**-2.3**
AKAR				*e*Sg	**Sb**	**14 27 03.0**	**+5.5**
AKAR	**Aktash**	**5.46**	**259**	*e*PN	**Pn**	**14 25 40.9**	**+3.1**
AKAR				*e*		14 25 58.6	
AKAR				*e*		14 27 02.0	
DGZ	**Jazzator, Alta**	**5.79**	**253**	*e*PN	**Pn**	**14 25 40.4**	**-2.0**
ELT	**Eltsovka**	**6.17**	**289**	*e*Pn	**Pn**	**14 25 45.2**	**-2.2**
ELT				*e*Pg	**Pb**	**14 26 05.3**	**+1.5**
ELT				*e*Sg	**Sb**	**14 27 25.3**	**+7.7**
ELT	**Eltsovka**	**6.17**	**289**	*e*PN	**Pn**	**14 25 45.2**	**-2.2**
ELT				*e*		14 26 05.3	
ELT				*e*		14 27 25.3	
UKR	**Ust'-Kan**	**7.08**	**268**	*e*Pn	**Pn**	**14 26 00.4**	**+0.4**
UKR				*e*Pg	Pb	14 26 24.6	+5.3
UKR				*e*Sg	**Sg**	**14 27 57.0**	**-6.4**
UKR	**Ust'-Kan**	**7.08**	**268**	*e*PN	**Pn**	**14 26 00.4**	**+0.4**
UKR				*e*		14 26 24.6	
ZALV	**Zalesovo Beam**	**7.15**	**293**	Pn	**Pn**	**14 26 03.6**	**+2.8**
	comp=N,0.5nm,0.3s,baz=106,slow=14,SNR=6.2						
ZALV				Lg	Lg	14 27 56.4	
	comp=N,1.1nm,0.3s,baz=111,slow=24,SNR=8.0						
OGRR	**Ongureny**	**7.32**	**70**	*e*P	**Pn**	**14 26 03.9**	**+0.7**
SONM	**Songino Array**	**7.75**	**116**	Pg	**Pb**	**14 26 33.2**	**+2.4**
	comp=N,0.5nm,0.3s,baz=305,slow=16,SNR=19						
SONM				Lg	Lg	14 28 18.8	
	comp=N,1.8nm,0.3s,baz=305,slow=28,SNR=7.2						
ULN	**Ulaanbaatar**	**8.11**	**114**	⇑*e*P	**Pn**	**14 26 12.3**	**-1.9**
NVS	**Novosibirsk**	**8.28**	**297**	*e*Pg	Pg	14 26 47.4	-7.3
NVS				*e*Sg	**Sg**	**14 28 34.1**	**-7.7**
MK31	**Makanchi Array**	**10.21**	**247**	⇑Pn	Pn	14 26 48.0	+5.2
	comp=N,0.1nm,0.2s,baz=47,slow=16,SNR=4.7						
MK31				⇑Pg		14 27 26.1	
	comp=N,0.5nm,0.4s,baz=70,slow=16,SNR=3.9						
MK31				⇑Lg	Lg	14 29 36.9	
	comp=N,27nm,1.4s,baz=62,slow=30,SNR=3.8						
MKAR	**Makanchi Array**	**10.21**	**247**	Pn	Pn	14 26 48.6	+5.8
	comp=N,0.1nm,0.3s,baz=50,slow=16,SNR=5.1						
MKAR				Lg	Lg	14 29 34.4	
	comp=N,0.2nm,0.3s,baz=64,slow=34,SNR=4.0						
MAKZ	**Makanchi**	**10.38**	**247**	⇓Lg	Lg	14 29 41.3	
	comp=N,18nm,1.2s						
KURK	**Kurchatov**	**10.95**	**272**	⇓Lg	Lg	14 29 58.2	
	comp=N,11nm,0.8s						
KURK	**Kurchatov**	**10.95**	**272**	⇓*e*P	**Pn**	**14 26 53.2**	**+0.3**
KURBB	**Kurchatov Arra**	**11.03**	**271**	Pn	**Pn**	**14 26 56.5**	**+2.6**
	comp=N,0.0nm,0.3s,baz=75,slow=15,SNR=2.7						
KURBB				Lg	Lg	14 29 58.9	
	comp=N,0.0nm,0.3s,baz=79,slow=30,SNR=7.0						
AAK	**Ala-Archa**	**17.14**	**247**	⇑*e*P	**Pn**	**14 28 14.4**	**-1.6**
AAK				pmax	pmax		
	comp=Z,6.0nm,2.4s						
YAK	**Yakutsk**	**20.88**	**47**	*e*P	**P**	**14 28 57.5**	**-0.7**
YAK				pmax	pmax		
	comp=Z,2.0nm,0.8s						
AKTO	**Aktyubinsk**	**23.73**	**282**	P	**P**	**14 29 29.7**	**+1.3**
	comp=Z,1.1nm,0.7s,baz=85,slow=10,SNR=3.0						
TIXI	**Tiksi**	**24.79**	**24**	⇓*e*P	**P**	**14 29 37.8**	**0.0**
TIXI				pmax	pmax		
	comp=Z,8.0nm,3.1s						

*IDC **10** 14:47:45.9±0.9, 15.16S×173.52W, h0km, mb3.8/8, mb1 4.1/9, mb1mx3.9/44, mbtmp3.9/9, ML4.4/1, MS3.4/11, Ms1 3.4/11, ms1mx3.0/44, Error ellipse: s-maj=47.3km s-min=17.0km az=141.0*
*NEIC **10** 14:47:46.7±0.6, 15.24S×173.47W, h10km, mb4.4/5, Error ellipse: s-maj=22.4km s-min=10.0km az=134.0*

ISC 10 14:47:48.7±0.6, 15.36S±0.10×173.1W±0.1, h30km, n33, σ2.39/20, mb3.9/11, MS3.5/10, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**1.95**	**42**	P	**Pn**	**14 48 20.5**	**+0.7**
	112nm,0.3s,baz=215,slow=9.7,SNR=171						
AFI				Sn	**Sn**	**14 48 38.8**	**-4.5**
	439nm,0.3s,baz=86,slow=17,SNR=35						
AFI				LR	LR	14 49 16.5	
	comp=Z,348nm,19.5s,baz=234,slow=43						
AFI	**Afiamalu**	**1.95**	**42**	*e*Pn	**Pn**	**14 48 20.0**	**+0.2**
AFI				*e*Sn	**Sn**	**14 48 39.0**	**-4.3**
AFI				*e*		14 49 16.5	
FUNA	**Funafuti**	**10.13**	**311**	*e*Pn	Pn	14 50 03.9	-8.2
RAR	**Rarotonga**	**13.95**	**117**	*e*Pn	**Pn**	**14 51 02.6**	**-1.8**
RAO	**Raoul Island**	**14.51**	**197**	*e*Pn	**Pn**	**14 51 11.3**	**-0.8**
DZM	**Mont Dzumac**	**20.45**	**248**	LR	LR	14 58 57.7	
	comp=Z,128nm,19.2s,baz=124,slow=33						
DZM	**Mont Dzumac**	**20.45**	**248**	*e*P	**P**	**14 52 21.4**	**-2.7**
	14nm,1.1s						
PPT	**Papeete**	**22.69**	**99**	LR	LR	15 01 08.4	
	comp=Z,52nm,18.5s,baz=338,slow=35						
URZ	**Urewera**	**24.38**	**199**	P	**P**	**14 53 06.1**	**+1.8**
	4.6nm,0.8s,baz=80,slow=6.1,SNR=2.9						
URZ				LR	LR	15 01 03.1	
	comp=Z,91nm,19.5s,baz=18,slow=33						
RPZ	**Rata Peaks**	**31.31**	**202**	LR	LR	15 05 09.3	
	comp=Z,97nm,18.1s,baz=358,slow=33						
H11S2	**WAKE ISLAND Hy**	**39.07**	**329**	T	T	15 35 54.3	
	baz=147,slow=76,SNR=7.7						
H11S3	**WAKE ISLAND Hy**	**39.08**	**329**	T	T	15 35 55.1	
	baz=147,slow=76,SNR=5.6						
H11S1	**WAKE ISLAND Hy**	**39.09**	**329**	T	T	15 36 00.1	
	baz=147,slow=76,SNR=6.2						
H11N3	**WAKE ISLAND Hy**	**40.01**	**330**	T	T	15 37 04.1	
	baz=132,slow=75						
H11N1	**WAKE ISLAND Hy**	**40.02**	**330**	T	T	15 37 04.1	
	baz=132						
H11N2	**WAKE ISLAND Hy**	**40.03**	**330**	T	T	15 37 04.1	
	baz=132,slow=75						
STKA	**Stephens Creek**	**44.28**	**240**	P	**P**	**14 55 55.5**	**-0.4**
	1.2nm,0.6s,baz=90,slow=8.1,SNR=3.7						
STKA	**Stephens Creek**	**44.28**	**240**	*e*P	**P**	**14 55 54.3**	**-1.6**
	4.4nm,1.7s						
WR1	**Warramunga Arr**	**50.11**	**257**	*e*P	**P**	**14 56 40.8**	**-0.8**
	31nm,2.0s						
WRA	**Warramunga Arr**	**50.11**	**257**	P	**P**	**14 56 40.8**	**-0.8**
	0.5nm,0.4s,baz=92,slow=6.9,SNR=16						
AS31	**Alice Springs**	**50.37**	**252**	*e*P	**P**	**14 56 41.7**	**-1.8**
	0.9nm,0.8s						
ASAR	**Alice Springs**	**50.37**	**252**	P	**P**	**14 56 42.8**	**-0.8**
	2.3nm,0.5s,baz=90,slow=7.7,SNR=62						
JNU	**Nakatsue**	**71.97**	**313**	LR	LR	15 26 28.3	
	comp=Z,9.8nm,20.4s,baz=258,slow=32						
PET	**Petropavlovsk**	**72.32**	**343**	*e*P	**P**	**14 59 10.1**	**-1.2**
	23nm,1.4s						
YBH	**Yreka Blue Hor**	**73.41**	**37**	LR	LR	15 24 55.9	
	comp=Z,34nm,20.5s,baz=221,slow=30						
NVAR	**Mina Array Bea**	**74.13**	**42**	P	**P**	**14 59 25.8**	**+3.1**
	0.6nm,0.6s,baz=240,slow=7.2,SNR=4.9						
NVAR				LR	LR	15 25 50.7	
	comp=Z,40nm,20.7s,baz=290,slow=31			

*IDC **10** 15:05:57.0±2.2, 15°.89S×73°.36W, h98km±19km, mb3.2/5, mb1 3.6/8, mb1mx3.4/48, mbtmp3.8/8, Error ellipse: s-maj=28.6km s-min=15.9km az=38.0*

ISC 10 15:05:53.7±0.7, **16°.09S**±0°.08×**73°.49W**±0°.10, **h63km, n27, σ2§25/27, mb3.5/4, 4D, Near coast of Peru**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PB12	**IPOC Station P**	**3.93**	**130**	⇓*iP*	**Pn**	**15 06 54.1**	**+2.4**
PB12				*eS*	**Sn**	**15 07 35.9**	**-0.7**
PB12				IAML		15 07 38.2	
	comp=N,3μm,0.2s						
PB16	**IPOC Station P**	**4.42**	**121**	*eP*	**Pn**	**15 07 01.8**	**+3.1**
PB16				*eS*	**Sn**	**15 07 50.3**	**+1.1**
PB16				IAML		15 07 52.4	
	comp=N,2μm,0.5s						
PSGC	**Pisagua**	**4.74**	**138**	⇓*iP*	**Pn**	**15 07 05.3**	**+2.5**
PSGC				*eS*	**Sn**	**15 07 55.6**	**-0.9**
PSGC				IAML		15 08 00.6	
	comp=E,426nm,0.5s						
MNMC	**Minye Minye**	**4.79**	**130**	⇓*iP*	**Pn**	**15 07 06.4**	**+2.8**
MNMC				*eS*	**Sn**	**15 07 57.0**	**-1.0**
MNMC				IAML		15 08 03.6	
	comp=N,750nm,0.3s						
LPAZ	**La Paz**	**5.15**	**93**	P	**Pn**	**15 07 12.8**	**+3.9**
	comp=N,1.4nm,0.3s,baz=311,slow=6.5,SNR=35						
PB11	**IPOC Station P**	**5.17**	**136**	⇓*iP*	**Pn**	**15 07 11.3**	**+2.7**
PB11				*eS*	**Sn**	**15 08 06.1**	**-0.9**
PB11				IAML		15 08 10.3	
	comp=E,3μm,0.5s						
NNA	**Nana**	**5.21**	**321**	P	**Pn**	**15 07 10.8**	**+1.6**
	comp=E,23nm,0.3s,baz=139,slow=11,SNR=19						
NNA				S	**Sn**	**15 08 10.2**	**+2.1**
	comp=E,20nm,0.3s,baz=205,slow=20,SNR=4.0						
PB08	**IPOC Station P**	**5.77**	**135**	*eP*	**Pn**	**15 07 19.8**	**+2.7**
PB02	**IPOC Station P**	**6.22**	**147**	*eP*	**Pn**	**15 07 25.7**	**+2.7**
PB01	**IPOC Station P**	**6.22**	**143**	*eP*	**Pn**	**15 07 25.3**	**+2.3**
PB07	**IPOC Station P**	**6.57**	**149**	*eP*	**Pn**	**15 07 30.4**	**+2.5**
PB04	**IPOC Station P**	**6.97**	**154**	*eP*	**Pn**	**15 07 35.5**	**+2.2**
ATAH	**Atahualpa**	**10.11**	**331**	P	**Pn**	**15 08 17.5**	**+1.0**
	comp=E,0.3nm,0.3s,baz=153,slow=9.0,SNR=2.2						
PTGA	**Pitinga**	**20.27**	**42**	P	**P**	**15 10 21.2**	**-3.0**
	comp=E,1.7nm,0.6s,baz=202,slow=15,SNR=3.2						
PLCA	**Paso Flores**	**24.69**	**175**	P	**P**	**15 11 10.3**	**+1.4**
	comp=E,2.8nm,1.2s,baz=333,slow=11,SNR=3.0						
TXAR	**Lajitas Array**	**53.74**	**327**	P	**P**	**15 15 10.2**	**+0.4**
	comp=E,0.2nm,0.6s,baz=152,slow=6.1,SNR=2.3						
TORD	**Torodi Ar. Bea**	**79.79**	**73**	P	**P**	**15 17 53.6**	**-2.2**
	comp=E,1.4nm,0.6s,baz=251,slow=4.9,SNR=8.5						
YKA	**Yellowknife Ar**	**84.70**	**342**	P	**P**	**15 18 18.1**	**-2.2**
	comp=E,0.1nm,0.5s,baz=136,slow=5.8,SNR=6.0						
H11N3	**WAKE ISLAND Hyl**	**22.66**	**283**	T	T	17 40 26.4	
	baz=99						
H11N2	**WAKE ISLAND Hyl**	**22.68**	**283**	T	T	17 40 31.2	
	baz=99						
H11N1	**WAKE ISLAND Hyl**	**22.68**	**283**	T	T	17 40 33.6	
	baz=99						
H11S2	**WAKE ISLAND Hyl**	**22.70**	**282**	T	T	17 40 23.3	
	baz=99						
H11S1	**WAKE ISLAND Hyl**	**22.71**	**282**	T	T	17 40 28.2	
	baz=99						
H11S3	**WAKE ISLAND Hyl**	**22.72**	**282**	T	T	17 40 21.9	
	baz=99						
ASAR	**Alice Springs**	**132.28**	**215**	PKP	**PKPdf**	**15 24 59.6**	**-1.9**
	comp=E,0.4nm,1.0s,baz=133,slow=1.9,SNR=6.6						
WRA	**Warramunga Arr**	**134.95**	**218**	PKP	**PKPdf**	**15 25 05.1**	**-1.4**
	comp=E,0.6nm,0.3s,baz=53,slow=9.8,SNR=15						
SONM	**Songino Array**	**148.34**	**0**	PKPbc	**PKPbc**	**15 25 32.0**	**-1.1**
	comp=E,0.5nm,0.6s,baz=338,slow=2.7,SNR=4.7						

*ISCJB **10** 15:09:33.7±0.8, 8°.9S±0°.1×70°.9W±0°.2, h600km, mb3.1/4, Error ellipse: s-maj=28.5km s-min=11.5km az=158.5*

*IDC **10** 15:09:35.0±1.4, 9°.26S×70°.84W, h628km±31km, mb2.8/4, mb1 3.2/7, mb1mx2.8/49, mbtmp3.9/7, Error ellipse: s-maj=43.0km s-min=29.1km az=36.0*

ISC 10 15:09:34.7±0.8, **9°.1S**±0°.1×**70°.9W**±0°.1, **h600km, n10, σ1§69/9, mb3.1/4, Peru-Brazil border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NNA	**Nana**	**6.50**	**243**	P	**P**	**15 11 22.2**	**+1.9**
	1.6nm,0.3s,baz=69,slow=8.6,SNR=4.2						
LPAZ	**La Paz**	**7.65**	**160**	P	**P**	**15 11 31.6**	**+0.2**
	0.7nm,0.3s,baz=0.9,slow=8.4,SNR=7.6						
LPAZ				S	**S**	**15 13 04.8**	**-2.0**
	0.1nm,0.3s,baz=177,slow=18,SNR=2.9						
PTGA	**Pitinga**	**13.70**	**53**	P	**P**	**15 12 32.4**	**+1.7**
	1.9nm,0.3s,baz=215,slow=16,SNR=12						
TXAR	**Lajitas Array**	**49.56**	**322**	P	**P**	**15 17 32.5**	**+0.1**
	0.2nm,0.6s,baz=150,slow=8.2,SNR=3.1						
PDAR	**Pinedale Array**	**62.50**	**329**	P	**P**	**15 19 00.2**	**-1.0**
	0.3nm,0.5s,baz=136,slow=9.4,SNR=5.5						
ULM	**Lac du Bonnet**	**62.98**	**342**	P	**P**	**15 19 01.9**	**-1.8**
	1.7nm,0.3s,baz=140,slow=5.2,SNR=6.7						
YKA	**Yellowknife Ar**	**78.90**	**341**	P	**P**	**15 20 35.9**	**-0.8**
	0.7nm,0.6s,baz=136,slow=5.5,SNR=14						
ASAR	**Alice Springs**	**139.40**	**216**	PKhKP	PKPpre	15 27 48.0	
	0.2nm,0.4s,baz=134,slow=2.9,SNR=4.9						
WRA	**Warramunga Arr**	**141.91**	**221**	PKhKP	PKPpre	15 27 52.6	
	0.6nm,0.3s,baz=135,slow=2.9,SNR=17						
KSRS	**Korea Array**	**147.03**	**332**	PKPbc	**PKPdf**	**15 28 09.7**	**+1.3**
	0.5nm,0.5s,baz=50,slow=2.7,SNR=4.5						

MAN 10 15:10:31, 10°.84N×122°.79E, h23km, mb3.6, ML2.3, MS1.7, 1C, Panay

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUIM	**Jordan**	**0.29**	**222**	*eP*	Pn	15 10 39.8	0.0
GUIM				*eS*	Sn	15 10 46.5	+1.1
RCP	**Roxas**	**0.72**	**357**	⇑*eP*	Pn	15 10 44.7	-0.1
RCP				*eS*	Sn	15 10 56.5	+0.5
MSLP	**Maasin**	**2.16**	**109**	*eP*	Pn	15 11 06.3	+0.7
MSLP				*eS*	Sn	15 11 33.2	+1.6
SJMP	**San Jose**	**2.29**	**315**	*eP*	Pn	15 11 09.3	+1.9

*ATA **10** 15:20:53.4±1.1, 38°.62N×43°.25E, h18km±8km, ML3.1, MW3.2*

*ISK **10** 15:20:53.8, 38°.69N×43°.39E, h18km, ML2.5/3*

*CSEM **10** 15:20:54.7±0.3, 38°.72N×43°.35E, h10km, ML2.5, Error ellipse: s-maj=6.5km s-min=5.1km az=107.0*

*DDA **10** 15:20:55.1, 38°.68N×43°.39E, h7km, Ml2.6*

ISC 10 15:20:54.7±0.9, **38°.70N**±0°.02×**43°.36E**±0°.03, **h15km**±7km, **n22, σ1§06/42, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VANB	**Van**	**0.10**	**166**	PG	**Pb**	**15 20 58.8**	**+0.3**
VANB				SG	**Sb**	**15 21 02.2**	**+1.2**
VANB	**Van**	**0.10**	**166**	*ePg*	**Pb**	**15 20 58.8**	**+0.3**
VANB				*eSg*	**Sb**	**15 21 02.2**	**+1.2**
TVAN	**Van**	**0.17**	**167**	*iP*	**Pg**	**15 20 58.8**	**-0.4**
TVAN				*iS*	**Sg**	**15 21 02.1**	**0.0**
TVAN	**Van**	**0.17**	**167**	P	**Pg**	**15 20 58.8**	**-0.4**
TVAN				S	**Sg**	**15 21 02.1**	**0.0**
VMUR	**Van-Muradiye**	**0.34**	**30**	*iP*	**Pg**	**15 21 01.8**	**0.0**
VMUR				*iS*	**Sb**	**15 21 08.2**	**+0.4**
VMUR	**Van-Muradiye**	**0.34**	**30**	P	**Pg**	**15 21 01.8**	**0.0**
VMUR				S	**Sb**	**15 21 08.2**	**+0.4**
GEVA	**Gevas**	**0.45**	**211**	*eP*	**Pg**	**15 21 00.5**	**-3.3**
GEVA	**Gevas**	**0.45**	**211**	*iP*	**Pg**	**15 21 03.6**	**-0.2**
GEVA				*iS*	**Sb**	**15 21 11.4**	**+0.4**
GEVA	**Gevas**	**0.45**	**211**	P	**Pg**	**15 21 03.6**	**-0.2**
GEVA				S	**Sb**	**15 21 11.4**	**+0.4**
ADCV	**BITLIS_Adilcev**	**0.51**	**283**	*iP*	**Pb**	**15 21 05.3**	**-0.1**
ADCV				*iS*	**Sb**	**15 21 14.8**	**+2.1**
ADCV	**BITLIS_Adilcev**	**0.51**	**283**	P	**Pb**	**15 21 05.3**	**-0.1**
ADCV				S	**Sb**	**15 21 14.8**	**+2.1**
CLDR	**Caldiran**	**0.62**	**44**	PG	**Pg**	**15 21 06.5**	**-0.6**
CLDR				SG	**Sb**	**15 21 15.6**	**-0.5**
CLDR	**Caldiran**	**0.62**	**44**	*ePg*	**Pg**	**15 21 06.5**	**-0.6**
CLDR				*eSg*	**Sb**	**15 21 15.6**	**-0.5**
TUTA	**Tutak**	**0.82**	**329**	*eP*	**Pb**	**15 21 10.9**	**0.0**
TUTA				*eS*	**Sb**	**15 21 22.9**	**+1.1**
TUTA				IAML		15 21 25.8	
	comp=Z,37nm,0.2s						
TUTA	**Tutak**	**0.82**	**329**	*i* P	**Pg**	**15 21 08.8**	**-1.9**
TUTA				*i* S	**Sb**	**15 21 22.9**	**+1.1**
TUTA	**Tutak**	**0.82**	**329**	P	**Pg**	**15 21 08.8**	**-1.9**
TUTA				S	**Sb**	**15 21 22.9**	**+1.1**
AGRB	**Hanur-Agry**	**0.92**	**342**	PG	**Pg**	**15 21 12.2**	**-0.4**
AGRB				SG	**Sn**	**15 21 26.0**	**-0.4**
AGRB	**Hanur-Agry**	**0.92**	**342**	*ePg*	**Pg**	**15 21 12.2**	**-0.4**
AGRB				*eSg*	**Sn**	**15 21 26.0**	**-0.4**
GURO	**Guroymak-BITLI**	**1.05**	**262**	PG	**Pb**	**15 21 14.6**	**0.0**
GURO				SG	**Sg**	**15 21 29.3**	**+0.6**
GURO	**Guroymak-BITLI**	**1.05**	**262**	*ePg*	**Pb**	**15 21 14.6**	**0.0**
GURO				*eSg*	**Sg**	**15 21 29.3**	**+0.6**
EKAR	**Karacoban**	**1.15**	**299**	*eP*	**Pb**	**15 21 15.3**	**-1.1**
EATA	**Eleskirt**	**1.34**	**330**	*eP*	**Pn**	**15 21 19.1**	**-0.1**
EATA				*eS*	**Sg**	**15 21 40.1**	**+2.0**

IDC 10 15:21:42.2±9.3, **16°.76S**×**175°.28W**, **h282km**±264km, **mb3.5/3, mb1 3.6/4, mb1mx3.1/48, mbtmp4.1/4, ML3.5/1, Error ellipse: s-maj=297.6km s-min=110.6km az=97.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**4.41**	**50**	P	Pn	15 22 54.0	+1.7
	2.8nm,0.3s,baz=241,slow=13,SNR=6.6						
AFI				S	S	15 23 47.9	-0.4
	23nm,0.3s,baz=242,slow=17,SNR=16						
STKA	**Stephens Creek**	**41.80**	**241**	P	P	15 29 04.3	-0.5
	2.6nm,0.9s,baz=101,slow=10,SNR=3.7						
WRA	**Warramunga Arr**	**47.79**	**258**	P	P	15 29 52.0	0.0
	0.7nm,0.4s,baz=96,slow=7.2,SNR=18						
ASAR	**Alice Springs**	**47.98**	**253**	P	P	15 29 53.3	-0.2
	5.2nm,0.5s,baz=87,slow=9.0,SNR=122						

MAN 10 15:27:48, 12°.56N×124°.75E, h24km, mb4.5, ML3.4, MS3.2, 3C-1D, Samar

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CNP	**Catarman**	**0.10**	**241**	*eP*	Pb	15 27 53.3	+0.8
CNP				*eS*	Sb	15 27 57.4	+1.9
BESP	**Borongan**	**1.17**	**145**	*eP*	Pn	15 28 08.2	-0.7
BESP				*eS*	Sb	15 28 24.4	+0.2
PVCP	**Virac**	**1.18**	**331**	*eP*	Pn	15 28 08.4	-0.6
PLP	**Palo**	**1.40**	**171**	⇑*iP*	Pn	15 28 11.3	-0.7
PLP				*eS*	Sn	15 28 29.8	0.0
OCLP	**Ormoc**	**1.50**	**185**	*eP*	Pn	15 28 13.9	+0.4
RCP	**Roxas**	**2.20**	**243**	⇑*eP*	Pn	15 28 23.6	+0.5
RCP				*i* S	Sn	15 28 50.3	+0.9
MSLP	**Maasin**	**2.41**	**177**	*eP*	Pn	15 28 28.2	+2.3
MSLP				*eS*	Sb	15 29 04.1	+4.0
GQP	**Guinayangan**	**2.61**	**301**	⇑*eP*	Pn	15 28 18.6	-10
SCPH	**Surigao**	**2.85**	**165**	⇓*eP*	Pn	15 28 34.8	+2.8
GUIM	**Jordan**	**2.86**	**228**	*eP*	Pn	15 28 33.0	+0.9
GUIM				*eS*	Sn	15 28 53.7	-12
BOAC	**Boac**	**2.97**	**288**	*eP*	Pb	15 28 40.2	-0.1

*IDC **10** 15:34:43.0±1.1, 33°.08N×87°.36E, h0km, mb3.5/7, mb1 3.6/10, mb1mx3.4/66, mbtmp3.4/10, ML3.1/3, MS3.1/12, Ms1 3.1/12, ms1mx2.9/51, Error ellipse: s-maj=37.0km s-min=17.9km az=60.0*

*BJI **10** 15:34:44.5, 33°.28N×87°.12E, h7km, mb3.9/2, Ms3.6/4, Ms7 3.4/3*

*ISCJB **10** 15:34:46.3±0.5, 33°.18N±0°.04×87°.26E±0°.07, h33km, mb3.3/5, MS3.1/11, Error ellipse: s-maj=8.2km s-min=6.0km az=15.7*

ISC 10 15:34:48.0±0.7, **33°.18N**±0°.08×**87°.20E**±0°.08, **h35km, n30, σ2§13/24, mb3.4/5, MS3.1/11, Xizang**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUN	**Gumba**	**5.37**	**193**	*eP*	**Pn**	**15 36 07.4**	**+1.4**
JIRN	**Jiri**	**5.57**	**189**	*eP*	**Pn**	**15 36 10.2**	**+1.5**
GKN	**Gorkha**	**5.61**	**204**	*eP*	**Pn**	**15 36 09.4**	**+0.3**
KKN	**Kakani**	**5.62**	**198**	*eP*	**Pn**	**15 36 10.5**	**+1.2**
	9.0nm,0.2s						
PKIN	**Phulchoki**	**5.79**	**196**	*eP*	**Pn**	**15 36 12.6**	**+0.8**
	17nm,0.3s						
DMN	**Daman**	**5.84**	**199**	*eP*	**Pn**	**15 36 12.7**	**+0.4**
	23nm,0.3s						
KOLN	**Koldanda**	**6.22**	**211**	*eP*	**Pn**	**15 36 18.0**	**+0.4**
	11nm,0.2s						
PYUN	**Piuthan**	**6.23**	**217**	*eP*	**Pn**	**15 36 17.3**	**-0.3**
RAMN	**Ramite**	**6.23**	**185**	*eP*	**Pn**	**15 36 18.3**	**+0.6**
	11nm,0.3s						
ODAN	**Odare**	**6.30**	**178**	*eP*	**Pn**	**15 36 19.6**	**+0.9**
LZH	**Lanzhou**	**14.01**	**73**	*eP*	**P**	**15 38 08.1**	**-3.5**
LZH				*eP*	Pn	15 38 10.3	+6.1
LZH				sP		15 38 11.5	
LZH				*ePP*	**PnPn**	**15 38 19.6**	**+7.6**
LZH				LR	LR		
	comp=N,130nm,10.2s						
LZH				LR	LR		
	comp=E,140nm,10.5s						
LZH				LR	LR		
	comp=Z,160nm,13.7s						
MKAR	**Makanchi Array**	**14.11**	**346**	Pn	**Pn**	**15 38 04.2**	**-1.1**
	0.0nm,0.3s,baz=155,slow=14,SNR=3.8						
MKAR				LR	LR	15 44 29.9	
	comp=Z,76nm,20.9s,baz=178,slow=41						
CD2	**Chengdu**	**14.23**	**95**	P	**Pn**	**15 38 06.0**	**-1.0**
CD2				S	**Sn**	**15 40 45.7**	**+2.1**
CD2				LR	LR		
	comp=N,250nm,7.8s						
CD2				LR	LR		
	comp=E,310nm,9.9s						
CD2				LR	LR		
	comp=Z,370nm,9.1s						
CMAR	**Chiang Mai Arr**	**18.05**	**141**	P	**Pn**	**15 38 53.9**	**-2.3**
	0.1nm,0.3s,baz=323,slow=12,SNR=6.8						
KURBB	**Kurchatov Arra**	**18.56**	**342**	P	**P**	**15 39 02.5**	**+0.7**
	0.0nm,0.3s,baz=156,slow=10,SNR=4.1						
SONM	**Songino Array**	**20.59**	**39**	P	**P**	**15 39 23.7**	**-0.3**
	0.8nm,0.7s,baz=223,slow=11,SNR=8.6						
SONM				LR	LR	15 48 28.0	
	comp=Z,35nm,18.0s,baz=231,slow=40						
ZALV	**Zalesovo Beam**	**20.83**	**356**	P	**P**	**15 39 27.0**	**+0.6**
	3.6nm,1.1s,baz=182,slow=11,SNR=9.8						
ZALV				LR	LR	15 48 37.6	
	comp=Z,66nm,19.0s,baz=250,slow=40						
BVAR	**Borovoye Array**	**23.22**	**334**	P	**P**	**15 39 53.2**	**+1.4**
	0.2nm,0.4s,baz=138,slow=8.9,SNR=2.4						
GEYT	**Alibeck**	**24.08**	**290**	P	**P**	**15 40 01.6**	**+1.4**
	0.6nm,0.5s,baz=91,slow=8.6,SNR=4.1						
GEYT				LR	LR	15 51 40.5	
	comp=Z,37nm,19.1s,baz=50,slow=42						
KSRS	**Korea Array**	**33.32**	**71**	LR	LR	15 55 17.5	
	comp=Z,26nm,19.5s,baz=165,slow=37						
JNU	**Nakatsue**	**36.37**	**78**	LR	LR	15 58 06.7	
	comp=Z,32nm,18.8s,baz=158,slow=39						
BRTR	**Keskin Array B**	**43.04**	**295**	LR	LR	16 04 53.9	
	comp=Z,10nm,19.5s,baz=172,slow=42						
FINES	**FINESS Array B**	**47.76**	**325**	LR	LR	16 03 40.9	
	comp=Z,36nm,19.0s,baz=173,slow=36						
SPITS	**Spitsbergen Ar**	**53.86**	**346**	LR	LR	16 12 13.2	
	comp=Z,21nm,18.0s,baz=300,slow=42						
NOA	**NORSAR Array B**	**54.92**	**325**	LR	LR	16 08 00.2	
	comp=Z,16nm,19.1s,baz=60,slow=36						
GERES	**GERESS Array B**	**55.51**	**310**	LR	LR	16 13 32.1	
	comp=Z,11nm,19.8s,baz=104,slow=42						
WRA	**Warramunga Arr**	**69.39**	**133**	P	**P**	**15 45 51.8**	**-0.8**
	0.4nm,0.5s,baz=325,slow=6.5,SNR=7.4						
ASAR	**Alice Springs**	**71.95**	**135**	P	**P**	**15 46 07.6**	**-0.5**
	0.5nm,0.7s,baz=324,slow=6.2,SNR=4.7						
TORD	**Torodi Ar. Bea**	**79.21**	**279**	LR	LR	16 26 16.8	
	comp=Z,32nm,20.7s,baz=160,slow=39						
YKA	**Yellowknife Ar**	**83.06**	**10**	P	**P**	**15 47 10.3**	**+0.7**
	0.2nm,0.7s,baz=340,slow=5.4,SNR=4.5						

*IDC **10** 15:37:40.9±0.8, 7°.03S×155°.10E, h0km, mb4.0/12, mb1 4.2/13, mb1mx3.9/44, mbtmp4.0/13, ML2.1/1, MS3.3/6, Ms1 3.3/6, ms1mx2.8/40, Error ellipse: s-maj=26.3km s-min=16.3km az=117.0*

*ISCJB **10** 15:37:45.0±0.4, 7°.03S±0°.06×155°.01E±0°.06, h41km, mb4.2/21, MS3.3/5, Error ellipse: s-maj=10.1km s-min=6.6km az=145.7*

*NEIC **10** 15:37:46.1±1.4, 7°.05S×155°.07E, h38km±12km, mb4.9/8, Error ellipse: s-maj=12.0km s-min=7.5km az=112.0*

ISC 10 15:37:46.6±0.6, **7°.02S**±0°.09×**155°.08E**±0°.09, **h41km, n44, σ0§90/44, mb4.1/21, MS3.4/5, Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**4.04**	**314**	*ePn*	**Pn**	**15 38 46.0**	**0.0**
PMG	**Port Moresby**	**8.19**	**253**	Pn	**Pn**	**15 39 42.6**	**-0.4**
	1.3nm,0.3s,baz=77,slow=8.8,SNR=6.1						
PMG				Sn	**Sn**	**15 41 15.2**	**+0.9**
	1.1nm,0.3s,baz=262,slow=22,SNR=3.9						
PMG				LR	LR	15 42 49.6	
	comp=Z,96nm,20.0s,baz=35,slow=38						
MANU	**Manus Island**	**9.14**	**302**	*ePn*	**Pn**	**15 39 55.4**	**-0.6**
EIDS	**Eidsvold**	**18.64**	**191**	*eP*	**Pn**	**15 42 01.1**	**-0.6**
	29nm,1.4s						
GUMO	**Guam**	**22.85**	**334**	P	**P**	**15 42 45.6**	**-0.9**
	54nm,0.6s,baz=171,slow=13,SNR=2.1						
GUMO				LR	LR	15 50 09.5	
	comp=Z,24nm,21.9s,baz=81,slow=33						
WRAB	**Tennant Creek**	**23.86**	**235**	*eP*	**P**	**15 42 54.7**	**-1.7**
	39nm,0.8s						
WR1	**Warramunga Arr**	**23.87**	**235**	*eP*	**P**	**15 42 55.7**	**-0.9**
	20nm,1.6s						
WR1				*ePcP*	**PcP**	**15 46 39.5**	**+0.6**
WRA	**Warramunga Arr**	**23.87**	**235**	P	**P**	**15 42 55.7**	**-0.9**
	3.0nm,0.8s,baz=59,slow=9.3,SNR=13						
WRA				PcP	**PcP**	**15 46 39.5**	**+0.6**
	0.3nm,0.4s,baz=58,slow=2.5,SNR=5.3						
AS31	**Alice Springs**	**26.21**	**229**	*eP*	**P**	**15 43 17.3**	**-0.6**
	0.8nm,0.6s						
ASAR	**Alice Springs**	**26.22**	**229**	P	**P**	**15 43 17.1**	**-0.8**
	1.9nm,0.8s,baz=62,slow=8.5,SNR=21						
STKA	**Stephens Creek**	**27.75**	**205**	P	**P**	**15 43 31.7**	**+0.2**
	4.1nm,0.8s,baz=13,slow=9.6,SNR=8.3						
STKA				LR	LR	15 54 25.7	
	comp=Z,60nm,18.9s,baz=25,slow=36						
TGY	**Tagaytay City**	**39.85**	**302**	LR	LR	15 59 03.6	
	comp=Z,58nm,19.6s,baz=126,slow=32						
PETK	**Petropavlovsk-**	**59.94**	**2**	P	**P**	**15 47 49.8**	**+1.3**
	0.7nm,0.8s,baz=158,slow=4.7,SNR=2.2						
PEA1	**Petropavlovsk-**	**59.95**	**2**	*eP*	**P**	**15 47 49.8**	**+1.2**
CM01	**Chiang Mai Arr**	**60.84**	**296**	*eP*	**P**	**15 47 54.8**	**-0.6**
CM31	**Chiang Mai Arr**	**60.87**	**296**	*eP*	**P**	**15 47 55.1**	**-0.4**
CMAR	**Chiang Mai Arr**	**60.87**	**296**	P	**P**	**15 47 57.4**	**+1.8**
	2.0nm,0.8s,baz=113,slow=5.2,SNR=14						
SONA0	**Songino Array**	**69.40**	**327**	*eP*	**P**	**15 48 50.9**	**+0.3**
SONM	**Songino Array**	**69.40**	**327**	P	**P**	**15 48 50.9**	**+0.3**
	1.0nm,0.9s,baz=134,slow=5.5,SNR=6.4						
SCM	**Sheep Creek Mo**	**81.63**	**24**	*eP*	**P**	**15 49 59.6**	**-0.6**
	10nm,0.7s						
MCK	**McKinley**	**82.05**	**22**	*eP*	**P**	**15 50 01.8**	**-0.5**
	27nm,2.0s						
QSPA	**South Pole Qui**	**82.95**	**180**	P	**P**	**15 50 08.1**	**+0.9**
	1.3nm,0.8s,baz=342,slow=3.2,SNR=2.2						
ILAR	**Eielson Array**	**83.37**	**21**	P	**P**	**15 50 08.7**	**-0.4**
	0.6nm,0.6s,baz=263,slow=3.3,SNR=4.9						
ILB	**Eielson Array**	**83.37**	**21**	*eP*	**P**	**15 50 08.6**	**-0.6**
MK32	**Makanchi Array**	**83.48**	**319**	*eP*	**P**	**15 50 10.1**	**0.0**
MKAR	**Makanchi Array**	**83.48**	**319**	P	**P**	**15 50 10.1**	**-0.1**
	0.5nm,0.8s,baz=123,slow=3.8,SNR=4.8						
ZALV	**Zalesovo Beam**	**84.25**	**326**	P	**P**	**15 50 12.7**	**-1.1**
	4.4nm,0.4s,baz=90,slow=4.3,SNR=3.0						
ZAA1	**Zalesovo Array**	**84.25**	**326**	*eP*	**P**	**15 50 12.8**	**-1.1**
HYT	**Haines Junctio**	**85.36**	**27**	*eP*	**P**	**15 50 19.9**	**+0.4**
	4.4nm,0.9s						
YBH	**Yreka Blue Hor**	**88.85**	**48**	LR	LR	16 29 47.9	
	comp=Z,18nm,18.1s,baz=244,slow=35						
ALVY	**Alvey**	**89.04**	**46**	*eP*	**P**	**15 50 38.5**	**+1.0**
PVCM	**Vineyard Canyo**	**89.55**	**54**	*eP*	**P**	**15 50 40.0**	**-0.2**
BEKR	**Beckworth**	**90.30**	**50**	*eP*	**P**	**15 50 42.5**	**-1.2**
	7.6nm,0.7s						
BFSC	**Mount Baldy Ra**	**91.65**	**56**	*eP*	**P**	**15 50 51.0**	**+0.9**
NV01	**Mina Array Sit**	**91.67**	**52**	*eP*	**P**	**15 50 48.5**	**-1.7**
NVAR	**Mina Array Bea**	**91.67**	**52**	P	**P**	**15 50 50.4**	**+0.1**
	0.4nm,0.6s,baz=265,slow=6.1,SNR=3.3						
DPP	**Dos Picos Cty**	**92.09**	**57**	*eP*	**P**	**15 50 51.6**	**-0.4**
BORC	**Borrego Spring**	**92.56**	**57**	*eP*	**P**	**15 50 54.5**	**+0.3**
PFO	**Pinyon Flats O**	**92.56**	**57**	LR	LR	16 26 31.2	
	comp=Z,46nm,18.4s,baz=21,slow=32						
DSCC	**Desert Studies**	**93.03**	**55**	*eP*	**P**	**15 50 55.8**	**-0.5**
YKA	**Yellowknife Ar**	**96.32**	**28**	P	**P**	**15 51 11.5**	**+0.8**
	0.7nm,0.8s,baz=264,slow=4.7,SNR=12						
RLMT	**Red Lodge**	**98.92**	**45**	*eP*	**P**	**15 51 21.6**	**-1.5**
	5.2nm,0.7s						
TORD	**Torodi Ar. Bea**	**153.11**	**285**	PKPbc	**PKPbc**	**15 57 42.1**	**+1.1**
	1.3nm,0.8s,baz=71,slow=2.0

PEA1	Petropavlovsk-	73.89	343	*e*P		P	16 45 58.6	+1.1
PFO	Pinyon Flats O	74.84	47	LR		LR	17 14 32.4	
	comp=Z,42nm,18.9s,baz=2.5,slow=32							
NVAR	Mina Array Bea	76.28	42	P		P	16 46 14.0	+2.0
	0.3nm,0.4s,baz=222,slow=9.3,SNR=4.5							
PDAR	Pinedale Array	84.22	42	P		P	16 46 56.1	+1.4
	0.3nm,0.4s,baz=178,slow=3.9,SNR=4.8							
ILAR	Eielson Array	84.28	12	P		P	16 46 56.0	+1.8
	0.9nm,1.1s,baz=221,slow=6.7,SNR=3.6							
BR101	Keskin Array S	146.71	318	*e*PKPdf		PKPab	16 54 06.0	-0.3
BRTR	Keskin Array B	146.71	318	PKPbc		PKPab	16 54 06.0	-0.3
	0.7nm,0.7s,baz=11,slow=1.3,SNR=4.4							

NIED ***10*** *16:36:00,38.˚10N×135.˚40E,h380km,Mw4.2 Best double couple: M₀2.16000×10¹⁵ NP1:φ₁s77.00000°, δ30.00000°,λ167.00000°. NP2:φ₂178.00000°,δ84.00000°, λ61.00000°.*

MOS ***10*** *16:36:13.0±1.0,38.˚17N×135.˚27E,h371km,mb3.7/25, Error ellipse: s-maj=8.4km s-min=6.7km az=94.2*

ISCJB ***10*** *16:36:13.3±0.2,38.˚17N±0.˚04×135.˚31E±0.˚04, h377km±3km,mb3.8/49,Error ellipse: s-maj=7.4km s-min=4.4km az=150.6*

JMA ***10*** *16:36:13.4±0.1,38.˚07N×135.˚37E,h386km±1km,M3.6*

BJI ***10*** *16:36:13.2,38.˚06N×135.˚13E,h374km,mb4.4/34, mB4.5/20*

NEIC ***10*** *16:36:13.8±0.3,38.˚07N×135.˚31E,h374km±4km,mb4.0/16, Error ellipse: s-maj=6.9km s-min=4.5km az=172.0*

IDC ***10*** *16:36:14.6±0.8,38.˚12N×135.˚29E,h371km±9km,mb3.3/21, mb1 3.5/27,mb1mx3.3/73,mbtmp4.1/27,Error ellipse: s-maj=12.8km s-min=9.4km az=172.0*

ISC 10 16:36:13.7±0.5,38.˚05N±0.˚05×135.˚44E±0.˚05,h375km±5km, n148,σ1s53/167,mb3.9/49,8C-5D,Sea of Japan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JHG	Hegura jima	1.19	99	P		P	Pn	16 37 04.3	+1.5
JJH	Hakui	1.55	136	P		P	Pn	16 37 06.1	+1.5
JJH				S		S		16 37 47.3	+1.8
JSZ	Suzu	1.64	111	P		P	Pn	16 37 06.3	+1.3
JSZ				*e*S		S		16 37 48.2	+1.8
JKG	Kaga	1.91	158	P		P	Pn	16 37 07.8	+1.1
JKG				S		S		16 37 50.7	+1.3
JTT	Ttatey	2.08	133	P		P	Pn	16 37 09.1	+1.2
JSD	Sado	2.22	89	P		P	Pn	16 37 10.0	+1.2
JSD				S		S		16 37 53.6	+0.4
JKY	Yasaka	2.43	187	S		S		16 37 56.8	+0.7
JOI	OKI	2.48	226	P		P	Pn	16 37 11.4	+0.7
JKSM	Kasumi	2.54	195	P		P	Pn	16 37 12.2	+1.0
JKSM				*e*S		S		16 37 57.8	+0.3
MJB9	Matsu-Tunnel	2.66	123	*e*Pn		P	Pn	16 37 13.2	+1.0
MAJO	Matsushiro	2.67	123	*e*Pn		P	Pn	16 37 13.2	+0.9
MAJO	Matsushiro	2.67	123	*d* iP		P	Pn	16 37 13.0	+0.8
MAT	Matsushiro	2.67	123	P		P	Pn	16 37 13.2	+1.0
MAT	Matsushiro	2.67	123	P		P	Pn	16 37 13.3	+1.0
MJAR	Matsushiro Arr	2.67	123	P		P	Pn	16 37 13.8	+1.5
	7.8nm,0.3s,baz=305,slow=7.0,SNR=104								
INU	Inuyama	2.98	154	*e*Pn		P	Pn	16 37 15.8	+1.0
KSRS	Korea Array	5.99	267	P		P	Pn	16 37 45.9	+0.7
	1.8nm,0.3s,baz=84,slow=12,SNR=50								
KSRS				S		S		16 39 00.7	+1.1
	0.2nm,0.3s,baz=33,slow=9.0,SNR=5.6								
KS01	Wonju Array Si	6.01	267	*e*Pn		P	Pn	16 37 45.5	0.0
KS15	Wonju Array Si	6.02	267	*e*Pn		P	Pn	16 37 45.7	+0.1
JHJ	Hachijo jima 2	6.06	143	P		P	Pn	16 37 47.4	+1.3
	19nm,0.3s,baz=52,slow=5.4,SNR=15								
JHJ2	Mitsune	6.08	143	*e*Pn		P	Pn	16 37 47.2	+0.9
JNU	Nakatsue	6.16	218	P		P	Pn	16 37 48.1	+0.8
	4.1nm,0.3s,baz=45,slow=2.4,SNR=39								
TJN	Taejon	6.66	258	*e*P		P	Pn	16 37 51.8	-1.0
USRK	Ussuriysk Ar.	6.67	338	P		P	Pn	16 37 53.2	+0.5
	1.7nm,0.3s,baz=165,slow=11,SNR=22								
ERM	Erimo	7.12	54	*e*Pn		P	Pn	16 37 57.6	-0.2
ERM	Erimo	7.12	54	*i* iP		P	Pn	16 37 57.7	-0.2
MDJ	Mudanjiang	7.90	328	*e*Pn		P	Pn	16 38 06.0	-0.9
ASAJ	Asahikawa	8.12	39	P		P	Pn	16 38 09.2	-0.2
	11nm,0.3s,baz=238,slow=11,SNR=166								
ASAJ				S		S		16 39 38.2	-5.9
	2.4nm,0.3s,baz=53,slow=20,SNR=8.5								
ASAJ	Asahikawa	8.12	39	*e*Pn		P	Pn	16 38 09.0	-0.4
CN2	Changchun	9.49	310	*e*P		P	Pn	16 38 25.3	-0.3
CN2				pmax		pmax			
	comp=Z,20nm,1.0s								
YUK	Yuzh-Kuril'sk	9.88	49	*e*P		P		16 38 30.7	+0.2
YUK				*i* S		S		16 40 19.0	-2.9
YUK				pmax		pmax			
	comp=Z,48nm,0.4s								
YUK				pmax		pmax			
	comp=N,16nm,0.5s								
YUK				pmax		pmax			
	comp=E,8.0nm,0.2s								
SHO	Shikotan	10.39	52	*e*P		P	Pn	16 38 34.7	-1.3
SHO				*i* S		S		16 40 26.4	-6.3
SHO				pmax		pmax			
	comp=Z,5.0nm,0.3s								
SHO				pmax		pmax			
	comp=N,10.0nm,0.4s								
SHO				pmax		pmax			
	comp=E,6.0nm,0.4s								
YSS	Yuzh-Sakhalins	10.40	29	*e*P		P		16 38 37.8	+1.5
YSS				*e*S		S		16 40 26.1	-6.8
YSS				pmax		pmax			
	comp=Z,30nm,1.3s								
KLR	Kul'dur	11.49	348	*e*P		P		16 38 47.4	-1.0
KUR	Kuril'sk	11.73	48	P		P	Pn	16 38 52.3	+0.5
KUR				*e*S		S		16 41 03.6	+2.3
KUR				pmax		pmax			
	comp=Z,16nm,0.3s								
KUR				smax		smax			
	comp=E,16nm,0.5s								
KUR				smax		smax			
	comp=N,15nm,0.4s								
CBIJ	Chichi jima	12.31	151	*e*P		P		16 38 56.8	-0.9
JCJ	Chichijima	12.31	151	P		P		16 38 56.6	-1.1
	comp=N,8.0nm,0.3s,baz=313,slow=18,SNR=9.6								
JCJ				S		S		16 41 05.8	-7.9
	comp=N,13nm,0.3s,baz=292,slow=19,SNR=7.7								
BJI	Beijing	15.11	284	*e*P		P		16 39 27.6	-0.6
BJI				pmax		pmax			
	comp=N,14nm,0.8s								
BJT	Baijiatuan	15.11	283	*e*P		P		16 39 26.4	-1.8
BJT	Baijiatuan	15.11	283	*e*P		P		16 39 26.5	-1.8
HIA	Hailar	15.93	320	*e*P		P		16 39 36.2	-0.8
	comp=N,23nm,1.1s								
HIA	Hailar	15.93	320	*de*P		P		16 39 35.9	-1.1
ZEA	Zeya	16.68	343	*e*P		P		16 39 43.8	-1.2
ZEA				pmax		pmax			
	comp=Z,17nm,1.0s								
HHC	Hu-ho-hao-te	18.64	286	*e*P		P		16 40 05.1	-1.1
HHC				pmax		pmax			
	comp=Z,24nm,0.7s								
HHC				pmax		pmax			
	comp=Z,120nm,4.0s								
PETK	Petropavlovsk-	21.54	38	P		P		16 40 35.6	+2.0
	comp=Z,0.6nm,0.4s,baz=217,slow=6.3,SNR=12								
XAN	Xi'an	21.79	268	P		P		16 40 35.1	-1.1
XAN				pmax		pmax			
	comp=Z,10.0nm,0.7s								
ENH	Enshi	22.79	258	*e*P		P		16 40 43.8	-1.5
	comp=Z,20nm,0.7s								
ULN	Ulaanbaatar	22.86	305	*e*P		P		16 40 44.1	-1.8
	comp=Z,9.4nm,1.1s								
ULN	Ulaanbaatar	22.86	305	*ce*P		P		16 40 45.5	-0.4
ULN				pmax		pmax			
	comp=Z,11nm,1.2s								
SONA1	Songino Array	23.28	304	*e*P		P		16 40 48.5	-1.1
SONM	Songino Array	23.28	304	P		P		16 40 49.3	-0.4
	comp=Z,4.1nm,0.7s,baz=112,slow=8.2,SNR=15								
MA2	Magadan	23.67	20	*e*P		P		16 40 51.9	-1.0
BOD	Bodaibo	24.25	332	*e*P		P		16 40 57.0	-1.1
BOD				pmax		pmax			
	comp=Z,5.0nm,1.3s								
YAK	Yakutsk	24.27	353	*e*P		P		16 41 00.3	+2.1
YAK				pmax		pmax			
	comp=Z,6.0nm,0.7s								
LZH	Lanzhou	25.23	275	*e*P		P		16 41 06.0	-1.3
LZH				PP		PP		16 42 13.0	-0.7
LZH				pmax		pmax			
	comp=Z,20nm,1.0s								
LZH				pmax		pmax			
	comp=Z,47nm,4.6s								
ZAK	Zakamensk	25.93	309	*e*P		P		16 41 11.5	-1.7
ZAK				pmax		pmax			
	comp=Z,2.0nm,1.0s								
GYA	Guiyang	26.84	253	*i* iP		P		16 41 21.2	-0.4
GYA				pP		pP		16 42 29.0	+0.6
GYA				sP		sP		16 43 13.8	+0.1
GYA				PcP		PcP		16 44 35.5	+2.5
GYA				S		S		16 45 30.2	+0.1
GYA				ScP		ScP		16 47 38.9	+2.1
GYA				ScS		ScS		16 51 28.4	-0.2
GYA				pmax		pmax			
	comp=Z,10.0nm,0.8s								
TIXI	Tiksi	33.84	356	*e*P		P		16 42 21.8	0.0
TIXI				pmax		pmax			
	comp=Z,6.0nm,2.8s								
BILL	Bilibino	34.54	20	*e*P		P		16 42 30.7	+2.8
BILL				pmax		pmax			
	comp=Z,1.0nm,0.8s								
DGZ	Jazzator, Alta	35.93	305	*e*P		P		16 42 40.5	+0.5
DGZ				pmax		pmax			
	comp=Z,2.0nm,1.0s								
WMQ	Urumqi	36.12	295	*e*P		P		16 42 42.3	+0.6
WMQ				pmax		pmax			
	comp=Z,24nm,0.7s								
WMQ				pmax		pmax			
	comp=Z,99nm,3.7s								
WMQ				LR		LR			
	comp=Z,47nm,20.9s								
WMQ				LR		LR			
	comp=Z,41nm,19.7s								
CHTO	Chiang Mai	37.07	249	*e*P		P		16 42 49.7	-0.1
CHTO				pmax		pmax			
	comp=Z,4.7nm,0.7s								
CHTO	Chiang Mai	37.07	249	*e*P		P		16 42 49.7	-0.1
CHTO				pmax		pmax			
	comp=Z,5.0nm,0.7s								
CMAR	Chiang Mai Arr	37.29	249	P		P		16 42 52.4	+0.8
	comp=Z,1.5nm,0.6s,baz=43,slow=8.0,SNR=12								
ZALV	Zalesovo Beam	37.71	312	P		P		16 42 53.8	-0.8
	comp=Z,1.4nm,0.4s,baz=104,slow=7.1,SNR=9.2								
ZALV	Zalesovo Beam	37.71	312	*e*P		P		16 42 53.2	-1.4
ZALV	Zalesovo Beam	37.71	312	*e*P		P		16 42 53.2	-1.4
MK01	Makanchi Array	39.53	300	*e*P		P		16 43 08.7	-1.0
MK31	Makanchi Array	39.53	300	*e*P		P		16 43 08.8	-0.9
MK31	Makanchi Array	39.53	300	*e*P		P		16 43 08.8	-0.9
MKAR	Makanchi Array	39.53	300	P		P		16 43 09.3	-0.5
	comp=Z,1.6nm,0.7s,baz=88,slow=10.0,SNR=20								
MKAR	Makanchi Array	39.53	300	*e*P		P		16 43 09.0	-0.8
	comp=Z,23nm,1.0s								
KURK	Kurchatov	41.55	307	*e*P		P		16 43 24.9	-0.9
	comp=Z,6.8nm,1.1s								
KURK	Kurchatov	41.55	307	*ce*P		P		16 43 25.2	-0.7
KURK				pmax		pmax			
	comp=Z,8.0nm,1.2s								
KURBB	Kurchatov Arra	41.61	307	P		P		16 43 25.4	-1.0
	comp=Z,1.4nm,0.4s,baz=85,slow=8.2,SNR=13								
ODAN	Odare	41.65	269	*e*P		P		16 43 28.0	+0.7
	comp=Z,9.6nm,0.4s								
JIRN	Jiri	42.23	271	*e*P		P		16 43 32.8	+0.7
	comp=Z,18nm,0.3s								
RAMN	Ramite	42.23	270	*e*P		P		16 43 32.0	0.0
	comp=Z,21nm,0.7s								
GUN	Gumba	42.36	271	*e*P		P		16 43 33.2	+0.1
	comp=Z,35nm,0.4s								
KKN	Kakani	42.88	272	*e*P		P		16 43 37.3	+0.1
	comp=Z,20nm,0.5s								
PKIN	Phulchoki	42.89	271	*e*P		P		16 43 36.9	-0.4
	comp=Z,6.1nm,0.5s								
DMN	Daman	43.10	271	*e*P		P		16 43 38.7	-0.2
	comp=Z,6.8nm,0.3s								
GKN	Gorkha	43.30	272	*e*P		P		16 43 40.4	+0.1
DANN	Dangsing	43.83	273	*e*P		P		16 43 45.2	+0.5
KOLN	Koldanda	44.22	272	*e*P		P		16 43 47.5	-0.2
	comp=Z,6.2nm,0.3s								
PYUN	Pidhan	44.55	273	*e*P		P		16 43 50.3	0.0
	comp=Z,17nm,0.5s								
AAK	Ala-Archa	45.80	296	*e*P		P		16 43 59.0	-0.7
AAK				pmax		pmax			
	comp=Z,1.0nm,0.4s								
BVAR	Borovoye Array	46.35	311	P		P		16 44 03.3	-0.2
	comp=Z,0.6nm,0.3s,baz=97,slow=6.2,SNR=13								
BRVK	Borovoye	46.41	311	*e*P		P		16 44 03.5	-0.5
	comp=Z,3.9nm,1.1s								
BRVK	Borovoye	46.41	311	*ce*P		P		16 44 03.8	-0.2
BRVK				pmax		pmax			
	comp=Z,4.0nm,1.2s								
IM3	Indian Mountai	48.22	31	*e*P		P		16 44 19.4	+1.8
KK05	Karatay Array	48.47	298	*e*P		P		16 44 19.6	-0.3
KK06	Karatay Array	48.47	298	*e*P		P		16 44 19.5	-0.4
KK02	Karatay Array	48.48	298	*e*P		P		16 44 19.8	-0.2
KK31	Karatay Array	48.48	298	*e*P		P		16 44 19.8	-0.1
KK31	Karatay Array	48.48	298	*e*P		P		16 44 19.8	-0.1
KKAR	Karatay Array	48.48	298	*e*P		P		16 44 19.9	0.0
KKAR	Karatay Array	48.48	298	*e*P		P		16 44 19.9	0.0
KK04	Karatay Array	48.48	298	*e*P		P		16 44 19.7	-0.3
KK01	Karatay Array	48.48	298	*e*P		P		16 44 19.6	-0.4
KK03	Karatay Array	48.49	298	*e*P		P		16 44 19.9	-0.1
KK07	Karatay Array	48.49	298	*e*P		P		16 44 19.5	-0.5
KK08	Karatay Array	48.50	298	*e*P		P		16 44 19.6	-0.5
BPAW	Bear Paw Mtn.	49.50	34	*e*P		P		16 44 28.9	+1.7
KDAK	Kodak Island	49.52	42	*i* P		P		16 44 29.8	+2.4
KTH	Kantishna Hill	49.58	34	*e*P		P		16 44 30.0	+2.1
RND	Reindeer	50.52	34	*e*P		P		16 44 35.2	+0.3
	comp=Z,8.5nm,1.2s								
RND	Reindeer	50.52	34	*e*P		P		16 44 35.2	+0.3
RND				pmax		pmax			
	comp=Z,9.0nm,1.2s								
MDM	Murphy Dome	50.59	32	*e*P		P		16 44 37.3	+1.9
	comp=Z,6.5nm,1.0s								
COLA	College	50.76	32	*e*P		P		16 44 37.5	+1.0
COLA				pmax		pmax			
	comp=Z,2.0nm,0.9s								
ILAR	Eielson Array	51.19	33	P		P		16 44 40.4	+0.7
	comp=Z,0.8nm,0.5s,baz=258,slow=6.4,SNR=16								
ILB	Eielson Array	51.19	33	*e*P		P		16 44 40.7	+1.0
ARU	Arti	52.42	317	*e*P		P		16 44 48.2	-0.6
	comp=Z,9.1nm,0.7s								
ARU	Arti	52.42	317	*c i*P		P		16 44 48.8	0.0
ARU								16 45 53.4	
ARU				*PP		pP		16 46 05.5	-0.3
ARU								16 46 47.8	
ARU				SS		SKiKP		16 55 24.6	-2.9
ARU				pmax		pmax			
	comp=Z,11nm,0.8s								
SCRK	Sand Creek	52.56	33	*e*P		P		16 44 50.5	+0.6
	comp=Z,3.7nm,0.8s								
MENT	Mentasta	52.89	34	*e*P		P		16 44 52.9	+0.7
	comp=Z,4.3nm,0.6s								
AB06	Akbulak array	53.60	308	*e*P		P		16 44 56.7	-0.7
AB05	Akbulak array	53.61	308	*e*P		P		16 44 57.0	-0.6
AB07	Akbulak array	53.61	308	*e*P		P		16 44 56.8	-0.7
AB02	Akbulak array	53.61	308	*e*P		P		16 44 56.8	-0.7
AB01	Akbulak array	53.62	308	*e*P		P		16 44 57.0	-0.6
AB31	Akbulak array	53.62	308	*e*P		P		16 44 57.1	-0.5
AB31	Akbulak array	53.62	308	*e*P		P		16 44 57.1	-0.5
ABKAR	Akbulak array	53.62	308	*e*P		P		16 44 57.0	-0.5
	comp=Z,83nm,0.4s								
AB03	Akbulak array	53.62	308	*e*P		P		16 44 57.0	-0.6
AB04	Akbulak array	53.62	308	*e*P		P		16 44 56.9	-0.7
AB09	Akbulak array	53.63	308	*e*P		P		16 44 56.5	-1.1
AB08	Akbulak array	53.63	308	*e*P		P		16 44 57.0	-0.7
AKTO	Aktyubinsk	54.42	310	P		P		16 45 02.9	-0.4
	comp=Z,3.0nm,0.6s,baz=78,slow=13,SNR=8.2								
HYT	Haines Junctio	56.29	36	*e*P		P		16 45 16.5	0.0
	comp=Z,5.7nm,0.9s								
WRA	Warramunga Arr	57.69	181	P		P		16 45 27.6	+1.1
	comp=Z,0.2nm,0.3s,baz=359,slow=7.5,SNR=3.2								
GYA2	ALIBECK ARRAY	59.15	296	*e*P		P		16 45 35.6	-0.9
	comp=Z,5.1nm,0.8s								
GYB1	ALIBECK ARRAY	59.16	296	*e*P		P		16 45 36.6	+0.1
	comp=Z,4.3nm,0.8s								
GEYT	Alibeck	59.16	296	P		P		16 45 37.2	+0.7
	comp=Z,3.1nm,0.6s,baz=65,slow=6.8,SNR=10.0								
GYA1	ALIBECK ARRAY	59.16	296	*e*P		P		16 45 36.3	-0.2
	comp=Z,3.6nm,0.6s								
ARCES	ARCESS Array B	61.32	338	P		P		16 45 51.5	+1.1
	comp=Z,2.6nm,0.9s,baz=57,slow=9.0,SNR=4.0								
YKA	Yellowknife Ar	65.26	29	P		P		16 46 17.8	+1.8
	comp=Z,0.4nm,0.6s,baz=308,slow=6.6,SNR=9.4								
FINES	FINESS Array B	65.64	330	P		P		16 46 18.5	0.0
	comp=Z,1.8nm,0.5s,baz=66,slow=6.7,SNR=12								
KBZ	Khabaz	66.59	308	P		P		16 46 25.6	+1.0
	comp=Z,2.6nm,0.9s,baz=14,slow=4.2,SNR=5.0								
KIV	Kislovodsk	66.60	308	*e*P		P		16 46 21.4	-3.6
KIV				pmax		pmax			
	comp=Z,8.0nm,0.9s								
AKASG	Malin Array Be	70.52	320	P		P		16 46 48.1	-0.5
	comp=Z,0.5nm,0.4s,baz=47,slow=6.9,SNR=6.4								
HFS	Hagfors	71.13	333	P		P		16 46 52.4	+0.3
	comp=Z,1.7nm,0.5s,baz=79,slow=7.6,SNR=11								
NOA	NORSAR Array B	71.33	335	P		P		16 46 53.9	+0.5
	comp=Z,0.3nm,0.4s,baz=54,slow=7.7,SNR=4.5								
NOA	NORSAR Array B	71.33	335	P		P		16 46 53.9	+0.5
NOA				pmax		pmax			
	comp=Z,1.0nm,0.6s								
BRTR	Keskin Array B	74.56	308	P		P		16 47 13.9	+1.3
	comp=Z,1.4nm,1.0s,baz=140,slow=5.0,SNR=4.5								
BRTR	Keskin Array B	74.56	308	P		P		16 47 14.0	+1.3
BRTR				pmax		pmax			
	comp=Z,1.0nm,1.0s								
NVAR	Mina Array Bea	78.09	50	P		P		16 47 34.7	+2.3
	comp=Z,0.3nm,0.5s,baz=280,slow=5.4,SNR=3.3								
PDAR	Pinedale Array	80.24	43	P		P		16 47 46.0	+2.2
	comp=Z,0.6nm,0.7s,baz=303,slow=5.3,SNR=6.2								

IDC 10 16:37:34.7±2.3,16.˚62S×179.˚09W,h0km,mb3.7/3, mb1 4.0/4,mb1mx3.6/49,mbtmp3.8/4,ML3.7/1,Error ellipse: s-maj=209.0km s-min=26.0km az=157.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	7.55	70	Pn		P		16 39 27.6	+1.4
	1.2nm,0.3s,baz=252,slow=20,SNR=2.1								
WRA	Warramunga Arr	44.24	258	P		P		16 45 46.9	+0.7
	0.5nm,0.8s,baz=95,slow=7.4,SNR=4.4								
ASAR	Alice Springs	44.53	253	P		P		16 45 48.0	-0.6
	1.4nm,0.7s,baz=87,slow=8.4,SNR=12								
NVAR	Mina Array Bea	78.95	44	P		P		16 49 40.0	-0.6
	0.2nm,0.3s,baz=234,slow=7.7,SNR=2.3								

CSEM ***10*** *16:39:45.2,38.˚15N×39.˚03E,h14km,ML3.6*

DDA ***10*** *16:39:45.2,38.˚15N×39.˚03E,h14km,Ml3.6*

ATA ***10*** *16:39:45.5±1.1,38.˚15N×38.˚85E,h30km±13km,ML3.3, MW3.7*

ISC 10 16:39:45.1±1.1,38.˚12N±0.˚02×39.˚04E±0.˚02,h9km±9km, n49,σ0s77/81,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ELZG	Elazig	0.38	354	*i* P		Pg		16 39 52.5	-0.3
ELZG				*i* S		Sg		16 39 58.1	+0.2
ELZG	Elazig	0.38	354	P		Pg		16 39 52.5	-0.3
ELZG				S		Sg		16 39 58.1	+0.2
ATAB	Bozova	0.87	223	*i* P		Pn		16 40 03.1	-0.5
ATAB				*i* S		Sn		16 40 15.7	-0.7
ATAB	Bozova	0.87	223	P		Pn		16 40 03.1	-0.5
ATAB				S		Sn		16 40 15.7	-0.7
DIYA	Diyarbakir	0.88	102	*i* P		Pb		16 40 02.4	-0.2
DIYA				*i* S		Sb		16 40 14.9	+0.5
DIYA	Diyarbakir	0.88	102	P		Pb		16 40 02.4	-0.2
DIYA				S		Sb		16 40 14.9	+0.5
AKCD	Akcadag	0.90	282	*i* P		Pg		16 40 01.9	-0.5
AKCD				*i* S		Sb		16 40 14.7	-0.3
AKCD	Akcadag	0.90	282	P		Pg		16 40 01.9	-0.5
AKCD				S		Sb		16 40 14.7	-0.3
SANL	SANLIURFA_Merk	0.94	182	*i* P		Pb		16 40 03.7	0.0
SANL				*i* S		Sn		16 40 17.8	-0.4
SANL	SANLIURFA_Merk	0.94	182	P		Pb		16 40 03.7	0.0
SANL				S		Sn		16 40 17.8	-0.4
TNCL	Tunceli-Merkez	1.07	22	*e*P		Pb		16 40 05.5	-0.5
TNCL				*i* Pg		Pn		16 40 07.2	+0.8
TNCL				*e*S		Sn		16 40 22.7	+1.2
TNCL				IAML				16 40 29.1	
	comp=Z,45nm,0.5s								
TNCL	Tunceli-Merkez	1.07	22	*i* P		Pb		16 40 05.7	-0.3
TNCL				*i* S		Sn		16 40 23.1	+1.5
TNCL	Tunceli-Merkez	1.07	22	P		Pb		16 40 05.7	-0.3
TNCL				S		Sn		16 40 23.1	+1.5
HANI	Diyarbakir_Han	1.11	74	*i* P		Pb		16 40 06.4	-0.2
HANI				*i* S		Sn		16 40 21.9	-0.6
HANI	Diyarbakir_Han	1.11	74	P		Pb		16 40 06.4	-0.2
HANI				S		Sn		16 40 21.9	-0.6
HEKM	Malatya_Hekimh	1.14	312	*i* P		Pb		16 40 06.3	-0.8
HEKM				*i* S		Sn		16 40 24.1	+0.8
HEKM	Malatya_Hekimh	1.14	312	P		Pb		16 40 06.3	-0.8
HEKM				S		Sn		16 40 24.1	+0.8
KEMA	Kemaliye	1.23	340	*i* P		Pn		16 40 07.2	-1.3
KEMA				*e*P		Pg		16 40 24.6	+16
KEMA				IAML				16 40 27.6	
	comp=Z,30nm,0.7s								
KEMA	Kemaliye

ATAB	**Bozova**	**0.88**	**222**		P		**Pb**	16 40 51.6	**+0.2**
ATAB					S		**Sb**	16 41 03.7	**+0.6**
DIYA	**Diyarbakir**	**0.88**	**103**	⇑	*i*P		**Pg**	16 40 50.9	**-0.2**
DIYA					*i* S		**Sb**	16 41 03.5	**+0.2**
DIYA	**Diyarbakir**	**0.88**	**103**		P		**Pg**	16 40 50.9	**-0.2**
DIYA					S		**Sb**	16 41 03.5	**+0.2**
DYBB	**Diyarbakir**	**0.89**	**101**		PG		**Pb**	16 40 51.4	**-0.2**
DYBB					SG		**Sn**	16 41 05.4	**-0.1**
AKCD	**Akcadag**	**0.89**	**281**	⇑	*i*P		**Pg**	16 40 50.6	**-0.8**
AKCD					*i* S		**Sb**	16 41 03.9	**+0.3**
AKCD	**Akcadag**	**0.89**	**281**		P		**Pg**	16 40 50.6	**-0.8**
AKCD					S		**Sb**	16 41 03.9	**+0.3**
SANL	**SANLIURFA_Merk**	**0.95**	**182**	⇓	*i*P		**Pg**	16 40 52.3	**-0.2**
SANL					*i* S		**Sn**	16 41 07.6	**+0.6**
SANL	**SANLIURFA_Merk**	**0.95**	**182**		P		**Pg**	16 40 52.3	**-0.2**
DIY	**Diyarbakir**	**0.97**	**103**		*e*Pg		**Pg**	16 40 51.4	**-1.4**
DIY					*e*Sg		**Sb**	16 41 05.4	**-0.4**
TNCL	**Tunceli-Merkez**	**1.06**	**22**		*e*P		**Pg**	16 40 54.2	**-0.4**
TNCL					*i* Pg		**Pn**	16 40 55.7	**+0.7**
TNCL					*e*S		**Sn**	16 41 11.6	**+1.6**
TNCL					IAML			16 41 14.4	
	comp=Z,238nm,0.4s								
TNCL	**Tunceli-Merkez**	**1.06**	**22**		*e*P		**Pg**	16 40 53.9	**-0.7**
TNCL					*i* S		**Sn**	16 41 09.4	**-0.5**
TNCL	**Tunceli-Merkez**	**1.06**	**22**		P		**Pg**	16 40 53.9	**-0.7**
TNCL					S		**Sn**	16 41 09.4	**-0.5**
HANI	**Diyarbakir_Han**	**1.11**	**75**	⇑	*i*P		**Pb**	16 40 54.9	**-0.5**
HANI					*i* S		**Sn**	16 41 10.7	**-0.4**
HANI	**Diyarbakir_Han**	**1.11**	**75**		P		**Pb**	16 40 54.9	**-0.5**
HANI					S		**Sn**	16 41 10.7	**-0.4**
HEKM	**Malatya_Hekimh**	**1.13**	**312**		*i* P		**Pb**	16 40 55.1	**-0.7**
HEKM					*i* S		**Sn**	16 41 12.1	**+0.4**
HEKM	**Malatya_Hekimh**	**1.13**	**312**		P		**Pb**	16 40 55.1	**-0.7**
HEKM					S		**Sn**	16 41 12.1	**+0.4**
KEMA	**Kemaliye**	**1.22**	**340**		*e*P		**Pn**	16 40 55.6	**-1.5**
KEMA					*e*S		**Sg**	16 41 13.4	**0.0**
KEMA					IAML			16 41 16.3	
	comp=Z,150nm,0.7s								
KEMA	**Kemaliye**	**1.22**	**340**	⇑	*i*P		**Pn**	16 40 55.7	**-1.5**
KEMA					*i* S		**Sb**	16 41 13.2	**+0.2**
KEMA	**Kemaliye**	**1.22**	**340**		P		**Pn**	16 40 55.7	**-1.5**
KEMA					S		**Sb**	16 41 13.2	**+0.2**
REFA	**Refahiye_ERZ¯**	**1.29**	**351**		*e*P		Pg	16 41 06.1	+7.2
REFA					*e*S		Sg	16 41 30.4	+15
REFA					IAML			16 41 44.3	
	comp=Z,38nm,0.5s								
REFA	**Refahiye_ERZ¯**	**1.29**	**351**	⇑	*i*P		Pg	16 41 06.3	+7.4
REFA					*i* S		Sg	16 41 31.2	+16
SURC	**SANLIURFA_SURC**	**1.29**	**195**		*i* P		**Pb**	16 40 58.2	**-0.2**
SURC					*i* S		**Sn**	16 41 15.1	**-0.2**
SURC	**SANLIURFA_SURC**	**1.29**	**195**		P		**Pb**	16 40 58.2	**-0.2**
SURC					S		**Sn**	16 41 15.1	**-0.2**
DARE	**Darende-Malaty**	**1.30**	**291**		PN		**Pn**	16 40 58.3	**0.0**
DARE	**Darende-Malaty**	**1.30**	**291**		*e*Pn		**Pn**	16 40 58.3	**0.0**
MAZI	**Mazidag**	**1.30**	**120**		PN		**Pg**	16 40 59.0	**-0.1**
MAZI	**Mazidag**	**1.30**	**120**		*e*Pn		**Pg**	16 40 59.0	**-0.1**
BINT	**Bingol**	**1.37**	**56**		*e*Pn		**Pg**	16 41 02.8	**+2.5**
ILIC	**ilic-Erzincan**	**1.37**	**345**		PN		**Pb**	16 40 59.7	**-0.2**
ILIC	**ilic-Erzincan**	**1.37**	**345**		*e*Pn		**Pb**	16 40 59.7	**-0.2**
CUGUR	**Gurin_S¯VAS**	**1.51**	**294**		*i* P		**Pb**	16 41 01.8	**-0.4**
CUGUR					*i* S		**Sg**	16 41 23.2	**+0.6**
CUGUR	**Gurin_S¯VAS**	**1.51**	**294**		P		**Sb**	16 41 01.8	**-0.4**
CUGUR					S		**Sg**	16 41 23.2	**+0.6**
ELBS	**KAHRAMANMARAS**	**1.51**	**278**	⇑	*i*P		**Pb**	16 41 02.1	**-0.1**
ELBS					*i* S		**Sg**	16 41 24.6	**+1.9**
ELBS	**KAHRAMANMARAS**	**1.51**	**278**		P		**Pb**	16 41 02.1	**-0.1**
ELBS					S		**Sg**	16 41 24.6	**+1.9**
BGOL	**Bingol**	**1.55**	**56**		*i* P		**Pb**	16 41 03.1	**+0.3**
BGOL					*i* S		**Sg**	16 41 23.9	**0.0**
BGOL	**Bingol**	**1.55**	**56**		P		**Pb**	16 41 03.1	**+0.3**
BGOL					S		**Sg**	16 41 23.9	**0.0**
BNGB	**Bing¯¶l**	**1.55**	**56**		PN		**Pb**	16 41 02.8	**-0.1**
ERZN	**Erzincan**	**1.56**	**20**		PN		**Pb**	16 41 02.5	**-0.5**
MARD	**Mardin**	**1.60**	**120**		*i* P		**Pn**	16 41 02.1	**-0.4**
MARD					*i* S		**Sb**	16 41 24.5	**+0.4**
EZC	**Erzincan**	**1.64**	**9**		*e*Pn		**Pn**	16 41 02.5	**-0.6**
EUZM	**Uzumlu**	**1.66**	**18**		*e*P		**Pb**	16 41 04.7	**-0.1**
EUZM					*e*S		**Sg**	16 41 28.4	**+0.8**
EUZM	**Uzumlu**	**1.66**	**18**		*i* P		**Pb**	16 41 04.9	**+0.1**
EUZM					*i* S		**Sg**	16 41 31.9	**+4.3**
EUZM	**Uzumlu**	**1.66**	**18**		P		**Pb**	16 41 04.9	**+0.1**
SVAN	**Silvan-Diyarba**	**1.71**	**88**		PN		**Pb**	16 41 05.0	**-0.5**
SVAN	**Silvan-Diyarba**	**1.71**	**88**		*i* P		**Pn**	16 41 04.2	**+0.4**
SVAN					*i* S		**Sb**	16 41 27.2	**+0.2**
SVAN	**Silvan-Diyarba**	**1.71**	**88**		P		**Pn**	16 41 04.2	**+0.4**
SVAN	**Silvan-Diyarba**	**1.71**	**88**		*e*Pn		**Pb**	16 41 05.0	**-0.5**
SVAN					S		**Sb**	16 41 27.2	**+0.2**
CUKAN	**kangal_SIVAS**	**1.71**	**315**		*i* P		**Pg**	16 41 06.5	**-0.4**
CUKAN					*i* S		**Sb**	16 41 27.9	**+0.7**
CUKAN	**kangal_SIVAS**	**1.71**	**315**		P		**Pg**	16 41 06.5	**-0.4**
CUKAN					S		**Sb**	16 41 27.9	**+0.7**
GAZ	**Gaziantep**	**1.73**	**237**		PN		**Pb**	16 41 05.1	**-0.9**
GAZ	**Gaziantep**	**1.73**	**237**		*e*Pn		**Pb**	16 41 05.1	**-0.9**
BTMN	**Batman**	**1.78**	**97**		*i* P		**Pn**	16 41 04.8	**-0.1**
BTMN					*i* S		**Sg**	16 41 31.0	**-0.4**
BTMN	**Batman**	**1.78**	**97**		P		**Pn**	16 41 04.8	**-0.1**
BTMN					S		**Sg**	16 41 31.0	**-0.4**
KMRS	**Kahramanmaras**	**1.80**	**251**		PN		**Pn**	16 41 05.8	**+0.7**
KMRS	**Kahramanmaras**	**1.80**	**251**		*e*Pn		**Pn**	16 41 05.8	**+0.7**
CUZAR	**Zara_SIVAS**	**2.02**	**331**		*i* P		**Pb**	16 41 10.8	**-0.1**
CUZAR					*i* S		**Sg**	16 41 39.4	**+0.4**
CUZAR	**Zara_SIVAS**	**2.02**	**331**		P		**Pb**	16 41 10.8	**-0.1**
KELT	**Kelkit**	**2.03**	**5**		*e*P		**Pb**	16 41 09.9	**-1.2**
KELT	**Kelkit**	**2.03**	**5**		*i* P		**Pb**	16 41 10.2	**-0.9**
KELT					*i* S		**Sg**	16 41 40.4	**+1.1**
KELT	**Kelkit**	**2.03**	**5**		P		**Pb**	16 41 10.2	**-0.9**
KUZU	**Kuzuini**	**2.06**	**230**		*i* P		**Pb**	16 41 11.5	**-0.1**
KUZU	**Kuzuini**	**2.06**	**230**		P		**Pb**	16 41 11.5	**-0.1**
SLMH	**Al Salmeh**	**2.10**	**205**		AML	AML		16 41 50.0	
	comp=N,396nm,0.5s								
SLMH					AML	AML		16 41 59.6	
	comp=E,587nm,0.5s								
ECAT	**Cat-ERZURUM**	**2.12**	**45**		*e*P		**Pb**	16 41 11.2	**-1.4**
VRTB	**Varto-Mus**	**2.16**	**61**		PN		**Pb**	16 41 12.3	**-1.0**
VRTB	**Varto-Mus**	**2.16**	**61**		*e*Pn		**Pb**	16 41 12.3	**-1.0**
ANDN	**Andirin**	**2.20**	**256**		*i* P		**Pb**	16 41 14.2	**+0.3**
ANDN					*i* S		**Sg**	16 41 46.7	**+1.9**
ANDN	**Andirin**	**2.20**	**256**		P		**Pb**	16 41 14.2	**+0.3**
KOPT	**Kop Dagi**	**2.21**	**31**		*e*P		**Pn**	16 41 11.6	**+0.7**
KOPT					IAML			16 41 56.2	
	comp=Z,30nm,0.8s								
BAYB	**BAYBURT**	**2.33**	**24**		*e*P		**Pb**	16 41 14.8	**-1.5**
BAYB					*e*S		**Sb**	16 41 46.9	**+1.7**
SVSK	**Karacayir**	**2.39**	**319**		PN		**Pb**	16 41 15.5	**-1.6**
SVSK	**Karacayir**	**2.39**	**319**		*e*Pn		**Pb**	16 41 15.5	**-1.6**
BAYT	**Ayd¯-ntepe-Bay**	**2.42**	**20**		PN		**Pn**	16 41 15.4	**+1.6**
BAYT	**Ayd¯-ntepe-Bay**	**2.42**	**20**		*e*Pn		**Pn**	16 41 15.4	**+1.6**
CUSAR	**Sarkisla-SIVAS**	**2.53**	**301**		*i* P		**Pn**	16 41 17.1	**+1.8**
CUSAR					*i* S		**Sg**	16 41 54.4	**-1.1**
CUSAR	**Sarkisla-SIVAS**	**2.53**	**301**		P		**Pn**	16 41 17.1	**+1.8**
ERZM	**Erzurum**	**2.54**	**45**		*e*P		**Pn**	16 41 17.0	**+1.5**
BNN	**Bunyan**	**2.60**	**287**		PN		**Pn**	16 41 17.3	**+1.0**
BNN	**Bunyan**	**2.60**	**287**		*e*Pn		**Pn**	16 41 17.3	**+1.0**
KOZT	**Kozan**	**2.62**	**257**		PN		**Pn**	16 41 17.9	**+1.5**
KOZT	**Kozan**	**2.62**	**257**		*e*Pn		**Pn**	16 41 17.9	**+1.5**
EKAR	**Karacoban**	**2.63**	**64**		*e*P		**Pb**	16 41 20.5	**-0.8**
EKAR					*e*S		**Sg**	16 41 57.6	**-0.9**
EKAR					IAML			16 42 10.7	
	comp=Z,36nm,0.4s								
ESPY	**Espiye-Giresun**	**2.80**	**355**		PN		**Pn**	16 41 20.4	**+1.6**
ESPY	**Espiye-Giresun**	**2.80**	**355**		*e*Pn		**Pn**	16 41 20.4	**+1.6**
CEYT	**Ceyhan**	**2.84**	**248**		PN		**Pn**	16 41 21.0	**+1.7**
CEYT	**Ceyhan**	**2.84**	**248**		*e*Pn		**Pn**	16 41 21.0	**+1.7**
TOKT	**Tokat**	**2.92**	**319**		PN		**Pn**	16 41 22.9	**+2.3**
TOKT	**Tokat**	**2.92**	**319**		*e*Pn		**Pn**	16 41 22.9	**+2.3**
HOMI	**Horasan**	**2.94**	**48**		*e*P		**Pn**	16 41 21.8	**+0.8**
HOMI					*e*S		**Sg**	16 42 10.1	**+1.4**
YURE	**YUREGIR**	**3.00**	**245**		PN		**Pn**	16 41 22.9	**+1.3**
YURE	**YUREGIR**	**3.00**	**245**		*e*Pn		**Pn**	16 41 22.9	**+1.3**
GEVA	**Gevas**	**3.17**	**85**		*e*P		**Pn**	16 41 26.2	**+2.0**
GEVA					*e*S		**Sb**	16 42 11.4	**+2.0**
TUTA	**Tutak**	**3.22**	**65**		*e*P		**Pn**	16 41 26.6	**+1.8**
QASN	**Qassioun**	**5.10**	**207**		*e*P		**Pn**	16 41 54.9	**+4.4**
QASN					AML	AML		16 43 35.6	
	comp=E,140nm,0.5s								
QASN					AML	AML		16 43 44.3	
	comp=N,113nm,0.5s								
TOTH	**TOTAH**	**5.20**	**205**		*e*P		**Pn**	16 41 53.9	**+2.0**
TOTH					*e*S		**Sn**	16 42 45.4	**-6.6**
TOTH					AML	AML		16 43 44.1	
	comp=N,50nm,0.7s								
TOTH					AML	AML		16 43 48.2	
	comp=E,33nm,0.8s								
BRBR	**Barbar**	**5.33**	**209**		*e*P		**Pn**	16 41 56.5	**+2.7**
BRBR					*e*S		**Sn**	16 42 51.7	**-3.6**
BRBR					AML	AML		16 43 37.6	
	comp=E,71nm,0.7s								
BRBR					AML	AML		16 43 43.4	
	comp=N,35nm,0.8s								
KECS	**Kecovo**	**16.97**	**314**		*e*PN		**Pn**	16 44 25.2	**-6.1**
KECS	**Kecovo**	**16.97**	**314**		*e*P		**P**	16 44 38.3	**+5.1**
STHS	**Stebnicka Huta**	**17.05**	**317**		*e*PN		**Pn**	16 44 28.4	**-4.0**

IDC 10 16:42:06.7±4.6, 17°.30S×174°.71W, h84km±35km, mb3.6/5, mb1 3.9/6, mb1mx3.5/53, mbtmp3.9/6, Error ellipse: s-maj=89.9km s-min=25.6km az=149.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**4.40**	**40**	P	Pn	16 43 11.3	0.0
	1.9nm,0.3s,baz=313,slow=19,SNR=2.8						
AFI				S	Sn	16 44 10.5	+9.1
	2.6nm,0.3s,baz=65,slow=19,SNR=2.9						
ASAR	**Alice Springs**	**48.35**	**254**	P	P	16 50 40.1	-0.2
	3.9nm,1.0s,baz=86,slow=8.2,SNR=8.9						
PETK	**Petropavlovsk-**	**74.06**	**343**	P	P	16 53 33.3	0.0
	1.8nm,0.8s,baz=143,slow=5.0,SNR=3.7						
NVAR	**Mina Array Bea**	**76.57**	**42**	P	P	16 53 48.3	-0.1
	1.4nm,1.0s,baz=232,slow=7.4,SNR=3.3						
PDAR	**Pinedale Array**	**84.51**	**42**	P	P	16 54 30.8	0.0
	0.7nm,0.9s,baz=218,slow=5.6,SNR=3.9						
YKA	**Yellowknife Ar**	**92.33**	**24**	P	P	16 55 07.5	+0.2
	0.1nm,0.6s,baz=236,slow=4.4,SNR=3.4						

*BJI **10** 16:44:44.4, 6°.35N×124°.25E, h55km, mb4.5/13, mB4.8/11, Ms4.1/6, Ms7 4.0/6*
*MAN **10** 16:44:45, 6°.80N×123°.65E, h18km, mb4.9, ML3.8, MS3.7*
*ISCJB **10** 16:44:46.8±0.4, 6°.77N±0°.02×123°.77E±0°.03, h38km±4km, mb4.3/36, MS3.6/10, Error ellipse: s-maj=4.9km s-min=3.7km az=162.9*
*NEIC **10** 16:44:50.0±0.6, 6°.77N×123°.83E, h55km±6km, mb4.4/10, Error ellipse: s-maj=6.4km s-min=5.2km az=203.0*
*DJA **10** 16:44:50.4±0.5, 7°.N±4°×12°.4E±°, h51km±10km, M4.5/10, mb4.5/10, mB4.9/7, MLv4.8/7, Mw(mB)4.2/7*
*IDC **10** 16:44:53.1±2.2, 6°.84N×124°.01E, h83km±21km, mb3.8/20, mb1 4.0/22, mb1mx3.7/68, mbtmp4.2/22, MS3.5/8, Ms1 3.5/8, ms1mx3.0/58, Error ellipse: s-maj=24.5km s-min=10.6km az=73.0*

ISC 10 16:44:48.0±1.0, 6°.83N±0°.03×123°.69E±0°.03, h29km±8km, n94, σ1°.95/111, mb4.3/36, MS3.5/10, 5C-6D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTBH	**Cotabato--PC H**	**0.68**	**55**	⇓*i*P	**Pb**	16 44 57.0	**-4.3**
CTBH				*i* S	**Sn**	16 45 13.0	**+1.9**
PAGZ	**Pagadian**	**1.06**	**343**	*e*P	**Pb**	16 45 04.9	**-2.7**
PAGZ				*e*S	**Sb**	16 45 20.0	**-1.2**
KCP	**Kidapawan**	**1.40**	**83**	⇓*i*P	**Pn**	16 45 09.0	**-2.6**
KCP				*i* S	**Sb**	16 45 36.7	**+5.6**
GSPH	**General Santos**	**1.45**	**120**	⇑*e*P	**Pb**	16 45 13.9	**-0.6**
GSPH				*i* S	**Sb**	16 45 36.6	**+4.0**
IPIL	**Ipil**	**1.46**	**311**	*e*P	**Pn**	16 45 11.3	**-1.1**
IPIL				*e*S	**Sb**	16 45 31.1	**-1.7**
ZCP	**Zamboanga City**	**1.61**	**274**	⇓*i*P	**Pn**	16 45 13.2	**-1.2**
ZCP				*i* S	**Sb**	16 45 35.8	**-1.1**
BUKP	**Musuan**	**1.71**	**52**	*e*P	**Pn**	16 45 15.0	**-0.9**
BUKP				*e*S	**Sb**	16 45 39.3	**-0.8**
DCPH	**Dipolog City**	**1.77**	**349**	⇑*e*P	**Pn**	16 45 16.7	**0.0**
DCPH				*e*S	**Sn**	16 45 39.2	**+1.0**
DMPH	**Davao City--Mi**	**1.82**	**82**	⇓*e*P	**Pb**	16 45 21.8	**+1.1**
DMPH				*e*S	**Sb**	16 45 45.0	**+1.9**
DAV	**Davao City (W)**	**1.89**	**83**	P	**Pn**	16 45 18.7	**+0.4**
	438nm,0.3s,baz=310,slow=2.7,SNR=37						
DAV				S	**Sb**	16 45 44.5	**-0.6**
	306nm,0.3s,baz=307,slow=20,SNR=6.0						
DAV	**Davao City (W)**	**1.89**	**83**	*e*Pn	**Pn**	16 45 19.1	**+0.7**
DAV				S	**Sb**	16 45 44.5	**-0.6**
BUTP	**Butuan**	**2.86**	**42**	*e*P	**Pb**	16 45 35.4	**-3.0**
BUTP				*e*S	**Sb**	16 46 17.4	**+4.4**
BIPH	**Bislig**	**2.97**	**63**	⇑*i*P	**Pn**	16 45 33.2	**0.0**
BIPH				*i* S	**Sn**	16 46 05.9	**-1.9**
SCPH	**Surigao**	**3.43**	**31**	⇑*e*P	**Pn**	16 45 42.9	**+3.4**
LLP	**Lapu-Lapu**	**3.48**	**4**	⇓*e*P	**Pn**	16 45 39.7	**-0.4**
LLP				*e*S	**Sn**	16 46 22.6	**+2.3**
MSLP	**Maasin**	**3.48**	**19**	*e*P	**Pn**	16 45 39.1	**-1.1**
SGSI	**Sangihe**	**3.62**	**150**	P	**Pn**	16 45 40.8	**-1.3**
SGSI				S	**Sn**	16 46 22.2	**-1.7**
GUIM	**Jordan**	**3.92**	**344**	*e*P	**Pn**	16 45 46.5	**+0.1**
JAP	**San Jose, Anti**	**4.26**	**336**	⇓*e*P	**Pn**	16 45 51.0	**+0.2**
OCLP	**Ormoc**	**4.29**	**12**	*e*P	**Pn**	16 45 51.4	**+0.1**
RCP	**Roxas**	**4.79**	**349**	⇑*e*P	**Pn**	16 46 00.2	**+1.9**
MYLDM	**Lahad Datu**	**5.42**	**253**	*e*Pn	**Pn**	16 46 08.8	**+2.0**
SJMP	**San Jose**	**6.14**	**336**	*e*P	**Pn**	16 46 18.7	**+1.9**
KMSI	**Cibinong**	**6.22**	**177**	P	**Pn**	16 46 18.0	**+0.1**
MRSI	**Marisa**	**6.55**	**196**	P	**Pn**	16 46 20.6	**-1.8**
	22nm,0.6s,297nm0.3nm						
TNTI	**Ternate**	**7.05**	**148**	*e*Pn	**Pn**	16 46 28.9	**-0.3**
KKM	**Kota Kinabalu**	**7.47**	**264**	*e*Pn	**Pn**	16 46 37.4	**+2.3**
LUWI	**Luwuk**	**7.87**	**187**	P	**Pn**	16 46 39.4	**-1.2**
LUWI				S	**Sn**	16 48 07.2	**-1.6**
LUWI	**Luwuk**	**7.87**	**187**	*e*Pn	**Pn**	16 46 41.7	**+1.1**
SANI	**Sanana**	**9.11**	**165**	P	**Pn**	16 46 57.1	**-0.5**
NLAI	**Namlea**	**10.57**	**161**	P	**Pn**	16 47 17.1	**-0.4**
SIJI	**Sorong**	**10.75**	**135**	P	**Pn**	16 47 21.9	**+1.8**
	0.8nm,0.3s,baz=319,slow=23,SNR=4.3						
SIJI				S	**Sn**	16 49 13.7	**-5.9**
	0.5nm,0.3s,baz=279,slow=18,SNR=7.6						
SIJI				LR	LR	16 51 48.9	
	comp=Z,191nm,18.4s,baz=212,slow=40						
SBUM	**Sibu**	**12.23**	**250**	*e*Pn	**Pn**	16 47 43.3	**+2.9**
FAKI	**Fak Fak**	**12.91**	**138**	*e*Pn	**Pn**	16 47 48.6	**-1.1**
KSM	**Kuching**	**14.36**	**249**	*e*Pn	**Pn**	16 48 11.9	**+2.4**
BATI	**Baumata**	**16.93**	**180**	P	**P**	16 48 46.0	**+1.4**
	0.7nm,0.3s,baz=45,slow=4.3,SNR=2.6						
TATO	**Taipei**	**18.17**	**354**	*e*P	**P**	16 48 59.1	**+0.9**
	156nm,1.5s						
MYKOM	**Kota Tinggi**	**20.40**	**257**	*e*P	Pn	16 49 24.6	-0.5
	26nm,1.3s						
SKNT	**Sakolnakorn**	**21.74**	**299**	P	P	16 49 44.1	+6.9
	6.8nm,1.4s						
GUMO	**Guam**	**21.89**	**70**	LR	LR	16 56 18.0	
	comp=Z,94nm,20.9s,baz=238,slow=32						
MDSI	**Maura Dua**	**22.49**	**241**	P	**P**	16 49 49.5	**+4.2**
IPM	**Ipoh**	**22.67**	**265**	*e*P	**P**	16 49 48.8	**+1.4**
	13nm,1.1s						
KASI	**Kota Agung**	**22.75**	**238**	P	**P**	16 49 52.3	**+4.2**
KULM	**Kulim**	**22.96**	**267**	*e*P	**P**	16 49 51.1	**+0.8**
	13nm,1.1s						
CHAI	**Chaiyaphum**	**23.09**	**295**	P	**P**	16 49 53.1	**+1.5**
	6.7nm,1.0s						
TRTT	**Trang**	**23.82**	**274**	P	**P**	16 50 00.6	**+1.8**
	5.7nm,1.1s						
PBKT	**Sadao Pong**	**24.23**	**296**	P	**P**	16 50 03.6	**+1.0**
PSI	**Prapat**	**25.00**	**262**	LR	LR	17 01 29.6	
	comp=Z,81nm,18.7s,baz=101,slow=39						
CM01	**Chiang Mai Arr**	**26.70**	**298**	*e*P	**P**	16 50 26.8	**+1.9**
CMAR	**Chiang Mai Arr**	**26.73**	**298**	P	**P**	16 50 26.9	**+1.8**
	0.6nm,0.4s,baz=118,slow=9.4,SNR=9.6						
CMAR				LR	LR	17 01 15.7	
	comp=Z,118nm,18.1s,baz=122,slow=36						
CHTO	**Chiang Mai**	**26.86**	**299**	*e*P	**P**	16 50 25.8	**-0.6**
	7.2nm,1.4s						
KMI	**Kunming**	**27.06**	**315**	P	**P**	16 50 31.2	**+2.8**
KMI				pmax	pmax		
	comp=Z,17nm,0.6s						
KMI				pmax	pmax		
	comp=Z,92nm,4.1s						
PMG	**Port Moresby**	**28.41**	**124**	LR	LR	17 02 44.6	
	comp=Z,93nm,18.4s,baz=150,slow=38						
WRA	**Warramunga Arr**	**28.59**	**159**	P	**P**	16 50 39.6	**-2.2**
	2.3nm,0.7s,baz=336,slow=9.6,SNR=12						
WRA				PcP	**PcP**	16 53 51.0	**-1.8**
	0.3nm,0.5s,baz=319,slow=2.4,SNR=4.3						
KSAR	**Wonju Array Be**	**30.71**	**7**	P	**P**	16 50 58.9	**-1.5**
KSRS	**Korea Array**	**30.73**	**7**	P	**P**	16 50 58.9	**-1.6**
	0.7nm,0.5s,baz=186,slow=10,SNR=4.8						
ASAR	**Alice Springs**	**31.91**	**162**	P	**P**	16 51 10.1	**-1.1**
	0.5nm,0.4s,baz=342,slow=7.4,SNR=20						
ASAR				PcP	**PcP**	16 53 59.9	**-1.5**
	0.7nm,0.6s,baz=349,slow=2.5,SNR=7.5						
MJAR	**Matsushiro Arr**	**32.41**	**22**	P	**P**	16 51 13.6	**-1.9**
	2.5nm,1.0s,baz=200,slow=10,SNR=6.9						
LZH	**Lanzhou**	**34.33**	**331**	*e*P	**P**	16 51 34.5	**+2.2**
LZH				pP	sP	16 51 48.0	+3.5
LZH				sP	pP	16 51 54.0	+13
LZH				*e*PP	**PP**	16 52 51.6	**+1.2**
LZH				pmax	pmax		
	comp=Z,21nm,1.0s						
LZH				pmax	pmax		
	comp=Z,52nm,5.2s						
LZH				LR	LR		
	comp=N,97nm,13.2s						
LZH				LR	LR		
	comp=E,100nm,13.5s						
LZH				LR	LR		
	comp=Z,130nm,16.8s						
HHC	**Hu-ho-hao-te**	**35.56**	**344**	*e*P	**P**	16 51 45.9	**+3.0**
HHC				PP	**PP**	16 53 07.9	**+3.9**
HHC				S	**S**	16 57 19.4	**+2.4**
HHC				SS	**SnSn**	16 59 42.1	**+3.3**
HHC				pmax	pmax		
	comp=Z,14nm,0.9s						
HHC				pmax	pmax		
	comp=Z,61nm,4.7s						
HHC				LR	LR		
	comp=N,100nm,14.9s						
HHC				LR	LR		
	comp=E,360nm,13.7s						
HHC				LR	LR		
	comp=Z,220nm,12.4s						
USRK	**Ussuriysk Ar.**	**37.92**	**10**	P	**P**	16 52 02.8	**0.0**
	3.9nm,0.7s,baz=42,slow=6.5,SNR=5.6						
GTA	**Gaotai**	**38.91**	**330**	*e*P	**P**	16 52 12.6	**+1.3**
GTA				pmax	pmax		
	comp=Z,2.0nm,1.0s						
STKA	**Stephens Creek**	**42.12**	**157**	P	**P**	16 52 37.3	**-0.4**
	11nm,0.7s,baz=332,slow=9.0,SNR=23						
STKA	**Stephens Creek**	**42.12**	**157**	*e*P	**P**	16 52 37.1	**-0.6**
	3.0nm,0.8s						
PALK	**Pallekele**	**42.65**	**273**	LR	LR	17 11 48.6	
	comp=Z,29nm,19.0s,baz=116,slow=38						
SONM	**Songino Array**	**43.44**	**343**	P	**P**	16 52 50.0	**+1.5**
	0.8nm,0.7s,baz=160,slow=7.7,SNR=5.9						
SONA1	**Songino Array**	**43

	SNR=51								
KZA	**Kyzart**	**5.43**	**27**	P		**Pn**	**16 54 37.4**	**+0.7**
	SNR=17								
EKS2	**Erkin-Say**	**5.56**	**14**	P		**Pn**	**16 54 40.0**	**+1.8**
	SNR=8.3								
AAK	**Ala-Archa**	**5.70**	**19**	P		**Pn**	**16 54 41.2**	**+1.1**
	9.5nm,0.3s,baz=172,slow=7.2,SNR=113								
AAK				S		**Sn**	**16 55 42.9**	**-2.0**
	1.4nm,0.3s,baz=311,slow=19,SNR=4.2								
AAK	**Ala-Archa**	**5.70**	**19**	⇑P		**Pn**	**16 54 41.7**	**+1.5**
	20nm,0.5s								
AAK				⇑S		**Sn**	**16 55 46.5**	**+1.6**
	28nm,0.6s								
AAK	**Ala-Archa**	**5.70**	**19**	P		**Pn**	**16 54 41.9**	**+1.7**
	SNR=26								
KBK	**Karagaybulak**	**5.85**	**22**	P		**Pn**	**16 54 44.4**	**+2.3**
	SNR=8.7								
KK31	**Karatay Array**	**5.93**	**350**	P		**Pn**	**16 54 45.2**	**+2.2**
	1.7nm,0.3s,baz=161,slow=12,SNR=59								
KK31				⇑S		**Sn**	**16 55 46.9**	**-3.2**
	15nm,0.4s,baz=161,slow=22,SNR=26								
ULHL	**Ulahol**	**5.96**	**32**	P		**Pn**	**16 54 44.2**	**+0.6**
	SNR=14								
CHMS	**Chumysh**	**6.11**	**20**	P		**Pn**	**16 54 47.0**	**+1.6**
	SNR=6.5								
TKM2	**Tokmak 2**	**6.29**	**25**	⇑P		**Pn**	**16 54 51.4**	**+3.3**
	9.6nm,0.8s								
TKM2				⇓S		**Sn**	**16 56 05.2**	**+6.1**
	13nm,1.4s								
TKM2	**Tokmak 2**	**6.29**	**25**	P		**Pn**	**16 54 49.0**	**+1.0**
	SNR=12								
GEYT	**Alibeck**	**11.01**	**278**	P		**Pn**	**16 55 53.4**	**+2.9**
	0.5nm,0.3s,baz=88,slow=12,SNR=8.5								
GEYT				S		**Sn**	**16 57 52.8**	**+0.6**
	0.6nm,0.3s,baz=108,slow=14,SNR=4.2								
MKAR	**Makanchi Array**	**12.22**	**36**	P		**Pn**	**16 56 07.4**	**+1.1**
	0.1nm,0.3s,baz=218,slow=12,SNR=2.9								
PYUN	**Piuthan**	**13.02**	**131**	*e*P		**P**	**16 56 17.8**	**-4.0**
	22nm,0.5s								
KOLN	**Koldanda**	**13.63**	**131**	*e*P		**P**	**16 56 25.7**	**-2.8**
	7.0nm,0.3s								
GKN	**Gorkha**	**14.11**	**127**	*e*P		**P**	**16 56 30.8**	**-3.0**
	21nm,0.5s								
KURBB	**Kurchatov Arra**	**14.15**	**17**	P		**P**	**16 56 32.2**	**-1.7**
	0.1nm,0.3s,baz=200,slow=11,SNR=6.2								
KKN	**Kakani**	**14.67**	**126**	*e*P		**P**	**16 56 37.7**	**-2.3**
	16nm,0.5s								
DMN	**Daman**	**14.68**	**127**	*e*P		**P**	**16 56 37.7**	**-2.5**
	15nm,0.5s								
AB31	**Akbulak array**	**14.81**	**328**	⇓P		**P**	**16 56 40.8**	**-0.5**
	1.9nm,0.4s,baz=96,slow=6.5,SNR=13								
AB31				⇑S		**Sn**	**16 59 20.3**	**-3.3**
	4.5nm,0.7s								
PKIN	**Phulchoki**	**14.89**	**127**	*e*P		**P**	**16 56 40.2**	**-2.3**
GUN	**Gumba**	**14.98**	**125**	*e*P		**P**	**16 56 41.5**	**-2.1**
	20nm,0.4s								
JIRN	**Jiri**	**15.35**	**125**	*e*P		**P**	**16 56 46.5**	**-1.2**
	74nm,0.5s								
BVAR	**Borovoye Array**	**15.79**	**357**	P		**P**	**16 56 51.3**	**-0.8**
	0.2nm,0.3s,baz=160,slow=13,SNR=5.3								
RAMN	**Ramite**	**16.09**	**126**	*e*P		**P**	**16 56 55.6**	**-0.3**
	19nm,0.4s								
AKTO	**Aktyubinsk**	**16.52**	**327**	P		**Pn**	**16 57 00.8**	**+0.5**
	0.9nm,0.3s,baz=125,slow=12,SNR=11								
AKTO				S		**S**	**16 59 55.9**	**-7.8**
	0.2nm,0.3s,baz=319,slow=19,SNR=3.0								
AKTO	**Aktyubinsk**	**16.52**	**327**	⇓P		**Pn**	**16 57 06.3**	**+6.1**
	2.0nm,0.5s								
AKTO				⇓S		**Sn**	**17 00 06.1**	**+1.6**
	2.5nm,0.6s								
ZALV	**Zalesovo Beam**	**18.90**	**24**	P		**P**	**16 57 25.6**	**-0.5**
	0.4nm,0.3s,baz=220,slow=11,SNR=20								
ARCES	**ARCESS Array B**	**40.73**	**337**	P		**P**	**17 00 43.5**	**+0.6**
	1.0nm,0.7s,baz=116,slow=8.3,SNR=5.8								
TORD	**Torodi Ar. Bea**	**66.50**	**269**	P		**P**	**17 03 51.7**	**+0.6**
	0.7nm,0.4s,baz=47,slow=5.5,SNR=13								

*ISCJB **10** 17:02:43.2±0.5,31°.62N±0°.05×138°.48E±0°.08,h381km, mb3.1/8, Error ellipse: s-maj=8.9km s-min=6.1km az=5.5*
*IDC **10** 17:02:44.6±1.1,31°.55N×138°.43E,h382km±12km,mb3.0/8, mb1 3.0/11,mb1mx2.8/63,mbtmp3.8/11, Error ellipse: s-maj=32.5km s-min=22.3km az=78.0*
*JMA **10** 17:02:46.3±0.4,31°.95N×138°.47E,h391km±4km, M3.1*
ISC 10 17:02:43.7±0.8, 31°.61N±0°.07×138°.6E±0°.1, h381km, n24, σ1$ 79/28, mb3.0/8, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JHJ	**Hachijo jima 2**	**1.80**	**33**	P		**Pn**	**17 03 39.7**	**+3.2**
	5.7nm,0.3s,baz=126,slow=23,SNR=12							
JHJ				S		**S**	**17 04 22.2**	**+3.1**
	12nm,0.3s,baz=53,slow=22,SNR=7.5							
JHJ2	**Mitsune**	**1.81**	**34**	P		**Pn**	**17 03 39.6**	**+3.1**
BSO3	**Boso 3**	**3.56**	**26**	*e*S		**S**	**17 04 44.4**	**+0.8**
BSO1	**Boso 1**	**3.62**	**32**	P		**Pn**	**17 03 52.5**	**+2.3**
BSO1				*e*S		**S**	**17 04 45.5**	**+1.3**
BSO4	**Boso 4**	**3.67**	**23**	*e*S		**S**	**17 04 45.2**	**-0.6**
JHU	**Hanno**	**4.27**	**7**	P		**Pn**	**17 03 58.2**	**+1.1**
JHU				*e*S		**S**	**17 04 55.7**	**-1.0**
JRY	**Ryogami san**	**4.41**	**3**	P		**Pn**	**17 04 00.3**	**+1.8**
JYT	**Yasato**	**4.79**	**15**	P		**Pn**	**17 04 02.7**	**+0.3**
JYT				*e*S		**S**	**17 05 03.8**	**-2.5**
JAG	**Ashikaga**	**4.86**	**8**	P		**Pn**	**17 04 03.5**	**+0.4**
MJAR	**Matsushiro Arr**	**4.94**	**356**	P		**Pn**	**17 04 05.3**	**+1.3**
	0.4nm,0.3s,baz=172,slow=11,SNR=8.3							
JHO	**Hitachi**	**5.25**	**17**	*e*S		**S**	**17 05 12.1**	**-3.0**
CBIJ	**Chichi jima**	**5.46**	**144**	P		**Pn**	**17 04 10.2**	**+0.4**
CBIJ				S		**S**	**17 05 18.0**	**-1.7**
JCJ	**Chichijima**	**5.46**	**144**	P		**Pn**	**17 04 10.3**	**+0.5**
	9.8nm,0.3s,baz=9.0,slow=17,SNR=20							
JFK	**Kawauchi**	**6.04**	**17**	*e*S		**S**	**17 05 27.7**	**-3.3**
JMK	**Ichinoseki**	**7.63**	**15**	S		S	17 05 46.8	-17
KSRS	**Korea Array**	**10.58**	**306**	P		**P**	**17 05 06.6**	**-1.5**
	0.2nm,0.3s,baz=122,slow=9.8,SNR=5.3							
SONM	**Songino Array**	**29.35**	**313**	P		**P**	**17 08 12.8**	**-0.2**
	0.4nm,0.5s,baz=125,slow=12,SNR=3.7							
CMAR	**Chiang Mai Arr**	**38.06**	**259**	P		**P**	**17 09 27.3**	**-0.2**
	0.5nm,0.7s,baz=62,slow=7.0,SNR=6.1							
MKAR	**Makanchi Array**	**45.26**	**306**	P		**P**	**17 10 23.6**	**-1.1**
	0.1nm,0.5s,baz=87,slow=10,SNR=4.3							
KURBB	**Kurchatov Arra**	**47.70**	**312**	P		**P**	**17 10 43.2**	**-0.2**
	0.4nm,0.4s,baz=91,slow=6.7,SNR=7.1							
BVAR	**Borovoye Array**	**52.65**	**315**	P		**P**	**17 11 20.5**	**+0.5**
	0.8nm,0.4s,baz=114,slow=7.4,SNR=8.3							
FINES	**FINESS Array B**	**72.53**	**332**	P		**P**	**17 13 30.7**	**+0.9**
	0.7nm,0.4s,baz=72,slow=6.2,SNR=8.3							
AKASG	**Malin Array Be**	**77.16**	**322**	P		**P**	**17 13 56.0**	**-0.1**
	0.7nm,0.4s,baz=54,slow=5.4,SNR=7.4							
BRTR	**Keskin Array B**	**80.69**	**311**	P		**P**	**17 14 16.6**	**+1.0**
	0.1nm,0.3s,baz=139,slow=2.8,SNR=4.7							

MEX 10 17:10:04.1±0.6, 14°.60N×93°.16W, h51km±95km, MD3.6, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PCIG		**1.10**	**357**	*i* P		Pn	17 10 21.8	-1.3
PCIG				*e*S		Sn	17 10 35.1	-2.2
CCIG	**Comitan**	**1.94**	**30**	*e*P		Pn	17 10 37.2	+2.4
CCIG				*i* S		Sn	17 10 56.5	-1.6
TGIG		**2.16**	**1**	*i* P		Pn	17 10 39.2	+1.4
TGIG				*e*S		Sn	17 11 01.4	-2.1
TGIG				*e*			17 11 47.4	

*ATH **10** 17:32:57.5,40°.59N×21°.64E,h22km±2km, ML1.9/6, Error ellipse: s-maj=2.6km s-min=1.0km az=306.0*
*TIR **10** 17:32:57.1,41°.02N×21°.48E,h24km, Md2.4/2*
*CSEM **10** 17:32:57.8±0.1,40°.61N×21°.66E,h10km, ML1.9, Error ellipse: s-maj=3.2km s-min=2.3km az=176.0*
*SKO **10** 17:32:59.1,40°.57N×21°.65E,h4km, M1.5, ML1.9*
THE 10 17:32:57.9,40°.62N×21°.68E,h13km±3km, ML1.8/7, Error ellipse: s-maj=3.2km s-min=0.9km az=331.0, Greece

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
FNA	**Florina**	**0.28**	**306**	P		Pg	17 33 03.9	+0.1
FNA				S		Sg	17 33 08.1	+0.3
FNA				AML		AML	17 33 09.8	
	comp=E,1414μm,0.2s							
FNA				AML		AML	17 33 09.9	
	comp=N,1186μm,0.2s							
FNA	**Florina**	**0.28**	**306**	P		Pg	17 33 04.0	+0.2
FNA				S		Sg	17 33 08.7	+0.9
FNA	**Florina**	**0.28**	**306**	P		Pg	17 33 04.0	+0.2
FNA				S		Sg	17 33 08.4	+0.6
KZN	**Kozani**	**0.32**	**167**	P		Pg	17 33 03.7	-0.7
KZN				S		Sg	17 33 08.5	-0.3
KZN				AML		AML	17 33 10.0	
	comp=N,652μm,0.2s							
KZN				AML		AML	17 33 10.2	
	comp=E,770μm,0.2s							
KZN	**Kozani**	**0.32**	**167**	P		Pg	17 33 04.3	-0.1
KZN				S		Sg	17 33 09.5	+0.7
KZN	**Kozani**	**0.32**	**167**	P		Pg	17 33 04.3	-0.1
KZN				S		Sg	17 33 09.0	+0.2
KTI	**Kastanea**	**0.40**	**124**	P		Pg	17 33 06.2	+0.2
KTI	**Kastanea**	**0.40**	**124**	P		Pg	17 33 06.2	+0.2
BIA	**Bitola**	**0.48**	**326**	*i* Pg		Pb	17 33 08.3	0.0
BIA				*i* Sg		Sb	17 33 16.9	+1.5
NEST	**Nestorio**	**0.52**	**247**	P		Pg	17 33 07.4	-0.8
NEST				S		Sb	17 33 16.4	0.0
NEST				AML		AML	17 33 17.4	
	comp=E,313μm,0.2s							
NEST				AML		AML	17 33 18.3	
	comp=N,212μm,0.3s							
NEST	**Nestorio**	**0.52**	**247**	P		Pg	17 33 07.5	-0.7
NEST				S		Sb	17 33 16.3	-0.2
NEST	**Nestorio**	**0.52**	**247**	P		Pg	17 33 07.4	-0.8
NEST				S		Sg	17 33 15.6	+0.5
PENT	**Pentalofos**	**0.59**	**225**	P		Pg	17 33 08.6	-0.8
PENT				S		Sg	17 33 17.6	+0.3
PENT				AML		AML	17 33 21.6	
	comp=E,139μm,0.3s							
PENT				AML		AML	17 33 21.8	
	comp=N,142μm,0.2s							
PENT	**Pentalofos**	**0.59**	**225**	P		Pg	17 33 08.6	-0.8
PENT				S		Sg	17 33 17.6	+0.3
PENT	**Pentalofos**	**0.59**	**225**	P		Pg	17 33 08.6	-0.8
PENT				S		Sg	17 33 17.2	-0.1
GRG	**Griva**	**0.65**	**58**	P		Pg	17 33 10.8	+0.3
GRG				S		Sn	17 33 21.7	-1.3
GRG	**Griva**	**0.65**	**58**	P		Pb	17 33 11.0	-0.1
GRG				S		Sg	17 33 19.1	+0.1
GRG	**Griva**	**0.65**	**58**	P		Pb	17 33 10.8	-0.3
GRG				S		Sg	17 33 19.1	+0.1
KBN	**Korca**	**0.68**	**271**	P		Pg	17 33 10.2	-0.9
KBN				S		Sg	17 33 20.4	+0.3
KBN	**Korca**	**0.68**	**271**	P		Pg	17 33 10.2	-0.9
KBN	**Korca**	**0.68**	**271**	*i* Pg		Pg	17 33 11.3	+0.2
KBN				S		Sg	17 33 20.4	+0.3
KBN				*i* Sg		Sb	17 33 21.2	+0.2
KBN	**Korca**	**0.68**	**271**	*i* PG		Pg	17 33 11.3	+0.2
KBN				*i* SG		Sb	17 33 21.2	+0.2
KPRO	**Kipourio**	**0.70**	**200**	P		Pg	17 33 10.7	-0.9
KPRO				S		Sg	17 33 21.0	+0.2
KPRO				AML		AML	17 33 24.2	
	comp=E,203μm,0.5s							
KPRO				AML		AML	17 33 26.0	
	comp=N,210μm,0.5s							
KPRO	**Kipourio**	**0.70**	**200**	P		Pg	17 33 10.8	-0.8
KPRO				S		Sb	17 33 22.2	+0.5
KPRO	**Kipourio**	**0.70**	**200**	P		Pg	17 33 10.8	-0.8
KPRO				S		Sg	17 33 20.7	-0.2
LIT	**Litokhoron**	**0.81**	**130**	P		Pb	17 33 13.8	0.0
LIT				AML		AML	17 33 26.0	
	comp=E,194μm,0.3s							
LIT				S		Sn	17 33 26.3	-0.6
LIT				AML		AML	17 33 28.2	
	comp=N,168μm,0.2s							
LIT	**Litokhoron**	**0.81**	**130**	P		Pg	17 33 13.4	-0.1
LIT				S		Sb	17 33 24.6	0.0
LIT	**Litokhoron**	**0.81**	**130**	P		Pg	17 33 13.4	-0.1
LIT				S		Sb	17 33 24.6	0.0
KRUS	**Krusevo**	**0.82**	**337**	*i* Pg		Pb	17 33 13.9	-0.1
KRUS				*i* Sg		Sn	17 33 26.5	-0.8
OHR	**Ohrid**	**0.83**	**307**	*i* Pg		Pg	17 33 13.7	-0.2
OHR				*i* Sg		Sn	17 33 26.7	-0.9
OHR				*e*Lg		Lg	17 33 27.2	
	comp=N,46nm,0.6s							
OHR				*e*Lg		Lg	17 33 27.6	
	comp=E,54nm,0.3s							
VAY	**Valandovo**	**0.97**	**44**	*i* Pg		Pn	17 33 18.4	+1.1
VAY				*i* Sg		Sn	17 33 30.8	-0.2
VAY				*e*Lg		Lg	17 33 33.8	
	comp=E,15nm,0.5s							
VAY				*e*Lg		Lg	17 33 35.3	
	comp=N,20nm,0.7s							
KNT	**Kendrikon**	**1.07**	**59**	P		Pb	17 33 18.4	+0.1
KNT	**Kendrikon**	**1.07**	**59**	P		Pg	17 33 18.5	-0.1
HORT	**Hortiatis**	**1.08**	**91**	P		Pn	17 33 19.8	+0.9
HORT	**Hortiatis**	**1.08**	**91**	P		Pn	17 33 19.2	+0.3
THL	**Klokotos Trika**	**1.08**	**166**	P		Pb	17 33 17.2	-1.3
THL	**Klokotos Trika**	**1.08**	**166**	P		Pb	17 33 16.8	-1.7
THL				S		Sn	17 33 34.7	+1.1
THL	**Klokotos Trika**	**1.08**	**166**	P		Pb	17 33 17.5	-1.0
THL				S		Sn	17 33 34.7	+1.1
AGG	**Agios Georgios**	**1.67**	**162**	P		Pn	17 33 27.2	+0.3
AGG	**Agios Georgios**	**1.67**	**162**	P		Pn	17 33 27.3	+0.4

*ISK **10** 17:41:32.8,36°.50N×35°.84E,h34km, ML2.3/2*
*DDA **10** 17:41:34.8,36°.46N×35°.81E,h7km, Ml2.6*
*CSEM **10** 17:41:35.0±0.3,36°.46N×35°.82E,h10km,ML2.3, Error ellipse: s-maj=8.1km s-min=4.7km az=30.0*
ISC 10 17:41:34.9±1.1, 36°.46N±0°.04×35°.81E±0°.04, h13km±10km, n12, σ0$ 46/24, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KRTD	**Karatas-Adana**	**0.35**	**293**	PG		**Pg**	**17 41 41.7**	**-0.2**
KRTD				SG		**Sb**	**17 41 48.3**	**0.0**
KRTD	**Karatas-Adana**	**0.35**	**293**	*e*Pg		**Pg**	**17 41 41.7**	**-0.2**
KRTD				*e*Sg		**Sb**	**17 41 48.3**	**0.0**
KRTS	**Karatas**	**0.37**	**288**	PG		**Pg**	**17 41 41.9**	**-0.4**
KRTS				SG		**Sb**	**17 41 49.0**	**0.0**
KRTS	**Karatas**	**0.37**	**288**	*e*Pg		**Pg**	**17 41 41.9**	**-0.4**
KRTS				*e*Sg		**Sb**	**17 41 49.0**	**0.0**
YURE	**YUREGIR**	**0.39**	**339**	PG		**Pg**	**17 41 42.0**	**-0.7**
YURE				SG		**Sg**	**17 41 48.7**	**+0.6**
YURE	**YUREGIR**	**0.39**	**339**	*i* P		**Pg**	**17 41 42.1**	**-0.7**
YURE				*i* S		**Sg**	**17 41 48.8**	**+0.7**
YURE	**YUREGIR**	**0.39**	**339**	P		**Pg**	**17 41 42.1**	**-0.7**
YURE				*e*Sg		**Sg**	**17 41 48.7**	**+0.6**
YAYL	**Yayladag**	**0.49**	**150**	PG		**Pg**	**17 41 44.2**	**-0.3**
YAYL				SG		**Sb**	**17 41 51.9**	**-0.5**
YAYL	**Yayladag**	**0.49**	**150**	*i* P		**Pg**	**17 41 44.4**	**-0.1**
YAYL				*i* S		**Sb**	**17 41 51.9**	**-0.5**
YAYL	**Yayladag**	**0.49**	**150**	P		**Pg**	**17 41 44.4**	**-0.1**
YAYL				*e*Sg		**Sb**	**17 41 51.9**	**-0.5**
KUZU	**Kuzuini**	**1.06**	**72**	*i* P		**Pg**	**17 41 55.2**	**-0.2**
KUZU				*i* S		**Sn**	**17 42 10.6**	**+0.3**
KUZU	**Kuzuini**	**1.06**	**72**	P		**Pg**	**17 41 55.2**	**-0.2**
KUZU				S		**Sn**	**17 42 10.6**	**+0.3**

*ISN **10** 17:55:04.6±4.1,32°.98N×46°.00E,h15km, ML3.0*
TEH 10 17:55:06.5, 32°.96N×46°.08E, h12km, ML3.0, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
IGHG	**Ghaleghazi**	**1.43**	**17**	*e*Pg		Pn	17 55 32.1	-0.4
IGHG				*e*AMB		AMB	17 55 58.1	
	comp=Z,4μm,0.4s							
IKFM	**Kafar-mosalman**	**1.59**	**69**	*e*Pn		Pn	17 55 33.7	-0.7
IKFM				*e*Sg		Sb	17 55 56.5	+0.7
IKFM				*e*AMB		AMB	17 55 58.1	
	comp=Z,99nm,0.4s							
IVIS	**Veis**	**1.69**	**22**	*e*Pn		Pn	17 55 35.8	-0.2
IVIS				*e*Sg		Sb	17 55 58.5	-0.4
IVIS				*e*AMB		AMB	17 56 03.3	
	comp=Z,2μm,0.4s							
IKOM	**Komasi**	**1.70**	**44**	*e*Pn		Pn	17 55 36.6	+0.4
IKOM				*e*AMB		AMB	17 56 02.6	
	comp=Z,4μm,0.4s							
IDHR	**Dehrash**	**1.75**	**8**	*e*Pn		Pn	17 55 36.9	-0.1
IDHR				*e*Sg		Sb	17 56 01.6	+0.7
IDHR				*e*AMB		AMB	17 56 06.0	
	comp=Z,3μm,0.2s							
ILIN	**Lien**	**2.09**	**20**	*e*Pn		Pn	17 55 41.9	+0.3
ILIN				*e*AMB		AMB	17 55 47.2	
	comp=Z,759nm,0.3s							
HSAM	**Samen**	**2.45**	**59**	*e*Pn		Pn	17 55 46.1	-0.5
HSAM				*e*AMB		AMB	17 56 29.7	
	comp=Z,99nm,0.4s							
HAGD	**Aghdareh**	**3.15**	**53**	*e*Pn		Pn	17 55 55.9	-0.3
HAGD				*e*AMB		AMB	17 56 03.2	
	comp=Z,99nm,0.3s							
HKZM	**Kohzaman**	**3.36**	**43**	*e*Pn		Pn	17 55 58.9	-0.3
HKZM				*e*AMB		AMB	17 56 42.7	
	comp=Z,99nm,0.2s							

*ISCJB **10** 18:07:45.9±0.4,43°.87N±0°.04×105°.10W±0°.05,h0km, mb4.0/2, Error ellipse: s-maj=5.9km s-min=4.7km az=38.3*
*NEIC **10** 18:07:48.9±0.4,43°.78N×105°.24W,h0km, ML3.2, Error ellipse: s-maj=5.2km s-min=4.7km az=192.0, Suspected Mining explosion.*
NEIC 61 km [38 miles] SSE of Gillette.
*IDC **10** 18:07:48.2±1.2,43°.86N×105°.52W,h0km,mb4.0/2, mb1 3.8/6,mb1mx3.5/66,mbtmp3.6/6,ML3.3/4,MS2.7/1, Ms1 2.7/1,ms1mx2.2/65, Error ellipse: s-maj=32.7km s-min=7.5km az=147.0*
ISC 10 18:07:47.7±0.8, 43°.86N±0°.06×105°.12W±0°.06, h0km, n44, σ1$ 22/39, Wyoming

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
RSSD	**Black Hills**	**0.82**	**71**	*e*Pg		**Pn**	**18 08 07.2**	**+0.4**
K22A	**Casper**	**1.58**	**221**	*e*Pn		**Pn**	**18 08 14.5**	**-2.7**
LAO	**LASA Array**	**2.94**	**345**	*e*Pn		**Pb**	**18 08 38.8**	**-2.2**
RLMT	**Red Lodge**	**3.23**	**295**	*e*Pn		**Pn**	**18 08 40.0**	**+0.2**
PDAR	**Pinedale Array**	**3.42**	**253**	Pn		**Pn**	**18 08 41.6**	**-0.8**
	3.4nm,0.3s,baz=76,slow=15,SNR=53							
PDAR				Lg		Lg	18 09 26.3	
	12nm,0.3s,baz=76,slow=27,SNR=14							
OGNE	**Ogallala**	**3.70**	**141**	*e*Pn		**Pn**	**18 08 48.5**	**+2.3**
GCMT	**Greycliff**	**3.77**	**302**	*e*Pn		**Pn**	**18 08 47.7**	**+0.5**
H17A	**Grant Village**	**3.96**	**280**	*e*Pn		**Pn**	**18 08 49.9**	**-0.1**
ISCO	**Idaho Springs**	**4.07**	**185**	*e*Pn		**Pn**	**18 08 51.7**	**+0.2**
YFT	**Old Faithful**	**4.16**	**280**	Pn		**Pn**	**18 08 55.5**	**+2.9**
YMR	**Madison River**	**4.28**	**283**	*e*Pn		**Pn**	**18 08 54.6**	**+0.4**
O20A	**White River Ci**	**4.39**	**213**	*e*Pn		**Pn**	**18 08 55.6**	**-0.1**
AHID	**Auburn Hatcher**	**4.50**	**258**	*e*Pn		**Pb**	**18 09 08.5**	**+0.9**
QLMT	**Earthquake Lak**	**4.63**	**284**	*e*Pn		**Pn**	**18 09 01.6**	**+2.5**
DGMT	**Dagmar**	**4.66**	**8**	*e*Pn		**Pn**	**18 08 59.0**	**-0.3**
BOZ	**Bozeman (W)**	**4.95**	**293**	*e*Pn		**Pn**	**18 09 05.0**	**+1.5**
KSCO	**Kaye Shedlock'**	**5.19**	**158**	*e*Pn		**Pn**	**18 09 07.3**	**+0.6**
	25nm,0.3s							
HWUT	**Hardware Ranch**	**5.25**	**247**	*e*Pn		**Pn**	**18 09 07.2**	**-0.5**
	7.2nm,0.4s							
TCUT	**Toone Canyon**	**5.40**	**242**	*e*Pn		**Pn**	**18 09 09.0**	**-0.7**
	22nm,0.6s							
HRY	**Holter Researc**	**5.53**	**303**	*e*Pn		**Pn**	**18 09 10.3**	**-1.1**
	16nm,0.5s							
MDND	**Maddock**	**5.55**	**42**	*e*Pg		**Pg**	**18 09 32.8**	**-1.1**
	44nm,0.4s							
LRM	**Limekiln Ridge**	**5.57**	**293**	*e*Pn		**Pn**	**18 09 12.2**	**+0.1**
	3.8nm,0.9s							
MCMT	**McKenzie Canyo**	**5.63**	**283**	Pn		**Pn**	**18 09 14.4**	**+1.6**
	2.8nm,0.7s							
JLU	**Jordanelle**	**5.71**	**237**	*e*Pn		Pn	18 09 08.8	-5.3
	7.7nm,0.7s							
HVU	**Hansel Valley**	**6.00**	**252**	*e*Pn		**Pn**	**18 09 17.8**	**-0.1**
	7.7nm,0.8s							
SDCO	**Great Sand Dun**	**6.11**	**183**	*e*Pn		**Pn**	**18 09 19.4**	**-0.1**
	2.8nm,0.7s							
ECSD	**EROS Data Cent**	**6.16**	**88**	*e*Pn		**Pn**	**18 09 21.2**	**+1.3**
	7.9nm,0.4s							
PV04	**Paradox Valley**	**6.16**	**209**	*e*Pn		**Pn**	**18 09 20.1**	**0.0**
PV01	**Paradox Valley**	**6.29**	**206**	*e*Pn		**Pn**	**18 09 22.2**	**+0.3**
	266nm,0.4s							
DUG	**Dugway, Tooele**	**6.80**	**240**	*e*Pn		**Pn**	**18 09 28.8**	**0.0**
	5.2nm,0.9s							
MVCO	**Mesa Verde**	**7.12**	**202**	*e*Pn		**Pn**	**18 09 32.0**	**-1.3**
	5.2nm,0.5s							
MSU	**Marysvale**	**7.54**	**227**	*e*Pn		Pn	18 09 45.2	+6.2
	0.5nm,0.6s							
AGMN	**Agassiz Nation**	**7.82**	**52**	*e*Pn		**Pn**	**18 09 44.9**	**+2.2**
	13nm,0.5s							
WALA	**Waterton Lakes**	**7.99**	**314**	*e*Pn		**Pn**	**18 09 44.0**	**-1.1**
	1.8nm,0.4s							
I10CA	**LAC DU BONNET**	**8.87**	**41**	*i*			19 02 05.0	
	baz=223,slow=331,SNR=5.7							
ANMO	**Albuquerque**	**8.96**	**187**	Lg		Lg	18 12 31.7	
	0.2nm,0.3s,baz=171,slow=13,SNR=2.0							
ULM

PTSB				*e*S		Sg	18 14 13.3	+2.9
	baz=292							
TDCB	**Techi**	**0.25**	**118**	P		Pg	18 14 08.9	+0.7
	baz=117							
TDCB				S		Sg	18 14 12.3	+0.6
	baz=117							
TDCB	**Techi**	**0.25**	**118**	*e*S		Pg	18 14 08.9	+0.7
	baz=234							
TWT	**Tachien**	**0.26**	**116**	*e*P		Pg	18 14 09.0	+0.6
	baz=118							
TWT				*e*S		Sg	18 14 12.7	+0.5
	baz=118							
NSTT	**Nanjuang**	**0.27**	**16**	P		Pg	18 14 09.0	+0.5
	baz=18							
NSTT				S		Sg	18 14 13.3	+1.0
	baz=18							
LIOB	**Emei**	**0.29**	**18**	P		Pg	18 14 09.6	+0.7
	baz=18							
LIOB				*e*S		Sb	18 14 14.2	-1.0
	baz=18							
DPDB	**Guoxing**	**0.34**	**179**	P		Pb	18 14 10.8	-0.3
	baz=170							
DPDB				*e*S		Sb	18 14 16.0	-0.6
	baz=170							
CHGB	**Renai**	**0.39**	**143**	*e*P		Pg	18 14 10.8	+0.1
	baz=142							
CHGB				*e*S		Sg	18 14 17.0	+1.0
	baz=142							
NNS	**Nan Shan**	**0.42**	**80**	*e*S		Sg	18 14 17.6	+0.6
	baz=90							
NNSB	**Datong**	**0.43**	**82**	*e*P		Pb	18 14 12.3	-0.5
	baz=91							
NNSB				*e*S		Sg	18 14 17.5	+0.3
	baz=91							
TYC	**Yuchr**	**0.47**	**187**	*e*P		Pb	18 14 13.6	+0.3
	baz=176							
TYC				*e*S		Sb	18 14 20.8	+0.6
	baz=176							
OWD	**Renai**	**0.48**	**150**	*e*P		Pb	18 14 13.4	-0.2
	baz=150							
OWD				*e*S		Sg	18 14 19.3	+0.6
	baz=150							
YHNB	**Yeheng**	**0.51**	**54**	*e*S		Sg	18 14 20.0	+0.1
	baz=54							

*ISCJB **10** 18:22:04.6±0.5, 43°.15N±0°.02×13°.45E±0°.05, h26km±6km, Error ellipse: s-maj=6.1km s-min=4.1km az=169.9*
*CSEM **10** 18:22:04.5±0.1, 43°.14N×13°.45E, h20km, ML2.7/8, Error ellipse: s-maj=2.9km s-min=2.3km az=77.0*
*ROM **10** 18:22:04.7±0.1, 43°.14N×13°.43E, h20km±3km, Md2.4/20, Ml2.0/16, Error ellipse: s-maj=2.0km s-min=1.2km az=82.0*

ISC 10 18:22:04.2±1.5, 43°.15N±0°.02×13°.49E±0°.02, h19km±2km, n45, σ1§02/66, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFFI	**Offida**	**0.26**	**147**	Pg	**Pb**	**18 22 11.9**	**+1.7**
OFFI	**Offida**	**0.26**	**147**	Pg	**Pb**	**18 22 11.9**	**+1.7**
CING	**Cingoli**	**0.31**	**316**	Pg	**Pb**	**18 22 11.1**	**-0.2**
CING				Sg	**Sb**	**18 22 16.2**	**+0.2**
	79nm,0.3s						
CING	**Cingoli**	**0.31**	**316**	Pg	**Pb**	**18 22 11.1**	**-0.2**
CING				Sg	**Sb**	**18 22 16.2**	**+0.2**
	79nm,0.3s						
FDMO	**Fiordimonte**	**0.32**	**249**	Pg	**Pb**	**18 22 10.7**	**-0.7**
FDMO				Sg	**Sb**	**18 22 15.8**	**-0.4**
	254nm,0.2s						
FDMO	**Fiordimonte**	**0.32**	**249**	Pg	**Pb**	**18 22 10.7**	**-0.7**
FDMO				Sg	**Sb**	**18 22 15.8**	**-0.4**
	254nm,0.2s						
GUMA	**Gualdo di Mace**	**0.34**	**106**	Pg	**Pb**	**18 22 08.5**	**-3.2**
GUMA				Sg	**Sb**	**18 22 11.8**	**-4.9**
	456nm,0.2s						
AOI	**Ancona**	**0.40**	**11**	Pg	**Pb**	**18 22 13.2**	**+0.3**
AOI				Sg	**Sb**	**18 22 20.7**	**+1.9**
	95nm,0.2s						
AOI	**Ancona**	**0.40**	**11**	Pg	**Pb**	**18 22 13.2**	**+0.3**
AOI				Sg	**Sb**	**18 22 20.7**	**+1.9**
	95nm,0.2s						
SNTG	**Esanatoglia**	**0.42**	**284**	Pg	**Pb**	**18 22 12.5**	**-0.6**
SNTG				Sg	**Sb**	**18 22 19.0**	**-0.2**
	290nm,0.2s						
SNTG	**Esanatoglia**	**0.42**	**284**	Pg	**Pb**	**18 22 12.5**	**-0.6**
SNTG				Sg	**Sb**	**18 22 19.0**	**-0.2**
	290nm,0.2s						
NRCA	**Norcia**	**0.42**	**221**	Pg	**Pb**	**18 22 12.5**	**-0.8**
NRCA				Sg	**Sb**	**18 22 19.0**	**-0.4**
NRCA	**Norcia**	**0.42**	**221**	Pg	**Pb**	**18 22 12.5**	**-0.8**
NRCA				Sg	**Sb**	**18 22 19.0**	**-0.4**
CESI	**CESI - Serrava**	**0.46**	**251**	Pg	**Pb**	**18 22 13.1**	**-0.7**
CESI				Sg	**Sb**	**18 22 20.1**	**-0.2**
	63nm,0.3s						
CESI	**CESI - Serrava**	**0.46**	**251**	Pg	**Pb**	**18 22 13.1**	**-0.7**
CESI				Sg	**Sb**	**18 22 20.1**	**-0.2**
	63nm,0.3s						
SMA1	**SAN MARTINO**	**0.54**	**193**	Pg	**Pb**	**18 22 14.5**	**-0.6**
SMA1				Sg	**Sb**	**18 22 23.0**	**+0.6**
	190nm,0.3s						
SMA1	**SAN MARTINO**	**0.54**	**193**	Pg	**Pb**	**18 22 14.5**	**-0.6**
SMA1				Sg	**Sb**	**18 22 23.0**	**+0.6**
	190nm,0.3s						
TERO	**Teramo**	**0.54**	**171**	Pg	**Pb**	**18 22 14.7**	**-0.3**
TERO				Sg	**Sb**	**18 22 23.7**	**+1.3**
	70nm,0.1s						
TERO	**Teramo**	**0.54**	**171**	Pg	**Pb**	**18 22 14.7**	**-0.3**
TERO				Sg	**Sb**	**18 22 23.7**	**+1.3**
	70nm,0.1s						
SSFR	**Montelago di S**	**0.59**	**299**	Pg	**Pb**	**18 22 15.7**	**-0.3**
	120nm,0.2s						
SSFR	**Montelago di S**	**0.59**	**299**	Pg	**Pb**	**18 22 15.7**	**-0.3**
	120nm,0.2s						
CAMP	**Campotosto**	**0.62**	**186**	Pg	**Pb**	**18 22 16.0**	**-0.5**
CAMP				Sg	**Sb**	**18 22 25.9**	**+1.1**
	84nm,0.5s						
CAMP	**Campotosto**	**0.62**	**186**	Pg	**Pb**	**18 22 16.0**	**-0.5**
CAMP				Sg	**Sb**	**18 22 25.9**	**+1.1**
	84nm,0.5s						
ATCC	**AVT- Casa Cast**	**0.63**	**273**	Pg	**Pb**	**18 22 16.1**	**-0.4**
	107nm,0.3s						
ATCC	**AVT- Casa Cast**	**0.63**	**273**	Pg	**Pb**	**18 22 16.1**	**-0.4**
	107nm,0.3s						
FRON	**Frontone**	**0.67**	**303**	Pg	**Pb**	**18 22 17.1**	**-0.2**
	28nm,0.4s						
FRON	**Frontone**	**0.67**	**303**	Pg	**Pb**	**18 22 17.1**	**-0.2**
	28nm,0.4s						
MPAG	**Monte Paganucc**	**0.72**	**312**	Pg	**Pb**	**18 22 18.4**	**+0.2**
	19nm,0.4s						
MPAG	**Monte Paganucc**	**0.72**	**312**	Pg	**Pb**	**18 22 18.4**	**+0.2**
	19nm,0.4s						
MURB	**Monte Urbino**	**0.72**	**279**	Pg	**Pb**	**18 22 17.8**	**-0.4**
	224nm,0.3s						
MURB	**Monte Urbino**	**0.72**	**279**	Pg	**Pb**	**18 22 17.8**	**-0.4**
	224nm,0.3s						
FSSB	**Fossombrone**	**0.75**	**316**	Pg	**Pn**	**18 22 19.5**	**-0.4**
FSSB	**Fossombrone**	**0.75**	**316**	Pg	**Pn**	**18 22 19.5**	**-0.4**
PIEI	**Pieia**	**0.80**	**299**	Pg	**Pb**	**18 22 19.2**	**-0.3**
	18nm,0.2s						
PIEI	**Pieia**	**0.80**	**299**	Pg	**Pb**	**18 22 19.2**	**-0.3**
	18nm,0.2s						
ATPC	**Poggio Castell**	**0.82**	**294**	Pg	**Pb**	**18 22 19.7**	**-0.3**
ATPC	**Poggio Castell**	**0.82**	**294**	Pg	**Pb**	**18 22 19.7**	**-0.3**
ATVO	**AVT- Monte Val**	**0.83**	**286**	Pg	**Pb**	**18 22 19.7**	**-0.3**
	18nm,0.5s						
ATVO	**AVT- Monte Val**	**0.83**	**286**	Pg	**Pb**	**18 22 19.7**	**-0.3**
	18nm,0.5s						
MGAB	**Montegabbione**	**1.04**	**257**	Pg	**Pn**	**18 22 24.6**	**+0.7**
MGAB	**Montegabbione**	**1.04**	**257**	Pg	**Pn**	**18 22 24.6**	**+0.7**
NVLJ	**Novalja**	**1.73**	**35**	*i* Pn	**Pn**	**18 22 33.8**	**+0.5**
NVLJ				Sn	**Sn**	**18 22 54.6**	**-0.2**
NVLJ	**Novalja**	**1.73**	**35**	*i* Pn	**Pn**	**18 22 33.7**	**+0.5**
NVLJ				Sn	**Sn**	**18 22 54.5**	**-0.2**
UDBI	**Udbina**	**2.14**	**49**	*e*Pn	**Pn**	**18 22 39.6**	**+0.5**
UDBI	**Udbina**	**2.14**	**49**	*e*Pn	**Pn**	**18 22 39.5**	**+0.5**

*ISCJB **10** 18:41:20.3±0.8, 21°.96N±0°.07×143°.0E±0°.2, h250km, mb3.3/11, Error ellipse: s-maj=24.5km s-min=10.2km az=179.0*
*IDC **10** 18:41:22.3±2.4, 21°.96N×142°.94E, h255km±23km, mb3.1/12, mb1 3.2/14, mb1mx3.0/68, mbtmp3.7/14, Error ellipse: s-maj=21.4km s-min=13.5km az=87.0*

ISC 10 18:41:21.9±1.0, 22°.00N±0°.10×142°.9E±0°.2, h250km, n14, σ1§04/15, mb3.1/11, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**5.12**	**353**	P	**Pn**	**18 42 40.0**	**+0.9**
	3.6nm,0.3s,baz=336,slow=21,SNR=9.7						
JCJ				S	**S**	**18 43 38.4**	**-2.2**
	7.2nm,0.3s,baz=288,slow=22,SNR=10						
MJAR	**Matsushiro Arr**	**15.05**	**345**	P	**P**	**18 44 43.2**	**+0.9**
	0.2nm,0.3s,baz=146,slow=10,SNR=2.9						
KSRS	**Korea Array**	**20.12**	**323**	P	**P**	**18 45 38.0**	**+0.9**
	0.8nm,0.4s,baz=146,slow=8.9,SNR=4.7						
SONM	**Songino Array**	**38.94**	**320**	P	**P**	**18 48 24.0**	**+0.1**
	0.2nm,0.4s,baz=132,slow=8.0,SNR=3.1						
CMAR	**Chiang Mai Arr**	**41.30**	**273**	P	**P**	**18 48 43.2**	**-0.3**
	0.2nm,0.5s,baz=72,slow=6.9,SNR=3.1						
WRA	**Warramunga Arr**	**42.52**	**192**	P	**P**	**18 48 52.7**	**-0.5**
	0.6nm,0.7s,baz=6.5,slow=8.3,SNR=4.0						
ASAR	**Alice Springs**	**46.23**	**191**	P	**P**	**18 49 22.0**	**-0.4**
	0.4nm,0.7s,baz=16,slow=8.7,SNR=4.1						
ZALV	**Zalesovo Beam**	**53.81**	**322**	P	**P**	**18 50 18.4**	**-0.5**
	0.3nm,0.3s,baz=108,slow=7.6,SNR=3.1						
MKAR	**Makanchi Array**	**54.30**	**313**	P	**P**	**18 50 23.8**	**+1.1**
	0.3nm,0.5s,baz=90,slow=9.0,SNR=6.2						
KURBB	**Kurchatov Arra**	**57.13**	**317**	P	**P**	**18 50 42.3**	**-0.2**
	0.7nm,0.4s,baz=94,slow=7.8,SNR=11						
ILAR	**Eielson Array**	**61.89**	**27**	P	**P**	**18 51 14.6**	**-0.1**
	0.4nm,0.8s,baz=274,slow=5.9,SNR=3.1						
BVAR	**Borovoye Array**	**62.27**	**319**	P	**P**	**18 51 19.0**	**+1.5**
	2.0nm,0.3s,baz=98,slow=7.9,SNR=19						
YKA	**Yellowknife Ar**	**76.31**	**28**	P	**P**	**18 52 43.4**	**+0.4**
	0.3nm,0.5s,baz=290,slow=5.6,SNR=5.8						
FINES	**FINESS Array B**	**82.80**	**334**	P	**P**	**18 53 16.8**	**-1.0**
	1.7nm,0.8s,baz=81,slow=4.4,SNR=6.7						

*NIED **10** 18:41:00, 34°.00N×133°.70E, h5km, Mw3.4 Best double couple: M0 1.51000×10^14 NP1: φs55.00000°, δ28.00000°, λ166.00000°. NP2: φs157.00000°, δ83.00000°, λ63.00000°.*

JMA 10 18:41:24.6, 34°.02N×133°.68E, h9km±1km, M3.5, 2C-4D Broadband fault plane solution: P waves. NP1: φs331.00000°, δ88.00000°, λ-50.00000°. NP2: φs64.00000°, δ40.00000°, λ-176.00000°. Principal axes: T Plg31.0000°, Azm29.0000°; N Plg40.0000°, Azm149.0000°; P Plg35.0000°, Azm274.0000°; Near south coast of western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMN	**Monobe**	**0.34**	**150**	↓P	Pg	18 41 31.4	+0.2
JMN				S	Sg	18 41 36.0	+0.3
JJS	**Sakaide**	**0.41**	**30**	↑P	Pg	18 41 32.7	+0.1
JJS				S	Sg	18 41 38.3	+0.2
JET	**Tanbara**	**0.58**	**246**	↓P	Pg	18 41 35.5	-0.3
JET				S	Sg	18 41 42.9	-0.5
JAI	**Aioi**	**0.68**	**109**	↓P	Pg	18 41 37.7	0.0
JAI				S	Sg	18 41 46.5	-0.1
JKU	**Kubokawa**	**0.88**	**216**	P	Pg	18 41 41.4	-0.1
JKU				S	Sg	18 41 53.0	+0.2
JHM	**Kurahashi**	**0.96**	**277**	↓P	Pg	18 41 42.0	-1.1
JAD	**Aida**	**1.00**	**24**	↑P	Pg	18 41 43.0	-0.9
JAD				S	Sg	18 41 56.3	-0.6
MAT	**Matsushiro**	**4.48**	**55**	P	Pn	18 42 33.8	+1.1
MAT				*e*S	Sn	18 43 24.3	-0.6

RSNC 10 18:46:27.8±1.2, 6°.82N×73°.17W, h142km±7km, ML3.5, Mw3.8, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.23**	**183**	*e*P	Pn	18 46 47.0	-0.5
BARC				*e*S	Sn	18 47 01.8	-0.6
BARC				*i*		18 47 04.5	
	comp=Z,694nm,0.3s						
BRRC	**Barranca, Sant**	**0.61**	**298**	*e*P	Pn	18 46 48.7	-0.1
BRRC				*i*		18 47 07.8	
	comp=Z,766nm,0.2s						
PAMC	**Pamplona, Colo**	**0.70**	**42**	*e*P	Pn	18 46 49.6	-0.4
PAMC				*e*S	Sn	18 47 06.8	-0.1
PAMC				*i*		18 47 08.8	
	comp=Z,501nm,0.6s						
RUSC	**La Rusia**	**0.93**	**175**	*e*P	Pn	18 46 51.1	-0.7
RUSC				*e*S	Sn	18 47 10.1	+0.1
RUSC				*i*		18 47 11.7	
	comp=Z,624nm,0.3s						
PTBC	**PUERTO BERRIO,**	**1.31**	**258**	*e*P	Pn	18 46 53.5	-1.3
PTBC				*e*S	Sn	18 47 14.1	-1.2
PTBC				*i*		18 47 16.4	
	comp=Z,365nm,0.3s						
OCAC	**Ocana**	**1.42**	**354**	*e*P	Pn	18 46 55.5	-0.6
OCAC				*e*S	Sn	18 47 17.5	-0.2
YOPC	**Yopal, Colombi**	**1.64**	**153**	*e*P	Pn	18 46 57.9	-0.5
YOPC				*e*S	Sn	18 47 21.7	-0.1
YOPC				*i*		18 47 25.3	
	comp=Z,291nm,0.5s						
ZARC	**Zaragoza, Cauc**	**1.80**	**292**	*e*P	Pn	18 46 59.5	-0.7
ZARC				*e*S	Sn	18 47 24.6	-0.3
ZARC				*i*		18 47 30.7	
	comp=Z,622nm,0.3s						
NORC	**Norcasia**	**2.10**	**234**	*e*P	Pn	18 47 03.0	-0.7
NORC				*e*S	Sn	18 47 30.1	-1.1
CHIC	**Chingaza**	**2.25**	**194**	*e*P	Pn	18 47 05.4	-0.5
CHIC				*e*S	Sn	18 47 33.8	-1.2
CHIC				*i*		18 47 38.5	
	comp=Z,218nm,0.4s						
ROSC	**El Rosal**	**2.27**	**210**	*e*P	Pn	18 47 06.7	+0.5
ROSC				*i*		18 47 44.0	
	comp=Z,299nm,0.5s						
VILC	**Villavicencio,**	**2.74**	**191**	*e*P	Pn	18 47 10.8	-0.9
VILC				*i*		18 47 51.2	
	comp=Z,121nm,0.5s						
RREF	**El Recreo**	**2.88**	**229**	*e*P	Pn	18 47 14.6	+0.6
RREF				*i*		18 47 59.0	
	comp=Z,151nm,0.6s						
DBBC	**Dabeiba**	**3.02**	**274**	*e*P	Pn	18 47 15.4	+0.2
TOLC	**Tolima**	**3.08**	**224**	*e*P	Pn	18 47 16.8	+0.5
SDV	**Santo Domingo**	**3.25**	**51**	*e*P	Pn	18 47 16.4	-1.8
SDV				*i*		18 47 56.8	
	comp=Z,100nm,0.4s						
PRAC	**Prado**	**3.53**	**209**	*e*P	Pn	18 47 21.2	-0.6

*IDC **10** 18:58:20.4±5.5, 24°.21S×179°.57E, h578km±57km, mb2.8/4, mb1 3.1/5, mb1mx2.8/40, mbtmp3.9/5, Error ellipse: s-maj=56.0km s-min=34.0km az=150.0*

ISC 10 18:58:18.3±1.0, 24°.4S±0°.4×179°.7E±0°.2, h550km, n10, σ2§41/10, mb3.6/4, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**12.41**	**278**	P	**P**	**19 01 01.7**	**+0.4**
	0.6nm,0.3s,baz=201,slow=22,SNR=9.9						
STKA	**Stephens Creek**	**34.27**	**249**	P	**P**	**19 04 19.3**	**+0.2**
	1.1nm,0.6s,baz=92,slow=9.8,SNR=3.7						
ASAR	**Alice Springs**	**41.68**	**261**	P	**P**	**19 05 19.1**	**-0.4**
	0.3nm,0.3s,baz=93,slow=6.9,SNR=20						
WRA	**Warramunga Arr**	**42.10**	**267**	P	**P**	**19 05 21.7**	**-1.1**
	0.7nm,0.4s,baz=97,slow=8.4,SNR=20						
TXAR	**Lajitas Array**	**90.94**	**58**	P	**P**	**19 10 23.9**	**-0.3**
	0.4nm,0.7s,baz=209,slow=6.9,SNR=5.1						
ARCES	**ARCESS Array B**	**132.34**	**348**	PKP	**PKPdf**	**19 16 28.7**	**-0.7**
	2.4nm,0.9s,baz=44,slow=3.7,SNR=4.4						
HFS	**Hagfors**	**143.01**	**348**	PKP	**PKPdf**	**19 16 45.0**	**-4.2**
	1.8nm,0.4s,baz=66,slow=3.7,SNR=17						
MMAI	**Mount Meron Ar**	**147.66**	**294**	PKPbc	**PKPdf**	**19 17 01.1**	**+3.0**
	1.5nm,0.5s,baz=74,slow=5.2,SNR=3.8						
EKA	**Eskdalemuir Ar**	**149.06**	**3**	PKPbc	**PKPdf**	**19 17 02.9**	**+3.4**
	0.4nm,0.4s,baz=348,slow=2.5,SNR=5.1						
TORD	**Torodi Ar. Bea**	**168.62**	**190**	PKPab	**PKPab**	**19 18 36.3**	**-0.3**
	0.4nm,0.7s,baz=166,slow=2.6,SNR=2.7						

*ISCJB **10** 19:07:06.0±0.4, 21°.69N±0°.04×94°.01E±0°.05, h64km, mb3.9/21, Error ellipse: s-maj=7.2km s-min=4.5km az=146.0*
*NDI **10** 19:07:07.5±2.2, 21°.70N×94°.08E, h20km, ML3.9*
*IDC **10** 19:07:10.7±2.6, 21°.81N×94°.26E, h93km±26km, mb3.6/21, mb1 3.7/22, mb1mx3.5/67, mbtmp3.9/22, MS3.0/2, Ms1 3.0/2, ms1mx2.4/52, Error ellipse: s-maj=25.2km s-min=11.5km az=54.0*

ISC 10 19:07:07.7±0.6, 21°.72N±0°.07×94°.01E±0°.06, h64km, n42, σ1§83/55, mb3.9/21, Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAIH	**SAIHA**	**1.23**	**309**	*e*P	**Pn**	**19 07 32.0**	**+3.1**
SAIH				*e*S	**Sn**	**19 07 49.0**	**+4.2**
SAIH				IAML		19 07 56.5	
	comp=E,2μm,0.3s						
SAIH				IAML		19 07 57.5	
	comp=N,3μm,0.5s						
BELO	**BELONIA**	**2.82**	**303**	*e*P	**Pn**	**19 07 51.6**	**+1.2**
IMP	**Imphal**	**3.10**	**359**	*e*P	**Pn**	**19 07 56.1**	**+1.8**
IMP				*e*S	**Sn**	**19 08 32.2**	**+2.0**
IMP				IAML		19 08 45.1	
	comp=N,176nm,0.5s						
IMP				IAML		19 08 45.3	
	comp=E,167nm,0.5s						
KOHI	**KOHIMA**	**3.99**	**1**	*e*P	**Pn**	**19 08 08.3**	**+1.9**
KOHI				*e*S	**Sn**	**19 08 51.6**	**-0.5**
KOHI				*e*S	**Sn**	**19 08 54.6**	**+2.6**
KOHI				IAML		19 09 05.0	
	comp=E,6μm,0.4s						
KOHI				IAML		19 09 05.6	
	comp=N,7μm,0.6s						
SHL	**Shillong**	**4.30**	**333**	*e*P	**Pn**	**19 08 11.8**	**+1.0**
SHL				*e*PN		19 08 14.0	
SHL				*e*S	**Sn**	**19 08 59.6**	**-0.3**
MOKO	**MOKOCHONG**	**4.61**	**6**	*e*P	**Pn**	**19 08 17.2**	**+2.3**
MOKO				*e*S	**Sn**	**19 09 07.3**	**+0.1**
MOKO				IAML		19 09 22.9	
	comp=E,195nm,0.4s						
MOKO				IAML		19 09 24.4	
	comp=N,298nm,0.5s						
TEZP	**TEZPUR**	**5.00**	**347**	*e*P	**Pn**	**19 08 20.8**	**+0.6**
TEZP				*e*S	**Sn**	**19 09 14.3**	**-2.4**
TEZP				IAML		19 09 22.1	
	comp=E,158nm,0.1s						
TEZP				IAML		19 09 22.1	
	comp=N,129nm,0.2s						
TURI	**Tura**	**5.09**	**319**	*e*P	**Pn**	**19 08 22.5**	**+1.0**
TURI				*e*S	**Sn**	**19 09 20.2**	**+1.2**
TURI				IAML		19 09 24.0	
	comp=N,123nm,0.1s						
TURI				IAML		19 09 24.0	
	comp=E,108nm,0.1s						
ITAN	**ITANAGAR**	**5.41**	**357**	*e*P	**Pn**	**19 08 26.9**	**+1.1**
ITAN				*e*S	**Sn**	**19 09 25.8**	**-1.0**
ITAN				IAML		19 09 29.4	
	comp=E,94nm,0.2s						
ITAN				IAML		19 09 29.5	
	comp=N,153nm,0.2s						
CMAR	**Chiang Mai Arr**	**5.65**	**124**	P	**Pn**	**19 08 29.9**	**+0.7**
	comp=N,0.8nm,0.3s,baz=302,slow=13,SNR=29						
CMAR				S	**Sn**	**19 09 33.2**	**+0.4**
	comp=N,1.1nm,0.3s,baz=309,slow=18,SNR=4.4						
ZIRO	**ZIRO**	**5.79**	**359**	*e*P	**Pn**	**19 08 32.4**	**+1.2**
ODAN	**Odare**	**7.92**	**312**	*e*Pn	**Pn**	**19 09 01.9**	**+1.5**
ODAN				*e*Sn	**Sn**	**19 10 27.4**	**-1.2**
	comp=N,46nm,0.3s						
RAMN	**Ramite**	**8.53**	**309**	*e*Pn	**Pn**	**19 09 10.3**	**+1.5**
JIRN	**Jiri**	**9.25**	**311**	*e*Pn	**Pn**	**19 09 19.6**	**+0.9**
JIRN				*e*Sn	**Sn**	**19 10 59.4**	**-2.1**
	comp=N,54nm,0.5s						
GUN	**Gumba**	**9.62**	**311**	*e*Pn	**Pn**	**19 09 24.3**	**+0.6**
PKIN	**Phulchoki**	**9.77**	**308**	*e*Pn	**Pn**	**19 09 25.9**	**+0.2**
PKIN				*e*Sn	**Sn**	**19 11 09.9**	**-4.1**
KKN	**Kakani**	**9.98**	**309**	*e*Pn	**Pn**	**19 09 29.4**	**+0.9**
DMN	**Daman**	**10.00**	**308**	*e*Sn	**Sn**	**19 11 15.7**	**-3.9**
	comp=N,31nm,0.8s						
GKN	**Gorkha**	**10.56**	**308**	*e*Pn	**Pn**	**19 09 36.8**	**+0.4**
KOLN	**Koldanda**	**11.22**	**305**	*e*Pn	**Pn**	**19 09 45.2**	**-0.2**
KOLN				*e*Sn	**Sn**	**19 11 42.4**	**-6.9**
	comp=N,17nm,0.4s						
AAK	**Ala-Archa**	**26.49**	**326**	P	**P**	**19 12 40.9**	**+1.7**
	comp=N,2.0nm,0.8s,baz=144,slow=5.4,SNR=9.7						
MKAR	**Makanchi Array**	**26.77**	**342**	P	**P**	**19 12 42.2**	**+0.8**
	comp=N,0.7nm,0.6s,baz=164,slow=8.7,SNR=10						
SONM	**Songino Array**	**27.90**	**18**	P	**P**	**19 12 50.0**	**-1.6**
	comp=N,0.2nm,0.5s,baz=193,slow=5.9,SNR=2.4						
SONM				LR	LR	19 25 44.5	
	comp=N,23nm,21.0s,baz=168,slow=40						
KURBB	**Kurchatov Arra**	**31.31**	**341**	P	**P**	**19 13 22.1**	**+0.5**
	comp=N,1.0nm,0.6s,baz=150,slow=8.7,SNR=2.1						
ZALV	**Zalesovo Beam**	**32.93**	**350**	P	**P**	**19 13 36.3**	**+0.5**
	comp=N,1.5nm,0.4s,baz=171,slow=7.9,SNR=11						
JNU	**Nakatsue**	**34.48**	**63**	LR	LR	19 29 48.4	
	comp=N,34nm,20.2s,baz=122,slow=40						
GEYT	**Alibeck**	**34.83**	**306**	P	**P**	**19 13 53.5**	**+0.9**
	comp=N,2.2nm,1.1s,baz=72,slow=4.7,SNR=4.6						
AKTO	**Aktyubinsk**	**40.19**	**324**	P	**P**	**19 14 38.5**	**+0.8**
	comp=N,2.4nm,0.6s,baz=128,slow=9.0,SNR=10						
WRA	**Warramunga Arr**	**57.17**	**134**	P	**P**	**19 16 47.6**	**-0.7**
	comp=N,0.4nm,0.4s,baz=320,slow=7.5,SNR=8.0						
AKASG	**Malin Array Be**	**57.60**	**317**	P	**P**	**19 16 50.8**	**-0.1**
	comp=N,1.0nm,0.4s,baz=80,slow=6.3,SNR=6.9						
ASAR	**Alice Springs**	**59.51**	**137**	P	**P**	**19 17 04.2**	**-0.4**
	comp=N,1.0nm,0.6s,baz=316,slow=6.7,SNR=22						
MLR	**Muntele Rosu**	**59.62**	**311**	P	**P**	**19 17 05.2**	**0.0**
	comp=N,1.6nm,0.5s,baz=106,slow=4.2,SNR=6.4						
FINES	**FINESS Array B**	**60.63**	**329**	P	**P**	**19 17 11.7**	**0.0**
	comp=N,3.8nm,1.0s,baz=99,slow=7.2,SNR=5.5						
ARCES	**ARCESS Array B**	**62.34**	**338**	P	**P**	**19 17 23.1**	**0.0**
	comp=N,0.4nm,0.5s,baz=92,slow=7.5,SNR=4.6						
HFS	**Hagfors**	**66.63**	**327**	P	**P**	**19 17 51.1**	**-0.1**
	comp=N,2.3nm,0.6s,baz=108,slow=8.3,SNR=5.6						
GERES	**GERESS Array B**	**67.69**	**315**	P	**P**	**19 17 58.5**	**+0.2**
	comp=N,0.5nm,0.5s,baz=46,slow=5.8,SNR=4.8						
NOA

AKHS	**Akhisar**	**0.25**	**238**	P	**Pg**	**19 28 58.2**	**+0.1**
AKHS				S	**Sg**	**19 29 02.0**	**+0.4**
AKS	**Akhisar**	**0.25**	**238**	PG	**Pg**	**19 28 57.8**	**-0.3**
AKS				SG	**Sg**	**19 29 01.1**	**-0.5**
AKS	**Akhisar**	**0.25**	**238**	*e*Pg	**Pg**	**19 28 57.8**	**-0.3**
AKS				*e*Sg	**Sg**	**19 29 01.1**	**-0.5**
STEP	**BALIKESIR_Sava**	**0.46**	**322**	*i* P	**Pg**	**19 29 01.7**	**-0.3**
STEP				*i* S	**Sg**	**19 29 08.7**	**+0.4**
STEP	**BALIKESIR_Sava**	**0.46**	**322**	P	**Pg**	**19 29 01.7**	**-0.3**
STEP				S	**Sg**	**19 29 08.6**	**+0.4**
DEMI	**Demirci**	**0.50**	**86**	*i* P	**Pg**	**19 29 03.0**	**+0.4**
DEMI				*i* S	**Sg**	**19 29 09.5**	**+0.3**
DEMI	**Demirci**	**0.50**	**86**	P	**Pg**	**19 29 03.0**	**+0.4**
DEMI				S	**Sg**	**19 29 09.5**	**+0.3**
MANT	**Manisa**	**0.64**	**144**	*i* P	**Pb**	**19 29 05.7**	**-0.3**
MANT				*i* S	**Sg**	**19 29 13.9**	**0.0**
MANT	**Manisa**	**0.64**	**144**	P	**Pb**	**19 29 05.7**	**-0.3**
MANT				S	**Sg**	**19 29 13.9**	**0.0**
BALB	**Balikesir**	**0.65**	**346**	PG	**Pb**	**19 29 06.2**	**+0.2**
BALB				SG	**Sb**	**19 29 15.2**	**+0.2**
BALB	**Balikesir**	**0.65**	**346**	*e*Pg	**Pb**	**19 29 06.2**	**+0.2**
BALB				*e*Sg	**Sb**	**19 29 15.2**	**+0.2**
DURS	**Dursunbey**	**0.66**	**27**	*i* P	**Pg**	**19 29 05.5**	**-0.3**
DURS	**Dursunbey**	**0.66**	**27**	P	**Pg**	**19 29 05.5**	**-0.3**
KULA	**Kula-Manisa**	**0.67**	**137**	PG	**Pg**	**19 29 06.0**	**+0.1**
KULA				SG	**Sg**	**19 29 14.5**	**-0.3**
KULA	**Kula-Manisa**	**0.67**	**137**	*e*Pg	**Pg**	**19 29 06.0**	**+0.1**
KULA				*e*Sg	**Sg**	**19 29 14.5**	**-0.3**
SIMA	**Simav-Kutahya**	**0.71**	**84**	PG	**Pb**	**19 29 06.9**	**-0.2**
SIMA				SG	**Sg**	**19 29 16.2**	**+0.3**
SIMA	**Simav-Kutahya**	**0.71**	**84**	*e*Pg	**Pb**	**19 29 06.9**	**-0.2**
SIMA				*e*Sg	**Sg**	**19 29 16.2**	**+0.3**
BALY	**Balya**	**0.81**	**334**	*i* P	**Pg**	**19 29 08.1**	**-0.3**
BALY				*i* S	**Sg**	**19 29 18.6**	**-0.6**
BALY	**Balya**	**0.81**	**334**	P	**Pg**	**19 29 08.1**	**-0.5**
BALY				S	**Sg**	**19 29 18.6**	**-0.6**
AYDB	**Zeytinkoy-Aydi**	**1.07**	**188**	PG	**Pg**	**19 29 13.2**	**-0.3**
AYDB	**Zeytinkoy-Aydi**	**1.07**	**188**	*e*Pg	**Pg**	**19 29 13.2**	**-0.3**
GDZ	**Gediz**	**1.09**	**85**	*i* P	**Pg**	**19 29 13.8**	**-0.1**
GDZ				*i* S	**Sg**	**19 29 27.4**	**-0.8**
GDZ	**Gediz**	**1.09**	**85**	P	**Pg**	**19 29 13.8**	**-0.1**
GDZ				S	**Sg**	**19 29 27.4**	**-0.8**
TVSB	**Tavsanli**	**1.16**	**67**	PN	**Pg**	**19 29 14.6**	**-0.6**
TVSB	**Tavsanli**	**1.16**	**67**	*e*Pn	**Pg**	**19 29 14.6**	**-0.6**
KCTX	**Karacabey (Bur**	**1.27**	**10**	PN	**Pn**	**19 29 16.7**	**+0.4**
KCTX	**Karacabey (Bur**	**1.27**	**10**	*e*Pn	**Pn**	**19 29 16.7**	**+0.4**
BAYC	**CANAKKALE_Bayr**	**1.40**	**302**	*i* P	**Pb**	**19 29 19.0**	**+0.2**
BAYC				*i* S	**Sg**	**19 29 37.5**	**-0.3**
BAYC	**CANAKKALE_Bayr**	**1.40**	**302**	P	**Pb**	**19 29 19.0**	**+0.2**
BAYC				S	**Sg**	**19 29 37.5**	**-0.3**

ISK ***10*** *19:35:38.6,38°.13N×39°.02E,h4km,ML1.9/3*
CSEM ***10*** *19:35:39.5±0.2,38°.16N×39°.06E,h8km,ML2.7,Error ellipse: s-maj=5.4km s-min=4.6km az=13.0*
DDA ***10*** *19:35:39.9,38°.15N×39°.04E,h7km,Ml2.7*

ISC 10 19:35:39.4±1.1,38°.16N±0°.03×39°.06E±0°.02,h6km±10km, n22,σ0965/38,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ELZG	**Elazig**	**0.34**	**350**	*i* P	**Pg**	**19 35 46.9**	**+0.7**
ELZG				*i* S	**Sb**	**19 35 52.7**	**-1.2**
ELZG	**Elazig**	**0.34**	**350**	P	**Pg**	**19 35 46.9**	**+0.7**
ELZG				S	**Sb**	**19 35 52.7**	**-1.2**
MALT	**Malatya**	**0.52**	**288**	PG	**Pg**	**19 35 49.1**	**-0.4**
MALT				SG	**Sg**	**19 35 56.5**	**+0.2**
MALT	**Malatya**	**0.52**	**288**	*e*Pg	**Pg**	**19 35 49.1**	**-0.4**
MALT				*e*Sg	**Sg**	**19 35 56.5**	**+0.2**
URFA	**Urfa**	**0.74**	**195**	PG	**Pg**	**19 35 52.7**	**-0.9**
URFA	**Urfa**	**0.74**	**195**	*e*Pg	**Pg**	**19 35 52.7**	**-0.9**
PTK	**Pertek**	**0.78**	**19**	PG	**Pg**	**19 35 54.7**	**+0.3**
PTK	**Pertek**	**0.78**	**19**	*e*Pg	**Pg**	**19 35 54.7**	**+0.3**
DIYA	**Diyarbakir**	**0.87**	**105**	*i* P	**Pg**	**19 35 55.0**	**-1.1**
DIYA				*i* S	**Sb**	**19 36 09.4**	**+0.5**
DIYA	**Diyarbakir**	**0.87**	**105**	P	**Pg**	**19 35 55.0**	**-1.1**
DIYA				S	**Sb**	**19 36 09.4**	**+0.5**
DYBB	**Diyarbakir**	**0.88**	**103**	PG	**Pg**	**19 35 56.7**	**+0.4**
DYBB				SG	**Sb**	**19 36 09.8**	**+0.7**
AKCD	**Akcadag**	**0.91**	**279**	*i* P	**Pg**	**19 35 56.4**	**-0.4**
AKCD				*i* S	**Sb**	**19 36 09.8**	**-0.2**
AKCD	**Akcadag**	**0.91**	**279**	P	**Pg**	**19 35 56.4**	**-0.4**
AKCD				S	**Sb**	**19 36 09.8**	**-0.2**
DIY	**Diyarbakir**	**0.96**	**105**	*e*Pg	**Pg**	**19 35 56.7**	**-1.1**
DIY				*e*Sg	**Sg**	**19 36 09.8**	**-0.4**
SANL	**SANLIURFA_Merk**	**0.98**	**183**	*i* P	**Pn**	**19 35 59.6**	**-0.2**
SANL				*i* S	**Sb**	**19 36 12.9**	**+0.8**
SANL	**SANLIURFA_Merk**	**0.98**	**183**	P	**Pn**	**19 35 59.6**	**-0.2**
SANL				S	**Sb**	**19 36 12.9**	**+0.8**
HANI	**Diyarbakir_Han**	**1.09**	**76**	*i* P	**Pb**	**19 36 00.9**	**+0.3**
HANI				*i* S	**Sn**	**19 36 16.5**	**-0.2**
HANI	**Diyarbakir_Han**	**1.09**	**76**	P	**Pb**	**19 36 00.9**	**+0.3**
HANI				S	**Sn**	**19 36 16.5**	**-0.2**
MAZI	**Mazidag**	**1.30**	**122**	PN	**Pn**	**19 36 04.2**	**0.0**
MAZI	**Mazidag**	**1.30**	**122**	*e*Pn	**Pn**	**19 36 04.2**	**0.0**
SURC	**SANLIURFA_SURC**	**1.32**	**196**	*i* P	**Pg**	**19 36 05.4**	**+0.6**
SURC				*i* S	**Sn**	**19 36 22.9**	**+0.5**
SURC	**SANLIURFA_SURC**	**1.32**	**196**	P	**Pg**	**19 36 05.4**	**+0.6**
SURC				S	**Sn**	**19 36 22.9**	**+0.5**

NNC 10 19:37:16.5±6.8,37°.11N×69°.86E,h0km,mb3.8,mpv3.4, 1C-7D,Error ellipse: s-maj=51.7km s-min=45.6km az=171.0,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SFK	**Sufi-Kurgan**	**4.07**	**44**	⇑Pn	Pn	19 38 18.8	-1.4
	2.3nm,0.3s						
SFK				⇓Sn	Sn	19 39 12.3	+3.6
	22nm,0.8s						
MNAS	**Manas**	**5.74**	**20**	⇓Pn	Pn	19 38 43.4	+0.3
	1.3nm,0.3s						
MNAS				⇓Sn	Sn	19 39 49.0	-0.8
	3.5nm,0.6s						
AML	**Almayashu**	**5.82**	**29**	P	Pn	19 38 43.4	-1.0
	SNR=37						
KK31	**Karatay Array**	**6.00**	**5**	⇓Pn	Pn	19 38 48.9	+2.3
	0.9nm,0.3s,baz=183,slow=13,SNR=16						
KK31				⇓Sn	Sn	19 39 57.3	+1.3
	1.3nm,0.5s,baz=180,slow=22						
UCH	**Uchtor**	**6.25**	**34**	P	Pn	19 38 48.6	-1.7
	SNR=5.8						
EKS2	**Erkin-Say**	**6.31**	**27**	P	Pn	19 38 50.9	0.0
	SNR=8.9						
KZA	**Kyzart**	**6.47**	**38**	P	Pn	19 38 50.8	-2.6
	SNR=5.7						
AAK	**Ala-Archa**	**6.57**	**31**	⇓Pn	Pn	19 38 53.2	-1.3
	1.2nm,0.3s						
AAK				⇓Sn	Sn	19 40 09.4	-0.8
	3.0nm,1.1s						
AAK	**Ala-Archa**	**6.57**	**31**	P	Pn	19 38 53.6	-0.9
	SNR=8.4						
CHMS	**Chumysh**	**6.97**	**31**	P	Pn	19 38 58.7	-1.2
	SNR=5.7						
USP	**Ospenovka**	**7.10**	**29**	P	Pn	19 39 00.6	-1.1
	SNR=11						
TKM2	**Tokmak 2**	**7.28**	**35**	P	Pn	19 39 02.9	-1.5
	SNR=10						

ISCJB ***10*** *19:42:37.8±0.3,38°.54S±0°.02×176°.20E±0°.03,h117km±2km, mb3.8/3,Error ellipse: s-maj=3.9km s-min=3.0km az=20.0*
IDC ***10*** *19:42:37.2±0.8,38°.82S×176°.34E,h103km±9km,mb3.5/3, mb1 3.7/4,mb1mx3.5/38,mbtmp3.9/4,Error ellipse: s-maj=35.3km s-min=14.3km az=128.0*
WEL ***10*** *19:42:38.6,38°.5S±0°.8×17°.6E±°,h110km±1km*
NEIC ***10*** *19:42:39.3±0.0,38°.48S×176°.21E,h105km,ML4.7(WEL), After WEL.*

ISC 10 19:42:38.5±0.7,38°.54S±0°.03×176°.17E±0°.03,h117km±4km, n281,σ1928/280,mb3.9/3,1C,North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WPRZ	**Whakapapatarin**	**0.02**	**346**	Pn	**Pn**	**19 42 53.8**	**-0.8**
WPRZ	**Whakapapatarin**	**0.02**	**346**	P	**Pn**	**19 42 53.8**	**-0.8**
ALRZ	**Allen Road**	**0.14**	**99**	Pn	**Pn**	**19 42 53.8**	**-0.9**
ALRZ				Sn	**Sn**	**19 43 04.7**	**-2.1**
ALRZ	**Allen Road**	**0.14**	**99**	P	**Pn**	**19 42 53.8**	**-0.9**
ALRZ	**Allen Road**	**0.14**	**99**	S	**Sn**	**19 43 05.6**	**-1.2**
HRRZ	**Handcock Road**	**0.17**	**31**	Pn	**Pn**	**19 42 53.2**	**-1.6**
HRRZ				Sn	**Sn**	**19 43 04.8**	**-2.2**
HRRZ	**Handcock Road**	**0.17**	**31**	P	**Pn**	**19 42 53.4**	**-1.4**
HRRZ	**Handcock Road**	**0.17**	**31**	S	**Sn**	**19 43 05.8**	**-1.1**
PRRZ	**Plateau Road**	**0.18**	**77**	Pn	**Pn**	**19 42 53.6**	**-1.1**
PRRZ				Sn	**Sn**	**19 43 05.2**	**-1.7**
PRRZ	**Plateau Road**	**0.18**	**77**	P	**Pn**	**19 42 53.6**	**-1.1**
PRRZ	**Plateau Road**	**0.18**	**77**	S	**Sn**	**19 43 05.3**	**-1.6**
GRRZ	**Galatos Road**	**0.20**	**346**	P	**Pn**	**19 42 54.2**	**-0.6**
WHTZ	**Whakaora**	**0.21**	**233**	Pn	**Pn**	**19 42 54.5**	**-0.3**
WHTZ	**Whakaora**	**0.21**	**233**	P	**Pn**	**19 42 54.6**	**-0.3**
HSRZ	**Hossack Road**	**0.23**	**15**	P	**Pn**	**19 42 54.1**	**-0.8**
HSRZ	**Hossack Road**	**0.23**	**15**	S	**Sn**	**19 43 06.0**	**-1.2**
KUTZ	**Kaahu Road**	**0.28**	**280**	Pn	**Pn**	**19 42 54.5**	**-0.6**
KUTZ	**Kaahu Road**	**0.28**	**280**	P	**Pn**	**19 42 54.5**	**-0.6**
HLRZ	**Highlands Stat**	**0.32**	**27**	P	**Pn**	**19 42 54.7**	**-0.5**
RRRZ	**Republican Roa**	**0.34**	**54**	Pn	**Pn**	**19 42 54.2**	**-1.1**
RRRZ	**Republican Roa**	**0.34**	**54**	P	**Pn**	**19 42 54.3**	**-1.0**
RRRZ	**Republican Roa**	**0.34**	**54**	S	**Sn**	**19 43 06.2**	**-1.7**
MRHZ	**Matea Rd**	**0.35**	**147**	P	**Pn**	**19 42 54.8**	**-0.6**
MRHZ	**Matea Rd**	**0.35**	**147**	S	**Sn**	**19 43 06.3**	**-1.8**
HATZ	**Hinemaiaia**	**0.36**	**190**	Pn	**Pn**	**19 42 54.9**	**-0.5**
HATZ	**Hinemaiaia**	**0.36**	**190**	P	**Pn**	**19 42 54.9**	**-0.5**
HATZ	**Hinemaiaia**	**0.36**	**190**	S	**Sn**	**19 43 07.4**	**-0.7**
UTU	**Utuhina**	**0.36**	**3**	Pn	**Pn**	**19 42 54.6**	**-0.8**
UTU	**Utuhina**	**0.36**	**3**	P	**Pn**	**19 42 54.7**	**-0.7**
WATZ	**Wairara**	**0.38**	**244**	Pn	**Pn**	**19 42 55.2**	**-0.3**
WATZ	**Wairara**	**0.38**	**244**	P	**Pn**	**19 42 55.2**	**-0.3**
TARZ	**Mount Tarawera**	**0.40**	**41**	Pn	**Pn**	**19 42 54.7**	**-1.0**
TARZ	**Mount Tarawera**	**0.40**	**41**	P	**Pn**	**19 42 54.7**	**-1.0**
NGRZ	**Ngongotaha**	**0.44**	**2**	P	**Pn**	**19 42 55.0**	**-0.8**
RATZ	**Rangitukua**	**0.45**	**223**	Pn	**Pn**	**19 42 55.6**	**-0.2**
RATZ	**Rangitukua**	**0.45**	**223**	P	**Pn**	**19 42 55.7**	**-0.2**
OMRZ	**Omania**	**0.46**	**20**	Pn	**Pn**	**19 42 54.9**	**-1.0**
OMRZ	**Omania**	**0.46**	**20**	P	**Pn**	**19 42 55.0**	**-1.0**
MKRZ	**Makatiti**	**0.46**	**30**	Pn	**Pn**	**19 42 55.5**	**-0.5**
MKRZ	**Makatiti**	**0.46**	**30**	P	**Pn**	**19 42 55.5**	**-0.5**
MUGZ	**Murupara**	**0.48**	**83**	P	**Pn**	**19 42 54.9**	**-1.1**
RITZ	**Rihia Road**	**0.50**	**209**	Pn	**Pn**	**19 42 56.4**	**+0.2**
RITZ	**Rihia Road**	**0.50**	**209**	P	**Pn**	**19 42 56.3**	**+0.1**
KARZ	**Kaharoa**	**0.52**	**7**	Pn	**Pn**	**19 42 55.4**	**-0.9**
KARZ	**Kaharoa**	**0.52**	**7**	P	**Pn**	**19 42 55.4**	**-0.9**
TLZ	**Tolley Road**	**0.54**	**293**	Pn	**Pn**	**19 42 55.6**	**-0.8**
TLZ	**Tolley Road**	**0.54**	**293**	P	**Pn**	**19 42 56.0**	**-0.4**
TLZ	**Tolley Road**	**0.54**	**293**	S	**Sn**	**19 43 08.9**	**-1.0**
LIRZ	**Lichensteins R**	**0.56**	**18**	Pn	**Pn**	**19 42 55.6**	**-0.9**
LIRZ	**Lichensteins R**	**0.56**	**18**	P	**Pn**	**19 42 55.6**	**-0.9**
KATZ	**Kakaramea**	**0.57**	**220**	Pn	**Pn**	**19 42 56.6**	**-0.1**
KATZ	**Kakaramea**	**0.57**	**220**	P	**Pn**	**19 42 56.7**	**-0.1**
MTHZ	**Maungataniwha**	**0.61**	**121**	P	**Pn**	**19 42 56.6**	**-0.3**
MTHZ	**Maungataniwha**	**0.61**	**121**	S	**Sn**	**19 43 09.9**	**-0.9**
EDRZ	**Edgecumbe**	**0.62**	**46**	Pn	**Pn**	**19 42 55.9**	**-1.2**
EDRZ	**Edgecumbe**	**0.62**	**46**	P	**Pn**	**19 42 55.9**	**-1.2**
RTZ	**Ruatahuna**	**0.64**	**97**	P	**Pn**	**19 42 56.6**	**-0.6**
RTZ	**Ruatahuna**	**0.64**	**97**	S	**Sn**	**19 43 10.3**	**-0.9**
BKZ	**Black Stump Fm**	**0.67**	**158**	P	**Pn**	**19 42 57.3**	**-0.1**
BKZ	**Black Stump Fm**	**0.67**	**158**	S	**Sn**	**19 43 11.3**	**-0.4**
MARZ	**Manawahe**	**0.68**	**36**	Pn	**Pn**	**19 42 56.4**	**-1.0**
MARZ	**Manawahe**	**0.68**	**36**	P	**Pn**	**19 42 56.6**	**-0.9**
KRVZ	**Karewarewa**	**0.69**	**216**	Pn	**Pn**	**19 42 57.7**	**+0.1**
KRVZ	**Karewarewa**	**0.69**	**216**	P	**Pn**	**19 42 57.8**	**+0.1**
KMRZ	**Kaimai**	**0.72**	**345**	P	**Pn**	**19 42 57.0**	**-0.8**
KMRZ	**Kaimai**	**0.72**	**345**	S	**Sn**	**19 43 10.6**	**-1.6**
WTVZ	**West Tongariro**	**0.73**	**218**	Pn	**Pn**	**19 42 58.1**	**+0.2**
WTVZ	**West Tongariro**	**0.73**	**218**	P	**Pn**	**19 42 58.1**	**+0.2**
OTVZ	**Oturere**	**0.74**	**212**	Pn	**Pn**	**19 42 58.1**	**+0.1**
NMHZ	**Naumai**	**0.75**	**138**	P	**Pn**	**19 42 58.7**	**+0.7**
NMHZ	**Naumai**	**0.75**	**138**	S	**Sn**	**19 43 14.1**	**+1.4**
OPRZ	**Ohinepanea**	**0.76**	**24**	Pn	**Pn**	**19 42 56.6**	**-1.4**
OPRZ	**Ohinepanea**	**0.76**	**24**	P	**Pn**	**19 42 57.0**	**-1.0**
NGZ	**Ngauruhoe**	**0.78**	**215**	Pn	**Pn**	**19 42 58.6**	**+0.2**
NGZ	**Ngauruhoe**	**0.78**	**215**	P	**Pn**	**19 42 58.6**	**+0.2**
NGZ	**Ngauruhoe**	**0.78**	**215**	S	**Sn**	**19 43 14.2**	**+0.9**
TWVZ	**Taurewa**	**0.78**	**227**	Pn	**Pn**	**19 42 58.5**	**+0.2**
TWVZ	**Taurewa**	**0.78**	**227**	P	**Pn**	**19 42 58.5**	**+0.2**
TWVZ	**Taurewa**	**0.78**	**227**	S	**Sn**	**19 43 13.3**	**0.0**
URZ	**Urewera**	**0.79**	**70**	P	**Pn**	**19 42 57.2**	**-1.1**
	631nm,0.3s,baz=248,slow=5.2,SNR=2734						
URZ				S	**Sn**	**19 43 10.9**	**-2.4**
	649nm,0.3s,baz=135,slow=22,SNR=67						
URZ	**Urewera**	**0.79**	**70**	P	**Pn**	**19 42 57.2**	**-1.1**
URZ	**Urewera**	**0.79**	**70**	S	**Sn**	**19 43 11.2**	**-2.4**
RAHZ	**Arahi**	**0.81**	**118**	P	**Pn**	**19 42 58.7**	**+0.2**
TGRZ	**Tauranga**	**0.81**	**5**	Pn	**Pn**	**19 42 57.7**	**-0.8**
TGRZ	**Tauranga**	**0.81**	**5**	P	**Pn**	**19 42 57.7**	**-0.8**
COVZ	**Chateau Observ**	**0.82**	**216**	P	**Pn**	**19 42 58.9**	**+0.1**
TUVZ	**Tukino**	**0.83**	**209**	Pn	**Pn**	**19 42 59.4**	**+0.5**
TUVZ	**Tukino**	**0.83**	**209**	P	**Pn**	**19 42 59.4**	**+0.5**
TUVZ	**Tukino**	**0.83**	**209**	S	**Sn**	**19 43 14.5**	**+0.3**
FWVZ	**Far West T-bar**	**0.86**	**214**	Pn	**Pn**	**19 42 59.4**	**+0.1**
FWVZ	**Far West T-bar**	**0.86**	**214**	P	**Pn**	**19 42 59.4**	**+0.1**
FWVZ	**Far West T-bar**	**0.86**	**214**	S	**Sn**	**19 43 15.2**	**+0.3**
WHVZ	**Whangaehu Hut**	**0.87**	**211**	Pn	**Pn**	**19 42 59.3**	**0.0**
WHVZ	**Whangaehu Hut**	**0.87**	**211**	P	**Pn**	**19 42 59.6**	**+0.3**
DRZ	**Dome Shelter**	**0.87**	**213**	Pn	**Pn**	**19 42 59.6**	**+0.2**
DRZ	**Dome Shelter**	**0.87**	**213**	P	**Pn**	**19 42 59.7**	**+0.3**
TRVZ	**Turoa**	**0.90**	**212**	Pn	**Pn**	**19 42 59.7**	**+0.1**
TRVZ	**Turoa**	**0.90**	**212**	P	**Pn**	**19 42 59.9**	**+0.3**
WNVZ	**Wahianoa**	**0.90**	**209**	Pn	**Pn**	**19 42 60.0**	**+0.5**
KWHZ	**Kaweka Forest**	**0.91**	**167**	P	**Pn**	**19 42 59.9**	**+0.5**
MOVZ	**Moawhango**	**0.93**	**200**	Pn	**Pn**	**19 42 59.9**	**+0.2**
MOVZ	**Moawhango**	**0.93**	**200**	P	**Pn**	**19 42 59.9**	**+0.2**
MOVZ	**Moawhango**	**0.93**	**200**	S	**Sn**	**19 43 15.5**	**-0.1**
WHRZ	**Whale Island**	**0.93**	**43**	P	**Pn**	**19 42 58.7**	**-0.9**
SNGZ	**Shannon Statio**	**0.95**	**105**	Pn	**Pn**	**19 43 00.2**	**+0.5**
SNGZ	**Shannon Statio**	**0.95**	**105**	P	**Pn**	**19 43 00.3**	**+0.5**
BHHZ	**Black Hill Sta**	**0.95**	**185**	Pn	**Pn**	**19 43 00.1**	**+0.3**
BHHZ	**Black Hill Sta**	**0.95**	**185**	P	**Pn**	**19 43 00.2**	**+0.3**
BHHZ	**Black Hill Sta**	**0.95**	**185**	S	**Sn**	**19 43 15.6**	**-0.4**
TOZ	**Tahuroa Road**	**0.96**	**327**	Pn	**Pn**	**19 42 59.1**	**-0.8**
TOZ	**Tahuroa Road**	**0.96**	**327**	P	**Pn**	**19 42 59.5**	**-0.4**
TOZ	**Tahuroa Road**	**0.96**	**327**	S	**Sn**	**19 43 14.6**	**-1.4**
ARHZ	**Aropaoanui**	**0.97**	**138**	Pn	**Pn**	**19 43 00.5**	**+0.6**
ARHZ	**Aropaoanui**	**0.97**	**138**	P	**Pn**	**19 43 00.5**	**+0.6**
RAGZ	**Rawiri**	**0.98**	**88**	Pn	**Pn**	**19 42 59.5**	**-0.6**
RAGZ	**Rawiri**	**0.98**	**88**	P	**Pn**	**19 42 59.6**	**-0.6**
PKVZ	**Pokaka**	**0.99**	**220**	Pn	**Pn**	**19 43 00.4**	**+0.6**
PKVZ	**Pokaka**	**0.99**	**220**	P	**Pn**	**19 43 00.8**	**+0.6**
PKVZ	**Pokaka**	**0.99**	**220**	S	**Sn**	**19 43 17.0**	**+0.4**
WHHZ	**Waihua**	**0.99**	**123**	P	**Pn**	**19 43 00.5**	**+0.3**
MCHZ	**McNeill Hill**	**0.99**	**156**	Pn	**Pn**	**19 43 01.2**	**+1.0**
MCHZ	**McNeill Hill**	**0.99**	**156**	P	**Pn**	**19 43 01.4**	**+1.2**
MTVZ	**Mangateitei**	**1.00**	**213**	Pn	**Pn**	**19 43 01.1**	**+0.7**
MTVZ	**Mangateitei**	**1.00**	**213**	P	**Pn**	**19 43 01.1**	**+0.7**
HIZ	**Hauiti**	**1.03**	**271**	P	**Pn**	**19 43 00.8**	**+0.3**
MWZ	**Matawai**	**1.09**	**80**	P	**Pn**	**19 43 00.4**	**-0.8**
KRHZ	**Kereru**	**1.11**	**172**	P	**Pn**	**19 43 02.0**	**+0.5**
VRZ	**Vera Road**	**1.25**	**242**	Pn	**Pn**	**19 43 03.3**	**+0.5**
VRZ	**Vera Road**	**1.25**	**242**	P	**Pn**	**19 43 03.6**	**+0.8**
RIGZ	**Rimuhau**	**1.26**	**98**	P	**Pn**	**19 43 03.2**	**+0.2**
KNZ	**Kokohu**	**1.27**	**113**	P	**Pn**	**19 43 03.1**	**0.0**
WIZ	**White Island**	**1.29**	**39**	Pn	**Pn**	**19 43 02.3**	**-1.1**
WIZ	**White Island**	**1.29**	**39**	P	**Pn**	**19 43 02.4**	**-0.9**
RUGZ	**Raukumara Rang**	**1.32**	**65**	P	**Pn**	**19 43 02.2**	**-1.6**
CKHZ	**Cape Kidnapper**	**1.32**	**148**	Pn	**Pn**	**19 43 04.4**	**+0.7**
CKHZ	**Cape Kidnapper**	**1.32**	**148**	P	**Pn**	**19 43 04.4**	**+0.7**
CKHZ	**Cape Kidnapper**	**1.32**	**148**	S	**Sn**	**19 43 22.5**	**-0.3**
TKGZ	**Te Karaka**	**1.32**	**86**	Pn	**Pn**	**19 43 03.9**	**+0.3**
TKGZ	**Te Karaka**	**1.32**	**86**	P	**Pn**	**19 43 04.0**	**+0.3**
KAHZ	**Kahuranaki**	**1.37**	**157**	Pn	**Pn**	**19 43 04.9**	**+0.6**
KAHZ	**Kahuranaki**	**1.37**	**157**	P	**Pn**	**19 43 04.9**	**+0.6**
PNHZ	**Pukenui**	**1.37**	**179**	Pn	**Pn**	**19 43 04.5**	**+0.2**
PNHZ	**Pukenui**	**1.37**	**179**	P	**Pn**	**19 43 04.5**	**+0.2**
PRGZ	**Paritu Road**	**1.39**	**106**	Pn	**Pn**	**19 43 04.6**	**0.0**
PRGZ	**Paritu Road**	**1.39**	**106**	P	**Pn**	**19 43 04.6**	**0.0**
TWGZ	**Tauwhareparae**	**1.47**	**76**	Pn	**Pn**	**19 43 05.5**	**+0.1**
TWGZ	**Tauwhareparae**	**1.47**	**76**	P	**Pn**	**19 43 05.5**	**+0.1**
MHGZ	**Mahia Peninsul**	**1.49**	**115**	Pn	**Pn**	**19 43 05.9**	**+0.3**
MHGZ	**Mahia Peninsul**	**1.49**	**115**	P	**Pn**	**19 43 05.8**	**+0.3**
HAZ	**Te Kaha**	**1.49**	**59**	P	**Pn**	**19 43 04.3**	**-1.3**
WAZ	**Wanganui**	**1.52**	**217**	Pn	**Pn**	**19 43 07.2**	**+1.2**
WAZ	**Wanganui**	**1.52**	**217**	P	**Pn**	**19 43 07.2**	**+1.2**
TSZ	**Takapari Road**	**1.53**	**186**	Pn	**Pn**	**19 43 06.2**	**+0.2**
TSZ	**Takapari Road**	**1.53**	**186**	P	**Pn**	**19 43 06.3**	**+0.2**
WPHZ	**Waipukurau**	**1.54**	**172**	Pn	**Pn**	**19 43 06.3**	**+0.1**
WPHZ	**Waipukurau**	**1.54**	**172**	P	**Pn**	**19 43 06.3**	**+0.1**
MHEZ	**Mangahewa**	**1.54**	**249**	Pn	**Pn**	**19 43 07.7**	**+1.5**
MHEZ	**Mangahewa**	**1.54**	**249**	P	**Pn**	**19 43 07.9**	**+1.7**
PXZ	**Pawanui**	**1.58**	**160**	Pn	**Pn**	**19 43 06.9**	**+0.2**
PXZ	**Pawanui**	**1.58**	**160**	P	**Pn**	**19 43 06.9**	**+0.2**
PXZ	**Pawanui**	**1.58**	**160**	P	**Pn**	**19 43 06.9**	**0.0**
CNGZ	**Carnagh Statio**	**1.60**	**89**	Pn	**Pn**	**19 43 06.9**	**0.0**
CNGZ	**Carnagh Statio**	**1.60**	**89**	P	**Pn**	**19 43 07.1**	**+0.2**
PKGZ	**Pakihiroa**	**1.64**	**67**	P	**Pn**	**19 43 07.1**	**-0.4**
MKAZ	**Moumakai**	**1.64**	**331**	Pn	**Pn**	**19 43 06.8**	**-0.6**
MKAZ	**Moumakai**	**1.64**	**331**	P	**Pn**	**19 43 07.1**	**-0.3**
LREZ	**Lake Rotokare**	**1.66**	**236**	P	**Pn**	**19 43 09.1**	**+1.5**
DREZ	**Durham Road**	**1.67**	**247**	P	**Pn**	**19 43 09.1**	**+1.4**
PUZ	**Puketiti**	**1.71**	**75**	Pn	**Pn**	**19 43 07.5**	**-0.8**
PUZ	**Puketiti**	**1.71**	**75**	P	**Pn**	**19 43 07.7**	**-0.6**
DVHZ	**Dannevirke**	**1.76**	**180**	Pn	**Pn**	**19 43 08.6**	**-0.3**
DVHZ	**Dannevirke**	**1.76**	**180**	P	**Pn**	**19 43 08.6**	**-0.3**
PREZ	**Palmer Road**	**1.76**	**242**	Pn	**Pn**	**19 43 10.5**	**+1.7**
PREZ	**Palmer Road**	**1.76**	**242**	P	**Pn**	**19 43 10.6**	**+1.7**
PRHZ	**Porangahau**	**1.76**	**168**	Pn	**P

λ-68.00000°. NP2:φ₈68.00000°, δ59.00000°, λ-104.00000°.
IDC **10** 20:22:42.5±0.6,20˚98N×121˚14E,h0km,mb4.0/18, mb1 4.1/20,mb1mx3.9/65,mbtmp4.1/20,ML3.7/2,MS3.4/18, Ms1 3.4/18,ms1mx3.1/62,Error ellipse: s-maj=20.5km s-min=11.4km az=68.0
NEIC **10** 20:22:44.1±0.2,21˚03N×121˚14E,h10km,mb4.6/47,Error ellipse: s-maj=5.0km s-min=3.6km az=87.0
ISCJB **10** 20:22:45.9±0.2,21˚04N±0˚02×121˚19E±0˚03,h36km, mb4.4/63,MS3.4/14,Error ellipse: s-maj=4.5km s-min=2.9km az=29.4

ISC 10 20:22:47.6±0.4,21˚06N±0˚05×121˚07E±0˚05,h36km,n151, σ1§37/140,**mb4.4**/61,**MS3.4**/14,**1C,Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWG	**Pinlang**	**1.75**	**0**	*e*Pn	**Pn**	**20 23 11.9**	**-3.6**
TPUB	**Ta-pu**	**2.27**	**350**	*e*Pn	**Pn**	**20 23 21.1**	**-1.5**
YULB	**Yu-li**	**2.33**	**5**	*e*Pn	**Pn**	**20 23 20.9**	**-2.6**
SSLB	**Suanglung**	**2.72**	**358**	*e*Pn	**Pn**	**20 23 27.8**	**-1.0**
NACB	**Ninganchiao**	**3.14**	**9**	*e*Pn	**Pn**	**20 23 33.4**	**-1.2**
NACB				*e*Sn	**Sn**	**20 24 12.4**	**+1.6**
YHNB	**Yeheng**	**3.61**	**4**	*e*Pn	**Pn**	**20 23 40.0**	**-1.0**
JYNG	**Yonaguni jima**	**3.80**	**27**	P	**Pn**	**20 23 43.3**	**-0.3**
JYNG				*e*S	**Sn**	**20 24 25.2**	**-1.8**
YOJ	**Yonaguni jima**	**3.83**	**28**	P	**Pn**	**20 23 43.6**	**-0.5**
YOJ				*e*S	**Sn**	**20 24 28.0**	**+0.1**
YOJ	**Yonaguni jima**	**3.83**	**28**	*e*Pn	**Pn**	**20 23 43.6**	**-0.5**
HATJ	**Hateruma jima**	**3.91**	**40**	P	**Pn**	**20 23 45.4**	**+0.2**
HATJ				*e*S	**Sn**	**20 24 29.0**	**-0.9**
TATO	**Taipei**	**3.92**	**6**	*e*Pn	**Pn**	**20 23 43.7**	**-1.6**
IRIF	**Iriomote-Funau**	**4.08**	**37**	P	**Pn**	**20 23 47.5**	**-0.1**
JKRS	**Kuro-shima**	**4.17**	**40**	P	**Pn**	**20 23 48.2**	**-0.6**
JIJ	**Ishigaki jima**	**4.35**	**40**	P	**Pn**	**20 23 50.3**	**-0.9**
JIJ				*e*S	**Sn**	**20 24 38.6**	**-2.0**
QZH	**Quanzhou**	**4.49**	**330**	⇑*i*Pn	**Pn**	**20 23 50.9**	**-2.2**
QZH				Sn	**Sn**	**20 24 39.9**	**-4.2**
QZH	comp=N,50nm,0.5s			smax	smax		
QZH	comp=E,60nm,0.7s			smax	smax		
JISG	**Ishigakijimahi**	**4.62**	**40**	P	**Pn**	**20 23 53.7**	**-1.1**
JISG				*e*S	**Sn**	**20 24 44.1**	**-3.1**
JTJ	**Tarama**	**4.89**	**43**	P	**Pn**	**20 23 57.7**	**-1.0**
JTJ				*e*S	**Sn**	**20 24 52.5**	**-1.6**
JIRB	**Irabujima**	**5.33**	**44**	P	**Pn**	**20 24 05.2**	**+0.5**
JIRB				*e*S	**Sn**	**20 25 02.7**	**-2.1**
JIKM	**Ikemajima**	**5.45**	**44**	P	**Pn**	**20 24 06.7**	**+0.4**
JIKM				*e*S	**Sn**	**20 25 06.5**	**-1.2**
TGY	**Tagaytay City**	**6.92**	**181**	Pn	Pn	20 24 32.6	+6.0
TGY	comp=E,60nm,0.3s,baz=116,slow=6.0,SNR=4.8			LR	LR	20 27 48.1	
JOW	comp=E,174nm,20.9s,baz=296,slow=45 **Kunigami**	**8.74**	**48**	Pn	**Pn**	**20 24 50.5**	**-1.1**
JOW	comp=E,1.7nm,0.3s,baz=255,slow=14,SNR=4.2 **Kunigami**	**8.74**	**48**	*e*Pn	**Pn**	**20 24 47.3**	**-4.3**
DAV	**Davao City (W)**	**14.57**	**162**	LR	LR	20 32 05.7	
JNU	comp=E,116nm,19.1s,baz=325,slow=39 **Nakatsue**	**14.85**	**34**	LR	LR	20 32 27.2	
TIA	comp=E,77nm,21.6s,baz=258,slow=39 **Tai'an**	**15.49**	**348**	P	**P**	**20 26 28.5**	**+1.1**
TIA	comp=Z,10.0nm,0.7s			pmax	pmax		
XAN	**Xi'an**	**16.81**	**323**	P	**P**	**20 26 43.2**	**+1.1**
XAN	comp=Z,11nm,1.1s			pmax	pmax		
KS15	**Wonju Array Si**	**17.37**	**18**	*e*Pn	**P**	**20 26 48.2**	**0.0**
KSAR	**Wonju Array Be**	**17.37**	**18**	P	**Pn**	**20 26 47.3**	**+0.1**
KSRS	**Korea Array**	**17.39**	**19**	P	**Pn**	**20 26 47.3**	**-0.2**
KSRS	comp=Z,0.5nm,0.3s,baz=199,slow=11,SNR=22			LR	LR	20 34 38.0	
BJT	comp=Z,57nm,18.3s,baz=202,slow=41 **Baijiatuau**	**19.36**	**349**	*e*P	**P**	**20 27 10.4**	**+0.4**
SBUM	comp=Z,11nm,0.7s **Sibu**	**20.41**	**206**	*e*P	**P**	**20 27 21.6**	**-0.1**
MRSI	comp=Z,16nm,0.9s **Marisa**	**20.47**	**178**	P	Pn	20 27 25.7	+1.0
MPSI	comp=Z,17nm,0.8s **Mapaga**	**20.62**	**183**	P	**P**	**20 27 24.3**	**+0.3**
CHTO	comp=Z,11nm,1.1s,comp=Z,420nm **Chiang Mai**	**20.92**	**268**	*e*P	**P**	**20 27 25.8**	**-1.4**
CM01	comp=Z,5.1nm,1.2s **Chiang Mai Arr**	**20.97**	**267**	*e*P	P	20 27 21.8	-6.0
CM31	**Chiang Mai Arr**	**20.98**	**267**	*e*P	**P**	**20 27 27.1**	**-0.8**
CMAR	**Chiang Mai Arr**	**20.98**	**267**	P	**P**	**20 27 28.9**	**+0.9**
CMAR	comp=Z,0.8nm,0.7s,baz=73,slow=9.5,SNR=6.4			LR	LR	20 36 09.8	
MAJO	comp=Z,55nm,19.6s,baz=76,slow=38 **Matsushiro**	**21.48**	**40**	*e*P	**P**	**20 27 33.3**	**+0.2**
MJAR	**Matsushiro Arr**	**21.48**	**40**	P	**P**	**20 27 33.3**	**+0.2**
APSI	comp=Z,1.9nm,0.7s,baz=232,slow=8.7,SNR=8.3 **Ampana**	**21.84**	**178**	P	**P**	**20 27 41.2**	**+4.1**
LUWI	comp=Z,59nm,0.6s **Luwuk**	**22.03**	**175**	*e*P	**P**	**20 27 39.5**	**+0.4**
KSM	comp=Z,128nm,1.2s **Kuching**	**22.11**	**210**	*e*P	**P**	**20 27 39.1**	**-1.0**
MTKI	comp=Z,10nm,0.9s **Muara Teweh, K**	**22.68**	**196**	P	**P**	**20 27 44.5**	**-1.6**
SANI	**Sanana**	**23.46**	**168**	P	**P**	**20 27 50.7**	**-3.3**
SIJI	**Sorong**	**23.97**	**154**	P	**P**	**20 27 57.4**	**-1.4**
NLAI	comp=Z,1.6nm,0.3s,baz=343,slow=17,SNR=3.2 **Namlea**	**24.86**	**166**	P	**P**	**20 28 09.4**	**+2.5**
MYKOM	**Kota Tinggi**	**25.47**	**223**	*e*P	**P**	**20 28 13.3**	**+0.8**
IPM	comp=Z,9.9nm,1.0s **Ipoh**	**25.51**	**233**	*e*P	**P**	**20 28 11.9**	**-1.0**
GTA	comp=Z,5.7nm,0.8s **Gaotai**	**25.81**	**320**	*e*P	**P**	**20 28 17.2**	**+1.6**
GTA				pP	pP	20 28 21.5	-4.3
GTA				sP	sP	20 28 24.7	-5.5
GTA	comp=Z,2.0nm,1.0s			pmax	pmax		
PSI	**Prapat**	**28.18**	**233**	LR	LR	20 39 00.5	
LSA	comp=Z,51nm,19.6s,baz=40,slow=35 **Lhasa**	**28.30**	**294**	*e*P	**P**	**20 28 39.9**	**+1.4**
ULN	comp=Z,16nm,1.9s **Ulaanbaatar**	**29.04**	**340**	*e*P	**P**	**20 28 45.1**	**+0.6**
SONA0	comp=Z,2.6nm,0.6s **Songino Array**	**29.22**	**340**	*e*P	**P**	**20 28 46.3**	**+0.3**
SONM	**Songino Array**	**29.22**	**340**	P	**P**	**20 28 46.3**	**+0.3**
SONM	comp=Z,2.0nm,0.6s,baz=158,slow=9.9,SNR=17			LR	LR	20 41 46.1	
SONA1	comp=Z,111nm,20.3s,baz=170,slow=39 **Songino Array**	**29.23**	**340**	*e*P	**P**	**20 28 46.3**	**+0.1**
BATI	**Baumata**	**31.17**	**175**	P	**P**	**20 29 02.3**	**-1.1**
PMG	comp=Z,13nm,0.6s,baz=256,slow=3.7,SNR=5.3 **Port Moresby**	**39.67**	**137**	P	**P**	**20 30 16.0**	**-0.5**
PMG	comp=Z,7.5nm,0.6s,baz=342,slow=6.4,SNR=3.4 **Port Moresby**	**39.67**	**137**	*e*P	**P**	**20 30 15.5**	**-0.9**
MK01	**Makanchi Array**	**40.53**	**319**	*e*P	**P**	**20 30 24.1**	**+0.8**
MK31	**Makanchi Array**	**40.55**	**319**	*e*P	**P**	**20 30 24.2**	**+0.8**
MK32	**Makanchi Array**	**40.55**	**319**	*e*P	**P**	**20 30 24.6**	**+1.1**
MKAR	**Makanchi Array**	**40.55**	**319**	P	**P**	**20 30 24.6**	**+1.1**
MKAR	comp=Z,2.5nm,0.6s,baz=114,slow=9.6,SNR=30			LR	LR	20 49 02.3	
MKAR	comp=Z,44nm,18.0s,baz=56,slow=39 **Makanchi Array**	**40.55**	**319**	*e*P	**P**	**20 30 23.8**	**+0.4**
MAKZ	comp=Z,18nm,0.6s **Makanchi**	**40.75**	**318**	*e*P	**P**	**20 30 25.4**	**+0.2**
TARG	comp=Z,3.9nm,0.6s **Taragay, Kyrgy**	**41.76**	**310**	*e*P	**P**	**20 30 35.6**	**+1.7**
KDJ	comp=Z,5.8nm,1.4s **Kajisay**	**42.31**	**310**	*e*P	**P**	**20 30 38.0**	**-0.2**
PETK	comp=Z,2.9nm,0.7s **Petropavlovsk-**	**42.53**	**32**	LR	LR	20 50 52.7	
WRAB	comp=Z,29nm,18.2s,baz=255,slow=40 **Tennant Creek**	**42.76**	**161**	*e*P	**P**	**20 30 40.8**	**-1.0**
WR1	comp=Z,20nm,0.6s **Warramunga Arr**	**42.77**	**161**	*e*P	**P**	**20 30 40.5**	**-1.3**
WRA	comp=Z,40nm,1.9s **Warramunga Arr**	**42.77**	**161**	P	**P**	**20 30 40.5**	**-1.3**
WB2	comp=Z,3.4nm,0.6s,baz=344,slow=9.2,SNR=20 **Warramunga Arr**	**42.77**	**161**	*e*P	**P**	**20 30 40.6**	**-1.3**
ZAA0	comp=Z,7.8nm,0.9s **Zalesovo Array**	**42.83**	**329**	*e*P	**P**	**20 30 42.1**	**+0.2**
ZALV	comp=Z,5.8nm,1.1s **Zalesovo Beam**	**42.83**	**329**	P	**P**	**20 30 42.1**	**+0.1**
ZALV	comp=Z,3.0nm,0.8s,baz=119,slow=6.8,SNR=12			LR	LR	20 50 15.4	
ZAA1	comp=Z,39nm,18.7s,baz=70,slow=38 **Zalesovo Array**	**42.83**	**329**	*e*P	**P**	**20 30 42.1**	**+0.1**
H11N1	**WAKE ISLAND Hy**	**42.86**	**83**	T	T	21 16 48.8	
H11N2	baz=282,slow=75,SNR=24 **WAKE ISLAND Hy**	**42.87**	**83**	T	T	21 16 42.0	
	baz=282,slow=75,SNR=53						
H11N3	**WAKE ISLAND Hy**	**42.88**	**83**	T	T	21 16 48.2	
H11S3	baz=282,slow=75,SNR=35 **WAKE ISLAND Hy**	**42.90**	**85**	T	T	21 16 48.0	
H11S1	baz=282,slow=75,SNR=83 **WAKE ISLAND Hy**	**42.91**	**85**	T	T	21 16 49.2	
H11S2	baz=282,slow=75,SNR=14 **WAKE ISLAND Hy**	**42.92**	**85**	T	T	21 16 48.5	
PET	baz=282,slow=75,SNR=16 **Petropavlovsk**	**42.97**	**33**	*e*P	**P**	**20 30 42.8**	**-0.3**
NRN	comp=Z,31nm,1.2s **Naryn**	**42.99**	**309**	*e*P	**P**	**20 30 45.4**	**+1.6**
AAK	comp=Z,6.1nm,0.8s **Ala-Archa**	**44.37**	**310**	*e*P	**P**	**20 30 56.0**	**+1.3**
KURK	comp=Z,7.6nm,1.8s **Kurchatov**	**44.45**	**322**	*e*P	**P**	**20 30 54.7**	**-0.3**
KURBB	comp=Z,5.0nm,1.1s **Kurchatov Arra**	**44.46**	**322**	P	**P**	**20 30 56.1**	**+0.9**
AS31	comp=Z,4.0nm,0.5s,baz=145,slow=6.5,SNR=45 **Alice Springs**	**46.18**	**164**	*e*P	**P**	**20 31 09.6**	**+0.6**
ASAR	comp=Z,1.6nm,0.4s **Alice Springs**	**46.18**	**164**	P	**P**	**20 31 08.8**	**-0.3**
AS01	comp=Z,2.0nm,0.5s,baz=337,slow=6.4,SNR=25 **Alice Springs**	**46.19**	**164**	*e*P	**P**	**20 31 10.1**	**+1.0**
KK06	**Karatay Array**	**47.31**	**310**	*e*P	**P**	**20 31 18.9**	**+1.1**
KK05	**Karatay Array**	**47.32**	**310**	*e*P	**P**	**20 31 18.9**	**+1.1**
KK02	**Karatay Array**	**47.33**	**310**	*e*P	**P**	**20 31 19.1**	**+1.2**
KK31	**Karatay Array**	**47.33**	**310**	*e*P	**P**	**20 31 18.9**	**+0.9**
KKAR	**Karatay Array**	**47.33**	**310**	*e*P	**P**	**20 31 19.0**	**+1.1**
KK01	**Karatay Array**	**47.33**	**310**	*e*P	**P**	**20 31 19.0**	**+1.1**
KK07	**Karatay Array**	**47.33**	**310**	*e*P	**P**	**20 31 18.9**	**+0.9**
KK04	**Karatay Array**	**47.33**	**310**	*e*P	**P**	**20 31 19.0**	**+1.1**
KK03	**Karatay Array**	**47.33**	**310**	*e*P	**P**	**20 31 19.2**	**+1.2**
KK09	**Karatay Array**	**47.34**	**310**	*e*P	**P**	**20 31 18.9**	**+0.9**
KK08	**Karatay Array**	**47.34**	**310**	*e*P	**P**	**20 31 19.4**	**+1.3**
CTAO	**Charters Tower**	**47.74**	**147**	*e*P	**P**	**20 31 21.5**	**+0.2**
BVAR	comp=Z,22nm,1.4s **Borovoye Array**	**50.05**	**322**	P	**P**	**20 31 39.8**	**+1.2**
BRVK	comp=Z,0.4nm,0.5s,baz=114,slow=10.0,SNR=5.9 **Borovoye**	**50.12**	**322**	*e*P	**P**	**20 31 38.4**	**-0.7**
TIXI	comp=Z,2.5nm,0.8s **Tiksi**	**50.81**	**3**	*e*P	**P**	**20 31 43.9**	**-0.1**
EIDS	comp=Z,4.7nm,1.4s **Eidsvold**	**54.59**	**146**	*e*P	**P**	**20 32 12.7**	**+0.1**
BBOO	comp=Z,66nm,1.6s **Buckleboo**	**55.45**	**165**	*e*P	**P**	**20 32 18.8**	**+0.1**
AB06	comp=Z,55nm,1.6s **Akbulak array**	**55.55**	**316**	*e*P	**P**	**20 32 20.8**	**+1.5**
AB07	**Akbulak array**	**55.56**	**316**	*e*P	**P**	**20 32 20.7**	**+1.3**
AB02	**Akbulak array**	**55.57**	**316**	*e*P	**P**	**20 32 21.2**	**+1.7**
AB03	**Akbulak array**	**55.57**	**316**	*e*P	**P**	**20 32 20.7**	**+1.2**
AB01	**Akbulak array**	**55.57**	**316**	*e*P	**P**	**20 32 20.9**	**+1.5**
AB31	**Akbulak array**	**55.57**	**316**	*e*P	**P**	**20 32 20.9**	**+1.5**
ABKAR	**Akbulak array**	**55.57**	**316**	*e*P	**P**	**20 32 20.9**	**+1.5**
AB05	comp=Z,13nm,0.7s **Akbulak array**	**55.57**	**316**	*e*P	**P**	**20 32 21.1**	**+1.6**
AB04	**Akbulak array**	**55.58**	**316**	*e*P	**P**	**20 32 20.4**	**+0.9**
AB08	**Akbulak array**	**55.58**	**316**	*e*P	**P**	**20 32 20.7**	**+1.2**
AB09	**Akbulak array**	**55.59**	**316**	*e*P	**P**	**20 32 20.0**	**+0.4**
STKA	**Stephens Creek**	**56.19**	**159**	P	**P**	**20 32 24.1**	**+0.1**
STKA	comp=Z,1.5nm,0.6s,baz=338,slow=9.9,SNR=5.8 **Stephens Creek**	**56.19**	**159**	*e*P	**P**	**20 32 23.5**	**-0.5**
GEYT	comp=Z,6.7nm,1.9s **Alibeck**	**56.32**	**302**	P	**P**	**20 32 25.4**	**+0.3**
AKTO	comp=Z,0.6nm,0.6s,baz=85,slow=1.7,SNR=3.0 **Akbubinsk**	**56.95**	**317**	LR	LR	20 57 21.0	
GNI	comp=Z,19nm,20.7s,baz=92,slow=36 **Garni**	**66.50**	**306**	LR	LR	21 06 16.8	
CAST	comp=Z,18nm,20.6s,baz=90,slow=39 **Castle Rocks**	**70.00**	**29**	*e*P	**P**	**20 33 56.1**	**+0.8**
PPLA	comp=Z,3.8nm,0.8s **Purkeypile**	**70.01**	**29**	*e*P	**P**	**20 33 56.0**	**+0.4**
COLD	comp=Z,42nm,1.8s **Coldfoot**	**70.30**	**24**	*e*P	**P**	**20 33 58.5**	**+1.4**
TOLK	comp=Z,7.0nm,1.7s **Toolik Lake Re**	**70.36**	**23**	*e*P	**P**	**20 33 59.0**	**+1.5**
MLY	comp=Z,14nm,1.8s **Manley**	**70.37**	**27**	*e*P	**P**	**20 33 58.9**	**+1.3**
BPAW	comp=Z,5.2nm,1.3s **Bear Paw Mtn.**	**70.39**	**28**	*e*P	**P**	**20 33 58.1**	**+0.3**
SKT	comp=Z,12nm,1.7s **Skwentna**	**70.44**	**30**	*e*P	**P**	**20 33 57.8**	**-0.2**
KTH	comp=Z,24nm,1.9s **Kaishna Hill**	**70.49**	**28**	*e*P	**P**	**20 33 59.7**	**+1.2**
KDAK	comp=Z,26nm,1.8s **Kodiak Island**	**70.52**	**35**	LR	LR	21 06 16.9	
KDAK	comp=Z,30nm,18.6s,baz=71,slow=37 **Kodiak Island**	**70.52**	**35**	*e*P	**P**	**20 33 59.5**	**+1.0**
TRF	comp=Z,166nm,1.9s **Thorofare Moun**	**70.79**	**28**	*e*P	**P**	**20 34 01.7**	**+1.4**
SUA	comp=Z,17nm,1.6s **Susitna One**	**70.88**	**31**	*e*P	**P**	**20 34 00.9**	**0.0**
RND	comp=Z,17nm,1.6s **Reindeer**	**71.44**	**28**	*e*P	**P**	**20 34 03.5**	**-0.7**
MDM	comp=Z,22nm,1.8s **Murphy Dome**	**71.44**	**27**	*e*P	**P**	**20 34 04.2**	**+0.1**
WRH	comp=Z,4.1nm,1.0s **Wood River Hil**	**71.58**	**27**	*e*P	**P**	**20 34 04.1**	**-0.8**
ILAR	comp=Z,16nm,1.9s **Eielson Array**	**72.03**	**27**	P	**P**	**20 34 09.0**	**+1.4**
DHY	comp=Z,0.2nm,0.6s,baz=302,slow=5.2,SNR=3.0 **Denali Highway**	**72.15**	**29**	*e*P	**P**	**20 34 07.8**	**-0.8**
ARA0	comp=Z,10.0nm,1.4s **ARCESS Array S**	**72.39**	**338**	*e*P	**P**	**20 34 12.4**	**+2.7**
ARCES	**ARCESS Array B**	**72.39**	**338**	P	**P**	**20 34 12.4**	**+2.7**
SCM	comp=Z,2.2nm,0.9s,baz=80,slow=11,SNR=3.6 **Sheep Creek Mo**	**72.42**	**30**	*e*P	**P**	**20 34 12.0**	**+1.9**
SPITS	comp=Z,29nm,1.6s **Spitsbergen Ar**	**72.50**	**348**	LR	LR	21 08 37.0	
DOT	comp=Z,33nm,21.8s,baz=0.0,slow=38 **Dot Lake**	**73.48**	**28**	*e*P	**P**	**20 34 14.6**	**-1.7**
FIA1	comp=Z,4.3nm,2.0s **FINESS Array S**	**74.08**	**330**	*e*P	**P**	**20 34 16.9**	**-2.9**
FINES	comp=Z,90nm,1.9s **FINESS Array B**	**74.08**	**330**	LR	LR	21 10 47.7	
INK	comp=Z,34nm,18.1s,baz=301,slow=39 **Inuvik**	**76.16**	**22**	P	**P**	**20 34 31.5**	**0.0**
INK	comp=Z,0.6nm,0.5s,baz=322,slow=4.8,SNR=3.3 **Inuvik**	**76.16**	**22**	*e*P	**P**	**20 34 31.6**	**0.0**
HFS	comp=Z,7.7nm,1.5s **Hagfors**	**80.23**	**331**	LR	LR	21 13 56.8	
NOA	comp=Z,31nm,18.9s,baz=283,slow=38 **NORSAR Array B**	**80.93**	**332**	LR	LR	21 13 28.9	
GERES	comp=Z,36nm,18.7s,baz=20,slow=38 **GERESS Array B**	**85.18**	**321**	LR	LR	21 16 56.9	
YKA	comp=Z,44nm,18.5s,baz=79,slow=38 **Yellowknife Ar**	**85.88**	**23**	P	**P**	**20 35 23.1**	**-0.3**
	comp=Z,0.4nm,0.6s,baz=315,slow=4.7,SNR=7.7						
KUR				*e*S	**Sn**	**20 27 12.4**	**+2.4**
KUR	comp=N,65nm,0.4s			pmax	pmax		
KUR	comp=Z,17nm,0.4s			pmax	pmax		
KUR	comp=E,72nm,0.3s			smax	smax		
KUR	comp=N,172nm,0.4s			smax	smax		
PAU	**Pauzhetka**	**4.97**	**25**	*e*P	**Pn**	**20 26 32.1**	**+1.0**
PAU				*e*S	**Sn**	**20 27 26.8**	**-0.4**
PAU	comp=N,160nm,0.5s			A	A	20 27 30.0	
PAU	comp=N,177nm,0.5s			A	A	20 27 30.0	
SHO	**Shikotan**	**5.62**	**238**	*e*P	**Pn**	**20 26 38.0**	**-2.1**
SHO				AMB	AMB	20 26 49.1	
SHO	comp=N,16nm,0.3s			*e*S	**Sn**	**20 27 42.2**	**-1.0**
SHO	comp=N,116nm,0.5s			A	A	20 28 07.6	
SHO	comp=N,68nm,0.5s			A	A	20 28 07.6	
SHO	**Shikotan**	**5.62**	**238**	*e*PN	**Pn**	**20 26 37.9**	**-2.1**
SHO				*e*S	**Sn**	**20 27 42.6**	**-0.6**
SHO	comp=Z,16nm,0.2s			pmax	pmax		
SHO	comp=E,17nm,0.4s			pmax	pmax		
SHO	comp=N,28nm,0.3s			pmax	pmax		
SHO	comp=N,62nm,0.4s			smax	smax		
SHO	comp=E,78nm,0.3s			smax	smax		
YUK	**Yuzh-Kuril'sk**	**6.11**	**244**	*e*P	**Pn**	**20 26 47.2**	**+0.5**
YUK				AMB	AMB	20 26 56.6	
YUK	comp=E,48nm,0.4s			*i* S	**Sn**	**20 27 54.7**	**-0.5**
YUK				A	A	20 28 06.4	
YUK	comp=E,68nm,0.4s			A	A	20 28 06.4	
YUK	comp=E,67nm,0.4s **Yuzh-Kuril'sk**	**6.11**	**244**	*e*PN	**Pn**	**20 26 47.2**	**+0.5**
YUK				*i* S	**Sn**	**20 27 55.0**	**-0.2**
YUK	comp=N,17nm,0.2s			pmax	pmax		
YUK	comp=E,19nm,0.2s			pmax	pmax		
YUK	comp=Z,68nm,0.2s			pmax	pmax		
YUK	comp=E,68nm,0.4s			smax	smax		
YUK	comp=N,67nm,0.6s			smax	smax		
PETK	**Petropavlovsk-**	**6.69**	**23**	P	**Pn**	**20 26 55.1**	**+0.5**
PETK	comp=N,1.1nm,0.3s,baz=174,slow=11,SNR=15			S	Sn	20 28 19.9	+11
PETK	comp=N,0.2nm,0.3s,baz=169,slow=16,SNR=2.4			LR	LR	20 29 31.1	
USRK	comp=N,61nm,18.4s,baz=230,slow=38 **Ussuriysk Ar.**	**15.28**	**267**	P	**P**	**20 28 54.0**	**-1.3**
MJAR	comp=N,0.2nm,0.3s,baz=68,slow=13,SNR=2.6 **Matsushiro Arr**	**15.42**	**233**	P	**P**	**20 28 57.1**	**0.0**
KSRS	comp=N,0.4nm,0.3s,baz=44,slow=8.8,SNR=8.3 **Korea Array**	**21.10**	**252**	P	**P**	**20 29 59.5**	**+0.3**
H11N2	comp=N,1.2nm,0.9s,baz=64,slow=11,SNR=3.5 **WAKE ISLAND Hy**	**29.35**	**153**	T	T	21 03 15.7	
H11N1	baz=341,slow=76,SNR=194 **WAKE ISLAND Hy**	**29.36**	**153**	T	T	21 03 17.2	
H11N3	baz=341,slow=76,SNR=200 **WAKE ISLAND Hy**	**29.36**	**153**	T	T	21 03 11.2	
H11S1	baz=341,slow=76,SNR=117 **WAKE ISLAND Hy**	**30.44**	**155**	T	T	21 04 36.6	
H11S3	baz=342,slow=76,SNR=368 **WAKE ISLAND Hy**	**30.45**	**155**	T	T	21 04 35.5	
H11S2	baz=342,slow=76,SNR=341 **WAKE ISLAND Hy**	**30.46**	**155**	T	T	21 04 38.1	
ILAR	baz=342,slow=76,SNR=286 **Eielson Array**	**36.20**	**39**	P	**P**	**20 32 16.7**	**+0.2**
INK	comp=N,0.4nm,0.8s,baz=246,slow=6.8,SNR=4.7 **Inuvik**	**41.30**	**33**	P	**P**	**20 33 00.2**	**+1.0**
YKA	comp=N,0.7nm,0.7s,baz=308,slow=2.9,SNR=4.7 **Yellowknife Ar**	**50.57**	**37**	P	**P**	**20 34 13.0**	**+0.8**
YKA	comp=N,0.8nm,0.6s,baz=296,slow=7.2,SNR=11 **Yellowknife Ar**	**50.57**	**37**	P	**P**	**20 34 13.0**	**+0.8**
YKA	comp=Z,1.0nm,0.6s			pmax	pmax		
ARCES	**ARCESS Array B**	**57.68**	**341**	P	**P**	**20 35 03.7**	**-0.1**
FINES	comp=Z,2.6nm,1.0s,baz=24,slow=9.0,SNR=2.4 **FINESS Array B**	**63.90**	**335**	P	**P**	**20 35 44.3**	**-1.9**
GEYT	comp=Z,1.4nm,0.8s,baz=33,slow=8.3,SNR=6.0 **Alibeck**	**66.67**	**301**	P	**P**	**20 36 02.7**	**-1.9**
HFS	comp=Z,0.3nm,0.4s,baz=72,slow=4.7,SNR=3.3 **Hagfors**	**68.29**	**340**	P	**P**	**20 36 12.6**	**-1.7**
ASAR	comp=Z,1.0nm,0.4s,baz=45,slow=4.7,SNR=8.6 **Alice Springs**	**72.53**	**199**	P	**P**	**20 36 42.4**	**+1.8**
TXAR	comp=Z,0.8nm,0.6s,baz=9.2,slow=5.5,SNR=10 **Lajitas Array**	**77.16**	**61**	P	**P**	**20 37 08.5**	**+0.9**
	comp=Z,0.5nm,0.5s,baz=298,slow=1.9,SNR=7.8						

SKHL ***10*** *20:25:17.3±0.1,46˚83N×153˚75E,h54km±4km,mb4.6/4*
MOS ***10*** *20:25:18.7±0.8,47˚20N×153˚13E,h57km,mb4.1/7,Error ellipse: s-maj=26.5km s-min=10.7km az=57.4*
IDC ***10*** *20:25:22.4±2.8,47˚28N×153˚08E,h73km±26km,mb3.5/10, mb1 3.6/13,mb1mx3.3/74,mbtmp3.8/13,MS2.7/1, Ms1 2.7/1,ms1mx2.2/50,Error ellipse: s-maj=28.1km s-min=15.6km az=134.0*

ISC 10 20:25:19.1±0.8,47˚0N±0˚1×153˚5E±0˚1,h50km,n32, σ1§28/36,**mb3.8**/10,**1C,Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**4.07**	**25**	*e*P	**Pn**	**20 26 18.4**	**-0.4**
SKR				AMB	AMB	20 26 19.9	
SKR	53nm,0.4s			*e*S	**Sn**	**20 27 04.1**	**-1.0**
SKR				A	A	20 27 13.2	
SKR	95nm,0.4s			A	A	20 27 13.2	
SKR	80nm,0.4s **Severo-Kuril's**	**4.07**	**25**	*e*PN	**Pn**	**20 26 19.0**	**+0.2**
SKR				*e*S	**Sn**	**20 27 02.4**	**-2.7**
SKR	comp=Z,78nm,0.6s			pmax	pmax		
SKR	comp=N,97nm,0.6s			smax	smax		
SKR	comp=E,121nm,0.5s			smax	smax		
KUR	**Kuril'sk**	**4.27**	**247**	*i* P	**Pn**	**20 26 22.3**	**+0.8**
KUR				AMB	AMB	20 26 24.1	
KUR	comp=E,17nm,0.4s			*e*S	**Sn**	**20 27 11.1**	**+1.1**
KUR				A	A	20 27 26.0	
KUR	comp=E,72nm,0.3s			A	A	20 27 26.0	
KUR	comp=E,172nm,0.3s **Kuril'sk**	**4.27**	**247**	⇑*i*PN	**Pn**	**20 26 22.6**	**+1.1**

LDG ***10*** *20:29:32.8±0.1,44˚51N×6˚70E,h2km,Md2.5/3,Ml2.6/8, Error ellipse: s-maj=2.1km s-min=1.6km az=62.0*
GEN ***10*** *20:29:32.7,44˚48N×6˚69E,h5km,ML1.7*
CSEM ***10*** *20:29:32.4±0.1,44˚50N×6˚70E,h5km,ML2.5/16,Error ellipse: s-maj=2.3km s-min=2.0km az=57.0*
IASPEI ***10*** *20:29:32.5±0.8,44˚51N±0˚02×6˚73E±0˚02,h14km±6km, Error ellipse: s-maj=2.6km s-min=2.2km az=98.2,GT5 selection from ISC bulletin GT5 identified by Bond¨ji˙r and McLaughlin (2009) selection criteria Bond¨ji˙r and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009*
ROM ***10*** *20:29:32.6±0.2,44˚49N×6˚72E,h14km±5km,Md2.0/9, Ml1.7/7,Error ellipse: s-maj=3.4km s-min=1.6km az=70.0*
ISCJB ***10*** *20:29:33.1±0.2,44˚51N±0˚01×6˚75E±0˚03,h18km±4km, Error ellipse: s-maj=3.0km s-min=2.5km az=178.6*
STR ***10*** *20:29:33.2

BHB				Sg		Sg	20 29 50.6	+0.5
	45nm,0.1s							
OGDI	Digne	0.51	221	Pg		Pg	20 29 43.8	+0.1
OGDI	Digne	0.51	221	Sg		Sg	20 29 50.8	+0.3
OG25	Le Caire	0.51	256	Pg		Pg	20 29 41.9	-1.8
OG25				Sg		Sg	20 29 47.8	-2.8
BNI	Bardonecchia	0.56	354	Pg		Pb	20 29 43.8	-1.0
BNI				Sg		Sb	20 29 51.1	-1.5
	16nm,0.5s							
BNI	Bardonecchia	0.56	354	Pg		Pb	20 29 43.8	-1.0
BNI				Sg		Sb	20 29 51.1	-1.5
	16nm,0.5s							
RSP	Reno Superiore	0.74	28	P		Pb	20 29 47.6	-0.3
RSP				S		Sb	20 29 57.6	-0.2
RSP	Reno Superiore	0.74	28	Pg		Pb	20 29 47.6	-0.3
CALF	Calern	0.75	171	Pg		Pb	20 29 47.3	-0.8
CALF	Calern	0.75	171	Sg		Sb	20 29 58.2	+0.1
ORIF	Oris-en-Rattie	0.76	304	ePg		Pb	20 29 45.7	-2.5
ORIF				eSg		Sb	20 29 55.8	-2.5
	32nm,0.3s							
ORIF	Oris-en-Rattie	0.76	304	ePg		Pb	20 29 45.7	-2.5
ORIF				eSg		Sb	20 29 55.8	-2.5
	16nm,0.3s							
SBF	Sospel	0.80	143	ePg		Pb	20 29 48.6	-0.2
SBF				eSg		Sg	20 29 59.9	+0.5
	18nm,0.2s							
SBF	Sospel	0.80	143	ePg		Pb	20 29 48.6	-0.2
SBF				eSg		Sg	20 29 59.9	+0.5
	9.2nm,0.2s							
GBOS	Grotte di Boss	0.81	108	P		Pb	20 29 48.9	-0.1
GBOS				Sg		Sb	20 29 59.9	+0.2
	26nm,0.3s							
GBOS	Grotte di Boss	0.81	108	Pg		Pb	20 29 48.9	-0.1
GBOS				Sg		Sb	20 29 59.9	+0.2
	26nm,0.3s							
FRF	La Foret Royal	0.94	185	ePg		Pb	20 29 50.4	-0.8
FRF				eSg		Sb	20 30 02.4	-0.9
	21nm,0.2s							
FRF	La Foret Royal	0.94	185	ePg		Pb	20 29 50.4	-0.8
FRF				eSg		Sb	20 30 02.4	-0.9
	11nm,0.2s							
LSD	Lago del Serru	1.00	15	Pg		Pb	20 29 51.9	-0.5
	14nm,0.2s							
LSD	Lago del Serru	1.00	15	Pg		Pb	20 29 51.9	-0.5
	14nm,0.2s							
LPG	La Plagne	1.00	359	ePg		Pb	20 29 51.8	-0.7
LPG				eSg		Sb	20 30 04.9	-0.6
	16nm,0.3s							
LPG	La Plagne	1.00	359	ePg		Pb	20 29 51.8	-0.7
LPG				eSg		Sb	20 30 04.9	-0.6
	8.2nm,0.3s							
SMRF	Simiane la Rot	1.00	239	ePg		Pb	20 29 51.8	-0.5
SMRF				eSg		Sb	20 30 04.5	-0.7
	29nm,0.3s							
SMRF	Simiane la Rot	1.00	239	ePg		Pb	20 29 51.8	-0.5
SMRF				eSg		Sb	20 30 04.5	-0.7
	14nm,0.3s							
LPL	La Plagne	1.02	359	ePg		Pb	20 29 52.1	-0.6
LPL				eSg		Sb	20 30 05.4	-0.5
	19nm,0.5s							
LPL	La Plagne	1.02	359	ePg		Pb	20 29 52.1	-0.6
LPL				eSg		Sb	20 30 05.4	-0.5
	9.7nm,0.5s							
RUSF	Rustrel	1.08	239	Pg		Pb	20 29 53.5	-0.1
RUSF	Rustrel	1.08	239	Sg		Sn	20 30 08.3	+0.1
FINB	Finale Ligure	1.16	105	Pg		Pn	20 29 54.2	-0.6
FINB				Sg		Sb	20 30 10.2	+0.5
	20nm,0.3s							
FINB	Finale Ligure	1.16	105	Pg		Pn	20 29 54.2	-0.6
FINB				Sg		Sb	20 30 10.2	+0.5
	20nm,0.3s							
LMR	La Mourre	1.18	189	ePn		Pn	20 29 54.3	-0.7
LMR				eSg		Sb	20 30 09.9	-0.2
	18nm,0.2s							
LMR	La Mourre	1.18	189	ePn		Pn	20 29 54.3	-0.7
LMR				eSg		Sb	20 30 09.9	-0.2
	9.0nm,0.2s							
LEPF	PUYLOUBIER	1.24	219	Pg		Pn	20 29 56.3	+0.4
LEPF	PUYLOUBIER	1.24	219	Sg		Sg	20 30 13.2	-0.3
VIVF	Saint-Julien-l	1.54	284	ePn		Pn	20 29 59.8	-0.2
VIVF				eSg		Sn	20 30 19.0	-0.6
	7.9nm,0.3s							
VIVF	Saint-Julien-l	1.54	284	ePn		Pn	20 29 59.8	-0.2
VIVF				eSg		Sn	20 30 19.0	-0.6
	4.0nm,0.3s							
LASF	Ste Croix	2.13	260	eP		Pn	20 30 08.0	-0.2
LASF	Ste Croix	2.13	260	eP		Pn	20 30 08.0	-0.2
CABF	La Chapelle	2.17	348	ePg		Pb	20 30 13.2	+1.0
CABF				eSg		Sb	20 30 40.6	+1.8
CABF	La Chapelle	2.17	348	ePg		Pb	20 30 13.2	+1.0
CABF				eSg		Sb	20 30 40.6	+1.8
PGF	Pioggiola	2.54	139	ePn		Pn	20 30 14.4	+0.6
PGF				eSn		Sn	20 30 44.3	0.0
	4.8nm,0.4s							
PGF	Pioggiola	2.54	139	ePn		Pn	20 30 14.4	+0.6
PGF				eSn		Sn	20 30 44.3	0.0
	2.4nm,0.4s							
SMF	Signal de Mont	2.97	317	ePg		Pb	20 30 27.6	+1.7
SMF				eSg		Sb	20 31 05.6	+3.7
SMF	Signal de Mont	2.97	317	ePg		Pb	20 30 27.6	+1.7
SMF				eSg		Sb	20 31 05.6	+3.7
AVF	Avril sur Loir	3.32	315	eP		Pn	20 30 25.3	+0.9
AVF	Avril sur Loir	3.32	315	eP		Pn	20 30 25.3	+0.9
CAF	Calviac	3.38	279	eP		Pn	20 30 25.5	+0.1
CAF	Calviac	3.38	279	eP		Pn	20 30 25.5	+0.1
SSF	Saint Saulge	3.43	320	eP		Pn	20 30 27.0	+0.9
SSF				eSg		Sb	20 31 19.4	+4.3
SSF	Saint Saulge	3.43	320	eP		Pn	20 30 27.0	+0.9
SSF				eSg		Sb	20 31 19.4	+4.3
LOR	Lormes	3.44	325	eP		Pn	20 30 27.1	+1.0
	baz=154							
LOR				eSg		Sb	20 31 19.6	+4.4
	baz=164							
LOR	Lormes	3.44	325	eP		Pn	20 30 27.1	+1.0
LOR				eSg		Sb	20 31 19.6	+4.4
BGF	Bois d'Agland	3.44	308	eP		Pn	20 30 27.2	+1.0
BGF	Bois d'Agland	3.44	308	eP		Pn	20 30 27.2	+1.0

*TAP **10** 21:13:56.2,24°.81N×122°.91E,h133km, ML2.9, C*
*ISCJB **10** 21:13:57.2±0.6,24°.73N±0°.06×122°.90E±0°.02, h125km±5km, Error ellipse: s-maj=9.7km s-min=3.7km az=175.3*
*JMA **10** 21:13:57.0±0.3,24°.76N×122°.87E,h128km±3km, M2.1*
ISC 10 21:13:58.0±1.8,24°.71N±0°.08×122°.89E±0°.03, h122km±11km,n46,σ0s84/70,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JYNG	Yonagunijimaku	0.27	170	P		Pn	21 14 15.2	+0.1
JYNG				eS		Sn	21 14 28.7	+0.8
YOJ	Yonaguni jima	0.27	157	*i* P		Pn	21 14 15.3	+0.1
	baz=156							
YOJ				eS		Sn	21 14 29.2	+1.2
	baz=156							
YOJ	Yonaguni jima	0.27	157	P		Pn	21 14 15.2	+0.1
EOS1	EOS1	0.71	257	P		Pn	21 14 17.4	-0.2
	baz=243							
EOS1				eS		Sn	21 14 33.5	+1.0
	baz=243							
IRIF	Iriomote-Funau	0.85	116	P		Pn	21 14 19.0	+0.2
IRIF				S		Sn	21 14 34.8	+0.3
TWB1	Santiao Chiao	0.87	290	eP		Pn	21 14 17.9	-1.0
	baz=281							
TWC	Suao	0.96	264	eP		Pn	21 14 18.9	-0.9
	baz=253							
TWC				eS		Sn	21 14 35.0	-1.2
	baz=253							
TIPB	Shuangxi	1.00	285	eP		Pn	21 14 18.9	-1.4
	baz=273							
HATJ	Hateruma jima	1.06	128	P		Pn	21 14 21.5	+0.8
HATJ				S		Sn	21 14 38.9	+0.9
NANB	Nanao	1.08	255	eP		Pn	21 14 20.9	0.0
	baz=247							
ENA	Nanau	1.09	255	eP		Pn	21 14 20.1	-0.9
	baz=246							
TWE	Neicheng	1.11	271	eP		Pn	21 14 20.8	-0.5
	baz=263							
JKRS	Kuro-shima	1.12	115	P		Pn	21 14 21.9	+0.5
JKRS				S		Sn	21 14 39.7	+0.6
JIJ	Ishigaki jima	1.19	107	P		Pn	21 14 22.0	-0.1
JIJ				S		Sn	21 14 39.8	-0.6
ENTT	Nioudou	1.21	267	P		Pn	21 14 22.3	0.0
	baz=269							
NWLT	Wulai	1.27	273	eP		Pn	21 14 23.1	+0.2
	baz=269							
YM08	YM08	1.27	292	eP		Pn	21 14 23.9	+0.8
	baz=288							
JISG	Ishigakijimahi	1.30	95	P		Pn	21 14 22.8	-0.4
JISG				S		Sn	21 14 41.6	-0.8
NACB	Ninganchiao	1.30	246	P		Pn	21 14 22.2	-1.1
	baz=243							
NACB				eS		Sn	21 14 41.6	-0.9
	baz=243							
TWY	Chenhua	1.30	296	eP		Pn	21 14 24.0	+0.7
	baz=292							
TWD	Chiawan	1.34	242	eP		Pn	21 14 23.0	-0.7
	baz=235							
TWD				eS		Sn	21 14 42.8	-0.5
	baz=235							
YHNB	Yeheng	1.38	268	eP		Pn	21 14 24.0	-0.2
	baz=265							
YHNB				eS		Sn	21 14 43.8	-0.5
	baz=265							
HWA	Hwalien	1.39	238	eP		Pn	21 14 22.7	-1.5
	baz=236							
NNSB	Datong	1.41	259	eP		Pn	21 14 24.1	-0.4
	baz=255							
NNSB				eS		Sn	21 14 44.7	-0.1
	baz=255							
NNS	Nan Shan	1.41	259	eP		Pn	21 14 24.3	-0.4
	baz=256							
NNS				eS		Sn	21 14 44.4	-0.5
	baz=256							
WHF	Hehuan Shan	1.59	249	P		Pn	21 14 26.6	-0.4
	baz=247							
WHF				eS		Sn	21 14 48.4	-0.7
	baz=247							
TDCB	Techi	1.65	254	eP		Pn	21 14 27.6	+0.2
	baz=249							
JTJ	Tarama	1.65	92	P		Pn	21 14 26.9	-0.3
JTJ				S		Sn	21 14 48.4	-1.1
CHGB	Renai	1.70	248	P		Pn	21 14 28.0	-0.1
	baz=241							
CHGB				eS		Sn	21 14 51.3	+0.3
	baz=241							
LIOB	Emei	1.71	268	eP		Pn	21 14 27.8	-0.3
	baz=266							
OWD	Renai	1.74	245	eP		Pn	21 14 28.0	-0.5
	baz=238							
OWD				eS		Sn	21 14 51.0	-0.8
	baz=238							
HGSD	Ruisui	1.81	228	eP		Pn	21 14 29.0	-0.3
	baz=223							
EHY	Hungye	1.87	230	eP		Pn	21 14 29.1	-0.9
	baz=234							
DPDB	Guoxing	1.92	250	eP		Pn	21 14 31.1	+0.5
	baz=248							
YULB	Yu-li	1.96	228	P		Pn	21 14 30.4	-0.8
	baz=233							
YULB				eS		Sn	21 14 55.6	-0.9
	baz=233							
TWF1	Yuli	1.99	227	eP		Pn	21 14 30.9	-0.6
	baz=234							
SSLB	Suanglung	2.00	243	eP		Pn	21 14 32.2	+0.6
	baz=240							
SSLB				eS		Sn	21 14 58.5	+1.3
	baz=240							
SMLT	Sun Moon Lake	2.00	246	eP		Pn	21 14 32.3	+0.7
	baz=240							
TYC	Yuchr	2.02	247	eP		Pn	21 14 32.4	+0.5
	baz=248							
TYC				eS		Sn	21 14 59.4	+1.7
	baz=248							
FULB	Fuli	2.10	224	eP		Pn	21 14 32.3	-0.6
	baz=218							
FULB				eS		Sn	21 14 58.5	-1.1
	baz=218							
WJS	Zhushan	2.17	246	eP		Pn	21 14 34.3	+0.6
	baz=245							
WJS				eS		Sn	21 15 02.8	+1.9
	baz=245							
ELDTW	Lidau	2.29	229	eP		Pn	21 14 35.0	-0.4
	baz=228							
WDLH	Douliu	2.38	245	eP		Pn	21 14 37.0	+0.7
	baz=254							
TPUB	Ta-pu	2.50	236	eP		Pn	21 14 39.1	+1.2
	baz=235							
TPUB				eS		Sn	21 15 10.9	+2.3
	baz=235							
SLGT	Liugui	2.68	231	eP		Pn	21 14 39.9	-0.3
	baz=239							
MASBT	Mashibuluo	2.94	225	eP		Pn	21 14 42.2	-1.4
	baz=225							

*OMAN **10** 21:19:07.3±99.0,26°.97N×54°.64E,h16km, Error ellipse: s-maj=235.9km s-min=9.2km az=321.0*
*ISCJB **10** 21:19:09.8±0.8,26°.84N±0°.06×54°.81E±0°.07,h17km, Error ellipse: s-maj=9.6km s-min=7.2km az=44.8*
*TEH **10** 21:19:09.2,26°.96N×54°.87E,h16km, ML3.0*
ISC 10 21:19:10.7±1.5,26°.88N±0°.06×54°.91E±0°.07,h17km,n13, σ1s03/15,Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
GENO	Geno	1.24	65	ePg		Pg	21 19 34.0	-0.7
GENO				eSg		Sg	21 19 52.0	+1.1
GENO				eAMB		AMB	21 20 01.1	
	comp=Z,2μm,0.2s							
BANOM	Banah	1.56	127	P		Pn	21 19 38.2	+0.4
	SNR=42							
NIAN	Nian	1.84	68	ePn		Pb	21 19 42.7	-1.2
NIAN				eSg		Sg	21 20 11.2	+1.1
NIAN				eAMB		AMB	21 20 20.5	
	comp=Z,1μm,0.2s							
ASHO	Ashiyiah	2.42	154	P		Pn	21 19 50.1	+0.7
	SNR=9.7							
ISRV	Sarvestan	2.96	328	ePn		Pn	21 19 56.7	-0.5
ISRV				eAMB		AMB	21 21 08.6	
	comp=Z,425nm,0.4s							
NGRK	Negar Kerman	3.19	30	ePn		Pn	21 19 59.8	-0.6
NGRK				eAMB		AMB	21 20 02.5	
	comp=Z,99nm,0.1s							
IPAR	Pars	3.38	331	ePn		Pn	21 20 04.0	+1.0
IPAR				eAMB		AMB	21 21 18.1	
	comp=Z,173nm,0.4s							
KHGB	Koh Gabri	3.75	21	eAMB		AMB	21 20 10.0	
	comp=Z,99nm,0.1s							
KHGB				ePn		Pn	21 20 09.0	+1.0
CHMN	Cheshme madani	3.77	37	ePn		Pn	21 20 10.2	+1.8
CHMN				eAMB		AMB	21 20 11.2	
	comp=Z,99nm,0.1s							
IKAZ	Kazeroun	3.96	318	ePn		Pn	21 20 12.1	+1.1
IKAZ				eAMB		AMB	21 21 06.9	
	comp=Z,246nm,0.2s							
IMEH	Mehriz	4.50	357	ePn		Pn	21 20 18.7	+0.3
IMEH				eAMB		AMB	21 20 19.7	
	comp=Z,105nm,0.2s							
IBAF	Bafgh	4.73	7	ePn		Pn	21 20 21.5	+0.1
IBAF				eAMB		AMB	21 20 22.0	
	comp=Z,253nm,0.1s							
WSAR	Wadi Sarin	4.95	136	P		Pn	21 20 24.7	+0.4

MEX 10 21:31:50.6±0.4,16°.13N×98°.62W,h2km±4km,MD3.7,Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.54	61	*i* P		Pg	21 32 00.7	-0.4
PNIG				*i* S		Sg	21 32 08.4	+0.3
TLIG	Tlapa	1.43	2	eP		Pn	21 32 14.6	-3.0
TLIG				eS		Sg	21 32 32.3	-4.1
CAIG	El Cayaco	1.82	300	eP		Pn	21 32 19.3	-3.6
CAIG				eS		Sn	21 32 41.7	-4.8
VHO	Vista Hermosa	2.04	62	eP		Pn	21 32 23.0	-3.1
VHO				eS		Sn	21 32 47.5	-4.8

MEX 10 21:33:48.2±0.4,16°.07N×98°.53W,h6km±3km,MD3.6,Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.50	51	*i* P		Pg	21 33 57.5	-0.5
PNIG				eS		Sg	21 34 04.8	+0.3
CAIG	El Cayaco	1.92	300	eP		Pn	21 34 13.4	-8.1
CAIG				eS		Sn	21 34 41.8	-4.2
VHO	Vista Hermosa	1.99	60	eP		Pn	21 34 19.6	-3.0
VHO				eS		Sn	21 34 43.3	-4.6
PLIG	Platanillo	2.48	338	eP		Pn	21 34 28.5	-0.8
PLIG				eS		Sn	21 34 55.6	-4.4

*GUC **10** 21:46:47.6±0.7,33°.40S×70°.15W,h21km±2km, ML2.7*
*SJA **10** 21:46:47.1±0.7,33°.35S×70°.16W,h12km±4km, ML2.3, MW2.7*
*ISCJB **10** 21:46:48.7±0.6,33°.43S±0°.03×70°.15W±0°.03,h6km±5km, Error ellipse: s-maj=5.5km s-min=4.4km az=152.2*
ISC 10 21:46:48.2±1.0,33°.41S±0°.03×70°.16W±0.03,h10km±7km, n13,σ0s85/25,1D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
FCH	Farellones	0.14	308	eP		Pg	21 46 51.6	0.0
FCH				eS		Sb	21 46 54.3	+0.3
FCH				IAML			21 46 54.6	
	comp=N,4μm,0.1s							
FSR	Penalolen	0.31	258	eP		Pb	21 46 56.2	+0.2
FSR				*i* S		Sb	21 47 01.5	+0.3
LMEL	Las Melosas	0.43	185	ǁ *i* P		Pg	21 46 56.5	-0.3
LMEL				eS		Sg	21 47 02.8	+0.2
LMEL				IAML			21 47 03.8	
	comp=E,1μm,0.1s							
RCDM	Rinconada Maip	0.55	262	eP		Pb	21 46 59.5	-0.5
RCDM				eS		Sb	21 47 07.9	0.0
ROCH	El Roble	0.84	301	eP		Pb	21 47 03.3	-1.7
ROCH				eS		Sg	21 47 16.1	+0.7
ROCH				IAML			21 47 17.7	
	comp=N,163nm,0.5s							
ROC1	El Roble	0.84	301	eP		Pb	21 47 04.3	-0.8
ROC1				eS		Sb	21 47 16.0	-0.5
ARCO	CERRO ARCO	1.18	61	eP		Pn	21 47 10.1	-0.9
ARCO				IAML			21 47 12.4	
	comp=Z,57nm,0.5s							
ARCO				eS		Sb	21 47 26.6	+0.5
AUSP	Uspallata	1.35	29	eP		Pn	21 47 12.8	-0.7
AUSP				eS		Sb	21 47 32.5	+1.1
ASAL	Salagasta	1.38	54	eP		Pn	21 47 13.3	-0.4
ASAL				eS		Sb	21 47 32.7	+0.7
RTLS	Leoncito	1.77	25	eP		Pb	21 47 20.5	-0.4
RTLS				IAML			21 47 21.0	
	comp=Z,31nm,0.2s							
RTLS				eS		Sg	21 47 45.3	+0.2
RTCV	Cerro Valdivia	2.06	42	eP		Pb	21 47 24.7	-1.1
RTCV				eS		Sb	21 47 52.6	+1.0
GO05	HualaæØ	2.17	222	eP		Pn	21 47 25.3	+0.8
GO05				eS		Sb	21 47 54.1	-0.3
GO05				IAML			21 47 56.9	
	comp=N,136nm,0.2s							
AMOG	MOGNA	2.84	30	eP		Pn	21 47 35.7	+1.9

*IDC **10** 21:47:48.4±1.4,4°.93N×94°.59E,h0km,mb3.6/8,mb1 3.8/9, mb1mx3.5/62,mbtmp3.6/9,ML3.3/1,MS3.5/1,Ms1 3.5/1, ms1mx2.3/53,Error ellipse: s-maj=53.5km s-min=18.0km az=48.0*
*ISCJB **10** 21:47:52.2±0.9,4°.8N±0°.1×94°.5E±0°.1,h43km,mb3.7/8, MS3.5/1,Error ellipse: s-maj=24.7km s-min=8.7km az=40.8*
ISC 10 21:47:54.0±1.2,4°.8N±0°.2×94°.5E±0°.1,h43km,n13, σ1s25/11,mb3.6/8,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PSI	Prapat	4.88	114	Pn		Pn	21 49 03.6	-1.3
	1.3nm,0.3s,baz=329,slow=12,SNR=2.8							
PSI				Sn		Sn	21 50 02.0	+1.7
	1.3nm,0.3s,baz=33,slow=17,SNR=1.6							
CMAR	Chiang Mai Arr	14.25	18	Pn		Pn	21 51 14.2	+0.9
	0.2nm,0.3s,baz=194,slow=14,SNR=4.1							
H08S2	Diego Garcia H	25.17	241	T		T	22 19 01.0	
	baz=61,slow=75,SNR=120							
H08S3	Diego Garcia H	25.17	241	T		T	22 18 53.1	
	baz=61,slow=75,SNR=115							
H08S1	Diego Carcia H	25.19	241	T		T	22 19 05.1	
	baz=61,slow=75,SNR=69							
MKAR	Makanchi Array	43.13	348	P		P	21 55 50.4	+0.2
	0.9nm,0.6s,baz=177,slow=9.3,SNR=8.0							
SONM	Songino Array	44.07	12	P		P	21 55 55.7	-2.2
	0.5nm,0.7s,baz=189,slow=8.7,SNR=5.4							
WRA	Warramunga Arr	46.27	123	P		P	21 56 15.4	-0.3
	1.1nm,0.7s,baz=302,slow=9.3,SNR=6.8							
WRA				LR		LR	22 17 19.4	
	comp=Z,62nm,21.4s,baz=215,slow=38							
KURBB	Kurchatov Arra	47.58	346	P		P	21 56 26.1	+0.8
	0.5nm,0.6s,baz=171,slow=6.7,SNR=5.2							
ASAR	Alice Springs	47.75	128	P		P	21 56 27.7	+0.5
	0.2nm,0.4s,baz=299,slow=7.2,SNR=3.0							
ZALV	Zalesovo Beam	49.61	353	P		P	21 56 41.0	+0.1
	0.8nm,0.5s,baz=160,slow=4.6,SNR=4.9							
BRTR	Keskin Array B	64.68	312	P		P	21 58 27.9	-0.1
	0.4nm,0.7s,baz=94,slow=4.8,SNR=2.6							
GERES	GERESS Array B	80.31	319	P		P	22 00 01.8	+1.0
	0.5nm,0.7s,baz=101,slow=7.1,SNR=4.4							

*ISK **10** 21:58:34.9,38°.71N×43°.22E,h21km, ML2.3/2*
*ATA **10** 21:58:35.3±2.6,38°.72N×43°.26E,h7km±77km, ML2.7, MW2.6*
*ISCJB **10** 21:58:36.9±0.5,38°.69N±0°.03×43°.23E±0°.04,h18km±7km, Error ellipse: s-maj=5.3km s-min=4.5km az=40.6*
*CSEM **10** 21:58:36.2±0.2,38°.72N×43°.21E,h8km, ML2.3,Error ellipse: s-maj=4.3km s-min=3.7km az=127.0*
*DDA **10** 21:58:36.3,38°.72N×43°.23E,h7km, Ml2.6*
ISC 10 21:58:36.7±0.9,38°.73N±0°.02×43°.21E±0°.02,h14km±7km, n29,σ0s98/55,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
VANB	Van	0.19	134	PG		Pg	21 58 41.3	+0.2
VANB				SG		Sg	21 58 45.9	+1.7
VANB	Van	0.19	134	ePg		Pg	21 58 41.3	+0.2
TVAN	Van	0.25	143	*i* P		Pg	21 58 41.3	-0.8
TVAN				*i* S		Sg	21 58 45.9	+0.1
TVAN	Van	0.25	143	P		Pg	21 58 41.3	-0.8
TVAN				S		Sg	21 58 45.9	+0.1
VMUR	Van-Muradiye	0.38	47	*i* P		Pb	21 58 44.5	-0.9
VMUR				*i* S		Sb	21 58 51.4	+0.1
VMUR	Van-Muradiye	0.38	47	P		Pb	21 58 44.5	-0.9
VMUR				S		Sb	21 58 51.4	+0.1
ADCV	BITLIS_Adilcev	0.39	282	*i* P		Pg	21 58 44.3	-0.3
ADCV				*i* S		Sb	21 58 51.2	-0.3
ADCV	BITLIS_Adilcev	0.39	282	P		Pg	21 58 44.3	-0.3
ADCV				S		Sb	21 58 51.2	-0.3
GEVA	Gevas	0.43	196	*i* P		Pg	21 58 44.0	-1.3
GEVA				eS		Sg	21 58 51.1	-0.1
GEVA				IAML			21 58 58.5	
	comp=Z,32nm,0.4s							
GEVA	Gevas	0.43	196	*i* P		Pg	21 58 44.1	-1.3
GEVA				*i* S		Sg	21 58 51.2	0.0
GEVA	Gevas	0.43	196	P		Pg	21 58 44.1	-1.3
GEVA				S		Sg	21 58 51.2	0.0
CLDR	Caldiran	0.69	53	PG		Pg	21 58 48.8	-1.3
CLDR				SG		Sb	21 58 59.4	-0.7
CLDR	Caldiran	0.69	53	*i* P		Pg	21 58 48.8	-1.3
CLDR				*i* S		Sb	21 58 59.8	-0.3
CLDR	Caldiran	0.69	53	P		Pg	21 58 48.8	-1.3
CLDR				eSg		Sb	21 58 59.4	-0.7
TUTA	Tutak	0.74	335	*i* P		Pg	21 58 50.4	-0.8
TUTA				eS		Sg	21 59 01.0	0.0

SRTM				S		Sn	21 59 18.6	+1.9
EATA	**Eleskirt**	**1.26**	**334**	*e*P		**Pn**	**21 58 59.9**	**-0.4**
EATA				*e*S		**Sn**	**21 59 18.7**	**+1.5**
EATA	**Eleskirt**	**1.26**	**334**	*i* P		**Pn**	**21 59 00.1**	**-0.2**
EATA				*i* S		**Sn**	**21 59 18.7**	**+1.5**
EATA	**Eleskirt**	**1.26**	**334**	P		**Pn**	**21 59 00.1**	**-0.2**
EATA				S		**Sn**	**21 59 18.7**	**+1.5**
IGDI	**IGDIR**	**1.32**	**30**	*e*P		**Pg**	**21 59 01.7**	**-0.4**
DIGO	**Kars**	**1.69**	**4**	*e*P		**Pb**	**21 59 07.8**	**0.0**

ISCJB ***10*** *22:13:32.1±0.5,53˚.4N±0˚.2×169˚.5W±0˚.1,h146km±6km, mb3.6/9, Error ellipse: s-maj=32.3km s-min=5.8km az=159.4*

NEIC ***10*** *22:13:33.3±0.0,53˚.43N×169˚.47W,h152km,ML3.4(AEIC), After AEIC.*

IDC ***10*** *22:13:33.5±6.3,53˚.35N×169˚.45W,h146km±56km, mb3.4/9, mb1 3.4/11,mb1mx3.1/75,mbtmp3.7/11, Error ellipse: s-maj=39.5km s-min=21.3km az=176.0*

ISC 10 22:13:33.1±0.9,53˚.4N±0˚.2×169˚.49W±0˚.09,h143km±8km, n29,σ0965/37,mb3.6/9,Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
OKAK	**Okmok**	**0.71**	**71**	P		**Pn**	**22 13 54.9**	**-0.1**
OKAK				S		**Sn**	**22 14 10.8**	**-0.8**
OKWE	**Okmok W'ng Wal**	**0.76**	**81**	P		**Pn**	**22 13 55.8**	**+0.5**
OKWE				S		**Sn**	**22 14 12.8**	**+0.6**
OKRE	**Okmok R'deer P**	**0.81**	**78**	P		**Pn**	**22 13 56.3**	**+0.6**
OKRE				S		**Sn**	**22 14 13.1**	**+0.2**
OKER	**Okmok East Rim**	**0.87**	**83**	P		**Pn**	**22 13 56.7**	**+0.4**
OKTU	**Okmok Mt. Tuli**	**0.87**	**88**	P		**Pn**	**22 13 56.3**	**+0.1**
MSOM	**Makushin Julie**	**1.58**	**72**	P		**Pn**	**22 14 02.2**	**-0.8**
MSOM				S		**Sn**	**22 14 25.1**	**-0.7**
MGOD	**Makushin Gods**	**1.62**	**73**	P		**Pn**	**22 14 02.5**	**-0.9**
MSW	**Makushin Switc**	**1.71**	**70**	P		**Pn**	**22 14 03.6**	**-0.8**
MSW				S		**Sn**	**22 14 28.0**	**-0.4**
MTBL	**Makushin Table**	**1.78**	**69**	P		**Pn**	**22 14 04.7**	**-0.7**
UNV	**Unalaska Valle**	**1.84**	**73**	*e*Pn		**Pn**	**22 14 05.2**	**-0.8**
UNV				*e*S		**Sn**	**22 14 30.7**	**-0.4**
AHB	**Akutan Harbor**	**2.31**	**69**	P		**Pn**	**22 14 11.4**	**-0.1**
AKUT	**Akutan**	**2.34**	**69**	*e*Pn		**Pn**	**22 14 12.7**	**+0.9**
AKUT				*e*S		**Sn**	**22 14 42.8**	**+1.1**
KOFP	**Korovin Flat P**	**3.00**	**251**	P		**Pn**	**22 14 20.2**	**-0.1**
KOFP				S		**Sn**	**22 14 55.4**	**-1.1**
KOKL	**Mount Kliuchef**	**3.04**	**252**	P		**Pn**	**22 14 21.4**	**+0.6**
KOWE	**Korovin West**	**3.05**	**253**	P		**Pn**	**22 14 20.4**	**-0.5**
ISLZ	**Isanotski Laza**	**3.67**	**66**	P		**Pn**	**22 14 28.8**	**-0.1**
FALS	**False Pass**	**3.88**	**65**	P		**Pn**	**22 14 31.9**	**+0.4**
DT1	**Dutton Round H**	**4.58**	**65**	P		**Pn**	**22 14 40.3**	**-0.4**
ILAR	**Eielson Array**	**16.18**	**36**	P		**P**	**22 17 11.9**	**-0.7**
	0.1nm,0.3s,baz=221,slow=9.7,SNR=5.0							
PETK	**Petropavlovsk-**	**19.55**	**283**	P		**P**	**22 17 50.5**	**+1.1**
	0.4nm,0.3s,baz=66,slow=8.1,SNR=2.8							
INK	**Inuvik**	**22.57**	**35**	P		**P**	**22 18 20.5**	**-0.4**
	0.3nm,0.4s,baz=227,slow=5.1,SNR=4.9							
TXAR	**Lajitas Array**	**52.81**	**90**	P		**P**	**22 22 33.6**	**0.0**
	0.2nm,0.5s,baz=297,slow=5.5,SNR=4.2							
BVAR	**Borovoye Array**	**62.86**	**324**	P		**P**	**22 23 43.7**	**+0.4**
	0.6nm,0.5s,baz=58,slow=6.1,SNR=7.2							
MKAR	**Makanchi Array**	**63.07**	**313**	P		**P**	**22 23 44.2**	**-0.6**
	0.4nm,0.7s,baz=48,slow=7.5,SNR=4.1							
FINES	**FINESS Array B**	**64.88**	**352**	P		**P**	**22 23 56.2**	**-0.1**
	2.3nm,0.9s,baz=8.6,slow=6.4,SNR=4.8							
NOA	**NORSAR Array B**	**65.95**	**360**	P		**P**	**22 24 04.4**	**+1.1**
	0.5nm,0.6s,baz=1.4,slow=3.0,SNR=2.6							
HFS	**Hagfors**	**66.83**	**358**	P		**P**	**22 24 09.0**	**+0.2**
	1.3nm,0.4s,baz=18,slow=2.3,SNR=14							
AKASG	**Malin Array Be**	**75.12**	**348**	P		**P**	**22 24 58.8**	**-0.1**
	0.7nm,0.4s,baz=16,slow=6.0,SNR=3.5							
CMAR	**Chiang Mai Arr**	**76.33**	**282**	P		**P**	**22 25 06.2**	**-0.1**
	0.6nm,0.4s,baz=23,slow=7.1,SNR=3.8							

CSEM ***10*** *22:34:14.7±1.5,41˚.83N×19˚.22E,h2km,ML2.5, Error ellipse: s-maj=36.2km s-min=16.4km az=12.0*

TIR 10 22:34:15.1,41.79N×19˚.32E,h7km,Md2.5/3,Albania

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PUK	**Puka**	**0.50**	**59**	*i* Pg		Pg	22 34 25.3	+0.6
	baz=60							
PUK				*i* Sg		Sb	22 34 32.5	-1.2
	baz=60							
PUK	**Puka**	**0.50**	**59**	*i* PG		Pg	22 34 25.3	+0.6
PUK				*i* SG		Sb	22 34 32.5	-1.1
BCI	**Bajram Curri**	**0.80**	**44**	*i* Pg		Pg	22 34 30.5	0.0
	baz=44							
BCI				*i* Sg		Sb	22 34 43.1	+0.7
	baz=44							
BCI	**Bajram Curri**	**0.80**	**44**	*i* PG		Pg	22 34 30.5	+0.1
BCI				*i* SG		Sb	22 34 43.1	+0.7
PHP	**Peshkopia**	**0.84**	**97**	*i* Pg		Pb	22 34 32.3	+0.2
	baz=97							
PHP				*i* Sg		Sb	22 34 44.4	+0.7
	baz=97							
PHP	**Peshkopia**	**0.84**	**97**	*i* PG		Pb	22 34 32.3	+0.2
PHP				*i* SG		Sb	22 34 44.4	+0.7
STON	**Ston**	**1.62**	**313**	*i* Pn		Pn	22 34 42.8	-1.2
STON				Sn		Sn	22 35 05.3	+0.3
STON	**Ston**	**1.62**	**313**	*i* Pn		Pn	22 34 42.7	-1.2
STON				Sn		Sn	22 35 05.3	+0.3

IDC ***10*** *22:37:33.2±1.3,43˚.22N×13˚.47E,h0km, mb3.5/3, mb1 3.6/6,mb1mx3.3/62,mbtmp3.5/6,ML3.4/3,MS2.2/1, Ms1 2.2/1,ms1mx1.9/40,Error ellipse: s-maj=40.0km s-min=15.3km az=98.0*

LDG ***10*** *22:37:36.1,43˚.13N×13˚.65E,h30km*

CSEM ***10*** *22:37:36.2±0.1,43˚.13N×13˚.53E,h20km,ML3.8/13, Error ellipse: s-maj=2.3km s-min=1.9km az=35.0*

PRU ***10*** *22:37:36.7,43˚.12N×13˚.72E,h23km*

ROM ***10*** *22:37:36.6±0.1,43˚.11N×13˚.51E,h22km±1km,Ml3.4/54, Error ellipse: s-maj=2.0km s-min=1.2km az=55.0*

ISCJB ***10*** *22:37:36.1±0.2,43˚.18N±0˚.01×13˚.56E±0˚.02,h29km±2km, mb3.5/3,Error ellipse: s-maj=2.7km s-min=2.4km az=163.0*

STR ***10*** *22:37:48.7±0.3,43˚.84N±0˚.04×12˚.42E±0˚.06,h5km, MLv3.9/6*

ISC 10 22:37:36.3±0.8,43˚.12N±0˚.02×13˚.50E±0˚.02,h27km±6km, n261,σ1877/302,mb3.8/3,5C-8D,Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
OFFI	**Offida**	**0.23**	**144**	Pg		**Pb**	**22 37 43.3**	**+0.7**
	16µm,0.9s							
OFFI	**Offida**	**0.23**	**144**	Pg		**Pb**	**22 37 43.3**	**+0.7**
	16µm,0.9s							
FDMO	**Fiordimonte**	**0.32**	**255**	Pg		**Pb**	**22 37 43.5**	**-0.3**
FDMO				Sg		**Sb**	**22 37 49.3**	**+0.4**
	5µm,0.4s							
FDMO	**Fiordimonte**	**0.32**	**255**	Pg		**Pb**	**22 37 43.5**	**-0.3**
FDMO				Sg		**Sb**	**22 37 49.3**	**+0.4**
	5µm,0.4s							
GUMA	**Gualdo di Mace**	**0.32**	**100**	Pg		Pb	22 37 41.3	-2.6
GUMA				Sg		**Sb**	**22 37 45.5**	**-3.5**
	26µm,0.3s							
GUMA	**Gualdo di Mace**	**0.32**	**100**	Pg		Pb	22 37 41.3	-2.6
GUMA				Sg		**Sb**	**22 37 45.5**	**-3.5**
	26µm,0.3s							
CING	**Cingoli**	**0.34**	**319**	Pg		**Pb**	**22 37 43.9**	**-0.2**
CING				Sg		**Sb**	**22 37 50.0**	**+0.5**
	3µm,0.3s							
CING	**Cingoli**	**0.34**	**319**	Pg		**Pb**	**22 37 43.9**	**-0.2**
CING				Sg		**Sb**	**22 37 50.0**	**+0.5**
	3µm,0.3s							
NRCA	**Norcia**	**0.41**	**225**	Pg		**Pb**	**22 37 44.9**	**-0.2**
NRCA				Sg		**Sb**	**22 37 52.1**	**+1.0**
	3µm,0.4s							
NRCA	**Norcia**	**0.41**	**225**	Pg		**Pb**	**22 37 44.9**	**-0.2**
NRCA				Sg		**Sb**	**22 37 52.1**	**+1.0**
	3µm,0.4s							
SNTG	**Esanatoglia**	**0.43**	**288**	Pg		**Pb**	**22 37 45.4**	**-0.2**
SNTG				Sg		**Sb**	**22 37 52.7**	**+0.9**
	2µm,0.3s							
SNTG	**Esanatoglia**	**0.43**	**288**	Pg		**Pb**	**22 37 45.4**	**-0.2**
SNTG				Sg		**Sb**	**22 37 52.7**	**+0.9**
	2µm,0.3s							
TRTR	**Tortoreto Alta**	**0.43**	**136**	Pg		**Pb**	**22 37 46.4**	**+0.9**
	3µm,0.8s							
TRTR	**Tortoreto Alta**	**0.43**	**136**	Pg		**Pb**	**22 37 46.4**	**+0.9**
	3µm,0.8s							

AOI	**Ancona**	**0.43**	**10**	Pg		**Pb**	**22 37 45.2**	**-0.4**
AOI				Sg		**Sb**	**22 37 53.3**	**+1.4**
	3µm,0.6s							
AOI	**Ancona**	**0.43**	**10**	Pg		**Pb**	**22 37 45.2**	**-0.4**
AOI				Sg		**Sb**	**22 37 53.3**	**+1.4**
	3µm,0.6s							
CESI	**CESI - Serrava**	**0.45**	**255**	Pg		**Pb**	**22 37 45.8**	**-0.1**
CESI				Sg		**Sb**	**22 37 53.4**	**+1.0**
	1µm,0.4s							
CESI	**CESI - Serrava**	**0.45**	**255**	Pg		**Pb**	**22 37 45.8**	**-0.1**
CESI				Sg		**Sb**	**22 37 53.4**	**+1.0**
	1µm,0.4s							
TERO	**Teramo**	**0.50**	**172**	Pg		**Pb**	**22 37 46.2**	**-0.5**
TERO				Sg		**Sb**	**22 37 54.6**	**+0.9**
	1µm,0.5s							
TERO	**Teramo**	**0.50**	**172**	Pg		**Pb**	**22 37 46.2**	**-0.5**
TERO				Sg		**Sb**	**22 37 54.6**	**+0.9**
	1µm,0.5s							
SMA1	**SAN MARTINO**	**0.51**	**194**	Pg		**Pb**	**22 37 46.3**	**-0.5**
SMA1				Sg		**Sb**	**22 37 55.4**	**+1.5**
	3µm,0.6s							
SMA1	**SAN MARTINO**	**0.51**	**194**	Pg		**Pb**	**22 37 46.3**	**-0.5**
SMA1				Sg		**Sb**	**22 37 55.4**	**+1.5**
	3µm,0.6s							
CAMP	**Campotosto**	**0.59**	**187**	Pg		**Pb**	**22 37 47.6**	**-0.6**
	2µm,0.8s							
CAMP	**Campotosto**	**0.59**	**187**	Pg		**Pb**	**22 37 47.6**	**-0.6**
	2µm,0.8s							
SSFR	**Montelago di S**	**0.61**	**301**	Pg		**Pb**	**22 37 48.3**	**-0.2**
	3µm,0.3s							
SSFR	**Montelago di S**	**0.61**	**301**	Pg		**Pb**	**22 37 48.3**	**-0.2**
	3µm,0.3s							
SENI	**Senigallia**	**0.62**	**341**	Pg		**Pb**	**22 37 49.1**	**+0.6**
	3µm,1.0s							
SENI	**Senigallia**	**0.62**	**341**	Pg		**Pb**	**22 37 49.1**	**+0.6**
	3µm,1.0s							
ATCC	**AVT- Casa Cast**	**0.64**	**276**	Pg		**Pb**	**22 37 48.7**	**-0.2**
	2µm,0.5s							
ATCC	**AVT- Casa Cast**	**0.64**	**276**	Pg		**Pb**	**22 37 48.7**	**-0.2**
	2µm,0.5s							
FRON	**Frontone**	**0.69**	**305**	Pg		**Pb**	**22 37 49.7**	**-0.1**
FRON				Sg		**Sb**	**22 38 01.1**	**+2.1**
	2µm,0.6s							
FRON	**Frontone**	**0.69**	**305**	Pg		**Pb**	**22 37 49.7**	**-0.1**
FRON				Sg		**Sb**	**22 38 01.1**	**+2.1**
	2µm,0.6s							
MURB	**Monte Urbino**	**0.73**	**282**	Pg		**Pn**	**22 37 50.5**	**-0.4**
	5µm,0.3s							
MURB	**Monte Urbino**	**0.73**	**282**	Pg		**Pn**	**22 37 50.5**	**-0.4**
	5µm,0.3s							
MPAG	**Monte Paganucc**	**0.74**	**313**	Pg		**Pn**	**22 37 50.7**	**-0.4**
	1µm,0.4s							
MPAG	**Monte Paganucc**	**0.74**	**313**	Pg		**Pn**	**22 37 50.7**	**-0.4**
	1µm,0.4s							
VCEL	**Villa Celiera**	**0.77**	**161**	Pg		**Pn**	**22 37 50.8**	**-0.6**
	1µm,0.5s							
VCEL	**Villa Celiera**	**0.77**	**161**	Pg		**Pn**	**22 37 50.8**	**-0.6**
	1µm,0.5s							
AQU	**L'Aquila**	**0.77**	**186**	*e*Pn		**Pn**	**22 37 50.2**	**-1.2**
AQU	**L'Aquila**	**0.77**	**186**	Pg		**Pn**	**22 37 50.5**	**-0.9**
	1µm,0.6s							
AQU	**L'Aquila**	**0.77**	**186**	Pg		**Pn**	**22 37 50.5**	**-0.9**
	1µm,0.6s							
T0104	**Madonna delle**	**0.77**	**189**	Pg		**Pn**	**22 37 50.6**	**-0.8**
FSSB	**Fossombrone**	**0.78**	**317**	Pg		**Pn**	**22 37 51.1**	**-0.4**
	7µm,0.4s							
FSSB	**Fossombrone**	**0.78**	**317**	Pg		**Pn**	**22 37 51.1**	**-0.4**
	7µm,0.4s							
PIEI	**Pieia**	**0.82**	**301**	Pg		**Pn**	**22 37 51.6**	**-0.5**
	130nm,0.2s							
PIEI	**Pieia**	**0.82**	**301**	Pg		**Pn**	**22 37 51.6**	**-0.5**
	130nm,0.2s							
ATVO	**AVT- Monte Val**	**0.84**	**288**	Pg		**Pn**	**22 37 52.2**	**-0.2**
	64nm,0.2s							
ATVO	**AVT- Monte Val**	**0.84**	**288**	Pg		**Pn**	**22 37 52.2**	**-0.2**
	64nm,0.2s							
ATPC	**Poggio Castell**	**0.84**	**296**	Pg		**Pn**	**22 37 52.2**	**-0.2**
	2µm,0.4s							
ATPC	**Poggio Castell**	**0.84**	**296**	Pg		**Pn**	**22 37 52.2**	**-0.2**
	2µm,0.4s							
CESX	**Cesi**	**0.85**	**233**	Pg		**Pn**	**22 37 52.1**	**-0.4**
	1µm,0.5s							
CESX	**Cesi**	**0.85**	**233**	Pg		**Pn**	**22 37 52.1**	**-0.4**
	1µm,0.5s							
FAGN	**Fagnano**	**0.86**	**176**	Pg		**Pn**	**22 37 52.3**	**-0.3**
	3µm,0.5s							
FAGN	**Fagnano**	**0.86**	**176**	Pg		**Pn**	**22 37 52.3**	**-0.3**
	3µm,0.5s							
FIAM	**Fiamignano**	**0.90**	**199**	Pg		**Pn**	**22 37 53.1**	**-0.1**
	1µm,0.6s							
FIAM	**Fiamignano**	**0.90**	**199**	Pg		**Pn**	**22 37 53.1**	**-0.1**
	1µm,0.6s							
PESA	**Pesaro**	**0.95**	**330**	Pg		**Pn**	**22 37 55.0**	**+1.1**
	1µm,0.5s							
PESA	**Pesaro**	**0.95**	**330**	Pg		**Pn**	**22 37 55.0**	**+1.1**
	1µm,0.5s							
BADI	**Badiali**	**1.00**	**293**	Pg		**Pn**	**22 37 55.1**	**+0.6**
	2µm,0.7s							
BADI	**Badiali**	**1.00**	**293**	Pg		**Pn**	**22 37 55.1**	**+0.6**
	2µm,0.7s							
ATMC	**Monte Cedrone**	**1.01**	**289**	Pg		**Pn**	**22 37 56.3**	**+1.6**
	2µm,0.5s							
ATMC	**Monte Cedrone**	**1.01**	**289**	Pg		**Pn**	**22 37 56.3**	**+1.6**
	2µm,0.5s							
MGAB	**Montegabbione**	**1.04**	**259**	Pg		**Pn**	**22 37 56.9**	**+1.8**
	760nm,0.6s							
MGAB	**Montegabbione**	**1.04**	**259**	Pg		**Pn**	**22 37 56.9**	**+1.8**
	760nm,0.6s							
PARC	**Parchiule**	**1.06**	**300**	Pg		**Pn**	**22 37 56.3**	**+0.9**
	1µm,0.8s							
PARC	**Parchiule**	**1.06**	**300**	Pg		**Pn**	**22 37 56.3**	**+0.9**
	1µm,0.8s							
CPGN	**Carpegna, Ital**	**1.10**	**309**	Pg		**Pn**	**22 37 57.8**	**+1.8**
	3µm,1.0s							
CPGN	**Carpegna, Ital**	**1.10**	**309**	Pg		**Pn**	**22 37 57.8**	**+1.8**
	3µm,1.0s							
PTQR	**Pietraquaria**	**1.10**	**184**	Pg		**Pn**	**22 37 57.0**	**+1.0**
PTQR	**Pietraquaria**	**1.10**	**184**	Pg		**Pn**	**22 37 57.0**	**+1.0**
CAFI	**Castiglion Fio**	**1.14**	**281**	Pg		**Pn**	**22 37 58.1**	**+1.6**
	498nm,0.4s							
CAFI	**Castiglion Fio**	**1.14**	**281**	Pg		**Pn**	**22 37 58.1**	**+1.6**
	498nm,0.4s							
INTR	**Introdacqua**	**1.15**	**165**	Pg		**Pn**	**22 37 57.1**	**+0.5**
	2µm,1.2s							
INTR	**Introdacqua**	**1.15**	**165**	Pg		**Pn**	**22 37 57.1**	**+0.5**
	2µm,1.2s							
LPEL	**Lama dei Pelig**	**1.19**	**155**	Pg		**Pn**	**22 37 58.0**	**+0.9**
	453nm,0.5s							
LPEL	**Lama dei Pelig**	**1.19**	**155**	Pg		**Pn**	**22 37 58.0**	**+0.9**
	453nm,0.5s							
SACS	**San Casciano d**	**1.20**	**257**	Pg		**Pn**	**22 37 59.2**	**+1.8**
	593nm,1.1s							
CERT	**Cerreto**	**1.23**	**198**	Pg		**Pn**	**22 37 59.8**	**+2.0**
	693nm,0.6s							
CERT	**Cerreto**	**1.23**	**198**	Pg		**Pn**	**22 37 59.8**	**+2.0**
	693nm,0.6s							
MTCE	**Montecelio**	**1.23**	**207**	Pg		**Pn**	**22 37 59.2**	**+1.4**
	451nm,0.7s							
MTCE	**Montecelio**	**1.23**	**207**	Pg		**Pn**	**22 37 59.2**	**+1.4**
	451nm,0.7s							
VVLD	**Villa Vallelon**	**1.25**	**176**	Pg		**Pn**	**22 37 59.9**	**+1.8**
	592nm,0.9s							
VVLD	**Villa Vallelon**	**1.25**	**176**	Pg		**Pn**	**22 37 59.9**	**+1.8**
	592nm,0.9s							
GUAR	**Guarcino**	**1.33**	**186**	Pg		**Pn**	**22 38 01.5**	**+2.3**
	239nm,0.8s							
GUAR	**Guarcino**	**1.33**	**186**	Pg		**Pn**	**22 38 01.5**	**+2.3**
	239nm,0.8s							
LATE	**Laterza**	**1.35**	**248**	Pg		**Pn**	**22 38 01.1**	**+1.7**
	630nm,1.0s							
LATE	**Laterza**	**1.35**	**248**	Pg		**Pn**	**22 38 01.1**	**+1.7**
	630nm,1.0s							
POFI	**Posta Fibreno**	**1.41**	**174**	Pg		**Pn**	**22 38 02.0**	**+1.7**
	265nm,0.7s							
POFI	**Posta Fibreno**	**1.41**	**174**	Pg		**Pn**	**22 38 02.0**	**+1.7**
	265nm,0.7s							
ASQU	**Asqua**	**1.42**	**299**	Pg		**Pn**	**22 38 02.9**	**+2.5**
	365nm,0.5s							
ASQU	**Asqua**	**1.42**	**299**	Pg		**Pn**	**22 38 02.9**	**+2.5**
	365nm,0.5s							
FRES	**Fresagrandinar**	**1.44**	**143**	Pg		**Pn**	**22 38 01.7**	**+1.2**
	465nm,0.7s							
FRES	**Fresagrandinar**	**1.44**	**143**	Pg		**Pn**	**22 38 01.7**	**+1.2**
	465nm,0.7s							
RMP	**Rome, Mte Porz**	**1.44**	**205**	Pg		**Pn**	**22 38 02.2**	**+1.6**
	853nm,1.0s							
RMP	**Rome, Mte Porz**	**1.44**	**205**	Pg		**Pn**	**22 38 02.2**	**+1.6**
	853nm,1.0s							

SFI	**Santa Sofia**	**1.44**	**304**	Pg		**Pb**	**22 38 03.5**	**+1.1**
	318nm,0.7s							
SFI	**Santa Sofia**	**1.44**	**304**	Pg		**Pb**	**22 38 03.5**	**+1.1**
	318nm,0.7s							
RNI2	**Rionero Sannit**	**1.50**	**161**	Pg		**Pn**	**22 38 03.0**	**+1.5**
	551nm,1.1s							
RNI2	**Rionero Sannit**	**1.50**	**161**	Pg		**Pn**	**22 38 03.0**	**+1.5**
	551nm,1.1s							
TOLF	**Tolfa**	**1.53**	**227**	Pg		**Pn**	**22 38 03.4**	**+1.5**
	313nm,1.1s							
TOLF	**Tolfa**	**1.53**	**227**	Pg		**Pn**	**22 38 03.4**	**+1.5**
	313nm,1.1s							
TRIV	**Trivento**	**1.56**	**150**	Pg		**Pn**	**22 38 04.2**	**+1.9**
	531nm,1.2s							
TRIV	**Trivento**	**1.56**	**150**	Pg		**Pn**	**22 38 04.2**	**+1.9**
	531nm,1.2s							
CERA	**Filignano**	**1.57**	**166**	Pg		**Pn**	**22 38 04.0**	**+1.6**
	205nm,0.7s							
CERA	**Filignano**	**1.57**	**166**	Pg		**Pn**	**22 38 04.0**	**+1.6**
	205nm,0.7s							
GIUL	**Giuliano Di Ro**	**1.57**	**187**	Pg		**Pn**	**22 38 03.8**	**+1.4**
	628nm,1.2s							
GIUL	**Giuliano Di Ro**	**1.57**	**187**	Pg		**Pn**	**22 38 03.8**	**+1.4**
	628nm,1.2s							
MIDA	**Miranda**	**1.58**	**159**	Pg		**Pn**	**22 38 03.5**	**+0.9**
	295nm,0.8s							
MIDA	**Miranda**	**1.58**	**159**	Pg		**Pn**	**22 38 03.5**	**+0.9**
	295nm,0.8s							
CSNT	**Castellina Chi**	**1.65**	**283**	Pg		**Pn**	**22 38 05.5**	**+2.0**
	293nm,0.9s							
CSNT	**Castellina Chi**	**1.65**	**283**	Pg		**Pn**	**22 38 05.5**	**+2.0**
	293nm,0.9s							
NVLJ	**Novalja**	**1.75**	**34**	*i* Pn		**Pn**	**22 38 04.8**	**0.0**
NVLJ				Sn		**Sn**	**22 38 26.1**	**-0.1**
NVLJ	**Novalja**	**1.75**	**34**	*i* Pn		**Pn**	**22 38 04.8**	**0.0**
NVLJ				Sn		**Sn**	**22 38 26.0**	**-0.1**
UDBI	**Udbina**	**2.16**	**49**	*i* Pn		**Pn**	**22 38 12.0**	**+1.4**
UDBI				Sn		**Sn**	**22 38 37.7**	**+1.3**
UDBI	**Udbina**	**2.16**	**49**	*i* Pn		**Pn**	**22 38 11.9**	**+1.4**
UDBI				Sn		**Sn**	**22 38 37.7**	**+1.3**
KNDS	**Knezji Dol**	**2.49**	**14**	*i* Pn		**Pn**	**22 38 15.4**	**+0.3**
KNDS	**Knezji Dol**	**2.49**	**14**	Pn		**Pn**	**22 38 15.4**	**+0.3**
GBRS	**Gornja Briga**	**2.59**	**21**	*i* Pn		**Pn**	**22 38 16.9**	**+0.5**
GBRS	**Gornja Briga**	**2.59**	**21**	*i* Pn		**Pn**	**22 38 16.9**	**+0.5**
BOJS	**Bojanci**	**2.69**	**27**	*i* Pn		**Pn**	**22 38 18.4**	**+0.6**
BOJS	**Bojanci**	**2.69**	**27**	*i* Pn		**Pn**	**22 38 18.4**	**+0.6**
CEY	**Cerknica**	**2.70**	**14**	*e*Pn		**Pn**	**22 38 17.5**	**-0.4**
OZLJ	**Ozalj**	**2.86**	**29**	*e*Pn		**Pn**	**22 38 20.9**	**+0.8**
OZLJ				Sn		**Sn**	**22 38 53.6**	**-0.1**
OZLJ	**Ozalj**	**2.86**	**29**	*e*Pn		**Pn**	**22 38 20.9**	**+0.8**
OZLJ				Sn		**Sn**	**22 38 53.6**	**-0.1**
LJU	**Ljubljana**	**3.01**	**14**	*e*Pn		**Pn**	**22 38 22.4**	**+0.2**
CRES	**Cresnjev**	**3.04**	**27**	*e*Pn		**Pn**	**22 38 22.3**	**-0.4**
STON	**Ston**	**3.09**	**93**	*e*Pn		**Pn**	**22 38 22.7**	**-0.5**
STON				Sn		**Sn**	**22 38 57.7**	**-1.5**
STON	**Ston**	**3.09**	**93**	*e*Pn		**Pn**	**22 38 22.7**	**-0.5**
STON				Sn		**Sn**	**22 38 57.7**	**-1.5**
BLY	**Banja Luka**	**3.12**	**57**	⇑*i*P		**Pn**	**22 38 27.3**	**+3.7**
BLY	**Banja Luka**	**3.12**	**57**	S		Sb	22 39 18.9	+10
BLY	**Banja Luka**	**3.12**	**57**	*e*Pn		**Pn**	**22 38 24.8**	**+1.2**
BLY	**Banja Luka**	**3.12**	**57**	⇑*i*P		**Pn**	**22 38 27.3**	**+3.7**
PDKS	**Podkum**	**3.13**	**19**	*i* Pn		**Pn**	**22 38 24.4**	**+0.6**
PDKS	**Podkum**	**3.13**	**19**	*i* Pn		**Pn**	**22 38 24.4**	**+0.6**
GORS	**Gorjuse**	**3.21**	**6**	*i* Pn		**Pn**	**22 38 24.9**	**-0.2**
GORS	**Gorjuse**	**3.21**	**6**	*i* Pn		**Pn**	**22 38 24.9**	**-0.2**
BAI	**Bari**	**3.22**	**128**	*e*Pn		**Pn**	**22 38 25.8**	**+0.8**
SG1	**Sgolgore (BA)**	**3.29**	**133**	*e*Pn		**Pn**	**22 38 26.7**	**+0.7**
**PG

4.7nm,0.4s
LMR La Mourre 5.12 275 *e*P **Pn 22 38 53.2 +2.1**
LMR La Mourre 5.12 275 *e*P **Pn 22 38 53.2 +2.1**
MBDF Montbardon 5.12 291 *e*Pn **Pn 22 38 52.8 +1.5**
MBDF *e*Sn **Sn 22 39 46.5 -3.1**
6.5nm,0.3s
MBDF Montbardon 5.12 291 *e*Pn **Pn 22 38 52.8 +1.5**
MBDF *e*Sn **Sn 22 39 46.5 -3.1**
3.2nm,0.3s
TRUS Trudelj 5.13 75 *e*Pn **Pn 22 38 52.9 +1.6**
LPG La Plagne 5.40 298 *e*Pn **Pn 22 38 54.7 -0.5**
LPG *e*Sn **Sn 22 39 53.7 -2.8**
17nm,0.5s
LPG La Plagne 5.40 298 *e*Pn **Pn 22 38 54.7 -0.5**
LPL La Plagne 5.42 299 *e*Pn **Pn 22 38 55.6 +0.2**
LPL *e*Sn **Sn 22 39 53.3 -3.6**
18nm,0.4s
LPL La Plagne 5.42 299 *e*Pn **Pn 22 38 55.6 +0.2**
SELS Selova 5.57 86 *e*Pn **Pn 22 38 59.0 +1.6**
GERES GERESS Array B 5.73 1 Pn **Pn 22 38 59.2 -0.4**
0.8nm,0.3s,baz=172,slow=12,SNR=29
GERES Sn **Sn 22 40 01.2 -3.2**
1.8nm,0.3s,baz=167,slow=24,SNR=8.0
ORIF Oris-en-Rattie 5.78 291 *e*P **Pn 22 39 04.0 +3.6**
SMRF Simiane la Rot 5.83 281 *e*P **Pn 22 39 05.1 +4.2**
MODS Modra-Piesok 5.88 25 *e*Pn **Pn 22 39 01.3 -0.3**
MODS Modra-Piesok 5.88 25 *e*PN **Pn 22 39 01.3 -0.3**
KHC Kasperske Hory 6.01 0 *e*PN **Pn 22 39 03.1 -0.3**
KHC *ex* x 22 39 09.0
KHC *e*PB 22 39 17.9
KHC *e*SN **Sn 22 40 08.0 -3.3**
KHC *ex* x 22 40 28.4
KHC *ex* x 22 40 45.4
KHC Kasperske Hory 6.01 0 Pn **Pn 22 39 03.1 -0.3**
FELD Feldberg im Sc 6.13 323 P **Pn 22 39 05.1 0.0**
FELD Feldberg im Sc 6.13 323 P **Pn 22 39 05.2 0.0**
FELD Feldberg im Sc 6.13 323 S **Sn 22 40 08.8 -5.5**
CABF La Chapelle 6.32 306 *e*Pn **Pn 22 39 08.7 +1.0**
CABF *e*Sn **Sn 22 40 15.3 -3.7**
10nm,0.5s
CABF La Chapelle 6.32 306 *e*Pn **Pn 22 39 08.7 +1.0**
BZS Buzias 6.33 64 ||*i*P **Pn 22 39 11.5 +3.8**
LOMF Lomont 6.33 314 P **Pn 22 39 07.6 -0.2**
LOMF Lomont 6.33 314 P **Pn 22 39 07.7 -0.2**
LOMF Lomont 6.33 314 S **Sn 22 40 13.4 -5.8**
ZAGS Zajecar 6.39 81 *e*Pn **Pn 22 39 08.8 +0.2**
MOF Molkenrain 6.51 319 P **Pn 22 39 10.3 0.0**
MOF Molkenrain 6.51 319 P **Pn 22 39 10.4 0.0**
MOF Molkenrain 6.51 319 S **Sn 22 40 17.8 -6.0**
VYHS Vyhne 6.54 33 *e*Pn **Pn 22 39 11.8 +1.2**
VYHS Vyhne 6.54 33 *e*PN **Pn 22 39 11.8 +1.2**
VRAC Vranov 6.55 18 Pn **Pn 22 39 10.9 +0.1**
0.7nm,0.3s,baz=204,slow=14,SNR=4.5
VRAC Vranov 6.55 18 ||*i*P **Pn 22 39 10.6 -0.2**
VRAC Vranov 6.55 18 *e*Pn **Pn 22 39 10.7 -0.1**
VIVF Saint-Julien-l 6.60 288 *e*P **Pn 22 39 15.1 +3.6**
HINF Hinteralfeld 6.62 317 *e*Pn **Pn 22 39 11.6 -0.3**
HINF *e*Sn **Sn 22 40 21.6 -4.8**
20nm,0.4s
HINF Hinteralfeld 6.62 317 *e*Pn **Pn 22 39 11.6 -0.3**
CDF Champ du Feu 6.85 323 *e*Pn **Pn 22 39 15.0 0.0**
CDF *e*Sn **Sn 22 40 27.3 -4.8**
18nm,0.6s
CDF Champ du Feu 6.85 323 *e*Pn **Pn 22 39 15.0 0.0**
HAU Haudompre 7.00 317 *e*Pn **Pn 22 39 17.0 0.0**
HAU *e*Sn **Sn 22 40 30.6 -5.1**
42nm,0.5s
HAU Haudompre 7.00 317 *e*Pn **Pn 22 39 17.0 0.0**
LASF Ste Croix 7.07 281 *e*P **Pn 22 39 20.7 +2.8**
LASF Ste Croix 7.07 281 *e*P **Pn 22 39 20.7 +2.8**
VTS Vitosha 7.15 91 ||*i*P **Pn 22 39 21.7 +2.5**
VTS Vitosha 7.15 91 ||*i*P **Pn 22 39 21.7 +2.5**
MORC Moravsky Berou 7.22 21 ||*i*P **Pn 22 39 20.8 +0.8**
MORC Moravsky Berou 7.22 21 ||*i*P **Pn 22 39 20.8 +0.8**
KECS Kecovo 7.25 40 *e*Pn **Pn 22 39 19.5 -0.9**
KECS Kecovo 7.25 40 *e*PN **Pn 22 39 19.5 -0.9**
PAGF Fort de Pagny 7.68 318 *e*Sn **Sn 22 40 47.0 -5.3**
SMF Signal de Mont 7.71 301 *e*Pn **Pn 22 39 26.8 0.0**
SMF *e*Sn **Sn 22 40 48.0 -5.2**
12nm,0.5s
SMF Signal de Mont 7.71 301 *e*Pn **Pn 22 39 26.8 0.0**
SFTF Sexfontaines 7.81 314 *e*Pn **Pn 22 39 29.0 +1.0**
baz=137
SFTF *e*Sn **Sn 22 40 50.6 -4.9**
6.7nm,0.4s
SFTF Sexfontaines 7.81 314 *e*Pn **Pn 22 39 29.0 +1.0**
baz=137
LOR Lormes 7.97 305 *e*Pn **Pn 22 39 30.1 -0.2**
baz=128
LOR *e*Sn **Sn 22 40 54.2 -5.4**
12nm,0.4s
LOR Lormes 7.97 305 *e*Pn **Pn 22 39 30.1 -0.2**
baz=128
MEZF Maizieres J'vi 7.99 315 *e*Sn **Sn 22 40 54.4 -5.4**
4.8nm,0.3s
KEST Kesra 8.05 205 Pn Pn 22 39 37.0 +5.5
0.4nm,0.3s,baz=292,slow=4.6,SNR=7.0
AVF Avril sur Loir 8.08 300 *e*Pn **Pn 22 39 32.1 +0.4**
AVF *e*Sn Sn 22 40 55.7 -6.4
AVF Avril sur Loir 8.08 300 *e*Pn **Pn 22 39 32.1 +0.4**
SSF Saint Saulge 8.10 303 *e*Pn **Pn 22 39 31.2 -0.8**
SSF *e*Sn Sn 22 40 55.1 -7.4
8.6nm,0.5s
SSF Saint Saulge 8.10 303 *e*Pn **Pn 22 39 31.2 -0.8**
MTLF Montolieu 8.24 275 *e*P Pn 22 39 39.6 +5.5
STHS Stebnicka Huta 8.27 38 *e*PN Pn 22 39 31.0 -3.3
BGF Bois d'Agland 8.31 298 *e*Pn **Pn 22 39 35.4 +0.4**
BGF *e*Sn **Sn 22 41 02.7 -5.3**
8.3nm,0.4s
BGF Bois d'Agland 8.31 298 *e*Pn **Pn 22 39 35.4 +0.4**
TCF Toulx Ste Croi 8.64 295 *e*Sn Sn 22 41 09.8 -6.3
4.3nm,0.4s
MLR Muntele Rosu 9.23 71 LR LR 22 44 21.0
comp=Z,14nm,18.6s,baz=232,slow=44
FINES FINESS Array B 19.83 18 P **P 22 42 04.2 -0.4**
0.1nm,0.3s,baz=203,slow=6.0,SNR=4.1
TORD Torodi Ar. Bea 31.56 202 P **P 22 43 57.2 +0.7**
0.9nm,0.7s,baz=20,slow=8.2,SNR=6.3
MKAR Makanchi Array 47.40 60 P **P 22 46 08.3 +0.3**
0.9nm,0.9s,baz=292,slow=6.4,SNR=4.3
YKA Yellowknife Ar 66.83 337 P **P 22 48 26.5 +1.4**
0.1nm,0.5s,baz=61,slow=6.4,SNR=4.0

NIED ***10*** *22:45:00.39˚90N×143˚50E,h20km,Mw4.2 Best double couple: M₀2.42000×10¹⁵ NP1:ϕs185.00000°,δ31.00000°, λ69.00000°. NP2:ϕs29.00000°,δ61.00000°,λ102.00000°.*
IDC ***10*** *22:45:06.7±0.7,39.81N×143.64E,h0km,mb4.0/20, mb1 4.1/25,mb1mx4.0/66,mbtmp4.0/25,ML3.3/5,MS3.5/13, Ms1 3.5/13,ms1mx3.0/64,Error ellipse: s-maj=17.7km s-min=13.5km az=100.0*
JMA ***10*** *22:45:09.5±0.2,39˚90N×143˚52E,h24km,M4.2*
ISCJB ***10*** *22:45:10.1±0.7,39˚84N±0˚03×143˚55E±0˚06,h35km±5km, mb4.2/30,MS3.6/12, Error ellipse: s-maj=8.6km s-min=4.4km az=29.1*
BJI ***10*** *22:45:10.5,39˚80N×143˚30E,h27km,mb4.4/29,mB4.8/17, Ms4.0/13,Ms7 3.8/11*
NEIC ***10*** *22:45:12.6±0.7,39˚83N×143˚50E,h37km±5km,mb4.2/4, Error ellipse: s-maj=8.4km s-min=5.2km az=110.0*
ISC 10 22:45:13.5±1.5,39˚88N±0˚05×143˚46E±0˚08,h43km±12km, n89,σ1°50/92,mb4.2/30,MS3.7/13,1D,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**1.23**	**273**	P		**Pn**	**22 45 31.9**	**-2.2**
JTH				*e*S		**Sn**	**22 45 48.4**	**-1.1**
MIYJ	**Miyakonagasawa**	**1.30**	**257**	P		**Pn**	**22 45 33.4**	**-1.7**
MIYJ				*e*S		**Sn**	**22 45 49.9**	**-1.4**
JANG	**Nango**	**1.57**	**289**	P		**Pn**	**22 45 36.8**	**-2.0**
JANG				*e*S		**Sn**	**22 45 56.5**	**-1.4**
JOM	**Ohasama**	**1.72**	**257**	P		**Pn**	**22 45 40.0**	**-0.9**
JMK	**Ichinoseki**	**1.96**	**243**	P		**Pn**	**22 45 42.7**	**-1.5**
JMK				*e*S		**Sn**	**22 46 07.5**	**-0.1**
JTM	**Tenmabayashi**	**2.04**	**297**	P		**Pn**	**22 45 44.3**	**-1.0**
ERM	**Erimo**	**2.15**	**354**	*e*Pn		**Pn**	**22 45 46.3**	**-0.4**
ERM				*e*S		**Sn**	**22 46 09.8**	**-2.3**
JEM	**Erimo**	**2.15**	**354**	P		**Pn**	**22 45 44.6**	**-2.1**
JNBK	**Urakawa-nobuka**	**2.46**	**348**	P		**Pn**	**22 45 50.3**	**-0.7**
JYK	**Kaneyama**	**2.58**	**249**	P		**Pn**	**22 45 52.2**	**-0.6**
JKB	**Kayabe**	**2.72**	**318**	P		**Pn**	**22 45 54.7**	**+0.1**
JCH	**Churui**	**2.73**	**359**	P		**Pn**	**22 45 52.4**	**-2.4**
JCH				S		**Sn**	**22 46 24.5**	**-2.1**
JAK	**Akkeshi**	**3.25**	**16**	P		Pn	22 45 58.8	-3.1
ASAJ	**Asahikawa**	**4.28**	**352**	Pn		**Pn**	**22 46 14.3**	**-1.8**
	1.6nm,0.3s,baz=209,slow=20,SNR=10							
ASAJ				Sn		**Sn**	**22 47 07.0**	**+2.3**
	4.2nm,0.3s,baz=168,slow=19,SNR=4.4							
ASAJ	**Asahikawa**	**4.28**	**352**	*e*Pn		**Pn**	**22 46 15.0**	**-1.0**
ASAJ				Sn		**Sn**	**22 47 07.0**	**+2.3**
MJAR	**Matsushiro Arr**	**5.31**	**233**	Pn		**Pn**	**22 46 30.0**	**-0.2**
	1.7nm,0.3s,baz=41,slow=11,SNR=29							
MJAR				Sn		**Sn**	**22 47 28.8**	**-1.3**
	baz=34,slow=17,SNR=2.1							
MJAR				LR		LR	22 48 35.2	
	comp=Z,161nm,20.7s,baz=60,slow=39							
MAJO	**Matsushiro**	**5.31**	**233**	*e*Pn		**Pn**	**22 46 29.6**	**-0.6**
MAT	**Matsushiro**	**5.31**	**233**	P		**Pn**	**22 46 29.7**	**-0.5**
MAT				*e*S		**Sn**	**22 47 37.1**	**+7.0**
MJB9	**Matsu-Tunnel**	**5.31**	**233**	*e*Pn		**Pn**	**22 46 29.9**	**-0.3**
INU	**Inuyama**	**6.82**	**231**	*e*Pn		**Pn**	**22 46 50.5**	**-0.4**
JHJ2	**Mitsune**	**7.36**	**205**	*e*Pn		**Pn**	**22 46 55.5**	**-2.8**
JHJ	**Hachijo jima 2**	**7.37**	**205**	Pn		**Pn**	**22 46 54.0**	**-4.4**
	4.0nm,0.3s,baz=60,slow=20,SNR=2.9							
JHJ				Sn		Sn	22 48 10.0	-11
	12nm,0.3s,baz=63,slow=18,SNR=3.9							
USRK	**Ussuriysk Ar.**	**9.56**	**301**	Pn		**Pn**	**22 47 29.3**	**+0.9**
	0.3nm,0.3s,baz=101,slow=14,SNR=11							
USRK				LR		LR	22 51 12.0	
	comp=Z,220nm,18.6s,baz=83,slow=38							
JNU	**Nakatsue**	**12.15**	**240**	LR		LR	22 53 12.6	
	comp=Z,352nm,18.2s,baz=109,slow=40							
KSRS	**Korea Array**	**12.38**	**264**	Pn		**Pn**	**22 48 07.7**	**+0.7**
	0.1nm,0.3s,baz=83,slow=14,SNR=5.7							
KSRS				LR		LR	22 52 36.4	
	comp=Z,246nm,18.0s,baz=71,slow=36							
KSAR	**Wonju Array Be**	**12.41**	**264**	Pn		**Pn**	**22 48 07.7**	**+0.2**
PETK	**Petropavlovsk-**	**16.43**	**32**	LR		LR	22 54 49.1	
	comp=Z,49nm,20.1s,baz=166,slow=36							
BJI	**Beijing**	**20.89**	**279**	*e*P		**P**	**22 49 50.2**	**-1.7**
BJI				pmax		pmax		
	comp=Z,13nm,0.8s							
TIA	**Tai'an**	**21.03**	**268**	P		**P**	**22 49 52.5**	**-1.0**
TIA				pmax		pmax		
	comp=Z,13nm,1.1s							
HHC	**Hu-ho-hao-te**	**24.25**	**283**	*e*P		**P**	**22 50 26.5**	**0.0**
HHC				PP		**PnPn**	**22 51 01.0**	**+3.4**
HHC				S		**Sn**	**22 54 38.3**	**-4.0**
HHC				SS		**SnSn**	**22 55 30.0**	**+2.8**
HHC				pmax		pmax		
	comp=Z,100nm,4.0s							
HHC				LR		LR		
	comp=N,460nm,13.7s							
HHC				LR		LR		
	comp=E,520nm,11.2s							
HHC				LR		LR		
	comp=Z,450nm,11.9s							
WHN	**Wuhan**	**25.45**	**258**	||P	**P**	**22 50 37.4**	**+0.2**
WHN				LR		LR		
	comp=N,1μm,21.2s							
WHN				LR		LR		
	comp=Z,340nm,15.0s							
ULN	**Ulaanbaatar**	**27.23**	**299**	*e*P		**P**	**22 50 53.9**	**+0.5**
	5.2nm,0.8s							
SONA1	**Songino Array**	**27.66**	**299**	*e*P		**P**	**22 50 57.5**	**+0.3**
SONM	**Songino Array**	**27.67**	**299**	P		**P**	**22 50 58.1**	**+0.8**
	3.4nm,0.8s,baz=88,slow=8.9,SNR=26							
SONM				LR		LR	23 02 47.1	
	comp=Z,177nm,18.4s,baz=86,slow=38							
XAN	**Xi'an**	**28.09**	**269**	P		**P**	**22 51 00.8**	**-0.3**
XAN				pmax		pmax		
	comp=Z,6.0nm,0.7s							
XAN				LR		LR		
	comp=E,200nm,15.0s							
XAN				LR		LR		
	comp=Z,170nm,14.2s							
H11N2	**WAKE ISLAND Hy**	**28.43**	**128**	T		T	23 22 09.8	
	baz=318,slow=75,SNR=28							
H11N1	**WAKE ISLAND Hy**	**28.44**	**128**	T		T	23 22 11.3	
	baz=318,slow=75,SNR=20							
H11N3	**WAKE ISLAND Hy**	**28.45**	**128**	T		T	23 22 11.1	
	baz=318,slow=75,SNR=27							
H11S1	**WAKE ISLAND Hy**	**29.26**	**130**	T		T	23 22 03.2	
	baz=321,slow=74							
H11S3	**WAKE ISLAND Hy**	**29.26**	**130**	T		T	23 23 15.9	
	baz=321							
H11S2	**WAKE ISLAND Hy**	**29.27**	**130**	T		T	23 21 54.1	
	baz=321,slow=74							
LZH	**Lanzhou**	**31.27**	**276**	*e*P		**P**	**22 51 30.5**	**+1.1**
LZH				pP		pP	22 51 41.6	+0.6
LZH				sP		sP	22 51 46.2	+0.1
LZH				*e*PP		**PnPn**	**22 52 33.0**	**+0.5**
LZH				pmax		pmax		
	comp=Z,18nm,1.0s							
LZH				pmax		pmax		
	comp=Z,42nm,4.9s							
LZH				LR		LR		
	comp=N,97nm,12.9s							
LZH				LR		LR		
	comp=E,100nm,13.2s							
LZH				LR		LR		
	comp=Z,130nm,16.5s							
GTA	**Gaotai**	**33.36**	**284**	*e*P		**P**	**22 51 48.5**	**+0.9**
GTA				pP		pP	22 51 53.2	-6.0
GTA				sP		sP	22 51 56.6	-7.8
GTA				pmax		pmax		
	comp=Z,9.0nm,0.9s							
WMQ	**Urumqi**	**41.06**	**294**	P		**P**	**22 52 51.9**	**-0.8**
WMQ				pP		pP	22 53 00.5	-4.1
WMQ				sP		sP	22 53 08.5	-1.2
WMQ				pmax		pmax		
	comp=Z,14nm,0.7s							
WMQ				pmax		pmax		
	comp=Z,83nm,4.1s							
WMQ				LR		LR		
	comp=N,120nm,16.9s							
WMQ				LR		LR		
	comp=Z,68nm,16.9s							
ZAA0	**Zalesovo Array**	**41.25**	**310**	*e*P		**P**	**22 52 52.2**	**-1.8**
	3.3nm,0.8s							
ZALV	**Zalesovo Beam**	**41.25**	**310**	P		**P**	**22 52 54.2**	**+0.2**
	2.9nm,0.7s,baz=79,slow=8.1,SNR=13							
ZALV	**Zalesovo Beam**	**41.25**	**310**	*e*P		**P**	**22 52 53.8**	**-0.3**
IM3	**Indian Mountai**	**43.39**	**32**	*e*P		**P**	**22 53 13.5**	**+2.2**
CMAR	**Chiang Mai Arr**	**43.80**	**254**	P		**P**	**22 53 15.5**	**+0.3**
	1.0nm,0.4s,baz=52,slow=8.1,SNR=3.4							
CMAR				LR		LR	23 13 35.4	
	comp=Z,34nm,19.8s,baz=60,slow=39							
MK01	**Makanchi Array**	**44.03**	**300**	*e*P		**P**	**22 53 15.9**	**-0.9**
MKAR	**Makanchi Array**	**44.03**	**300**	P		**P**	**22 53 16.5**	**-0.2**
	2.3nm,0.8s,baz=78,slow=9.0,SNR=13							
KURK	**Kurchatov**	**45.49**	**306**	*e*P		**P**	**22 53 27.6**	**-0.7**
	5.9nm,0.6s							
KURBB	**Kurchatov Arra**	**45.57**	**306**	P		**P**	**22 53 28.9**	**0.0**
	4.8nm,0.7s,baz=80,slow=8.5,SNR=20							
ILAR	**Eielson Array**	**46.24**	**34**	P		**P**	**22 53 33.5**	**-0.5**
	0.5nm,0.7s,baz=266,slow=6.2,SNR=6.7							
RAMN	**Ramite**	**48.44**	**273**	*e*P		**P**	**22 53 52.3**	**+0.4**
	20nm,0.8s							
GUN	**Gumba**	**48.51**	**274**	*e*P		**P**	**22 53 53.0**	**+0.4**
	23nm,0.7s							
KKN	**Kakani**	**49.03**	**274**	*e*P		**P**	**22 53 56.8**	**+0.4**
	19nm,0.7s							
DMN	**Daman**	**49.25**	**274**	*e*P		**P**	**22 53 58.3**	**+0.1**
BVAR	**Borovoye Array**	**49.88**	**311**	P		**P**	**22 54 02.6**	**+0.3**
	1.0nm,0.5s,baz=69,slow=8.0,SNR=7.1							
KOLN	**Koldanda**	**50.33**	**275**	*e*P		**P**	**22 54 06.7**	**+0.4**
PYUN	**Piuthan**	**50.63**	**276**	*e*P		**P**	**22 54 09.0**	**+0.5**
INK	**Inuvik**	**51.13**	**28**	P		**P**	**22 54 10.9**	**-0.5**
	0.4nm,0.5s,baz=266,slow=11,SNR=4.4							
INK	**Inuvik**	**51.13**	**28**	*e*P		**P**	**22 54 12.2**	**+0.8**
	0.7nm,0.7s							
BATI	**Baumata**	**53.11**	**205**	P		**P**	**22 54 26.1**	**-0.7**
	14nm,0.6s,baz=107,slow=11,SNR=2.6							
AB06	**Akbulak array**	**57.34**	**309**	*e*P		**P**	**22 54 56.9**	**0.0**
AB05	**Akbulak array**	**57.35**	**309**	*e*P		**P**	**22 54 57.0**	**0.0**
AB02	**Akbulak array**	**57.35**	**309**	*e*P		**P**	**22 54 57.0**	**0.0**
AB07	**Akbulak array**	**57.35**	**309**	*e*P		**P**	**22 54 57.1**	**+0.1**
AB01	**Akbulak array**	**57.36**	**309**	*e*P		**P**	**22 54 57.0**	**0.0**
AB31	**Akbulak array**	**57.36**	**309**	*e*P		**P**	**22 54 57.2**	**+0.2**
ABKAR	**Akbulak array**	**57.36**	**309**	*e*P		**P**	**22 54 57.2**	**+0.2**
	20nm,0.6s							
AB03	**Akbulak array**	**57.36**	**309**	*e*P		**P**	**22 54 57.0**	**-0.1**
AB04	**Akbulak array**	**57.36**	**309**	*e*P		**P**	**22 54 57.1**	**0.0**
AB09	**Akbulak array**	**57.37**	**309**	*e*P		**P**	**22 54 57.1**	**0.0**
AB08	**Akbulak array**	**57.37**	**309**	*e*P		**P**	**22 54 57.1**	**0.0**
AKTO	**Aktyubinsk**	**57.99**	**311**	P		**P**	**22 55 02.5**	**+1.0**
	1.3nm,0.6s,baz=78,slow=14,SNR=4.0							
SPITS	**Spitsbergen Ar**	**58.05**	**349**	LR		LR	23 22 39.9	
	comp=Z,32nm,18.5s,baz=45,slow=39							
WRA	**Warramunga Arr**	**60.12**	**190**	P		**P**	**22 55 15.2**	**-1.3**
	1.1nm,0.6s,baz=8.4,slow=6.9,SNR=11							
YKA	**Yellowknife Ar**	**60.55**	**31**	P		**P**	**22 55 18.6**	**-0.3**
	0.2nm,0.7s,baz=303,slow=6.8,SNR=5.2							
ASAR	**Alice Springs**	**63.84**	**190**	P		**P**	**22 55 40.8**	**-0.7**
	0.5nm,0.5s,baz=8.1,slow=5.7,SNR=8.2							
GEYT	**Alibeck**	**63.87**	**299**	P		**P**	**22 55 42.0**	**+0.3**
	1.7nm,0.8s,baz=88,slow=3.5,SNR=5.0							
GEYT				LR		LR	23 24 43.8	
	comp=Z,31nm,18.8s,baz=5.0,slow=37							
FINES	**FINESS Array B**	**67.04**	**332**	P		**P**	**22 56 01.8**	**+0.1**
	3.5nm,0.9s,baz=35,slow=7.0,SNR=4.7							
FINES				LR		LR	23 28 41.6	
	comp=Z,67nm,19.6s,baz=28,slow=39							
KBZ	**Khabaz**	**70.26**	**311**	P		**P**	**22 56 23.2**	**+1.2**
	3.0nm,0.8s,baz=61,slow=4.2,SNR=9.2							
HFS	**Hagfors**	**72.15**	**336**	P		**P**	**22 56 33.4**	**+0.2**
	5.6nm,1.1s,baz=82,slow=13,SNR=4.1							
HFS				LR		LR	23 30 47.3	
	comp=Z,28nm,20.2s,baz=24,slow=38							
NOA	**NORSAR Array B**	**72.17**	**338**	P		**P**	**22 56 33.4**	**0.0**
	1.2nm,0.8s,baz=38,slow=6.1,SNR=3.9							
NOA				LR		LR	23 32 30.0	
	comp=Z,38nm,18.5s,baz=35,slow=39							
AKASG	**Malin Array Be**	**73.02**	**323**	P		**P**	**22 56 38.5**	**0.0**
	1.5nm,0.8s,baz=39,slow=4.9,SNR=6.1							
BRTR	**Keskin Array B**	**78.15**	**312**	LR		LR	23 38 29.1	
	comp=Z,18nm,18.5s,baz=289,slow=41							
GERES	**GERESS Array B**	**81.12**	**329**	P		**P**	**22 57 24.4**	**+0.2**
	0.5nm,0.7s,baz=26,slow=7.4,SNR=3.8							
TXAR	**Lajitas Array**	**87.13**	**54**	P		**P**	**22 57 54.7**	**-0.4**
	0.1nm,0.4s,baz=284,slow=3.6,SNR=2.5							

NIED ***10*** *22:47:00.39˚90N×143˚60E,h20km,Mw3.8 Best double couple: M₀5.73000×10¹⁴ NP1:ϕs185.00000°,δ34.00000°, λ68.00000°. NP2:ϕs31.00000°,δ58.00000°,λ104.00000°.*
JMA 10 22:47:04.6±0.3,39.92N×143.62E,h32km,M3.6,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**1.35**	**271**	P		Pn	22 47 27.5	+0.3
MIYJ	**Miyakonagasawa**	**1.43**	**257**	P		Pn	22 47 29.3	+1.0
MIYJ				*e*S		Sn	22 47 46.7	+0.7
JANG	**Nango**	**1.68**	**286**	P		Pn	22 47 32.4	+0.7
JOM	**Ohasama**	**1.85**	**257**	P		Pn	22 47 35.5	+1.4
JMK	**Ichinoseki**	**2.10**	**243**	P		Pn	22 47 38.3	+0.9
JMK				S		Sn	22 48 02.8	+0.4
JNBK	**Urakawa-nobuka**	**2.45**	**345**	*e*S		Sb	22 48 16.0	-1.6
JCH	**Churui**	**2.70**	**356**	S		Sn	22 48 19.5	+2.2
JYK	**Kaneyama**	**2.72**	**249**	P		Pn	22 47 48.0	+2.0
JAK	**Akkeshi**	**3.18**	**14**	P		Pn	22 47 54.2	+1.9
JAK				*e*S		Sn	22 48 30.8	+1.7

TIR ***10*** *22:51:53.3,40˚61N×20˚74E,h15km,Md1.5/2*
CSEM ***10*** *22:51:53.8±0.2,40˚57N×20˚75E,h8km,ML1.5,Error ellipse: s-maj=4.9km s-min=3.3km az=138.0*
SKO ***10*** *22:51:54.9,40˚62N×20˚73E,h14km,M0.8,ML1.4*
ATH 10 22:51:53.5,40˚57N×20˚77E,h20km±1km,ML1.6/5,Error ellipse: s-maj=2.0km s-min=1.1km az=128.0, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KBN	**Korca**	**0.05**	**15**	*i* Sg		Sb	22 51 58.3	-1.5
	baz=64							
KBN	**Korca**	**0.05**	**15**	*i* PG		Pb	22 51 56.2	-1.1
KBN				*i* SG		Sb	22 51 58.3	-1.5
NEST	**Nestorio**	**0.27**	**127**	P		Pb	22 51 59.4	-0.4
NEST				S		Sb	22 52 04.1	+0.1
NEST				AML		AML	22 52 04.3	
	comp=N,311μm,0.1s							
NEST				AML		AML	22 52 04.8	
	comp=E,459μm,0.2s							
NEST	**Nestorio**	**0.27**	**127**	P		Pb	22 51 59.5	-0.3
NEST				S		Sb	22 52 04.1	+0.1
PENT	**Pentalofos**	**0.47**	**143**	P		Pb	22 52 02.7	-0.4
PENT				S		Sb	22 52 09.7	0.0
PENT	**Pentalofos**	**0.47**	**143**	P		Pb	22 52 02.9	-0.3
PENT				S		Sb	22 52 09.9	+0.2
FNA	**Florina**	**0.51**	**65**	P		Pb	22 52 03.8	0.0
FNA				S		Sb	22 52 11.8	+1.1
FNA				AML		AML	22 52 12.3	
	comp=N,335μm,0.2s							
FNA				AML		AML	22 52 12.7	
	comp=E,349μm,0.4s							
FNA	**Florina**	**0.51**	**65**	P		Pb	22 52 03.8	0.0
FNA				S		Sb	22 52 11.5	+0.8
OHR	**Ohrid**	**0.54**	**2**	*e*Pg		Pb	22 52 03.8	-0.6
OHR				*i* Sg		Sn	22 52 13.4	-1.2
OHR				*e*Lg		Lg	22 52 14.3	
	comp=N,10nm,0.5s							
OHR				*e*Lg		Lg	22 52 14.8	
	comp=E,18nm,0.4s							
BIA	**Bitola**	**0.61**	**43**	*e*Pg		Pb	22 52 05.5	-0.1
BIA				*i* Sg		Sn	22 52 15.2	-1.2
KPRO	**Kipourio**	**0.77**	**144**	P		Pn	22 52 08.9	-0.4
KPRO				S		Sn	22 52 20.1	-0.1
KPRO				AML		AML	22 52 21.5	
	comp=N,84μm,0.4s							
KPRO				AML		AML	22 52 22.4	
	comp=E,142μm,0.4s							
KPRO	**Kipourio**	**0.77**	**144**	P		Pb	22 52 08.6	+0.4
KPRO				S		Sn	22 52 19.6	-0.6
KZN	**Kozani**	**0.81**	**109**	P		Pb	22 52 09.3	+0.4
KZN				S		Sn	22 52 21.1	-0.2
KZN				AML		AML	22 52 23.6	
	comp=N,55μm,0.2s							

0.3nm,0.3s,baz=16,slow=9.5,SNR=5.0
ZALV Zalesovo Beam 54.21 321 P **P 23 10 30.0 -0.9**
0.5nm,0.4s,baz=102,slow=9.2,SNR=3.5
MKAR Makanchi Array 54.95 312 P **P 23 10 35.6 -0.8**
0.8nm,0.5s,baz=88,slow=8.8,SNR=12
KURBB Kurchatov Arra 57.65 316 P **P 23 10 54.9 -0.6**
2.3nm,0.5s,baz=92,slow=7.7,SNR=12
BVAR Borovoye Array 62.73 319 P **P 23 11 29.7 -0.4**
2.5nm,0.5s,baz=93,slow=7.7,SNR=36
FINES FINESS Array B 82.80 335 P **P 23 13 29.4 +0.8**
4.0nm,1.0s,baz=64,slow=4.6,SNR=15
HFS Hagfors 88.26 338 P **P 23 13 56.0 +0.3**
4.0nm,1.1s,baz=75,slow=6.1,SNR=5.9
NOA NORSAR Array B 88.44 339 P **P 23 13 55.5 -1.1**
1.3nm,0.9s,baz=45,slow=5.6,SNR=3.6
TORD Torodi Ar. Bea 129.07 311 PKP **PKPdf 23 20 14.5 +1.6**
0.6nm,1.0s,baz=316,slow=0.6,SNR=2.5

*ISCJB **10** 23:07:51.3±0.3,30.89N±0.04×138.59E±0.06,h384km, mb3.6/28,Error ellipse: s-maj=7.3km s-min=4.9km az=173.7*
*JMA **10** 23:07:52.8±0.5,31.05N×138.96E,h402km,M3.5*
*IDC **10** 23:07:52.7±1.1,30.94N×138.53E,h378km±12km, mb3.3/22,mb1 3.4/26,mb1mx3.3/62,mbtmp4.0/26,Error ellipse: s-maj=18.8km s-min=9.5km az=75.0*

ISC 10 23:07:52.3±0.5,30.95N±0.06×138.80E±0.09,h384km,n62, σ1§49/74,mb3.7/28,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHCJ	**Hachijojimakas**	**2.29**	**22**	P	**Pn**	**23 08 50.6**	**+2.0**
JHJ	**Hachijo jima 2**	**2.32**	**21**	P	**Pn**	**23 08 49.9**	**+1.0**
	29nm,0.3s,baz=220,slow=19,SNR=11						
JHJ				S	**S**	**23 09 30.8**	**-3.9**
	28nm,0.3s,baz=165,slow=20,SNR=3.6						
JHJ2	**Mitsune**	**2.33**	**22**	P	**Pn**	**23 08 50.7**	**+1.8**
TK01	**Tokai 1**	**2.99**	**340**	P	**Pn**	**23 08 55.9**	**+2.1**
TK02	**Tokai 2**	**3.12**	**344**	P	**Pn**	**23 08 57.4**	**+2.5**
TTO2	**TONANKAI O.B.S**	**3.16**	**332**	P	**Pn**	**23 08 57.6**	**+2.4**
TTO1	**TONANKAI O.B.S**	**3.17**	**328**	P	**Pn**	**23 08 57.5**	**+2.2**
JIE	**Ise**	**3.86**	**333**	P	**Pn**	**23 09 03.9**	**+1.9**
HMMJ	**Hamamatsu 2**	**4.00**	**347**	P	**Pn**	**23 09 05.2**	**+1.9**
BSO3	**Boso 3**	**4.11**	**20**	P	**Pn**	**23 09 04.2**	**+0.2**
BSO3				S	**S**	**23 10 01.5**	**-0.8**
BSO1	**Boso 1**	**4.13**	**26**	P	**Pn**	**23 09 04.9**	**+1.0**
BSO1				S	**S**	**23 10 02.2**	**+0.1**
JOD2	**Odawara 2**	**4.31**	**3**	P	**Pn**	**23 09 08.1**	**+1.7**
JOD2				*e*S	**S**	**23 10 07.5**	**+1.0**
INU	**Inuyama**	**4.64**	**342**	*e*Pn	**Pn**	**23 09 11.4**	**+1.7**
CBIJ	**Chichi jima**	**4.85**	**141**	*e*S	**S**	**23 10 15.0**	**-1.7**
JCJ	**Chichijima**	**4.85**	**141**	P	**Pn**	**23 09 12.4**	**+0.4**
	baz=330,slow=20						
JCJ				S	**S**	**23 10 14.8**	**-1.9**
	43nm,0.3s,baz=268,slow=21,SNR=16						
JRY	**Ryogami san**	**5.06**	**1**	P	**Pn**	**23 09 15.1**	**+1.0**
JRY				*e*S	**S**	**23 10 19.3**	**-1.3**
MJAR	**Matsushiro Arr**	**5.60**	**355**	P	**Pn**	**23 09 20.1**	**+0.2**
	1.3nm,0.3s,baz=171,slow=12,SNR=6.9						
MJAR				S	**S**	**23 10 27.8**	**-3.4**
	0.9nm,0.3s,baz=154,slow=18,SNR=4.8						
MAJO	**Matsushiro**	**5.61**	**355**	*e*Pn	**Pn**	**23 09 20.3**	**+0.4**
MAT	**Matsushiro**	**5.61**	**355**	P	**Pn**	**23 09 20.2**	**+0.3**
MAT				*e*S	**S**	**23 10 27.9**	**-3.3**
MJB9	**Matsu-Tunnel**	**5.61**	**355**	*e*Pn	**Pn**	**23 09 19.9**	**0.0**
ERM	**Erimo**	**11.59**	**16**	*e*Pn	P	23 10 19.2	-8.6
ASAJ	**Asahikawa**	**13.49**	**12**	P	**Pn**	**23 10 51.7**	**+0.9**
	0.7nm,0.3s,baz=188,slow=15,SNR=4.2						
SONM	**Songino Array**	**29.91**	**314**	P	**P**	**23 13 25.9**	**-0.5**
	0.8nm,0.4s,baz=123,slow=8.4,SNR=15						
CMAR	**Chiang Mai Arr**	**38.09**	**260**	P	**P**	**23 14 35.4**	**-0.7**
	1.2nm,0.9s,baz=50,slow=6.8,SNR=4.2						
WMQ	**Urumqi**	**41.97**	**303**	P	P	23 15 12.7	+5.3
WMQ				pmax	pmax		
	comp=Z,21nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,120nm,6.5s						
WMQ				LR	LR		
	comp=N,240nm,17.7s						
WMQ				LR	LR		
	comp=Z,140nm,19.3s						
ZALV	**Zalesovo Beam**	**44.65**	**317**	P	**P**	**23 15 27.3**	**-1.0**
	comp=Z,1.0nm,0.4s,baz=105,slow=8.6,SNR=5.9						
ZALV				PcP	**PcP**	**23 17 03.3**	**+0.1**
	comp=Z,1.3nm,0.6s,baz=99,slow=2.8,SNR=6.7						
MKAR	**Makanchi Array**	**45.77**	**307**	P	**P**	**23 15 36.5**	**-0.7**
	comp=Z,1.3nm,0.3s,baz=84,slow=10,SNR=35						
MKAR				PcP	**PcP**	**23 17 08.1**	**+0.7**
	comp=Z,1.5nm,1.1s,baz=77,slow=6.0,SNR=3.2						
KURBB	**Kurchatov Arra**	**48.25**	**312**	P	**P**	**23 15 55.2**	**-0.7**
	comp=Z,1.6nm,0.4s,baz=91,slow=6.9,SNR=27						
KURBB				PcP	**PcP**	**23 17 16.3**	**+0.1**
	comp=Z,0.5nm,0.5s,baz=101,slow=3.7,SNR=2.4						
KURBB				ScP	**ScP**	**23 20 27.4**	**-5.8**
	comp=Z,0.3nm,0.8s,baz=108,slow=2.3,SNR=3.8						
WRA	**Warramunga Arr**	**50.78**	**185**	P	**P**	**23 16 15.6**	**+0.5**
	comp=Z,3.8nm,0.6s,baz=2.1,slow=7.7,SNR=45						
WRA				PcP	**PcP**	**23 17 27.6**	**+1.8**
	comp=Z,0.3nm,0.7s,baz=0.0,slow=4.3,SNR=4.6						
AAK	**Ala-Archa**	**51.67**	**302**	*e*P	**P**	**23 16 20.8**	**-0.9**
	comp=Z,1.5nm,0.6s						
BVAR	**Borovoye Array**	**53.22**	**315**	P	**P**	**23 16 32.4**	**-0.2**
	comp=Z,3.5nm,0.5s,baz=96,slow=7.7,SNR=44						
BVAR				PcP	**PcP**	**23 17 35.0**	**+0.3**
	comp=Z,0.7nm,0.4s,baz=113,slow=3.3,SNR=6.1						
BRVK	**Borovoye**	**53.28**	**316**	*e*P	**P**	**23 16 32.2**	**-0.8**
	comp=Z,6.6nm,0.6s						
KK06	**Karatay Array**	**54.46**	**303**	*e*P	**P**	**23 16 41.1**	**-0.5**
KKAR	**Karatay Array**	**54.47**	**303**	*e*P	**P**	**23 16 41.1**	**-0.5**
	comp=Z,1.6nm,0.6s						
KK08	**Karatay Array**	**54.48**	**303**	*e*P	**P**	**23 16 41.4**	**-0.4**
ASAR	**Alice Springs**	**54.50**	**186**	P	**P**	**23 16 42.7**	**+0.7**
	comp=Z,1.7nm,0.6s,baz=14,slow=12,SNR=22						
ARU	**Arti**	**59.58**	**321**	*e*P	**P**	**23 17 15.9**	**-0.9**
	comp=Z,2.0nm,0.4s						
AB06	**Akbulak array**	**60.29**	**312**	*e*P	**P**	**23 17 20.5**	**-1.2**
AB07	**Akbulak array**	**60.30**	**312**	*e*P	**P**	**23 17 21.2**	**-0.5**
AB05	**Akbulak array**	**60.30**	**312**	*e*P	**P**	**23 17 21.1**	**-0.7**
AB02	**Akbulak array**	**60.30**	**312**	*e*P	**P**	**23 17 20.7**	**-1.1**
AB01	**Akbulak array**	**60.31**	**312**	*e*P	**P**	**23 17 20.4**	**-1.4**
ABKAR	**Akbulak array**	**60.31**	**312**	*e*P	**P**	**23 17 21.0**	**-0.8**
	comp=Z,2.0nm,0.4s						
AB03	**Akbulak array**	**60.31**	**312**	*e*P	**P**	**23 17 20.4**	**-1.4**
AB04	**Akbulak array**	**60.31**	**312**	*e*P	**P**	**23 17 20.9**	**-0.9**
AB08	**Akbulak array**	**60.32**	**312**	*e*P	**P**	**23 17 21.0**	**-0.9**
AB09	**Akbulak array**	**60.32**	**312**	*e*P	**P**	**23 17 20.8**	**-1.1**
INK	**Inuvik**	**60.80**	**25**	P	**P**	**23 17 26.7**	**+2.0**
	comp=Z,0.3nm,0.4s,baz=295,slow=6.5,SNR=4.9						
STKA	**Stephens Creek**	**62.54**	**177**	P	**P**	**23 17 38.0**	**+1.3**
	comp=Z,1.1nm,0.8s,baz=323,slow=15,SNR=3.5						
ARCES	**ARCESS Array B**	**68.93**	**340**	P	**P**	**23 18 17.3**	**+0.7**
	comp=Z,2.9nm,0.9s,baz=70,slow=7.9,SNR=11						
YKA	**Yellowknife Ar**	**70.17**	**28**	P	**P**	**23 18 25.6**	**+1.5**
	comp=Z,0.1nm,0.4s,baz=300,slow=6.6,SNR=4.1						
WSAR	**Wadi Sarin**	**70.38**	**286**	P	**P**	**23 18 26.7**	**+0.5**
	comp=Z,2.4nm,0.9s,baz=58,slow=17,SNR=1.7						
FINES	**FINESS Array B**	**73.19**	**332**	P	**P**	**23 18 42.1**	**+0.2**
	comp=Z,1.5nm,0.5s,baz=70,slow=5.8,SNR=18						
KBZ	**Khabaz**	**73.24**	**311**	P	**P**	**23 18 42.4**	**-0.2**
	comp=Z,1.9nm,0.7s,baz=128,slow=4.9,SNR=6.1						
GNI	**Garni**	**73.62**	**307**	P	**P**	**23 18 45.3**	**+0.2**
	comp=Z,3.6nm,0.8s,baz=135,slow=10.0,SNR=3.2						
AKASG	**Malin Array Be**	**77.77**	**322**	P	**P**	**23 19 07.5**	**-0.4**
	comp=Z,1.2nm,0.3s,baz=54,slow=5.9,SNR=5.8						
HFS	**Hagfors**	**78.72**	**335**	P	**P**	**23 19 13.1**	**+0.2**
	comp=Z,1.8nm,0.8s,baz=114,slow=3.5,SNR=3.9						
NOA	**NORSAR Array B**	**78.93**	**337**	P	**P**	**23 19 14.0**	**-0.1**
	comp=Z,1.1nm,0.7s,baz=45,slow=5.6,SNR=3.2						
BRTR	**Keskin Array B**	**81.23**	**311**	P	**P**	**23 19 26.9**	**+0.1**
	comp=Z,0.5nm,0.6s,baz=119,slow=1.8,SNR=3.9						
MLR	**Muntele Rosu**	**82.59**	**319**	P	**P**	**23 19 34.3**	**+0.7**
	comp=Z,0.2nm,0.5s,baz=126,slow=8.7						
MMAI	**Mount Meron Ar**	**83.67**	**305**	P	**P**	**23 19 39.6**	**+0.3**
	comp=Z,0.2nm,0.3s,baz=351,slow=3.8,SNR=3.0						
TORD	**Torodi Ar. Bea**	**119.83**	**310**	PKP	**PKPdf**	**23 25 58.1**	**-0.2**
	comp=Z,0.9nm,1.1s,baz=1.8,slow=1.0,SNR=4.2						

*ISCJB **10** 23:14:57.8±0.5,43.13N±0.03×13.58E±0.04,h24km±6km, Error ellipse: s-maj=5.1km s-min=4.6km az=139.1*
*CSEM **10** 23:14:57.8±0.2,43.13N×13.56E,h20km,ML2.6/8,Error ellipse: s-maj=3.9km s-min=3.1km az=60.0*
*ROM **10** 23:14:58.0±0.2,43.12N×13.51E,h26km±2km,Md2.4/18, Ml2.0/17,Error ellipse: s-maj=2.1km s-min=1.8km az=64.0*

ISC 10 23:14:57.9±1.1,43.12N±0.02×13.57E±0.03,h21km±1km, n40,σ0§76/58,Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OFFI	**Offida**	**0.20**	**156**	Pg	**Pb**	**23 15 04.8**	**+1.0**
	418nm,0.5s						
OFFI	**Offida**	**0.20**	**156**	Pg	**Pb**	**23 15 04.8**	**+1.0**
	418nm,0.5s						
GUMA	**Gualdo di Mace**	**0.27**	**101**	Pg	**Pb**	**23 15 03.0**	**-1.3**
GUMA				Sg	**Sb**	**23 15 07.1**	**-1.6**
	679nm,0.2s						
GUMA	**Gualdo di Mace**	**0.27**	**101**	Pg	**Pb**	**23 15 03.0**	**-1.3**
GUMA				Sg	**Sb**	**23 15 07.1**	**-1.6**
	679nm,0.2s						
FDMO	**Fiordimonte**	**0.37**	**258**	Pg	**Pb**	**23 15 05.1**	**-0.5**
FDMO				Sg	**Sb**	**23 15 10.9**	**0.0**
	182nm,0.2s						
FDMO	**Fiordimonte**	**0.37**	**258**	Pg	**Pb**	**23 15 05.1**	**-0.5**
FDMO				Sg	**Sb**	**23 15 10.9**	**0.0**
	182nm,0.2s						
CING	**Cingoli**	**0.38**	**313**	Pg	**Pb**	**23 15 05.5**	**-0.3**
CING				Sg	**Sb**	**23 15 11.6**	**+0.3**
	111nm,0.4s						
CING	**Cingoli**	**0.38**	**313**	Pg	**Pb**	**23 15 05.5**	**-0.3**
CING				Sg	**Sb**	**23 15 11.6**	**+0.3**
	111nm,0.4s						
AOI	**Ancona**	**0.43**	**3**	Pg	**Pb**	**23 15 07.1**	**+0.3**
AOI				Sg	**Sb**	**23 15 14.8**	**+1.9**
	89nm,0.3s						
AOI	**Ancona**	**0.43**	**3**	Pg	**Pb**	**23 15 07.1**	**+0.3**
AOI				Sg	**Sb**	**23 15 14.8**	**+1.9**
	89nm,0.3s						
NRCA	**Norcia**	**0.44**	**230**	Pg	**Pb**	**23 15 06.5**	**-0.4**
NRCA				Sg	**Sb**	**23 15 13.6**	**+0.5**
	161nm,0.1s						
NRCA	**Norcia**	**0.44**	**230**	Pg	**Pb**	**23 15 06.5**	**-0.4**
NRCA				Sg	**Sb**	**23 15 13.6**	**+0.5**
	161nm,0.1s						
SNTG	**Esanatoglia**	**0.48**	**287**	Pg	**Pb**	**23 15 07.0**	**-0.7**
SNTG				Sg	**Sb**	**23 15 14.3**	**-0.1**
	98nm,0.2s						
SNTG	**Esanatoglia**	**0.48**	**287**	Pg	**Pb**	**23 15 07.0**	**-0.7**
SNTG				Sg	**Sb**	**23 15 14.3**	**-0.1**
	98nm,0.2s						
TERO	**Teramo**	**0.49**	**177**	Pg	**Pb**	**23 15 07.8**	**-0.1**
TERO				Sg	**Sb**	**23 15 16.4**	**+1.7**
	58nm,0.4s						
TERO	**Teramo**	**0.49**	**177**	Pg	**Pb**	**23 15 07.8**	**-0.1**
TERO				Sg	**Sb**	**23 15 16.4**	**+1.7**
	58nm,0.4s						
CESI	**CESI - Serrava**	**0.50**	**257**	Pg	**Pb**	**23 15 07.5**	**-0.6**
CESI				Sg	**Sb**	**23 15 15.1**	**+0.1**
	37nm,0.3s						
CESI	**CESI - Serrava**	**0.50**	**257**	Pg	**Pb**	**23 15 07.5**	**-0.6**
CESI				Sg	**Sb**	**23 15 15.1**	**+0.1**
	37nm,0.3s						
SMA1	**SAN MARTINO**	**0.52**	**200**	Pg	**Pb**	**23 15 08.0**	**-0.4**
	95nm,0.4s						
SMA1	**SAN MARTINO**	**0.52**	**200**	Pg	**Pb**	**23 15 08.0**	**-0.4**
	95nm,0.4s						
CAMP	**Campotosto**	**0.59**	**192**	Pg	**Pb**	**23 15 09.7**	**-0.1**
	39nm,0.6s						
CAMP	**Campotosto**	**0.59**	**192**	Pg	**Pb**	**23 15 09.7**	**-0.1**
	39nm,0.6s						
ATCC	**AVT- Casa Cast**	**0.69**	**276**	Pg	**Pb**	**23 15 10.8**	**-0.5**
ATCC	**AVT- Casa Cast**	**0.69**	**276**	Pg	**Pb**	**23 15 10.8**	**-0.5**
FRON	**Frontone**	**0.74**	**303**	Pg	**Pb**	**23 15 11.6**	**-0.5**
	59nm,0.6s						
FRON	**Frontone**	**0.74**	**303**	Pg	**Pb**	**23 15 11.6**	**-0.5**
	59nm,0.6s						
VCEL	**Villa Celiera**	**0.75**	**165**	Pg	**Pn**	**23 15 13.7**	**+0.3**
	52nm,0.3s						
VCEL	**Villa Celiera**	**0.75**	**165**	Pg	**Pn**	**23 15 13.7**	**+0.3**
	52nm,0.3s						
FSSB	**Fossombrone**	**0.82**	**315**	Pg	**Pn**	**23 15 14.3**	**+0.1**
	159nm,0.4s						
FSSB	**Fossombrone**	**0.82**	**315**	Pg	**Pn**	**23 15 14.3**	**+0.1**
	159nm,0.4s						
PIEI	**Pieia**	**0.87**	**299**	Pg	**Pb**	**23 15 13.7**	**-0.6**
	26nm,0.3s						
PIEI	**Pieia**	**0.87**	**299**	Pg	**Pb**	**23 15 13.7**	**-0.6**
	26nm,0.3s						
ATVO	**AVT- Monte Val**	**0.89**	**288**	Pg	**Pb**	**23 15 14.2**	**-0.5**
	44nm,0.8s						
ATVO	**AVT- Monte Val**	**0.89**	**288**	Pg	**Pb**	**23 15 14.2**	**-0.5**
	44nm,0.8s						
FIAM	**Fiamignano**	**0.91**	**202**	Pg	**Pb**	**23 15 15.3**	**+0.2**
	24nm,0.5s						
FIAM	**Fiamignano**	**0.91**	**202**	Pg	**Pb**	**23 15 15.3**	**+0.2**
	24nm,0.5s						
PARC	**Parchiule**	**1.11**	**299**	Pg	**Pb**	**23 15 18.5**	**+0.1**
PARC	**Parchiule**	**1.11**	**299**	Pg	**Pb**	**23 15 18.5**	**+0.1**
NVLJ	**Novalja**	**1.72**	**33**	*e*Pn	**Pn**	**23 15 26.5**	**-0.2**
NVLJ				Sn	**Sn**	**23 15 47.5**	**-0.6**
NVLJ	**Novalja**	**1.72**	**33**	*e*Pn	**Pn**	**23 15 26.4**	**-0.2**
NVLJ				Sn	**Sn**	**23 15 47.4**	**-0.6**

*NIED **10** 23:16:00,39.90N×143.50E,h14km,Mw4.4 Best double couple: M₀4.80000×10¹⁵ NP1:φs181.00000°,δ30.00000°, λ63.00000°. NP2:φs32.00000°,δ63.00000°,λ105.00000°.*
*IDC **10** 23:16:10.8±0.5,39.84N×143.61E,h0km,mb4.3/33, mb1 4.5/38,mb1mx4.4/68,mbtmp4.4/38,ML4.2/4,MS3.7/22, Ms1 3.7/22,ms1mx3.4/62,Error ellipse: s-maj=14.4km s-min=11.9km az=123.0*
*ISCJB **10** 23:16:12.3±0.7,39.91N±0.03×143.53E±0.03,h17km±5km, mb4.5/129,MS4.0/33,Error ellipse: s-maj=4.9km s-min=3.1km az=139.8*
*JMA **10** 23:16:13.4±0.2,39.94N×143.54E,h25km±5km,M4.5*
*BJI **10** 23:16:14.7,39.87N×143.27E,h28km,mb4.8/60,mB4.8/42, Ms4.3/44,Ms7 4.1/39*
*MOS **10** 23:16:15.0±1.0,40.00N×143.53E,h34km,mb4.7/66,Error ellipse: s-maj=6.7km s-min=4.2km az=101.2*
*NEIC **10** 23:16:15.4±1.4,39.87N×143.49E,h27km±9km,mb4.6/56, Error ellipse: s-maj=4.8km s-min=3.4km az=146.0*

ISC 10 23:16:14.8±0.8,39.92N±0.04×143.56E±0.04,h24km±4km, n325,σ1§33/352,mb4.6/135,MS4.0/35,26C-18D,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTH	**Tanohata**	**1.30**	**272**	P	**Pn**	**23 16 36.0**	**-1.5**
JTH				*e*S	**Sn**	**23 16 53.0**	**-1.2**
MIYJ	**Miyakonagasawa**	**1.38**	**256**	P	**Pn**	**23 16 37.6**	**-1.0**
MIYJ				*e*S	**Sn**	**23 16 54.0**	**-2.1**
JANG	**Nango**	**1.63**	**287**	P	**Pn**	**23 16 40.8**	**-1.2**
JANG				*e*S	**Sn**	**23 17 01.3**	**-1.0**
JMK	**Ichinoseki**	**2.05**	**243**	P	**Pn**	**23 16 46.9**	**-0.9**
JMK				S	**Sn**	**23 17 12.2**	**-0.4**
JTM	**Tenmabayashi**	**2.09**	**295**	P	**Pn**	**23 16 48.1**	**-0.2**
ERM	**Erimo**	**2.12**	**352**	*e*Pn	**Pn**	**23 16 47.6**	**-1.0**
ERM	**Erimo**	**2.12**	**352**	*de*P	**Pn**	**23 16 47.7**	**-1.0**
ERM				pmax	pmax		
	comp=Z,77nm,1.2s						
JEM	**Erimo**	**2.12**	**352**	P	**Pn**	**23 16 47.9**	**-0.8**
JOT	**Ohata**	**2.41**	**308**	P	**Pn**	**23 16 52.4**	**-0.3**
JOT				*e*S	**Sn**	**23 17 21.1**	**-0.3**
JNBK	**Urakawa-nobuka**	**2.44**	**346**	P	**Pn**	**23 16 53.3**	**+0.2**
JYK	**Kaneyama**	**2.67**	**249**	P	**Pn**	**23 16 56.1**	**-0.2**
JCH	**Churui**	**2.70**	**357**	P	**Pn**	**23 16 55.9**	**-0.8**
JCH				S	**Sn**	**23 17 27.6**	**-1.0**
JKB	**Kayabe**	**2.75**	**317**	P	**Pn**	**23 16 57.4**	**+0.1**
JKB				S	**Sn**	**23 17 29.0**	**-0.7**
JAK	**Akkeshi**	**3.19**	**15**	P	**Pn**	**23 17 01.9**	**-1.6**
GLVR	**Golovnino**	**4.09**	**20**	*e*P	**Pn**	**23 17 14.9**	**-0.9**
GLVR				*i* S	**Sn**	**23 18 00.8**	**-2.1**
GLVR				pmax	pmax		
	comp=Z,115nm,0.3s						
GLVR				pmax	pmax		
	comp=N,408nm,0.4s						
GLVR				smax	smax		
	comp=E,1μm,0.2s						
GLVR				smax	smax		
	comp=N,2μm,0.4s						
ASAJ	**Asahikawa**	**4.26**	**351**	Pn	**Pn**	**23 17 18.1**	**0.0**
	comp=N,12nm,0.3s,baz=208,slow=8.2,SNR=21						
ASAJ				Sn	**Sn**	**23 18 07.7**	**+0.6**
	comp=N,11nm,0.3s,baz=291,slow=20,SNR=4.0						
ASAJ	**Asahikawa**	**4.26**	**351**	*e*Pn	**Pn**	**23 17 17.7**	**-0.4**
ASAJ				Sn	**Sn**	**23 18 07.7**	**+0.6**
GRPR	**Tuman**	**4.39**	**21**	*e*P	**Pn**	**23 17 18.2**	**-1.8**
GRPR				*i* S	**Sn**	**23 18 06.1**	**-4.3**
GRPR				pmax	pmax		
	comp=Z,334nm,0.2s						
GRPR				pmax	pmax		
	comp=N,96nm,0.1s						
GRPR				pmax	pmax		
	comp=E,111nm,0.2s						
GRPR				smax	smax		
	comp=N,1μm,0.3s						
GRPR				smax	smax		
	comp=E,2μm,0.3s						
LAGR	**Lagunnoye**	**4.46**	**21**	*e*P	**Pn**	**23 17 21.0**	**+0.2**
LAGR				*i* S	**Sn**	**23 18 09.4**	**-2.5**
LAGR				pmax	pmax		
	comp=Z,372nm,0.3s						
LAGR				smax	smax		
	comp=N,3μm,0.4s						
LAGR				smax	smax		
	comp=E,2μm,0.4s						
YUK	**Yuzh-Kuril'sk**	**4.46**	**22**	*d* iP	**Pn**	**23 17 19.1**	**-1.7**
YUK				*i* S	**Sn**	**23 18 08.0**	**-4.0**
YUK				pmax	pmax		
	comp=Z,457nm,0.3s						
YUK				pmax	pmax		
	comp=E,73nm,0.2s						
YUK				smax	smax		
	comp=N,934nm,0.4s						
YUK				smax	smax		
	comp=E,1μm,0.4s						
SHO	**Shikotan**	**4.64**	**31**	*d* iP	**Pn**	**23 17 20.3**	**-3.1**
SHO				*i* S	**Sn**	**23 18 10.0**	**-6.5**
SHO				pmax	pmax		
	comp=E,49nm,0.3s						
SHO				pmax	pmax		
	comp=Z,108nm,0.3s						
SHO				pmax	pmax		
	comp=N,48nm,0.2s						
SHO				smax	smax		
	comp=E,945nm,0.3s						
SHO				smax	smax		
	comp=N,299nm,0.2s						
MJAR	**Matsushiro Arr**	**5.39**	**233**	Pn	**Pn**	**23 17 33.9**	**+0.1**
	comp=N,10.0nm,0.3s,baz=44,slow=11,SNR=96						
MJAR				LR	LR	23 19 39.3	
	comp=N,331nm,20.7s,baz=65,slow=39						
MAJO	**Matsushiro**	**5.39**	**233**	*e*Pn	**Pn**	**23 17 33.8**	**+0.1**
MAJO	**Matsushiro**	**5.39**	**233**	*c* iP	**Pn**	**23 17 34.0**	**+0.2**
MAT	**Matsushiro**	**5.39**	**233**	P	**Pn**	**23 17 33.7**	**-0.1**
MAT				*e*S	**Sn**	**23 18 36.9**	**+1.8**
MJB9	**Matsu-Tunnel**	**5.39**	**233**	*e*Pn	**Pn**	**23 17 34.1**	**+0.3**
KUR	**Kuril'sk**	**6.19**	**29**	↓*i*P	**Pn**	**23 17 43.7**	**-0.9**
KUR				*i* S	**Sn**	**23 18 50.9**	**-3.7**
KUR				pmax	pmax		
	comp=Z,24nm,0.2s						
KUR				pmax	pmax		
	comp=N,145nm,0.4s						
KUR				smax	smax		
	comp=E,315nm,0.4s						
KUR				smax	smax		
	comp=N,198nm,0.3s						
INU	**Inuyama**	**6.91**	**231**	*e*Pn	**Pn**	**23 17 55.1**	**+0.6**
YSS	**Yuzh-Sakhalins**	**7.06**	**356**	*e*P	**Pn**	**23 17 58.3**	**+1.8**
YSS				pmax	pmax		
	comp=Z,30nm,0.9s						
TEY	**Ternei**	**7.25**	**317**	*e*P	**Pn**	**23 18 01.0**	**+1.8**
TEY				MLR	MLR		
	comp=N,1μm,14.0s						
TEY				MLR	MLR		
	comp=Z,1μm,14.0s						
USRK	**Ussuriysk Ar.**	**9.61**	**300**	Pn	**Pn**	**23 18 33.2**	**+1.7**
	comp=Z,1.5nm,0.3s,baz=104,slow=13,SNR=32						
USRK				LR	LR	23 22 16.5	
	comp=Z,468nm,18.6s,baz=81,slow=38						
MSHR	**Mys Shultsa**	**9.71**	**290**	↑*e*P	**Pn**	**23 18 34.2**	**+1.2**
MDJ	**Mudanjiang**	**11.36**	**299**	P	**Pn**	**23 18 56.7**	**+1.2**
MDJ				pP		23 19 03.7	
MDJ				sP		23 19 08.2	
MDJ				S	**Sn**	**23 20 58.1**	**-3.6**
MDJ				sS		23 21 10.7	
MDJ				pmax	pmax		
	comp=Z,25nm,0.9s						
MDJ				pmax	pmax		
	comp=Z,320nm,4.8s						
MDJ				LR	LR		
	comp=Z,680nm,12.1s						
MDJ				LR	LR		
	comp=Z,770nm,13.6s						
MDJ				LR	LR		
	comp=Z,960nm,13.0s						
MDJ	**Mudanjiang**	**11.36**	**299**	*e*Pn	**Pn**	**23 18 51.2**	**-4.3**
	comp=Z,21nm,0.9s						
JNU	**Nakatsue**	**12.24**	**240**	Pn	**Pn**	**23 19 06.4**	**-1.3**
	comp=Z,0.9nm,0.3s,baz=162,slow=3.0,SNR=6.2						
JNU				LR	LR	23 24 08.0	
	comp=Z,681nm,18.7s,baz=118,slow=39						
JNU	**Nakatsue**	**12.24**	**240**	*e*Pn	**Pn**	**23 19 06.6**	**-1.0**
KSRS	**Korea Array**	**12.46**	**264**	Pn	**Pn**	**23 19 13.6**	**+2.9**
	comp=Z,0.5nm,0.3s,baz=84,slow=13,SNR=11						
KSRS				LR	LR	23 23 40.9	
	comp=Z,493nm,18.4s,baz=71,slow=36						
**KS

YAK	**Yakutsk**	**23.70**	**344**	*e*P	**P**	**23**	**21**	**24.1**	**-0.4**
	comp=Z,68nm,0.7s								
YAK	**Yakutsk**	**23.70**	**344**	*e*P	**P**	**23**	**21**	**22.4**	**-2.1**
YAK				*e**PP	**pP**	**23**	**21**	**32.8**	**+1.4**
YAK				*e*		23	25	08.6	
YAK				*e*S	**S**	**23**	**25**	**35.9**	**-2.0**
YAK				*e**SS	**sS**	**23**	**25**	**48.8**	**-0.6**
YAK				*e*		23	32	23.8	
YAK				pmax	pmax				
	comp=Z,83nm,0.9s								
YAK				pmax	pmax				
	comp=N,19nm,1.1s								
YAK				pmax	pmax				
	comp=E,11nm,1.3s								
YAK				smax	smax				
	comp=N,66nm,2.5s								
YAK				smax	smax				
	comp=E,41nm,3.0s								
YAK				MLR	MLR				
	comp=N,67nm,17.0s								
YAK				MLR	MLR				
	comp=Z,119nm,17.0s								
YAK				MLR	MLR				
	comp=E,76nm,14.0s								
HHC	**Hu-ho-hao-te**	**24.32**	**283**	*e*P	**P**	**23**	**21**	**30.4**	**-0.3**
HHC				PP	**PnPn**	**23**	**22**	**05.6**	**+4.6**
HHC				S	**S**	**23**	**25**	**43.7**	**-4.8**
HHC				SS	**SnSn**	**23**	**26**	**37.0**	**+5.0**
HHC				pmax	pmax				
	comp=E,7.0nm,0.7s								
HHC				pmax	pmax				
	comp=E,97nm,4.0s								
HHC				LR	LR				
	comp=E,460nm,13.7s								
HHC				LR	LR				
	comp=E,530nm,12.7s								
HHC				LR	LR				
	comp=E,670nm,12.1s								
SSLB	**Suanglung**	**24.94**	**237**	*e*P	**P**	**23**	**21**	**34.9**	**-1.4**
	comp=E,9.7nm,0.7s								
YULB	**Yu-li**	**25.00**	**235**	*e*P	**P**	**23**	**21**	**35.7**	**-1.2**
	comp=E,6.7nm,0.4s								
WHN	**Wuhan**	**25.53**	**258**	⇓P	**P**	**23**	**21**	**41.5**	**-0.1**
WHN				S	**S**	**23**	**26**	**08.9**	**+1.1**
WHN				pmax	pmax				
	comp=E,100nm,0.8s								
WHN				LR	LR				
	comp=E,1µm,16.6s								
WHN				LR	LR				
	comp=E,460nm,11.3s								
WHN				LR	LR				
	comp=E,870nm,17.0s								
BOD	**Bodaibo**	**26.11**	**323**	*e*P	**P**	**23**	**21**	**46.5**	**-0.1**
BOD				pmax	pmax				
	comp=Z,17nm,0.9s								
ULN	**Ulaanbaatar**	**27.28**	**299**	*e*P	**P**	**23**	**21**	**58.0**	**+0.6**
	comp=E,16nm,0.9s								
ULN	**Ulaanbaatar**	**27.28**	**299***c*	*e*P	**P**	**23**	**21**	**57.7**	**+0.3**
ULN				pmax	pmax				
	comp=Z,23nm,1.2s								
SONA1	**Songino Array**	**27.71**	**299**	*e*P	**P**	**23**	**22**	**01.4**	**+0.1**
SONM	**Songino Array**	**27.72**	**299**	P	**P**	**23**	**22**	**01.8**	**+0.5**
	comp=Z,8.5nm,0.6s,baz=90,slow=8.7,SNR=83								
SONM				LR	LR	23	33	51.4	
	comp=Z,372nm,18.1s,baz=78,slow=38								
XAN	**Xi'an**	**28.17**	**269**	P	**P**	**23**	**22**	**04.0**	**-1.3**
XAN				pP	sP	23	22	14.3	-1.0
XAN				SS	SS	23	28	09.8	-39
XAN				pmax	pmax				
	comp=Z,12nm,0.5s								
XAN				pmax	pmax				
	comp=Z,54nm,3.5s								
XAN				LR	LR				
	comp=Z,110nm,12.7s								
XAN				LR	LR				
	comp=Z,340nm,14.2s								
XAN				LR	LR				
	comp=Z,320nm,13.5s								
H11N2	**WAKE ISLAND Hy**	**28.39**	**128**	T	T	23	51	52.3	
	baz=320,slow=74								
H11N1	**WAKE ISLAND Hy**	**28.40**	**128**	T	T	23	51	54.9	
	baz=320,slow=74								
H11N3	**WAKE ISLAND Hy**	**28.41**	**128**	T	T	23	52	16.7	
	baz=320								
H11S1	**WAKE ISLAND Hy**	**29.22**	**130**	T	T	23	53	17.1	
	baz=322,slow=74								
H11S3	**WAKE ISLAND Hy**	**29.22**	**130**	T	T	23	53	15.3	
	baz=322,slow=74								
H11S2	**WAKE ISLAND Hy**	**29.24**	**130**	T	T	23	53	13.9	
	baz=322,slow=74								
ENH	**Enshi**	**29.34**	**262**	*e*P	**P**	**23**	**22**	**15.4**	**-0.4**
	comp=Z,43nm,1.0s								
TLY	**Talaya**	**29.84**	**307**	*e*P	**P**	**23**	**22**	**21.2**	**+1.2**
TLY				pmax	pmax				
	comp=Z,6.0nm,1.2s								
TLY				MLR	MLR				
	comp=Z,228nm,14.0s								
ZAK	**Zakamensk**	**29.93**	**304**	*e*P	**P**	**23**	**22**	**21.0**	**+0.1**
ZAK				pmax	pmax				
	comp=Z,4.0nm,1.3s								
BILL	**Bilibino**	**30.79**	**16**	*e*P	**P**	**23**	**22**	**28.3**	**+0.1**
BILL				*e*		23	22	45.1	
BILL				*e*		23	23	28.4	
BILL				pmax	pmax				
	comp=Z,3.0nm,0.8s								
BILL				MLR	MLR				
	comp=Z,84nm,17.0s								
LZH	**Lanzhou**	**31.35**	**276**	*e*P	**P**	**23**	**22**	**33.5**	**-0.1**
LZH				pP	sP	23	22	43.0	-0.6
LZH				sP	pP	23	22	46.5	+5.8
LZH				PP	**PnPn**	**23**	**23**	**37.4**	**+1.1**
LZH				*e*S	**S**	**23**	**27**	**38.3**	**-1.3**
LZH				sS	sS	23	27	52.1	+0.9
LZH				pmax	pmax				
	comp=Z,36nm,1.0s								
LZH				pmax	pmax				
	comp=Z,200nm,4.6s								
LZH				LR	LR				
	comp=Z,430nm,13.2s								
LZH				LR	LR				
	comp=Z,650nm,13.5s								
LZH				LR	LR				
	comp=Z,750nm,15.3s								
MOY	**Mondy**	**31.48**	**306**	*e*P	**P**	**23**	**22**	**34.7**	**+0.1**
TIXI	**Tiksi**	**32.66**	**351**	*e*P	**P**	**23**	**22**	**43.8**	**-0.7**
	comp=Z,1.6nm,0.5s								
TIXI	**Tiksi**	**32.66**	**351**	⇓*e*P	**P**	**23**	**22**	**44.2**	**-0.3**
TIXI				pmax	pmax				
	comp=Z,8.0nm,2.5s								
GTA	**Gaotai**	**33.43**	**284**	*e*P	**P**	**23**	**22**	**52.2**	**+0.4**
GTA				pP	sP	23	23	01.3	-0.5
GTA				sP	pP	23	23	05.8	+6.9
GTA				S	**S**	**23**	**28**	**09.5**	**-2.3**
GTA				sS	sS	23	28	26.2	+2.7
GTA				SS	**SnSn**	**23**	**30**	**11.6**	**-2.4**
GTA				pmax	pmax				
	comp=Z,15nm,0.8s								
GTA				pmax	pmax				
	comp=Z,82nm,5.2s								
GTA				LR	LR				
	comp=Z,160nm,15.7s								
GTA				LR	LR				
	comp=Z,390nm,16.9s								
GTA				LR	LR				
	comp=Z,410nm,15.9s								
CD2	**Chengdu**	**33.43**	**267**	*e*P	**P**	**23**	**22**	**50.5**	**-1.3**
CD2				pmax	pmax				
	comp=Z,10.0nm,0.5s								
CD2				pmax	pmax				
	comp=Z,120nm,5.0s								
KNGR	**Kungurtug, Tuv**	**33.62**	**304**	*e*P	**P**	**23**	**22**	**53.8**	**+0.5**
QIZ	**Qiongzhong**	**35.67**	**244**	P	**P**	**23**	**23**	**09.2**	**-2.0**
QIZ				S	**S**	**23**	**28**	**45.1**	**-1.4**
QIZ				pmax	pmax				
	comp=Z,7.0nm,1.3s								
QIZ				LR	LR				
	comp=Z,140nm,14.6s								
QIZ				LR	LR				
	comp=Z,200nm,14.0s								
QIZ				LR	LR				
	comp=Z,190nm,15.3s								
DAV	**Davao City (W)**	**36.47**	**211**	LR	LR	23	35	36.3	
	comp=Z,76nm,20.2s,baz=356,slow=32								
KMI	**Kunming**	**37.11**	**259**	P	**P**	**23**	**23**	**24.3**	**+0.6**
KMI				pmax	pmax				
	comp=Z,8.0nm,0.6s								
KMI				pmax	pmax				
	comp=Z,76nm,4.3s								
KMI				LR	LR				
	comp=Z,210nm,13.9s								
KMI				LR	LR				
	comp=Z,210nm,16.1s								
KMI				LR	LR				
	comp=Z,290nm,17.6s								
DGZ	**Jazzator, Alta**	**40.15**	**303**	*e*P	**P**	**23**	**23**	**49.6**	**+0.7**
DGZ				pmax	pmax				
	comp=Z,5.0nm,0.8s								
WMQ	**Urumqi**	**41.12**	**294**	P	**P**	**23**	**23**	**57.5**	**+0.7**
WMQ				pP	pP	23	24	01.9	-2.1
WMQ				sP	sP	23	24	06.3	-0.6
WMQ				pmax	pmax				
	comp=Z,47nm,1.1s								
WMQ				pmax	pmax				
	comp=Z,110nm,3.8s								
ZAA0	**Zalesovo Array**	**41.28**	**310**	*e*P	**P**	**23**	**23**	**58.3**	**+0.3**
	comp=Z,8.5nm,0.6s								
ZALV	**Zalesovo Beam**	**41.28**	**310**	P	**P**	**23**	**23**	**58.2**	**+0.2**
	comp=Z,4.8nm,0.4s,baz=88,slow=7.9,SNR=33								
ZALV				PcP	**PcP**	**23**	**25**	**56.6**	**+0.3**
	comp=Z,3.2nm,0.7s,baz=88,slow=3.0,SNR=5.2								
ZALV				LR	LR	23	41	55.6	
	comp=Z,110nm,20.2s,baz=70,slow=37								
ZALV	**Zalesovo Beam**	**41.28**	**310**	*e*P	**P**	**23**	**23**	**57.9**	**-0.1**
ZALV				PcP	**PcP**	**23**	**25**	**56.6**	**+0.3**
NVS	**Novosibirsk**	**42.13**	**311**	*e*P	**P**	**23**	**24**	**05.3**	**+0.4**
NVS				pmax	pmax				
	comp=Z,7.0nm,0.9s								
NVS				pmax	pmax				
	comp=E,8.0nm,1.4s								
IM3	**Indian Mountai**	**43.32**	**32**	*e*P	**P**	**23**	**24**	**16.7**	**+2.3**
CHTO	**Chiang Mai**	**43.66**	**255**	*e*P	**P**	**23**	**24**	**17.2**	**-0.5**
	comp=E,3.3nm,0.8s								
CHTO	**Chiang Mai**	**43.66**	**255**	*e*P	**P**	**23**	**24**	**17.2**	**-0.5**
CHTO				pmax	pmax				
	comp=Z,3.0nm,0.8s								
LSA	**Lhasa**	**43.67**	**273**	*e*P	**P**	**23**	**24**	**19.1**	**+0.8**
	comp=Z,3.5nm,0.4s								
LSA	**Lhasa**	**43.67**	**273**	*e*P	**P**	**23**	**24**	**19.1**	**+0.8**
LSA				pmax	pmax				
	comp=Z,3.0nm,0.4s								
KDAK	**Kodiak Island**	**43.84**	**44**	P	**P**	**23**	**24**	**18.2**	**-0.5**
	comp=Z,6.4nm,0.9s,baz=281,slow=19,SNR=3.0								
FAKI	**Fak Fak**	**43.88**	**196**	*e*P	**P**	**23**	**24**	**18.6**	**-0.8**
	comp=Z,29nm,1.4s								
CMAR	**Chiang Mai Arr**	**43.88**	**254**	P	**P**	**23**	**24**	**18.9**	**-0.6**
	comp=Z,1.2nm,0.6s,baz=44,slow=7.4,SNR=9.4								
CMAR				LR	LR	23	43	40.5	
	comp=Z,47nm,18.9s,baz=60,slow=38								
MK01	**Makanchi Array**	**44.08**	**300**	*e*P	**P**	**23**	**24**	**20.8**	**0.0**
MK31	**Makanchi Array**	**44.08**	**300**	*e*P	**P**	**23**	**24**	**21.0**	**+0.2**
MK31	**Makanchi Array**	**44.08**	**300***c*	*e*P	**P**	**23**	**24**	**20.8**	**0.0**
MK31				pmax	pmax				
	comp=Z,6.0nm,0.7s								
MKAR	**Makanchi Array**	**44.08**	**300**	P	**P**	**23**	**24**	**20.8**	**0.0**
	comp=Z,5.5nm,0.8s,baz=84,slow=9.6,SNR=35								
MKAR				LR	LR	23	43	40.2	
	comp=Z,118nm,20.0s,baz=62,slow=37								
MKAR	**Makanchi Array**	**44.08**	**300**	*e*P	**P**	**23**	**24**	**21.0**	**+0.2**
	comp=Z,40nm,0.7s								
BPAW	**Bear Paw Mtn.**	**44.40**	**35**	*e*P	**P**	**23**	**24**	**23.6**	**+0.4**
	comp=Z,0.3nm,0.5s								
TRF	**Thorofare Moun**	**44.71**	**36**	*e*P	**P**	**23**	**24**	**26.9**	**+1.1**
COLD	**Coldfoot**	**44.82**	**30**	*e*P	**P**	**23**	**24**	**27.1**	**+0.7**
	comp=Z,1.7nm,0.6s								
MCK	**McKinley**	**45.31**	**35**	*e*P	**P**	**23**	**24**	**31.2**	**+0.8**
	comp=Z,3.0nm,0.8s								
MCK	**McKinley**	**45.31**	**35**	*e*P	**P**	**23**	**24**	**31.2**	**+0.8**
MCK				pmax	pmax				
	comp=Z,3.0nm,0.8s								
KURK	**Kurchatov**	**45.53**	**306**	*e*P	**P**	**23**	**24**	**32.3**	**0.0**
	comp=Z,17nm,0.6s								
KURK				PcP	**PcP**	**23**	**26**	**11.7**	**+1.0**
KURK	**Kurchatov**	**45.53**	**306***c*	*e*P	**P**	**23**	**24**	**32.2**	**-0.1**
KURK				pmax	pmax				
	comp=Z,50nm,0.7s								
MDM	**Murphy Dome**	**45.58**	**34**	*e*P	**P**	**23**	**24**	**34.9**	**+2.3**
	comp=Z,9.2nm,1.2s								
KURBB	**Kurchatov Arra**	**45.61**	**306**	P	**P**	**23**	**24**	**32.8**	**-0.1**
	comp=Z,14nm,0.7s,baz=79,slow=8.7,SNR=86								
KURBB				PcP	**PcP**	**23**	**26**	**11.7**	**+0.7**
	comp=Z,1.9nm,0.7s,baz=82,slow=3.9,SNR=2.7								
SML	**Sawmill**	**45.68**	**38**	*e*P	**P**	**23**	**24**	**34.0**	**+0.6**
	comp=Z,1.2nm,0.9s								
SML	**Sawmill**	**45.68**	**38**	*e*P	**P**	**23**	**24**	**34.0**	**+0.6**
SML				pmax	pmax				
	comp=Z,1.0nm,0.9s								
COLA	**College**	**45.75**	**34**	*e*P	**P**	**23**	**24**	**34.6**	**+0.8**
COLA				pmax	pmax				
	comp=Z,3.0nm,0.5s								
ILAR	**Eielson Array**	**46.16**	**34**	P	**P**	**23**	**24**	**37.6**	**+0.4**
	comp=Z,1.6nm,0.7s,baz=262,slow=6.7,SNR=20								
ILB	**Eielson Array**	**46.16**	**34**	*e*P	**P**	**23**	**24**	**38.4**	**+1.3**
IL1	**Eielson Array**	**46.16**	**34**	*e*P	**P**	**23**	**24**	**38.0**	**+0.9**
PDGK	**Podgornoye**	**46.97**	**296**	*i* P	**P**	**23**	**24**	**41.9**	**-2.0**
PDGK				pmax	pmax				
	comp=Z,6.0nm,0.7s								
DOT	**Dot Lake**	**47.48**	**35**	*e*P	**P**	**23**	**24**	**48.0**	**+0.6**
	comp=Z,5.6nm,0.6s								
RAMN	**Ramite**	**48.51**	**273**	*e*P	**P**	**23**	**24**	**56.5**	**+0.3**
GUN	**Gumba**	**48.59**	**274**	*e*P	**P**	**23**	**24**	**57.1**	**+0.2**
	comp=Z,56nm,0.6s								
EGAK	**Eagle**	**48.61**	**34**	*e*P	**P**	**23**	**24**	**56.7**	**+0.6**
	comp=Z,5.4nm,0.9s								
KKN	**Kakani**	**49.10**	**274**	*e*P	**P**	**23**	**25**	**00.9**	**+0.2**
	comp=Z,39nm,0.6s								
PKIN	**Phulchoki**	**49.12**	**274**	*e*P	**P**	**23**	**25**	**01.3**	**+0.4**
	comp=Z,23nm,0.6s								
DMN	**Daman**	**49.33**	**274**	*e*P	**P**	**23**	**25**	**03.1**	**+0.6**
GKN	**Gorkha**	**49.49**	**275**	*e*P	**P**	**23**	**25**	**03.5**	**-0.1**
	comp=Z,14nm,0.5s								
TKM2	**Tokmak 2**	**49.78**	**297**	P	**P**	**23**	**25**	**06.5**	**+0.8**
	SNR=22								
TKM2	**Tokmak 2**	**49.78**	**297**	*i* P	**P**	**23**	**25**	**05.1**	**-0.6**
TKM2				pmax	pmax				
	comp=Z,21nm,0.8s								
BVAR	**Borovoye Array**	**49.92**	**311**	P	**P**	**23**	**25**	**06.6**	**+0.3**
	comp=Z,4.2nm,0.5s,baz=77,slow=8.6,SNR=42								
BVAR				PcP	**PcP**	**23**	**26**	**27.2**	**+0.9**
	comp=Z,1.7nm,0.7s,baz=54,slow=5.7,SNR=1.9								
BRVK	**Borovoye**	**49.97**	**311**	*e*P	**P**	**23**	**25**	**07.1**	**+0.4**
	comp=Z,6.0nm,0.8s								
BRVK	**Borovoye**	**49.97**	**311***c*	*i* P	**P**	**23**	**25**	**06.9**	**+0.2**
BRVK				pmax	pmax				
	comp=Z,10.0nm,0.6s								
DANN	**Dangsing**	**49.99**	**276**	*e*P	**P**	**23**	**25**	**08.3**	**+0.8**
KBK	**Karagaybulak**	**50.33**	**297**	P	**P**	**23**	**25**	**10.2**	**+0.4**
	SNR=26								
KZA	**Kyzart**	**50.33**	**296**	P	**P**	**23**	**25**	**11.2**	**+1.1**
	SNR=8.9								
KOLN	**Koldanda**	**50.40**	**275**	*e*P	**P**	**23**	**25**	**10.6**	**0.0**
	comp=Z,7.0nm,0.4s								
AAK	**Ala-Archa**	**50.64**	**297**	LR	LR	23	47	46.3	
	comp=Z,137nm,18.5s,baz=74,slow=37								
AAK	**Ala-Archa**	**50.64**	**297**	P	**P**	**23**	**25**	**12.3**	**+0.2**
	SNR=5.6								
AAK	**Ala-Archa**	**50.64**	**297**	*e*P	**P**	**23**	**25**	**12.3**	**+0.2**
	comp=Z,5.5nm,1.0s								
AAK	**Ala-Archa**	**50.64**	**297***c*	*i* P	**P**	**23**	**25**	**12.1**	**0.0**
AAK				pmax	pmax				
	comp=Z,2.0nm,0.5s								
PYUN	**Piuthan**	**50.70**	**276**	*e*P	**P**	**23**	**25**	**13.1**	**+0.3**
	comp=Z,24nm,0.6s								
KSH	**Kashi**	**50.81**	**293**	P	P	23	25	18.0	+4.6
KSH				PcP	**PcP**	**23**	**26**	**33.0**	**+3.0**
KSH				S	**S**	**23**	**32**	**31.3**	**+3.3**
KSH				ScS	**ScS**	**23**	**35**	**06.7**	**+3.9**
KSH				pmax	pmax				
	comp=Z,10.0nm,0.7s								
KSH				pmax	pmax				
	comp=Z,100nm,3.6s								
KSH				LR	LR				
	comp=Z,160nm,5.5s								
KSH				LR	LR				
	comp=Z,170nm,5.8s								
KSH				LR	LR				
	comp=Z,600nm,14.5s								
HYT	**Haines Junctio**	**50.99**	**38**	*e*P	**P**	**23**	**25**	**16.6**	**+2.1**
	comp=Z,9.1nm,0.9s								
INK	**Inuvik**	**51.06**	**28**	*e*P	**P**	**23**	**25**	**15.8**	**+1.2**
	comp=Z,7.3nm,1.2s								
INK	**Inuvik**	**51.06**	**28**	*e*P	**P**	**23**	**25**	**15.8**	**+1.2**
INK				pmax	pmax				
	comp=Z,7.0nm,1.2s								
EKS2	**Erkin-Say**	**51.13**	**297**	P	**P**	**23**	**25**	**15.8**	**+0.1**
	SNR=11								
AML	**Almayashu**	**51.38**	**297**	P	**P**	**23**	**25**	**18.6**	**+0.6**
	SNR=14								
MNAS	**Manas**	**52.06**	**297**	*i* P	**P**	**23**	**25**	**22.6**	**-0.2**
MNAS				pmax	pmax				
	comp=Z,12nm,0.7s								
KK05	**Karatay Array**	**53.16**	**299**	*e*P	**P**	**23**	**25**	**30.4**	**-0.3**
KK06	**Karatay Array**	**53.17**	**299**	*e*P	**P**	**23**	**25**	**30.4**	**-0.4**
KK02	**Karatay Array**	**53.17**	**299**	*e*P	**P**	**23**	**25**	**30.5**	**-0.3**
KK31	**Karatay Array**	**53.17**	**299***c*	*e*P	**P**	**23**	**25**	**30.4**	**-0.4**
KK31				pmax	pmax				
	comp=Z,2.0nm,0.5s								
KKAR	**Karatay Array**	**53.17**	**299**	*e*P	**P**	**23**	**25**	**30.4**	**-0.4**
	comp=Z,4.5nm,0.7s								
KKAR	**Karatay Array**	**53.17**	**299**	*e*P	**P**	**23**	**25**	**30.4**	**-0.4**
KKAR				pmax	pmax				
	comp=Z,4.0nm,0.7s								
KK04	**Karatay Array**	**53.17**	**299**	*e*P	**P**	**23**	**25**	**30.4**	**-0.4**
KK01	**Karatay Array**	**53.17**	**299**	*e*P	**P**	**23**	**25**	**30.6**	**-0.3**
KK03	**Karatay Array**	**53.18**	**299**	*e*P	**P**	**23**	**25**	**30.5**	**-0.4**
KK07	**Karatay Array**	**53.19**	**299**	*e*P	**P**	**23**	**25**	**30.6**	**-0.3**
KK08	**Karatay Array**	**53.19**	**299**	*e*P	**P**	**23**	**25**	**30.7**	**-0.2**
SVE	**Sverdlovsk**	**54.13**	**318**	⇑*i* P	**P**	**23**	**25**	**38.7**	**+1.2**
SVE				pmax	pmax				
	comp=Z,15nm,0.8s								
SVE				MLR	MLR				
	comp=Z,499nm,15.0s								
PSI	**Prapat**	**54.71**	**239**	P	**P**	**23**	**25**	**42.9**	**+0.4**
	comp=Z,3.2nm,0.4s,baz=352,slow=7.1,SNR=3.6								
PSI				LR	LR	23	50	29.8	
	comp=Z,36nm,18.2s,baz=36,slow=38								
ARU	**Arti**	**55.34**	**318**	*e*P	**P**	**23**	**25**	**46.0**	**-0.3**
	comp=Z,17nm,1.3s								
ARU	**Arti**	**55.34**	**318***c*	*i* P	**P**	**23**	**25**	**46.6**	**+0.3**
ARU						23	26	43.6	
ARU						23	27	48.5	
ARU				S	**S**	**23**	**33**	**30.8**	**+1.9**
ARU				SS	**SS**	**23**	**37**	**15.9**	**+3.0**
ARU				pmax	pmax				
	comp=Z,19nm,1.7s								
ARU				MLR	MLR				
	comp=Z,394nm,15.0s								
NIL	**Nilore**	**55.34**	**287**	*e*P	**P**	**23**	**25**	**47.7**	**+1.0**
NIL	**Nilore**	**55.34**	**287**	*e*P	**P**	**23**	**25**	**47.7**	**+1.0**
AB06	**Akbulak array**	**57.38**	**309**	*e*P	**P**	**23**	**26**	**00.9**	**0.0**
AB05	**Akbulak array**	**57.38**	**309**	*e*P	**P**	**23**	**26**	**01.2**	**+0.2**
AB02	**Akbulak array**	**57.39**	**309**	*e*P	**P**	**23**	**26**	**01.2**	**+0.1**
AB07	**Akbulak array**	**57.39**	**309**	*e*P	**P**	**23**	**26**	**01.1**	**+0.1**
AB01	**Akbulak array**	**57.39**	**309**	*e*P	**P**	**23**	**26**	**01.1**	**0.0**
AB31	**Akbulak array**	**57.39**	**309**	*e*P	**P**	**23**	**26**	**01.4**	**+0.3**
AB31	**Akbulak array**	**57.39**	**309***c*	*e*P	**P**	**23**	**26**	**00.9**	**-0.2**
AB31				pmax	pmax				
	comp=Z,3.0nm,0.4s								
ABKAR	**Akbulak array**	**57.39**	**309**	*e*P	**P**	**23**	**26**	**01.3**	**+0.3**
	comp=Z,6.4nm,0.5s								
AB03	**Akbulak array**	**57.40**	**309**	*e*P	**P**	**23**	**26**	**01.1**	**0.0**
AB04	**Akbulak array**	**57.40**	**309**	*e*P	**P**	**23**	**26**	**01.1**	**0.0**
AB09	**Akbulak array**	**57.41**	**309**	*e*P	**P**	**23**	**26**	**01.3**	**+0.2**
AB08	**Akbulak array**	**57.41**	**309**	*e*P	**P**	**23**	**26**	**01.2**	**0.0**
KBL	**Kabul**	**57.98**	**290**	*e*P	**P**	**23**	**26**	**05.5**	**-0.2**
	comp=Z,8.3nm,1.0s								
KBL	**Kabul**	**57.98**	**290**	*e*P	**P**	**23**	**26**	**05.5**	**-0.2**
KBL				pmax	pmax				
	comp=Z,8.0nm,1.0s								
AKTO	**Aktyubinsk**	**58.02**	**311**	P	**P**	**23**	**26**	**05.6**	**+0.1**
	comp=Z,2.8nm,0.6s,baz=77,slow=13,SNR=9.0								
AKTO				LR	LR	23	53	23.4	
	comp=Z,52nm,18.1s,baz=56,slow=38								
AKTO	**Aktyubinsk**	**58.02**	**311**	*i* P	**P**	**23**	**26**	**02.9**	**-2.6**
AKTO				pmax	pmax				
	comp=Z,3.0nm,0.7s								
SPITS	**Spitsbergen Ar**	**58.02**	**349**	LR	LR	23	53	53.8	
	comp=Z,76nm,18.6s,baz=350,slow=39								
RES	**Resolute Bay**	**59.39**	**15**	P	**P**	**23**	**26**	**14.5**	**-0.1**
	comp=Z,3.2nm,0.7s,baz=304,slow=6.5,SNR=18								
RES	**Resolute Bay**	**59.39**	**15**	*e*P	**P**	**23**	**26**	**14.6**	**0.0**
	comp=Z,4.1nm,0.8s								
WB2	**Warramunga Arr**	**60.16**	**190**	*e*P	**P**	**23**	**26**	**18.5**	**-2.1**
WRA	**Warramunga Arr**	**60.17**	**190**	P	**P**	**23**	**26**	**19.1**	**-1.4**
	comp=Z,3.1nm,0.6s,baz=8.5,slow=6.9,SNR=32								
YKA	**Yellowknife Ar**	**60.47**	**31**	P	**P**	**23**	**26**	**22.3**	**+0.1**
	comp=Z,0.8nm,0.7s,baz=301,slow=6.7,SNR=18								
TMCR	**Tamitsa**	**61.03**	**331**	*e*P	**P**	**23**	**26**	**26.4**	**+0.4**
TMCR				pmax	pmax				
	comp=Z,9.0nm,0.9s								
ARCES	**ARCESS Array B**	**61.90**	**339**	P	**P**	**23**	**26**	**32.3**	**+0.5**
	comp=Z,2.6nm,0.8s,baz=53,slow=8.2,SNR=8.3								
KLMR	**Klimovskoe**	**62.23**	**328**	*e*P	**P**	**23**	**26**	**30.7**	**-3.4**
KLMR				pmax	pmax				
	comp=Z,10.0nm,1.5s								
KLMR	**Klimovskoe**	**62.23**	**328**	*e*P	**P**	**23**	**26**	**30.7**	**-3.4**
KLMR				AMP		23	26	36.4	
	comp=Z,10.0nm,1.5s								
KLMR				LQ	LQ	23	49	27.5	
KLMR				LQ	LQ	23	49	27.5	
AS01	**Alice Springs**	**63.88**	**190**	*e*P	**P**	**23**	**26**	**44.6**	**-0.9**
**ASAR

	comp=Z,9.0nm,0.9s							
KBZ					MLR		MLR	
FFC	**Flin Flon**	**70.38**	**34**	*e*P		**P**	**23 27 26.9**	**+0.5**
	comp=Z,80nm,18.1s							
FFC	**Flin Flon**	**70.38**	**34**	*e*P		**P**	**23 27 26.9**	**+0.5**
FFC					pmax	pmax		
	comp=Z,4.0nm,1.0s							
TBLG	**Delisi**	**70.39**	**308**	P		**P**	**23 27 27.8**	**+1.0**
TBLG	**Delisi**	**70.39**	**308**	*e*P		**P**	**23 27 28.1**	**+1.2**
	comp=Z,8.2nm,0.7s							
TBLG	**Delisi**	**70.39**	**308**	*e*P		**P**	**23 27 27.8**	**+1.0**
MFID	**Camas Ranch**	**70.46**	**49**	*e*P		**P**	**23 27 28.3**	**+1.0**
	comp=Z,1.7nm,0.7s							
NEY	**Neytrino**	**70.69**	**310**⇓	*e*P		**P**	**23 27 29.9**	**+1.1**
NEY					pmax	pmax		
	comp=Z,2.0nm,0.8s							
LRM	**Limekiln Ridge**	**70.92**	**46**	*e*P		**P**	**23 27 31.4**	**+1.2**
HLID	**Hailey**	**71.19**	**49**	*e*P		**P**	**23 27 32.7**	**+0.9**
	comp=Z,2.8nm,1.0s							
BMN	**Battle Mountai**	**71.41**	**53**	*e*P		**P**	**23 27 34.2**	**+1.0**
BMN	**Battle Mountai**	**71.41**	**53**	*e*P		**P**	**23 27 34.2**	**+1.0**
STKA	**Stephens Creek**	**71.45**	**182**	P		**P**	**23 27 32.5**	**-0.6**
	comp=Z,2.1nm,0.9s,baz=16,slow=15,SNR=2.6							
WSAR	**Wadi Sarin**	**71.74**	**285**	P		**P**	**23 27 35.7**	**+0.5**
	comp=Z,2.6nm,0.9s,baz=63,slow=4.5,SNR=2.6							
NVAR	**Mina Array Bea**	**71.93**	**55**	P		**P**	**23 27 36.6**	**+0.2**
	comp=Z,0.7nm,0.3s,baz=300,slow=4.1,SNR=4.4							
HFS	**Hagfors**	**72.15**	**336**	P		**P**	**23 27 37.3**	**+0.3**
	comp=Z,4.5nm,0.6s,baz=64,slow=6.7,SNR=13							
HFS					LR	LR	00 01 52.6	
	comp=Z,39nm,21.0s,baz=31,slow=38							
NB2	**NORSAR Subarra**	**72.17**	**338**	P		**P**	**23 27 37.3**	**+0.1**
	comp=Z,1.5nm,0.5s,baz=35,slow=6.2							
NOA	**NORSAR Array B**	**72.17**	**338**	P		**P**	**23 27 37.3**	**+0.1**
	comp=Z,4.1nm,0.8s,baz=38,slow=6.0,SNR=10							
NOA					LR	LR	00 02 37.7	
	comp=Z,75nm,20.4s,baz=35,slow=39							
AKASG	**Malin Array Be**	**73.04**	**323**	P		**P**	**23 27 42.3**	**-0.2**
	comp=Z,3.3nm,0.6s,baz=45,slow=6.1,SNR=17							
KIEV	**Kiev**	**73.05**	**323**	*e*P		**P**	**23 27 41.9**	**-0.7**
	comp=Z,4.4nm,0.8s							
KIEV	**Kiev**	**73.05**	**323**⇓	*e*P		**P**	**23 27 42.5**	**-0.1**
KIEV					pmax	pmax		
	comp=Z,5.0nm,0.9s							
MOOW	**Moose Ponds**	**73.17**	**47**	*e*P		**P**	**23 27 45.6**	**+1.9**
	comp=Z,7.7nm,1.5s							
HVU	**Hansel Valley**	**73.24**	**49**	*e*P		**P**	**23 27 46.4**	**+2.3**
	comp=Z,3.2nm,1.0s							
HVU	**Hansel Valley**	**73.24**	**49**	*e*P		**P**	**23 27 46.4**	**+2.3**
HVU					pmax	pmax		
	comp=Z,3.0nm,1.0s							
FRB	**Frobisher Bay**	**73.58**	**14**	P		**P**	**23 27 45.5**	**+0.1**
	comp=Z,5.9nm,0.8s,baz=336,slow=6.9,SNR=3.7							
PDAR	**Pinedale Array**	**74.46**	**47**	P		**P**	**23 27 51.2**	**-0.1**
	comp=Z,0.6nm,0.8s,baz=296,slow=1.7,SNR=6.5							
PDAR	**Pinedale Array**	**74.46**	**47**	*e*P		**P**	**23 27 49.6**	**-1.7**
SORM	**Soroca**	**75.22**	**321**⇑	*i*P		**P**	**23 27 55.1**	**-0.2**
SRU	**San Rafael Swe**	**76.26**	**50**	*e*P		**P**	**23 28 02.5**	**+0.8**
	comp=Z,6.0nm,1.2s							
SRU	**San Rafael Swe**	**76.26**	**50**	*e*P		**P**	**23 28 02.5**	**+0.8**
SRU					pmax	pmax		
	comp=Z,6.0nm,1.2s							
BUR08	**Bucovina Ar. S**	**77.06**	**322**	*e*P		**P**	**23 28 06.8**	**+0.9**
BUR04	**Bucovina Ar. S**	**77.08**	**322**	*e*P		**P**	**23 28 06.5**	**+0.4**
BURAR	**Bucovina Array**	**77.08**	**322**⇓	*i*P		**P**	**23 28 06.7**	**+0.7**
BURAR	**Bucovina Array**	**77.08**	**322**⇓	*i*P		**P**	**23 28 06.7**	**+0.7**
TESR	**Tescani**	**77.18**	**321**⇑	*i*P		**P**	**23 28 06.5**	**0.0**
STHS	**Stebnicka Huta**	**77.55**	**326**	*e*P		**P**	**23 28 10.2**	**+1.7**
STHS	**Stebnicka Huta**	**77.55**	**326**	*e*P		**P**	**23 28 10.2**	**+1.7**
STHS					pmax	pmax		
	comp=Z,3.0nm,0.8s							
OJC	**Ojcow**	**77.57**	**327**	*e*P		**P**	**23 28 08.8**	**+0.2**
	comp=Z,10nm,1.0s							
OJC	**Ojcow**	**77.57**	**327**	*e*P		**P**	**23 28 08.8**	**+0.2**
OJC					pmax	pmax		
	comp=Z,10.0nm,1.0s							
CRVS	**Cervenica-Dubn**	**77.84**	**325**	*e*P		**P**	**23 28 11.5**	**+1.3**
CRVS	**Cervenica-Dubn**	**77.84**	**325**	*e*P		**P**	**23 28 11.5**	**+1.3**
BRTR	**Keskin Array B**	**78.18**	**312**	P		**P**	**23 28 12.8**	**+0.4**
	comp=Z,1.2nm,0.7s,baz=76,slow=4.4,SNR=8.3							
BRTR					LR	LR	00 07 21.5	
	comp=Z,35nm,18.4s,baz=11,slow=39							
MLR	**Muntele Rosu**	**78.26**	**320**	P		**P**	**23 28 13.1**	**+0.5**
	comp=Z,0.3nm,0.6s,baz=0.0,slow=12,SNR=2.7							
MLR					LR	LR	00 06 08.7	
	comp=Z,16nm,18.0s,baz=30,slow=38							
MLR	**Muntele Rosu**	**78.26**	**320**⇑	*i*P		**P**	**23 28 13.1**	**+0.5**
LANS	**Liptovska Anna**	**78.52**	**326**	*e*P		**P**	**23 28 14.5**	**+0.6**
LANS	**Liptovska Anna**	**78.52**	**326**	*e*P		**P**	**23 28 14.6**	**+0.6**
BR231	**Keskin MP Arra**	**78.59**	**313**	*e*P		**P**	**23 28 13.4**	**-1.2**
VOIR		**78.73**	**321**⇑	*i*P		**P**	**23 28 15.4**	**+0.2**
VOIR		**78.73**	**321**⇑	P		**P**	**23 28 15.4**	**+0.2**
MORC	**Moravsky Berou**	**78.85**	**328**⇓	*i*P		**P**	**23 28 16.9**	**+1.2**
MORC	**Moravsky Berou**	**78.85**	**328**	*e*P		**P**	**23 28 16.8**	**+1.2**
	comp=Z,22nm,1.0s							
MORC	**Moravsky Berou**	**78.85**	**328**	⇓P		**P**	**23 28 16.9**	**+1.2**
DPC	**Dobruska-Polom**	**78.89**	**329**	*e*P		**P**	**23 28 17.1**	**+1.1**
DPC	**Dobruska-Polom**	**78.89**	**329**	*e*P		**P**	**23 28 17.1**	**+1.1**
ARR	**Arges**	**78.98**	**321**⇑	*i*P		**P**	**23 28 17.7**	**+1.1**
PSZ	**Piszkesteto**	**79.27**	**325**⇑	*i*P		**P**	**23 28 19.3**	**+1.2**
PSZ	**Piszkesteto**	**79.27**	**325**	*e*P		**P**	**23 28 18.7**	**+0.6**
	comp=Z,3.4nm,0.8s							
PSZ	**Piszkesteto**	**79.27**	**325**	⇑P		**P**	**23 28 19.3**	**+1.2**
VYHS	**Vyhne**	**79.29**	**326**	*e*P		**P**	**23 28 19.1**	**+1.0**
VYHS	**Vyhne**	**79.29**	**326**	*e*P		**P**	**23 28 19.1**	**+1.0**
VYHS					pmax	pmax		
	comp=Z,2.0nm,1.1s							
CLL	**Collm**	**79.42**	**331**	*i*P		**P**	**23 28 19.1**	**+0.4**
	comp=Z,7.0nm,1.0s							
CLL	**Collm**	**79.42**	**331**	*i*P		**P**	**23 28 19.1**	**+0.4**
CLL					pmax	pmax		
	comp=Z,7.0nm,1.0s							
VRAC	**Vranov**	**79.60**	**328**	P		**P**	**23 28 21.0**	**+1.2**
	comp=Z,4.1nm,0.7s,baz=18,slow=5.4,SNR=6.0							
VRAC	**Vranov**	**79.60**	**328**⇓	*i*P		**P**	**23 28 21.1**	**+1.3**
VRAC	**Vranov**	**79.60**	**328**	⇓P		**P**	**23 28 21.1**	**+1.3**
GOPC	**GO Pecny, Ondr**	**79.85**	**329**	*e*P		**P**	**23 28 22.2**	**+1.1**
GOPC	**GO Pecny, Ondr**	**79.85**	**329**	*e*P		**P**	**23 28 22.2**	**+1.1**
PRU	**Pruhonice**	**79.89**	**329**	*e*P		**P**	**23 28 22.1**	**+0.8**
PRU	**Pruhonice**	**79.89**	**329**	*e*P		**P**	**23 28 22.1**	**+0.8**
SRE	**Strehaia**	**80.19**	**321**⇑	*i*P		**P**	**23 28 22.9**	**-0.2**
SRE	**Strehaia**	**80.19**	**321**	⇑P		**P**	**23 28 22.9**	**-0.2**
BZS	**Buzias**	**80.23**	**323**⇓	*i*P		**P**	**23 28 23.6**	**+0.3**
BZS	**Buzias**	**80.23**	**323**	⇓P		**P**	**23 28 23.7**	**+0.4**
KHC	**Kasperske Hory**	**80.95**	**329**	*e*P		**P**	**23 28 27.9**	**+0.8**
KHC				*ex*		x	23 28 31.8	
KHC				*ep*P		**pP**	**23 28 36.0**	**+1.2**
KHC				*ex*		x	23 28 46.8	
KHC	**Kasperske Hory**	**80.95**	**329**	*e*P		**P**	**23 28 27.4**	**+0.3**
	comp=Z,1.5nm,0.7s							
KHC	**Kasperske Hory**	**80.95**	**329**	*e*P		**P**	**23 28 27.9**	**+0.8**
KHC				*e*			23 28 36.0	
KHC				*e*			23 28 46.8	
EKA	**Eskdalemuir Ar**	**80.96**	**341**	P		**P**	**23 28 27.8**	**+0.9**
	comp=Z,1.1nm,0.7s,baz=27,slow=4.9,SNR=3.2							
CONA	**Conrad Observa**	**80.98**	**327**	P		**P**	**23 28 28.4**	**+1.0**
	comp=Z,1.4nm,0.5s							
RAYN	**Ar Rayn**	**81.10**	**293**	*e*P		**P**	**23 28 27.6**	**-0.8**
	comp=Z,2.6nm,0.7s							
GERES	**GERESS Array B**	**81.13**	**329**	P		**P**	**23 28 28.4**	**+0.3**
	comp=Z,1.2nm,0.6s,baz=37,slow=6.1,SNR=14							
GERES					LR	LR	00 08 12.8	
	comp=Z,77nm,18.1s,baz=301,slow=38							
ANMO	**Albuquerque**	**81.46**	**51**	*e*P		**P**	**23 28 30.4**	**+0.1**
	comp=Z,8.8nm,1.1s							
ANMO	**Albuquerque**	**81.46**	**51**	*e*P		**P**	**23 28 30.4**	**+0.1**
ANMO					pmax	pmax		
	comp=Z,9.0nm,1.1s							
MMAI	**Mount Meron Ar**	**81.65**	**306**	P		**P**	**23 28 31.4**	**+0.2**
	comp=Z,2.0nm,0.6s,baz=53,slow=7.4,SNR=5.9							
VTS	**Vitosha**	**81.72**	**320**⇑	*i*P		**P**	**23 28 32.2**	**+0.7**
VTS	**Vitosha**	**81.72**	**320**	*e*P		**P**	**23 28 31.6**	**+0.1**
	comp=Z,5.9nm,0.7s							
VTS	**Vitosha**	**81.72**	**320**	⇑P		**P**	**23 28 32.2**	**+0.7**
DIVS	**Divibare**	**82.13**	**323**	*e*P		**P**	**23 28 33.5**	**-0.1**
	comp=Z,8.3nm,1.5s							
SOKA	**Soboth**	**82.32**	**327**	*e*PcP		**P**	**23 28 35.2**	**+0.7**
	comp=Z,5.8nm,0.7s,SNR=7.7							
OBKA	**Obir**	**82.66**	**327**	PcP		**P**	**23 28 37.0**	**+0.7**
	comp=Z,3.7nm,0.7s,SNR=4.3							
KBA	**Koelnbreinsper**	**82.69**	**328**	PcP		**P**	**23 28 37.7**	**+1.2**
	comp=Z,1.9nm,0.7s							
MOTA	**Moosalm**	**83.36**	**330**	PcP		**P**	**23 28 41.1**	**+1.1**
	comp=Z,5.6nm,1.1s							
RETA	**Reutte**	**83.38**	**330**	*e*PcP		**P**	**23 28 40.4**	**+0.5**
	comp=Z,9.3nm,1.3s							
PDG	**Podgorica**	**83.76**	**322**⇓	*i*P		**P**	**23 28 43.0**	**+1.2**
TTG	**Podgorica**	**83.76**	**322**	*e*P		**P**	**23 28 42.3**	**+0.5**
	comp=Z,9.2nm,0.8s							
TTG	**Podgorica**	**83.76**	**322**	*e*P		**P**	**23 28 42.3**	**+0.5**
TTG					pmax	pmax		
	comp=Z,9.0nm,0.8s							
FETA	**Feichten**	**83.78**	**330**	*e*PcP		**P**	**23 28 43.4**	**+1.4**
	comp=Z,3.1nm,0.7s							
MNTX	**Cornudas Mount**	**84.34**	**53**	*e*P		**P**	**23 28 45.6**	**+0.5**
	comp=Z,11nm,1.9s							
TX31	**Lajitas Ar. Si**	**87.04**	**54**	*e*P		**P**	**23 28 59.5**	**+0.8**
TXAR	**Lajitas Array**	**87.05**	**54**	P		**P**	**23 28 59.6**	**+1.0**
	comp=Z,0.7nm,0.7s,baz=294,slow=4.2,SNR=4.8							
CCM	**Cathedral Cave**	**87.57**	**40**	*e*P		**P**	**23 29 00.5**	**-0.4**
	comp=Z,6.8nm,1.0s							
CCM	**Cathedral Cave**	**87.57**	**40**	*e*P		**P**	**23 29 00.5**	**-0.4**
CCM					pmax	pmax		
	comp=Z,7.0nm,1.0s							
KEST	**Kesra**	**93.71**	**324**	LR		LR	00 17 03.7	
	comp=Z,69nm,18.5s,baz=236,slow=39							

IDC ***10*** *23:46:49.7±2.4, 23.6°64N×109.86°W, h0km, mb3.3/2, mb1 3.8/5, mb1mx3.6/49, mbtmp3.4/5, ML4.2/2, MS2.9/1, Ms1 2.9/1, ms1mx2.5/23, Error ellipse: s-maj=29.1km s-min=12.2km az=24.0*

MEX ***10*** *23:46:50.7±20.0, 24.6°68N×110.06°W, h10km, MD3.8*

ISC 10 23:46:51.1±2.7**, 23.7N**±0.2×**109.91W**±0.09**, h10km, n7,**
σ1§**18**/9**, Baja California**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LPIG	**La Paz**	**0.55**	**318**	Pg		**Pg**		**23 47 01.2**	**-0.7**
	234nm,0.3s,baz=135,slow=6.7,SNR=40								
LPIG				Lg		Lg		23 47 10.1	
	716nm,0.3s,baz=131,slow=19,SNR=52								
LPIG	**La Paz**	**0.55**	**318**	*i* P		**Pg**		**23 47 01.1**	**-0.7**
	baz=150,slow=7.4								
LPIG				*i* S		**Sb**		**23 47 10.3**	**-0.6**
TXAR	**Lajitas Array**	**7.93**	**43**	Pn		**Pn**		**23 48 45.7**	**-0.8**
	0.1nm,0.3s,baz=221,slow=13,SNR=5.6								
TXAR				Sn		**Sn**		**23 50 16.2**	**-0.1**
	0.1nm,0.3s,baz=214,slow=22,SNR=2.9								
TXAR				Lg		Lg		23 51 00.8	
	baz=218,slow=29,SNR=3.0								
ANMO	**Albuquerque**	**11.62**	**14**	Pn		**Pn**		**23 49 39.2**	**+2.0**
	0.0nm,0.3s,baz=3.8,slow=15,SNR=1.8								
ANMO					LR	LR		23 54 12.2	
	comp=Z,54nm,18.2s,baz=336,slow=38								
PDAR	**Pinedale Array**	**19.03**	**1**	P		**Pn**		**23 51 14.9**	**+0.6**
	0.3nm,0.3s,baz=164,slow=10,SNR=39								
YKA	**Yellowknife Ar**	**38.92**	**357**	P		**P**		**23 54 16.3**	**-0.4**
	0.2nm,0.7s,baz=176,slow=8.4,SNR=5.3								
ILAR	**Eielson Array**	**47.56**	**340**	P		**P**		**23 55 27.8**	**+1.2**
	0.8nm,0.8s,baz=155,slow=6.6,SNR=10								

NIED ***10*** *23:53:00, 37.30N×142.40E, h5km, Mw3.6 Best double couple: M0 2.51000×10^14 NP1:φs32.00000°, δ21.00000°, λ-102.00000°. NP2:φs224.00000°, δ70.00000°, λ-86.00000°.*

IDC ***10*** *23:53:08.4±1.2, 37.24N×142.64E, h0km, mb3.7/9, mb1 3.8/10, mb1mx3.6/60, mbtmp3.7/10, ML3.0/1, MS2.5/1, Ms1 2.5/1, ms1mx2.1/61, Error ellipse: s-maj=31.8km s-min=21.4km az=164.0*

ISCJB ***10*** *23:53:09.8±0.7, 37.27N±0.05×142.55E±0.07, h21km, mb3.6/9, Error ellipse: s-maj=8.3km s-min=6.7km az=135.1*

JMA ***10*** *23:53:09.3±0.6, 37.30N×142.40E, h6km±5km, M3.5*

ISC 10 23:53:12.1±0.8**, 37.33N**±0.06×**142.48E**±0.08**, h21km, n28,**
σ1§**52**/25**, mb3.5**/9**, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**1.28**	**272**	P		**Pn**		**23 53 32.4**	**-2.3**
ONAJ	**Iwakimizuishiy**	**1.36**	**261**	P		**Pn**		**23 53 33.5**	**-2.4**
JIO	**Ouri**	**1.44**	**322**	P		**Pn**		**23 53 35.5**	**-1.4**
JMM	**Marumori**	**1.45**	**292**	P		**Pn**		**23 53 34.6**	**-2.4**
JMM				*e*S		**Sn**		**23 53 54.3**	**-1.0**
JFT	**Otama**	**1.72**	**277**	P		**Pn**		**23 53 39.3**	**-1.4**
JOU	**Okura**	**1.77**	**306**	P		**Pn**		**23 53 40.4**	**-1.1**
JMK	**Ichinoseki**	**1.91**	**329**	P		**Pn**		**23 53 43.0**	**-0.3**
JYK	**Kaneyama**	**2.31**	**314**	P		**Pn**		**23 53 49.0**	**+0.2**
JOM	**Ohasama**	**2.34**	**337**	P		**Pn**		**23 53 49.0**	**-0.3**
MJAR	**Matsushiro Arr**	**3.51**	**258**	Pn		**Pn**		**23 54 05.4**	**0.0**
	1.1nm,0.3s,baz=88,slow=16,SNR=13								
MJAR				Sn		**Sn**		**23 54 49.3**	**+3.0**
	0.7nm,0.3s,baz=72,slow=17,SNR=4.1								
MAT	**Matsushiro**	**3.51**	**258**	P		**Pn**		**23 54 06.0**	**+0.6**
MAT				*e*S		**Sn**		**23 54 47.9**	**+1.6**
JHJ	**Hachijo jima 2**	**4.74**	**209**	Pn		**Pn**		**23 54 23.3**	**+1.0**
	9.9nm,0.3s,baz=75,slow=20,SNR=2.6								
JHJ				Sn		**Sn**		**23 55 14.4**	**-2.2**
	2.4nm,0.3s,baz=50,slow=6.0,SNR=2.7								
KSRS	**Korea Array**	**11.59**	**275**	LR		LR		00 00 24.6	
	comp=Z,22nm,19.3s,baz=150,slow=37								
H11N2	**WAKE ISLAND Hy**	**27.57**	**123**	T		T		00 27 38.1	
	baz=315,slow=75,SNR=125								
H11N1	**WAKE ISLAND Hy**	**27.58**	**123**	T		T		00 27 41.7	
	baz=315,slow=75,SNR=128								
H11N3	**WAKE ISLAND Hy**	**27.59**	**123**	T		T		00 27 45.5	
	baz=315,slow=75,SNR=117								
H11S1	**WAKE ISLAND Hy**	**28.31**	**125**	T		T		00 28 36.4	
	baz=317,slow=76,SNR=98								
H11S3	**WAKE ISLAND Hy**	**28.31**	**125**	T		T		00 28 36.5	
	baz=317,slow=76,SNR=160								
H11S2	**WAKE ISLAND Hy**	**28.33**	**125**	T		T		00 28 38.1	
	baz=317,slow=76,SNR=69								
SONM	**Songino Array**	**28.33**	**303**	P		**P**		**23 59 04.9**	**+0.5**
	1.0nm,0.7s,baz=102,slow=8.8,SNR=7.3								
ZALV	**Zalesovo Beam**	**42.35**	**312**	P		**P**		**00 01 05.1**	**+0.8**
	0.4nm,0.4s,baz=88,slow=8.8,SNR=3.2								
MKAR	**Makanchi Array**	**44.69**	**302**	P		**P**		**00 01 24.1**	**+0.7**
	0.5nm,0.8s,baz=88,slow=12,SNR=3.9								
KURBB	**Kurchatov Arra**	**46.49**	**308**	P		**P**		**00 01 37.8**	**+0.3**
	1.0nm,0.3s,baz=82,slow=7.9,SNR=4.9								
ILAR	**Eielson Array**	**48.79**	**33**	P		**P**		**00 01 54.1**	**-1.0**
	0.4nm,0.8s,baz=254,slow=5.5,SNR=4.3								
WRA	**Warrannunga Arr**	**57.47**	**189**	P		**P**		**00 02 58.6**	**-0.9**
	0.5nm,0.6s,baz=7.7,slow=7.1,SNR=2.9								
YKA	**Yellowknife Ar**	**63.13**	**30**	P		**P**		**00 03 36.4**	**-1.3**
	0.1nm,0.7s,baz=297,slow=6.8,SNR=3.5								
HFS	**Hagfors**	**74.17**	**336**	P		**P**		**00 04 48.8**	**+2.1**
	8.3nm,1.1s,baz=66,slow=12,SNR=4.0								
PDAR	**Pinedale Array**	**76.85**	**46**	P		**P**		**00 05 03.3**	**+0.6**
	0.2nm,0.5s,baz=319,slow=2.6,SNR=3.6								

MOS ***10*** *23:57:51.8±1.6, 43.33N×147.96E, h52km, mb4.3/4, Error ellipse: s-maj=27.7km s-min=12.1km az=41.1*

SKHL ***10*** *23:57:59.9±0.3, 43.74N×147.39E, h36km±3km, mb5.1/6*

JMA ***10*** *23:57:59.8±0.2, 43.66N×147.28E, h36km, M3.9*

IDC ***10*** *23:58:00.7±7.4, 45.58N×146.90E, h0km, mb3.9/5, mb1 4.0/6, mb1mx3.5/59, mbtmp3.9/6, ML3.3/1, Error ellipse: s-maj=162.0km s-min=32.1km az=138.0*

ISC 10 23:57:56.6±1.9**, 43.65N**±0.09×**147.56E**±0.10**, h46**km±13km**, n31,** σ1§**68**/48**, mb4.2**/6**, 3C-2D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SHO	**Shikotan**	**0.57**	**293**	*e*P		**Pn**		**23 58 09.1**	**+0.5**
SHO					AMB	AMB		23 58 09.5	
	530nm,0.2s								
SHO				*i* S		**Sn**		**23 58 16.0**	**-1.1**
SHO					A	A		23 58 16.9	
	4μm,0.2s								
SHO					A	A		23 58 16.9	
	8μm,0.2s								
SHO	**Shikotan**	**0.57**	**293**c	*i*PN		**Pn**		**23 58 09.1**	**+0.5**
SHO				*i* S		**Sn**		**23 58 16.5**	**-0.6**
SHO					pmax	pmax			
	comp=N,226nm,0.2s								
SHO					pmax	pmax			
	comp=E,207nm,0.2s								
SHO					pmax	pmax			
	comp=Z,528nm,0.2s								
SHO					smax	smax			
	comp=E,4μm,0.2s								
SHO					smax	smax			
	comp=N,8μm,0.3s								
YUK	**Yuzh-Kuril'sk**	**1.29**	**288**	*i* P		**Pn**		**23 58 18.4**	**+0.2**
YUK					AMB	AMB		23 58 20.2	
	comp=N,559nm,0.1s								
YUK				*i* S		**Sn**		**23 58 32.4**	**-1.9**
YUK					A	A		23 58 33.6	
	comp=N,950nm,0.2s								
YUK					A	A		23 58 33.6	
	comp=N,2μm,0.2s								
YUK	**Yuzh-Kuril'sk**	**1.29**	**288***d*	*i*PN		**Pn**		**23 58 18.4**	**+0.2**
YUK					pmax	pmax			
	comp=N,266nm,0.1s								
YUK					pmax	pmax			
	comp=Z,559nm,0.1s								
GRPR	**Tuman**	**1.34**	**285**	*i* P		**Pn**		**23 58 19.4**	**+0.5**
GRPR					AMB	AMB		23 58 23.2	
	comp=Z,350nm,0.2s								
GRPR				*i* S		**Sn**		**23 58 33.8**	**-1.7**
GRPR					A	A		23 58 36.6	
	comp=Z,2μm,0.3s								
GRPR					A	A		23 58 36.6	
	comp=Z,2μm,0.3s								
GRPR	**Tuman**	**1.34**	**285**⇑	*i*PN		**Pn**		**23 58 19.4**	**+0.5**
GRPR					pmax	pmax			
	comp=Z,347nm,0.2s								
GRPR					pmax	pmax			
	comp=N,170nm,0.1s								
GRPR					pmax	pmax			
	comp=E,141nm,0.1s								
LAGR	**Lagunnoye**	**1.35**	**288**	*e*P		**Pn**		**23 58 19.5**	**+0.5**
LAGR					AMB	AMB		23 58 23.4	
	comp=E,600nm,0.1s								
LAGR				*e*S		**Sn**		**23 58 33.9**	**-1.8**
LAGR					A	A		23 58 35.8	
	comp=E,1μm,0.2s								
LAGR					A	A		23 58 35.8	
	comp=E,2μm,0.2s								
LAGR	**Lagunnoye**	**1.35**	**288**	*e*PN		**Pn**		**23 58 19.5**	**+0.5**
LAGR					pmax	pmax			
	comp=Z,601nm,0.1s								
NEM2	**Nemuro 2**	**1.35**	**258**	P		**Pn**		**23 58 20.1**	**+1.0**
NEM2				*e*S		**Sn**		**23 58 35.0**	**-0.8**
GLVR	**Golovnino**	**1.48**	**274**	*e*P		**Pn**		**23 58 22.1**	**+1.3**
GLVR					AMB	AMB		23 58 22.7	
	comp=Z,450nm,0.1s								
GLVR				*i* S		**Sn**		**23 58 38.9**	**-0.1**
GLVR					A	A		23 58 40.1	
	comp=Z,5μm,0.2s								
GLVR					A	A		23 58 40.1	
	comp=Z,4μm,0.2s								
GLVR	**Golovnino**	**1.48**	**274**⇓	*i*PN		**Pn**		**23 58 22.1**	**+1.3**
GLVR				*i* S		**Sn**		**23 58 38.9**	**-0.1**
GLVR					pmax	pmax			
	comp=N,1μm,0.1s								
GLVR					pmax	pmax			
	comp=Z,45nm,0.1s								
GLVR					smax	smax			
	comp=N,5μm,0.2s								
GLVR					smax	smax			
	comp=E,4μm,0.3s								
KUR	**Kuril'sk**	**1.60**	**8**	*i* P		**Pn**		**23 58 23.8**	**+1.4**
KUR					AMB	AMB		23 58 26.3	
	comp=E,23nm,0.1s								
KUR				*i* S		**Sn**		**23 58 42.1**	**+0.3**
KUR					A	A		23 58 43.6	
	comp=E,700nm,0.2s								
KUR					A	A		23 58 43.6	
	comp=E,480nm,0.2s								
KUR	**Kuril'sk**	**1.60**	**8***c*	*i*PN		**Pn**		**23 58 23.8**	**+1.4**
KUR				*i* S		**Sn**		**23 58 42.1**	**+0.3**
KUR					pmax	pmax			
	comp=N,5.0nm,0.1s								
KUR					pmax	pmax			
	comp=E,35nm,0.1s								
KUR					pmax	pmax			
	comp=Z,52nm,0.1s								
KUR					smax	smax			
	comp=N,549nm,0.2s								
KUR					smax	smax			
	comp=E,584nm,0.2s				

ISC 11 00:11:29.6±0.8,**31°64N**±0.05×**109°34E**±0.07,**h10**km,**n14,**
σ1s**70**/19,**mb3.8**/7,**1C,Sichuan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
XAN	**Xi'an**	**2.42**	**352**	Pg	**Pn**	**00 12 10.7**	**+1.3**
XAN				Sg	**Sb**	**00 12 45.3**	**+2.0**
XAN	comp=N,960nm,0.8s			smax	smax		
XAN	comp=E,470nm,0.8s			smax	smax		
CD2	**Chengdu**	**4.83**	**263**	Pn	**Pn**	**00 12 44.0**	**+1.5**
CD2				Pg	**Pg**	**00 13 01.4**	**-0.8**
CD2				Sn	**Sn**	**00 13 38.4**	**-0.2**
CD2				Sg	**Sg**	**00 14 04.9**	**+0.1**
CD2	comp=N,150nm,1.1s			smax	smax		
CD2	comp=E,220nm,1.1s			smax	smax		
GYA	**Guiyang**	**5.66**	**205**	⇑*i*Pn	**Pn**	**00 12 55.0**	**+1.0**
GYA				Sn	**Sn**	**00 13 58.9**	**-0.3**
GYA	comp=N,410nm,5.4s			LR	LR		
GYA	comp=E,260nm,6.5s			LR	LR		
GYA	comp=Z,590nm,6.9s			LR	LR		
LZH	**Lanzhou**	**6.37**	**316**	*e*Pg	Pb	00 13 26.3	+5.6
LZH				Sg	**Sg**	**00 14 50.4**	**-3.8**
LZH	comp=N,200nm,1.1s			smax	smax		
LZH	comp=E,180nm,1.1s			smax	smax		
LZH	comp=N,570nm,6.1s			LR	LR		
LZH	comp=E,610nm,7.0s			LR	LR		
LZH	comp=Z,640nm,7.5s			LR	LR		
CMAR	**Chiang Mai Arr**	**16.14**	**218**	Pn	**P**	**00 15 20.2**	**+0.3**
	0.3nm,0.3s,baz=29,slow=10,SNR=5.1						
SONM	**Songino Array**	**16.34**	**353**	Pn	**Pn**	**00 15 18.9**	**-0.2**
	0.1nm,0.3s,baz=168,slow=12,SNR=5.4						
SONM	baz=171,slow=28,SNR=2.6			Lg	Lg	00 20 06.9	
WMQ	**Urumqi**	**20.93**	**312**	*e*P	**P**	**00 16 16.4**	**+3.9**
MKAR	**Makanchi Array**	**25.68**	**314**	P	**P**	**00 17 00.5**	**+0.7**
	2.0nm,0.8s,baz=116,slow=11,SNR=10						
ZALV	**Zalesovo Beam**	**28.39**	**329**	P	**P**	**00 17 23.1**	**-0.9**
	0.6nm,0.5s,baz=119,slow=8.6,SNR=4.6						
GEYT	**Alibeck**	**42.10**	**293**	P	**P**	**00 19 22.3**	**+0.3**
	0.6nm,0.5s,baz=117,slow=5.0,SNR=2.9						
WRA	**Warramunga Arr**	**56.61**	**152**	P	**P**	**00 21 10.9**	**-2.0**
	0.6nm,0.7s,baz=342,slow=8.0,SNR=3.0						
ASAR	**Alice Springs**	**59.80**	**154**	P	**P**	**00 21 35.4**	**+0.2**
	0.4nm,0.4s,baz=340,slow=7.7,SNR=5.3						
NOA	**NORSAR Array B**	**66.59**	**328**	P	**P**	**00 22 19.9**	**+0.1**
	0.9nm,0.9s,baz=76,slow=5.5,SNR=2.9						
YKA	**Yellowknife Ar**	**79.80**	**19**	P	**P**	**00 23 36.5**	**-1.2**
	0.3nm,0.8s,baz=329,slow=5.2,SNR=6.7						

*ISCJB **11** 00:26:29.5±0.8, 55°.7N±0°.2×35°.0W±0°.1, h14km, mb3.7/13, MS3.2/13, Error ellipse: s-maj=23.9km s-min=11.2km az=4.9*
*IDC **11** 00:26:29.3±0.9, 55°.74N×34°.95W, h0km, mb3.6/13, mb1 3.8/14, mb1mx3.6/70, mbtmp3.7/14, ML3.9/1, MS3.3/17, Ms1 3.3/17, ms1mx3.0/59, Error ellipse: s-maj=30.2km s-min=14.8km az=3.0*

ISC 11 00:26:31.3±0.9,**55°.7N**±0°.2×**34°.96W**±0°.10,**h14**km,**n28,**
σ0s**92**/15,**mb3.7**/13,**MS3.1**/13,**Reykjanes Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BORG	**Borgarnes**	**11.28**	**31**	LR	LR	00 32 21.2	
	comp=Z,347nm,21.4s,baz=216,slow=31						
SFJD	**Kangerlussuaq**	**13.52**	**333**	LR	LR	00 33 59.4	
	comp=Z,169nm,18.4s,baz=144,slow=33						
EKA	**Eskdalemuir Ar**	**17.93**	**78**	P	**P**	**00 30 39.6**	**-0.9**
	baz=280,slow=12,SNR=3.9						
SCHQ	**Schefferville**	**18.10**	**280**	LR	LR	00 36 30.3	
	comp=Z,101nm,19.9s,baz=24,slow=33						
FRB	**Frobisher Bay**	**18.54**	**309**	LR	LR	00 36 18.3	
	comp=Z,135nm,21.4s,baz=39,slow=32						
ESDC	**Sonseca Array**	**26.02**	**115**	LR	LR	00 40 23.9	
	comp=Z,54nm,19.1s,baz=5.0,slow=32						
RES	**Resolute Bay**	**29.52**	**332**	LR	LR	00 42 20.7	
	comp=Z,34nm,19.4s,baz=28,slow=32						
ARCES	**ARCESS Array B**	**29.55**	**38**	P	**P**	**00 32 35.9**	**+0.9**
	1.6nm,0.8s,baz=280,slow=11,SNR=3.3						
SADO	**Sadowa**	**29.80**	**267**	LR	LR	00 43 39.4	
	comp=Z,30nm,21.2s,baz=340,slow=35						
GERES	**GERESS Array B**	**30.01**	**83**	LR	LR	00 42 35.4	
	comp=Z,29nm,19.9s,baz=268,slow=32						
FINES	**FINESS Array B**	**31.27**	**54**	LR	LR	00 44 31.3	
	comp=Z,20nm,21.5s,baz=268,slow=35						
KEST	**Kesra**	**36.02**	**105**	LR	LR	00 46 53.5	
	comp=Z,61nm,20.5s,baz=286,slow=34						
ULM	**Lac du Bonnet**	**36.03**	**287**	P	**P**	**00 33 30.2**	**-1.5**
	2.0nm,0.9s,baz=96,slow=9.2,SNR=3.5						
ULM	comp=Z,109nm,19.0s,baz=4.0,slow=34			LR	LR	00 46 59.0	
AKASG	**Malin Array Be**	**37.53**	**70**	P	**P**	**00 33 44.4**	**0.0**
	0.2nm,0.3s,baz=302,slow=8.2,SNR=3.0						
TKL	**Tuckaleechee C**	**38.56**	**259**	LR	LR	00 48 58.2	
	comp=Z,28nm,18.5s,baz=323,slow=35						
YKA	**Yellowknife Ar**	**38.97**	**313**	P	**P**	**00 33 56.0**	**-0.5**
	0.8nm,0.9s,baz=61,slow=9.2,SNR=8.4						
INK	**Inuvik**	**42.77**	**327**	P	**P**	**00 34 29.1**	**+1.4**
	1.1nm,0.9s,baz=35,slow=10,SNR=5.2						
BRTR	**Keskin Array B**	**46.84**	**80**	P	**P**	**00 35 01.6**	**+0.9**
	1.7nm,0.8s,baz=286,slow=4.8,SNR=6.1						
BRTR	comp=Z,17nm,18.0s,baz=272,slow=37			LR	LR	00 55 28.7	
PDAR	**Pinedale Array**	**48.05**	**287**	P	**P**	**00 35 10.8**	**+0.6**
	0.8nm,0.6s,baz=59,slow=8.8,SNR=10						
PDAR	comp=Z,80nm,20.2s,baz=82,slow=34			LR	LR	00 54 06.9	
ILAR	**Eielson Array**	**49.13**	**328**	P	**P**	**00 35 17.8**	**-0.1**
	0.5nm,0.8s,baz=47,slow=5.5,SNR=4.3						
TORD	**Torodi Ar. Bea**	**51.05**	**132**	P	**P**	**00 35 32.9**	**-0.1**
	0.9nm,0.8s,baz=334,slow=6.9,SNR=4.7						
TXAR	**Lajitas Array**	**54.46**	**271**	P	**P**	**00 35 59.2**	**+1.0**
	0.2nm,0.7s,baz=32,slow=8.6,SNR=2.6						
BVAR	**Borovoye Array**	**55.49**	**45**	P	**P**	**00 36 05.7**	**+0.4**
	0.5nm,0.6s,baz=354,slow=4.5,SNR=4.1						
BVAR	comp=Z,18nm,18.1s,baz=316,slow=35			LR	LR	00 58 56.1	
YBH	**Yreka Blue Hor**	**55.71**	**295**	LR	LR	00 58 38.3	
	comp=Z,34nm,18.5s,baz=21,slow=35						
NVAR	**Mina Array Bea**	**55.82**	**289**	LR	LR	00 58 57.4	
	comp=Z,70nm,19.5s,baz=278,slow=35						
MKAR	**Makanchi Array**	**65.10**	**42**	P	**P**	**00 37 10.1**	**-1.0**
	0.8nm,0.7s,baz=327,slow=4.7,SNR=5.4						
SONM	**Songino Array**	**71.85**	**26**	P	**P**	**00 37 52.6**	**-0.8**
	0.2nm,0.4s,baz=335,slow=6.4,SNR=3.5						
ASAR	**Alice Springs**	**146.95**	**19**	PKPbc	**PKPbc**	**00 46 13.1**	**0.0**
	0.8nm,0.5s,baz=339,slow=2.1,SNR=3.8						

*IDC **11** 00:28:12.5±0.8, 19°.19N×144°.71E, h0km, mb3.9/15, mb1 4.1/15, mb1mx3.9/63, mbtmp3.9/15, MS3.0/9, Ms1 3.0/9, ms1mx2.7/53, Error ellipse: s-maj=24.3km s-min=18.8km az=105.0*
*ISCJB **11** 00:28:14.8±0.7, 19°.2N±0°.1×144°.7E±0°.2, h27km, mb3.9/16, MS3.0/6, Error ellipse: s-maj=22.1km s-min=15.6km az=5.2*

ISC 11 00:28:16.7±1.0,**19°.2N**±0°.2×**144°.7E**±0°.2,**h27**km,**n29,**
σ0s**61**/16,**mb3.9**/16,**MS2.9**/6,**Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**5.56**	**178**	LR	LR	00 31 37.7	
	comp=Z,190nm,18.2s,baz=136,slow=37						
MJAR	**Matsushiro Arr**	**18.21**	**343**	LR	LR	00 39 05.6	
	comp=Z,25nm,18.6s,baz=280,slow=36						
JNU	**Nakatsue**	**18.57**	**321**	LR	LR	00 37 20.7	
	comp=Z,19nm,21.6s,baz=118,slow=30						
H11S3	**WAKE ISLAND Hy**	**20.86**	**88**	T	T	00 54 35.8	
	baz=276,slow=75,SNR=689						
H11S1	**WAKE ISLAND Hy**	**20.87**	**88**	T	T	00 54 36.4	
	baz=276,slow=75,SNR=670						
H11S2	**WAKE ISLAND Hy**	**20.88**	**88**	T	T	00 54 37.1	
	baz=276,slow=75,SNR=434						
H11N1	**WAKE ISLAND Hy**	**20.97**	**85**	T	T	00 54 49.7	
	baz=273,slow=75,SNR=34						
H11N2	**WAKE ISLAND Hy**	**20.97**	**85**	T	T	00 54 50.2	
	baz=273,slow=75,SNR=36						
H11N3	**WAKE ISLAND Hy**	**20.99**	**85**	T	T	00 54 51.0	
	baz=273,slow=75,SNR=26						
DAV	**Davao City (W)**	**22.11**	**240**	LR	LR	00 39 42.2	
	comp=Z,41nm,20.3s,baz=5.5,slow=31						
KSRS	**Korea Array**	**23.36**	**325**	P	**P**	**00 33 22.9**	**-0.1**
	1.6nm,0.7s,baz=146,slow=9.7,SNR=5.4						
KSRS	comp=Z,19nm,18.2s,baz=90,slow=33			LR	LR	00 41 13.9	
PETK	**Petropavlovsk-**	**35.35**	**14**	LR	LR	00 46 54.5	
	comp=Z,27nm,21.6s,baz=211,slow=32						
WRA	**Warramunga Arr**	**40.17**	**195**	P	**P**	**00 35 50.7**	**-0.1**
	1.5nm,1.0s,baz=11,slow=9.2,SNR=3.4						
CMAR	**Chiang Mai Arr**	**43.19**	**277**	P	**P**	**00 36 15.2**	**-0.4**
	0.7nm,0.5s,baz=58,slow=7.7,SNR=7.5						
CMAR	comp=Z,8.3nm,19.7s,baz=195,slow=35			LR	LR	00 53 30.2	
ASAR	**Alice Springs**	**43.86**	**194**	P	**P**	**00 36 20.9**	**+0.1**
	0.7nm,0.7s,baz=10,slow=7.6,SNR=6.9						
PSI	**Prapat**	**47.56**	**256**	LR	LR	00 58 52.8	
	comp=Z,34nm,18.2s,baz=50,slow=39						
ZALV	**Zalesovo Beam**	**57.04**	**322**	P	**P**	**00 38 00.7**	**+0.5**
	0.5nm,0.6s,baz=96,slow=7.2,SNR=3.4						
MKAR	**Makanchi Array**	**57.43**	**314**	P	**P**	**00 38 03.2**	**+0.1**
	0.8nm,1.0s,baz=85,slow=8.5,SNR=2.9						
KURBB	**Kurchatov Arra**	**60.31**	**318**	P	**P**	**00 38 23.5**	**+0.6**
	1.2nm,0.2s,baz=92,slow=7.6,SNR=3.4						
ILAR	**Eielson Array**	**63.66**	**26**	P	**P**	**00 38 45.1**	**-0.1**
	1.8nm,0.7s,baz=255,slow=4.9,SNR=17						
BVAR	**Borovoye Array**	**65.48**	**320**	P	**P**	**00 38 57.7**	**+0.3**
	2.0nm,0.6s,baz=88,slow=8.5,SNR=11						
INK	**Inuvik**	**69.32**	**23**	P	**P**	**00 39 20.4**	**-1.0**
	1.6nm,0.8s,baz=295,slow=6.3,SNR=8.4						
AKTO	**Aktyubinsk**	**73.36**	**318**	P	**P**	**00 39 45.7**	**-0.5**
	1.3nm,0.7s,baz=96,slow=5.8,SNR=6.0						
GEYT	**Alibeck**	**75.83**	**306**	P	**P**	**00 40 00.4**	**-0.3**
	0.8nm,0.7s,baz=29,slow=3.4,SNR=4.1						
YKA	**Yellowknife Ar**	**78.03**	**28**	P	**P**	**00 40 12.9**	**+0.3**
	1.0nm,0.9s,baz=292,slow=5.5,SNR=12						
RES	**Resolute Bay**	**79.19**	**13**	P	**P**	**00 40 19.0**	**+0.2**
	1.1nm,0.8s,baz=312,slow=5.8,SNR=6.4						
NVAR	**Mina Array Bea**	**83.62**	**52**	LR	LR	01 09 11.4	
	comp=Z,31nm,21.4s,baz=266,slow=29						
KBZ	**Khabarovsk**	**85.11**	**315**	P	**P**	**00 40 51.8**	**+1.4**
	1.8nm,1.0s,baz=127,slow=4.6,SNR=4.3						
FINES	**FINESS Array B**	**86.04**	**335**	P	**P**	**00 40 54.0**	**-0.7**
	1.7nm,0.7s,baz=142,slow=4.3,SNR=4.2						

*ISCJB **11** 00:34:07.7±1.3, 24°.2S±0°.2×115°.6W±0°.2, h10km, mb4.4/33, MS3.8/20, Error ellipse: s-maj=38.4km s-min=13.7km az=140.6*
*IDC **11** 00:34:07.7±1.3, 24°.24S×115°.54W, h0km, mb4.1/4, mb1 4.4/4, mb1mx3.9/33, mbtmp4.1/4, MS3.8/20, Ms1 3.8/20, ms1mx3.6/31, Error ellipse: s-maj=61.7km s-min=26.0km az=42.0*
*NEIC **11** 00:34:09.0±0.6, 24°.43S×115°.66W, h10km, mb4.5/27, Error ellipse: s-maj=20.2km s-min=10.1km az=54.0*

ISC 11 00:34:09.1±1.2,**24°.4S**±0°.2×**115°.6W**±0°.2,**h10**km,**n69,**
σ0s**81**/45,**mb4.5**/33,**MS3.8**/20,**Southern East Pacific Rise**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPN	**Rapa Nui**	**6.30**	**117**	LR	LR	00 37 38.9	
	comp=Z,2μm,18.8s,baz=332,slow=34						
RKT	**Rikitea**	**17.76**	**270**	*e*LR	LR	00 42 14.4	
	792nm,27.0s						
RKT	**Rikitea**	**17.76**	**270**	*e*T	T	00 56 08.2	
	3.9nm,0.2s						
PPT2	**Papeete2**	**32.35**	**275**	*e*S	S	00 45 44.6	-8.7
	61nm,25.0s						
PPT2	366nm,27.8s			*e*LR	LR	00 48 54.9	
RAR	**Rarotonga**	**40.70**	**265**	LR	LR	00 54 15.9	
	comp=Z,84nm,21.7s,baz=92,slow=30						
PLCA	**Paso Flores**	**40.87**	**125**	P	**P**	**00 41 51.7**	**+0.3**
	4.8nm,1.0s,baz=308,slow=8.8,SNR=13						
PLCA	comp=Z,253nm,21.0s,baz=292,slow=30			LR	LR	00 54 29.9	
PLCA	**Paso Flores**	**40.87**	**125**	*e*P	**P**	**00 41 52.5**	**+1.1**
	7.1nm,1.0s						
OTAV	**Otavalo**	**43.55**	**61**	*e*P	**P**	**00 42 14.0**	**+0.1**
	1.6nm,0.5s						
LPAZ	**La Paz**	**45.08**	**89**	P	**P**	**00 42 25.8**	**-0.7**
	4.0nm,0.8s,baz=275,slow=5.5,SNR=15						
LPAZ	comp=Z,63nm,19.2s,baz=245,slow=30			LR	LR	00 56 50.2	
LPAZ	**La Paz**	**45.08**	**89**	*e*P	**P**	**00 42 26.0**	**-0.5**
	6.7nm,1.0s						
JTS	**JuntasAbangare**	**45.66**	**45**	LR	LR	00 56 21.1	
	comp=Z,68nm,20.6s,baz=335,slow=29						
JTS	**JuntasAbangare**	**45.66**	**45**	*e*P	**P**	**00 42 30.9**	**+0.6**
	2.7nm,0.5s						
APG	**El Apazote**	**46.22**	**35**	LR	LR	00 57 17.8	
	comp=Z,57nm,20.9s,baz=255,slow=30						
TRQA	**Tornquist**	**47.26**	**120**	*e*P	**P**	**00 42 42.7**	**0.0**
	5.3nm,0.9s						
LPIG	**La Paz**	**48.48**	**6**	LR	LR	00 57 55.4	
	comp=Z,92nm,20.7s,baz=228,slow=30						
CPUP	**Villa Florida**	**52.33**	**105**	LR	LR	01 01 30.0	
	comp=Z,121nm,19.3s,baz=246,slow=31						
AFI	**Afiamalu**	**53.75**	**270**	LR	LR	01 02 02.7	
	comp=Z,123nm,20.2s,baz=156,slow=31						
SDV	**Santo Domingo**	**54.96**	**59**	LR	LR	01 04 48.3	
	comp=Z,47nm,18.3s,baz=222,slow=34						
TUC	**Tucson**	**56.57**	**5**	*e*P	**P**	**00 43 52.2**	**+0.2**
	2.6nm,1.1s						
MNTX	**Cornudas Mount**	**56.62**	**10**	*e*P	**P**	**00 43 52.3**	**-0.1**
	3.1nm,1.2s						
JCT	**Junction City**	**56.63**	**16**	*e*P	**P**	**00 43 52.6**	**+0.2**
	8.2nm,0.8s						
HKT	**Hockley**	**57.27**	**20**	*e*P	**P**	**00 43 57.5**	**+0.6**
	9.4nm,1.0s						
URZ	**Urewera**	**57.95**	**239**	LR	LR	01 04 41.1	
	comp=Z,47nm,18.6s,baz=100,slow=32						
W13A	**Hualapai Mount**	**59.18**	**2**	*e*P	**P**	**00 44 11.4**	**+0.9**
	10.0nm,1.3s						
SHPR	**Sheep Range**	**60.57**	**0**	*e*P	**P**	**00 44 21.5**	**+1.5**
	3.7nm,1.0s						
U15A	**North Rim**	**60.57**	**3**	*e*P	**P**	**00 44 21.0**	**+0.9**
	3.4nm,0.9s						
WMOK	**Wichita Mounta**	**60.94**	**16**	*e*P	**P**	**00 44 21.5**	**-0.8**
	0.8nm,0.6s						
CCUT	**Cedar City**	**61.64**	**2**	*e*P	**P**	**00 44 28.2**	**+0.8**
	3.9nm,0.9s						
R11A	**Troy Canyon, C**	**62.40**	**0**	*e*P	**P**	**00 44 33.8**	**+1.4**
	8.3nm,1.8s						
SDCO	**Great Sand Dun**	**62.53**	**9**	*e*P	**P**	**00 44 33.7**	**+0.3**
	2.6nm,0.8s						
DUG	**Dugway, Tooele**	**64.30**	**2**	*e*P	**P**	**00 44 44.4**	**-0.5**
	2.9nm,0.9s						
VNDA	**Vanda**	**64.75**	**194**	LR	LR	01 05 50.9	
	comp=Z,56nm,20.0s,baz=106,slow=29						
N23A	**Red Feather La**	**65.57**	**8**	*e*P	**P**	**00 44 54.1**	**+0.9**
	22nm,1.9s						
HWUT	**Hardware Ranch**	**65.77**	**3**	*e*P	**P**	**00 44 55.5**	**+1.0**
	1.8nm,0.8s						
WVOR	**Wild Horse Val**	**66.54**	**358**	*e*P	**P**	**00 44 58.5**	**-0.8**
	12nm,1.7s						
TKL	**Tuckaleechee C**	**66.89**	**28**	LR	LR	01 11 30.9	
	comp=Z,40nm,19.2s,baz=326,slow=34						
PDAR	**Pinedale Array**	**67.05**	**5**	P	**P**	**00 45 02.5**	**-0.2**
	0.6nm,0.6s,baz=184,slow=6.8,SNR=8.1						
PDAR	comp=Z,30nm,18.2s,baz=202,slow=32			LR	LR	01 09 50.6	
PDAR	**Pinedale Array**	**67.05**	**5**	*e*P	**P**	**00 45 01.7**	**-1.0**
HLID	**Hailey**	**67.62**	**1**	*e*P	**P**	**00 45 05.9**	**-0.3**
	0.8nm,0.8s						
TPAW	**Teton Pass**	**67.68**	**4**	*e*P	**P**	**00 45 07.3**	**+0.6**
	3.9nm,0.9s						
LOHW	**Long Hollow**	**67.82**	**4**	*e*P	**P**	**00 45 06.5**	**-1.0**
	9.2nm,1.8s						
FXWY	**Fox Creek**	**67.82**	**4**	*e*P	**P**	**00 45 07.7**	**+0.1**
	5.8nm,1.4s						
MOOW	**Moose Ponds**	**67.95**	**4**	*e*P	**P**	**00 45 08.6**	**+0.3**
	3.2nm,1.1s						
IMW	**Indian Meadow**	**68.08**	**4**	*e*P	**P**	**00 45 09.9**	**+0.7**
	3.5nm,1.0s						
MCMT	**McKenzie Canyo**	**68.92**	**2**	*e*P	**P**	**00 45 13.4**	**-1.0**
YHH	**Holmes Hill**	**68.98**	**4**	*e*P	**P**	**00 45 15.9**	**+1.1**
	9.3nm,1.6s						
DZM	**Mont Dzumac**	**70.72**	**254**	LR	LR	01 09 16.0	
	comp=Z,92nm,20.3s,baz=246,slow=30						
DZM	**Mont Dzumac**	**70.72**	**254**	*e*LR	LR	01 06 50.7	
	172nm,24.5s						
HRY	**Holter Researc**	**70.84**	**3**	*e*P	**P**	**00 45 26.3**	**+0.3**
JTMT	**Jette**	**71.81**	**1**	*e*P	**P**	**00 45 32.8**	**+1.0**
	2.9nm,1.0s						
B08A	**Colville Reser**	**72.49**	**357**	*e*P	**P**	**00 45 36.0**	**+0.2**
	14nm,1.8s						
SNAA	**Sanae**	**73.87**	**162**	LR	LR	01 15 29.9	
	comp=Z,48nm,18.0s,baz=239,slow=34						
HNR	**Honiara**	**81.13**	**264**	LR	LR	01 14 05.3	
	comp=Z,57nm,21.4s,baz=103,slow=30						
DLBC	**Dease Lake**	**83.38**	**352**	*e*P	**P**	**00 46 37.0**	**+0.8**
	22nm,1.9s						
FCC	**Fort Churchill**	**84.75**	**11**	*e*P	**P**	**00 46 42.2**	**-0.8**
	5.8nm,1.3s						
YKA	**Yellowknife Ar**	**86.58**	**0**	P	**P**	**00 46 50.8**	**-1.3**
	1.1nm,0.8s,baz=176,slow=5.1,SNR=26						
H11S2	**WAKE ISLAND Hy**	**86.83**	**292**	T	T	02 22 50.4	
	baz=118,slow=75,SNR=73						
H11S1	**WAKE ISLAND Hy**	**86.84**	**292**	T	T	02 22 49.7	
	baz=118,slow=75,SNR=52						
H11S3	**WAKE ISLAND Hy**	**86.84**	**292**	T	T	02 22 51.8	
	baz=118,slow=75,SNR=33						
STKA	**Stephens Creek**	**87.47**	**236**	LR	LR	01 20 28.2	
	comp=Z,38nm,19.1s,baz=202,slow=32						
MAW	**Mawson**	**88.28**	**179**	LR	LR	01 21 35.7	
	comp=Z,67nm,21.3s,baz=225,slow=32						
PMG	**Port Moresby**	**92.65**	**259**	LR	LR	01 22 54.7	
	comp=Z,56nm,19.4s,baz=139,slow=32						
LZH	**Lanzhou**	**144.19**	**298**	*e*PKP	**PKPdf**	**00 53 46.7**	**+0.9**
LZH				pPKP	PKiKP	00 53 49.8	+0.5
LZH				sPKP		00 53 51.3	
LZH	comp=N,110nm,18.1s			LR	LR		
LZH	comp=E,100nm,18.2s			LR	LR		
LZH	comp=Z,150nm,20.0s			LR	LR		
ZALV	**Zalesovo Beam**	**146.74**	**338**	PKPbc	**PKPbc**	**00 53 50.8**	**-0.2**
	comp=Z,1.4nm,0.6s,baz=28,slow=3.2,SNR=7.5						
BRTR	**Keskin Array B**	**149.98**	**52**	PKPbc	**PKPbc**	**00 53 59.2**	**-1.0**
	comp=Z,0.9nm,1.0s,baz=318,slow=4.9,SNR=4.1						
BVAR	**Borovoye Array**	**151.04**	**352**	PKPbc	**PKPbc**	**00 54 03.0**	**+0.9**
	comp=Z,1.0nm,0.7s,baz=7.8,slow=4.5,SNR=8.1						
KURK	**Kurchatov**	**151.50**	**341**	PKPbc	**PKPbc**	**00 54 02.2**	**-1.0**
KURBB	**Kurchatov Arra**	**151.60**	**341**	PKPbc	**PKPbc**	**00 54 02.2**	**-1.2**
	comp=Z,0.9nm,0.7s,baz=21,slow=1.5,SNR=7.1						
MKAR	**Makanchi Array**	**153.44**	**332**	PKPbc	**PKPbc**	**00 54 07.7**	**0.0**
	comp=Z,0.6nm,0.8s,baz=87,slow=3.2,SNR=3.5						

MEX 11 00:38:54.4±0.3,**14°.79N×92°.78W,h76**km±29km,**MD3.7,**
Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.00**	**335**	*e*P	Pn	00 39 11.8	-1.4
PCIG				*e*S	Sn	00 39 25.6	-1.7
CCIG	**Comitan**	**1.61**	**23**	*e*P	Pn	00 39 18.5	-2.6
CCIG				*i* S	Sn	00 39 33.8	-7.6

*ISK **11** 00:40:30.6, 39°.12N×29°.13E, h7km, ML2.5/6*
*ISCJB **11** 00:40:31.2±0.5, 39°.10N±0°.04×29°.10E±0°.03, h5km±5km, Error ellipse: s-maj=6.2km s-min=3.8km az=159.1*
*CSEM **11** 00:40:31.1±0.1, 39°.10N×29°.12E, h8km, ML2.5, Error ellipse: s-maj=3.2km s-min=2.2km az=141.0*
*DDA **11** 00:40:31.2, 39°.06N×29°.10E, h7km, Ml2.2*

ISC 11 00:40:31.4±0.9,**39°.11N**±0°.03×**29°.11E**±0°.02,**h8**km±6km,
n28,σ0s**42**/43,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIMA	**Simav-Kutahya**	**0.10**	**254**	PG	**Pg**	**00 40 34.0**	**+0.1**
SIMA				SG	**Sg**	**00 40 35.6**	**0.0**
SIMA	**Simav-Kutahya**	**0.10**	**254**	*i* Pg	**Pg**	**00 40 34.0**	**+0.1**
SIMA				*i* Sg	**Sg**	**00 40 35.6**	**0.0**
GDZ	**Gediz**	**0.29**	**94**	*i* P	**Pg**	**00 40 37.2**	**-0.1**
GDZ				*i* S	**Sg**	**00 40 41.8**	**+0.6**
GDZ	**Gediz**	**0.29**	**94**	P	**Pg**	**00 40 37.2**	**-0.1**
GDZ				S	**Sg**	**00 40 41.8**	**+0.6**
DEMI	**Demirci**	**0.31**	**258**	*i* P	**Pg**	**00 40 37.4**	**-0.1**
DEMI				*i* S	**Sg**	**00 40 41.5**	**-0.2**
DEMI	**Demirci**	**0.31**	**258**	P	**Pg**	**00 40 37.4**	**-0.1**
TVSB	**Tavsanli**	**0.44**	**39**	PG	**Pg**	**00 40 39.3**	**-0.6**
TVSB				SG	**Sg**	**00 40 45.3**	**-0.4**
TVSB	**Tavsanli**	**0.44**	**39**	*e*Pg	**Pg**	**00 40 39.3**	**-0.6**
TVSB				*e*Sg	**Sg**	**00 40 45.3**	**-0.4**
KULA	**Kula-Manisa**	**0.69**	**210**	PG	**Pg**	**00 40 44.5**	**-0.2**
KULA	**Kula-Manisa**	**0.69**	**210**	*e*Pg	**Pg**	**00 40 44.5**	**-0.2**
DURS	**Dursunbey**	**0.69**	**315**	*i* P	**Pb**	**00 40 45.3**	**-0.5**
DURS				*i* S	**Sg**	**00 40 54.2**	**+0.4**
DURS	**Dursunbey**	**0.69**	**315**	P	**Pb**	**00 40 45.3**	**-0.5**
DURS				S	**Sg**	**00 40 54.2**	**+0.4**
MANT	**Manisa**	**0.75**	**215**	*i* P	**Pg**	**00 40 45.6**	**-0.3**
MANT				*i* S	**Sg**	**00 40 54.9**	**-0.8**
MANT	**Manisa**	**0.75**	**215**	P	**Pg**	**00 40 45.6**	**-0.3**
MANT				S	**Sg**	**00 40 54.9**	**-0.8

CING	**Cingoli**	**0.37**	**313**	Pg		**Pb**	**01 20 54.7**	**-0.2**
CING				Sg		**Sb**	**01 21 00.7**	**+0.4**
	274nm,0.4s							
TRTR	**Tortoreto Alta**	**0.40**	**141**	Pg		**Pn**	**01 20 57.4**	**-0.3**
TRTR	**Tortoreto Alta**	**0.40**	**141**	Pg		**Pn**	**01 20 57.4**	**-0.3**
AOI	**Ancona**	**0.43**	**3**	Pg		**Pb**	**01 20 56.0**	**+0.1**
AOI				Sg		**Sn**	**01 21 04.0**	**-1.3**
	230nm,0.4s							
AOI	**Ancona**	**0.43**	**3**	Pg		**Pb**	**01 20 56.0**	**+0.1**
AOI				Sg		**Sn**	**01 21 04.0**	**-1.3**
	230nm,0.4s							
NRCA	**Norcia**	**0.44**	**229**	Pg		**Pb**	**01 20 55.8**	**-0.3**
NRCA				Sg		**Sb**	**01 21 02.9**	**+0.6**
	396nm,0.1s							
NRCA	**Norcia**	**0.44**	**229**	Pg		**Pb**	**01 20 55.8**	**-0.3**
NRCA				Sg		**Sb**	**01 21 02.9**	**+0.6**
	396nm,0.1s							
SNTG	**Esanatoglia**	**0.48**	**286**	Pg		**Pb**	**01 20 56.2**	**-0.6**
SNTG				Sg		**Sb**	**01 21 03.6**	**+0.2**
	189nm,0.3s							
SNTG	**Esanatoglia**	**0.48**	**286**	Pg		**Pb**	**01 20 56.2**	**-0.6**
SNTG				Sg		**Sb**	**01 21 03.6**	**+0.2**
	189nm,0.3s							
TERO	**Teramo**	**0.50**	**177**	Pg		**Pb**	**01 20 57.1**	**-0.1**
TERO				Sg		**Sb**	**01 21 05.3**	**+1.3**
	157nm,0.3s							
TERO	**Teramo**	**0.50**	**177**	Pg		**Pb**	**01 20 57.1**	**-0.1**
TERO				Sg		**Sb**	**01 21 05.3**	**+1.3**
	157nm,0.3s							
CESI	**CESI - Serrava**	**0.50**	**257**	Pg		**Pb**	**01 20 56.7**	**-0.5**
CESI				Sg		**Sb**	**01 21 04.2**	**+0.1**
	77nm,0.4s							
CESI	**CESI - Serrava**	**0.50**	**257**	Pg		**Pb**	**01 20 56.7**	**-0.5**
CESI				Sg		**Sb**	**01 21 04.2**	**+0.1**
	77nm,0.4s							
SMA1	**SAN MARTINO**	**0.52**	**199**	Pg		**Pb**	**01 20 57.2**	**-0.4**
SMA1				Sg		**Sb**	**01 21 05.3**	**+0.5**
	302nm,0.3s							
SMA1	**SAN MARTINO**	**0.52**	**199**	Pg		**Pb**	**01 20 57.2**	**-0.4**
SMA1				Sg		**Sb**	**01 21 05.3**	**+0.5**
	302nm,0.3s							
CAMP	**Campotosto**	**0.60**	**192**	Pg		**Pn**	**01 20 59.8**	**-0.7**
CAMP				Sg		**Sb**	**01 21 08.2**	**+1.1**
	125nm,0.6s							
CAMP	**Campotosto**	**0.60**	**192**	Pg		**Pn**	**01 20 59.8**	**-0.7**
CAMP				Sg		**Sb**	**01 21 08.2**	**+1.1**
	125nm,0.6s							
SSFR	**Montelago di S**	**0.66**	**299**	Pg		**Pb**	**01 20 59.4**	**-0.5**
	203nm,0.3s							
SSFR	**Montelago di S**	**0.66**	**299**	Pg		**Pb**	**01 20 59.4**	**-0.5**
	203nm,0.3s							
ATCC	**AVT- Casa Cast**	**0.68**	**276**	Pg		**Pb**	**01 20 59.9**	**-0.5**
ATCC	**AVT- Casa Cast**	**0.68**	**276**	Pg		**Pb**	**01 20 59.9**	**-0.5**
FRON	**Frontone**	**0.73**	**303**	Pg		**Pb**	**01 21 00.9**	**-0.3**
	135nm,0.4s							
FRON	**Frontone**	**0.73**	**303**	Pg		**Pb**	**01 21 00.9**	**-0.3**
	135nm,0.4s							
VCEL	**Villa Celiera**	**0.75**	**165**	Pg		**Pb**	**01 21 02.1**	**+0.5**
	138nm,0.3s							
VCEL	**Villa Celiera**	**0.75**	**165**	Pg		**Pb**	**01 21 02.1**	**+0.5**
	138nm,0.3s							
AQU	**L'Aquila**	**0.78**	**189**	Pg		**Pn**	**01 21 02.6**	**-0.3**
	72nm,0.5s							
AQU	**L'Aquila**	**0.78**	**189**	Pg		**Pn**	**01 21 02.6**	**-0.3**
	72nm,0.5s							
MPAG	**Monte Paganucc**	**0.78**	**311**	Pg		**Pb**	**01 21 01.9**	**-0.1**
	99nm,0.6s							
MPAG	**Monte Paganucc**	**0.78**	**311**	Pg		**Pb**	**01 21 01.9**	**-0.1**
	99nm,0.6s							
T0104	**Madonna delle**	**0.78**	**193**	Pg		**Pb**	**01 21 02.0**	**0.0**
FSSB	**Fossombrone**	**0.81**	**315**	Pg		**Pb**	**01 21 02.5**	**0.0**
	450nm,0.5s							
FSSB	**Fossombrone**	**0.81**	**315**	Pg		**Pb**	**01 21 02.5**	**0.0**
	450nm,0.5s							
PIEI	**Pieia**	**0.86**	**299**	Pg		**Pb**	**01 21 03.0**	**-0.4**
	76nm,0.4s							
PIEI	**Pieia**	**0.86**	**299**	Pg		**Pb**	**01 21 03.0**	**-0.4**
	76nm,0.4s							
ATVO	**AVT- Monte Val**	**0.89**	**287**	Pg		**Pb**	**01 21 03.5**	**-0.3**
	156nm,1.1s							
ATVO	**AVT- Monte Val**	**0.89**	**287**	Pg		**Pb**	**01 21 03.5**	**-0.3**
	156nm,1.1s							
CESX	**Cesi**	**0.89**	**235**	Pg		**Pb**	**01 21 03.6**	**-0.2**
	81nm,0.4s							
CESX	**Cesi**	**0.89**	**235**	Pg		**Pb**	**01 21 03.6**	**-0.2**
	81nm,0.4s							
FIAM	**Fiamignano**	**0.92**	**202**	Pg		**Pb**	**01 21 04.0**	**-0.3**
	66nm,0.7s							
FIAM	**Fiamignano**	**0.92**	**202**	Pg		**Pb**	**01 21 04.0**	**-0.3**
	66nm,0.7s							
MGAB	**Montegabbione**	**1.09**	**259**	Pg		**Pb**	**01 21 08.1**	**+0.9**
	52nm,0.5s							
MGAB	**Montegabbione**	**1.09**	**259**	Pg		**Pb**	**01 21 08.1**	**+0.9**
	52nm,0.5s							
NVLJ	**Novalja**	**1.72**	**33**	*e*Pn		**Pn**	**01 21 15.8**	**0.0**
NVLJ				Sn		**Sn**	**01 21 37.2**	**+0.1**
NVLJ	**Novalja**	**1.72**	**33**	*e*Pn		**Pn**	**01 21 15.8**	**0.0**
NVLJ				Sn		**Sn**	**01 21 37.2**	**+0.1**
UDBI	**Udbina**	**2.12**	**48**	*e*Pn		**Pn**	**01 21 22.6**	**+1.2**
UDBI	**Udbina**	**2.12**	**48**	*e*Pn		**Pn**	**01 21 22.5**	**+1.2**
BOJS	**Bojanci**	**2.67**	**26**	*i* Pn		**Pn**	**01 21 29.6**	**+0.8**
BOJS				*i* Sn		**Sn**	**01 22 01.3**	**+0.7**
JAVS	**Javornik**	**2.79**	**7**	*i* Pn		**Pn**	**01 21 30.0**	**-0.6**
JAVS				*i* Sn		**Sn**	**01 22 02.7**	**-1.1**
VISS	**Visnje**	**2.83**	**18**	*i* Pn		**Pn**	**01 21 31.4**	**+0.3**
VISS				*i* Sn		**Sn**	**01 22 04.2**	**-0.3**
OZLJ	**Ozalj**	**2.84**	**28**	*e*Pn		**Pn**	**01 21 31.5**	**+0.4**
OZLJ	**Ozalj**	**2.84**	**28**	*e*Pn		**Pn**	**01 21 31.5**	**+0.4**
CADS	**Cadrg**	**3.11**	**2**	*i* Pn		**Pn**	**01 21 34.3**	**-0.6**
CADS				*i* Sn		**Sn**	**01 22 08.4**	**-3.0**
OBKA	**Obir**	**3.46**	**11**	Pn		**Pn**	**01 21 40.4**	**+0.6**
	2.5nm,0.6s							
OBKA	**Obir**	**3.46**	**11**	*e*Pn		**Pn**	**01 21 40.4**	**+0.6**
	2.5nm,0.6s							
ABTA	**Abfaltersbach**	**3.70**	**349**	Pn		**Pn**	**01 21 43.6**	**+0.5**
	2.6nm,0.5s							
ABTA				Sn		**Sn**	**01 22 26.5**	**+0.3**
	0.9nm,0.2s							
ABTA	**Abfaltersbach**	**3.70**	**349**	*e*Pn		**Pn**	**01 21 43.6**	**+0.5**
	2.6nm,0.5s							
ABTA				*e*Sn		**Sn**	**01 22 26.5**	**+0.3**
	0.9nm,0.2s							
KBA	**Koelnbreinsper**	**3.96**	**358**	Pn		**Pn**	**01 21 47.2**	**+0.5**
	0.2nm,0.3s							
KBA	**Koelnbreinsper**	**3.96**	**358**	*e*Pn		**Pn**	**01 21 47.2**	**+0.5**
	0.2nm,0.3s							
MOA	**Molln**	**4.75**	**6**	Pn		**Pn**	**01 21 58.5**	**+1.0**
	0.3nm,0.4s							
MOA	**Molln**	**4.75**	**6**	*e*Pn		**Pn**	**01 21 58.5**	**+1.0**
	0.3nm,0.4s							
CONA	**Conrad Observa**	**5.07**	**18**	Pn		**Pn**	**01 22 02.2**	**+0.3**
	0.5nm,0.4s							
CONA	**Conrad Observa**	**5.07**	**18**	*e*Pn		**Pn**	**01 22 02.2**	**+0.3**
	0.5nm,0.4s							

MOS **11** *01:21:15.5±1.3, 42°.11N×87°.95E, h34km, mb4.5/11, Error ellipse: s-maj=8.7km s-min=5.5km az=125.0*

ISCJB **11** *01:21:15.8±1.2, 42°.25N±0°.03×87°.94E±0°.03, h31km±9km, mb4.2/48, MS3.0/4, Error ellipse: s-maj=5.8km s-min=3.4km az=15.9*

IDC **11** *01:21:16.4±0.5, 42°.11N×88°.02E, h26km±3km, mb3.9/20, mb1 4.1/26, mb1mx3.9/72, mbtmp4.0/26, ML3.5/6, MS2.9/8, Ms1 3.0/8, ms1mx2.7/66, Error ellipse: s-maj=14.6km s-min=8.8km az=37.0*

NEIC **11** *01:21:16.4±0.2, 42°.09N×88°.01E, mb4.4/24, ML4.2(BJI), Error ellipse: s-maj=4.8km s-min=3.5km az=186.0*

BJI **11** *01:21:16.4, 42°.09N×87°.98E, h14km, mb4.5/18, mB4.5/3, ML4.2/12, Ms3.9/7, Ms7 3.7/6*

NNC **11** *01:21:17.1±2.3, 42°.31N×87°.93E, h20km±15km, mb4.3, mpv4.3, Error ellipse: s-maj=16.4km s-min=11.3km az=130.0*

ISC 11 01:21:16.8±0.5, 42°.15N±0°.04×87°.99E±0°.04, h27km±3km, h27km:pP-P, n172, σ1s50/209, mb4.3/47, MS3.0/4, 20C-13D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	ISC	Res
WMQ	**Urumqi**	**1.68**	**353**	Pg	**Pb**	**01 21 48.2**		**+1.0**
WMQ				Sg	**Sb**	**01 22 11.1**		**+3.1**
WMQ				smax	smax			
	comp=N,15μm,0.7s							
WMQ				smax	smax			
	comp=E,11μm,0.9s							
WMQ	**Urumqi**	**1.68**	**353**	Pg	**Pb**	**01 21 48.2**		**+1.0**
WMQ				Sg	**Sb**	**01 22 11.1**		**+3.1**
WMQ	**Urumqi**	**1.68**	**353**	P	**Pb**	**01 21 48.2**		**+1.0**
WMQ						01 22 11.1		
MK01	**Makanchi Array**	**6.16**	**321**	*e*Pn	**Pn**	**01 22 47.2**		**+1.3**
MK01				*e*Sn	**Sn**	**01 23 53.7**		**-1.7**
MK31	**Makanchi Array**	**6.18**	**321**	⇑Pn	**Pn**	**01 22 46.4**		**+0.2**
	6.3nm,0.3s,baz=134,slow=14,SNR=315							
MK31				⇑Sn	**Sn**	**01 23 54.7**		**-1.3**
	22nm,0.6s,baz=137,slow=14,SNR=5.4							
MK31				⇑Lg	Lg	01 24 26.0		
	71nm,0.8s,baz=140,slow=30,SNR=4.2							
MK31	**Makanchi Array**	**6.18**	**321**	*e*Pn	**Pn**	**01 22 47.6**		**+1.4**
MK31				*e*Sn	**Sn**	**01 23 54.6**		**-1.3**
MK31	**Makanchi Array**	**6.18**	**321**	*e*P	**Pn**	**01 22 47.6**		**+1.4**
MK31				*e*		01 23 54.6		
MK32	**Makanchi Array**	**6.18**	**321**	*e*Pn	**Pn**	**01 22 47.2**		**+1.0**
MK32				*e*Sn	**Sn**	**01 23 55.2**		**-0.7**
MKAR	**Makanchi Array**	**6.18**	**321**	Pn	**Pn**	**01 22 47.2**		**+1.0**
	3.8nm,0.3s,baz=137,slow=12,SNR=114							
MKAR				Sn	**Sn**	**01 23 55.2**		**-0.7**
	7.4nm,0.3s,baz=133,slow=25,SNR=5.2							
MKAR				Lg	Lg	01 24 28.1		
	6.8nm,0.3s,baz=146,slow=31,SNR=4.1							
MKAR				LR	LR	01 25 27.0		
	comp=Z,108nm,19.2s,baz=164,slow=40							
MKAR	**Makanchi Array**	**6.18**	**321**	*e*Pn	**Pn**	**01 22 47.6**		**+1.4**
MKAR				*e*Sn	**Sn**	**01 23 54.3**		**-1.6**
MKAR	**Makanchi Array**	**6.18**	**321**	*e*P	**Pn**	**01 22 47.6**		**+1.4**
MKAR				*e*		01 23 54.3		
MAKZ	**Makanchi**	**6.34**	**319**	⇑Pn	**Pn**	**01 22 48.0**		**-0.4**
	16nm,0.7s							
MAKZ				⇓Sn	**Sn**	**01 23 58.6**		**-1.3**
	20nm,0.5s							
MAKZ				⇑Lg	Lg	01 24 34.4		
	60nm,0.8s							
MAKZ	**Makanchi**	**6.34**	**319**	*e*Pn	**Pn**	**01 22 50.3**		**+1.9**
MAKZ				*e*Sn	**Sn**	**01 23 58.5**		**-1.4**
MAKZ	**Makanchi**	**6.34**	**319**	*e*P	**Pn**	**01 22 50.3**		**+1.9**
MAKZ				*e*		01 23 58.5		
PDGK	**Podgornoye**	**6.37**	**284**	⇓Pn	**Pn**	**01 22 50.8**		**+1.8**
	26nm,0.6s							
PDGK				⇓Sn	**Sn**	**01 24 01.1**		**+0.3**
	218nm,0.8s							
PDGK				⇓Lg	Lg	01 24 35.6		
	210nm,0.9s							
PDGK	**Podgornoye**	**6.37**	**284**	P	**Pn**	**01 22 50.8**		**+1.8**
PRZ	**Przheval'sk**	**7.12**	**276**	P	**Pn**	**01 23 02.0**		**+2.7**
DGZ	**Jazzator, Alta**	**7.56**	**357**	P	**Pn**	**01 23 08.6**		**+3.3**
TARG	**Taragay, Kyrgy**	**7.61**	**270**	*e*Pn	**Pn**	**01 23 07.0**		**+0.8**
TARG				*e*Sn	**Sn**	**01 24 31.1**		**-0.7**
KDJ	**Kajisay**	**8.04**	**273**	*e*Pn	**Pn**	**01 23 13.3**		**+1.5**
KDJ				*e*Sn	**Sn**	**01 24 38.6**		**-3.3**
KDJ	**Kajisay**	**8.04**	**273**	P	**Pn**	**01 23 13.4**		**+1.5**
MDOK	**Medeo**	**8.13**	**281**	Pn	**Pn**	**01 23 12.9**		**-0.2**
MDOK				Sn	**Sn**	**01 24 44.3**		**+0.1**
NRN	**Naryn**	**8.99**	**269**	*e*Pn	**Pn**	**01 23 25.3**		**+0.2**
NRN	**Naryn**	**8.99**	**269**	*e*P	**Pn**	**01 23 25.3**		**+0.2**
TKM2	**Tokmak 2**	**9.19**	**279**	⇓Pn	**Pn**	**01 23 27.5**		**-0.1**
	6.5nm,0.5s							
TKM2				⇑Sn	**Sn**	**01 25 10.9**		**+0.7**
	25nm,0.6s							
TKM2				⇓Lg	Lg	01 26 04.0		
	44nm,0.9s							
KSH	**Kashi**	**9.48**	**258**	P	Pn	01 23 38.3	+6.6	
KSH				sP		01 23 49.2		
KSH				S	Sn	01 25 28.8	+11	
KSH				PcP	**PcP**	**01 29 51.1**		**+2.9**
KSH				LR	LR			
	comp=N,370nm,4.9s							
FRU	**Bishkek**	**9.91**	**278**	*e*P	Pn	01 23 57.0	+20	
FRU				*e*		01 25 32.0		
FRU				smax	smax			
	comp=N,120nm,1.6s							
AAK	**Ala-Archa**	**10.00**	**277**	Pn	**Pn**	**01 23 38.1**		**-0.7**
	comp=N,0.8nm,0.3s,baz=121,slow=10.0,SNR=9.8							
AAK				Sn	**Sn**	**01 25 29.0**		**-1.1**
	comp=N,0.5nm,0.3s,baz=250,slow=22,SNR=3.4							
AAK				Lg	Lg	01 26 37.3		
	comp=N,0.9nm,0.3s,baz=350,slow=16,SNR=2.5							
AAK				LR	LR	01 26 58.5		
	comp=N,16nm,21.2s,baz=42,slow=34							
AAK	**Ala-Archa**	**10.00**	**277**	⇑Pn	**Pn**	**01 23 40.5**		**+1.7**
	comp=N,2.4nm,0.5s							
AAK				⇑Sn	**Sn**	**01 25 30.7**		**+0.6**
	comp=N,9.1nm,0.7s							
AAK				⇓Lg	Lg	01 26 31.7		
	comp=N,33nm,1.1s							
AAK	**Ala-Archa**	**10.00**	**277**	*e*Pn	**Pn**	**01 23 39.7**		**+0.9**
AAK				*e*Sn	**Sn**	**01 25 29.0**		**-1.1**
AAK	**Ala-Archa**	**10.00**	**277**	*ce*P	**Pn**	**01 23 38.5**		**-0.3**
KURBB	**Kurchatov Arra**	**10.69**	**326**	Pn	**Pn**	**01 23 47.0**		**-1.0**
	comp=N,0.2nm,0.3s,baz=133,slow=12,SNR=26							
KURBB				Sn	**Sn**	**01 25 42.0**		**-4.7**
	comp=N,0.2nm,0.3s,baz=115,slow=15,SNR=4.0							
KURBB				Lg	Lg	01 26 57.9		
	comp=N,0.3nm,0.3s,baz=120,slow=28,SNR=6.6							
KURK	**Kurchatov**	**10.73**	**326**	⇓Pn	**Pn**	**01 23 48.0**		**-0.4**
	comp=N,5.0nm,0.9s							
KURK				⇓Sn	**Sn**	**01 25 46.5**		**-1.0**
	comp=N,6.6nm,0.6s							
KURK				⇑Lg	Lg	01 26 51.9		
	comp=N,52nm,1.2s							
KURK	**Kurchatov**	**10.73**	**326**	*e*Pn	**Pn**	**01 23 47.6**		**-0.8**
KURK				*e*Sn	**Sn**	**01 25 42.0**		**-5.5**
KURK	**Kurchatov**	**10.73**	**326**	*ce*P	**Pn**	**01 23 48.0**		**-0.4**
ZAA0	**Zalesovo Array**	**11.99**	**351**	⇓Pn	**Pn**	**01 24 04.7**		**-1.1**
	comp=N,6.2nm,0.6s							
ZAA0				⇓Sn	**Sn**	**01 26 15.3**		**-3.2**
	comp=N,12nm,0.7s							
ZAA0	**Zalesovo Array**	**11.99**	**351**	*e*Pn	**Pn**	**01 24 05.5**		**-0.2**
ZALV	**Zalesovo Beam**	**11.99**	**351**	Pn	**Pn**	**01 24 05.5**		**-0.3**
	comp=N,0.9nm,0.3s,baz=171,slow=13,SNR=31							
ZALV				Sn	**Sn**	**01 26 13.5**		**-5.0**
	comp=N,2.2nm,0.3s,baz=168,slow=23,SNR=11							
ZALV				Lg	Lg	01 27 41.5		
	baz=166,slow=28,SNR=2.2							
ZALV				LR	LR	01 29 27.5		
	comp=N,76nm,18.8s,baz=244,slow=41							
ZALV	**Zalesovo Beam**	**11.99**	**351**	*e*Pn	**Pn**	**01 24 04.9**		**-0.9**
ZALV				*e*Sn	**Sn**	**01 26 12.1**		**-6.4**
ZALV	**Zalesovo Beam**	**11.99**	**351**	*e*P	**Pn**	**01 24 04.9**		**-0.9**
ZALV				*e*		01 26 12.1		
ZAA1	**Zalesovo Array**	**12.00**	**351**	*e*Pn	**Pn**	**01 24 05.5**		**-0.4**
ZAA1				*e*Sn	**Sn**	**01 26 13.5**		**-5.1**
ZAA1				*e*Lg	Lg	01 27 41.5		
OTUK	**Ortayu**	**12.60**	**304**	⇑Pn	**Pn**	**01 24 13.2**		**-1.0**
	comp=N,3.3nm,0.7s							
OTUK				⇑Lg	Lg	01 27 52.3		
	comp=N,24nm,1.3s							
OTUK	**Ortayu**	**12.60**	**304**	P	**Pn**	**01 24 13.2**		**-1.0**
KK06	**Karatay Array**	**12.90**	**280**	*e*Pn	Pn	01 24 23.4	+5.1	
KKAR	**Karatay Array**	**12.91**	**280**	*e*Pn	**P**	**01 24 29.3**		**+0.5**
KKAR	**Karatay Array**	**12.91**	**280**	*e*P	**P**	**01 24 29.3**		**+0.5**
ZAK	**Zakamensk**	**13.38**	**47**	*e*P	**P**	**01 24 35.8**		**+1.7**
ZAK				pmax	pmax			
	comp=Z,6.0nm,1.5s							
LZH	**Lanzhou**	**13.71**	**111**	*e*P	**Pn**	**01 24 28.5**		**-0.9**
LZH				pP	P	01 24 35.4		-2.5
LZH				sP		01 24 40.5		
LZH				pmax	pmax			
	comp=Z,23nm,1.0s							
LZH				pmax	pmax			
	comp=Z,56nm,4.3s							
LZH				LR	LR			
	comp=Z,370nm,10.2s							
LZH				LR	LR			
	comp=Z,420nm,13.2s							
SONA0	**Songino Array**	**14.20**	**60**	*e*Pn	**Pn**	**01 24 35.4**		**-0.6**
SONM	**Songino Array**	**14.20**	**60**	Pn	**Pn**	**01 24 35.4**		**-0.6**
	comp=Z,0.1nm,0.3s,baz=244,slow=15,SNR=2.7							
SONM				Lg	Lg	01 28 47.5		
	comp=Z,0.2nm,0.3s,baz=252,slow=28,SNR=8.4							
SONM				LR	LR	01 30 29.9		
	comp=Z,161nm,19.8s,baz=248,slow=39							
SONA1	**Songino Array**	**14.20**	**60**	*e*Pn	**Pn**	**01 24 35.6**		**-0.6**
NIL	**Nilore**	**14.39**	**239**	*e*Pn	**Pn**	**01 24 35.8**		**-2.9**
NIL	**Nilore**	**14.39**	**239**	*e*P	**Pn**	**01 24 35.8**		**-2.9**
ULN	**Ulaanbaatar**	**14.63**	**61**	*e*Pn	**P**	**01 24 49.8**		**+1.7**
ULN	**Ulaanbaatar**	**14.63**	**61**	⇑*e*P	**Pn**	**01 24 43.8**		**+1.8**
BVA0	**Borovoye Array**	**16.06**	**319**	⇓Pn	**Pn**	**01 24 59.7**		**-0.8**
	comp=Z,4.5nm,0.7s,baz=240,slow=40,SNR=10							
BVAR	**Borovoye Array**	**16.06**	**319**	Pn	**Pn**	**01 24 57.3**		**-3.2**
	comp=Z,0.1nm,0.3s,baz=124,slow=12,SNR=4.3							
BVAR				LR	LR	01 31 18.5		
	comp=Z,36nm,19.9s,baz=98,slow=37							
BRVK	**Borovoye**	**16.13**	**319**	*e*Pn	**Pn**	**01 25 02.2**		**+0.9**
	comp=Z,5.2nm,0.7s							
BRVK	**Borovoye**	**16.13**	**319**	⇑*e*P	**Pn**	**01 25 01.5**		**+0.1**
CD2	**Chengdu**	**16.89**	**127**	*e*P	**P**	**01 25 14.2**		**+1.1**
CD2	**Chengdu**	**16.89**	**127**	*e*P	**P**	**01 25 13.8**		**+0.7**
CD2				pmax	pmax			
	comp=Z,10.0nm,0.5s							
HHC	**Hu-ho-hao-te**	**17.70**	**86**	*e*P	**P**	**01 25 21.8**		**-0.2**
HHC				S	**Sn**	**01 28 35.4**		**-2.2**
HHC				pmax	pmax			
	comp=Z,24nm,0.8s							
HHC				LR	LR			
	comp=Z,880nm,11.2s							
HHC				LR	LR			
	comp=Z,770nm,10.7s							
HHC				LR	LR			
	comp=Z,860nm,11.2s							
XAN	**Xi'an**	**18.32**	**109**	P	**P**	**01 25 22.3**		**-6.6**
XAN				pmax	pmax			
	comp=Z,3.0nm,0.7s							
XAN				pmax	pmax			
	comp=Z,30nm,3.0s							
AB06	**Akbulak array**	**20.74**	**300**	*e*P	**P**	**01 25 55.0**		**-0.1**
AB07	**Akbulak array**	**20.75**	**300**	*e*P	**P**	**01 25 54.6**		**-0.6**
AB02	**Akbulak array**	**20.76**	**300**	*e*P	**P**	**01 25 54.9**		**-0.4**
AB03	**Akbulak array**	**20.76**	**300**	*e*P	**P**	**01 25 54.9**		**-0.4**
AB01	**Akbulak array**	**20.76**	**300**	*e*P	**P**	**01 25 54.9**		**-0.4**
AB31	**Akbulak array**	**20.76**	**300**	Pn	**P**	**01 25 54.5**		**-0.8**
	comp=Z,1.5nm,0.6s,baz=100,slow=10,SNR=32							
AB31	**Akbulak array**	**20.76**	**300**	*e*P	**P**	**01 25 55.2**		**-0.1**
AB31	**Akbulak array**	**20.76**	**300**	*e*P	**P**	**01 25 55.2**		**-0.1**
ABKAR	**Akbulak array**	**20.76**	**300**	*e*P	**P**	**01 25 55.2**		**-0.1**
	comp=Z,21nm,0.6s							
AB05	**Akbulak array**	**20.76**	**300**	*e*P	**P**	**01 25 55.1**		**-0.2**
AB04	**Akbulak array**	**20.76**	**300**	*e*P	**P**	**01 25 55.0**		**-0.4**
AB08	**Akbulak array**	**20.77**	**300**	*e*P	**P**	**01 25 55.0**		**-0.4**
AB09	**Akbulak array**	**20.77**	**300**	*e*P	**P**	**01 25 55.0**		**-0.5**
KMI	**Kunming**	**20.90**	**140**	P	Pn	01 26 00.8		+0.9
KMI				pmax	pmax			
	comp=Z,17nm,0.5s							
KMI				pmax	pmax			
	comp=Z,82nm,4.2s							
GYA	**Guiyang**	**21.90**	**130**	*e*P	**P**	**01 26 10.4**		**+2.5**
GYA				pmax	pmax			
	comp=Z,10.0nm,0.7s							
AKTO	**Aktyubinsk**	**22.19**	**302**	P	**P**	**01 26 11.4**		**+0.7**
	comp=Z,5.1nm,0.7s,baz=94,slow=11,SNR=17							
AKTO	**Aktyubinsk**	**22.19**	**302**	Pn	**P**	**01 26 11.9**		**+1.2**
BOD	**Bodaibo**	**22.71**	**37**	*e*P	**P**	**01 26 15.7**		**-0.5**
BOD				*e*		01 26 28.7		
BOD				pmax	pmax			
	comp=Z,8.0nm,1.3s							
SVE	**Sverdlovsk**	**22.84**	**319**	*e*P	**P**	**01 26 16.7**		**-0.8**
GYB3	**ALIBECK ARRAY**	**23.20**	**270**	*e*P	**P**	**01 26 22.3**		**+1.0**
	comp=Z,5.4nm,1.1s							
GEYT	**Alibeck**	**23.20**	**270**	P	**P**	**01 26 22.2**		**+0.8**
	comp=Z,1.2nm,0.5s,baz=46,slow=4.3,SNR=7.0							
GEYT				LR	LR	01 37 00.6		
	comp=Z,49nm,18.6s,baz=185,slow=41							
GYA0B	**ALIBECK ARRAY**	**23.20**	**270**	*e*P	**P**	**01 26 21.5**		**0.0**
	comp=Z,4.3nm,1.1s							
GYA1	**ALIBECK ARRAY**	**23.20**	**270**	*e*P	**P**	**01 26 21.6**		**+0.1**
	comp=Z,4.4nm,1.1s							
GYB4	**ALIBECK ARRAY**	**23.21**	**270**	*e*P	**P**	**01 26 22.6**		**+1.0**
	comp=Z,2.6nm,0.8s							
ARU	**Arti**	**23.69**	**317**	*e*P	**P**	**01 26 25.7**		**-0.2**
	comp=Z,6.6nm,0.5s							
ARU	**Arti**	**23.69**	**317**	*c i*P	**P**	**01 26 25.8**		**-0.2**
ARU						01 26 53.1		
ARU				S	**S**	**01 30 40.4**		**+1.4**
ARU				pmax	pmax			
	comp=Z,13nm,1.7s							
CM31	**Chiang Mai Arr**	**25.39**	**155**	*e*P	**P**	**01

DPC				*e*			01 30 05.5		
UPC	**Upice**	**48.59**	**306**	*e*P	**P**		**01 29 58.5**	**+0.8**	
UPC				*ep*P	**pP**		**01 30 06.2**	**+0.2**	
UPC	**Upice**	**48.59**	**306**	*e*P	**P**		**01 29 58.5**	**+0.8**	
UPC				*e*			01 30 06.2		
KHC	**Kasperske Hory**	**50.55**	**305**	*e*P	**P**		**01 30 10.9**	**-1.8**	
KHC				*ep*P	**pP**		**01 30 20.8**	**-0.2**	
KHC	**Kasperske Hory**	**50.55**	**305**	*e*P	**P**		**01 30 10.9**	**-1.8**	
KHC				*e*			01 30 20.8		
GEC2	**GERESS Array S**	**50.58**	**305**	*e*P	**P**		**01 30 12.9**	**-0.1**	
	comp=Z,1.0nm,0.8s								
GEC2				pmax	pmax				
	comp=Z,1.0nm,0.8s								
GERES	**GERESS Array B**	**50.58**	**305**	P	**P**		**01 30 12.9**	**-0.1**	
	comp=Z,0.2nm,0.3s,baz=43,slow=6.0,SNR=3.7								
EKA	**Eskdalemuir Ar**	**57.30**	**317**	P	**P**		**01 31 01.1**	**-0.7**	
	comp=Z,0.6nm,0.5s,baz=61,slow=6.0,SNR=5.8								
ESK	**Eskdalemuir**	**57.34**	**317**	*e*P	**P**		**01 31 03.6**	**+1.6**	
TOLK	**Toolik Lake Re**	**61.57**	**21**	*e*P	**P**		**01 31 31.6**	**+0.4**	
	comp=Z,6.9nm,0.6s								
IM3	**Indian Mountai**	**62.23**	**24**	*e*P	**P**		**01 31 35.9**	**+0.4**	
COLD	**Coldfoot**	**62.40**	**22**	*e*P	**P**		**01 31 37.8**	**+1.1**	
	comp=Z,4.4nm,1.0s								
MLY	**Manley**	**63.80**	**24**	*e*P	**P**		**01 31 47.2**	**+1.2**	
	comp=Z,3.2nm,0.9s								
MDM	**Murphy Dome**	**64.59**	**23**	*e*P	**P**		**01 31 52.1**	**+0.9**	
	comp=Z,4.4nm,1.0s								
COLA	**College**	**64.76**	**23**	P	**P**		**01 31 53.6**	**+1.4**	
CCB	**Clear Creek Bu**	**64.94**	**23**	*e*P	**P**		**01 31 53.9**	**+0.4**	
	comp=Z,4.0nm,1.1s								
ILAR	**Eielson Array**	**65.12**	**23**	P	**P**		**01 31 54.6**	**+0.1**	
	comp=Z,2.3nm,0.7s,baz=312,slow=5.2,SNR=35								
ILB	**Eielson Array**	**65.12**	**23**	*e*P	**P**		**01 31 54.8**	**+0.1**	
IL1	**Eielson Array**	**65.12**	**23**	*e*P	**P**		**01 31 54.6**	**0.0**	
INK	**Inuvik**	**65.56**	**16**	P	**P**		**01 31 57.9**	**+0.5**	
	comp=Z,2.1nm,0.5s,baz=352,slow=5.9,SNR=17								
INK	**Inuvik**	**65.56**	**16**	*e*P	**P**		**01 31 58.0**	**+0.6**	
	comp=Z,4.6nm,1.1s								
INK	**Inuvik**	**65.56**	**16**	*e*P	**P**		**01 31 58.0**	**+0.6**	
INK				pmax	pmax				
	comp=Z,5.0nm,1.1s								
ESDC	**Sonseca Array**	**66.07**	**302**	P	**P**		**01 32 00.7**	**-0.5**	
	comp=Z,0.1nm,0.3s,baz=54,slow=7.1,SNR=3.5								
DHY	**Denali Highway**	**66.24**	**24**	*e*P	**P**		**01 32 02.2**	**+0.1**	
	comp=Z,3.9nm,0.6s								
RIDG	**Independ'e Rid**	**66.48**	**23**	*e*P	**P**		**01 32 03.5**	**0.0**	
	comp=Z,8.4nm,0.7s								
KDAK	**Kodiak Island**	**68.35**	**30**	*ce*P	**P**		**01 32 15.8**	**+0.5**	
YKA	**Yellowknife Ar**	**74.13**	**11**	P	**P**		**01 32 50.2**	**+0.1**	
	comp=Z,2.0nm,0.6s,baz=336,slow=5.8,SNR=40								
YKB5	**Yellowknife Ar**	**74.13**	**11**	*e*P	**P**		**01 32 50.2**	**0.0**	
WR1	**Warramunga Arr**	**75.15**	**135**	*e*P	**P**		**01 32 56.7**	**+0.1**	
	comp=Z,4.8nm,0.6s								
WRA	**Warramunga Arr**	**75.15**	**135**	P	**P**		**01 32 56.7**	**+0.1**	
	comp=Z,3.0nm,0.7s,baz=335,slow=5.7,SNR=29								
WRA				pP	**pP**		**01 33 04.6**	**-0.7**	
	comp=Z,2.7nm,0.7s,baz=334,slow=5.7,SNR=11								
AS31	**Alice Springs**	**78.02**	**138**	*e*P	**P**		**01 33 13.0**	**+0.2**	
	comp=Z,0.6nm,0.6s								
ASAR	**Alice Springs**	**78.02**	**138**	P	**P**		**01 33 13.0**	**+0.2**	
	comp=Z,1.5nm,0.8s,baz=334,slow=5.6,SNR=13								
ASAR				pP	**pP**		**01 33 21.4**	**-0.2**	
	comp=Z,1.5nm,0.7s,baz=336,slow=6.5,SNR=6.7								
TOA1	**Torodi Ar. Sit**	**78.59**	**277**	*e*P	**P**		**01 33 15.3**	**-0.8**	
TOA0	**Torodi Ar. Sit**	**78.59**	**277**	*e*P	**P**		**01 33 15.5**	**-0.7**	
TORD	**Torodi Ar. Bea**	**78.59**	**277**	P	**P**		**01 33 15.3**	**-0.8**	
	comp=Z,1.5nm,0.7s,baz=40,slow=4.9,SNR=9.8								
TORD				pP	**pP**		**01 33 23.4**	**-1.5**	
	comp=Z,2.5nm,0.7s,baz=42,slow=5.2,SNR=14								
FFC	**Flin Flon**	**83.12**	**6**	*e*P	**P**		**01 33 39.6**	**-0.2**	
	comp=Z,7.7nm,0.7s								
FFC	**Flin Flon**	**83.12**	**6**	*e*P	**P**		**01 33 39.6**	**-0.2**	
FFC				pmax	pmax				
	comp=Z,8.0nm,0.7s								
JTMT	**Jette**	**88.34**	**15**	*e*P	**P**		**01 34 06.8**	**+0.8**	
	comp=Z,3.6nm,0.8s								
STKA	**Stephens Creek**	**88.62**	**137**	P	**P**		**01 34 06.0**	**-1.1**	
	comp=Z,1.3nm,0.6s,baz=321,slow=12,SNR=4.8								
STKA	**Stephens Creek**	**88.62**	**137**	*e*P	**P**		**01 34 06.0**	**-1.1**	
	comp=Z,0.4nm,0.7s								
STKA	**Stephens Creek**	**88.62**	**137**	*e*P	**P**		**01 34 06.0**	**-1.1**	
ECSD	**EROS Data Cent**	**94.40**	**3**	*e*P	**P**		**01 34 34.1**	**+0.1**	
	comp=Z,4.1nm,1.0s								

MEX 11 01:32:20.8±0.4, 14°.35N×92°.30W, h75km±23km, MD3.9,
Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.62**	**327**	*e*P	Pn	01 32 46.1	-1.4
PCIG				*e*S	Sn	01 33 06.1	-1.6
CCIG	**Comitan**	**1.93**	**5**	*e*P	Pn	01 32 55.7	+3.9
TGIG		**2.55**	**342**	*e*P	Pn	01 33 00.4	+0.4
TGIG				*i*S	Sn	01 33 28.6	-1.5

KRSC 11 01:37:11.8±0.9, 52°.38N×159°.61E, h40km±13km, ML3.8,
Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUS	**Russkaya**	**0.67**	**275**	*i*P	Pn	01 37 25.8	+0.9
RUS				*e*S	Sn	01 37 34.6	+0.4
SPN	**Mys Shipunski**	**0.77**	**19**	*e*P	Pn	01 37 27.8	+1.7
SPN				*e*S	Sn	01 37 38.2	+1.7
NLC	**Nalytchevo**	**0.81**	**349**	*e*P	Pn	01 37 27.7	+0.9
NLC				*e*S	Sn	01 37 38.2	+0.6
DALK	**Dalny**	**0.84**	**322**	*e*P	Pn	01 37 27.9	+0.8
DALK				*e*S	Sn	01 37 38.7	+0.5
MTVR	**Mutnovka**	**0.88**	**278**	*i*P	Pn	01 37 28.9	+1.1
MTVR				*e*S	Sn	01 37 40.1	+0.6
UGLR	**Uglovaya**	**0.96**	**331**	*e*P	Pn	01 37 30.3	+1.4
KRMR	**Karymshinskiy**	**1.01**	**297**	*i*P	Pn	01 37 30.4	+0.9
KRMR				*i*S	Sn	01 37 42.9	+0.5
SMAR	**Somma**	**1.01**	**331**	*e*P	Pn	01 37 30.7	+1.0
AVH	**Avacha**	**1.03**	**330**	*e*P	Pn	01 37 31.2	+1.3
ASAK	**Asacha**	**1.05**	**271**	*e*P	Pn	01 37 31.6	+1.5
ASAK				*e*S	Sn	01 37 44.8	+1.3
KRER	**Koryakskii**	**1.07**	**331**	*e*P	Pn	01 37 31.6	+1.2
KOK	**Koryaka**	**1.09**	**328**	*e*P	Pn	01 37 32.5	+1.8
KDTR	**Khodutka, Kamc**	**1.10**	**240**	*i*P	Pn	01 37 32.0	+1.3
KDTR				*e*S	Sn	01 37 45.6	+0.9
KRX	**Arik**	**1.14**	**330**	*e*P	Pn	01 37 32.8	+1.4
APC	**Apacha**	**1.59**	**291**	*e*P	Pn	01 37 39.7	+2.3
APC				*e*S	Sn	01 38 00.1	+3.4
GNL	**Ganaly**	**1.66**	**323**	*e*P	Pn	01 37 40.5	+2.0
MIPR	**Malaya Ipel'ka**	**1.75**	**268**	*e*P	Pn	01 37 42.2	+2.5
PAU	**Pauzhetka**	**1.96**	**243**	*e*P	Pn	01 37 44.9	+2.5
SKR	**Severo-Kuril's**	**2.76**	**234**	*e*P	Pn	01 37 55.9	+2.4
KZV	**Kizimen**	**2.77**	**8**	*e*P	Pn	01 37 57.3	+3.5
TUMD	**Tumrok D**	**2.87**	**9**	*e*P	Pn	01 37 58.2	+3.2
TUMR	**Tumrok**	**2.93**	**6**	*e*P	Pn	01 38 00.0	+4.1
KMNR	**Kamenistaya**	**3.41**	**6**	*e*P	Pn	01 38 07.3	+4.8
KBTR	**Krutoberegovo**	**4.28**	**25**	*e*P	Pn	01 38 17.3	+3.0
BDR	**Baidarnaya**	**4.30**	**12**	*e*P	Pn	01 38 19.5	+4.8
SMKR	**Semkarok**	**4.35**	**14**	*e*P	Pn	01 38 20.6	+5.2
SRKR	**Sorokina**	**4.38**	**11**	*e*P	Pn	01 38 20.3	+4.5
BKI	**Bering**	**4.72**	**51**	*e*P	Pn	01 38 22.3	+2.0

KRSC 11 01:38:43.1±1.0, 52°.38N×159°.59E, h50km±15km, ML3.6,
Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUS	**Russkaya**	**0.66**	**275**	*e*P	Pn	01 38 56.9	+0.6
RUS				*e*S	Sn	01 39 05.8	-0.1
SPN	**Mys Shipunski**	**0.77**	**20**	*e*P	Pn	01 38 58.9	+1.2
SPN				*e*S	Sn	01 39 11.5	+3.1
NLC	**Nalytchevo**	**0.81**	**350**	*e*P	Pn	01 38 58.9	+0.7
NLC				*e*S	Sn	01 39 10.1	+0.8
DALK	**Dalny**	**0.83**	**323**	*e*P	Pn	01 38 59.4	+0.9
DALK				*e*S	Sn	01 39 10.1	+0.3
PET	**Petropavlovsk**	**0.86**	**319**	*e*P	Pn	01 38 59.6	+0.6
PET				*e*S	Sn	01 39 10.4	-0.2
MTVR	**Mutnovka**	**0.87**	**278**	*e*P	Pn	01 39 00.1	+0.9
MTVR				*e*S	Sn	01 39 11.5	+0.6
UGLR	**Uglovaya**	**0.95**	**331**	*e*P	Pn	01 39 01.5	+1.2
KRMR	**Karymshinskiy**	**1.00**	**298**	*e*P	Pn	01 39 01.6	+0.8
KRMR				*e*S	Sn	01 39 14.2	+0.4
SDLR	**Sedlovina**	**1.00**	**335**	*e*P	Pn	01 39 01.9	+1.0
SDLR				*e*S	Sn	01 39 16.7	+2.7
SMAR	**Somma**	**1.01**	**332**	*e*P	Pn	01 39 02.2	+1.1
AVH	**Avacha**	**1.03**	**330**	*e*P	Pn	01 39 02.7	+1.4
AVH				*e*S	Sn	01 39 16.6	+1.9
ASAK	**Asacha**	**1.03**	**271**	*e*P	Pn	01 39 02.9	+1.5
ASAK				*e*S	Sn	01 39 16.3	+1.5
KRER	**Koryakskii**	**1.06**	**332**	*e*P	Pn	01 39 03.6	+1.8
KRER				*e*S	Sn	01 39 18.1	+2.5
KOK	**Koryaka**	**1.08**	**328**	*e*P	Pn	01 39 04.0	+2.0
KOK				*e*S	Sn	01 39 18.5	+2.5
KDTR	**Khodutka, Kamc**	**1.09**	**239**	*e*P	Pn	01 39 03.2	+1.2
KDTR				*e*S	Sn	01 39 16.9	+0.9
KRX	**Arik**	**1.14**	**330**	*e*P	Pn	01 39 04.2	+1.4
KRX				*e*S	Sn	01 39 18.4	+1.0
APC	**Apacha**	**1.58**	**291**	*e*P	Pn	01 39 10.7	+2.0
APC				*e*S	Sn	01 39 31.5	+3.6
GNL	**Ganaly**	**1.65**	**324**	*e*P	Pn	01 39 11.9	+2.1
GNL				*e*S	Sn	01 39 33.1	+3.2
MIPR	**Malaya Ipel'ka**	**1.74**	**268**	*e*P	Pn	01 39 13.5	+2.6
PAU	**Pauzhetka**	**1.95**	**243**	*e*P	Pn	01 39 16.4	+2.7
KZV	**Kizimen**	**2.77**	**8**	*e*P	Pn	01 39 28.2	+3.1
TUMD	**Tumrok D**	**2.87**	**9**	*e*P	Pn	01 39 29.5	+3.1
TUMD				*e*S	Sn	01 40 02.6	+2.9
TUMR	**Tumrok**	**2.93**	**6**	*e*P	Pn	01 39 30.5	+3.2
KMNR	**Kamenistaya**	**3.41**	**6**	*e*P	Pn	01 39 38.5	+4.7
KBTR	**Krutoberegovo**	**4.28**	**25**	*e*P	Pn	01 39 49.4	+3.8
BKI	**Bering**	**4.73**	**51**	*e*P	Pn	01 39 53.5	+1.8

CSEM 11 01:43:30.8±0.2, 39°.67N×43°.71E, h5km, ML2.8, Error ellipse: s-maj=5.5km s-min=4.0km az=133.0
ISK 11 01:43:30.4, 39°.62N×43°.73E, h5km, ML2.5/2
ATA 11 01:43:30.4±0.8, 39°.66N×43°.69E, h7km±13km, ML2.9, MW2.7
DDA 11 01:43:31.1, 39°.66N×43°.70E, h10km, Ml2.8

ISC 11 01:43:31.2±0.9, 39°.66N±0°.03×43°.72E±0°.03, h9km±6km, n29, σ0°.71/50, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DYDN	**Diyadin**	**0.12**	**192**	*i*P	**Pg**	**01 43 34.0**	**-0.1**
DYDN				*e*S	**Sg**	**01 43 36.1**	**-0.1**
DYDN				IAML		01 43 38.0	
	comp=Z,369nm,0.3s						
DYDN	**Diyadin**	**0.12**	**192**	*i*P	**Pg**	**01 43 34.0**	**-0.1**
DYDN				*i*S	**Sg**	**01 43 36.5**	**+0.3**
DYDN	**Diyadin**	**0.12**	**192**	P	**Pg**	**01 43 34.0**	**-0.1**
DYDN				S	**Sg**	**01 43 36.5**	**+0.3**
IGDI	**IGDIR**	**0.34**	**53**	*i*P	**Pg**	**01 43 38.3**	**+0.3**
IGDI				*e*S	**Sb**	**01 43 43.8**	**-1.3**
IGDI				IAML		01 43 46.2	
	comp=Z,40nm,0.3s						
IGDI	**IGDIR**	**0.34**	**53**	*i*P	**Pg**	**01 43 38.3**	**+0.3**
IGDI				*i*S	**Sb**	**01 43 44.1**	**-1.1**
TASB	**TASBURUN-IGDIR**	**0.51**	**51**	PG	**Pg**	**01 43 41.3**	**+0.2**
TASB				SG	**Sb**	**01 43 49.4**	**-0.6**
TASB	**TASBURUN-IGDIR**	**0.51**	**51**	*e*Pg	**Pg**	**01 43 41.3**	**+0.2**
TASB				*e*Sg	**Sb**	**01 43 49.4**	**-0.6**
AGRB	**Hanur-Agry**	**0.57**	**262**	PG	**Pg**	**01 43 41.9**	**-0.3**
AGRB				SG	**Sg**	**01 43 50.2**	**+0.4**
AGRB	**Hanur-Agry**	**0.57**	**262**	*e*Pg	**Pg**	**01 43 41.9**	**-0.3**
AGRB				*e*Sg	**Sg**	**01 43 50.2**	**+0.4**
VMUR	**Van-Muradiye**	**0.68**	**190**	*i*P	**Pg**	**01 43 43.2**	**-1.1**
VMUR				*i*S	**Sb**	**01 43 54.0**	**-0.9**
VMUR	**Van-Muradiye**	**0.68**	**190**	P	**Pg**	**01 43 43.2**	**-1.1**
VMUR				S	**Sb**	**01 43 54.0**	**-0.9**
TUTA	**Tutak**	**0.75**	**250**	*i*P	**Pg**	**01 43 45.3**	**-0.3**
TUTA				*e*S	**Sg**	**01 43 55.6**	**+0.2**
TUTA				IAML		01 43 57.0	
	comp=Z,67nm,0.1s						
TUTA	**Tutak**	**0.75**	**250**	*i*P	**Pg**	**01 43 45.3**	**-0.3**
TUTA				*i*S	**Sg**	**01 43 55.6**	**+0.2**
TUTA	**Tutak**	**0.75**	**250**	P	**Pg**	**01 43 45.3**	**-0.3**
TUTA				S	**Sg**	**01 43 55.6**	**+0.2**
DIGO	**Kars**	**0.80**	**341**	*i*P	**Pg**	**01 43 45.2**	**-1.4**
DIGO				*i*S	**Sn**	**01 44 01.4**	**+0.3**
DIGO	**Kars**	**0.80**	**341**	P	**Pg**	**01 43 45.2**	**-1.4**
EATA	**Eleskirt**	**0.97**	**282**	*e*P	**Pg**	**01 43 49.2**	**-0.6**
EATA	**Eleskirt**	**0.97**	**282**	*i*P	**Pg**	**01 43 49.4**	**-0.4**
EATA				*i*S	**Sg**	**01 44 03.0**	**+0.5**
EATA	**Eleskirt**	**0.97**	**282**	P	**Pg**	**01 43 49.4**	**-0.4**
EATA				S	**Sg**	**01 44 03.0**	**+0.5**
ADCV	**BITLIS_Adilcev**	**1.15**	**223**	*i*P	**Pg**	**01 43 52.9**	**-0.4**
ADCV				*i*S	**Sn**	**01 44 10.4**	**+0.8**
ADCV	**BITLIS_Adilcev**	**1.15**	**223**	P	**Pg**	**01 43 52.9**	**-0.4**
ADCV				S	**Sn**	**01 44 10.4**	**+0.8**
EKAR	**Karacoban**	**1.34**	**253**	*e*P	**Pn**	**01 43 55.7**	**-0.7**
EKAR				*e*S	**Sn**	**01 44 16.0**	**+1.5**
EKAR	**Karacoban**	**1.34**	**253**	*i*P	**Pn**	**01 43 56.3**	**0.0**
EKAR				*i*S	**Sn**	**01 44 16.6**	**+2.1**
EKAR	**Karacoban**	**1.34**	**253**	P	**Pn**	**01 43 56.3**	**0.0**
SENK	**Senkaya-Erzuru**	**1.38**	**311**	PN	**Pg**	**01 43 57.7**	**0.0**
SENK	**Senkaya-Erzuru**	**1.38**	**311**	*e*Pn	**Pg**	**01 43 57.7**	**0.0**
GURO	**Guroymak-BITLI**	**1.72**	**230**	PN	**Pn**	**01 44 01.6**	**+0.2**
GURO	**Guroymak-BITLI**	**1.72**	**230**	*e*Pn	**Pn**	**01 44 01.6**	**+0.2**
ERZM	**Erzurum**	**1.83**	**278**	*e*P	**Pb**	**01 44 05.0**	**+0.1**

ATH 11 01:49:29.6, 39°.47N×28°.04E, h18km±1km, ML3.6/8, Error ellipse: s-maj=2.3km s-min=1.1km az=253.0
DDA 11 01:49:31.4, 39°.49N×27°.94E, h22km, Ml3.9
ISCJB 11 01:49:31.6±0.3, 39°.49N±0°.01×27°.95E±0°.01, h12km±2km, Error ellipse: s-maj=1.9km s-min=1.7km az=15.8
ISK 11 01:49:31.5, 39°.49N×27°.98E, h7km, ML3.9/52
SOF 11 01:49:31.6, 39°.66N×27°.94E, h1km, MD3.4
CSEM 11 01:49:32.2±0.1, 39°.48N×27°.97E, h10km, ML3.9, Error ellipse: s-maj=1.4km s-min=1.3km az=1.0
THE 11 01:49:33.6, 39°.45N×27°.98E, h17km±3km, ML3.5/8, Error ellipse: s-maj=4.4km s-min=1.1km az=77.0

ISC 11 01:49:31.8±0.8, 39°.49N±0°.01×27°.99E±0°.01, h18km±2km, n399, σ1°.17/479, 14C-15D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BALB	**Balikesir**	**0.17**	**330**	PG	**Pb**	**01 49 35.9**	**0.0**
BALB				SG	**Sg**	**01 49 39.9**	**+0.4**
BALB	**Balikesir**	**0.17**	**330**	*e*Pg	**Pb**	**01 49 35.9**	**0.0**
BALB				*e*Sg	**Sg**	**01 49 39.9**	**+0.4**
STEP	**BALIKESIR_Sava**	**0.24**	**242**	*i*P	**Pb**	**01 49 37.0**	**-0.5**
STEP				*i*S	**Sb**	**01 49 40.9**	**-0.3**
STEP	**BALIKESIR_Sava**	**0.24**	**242**	P	**Pb**	**01 49 37.0**	**-0.5**
STEP				S	**Sb**	**01 49 40.9**	**-0.3**
BALY	**Balya**	**0.38**	**311**	*i*P	**Pg**	**01 49 38.8**	**-1.0**
BALY				*i*S	**Sg**	**01 49 44.6**	**-0.6**
BALY	**Balya**	**0.38**	**311**	P	**Pg**	**01 49 38.8**	**-1.0**
BALY				S	**Sg**	**01 49 44.6**	**-0.6**
DURS	**Dursunbey**	**0.39**	**73**	*i*P	**Pg**	**01 49 40.2**	**+0.2**
DURS				*i*S	**Sb**	**01 49 46.2**	**+0.2**
DURS	**Dursunbey**	**0.39**	**73**	P	**Pg**	**01 49 40.2**	**+0.2**
DURS				S	**Sb**	**01 49 46.2**	**+0.2**
GONE	**Gonen-Balikesi**	**0.60**	**337**	PG	**Pb**	**01 49 43.8**	**0.0**
GONE				SG	**Sg**	**01 49 52.4**	**+0.5**
GONE	**Gonen-Balikesi**	**0.60**	**337**	*e*Pg	**Pb**	**01 49 43.8**	**0.0**
GONE				*e*Sg	**Sg**	**01 49 52.4**	**+0.5**
AKHS	**Akhisar**	**0.63**	**193**	*i*P	**Pb**	**01 49 43.9**	**-0.3**
AKHS				*i*S	**Sg**	**01 49 53.0**	**+0.4**
AKHS	**Akhisar**	**0.63**	**193**	P	**Pb**	**01 49 43.9**	**-0.3**
AKHS				S	**Sg**	**01 49 53.0**	**+0.4**
AKS	**Akhisar**	**0.63**	**193**	PG	**Pb**	**01 49 43.7**	**-0.5**
AKS				SG	**Sb**	**01 49 52.7**	**+0.1**
AKS	**Akhisar**	**0.63**	**193**	*e*Pg	**Pb**	**01 49 43.7**	**-0.5**
AKS				*e*Sg	**Sb**	**01 49 52.7**	**+0.1**
DEMI	**Demirci**	**0.72**	**128**	*i*P	**Pg**	**01 49 46.4**	**+0.4**
DEMI				*i*S	**Sg**	**01 49 56.0**	**+0.4**
DEMI	**Demirci**	**0.72**	**128**	P	**Pg**	**01 49 46.4**	**+0.4**
DEMI				S	**Sg**	**01 49 56.0**	**+0.4**
KCTX	**Karacabey (Bur**	**0.82**	**20**	PG	**Pg**	**01 49 47.9**	**-0.1**
KCTX				SG	**Sg**	**01 49 59.4**	**+0.5**
KCTX	**Karacabey (Bur**	**0.82**	**20**	*e*Pg	**Pg**	**01 49 47.9**	**-0.1**
KCTX				*e*Sg	**Sg**	**01 49 59.4**	**+0.5**
EDC	**Edincik**	**0.86**	**353**	PG	**Pg**	**01 49 48.7**	**0.0**
EDC	**Edincik**	**0.86**	**353**	*e*Pg	**Pg**	**01 49 48.7**	**0.0**
SIMA	**Simav-Kutahya**	**0.87**	**118**	PG	**Pn**	**01 49 49.3**	**0.0**
SIMA				SG	**Sg**	**01 50 00.9**	**+0.6**
SIMA	**Simav-Kutahya**	**0.87**	**118**	*e*Pg	**Pn**	**01 49 49.3**	**0.0**
SIMA				*e*Sg	**Sg**	**01 50 00.9**	**+0.6**
ORLT	**Orhaneli**	**0.89**	**51**	PG	**Pg**	**01 49 49.2**	**0.0**
ORLT	**Orhaneli**	**0.89**	**51**	*e*Pg	**Pg**	**01 49 49.2**	**0.0**
DKL	**Dikili**	**0.94**	**244**	PG	**Pb**	**01 49 49.8**	**+0.2**
DKL	**Dikili**	**0.94**	**244**	*e*Pg	**Pb**	**01 49 49.8**	**+0.2**
AYVA	**Ayvalik**	**1.02**	**260**	*i*P	**Pn**	**01 49 51.5**	**+0.2**
AYVA				*i*S	**Sn**	**01 50 05.2**	**0.0**
AYVA	**Ayvalik**	**1.02**	**260**	P	**Pn**	**01 49 51.5**	**+0.2**
AYVA				S	**Sn**	**01 50 05.2**	**0.0**
KRBG	**Karabiga-Canak**	**1.05**	**330**	PG	**Pn**	**01 49 51.8**	**+0.2**
KRBG	**Karabiga-Canak**	**1.05**	**330**	*e*Pg	**Pn**	**01 49 51.8**	**+0.2**
CAND	**Candarli**	**1.07**	**240**	PG	**Pb**	**01 49 51.7**	**-0.1**
MANT	**Manisa**	**1.09**	**156**	*i*P	**Pg**	**01 49 53.1**	**0.0**
MANT				*i*S	**Sn**	**01 50 06.9**	**-0.3**
MANT	**Manisa**	**1.09**	**156**	P	**Pg**	**01 49 53.1**	**0.0**
MANT				S	**Sn**	**01 50 06.9**	**-0.3**
KULA	**Kula-Manisa**	**1.10**	**152**	PN	**Pg**	**01 49 53.1**	**-0.2**
KULA	**Kula-Manisa**	**1.10**	**152**	*e*Pn	**Pg**	**01 49 53.1**	**-0.2**
MDNY	**Mudanya-Bursa**	**1.11**	**38**	PN	**Pg**	**01 49 53.2**	**-0.2**
MDNY	**Mudanya-Bursa**	**1.11**	**38**	*e*Pn	**Pg**	**01 49 53.2**	**-0.2**
TVSB	**Tavsanli**	**1.14**	**92**	PN	**Pg**	**01 49 53.5**	**-0.4**
TVSB	**Tavsanli**	**1.14**	**92**	*e*Pn	**Pg**	**01 49 53.5**	**-0.4**
BAYC	**CANAKKALE_Bayr**	**1.14**	**283**	*i*P	**Pb**	**01 49 53.2**	**+0.1**
BAYC				*i*S	**Sn**	**01 50 08.1**	**-0.1**
BAYC	**CANAKKALE_Bayr**	**1.14**	**283**	P	**Pb**	**01 49 53.2**	**+0.1**
BAYC				S	**Sn**	**01 50 08.1**	**-0.1**
GDZ	**Gediz**	**1.22**	**109**	*i*P	**Pb**	**01 49 54.3**	**-0.2**
GDZ				*i*S	**Sn**	**01 50 10.8**	**+0.6**
GDZ	**Gediz**	**1.22**	**109**	P	**Pb**	**01 49 54.3**	**-0.2**
GDZ				S	**Sn**	**01 50 10.9**	**+0.6**
FOCM	**Fo˘ša**	**1.25**	**232**	PN	**Pb**	**01 49 55.4**	**+0.5**
FOCM	**Fo˘ša**	**1.25**	**232**	*e*Pn	**Pb**	**01 49 55.4**	**+0.5**
ARMT	**Armutlu**	**1.27**	**32**	PN	**Pg**	**01 49 56.1**	**-0.2**
ARMT	**Armutlu**	**1.27**	**32**	*e*Pn	**Pg**	**01 49 56.1**	**-0.2**
LPK	**Lapseki**	**1.29**	**313**	PN	**Pb**	**01 49 55.6**	**0.0**
LPK	**Lapseki**	**1.29**	**313**	*e*Pn	**Pb**	**01 49 55.6**	**0.0**
GEMT	**Gemlik**	**1.32**	**44**	PN	**Pb**	**01 49 56.2**	**+0.1**
GEMT	**Gemlik**	**1.32**	**44**	*e*Pn	**Pb**	**01 49 56.2**	**+0.1**
EZN	**Ezine**	**1.33**	**285**	PN	**Pb**	**01 49 56.9**	**+0.7**
EZN	**Ezine**	**1.33**	**285**	P	**Pb**	**01 49 56.4**	**+0.2**
EZN				S	**Sg**	**01 50 14.0**	**-0.9**
EZN	**Ezine**	**1.33**	**285**	P	**Pb**	**01 49 56.4**	**+0.2**
EZN	**Ezine**	**1.33**	**285**	*e*Pn	**Pb**	**01 49 56.9**	**+0.7**
EZN				S	**Sg**	**01 50 14.0**	**-0.9**
RKY	**Sarkoy-Tekirda**	**1.35**	**333**	PN	**Pb**	**01 49 56.5**	**-0.1**
RKY	**Sarkoy-Tekirda**	**1.35**	**333**	*e*Pn	**Pb**	**01 49 56.5**	**-0.1**
SART	**Tekirdag**	**1.35**	**333**	*i*P	**Pn**	**01 49 55.5**	**-0.3**
SART				*i*S	**Sb**	**01 50 14.4**	**+0.8**
SART	**Tekirdag**	**1.35**	**333**	P	**Pn**	**01 49 55.5**	**-0.3**
SART				S	**Sb**	**01 50 14.4**	**+0.8**
PRK	**Paraskevi**	**1.35**	**260**	P	**Pg**	**01 49 57.

KLYT	Kilyos	1.94	24	ePn	Pb	01 50 06.2	-0.4
BORA	Eskisehir	1.94	78	iP	Pn	01 50 05.0	+1.0
BORA	Eskisehir	1.94	78	P	Pn	01 50 05.0	+1.0
GPA	Golpazari	1.95	65	PN	Pb	01 50 05.6	-1.3
GPA	Golpazari	1.95	65	ePn	Pb	01 50 05.6	-1.3
CTYL	Yalikoy Yolu	2.00	6	PN	Pb	01 50 06.9	-0.7
CTYL	Yalikoy Yolu	2.00	6	ePn	Pb	01 50 06.9	-0.7
SMG	Samos	2.00	207	P	Pn	01 50 05.2	+0.6
SMG				S	Sn	01 50 30.0	+0.9
SMG				AML	AML	01 50 41.3	
	comp=E,1172μm,0.4s						
SMG				AML	AML	01 50 42.3	
	comp=N,2126μm,0.3s						
SMG	Samos	2.00	207	P	Pn	01 50 05.5	+0.8
SMG	Samos	2.00	207	P	Pn	01 50 05.5	+0.8
SMG				S	Sn	01 50 30.3	+1.1
KIYI	Yal˘–koy-Catal	2.01	7	PN	Pn	01 50 05.7	+0.9
KIYI	Yal˘–koy-Catal	2.01	7	ePn	Pn	01 50 05.7	+0.9
GEYV	SAKARYA_Geyve	2.03	60	iP	Pn	01 50 06.2	+1.1
GEYV	SAKARYA_Geyve	2.03	60	P	Pn	01 50 06.2	+1.1
ALN	Alexandroupoli	2.05	314	PN	Pb	01 50 07.2	-1.3
ALN	Alexandroupoli	2.05	314	P	Pn	01 50 06.0	+0.7
ALN				S	Sb	01 50 33.0	-0.7
ALN				AML	AML	01 50 37.5	
	comp=N,1477μm,0.3s						
ALN				AML	AML	01 50 41.9	
	comp=E,915μm,0.6s						
ALN	Alexandroupoli	2.05	314	P	Pn	01 50 06.3	+0.9
ALN				S	Sb	01 50 32.9	-0.7
ALN	Alexandroupoli	2.05	314	P	Pn	01 50 06.3	+0.9
ALN	Alexandroupoli	2.05	314	ePn	Pb	01 50 07.2	-1.3
ALN				S	Sb	01 50 32.8	-0.8
KZIL	AFYON_Kizioren	2.08	126	iP	Pn	01 50 07.4	+1.5
KZIL	AFYON_Kizioren	2.08	126	P	Pn	01 50 07.4	+1.5
SILT	Sile	2.09	37	PN	Pb	01 50 07.6	-1.5
SILT	Sile	2.09	37	ePn	Pb	01 50 07.6	-1.5
PSRA	Psara	2.12	244	P	Pn	01 50 07.4	+1.2
PSRA	Psara	2.12	244	P	Pn	01 50 07.1	+0.8
SMTH	Samothraki Isl	2.13	298	P	Pn	01 50 07.5	+0.9
SMTH				S	Sb	01 50 34.9	-1.1
SMTH				AML	AML	01 50 40.0	
	comp=N,1564μm,0.4s						
SMTH				AML	AML	01 50 41.4	
	comp=E,1570μm,0.7s						
SMTH	Samothraki Isl	2.13	298	P	Pn	01 50 07.7	+1.2
SMTH				S	Sb	01 50 34.7	-1.3
SMTH	Samothraki Isl	2.13	298	P	Pn	01 50 07.4	+0.9
SMTH				S	Sb	01 50 34.7	-1.3
SPNC	Sapanca-Adapaz	2.14	55	PN	Pn	01 50 07.7	+1.1
SPNC	Sapanca-Adapaz	2.14	55	ePn	Pn	01 50 07.7	+1.1
TAVA	DENIZLI_Tavas	2.15	160	iP	Pn	01 50 07.4	+0.6
TAVA	DENIZLI_Tavas	2.15	160	P	Pn	01 50 07.4	+0.6
GULT	Gulveren	2.16	63	PN	Pb	01 50 09.3	-1.1
GULT	Gulveren	2.16	63	ePn	Pb	01 50 09.3	-1.1
PHSR	Pinarhisar	2.17	351	PN	Pn	01 50 08.6	+1.6
PHSR	Pinarhisar	2.17	351	ePn	Pn	01 50 08.6	+1.6
SAUV	Serdivan-Sakar	2.18	54	PN	Pb	01 50 09.9	-0.9
SAUV	Serdivan-Sakar	2.18	54	ePn	Pb	01 50 09.9	-0.9
MLSB	Milas	2.20	184	PN	Pb	01 50 09.5	-1.6
MLSB	Milas	2.20	184	ePn	Pb	01 50 09.5	-1.6
SHUT	Suhut-Afyon	2.20	114	PN	Pb	01 50 09.6	-1.6
SHUT	Suhut-Afyon	2.20	114	ePn	Pb	01 50 09.6	-1.6
LIA	Limnos Island	2.21	282	P	Pn	01 50 08.7	+1.2
LIA				S	Sb	01 50 37.2	-0.9
LIA				AML	AML	01 50 47.9	
	comp=N,1196μm,0.5s						
LIA				AML	AML	01 50 48.4	
	comp=E,832μm,0.6s						
LIA	Limnos Island	2.21	282	P	Pn	01 50 08.2	+0.7
LIA				S	Sn	01 50 34.8	+0.5
LIA	Limnos Island	2.21	282	P	Pn	01 50 08.5	+1.0
LIA				S	Sn	01 50 34.8	+0.5
ESKT	Eskisehir	2.21	88	PN	Pb	01 50 09.6	-1.8
ESKT	Eskisehir	2.21	88	iP	Pn	01 50 08.3	+0.5
ESKT	Eskisehir	2.21	88	ePn	Pb	01 50 09.6	-1.8
SEYT	Eskypehyr	2.21	88	P	Pn	01 50 08.3	+0.6
EFSA	Agios Efstrati	2.32	272	P	Pn	01 50 10.4	+1.3
EFSA	Agios Efstrati	2.32	272	P	Pn	01 50 10.2	+1.1
KAND	Kocaeli-Kandir	2.32	46	iP	Pn	01 50 10.3	+1.1
KAND	Kocaeli-Kandir	2.32	46	P	Pn	01 50 10.3	+1.1
YER	Yerkesik	2.36	174	PN	Pn	01 50 11.4	+1.6
YER	Yerkesik	2.36	174	P	Pn	01 50 10.1	+0.3
YER				S	Sn	01 50 38.9	+0.6
YER	Yerkesik	2.36	174	P	Pn	01 50 10.1	+0.3
YER	Yerkesik	2.36	174	ePn	Pn	01 50 11.4	+1.6
YER				S	Sn	01 50 38.9	+0.6
BRDR	BURDUR-Merkez	2.42	137	iP	Pn	01 50 11.6	+1.1
BRDR	BURDUR-Merkez	2.42	137	P	Pn	01 50 11.6	+1.1
BOLV	Bolvadin	2.43	108	iP	Pn	01 50 12.6	+1.9
BOLV	Bolvadin	2.43	108	P	Pn	01 50 12.6	+1.9
BDRM	Kayabasi	2.46	190	iP	Pn	01 50 12.5	+1.5
BDRM	Kayabasi	2.46	190	P	Pn	01 50 12.5	+1.5
BODT	Bodrum	2.48	193	PN	Pb	01 50 14.0	-1.9
BODT	Bodrum	2.48	193	P	Pn	01 50 10.1	-1.3
BODT	Bodrum	2.48	193	P	Pn	01 50 10.1	-1.3
BODT	Bodrum	2.48	193	ePn	Pb	01 50 14.0	-1.9
RDO	Rodhopi	2.50	312	P	Pn	01 50 12.8	+1.3
RDO				S	Sb	01 50 44.1	-2.6
RDO				AML	AML	01 50 57.5	
	comp=E,460μm,0.5s						
RDO				AML	AML	01 51 00.1	
	comp=N,417μm,0.3s						
RDO	Rodhopi	2.50	312	P	Pn	01 50 12.9	+1.3
RDO				S	Sn	01 50 41.3	-0.3
RDO	Rodhopi	2.50	312	P	Pn	01 50 12.6	+1.0
RDO				S	Sn	01 50 43.9	+2.3
EDRB	Edirne	2.54	338	PN	Pb	01 50 14.9	-1.9
EDRB	Edirne	2.54	338	ePn	Pb	01 50 14.9	-1.9
BTAS	Taskesti	2.55	64	iP	Pn	01 50 13.6	+1.3
BTAS	Taskesti	2.55	64	P	Pn	01 50 13.6	+1.3
GOLH	Golhisar	2.57	151	iP	Pn	01 50 13.2	+0.6
GOLH	Golhisar	2.57	151	P	Pn	01 50 13.2	+0.6
SAHE	Sakarya_HENDEK	2.58	57	iP	Pn	01 50 13.8	+1.1
SAHE	Sakarya_HENDEK	2.58	57	P	Pn	01 50 13.8	+1.1
ISP	Isparta	2.59	129	⇑iP	Pn	01 50 13.8	+0.9
ISP	Isparta	2.59	129	⇑iP	Pn	01 50 13.8	+0.9
BAGO	Egridir - ISPA	2.65	124	iP	Pn	01 50 15.3	+1.6
MDUB	Mudurnu	2.65	67	PN	Pb	01 50 16.4	-2.4
MDUB	Mudurnu	2.65	67	ePn	Pb	01 50 16.4	-2.4
TURN	Turunc	2.66	169	iP	Pn	01 50 14.8	+1.1
TURN	Turunc	2.66	169	P	Pn	01 50 14.8	+1.1
AUMIH	MIHALICIK	2.72	81	iP	Pn	01 50 16.2	+1.4
AUMIH	MIHALICIK	2.72	81	P	Pn	01 50 16.2	+1.4
SKY	Skiros Island	2.74	258	P	Pb	01 50 17.7	-2.6
SKY	Skiros Island	2.74	258	P	Pn	01 50 16.7	+1.8
AUSIV	SIVRIHISAR	2.75	90	iP	Pg	01 50 22.5	-2.0
KDZ	Kurdzhali	2.92	319	P	Pn	01 50 18.6	+1.3
KDZ	Kurdzhali	2.92	319	P	Pn	01 50 18.6	+1.3
FETY	Fethiye	2.98	163	P	Pn	01 50 18.9	+0.7
KAVA	Kavala	3.06	301	P	Pn	01 50 20.1	+0.8
KAVA	Kavala	3.06	301	P	Pn	01 50 20.2	+1.0
KAVA	Kavala	3.06	301	P	Pn	01 50 20.2	+1.0
APE	Apeiranthos	3.10	219	P	Pn	01 50 21.6	+1.7
APE	Apeiranthos	3.10	219	P	Pn	01 50 21.0	+1.2
KORT	Korkueli	3.10	142	iP	Pn	01 50 20.3	+0.3
KORT	Korkueli	3.10	142	P	Pn	01 50 20.3	+0.3
KVLA	Kavala	3.12	299	P	Pn	01 50 20.6	+0.6
KVLA	Kavala	3.12	299	P	Pn	01 50 20.9	+0.9
KARY	Karystos	3.14	243	P	Pn	01 50 21.8	+1.4
KARY	Karystos	3.14	243	P	Pn	01 50 21.5	+1.2
DOGA	KONYA_Doganhis	3.19	115	iP	Pn	01 50 23.4	+2.2
DOGA	KONYA_Doganhis	3.19	115	P	Pn	01 50 23.4	+2.2
ARG	Arkhangelos	3.27	178	P	Pn	01 50 21.9	-0.3
ARG				S	Sn	01 51 00.1	-0.5
ARG	Arkhangelos	3.27	178	P	Pn	01 50 22.2	0.0
ARG				S	Sn	01 51 00.6	0.0
EREA	Eretria	3.34	253	P	Pn	01 50 23.8	+0.6
EREA	Eretria	3.34	253	P	Pn	01 50 23.9	+0.7
PAIG	Paliouri	3.35	279	P	Pn	01 50 23.1	-0.2
PAIG	Paliouri	3.35	279	P	Pn	01 50 23.8	+0.5
BCAM	Yenicaga	3.39	66	iP	Pn	01 50 25.8	+1.8
BCAM	Yenicaga	3.39	66	P	Pn	01 50 25.8	+1.8
SKIA	Skiathos	3.52	266	P	Pn	01 50 27.3	+1.7
SKIA	Skiathos	3.52	266	P	Pn	01 50 27.1	+1.4
PTL	Penteli	3.53	247	P	Pn	01 50 26.9	+1.1
PTL	Penteli	3.53	247	P	Pn	01 50 26.9	+1.1
CMDR	Camlidere-ANKA	3.59	72	iP	Pn	01 50 28.5	+1.8
CMDR	Camlidere-ANKA	3.59	72	P	Pn	01 50 28.5	+1.8
PLG	Polygyros	3.60	286	P	Pn	01 50 27.3	+0.5
PLG	Polygyros	3.60	286	P	Pn	01 50 27.6	+0.8
PLG	Polygyros	3.60	286	P	Pn	01 50 27.6	+0.8
PLD	Plovdiv	3.61	317	ePn	Pn	01 50 25.5	-1.4
ATHU	Athens Univers	3.62	247	P	Pn	01 50 27.4	+0.4
ATHU	Athens Univers	3.62	247	P	Pn	01 50 27.8	+0.7
NVR	Nevrokopi	3.66	302	P	Pn	01 50 28.6	+1.0
NVR	Nevrokopi	3.66	302	P	Pn	01 50 28.6	+1.0
NVR				S	Sn	01 51 09.6	-0.6
NVR	Nevrokopi	3.66	302	P	Pn	01 50 28.6	+1.0
NVR				S	Sn	01 51 09.6	-0.6
DAD	Ankara	3.70	82	iP	Pb	01 50 32.4	-4.2
DAD	Ankara	3.70	82	P	Pb	01 50 32.4	-4.2
NEO	Neokhori	3.70	269	P	Pn	01 50 29.3	+1.2
NEO	Neokhori	3.70	269	P	Pn	01 50 29.3	+1.2
XOR	Xorichti	3.72	270	P	Pn	01 50 28.9	+0.5
XOR	Xorichti	3.72	270	P	Pn	01 50 29.2	+0.8
SRS	Serrai	3.74	297	P	Pn	01 50 28.9	+0.3
SRS	Serrai	3.74	297	P	Pn	01 50 30.5	+1.9
SRS	Serrai	3.74	297	P	Pn	01 50 29.4	+0.8
SOH	Sokhos	3.79	292	P	Pn	01 50 29.6	+0.2
SOH	Sokhos	3.79	292	P	Pn	01 50 30.1	+0.7
KMER	Konya-Meram	3.83	115	iP	Pn	01 50 32.6	+2.5
KMER	Konya-Meram	3.83	115	P	Pn	01 50 32.6	+2.5
KEPZ	Antalya-Kepez	3.84	131	iP	Pn	01 50 32.2	+2.1
KEPZ	Antalya-Kepez	3.84	131	P	Pn	01 50 32.2	+2.1
MMB	Musomiste	3.87	304	P	Pn	01 50 31.6	+1.2
MMB	Musomiste	3.87	304	P	Pn	01 50 31.6	+1.2
VILL	Villia	3.89	252	P	Pn	01 50 32.1	+1.4
VIL2	Platees	3.90	252	P	Pn	01 50 32.4	+1.5
HORT	Hortiatis	3.91	288	P	Pn	01 50 31.6	+0.5
HORT	Hortiatis	3.91	288	P	Pn	01 50 32.0	+0.9
BBAL	Bala	3.97	88	iP	Pn	01 50 35.2	+3.3
BBAL	Bala	3.97	88	P	Pn	01 50 35.2	+3.3
LKR	Lokris	3.98	259	P	Pn	01 50 32.7	+0.8
LKR	Lokris	3.98	259	P	Pn	01 50 32.9	+1.0
KARP	Karpathos	3.99	190	P	Pn	01 50 33.4	+1.3
KARP	Karpathos	3.99	190	P	Pn	01 50 33.0	+0.9
SZH	Strazhica	4.08	338	P	Pn	01 50 34.6	+1.3
SZH	Strazhica	4.08	338	P	Pn	01 50 34.6	+1.3
PROD	Prodromos	4.16	254	P	Pn	01 50 35.6	+1.2
PROD	Prodromos	4.16	254	P	Pn	01 50 35.6	+1.2
PSN	Preselentsi	4.19	2	P	Pn	01 50 35.4	+0.6
PSN	Preselentsi	4.19	2	P	Pn	01 50 35.4	+0.6
LTK	Loutraki	4.19	251	P	Pn	01 50 35.2	+0.4
LTK	Loutraki	4.19	251	P	Pn	01 50 35.7	+0.8
AXAR	Agios Charalam	4.21	262	P	Pn	01 50 36.7	+1.6
AXAR	Agios Charalam	4.21	262	P	Pn	01 50 36.6	+1.5
DID	Didima	4.22	244	P	Pn	01 50 35.5	+0.1
DID	Didima	4.22	244	P	Pn	01 50 36.0	+0.7
KNT	Kendrikon	4.24	295	P	Pn	01 50 36.5	+1.0
KNT	Kendrikon	4.24	295	P	Pn	01 50 36.8	+1.3
KNT	Kendrikon	4.24	295	P	Pn	01 50 36.7	+1.3
LIT	Litokhoron	4.28	280	P	Pn	01 50 36.1	0.0
LIT	Litokhoron	4.28	280	P	Pn	01 50 36.8	+0.7
ELDT	Eldivan	4.29	75	iP	Pn	01 50 38.4	+2.0
ELDT	Eldivan	4.29	75	P	Pn	01 50 38.4	+2.0
DSF	Desfina	4.39	258	P	Pn	01 50 37.8	+0.1
DSF	Desfina	4.39	258	P	Pn	01 50 38.4	+0.7
AGG	Agios Georgios	4.42	266	P	Pn	01 50 39.5	+1.5
AGG	Agios Georgios	4.42	266	P	Pn	01 50 39.4	+1.4
KKB	Krupnik	4.42	304	P	Pn	01 50 39.3	+1.3
KKB	Krupnik	4.42	304	P	Pn	01 50 39.3	+1.3
GRG	Griva	4.52	291	P	Pn	01 50 42.6	+3.1
GRG	Griva	4.52	291	P	Pn	01 50 41.7	+2.3
VAY	Valandovo	4.53	296	ePn	Pn	01 50 41.6	+2.2
VAY	Valandovo	4.53	296	ePn	Pn	01 50 42.7	+3.3
ZKR	Zakros	4.59	198	P	Pn	01 50 40.3	-0.1
ZKR	Zakros	4.59	198	P	Pn	01 50 40.8	+0.5
THL	Klokotos Trika	4.62	273	P	Pn	01 50 40.4	-0.3
THL	Klokotos Trika	4.62	273	P	Pn	01 50 41.4	+0.7
ILGA	Ilgaz	4.65	69	iP	Pn	01 50 43.1	+1.8
ILGA	Ilgaz	4.65	69	P	Pn	01 50 43.1	+1.8
GUR	Goura	4.68	252	P	Pn	01 50 42.2	+0.5
GUR	Goura	4.68	252	P	Pn	01 50 42.6	+0.9
KALE	Kalithea	4.69	258	P	Pn	01 50 42.5	+0.7
KALE	Kalithea	4.69	258	P	Pn	01 50 42.8	+1.0
SERG	Sergoula	4.75	259	P	Pn	01 50 44.2	+1.7
SERG	Sergoula	4.75	259	P	Pn	01 50 44.1	+1.6
TRIZ	Trizonia	4.75	258	P	Pn	01 50 43.7	+1.2
TRIZ	Trizonia	4.75	258	P	Pn	01 50 43.9	+1.4
LAST	Lasithi	4.76	206	P	Pn	01 50 43.2	+0.4
LAST	Lasithi	4.76	206	P	Pn	01 50 43.5	+0.7
VTS	Vitosha	4.76	312	⇓iP	Pn	01 50 43.6	+0.8
VTS	Vitosha	4.76	312	S	Sn	01 51 39.3	+1.7
VTS	Vitosha	4.76	312	P	Pn	01 50 45.1	+2.2
VTS	Vitosha	4.76	312	P	Pn	01 50 45.0	+2.2
VTS				S	Sn	01 51 37.8	+0.2
VTS	Vitosha	4.76	312	P	Pn	01 50 45.1	+2.2
VTS				S	Sn	01 51 37.8	+0.2
KLV	Kalavryta, Ach	4.79	254	P	Pn	01 50 43.8	+0.6
KLV	Kalavryta, Ach	4.79	254	P	Pn	01 50 44.2	+1.1
EVR	Evrytania	4.84	265	P	Pn	01 50 46.3	+2.5
EVR	Evrytania	4.84	265	P	Pn	01 50 45.8	+2.0
VLI	Velíai	4.85	237	P	Pn	01 50 43.6	-0.3
VLI	Veliai	4.85	237	P	Pn	01 50 44.4	+0.5
LAKA	Lakka	4.86	257	P	Pn	01 50 46.3	+2.3
LAKA	Lakka	4.86	257	P	Pn	01 50 45.9	+1.9
EFP	Efpalio	4.86	259	P	Pn	01 50 45.2	+1.1
EFP	Efpalio	4.86	259	P	Pn	01 50 45.4	+1.4
VLX	Vlachokerasia	4.89	246	P	Pn	01 50 46.2	+1.7
VLX	Vlachokerasia	4.89	246	P	Pn	01 50 46.1	+1.6
CDAG	Cicekdag	4.93	86	iP	Pn	01 50 47.4	+2.3
CDAG	Cicekdag	4.93	86	P	Pn	01 50 47.4	+2.3
TIRR	Tirgusor	4.97	3	⇓iP	Pn	01 50 45.5	-0.1
TIRR	Tirgusor	4.97	3	⇓iP	Pn	01 50 45.5	-0.1
MPEP	Malo Peshtene	5.01	322	P	Pn	01 50 47.5	+1.4
TLB	Topalu	5.09	0	⇓iP	Pn	01 50 48.2	+1.0
TLB	Topalu	5.09	0	⇓iP	Pn	01 50 48.2	+1.0
KPRO	Kipourio	5.13	277	P	Pn	01 50 47.9	+0.1
KPRO	Kipourio	5.13	277	P	Pn	01 50 48.7	+0.9
DRO	Drossia	5.15	255	P	Pn	01 50 50.0	+2.0
DRO	Drossia	5.15	255	P	Pn	01 50 49.8	+1.8
FNA	Florina	5.23	286	P	Pn	01 50 51.2	+2.1
FNA	Florina	5.23	286	ePn	Pn	01 50 50.9	+1.7
ITM	Ithomi	5.30	246	P	Pn	01 50 54.1	+4.1
ITM	Ithomi	5.30	246	P	Pn	01 50 52.9	+2.9
DSL	Palaion Diasel	5.36	268	P	Pn	01 50 54.3	+3.4
DSL	Palaion Diasel	5.36	268	P	Pn	01 50 53.5	+2.6
CFR	Carcaliu	5.69	1	⇓iP	Pn	01 50 55.3	0.0
CFR	Carcaliu	5.69	1	⇓iP	Pn	01 50 55.3	0.0
BARB	Barje	5.72	307	ePn	Pn	01 50 56.2	+0.3
MLR	Muntele Rosu	6.18	347	⇑iP	Pn	01 50 58.8	+2.5
MLR	Muntele Rosu	6.18	347	⇑iP	Pn	01 51 04.8	+2.5
BOVS	Bovan	6.27	313	ePn	Pn	01 51 05.4	+2.0
ARR	Arges	6.38	338	⇓iP	Pn	01 51 06.1	+1.2
ARR	Arges	6.38	338	⇓iP	Pn	01 51 06.1	+1.2
PLOR	Plostina	6.43	352	⇑iP	Pn	01 51 07.0	+1.3
PLOR	Plostina	6.43	352	⇑iP	Pn	01 51 07.0	+1.3
VRI	Vrincioaia	6.44	352	⇓iP	Pn	01 51 06.1	+0.4
VRI	Vrincioaia	6.44	352	⇓iP	Pn	01 51 06.1	+0.4
DOPR	Dopca	6.75	344	⇑iP	Pn	01 51 11.8	+1.8
DOPR	Dopca	6.75	344	⇑iP	Pn	01 51 11.8	+1.8
KUBS	Kucevo	6.81	318	ePn	Pn	01 51 14.3	+3.5
GRUS	Gruza	7.00	311	ePn	Pn	01 51 15.2	+1.9
TESR	Tescani	7.09	352	⇓iP	Pn	01 51 15.4	+0.8
TESR	Tescani	7.09	352	⇓iP	Pn	01 51 15.4	+0.8
MILM	Milestii Mici	7.45	4	⇑iP	Pn	01 51 20.5	+1.0
MILM	Milestii Mici	7.45	4	⇑iP	Pn	01 51 20.5	+1.0
BZS	Buzias	7.72	325	⇑iP	Pn	01 51 23.4	+0.1
BZS	Buzias	7.72	325	⇑iP	Pn	01 51 23.4	+0.1
TEKS	Tekeris	8.07	311	ePn	Pn	01 51 30.4	+2.2
BURAR	Bucovina Array	8.37	347	⇓iP	Pn	01 51 34.0	+1.8
BURAR	Bucovina Array	8.37	347	⇓iP	Pn	01 51 34.0	+1.8
SORM	Soroca	8.65	2	⇑iP	Pn	01 51 35.9	0.0
SORM	Soroca	8.65	2	⇑iP	Pn	01 51 35.9	0.0
CRVS	Cervenica-Dubn	10.51	336	ePN	Pn	01 52 00.0	-1.5

DDA ***11*** *01:51:00.9,39˚.50N×27˚.97E,h7km,Ml3.5*
ISK ***11*** *01:51:00.5,39˚.48N×27˚.99E,h14km,ML2.9/15*
ISCJB ***11*** *01:51:01.2±0.4,39˚.49N±0˚.02×28˚.00E±0˚.02,h10km±3km, Error ellipse: s-maj=3.3km s-min=3.2km az=21.8*
CSEM ***11*** *01:51:01.2±0.1,39˚.48N×28˚.00E,h13km±1km,ML2.9, Error ellipse: s-maj=1.9km s-min=1.8km az=67.0*

ISC 11 01:51:01.1±0.9, 39˚.49N±0˚.02×27˚.99E±0˚.02, h15km±7km, n54, σ0°35/82, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BALB	Balikesir	0.18	331	PG	Pb	01 51 05.9	-0.2
BALB				SG	Sb	01 51 09.3	-0.2
BALB	Balikesir	0.18	331	ePg	Pb	01 51 05.9	-0.2
BALB				eSg	Sb	01 51 09.3	-0.2
STEP	BALIKESIR_Sava	0.24	243	iP	Pg	01 51 06.2	-0.1
STEP				iS	Sg	01 51 09.9	0.0
STEP	BALIKESIR_Sava	0.24	243	P	Pg	01 51 06.2	-0.1
STEP				S	Sg	01 51 09.9	0.0
DURS	Dursunbey	0.39	73	iP	Pg	01 51 09.2	+0.2
DURS				iS	Sb	01 51 15.1	-0.5
DURS	Dursunbey	0.39	73	P	Pg	01 51 09.2	+0.2
DURS				S	Sb	01 51 15.1	-0.5
GONE	Gonen-Balikesi	0.61	337	PG	Pg	01 51 13.1	0.0
GONE				SG	Sb	01 51 21.6	-0.3
GONE	Gonen-Balikesi	0.61	337	ePg	Pg	01 51 13.1	0.0
GONE				eSg	Sb	01 51 21.6	-0.3
AKHS	Akhisar	0.62	193	iP	Pg	01 51 13.1	-0.2
AKHS				iS	Sb	01 51 22.2	0.0
AKHS	Akhisar	0.62	193	P	Pg	01 51 13.1	-0.2
AKHS				S	Sb	01 51 22.2	0.0
AKS	Akhisar	0.62	193	PG	Pg	01 51 12.8	-0.5
AKS				SG	Sb	01 51 21.9	-0.3
AKS	Akhisar	0.62	193	ePg	Pg	01 51 12.8	-0.5
AKS				eSg	Sb	01 51 21.9	-0.3
DEMI	Demirci	0.71	128	iP	Pb	01 51 15.5	+0.2
DEMI				iS	Sb	01 51 25.0	0.0
DEMI	Demirci	0.71	128	P	Pb	01 51 15.5	+0.2
DEMI				S	Sb	01 51 25.0	0.0
KCTX	Karacabey (Bur	0.83	20	PG	Pg	01 51 16.9	-0.3
KCTX				SG	Sb	01 51 28.9	+0.7
KCTX	Karacabey (Bur	0.83	20	ePg	Pg	01 51 16.9	-0.3
KCTX				eSg	Sb	01 51 28.9	+0.7
EDC	Edincik	0.87	353	PG	Pb	01 51 17.9	0.0
EDC	Edincik	0.87	353	ePg	Pb	01 51 17.9	0.0
SIMA	Simav-Kutahya	0.87	117	PG	Pn	01 51 18.4	-0.5
SIMA	Simav-Kutahya	0.87	117	ePg	Pn	01 51 18.4	-0.5
ORLT	Orhaneli	0.89	51	PG	Pb	01 51 18.4	0.0
ORLT	Orhaneli	0.89	51	ePg	Pb	01 51 18.4	0.0
DKL	Dikili	0.94	244	PG	Pb	01 51 19.0	-0.1
DKL	Dikili	0.94	244	ePg	Pb	01 51 19.0	-0.1
AYVA	Ayvalik	1.02	261	iP	Pn	01 51 21.4	+0.5
AYVA				iS	Sn	01 51 34.6	-0.4
AYVA	Ayvalik	1.02	261	P	Pn	01 51 21.4	+0.5
AYVA				S	Sn	01 51 34.6	-0.4
MANT	Manisa	1.09	156	iP	Pn	01 51 23.1	+1.1
MANT				iS	Sb	01 51 35.7	-0.1
MANT	Manisa	1.09	156	P	Pn	01 51 23.1	+1.1
MANT				S	Sb	01 51 35.7	-0.1
KULA	Kula-Manisa	1.10	152	PN	Pb	01 51 21.8	-0.1
KULA	Kula-Manisa	1.10	152	ePn	Pb	01 51 21.8	-0.1
MDNY	Mudanya-Bursa	1.12	38	PN	Pb	01 51 22.2	+0.1
MDNY	Mudanya-Bursa	1.12	38	ePn	Pb	01 51 22.2	+0.1
TVSB	Tavsanli	1.14	91	PN	Pb

BRDR				*i* S		**Sn**	**02 43 21.8**	**-1.2**
BRDR	**BURDUR-Merkez**	**0.87**	**109**	P		**Pg**	**02 43 07.0**	**-0.1**
BRDR				S		**Sn**	**02 43 21.8**	**-1.2**
AYDB	**Zeytinkoy-Aydi**	**0.90**	**268**	PG		**Pg**	**02 43 07.3**	**-0.4**
AYDB				SG		**Sb**	**02 43 20.2**	**-1.0**
AYDB	**Zeytinkoy-Aydi**	**0.90**	**268**	*e*Pg		**Pg**	**02 43 07.3**	**-0.4**
AYDB				*e*Sg		**Sb**	**02 43 20.2**	**-1.0**
KZIL	**AFYON_Kizioren**	**0.92**	**73**	*i* P		**Pb**	**02 43 08.8**	**-0.4**
KZIL				*i* S		**Sn**	**02 43 25.6**	**+1.3**
KZIL	**AFYON_Kizioren**	**0.92**	**73**	P		**Pb**	**02 43 08.8**	**-0.4**
YER	**Yerkesik**	**1.04**	**215**	PG		**Pg**	**02 43 09.6**	**-0.7**
YER	**Yerkesik**	**1.04**	**215**	*e*Pg		**Pg**	**02 43 09.6**	**-0.7**
DEMI	**Demirci**	**1.08**	**347**	*i* P		**Pn**	**02 43 11.5**	**-1.1**
DEMI				*i* S		**Sb**	**02 43 25.9**	**-0.6**
DEMI	**Demirci**	**1.08**	**347**	P		**Pn**	**02 43 11.5**	**-1.1**
DEMI				S		**Sb**	**02 43 25.9**	**-0.6**
SIMA	**Simav-Kutahya**	**1.09**	**358**	PN		**Pn**	**02 43 12.1**	**-0.7**
SIMA	**Simav-Kutahya**	**1.09**	**358**	*e*Pn		**Pn**	**02 43 12.1**	**-0.7**
GDZ	**Gediz**	**1.16**	**18**	*i* P		**Pb**	**02 43 11.4**	**-1.8**
GDZ				*i* S		**Sb**	**02 43 27.8**	**-0.9**
GDZ	**Gediz**	**1.16**	**18**	P		**Pb**	**02 43 11.4**	**-1.8**
GDZ				S		**Sb**	**02 43 27.8**	**-0.9**
TURN	**Turunc**	**1.16**	**197**	PN		**Pg**	**02 43 15.1**	**+2.3**
TURN	**Turunc**	**1.16**	**197**	*i* P		**Pg**	**02 43 16.4**	**+3.6**
TURN				*i* S		**Sn**	**02 43 36.8**	**+6.8**
TURN	**Turunc**	**1.16**	**197**	*e*Pn		**Pg**	**02 43 15.1**	**+2.3**
TURN	**Turunc**	**1.16**	**197**	P		**Pg**	**02 43 16.4**	**+3.6**
MLSB	**Milas**	**1.21**	**235**	PN		**Pb**	**02 43 13.2**	**-0.8**
MLSB	**Milas**	**1.21**	**235**	*e*Pn		**Pb**	**02 43 13.2**	**-0.8**
SHUT	**Suhut-Afyon**	**1.33**	**64**	PN		**Pg**	**02 43 16.6**	**+0.7**
SHUT	**Suhut-Afyon**	**1.33**	**64**	*e*Pn		**Pg**	**02 43 16.6**	**+0.7**
FETY	**Fethiye**	**1.35**	**178**	PN		**Pn**	**02 43 15.2**	**-1.0**
FETY	**Fethiye**	**1.35**	**178**	P		**Pn**	**02 43 15.3**	**-1.0**
FETY				S		**Sg**	**02 43 34.4**	**+0.5**
TVSB	**Tavsanli**	**1.50**	**13**	PN		**Pb**	**02 43 18.5**	**-0.5**
TVSB	**Tavsanli**	**1.50**	**13**	*e*Pn		**Pb**	**02 43 18.5**	**-0.5**
BOLV	**Bolvadin**	**1.68**	**64**	*i* P		**Pg**	**02 43 22.7**	**0.0**
BOLV				*i* S		**Sg**	**02 43 50.1**	**+5.6**
BOLV	**Bolvadin**	**1.68**	**64**	P		**Pg**	**02 43 22.7**	**0.0**

IDC 11 02:51:23.3±1.2, 55°20S×129°55W, h0km, mb3.7/4, mb1 4.0/4, mb1mx3.7/32, mbtmp3.7/4, MS3.7/9, Ms1 3.7/9, ms1mx3.4/28, Error ellipse: s-maj=101.2km s-min=28.9km az=155.0, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RKT	**Rikitea**	**32.29**	**351**	*e*LR	LR	03 06 20.4	
	356nm,29.5s						
RKT	**Rikitea**	**32.29**	**351**	*e*T	T	03 31 58.5	
	8.8nm,0.3s						
VNDA	**Vanda**	**32.30**	**202**	LR	LR	03 06 36.6	
	comp=Z,61nm,19.9s,baz=98,slow=28						
RPZ	**Rata Peaks**	**39.12**	**262**	LR	LR	03 11 06.8	
	comp=Z,205nm,18.1s,baz=156,slow=30						
PPT2	**Papeete2**	**40.55**	**330**	eLR	LR	03 10 14.3	
	333nm,26.0s						
RAR	**Rarotonga**	**40.80**	**314**	LR	LR	03 10 51.5	
	comp=Z,66nm,21.9s,baz=130,slow=29						
VAH	**Vaihoa**	**42.26**	**334**	*e*T	T	03 44 41.5	
	54nm,0.3s						
PMOR	**Pomariorio Ree**	**42.55**	**333**	*e*T	T	03 45 03.8	
	7.9nm,0.3s						
VNA2	**Neumayer--Watz**	**47.67**	**158**	P	P	02 59 56.9	-3.8
	baz=225,slow=7.5						
SNAA	**Sanae**	**48.03**	**160**	LR	LR	03 19 40.9	
	comp=Z,127nm,18.8s,baz=58,slow=35						
DZM	**Mont Dzumac**	**57.37**	**278**	LR	LR	03 22 37.0	
	comp=Z,38nm,18.1s,baz=190,slow=33						
DZM	**Mont Dzumac**	**57.37**	**278**	eLR	LR	03 18 11.7	
	112nm,28.5s						
LPAZ	**La Paz**	**60.54**	**76**	P	P	03 01 35.9	-0.1
	0.8nm,0.6s,baz=218,slow=11,SNR=3.9						
STKA	**Stephens Creek**	**63.87**	**251**	LR	LR	03 26 16.0	
	comp=Z,36nm,18.1s,baz=197,slow=33						
ASAR	**Alice Springs**	**74.51**	**251**	P	P	03 03 05.1	+1.5
	0.5nm,0.9s,baz=146,slow=6.7,SNR=3.5						
H01W1	**Cape Leeuwin H**	**75.06**	**230**	T	T	04 26 50.6	
	baz=148,slow=76,SNR=17						
H01W2	**Cape Leeuwin H**	**75.06**	**230**	T	T	04 26 54.2	
	baz=148,slow=76,SNR=16						
H01W3	**Cape Leeuwin H**	**75.08**	**230**	T	T	04 26 52.5	
	baz=148,slow=76,SNR=15						
WRA	**Warramunga Arr**	**77.27**	**254**	P	P	03 03 18.0	-1.4
	0.4nm,0.7s,baz=142,slow=5.1,SNR=3.2						
PMG	**Port Moresby**	**78.51**	**270**	LR	LR	03 34 09.2	
	comp=Z,33nm,18.5s,baz=153,slow=33						
TXAR	**Lajitas Array**	**87.07**	**22**	P	P	03 04 10.6	+0.1
	0.3nm,0.8s,baz=190,slow=4.6,SNR=2.7						
H11S2	**WAKE ISLAND Hy**	**91.01**	**302**	T	T	04 46 18.8	
	baz=148,slow=75,SNR=21						
H11S3	**WAKE ISLAND Hy**	**91.02**	**302**	T	T	04 46 21.7	
	baz=148,slow=75,SNR=31						
H11S1	**WAKE ISLAND Hy**	**91.02**	**302**	T	T	04 46 29.4	
	baz=148,slow=75,SNR=14						
H11N3	**WAKE ISLAND Hy**	**91.95**	**302**	T	T	04 47 34.6	
	baz=156,slow=79,SNR=19						
H11N1	**WAKE ISLAND Hy**	**91.96**	**302**	T	T	04 47 34.1	
	baz=156,slow=79,SNR=10						
H11N2	**WAKE ISLAND Hy**	**91.97**	**302**	T	T	04 47 36.1	
	baz=156,slow=79,SNR=18						
BOSA	**Boshof**	**93.77**	**158**	LR	LR	03 44 04.5	
	comp=Z,44nm,18.4s,baz=210,slow=34						
YBH	**Yreka Blue Hor**	**96.73**	**5**	LR	LR	03 38 40.0	
	comp=Z,43nm,20.0s,baz=214,slow=29						
ILAR	**Eielson Array**	**120.38**	**351**	PKP	PKPdf	03 10 14.7	-0.3
	0.5nm,0.7s,baz=191,slow=2.3,SNR=7.8						

IDC 11 02:52:52.1±2.7, 29°97N×81°75E, h0km, mb3.6/4, mb1 3.8/6, mb1mx3.4/63, mbtmp3.7/6, ML3.7/2, MS2.9/1, Ms1 2.9/1, ms1mx2.2/60, Error ellipse: s-maj=80.2km s-min=29.2km az=54.0

ISC 11 02:52:53.1±1.2, 29°65N±0°09×81°41E±0°07, h27km, n11, σ2s59/16, mb3.6/4, Nepal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOSI	**Joshimath**	**1.84**	**300**	*e*P	**Pn**	**02 53 23.4**	**+0.3**
JOSI				*e*S	**Sb**	**02 53 50.1**	**+1.3**
JOSI				*e*S	**Sn**	**02 53 50.8**	**+5.3**
KUDL	**Kundal**	**4.56**	**252**	*e*P	**Pb**	**02 54 14.2**	**+1.7**
KUDL				*e*S	**Sb**	**02 55 05.7**	**-1.4**
KUDL				*e*S	**Sb**	**02 55 06.1**	**-1.0**
SARP	**Sargodha**	**7.85**	**289**	P	**Pn**	**02 54 43.0**	**-2.5**
CHCP	**Chirah Chowk**	**8.01**	**302**	P	**Pn**	**02 54 47.1**	**-0.6**
CEP	**Cherat**	**9.09**	**300**	P	**Pn**	**02 55 00.7**	**-2.0**
CEP				S	**Sn**	**02 56 39.0**	**-5.2**
MKAR	**Makanchi Array**	**17.13**	**2**	Pn	**Pn**	**02 56 48.1**	**-2.4**
	0.1nm,0.3s,baz=186,slow=14,SNR=4.0						
CMAR	**Chiang Mai Arr**	**19.48**	**121**	P	**Pn**	**02 57 19.9**	**+0.4**
	0.1nm,0.3s,baz=308,slow=12,SNR=2.1						
KURBB	**Kurchatov Arra**	**21.06**	**355**	P	**P**	**02 57 33.6**	**-1.4**
	0.4nm,0.3s,baz=180,slow=10,SNR=4.7						
ZALV	**Zalesovo Beam**	**24.40**	**5**	P	**P**	**02 58 08.6**	**-0.5**
	1.2nm,0.5s,baz=191,slow=8.8,SNR=5.3						
BVAR	**Borovoye Array**	**24.71**	**344**	P	**P**	**02 58 13.0**	**+1.1**
	0.4nm,0.3s,baz=153,slow=9.7,SNR=2.9						
BVAR				LR	LR	03 08 13.4	
	comp=Z,26nm,18.8s,baz=224,slow=38						
FINES	**FINESS Array B**	**47.96**	**328**	P	**P**	**03 01 31.3**	**+2.2**
	1.1nm,0.6s,baz=127,slow=12,SNR=4.3						

ATH 11 02:56:26.5, 39°67N×20°37E, h11km±1km, ML2.0/13, Error ellipse: s-maj=1.4km s-min=0.6km az=253.0
TIR 11 02:56:26.1, 39°57N×20°26E, h19km, Md2.3/2
CSEM 11 02:56:27.0±0.1, 39°68N×20°37E, h2km, ML2.0, Error ellipse: s-maj=2.5km s-min=2.4km az=177.0

THE 11 02:56:27.4, 39°67N×20°37E, h0km±3km, ML2.0/9, Error ellipse: s-maj=3.6km s-min=1.0km az=239.0, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGD	**Sagiada**	**0.12**	**240**	P	Pg	02 56 29.3	-0.3
SGD	**Sagiada**	**0.12**	**240**	P	Pg	02 56 29.5	-0.2
SGD	**Sagiada**	**0.12**	**240**	P	Pg	02 56 29.5	-0.2
IGT	**Igoumenitsa**	**0.14**	**191**	P	Pg	02 56 29.4	-0.8
IGT				S	Sg	02 56 32.8	+0.8
IGT				AML	AML	02 56 33.2	
	comp=N,3482μm,0.4s						
IGT				AML	AML	02 56 33.6	
	comp=E,2115μm,0.2s						
IGT	**Igoumenitsa**	**0.14**	**191**	P	Pg	02 56 29.8	-0.3
IGT				S	Sg	02 56 32.6	+0.6
IGT	**Igoumenitsa**	**0.14**	**191**	P	Pg	02 56 29.8	-0.3
IGT				S	Sg	02 56 32.6	+0.6
KASA	**Kassiopi**	**0.34**	**283**	P	Pg	02 56 33.2	-0.7
KASA				S	Sg	02 56 38.5	+0.2
KASA	**Kassiopi**	**0.34**	**283**	P	Pg	02 56 33.3	-0.6
KASA				S	Sg	02 56 38.4	0.0
SRN	**Sarande**	**0.35**	**306**	P	Pg	02 56 33.9	-0.2
SRN				S	Sg	02 56 40.3	+1.6
SRN	**Sarande**	**0.35**	**306**	P	Pg	02 56 33.9	-0.2
SRN				S	Sg	02 56 40.3	+1.6
SRN	**Sarande**	**0.35**	**306**	*i* PG	Pg	02 56 34.0	-0.1
SRN				*i* SG	Sg	02 56 40.2	+1.6
JAN	**Janina**	**0.37**	**92**	P	Pg	02 56 33.8	-0.7
JAN				S	Sg	02 56 40.1	+0.7
JAN				AML	AML	02 56 41.8	
	comp=N,2345μm,0.4s						
JAN				AML	AML	02 56 42.2	
	comp=E,1432μm,0.2s						
JAN	**Janina**	**0.37**	**92**	P	Pg	02 56 34.2	-0.3
JAN				S	Sg	02 56 41.0	+1.6
JAN	**Janina**	**0.37**	**92**	P	Pg	02 56 34.2	-0.3
JAN				S	Sg	02 56 39.6	+0.2
KEK	**Kerkira**	**0.44**	**275**	P	Pg	02 56 35.1	-0.8
KEK				S	Sg	02 56 41.8	+0.3
KEK				AML	AML	02 56 43.9	
	comp=E,620μm,0.3s						
KEK				AML	AML	02 56 44.1	
	comp=N,514μm,0.2s						
KEK	**Kerkira**	**0.44**	**275**	P	Pg	02 56 35.3	-0.5
KEK				S	Sg	02 56 42.7	+1.1
KEK	**Kerkira**	**0.44**	**275**	P	Pg	02 56 35.3	-0.5
KEK				S	Sg	02 56 41.7	+0.1
DSL	**Palaion Diasel**	**0.78**	**133**	P	Pg	02 56 40.7	-1.7
DSL				S	Sg	02 56 51.5	-0.9
DSL				AML	AML	02 56 56.2	
	comp=E,154μm,0.3s						
DSL				AML	AML	02 56 58.8	
	comp=N,168μm,0.5s						
DSL	**Palaion Diasel**	**0.78**	**133**	P	Pg	02 56 41.0	-1.3
DSL				S	Sb	02 56 54.1	-0.9
DSL	**Palaion Diasel**	**0.78**	**133**	P	Pg	02 56 41.0	-1.3
DSL				S	Sg	02 56 51.8	-0.6
PENT	**Pentalofos**	**0.79**	**48**	P	Pg	02 56 41.3	-1.2
PENT				S	Sg	02 56 52.9	+0.1
PENT				AML	AML	02 56 58.4	
	comp=E,53μm,0.4s						
PENT				AML	AML	02 56 59.0	
	comp=N,98μm,0.3s						
PENT	**Pentalofos**	**0.79**	**48**	P	Pg	02 56 41.4	-1.1
PENT				S	Sg	02 56 52.7	-0.1
KPRO	**Kipourio**	**0.82**	**70**	P	Pg	02 56 41.6	-1.5
KPRO				S	Sg	02 56 51.9	-1.8
KPRO				AML	AML	02 56 57.6	
	comp=N,246μm,0.5s						
KPRO				AML	AML	02 56 58.0	
	comp=E,359μm,0.8s						
KPRO	**Kipourio**	**0.82**	**70**	P	Pg	02 56 42.1	-1.0
KPRO				S	Sg	02 56 54.4	+0.7
KPRO	**Kipourio**	**0.82**	**70**	P	Pg	02 56 42.1	-1.0
KPRO				S	Sg	02 56 52.6	-1.1
NEST	**Nestorio**	**0.91**	**35**	P	Pg	02 56 44.2	-0.5
NEST	**Nestorio**	**0.91**	**35**	P	Pg	02 56 43.9	-0.9
NEST	**Nestorio**	**0.91**	**35**	P	Pg	02 56 44.0	-0.8
LKD2	**Lefkada island**	**0.91**	**166**	P	Pg	02 56 43.3	-1.6
LKD2				S	Sg	02 56 55.9	-0.7
LKD2				AML	AML	02 57 02.7	
	comp=N,193μm,0.4s						
LKD2				AML	AML	02 57 06.5	
	comp=E,109μm,0.3s						
LKD2	**Lefkada island**	**0.91**	**166**	P	Pg	02 56 43.8	-1.0
LKD2				S	Sb	02 56 59.4	+0.6
LKD2	**Lefkada island**	**0.91**	**166**	P	Pg	02 56 43.8	-1.0
LKD2				S	Sg	02 56 56.1	-0.5
FSK	**Fiskardo**	**1.22**	**173**	P	Pg	02 56 50.0	-0.8
PDO	**Prodromos**	**1.25**	**149**	P	Pg	02 56 50.3	-1.0
PDO	**Prodromos**	**1.25**	**149**	P	Pg	02 56 50.1	-1.2
KZN	**Kozani**	**1.25**	**59**	P	Pg	02 56 50.8	-0.6
KZN				S	Sg	02 57 06.3	-1.3
KZN				AML	AML	02 57 10.6	
	comp=E,89μm,0.4s						
KZN				AML	AML	02 57 14.5	
	comp=N,76μm,0.4s						
KZN	**Kozani**	**1.25**	**59**	P	Pg	02 56 50.1	-1.3
KZN				S	Sn	02 57 09.6	-0.2
KZN	**Kozani**	**1.25**	**59**	P	Pg	02 56 50.5	-0.9
KZN				S	Sg	02 57 06.8	-0.8
THL	**Klokotos Trika**	**1.28**	**94**	P	Pg	02 56 51.2	-0.6
THL				S	Sg	02 57 07.9	-0.5
THL				AML	AML	02 57 14.1	
	comp=N,115μm,0.6s						
THL				AML	AML	02 57 14.2	
	comp=E,127μm,0.7s						
THL	**Klokotos Trika**	**1.28**	**94**	P	Pg	02 56 50.9	-1.0
THL				S	Sg	02 57 08.0	-0.4
EVR	**Evrytania**	**1.35**	**124**	P	Pg	02 56 51.0	-2.2
EVR				S	Sb	02 57 11.4	-0.1
EVR				AML	AML	02 57 15.1	
	comp=N,61μm,0.6s						
EVR				AML	AML	02 57 15.7	
	comp=E,82μm,0.6s						
EVR	**Evrytania**	**1.35**	**124**	P	Pg	02 56 51.4	-1.9
EVR				S	Sg	02 57 10.9	+0.2
FNA	**Florina**	**1.35**	**35**	P	Pg	02 56 51.8	-1.6
FNA	**Florina**	**1.35**	**35**	P	Pg	02 56 53.2	-0.1
FNA				S	Sn	02 57 14.0	+1.7
FNA	**Florina**	**1.35**	**35**	P	Pg	02 56 51.8	-1.5
FNA				S	Sn	02 57 14.0	+1.7
PVO	**Paravola**	**1.39**	**139**	P	Pg	02 56 53.8	-0.2
PVO	**Paravola**	**1.39**	**139**	P	Pg	02 56 53.2	-0.8
VLS	**Valsamata**	**1.50**	**173**	P	Pn	02 56 55.5	-0.2
VLS				S	Sg	02 57 15.1	-0.6
VLS				AML	AML	02 57 20.1	
	comp=E,85μm,0.5s						
VLS				AML	AML	02 57 20.8	
	comp=N,74μm,0.3s						
VLS	**Valsamata**	**1.50**	**173**	P	Pn	02 56 55.1	-0.5
VLS				S	Sg	02 57 15.2	-0.5
AGG	**Agios Georgios**	**1.66**	**112**	P	Pn	02 56 57.5	-0.2
AGG				S	Sn	02 57 19.7	0.0
AGG				AML	AML	02 57 26.7	
	comp=N,220μm,0.5s						
AGG				AML	AML	02 57 27.2	
	comp=E,238μm,0.5s						
AGG	**Agios Georgios**	**1.66**	**112**	P	Pn	02 56 57.5	-0.2
AGG				S	Sb	02 57 20.0	-0.2
LIT	**Litokhoron**	**1.69**	**75**	P	Pb	02 56 59.0	-0.3
LIT				S	Sg	02 57 21.9	+0.3
LIT				AML	AML	02 57 27.1	
	comp=E,54μm,0.3s						
LIT				AML	AML	02 57 28.5	
	comp=N,77μm,0.3s						
LIT	**Litokhoron**	**1.69**	**75**	P	Pn	02 56 58.5	+0.3
LIT				S	Sg	02 57 21.4	-0.2
EFP	**Efpalio**	**1.73**	**136**	P	Pn	02 56 58.9	+0.2
EFP	**Efpalio**	**1.73**	**136**	P	Pn	02 56 58.7	0.0
SERG	**Sergoula**	**1.82**	**133**	P	Pn	02 56 59.7	-0.3
SERG	**Sergoula**	**1.82**	**133**	P	Pn	02 56 59.8	-0.2
KALE	**Kalithea**	**1.88**	**132**	P	Pn	02 57 00.1	-0.7
KALE	**Kalithea**	**1.88**	**132**	P	Pn	02 57 00.4	-0.5
DRO	**Drossia**	**2.01**	**148**	P	Pn	02 57 01.7	-0.9
DRO	**Drossia**	**2.01**	**148**	P	Pn	02 57 02.1	-0.5
GRG	**Griva**	**2.02**	**50**	P	Pn	02 57 02.1	-0.6
GRG	**Griva**	**2.02**	**50**	P	Pn	02 57 02.3	-0.4
KLV	**Kalavryta, Ach**	**2.14**	**139**	P	Pn	02 57 04.7	+0.3
KLV	**Kalavryta, Ach**	**2.14**	**139**	P	Pn	02 57 04.5	+0.1
NEO	**Neokhori**	**2.24**	**98**	P	Pn	02 57 06.2	+0.4
NEO	**Neokhori**	**2.24**	**98**	P	Pn	02 57 06.0	+0.2
KNT	**Kendrikon**	**2.44**	**52**	P	Pn	02 57 08.2	-0.3
KNT	**Kendrikon**	**2.44**	**52**	P	Pn	02 57 08.4	-0.1
PLG	**Polygyros**	**2.46**	**73**	P	Pn	02 57 08.9	0.0
PLG	**Polygyros**	**2.46**	**73**	P	Pn	02 57 08.9	0.0
PAIG	**Paliouri**	**2.56**	**83**	P	Pn	02 57 09.6	-0.5
PAIG	**Paliouri**	**2.56**	**83**	P	Pn	02 57 10.0	-0.2

NEIC 11 02:58:44.3±1.0, 17°90S×174°63W, h80km±9km, mb4.6/9, Error ellipse: s-maj=12.7km s-min=5.5km az=135.0
IDC 11 02:58:45.3±3.1, 17°89S×174°61W, h86km±28km, mb3.8/8, mb1 4.1/9, mb1mx3.7/45, mbtmp4.1/9, Error ellipse: s-maj=41.5km s-min=15.4km az=140.0
ISCJB 11 02:58:48.7±0.5, 18°0S±0°1×174°7W±0°1, h132km, mb4.1/16, Error ellipse: s-maj=20.7km s-min=10.8km az=139.8

ISC 11 02:58:49.9±0.8, 18°0S±0°2×174°6W±0°2, h132km, n29, σ0s96/27, mb4.4/16, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**4.90**	**34**	P	Pn	02 59 55.8	-6.0
	19nm,0.3s,baz=216,slow=6.3,SNR=8.8						
AFI				S	Sn	03 00 43.0	-15
	49nm,0.3s,baz=34,slow=22,SNR=16						
AFI	**Afiamalu**	**4.90**	**34**	*e*Pn	Pn	02 59 54.6	-7.2
AFI				*e*Sn	Sn	03 00 45.6	-12
MSVF	**Nonsavu**	**7.00**	**271**	*e*Pn	Pn	03 00 36.5	+6.4
URZ	**Urewera**	**21.44**	**198**	P	**P**	**03 03 27.0**	**-0.6**
	6.7nm,0.3s,baz=294,slow=1.8,SNR=9.0						
BKZ	**Black Stump Fm**	**22.46**	**198**	*e*P	**P**	**03 03 37.8**	**-0.4**
	7.6nm,1.0s						
BFZ	**Birch Farm**	**23.93**	**197**	*e*P	**P**	**03 03 51.1**	**-0.6**
	58nm,1.4s						
CTAO	**Charters Tower**	**37.00**	**260**	*e*P	**P**	**03 05 46.5**	**-0.5**
	43nm,1.7s						
STKA	**Stephens Creek**	**41.77**	**242**	P	**P**	**03 06 27.7**	**+1.3**
	1.0nm,0.4s,baz=79,slow=4.9,SNR=4.3						
STKA	**Stephens Creek**	**41.77**	**242**	*e*P	**P**	**03 06 27.7**	**+1.3**
	3.7nm,1.8s						
BBOO	**Buckleboo**	**46.54**	**242**	*e*P	**P**	**03 07 03.8**	**-0.6**
	60nm,1.9s						
WB2	**Warramunga Arr**	**48.16**	**259**	*e*P	**P**	**03 07 16.5**	**-0.7**
	6.0nm,0.5s						
WR1	**Warramunga Arr**	**48.17**	**259**	*e*P	**P**	**03 07 17.2**	**0.0**
	11nm,1.1s						
WRA	**Warramunga Arr**	**48.17**	**259**	P	**P**	**03 07 17.2**	**0.0**
	3.7nm,0.4s,baz=98,slow=7.5,SNR=64						
AS01	**Alice Springs**	**48.21**	**254**	*e*P	**P**	**03 07 16.9**	**-0.6**
AS31	**Alice Springs**	**48.25**	**254**	*e*P	**P**	**03 07 17.9**	**+0.1**
	2.6nm,0.4s						
ASAR	**Alice Springs**	**48.25**	**254**	P	**P**	**03 07 17.6**	**-0.2**
	6.3nm,0.5s,baz=93,slow=7.6,SNR=88						
ASAR				PcP	**PcP**	**03 08 44.0**	**+1.1**
	0.3nm,0.5s,baz=101,slow=4.9,SNR=3.0						
NV01	**Mina Array Sit**	**77.03**	**42**	*e*P	**P**	**03 10 28.9**	**+0.2**
NVAR	**Mina Array Bea**	**77.03**	**42**	P	**P**	**03 10 28.9**	**+0.2**
	0.4nm,0.3s,baz=246,slow=7.4,SNR=3.6						
KVN	**Kaiserville**	**77.52**	**42**	*e*P	**P**	**03 10 28.0**	**-3.4**
	3.3nm,0.8s						
LTX	**Lajitas**	**83.01**	**56**	*e*P	**P**	**03 11 02.0**	**+1.1**
TXAR	**Lajitas Array**	**83.01**	**56**	P	**P**	**03 11 02.0**	**+1.1**
	0.2nm,0.7s,baz=236,slow=6.4,SNR=2.9						
PD31	**Pinedale Array**	**84.96**	**42**	*e*P	**P**	**03 11 10.4**	**-0.3**
PDAR	**Pinedale Array**	**84.96**	**42**	P	**P**	**03 11 10.4**	**-0.3**
	0.3nm,0.6s,baz=192,slow=2.6,SNR=3.3						
ILAR	**Eielson Array**	**85.21**	**12**	P	**P**	**03 11 10.6**	**-0.5**
	0.3nm,0.5s,baz=225,slow=6.3,SNR=9.5						
ILB	**Eielson Array**	**85.21**	**12**	*e*P	**P**	**03 11 10.6**	**-0.5**
BR101	**Keskin Array S**	**147.37**	**317**	*e*PKPbc	**PKPbc**	**03 18 18.9**	**+0.3**
BRTR	**Keskin Array B**	**147.37**	**317**	PKPbc	**PKPbc**	**03 18 18.9**	**+0.3**
	0.7nm,0.9s,baz=0.0,slow=0.6,SNR=3.6						
GEC2	**GERESS Array S**	**148.51**	**349**	*e*PKPbc	**PKPbc**	**03 18 21.6**	**+0.4**
GERES	**GERESS Array B**	**148.51**	**349**	PKPbc	**PKPbc**	**03 18 21.6**	**+0.4**
	0.3nm,0.5s,baz=46,slow=2.8,SNR=3.4						

ISCJB 11 03:05:17.0±2.5, 16°7S±0°4×1°5W±°, h10km, mb4.1/10, Error ellipse: s-maj=196.8km s-min=20.9km az=14.5
IDC 11 03:05:17.4±2.7, 16°72S×14°53W, h0km, mb4.0/8, mb1 4.1/8, mb1mx3.8/48, mbtmp4.0/8, Error ellipse: s-maj=216.1km s-min=24.6km az=105.0

ISC 11 03:05:18.6±2.4, 16°7S±0°4×1°5W±°, h10km, n14, σ1s23/11, mb4.1/10, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H10S2	**ASCENSION HYDR**	**7.66**	**2**	T	T	03 15 16.8	
	baz=178,slow=74,SNR=15						
H10S3	**ASCENSION HYDR**	**7.67**	**2**	T	T	03 15 16.6	
	baz=178,slow=74,SNR=12						
H10S1	**ASCENSION HYDR**	**7.68**	**2**	T	T	03 15 29.0	
	baz=178,slow=74,SNR=12						
LIC	**Lamto**	**24.74**	**24**	*e*P	**P**	**03 10 43.0**	**+2.6**
	45nm,1.5s						
KIC	**Kosan Boka**	**24.98**	**24**	*e*P	**P**	**03 10 43.7**	**+1.1**
	46nm,1.4s						
TIC	**Tourmodi**	**25.12**	**24**	*e*P	**P**	**03 10 45.3**	**+1.4**
DBIC	**Dimbokro**	**25.21**	**24**	P	**P**	**03 10 44.6**	**-0.1**
	3.4nm,0.7s,baz=177,slow=14,SNR=4.9						
KOWA	**Kowa**	**32.77**	**20**	P	**P**	**03 11 51.8**	**-0.2**
	1.1nm,0.7s,baz=200,slow=11,SNR=5.9						
TORD	**Torodi Ar. Bea**	**33.

comp=E,232nm,0.2s
IRK smax smax

comp=E,651nm,1.2s
ARTR Artybash 5.35 274 *e*Pn **Pn** **03 08 02.1 +1.8**
ARTR *e*Pg **Pb** **03 08 17.4 +3.4**
ARTR *e*Sg **Sg** **03 09 24.4 -7.6**
ARTR Artybash 5.35 274 *e*PN **Pn** **03 08 02.1 +1.8**
ARTR *e* 03 08 17.4
ARTR *e* 03 09 24.4
AKAR Aktash 5.40 258 *e*Pn **Pn** **03 08 03.8 +2.6**
AKAR *e*Pg **Pg** **03 08 20.7 -3.2**
AKAR *e*Sg **Sb** **03 09 24.1 +4.3**
AKAR Aktash 5.40 258 *e*PN **Pn** **03 08 03.8 +2.6**
AKAR *e* 03 08 20.7
AKAR *e* 03 09 24.1
DGZ Jazzator, Alta 5.73 253⇑ *e*PN **Pn** **03 08 08.1 +2.3**
ELT Eltsovka 6.10 289 *e*Pn **Pn** **03 08 10.3 -0.3**
ELT *e*Pg **Pb** **03 08 29.6 +2.8**
ELT *e*Sg **Sb** **03 09 45.1 +5.4**
ELT Eltsovka 6.10 289 *e*PN **Pn** **03 08 10.3 -0.3**
ELT *e* 03 08 29.6
ELT *e* 03 09 45.1
TRG Tyrgan 6.51 77 *e*PN **Pb** **03 08 35.7 +1.8**
UKR Ust'-Kan 7.01 268 *e*Pg Pg 03 08 48.1 -6.6
UKR *e*Sg **Sg** **03 10 16.6 -8.7**
UKR Ust'-Kan 7.01 268 *e*P⁵ Pg 03 08 48.1 -6.5
UKR *e* 03 10 16.6
ZAA0 Zalesovo Array 7.07 293 *e*Pn **Pn** **03 08 27.1 +3.1**
ZAA0 *e*Sn **Sn** **03 09 38.7 -5.7**
ZALV Zalesovo Beam 7.07 293 Pn **Pn** **03 08 24.8 +0.8**
comp=E,0.5nm,0.3s,baz=104,slow=12,SNR=16
ZALV Lg Lg 03 10 18.0
comp=E,3.5nm,0.3s,baz=101,slow=23,SNR=8.9
ZALV Zalesovo Beam 7.07 293 *e*Pn **Pn** **03 08 27.1 +3.1**
ZALV *e*Sn Sn 03 09 31.7 -13
ZALV Lg Lg 03 10 18.0
ZALV Zalesovo Beam 7.07 293 *e*PN **Pn** **03 08 27.1 +3.1**
ZALV 03 10 18.0
ZAA1 Zalesovo Array 7.08 293 *e*Pn **Pn** **03 08 24.8 +0.8**
ZAA1 *e*Lg Lg 03 10 18.0
OGRR Ongureny 7.38 70 *e*P **Pn** **03 08 26.2 -2.0**
OGRR pmax pmax
comp=E,20nm,0.6s
SONA1 Songino Array 7.83 115 *e*Pn **Pb** **03 08 58.1 +1.9**
SONA1 *e*Sn **Sb** **03 10 26.7 -2.8**
SONA0 Songino Array 7.83 116 *e*Pn **Pb** **03 08 57.2 +0.9**
SONA0 *e*Sn Sb 03 10 40.8 +11
SONM Songino Array 7.83 116 Pg **Pb** **03 08 57.2 +0.9**
comp=E,0.7nm,0.3s,baz=310,slow=15,SNR=32
SONM Lg Lg 03 10 40.8
comp=E,1.9nm,0.3s,baz=312,slow=22,SNR=6.4
ULN Ulaanbaatar 8.18 114 Pn **Pn** **03 08 40.3 +0.9**
comp=E,6.3nm,0.6s
ULN *e*Sn Sb 03 10 41.3 +1.5
ULN Ulaanbaatar 8.18 114⇑ *e*P **Pn** **03 08 37.7 -1.7**
NVS Novosibirsk 8.21 297 *e*Sg Sg 03 10 53.4 -10
NIZ Nizh Angarsk 9.06 58 *e*P **Pn** **03 08 51.9 +0.7**
MK31 Makanchi Array 10.15 246 *e*Pn **Pn** **03 09 09.5 +3.2**
MK31 Makanchi Array 10.15 246 *e*P **Pn** **03 09 09.5 +3.2**
MK32 Makanchi Array 10.15 246 *e*Pn **Pn** **03 09 05.6 -0.7**
MKAR Makanchi Array 10.15 246 Pn **Pn** **03 09 05.6 -0.7**
comp=E,0.1nm,0.3s,baz=74,slow=13,SNR=7.6
MKAR Lg Lg 03 11 58.7
comp=E,0.8nm,0.3s,baz=70,slow=33,SNR=6.9
MKAR LR LR 03 13 19.1
comp=E,47nm,21.0s,baz=44,slow=39
MKAR Makanchi Array 10.15 246 *e*Pn **Pn** **03 09 09.6 +3.4**
MKAR Lg Lg 03 11 58.7
MKAR Makanchi Array 10.15 246 *e*P **Pn** **03 09 09.6 +3.4**
KURK Kurchatov 10.88 272 *e*Pn **Pn** **03 09 16.2 0.0**
KURK Lg Lg 03 12 24.6
KURK Kurchatov 10.88 272⇓ *e*P **Pn** **03 09 16.8 +0.7**
KURBB Kurchatov Arra 10.96 271 Pn **Pn** **03 09 18.1 +0.9**
comp=E,0.1nm,0.3s,baz=76,slow=15,SNR=7.3
KURBB Lg Lg 03 12 24.6
comp=E,0.1nm,0.3s,baz=75,slow=34,SNR=5.3
BOD Bodaibo 12.10 53 *e*P **Pn** **03 09 31.1 -1.7**
HIA Hailar 15.36 90⇑ *e*P **Pn** **03 10 14.3 -2.9**
HIA pmax pmax
comp=E,11nm,1.2s
BVAR Borovoye Array 15.61 285 Pn **Pn** **03 10 20.3 -0.1**
comp=E,0.2nm,0.3s,baz=87,slow=11,SNR=3.7
BRVK Borovoye 15.67 285 *e*Pn **P** **03 10 22.9 -2.4**
comp=E,2.1nm,0.6s
BRVK Borovoye 15.67 285⇓ *e*P **Pn** **03 10 21.6 +0.4**
AAK Ala-Archa 17.09 246⇓ *e*P **P** **03 10 41.2 0.0**
AAK pmax pmax
comp=E,5.0nm,2.0s
YAK Yakutsk 20.91 47⇑ *e*P **P** **03 11 21.2 -1.6**
YAK pmax pmax
comp=E,6.0nm,0.7s
ARU Arti 22.21 297 *e*P **P** **03 11 35.1 -1.7**
comp=E,8.2nm,0.9s
ARU Arti 22.21 297*c iP* **P** **03 11 39.5 +2.7**
ARU 03 11 59.9
ARU SS Sn 03 16 12.5 +20
ARU pmax pmax
comp=E,8.0nm,0.8s
AB06 Akbulak array 22.84 278 *e*P **P** **03 11 43.6 +0.1**
AB05 Akbulak array 22.85 278 *e*P **P** **03 11 45.1 +1.4**
AB07 Akbulak array 22.86 278 *e*P **P** **03 11 43.3 -0.4**
AB02 Akbulak array 22.86 278 *e*P **P** **03 11 44.3 +0.6**
AB01 Akbulak array 22.86 278 *e*P **P** **03 11 44.2 +0.4**
ABKAR Akbulak array 22.86 278 *e*P **P** **03 11 43.5 -0.2**
comp=E,1.0nm,0.6s
AB03 Akbulak array 22.86 278 *e*P **P** **03 11 44.2 +0.4**
AB04 Akbulak array 22.86 278 *e*P **P** **03 11 44.0 +0.2**
AB09 Akbulak array 22.87 278 *e*P **P** **03 11 44.1 +0.2**
AB08 Akbulak array 22.88 278 *e*P **P** **03 11 43.3 -0.6**
AKTO Aktyubinsk 23.66 282 P **P** **03 11 52.2 +0.4**
comp=E,5.8nm,0.6s,baz=81,slow=9.2,SNR=24
TIXI Tiksi 24.79 24⇓ *e*P **P** **03 12 01.2 -0.9**
TIXI pmax pmax
comp=E,14nm,0.9s
YSS Yuzh-Sakhalins 30.49 80⇑ *e*P **P** **03 12 52.0 -1.4**
MA2 Magadan 31.13 54⇓ *e*P **P** **03 12 57.0 -1.9**
SEY Seymchan 31.44 47⇑ *e*P **P** **03 13 02.2 +0.7**
KLMR Klimovskoe 31.65 309 *e*P **P** **03 13 03.8 +0.4**
KLMR AMP 03 13 06.8
comp=E,10.0nm,1.5s
KLMR Klimovskoe 31.65 309 *e*P **P** **03 13 03.7 +0.4**
KLMR pmax pmax
comp=E,10.0nm,1.5s
CMAR Chiang Mai Arr 33.26 175 LR LR 03 27 31.6
comp=E,31nm,18.3s,baz=294,slow=38
OBN Obninsk 34.60 300 *e*P **P** **03 13 30.0 +0.8**
OBN *e* 03 14 48.7
OBN pmax pmax
comp=E,5.0nm,1.0s
OBN MLR MLR
comp=E,21nm,14.0s
KBZ Khabaz 35.83 279 P **P** **03 13 40.7 +0.8**
comp=E,1.0nm,0.8s,baz=37,slow=15,SNR=2.4
KIV Kislovodsk 35.84 279 *e*P **P** **03 13 40.2 0.0**
KIV pmax pmax
comp=E,7.0nm,1.0s
BILL Bilibino 36.50 37⇓ *e*P **P** **03 13 43.9 -1.5**
BILL *e* 03 15 03.7
BILL *e*S **S** **03 19 24.2 -2.8**
BILL pmax pmax
comp=E,1.0nm,1.2s
BILL MLR MLR
comp=E,31nm,16.0s
FIA0 FINESS Array S 37.84 313 *e*P **P** **03 13 57.9 +1.0**
FIA0 FINESS Array S 37.84 313 *e*P **P** **03 13 57.9 +1.0**
FINES FINESS Array B 37.84 313 P **P** **03 13 57.9 +1.0**
comp=E,1.2nm,0.6s,baz=66,slow=9.2,SNR=4.6
AKASG Malin Array Be 40.46 296 P **P** **03 14 18.7 -0.2**
comp=E,0.5nm,0.4s,baz=56,slow=10,SNR=4.0
AKBB Malin Array Si 40.46 296 *e*P **P** **03 14 18.7 -0.1**
comp=E,2.2nm,0.9s
AKBB Malin Array Si 40.46 296 *e*P **P** **03 14 18.7 -0.1**
AKBB pmax pmax
comp=E,2.0nm,0.9s
BR101 Keskin Array S 43.80 280 *e*P **P** **03 14 48.1 +1.7**
BR131 Keskin Array S 43.80 280 *e*P **P** **03 14 48.5 +2.1**
BRTR Keskin Array B 43.80 280 P **P** **03 14 48.1 +1.7**
comp=E,3.2nm,0.8s,baz=74,slow=7.4,SNR=20
HFS Hagfors 43.95 314 P **P** **03 14 47.3 +0.1**
comp=E,2.5nm,0.7s,baz=82,slow=3.1,SNR=5.6
BR231 Keskin MP Arra 44.26 280 *e*P **P** **03 14 48.6 -1.4**
BUR08 Bucovina Ar. S 44.29 294 *e*P **P** **03 14 51.6 +1.4**
BUR04 Bucovina Ar. S 44.29 294 *e*P **P** **03 14 51.3 +1.1**

NB2 NORSAR Subarra 44.61 316 P **P** **03 14 52.5 0.0**
comp=E,1.0nm,0.7s,baz=60,slow=7.9
NB200 NORSAR Array S 44.61 316 *e*P **P** **03 14 52.4 -0.1**
NOA NORSAR Array B 44.61 316 P **P** **03 14 52.4 -0.1**
comp=E,1.7nm,0.8s,baz=61,slow=8.0,SNR=3.5
MLR Muntele Rosu 45.05 291 P **P** **03 14 57.8 +1.5**
comp=E,0.2nm,0.6s,baz=76,slow=17,SNR=4.3
MLR Muntele Rosu 45.05 291 *e*P **P** **03 14 57.8 +1.5**
comp=E,7.6nm,1.5s
MLR Muntele Rosu 45.05 291 *e*P **P** **03 14 57.8 +1.5**
MLR pmax pmax
comp=E,8.0nm,1.5s
VYHS Vyhne 47.37 298 *e*P **P** **03 15 15.0 +0.6**
VYHS Vyhne 47.37 298 *e*P **P** **03 15 15.0 +0.6**
GEC2 GERESS Array S 49.94 301 *e*P **P** **03 15 34.3 0.0**
comp=E,6.6nm,1.4s
GEC2 GERESS Array S 49.94 301 *e*P **P** **03 15 34.3 0.0**
GEC2 pmax pmax
comp=E,7.0nm,1.4s
GERES GERESS Array B 49.94 301 P **P** **03 15 34.3 0.0**
comp=E,0.2nm,0.4s,baz=76,slow=5.6,SNR=3.8
ILAR Eielson Array 54.18 28 P **P** **03 16 05.2 -0.4**
comp=E,0.4nm,0.6s,baz=322,slow=4.1,SNR=7.3
ILB Eielson Array 54.18 28 *e*P **P** **03 16 05.2 -0.4**
INK Inuvik 54.82 20 P **P** **03 16 09.8 -0.2**
comp=E,1.3nm,0.8s,baz=338,slow=9.0,SNR=7.6
INK Inuvik 54.82 20 *e*P **P** **03 16 09.8 -0.2**
comp=E,2.6nm,1.0s
INK Inuvik 54.82 20 *e*P **P** **03 16 09.8 -0.2**
INK pmax pmax
comp=E,3.0nm,1.0s
YKA Yellowknife Ar 63.62 15 P **P** **03 17 10.0 -1.0**
comp=E,0.3nm,0.9s,baz=337,slow=6.4,SNR=5.5
YKB5 Yellowknife Ar 63.62 15 *e*P **P** **03 17 10.1 -1.0**
ESDC Sonseca Array 65.44 303 P **P** **03 17 24.5 +1.1**
comp=E,0.9nm,0.8s,baz=47,slow=6.6,SNR=5.3
WRA Warramunga Arr 78.87 143 P **P** **03 18 42.4 -1.3**
comp=E,0.5nm,0.8s,baz=346,slow=7.0,SNR=3.6
BZMT Bozeman Pass 80.34 19 *e*P **P** **03 18 54.9 +3.1**
ASAR Alice Springs 82.12 145 P **P** **03 18 59.9 -1.2**
comp=E,0.9nm,0.7s,baz=341,slow=6.0,SNR=6.3
TOA1 Torodi Ar. Sit 82.38 281 *e*P **P** **03 19 03.0 +0.2**
TOA0 Torodi Ar. Sit 82.38 281 *e*P **P** **03 19 03.4 +0.6**
TORD Torodi Ar. Bea 82.38 281 P **P** **03 19 03.0 +0.2**
comp=E,1.3nm,0.7s,baz=34,slow=4.6,SNR=12
KOWA Kowa 84.78 287 P **P** **03 19 15.6 +0.5**
comp=E,1.2nm,0.7s,baz=35,slow=5.1,SNR=4.1
PASC Pasadena Art C 89.41 28 *e*P **P** **03 19 36.5 -0.9**
comp=E,30nm,0.5s
HDB Hidalgo Marine 89.73 26 *e*P P 03 19 43.6 +4.7
BBSC Beaumont Base 89.99 27 *e*P **P** **03 19 44.5 +4.3**

IDC ***11*** *03:11:41.6±1.4,6˚.80S×150˚.10E, h0km, mb3.9/5, mb1 4.2/6, mb1mx3.7/49, mbtmp4.0/6, ML2.4/1, MS3.7/2, Ms1 3.7/2, ms1mx2.7/45, Error ellipse: s-maj=60.0km s-min=22.9km az=124.0*
ISCJB ***11*** *03:11:45.5±1.2,6˚.9S±0˚.3×150˚.0E±0˚.3, h34km, mb3.7/4, MS4.5/1, Error ellipse: s-maj=50.6km s-min=13.4km az=44.6*
ISC 11 03:11:47.0±1.4, **6˚.9S**±0˚.3×**150˚.0E**±0˚.3, **h34**km, **n8**, σ0⁸**70**/9, **mb3.7**/4, **New Britain region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.80**	**228**	Pn		**Pn**		**03 12 44.4**	**+1.2**
	19nm,0.3s,baz=65,slow=5.7,SNR=21								
PMG				Sn		**Sn**		**03 13 25.7**	**-1.1**
	33nm,0.3s,baz=120,slow=16,SNR=14								
PMG				LR		LR		03 14 18.4	
	comp=E,87nm,18.3s,baz=120,slow=40								
WRA	**Warramunga Arr**	**20.02**	**228**	P		**P**		**03 16 17.1**	**-0.1**
	13nm,0.8s,baz=54,slow=11,SNR=70								
ASAR	**Alice Springs**	**22.79**	**221**	P		**P**		**03 16 46.5**	**-0.5**
	1.2nm,0.6s,baz=54,slow=9.3,SNR=11								
STKA	**Stephens Creek**	**26.11**	**196**	P		**P**		**03 17 17.8**	**-0.1**
	1.2nm,0.4s,baz=24,slow=10,SNR=6.8								
FITZ	**Fitzroy Crossi**	**26.25**	**243**	P		**P**		**03 17 19.2**	**-0.1**
	2.2nm,0.5s,baz=63,slow=9.1								
FITZ				LR		LR		03 26 47.6	
	comp=Z,2μm,21.4s,baz=0.0,slow=34								
ILAR	**Eielson Array**	**85.09**	**23**	P		**P**		**03 24 18.8**	**-0.4**
	0.2nm,0.6s,baz=262,slow=5.0,SNR=3.5								
TORD	**Torodi Ar. Bea**	**148.20**	**284**	PKPbc		**PKPbc**		**03 31 30.6**	**+0.1**
	0.7nm,0.6s,baz=54,slow=2.4,SNR=11								
KOWA	**Kowa**	**153.39**	**289**	PKPbc		**PKPbc**		**03 31 43.1**	**+0.2**
	0.3nm,0.3s,baz=152,slow=1.7,SNR=4.7								

ISCJB ***11*** *03:13:04.6±0.3,51˚.58N±0˚.05×95˚.89E±0˚.04, h10km, mb3.9/18, MS3.1/5, Error ellipse: s-maj=7.4km s-min=3.4km az=1.1*
IDC ***11*** *03:13:04.2±0.8,51˚.67N×96˚.17E, h0km, mb3.8/11, mb1 3.8/14, mb1mx3.6/71, mbtmp3.7/14, ML2.7/3, MS3.2/4, Ms1 3.2/4, ms1mx2.5/70, Error ellipse: s-maj=20.1km s-min=11.3km az=170.0*
ASRS ***11*** *03:13:05.2±0.5,51˚.83N×95˚.92E, h15km, Ms3.3/3*
MOS ***11*** *03:13:05.1±1.5,51˚.63N×95˚.88E, h11km, mb4.2/6, Error ellipse: s-maj=9.5km s-min=7.3km az=5.1*
NEIC ***11*** *03:13:05.3±0.5,51˚.64N×96˚.23E, h10km, mb4.2/4, Error ellipse: s-maj=12.2km s-min=6.2km az=169.0*
ISC 11 03:13:05.9±0.5, **51˚.64N**±0˚.05×**95˚.84E**±0˚.03, **h10**km, **n86**, σ2⁸**91**/97, **mb3.9**/18, **MS3.1**/5, **11C-2D, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KZLR	**Kyzyl**	**0.87**	**275**	*e*Pg		**Pg**		**03 13 22.1**	**-0.5**
KZLR				*e*Sg		**Sg**		**03 13 34.3**	**+0.5**
KZLR	**Kyzyl**	**0.87**	**275**	*e*PG		**Pg**		**03 13 22.1**	**-0.5**
KZLR				*e*				03 13 34.3	
HVS	**Khovu-Aksy**	**1.43**	**250**	*i*P		**Pn**		**03 13 32.5**	**+0.4**
HVS	**Khovu-Aksy**	**1.43**	**250**	*c iP*G		**Pn**		**03 13 32.4**	**+0.4**
KNGR	**Kungurtug, Tuv**	**1.48**	**134**	*i* PG		**Pn**		**03 13 31.8**	**-0.9**
ORL	**Orlik**	**2.61**	**68**	*e*Pn		**Pb**		**03 13 48.4**	**-4.4**
ORL				*e*				03 14 22.7	
CERR	**Cheremushki**	**2.98**	**296**	*e*Pn		**Pb**		**03 13 55.2**	**-3.8**
CERR				*e*Pg		**Pg**		**03 14 01.1**	**-1.9**
CERR				*e*Sg		**Sg**		**03 14 37.7**	**-3.8**
CERR	**Cheremushki**	**2.98**	**296**	*e*PN		**Pb**		**03 13 55.2**	**-3.8**
CERR				*e*				03 14 01.1	
CERR				*e*				03 14 37.7	
MOY	**Mondy**	**3.21**	**88**	*e*PN		**Pn**		**03 13 58.1**	**+1.6**
MOY				*e*				03 14 41.8	
ARS	**Arshan**	**4.10**	**84**	*e*PN		**Pb**		**03 14 17.4**	**-0.7**
ARS				*e*				03 15 10.5	
ARS				pmax	pmax				
	comp=Z,115nm,0.5s								
ARS				smax	smax				
	comp=E,1μm,1.0s								
LUZB	**Luzhba, Kemero**	**4.69**	**298**	*e*PN		**Pn**		**03 14 19.8**	**+3.2**
TLY	**Talaya**	**4.86**	**87**	*e*Pg		**Pb**		**03 14 31.5**	**+0.4**
TLY	**Talaya**	**4.86**	**87**	*e*PN		**Pb**		**03 14 30.1**	**-0.9**
TLY				*e*				03 15 30.9	
TLY				pmax	pmax				
	comp=Z,8.0nm,0.4s								
ZAK	**Zakamensk**	**4.86**	**102**	*e*PN		**Pb**		**03 14 30.0**	**-1.2**
ZAK				*e*				03 15 32.7	
ZAK				pmax	pmax				
	comp=Z,40nm,0.7s								
ZAK				smax	smax				
	comp=N,151nm,0.8s								
TASR	**Tashtagol**	**5.02**	**286**	*e*Pn		**Pn**		**03 14 23.1**	**+1.8**
TASR				*e*Pg		**Pb**		**03 14 36.7**	**+2.8**
TASR				*e*Sg		**Sb**		**03 15 39.0**	**+4.7**
TASR	**Tashtagol**	**5.02**	**286**	*e*PN		**Pn**		**03 14 23.1**	**+1.8**
TASR				*e*				03 14 36.7	
TASR				*e*				03 15 38.0	
IRK	**Irkutsk**	**5.25**	**80**	*e*PN		**Pb**		**03 14 36.5**	**-1.2**
IRK				*e*				03 15 41.8	
IRK				pmax	pmax				
	comp=Z,96nm,0.2s								
IRK				smax	smax				
	comp=E,424nm,0.6s								
ARTR	**Artybash**	**5.33**	**275**	*e*Pn		**Pn**		**03 14 27.3**	**+1.9**
ARTR				*e*Pg		**Pg**		**03 14 44.2**	**-3.7**
ARTR				*e*Sg		**Sg**		**03 15 50.3**	**-6.5**
ARTR	**Artybash**	**5.33**	**275**	*e*PN		**Pn**		**03 14 27.3**	**+1.9**
ARTR				*e*				03 14 44.2	
ARTR				*e*				03 15 50.3	
AKAR	**Aktash**	**5.36**	**259**	*e*Pn		**Pn**		**03 14 29.1**	**+3.0**
AKAR				*e*Pg		**Pg**		**03 14 45.2**	**-3.3**
AKAR				*e*Sg		**Sg**		**03 15 54.3**	**-3.6**
AKAR	**Aktash**	**5.36**	**259**	*e*PN		**Pn**		**03 14 29.1**	**+3.0**
AKAR				*e*				03 14 45.2	
DGZ	**Jazzator, Alta**	**5.69**	**253**	⇑ *e*PN		**Pn**		**03 14 29.1**	**-1.5**
ELT	**Eltsovka**	**6.09**	**289**	*e*Pn		**Pn**		**03 14 35.3**	**-0.6**
ELT				*e*Pg		**Pb**		**03 14 55.4**	**+3.4**
ELT				*e*Sg		**Sb**		**03 16 11.3**	**+6.3**
ELT	**Eltsovka**	**6.09**	**289**	*e*PN		**Pn**		**03 14 35.3**	**-0.6**
ELT				*e*				03 14 55.4	
ELT				*e*				03 16 11.3	
TRG	**Tyrgan**	**6.56**	**76**	*e*PN		**Pn**		**03 14 39.4**	**-2.9**
UKR	**Ust'-Kan**	**6.98**	**269**	*e*Sg		**Sg**		**03 16 42.6**	**-7.2**
ZAA0	**Zalesovo Array**	**7.07**	**293**	*e*Pn		**Pn**		**03 14 50.6**	**+1.3**
ZAA0				*e*Sg		**Sg**		**03 16 44.0**	**-8.7**
ZALV	**Zalesovo Beam**	**7.07**	**293**	Pn		**Pn**		**03 14 52.5**	**+3.1**
	comp=E,0.4nm,0.3s,baz=101,slow=12,SNR=3.7								
ZALV				Lg		Lg		03 16 42.6	
	comp=E,3.3nm,0.3s,baz=104,slow=25,SNR=8.8								
ZALV	**Zalesovo Beam**	**7.07**	**293**	*e*Pn		**Pn**		**03 14 51.5**	**+2.1**
ZALV				*e*Sg		**Sg**		**03 16 44.0**	**-8.7**
ZALV	**Zalesovo Beam**	**7.07**	**293**	*e*PN		**Pn**		**03 14 51.5**	**+2.1**
ZAA1	**Zalesovo Array**	**7.07**	**293**	*e*Pn		**Pn**		**03 14 52.5**	**+3.1**
OGRR	**Ongureny**	**7.43**	**70**	*e*P		**Pn**		**03 14 55.2**	**+0.9**
OGRR				pmax	pmax				
	comp=Z,13nm,1.0s								
SONA1	**Songino Array**	**7.82**	**115**	*e*Pn		**Pn**		**03 14 58.9**	**-0.9**
SONA1				*e*Sg		Sg		03 17 08.1	-8.7
SONA0	**Songino Array**	**7.83**	**115**	*e*Pg		**Pb**		**03 15 24.4**	**+2.7**
SONM	**Songino Array**	**7.83**	**115**	Pg		**Pb**		**03 15 24.4**	**+2.7**
	comp=Z,0.6nm,0.3s,baz=307,slow=18,SNR=5.7								
SONM				Lg		Lg		03 17 07.2	
	comp=Z,1.5nm,0.3s,baz=283,slow=33,SNR=6.6								
ULN	**Ulaanbaatar**	**8.18**	**113**	*e*Pn		**Pn**		**03 15 07.0**	**+2.1**
ULN				*e*Sg		**Sg**		**03 17 22.5**	**-5.9**
ULN	**Ulaanbaatar**	**8.18**	**113**	⇑ *e*P		**Pn**		**03 15 05.8**	**+1.0**
NVS	**Novosibirsk**	**8.21**	**298**	*e*Sg		**Sg**		**03 17 20.9**	**-8.3**
NIZ	**Nizh Angarsk**	**9.11**	**58**	*e*P		**Pn**		**03 15 18.7**	**+1.3**
NIZ				pmax	pmax				
	comp=Z,7.0nm,0.8s								
MK31	**Makanchi Array**	**10.10**	**247**	*e*Pn		**Pn**		**03 15 34.4**	**+3.4**
MK31	**Makanchi Array**	**10.10**	**247**	*e*P		**Pn**		**03 15 34.4**	**+3.4**
MK32	**Makanchi Array**	**10.10**	**247**	*e*Pn		**Pn**		**03 15 33.5**	**+2.5**
MKAR	**Makanchi Array**	**10.10**	**247**	Pn		**Pn**		**03 15 33.5**	**+2.5**
	comp=Z,0.2nm,0.3s,baz=70,slow=12,SNR=3.9								
MKAR				Lg		Lg		03 18 22.8	
	comp=Z,0.5nm,0.3s,baz=54,slow=26,SNR=3.3								
KURK	**Kurchatov**	**10.86**	**272**	*e*Pn		**Pn**		**03 15 44.5**	**+3.4**
KURK				*e*Sn		**Sn**		**03 17 46.8**	**+4.2**
KURK				Lg		Lg		03 18 49.5	
KURK	**Kurchatov**	**10.86**	**272**	⇑ *e*P		**Pn**		**03 15 40.1**	**-1.1**
KURBB	**Kurchatov Arra**	**10.93**	**271**	Pn		**Pn**		**03 15 44.5**	**+2.3**
	comp=Z,0.0nm,0.3s,baz=75,slow=16,SNR=3.2								
KURBB				Sn		**Sn**		**03 17 46.8**	**+2.4**
	comp=Z,0.0nm,0.3s,baz=66,slow=22,SNR=3.4								
KURBB				Lg		Lg		03 18 49.5	
	comp=Z,0.1nm,0.3s,baz=78,slow=31,SNR=5.4								
GTA	**Gaotai**	**12.54**	**166**	*e*P		**Pn**		**03 16 04.7**	**+0.2**
GTA				pP				03 16 08.7	
GTA				sP				03 16 11.8	
GTA				pmax	pmax				
	comp=E,4.0nm,0.8s								
HIA	**Hailar**	**15.39**	**89**	⇑ *e*P		**P**		**03 16 45.5**	**-2.2**
HIA				pmax	pmax				
	comp=Z,5.0nm,0.3s								
BRVK	**Borovoye**	**15.66**	**285**	⇑ *e*P		**P**		**03 16 48.7**	**-1.9**
BRVK				pmax	pmax				
	comp=Z,3.0nm,1.0s								
AAK	**Ala-Archa**	**17.04**	**246**	⇑ *e*P		**Pn**		**03 17 02.3**	**-2.0**
AAK				pmax	pmax				
	comp=Z,2.0nm,1.2s								
YAK	**Yakutsk**	**20.97**	**47**	LR		LR		03 25 25.1	
	comp=Z,31nm,18.9s,baz=251,slow=36								
YAK	**Yakutsk**	**20.97**	**47**	⇓ *e*P		Pn		03 17 51.9	+0.5
YAK				pmax	pmax				
	comp=Z,8.0nm,0.7s								
ARU	**Arti**	**22.21**	**297**	LR		LR		03 27 00.9	
	comp=Z,25nm,18.7s,baz=34,slow=37								
ARU	**Arti**	**22.21**	**297**	*c iP*		**P**		**03 18 05.2**	**+3.0**
ARU								03 18 26.5	
ARU				SS		Sn		03 22 43.3	+25
ARU				pmax	pmax				
	comp=Z,4.0nm,0.9s								
AB31	**Akbulak array**	**22.84**	**278**	*e*P		**P**		**03 18 11.8**	**+2.9**
AB31	**Akbulak array**	**22.84**	**278**	*e*P		**P**		**03 18 11.9**	**+2.9**
ABKAR	**Akbulak array**	**22.84**	**278**	*e*P		**P**		**03 18 11.8**	**+2.9**
	comp=Z,7.3nm,0.8s								
AKTO	**Aktyubinsk**	**23.64**	**282**	P		**P**		**03 18 18.6**	**+1.5**
	comp=Z,3.9nm,0.6s,baz=87,slow=12,SNR=18								
TIXI	**Tiksi**	**24.86**	**24**	P		**P**		**03 18 27.4**	**-0.7**
	comp=Z,8.7nm,0.7s,baz=274,slow=5.3,SNR=16								
TIXI	**Tiksi**	**24.86**	**24**	*e*P		**P**		**03 18 27.6**	**-0.4**
TIXI	**Tiksi**	**24.86**	**24**	*de*P		**P**		**03 18 28.2**	**+0.1**
TIXI				pmax	pmax				
	comp=Z,10.0nm,1.0s								
YSS	**Yuzh-Sakhalins**	**30.53**	**80**	⇑ *e*P		**P**		**03 19 20.7**	**+1.6**
YSS				pmax	pmax				
	comp=Z,26nm,1.3s								
OBN	**Obninsk**	**34.61**	**300**	*e*P		**P**		**03 19 55.5**	**+0.9**
OBN				*e*				03 21 10.8	
OBN				pmax	pmax				
	comp=Z,1.0nm,0.8s								
BILL	**Bilibino**	**36.56**	**37**	⇑ *e*P		**P**		**03 20 12.8**	**+1.5**
BILL				*e*				03 21 36.3	
BILL				pmax	pmax				
	comp=Z,1.0nm,0.8s								
BILL				MLR	MLR				
	comp=Z,29nm,16.0s								
AKASG	**Malin Array Be**	**40.46**	**296**	P		**P**		**03 20 44.6**	**+0.4**
	comp=Z,0.8nm,0.6s,baz=57,slow=9.5,SNR=3.8								
AKBB	**Malin Array Si**	**40.46**	**296**	*e*P		**P**		**03 20 44.6**	**+0.4**
	comp=Z,6.7nm,1.3s								
AKBB	**Malin Array Si**	**40.46**	**296**	*e*P		**P**		**03 20 44.6**	**+0.4**
AKBB				pmax	pmax				
	comp=Z,7.0nm,1.3s								
BR101	**Keskin Array S**	**43.78**	**280**	*e*P		**P**		**03 21 13.5**	**+1.8**
BRTR	**Keskin Array B**	**43.78**	**280**	P		**P**		**03

comp=Z,37nm,18.3s,baz=174,slow=31
TSUM Tsumeb 30.43 100 LR LR 03 30 17.0
comp=Z,83nm,21.3s,baz=216,slow=31
KOWA Kowa 32.51 19 P P 03 21 19.1 -0.8
0.8nm,0.8s,baz=174,slow=9.7,SNR=2.2
KOWA LR LR 03 32 45.5
comp=Z,76nm,18.0s,baz=213,slow=33
TORD Torodi Ar. Bea 33.51 29 P P 03 21 28.5 -0.1
2.6nm,0.9s,baz=212,slow=8.8,SNR=14
TORD LR LR 03 33 11.0
comp=Z,74nm,18.3s,baz=190,slow=33
CPUP Villa Florida 41.04 249 LR LR 03 36 33.7
comp=Z,74nm,21.9s,baz=110,slow=32
LPAZ La Paz 51.50 262 LR LR 03 44 28.2
comp=Z,65nm,18.9s,baz=118,slow=35
VAE Valguarnera 60.19 26 LR LR 03 50 23.1
comp=Z,48nm,19.0s,baz=150,slow=36
ROSC El Rosal 63.02 284 LR LR 03 51 05.5
comp=Z,40nm,20.1s,baz=180,slow=35
VRAC Vranov 71.09 21 LR LR 03 57 21.8
comp=Z,29nm,18.2s,baz=248,slow=36
BRTR Keskin Array B 71.65 37 P P 03 26 11.1 +0.1
0.5nm,0.9s,baz=223,slow=9.9,SNR=2.8
JMIC Jan Mayen 87.44 2 LR LR 04 00 51.4
comp=Z,76nm,21.3s,baz=20,slow=32

TRN 11 03:15:06.0, 10°.96N × 62°.09W, h92km, MD3.6, 1C, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRN	**Trinidad (W)**	**0.74**	**115**	*eP*	Pn	03 15 23.1	0.0
TRN				*eS*	Sn	03 15 35.5	-0.3
TPP	**Pointe-a-Pierr**	**0.89**	**136**	*eP*	Pn	03 15 25.7	+1.1
TPP				*eS*	Sn	03 15 38.9	+0.2
TBH	**Brigand Hill**	**1.11**	**115**	*eP*	Pn	03 15 27.6	+0.5
TBH				*eS*	Sn	03 15 42.1	-0.9
GRGR	**Grenville**	**1.24**	**20**	*iP*	Pn	03 15 27.9	-0.8
GRGR				*eS*	Sn	03 15 45.8	0.0
GRHS	**Sauteurs**	**1.33**	**19**	*eP*	Pn	03 15 30.1	+0.4
GRHS				*eS*	Sn	03 15 47.1	-0.5
GRSS	**Sisters**	**1.41**	**19**	*i P*	Pn	03 15 31.5	+0.7
GRSS				*eS*	Sn	03 15 48.9	-0.5
TOSP	**Speyside**	**1.56**	**77**	*eP*	Pn	03 15 31.9	-0.6
TOSP				*eS*	Sn	03 15 52.9	+0.1
SVB	**Belmont**	**2.44**	**19**	*eP*	Pn	03 15 43.6	-0.5
SVB				*eS*	Sn	03 16 12.4	-0.9
SVCV	**St. Vincent, C**	**2.48**	**22**	*eP*	Pn	03 15 45.0	+0.4
SVCV				*eS*	Sn	03 16 13.4	-0.8
SVV	**Soufriere Volc**	**2.50**	**20**	*eP*	Pn	03 15 45.5	+0.6
SVV				*eS*	Sn	03 16 13.7	-1.0
SSV	**Crater Summit**	**2.51**	**20**	*eP*	Pn	03 15 45.2	+0.1
SSV				*eS*	Sn	03 16 13.9	-1.2
MCLT	**Moule a Chique**	**2.95**	**22**	*eP*	Pn	03 15 50.9	-0.1
MCLT				*eS*	Sn	03 16 24.6	-1.0
SLB	**Belfond**	**3.03**	**20**	*eP*	Pn	03 15 52.0	0.0
SLB				*eS*	Sn	03 16 26.9	-0.6
BBGH	**Gun Hill**	**3.29**	**48**	*eP*	Pn	03 15 55.5	0.0
BBGH				*eS*	Sn	03 16 32.3	-1.4

IDC 11 03:29:38.3±16.0, 16°.05S × 13°.56W, h0km, mb3.9/3, mb1 3.8/3, mb1mx3.4/51, mbtmp3.9/3, MS3.4/5, Ms1 3.4/5, ms1mx2.9/46, Error ellipse: s-maj=620.4km s-min=128.5km az=92.0, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H10S2	**ASCENSION HYDR**	**7.13**	**351**	T	T	03 39 32.5	
	baz=178,slow=74,SNR=4.5						
H10S3	**ASCENSION HYDR**	**7.14**	**351**	T	T	03 39 35.9	
	baz=178,slow=74,SNR=3.9						
H10S1	**ASCENSION HYDR**	**7.15**	**351**	T	T	03 39 38.5	
	baz=178,slow=74,SNR=3.7						
DBIC	**Dimbokro**	**24.16**	**22**	P	P	03 34 56.3	-0.1
	2.2nm,0.9s,baz=189,slow=8.1,SNR=3.8						
TORD	**Torodi Ar. Bea**	**32.70**	**28**	P	P	03 36 12.6	0.0
	2.6nm,0.8s,baz=210,slow=7.3,SNR=17						
TORD				LR	LR	03 47 37.4	
	comp=Z,51nm,20.1s,baz=180,slow=33						
CPUP	**Villa Florida**	**41.90**	**248**	LR	LR	03 53 21.2	
	comp=Z,38nm,18.6s,baz=134,slow=34						
PLCA	**Paso Flores**	**54.78**	**231**	LR	LR	04 00 03.8	
	comp=Z,34nm,19.0s,baz=182,slow=33						
NNA	**Nana**	**61.34**	**265**	LR	LR	04 04 53.0	
	comp=Z,25nm,19.0s,baz=190,slow=34						
SDV	**Santo Domingo**	**61.69**	**290**	LR	LR	04 06 59.7	
	comp=Z,32nm,18.5s,baz=198,slow=36						
BRTR	**Keskin Array B**	**70.80**	**37**	P	P	03 40 57.0	+0.1
	0.7nm,0.8s,baz=224,slow=6.9,SNR=4.3						

DJA 11 03:35:40.4±0.5, 9°.3S × 107°.6E±, h10km, M3.7/7, MLv3.7/7, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CGJI	**Cibinong**	**2.18**	**359**	P	Pn	03 36 17.2	+0.4
CGJI				S	Sn	03 36 43.2	-0.7
CISI	**Cisompet, Garu**	**2.39**	**59**	P	Pn	03 36 18.3	-1.5
CISI				S	Sn	03 36 44.2	-5.0
LEM	**Lembang**	**2.70**	**43**	P	Pn	03 36 23.7	-0.4
LEM				S	Sn	03 36 58.8	+1.8
CMJI	**Cimerak**	**2.86**	**69**	P	Pn	03 36 25.1	-1.0
CMJI				S	Sn	03 36 55.3	-5.3
KPJI	**Karang Pucung**	**3.48**	**65**	P	Pn	03 36 35.7	+1.1
MDSI	**Maura Dua**	**4.57**	**340**	P	Pn	03 36 50.6	+0.9

IDC 11 03:38:22.4±3.1, 4°.93S × 133°.58E, h0km, mb3.5/1, mb1 3.7/4, mb1mx3.4/50, mbtmp3.5/4, ML3.5/2, Error ellipse: s-maj=130.2km s-min=29.2km az=82.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.94**	**177**	Pn	Pn	03 41 53.7	-1.3
	0.2nm,0.3s,baz=353,slow=13,SNR=9.2						
WRA				Sn	Sn	03 44 35.0	-6.4
	0.2nm,0.3s,baz=353,slow=24,SNR=5.0						
FITZ	**Fitzroy Crossi**	**15.22**	**210**	Pn	Pn	03 41 59.0	+0.2
	baz=18,slow=11						
FITZ				Sn	Sn	03 44 40.8	-7.3
	baz=203,slow=13						
ASAR	**Alice Springs**	**18.63**	**179**	P	Pn	03 42 42.2	+0.2
	0.3nm,0.3s,baz=9.1,slow=12,SNR=7.7						
MKAR	**Makanchi Array**	**68.53**	**325**	P	P	03 49 26.8	0.0
	0.2nm,0.5s,baz=134,slow=6.6,SNR=2.7						

*IDC **11** 03:45:24.6±0.8, 54°.90N × 163°.99E, h0km, mb3.7/10, mb1 3.9/12, mb1mx3.6/76, mbtmp3.7/12, ML3.6/2, MS3.3/1, Ms1 3.3/1, ms1mx2.4/65, Error ellipse: s-maj=26.2km s-min=16.2km az=153.0*
*ISCJB **11** 03:45:26.7±0.4, 54°.79N±0°.02 × 164°.01E±0°.04, h24km, mb3.7/11, MS3.1/1, Error ellipse: s-maj=4.1km s-min=3.1km az=41.2*
*KRSC **11** 03:45:26.2±1.3, 54°.79N × 164°.01E, h56km±27km, ML4.2*
*MOS **11** 03:45:28.5±0.9, 54°.83N × 164°.02E, h47km, mb4.3/4, Error ellipse: s-maj=7.1km s-min=6.0km az=61.4*

ISC 11 03:45:27.8±0.7, 54°.82N±0°.03 × 164°.11E±0°.03, h24km, n89, σ1.935/132, mb3.6/11, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**1.14**	**70**	*i P*	**Pn**	**03 45 47.8**	**-0.4**
BKI				*eS*	**Sn**	**03 46 01.9**	**-1.2**
BKI	**Bering**	**1.14**	**70**	PN	**Pn**	**03 45 47.8**	**-0.4**
BKI				S	**Sn**	**03 46 01.9**	**-1.2**
KBTR	**Krutoberegovo**	**1.57**	**333**	*eP*	**Pn**	**03 45 52.5**	**-1.7**
KBTR				*eS*	**Sn**	**03 46 11.1**	**-2.6**
KBTR	**Krutoberegovo**	**1.57**	**333**	PN	**Pn**	**03 45 52.5**	**-1.7**
KBTR				S	**Sn**	**03 46 11.1**	**-2.6**
TUMD	**Tumrok D**	**2.17**	**282**	*eP*	**Pn**	**03 46 01.9**	**-0.5**
KZV	**Kizimen**	**2.22**	**279**	*eP*	**Pn**	**03 46 03.3**	**+0.1**
KZV				*eS*	**Sn**	**03 46 28.4**	**-1.5**
KZV	**Kizimen**	**2.22**	**279**	PN	**Pn**	**03 46 03.3**	**+0.1**
KZV				S	**Sn**	**03 46 28.4**	**-1.5**
CIRR	**Tsirk**	**2.31**	**306**	*eP*	**Pn**	**03 46 04.8**	**+0.4**
CIRR	**Tsirk**	**2.31**	**306**	PN	**Pn**	**03 46 04.8**	**+0.4**
SMKR	**Semkarok**	**2.31**	**321**	*eP*	**Pn**	**03 46 04.4**	**0.0**
SMKR				*eS*	**Sn**	**03 46 31.2**	**-0.9**
SMKR	**Semkarok**	**2.31**	**321**	PN	**Pn**	**03 46 04.4**	**0.0**
SMKR				S	**Sn**	**03 46 31.2**	**-0.9**
LGNR	**Loginova**	**2.32**	**304**	*eP*	**Pn**	**03 46 05.2**	**+0.5**
LGNR	**Loginova**	**2.32**	**304**	PN	**Pn**	**03 46 05.2**	**+0.5**
TUMR	**Tumrok**	**2.33**	**283**	*eP*	**Pn**	**03 46 05.2**	**+0.6**
TUMR				*eS*	**Sn**	**03 46 32.2**	**-0.3**
TUMR	**Tumrok**	**2.33**	**283**	PN	**Pn**	**03 46 05.2**	**+0.6**
TUMR				S	**Sn**	**03 46 32.2**	**-0.3**
BZMR	**Bezymyannaya**	**2.35**	**300**	*eP*	**Pn**	**03 46 05.3**	**+0.4**
BZMR	**Bezymyannaya**	**2.35**	**300**	PN	**Pn**	**03 46 05.3**	**+0.4**
BZWR	**Bezymyannyi-We**	**2.36**	**301**	*eP*	**Pn**	**03 46 05.7**	**+0.6**
BZWR	**Bezymyannyi-We**	**2.36**	**301**	PN	**Pn**	**03 46 05.7**	**+0.6**
BDR	**Baidarnaya**	**2.40**	**318**	*eP*	**Pn**	**03 46 05.9**	**+0.3**
BDR	**Baidarnaya**	**2.40**	**318**	PN	**Pn**	**03 46 05.9**	**+0.3**
KMNR	**Kamenistaya**	**2.40**	**295**	*eP*	**Pn**	**03 46 06.1**	**+0.4**
KMNR				*eS*	**Sn**	**03 46 33.2**	**-1.2**
KMNR	**Kamenistaya**	**2.40**	**295**	PN	**Pn**	**03 46 06.1**	**+0.4**
KMNR				S	**Sn**	**03 46 33.2**	**-1.2**
KRSR	**Krestovskiy**	**2.45**	**306**	*eP*	**Pn**	**03 46 06.3**	**-0.1**
KRSR				*eS*	**Sn**	**03 46 34.5**	**-1.1**
KRSR	**Krestovskiy**	**2.45**	**306**	PN	**Pn**	**03 46 06.3**	**-0.1**
KRSR				S	**Sn**	**03 46 34.5**	**-1.1**
KLY	**Klyuchi**	**2.47**	**309**	*eP*	**Pn**	**03 46 05.1**	**-1.3**
KLY				*eS*	**Sn**	**03 46 32.3**	**-3.5**
KLY	**Klyuchi**	**2.47**	**309**	PN	**Pn**	**03 46 05.1**	**-1.3**
KLY				S	**Sn**	**03 46 32.3**	**-3.5**
SRKR	**Sorokina**	**2.48**	**319**	*eP*	**Pn**	**03 46 06.6**	**-0.1**
SRKR				*eS*	**Sn**	**03 46 34.6**	**-1.6**
SRKR	**Sorokina**	**2.48**	**319**	PN	**Pn**	**03 46 06.6**	**-0.1**
SRKR				S	**Sn**	**03 46 34.6**	**-1.6**
KPT	**Kopyto**	**2.50**	**299**	*eS*	**Sn**	**03 46 36.5**	**-0.1**
KOZ	**Kozyrevsk**	**2.71**	**299**	*eP*	**Pn**	**03 46 10.9**	**+1.1**
KOZ				*eS*	**Sn**	**03 46 41.5**	**-0.4**
KOZ	**Kozyrevsk**	**2.71**	**299**	PN	**Pn**	**03 46 10.9**	**+1.1**
KOZ				S	**Sn**	**03 46 41.5**	**-0.4**
SPN	**Mys Shipunski**	**2.97**	**236**	*eP*	**Pn**	**03 46 12.3**	**-1.0**
SPN				*eS*	**Sn**	**03 46 44.8**	**-3.3**
SPN	**Mys Shipunski**	**2.97**	**236**	PN	**Pn**	**03 46 12.3**	**-1.0**
SPN				S	**Sn**	**03 46 44.8**	**-3.3**
NLC	**Nalytchevo**	**3.26**	**241**	*eP*	**Pn**	**03 46 17.8**	**+0.5**
NLC				*eS*	**Sn**	**03 46 53.2**	**-2.1**
NLC	**Nalytchevo**	**3.26**	**241**	PN	**Pn**	**03 46 17.8**	**+0.5**
NLC				S	**Sn**	**03 46 53.2**	**-2.1**
ESO	**Esso**	**3.28**	**292**	*eP*	**Pn**	**03 46 17.6**	**0.0**
ESO	**Esso**	**3.28**	**292**	PN	**Pn**	**03 46 17.6**	**0.0**
SDLR	**Sedlovina**	**3.44**	**245**	*eP*	**Pn**	**03 46 20.5**	**+0.5**
SDLR				*eS*	**Sn**	**03 46 57.9**	**-2.2**
SDLR	**Sedlovina**	**3.44**	**245**	PN	**Pn**	**03 46 20.5**	**+0.5**
SDLR				S	**Sn**	**03 46 57.9**	**-2.2**
SMAR	**Somma**	**3.50**	**246**	*eP*	**Pn**	**03 46 21.2**	**+0.4**
SMAR				*eS*	**Sn**	**03 46 59.6**	**-1.9**
SMAR	**Somma**	**3.50**	**246**	PN	**Pn**	**03 46 21.2**	**+0.4**
SMAR				S	**Sn**	**03 46 59.6**	**-1.9**
KRER	**Koryakskii**	**3.50**	**246**	*eP*	**Pn**	**03 46 21.4**	**+0.5**
KRER	**Koryakskii**	**3.50**	**246**	PN	**Pn**	**03 46 21.4**	**+0.5**
UGLR	**Uglovaya**	**3.51**	**245**	*eP*	**Pn**	**03 46 21.4**	**+0.5**
UGLR				*eS*	**Sn**	**03 46 59.7**	**-2.0**
UGLR	**Uglovaya**	**3.51**	**245**	PN	**Pn**	**03 46 21.4**	**+0.5**
UGLR				S	**Sn**	**03 46 59.7**	**-2.0**
AVH	**Avacha**	**3.53**	**246**	*eP*	**Pn**	**03 46 21.8**	**+0.7**
AVH	**Avacha**	**3.53**	**246**	PN	**Pn**	**03 46 21.8**	**+0.7**
KRX	**Arik**	**3.53**	**248**	*eP*	**Pn**	**03 46 21.7**	**+0.5**
KRX	**Arik**	**3.53**	**248**	PN	**Pn**	**03 46 21.7**	**+0.5**
KOK	**Koryaka**	**3.57**	**247**	*eP*	**Pn**	**03 46 22.5**	**+0.8**
KOK	**Koryaka**	**3.57**	**247**	PN	**Pn**	**03 46 22.5**	**+0.8**
DALK	**Dalny**	**3.64**	**243**	*eP*	**Pn**	**03 46 23.1**	**+0.6**
DALK				*eS*	**Sn**	**03 47 02.2**	**-2.4**
DALK	**Dalny**	**3.64**	**243**	PN	**Pn**	**03 46 23.1**	**+0.6**
DALK				S	**Sn**	**03 47 02.2**	**-2.4**
PET	**Petropavlovsk**	**3.69**	**243**	*eP*	**Pn**	**03 46 23.9**	**+0.6**
PET				*eS*	**Sn**	**03 47 03.7**	**-2.3**
PET	**Petropavlovsk**	**3.69**	**243**	PN	**Pn**	**03 46 21.3**	**-2.0**
PET				*eS*	**Sn**	**03 47 03.3**	**-2.7**
PET				smax	smax		
	comp=E,68nm,0.6s						
PET				smax	smax		
	comp=N,80nm,0.4s						
GNL	**Ganaly**	**3.79**	**255**	*eP*	**Pn**	**03 46 26.1**	**+1.4**
GNL	**Ganaly**	**3.79**	**255**	PN	**Pn**	**03 46 26.1**	**+1.4**
KRMR	**Karymshinskiy**	**4.06**	**243**	*eP*	**Pn**	**03 46 29.9**	**+1.5**
KRMR				*eS*	**Sn**	**03 47 13.8**	**-1.3**
KRMR	**Karymshinskiy**	**4.06**	**243**	PN	**Pn**	**03 46 29.9**	**+1.5**
KRMR				S	**Sn**	**03 47 13.8**	**-1.3**
RUS	**Russkaya**	**4.10**	**237**	*eP*	**Pn**	**03 46 28.8**	**-0.1**
RUS				*eS*	**Sn**	**03 47 13.1**	**-2.9**
RUS	**Russkaya**	**4.10**	**237**	PN	**Pn**	**03 46 28.8**	**-0.1**
PETK	**Petropavlovsk-**	**4.15**	**248**	Pn	**Pn**	**03 46 30.9**	**+1.2**
	comp=N,2.5nm,0.3s,baz=75,slow=18,SNR=23						
PETK				Sn	**Sn**	**03 47 16.5**	**-0.9**
	comp=N,1.1nm,0.3s,baz=77,slow=20,SNR=4.3						
MTVR	**Mutnovka**	**4.23**	**239**	*eP*	**Pn**	**03 46 31.6**	**+0.8**
MTVR				*eS*	**Sn**	**03 47 17.2**	**-2.3**
MTVR	**Mutnovka**	**4.23**	**239**	PN	**Pn**	**03 46 31.6**	**+0.8**
ASAK	**Asacha**	**4.43**	**239**	*eP*	**Pn**	**03 46 34.6**	**+1.1**
ASAK				*eS*	**Sn**	**03 47 23.0**	**-1.3**
ASAK	**Asacha**	**4.43**	**239**	PN	**Pn**	**03 46 34.6**	**+1.1**
ASAK				S	**Sn**	**03 47 23.0**	**-1.3**
APC	**Apacha**	**4.53**	**248**	*eP*	**Pn**	**03 46 35.3**	**+0.5**
APC				*eS*	**Sn**	**03 47 27.0**	**+0.4**
APC	**Apacha**	**4.53**	**248**	PN	**Pn**	**03 46 35.3**	**+0.5**
APC				S	**Sn**	**03 47 27.0**	**+0.4**
KDTR	**Khodutka, Kamc**	**4.71**	**233**	*eP*	**Pn**	**03 46 36.0**	**-1.2**
KDTR				*eS*	**Sn**	**03 47 26.7**	**-4.3**
MIPR	**Malaya Ipel'ka**	**5.07**	**243**	*eP*	**Pn**	**03 46 43.6**	**+1.4**
MIPR	**Malaya Ipel'ka**	**5.07**	**243**	PN	**Pn**	**03 46 43.6**	**+1.4**
TILK	**Tilichiki**	**5.75**	**10**	*eP*	**Pn**	**03 46 52.5**	**+1.1**
TILK	**Tilichiki**	**5.75**	**10**	PN	**Pn**	**03 46 52.5**	**+1.1**
SKR	**Severo-Kuril's**	**6.38**	**233**	*ePN*	**Pn**	**03 47 01.7**	**+1.6**
ASAJ	**Asahikawa**	**17.53**	**241**	P	**Pn**	**03 49 30.2**	**-0.1**
	comp=N,0.9nm,0.3s,baz=288,slow=31,SNR=6.2						
KDAK	**Kodiak Island**	**23.91**	**65**	LR	LR	03 59 42.1	
	comp=N,62nm,18.5s,baz=294,slow=36						
MJAR	**Matsushiro Arr**	**25.48**	**235**	P	**P**	**03 50 55.4**	**+1.5**
	comp=N,0.7nm,0.6s,baz=18,slow=8.3,SNR=3.3						
ILAR	**Eielson Array**	**25.90**	**48**	P	**P**	**03 50 57.1**	**-0.4**
	comp=N,0.7nm,0.8s,baz=256,slow=9.0,SNR=11						
YKA	**Yellowknife Ar**	**40.27**	**45**	P	**P**	**03 53 03.4**	**+1.1**
	comp=N,0.4nm,0.5s,baz=298,slow=8.0,SNR=8.1						
ZALV	**Zalesovo Beam**	**43.83**	**303**	P	**P**	**03 53 30.2**	**-1.2**
	comp=N,0.6nm,0.5s,baz=70,slow=9.3,SNR=2.6						
KURK	**Kurchatov**	**48.82**	**303**	P	**P**	**03 54 11.2**	**+0.6**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.6s						
KURBB	**Kurchatov Arra**	**48.92**	**303**	P	**P**	**03 54 11.2**	**-0.3**
	comp=Z,2.0nm,0.6s,baz=56,slow=8.1,SNR=16						
MKAR	**Makanchi Array**	**49.52**	**297**	P	**P**	**03 54 15.7**	**-0.5**
	comp=Z,0.5nm,0.7s,baz=48,slow=6.7,SNR=4.3						
BVAR	**Borovoye Array**	**51.15**	**309**	P	**P**	**03 54 28.2**	**-0.2**
	comp=Z,0.8nm,0.5s,baz=59,slow=8.6,SNR=4.5						
TXAR	**Lajitas Array**	**67.80**	**70**	P	**P**	**03 56 25.2**	**+1.5**
	comp=Z,0.3nm,0.6s,baz=305,slow=5.4,SNR=3.6						
WRA	**Warramunga Arr**	**78.69**	**208**	P	**P**	**03 57 27.0**	**-0.7**
	comp=Z,0.4nm,0.7s,baz=27,slow=6.3,SNR=5.7						
WRA	**Warramunga Arr**	**78.69**	**208**	P	**P**	**03 57 27.0**	**-0.7**
ASAR	**Alice Springs**	**82.35**	**208**	P	**P**	**03 57 48.1**	**+0.8**
	comp=Z,0.7nm,0.8s,baz=16,slow=5.6,SNR=4.8						

*IDC **11** 03:57:01.0±1.0, 33°.00N × 87°.28E, h0km, mb3.6/7, mb1 3.8/10, mb1mx3.5/70, mbtmp3.7/10, ML2.7/2, MS3.2/7, Ms1 3.2/7, ms1mx2.8/63, Error ellipse: s-maj=36.5km s-min=17.8km az=58.0*
*ISCJB **11** 03:57:04.4±0.5, 33°.12N±0°.05 × 87°.4E±0°.1, h33km, mb3.7/5, MS3.2/5, Error ellipse: s-maj=14.6km s-min=6.6km az=4.1*

ISC 11 03:57:06.3±0.8, 33°.09N±0°.08 × 87°.2E±0°.1, h35km, n22, σ1.938/19, mb3.7/5, MS3.1/5, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUN	**Gumba**	**5.29**	**193**	*eP*	**Pn**	**03 58 25.0**	**+1.8**
	23nm,0.5s						
JIRN	**Jiri**	**5.49**	**190**	*eP*	**Pn**	**03 58 27.7**	**+1.8**
	28nm,0.5s						
GKN	**Gorkha**	**5.54**	**204**	*eP*	**Pn**	**03 58 28.1**	**+1.7**
	37nm,0.4s						
KKN	**Kakani**	**5.54**	**198**	*eP*	**Pn**	**03 58 28.1**	**+1.6**
	24nm,0.5s						
PKIN	**Phulchoki**	**5.72**	**196**	*eP*	**Pn**	**03 58 30.5**	**+1.5**
	34nm,0.6s						
DMN	**Daman**	**5.76**	**199**	*eP*	**Pn**	**03 58 30.9**	**+1.3**
	28nm,0.4s						
RAMN	**Ramite**	**6.14**	**185**	*eP*	**Pn**	**03 58 34.2**	**-0.6**
	22nm,0.6s						
KOLN	**Koldanda**	**6.15**	**211**	*eP*	**Pn**	**03 58 33.5**	**-1.4**
	13nm,0.5s						
PYUN	**Piuthan**	**6.16**	**217**	*eP*	**Pn**	**03 58 33.2**	**-1.9**
	25nm,0.5s						
MKAR	**Makanchi Array**	**14.19**	**346**	Pn	**Pn**	**04 00 24.6**	**-0.1**
	0.0nm,0.3s,baz=152,slow=14,SNR=2.6						
MKAR				LR	LR	04 06 55.8	
	comp=Z,94nm,18.5s,baz=171,slow=42						
CMAR	**Chiang Mai Arr**	**17.98**	**141**	P	**Pn**	**04 01 11.5**	**-2.1**
	0.9nm,0.3s,baz=328,slow=12,SNR=4.7						
CMAR				LR	LR	04 08 40.5	
	comp=Z,20nm,20.8s,baz=350,slow=39						
KURBB	**Kurchatov Arra**	**18.65**	**343**	P	**Pn**	**04 01 23.0**	**+1.6**
	0.0nm,0.3s,baz=155,slow=11,SNR=4.2						
SONM	**Songino Array**	**20.65**	**39**	P	**P**	**04 01 42.9**	**-0.1**
	1.0nm,0.9s,baz=211,slow=11,SNR=6.5						
ZALV	**Zalesovo Beam**	**20.92**	**356**	P	**P**	**04 01 45.1**	**-0.5**
	0.5nm,0.3s,baz=185,slow=10,SNR=7.6						
ZALV				LR	LR	04 10 55.9	
	comp=Z,52nm,18.9s,baz=50,slow=40						
GEYT	**Alibeck**	**24.12**	**290**	P	**P**	**04 02 19.8**	**+0.9**
	1.0nm,0.4s,baz=225,slow=0.8,SNR=3.7						
GEYT				LR	LR	04 13 14.2	
	comp=Z,78nm,20.4s,baz=235,slow=40						
JNU	**Nakatsue**	**36.38**	**78**	LR	LR	04 20 42.1	
	comp=Z,35nm,19.0s,baz=291,slow=39						
FINES	**FINESS Array B**	**47.83**	**325**	P	**P**	**04 05 40.0**	**-0.1**
	2.8nm,1.0s,baz=190,slow=33,SNR=2.7						
MLR	**Muntele Rosu**	**47.92**	**304**	LR	LR	04 29 28.9	
	comp=Z,15nm,19.2s,baz=54,slow=41						
WRA	**Warramunga Arr**	**69.33**	**133**	P	**P**	**04 08 09.9**	**-0.5**
	1.0nm,0.6s,baz=325,slow=6.2,SNR=12						
ASAR	**Alice Springs**	**71.88**	**135**	P	**P**	**04 08 25.5**	**-0.4**
	0.5nm,0.6s,baz=339,slow=6.8,SNR=5.0						
YKA	**Yellowknife Ar**	**83.14**	**10**	P	**P**	**04 09 28.9**	**+0.7**
	0.1nm,0.8s,baz=337,slow=5.6,SNR=5.0						
BBB	**Bella Bella**	**89.63**	**21**	LR	LR	04 56 34.0	
	comp=Z,48nm,19.7s,baz=198,slow=40						

IDC 11 04:03:17.6±5.9, 17°.01S × 15°.08W, h0km, mb4.1/5, mb1 4.1/5, mb1mx3.7/53, mbtmp4.1/5, MS3.7/24, Ms1 3.7/24, ms1mx3.5/44, Error ellipse: s-maj=246.0km s-min=90.7km az=100.0, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H10S2	**ASCENSION HYDR**	**8.01**	**3**	T	T	04 13 18.2	
	baz=178,slow=74,SNR=31						
H10S3	**ASCENSION HYDR**	**8.02**	**3**	T	T	04 13 30.5	
	baz=178,slow=74,SNR=31						
H10S1	**ASCENSION HYDR**	**8.03**	**3**	T	T	04 13 31.3	
	baz=178,slow=74,SNR=28						
LIC	**Lamto**	**25.13**	**24**	*eP*	P	04 08 46.3	+1.8
	52nm,1.8s						
KIC	**Kosan Boka**	**25.37**	**25**	*eP*	P	04 08 47.4	+0.7
	92nm,1.5s						
TIC	**Toumodi**	**25.52**	**24**	*eP*	P	04 08 48.8	+0.7
DBIC	**Dimbokro**	**25.61**	**24**	P	P	04 08 49.6	+0.8
	5.1nm,0.8s,baz=195,slow=12,SNR=8.0						
DBIC				LR	LR	04 16 18.2	
	comp=Z,128nm,19.2s,baz=176,slow=30						
TSUM	**Tsumeb**	**31.10**	**99**	LR	LR	04 19 37.3	
	comp=Z,102nm,19.7s,baz=270,slow=32						
KOWA	**Kowa**	**33.15**	**20**	P	P	04 09 56.0	0.0
	1.5nm,0.7s,baz=205,slow=9.6,SNR=6.8						
KOWA				LR	LR	04 21 12.4	
	comp=Z,130nm,18.5s,baz=213,slow=32						
TORD	**Torodi Ar. Bea**	**34.24**	**30**	P	P	04 10 04.5	-0.9
	5.6nm,0.7s,baz=214,slow=7.1,SNR=36						
TORD				LR	LR	04 21 27.3	
	comp=Z,218nm,20.4s,baz=205,slow=32						
LBTB	**Lobatse**	**38.68**	**109**	LR	LR	04 23 38.1	
	comp=Z,121nm,21.0s,baz=268,slow=32						
BOSA	**Boshof**	**38.76**	**115**	LR	LR	04 23 34.0	
	comp=Z,83nm,20.2s,baz=266,slow=31						
CPUP	**Villa Florida**	**40.20**	**249**	LR	LR	04 24 47.2	
	comp=Z,118nm,20.8s,baz=84,slow=32						
LPAZ	**La Paz**	**50.70**	**263**	LR	LR	04 33 14.7	
	comp=Z,109nm,19.4s,baz=116,slow=35						
ESDC	**Sonse

az=11.0
*ISCJB **11** 04:46:50.5±0.3,37°.98S±0°.02×177°.81E±0°.03,h70km,▵2km, mb4.2/9, Error ellipse: s-maj=4.4km s-min=4.0km az=11.1*
*WEL **11** 04:46:51.3,38°S±1°×17°.8E±°, h59km,▵2km, ML4.5/40*
*NEIC **11** 04:46:51.6±0.0,37°.91S×177°.77E, h58km, mb4.4/2, ML4.7(WEL), After WEL.*
NEIC Felt [III] at Ohope, Opotiki, Taneatua and Whakatane. Also felt at Athenree, Gisborne, Mangapapa, Ohiwa, Onepu, Paerata Ridge, Rangitukia, Ruatoria, Tablelands, Te Kaha, Tikitiki, Tirohanga, Waimata, Waiotahi Valley and Whataupoko.

ISC 11 04:46:51.2±0.7,**37°.99S**±0°.04×**177°.79E**±0°.04,**h66**km±5km, **n256,**σ1°59/250,**mb4.3**/9,**Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RUGZ	**Raukumara Rang**	**0.09**	**285**	P	**Pn**	**04 46 59.6**	**-1.5**
RUGZ	**Raukumara Rang**	**0.09**	**285**	S	**Sn**	**04 47 06.7**	**-1.5**
HAZ	**Te Kaha**	**0.23**	**358**	P	**Pn**	**04 47 00.1**	**-1.4**
HAZ	**Te Kaha**	**0.23**	**358**	S	**Sn**	**04 47 06.3**	**-2.6**
TWGZ	**Tauwhareparae**	**0.24**	**141**	Pn	**Pn**	**04 47 01.8**	**+0.2**
TWGZ	**Tauwhareparae**	**0.24**	**141**	P	**Pn**	**04 47 01.8**	**+0.2**
TWGZ	**Tauwhareparae**	**0.24**	**141**	S	**Sn**	**04 47 10.1**	**+0.9**
PKGZ	**Pakihiroa**	**0.25**	**66**	P	**Pn**	**04 47 01.1**	**-0.6**
PKGZ	**Pakihiroa**	**0.25**	**66**	S	**Sn**	**04 47 08.6**	**-0.7**
PUZ	**Puketiti**	**0.38**	**103**	Pn	**Pn**	**04 47 02.4**	**-0.1**
PUZ	**Puketiti**	**0.38**	**103**	P	**Pn**	**04 47 02.4**	**-0.1**
PUZ	**Puketiti**	**0.38**	**103**	S	**Sn**	**04 47 11.0**	**+0.2**
MWZ	**Matawai**	**0.40**	**211**	*e*Pn	**Pn**	**04 47 03.0**	**+0.2**
MWZ	**Matawai**	**0.40**	**211**	P	**Pn**	**04 47 03.0**	**+0.2**
MWZ	**Matawai**	**0.40**	**211**	S	**Sn**	**04 47 11.8**	**+0.6**
TKGZ	**Te Karaka**	**0.45**	**174**	Pn	**Pn**	**04 47 03.8**	**+0.6**
TKGZ	**Te Karaka**	**0.45**	**174**	P	**Pn**	**04 47 03.8**	**+0.6**
WMGZ	**Waiomatatini S**	**0.52**	**71**	Pn	**Pn**	**04 47 04.0**	**+0.2**
WMGZ	**Waiomatatini S**	**0.52**	**71**	P	**Pn**	**04 47 04.0**	**+0.2**
WMGZ	**Waiomatatini S**	**0.52**	**71**	S	**Sn**	**04 47 14.0**	**+0.9**
RAGZ	**Rawiri**	**0.59**	**210**	P	**Pn**	**04 47 05.3**	**+0.6**
MXZ	**Matakaoa Point**	**0.59**	**44**	Pn	**Pn**	**04 47 04.6**	**+0.1**
MXZ	**Matakaoa Point**	**0.59**	**44**	P	**Pn**	**04 47 04.6**	**+0.1**
MXZ	**Matakaoa Point**	**0.59**	**44**	S	**Sn**	**04 47 13.5**	**+1.2**
CNGZ	**Carnagh Statio**	**0.59**	**147**	Pn	**Pn**	**04 47 05.5**	**+0.9**
CNGZ	**Carnagh Statio**	**0.59**	**147**	P	**Pn**	**04 47 05.7**	**+1.1**
URZ	**Urewera**	**0.60**	**243**	P	**Pn**	**04 47 04.5**	**-0.2**
	3μm,0.3s,baz=6.8,slow=1.1						
URZ				S	**Sn**	**04 47 14.2**	**-0.3**
URZ				LR	LR	04 47 32.7	
	comp=Z,429nm,19.6s,baz=174,slow=68						
URZ	**Urewera**	**0.60**	**243**	P	**Pn**	**04 47 04.6**	**-0.2**
WHRZ	**Whale Island**	**0.66**	**281**	P	**Pn**	**04 47 04.9**	**-0.5**
WIZ	**White Island**	**0.66**	**314**	Pn	**Pn**	**04 47 04.0**	**-1.3**
WIZ	**White Island**	**0.66**	**314**	P	**Pn**	**04 47 04.2**	**-1.2**
RIGZ	**Rimuhau**	**0.72**	**182**	P	**Pn**	**04 47 06.8**	**+0.7**
EDRZ	**Edgecumbe**	**0.84**	**262**	Pn	**Pn**	**04 47 07.4**	**-0.1**
EDRZ	**Edgecumbe**	**0.84**	**262**	P	**Pn**	**04 47 07.4**	**-0.1**
SNGZ	**Shannon Statio**	**0.87**	**204**	Pn	**Pn**	**04 47 08.8**	**+1.0**
SNGZ	**Shannon Statio**	**0.87**	**204**	P	**Pn**	**04 47 08.9**	**+1.0**
SNGZ	**Shannon Statio**	**0.87**	**204**	S	**Sn**	**04 47 23.2**	**+3.0**
MARZ	**Manawahe**	**0.88**	**270**	Pn	**Pn**	**04 47 07.4**	**-0.6**
MARZ	**Manawahe**	**0.88**	**270**	P	**Pn**	**04 47 07.4**	**-0.6**
MARZ	**Manawahe**	**0.88**	**270**	S	**Sn**	**04 47 20.0**	**-0.5**
RTZ	**Ruatahuna**	**0.89**	**225**	P	**Pn**	**04 47 08.6**	**+0.4**
RTZ	**Ruatahuna**	**0.89**	**225**	S	**Sn**	**04 47 22.2**	**+1.4**
PRGZ	**Paritu Road**	**0.94**	**176**	Pn	**Pn**	**04 47 09.0**	**+0.3**
PRGZ	**Paritu Road**	**0.94**	**176**	P	**Pn**	**04 47 09.0**	**+0.3**
MUGZ	**Murupara**	**0.94**	**238**	P	**Pn**	**04 47 09.0**	**+0.3**
OPRZ	**Ohinepanea**	**0.99**	**278**	Pn	**Pn**	**04 47 08.6**	**-0.7**
OPRZ	**Ohinepanea**	**0.99**	**278**	P	**Pn**	**04 47 08.6**	**-0.7**
OPRZ	**Ohinepanea**	**0.99**	**278**	S	**Sn**	**04 47 21.1**	**-1.7**
KNZ	**Kokohu**	**1.03**	**185**	P	**Pn**	**04 47 10.2**	**+0.3**
TARZ	**Mount Tarawera**	**1.04**	**256**	Pn	**Pn**	**04 47 10.3**	**+0.2**
TARZ	**Mount Tarawera**	**1.04**	**256**	P	**Pn**	**04 47 10.4**	**+0.2**
MKRZ	**Makatiti**	**1.05**	**261**	Pn	**Pn**	**04 47 10.4**	**+0.1**
MKRZ	**Makatiti**	**1.05**	**261**	P	**Pn**	**04 47 10.5**	**+0.3**
RRRZ	**Republican Roa**	**1.06**	**250**	Pn	**Pn**	**04 47 10.5**	**+0.1**
RRRZ	**Republican Roa**	**1.06**	**250**	P	**Pn**	**04 47 10.5**	**+0.1**
RAHZ	**Arahi**	**1.08**	**211**	P	**Pn**	**04 47 11.4**	**+0.9**
LIRZ	**Lichensteins R**	**1.11**	**269**	Pn	**Pn**	**04 47 10.8**	**-0.2**
LIRZ	**Lichensteins R**	**1.11**	**269**	P	**Pn**	**04 47 11.0**	**+0.1**
OMRZ	**Omania**	**1.13**	**264**	Pn	**Pn**	**04 47 11.1**	**-0.1**
OMRZ	**Omania**	**1.13**	**264**	P	**Pn**	**04 47 11.2**	**0.0**
MTHZ	**Maungataniwha**	**1.14**	**221**	P	**Pn**	**04 47 12.0**	**+0.6**
HLRZ	**Highlands Stat**	**1.17**	**257**	P	**Pn**	**04 47 11.9**	**+0.3**
MHGZ	**Mahia Peninsul**	**1.17**	**176**	Pn	**Pn**	**04 47 12.1**	**+0.5**
MHGZ	**Mahia Peninsul**	**1.17**	**176**	P	**Pn**	**04 47 12.1**	**+0.5**
WHHZ	**Waihua**	**1.17**	**202**	P	**Pn**	**04 47 12.6**	**+1.0**
PRRZ	**Plateau Road**	**1.21**	**245**	Pn	**Pn**	**04 47 12.3**	**+0.1**
PRRZ	**Plateau Road**	**1.21**	**245**	P	**Pn**	**04 47 12.6**	**+0.3**
KARZ	**Kaharoa**	**1.22**	**268**	Pn	**Pn**	**04 47 12.1**	**-0.2**
KARZ	**Kaharoa**	**1.22**	**268**	P	**Pn**	**04 47 12.2**	**-0.2**
TGRZ	**Tauranga**	**1.24**	**282**	Pn	**Pn**	**04 47 11.9**	**-0.6**
TGRZ	**Tauranga**	**1.24**	**282**	P	**Pn**	**04 47 11.9**	**-0.6**
HRRZ	**Handcock Road**	**1.25**	**251**	Pn	**Pn**	**04 47 13.1**	**+0.3**
HRRZ	**Handcock Road**	**1.25**	**251**	P	**Pn**	**04 47 13.1**	**+0.3**
HSRZ	**Hossack Road**	**1.26**	**255**	P	**Pn**	**04 47 13.5**	**+0.6**
NGRZ	**Ngongotaha**	**1.27**	**264**	P	**Pn**	**04 47 13.5**	**+0.4**
UTU	**Utuhina**	**1.27**	**261**	P	**Pn**	**04 47 13.9**	**+0.9**
ALRZ	**Allen Road**	**1.27**	**243**	Pn	**Pn**	**04 47 13.4**	**+0.4**
ALRZ	**Allen Road**	**1.27**	**243**	P	**Pn**	**04 47 13.5**	**+0.4**
NMHZ	**Naumai**	**1.35**	**215**	P	**Pn**	**04 47 15.2**	**+1.1**
MRHZ	**Matea Rd**	**1.37**	**232**	P	**Pn**	**04 47 14.8**	**+0.5**
GRRZ	**Galatos Road**	**1.37**	**254**	P	**Pn**	**04 47 15.0**	**+0.6**
WPRZ	**Whakapapataria**	**1.39**	**247**	P	**Pn**	**04 47 15.3**	**+0.7**
ARHZ	**Aropaoanui**	**1.42**	**206**	Pn	**Pn**	**04 47 15.7**	**+0.8**
ARHZ	**Aropaoanui**	**1.42**	**206**	P	**Pn**	**04 47 15.7**	**+0.8**
KMRZ	**Kaimai**	**1.47**	**275**	P	**Pn**	**04 47 15.3**	**-0.4**
BKZ	**Black Stump Fm**	**1.55**	**220**	Pn	**Pn**	**04 47 17.2**	**+0.4**
BKZ	**Black Stump Fm**	**1.55**	**220**	P	**Pn**	**04 47 17.4**	**+0.6**
WHTZ	**Whakaora**	**1.59**	**244**	Pn	**Pn**	**04 47 18.2**	**+0.9**
WHTZ	**Whakaora**	**1.59**	**244**	P	**Pn**	**04 47 18.3**	**+0.9**
HATZ	**Hinemaiaia**	**1.61**	**235**	P	**Pn**	**04 47 18.1**	**+0.6**
KUTZ	**Kaahu Road**	**1.63**	**252**	Pn	**Pn**	**04 47 18.2**	**+0.5**
KUTZ	**Kaahu Road**	**1.63**	**252**	P	**Pn**	**04 47 18.3**	**+0.5**
MCHZ	**McNeill Hill**	**1.69**	**210**	Pn	**Pn**	**04 47 19.1**	**+0.6**
MCHZ	**McNeill Hill**	**1.69**	**210**	P	**Pn**	**04 47 19.1**	**+0.6**
CKHZ	**Cape Kidnapper**	**1.76**	**198**	Pn	**Pn**	**04 47 19.3**	**-0.2**
CKHZ	**Cape Kidnapper**	**1.76**	**198**	P	**Pn**	**04 47 19.3**	**-0.2**
WATZ	**Wairara**	**1.77**	**245**	Pn	**Pn**	**04 47 20.2**	**+0.5**
WATZ	**Wairara**	**1.77**	**245**	P	**Pn**	**04 47 20.3**	**+0.6**
KWHZ	**Kaweka Forest**	**1.79**	**216**	P	**Pn**	**04 47 20.2**	**+0.3**
TLZ	**Tolley Road**	**1.81**	**258**	Pn	**Pn**	**04 47 20.3**	**+0.1**
TLZ	**Tolley Road**	**1.81**	**258**	P	**Pn**	**04 47 20.3**	**+0.1**
RITZ	**Rihia Road**	**1.81**	**236**	Pn	**Pn**	**04 47 21.3**	**+1.1**
RITZ	**Rihia Road**	**1.81**	**236**	P	**Pn**	**04 47 21.4**	**+1.1**
RATZ	**Rangitukua**	**1.81**	**240**	Pn	**Pn**	**04 47 20.9**	**+0.6**
RATZ	**Rangitukua**	**1.81**	**240**	P	**Pn**	**04 47 21.2**	**+0.9**
TOZ	**Tahuroa Road**	**1.83**	**277**	Pn	**Pn**	**04 47 20.1**	**-0.3**
TOZ	**Tahuroa Road**	**1.83**	**277**	P	**Pn**	**04 47 20.1**	**-0.3**
KATZ	**Kakaramea**	**1.92**	**238**	Pn	**Pn**	**04 47 22.6**	**+0.9**
KATZ	**Kakaramea**	**1.92**	**238**	P	**Pn**	**04 47 22.8**	**+1.0**
KAHZ	**Kahuranaki**	**1.94**	**201**	Pn	**Pn**	**04 47 21.7**	**-0.3**
KAHZ	**Kahuranaki**	**1.94**	**201**	P	**Pn**	**04 47 21.7**	**-0.3**
KRHZ	**Kereru**	**1.99**	**213**	P	**Pn**	**04 47 22.3**	**-0.3**
KRVZ	**Karewarewa**	**2.02**	**236**	P	**Pn**	**04 47 24.0**	**+0.9**
BHHZ	**Black Hill Sta**	**2.02**	**222**	Pn	**Pn**	**04 47 23.4**	**+0.4**
BHHZ	**Black Hill Sta**	**2.02**	**222**	P	**Pn**	**04 47 23.5**	**+0.4**
OTVZ	**Oturere**	**2.04**	**234**	Pn	**Pn**	**04 47 23.8**	**+0.4**
WTVZ	**West Tongariro**	**2.06**	**236**	Pn	**Pn**	**04 47 24.6**	**+0.9**
WTVZ	**West Tongariro**	**2.06**	**236**	P	**Pn**	**04 47 24.7**	**+1.0**
KUZ	**Kuaotunu**	**2.06**	**306**	Pn	**Pn**	**04 47 22.5**	**-1.1**
KUZ	**Kuaotunu**	**2.06**	**306**	P	**Pn**	**04 47 22.6**	**-1.1**
NGZ	**Ngauruhoe**	**2.08**	**235**	Pn	**Pn**	**04 47 24.8**	**+0.8**
NGZ	**Ngauruhoe**	**2.08**	**235**	P	**Pn**	**04 47 24.8**	**+0.8**
TUVZ	**Tukino**	**2.10**	**232**	Pn	**Pn**	**04 47 24.8**	**+0.5**
TUVZ	**Tukino**	**2.10**	**232**	P	**Pn**	**04 47 24.9**	**+0.6**
MOVZ	**Moawhango**	**2.13**	**228**	Pn	**Pn**	**04 47 24.8**	**+0.1**
MOVZ	**Moawhango**	**2.13**	**228**	P	**Pn**	**04 47 24.9**	**+0.3**
COVZ	**Chateau Observ**	**2.14**	**235**	P	**Pn**	**04 47 25.5**	**+0.8**
TWVZ	**Taurewa**	**2.14**	**239**	P	**Pn**	**04 47 26.1**	**+1.3**
WHVZ	**Whangaehu Hut**	**2.15**	**232**	Pn	**Pn**	**04 47 25.5**	**+0.4**
WHVZ	**Whangaehu Hut**	**2.15**	**232**	P	**Pn**	**04 47 25.6**	**+0.5**
FWVZ	**Far West T-bar**	**2.16**	**234**	Pn	**Pn**	**04 47 25.6**	**+0.4**
FWVZ	**Far West T-bar**	**2.16**	**234**	P	**Pn**	**04 47 25.6**	**+0.4**
PXZ	**Pawanui**	**2.16**	**199**	Pn	**Pn**	**04 47 23.8**	**-1.2**
PXZ	**Pawanui**	**2.16**	**199**	P	**Pn**	**04 47 23.8**	**-1.2**
DRZ	**Dome Shelter**	**2.17**	**233**	P	**Pn**	**04 47 26.8**	**+1.6**
WNVZ	**Wahianoa**	**2.17**	**231**	Pn	**Pn**	**04 47 25.6**	**+0.3**
TRVZ	**Turoa**	**2.19**	**233**	Pn	**Pn**	**04 47 25.9**	**+0.4**
TRVZ	**Turoa**	**2.19**	**233**	P	**Pn**	**04 47 26.0**	**+0.5**
MKAZ	**Moumakai**	**2.27**	**292**	Pn	**Pn**	**04 47 26.0**	**-0.4**
MKAZ	**Moumakai**	**2.27**	**292**	P	**Pn**	**04 47 26.0**	**-0.4**
PNHZ	**Pukenui**	**2.29**	**212**	Pn	**Pn**	**04 47 25.8**	**-0.9**
PNHZ	**Pukenui**	**2.29**	**212**	P	**Pn**	**04 47 25.8**	**-0.9**
MTVZ	**Mangateitei**	**2.29**	**232**	Pn	**Pn**	**04 47 27.4**	**+0.6**
MTVZ	**Mangateitei**	**2.29**	**232**	P	**Pn**	**04 47 27.3**	**+0.6**
PKVZ	**Pokaka**	**2.31**	**235**	Pn	**Pn**	**04 47 28.3**	**+1.2**
PKVZ	**Pokaka**	**2.31**	**235**	P	**Pn**	**04 47 28.3**	**+1.2**
WPHZ	**Waipukurau**	**2.32**	**206**	Pn	**Pn**	**04 47 26.2**	**-1.0**
WPHZ	**Waipukurau**	**2.32**	**206**	P	**Pn**	**04 47 26.2**	**-1.0**
HIZ	**Hauiti**	**2.37**	**256**	Pn	**Pn**	**04 47 28.9**	**+1.1**
HIZ	**Hauiti**	**2.37**	**256**	P	**Pn**	**04 47 28.9**	**+1.1**
WIAZ	**Waiheke Island**	**2.43**	**299**	P	**Pn**	**04 47 28.3**	**-0.3**
PRHZ	**Porangahau**	**2.44**	**201**	Pn	**Pn**	**04 47 27.4**	**-1.4**
PRHZ	**Porangahau**	**2.44**	**201**	P	**Pn**	**04 47 27.4**	**-1.4**
KBAZ	**Karaka Road Bo**	**2.47**	**290**	P	**Pn**	**04 47 29.7**	**+0.6**
ETAZ	**East Tamaki Re**	**2.50**	**294**	Pn	**Pn**	**04 47 29.4**	**-0.2**
ETAZ	**East Tamaki Re**	**2.50**	**294**	P	**Pn**	**04 47 29.6**	**+0.1**
TSZ	**Takapari Road**	**2.51**	**214**	Pn	**Pn**	**04 47 28.5**	**-1.2**
TSZ	**Takapari Road**	**2.51**	**214**	P	**Pn**	**04 47 28.5**	**-1.2**
GRZ	**Great Barrier**	**2.55**	**312**	P	**Pn**	**04 47 29.7**	**-0.5**
DVHZ	**Dannevirke**	**2.63**	**208**	Pn	**Pn**	**04 47 29.5**	**-1.8**
DVHZ	**Dannevirke**	**2.63**	**208**	P	**Pn**	**04 47 29.6**	**-1.8**
VRZ	**Vera Road**	**2.63**	**244**	Pn	**Pn**	**04 47 32.6**	**+1.3**
VRZ	**Vera Road**	**2.63**	**244**	P	**Pn**	**04 47 33.1**	**+1.8**
AWAZ	**Awhitu Peninsu**	**2.67**	**289**	P	**Pn**	**04 47 32.1**	**+0.3**
EPAZ	**Eden Park BICE**	**2.67**	**294**	P	**Pn**	**04 47 32.5**	**+0.7**
ANWZ	**Angora Road**	**2.67**	**202**	P	**Pn**	**04 47 30.5**	**-1.4**
HBAZ	**Herne Bay Bore**	**2.69**	**294**	P	**Pn**	**04 47 32.6**	**+0.6**
ABAZ	**Army Bay**	**2.74**	**300**	P	**Pn**	**04 47 33.1**	**+0.4**
WTAZ	**Waiatarua**	**2.77**	**291**	Pn	**Pn**	**04 47 33.6**	**+0.5**
WTAZ	**Waiatarua**	**2.77**	**291**	P	**Pn**	**04 47 33.7**	**+0.5**
WAZ	**Wanganui**	**2.81**	**230**	Pn	**Pn**	**04 47 34.7**	**+0.9**
WAZ	**Wanganui**	**2.81**	**230**	P	**Pn**	**04 47 35.1**	**+1.3**
RVAZ	**Riverhead Bore**	**2.83**	**294**	Pn	**Pn**	**04 47 34.4**	**+0.4**
RVAZ	**Riverhead Bore**	**2.83**	**294**	P	**Pn**	**04 47 34.5**	**+0.4**
POWZ	**Post Office Ro**	**2.87**	**213**	Pn	**Pn**	**04 47 33.2**	**-1.4**
POWZ	**Post Office Ro**	**2.87**	**213**	P	**Pn**	**04 47 33.1**	**-1.4**
PRWZ	**Pori Road**	**2.92**	**208**	Pn	**Pn**	**04 47 33.7**	**-1.6**
PRWZ	**Pori Road**	**2.92**	**208**	P	**Pn**	**04 47 33.7**	**-1.6**
MHEZ	**Mangahewa**	**2.93**	**247**	P	**Pn**	**04 47 38.5**	**+3.1**
OHWZ	**Ohakea**	**2.93**	**220**	P	**Pn**	**04 47 35.9**	**+0.5**
BFZ	**Birch Farm**	**2.94**	**204**	Pn	**Pn**	**04 47 33.5**	**-2.1**
LREZ	**Lake Rotokare**	**3.03**	**240**	P	**Pn**	**04 47 38.5**	**+1.8**
DREZ	**Durham Road**	**3.06**	**246**	P	**Pn**	**04 47 39.8**	**+2.7**
PREZ	**Palmer Road**	**3.15**	**243**	Pn	**Pn**	**04 47 41.1**	**+2.8**
PREZ	**Palmer Road**	**3.15**	**243**	P	**Pn**	**04 47 41.2**	**+2.8**
TIWZ	**Tintock**	**3.15**	**207**	Pn	**Pn**	**04 47 36.4**	**-2.0**
NEZ	**North Egmont**	**3.16**	**245**	Pn	**Pn**	**04 47 41.1**	**+2.4**
CPWZ	**Castlepoint**	**3.17**	**202**	Pn	**Pn**	**04 47 37.0**	**-1.6**
CPWZ	**Castlepoint**	**3.17**	**202**	P	**Pn**	**04 47 36.9**	**-1.7**
MRZ	**Mangatainoka R**	**3.17**	**212**	Pn	**Pn**	**04 47 36.4**	**-2.3**
PKE	**Pukeiti**	**3.21**	**247**	P	**Pn**	**04 47 42.1**	**+2.8**
KHEZ	**Kahui Hut**	**3.23**	**245**	Pn	**Pn**	**04 47 41.8**	**+2.2**
NMEZ	**Namu Road**	**3.38**	**244**	Pn	**Pn**	**04 47 43.4**	**+1.9**
NMEZ	**Namu Road**	**3.38**	**244**	P	**Pn**	**04 47 44.2**	**+2.8**
WCZ	**Waipu Caves**	**3.44**	**306**	Pn	**Pn**	**04 47 42.3**	**+0.1**
WCZ	**Waipu Caves**	**3.44**	**306**	P	**Pn**	**04 47 42.4**	**+0.1**
TMWZ	**Te Maipa**	**3.44**	**205**	Pn	**Pn**	**04 47 39.6**	**-2.8**
OGWZ	**Otaki Gorge**	**3.48**	**215**	Pn	**Pn**	**04 47 40.8**	**-2.1**
MTW	**Mount Morrison**	**3.62**	**208**	Pn	**Pn**	**04 47 41.7**	**-3.2**
KIW	**Kapiti Island**	**3.63**	**217**	Pn	**Pn**	**04 47 42.8**	**-2.2**
CAW	**Cannon Point**	**3.76**	**213**	Pn	**Pn**	**04 47 43.8**	**-2.9**
TRWZ	**Traveller**	**3.77**	**205**	Pn	**Pn**	**04 47 43.7**	**-3.1**
PAWZ	**Paruwai Farm**	**3.85**	**208**	Pn	**Pn**	**04 47 44.8**	**-3.1**
MSWZ	**Moikau Station**	**3.94**	**209**	Pn	**Pn**	**04 47 45.5**	**-3.8**
WEL	**Wellington**	**4.03**	**214**	Pn	**Pn**	**04 47 47.5**	**-2.9**
PLWZ	**Palliser**	**4.07**	**205**	Pn	**Pn**	**04 47 47.2**	**-3.8**
BHW	**Baring Head**	**4.09**	**212**	Pn	**Pn**	**04 47 47.5**	**-3.7**
DUWZ	**D'Urville Isla**	**4.11**	**226**	Pn	**Pn**	**04 47 46.8**	**-4.7**
DUWZ	**D'Urville Isla**	**4.11**	**226**	P	**Pn**	**04 47 49.6**	**-1.8**
TCW	**Tory Channel**	**4.21**	**219**	Pn	**Pn**	**04 47 50.0**	**-2.8**
OUZ	**Omahuta**	**4.36**	**308**	Pn	**Pn**	**04 47 55.5**	**+0.6**
TUWZ	**Tuamarina**	**4.54**	**220**	Pn	**Pn**	**04 47 54.4**	**-3.0**
NNZ	**Nelson**	**4.69**	**225**	Pn	**Pn**	**04 47 56.7**	**-2.7**
BSWZ	**Blackbirch Sta**	**4.79**	**218**	Pn	**Pn**	**04 47 57.8**	**-3.0**
QRZ	**Quartz Range**	**4.96**	**234**	Pn	**Pn**	**04 48 00.6**	**-2.5**
THZ	**Tophouse**	**5.32**	**223**	Pn	**Pn**	**04 48 04.9**	**-3.2**
KHZ	**Kahutara**	**5.49**	**215**	Pn	**Pn**	**04 48 06.2**	**-4.1**
DSZ	**Denniston Nort**	**5.94**	**229**	Pn	**Pn**	**04 48 13.2**	**-3.4**
LTZ	**Lake Taylor**	**6.38**	**220**	Pn	**Pn**	**04 48 18.3**	**-4.3**
CRLZ	**Canterbury Las**	**6.82**	**213**	Pn	**Pn**	**04 48 25.2**	**-3.3**
OXZ	**Oxford**	**6.89**	**218**	Pn	Pn	04 48 24.1	-5.5
MQZ	**McQueen's Vall**	**6.91**	**213**	Pn	Pn	04 48 24.8	-4.9
CTZ	**Chatham Island**	**7.13**	**145**	Pn	**Pn**	**04 48 33.3**	**+0.5**
WVZ	**Waitaha Valley**	**7.38**	**224**	Pn	**Pn**	**04 48 33.1**	**-3.2**
RPZ	**Rata Peaks**	**7.67**	**220**	P	**Pn**	**04 48 37.0**	**-3.1**
	23nm,0.3s,baz=246,slow=1.8,SNR=44						
RPZ				S	Sn	04 49 55.5	-10
	25nm,0.3s,baz=273,slow=23,SNR=16						
RPZ				LR	LR	04 51 49.0	
	comp=Z,146nm,18.8s,baz=18,slow=39						
FOZ	**Fox Glacier**	**8.20**	**225**	Pn	**Pn**	**04 48 44.4**	**-3.0**
LBZ	**Lake Benmore**	**8.58**	**219**	Pn	**Pn**	**04 48 48.2**	**-4.4**
ODZ	**Otahua Downs**	**8.85**	**215**	Pn	**Pn**	**04 48 51.8**	**-4.5**
JCZ	**Jackson Bay**	**9.12**	**225**	Pn	**Pn**	**04 48 55.8**	**-4.2**
WKZ	**Wanaka**	**9.49**	**221**	Pn	Pn	04 48 59.0	-6.1
HHSZ	**Highcliff Hill**	**9.53**	**212**	Pn	**Pn**	**04 49 01.9**	**-3.8**
EAZ	**Earnscleugh**	**9.62**	**219**	Pn	**Pn**	**04 49 02.4**	**-4.4**
TUZ	**Tuapeka**	**10.01**	**215**	Pn	**Pn**	**04 49 08.0**	**-4.1**
MLZ	**Mavora Lakes**	**10.32**	**221**	Pn	Pn	04 49 11.5	-4.9
SYZ	**Scrubby Hill**	**10.67**	**214**	Pn	**Pn**	**04 49 17.4**	**-3.7**
WHZ	**Wether Hill Ro**	**10.77**	**220**	Pn	Pn	04 49 17.2	-5.3
APZ	**The Paps**	**11.42**	**216**	Pn	Pn	04 49 25.9	-5.4
STKA	**Stephens Creek**	**30.16**	**271**	P	**P**	**04 52 56.6**	**+1.6**
	3.4nm,0.8s,baz=89,slow=15,SNR=4.9						
CTA	**Charters Tower**	**32.62**	**294**	P	**P**	**04 53 18.9**	**+2.1**
	4.2nm,0.7s,baz=73,slow=11,SNR=3.3						
PPT	**Papeete**	**35.05**	**64**	LR	LR	05 05 12.7	
	comp=Z,33nm,19.2s,baz=93,slow=32						
COEN	**Coen**	**38.90**	**299**	*e*P	**P**	**04 54 12.6**	**+2.0**
	8.3nm,0.6s						
ASAR	**Alice Springs**	**39.93**	**278**	P	**P**	**04 54 19.7**	**+0.5**
	2.2nm,0.7s,baz=116,slow=5.8,SNR=26						
ASAR				PcP	**PcP**	**04 56 22.4**	**-1.2**
	0.7nm,0.4s,baz=117,slow=3.8,SNR=4.6						
WRAB	**Tennant Creek**	**41.63**	**283**	*e*P	**P**	**04 54 33.5**	**+0.4**
	2.4nm,0.7s						
WRA	**Warramunga Arr**	**41.63**	**283**	P	**P**	**04 54 33.5**	**+0.4**
	1.8nm,0.7s,baz=123,slow=6.9,SNR=34						
FITZ	**Fitzroy Crossi**	**49.43**	**279**	P	**P**	**04 55 34.9**	**+0.2**
	3.8nm,0.9s,baz=152,slow=4.5,SNR=9.0						
KSRS	**Korea Array**	**88.05**	**322**	P	**P**	**04 59 34.9**	**+0.9**
	1.5nm,0.6s,baz=139,slow=5.7,SNR=6.1						
KSAR	**Wonju Array Be**	**88.05**	**322**	P	**P**	**04 59 34.9**	**+0.8**
CMAR	**Chiang Mai Arr**	**92.74**	**291**	P	**P**	**04 59 56.2**	**-0.2**
	0.9nm,0.3s,baz=148,slow=3.6,SNR=5.7						
YKA	**Yellowknife Ar**	**113.77**	**28**	PKiKP	**PKiKP**	**05 05 21.5**	**+0.3**
	0.2nm,0.5s,baz=250,slow=1.7,SNR=12						
MKAR	**Makanchi Array**	**119.83**	**308**	PKP	**PKPdf**	**05 05 32.6**	**-0.9**
	0.6nm,0.9s,baz=116,slow=3.4,SNR=3.4						
KURK	**Kurchatov**	**123.59**	**311**	PKP	**PKPdf**	**05 05 39.4**	**-1.1**
KURBB	**Kurchatov Arra**	**123.61**	**311**	PKP	**PKPdf**	**05 05 39.4**	**-1.2**
	0.2nm,0.3s,baz=131,slow=1.9,SNR=4.3						
ARCES	**ARCESS Array B**	**145.06**	**343**	PKPbc	**PKPbc**	**05 06 18.9**	**-0.5**
	2.7nm,0.5s,baz=56,slow=3.1,SNR=20						
FINES	**FINESS Array B**	**150.68**	**332**	PKPbc	**PKPbc**	**05 06 34.5**	**-0.3**
	1.6nm,0.5s,baz=40,slow=5.7,SNR=6.3						
BRTR	**Keskin Array B**	**152.14**	**285**	PKPbc	**PKPbc**	**05 06 38.1**	**-1.0**
	1.5nm,1.0s,baz=107,slow=1.5,SNR=3.9						
TORD	**Torodi Ar. Bea**	**155.02**	**189**	PKPbc	PKPbc	05 06 47.6	
	0.3nm,0.3s,baz=154,slow=3.0,SNR=12						

*ISCJB **11** 04:53:24.8±0.2,16°.89S±0°.05×14°.38W±0°.03,h10km, mb4.9/97, MS4.4/48, Error ellipse: s-maj=7.0km s-min=4.4km az=159.9*
*IDC **11** 04:53:24.6±0.4,16°.83S×14°.43W,h0km,mb4.5/40, mb1 4.6/40,mb1mx4.5/56,mbtmp4.5/40,MS4.3/44, Ms1 4.3/44,ms1mx4.3/48, Error ellipse: s-maj=13.6km s-min=10.8km az=126.0*
*BJI **11** 04:53:25.3,16°.80S×14°.40W,h10km,mB5.3/4,Ms5.1/8, Ms7 4.8/9*
*GCMT **11** 04:53:26.4±0.1,16°.89S×14°.36W,h12km,MW5.1/111, Moment Tensor Solution. s68,c85; s111,c192; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-5.25±.09; $M_{\theta\theta}$0.48±.08; $

CRPR Cabo Rojo, PR 62.40 301 *e*P P 05 03 50.0 +0.1
27nm,0.8s
ROSC El Rosal 63.01 285 P P 05 03 55.0 +0.4
5.0nm,0.8s,baz=118,slow=15,SNR=9.5
ROSC LR LR 05 30 05.1
comp=Z,447nm,19.3s,baz=146,slow=35
ROSC El Rosal 63.01 285 *e*P P 05 03 55.0 +0.4
18nm,1.2s
PRAC Prado 63.13 283 *e*P P 05 03 53.6 -1.4
63nm,1.7s
ATD Arta Tunnel 63.22 67 LR LR 05 29 07.7
comp=Z,436nm,20.2s,baz=196,slow=34
OCAC Ocana 63.38 288 *e*P P 05 03 58.5 +1.8
IDI Anoyia 63.86 35 P P 05 04 00.2 +0.7
15nm,0.8s,baz=359,slow=11,SNR=2.0
IDI LR LR 05 30 03.2
comp=Z,143nm,21.6s,baz=226,slow=34
IDI Anoyia 63.86 35 *e*P P 05 04 00.1 +0.7
66nm,1.3s
PCON Cinco Dias 64.06 281 *e*P P 05 04 00.5 -1.3
SOTA Rioblanco 64.20 281 *e*P P 05 04 01.2 -1.4
ZARC Zaragoza, Cauc 64.49 287 *e*P P 05 04 01.2 -2.8
HELC Santa Helena 64.62 285 *e*P P 05 04 02.2 -3.0
58nm,1.5s
OTAV Otavalo 65.32 278 *e*P P 05 04 10.4 +0.5
9.3nm,1.1s
MOTC Monteria, Cord 65.72 288 *e*P P 05 04 09.2 -2.8
FNA Florina 66.27 29 *e*P P 05 04 16.2 +1.2
11nm,1.1s
EIL Elat 66.36 46 P P 05 04 16.8 +1.1
1.6nm,0.4s,baz=294,slow=1.1,SNR=2.6
VTS Vitosha 68.54 29 *e*P P 05 04 29.9 +0.5
9.3nm,1.1s
WLF Walferdange 68.69 14 ⇓E 05 04 37.2
MMAI Mount Meron Ar 68.71 44 P P 05 04 31.1 +0.5
1.3nm,0.4s,baz=250,slow=1.7,SNR=4.3
MMAI LR LR 05 31 55.6
comp=Z,172nm,20.9s,baz=230,slow=34
ASF Jabal al Asfar 69.20 45 P P 05 04 34.4 +0.7
1.4nm,0.4s,baz=183,slow=6.8,SNR=3.9
ASF LR LR 05 32 08.4
comp=Z,199nm,21.4s,baz=190,slow=34
MEM Membach 69.53 14 ⇑P P 05 04 36.4 +1.2
MAW Mawson 69.68 157 P P 05 04 36.0 0.0
7.8nm,0.7s,baz=266,slow=6.7,SNR=14
MAW LR LR 05 28 25.4
comp=Z,158nm,21.6s,baz=241,slow=30
MAW Mawson 69.68 157 *e*P P 05 04 37.6 +1.6
1.9nm,0.8s
GEA0 GERESS Array S 70.02 19 *e*P P 05 04 38.5 +0.2
GEC2 GERESS Array S 70.03 19 *e*P P 05 04 37.7 -0.7
14nm,1.6s
GERES GERESS Array B 70.03 19 P P 05 04 37.7 -0.7
1.1nm,0.6s,baz=197,slow=4.2,SNR=8.8
GERES PP PP 05 07 13.4 -0.2
0.3nm,0.2s,baz=203,slow=6.5,SNR=4.1
GERES LR LR 05 35 07.5
comp=Z,329nm,19.1s,baz=196,slow=36
MODS Modra-Piesok 70.82 22 *e*P P 05 04 43.9 +0.7
MODS *e* 05 04 51.3
RAYN Ar Rayn 70.94 57 *e*P P 05 04 46.2 +1.7
13nm,1.0s
ARR Arges 71.34 28⇑ *i*P P 05 04 46.4 -0.1
VRAC Vranov 71.38 21 P P 05 04 45.4 -1.1
1.1nm,0.3s,baz=314,slow=1.7,SNR=3.9
PSZ Piszkesteto 71.41 24⇑ *i*P P 05 04 47.9 +1.1
PSZ Piszkesteto 71.41 24 *e*P P 05 04 48.0 +1.2
13nm,1.0s
VYHS Vyhne 71.48 23 *e*P P 05 04 48.3 +1.1
BR231 Keskin MP Arra 71.50 37 *e*P P 05 04 50.3 +2.7
VOIR 71.58 28⇑ *i*P P 05 04 46.7 -1.3
DRGR 71.62 26⇑ *i*P P 05 04 49.1 +0.9
BRG Berggiesshubel 71.88 18 *e*P P 05 04 57.3 +7.8
31nm,1.9s
comp=N,238nm,17.7s
comp=E,310nm,22.1s
comp=Z,248nm,21.1s
BR101 Keskin Array S 71.92 37 *e*P P 05 04 50.0 -0.2
BR131 Keskin Array S 71.92 37 *e*P P 05 04 51.0 +0.8
BR131 Keskin Array S 71.92 37 P P 05 04 50.7 +0.5
BRTR Keskin Array B 71.92 37 P P 05 04 50.0 -0.2
comp=Z,4.3nm,0.9s,baz=201,slow=5.6,SNR=24
BRTR LR LR 05 36 30.8
comp=Z,55nm,20.6s,baz=224,slow=36
MLR Muntele Rosu 72.03 29 P P 05 04 49.8 -0.9
comp=Z,1.0nm,0.6s,baz=182,slow=10,SNR=8.9
MLR LR LR 05 37 11.5
comp=Z,60nm,20.0s,baz=199,slow=36
MLR Muntele Rosu 72.03 29⇑ *i*P P 05 04 50.7 0.0
MLR Muntele Rosu 72.03 29 *e*P P 05 04 50.3 -0.4
MORC Moravsky Berou 72.10 21⇓ *i*P P 05 04 51.3 +0.4
MORC Moravsky Berou 72.10 21 *e*P P 05 04 52.3 +1.3
comp=Z,83nm,1.6s
TIRR Tirgusor 72.43 31⇓ *i*P P 05 04 53.5 +0.6
TIRR Tirgusor 72.43 31 *e*P P 05 04 52.8 -0.2
comp=Z,14nm,1.3s
EKA Eskdalemuir Ar 72.54 7 P P 05 04 53.3 0.0
comp=Z,3.7nm,0.8s,baz=167,slow=5.6,SNR=6.7
EKA LR LR 05 36 33.2
comp=Z,77nm,19.4s,baz=195,slow=36
PLOR Plostina 72.63 29⇑ *i*P P 05 04 53.6 -0.6
VRI Vrincioaia 72.67 29⇑ *i*P P 05 04 55.2 +0.8
CRVS Cervenica-Dubn 72.81 24 *e* P 05 05 05.0 +10
ILGA Ilgaz 72.84 36 *e*P P 05 04 59.3 +3.5
comp=Z,42nm,1.5s
QSPA South Pole Qui 73.31 180 P P 05 04 58.6 +0.5
comp=Z,7.3nm,0.9s,baz=204,slow=3.9,SNR=10.0
QSPA South Pole Qui 73.31 180 *e*P P 05 04 58.9 +0.8
BURAR Bucovina Array 73.33 27⇑ *i*P P 05 04 59.3 +0.9
JTS JuntasAbangare 74.79 286 P P 05 05 06.6 -0.9
comp=Z,5.6nm,1.1s,baz=80,slow=20,SNR=2.1
JTS LR LR 05 36 39.6
comp=Z,566nm,21.9s,baz=178,slow=35
KIEV Kiev 77.38 27 *e*P P 05 05 20.5 -0.9
comp=Z,9.3nm,0.8s
AKASG Malin Array Be 77.39 27 P P 05 05 19.9 -1.6
comp=Z,2.8nm,0.5s,baz=222,slow=4.7,SNR=18
AKASG LR LR 05 38 23.9
comp=Z,86nm,22.0s,baz=235,slow=35
AKBB Malin Array Si 77.39 27 *e*P P 05 05 19.9 -1.6
059A Moore Haven 78.04 303 P P 05 05 25.2 -0.4
baz=116
959A Okeechobee 78.07 304 P P 05 05 24.8 -1.0
baz=116
859A Kempfer Cattle 78.32 304 P P 05 05 26.5 -0.7
baz=116
WES Weston 78.85 321 *e*P P 05 05 31.3 +1.5
comp=Z,150nm,1.9s
GNI Garni 78.96 42 P P 05 05 29.2 -1.5
comp=Z,8.4nm,0.5s,baz=350,slow=16,SNR=5.7
GNI LR LR 05 39 31.5
comp=Z,128nm,21.0s,baz=250,slow=35
HRV Adam Dziewonsk 79.06 321 P P 05 05 31.8 +0.8
baz=125
658A Bunnell 79.21 305 P P 05 05 31.8 -0.3
baz=116
PKME Peaks-Kenny Pk 79.36 324 P P 05 05 33.6 +1.1
baz=127
857A Zephyrhills 79.47 304 P P 05 05 33.0 -0.5
baz=116
757A Oxford 79.64 304 P P 05 05 34.8 +0.4
baz=116
PAL Palisades 79.68 318 P P 05 05 34.6 +0.3
baz=123
KBZ Khabaz 79.83 38 P P 05 05 34.8 -0.3
comp=Z,4.2nm,0.8s,baz=204,slow=4.3,SNR=11
KBZ LR LR 05 40 48.4
comp=Z,83nm,20.3s,baz=237,slow=36
457A Yulee 79.97 306 P P 05 05 35.8 -0.3
baz=116
HFS Hagfors 80.03 14 P P 05 05 36.1 +0.3
comp=Z,3.0nm,0.7s,baz=145,slow=5.4,SNR=4.7
HFS LR LR 05 42 19.2
comp=Z,130nm,19.0s,baz=200,slow=37
NHSC New Hope 80.05 309 P P 05 05 36.5 0.0
baz=118
ASHO Ashiyiah 80.11 60 P P 05 05 35.1 -2.1
SNR=44
ASHO Ashiyiah 80.11 60 P P 05 05 34.6 -2.5
SNR=47
ASHO Ashiyiah 80.11 60 *e*P P 05 05 34.6 -2.5
SNR=47
656A Willston 80.19 305 P P 05 05 37.9 +0.6
baz=116
HATD Hatta, Dubai 80.22 60 P P 05 05 32.6 -5.1
SNR=92
HATD S P 05 05 34.8 -2.9
SNR=18
HATD Hatta, Dubai 80.22 60 *e*P P 05 05 32.6 -5.1
SNR=92
HATD *e*S P 05 05 34.8 -2.9
SNR=18
SOHO SOHO 80.29 61 P P 05 05 40.0 +2.0
SNR=5.5
SOHO SOHO 80.29 61 *e*P P 05 05 40.0 +2.0
SNR=5.5
NB2 NORSAR Subarra 80.31 12 P P 05 05 38.2 +0.8
comp=Z,11nm,1.2s,baz=205,slow=6.2
NB200 NORSAR Array S 80.31 12 *e*P P 05 05 37.2 -0.1
NOA NORSAR Array B 80.31 12 P P 05 05 37.2 -0.1
comp=Z,2.3nm,0.9s,baz=205,slow=6.0,SNR=6.1
NOA LR LR 05 42 40.9
comp=Z,104nm,18.3s,baz=200,slow=37
UOSS Minazif 80.33 60 P P 05 05 34.1 -4.2
SNR=443
UOSS Minazif 80.33 60 *e*P P 05 05 34.1 -4.2
SNR=443
556A Lake Butler 80.36 305 P P 05 05 38.3 0.0
baz=116
456A Hilliard 80.38 306 P P 05 05 38.5 +0.1
baz=116
MSFE Esma-Masafi 80.46 60 *e*P P 05 05 41.8 +2.8
SNR=6.7
MDH Madha 80.55 60 P P 05 05 41.0 +1.6
SNR=12
MDH Madha 80.55 60 *e*P P 05 05 41.0 +1.6
SNR=12
655A Horseshoe Beac 80.82 305 P P 05 05 40.5 -0.2
baz=115
256A Glennville 80.83 307 P P 05 05 40.8 +0.1
baz=116
N59A State Game Lan 80.83 318 P P 05 05 41.1 +0.5
baz=122
IP03 Louisa 80.85 314 *e*P P 05 05 42.2 +1.5
comp=Z,15nm,1.0s
555A McAlpin 80.85 305 P P 05 05 41.4 +0.5
baz=116
455A Stateville 81.16 306 P P 05 05 41.9 -0.7
baz=116
355A Pearson 81.29 306 P P 05 05 43.0 -0.3
baz=116
554A Perry 81.40 305 P P 05 05 44.1 +0.3
baz=115
APG El Apazote 81.46 288 LR LR 05 41 44.9
comp=Z,340nm,20.7s,baz=124,slow=36
155A Kite 81.55 308 P P 05 05 45.4 +0.9
baz=116
454A Quitman 81.62 306 P P 05 05 45.6 +0.6
baz=115
BINY Binghamton 81.64 319 P P 05 05 45.3 +0.5
baz=122
BINY Binghamton 81.64 319 *e*P P 05 05 46.3 +1.4
comp=Z,29nm,1.3s
WSAR Wadi Sarin 81.71 63 P P 05 05 45.6 -0.1
comp=Z,4.6nm,0.8s,baz=243,slow=3.7,SNR=5.5
WSAR LR LR 05 40 04.8
comp=Z,810nm,21.5s,baz=260,slow=34
KMSC Kings Mountain 81.83 310 P P 05 05 46.7 +0.6
baz=117
KMSC Kings Mountain 81.83 310 *e*P P 05 05 47.5 +1.5
comp=Z,22nm,1.1s
254A Abbeville 81.88 307 P P 05 05 46.8 +0.4
baz=116
TIGA Tifton 81.90 306 P P 05 05 47.2 +0.7
baz=115
TIGA Tifton 81.90 306 *e*P P 05 05 48.5 +2.1
comp=Z,28nm,1.1s
553A Crawfordville 82.03 305 P P 05 05 47.7 +0.6
baz=115
154A Montrose 82.03 307 P P 05 05 47.9 +0.7
baz=116
SSPA Standing Stone 82.06 317 P P 05 05 47.8 +0.7
baz=120
HODGE Hodges 82.10 309 *e*P P 05 05 49.5 +2.0
comp=Z,27nm,1.4s
BLA Blacksburg 82.13 313 P P 05 05 48.5 +0.9
baz=118
453A Whigham 82.22 305 P P 05 05 48.8 +0.7
baz=115
O56A Blue Knob Stat 82.33 316 P P 05 05 48.8 +0.2
baz=120
O56A Blue Knob Stat 82.33 316 *e*P P 05 05 50.5 +1.9
comp=Z,50nm,1.6s
353A Camilla 82.34 306 P P 05 05 49.5 +0.7
baz=115
253A Americus 82.58 307 P P 05 05 50.7 +0.7
baz=115
153A Folley 82.60 307 P P 05 05 50.9 +0.7
baz=115
GOGA Godfrey 82.65 308 P P 05 05 50.7 +0.4
baz=116
552A Lynn Haven 82.68 304 P P 05 05 51.2 +0.6
baz=114
MCWV Mont Chateau 82.89 315 P P 05 05 51.9 +0.4
baz=119
TRQ Mont Tremblant 82.92 323 *e*P P 05 05 52.0 +0.4
BG3 Lake Jocassee 82.94 310 *e*P P 05 05 53.4 +1.6
comp=Z,45nm,1.4s
352A Blakely 82.95 306 P P 05 05 52.3 +0.4
baz=115
252A Lumpkin 83.02 306 P P 05 05 52.8 +0.5
baz=115
451A Vernon 83.24 305 P P 05 05 53.9 +0.4
baz=114
351A Pinckard 83.39 305 P P 05 05 54.5 +0.3
baz=114
251A Midway 83.58 306 P P 05 05 55.4 +0.2
baz=114
N54A Moraine State 83.61 316 P P 05 05 55.9 +0.7
baz=119
M54A Oil Creek Stat 83.66 317 P P 05 05 56.2 +0.7
baz=119
151A Opelika 83.69 307 P P 05 05 56.2 +0.4
baz=114
TKL Tuckaleechee C 83.85 310 LR LR 05 37 05.2
comp=Z,42nm,18.6s,baz=139,slow=31
TZTN Tazewell 84.07 311 P P 05 05 57.7 0.0
baz=116
SCHQ Schefferville 84.12 333 LR LR 05 34 41.8
comp=Z,65nm,21.9s,baz=16,slow=30
ERPA Erie 84.17 317 P P 05 05 58.2 +0.2
baz=119
250A Grady 84.20 306 P P 05 05 57.8 -0.5
baz=114
150A Eclectic 84.26 306 P P 05 05 59.1 +0.4
baz=114,SNR=8.3
FIA0 FINESS Array S 84.42 18 *e*P P 05 05 58.6 -0.2
FINES FINESS Array B 84.42 18 P P 05 05 58.6 -0.2
comp=Z,4.2nm,0.9s,baz=248,slow=2.1,SNR=7.0
FINES LR LR 05 45 25.1
comp=Z,136nm,18.5s,baz=218,slow=37
Z50A Ashland 84.45 307 P P 05 05 59.6 0.0
baz=114
149A Jones 84.85 306 P P 05 06 01.5 -0.1
baz=114
249A Camden 84.86 305 P P 05 06 01.8 0.0
baz=114
Z49A Columbiana 84.89 307 P P 05 06 01.7 -0.1
baz=114
SADO Sadowa 84.92 320 *e*P P 05 06 02.7 +1.0
comp=Z,29nm,1.1s
Y49A Blount Mountai 85.07 307 P P 05 06 02.7 0.0
baz=114
LRAL Lakeview Retre 85.18 306 P P 05 06 03.3 0.0
baz=114
SWET Sewanee 85.26 309 *e*P P 05 06 03.0 -0.7
comp=Z,8.4nm,1.5s
X49A Woodville 85.27 308 P P 05 06 03.4 -0.3
baz=114
ACSO Alum Creek Sta 85.29 314 P P 05 06 04.0 +0.3
baz=117
248A Dixon Mills 85.39 305 P P 05 06 04.1 -0.3
baz=113
148A Greensboro 85.47 306 P P 05 06 04.9 +0.2
baz=113
Y48A Jasper 85.67 307 P P 05 06 05.4 -0.3
baz=114
Z48A Northport 85.75 307 P P 05 06 05.9 -0.2
baz=113
347A Saraland 85.75 304 P P 05 06 06.3 +0.1
baz=113
VNDA Vanda 85.78 179 P P 05 06 06.6 +1.0
comp=Z,2.4nm,0.9s,baz=221,slow=5.1,SNR=11
VNDA LR LR 05 39 03.6
comp=Z,216nm,20.7s,baz=177,slow=32
VNDA Vanda 85.78 179 *e*P P 05 06 07.1 +1.5
comp=Z,7.8nm,1.2s
X48A Hartselle 85.78 308 P P 05 06 06.4 +0.1
baz=114
W48A Pulaski 85.98 308 P P 05 06 07.1 -0.2
baz=114
147A Livingston 86.03 306 P P 05 06 07.4 -0.2
baz=113
Z47A Carrollton 86.08 306 P P 05 06 07.5 -0.2
baz=113
V48A Smith Brothers 86.13 309 P P 05 06 07.7 -0.3
baz=114,SNR=5.6
Y47A UCPARC, Winfie 86.18 307 P P 05 06 08.2 0.0
baz=113
U48A Cassie Pea, Po 86.24 310 P P 05 06 08.5 0.0
baz=114
S48A Wiedeman Farm, 86.35 311 P P 05 06 09.1 0.0
baz=114
X47A Russelville 86.43 308 P P 05 06 08.9 -0.6
baz=113,SNR=6.0
W47A Westpoint 86.52 308 P P 05 06 09.6 -0.3
baz=113,SNR=10
R48A Northridge Ran 86.53 312 P P 05 06 10.0 +0.1
baz=115
V47A Nunnelly 86.69 309 P P 05 06 10.2 -0.6
baz=114,SNR=8.3
RPN Rapa Nui 86.72 243 LR LR 05 37 54.9
comp=Z,216nm,18.4s,baz=112,slow=31
Z46A Louisville 86.75 306 P P 05 06 10.9 -0.2
baz=112
WCI Wyandotte Cave 86.76 311 P P 05 06 10.8 -0.3
baz=114
U47A Clarksville 86.76 309 P P 05 06 10.8 -0.3
baz=114,SNR=10.0
PLAL Pickwick Lake 86.77 308 *e*P P 05 06 11.1 0.0
comp=Z,13nm,1.0s
T47A Sharon Grove 86.84 310 P P 05 06 11.3 -0.1
baz=114
345A Thompson Farm, 86.90 304 P P 05 06 12.0 +0.1
baz=112
Y46A Houston 86.95 307 P P 05 06 11.4 -0.6
baz=113
R47A Wooly Knot Far 86.95 311 P P 05 06 11.9 -0.1
baz=114
WVT Waverly 87.04 309 P P 05 06 11.9 -0.5
baz=113
WVT Waverly 87.04 309 *e*P P 05 06 12.4 -0.1
comp=Z,14nm,1.0s
245A Little AP, Sta 87.06 305 P P 05 06 12.3 -0.3
baz=112
W46A Michie 87.06 308 P P 05 06 12.4 -0.2
baz=113
GEYT Alibeck 87.07 49 P P 05 06 12.6 0.0
comp=Z,1.3nm,0.3s,baz=218,slow=9.1,SNR=3.4
GEYT LR LR 05 43 51.4
comp=Z,218nm,19.9s,baz=245,slow=35
V46A Holladay 87.12 309 P P 05 06 12.2 -0.6
baz=113,SNR=7.1
Q47A Bedord North L 87.14 312 P P 05 06 12.6 -0.2
baz=114
P47A Martinsville 87.26 313 P P 05 06 13.4 0.0
baz=114
145A Houston Renfro 87.30 305 P P 05 06 13.5 -0.2
baz=112
U46A Springville 87.39 309 P P 05 06 14.0 -0.1
baz=113
T46A Princeton 87.44 310 P P 05 06 13.8 -0.5
baz=113,SNR=6.2
Y45A Yeager Farm, C 87.47 306 P P 05 06 14.1 -0.5
baz=112
O47A Sheridan 87.50 313 P P 05 06 13.8 -0.8
baz=114
344A Westbrook Farm 87.51 304 P P 05 06 15.7 +0.9
baz=112
X45A UM Field Stati 87.56 307 P P 05 06 14.2 -0.8
baz=112
S46A Don Dixon Farm 87.57 310 P P 05 06 14.1 -0.8
baz=113
OXF Oxford 87.61 307 P P 05 06 14.3 -0.9
baz=112
OXF Oxford 87.61 307 *e*P P 05 06 15.2 0.0
comp=Z,22nm,1.1s
R46A Gibon Southern 87.63 311 P P 05 06 15.1 -0.1
baz=114
W45A Hickory Valley 87.68 308 P P 05 06 14.8 -0.7
baz=112,SNR=13
244A Avery, Jackson 87.69 304 P P 05 06 15.2 -0.4
baz=112
144A Alexander Plac 87.69 305 P P 05 06 15.6 0.0
baz=112
SFJD Ilangerlussuaq 87.80 347 P P 05 06 15.6 +0.3
comp=Z,5.1nm,0.7s,baz=130,slow=9.9,SNR=3.0
N46A Monticello 88.16 314 P P 05 06 17.6 -0.1
baz=114
X44A Crenshaw 88.17 307 P P 05 06 17.0 -0.8
baz=112
R45A Skylar, Fairfi 88.22 311 P P 05 06 17.3 -0.7
baz=113
U44B Burton Farm, H 88.25 309 P P 05 06 17.5 -0.8
baz=112
OLIL Olney 88.26 311 *e*P P 05 06 18.5 +0.3
comp=Z,35nm,1.2s
P45A Graceland, Par 88.32 312 P P 05 06 17.9 -0.6
baz=114
Q45A Warren Harvey, 88.36 311 P P 05 06 18.2 -0.5
baz=113
GLMI Grayling 88.40 318 P P 05 06 19.1 +0.3
baz=116
143A Socs Landing, 88.49 305 P P 05 06 18.9 -0.5
baz=111
Y43A Makayla and Ka 88.56 306 P P 05 06 19.0 -0.7
baz=111
O45A Potomac 88.59 313 P P 05 06 19.3 -0.5
baz=114
SIUC Southern Illin 88.68 310 *e*P P 05 06 20.5 +0.3
comp=Z,23nm,0.9s
S44A Carbondale 88.70 310 P P 05 06 19.5 -0.8
baz=112,SNR=7.3
T44A Benton 88.71 309 P P 05 06 19.7 -0.7
baz=112
M45A Boilermakers S 88.72 314 P P 05 06 19.6 -0.7
baz=114
X43A Marvell 88.74 307 P P 05 06 20.8 +0.2
baz=112
342A Flagon Creek P 88.75 303 P P 05 06 20.7 0.0
baz=111
R44A Waltonville 88.78 311 P P 05 06 19.8 -0.9
baz=113
W43A Forest City 88.81 307 P P 05 06 20.4 -0.5
baz=112
P44A Sand Creek, Wi 88.92 312 P P 05 06 21.2 -0.1
baz=113
Q44A Meyer Farm, Va 88.99 311 P P 05 06 20.6 -1.0
baz=113
O44A Mansfield 89.08 313 P P 05 06 22.0 -0.1
baz=113
N44A Piper City 89.09 313 P P 05 06 22.0 -0.1
baz=113
Z42A Norrel Spur, H 89.12 305 P P 05 06 21.9 -0.5
baz=111
Y42A Garnett, Star 89.19 306 P P 05 06 22.5 -0.2
baz=111
CCAR Cane Creek 89.21 306 *e*P P 05 06 24.1 +1.2
comp=Z,27nm,1.0s
T43A Greenville 89.23 309 P P 05 06 21.9 -1.0
baz=112,SNR=11
S43A Fulton Ridge, 89.25 310 P P 05 06 22.3 -0.7
baz=112,SNR=9.9
X42A Stuttgart 89.33 306 P P 05 06 23.0 -0.3
baz=111
R43A Red Bud 89.41 310 P P 05 06 23.2 -0.5
baz=112
341A Kurthwood 89.42 303 P P 05 06 23.5 -0.3
baz=110
Q43A New Douglas 89.49 311 P P 05 06 23.5 -0.5
baz=112
V42A Cord 89.59 308 P P 05 06 23.9 -0.6
baz=111,SNR=8.2
P43A Skaggs, Pawnee 89.63 312 P P 05 06 24.0 -0.6
baz=112
U42A Revenden 89.67 308 P P 05 06 24.1 -0.8
baz=111,SNR=7.3
Z41A Richland Creek 89.79 305 P P 05 06 25.2 -0.3
baz=110
T42A Van Buren 89.81 309 P P 05 06 25.0 -0.5
baz=111
Y41A Eaglette Beard 89.85 305 P P 05 06 25.1 -0.7
baz=110

S42A	Caledonia baz=112,SNR=6.7	89.86	310	P	P	05 06 25.2	-0.6
M43A	Waltham Townsh baz=113	89.92	314	P	P	05 06 25.3	-0.6
W41B	Gary Mavity, V baz=111,SNR=6.5	90.02	307	P	P	05 06 26.1	-0.5
R42A	Luebbering baz=112	90.04	310	P	P	05 06 26.4	-0.2
Q42A	Golden Eagle baz=112,SNR=5.3	90.08	311	P	P	05 06 26.7	-0.1
WHAR	Wooly Hollow comp=Z,16nm,1.1s	90.09	307	eP	P	05 06 27.6	+0.7
240A	Hunter Patters baz=110	90.13	303	P	P	05 06 26.3	-0.9
V41A	Mountainview baz=111,SNR=10	90.17	307	P	P	05 06 26.5	-0.8
U41A	Viola baz=111	90.19	308	P	P	05 06 26.6	-0.8
P42A	Winchester baz=112	90.20	311	P	P	05 06 27.0	-0.3
X40A	Basin Creek Fa baz=110	90.23	306	P	P	05 06 27.1	-0.5
CCM	Cathedral Cave baz=111	90.29	310	P	P	05 06 27.8	0.0
CCM	Cathedral Cave comp=Z,26nm,0.9s	90.29	310	eP	P	05 06 28.5	+0.7
T41A	Mountain View baz=111,SNR=12	90.32	309	P	P	05 06 27.7	-0.3
I43A	Langenfeld Bro baz=113	90.32	316	P	P	05 06 27.6	-0.2
Y40A	Okolona baz=110	90.42	305	P	P	05 06 27.8	-0.6
N42A	Yates City baz=112	90.44	313	P	P	05 06 27.6	-0.8
F43A	Flat Rock, Esc baz=114	90.46	318	P	P	05 06 28.0	-0.4
R41A	Rosebud baz=111,SNR=8.6	90.48	310	P	P	05 06 28.7	0.0
S41A	Jillco Farms, baz=111,SNR=9.6	90.50	309	P	P	05 06 28.6	-0.1
G43A	Wallace baz=114	90.56	317	P	P	05 06 28.3	-0.5
Q41A	Truxton baz=111,SNR=5.7	90.61	311	P	P	05 06 28.9	-0.3
W40A	Ferguson Farm, baz=110	90.66	307	P	P	05 06 29.0	-0.6
W40A	Ferguson Farm, comp=Z,20nm,1.0s	90.66	307	eP	P	05 06 30.5	+0.9
ARCES	ARCESS Array B comp=Z,110nm,19.8s,baz=200,slow=37	90.66	13	LR	LR	05 49 20.9	
V40A	Witts Springs baz=110,SNR=7.5	90.68	307	P	P	05 06 29.1	-0.6
K42A	Prairie Point, baz=112	90.70	315	P	P	05 06 29.1	-0.4
P41A	Barry, Barry baz=111	90.75	311	P	P	05 06 29.2	-0.6
O41A	Passleys Farm, baz=112	90.78	312	P	P	05 06 29.2	-0.8
H42A	Shiocton baz=113	90.82	317	P	P	05 06 29.6	-0.4
I42A	Draeger Farm, baz=113	90.83	316	P	P	05 06 30.0	-0.2
MIAR	Mount Ida baz=110	90.83	306	P	P	05 06 29.7	-0.6
U40A	Yellville baz=110	90.89	308	P	P	05 06 30.0	-0.7
T40A	Mansfield baz=110	90.92	309	P	P	05 06 30.5	-0.3
N41A	Harden Midland baz=112	90.97	312	P	P	05 06 30.8	-0.1
M41A	Milan baz=112	91.00	313	P	P	05 06 30.6	-0.4
S40A	Lebanon baz=110,SNR=6.2	91.06	309	P	P	05 06 31.3	-0.1
HKT	Hockley comp=Z,11nm,1.2s	91.12	301	eP	P	05 06 33.2	+1.5
R40A	Maddies Statio baz=111,SNR=9.2	91.13	310	P	P	05 06 31.1	-0.6
E42A	Champion baz=113	91.17	318	P	P	05 06 31.2	-0.5
W39A	Magazine baz=110,SNR=7.1	91.21	306	P	P	05 06 31.9	-0.3
L41A	Preston baz=112	91.22	314	P	P	05 06 31.5	-0.6
Q40A	Laux Farm, Aux baz=111	91.24	310	P	P	05 06 32.2	0.0
X39A	Fountain Ranch baz=110,SNR=8.5	91.24	306	P	P	05 06 32.0	-0.3
V39A	Pettigrew baz=110,SNR=9.2	91.32	307	P	P	05 06 32.1	-0.7
JFWS	Jewell Farm baz=112	91.36	315	P	P	05 06 32.3	-0.3
J41A	Loganville baz=112	91.37	315	P	P	05 06 32.7	+0.1
U39A	Green Forest baz=110,SNR=10	91.38	308	P	P	05 06 32.8	-0.2
P40A	Paris baz=111	91.41	311	P	P	05 06 32.8	-0.2
O40A	La Belle baz=111	91.49	312	P	P	05 06 32.8	-0.5
T39A	Clever baz=110	91.52	308	P	P	05 06 33.1	-0.4
N40A	Mertquake, Sal baz=111	91.55	312	P	P	05 06 33.5	0.0
M40A	Post Highland baz=111	91.69	313	P	P	05 06 33.9	-0.3
HHAR	Hobbs comp=Z,16nm,1.0s	91.69	307	eP	P	05 06 34.4	0.0
S39A	Bolivar baz=110,SNR=5.7	91.70	309	P	P	05 06 33.8	-0.6
R39A	Chumby, Stover baz=110,SNR=17	91.71	310	P	P	05 06 34.6	+0.2
D41A	Chassel baz=113	91.83	319	P	P	05 06 34.3	-0.4
E41A	Kenton baz=113	91.85	318	P	P	05 06 34.4	-0.4
J40A	Soldiers Grove baz=112	91.88	315	P	P	05 06 34.5	-0.5
K40A	Colesburg baz=111	91.89	314	P	P	05 06 34.8	-0.4
P39B	Salisbury baz=110,SNR=5.2	91.90	311	P	P	05 06 35.2	-0.1
Q39A	Willow Grove F baz=110,SNR=6.1	91.91	310	P	P	05 06 35.1	-0.2
I40A	Norwalk baz=112	91.97	315	P	P	05 06 35.1	-0.3
O39A	Kirksville baz=110,SNR=5.6	92.02	311	P	P	05 06 35.5	-0.2
H40A	Chili baz=112	92.09	316	P	P	05 06 35.7	-0.3
AKTO	Aktyubinsk comp=Z,84nm,19.9s,baz=225,slow=37	92.09	38	LR	LR	05 49 36.1	
S38A	Stockton baz=110,SNR=9.2	92.12	309	P	P	05 06 36.1	-0.2
M39A	Webster baz=111	92.18	313	P	P	05 06 36.0	-0.4
N39A	Derby Farms, D baz=110	92.20	312	P	P	05 06 36.4	-0.2
T38A	Diamond baz=109,SNR=5.9	92.21	308	P	P	05 06 36.5	-0.3
L39A	Vinton baz=111	92.28	313	P	P	05 06 36.8	-0.1
R38A	Fenwick Farm, baz=110	92.31	309	P	P	05 06 36.0	-1.1
Q38A	Cooks Store, C baz=110	92.35	310	P	P	05 06 36.9	-0.4
F40A	Park Falls baz=112	92.39	317	P	P	05 06 37.0	-0.4
K39A	Oelwein baz=111	92.41	314	P	P	05 06 36.8	-0.7
E40A	Wakefield baz=112	92.44	318	P	P	05 06 37.5	-0.1
J39A	Decorah baz=111	92.51	315	P	P	05 06 37.8	-0.2
P38A	Dawn baz=110	92.52	311	P	P	05 06 38.0	0.0
O38A	Galt baz=110	92.64	311	P	P	05 06 39.0	+0.4
N38A	Joes South For baz=110	92.70	312	P	P	05 06 39.2	+0.3
H39A	Augusta baz=111	92.70	316	P	P	05 06 38.5	-0.3
G39A	Holcombe baz=111	92.85	317	P	P	05 06 39.4	0.0
M38A	Pleasantville baz=110	92.88	312	P	P	05 06 40.3	+0.6
F39A	Loretta baz=111	92.91	317	P	P	05 06 40.4	+0.7
Q37A	Longview Farm, baz=109	92.94	310	P	P	05 06 40.5	+0.4
L38A	Oak Wood Farm, baz=110	92.96	313	P	P	05 06 40.4	+0.3
TUL1	Leonard baz=109	92.99	307	P	P	05 06 41.0	+0.6
J38A	Wedel Dairy, R baz=110	93.03	314	P	P	05 06 40.5	+0.1
WHTX	Lake Whitney, baz=108	93.09	302	P	P	05 06 41.3	+0.5
WHTX	Lake Whitney, comp=Z,13nm,0.9s	93.09	302	eP	P	05 06 41.8	+0.9
P37A	Lathrop baz=109,SNR=5.9	93.10	310	P	P	05 06 40.3	-0.4
O37A	Wolven Farm, M baz=109	93.14	311	P	P	05 06 41.0	+0.1
I38A	Scanlan Farm, baz=110	93.18	315	P	P	05 06 41.1	0.0
G38A	Ridgeland baz=111,SNR=11	93.26	316	P	P	05 06 40.9	-0.4
H38A	Maiden Rock baz=110	93.37	316	P	P	05 06 41.5	-0.4
N37A	Lee Faris, Mou baz=109	93.38	311	P	P	05 06 42.0	0.0
M37A	Trindle Farm, baz=109	93.49	312	P	P	05 06 41.7	-0.8
L37A	Phoenix Point, baz=110	93.51	313	P	P	05 06 42.5	-0.1
F38A	Pierce - Schro baz=111	93.55	317	P	P	05 06 43.1	+0.5
K37A	Belmond baz=110	93.64	314	P	P	05 06 43.4	+0.1
H37A	Dierke Farm, C baz=110	93.76	315	P	P	05 06 44.0	+0.3
J37A	Redenius Farm, baz=110	93.77	314	P	P	05 06 43.9	+0.2
C38A	Sawbill Land. baz=111	93.78	319	P	P	05 06 44.3	+0.6
I37A	Lemond, Waseca baz=110,SNR=5.5	93.90	315	P	P	05 06 44.3	0.0
SPMN	Marine on St. baz=110	93.91	316	P	P	05 06 44.0	-0.4
SPMN	Marine on St. comp=Z,13nm,1.0s	93.91	316	eP	P	05 06 44.8	+0.4
F37A	Hinrichs Farm, baz=110	93.96	317	P	P	05 06 44.6	+0.1
E37A	Wrenshall baz=110	94.10	317	P	P	05 06 45.2	0.0
K36A	Gilmore City baz=109	94.17	313	P	P	05 06 45.5	-0.1
J36A	Seneca 1, Swea baz=109	94.31	314	P	P	05 06 46.3	0.0
I36A	Fitzsimmons Fa baz=109	94.32	315	P	P	05 06 46.0	-0.3
D37A	Cotton baz=110	94.32	318	P	P	05 06 46.2	0.0
C37A	Embarrass baz=110	94.36	319	P	P	05 06 46.5	+0.1
H36A	Jessenland, He baz=109	94.44	315	P	P	05 06 46.7	-0.1
N35A	Tabor baz=108	94.44	311	P	P	05 06 46.8	-0.2
O35A	Humboldt baz=109	94.45	311	P	P	05 06 46.4	-0.6
G36A	St. Michael baz=109	94.54	316	P	P	05 06 46.9	-0.4
JCT	Junction City baz=107	94.56	300	P	P	05 06 47.5	-0.3
JCT	Junction City comp=Z,11nm,1.0s	94.56	300	eP	P	05 06 48.9	+1.2
F36A	Milaca baz=109	94.60	316	P	P	05 06 47.6	+0.1
KSU1	Kansas State U baz=108	94.60	309	P	P	05 06 47.0	-0.7
KSU1	Kansas State U comp=Z,9.8nm,0.8s	94.60	309	eP	P	05 06 48.1	+0.4
E36A	McGregor baz=110	94.64	317	P	P	05 06 47.6	-0.1
C36A	Pine Crest Far baz=110	94.79	318	P	P	05 06 48.3	0.0
D36A	Goodland baz=110	94.80	318	P	P	05 06 48.5	0.0
WMOK	Wichita Mounta baz=107	94.96	305	P	P	05 06 49.4	-0.1
O34A	Beatrice baz=108	95.00	310	P	P	05 06 49.4	-0.1
G35A	Watkins baz=109	95.03	316	P	P	05 06 49.7	+0.2
N34A	Lincoln baz=108	95.06	311	P	P	05 06 49.8	0.0
H35A	Sunnyside Ranc baz=109,SNR=7.8	95.09	315	P	P	05 06 49.7	-0.1
F35A	Swanville baz=109	95.29	316	P	P	05 06 50.8	+0.1
K34A	Le Mars baz=108	95.33	313	P	P	05 06 50.4	-0.5
D35A	Remer baz=109	95.34	318	P	P	05 06 50.7	-0.2
E35A	Pequot Lakes baz=109	95.40	317	P	P	05 06 51.4	+0.2
C35A	Jirik Farms, M baz=109	95.49	318	P	P	05 06 51.7	+0.1
B35A	Bob, Littlefor baz=109	95.55	319	P	P	05 06 52.0	+0.2
I34A	Hadley baz=108	95.59	314	P	P	05 06 51.7	-0.4
O33A	Hebron baz=107	95.62	310	P	P	05 06 52.0	-0.4
F34A	Alexandria baz=108	95.72	316	P	P	05 06 52.8	+0.1
G34A	Benson baz=108	95.81	315	P	P	05 06 53.3	+0.2
E34A	Wadena baz=108	95.89	317	P	P	05 06 53.4	0.0
ECSD	EROS Data Cent baz=108	96.01	314	P	P	05 06 53.9	-0.1
D34A	Park Rapids baz=108	96.08	317	P	P	05 06 54.3	0.0
B34A	Aery, Baudette baz=108	96.17	319	P	P	05 06 54.6	-0.1
G33A	Ortonville baz=108	96.33	315	P	P	05 06 55.4	-0.1
H33A	Prehn Over Nor baz=107	96.38	315	P	P	05 06 56.0	+0.2
SPITS	Spitsbergen Ar comp=Z,73nm,19.4s,baz=125,slow=35	96.46	6	LR	LR	05 49 33.1	
D33A	AnnSam, Waubun baz=108	96.52	317	P	P	05 06 56.4	+0.1
K32A	Verdigre baz=107	96.65	312	P	P	05 06 56.7	-0.2
C33A	Trail baz=108	96.66	318	P	P	05 06 56.7	-0.2
B33A	Robert and Kas baz=108	96.70	318	P	P	05 06 56.7	-0.4
A33A	Warroad baz=108	96.78	319	P	P	05 06 56.9	-0.5
H32A	Carlson Farm, baz=107	96.81	314	P	P	05 06 57.6	-0.1
A32A	Rocking H Ranc baz=107	97.47	319	P	Pdif	05 07 00.9	+0.4
LTX	Lajitas comp=Z,1.0nm,0.9s,baz=121,slow=8.9,SNR=6.2	97.47	298	eP	P	05 07 01.1	0.0
LTX				ePP	PP	05 11 03.1	+4.5
TXAR	Lajitas Array comp=Z,1.0nm,0.9s,baz=121,slow=8.9,SNR=6.2	97.47	298	P	P	05 07 01.1	0.0
TXAR	comp=Z,0.1nm,0.4s,baz=124,slow=6.8,SNR=3.4			PP	PP	05 11 03.1	+4.5
ULM	Lac du Bonnet comp=Z,81nm,21.6s,baz=140,slow=30	97.47	320	LR	LR	05 42 39.5	
F31A	Hecla baz=106	97.74	315	P	P	05 07 01.7	-0.2
MSTX	Muleshoe baz=105	97.93	303	P	P	05 07 02.5	-0.6
KSH	Kashi	100.80	52	P	Pdif	05 07 13.5	-2.3
KSH				S	Sdif	05 18 42.4	-12
RKT	Rikitea comp=Z,314nm,27.2s	109.63	237	eLR	LR	05 44 19.6	
WMQ	Urumqi	110.12	49	ePKP		05 11 56.1	
WMQ	comp=Z,280nm,29.5s			LR	LR		
WMQ	comp=Z,280nm,29.5s			LR	LR		
WMQ	comp=Z,240nm,38.3s			LR	LR		
TOLK	Toolik Lake Re baz=52	121.14	342	PKiKP	PKPdf	05 12 18.6	-0.5
KMI	Kunming	121.17	71	PKP	PKPdf	05 12 19.8	-0.8
CD2	Chengdu	122.38	64	PKP	PKPdf	05 12 21.8	-0.8
CD2				PP	PP	05 13 58.2	-0.6
CD2				SKKS		05 20 56.0	
CD2				SS	SS	05 30 40.7	+0.7
CD2	comp=Z,370nm,18.9s			LR	LR		
CD2	comp=Z,250nm,19.9s			LR	LR		
CD2	comp=Z,240nm,16.4s			LR	LR		
LZH	Lanzhou	122.41	58	ePKP	PKPdf	05 12 16.0	-6.6
LZH				sPKP		05 12 21.6	
LZH	comp=Z,170nm,18.1s			LR	LR		
LZH	comp=Z,170nm,18.0s			LR	LR		
LZH	comp=Z,200nm,20.2s			LR	LR		
IL1	Eielson Array	122.53	338	ePKPdf	PKPdf	05 12 20.9	-0.8
ILAR	Eielson Array comp=Z,1.1nm,0.9s,baz=323,slow=0.4,SNR=11	122.53	338	PKP	PKPdf	05 12 20.4	-1.3
ILB	Eielson Array	122.53	338	ePKPdf	PKPdf	05 12 20.4	-1.3
SONA0	Songino Array	122.90	44	ePKPdf	PKPdf	05 12 21.0	-2.2
SONM	Songino Array comp=Z,0.6nm,0.8s,baz=266,slow=2.2,SNR=3.7	122.90	44	PKP	PKPdf	05 12 21.0	-2.2
MLY	Manley	123.72	339	ePKPdf	PKPdf	05 12 24.4	+0.3
KLU	Klutina	123.89	334	ePKPdf	PKPdf	05 12 25.9	+1.4
PPT2	Papeete2 comp=Z,569nm,32.8s	124.15	234	eLR	LR	05 51 04.7	
GYA	Guiyang	124.79	69	ePdif	Pdif	05 09 02.0	-0.7
GYA				PKP	PKPdf	05 12 26.0	-1.4
GYA				PP	PP	05 14 18.7	+3.4
GYA	comp=Z,140nm,7.9s			AMB	AMB		
STKA	Stephens Creek comp=Z,1.1nm,0.4s,baz=348,slow=15,SNR=3.9	126.34	155	PKP	PKPdf	05 12 29.6	-0.6
HHC	Hu-ho-hao-te	127.90	51	ePKP	PKPdf	05 12 32.7	-0.2
HHC				PP	PP	05 14 34.3	-1.1
HHC				SS	SS	05 31 49.7	+1.0
HHC	comp=Z,46nm,9.5s			AMB	AMB		
HHC	comp=Z,120nm,19.9s			LR	LR		
HHC	comp=Z,180nm,19.5s			LR	LR		
HHC	comp=Z,130nm,19.2s			LR	LR		
ASAR	Alice Springs comp=Z,1.7nm,0.9s,baz=210,slow=2.1,SNR=12	129.18	142	PKP	PKPdf	05 12 34.8	-1.1
AS31	Alice Springs	129.19	142	ePKPdf	PKPdf	05 12 34.8	-1.1
AS01	Alice Springs	129.21	142	ePKPdf	PKPdf	05 12 34.7	-1.2
WHN	Wuhan	131.51	64	PKP	PKPdf	05 12 40.1	+0.2
BJI	Beijing	131.51	51	ePKP	PKPdf	05 12 39.5	-0.1
BJI	comp=Z,140nm,9.4s			LR	LR		
BJI	comp=Z,280nm,22.0s			LR	LR		
BJI	comp=Z,2μm,52.9s			LR	LR		
WRA	Warramunga Arr comp=Z,1.2nm,0.8s,baz=240,slow=2.5,SNR=5.7	132.23	139	PKP	PKPdf	05 12 41.5	-0.2
WR1	Warramunga Arr	132.24	139	ePKPdf	PKPdf	05 12 41.5	-0.2
NJ2	Nanjing	135.18	61	ePKP	PKPdf	05 12 46.9	+0.2
DZM	Mont Dzumac comp=Z,204nm,25.8s	141.30	181	eLR	LR	05 59 04.9	
MAJO	Matsushiro	148.82	46	ePKPdf	PKPdf	05 13 12.3	+1.5
MJAR	Matsushiro Arr comp=Z,2.2nm,0.7s,baz=278,slow=3.3,SNR=5.5	148.82	46	PKPbc	PKPdf	05 13 12.3	+1.5

MEX 11 04:56:37.5±0.5, 16°27N×98°31W, h14km±5km, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.21	54	*i* P		Pg	04 56 42.0	-0.2
PNIG				*i* S		Sg	04 56 44.8	-0.7
TLIG	Tlapa	1.31	349	*e*P		Pn	04 56 57.7	-3.9
TLIG				*e*S		Sb	04 57 13.9	-4.8
VHO	Vista Hermosa	1.71	62	*e*P		Pn	04 56 58.7	-8.3
VHO				*e*S		Sn	04 57 23.8	-5.0

WEL 11 04:58:35.7, 46°S±2°×16°8E±°, h15km±3km, ML3.6/6, South Island

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
MLZ	Mavora Lakes	0.32	50	S		Sb	04 58 48.4	+0.3
MLZ	Mavora Lakes	0.32	50	P		Pb	04 58 43.4	+0.3
WHZ	Wether Hill Ro	0.34	159	P		Pb	04 58 44.2	+0.7
WHZ	Wether Hill Ro	0.34	159	S		Sb	04 58 49.6	+0.8
DCZ	Deep Cove	0.45	284	P		Pb	04 58 45.8	+0.6
DCZ	Deep Cove	0.45	284	S		Sb	04 58 52.2	+0.5
MSZ	Milford Sound	0.91	7	P		Pb	04 58 52.7	-0.4
MSZ	Milford Sound	0.91	7	S		Sb	04 59 04.1	-0.8
PYZ	Puysegur Point	0.97	232	P		Pn	04 58 54.9	+0.2
PYZ	Puysegur Point	0.97	232	S		Sn	04 59 08.3	+0.1
EAZ	Earnscleugh	1.14	73	P		Pb	04 58 56.9	-0.1
EAZ	Earnscleugh	1.14	73	S		Sb	04 59 10.6	-0.9
WKZ	Wanaka	1.15	50	P		Pn	04 58 57.3	0.0
WKZ	Wanaka	1.15	50	S		Sb	04 59 12.5	+0.4
APZ	The Paps	1.27	173	P		Pn	04 58 58.9	0.0
APZ	The Paps	1.27	173	S		Sn	04 59 15.6	-0.1
TUZ	Tuapeka	1.36	107	P		Pb	04 59 00.7	-0.1
TUZ	Tuapeka	1.36	107	S		Sb	04 59 18.1	+0.2
JCZ	Jackson Bay	1.66	26	P		Pb	04 59 05.6	-0.4
JCZ	Jackson Bay	1.66	26	S		Sb	04 59 27.6	+0.8
HHSZ	Highcliff Hill	2.00	100	P		Pn	04 59 10.2	+1.3
HHSZ	Highcliff Hill	2.00	100	S		Sn	04 59 33.5	-0.2
LBZ	Lake Benmore	2.08	56	P		Pn	04 59 10.2	+0.2
ODZ	Otahua Downs	2.10	76	P		Pn	04 59 10.5	+0.3
FOZ	Fox Glacier	2.51	36	P		Pb	04 59 18.3	-2.1

*IDC **11** 05:04:20.3±5.2, 34.°51N×13.°68E, h0km, mb3.7/4, mb1 3.8/6, mb1mx3.4/63, mbtmp3.6/6, ML4.0/2, MS3.4/2, Ms1 3.5/2, ms1mx2.5/61, Error ellipse: s-maj=106.7km s-min=61.8km az=139.0*

*ISCJB **11** 05:05:24.4±0.8, 38.°7N±0.°1×14.°9E±0.°2, h282km±10km, mb3.4/4, Error ellipse: s-maj=27.2km s-min=13.7km az=136.7*

*CSEM **11** 05:05:24.4, 38.°60N×14.°92E, h282km, ML3.1/19*

*ROM **11** 05:05:24.4±0.4, 38.°60N×14.°92E, h282km±6km, Ml3.1/19, Error ellipse: s-maj=11.2km s-min=5.2km az=137.0*

ISC 11 05:05:24.0±1.2, 38.°6N±0.°1×14.°9E±0.°1, h282km±11km, n47, σ1f22/54, mb3.6/4, Sicily

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
MILZ	Milazzo	0.47	140	Pg	Pn	Pn	05 06 00.7	+0.2
MILZ	71nm,0.4s			Sg	S	S	05 06 29.4	0.0
MILZ	Milazzo	0.47	140	Pg	Pn	Pn	05 06 00.7	+0.2
MILZ	71nm,0.4s			Sg	S	S	05 06 29.4	0.0
MUCR	Ucria 27nm,0.7s	0.59	178	Pg	Pn	Pn	05 06 02.6	+1.6
MUCR	Ucria 27nm,0.7s	0.59	178	Pg	Pn	Pn	05 06 02.6	+1.6
MPNC	Port Mandanici 64nm,0.5s	0.63	141	Pg	Pn	Pn	05 06 01.5	+0.5
MPNC	Port Mandanici 64nm,0.5s	0.63	141	Pg	Pn	Pn	05 06 01.5	+0.5
MSRU	Castanea 91nm,0.4s	0.64	125	Pg	Pn	Pn	05 06 01.4	+0.4
MSRU	Castanea 91nm,0.4s	0.64	125	Pg	Pn	Pn	05 06 01.4	+0.4
MMME	Mongiuffi-Meli 55nm,0.4s	0.77	155	Pg	Pn	Pn	05 06 02.5	+0.9
MMME	Mongiuffi-Meli 55nm,0.4s	0.77	155	Pg	Pn	Pn	05 06 02.5	+0.9
MSCL	Scilla 158nm,0.4s	0.84	118	Pg	Pn	Pn	05 06 02.8	+1.0
MSCL	Scilla 158nm,0.4s	0.84	118	Pg	Pn	Pn	05 06 02.8	+1.0
GMB	Gambarie 307nm,0.2s	0.90	121	Pg	Pn	Pn	05 06 03.5	+1.3
GMB	Gambarie 307nm,0.2s	0.90	121	Pg	Pn	Pn	05 06 03.5	+1.3
CEL	Celeste 54nm,0.6s	0.90	114	Pg	Pn	Pn	05 06 02.7	+0.6
CEL	Celeste 54nm,0.6s	0.90	114	Pg	Pn	Pn	05 06 02.7	+0.6

ECNV	**Catenanuova**	**1.04**	**186**	Pg	**Pn**	**05 06 04.4**	**+1.6**
	153nm,1.5s							
ECNV	**Catenanuova**	**1.04**	**186**	Pg	**Pn**	**05 06 04.4**	**+1.6**
	153nm,1.5s							
SOI	**Samo**	**1.10**	**120**	Pg	**Pn**	**05 06 04.1**	**+1.1**
SOI				Sg	**S**	**05 06 33.0**	**-0.9**
	49µm,25.0s							
SOI	**Samo**	**1.10**	**120**	Pg	**Pn**	**05 06 04.1**	**+1.1**
SOI				Sg	**S**	**05 06 33.0**	**-0.9**
	49µm,25.0s							
MPAZ	**Palizzi**	**1.14**	**126**	Pg	**Pn**	**05 06 04.2**	**+1.0**
	83nm,0.5s							
MPAZ	**Palizzi**	**1.14**	**126**	Pg	**Pn**	**05 06 04.2**	**+1.0**
	83nm,0.5s							
ALJA	**Alia**	**1.23**	**225**	Pg	**Pn**	**05 06 05.1**	**+1.3**
	48nm,0.4s							
ALJA	**Alia**	**1.23**	**225**	Pg	**Pn**	**05 06 05.1**	**+1.3**
	48nm,0.4s							
CAR1	**CAROLEI**	**1.23**	**59**	Pg	**Pn**	**05 06 04.3**	**+0.6**
	58nm,0.3s							
CAR1	**CAROLEI**	**1.23**	**59**	Pg	**Pn**	**05 06 04.3**	**+0.6**
	58nm,0.3s							
GRI	**Girifalco**	**1.25**	**81**	Pg	**Pn**	**05 06 05.3**	**+1.5**
	25µm,20.0s							
GRI	**Girifalco**	**1.25**	**81**	Pg	**Pn**	**05 06 05.3**	**+1.5**
	25µm,20.0s							
PLAC	**Placanica**	**1.26**	**98**	Pg	**Pn**	**05 06 05.1**	**+1.2**
PLAC				Sg	**S**	**05 06 34.0**	**-1.6**
	62nm,0.4s							
PLAC	**Placanica**	**1.26**	**98**	Pg	**Pn**	**05 06 05.1**	**+1.2**
PLAC				Sg	**S**	**05 06 34.0**	**-1.6**
	62nm,0.4s							
SERS	**Sersale**	**1.50**	**74**	Pg	**Pn**	**05 06 06.8**	**+1.4**
SERS				Sg	**S**	**05 06 37.3**	**-1.0**
	61nm,0.7s							
SERS	**Sersale**	**1.50**	**74**	Pg	**Pn**	**05 06 06.8**	**+1.4**
SERS				Sg	**S**	**05 06 37.3**	**-1.0**
	61nm,0.7s							
TIP	**Timpagrande**	**1.59**	**69**	Pg	**Pn**	**05 06 07.5**	**+1.5**
TIP				Sg	**S**	**05 06 38.4**	**-1.0**
	35nm,0.6s							
TIP	**Timpagrande**	**1.59**	**69**	Pg	**Pn**	**05 06 07.5**	**+1.5**
TIP				Sg	**S**	**05 06 38.4**	**-1.0**
	35nm,0.6s							
SALB	**San Lorenzo Be**	**1.70**	**43**	Pg	**Pn**	**05 06 08.8**	**+1.9**
	23nm,0.9s							
SALB	**San Lorenzo Be**	**1.70**	**43**	Pg	**Pn**	**05 06 08.8**	**+1.9**
	23nm,0.9s							
PIPA	**Pietrapaola**	**1.75**	**60**	Pg	**Pn**	**05 06 09.0**	**+1.8**
	97nm,1.1s							
PIPA	**Pietrapaola**	**1.75**	**60**	Pg	**Pn**	**05 06 09.0**	**+1.8**
	97nm,1.1s							
GERES	**GERESS Array B**	**10.24**	**356**	Pn	**Pn**	**05 07 45.2**	**+0.1**
	0.2nm,0.3s,baz=171,slow=13,SNR=4.3							
AKASG	**Malin Array Be**	**15.78**	**35**	P	**Pn**	**05 08 52.1**	**+0.2**
	1.1nm,0.3s,baz=228,slow=9.3,SNR=6.6							
MMAI	**Mount Meron Ar**	**17.58**	**102**	LR	LR	05 16 33.6		
	comp=Z,21nm,19.0s,baz=210,slow=40							
EKA	**Eskdalemuir Ar**	**20.63**	**330**	P	**P**	**05 09 39.9**	**-2.3**
	0.2nm,0.4s,baz=139,slow=12,SNR=5.5							
HFS	**Hagfors**	**21.54**	**358**	P	**P**	**05 09 50.8**	**0.0**
	3.8nm,1.0s,baz=174,slow=14,SNR=3.4							
FINES	**FINESS Array B**	**23.88**	**13**	P	**P**	**05 10 13.2**	**+1.2**
	1.6nm,0.8s,baz=189,slow=8.9,SNR=5.7							
ARCES	**ARCESS Array B**	**31.49**	**7**	P	**P**	**05 11 19.5**	**+0.1**
	2.0nm,1.0s,baz=198,slow=8.4,SNR=4.3							
YKA	**Yellowknife Ar**	**71.36**	**338**	P	P	05 16 02.4	-11	
	0.1nm,0.5s,baz=44,slow=3.9,SNR=4.4							
NVAR	**Mina Array Bea**	**92.05**	**325**	LR	LR	06 00 53.6		
	comp=Z,88nm,19.1s,baz=268,slow=36							

JMA 11 05:10:55.7,36°.67N×138°.22E,h11km±1km,M0.4,1C, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MAT	**Matsushiro**	**0.13**	**185**	⇑P	Pg	05 10 58.9	+0.1
MAT				S	Sg	05 11 01.1	+0.1
MAT	**Matsushiro**	**0.13**	**185**	P	Pg	05 10 58.9	+0.1
JNG	**Nsakai**	**0.28**	**200**	P	Pg	05 11 01.5	0.0
JNG				*e*S	Sg	05 11 05.6	+0.3

*ISCJB **11** 05:16:37.7±0.5,51°.59N±0°.10×96°.06E±0°.07,h10km, mb3.9/2,Error ellipse: s-maj=13.9km s-min=6.1km az=8.9*
*MOS **11** 05:16:37.3±1.2,51°.67N×96°.06E,h9km,mb4.2/2,Error ellipse: s-maj=17.5km s-min=11.8km az=14.4*
*IDC **11** 05:16:37.0±2.5,51°.97N×96°.51E,h0km,mb3.6/1, mb1 3.1/4,mb1mx3.0/66,mbtmp3.1/4,ML2.6/3,Error ellipse: s-maj=49.6km s-min=21.1km az=19.0*
ISC 11 05:16:37.6±0.8,51°.6N±0°.1×96°.33E±0°.06,h10km,n20, σ2s15/17,6C-1D,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KZLR	**Kyzyl**	**1.18**	**277**	*e*PG	Pn	05 16 55.7	-4.5
KNGR	**Kungurtug, Tuv**	**1.23**	**142**	*i* PG	**Pn**	**05 17 04.1**	**+3.2**
HVS	**Khovu-Aksy**	**1.71**	**256**	*d i* PN	**Pn**	**05 17 06.0**	**-1.5**
ORL	**Orlik**	**2.35**	**64**	*e*PN	**Pg**	**05 17 22.1**	**-0.6**
ORL				*e*		05 17 54.3	
ORL				pmax	pmax		
	comp=Z,33nm,0.3s						
ORL				smax	smax		
	comp=N,107nm,0.5s						
MOY	**Mondy**	**2.91**	**86**	*e*PN	**Pg**	**05 17 33.3**	**0.0**
MOY				*e*		05 18 13.9	
MOY				pmax	pmax		
	comp=Z,52nm,0.6s						
MOY				smax	smax		
	comp=N,220nm,1.0s						
ARS	**Arshan**	**3.80**	**82**	*e*PN	**Pg**	**05 17 49.9**	**-0.5**
ARS				*e*		05 18 42.7	
ARS				pmax	pmax		
	comp=Z,20nm,0.3s						
ARS				smax	smax		
	comp=E,251nm,0.8s						
TLY	**Talaya**	**4.56**	**86**	*e*PN	**Pg**	**05 18 03.6**	**-1.3**
TLY				*e*		05 19 04.6	
TLY				pmax	pmax		
	comp=Z,4.0nm,0.4s						
LUZB	**Luzhba, Kemero**	**4.99**	**298**	*e*PN	**Pn**	**05 17 52.3**	**-0.2**
DGZ	**Jazzator, Alta**	**5.96**	**255**	*e*PN	**Pn**	**05 18 07.0**	**+0.9**
ZALV	**Zalesovo Beam**	**7.38**	**293**	Pn	**Pn**	**05 18 25.7**	**+0.4**
	comp=Z,0.3nm,0.3s,baz=99,slow=12,SNR=4.7						
ZALV				Lg	Lg	05 20 19.0	
	comp=Z,0.9nm,0.3s,baz=107,slow=29,SNR=8.2						
SONM	**Songino Array**	**7.52**	**116**	Pg	Pg	05 18 56.8	-4.7
	comp=Z,0.5nm,0.3s,baz=306,slow=18,SNR=7.8						
SONM				Lg	Lg	05 20 38.8	
	comp=Z,1.4nm,0.3s,baz=294,slow=28,SNR=15						
ULN	**Ulaanbaatar**	**7.88**	**114**	⇑*e*P	Pn	05 18 37.6	+5.3
MKAR	**Makanchi Array**	**10.36**	**248**	Pn	**Pn**	**05 19 10.2**	**+4.0**
	comp=Z,0.1nm,0.3s,baz=60,slow=16,SNR=3.4						
MKAR				Lg	Lg	05 22 05.1	
	comp=Z,0.2nm,0.3s,baz=58,slow=33,SNR=5.0						
KURK	**Kurchatov**	**11.16**	**273**	⇑*e*P	**Pn**	**05 19 15.5**	**-1.6**
KURBB	**Kurchatov Arra**	**11.24**	**272**	Pn	**Pn**	**05 19 20.2**	**+2.1**
	comp=Z,0.0nm,0.3s,baz=76,slow=16,SNR=3.3						
KURBB				Lg	Lg	05 22 28.4	
	comp=Z,0.0nm,0.3s,baz=76,slow=34,SNR=6.0						
HIA	**Hailar**	**15.09**	**90**	⇑*e*P	**P**	**05 20 13.0**	**-3.0**
HIA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
BRVK	**Borovoye**	**15.97**	**286**	⇑*e*P	**Pn**	**05 20 20.3**	**-1.9**
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.9s						
AKTO	**Aktyubinsk**	**23.96**	**282**	P	**P**	**05 21 51.9**	**+0.1**
	comp=Z,0.5nm,0.3s,baz=58,slow=10,SNR=3.1						
TIXI	**Tiksi**	**24.80**	**24**	⇑*e*P	**P**	**05 22 01.8**	**+2.5**
YSS	**Yuzh-Sakhalins**	**30.24**	**80**	⇑*e*P	**P**	**05 22 50.8**	**+2.6**
YSS				pmax	pmax		
	comp=Z,11nm,1.2s						

*ISCJB **11** 05:26:38.2±1.1,69°.45N±0°.08×54°.2W±0°.1,h10km,Error ellipse: s-maj=12.3km s-min=5.0km az=167.0*
*OTT **11** 05:26:42.0±0.7,69°.51N×53°.78W,h18km,MN2.5/2,West coast of Greenland. 472km northeast from Qikiqtarjuaq, Nu Eastern Arctic Background Seismic Zone.*
ISC 11 05:26:39.4±1.0,69°.54N±0°.07×53°.93W±0°.05,h10km,n7, σ2s05/13,Western Kalaallit Nunaat

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

ILULI	**Ilulissat**	**1.05**	**107**	PG	**Pg**	**05 26 59.2**	**-0.3**
ILULI				SG	**Sb**	**05 27 14.0**	**+0.6**
ILULI				Trac		05 27 19.0	
	comp=Z,7.6nm,0.1s						
ILULI	**Ilulissat**	**1.05**	**107**	*i* P	**Pg**	**05 26 59.3**	**-0.2**
ILULI				*i* S	**Sn**	**05 27 15.1**	**+0.3**
SFJD	**Kangerlussuaq**	**2.84**	**153**	PN	**Pn**	**05 27 24.9**	**+0.3**
SFJD				SN	**Sn**	**05 27 57.5**	**-1.3**
SFJD				LG	Lg	05 28 04.0	
SFJD				Trac		05 28 06.3	
	comp=Z,16nm,0.3s						
SFJD	**Kangerlussuaq**	**2.84**	**153**	*i* P	**Pn**	**05 27 25.7**	**+1.1**
SFJD				*i*		05 27 28.5	
CMBN	**Cumberland Cam**	**5.58**	**231**	PN	**Pn**	**05 28 04.0**	**+1.7**
CMBN				SN	**Sn**	**05 29 03.9**	**-2.4**
SUMG	**Summit**	**5.88**	**52**	*i* P	**Pn**	**05 28 08.1**	**+1.4**
SUMG				*i* S	**Sn**	**05 29 09.5**	**-4.7**
CDKN	**Chidliak Camp**	**7.22**	**228**	PN	**Pn**	**05 28 26.1**	**+1.5**
CDKN				SN	**Sn**	**05 29 44.7**	**-1.8**

*ISCJB **11** 05:44:40.0±0.3,16°.85S±0°.06×14°.38W±0°.06,h10km, mb4.7/47,MS4.3/41,Error ellipse: s-maj=9.8km s-min=6.6km az=143.1*
*IDC **11** 05:44:40.3±0.5,16°.85S×14°.31W,h0km,mb4.4/24, mb1 4.5/24,mb1mx4.3/52,mbtmp4.4/24,MS4.3/39, Ms1 4.2/39,ms1mx4.2/48,Error ellipse: s-maj=16.5km s-min=12.2km az=128.0*
*NEIC **11** 05:44:41.5±0.2,16°.88S×14°.40W,h10km,mb4.9/31,Error ellipse: s-maj=7.3km s-min=5.1km az=148.0*
*GCMT **11** 05:44:41.5±0.2,16°.92S×14°.33W,h12km,MW5.0/100, Moment Tensor Solution. s30,c35; s100,c160; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-3.51±.08; Mθθ0.27±.08; Mϕϕ3.24±.07; Mrθ0.71±.31; Mθϕ-1.20±.07; Mrϕ0.04±.25; Best double couple: M₀3.65900×10¹⁶ NP1:ϕs171.00000°,δ48.00000°,λ-105.00000°. NP2: ϕs171.00000°,δ44.00000°,λ-74.00000°. Principal axes: T 3.6700, Plg2.0000°, Azm70.0000°; N -0.0200, Plg11.0000°, Azm340.0000°; P -3.6480, Plg79.0000°, Azm169.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 11 05:44:41.5±0.4,16°.88S±0°.08×14°.37W±0°.08,h10km,n116, σ1s11/96,mb4.8/47,MS4.4/42,1C,Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H10S2	**ASCENSION HYDR**	**7.88**	**358**	T	T	05 54 54.1	
	baz=178,slow=74,SNR=59						
H10S3	**ASCENSION HYDR**	**7.88**	**358**	T	T	05 54 53.0	
	baz=178,slow=74,SNR=46						
H10S1	**ASCENSION HYDR**	**7.89**	**358**	T	T	05 54 54.0	
	baz=178,slow=74,SNR=43						
H10N1	**ASCENSION HYDR**	**8.98**	**359**	T	T	05 56 21.4	
	baz=180,slow=74,SNR=14						
H10N3	**ASCENSION HYDR**	**8.98**	**359**	T	T	05 56 09.3	
	baz=180,slow=74,SNR=54						
H10N2	**ASCENSION HYDR**	**9.00**	**359**	T	T	05 56 15.3	
	baz=180,slow=74,SNR=13						
RCBR	**Riachuelo**	**23.76**	**295**	*e*P	**P**	**05 49 55.1**	**+0.7**
	33nm,1.0s						
LIC	**Lamto**	**24.75**	**23**	*e*P	**P**	**05 50 02.3**	**-1.1**
	138nm,1.2s						
KIC	**Kosan Boka**	**24.98**	**23**	*e*P	**P**	**05 50 04.4**	**-1.1**
	217nm,1.2s						
TIC	**Toumodi**	**25.14**	**22**	*e*P	**P**	**05 50 05.6**	**-1.4**
DBIC	**Dimbokro**	**25.22**	**23**	P	**P**	**05 50 07.5**	**-0.2**
	33nm,1.0s,baz=199,slow=12,SNR=19						
DBIC				LR	LR	05 57 45.2	
	comp=Z,826nm,21.5s,baz=182,slow=31						
DBIC	**Dimbokro**	**25.22**	**23**	*e*P	**P**	**05 50 06.6**	**-1.1**
	70nm,1.2s						
BBTS	**Babate**	**31.41**	**356**	LR	LR	06 01 39.3	
	comp=Z,284nm,19.9s,baz=179,slow=32						
KOWA	**Kowa**	**32.81**	**19**	P	**P**	**05 51 15.0**	**-0.3**
	16nm,1.1s,baz=194,slow=8.6,SNR=17						
KOWA				LR	LR	06 02 48.6	
	comp=Z,685nm,18.4s,baz=204,slow=33						
KOWA	**Kowa**	**32.81**	**19**	*e*P	**P**	**05 51 15.0**	**-0.3**
KOWA				*e*P	**P**	**05 51 15.3**	**0.0**
TOA0	**Torodi Ar. Sit**	**33.80**	**29**	*e*P	**P**	**05 51 23.2**	**-0.7**
TOA0				*e*P	**P**	**05 51 23.5**	**-0.4**
TORD	**Torodi Ar. Bea**	**33.80**	**29**	P	**P**	**05 51 23.5**	**-0.4**
	23nm,0.9s,baz=212,slow=9.1,SNR=80						
TORD				LR	LR	06 02 54.1	
	comp=Z,1µm,20.6s,baz=200,slow=32						
TOA1	**Torodi Ar. Sit**	**33.80**	**29**	*e*P	**P**	**05 51 23.5**	**-0.5**
BOSA	**Boshof**	**38.20**	**115**	P	**P**	**05 52 01.0**	**-0.8**
	3.1nm,0.8s,baz=293,slow=7.7,SNR=2.9						
BOSA				LR	LR	06 05 20.9	
	comp=Z,621nm,19.5s,baz=274,slow=32						
LSZ	**Lusaka**	**40.87**	**94**	P	**P**	**05 52 24.3**	**+0.1**
	4.9nm,0.9s,baz=268,slow=11,SNR=4.8						
LSZ	**Lusaka**	**40.87**	**94**	*e*P	**P**	**05 52 24.5**	**+0.3**
	12nm,1.3s						
CPUP	**Villa Florida**	**40.87**	**249**	P	**P**	**05 52 24.2**	**+0.3**
	5.5nm,0.9s,baz=107,slow=8.6,SNR=11						
CPUP				LR	LR	06 08 21.7	
	comp=Z,692nm,18.1s,baz=93,slow=35						
CPUP	**Villa Florida**	**40.87**	**249**	*e*P	**P**	**05 52 23.7**	**-0.2**
	32nm,1.8s						
TAM	**Tamanrasset**	**43.97**	**27**	*e*P	**P**	**05 52 49.7**	**+0.4**
	20nm,1.9s						
TRQA	**Tornquist**	**46.63**	**233**	*e*P	**P**	**05 53 09.8**	**-0.4**
	30nm,1.4s						
MBAR	**Mbarara**	**47.26**	**75**	*e*P	**P**	**05 53 15.4**	**-0.2**
	26nm,1.5s						
PTGA	**Pitinga**	**47.66**	**285**	*e*P	**P**	**05 53 19.2**	**+0.7**
	25nm,1.4s						
LPAZ	**La Paz**	**51.39**	**262**	P	**P**	**05 53 49.1**	**+1.4**
	1.9nm,0.9s,baz=145,slow=5.0,SNR=3.3						
LPAZ				LR	LR	06 14 52.3	
	comp=Z,766nm,19.0s,baz=118,slow=35						
LPAZ	**La Paz**	**51.39**	**262**	*e*P	**P**	**05 53 46.5**	**-1.1**
PB11	**IPOC Station P**	**52.37**	**258**	*e*P	**P**	**05 53 53.7**	**-0.8**
	55nm,2.0s						
PB04	**IPOC Station P**	**52.58**	**255**	*e*P	**P**	**05 53 55.7**	**-0.3**
	83nm,1.3s						
LCO	**Las Campanas**	**52.83**	**246**	*e*P	**P**	**05 53 56.9**	**-0.9**
	42nm,1.1s						
KMBO	**Kilima Mbogo**	**53.13**	**78**	P	**P**	**05 54 01.2**	**+0.9**
	2.9nm,0.9s,baz=223,slow=7.7,SNR=7.0						
KMBO				LR	LR	06 14 05.2	
	comp=Z,568nm,20.3s,baz=264,slow=33						
KMBO	**Kilima Mbogo**	**53.13**	**78**	*e*P	**P**	**05 54 00.9**	**+0.6**
	11nm,1.3s						
PLCA	**Paso Flores**	**53.66**	**232**	P	**P**	**05 54 04.5**	**+0.9**
	2.0nm,1.0s,baz=89,slow=9.6,SNR=4.5						
PLCA				LR	LR	06 15 30.4	
	comp=Z,769nm,18.4s,baz=98,slow=34						
PLCA	**Paso Flores**	**53.66**	**232**	*e*P	**P**	**05 54 03.5**	**0.0**
	17nm,1.6s						
VNA2	**Neumayer--Watz**	**54.20**	**177**	P	**P**	**05 54 07.2**	**+0.3**
SNAA	**Sanae**	**55.21**	**176**	P	**P**	**05 54 13.6**	**-0.7**
SNAA	**Sanae**	**55.21**	**176**	P	**P**	**05 54 14.2**	**-0.2**
	2.6nm,0.9s,baz=353,slow=10.0,SNR=3.9						
SNAA				LR	LR	06 12 16.8	
	comp=Z,168nm,21.7s,baz=320,slow=30						
SNAA	**Sanae**	**55.21**	**176**	*e*P	**P**	**05 54 14.2**	**-0.2**
	24nm,1.6s						
PCRV	**Puerto La Cruz**	**56.50**	**295**	LR	LR	06 19 16.9	
	comp=Z,319nm,18.0s,baz=142,slow=37						
KEST	**Kesra**	**56.95**	**23**	P	**P**	**05 54 27.0**	**-0.1**
	21nm,1.2s,baz=128,slow=5.2,SNR=5.8						
KEST				LR	LR	06 17 56.6	
	comp=Z,336nm,20.8s,baz=178,slow=35						
KEST	**Kesra**	**56.95**	**23**	*e*P	**P**	**05 54 27.0**	**-0.1**
	46nm,1.3s						
ESDC	**Sonseca Array**	**57.09**	**10**	P	**P**	**05 54 28.8**	**+0.7**
	1.2nm,0.7s,baz=193,slow=6.1,SNR=5.7						
ESDC				LR	LR	06 17 29.6	
	comp=Z,126nm,20.4s,baz=125,slow=34						
SDV	**Santo Domingo**	**61.24**	**290**	P	**P**	**05 54 57.8**	**+0.3**
	6.9nm,0.9s,baz=36,slow=4.9,SNR=6.4						
SDV				LR	LR	06 20 12.6	
	comp=Z,185nm,18.6s,baz=148,slow=35						
SDV	**Santo Domingo**	**61.24**	**290**	*e*P	**P**	**05 54 58.2**	**+0.7**
	11nm,1.0s						
SYO	**Syowa Base**	**61.83**	**161**	⇑*e*P	**P**	**05 54 58.0**	**-2.4**
ROSC	**El Rosal**	**63.02**	**285**	P	**P**	**05 55 11.3**	**+1.6**
	2.0nm,0.3s,baz=210,slow=20,SNR=3.3						
ROSC				LR	LR	06 21 38.2	
	comp=Z,416nm,18.6s,baz=125,slow=35						

ROSC	**El Rosal**	**63.02**	**285**	*e*P	**P**	**05 55 09.9**	**+0.2**
	15nm,1.2s							
ATD	**Arta Tunnel**	**63.21**	**67**	LR	LR	06 20 31.5		
	comp=Z,421nm,20.2s,baz=158,slow=34							
IDI	**Anoyia**	**63.86**	**35**	LR	LR	06 21 27.4		
	comp=Z,124nm,21.4s,baz=259,slow=35							
HELC	**Santa Helena**	**64.64**	**285**	*e*P	**P**	**05 55 19.6**	**-0.8**
	52nm,1.7s							
EIL	**Elat**	**66.36**	**46**	LR	LR	06 22 59.8		
	comp=Z,268nm,18.6s,baz=240,slow=35							
MMAI	**Mount Meron Ar**	**68.71**	**44**	P	**P**	**05 55 46.3**	**+0.6**
	6.5nm,0.9s,baz=230,slow=11,SNR=5.1							
MAW	**Mawson**	**69.66**	**157**	P	**P**	**05 55 51.4**	**+0.5**
	2.9nm,0.6s,baz=274,slow=5.2,SNR=8.5							
MAW				LR	LR	06 20 48.7		
	comp=Z,116nm,18.6s,baz=242,slow=31							
GEC2	**GERESS Array S**	**70.03**	**19**	*e*P	**P**	**05 55 53.8**	**+0.2**
	6.2nm,1.2s							
GERES	**GERESS Array B**	**70.03**	**19**	P	**P**	**05 55 53.8**	**+0.2**
	0.2nm,0.2s,baz=188,slow=3.8,SNR=4.8							
GERES				LR	LR	06 26 40.9		
	comp=Z,311nm,19.1s,baz=194,slow=36							
ZST	**Bratislava**	**70.62**	**22**	*e*P	**P**	**05 56 00.1**	**+3.1**
RAYN	**Ar Rayn**	**70.94**	**57**	*e*P	**P**	**05 56 01.0**	**+1.4**
	8.2nm,1.0s							
VYHS	**Vyhne**	**71.49**	**23**	*e*P	**P**	**05 56 02.9**	**+0.6**
VYHS				*e*		05 56 10.4		
VYHS				*e*PCP	**PcP**	**05 56 20.6**	**-1.2**
BR231	**Keskin MP Arra**	**71.50**	**37**	*e*P	**P**	**05 56 04.9**	**+2.1**
BR101	**Keskin Array S**	**71.92**	**37**	*e*P	**P**	**05 56 06.2**	**+0.9**
BR131	**Keskin Array S**	**71.92**	**37**	*e*P	**P**	**05 56 05.7**	**+0.4**
BRTR	**Keskin Array B**	**71.92**	**37**	P	**P**	**05 56 06.2**	**+0.9**
	5.5nm,1.0s,baz=199,slow=7.3,SNR=25							
BRTR				LR	LR	06 26 48.0		
	comp=Z,66nm,22.0s,baz=217,slow=35							
MLR	**Muntele Rosu**	**72.04**	**29**	P	**P**	**05 56 05.4**	**-0.4**
	3.8nm,1.2s,baz=180,slow=9.1,SNR=14							
MLR				LR	LR	06 29 40.6		
	comp=Z,45nm,18.3s,baz=214,slow=38							
MLR	**Muntele Rosu**	**72.04**	**29**	*e*P	**P**	**05 56 05.4**	**-0.4**
MLR				*e*P	**P**	**05 56 05.6**	**-0.2**
CRVS	**Cervenica-Dubn**	**72.82**	**24**	*e*	P	05 56 19.6	+9.3
QSPA	**South Pole Qui**	**73.30**	**180**	P	**P**	**05 56 14.2**	**+1.1**
	3.1nm,0.8s,baz=196,slow=1.9,SNR=5.3							
QSPA	**South Pole Qui**	**73.30**	**180**	*e*P	**P**	**05 56 14.2**	**+1.1**
QSPA				*e*P	**P**	**05 56 14.4**	**+1.3**
JTS	**JuntasAbangare**	**74.81**	**286**	LR	LR	06 28 13.8		
	comp=Z,452nm,21.6s,baz=175,slow=35							
AK11	**Malin Array Si**	**77.35**	**27**	*e*P	**P**	**05 56 35.3**	**-1.0**
KIEV	**Kiev**	**77.38**	**27**	*e*P	**P**	**05 56 36.3**	**-0.2**
	6.1nm,0.9s							
AKASG	**Malin Array Be**	**77.39**	**27**	P	**P**	**05 56 35.4**	**-1.2**
	4.7nm,0.9s,baz=220,slow=5.0,SNR=14							
AKASG				LR	LR	06 29 57.9		
	comp=Z,68nm,21.5s,baz=205,slow=35							
AKBB	**Malin Array Si**	**77.39**	**27**	*e*P	**P**	**05 56 36.2**	**-0.4**
	6.0nm,0.8s							
GNI	**Garni**	**78.97**	**42**	LR	LR	06 30 55.2		
	comp=Z,94nm,20.8s,baz=246,slow=35							
KBZ	**Khabaz**	**79.83**	**38**	P	**P**	**05 56 50.6**	**+0.4**
	3.4nm,0.9s,baz=272,slow=3.9,SNR=7.1							
KBZ				LR	LR	06 32 13.5		
	comp=Z,59nm,20.6s,baz=235,slow=36							
HFS	**Hagfors**	**80.04**	**14**	LR	LR	06 33 33.7		
	comp=Z,117nm,19.1s,baz=198,slow=37							
SOHO	**SOHO**	**80.28**	**61**	*i* P	**P**	**05 56 54.1**	**+1.0**
	SNR=7.0							
NOA	**NORSAR Array B**	**80.32**	**12**	LR	LR	06 30 33.6		
	comp=Z,53nm,21.5s,baz=210,slow=34							
UOSS	**Minazif**	**80.33**	**60**	*e*P	**P**	**05 56 53.7**	**+0.4**
	36nm,1.4s							
UOSS	**Minazif**	**80.33**	**60**	*i* P	**P**	**05 56 54.0**	**+0.7**
	SNR=7.6							
SHME	**Shamm**	**80.72**	**59**	*i* P	**P**	**05 56 57.0**	**+1.6**
	SNR=6.3							
BANOM	**Banah**	**80.80**	**59**	*i* P	**P**	**05 56 56.8**	**+0.9**
	SNR=6.3							
APG	**El Apazote**	**81.48**	**288**	LR	LR	06 33 08.3		
	comp=Z,300nm,20.7s,baz=115,slow=36							
WSAR	**Wadi Sarin**	**81.71**	**63**	P	**P**	**05 57 01.4**	**+0.7**
	11nm,1.1s,baz=276,slow=7.1,SNR=5.8							
WSAR				LR	LR	06 31 38.9		
	comp=Z,714nm,21.2s,baz=258,slow=34							
TKL	**Tuckaleechee C**	**83.87**	**310**	LR	LR	06 26 49.5		
	comp=Z,68nm,21.4s,baz=179,slow=30							
FINES	**FINESS Array B**	**84.43**	**18**	LR	LR	06 35 40.4		
	comp=Z,103nm,19.1s,baz=204,slow=36							
VNDA	**Vanda**	**85.77**	**179**	P	**P**	**05 57 21.3**	**+0.7**
	1.3nm,0.9s,baz=232,slow=5.8,SNR=4.2							
VNDA				LR	LR	06 30 57.8		
	comp=Z,132nm,19.2s,baz=165,slow=32							
RPN	**Rapa Nui**	**86.73**	**243**	LR	LR	06 33 57.2		
	comp=Z,239nm,18.4s,baz=102,slow=34		

MW2.7
*ISK **11** 05:52:50.6,39˚.32N×39˚.82E,h8km,MD2.6/3*
*CSEM **11** 05:52:51.3±0.3,39˚.34N×39˚.82E,h5km,ML2.5,Error ellipse: s-maj=7.0km s-min=5.5km az=13.0*
*DDA **11** 05:52:51.3,39˚.25N×39˚.87E,h7km,Ml2.5*

ISC 11 05:52:51.1±1.0,39˚33N±0˚.02×39˚.86E±0˚.02,h8km±9km, n38,σ0.97/51,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ERZN	**Erzincan**	**0.28**	**338**	Pg	**Pg**	**05 52 57.4**	**+0.8**
ERZN				SG	**Sg**	**05 53 00.1**	**-0.3**
TNCL	**Tunceli-Merkez**	**0.32**	**229**	*i* P	**Pg**	**05 52 57.6**	**+0.1**
TNCL				*e*S	**Sg**	**05 53 02.1**	**+0.4**
TNCL				IAML		05 53 04.5	
	comp=Z,356nm,0.3s						
TNCL	**Tunceli-Merkez**	**0.32**	**229**	*i* P	**Pg**	**05 52 57.6**	**+0.1**
TNCL	**Tunceli-Merkez**	**0.32**	**229**	P	**Pg**	**05 52 57.6**	**+0.1**
PTK	**Pertek**	**0.57**	**220**	PG	**Pg**	**05 53 02.3**	**+0.3**
PTK				SG	**Sg**	**05 53 09.4**	**0.0**
PTK	**Pertek**	**0.57**	**220**	*e*Pg	**Pg**	**05 53 02.3**	**+0.3**
PTK				*e*Sg	**Sg**	**05 53 09.4**	**0.0**
EZC	**Erzincan**	**0.57**	**318**	*e*Pg	Pg	05 52 57.4	-4.8
BINT	**Bingol**	**0.67**	**132**	*e*Pg	**Pb**	**05 53 04.7**	**-0.4**
BGOL	**Bingol**	**0.72**	**118**	*i* P	**Pg**	**05 53 04.7**	**-0.2**
BGOL				*i* S	**Sg**	**05 53 14.7**	**+0.4**
BGOL	**Bingol**	**0.72**	**118**	P	**Pg**	**05 53 04.7**	**-0.2**
BGOL				S	**Sg**	**05 53 14.7**	**+0.4**
BNGB	**Bing¯ll**	**0.72**	**117**	PG	**Pg**	**05 53 04.7**	**-0.3**
KOPT	**Kop Dagi**	**0.85**	**36**	*e*P	**Pn**	**05 53 08.8**	**-0.9**
REFA	**Refahiye_ERZ¯**	**0.85**	**275**	*e*P	**Pn**	**05 53 11.4**	**+1.9**
REFA				*e*S	**Sn**	**05 53 26.8**	**+4.5**
KELT	**Kelkit**	**0.94**	**331**	*e*P	**Pn**	**05 53 10.7**	**-0.1**
KELT				*e*S	**Sn**	**05 53 25.4**	**+0.8**
KELT				IAML		05 53 30.4	
	comp=Z,6.9nm,0.4s						
KELT	**Kelkit**	**0.94**	**331**	*i* P	**Pn**	**05 53 10.4**	**-0.4**
KELT				*i* S	**Sn**	**05 53 25.6**	**+1.0**
KELT	**Kelkit**	**0.94**	**331**	P	**Pn**	**05 53 10.4**	**-0.4**
BAYB	**BAYBURT**	**0.98**	**18**	*e*P	**Pb**	**05 53 10.5**	**0.0**
ILIC	**ilic-Erzincan**	**1.00**	**277**	PG	**Pg**	**05 53 09.4**	**-1.0**
ILIC	**ilic-Erzincan**	**1.00**	**277**	*e*Pg	**Pg**	**05 53 09.4**	**-1.0**
HANI	**Diyarbakir_Han**	**1.01**	**155**	*i* P	**Pn**	**05 53 13.0**	**+1.4**
HANI	**Diyarbakir_Han**	**1.01**	**155**	P	**Pn**	**05 53 13.0**	**+1.4**
KEMA	**Kemaliye**	**1.06**	**267**	*e*P	**Pg**	**05 53 11.0**	**-0.4**
KEMA				*e*S	**Sn**	**05 53 26.5**	**-0.8**
KEMA				IAML		05 53 32.2	
	comp=Z,7.3nm,0.4s						
KEMA	**Kemaliye**	**1.06**	**267**	*i* P	**Pn**	**05 53 11.9**	**-0.4**
KEMA				*i* S	**Sn**	**05 53 26.5**	**-0.8**
KEMA	**Kemaliye**	**1.06**	**267**	P	**Pn**	**05 53 11.9**	**-0.4**
KEMA				S	**Sn**	**05 53 26.5**	**-0.8**
ELZG	**Elazig**	**1.07**	**220**	*i* P	**Pg**	**05 53 10.6**	**-1.1**
ELZG	**Elazig**	**1.07**	**220**	P	**Pg**	**05 53 10.6**	**-1.1**
BAYT	**Ayd¯–ntepe-Bay**	**1.09**	**12**	PN	**Pn**	**05 53 12.8**	**0.0**
BAYT	**Ayd¯–ntepe-Bay**	**1.09**	**12**	*e*Pn	**Pn**	**05 53 12.8**	**0.0**
ERZM	**Erzurum**	**1.30**	**63**	*e*P	**Pb**	**05 53 15.6**	**-0.3**
ERZM	**Erzurum**	**1.30**	**63**	*i* P	**Pg**	**05 53 15.8**	**-0.2**
ERZM	**Erzurum**	**1.30**	**63**	P	**Pg**	**05 53 15.9**	**-0.2**
MALT	**Malatya**	**1.51**	**228**	PN	**Pn**	**05 53 17.8**	**-0.7**
MALT	**Malatya**	**1.51**	**228**	*e*Pn	**Pn**	**05 53 17.8**	**-0.7**
EKAR	**Karacoban**	**1.71**	**92**	*e*P	**Pg**	**05 53 23.4**	**-0.5**
BTMN	**Batman**	**1.81**	**142**	*i* P	**Pg**	**05 53 25.1**	**-0.7**
BTMN				*i* S	**Sg**	**05 53 48.5**	**-0.8**
BTMN	**Batman**	**1.81**	**142**	P	**Pg**	**05 53 25.1**	**-0.7**
BTMN				S	**Sg**	**05 53 48.5**	**-0.8**
MAZI	**Mazidag**	**1.92**	**166**	PN	**Pn**	**05 53 24.9**	**+0.7**
MAZI	**Mazidag**	**1.92**	**166**	*e*Pn	**Pn**	**05 53 24.9**	**+0.7**

*ISK **11** 05:58:29.6,38˚.67N×43˚.22E,h2km,MD2.5/2*
*ISCJB **11** 05:58:30.5±1.0,38˚.60N±0˚.05×43˚.31E±0˚.06,h26km±7km, Error ellipse: s-maj=9.0km s-min=6.1km az=142.6*
*DDA **11** 05:58:31.0,38˚.67N×43˚.30E,h7km,Ml2.6*
*CSEM **11** 05:58:31.1±0.3,38˚.66N×43˚.24E,h5km,MD2.5,Error ellipse: s-maj=6.3km s-min=5.4km az=176.0*

ISC 11 05:58:30.9±0.9,38˚63N±0˚.03×43˚26E±0˚.03,h17km±7km, n17,σ0.72/31,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VANB	**Van**	**0.11**	**111**	PG	**Pb**	**05 58 34.8**	**+0.2**
VANB				SG	**Sg**	**05 58 38.7**	**+1.4**
VANB	**Van**	**0.11**	**111**	*e*Pg	**Pb**	**05 58 34.8**	**+0.2**
VANB				*e*Sg	**Sg**	**05 58 38.7**	**+1.4**
TVAN	**Van**	**0.15**	**132**	*i* P	**Pg**	**05 58 34.6**	**-0.8**
TVAN				*i* S	**Sg**	**05 58 37.9**	**-0.5**
TVAN	**Van**	**0.15**	**132**	P	**Pg**	**05 58 34.6**	**-0.8**
TVAN				S	**Sg**	**05 58 37.9**	**-0.5**
GEVA	**Gevas**	**0.36**	**206**	*i* P	**Pg**	**05 58 37.8**	**-0.7**
GEVA				*i* S	**Sb**	**05 58 45.2**	**+0.9**
GEVA	**Gevas**	**0.36**	**206**	P	**Pg**	**05 58 37.8**	**-0.7**
GEVA				S	**Sb**	**05 58 45.2**	**+0.9**
VMUR	**Van-Muradiye**	**0.43**	**34**	*i* P	**Pg**	**05 58 39.7**	**-0.1**
VMUR	**Van-Muradiye**	**0.43**	**34**	P	**Pg**	**05 58 39.7**	**-0.1**
ADCV	**BITLIS_Adilcev**	**0.45**	**293**	*i* P	**Pg**	**05 58 40.1**	**-0.1**
ADCV				*i* S	**Sb**	**05 58 47.8**	**+0.7**
ADCV	**BITLIS_Adilcev**	**0.45**	**293**	P	**Pg**	**05 58 40.1**	**-0.1**
ADCV				S	**Sb**	**05 58 47.8**	**+0.7**
CLDR	**Caldiran**	**0.72**	**45**	PG	**Pg**	**05 58 44.2**	**-1.0**
CLDR				SG	**Sb**	**05 58 55.4**	**+0.5**
CLDR	**Caldiran**	**0.72**	**45**	*i* P	**Pg**	**05 58 44.2**	**-1.0**
CLDR	**Caldiran**	**0.72**	**45**	P	**Pg**	**05 58 44.2**	**-1.0**
CLDR				*e*Sg	**Sb**	**05 58 55.4**	**+0.5**
TUTA	**Tutak**	**0.84**	**336**	*i* P	**Pb**	**05 58 46.8**	**-0.4**
TUTA				*i* S	**Sb**	**05 58 58.6**	**+0.3**
TUTA	**Tutak**	**0.84**	**336**	P	**Pb**	**05 58 46.8**	**-0.4**
TUTA				S	**Sb**	**05 58 58.7**	**+0.3**
GURO	**Guroymak-BITLI**	**0.97**	**265**	PG	**Pb**	**05 58 48.8**	**-0.5**
GURO				SG	**Sb**	**05 59 02.1**	**+0.3**
GURO	**Guroymak-BITLI**	**0.97**	**265**	*e*Pg	**Pb**	**05 58 48.8**	**-0.5**
GURO				*e*Sg	**Sb**	**05 59 02.1**	**+0.3**

*IDC **11** 05:59:56.5±0.8,39˚.53N×75˚.25E,h0km,mb3.7/12, mb1 3.8/17,mb1mx3.7/68,mbtmp3.7/17,ML3.0/4,MS3.0/1, Ms1 3.0/1,ms1mx2.4/64,Error ellipse: s-maj=18.5km s-min=13.6km az=82.0*
*BJI **11** 05:59:57.0,39˚.95N×75˚.06E,h8km,ML3.8/6*
*KRNET **11** 06:00:01.4±0.1,39˚.60N×75˚.23E,mb4.1*
*NNC **11** 06:00:02.5±0.8,39˚.82N×75˚.19E,h0km,mb4.4,mpv4.1, Error ellipse: s-maj=7.0km s-min=2.2km az=156.0*
*SOME **11** 06:00:02.0,39˚.80N×75˚.37E,h10km*

ISC 11 05:59:57.8±1.6,39˚76N±0˚.05×75˚51E±0˚.04,h3km±10km, n77,σ1.51/108,mb3.8/12,30C-20D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSH	**Kashi**	**0.43**	**124**	Pg	**Pn**	**06 00 14.4**	**+3.3**
KSH				Sg	Sb	06 00 24.7	+9.5
KSH				smax	smax		
	comp=N,9μm,0.4s						
KSH				smax	smax		
	comp=E,8μm,0.3s						
SFK	**Sufi-Kurgan**	**1.56**	**280**	⇑P	**Pn**	**06 00 27.0**	**+0.3**
	59nm,0.3s						
SFK				⇓S	**Sn**	**06 00 45.4**	**-2.2**
	708nm,0.4s						
SFK	**Sufi-Kurgan**	**1.56**	**280**	⇓*i*P	**Pn**	**06 00 27.1**	**+0.3**
	baz=88						
SFK				⇓*i*S	**Sn**	**06 00 45.4**	**-2.2**
	baz=88						
KZA	**Kyzart**	**2.32**	**355**	P	**Pg**	**06 00 41.7**	**-0.7**
	SNR=283						
KZA	**Kyzart**	**2.32**	**355**	⇑*i*P	**Pg**	**06 00 41.7**	**-0.7**
	baz=0.0						
KZA				⇑*i*S	**Sg**	**06 01 13.5**	**+1.0**
	baz=0.0						
ARSB	**Arslanbob**	**2.48**	**310**	⇑*i*P	**Pn**	**06 00 41.3**	**+2.1**
	baz=16						
ARSB				⇑*i*S	**Sn**	**06 01 12.1**	**+2.0**
	baz=16						
ULHL	**Ulahol**	**2.54**	**12**	P	**Pg**	**06 00 45.2**	**-1.4**
	SNR=46						
ULHL	**Ulahol**	**2.54**	**12**	⇑*i*P	**Pg**	**06 00 45.2**	**-1.4**
	baz=16						
ULHL				⇑*i*S	**Sg**	**06 01 18.9**	**-0.7**
	baz=16						
UCH	**Uchtor**	**2.58**	**343**	P	**Pb**	**06 00 45.0**	**0.0**
	SNR=554						
UCH	**Uchtor**	**2.58**	**343**	⇑*i*P	**Pb**	**06 00 44.9**	**0.0**
	baz=49						
UCH				⇑*i*S	**Sb**	**06 01 17.7**	**+0.5**
	baz=49						
TARG	**Taragay, Kyrgy**	**2.63**	**41**	⇑*i*P	**Pg**	**06 00 48.3**	**0.0**
	baz=42						
TARG				⇑*i*S	**Sg**	**06 01 23.0**	**+0.7**
	baz=42						
KDJ	**Kajisay**	**2.69**	**28**	⇓*e*P	**Pg**	**06 00 48.1**	**-1.2**
	baz=30						
KDJ				⇓*i*S	**Sg**	**06 01 23.1**	**-1.0**
	baz=30						
AML	**Almayashu**	**2.74**	**330**	P	**Pb**	**06 00 46.5**	**-1.2**
	SNR=160						
AML	**Almayashu**	**2.74**	**330**	⇑*i*P	**Pb**	**06 00 46.5**	**-1.2**
	baz=36						
AML				⇑*i*S	**Sb**	**06 01 21.0**	**-0.8**
	baz=36						
KBK	**Karagaybulak**	**2.92**	**352**	P	**Pb**	**06 00 50.5**	**-0.2**
	SNR=110						
KBK	**Karagaybulak**	**2.92**	**352**	⇑*i*P	**Pb**	**06 00 50.4**	**-0.3**
	baz=56						
KBK				⇑*i*S	**Sb**	**06 01 26.7**	**-0.2**
	baz=56						
AAK	**Ala-Archa**	**2.97**	**345**	Pn	**Pb**	**06 00 50.8**	**-0.8**
	72nm,0.3s,baz=152,slow=7.6,SNR=407						
AAK				Sn	**Sb**	**06 01 29.6**	**+1.2**
	22nm,0.3s,baz=8.6,slow=18,SNR=6.9						
AAK				LR	LR	06 01 40.6	
	comp=Z,37nm,19.8s,baz=208,slow=33						
AAK	**Ala-Archa**	**2.97**	**345**	⇑Pn	**Pb**	**06 00 50.0**	**-1.5**
	179nm,0.6s						
AAK				⇑Lg	Lg	06 01 33.0	
	286nm,0.8s						
AAK	**Ala-Archa**	**2.97**	**345**	P	**Pb**	**06 00 51.0**	**-0.5**
	SNR=292						
AAK	**Ala-Archa**	**2.97**	**345**	⇑*i*P	**Pb**	**06 00 50.9**	**-0.7**
	baz=50						
AAK				⇑*i*S	**Sb**	**06 01 27.7**	**-0.6**
	baz=50						
TKM2	**Tokmak 2**	**3.16**	**1**	⇓Pn	**Pb**	**06 00 53.9**	**-0.7**
	196nm,0.4s						
TKM2				⇑Pg	**Pg**	**06 00 58.7**	**+0.4**
	63nm,0.3s						
TKM2				⇑Sn	**Sb**	**06 01 33.0**	**-0.6**
	200nm,0.7s						
TKM2				⇓Lg	Lg	06 01 39.7	
	121nm,0.5s						
TKM2	**Tokmak 2**	**3.16**	**1**	P	**Pb**	**06 00 54.0**	**-0.7**
	SNR=394						
EKS2	**Erkin-Say**	**3.18**	**336**	P	**Pb**	**06 00 53.2**	**-1.8**
	SNR=62						
CHMS	**Chumysh**	**3.28**	**350**	P	**Pb**	**06 00 55.3**	**-1.5**
	SNR=119						
ARK	**Arkit**	**3.37**	**308**	⇓*i*P	**Pn**	**06 00 54.1**	**+2.6**
	baz=12						
ARK				⇓*i*S	**Sn**	**06 01 33.0**	**+0.9**
	baz=12						
IZV	**Izvestkoviy**	**3.38**	**14**	*e*P	**Pg**	**06 01 03.1**	**+0.5**
	369nm,0.5s						
IZV				*e*S	**Sg**	**06 01 47.0**	**+0.7**
	520nm,1.0s						
MRKS	**Merke**	**3.44**	**331**	*e*P	**Pg**	**06 01 03.2**	**-0.6**
	70nm,0.8s						
MRKS				*e*S	**Sg**	**06 01 47.4**	**-1.0**
	123nm,0.7s						
TNSS	**Tian-Shan**	**3.45**	**18**	*e*P	**Pg**	**06 01 04.5**	**+0.6**
	338nm,0.4s						
TNSS				*e*S	**Sg**	**06 01 49.7**	**+1.0**
	310nm,0.6s						
DGS	**Degeres**	**3.48**	**3**	*e*P	**Pg**	**06 01 05.8**	**+1.2**
	141nm,0.4s						
DGS				*e*S	**Sg**	**06 01 51.8**	**+2.0**
	264nm,0.5s						
MNAS	**Manas**	**3.54**	**321**	⇓Pn	**Pn**	**06 00 56.9**	**+3.0**
	5.9nm,0.5s						
MNAS				⇑Pg	**Pb**	**06 01 03.4**	**+2.1**
	59nm,1.2s						
MNAS				⇓Lg	Lg	06 01 48.3	
	55nm,0.6s						
MNAS	**Manas**	**3.54**	**321**	⇑*e*P	**Pn**	**06 00 57.4**	**+3.5**
	baz=25						
MNAS				⇑*i*S	**Sn**	**06 01 38.8**	**+2.4**
	baz=25						
USP	**Ospenovka**	**3.58**	**348**	P	**Pb**	**06 00 58.8**	**-3.1**
	SNR=67						
MDOK	**Medeo**	**3.59**	**18**	⇓Pn	**Pb**	**06 01 00.2**	**-1.9**
	36nm,0.4s						
MDOK				⇓Pg	**Pg**	**06 01 07.4**	**+0.7**
	58nm,0.5s						
MDOK				⇑Lg	Lg	06 01 55.2	
	324nm,1.0s						
MDOK	**Medeo**	**3.59**	**18**	*e*P	**Pg**	**06 01 06.5**	**-0.1**
	90nm,0.5s						
MDOK				*e*S	**Sg**	**06 01 53.0**	**-0.2**
	313nm,0.8s						
KNDC	**Almaty**	**3.62**	**17**	⇓Pn	**Pb**	**06 01 00.8**	**-1.8**
	52nm,0.3s						
KNDC				⇑Pg	**Pg**	**06 01 07.9**	**+0.7**
	115nm,0.5s						
KNDC				⇑Lg	Lg	06 01 58.6	
	316nm,0.7s						
KOTS	**Kotyrbulak**	**3.67**	**19**	*e*P	**Pg**	**06 01 08.6**	**+0.3**
	67nm,0.5s						
KOTS				*e*S	**Sg**	**06 01 56.5**	**+0.7**
	340nm,0.6s						
SATY	**Saty**	**3.95**	**33**	*e*P	**Pg**	**06 01 14.4**	**+0.9**
	112nm,0.6s						
SATY				*e*S	**Sg**	**06 02 06.7**	**+2.0**
	167nm,0.4s						
KTBS	**Karatobe**	**4.04**	**12**	*e*P	**Pg**	**06 01 14.8**	**-0.6**
	58nm,0.6s						
KTBS				*e*S	**Sg**	**06 02 06.9**	**-0.8**
	262nm,0.7s						
KUU	**Kurty**	**4.17**	**8**	*e*P	**Pg**	**06 01 17.2**	**-0.6**
	34nm,0.4s						
KUU				*e*S	**Sg**	**06 02 10.7**	**-1.2**
	329nm,0.6s						
KURS	**Kuram**	**4.22**	**27**	*e*P	**Pg**	**06 01 18.4**	**-0.4**
	23nm,0.8s						
KURS				*e*S	**Sg**	**06 02 13.3**	**-0.2**
	60nm,1.0s						
CHKK	**Chushkaly**	**4.24**	**15**	*e*P	**Pg**	**06 01 17.9**	**-1.1**
	56nm,0.7s						
CHKK				*e*S	**Sg**	**06 02 12.4**	**-1.5**
	171nm,0.4s						
PDGK	**Podgornoye**	**4.65**	**39**	⇓Pn	Pb	06 01 14.5	-5.6
	24nm,0.9s						
PDGK				⇓Pg	**Pg**	**06 01 28.9**	**+1.9**
	28nm,0.6s						
PDGK				⇓Lg	Lg	06 02 30.3	
	94nm,0.7s						
ARXS	**Arharly**	**4.77**	**20**	*e*P	**Pg**	**06 01 26.9**	**-2.4**
	16nm,0.4s						
ARXS				*e*S	**Sg**	**06 02 27.9**	**-3.2**
	84nm,0.8s						
MNBS	**Baschi**	**4.82**	**26**	*e*P	**Pg**	**06 01 28.9**	**-1.3**
MNBS				*e*S	**Sg**	**06 02 31.5**	**-1.2**
	100nm,1.0s						
KK31	**Karatay Array**	**5.02**	**313**	Pn	**Pn**	**06 01 15.6**	**+1.4**
	0.8nm,0.2s,baz=123,slow=12,SNR=36						
KK31				⇓Pg	**Pb**	**06 01 29.9**	**+3.5**
	4.7nm,0.4s,baz=140,slow=16,SNR=12						
KK31				⇑Lg	Lg	06 02 34.2	
	12nm,0.5s,baz=127,slow=31,SNR=4.1						
KTMS	**Ketmen**	**5.17**	**43**	*e*P	**Pg**	**06 01 36.1**	**-0.8**
	9.2nm,0.3s						
KTMS				*e*S	**Sg**	**06 02 43.9**	**0.0**
	39nm,0.7s						
MK31	**Makanchi Array**	**8.59**	**33**	Pn	Pn	06 02 10.9	+7.8
	1.2nm,0.5s,baz=209,slow=15,SNR=14						
MK31				⇑Pg	**Pg**	**06 02 40.3**	**-2.0**
	0.8nm,0.4s,baz=220,slow=16,SNR=5.3						
MK31				⇓Lg	Lg	06 04 39.5	
	4.5nm,0.8s,baz=218,slow=28,SNR=3.7						
MKAR	**Makanchi Array**	**8.59**	**33**	Pn	Pn	06 02 07.9	+4.8
	0.2nm,0.3s,baz=208,slow=15,SNR=9.1						
MKAR				Lg	Lg	06 04 32.3	
	0.5nm,0.3s,baz=218,slow=28,SNR=4.3						
WMQ	**Urumqi**	**9.96**	**62**	P	Pn	06 02 26.8	+4.9
KURBB	**Kurchatov Arra**	**11.07**	**10**	Pn	**Pn**	**06 02 39.0**	**+2.0**
	0.0nm,0.3s,baz=197,slow=12,SNR=3.9						
KURBB				Lg	Lg	06 05 48.8	
	0.1nm,0.3s,baz=191,slow=29,SNR=6.2						
KURK	**Kurchatov**	**11.17**	**10**	⇑Lg	Lg	06 05 58.4	
	40nm,1.3s						
PYUN	**Piuthan**	**13.18**	**150**	*e*P	**Pn**	**06 03 06.6**	**+0.5**
	15nm,0.3s						
KOLN	**Koldanda**	**13.71**	**148**	*e*P	**Pn**	**06 03 13.2**	**-0.2**
	7.7nm,0.4s						
BVA0	**Borovoye Array**	**13.72**	**347**	Pn	**Pn**	**06 03 17.0**	**+3.8**
	3.6nm,1.1s,baz=159,slow=15,SNR=8.8						
BVA0				⇓Lg	Lg	06 07 16.0	
	15nm,1.2s,baz=157,slow=23,SNR=3.6						
BVAR	**Borovoye Array**	**13.72**	**347**	Pn	**Pn**	**06 03 13.2**	**0.0**
	0.3nm,0.3s,baz=158,slow=13,SNR=7.9						
BVAR				Lg	Lg	06 07 03.2	
	0.2nm,0.3s,baz=155,slow=25,SNR=3.2						
GKN	**Gorkha**	**13.96**	**144**	*e*P	**Pn**	**06 03 15.9**	**-0.7**
	12nm,0.3s						
KKN	**Kakani**	**14.43**	**143**	*e*P	**Pn**	**06 03 22.4**	**-0.8**
	17nm,0.5s						
AB31	**Akbulak array**	**14.58**	**316**	Pn	**Pn**	**06 03 26.5**	**+1.5**
	2.1nm,0.9s,baz=132,slow=11,SNR=12						
GUN	**Gumba**	**14.61**	**141**	*e*P	**Pn**	**06 03 25.4**	**-0.4**
PKIN	**Phulchoki**	**14.66**	**143**	*e*P	**Pn**	**06 03 24.9**	**-1.5**
	11nm,0.4s						
JIRN	**Jiri**	**14.97**	**140**	*e*P	**Pn**	**06 03 29.8**	**-0.9**
	49nm,0.4s						
ZALV	**Zalesovo Beam**	**15.53**	**21**	Pn	**P**	**06 03 39.6**	**-2.5**
	0.2nm,0.3s,baz=211,slow=11,SNR=8.7						
ZALV				Lg	Lg	06 08 17.7	
	0.2nm,0.3s,baz=220,slow=28,SNR=3.2						
RAMN	**Ramite**	**15.77**	**141**	*e*P	**Pn**	**06 03 38.3**	**-2.8**
	30nm,0.6s						
AKTO	**Aktyubinsk**	**16.28**	**317**	Pn	**Pn**	**06 03 48.5**	**+1.2**
	0.2nm,0.3s,baz=112,slow=16,SNR=4.0						
AKTO				LR	LR	06 10 21.0	
	comp=Z,56nm,18.9s,baz=166,slow=38						
SONM	**Songino Array**	**23.59**	**60**	P	**P**	**06 05 12.9**	**+3.1**
	0.4nm,0.6s,baz=274,slow=7.1,SNR=2.8						
CD2	**Chengdu**	**24.60**	**102**	*e*P	**P**	**06 05 21.0**	**+1.7**
BRTR	**Keskin Array B**	**31.98**	**284**	P	**P**	**06 06 23.6**	**-1.6**
	0.5nm,0.7s,baz=74,slow=9.1,SNR=4.0						
FINES	**FINESS Array B**	**36.91**	**323**	P	**P**	**06 07 07.0**	**-0.5**
	1.0nm,0.5s,baz=100,slow=9.9,SNR=5.6						
ARCES	**ARCESS Array B**	**39.59**	**335**	P	**P**	**06 07 30.0**	**0.0**
	2.6nm,0.5s,baz=107,slow=9.2,SNR=26						
HFS	**Hagfors**	**42.80**	**320**	P	**P**	**06 07 56.0**	**-0.5**
	0.9nm,0.5s,baz=96,slow=12,SNR=6.2						
NOA	**NORSAR Array B**	**44.01**	**321**	P	**P**	**06 08 05.4**	**-0.9**
	1.0nm,0.8s,baz=89,slow=8.0,SNR=3.3						
TORD	**Torodi Ar. Bea**	**69.31**	**270**	P	**P**	**06 11 05.1**	**-1.7**
	0.3nm,0.4s,baz=49,slow=5.6,SNR=8.2						
INK	**Inuvik**	**70.07**	**11**	P	**P**	**06 11 10.9**	**+0.3**
	0.6nm,0.5s,baz=343,slow=5.2,SNR=6.6						
ILAR	**Eielson Array**	**70.63**	**18**	P	**P**	**06 11 13.3**	**-0.8**
	0.5nm,1.0s,baz=322,slow=5.7,SNR=5.6						
YKA	**Yellowknife Ar**	**77.77**	**5**	P	**P**	**06 11 55.5**	**-0.3**
	0.4nm,0.6s,baz=348,slow=5.7,SNR=12						
WRA	**Warramunga Arr**	**80.83**	**125**	P	**P**	**06 12 13.1**	**-0.1**
	0.5nm,0.8s,baz=319,slow=4.0,SNR=5.8						
ASAR	**Alice Springs**	**83.33**	**128**	P	**P**	**06 12 25.4**	**-0.8**
	0.4nm,0.6s,baz=311,slow=5.3,SNR=5.6						

MEX 11 06:11:55.3±0.4,16˚03N×98˚08W,h3km±3km,MD3.9,Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.36**	**353**	*i* P	Pg	06 12 01.9	-0.4
PNIG				*e*S	Sg	06 12 07.4	+0.3
TLIG	**Tlapa**	**1.59**	**343**	*e*P	Pn	06 12 20.6	-3.9
TLIG				*i* S	Sn	06 12 40.9	-4.8
VHO	**Vista Hermosa**	**1.66**	**51**	*e*P	Pn	06 12 22.1	-3.3
VHO				*e*S	Sn	06 12 42.1	-5.2
CAIG	**El Cayaco**	**2.33**	**296**	*e*P	Pn	06 12 31.2	-3.3
CAIG				*e*S	Sn	06 12 59.5	-4.2
PLIG	**Platanillo**	**2.71**	**330**	*e*P	Pn	06 12 36.9	-3.1
PLIG				*e*S	Sn	06 13 11.3	-2.0

*DJA **11** 06:14:13.7±1.8,8˚N±14˚×12˚5E±1˚0,h10km,M5.2/4, mb5.0/4,mB4.9/3,MLv5.5/4,Mw(mB)4.2/3*
*IDC **11** 06:14:27.0±0.6,6˚.93N×125˚.03E,h0km,mb4.2/16, mb1 4.3/16,mb1mx4.0/60,mbtmp4.1/16,MS3.7/17, Ms1 3.7/17,ms1mx3.4/58,Error ellipse: s-maj=13.4km s-min=8.1km az=173.0*
*ISCJB **11** 06:14:28.3±0.5,7˚.02N±0˚.03×125˚.14E±0˚.03,h17km±3km, mb4.4/45,MS3.7/16,Error ellipse: s-maj=5.8km s-min=4.7km az=166.4*
*MAN **11** 06:14:28,7˚.14N×125˚.07E,h1km,mb5.1,ML4.1,MS4.1*
*NEIC **11** 06:14:32.5±0.2,6˚.99N×125˚.25E,h35km,mb4.7/32,Error ellipse: s-maj=6.0km s-min=4.9km az=80.0*
NEIC Felt [III PIVS] at Kidapawan, Magpet and Makilala and [II PIVS] at Matalam, M'lang and Tulunan.

ISC 11 06:14:29.2±0.9,7˚12N±0˚.03×125˚07E±0˚.03,h8km±6km, n92,σ1.35/90,mb4.6/45,MS3.7/16,6C-3D,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KCP	**Kidapawan**	**0.11**	**170**	⇑*i*P	**Pg**	**06 14 31.0**	**-0.9**
KCP				*i* S	**Sg**	**06 14 33.7**	**0.0**
DMPH	**Davao City--Mi**	**0.43**	**95**	⇑*e*P	**Pg**	**06 14 37.7**	**0.0**

ASAJ	Asahikawa	39.91	20	P		P		06 22 03.3	-0.5
	3.3nm,0.4s,baz=236,slow=7.3,SNR=3.6								
ASAJ	Asahikawa	39.91	20	*eP*		P		06 22 03.0	-0.7
	21nm,1.2s								
BBOO	Buckleboo	41.06	166	*eP*		P		06 22 11.7	-1.7
	20nm,1.2s								
STKA	Stephens Creek	41.87	159	P		P		06 22 17.6	-2.4
	4.1nm,0.7s,baz=314,slow=6.6,SNR=7.7								
STKA					LR	LR		06 41 01.4	
	comp=Z,104nm,21.1s,baz=16,slow=38								
STKA	Stephens Creek	41.87	159	*eP*		P		06 22 18.8	-1.2
	1.6nm,0.9s								
SONA0	Songino Array	43.58	342	*eP*		P		06 22 34.1	+0.2
SONM	Songino Array	43.58	342	P		P		06 22 34.1	+0.2
	1.3nm,0.8s,baz=176,slow=7.1,SNR=5.2								
SONM					LR	LR		06 41 43.8	
	comp=Z,180nm,21.9s,baz=135,slow=37								
SONA1	Songino Array	43.59	342	*eP*		P		06 22 34.2	+0.2
PETK	Petropavlovsk-	52.98	24	P		P		06 23 45.3	-0.9
	6.2nm,0.9s,baz=203,slow=3.1,SNR=5.3								
PEA1	Petropavlovsk-	52.98	24	*eP*		P		06 23 45.3	-1.0
MK32	Makanchi Array	53.85	325	*eP*		P		06 23 53.4	+0.6
MKAR	Makanchi Array	53.85	325	P		P		06 23 53.4	+0.6
	0.7nm,0.6s,baz=134,slow=8.6,SNR=5.1								
NIL	Nilore	54.58	306	*eP*		P		06 23 58.7	+0.3
	14nm,1.0s								
ZALV	Zalesovo Beam	56.84	333	P		P		06 24 15.8	+1.7
	0.5nm,0.3s,baz=116,slow=6.6,SNR=3.1								
ZAA1	Zalesovo Array	56.84	333	*eP*		P		06 24 15.8	+1.7
KURBB	Kurchatov Arra	58.01	327	P		P		06 24 23.2	+0.7
	0.7nm,0.7s,baz=122,slow=7.1,SNR=7.2								
KURK	Kurchatov	58.01	327	*eP*		P		06 24 23.2	+0.7
KK31	Karatay Array	59.65	316	*eP*		P		06 24 35.0	+0.9
KKAR	Karatay Array	59.65	316	*eP*		P		06 24 34.8	+0.7
KK09	Karatay Array	59.66	316	*eP*		P		06 24 34.7	+0.5
BVAR	Borovoye Array	63.60	327	P		P		06 25 00.5	-0.1
	0.6nm,0.5s,baz=126,slow=7.3,SNR=3.7								
GAMB	Gambell	72.01	25	*eP*		P		06 25 53.2	-0.1
	7.6nm,1.2s								
IM3	Indian Mountai	79.94	24	*eP*		P		06 26 38.1	-0.4
CAST	Castle Rocks	80.47	27	*eP*		P		06 26 41.3	-0.2
	22nm,1.8s								
SKT	Skwentna	80.65	28	*eP*		P		06 26 41.8	-0.7
	41nm,1.8s								
BPAW	Bear Paw Mtn.	80.99	26	*eP*		P		06 26 44.0	-0.2
	15nm,1.4s								
SUA	Susitna One	81.01	29	*eP*		P		06 26 43.5	-1.0
	9.9nm,0.9s								
MLY	Manley	81.13	25	*eP*		P		06 26 45.1	+0.1
	3.7nm,0.8s								
TRF	Thorofare Moun	81.28	27	*eP*		P		06 26 45.6	-0.3
	12nm,1.2s								
COLD	Coldfoot	81.44	23	*eP*		P		06 26 47.0	+0.5
	3.6nm,0.9s								
TOLK	Toolik Lake Re	81.72	22	*eP*		P		06 26 48.2	+0.1
	4.1nm,0.8s								
PMR	Palmer	81.78	29	*eP*		P		06 26 47.5	-0.9
	5.3nm,0.8s								
MCK	McKinley	81.89	27	*eP*		P		06 26 48.4	-0.7
	21nm,1.3s								
RND	Reindeer	81.92	27	*eP*		P		06 26 48.4	-0.9
	13nm,1.3s								
SML	Sawmill	82.16	29	*eP*		P		06 26 49.8	-0.7
	7.1nm,0.9s								
SML					*eS*	S		06 37 06.2	+0.5
WRH	Wood River Hil	82.26	26	*eP*		P		06 26 50.8	-0.2
	6.6nm,1.1s								
CCB	Clear Creek Bu	82.38	26	*eP*		P		06 26 50.8	-0.8
	7.5nm,1.2s								
DHY	Denali Highway	82.59	27	*eP*		P		06 26 52.7	-0.3
	4.6nm,1.0s								
HDA	Harding Lake	82.76	26	*eP*		P		06 26 52.1	-1.4
	4.1nm,0.8s								
ILAR	Eielson Array	82.77	26	P		P		06 26 52.2	-1.4
	1.5nm,0.9s,baz=238,slow=4.8,SNR=17								
ILB	Eielson Array	82.77	26	*eP*		P		06 26 52.8	-0.9
IL1	Eielson Array	82.78	26	*eP*		P		06 26 52.6	-1.0
RIDG	Independ'e Rid	83.71	27	*eP*		P		06 26 58.0	-0.6
	9.4nm,0.8s								
BMRM	Bremner River	83.99	29	*eP*		P		06 27 00.2	+0.2
	8.2nm,1.1s								
DOT	Dot Lake	84.06	27	*eP*		P		06 26 59.9	-0.5
	19nm,1.2s								
MENT	Mentasta	84.27	27	*eP*		P		06 27 01.6	+0.2
	5.2nm,0.9s								
BALM	Baldy	85.08	29	*eP*		P		06 27 05.5	-0.1
	5.2nm,0.9s								
EGAK	Eagle	85.22	25	*eP*		P		06 27 06.0	-0.1
	8.6nm,1.1s								
BRTR	Keskin Array B	86.60	309	LR		LR		07 11 52.1	
	comp=Z,25nm,20.4s,baz=100,slow=40								
SPITS	Spitsbergen Ar	86.85	349	LR		LR		07 09 24.1	
	comp=Z,46nm,21.3s,baz=170,slow=38								
FINES	FINESS Array B	88.08	332	LR		LR		07 08 41.4	
	comp=Z,58nm,19.2s,baz=11,slow=37								
AKASG	Malin Array Be	88.24	321	LR		LR		07 10 15.3	
	comp=Z,47nm,20.5s,baz=250,slow=38								
MLR	Muntele Rosu	91.33	316	LR		LR		07 13 23.0	
	comp=Z,16nm,19.8s,baz=58,slow=39								
HFS	Hagfors	94.27	332	LR		LR		07 12 39.9	
	comp=Z,48nm,19.9s,baz=55,slow=37								
SYO	Syowa Base	94.97	201	*eP*		P		06 27 50.2	-1.7
NOA	NORSAR Array B	95.04	333	LR		LR		07 14 14.4	
	comp=Z,39nm,19.4s,baz=90,slow=38								
YKA	Yellowknife Ar	97.10	24	P		P		06 28 01.2	-0.6
	0.3nm,0.6s,baz=300,slow=4.5,SNR=8.6								
GERES	GERESS Array B	98.42	322	LR		LR		07 16 21.7	
	comp=Z,35nm,18.5s,baz=58,slow=38								

IDC 11 06:15:00.7±4.3, 30.45S×138.29E, h0km, mb1 3.2/3, mb1mx3.1/42, mbtmp2.9/3, ML2.5/3, Error ellipse: s-maj=108.0km s-min=16.1km az=41.0, South Australia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	Stephens Creek	3.17	118	Pn	Pn	06 15 51.8	-0.1
	0.3nm,0.3s,baz=292,slow=19,SNR=3.2						
STKA				Pg	Pb	06 15 59.6	+1.6
	0.7nm,0.3s,baz=284,slow=15,SNR=6.9						
STKA				Sn	Sn	06 16 30.9	+0.5
	0.9nm,0.3s,baz=357,slow=19,SNR=5.8						
STKA				Lg	Lg	06 16 40.5	
	2.0nm,0.3s,baz=23,slow=23,SNR=8.2						
ASAR	Alice Springs	7.80	329	Pn	Pn	06 16 56.2	+0.7
	0.0nm,0.3s,baz=150,slow=12,SNR=9.1						
ASAR				Sn	Sn	06 18 23.3	-1.3
	0.1nm,0.3s,baz=154,slow=21,SNR=3.5						
WRA	Warramunga Arr	11.05	340	Pn	Pn	06 17 40.0	-0.1
	0.1nm,0.3s,baz=160,slow=12,SNR=6.0						

IDC 11 06:18:50.0±0.9, 39.69N×20.37E, h0km, mb3.8/12, mb1 3.9/19, mb1mx3.7/64, mbtmp3.7/19, ML3.7/7, Error ellipse: s-maj=16.8km s-min=13.4km az=47.0
TIR 11 06:18:50.9, 39.67N×20.38E, h24km, Md4.4/9
ATH 11 06:18:51.9, 39.67N×20.40E, h9km±1km, ML3.7/11, Error ellipse: s-maj=1.7km s-min=0.7km az=245.0
ROM 11 06:18:51.7±0.4, 39.63N×20.36E, h10km, Ml3.7/26, Error ellipse: s-maj=4.9km s-min=4.4km az=71.0
ISCJB 11 06:18:51.8±0.3, 39.68N±0.01×20.27E±0.01, h6km±2km, mb3.7/11, Error ellipse: s-maj=2.0km s-min=1.5km az=136.1
BEO 11 06:18:51.4±1.0, 39.55N×20.21E, h6km±5km
SKO 11 06:18:51.2, 39.46N×20.59E, h1km, M3.3, ML3.8
CSEM 11 06:18:52.1±0.1, 39.65N×20.29E, h2km, ML3.6, Error ellipse: s-maj=2.3km s-min=1.7km az=48.0
THE 11 06:18:52.6, 39.67N×20.35E, h0km±1km, ML3.6/29, Error ellipse: s-maj=1.6km s-min=0.6km az=273.0
PDG 11 06:18:52.4±0.5, 39.66N×20.33E, h8km, ML3.8/8, Error ellipse: s-maj=0.5km s-min=0.5km az=0.0
NEIC 11 06:18:52.7±0.0, 39.70N×20.29E, h10km, ML3.6(THE), ML3.9(ATH), ML4.0(CSEM), After ATH.

ISC 11 06:18:52.1±0.7, 39.67N±0.01×20.33E±0.01, h12km±4km, n388, σ1°58/543, mb3.8/11, 18C-20D, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SGD	Sagiada	0.10	231	P	Pg	06 18 54.4	-0.5
SGD				S	Sg	06 18 58.5	+1.6
SGD	Sagiada	0.10	231	P	Pg	06 18 54.8	-0.1
SGD	Sagiada	0.10	231	P	Pg	06 18 54.8	-0.1
SGD				S	Sg	06 18 58.0	+1.1
IGT	Igoumenitsa	0.14	179	P	Pg	06 18 54.8	-0.7
IGT				S	Sg	06 18 58.0	0.0
IGT				AML	AML	06 18 59.1	
	comp=E,76016μm,0.5s						
IGT				AML	AML	06 18 59.9	
IGT	Igoumenitsa	0.14	179	P	Pg	06 18 55.0	-0.5
IGT				S	Sg	06 18 58.2	+0.3
IGT	Igoumenitsa	0.14	179	P	Pg	06 18 55.0	-0.5
IGT				S	Sg	06 18 58.2	+0.3
IGT	Igoumenitsa	0.14	179	P	Pg	06 18 55.0	-0.5
IGT				S	Sg	06 18 57.9	0.0
KASA	Kassiopi	0.31	284	P	Pb	06 18 59.4	-0.2
KASA				S	Sb	06 19 05.8	+1.2
KASA				AML	AML	06 19 06.0	
	comp=E,34214μm,0.2s						
KASA				AML	AML	06 19 08.5	
	comp=N,44717μm,0.2s						
KASA	Kassiopi	0.31	284	P	Pb	06 18 59.2	-0.4
KASA				S	Sb	06 19 05.1	+0.5
SRN	Sarande	0.33	309	P	Pb	06 18 59.8	0.0
SRN				S	Sb	06 19 05.1	+0.1
SRN	Sarande	0.33	309	P	Pb	06 18 59.8	0.0
SRN				S	Sb	06 19 05.1	+0.1
SRN	Sarande	0.33	309	Pn	Pg	06 18 58.9	+0.2
SRN	Sarande	0.33	309	P	Pb	06 18 59.8	0.0
SRN				*i* Sg	Sb	06 19 04.9	-0.1
SRN				Sn	Sb	06 19 05.5	+0.5
	comp=N,5μm,0.6s						
SRN	Sarande	0.33	309	Pn	Pg	06 18 58.9	+0.2
SRN				Sn	Sb	06 19 05.5	+0.5
	comp=N,5μm,0.6s						
SRN	Sarande	0.33	309	*i* PG	Pg	06 18 59.0	+0.2
SRN				*i* SG	Sb	06 19 04.9	-0.1
JAN	Janina	0.40	92	P	Pg	06 18 59.7	-0.4
JAN				AML	AML	06 19 07.3	
JAN				AML	AML	06 19 07.7	
	comp=E,77602μm,0.3s						
JAN	Janina	0.40	92	P	Pg	06 18 59.0	-1.1
JAN				S	Sb	06 19 06.6	-0.6
JAN	Janina	0.40	92	P	Pg	06 18 59.0	-1.1
JAN				S	Sb	06 19 06.6	-0.6
JAN	Janina	0.40	92	P	Pg	06 18 59.2	-0.9
JAN				S	Sb	06 19 06.6	-0.6
KEK	Kerkira	0.41	276	P	Pg	06 19 00.1	-0.1
KEK				S	Sb	06 19 08.3	+0.8
KEK				AML	AML	06 19 12.5	
	comp=N,25815μm,0.6s						
KEK				AML	AML	06 19 13.8	
	comp=E,32756μm,0.6s						
KEK	Kerkira	0.41	276	P	Pg	06 19 00.5	+0.3
KEK				S	Sb	06 19 08.5	+1.0
KEK	Kerkira	0.41	276	P	Pg	06 19 00.5	+0.3
KEK				S	Sb	06 19 08.5	+1.0
KEK	Kerkira	0.41	276	P	Pg	06 19 00.5	+0.3
KEK				S	Sb	06 19 07.9	+0.4
KEK				Sn	Sb	06 19 08.4	+1.0
	comp=E,2μm,0.7s						
KEK	Kerkira	0.41	276	Pn	Pg	06 19 00.5	+0.3
KEK				Sn	Sb	06 19 08.4	+1.0
	comp=E,2μm,0.7s						
DSL	Palaion Diasel	0.80	132	P	Pg	06 19 06.1	-1.5
DSL				AML	AML	06 19 24.4	
	comp=N,9806μm,0.4s						
DSL				AML	AML	06 19 29.5	
	comp=E,9507μm,0.9s						
DSL	Palaion Diasel	0.80	132	P	Pg	06 19 06.1	-1.5
DSL				S	Sb	06 19 19.1	+0.4
DSL	Palaion Diasel	0.80	132	P	Pg	06 19 06.3	-1.3
DSL				S	Sb	06 19 19.1	+0.4
PENT	Pentalofos	0.81	50	P	Pg	06 19 06.6	-1.2
PENT	Pentalofos	0.81	50	P	Pg	06 19 06.4	-1.4
PENT				S	Sb	06 19 19.4	+0.3
PENT	Pentalofos	0.81	50	P	Pg	06 19 06.6	-1.2
PENT				S	Sb	06 19 19.4	+0.3
KPRO	Kipourio	0.84	70	P	Pg	06 19 07.3	-1.1
KPRO				S	Sg	06 19 17.1	-2.4
KPRO				AML	AML	06 19 23.0	
	comp=E,26797μm,0.6s						
KPRO				AML	AML	06 19 27.6	
	comp=N,15844μm,0.5s						
KPRO	Kipourio	0.84	70	P	Pg	06 19 06.7	-1.7
KPRO				S	Sn	06 19 21.6	-0.6
KPRO	Kipourio	0.84	70	P	Pg	06 19 07.1	-1.3
KPRO				S	Sn	06 19 21.6	-0.6
LKD2	Lefkada island	0.92	164	P	Pg	06 19 08.2	-1.6
LKD2				AML	AML	06 19 28.5	
	comp=N,7109μm,0.7s						
LKD2				AML	AML	06 19 28.6	
	comp=E,5263μm,0.9s						
LKD2	Lefkada island	0.92	164	P	Pg	06 19 08.8	-1.0
LKD2				S	Sb	06 19 22.6	+0.5
LKD2	Lefkada island	0.92	164	P	Pg	06 19 08.8	-1.0
LKD2				S	Sb	06 19 22.6	+0.5
NEST	Nestorio	0.92	36	P	Pg	06 19 09.3	-0.6
NEST	Nestorio	0.92	36	P	Pg	06 19 08.9	-1.0
NEST	Nestorio	0.92	36	P	Pg	06 19 09.1	-0.8
KBN	Korca	1.01	20	P	Pg	06 19 10.7	-0.9
KBN				S	Sn	06 19 26.5	+0.2
KBN	Korca	1.01	20	P	Pg	06 19 10.4	-1.2
KBN				S	Sn	06 19 27.0	+0.7
KBN	Korca	1.01	20	*i* Pg	Pg	06 19 10.7	-0.9
KBN				*i* Sg	Sn	06 19 26.5	+0.2
KBN				S	Sn	06 19 27.0	+0.7
KBN	Korca	1.01	20	*i* PG	Pg	06 19 10.7	-0.9
KBN				*i* SG	Sn	06 19 26.5	+0.2
MGNA	Meganis„	1.08	160	P	Pg	06 19 12.7	0.0
MGNA				AML	AML	06 19 30.0	
	comp=E,4790μm,0.5s						
MGNA				AML	AML	06 19 33.9	
	comp=N,2847μm,1.0s						
MGNA	Meganis„	1.08	160	P	Pb	06 19 12.3	-0.3
FSK	Fiskardo	1.23	171	P	Pn	06 19 15.0	+0.1
FSK	Fiskardo	1.23	171	P	Pn	06 19 14.4	-0.5
FSK				S	Sg	06 19 32.3	+0.8
PDO	Prodromos	1.26	148	P	Pn	06 19 14.8	-0.7
PDO	Prodromos	1.26	148	P	Pn	06 19 15.3	-0.2
PDO				S	Sg	06 19 35.2	+2.5
PDO	Prodromos	1.26	148	P	Pn	06 19 15.3	-0.2
PDO				S	Sg	06 19 35.2	+2.5
KZN	Kozani	1.28	60	P	Pn	06 19 15.1	-0.7
KZN	Kozani	1.28	60	P	Pn	06 19 14.3	-1.4
KZN				S	Sg	06 19 36.6	+3.4
KZN	Kozani	1.28	60	P	Pn	06 19 15.1	-0.7
KZN				S	Sg	06 19 36.6	+3.4
THL	Klokotos Trika	1.31	94	P	Pn	06 19 15.0	-1.1
THL				AML	AML	06 19 39.2	
	comp=E,10438μm,0.7s						
THL				AML	AML	06 19 39.7	
	comp=N,9298μm,0.6s						
THL	Klokotos Trika	1.31	94	P	Pn	06 19 15.0	-1.1
THL				S	Sg	06 19 35.5	+1.4
THL	Klokotos Trika	1.31	94	P	Pn	06 19 15.2	-0.9
THL				S	Sg	06 19 35.5	+1.4
FNA	Florina	1.37	35	P	Pn	06 19 16.3	-0.7
FNA	Florina	1.37	35	P	Pn	06 19 16.3	-0.7
FNA				S	Sg	06 19 38.6	+2.4
FNA	Florina	1.37	35	P	Pn	06 19 16.7	-0.3
FNA				S	Sg	06 19 38.6	+2.4
EVR	Evrytania	1.37	123	P	Pb	06 19 17.7	0.0
EVR	Evrytania	1.37	123	P	Pn	06 19 17.2	+0.1
EVR				S	Sg	06 19 38.5	+2.2
EVR	Evrytania	1.37	123	P	Pn	06 19 17.3	+0.1
EVR				S	Sg	06 19 38.5	+2.2
PVO	Paravola	1.41	138	P	Pg	06 19 19.0	-0.1
PVO	Paravola	1.41	138	P	Pb	06 19 18.6	+0.4
PVO				S	Sg	06 19 39.7	+2.4
PVO	Paravola	1.41	138	P	Pb	06 19 18.6	+0.4
OHR	Ohrid	1.48	14	*i* Pn	Pb	06 19 19.9	+0.4
OHR				*e*Sg	Sg	06 19 44.1	+4.3
OHR				*e*Lg	Lg	06 19 46.4	
	comp=E,2μm,0.6s						
OHR				*e*Lg	Lg	06 19 47.1	
	comp=N,1μm,0.7s						
SCTE	Santa Cesarea	1.49	286	Pn	Pn	06 19 19.1	+0.5
	comp=N,396nm,0.7s						
SCTE	Santa Cesarea	1.49	286	Pn	Pn	06 19 19.1	+0.5
	comp=N,396nm,0.7s						
VLS	Valsamata	1.51	172	P	Pn	06 19 18.2	-0.7
VLS	Valsamata	1.51	172	P	Pn	06 19 18.8	-0.1
VLS				S	Sg	06 19 40.2	-0.4
VLS	Valsamata	1.51	172	P	Pn	06 19 19.1	+0.2
VLS				S	Sg	06 19 40.2	-0.4
BIA	Bitola	1.54	29	P	Pb	06 19 20.8	+0.2
BIA				S	Sg	06 19 43.1	+1.3
BIA	Bitola	1.54	29	P	Pb	06 19 20.8	+0.2
BIA				S	Sg	06 19 43.1	+1.3
BIA	Bitola	1.54	29	*i* Pn	Pg	06 19 21.6	-0.1
BIA				*i* Sg	Sg	06 19 44.6	+2.8
KTI	Kastanea	1.55	62	P	Pn	06 19 19.8	+0.2
KTI	Kastanea	1.55	62	P	Pn	06 19 19.8	+0.2
LRSO	Larissa Observ	1.59	89	P	Pb	06 19 20.8	-0.6
LRSO				S	Sg	06 19 44.3	+1.0
LRSO	Larissa Observ	1.59	89	P	Pb	06 19 20.8	-0.6
LRSO				S	Sg	06 19 44.3	+1.0
KFL	Anninata	1.60	167	P	Pg	06 19 22.7	-0.1
KFL	Anninata	1.60	167	P	Pn	06 19 20.3	+0.2
KFL				S	Sg	06 19 44.1	+0.5
KFL	Anninata	1.60	167	P	Pn	06 19 20.3	+0.2
KFL				S	Sg	06 19 44.1	+0.5
ANX	Ano Chora	1.64	131	P	Pg	06 19 23.5	-0.1
ANX	Ano Chora	1.64	131	P	Pg	06 19 23.0	-0.6
ANX				S	Sn	06 19 42.0	+0.2
ANX	Ano Chora	1.64	131	P	Pb	06 19 22.7	+0.4
ANX				S	Sn	06 19 42.0	+0.2
AGG	Agios Georgios	1.68	112	P	Pb	06 19 22.2	-0.8
AGG	Agios Georgios	1.68	112	P	Pb	06 19 22.3	-0.6
AGG				S	Sg	06 19 47.1	+0.9
AGG	Agios Georgios	1.68	112	P	Pb	06 19 22.4	-0.5
AGG				S	Sg	06 19 47.1	+0.9
TIR	Tirane	1.71	348	*e*Pg	Pb	06 19 23.8	+0.4
TIR				*e*Sg	Sb	06 19 46.1	+1.2
TIR	Tirane	1.71	348	*e*Pg	Pg	06 19 24.7	-0.2
TIR				*e*Sg	Sg	06 19 48.8	+1.7
TIR	Tirane	1.71	348	*i* P	Pb	06 19 24.1	+0.7
TIR	Tirane	1.71	348	P	Pb	06 19 23.3	-0.1
TIR	Tirane	1.71	348	*e*Pg	Pb	06 19 23.8	+0.4
TIR				S	Sb	06 19 45.6	+0.7
TIR				*e*Sg	Sb	06 19 46.1	+1.2
TIR	Tirane	1.71	348	Pn	Pb	06 19 23.9	+0.5
	comp=N,2μm,0.9s						
LIT	Litokhoron	1.72	75	P	Pn	06 19 21.8	0.0
LIT	Litokhoron	1.72	75	P	Pn	06 19 22.3	+0.5
LIT				S	Sg	06 19 47.5	+0.2
LIT	Litokhoron	1.72	75	P	Pn	06 19 22.4	+0.6
LIT				S	Sg	06 19 47.5	+0.2
EFP	Efpalio	1.75	135	P	Pb	06 19 24.4	+0.4
EFP	Efpalio	1.75	135	P	Pb	06 19 23.9	-0.1
EFP	Efpalio	1.75	135	P	Pb	06 19 23.9	-0.1
KRUS	Krusevo	1.83	22	*i* Pn	Pb	06 19 25.7	+0.1
KRUS				*i* Sg	Sg	06 19 51.5	+0.5
RLS	Riolos of Patr	1.84	151	P	Pn	06 19 24.2	-0.8
RLS	Riolos of Patr	1.84	151	P	Pb	06 19 24.8	-0.8
RLS	Riolos of Patr	1.84	151	P	Pb	06 19 24.8	-0.8
SERG	Sergoula	1.84	133	P	Pb	06 19 25.9	+0.3
SERG	Sergoula	1.84	133	P	Pb	06 19 25.9	+0.3
SERG	Sergoula	1.84	133	P	Pb	06 19 25.6	0.0
TRIZ	Trizonia	1.88	133	P	Pn	06 19 26.6	+0.3
TRIZ	Trizonia	1.88	133	P	Pb	06 19 26.0	-0.3
TRIZ	Trizonia	1.88	133	P	Pb	06 19 26.0	-0.3
KALE	Kalithea	1.90	132	P	Pb	06 19 27.1	+0.3
KALE	Kalithea	1.90	132	P	Pb	06 19 26.7	0.0
KALE	Kalithea	1.90	132	P	Pb	06 19 26.6	-0.1
LAKA	Lakka	1.92	138	P	Pb	06 19 25.9	-1.1
LAKA	Lakka	1.92	138	P	Pb	06 19 26.3	-0.8
LAKA	Lakka	1.92	138	P	Pb	06 19 26.2	-0.8
ALIK	Aliki, Aigiali	1.98	135	P	Pb	06 19 27.6	-0.4
ALIK	Aliki, Aigiali	1.98	135	P	Pb	06 19 27.1	-0.4
PHP	Peshkopia	2.01	2	P	Pb	06 19 28.2	-0.4
PHP				S	Sb	06 19 55.3	+1.7
PHP	Peshkopia	2.01	2	*i* Pn	Pb	06 19 28.1	-0.5
PHP				*i* Sn	Sb	06 19 55.1	+1.5
PHP	Peshkopia	2.01	2	*i* PN	Pb	06 19 28.1	-0.5
PHP				*i* SN	Sb	06 19 55.1	+1.5
AXAR	Agios Charalam	2.02	116	P	Pb	06 19 28.9	+0.2
AXAR	Agios Charalam	2.02	116	P	Pb	06 19 28.9	+0.2
FYTO	Fytoko, Volos	2.04	97	P	Pb	06 19 28.4	-0.6
FYTO	Fytoko, Volos	2.04	97	P	Pb	06 19 28.0	-0.9
FYTO				S	Sb	06 19 54.6	+0.4
FYTO	Fytoko, Volos	2.04	97	P	Pb	06 19 28.0	-0.9
FYTO				S	Sb	06 19 54.6	+0.4
GRG	Griva	2.04	50	P	Pb	06 19 28.5	-0.6
GRG	Griva	2.04	50	P	Pb	06 19 28.3	-0.7
GRG				S	Sb	06 19 55.5	+1.2
GRG	Griva	2.04	50	P	Pb	06 19 28.3	-0.7
GRG				S	Sb	06 19 55.5	+1.2
MESG	Mesagne	2.11	297	Pn	Pn	06 19 27.7	+0.6
	comp=N,674nm,0.5s						
MESG	Mesagne	2.11	297	Pn	Pn	06 19 27.7	+0.6
	comp=N,674nm,0.5s						
DSF	Desfina	2.12	126	P	Pb	06 19 29.5	-1.0
DSF	Desfina	2.12	126	P	Pb	06 19 29.5	-1.0
DSF				S	Sb	06 19 58.1	+1.3
DSF	Desfina	2.12	126	P	Pb	06 19 29.3	-1.2
DSF				S	Sb	06 19 58.1	+1.3
KLV	Kalavryta, Ach	2.16	138	P	Pb	06 19 29.7	-1.4
KLV				S	Sb	06 19 59.2	+1.4
KLV	Kalavryta, Ach	2.16	138	P	Pb	06 19 29.7	-1.4
XOR	Xorichti	2.23	97	P	Pn	06 19 30.6	+1.7
XOR	Xorichti	2.23	97	P	Pn	06 19 29.7	+0.8
XOR	Xorichti	2.23	97	P	Pn	06 19 30.6	+1.7
THE	Thessaloniki	2.24	64	P	Pn	06 19 29.9	+1.0
THE	Thessaloniki	2

SKO	Skopje	2.45	20	*i* Pn		Pb	06 19 35.0	-1.0
KNT	Kendrikon	2.46	52	P		Pn	06 19 33.3	+1.3
KNT				S		Sn	06 20 04.1	+2.1
KNT	Kendrikon	2.46	52	P		Pn	06 19 33.3	+1.3
KNT				S		Sn	06 20 04.1	+2.1
SKIA	Skiathos	2.48	101	P		Pn	06 19 34.4	+2.1
SKIA	Skiathos	2.48	101	P		Pn	06 19 34.4	+2.1
TAR1	Taranto	2.49	291	*e*Pn		Pn	06 19 31.0	-1.3
PLG	Polygyros	2.49	73	P		Pn	06 19 33.5	+1.0
PLG				S		Sn	06 20 04.3	+1.5
PLG				AML	AML		06 20 06.3	
	comp=N,1247µm,0.4s							
PLG				AML	AML		06 20 06.6	
	comp=E,1239µm,0.6s							
PLG	Polygyros	2.49	73	P		Pn	06 19 33.9	+1.5
PLG				S		Sn	06 20 03.9	+1.1
PLG	Polygyros	2.49	73	P		Pn	06 19 33.9	+1.5
PLG				S		Sn	06 20 04.7	+1.9
FASA	Fasano	2.55	298	*e*Pn		Pn	06 19 34.3	+1.1
SOH	Sokhos	2.58	63	P		Pn	06 19 35.7	+2.0
SOH				S		Sn	06 20 07.5	+2.5
SOH	Sokhos	2.58	63	P		Pn	06 19 35.7	+2.0
SOH				S		Sn	06 20 07.5	+2.5
PAIG	Paliouri	2.59	83	P		Pn	06 19 34.1	+0.4
PAIG	Paliouri	2.59	83	P		Pn	06 19 34.5	+0.7
PAIG				S		Sn	06 20 06.8	+1.6
PAIG	Paliouri	2.59	83	P		Pn	06 19 34.9	+1.1
PAIG				S		Sn	06 20 06.8	+1.6
LADO	San Nicola del	2.62	263	Pn		Pn	06 19 34.8	+0.6
	comp=E,100nm,0.8s							
LADO	San Nicola del	2.62	263	Pn		Pn	06 19 34.8	+0.6
	comp=E,100nm,0.8s							
MASS	Massafra	2.62	292	*e*Pn		Pn	06 19 34.8	+0.6
LTK	Loutraki	2.64	128	P		Pn	06 19 35.3	+0.9
LTK	Loutraki	2.64	128	P		Pn	06 19 35.3	+0.9
DRME	Dracevica, Mon	2.66	341	⇓*i* Pn		Pn	06 19 36.1	+1.4
DRME				*e*Sn		Sb	06 20 10.8	-1.3
DRME	Dracevica, Mon	2.66	341	⇓*i* Pn		Pn	06 19 36.1	+1.4
DRME				*e*Sn		Sb	06 20 10.8	-1.3
BCI	Bajram Curri	2.70	356	P		Pb	06 19 39.2	-1.1
BCI	Bajram Curri	2.70	356	*i* Pn		Pb	06 19 39.2	-1.1
BCI	Bajram Curri	2.70	356	*i* PN		Pb	06 19 39.2	-1.1
NOCI	Noci	2.74	295	Pn		Pn	06 19 36.4	+0.6
	comp=E,517nm,0.6s							
NOCI	Noci	2.74	295	Pn		Pn	06 19 36.4	+0.6
	comp=E,517nm,0.6s							
VILL	Villia	2.77	122	P		Pn	06 19 37.5	+1.2
VILL	Villia	2.77	122	P		Pn	06 19 37.5	+1.2
VLX	Vlachokerasia	2.81	144	P		Pn	06 19 39.0	+2.2
VLX	Vlachokerasia	2.81	144	P		Pn	06 19 39.0	+2.2
TIP	Timpagrande	2.81	261	⇓*i* P		Pn	06 19 37.3	+0.4
TIP	Timpagrande	2.81	261	P		Pn	06 19 37.1	+0.3
TIP	Timpagrande	2.81	261	Pn		Pn	06 19 37.2	+0.4
	comp=E,181nm,1.0s							
TIP				S		Sn	06 20 11.9	+1.3
TIP	Timpagrande	2.81	261	Pn		Pn	06 19 37.2	+0.4
	comp=E,181nm,1.0s							
BUM	Brajici-Budva	2.84	338	⇑*i* Pn		Pn	06 19 38.3	+1.0
BUM				*e*Sn		Sb	06 20 15.6	-1.9
BUM	Brajici-Budva	2.84	338	⇑*i* Pn		Pn	06 19 38.3	+1.0
BUM				*e*Sn		Sb	06 20 15.6	-1.9
PDG	Podgorica	2.87	344	*e*Pn		Pn	06 19 39.2	+1.6
PDG	Podgorica	2.87	344	*e*Pn		Pn	06 19 39.4	+1.8
PDG	Podgorica	2.87	344	⇓*i* P		Pn	06 19 39.1	+1.5
PDG	Podgorica	2.87	344	*e*Pn		Pn	06 19 39.2	+1.6
PDG				*e*Sn		Sb	06 20 16.2	-2.1
TTG	Podgorica	2.87	344	⇑*i* Pn		Pn	06 19 38.8	+1.2
TTG				*e*Sn		Sb	06 20 16.2	-2.1
SRS	Serrai	2.88	59	P		Pn	06 19 39.0	+1.3
SRS				S		Sn	06 20 14.5	+2.2
SRS	Serrai	2.88	59	P		Pn	06 19 39.0	+1.3
SRS				S		Sn	06 20 14.5	+2.2
SERS	Sersale	2.89	258	Pn		Pn	06 19 37.8	-0.2
	comp=E,143nm,0.7s							
SERS	Sersale	2.89	258	Pn		Pn	06 19 37.8	-0.2
	comp=E,143nm,0.7s							
PVY	Plav	2.93	355	⇑*i* Pn		Pn	06 19 40.8	+2.2
PVY				*e*Sn		Sb	06 20 18.0	-2.2
PVY	Plav	2.93	355	⇑*i* Pn		Pn	06 19 40.8	+2.2
PVY				*e*Sn		Sb	06 20 18.0	-2.2
MATE	Matera	2.94	291	⇑*i* P		Pn	06 19 39.6	+1.0
MATE	Matera	2.94	291	Pn		Pn	06 19 39.1	+0.5
	comp=E,263nm,0.6s							
MATE	Matera	2.94	291	⇑*i* P		Pn	06 19 39.6	+1.0
MATE				S		Sn	06 20 14.0	+0.2
MATE	Matera	2.94	291	Pn		Pn	06 19 39.1	+0.5
	comp=E,263nm,0.6s							
CELI	Celico	2.97	266	Pn		Pn	06 19 39.4	+0.4
	comp=E,1µm,1.6s							
CELI	Celico	2.97	266	Pn		Pn	06 19 39.4	+0.4
	comp=E,1µm,1.6s							
BAI	Bari	3.00	300	*e*Pn		Pn	06 19 40.2	+0.9
SG1	Sgolgore (BA)	3.03	294	*e*Pn		Pn	06 19 40.1	+0.3
CEME	Cevo	3.06	340	⇓*i* Pn		Pn	06 19 41.0	+0.7
CEME				*e*Sn		Sb	06 20 21.3	-2.6
CEME	Cevo	3.06	340	⇓*i* Pn		Pn	06 19 41.0	+0.7
CEME				*e*Sn		Sb	06 20 21.3	-2.6
EREA	Eretria	3.07	113	P		Pn	06 19 42.2	+1.8
EREA				S		Sn	06 20 19.3	+2.3
EREA	Eretria	3.07	113	P		Pn	06 19 42.2	+1.8
EREA				S		Sn	06 20 19.3	+2.3
SALB	San Lorenzo Be	3.08	275	Pn		Pn	06 19 40.5	0.0
	comp=E,130nm,0.5s							
SALB	San Lorenzo Be	3.08	275	Pn		Pn	06 19 40.5	0.0
	comp=E,130nm,0.5s							
HCY	Herceg Novi	3.10	334	⇑*i* Pn		Pn	06 19 41.3	+0.5
HCY				*e*Sn		Sb	06 20 21.9	-3.0
HCY	Herceg Novi	3.10	334	⇑*i* Pn		Pn	06 19 41.3	+0.5
HCY				*e*Sn		Sb	06 20 21.9	-3.0
AMUR	Altamura	3.10	295	Pn		Pn	06 19 41.4	+0.6
	comp=E,308nm,0.9s							
AMUR	Altamura	3.10	295	Pn		Pn	06 19 41.4	+0.6
	comp=E,308nm,0.9s							
MIGL	Miglionico	3.12	289	Pn		Pn	06 19 41.8	+0.7
MIGL	Miglionico	3.12	289	Pn		Pn	06 19 41.8	+0.7
DID	Didima	3.14	133	P		Pn	06 19 42.6	+1.3
DID				S		Sn	06 20 20.8	+2.0
DID	Didima	3.14	133	P		Pn	06 19 42.6	+1.3
DID				S		Sn	06 20 20.8	+2.0
NVR	Nevrokopi	3.17	57	P		Pn	06 19 43.4	+1.6
NVR				S		Sn	06 20 21.9	+2.4
NVR	Nevrokopi	3.17	57	P		Pn	06 19 43.4	+1.6
NVR				S		Sn	06 20 21.9	+2.4
KRND	KRANIDI	3.18	135	P		Pn	06 19 42.8	+1.0
KRND				S		Sn	06 20 23.4	+3.7
KRND	KRANIDI	3.18	135	P		Pn	06 19 42.8	+1.0
KRND				S		Sn	06 20 23.4	+3.7
BEY	Berane	3.21	354	⇓*i* Pn		Pn	06 19 44.7	+2.3
BEY				*e*Sn		Sb	06 20 24.9	-3.3
IVA	Berane	3.21	354	⇓*i* Pn		Pn	06 19 44.7	+2.3
IVA				*e*Sn		Sb	06 20 24.9	-3.3
KOME	Kolasin	3.23	349	*e*Pn		Pn	06 19 45.3	+2.6
KOME				*e*Sn		Sb	06 20 25.3	-3.5
KOME	Kolasin	3.23	349	*e*Pn		Pn	06 19 45.3	+2.6
KOME				*e*Sn		Sb	06 20 25.3	-3.5
VLY	Voula,Athens	3.26	123	P		Pn	06 19 43.9	+0.9
VLY	Voula,Athens	3.26	123	P		Pn	06 19 43.9	+0.9
PLAC	Placanica	3.27	249	Pn		Pn	06 19 43.3	+0.2
	comp=E,220nm,0.9s							
PLAC	Placanica	3.27	249	Pn		Pn	06 19 43.3	+0.2
	comp=E,220nm,0.9s							
NKY	Niksic	3.30	343	⇑*i* Pn		Pn	06 19 45.6	+2.1
NKY				*e*Sn		Sb	06 20 26.9	-3.7
NKY	Niksic	3.30	343	⇑*i* Pn		Pn	06 19 45.6	+2.1
NKY				*e*Sn		Sb	06 20 26.9	-3.7
SCHR	S. Chirico Rap	3.31	280	Pn		Pn	06 19 45.9	+2.1
	comp=E,207nm,1.1s							
BARS	Barje	3.33	19	*e*Pn		Pn	06 19 46.3	+2.3
BARS				*e*Sn		Sn	06 20 26.0	+2.5
BARS	Barje	3.33	19	*e*Pn		Pn	06 19 46.2	+2.3
BARS	Barje	3.33	19	*e*Pn		Pn	06 19 46.3	+2.3
BARS				*e*Sn		Sn	06 20 26.0	+2.5
PTRP	Pietrapertosa	3.38	286	Pn		Pn	06 19 46.7	+2.0
	comp=E,87729µm,73.0s							
MRVN	Minervino Murg	3.45	295	Pn		Pn	06 19 46.3	+0.7
	comp=E,196nm,0.8s							
KAVA	Kavala	3.46	66	P		Pn	06 19 46.9	+1.2
KAVA				S		Sn	06 20 29.3	+2.7
CUC	Castrocucco	3.49	277	Pn		Pn	06 19 47.7	+1.5
	comp=E,173nm,0.8s							
ACER	Acerenza	3.54	290	Pn		Pn	06 19 48.0	+1.2
	comp=E,688nm,0.8s							
MCEL	Monticello	3.54	282	Pn		Pn	06 19 48.7	+1.8
	comp=E,234nm,0.9s							
MTSN	Montesano sull	3.57	281	Pn		Pn	06 19 49.2	+1.9
	comp=E,144nm,0.7s							
SELS	Selova	3.59	9	*e*Pn		Pn	06 19 49.8	+2.2
SELS	Selova	3.59	9	*e*Pn		Pn	06 19 48.7	+1.1
SJES	Sjenica	3.60	356	*e*Pn		Pn	06 19 49.7	+2.0
SJES	Sjenica	3.60	356	*e*Pn		Pn	06 19 49.9	+2.2
VTS	Vitosha	3.64	36	*e*Pn		Pn	06 19 51.1	+2.8
VTS				*e*Sn		Sn	06 20 34.7	+3.5
VTS	Vitosha	3.64	36	*e*Pn		Pn	06 19 50.6	+2.3
VTS	Vitosha	3.64	36	⇓P		Pn	06 19 51.4	+3.1
VTS	Vitosha	3.64	36	⇓S		Sb	06 20 37.6	-2.9
VTS	Vitosha	3.64	36	P		Pn	06 19 51.4	+3.1
VTS	Vitosha	3.64	36	*e*Pn		Pn	06 19 51.1	+2.8
VTS				*e*Sn		Sn	06 20 34.7	+3.5
SLCN	Sala Consilina	3.68	283	Pn		Pn	06 19 50.5	+1.7
	comp=E,307nm,0.7s							
MGR	Morigerati	3.70	279	Pn		Pn	06 19 50.8	+1.8
	comp=E,155nm,0.8s							
PLE	Pljevlja	3.72	349	⇓*i* Pn		Pn	06 19 51.7	+2.3
PLE				*e*Sn		Sn	06 20 36.6	+3.4
STON	Ston	3.76	329	*e*Pn		Pn	06 19 48.6	-1.2
STON				Sn		Sn	06 20 30.8	-3.1
IVAS	Ivanjica	3.90	358	*e*Pn		Pn	06 19 54.3	+2.5
IVAS	Ivanjica	3.90	358	*e*Pn		Pn	06 19 54.0	+2.1
IVAS	Ivanjica	3.90	358	*e*Pn		Pn	06 19 54.3	+2.5
CMPR	Campora	3.92	281	Pn		Pn	06 19 53.7	+1.7
	comp=E,64nm,0.6s							
MSAG	Monte S. Angel	3.93	303	Pn		Pn	06 19 52.7	+0.5
CDRU	Civita di Ruta	3.94	284	Pn		Pn	06 19 54.6	+2.2
	comp=E,73nm,0.8s							
ZAPS	Zavoj	3.99	25	*e*Pn		Pn	06 19 56.1	+3.0
ZAPS	Zavoj	3.99	25	*e*Pn		Pn	06 19 55.9	+2.8
KYTH	Kithira	4.02	147	P		Pn	06 19 55.3	+1.8
BOVS	Bovan	4.09	14	*e*Pn		Pn	06 19 56.9	+2.5
BOVS	Bovan	4.09	14	*e*Pn		Pn	06 19 55.7	+1.3
BOVS	Bovan	4.09	14	*e*Pn		Pn	06 19 56.7	+2.5
PLD	Plovdiv	4.11	52	*e*Pn		Pn	06 19 58.0	+3.4
PLD	Plovdiv	4.11	52	*e*Pn		Pn	06 19 57.4	+2.8
PLD				*e*Sn		Sn	06 20 45.5	+2.9
PLD	Plovdiv	4.11	52	*e*Pn		Pn	06 19 58.0	+3.4
SNAL	S. Angelo Dei	4.11	289	Pn		Pn	06 19 56.7	+2.0
CAFE	Carife	4.12	291	Pn		Pn	06 19 57.0	+2.1
	comp=E,304nm,1.4s							
GRUS	Gruza	4.22	4	*e*Pn		Pn	06 19 57.7	+1.5
GRUS	Gruza	4.22	4	*e*Pn		Pn	06 19 57.1	+0.9
GRUS	Gruza	4.22	4	*e*Pn		Pn	06 19 57.7	+1.5
BBLS	Lazi?i	4.25	351	*e*Pn		Pn	06 19 58.6	+2.0
BBLS	Lazi?i	4.25	351	*e*Pn		Pn	06 19 57.4	+0.8
BBLS	Lazi?i	4.25	351	*e*Pn		Pn	06 19 58.6	+2.0
ZAGS	Zajecar	4.38	18	*e*Pn		Pn	06 20 00.6	+2.3
ZAGS	Zajecar	4.38	18	*e*Pn		Pn	06 20 00.6	+2.3
ZAGS	Zajecar	4.38	18	*e*Pn		Pn	06 20 00.6	+2.3
BOZC	Bozcaada	4.41	86	*i* P		Pn	06 20 01.2	+2.4
DIVS	Divibare	4.43	357	*e*Pn		Pn	06 20 00.1	+1.0
DIVS	Divibare	4.43	357	*e*Pn		Pn	06 19 59.9	+0.8
DIVS	Divibare	4.43	357	*e*Pn		Pn	06 20 00.1	+1.0
HAPS	Han Pijesak,Bl	4.53	347	*e*Pn		Pn	06 20 02.2	+1.7
HAPS				*e*Sn		Sn	06 20 52.8	-0.3
HAPS	Han Pijesak,Bl	4.53	347	*e*Pn		Pn	06 20 02.2	+1.7
HAPS				*e*Sn		Sn	06 20 52.8	-0.3
ALN	Alexandroupoli	4.54	73	P		Pn	06 20 02.0	+1.5
TRUS	Trudelj	4.55	1	*e*Pn		Pn	06 20 01.8	+1.1
TRUS	Trudelj	4.55	1	*e*Pn		Pn	06 20 02.7	+2.0
TRUS	Trudelj	4.55	1	*e*Pn		Pn	06 20 01.8	+1.1
BAYC	CANAKKALE_Bayr	4.80	87	*i* P		Pn	06 20 06.4	+2.3
KUBS	Kucevo	4.84	11	*e*Pn		Pn	06 20 06.9	+2.2
KUBS	Kucevo	4.84	11	*e*Pn		Pn	06 20 05.4	+0.7
KUBS	Kucevo	4.84	11	*e*Pn		Pn	06 20 06.9	+2.2
TEKS	Tekeris	4.91	353	*e*Pn		Pn	06 20 07.0	+1.4
TEKS	Tekeris	4.91	353	*e*Pn		Pn	06 20 06.4	+0.8
TEKS	Tekeris	4.91	353	*e*Pn		Pn	06 20 07.0	+1.4
KESN	Edirne-Kesan	4.99	75	*i* P		Pn	06 20 08.8	+1.7
ZEY	¨zmir	5.02	105	*i* P		Pn	06 20 10.5	+3.4
SART	Tekirdag	5.34	77	*i* P		Pn	06 20 12.2	+0.6
FGSL	Fruska Gora	5.50	356	*e*Pn		Pn	06 20 14.8	+1.1
FRGS	Fruska Gora	5.50	356	*e*Pn		Pn	06 20 14.8	+1.1
FRGS	Fruska Gora	5.50	356	*e*Pn		Pn	06 20 14.6	+0.9
BLY	Banja Luka	5.58	336	*e*Pn		Pn	06 20 15.7	+0.8
BLY	Banja Luka	5.58	336	⇓*i* P		Pn	06 20 15.6	+0.7
BLY	Banja Luka	5.58	336	*e*Pn		Pn	06 20 15.7	+0.8
BALY	Balya	5.62	87	*i* P		Pn	06 20 15.1	-0.3
IDI	Anoyia	5.68	139	Pn		Pn	06 20 15.4	-0.9
	comp=E,3.1nm,0.3s,baz=323,slow=8.8,SNR=12							
IDI				Sn		Sn	06 21 18.6	-2.9
	comp=E,1.8nm,0.3s,baz=107,slow=19,SNR=3.6							
STEP	BALIKESIR_Sava	5.72	91	*i* P		Pn	06 20 20.7	+3.9
UDBI	Udbina	5.92	327	*e*Pn		Pn	06 20 20.9	+1.3
BZS	Buzias	6.02	9	*e*Pn		Pn	06 20 22.1	+1.3
BZS	Buzias	6.02	9	⇓*i* P		Pn	06 20 22.9	+2.1
BZS	Buzias	6.02	9	*e*Pn		Pn	06 20 22.1	+1.3
DURS	Dursunbey	6.29	88	*i* P		Pn	06 20 28.7	+4.1
LOT	Lotru	6.30	23	⇑*i* P		Pn	06 20 28.1	+3.2
NVLJ	Novalja	6.35	322	*e*Pn		Pn	06 20 24.7	-0.6
NVLJ				Sn		Sn	06 21 35.2	-2.6
MANT	Manisa	6.51	98	*i* P		Pn	06 20 32.4	+4.6
DEMI	Demirci	6.53	93	*i* P		Pn	06 20 32.2	+4.3
VOIR		6.73	30	⇓*i* P		Pn	06 20 34.4	+3.7
BOJS	Bojanci	6.93	329	*i* Pn		Pn	06 20 33.9	+0.6
BOJS				*i* Sn		Sn	06 21 49.7	-2.3
OZLJ	Ozalj	6.94	330	*e*Pn		Pn	06 20 33.7	+0.3
ISR	Istrita	7.12	38	⇑*i* P		Pn	06 20 39.8	+3.7
MLR	Muntele Rosu	7.14	34	Pn		Pn	06 20 37.9	+1.5
	comp=E,0.1nm,0.3s,baz=211,slow=8.8,SNR=3.1							
MLR	Muntele Rosu	7.14	34	⇑*i* P		Pn	06 20 39.4	+3.1
DRGR		7.33	13	*e*Sn		Sn	06 22 01.8	-0.1
DRGR		7.33	13	⇓*i* P		Pn	06 20 41.3	+2.5
VISS	Visnje	7.34	328	*i* Pn		Pn	06 20 39.7	+0.7
VISS				*i* Sn		Sn	06 21 59.1	-3.1
TLB	Topalu	7.54	47	⇓*i* P		Pn	06 20 44.8	+3.0
HARR	Harsova	7.55	46	⇑*i* P		Pn	06 20 44.9	+3.1
TIRR	Tirgusor	7.68	49	⇓*i* P		Pn	06 20 45.4	+1.8
PLOR	Plostina	7.73	35	⇓*i* P		Pn	06 20 47.9	+3.6
JAVS	Javornik	7.74	326	*i* Pn		Pn	06 20 44.8	+0.3
JAVS				*i* Sn		Sn	06 22 10.3	-1.7
VRI	Vrincioaia	7.77	35	⇓*i* P		Pn	06 20 48.6	+3.7
PERS	Pernice	7.93	333	*i* Pn		Pn	06 20 47.1	0.0
CFR	Carcaliu	7.97	44	⇑*i* P		Pn	06 20 50.7	+3.1
OBKA	Obir	8.03	330	*e*Pn		Pn	06 20 49.1	+0.5
	comp=E,4.1nm,0.3s							
OBKA				Sn		Sn	06 22 17.6	-1.8
	comp=E,11nm,0.7s							
MYKA	Terra Mystica	8.50	327	*e*Pn		Pn	06 20 56.2	+1.2
	comp=E,1.6nm,0.3s							
BURAR	Bucovina Array	8.69	22	⇑*i* P		Pn	06 21 00.4	+2.8
VYHS	Vyhne	8.88	354	*e*PN		Pn	06 21 06.9	+6.7
MOA	Molln	9.27	334	*e*Pn		Pn	06 21 07.3	+1.8
	comp=E,3.6nm,0.3s,SNR=5.9							
MOA				*e*Sn		Sn	06 22 48.7	-1.0
	comp=E,0.3nm,0.2s							
WTTA	Wattenberg	9.87	323	*e*Pn		Pn	06 21 16.2	+2.4
BRTR	Keskin Array B	10.26	85	Pn		Pn	06 21 20.4	+1.2
	comp=E,0.3nm,0.3s,baz=265,slow=12,SNR=6.8							
GERES	GERESS Array B	10.32	335	Pn		Pn	06 21 20.4	+0.4
	comp=E,0.4nm,0.3s,baz=153,slow=13,SNR=6.3							
GERES				Sn		Sn	06 23 13.7	-1.9
	comp=E,0.3nm,0.3s,baz=151,slow=29,SNR=3.5							
MMAI	Mount Meron Ar	13.84	114	Pn		Pn	06 22 07.6	-0.5
	comp=E,0.9nm,0.3s,baz=312,slow=13,SNR=3.5							
KBZ	Khabaz	17.32	69	P		P	06 22 54.4	-0.5
	comp=E,0.1nm,0.3s,baz=280,slow=11,SNR=2.7							
ESDC	Sonseca Array	18.69	278	P		Pn	06 23 10.9	+0.4
	comp=E,0.3nm,0.3s,baz=71,slow=11,SNR=7.8							
HFS	Hagfors	20.90	351	P		P	06 23 33.7	-0.3
	comp=E,2.0nm,0.4s,baz=158,slow=12,SNR=10							
FINES	FINESS Array B	22.08	7	P		P	06 23 45.8	-0.8
	comp=E,1.6nm,0.6s,baz=176,slow=12,SNR=7.9							
NB2	NORSAR Subarra	22.13	348	P		P	06 23 46.4	-0.8
	comp=Z,2.6nm,0.6s,baz=158,slow=10							
NOA	NORSAR Array B	22.13	348	P		P	06 23 47.1	0.0
	comp=Z,1.7nm,0.6s,baz=166,slow=10,SNR=6.8							
EKA	Eskdalemuir Ar	22.14	323	P		P	06 23 47.1	-0.2
	comp=Z,4.0nm,0.7s,baz=121,slow=10,SNR=12							
ARCES	ARCESS Array B	30.05	4	P		P	06 25 00.1	-0.5
	comp=Z,1.1nm,0.7s,baz=187,slow=9.4,SNR=4.4							
TORD	Torodi Ar. Bea	31.11	217	P		P	06 25 10.5	0.0
	comp=Z,3.7nm,0.8s,baz=33,slow=9.1,SNR=23							
KURBB	Kurchatov Arra	41.48	55	P		P	06 26 38.2	-0.4
	comp=Z,0.1nm,0.4s,baz=277,slow=9.2,SNR=3.2							
KURK	Kurchatov	41.52	55	P		P	06 26 38.2	-0.7
MKAR	Makanchi Array	44.66	60	P		P	06 27 03.3	-1.1
	comp=Z,1.3nm,0.5s,baz=276,slow=7.5,SNR=13							
ZALV	Zalesovo Beam	44.82	49	P		P	06 27 04.5	-1.0
	comp=Z,1.5nm,0.5s,baz=268,slow=8.0,SNR=5.5							
YKA	Yellowknife Ar	71.94	340	P		P	06 30 14.8	0.0
	comp=Z,0.1nm,0.4s,baz=37,slow=6.2,SNR=3.8							
ILAR	Eielson Array	75.41	354	P		P	06 30 35.3	+0.1
	comp=Z,0.2nm,0.6s,baz=342,slow=3.6,SNR=3.6							
TXAR	Lajitas Array	93.84	313	P		P	06 32 09.5	0.0
	comp=Z,0.5nm,0.9s,baz=103,slow=4.4,SNR=3.5							

TIR ***11*** *06:21:33.8,39.61N×20.23E,h24km,Md4.4/9*
ATH ***11*** *06:21:34.0,39.67N×20.36E,h12km±1km,ML3.2/24,Error ellipse: s-maj=1.2km s-min=0.7km az=270.0*
THE ***11*** *06:21:34.8,39.68N×20.34E,h0km±2km,ML3.2/26,Error ellipse: s-maj=2.2km s-min=0.8km az=291.0*
CSEM ***11*** *06:21:34.3±0.1,39.70N×20.32E,h2km,ML3.2, Error ellipse: s-maj=2.7km s-min=2.5km az=70.0*

ISC 11 06:21:34.3±0.8,39.68N±0.01×20.34E±0.01,h9km±6km, n147,σ0ϑ96/220, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SGD	Sagiada	0.10	229	P	Pg	06 21 36.4	-0.5
SGD	Sagiada	0.10	229	P	Pg	06 21 36.7	-0.2
SGD	Sagiada	0.10	229	P	Pg	06 21 36.7	-0.2
IGT	Igoumenitsa	0.15	181	P	Pg	06 21 36.7	-0.9
IGT				S	Sg	06 21 40.4	+0.6
IGT				AML	AML	06 21 40.5	
	comp=N,57361µm,0.6s						
IGT				AML	AML	06 21 40.9	
	comp=E,43078µm,0.3s						
IGT	Igoumenitsa	0.15	181	P	Pg	06 21 37.0	-0.6
IGT				S	Sg	06 21 40.0	+0.2
IGT	Igoumenitsa	0.15	181	P	Pg	06 21 37.0	-0.6
IGT				S	Sg	06 21 40.0	+0.2
KASA	Kassiopi	0.32	282	P	Pb	06 21 41.5	-0.6
KASA				S	Sb	06 21 46.4	-0.8
KASA				AML	AML	06 21 49.5	
	comp=N,12809µm,0.6s						
KASA				AML	AML	06 21 52.6	
	comp=E,11589µm,0.4s						
KASA	Kassiopi	0.32	282	P	Pg	06 21 41.1	+0.5
KASA				S	Sg	06 21 46.0	+1.2
SRN	Sarande	0.33	308	*i* Pg	Pg	06 21 41.0	+0.2
SRN				*i* Sg	Sb	06 21 47.9	+0.3
	baz=326						
SRN	Sarande	0.33	308	*i* PG	Pg	06 21 41.0	+0.2
SRN				*i* SG	Sb	06 21 47.9	+0.3
JAN	Janina	0.40	93	P	Pg	06 21 41.3	-0.9
J

EVR	**Evrytania**	**1.37**	**123**	P	**Pn**	**06 21 59.0**	**-0.7**
EVR				S	**Sg**	**06 22 18.9**	**+0.3**
EVR				AML	AML	06 22 21.7	
	comp=N,1569μm,0.5s						
EVR				AML	AML	06 22 23.2	
	comp=E,1361μm,0.6s						
EVR	**Evrytania**	**1.37**	**123**	P	**Pn**	**06 21 59.4**	**-0.3**
EVR				S	**Sg**	**06 22 21.2**	**+2.7**
EVR	**Evrytania**	**1.37**	**123**	P	**Pn**	**06 21 59.4**	**-0.3**
EVR				S	**Sg**	**06 22 18.5**	**0.0**
PVO	**Paravola**	**1.41**	**139**	P	**Pg**	**06 22 01.6**	**+0.2**
PVO				AML	AML	06 22 27.2	
	comp=E,1525μm,0.7s						
PVO				AML	AML	06 22 27.2	
	comp=N,1443μm,0.6s						
PVO	**Paravola**	**1.41**	**139**	P	**Pb**	**06 22 00.8**	**+0.1**
PVO				S	**Sg**	**06 22 21.5**	**+1.9**
PVO	**Paravola**	**1.41**	**139**	P	**Pb**	**06 22 00.8**	**+0.1**
PVO				S	**Sg**	**06 22 21.5**	**+1.9**
SCTE	**Santa Cesarea**	**1.49**	**286**	P	**Pn**	**06 22 01.4**	**+0.2**
SCTE	**Santa Cesarea**	**1.49**	**286**	P	**Pb**	**06 22 01.9**	**-0.2**
VLS	**Valsamata**	**1.51**	**172**	P	**Pn**	**06 22 01.7**	**+0.2**
VLS				AML	AML	06 22 27.5	
	comp=E,946μm,0.2s						
VLS				AML	AML	06 22 28.2	
	comp=N,1432μm,0.3s						
VLS	**Valsamata**	**1.51**	**172**	P	**Pn**	**06 22 01.8**	**+0.2**
VLS				S	**Sg**	**06 22 23.3**	**+0.3**
VLS	**Valsamata**	**1.51**	**172**	P	**Pn**	**06 22 02.0**	**+0.4**
VLS				S	**Sg**	**06 22 23.3**	**+0.3**
BIA	**Bitola**	**1.54**	**29**	P	**Pb**	**06 22 02.9**	**-0.1**
BIA				S	**Sg**	**06 22 25.3**	**+1.6**
BIA	**Bitola**	**1.54**	**29**	P	**Pb**	**06 22 02.9**	**-0.1**
BIA				S	**Sg**	**06 22 25.3**	**+1.6**
KTI	**Kastanea**	**1.54**	**62**	P	**Pb**	**06 22 02.8**	**-0.3**
KTI	**Kastanea**	**1.54**	**62**	P	**Pb**	**06 22 02.8**	**-0.3**
LRSO	**Larissa Observ**	**1.59**	**90**	P	**Pb**	**06 22 04.0**	**+0.2**
LRSO				S	**Sg**	**06 22 26.4**	**+1.0**
LRSO	**Larissa Observ**	**1.59**	**90**	P	**Pb**	**06 22 04.0**	**+0.2**
LRSO				S	**Sg**	**06 22 26.4**	**+1.0**
KFL	**Anninata**	**1.61**	**167**	P	**Pn**	**06 22 03.0**	**+0.2**
KFL	**Anninata**	**1.61**	**167**	P	**Pb**	**06 22 03.5**	**-0.6**
KFL				S	**Sg**	**06 22 26.9**	**+0.9**
KFL	**Anninata**	**1.61**	**167**	P	**Pb**	**06 22 03.5**	**-0.6**
KFL				S	**Sg**	**06 22 26.9**	**+0.9**
ANX	**Ano Chora**	**1.64**	**131**	P	**Pb**	**06 22 04.7**	**-0.2**
ANX	**Ano Chora**	**1.64**	**131**	P	**Pb**	**06 22 05.2**	**+0.4**
ANX				S	**Sg**	**06 22 28.4**	**+1.3**
ANX	**Ano Chora**	**1.64**	**131**	P	**Pb**	**06 22 04.6**	**-0.2**
ANX				S	**Sg**	**06 22 28.4**	**+1.3**
AGG	**Agios Georgios**	**1.68**	**112**	P	**Pn**	**06 22 04.2**	**+0.4**
AGG				AML	AML	06 22 34.2	
	comp=N,4031μm,0.5s						
AGG				AML	AML	06 22 34.6	
	comp=E,3701μm,0.9s						
AGG	**Agios Georgios**	**1.68**	**112**	P	**Pb**	**06 22 04.7**	**-0.7**
AGG				S	**Sg**	**06 22 29.6**	**+1.2**
AGG	**Agios Georgios**	**1.68**	**112**	P	**Pb**	**06 22 04.7**	**-0.7**
AGG				S	**Sg**	**06 22 29.6**	**+1.2**
LIT	**Litokhoron**	**1.71**	**75**	P	**Pb**	**06 22 05.7**	**-0.2**
LIT				AML	AML	06 22 35.1	
	comp=N,824μm,0.5s						
LIT				AML	AML	06 22 39.4	
	comp=E,1473μm,0.7s						
LIT	**Litokhoron**	**1.71**	**75**	P	**Pb**	**06 22 05.5**	**-0.4**
LIT				S	**Sg**	**06 22 29.3**	**0.0**
LIT	**Litokhoron**	**1.71**	**75**	P	**Pb**	**06 22 05.5**	**-0.4**
LIT				S	**Sg**	**06 22 29.3**	**0.0**
EFP	**Efpalio**	**1.75**	**135**	P	**Pb**	**06 22 06.8**	**+0.3**
EFP				AML	AML	06 22 39.5	
	comp=E,1173μm,0.7s						
EFP				AML	AML	06 22 48.8	
	comp=N,971μm,0.7s						
EFP	**Efpalio**	**1.75**	**135**	P	**Pb**	**06 22 06.4**	**-0.1**
RLS	**Riolos of Patr**	**1.84**	**151**	P	**Pn**	**06 22 06.3**	**+0.2**
RLS	**Riolos of Patr**	**1.84**	**151**	P	**Pn**	**06 22 05.9**	**-0.2**
RLS	**Riolos of Patr**	**1.84**	**151**	P	**Pn**	**06 22 06.8**	**+0.7**
TRIZ	**Trizonia**	**1.89**	**134**	P	**Pb**	**06 22 09.1**	**+0.2**
TRIZ	**Trizonia**	**1.89**	**134**	P	**Pb**	**06 22 08.5**	**-0.4**
TRIZ				S	**Sb**	**06 22 32.9**	**+0.4**
TRIZ	**Trizonia**	**1.89**	**134**	P	**Pb**	**06 22 08.5**	**-0.4**
TRIZ				S	**Sb**	**06 22 32.9**	**+0.4**
KALE	**Kalithea**	**1.91**	**132**	P	**Pb**	**06 22 09.5**	**+0.2**
KALE				AML	AML	06 22 44.1	
	comp=N,1069μm,0.8s						
KALE				AML	AML	06 22 45.4	
	comp=E,760μm,0.7s						
KALE	**Kalithea**	**1.91**	**132**	P	**Pb**	**06 22 08.8**	**-0.5**
LAKA	**Lakka**	**1.93**	**138**	P	**Pb**	**06 22 08.8**	**-0.8**
LAKA	**Lakka**	**1.93**	**138**	P	**Pn**	**06 22 08.3**	**+1.1**
LAKA				S	**Sg**	**06 22 35.3**	**-0.9**
LAKA	**Lakka**	**1.93**	**138**	P	**Pb**	**06 22 08.6**	**-1.0**
LAKA				S	**Sg**	**06 22 35.3**	**-0.9**
GRG	**Griva**	**2.03**	**50**	P	**Pb**	**06 22 10.2**	**-1.2**
GRG				AML	AML	06 22 46.9	
	comp=E,276μm,1.0s						
GRG				AML	AML	06 22 49.6	
	comp=N,396μm,0.8s						
GRG	**Griva**	**2.03**	**50**	P	**Pb**	**06 22 10.1**	**-1.2**
FYTO	**Fytoko, Volos**	**2.03**	**97**	P	**Pb**	**06 22 10.7**	**-0.7**
FYTO	**Fytoko, Volos**	**2.03**	**97**	P	**Pb**	**06 22 10.3**	**-1.1**
FYTO				S	**Sb**	**06 22 37.9**	**+1.2**
FYTO	**Fytoko, Volos**	**2.03**	**97**	P	**Pb**	**06 22 10.3**	**-1.1**
FYTO				S	**Sb**	**06 22 37.9**	**+1.2**
DSF	**Desfina**	**2.13**	**126**	P	**Pb**	**06 22 11.8**	**-1.2**
DSF				AML	AML	06 22 42.6	
	comp=E,478μm,0.5s						
DSF				AML	AML	06 22 47.1	
	comp=N,1095μm,0.5s						
DSF	**Desfina**	**2.13**	**126**	P	**Pn**	**06 22 11.4**	**+1.4**
DSF				S	**Sb**	**06 22 40.3**	**+0.8**
DSF	**Desfina**	**2.13**	**126**	P	**Pn**	**06 22 11.4**	**+1.4**
DSF				S	**Sb**	**06 22 40.3**	**+0.8**
KLV	**Kalavryta, Ach**	**2.16**	**138**	P	**Pb**	**06 22 12.3**	**-1.3**
KLV	**Kalavryta, Ach**	**2.16**	**138**	P	**Pb**	**06 22 12.1**	**-1.5**
XOR	**Xorichti**	**2.23**	**97**	P	**Pn**	**06 22 12.8**	**+1.3**
XOR	**Xorichti**	**2.23**	**97**	P	**Pb**	**06 22 13.7**	**-1.1**
XOR				S	**Sb**	**06 22 42.8**	**+0.3**
XOR	**Xorichti**	**2.23**	**97**	P	**Pn**	**06 22 12.8**	**+1.3**
XOR				S	**Sb**	**06 22 42.8**	**+0.3**
NEO	**Neokhori**	**2.27**	**99**	P	**Pb**	**06 22 14.3**	**-1.1**
NEO				AML	AML	06 22 54.1	
	comp=N,1078μm,0.5s						
NEO				AML	AML	06 22 55.8	
	comp=E,650μm,0.6s						
NEO	**Neokhori**	**2.27**	**99**	P	**Pn**	**06 22 13.6**	**+1.7**
NEO				S	**Sn**	**06 22 40.7**	**+0.7**
NEO	**Neokhori**	**2.27**	**99**	P	**Pn**	**06 22 13.6**	**+1.7**
NEO				S	**Sn**	**06 22 40.7**	**+0.7**
HORT	**Hortiatis**	**2.31**	**66**	P	**Pn**	**06 22 13.7**	**+1.1**
HORT	**Hortiatis**	**2.31**	**66**	P	**Pn**	**06 22 13.8**	**+1.2**
LKR	**Lokris**	**2.31**	**116**	P	**Pn**	**06 22 13.9**	**+1.4**
LKR	**Lokris**	**2.31**	**116**	P	**Pn**	**06 22 14.1**	**+1.6**
LKR	**Lokris**	**2.31**	**116**	P	**Pn**	**06 22 13.9**	**+1.4**
GUR	**Goura**	**2.34**	**137**	P	**Pb**	**06 22 14.8**	**-1.9**
GUR	**Goura**	**2.34**	**137**	P	**Pn**	**06 22 14.6**	**+1.6**
SMIA	**Simia**	**2.37**	**109**	P	**Pn**	**06 22 14.3**	**+0.9**
SMIA	**Simia**	**2.37**	**109**	P	**Pn**	**06 22 14.5**	**+1.2**
KNT	**Kendrikon**	**2.45**	**52**	P	**Pn**	**06 22 14.7**	**+0.2**
KNT	**Kendrikon**	**2.45**	**52**	P	**Pn**	**06 22 15.6**	**+1.1**
KNT	**Kendrikon**	**2.45**	**52**	P	**Pn**	**06 22 15.6**	**+1.1**
SKIA	**Skiathos**	**2.48**	**101**	P	**Pb**	**06 22 17.8**	**-1.2**
SKIA	**Skiathos**	**2.48**	**101**	P	**Pb**	**06 22 17.0**	**-2.0**
PLG	**Polygyros**	**2.49**	**73**	P	**Pn**	**06 22 15.8**	**+0.9**
PLG				AML	AML	06 22 47.9	
	comp=E,201μm,0.6s						
PLG				AML	AML	06 22 48.7	
	comp=N,187μm,0.4s						
PLG	**Polygyros**	**2.49**	**73**	P	**Pn**	**06 22 16.1**	**+1.1**
PLG				S	**Sn**	**06 22 46.5**	**+1.1**
PLG	**Polygyros**	**2.49**	**73**	P	**Pn**	**06 22 16.1**	**+1.1**
PLG				S	**Sn**	**06 22 46.5**	**+1.1**
PAIG	**Paliouri**	**2.59**	**83**	P	**Pn**	**06 22 16.0**	**-0.3**
PAIG	**Paliouri**	**2.59**	**83**	P	**Pn**	**06 22 16.9**	**+0.6**
LTK	**Loutraki**	**2.64**	**128**	P	**Pn**	**06 22 18.2**	**+1.2**
LTK	**Loutraki**	**2.64**	**128**	P	**Pn**	**06 22 18.4**	**+1.4**
VIL2	**Platees**	**2.72**	**122**	P	**Pn**	**06 22 19.8**	**+1.7**
VILL	**Villia**	**2.77**	**122**	P	**Pn**	**06 22 20.1**	**+1.2**
ITM	**Ithomi**	**2.79**	**153**	P	**Pn**	**06 22 19.5**	**+0.3**
ITM	**Ithomi**	**2.79**	**153**	P	**Pn**	**06 22 20.1**	**+1.0**
VLX	**Vlachokerasia**	**2.81**	**145**	P	**Pn**	**06 22 21.3**	**+1.8**
VLX	**Vlachokerasia**	**2.81**	**145**	P	**Pn**	**06 22 21.1**	**+1.7**
TIP	**Timpagrande**	**2.81**	**261**	P	**Pn**	**06 22 18.3**	**-1.2**
TIP	**Timpagrande**	**2.81**	**261**	P	**Pn**	**06 22 19.9**	**+0.4**
EREA	**Eretria**	**3.07**	**113**	P	**Pn**	**06 22 24.0**	**+1.1**
EREA	**Eretria**	**3.07**	**113**	P	**Pn**	**06 22 24.3**	**+1.3**
DID	**Didima**	**3.14**	**133**	P	**Pn**	**06 22 23.9**	**-0.1**
DID	**Didima**	**3.14**	**133**	P	**Pn**	**06 22 24.7**	**+0.7**
DION	**Dionisos Attik**	**3.23**	**119**	P	**Pn**	**06 22 25.7**	**+0.5**
DION	**Dionisos Attik**	**3.23**	**119**	P	**Pn**	**06 22 26.3**	**+1.1**
VLY	**Voula,Athens**	**3.26**	**123**	P	**Pn**	**06 22 26.4**	**+0.8**
VLY	**Voula,Athens**	**3.26**	**123**	P	**Pn**	**06 22 26.8**	**+1.2**
DYR	**Agios Nikonas**	**3.31**	**151**	P	**Pn**	**06 22 26.6**	**+0.3**
DYR	**Agios Nikonas**	**3.31**	**151**	P	**Pn**	**06 22 27.3**	**+1.0**
STON	**Ston**	**3.76**	**329**	*e*Pn	**Pn**	**06 22 31.9**	**-0.5**
STON				S	**Sn**	**06 23 14.9**	**-1.8**
STON	**Ston**	**3.76**	**329**	*e*Pn	**Pn**	**06 22 31.8**	**-0.5**
STON				Sn	**Sn**	**06 23 14.8**	**-1.8**

*ISCJB **11** 06:27:41.5±0.5,50.°12N±0.°04×19.°03E±0.°03,h0km, Error ellipse: s-maj=5.5km s-min=2.7km az=9.1*
*CSEM **11** 06:27:42.0±0.3,50.°15N×19.°07E, h2km, ML2.7/6, Error ellipse: s-maj=8.2km s-min=3.5km az=6.0*
*PRU **11** 06:27:42.6,50.°14N×19.°04E, h0km*
*WAR **11** 06:27:42.5,50.°11N×19.°18E, h1km, Mw2.5*

ISC 11 06:27:41.7±0.8, 50.°03N±0.°03×19.°07E±0.°02, h0km, n31, σ1§04/53, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHZP	**Chorzow**	**0.27**	**349**	*e*Pg	**Pg**	**06 27 48.1**	**+1.3**
CHZP				*e*Sg	**Sg**	**06 27 52.9**	**+2.6**
CHZP	**Chorzow**	**0.27**	**349**	*e*Pg	**Pg**	**06 27 48.1**	**+1.3**
CHZP				*e*Sg	**Sg**	**06 27 52.9**	**+2.6**
OJC	**Ojcow**	**0.50**	**68**	*e*Pg	**Pg**	**06 27 50.4**	**-1.0**
OJC				*e*Sg	**Sg**	**06 27 56.9**	**-1.0**
OJC	**Ojcow**	**0.50**	**68**	*e*P	**Pg**	**06 27 50.7**	**-0.7**
	262nm,1.2s						
OJC	**Ojcow**	**0.50**	**68**	*e*Pg	**Pg**	**06 27 50.4**	**-1.0**
OJC				*e*Sg	**Sg**	**06 27 56.9**	**-1.0**
OJC	**Ojcow**	**0.50**	**68**	*e*Pg	**Pg**	**06 27 50.4**	**-1.0**
OJC				*e*Sg	**Sg**	**06 27 56.9**	**-1.0**
OKC	**Ostrava-Krasne**	**0.63**	**252**	*e*PG	**Pb**	**06 27 55.1**	**-0.5**
OKC				*e*SG	**Sg**	**06 28 02.4**	**+0.5**
	comp=Z,17nm,0.3s						
OKC	**Ostrava-Krasne**	**0.63**	**252**	Pg	**Pb**	**06 27 55.1**	**-0.5**
OKC				Sg	**Sg**	**06 28 02.4**	**+0.5**
	17nm,0.3s						
LANS	**Liptovska Anna**	**0.92**	**164**	*e*Pg	**Pn**	**06 28 01.5**	**-0.5**
LANS				*e*Sg	**Sn**	**06 28 15.2**	**-0.6**
LANS	**Liptovska Anna**	**0.92**	**164**	*e*PG	**Pn**	**06 28 01.4**	**-0.5**
LANS				*e*SG	**Sn**	**06 28 15.2**	**-0.6**
NIE	**Niedzica**	**1.00**	**127**	*e*Pg	**Pb**	**06 28 01.8**	**-0.2**
NIE				*e*Sg	**Sb**	**06 28 16.8**	**+1.0**
NIE	**Niedzica**	**1.00**	**127**	*e*Pg	**Pb**	**06 28 01.8**	**-0.2**
NIE				*e*Sg	**Sb**	**06 28 16.8**	**+1.0**
NIE	**Niedzica**	**1.00**	**127**	*e*Pg	**Pb**	**06 28 01.8**	**-0.2**
NIE				*e*Sg	**Sb**	**06 28 16.8**	**+1.0**
MORC	**Moravsky Berou**	**1.02**	**256**	*e*Pg	**Pn**	**06 28 03.8**	**+0.4**
MORC				*e*Sg	**Sn**	**06 28 17.8**	**-0.7**
KRLC	**Kraliky**	**1.48**	**273**	*e*SG	**Sn**	**06 28 29.2**	**-0.5**
	comp=Z,4.1nm,0.3s						
KRLC	**Kraliky**	**1.48**	**273**	Sg	**Sn**	**06 28 29.2**	**-0.5**
	4.1nm,0.3s						
STHS	**Stebnicka Huta**	**1.54**	**113**	*e*Pn	**Pg**	**06 28 11.9**	**+0.7**
STHS				*e*Sn	**Sg**	**06 28 33.2**	**+2.2**
STHS	**Stebnicka Huta**	**1.54**	**113**	*e*PN	**Pg**	**06 28 11.9**	**+0.7**
STHS				*e*SN	**Sg**	**06 28 33.2**	**+2.2**
STHS				*e*LG	Lg	06 28 45.0	
VYHS	**Vyhne**	**1.55**	**186**	*e*Pn	**Pg**	**06 28 11.6**	**+0.3**
VYHS				*e*Sn	**Sg**	**06 28 33.1**	**+1.7**
VYHS	**Vyhne**	**1.55**	**186**	*e*PN	**Pg**	**06 28 11.6**	**+0.3**
VYHS				*e*SN	**Sg**	**06 28 33.1**	**+1.7**
VYHS				*e*LG	Lg	06 28 38.7	
VRAC	**Vranov**	**1.77**	**247**	*e*Pn	**Pg**	**06 28 15.4**	**-0.2**
VRAC				*e*Sg	**Sg**	**06 28 40.1**	**+1.6**
DPC	**Dobruska-Polom**	**1.80**	**281**	*e*PG	**Pb**	**06 28 15.1**	**-0.5**
DPC				*e*SG	**Sb**	**06 28 38.3**	**-0.3**
	comp=Z,13nm,0.4s						
DPC	**Dobruska-Polom**	**1.80**	**281**	Pg	**Pb**	**06 28 15.1**	**-0.5**
DPC				Sg	**Sb**	**06 28 38.3**	**-0.3**
	13nm,0.4s						
CRVS	**Cervenica-Dubn**	**1.92**	**125**	*e*Pn	**Pg**	**06 28 18.2**	**-0.4**
CRVS				*e*Sn	**Sg**	**06 28 44.1**	**+0.6**
CRVS	**Cervenica-Dubn**	**1.92**	**125**	*e*PN	**Pg**	**06 28 18.2**	**-0.4**
CRVS				*e*SN	**Sg**	**06 28 44.1**	**+0.6**
UPC	**Upice**	**2.02**	**285**	*e*SG	**Sg**	**06 28 46.7**	**0.0**
	comp=Z,8.1nm,0.4s						
UPC	**Upice**	**2.02**	**285**	Sg	**Sg**	**06 28 46.7**	**0.0**
	8.1nm,0.4s						
PRU	**Pruhonice**	**2.92**	**271**	*e*SG	**Sg**	**06 29 14.3**	**-1.3**
	comp=Z,4.4nm,0.3s						
PRU	**Pruhonice**	**2.92**	**271**	Sg	**Sg**	**06 29 14.3**	**-1.3**
	4.4nm,0.3s						
KHC	**Kasperske Hory**	**3.69**	**258**	*e*SG	**Sg**	**06 29 40.0**	**-0.2**
	comp=Z,5.2nm,0.5s						
KHC	**Kasperske Hory**	**3.69**	**258**	Sg	**Sg**	**06 29 40.0**	**-0.2**
	5.2nm,0.5s						

*SOME **11** 06:29:43.0,44.°32N×83.°42E, h5km*
*NNC **11** 06:29:48.2±2.6,44.°22N×83.°38E, h0km, mb3.0, mpv2.6, Error ellipse: s-maj=27.6km s-min=11.1km az=107.0*

ISC 11 06:29:42.9±2.8, 44.°30N±0.°08×83.°4E±0.°1, h10km, n7, σ1§39/13, 4C-1D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KTMS	**Ketmen**	**2.38**	**250**	*e*P	**Pg**	**06 30 27.5**	**-0.9**
	10nm,0.3s						
KTMS				*e*S	**Sg**	**06 30 60.0**	**+0.7**
	21nm,0.5s						
DJR	**Jarkent**	**2.60**	**272**	*e*P	**Pg**	**06 30 32.0**	**-0.8**
	12nm,0.4s						
DJR				*e*S	**Sg**	**06 31 07.2**	**+0.7**
	7.7nm,0.5s						
MK31	**Makanchi Array**	**2.62**	**343**	⇑Pn	**Pg**	**06 30 32.2**	**-0.8**
	1.1nm,0.3s,baz=159,slow=16,SNR=40						
MK31				Sn	**Sg**	**06 31 06.5**	**-0.4**
	4.1nm,0.6s,baz=160,slow=27,SNR=7.3						
MAKZ	**Makanchi**	**2.70**	**339**	⇑Pn	**Pg**	**06 30 34.2**	**-0.5**
	2.7nm,0.5s						
MAKZ				⇓Sn	**Sg**	**06 31 09.7**	**0.0**
	3.3nm,0.4s						
PDGK	**Podgornoye**	**3.00**	**252**	⇑Pn	**Pb**	**06 30 37.3**	**+0.8**
	1.0nm,0.5s						
PDGK				⇑Lg	Lg	06 31 20.7	
	4.3nm,0.4s						
KAPS	**Kapalarasan**	**3.05**	**290**	*e*P	**Pg**	**06 30 40.6**	**-0.7**
	1.6nm,0.3s						
KAPS				*e*S	**Sg**	**06 31 22.4**	**+1.5**
	3.4nm,0.4s						
MNBS	**Baschi**	**3.62**	**268**	*e*P	**Pb**	**06 30 48.3**	**+1.3**
	2.1nm,0.3s						
MNBS				*e*S	**Sg**	**06 31 35.7**	**-3.2**
	6.9nm,0.3s						

MEX 11 06:34:29.6±0.5, 14.°20N×93.°33W, h20km±43km, MD3.9, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		**1.50**	**4**	*e*P	Pn	06 34 52.7	-2.7
PCIG				*e*S	Sn	06 35 09.5	-4.8
CCIG	**Comitan**	**2.37**	**29**	*e*P	Pn	06 35 08.1	+0.6
CCIG				*e*S	Sn	06 35 34.0	-2.0
TGIG		**2.57**	**4**	*e*P	Pn	06 35 10.2	0.0
TGIG				*e*S	Sn	06 35 37.5	-3.5

IDC 11 06:36:26.1±2.8, 18.°04N×81.°42W, h0km, mb3.7/5, mb1 4.0/5, mb1mx3.6/45, mbtmp3.7/5, MS2.9/1, Ms1 2.9/1, ms1mx2.3/49, Error ellipse: s-maj=67.7km s-min=50.2km az=89.0, North of Honduras

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SJG	**San Juan**	**14.52**	**87**	LR	LR	06 44 21.4	
	comp=Z,55nm,21.2s,baz=257,slow=33						
TXAR	**Lajitas Array**	**23.22**	**303**	P	P	06 41 34.9	-0.2
	1.4nm,0.6s,baz=116,slow=10,SNR=15						
ULM	**Lac du Bonnet**	**34.16**	**343**	P	P	06 43 12.8	0.0
	1.0nm,0.7s,baz=162,slow=6.4,SNR=2.4						
PDAR	**Pinedale Array**	**34.30**	**322**	P	P	06 43 14.7	+0.2
	1.3nm,0.7s,baz=121,slow=8.7,SNR=15						
YKA	**Yellowknife Ar**	**50.03**	**341**	P	P	06 45 21.7	-0.4
	0.5nm,0.7s,baz=134,slow=8.3,SNR=12						
ILAR	**Eielson Array**	**63.42**	**334**	P	P	06 46 57.3	+0.1
	0.3nm,0.7s,baz=91,slow=4.8,SNR=5.0						
WRA	**Warramunga Arr**	**146.17**	**261**	PKPbc	PKPdf	06 56 08.4	+0.1
	0.7nm,0.8s,baz=85,slow=4.1,SNR=4.5						

IDC 11 06:44:11.5±11.0, 8.°62S×130.°28E, h113km±125km, mb3.2/2, mb1 3.2/5, mb1mx3.1/49, mbtmp3.5/5, ML3.4/3, Error ellipse: s-maj=78.2km s-min=46.0km az=6.0, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**10.45**	**205**	P	Pn	06 46 38.3	+0.1
	0.3nm,0.3s,baz=23,slow=10,SNR=2.7						
FITZ				S	Sn	06 48 36.2	+2.8
	0.2nm,0.3s,baz=74,slow=20,SNR=1.9						
WRA	**Warramunga Arr**	**11.92**	**161**	P	Pn	06 46 56.4	-1.6
	0.3nm,0.3s,baz=341,slow=13,SNR=8.9						
WRA				S	Sn	06 49 09.1	-0.1
	0.2nm,0.3s,baz=337,slow=25,SNR=6.0						
ASAR	**Alice Springs**	**15.36**	**167**	P	P	06 47 43.6	-0.8
	0.1nm,0.3s,baz=352,slow=9.4,SNR=4.4						
MKAR	**Makanchi Array**	**69.72**	**327**	P	P	06 55 10.0	+0.7
	0.4nm,0.5s,baz=129,slow=7.8,SNR=4.5						
KURBB	**Kurchatov Arra**	**74.03**	**329**	P	P	06 55 34.4	-0.4
	0.1nm,0.3s,baz=123,slow=5.1,SNR=3.3						

*SCB **11** 06:54:32.6±0.7,22.°38S×65.°90W, h285km, Ml4.1/2, Error ellipse: s-maj=40.4km s-min=10.6km az=57.0*
*SJA **11** 06:54:35.3±0.5,22.°75S×66.°57W, h239km±4km, ML3.9, MW4.2*
*NEIC **11** 06:54:35.5±0.4,22.°75S×66.°35W, h200km±3km, mb4.4/96, MD4.2(SJA), Error ellipse: s-maj=6.1km s-min=4.0km az=62.0*
NEIC Felt at San Salvador de Jujuy.
*ISCJB **11** 06:54:36.2±0.2,22.°75S±0.°02×66.°55W±0.°03, h226km±1km, mb4.3/105, Error ellipse: s-maj=4.8km s-min=3.3km az=148.0*
*IDC **11** 06:54:36.5±1.7,22.°70S×66.°37W, h211km±15km, mb4.0/17, mb1 4.1/21, mb1mx3.9/39, mbtmp4.5/21, Error ellipse: s-maj=15.5km s-min=9.3km az=66.0*
*GUC **11** 06:54:37.6±0.4,22.°82S×66.°83W, h214km±20km, ML5.3*

ISC 11 06:54:37.1±0.5, 22.°76S±0.°04×66.°62W±0.°04, h220km±5km, n510, σ1§16/547, mb4.4/105, 23C-2D, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YJA	**Yavi**	**1.17**	**60**	*i* P	**Pn**	**06 55 11.2**	**+0.5**
YJA				IAML		06 55 12.0	
	comp=Z,897nm,0.2s						
YJA				*i* S	**S**	**06 55 37.8**	**+1.2**
HJA	**Humahuaca**	**1.20**	**112**	*i* P	**Pn**	**06 55 11.2**	**+0.5**
HJA				IAML		06 55 12.1	
	comp=Z,4μm,0.5s						
HJA				*i* S	**S**	**06 55 37.9**	**+1.1**
MOCB	**Mochara**	**1.76**	**31**	⇓*i* Pn	**Pn**	**06 55 15.4**	**-0.1**
MOCB				*e*Sn	**S**	**06 55 45.0**	**-0.1**
AZAP	**Zapla**	**2.03**	**136**	*i* P	**Pn**	**06 55 17.7**	**-0.1**
AZAP				IAML		06 55 18.7	
	comp=Z,1μm,0.4s						
AZAP				*i* S	**S**	**06 55 49.3**	**-0.1**
SLA	**San Lorenzo**	**2.20**	**153**	*i* P	**Pn**	**06 55 19.8**	**+0.5**
SLA				IAML		06 55 20.3	
	comp=Z,440nm,0.3s						
ASTB	**Santa Barbara**	**2.31**	**121**	*i* P	**Pn**	**06 55 20.2**	**-0.3**
PB09	**IPOC Station P**	**2.62**	**291**	⇑*i* P	**Pn**	**06 55 25.0**	**+1.2**
PB09				*i* S	**S**	**06 56 00.2**	**+0.2**
PB09				IAML		06 56 04.5	
	comp=N,9μm,0.3s						
ALOL	**LOMAS DE OLMED**	**2.64**	**114**	*i* P	**Pn**	**06 55 23.1**	**-0.7**
PB06	**IPOC Station P**	**2.73**	**271**	*e*P	**Pn**	**06 55 25.2**	**+0.2**
PB06				*i* S	**S**	**06 56 01.9**	**-0.3**
PB06				IAML		06 56 05.6	
	comp=E,3μm,0.1s						
PB01	**IPOC Station P**	**3.17**	**302**	*e*Pn	**Pn**	**06 55 30.5**	**+0.6**
PB01				*e*S	**S**	**06 56 10.5**	**-0.6**
PB01	**IPOC Station P**	**3.17**	**302**	⇑*i* P	**Pn**	**06 55 30.4**	**+0.4**
PB01				*i* S	**S**	**06 56 10.7**	**-0.4**
PB01				IAML		06 56 12.5	
	comp=E,2μm,0.4s						
PB07	**IPOC Station P**	**3.20**

PLCA	Paso Flores comp=Z,13nm,0.8s	18.22	190	eP		P	06 58 34.1	+0.1
PTGA	Pitinga comp=Z,2.7nm,0.3s,baz=326,slow=3.6,SNR=7.7	22.84	17	P		P	06 59 20.0	-1.5
PTGA	Pitinga comp=Z,7.3nm,0.6s	22.84	17	eP		P	06 59 19.6	-1.8
OTAV	Otavalo comp=Z,4.7nm,1.0s	25.60	332	eP		P	06 59 48.1	+1.1
OTAV	Otavalo	25.60	332	eP		P	06 59 48.5	+1.5
FLOC	Florencia	25.75	339	eP		P	06 59 47.9	+0.1
GCUF	Volcan Galeras	26.04	335	eP		P	06 59 53.4	+2.5
SOTA	Rioblanco	26.60	337	eP		P	06 59 56.2	+0.3
YOTC	Yotoco, Valle	28.23	339	eP		P	07 00 08.2	-1.9
RUSC	La Rusia comp=Z,4.8nm,1.0s	29.17	347	eP		P	07 00 18.8	0.0
RUSC	La Rusia	29.17	347	eP		P	07 00 18.0	-0.7
HELC	Santa Helena comp=Z,10nm,0.5s	30.07	342	eP		P	07 00 25.4	-1.1
PTBC	PUERTO BERRIO,	30.12	344	eP		P	07 00 23.6	-3.0
ZARC	Zaragoza, Cauc	31.13	344	eP		P	07 00 32.8	-2.7
SDV	Santo Domingo comp=Z,5.8nm,0.4s,baz=226,slow=5.9,SNR=5.3	31.70	352	P		P	07 00 39.9	-0.7
SDV	Santo Domingo comp=Z,6.5nm,0.4s	31.70	352	eP		P	07 00 39.6	-1.0
PCRV	Puerto La Cruz comp=Z,3.6nm,0.6s,baz=149,slow=5.9,SNR=2.6	32.79	4	P		P	07 00 49.3	-0.7
APG	El Apazote comp=Z,7.0nm,0.7s,baz=129,slow=6.5,SNR=8.7	44.21	326	P		P	07 02 26.1	+1.2
058A	Arcadia baz=162	51.66	343	P		P	07 03 21.8	+0.2
655A	Horseshoe Beac baz=161	54.38	342	P		P	07 03 41.6	+0.2
553A	Crawfordville baz=160	55.36	341	P		P	07 03 48.5	+0.1
454A	Quitman baz=161	55.62	342	P		P	07 03 50.3	0.0
356A	Blackshear baz=162	55.80	344	P		P	07 03 51.6	+0.1
453A	Whigham baz=160	55.95	342	P		P	07 03 52.5	-0.1
353A	Camilla baz=160	56.39	342	P		P	07 03 55.5	-0.1
352A	Blakely baz=160	56.72	341	P		P	07 03 58.0	0.0
351A	Pinckard baz=159	56.73	341	P		P	07 03 58.1	+0.1
LNIG	Linares comp=Z,3.4nm,0.7s	57.10	324	eP		P	07 04 01.6	+0.7
154A	Montrose baz=162	57.27	343	P		P	07 04 01.9	0.0
447A	Lucedale baz=156	57.30	337	P		P	07 04 02.2	+0.1
349A	Repton baz=157	57.31	339	P		P	07 04 02.2	+0.1
251A	Midway baz=159	57.43	341	P		P	07 04 02.8	-0.2
250A	Grady baz=158	57.59	340	P		P	07 04 03.8	-0.3
347A	Saraland baz=156	57.81	338	P		P	07 04 05.5	-0.1
151A	Opelika baz=159	57.81	341	P		P	07 04 05.5	-0.1
249A	Camden baz=157	57.86	339	P		P	07 04 05.9	0.0
150A	Eclectic baz=159	58.10	341	P		P	07 04 07.2	-0.3
GOGA	Godfrey baz=161	58.13	343	P		P	07 04 07.4	-0.3
248A	Dixon Mills baz=157	58.17	339	P		P	07 04 07.8	-0.3
VNA3	Neumayer Olymp	58.20	161	P		P	07 04 06.8	-1.1
149A	Jones baz=158	58.33	340	P		P	07 04 08.8	-0.4
148A	Greensboro baz=157	58.62	339	P		P	07 04 10.9	-0.3
Z50A	Ashland baz=159,SNR=7.9	58.67	341	P		P	07 04 11.3	-0.2
VNA2	Neumayer--Watz baz=284,slow=9.4	58.76	161	P		P	07 04 12.3	+0.6
LRAL	Lakeview Retre baz=158	58.80	340	P		P	07 04 12.0	-0.4
LRAL	Lakeview Retre comp=Z,5.2nm,0.6s	58.80	340	eP		P	07 04 12.4	+0.1
Z49A	Columbiana baz=158	58.80	340	P		P	07 04 12.0	-0.4
245A	Little AP, Sta baz=155	58.86	337	P		P	07 04 12.6	-0.3
146A	Union baz=156	59.11	338	P		P	07 04 14.8	+0.2
244A	Avery, Jackson baz=154	59.16	336	P		P	07 04 14.6	-0.3
342A	Flagon Creek P baz=152	59.20	334	P		P	07 04 15.1	-0.1
Y50A	Piedmont baz=159	59.21	342	P		P	07 04 15.1	-0.1
KMSC	Kings Mountain baz=164	59.26	346	P		P	07 04 15.7	+0.2
Z48A	Northport baz=157,SNR=5.1	59.29	340	P		P	07 04 15.3	-0.5
Z47A	Carrollton baz=157	59.29	339	P		P	07 04 15.5	-0.3
Y49A	Blount Mountai baz=158	59.38	341	P		P	07 04 16.1	-0.3
145A	Houston Renfro baz=155	59.39	337	P		P	07 04 16.9	+0.4
341A	Kurthwood baz=151	59.51	334	P		P	07 04 18.4	+1.1
Z46A	Louisville baz=156	59.58	338	P		P	07 04 18.2	+0.5
833A	Chaparral WMA, baz=145	59.83	326	P		P	07 04 20.8	+1.2
Y47A	UCPARC, Winfie baz=157,SNR=6.2	59.87	340	P		P	07 04 19.5	-0.2
X49A	Woodville baz=159	59.96	341	P		P	07 04 20.3	-0.1
X48A	Hartselle baz=158,SNR=6.6	60.12	341	P		P	07 04 21.4	0.0
Z44A	Pea Ridge, Bel baz=154	60.18	337	P		P	07 04 22.1	+0.2
Y46A	Houston baz=156	60.18	339	P		P	07 04 21.4	-0.5
TKL	Tuckaleechee C comp=Z,6.3nm,0.7s,baz=156,slow=8.5,SNR=9.0	60.33	344	P		P	07 04 22.7	-0.2
TKL	Tuckaleechee C comp=Z,9.9nm,0.9s	60.33	344	eP		P	07 04 22.7	-0.2
SNAA	Sanae	60.40	161	P		P	07 04 23.6	+0.7
SNAA	Sanae comp=Z,2.1nm,0.6s,baz=298,slow=9.4,SNR=19	60.40	161	P		P	07 04 23.3	+0.4
SNAA	Sanae comp=Z,14nm,1.5s	60.40	161	eP		P	07 04 23.0	+0.1
Y45A	Yeager Farm, C baz=155	60.40	338	P		P	07 04 23.4	+0.1
X47A	Russelville baz=157,SNR=8.6	60.44	340	P		P	07 04 23.2	-0.3
NATX	Nacogdoches baz=150	60.50	333	P		P	07 04 25.0	+1.0
141A	Papa Simpson, baz=152	60.52	335	P		P	07 04 25.1	+1.0
X46A	Booneville baz=156	60.71	339	P		P	07 04 25.0	-0.4
W48A	Pulaski baz=158,SNR=8.4	60.73	341	P		P	07 04 25.5	0.0
140A	Cam and Jess, baz=151	60.81	334	P		P	07 04 27.1	+1.0
X45A	UM Field Stati baz=156	60.85	339	P		P	07 04 25.9	-0.5
PLAL	Pickwick Lake comp=Z,4.9nm,0.8s	60.93	340	eP		P	07 04 26.7	-0.2
OXF	Oxford baz=156	60.94	339	P		P	07 04 26.3	-0.6
OXF	Oxford comp=Z,22nm,1.1s	60.94	339	eP		P	07 04 26.5	-0.4
W47A	Westpoint baz=158,SNR=6.8	61.03	340	P		P	07 04 27.2	-0.4
Z41A	Richland Creek baz=152	61.05	335	P		P	07 04 27.7	0.0
BLA	Blacksburg baz=165	61.06	347	P		P	07 04 28.0	+0.3
TZTN	Tazewell baz=162	61.12	344	P		P	07 04 28.3	+0.2
Y42A	Garnett, Star baz=153	61.18	336	P		P	07 04 28.9	+0.4
V48A	Smith Brothers baz=158,SNR=5.5	61.25	341	P		P	07 04 28.8	-0.2
Z40A	Long Farm, Mag baz=152	61.29	334	P		P	07 04 29.4	+0.1
W45A	Hickory Valley baz=156	61.45	339	P		P	07 04 30.0	-0.4
X43A	Marvell baz=154	61.46	337	P		P	07 04 30.8	+0.4
Y41A	Eaglette Beard baz=152	61.53	335	P		P	07 04 31.3	+0.4
V47A	Nunnelly baz=158	61.54	341	P		P	07 04 30.7	-0.3
WLAR	White Oak Lake comp=Z,21nm,0.8s	61.55	335	eP		P	07 04 31.8	+0.7
V46A	Holladay baz=157	61.70	340	P		P	07 04 31.4	-0.6
JCT	Junction City baz=145	61.79	328	P		P	07 04 33.2	+0.4
JCT	Junction City comp=Z,8.3nm,0.7s	61.79	328	eP		P	07 04 33.2	+0.4
U48A	Cassie Pea, Po baz=159	61.89	342	P		P	07 04 33.2	-0.1
Y40A	Okolona baz=152	61.90	335	P		P	07 04 33.6	+0.2
V45A	Humboldt baz=156	61.91	339	P		P	07 04 33.0	-0.4
WVT	Waverly baz=158	61.92	341	P		P	07 04 33.0	-0.5
WVT	Waverly comp=Z,16nm,0.8s	61.92	341	eP		P	07 04 32.8	-0.6
WHTX	Lake Whitney, baz=147	61.93	330	P		P	07 04 34.2	+0.6
WHTX	Lake Whitney, comp=Z,5.8nm,0.6s	61.93	330	eP		P	07 04 34.2	+0.6
X41A	Kaden, Bauxite baz=153	62.04	336	P		P	07 04 34.1	-0.2
U47A	Clarksville baz=158,SNR=7.9	62.04	341	P		P	07 04 33.7	-0.5
HPIG	comp=Z,4.3nm,0.6s	62.19	321	eP		P	07 04 36.9	+1.2
U46A	Springville baz=157	62.23	340	P		P	07 04 34.8	-0.8
T48A	Bowling Green baz=159	62.40	342	P		P	07 04 36.0	-0.7
V43A	Jonesboro baz=155	62.48	338	P		P	07 04 37.6	+0.4
MIAR	Mount Ida baz=152	62.49	335	P		P	07 04 37.5	+0.2
MIAR	Mount Ida comp=Z,10nm,1.3s	62.49	335	eP		P	07 04 37.7	+0.4
T47A	Sharon Grove baz=158,SNR=5.9	62.49	342	P		P	07 04 36.7	-0.6
U44B	Burton Farm, H baz=156	62.59	339	P		P	07 04 38.0	+0.1
X39A	Fountain Ranch baz=151	62.67	335	P		P	07 04 39.3	+0.8
T46A	Princeton baz=158	62.78	341	P		P	07 04 39.0	-0.2
S48A	Wiedeman Farm, baz=160	62.82	343	P		P	07 04 38.5	-0.9
W40A	Ferguson Farm, baz=152	62.86	336	P		P	07 04 40.2	+0.5
LTX	Lajitas	62.89	324	eP		P	07 04 41.0	+0.9
TXAR	Lajitas Array comp=Z,1.8nm,0.7s,baz=149,slow=8.2,SNR=19	62.89	324	P		P	07 04 41.0	+0.9
TX31	Lajitas Ar. Si	62.89	324	eP		P	07 04 40.6	+0.5
V41A	Mountainview baz=153	63.05	337	P		P	07 04 40.7	-0.3
W39A	Magazine baz=152	63.14	335	P		P	07 04 42.2	+0.7
W39A	Magazine comp=Z,7.2nm,0.8s	63.14	335	eP		P	07 04 42.3	+0.7
U42A	Revenden baz=154	63.23	338	P		P	07 04 41.9	-0.2
V40A	Witts Springs baz=153	63.31	336	P		P	07 04 42.6	-0.1
V40A	Witts Springs comp=Z,4.5nm,0.6s	63.31	336	eP		P	07 04 42.7	-0.1
MCWV	Mont Chateau baz=166	63.31	349	P		P	07 04 43.2	+0.6
PBMO	Poplar Bluff comp=Z,12nm,0.6s	63.34	339	eP		P	07 04 42.8	-0.1
T44A	Benton baz=156	63.35	340	P		P	07 04 42.5	-0.4
WCI	Wyandotte Cave baz=160	63.42	343	P		P	07 04 42.5	-0.8
U41A	Viola baz=154	63.47	337	P		P	07 04 43.3	-0.4
R48A	Northridge Ran baz=160	63.47	343	P		P	07 04 43.1	-0.5
T43A	Greenville baz=155,SNR=14	63.57	339	P		P	07 04 44.1	-0.2
V39A	Pettigrew baz=152	63.65	336	P		P	07 04 45.3	+0.3
T42A	Van Buren baz=155	63.80	338	P		P	07 04 46.4	+0.6
S44A	Carbondale baz=156	63.80	340	P		P	07 04 45.2	-0.5
PAL	Palisades baz=172	63.80	354	P		P	07 04 46.4	+0.7
U40A	Yellville baz=153	63.81	337	P		P	07 04 46.0	0.0
SSPA	Standing Stone baz=168	63.94	350	P		P	07 04 46.1	-0.5
S43A	Fulton Ridge, baz=156,SNR=6.1	63.95	339	P		P	07 04 46.3	-0.5
T41A	Mountain View baz=154	64.04	338	P		P	07 04 47.6	+0.2
R45A	Skylar, Fairfi baz=158	64.05	341	P		P	07 04 46.6	-0.8
U39A	Green Forest baz=152	64.07	336	P		P	07 04 47.4	-0.2
Q47A	Bedord North L baz=160	64.12	343	P		P	07 04 47.1	-0.8
HHAR	Hobbs comp=Z,5.9nm,0.7s	64.16	336	eP		P	07 04 48.4	+0.2
R44A	Waltonville baz=157	64.25	340	P		P	07 04 47.9	-0.9
S42A	Caledonia baz=155,SNR=11	64.36	339	P		P	07 04 48.9	-0.6
T40A	Mansfield baz=153	64.40	337	P		P	07 04 49.8	0.0
ACSO	Alum Creek Sta baz=163	64.50	346	P		P	07 04 50.0	-0.3
S41A	Jillco Farms, baz=154,SNR=15	64.52	338	P		P	07 04 50.3	-0.2
TUL1	Leonard baz=150	64.56	334	P		P	07 04 50.2	-0.6
Q45A	Warren Harvey, baz=158	64.57	342	P		P	07 04 50.4	-0.4
P47A	Martinsville baz=160	64.59	343	P		P	07 04 50.2	-0.7
T39A	Clever baz=152	64.60	336	P		P	07 04 51.1	0.0
N54A	Moraine State baz=166	64.61	349	P		P	07 04 52.0	+1.0
CCM	Cathedral Cave baz=155	64.77	339	P		P	07 04 52.0	-0.2
CCM	Cathedral Cave comp=Z,15nm,0.6s	64.77	339	eP		P	07 04 52.1	-0.1
S40A	Lebanon baz=153,SNR=7.0	64.80	337	P		P	07 04 52.3	0.0
R42A	Luebbering baz=155,SNR=5.5	64.83	339	P		P	07 04 52.4	-0.1
WMOK	Wichita Mounta baz=147	64.83	331	P		P	07 04 52.8	+0.2
T38A	Diamond baz=152,SNR=9.5	64.95	336	P		P	07 04 53.6	+0.3
R41A	Rosebud baz=155,SNR=9.1	65.04	339	P		P	07 04 53.6	-0.2
P45A	Graceland, Par baz=158	65.04	342	P		P	07 04 52.8	-1.0
M54A	Oil Creek Stat baz=166	65.08	349	P		P	07 04 54.2	+0.1
HRV	Adam Dziewonsk baz=175	65.10	356	P		P	07 04 54.5	+0.4
S39A	Bolivar baz=153,SNR=14	65.17	337	P		P	07 04 54.9	+0.2
BINY	Binghamton baz=170	65.21	352	P		P	07 04 55.7	+0.8
P44A	Sand Creek, Wi baz=157	65.24	341	P		P	07 04 54.2	-0.9
O47A	Sheridan baz=160	65.27	344	P		P	07 04 54.5	-0.8
Q42A	Golden Eagle baz=156	65.32	340	P		P	07 04 55.1	-0.5
S38A	Stockton baz=152,SNR=5.0	65.33	336	P		P	07 04 55.7	0.0
R40A	Maddies Statio baz=154,SNR=8.7	65.33	338	P		P	07 04 55.6	-0.2
Q41A	Truxton baz=155	65.58	339	P		P	07 04 56.9	-0.4
R39A	Chumby, Stover baz=153	65.62	337	P		P	07 04 57.8	+0.2
MNTX	Cornudas Mount baz=140	65.65	324	P		P	07 04 58.2	+0.2
MNTX	Cornudas Mount comp=Z,5.3nm,0.9s	65.65	324	eP		P	07 04 58.2	+0.2
SFIN	Lafayette baz=159	65.65	343	P		P	07 04 56.8	-0.9
P43A	Skaggs, Pawnee baz=157	65.67	341	P		P	07 04 57.1	-0.7
O45A	Potomac baz=158	65.70	342	P		P	07 04 56.8	-1.2
ERPA	Erie baz=166	65.73	349	P		P	07 04 57.4	-0.8
R38A	Fenwick Farm, baz=152,SNR=9.0	65.82	337	P		P	07 04 59.0	+0.2
O44A	Mansfield baz=158	65.83	342	P		P	07 04 58.9	0.0
P42A	Winchester baz=156	65.87	340	P		P	07 04 58.4	-0.7
Q40A	Laux Farm, Aux baz=154	65.90	338	P		P	07 04 59.3	-0.1
N46A	Monticello baz=160	66.04	343	P		P	07 05 00.1	-0.1
MSTX	Muleshoe baz=143	66.08	328	P		P	07 05 01.2	+0.4
MSTX	Muleshoe comp=Z,14nm,0.8s	66.08	328	eP		P	07 05 01.4	+0.6
P41A	Barry, Barry baz=155	66.18	340	P		P	07 05 00.7	-0.4
O43A	Sugar Creek Fa baz=157	66.19	341	P		P	07 05 00.5	-0.7
Q39A	Willow Grove F baz=153,SNR=5.8	66.25	338	P		P	07 05 01.5	-0.1
AMTX	Amarillo baz=144	66.29	329	P		P	07 05 02.2	+0.1
N44A	Piper City baz=158	66.33	342	P		P	07 05 01.9	-0.1
O42A	Bath baz=156	66.34	341	P		P	07 05 02.1	0.0
P40A	Paris baz=154	66.37	339	P		P	07 05 02.7	+0.4
Q38A	Cooks Store, C baz=153,SNR=7.4	66.41	337	P		P	07 05 02.7	+0.2
O41A	Passleys Farm, baz=155	66.52	340	P		P	07 05 02.5	-0.8
P39B	Salisbury baz=154	66.57	338	P		P	07 05 03.4	-0.2
Q37A	Longview Farm, baz=152,SNR=8.6	66.63	337	P		P	07 05 04.1	+0.1
LIC	Lamto comp=Z,115nm,2.6s	66.72	72	eP		P	07 05 04.4	-0.7
N43A	Stutzman Famil baz=157,SNR=5.4	66.76	342	P		P	07 05 04.1	-0.6
O40A	La Belle baz=154	66.85	339	P		P	07 05 04.8	-0.5
LBNH	Lisbon baz=174	66.85	356	P		P	07 05 06.2	+1.0
TIC	Toumodi	66.92	72	eP		P	07 05 04.9	-1.5
P38A	Dawn baz=153,SNR=9.6	66.97	338	P		P	07 05 06.0	0.0
KIC	Kosan Boka comp=Z,11nm,0.6s	67.04	72	eP		P	07 05 06.9	-0.2
DBIC	Dimbokro comp=Z,2.4nm,0.3s,baz=223,slow=8.2,SNR=14	67.08	72	P		P	07 05 06.7	-0.7
DBIC	Dimbokro comp=Z,18nm,1.5s	67.08	72	eP		P	07 05 06.3	-1.0
M43A	Waltham Townsh baz=157	67.15	342	P		P	07 05 06.7	-0.5
P37A	Lathrop baz=152,SNR=11	67.22	337	P		P	07 05 07.6	-0.1
O38A	Galt baz=153	67.39	338	P		P	07 05 08.6	-0.1
QSPA	South Pole Qui comp=Z,6.6nm,0.4s,baz=151,slow=1.4,SNR=18	67.44	180	P		P	07 05 09.6	+0.7
N40A	Mertquake, Sal baz=155	67.44	340	P		P	07 05 08.7	-0.4
LONY	Lake Ozonia baz=172	67.45	354	P		P	07 05 09.6	+0.6
319A	Douglas comp=Z,7.6nm,0.8s	67.59	321	eP		P	07 05 12.0	+1.7
121A	Cookes Peak, D baz=139	67.60	323	P		P	07 05 12.3	+1.9
KSU1	Kansas State U baz=150	67.64	335	P		P	07 05 10.4	0.0
O37A	Wolven Farm, M baz=152	67.66	337	P		P	07 05 10.4	0.0
N39A	Derby Farms, D baz=154,SNR=6.2	67.74	339	P		P	07 05 10.4	-0.4
PKME	Peaks-Kenny Pk baz=177	67.74	358	P		P	07 05 11.1	+0.3
L43A	Garden Prairie baz=158	67.78	342	P		P	07 05 10.9	-0.3
L42A	Oliver, Polo baz=157	67.88	342	P		P	07 05 11.3	-0.5
M40A	Post Highland baz=155,SNR=6.2	67.89	340	P		P	07 05 11.2	-0.6
N38A	Joes South For baz=153	67.91	338	P		P	07 05 11.5	-0.4
K43A	Burlington baz=158	68.15	343	P		P	07 05 13.1	-0.4
M39A	Webster baz=154	68.17	340	P		P	07 05 13.3	-0.3
L41A	Preston baz=156	68.19	341	P		P	07 05 13.2	-0.5
BNM	Barren Site	68.20	325	eP		P	07 05 15.7	+1.4
N37A	Lee Faris, Mou baz=152	68.21	338	P		P	07 05 13.9	+0.1
LPM	Los Pinos Moun	68.33	325	eP		P	07 05 16.4	+1.4
O35A	Humboldt baz=151	68.39	336	P		P	07 05 14.9	-0.1
L40A	Anamosa baz=155	68.40	341	P		P	07 05 14.9	-0.1
M38A	Pleasantville baz=154,SNR=7.1	68.45	339	P		P	07 05 14.9	-0.4
K42A	Prairie Point, baz=157	68.50	342	P		P	07 05 15.7	+0.1
O34A	Beatrice baz=150	68.61	336	P		P	07 05 16.4	+0.1
K41A	Shullsburg baz=156	68.62	341	P		P	07 05 16.2	-0.2
CBKS	Cedar Bluff baz=147	68.67	333	P		P	07 05 17.7	+1.0
CBKS	Cedar Bluff comp=Z,13nm,0.7s	68.67	333	eP		P	07 05 18.0	+1.2
L39A	Vinton baz=155	68.70	340	P		P	07 05 16.4	-0.4
ANMO	Albuquerque baz=140	68.73	326	P		P	07 05 19.2	+1.8
ANMO	Albuquerque comp=Z,5.1nm,0.8s	68.73	326	eP		P	07 05 18.7	+1.3
M37A	Trindle Farm, baz=153,SNR=5.4	68.73	338	P		P	07 05 17.3	+0.3
J43A	Natural Harves baz=158	68.81	343	P		P	07 05 17.8	+0.4
N35A	Tabor baz=151	68.81	337	P		P	07 05 17.4	-0.1
O33A	Hebron baz=149,SNR=8.8	68.86	335	P		P	07 05 18.4	+0.5
JFWS	Jewell Farm baz=156	68.89	342	P		P	07 05 17.9	-0.1
J42A	Columbus baz=158	68.94	343	P		P	07 05 18.1	-0.2
K40A	Colesburg baz=156	68.95	341	P		P	07 05 18.2	-0.1
L38A	Oak Wood Farm, baz=154	69.02	339	P		P	07 05 18.9	+0.1
N34A	Lincoln baz=150	69.11	336	P		P	07 05 19.3	-0.1
TUC	Tucson baz=136	69.15	321	P		P	07 05 22.1	+2.1
TUC	Tucson comp=Z,6.2nm,1.2s	69.15	321	eP		P	07 05 21.6	+1.7
K39A	Oelwein baz=155,SNR=5.2	69.19	340	P		P	07 05 19.2	-0.6
I43A	Langenfeld Bro baz=159	69.20	344	P		P	07 05 19.4	-0.4
J41A	Loganville baz=157	69.23	342	P		P	07 05 19.4	-0.7
M35A	Neola baz=151	69.36	337	P		P	07 05 21.8	+0.9
N33A	J Bar K, Exete baz=150	69.38	335	P		P	07 05 21.7	+0.6
I42A	Draeger Farm, baz=158	69.41	343	P		P	07 05 21.2	+0.1
T25A	Trinidad baz=143	69.42	328	P		P	07 05 23.3	+1.7
T25A	Trinidad comp=Z,4.2nm,0.8s	69.42	328	eP		P	07 05 23.2	+1.6
J40A	Soldiers Grove	69.47	341	P		P	07 05 21.4	-0.2

baz=156
MHTCO **State Highway** 69.54 328 *e*P P 07 05 24.3 +1.9
comp=Z,6.6nm,0.9s
L36A **Harm Buss Farm** 69.56 338 P P 07 05 22.0 -0.1
baz=152
J39A **Decorah** 69.70 341 P P 07 05 22.6 -0.3
baz=155,SNR=5.6
K37A **Belmond** 69.81 339 P P 07 05 23.4 -0.2
baz=153
I41A **Arkdale** 69.83 342 P P 07 05 23.6 -0.1
baz=157
L35A **Bielow Farm, R** 69.88 337 P P 07 05 24.1 +0.1
baz=151
H42A **Shiocton** 69.88 343 P P 07 05 24.0 0.0
baz=158
I40A **Norwalk** 69.89 342 P P 07 05 23.9 -0.1
baz=156
J38A **Wedel Dairy, R** 69.93 340 P P 07 05 24.3 0.0
baz=154
K36A **Gilmore City** 69.96 338 P P 07 05 24.7 +0.1
baz=152
L34A **Svendsen Farm,** 70.05 337 P P 07 05 25.0 -0.1
baz=151
KSCO **Kaye Shedlock'** 70.09 331 P P 07 05 26.7 +1.1
baz=145
214A **Organ Pipe Nat** 70.09 319 P P 07 05 28.0 +2.4
baz=135
I39A **Houston** 70.12 341 P P 07 05 25.6 +0.1
baz=155
F46A **Macinaw City C** 70.18 347 P P 07 05 25.7 0.0
baz=162
BGNE **Belgrade** 70.23 335 P P 07 05 26.9 +0.7
baz=149,SNR=5.4
BGNE **Belgrade** 70.23 335 *e*P P 07 05 27.0 +0.8
comp=Z,40nm,0.6s
J37A **Redenius Farm,** 70.26 339 P P 07 05 26.3 -0.1
baz=154
K35A **Storm Lake** 70.30 338 P P 07 05 26.7 +0.1
baz=152
SDCO **Great Sand Dun** 70.42 328 P P 07 05 29.5 +1.7
baz=142
SDCO **Great Sand Dun** 70.42 328 *e*P P 07 05 29.6 +1.7
comp=Z,5.3nm,0.8s
H40A **Chili** 70.50 342 P P 07 05 27.7 0.0
baz=157
I38A **Scanlan Farm,** 70.53 341 P P 07 05 27.7 -0.3
baz=155
J36A **Seneca 1, Swea** 70.54 339 P P 07 05 27.9 -0.1
baz=153
W18A **Petrified Fore** 70.61 324 P P 07 05 30.7 +1.8
baz=138
W18A **Petrified Fore** 70.61 324 *e*P P 07 05 30.4 +1.5
comp=Z,9.3nm,1.1s
F43A **Flat Rock, Esc** 70.78 345 P P 07 05 29.0 -0.4
baz=160
H39A **Augusta** 70.80 342 P P 07 05 29.9 +0.3
baz=156
E45A **Wooded Hills,** 70.82 347 P P 07 05 29.8 +0.2
baz=162
K33A **Hardington** 70.83 337 P P 07 05 29.8 0.0
baz=150
I37A **Lemond, Waseca** 70.85 340 P P 07 05 29.8 -0.1
baz=154
I36A **Fitzsimmons Fa** 71.05 339 P P 07 05 31.3 +0.2
baz=153
X16A **Lo Mia Camp, P** 71.05 322 *e*P P 07 05 33.6 +2.0
comp=Z,5.7nm,1.1s
S22A **4UR Ranch, Cre** 71.08 327 P P 07 05 33.5 +1.7
baz=141
S22A **4UR Ranch, Cre** 71.08 327 *e*P P 07 05 33.5 +1.7
comp=Z,2.4nm,0.9s
H38A **Maiden Rock** 71.09 341 P P 07 05 31.2 -0.1
baz=155
F41A **Three Lakes** 71.18 344 P P 07 05 31.8 0.0
baz=158
H37A **Dierke Farm, C** 71.20 340 P P 07 05 31.9 -0.1
baz=154
Q24A **Divide** 71.22 329 *e*P P 07 05 34.5 +1.8
comp=Z,10nm,1.0s
E43A **Lone Tree Farm** 71.25 345 P P 07 05 32.2 0.0
baz=160
G39A **Holcombe** 71.33 342 P P 07 05 33.1 +0.4
baz=156
G38A **Ridgeland** 71.42 341 P P 07 05 33.0 -0.2
baz=155
OGNE **Ogallala** 71.42 332 P P 07 05 34.7 +1.2
baz=146
J33A **Davis** 71.44 337 P P 07 05 33.6 +0.2
baz=150
K31A **O'Neill** 71.50 336 P P 07 05 34.5 +0.6
baz=149
H36A **Jessenland, He** 71.52 340 P P 07 05 34.3 +0.4
baz=153
MVCO **Mesa Verde** 71.52 326 P P 07 05 36.0 +1.6
baz=139,SNR=5.9
MVCO **Mesa Verde** 71.52 326 *e*P P 07 05 35.9 +1.6
comp=Z,4.7nm,0.8s
KOWA **Kowa** 71.59 65 P P 07 05 33.5 -1.4
comp=Z,2.2nm,0.3s,baz=244,slow=6.2,SNR=12
F40A **Park Falls** 71.61 343 P P 07 05 34.8 +0.4
baz=157
ECSD **EROS Data Cent** 71.67 338 P P 07 05 34.9 +0.1
baz=151
ECSD **EROS Data Cent** 71.67 338 *e*P P 07 05 35.3 +0.4
comp=Z,16nm,1.7s
SPMN **Marine on St.** 71.75 341 P P 07 05 35.5 +0.2
baz=154
J32A **Parkston** 71.80 337 P P 07 05 35.7 +0.1
baz=150
WUAZ **Wupatki** 71.81 323 P P 07 05 38.3 +2.3
baz=137
WUAZ **Wupatki** 71.81 323 *e*P P 07 05 37.9 +1.9
comp=Z,8.0nm,1.1s
H35A **Sunnyside Ranc** 71.92 339 P P 07 05 36.6 +0.3
baz=152
E40A **Wakefield** 72.04 343 P P 07 05 37.4 +0.5
baz=157
ISCO **Idaho Springs** 72.10 329 P P 07 05 39.6 +1.7
baz=142,SNR=5.8
ISCO **Idaho Springs** 72.10 329 *e*P P 07 05 39.6 +1.7
comp=Z,2.6nm,0.8s
F38A **Pierce - Schro** 72.14 342 P P 07 05 38.3 +0.8
baz=155
F37A **Hinrichs Farm,** 72.15 341 P P 07 05 38.0 +0.4
baz=155
E39A **Mellen** 72.15 343 P P 07 05 37.8 +0.2
baz=157
H34A **Spellman Lake,** 72.20 339 P P 07 05 38.1 +0.2
baz=152
PV01 **Paradox Valley** 72.26 326 *e*P P 07 05 40.8 +2.0
SMCO **Snowmass** 72.26 328 *e*P P 07 05 40.8 +1.8
comp=Z,4.0nm,0.8s
D41A **Chassel** 72.27 344 P P 07 05 39.1 +0.8
baz=159
F36A **Milaca** 72.54 341 P P 07 05 39.9 -0.1
baz=154
H33A **Prehn Over Nor** 72.55 338 P P 07 05 40.4 +0.4
baz=151
H32A **Carlson Farm,** 72.64 337 P P 07 05 40.6 +0.1
baz=150
G33A **Ortonville** 72.89 338 P P 07 05 41.8 -0.2
baz=151
U15A **North Rim** 72.98 323 *e*P P 07 05 45.6 +2.5
comp=Z,5.4nm,0.9s
H31A **Wolsey** 72.99 337 P P 07 05 43.4 +0.8
baz=148
E36A **McGregor** 73.05 341 P P 07 05 43.0 +0.1
baz=154
N23A **Red Feather La** 73.12 330 P P 07 05 45.6 +1.8
baz=142,SNR=5.0
C39A **Grand Marais** 73.37 344 P P 07 05 44.6 -0.1
baz=157
D37A **Cotton** 73.39 342 P P 07 05 44.9 +0.1
baz=155
E35A **Pequot Lakes** 73.44 340 P P 07 05 45.8 +0.6
baz=153
G31A **Conde** 73.53 337 P P 07 05 45.8 +0.1
baz=150
O20A **White River Ci** 73.62 328 P P 07 05 48.5 +1.9
baz=140,SNR=7.7
O20A **White River Ci** 73.62 328 *e*P P 07 05 48.4 +1.8
comp=Z,6.0nm,0.8s
KNB **Kanab** 73.70 323 *e*P P 07 05 49.6 +2.4
comp=Z,12nm,1.0s
GMRC **Granite Mounta** 73.77 320 P P 07 05 49.8 +2.3
baz=133,SNR=7.5
D35A **Remer** 73.80 341 P P 07 05 48.0 +0.7
baz=154
C37A **Embarrass** 73.84 342 P P 07 05 47.4 0.0
baz=155
EYMN **Ely** 73.85 343 P P 07 05 47.6 +0.1
baz=156
E33A **Westby DABS, E** 73.90 339 P P 07 05 47.9 +0.1
baz=152
LCMT **Little Creek M** 73.93 323 *e*P P 07 05 50.4 +1.9
comp=Z,3.3nm,0.8s
SRU **San Rafael Swe** 74.00 326 *e*P P 07 05 50.3 +1.5
comp=Z,8.2nm,0.7s
C36A **Pine Crest Far** 74.05 342 P P 07 05 49.1 +0.4
baz=155
MTPU **Mount Pierson** 74.09 324 *e*P P 07 05 51.2 +1.6
comp=Z,3.0nm,0.7s
F31A **Hecla** 74.10 338 P P 07 05 49.6 +0.6
baz=150
Q16A **Castle Valley** 74.19 325 *e*P P 07 05 52.3 +2.3
HEC **Hector,Ludlow** 74.20 319 P P 07 05 52.4 +2.4
baz=133
P18A **Preston Nutter** 74.24 326 *e*P P 07 05 52.5 +2.1
comp=Z,8.9nm,0.7s
C35A **Jirik Farms, M** 74.33 341 P P 07 05 50.7 +0.4
baz=154
P17A **Butcher Ranch,** 74.38 326 *e*P P 07 05 52.7 +1.7
comp=Z,8.6nm,1.0s
CCUT **Cedar City** 74.38 323 *e*P P 07 05 53.4 +2.3
comp=Z,7.2nm,0.8s
MSU **Marysvale** 74.43 324 *e*P P 07 05 53.6 +2.2
TMUT **Trail Mountain** 74.49 326 *e*P P 07 05 53.8 +1.9
comp=Z,2.3nm,0.6s
C34A **RKJ Ranch, Bem** 74.57 341 P P 07 05 51.8 +0.2
baz=153
SYO **Syowa Base** 74.57 159⇑ *e*P P 07 05 48.8 -2.7
BFSC **Mount Baldy Ra** 74.61 318 *e*P P 07 05 55.0 +2.6
RRX **Edison Barstow** 74.64 319 P P 07 05 52.3 -0.1
baz=132
K22A **Casper** 74.77 331 P P 07 05 55.4 +2.3
baz=142
GSC **Goldstone, Bar** 74.81 319 P P 07 05 55.3 +1.8
baz=133
RSSD **Black Hills** 74.87 333 P P 07 05 55.7 +1.9
baz=144
RSSD **Black Hills** 74.87 333 *e*P P 07 05 55.2 +1.4
comp=Z,3.3nm,0.8s
MPU **Maple Canyon** 75.24 326 *e*P P 07 05 58.0 +2.0
comp=Z,4.3nm,0.9s
EDW2 **Edwards Air Fo** 75.25 318 P P 07 05 58.1 +2.1
baz=132
NLU **North Lily Min** 75.43 326 *e*P P 07 05 59.2 +2.1
comp=Z,4.9nm,1.1s
JLU **Jordanelle** 75.58 326 *e*P P 07 05 59.2 +1.3
comp=Z,5.0nm,0.6s
TPNV **Topopah Spring** 75.60 321 P P 07 06 00.5 +2.4
baz=133,SNR=5.4
TPNV **Topopah Spring** 75.60 321 *e*P P 07 06 00.1 +2.1
comp=Z,6.9nm,1.0s
FURC **Furace Creek,** 75.63 320 P P 07 06 00.4 +2.4
baz=133
MPMC **Manual Prospec** 75.73 320 P P 07 06 00.8 +2.0
baz=132
TOA0 **Torodi Ar. Sit** 75.80 69 *e*P P 07 05 57.8 -1.6
TOA0 *e*pP **pP** 07 06 53.2 +1.7
TOA1 **Torodi Ar. Sit** 75.80 69 *e*P P 07 05 58.0 -1.4
TOA1 *e*pP **pP** 07 06 52.2 +0.6
TORD **Torodi Ar. Bea** 75.80 69 P P 07 05 58.0 -1.4
comp=Z,2.8nm,0.3s,baz=259,slow=5.9,SNR=61
TORD pP **pP** 07 06 52.2 +0.6
comp=Z,2.6nm,0.7s,baz=253,slow=5.6,SNR=7.7
DAC **Darwin (Calif)** 75.94 320 *e*P P 07 06 01.8 +1.8
comp=Z,5.0nm,0.9s
DUG **Dugway, Tooele** 75.99 325 P P 07 06 02.2 +2.0
baz=136,SNR=5.8
DUG **Dugway, Tooele** 75.99 325 *e*P P 07 06 02.0 +1.9
comp=Z,4.2nm,0.9s
SBC **Santa Barbara** 76.03 317 P P 07 06 02.3 +2.0
baz=130
ISA **Isabella, Lake** 76.06 319 P P 07 06 02.9 +2.3
baz=132
R11A **Troy Canyon, C** 76.19 322 P P 07 06 03.5 +2.2
baz=134
PD31 **Pinedale Array** 76.27 329 *e*P P 07 06 02.6 +0.8
PDAR **Pinedale Array** 76.27 329 P P 07 06 02.6 +0.8
comp=Z,1.1nm,0.6s,baz=122,slow=7.5,SNR=16
PDAR **Pinedale Array** 76.27 329 *e*P P 07 06 02.8 +1.0
CWC **Cottonwood Cre** 76.34 320 P P 07 06 04.5 +2.3
baz=132
PKM **Mcpherson Peak** 76.38 317 P P 07 06 04.8 +2.3
baz=130
HWUT **Hardware Ranch** 76.39 327 *e*P P 07 06 03.7 +1.3
comp=Z,4.4nm,0.8s
VES **Vestal, Richgr** 76.55 319 P P 07 06 04.9 +1.7
baz=131
BGU **Big Grassy Mou** 76.64 326 *e*P P 07 06 05.2 +1.5
comp=Z,6.7nm,1.5s
SMMC **Simmler** 76.77 318 P P 07 06 06.2 +1.7
baz=130
AHID **Auburn Hatcher** 77.02 328 *e*P P 07 06 07.2 +1.3
comp=Z,9.7nm,0.9s
HVU **Hansel Valley** 77.13 326 *e*P P 07 06 07.9 +1.4
comp=Z,3.3nm,0.7s
ULM **Lac du Bonnet** 77.17 341 P P 07 06 06.6 +0.3
comp=Z,4.0nm,0.6s,baz=162,slow=7.0,SNR=13
SCHQ **Schefferville** 77.28 360 *e*P P 07 06 06.9 +0.1
comp=Z,2.6nm,0.6s,baz=200,slow=5.1,SNR=9.7
SCHQ **Schefferville** 77.28 360 *e*P P 07 06 06.9 +0.1
comp=Z,24nm,1.8s
REDW **Red Top Meadow** 77.34 329 *e*P P 07 06 09.0 +1.3
comp=Z,4.7nm,0.8s
SNOW **Snow King Moun** 77.37 329 *e*P P 07 06 09.4 +1.5
comp=Z,4.0nm,0.8s
LOHW **Long Hollow** 77.41 329 *e*P P 07 06 09.6 +1.5
comp=Z,4.0nm,0.8s
TPAW **Teton Pass** 77.49 329 *e*P P 07 06 10.2 +1.7
comp=Z,4.1nm,0.8s
MOOW **Moose Ponds** 77.58 329 *e*P P 07 06 10.6 +1.6
comp=Z,1.8nm,0.8s
FXWY **Fox Creek** 77.64 329 *e*P P 07 06 10.2 +0.8
comp=Z,1.6nm,0.7s
MDPB **Devils Postpil** 77.73 320 *e*P P 07 06 11.9 +1.9
comp=Z,3.1nm,0.8s
IMW **Indian Meadow** 77.79 329 *e*P P 07 06 11.9 +1.7
comp=Z,6.1nm,0.8s
NV01 **Mina Array Sit** 77.80 321 *e*P P 07 06 11.8 +1.4
NVAR **Mina Array Bea** 77.80 321 P P 07 06 11.6 +1.2
comp=Z,2.1nm,0.9s,baz=126,slow=5.6,SNR=6.5
RLMT **Red Lodge** 77.94 331 P P 07 06 12.7 +1.7
baz=140,SNR=6.2
RLMT **Red Lodge** 77.94 331 *e*P P 07 06 12.3 +1.4
comp=Z,3.8nm,0.6s
H17A **Grant Village** 77.99 329 P P 07 06 13.1 +1.7
baz=139
KVN **Kaiserville** 78.10 321 *e*P P 07 06 13.7 +1.7
comp=Z,6.3nm,0.8s
YMR **Madison River** 78.38 329 *e*P P 07 06 14.5 +1.1
comp=Z,6.6nm,0.8s
YHH **Holmes Hill** 78.42 330 *e*P P 07 06 16.2 +2.5
comp=Z,6.0nm,0.7s
YHB **Horse Butte** 78.55 329 *e*P P 07 06 16.3 +2.0
comp=Z,6.8nm,0.8s
YERR **Yerington** 78.72 321 *e*P P 07 06 17.2 +1.9
comp=Z,19nm,1.6s
VCNR **Virginia City** 79.16 321 *e*P P 07 06 19.8 +2.0
comp=Z,8.7nm,1.2s
HLID **Hailey** 79.25 327 P P 07 06 20.2 +2.1
baz=136,SNR=21
HLID **Hailey** 79.25 327 *e*P P 07 06 20.5 +2.4
comp=Z,8.3nm,0.7s
PAHR **Pah Rah Range** 79.28 321 *e*P P 07 06 20.4 +2.1
comp=Z,9.9nm,0.8s
BOZ **Bozeman (W)** 79.39 330 P P 07 06 20.0 +1.2
baz=138
MCMT **McKenzie Canyo** 79.39 328 *e*P P 07 06 21.1 +2.1
DLMT **Dillon** 79.67 329 *e*P P 07 06 21.8 +1.5
comp=Z,9.2nm,1.5s
BEKR **Beckworth** 79.95 321 *e*P P 07 06 24.0 +2.1
comp=Z,5.5nm,1.1s
HRY **Holter Researc** 80.31 330 *e*P P 07 06 25.5 +1.9
ORV **Oroville** 80.42 320 *e*P P 07 06 26.3 +2.0
comp=Z,7.1nm,1.1s
O03D **Paynes Creek** 81.07 321 P P 07 06 28.4 +0.6
baz=130
J08A **Circle Bar Ran** 81.22 325 *e*P P 07 06 30.5 +2.0
comp=Z,6.0nm,0.7s
MOD **Modoc Plateau** 81.25 323 *e*P P 07 06 30.6 +1.8
comp=Z,4.6nm,0.9s
WDC **Whiskeytown Da** 81.69 320 *e*P P 07 06 31.3 +0.4
comp=Z,2.7nm,0.8s
N02D **Trinity Center** 82.03 321 P P 07 06 34.1 +1.3
baz=129
M04C **Macdoel** 82.05 322 P P 07 06 34.2 +1.3
baz=130,SNR=5.6
K05A **Summer Lake** 82.12 323 *e*P P 07 06 35.5 +2.1
F10A **Beach Ranch, E** 82.37 327 *e*P P 07 06 35.8 +1.3
comp=Z,4.6nm,0.7s
M02C **Callahan** 82.38 321 P P 07 06 35.4 +0.8
baz=129
YBH **Yreka Blue Hor** 82.52 321 P P 07 06 35.5 +0.2
comp=Z,2.2nm,0.8s,baz=78,slow=5.0,SNR=11
J05D **Fort Rock, OR** 82.68 323 P P 07 06 37.8 +1.6
baz=130,SNR=5.3
PINE **Pine Mountain** 82.85 324 *e*P P 07 06 39.2 +2.1
comp=Z,5.5nm,0.8s
J04D **Umpqua Nationa** 83.14 323 P P 07 06 39.8 +1.2
baz=130
L02D **Cave Junction,** 83.30 321 P P 07 06 40.7 +1.5
baz=129
I05D **Terrebonne, OR** 83.42 324 P P 07 06 41.5 +1.6
baz=131
G05D **Wamic, OR** 84.00 325 P P 07 06 45.0 +2.3
baz=131
I03D **Drain, OR** 84.12 322 P P 07 06 45.0 +1.7
baz=129
C09A **Chrisman Ranch** 84.15 328 *e*P P 07 06 45.0 +1.7
comp=Z,7.9nm,0.9s
FCC **Fort Churchill** 84.35 346 *e*P P 07 06 44.8 +0.8
comp=Z,7.1nm,0.9s
LTY **Liberty** 84.99 326 *e*P P 07 06 49.0 +1.3
comp=Z,4.1nm,0.7s
B05A **Bryant** 86.37 327 P P 07 06 54.7 +0.4
baz=130
A04D **Lummi Island** 86.98 327 P P 07 06 58.3 +1.2
baz=130
YKA **Yellowknife Ar** 93.09 340 P P 07 07 25.8 +0.4
comp=Z,0.9nm,0.5s,baz=133,slow=4.5,SNR=29
ASAR **Alice Springs** 129.72 205 PKP PKPdf 07 13 21.1 +0.2
comp=Z,1.9nm,0.9s,baz=134,slow=1.8,SNR=11
BVAR **Borovoye Array** 135.59 36 PKP PKPdf 07 13 31.8 +0.9
comp=Z,0.5nm,0.5s,baz=242,slow=3.1,SNR=3.1
KURK **Kurchatov** 141.17 35 *e*PKPdf PKPdf 07 13 41.9 +0.8
KURBB **Kurchatov Arra** 141.17 35 PKP PKPdf 07 13 41.9 +0.8
comp=Z,0.4nm,0.6s,baz=305,slow=2.7,SNR=5.8
ZAA1 **Zalesovo Array** 142.14 27 *e*PKPpre PKPpre 07 13 39.6
ZALV **Zalesovo Beam** 142.14 27 PKhKP PKPpre 07 13 39.6
comp=Z,2.0nm,0.6s,baz=306,slow=3.7,SNR=4.1
MK32 **Makanchi Array** 145.35 39 *e*PKPdf **PKPab** 07 13 49.4 0.0
MKAR **Makanchi Array** 145.35 39 PKPbc **PKPab** 07 13 49.4 0.0
comp=Z,3.3nm,0.6s,baz=304,slow=3.7,SNR=22
KLR **Kul'dur** 149.86 336 PKPbc **PKPbc** 07 14 01.4 +0.3
comp=Z,0.1nm,0.4s,baz=44,slow=3.3,SNR=6.4
SONA0 **Songino Array** 154.36 11 *e*PKPdf **PKPdf** 07 14 02.9 0.0
SONA0 *e*PKPbc **PKiKP** 07 14 11.6 +0.3
SONA0 *e*PKPab **PKPab** 07 14 26.1 -0.3
SONM **Songino Array** 154.36 11 PKP **PKPdf** 07 14 02.9 0.0
comp=Z,0.7nm,0.8s,baz=174,slow=1.4,SNR=3.4
SONM PKPbc **PKiKP** 07 14 11.6 +0.3
comp=Z,0.8nm,0.4s,baz=304,slow=1.4,SNR=9.0
SONM PKPab **PKPab** 07 14 26.1 -0.3
comp=Z,1.0nm,0.6s,baz=348,slow=2.8,SNR=5.5
LZH **Lanzhou** 164.35 30 ⇑PKP **PKPdf** 07 14 14.0 -0.8
LZH PKP **pPKPdf** 07 15 11.5 -0.3
LZH pPKP PKPab 07 15 13.0 +2.8
LZH sPKP 07 15 36.0
CD2 **Chengdu** 168.19 45 PKP **PKPdf** 07 14 17.0 -0.7

NDI 11 07:00:49.2±2.0, 18°.56N×71°.35E, h20km±15km, ML3.5, Arabian Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BOM	**Bombay**	**1.43**	**76**	*i* P	Pg	07 01 28.1	+11
BOM				*e*S	Sg	07 01 47.4	+12
POO	**Poona**	**2.37**	**90**	*e*P	Pn	07 01 28.1	+1.0
POO				*e*S	Sn	07 01 55.3	-0.3
POO				IAML		07 02 04.4	
	comp=N,292nm,0.1s						
POO				*e*S	Sg	07 02 05.2	-0.4
POO				IAML		07 02 05.8	
	comp=E,151nm,0.1s						
GOA	**Goa**	**3.86**	**142**	*e*P	Pn	07 01 46.6	-0.9
GOA				*e*S	Sn	07 02 30.7	-1.6
BHJ	**Bhuj**	**4.93**	**342**	*e*S	Sn	07 02 55.4	-3.4
BHJ				IAML		07 03 26.5	
	comp=E,64nm,0.7s						
BHJ				IAML		07 03 26.6	
	comp=N,80nm,0.4s						
HYB	**Hyderabad**	**6.95**	**98**	*e*P	Pb	07 02 41.0	-8.3
HYB				*e*S	Sb	07 04 20.0	+8.1
HYB	**Hyderabad**	**6.95**	**98**	*e*P	Pn	07 02 30.7	+0.7
HYB				*e*S	Sn	07 03 41.5	-7.0
HYB				IAML		07 04 22.1	
	comp=N,157nm,0.3s						
HYB				IAML		07 04 22.2	
	comp=E,40nm,0.3s						
BHPL	**Bhopal**	**7.34**	**50**	*e*S	Sn	07 03 51.8	-6.4

DJA 11 07:10:03.3±1.6, 8°S±7°×12°4E±°, h71km±39km, M3.5/5, MLv3.5/5, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MMRI	**Maumere**	**1.72**	**236**	P	Pn	07 10 31.7	+0.5
SOEI	**Soe**	**2.15**	**164**	P	Pn	07 10 37.4	+0.2
SOEI				S	Sn	07 11 04.0	+1.0
BATI	**Baumata**	**2.52**	**180**	P	Pn	07 10 42.5	+0.4
BATI				S	Sn	07 11 13.6	+1.8
BASI	**Baing, Sumba**	**3.98**	**230**	P	Pn	07 11 01.7	-0.2
BASI				S	Sn	07 11 49.1	+1.8

MAN 11 07:15:43, 9°.76N×123°.29E, h31km, mb4.2, ML3.0, MS2.6, 2C, Negros

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SNPH	**Sibulan**	**0.42**	**188**	*e*P	Pn	07 15 54.6	+1.7
SNPH				*i* S	Sn	07 16 01.5	+1.9
LLP	**Lapu-Lapu**	**0.86**	**50**	*e*P	Pn	07 15 58.9	-0.2
LLP				*e*S	Sb	07 16 12.0	+1.2
GUIM	**Jordan**	**1.11**	**321**	*e*P	Pn	07 16 02.8	+0.4
GUIM				*e*S	Sb	07 16 17.3	-0.3
DCPH	**Dipolog City**	**1.17**	**177⇑**	*e*P	Pb	07 16 06.4	+1.7
DCPH				*e*S	Sb	07 16 24.0	+4.5
RCP	**Roxas**	**1.87**	**343⇑**	*e*P	Pb	07 16 16.7	+0.1
RCP				*e*S	Sb	07 16 41.0	+1.5

*CSEM **11** 07:28:08.4±0.2, 39°.05N×22°.02E, h20km, ML1.7, Error ellipse: s-maj=4.6km s-min=3.3km az=80.0*
*THE **11** 07:28:09.2, 39°.03N×22°.02E, h16km±1km, ML1.8/9, Error ellipse: s-maj=1.4km s-min=1.0km az=350.0*

ATH 11 07:28:08.7, 39°.04N×22°.00E, h21km±3km, ML1.7/6, Error ellipse: s-maj=3.6km s-min=0.9km az=85.0, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EVR	**Evrytania**	**0.19**	**231**	P	Pb	07 28 12.8	-1.9
EVR				S	Sb	07 28 16.4	-2.5
EVR				AML	AML	07 28 17.4	
	comp=E,382μm,0.1s						
EVR				AML	AML	07 28 17.8	
	comp=N,303μm,0.1s						
EVR	**Evrytania**	**0.19**	**231**	P	Pb	07 28 13.3	-1.4
EVR				S	Sb	07 28 16.8	-2.1
EVR	**Evrytania**	**0.19**	**231**	P	Pb	07 28 13.3	-1.4
EVR				S	Sb	07 28 16.8	-2.1
AGG	**Agios Georgios**	**0.26**	**93**	P	Pb	07 28 14.7	-0.3
AGG				S	Sb	07 28 20.1	+0.7
AGG				AML	AML	07 28 20.5	
	comp=E,524μm,0.2s						
AGG				AML	AML	07 28 20.5	
	comp=N,577μm,0.3s						
AGG	**Agios Georgios**	**0.26**	**93**	P	Pb	07 28 14.8	-0.2
AGG				S	Sb	07 28 19.7	+0.4
AGG	**Agios Georgios**	**0.26**	**93**	P	Pb	07 28 14.8	-0.2
AGG				S	Sb	07 28 19.7	+0.4
ANX	**Ano Chora**	**0.45**	**187**	P	Pb	07 28 18.0	+0.2
ANX				S	Sb	07 28 25.0	+1.0
ANX				AML	AML	07 28 25.7	
	comp=E,384μm,0.4s						
ANX				AML	AML	07 28 26.1	
	comp=N,445μm,0.4s						

ANX	**Ano Chora**	**0.45**	**187**	P	Pb	07 28 17.8	0.0	
ANX				S	Sb	07 28 25.3	+1.3	
ANX	**Ano Chora**	**0.45**	**187**	P	Pb	07 28 17.9	+0.1	
ANX				S	Sb	07 28 24.7	+0.7	
THL	**Klokotos Trika**	**0.53**	**2**	P	Pb	07 28 18.8	-0.5	
THL				S	Sb	07 28 27.4	+0.8	
THL				AML	AML	07 28 28.1		
	comp=N,51μm,0.2s							
THL				AML	AML	07 28 28.4		
	comp=E,57μm,0.4s							
THL	**Klokotos Trika**	**0.53**	**2**	P	Pb	07 28 19.0	-0.3	
THL				S	Sb	07 28 27.2	+0.7	
PVO	**Paravola**	**0.56**	**221**	P	Pb	07 28 20.2	+0.5	
PVO	**Paravola**	**0.56**	**221**	P	Pb	07 28 20.0	+0.2	
EFP	**Efpalio**	**0.61**	**187**	P	Pb	07 28 20.8	+0.1	
EFP				S	Sn	07 28 30.5	-0.8	
EFP				AML	AML	07 28 31.1		
	comp=E,231μm,0.3s							
EFP				AML	AML	07 28 31.9		
	comp=N,199μm,0.3s							
EFP	**Efpalio**	**0.61**	**187**	P	Pb	07 28 21.2	+0.5	
EFP				S	Sn	07 28 30.5	-0.8	
EFP	**Efpalio**	**0.61**	**187**	P	Pb	07 28 20.8	+0.1	
EFP				S	Sb	07 28 30.0	+1.1	
SERG	**Sergoula**	**0.62**	**176**	P	Pb	07 28 20.1	-0.9	
SERG				S	Sb	07 28 29.2	-0.1	
SERG				AML	AML	07 28 32.1		
	comp=E,186μm,0.2s							
SERG				AML	AML	07 28 33.2		
	comp=N,183μm,0.3s							
SERG	**Sergoula**	**0.62**	**176**	P	Pb	07 28 20.8	-0.2	
SERG				S	Sb	07 28 30.2	+0.9	
SERG	**Sergoula**	**0.62**	**176**	P	Pb	07 28 20.8	-0.2	
SERG				S	Sb	07 28 29.5	+0.2	
KALE	**Kalithea**	**0.65**	**170**	P	Pb	07 28 21.3	-0.2	
KALE				S	Sb	07 28 29.9	-0.3	
KALE	**Kalithea**	**0.65**	**170**	P	Pb	07 28 21.4	-0.1	
KALE				S	Sb	07 28 31.3	+1.1	
KALE	**Kalithea**	**0.65**	**170**	P	Pb	07 28 21.4	-0.1	
KALE				S	Sb	07 28 30.4	+0.2	
TRIZ	**Trizonia**	**0.67**	**175**	P	Pb	07 28 21.7	0.0	
TRIZ				S	Sb	07 28 31.6	+1.0	
TRIZ	**Trizonia**	**0.67**	**175**	P	Pb	07 28 21.7	0.0	
TRIZ				S	Sn	07 28 32.6	-0.2	
TRIZ	**Trizonia**	**0.67**	**175**	P	Pb	07 28 21.8	+0.1	
TRIZ				S	Sb	07 28 31.5	+0.9	
DSL	**Palaion Diasel**	**0.71**	**278**	P	Pb	07 28 22.0	-0.3	
DSL	**Palaion Diasel**	**0.71**	**278**	P	Pb	07 28 22.2	-0.1	
DSF	**Desfina**	**0.75**	**146**	P	Pb	07 28 23.0	0.0	
DSF				S	Sb	07 28 33.2	+0.4	
DSF	**Desfina**	**0.75**	**146**	P	Pb	07 28 23.0	0.0	
DSF				S	Sb	07 28 33.2	+0.4	
PDO	**Prodromos**	**0.77**	**236**	P	Pn	07 28 24.9	+0.6	
PDO	**Prodromos**	**0.77**	**236**	P	Pn	07 28 24.3	0.0	
PDO				S	Sn	07 28 36.0	+0.8	
PDO	**Prodromos**	**0.77**	**236**	P	Pn	07 28 24.2	-0.1	
PDO				S	Sn	07 28 36.0	+0.8	
KLV	**Kalavryta, Ach**	**1.00**	**173**	P	Pb	07 28 26.8	-0.4	
KLV	**Kalavryta, Ach**	**1.00**	**173**	P	Pb	07 28 27.3	0.0	

*CSEM **11** 07:28:52.6±0.1,39.64N×20.37E,h5km,ML2.0,Error ellipse: s-maj=4.7km s-min=2.2km az=16.0*
*THE **11** 07:28:53.3,39.68N×20.35E,h6km±7km,ML1.9/4,Error ellipse: s-maj=7.5km s-min=1.0km az=223.0*

ATH 11 07:28:52.4,39.63N×20.36E,h15km±3km,ML2.0/3,Error ellipse: s-maj=3.4km s-min=0.9km az=205.0, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SGD	**Sagiada**	**0.10**	**259**	P	Pg	07 28 54.9	-0.8
SGD	**Sagiada**	**0.10**	**259**	P	Pg	07 28 55.2	-0.5
SGD				S	Sg	07 28 57.8	0.0
SGD	**Sagiada**	**0.10**	**259**	P	Pg	07 28 55.2	-0.5
SGD	**Sagiada**	**0.10**	**259**	S	Sg	07 28 57.8	0.0
IGT	**Igoumenitsa**	**0.10**	**192**	P	Pg	07 28 55.4	-0.3
IGT				S	Sg	07 28 58.0	+0.1
IGT				AML	AML	07 28 59.0	
	comp=N,1281μm,0.3s						
IGT				AML	AML	07 29 00.1	
	comp=E,1403μm,0.2s						
IGT	**Igoumenitsa**	**0.10**	**192**	P	Pg	07 28 55.6	-0.1
IGT				S	Sb	07 28 58.6	+0.1
IGT	**Igoumenitsa**	**0.10**	**192**	P	Pg	07 28 55.5	-0.2
IGT				S	Sg	07 28 58.0	+0.1
KASA	**Kassiopi**	**0.35**	**289**	P	Pg	07 28 59.7	+0.2
KASA				S	Sb	07 29 05.5	0.0
KASA	**Kassiopi**	**0.35**	**289**	P	Pg	07 28 59.6	+0.1
KASA				S	Sb	07 29 05.1	-0.5
SRN	**Sarande**	**0.37**	**312**	P	Pg	07 28 59.6	-0.4
SRN				S	Sg	07 29 05.0	-0.1
SRN	**Sarande**	**0.37**	**312**	P	Pg	07 28 59.6	-0.4
SRN	**Sarande**	**0.37**	**312**	S	Sg	07 29 05.0	-0.1
JAN	**Janina**	**0.38**	**86**	P	Pg	07 28 60.0	-0.1
JAN				S	Sb	07 29 06.5	-0.1
JAN				AML	AML	07 29 07.7	
	comp=N,1904μm,0.3s						
JAN				AML	AML	07 29 08.1	
	comp=E,1522μm,0.2s						
JAN	**Janina**	**0.38**	**86**	P	Pg	07 29 00.3	+0.2
JAN				S	Sb	07 29 07.3	+0.7
JAN	**Janina**	**0.38**	**86**	P	Pg	07 29 00.3	+0.2
JAN				S	Sb	07 29 06.0	-0.6
KEK	**Kerkira**	**0.44**	**281**	P	Pg	07 29 00.8	-0.4
KEK				S	Sb	07 29 08.2	-0.1
KEK				AML	AML	07 29 11.6	
	comp=E,457μm,0.2s						
KEK				AML	AML	07 29 13.9	
	comp=N,350μm,0.3s						
KEK	**Kerkira**	**0.44**	**281**	P	Pg	07 29 00.9	-0.3
KEK				S	Sb	07 29 08.5	+0.2
KEK	**Kerkira**	**0.44**	**281**	P	Pg	07 29 01.0	-0.2
KEK				S	Sb	07 29 07.9	-0.4
DSL	**Palaion Diasel**	**0.76**	**131**	P	Pg	07 29 06.8	-0.4
DSL				S	Sb	07 29 17.8	+0.4
DSL	**Palaion Diasel**	**0.76**	**131**	P	Pg	07 29 06.9	-0.2
DSL				S	Sn	07 29 19.5	-0.3
DSL	**Palaion Diasel**	**0.76**	**131**	P	Pg	07 29 06.9	-0.2
DSL				S	Sb	07 29 17.6	+0.2
KPRO	**Kipourio**	**0.84**	**67**	P	Pg	07 29 07.2	-1.5
KPRO	**Kipourio**	**0.84**	**67**	P	Pg	07 29 07.8	-0.9
LKD2	**Lefkada island**	**0.87**	**165**	P	Pg	07 29 09.6	+0.3
LKD2	**Lefkada island**	**0.87**	**165**	P	Pn	07 29 11.8	+1.6
LKD2				S	Sn	07 29 24.4	+1.8
LKD2	**Lefkada island**	**0.87**	**165**	P	Pb	07 29 09.3	0.0
LKD2				S	Sn	07 29 24.4	+1.8
THL	**Klokotos Trika**	**1.28**	**92**	P	Pg	07 29 17.5	+0.5
THL	**Klokotos Trika**	**1.28**	**92**	P	Pg	07 29 17.0	0.0
AGG	**Agios Georgios**	**1.65**	**111**	P	Pb	07 29 22.1	-0.3
AGG	**Agios Georgios**	**1.65**	**111**	P	Pb	07 29 22.5	+0.1

JMA 11 07:29:51.7±0.7,38.38N×149.23E,h46km,M4.0,North Pacific Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NEM2	**Nemuro 2**	**5.64**	**333**	P	Pn	07 31 14.1	+1.2
JAK	**Akkeshi**	**5.76**	**325**	P	Pn	07 31 17.4	+2.9
JAK				eS	Sn	07 32 25.8	+6.6
MIYJ	**Miyakonagasawa**	**5.90**	**284**	P	Pn	07 31 18.8	+2.3
MIYJ				eS	Sn	07 32 24.7	+2.0
JCH	**Churui**	**6.15**	**315**	P	Pn	07 31 23.5	+3.5
JCH				eS	Sn	07 32 35.9	+6.9
JMK	**Ichinoseki**	**6.29**	**278**	P	Pn	07 31 24.5	+2.6
JMK				eS	Sn	07 32 35.2	+2.7
JTKR	**Abashiri--Toko**	**6.88**	**326**	P	Pn	07 31 33.1	+3.2
JOT	**Ohata**	**6.97**	**298**	eS	Sn	07 32 53.2	+4.1

*BJI **11** 07:41:39.3,6.66S×130.64E,h132km,mb5.0/50,mB4.9/31*
*ISCJB **11** 07:41:45.2±0.4,6.26S±0.03×130.31E±0.03,h147km±3km, mb5.0/125,Error ellipse: s-maj=5.4km s-min=4.3km az=159.7*
*IDC **11** 07:41:46.3±0.7,6.20S±130.21E,h138km±5km,mb4.7/27, mb1 4.8/30,mb1mx4.5/52,mbtmp5.2/30,MS3.4/12, Ms1 3.4/12,ms1mx3.2/51,Error ellipse: s-maj=12.9km s-min=8.1km az=72.0*
*MOS **11** 07:41:46.3±0.9,6.17S×130.22E,h153km,mb5.1/40,Error ellipse: s-maj=11.4km s-min=5.7km az=118.1*
*NEIC **11** 07:41:46.8±0.4,6.24S×130.26E,h146km±4km,mb5.0/69, Error ellipse: s-maj=4.6km s-min=3.3km az=51.0*
*DJA **11** 07:41:49.8±0.6,6.5S±7.7×13.0E±.1,h96km±65km,M5.8/10, mb5.7/5,mB6.1/6,MLv5.8/10,Mw(mB)5.8/6*

ISC 11 07:41:46.5±0.5,6.23S±0.04×130.31E±0.05,h147km±4km, h147km:pP-P,n435,σ1929/476,mb5.0/124,12C-5D,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**2.00**	**151**	P	**Pn**	**07 42 22.3**	**+0.8**
SAUI	**Saumlaki**	**2.00**	**151**	*e*Pn	**Pn**	**07 42 22.0**	**+0.5**
SAUI				*e*Sn	**Sn**	**07 42 44.6**	**-3.8**
MSAI	**Masohi**	**3.18**	**334**	P	**Pn**	**07 42 36.8**	**+0.7**
AAI	**Ambon**	**3.29**	**320**	P	**Pn**	**07 42 39.4**	**+1.9**
FAKI	**Fak Fak**	**3.82**	**31**	P	**Pn**	**07 42 42.4**	**-2.0**
FAKI	**Fak Fak**	**3.82**	**31**	*e*Pn	**Pn**	**07 42 43.0**	**-1.4**
KMPI	**Kaimana, Papua**	**4.24**	**53**	P	**Pn**	**07 42 49.4**	**-0.5**
NLAI	**Namlea**	**4.37**	**313**	P	Pn	07 42 57.0	+5.4
SIJI	**Sorong**	**5.41**	**10**	P	**Pn**	**07 43 03.6**	**-1.9**
	681nm,0.3s,baz=50,slow=2.4,SNR=329						
SIJI				S	**Sn**	**07 44 00.8**	**-6.3**
	590nm,0.3s,baz=267,slow=23,SNR=14						
SANI	**Sanana**	**5.99**	**314**	P	**Pn**	**07 43 15.0**	**+1.9**
	437nm,0.8s,4μm1.3nm						
RKPI	**Ransiki, Papua**	**6.07**	**40**	P	**Pn**	**07 43 13.9**	**-0.3**
LBMI	**Labuha**	**6.22**	**333**	P	**Pn**	**07 43 16.9**	**+0.6**
	433nm,0.5s,9μm5.5nm						
MTN	**Manton Dam**	**6.62**	**173**	*e*Pn	**Pn**	**07 43 20.4**	**-1.2**
SOEI	**Soe**	**6.93**	**239**	P	**Pn**	**07 43 26.1**	**+0.3**
SOEI	**Soe**	**6.93**	**239**	*e*Pn	**Pn**	**07 43 25.9**	**0.0**
TNTI	**Ternate**	**7.55**	**337**	*e*Pn	**Pn**	**07 43 34.1**	**+0.1**
BATI	**Baumata**	**7.67**	**239**	P	**Pn**	**07 43 36.1**	**+0.4**
MMRI	**Maumere**	**8.35**	**253**	*e*Pn	**Pn**	**07 43 44.5**	**-0.2**
LUWI	**Luwuk**	**9.12**	**304**	*e*Pn	**Pn**	**07 43 55.3**	**+0.4**
KAPI	**Kappang**	**10.58**	**276**	*e*Pn	**Pn**	**07 44 16.3**	**+1.9**
	56nm,0.7s						
FITZ	**Fitzroy Crossi**	**12.64**	**201**	P	**Pn**	**07 44 37.1**	**-4.2**
	32nm,0.3s,baz=28,slow=9.4,SNR=391						
FITZ	**Fitzroy Crossi**	**12.64**	**201**	*e*Pn	**Pn**	**07 44 38.0**	**-3.3**
DAV	**Davao City (W)**	**14.03**	**340**	LR	LR	07 51 20.5	
	comp=Z,133nm,18.7s,baz=138,slow=41						
WRAB	**Tennant Creek**	**14.18**	**164**	*e*Pn	**Pn**	**07 44 58.6**	**-2.3**
WRAB	**Tennant Creek**	**14.18**	**164**	*e*P	**Pn**	**07 44 58.6**	**-2.3**
WR1	**Warramunga Arr**	**14.18**	**164**	*e*Pn	Pn	07 44 55.7	-5.3
WRA	**Warramunga Arr**	**14.18**	**164**	P	Pn	07 44 55.7	-5.3
	9.8nm,0.3s,baz=347,slow=13,SNR=166						
WRA				LR	LR	07 51 18.3	
	comp=Z,345nm,19.5s,baz=0.0,slow=40						
WB2	**Warramunga Arr**	**14.18**	**164**	*e*Pn	**Pn**	**07 44 56.8**	**-4.2**
WB2				*e*Pn	**Pn**	**07 44 58.2**	**-2.8**
WB2				*e*Sn	Sn	07 47 24.9	-13
COEN	**Coen**	**14.80**	**122**	*e*Pn	**P**	**07 45 10.3**	**-0.7**
JAGI	**Jajag, Banyuwa**	**16.18**	**261**	*e*Pn	**Pn**	**07 45 23.6**	**-2.2**
	75nm,0.5s						
MYLDM	**Lahad Datu**	**16.36**	**314**	*e*Pn	**P**	**07 45 28.8**	**+0.7**
	105nm,0.9s						
PMG	**Port Moresby**	**16.99**	**102**	P	**Pn**	**07 45 36.9**	**+1.3**
	14nm,0.3s,baz=297,slow=6.6,SNR=50						
PMG				LR	LR	07 53 14.6	
	comp=Z,98nm,19.2s,baz=242,slow=40						
PMG	**Port Moresby**	**16.99**	**102**	*e*P	**Pn**	**07 45 37.4**	**+1.8**
	212nm,0.8s						
PMG	**Port Moresby**	**16.99**	**102**	*d i*P	**Pn**	**07 45 36.7**	**+1.1**
PMG				pmax	pmax		
	comp=Z,1μm,1.2s						
MANU	**Manus Island**	**17.51**	**77**	*e*P	**Pn**	**07 45 43.3**	**+1.4**
	comp=Z,142nm,1.2s						
AS31	**Alice Springs**	**17.68**	**169**	*e*P	**P**	**07 45 43.2**	**+0.6**
	comp=Z,37nm,0.4s						
ASAR	**Alice Springs**	**17.68**	**169**	P	**P**	**07 45 42.9**	**+0.2**
	comp=Z,11nm,0.3s,baz=334,slow=8.1,SNR=251						
ASAR				LR	LR	07 53 55.3	
	comp=Z,175nm,20.0s,baz=338,slow=41						
ASAR				PKiKP	**PKiKP**	**07 58 05.2**	**-1.0**
	comp=Z,0.1nm,0.3s,baz=356,slow=0.6,SNR=4.9						
AS01	**Alice Springs**	**17.68**	**169**	*e*P	**Pn**	**07 45 43.5**	**-0.4**
MBWA	**Marble Bar**	**18.03**	**214**	*e*P	**P**	**07 45 46.6**	**+0.1**
	comp=Z,59nm,0.6s						
MBWA	**Marble Bar**	**18.03**	**214**	P	**P**	**07 45 47.1**	**+0.6**
KKM	**Kota Kinabalu**	**18.62**	**311**	*e*P	**P**	**07 45 52.5**	**-0.5**
	comp=Z,136nm,0.9s						
RCP	**Roxas**	**19.21**	**337**	*e*P	**P**	**07 46 00.5**	**+1.1**
UGM	**Wanagama**	**19.71**	**264**	*e*P	**P**	**07 46 04.8**	**0.0**
	comp=Z,210nm,1.3s						
SBUM	**Sibu**	**20.02**	**295**	*e*P	**P**	**07 46 09.2**	**+1.1**
	comp=Z,105nm,0.8s						
CTA	**Charters Tower**	**20.73**	**133**	P	**P**	**07 46 17.6**	**+1.9**
	comp=Z,7.2nm,0.6s,baz=309,slow=12,SNR=7.4						
CTAO	**Charters Tower**	**20.73**	**133**	*e*P	**P**	**07 46 17.4**	**+1.8**
	comp=Z,39nm,0.8s						
CTAO	**Charters Tower**	**20.73**	**133**	*e*P	**P**	**07 46 17.4**	**+1.8**
CTAO				pmax	pmax		
	comp=Z,39nm,0.8s						
KSM	**Kuching**	**21.39**	**290**	*e*P	**P**	**07 46 22.2**	**-0.6**
	comp=Z,47nm,0.7s						
TGY	**Tagaytay City**	**22.24**	**335**	P	**P**	**07 46 33.0**	**+1.4**
	comp=Z,440nm,0.5s,baz=233,slow=1.9,SNR=9.1						
CISI	**Cisompet, Garu**	**22.37**	**265**	*e*P	**P**	**07 46 31.4**	**-1.5**
	comp=Z,526nm,0.7s						
CISI				*e*S	**S**	**07 50 29.9**	**+1.6**
LEM	**Lembang**	**22.55**	**267**	P	**P**	**07 46 34.2**	**-0.6**
	comp=Z,176nm,0.7s,baz=72,slow=9.4,SNR=10						
LEM				LR	LR	07 56 03.1	
	comp=Z,125nm,21.1s,baz=172,slow=38						
FORT	**Forrest**	**24.51**	**185**	*e*P	**P**	**07 46 53.2**	**+0.9**
	comp=Z,2μm,0.7s						
BBOO	**Buckleboo**	**26.98**	**169**	*e*P	**P**	**07 47 15.2**	**+0.6**
	comp=Z,28nm,0.6s						
MYKOM	**Kota Tinggi**	**27.59**	**286**	*e*P	**P**	**07 47 19.7**	**-0.6**
	comp=Z,32nm,0.6s						
STKA	**Stephens Creek**	**27.61**	**159**	P	**P**	**07 47 20.9**	**+0.7**
	comp=Z,20nm,0.5s,baz=332,slow=9.2,SNR=88						
STKA				LR	LR	07 59 44.6	
	comp=Z,200nm,18.2s,baz=346,slow=39						
STKA	**Stephens Creek**	**27.61**	**159**	*e*P	**P**	**07 47 20.8**	**+0.5**
	comp=Z,4.7nm,0.6s						
NWAO	**Narrogin (SRO)**	**29.22**	**203**	P	**P**	**07 47 35.1**	**+0.6**
	comp=Z,23nm,0.4s,baz=274,slow=7.9,SNR=29						
NWAO	**Narrogin (SRO)**	**29.22**	**203**	*e*P	**P**	**07 47 34.8**	**+0.3**
	comp=Z,134nm,1.4s						
NWAO				*e*P	**P**	**07 47 35.1**	**+0.6**
NWAO	**Narrogin (SRO)**	**29.22**	**203**	P	**P**	**07 47 34.8**	**+0.3**
HNR	**Honiara**	**29.53**	**98**	LR	LR	08 00 29.5	
	comp=Z,84nm,19.6s,baz=153,slow=38						
IPM	**Ipoh**	**31.11**	**289**	*e*P	**P**	**07 47 50.4**	**-1.1**
	comp=Z,23nm,0.7s						
KULM	**Kulim**	**31.74**	**291**	*e*P	**P**	**07 47 55.5**	**-1.4**
	comp=Z,49nm,0.7s						
PSI	**Prapat**	**32.60**	**285**	P	**P**	**07 48 02.7**	**-1.9**
	comp=Z,49nm,0.8s,baz=106,slow=5.6,SNR=33						
PSI				LR	LR	08 02 37.9	
	comp=Z,56nm,18.7s,baz=162,slow=38						
PSI	**Prapat**	**32.60**	**285**	*e*P	**P**	**07 48 02.7**	**-1.9**
	comp=Z,80nm,0.7s						
PSI	**Prapat**	**32.60**	**285**	*e*P	**P**	**07 48 02.7**	**-1.9**
PSI				pmax	pmax		
	comp=Z,80nm,0.7s						
GSI	**Gunungsitoli**	**33.53**	**282**	*e*P	**P**	**07 48 10.0**	**-2.6**
	comp=Z,89nm,0.5s						
TRTT	**Trang**	**33.58**	**294**	P	**P**	**07 48 11.6**	**-1.4**
	comp=Z,11nm,1.0s						
CHBT	**CHBT**	**33.60**	**304**	P	**P**	**07 48 15.9**	**+2.8**
	comp=Z,2μm,1.0s,comp=Z,506μm						
SKNT	**Sakolnakorn**	**34.77**	**312**	P	**P**	**07 48 21.9**	**-1.3**
	comp=Z,37nm,0.8s						
PKDT	**Phuket**	**34.84**	**293**	P	**P**	**07 48 22.3**	**-1.6**
	comp=Z,13nm,0.8s,comp=Z,2μm						
SURT	**Suratani**	**34.85**	**295**	P	**P**	**07 48 22.7**	**-1.2**
	comp=Z,5.2nm,0.8s,comp=Z,171nm						
LHMI	**Lhok Sumawe**	**35.20**	**288**	*e*P	**P**	**07 48 25.9**	**-1.0**
	comp=Z,316nm,0.6s						
PBKT	**Sadao Pong**	**36.82**	**308**	P	**P**	**07 48 39.3**	**-1.3**
	comp=Z,25nm,0.8s						
SRDT	**SRDT**	**37.09**	**304**	P	**P**	**07 48 43.5**	**+0.6**
	comp=Z,44nm,0.8s						
JNU	**Nakatsue**	**39.14**	**1**	P	**P**	**07 48 59.9**	**0.0**
	comp=Z,11nm,0.9s,baz=148,slow=9.9,SNR=3.7						
JNU				LR	LR	08 05 39.1	
	comp=Z,50nm,18.9s,baz=120,slow=37						
JNU	**Nakatsue**	**39.14**	**1**	*e*P	**P**	**07 48 59.9**	**0.0**
	comp=Z,128nm,1.9s						
CM01	**Chiang Mai Arr**	**39.45**	**309**	*e*P	**P**	**07 49 03.2**	**+0.5**
CM01				*e*PcP	**PcP**	**07 51 09.3**	**+1.4**
CM31	**Chiang Mai Arr**	**39.48**	**309**	*e*P	**P**	**07 49 03.8**	**+0.8**
CM31				*e*PcP	**PcP**	**07 51 09.6**	**+1.6**
CMAR	**Chiang Mai Arr**	**39.48**	**309**	P	**P**	**07 49 03.6**	**+0.6**
	comp=Z,37nm,0.7s,baz=135,slow=7.2,SNR=150						
CMAR				PcP	**PcP**	**07 51 09.6**	**+1.6**
	comp=Z,6.6nm,0.7s,baz=163,slow=2.7,SNR=9.1						
CMAR				ScP	**ScP**	**07 54 43.5**	**+0.3**
	comp=Z,0.9nm,0.3s,baz=154,slow=2.9,SNR=6.1						
CMAR				LR	LR	08 07 57.2	
	comp=Z,21nm,18.8s,baz=165,slow=40						
NJ2	**Nanjing**	**39.60**	**345**	*e*P	**P**	**07 49 04.5**	**+0.8**
NJ2				pmax	pmax		
	comp=Z,21nm,0.6s						
WHN	**Wuhan**	**39.63**	**338**	⇓P	**P**	**07 49 05.2**	**+1.2**
CMMT	**Chiang Mai**	**39.69**	**309**	P	**P**	**07 49 03.7**	**-1.0**
	comp=Z,111nm,0.8s,comp=Z,980nm						
CHTO	**Chiang Mai**	**39.69**	**309**	P	**P**	**07 49 04.7**	**0.0**
	comp=Z,476nm,0.8s,comp=Z,4μm						
CHTO	**Chiang Mai**	**39.69**	**309**	*e*P	**P**	**07 49 05.2**	**+0.5**
	comp=Z,77nm,0.7s						
CHTO	**Chiang Mai**	**39.69**	**309**	P	**P**	**07 49 05.4**	**+0.7**
	SNR=27						
CHTO	**Chiang Mai**	**39.69**	**309**	P	**P**	**07 49 05.4**	**+0.7**
	SNR=27						
CHTO	**Chiang Mai**	**39.69**	**309**	*e*P	**P**	**07 49 05.2**	**+0.5**
CHTO				pmax	pmax		
	comp=Z,77nm,0.7s						
GYA	**Guiyang**	**39.77**	**326**	⇑*i*P	**P**	**07 49 05.3**	**-0.1**
GYA				pP	pP	07 49 37.8	+0.2
GYA				sP	sP	07 49 53.2	-1.1
GYA				PP	**PnPn**	**07 50 45.0**	**+0.4**
GYA				S	**S**	**07 55 01.4**	**+2.7**
GYA				sS	sS	07 55 54.6	-0.3
GYA				pmax	pmax		
	comp=Z,20nm,0.8s						
GYA				pmax	pmax		
	comp=Z,130nm,5.2s						
KMI	**Kunming**	**41.12**	**320**	P	**P**	**07 49 18.8**	**+2.2**
KMI				pmax	pmax		
	comp=Z,20nm,0.6s						
KMI				pmax	pmax		
	comp=Z,120nm,5.0s						
ENH	**Enshi**	**41.43**	**332**	*e*P	**P**	**07 49 18.6**	**-0.2**
	comp=Z,13nm,0.6s						
MJAR	**Matsushiro Arr**	**43.19**	**9**	P	**P**	**07 49 32.1**	**-0.9**
	comp=Z,3.9nm,0.5s,baz=195,slow=11,SNR=13						
MJAR				ScP	**ScP**	**07 54 57.7**	**+0.3**
	comp=Z,0.4nm,0.3s,baz=186,slow=7.5,SNR=4.4						
MAJO	**Matsushiro**	**43.19**	**9**	*e*P	**P**	**07 49 32.3**	**-0.6**
	comp=Z,13nm,0.9s						
MAJO	**Matsushiro**	**43.19**	**9**	*e*P	**P**	**07 49 32.3**	**-0.6**
MAJO				pmax	pmax		
	comp=Z,13nm,0.9s						
MAT	**Matsushiro**	**43.19**	**9**	P	**P**	**07 49 32.4**	**-0.5**
MJB9	**Matsu-Tunnel**	**43.19**	**9**	*e*P	**P**	**07 49 32.2**	**-0.8**
	comp=Z,13nm,0.9s						
KS15	**Wonju Array Si**	**43.51**	**357**	*e*PP	PP	07 51 21.3	+1.6
KSAR	**Wonju Array Be**	**43.51**	**357**	P	**P**	**07 49 36.2**	**+0.8**
KSAR				PcP	**PcP**	**07 51 21.3**	**+0.6**
KSAR	**Wonju Array Be**	**43.51**	**357**	P	**P**	**07 49 36.2**	**+0.8**
KSAR						07 51 21.3	
KSRS	**Korea Array**	**43.52**	**357**	P	**P**	**07 49 36.2**	**+0.7**
	comp=Z,2.8nm,0.6s,baz=174,slow=8.9,SNR=10						
KSRS				PcP	**PcP**	**07 51 21.3**	**+0.5**
	comp=Z,3.0nm,0.7s,baz=184,slow=3.0,SNR=5.5						
KSRS				ScP	**ScP**	**07 54 58.5**	**-0.1**
	comp=Z,4.2nm,0.8s,baz=178,slow=4.8,SNR=7.7						
CD2	**Chengdu**	**44.83**	**327**	⇓P	**P**	**07 49 46.2**	**+0.1**
CD2				pP	pP	07 50 16.2	-2.9
CD2				S	**S**	**07 56 14.7**	**+2.1**
CD2				pmax	pmax		
	comp=Z,30nm,0.4s						
CD2				pmax	pmax		
	comp=Z,220nm,5.0s						
XAN	**Xi'an**	**44.88**	**335**	P	**P**	**07 49 45.9**	**-0.6**
XAN				pP	pP	07 50 16.3	-3.1
XAN				sP	sP	07 50 29.1	-6.8
XAN				PP	**PP**	**07 51 33.5**	**-0.9**
XAN				S	**S**	**07 56 07.7**	**-5.6**
XAN				pmax	pmax		
	comp=Z,14nm,0.9s						
BJT	**Baijiatuau**	**47.83**	**345**	*e*P	**P**	**07 50 09.8**	**+0.4**
	comp=Z,29nm,0.6s						
BJT	**Baijiatuau**	**47.83**	**345**	*e*P	**P**	**07 50 09.8**	**+0.4**
BJT				pmax	pmax		
	comp=Z,29nm,0.6s						
LZH	**Lanzhou**	**48.88**	**331**	⇑P	**P**	**07 50 18.4**	**+0.7**
LZH				pP	pP	07 50 50.4	-0.7
LZH				sP	sP	07 51 04.6	-2.8

comp=Z,57nm,0.6s
ZEA Zeya 59.80 358 *e*P **P 07 51 37.2 +1.1**
ZEA pmax pmax
comp=Z,29nm,1.0s
ZAK Zakamensk 61.05 341 *e*P **P 07 51 45.2 +0.5**
ZAK *e* 07 52 26.6
ZAK pmax pmax
comp=Z,8.0nm,1.1s
ZAK pmax pmax
comp=Z,6.0nm,1.0s
CASY Casey 61.51 189 *e*P **P 07 51 48.3 +0.8**
comp=Z,19nm,0.9s
TLY Talaya 62.05 342 *e*P **P 07 51 52.8 +1.4**
comp=Z,14nm,1.1s
TLY Talaya 62.05 342 P **P 07 51 52.5 +1.2**
SNR=5.3
TLY Talaya 62.05 342 P **P 07 51 52.5 +1.2**
SNR=5.3
TLY Talaya 62.05 342 *e*P **P 07 51 52.5 +1.2**
TLY pmax pmax
comp=Z,12nm,1.1s
MOY Mondy 62.90 340 *e*P **P 07 51 58.7 +1.6**
MOY pmax pmax
comp=Z,35nm,2.5s
WMQ Urumqi 62.92 327 P **P 07 51 58.5 +1.1**
WMQ pP pP 07 52 31.6 -0.8
WMQ PcP **PcP 07 52 36.3 +2.1**
WMQ sP sP 07 52 46.9 -1.4
WMQ pmax pmax
comp=Z,98nm,1.3s
WMQ pmax pmax
comp=Z,270nm,3.8s
WMQ LR LR
comp=Z,95nm,20.7s
WMQ LR LR
comp=Z,41nm,27.5s
KNGR Kungurtug, Tuv 63.29 337 *e*P **P 07 52 00.5 +0.8**
PETK Petropavlovsk- 63.50 18 P **P 07 52 02.0 +1.1**
comp=Z,4.4nm,0.5s,baz=174,slow=4.3,SNR=7.2
PETK LR LR 08 21 13.9
comp=Z,13nm,18.6s,baz=182,slow=37
PETK Petropavlovsk- 63.50 18 *e*P **P 07 52 02.2 +1.3**
PETK Petropavlovsk- 63.50 18 *e*P **P 07 52 02.2 +1.3**
PEA1 Petropavlovsk- 63.51 18 *e*P **P 07 52 02.0 +1.1**
BOD Bodaibo 65.19 350 *e*P **P 07 52 11.8 0.0**
BOD pmax pmax
comp=Z,15nm,1.1s
HVS Khovu-Aksy 65.22 336 *e*P **P 07 52 12.5 +0.2**
HVS pmax pmax
comp=Z,78nm,0.9s
NIL Nilore 66.95 310 *e*P **P 07 52 24.0 +0.4**
comp=Z,23nm,0.6s
NIL Nilore 66.95 310 *e*P **P 07 52 24.0 +0.4**
NIL pmax pmax
comp=Z,23nm,0.6s
DGZ Jazzator, Alta 66.98 331 *i* P **P 07 52 24.5 +0.9**
DGZ pmax pmax
comp=Z,17nm,1.0s
PDGK Podgornoye 67.38 322 P **P 07 52 26.7 +0.4**
PDGK pmax pmax
comp=Z,26nm,0.8s
TARG Taragay, Kyrgy 67.58 320 *e*P **P 07 52 29.2 +1.3**
comp=Z,36nm,1.4s
MA2 Magadan 67.59 11⇓*e*P **P 07 52 26.7 -0.3**
KSH Kashi 67.67 317 P **P 07 52 29.6 +1.5**
KSH pP pP 07 53 00.2 -3.4
KSH S **S 08 01 13.8 0.0**
KSH ScS **SKSac 08 02 11.7 -0.7**
KSH pmax pmax
comp=Z,29nm,0.6s
KSH LR LR
comp=Z,470nm,5.7s
KSH LR LR
comp=Z,380nm,8.0s
MK01 Makanchi Array 67.74 326 *e*P **P 07 52 29.2 +0.9**
MK31 Makanchi Array 67.76 327 *e*P **P 07 52 29.2 +0.9**
MK31 Makanchi Array 67.76 327 *e*P **P 07 52 29.1 +0.7**
MK31 pmax pmax
comp=Z,29nm,0.5s
MK32 Makanchi Array 67.76 327 *e*P **P 07 52 29.3 +0.9**
MKAR Makanchi Array 67.76 327 P **P 07 52 29.3 +0.9**
comp=Z,60nm,0.6s,baz=120,slow=8.0,SNR=475
MKAR Makanchi Array 67.76 327 *e*P **P 07 52 29.2 +0.9**
comp=Z,381nm,0.6s
MKAR Makanchi Array 67.76 327 *e*P **P 07 52 29.3 +0.9**
MKAR pmax pmax
comp=Z,381nm,0.6s
MAKZ Makanchi 67.94 326 *e*P **P 07 52 30.3 +0.8**
comp=Z,122nm,1.4s
MAKZ *e*pP **pP 07 53 04.8 -0.2**
MAKZ Makanchi 67.94 326 P **P 07 52 29.8 +0.3**
MAKZ pmax pmax
comp=Z,37nm,0.6s
YAK Yakutsk 68.06 360 *e*P **P 07 52 29.5 -0.4**
YAK *e**PP **pP 07 53 09.0 +3.6**
YAK *e*S **S 08 01 15.2 -2.2**
YAK *e* 08 02 12.5
YAK *e*SS **SS 08 05 47.1 +4.2**
YAK pmax pmax
comp=Z,66nm,0.9s
YAK pmax pmax
comp=N,10.0nm,0.9s
YAK pmax pmax
comp=E,4.0nm,1.2s
YAK smax smax
comp=N,57nm,2.5s
YAK smax smax
comp=E,37nm,1.9s
KDJ Kajisay 68.18 320 *e*P **P 07 52 32.5 +1.2**
comp=E,27nm,0.7s
ULHL Ulahol 68.84 320 P **P 07 52 36.6 +1.1**
SNR=6.8
KZA Kyzart 69.40 319 P **P 07 52 40.9 +1.7**
SNR=31
SFK Sufi-Kurgan 69.58 317 P **P 07 52 40.8 +0.7**
SFK pmax pmax
comp=Z,22nm,0.9s
TKM2 Tokmak 2 69.59 320 P **P 07 52 41.1 +1.1**
SNR=36
TKM2 Tokmak 2 69.59 320 P **P 07 52 40.7 +0.6**
TKM2 pmax pmax
comp=Z,29nm,0.7s
KBK Karagaybulak 69.88 320 P **P 07 52 43.2 +1.4**
SNR=9.3
UCH Uchtor 69.95 319 P **P 07 52 44.1 +1.5**
SNR=62
AAK Ala-Archa 70.16 320 P **P 07 52 44.9 +1.4**
SNR=35
AAK Ala-Archa 70.16 320 *e*P **P 07 52 44.9 +1.4**
comp=Z,30nm,0.8s
AAK Ala-Archa 70.16 320 P **P 07 52 44.7 +1.2**
AAK Ala-Archa 70.16 320 P **P 07 52 45.1 +1.6**
SNR=18
AAK Ala-Archa 70.16 320 *i* P **P 07 52 44.9 +1.4**
SNR=41
AAK Ala-Archa 70.16 320 P **P 07 52 44.5 +1.0**
AAK pmax pmax
comp=Z,29nm,0.8s
CHMS Chumysh 70.17 320 P **P 07 52 44.2 +0.8**
SNR=6.8
FRU Bishkek 70.17 320 *e*P **P 07 52 44.0 +0.6**
AML Almayashu 70.44 319 P **P 07 52 47.2 +1.7**
SNR=8.8
USP Ospenovka 70.46 320 P **P 07 52 46.3 +1.1**
SNR=32
KBL Kabul 70.51 310 *e*P **P 07 52 46.2 +0.3**
comp=Z,38nm,1.1s
KBL Kabul 70.51 310 *e*P **P 07 52 46.2 +0.3**
KBL pmax pmax
comp=Z,38nm,1.1s
EKS2 Erkin-Say 70.63 319 P **P 07 52 47.9 +1.6**
SNR=37
SEY Seymchan 71.00 10*c e*P **P 07 52 49.2 +1.3**
ZAA0 Zalesovo Array 71.03 334 *e*P **P 07 52 47.9 -0.4**
comp=Z,25nm,0.8s
ZALV Zalesovo Beam 71.03 334 P **P 07 52 48.2 -0.2**
comp=Z,22nm,0.6s,baz=136,slow=5.4,SNR=41
ZALV pP **pP 07 53 21.7 -2.4**
comp=Z,13nm,0.9s,baz=108,slow=4.8,SNR=3.2
ZAA1 Zalesovo Array 71.04 334 *e*P **P 07 52 48.2 -0.2**
ZAA1 *e*pP **pP 07 53 21.7 -2.4**
MNAS Manas 71.38 319 P **P 07 52 51.8 +0.9**
MNAS pmax pmax
comp=Z,66nm,1.1s
KURBB Kurchatov Arra 72.02 328 P **P 07 52 54.8 +0.5**
comp=Z,34nm,0.6s,baz=128,slow=4.9,SNR=111
KURBB pP **pP 07 53 28.5 -1.6**
comp=Z,16nm,0.7s,baz=129,slow=5.0,SNR=5.8
KURK Kurchatov 72.03 328 *e*P **P 07 52 54.6 +0.3**
comp=Z,41nm,0.9s
KURK *e*P **P 07 52 54.8 +0.5**
KURK *e*pP **pP 07 53 28.5 -1.7**
KURK Kurchatov 72.03 328 P **P 07 52 54.9 +0.6**
SNR=12
KURK Kurchatov 72.03 328 P **P 07 52 54.9 +0.6**
SNR=12
KURK Kurchatov 72.03 328*c e*P **P 07 52 54.5 +0.2**
KURK pmax pmax
comp=Z,32nm,0.9s
NVS Novosibirsk 72.32 334 *i* P **P 07 52 56.3 +0.3**
NVS *e* 07 53 30.2
NVS pmax pmax
comp=Z,33nm,1.0s
NVS pmax pmax
comp=N,13nm,0.8s
NVS pmax pmax
comp=E,15nm,0.9s
KK06 Karatay Array 72.96 319 *e*P **P 07 53 00.5 +0.4**
KK05 Karatay Array 72.97 319 *e*P **P 07 53 00.8 +0.6**
KK02 Karatay Array 72.97 319 *e*P **P 07 53 00.6 +0.5**
KK31 Karatay Array 72.97 319 *e*P **P 07 53 00.9 +0.8**
KK31 Karatay Array 72.97 319 *i* P **P 07 53 00.5 +0.3**
KK31 pmax pmax
comp=Z,38nm,1.2s
KKAR Karatay Array 72.97 319 *e*P **P 07 53 00.9 +0.8**
KKAR Karatay Array 72.97 319 *e*P **P 07 53 00.9 +0.8**
KK07 Karatay Array 72.97 319 *e*P **P 07 53 00.7 +0.6**
KK01 Karatay Array 72.97 319 *e*P **P 07 53 00.7 +0.5**
KK03 Karatay Array 72.98 319 *e*P **P 07 53 00.7 +0.5**
KK04 Karatay Array 72.98 319 *e*P **P 07 53 00.6 +0.4**
KK09 Karatay Array 72.99 319 *e*P **P 07 53 00.6 +0.3**
KK08 Karatay Array 72.99 319 *e*P **P 07 53 00.9 +0.7**
VNDA Vanda 73.17 173 P **P 07 53 01.6 +0.9**
comp=Z,13nm,0.5s,baz=320,slow=6.9,SNR=88
OTUK Ortayu 74.20 324 P P 07 53 12.9 +5.7
OTUK pmax pmax
comp=Z,27nm,0.6s
WBK Wadi Bani Khal 75.36 295 P **P 07 53 15.1 +0.6**
WBK Wadi Bani Khal 75.36 295 P **P 07 53 18.0 +3.5**
SNR=7.8
MAW Mawson 75.77 201 P **P 07 53 16.7 +0.9**
comp=Z,18nm,0.7s,baz=69,slow=5.3,SNR=35
WSAR Wadi Sarin 75.81 296 P **P 07 53 17.4 +0.5**
comp=Z,36nm,0.6s,baz=128,slow=7.7,SNR=38
JMDO Jabal Madar 76.09 295 P **P 07 53 19.7 +1.1**
SMDO Samad 76.29 295 P **P 07 53 21.0 +1.2**
BIDO Bidbid 76.32 296 P **P 07 53 21.0 +1.2**
SNR=27
BIDO Bidbid 76.32 296 P **P 07 53 21.0 +1.2**
SNR=27
BSY Bisya 76.99 295 P **P 07 53 23.8 +0.2**
HOQ Hoqain 77.07 296 P **P 07 53 25.0 +1.0**
BVA0 Borovoye Array 77.58 328 *i* P **P 07 53 26.3 0.0**
BVA0 pmax pmax
comp=Z,19nm,0.8s
BVAR Borovoye Array 77.58 328 P **P 07 53 26.6 +0.4**
comp=Z,19nm,0.6s,baz=134,slow=8.3,SNR=66
BVAR pP **pP 07 54 00.4 -2.2**
comp=Z,1.3nm,0.5s,baz=359,slow=32,SNR=2.1
BRVK Borovoye 77.65 328 *e*P **P 07 53 27.0 +0.4**
comp=Z,25nm,0.8s
BRVK Borovoye 77.65 328 P **P 07 53 27.3 +0.6**
SNR=12
BRVK Borovoye 77.65 328 P **P 07 53 27.3 +0.6**
SNR=12
BRVK Borovoye 77.65 328*c e*P **P 07 53 26.9 +0.2**
BRVK pmax pmax
comp=Z,25nm,1.0s
ARQ Araqi 77.72 295 P **P 07 53 29.0 +1.3**
TIXI Tiksi 77.73 360 *e*P **P 07 53 26.0 -0.7**
comp=Z,24nm,1.3s
TIXI Tiksi 77.73 360*c e*P **P 07 53 26.3 -0.4**
TIXI pmax pmax
comp=Z,8.0nm,0.9s
SOHO SOHO 77.88 296 *i* P **P 07 53 29.1 +0.5**
SNR=12
BILL Bilibino 78.30 13⇑*e*P **P 07 53 30.3 +0.4**
BILL *e**PP **pP 07 54 10.9 +4.6**
BILL *e* 07 56 29.8
BILL *e*PPP PPP 07 58 22.0
BILL pmax pmax
comp=Z,2.0nm,1.3s
MDH Madha 78.34 297 *i* P **P 07 53 31.0 -0.1**
SNR=6.7
UOSS Minazif 78.35 297 *e*P **P 07 53 31.0 -0.1**
comp=Z,42nm,1.4s
UOSS Minazif 78.35 297 P **P 07 53 31.1 0.0**
UOSS Minazif 78.35 297 *i* P **P 07 53 31.6 +0.5**
SNR=10
HATD Hatta, Dubai 78.39 297 P **P 07 53 32.0 +0.6**
HATD Hatta, Dubai 78.39 297 *i* P **P 07 53 33.1 +1.8**
SNR=11
ASHO Ashiyiah 78.42 297 P **P 07 53 32.2 +0.6**
SNR=7.2
ASHO Ashiyiah 78.42 297 P **P 07 53 32.2 +0.6**
SNR=7.2
ASHO Ashiyiah 78.42 297 *i* P **P 07 53 32.7 +1.1**
SNR=9.9
BANOM Banah 78.48 298 P **P 07 53 32.4 +0.6**
SNR=8.8
BANOM Banah 78.48 298 P **P 07 53 32.4 +0.6**
SNR=8.8
BANOM Banah 78.48 298 *i* P **P 07 53 33.0 +1.1**
SNR=20
MSFE Esma-Masafi 78.48 297 *i* P **P 07 53 32.8 +0.9**
SNR=18
ALNE Al Ain 78.56 296 *i* P **P 07 53 33.8 +1.5**
SNR=5.9
SHME Shamm 78.64 298 *i* P **P 07 53 33.8 +1.0**
SNR=19
RBK Rabkut 78.72 289 P **P 07 53 33.9 +0.5**
WHFO Wadi Hawf 79.20 290 P **P 07 53 36.1 +0.1**
GYB1 ALIBECK ARRAY 79.95 310 *e*P **P 07 53 40.6 +1.0**
comp=Z,14nm,0.9s
GYB2 ALIBECK ARRAY 79.95 310 *e*P **P 07 53 40.6 +1.0**
comp=Z,24nm,1.1s
GYA1 ALIBECK ARRAY 79.95 310 *e*P **P 07 53 40.6 +1.0**
comp=Z,15nm,0.9s
GYA2 ALIBECK ARRAY 79.95 310 *e*P **P 07 53 40.9 +1.2**
comp=Z,14nm,0.8s
GEYT Alibeck 79.95 310 P **P 07 53 40.5 +0.9**
comp=Z,11nm,0.7s,baz=151,slow=3.4,SNR=24
GYA0 ALIBECK ARRAY 79.95 310 *e*P **P 07 53 40.5 +0.8**
comp=Z,12nm,0.7s
GYA0B ALIBECK ARRAY 79.95 310 *e*P **P 07 53 40.3 +0.7**
comp=Z,12nm,0.7s
GYB5 ALIBECK ARRAY 79.96 310 *e*P **P 07 53 40.6 +0.9**
comp=Z,11nm,0.6s
GYB3 ALIBECK ARRAY 79.96 310 *e*P **P 07 53 40.4 +0.8**
comp=Z,15nm,0.8s
GYB4 ALIBECK ARRAY 79.97 310 *e*P **P 07 53 40.7 +0.9**
comp=Z,15nm,0.9s
OPO Ambohidratompo 81.54 252 P **P 07 53 49.5 +0.9**
comp=Z,10nm,0.7s,baz=83,slow=4.1,SNR=17
AB07 Akbulak array 82.09 321 *e*P **P 07 53 50.5 -0.1**
AB06 Akbulak array 82.09 321 *e*P **P 07 53 50.5 0.0**
GAMB Gambell 82.10 22 *e*P **P 07 53 50.7 +0.4**
comp=Z,6.8nm,1.2s
AB02 Akbulak array 82.10 321 *e*P **P 07 53 50.4 -0.2**
AB03 Akbulak array 82.10 321 *e*P **P 07 53 50.6 -0.1**
AB01 Akbulak array 82.10 321 *e*P **P 07 53 50.5 -0.2**
AB31 Akbulak array 82.10 321 *e*P **P 07 53 50.7 0.0**
AB31 Akbulak array 82.10 321 *e*P **P 07 53 50.7 0.0**
ABKAR Akbulak array 82.10 321 *e*P **P 07 53 50.7 0.0**
comp=Z,135nm,0.6s
AB04 Akbulak array 82.11 321 *e*P **P 07 53 50.5 -0.1**
AB08 Akbulak array 82.11 321 *e*P **P 07 53 50.5 -0.1**
AB05 Akbulak array 82.11 321 *e*P **P 07 53 50.5 -0.2**
AB09 Akbulak array 82.12 321 *e*P **P 07 53 50.6 -0.2**
AKTO Aktyubinsk 83.66 322 P **P 07 53 58.9 +0.2**
comp=Z,8.5nm,0.5s,baz=114,slow=9.1,SNR=34
QSPA South Pole Qui 83.74 180 P **P 07 53 59.0 0.0**
comp=Z,20nm,0.6s,baz=318,slow=2.0,SNR=40
QSPA South Pole Qui 83.74 180 *e*P **P 07 53 59.0 0.0**
QSPA *e*P **P 07 53 59.2 +0.2**
SVE Sverdlovsk 84.27 329 *e*P **P 07 54 02.3 +0.7**
SVE pmax pmax
comp=Z,47nm,1.2s
SYO Syowa Base 84.49 201⇓*i*P **P 07 54 01.6 -0.9**
SYO Syowa Base 84.49 201⇑*e*PcP **PcP 07 54 05.8 0.0**
ARU Arti 85.22 328 *e*P **P 07 54 05.6 -0.8**
comp=Z,38nm,1.1s
ARU Arti 85.22 328*c i*P **P 07 54 06.3 -0.1**
ARU *i**PP **pP 07 54 42.8 -0.5**
ARU S **S 08 04 16.0 -8.1**
ARU SS **SS 08 10 05.7 +4.0**
ARU pmax pmax
comp=Z,32nm,1.0s
RAYN Ar Rayn 87.72 294 *e*P **P 07 54 19.9 +0.5**
comp=Z,30nm,0.8s
KDAK Kodiak Island 88.41 31 *i* P **P 07 54 22.8 +1.1**
SUA Susitna One 90.17 28 *e*P **P 07 54 29.9 -0.2**
comp=Z,22nm,1.7s
GNI Garni 90.59 310 *e*P **P 07 54 32.7 +0.1**
GNI pmax pmax
comp=Z,24nm,0.8s
MLY Manley 90.96 25 *e*P **P 07 54 33.8 +0.2**
comp=Z,3.4nm,0.6s
RND Reindeer 91.44 26 *e*P **P 07 54 35.2 -0.7**
comp=Z,5.0nm,0.7s
RND Reindeer 91.44 26 *e*P **P 07 54 35.2 -0.7**
RND pmax pmax
comp=Z,5.0nm,0.7s
ZEI Tsey 91.56 313 *e*P **P 07 54 36.5 -0.6**
ZEI pmax pmax
comp=Z,6.0nm,0.6s
COLD Coldfoot 91.65 23 *e*P **P 07 54 37.1 +0.4**
comp=Z,6.6nm,1.1s
WRH Wood River Hil 91.96 25 *e*P **P 07 54 37.5 -0.7**
comp=Z,4.7nm,0.9s
CCB Clear Creek Bu 92.11 25 *e*P **P 07 54 37.9 -0.9**
comp=Z,4.9nm,0.8s
TOLK Toolik Lake Re 92.17 21 P **P 07 54 39.0 -0.1**
baz=259
KBZ Khabaz 92.39 314 P **P 07 54 40.5 -0.1**
comp=Z,1.6nm,0.7s,baz=175,slow=6.0,SNR=4.2
HDA Harding Lake 92.44 26 *e*P **P 07 54 39.3 -1.1**
comp=Z,4.5nm,0.8s
NEY Neytrino 92.47 313 *e*P **P 07 54 41.3 0.0**
NEY pmax pmax
comp=Z,1.0nm,1.0s
ILAR Eielson Array 92.52 25 P **P 07 54 39.0 -1.8**
comp=Z,2.2nm,0.7s,baz=267,slow=4.3,SNR=29
ILAR PKKP **PKKPdf 08 11 53.6 0.0**
comp=Z,0.3nm,0.6s,baz=159,slow=0.3,SNR=5.7
ILB Eielson Array 92.52 25 *e*P **P 07 54 39.3 -1.5**
KIV Kislovodsk 92.57 314 *e*P **P 07 54 40.8 -0.8**
KIV pmax pmax
comp=Z,4.0nm,0.9s
KMBO Kilima Mbogo 92.92 269 *e*P **P 07 54 43.9 -0.2**
comp=Z,4.1nm,0.9s
KMBO Kilima Mbogo 92.92 269 *e*P **P 07 54 43.9 -0.2**
KMBO pmax pmax
comp=Z,4.0nm,0.9s
DOT Dot Lake 93.59 26 *e*P **P 07 54 45.8 0.0**
comp=Z,9.8nm,1.0s
EGAK Eagle 94.96 25 *e*P **P 07 54 52.3 +0.3**
comp=Z,4.8nm,0.9s
DAWY Dawson 95.69 26 *e*P **P 07 54 56.0 +0.6**
comp=Z,4.7nm,0.8s
KLMR Klimovskoe 95.78 331 *e*P **P 07 54 52.6 -3.2**
KLMR AMP 07 54 54.3
comp=Z,8.0nm,0.6s
KLMR Klimovskoe 95.78 331 *e*P **P 07 54 52.6 -3.2**
KLMR pmax pmax
comp=Z,8.0nm,0.6s
SNAA Sanae 96.48 193 P **P 07 54 59.5 +0.6**
SNAA Sanae 96.48 193 *e*P **P 07 54 58.2 -0.7**
OBN Obninsk 97.21 325*c e*P **P 07 55 01.5 -0.9**
OBN *e* 07 59 05.0
OBN *e*PPP PPP 08 01 07.2
OBN pmax pmax
comp=Z,11nm,1.0s
VNA3 Neumayer Olymp 98.30 192 Pdiff Pdif 07 55 07.3 +0.2
BR101 Keskin Array S 99.07 309 *e*P **Pdif 07 55 10.2 -1.2**
BRTR Keskin Array B 99.07 309 P **Pdif 07 55 10.2 -1.2**
comp=Z,1.2nm,0.8s,baz=116,slow=5.6,SNR=6.6
ARA0 ARCESS Array S 100.97 340 *e*Pdif **Pdif 07 55 18.2 -0.7**
ARCES ARCESS Array B 100.97 340 P **Pdif 07 55 18.2 -0.7**
comp=Z,2.2nm,0.5s,baz=69,slow=6.6,SNR=12
AKASG Malin Array Be 101.82 320 P **Pdif 07 55 21.7 -1.3**
comp=Z,0.6nm,0.6s,baz=67,slow=5.4,SNR=4.9
AKBB Malin Array Si 101.82 320 *e*Pdif **Pdif 07 55 21.7 -1.3**
AKBB Malin Array Si 101.82 320 *e*P **Pdif 07 55 21.7 -1.3**
FIA0 FINESS Array S 102.24 332 *e*Pdif **Pdif 07 55 23.3 -1.4**
FIA0 *e*PKiKP **PKiKP 07 59 45.9 0.0**
FIA0 FINESS Array S 102.24 332 *e*P **Pdif 07 55 23.3 -1.4**
FIA0 *i* 07 59 45.9
FINES FINESS Array B 102.24 332 P **Pdif 07 55 23.3 -1.4**
comp=Z,2.1nm,0.6s,baz=67,slow=5.0,SNR=7.3
FINES PKiKP **PKiKP 07 59 45.9 0.0**
comp=Z,1.3nm,0.6s,baz=174,slow=2.8,SNR=4.6
BUR04 Bucovina Ar. S 104.75 318 *e*Pdif **Pdif 07 55 36.8 +0.4**
BUR08 Bucovina Ar. S 104.75 318 *e*Pdif **Pdif 07 55 37.1 +0.8**
YKA Yellowknife Ar 106.93 26 PKiKP **PKiKP 07 59 54.3 -0.2**
comp=Z,1.1nm,0.6s,baz=294,slow=1.6,SNR=34
YKA PKKPbc **PKKPbc 08 11 12.3 -2.9**
comp=Z,0.5nm,0.4s,baz=114,slow=3.3,SNR=14
CRVS Cervenica-Dubn 107.03 319 *e*PDIFF **Pdif 07 55 49.1 +2.8**
CRVS Cervenica-Dubn 107.03 319 *i* P **Pdif 07 55 49.1 +2.8**
MODS Modra-Piesok 109.86 319 *e*PDIFF **Pdif 07 56 01.0 +2.1**
MODS Modra-Piesok 109.86 319 *i* P **Pdif 07 56 01.0 +2.1**
GERES GERESS Array B 112.03 320 PKiKP **PKiKP 08 00 04.8 +0.1**
comp=Z,2.6nm,0.5s,baz=74,slow=1.7,SNR=19
WTTA Wattenberg 113.82 319 *e*PKiKP **PKiKP 08 00 08.2 0.0**
comp=Z,8.2nm,0.3s
MOTA Moosalm 114.14 319 *i* PKiKP PKPdf 08 00 08.6 -0.2
comp=Z,3.2nm,0.4s
FETA Feichten 114.48 319 *i* PKiKP **PKiKP 08 00 09.6 +0.1**
comp=Z,2.0nm,0.4s
DAVA Damuels 114.95 320 *i* PKiKP **PKiKP 08 00 10.3 -0.1**
comp=Z,6.3nm,0.3s
SNOW Snow King Moun 115.10 45 *e*PKPdf **PKPdf 08 00 10.5 -0.5**
LOHW Long Hollow 115.16 45 *e*PKPdf **PKPdf 08 00 10.9 -0.1**
PDAR Pinedale Array 116.13 45 PKP **PKPdf 08 00 12.9 0.0**
comp=Z,0.4nm,0.6s,baz=180,slow=0.6,SNR=5.4
PDAR SKP 08 03 34.5
comp=Z,0.5nm,0.8s,baz=143,slow=5.2,SNR=4.2
PDAR PKKPbc **PKKPbc 08 10 43.4 -1.3**
comp=Z,0.7nm,0.7s,baz=109,slow=5.5,SNR=6.8
FCC Fort Churchill 117.53 24 *e*PKPdf **PKPdf 08 00 14.1 -0.6**
FCC Fort Churchill 117.53 24 *e*PKiKP **PKPdf 08 00 14.1 -0.6**
O20A White River Ci 117.83 48 P **PKPdf 08 00 17.3 +1.1**
baz=286
MVCO Mesa Verde 118.42 51 P **PKPdf 08 00 18.6 +1.1**
baz=285
RSSD Black Hills 119.48 42 P **PKPdf 08 00 19.3 0.0**
baz=292
RSSD Black Hills 119.48 42 *e*PKPdf **PKPdf 08 00 19.3 0.0**
RSSD Black Hills 119.48 42 *e*PKiKP **PKPdf 08 00 19.3 0.0**
S22A 4UR Ranch, Cre 119.56 50 P **PKPdf 08 00 21.3 +1.6**
baz=286
S22A 4UR Ranch, Cre 119.56 50 *e*PKPdf **PKPdf 08 00 20.7 +1.0**
SDCO Great Sand Dun 120.57 50 P **PKPdf 08 00 22.9 +1.2**
baz=287
SDCO Great Sand Dun 120.57 50 *e*PKPdf **PKPdf 08 00 22.7 +1.0**
ANMO Albuquerque 120.60 53 P **PKPdf 08 00 23.0 +1.3**
baz=285
ANMO Albuquerque 120.60 53 *e*PKPdf **PKPdf 08 00 23.1 +1.4**
ANMO Albuquerque 120.60 53*c i*PKiKP **PKPdf 08 00 21.1 -0.6**
ANMO pmax pmax
comp=Z,1.0nm,1.0s
B31A Greenbush Farm 121.59 36 P **PKPdf 08 00 22.5 -0.4**
baz=300
ULM Lac du Bonnet 121.64 33 PKP **PKPdf 08 00 22.2 -0.7**
comp=Z,3.2nm,0.7s,baz=265,slow=6.6,SNR=6.4
C31A Landman Farms, 121.86 36 P **PKPdf 08 00 23.2 -0.3**
baz=300
B32A Ashes, Strandq 122.25 35 P **PKPdf 08 00 23.8 -0.4**
baz=301
MNTX Cornudas Mount 122.28 56 P **PKPdf 08 00 25.8 +1.1**
baz=284
MNTX Cornudas Mount 122.28 56 *e*PKPdf **PKPdf 08 00 26.1 +1.3**
A33A Warroad 122.61 34 P **PKPdf 08 00 24.1 -0.7**
baz=302
D34A Park Rapids 123.70 36 P **PKPdf 08 00 27.0 0.0**
baz=302
E34A Wadena 124.01 36 P **PKPdf 08 00 27.1 -0.5**
baz=301
C35A Jirik Farms, M 124.07 35 P **PKPdf 08 00 27.3 -0.4**
baz=303
LTX Lajitas 124.27 59 *e*PKPdf **PKPdf 08 00 28.7 -0.1**
LTX *e*PKKPbc **PKKPbc 08 10 13.5 -0.3**
LTX Lajitas 124.27 59 *e*PKiKP **PKPdf 08 00 28.7 -0.1**
TXAR Lajitas Array 124.27 59 PKP **PKPdf 08 00 28.7 -0.1**
comp=Z,0.3nm,0.5s,baz=203,slow=2.8,SNR=7.0
TXAR PKKPbc **PKKPbc 08 10 13.5 -0.3**

comp=Z,0.3nm,0.5s,baz=96,slow=5.0,SNR=9.9
D35A Remer 124.36 35 P **PKPdf 08 00 28.2 -0.1**
baz=303
ECSD EROS Data Cent 124.50 40 P **PKPdf 08 00 28.7 0.0**
baz=298
H34A Spellman Lake, 124.58 39 P **PKPdf 08 00 29.3 +0.5**
baz=300
H35A Sunnyside Ranc 125.15 38 P **PKPdf 08 00 30.6 +0.7**
baz=301
F36A Milaca 125.33 36 P **PKPdf 08 00 29.7 -0.4**
baz=303
O33A Hebron 125.50 44 P **PKPdf 08 00 31.0 +0.3**
baz=295
F37A Hinrichs Farm, 125.93 36 P **PKPdf 08 00 31.9 +0.6**
baz=303
O34A Beatrice 126.07 44 P **PKPdf 08 00 31.9 +0.1**
baz=296
H37A Dierke Farm, C 126.38 37 P **PKPdf 08 00 32.8 +0.6**
baz=302
K36A Gilmore City 126.42 40 P **PKPdf 08 00 32.9 +0.6**
baz=300
KSU1 Kansas State U 126.59 45 P **PKPdf 08 00 33.7 +0.9**
baz=295
JCT Junction City 127.22 56 *e*PKPdf **PKPdf 08 00 35.7 +1.4**
JCT Junction City 127.22 56 *e*PKIKP **PKPdf 08 00 35.7 +1.4**
H39A Augusta 127.30 37 P **PKPdf 08 00 34.3 +0.3**
baz=304
P38A Dawn 128.48 43 P **PKPdf 08 00 36.9 +0.5**
baz=298
TOA0 Torodi Ar. Sit 128.96 282 *e*PKPdf **PKPdf 08 00 36.5 -1.4**
TOA0 *e*PKPdf **PKiKP 08 00 37.3 -1.3**
TORD Torodi Ar. Bea 128.96 282 PKP **PKPdf 08 00 38.3 +0.3**
comp=Z,4.9nm,0.7s,baz=90,slow=2.1,SNR=31
TORD SKPbc SKPbc 08 03 44.5
comp=Z,2.9nm,0.8s,baz=72,slow=3.6,SNR=6.1
TOA1 Torodi Ar. Sit 128.96 282 *e*PKPdf **PKPdf 08 00 38.3 +0.3**
R39A Chumby, Stover 129.44 44 P **PKPdf 08 00 38.3 +0.1**
baz=298
PLCA Paso Flores 129.49 159 PKP **PKPdf 08 00 40.3 +1.9**
comp=Z,5.0nm,0.7s,baz=219,slow=1.5,SNR=24
PLCA Paso Flores 129.49 159 *e*PKPdf **PKPdf 08 00 40.0 +1.6**
PLCA Paso Flores 129.49 159 *e*PKIKP **PKPdf 08 00 40.0 +1.6**
S39A Bolivar 129.53 45 P **PKPdf 08 00 38.2 -0.2**
baz=297
SCHQ Schefferville 129.61 13 PKP **PKPdf 08 00 39.2 +1.1**
comp=Z,4.2nm,0.5s,baz=99,slow=13,SNR=4.1
SCHQ SKPbc SKPab 08 03 45.9 -0.2
comp=Z,7.3nm,0.8s,baz=334,slow=3.5,SNR=7.1
HHAR Hobbs 129.71 47 *e*PKPdf **PKPdf 08 00 40.0 +1.1**
T39A Clever 129.79 46 P **PKPdf 08 00 39.4 +0.4**
baz=297
X39A Fountain Ranch 130.33 49 P **PKPdf 08 00 41.0 +0.9**
baz=294
T40A Mansfield 130.35 45 P **PKPdf 08 00 40.3 +0.3**
baz=298
U40A Yellville 130.47 47 P **PKPdf 08 00 40.6 +0.3**
baz=297
R41A Rosebud 130.59 44 P **PKPdf 08 00 40.6 +0.2**
baz=300
R42A Luebbering 131.00 43 P **PKPdf 08 00 42.1 +0.9**
baz=300
S42A Caledonia 131.26 44 P **PKPdf 08 00 42.1 +0.3**
baz=300
T42A Van Buren 131.41 45 P **PKPdf 08 00 42.4 +0.4**
baz=299
S43A Fulton Ridge, 131.85 44 P **PKPdf 08 00 43.3 +0.5**
baz=300
SADO Sadowa 133.81 29 SKPbc **SKPbc 08 04 01.6 -0.2**
comp=Z,6.6nm,0.7s,baz=283,slow=1.0,SNR=4.1
WVT Waverly 134.13 44 P **PKPdf 08 00 48.1 +1.0**
baz=301
TRQA Tornquist 134.48 166 *e*PKPdf **PKPdf 08 00 48.6 +0.8**
W47A Westpoint 134.75 45 P **PKPdf 08 00 49.1 +0.7**
baz=301
KIC Kosan Boka 135.33 273 *e*PKIKP **PKPdf 08 00 51.6 +1.6**
comp=Z,8.5nm,0.6s
DBIC Dimbokro 135.46 273 PKP **PKPdf 08 00 52.0 +1.7**
comp=Z,3.3nm,0.4s,baz=49,slow=2.0,SNR=9.5
DBIC SKPbc **SKPbc 08 04 07.4 -0.6**
comp=Z,3.2nm,0.5s,baz=121,slow=2.6,SNR=6.2
DBIC Dimbokro 135.46 273 *e*PKPdf **PKPdf 08 00 50.9 +0.7**
DBIC Dimbokro 135.46 273 *e*PKIKP **PKPdf 08 00 50.9 +0.7**
LIC Lamto 135.61 273 *e*PKIKP **PKPdf 08 00 52.0 +1.5**
comp=Z,25nm,0.4s
Z49A Columbiana 136.54 47 P **PKPdf 08 00 52.9 +1.1**
baz=300
TKL Tuckaleechee C 137.15 42 PKP **PKPdf 08 00 54.5 +1.7**
comp=Z,2.9nm,0.6s,baz=138,slow=4.0,SNR=6.5
PB10 IPOC Station P 144.09 146 *e*PKPdf **PKPdf 08 01 06.0 +0.3**
PB04 IPOC Station P 145.25 145 *e*PKPdf **PKPab 08 01 08.5 +0.4**
HDC Heredia 145.73 81 *e*PKPdf **PKPdf 08 01 07.8 -1.1**
CPUP Villa Florida 146.79 167 PKPbc **PKPbc 08 01 12.8 +0.6**
comp=Z,33nm,0.8s,baz=224,slow=1.2,SNR=86
CPUP Villa Florida 146.79 167 *e*PKPdf **PKPbc 08 01 11.5 -0.7**
CPUP Villa Florida 146.79 167 *e*PKP2 **PKPbc 08 01 11.5 -0.7**
NNA Nana 147.49 124 PKPbc **PKPab 08 01 16.0 -0.8**
comp=Z,14nm,0.4s,baz=250,slow=9.6,SNR=12
NNA Nana 147.49 124 *e*PKPdf **PKPbc 08 01 13.2 -1.3**
NNA *e*PKPbc **PKPab 08 01 16.0 -0.8**
NNA Nana 147.49 124 *e*PKIKP **PKPbc 08 01 13.2 -1.3**
NNA *e* 08 01 16.0
PB11 IPOC Station P 147.55 143 *e*PKPdf **PKPbc 08 01 13.3 -1.3**
MNMC Minye Minye 148.07 143 *e*PKPdf **PKPdf 08 01 14.1 +1.2**
OTAV Otavalo 150.69 101 *e*PKPdf **PKPdf 08 01 16.1 -1.4**
LPAZ La Paz 151.13 141 PKP **PKPdf 08 01 19.3 +1.1**
comp=Z,1.8nm,0.8s,baz=127,slow=3.1,SNR=5.0
LPAZ PKPbc **PKiKP 08 01 25.6 +0.9**
comp=Z,19nm,0.4s,baz=49,slow=3.7,SNR=146
LPAZ La Paz 151.13 141 *e*PKPdf **PKPdf 08 01 19.8 +1.6**
LPAZ *e*PKPbc **PKPbc 08 01 20.0 -4.2**
LPAZ PKPbc **PKiKP 08 01 25.6 +0.9**
LPAZ La Paz 151.13 141 *e*PKIKP **PKPdf 08 01 19.8 +1.6**
LPAZ *e* 08 01 20.0
HELC Santa Helena 154.31 89 *e*PKPbc **PKPbc 08 01 30.6 -0.5**
SDV Santo Domingo 159.07 81 PKP **PKPdf 08 01 28.3 -0.3**
comp=Z,5.9nm,0.9s,baz=268,slow=18,SNR=5.8
SDV Santo Domingo 159.07 81 *e*PKPdf **PKPdf 08 01 27.9 -0.7**

MOS ***11*** *07:46:52.0±1.2, 43.°30N×147.°40E, h36km, mb4.2/1, Error ellipse: s-maj=41.1km s-min=17.8km az=124.1*
JMA ***11*** *07:46:52.6±0.2, 43.°32N×147.°23E, h38km, M3.7*
SKHL ***11*** *07:46:52.1±0.1, 43.°29N×147.°37E, h36km±3km, mb4.9/4*
ISC 11 07:46:52.7±3.2, 43.°35N±0.°09×147.°31E±0.°08, h33km±6km, n21, σ0°73/36, 3D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SHO	**Shikotan**	**0.63**	**327**	*e*P	**Pn**	**07 47 04.5**	**-0.8**
SHO				AMB	AMB	07 47 05.1	
	400nm,0.2s						
SHO				*i* S	**Sb**	**07 47 13.8**	**-0.3**
SHO				A	A	07 47 14.6	
	1μm,0.2s						
SHO				A	A	07 47 14.6	
	1μm,0.2s						
SHO	**Shikotan**	**0.63**	**327**	*d* iPN	**Pn**	**07 47 04.5**	**-0.8**
SHO				*i* S	**Sb**	**07 47 13.8**	**-0.3**
SHO				pmax	pmax		
	comp=N,226nm,0.2s						
SHO				pmax	pmax		
	comp=Z,637nm,0.2s						
SHO				pmax	pmax		
	comp=E,226nm,0.1s						
SHO				smax	smax		
	comp=N,1μm,0.2s						
SHO				smax	smax		
	comp=E,921nm,0.2s						
NEM2	**Nemuro 2**	**1.14**	**272**	P	**Pn**	**07 47 11.9**	**-0.4**
NEM2				*e*S	**Sn**	**07 47 26.0**	**-0.8**
YUK	**Yuzh-Kuril'sk**	**1.25**	**304**	*e*P	**Pn**	**07 47 13.5**	**-0.4**
YUK				AMB	AMB	07 47 15.4	
	comp=E,450nm,0.2s						
YUK				*i* S	**Sn**	**07 47 29.6**	**0.0**
YUK				A	A	07 47 30.9	
	comp=E,710nm,0.2s						
YUK				A	A	07 47 30.9	
	comp=E,600nm,0.2s						
YUK	**Yuzh-Kuril'sk**	**1.25**	**304**	*d* iPN	**Pn**	**07 47 13.5**	**-0.4**
YUK				*i* S	**Sn**	**07 47 29.6**	**0.0**
YUK				pmax	pmax		
	comp=N,112nm,0.1s						
YUK				pmax	pmax		
	comp=E,261nm,0.1s						
YUK				pmax	pmax		
	comp=Z,549nm,0.1s						
YUK				smax	smax		
	comp=N,555nm,0.1s						
YUK				smax	smax		
	comp=E,583nm,0.2s						
GRPR	**Tuman**	**1.29**	**301**	*i* P	**Pn**	**07 47 13.9**	**-0.5**
GRPR				AMB	AMB	07 47 14.9	
	comp=E,480nm,0.2s						
GRPR				*i* S	**Sn**	**07 47 30.2**	**-0.3**
GRPR				A	A	07 47 30.9	
	comp=E,1μm,0.2s						
GRPR				A	A	07 47 30.9	
	comp=E,690nm,0.2s						
GRPR	**Tuman**	**1.29**	**301**	⇓*i* PN	**Pn**	**07 47 13.9**	**-0.5**
GRPR				*i* S	**Sn**	**07 47 30.2**	**-0.3**
GRPR				pmax	pmax		
	comp=Z,479nm,0.2s						
GRPR				pmax	pmax		
	comp=N,370nm,0.1s						
GRPR				pmax	pmax		
	comp=E,313nm,0.1s						
GRPR				smax	smax		
	comp=N,1μm,0.2s						
GRPR				smax	smax		
	comp=E,693nm,0.2s						
GLVR	**Golovnino**	**1.36**	**287**	*e*P	**Pn**	**07 47 14.9**	**-0.4**
GLVR				*i* S	**Sn**	**07 47 32.1**	**-0.1**
GLVR				A	A	07 47 36.9	
	comp=E,612nm,0.2s						
GLVR				A	A	07 47 36.9	
	comp=E,960nm,0.2s						
GLVR	**Golovnino**	**1.36**	**287**	*e*PN	**Pn**	**07 47 14.9**	**-0.4**
GLVR				*i* S	**Sn**	**07 47 32.1**	**-0.1**
GLVR				smax	smax		
	comp=N,960nm,0.2s						
GLVR				smax	smax		
	comp=E,612nm,0.2s						
JRA	**Rausu**	**1.69**	**291**	P	**Pn**	**07 47 20.0**	**+0.1**
JRA				*e*S	**Sn**	**07 47 40.4**	**-0.1**
JNK	**Nakash**	**1.90**	**278**	P	**Pn**	**07 47 22.5**	**-0.3**
KUR	**Kuril'sk**	**1.93**	**12**	*e*P	**Pn**	**07 47 23.4**	**+0.2**
KUR				AMB	AMB	07 47 26.9	
	comp=E,180nm,0.4s						
KUR				*i* S	**Sn**	**07 47 45.6**	**-0.7**
KUR				A	A	07 47 48.8	
	comp=E,125nm,0.2s						
KUR				A	A	07 47 48.8	
	comp=E,195nm,0.2s						
KUR	**Kuril'sk**	**1.93**	**12**	PN	**Pn**	**07 47 24.5**	**+1.3**
KUR				S	**Sn**	**07 47 44.7**	**-1.6**
KUR				smax	smax		
	comp=E,135nm,0.4s						
KUR				smax	smax		
	comp=N,60nm,0.3s						
JAK	**Akkeshi**	**1.94**	**261**	P	**Pn**	**07 47 23.2**	**-0.1**
JAK				*e*S	**Sn**	**07 47 45.7**	**-0.9**
JTKR	**Abashiri--Toko**	**2.54**	**285**	P	**Pn**	**07 47 32.6**	**+1.0**
JTKR				*e*S	**Sn**	**07 48 02.5**	**+1.0**
JOB	**Onbets**	**2.58**	**261**	P	**Pn**	**07 47 32.3**	**+0.2**
JAR	**Ashorobuto**	**2.58**	**270**	P	**Pn**	**07 47 32.4**	**+0.2**
JAR				*e*S	**Sn**	**07 48 02.2**	**-0.2**
JKK2	**Kamakawa 2**	**3.35**	**281**	P	**Pn**	**07 47 44.0**	**+1.2**
JSE	**Soyaes**	**3.76**	**297**	P	**Pn**	**07 47 49.3**	**+0.9**
YSS	**Yuzh-Sakhalins**	**4.84**	**320**	*e*P	**Pn**	**07 48 04.4**	**+1.3**
YSS	**Yuzh-Sakhalins**	**4.84**	**320**	*e*PN	**Pn**	**07 48 04.4**	**+1.3**

IDC ***11*** *07:59:33.8±1.2, 18.°57S×173.°31W, h0km, mb3.9/7, mb1 4.2/9, mb1mx3.9/47, mbtmp4.0/9, ML3.9/2, MS3.1/5, Ms1 3.1/5, ms1mx2.9/47, Error ellipse: s-maj=58.9km s-min=17.7km az=142.0*
ISCJB ***11*** *07:59:37.1±1.0, 18.°4S±0.°1×173.°5W±0.°2, h31km, mb3.9/7, MS3.0/3, Error ellipse: s-maj=30.8km s-min=9.0km az=37.8*
ISC 11 07:59:38.6±1.0, 18.°5S±0.°2×173.°4W±0.°2, h31km, n14, σ1°00/13, mb3.6/7, MS3.0/3, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**4.81**	**19**	Pn	**Pn**	**08 00 47.2**	**-1.9**
	1.8nm,0.3s,baz=163,slow=0.9,SNR=3.9						
AFI				Sn	**Sn**	**08 01 44.9**	**+1.1**
	19nm,0.3s,baz=137,slow=14,SNR=7.8						
RAR	**Rarotonga**	**13.08**	**104**	LR	LR	08 06 28.2	
	comp=Z,47nm,19.6s,baz=274,slow=32						
DZM	**Mont Dzumac**	**19.26**	**256**	P	**P**	**08 04 01.4**	**+0.5**
	0.8nm,0.3s,baz=79,slow=20,SNR=8.9						
DZM				LR	LR	08 10 07.1	
	comp=Z,102nm,18.4s,baz=59,slow=33						
URZ	**Urewera**	**21.37**	**201**	LR	LR	08 12 03.0	
	comp=Z,36nm,18.8s,baz=270,slow=35						
HNR	**Honiara**	**27.38**	**286**	LR	LR	08 14 39.9	
	comp=Z,39nm,20.3s,baz=202,slow=33						
STKA	**Stephens Creek**	**42.58**	**243**	P	**P**	**08 07 31.0**	**-1.0**
	1.3nm,0.6s,baz=101,slow=11,SNR=4.8						
STKA				LR	LR	08 22 30.5	
	comp=Z,44nm,18.6s,baz=28,slow=32						
WRA	**Warramunga Arr**	**49.23**	**259**	P	**P**	**08 08 24.3**	**-0.3**
	3.0nm,0.5s,baz=97,slow=8.3,SNR=76						
ASAR	**Alice Springs**	**49.24**	**254**	P	**P**	**08 08 24.2**	**-0.4**
	5.7nm,0.5s,baz=93,slow=8.0,SNR=43						
ASAR				PcP	**PcP**	**08 09 47.7**	**+0.3**
	1.2nm,0.7s,baz=104,slow=4.1,SNR=5.2						
TXAR	**Lajitas Array**	**82.32**	**56**	P	**P**	**08 11 57.7**	**0.0**
	0.3nm,0.8s,baz=179,slow=5.8,SNR=3.8						
PDAR	**Pinedale Array**	**84.55**	**42**	P	**P**	**08 12 08.4**	**-0.7**
	0.2nm,0.5s,baz=197,slow=2.8,SNR=3.2						
ILAR	**Eielson Array**	**85.46**	**11**	P	**P**	**08 12 13.9**	**+1.1**
	0.3nm,0.7s,baz=229,slow=5.4,SNR=5.5						
YKA	**Yellowknife Ar**	**92.91**	**23**	P	**P**	**08 12 48.7**	**+0.6**
	0.1nm,0.8s,baz=234,slow=4.2,SNR=3.1						
ARCES	**ARCESS Array B**	**127.66**	**352**	PKP	**PKPdf**	**08 18 40.8**	**+0.6**
	4.1nm,1.0s,baz=29,slow=2.1,SNR=4.0						
BRTR	**Keskin Array B**	**148.51**	**318**	PKPbc	**PKPbc**	**08 19 23.9**	**+1.2**
	1.3nm,0.7s,baz=171,slow=2.4,SNR=7.4						

ISCJB ***11*** *08:09:10.5±0.8, 43.°13N±0.°04×79.°75E±0.°05, h10km±5km, Error ellipse: s-maj=7.0km s-min=4.6km az=137.9*
KRNET ***11*** *08:09:10.3±0.1, 43.°11N×79.°73E, h22km, mb2.9*
SOME ***11*** *08:09:10.3, 43.°12N×79.°72E, h20km*
ISC 11 08:09:10.4±1.1, 43.°12N±0.°04×79.°72E±0.°03, h20km±3km, n27, σ0°94/53, 9C-2D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PDGK	**Podgornoye**	**0.27**	**320**	⇑P	**Pb**	**08 09 16.6**	**-0.1**
PDGK	58nm,0.3s			⇑S	**Sb**	**08 09 21.2**	**0.0**
	200nm,0.2s						
PDGK	**Podgornoye**	**0.27**	**320**	⇑*i* P	**Pb**	**08 09 16.4**	**-0.3**
PDGK	baz=20			⇑*i* S	**Sb**	**08 09 21.1**	**0.0**
	baz=20						
KTMS	**Ketmen**	**0.56**	**55**	*e*P	**Pb**	**08 09 21.3**	**-0.4**
KTMS	28nm,0.1s			*e*S	**Sb**	**08 09 29.1**	**-0.3**
	111nm,0.3s						
KTMS	**Ketmen**	**0.56**	**55**	*e*P	**Pb**	**08 09 21.3**	**-0.4**
KTMS	baz=52			*e*S	**Sb**	**08 09 29.1**	**-0.3**
	baz=52						
KPKS	**Kokpek**	**0.83**	**295**	*e*P	**Pb**	**08 09 25.7**	**-0.5**
KPKS	48nm,0.1s			*e*S	**Sb**	**08 09 36.6**	**-0.4**
	534nm,0.2s						
KPKS	**Kokpek**	**0.83**	**295**	*e*P	**Pb**	**08 09 25.7**	**-0.5**
KPKS	baz=93			*e*S	**Sb**	**08 09 36.6**	**-0.4**
	baz=93						
SATY	**Saty**	**0.97**	**267**	*e*P	**Pn**	**08 09 28.6**	**-0.3**
SATY	10.0nm,0.1s			*e*S	**Sn**	**08 09 41.7**	**-0.4**
	108nm,0.2s						
PRZ	**Przheval'sk**	**1.17**	**237**	⇓*i* P	**Pb**	**08 09 32.0**	**+0.1**
PRZ	baz=37			⇓*i* S	**Sn**	**08 09 47.7**	**+0.6**
	baz=37						
KURS	**Kuram**	**1.19**	**288**	*e*P	**Pn**	**08 09 31.8**	**-0.1**
KURS	1.1nm,0.4s			*e*S	**Sb**	**08 09 47.2**	**0.0**
	8.4nm,0.4s						
KURS	**Kuram**	**1.19**	**288**	*e*P	**Pn**	**08 09 31.8**	**-0.1**
KURS	baz=89			*e*S	**Sn**	**08 09 48.3**	**+0.8**
	baz=89						
DJR	**Jarkent**	**1.21**	**2**	*e*P	**Pn**	**08 09 32.3**	**+0.1**
	7.1nm,0.1s						
DJR				*e*S	**Sn**	**08 09 48.2**	**+0.2**
	59nm,0.3s						
MNBS	**Baschi**	**1.35**	**315**	*e*P	**Pn**	**08 09 34.6**	**+0.4**
	6.7nm,0.2s						
MNBS				*e*S	**Sb**	**08 09 52.2**	**+0.2**
	116nm,0.4s						
MNBS	**Baschi**	**1.35**	**315**	*e*P	**Pn**	**08 09 33.6**	**-0.6**
	baz=14						
MNBS				*e*S	**Sn**	**08 09 50.2**	**-1.5**
	baz=14						
ARXS	**Arharly**	**1.75**	**309**	*e*P	**Pb**	**08 09 41.2**	**-0.7**
	6.3nm,0.3s						
ARXS				*e*S	**Sb**	**08 10 03.5**	**0.0**
	39nm,0.2s						
KOTS	**Kotyrbulak**	**1.91**	**274**	*e*P	**Pb**	**08 09 44.7**	**+0.1**
	2.0nm,0.3s						
KOTS				*e*S	**Sb**	**08 10 09.5**	**+1.4**
	14nm,0.3s						
TNSS	**Tian-Shan**	**2.04**	**268**	*e*P	**Pb**	**08 09 46.5**	**-0.3**
	3.2nm,0.3s						
TNSS				*e*S	**Sb**	**08 10 12.6**	**+0.7**
	14nm,0.2s						
TNSS	**Tian-Shan**	**2.04**	**268**	*e*P	**Pb**	**08 09 46.6**	**-0.3**
	baz=69						
TNSS				*e*S	**Sb**	**08 10 12.6**	**+0.7**
	baz=69						
CHKK	**Chushkaly**	**2.12**	**291**	*e*P	**Pb**	**08 09 47.6**	**-0.5**
	0.7nm,0.2s						
CHKK				*e*S	**Sb**	**08 10 14.2**	**+0.3**
	21nm,0.3s						
CHKK	**Chushkaly**	**2.12**	**291**	*e*P	**Pb**	**08 09 47.6**	**-0.5**
	baz=91						
CHKK				*e*S	**Sb**	**08 10 14.3**	**+0.3**
	baz=91						
KDJ	**Kajisay**	**2.12**	**243**	⇑*e*P	**Pb**	**08 09 46.4**	**-1.8**
	baz=43						
KDJ				⇑*i* S	**Sb**	**08 10 13.6**	**-0.6**
	baz=43						
KAPS	**Kapalarasan**	**2.18**	**353**	*e*P	**Pb**	**08 09 47.9**	**-1.2**
	1.5nm,0.5s						
KAPS				*e*S	**Sb**	**08 10 15.0**	**-0.6**
	31nm,0.6s						
IZV	**Izvestkoviy**	**2.28**	**269**	*e*P	**Pb**	**08 09 50.3**	**-0.7**
	4.8nm,0.5s						
IZV				*e*S	**Sb**	**08 10 19.2**	**+0.4**
	22nm,0.5s						
IZV	**Izvestkoviy**	**2.28**	**269**	*e*P	**Pb**	**08 09 49.3**	**-1.6**
	baz=69						
IZV				*e*S	**Sb**	**08 10 17.2**	**-1.5**
	baz=69						
KTBS	**Karatobe**	**2.29**	**286**	*e*P	**Pb**	**08 09 51.2**	**+0.1**
	0.9nm,0.3s						
KTBS				*e*S	**Sb**	**08 10 20.4**	**+1.5**
	20nm,0.3s						
KTBS	**Karatobe**	**2.29**	**286**	*e*P	**Pb**	**08 09 51.2**	**+0.1**
	baz=86						
KTBS				*e*S	**Sb**	**08 10 21.5**	**+2.6**
	baz=86						
ULHL	**Ulahol**	**2.71**	**252**	⇑*e*P	**Pn**	**08 09 54.9**	**+1.9**
	baz=53						
ULHL				⇑*i* S	**Sb**	**08 10 28.7**	**-2.5**
	baz=53						
MK31	**Makanchi Array**	**4.10**	**26**	⇑Pn	**Pn**	**08 10 13.7**	**+1.8**
	0.1nm,0.2s,baz=208,slow=9.7,SNR=5.2						
MK31				Lg	Lg	08 11 16.9	
	0.2nm,0.2s,baz=191,slow=28,SNR=8.8						

ISK ***11*** *08:28:12.9, 38.°54N×32.°26E, h3km, ML2.6/4*
ISCJB ***11*** *08:28:13.7±0.6, 38.°58N±0.°04×32.°31E±0.°04, h5km±6km, Error ellipse: s-maj=6.0km s-min=4.7km az=14.2*
CSEM ***11*** *08:28:13.7±0.2, 38.°58N×32.°31E, h9km±2km, ML2.8, Error ellipse: s-maj=6.8km s-min=4.9km az=41.0*
DDA ***11*** *08:28:14.6, 38.°60N×32.°21E, h9km, Ml2.8*
ISC 11 08:28:13.9±1.0, 38.°58N±0.°03×32.°29E±0.°03, h9km±8km, n21, σ0°53/32, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KDHN	**Kadinhani**	**0.15**	**246**	*i* P	**Pg**	**08 28 17.5**	**+0.4**
KDHN				*i* S	**Sg**	**08 28 19.5**	**+0.1**
KDHN	**Kadinhani**	**0.15**	**246**	P	**Pg**	**08 28 17.5**	**+0.4**
KDHN				S	**Sg**	**08 28 19.5**	**+0.1**
LADK	**Ladik-KONYA**	**0.39**	**171**	PG	**Pg**	**08 28 20.8**	**-0.7**
LADK				SG	**Sg**	**08 28 25.9**	**-0.7**
LADK	**Ladik-KONYA**	**0.39**	**171**	*e*Pg	**Pg**	**08 28 20.8**	**-0.7**
LADK				*e*Sg	**Sg**	**08 28 25.9**	**-0.7**
KMER	**Konya-Meram**	**0.81**	**175**	*i* P	**Pb**	**08 28 30.7**	**+0.4**
KMER	**Konya-Meram**	**0.81**	**175**	P	**Pb**	**08 28 30.7**	**+0.4**
SULT	**Sultanhani-AKS**	**1.04**	**111**	PG	**Pg**	**08 28 33.5**	**-0.3**
SULT				SG	**Sb**	**08 28 48.9**	**+1.1**
SULT	**Sultanhani-AKS**	**1.04**	**111**	*e*Pg	**Pg**	**08 28 33.5**	**-0.3**
SULT				*e*Sg	**Sb**	**08 28 48.9**	**+1.1**
SVRH	**Sivrihisar-ESK**	**1.05**	**326**	PG	**Pn**	**08 28 34.6**	**-0.3**
SVRH				SG	**Sn**	**08 28 49.7**	**0.0**
SVRH	**Sivrihisar-ESK**	**1.05**	**326**	*e*Pg	**Pn**	**08 28 34.6**	**-0.3**
SVRH				*e*Sg	**Sn**	**08 28 49.7**	**0.0**
BOLV	**Bolvadin**	**1.05**	**278**	*i* P	**Pb**	**08 28 34.1**	**-0.3**
BOLV	**Bolvadin**	**1.05**	**278**	P	**Pb**	**08 28 34.1**	**-0.3**
AFSR	**Afʿar-Bala (A**	**1.06**	**35**	PN	**Pg**	**08 28 34.2**	**0.0**
AFSR	**Afʿar-Bala (A**	**1.06**	**35**	*e*Pn	**Pg**	**08 28 34.2**	**0.0**
SERE	**Sereflikochisa**	**1.06**	**70**	PN	**Pg**	**08 28 33.8**	**-0.5**
SERE				SN	**Sn**	**08 28 50.8**	**+0.8**
SERE	**Sereflikochisa**	**1.06**	**70**	*e*Pn	**Pg**	**08 28 33.8**	**-0.5**
SERE				*e*Sn	**Sn**	**08 28 50.8**	**+0.8**
BAGO	**Egridir - ISPA**	**1.32**	**244**	*i* P	**Pg**	**08 28 39.2**	**0.0**
BAGO				*i* S	**Sn**	**08 28 56.6**	**+0.3**
ESKT	**Eskisehir**	**1.46**	**310**	*i* P	**Pb**	**08 28 40.8**	**-0.5**
SEYT	**Eskypehyr**	**1.46**	**310**	P	**Pb**	**08 28 40.8**	**-0.5**
SUTC	**Sutluce-Ispart**	**1.50**	**223**	PN	**Pb**	**08 28 41.4**	**-0.6**
SUTC	**Sutluce-Ispart**	**1.50**	**223**	*e*Pn	**Pb**	**08 28 41.4**	**-0.6**

IDC ***11*** *08:38:32.2±0.3, 2.°29N×93.°04E, h0km, mb5.8/46, mb1 5.8/50, mb1mx5.7/72, mbtmp5.8/50, ML5.3/4, MS8.2/48, Ms1 8.2/48, ms1mx8.0/70, Error ellipse: s-maj=10.9km s-min=7.9km az=37.0*
DJA ***11*** *08:38:34.4±0.1, 2.°N±2.°×93.°3E±.°, h10km, M8.3/61, mb7.3/56, mB8.2/61, MLv8.1/7, Mw(mB)8.4/61, Mwp7.7/61*
BJI ***11*** *08:38:35.9, 2.°31N×93.°08E, h21km, mb6.6/43, mB7.8/65, Ms8.6/90, Ms7 8.5/83*
ISCJB ***11*** *08:38:35.4±0.1, 2.°28N±0.°02×93.°09E±0.°01, h25km, mb6.9/335, MS8.5/635, Error ellipse: s-maj=2.7km s-min=1.5km az=29.5*
MOS ***11*** *08:38:36.5±1.3, 2.°27N×93.°08E, h38km, mb7.4/79, MS8.4/116, Error ellipse: s-maj=6.1km s-min=3.6km az=118.5 Broadband fault plane solution: P waves. M0 8.50000×10^20 NP1:φs289.00000°, δ86.00000°, λ169.00000°. NP2:φs20.00000°, δ79.00000°, λ4.00000°. Principal axes: T Plg10.0000°, Azm244.0000°; N Plg78.0000°, Azm90.0000°; P Plg5.0000°, Azm335.0000°;*
GCMT ***11*** *08:38:36.7±0.2, 2.°35N×92.°82E, h46km±1km, MW8.6/148, Moment Tensor Solution. s28,c39; s148,c550; Duration: 47±3 Moment tensor: Scale 10^22 Nm; Mrr0.13±.01; Mθθ-0.62±.00; Mφφ0.48±.00; Mrθ-0.17±.02; Mrφ-0.69±.00; Mθφ0.10±.02; Best double couple: M0 0.91400×10^22 NP1:φs289.00000°, δ85.00000°, λ166.00000°. NP2:φs20.00000°, δ76.00000°, λ5.00000°. Principal axes: T 0.8620, Plg13.0000°, Azm243.0000°; N 0.1040, Plg75.0000°, Azm88.0000°; P -0.9660, Plg6.0000°, Azm335.0000°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to surface/mantle waves, cutoff=200s.*
NEIC ***11*** *08:38:36.7±0.1, 2.°33N×93.°06E, h20km

widely in South and Southeast Asia, including Bangladesh, Bhutan, Brunei, Burma, India, Laos, Malaysia, Maldives, Singapore, Sri Lanka, Thailand and Vietnam. Felt as far as Bombay, India and Broome, Australia. A small tsunami was recorded, with maximum wave heights [one-half peak-to-trough] at the following selected tide stations: 1.08 m at Meulaboh, 37 cm at Sabang and 14 cm on Pulau Enganno, Indonesia; 8 cm at Cocos Island, Australia; 23 cm at Chittagong, Bangladesh; 21 cm at Male, Maldives; 17 cm at Port Louis, Mauritius; 11 cm at Trincomalee, Sri Lanka.

KLM ***11*** *08:38:37.0, 2°.27N×93°.22E, h10km, mb7.9*

NEIC ***11*** *08:38:38.0±0.0, 2°.25N×92°.87E, h25km, Moment Tensor Solution. s109 Moment tensor: Scale 10^{21}Nm; M_{rr}1.25; $M_{\theta\theta}$-5.99; $M_{\phi\phi}$4.74; $M_{r\theta}$1.34; $M_{\theta\phi}$-7.03; $M_{\phi r}$-0.63; Best double couple: $M_0$9.00000×10^{21} NP1:ϕ_s108.00000°, δ87.00000°, λ170.00000°. NP2:ϕ_s199.00000°, δ80.00000°, λ3.00000°. Principal axes: T 8.4000, Plg9.0000°, Azm63.0000°; N 1.1400, Plg79.0000°, Azm271.0000°; P -9.5400, Plg4.0000°, Azm154.0000°;*

NEIC ***11*** *08:39:32.5±0.0, 2°.24N×93°.10E, h40km, Moment Tensor Solution. s61 Moment tensor: Scale 10^{21}Nm; M_{rr}0.40; $M_{\theta\theta}$-5.39; $M_{\phi\phi}$4.98; $M_{r\theta}$1.74; $M_{\theta\phi}$-6.31; $M_{\phi r}$-1.57; Best double couple: $M_0$8.50000×10^{21} NP1:ϕ_s109.00000°, δ84.00000°, λ165.00000°. NP2:ϕ_s201.00000°, δ75.00000°, λ6.00000°. Principal axes: T 8.5500, Plg15.0000°, Azm64.0000°; N -0.0800, Plg74.0000°, Azm267.0000°; P -8.4700, Plg6.0000°, Azm155.0000°;*

ISC 11 08:38:37.8±0.3, 2°.24N±0°.03×93°.01E±0°.03, h26km±1km, h27km:pP-P, n2784, σ2s26/2538, mb7.2/326, MS8.5/666, 53C-88D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MLSI	**Meulaboh, Aceh**	**3.94**	**59**	P	**Pn**	**08 39 32.6**	**-4.0**
MLSI				S	**Sn**	**08 40 17.0**	**-5.0**
BSI	**Banda Aceh**	**3.96**	**35**	P	**Pn**	**08 39 32.6**	**-4.3**
BSI				S	**Sn**	**08 40 22.9**	**+0.4**
TPTI		**4.28**	**76**	P	**Pn**	**08 39 37.2**	**-4.1**
GSI	**Gunungsitoli**	**4.65**	**101**	*e*P	**Pn**	**08 39 43.4**	**-3.0**
GSI				S	**Sn**	**08 40 40.9**	**+1.3**
GSI	**Gunungsitoli**	**4.65**	**101**	*e*Pn	**Pn**	**08 39 44.0**	**-2.5**
KCSI	**Kotacane, Aceh**	**4.92**	**75**	P	**Pn**	**08 39 47.9**	**-2.2**
KCSI				S	**Sn**	**08 40 46.4**	**+0.2**
LHMI	**Lhok Sumawe**	**4.92**	**53**	*e*Pn	**Pn**	**08 39 47.8**	**-2.3**
TSI	**Tuntungan** 341μm,1.0s	**5.68**	**77**	P	**Pn**	**08 39 58.4**	**-2.2**
PBSI	**Pulau Batu** 873μm,0.9s,6μm	**5.74**	**113**	P	**Pn**	**08 39 58.6**	**-2.7**
PSI	**Prapat** 281nm,0.3s,baz=279,slow=6.1,SNR=487	**5.93**	**84**	Pn	**Pn**	**08 40 01.4**	**-2.8**
PSI	**Prapat**	**5.93**	**84**	*e*Pn	**Pn**	**08 40 03.0**	**-1.1**
PSI	**Prapat**	**5.93**	**84**	*e*P	**Pn**	**08 40 03.0**	**-1.1**
MNSI	**Mandailing Nat** 161μm,0.5s	**6.72**	**102**	P	**Pn**	**08 40 11.5**	**-3.3**
SISI	**Saibi**	**7.03**	**120**	P	**Pn**	**08 40 16.0**	**-3.1**
PDSI	**Padang** 40μm,1.3s	**8.08**	**113**	P	**Pn**	**08 40 29.8**	**-3.7**
KULM	**Kulim**	**8.20**	**68**	*e*Pn	**Pn**	**08 40 32.8**	**-2.4**
KULM	**Kulim**	**8.20**	**68**		**Pn**	**08 40 32.0**	**-3.2**
BKNI	**Bangkinang** 94μm,1.3s	**8.24**	**103**	P	**Pn**	**08 40 33.3**	**-2.5**
BKNI	**Bangkinang**	**8.24**	**103**	*e*Pn	**Pn**	**08 40 33.6**	**-2.2**
IPM	**Ipoh**	**8.30**	**74**	*e*Pn	**Pn**	**08 40 33.8**	**-2.8**
PPSI	**Pulau Pagai**	**8.58**	**125**	P	**Pn**	**08 40 36.9**	**-3.5**
SDSI	**Sungai Dareh** 44nm,0.7s,1μm1μm	**8.98**	**110**	P	**Pn**	**08 40 44.2**	**-1.7**
PBA	**Port Blair**	**9.36**	**358**	*e*P	Pn	08 40 48.6	-2.5
RGRI	**Rengat** 32μm,0.8s,797μm	**9.66**	**105**	P	**Pn**	**08 40 53.7**	**-1.6**
MASI	**Maura Aman, Be** 118μm,0.9s	**10.66**	**120**	P	**Pn**	**08 41 06.4**	**-2.5**
MYKOM	**Kota Tinggi**	**10.84**	**92**	*e*Pn	**Pn**	**08 41 10.1**	**-1.3**
MYKOM	**Kota Tinggi**	**10.84**	**92**		**Pn**	**08 41 09.0**	**-2.4**
DGPR	**DIGLIPUR**	**10.87**	**360**	*e*P	**Pn**	**08 41 07.2**	**-4.6**
DGPR	comp=Z,29μm,0.8s			IAmb	IAmb	08 41 31.8	
JMBI	**JAMBI** comp=Z,30μm,1.3s	**11.30**	**110**	P	**Pn**	**08 41 16.4**	**-1.3**
TPRI	**Tanjung Pinang** comp=Z,11μm,0.8s,comp=Z,414μm	**11.58**	**96**	P	**Pn**	**08 41 19.9**	**-1.7**
DSRI	**Dabo** comp=Z,9μm,1.3s	**11.87**	**103**	P	**Pn**	**08 41 24.1**	**-1.4**
MNAI	**Manna** comp=Z,103μm,0.8s	**11.90**	**123**	P	**Pn**	**08 41 24.9**	**-1.0**
MNAI	**Manna**	**11.90**	**123**	*e*Pn	**Pn**	**08 41 24.2**	**-1.8**
MDSI	**Maura Dua** comp=Z,22μm,0.8s,comp=Z,666μm	**13.00**	**121**	P	**Pn**	**08 41 37.6**	**-3.4**
LWLI	**Liwa** comp=Z,69μm,0.8s	**13.18**	**123**	P	**Pn**	**08 41 41.5**	**-2.0**
PALK	**Pallekele** comp=Z,15nm,0.3s,baz=116,slow=13,SNR=49	**13.25**	**293**	Pn	**Pn**	**08 41 40.0**	**-4.4**
PALK	**Pallekele**	**13.25**	**293**	*e*Pn	**Pn**	**08 41 43.4**	**-1.0**
PALK	**Pallekele** SNR=343	**13.25**	**293**	Pn	**Pn**	**08 41 40.6**	**-3.8**
PALK	**Pallekele** SNR=80	**13.25**	**293**	*i* P	**P**	**08 41 50.6**	**-3.3**
PALK	**Pallekele**	**13.25**	**293**	*i* P	**Pn**	**08 41 40.5**	**-3.8**
KLI	**Kotabumi**	**13.78**	**121**	P	**Pn**	**08 41 51.5**	**0.0**
KASI	**Kota Agung** comp=Z,44μm,0.9s,comp=Z,974μm	**13.82**	**124**	P	**Pn**	**08 41 48.2**	**-3.9**
PPBI	**Pangkal Pinang**	**13.83**	**108**	P	**Pn**	**08 41 52.3**	**0.0**
BLSI	**Bandar Lampung**	**14.36**	**122**	P	**Pn**	**08 41 59.4**	**-0.2**
COCO	**West Island**	**14.83**	**165**	*e*Pn	**Pn**	**08 42 05.9**	**0.0**
COCO	**West Island** SNR=59	**14.83**	**165**	P	**P**	**08 42 12.5**	**+1.1**
COCO	**West Island** SNR=59	**14.83**	**165**	P	**P**	**08 42 12.5**	**+1.1**
COCO	**West Island**	**14.83**	**165**	*i* P	**Pn**	**08 42 05.4**	**-0.5**
TNG	**Tangerang** comp=Z,40μm,0.9s	**15.97**	**122**	P	**P**	**08 42 22.3**	**-1.9**
TNG	comp=Z,63μm,0.8s			P	**Pn**	**08 42 22.1**	**+1.2**
SKJI	**Sukabumi**	**16.34**	**124**	P	**Pn**	**08 42 25.6**	**0.0**
MDRS	**Chennai**	**16.60**	**311**	*e*P	**Pn**	**08 42 29.6**	**+0.8**
MDRS	comp=Z,20μm,0.6s			IAmb	IAmb	08 42 45.3	
LEM	**Lembang** comp=Z,5.1nm,0.3s,baz=256,slow=3.6,SNR=26	**17.13**	**122**	P	**Pn**	**08 42 32.5**	**-3.3**
LEM	comp=Z,3595μm,19.5s,baz=272,slow=40			LR	LR	08 50 01.1	
CMAR	**Chiang Mai Arr** comp=Z,2.6nm,0.3s,baz=214,slow=13,SNR=114	**17.14**	**19**	P	**Pn**	**08 42 30.8**	**-4.8**
CMAR	comp=Z,5837μm,21.4s,baz=204,slow=39			LR	LR	08 49 40.8	
TRD	**Trivandrum**	**17.15**	**292**	*e*P	**P**	**08 42 36.6**	**-0.7**
KSM	**Kuching** comp=Z,39μm,1.5s	**17.30**	**92**	*e*Pn	**Pn**	**08 42 36.6**	**-1.1**
KSM	**Kuching**	**17.30**	**92**		**Pn**	**08 42 37.0**	**-0.7**
SKHT	**Srikalahasti**	**17.43**	**312**	*e*P	**Pn**	**08 42 35.9**	**-3.4**
SKHT	comp=Z,91μm,1.7s			IAmb	IAmb	08 43 08.4	
SKHT				*e*S	**Sn**	**08 45 42.9**	**-10**
SKHT	comp=Z,5942μm,21.3s			IVMs_BB	IVMs_BB	08 48 41.7	
CHTO	**Chiang Mai**	**17.47**	**19**	*e*Pn	**Pn**	**08 42 37.5**	**-2.3**
CHTO	**Chiang Mai** SNR=745	**17.47**	**19**	Pn	**Pn**	**08 42 35.1**	**-4.7**
CHTO	**Chiang Mai**	**17.47**	**19**	*e*P	**Pn**	**08 42 37.5**	**-2.3**
JCJI	**Jatiwangi**	**17.52**	**120**	P	**Pn**	**08 42 40.1**	**-0.4**
CISI	**Cisompet, Garu** comp=Z,19μm,1.3s	**17.68**	**124**	P	**Pn**	**08 42 39.6**	**-2.9**
CISI	**Cisompet, Garu** comp=Z,63μm,1.4s	**17.68**	**124**	*e*Pn	**Pn**	**08 42 39.9**	**-2.6**
XMIS	**Christmas Isla** comp=Z,46μm,1.5s	**17.83**	**135**	*e*Pn	**Pn**	**08 42 44.0**	**-0.2**
VIS	**Vishakhapatnam**	**18.09**	**329**	*e*P	**P**	**08 42 47.9**	**+0.3**
VIS				IAmb	IAmb	08 43 03.1	
VIS	comp=Z,21200μm,21.2s			IAMs_20	IAMs_20	08 49 02.6	
CMJI	**Cimerak** comp=Z,17μm,1.1s,comp=Z,929μm	**18.34**	**123**	P	**P**	**08 42 49.1**	**-1.3**
CHLP	**Challavanipeta** comp=Z,45μm,0.9s	**18.40**	**332**	*e*P	**P**	**08 42 47.5**	**-3.6**
CHLP				IAmb	IAmb	08 43 17.0	
CHLP				*e*S	**Sn**	**08 46 15.6**	**-0.5**
CHLP	comp=Z,7355μm,6.7s			IVMs_BB	IVMs_BB	08 49 42.2	
KPJI	**Karang Pucung** comp=Z,7μm,0.7s	**18.51**	**121**	P	**P**	**08 42 50.0**	**-2.3**
STKI	**Sintang**	**18.58**	**96**	P	**P**	**08 42 52.6**	**-0.5**
PVM	**Polavaram**	**18.65**	**324**	*e*P	**P**	**08 42 51.5**	**-2.3**
PVM	comp=Z,74μm,1.5s			IAmb	IAmb	08 43 29.7	
PVM				*e*S	**Sn**	**08 46 20.5**	**-1.7**
PVM	comp=Z,8073μm,22.1s			IVMsBB		08 49 35.1	
ADKI	**Addanki**	**18.66**	**317**	*e*P	**P**	**08 42 51.7**	**-2.1**
ADKI	comp=Z,24μm,0.8s			IAmb	IAmb	08 43 19.9	
ADKI				*e*S	**Sn**	**08 46 16.6**	**-5.8**
ADKI	comp=Z,7574μm,21.0s			IVMs_BB	IVMs_BB	08 48 49.6	
SBUM	**Sibu** comp=Z,22μm,1.3s	**19.19**	**89**	*e*P	**P**	**08 42 58.4**	**-1.4**
SBUM	**Sibu**	**19.19**	**89**		**P**	**08 42 59.0**	**-0.8**
PBKI	**Pangkalan Bun** comp=Z,27μm,1.8s,comp=Z,504μm	**19.29**	**105**	P	**P**	**08 42 59.8**	**-1.0**
SRLM	**Srisailam**	**19.57**	**316**	*e*P	**P**	**08 43 02.4**	**-1.6**
SRLM	comp=Z,38μm,1.3s			IAmb	IAmb	08 43 33.4	
SRLM				*e*S	**S**	**08 46 42.9**	**-0.8**
SRLM	comp=Z,6708μm,16.5s			IVMs_BB	IVMs_BB	08 51 22.7	
NJS	**Nagarjunasagar**	**19.60**	**317**	*e*P	**P**	**08 43 02.7**	**-1.6**
NJS	comp=Z,25μm,1.3s			IAmb	IAmb	08 43 36.8	
NJS				*e*S	**S**	**08 46 43.3**	**-1.0**
NJS	comp=Z,5980μm,17.9s			IVMs_BB	IVMs_BB	08 50 59.3	
SMRI	**Semarang**	**19.69**	**118**	P	**P**	**08 43 03.7**	**-1.5**
SMRI	**Semarang** comp=Z,91μm,1.7s	**19.69**	**118**	*e*P	**P**	**08 43 04.0**	**-1.2**
URV	**Uravakonda**	**20.03**	**310**	*e*P	**P**	**08 43 07.2**	**-1.8**
URV	comp=Z,19μm,1.1s			IAmb	IAmb	08 43 32.6	
URV				*e*S	**S**	**08 46 53.4**	**+0.3**
URV	comp=Z,5071μm,19.0s			IVMs_BB	IVMs_BB	08 50 21.3	
SAIH	**SAIHA**	**20.13**	**360**	*e*P	**P**	**08 43 08.0**	**-2.1**
UGM	**Wanagama** comp=Z,9μm,0.8s	**20.17**	**120**	P	**P**	**08 43 09.2**	**-1.3**
UGM	**Wanagama** comp=Z,41μm,1.5s	**20.17**	**120**	*e*P	**P**	**08 43 08.9**	**-1.6**
UGM	comp=Z,10831μm,22.0s			LR	LR		
WOJI	**Wonogiri, Jawa**	**20.48**	**119**	P	**P**	**08 43 10.4**	**-3.4**
HYB	**Hyderabad**	**20.72**	**318**	*i* P	**P**	**08 43 14.5**	**-2.0**
HYB				*e*S	**S**	**08 47 07.5**	**+0.7**
HYB	**Hyderabad**	**20.72**	**318**	*e*P	Pn	08 43 17.8	-1.1
HYB	comp=Z,87μm,2.6s			IAmb	IAmb	08 43 29.7	
HYB	comp=Z,18000μm,18.0s			IAMs_20	IAMs_20	08 51 46.7	
HYBB	**Hyderabad (bro**	**20.72**	**318**	*e*P	**P**	**08 43 14.5**	**-2.0**
HYBB	comp=Z,267μm,2.8s			IAmb	IAmb	08 43 47.0	
HYBB				*e*S	**S**	**08 47 02.2**	**-4.7**
HYBB	comp=Z,5939μm,16.8s			IVMs_BB	IVMs_BB	08 51 50.4	
MNCY	**Minicoy**	**20.77**	**288**	*e*P	**P**	**08 43 17.2**	**+0.2**
MNCY				*e*P	Pn	08 43 18.2	-1.3
PCJI	**Pacitan** comp=Z,10μm,1.7s,comp=Z,504μm	**20.87**	**120**	P	**P**	**08 43 18.1**	**0.0**
BELO	**BELONIA**	**20.94**	**356**	*e*P	**P**	**08 43 18.1**	**-0.6**
BELO				ex	x	08 47 12.8	
BWJI	**Bawean**	**21.20**	**112**	P	**P**	**08 43 21.6**	**0.0**
RPR	**Rampur**	**21.29**	**322**	*e*P	**P**	**08 43 20.7**	**-1.9**
RPR	comp=Z,31μm,1.2s			IAmb	IAmb	08 43 59.7	
RPR				*e*S	**S**	**08 47 17.6**	**-0.4**
RPR	comp=Z,6754μm,20.9s			IVMs_BB	IVMs_BB	08 50 56.2	
GRJI	**Gresik** comp=Z,4μm,1.4s,comp=Z,110μmcomp=Z,50μm	**21.45**	**115**	P	**P**	**08 43 24.2**	**-0.1**
AGT	**Agartala**	**21.59**	**356**	*e*P	**P**	**08 43 26.0**	**+0.3**
AGT				IAmb	IAmb	08 43 49.0	
AGT				*e*S	**S**	**08 47 25.8**	**+2.1**
AGT	comp=Z,15600μm,17.4s			IAMs_20	IAMs_20	08 54 50.8	
SRSP	**Sriramsagar** comp=Z,52μm,1.3s	**21.95**	**320**	*e*P	**P**	**08 43 27.7**	**-1.9**
SRSP				IAmb	IAmb	08 44 08.5	
SRSP				*e*S	**S**	**08 47 30.8**	**0.0**
SRSP	comp=Z,5641μm,18.2s			IVMs_BB	IVMs_BB	08 52 31.9	
MTKI	**Muara Teweh, K**	**22.10**	**98**	P	**P**	**08 43 31.1**	**-0.3**
SILR	**SILCHAR**	**22.41**	**359**	*e*P	**P**	**08 43 34.4**	**-0.2**
IMP	**Imphal**	**22.48**	**2**	*e*P	**P**	**08 43 35.6**	**+0.2**
IMP	comp=Z,39μm,0.2s			IAmb	IAmb	08 43 53.3	
BOK	**Bokaro**	**22.51**	**343**	*e*P	**P**	**08 43 36.8**	**+1.1**
KLRI	**Killari**	**22.52**	**315**	*e*P	**P**	**08 43 33.7**	**-2.1**
KLRI	comp=Z,70μm,1.6s			IAmb	IAmb	08 43 58.8	
KLRI				*e*S	**S**	**08 47 44.8**	**+3.3**
KLRI	comp=Z,8138μm,20.6s			IVMs_BB	IVMs_BB	08 51 14.2	
BBKI	**Banjar Baru** comp=Z,947nm,0.9s,comp=Z,16μm	**22.54**	**104**	P	**P**	**08 43 34.7**	**-1.4**
I52GB	**DIEGO GARCIA I** baz=56,slow=14,SNR=14	**22.60**	**245**	P	P	08 43 45.0	+8.3
DGAR	**Diego Garcia**	**22.65**	**245**	*e*P	**P**	**08 43 38.2**	**+1.1**
DGAR	**Diego Garcia** SNR=154	**22.65**	**245**	P	**P**	**08 43 37.3**	**+0.1**
DGAR	**Diego Garcia**	**22.65**	**245**	*c i*P	**P**	**08 43 35.9**	**-1.3**
H08S2	**Diego Garcia H** baz=41,slow=13	**22.70**	**244**	P	**P**	**08 43 36.6**	**-0.9**
H08S2	baz=60,slow=73,SNR=6.2			T	T	09 06 19.4	
H08S3	**Diego Garcia H** baz=41,slow=13	**22.71**	**244**	P	**P**	**08 43 36.6**	**-0.9**
H08S3	baz=60,slow=73,SNR=5.5			T	T	09 06 15.4	
H08S1	**Diego Carcia H** baz=41,slow=13	**22.72**	**244**	P	**P**	**08 43 36.8**	**-0.9**
H08S1	baz=60,slow=73,SNR=4.4			T	T	09 06 09.5	
BLJI	**Banyuglugur**	**22.80**	**116**	P	**P**	**08 43 37.0**	**-1.8**
KMMI	**Kalianget**	**22.86**	**114**	P	**P**	**08 43 38.4**	**-1.0**
GMJI	**Gumukmas**	**22.89**	**117**	P	**P**	**08 43 37.7**	**-2.1**
GOA	**Goa**	**23.05**	**306**	*e*P	**P**	**08 43 42.0**	**+0.7**
SHL	**Shillong**	**23.22**	**357**	*e*P	**P**	**08 43 43.1**	**-0.1**
SHL	comp=Z,11700μm,20.0s			IAMs_20	IAMs_20	08 55 05.5	
TURI	**Tura**	**23.32**	**354**	*e*P	**P**	**08 43 44.6**	**+0.7**
KOHI	**KOHIMA**	**23.37**	**2**	*e*P	**P**	**08 43 44.4**	**-0.2**
KOHI	comp=Z,18μm,0.6s			IAmb	IAmb	08 44 05.6	
KKM	**Kota Kinabalu** comp=Z,28μm,1.1s	**23.44**	**80**	*e*P	**P**	**08 43 44.6**	**-0.9**
KKM	comp=Z,4357μm,22.0s			LR	LR		
KKM	**Kota Kinabalu**	**23.44**	**80**		**P**	**08 43 45.0**	**-0.4**
QIZ	**Qiongzhong**	**23.45**	**43**	P	**P**	**08 43 44.5**	**-0.8**
QIZ				pP	**sP**	**08 43 56.6**	**+0.5**
QIZ				S	**S**	**08 47 59.9**	**+2.5**
QIZ	comp=Z,594μm,10.6s			pmax	pmax		
QIZ	comp=Z,18553μm,17.7s			LR	LR		
QIZ	comp=Z,15798μm,17.1s			LR	LR		
QIZ	**Qiongzhong** comp=Z,9416μm,13.9s	**23.45**	**43**	*e*P	**P**	**08 43 44.6**	**-0.7**
H08N1	**Diego Carcia H** comp=Z,39μm,2.0s	**23.56**	**249**	P	**P**	**08 43 43.7**	**-2.4**
H08N2	**Diego Garcia H**	**23.57**	**249**	P	**P**	**08 43 43.8**	**-2.4**
H08N3	**Diego Garcia H**	**23.58**	**249**	P	**P**	**08 43 44.2**	**-2.2**
JAGI	**Jajag, Banyuwa**	**23.61**	**117**	P	**P**	**08 43 43.6**	**-3.3**
JAGI	**Jajag, Banyuwa** comp=Z,19μm,1.6s	**23.61**	**117**	*e*P	**P**	**08 43 43.9**	**-3.1**
JAGI	comp=Z,3600μm,20.0s			LR	LR		
KBKI	**Kotabaru**	**23.79**	**103**	P	**P**	**08 43 48.7**	**+0.1**
GUWA	**GUWAHATI**	**23.85**	**357**	*e*P	**P**	**08 43 46.8**	**-2.3**
GUWA	comp=Z,10μm,0.6s			IAmb	IAmb	08 44 10.0	
MOKO	**MOKOCHONG**	**23.99**	**3**	*e*P	**P**	**08 43 50.8**	**+0.2**
BKB	**Balikpapan**	**24.13**	**98**	P	**P**	**08 43 51.6**	**-0.3**
KDM	**Kudat**	**24.19**	**78**		**P**	**08 43 52.0**	**-0.4**
TEZP	**TEZPUR**	**24.24**	**360**	*e*P	**P**	**08 43 51.5**	**-1.2**
TEZP	comp=Z,48μm,1.5s			IAmb	IAmb	08 44 26.1	
SMKI	**Samarinda**	**24.34**	**96**	P	**P**	**08 43 53.6**	**-0.2**
JORH	**JORHAT**	**24.39**	**3**	*e*P	**P**	**08 43 53.7**	**-0.4**
SRBI	**Singaraja**	**24.40**	**115**	P	**P**	**08 43 52.4**	**-1.9**
KMI	**Kunming**	**24.61**	**22**	⇑P	**P**	**08 43 57.2**	**+0.8**
KMI				pP	pP	08 44 03.7	-0.4
KMI				sP	sP	08 44 06.5	-0.9
KMI				PP	**PnPn**	**08 44 32.9**	**+4.6**
KMI				S	**S**	**08 48 14.9**	**-1.4**
KMI				sS	pS	08 48 25.0	-0.1
KMI				SS	**SnSn**	**08 49 08.8**	**+5.9**
KMI	comp=Z,820nm,1.3s			pmax	pmax		
KMI	comp=Z,194μm,7.3s			pmax	pmax		
KMI	comp=Z,7510μm,22.0s			LR	LR		
KMI	comp=Z,12100μm,17.0s			LR	LR		
KMI	comp=Z,7930μm,18.7s			LR	LR		
DNP	**Denpasar**	**24.64**	**116**	P	**P**	**08 43 56.0**	**-0.5**
IGBI	**Denpasar**	**24.64**	**117**	P	**P**	**08 43 55.0**	**-1.5**
SGKI	**Sangatta, Kali**	**24.74**	**96**	P	**P**	**08 43 57.2**	**-0.2**
ITAN	**ITANAGAR**	**24.77**	**2**	*e*P	**P**	**08 43 56.2**	**-1.4**
POO	**Poona**	**24.80**	**312**	*e*P	**P**	**08 43 58.0**	**0.0**
ODAN	**Odare**	**25.07**	**348**	*e*P	**P**	**08 43 58.1**	**-2.4**
LKP	**Lekhapani**	**25.10**	**6**	*e*P	**P**	**08 43 59.4**	**-1.1**
LKP	comp=Z,34μm,1.0s			IAmb	IAmb	08 44 24.9	
DIBR	**DIBRUGARH**	**25.15**	**4**	*e*P	**P**	**08 43 59.5**	**-1.5**
DIBR	comp=Z,17μm,0.8s			IAmb	IAmb	08 44 22.6	
ZIRO	**ZIRO**	**25.16**	**2**	*e*P	**P**	**08 43 59.7**	**-1.5**
GTK	**Tadong**	**25.30**	**351**	*e*P	**P**	**08 44 02.5**	**0.0**
RAMN	**Ramite** comp=Z,43μm,0.5s	**25.33**	**347**	*e*P	**P**	**08 44 00.7**	**-2.2**
RAMN	**Ramite**	**25.33**	**347**	*e*P	**P**	**08 44 00.7**	**-2.2**
BATP	**Bataraza**	**25.50**	**74**	*e*P	**P**	**08 44 06.2**	**+1.8**
MYLDM	**Lahad Datu** comp=Z,95μm,1.5s	**25.60**	**83**	*e*P	**P**	**08 44 04.6**	**-0.6**
MYLDM	comp=Z,8074μm,22.0s			LR	LR		
BHPL	**Bhopal**	**25.77**	**325**	*e*P	**P**	**08 44 06.9**	**+0.1**
BHPL	comp=Z,19μm,1.8s			IAmb	IAmb	08 44 22.4	
BHPL	comp=Z,14400μm,19.1s			IAMs_20	IAMs_20	08 54 27.4	
JIRN	**Jiri**	**26.11**	**346**	*e*P	**P**	**08 44 07.9**	**-2.2**
PKIN	**Phulchoki**	**26.23**	**345**	*e*P	**P**	**08 44 08.3**	**-2.8**
DMN	**Daman**	**26.34**	**344**	*e*P	**P**	**08 44 09.6**	**-2.5**
GUN	**Gumba**	**26.43**	**346**	*e*P	**P**	**08 44 10.5**	**-2.4**
KKN	**Kakani**	**26.46**	**344**	*e*P	**P**	**08 44 10.5**	**-2.6**
KKN	**Kakani** comp=Z,37μm,1.1s	**26.46**	**344**	*e*P	**P**	**08 44 10.7**	**-2.4**
PPR	**Puerto Princes**	**26.63**	**73**⇓	*e*P	**P**	**08 44 17.7**	**+3.1**
GKN	**Gorkha**	**26.84**	**343**	*e*P	**P**	**08 44 14.2**	**-2.3**
KOLN	**Koldanda**	**26.94**	**341**	*e*P	**P**	**08 44 15.2**	**-2.2**
KOLN	**Koldanda** comp=Z,98μm,1.3s	**26.94**	**341**	*e*P	**P**	**08 44 15.3**	**-2.2**
MPSI	**Mapaga**	**26.94**	**94**	P	**P**	**08 44 16.5**	**-0.9**
PCI	**Palu**	**27.00**	**96**	P	**P**	**08 44 17.8**	**-0.1**
PLAI	**Plampang**	**27.02**	**114**	P	**P**	**08 44 14.6**	**-3.5**
LSA	**Lhasa**	**27.37**	**356**	P	**P**	**08 44 20.4**	**-1.2**
LSA	comp=Z,2307μm,24.7s			LR	LR		
LSA	comp=Z,2600μm,21.9s			LR	LR		
LSA	comp=Z,11303μm,26.0s			LR	LR		
LSA	**Lhasa** comp=Z,13μm,0.9s	**27.37**	**356**	*e*P	**P**	**08 44 20.4**	**-1.2**
LSA	comp=Z,3970μm,20.0s			LR	LR		
LSA	**Lhasa** SNR=138	**27.37**	**356**	*i* P	**P**	**08 44 20.2**	**-1.3**
LSA	**Lhasa**	**27.37**	**356**	*e*P	**P**	**08 44 20.4**	**-1.2**
LSA	comp=Z,3970μm,20.0s			MLR	MLR		
GYA	**Guiyang**	**27.42**	**27**⇑	*i* P	**P**	**08 44 20.5**	**-1.2**
GYA				pP	pP	08 44 28.9	-0.5
GYA				PP	**PnPn**	**08 45 11.0**	**+4.4**
GYA				PcP	**PcP**	**08 47 41.2**	**+0.9**
GYA				S	**S**	**08 49 01.3**	**+0.6**
GYA				SS	**SnSn**	**08 50 18.7**	**+7.3**
GYA				ScP	**ScP**	**08 51 18.9**	**-0.3**
GYA				ScS	**ScS**	**08 55 10.2**	**-0.9**
GYA	comp=Z,4μm,1.4s			pmax	pmax		
DANN	**Dangsing**	**27.43**	**342**	*e*P	**P**	**08 44 19.5**	**-2.4**
PYUN	**Piuthan** comp=Z,19μm,0.7s	**27.44**	**341**	*e*P	**P**	**08 44 19.5**	**-2.4**
PYUN	**Piuthan**	**27.44**	**341**	*e*P	**P**	**08 44 19.6**	**-2.4**
KAPI	**Kappang** comp=Z,811nm,2.0s	**27.67**	**105**	*e*P	**P**	**08 44 22.4**	**-1.4**
KAPI	**Kappang** SNR=245	**27.67**	**105**	P	**P**	**08 44 21.8**	**-2.1**
KAPI	**Kappang** SNR=245	**27.67**	**105**	P	**P**	**08 44 21.8**	**-2.1**
BNSI	**Bone**	**27.86**	**104**	P	**P**	**08 44 24.6**	**-1.0**
MCO	**Taipa Grande**	**28.10**	**44**	P	**P**	**08 44 28.0**	**+0.4**
GZH	**Guangzhou** comp=Z,323μm,12.0s	**28.60**	**42**	P	**P**	**08 44 36.8**	**+4.7**
GZH				pmax	pmax		
BUSP	**Coron**	**28.63**	**69**	*e*P	**P**	**08 44 31.6**	**-0.9**
HKC	**Hong Kong Obse**	**28.64**	**44**	⇑P	**P**	**08 44 33.0**	**+0.5**
BSSI	**Bau Bau, Buton**	**28.67**	**107**	P	**P**	**08 44 32.4**	**-0.5**
APSI	**Ampana**	**28.80**	**96**	P	**P**	**08 44 33.9**	**-0.1**
MRSI	**Marisa**	**28.97**	**93**	P	**P**	**08 44 34.4**	**-1.1**
LUBP	**Lubang**	**29.24**	**66**	*e*P	P	08 44 46.7	+8.8
ZCP	**Zamboanga City**	**29.33**	**80**⇓	*e*P	P	08 44 50.0	+11
WSI	**Waingapu**	**29.64**	**114**	P	**P**	**08 44 40.5**	**-0.9**
SCZP	**Santa Cruz**	**29.72**	**61**	*e*P	P	08 44 48.2	+6.1
LUWI	**Luwuk**	**29.93**	**96**	P	**P**	**08 44 43.9**	**-0.1**
LUWI	**Luwuk** comp=Z,8μm,0.8s	**29.93**	**96**	*e*P	**P**	**08 44 43.7**	**-0.3**
LUWI	comp=Z,6812μm,22.0s			LR	LR		
JAP	**San Jose, Anti**	**29.94**	**72**⇓	*e*P	**P**	**08 44 46.2**	**+2.1**
IPIL	**Ipil**	**29.94**	**78**	*e*P	P	08 44 51.1	+7.0
BLNP	**Bolinao**	**29.97**	**60**	*e*P	**P**	**08 44 45.8**	**+1.5**
**TG

CTBH **Cotabato--PC H** 31.50 80 *e*P P 08 45 00.1 +2.2
APYP **Conner** 31.75 59 *e*P P 08 45 02.8 +2.7
LLP **Lapu-Lapu** 31.77 74⇑ *e*P P 08 45 11.1 +11
NHN **Nahan** 31.84 334 *e*P P 08 45 00.4 -0.3
CAUP **Cauayan** 31.87 61 *e*P P 08 45 09.4 +8.4
ENH **Enshi** 31.96 28 *e*P P 08 45 00.1 -1.7
comp=Z,5μm,0.8s
ENH LR LR
comp=Z,4514μm,21.0s
GSPH **General Santos** 32.07 82⇑ *i*P P 08 45 15.5 +12
KCP **Kidapawan** 32.31 80⇑ *e*P P 08 45 16.0 +11
BUKP **Musuan** 32.40 79 *e*P P 08 45 09.2 +3.3
SMLA **Simla** 32.41 334 *e*P P 08 45 06.1 +0.5
SMLA IAmb IAmb 08 45 30.4
comp=Z,6μm,0.7s
SMLA IAMs_20 IAMs_20 08 58 27.7
comp=Z,18100μm,14.3s
SGSI **Sangihe** 32.50 87 P P 08 45 07.2 +0.5
OCLP **Ormoc** 32.55 73 *e*P P 08 45 13.9 +6.8
MSLP **Maasin** 32.59 75 *e*P P 08 45 15.1 +7.6
DAV **Davao City (W)** 32.80 80 LR LR 09 00 46.3
comp=Z,3184μm,19.4s,baz=294,slow=41
DAV **Davao City (W)** 32.80 80 P P 08 45 10.4 +1.1
DAV **Davao City (W)** 32.80 80 P P 08 45 11.7 +2.4
SNR=328
DAV **Davao City (W)** 32.80 80 P P 08 45 11.7 +2.4
SNR=328
BATI **Baumata** 32.92 113 P P 08 45 07.4 -3.0
PLP **Palo** 32.93 73⇑ *e*P P 08 45 18.2 +7.8
CNP **Catarman** 32.96 70 *e*P P 08 45 17.7 +7.0
BUTP **Butuan** 33.11 77 *e*P P 08 45 20.6 +8.5
SCPH **Surigao** 33.13 76⇑ *e*P P 08 45 17.4 +5.2
SANI **Sanana** 33.24 97 P P 08 45 12.1 -1.1
SOEI **Soe** 33.33 111 P P 08 45 10.5 -3.6
SOEI **Soe** 33.33 111 *e*P P 08 45 10.6 -3.4
comp=Z,6μm,0.9s
SOEI LR LR
comp=Z,6435μm,19.0s
QZH **Quanzhou** 33.44 45⇑ *i*P P 08 45 14.3 -0.4
QZH pmax pmax
comp=Z,292μm,6.4s
QZH LR LR
comp=Z,12177μm,14.9s
QZH LR LR
comp=Z,7826μm,17.3s
QZH LR LR
comp=Z,8810μm,15.9s
DHRM **DHARAMSHALA** 33.74 334 *e*P P 08 45 16.8 -0.8
DHRM IAMs_20 IAMs_20 08 59 28.4
comp=Z,16000μm,19.6s
TPUB **Ta-pu** 33.97 50 *e*P P 08 45 18.9 -0.6
comp=Z,12μm,2.0s
TPUB LR LR
comp=Z,5734μm,21.0s
TWG **Pinlang** 34.05 51 *e*P P 08 45 20.6 +0.5
comp=Z,64μm,1.6s
TNTI **Ternate** 34.37 92 *e*P P 08 45 21.8 -1.2
comp=Z,6μm,1.4s
TNTI LR LR
comp=Z,1747μm,22.0s
SSLB **Suanglung** 34.49 49 *e*P P 08 45 24.1 +0.2
comp=Z,7μm,1.5s
SSLB LR LR
comp=Z,6593μm,20.0s
NLAI **Namlea** 34.50 99 P P 08 45 24.0 -0.1
YULB **Yu-li** 34.53 50 *e*P P 08 45 23.3 -1.0
comp=Z,3μm,1.1s
YULB LR LR
comp=Z,6639μm,21.0s
LBMI **Labuha** 34.60 94 P P 08 45 24.7 -0.3
WHN **Wuhan** 34.65 34 ⇓P P 08 45 23.5 -1.7
WHN LR LR
comp=Z,22332μm,16.6s
WHN LR LR
comp=Z,23325μm,16.4s
WHN LR LR
comp=Z,17178μm,16.3s
XAN **Xi'an** 34.95 23 P P 08 45 26.2 -1.6
XAN PP PP 08 46 46.6 -0.8
XAN S S 08 50 59.5 +1.4
XAN sS pS 08 51 07.1 0.0
XAN pmax pmax
comp=Z,61μm,9.2s
XAN LR LR
comp=Z,11173μm,22.8s
XAN LR LR
comp=Z,14366μm,23.9s
XAN LR LR
comp=Z,6354μm,22.8s
MBWA **Marble Bar** 34.99 133 *e*P P 08 45 26.9 -1.4
comp=Z,3μm,1.0s
MBWA LR LR
comp=Z,3514μm,20.0s
MBWA **Marble Bar** 34.99 133 P P 08 45 27.2 -1.1
SNR=116
MBWA **Marble Bar** 34.99 133 P P 08 45 27.2 -1.1
SNR=116
LZH **Lanzhou** 35.14 15 ⇓P P 08 45 29.2 -0.4
LZH pP pP 08 45 36.0 -1.4
LZH sP sP 08 45 39.5 -1.1
LZH PP **PnPn** **08 46 45.4 -2.2**
LZH sS sS 08 51 10.5 -3.6
LZH SS **SnSn** **08 53 14.5 -4.5**
LZH pmax pmax
comp=Z,212μm,6.0s
LZH LR LR
comp=Z,9190μm,18.0s
LZH LR LR
comp=Z,9801μm,19.0s
LZH LR LR
comp=Z,9988μm,19.5s
NACB **Ninganchiao** 35.19 49 *e*P P 08 45 30.2 +0.3
comp=Z,9μm,1.3s
NACB LR LR
comp=Z,6389μm,18.0s
YHNB **Yeheng** 35.31 48 *e*P P 08 45 31.2 +0.2
comp=Z,20μm,1.7s
YHNB LR LR
comp=Z,4447μm,21.0s
TATO **Taipei** 35.56 48 *e*P P 08 45 32.7 -0.4
AAI **Ambon** 35.65 99 P P 08 45 33.0 -1.1
NIL **Nilore** 36.31 332 *e*P P 08 45 39.1 -0.4
comp=Z,18μm,1.0s
NIL **Nilore** 36.31 332 *e*P P 08 45 39.1 -0.4
MSAI **Masohi** 36.32 99 P P 08 45 38.6 -1.2
YOJ **Yonaguni jima** 36.43 50 *e*P P 08 45 43.8 +3.2
comp=Z,13μm,1.8s
YOJ LR LR
comp=Z,4778μm,20.0s
YOJ **Yonaguni jima** 36.43 50 *e*P P 08 45 43.8 +3.2
YOJ MLR MLR
comp=Z,4778μm,20.0s
MEEK **Meekatharra** 37.88 141 P P 08 45 51.3 -1.6
baz=38,SNR=294
FITZ **Fitzroy Crossi** 37.96 124 P P 08 45 50.9 -2.7
comp=Z,612nm,0.8s,baz=305,slow=5.6,SNR=53
FITZ **Fitzroy Crossi** 37.96 124 P P 08 45 50.9 -2.7
baz=38,SNR=109
FITZ **Fitzroy Crossi** 37.96 124 *e*P P 08 45 51.1 -2.5
MORW **Morawa** 38.16 146 P P 08 45 54.3 -0.8
baz=38,SNR=47
NJ2 **Nanjing** 38.36 37 *e*P P 08 45 56.4 -0.4
NJ2 sP **pP** **08 46 04.5 -0.2**
NJ2 S **S** **08 51 47.1 -2.9**
NJ2 sS **pS** **08 52 00.7 +1.7**
NJ2 pmax pmax
comp=Z,290nm,1.4s
NJ2 pmax pmax
comp=Z,186μm,11.6s
NJ2 LR LR
comp=Z,9559μm,17.3s
NJ2 LR LR
comp=Z,16457μm,16.3s
NJ2 LR LR
comp=Z,4878μm,15.2s
SWI **Sorong** 38.36 94 P P 08 45 55.5 -1.6
SIJI **Sorong** 38.37 94 P P 08 45 54.2 -3.0
comp=Z,37nm,0.6s,baz=306,slow=8.2,SNR=33
WBK **Wadi Bani Khal** 38.75 304 P P 08 46 05.0 +4.7
SNR=81
KBL **Kabul** 39.14 328 *e*P P 08 46 01.8 -1.8
comp=Z,3μm,1.2s
KBL **Kabul** 39.14 328 *e*P P 08 46 01.8 -1.8
KBL pmax pmax
comp=Z,3μm,1.2s
SSE **Sheshan** 39.14 40 P P 08 46 03.0 -0.4
SSE S S 08 52 03.3 +1.4
WSAR **Wadi Sarin** 39.31 305 P P 08 46 03.8 -1.1
comp=Z,21nm,0.8s,baz=143,slow=9.9,SNR=5.6
JMDO **Jabal Madar** 39.36 303 pP P 08 46 11.1 +5.7
SNR=56
JMDO **Jabal Madar** 39.36 303 P P 08 46 11.1 +5.7
SNR=56
SAUI **Saumlaki** 39.51 105 P P 08 46 06.5 -0.3
SAUI **Saumlaki** 39.51 105 *e*P P 08 46 06.3 -0.4
comp=Z,5μm,1.0s
FAKI **Fak Fak** 39.55 97 P P 08 46 05.9 -1.2
FAKI **Fak Fak** 39.55 97 *e*P P 08 46 05.9 -1.2
comp=Z,13μm,1.4s
FAKI LR LR
comp=Z,2447μm,20.0s
TIY **Taiyuan** 39.55 24 *e*P P 08 46 06.3 -0.6
TIY pP **sP** **08 46 17.2 -0.8**
TIY PP **PnPn** **08 47 39.7 -1.4**
TIY S **S** **08 52 06.2 -1.9**
TIY sS **pS** **08 52 18.1 +0.9**
TIY SS **SS** **08 54 49.4 -14**
TIY pmax pmax
comp=Z,2μm,0.9s
TIY pmax pmax
comp=Z,120μm,6.8s
TIY LR LR
comp=Z,4345μm,16.1s
TIY LR LR
comp=Z,6894μm,14.7s
TIY LR LR
comp=Z,5442μm,19.2s
SMDO **Samad** 39.71 304 pP P 08 46 14.0 +5.6
SNR=116
SMDO **Samad** 39.71 304 P P 08 46 14.0 +5.6
SNR=116
BLDU **Ballidu** 39.72 147 P P 08 46 07.1 -1.1
baz=40,SNR=33
BIDO **Bidbid** 39.85 305 P P 08 46 11.0 +1.5
SNR=465
BIDO **Bidbid** 39.85 305 P P 08 46 11.0 +1.5
SNR=465
SHAO **Shalim** 39.88 296 pP P 08 46 15.8 +6.0
SNR=39
SHAO **Shalim** 39.88 296 P P 08 46 15.8 +6.0
SNR=39
SHAO **Shalim** 39.88 296 *i* P P 08 46 10.8 +1.0
SNR=6.8
KSH **Kashi** 40.22 339 P P 08 46 10.0 -2.4
KSH sP pP 08 46 21.2 +0.9
KSH PP **PP** **08 47 46.8 +1.5**
KSH S **S** **08 52 11.0 -7.1**
KSH SS SS 08 55 05.2 -12
KSH pmax pmax
comp=Z,1μm,1.1s
KSH pmax pmax
comp=Z,326μm,5.9s
KSH LR LR
comp=Z,5381μm,19.4s
KSH LR LR
comp=Z,7503μm,17.7s
KSH LR LR
comp=Z,9434μm,25.2s
BSY **Bisya** 40.27 303 pP P 08 46 17.0 +4.0
SNR=60
BSY **Bisya** 40.27 303 P P 08 46 17.0 +4.0
SNR=60
TIA **Tai'an** 40.50 31 P P 08 46 14.2 -0.4
TIA pP **pP** **08 46 20.8 -1.8**
TIA sP **sP** **08 46 23.9 -1.9**
TIA pmax pmax
comp=Z,53μm,11.2s
TIA LR LR
comp=Z,6478μm,19.1s
TIA LR LR
comp=Z,3611μm,24.1s
MUN **Mundaring** 40.52 149 P P 08 46 14.8 -0.1
baz=41,SNR=14
HOQ **Hoqain** 40.55 305 P P 08 46 20.0 +4.8
SNR=157
MTN **Manton Dam** 40.70 113 *e*P P 08 46 15.2 -1.3
comp=Z,3μm,1.4s
RBK **Rabkut** 41.01 294 pP P 08 46 25.0 +5.9
SNR=52
RBK **Rabkut** 41.01 294 P P 08 46 25.0 +5.9
SNR=52
KLBR **Kellerberrin** 41.04 147 P P 08 46 18.2 -1.0
baz=41,SNR=53
KMPI **Kaimana, Papua** 41.09 98 P P 08 46 22.1 +2.3
comp=Z,6μm,1.3s,comp=Z,164μm
ARQ **Araqi** 41.09 304 pP P 08 46 26.0 +6.2
SNR=82
ARQ **Araqi** 41.09 304 P P 08 46 26.0 +6.2
SNR=82
BTO **Baotou** 41.18 20 *e*P P 08 46 20.5 +0.2
RKPI **Ransiki, Papua** 41.32 95 P P 08 46 23.3 +1.5
comp=Z,2μm,1.3s,comp=Z,148μm
MRIV **Mauritius Mete** 41.40 236 *e*P P 08 46 22.3 -0.1
SOHO **SOHO** 41.43 305 *i* P P 08 46 23.8 +1.4
SNR=482
WHFO **Wadi Hawf** 41.52 295 P P 08 46 26.4 +3.0
SNR=126
WHFO **Wadi Hawf** 41.52 295 P P 08 46 26.4 +3.0
SNR=126
SFK **Sufi-Kurgan** 41.56 337 P P 08 46 24.4 +0.8
SFK pmax pmax
comp=Z,6μm,1.3s
TARG **Taragay, Kyrgy** 41.63 343 *e*P P 08 46 22.7 -1.6
comp=Z,4μm,1.0s
TARG LR LR
comp=Z,4204μm,20.0s
WMQ **Urumqi** 41.67 354 P P 08 46 22.4 -1.9
WMQ pP pP 08 46 27.3 -4.9
WMQ sP sP 08 46 34.9 -0.5
WMQ PcP **PcP** **08 48 22.4 +1.6**
WMQ S **S** **08 52 45.7 +6.2**
WMQ pmax pmax
comp=Z,2μm,1.9s
WMQ pmax pmax
comp=Z,14μm,3.6s
WMQ LR LR
comp=Z,3092μm,22.3s
WMQ LR LR
comp=Z,1887μm,22.3s
WMQ LR LR
comp=Z,4808μm,27.9s
I39PW **PALAU INFRASON** 41.70 81 P P 08 46 28.5 +3.7
baz=259,slow=12,SNR=9.8
JOW **Kunigami** 41.71 51 P P 08 46 23.6 -1.2
comp=Z,88nm,0.8s,baz=232,slow=7.4,SNR=8.0
JOW **Kunigami** 41.71 51 *e*P P 08 46 24.4 -0.4
comp=Z,11μm,1.6s
JOW LR LR
comp=Z,3428μm,21.0s
NWAO **Narrogin (SRO)** 41.80 149 P P 08 46 24.1 -1.3
comp=Z,233nm,0.8s,baz=186,slow=7.7,SNR=39
NWAO LR LR 09 02 18.1
comp=Z,7145μm,19.8s,baz=209,slow=34
NWAO **Narrogin (SRO)** 41.80 149 P P 08 46 24.1 -1.3
baz=42,SNR=19
NWAO P P 08 46 24.1 -1.3
baz=42,SNR=19
NWAO **Narrogin (SRO)** 41.80 149 *e*P P 08 46 25.3 -0.1
comp=Z,2μm,1.0s
NWAO **Narrogin (SRO)** 41.80 149 P P 08 46 26.8 +1.4
SNR=59
NWAO **Narrogin (SRO)** 41.80 149 P P 08 46 26.8 +1.4
SNR=59
H01W3 **Cape Leeuwin H** 41.91 154 T T 09 32 03.1
baz=330
H01W2 **Cape Leeuwin H** 41.92 154 T T 09 31 53.7
baz=330,slow=74,SNR=29
H01W1 **Cape Leeuwin H** 41.92 154 T T 09 31 45.3
baz=330,slow=74,SNR=32
HHC **Hu-ho-hao-te** 41.93 21 *e*P P 08 46 25.1 -1.4
HHC sP sP 08 46 38.8 +1.2
HHC S **S** **08 52 37.4 -6.1**
HHC sS sS 08 52 56.3 -0.3
HHC pmax pmax
comp=Z,29μm,5.8s
HHC LR LR
comp=Z,3193μm,15.0s
HHC LR LR
comp=Z,7426μm,14.9s
HHC LR LR
comp=Z,3198μm,14.4s
ALNE **Al Ain** 42.04 304 *i* P P 08 46 29.3 +1.8
SNR=42
UOSS **Minazif** 42.05 306 *e*P P 08 46 29.3 +1.7
comp=Z,4μm,1.4s
UOSS LR LR
comp=Z,7143μm,22.0s
UOSS **Minazif** 42.05 306 P P 08 46 28.7 +1.1
ASHO **Ashiyiah** 42.06 305 P P 08 46 30.8 +3.1
SNR=262
ASHO **Ashiyiah** 42.06 305 P P 08 46 30.8 +3.1
SNR=262
ASHO **Ashiyiah** 42.06 305 *i* P P 08 46 29.5 +1.9
SNR=25
HATD **Hatta, Dubai** 42.06 306 P P 08 46 31.0 +3.4
SNR=385
HATD **Hatta, Dubai** 42.06 306 P P 08 46 31.0 +3.4
SNR=385
HATD **Hatta, Dubai** 42.06 306 *i* P P 08 46 28.7 +1.1
SNR=44
MDH **Madha** 42.14 306 *i* P P 08 46 29.6 +1.3
SNR=21
KDJ **Kajisay** 42.18 342 *e*P P 08 46 26.2 -2.4
comp=Z,17μm,1.8s
MSFE **Esma-Masafi** 42.28 306 *i* P P 08 46 31.0 +1.5
SNR=435
BANOM **Banah** 42.42 307 pP P 08 46 34.7 +4.1
SNR=126
BANOM **Banah** 42.42 307 P P 08 46 34.7 +4.1
SNR=126
BANOM **Banah** 42.42 307 *i* P P 08 46 32.1 +1.5
SNR=19
NAZ **Nazwa, Dubai** 42.51 305 P P 08 46 34.1 +2.8
SNR=194
NAZ **Nazwa, Dubai** 42.51 305 P P 08 46 34.1 +2.8
SNR=194
NAZ **Nazwa, Dubai** 42.51 305 *i* P P 08 46 32.8 +1.5
SNR=207
ULHL **Ulaho**l 42.58 342 P P 08 46 29.0 -2.9
SNR=62
UZB **Uzynbulak** 42.60 345⇓ *i*P P 08 46 29.7 -2.3
comp=Z,2μm,0.8s
UZB *i* sP **pP** **08 46 40.5 +0.6**
UZB *i* PP **PP** **08 48 08.2 -2.8**
UZB *i* PcP **PcP** **08 48 22.0 -2.0**
UZB *i* PPP PPP 08 48 39.2
UZB *e*S **S** **08 52 50.6 -2.8**
UZB *i* sS **pS** **08 53 03.9 +1.3**
UZB *i* ScS **ScS** **08 56 29.4 -2.5**
UZB LR LR 09 06 07.3
comp=Z,825μm,15.4s
SHME **Shamm** 42.61 307 *i* P P 08 46 32.9 +0.8
SNR=23
PDGK **Podgornoye** 42.65 345 P P 08 46 31.6 -0.7
PDGK pmax pmax
comp=Z,9μm,1.4s
SATY **Saty** 42.69 344⇓ *i*P P 08 46 30.5 -2.1
comp=Z,3μm,1.0s
SATY *i* sP **pP** **08 46 41.2 +0.6**
SATY *e*S **S** **08 52 52.1 -2.5**
SATY LR LR 09 05 33.3
comp=Z,1088μm,15.4s
KZA **Kyzart** 42.75 340 P P 08 46 31.0 -2.5
SNR=64
UMQ **Umm Al-Quwin** 42.75 306 *i* P P 08 46 35.2 +1.9
SNR=94
AJN **Ajban** 42.88 304 *i* P P 08 46 35.5 +1.1
SNR=246
KPKS **Kokpek** 42.99 345⇓ *i*P P 08 46 32.7 -2.3
comp=Z,5μm,1.2s
KPKS *i* PP **PP** **08 48 12.3 -2.9**
RKGY **Rocky Gully** 43.01 151 P P 08 46 35.2 0.0
baz=43,SNR=15
BJT **Baijiatuau** 43.08 26 *e*P P 08 46 34.8 -0.9
comp=Z,13μm,1.2s
BJT LR LR
comp=Z,5052μm,19.0s
BJT **Baijiatuau** 43.08 26 *e*P P 08 46 34.8 -0.9
BJT MLR MLR
comp=Z,5052μm,19.0s
BJI **Beijing** 43.10 26⇓ *i*P P 08 46 34.8 -1.0
BJI pmax pmax
comp=Z,930nm,0.9s
UCH **Uchtor** 43.13 340 P P 08 46 34.2 -2.4
SNR=150
MDOK **Medeo** 43.17 343 *i* P P 08 46 34.3 -2.2
comp=Z,2μm,0.9s
MDOK *i* sP **pP** **08 46 44.9 +0.4**
MDOK *i* PPP PPP 08 48 47.6
MDOK *e*S **S** **08 52 59.2 -2.5**
MDOK LR LR 09 05 58.3
comp=Z,2489μm,16.0s
BAKI **Biak** 43.22 94 P P 08 46 36.8 -0.4
KMBL **Kambalda** 43.24 143 P P 08 46 36.1 -1.1
baz=43,SNR=32
AAA **Alma-Ata** 43.25 343⇓ *e*P P 08 46 35.1 -1.9
comp=Z,541nm,0.7s
AAA LR LR 09 06 12.4
comp=Z,1055μm,16.6s
AAA **Alma-Ata** 43.25 343 *e*P P 08 46 36.7 -0.4
AAA *e*S **S** **08 53 05.7 +3.0**
AAA pmax pmax
comp=Z,167μm,7.2s
RER **Riviere de l'E** 43.25 236 *e*P P 08 46 37.9 +0.5
comp=Z,8μm,1.2s
AML **Almayashu** 43.34 339 P P 08 46 35.9 -2.3
SNR=172
KBK **Karagaybulak** 43.37 341 P P 08 46 36.2 -2.0
SNR=59
TKM2 **Tokmak 2** 43.39 341 P P 08 46 35.9 -2.5
SNR=88
TKM2 **Tokmak 2** 43.39 341 *i* P P 08 46 37.7 -0.7
TKM2 pmax pmax
comp=Z,5μm,1.5s
AAK **Ala-Archa** 43.50 340 P P 08 46 36.9 -2.3
comp=Z,50nm,0.9s,baz=60,slow=4.0,SNR=30
AAK LR LR 09 06 16.4
comp=Z,10225μm,21.9s,baz=166,slow=38
AAK **Ala-Archa** 43.50 340 P P 08 46 39.9 +0.6
SNR=36
AAK **Ala-Archa** 43.50 340 *e*P P 08 46 38.3 -1.0
comp=Z,5μm,1.4s
AAK **Ala-Archa** 43.50 340 P P 08 46 37.0 -2.3
SNR=574
AAK **Ala-Archa** 43.50 340 *i* P P 08 46 36.8 -2.5
SNR=192
AAK **Ala-Archa** 43.50 340 *i* P P 08 46 36.8 -2.5
AAK pmax pmax
comp=Z,2μm,1.4s
BMNS **Besmoynak** 43.54 342⇓ *i*P P 08 46 37.0 -2.6
comp=Z,3μm,0.9s
BMNS *e*S **S** **08 53 04.2 -2.9**
BMNS LR LR 09 06 17.5
comp=Z,1949μm,16.0s
FRU **Bishkek** 43.63 340 *e*P P 08 46 38.5 -1.7
FRU *i* 08 46 48.0
FRU *i* S **S** **08 53 03.0 -5.3**
FRU pmax pmax
comp=Z,2μm,2.1s
WRKA **Warakurna** 43.65 131 P P 08 46 38.5 -2.0
baz=44,SNR=154
CHMS **Chumysh** 43.74 341 P P 08 46 43.2 +2.2
SNR=38
EKS2 **Erkin-Say** 43.77 339 P P 08 46 39.3 -2.1
SNR=72
KUU **Kurty** 44.04 343⇓ *i*P P 08 46 40.3 -3.1
comp=Z,780nm,0.9s
KUU LR LR 09 06 52.1
comp=Z,1090μm,15.4s
USP **Ospenovka** 44.06 341 P P 08 46 41.0 -2.6
SNR=80
MNAS **Manas** 44.08 338 P P 08 46 43.7 -0.2
MNAS pmax pmax
comp=Z,4μm,1.3s
TAS **Tashkent** 44.40 334 P P 08 46 43.0 -3.3
TAS pmax pmax
comp=Z,17μm,1.5s
IUG **Luzhnay** 44.76 336⇓ *i*P P 08 46 46.9 -2.4
comp=Z,3μm,0.9s
IUG LR LR 09 05 53.8
comp=Z,2427μm,17.3s
DZA **Taraz** 44.87 337⇓ *e*P P 08 46 49.4 -0.7
comp=Z,3μm,1.3s
DZA LR LR 09 06 17.5
comp=Z,1765μm,17.9s
DL2 **Dalian** 44.87 32⇑ *i*P P 08 46 49.9 -0.2
DL2 S **S** **08 53 32.2 +5.9**
DL2 pmax pmax
comp=Z,4μm,1.0s
DL2 pmax pmax

comp=Z,224μm,6.0s
DL2 LR LR
comp=Z,2202μm,15.5s
DL2 LR LR
comp=Z,6356μm,16.4s
DL2 LR LR
comp=Z,4610μm,17.7s
CHM Chimkent 45.08 335 *e*P **P 08 46 50.4 -1.4**
CHM *e*S **S 08 53 27.8 -1.5**
CHM LR LR 09 07 33.0
comp=Z,1429μm,17.3s
MK31 Makanchi Array 45.35 350 *i* P **P 08 46 53.1 -0.7**
MK31 pmax pmax
comp=Z,7μm,1.1s
MKAR Makanchi Array 45.35 350 P **P 08 46 51.2 -2.6**
comp=Z,432nm,0.9s,baz=168,slow=8.7,SNR=248
MKAR Makanchi Array 45.35 350 *e*P **P 08 46 51.2 -2.6**
comp=Z,28μm,0.9s
MKAR LR LR
comp=Z,1359μm,20.0s
MKAR Makanchi Array 45.35 350 *e*P **P 08 46 51.2 -2.6**
MKAR MLR MLR
comp=Z,1359μm,20.0s
KK31 Karatay Array 45.37 337 *i* P **P 08 46 53.6 -0.4**
KK31 pmax pmax
comp=Z,988nm,0.7s
KKAR Karatay Array 45.37 337 *e*P **P 08 46 50.9 -3.1**
KKAR Karatay Array 45.37 337 *e*P **P 08 46 50.9 -3.1**
MAKZ Makanchi 45.42 349 *e*P **P 08 46 52.0 -2.4**
comp=Z,5μm,1.0s
MAKZ LR LR
comp=Z,6269μm,20.0s
MAKZ Makanchi 45.42 349 *e*P **P 08 46 52.0 -2.4**
MAKZ pmax pmax
comp=Z,5μm,1.0s
MAKZ MLR MLR
comp=Z,6269μm,20.0s
ZSN Zaisan 45.59 352 ⇓ *i*P **P 08 46 54.2 -1.4**
comp=Z,1μm,0.9s
ZSN *i* S **S 08 53 35.5 -1.0**
BTLS Baital 45.79 341 ⇓ *i*P **P 08 46 54.1 -3.1**
comp=Z,598nm,0.9s
BTLS *e*S **S 08 53 35.8 -3.6**
BTLS LR LR 09 07 47.8
comp=Z,1942μm,17.3s
WRA Warramunga Arr 46.15 121 P **P 08 46 57.9 -2.6**
comp=Z,680nm,0.9s,baz=300,slow=8.4,SNR=169
WRA LR LR 09 08 13.4
comp=Z,1107μm,20.3s,baz=335,slow=39
WRAB Tennant Creek 46.15 121 *e*P **P 08 46 58.2 -2.4**
comp=Z,5μm,0.9s
WRAB LR LR
comp=Z,2232μm,18.0s
WRAB Tennant Creek 46.15 121 *e*P **P 08 46 58.2 -2.4**
WRAB pmax pmax
comp=Z,5μm,0.9s
WRAB MLR MLR
comp=Z,2232μm,18.0s
WB2 Warramunga Arr 46.16 121 *e*P **P 08 46 57.7 -2.9**
TJN Taejon 46.47 39 *ce*P **P 08 47 02.5 -0.3**
INCN Inchon 46.73 37 *e*P **P 08 47 04.0 -0.8**
comp=Z,7μm,1.5s
INCN Inchon 46.73 37 P **P 08 47 07.1 +2.2**
SNR=41
INCN Inchon 46.73 37 P **P 08 47 07.1 +2.2**
SNR=41
FORT Forrest 46.82 137 P **P 08 47 04.1 -1.5**
baz=47,SNR=96
FORT Forrest 46.82 137 *e*P **P 08 47 04.6 -0.9**
comp=Z,65μm,0.9s
FORT LR LR
comp=Z,86248μm,21.0s
SONM Songino Array 46.87 12 P **P 08 47 03.3 -2.6**
comp=Z,169nm,0.7s,baz=194,slow=9.1,SNR=100
SONA1 Songino Array 46.89 12 *e*P **P 08 47 04.5 -1.5**
JNU Nakatsue 46.91 45 P **P 08 47 04.3 -2.1**
comp=Z,24nm,0.8s,baz=272,slow=1.9,SNR=12
JNU LR LR 09 07 28.8
comp=Z,3689μm,20.5s,baz=216,slow=37
JNU Nakatsue 46.91 45 *e*P **P 08 47 06.2 -0.2**
comp=Z,2μm,0.8s
ULN Ulaanbaatar 47.05 13 *e*P **P 08 47 05.7 -1.6**
comp=Z,8μm,1.6s
ULN LR LR
comp=Z,4433μm,21.0s
ULN Ulaanbaatar 47.05 13 P **P 08 47 07.6 +0.3**
SNR=481
ULN Ulaanbaatar 47.05 13 P **P 08 47 07.6 +0.3**
SNR=481
ULN Ulaanbaatar 47.05 13 *e*P **P 08 47 05.0 -2.3**
ULN pmax pmax
comp=Z,2μm,1.7s
ULN MLR MLR
comp=Z,4253μm,18.0s
AS31 Alice Springs 47.38 125 *e*P **P 08 47 07.7 -2.4**
comp=Z,445nm,0.8s
ASAR Alice Springs 47.38 125 P **P 08 47 07.7 -2.5**
comp=Z,102nm,0.8s,baz=298,slow=7.0,SNR=88
ASAR LR LR 09 10 17.1
comp=Z,2001μm,18.2s,baz=302,slow=40
AS01 Alice Springs 47.42 125 *e*P **P 08 47 07.8 -2.6**
KS15 Wonju Array Si 47.47 38 *e*P **P 08 47 10.3 -0.2**
KSAR Wonju Array Be 47.47 38 P **P 08 47 08.7 -1.8**
KSAR Wonju Array Be 47.47 38 P **P 08 47 08.7 -1.8**
KS01 Wonju Array Si 47.49 38 *e*P **P 08 47 09.2 -1.5**
KSRS Korea Array 47.50 38 P **P 08 47 08.7 -2.1**
comp=Z,52nm,0.8s,baz=226,slow=7.9,SNR=74
KSRS PKPPKP **P'P'df**
comp=Z,6.2nm,0.8s,baz=0.5,slow=3.5,SNR=5.6
DGZ Jazzator, Alta 47.53 355 *e*P **P 08 47 08.0 -3.0**
ASHT Ashkhabad 47.64 323 P P 08 47 21.4 +10
ASHT pmax pmax
comp=Z,12μm,1.5s
GEYT Alibeck 47.79 322 P **P 08 47 11.3 -1.8**
comp=Z,385nm,0.9s,baz=148,slow=8.6,SNR=67
GEYT LR LR 09 08 26.9
comp=Z,8137μm,20.5s,baz=135,slow=38
JAY Jayapura 47.91 95 P **P 08 47 11.9 -2.5**
SNY Shenyang 48.02 31 ⇑ P **P 08 47 14.8 0.0**
SNY S **S 08 54 19.6 +8.2**
SNY pmax pmax
comp=Z,260nm,1.2s
SNY pmax pmax
comp=Z,143μm,12.0s
SNY LR LR
comp=Z,6617μm,17.0s
SNY LR LR
comp=Z,2943μm,21.8s
SNY LR LR
comp=Z,5658μm,15.4s
BDHA Al Bayda' 48.29 287 *e*P **P 08 47 18.9 +1.3**
KNGR Kungurtug, Tuv 48.34 4 ⇑ *i*P **P 08 47 16.2 -1.1**
ADEN Aden 48.67 285 *e*P **P 08 47 21.1 +0.9**
HVS Khovu-Aksy 48.73 1 *d i*P **P 08 47 18.1 -2.1**
HVS pmax pmax
comp=Z,4μm,1.0s
ZAK Zakamensk 48.76 9 *e*P **P 08 47 21.3 +0.9**
ZAK pmax pmax
comp=Z,2μm,1.4s
OTUK Ortayu 49.17 342 P **P 08 47 22.9 -0.7**
OTUK pmax pmax
comp=Z,2μm,1.5s
SEM Semipalatinsk 49.20 349 ⇓ *i*P **P 08 47 21.0 -3.0**
comp=Z,2μm,0.8s
SEM *e*S **S 08 54 25.0 -3.2**
SEM LR LR 09 09 14.8
comp=Z,1575μm,17.9s
DAMY Dhamar 49.52 287 *e*P **P 08 47 27.9 +0.8**
comp=Z,12μm,1.4s
DAMY LR LR
comp=Z,4323μm,19.0s
OPO Ambohidratompo 49.59 243 P **P 08 47 26.4 -1.0**
comp=Z,36nm,0.6s,baz=59,slow=6.2,SNR=34
OPO LR LR 09 05 17.7
comp=Z,4048μm,18.6s,baz=68,slow=32
ABPO Ambohimpanom 49.71 243 *e*P **P 08 47 28.0 -0.3**
comp=Z,4μm,1.3s
ABPO LR LR
comp=Z,3424μm,21.0s
ABPO Ambohimpanom 49.71 243 *e*P **P 08 47 28.0 -0.3**
ABPO pmax pmax
comp=Z,4μm,1.3s
ABPO MLR MLR
comp=Z,3424μm,21.0s
MOY Mondy 49.71 7 *e*P **P 08 47 29.8 +2.1**
MOY pmax pmax
comp=Z,7μm,3.0s

KURBB Kurchatov Arra 49.75 348 P **P 08 47 25.1 -2.7**
comp=Z,305nm,0.8s,baz=171,slow=6.9,SNR=132
KURK Kurchatov 49.82 348 *e*P **P 08 47 25.8 -2.6**
comp=Z,10μm,1.1s
KURK LR LR
comp=Z,5351μm,21.0s
KURK Kurchatov 49.82 348 P **P 08 47 26.4 -2.0**
SNR=840
KURK Kurchatov 49.82 348 *d i*P **P 08 47 25.9 -2.5**
KURK pmax pmax
comp=Z,4μm,1.7s
KURK MLR MLR
comp=Z,5195μm,20.0s
UDYN Al 'Udayn 49.83 286 *e*P **P 08 47 28.8 -0.4**
TLY Talaya 50.07 9 *e*P **P 08 47 29.2 -1.1**
comp=Z,5μm,1.5s
TLY Talaya 50.07 9 P **P 08 47 31.4 +1.0**
SNR=514
TLY Talaya 50.07 9 P **P 08 47 31.4 +1.0**
SNR=514
TLY Talaya 50.07 9 *e*P **P 08 47 30.8 +0.4**
TLY *e*S **S 08 54 46.8 +6.8**
TLY pmax pmax
comp=Z,3μm,1.8s
TLY MLR MLR
comp=Z,3126μm,20.0s
CN2 Changchun 50.40 30 *e*P **P 08 47 32.1 -0.9**
CN2 *e*sP sP 08 47 43.0 -1.2
CN2 *e*S **S 08 54 49.7 +5.0**
CN2 LR LR
comp=Z,4759μm,24.0s
CN2 LR LR
comp=Z,1664μm,28.0s
HAJJ Hajjah 50.46 288 *e*P **P 08 47 33.4 -0.7**
ATD Arta Tunnel 50.58 283 P **P 08 47 34.5 -0.3**
comp=Z,169nm,1.0s,baz=112,slow=4.1,SNR=17
ATD LR LR 09 06 05.6
comp=Z,1627μm,19.6s,baz=92,slow=33
RAYN Ar Rayn 50.59 299 *e*P **P 08 47 34.5 -0.3**
comp=Z,3μm,1.0s
RAYN LR LR
comp=Z,8317μm,20.0s
BRZS Berezniki 50.62 343 ⇓ *i*P **P 08 47 31.2 -3.3**
BRZS LR LR 09 09 44.2
comp=Z,74μm,16.6s
IRK Irkutsk 50.72 9 *e*P **P 08 47 37.9 +2.7**
IRK *e*S S 08 55 06.3 +17
IRK pmax pmax
comp=Z,8μm,1.9s
QIS Mount Isa 50.95 119 P **P 08 47 34.9 -2.6**
baz=51,SNR=81
ZAA0 Zalesovo Array 51.98 354 *e*P **P 08 47 42.9 -1.7**
comp=Z,7μm,1.2s
ZALV Zalesovo Beam 51.98 354 P **P 08 47 42.1 -2.5**
comp=Z,319nm,0.5s,baz=184,slow=7.5,SNR=85
ZALV LR LR 09 13 13.6
comp=Z,786μm,19.6s,baz=152,slow=40
ZALV PKPPKP **P'P'df**
comp=Z,28nm,1.0s,baz=242,slow=3.1,SNR=3.3
ZALV Zalesovo Beam 51.98 354 *e*P **P 08 47 41.9 -2.7**
ZALV Zalesovo Beam 51.98 354 *e*P **P 08 47 41.9 -2.7**
HIA Hailar 52.13 22 *e*P **P 08 47 44.8 -1.0**
comp=Z,5μm,1.0s
HIA LR LR
comp=Z,3723μm,20.0s
HIA Hailar 52.13 22 *d i*P **P 08 47 45.8 0.0**
HIA pmax pmax
comp=Z,3μm,1.0s
HIA MLR MLR
comp=Z,3473μm,19.0s
COEN Coen 52.25 109 P **P 08 47 46.4 -0.9**
baz=52,SNR=14
COEN Coen 52.25 109 *e*P **P 08 47 46.3 -1.0**
comp=Z,5μm,1.7s
INU Inuyama 52.42 46 *e*P **P 08 47 47.3 -1.0**
comp=Z,3μm,1.0s
GUMO Guam 52.47 75 PFAKE 08 48 00.0 +11
GUMO LR LR
comp=Z,2042μm,21.0s
CIT Chita 52.50 16 *e*P **P 08 47 49.2 +0.6**
CIT pmax pmax
comp=Z,9μm,2.2s
MSHR Mys Shultsa 52.66 35 *e*P **P 08 47 49.4 -0.4**
NVS Novosibirsk 53.04 353 *e*P **P 08 47 52.3 -0.1**
NVS *e*S **S 08 55 14.4 -6.3**
NVS pmax pmax
comp=Z,7μm,1.1s
NVS pmax pmax
comp=N,2μm,1.0s
NVS pmax pmax
comp=E,1μm,1.2s
MDJ Mudanjiang 53.11 32 P **P 08 47 53.9 +0.7**
MDJ sP sP 08 48 04.8 +0.3
MDJ S **S 08 55 29.1 +7.0**
MDJ pmax pmax
comp=E,200nm,1.2s
MDJ pmax pmax
comp=E,146μm,8.0s
MDJ LR LR
comp=E,7994μm,15.9s
MDJ LR LR
comp=E,6918μm,16.7s
MDJ LR LR
comp=E,5260μm,18.7s
MDJ Mudanjiang 53.11 32 *e*P **P 08 47 55.4 +2.2**
comp=E,10μm,1.5s
MDJ LR LR
comp=Z,4394μm,20.0s
CBIJ Chichi jima 53.13 57 *e*P **P 08 47 52.7 -1.0**
comp=Z,14μm,1.5s
JCJ Chichijima 53.13 57 P **P 08 47 54.0 +0.3**
comp=Z,217nm,0.6s,baz=261,slow=5.0,SNR=17
JCJ LR LR 09 09 02.9
comp=Z,1200μm,21.8s,baz=234,slow=34
ANKE Ethiopia-Afar 53.44 280 *i* P P 08 48 08.5 +12
ANKE *i* S S 08 55 43.5 +15
ANKE Ethiopia-Afar 53.44 280 *i* P P 08 48 07.3 +11
ANKE *i* S S 08 55 40.3 +12
ANKE Ethiopia-Afar 53.44 280 *i* P P 08 48 07.3 +11
ANKE *i* S S 08 55 40.3 +12
ANKE Ethiopia-Afar 53.44 280 *i* P P 08 48 07.3 +11
ANKE *i* P P 08 48 08.5 +12
ANKE *i* S S 08 55 40.3 +12
ANKE *i* S S 08 55 43.5 +15
JHJ2 Mitsune 53.48 50 PFAKE 08 48 10.0 +14
JHJ2 LR LR
comp=Z,2892μm,20.0s
BBOO Buckleboo 53.55 134 P **P 08 47 56.3 -0.4**
baz=54,SNR=24
BBOO Buckleboo 53.55 134 *e*P **P 08 47 55.8 -0.9**
comp=Z,2μm,1.1s
BBOO LR LR
comp=Z,4227μm,21.0s
KRAR Krasnoyarsk 53.61 360 *e*P **P 08 47 54.6 -2.0**
DESE Dese 53.67 282 *e*P P 08 48 10.3 +12
DESE *e*S S 08 55 45.8 +15
DESE Dese 53.67 282 *e*P P 08 48 10.3 +12
DESE *e*S S 08 55 45.8 +15
MAJO Matsushiro 53.84 45 *e*P **P 08 47 58.4 -0.3**
comp=Z,8μm,1.6s
MAJO Matsushiro 53.84 45 *e*P **P 08 47 57.5 -1.2**
MAJO pmax pmax
comp=Z,3μm,1.5s
MAJO MLR MLR
comp=Z,5704μm,22.0s
MAT Matsushiro 53.84 45 P **P 08 47 56.8 -1.9**
MAT S **S 08 55 40.8 +8.6**
MJAR Matsushiro Arr 53.84 45 P **P 08 47 57.4 -1.4**
comp=Z,41nm,1.1s,baz=230,slow=8.6,SNR=38
MJAR LR LR 09 11 51.0
comp=Z,3663μm,21.8s,baz=230,slow=37
MJAR PKP2ab 09 18 58.7
comp=Z,33nm,0.8s,baz=335,slow=0.5,SNR=4.3
BVA0 Borovoye Array 53.98 343 P **P 08 47 58.9 -0.5**
BVA0 pmax pmax
comp=Z,3μm,1.2s
BVAR Borovoye Array 53.98 343 P **P 08 47 55.7 -3.7**
comp=Z,185nm,0.9s,baz=142,slow=7.5,SNR=55
BVAR LR LR 09 12 46.5
comp=Z,3281μm,21.7s,baz=150,slow=38
BRVK Borovoye 54.04 343 *e*P **P 08 47 59.2 -0.6**
comp=Z,4μm,1.1s
BRVK Borovoye 54.04 343 *e*P **P 08 47 56.5 -3.3**
BRVK pmax pmax
comp=Z,2μm,1.3s
USRK Ussuriysk Ar. 54.15 34 P **P 08 47 59.8 -1.0**
comp=Z,63nm,0.9s,baz=245,slow=7.4,SNR=48
AAE Adis Abeba 54.36 279 *i* P P 08 48 14.7 +12
AAE *i* S S 08 55 57.3 +17
AAE Adis Abeba 54.36 279 *i* P P 08 48 14.7 +12
AAE *i* S S 08 55 57.3 +17
MTSU Mount Surprise 54.40 114 P **P 08 48 00.8 -2.3**
baz=54,SNR=58
MANU Manus Island 54.51 94 *e*P **P 08 48 03.3 -0.7**
comp=Z,5μm,1.3s
MANU LR LR
comp=Z,1348μm,22.0s
AB07 Akbulak array 54.68 334 *e*P **P 08 48 01.2 -3.3**
AB06 Akbulak array 54.69 334 *e*P **P 08 48 01.2 -3.4**
AB08 Akbulak array 54.69 334 *e*P **P 08 48 01.3 -3.3**
AB03 Akbulak array 54.69 334 *e*P **P 08 48 01.3 -3.3**
AB01 Akbulak array 54.69 334 *e*P **P 08 48 01.3 -3.4**
AB31 Akbulak array 54.69 334 *e*P **P 08 48 01.4 -3.3**
AB31 Akbulak array 54.69 334 *e*P **P 08 48 01.4 -3.3**
ABKAR Akbulak array 54.69 334 *e*P **P 08 48 01.4 -3.3**
comp=Z,24μm,0.9s
ABKAR LR LR
comp=Z,1011μm,19.0s
AB02 Akbulak array 54.70 334 *e*P **P 08 48 01.4 -3.3**
AB04 Akbulak array 54.70 334 *e*P **P 08 48 01.4 -3.3**
AB05 Akbulak array 54.71 334 *e*P **P 08 48 01.5 -3.3**
AB09 Akbulak array 54.71 334 *e*P **P 08 48 01.4 -3.3**
PAF Port-aux-Franc 55.04 198 PFAKE 08 48 20.0 +13
PAF LR LR
comp=Z,5034μm,21.0s
PMG Port Moresby 55.16 103 P **P 08 48 05.9 -2.8**
comp=Z,64nm,0.8s,baz=302,slow=5.1,SNR=17
PMG Port Moresby 55.16 103 *e*P **P 08 48 08.2 -0.4**
comp=Z,2μm,0.9s
PMG Port Moresby 55.16 103 *d i*P **P 08 48 08.0 -0.7**
PMG pmax pmax
comp=Z,7μm,1.0s
PMG MLR MLR
comp=Z,8013μm,19.0s
KMBO Kilima Mbogo 55.85 267 *i* P **P 08 48 13.2 -0.8**
KMBO Kilima Mbogo 55.85 267 P **P 08 48 13.2 -0.8**
comp=Z,28nm,0.7s,baz=60,slow=11,SNR=44
KMBO LR LR 09 10 26.7
comp=Z,3701μm,18.2s,baz=85,slow=34
KMBO Kilima Mbogo 55.85 267 *e*P **P 08 48 13.3 -0.6**
comp=Z,8μm,2.0s
KMBO Kilima Mbogo 55.85 267 P **P 08 48 13.5 -0.4**
SNR=413
KMBO Kilima Mbogo 55.85 267 *i* P **P 08 48 13.4 -0.6**
SNR=45
KMBO Kilima Mbogo 55.85 267 *i* P **P 08 48 13.2 -0.8**
KMBO Kilima Mbogo 55.85 267 *i* P **P 08 48 13.2 -0.8**
KMBO Kilima Mbogo 55.85 267 *e*P **P 08 48 13.3 -0.6**
KMBO pmax pmax
comp=Z,8μm,2.0s
HTT Hallett 55.93 134 P **P 08 48 11.9 -2.1**
baz=56,SNR=62
AKT Akhty 56.37 320 ⇓ *i*P **P 08 48 14.4 -2.6**
AKT *e*S **S 08 55 58.3 -7.9**
AKT pmax pmax
comp=Z,7μm,1.2s
AKTO Aktyubinsk 56.41 334 P **P 08 48 13.4 -3.6**
comp=Z,143nm,1.0s,baz=132,slow=6.5,SNR=46
AKTO LR LR 09 13 10.3
comp=Z,2524μm,20.9s,baz=143,slow=37
CTA Charters Tower 56.71 116 P **P 08 48 17.0 -2.7**
comp=Z,187nm,0.9s,baz=282,slow=8.8,SNR=29
CTA Charters Tower 56.71 116 P **P 08 48 17.0 -2.7**
CTAO Charters Tower 56.71 116 *e*P **P 08 48 17.6 -2.1**
comp=Z,4μm,1.3s
CTAO LR LR
comp=Z,2474μm,22.0s
CTAO Charters Tower 56.71 116 *e*P **P 08 48 17.6 -2.1**
CTAO pmax pmax
comp=Z,4μm,1.3s
CTAO MLR MLR
comp=Z,2474μm,22.0s
YOVA Hakkari_Y˜…kse 56.82 314 *i* P **P 08 48 19.9 -0.6**
QLP Quilpie 57.10 124 P **P 08 48 20.5 -1.8**
baz=57,SNR=64
STKA Stephens Creek 57.18 131 P **P 08 48 20.6 -2.2**
comp=Z,204nm,0.8s,baz=306,slow=5.5,SNR=63
STKA Stephens Creek 57.18 131 P **P 08 48 20.6 -2.2**
baz=57,SNR=423
STKA Stephens Creek 57.18 131 P **P 08 48 20.6 -2.2**
STKA LR LR
comp=Z,209μm,20.0s
HAKT HAKKARI 57.23 314 *i* P P 08 48 32.4 +9.0
TEY Ternei 57.28 36 *e*P **P 08 48 22.2 -1.0**
TEY pmax pmax
comp=N,3μm,5.0s
TEY pmax pmax
comp=Z,5μm,4.0s
MAK Makhachkala 57.29 322 *e*P **P 08 48 23.1 -0.2**
MAK *e* 08 49 12.3
MAK *e*S **S 08 56 21.3 +3.3**
KLR Kul'dur 57.30 29 LR LR 09 13 57.3
comp=Z,215μm,20.9s,baz=238,slow=37
KLR Kul'dur 57.30 29 *e*P **P 08 48 22.6 -0.7**
GNI Garni 57.68 317 P **P 08 48 24.7 -1.7**
comp=Z,264nm,1.0s,baz=360,slow=5.1,SNR=26
GNI LR LR 09 14 08.1
comp=Z,1501μm,21.2s,baz=127,slow=37
GNI Garni 57.68 317 *e*P **P 08 48 26.1 -0.2**
comp=Z,11μm,1.3s
GNI Garni 57.68 317 P **P 08 48 24.9 -1.5**
SNR=735
GNI Garni 57.68 317 *i* P **P 08 48 26.9 +0.5**
SNR=29
GNI Garni 57.68 317 *e*P **P 08 48 24.8 -1.5**
GNI MLR MLR
comp=Z,6471μm,24.0s
CLDR Caldiran 57.78 316 *i* P P 08 48 35.4 +8.2
BOD Bodaibo 57.86 13 *e*P **P 08 48 26.9 -0.2**
BOD pmax pmax
comp=Z,6μm,1.4s
TVAN Van 57.86 315 *i* P P 08 48 34.4 +6.6
IGDI IGDIR 58.00 317 *i* P P 08 48 35.4 +6.8
GEVA Gevas 58.02 315 *i* P P 08 48 35.4 +6.5
DYDN Diyadin 58.12 316 *i* P P **08 48 30.8 +1.2**
SIRN S˜˜rnak 58.13 314 *i* P P 08 48 38.2 +8.6
TBLG Delisi 58.43 319 *e*P **P 08 48 31.5 0.0**
comp=Z,14μm,1.4s
TBLG Delisi 58.43 319 *e*P **P 08 48 31.5 0.0**
ADCV BITLIS_Adilcev 58.47 315 *i* P P **08 48 33.4 +1.5**
GROC Groznyy 58.48 321 *e*P **P 08 48 29.5 -2.2**
GROC *e* 08 49 20.1
GROC *e* 08 50 38.9
GROC *e*S **S 08 56 31.6 -2.1**
GROC *e* 08 58 15.5
GROC pmax pmax
comp=Z,8μm,1.3s
ZEA Zeya 58.54 23 *e*P **P 08 48 31.9 0.0**
ZEA *i* S S 08 56 45.0 +11
ZEA pmax pmax
comp=N,1μm,1.2s
ZEA pmax pmax
comp=E,500nm,1.2s
ZEA pmax pmax
comp=Z,1μm,1.0s
ZEA pmax pmax
comp=Z,64μm,14.0s
ZEA pmax pmax
comp=E,15μm,12.0s
ZEA pmax pmax
comp=N,26μm,13.0s
TUTA Tutak 58.66 316 *i* P P **08 48 33.6 +0.3**
SRTM Siirt_Merkez 58.69 314 *i* P P **08 48 33.6 +0.2**
EAK Akyaka 58.69 317 *i* P P **08 48 30.6 -2.9**
DIGO Kars 58.73 317 *i* P P **08 48 32.3 -1.5**
EATA Eleskirt 59.09 316 *i* P P **08 48 37.8 +1.3**
AKH Akhalkalaki 59.10 318 *e*P **P 08 48 35.6 -0.7**
comp=N,9μm,1.6s
AKH LR LR
comp=Z,2646μm,21.0s
AKH Akhalkalaki 59.10 318 *e*P **P 08 48 35.6 -0.7**
AKH pmax pmax
comp=Z,9μm,1.6s
AKH MLR MLR
comp=Z,2646μm,21.0s
BTMN Batman 59.12 314 *i* P P 08 48 45.7 +9.3
EKAR Karacoban 59.12 315 *i* P P **08 48 37.7 +1.1**
MARD Mardin 59.25 313 *i* P P **08 48 35.4 -1.9**
SVAN Silvan-Diyarba 59.28 314 *i* P P 08 48 44.4 +6.9
RABL Rabaul 59.45 96 PFAKE 08 48 50.0 +11
RABL LR LR

comp=Z,1190µm,22.0s
ZEI Tsey 59.49 320 *e*P **P** **08 48 36.1 -2.9**
ZEI *e*S **S** **08 56 41.3 -5.8**
ZEI *e*SS **SS** **09 00 44.8 +2.1**
ZEI pmax pmax
comp=Z,2µm,0.9s
ZEI pmax pmax
comp=N,1µm,0.9s
ZEI pmax pmax
comp=E,2µm,0.9s
ZEI MLR MLR
comp=Z,2434µm,20.0s
ZEI MLR MLR
comp=N,1552µm,17.0s
ZEI MLR MLR
comp=E,1152µm,19.0s
VRTB Varto-Mus 59.51 315 *i* P **P** **08 48 43.0 +3.8**
HOMI Horasan 59.57 316 *i* P P 08 48 47.8 +8.1
EPOS Posof 59.66 318 *i* P **P** **08 48 38.1 -2.0**
ARPS Mount Arapiles 59.66 136 P **P** **08 48 38.5 -1.5**
baz=60,SNR=42
ERM Erimo 59.80 41 *e*P **P** **08 48 41.7 +0.9**
comp=E,2µm,1.0s
ERM LR LR
comp=Z,2258µm,18.0s
ERM Erimo 59.80 41 *c e*P **P** **08 48 40.4 -0.4**
ERM pmax pmax
comp=Z,507nm,1.1s
ERM MLR MLR
comp=Z,2094µm,16.0s
ERZM Erzurum 59.89 316 *i* P **P** **08 48 39.7 -2.2**
HANI Diyarbakir_Han 59.96 314 *i* P **P** **08 48 41.3 -0.9**
DIYA Diyarbakir 59.97 313 *i* P P 08 48 50.8 +8.5
BGOL Bingol 60.00 315 *i* P **P** **08 48 43.6 +1.1**
NCK Nalchik 60.02 320 *e*P **P** **08 48 40.8 -1.6**
NCK pmax pmax
comp=Z,3µm,1.4s
NCK MLR MLR
comp=Z,1688µm,18.0s
DDEM Demirkent 60.05 317 *i* P **P** **08 48 43.1 +0.4**
ARTV Artvin 60.05 317 *i* P **P** **08 48 41.6 -1.4**
CLNS Chul'man 60.08 20 *e*P **P** **08 48 44.8 +2.2**
CLNS *e**PP **sP** **08 48 59.5 +5.5**
CLNS *e* 08 49 31.4
CLNS *e* 08 50 55.9
CLNS *e*S **S** **08 56 51.9 -2.1**
CLNS *e* 08 58 23.1
CLNS pmax pmax
comp=Z,978nm,1.2s
CLNS pmax pmax
comp=E,553nm,1.2s
CLNS pmax pmax
comp=N,585nm,1.2s
CLNS pmax pmax
comp=Z,2µm,1.1s
CLNS pmax pmax
comp=N,2µm,1.0s
CLNS pmax pmax
comp=E,1µm,1.2s
CLNS smax smax
comp=E,131µm,12.6s
CLNS smax smax
comp=N,94µm,14.7s
DBAD Bademkaya 60.14 317 *i* P **P** **08 48 42.8 -0.6**
CMSA Cobar Meteorol 60.19 129 P **P** **08 48 42.1 -1.7**
baz=60,SNR=440
SVE Sverdlovsk 60.24 340 *c i*P **P** **08 48 42.7 -0.9**
SVE *e*S **S** **08 56 59.7 +3.8**
SVE pmax pmax
comp=Z,9µm,1.5s
SVE pmax pmax
comp=Z,385µm,24.3s
SVE MLR MLR
comp=E,2167µm,18.0s
SVE MLR MLR
comp=N,2661µm,17.0s
SVE MLR MLR
comp=Z,3718µm,18.0s
ASAJ Asahikawa 60.43 39 P **P** **08 48 44.3 -0.9**
comp=Z,34nm,0.8s,baz=252,slow=10,SNR=18
ASAJ LR LR 09 17 47.8
comp=Z,9µm,18.6s,baz=251,slow=39
ASAJ Asahikawa 60.43 39 *e*P **P** **08 48 44.8 -0.4**
comp=Z,1µm,0.8s
ASF Jabal al Asfar 60.46 306 LR LR 09 16 28.7
comp=Z,3667µm,18.3s,baz=72,slow=38
NEY Neytrino 60.47 320 *e*P **P** **08 48 43.2 -2.5**
NEY pmax pmax
comp=Z,1µm,2.1s
NEY MLR MLR
comp=Z,3911µm,21.0s
CRZF Crozet Islands 60.50 212 PFAKE 08 49 00.0 +14
CRZF LR LR
comp=Z,3182µm,21.0s
SANL SANLIURFA_Merk 60.51 312 *i* P **P** **08 48 46.5 +0.6**
KBZ Khabaz 60.58 320 P **P** **08 48 43.8 -2.4**
comp=Z,239nm,0.9s,baz=137,slow=5.6,SNR=46
KBZ LR LR 09 16 44.6
comp=Z,973µm,20.6s,baz=108,slow=38
GRNR Gornyy 60.60 30 *e*P **P** **08 48 45.0 -1.2**
GRNR pmax pmax
comp=N,160nm,1.0s
GRNR pmax pmax
comp=E,160nm,1.0s
GRNR pmax pmax
comp=Z,440nm,1.0s
ARU Arti 60.66 339 *e*P **P** **08 48 42.4 -4.1**
comp=Z,4µm,1.2s
ARU LR LR
comp=Z,5497µm,20.0s
ARU Arti 60.66 339 *d i*P **P** **08 48 44.3 -2.2**
ARU 08 49 28.5
ARU PPP PPP 08 52 33.9
ARU *e*S **S** **08 57 00.6 -0.7**
ARU SS **SS** **09 00 55.2 -4.9**
ARU SSS SSS 09 03 33.8
ARU pmax pmax
comp=Z,288nm,1.0s
ARU MLR MLR
comp=Z,6143µm,23.0s
SURC SANLIURFA_SURC 60.69 312 *i* P **P** **08 48 47.2 0.0**
BAYB BAYBURT 60.81 316 *i* P **P** **08 48 47.3 -0.8**
KIV Kislovodsk 60.82 320 *e*P **P** **08 48 47.5 -0.5**
comp=Z,8µm,1.1s
KIV LR LR
comp=Z,2197µm,19.0s
KIV Kislovodsk 60.82 320 P **P** **08 48 45.9 -2.0**
SNR=621
KIV Kislovodsk 60.82 320 *i* P **P** **08 48 48.1 +0.1**
SNR=44
KIV Kislovodsk 60.82 320 *e*P **P** **08 48 44.9 -3.1**
KIV *e* 08 49 24.1
KIV *e* 08 50 59.0
KIV *e*S **S** **08 56 57.3 -6.7**
KIV *e*SS **SS** **09 00 58.9 -4.5**
KIV pmax pmax
comp=Z,623nm,1.0s
KIV MLR MLR
comp=Z,1841µm,17.0s
TNCL Tunceli-Merkez 60.85 314 *i* P **P** **08 48 48.1 -0.2**
RMQ Roma 60.86 122 P **P** **08 48 47.7 -0.8**
baz=61,SNR=58
EUZM Uzumlu 60.98 315 *i* P **P** **08 48 49.9 +0.7**
ELZG Elazig 61.02 313 *i* P **P** **08 48 49.8 +0.3**
GOF Gofitskoye 61.13 322 ⇑*i*P **P** **08 48 50.0 +0.1**
GOF *e*S S 08 57 34.8 +27
GOF pmax pmax
comp=Z,4µm,1.2s
ATAB Bozova 61.14 312 *i* P **P** **08 48 52.1 +1.9**
TOTH TOTAH 61.20 307 *e*P **P** **08 48 54.8 +4.0**
QASN Qassioun 61.37 307 *e*P **P** **08 48 55.6 +3.7**
MACK Trabzon 61.43 316 *i* P **P** **08 48 51.7 -0.4**
KELT Kelkit 61.46 315 *i* P **P** **08 48 51.9 -0.7**
REFA Refahiye_ERZ˜ 61.52 314 *i* P **P** **08 48 53.3 +0.4**
BRBR Barbar 61.60 307 *e*P **P** **08 48 56.2 +2.6**
BRBR ⇑Lg Lg 08 50 16.2
KEMA Kemaliye 61.66 314 *i* P **P** **08 48 53.8 0.0**
AKCD Akcadag 61.71 313 *i* P **P** **08 48 54.7 +0.5**
KUZU Kuzuini 61.80 311 *i* P **P** **08 48 53.8 -1.0**
HWQ Hawqa 61.86 308 *e*P **P** **08 48 57.8 +2.5**
HEKM Malatya_Hekimh 61.90 314 *i* P **P** **08 48 56.0 +0.4**
YSS Yuzh-Sakhalins 61.92 36 *e*P **P** **08 48 55.6 +0.3**
comp=Z,15µm,1.5s
YSS LR LR
comp=Z,2567µm,20.0s
YSS Yuzh-Sakhalins 61.92 36 ⇑*i*P **P** **08 48 57.4 +2.2**
YSS *e* 08 49 35.4
YSS *e* 08 51 08.0
YSS *i*S **S** **08 57 21.4 +3.7**
YSS pmax pmax
comp=Z,2µm,1.2s
YSS pmax pmax
comp=N,500nm,0.9s
YSS pmax pmax
comp=E,950nm,1.3s
YSS pmax pmax
comp=Z,78µm,11.4s
YSS pmax pmax
comp=N,16µm,11.2s
YSS pmax pmax
comp=E,29µm,11.8s
YSS pmax pmax
comp=Z,103µm,11.0s
BHL Bhannes 61.98 308 *e*P **P** **08 48 58.8 +2.8**
SUSE Susehri 62.23 315 *i* P **P** **08 48 56.9 -0.8**
YAYL Yayladag 62.29 310 *i* P **P** **08 48 58.6 +0.5**
ELBS KAHRAMANMARAS 62.30 313 *i* P **P** **08 48 58.0 -0.2**
MBAR Mbarara 62.33 268 *i* P **P** **08 49 01.1 +2.4**
MBAR Mbarara 62.33 268 LR LR 09 12 43.3
comp=Z,409µm,19.5s,baz=90,slow=33
MBAR Mbarara 62.33 268 *e*P **P** **08 48 57.8 -1.0**
comp=Z,3µm,1.2s
MBAR Mbarara 62.33 268 *i* P **P** **08 49 01.1 +2.4**
MBAR Mbarara 62.33 268 *i* P **P** **08 49 01.1 +2.4**
MBAR Mbarara 62.33 268 *e*P **P** **08 48 57.8 -1.0**
MBAR pmax pmax
comp=Z,3µm,1.2s
CUGUR Gurin_S˜VAS 62.34 313 *i* P **P** **08 48 58.3 -0.2**
CUZAR Zara_SIVAS 62.41 315 *i* P **P** **08 48 57.8 -1.1**
CUKAN kangal_SIVAS 62.42 314 *i* P **P** **08 48 54.9 -4.1**
GRSN GIRESÜNGRSN 62.46 316 *i* P **P** **08 48 55.2 -3.8**
YUK Yuzh-Kuril'sk 62.48 40 *e*P P 08 49 04.9 +5.9
YUK 08 49 35.6
YUK *e*S S 08 57 34.6 +10
YUK pmax pmax
comp=N,4µm,1.4s
YUK pmax pmax
comp=E,9µm,1.4s
YUK pmax pmax
comp=Z,13µm,1.4s
EIDS Eidsvold 62.51 120 P **P** **08 48 57.4 -2.2**
baz=63,SNR=41
EIDS Eidsvold 62.51 120 *e*P **P** **08 48 59.5 -0.1**
comp=Z,3µm,1.3s
EIDS LR LR
comp=Z,1661µm,20.0s
SOC Sochi 62.57 319 *e*P **P** **08 48 58.8 -0.9**
SOC *i* *SP **sP** **08 49 16.3 +5.3**
SOC *e*PPP PPP 08 52 46.7
SOC *e*S **S** **08 57 26.9 +0.9**
SOC *e**SS **sS** **08 57 41.5 +1.9**
SOC pmax pmax
comp=Z,12µm,2.8s
SOC pmax pmax
comp=Z,3µm,1.1s
TOO Toolangi 62.61 135 P **P** **08 48 59.2 -0.9**
baz=63,SNR=35
ANDN Andirin 62.63 312 *i* P **P** **08 48 59.2 -1.1**
ORDU Ordu-Boztepe 62.77 316 *i* P **P** **08 49 00.5 -0.6**
SCER sogukcermik 62.86 314 *i* P **P** **08 49 06.2 +4.3**
YURE YUREGIR 62.91 311 *i* P **P** **08 49 04.0 +1.8**
CUALT Altinyayla-SIV 62.92 314 *i* P **P** **08 49 02.1 -0.2**
SAIM ADANA 62.96 312 *i* P **P** **08 49 06.2 +3.7**
CUSAR Sarkisla-SIVAS 63.34 314 *i* P **P** **08 49 03.5 -1.6**
YNG Young 63.37 130 P **P** **08 49 03.6 -1.5**
baz=64,SNR=69
ERBA Erbaa 63.43 315 *i* P **P** **08 49 04.6 -0.9**
TOKA Tokat 63.50 315 *i* P **P** **08 49 07.3 +1.4**
YAHY KAYSERI_Yahyal 63.53 312 *i* P **P** **08 49 06.9 +0.6**
GULE Gulek 63.71 311 *i* P **P** **08 49 09.1 +1.5**
TYV Tymovskoe 63.89 33 *e*P **P** **08 49 11.1 +2.9**
TYV *e*S **S** **08 57 50.5 +8.3**
TYV pmax pmax
comp=Z,1µm,1.3s
TYV pmax pmax
comp=Z,85µm,6.5s
KIZK Mersin 63.94 310 *i* P **P** **08 49 07.2 -1.6**
SAMS Samsun-Alacam 64.08 316 *i* P **P** **08 49 09.9 +0.2**
CSS Mathiatis 64.13 308 *e*P **P** **08 49 10.4 +0.2**
comp=Z,2µm,1.2s
CSS LR LR
comp=Z,1015µm,18.0s
CSS Mathiatis 64.13 308 P **P** **08 49 13.2 +3.0**
CSS Mathiatis 64.13 308 P **P** **08 49 10.6 +0.4**
NKL Nikolayevsk 64.13 30 *e*P **P** **08 49 09.5 -0.3**
NKL *e* 08 49 21.0
NKL pmax pmax
comp=N,75nm,1.0s
NKL pmax pmax
comp=E,64nm,1.0s
NKL pmax pmax
comp=Z,190nm,1.0s
NKL pmax pmax
comp=E,3µm,11.0s
NKL pmax pmax
comp=Z,6µm,11.0s
AVNS Nevsehir-Avano 64.15 312 *i* P **P** **08 49 09.0 -1.4**
CAN Canberra 64.23 131 *e*P **P** **08 49 09.2 -1.7**
comp=Z,7µm,1.6s
CAN LR LR
comp=Z,5259µm,22.0s
CAN Canberra 64.23 131 *e*P **P** **08 49 09.2 -1.7**
CAN pmax pmax
comp=Z,7µm,1.6s
CAN MLR MLR
comp=Z,5259µm,22.0s
KERG Konya-Eregli 64.24 311 *i* P **P** **08 49 08.3 -2.7**
MAMC Mammari 64.27 308 P **P** **08 49 12.2 +1.1**
KUR Kuril'sk 64.28 40 *e*P **P** **08 49 13.0 +2.1**
KUR *i* 08 49 43.7
KUR *e*S S 08 57 57.1 +10
KUR 08 59 03.3
KUR pmax pmax
comp=Z,117µm,13.7s
KUR pmax pmax
comp=Z,13µm,1.4s
KUR MLR MLR
comp=Z,1498µm,17.0s
KUR MLR MLR
comp=N,1156µm,20.0s
KUR MLR MLR
comp=E,913µm,16.0s
HAVZ Havza 64.31 315 *i* P **P** **08 49 11.8 +0.5**
SZAC Souni 64.42 308 P **P** **08 49 12.5 +0.4**
CNB Canberra Magne 64.50 131 P **P** **08 49 11.1 -1.5**
baz=65,SNR=22
ARMA Armidale 64.53 125 P **P** **08 49 12.1 -0.9**
baz=65,SNR=69
ARMA Armidale 64.53 125 *e*P **P** **08 49 12.3 -0.8**
comp=E,3µm,1.0s
ARMA LR LR
comp=Z,2356µm,20.0s
COAL Corum-Alaca 64.54 314 *i* P **P** **08 49 12.9 0.0**
ANN Anapa 64.57 319 *d i*P **P** **08 49 11.7 -1.1**
ANN *e*S **S** **08 57 52.0 +1.2**
ANN *e*SS **SS** **09 02 01.5 -0.3**
ANN pmax pmax
comp=Z,2µm,1.1s
ANN pmax pmax
comp=N,726nm,1.1s
ANN pmax pmax
comp=E,321nm,1.1s
ANN pmax pmax
comp=N,28µm,6.1s
ANN smax smax
comp=N,89µm,11.6s
ANN smax smax
comp=E,346µm,11.6s
ANN MLR MLR
comp=E,694µm,18.0s
ANN MLR MLR
comp=Z,2304µm,18.0s
ANN MLR MLR
comp=N,2192µm,18.0s
ALFC Alefka 64.76 308 P **P** **08 49 14.7 +0.4**
CDAG Cicekdag 64.77 313 *i* P **P** **08 49 13.6 -0.8**
CTAK Corum_Osmancik 64.81 314 *i* P **P** **08 49 14.9 +0.2**
PPCY Paphos 64.88 308 P P 08 49 25.0 +10
AKSY AKSARAY - Alti 64.90 312 *i* P **P** **08 49 14.7 -0.6**
ERMK Ermenek 64.93 310 *i* P **P** **08 49 15.6 -0.1**
VRH Novokhopyorsk 64.96 327 *e*P **P** **08 49 14.0 -1.2**
VRH *e*S **S** **08 57 55.8 +0.5**
VRH pmax pmax
comp=Z,230nm,0.7s
VRH smax smax
comp=E,17µm,5.4s
BOYT Boyabat 65.00 315 *i* P P 08 49 10.4 -5.4
SINO SINOP_Merkez 65.01 316 *i* P **P** **08 49 14.1 -1.7**
MILA Mila 65.03 133 P **P** **08 49 15.8 -0.2**
baz=65,SNR=11
MGCD Mangrove Creek 65.06 128 P **P** **08 49 15.2 -1.0**
baz=65,SNR=12
PATS Pohnpei 65.21 84 *e*P **P** **08 49 16.9 -0.7**
comp=E,17µm,1.4s
PATS LR LR
comp=Z,1065µm,22.0s
RIV Riverview 65.32 129 P **P** **08 49 17.2 -0.7**
baz=65,SNR=8.8
BR131 Keskin Array S 65.34 313 *e*P **P** **08 49 15.4 -2.7**
BRTR Keskin Array B 65.34 313 P **P** **08 49 17.0 -1.1**
comp=Z,85nm,0.8s,baz=130,slow=7.1,SNR=55
BRTR PKP2bc 09 18 02.7
comp=Z,12nm,1.0s,baz=203,slow=5.1,SNR=4.3
BRTR LR LR 09 21 09.0
comp=Z,2274µm,18.8s,baz=114,slow=39
BBAL Bala 65.66 313 *i* P **P** **08 49 19.4 -0.8**
YAK Yakutsk 65.66 18 *e*P **P** **08 49 19.1 -0.5**
comp=Z,11µm,1.0s
YAK LR LR
comp=Z,3996µm,18.0s
YAK Yakutsk 65.66 18 *d i*P **P** **08 49 18.9 -0.7**
YAK *e**PP **sP** **08 49 29.8 -1.2**
YAK *e* 08 49 45.5
YAK *e* 08 51 40.9
YAK *e*S **S** **08 58 09.3 +5.7**
YAK pmax pmax
comp=Z,1µm,1.1s
YAK pmax pmax
comp=E,366nm,1.4s
YAK pmax pmax
comp=N,322nm,1.3s
YAK pmax pmax
comp=Z,10µm,2.1s
YAK pmax pmax
comp=E,6µm,2.5s
YAK pmax pmax
comp=N,7µm,2.3s
YAK smax smax
comp=E,412µm,14.4s
YAK smax smax
comp=N,535µm,13.7s
YAK MLR MLR
comp=Z,2907µm,15.0s
YAK MLR MLR
comp=N,2489µm,15.0s
YAK MLR MLR
comp=E,891µm,18.0s
KMER Konya-Meram 65.68 311 *i* P **P** **08 49 19.9 -0.5**
KKUL Konya-Kulu 65.69 312 *i* P **P** **08 49 18.9 -1.6**
KAST KASTAMONU 65.72 315 *i* P **P** **08 49 18.8 -1.6**
ILGA Ilgaz 65.72 314 *i* P **P** **08 49 19.8 -0.9**
ILGA Ilgaz 65.72 314 *e*P **P** **08 49 18.9 -1.8**
comp=E,5µm,1.1s
ILGA LR LR
comp=Z,3152µm,21.0s
ELDT Eldivan 65.74 314 *i* P **P** **08 49 19.1 -1.7**
ANTO Ankara 66.00 313 *e*P **P** **08 49 21.8 -0.5**
comp=Z,3µm,0.9s
ANTO LR LR
comp=Z,2830µm,19.0s
ANTO Ankara 66.00 313 P **P** **08 49 22.2 -0.2**
SNR=374
ANTO Ankara 66.00 313 P **P** **08 49 22.2 -0.2**
SNR=374
ANTO Ankara 66.00 313 *e*P **P** **08 49 21.8 -0.5**
ANTO pmax pmax
comp=Z,3µm,0.9s
ANTO MLR MLR
comp=Z,2830µm,19.0s
BR231 Keskin MP Arra 66.01 313 *e*P **P** **08 49 22.1 -0.3**
KEPZ Antalya-Kepez 66.02 310 *i* P **P** **08 49 22.0 -0.5**
KDHN Kadinhani 66.09 311 *i* P **P** **08 49 20.7 -2.3**
TAU Tasmania Unive 66.29 139 *e*P **P** **08 49 24.6 +0.7**
comp=Z,4µm,1.4s
TAU LR LR
comp=Z,2451µm,18.0s
TAU Tasmania Unive 66.29 139 *e*P **P** **08 49 24.7 +0.7**
TAU pmax pmax
comp=Z,4µm,1.4s
TAU MLR MLR
comp=Z,2451µm,18.0s
VSR Storozhevoye 66.36 326 *e*P **P** **08 49 23.2 -1.1**
VSR *e*S **S** **08 58 10.5 -2.1**
VSR smax smax
comp=N,35µm,7.9s
VSR MLR MLR
comp=Z,3243µm,18.0s
LSZ Lusaka 66.42 252 *i* P **P** **08 49 28.6 +3.1**
LSZ Lusaka 66.42 252 *e*P **P** **08 49 24.0 -1.5**
comp=Z,4µm,1.4s
LSZ Lusaka 66.42 252 P **P** **08 49 24.8 -0.7**
SNR=375
LSZ Lusaka 66.42 252 *i* P **P** **08 49 28.6 +3.1**
LSZ Lusaka 66.42 252 *i* P **P** **08 49 28.6 +3.1**
LSZ Lusaka 66.42 252 *e*P **P** **08 49 24.0 -1.5**
LSZ pmax pmax
comp=Z,4µm,1.4s
CMDR Camlidere-ANKA 66.43 314 *i* P **P** **08 49 23.7 -1.5**
VORR Voronezh 66.56 327 *e*P **P** **08 49 27.5 +2.0**
VORR pmax pmax
comp=Z,8µm,2.0s
AUSIV SIVRIHISAR 66.79 312 *i* P P 08 49 19.7 -7.7
SIM Simferopol' 66.81 319 *c e*P **P** **08 49 29.5 +2.2**
SIM *e*S **S** **08 58 23.2 +5.0**
SIM *e*PS **PnS** **08 58 44.0 +2.6**
SIM *e*SS **SS** **09 02 29.0 -7.5**
SIM pmax pmax
comp=Z,399µm,15.5s
BCAM Yenicaga 66.83 314 *i* P **P** **08 49 26.5 -1.1**
BLWY Bulawayo 66.90 247 *i* P **P** **08 49 30.7 +2.2**
BLWY Bulawayo 66.90 247 *i* P **P** **08 49 30.7 +2.2**
BLWY Bulawayo 66.90 247 *i* P **P** **08 49 30.7 +2.2**
BAGO Egridir - ISPA 66.94 311 *i* P **P** **08 49 25.9 -2.4**
BTIN Bart˜–n 66.95 315 *i* P **P** **08 49 26.5 -1.8**
AUMIH MIHALICIK 66.96 313 *i* P **P** **08 49 24.2 -4.3**
KORT Korkueli 67.01 309 *i* P **P** **08 49 28.5 -0.4**
BOLV Bolvadin 67.02 311 *i* P **P** **08 49 28.8 -0.2**
NRIK Noril'sk 67.09 358 LR LR 09 22 30.4
comp=Z,613µm,20.8s,baz=151,slow=39
ISP Isparta 67.10 310 ⇑*i* P **P** **08 49 31.3 +1.9**
ISP Isparta 67.10 310 *e*P **P** **08 49 29.5 +0.1**
comp=Z,7µm,1.4s
ISP LR LR
comp=Z,3823µm,22.0s
ISP Isparta 67.10 310 P **P** **08 49 28.4 -1.0**
ISP Isparta 67.10 310 *d i*P **P** **08 49 27.4 -2.0**
ISP pmax pmax
comp=Z,2µm,1.3s
ISP MLR MLR
comp=Z,2955µm,17.0s
LPSR Galich'ya Gora 67.16 328 *e*P **P** **08 49 27.2 -2.1**
LPSR pmax pmax
comp=Z,210nm,0.9s
LPSR MLR MLR
comp=Z,2115µm,17.0s
ESKT Eskisehir 67.33 312 *i* P **P** **08 49 26.1 -4.8**
KSL Kastellorizon 67.39 308 P **P** **08 49 32.0 +0.9**
KSL Kastellorizon 67.39 308 P **P** **08 49 32.0 +0.9**
AKAS Kas 67.39 308 *i* P P 08 49 26.5 -4.8
BRDR BURDUR-Merkez 67.42 310 *i* P **P** **08 49 29.7 -1.7**
KZIL AFYON_Kizioren 67.50 311 *i* P **P** **08 49 29.2 -2.8**
BTAS Taskesti 67.52 313 *i* P **P** **08 49 31.5 -0.5**
HNR Honiara 67.67 101 *e*P **P** **08 49 32.0 -1.3**
HNR Honiara 67.67 101 P **P** **08 49 32.1 -1.3**
comp=Z,445nm,0.9s,baz=182,slow=6.1,SNR=14
HNR Honiara 67.67 101 *e*P **P** **08 49 32.9 -0.4**
comp=Z,14µm,1.1s
HNR LR LR
comp=Z,644µm,21.0s
HNR Honiara 67.67 101 *e*P **P** **08 49 32.9 -0.4**
HNR MLR MLR
comp=Z,644µm,21.0s
GOLH Golhisar 67.68 309 *i* P **P** **08 49 30.8 -2.3**
BORA Eskisehir 67.72 312 *i* P **P** **08 49 30.4 -2.9**
FETY Fethiye 67.90 309 P **P** **08 49 32.4 -2.0**

FETY	Fethiye	67.90	309		P		P	08 49 32.4	-2.0
GEYV	SAKARYA_Geyve	68.01	313	*i*	P		P	08 49 33.8	-1.2
AUBOZ	BOZOYUK	68.04	312	*i*	P		P	08 49 33.8	-1.5
AUKUT	KUTAHYA	68.06	312	*i*	P		P	08 49 32.8	-2.6
GDZ	Gediz	68.23	311	*i*	P		P	08 49 35.3	-1.3
TAVA	DENIZLI_Tavas	68.24	310	*i*	P		P	08 49 36.7	+0.1
KAND	Kocaeli-Kandir	68.26	314	*i*	P		P	08 49 34.7	-1.8
TURN	Turunc	68.33	309	*i*	P		P	08 49 34.8	-2.3
ARG	Arkhangelos	68.55	308		P		P	08 49 40.5	+2.1
ARG	Arkhangelos	68.55	308		P		P	08 49 40.5	+2.1
ARG	Arkhangelos	68.55	308		P		P	08 49 40.5	+2.1
MIR	Mirnyy	68.63	180⇑	*i*	P		P	08 49 42.0	+3.7
MIR					pmax	pmax			
	comp=Z,9μm,6.0s								
MIR					pmax	pmax			
	comp=Z,4μm,2.5s								
MANT	Manisa	68.77	311	*i*	P		P	08 49 37.9	-2.1
MANT	Manisa	68.77	311	*e*	P		P	08 49 39.8	-0.3
	comp=Z,11μm,1.2s								
DEMI	Demirci	68.79	311	*i*	P		P	08 49 37.8	-2.2
BUY	Buyukada	68.97	313	*i*	P		P	08 49 40.0	-0.9
DURS	Dursunbey	69.11	312	*i*	P		P	08 49 38.9	-3.1
KARP	Karpathos	69.16	307		P		P	08 49 42.6	+0.3
KARP					LR	LR			
	comp=Z,1610μm,21.0s								
KARP	Karpathos	69.16	307		P		P	08 49 42.6	+0.3
BDRM	Kayabasi	69.28	309	*i*	P		P	08 49 45.7	+2.7
MOS	Moscow	69.33	330	*k*	*i*	P	P	08 49 41.5	-1.4
MOS					*e*			08 50 02.9	
MOS					*i*	S	S	08 58 48.7	+0.8
MOS					pmax	pmax			
	comp=Z,9μm,2.2s								
MOS					pmax	pmax			
	comp=Z,2μm,1.6s								
MOS					MLR	MLR			
	comp=Z,3404μm,19.0s								
BODT	Bodrum	69.38	309		P		P	08 49 44.7	+1.1
BODT	Bodrum	69.38	309		P		P	08 49 44.7	+1.1
NISR	Nisiros	69.42	308		P		P	08 49 54.4	+11
AKHS	Akhisar	69.43	311	*i*	P		P	08 49 41.5	-2.3
CASY	Casey	69.51	173	*e*	P		P	08 49 43.2	-0.5
	comp=Z,4μm,1.4s								
CASY					LR	LR			
	comp=Z,1592μm,18.0s								
ELBA	Catalca	69.56	313	*i*	P		P	08 49 43.9	-0.8
OBN	Obninsk	69.57	329	*e*	P		P	08 49 43.6	-0.8
	comp=Z,22μm,1.7s								
OBN					LR	LR			
	comp=Z,3444μm,20.0s								
OBN	Obninsk	69.57	329	*de*	P		P	08 49 41.1	-3.2
OBN				*e*	*PP		pP	08 49 51.4	-1.3
OBN				*e*				08 50 02.9	
OBN				*e*				08 52 14.7	
OBN				*e*	PPP		PPP	08 54 02.1	
OBN				*i*	S		S	08 58 48.4	-2.3
OBN					pmax	pmax			
	comp=Z,883nm,1.4s								
OBN					pmax	pmax			
	comp=Z,75μm,6.6s								
OBN					MLR	MLR			
	comp=Z,3008μm,19.0s								
GCAM	G?zelcami?	69.59	309	*i*	P		P	08 49 43.5	-1.3
STEP	BALIKESIR_Sava	69.62	311	*i*	P		P	08 49 44.0	-1.2
BALY	Balya	69.79	312	*i*	P		P	08 49 43.4	-2.7
ZKR	Zakros	69.82	307		P		P	08 49 49.7	+3.3
ZKR	Zakros	69.82	307		P		P	08 49 49.7	+3.3
SMG	Samos	69.90	309		P		P	08 49 47.2	+0.4
SMG	Samos	69.90	309		P		P	08 49 47.2	+0.4
DGB	˙zmir	69.94	310	*i*	P		P	08 49 50.2	+3.2
I43RU	DUBNA INFRASON	70.00	331		P		P	08 49 54.2	+7.2
	baz=97,slow=10,SNR=2.2								
EFOR	EFORIE	70.23	316	⇓	*i*	P	P	08 49 50.0	+1.4
ZEY	˙zmir	70.27	310	*i*	P		P	08 49 49.2	+0.1
NPS	Neapolis	70.34	307		P		P	08 49 50.1	+0.6
NPS	Neapolis	70.34	307		P		P	08 49 50.1	+0.6
NPS	Neapolis	70.34	307		P		P	08 49 50.1	+0.6
SART	Tekirdag	70.35	313	*i*	P		P	08 49 48.0	-1.6
AYVA	Ayvalik	70.38	311	*i*	P		P	08 49 46.8	-2.9
LAST	Lasithi	70.42	307		P		P	08 49 51.5	+1.3
LAST	Lasithi	70.42	307		P		P	08 49 51.5	+1.3
PSN	Preselentsi	70.43	316		P		P	08 49 51.7	+1.8
TIRR	Tirgusor	70.49	317⇑	*i*	P		P	08 49 52.5	+2.3
TIRR	Tirgusor	70.49	317	*e*	P		P	08 49 49.3	-1.0
	comp=Z,2μm,1.0s								
TIRR					LR	LR			
	comp=Z,2052μm,18.0s								
TIRR	Tirgusor	70.49	317	*e*	P		P	08 49 49.3	-1.0
TIRR					pmax	pmax			
	comp=Z,2μm,1.0s								
TIRR					MLR	MLR			
	comp=Z,2052μm,18.0s								
LBTB	Lobatse	70.62	243	*e*	P		P	08 49 50.1	-1.5
LBTB	Lobatse	70.62	243	*e*	P		P	08 49 50.1	-1.5
CHOS	Chios island	70.65	310		P		P	08 49 54.3	+2.8
CHOS	Chios island	70.65	310		P		P	08 49 54.3	+2.8
THR8	Santorini-Mono	70.67	308		P		P	08 49 53.4	+1.9
PRK	Paraskevi	70.68	311		P		P	08 49 53.9	+2.4
PRK	Paraskevi	70.68	311		P		P	08 49 53.9	+2.4
PRK	Paraskevi	70.68	311		P		P	08 49 53.9	+2.4
SANT	Santorini	70.68	308	⇓	*i*	P	P	08 49 52.3	+0.6
SANT	Santorini	70.68	308	*e*	P		P	08 49 51.6	-0.1
	comp=Z,6μm,1.0s								
SANT					LR	LR			
	comp=Z,1629μm,20.0s								
SANT	Santorini	70.68	308		P		P	08 49 52.5	+0.8
THT1	Athinios (Pele	70.71	308		P		P	08 49 54.3	+2.6
THR2	Thira island,	70.72	308		P		P	08 49 58.7	+6.9
THR7	Fira-Santorini	70.72	308		P		P	08 49 54.2	+2.4
THT2	Imerovigli	70.72	308		P		P	08 49 54.3	+2.4
THR6	Thira Island,	70.73	308		P		P	08 49 53.0	+1.1
THR6	Thira Island,	70.73	308		P		P	08 49 53.0	+1.1
THR3	Thira Island,	70.74	308		P		P	08 49 53.7	+1.8
THR3	Thira Island,	70.74	308		P		P	08 49 53.7	+1.8
THR9	Santorini-Faro	70.76	308		P		P	08 49 54.9	+2.8
APE	Apeiranthos	70.77	309		P		P	08 49 54.0	+1.8
APE	Apeiranthos	70.77	309		P		P	08 49 54.0	+1.8
APE	Apeiranthos	70.77	309		P		P	08 49 54.0	+1.8
SAP4	Santorini-Oia	70.77	308		P		P	08 50 02.4	+10
EZN	Ezine	70.78	311		P		P	08 49 52.2	+0.1
EZN	Ezine	70.78	311		P		P	08 49 52.2	+0.1
EZN	Ezine	70.78	311		P		P	08 49 52.2	+0.1
IACM	Heraklion	70.78	307		P		P	08 49 55.4	+3.2
THR5	Thira Island,	70.78	308		P		P	08 49 53.7	+1.5
SAP3	Santorini-Thir	70.78	308		P		P	08 49 54.7	+2.5
PRD	Provadia	70.84	315		P		P	08 49 53.2	+0.8
CFR	Carcaliu	70.89	317⇑	*i*	P		P	08 49 53.3	+0.7
HARR	Harsova	70.89	317	⇓	*i*	P	P	08 49 54.7	+2.0
IDI	Anoyia	70.92	307		LR	LR		09 26 04.8	
	comp=Z,979μm,18.3s,baz=94,slow=40								
IDI	Anoyia	70.92	307	⇓	*i*	P	P	08 49 56.6	+3.4
IDI	Anoyia	70.92	307	*e*	P		P	08 49 53.8	+0.6
	comp=Z,4μm,0.8s								
GIUM	Giurgiulesti	70.92	318	⇓	*i*	P		08 49 59.2	+6.3
SIVA	Sivas	70.93	306		P		P	08 49 53.3	+0.1
SIVA	Sivas	70.93	306		P		P	08 49 53.3	+0.1
LHI	Lord Howe Isla	70.96	124	*e*	P		P	08 49 53.1	-0.3
	comp=Z,3μm,1.1s								
LHI					LR	LR			
	comp=Z,2274μm,22.0s								
KIS	Kishinev	70.97	319	*e*	P		P	08 49 50.5	-2.7
	comp=Z,3μm,2.4s								
KIS				*i*	S		S	08 59 10.5	+3.0
	comp=Z,310μm,9.0s								
KIS					LRM	MLR		09 25 10.0	
	comp=Z,2790μm,18.0s								
KIS	Kishinev	70.97	319⇑	*i*	P		P	08 49 53.2	0.0
KIS	Kishinev	70.97	319	*e*	P		P	08 49 50.5	-2.7
KIS				*i*				08 52 35.0	
KIS				*i*				08 54 08.0	
KIS				*i*	S		S	08 59 10.5	+3.0
KIS				*i*				08 59 28.0	
KIS					pmax	pmax			
	comp=Z,3μm,2.4s								
KIS					pmax	pmax			
	comp=E,1μm,2.3s								
KIS					pmax	pmax			
	comp=N,19μm,10.0s								
KIS					pmax	pmax			
	comp=Z,30μm,10.0s								
BOZC	Bozcaada	70.98	311	*i*	P		P	08 49 52.0	-1.4
SIGR	SIGRI	70.99	311		P		P	08 49 53.5	+0.1
SIGR	SIGRI	70.99	311		P		P	08 49 53.5	+0.1
KLMR	Klimovskoe	71.05	335	⇓	*i*	P	P	08 49 51.8	-1.5
KLMR					*i*	P	P	08 49 51.8	-1.5
KLMR					AMP			08 50 09.7	
	comp=Z,917nm,0.9s								
KLMR					*e*	PP	PP	08 52 33.5	+2.6
KLMR					*e*	PPP	PPP	08 54 13.2	
KLMR					*e*	S	S	08 59 07.1	-0.7
KLMR					*e*	S	S	08 59 07.1	-0.7
KLMR					LQ		LQ	09 16 18.8	
KLMR					LQ		LQ	09 16 18.8	
KLMR					LR		LR	09 21 09.7	
KLMR					AMP			09 28 18.3	
KLMR	Klimovskoe	71.05	335	*d*	P		P	08 49 51.7	-1.5
KLMR					*e*			08 52 33.4	
KLMR					*e*	PPP	PPP	08 54 13.2	
KLMR					*e*	S	S	08 59 07.0	-0.7
KLMR					pmax	pmax			
	comp=Z,917nm,0.9s								
ENEZ	Enez	71.12	312		P		P	08 49 54.0	-0.2
GADA	Gvkgeada	71.18	312		P		P	08 49 54.0	-0.5
GADA	Gvkgeada	71.18	312		P		P	08 49 54.0	-0.5
LEOM	Leova	71.19	319⇑	*i*	P		P	08 49 54.5	0.0
JMB	Yambol	71.23	314		P		P	08 49 57.3	+2.5
ALN	Alexandroupoli	71.24	313		P		P	08 49 54.6	-0.3
ALN	Alexandroupoli	71.24	313		P		P	08 49 54.6	-0.3
ALN	Alexandroupoli	71.24	313		P		P	08 49 54.6	-0.3
AMRR	Amara	71.27	317	⇓	*i*	P	P	08 50 05.3	+10
GVD	Gavdhos	71.48	306		P		P	08 49 57.6	+1.1
GVD	Gavdhos	71.48	306		P		P	08 49 57.6	+1.1
SKR	Severo-Kuril's	71.49	37	*e*	P		P	08 49 56.2	0.0
SKR					pmax	pmax			
	comp=Z,85μm,5.8s								
SKR					pmax	pmax			
	comp=Z,8μm,1.8s								
SKR					MLR	MLR			
	comp=Z,2183μm,19.0s								
VAM	Vamos	71.50	307		P		P	08 49 57.9	+1.3
VAM	Vamos	71.50	307		P		P	08 49 57.9	+1.3
VAM	Vamos	71.50	307		P		P	08 49 57.9	+1.3
SMTH	Samothraki Isl	71.52	312		P		P	08 49 53.2	-3.4
SMTH	Samothraki Isl	71.52	312		P		P	08 49 53.2	-3.4
MHLO	Agia Marina, M	71.58	308		P		P	08 49 58.9	+1.9
SORM	Soroca	71.62	320⇑	*i*	P		P	08 49 56.0	-1.0
LIA	Limnos Island	71.65	311		P		P	08 49 56.5	-0.9
LIA	Limnos Island	71.65	311		P		P	08 49 56.5	-0.9
PETR	Petresti	71.65	318	⇓	*i*	P	P	08 50 00.3	+3.0
RDO	Rodhopi	71.67	313		P		P	08 49 56.7	-0.8
RDO	Rodhopi	71.67	313		P		P	08 49 56.7	-0.8
IMMV	Iera Moni Meta	71.68	307		P		P	08 49 58.2	+0.5
BOSA	Boshof	71.69	239	*i*	P		P	08 49 59.5	+1.5
BOSA	Boshof	71.69	239		P		P	08 49 55.9	-2.1
	comp=Z,55nm,0.7s,baz=84,slow=5.8,SNR=68								
BOSA					LR	LR		09 19 12.6	
	comp=Z,3399μm,19.0s,baz=58,slow=34								
BOSA	Boshof	71.69	239	*e*	P		P	08 49 56.2	-1.8
	comp=Z,7μm,1.5s								
BOSA	Boshof	71.69	239	*i*	P		P	08 49 59.5	+1.5
BOSA	Boshof	71.69	239	*i*	P		P	08 49 59.5	+1.5
BOSA	Boshof	71.69	239	*e*	P		P	08 49 56.3	-1.8
BOSA					pmax	pmax			
	comp=Z,7μm,1.5s								
GRER		71.73	317⇑	*i*	P		P	08 50 00.7	+2.9
KARY	Karystos	71.82	309		P		P	08 49 58.6	+0.1
IAS	Iasi	71.85	319	⇓	*i*	P	P	08 50 00.4	+2.0
KDZ	Kurdzhali	71.88	313		P		P	08 50 01.9	+3.1
DIM	Dimitrovgrad	71.89	314		P		P	08 49 59.4	+0.6
SZH	Strazhica	71.90	315		P		P	08 50 01.1	+2.3
AKASG	Malin Array Be	71.91	323		P		P	08 49 55.3	-3.4
	comp=Z,67nm,1.0s,baz=88,slow=4.9,SNR=46								
AKASG					LR	LR		09 24 50.7	
	comp=Z,2319μm,21.1s,baz=105,slow=39								
AKBB	Malin Array Si	71.91	323	*e*	P		P	08 49 55.5	-3.2
	comp=Z,3μm,1.2s								
AKBB	Malin Array Si	71.91	323	*e*	P		P	08 49 55.5	-3.2
AKBB					pmax	pmax			
	comp=Z,3μm,1.2s								
SKY	Skiros Island	71.91	310		P		P	08 50 00.8	+1.8
SKY	Skiros Island	71.91	310		P		P	08 50 00.8	+1.8
KIEV	Kiev	71.91	323	*e*	P		P	08 49 55.5	-3.3
	comp=Z,3μm,1.2s								
KIEV					LR	LR			
	comp=Z,2946μm,22.0s								
KIEV	Kiev	71.91	323	*i*	P		P	08 49 57.4	-1.4
	SNR=102								
KIEV	Kiev	71.91	323	*d*	*i*	P	P	08 49 55.4	-3.3
KIEV					pmax	pmax			
	comp=Z,690nm,1.1s								
KIEV					MLR	MLR			
	comp=Z,3238μm,23.0s								
AK11	Malin Array Si	71.93	323	*e*	P		P	08 49 55.5	-3.3
ISR	Istrita	71.95	317	⇓	*i*	P	P	08 50 01.0	+1.8
VRI	Vrincioaia	72.03	318	⇓	*i*	P	P	08 50 02.8	+3.2
SULR		72.03	316	⇑	*i*	P	P	08 50 08.2	+8.6
PLOR	Plostina	72.08	318	⇓	*i*	P	P	08 50 01.4	+1.5
BUC1	Bucharest	72.10	316	⇓	*i*	P	P	08 50 02.7	+2.7
MA2	Magadan	72.26	27		LR	LR		09 26 30.0	
	comp=Z,1818μm,18.4s,baz=238,slow=40								
MA2	Magadan	72.26	27	*e*	P		P	08 50 00.2	-0.4
TESR	Tescani	72.26	318	⇓	*i*	P	P	08 50 01.2	+0.3
PTL	Penteli	72.27	309		P		P	08 50 00.2	-1.0
PTL	Penteli	72.27	309		P		P	08 50 00.2	-1.0
VLY	Voula,Athens	72.28	309		P		P	08 50 00.9	-0.4
EREA	Eretria	72.29	310		P		P	08 50 01.8	+0.5
ANKY	Antikythira Is	72.30	307		P		P	08 50 01.7	+0.3
ANKY	Antikythira Is	72.30	307		P		P	08 50 01.7	+0.3
PVL	Pavlikeni	72.31	315		P		P	08 50 02.9	+1.6
ATHU	Athens Univers	72.31	309		P		P	08 50 03.4	+2.0
ATHU	Athens Univers	72.31	309		P		P	08 50 03.4	+2.0
ATH	Athens Observa	72.37	309		P		P	08 50 01.3	-0.4
ATH	Athens Observa	72.37	309		P		P	08 50 01.3	-0.4
ATH	Athens Observa	72.37	309		P		P	08 50 01.3	-0.4
KAVA	Kavala	72.39	312		P		P	08 50 00.9	-0.9
KAVA	Kavala	72.39	312		P		P	08 50 00.9	-0.9
MLR	Muntele Rosu	72.46	317		LR	LR		09 26 07.0	
	comp=Z,402μm,19.0s,baz=102,slow=39								
MLR	Muntele Rosu	72.46	317	⇑	*i*	P	P	08 50 02.1	-0.2
MLR	Muntele Rosu	72.46	317	*e*	P		P	08 50 00.2	-2.1
	comp=Z,12μm,1.3s								
MLR	Muntele Rosu	72.46	317	*e*	P		P	08 50 00.2	-2.1
PLD	Plovdiv	72.50	314		P		P	08 50 04.9	+2.5
KYTH	Kithira	72.57	307		P		P	08 50 05.0	+1.9
KYTH	Kithira	72.57	307		P		P	08 50 05.0	+1.9
DID	Didima	72.65	309		P		P	08 50 01.8	-1.7
DID	Didima	72.65	309		P		P	08 50 01.8	-1.7
KRND	KRANIDI	72.69	308		P		P	08 50 02.1	-1.6
VILL	Villia	72.72	309		P		P	08 50 02.7	-1.2
VLI	Veliai	72.74	308		P		P	08 50 02.5	-1.5
VLI	Veliai	72.74	308		P		P	08 50 02.5	-1.5
PAIG	Paliouri	72.78	311		P		P	08 50 03.0	-1.2
PAIG	Paliouri	72.78	311		P		P	08 50 03.0	-1.2
PAIG	Paliouri	72.78	311		P		P	08 50 03.0	-1.2
SKIA	Skiathos	72.79	310		P		P	08 50 02.6	-1.7
MAW	Mawson	72.82	192		P		P	08 50 03.6	-0.2
	comp=Z,91nm,0.9s,baz=4.9,slow=5.8,SNR=30								
MAW					LR	LR		09 16 38.5	
	comp=Z,1737μm,21.2s,baz=28,slow=31								
MAW	Mawson	72.82	192		P		P	08 50 03.9	+0.2
	baz=73,SNR=62								
MAW	Mawson	72.82	192	*e*	P		P	08 50 04.0	+0.2
	comp=Z,986nm,1.4s								
MAW	Mawson	72.82	192	*e*	P		P	08 50 04.0	+0.2
MAW					pmax	pmax			
	comp=Z,986nm,1.4s								
HUMR	Humele	72.88	316	⇑	*i*	P	P	08 50 06.7	+2.1
SMIA	Simia	72.93	310		P		P	08 50 04.7	-0.4
TIXI	Tiksi	72.94	11	*e*	P		P	08 50 01.0	-3.5
	comp=Z,5μm,1.0s								
TIXI					LR	LR			
	comp=Z,3335μm,19.0s								
TIXI	Tiksi	72.94	11	*d*	*i*	P	P	08 50 01.1	-3.4
TIXI					pmax	pmax			
	comp=Z,2μm,1.0s								
LOUT	Loutraki	72.94	309		P		P	08 50 03.5	-1.7
NVR	Nevrokopi	72.95	313		P		P	08 50 04.1	-1.1
NVR	Nevrokopi	72.95	313		P		P	08 50 04.1	-1.1
DOPR	Dopca	72.96	318	⇓	*i*	P	P	08 50 05.8	+0.7
LTK	Loutraki	72.96	309		P		P	08 50 03.8	-1.5
GOLR		72.96	316	⇓	*i*	P	P	08 50 07.5	+2.3
PGB	Panagyurishte	72.99	314		P		P	08 50 07.4	+2.0
MTUR	Matau	72.99	317	⇓	*i*	P	P	08 50 14.6	+9.2
NEO	Neokhori	73.00	310		P		P	08 50 03.5	-2.1
NEO	Neokhori	73.00	310		P		P	08 50 03.5	-2.1
XOR	Xorichti	73.04	310		P		P	08 50 04.2	-1.6
XOR	Xorichti	73.04	310		P		P	08 50 04.2	-1.6
LKR	Lokris	73.05	310		P		P	08 50 03.8	-2.0
LKR	Lokris	73.05	310		P		P	08 50 03.8	-2.0
PLG	Polygyros	73.05	312		P		P	08 50 07.6	+1.8
PLG	Polygyros	73.05	312		P		P	08 50 07.6	+1.8
PLG	Polygyros	73.05	312		P		P	08 50 07.6	+1.8
VOIR		73.05	317	⇓	*i*	P	P	08 50 04.6	-1.2
PROD	Prodromos	73.05	309		P		P	08 50 05.0	-0.8
MMB	Musomiste	73.10	313		P		P	08 50 06.8	+0.7
SRS	Serrai	73.10	312		P		P	08 50 04.5	-1.5
SRS	Serrai	73.10	312		P		P	08 50 04.5	-1.5
SRS	Serrai	73.10	312		P		P	08 50 04.5	-1.5
THAL	Thalero	73.20	309		P		P	08 50 05.2	-1.5
SOH	Sokhos	73.21	312		P		P	08 50 04.9	-1.9
SOH	Sokhos	73.21	312		P		P	08 50 04.9	-1.9
SOH	Sokhos	73.21	312		P		P	08 50 04.9	-1.9
DYR	Agios Nikonas	73.23	308		P		P	08 50 06.3	-0.6
PEA0B	Petropavlovsk-	73.23	35	*e*	P		P	08 50 06.2	-0.4
	comp=Z,3μm,1.4s								
PETK	Petropavlovsk-	73.23	35		P		P	08 50 06.6	0.0
	comp=Z,7.1nm,0.7s,baz=223,slow=3.7,SNR=10.0								
PETK					PKKP		PKKPdf	09 09 26.0	-5.6
	comp=Z,18nm,1.0s,baz=112,slow=3.9,SNR=3.7								
PETK					PKPPKP		P'P'df	09 17 45.0	-1.4
	comp=Z,9.9nm,1.0s,baz=112,slow=6.6,SNR=3.3								
PETK	Petropavlovsk-	73.23	35	*e*	P		P	08 50 07.2	+0.6
PETK	Petropavlovsk-	73.23	35	*e*	P		P	08 50 07.2	+0.6
FYTO	Fytoko, Volos	73.24	310		P		P	08 50 05.4	-1.5
FYTO	Fytoko, Volos	73.24	310		P		P	08 50 05.4	-1.5
VLX	Vlachokerasia	73.30	308		P		P	08 50 06.5	-0.9
VLX	Vlachokerasia	73.30	308		P		P	08 50 06.5	-0.9
ARR	Arges	73.32	317⇑	*i*	P		P	08 50 08.2	+0.9
AXAR	Agios Charalam	73.33	310		P		P	08 50 11.6	+4.1
AXAR	Agios Charalam	73.33	310		P		P	08 50 11.6	+4.1
HORT	Hortiatis	73.36	312		P		P	08 50 06.4	-1.3
HORT	Hortiatis	73.36	312		P		P	08 50 06.4	-1.3
DSF	Desfina	73.37	309		P		P	08 50 08.0	+0.2
DSF	Desfina	73.37	309		P		P	08 50 08.0	+0.2
TMCR	Tamitsa	73.37	338	*e*	P		P	08 50 07.3	+0.2
TMCR					pmax	pmax			
	comp=Z,1μm,0.9s								
TRIP	Tripoli	73.41	308		P		P	08 50 08.3	+0.3
GUR	Goura	73.43	309		P		P	08 50 06.6	-1.6
GUR	Goura	73.43	309		P		P	08 50 06.6	-1.6
THE	Thessaloniki	73.46	312		P		P	08 50 06.6	-1.6
THE	Thessaloniki	73.46	312		P		P	08 50 06.6	-1.6
THE	Thessaloniki	73.46	312		P		P	08 50 06.6	-1.6
MPEP	Malo Peshtene	73.47	315		P		P	08 50 07.6	-0.6
BURAR	Bucovina Array	73.50	319⇑	*i*	P		P	08 50 09.7	+1.3
BUR04	Bucovina Ar. S	73.50	319	*e*	P		P	08 50 06.0	-2.5
BUR08	Bucovina Ar. S	73.52	319	*e*	P		P	08 50 06.6	-1.9
KLV	Kalavryta, Ach	73.59	309		P		P	08 50 07.3	-1.8
KLV	Kalavryta, Ach	73.59	309		P		P	08 50 07.3	-1.8
KNT	Kendrikon	73.62	312		P		P	08 50 08.0	-1.1
KNT	Kendrikon	73.62	312		P		P	08 50 08.0	-1.1
KNT	Kendrikon	73.62	312		P		P	08 50 08.0	-1.1
ITM	Ithomi	73.62	308		P		P	08 50 08.7	-0.5
ITM	Ithomi	73.62	308		P		P	08 50 08.7	-0.5
KKB	Krupnik	73.63	313		P		P	08 50 09.7	+0.5
AGG	Agios Georgios	73.63	310	*e*	P		P	08 50 08.7	-0.6
	comp=Z,7μm,1.4s								
AGG	Agios Georgios	73.63	310		P		P	08 50 06.9	-2.4
AGG	Agios Georgios	73.63	310	*e*	P		P	08 50 08.7	-0.6
AGG					pmax	pmax			
	comp=Z,7μm,1.4s								
KALE	Kalithea	73.67	309		P		P	08 50 07.2	-2.3
KALE	Kalithea	73.67	309		P		P	08 50 07.2	-2.3
VTS	Vitosha	73.69	314	⇓	*i*	P	P	08 50 08.7	-0.9
VTS	Vitosha	73.69	314	*e*	P		P	08 50 08.9	-0.7
VTS					comp=Z,2μm,1.1s				
					LR	LR			
	comp=Z,3676μm,21.0s								
VTS	Vitosha	73.69	314		P		P	08 50

PVO	Paravola	74.18 309	P	P	08 50 12.5	+0.1		
KZN	Kozani	74.29 311	P	P	08 50 11.9	-1.3		
KZN	Kozani	74.29 311	P	P	08 50 11.9	-1.3		
KZN	Kozani	74.29 311	P	P	08 50 11.9	-1.3		
VTN	Vitineika	74.32 309	P	P	08 50 14.7	+1.4		
CJR	Cluj-Napoca	74.34 318	*i* P	P	08 50 23.3	+10		
PDO	Prodromos	74.44 309	P	P	08 50 13.2	-0.8		
SEY	Seymchan	74.49 24	LR	LR	09 26 48.2			
	comp=E,2056µm,18.3s,baz=249,slow=39							
SEY	Seymchan	74.49 24	*e*P	P	08 50 11.3	-2.4		
KPRO	Kipourio	74.54 311	P	P	08 50 12.5	-2.1		
DSL	Palaion Diasel	74.60 310	P	P	08 50 13.7	-1.2		
DSL	Palaion Diasel	74.60 310	P	P	08 50 13.7	-1.2		
PUL	Pulkovo	74.61 332	*e*P	P	08 50 13.2	-1.2		
PUL			pmax	pmax				
	comp=Z,2µm,0.7s							
PUL			MLR	MLR				
	comp=Z,3169µm,22.0s							
DEV	Deva	74.62 317	‖ *i* P	P	08 50 16.3	+1.5		
KFL	Anninata	74.67 309	P	P	08 50 13.8	-1.5		
FNA	Florina	74.68 312	P	P	08 50 13.4	-2.0		
FNA	Florina	74.68 312	P	P	08 50 13.4	-2.0		
FNA	Florina	74.68 312	P	P	08 50 13.4	-2.0		
NACGM	Naroch	74.68 327	*e*P	P	08 50 12.0	-3.0		
NACGM			*e*PP	PP	08 52 40.0	-22		
NACGM			*e*PPP	PPP	08 54 53.0			
NACGM			*e*S	SKiKP	08 59 32.0	-7.0		
NACGM			*e*PS	PnS	09 00 03.0	-23		
NACGM			*e*SS	SS	09 03 30.0	-67		
NACGM			*e*SSS	SSS	09 06 40.0			
PENT	Pentalofos	74.75 311	P	P	08 50 16.5	+0.6		
BIA	Bitola	74.76 312	P	P	08 50 22.1	+6.3		
BIA	Bitola	74.76 312	P	P	08 50 22.1	+6.3		
BIA	Bitola	74.76 312	*i* P	P	08 50 18.5	+2.6		
LVV	L'vov	74.83 321	*e*P	P	08 50 18.6	+2.6		
LVV			*e*		08 50 30.9			
LVV			*e*		08 53 07.6			
LVV			*e*S	S	08 59 50.9	-0.4		
LVV			*e*		09 00 41.1			
LVV			*e*		09 04 44.2			
LVV			MLR	MLR				
	comp=Z,2387µm,20.0s							
LVV			MLR	MLR				
	comp=N,647µm,18.0s							
LVV			MLR	MLR				
	comp=E,1760µm,19.0s							
VLS	Valsamata	74.83 309	P	P	08 50 15.1	-1.2		
VLS	Valsamata	74.83 309	P	P	08 50 15.1	-1.2		
VLS	Valsamata	74.83 309	P	P	08 50 15.1	-1.2		
IDID	Didziasalis	74.83 327	*e*P	P	08 50 15.6	-0.2		
IDID			IAmb	IAmb	08 50 38.1			
	comp=Z,2µm,1.0s							
SKO	Skopje	74.85 313	P	P	08 50 15.0	-1.3		
SKO	Skopje	74.85 313	P	P	08 50 15.0	-1.3		
SKO	Skopje	74.85 313	P	P	08 50 15.0	-1.3		
NEST	Nestorio	74.86 311	P	P	08 50 15.2	-1.3		
JAN	Janina	74.88 310	P	P	08 50 16.0	-0.5		
JAN	Janina	74.88 310	P	P	08 50 16.0	-0.5		
JAN	Janina	74.88 310	P	P	08 50 16.0	-0.5		
LKD2	Lefkada island	74.88 310	P	P	08 50 15.8	-0.7		
LKD2	Lefkada island	74.88 310	P	P	08 50 15.8	-0.7		
KRUS	Krusevo	74.88 312	*i* P	P	08 50 14.7	-1.8		
FSK	Fiskardo	74.90 309	P	P	08 50 15.8	-0.8		
DRGR		74.95 318	‖ *i* P	P	08 50 18.5	+1.6		
KBN	Korca	75.09 311	P	P	08 50 16.8	-1.0		
KBN	Korca	75.09 311	P	P	08 50 16.8	-1.0		
KBN	Korca	75.09 311	*i* P	P	08 50 19.7	+1.9		
KBN	Korca	75.09 311	P	P	08 50 16.8	-1.0		
IIGN	Ignalina	75.12 327	*e*P	P	08 50 17.3	-0.2		
IIGN			IAmb	IAmb	08 50 39.8			
	comp=Z,2µm,1.0s							
OHR	Ohrid	75.17 312	*i* P	P	08 50 15.9	-2.3		
IZAR	Zarasai	75.24 328	*e*P	P	08 50 17.9	-0.2		
IZAR			IAmb	IAmb	08 50 40.3			
	comp=Z,1µm,1.1s							
ISAL	Salakas	75.25 327	*e*P	P	08 50 18.0	-0.2		
ISAL			IAmb	IAmb	08 50 40.4			
	comp=Z,1µm,1.1s							
IGT	Igoumenitsa	75.25 310	P	P	08 50 17.9	-0.7		
IGT	Igoumenitsa	75.25 310	P	P	08 50 17.9	-0.7		
IGT	Igoumenitsa	75.25 310	P	P	08 50 17.9	-0.7		
SGD	Sagiada	75.34 310	P	P	08 50 17.6	-1.5		
TRPA	Tarpa	75.37 319	‖ *e*P	P	08 50 29.0	+10		
BZS	Buzias	75.44 317	‖ *i*P	P	08 50 19.2	-0.4		
DZM	Mont Dzumac	75.53 113	P	P	08 50 19.7	-1.0		
	comp=Z,109nm,0.9s,baz=299,slow=2.4,SNR=27							
DZM			LR	LR	09 27 54.8			
	comp=Z,1850µm,18.8s,baz=290,slow=39							
DZM	Mont Dzumac	75.53 113	*e*P	P	08 50 21.8	+1.1		
	comp=Z,7µm,1.4s							
DZM			*e*S	S	09 00 03.7	+3.4		
	comp=Z,1777µm,30.4s							
DZM			*e*SS	SS	09 04 54.0	+2.4		
	comp=Z,2079µm,28.4s							
DZM			*e*LR	LR	09 13 36.4			
	comp=Z,3631µm,29.2s							
DZM	Mont Dzumac	75.53 113	*e*P	P	08 50 19.5	-1.1		
	comp=Z,4µm,1.4s							
PHP	Peshkopia	75.53 312	P	P	08 50 19.1	-1.2		
PHP	Peshkopia	75.53 312	P	P	08 50 19.1	-1.2		
PHP	Peshkopia	75.53 312	P	P	08 50 19.1	-1.2		
SIRR	Siria	75.55 317	‖ *i*P	P	08 50 21.1	+0.9		
SRN	Sarande	75.56 311	P	P	08 50 19.0	-1.4		
SRN	Sarande	75.56 311	P	P	08 50 19.0	-1.4		
SRN	Sarande	75.56 311	*i* P	P	08 50 34.4	+14		
KWP	Kalwaria Pacla	75.62 321	*e*P	P	08 50 20.4	-0.1		
	comp=Z,351µm,20.0s							
KWP			*e*S	S	09 00 05.9	+5.8		
KWP			*e*SS	SS	09 04 59.8	+8.3		
KWP			LMZ	LR	09 24 08.0			
	comp=Z,2445µm,24.0s							
KWP	Kalwaria Pacla	75.62 321	PFAKE		08 50 30.0	+9.5		
KWP			LR	LR				
	comp=Z,19463µm,22.0s							
KWP	Kalwaria Pacla	75.62 321	*e*P	P	08 50 20.4	-0.1		
KWP			*e*S	S	09 00 05.9	+5.8		
KWP			MLR	MLR				
	comp=Z,2445µm,24.0s							
UZH	Uzhgorod	75.65 320	*e*P	P	08 50 20.0	-0.7		
UZH			*e*		08 50 30.8			
UZH			*e*		08 50 34.6			
UZH			*e*S	S	08 59 59.0	-1.4		
UZH			*e*PS	PnS	09 00 59.9	+21		
UZH			*e*SS	SS	09 04 48.2	-3.8		
UZH			*e*SSS	SSS	09 08 08.4			
KEK	Kerkira	75.69 310	P	P	08 50 20.0	-1.1		
KEK	Kerkira	75.69 310	P	P	08 50 20.0	-1.1		
BANR	Banloc	75.73 316	‖ *i*P	P	08 50 29.0	+7.8		
VSU	Vasula	75.86 330	*e*P	P	08 50 19.8	-1.9		
VSU			pmax	pmax				
	comp=Z,6µm,1.1s							
VSU			MLR	MLR				
	comp=Z,7313µm,20.0s							
TIR	Tirane	75.90 312	‖ *i*P	P	08 50 24.9	+2.6		
TIR	Tirane	75.90 312	*e*P	P	08 50 22.1	-0.2		
	comp=Z,3µm,1.2s							
TIR			LR	LR				
	comp=Z,2924µm,22.0s							
TIR	Tirane	75.90 312	P	P	08 50 22.4	+0.1		
TIR	Tirane	75.90 312	*e*P	P	08 50 22.1	-0.2		
TIR			pmax	pmax				
	comp=Z,3µm,1.2s							
TIR			MLR	MLR				
	comp=Z,2924µm,22.0s							
BCI	Bajram Curri	75.92 313	*i* P	P	08 50 25.7	+3.2		
PUK	Puka	76.00 313	*i* P	P	08 50 34.4	+11		
PVY	Plav	76.04 313	*e*P	P	08 50 22.0	-1.3		
IVA	Berane	76.14 314	‖ *i*P	P	08 50 22.9	-0.9		
CRVS	Cervenica-Dubn	76.25 320	*e*P	P	08 50 24.1	0.0		
CRVS			*e*S	S	09 00 12.4	+5.4		
CRVS			*e*SS	SS	09 04 58.3	-2.8		
CRVS	Cervenica-Dubn	76.25 320	*e*P	P	08 50 24.1	0.0		
CRVS			*e*S	S	09 00 12.4	+5.4		
CRVS			*e*SS	SS	09 04 58.3	-2.8		
SUR	Sutherland	76.25 236	*i* P	P	08 50 27.6	+2.8		
SUR	Sutherland	76.25 236	*e*P	P	08 50 25.7	+1.0		
	comp=Z,12µm,1.8s							
SUR			LR	LR				
	comp=Z,5298µm,18.0s							
SUR	Sutherland	76.25 236	pP	pP	08 50 29.4	-3.7		
	SNR=60							
SUR	Sutherland	76.25 236	P	pP	08 50 29.4	-3.7		
	SNR=60							
SUR	Sutherland	76.25 236	*i* P	P	08 50 27.6	+2.8		
SUR	Sutherland	76.25 236	*i* P	P	08 50 27.6	+2.8		
DIVS	Divibare	76.28 315	*e*P	P	08 50 24.1	-0.5		
	comp=Z,3µm,1.2s							
DIVS			LR	LR				
	comp=Z,1365µm,20.0s							
KOME	Kolasin	76.41 313	‖ *i*P	P	08 50 24.6	-0.7		
SUW	Suwalki	76.43 325	*e*P	P	08 50 23.7	-1.3		
	comp=Z,286µm,21.1s							
SUW			*e*S	S	09 00 12.8	+4.0		
SUW			*e*SS	SS	09 05 04.4	+0.8		
SUW			LMZ	LR	09 27 17.6			
	comp=Z,3867µm,21.3s							
SUW	Suwalki	76.43 325	*e*P	P	08 50 23.9	-1.1		
	comp=Z,10µm,1.1s							
SUW			LR	LR				
	comp=Z,3862µm,21.0s							
SUW	Suwalki	76.43 325	*e*P	P	08 50 23.7	-1.3		
SUW			*e*S	S	09 00 12.8	+4.0		
SUW			*e*SS	SS	09 05 04.4	+0.8		
SUW			MLR	MLR				
	comp=Z,3867µm,21.3s							
LVZ	Lovozero	76.45 341	*e*P	P	08 50 23.8	-1.2		
	comp=Z,1µm,0.8s							
LVZ	Lovozero	76.45 341	*e*P	P	08 50 23.6	-1.4		
LVZ			pmax	pmax				
	comp=Z,2µm,1.7s							
LVZ			MLR	MLR				
	comp=Z,3305µm,19.0s							
ULC	Ulcinj	76.46 313	‖ *i*P	P	08 50 25.7	+0.2		
STHS	Stebnicka Huta	76.50 320	*e*P	P	08 50 25.0	-0.6		
STHS	Stebnicka Huta	76.50 320	*e*P	P	08 50 25.0	-0.6		
PDG	Podgorica	76.53 313	P	P	08 50 24.5	-1.3		
TTG	Podgorica	76.53 313	*e*P	P	08 50 24.9	-0.9		
TTG	Podgorica	76.53 313	*e*P	P	08 50 24.7	-1.1		
	comp=Z,10µm,2.0s							
TTG			LR	LR				
	comp=Z,2846µm,21.0s							
TTG	Podgorica	76.53 313	*e*P	P	08 50 24.7	-1.1		
TTG			MLR	MLR				
	comp=Z,2846µm,21.0s							
DRME	Dracevica, Mon	76.54 313	‖ *i*P	P	08 50 25.0	-0.9		
PLE	Pljevlja	76.58 314	‖ *i*P	P	08 50 25.4	-0.9		
APA	Apatity	76.71 340	*i* P	P	08 50 26.6	+0.2		
APA			*i*		08 50 40.6			
APA			*i* S	S	09 00 10.0	-1.4		
APA			*i*		09 00 35.0			
APA			*i* PS	PnS	09 01 12.0	+20		
APA			*i* SSS	SSS	09 08 16.0			
BUM	Brajici-Budva	76.77 313	‖ *i*P	P	08 50 26.8	-0.5		
NKY	Niksic	76.78 313	‖ *i*P	P	08 50 26.5	-0.9		
CEME	Cevo	76.79 313	‖ *i*P	P	08 50 26.5	-0.9		
TSUM	Tsumeb	77.00 250	*i* P	P	08 50 32.7	+3.6		
TSUM	Tsumeb	77.00 250	*e*P	P	08 50 30.9	+1.8		
	comp=Z,3µm,1.5s							
TSUM			LR	LR				
	comp=Z,2609µm,20.0s							
TSUM	Tsumeb	77.00 250	*i* P	P	08 50 32.7	+3.6		
TSUM	Tsumeb	77.00 250	*i* P	P	08 50 32.7	+3.6		
PSZ	Piszkesteto	77.06 319	‖ *i*P	P	08 50 29.2	+0.3		
PSZ	Piszkesteto	77.06 319	‖ *e*P	P	08 50 36.2	+7.3		
PSZ	Piszkesteto	77.06 319	*e*P	P	08 50 28.4	-0.5		
	comp=Z,11µm,2.0s							
PSZ			LR	LR				
	comp=Z,1881µm,21.0s							
PSZ	Piszkesteto	77.06 319	*e*P	P	08 50 28.4	-0.5		
PSZ			MLR	MLR				
	comp=Z,1881µm,21.0s							
HCY	Herceg Novi	77.09 313	‖ *i*P	P	08 50 29.0	0.0		
NIE	Niedzica	77.10 320	*e*P	P	08 50 30.0	+1.0		
	comp=Z,168µm,20.5s							
NIE			*e*S	S	09 00 26.5	+10		
NIE			*e*SS	SS	09 05 17.6	+3.6		
NIE			LMZ	LR	09 25 23.8			
	comp=Z,1580µm,22.5s							
NIE	Niedzica	77.10 320	*e*P	P	08 50 30.0	+1.0		
NIE			*e*S	S	09 00 26.5	+10		
NIE			*e*SS	SS	09 05 17.6	+3.6		
NIE			MLR	MLR				
	comp=Z,1580µm,22.5s							
FIA1	FINESS Array S	77.17 333	*e*P	P	08 50 25.9	-3.2		
FINES	FINESS Array B	77.17 333	P	P	08 50 27.6	-1.5		
	comp=Z,115nm,0.9s,baz=107,slow=6.6,SNR=56							
FINES			PKPPKP	P'P'df	09 17 42.1	+3.1		
	comp=Z,22nm,1.2s,baz=90,slow=19,SNR=3.2							
BEL	Belsk	77.31 323	*e*P	P	08 50 29.5	-0.5		
	comp=Z,327µm,19.0s							
BEL			*e*S	S	09 00 24.9	+6.4		
BEL			*e*SS	SS	09 05 17.8	+0.8		
BEL			LMZ	LR	09 24 05.6			
	comp=Z,2430µm,25.0s							
BEL	Belsk	77.31 323	*e*P	P	08 50 29.5	-0.5		
BEL			*e*SS	SS	09 05 17.8	+0.8		
BEL			MLR	MLR				
	comp=Z,2430µm,25.0s							
BUD	Budapest	77.56 318	*e*P	P	08 50 36.4	+4.9		
LANS	Liptovska Anna	77.58 320	*e*P	P	08 50 31.4	-0.3		
LANS	Liptovska Anna	77.58 320	*e*P	P	08 50 31.4	-0.3		
OJC	Ojcow	77.58 321	*e*P	P	08 50 29.4	-2.2		
	comp=Z,297µm,19.6s							
OJC			*e*S	S	09 00 30.4	+8.9		
OJC			*e*SS	SS	09 05 20.6	-0.6		
OJC			LMN		09 24 17.0			
	comp=Z,2450µm,22.7s							
OJC	Ojcow	77.58 321	*e*P	P	08 50 29.5	-2.1		
	comp=Z,3µm,1.1s							
OJC	Ojcow	77.58 321	*e*P	P	08 50 29.4	-2.2		
OJC			*e*S	S	09 00 30.4	+8.9		
OJC			*e*SS	SS	09 05 20.6	-0.6		
OJC			MLR	MLR				
	comp=N,2450µm,22.7s							
MORH	M¯‡r¡gy, Hung	77.59 317	‖ *e*P	P	08 50 47.1	+15		
STON	Ston	77.73 313	P	P	08 50 32.8	+0.2		
VYHS	Vyhne	77.87 319	*e*P	P	08 50 32.9	-0.4		
VYHS			*e*S	S	09 00 25.4	+0.7		
VYHS			*e*SS	SS	09 05 41.6	+16		
VYHS			*e*L	L	09 16 29.3			
VYHS	Vyhne	77.87 319	*e*P	P	08 50 32.9	-0.4		
VYHS			*e*S	S	09 00 25.4	+0.7		
TIP	Timpagrande	77.94 309	‖ *i*P	P	08 50 34.2	+0.3		
TIP	Timpagrande	77.94 309	*e*P	P	08 50 34.2	+0.3		
	comp=N,2µm,1.1s							
TIP			LR	LR				
	comp=Z,1253µm,20.0s							
TIP	Timpagrande	77.94 309	P	P	08 50 35.7	+1.7		
NFK	Norfolk Island	77.94 120	P	P	08 50 32.2	-1.9		
	baz=78,SNR=8.6							
SRO	Srobarova	78.09 318	*e*P	P	08 50 36.5	+2.0		
SRO	Srobarova	78.09 318	*e*P	P	08 50 36.5	+2.0		
MCQ	Macquarie Isla	78.11 147	P	P	08 50 33.3	-1.1		
	baz=78,SNR=7.3							
MCQ	Macquarie Isla	78.11 147	*e*P	P	08 50 35.4	+1.0		
	comp=Z,9µm,1.6s							
MCQ	Macquarie Isla	78.11 147	*e*P	P	08 50 35.4	+1.0		
MCQ			pmax	pmax				
	comp=Z,9µm,1.6s							
MATE	Matera	78.16 311	‖ *i*P	P	08 50 37.6	+2.6		
KLNR	Kaliningrad	78.26 325	*d* iP	P	08 50 34.8	-0.5		
KLNR			pmax	pmax				
	comp=Z,3µm,0.9s							
KLNR			MLR	MLR				
	comp=Z,469µm,22.0s							
BLY	Banja Luka	78.38 315	‖ *i*P	P	08 50 37.6	+1.5		
BLY	Banja Luka	78.38 315	*e*P	P	08 50 35.6	-0.5		
	comp=Z,3µm,1.3s							
BLY			LR	LR				
	comp=Z,1886µm,20.0s							
CEL	Celeste	78.51 308	*e*P	P	08 50 38.4	+1.3		
	comp=Z,5µm,1.1s							
OKC	Ostrava-Krasne	78.55 320	*e*P	P	08 50 36.5	-0.5		
OKC			*ex*	x	08 50 46.9			
OKC			*ex*	x	08 53 58.3			
OKC			*ex*	x	09 01 28.0			
OKC			AMS	AMS	09 30 20.0			
	comp=Z,1119µm,18.7s							
OKC	Ostrava-Krasne	78.55 320	*e*P	P	08 50 36.5	-0.5		
OKC			*e*		08 50 46.9			
OKC			*e*		09 01 28.0			
OKC			MLR	MLR				
	comp=Z,1119µm,18.7s							
RAC	Raciborz	78.57 321	*e*P	P	08 50 38.5	+1.4		
RAC			*e*S	S	09 00 35.0	+2.9		
CUC	Castrocucco	78.76 310	*e*P	P	08 50 38.0	-0.5		
	comp=Z,1µm,1.2s							
CUC			LR	LR				
	comp=Z,1463µm,21.0s							
SMOL	Smolenice	78.79 319	*e*P	P	08 50 39.2	+0.8		
SMOL	Smolenice	78.79 319	*e*P	P	08 50 39.2	+0.8		
MODS	Modra-Piesok	78.87 319	*e*P	P	08 50 37.3	-1.5		
MODS	Modra-Piesok	78.87 319	*e*S	S	09 00 40.9	+5.4		
MODS			*e*SS	SS	09 05 38.5	-2.2		
MODS	Modra-Piesok	78.87 319	*e*P	P	08 50 37.3	-1.5		
MODS			*e*S	S	09 00 40.9	+5.4		
MODS			*e*SS	SS	09 05 38.5	-2.2		
BEHE	Becsehely	78.91 317	*e*P	P	08 50 44.9	+5.8		
MORC	Moravsky Berou	78.93 320	*e*P	P	08 50 39.4	+0.2		
	comp=Z,22µm,1.6s							
MORC			*e*S	S	09 00 38.3	+2.2		
MORC			LR	LR				
	comp=Z,5045µm,20.0s							
MORC	Moravsky Berou	78.93 320	*e*P	P	08 50 39.4	+0.2		
MORC			*e*S	S	09 00 38.3	+2.2		
MORC			MLR	MLR				
	comp=Z,5045µm,20.0s							
ZST	Bratislava	78.96 319	*e*P	P	08 50 38.5	-0.7		
ZST	Bratislava	78.96 319	*e*S	SKSac	09 00 53.6	+0.3		
ZST			*e*SS	SS	09 05 58.2	+16		
ZST			*e*L	L	09 28 04.9			
ZST	Bratislava	78.96 319	*e*P	P	08 50 38.6	-0.7		
ZST			*e*S	SKSac	09 00 53.6	+0.3		
ZST			MLR	MLR				
	comp=Z,586µm,20.1s							
SOP	Sopron	79.24 318	‖ *e*P	P	08 50 55.6	+15		
KOGS	Kog	79.27 317	*e*P	P	08 50 41.5	+0.5		
KOGS			*e*PP	PP	08 53 59.0	+18		
KOGS			*e*		08 56 08.9			
UDBI	Udbina	79.35 315	P	P	08 50 40.8	-0.8		
WDD	Wied Dalam	79.36 306	PFAKE		08 50 50.0	+8.3		
WDD			LR	LR				
	comp=Z,1803µm,19.0s							
KRLC	Kraliky	79.46 320	*e*P	P	08 50 40.4	-1.7		
KRLC			*e*PCP	sP	08 50 52.0	-1.6		
KRLC			*ex*	x	08 54 02.1			
KRLC			*e*S	S	09 00 45.2	+3.4		
KRLC			*ex*	x	09 01 45.2			
KRLC			*e*SS	SS	09 05 48.6	-1.0		
KRLC	Kraliky	79.46 320	*e*P	P	08 50 40.4	-1.7		
KRLC			*e*		08 50 52.0			
KRLC			*e*S	S	09 00 45.2	+3.4		
KRLC			*e*		09 01 45.2			
KRLC			*e*SS	SS	09 05 48.6	-1.0		
VRAC	Vranov	79.46 320	‖ *i*P	P	08 50 57.5	+15		
OZLJ	Ozalj	79.70 316	P	P	08 50 44.3	+0.9		
GKP	Gorka Klasztor	79.72 324	*e*P	P	08 50 45.4	+2.1		
	comp=Z,298µm,19.7s							
GKP			*e*S	S	09 00 51.0	+6.8		
GKP			LMZ	LR	09 26 47.6			
	comp=Z,3530µm,24.0s							
GKP	Gorka Klasztor	79.72 324	*e*P	P	08 50 45.4	+2.1		
GKP			*e*S	S	09 00 51.0	+6.8		
GKP			MLR	MLR				
	comp=Z,3530µm,24.0s							
SYO	Syowa Base	79.72 197	‖ *i*P	P	08 50 41.0	-1.9		
CONA	Conrad Observa	79.74 318	*e*P	P	08 50 42.1	-1.6		
	comp=Z,1µm,1.0s,SNR=70							
CONA			*i* PP	PP	08 53 44.1	-0.8		
	comp=Z,770nm,1.2s							
CONA			*i* PKiKP	PKiKP	08 56 13.4	-1.4		
	comp=Z,730nm,1.7s							
KEV	Kevo	79.76 341	*e*P	P	08 50 42.6	-0.6		
	comp=Z,2µm,1.3s							
KEV			LR	LR				
	comp=Z,3129µm,22.0s							
KEV	Kevo	79.76 341	*e*P	P	08 50 42.6	-0.6		
KEV			pmax	pmax				
	comp=Z,2µm,1.3s							
KEV			MLR	MLR				
	comp=Z,3129µm,22.0s							
DPC	Dobruska-Polom	79.80 321	*e*P	P	08 50 42.3	-1.6		
DPC			*ex*	x	08 50 54.8			
DPC			*ex*	x	08 54 06.5			
DPC			*e*S	S	09 00 52.5	+7.2		
DPC			*e*SS	SS	09 05 58.4	+3.8		
DPC			AMS	AMS	09 26 10.0			
	comp=Z,2411µm,21.6s							
DPC	Dobruska-Polom	79.80 321	*e*P	P	08 50 42.3	-1.6		
DPC			*e*		08 50 54.8			
DPC			*e*S	S	09 00 52.5	+7.2		
DPC			*e*SS	SS	09 05 58.4	+3.8		
DPC			MLR	MLR				
	comp=Z,2411µm,21.6s							
BOJS	Bojanci	79.83 316	*e*P	P	08 50 42.1	-2.0		
TARA	Tarawa	79.87 89	PFAKE		08 51 00.0	+15		
TARA			LR	LR				
	comp=Z,646µm,22.0s							
ARSA	Arzberg	79.87 317	*e*P	P	08 50 42.4	-1.9		
	comp=Z,412nm,1.2s,SNR=86							
KSP	Ksiaz	79.89 321	*e*P	P	08 50 44.5	+0.2		
	comp=Z,284µm,19.5s							
KSP			*e*S	S	09 00 53.4	+7.2		
KSP			LMZ	LR	09 25 36.4			
	comp=Z,2083µm,23.9s							
KSP	Ksiaz	79.89 321	*e*P	P	08 50 44.5	+0.2		
KSP			*e*S	S	09 00 53.4	+7.2		
KSP			MLR	MLR				
	comp=Z,2083µm,23.9s							
NVLJ	Novalja	79.99 315	P	P	08 50 44.2	-0.7		
UPC	Upice	80.02 321	*e*P	P	08 50 43.2	-1.8		
UPC			*e*PCP	pP	08 50 54.0	+0.5		
UPC			*ex*	x	08 54 11.0			
UPC			*e*S	S	09 00 53.3	+5.7		
UPC			AMS	AMS	09 26 10.0			
	comp=Z,2865µm,22.0s							
UPC	Upice	80.02 321	*e*P	P	08 50 43.2	-1.8		
UPC			*e*		08 50 54.0			
UPC			*e*S	S	09 00 53.3	+5.7		
UPC			MLR	MLR				
	comp=Z,2865µm,22.0s							
PERS	Pernice	80.07 317	*i* P	P	08 50 45.2	-0.3		
SOKA	Soboth	80.13 317	*e*P	P	08 50 44.1	-1.7		
	comp=Z,1µm,1.4s,SNR=103							
ARCES	ARCESS Array B	80.17 341	P	P	08 50 43.3	-2.1		
	comp=Z,106nm,0.9s,baz=97,slow=4.1,SNR=55							
ARCES			LR	LR	09 28 34.2			
	comp=Z,1350µm,21.0s,baz=124,slow=38							
ARCES	ARCESS Array B	80.17 341	*e*P	P	08 50 43.8	-1.7		
ARCES	ARCESS Array B	80.17 341	*e*P	P	08 50 43.8	-1.7		
ARE0	ARCESS Array S	80.17 341	*e*P	P	08 50 45.3	-0.2		
	comp=Z,5µm,1.4s							
ARE0	ARCESS Array S	80.17 341	*e*P	P	08 50 44.8

PRU	**Pruhonice**	**80.88**	**320**	*e*P	**P**	**08 50 50.0**	**+0.4**
PRU				*ex*	x	08 50 59.6	
PRU				*ex*	x	08 54 15.3	
PRU				*e*S	S	09 01 05.9	+9.3
PRU				*e*SS	**SS**	**09 06 10.6**	**0.0**
PRU				AMS	AMS	09 25 30.0	
	comp=Z,2051µm,24.0s						
PRU	**Pruhonice**	**80.88**	**320**	*e*P	**P**	**08 50 50.0**	**+0.4**
PRU				*e*		08 50 59.6	
PRU				*e*S	S	09 01 05.9	+9.3
PRU				*e*SS	**SS**	**09 06 10.6**	**0.0**
PRU				MLR	MLR		
	comp=Z,2051µm,24.0s						
MSZ	**Milford Sound**	**80.89**	**136**	P	**P**	**08 50 50.8**	**+1.0**
TRI	**Trieste**	**80.89**	**316**	*e*P	**P**	**08 50 49.5**	**-0.3**
	comp=Z,1µm,1.1s						
TRI				LR	LR		
	comp=Z,1595µm,19.0s						
TRI	**Trieste**	**80.89**	**316**	*e*P	**P**	**08 50 49.5**	**-0.3**
TRI				pmax	pmax		
	comp=Z,1µm,1.1s						
TRI				MLR	MLR		
	comp=Z,1595µm,19.0s						
PVCC	**Panska Ves**	**80.93**	**321**	*e*P	**P**	**08 50 50.7**	**+0.8**
PVCC				*ex*	x	08 51 00.0	
PVCC				*ex*	x	08 54 19.5	
PVCC				*e*XS	**sS**	**09 01 07.6**	**-3.5**
PVCC				*e*SS	**SS**	**09 06 09.2**	**-2.2**
PVCC				AMS	AMS	09 26 50.0	
	comp=Z,2196µm,21.7s						
PVCC	**Panska Ves**	**80.93**	**321**	*e*P	**P**	**08 50 50.7**	**+0.8**
PVCC				*e*		08 51 00.0	
PVCC				*e*SS	SS	09 06 09.2	-2.2
PVCC				MLR	MLR		
	comp=Z,2196µm,21.7s						
PRA	**Prague**	**80.96**	**320**	*e*P	**P**	**08 50 52.3**	**+2.2**
PRA				*ex*	x	08 51 00.3	
PRA				*ex*	x	08 54 19.0	
PRA				*e*XS	**sS**	**09 01 08.0**	**-3.4**
PRA				*e*SS	**SS**	**09 06 12.8**	**+1.0**
PRA				AMS	AMS	09 25 30.0	
	comp=Z,1933µm,24.1s						
PRA	**Prague**	**80.96**	**320**	*e*P	**P**	**08 50 52.3**	**+2.2**
PRA				*e*		08 51 00.3	
PRA				*e*SS	SS	09 06 12.8	+1.0
PRA				MLR	MLR		
	comp=Z,1933µm,24.1s						
CADS	**Cadrg**	**80.97**	**316**	*i* P	**P**	**08 50 49.0**	**-1.3**
CADS				*e*S	**S**	**09 00 55.2**	**-2.6**
MYKA	**Terra Mystica**	**81.08**	**317**	*i* P	**P**	**08 50 50.7**	**-0.1**
	comp=Z,919nm,1.3s,SNR=73						
HAMF	**Hammerfest**	**81.13**	**342**	*e*P	**P**	**08 50 50.6**	**0.0**
WHZ	**Wether Hill Ro**	**81.16**	**137**	*e*P	**P**	**08 50 51.4**	**+0.1**
	comp=Z,3µm,1.8s						
WHZ				LR	LR		
	comp=Z,1950µm,22.0s						
WHZ	**Wether Hill Ro**	**81.16**	**137**	P	**P**	**08 50 49.5**	**-1.7**
MLZ	**Mavora Lakes**	**81.17**	**136**	*e*P	**P**	**08 50 51.8**	**+0.5**
	comp=Z,1µm,1.4s						
MLZ				LR	LR		
	comp=Z,1320µm,21.0s						
MLZ	**Mavora Lakes**	**81.17**	**136**	P	**P**	**08 50 50.4**	**-0.9**
I26DE	**FREYUNG INFRAS**	**81.28**	**319**	P	P	08 51 02.2	+10
	baz=47,slow=7.1,SNR=3.2						
GEA0	**GERESS Array S**	**81.28**	**319**	*e*P	**P**	**08 50 49.9**	**-2.1**
GEC2	**GERESS Array S**	**81.28**	**319**	*e*P	**P**	**08 50 50.4**	**-1.6**
	comp=Z,8µm,1.3s						
GEC2				LR	LR		
	comp=Z,1486µm,22.0s						
GEC2	**GERESS Array S**	**81.28**	**319**	*e*P	**P**	**08 50 50.4**	**-1.6**
GEC2				pmax	pmax		
	comp=Z,8µm,1.3s						
GEC2				MLR	MLR		
	comp=Z,1486µm,22.0s						
GERES	**GERESS Array B**	**81.28**	**319**	P	**P**	**08 50 50.0**	**-2.0**
	comp=Z,147nm,0.9s,baz=99,slow=4.2,SNR=77						
GERES				LR	LR	09 30 07.8	
	comp=Z,760µm,21.6s,baz=100,slow=38						
KBA	**Koelnbreinsper**	**81.33**	**317**	*e*P	**P**	**08 50 51.2**	**-1.1**
	comp=Z,192nm,1.2s,SNR=48						
JCZ	**Jackson Bay**	**81.36**	**135**	P	**P**	**08 50 52.3**	**-0.1**
BSD	**Bornholm Skovb**	**81.37**	**325**	*i* P	**P**	**08 50 53.4**	**+1.3**
BSD				*i*		08 51 07.1	
	comp=Z,2756µm,20.0s						
BSD	**Bornholm Skovb**	**81.37**	**325**	*e*P	**P**	**08 50 53.4**	**+1.3**
BSD				*i*		08 51 07.1	
BSD				MLR	MLR		
	comp=Z,2800µm,20.0s						
BRG	**Berggiesshubel**	**81.37**	**321**	⇑*i* P	**P**	**08 50 52.5**	**+0.3**
	comp=Z,681nm,1.7s						
BRG				*i*		08 51 02.3	
	comp=Z,761nm,1.4s						
BRG				*i*		08 51 10.4	
	comp=Z,4µm,1.7s						
BRG				PP	PP	08 54 24.0	+26
BRG				S	S	09 01 11.0	+9.3
BRG				PS	PnS	09 02 08.0	+17
BRG				SS	**SS**	**09 06 20.0**	**+2.1**
BRG				*e*PKPPKP	P'P'df	09 17 42.2	+10
	comp=Z,207nm,2.2s						
BRG				*e*		09 18 46.4	
	comp=Z,175nm,1.8s						
	comp=N,2571µm,21.5s						
	comp=E,1665µm,20.5s						
	comp=Z,2275µm,20.3s						
BRG	**Berggiesshubel**	**81.37**	**321**	⇑*i* P	**P**	**08 50 52.5**	**+0.3**
BRG				*i*		08 51 02.3	
BRG				*i*		08 51 10.4	
BRG				PS	PnS	09 02 08.0	+17
BRG				SS	SS	09 06 20.0	+2.1
BRG				pmax	pmax		
	comp=Z,681nm,1.7s						
BRG				MLR	MLR		
	comp=N,2571µm,21.5s						
BRG				MLR	MLR		
	comp=E,1665µm,20.5s						
BRG				MLR	MLR		
	comp=Z,2275µm,20.3s						
KHC	**Kasperske Hory**	**81.40**	**319**	*e*P	**P**	**08 50 52.0**	**-0.5**
KHC				*ex*	x	08 51 03.6	
KHC				*ex*	x	08 54 19.7	
KHC				*e*S	**S**	**09 01 10.2**	**+8.1**
KHC				*e*SS	**SS**	**09 06 25.9**	**+7.4**
KHC				AMS	AMS	09 31 10.0	
	comp=Z,2059µm,21.0s						
KHC	**Kasperske Hory**	**81.40**	**319**	*e*P	**P**	**08 50 52.2**	**-0.3**
	comp=Z,4µm,1.7s						
KHC				*e*S	**S**	**09 01 00.8**	**-1.4**
KHC				LR	LR		
	comp=Z,848µm,22.0s						
KHC	**Kasperske Hory**	**81.40**	**319**	*e*P	**P**	**08 50 52.0**	**-0.5**
KHC				*e*		08 51 03.6	
KHC				MLR	MLR		
	comp=Z,2059µm,21.0s						
WKZ	**Wanaka**	**81.68**	**136**	*e*P	**P**	**08 50 54.1**	**+0.1**
	comp=Z,2µm,1.1s						
WKZ				LR	LR		
	comp=Z,1817µm,20.0s						
WKZ	**Wanaka**	**81.68**	**136**	P	**P**	**08 50 54.3**	**+0.3**
BILL	**Bilibino**	**81.71**	**21***d*	*i* P	**P**	**08 50 52.8**	**-0.9**
BILL				*i*		08 53 56.1	
BILL				*i* PPP	PPP	08 55 59.3	
BILL				*i* S	**S**	**09 01 06.2**	**+1.7**
BILL				MLR	MLR		
	comp=Z,3842µm,22.0s						
ABTA	**Abfaltersbach**	**81.86**	**317**	*i* P	**P**	**08 50 54.1**	**-1.0**
	comp=Z,157nm,1.2s,SNR=34						
EAZ	**Earnscleugh**	**81.96**	**136**	P	**P**	**08 50 57.0**	**+1.5**
FOZ	**Fox Glacier**	**81.99**	**134**	*e*P	**P**	**08 50 56.7**	**+1.1**
	comp=Z,2µm,1.5s						
FOZ				LR	LR		
	comp=Z,2565µm,21.0s						
FOZ	**Fox Glacier**	**81.99**	**134**	P	**P**	**08 50 55.3**	**-0.3**
CLL	**Collm**	**82.01**	**321**	*e*P	**P**	**08 50 55.0**	**-0.6**
	comp=Z,357nm,1.5s						
CLL				*i* (sP)	**pP**	**08 51 05.2**	**+1.1**
CLL				*e*Pmax		08 51 12.0	
CLL				*i* P(2)		08 51 14.8	
	comp=Z,2µm,1.1s						
CLL				*e*Plp		08 51 20.0	
	comp=Z,238µm,20.9s						
CLL				*e*Pmax		08 52 33.0	
	comp=Z,3µm,1.3s						
CLL				*e*PPlp		08 54 33.0	
	comp=Z,183µm,20.9s						
CLL				*e*S	**S**	**09 01 09.0**	**+0.8**
CLL				*e*S(2)		09 01 33.0	
CLL				*e*PS	**PnS**	**09 01 57.0**	**-2.0**
CLL				*e*PS(2)		09 02 24.0	
CLL				*e*SS	**SS**	**09 06 28.0**	**+0.6**
CLL				*e*SSS	SSS	09 10 06.0	
CLL				*e*PKPPKP	**P'P'df**	**09 17 34.0**	**+3.2**
	comp=Z,399nm,2.0s						
CLL				Lmax		09 18 00.0	
CLL				*e*		09 20 38.0	
CLL				LmV		09 31 00.0	
	comp=Z,1990µm,20.9s						
CLL	**Collm**	**82.01**	**321**	*e*P	**P**	**08 50 54.8**	**-0.8**
	comp=Z,2µm,1.1s						
CLL				LR	LR		
	comp=Z,2001µm,20.0s						
CLL	**Collm**	**82.01**	**321**	*e*P	**P**	**08 50 55.0**	**-0.6**
CLL				*e*S	**S**	**09 01 09.0**	**+0.8**
CLL				pmax	pmax		
	comp=Z,3µm,1.1s						
SYZ	**Scrubby Hill**	**82.11**	**137**	P	**P**	**08 50 56.4**	**+0.3**
RGN	**Rugen**	**82.20**	**325**	*e*P	**P**	**08 50 57.7**	**+1.2**
	comp=Z,3µm,1.1s						
RGN				LR	LR		
	comp=Z,1906µm,20.0s						
NKC	**Novy Kostel**	**82.25**	**320**	*e*P	**P**	**08 50 57.0**	**+0.1**
NKC				*ex*	x	08 54 28.0	
NKC				*e*S	**S**	**09 01 15.5**	**+4.7**
NKC				AMS	AMS	09 26 40.0	
	comp=Z,2656µm,24.2s						
NKC	**Novy Kostel**	**82.25**	**320**	*e*P	**P**	**08 50 57.0**	**+0.1**
NKC				*e*S	**S**	**09 01 15.5**	**+4.7**
NKC				MLR	MLR		
	comp=Z,2656µm,24.2s						
TRO	**Tromso**	**82.40**	**340**	*e*P	**P**	**08 50 56.8**	**-0.5**
LBZ	**Lake Benmore**	**82.41**	**135**	*e*P	**P**	**08 50 58.0**	**+0.1**
	comp=Z,4µm,1.7s						
LBZ				LR	LR		
	comp=Z,2604µm,21.0s						
LBZ	**Lake Benmore**	**82.41**	**135**	P	**P**	**08 50 57.9**	**0.0**
WTTA	**Wattenberg**	**82.51**	**317**	*e*P	**P**	**08 50 57.7**	**-0.8**
	comp=Z,248nm,1.3s,SNR=42						
WATA	**Walderalm**	**82.55**	**317**	*e*P	**P**	**08 50 57.7**	**-1.1**
	comp=Z,136nm,0.9s,SNR=33						
WVZ	**Waitaha Valley**	**82.57**	**134**	P	**P**	**08 50 59.3**	**+0.6**
HOPEN	**Hopen**	**82.79**	**347**	*e*P	**P**	**08 50 59.0**	**-0.2**
SMY	**Shemya**	**82.82**	**37**	*e*P	**P**	**08 50 58.8**	**-1.0**
	comp=Z,8µm,1.3s						
SMY				LR	LR		
	comp=Z,949µm,20.0s						
SMY	**Shemya**	**82.82**	**37**	*e*P	**P**	**08 50 58.8**	**-1.0**
SMY				pmax	pmax		
	comp=Z,8µm,1.3s						
SMY				MLR	MLR		
	comp=Z,949µm,20.0s						
COP	**Copenhagen**	**82.84**	**326**	*i* P	**P**	**08 51 03.2**	**+3.4**
COP				*i*		08 51 17.6	
	comp=Z,1577µm,20.0s						
COP	**Copenhagen**	**82.84**	**326**	*e*P	**P**	**08 51 03.2**	**+3.4**
COP				*i*		08 51 17.6	
COP				MLR	MLR		
	comp=Z,1600µm,20.0s						
ODZ	**Otahua Downs**	**82.85**	**136**	*e*P	**P**	**08 51 01.1**	**+1.0**
	comp=Z,1µm,1.6s						
ODZ	**Otahua Downs**	**82.85**	**136**	P	**P**	**08 51 00.0**	**-0.1**
MOTA	**Moosalm**	**82.87**	**317**	*e*P	**P**	**08 50 59.6**	**-0.8**
	comp=Z,149nm,1.0s,SNR=52						
RPZ	**Rata Peaks**	**82.91**	**134**	P	**P**	**08 50 59.1**	**-1.3**
	comp=Z,138nm,0.7s,baz=230,slow=1.3,SNR=46						
RPZ				LR	LR	09 27 32.6	
	comp=Z,954µm,19.4s,baz=280,slow=36						
RPZ	**Rata Peaks**	**82.91**	**134**	*e*P	**P**	**08 50 59.0**	**-1.5**
	comp=Z,3µm,1.0s						
RPZ	**Rata Peaks**	**82.91**	**134**	P	**P**	**08 51 00.2**	**-0.3**
LLD	**Lille Linde**	**82.93**	**325**	*i* P	**P**	**08 51 00.5**	**+0.3**
	comp=Z,466µm,17.0s						
LLD	**Lille Linde**	**82.93**	**325**	*e*P	**P**	**08 51 00.5**	**+0.3**
LLD				MLR	MLR		
	comp=Z,470µm,17.0s						
HHSZ	**Highcliff Hill**	**82.97**	**137**	P	**P**	**08 50 59.6**	**-1.2**
GRFO	**Grafenberg**	**82.99**	**320**	*e*P	**P**	**08 51 01.4**	**+0.6**
	comp=Z,6µm,1.5s						
GRFO				LR	LR		
	comp=Z,1404µm,19.0s						
GRFO	**Grafenberg**	**82.99**	**320**	*e*P	**P**	**08 51 01.4**	**+0.6**
GRFO				pmax	pmax		
	comp=Z,6µm,1.5s						
GRFO				MLR	MLR		
	comp=Z,1404µm,19.0s						
INZ	**Inchbonnie**	**83.02**	**133**	P	**P**	**08 51 01.0**	**-0.1**
FETA	**Feichten**	**83.10**	**317**	*e*P	**P**	**08 51 01.2**	**-0.5**
	comp=Z,240nm,1.5s,SNR=51						
RETA	**Reutte**	**83.12**	**317**	*e*P	**P**	**08 51 01.0**	**-0.5**
	comp=Z,228nm,1.3s,SNR=71						
DSZ	**Denniston Nort**	**83.13**	**132**	P	**P**	**08 51 02.8**	**+1.2**
VLC	**Villacollemand**	**83.15**	**314**	*e*P	**P**	**08 51 02.6**	**+0.8**
	comp=Z,3µm,1.3s						
VLC				LR	LR		
	comp=Z,1634µm,18.0s						
STEI	**Steigen**	**83.34**	**338**	*e*P	**P**	**08 51 01.3**	**-0.8**
MOR8	**Moi Rana**	**83.35**	**336**	*e*P	**P**	**08 51 01.2**	**-1.1**
OXZ	**Oxford**	**83.55**	**134**	*e*P	**P**	**08 51 02.4**	**-1.4**
	comp=Z,1µm,1.1s						
OXZ				LR	LR		
	comp=Z,1606µm,20.0s						
OXZ	**Oxford**	**83.55**	**134**	P	**P**	**08 51 03.9**	**+0.1**
KEST	**Kesra**	**83.56**	**306**	P	**P**	**08 51 04.1**	**0.0**
	comp=Z,166nm,0.9s,baz=321,slow=2.2,SNR=43						
KEST				LR	LR	09 31 20.8	
	comp=Z,694µm,20.6s,baz=30,slow=38						
KEST	**Kesra**	**83.56**	**306**	*e*P	**P**	**08 51 05.5**	**+1.4**
	comp=Z,4µm,1.0s						
BJO	**Bjornoya**	**83.56**	**345**	*e*P	**P**	**08 51 02.6**	**-0.5**
OUZ	**Omahuta**	**83.59**	**126**	*e*P	**P**	**08 51 04.4**	**+0.3**
	comp=Z,2µm,1.5s						
OUZ				LR	LR		
	comp=Z,3058µm,21.0s						
LTZ	**Lake Taylor**	**83.63**	**133**	*e*P	**P**	**08 51 04.1**	**-0.2**
	comp=Z,2µm,1.2s						
LTZ				LR	LR		
	comp=Z,2596µm,21.0s						
LTZ	**Lake Taylor**	**83.63**	**133**	P	**P**	**08 51 03.6**	**-0.7**
VSL	**Villasalto**	**83.67**	**309**	*e*P	**P**	**08 51 05.2**	**+0.7**
	comp=Z,2µm,1.2s						
DAVA	**Damuels**	**83.70**	**317**	*e*P	**P**	**08 51 05.0**	**+0.4**
	comp=Z,366nm,1.2s,SNR=64						
NC405	**NORSAR Array S**	**83.84**	**331**	*e*P	**P**	**08 51 03.4**	**-1.6**
NC602	**NORSAR Array S**	**83.88**	**331**	*e*P	**P**	**08 51 04.0**	**-1.1**
NC602	**NORSAR Array S**	**83.88**	**331**	*e*P	**P**	**08 51 03.3**	**-1.8**
KONS	**Konsvik**	**83.92**	**337**	*e*P	**P**	**08 51 05.2**	**0.0**
STOK	**Stokkvaagen**	**83.94**	**336**	*e*P	**P**	**08 51 06.0**	**+0.8**
THZ	**Tophouse**	**83.94**	**132**	*e*P	**P**	**08 51 05.6**	**-0.3**
	comp=Z,2µm,1.0s						
THZ				LR	LR		
	comp=Z,2736µm,22.0s						
THZ	**Tophouse**	**83.94**	**132**	P	**P**	**08 51 05.9**	**0.0**
CRLZ	**Canterbury Las**	**84.01**	**134**	*e*P	**P**	**08 51 07.2**	**+1.1**
	comp=Z,9µm,1.4s						
CRLZ				LR	LR		
	comp=Z,1606µm,19.0s						
CRLZ	**Canterbury Las**	**84.01**	**134**	P	**P**	**08 51 08.0**	**+1.9**
LOF	**Lofoten**	**84.01**	**338**	*e*P	**P**	**08 51 04.4**	**-1.1**
NC303	**NORSAR Array S**	**84.02**	**331**	*e*P	**P**	**08 51 04.8**	**-0.9**
TUE	**Stuetta**	**84.02**	**316**	*e*P	**P**	**08 51 05.8**	**-0.6**
	comp=Z,5µm,1.3s						
TUE				LR	LR		
	comp=Z,2534µm,19.0s						
NB201	**NORSAR Array S**	**84.04**	**331**	*e*P	**P**	**08 51 03.7**	**-2.2**
MQZ	**McQueen's Vall**	**84.05**	**134**	*e*P	**P**	**08 51 07.4**	**+1.2**
	comp=Z,7µm,1.8s						
MQZ				LR	LR		
	comp=Z,1503µm,19.0s						
MQZ	**McQueen's Vall**	**84.05**	**134**	P	**P**	**08 51 06.8**	**+0.6**
NB2	**NORSAR Subarra**	**84.07**	**331**	P	**P**	**08 51 05.5**	**-0.6**
	comp=Z,4µm,1.4s,baz=96,slow=5.3						
NB2	**NORSAR Subarra**	**84.07**	**331**	P	**P**	**08 51 05.5**	**-0.6**
	baz=96,slow=5.3						
NOA	**NORSAR Array B**	**84.07**	**331**	P	**P**	**08 51 03.0**	**-3.1**
	comp=Z,82nm,0.9s,baz=94,slow=5.6,SNR=54						
NSS	**Namsos**	**84.13**	**335**	*e*P	**P**	**08 51 05.5**	**-0.7**
OSL	**Oslo**	**84.20**	**330**	*e*P	**P**	**08 51 06.2**	**-0.5**
NAO01	**NORSAR Array S**	**84.21**	**331**	*e*P	**P**	**08 51 06.2**	**-0.5**
STU	**Stuttgart**	**84.25**	**319**	*e*P	**P**	**08 51 08.1**	**+0.9**
	comp=Z,3µm,1.3s						
STU				LR	LR		
	comp=Z,1389µm,18.0s						
STU	**Stuttgart**	**84.25**	**319**	*e*P	**P**	**08 51 08.1**	**+0.9**
STU				pmax	pmax		
	comp=Z,3µm,1.3s						
STU				MLR	MLR		
	comp=Z,1389µm,18.0s						
NBO02	**NORSAR Array S**	**84.25**	**331**	*e*P	**P**	**08 51 04.3**	**-2.6**
NBO00	**NORSAR Array S**	**84.28**	**331**	*e*P	**P**	**08 51 06.4**	**-0.8**
NC204	**NORSAR Array S**	**84.32**	**331**	*e*P	**P**	**08 51 06.6**	**-0.8**
KHZ	**Kahutara**	**84.50**	**133**	*e*P	**P**	**08 51 08.2**	**-0.5**
	comp=Z,6µm,1.6s						
KHZ				LR	LR		
	comp=Z,2597µm,20.0s						
KHZ	**Kahutara**	**84.50**	**133**	P	**P**	**08 51 08.7**	**+0.1**
MUD	**Monsted U'grnd**	**84.73**	**326**	*i* P	**P**	**08 51 09.7**	**+0.2**
MUD				*i*		08 51 26.4	
	comp=Z,2003µm,16.0s						
MUD	**Monsted U'grnd**	**84.73**	**326**	*e*P	**P**	**08 51 09.7**	**+0.2**
MUD				*i*		08 51 26.4	
MUD				MLR	MLR		
	comp=Z,2000µm,16.0s						
TBLU	**Trondheim**	**84.74**	**333**	*e*P	**P**	**08 51 06.8**	**-2.6**
KONO	**Kongsberg**	**84.75**	**330**	*e*P	**P**	**08 51 08.6**	**-0.9**
	comp=Z,4µm,1.2s						
KONO				LR	LR		
	comp=Z,3444µm,21.0s						
KONO	**Kongsberg**	**84.75**	**330**	*e*P	**P**	**08 51 09.2**	**-0.2**
KONO	**Kongsberg**	**84.75**	**330**	*e*P	**P**	**08 51 07.6**	**-1.9**
KONO				pmax	pmax		
	comp=Z,1µm,1.1s						
KONO				MLR	MLR		
	comp=Z,4011µm,21.0s						
BFO	**Black Forest**	**84.80**	**318**	*e*P	**P**	**08 51 09.3**	**-0.8**
	comp=Z,6µm,1.7s						
BFO	**Black Forest**	**84.80**	**318**	*e*P	**P**	**08 51 09.3**	**-0.8**
BFO				pmax	pmax		
	comp=Z,6µm,1.7s						
HIZ	**Hauiti**	**85.00**	**129**	*e*P	**P**	**08 51 12.3**	**+1.1**
	comp=Z,4µm,1.2s						
HIZ				LR	LR		
	comp=Z,2559µm,22.0s						
HSPB	**Hornsund (broa**	**85.02**	**347**	*e*P	**P**	**08 51 11.1**	**+0.6**
HSPB	**Hornsund (broa**	**85.02**	**347**	*e*P	**P**	**08 51 10.5**	**0.0**
HSPB				*e**PP	**sP**	**08 51 27.5**	**+5.4**
HSPB				*e*S	**S**	**09 01 40.6**	**+2.9**
ABSA	**Djebel Ababsia**	**85.08**	**306**	P	**P**	**08 51 13.1**	**+1.2**
SPA0	**Spitsbergen Ar**	**85.09**	**348**	*e*P	**P**	**08 51 10.6**	**-0.3**
SPA0	**Spitsbergen Ar**	**85.09**	**348**	*e*P	**P**	**08 51 10.0**	**-0.9**
SPITS	**Spitsbergen Ar**	**85.09**	**348**	PKPPKP		09 17 22.3	
	comp=Z,37nm,1.0s,baz=81,slow=10,SNR=4.5						
SPITS				LR	LR	09 34 26.6	
	comp=Z,4339µm,21.6s,baz=105,slow=39						
CMAH	**Djebel Manchou**	**85.14**	**306**	P	**P**	**08 51 15.0**	**+2.9**
CMAH				P	**pP**	**08 51 18.1**	**-2.5**
DOMB	**Dombas**	**85.19**	**332**	*e*P	**P**	**08 51 11.2**	**-0.6**
HOMB	**Homborsund**	**85.21**	**328**	*e*P	**P**	**08 51 13.7**	**+1.8**
SNZO	**South Karori**	**85.22**	**132**	*e*P	**P**	**08 51 11.6**	**-0.7**
	comp=Z,2µm,1.2s						
SNZO				LR	LR		
	comp=Z,2856µm,22.0s						
ECH	**Echery**	**85.58**	**318**	*e*P	**P**	**08 51 13.6**	**-0.4**
	comp=Z,1µm,1.1s						
ECH				LR	LR		
	comp=Z,1197µm,22.0s						
ECH	**Echery**	**85.58**	**318**	*e*P	**P**	**08 51 13.6**	**-0.4**
ECH				pmax	pmax		
	comp=Z,1µm,1.1s						
ECH				MLR	MLR		
	comp=Z,1197µm,22.0s						
CKFL	**Kef-Lekhel**	**85.70**	**306**	P	**P**	**08 51 17.2**	**+2.2**
BNI	**Bardonecchia**	**85.83**	**315**	*e*P	**P**	**08 51 14.8**	**-0.6**
	comp=Z,3µm,1.1s						
BNI				LR	LR		
	comp=Z,1590µm,22.0s						
BNI	**Bardonecchia**	**85.83**	**315**	*e*P	**P**	**08 51 14.9**	**-0.6**
BNI				pmax	pmax		
	comp=Z,3µm,1.1s						
BNI				MLR	MLR		
	comp=Z,1590µm,22.0s						
CASM	**Ain Smara**	**85.88**	**306**	P	**P**	**08 51 18.6**	**+2.8**
SNART	**Snartemo**	**85.90**	**328**	*e*P	**P**	**08 51 17.1**	**+1.9**
WTSB	**Winterswijk**	**85.91**	**322**	*e*P	**P**	**08 51 15.9**	**+0.4**
WTSB				*e*P	**sP**	**08 51 32.2**	**+5.2**
MOL	**Molde**	**85.93**	**332**	*e*P	**P**	**08 51 14.8**	**-0.6**
MSVF	**Nonsavu**	**85.95**	**108**	*e*P	**P**	**08 51 15.7**	**-0.8**
	comp=Z,2µm,1.2s						
MSVF				LR	LR		
	comp=Z,1201µm,20.0s						
MSVF	**Nonsavu**	**85.95**	**108**	*e*P	**P**	**08 51 15.0**	**-1.5**
MSVF				MLR	MLR		
	comp=Z,1121µm,19.0s						
CTEI	**Djebel Teioual**	**85.95**	**306**	P	**P**	**08 51 17.2**	**+1.0**
KBS	**Kingsbay**	**86.10**	**349**	*e*P	**P**	**08 51 15.8**	**-0.1**
	comp=Z,1µm,1.0s						
KBS				LR	LR		
	comp=Z,4799µm,20.0s						
KBS	**Kingsbay**	**86.10**	**349**	*e*P	**P**	**08 51 15.8**	**-0.1**
KBS	**Kingsbay**	**86.10**	**349**	*e*P	**P**	**08 51 15.8**	**-0.1**
KBS				pmax	pmax		
	comp=Z,1µm,1.0s						
KBS				MLR	MLR		
	comp=Z,4799µm,20.0s						
AKN	**Aaknes**	**86.17**	**332**	*e*P	**P**	**08 51 16.9**	**+0.3**
ODD1	**Odda**	**86.26**	**330**	*e*P	**P**	**08 51 19.6**	**+2.5**
WLF	**Walferdange**	**86.27**	**319**	⇑P	**P**	**08 51 17.9**	**+0.6**
	comp=Z,1µm,1.2s						
WLF	**Walferdange**	**86.27**	**319**	*e*P	**P**	**08 51 17.6**	**+0.3**
	comp=Z,3µm,1.2s						
WLF				LR	LR		
	comp=Z,1788µm,18.0s						
WLF	**Walferdange**	**86.27**	**319**	*e*P	**P**	**08 51 17.7**	**+0.3**
WLF				pmax	pmax		
	comp=Z,3µm,1.2s						
WLF				MLR	MLR		
	comp=Z,1788µm,18.0s						
BFZ	**Birch Farm**	**86.31**	**131**	*e*P	**P**	**08 51 17.8**	**+0.1**
	comp=Z,4µm,1.4s						
BFZ				LR	LR		
	comp=Z,2740µm,20.0s						
BLS5	**Blasjo**	**86.33**	**329**	*e*P	**P**	**08 51 18.0**	**+0.6**
BKZ	**Black Stump Fm**	**86.34**	**129**	*e*P	**P**	**08 51 17.3**	**-0.6**
	comp=Z,3µm,1.0s						
BKZ				LR	LR		
	comp=Z,2519µm,21.0s						
DFRA	**Djebel Bou Aff**	**86.38**	**306**	P	**P**	**08 51 21.1**	**+2.8**
MEM	**Membach**	**86.38**	**320**	⇓P	**P**	**08 51 17.9**	**0.0**
	comp=Z,1µm,1.1s						
HGN	**Heimansgroeve**	**86.43**	**321**	*e*P	**P**	**08 51 18.3**

SSB Saint Sauveur 87.35 315 *e*P **P** **08 51 22.6 -0.2**
SSB pmax pmax
comp=Z,7μm,2.0s
SSB MLR MLR
comp=Z,1211μm,22.0s
UCC Uccle 87.43 321 PFAKE 08 51 30.0 +7.1
UCC LR LR
comp=Z,1899μm,20.0s
SNF Seneffe 87.48 320 ⇓P **P** **08 51 23.2 0.0**
comp=Z,915nm,1.0s
MXZ Matakaoa Point 87.61 128 *e*P **P** **08 51 23.5 -0.6**
comp=Z,6μm,1.9s
MXZ LR LR
comp=Z,2317μm,22.0s
VNDA Vanda 87.67 168 P **P** **08 51 22.4 -1.1**
comp=Z,25nm,1.1s,baz=304,slow=6.3,SNR=34
VNDA LR LR 09 28 25.8
comp=Z,2198μm,18.1s,baz=298,slow=34
VNDA Vanda 87.67 168 *e*P **P** **08 51 24.4 +0.8**
comp=Z,3μm,1.6s
VNDA Vanda 87.67 168 *e*P **P** **08 51 24.4 +0.8**
VNDA pmax pmax
comp=Z,3μm,1.6s
ATAF Djebel Tarf 87.68 306 P **P** **08 51 28.6 +4.0**
AKET Djebel Ketaf 88.00 306 P **P** **08 51 28.2 +2.0**
ABMS Boumerdes 88.30 307 P **P** **08 51 31.8 +4.4**
ADJB Djebel Djouab 88.35 306 P **P** **08 51 31.0 +3.2**
MIDW Midway 88.62 62 PFAKE 08 51 40.0 +11
MIDW LR LR
comp=Z,705μm,20.0s
ABA Alger-Bouzarea 88.66 307 P **P** **08 51 33.0 +3.9**
EMHD Djebel Mahouad 88.74 306 P **P** **08 51 34.3 +4.6**
SBA Scott Base 88.78 168 *e*P **P** **08 51 30.7 +1.9**
comp=Z,10μm,1.9s
SBA Scott Base 88.78 168 *e*P **P** **08 51 30.7 +1.9**
I55US WINDLESS BIGHT 88.91 168 P P 08 51 40.5 +11
baz=316,slow=10.0,SNR=1.3
NVL N'lazarevskaya 89.19 199 *e*P **P** **08 51 30.2 -0.6**
NVL *e*S **SKSac** **09 01 58.2 -0.5**
NVL *e* 09 02 23.4
NVL pmax pmax
comp=Z,2μm,1.0s
NVL MLR MLR
comp=Z,269μm,17.0s
ELSH Elham, Standar 89.46 321 IAMs_20 IAMs_20 09 22 13.3
comp=Z,6376μm,69.4s
WACR West Acre 89.69 323 *e*P **P** **08 51 30.9 -2.6**
WACR IAMs_20 IAMs_20 09 32 44.2
comp=Z,3004μm,24.4s
EBNR Beni Rached 89.89 306 P **P** **08 51 38.1 +3.1**
HMNX Herstmonceux 89.98 321 *e*P **P** **08 51 33.0 -2.0**
HMNX IAMs_20 IAMs_20 09 22 29.2
comp=Z,6253μm,70.8s
ECHA Ech Chlef 90.03 306 P **P** **08 51 39.4 +3.9**
ETRT Tiaret 90.12 305 P P 08 51 44.3 +8.1
LRW Lerwick 90.17 330 *e*P **P** **08 51 34.7 -0.9**
LRW IAMs_20 IAMs_20 09 36 37.1
comp=Z,2524μm,18.6s
LMK Market Rasen 90.21 323 *e*P **P** **08 51 33.0 -3.0**
LMK IAMs_20 IAMs_20 09 22 29.6
comp=Z,6885μm,63.5s
EANR 'Ain N'Sour 90.25 306 P **P** **08 51 40.9 +4.2**
RAO Raoul Island 90.27 119 PFAKE 08 51 50.0 +13
RAO LR LR
comp=Z,1467μm,21.0s
GAMB Gambell 90.35 26 *e*P **P** **08 51 36.2 -0.2**
comp=Z,1μm,1.2s
GAMB LR LR
comp=Z,2238μm,19.0s
OJGS Djebel Guires 90.56 305 P P 08 51 49.0 +11
OKGL Djebel Kef Gue 90.62 306 P P 08 51 48.0 +10
TOA0 Torodi Ar. Sit 90.78 283 *e*P **P** **08 51 39.6 +0.1**
comp=Z,885nm,1.2s
TORD Torodi Ar. Bea 90.78 283 P **P** **08 51 38.1 -1.4**
comp=Z,12nm,0.7s,baz=91,slow=4.9,SNR=43
TORD LR LR 09 31 21.9
comp=Z,931μm,19.0s,baz=85,slow=35
CWF Charnwood Fore 90.86 323 *e*P **P** **08 51 34.7 -4.3**
CWF IAMs_20 IAMs_20 09 36 36.4
comp=Z,2774μm,21.6s
OJBR Djebel Berber 90.89 305 P P 08 51 50.0 +10
WOL Wolverton 90.92 321 *e*P **P** **08 51 42.0 +2.6**
HPK Haverah Park 90.94 324 *e*P **P** **08 51 36.5 -2.9**
HPK IAMs_20 IAMs_20 09 22 51.9
comp=Z,7074μm,59.9s
LBWR Ladybower, Pea 91.05 323 *e*P **P** **08 51 38.5 -1.5**
LBWR IAMs_20 IAMs_20 09 33 38.0
comp=Z,2543μm,23.7s
EDMD Edmundbyers 91.06 325 *e*P **P** **08 51 37.9 -2.1**
EDMD IAMs_20 IAMs_20 09 35 52.6
comp=Z,2823μm,21.9s
DRUM Mains of Drumt 91.15 327 IAMs_20 IAMs_20 09 22 46.3
comp=Z,7715μm,70.8s
ODJA Bouhanifia 91.31 305 P P 08 51 47.0 +5.4
STNC Stoke 91.37 323 *e*P **P** **08 51 40.5 -0.9**
STNC IAMs_20 IAMs_20 09 23 03.7
comp=Z,6631μm,66.8s
STRD Stroud 91.47 322 *e*P **P** **08 51 40.5 -1.4**
STRD IAMs_20 IAMs_20 09 23 08.3
comp=Z,6165μm,63.0s
BATH Bath 91.60 321 *e*P **P** **08 51 37.9 -4.6**
BATH IAMs_20 IAMs_20 09 41 52.7
comp=Z,1644μm,17.7s
USTO Oran 91.60 306 P P 08 51 48.0 +5.1
JQE Queens East 91.63 319 *e*P **P** **08 51 43.1 +0.4**
EDI Edinburgh 91.64 326 *e*P **P** **08 51 41.7 -0.9**
EDI IAMs_20 IAMs_20 09 34 05.8
comp=Z,2642μm,23.2s
JMIC Jan Mayen 91.65 341 *e*P **P** **08 51 45.9 +3.5**
EKA Eskdalemuir Ar 91.69 325 LR LR 09 38 41.2
comp=Z,1257μm,18.0s,baz=60,slow=39
OLDB Oldbury-Upon-S 91.72 322 *e*P **P** **08 51 41.7 -1.4**
OLDB IAMs_20 IAMs_20 09 37 22.0
comp=Z,2216μm,21.4s
ESK Eskdalemuir 91.72 325 *e*P **P** **08 51 43.4 +0.4**
comp=Z,2μm,1.1s
ESK LR LR
comp=Z,2318μm,21.0s
ESK Eskdalemuir 91.72 325 *e*P P 08 51 37.0 -6.0
ESK IAMs_20 IAMs_20 09 36 22.4
comp=Z,2447μm,21.3s
ESK Eskdalemuir 91.72 325 *e*P **P** **08 51 43.4 +0.4**
ESK pmax pmax
comp=Z,2μm,1.1s
ESK MLR MLR
comp=Z,2318μm,21.0s
BIGH Upper Bighouse 91.73 329 *e*P **P** **08 51 40.8 -2.1**
BIGH IAMs_20 IAMs_20 09 36 44.0
comp=Z,3677μm,20.5s
KESW Keswick, Cumbr 91.75 325 *e*P **P** **08 51 43.1 0.0**
KESW IAMs_20 IAMs_20 09 37 08.1
comp=Z,2670μm,20.6s
BHH Howats Hill 91.75 325 *e*P **P** **08 51 43.8 +0.7**
BBO1 Bothel 91.81 325 *e*P **P** **08 51 45.0 +1.6**
OTSS Djebel Tessala 91.83 305 P **P** **08 51 45.0 +0.9**
HLM1 Long Mynd 91.83 323 *e*P **P** **08 51 42.5 -1.1**
HLM1 IAMs_20 IAMs_20 09 37 06.7
comp=Z,2132μm,21.9s
CART Cartagena 91.84 308 *e*P **P** **08 51 45.5 +1.6**
comp=Z,5μm,1.7s
CART LR LR
comp=Z,1526μm,20.0s
MONM Monmouth 91.86 322 *e*P **P** **08 51 41.7 -2.0**
MONM IAMs_20 IAMs_20 09 23 18.1
comp=Z,5882μm,65.3s
MCH1 Michaelchurch 91.96 322 *e*P **P** **08 51 43.1 -1.0**
MCH1 IAMs_20 IAMs_20 09 31 56.2
comp=Z,2196μm,26.0s
FOEL Foel Wylfa 91.99 323 *e*P **P** **08 51 41.1 -3.2**
FOEL IAMs_20 IAMs_20 09 34 17.2
comp=Z,2476μm,23.7s
MDO Dochfour 92.11 328 *e*P **P** **08 51 45.2 +0.5**
QSPA South Pole Qui 92.18 180 P **P** **08 51 45.4 +0.4**
comp=Z,23nm,1.1s,baz=304,slow=1.5,SNR=22
QSPA South Pole Qui 92.18 180 *e*P **P** **08 51 45.7 +0.7**
comp=Z,2μm,1.1s
QSPA LR LR
comp=Z,2307μm,19.0s
LLW Llanuwychllyn 92.27 323 *e*P **P** **08 51 41.4 -4.2**
OLHC Oulhaca 92.35 305 P **P** **08 51 50.0 +3.6**
PGBU Glenifferbraes 92.38 326 *e*P **P** **08 51 45.4 -0.6**
PGBU IAMs_20 IAMs_20 09 36 26.2
comp=Z,2302μm,21.0s
LPW Lampeter 92.61 322 *e*P **P** **08 51 43.1 -4.0**
LPW IAMs_20 IAMs_20 09 37 30.9
comp=Z,2466μm,21.9s
IOMK Kirk Michael 92.63 324 *e*P **P** **08 51 45.7 -1.5**
IOMK IAMs_20 IAMs_20 09 23 32.5
comp=Z,7697μm,65.4s
GAL1 Galloway 92.64 325 *e*P **P** **08 51 45.7 -1.5**
GAL1 IAMs_20 IAMs_20 09 36 48.7
comp=Z,1673μm,22.2s
WLF1 Llynfaes 92.66 323 *e*P **P** **08 51 47.0 -0.3**
WLF1 IAMs_20 IAMs_20 09 23 36.2
comp=Z,13600μm,66.6s
WPS Cemaes, Angles 92.70 324 *e*P **P** **08 51 49.5 +2.0**
WPS IAMs_20 IAMs_20 09 23 35.6
comp=Z,7183μm,69.8s
SOFL Sornfelli, Far 92.71 332 *e*P **P** **08 51 45.1 -2.3**
SOFL IAMs_20 IAMs_20 09 35 55.9
comp=Z,4453μm,21.2s
DYA Yadsworthy 92.72 321 *e*P **P** **08 51 46.0 -1.7**
DYA IAMs_20 IAMs_20 09 38 29.6
comp=Z,2430μm,18.9s
KPL Plockton 92.81 328 *e*P **P** **08 51 47.2 -0.8**
KPL IAMs_20 IAMs_20 09 38 14.6
comp=Z,2217μm,18.6s
RRR Rubha Reidh 92.82 328 *e*P **P** **08 51 50.5 +2.5**
HTL Hartland 93.00 321 *e*P **P** **08 51 48.6 -0.4**
HTL IAMs_20 IAMs_20 09 38 45.9
comp=Z,932μm,20.7s
RRH Rhenigidale 93.27 328 *e*P **P** **08 51 50.9 +0.8**
CLGH Cloghs, Cushen 93.41 325 IAMs_20 IAMs_20 09 37 10.9
comp=Z,3282μm,21.2s
CCA1 Carnmenellis 93.58 320 IAMs_20 IAMs_20 09 24 11.3
comp=Z,7053μm,68.8s
DSB Dublin 93.84 324 *e*P **P** **08 51 53.6 +0.8**
comp=Z,3μm,2.0s
DSB LR LR
comp=Z,2092μm,22.0s
ES19 SONSECA Array 93.91 310 *e*P **P** **08 51 54.0 +0.4**
ESDC Sonseca Array 93.96 310 P **P** **08 51 54.0 +0.3**
comp=Z,15nm,0.8s,baz=60,slow=4.2,SNR=34
ESDC PKKP **PKKPdf** **09 08 49.4 -7.2**
comp=Z,5.7nm,0.9s,baz=254,slow=3.0,SNR=4.8
ESDC LR LR 09 39 54.1
comp=Z,968μm,18.3s,baz=80,slow=39
ESLA Sonseca Array 93.96 310 *e*P **P** **08 51 54.4 +0.6**
comp=Z,559nm,1.0s
ESLA LR LR
comp=Z,1085μm,19.0s
SNAA Sanae 93.96 198 P **P** **08 51 54.0 +0.9**
SNAA Sanae 93.96 198 LR LR 09 28 32.0
comp=Z,643μm,20.5s,baz=81,slow=32
SNAA Sanae 93.96 198 *e*P **P** **08 51 54.1 +1.1**
comp=Z,1μm,1.5s
SNAA Sanae 93.96 198 *e*P **P** **08 51 52.4 -0.6**
IDGL Inch Island, C 94.20 325 *e*P **P** **08 51 53.5 -0.9**
IWEX Carrickbyrne, 94.22 323 *e*P **P** **08 51 54.1 -0.4**
PAB San Pablo 94.27 310 *e*P **P** **08 51 56.0 +0.8**
comp=Z,1μm,1.4s
PAB LR LR
comp=Z,1707μm,19.0s
PAB San Pablo 94.27 310 *e*P **P** **08 51 56.0 +0.8**
PAB pmax pmax
comp=Z,1μm,1.4s
PAB MLR MLR
comp=Z,1707μm,19.0s
UNV Unalaska Valle 94.39 36 *e*P **P** **08 51 55.4 +0.2**
comp=Z,563nm,1.0s
UNV LR LR
comp=Z,1013μm,21.0s
KNTN Kanton 95.36 93 PFAKE 08 52 10.0 +9.4
KNTN LR LR
comp=Z,503μm,22.0s
VNA2 Neumayer--Watz 95.51 199 P **P** **08 52 01.6 +1.5**
baz=80,slow=4.4
VNA2 S **S** **09 03 12.5 -2.3**
VNA2 Neumayer--Watz 95.51 199 pP pP 08 52 09.5 +0.9
VNA2 Neumayer--Watz 95.51 199 sP sP 08 52 11.6 -0.1
VNA2 Neumayer--Watz 95.51 199 PKKP **PKKPdf** **09 08 57.4 +2.8**
VNA2 Neumayer--Watz 95.51 199 SS SS 09 09 56.2 +13
AFI Afiamalu 95.59 104 LR LR 09 38 05.2
comp=Z,327μm,19.3s,baz=264,slow=37
PBRG Braganca 95.79 312 *e*P P 08 52 08.9 +6.8
comp=Z,562nm,1.5s
PBRG i 08 52 19.5
PBRG Braganca 95.79 312 *e*PP PP 08 56 14.0 +20
PBRG *e*SKS SKSac 09 03 03.5 +27
PBRG *e*SS **SS** **09 09 51.8 +3.6**
VNA1 Neumayer--Stat 95.84 199 P **P** **08 52 04.0 +2.5**
FALS False Pass 95.97 34 PFAKE 08 52 10.0 +7.5
FALS LR LR
comp=Z,1261μm,22.0s
SCO Scoresbysund 96.04 342 *i* P **P** **08 52 04.8 +2.3**
SCO *i* 08 56 27.7
comp=Z,2552μm,21.0s
SCO Scoresbysund 96.04 342 *e*P **P** **08 52 04.6 +2.1**
comp=Z,756nm,1.5s
SCO LR LR
comp=Z,2654μm,21.0s
SCO Scoresbysund 96.04 342 *e*P **P** **08 52 04.8 +2.3**
SCO MLR MLR
comp=Z,2600μm,21.0s
MVO Moncorvo 96.09 312 *e*P P 08 52 12.9 +9.4
comp=Z,605nm,1.6s
MVO i 08 52 20.9
MVO Moncorvo 96.09 312 *e*PP PP 08 56 15.7 +19
MVO *e*SKS **SKSac** **09 02 42.1 +3.5**
MVO *e*SS **SS** **09 09 56.3 +3.7**
MVO *e*LQ LQ 09 17 21.8
MVO *e*LR LR 09 23 02.8
comp=Z,910μm,20.0s
VNA3 Neumayer Olymp 96.18 199 P **P** **08 52 03.8 +0.7**
KOWA Kowa 96.25 285 LR LR 09 35 33.3
comp=Z,2263μm,18.4s,baz=87,slow=36
KOWA Kowa 96.25 285 *e*P **P** **08 52 04.8 +0.1**
comp=Z,2μm,1.4s
VAL Valentia 96.40 323 *e*P P 08 52 20.4 +16
JOHN Johnston Islan 96.50 73 PFAKE 08 52 20.0 +14
JOHN LR LR
comp=Z,722μm,21.0s
PBAR Barrancos 96.52 309 *e*P P 08 52 15.5 +10
comp=Z,3μm,1.5s
PBAR i 08 52 23.1
PBAR Barrancos 96.52 309 *e*PP PP 08 56 18.4 +19
PBAR *e*SKS **SKSac** **09 02 44.1 +3.3**
PBAR *e*SS **SS** **09 10 03.2 +4.5**
PVRL Vila Real 96.59 312 *e*P **P** **08 52 07.6 +1.9**
comp=Z,430nm,1.5s
PVRL i 08 52 22.7
PVRL Vila Real 96.59 312 *e*PP PP 08 56 19.8 +20
MTE Manteigas 96.59 311 *e*P P 08 52 15.9 +10
comp=Z,522nm,1.3s
MTE i 08 52 23.4
MTE Manteigas 96.59 311 *e*PP PP 08 56 19.8 +20
MTE *e*SKS **SKSac** **09 02 43.9 +2.6**
MTE *e*SS **SS** **09 10 01.5 +1.8**
MTE *e*LQ LQ 09 17 32.6
MTE *e*LR LR 09 23 02.0
comp=Z,1211μm,20.0s
MTE Manteigas 96.59 311 PFAKE 08 52 20.0 +14
MTE LR LR
comp=Z,1235μm,20.0s
PMRV Marv??o 96.62 310 *e*P P 08 52 15.8 +10
comp=Z,438nm,1.5s
PMRV i 08 52 23.2
PMRV Marv??o 96.62 310 *e*PP PP 08 56 19.1 +19
PMRV *e*SKS **SKSac** **09 02 37.4 -3.9**
PMRV *e*SS **SS** **09 10 04.2 +4.2**
PMRV *e*LQ LQ 09 17 34.4
PMRV *e*LR LR 09 23 38.2
comp=Z,896μm,18.0s
PCBR Castelo Branco 96.62 310 *e*P P 08 52 16.0 +10
comp=Z,435nm,1.2s
PCBR i 08 52 22.6
PCBR Castelo Branco 96.62 310 *e*PP PP 08 56 15.3 +15
POLO Lamas de Olo 96.63 312 *e*P P 08 52 15.1 +9.1
comp=Z,246nm,1.5s
POLO i 08 52 23.3
POLO Lamas de Olo 96.63 312 *e*PP PP 08 56 20.5 +20
POLO *e*SKS SKSac 09 03 07.8 +26
POLO *e*SS **SS** **09 10 04.6 +4.3**
PCAB Cabril 96.75 312 *e*P P 08 52 16.8 +10
comp=Z,564nm,1.7s
PCAB i 08 52 23.4
PCAB Cabril 96.75 312 *e*PP PP 08 56 21.0 +20
PVIS Viseu 96.81 311 *e*P P 08 52 16.9 +10
comp=Z,436nm,1.6s
PVIS i 08 52 23.9
PVIS Viseu 96.81 311 *e*PP PP 08 56 17.1 +15
PESTR Estremoz 96.85 309 *e*P P 08 52 16.5 +10
comp=Z,320nm,2.1s
PESTR i 08 52 24.3
PESTR Estremoz 96.85 309 *e*PP PP 08 56 20.5 +18
PESTR *e*SKS **SKSac** **09 02 50.6 +8.0**
PESTR *e*SS **SS** **09 10 05.5 +2.1**
PESTR Estremoz 96.85 309 PFAKE 08 52 20.0 +13
PESTR LR LR
comp=Z,540μm,18.0s
PGAV Gavieira, Arco 96.89 313 *e*P P 08 52 16.3 +9.2
comp=Z,297nm,1.7s
PGAV i 08 52 24.4
PGAV Gavieira, Arco 96.89 313 *e*PP PP 08 56 22.4 +20
PGAV *e*SKS **SKSac** **09 02 51.8 +9.0**
PGAV *e*SS **SS** **09 10 07.2 +3.3**
PGAV *e*LQ LQ 09 17 30.0
PGAV *e*LR LR 09 23 42.8
comp=Z,1057μm,18.0s
PVAQ Vaqueiros 97.16 308 *e*P Pdif 08 52 18.1 +10
comp=Z,672nm,1.6s
PVAQ i 08 52 25.8
PVAQ Vaqueiros 97.16 308 *e*PP PP 08 56 23.1 +18
PVAQ *e*SKS **SKSac** **09 02 52.2 +8.0**
PVAQ *e*SS **SS** **09 10 09.6 +1.8**
PVAQ *e*LQ LQ 09 17 31.9
PVAQ *e*LR LR 09 24 32.1
comp=Z,851μm,22.0s
PBEJ Beja 97.19 309 *e*P Pdif 08 52 11.4 +2.8
comp=Z,357nm,1.3s
PBEJ i 08 52 25.2
PBEJ Beja 97.19 309 *e*PP PP 08 56 22.6 +18
EVO Evora 97.23 309 *e*P Pdif 08 52 12.2 +3.5
comp=Z,317nm,2.0s
EVO i 08 52 26.2
EVO Evora 97.23 309 *e*PP PP 08 56 21.8 +17
IM3 Indian Mountai 97.24 22 *e*P **P** **08 52 07.3 -0.7**
PTO Porto 97.27 312 *e*PP PP 08 56 23.5 +18
PMTG Montargil 97.31 310 *e*P Pdif 08 52 17.5 +8.4
comp=Z,408nm,1.5s
PMTG i 08 52 26.1
PMTG Montargil 97.31 310 *e*PP PP 08 56 24.3 +19
PMTG *e*SKS **SKSac** **09 02 54.0 +9.1**
PMTG *e*SS **SS** **09 10 12.1 +2.3**
PBDV Barranco-do-Ve 97.36 308 *e*P Pdif 08 52 19.3 +10
comp=Z,641nm,1.6s
PBDV i 08 52 26.9
PBDV Barranco-do-Ve 97.36 308 *e*PP PP 08 56 25.2 +19
PBDV *e*SKS **SKSac** **09 02 48.3 +3.1**
PBDV *e*SS **SS** **09 10 10.0 -0.6**
PTOM Tomar 97.37 310 *e*P Pdif 08 52 19.8 +11
comp=Z,687nm,1.3s
PTOM i 08 52 26.4
PTOM Tomar 97.37 310 *e*PP PP 08 56 20.9 +15
PCVE Castro Verde 97.38 308 *e*P Pdif 08 52 19.5 +10
comp=Z,469nm,1.8s
PCVE i 08 52 26.9
PCVE Castro Verde 97.38 308 *e*PP PP 08 56 25.3 +19
PCVE Castro Verde 97.38 308 *e*SS SS 09 10 12.8 +1.9
KIC Kosan Boka 97.46 277 *e*P Pdif 08 52 11.1 +0.9
comp=Z,888nm,0.9s
SDPT Sand Point 97.49 34 PFAKE 08 52 20.0 +11
SDPT LR LR
comp=Z,1127μm,21.0s
DBIC Dimbokro 97.55 277 P **P** **08 52 09.7 -0.8**
comp=Z,14nm,0.9s,baz=33,slow=9.0,SNR=3.8
DBIC LR LR 09 32 25.5
comp=Z,2423μm,21.9s,baz=72,slow=33
ALMR Almeirim 97.57 310 *e*P Pdif 08 52 16.8 +6.6
ALMR *e*PP **PP** **08 56 06.6 -1.1**
ALMR *e*SKSac **SKSac** **09 02 44.8 -1.3**
ALMR *e*SS **SS** **09 10 13.6 +0.3**
ALMR AMS AMS 09 41 13.7
comp=Z,961μm,17.7s
ALMR Almeirim 97.57 310 *e*P Pdif 08 52 19.3 +9.1
comp=Z,786nm,1.3s
ALMR i 08 52 27.2
ALMR Almeirim 97.57 310 *e*PP PP 08 56 22.5 +15
ALMR Almeirim 97.57 310 *e*P Pdif 08 52 16.7 +6.5
ALMR *e* 08 56 06.5
ALMR *e* 09 02 44.8
ALMR *e*SS SS 09 10 13.6 +0.2
TOLK Toolik Lake Re 97.61 19 PKiKP **P** **08 52 07.5 -2.2**
baz=296
TOLK Toolik Lake Re 97.61 19 *e*P **P** **08 52 09.2 -0.5**
comp=Z,845nm,1.1s
TOLK LR LR
comp=Z,1802μm,20.0s
PNCL Nicolau / Gran 97.69 309 *e*P Pdif 08 52 21.0 +10
comp=Z,351nm,1.7s
PNCL i 08 52 28.3
PNCL Nicolau / Gran 97.69 309 *e*PP PP 08 56 28.3 +20
PNCL *e*SKS SKSac 09 03 09.6 +23
PNCL *e*SS **SS** **09 10 17.3 +2.1**
TIC Toumodi 97.72 277 *e*P Pdif 08 52 12.1 +0.7
LIC Lamto 97.75 277 *e*P Pdif 08 52 14.1 +2.6
comp=Z,2μm,1.5s
MORF Marmelete 97.91 308 *e*P Pdif 08 52 18.3 +6.4
MORF *e*PP **PP** **08 56 09.5 -0.9**
MORF *e*SKSac **SKSac** **09 02 46.6 -1.5**
MORF *e*SS **SS** **09 10 18.6 +0.2**
MORF AMS AMS 09 40 17.8
comp=Z,1209μm,17.4s
MORF Marmelete 97.91 308 *e*P Pdif 08 52 22.0 +10
comp=Z,853nm,1.7s
MORF i 08 52 29.3
MORF Marmelete 97.91 308 *e*PP PP 08 56 29.8 +19
MORF *e*SKS **SKSac** **09 02 49.0 +0.9**
MORF *e*SS **SS** **09 10 25.7 +7.2**
MORF Marmelete 97.91 308 *e*P Pdif 08 52 18.2 +6.3
MORF *e* 08 56 09.5
MORF *e* 09 02 46.6
MORF *e*SS SS 09 10 18.6 +0.1
PTEO Sao Teotonio 97.94 308 *e*P Pdif 08 52 15.3 +3.4
comp=Z,540nm,1.4s
PTEO i 08 52 29.1
PTEO Sao Teotonio 97.94 308 *e*PP PP 08 56 32.0 +21
COLD Coldfoot 98.02 21 *e*P Pdif 08 52 11.9 +0.3
comp=Z,592nm,1.2s
COLD LR LR
comp=Z,3163μm,22.0s
LIS Lisbon 98.08 309 *e*P Pdif 08 52 19.0 +6.6
LIS *e*PP **PP** **08 56 10.7 -0.9**
LIS *e*SKSac **SKSac** **09 02 47.2 -1.6**
LIS *e*SS **SS** **09 10 20.9 +0.4**
LIS AMS AMS 09 37 14.2
comp=E,1313μm,18.6s
LIS Lisbon 98.08 309 *e*P Pdif 08 52 22.1 +10
comp=E,808nm,1.5s
LIS i 08 52 30.1
LIS Lisbon 98.08 309 *e*PP PP 08 56 28.2 +17
LIS Lisbon 98.08 309 *e*P Pdif 08 52 19.0 +6.5
LIS *e* 08 56 10.6
LIS *e* 09 02 47.1
LIS *e*SS SS 09 10 20.9 +0.3
PFVI Vila Bisbo 98.08 308 *e*P Pdif 08 52 23.0 +10
comp=E,574nm,1.2s
PFVI i 08 52 30.2
PFVI Vila Bisbo 98.08 308 *e*PP PP 08 56 30.8 +19
PFVI *e*SKS SKSac 09 03 17.6 +29
PFVI *e*SS **SS** **09 10 24.4 +3.7**
PFVI Vila Bisbo 98.08 308 *e*P Pdif 08 52 15.9 +3.4
comp=E,666nm,1.3s
PFVI LR LR
comp=Z,1454μm,19.0s
PMST Lisbon--Monsan 98.10 309 *e*P Pdif 08 52 22.5 +10
comp=Z,478nm,1.2s
PMST i 08 52 30.3
PMST Lisbon--Monsan 98.10 309 *e*PP PP 08 56 28.6 +17
BORG Borgarnes 98.14 337 LR LR 09 39 46.8
comp=Z,905μm,19.1s,baz=63,slow=38
BORG Borgarnes 98.14 337 PFAKE 08 52 20.0 +7.9
BORG LR LR
comp=Z,11543μm,19.0s
PMAFR Mafra 98.14 310 *e*P Pdif 08 52 22.8 +10
comp=Z,534nm,1.6s
PMAFR i 08 52 30.0
PMAFR Mafra 98.14 310 *e*PP PP 08 56 27.4 +15
PMAFR *e*SKS SKSac 09 03 17.3 +28
PMAFR *e*SS **SS** **09 10 22.5 +1.0**
SVW2 Sparrevohn 98.24 27 *e*P Pdif 08 52 12.9 +0.2
comp=Z,1μm,1.8s
SVW2 LR LR

comp=Z,1437µm,20.0s
MLY Manley 98.77 23 *e*P **P** **08 52 14.5 -0.5**
comp=Z,675nm,1.5s
MLY LR LR

comp=Z,2421µm,20.0s
CAST Castle Rocks 98.90 24 *e*P **P** **08 52 14.4 -1.2**
comp=Z,2µm,1.6s
CAST LR LR

comp=Z,1694µm,20.0s
SHEL Horse Pasture 99.03 254 PFAKE 08 52 30.0 +13
SHEL LR LR

comp=Z,4602µm,21.0s
PPLA Purkeypile 99.06 25 *e*P **Pdif** **08 52 18.1 +1.7**
comp=Z,1µm,1.5s
PPLA LR LR

comp=Z,1852µm,21.0s
BPAW Bear Paw Mtn. 99.06 24 *e*P **Pdif** **08 52 16.3 -0.1**
comp=Z,961nm,1.3s
BPAW LR LR

comp=Z,1418µm,18.0s
KTH Kantishna Hill 99.32 24 PFAKE 08 52 30.0 +12
KTH LR LR

comp=Z,1819µm,20.0s
SUMG Summit 99.34 347 *i* P **Pdif** **08 52 20.6 +2.7**
SUMG *i* 08 52 34.8

comp=Z,1882µm,23.0s
SUMG Summit 99.34 347 *e*P **Pdif** **08 52 16.9 -1.0**
comp=Z,1µm,1.5s
SUMG LR LR

comp=Z,1489µm,22.0s
SUMG Summit 99.34 347 *e*P **Pdif** **08 52 16.9 -1.0**
SUMG pmax pmax
comp=Z,1µm,1.5s
SUMG MLR MLR

comp=Z,1489µm,22.0s
TRF Thorofare Moun 99.62 24 *e*P **Pdif** **08 52 20.3 +1.3**
comp=Z,1µm,1.8s
TRF LR LR

comp=Z,2008µm,22.0s
MDM Murphy Dome 99.76 22 *e*Pdif **Pdif** **08 52 19.7 +0.3**
comp=Z,1µm,1.5s
MDM LR LR

comp=Z,1607µm,19.0s
COLA College 99.94 22 PFAKE 08 52 30.0 +10
COLA LR LR

comp=Z,1664µm,19.0s
COLA College 99.94 22 *e*P **Pdif** **08 52 19.6 -0.5**
WRH Wood River Hil 100.04 23 *e*Pdif **Pdif** **08 52 20.6 0.0**
comp=Z,706nm,1.7s
WRH LR LR

comp=Z,1731µm,18.0s
MCK McKinley 100.04 24 *e*Pdif **Pdif** **08 52 21.5 +0.8**
comp=Z,1µm,1.6s
MCK LR LR

comp=Z,1515µm,21.0s
MCK McKinley 100.04 24 *e*P **Pdif** **08 52 21.5 +0.8**
MCK pmax pmax
comp=Z,1µm,1.6s
MCK MLR MLR

comp=Z,1515µm,21.0s
CCB Clear Creek Bu 100.06 22 PFAKE 08 52 30.0 +9.3
CCB LR LR

comp=Z,1621µm,20.0s
FYU Fort Yukon 100.07 20 PFAKE 08 52 30.0 +9.3
FYU LR LR

comp=Z,2534µm,22.0s
RND Reindeer 100.22 24 PFAKE 08 52 30.0 +8.5
RND LR LR

comp=Z,1773µm,20.0s
SUA Susitna One 100.26 26 *e*Pdif **Pdif** **08 52 22.8 +1.0**
SUA LR LR

comp=Z,1533µm,22.0s
IL1 Eielson Array 100.35 22 *e*Pdif **Pdif** **08 52 21.0 -1.0**
ILAR Eielson Array 100.35 22 P **Pdif** **08 52 21.0 -1.0**
comp=Z,2.3nm,0.8s,baz=300,slow=3.7,SNR=19
ILAR PKKP **PKKPdf** **09 08 44.1 -1.4**
comp=Z,14nm,1.0s,baz=139,slow=3.2,SNR=2.9
ILB Eielson Array 100.35 22 *e*Pdif **Pdif** **08 52 21.9 -0.1**
HDA Harding Lake 100.50 22 PFAKE 08 52 30.0 +7.3
HDA LR LR

comp=Z,1527µm,19.0s
HOM Homer 100.59 28 PFAKE 08 52 30.0 +6.9
HOM LR LR

comp=Z,1672µm,20.0s
TULEG Thule 100.65 356 PFAKE 08 52 30.0 +6.9
TULEG LR LR

comp=Z,1702µm,19.0s
KDAK Kodiak Island 100.86 30 PFAKE 08 52 40.0 +16
KDAK LR LR

comp=Z,1566µm,22.0s
RC01 Rabbit Creek A 100.86 26 *e*Pdif **Pdif** **08 52 25.3 +1.0**
RC01 LR LR

comp=Z,1385µm,22.0s
BRLK Bradley Lake 100.90 28 *e*Pdif **Pdif** **08 52 24.6 +0.1**
BRLK LR LR

comp=Z,1789µm,20.0s
PMR Palmer 100.91 26 *e*Pdif **Pdif** **08 52 25.1 +0.6**
PMR LR LR

comp=Z,1201µm,19.0s
PMR Palmer 100.91 26 *e*P **Pdif** **08 52 25.1 +0.6**
PMR MLR MLR

comp=Z,1201µm,19.0s
DHY Denali Highway 100.97 24 PFAKE 08 52 40.0 +15
DHY LR LR

comp=Z,1422µm,21.0s
SML Sawmill 101.15 25 PFAKE 08 52 40.0 +14
SML LR LR

comp=Z,1469µm,21.0s
KULLO Kullorsuaq 101.23 352 *i* P **Pdif** **08 52 32.8 +7.1**
KULLO *i* 08 52 42.4

comp=Z,3367µm,20.0s
KULLO Kullorsuaq 101.23 352 *i* P **PKKPdf** **09 08 44.2 +0.3**
KULLO Kullorsuaq 101.23 352 *e*P **Pdif** **08 52 32.8 +7.1**
KULLO MLR MLR

comp=Z,3400µm,20.0s
SCM Sheep Creek Mo 101.56 25 PFAKE 08 52 40.0 +12
SCM LR LR

comp=Z,1798µm,20.0s
RIDG Independ'e Rid 101.64 23 *e*Pdif **Pdif** **08 52 28.5 +0.6**
RIDG LR LR

comp=Z,1733µm,18.0s
PAX Paxson 101.78 23 PFAKE 08 52 40.0 +11
PAX LR LR

comp=Z,2160µm,21.0s
SCRK Sand Creek 101.84 22 *e*Pdif **Pdif** **08 52 29.9 +1.1**
SCRK LR LR

comp=Z,1980µm,21.0s
DOT Dot Lake 101.99 23 *e*Pdif **Pdif** **08 52 29.6 +0.3**
DOT LR LR

comp=Z,4797µm,19.0s
HARP HAARP 102.19 24 PFAKE 08 52 40.0 +10
HARP LR LR

comp=Z,1520µm,21.0s
KLU Klutina 102.32 25 PFAKE 08 52 40.0 +9.1
KLU LR LR

comp=Z,1620µm,20.0s
EGAK Eagle 102.45 21 *e*Pdif **Pdif** **08 52 32.7 +1.3**
EGAK LR LR

comp=Z,2098µm,21.0s
MENT Mentasta 102.49 23 PFAKE 08 52 40.0 +8.4
MENT LR LR

comp=Z,1423µm,18.0s
DIV Divide 102.56 25 PFAKE 08 52 40.0 +8.0
DIV LR LR

comp=Z,2404µm,21.0s
INK Inuvik 102.68 16 P **Pdif** **08 52 30.9 -1.3**
comp=Z,5.7nm,1.1s,baz=338,slow=8.8,SNR=14
INK PKKP **PKKPdf** **09 08 41.1 -0.1**
comp=Z,39nm,0.9s,baz=181,slow=0.7,SNR=6.8
INK Inuvik 102.68 16 *e*Pdif **Pdif** **08 52 32.0 -0.2**
INK PKKP **PKKPdf** **09 08 41.1 -0.1**
INK LR LR

comp=Z,2129µm,21.0s
INK Inuvik 102.68 16 *e*P **Pdif** **08 52 32.0 -0.2**
INK MLR MLR

comp=Z,2129µm,21.0s
EYAK Cordova Ski Ar 102.85 26 PFAKE 08 52 40.0 +6.8
EYAK LR LR

comp=Z,2380µm,20.0s
RES Resolute Bay 103.04 2 P **Pdif** **08 52 33.2 -0.5**
comp=Z,14nm,0.9s,baz=335,slow=5.3,SNR=30
RES Resolute Bay 103.04 2 *e*Pdif **Pdif** **08 52 34.0 +0.3**
RES LR LR

comp=Z,1452µm,22.0s
RES Resolute Bay 103.04 2 *e*P **Pdif** **08 52 34.0 +0.3**
RES MLR MLR

comp=Z,1452µm,22.0s
MID Middleton Isla 103.12 27 PFAKE 08 52 50.0 +16
MID LR LR

comp=Z,1220µm,20.0s
BMRM Bremner River 103.13 25 PFAKE 08 52 50.0 +15
BMRM LR LR

comp=Z,1725µm,22.0s
RAGM Ragged Mountai 103.39 26 PFAKE 08 52 50.0 +14
RAGM LR LR

comp=Z,2247µm,18.0s
DAWY Dawson 103.49 21 *e*Pdif **Pdif** **08 52 35.9 -0.2**
DAWY LR LR

comp=Z,2500µm,21.0s
ANGG Ammassalik, Gr 103.59 341 PFAKE 08 52 50.0 +14
ANGG LR LR

comp=Z,1349µm,20.0s
BALM Baldy 104.04 24 PFAKE 08 52 50.0 +11
BALM LR LR

comp=Z,1202µm,19.0s
ILULI Ilulissat 104.64 348 *i* P **PKKPdf** **09 08 35.7 -1.9**
ILULI Ilulissat 104.64 348 PFAKE 08 52 50.0 +9.0
ILULI LR LR

comp=Z,2582µm,22.0s
PMPS Porto Santo 104.89 305 i 08 52 59.9
PMPS A A 08 53 16.9

comp=Z,169nm,2.1s
PMPS Porto Santo 104.89 305 *e*PP PP 08 57 21.9 +19
KEKH Kekaha 105.13 67 PFAKE 08 57 10.0
KEKH LR LR

comp=Z,547µm,21.0s
FUL Funchal 105.44 305 *e*P **Pdif** **08 52 49.3 +4.0**
comp=Z,194nm,1.9s
FUL Funchal 105.44 305 *e*PP PP 08 57 20.8 +14
PMAR Madeira 105.44 305 *e*P **Pdif** **08 52 55.3 +10**
comp=Z,506nm,1.5s
PMAR Madeira 105.44 305 *e*PP PP 08 57 20.9 +13
PMOZ Porto Moniz, M 105.65 305 *e*P **Pdif** **08 52 55.9 +9.5**
comp=Z,239nm,2.0s
PMOZ i 08 53 04.3
PMOZ Porto Moniz, M 105.65 305 *e*PP PP 08 57 28.6 +20
PMOZ Porto Moniz, M 105.65 305 *e*LQ LQ 09 22 12.8
PMOZ *e*LR LR 09 25 10.5

comp=Z,653µm,20.0s
YKU2 Yakutat 105.99 25 PFAKE 08 57 10.0
YKU2 LR LR

comp=Z,1244µm,18.0s
HYT Haines Junctio 106.11 23 PFAKE 08 57 10.0
HYT LR LR

comp=Z,1356µm,22.0s
SFJD Kangerlussuaq 106.30 346 *i* P **Pdif** **08 52 54.9 +6.5**
SFJD *i* 08 57 27.3

comp=Z,1512µm,21.0s
SFJD Kangerlussuaq 106.30 346 PFAKE 08 57 10.0
SFJD LR LR

comp=Z,1681µm,21.0s
SFJD Kangerlussuaq 106.30 346 *e*P **Pdif** **08 52 54.9 +6.5**
SFJD MLR MLR

comp=Z,1500µm,21.0s
OPA Opana 106.73 67 PFAKE 08 57 10.0
OPA LR LR

comp=Z,695µm,21.0s
KIP Kipapa 106.77 67 PFAKE 08 57 10.0
KIP LR LR

comp=Z,789µm,22.0s
HON Honolulu 106.80 67 PFAKE 08 57 10.0
HON LR LR

comp=Z,686µm,21.0s
RAR Rarotonga 106.85 111 PFAKE 08 57 10.0
RAR LR LR

comp=Z,612µm,22.0s
WHY Whitehorse 107.23 22 PFAKE 08 57 10.0
WHY LR LR

comp=Z,1352µm,20.0s
ASCN Ascension 107.51 262 PFAKE 08 57 10.0
ASCN LR LR

comp=Z,1680µm,22.0s
SKAG Skagway 107.81 24 PFAKE 08 57 10.0
SKAG LR LR

comp=Z,1685µm,21.0s
KHLH Kahului Airpor 108.32 67 PFAKE 08 57 20.0
KHLH LR LR

comp=Z,742µm,22.0s
HLK Haleakala 108.51 67 PFAKE 08 57 20.0
HLK LR LR

comp=Z,691µm,21.0s
BESE Bessie Mountai 108.55 24 PFAKE 08 57 20.0
BESE LR LR

comp=Z,1460µm,20.0s
KHLU Kahalu'u 109.03 69 PFAKE 08 57 20.0
KHLU LR LR

comp=Z,400µm,22.0s
HUH Hualalai 109.07 68 PFAKE 08 57 20.0
HUH LR LR

comp=Z,537µm,22.0s
HPAH Hawaii Prepara 109.14 68 PFAKE 08 57 20.0
HPAH LR LR

comp=Z,523µm,21.0s
NRS Narsarsuaq 109.18 340 PFAKE 08 57 20.0
NRS LR LR

comp=Z,1586µm,22.0s
SIT Sitka 109.30 26 PFAKE 08 57 20.0
SIT LR LR

comp=Z,1778µm,21.0s
MWH Moku'aweowe 109.33 69 PFAKE 08 57 20.0
MWH LR LR

comp=Z,527µm,22.0s
MLOA Mauna Loa Obse 109.34 69 PFAKE 08 57 20.0
MLOA LR LR

comp=Z,448µm,22.0s
POHA Pohakuloa 109.34 68 PFAKE 08 57 20.0
POHA LR LR

comp=Z,578µm,22.0s
KHU Kahuku 109.35 69 PFAKE 08 57 20.0
KHU LR LR

comp=Z,675µm,21.0s
HMH Humu'ula Sheep 109.41 68 PFAKE 08 57 20.0
HMH LR LR

comp=Z,648µm,22.0s
XMAS Kiritimati 109.43 87 PFAKE 08 57 20.0
XMAS LR LR

comp=Z,954µm,22.0s
AIN Ainahou 109.47 69 PFAKE 08 57 20.0
AIN LR LR

comp=Z,609µm,22.0s
MLH Mauna Loa 109.52 69 PFAKE 08 57 20.0
MLH LR LR

comp=Z,454µm,21.0s
WRMHI West Rim 109.61 69 PFAKE 08 57 20.0
WRMHI LR LR

comp=Z,547µm,22.0s
UWE Uwekahuna 109.62 69 PFAKE 08 57 20.0
UWE LR LR

comp=Z,465µm,22.0s
SDHHI Sand Hill 109.62 69 PFAKE 08 57 20.0
SDHHI LR LR

comp=Z,508µm,22.0s
HLP Hilina Pali 109.63 69 PFAKE 08 57 20.0
HLP LR LR

comp=Z,692µm,22.0s
OBL Observatory Le 109.63 69 PFAKE 08 57 20.0
OBL LR LR

comp=Z,551µm,22.0s
NPH North Pit 109.63 69 PFAKE 08 57 20.0
NPH LR LR

comp=Z,526µm,22.0s
UWB Uwekahuna B 109.63 69 PFAKE 08 57 20.0
UWB LR LR

comp=Z,553µm,22.0s
RIM Rim 109.64 69 PFAKE 08 57 20.0
RIM LR LR

comp=Z,519µm,22.0s
SBLHI Steaming Bluff 109.64 69 PFAKE 08 57 20.0
SBLHI LR LR

comp=Z,542µm,22.0s
HATHI Halema'uma'u T 109.65 69 PFAKE 08 57 20.0
HATHI LR LR

comp=Z,554µm,22.0s
KKO Keanakako'i 109.65 69 PFAKE 08 57 20.0
KKO LR LR

comp=Z,543µm,22.0s
BYL Byron's Ledge 109.65 69 PFAKE 08 57 20.0
BYL LR LR

comp=Z,534µm,21.0s
PUH Pauahi 109.70 69 PFAKE 08 57 20.0
PUH LR LR

comp=Z,585µm,22.0s
STCH Steam Cracks 109.78 69 PFAKE 08 57 20.0
STCH LR LR

comp=Z,574µm,22.0s
NPOC North of Pu'u 109.80 69 PFAKE 08 57 20.0
NPOC LR LR

comp=Z,551µm,22.0s
JCUZ Jacuzzi 109.80 69 PFAKE 08 57 20.0
JCUZ LR LR

comp=Z,592µm,22.0s
HULD Heiheiahulu Di 109.92 69 PFAKE 08 57 20.0
HULD LR LR

comp=Z,526µm,22.0s
IVI Ivigtut 110.06 341 PFAKE 08 57 20.0
IVI LR LR

comp=Z,1907µm,21.0s
BART Pico Bartolome 110.51 312 *e*Pdif **Pdif** **08 53 15.0 +7.1**
BART Pico Bartolome 110.51 312 *e*PP PP 08 57 48.9 +4.8
PSMN Pico do Norte, 110.69 311 *e*Pdif **Pdif** **08 53 16.6 +8.0**
PSMN Pico do Norte, 110.69 311 *e*PP PP 08 57 42.9 -2.4
PSMN *e*SP SP 09 07 11.5 -1.2
PSMN *e*SS **SS** **09 13 12.1 -1.4**
PSMN Pico do Norte, 110.69 311 *e*LQ LQ 09 23 49.0
PSMN *e*LR LR 09 31 27.9

comp=Z,159µm,20.4s
PCALD Caldeiras da R 110.74 312 *e*Pdif **Pdif** **08 53 19.6 +11**
PCALD Caldeiras da R 110.74 312 *e*PP PP 08 57 51.0 +5.4
PSMA Santa Maria 110.74 311 *e*Pdif **Pdif** **08 53 23.4 +15**
PSMA Santa Maria 110.74 311 *e*PP PP 08 57 50.5 +4.8
CMLA Cha da Macela 110.78 312 *e*Pdif **Pdif** **08 53 18.0 +9.0**
CMLA Cha da Macela 110.78 312 *e*PP PP 08 57 49.3 +3.4
CMLA *e*SP SP 09 07 17.3 +3.9
CMLA *e*SS **SS** **09 13 13.8 -0.8**
CMLA Cha da Macela 110.78 312 *e*LQ LQ 09 23 56.1
CMLA *e*LR LR 09 31 04.6

comp=Z,92µm,24.0s
CMLA Cha da Macela 110.78 312 PFAKE 08 57 20.0
CMLA LR LR

comp=Z,985µm,19.0s
PDA Ponta Delgada 110.88 312 *e*Pdif **Pdif** **08 53 19.8 +10**
PDA Ponta Delgada 110.88 312 *e*PP PP 08 57 46.4 -0.2
PSET Sete Cidades 110.90 312 *e*Pdif Pdif 08 53 29.7 +20
PSET Sete Cidades 110.90 312 *e*PP PP 08 57 52.0 +5.2
PSET Sete Cidades 110.90 312 *e*PS PS 09 07 06.0 -12
PSET *e*SP SP 09 07 24.1 +10
PSET *e*SS **SS** **09 13 19.1 +2.8**
PSET Sete Cidades 110.90 312 *e*LQ LQ 09 23 34.7
PSET *e*LR LR 09 31 25.8

comp=Z,88µm,24.9s
WRAK Wrangell Islan 110.97 25 PFAKE 08 57 20.0
WRAK LR LR

comp=Z,1306µm,18.0s
CRAG Craig 111.25 26 PFAKE 08 57 20.0
CRAG LR LR

comp=Z,1080µm,20.0s
ADH Angra Heroismo 111.72 313 *e*Pdif **Pdif** **08 53 17.9 +4.8**
ADH Angra Heroismo 111.72 313 *e*PP PP 08 57 55.1 +2.5
PGRA Graciosa 112.12 314 *e*Pdif **Pdif** **08 53 25.3 +10**
PGRA Graciosa 112.12 314 *e*PP PP 08 57 58.8 +3.4
PGRA *e*SP SP 09 07 27.3 +1.7
PGRA *e*SS **SS** **09 13 31.8 -0.5**
PGRA Graciosa 112.12 314 *e*LQ LQ 09 24 10.4
PGRA *e*LR LR 09 32 15.7

comp=Z,154µm,23.1s
YKA Yellowknife Ar 112.13 13 Pdiff **Pdif** **08 53 16.4 +2.0**
comp=Z,1.3nm,1.0s,baz=325,slow=4.6,SNR=14
YKA PKKPab **PKKPab** **09 08 11.0 -1.0**
comp=Z,16nm,0.8s,baz=150,slow=3.4,SNR=8.7
YKA PKKP **PKKPdf** **09 08 20.1 -3.4**
comp=Z,28nm,0.8s,baz=150,slow=3.5,SNR=14
PMAN Manadas 112.34 314 *e*Pdif **Pdif** **08 53 23.6 +7.7**
PMAN Manadas 112.34 314 *e*PP PP 08 57 55.7 -1.4
PICO Pico 112.64 314 *e*Pdif Pdif 08 53 34.4 +17
PICO Pico 112.64 314 *e*PP PP 08 57 59.5 +0.2
PCAN Candelaria 112.70 313 *e*Pdif **Pdif** **08 53 21.0 +3.5**
PCAN Candelaria 112.70 313 *e*PP PP 08 58 01.3 +1.7
HOR Horta 112.78 314 *e*Pdif **Pdif** **08 53 26.4 +8.6**
HOR Horta 112.78 314 *e*PP PP 08 58 05.9 +5.8
PCED Cedros 112.79 314 *e*Pdif **Pdif** **08 53 30.3 +12**
PCED Cedros 112.79 314 *e*PP PP 08 58 02.0 +1.7
DIB Dawson Inlet, 112.98 28 PFAKE 08 57 20.0
DIB LR LR

comp=Z,813µm,21.0s
HOPE Hope Point 113.84 210 PFAKE 08 57 30.0
HOPE LR LR

comp=Z,1753µm,22.0s
H07S1 FLORES T-PHASE 114.27 315 *e*Pdif **Pdif** **08 53 23.1 -1.4**
H07S1 FLORES T-PHASE 114.27 315 *e*PP **PP** **08 58 06.6 -4.2**
H07S1 *e*SP SP 09 07 53.0 +7.6
H07S1 *e*SS **SS** **09 14 03.7 +2.9**
H07S1 FLORES T-PHASE 114.27 315 *e*LQ LQ 09 24 39.0
H07S1 *e*LR LR 09 33 05.7
SACV Santiago Islan 115.01 288 PFAKE 08 57 30.0 +12
SACV LR LR

comp=Z,889µm,21.0s
PMSA Palmer Station 115.43 191 PFAKE 08 57 30.0 +13
PMSA LR LR

comp=Z,1286µm,20.0s
BBB Bella Bella 115.65 27 Pdiff **Pdif** **08 53 33.6 +3.3**
comp=Z,2.2nm,1.0s,baz=298,slow=16,SNR=1.9
BBB PKKP **PKKPdf** **09 08 09.8 -6.8**
comp=Z,32nm,1.0s,baz=191,slow=4.0,SNR=4.4
PAE Paea 116.76 109 *e*PKiKP **PKPdf** **08 57 17.6 -3.2**
comp=Z,69nm,1.2s
PPT2 Papeete2 116.77 108 *e*Pdif **Pdif** **08 53 35.0 -1.1**
comp=Z,13µm,21.7s
PPT2 Papeete2 116.77 108 *e*PKiKP **PKPdf** **08 57 17.6 -3.4**
comp=Z,568nm,1.3s
PPT2 Papeete2 116.77 108 *e*PP PP 08 58 30.2 +0.9
comp=Z,40µm,25.2s
PPT2 *e*Sdif Sdif 09 06 13.3 -1.8

comp=Z,381µm,25.5s
PPT2 Papeete2 116.77 108 *e*PS PS 09 08 13.3 +0.2
comp=Z,400µm,26.5s
PPT2 Papeete2 116.77 108 *e*LQ LQ 09 27 51.2
comp=Z,4924µm,35.5s
PPT2 *e*LR LR 09 32 50.6

comp=Z,2826µm,30.8s
PPT Papeete 116.77 108 PKKP 09 08 14.6
comp=Z,99nm,1.0s,baz=76,slow=12,SNR=4.3
PPTF Pamatai, Papee 116.78 108 PFAKE 08 57 30.0 +9.0
PPTF LR LR

comp=Z,592µm,22.0s
TIAR Tiarei 116.99 108 *e*PKiKP **PKPdf** **08 57 18.0 -3.3**
comp=Z,304nm,1.4s
TVO Taravao 117.06 109 *e*PKiKP **PKPdf** **08 57 18.2 -3.3**
comp=Z,289nm,1.4s
PMOR Pomariorio Ree 118.65 106 *e*PKiKP **PKPdf** **08 57 21.2 -3.3**
comp=Z,979nm,1.2s
VAH Vaihoa 118.88 106 *e*PKiKP **PKPdf** **08 57 21.8 -3.1**
comp=Z,710nm,1.2s
FCC Fort Churchill 118.92 4 PFAKE 08 57 40.0 +16
FCC LR LR

comp=Z,1832µm,22.0s
LLLB Lillooet 119.49 25 PFAKE 08 57 40.0 +15
LLLB LR LR

comp=Z,1104µm,20.0s
PGC Sidney 120.26 27 PFAKE 08 57 40.0 +13
PGC LR LR

comp=Z,765µm,20.0s
EDM Edmonton 120.49 18 PFAKE 08 57 40.0 +13
EDM LR LR

comp=Z,1857µm,20.0s
A04D Lummi Island 120.54 27 PKiKP **PKPdf** **08 57 25.5 -1.8**
baz=317
SCHQ Schefferville 120.74 347 Pdiff **Pdif** **08 54 00.9 +7.9**
comp=Z,0.9nm,0.3s,baz=360,slow=18,SNR=3.1
NLWA Neilton Lookou 120.97 28 PFAKE 08 57 40.0 +12
NLWA LR LR

comp=Z,1313µm,21.0s
B05A Bryant 121.15 27 PKiKP **PKPdf** **08 57 26.8 -1.7**
baz=318
E03A Lebam 121.72 29 PFAKE 08 57 40.0 +10
E03A LR LR

comp=Z,828µm,22.0s
FFC Flin Flon 121.89 10 PFAKE 08 57 40.0 +10
FFC LR LR

comp=Z,1270µm,21.0s
D05A Enumclaw 122.00 27 PFAKE 08 57 40.0 +10
D05A LR LR

comp=Z,713µm,20.0s
F03A Seaside 122.16 29 PFAKE 08 57 40.0 +10
F03A LR LR

comp=Z,714µm,22.0s

B08A **Colville Reser** **122.28** **25** PFAKE 08 57 40.0 +9.3
B08A LR LR
comp=Z,1035µm,20.0s
F04D **Rainier, OR** **122.32** **29** PKiKP **PKPdf** **08 57 29.0 -1.8**
baz=316
LON **Longmire** **122.40** **28** PFAKE 08 57 40.0 +9.0
LON LR LR
comp=Z,703µm,21.0s
LTY **Liberty** **122.55** **27** PFAKE 08 57 40.0 +8.7
LTY LR LR
comp=Z,1089µm,21.0s
G03D **McMinnville, O** **122.82** **30** PKiKP **PKPdf** **08 57 29.8 -1.9**
baz=315
C09A **Chrisman Ranch** **123.17** **25** PFAKE 08 57 40.0 +7.6
C09A LR LR
comp=Z,1403µm,20.0s
COR **Corvallis** **123.24** **30** PFAKE 08 57 40.0 +7.4
COR LR LR
comp=Z,847µm,22.0s
NEW **Newport** **123.27** **24** Pdiff **Pdif** **08 54 12.4 +8.0**
comp=Z,0.5nm,0.4s,baz=357,slow=9.7,SNR=1.8
NEW **Newport** **123.27** **24** PKiKP **PKPdf** **08 57 30.1 -2.5**
baz=323
NEW **Newport** **123.27** **24** Pdif **Pdif** **08 54 12.4 +8.0**
NEW *e*PKPdf **PKPdf** **08 57 31.8 -0.9**
NEW LR LR
comp=Z,1120µm,19.0s
NEW **Newport** **123.27** **24** P **Pdif** **08 54 12.4 +8.0**
NEW *e* 08 57 31.8
NEW MLR MLR
comp=Z,1120µm,19.0s
D08A **Wollman Farm,** **123.47** **26** PFAKE 08 57 40.0 +7.0
D08A LR LR
comp=Z,1022µm,20.0s
HAWA **Hanford** **123.71** **27** PFAKE 08 57 40.0 +6.5
HAWA LR LR
comp=Z,973µm,20.0s
H04A **Detroit Lake** **123.73** **30** PFAKE 08 57 40.0 +6.4
H04A LR LR
comp=Z,871µm,22.0s
G05D **Wamic, OR** **123.75** **29** PKiKP **PKPdf** **08 57 31.4 -2.2**
baz=317
WALA **Waterton Lakes** **123.84** **21** PFAKE 08 57 50.0 +16
WALA LR LR
comp=Z,1955µm,21.0s
I03D **Drain, OR** **123.84** **31** PKiKP **PKPdf** **08 57 31.6 -2.2**
baz=315
E08A **Dider Farm, El** **123.85** **26** PFAKE 08 57 40.0 +6.3
E08A LR LR
comp=Z,970µm,19.0s
KEBM **Edson Butte** **123.90** **32** PFAKE 08 57 50.0 +16
KEBM LR LR
comp=Z,624µm,20.0s
F07A **Phinny Hill Vi** **123.91** **27** PFAKE 08 57 50.0 +16
F07A LR LR
comp=Z,1157µm,21.0s
G06A **Carlson Farm,** **124.08** **28** PFAKE 08 57 50.0 +16
G06A LR LR
comp=Z,680µm,21.0s
E09A **Wood Farm, Sta** **124.23** **26** PFAKE 08 57 50.0 +16
E09A LR LR
comp=Z,1198µm,21.0s
I04A **Tendick Farm,** **124.26** **31** PKiKP **PKPdf** **08 57 33.6 -1.1**
baz=316
I05D **Terrebonne, OR** **124.40** **29** PKiKP **PKPdf** **08 57 33.6 -1.3**
baz=317
KBO **Bosley Butte** **124.40** **33** PFAKE 08 57 50.0 +15
KBO LR LR
comp=Z,636µm,19.0s
JTMT **Jette** **124.80** **22** PFAKE 08 57 50.0 +14
JTMT LR LR
comp=Z,1368µm,20.0s
J04D **Umpqua Nationa** **124.81** **31** PKiKP **PKPdf** **08 57 34.6 -1.3**
baz=316
G08A **Pilot Rock** **124.81** **27** PFAKE 08 57 50.0 +14
G08A LR LR
comp=Z,969µm,20.0s
HUMO **Hull Mountain** **124.81** **32** PFAKE 08 57 50.0 +14
HUMO LR LR
comp=Z,735µm,22.0s
PINE **Pine Mountain** **124.99** **30** PFAKE 08 57 50.0 +14
PINE LR LR
comp=Z,806µm,20.0s
F10A **Beach Ranch, E** **125.05** **25** PFAKE 08 57 50.0 +14
F10A LR LR
comp=Z,1236µm,21.0s
EFI **East Falkland** **125.10** **202** *e*PKPdf **PKPdf** **08 57 36.4 +0.5**
EFI LR LR
comp=Z,984µm,22.0s
EFI **East Falkland** **125.10** **202** *i* PKIKP **PKPdf** **08 57 32.9 -3.0**
J05D **Fort Rock, OR** **125.22** **30** PKiKP **PKPdf** **08 57 35.5 -1.1**
baz=317
K04D **Chiloquin, OR** **125.43** **31** PKiKP **PKPdf** **08 57 35.0 -2.1**
baz=316
JCC **Jacoby Creek,** **125.46** **34** PFAKE 08 57 50.0 +13
JCC LR LR
comp=Z,502µm,20.0s
YBH **Yreka Blue Hor** **125.55** **32** Pdiff **Pdif** **08 54 24.4 +10**
comp=Z,0.4nm,0.8s,baz=42,slow=5.2,SNR=1.5
KHMM **Horse Mountain** **125.58** **34** PFAKE 08 57 50.0 +13
KHMM LR LR
comp=Z,715µm,21.0s
MSO **Missoula** **125.69** **23** PKiKP **PKPdf** **08 57 34.6 -2.8**
baz=326
MSO **Missoula** **125.69** **23** PFAKE 08 57 50.0 +13
MSO LR LR
comp=Z,1384µm,19.0s
M02C **Callahan** **125.71** **33** PKiKP **PKPdf** **08 57 34.5 -3.1**
baz=314
K05A **Summer Lake** **125.80** **30** PFAKE 08 57 50.0 +12
K05A LR LR
comp=Z,729µm,20.0s
BMO **Blue Mountains** **125.89** **26** PFAKE 08 57 50.0 +12
BMO LR LR
comp=Z,744µm,21.0s
M04C **Macdoel** **125.98** **32** PKiKP **PKPdf** **08 57 34.8 -3.3**
baz=315
KMRM **Mail Ridge** **126.04** **34** PFAKE 08 57 50.0 +12
KMRM LR LR
comp=Z,1008µm,20.0s
N02D **Trinity Center** **126.08** **33** PKiKP **PKPdf** **08 57 35.9 -2.4**
baz=314
WDC **Whiskeytown Da** **126.44** **33** PFAKE 08 57 50.0 +11
WDC LR LR
comp=Z,606µm,22.0s
KCPM **Cahto Peak** **126.47** **35** PFAKE 08 57 50.0 +11
KCPM LR LR
comp=Z,759µm,22.0s
J08A **Circle Bar Ran** **126.51** **28** PFAKE 08 57 50.0 +11
J08A LR LR
comp=Z,808µm,21.0s
MOD **Modoc Plateau** **126.69** **31** PFAKE 08 57 50.0 +10
MOD LR LR
comp=Z,718µm,20.0s
TAOE **Nuku Hiva Isla** **126.72** **99** *e*PKiKP **PKPdf** **08 57 37.2 -3.0**
comp=Z,579nm,1.4s
TAOE **Nuku Hiva Isla** **126.72** **99** *e*LR LR 09 37 19.8
comp=Z,883µm,23.1s
O03D **Paynes Creek** **127.05** **33** PKiKP **PKPdf** **08 57 38.5 -1.6**
baz=314
WVOR **Wild Horse Val** **127.13** **29** PFAKE 08 57 50.0 +10
WVOR LR LR
comp=Z,1118µm,20.0s
ULM **Lac du Bonnet** **127.16** **7** Pdiff **Pdif** **08 54 31.7 +10**
comp=Z,0.7nm,0.6s,baz=360,slow=16,SNR=2.1
ULM PKP **PKPdf** **08 57 38.9 -1.1**
comp=Z,39nm,1.0s,baz=348,slow=2.8,SNR=6.9
ULM **Lac du Bonnet** **127.16** **7** *e*PKPdf **PKPdf** **08 57 39.3 -0.7**
ULM LR LR
comp=Z,1351µm,20.0s
ULM **Lac du Bonnet** **127.16** **7** *e*PKIKP **PKPdf** **08 57 39.3 -0.7**
ULM MLR MLR
comp=Z,1351µm,20.0s
HOPS **Hopland Field** **127.23** **35** PFAKE 08 57 50.0 +10
HOPS LR LR
comp=Z,780µm,22.0s
DLMT **Dillon** **127.43** **23** PFAKE 08 57 50.0 +9.2
DLMT LR LR
comp=Z,1000µm,22.0s
GDXM **Geysers** **127.51** **35** PFAKE 08 57 50.0 +8.9
GDXM LR LR
comp=Z,958µm,20.0s
BOZ **Bozeman (W)** **127.59** **22** PKiKP **PKPdf** **08 57 39.4 -1.7**
baz=328
BOZ **Bozeman (W)** **127.59** **22** PFAKE 08 57 50.0 +8.9
BOZ LR LR
comp=Z,1390µm,20.0s
MFID **Camas Ranch** **127.68** **26** PFAKE 08 57 50.0 +8.7
MFID LR LR
comp=Z,986µm,20.0s
ORV **Oroville** **127.73** **34** PFAKE 08 57 50.0 +8.6
ORV LR LR
comp=Z,592µm,22.0s
MCCM **Marconi Confer** **127.91** **36** PFAKE 08 57 50.0 +8.3
MCCM LR LR
comp=Z,666µm,22.0s
HLID **Hailey** **128.18** **25** PKiKP **PKPdf** **08 57 40.5 -1.9**
baz=324
HLID **Hailey** **128.18** **25** PFAKE 08 57 50.0 +7.7
HLID LR LR
comp=Z,1404µm,20.0s
A31A **Linda, St. Vin** **128.27** **9** PKiKP **PKPdf** **08 57 40.7 -1.4**
baz=347
A32A **Rocking H Ranc** **128.39** **8** PKiKP **PKPdf** **08 57 41.0 -1.3**
baz=348
LAO **LASA Array** **128.41** **17** PKiKP **PKPdf** **08 57 40.7 -1.8**
baz=335
LAO **LASA Array** **128.41** **17** *e*PKPdf **PKPdf** **08 57 42.7 +0.1**
LAO LR LR
comp=Z,1820µm,21.0s
AFDM **Forest Hills D** **128.45** **34** *e*PKPdf **PKPdf** **08 57 45.2 +2.4**
AFDM LR LR
comp=Z,443µm,22.0s
YHB **Horse Butte** **128.47** **22** PFAKE 08 57 50.0 +7.1
YHB LR LR
comp=Z,1500µm,21.0s
PQI **Presque Isle** **128.51** **343** *e*PKPdf **PKPdf** **08 57 44.8 +2.2**
A33A **Warroad** **128.51** **7** PKiKP **PKPdf** **08 57 40.6 -1.9**
baz=349
YHH **Holmes Hill** **128.57** **22** PFAKE 08 57 50.0 +6.8
YHH LR LR
comp=Z,1462µm,20.0s
YMR **Madison River** **128.63** **22** *e*PKPdf **PKPdf** **08 57 44.9 +1.6**
YMR LR LR
comp=Z,1455µm,21.0s
B31A **Greenbush Farm** **128.70** **9** PKiKP **PKPdf** **08 57 40.9 -2.1**
baz=346
PAHR **Pah Rah Range** **128.77** **32** PFAKE 08 57 50.0 +6.5
PAHR LR LR
comp=Z,937µm,21.0s
RUBR **Rubicon Trail** **128.82** **33** PFAKE 08 58 00.0 +16
RUBR LR LR
comp=Z,636µm,22.0s
RLMT **Red Lodge** **128.85** **20** PKiKP **PKPdf** **08 57 41.9 -1.7**
baz=331
RLMT **Red Lodge** **128.85** **20** PFAKE 08 57 50.0 +6.4
RLMT LR LR
comp=Z,1339µm,19.0s
YFT **Old Faithful** **128.86** **22** PFAKE 08 57 50.0 +6.3
YFT LR LR
comp=Z,2535µm,20.0s
B32A **Ashes, Strandq** **128.89** **8** PKiKP **PKPdf** **08 57 41.7 -1.6**
baz=348
MDND **Maddock** **128.91** **11** PKiKP **PKPdf** **08 57 41.8 -1.6**
baz=344
MDND **Maddock** **128.91** **11** *e*PKPdf **PKPdf** **08 57 45.4 +2.0**
MDND LR LR
comp=Z,2016µm,22.0s
VCNR **Virginia City** **128.92** **33** PFAKE 08 58 00.0 +16
VCNR LR LR
comp=Z,640µm,21.0s
LKWY **Lake** **128.93** **21** PFAKE 08 58 00.0 +16
LKWY LR LR
comp=Z,940µm,21.0s
H17A **Grant Village** **129.01** **22** PKiKP **PKPdf** **08 57 42.2 -1.8**
baz=329
H17A **Grant Village** **129.01** **22** PFAKE 08 58 00.0 +16
H17A LR LR
comp=Z,2207µm,22.0s
YPP **Pitchstone Pla** **129.03** **22** PFAKE 08 58 00.0 +16
YPP LR LR
comp=Z,2799µm,20.0s
B34A **Aery, Baudette** **129.04** **7** PKiKP **PKPdf** **08 57 41.6 -2.0**
baz=350
RDG13 **Poverty Ridge** **129.06** **36** PFAKE 08 58 00.0 +16
RDG13 LR LR
comp=Z,585µm,20.0s
AGMN **Agassiz Nation** **129.08** **8** PKiKP **PKPdf** **08 57 41.7 -2.0**
baz=348
AGMN **Agassiz Nation** **129.08** **8** *e*PKPdf **PKPdf** **08 57 43.8 +0.2**
AGMN LR LR
comp=Z,2046µm,21.0s
RKT **Rikitea** **129.11** **118** *e*PKiKP **PKPdf** **08 57 41.8 -2.6**
comp=Z,494nm,1.3s
RKT **Rikitea** **129.11** **118** *e*PP PP 08 59 52.7 +0.3
comp=Z,71µm,26.0s
RKT **Rikitea** **129.11** **118** *e*SS SS 09 17 07.2 -4.3
comp=Z,941µm,28.8s
RKT **Rikitea** **129.11** **118** *e*LQ LQ 09 33 08.3
comp=Z,1463µm,40.0s
RKT *e*LR LR 09 38 35.4
comp=Z,3075µm,31.5s
B33A **Robert and Kas** **129.14** **7** PKiKP **PKPdf** **08 57 41.8 -2.0**
baz=349
B35A **Bob, Littlefor** **129.27** **6** PKiKP **PKPdf** **08 57 42.4 -1.6**
baz=351
C31A **Landman Farms,** **129.30** **9** PKiKP **PKPdf** **08 57 42.7 -1.4**
baz=346
IMW **Indian Meadow** **129.30** **22** PFAKE 08 58 00.0 +15
IMW LR LR
comp=Z,1217µm,20.0s
BMN **Battle Mountai** **129.34** **30** PFAKE 08 58 00.0 +15
BMN LR LR
comp=Z,749µm,22.0s
YERR **Yerington** **129.37** **33** PFAKE 08 58 00.0 +15
YERR LR LR
comp=Z,970µm,22.0s
CMB **Columbia Colle** **129.41** **34** PFAKE 08 58 00.0 +15
CMB LR LR
comp=Z,523µm,21.0s
C32A **Crookston** **129.45** **8** PKiKP **PKPdf** **08 57 42.9 -1.5**
baz=348
MOOW **Moose Ponds** **129.50** **22** PFAKE 08 58 00.0 +15
MOOW LR LR
comp=Z,1352µm,20.0s
WAKR **Walker** **129.61** **33** PFAKE 08 58 00.0 +15
WAKR LR LR
comp=Z,836µm,22.0s
C33A **Trail** **129.62** **8** PKiKP **PKPdf** **08 57 43.5 -1.2**
baz=349
TPAW **Teton Pass** **129.64** **23** PFAKE 08 58 00.0 +15
TPAW LR LR
comp=Z,1360µm,20.0s
LOHW **Long Hollow** **129.67** **22** PFAKE 08 58 00.0 +15
LOHW LR LR
comp=Z,1209µm,21.0s
SAO **San Andreas Ge** **129.68** **36** PFAKE 08 58 00.0 +15
SAO LR LR
comp=Z,728µm,21.0s
SNOW **Snow King Moun** **129.74** **22** *e*PKPdf **PKPdf** **08 57 46.6 +1.2**
SNOW LR LR
comp=Z,1318µm,20.0s
REDW **Red Top Meadow** **129.79** **23** *e*PKPdf **PKPdf** **08 57 47.0 +1.6**
REDW LR LR
comp=Z,1365µm,20.0s
C34A **RKJ Ranch, Bem** **129.84** **7** PKiKP **PKPdf** **08 57 43.9 -1.2**
baz=350
EYMN **Ely** **129.87** **4** PKiKP **PKPdf** **08 57 44.0 -1.3**
baz=354
EYMN **Ely** **129.87** **4** *e*PKPdf **PKPdf** **08 57 45.5 +0.3**
EYMN LR LR
comp=Z,1294µm,22.0s
C35A **Jirik Farms, M** **129.89** **6** PKiKP **PKPdf** **08 57 44.1 -1.2**
baz=351
KVN **Kaiserville** **129.93** **32** PFAKE 08 58 00.0 +14
KVN LR LR
comp=Z,1046µm,21.0s
C36A **Pine Crest Far** **129.95** **5** PKiKP **PKPdf** **08 57 44.3 -1.1**
baz=352
RYN **Ryan** **130.01** **32** PFAKE 08 58 00.0 +14
RYN LR LR
comp=Z,883µm,20.0s
C40A **Isle Royale Na** **130.02** **2** PKiKP **PKPdf** **08 57 44.6 -0.9**
baz=357
D31A **Mcclaflin, Tow** **130.02** **10** PKiKP **PKPdf** **08 57 43.3 -2.2**
baz=346
C37A **Embarrass** **130.03** **5** PKiKP **PKPdf** **08 57 44.1 -1.4**
baz=353
D32A **Dogwood Acres,** **130.05** **9** PKiKP **PKPdf** **08 57 44.1 -1.4**
baz=347
C39A **Grand Marais** **130.08** **3** PKiKP **PKPdf** **08 57 44.2 -1.4**
baz=356
C38A **Sawbill Land.** **130.11** **4** PKiKP **PKPdf** **08 57 44.4 -1.3**
baz=354
EMMW **East Machias** **130.12** **342** *e*PKPdf **PKPdf** **08 57 46.0 +0.3**
PKME **Peaks-Kenny Pk** **130.15** **344** PKiKP **PKPdf** **08 57 45.1 -0.7**
baz=23
PKME **Peaks-Kenny Pk** **130.15** **344** *e*PKPdf **PKPdf** **08 57 44.6 -1.1**
PKME LR LR
comp=Z,1320µm,20.0s
AHID **Auburn Hatcher** **130.20** **23** PFAKE 08 58 00.0 +14
AHID LR LR
comp=Z,1581µm,19.0s
D33A **AnnSam, Waubum** **130.22** **8** PKiKP **PKPdf** **08 57 44.9 -1.0**
baz=348
NVAR **Mina Array Bea** **130.28** **32** Pdiff Pdif 08 54 59.4 +23
comp=Z,0.2nm,0.3s,baz=292,slow=36,SNR=3.2
NVAR PKhKP PKPpre 08 57 42.1
comp=Z,7.4nm,0.8s,baz=276,slow=4.4,SNR=3.0
HVU **Hansel Valley** **130.33** **25** *e*PKPdf **PKPdf** **08 57 46.9 +0.4**
HVU LR LR
comp=Z,985µm,20.0s
HVU **Hansel Valley** **130.33** **25** *e*PKIKP **PKPdf** **08 57 46.9 +0.4**
HVU MLR MLR
comp=Z,985µm,20.0s
NV11 **Mina Array Sit** **130.35** **32** PFAKE 08 58 00.0 +13
NV11 LR LR
comp=Z,94µm,22.0s
D34A **Park Rapids** **130.36** **7** PKiKP **PKPdf** **08 57 45.3 -0.9**
baz=349
MDPB **Devils Postpil** **130.43** **34** PFAKE 08 58 00.0 +13
MDPB LR LR
comp=Z,580µm,22.0s
PMPB **Monarch Peak** **130.43** **36** PFAKE 08 58 00.0 +13
PMPB LR LR
comp=Z,872µm,20.0s
E31A **Nome** **130.47** **10** PKiKP **PKPdf** **08 57 45.4 -1.0**
baz=346
D36A **Goodland** **130.49** **6** PKiKP **PKPdf** **08 57 45.2 -1.2**
baz=352
D35A **Remer** **130.50** **6** PKiKP **PKPdf** **08 57 44.9 -1.6**
baz=351
TRQ **Mont Tremblant** **130.51** **349** *e*PKPdf **PKPdf** **08 57 46.4 -0.2**
MLAC **Mammoth, Mammt** **130.56** **33** PKiKP **PKPdf** **08 57 45.5 -1.6**
baz=316
E32A **Braaten, Kindr** **130.57** **9** PKiKP **PKPdf** **08 57 45.3 -1.3**
baz=347
D37A **Cotton** **130.58** **5** PKiKP **PKPdf** **08 57 45.1 -1.4**
baz=353
BW06 **Boulder Array** **130.79** **22** PKiKP **PKPdf** **08 57 46.4 -1.0**
baz=330
BW06 **Boulder Array** **130.79** **22** *e*PKPdf **PKPdf** **08 57 50.0 +2.6**
BW06 LR LR
comp=Z,1493µm,22.0s
PDAR **Pinedale Array** **130.79** **22** Pdiff Pdif 08 54 58.7 +21
comp=Z,0.1nm,0.3s,baz=77,slow=40,SNR=2.0
PDAR PKP **PKPdf** **08 57 47.6 +0.2**
comp=Z,14nm,0.9s,baz=29,slow=3.4,SNR=7.8
E33A **Westby DABS, E** **130.82** **8** PKiKP **PKPdf** **08 57 45.5 -1.6**
baz=348
SPUT **South Promonto** **130.86** **25** PFAKE 08 58 00.0 +13
SPUT LR LR
comp=Z,1016µm,21.0s
D41A **Chassel** **130.89** **1** PKiKP **PKPdf** **08 57 46.0 -1.1**
baz=358
BGU **Big Grassy Mou** **130.92** **26** *e*PKPdf **PKPdf** **08 57 49.4 +1.8**
BGU LR LR
comp=Z,868µm,21.0s
E34A **Wadena** **130.92** **7** PKiKP **PKPdf** **08 57 46.0 -1.2**
baz=349
E35A **Pequot Lakes** **130.97** **7** PKiKP **PKPdf** **08 57 46.3 -1.0**
baz=350
HWUT **Hardware Ranch** **130.98** **24** *e*PKPdf **PKPdf** **08 57 50.3 +2.6**
HWUT LR LR
comp=Z,1020µm,19.0s
F31A **Hecla** **131.08** **10** PKiKP **PKPdf** **08 57 45.9 -1.7**
baz=345
PAGB **Antelope Grade** **131.09** **36** PFAKE 08 58 00.0 +12
PAGB LR LR
comp=Z,598µm,19.0s
E36A **McGregor** **131.14** **6** PKiKP **PKPdf** **08 57 47.1 -0.5**
baz=352
E37A **Wrenshall** **131.17** **5** PKiKP **PKPdf** **08 57 47.1 -0.6**
baz=353
E38A **The Farm, Brul** **131.20** **4** PKiKP **PKPdf** **08 57 47.1 -0.6**
baz=354
F32A **Veblen** **131.26** **9** PKiKP **PKPdf** **08 57 47.4 -0.5**
baz=346
RCTC **Rector, Farmer** **131.28** **35** PKiKP **PKPdf** **08 57 47.2 -1.0**
baz=315
TIN **Tinemaha, Big** **131.31** **34** PKiKP **PKPdf** **08 57 47.1 -1.3**
baz=316
E44A **Grand Marais A** **131.34** **359** PKiKP **PKPdf** **08 57 47.4 -0.6**
baz=1.4
RSSD **Black Hills** **131.39** **16** PKiKP **PKPdf** **08 57 47.2 -1.3**
baz=337
RSSD **Black Hills** **131.39** **16** *e*PKPdf **PKPdf** **08 57 50.4 +1.9**
RSSD LR LR
comp=Z,1598µm,22.0s
RSSD **Black Hills** **131.39** **16** *e*PKIKP **PKPdf** **08 57 50.4 +1.9**
RSSD MLR MLR
comp=Z,1598µm,22.0s
F33A **5 Mile Ranch,** **131.42** **9** PKiKP **PKPdf** **08 57 46.9 -1.3**
baz=348
TCUT **Toone Canyon** **131.45** **25** *e*PKPdf **PKPdf** **08 57 48.2 -0.5**
TCUT LR LR
comp=Z,1649µm,20.0s
E40A **Wakefield** **131.46** **3** PKiKP **PKPdf** **08 57 47.1 -1.2**
baz=356
E41A **Kenton** **131.47** **2** PKiKP **PKPdf** **08 57 47.1 -1.1**
baz=357
E39A **Mellen** **131.49** **3** PKiKP **PKPdf** **08 57 47.2 -1.1**
baz=355
SMMC **Simmler** **131.53** **37** PKiKP **PKPdf** **08 57 47.5 -1.2**
baz=314
E42A **Champion** **131.53** **1** PKiKP **PKPdf** **08 57 47.3 -1.2**
baz=359
E45A **Wooded Hills,** **131.59** **358** PKiKP **PKPdf** **08 57 47.4 -1.1**
baz=2.3
E43A **Lone Tree Farm** **131.59** **0** PKiKP **PKPdf** **08 57 47.5 -1.0**
baz=360
DUG **Dugway, Tooele** **131.61** **27** PKiKP **PKPdf** **08 57 47.6 -1.3**
baz=324
DUG **Dugway, Tooele** **131.61** **27** PFAKE 08 58 00.0 +11
DUG LR LR
comp=Z,746µm,19.0s
F34A **Alexandria** **131.61** **8** PKiKP **PKPdf** **08 57 47.9 -0.7**
baz=349
FRNY **Flat Rock** **131.63** **347** *e*PKPdf **PKPdf** **08 57 50.2 +1.6**
FRNY LR LR
comp=Z,1055µm,21.0s
F35A **Swanville** **131.64** **7** PKiKP **PKPdf** **08 57 47.9 -0.7**
baz=350
CTU **Camp Tracy** **131.66** **25** *e*PKPdf **PKPdf** **08 57 50.1 +1.1**
CTU LR LR
comp=Z,1043µm,21.0s
VES **Vestal, Richgr** **131.70** **35** PKiKP **PKPdf** **08 57 46.7 -2.3**
baz=315
G31A **Conde** **131.70** **11** PKiKP **PKPdf** **08 57 46.7 -2.0**
baz=345
R11A **Troy Canyon, C** **131.75** **30** PKiKP **PKPdf** **08 57 47.7 -1.6**
baz=320
R11A **Troy Canyon, C** **131.75** **30** PFAKE 08 58 00.0 +11
R11A LR LR
comp=Z,816µm,21.0s
F36A **Milaca** **131.76** **6** PKiKP **PKPdf** **08 57 47.9 -0.9**
baz=351
G32A **Webster** **131.80** **10** PKiKP **PKPdf** **08 57 47.1 -1.9**
baz=346
LBNH **Lisbon** **131.80** **345** PKiKP **PKPdf** **08 57 47.3 -1.7**
baz=20
LBNH **Lisbon** **131.80** **345** PFAKE 08 58 00.0 +11
LBNH LR LR
comp=Z,1295µm,22.0s
F38A **Pierce - Schro** **131.81** **5** PKiKP **PKPdf** **08 57 47.1 -1.8**
baz=353
GRAC **Grapevine Rang** **131.83** **33** PKiKP **PKPdf** **08 57 47.1 -2.2**
baz=317
COWI **Conover** **131.83** **2** *e*PKPdf **PKPdf** **08 57 50.0 +1.0**
COWI LR LR
comp=Z,1649µm,21.0s
CWC **Cottonwood Cre** **131.84** **34** PKiKP **PKPdf** **08 57 47.8 -1.7**
baz=316
JLU **Jordanelle** **131.87** **25** PFAKE 08 58 00.0 +10
JLU LR LR
comp=Z,1133µm,19.0s
PKM **Mcpherson Peak** **131.93** **37** PKiKP **PKPdf** **08 57 47.6 -2.1**
baz=313
F39A **Loretta** **131.93** **4** PKiKP **PKPdf** **08 57 46.1 -3.0**

baz=355
K22A **Casper** 131.96 19 PKiKP **PKPdf** 08 57 46.2 -3.3
baz=333
K22A **Casper** 131.96 19 *e*PKPdf **PKPdf** 08 57 50.2 +0.7
K22A LR LR
comp=Z,1532µm,22.0s
F40A **Park Falls** 131.97 3 PKiKP **PKPdf** 08 57 46.6 -2.7
baz=356
F37A **Hinrichs Farm,** 131.98 5 PKiKP **PKPdf** 08 57 47.0 -2.3
baz=352
F44A **Big Bay de Noc** 131.99 359 PKiKP **PKPdf** 08 57 47.4 -1.8
baz=0.7
G33A **Ortonville** 132.03 9 PKiKP **PKPdf** 08 57 47.7 -1.7
baz=347
LONY **Lake Ozonia** 132.05 348 PKiKP **PKPdf** 08 57 46.4 -3.0
baz=17
LONY **Lake Ozonia** 132.05 348 *e*PKPdf **PKPdf** 08 57 47.8 -1.7
LONY LR LR
comp=Z,978µm,21.0s
G34A **Benson** 132.10 8 PKiKP **PKPdf** 08 57 47.5 -2.0
baz=348
NLU **North Lily Min** 132.13 26 PFAKE 08 58 00.0 +10
NLU LR LR
comp=Z,1292µm,20.0s
F43A **Flat Rock, Esc** 132.14 0 PKiKP **PKPdf** 08 57 47.5 -2.0
baz=360
F46A **Macinaw City C** 132.16 358 PKiKP **PKPdf** 08 57 47.9 -1.6
baz=2.9
ISA **Isabella, Lake** 132.17 35 PKiKP **PKPdf** 08 57 47.7 -2.3
baz=315
ISA **Isabella, Lake** 132.17 35 PFAKE 08 58 00.0 +10
ISA LR LR
comp=Z,740µm,21.0s
F41A **Three Lakes** 132.19 2 PKiKP **PKPdf** 08 57 47.7 -2.0
baz=357
F42A **Maple Grove Fa** 132.20 1 PKiKP **PKPdf** 08 57 47.2 -2.5
baz=358
DAC **Darwin (Calif)** 132.23 34 PFAKE 08 58 00.0 +10
DAC LR LR
comp=Z,918µm,21.0s
F45A **CMU Biological** 132.27 359 PKiKP **PKPdf** 08 57 47.8 -2.0
baz=1.9
G35A **Watkins** 132.28 7 PKiKP **PKPdf** 08 57 49.4 -0.5
baz=350
SBC **Santa Barbara** 132.29 37 PKiKP **PKPdf** 08 57 48.0 -2.2
baz=313
SUSD **Miller** 132.31 12 PKiKP **PKPdf** 08 57 47.9 -2.1
baz=344
ARVC **Arvin** 132.34 36 PKiKP **PKPdf** 08 57 48.0 -2.2
baz=315
G36A **St. Michael** 132.35 6 PKiKP **PKPdf** 08 57 48.8 -1.2
baz=351
H31A **Wolsey** 132.37 11 PKiKP **PKPdf** 08 57 47.5 -2.6
baz=344
MPMC **Manual Prospec** 132.45 34 PKiKP **PKPdf** 08 57 47.8 -2.9
baz=317
SPMN **Marine on St.** 132.46 6 PKiKP **PKPdf** 08 57 46.4 -3.8
baz=352
TPNV **Topopah Spring** 132.46 32 PKiKP **PKPdf** 08 57 48.6 -2.1
baz=319
TPNV **Topopah Spring** 132.46 32 PFAKE 08 58 00.0 +9.3
TPNV LR LR
comp=Z,999µm,20.0s
H33A **Prehn Over Nor** 132.48 9 PKiKP **PKPdf** 08 57 47.6 -2.6
baz=347
FURC **Furnace Creek,** 132.49 33 PKiKP **PKPdf** 08 57 48.1 -2.3
baz=318
H32A **Carlson Farm,** 132.54 10 PKiKP **PKPdf** 08 57 48.1 -2.3
baz=346
G39A **Holcombe** 132.54 4 PKiKP **PKPdf** 08 57 48.5 -1.9
baz=354
RWWY **Rawlins** 132.58 21 *e*PKPdf **PKPdf** 08 57 51.4 +0.6
RWWY LR LR
comp=Z,2390µm,21.0s
NCB **Newcomb** 132.60 347 PFAKE 08 58 00.0 +9.5
NCB LR LR
comp=Z,716µm,20.0s
G38A **Ridgeland** 132.60 5 PKiKP **PKPdf** 08 57 48.6 -1.9
baz=353
G40A **Rib Lake** 132.62 3 PKiKP **PKPdf** 08 57 48.8 -1.7
baz=356
SCZ2 **Santa Cruz Isl** 132.64 38 PKiKP **PKPdf** 08 57 48.9 -1.9
baz=313
H34A **Spellman Lake,** 132.65 9 PKiKP **PKPdf** 08 57 48.8 -1.7
baz=348
PTCN **Pitcairn Islan** 132.68 123 PFAKE 08 58 00.0 +8.8
PTCN LR LR
comp=Z,883µm,22.0s
G43A **Wallace** 132.71 1 PKiKP **PKPdf** 08 57 48.8 -1.8
baz=359
G43A **Wallace** 132.71 1 *e*PKPdf **PKPdf** 08 57 52.1 +1.5
G43A LR LR
comp=Z,1034µm,19.0s
G42A **Mountain** 132.71 1 PKiKP **PKPdf** 08 57 48.8 -1.9
baz=358
G42A **Mountain** 132.71 1 *e*PKPdf **PKPdf** 08 57 52.2 +1.6
G42A LR LR
comp=Z,1484µm,18.0s
G41A **Antigo** 132.72 2 PKiKP **PKPdf** 08 57 49.0 -1.7
baz=357
H35A **Sunnyside Ranc** 132.75 8 PKiKP **PKPdf** 08 57 47.7 -3.1
baz=349
LRMC **Laurel Mtn Rad** 132.75 35 PKiKP **PKPdf** 08 57 49.3 -1.9
baz=316
OSI **Osito Audit: C** 132.76 36 PKiKP **PKPdf** 08 57 49.2 -2.0
baz=314
OSI **Osito Audit: C** 132.76 36 PFAKE 08 58 00.0 +8.9
OSI LR LR
comp=Z,750µm,21.0s
I31A **Royce, Wessing** 132.79 11 PKiKP **PKPdf** 08 57 46.6 -4.2
baz=344
BLG **Laguna Peak, P** 132.91 37 PKiKP **PKPdf** 08 57 49.3 -2.1
baz=314
H36A **Jessenland, He** 132.98 7 PKiKP **PKPdf** 08 57 47.7 -3.5
baz=350
I32A **Karley and Nic** 132.99 10 PKiKP **PKPdf** 08 57 49.3 -1.9
baz=346
EDW2 **Edwards Air Fo** 133.00 35 PKiKP **PKPdf** 08 57 48.3 -3.3
baz=315
ACCN **Adirondack Com** 133.03 347 PFAKE 08 58 00.0 +8.7
ACCN LR LR
comp=Z,1187µm,22.0s
TMUT **Trail Mountain** 133.05 26 PFAKE 08 58 00.0 +8.1
TMUT LR LR
comp=Z,993µm,20.0s
H38A **Maiden Rock** 133.06 5 PKiKP **PKPdf** 08 57 47.1 -4.2
baz=353
TCRU **Three Creeks R** 133.06 27 PFAKE 08 58 00.0 +8.2
TCRU LR LR
comp=Z,854µm,20.0s
H37A **Dierke Farm, C** 133.09 6 PKiKP **PKPdf** 08 57 48.5 -2.9
baz=352
I33A **Coleman** 133.09 10 PKiKP **PKPdf** 08 57 48.3 -3.1
baz=346
GLMI **Grayling** 133.10 358 PKiKP **PKPdf** 08 57 48.5 -2.9
baz=3.2
GLMI **Grayling** 133.10 358 *e*PKPdf **PKPdf** 08 57 51.4 0.0
GLMI LR LR
comp=Z,1754µm,20.0s
P17A **Butcher Ranch,** 133.11 25 PFAKE 08 58 00.0 +8.2
P17A LR LR
comp=Z,686µm,22.0s
H39A **Augusta** 133.13 4 PKiKP **PKPdf** 08 57 48.4 -3.1
baz=354
P18A **Preston Nutter** 133.19 25 PFAKE 08 58 00.0 +7.9
P18A LR LR
comp=Z,1668µm,20.0s
SNCC **San Nicolas Is** 133.22 38 PKiKP **PKPdf** 08 57 49.5 -2.4
baz=313
SHOC **Shoshone, Teco** 133.23 33 PKiKP **PKPdf** 08 57 49.3 -2.6
baz=318
DECC **Green Verdugo** 133.25 36 PKiKP **PKPdf** 08 57 49.4 -2.6
baz=315
I34A **Hadley** 133.25 9 PKiKP **PKPdf** 08 57 49.3 -2.4
baz=348
H40A **Chili** 133.25 3 PKiKP **PKPdf** 08 57 48.6 -3.1
baz=355
MSU **Marysvale** 133.26 27 *e*PKPdf **PKPdf** 08 57 53.7 +1.5
MSU **Marysvale** 133.26 27 *e*PKIKP **PKPdf** 08 57 53.7 +1.5
WI03 **Lunz Road, Cli** 133.29 2 PFAKE 08 58 00.0 +8.3
WI03 LR LR
comp=Z,1648µm,19.0s
H41A **Junction City** 133.29 3 PKiKP **PKPdf** 08 57 49.5 -2.2
baz=356
H41A **Junction City** 133.29 3 PFAKE 08 58 00.0 +8.2
H41A LR LR
comp=Z,1224µm,22.0s
WI04 **River Road, Cl** 133.31 2 PFAKE 08 58 00.0 +8.2
WI04 LR LR
comp=Z,1661µm,20.0s
WI01 **McKinley Avenu** 133.31 2 PFAKE 08 58 00.0 +8.2
WI01 LR LR
comp=Z,1604µm,19.0s
HRV **Adam Dziewonsk** 133.33 344 PKiKP **PKPdf** 08 57 49.5 -2.4
baz=21
HRV **Adam Dziewonsk** 133.33 344 *e*PKPdf **PKPdf** 08 57 53.9 +2.0
HRV LR LR
comp=Z,1144µm,18.0s
HRV **Adam Dziewonsk** 133.33 344 *e*PKIKP **PKPdf** 08 57 53.9 +2.0
HRV MLR MLR
comp=Z,1144µm,18.0s
WI02 **Reinke Road, C** 133.35 2 PFAKE 08 58 00.0 +8.1
WI02 LR LR
comp=Z,1560µm,19.0s
SHPR **Sheep Range** 133.37 32 PFAKE 08 58 00.0 +7.6
SHPR LR LR
comp=Z,893µm,21.0s
GSC **Goldstone, Bar** 133.38 34 PKiKP **PKPdf** 08 57 49.8 -2.5
baz=317
GSC **Goldstone, Bar** 133.38 34 PFAKE 08 58 00.0 +7.7
GSC LR LR
comp=Z,881µm,20.0s
Q16A **Castle Valley** 133.38 26 *e*PKPdf **PKPdf** 08 57 50.5 -1.9
Q16A LR LR
comp=Z,763µm,21.0s
PASC **Pasadena Art C** 133.39 36 PFAKE 08 58 00.0 +7.7
PASC LR LR
comp=Z,861µm,22.0s
ECSD **EROS Data Cent** 133.43 10 PKiKP **PKPdf** 08 57 49.8 -2.3
baz=347
ECSD **EROS Data Cent** 133.43 10 PFAKE 08 58 00.0 +7.9
ECSD LR LR
comp=Z,1537µm,22.0s
MWC **Mount Wilson** 133.43 36 PFAKE 08 58 00.0 +7.4
MWC LR LR
comp=Z,831µm,20.0s
H42A **Shiocton** 133.44 2 PKiKP **PKPdf** 08 57 50.3 -1.7
baz=358
H42A **Shiocton** 133.44 2 *e*PKPdf **PKPdf** 08 57 51.9 -0.2
H42A LR LR
comp=Z,1647µm,20.0s
CHRN **Cochrane** 133.45 193 *e*PKPdf **PKPdf** 08 57 52.4 +0.4
J31A **Geddes** 133.46 12 PKiKP **PKPdf** 08 57 49.7 -2.5
baz=344
CCUT **Cedar City** 133.47 29 *e*PKPdf **PKPdf** 08 57 54.8 +2.2
CCUT LR LR
comp=Z,894µm,20.0s
H43A **Windswept, Lux** 133.50 1 PKiKP **PKPdf** 08 57 49.6 -2.6
baz=359
H43A **Windswept, Lux** 133.50 1 PFAKE 08 58 00.0 +7.9
H43A LR LR
comp=Z,1084µm,20.0s
SRU **San Rafael Swe** 133.50 25 PFAKE 08 58 00.0 +7.4
SRU LR LR
comp=Z,1145µm,22.0s
PHWY **Pilot Hill** 133.52 19 *e*PKPdf **PKPdf** 08 57 53.5 +0.8
PHWY LR LR
comp=Z,1229µm,21.0s
I36A **Fitzsimmons Fa** 133.52 7 PKiKP **PKPdf** 08 57 49.8 -2.4
baz=350
I35A **Creekview Farm** 133.56 8 PKiKP **PKPdf** 08 57 50.2 -2.1
baz=349
J32A **Parkston** 133.56 11 PKiKP **PKPdf** 08 57 50.2 -2.1
baz=345
O20A **White River Ci** 133.56 23 PKiKP **PKPdf** 08 57 50.1 -2.6
baz=330
O20A **White River Ci** 133.56 23 *e*PKPdf **PKPdf** 08 57 53.2 +0.5
O20A LR LR
comp=Z,2013µm,21.0s
SZCU **Shurtz Canyon** 133.57 29 PFAKE 08 58 00.0 +7.2
SZCU LR LR
comp=Z,806µm,20.0s
RRX **Edison Barstow** 133.58 35 PKiKP **PKPdf** 08 57 50.2 -2.5
baz=316
I37A **Lemond, Waseca** 133.60 6 PKiKP **PKPdf** 08 57 50.2 -2.2
baz=351
MTPU **Mount Pierson** 133.64 28 PFAKE 08 58 00.0 +6.9
MTPU LR LR
comp=Z,721µm,20.0s
BFSC **Mount Baldy Ra** 133.65 36 PKiKP **PKPdf** 08 57 51.3 -1.6
baz=315
I38A **Scanlan Farm,** 133.68 5 PKiKP **PKPdf** 08 57 51.3 -1.2
baz=353
N23A **Red Feather La** 133.72 20 PKiKP **PKPdf** 08 57 51.0 -2.0
baz=333
N23A **Red Feather La** 133.72 20 *e*PKPdf **PKPdf** 08 57 53.2 +0.2
N23A LR LR
comp=Z,1299µm,21.0s
QUA2 **Belchertown** 133.75 345 *e*PKPdf **PKPdf** 08 57 52.9 +0.3
TUQ **Turquoise Moun** 133.77 33 PKiKP **PKPdf** 08 57 51.0 -2.1
baz=318
J33A **Davis** 133.77 10 PKiKP **PKPdf** 08 57 51.1 -1.6
baz=346
CIS **Catalina Islan** 133.79 37 PKiKP **PKPdf** 08 57 50.8 -2.3
baz=314
I41A **Arkdale** 133.84 3 PKiKP **PKPdf** 08 57 51.4 -1.4
baz=356
I39A **Houston** 133.94 5 PKiKP **PKPdf** 08 57 51.2 -1.8
baz=354
LCMT **Little Creek M** 133.95 29 *e*PKPdf **PKPdf** 08 57 53.6 +0.2
LCMT LR LR
comp=Z,791µm,22.0s
I40A **Norwalk** 133.96 4 PKiKP **PKPdf** 08 57 50.8 -2.2
baz=355
J34A **George** 133.97 9 PKiKP **PKPdf** 08 57 51.1 -2.0
baz=348
HEC **Hector,Ludlow** 133.99 34 PKiKP **PKPdf** 08 57 51.9 -1.5
baz=317
SCI2 **San Clemente I** 134.00 38 PKiKP **PKPdf** 08 57 52.3 -1.1
baz=314
J35A **Milford** 134.00 8 PKiKP **PKPdf** 08 57 51.2 -2.0
baz=348
I42A **Draeger Farm,** 134.05 2 PKiKP **PKPdf** 08 57 51.4 -1.8
baz=357
I42A **Draeger Farm,** 134.05 2 *e*PKPdf **PKPdf** 08 57 53.5 +0.2
I42A LR LR
comp=Z,1541µm,19.0s
PKCU **Pink Cliffs** 134.06 28 *e*PKPdf **PKPdf** 08 57 51.7 -2.1
BBRC **Big Bear Solar** 134.06 35 PKiKP **PKPdf** 08 57 52.3 -1.5
baz=316
I43A **Langenfeld Bro** 134.07 1 PKiKP **PKPdf** 08 57 51.3 -1.9
baz=358
K31A **O'Neill** 134.10 12 PKiKP **PKPdf** 08 57 51.8 -1.6
baz=344
KNB **Kanab** 134.16 29 *e*PKPdf **PKPdf** 08 57 55.4 +1.5
KNB LR LR
comp=Z,969µm,21.0s
KNB **Kanab** 134.16 29 *e*PKIKP **PKPdf** 08 57 55.4 +1.5
KNB MLR MLR
comp=Z,969µm,21.0s
J36A **Seneca 1, Swea** 134.16 7 PKiKP **PKPdf** 08 57 52.1 -1.4
baz=350
K32A **Verdigre** 134.22 11 PKiKP **PKPdf** 08 57 53.1 -0.5
baz=345
J37A **Redenius Farm,** 134.28 7 PKiKP **PKPdf** 08 57 53.2 -0.4
baz=351
MURC **Murrieta** 134.38 36 PKiKP **PKPdf** 08 57 53.2 -1.0
baz=315
J38A **Wedel Dairy, R** 134.38 6 PKiKP **PKPdf** 08 57 52.9 -0.9
baz=352
GMRC **Granite Mounta** 134.39 34 PKiKP **PKPdf** 08 57 52.5 -1.8
baz=318
J39A **Decorah** 134.44 5 PKiKP **PKPdf** 08 57 52.4 -1.5
baz=353
J40A **Soldiers Grove** 134.45 4 PKiKP **PKPdf** 08 57 52.5 -1.5
baz=355
K33A **Hardington** 134.45 10 PKiKP **PKPdf** 08 57 53.0 -1.0
baz=346
LDFC **Landfair** 134.48 33 PFAKE 08 58 10.0 +16
LDFC LR LR
comp=Z,898µm,21.0s
MMNY **Mt. Morris Dam** 134.49 351 *e*PKPdf **PKPdf** 08 57 53.2 -0.9
MMNY LR LR
comp=Z,2094µm,22.0s
J41A **Loganville** 134.52 3 PKiKP **PKPdf** 08 57 53.0 -1.1
baz=356
K34A **Le Mars** 134.53 9 PKiKP **PKPdf** 08 57 53.2 -1.0
baz=347
J43A **Natural Harves** 134.57 1 PKiKP **PKPdf** 08 57 52.6 -1.6
baz=358
PV09 **Paradox Valley** 134.60 25 *e*PKPdf **PKPdf** 08 57 56.7 +1.8
J42A **Columbus** 134.61 2 PKiKP **PKPdf** 08 57 53.0 -1.3
baz=357
K35A **Storm Lake** 134.63 9 PKiKP **PKPdf** 08 57 53.4 -1.0
baz=348
BINY **Binghamton** 134.66 349 PKiKP **PKPdf** 08 57 53.5 -1.0
baz=15
BINY **Binghamton** 134.66 349 *e*PKPdf **PKPdf** 08 57 55.0 +0.6
BINY LR LR
comp=Z,1126µm,22.0s
PV10 **Paradox Valley** 134.74 25 *e*PKPdf **PKPdf** 08 57 56.1 +1.1
BELC **Belle Mtn. Jos** 134.78 35 PKiKP **PKPdf** 08 57 53.6 -1.5
baz=317
PFO **Pinyon Flats O** 134.80 35 PKiKP **PKPdf** 08 57 53.3 -1.8
baz=316
PFO **Pinyon Flats O** 134.80 35 PFAKE 08 58 10.0 +15
PFO LR LR
comp=Z,1053µm,22.0s
XPFO **Piæon Flat** 134.80 35 PFAKE 08 58 10.0 +15
XPFO LR LR
comp=Z,1114µm,22.0s
K37A **Belmond** 134.80 7 PKiKP **PKPdf** 08 57 53.0 -1.7
baz=351
YLE **Yale** 134.81 345 PFAKE 08 58 10.0 +15
YLE LR LR
comp=Z,2462µm,22.0s
ISCO **Idaho Springs** 134.81 20 PKiKP **PKPdf** 08 57 53.4 -1.8
baz=333
ISCO **Idaho Springs** 134.81 20 *e*PKPdf **PKPdf** 08 57 56.2 +1.1
ISCO LR LR
comp=Z,1759µm,22.0s
ISCO **Idaho Springs** 134.81 20 *e*PKIKP **PKPdf** 08 57 56.3 +1.1
ISCO MLR MLR
comp=Z,1759µm,22.0s
K36A **Gilmore City** 134.82 8 PKiKP **PKPdf** 08 57 53.6 -1.1
baz=349
L33A **Hoskins** 134.83 11 PKiKP **PKPdf** 08 57 53.6 -1.2
baz=345
L32A **Elgin** 134.84 12 PKiKP **PKPdf** 08 57 53.5 -1.3
baz=344
SMCO **Snowmass** 134.87 22 PFAKE 08 58 10.0 +15
SMCO LR LR
comp=Z,1587µm,20.0s
U15A **North Rim** 134.88 29 *e*PKPdf **PKPdf** 08 57 52.9 -2.5
U15A LR LR
comp=Z,755µm,21.0s
OGNE **Ogallala** 134.88 16 PKiKP **PKPdf** 08 57 53.4 -1.6
baz=339
OGNE **Ogallala** 134.88 16 *e*PKPdf **PKPdf** 08 57 57.6 +2.6
OGNE LR LR
comp=Z,1588µm,20.0s
109C **Camp Elliot, M** 134.93 37 PKiKP **PKPdf** 08 57 53.4 -1.8
baz=315
CPE **Camp Elliot** 134.93 37 *e*PKPdf **PKPdf** 08 57 54.2 -0.9
CPE LR LR
comp=Z,691µm,22.0s
JFWS **Jewell Farm** 134.96 3 PKiKP **PKPdf** 08 57 53.3 -1.6
baz=355
JFWS **Jewell Farm** 134.96 3 *e*PKPdf **PKPdf** 08 57 56.3 +1.4
JFWS LR LR
comp=Z,1818µm,21.0s
JFWS **Jewell Farm** 134.96 3 *e*PKIKP **PKPdf** 08 57 56.3 +1.4
JFWS MLR MLR
comp=Z,1818µm,21.0s
NEE2 **Needles Airpor** 134.97 33 PKiKP **PKPdf** 08 57 53.8 -1.5
baz=319
K38A **Parkersburg** 135.02 6 PKiKP **PKPdf** 08 57 53.6 -1.4
baz=352
K39A **Oelwein** 135.04 5 PKiKP **PKPdf** 08 57 54.0 -1.1
baz=353
K40A **Colesburg** 135.11 4 PKiKP **PKPdf** 08 57 54.1 -1.1
baz=354
W13A **Hualapai Mount** 135.11 32 PFAKE 08 58 10.0 +14
W13A LR LR
comp=Z,845µm,22.0s
K42A **Prairie Point,** 135.14 2 PKiKP **PKPdf** 08 57 53.8 -1.5
baz=357
IRM **Iron Mountain** 135.14 34 PKiKP **PKPdf** 08 57 54.1 -1.5
baz=318
PV01 **Paradox Valley** 135.14 24 *e*PKPdf **PKPdf** 08 57 57.4 +1.6
L35A **Bielow Farm, R** 135.18 9 PKiKP **PKPdf** 08 57 54.1 -1.3
baz=348
L34A **Svendsen Farm,** 135.18 10 PKiKP **PKPdf** 08 57 54.1 -1.3
baz=347
K43A **Burlington** 135.25 1 PKiKP **PKPdf** 08 57 54.2 -1.3
baz=358
K41A **Shullsburg** 135.26 3 PKiKP **PKPdf** 08 57 54.3 -1.2
baz=355
L36A **Harm Buss Farm** 135.32 8 PKiKP **PKPdf** 08 57 54.5 -1.2
baz=349
MONP2 **Monument Peak** 135.33 36 PKiKP **PKPdf** 08 57 54.5 -1.8
baz=316
BAR **Barrett** 135.34 36 PFAKE 08 58 10.0 +14
BAR LR LR
comp=Z,710µm,21.0s
PAL **Palisades** 135.34 346 PKiKP **PKPdf** 08 57 54.6 -1.1
baz=19
PAL **Palisades** 135.34 346 PFAKE 08 58 10.0 +14
PAL LR LR
comp=Z,785µm,20.0s
BC3 **Big Chuckawall** 135.34 34 PKiKP **PKPdf** 08 57 55.0 -1.1
baz=318
BGNE **Belgrade** 135.39 12 PKiKP **PKPdf** 08 57 54.4 -1.4
baz=344
BGNE **Belgrade** 135.39 12 PFAKE 08 58 10.0 +14
BGNE LR LR
comp=Z,1973µm,21.0s
ERPA **Erie** 135.40 353 PKiKP **PKPdf** 08 57 55.2 -0.6
baz=9.9
ERPA **Erie** 135.40 353 PFAKE 08 58 10.0 +14
ERPA LR LR
comp=Z,1884µm,21.0s
M33A **Taylor Creek F** 135.42 11 PKiKP **PKPdf** 08 57 54.6 -1.3
baz=345
L37A **Phoenix Point,** 135.42 7 PKiKP **PKPdf** 08 57 54.5 -1.4
baz=350
ODNJ **Ogdensburg** 135.43 347 *e*PKPdf **PKPdf** 08 57 57.6 +1.7
ODNJ LR LR
comp=Z,1246µm,20.0s
L38A **Oak Wood Farm,** 135.50 6 PKiKP **PKPdf** 08 57 54.8 -1.2
baz=351
CPNY **Central Park** 135.56 346 *e*PKPdf **PKPdf** 08 57 56.8 +0.7
CPNY LR LR
comp=Z,1023µm,19.0s
AAM **Ann Arbor** 135.56 356 PKiKP **PKPdf** 08 57 54.6 -1.5
baz=4.7
AAM **Ann Arbor** 135.56 356 PFAKE 08 58 10.0 +14
AAM LR LR
comp=Z,1168µm,20.0s
PDMCI **Parker Dam,Lak** 135.58 33 PKiKP **PKPdf** 08 57 55.1 -1.3
baz=320
M34A **Aspy Farms, Fr** 135.60 10 PKiKP **PKPdf** 08 57 55.0 -1.2
baz=346
L39A **Vinton** 135.61 5 PKiKP **PKPdf** 08 57 55.3 -0.8
baz=353
SWSC **Sam W. Stewart** 135.66 35 PKiKP **PKPdf** 08 57 55.2 -1.3
baz=317
IKP **In-Ko-Pah, Jac** 135.69 36 PKiKP **PKPdf** 08 57 54.9 -1.8
baz=316
SCIA **State Center** 135.70 7 PKiKP **PKPdf** 08 57 55.4 -1.0
baz=351
SCIA **State Center** 135.70 7 PFAKE 08 58 10.0 +14
SCIA LR LR
comp=Z,1417µm,18.0s
Q24A **Divide** 135.72 20 PKiKP **PKPdf** 08 57 55.3 -1.6
baz=334
Q24A **Divide** 135.72 20 PFAKE 08 58 10.0 +13
Q24A LR LR
comp=Z,1525µm,22.0s
L40A **Anamosa** 135.74 5 PKiKP **PKPdf** 08 57 55.1 -1.4
baz=354
L43A **Garden Prairie** 135.76 2 PKiKP **PKPdf** 08 57 55.2 -1.2
baz=357
L41A **Preston** 135.78 4 PKiKP **PKPdf** 08 57 55.0 -1.5
baz=355
L44A **Lake County Fo** 135.78 1 PKiKP **PKPdf** 08 57 54.3 -2.2
baz=359
M35A **Neola** 135.79 9 PKiKP **PKPdf** 08 57 54.6 -2.0
baz=348
Y12C **Blythe** 135.79 34 PKiKP **PKPdf** 08 57 54.9 -1.8
baz=319
Y12C **Blythe** 135.79 34 *e*PKPdf **PKPdf** 08 57 55.1 -1.6
Y12C LR LR
comp=Z,926µm,21.0s
BRNJ **Basking Ridge** 135.80 346 PFAKE 08 58 10.0 +13
BRNJ LR LR
comp=Z,1150µm,20.0s
N59A **State Game Lan** 135.85 348 PKiKP **PKPdf** 08 57 54.6 -2.1
baz=16
N59A **State Game Lan** 135.85 348 *e*PKPdf **PKPdf** 08 57 57.7 +1.0
N59A LR LR

comp=Z,1425µm,22.0s
ALLY **Alegheny Colle** **135.88** **353** PFAKE 08 58 10.0 +13
ALLY LR LR
comp=Z,1910µm,21.0s
L42A **Oliver, Polo** **135.90** **3** PKiKP **PKPdf** **08 57 55.3 -1.4**
baz=356
M36A **Felix, Anita** **135.94** **8** PKiKP **PKPdf** **08 57 55.4 -1.5**
baz=349
M54A **Oil Creek Stat** **135.95** **352** PKiKP **PKPdf** **08 57 55.6 -1.3**
baz=10
M54A **Oil Creek Stat** **135.95** **352** *e*PKPdf **PKPdf** **08 57 57.4 +0.5**
M54A LR LR
comp=Z,1988µm,21.0s
MVCO **Mesa Verde** **135.96** **25** PKiKP **PKPdf** **08 57 54.8 -2.5**
baz=328
MVCO **Mesa Verde** **135.96** **25** *e*PKPdf **PKPdf** **08 57 57.2 -0.1**
MVCO LR LR
comp=Z,1297µm,22.0s
WUAZ **Wupatki** **136.05** **29** PKiKP **PKPdf** **08 57 54.8 -2.6**
baz=324
WUAZ **Wupatki** **136.05** **29** *e*PKPdf **PKPdf** **08 57 58.8 +1.3**
WUAZ LR LR
comp=Z,884µm,21.0s
LUPA **Lehigh Univers** **136.07** **347** PFAKE 08 58 10.0 +13
LUPA LR LR
comp=Z,119µm,22.0s
M37A **Trindle Farm,** **136.09** **8** PKiKP **PKPdf** **08 57 54.6 -2.5**
baz=350
GLA **Glamis** **136.14** **34** PKiKP **PKPdf** **08 57 55.1 -2.4**
baz=318
GLA **Glamis** **136.14** **34** PFAKE 08 58 10.0 +13
GLA LR LR
comp=Z,654µm,20.0s
N33A **J Bar K, Exete** **136.17** **11** PKiKP **PKPdf** **08 57 54.8 -2.5**
baz=345
S22A **4UR Ranch, Cre** **136.17** **23** PKiKP **PKPdf** **08 57 55.5 -2.2**
baz=331
S22A **4UR Ranch, Cre** **136.17** **23** PFAKE 08 58 10.0 +12
S22A LR LR
comp=Z,1259µm,20.0s
M38A **Pleasantville** **136.18** **7** PKiKP **PKPdf** **08 57 54.6 -2.6**
baz=351
M39A **Webster** **136.23** **6** PKiKP **PKPdf** **08 57 54.7 -2.6**
baz=352
SPB **Sao Paulo** **136.24** **238** *e*PKPdf **PKPdf** **08 57 59.7 +1.8**
SPB LR LR
comp=Z,2922µm,22.0s
N34A **Lincoln** **136.26** **10** PKiKP **PKPdf** **08 57 55.2 -2.2**
baz=346
M40A **Post Highland** **136.37** **5** PKiKP **PKPdf** **08 57 55.4 -2.2**
baz=353
N35A **Tabor** **136.38** **10** PKiKP **PKPdf** **08 57 55.6 -2.1**
baz=347
M42A **Sheffield** **136.44** **3** PKiKP **PKPdf** **08 57 55.5 -2.2**
baz=356
Y14A **Wickenburg** **136.47** **32** *e*PKPdf **PKPdf** **08 57 59.3 +1.2**
Y14A LR LR
comp=Z,1062µm,21.0s
M41A **Milan** **136.47** **4** PKiKP **PKPdf** **08 57 55.1 -2.7**
baz=355
M43A **Waltham Townsh** **136.50** **2** PKiKP **PKPdf** **08 57 55.1 -2.7**
baz=357
KSCO **Kaye Shedlock'** **136.50** **18** PKiKP **PKPdf** **08 57 55.7 -2.4**
baz=337
KSCO **Kaye Shedlock'** **136.50** **18** *e*PKPdf **PKPdf** **08 57 58.1 0.0**
KSCO LR LR
comp=Z,1694µm,20.0s
SSPA **Standing Stone** **136.53** **350** PKiKP **PKPdf** **08 57 55.6 -2.4**
baz=13
SSPA **Standing Stone** **136.53** **350** PFAKE 08 58 10.0 +12
SSPA LR LR
comp=Z,1008µm,20.0s
N54A **Moraine State** **136.53** **352** PKiKP **PKPdf** **08 57 56.1 -1.9**
baz=10
N54A **Moraine State** **136.53** **352** *e*PKPdf **PKPdf** **08 57 59.4 +1.4**
N54A LR LR
comp=Z,1967µm,21.0s
N36A **Muff Farm, Cla** **136.54** **9** PKiKP **PKPdf** **08 57 55.6 -2.4**
baz=348
M46A **Old House Fiel** **136.56** **359** PKiKP **PKPdf** **08 57 55.9 -2.0**
baz=0.8
M44A **Midewin, Midew** **136.57** **1** PKiKP **PKPdf** **08 57 56.0 -2.0**
baz=358
M45A **Boilermakers S** **136.58** **0** PKiKP **PKPdf** **08 57 55.4 -2.6**
baz=360
SDCO **Great Sand Dun** **136.68** **22** PKiKP **PKPdf** **08 57 56.1 -2.6**
baz=332
SDCO **Great Sand Dun** **136.68** **22** *e*PKPdf **PKPdf** **08 57 56.4 -2.3**
SDCO LR LR
comp=Z,1679µm,22.0s
N37A **Lee Faris, Mou** **136.70** **8** PKiKP **PKPdf** **08 57 55.7 -2.6**
baz=349
PAGS **Pennsylvania G** **136.71** **349** *e*PKPdf **PKPdf** **08 57 57.3 -0.9**
PAGS LR LR
comp=Z,1665µm,21.0s
PSUB **Penn St. - Bra** **136.73** **347** PFAKE 08 58 10.0 +12
PSUB LR LR
comp=Z,1685µm,22.0s
O33A **Hebron** **136.78** **12** PKiKP **PKPdf** **08 57 56.0 -2.4**
baz=344
N38A **Joes South For** **136.80** **7** PKiKP **PKPdf** **08 57 55.9 -2.6**
baz=351
N39A **Derby Farms, D** **136.80** **6** PKiKP **PKPdf** **08 57 55.9 -2.6**
baz=352
MVL **Millersville** **136.85** **348** *e*PKPdf **PKPdf** **08 57 59.7 +1.1**
MVL LR LR
comp=Z,1485µm,22.0s
O34A **Beatrice** **136.86** **11** PKiKP **PKPdf** **08 57 56.1 -2.4**
baz=346
N40A **Mertquake, Sal** **136.88** **5** PKiKP **PKPdf** **08 57 56.5 -2.1**
baz=353
X16A **Lo Mia Camp, P** **136.90** **30** *e*PKPdf **PKPdf** **08 57 59.1 0.0**
O35A **Humboldt** **136.92** **10** PKiKP **PKPdf** **08 57 56.4 -2.3**
baz=347
113A **Mohawk Valley,** **136.94** **34** *e*PKPdf **PKPdf** **08 58 00.1 +1.1**
113A LR LR
comp=Z,670µm,21.0s
N43A **Stutzman Famil** **136.98** **2** PKiKP **PKPdf** **08 57 56.6 -2.1**
baz=357
O56A **Blue Knob Stat** **137.00** **351** PKiKP **PKPdf** **08 57 56.6 -2.3**
baz=12
O56A **Blue Knob Stat** **137.00** **351** PFAKE 08 58 10.0 +11
O56A LR LR
comp=Z,1781µm,20.0s
N42A **Yates City** **137.05** **3** PKiKP **PKPdf** **08 57 56.8 -2.0**
baz=356
N46A **Monticello** **137.07** **360** PKiKP **PKPdf** **08 57 56.7 -2.2**
baz=0.3
N41A **Harden Midland** **137.11** **4** PKiKP **PKPdf** **08 57 56.6 -2.4**
baz=354
N45A **Kentland** **137.12** **1** PKiKP **PKPdf** **08 57 56.9 -2.1**
baz=359
W18A **Petrified Fore** **137.16** **28** PKiKP **PKPdf** **08 57 57.1 -2.4**
baz=326
W18A **Petrified Fore** **137.16** **28** *e*PKPdf **PKPdf** **08 58 00.9 +1.3**
W18A LR LR
comp=Z,877µm,22.0s
N44A **Piper City** **137.16** **1** PKiKP **PKPdf** **08 57 57.1 -2.0**
baz=358
O37A **Wolven Farm, M** **137.29** **8** PKiKP **PKPdf** **08 57 57.3 -2.1**
baz=349
O39A **Kirksville** **137.41** **6** PKiKP **PKPdf** **08 57 57.5 -2.1**
baz=352
O38A **Galt** **137.43** **7** PKiKP **PKPdf** **08 57 57.5 -2.1**
baz=350
CBKS **Cedar Bluff** **137.49** **15** PKiKP **PKPdf** **08 57 57.7 -2.1**
baz=341
CBKS **Cedar Bluff** **137.49** **15** *e*PKPdf **PKPdf** **08 57 59.5 -0.4**
CBKS LR LR
comp=Z,2612µm,22.0s
CBKS **Cedar Bluff** **137.49** **15** *e*PKIKP **PKPdf** **08 57 59.5 -0.4**
CBKS MLR MLR
comp=Z,2612µm,22.0s
MHTCO **State Highway** **137.52** **21** *e*PKPdf **PKPdf** **08 57 59.6 -0.6**
MHTCO LR LR
comp=Z,1823µm,21.0s
SDMD **Soldier's Deli** **137.52** **348** PFAKE 08 58 10.0 +10
SDMD LR LR
comp=Z,795µm,22.0s
X18A **Snowflake** **137.54** **28** *e*PKPdf **PKPdf** **08 58 01.6 +1.3**
X18A LR LR
comp=Z,704µm,20.0s
ACSO **Alum Creek Sta** **137.58** **355** PKiKP **PKPdf** **08 57 58.0 -1.9**
baz=5.8
ACSO **Alum Creek Sta** **137.58** **355** *e*PKPdf **PKPdf** **08 57 58.4 -1.5**
ACSO LR LR
comp=Z,1724µm,21.0s

SFIN **Lafayette** **137.59** **0** PKiKP **PKPdf** **08 57 58.0 -1.9**
baz=360
SFIN **Lafayette** **137.59** **0** *e*PKPdf **PKPdf** **08 58 01.1 +1.3**
SFIN LR LR
comp=Z,1591µm,21.0s
O40A **La Belle** **137.61** **6** PKiKP **PKPdf** **08 57 58.1 -1.9**
baz=353
T25A **Trinidad** **137.61** **21** PKiKP **PKPdf** **08 57 58.2 -2.1**
baz=334
T25A **Trinidad** **137.61** **21** *e*PKPdf **PKPdf** **08 57 59.0 -1.3**
T25A LR LR
comp=Z,1532µm,20.0s
TRQA **Tornquist** **137.62** **210** *e*PKPpre PKPpre 08 57 54.6
TRQA *e*PKPdf **PKPdf** **08 58 00.2 +0.2**
TRQA LR LR
comp=Z,1961µm,22.0s
O43A **Sugar Creek Fa** **137.63** **3** PKiKP **PKPdf** **08 57 58.2 -1.7**
baz=356
O42A **Bath** **137.68** **4** PKiKP **PKPdf** **08 57 58.0 -2.0**
baz=355
O41A **Passleys Farm,** **137.70** **4** PKiKP **PKPdf** **08 57 58.2 -1.9**
baz=354
O45A **Potomac** **137.71** **1** PKiKP **PKPdf** **08 57 58.6 -1.6**
baz=359
O47A **Sheridan** **137.72** **359** PKiKP **PKPdf** **08 57 58.8 -1.4**
baz=1.1
O44A **Mansfield** **137.79** **2** PKiKP **PKPdf** **08 57 58.5 -1.7**
baz=358
MCWV **Mont Chateau** **137.80** **352** PKiKP **PKPdf** **08 57 58.9 -1.4**
baz=10
MCWV **Mont Chateau** **137.80** **352** PFAKE 08 58 10.0 +10
MCWV LR LR
comp=Z,2195µm,22.0s
P37A **Lathrop** **137.83** **8** PKiKP **PKPdf** **08 57 58.8 -1.6**
baz=349
P38A **Dawn** **137.91** **8** PKiKP **PKPdf** **08 57 58.6 -1.9**
baz=350
KSU1 **Kansas State U** **137.92** **11** PKiKP **PKPdf** **08 57 59.0 -1.5**
baz=346
KSU1 **Kansas State U** **137.92** **11** *e*PKPdf **PKPdf** **08 57 59.0 -1.5**
KSU1 LR LR
comp=Z,1292µm,20.0s
214A **Organ Pipe Nat** **138.09** **34** PKiKP **PKPdf** **08 58 00.6 -0.5**
baz=320
P41A **Barry, Barry** **138.12** **5** PKiKP **PKPdf** **08 57 59.7 -1.2**
baz=354
P39B **Salisbury** **138.14** **7** PKiKP **PKPdf** **08 57 59.8 -1.1**
baz=351
P40A **Paris** **138.18** **6** PKiKP **PKPdf** **08 57 59.9 -1.1**
baz=352
P43A **Skaggs, Pawnee** **138.26** **3** PKiKP **PKPdf** **08 58 00.1 -1.1**
baz=356
P42A **Winchester** **138.27** **4** PKiKP **PKPdf** **08 57 59.6 -1.6**
baz=355
P46A **Rosedale** **138.35** **0** PKiKP **PKPdf** **08 58 00.1 -1.3**
baz=360
P45A **Graceland, Par** **138.43** **1** PKiKP **PKPdf** **08 58 00.0 -1.4**
baz=359
P44A **Sand Creek, Wi** **138.47** **2** PKiKP **PKPdf** **08 58 00.7 -0.8**
baz=358
P47A **Martinsville** **138.47** **359** PKiKP **PKPdf** **08 58 00.7 -0.9**
baz=1.0
Q37A **Longview Farm,** **138.51** **9** PKiKP **PKPdf** **08 58 00.7 -1.0**
baz=349
Q38A **Cooks Store, C** **138.55** **8** PKiKP **PKPdf** **08 58 00.9 -0.8**
baz=350
Q39A **Willow Grove F** **138.55** **7** PKiKP **PKPdf** **08 58 00.7 -1.0**
baz=351
Q40A **Laux Farm, Aux** **138.70** **6** PKiKP **PKPdf** **08 58 01.4 -0.6**
baz=352
ANMO **Albuquerque** **138.75** **25** PKiKP **PKPdf** **08 58 02.0 -0.4**
baz=330
ANMO **Albuquerque** **138.75** **25** PFAKE 08 58 10.0 +7.5
ANMO LR LR
comp=Z,1539µm,20.0s
ANMO **Albuquerque** **138.75** **25** *i* PKIKP **PKPdf** **08 57 57.8 -4.7**
CBN **Corbin Frederi** **138.79** **348** PKiKP **PKPdf** **08 58 01.7 -0.5**
baz=14
CBN **Corbin Frederi** **138.79** **348** PFAKE 08 58 10.0 +7.9
CBN LR LR
comp=Z,1031µm,21.0s
BLO **Bloomington** **138.79** **359** PFAKE 08 58 10.0 +7.9
BLO LR LR
comp=Z,1386µm,20.0s
Q41A **Truxton** **138.82** **5** PKiKP **PKPdf** **08 58 01.3 -0.9**
baz=354
PLCA **Paso Flores** **138.90** **199** Pdiff **Pdif** **08 55 25.2 +11**
comp=Z,0.6nm,0.8s,baz=295,slow=3.1,SNR=2.2
PLCA PKhKP PKPpre 08 57 55.3
comp=Z,4.0nm,0.9s,baz=181,slow=3.9,SNR=7.3
TUC **Tucson** **138.90** **31** PKiKP **PKPdf** **08 58 01.3 -1.4**
baz=322
TUC **Tucson** **138.90** **31** *e*PKPdf **PKPdf** **08 58 04.0 +1.3**
TUC LR LR
comp=Z,1055µm,21.0s
TUC **Tucson** **138.90** **31** *e*PKIKP **PKPdf** **08 58 04.0 +1.3**
TUC MLR MLR
comp=Z,1055µm,21.0s
Q42A **Golden Eagle** **138.92** **4** PKiKP **PKPdf** **08 58 01.5 -0.9**
baz=355
LAZ **Ladron** **138.92** **26** *e*PKPdf **PKPdf** **08 58 04.6 +1.8**
Q46A **CEJHS Indians,** **138.94** **0** PKiKP **PKPdf** **08 58 01.9 -0.5**
baz=359
Q43A **New Douglas** **138.95** **3** PKiKP **PKPdf** **08 58 01.8 -0.6**
baz=356
CVRD **Centerville Ro** **139.01** **349** *e*PKPdf **PKPdf** **08 58 03.4 +0.8**
Q44A **Meyer Farm, Va** **139.02** **2** PKiKP **PKPdf** **08 58 02.3 -0.3**
baz=357
Q47A **Bedord North L** **139.03** **359** PKiKP **PKPdf** **08 58 02.2 -0.4**
baz=0.8
IP04 **Greensprings** **139.04** **349** *e*PKPdf **PKPdf** **08 58 02.8 +0.2**
IP04 LR LR
comp=Z,1861µm,20.0s
Q45A **Warren Harvey,** **139.06** **1** PKiKP **PKPdf** **08 58 02.0 -0.6**
baz=358
SPRD **Spring Road, M** **139.06** **349** *e*PKPdf **PKPdf** **08 58 03.6 +0.9**
IP03 **Louisa** **139.09** **349** *e*PKPdf **PKPdf** **08 58 03.8 +1.1**
IP03 LR LR
comp=Z,1882µm,22.0s
IP01 **Cuckoo** **139.13** **349** *e*PKPdf **PKPdf** **08 58 03.6 +0.8**
IP01 LR LR
comp=Z,1358µm,20.0s
IP07 **Quail** **139.19** **349** *e*PKPdf **PKPdf** **08 58 05.0 +2.1**
IP07 LR LR
comp=Z,1815µm,22.0s
LPM **Los Pinos Moun** **139.22** **25** *e*PKPdf **PKPdf** **08 58 04.7 +1.4**
OLIL **Olney** **139.22** **1** PFAKE 08 58 10.0 +7.1
OLIL LR LR
comp=Z,1770µm,21.0s
SLM **Saint Louis** **139.22** **4** *e*PKPdf **PKPdf** **08 58 04.7 +1.8**
SLM LR LR
comp=Z,1128µm,20.0s
SLM **Saint Louis** **139.22** **4** *e*PKIKP **PKPdf** **08 58 04.7 +1.8**
SLM MLR MLR
comp=Z,1128µm,20.0s
IP05 **Hopewell Churc** **139.23** **349** *e*PKPdf **PKPdf** **08 58 03.2 +0.3**
IP05 LR LR
comp=Z,1648µm,19.0s
R39A **Chumby, Stover** **139.26** **7** PKiKP **PKPdf** **08 58 02.6 -0.4**
baz=351
R38A **Fenwick Farm,** **139.27** **8** PKiKP **PKPdf** **08 58 02.3 -0.7**
baz=349
Y22D **IRIS PASSCAL I** **139.30** **26** PKiKP **PKPdf** **08 58 03.2 -0.3**
baz=329
Y22D **IRIS PASSCAL I** **139.30** **26** PFAKE 08 58 10.0 +6.6
Y22D LR LR
comp=Z,1279µm,22.0s
Y22E **IRIS PASSCAL I** **139.30** **26** PKiKP **PKPdf** **08 58 03.4 0.0**
baz=329
BNM **Barren Site** **139.36** **25** *e*PKPdf **PKPdf** **08 58 02.3 -1.3**
R40A **Maddies Statio** **139.38** **6** PKiKP **PKPdf** **08 58 02.9 -0.3**
baz=352
JSRW **J. Sargeant Re** **139.38** **349** *e*PKPdf **PKPdf** **08 58 04.9 +1.7**
R41A **Rosebud** **139.46** **5** PKiKP **PKPdf** **08 58 03.3 -0.1**
baz=353
R42A **Luebbering** **139.53** **5** PKiKP **PKPdf** **08 58 03.2 -0.3**
baz=354
R48A **Northridge Ran** **139.55** **359** PKiKP **PKPdf** **08 58 03.2 -0.3**
baz=1.6
R43A **Red Bud** **139.60** **4** PKiKP **PKPdf** **08 58 03.8 +0.2**
baz=355
R45A **Skylar, Fairfi** **139.65** **2** PKiKP **PKPdf** **08 58 03.5 -0.2**
baz=358
R47A **Wooly Knot Far** **139.67** **359** PKiKP **PKPdf** **08 58 04.0 +0.3**
baz=0.6
R44A **Waltonville** **139.67** **3** PKiKP **PKPdf** **08 58 03.9 +0.1**
baz=357

CCM **Cathedral Cave** **139.72** **5** PKiKP **PKPdf** **08 58 04.0 +0.1**
baz=353
CCM **Cathedral Cave** **139.72** **5** PFAKE 08 58 20.0 +16
CCM LR LR
comp=Z,1098µm,21.0s
WCI **Wyandotte Cave** **139.73** **359** PKiKP **PKPdf** **08 58 04.3 +0.4**
baz=1.0
WCI **Wyandotte Cave** **139.73** **359** *e*PKPdf **PKPdf** **08 58 04.6 +0.7**
WCI LR LR
comp=Z,1658µm,21.0s
WCI **Wyandotte Cave** **139.73** **359** *e*PKIKP **PKPdf** **08 58 04.6 +0.7**
WCI MLR MLR
comp=Z,1658µm,21.0s
R46A **Gibon Southern** **139.75** **1** PKiKP **PKPdf** **08 58 04.0 +0.1**
baz=359
S38A **Stockton** **139.82** **9** PKiKP **PKPdf** **08 58 04.1 +0.1**
baz=349
S39A **Bolivar** **139.84** **8** PKiKP **PKPdf** **08 58 04.4 +0.3**
baz=350
USIN **University of** **139.99** **1** PFAKE 08 58 20.0 +16
USIN LR LR
comp=Z,1327µm,19.0s
S40A **Lebanon** **140.04** **7** PKiKP **PKPdf** **08 58 04.4 -0.1**
baz=351
S42A **Caledonia** **140.04** **5** PKiKP **PKPdf** **08 58 04.9 +0.4**
baz=354
S41A **Jillco Farms,** **140.13** **6** PKiKP **PKPdf** **08 58 04.9 +0.3**
baz=352
SIUC **Southern Illin** **140.19** **3** PFAKE 08 58 20.0 +15
SIUC LR LR
comp=Z,1706µm,20.0s
121A **Cookes Peak, D** **140.20** **28** PKiKP **PKPdf** **08 58 05.0 -0.1**
baz=326
S44A **Carbondale** **140.21** **3** PKiKP **PKPdf** **08 58 05.3 +0.5**
baz=356
S45A **Carrier Mills** **140.26** **2** PKiKP **PKPdf** **08 58 05.4 +0.5**
baz=357
S46A **Don Dixon Farm** **140.27** **1** PKiKP **PKPdf** **08 58 05.4 +0.5**
baz=359
BLA **Blacksburg** **140.28** **352** PKiKP **PKPdf** **08 58 05.1 +0.2**
baz=10
BLA **Blacksburg** **140.28** **352** PFAKE 08 58 20.0 +15
BLA LR LR
comp=Z,1743µm,22.0s
S43A **Fulton Ridge,** **140.29** **4** PKiKP **PKPdf** **08 58 05.5 +0.6**
baz=355
S48A **Wiedeman Farm,** **140.30** **359** PKiKP **PKPdf** **08 58 05.1 +0.1**
baz=1.4
T38A **Diamond** **140.34** **9** PKiKP **PKPdf** **08 58 05.0 -0.1**
baz=348
319A **Douglas** **140.42** **31** PFAKE 08 58 20.0 +14
319A LR LR
comp=Z,1079µm,21.0s
T40A **Mansfield** **140.48** **7** PKiKP **PKPdf** **08 58 05.6 +0.3**
baz=351
T39A **Clever** **140.49** **8** PKiKP **PKPdf** **08 58 05.6 +0.3**
baz=350
AMTX **Amarillo** **140.58** **19** PKiKP **PKPdf** **08 58 06.0 +0.3**
baz=336
AMTX **Amarillo** **140.58** **19** *e*PKPpre PKPpre 08 58 00.1
AMTX LR LR
comp=Z,1680µm,21.0s
T41A **Mountain View** **140.67** **6** PKiKP **PKPdf** **08 58 06.0 +0.3**
baz=352
T42A **Van Buren** **140.75** **5** PKiKP **PKPdf** **08 58 06.2 +0.5**
baz=354
T43A **Greenville** **140.76** **4** PKiKP **PKPdf** **08 58 06.1 +0.3**
baz=355
T44A **Benton** **140.80** **3** PKiKP **PKPdf** **08 58 06.1 +0.2**
baz=356
T48A **Bowling Green** **140.85** **359** PKiKP **PKPdf** **08 58 06.1 +0.1**
baz=0.8
T46A **Princeton** **140.91** **1** PKiKP **PKPdf** **08 58 06.4 +0.3**
baz=358
T45A **Paducah** **140.91** **2** PKiKP **PKPdf** **08 58 06.3 +0.3**
baz=357
T47A **Sharon Grove** **140.97** **0** PKiKP **PKPdf** **08 58 06.4 +0.3**
baz=360
MSTX **Muleshoe** **141.04** **21** PKiKP **PKPdf** **08 58 06.6 +0.1**
baz=334
MSTX **Muleshoe** **141.04** **21** *e*PKPpre PKPpre 08 58 00.9
MSTX LR LR
comp=Z,1753µm,22.0s
PBMO **Poplar Bluff** **141.05** **4** *e*PKPpre PKPpre 08 58 00.7
PBMO LR LR
comp=Z,1179µm,20.0s
U39A **Green Forest** **141.10** **8** PKiKP **PKPdf** **08 58 07.0 +0.5**
baz=350
HHAR **Hobbs** **141.13** **9** PFAKE 08 58 20.0 +13
HHAR LR LR
comp=Z,1202µm,20.0s
TUL1 **Leonard** **141.17** **11** PKiKP **PKPdf** **08 58 06.9 +0.4**
baz=346
TUL1 **Leonard** **141.17** **11** *e*PKPdf **PKPdf** **08 58 07.7 +1.1**
TUL1 LR LR
comp=Z,2290µm,22.0s
U40A **Yellville** **141.22** **8** PKiKP **PKPdf** **08 58 07.2 +0.5**
baz=351
TZTN **Tazewell** **141.28** **356** PKiKP **PKPdf** **08 58 07.2 +0.4**
baz=5.4
TZTN **Tazewell** **141.28** **356** *e*PKPdf **PKPdf** **08 58 08.0 +1.2**
TZTN LR LR
comp=Z,2170µm,21.0s
NCAT **North Carolina** **141.29** **351** PFAKE 08 58 20.0 +13
NCAT LR LR
comp=Z,2948µm,22.0s
U41A **Viola** **141.34** **6** PKiKP **PKPdf** **08 58 07.3 +0.4**
baz=352
HSIG **141.35** **35** PFAKE 08 58 20.0 +13
HSIG LR LR
comp=Z,1024µm,22.0s
TMU **Temuco** **141.37** **198** || *i* P PKPpre 08 58 02.0
U44A **Portageville** **141.37** **3** PKiKP **PKPdf** **08 58 07.4 +0.6**
baz=356
U42A **Revenden** **141.41** **6** PKiKP **PKPdf** **08 58 07.7 +0.8**
baz=353
EPT **El Paso** **141.43** **27** *e*PKPdf **PKPdf** **08 58 08.9 +1.6**
EPT LR LR
comp=Z,1319µm,21.0s
U48A **Cassie Pea, Po** **141.45** **359** PKiKP **PKPdf** **08 58 07.8 +0.7**
baz=0.6
U43A **Rector** **141.46** **4** PKiKP **PKPdf** **08 58 07.8 +0.8**
baz=354
PVMO **Portageville** **141.46** **4** PFAKE 08 58 20.0 +13
PVMO LR LR
comp=Z,2011µm,22.0s
U47A **Clarksville** **141.52** **0** PKiKP **PKPdf** **08 58 07.8 +0.6**
baz=359
U44B **Burton Farm, H** **141.56** **3** PKiKP **PKPdf** **08 58 08.1 +0.8**
baz=356
U45A **Rockin P Farm,** **141.58** **2** PKiKP **PKPdf** **08 58 08.1 +0.8**
baz=357
U46A **Springville** **141.59** **2** PKiKP **PKPdf** **08 58 08.1 +0.8**
baz=358
WMOK **Wichita Mounta** **141.59** **16** PKiKP **PKPdf** **08 58 08.1 +0.7**
baz=341
WMOK **Wichita Mounta** **141.59** **16** *e*PKPpre PKPpre 08 58 02.8
WMOK LR LR
comp=Z,1450µm,21.0s
WMOK **Wichita Mounta** **141.59** **16** *e*PKIKP PKPpre 08 58 02.8
WMOK MLR MLR
comp=Z,1450µm,21.0s
V39A **Pettigrew** **141.61** **9** PKiKP **PKPdf** **08 58 08.1 +0.6**
baz=349
CANA **Caviahue** **141.63** **200** *i* P **PKPdf** **08 58 11.5 +4.0**
CNNC **Cliffs of the** **141.76** **348** PKiKP **PKPdf** **08 58 08.4 +0.8**
baz=15
CNNC **Cliffs of the** **141.76** **348** PFAKE 08 58 20.0 +12
CNNC LR LR
comp=Z,2485µm,21.0s
V40A **Witts Springs** **141.76** **8** PKiKP **PKPdf** **08 58 08.4 +0.7**
baz=350
WVT **Waverly** **141.82** **1** PKiKP **PKPdf** **08 58 08.6 +0.9**
baz=359
WVT **Waverly** **141.82** **1** *e*PKPpre PKPpre 08 58 03.5
WVT LR LR
comp=Z,1617µm,21.0s
WVT **Waverly** **141.82** **1** *e*PKIKP PKPpre 08 58 03.5
WVT MLR MLR
comp=Z,1617µm,21.0s
SRIG **Santa Rosalia** **141.85** **38** PFAKE 08 58 20.0 +12
SRIG LR LR
comp=Z,714µm,21.0s
V41A **Mountainview** **141.87** **7** PKiKP **PKPdf** **08 58 08.8 +0.9**
baz=352
V42A **Cord** **141.93** **6** PKiKP **PKPdf** **08 58 08.9 +1.0**
baz=353

MNTX Cornudas Mount 141.99 26 PKiKP PKPdf 08 58 08.8 +0.6
baz=329
MNTX Cornudas Mount 141.99 26 PFAKE 08 58 20.0 +12
MNTX LR LR
comp=Z,1514µm,20.0s
V43A Jonesboro 142.03 5 PKiKP PKPdf 08 58 09.0 +0.9
baz=354
V44A Blytheville 142.03 4 PKiKP PKPdf 08 58 09.0 +0.9
baz=355
V47A Nunnelly 142.13 1 PKiKP PKPdf 08 58 08.6 +0.3
baz=359
V46A Holladay 142.14 2 PKiKP PKPdf 08 58 08.5 +0.2
baz=358
V45A Humboldt 142.17 3 PKiKP PKPdf 08 58 08.6 +0.3
baz=357
V48A Smith Brothers 142.22 360 PKiKP PKPdf 08 58 08.9 +0.4
baz=0.2
W39A Magazine 142.22 9 PKiKP PKPdf 08 58 08.8 +0.3
baz=349
W40A Ferguson Farm, 142.33 8 PKiKP PKPdf 08 58 09.2 +0.6
baz=350
W40A Ferguson Farm, 142.33 8 PFAKE 08 58 20.0 +11
W40A LR LR
comp=Z,1298µm,19.0s
WHAR Wooly Hollow 142.34 7 ePKPdf PKPdf 08 58 07.9 -0.7
WHAR LR LR
comp=Z,1768µm,20.0s
KMSC Kings Mountain 142.44 352 PKiKP PKPdf 08 58 09.1 +0.3
baz=3.2
KMSC Kings Mountain 142.44 352 PFAKE 08 58 20.0 +11
KMSC LR LR
comp=Z,2164µm,22.0s
W42A Bald Knob 142.44 6 PKiKP PKPdf 08 58 09.5 +0.7
baz=352
W41B Gary Mavity, V 142.46 7 PKiKP PKPdf 08 58 09.1 +0.3
baz=351
W47A Westpoint 142.70 1 PKiKP PKPdf 08 58 09.3 0.0
baz=359
W43A Forest City 142.71 5 PKiKP PKPdf 08 58 09.5 +0.2
baz=354
W44A Shelby Farms P 142.72 4 PKiKP PKPdf 08 58 09.5 +0.2
baz=355
MET Memphis--Engin 142.73 4 PFAKE 08 58 20.0 +11
MET LR LR
comp=Z,1490µm,21.0s
W45A Hickory Valley 142.74 3 PKiKP PKPdf 08 58 09.6 +0.2
baz=356
SUCO SUCO 142.77 211 i P PKPdf 08 58 14.3 +4.7
BG3 Lake Jocassee 142.77 354 PFAKE 08 58 20.0 +11
BG3 LR LR
comp=Z,1816µm,21.0s
CPUP Villa Florida 142.79 227 Pdiff Pdif 08 55 39.5 +8.0
comp=Z,0.7nm,0.8s,baz=158,slow=3.1,SNR=1.6
CPUP PKP PKPdf 08 58 07.5 -2.1
comp=Z,26nm,0.9s,baz=130,slow=2.4,SNR=26
W46A Michie 142.80 2 PKiKP PKPdf 08 58 09.8 +0.3
baz=358
PAULI Pauline 142.82 353 ePKPdf PKPdf 08 58 07.6 -2.0
PAULI LR LR
comp=Z,1652µm,21.0s
W48A Pulaski 142.82 360 PKiKP PKPdf 08 58 09.7 +0.2
X39A Fountain Ranch 142.84 10 PKiKP PKPdf 08 58 10.0 +0.4
baz=348
UALR University of 142.84 7 PFAKE 08 58 20.0 +10
UALR LR LR
comp=Z,1923µm,20.0s
MIAR Mount Ida 142.89 9 PKiKP PKPdf 08 58 10.4 +0.7
baz=349
MIAR Mount Ida 142.89 9 PFAKE 08 58 20.0 +10
MIAR LR LR
comp=Z,1510µm,20.0s
PLAL Pickwick Lake 142.96 1 ePKPdf PKPdf 08 58 08.1 -1.7
PLAL LR LR
comp=Z,2053µm,22.0s
X40A Basin Creek Fa 143.06 8 PKiKP PKPdf 08 58 10.7 +0.8
baz=350
X41A Kaden, Bauxite 143.09 8 PKiKP PKPdf 08 58 10.9 +0.8
baz=351
CCHI Chillan 143.13 200 i P PKPdf 08 58 14.4 +4.4
X42A Stuttgart 143.15 6 PKiKP PKPdf 08 58 10.7 +0.6
baz=352
X43A Marvell 143.26 5 PKiKP PKPdf 08 58 11.0 +0.7
baz=353
JSC Jenkinsville 143.28 352 ePKPdf PKPbc 08 58 08.5 +1.2
JSC LR LR
comp=Z,1469µm,21.0s
JSC Jenkinsville 143.28 352 ePKIKP PKPbc 08 58 08.5 +1.2
JSC MLR MLR
comp=Z,1469µm,21.0s
ABTX Abilene, Hawle 143.31 18 PKiKP PKPdf 08 58 11.2 +0.7
baz=339
ABTX Abilene, Hawle 143.31 18 PFAKE 08 58 20.0 +9.5
ABTX LR LR
comp=Z,1733µm,21.0s
RFA San Rafael 143.32 206 i P PKPdf 08 58 15.5 +5.0
X44A Crenshaw 143.34 4 PKiKP PKPdf 08 58 11.2 +0.8
baz=355
X46A Booneville 143.37 2 PKiKP PKPdf 08 58 11.2 +0.7
baz=357
OXF Oxford 143.37 3 PKiKP PKPdf 08 58 11.2 +0.7
baz=356
OXF Oxford 143.37 3 ePKPdf PKPbc 08 58 08.7 +1.1
OXF LR LR
comp=Z,1199µm,21.0s
OXF Oxford 143.37 3 ePKIKP PKPbc 08 58 08.7 +1.1
OXF MLR MLR
comp=Z,1199µm,21.0s
X47A Russelville 143.43 1 PKiKP PKPdf 08 58 11.4 +0.7
baz=358
X49A Woodville 143.44 359 PKiKP PKPdf 08 58 11.5 +0.8
baz=1.0
HODGE Hodges 143.45 353 ePKPdf PKPbc 08 58 08.9 +1.1
HODGE LR LR
comp=Z,1662µm,21.0s
Y40A Okolona 143.46 9 PKiKP PKPdf 08 58 11.4 +0.7
baz=349
X45A UM Field Stati 143.46 3 PKiKP PKPdf 08 58 11.6 +0.9
baz=356
X48A Hartselle 143.50 0 PKiKP PKPdf 08 58 11.4 +0.6
baz=360
Y41A Eaglette Beard 143.69 8 PKiKP PKPdf 08 58 12.3 +1.2
baz=350
CCAR Cane Creek 143.76 7 PFAKE 08 58 20.0 +8.8
CCAR LR LR
comp=Z,1528µm,18.0s
WLAR White Oak Lake 143.80 9 ePKPdf PKPbc 08 58 09.2 +0.3
WLAR LR LR
comp=Z,1909µm,20.0s
COCH Cobquecura 143.80 200 ǁ i P PKPdf 08 58 15.8 +4.7
Y42A Garnett, Star 143.83 7 PKiKP PKPdf 08 58 12.4 +1.0
baz=352
Y43A Makayla and Ka 143.85 6 PKiKP PKPdf 08 58 12.3 +1.0
baz=353
Y44A Strider, Charl 143.87 5 PKiKP PKPdf 08 58 12.1 +0.7
baz=354
Y45A Yeager Farm, C 144.01 4 PKiKP PKPdf 08 58 13.0 +1.3
baz=356
Y46A Houston 144.03 3 PKiKP PKPdf 08 58 12.9 +1.2
baz=357
Y48A Jasper 144.04 0 PKiKP PKPdf 08 58 12.9 +1.2
baz=360
Y47A UCPARC, Winfie 144.04 1 PKiKP PKPdf 08 58 12.5 +0.8
baz=358
Y50A Piedmont 144.04 358 PKiKP PKPdf 08 58 12.7 +1.0
baz=2.0
Y49A Blount Mountai 144.09 359 PKiKP PKPdf 08 58 12.3 +0.5
baz=0.9
TCA Tanti 144.16 214 i P PKPdf 08 58 15.9 +3.8
TCA Tanti 144.16 214 ǁ i P PKPdf 08 58 13.2 +1.1
Z40A Long Farm, Mag 144.18 9 PKiKP PKPdf 08 58 12.8 +0.9
baz=349
NHSC New Hope 144.26 350 PKiKP PKPdf 08 58 12.9 +0.8
baz=12
NHSC New Hope 144.26 350 ePKPdf PKPbc 08 58 11.1 +0.9
NHSC LR LR
comp=Z,1435µm,20.0s
Z41A Richland Creek 144.27 8 PKiKP PKPdf 08 58 13.1 +0.9
baz=350
CSU Charleston Sou 144.36 350 ePKPdf PKPdf 08 58 13.0 +0.7
Z42A Norrel Spur, H 144.37 7 PKiKP PKPdf 08 58 13.4 +1.1
baz=351
GOGA Godfrey 144.39 355 PKiKP PKPdf 08 58 12.8 +0.4
baz=5.9
GOGA Godfrey 144.39 355 ePKPdf PKPbc 08 58 11.4 +0.7
GOGA LR LR
comp=Z,1984µm,22.0s
GOGA Godfrey 144.39 355 ePKIKP PKPbc 08 58 11.4 +0.7
GOGA MLR MLR
comp=Z,1984µm,22.0s
RGRS Roger Stewart 144.46 350 ePKPdf PKPdf 08 58 12.7 +0.3
Z45A Winona 144.49 4 PKiKP PKPdf 08 58 13.1 +0.6
baz=355
Z44A Pea Ridge, Bel 144.53 5 PKiKP PKPdf 08 58 13.8 +1.2
baz=354
WHTX Lake Whitney, 144.54 15 PKiKP PKPdf 08 58 12.9 +0.3
baz=342
WHTX Lake Whitney, 144.54 15 ePKPdf PKPab 08 58 10.9 -0.1
WHTX LR LR
comp=Z,1699µm,21.0s
Z48A Northport 144.57 1 PKiKP PKPdf 08 58 12.8 +0.1
baz=359
Z50A Ashland 144.69 358 PKiKP PKPdf 08 58 13.3 +0.4
baz=1.7
Z46A Louisville 144.71 3 PKiKP PKPdf 08 58 14.2 +1.3
baz=357
Z47A Carrollton 144.74 2 PKiKP PKPdf 08 58 13.6 +0.7
baz=358
140A Cam and Jess, 144.75 10 PKiKP PKPdf 08 58 14.3 +1.3
baz=348
Z49A Columbiana 144.76 359 PKiKP PKPdf 08 58 13.7 +0.7
baz=0.7
TXAR Lajitas Array 144.78 26 PKP PKPab 08 58 11.4 -0.6
comp=Z,560nm,1.3s,baz=197,slow=0.2,SNR=108
ACAN Cantantal 144.79 210 i P PKPdf 08 58 17.2 +4.1
141A Papa Simpson, 144.90 9 PKiKP PKPdf 08 58 14.9 +1.6
baz=350
LRAL Lakeview Retre 144.92 0 PKiKP PKPdf 08 58 14.0 +0.7
baz=360
LRAL Lakeview Retre 144.92 0 ePKPdf PKPab 08 58 11.3 -1.1
LRAL LR LR
comp=Z,2169µm,21.0s
143A Socs Landing, 145.00 7 PKiKP PKPdf 08 58 14.7 +1.3
baz=352
155A Kite 145.07 353 PKiKP PKPdf 08 58 14.9 +1.4
baz=7.8
142A Monroe 145.09 7 PKiKP PKPdf 08 58 15.1 +1.6
baz=351
154A Montrose 145.15 354 PKiKP PKPdf 08 58 14.9 +1.3
baz=6.7
144A Alexander Plac 145.17 5 PKiKP PKPdf 08 58 15.4 +1.7
baz=354
153A Fort Valley 145.17 355 PKiKP PKPdf 08 58 15.1 +1.4
baz=5.4
145A Houston Renfro 145.24 4 PKiKP PKPdf 08 58 15.5 +1.7
baz=355
JCT Junction City 145.24 20 PKiKP PKPdf 08 58 15.2 +1.2
baz=337
JCT Junction City 145.24 20 ePKPbc PKPbc 08 58 12.7 -0.9
JCT LR LR
comp=Z,1392µm,22.0s
JCT Junction City 145.24 20 ePKIKP PKPbc 08 58 12.7 -0.9
JCT MLR MLR
comp=Z,1392µm,22.0s
147A Livingston 145.26 2 PKiKP PKPdf 08 58 15.2 +1.4
baz=358
146A Union 145.26 3 PKiKP PKPdf 08 58 15.5 +1.6
baz=356
148A Greensboro 145.30 1 PKiKP PKPdf 08 58 15.3 +1.4
baz=359
240A Hunter Patters 145.31 10 PKiKP PKPdf 08 58 15.6 +1.6
baz=348
ASAL Salagasta 145.32 208 i P PKPdf 08 58 19.4 +5.3
150A Eclectic 145.33 359 PKiKP PKPdf 08 58 15.5 +1.5
baz=1.6
149A Jones 145.35 360 PKiKP PKPdf 08 58 15.4 +1.4
baz=0.2
LPIG La Paz 145.37 40 PKPbc PKPbc 08 58 14.0 0.0
comp=Z,315nm,1.1s,baz=148,slow=0.1,SNR=11
151A Opelika 145.39 358 PKiKP PKPdf 08 58 15.5 +1.4
baz=2.8
NATX Nacogdoches 145.41 12 PKiKP PKPab 08 58 15.9 +1.7
baz=346
NATX Nacogdoches 145.41 12 ePKPbc PKPab 08 58 14.2 0.0
NATX LR LR
comp=Z,1984µm,22.0s
241A Mo Tay, Goldon 145.47 9 PKiKP PKPab 08 58 15.9 +1.6
baz=350
257A Skidaway Islan 145.51 351 PKiKP PKPab 08 58 16.1 +1.6
baz=10
242A Grayson 145.54 8 PKiKP PKPab 08 58 16.3 +1.6
baz=351
VBMS Vicksburg 145.57 5 PKiKP PKPab 08 58 16.4 +1.7
baz=354
VBMS Vicksburg 145.57 5 ePKPdf PKPab 08 58 14.9 +0.2
VBMS LR LR
comp=Z,1424µm,22.0s
256A Glennville 145.63 352 PKiKP PKPab 08 58 16.4 +1.5
baz=8.9
435B Jarrell 145.64 16 PKiKP PKPab 08 58 16.3 +1.2
baz=341
PEL Peldehue 145.66 205 ePKPdf PKPab 08 58 16.0 +0.8
PEL LR LR
comp=Z,1638µm,21.0s
PEL Peldehue 145.66 205 ePKP2 PKPab 08 58 16.0 +0.8
PEL MLR MLR
comp=Z,1638µm,21.0s
244A Avery, Jackson 145.73 6 PKiKP PKPab 08 58 16.9 +1.5
baz=353
253A Americus 145.78 356 PKiKP PKPab 08 58 16.5 +1.0
baz=5.0
RTCV Cerro Valdivia 145.79 209 i P PKPab 08 58 19.0 +3.4
243A Waterproof 145.80 7 PKiKP PKPab 08 58 16.7 +1.1
baz=352
245A Little AP, Sta 145.81 4 PKiKP PKPab 08 58 16.8 +1.2
baz=355
254A Abbeville 145.82 354 PKiKP PKPab 08 58 16.7 +1.0
baz=6.5
251A Midway 145.82 358 PKiKP PKPab 08 58 16.6 +0.9
baz=2.7
248A Dixon Mills 145.85 1 PKiKP PKPab 08 58 17.0 +1.2
baz=359
HPIG 145.85 31 ePKPdf PKPdf 08 58 13.5 -1.9
HPIG LR LR
comp=Z,985µm,21.0s
247A Quitman 145.86 2 PKiKP PKPab 08 58 16.1 +0.3
baz=357
246A Jackson Lee, B 145.88 3 PKiKP PKPab 08 58 16.3 +0.4
baz=356
AUSP Uspallata 145.88 207 i P PKPab 08 58 19.8 +3.5
252A Lumpkin 145.89 357 PKiKP PKPab 08 58 16.7 +0.8
baz=3.9
APLL PUNTA DE LOS L 145.94 213 ǁ i P PKPab 08 58 19.4 +3.1
ROC1 El Roble 145.95 204 ePKPdf PKPab 08 58 16.3 -0.2
ROC1 LR LR
comp=Z,5µm,19.0s
250A Grady 145.97 359 PKiKP PKPab 08 58 16.8 +0.6
baz=1.2
249A Camden 145.97 0 PKiKP PKPab 08 58 17.2 +1.0
baz=360
341A Kurthwood 146.10 10 PKiKP PKPab 08 58 17.1 +0.3
baz=349
357A Townsend 146.12 352 PKiKP PKPab 08 58 17.3 +0.6
baz=7.7
342A Flagon Creek P 146.19 8 PKiKP PKPab 08 58 17.0 -0.1
baz=350
RTLL Cerro Villicun 146.19 209 i P PKPab 08 58 19.8 +2.6
RTLL Cerro Villicun 146.19 209 i P PKPbc 08 58 16.2 -0.3
356A Blackshear 146.31 352 PKiKP PKPbc 08 58 16.9 +0.1
baz=8.6
344A Westbrook Farm 146.31 6 PKiKP PKPab 08 58 17.6 +0.1
baz=353
TIGA Tifton 146.35 355 PKiKP PKPbc 08 58 17.0 0.0
baz=6.0
TIGA Tifton 146.35 355 ePKPdf PKPbc 08 58 16.9 0.0
TIGA LR LR
comp=Z,1264µm,20.0s
355A Pearson 146.37 354 PKiKP PKPab 08 58 17.4 -0.4
baz=7.3
343A Vidalia 146.37 7 PKiKP PKPab 08 58 17.4 -0.4
baz=352
352A Blakely 146.41 357 PKiKP PKPbc 08 58 17.1 0.0
baz=3.6
346A Big Creek Wild 146.48 4 PKiKP PKPbc 08 58 17.7 +0.4
baz=356
353A Camilla 146.50 356 PKiKP PKPbc 08 58 17.4 +0.1
baz=4.9
345A Thompson Farm, 146.51 5 PKiKP PKPbc 08 58 17.7 +0.3
baz=354
347A Saraland 146.51 2 PKiKP PKPbc 08 58 17.8 +0.4
baz=357
350A Dozier 146.52 359 PKiKP PKPbc 08 58 17.8 +0.4
baz=1.1
348A Jackson 146.52 1 PKiKP PKPbc 08 58 17.7 +0.3
baz=358
349A Repton 146.60 0 PKiKP PKPbc 08 58 18.1 +0.4
baz=360
351A Pinckard 146.65 358 PKiKP PKPbc 08 58 18.0 +0.2
baz=2.4
441A DeRidder 146.67 10 PKiKP PKPbc 08 58 18.3 +0.5
baz=349
BRAL Brewton 146.78 0 PKiKP PKPbc 08 58 18.5 +0.3
baz=360
BRAL Brewton 146.78 0 PFAKE 08 58 30.0 +11
BRAL LR LR
comp=Z,1601µm,22.0s
442A Mamou 146.82 9 PKiKP PKPab 08 58 19.0 -0.5
baz=350
443A Delano Plantat 146.87 8 PKiKP PKPbc 08 58 18.9 +0.5
baz=351
456A Hilliard 146.88 352 PKiKP PKPbc 08 58 18.7 +0.2
baz=8.9
HKT Hockley 146.90 14 ePKPdf PKPbc 08 58 18.6 +0.1
HKT LR LR
comp=Z,1985µm,19.0s
HKT Hockley 146.90 14 ePKP2 PKPbc 08 58 18.6 +0.1
HKT MLR MLR
comp=Z,1985µm,19.0s
457A Yulee 146.92 351 PKiKP PKPbc 08 58 18.4 -0.2
baz=9.8
455A Stateville 146.99 354 PKiKP PKPbc 08 58 19.0 +0.2
baz=7.1
453A Whigham 146.99 356 PKiKP PKPbc 08 58 18.9 +0.1
baz=4.8
448A Bay Minette 147.00 1 PKiKP PKPbc 08 58 18.9 +0.1
baz=358
444A Pine Grove 147.03 6 PKiKP PKPbc 08 58 19.0 +0.1
baz=353
452A Marianna 147.05 357 PKiKP PKPbc 08 58 18.9 0.0
baz=3.2
445A Amite 147.06 5 PKiKP PKPbc 08 58 19.3 +0.3
baz=354
454A Quitman 147.08 355 PKiKP PKPbc 08 58 19.3 +0.2
baz=6.0
446A Poplarville 147.08 4 PKiKP PKPbc 08 58 19.1 +0.1
baz=356
447A Lucedale 147.11 3 PKiKP PKPbc 08 58 19.7 +0.6
baz=357
450A Crestview 147.14 359 PKiKP PKPbc 08 58 19.8 +0.6
baz=0.6
449A Pace 147.19 0 PKiKP PKPbc 08 58 20.0 +0.7
baz=360
451A Vernon 147.31 358 PKiKP PKPbc 08 58 20.1 +0.4
baz=2.2
541A Lake Charles 147.34 10 PKiKP PKPbc 08 58 20.2 +0.4
baz=348
833A Chaparral WMA, 147.36 21 PKiKP PKPbc 08 58 20.1 +0.2
baz=337
542A Morse 147.38 9 PKiKP PKPbc 08 58 20.1 +0.2
baz=350
ACDV Cuesta del Vie 147.46 210 eP PKPab 08 58 22.2 -0.1
543A St. Martinvill 147.52 8 PKiKP PKPbc 08 58 20.4 +0.1
baz=351
557A Orange Park 147.54 351 PKiKP PKPbc 08 58 20.4 +0.1
baz=9.7
544A White Castle 147.59 7 PKiKP PKPbc 08 58 19.9 -0.5
baz=352
555A McAlpin 147.59 353 PKiKP PKPbc 08 58 20.5 0.0
baz=7.4
546A Slidell 147.61 4 PKiKP PKPbc 08 58 19.9 -0.6
baz=355
AROD Rodeo 147.63 209 i P PKPab 08 58 23.0 -0.2
556A Lake Butler 147.65 353 PKiKP PKPbc 08 58 20.5 -0.1
baz=8.4
553A Crawfordville 147.66 356 PKiKP PKPbc 08 58 20.5 -0.1
baz=4.7
AGUA GUANDACOL 147.69 211 eP PKPab 08 58 22.2 -1.0
554A Perry 147.71 355 PKiKP PKPbc 08 58 20.9 +0.2
baz=6.0
545A Edgard 147.73 6 PKiKP PKPbc 08 58 20.6 -0.2
baz=353
552A Lynn Haven 147.77 357 PKiKP PKPbc 08 58 20.7 -0.3
baz=3.1
AHML Horco Molle 147.95 218 i P PKPbc 08 58 22.5 +0.8
AHML eP PKiKP 08 58 23.0 -0.6
657A Interlachen 147.98 352 PKiKP PKPbc 08 58 21.6 0.0
baz=9.5
658A Bunnell 148.04 351 PKiKP PKPbc 08 58 21.8 +0.1
baz=11
VCA Vinchina 148.14 212 i P PKPbc 08 58 23.0 +0.7
VCA Vinchina 148.14 212 ǁ i P PKPdf 08 58 20.1 +1.1
655A Horseshoe Beac 148.23 354 PKiKP PKPbc 08 58 22.2 0.0
baz=7.0
646A Port Sulphur 148.24 5 PKiKP PKiKP 08 58 23.4 -0.6
baz=355
ANWB Willy Bob 148.25 310 PFAKE 08 58 30.0 +4.5
ANWB LR LR
comp=Z,1735µm,21.0s
ANWB Willy Bob 148.25 310 eP PKPab 08 58 24.1 -1.4
TLL Tololo Astrono 148.26 207 ǁ i P PKPbc 08 58 23.3 +0.6
656A Willston 148.28 353 PKiKP PKPbc 08 58 22.5 +0.1
baz=8.3
645A Chauvin 148.29 6 PKiKP PKiKP 08 58 23.7 -0.3
baz=353
H06N1 SOCORRO T-PHAS 148.43 47 PKPbc PKPbc 08 58 24.4 +1.4
H05N1 Guadeloupe/Mar 148.44 307 PKPbc PKPdf 08 58 21.3 +1.7
DEG La Desirade 148.44 307 eP PKPdf 08 58 16.3 -3.4
758A Lake Helen 148.49 350 PKiKP PKPbc 08 58 22.7 -0.2
baz=11
H06E1 SOCORRO T-PHAS 148.52 47 PKPbc PKPbc 08 58 24.0 +0.7
H06S1 SOCORRO T 148.53 48 PKPbc PKPab 08 58 25.7 -1.0
KVTX Kingsville 148.58 19 ePKPbc PKPbc 08 58 23.4 +0.2
KVTX LR LR
comp=Z,860µm,19.0s
757A Oxford 148.64 352 PKiKP PKPbc 08 58 23.1 -0.1
baz=9.3
BPA Boggy Peak 148.66 309 eP PKPdf 08 58 21.1 +1.1
BBSP Saint Philip 148.72 300 eP PKPab 08 58 30.4 +2.8
BBGH Gun Hill 148.79 300 PFAKE 08 58 30.0 +2.2
BBGH LR LR
comp=Z,2098µm,22.0s
BBGH Gun Hill 148.79 300 eP PKPab 08 58 27.1 -0.7
FSA Cafayete 148.84 219 i P PKPbc 08 58 24.2 0.0
MGG Marie-Galante 148.87 306 eP PKPbc 08 58 24.6 +0.4
SMRT St. Maarten 149.00 312 ePKPdf PKPbc 08 58 22.6 -1.9
SMRT St. Maarten 149.00 312 eP PKPdf 08 58 20.0 -0.5
GDHS Morne Mazeau, 149.03 307 ePKPbc PKPbc 08 58 24.2 -0.5
GDHS LR LR
comp=Z,1721µm,22.0s
ALOL LOMAS DE OLMED 149.09 224 i P PKPbc 08 58 24.2 -0.5
MDVC Dominica, Viel 149.10 306 eP PKPab 08 58 27.5 -1.6
MLYT Lee's Yard 149.11 308 eP PKPab 08 58 27.1 -2.0
MDMP Dominica, Moor 149.12 306 eP PKPab 08 58 31.9 +2.8
DLPL La Plaine 149.12 305 eP PKPbc 08 58 26.9 +2.0
MDPO Dominica; Chan 149.16 306 eP PKPab 08 58 27.5 -1.8
NEV Hard Times 149.16 310 eP PKPbc 08 58 26.2 +1.2
TBG Guadaloupe-3 149.17 307 eP PKPbc 08 58 24.6 -0.4
LCO Las Campanas 149.19 209 ePKPdf PKPdf 08 58 21.7 +0.8
LCO LR LR
comp=Z,1921µm,20.0s
BBL Barber's Block 149.20 306 eP PKPbc 08 58 23.6 -1.5
DBCT Belle View Cho 149.24 305 eP PKPab 08 58 31.7 +2.1
858A St. Cloud 149.25 350 PKiKP PKPbc 08 58 24.4 -0.4
baz=11
MDN Morne-Daniel 149.25 305 eP PKPab 08 58 33.7 +4.0
H05S1 Guadeloupe/Mar 149.26 303 PKPbc PKPbc 08 58 24.5 -0.7
SEUS St. Eustatius 149.27 311 PFAKE 08 58 30.0 +0.3
SEUS LR LR
comp=Z,1866µm,22.0s
SEUS St. Eustatius 149.27 311 eP PKPbc 08 58 26.6 +1.5
DSHT Scott's Head 149.29 305 eP PKPab 08 58 37.8 +7.9
859A Kempfer Cattle 149.31 349 PKiKP PKPbc 08 58 24.2 -0.8
baz=12
ASTB Santa Barbara 149.33 223 i P PKPbc 08 58 25.4 -0.1
857A Zephyrhills 149.33 352 PKiKP PKPbc 08 58 24.4 -0.7
baz=9.2
DWPF Disney Wildern 149.36 350 PKiKP PKPbc 08 58 24.4 -0.7
baz=11
DWPF Disney Wildern 149.36 350 PFAKE 08 58 30.0 +0.3
DWPF LR LR
comp=Z,1766µm,21.0s
FDF Fort de France 149.36 304 ePKPbc PKPbc 08 58 24.0 -1.5
FDF LR LR
comp=Z,1285µm,20.0s
FDF Fort de France 149.36 304 eP PKPbc 08 58 23.8 -1.7
FDF Fort de France 149.36 304 ePKP2 PKPbc 08 58 24.0 -1.5
FDF MLR MLR
comp=Z,1285µm,20.0s
SABA Saba 149.39 311 PFAKE 08 58 30.0 -0.2
SABA LR LR
comp=Z,1987µm,22.0s

SABA	**Saba**	**149.39**	**311**	*e*P		**PKPbc**	**08 58 23.3**	**-2.2**
ABVI	**Anegada Island**	**149.49**	**314**	PFAKE			08 58 30.0	-0.5
ABVI				LR	LR			
	comp=Z,1150µm,21.0s							
SLA	**San Lorenzo**	**149.51**	**221**	*i* P		**PKPbc**	**08 58 26.1**	**+0.3**
SLA	**San Lorenzo**	**149.51**	**221**	⇓*i* P		**PKPdf**	**08 58 22.5**	**+1.2**
AZAP	**Zapla**	**149.56**	**222**	*i* P		**PKPbc**	**08 58 25.8**	**-0.3**
MCLT	**Moule a Chique**	**149.70**	**302**	*e*P		**PKPbc**	**08 58 28.2**	**+1.8**
SLB	**Belfond**	**149.73**	**303**	*e*P		**PKPbc**	**08 58 26.6**	**+0.2**
959A	**Okeechobee**	**149.83**	**349**	PKiKP		**PKPbc**	**08 58 25.1**	**-1.3**
	baz=12							
957A	**Wimauma**	**149.91**	**352**	PKiKP		**PKPbc**	**08 58 25.3**	**-1.3**
	baz=9.3							
958A	**Wauchula**	**149.92**	**351**	PKiKP		**PKPbc**	**08 58 25.6**	**-1.0**
	baz=10							
SVCV	**St. Vincent, C**	**150.09**	**302**	*e*P		**PKPab**	**08 58 31.4**	**-1.7**
SSV	**Crater Summit**	**150.10**	**302**	*e*P		**PKPbc**	**08 58 29.2**	**+1.8**
SVV	**Soufriere Volc**	**150.12**	**302**	*e*P		**PKPab**	**08 58 37.3**	**+4.0**
SVB	**Belmont**	**150.18**	**302**	*e*PKPbc		**PKPbc**	**08 58 28.7**	**+1.2**
SVB				LR	LR			
	comp=Z,935µm,22.0s							
SVB	**Belmont**	**150.18**	**302**	*e*P		**PKPdf**	**08 58 24.9**	**+2.4**
STVI	**Saint Thomas**	**150.18**	**314**	*e*PKPbc		**PKPbc**	**08 58 26.9**	**-0.5**
STVI				LR	LR			
	comp=Z,1397µm,22.0s							
060A	**Indiantown**	**150.20**	**348**	PKiKP		**PKPbc**	**08 58 25.9**	**-1.4**
	baz=13							
059A	**Moore Haven**	**150.42**	**349**	PKiKP		**PKPbc**	**08 58 26.4**	**-1.4**
	baz=12							
LNIG	**Linares**	**150.43**	**23**	*e*PKPdf		**PKPdf**	**08 58 21.9**	**-0.7**
LNIG				LR	LR			
	comp=Z,1041µm,21.0s							
CDVI	**St. Croix**	**150.44**	**313**	*e*PKPbc		**PKPbc**	**08 58 28.4**	**+0.4**
058A	**Arcadia**	**150.45**	**351**	PKiKP		**PKPbc**	**08 58 26.4**	**-1.4**
	baz=10							
TOSP	**Speyside**	**150.46**	**298**	*e*P		**PKPbc**	**08 58 26.6**	**-1.6**
ZAIG	**Zacatecas**	**150.87**	**31**	*e*PKPdf		**PKPdf**	**08 58 24.9**	**+1.2**
CBYP	**Canovanas**	**150.88**	**315**	*e*PKPdf		**PKPdf**	**08 58 26.0**	**+2.5**
CBYP				LR	LR			
	comp=Z,1422µm,22.0s							
GRSS	**Sisters**	**150.95**	**300**	*e*P		**PKPbc**	**08 58 31.0**	**+1.6**
GRHS	**Sauteurs**	**151.01**	**300**	*e*P		**PKPbc**	**08 58 32.0**	**+2.5**
059Z	**Ave Maria**	**151.09**	**350**	PKiKP		**PKPbc**	**08 58 27.7**	**-1.7**
	baz=11							
SJG	**San Juan**	**151.19**	**315**	*e*PKPbc		**PKPbc**	**08 58 29.7**	**-0.1**
SJG				LR	LR			
	comp=Z,1096µm,21.0s							
SJG	**San Juan**	**151.19**	**315**	*e*PKIKP		**PKPbc**	**08 58 29.7**	**-0.1**
SJG				MLR	MLR			
	comp=Z,1096µm,21.0s							
YJA	**Yavi**	**151.22**	**225**	*i* P		**PKPbc**	**08 58 28.1**	**-2.2**
TBH	**Brigand Hill**	**151.27**	**297**	*e*P		**PKPab**	**08 58 38.2**	**+0.1**
AOPR	**Arecibo Observ**	**151.45**	**317**	*e*PKPbc		**PKPbc**	**08 58 29.0**	**-1.5**
AOPR				LR	LR			
	comp=Z,979µm,22.0s							
TRN	**Trinidad (W)**	**151.50**	**297**	*e*P		**PKPbc**	**08 58 33.5**	**+2.8**
OBIP	**Obispado Ponce**	**151.56**	**316**	*e*PKPdf		**PKPdf**	**08 58 26.8**	**+2.4**
GRTK	**Grand Turk**	**151.76**	**327**	*e*PKPbc		**PKPbc**	**08 58 32.4**	**+1.3**
GRTK				LR	LR			
	comp=Z,1470µm,22.0s							
MPR	**Mayaguez**	**151.81**	**317**	*e*PKPbc		**PKPbc**	**08 58 30.2**	**-1.0**
CRPR	**Cabo Rojo, PR**	**151.93**	**317**	*e*PKPbc		**PKPbc**	**08 58 31.0**	**-0.5**
CRPR				LR	LR			
	comp=Z,2445µm,21.0s							
PB14	**IPOC Station P**	**152.58**	**214**	*e*P		**PKPdf**	**08 58 24.9**	**-1.3**
PTGA	**Pitinga**	**152.95**	**273**	*e*PKPdf		**PKPdf**	**08 58 27.9**	**+1.2**
SDD	**Santo Domingo**	**153.44**	**321**	*e*PKPdf		**PKPdf**	**08 58 26.1**	**-1.1**
SDD				LR	LR			
	comp=Z,1143µm,20.0s							
PB10	**IPOC Station P**	**153.53**	**216**	*e*PKPdf		**PKPbc**	**08 58 31.2**	**-3.7**
PB10				LR	LR			
	comp=Z,1554µm,20.0s							
PB10	**IPOC Station P**	**153.53**	**216**	*i* P		**PKPdf**	**08 58 27.9**	**+0.6**
JRQG	**Juriquilla Cam**	**153.66**	**29**	*e*PKPdf		**PKPdf**	**08 58 29.3**	**+1.4**
SDDR	**Presa de Saban**	**153.87**	**324**	PFAKE			08 58 40.0	+4.2
SDDR				LR	LR			
	comp=Z,1741µm,21.0s							
MOIG	**Morelia**	**154.14**	**32**	*e*PKPdf		**PKPdf**	**08 58 29.7**	**+1.2**
PB04	**IPOC Station P**	**154.18**	**218**	*e*PKPbc		**PKPbc**	**08 58 37.5**	**+0.9**
PB04				LR	LR			
	comp=Z,1769µm,20.0s							
PB07	**IPOC Station P**	**154.46**	**219**	*e*P		PKPpre	08 58 23.6	
PB01	**IPOC Station P**	**154.70**	**221**	PFAKE			08 58 40.0	+2.4
PB01				LR	LR			
	comp=Z,1242µm,22.0s							
LGNH	**LØogne**	**154.99**	**326**	*e*PKPdf		**PKPdf**	**08 58 31.0**	**+1.6**
GTBY	**Guantanamo Bay**	**155.08**	**333**	*e*PKPdf		**PKPdf**	**08 58 31.4**	**+1.9**
GTBY				LR	LR			
	comp=Z,1308µm,21.0s							
PB08	**IPOC Station P**	**155.10**	**223**	⇓*i* P		**PKPdf**	**08 58 31.4**	**+1.4**
UNM	**Universidad Na**	**155.45**	**29**	*e*PKPdf		**PKPdf**	**08 58 31.4**	**+1.0**
UNM				LR	LR			
	comp=Z,1020µm,22.0s							
UNM	**Universidad Na**	**155.45**	**29**	*e*PKIKP		**PKPdf**	**08 58 31.4**	**+1.0**
UNM				MLR	MLR			
	comp=Z,1020µm,22.0s							
PB11	**IPOC Station P**	**155.70**	**223**	*e*PKPdf		**PKPdf**	**08 58 31.2**	**+0.7**
PB11				LR	LR			
	comp=Z,1717µm,22.0s							
MNMC	**Minye Minye**	**156.09**	**224**	*e*PKPdf		**PKPdf**	**08 58 32.4**	**+1.1**
MNMC				LR	LR			
	comp=Z,1818µm,22.0s							
LVIG	**Laguna Verde**	**156.29**	**23**	*e*PKPdf		**PKPdf**	**08 58 33.3**	**+2.2**
LVIG				LR	LR			
	comp=Z,574µm,21.0s							
LPAZ	**La Paz**	**156.78**	**232**	PKP		**PKPdf**	**08 58 33.5**	**+0.9**
	comp=Z,13nm,0.9s,baz=64,slow=3.8,SNR=22							
LPAZ				PKPbc		**pPKPdf**	**08 58 41.9**	**+0.4**
	comp=Z,163nm,1.0s,baz=46,slow=3.2,SNR=58							
MYIG	**MØrida**	**156.79**	**7**	PFAKE			08 58 40.0	+8.3
MYIG				LR	LR			
	comp=Z,1560µm,22.0s							
PB12	**IPOC Station P**	**156.95**	**224**	⇓*i* P		**PKPdf**	**08 58 32.7**	**+0.6**
MTDJ	**Mount Denham**	**157.64**	**336**	PFAKE			08 58 40.0	+7.0
MTDJ				LR	LR			
	comp=Z,1525µm,22.0s							
TEIG	**Tepich**	**157.64**	**3**	PFAKE			08 58 40.0	+7.2
TEIG				LR	LR			
	comp=Z,861µm,20.0s							
SDV	**Santo Domingo**	**160.31**	**304**	*e*PKPdf		**PKPdf**	**08 58 38.2**	**+1.8**
CODC	**Agust¯n Codaz**	**161.89**	**312**	*e*P		**PKPdf**	**08 58 37.8**	**0.0**
OCAC	**Ocana**	**162.85**	**308**	*e*P		**PKPdf**	**08 58 39.8**	**+0.8**
PAMC	**Pamplona, Colo**	**162.86**	**304**	*e*P		**PKPdf**	**08 58 46.1**	**+6.6**
BARC	**Barichara**	**163.66**	**303**	*e*P		**PKPdf**	**08 58 41.6**	**+1.7**
BRRC	**Barranca, Sant**	**163.82**	**305**	*e*P		**PKPdf**	**08 58 41.3**	**+1.6**
RUSC	**La Rusia**	**163.94**	**300**	*e*PKPdf		**PKPdf**	**08 58 40.2**	**-0.3**
RUSC	**La Rusia**	**163.94**	**300**	*e*P		**PKPdf**	**08 58 40.5**	**0.0**
MOTC	**Monteria, Cord**	**164.28**	**314**	*e*P		**PKPdf**	**08 58 39.6**	**-0.6**
PTBC	**PUERTO BERRIO**	**164.75**	**305**	*e*P		**PKPdf**	**08 58 40.4**	**-0.2**
GUVC	**San Jose del G**	**164.88**	**280**	*e*P		**PKPdf**	**08 58 47.8**	**+7.1**
CHIC	**Chingaza**	**165.10**	**297**	*e*P		**PKPdf**	**08 58 40.2**	**-1.3**
ROSC	**El Rosal**	**165.52**	**299**	PKP		**PKPdf**	**08 58 41.9**	**+0.2**
	comp=Z,26nm,1.0s,baz=123,slow=3.9,SNR=27							
ROSC	**El Rosal**	**165.52**	**299**	*e*PKPdf		**PKPdf**	**08 58 42.2**	**+0.5**
ROSC	**El Rosal**	**165.52**	**299**	*e*P		**PKPdf**	**08 58 43.6**	**+1.9**
CAPC	**Capurgana**	**165.55**	**318**	*e*P		**PKPdf**	**08 58 39.0**	**-2.3**
NORC	**Norcasia**	**165.63**	**303**	*e*P		**PKPdf**	**08 58 40.9**	**-0.5**
HELC	**Santa Helena**	**165.82**	**306**	*e*PKPdf		**PKPdf**	**08 58 41.9**	**0.0**
HELC	**Santa Helena**	**165.82**	**306**	*e*P		**PKPdf**	**08 58 34.9**	**-7.1**
GUYC	**Guyana, Colomb**	**166.25**	**303**	*e*P		PKPdf	08 58 50.4	+8.0
RREF	**El Recreo**	**166.38**	**301**	*e*P		**PKPdf**	**08 58 40.7**	**-2.0**
PRAC	**Prado**	**166.54**	**296**	*e*PKPdf		**PKPdf**	**08 58 42.2**	**+0.1**
PRAC	**Prado**	**166.54**	**296**	*e*P		**PKPdf**	**08 58 42.3**	**+0.2**
BCIP	**Isla Barro Col**	**166.62**	**328**	*e*PKPdf		**PKPdf**	**08 58 43.0**	**+0.9**
ANIL	**Santa Ana**	**166.63**	**300**	*e*P		**PKPdf**	**08 58 44.0**	**+1.5**
PLMC	**San Jos¯ del**	**167.17**	**304**	*e*P		**PKPdf**	**08 58 43.8**	**+1.2**
BETC	**Betania**	**167.47**	**293**	*e*P		**PKPdf**	**08 58 49.2**	**+6.4**
HDC	**Heredia**	**167.51**	**347**	*e*PKPdf		**PKPdf**	**08 58 44.8**	**+1.9**
MARP	**Paez Belalcaza**	**167.87**	**295**	*e*P		**PKPdf**	**08 58 41.9**	**-1.5**
FLOC	**Florencia**	**168.05**	**288**	*e*P		**PKPdf**	**08 58 39.6**	**-3.6**
CFLOR	**Florencia**	**168.05**	**288**	*e*P		**PKPdf**	**08 58 48.1**	**+4.9**
PCON	**Cinco Dias**	**168.48**	**293**	*e*P		**PKPdf**	**08 58 45.7**	**+1.6**
MALC	**Bahia Malaga**	**168.53**	**303**	*e*P		**PKPdf**	**08 58 50.2**	**+6.7**
POPC	**Popayan, Colom**	**168.65**	**295**	*e*P		**PKPdf**	**08 58 43.1**	**-0.8**
CRUC	**La Cruz**	**169.28**	**291**	*e*P		**PKPdf**	**08 58 48.0**	**+3.6**
CPAS2	**Pasto**	**169.68**	**289**	*e*P		**PKPdf**	**08 58 50.0**	**+5.3**
CPAS1	**Pasto**	**169.76**	**289**	*e*P		**PKPdf**	**08 58 52.5**	**+7.7**
GRGC	**Isla de Gorgon**	**169.76**	**301**	*e*P		**PKPdf**	**08 58 48.4**	**+4.1**
GCUF	**Volcan Galeras**	**169.77**	**290**	*e*P		**PKPdf**	**08 58 41.3**	**-3.6**
CMBC	**Cumbal**	**170.31**	**289**	*e*P		**PKPdf**	**08 58 50.1**	**+5.0**
OTAV	**Otavalo**	**171.12**	**286**	*e*PKPdf		**PKPdf**	**08 58 45.7**	**+0.1**
OTAV	**Otavalo**	**171.12**	**286**	*e*P		**PKPdf**	**08 58 46.0**	**+0.4**

*ATA **11** 08:39:55.8±1.6, 39°.83N×40°.59E, h20km±9km, ML3.5, MW3.4*
*ISK **11** 08:39:55.7, 39°.81N×40°.55E, h2km, ML2.9/11*
*CSEM **11** 08:39:56.6±0.1, 39°.82N×40°.57E, h2km, ML3.1, Error ellipse: s-maj=3.5km s-min=3.0km az=28.0*
*DDA **11** 08:39:56.5, 39°.81N×40°.57E, h7km, Ml3.1*

ISC 11 08:39:56.6±1.0, 39°.81N±0°.02×40°.56E±0°.02, h8km±9km, n64, σ0°83/91, 1D, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ECAT	**Cat-ERZURUM**	**0.38**	**122**	⇓*i* P		**Pg**		**08 40 04.2**	**+0.1**
ECAT				IAML				08 40 10.5	
	comp=Z,366nm,0.2s								
ECAT	**Cat-ERZURUM**	**0.38**	**122**	*i* P		**Pg**		**08 40 04.2**	**+0.1**
ECAT				*i* S		**Sg**		**08 40 09.5**	**+0.5**
ECAT	**Cat-ERZURUM**	**0.38**	**122**	P		**Pg**		**08 40 04.2**	**+0.1**
ECAT				S		**Sg**		**08 40 09.5**	**+0.5**
BAYB	**BAYBURT**	**0.51**	**333**	*i* P		**Pg**		**08 40 06.7**	**+0.3**
BAYB				*e*S		**Sb**		**08 40 14.9**	**-0.7**
BAYB				IAML				08 40 18.8	
	comp=Z,100nm,0.5s								
BAYB	**BAYBURT**	**0.51**	**333**	*i* P		**Pg**		**08 40 06.8**	**+0.3**
BAYB				*i* S		**Sb**		**08 40 14.8**	**-0.7**
BAYB	**BAYBURT**	**0.51**	**333**	P		**Pg**		**08 40 06.8**	**+0.3**
BAYB				S		**Sb**		**08 40 14.8**	**-0.7**
ERZM	**Erzurum**	**0.63**	**81**	*e*P		**Pg**		**08 40 08.0**	**-0.8**
ERZM				*e*S		**Sg**		**08 40 17.0**	**0.0**
ERZM	**Erzurum**	**0.63**	**81**	*i* P		**Pg**		**08 40 07.9**	**-0.8**
ERZM				*i* S		**Sb**		**08 40 17.8**	**-1.3**
ERZM	**Erzurum**	**0.63**	**81**	P		**Pg**		**08 40 07.9**	**-0.8**
ERZM				S		**Sb**		**08 40 17.8**	**-1.3**
BAYT	**Ayd¯n–ntepe-Bay**	**0.67**	**331**	PG		**Pg**		**08 40 09.5**	**0.0**
BAYT				SG		**Sg**		**08 40 18.8**	**+0.6**
BAYT	**Ayd¯n–ntepe-Bay**	**0.67**	**331**	*e*Pg		**Pg**		**08 40 09.5**	**0.0**
BAYT				*e*Sg		**Sg**		**08 40 18.8**	**+0.6**
ERZN	**Erzincan**	**0.68**	**251**	PG		**Pg**		**08 40 08.4**	**-1.4**
ERZN				SG		**Sb**		**08 40 20.1**	**-0.4**
BNGB	**Bing¯l**	**0.82**	**173**	PG		**Pg**		**08 40 11.9**	**-0.5**
BGOL	**Bingol**	**0.82**	**174**	*i* P		**Pg**		**08 40 10.8**	**-1.6**
BGOL	**Bingol**	**0.82**	**174**	P		**Pg**		**08 40 10.8**	**-1.6**
BINT	**Bingol**	**0.93**	**183**	*e*Pg		**Pg**		**08 40 11.9**	**-2.6**
VRTB	**Varto-Mus**	**0.95**	**133**	PG		**Pg**		**08 40 14.9**	**+0.2**
VRTB	**Varto-Mus**	**0.95**	**133**	*i* P		**Pg**		**08 40 15.0**	**+0.2**
VRTB	**Varto-Mus**	**0.95**	**133**	P		**Pg**		**08 40 15.0**	**+0.2**
TNCL	**Tunceli-Merkez**	**1.05**	**229**	*e*P		**Pn**		**08 40 17.6**	**-0.1**
TNCL				*e*S		**Sn**		**08 40 32.9**	**+0.2**
TNCL	**Tunceli-Merkez**	**1.05**	**229**	*i* P		**Pn**		**08 40 17.7**	**-0.1**
TNCL				*i* S		**Sn**		**08 40 33.0**	**+0.4**
TNCL	**Tunceli-Merkez**	**1.05**	**229**	P		**Pn**		**08 40 17.7**	**-0.1**
TNCL				S		**Sn**		**08 40 33.0**	**+0.4**
KELT	**Kelkit**	**1.06**	**289**	*e*P		**Pg**		**08 40 16.1**	**-0.9**
KELT	**Kelkit**	**1.06**	**289**	*i* P		**Pg**		**08 40 16.1**	**-0.9**
KELT				*i* S		**Sg**		**08 40 31.0**	**+0.3**
KELT	**Kelkit**	**1.06**	**289**	P		**Pg**		**08 40 16.0**	**-0.9**
KELT				S		**Sg**		**08 40 31.0**	**+0.3**
HOMI	**Horasan**	**1.06**	**77**	*e*P		**Pg**		**08 40 15.4**	**-1.6**
HOMI				*e*S		**Sb**		**08 40 31.8**	**+0.2**
HOMI				IAML				08 40 45.3	
	comp=Z,57nm,0.6s								
HOMI	**Horasan**	**1.06**	**77**	*i* P		**Pg**		**08 40 15.6**	**-1.4**
HOMI				*i* S		**Sn**		**08 40 33.3**	**+0.2**
PTK	**Pertek**	**1.29**	**225**	PN		**Pn**		**08 40 21.3**	**+0.2**
PTK	**Pertek**	**1.29**	**225**	*e*Pn		**Pn**		**08 40 21.3**	**+0.2**
EKAR	**Karacoban**	**1.29**	**115**	*e*P		**Pn**		**08 40 20.8**	**-0.4**
EKAR				*e*S		**Sn**		**08 40 40.4**	**+1.7**
EKAR				IAML				08 40 49.6	
	comp=Z,51nm,0.5s								
EKAR	**Karacoban**	**1.29**	**115**	*i* P		**Pn**		**08 40 20.7**	**-0.4**
EKAR				*i* S		**Sn**		**08 40 41.9**	**+3.1**
EKAR	**Karacoban**	**1.29**	**115**	P		**Pn**		**08 40 20.7**	**-0.4**
CHOM	**Cayeli-Rize**	**1.30**	**7**	*e*Pn		**Pg**		**08 40 21.5**	**0.0**
KTUT	**Trabzon**	**1.32**	**333**	PN		**Pg**		**08 40 21.8**	**-0.2**
KTUT	**Trabzon**	**1.32**	**333**	*e*Pn		**Pg**		**08 40 21.8**	**-0.2**
HANI	**Diyarbakir_Han**	**1.40**	**185**	*i* P		**Pb**		**08 40 23.3**	**+0.3**
HANI				*i* S		**Sg**		**08 40 42.9**	**+1.4**
HANI	**Diyarbakir_Han**	**1.40**	**185**	P		**Pb**		**08 40 23.3**	**+0.3**
HANI				S		**Sg**		**08 40 42.9**	**+1.4**
REFA	**Refahiye_ERZ¯**	**1.45**	**254**	*e*P		**Pn**		**08 40 22.5**	**-0.8**
REFA	**Refahiye_ERZ¯**	**1.45**	**254**	*i* P		**Pn**		**08 40 23.6**	**+0.3**
REFA	**Refahiye_ERZ¯**	**1.45**	**254**	P		**Pn**		**08 40 23.6**	**+0.3**
DBAD	**Bademkaya**	**1.49**	**35**	*i* P		**Pn**		**08 40 23.9**	**+0.1**
DBAD				*i* S		**Sn**		**08 40 42.7**	**-0.8**
DBAD	**Bademkaya**	**1.49**	**35**	P		**Pn**		**08 40 23.9**	**+0.1**
DBAD				S		**Sn**		**08 40 42.7**	**-0.8**
EATA	**Eleskirt**	**1.49**	**87**	*i* P		**Pg**		**08 40 25.2**	**+0.1**
EATA	**Eleskirt**	**1.49**	**87**	P		**Pg**		**08 40 25.2**	**+0.1**
SENK	**Senkaya-Erzuru**	**1.56**	**61**	PN		**Pb**		**08 40 25.3**	**-0.7**
SENK	**Senkaya-Erzuru**	**1.56**	**61**	*e*Pn		**Pb**		**08 40 25.3**	**-0.7**
KEMA	**Kemaliye**	**1.69**	**252**	*e*P		**Pb**		**08 40 27.4**	**-0.6**
KEMA				*e*S		**Sg**		**08 40 51.3**	**+0.5**
KEMA				IAML				08 40 56.1	
	comp=Z,8.8nm,0.4s								
KEMA	**Kemaliye**	**1.69**	**252**	*i* P		**Pb**		**08 40 27.7**	**-0.2**
KEMA	**Kemaliye**	**1.69**	**252**	P		**Pb**		**08 40 27.7**	**-0.2**
ESPY	**Espiye-Giresun**	**1.79**	**309**	PN		**Pn**		**08 40 28.6**	**+0.8**
ESPY	**Espiye-Giresun**	**1.79**	**309**	*e*Pn		**Pn**		**08 40 28.6**	**+0.8**
TUTA	**Tutak**	**1.79**	**102**	*e*P		**Pb**		**08 40 29.7**	**-0.1**
TUTA				*e*S		**Sg**		**08 40 54.6**	**+0.5**
TUTA				IAML				08 40 60.0	
	comp=Z,38nm,0.2s								
TUTA	**Tutak**	**1.79**	**102**	*i* P		**Pb**		**08 40 29.9**	**+0.1**
TUTA				*i* S		**Sg**		**08 40 54.8**	**+0.7**
TUTA	**Tutak**	**1.79**	**102**	P		**Pb**		**08 40 29.9**	**+0.1**
ELZG	**Elazig**	**1.79**	**224**	*i* P		**Pn**		**08 40 28.5**	**+0.5**
ELZG	**Elazig**	**1.79**	**224**	P		**Pn**		**08 40 28.5**	**+0.5**
AGRB	**Hanur-Agry**	**1.89**	**96**	PN		**Pb**		**08 40 30.9**	**-0.6**
AGRB	**Hanur-Agry**	**1.89**	**96**	*e*Pn		**Pb**		**08 40 30.9**	**-0.6**
SRTM	**Siirt_Merkez**	**2.10**	**149**	*i* P		**Pb**		**08 40 34.4**	**-0.6**
SRTM	**Siirt_Merkez**	**2.10**	**149**	P		**Pb**		**08 40 34.4**	**-0.6**
MAZI	**Mazidag**	**2.35**	**182**	PN		**Pn**		**08 40 36.6**	**+1.0**
MAZI	**Mazidag**	**2.35**	**182**	*e*Pn		**Pn**		**08 40 36.6**	**+1.0**
SVSK	**Karacayir**	**2.74**	**273**	PN		**Pn**		**08 40 42.0**	**+1.1**
SVSK	**Karacayir**	**2.74**	**273**	*e*Pn		**Pn**		**08 40 42.0**	**+1.1**

GUC 11 08:50:30.2±0.5, 24°.13S×67°.35W, h182km±16km, ML4.0, 6C-1D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GO02	**Mina Guanaco**	**2.28**	**243**	⇑*i* P		**Pn**		**08 51 11.9**	**+1.1**
GO02				*i* S		Sn		08 51 44.6	+2.2
GO02				IAML				08 51 46.4	
	comp=N,454nm,0.4s								
PB06	**IPOC Station P**	**2.49**	**304**	⇑*i* P		Pn		08 51 14.8	+1.7
PB06				*i* S		Sn		08 51 48.2	+1.8
PB06				IAML				08 51 49.5	
	comp=E,355nm,0.2s								
ANCH	**Antofagasta**	**2.84**	**278**	⇑*i* P		Pn		08 51 27.9	+11
ANCH				*i* S		Sn		08 52 04.1	+11
PB09	**IPOC Station P**	**2.91**	**323**	*e*P		Pn		08 51 19.8	+1.7
PB09				*i* S		Sn		08 51 57.1	+1.8
PB09				IAML				08 51 58.4	
	comp=E,309nm,0.3s								
PB10	**IPOC Station P**	**3.00**	**281**	⇑*i* P		Pn		08 51 20.5	+1.5
PB10				*i* S		Sn		08 51 58.8	+1.8
PB10				IAML				08 52 02.3	
	comp=E,522nm,0.5s								
PB04	**IPOC Station P**	**3.14**	**304**	⇓*i* P		Pn		08 51 22.1	+1.3
PB04				*i* S		Sn		08 52 01.2	+1.0
PB04				IAML				08 52 03.8	
	comp=E,195nm,0.2s								
PB07	**IPOC Station P**	**3.35**	**315**	IAML				08 52 08.6	
	comp=E,172nm,0.3s								
PB01	**IPOC Station P**	**3.66**	**327**	⇑*i* P		Pn		08 51 27.4	+0.2
PB01				*i* S		Sn		08 52 12.0	+0.3
PB01				IAML				08 52 19.5	
	comp=E,64nm,0.2s								
PB02	**IPOC Station P**	**3.66**	**319**	⇑*i* P		Pn		08 51 27.6	+0.4
PB02				*i* S		Sn		08 52 12.2	+0.4

IDC 11 08:51:32.8±1.6, 2°.44N×92°.60E, h0km, mb4.9/6, mb1 5.1/6, mb1mx4.5/68, mbtmp4.9/6, Error ellipse: s-maj=67.3km s-min=21.8km az=55.0, X, Off west coast of northern Sumatera

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

MKAR	**Makanchi Array**	**45.09**	**350**	P		P		**08 59 51.4**	**+0.6**
	32nm,0.9s,baz=176,slow=7.9,SNR=5.2							
WRA	**Warramunga Arr**	**46.61**	**120**	P		P		**09 00 03.1**	**0.0**
	22nm,1.0s,baz=300,slow=8.8,SNR=2.7							
SONM	**Songino Array**	**46.77**	**13**	P		P		**09 00 04.0**	**-0.1**
	14nm,0.9s,baz=196,slow=8.4,SNR=2.0							
ASAR	**Alice Springs**	**47.84**	**125**	P		P		**09 00 12.7**	**0.0**
	8.4nm,0.8s,baz=292,slow=8.3,SNR=2.7							
ZALV	**Zalesovo Beam**	**51.74**	**354**	P		P		**09 00 41.2**	**-0.7**
	43nm,1.1s,baz=177,slow=6.3,SNR=3.5							
GERES	**GERESS Array B**	**80.86**	**319**	P		P		**09 03 49.1**	**+0.2**
	7.8nm,1.0s,baz=120,slow=5.8,SNR=2.5							
TXAR	**Lajitas Array**	**144.78**	**25**	PKP		PKPab		**09 11 11.0**	**-0.4**
	58nm,1.3s,baz=232,slow=1.0,SNR=3.0							

MEX 11 08:53:00.8±0.4, 16°.44N×98°.38W, h14km±4km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.25**	**101**	*i* P		Pg		08 53 05.8	-0.3
PNIG				*i* S		Sg		08 53 09.3	-0.4
TLIG	**Tlapa**	**1.13**	**351**	*e*P		Pb		08 53 21.0	-1.3
TLIG				*e*S		Sb		08 53 32.5	-4.4
VHO	**Vista Hermosa**	**1.70**	**68**	*e*P		Pn		08 53 26.6	-3.6
VHO				*e*S		Sn		08 53 47.4	-4.5
CAIG	**El Cayaco**	**1.91**	**289**	*e*P		Pn		08 53 30.9	-2.0
CAIG				*i* S		Sn		08 53 52.1	-4.7
PLIG	**Platanillo**	**2.22**	**331**	*e*P		Pn		08 53 37.7	+0.4
PLIG				*e*S		Sn		08 54 00.5	-4.2

IDC 11 08:53:25.9±3.8, 1°.74N×90°.89E, h0km, mb4.8/2, mb1 4.8/3, mb1mx4.1/68, mbtmp4.7/3, ML4.5/1, Error ellipse: s-maj=100.1km s-min=75.2km az=99.0, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**18.39**	**25**	P		P		**08 57 43.4**	**+0.8**
	0.6

BVAR	Borovoye Array	54.54	344	P		P	09 05 14.5	-0.5	
	comp=Z,25nm,0.9s,baz=141,slow=8.5,SNR=7.3								
USRK	Ussuriysk Ar.	55.66	34	P		P	09 05 23.8	+0.5	
	comp=Z,7.1nm,0.8s,baz=243,slow=8.9,SNR=9.9								
KBZ	Khabaz	60.51	321	P		P	09 05 58.0	+0.8	
	comp=Z,36nm,0.9s,baz=129,slow=6.3,SNR=7.3								
KBZ	Khabaz	60.51	321	P		P	09 05 58.0	+0.8	
BR131	Keskin Array S	65.06	314	*eP*		P	09 06 27.6	-0.3	
BRTR	Keskin Array B	65.06	314	P		P	09 06 27.0	-0.9	
	comp=Z,5.4nm,0.6s,baz=132,slow=5.4,SNR=9.5								
BR231	Keskin MP Arra	65.73	314	*eP*		P	09 06 28.1	-4.0	
HNR	Honiara	68.75	101	*eP*		P	09 06 52.1	+0.5	
	comp=Z,93nm,0.7s								
HNR	Honiara	68.75	101	*eP*		P	09 06 52.1	+0.5	
HNR					pmax	pmax			
	comp=Z,93nm,0.7s								
OBN	Obninsk	69.74	330	*eP*		P	09 06 55.5	-1.5	
OBN					pmax	pmax			
	comp=Z,32nm,0.9s								
BOSA	Boshof	70.10	239	P		P	09 06 59.4	-0.5	
	comp=Z,9.1nm,0.8s,baz=78,slow=3.8,SNR=7.5								
TIRR	Tirgusor	70.31	317	*i*P		P	09 07 00.9	+0.2	
HARR	Harsova	70.71	317	*i*P		P	09 07 04.3	+1.1	
LEOM	Leova	71.07	319	*i*P		P	09 07 06.6	+1.3	
SORM	Soroca	71.55	321	*i*P		P	09 07 08.8	+0.6	
VRI	Vrincioaia	71.88	318	*i*P		P	09 07 10.9	+0.6	
AKASG	Malin Array Be	71.91	324	P		P	09 07 09.7	-0.6	
	comp=Z,11nm,0.5s,baz=90,slow=5.1,SNR=19								
PLOR	Plostina	71.93	318	*i*P		P	09 07 11.6	+1.0	
AK11	Malin Array Si	71.93	324	*eP*		P	09 07 09.8	-0.6	
TESR	Tescani	72.13	319	*i*P		P	09 07 11.7	0.0	
MLR	Muntele Rosu	72.29	318	*i*P		P	09 07 13.4	+0.5	
PRAR	RASCA	72.66	320	*i*P		P	09 07 15.5	+0.6	
BURAR	Bucovina Array	73.39	320	*i*P		P	09 07 18.8	-0.5	
BUR04	Bucovina Ar. S	73.39	320	*eP*		P	09 07 20.4	+1.0	
BUR08	Bucovina Ar. S	73.41	320	*eP*		P	09 07 20.1	+0.6	
VTS	Vitosha	73.43	314	*i*P		P	09 07 17.9	-1.8	
FINES	FINESS Array B	77.44	333	P		P	09 07 41.6	-0.5	
	comp=Z,22nm,0.8s,baz=102,slow=5.2,SNR=9.4								
OKC	Ostrava-Krasne	78.47	321	*eP*		P	09 07 48.6	+0.4	
OKC	Ostrava-Krasne	78.47	321	*eP*		P	09 07 48.6	+0.4	
KRLC	Kraliky	79.39	321	*eP*		P	09 07 54.5	+1.2	
KRLC	Kraliky	79.39	321	*eP*		P	09 07 54.5	+1.2	
ARSA	Arzberg	79.71	318	*eP*		P	09 07 55.7	+0.6	
	comp=Z,27nm,1.0s								
DPC	Dobruska-Polom	79.73	321	*eP*		P	09 07 56.6	+1.5	
DPC	Dobruska-Polom	79.73	321	*eP*		P	09 07 56.6	+1.5	
UPC	Upice	79.95	321	*eP*		P	09 07 58.1	+1.8	
UPC				*ep*		PcP	09 08 02.8	-1.0	
UPC	Upice	79.95	321	*eP*		P	09 07 58.1	+1.8	
UPC				*e*			09 08 02.8		
SOKA	Soboth	79.95	317	*eP*		P	09 07 57.3	+0.8	
	comp=Z,18nm,1.1s								
GOPC	GO Pecny, Ondr	80.63	320	*eP*		P	09 08 00.9	+1.0	
GOPC				*ep*		PcP	09 08 06.1	-0.6	
GOPC	GO Pecny, Ondr	80.63	320	*eP*		P	09 08 00.9	+1.0	
GOPC				*e*			09 08 06.1		
ARCES	ARCESS Array B	80.65	341	P		P	09 08 00.2	+0.5	
	comp=Z,29nm,0.8s,baz=89,slow=6.5,SNR=14								
PRU	Pruhonice	80.79	320	*eP*		P	09 08 01.9	+1.1	
PRU	Pruhonice	80.79	320	*eP*		P	09 08 01.9	+1.1	
PVCC	Panska Ves	80.86	321	*eP*		P	09 08 02.9	+1.8	
PVCC	Panska Ves	80.86	321	*eP*		P	09 08 02.9	+1.8	
MYKA	Terra Mystica	80.90	317	*eP*		P	09 08 02.0	+0.5	
	comp=Z,12nm,0.7s								
GEA0	GERESS Array S	81.16	319	*eP*		P	09 08 03.5	+0.5	
GEC2	GERESS Array S	81.17	319	*eP*		P	09 08 04.1	+1.1	
	comp=Z,74nm,0.9s								
GEC2	GERESS Array S	81.17	319	*eP*		P	09 08 04.1	+1.1	
GEC2					pmax	pmax			
	comp=Z,74nm,0.9s								
GERES	GERESS Array B	81.17	319	P		P	09 08 03.9	+0.9	
	comp=Z,43nm,0.8s,baz=103,slow=4.2,SNR=23								
KHC	Kasperske Hory	81.29	319	*eP*		P	09 08 05.1	+1.6	
KHC	Kasperske Hory	81.29	319	*eP*		P	09 08 05.1	+1.6	
CLL	Collm	81.96	322	*i*P		P	09 08 07.6	+0.7	
CLL	Collm	81.96	322	*i*P		P	09 08 08.3	+1.4	
WTTA	Wattenberg	82.34	317	*eP*		P	09 08 09.7	+0.4	
	comp=Z,10nm,0.7s								
WATA	Walderalm	82.39	317	*i*P		P	09 08 10.0	+0.5	
	comp=Z,6.2nm,0.4s								
MOTA	Moosalm	82.71	317	*eP*		P	09 08 10.7	-0.5	
	comp=Z,21nm,0.6s								
RETA	Reute	82.95	318	*eP*		P	09 08 12.7	+0.4	
	comp=Z,20nm,0.6s								
BILL	Bilibino	83.07	21	*eP*		P	09 08 12.1	-0.3	
BILL				*e*			09 11 22.6		
BILL				*eS*		S	09 18 33.4	+1.7	
BILL					pmax	pmax			
	comp=Z,8.0nm,0.8s								
BILL					MLR	MLR			
	comp=Z,1211μm,19.0s								
DAVA	Damuels	83.53	317	*eP*		P	09 08 15.9	+0.5	
	comp=Z,39nm,0.7s								
NB2	NORSAR Subarra	84.29	331	P		P	09 08 18.7	-0.2	
	comp=Z,3.3nm,0.8s,baz=98,slow=5.3								
NOA	NORSAR Array B	84.29	331	P		P	09 08 18.6	-0.2	
	comp=Z,6.1nm,0.8s,baz=101,slow=5.4,SNR=4.7								
SPITS	Spitsbergen Ar	85.77	348	P		P	09 08 25.8	-0.1	
	comp=Z,16nm,0.7s,baz=97,slow=3.3,SNR=7.9								
DAG	Danmarks Havn	93.36	348	*i*P		P	09 09 01.8	0.0	
DAG	Danmarks Havn	93.36	348	*eP*		P	09 09 01.8	0.0	
AFI	Afiamalu	96.61	104	*eP*		P	09 09 16.8	-1.2	
	comp=Z,94nm,0.9s								
AFI	Afiamalu	96.61	104	*eP*		P	09 09 16.8	-1.2	
AFI					pmax	pmax			
	comp=Z,94nm,0.9s								
WLAR	White Oak Lake	144.93	7	*e*PKPdf		PKPdf	09 15 25.1	+0.2	
Y48A	Jasper	144.98	358	P		PKPab	09 15 22.8	-1.5	
	baz=1.9								
Y47A	UCPARC, Winfie	145.01	359	P		PKPab	09 15 23.5	-0.8	
	baz=0.7								
Y49A	Blount Mountai	145.01	357	P		PKPab	09 15 23.1	-1.3	
	baz=3.2								
Y46A	Houston	145.02	1	P		PKPab	09 15 23.8	-0.6	
	baz=359								
Z40A	Long Farm, Mag	145.31	8	P		PKPdf	09 15 26.0	+0.4	
	baz=351								
Z41A	Richland Creek	145.39	7	P		PKPbc	09 15 25.5	-0.1	
	baz=352								
Z42A	Norrel Spur, H	145.46	5	P		PKPab	09 15 26.1	+0.1	
	baz=354								
Z48A	Northport	145.53	359	P		PKPbc	09 15 25.4	-0.6	
	baz=1.2								
Z44A	Pea Ridge, Bel	145.57	3	P		PKPab	09 15 26.5	+0.1	
	baz=356								
Z50A	Ashland	145.58	357	P		PKPdf	09 15 25.3	-0.9	
	baz=4.1								
Z49A	Columbiana	145.68	357	P		PKPdf	09 15 26.1	-0.2	
	baz=3.0								
Z47A	Carrollton	145.71	360	P		PKPdf	09 15 26.1	-0.2	
	baz=0.3								
155A	Kite	145.84	351	P		PKPbc	09 15 27.1	+0.1	
	baz=10								
LRAL	Lakeview Retre	145.85	358	P		PKPbc	09 15 26.8	-0.3	
	baz=2.2								
154A	Montrose	145.94	352	P		PKPab	09 15 27.5	-0.3	
	baz=9.2								
153A	Fort Valley	146.00	353	P		PKPab	09 15 27.8	-0.2	
	baz=7.9								
141A	Papa Simpson,	146.02	7	P		PKPab	09 15 28.4	+0.3	
	baz=352								
TXAR	Lajitas Array	146.19	25	PKPbc		PKPbc	09 15 28.4	+0.1	
	comp=Z,10nm,0.8s,baz=19,slow=1.5,SNR=14								
144A	Alexander Plac	146.22	3	P		PKPab	09 15 28.8	0.0	
	baz=356								
147A	Livingston	146.23	0	P		PKPbc	09 15 28.2	0.0	
	baz=360								
146A	Union	146.26	1	P		PKPbc	09 15 28.2	-0.1	
	baz=359								
151A	Opelika	146.26	356	P		PKPab	09 15 29.1	+0.1	
	baz=5.2								
241A	Mo Tay, Goldon	146.59	7	P		PKPbc	09 15 29.2	-0.1	
	baz=352								
251A	Midway	146.70	356	P		PKPbc	09 15 30.0	+0.4	
	baz=5.2								
252A	Lumpkin	146.74	355	P		PKPbc	09 15 29.7	-0.1	
	baz=6.4								
247A	Quitman	146.85	1	P		PKPab	09 15 31.0	-0.2	
	baz=359								
249A	Camden	146.91	358	P		PKPbc	09 15 30.4	+0.2	
	baz=2.1								
355A	Pearson	147.15	351	P		PKPbc	09 15 31.3	+0.4	
	baz=9.9								
TIGA	Tifton	147.16	353	P		PKPab	09 15 32.8	+0.2	
	baz=8.6								
342A	Flagon Creek P	147.30	6	P		PKPbc	09 15 31.9	+0.6	
	baz=352								
353A	Camilla	147.33	354	P		PKPbc	09 15 31.6	+0.2	
	baz=7.5								
344A	Westbrook Farm	147.37	4	P		PKPbc	09 15 32.2	+0.7	
	baz=355								
347A	Saraland	147.50	0	P		PKPdf	09 15 30.2	+0.8	
	baz=360								
449A	Pace	148.13	358	P		PKPbc	09 15 34.7	+1.0	
	baz=1.9								
555A	McAlpin	148.37	351	P		PKPbc	09 15 34.6	+0.4	
	baz=10								
556A	Lake Butler	148.40	350	P		PKPbc	09 15 34.6	+0.2	
	baz=11								
656A	Willston	149.04	350	P		PKPbc	09 15 36.6	+0.6	
	baz=11								

ISCJB ***11*** *09:00:09.5±0.2, 51°.41N±0°.04×176°.12W±0°.03, h47km, mb5.5/49, MS7.9/1, Error ellipse: s-maj=6.0km s-min=2.6km az=179.2*

NEIC ***11*** *09:00:09.7±0.0, 51°.36N×176°.10W, h21km, mb5.5/34, ML5.4(AEIC), After AEIC.*

NEIC Felt on Adak.

MOS ***11*** *09:00:10.6±1.0, 51°.76N×176°.21W, h43km, mb5.8/10, Error ellipse: s-maj=11.7km s-min=8.3km az=70.2*

IDC ***11*** *09:00:12.0±3.7, 51°.75N×176°.23W, h40km±33km, mb5.0/26, mb1 5.1/29, mb1mx4.8/83, mbtmp5.2/29, ML4.4/3, Error ellipse: s-maj=18.7km s-min=9.5km az=173.0*

BJI ***11*** *09:00:13.5, 51°.70N×176°.82W, h55km, mb5.6/9, mB5.3/4, Ms5.4/1, Ms7 5.2/1*

ISC 11 09:00:12.0±0.5, 51°44N±0°09×176°18W±0°04, h47km, n470, σ1§16/475, mb5.4/49, 5C-1D, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	ISC
				Op				
ETKA	Kagalaska Isla	0.45	342	P		Pn	09 00 20.7	-1.7
ADAG	Mount Adagdak	0.60	334	P		Pn	09 00 23.4	-0.9
GSTD	Great Sitkin T	0.62	2	P		Pn	09 00 23.4	-1.2
KIRH	Kanaga Island	0.73	309	P		Pn	09 00 25.2	-0.8
KIKV	Kanaga Island	0.76	306	P		Pn	09 00 25.5	-0.9
KINC	Kanaga Island	0.77	310	P		Pn	09 00 25.6	-0.9
TAPA	Tanaga Point A	1.08	291	P		Pn	09 00 30.3	-0.5
KOKL	Mount Kliuchef	1.51	53	P		Pn	09 00 35.5	-1.2
KOWE	Korovin West	1.51	51	P		Pn	09 00 35.8	-0.9
KOFP	Korovin Flat P	1.54	56	P		Pn	09 00 35.6	-1.4
GALAA	Gareloi Lava P	1.65	282	P		Pn	09 00 38.9	+0.5
OKAK	Okmok	5.24	63	P		Pn	09 01 27.5	-0.1
OKAK				S		Sn	09 02 29.5	+2.9
OKWE	Okmok W'ng Wal	5.26	64	P		Pn	09 01 29.8	+1.7
MSOM	Makushin Julie	6.11	63	P		Pn	09 01 40.4	+0.9
MSOM	Makushin Julie	6.11	63	P		Pn	09 01 40.4	+0.9
SMY	Shemya	6.13	286	P		Pn	09 01 39.7	-0.2
SMY				S		Sn	09 02 53.1	+4.6
SMY	Shemya	6.13	286	P		Pn	09 01 39.7	-0.2
SMY				S		Sn	09 02 53.2	+4.6
UNV	Unalaska Valle	6.37	64	P		Pn	09 01 43.8	+0.7
UNV				S		Sn	09 02 57.1	+2.7
AKRB	Akutan Reef Bi	6.70	62	P		Pn	09 01 49.8	+2.1
AHB	Akutan Harbor	6.84	63	P		Pn	09 01 51.8	+2.2
WESE	West Dahl East	7.63	62	P		Pn	09 02 02.2	+1.7
ISLZ	Isanotski Laza	8.20	61	P		Pn	09 02 09.2	+1.0
FALS	False Pass	8.40	61	P		Pn	09 02 12.6	+1.6
FALS				S		Sn	09 03 48.6	+4.3
DT1	Dutton Round H	9.10	61	P		Pn	09 02 20.8	+0.2
GAMB	Gambell	12.60	9	*e*Pn		Pn	09 03 08.9	+0.7
SVW2	Sparrevohn	14.91	42	*e*Pn		Pn	09 03 41.8	+2.3
KDAK	Kodiak Island	15.03	56	P		Pn	09 03 37.5	-3.5
	6.0nm,0.3s,baz=258,slow=4.8,SNR=44							
KDAK	Kodiak Island	15.03	56	*e*Pn		Pn	09 03 41.8	+0.9
	147nm,0.7s							
PETK	Petropavlovsk-	16.05	286	P		Pn	09 03 53.9	-0.3
	0.9nm,0.3s,baz=87,slow=14,SNR=5.6							
HOM	Homer	16.06	50	*e*Pn		Pn	09 03 53.7	-0.6
	368nm,0.8s							
BRLK	Bradley Lake	16.45	50	*e*Pn		Pn	09 03 57.8	-1.6
	406nm,1.8s							
PPLA	Purkeypile	17.22	39	*e*Pn		P	09 04 13.0	+3.1
	476nm,1.5s							
SKR	Severo-Kuril's	17.39	278	*eP*		P	09 04 21.7	+10
SKR					pmax	pmax		
	comp=Z,339nm,0.8s							
RC01	Rabbit Creek A	17.45	46	*e*Pn		Pn	09 04 11.9	+0.2
	comp=Z,199nm,1.3s							
CAST	Castle Rocks	17.53	38	*e*Pn		Pn	09 04 13.3	+0.7
	comp=Z,113nm,0.8s							
KTH	Kaishna Hill	18.05	38	*eP*		Pn	09 04 19.9	+0.8
	comp=Z,459nm,1.1s							
TRF	Thorofare Moun	18.24	39	*eP*		P	09 04 21.8	+0.5
	comp=Z,330nm,1.2s							
BPAW	Bear Paw Mtn.	18.31	37	*eP*		P	09 04 22.1	+0.3
	comp=Z,33nm,0.8s							
MID	Middleton Isla	18.59	53	*eP*		P	09 04 24.4	-0.5
	comp=Z,153nm,0.6s							
MID	Middleton Isla	18.59	53	*eP*		P	09 04 24.4	-0.5
MID					pmax	pmax		
	comp=Z,153nm,0.6s							
MLY	Manley	18.90	34	*eP*		P	09 04 28.8	+0.4
	comp=Z,163nm,0.8s							
MCK	McKinley	18.91	39	*eP*		P	09 04 27.2	-1.1
	comp=Z,168nm,0.8s							
MCK	McKinley	18.91	39	*eP*		P	09 04 27.3	-1.1
MCK					pmax	pmax		
	comp=Z,168nm,0.8s							
DHY	Denali Highway	19.25	42	*eP*		P	09 04 31.2	-1.2
	comp=Z,246nm,0.7s							
WRH	Wood River Hil	19.59	37	*eP*		P	09 04 34.4	-1.4
	comp=Z,119nm,1.0s							
COLA	College	19.87	37	*eP*		P	09 04 39.5	+0.7
	comp=Z,149nm,0.7s							
COLA	College	19.87	37	*eP*		P	09 04 39.5	+0.7
COLA					pmax	pmax		
	comp=Z,149nm,0.7s							
HARP	HAARP	19.96	45	*eP*		Pn	09 04 42.0	+0.1
	comp=Z,578nm,1.5s							
PAX	Paxson	20.02	43	*eP*		P	09 04 41.1	+0.6
	comp=Z,140nm,0.8s							
PAX	Paxson	20.02	43	*eP*		P	09 04 41.2	+0.6
PAX					pmax	pmax		
	comp=Z,140nm,0.8s							
ILAR	Eielson Array	20.18	37	P		P	09 04 39.8	-2.5
	comp=Z,3.1nm,0.3s,baz=250,slow=10,SNR=44							
COLD	Coldfoot	20.38	29	*eP*		P	09 04 46.0	+1.6
	comp=Z,133nm,0.9s							
TOLK	Toolik Lake Re	21.46	27	P		P	09 04 56.1	+0.1
	baz=230							
EGAK	Eagle	22.44	40	*eP*		P	09 05 05.5	-0.9
	comp=Z,284nm,1.2s							
CRAG	Craig	25.64	64	*eP*		P	09 05 38.6	+1.8
	comp=Z,142nm,0.8s							
DIB	Dawson Inlet,	26.47	69	*eP*		P	09 05 47.9	+3.6
	comp=Z,61nm,1.0s							
INK	Inuvik	26.48	34	P		P	09 05 42.9	-1.3
	comp=Z,12nm,0.4s,baz=218,slow=7.0,SNR=52							
YSS	Yuzh-Sakhalins	26.94	277	*eP*		P	09 05 49.8	+1.1
	comp=Z,286nm,1.0s							
YSS	Yuzh-Sakhalins	26.94	277	*eP*		P	09 05 49.8	+1.1
YSS					pmax	pmax		
	comp=Z,286nm,1.0s							
ASAJ	Asahikawa	28.34	271	P		P	09 06 02.2	+0.9
	comp=Z,49nm,0.7s,baz=72,slow=7.2,SNR=22							
ASAJ	Asahikawa	28.34	271	*eP*		P	09 06 02.1	+0.9
	comp=Z,51nm,0.8s							
BBB	Bella Bella	29.30	69	P		P	09 06 11.1	+1.5
	comp=Z,23nm,0.9s,baz=291,slow=9.9,SNR=5.9							
A04D	Lummi Island	33.79	73	P		P	09 06 49.6	+0.5
	baz=295							
YKA	Yellowknife Ar	34.00	47	P		P	09 06 48.3	-2.4
	comp=Z,20nm,0.9s,baz=58,slow=4.0,SNR=11							
H11N2	WAKE ISLAND Hy	34.33	209	T		T	09 43 29.2	
	baz=18,slow=76							
H11N3	WAKE ISLAND Hy	34.34	209	T		T	09 43 24.3	
	baz=18,slow=76							
H11N1	WAKE ISLAND Hy	34.35	209	T		T	09 43 31.2	
	baz=18,slow=76,SNR=9862							
B05A	Bryant	34.35	74	P		P	09 06 54.9	+1.0
	baz=296							
F04D	Rainier, OR	34.80	77	P		P	09 06 58.9	+1.0
	baz=299							
USRK	Ussuriysk Ar.	34.91	279	P		P	09 06 58.3	-0.5
	comp=Z,70nm,0.7s,baz=59,slow=8.7,SNR=51							
G03D	McMinnville, O	35.07	79	P		P	09 06 58.5	-1.7
	baz=300							
MAJO	Matsushiro	35.42	263	*eP*		P	09 07 04.1	+0.8
MAJO	Matsushiro	35.42	263	*eP*		P	09 07 04.1	+0.8
MAT	Matsushiro	35.42	263	P		P	09 07 03.8	+0.5
MJAR	Matsushiro Arr	35.42	263	P		P	09 07 03.9	+0.6
	comp=Z,24nm,0.7s,baz=47,slow=6.9,SNR=30							
MJB9	Matsu-Tunnel	35.42	263	*eP*		P	09 07 00.4	-2.9
	comp=Z,1μm,0.3s							
H11S1	WAKE ISLAND Hy	35.54	209	T		T	09 44 57.7	
	baz=18,slow=76,SNR=7342							
H11S2	WAKE ISLAND Hy	35.56	209	T		T	09 44 58.0	
	baz=18,slow=76,SNR=3452							
H11S3	WAKE ISLAND Hy	35.56	209	T		T	09 45 03.0	
	baz=18,slow=76,SNR=1778							
B08A	Colville Reser	35.96	72	*eP*		P	09 07 09.2	+1.2
	comp=Z,76nm,0.9s							
H04A	Detroit Lake	36.00	79	*eP*		P	09 07 09.5	+1.3
	comp=Z,66nm,1.1s							
G05D	Wamic, OR	36.25	78	P		P	09 07 10.6	+0.3
	baz=300							
I04A	Tendick Farm,	36.32	80	P		P	09 07 12.1	+1.1
	baz=302							
I05D	Terrebonne, OR	36.70	79	P		P	09 07 13.2	-1.0
	baz=301							
HAWA	Hanford	36.77	75	*eP*		P	09 07 15.6	+0.9
	comp=Z,75nm,0.8s							
J04D	Umpqua Nationa	36.80	81	P		P	09 07 15.2	0.0
	baz=302							
J05D	Fort Rock, OR	37.31	80	P		P	09 07 19.1	-0.5
	baz=302							
NEW	Newport	37.32	71	P		P	09 07 20.1	+0.7
	comp=Z,43nm,0.9s,baz=292,slow=12,SNR=12							
NEW	Newport	37.32	71	P		P	09 07 19.3	-0.1
	baz=298							
NEW	Newport	37.32	71	*eP*		P	09 07 20.5	+1.1
	comp=Z,77nm,0.9s							
NEW	Newport	37.32	71	*eP*		P	09 07 20.5	+1.1
NEW					pmax	pmax		
	comp=Z,77nm,0.9s							
M02C	Callahan	37.35	84	P		P	09 07 19.8	0.0
	baz=304							
M04C	Macdoel	37.76	83	P		P	09 07 22.6	-0.7
	baz=304							
O03D	Paynes Creek	38.63	85	P		P	09 07 30.6	0.0
	baz=305							
RES	Resolute Bay	39.01	25	P		P	09 07 32.1	-1.1
	comp=Z,8.4nm,0.9s,baz=259,slow=4.3,SNR=9.0							
RES					PcP	PcP	09 09 42.2	-0.2
	comp=Z,29nm,0.7s,baz=265,slow=3.0,SNR=6.8							
CN2	Changchun	39.14	282	*eP*		P	09 07 34.2	-0.5
CN2					pmax	pmax		
	comp=Z,50nm,0.6s							
MSO	Missoula	39.90	71	P		P	09 07 40.9	-0.2
	baz=300							
KSRS	Korea Array	41.27	273	P		P	09 07 53.2	+0.8
	comp=Z,48nm,0.8s,baz=58,slow=7.9,SNR=58							
KS01	Wonju Array Si	41.28	273	*eP*		P	09 07 52.8	+0.3
KS15	Wonju Array Si	41.31	273	*eP*		P	09 07 53.2	+0.5
KSAR	Wonju Array Be	41.31	273	P		P	09 07 53.2	+0.5
KSAR	Wonju Array Be	41.31	273	P		P	09 07 53.2	+0.5
HLID	Hailey	41.34	76	P		P	09 07 53.4	+0.2
	baz=303							
MCMT	McKenzie Canyo	41.60	73	*eP*		P	09 07 55.7	+0.3
BOZ	Bozeman (W)	41.91	72	P		P	09 07 57.7	-0.1
	baz=302							
NVAR	Mina Array Bea	41.91	85	P		P	09 07 59.4	+1.4
	comp=Z,8.1nm,0.7s,baz=317,slow=3.7,SNR=3.4							
NVAR					PcP	PcP	09 09 53.9	+1.1
	comp=Z,3.4nm,0.6s,baz=300,slow=3.6,SNR=3.5							
YHH	Holmes Hill	42.81	72	*eP*		P	09 08 06.0	+0.7
	comp=Z,83nm,1.0s							
VES	Vestal, Richgr	43.04	88	P		P	09 08 05.5	-1.3
	baz=310							
H17A	Grant Village	43.19	73	P		P	09 08 08.3	0.0
	baz=304							
GRAC	Grapevine Rang	43.38	86	P		P	09 08 09.2	-0.5
	baz=309							
ISA	Isabella, Lake	43.53	88	P		P	09 08 10.5	-0.5
	baz=310							
RLMT	Red Lodge	43.57	71	P		P	09 08 10.5	-0.8
	baz=303							
SCZ2	Santa Cruz Isl	43.89	91	P		P	09 08 13.1	-0.7
	baz=311							
FURC	Furnace Creek,	44.03	86	P		P	09 08 14.5	-0.2
	baz=309							
OSI	Osito Audit: C	44.05	89	P		P	09 08 15.8	+0.7
	baz=311							
TPNV	Topopah Spring	44.11	85	P		P	09 08 15.8	+0.1
	baz=309							
LAO	LASA Array	44.49	67	P		P	09 08 19.1	+0.6
	baz=303							
BW06	Boulder Array	44.72	74	P		P	09 08 20.8	+0.2
	baz=305							
BW06	Boulder Array	44.72	74	*eP*		P	09 08 20.9	+0.3
	comp=Z,54nm,0.8s							
PD31	Pinedale Array	44.72	74	*eP*		P	09 08 20.9	+0.4

baz=307
B34A **Aery, Baudette** 49.94 59 P P 09 08 59.5 -1.2
baz=306
SUSD **Miller** 49.96 66 P P 09 09 00.4 -0.6
baz=307,SNR=6.6
D33A **AnnSam, Waubun** 50.09 61 P P 09 09 00.7 -1.2
baz=306
F32A **Veblen** 50.13 63 P P 09 09 01.2 -1.0
baz=307,SNR=5.5
H31A **Wolsey** 50.21 66 P P 09 09 02.3 -0.6
baz=307
C34A **RKJ Ranch, Bem** 50.29 60 P P 09 09 02.4 -1.0
baz=306
G32A **Webster** 50.29 64 P P 09 09 02.7 -0.8
baz=307
SPITS **Spitsbergen Ar** 50.42 357 P P 09 09 02.4 -1.6
comp=Z,6.8nm,0.4s,baz=354,slow=11,SNR=17
NJ2 **Nanjing** 50.45 274 *eP* P 09 09 05.2 +0.4
I31A **Royce, Wessing** 50.45 66 P P 09 09 04.1 -0.6
baz=308,SNR=7.2
D34A **Park Rapids** 50.48 61 P P 09 09 03.7 -1.2
baz=307
B35A **Bob, Littlefor** 50.51 59 P P 09 09 03.9 -1.2
baz=306
TUC **Tucson** 50.54 86 P P 09 09 06.6 +1.0
baz=313
F33A **5 Mile Ranch,** 50.62 63 P P 09 09 04.9 -1.0
baz=307
C35A **Jirik Farms, M** 50.77 60 P P 09 09 05.5 -1.5
baz=307
J31A **Geddes** 50.78 67 P P 09 09 06.6 -0.6
baz=308
H32A **Carlson Farm,** 50.79 65 P P 09 09 06.6 -0.6
baz=308
G33A **Ortonville** 50.93 64 P P 09 09 07.3 -0.9
baz=308,SNR=6.2
I32A **Karley and Nic** 51.06 65 P P 09 09 08.4 -0.9
baz=308
H33A **Prehn Over Nor** 51.07 64 P P 09 09 08.3 -1.0
baz=308,SNR=5.5
D35A **Remer** 51.10 60 P P 09 09 08.7 -0.9
baz=307
KSCO **Kaye Shedlock'** 51.17 74 P P 09 09 10.4 +0.1
baz=310
F34A **Alexandria** 51.22 62 P P 09 09 09.3 -1.2
baz=308
E35A **Pequot Lakes** 51.23 61 P P 09 09 09.3 -1.2
baz=307
J32A **Parkston** 51.25 66 P P 09 09 09.9 -0.8
baz=308,SNR=5.8
T25A **Trinidad** 51.30 77 P P 09 09 12.0 +0.6
baz=310
G34A **Benson** 51.35 63 P P 09 09 10.4 -1.0
baz=308
I33A **Coleman** 51.43 65 P P 09 09 10.9 -1.1
baz=308
D36A **Goodland** 51.53 60 P P 09 09 12.0 -0.7
baz=307
F35A **Swanville** 51.56 62 P P 09 09 12.1 -0.8
baz=308
H34A **Spellman Lake,** 51.62 64 P P 09 09 13.0 -0.5
baz=308
C37A **Embarrass** 51.72 59 P P 09 09 12.9 -1.3
baz=308
ECSD **EROS Data Cent** 51.73 65 P P 09 09 13.0 -1.3
baz=308
Y22E **IRIS PASSCAL I** 51.76 81 P P 09 09 13.7 -1.1
baz=312
J33A **Davis** 51.78 66 P P 09 09 13.8 -0.9
baz=308
E36A **McGregor** 51.88 61 P P 09 09 14.3 -1.1
baz=308
D37A **Cotton** 51.94 59 P P 09 09 14.7 -1.1
baz=308
G35A **Watkins** 52.00 63 P P 09 09 15.3 -1.0
baz=308
L32A **Elgin** 52.01 68 P P 09 09 16.3 -0.1
baz=309
H35A **Sunnyside Ranc** 52.13 63 P P 09 09 16.6 -0.7
baz=308
K33A **Hardington** 52.21 67 P P 09 09 17.6 -0.3
baz=309
E37A **Wrenshall** 52.31 60 P P 09 09 16.7 -1.9
baz=308
J34A **George** 52.38 65 P P 09 09 17.9 -1.3
baz=309
G36A **St. Michael** 52.40 62 P P 09 09 18.4 -0.8
baz=308
I35A **Creekview Farm** 52.57 64 P P 09 09 19.1 -1.5
baz=309
K34A **Le Mars** 52.68 66 P P 09 09 20.7 -0.7
baz=309,SNR=10.0
H36A **Jessenland, He** 52.71 63 P P 09 09 20.7 -0.8
baz=309
F37A **Hinrichs Farm,** 52.71 61 P P 09 09 20.5 -1.0
baz=309
E38A **The Farm, Brul** 52.75 60 P P 09 09 20.4 -1.4
baz=308
J35A **Milford** 52.76 65 P P 09 09 20.9 -1.0
baz=309
C39A **Grand Marais** 52.76 58 P P 09 09 20.4 -1.4
baz=308
SPMN **Marine on St.** 52.93 62 P P 09 09 22.4 -0.7
baz=309
L34A **Svendsen Farm,** 52.97 67 P P 09 09 22.9 -0.6
baz=310
F38A **Pierce - Schro** 52.98 60 P P 09 09 23.1 -0.4
baz=309
I36A **Fitzsimmons Fa** 53.02 63 P P 09 09 22.8 -1.0
baz=309
K35A **Storm Lake** 53.15 65 P P 09 09 23.9 -1.0
baz=309
C40A **Isle Royale Na** 53.21 57 P P 09 09 24.0 -1.1
baz=309
J36A **Seneca 1, Swea** 53.27 64 P P 09 09 25.0 -0.6
baz=309
H37A **Dierke Farm, C** 53.27 62 P P 09 09 24.5 -1.2
baz=309
L35A **Bielow Farm, R** 53.36 66 P P 09 09 25.4 -0.9
baz=310
I37A **Lemond, Waseca** 53.36 63 P P 09 09 25.2 -1.2
baz=309
E39A **Mellen** 53.43 59 P P 09 09 25.7 -1.1
baz=309
O33A **Hebron** 53.48 69 P P 09 09 27.1 -0.2
baz=310
G38A **Ridgeland** 53.49 61 P P 09 09 26.2 -1.0
baz=309
F39A **Loretta** 53.52 60 P P 09 09 26.3 -1.2
baz=309
H38A **Maiden Rock** 53.56 62 P P 09 09 27.4 -0.4
baz=309
K36A **Gilmore City** 53.65 65 P P 09 09 27.5 -1.0
baz=310
M35A **Neola** 53.69 67 P P 09 09 28.7 -0.1
baz=310
J37A **Redenius Farm,** 53.72 64 P P 09 09 28.4 -0.7
baz=310
E40A **Wakefield** 53.74 59 P P 09 09 28.0 -1.1
baz=309
G39A **Holcombe** 53.79 61 P P 09 09 28.2 -1.2
baz=309
L36A **Harm Buss Farm** 53.87 66 P P 09 09 29.3 -0.8
baz=310
O34A **Beatrice** 53.93 69 P P 09 09 29.9 -0.7
baz=310
F40A **Park Falls** 53.95 59 P P 09 09 29.2 -1.4
baz=309
K37A **Belmond** 54.02 64 P P 09 09 30.1 -1.1
baz=310
N35A **Tabor** 54.10 67 P P 09 09 30.8 -1.1
baz=310
H39A **Augusta** 54.11 61 P P 09 09 30.6 -1.2
baz=310
M36A **Felix, Anita** 54.21 66 P P 09 09 32.1 -0.5
baz=310,SNR=5.9
MNTX **Cornudas Mount** 54.32 82 P P 09 09 33.6 0.0
baz=313
J38A **Wedel Dairy, R** 54.32 63 P P 09 09 33.3 0.0
baz=310
G40A **Rib Lake** 54.33 60 P P 09 09 32.0 -1.4
baz=310
L37A **Phoenix Point,** 54.37 65 P P 09 09 33.2 -0.5
baz=310,SNR=8.8
MSTX **Muleshoe** 54.39 78 P P 09 09 34.2 +0.1
baz=312
AMTX **Amarillo** 54.44 77 P P 09 09 34.4 -0.1
baz=312

I39A **Houston** 54.51 62 P P 09 09 33.8 -0.9
baz=310
N36A **Muff Farm, Cla** 54.53 67 P P 09 09 34.3 -0.6
baz=311
K38A **Parkersburg** 54.59 64 P P 09 09 34.3 -1.0
baz=310
F41A **Three Lakes** 54.62 59 P P 09 09 34.4 -1.1
baz=310
M37A **Trindle Farm,** 54.66 66 P P 09 09 35.6 -0.3
baz=310
J39A **Decorah** 54.74 63 P P 09 09 35.2 -1.2
baz=310
E42A **Champion** 54.81 58 P P 09 09 36.0 -0.8
baz=310
L38A **Oak Wood Farm,** 54.81 65 P P 09 09 36.1 -0.9
baz=310,SNR=5.4
SCIA **State Center** 54.82 65 P P 09 09 36.5 -0.5
baz=310
SCIA **State Center** 54.82 65 *eP* P 09 09 37.1 +0.1
comp=Z,164nm,0.7s
G41A **Antigo** 54.91 60 P P 09 09 37.2 -0.5
baz=310
I40A **Norwalk** 54.98 62 P P 09 09 37.4 -0.7
baz=310
N37A **Lee Faris, Mou** 55.00 67 P P 09 09 38.5 +0.1
baz=311,SNR=7.4
H41A **Junction City** 55.04 60 P P 09 09 37.3 -1.2
baz=310
K39A **Oelwein** 55.05 63 P P 09 09 37.5 -1.2
baz=310
F42A **Maple Grove Fa** 55.12 59 P P 09 09 38.5 -0.6
baz=310
M38A **Pleasantville** 55.15 65 P P 09 09 38.6 -0.8
baz=311
ZALV **Zalesovo Beam** 55.17 315 PcP PcP 09 10 40.1 +0.2
comp=Z,42nm,0.7s,baz=46,slow=5.4,SNR=9.0
J40A **Soldiers Grove** 55.24 62 P P 09 09 38.8 -1.2
baz=311
NVS **Novosibirsk** 55.27 316 *eP* P 09 09 39.6 -0.4
I41A **Arkdale** 55.28 61 P P 09 09 38.6 -1.7
baz=310
G42A **Mountain** 55.30 59 P P 09 09 39.1 -1.3
baz=310
E43A **Lone Tree Farm** 55.33 57 P P 09 09 38.6 -1.9
baz=310
L39A **Vinton** 55.36 64 P P 09 09 40.1 -0.8
baz=311
O37A **Wolven Farm, M** 55.42 67 P P 09 09 40.6 -0.7
baz=311
K40A **Colesburg** 55.47 63 P P 09 09 40.5 -1.2
baz=311
N38A **Joes South For** 55.53 66 P P 09 09 41.4 -0.8
baz=311
F43A **Flat Rock, Esc** 55.59 58 P P 09 09 41.8 -0.6
baz=311
J41A **Loganville** 55.66 62 P P 09 09 41.9 -1.1
baz=311,SNR=5.2
P37A **Lathrop** 55.69 68 P P 09 09 42.4 -0.9
baz=311
G43A **Wallace** 55.69 59 P P 09 09 41.9 -1.3
baz=311
M39A **Webster** 55.69 65 P P 09 09 42.7 -0.5
baz=311,SNR=5.4
H42A **Shon** 55.72 60 P P 09 09 42.2 -1.2
baz=311
JFWS **Jewell Farm** 55.82 62 P P 09 09 42.9 -1.4
baz=311
O38A **Galt** 55.84 67 P P 09 09 43.5 -0.9
baz=311
L40A **Anamosa** 55.84 64 P P 09 09 43.7 -0.7
baz=311
F44A **Big Bay de Noc** 55.89 57 P P 09 09 43.0 -1.6
baz=311
N39A **Derby Farms, D** 55.90 66 P P 09 09 43.7 -1.1
baz=311
I42A **Draeger Farm,** 55.92 61 P P 09 09 44.0 -0.9
baz=311
K41A **Shullsburg** 55.99 63 P P 09 09 44.5 -0.9
baz=311,SNR=7.6
Q37A **Longview Farm,** 56.10 69 P P 09 09 45.7 -0.5
baz=312
M40A **Post Highland** 56.11 64 P P 09 09 44.8 -1.4
baz=311
P38A **Dawn** 56.13 67 P P 09 09 45.1 -1.4
baz=312
H43A **Windswept, Lux** 56.16 60 P P 09 09 45.3 -1.2
baz=311
J42A **Columbus** 56.18 61 P P 09 09 45.0 -1.7
baz=311
L41A **Preston** 56.24 63 P P 09 09 46.0 -1.1
baz=311
O39A **Kirksville** 56.28 66 P P 09 09 46.6 -0.9
baz=312
E45A **Wooded Hills,** 56.29 56 P P 09 09 46.2 -1.3
baz=311
WMOK **Wichita Mounta** 56.30 75 P P 09 09 47.7 -0.1
baz=313
I43A **Langenfeld Bro** 56.34 60 P P 09 09 46.8 -1.1
baz=311
K42A **Prairie Point,** 56.41 62 P P 09 09 47.4 -1.0
baz=311
N40A **Mertquake, Sal** 56.41 65 P P 09 09 47.2 -1.3
baz=312
J43A **Natural Harves** 56.52 61 P P 09 09 47.6 -1.5
baz=311
P39B **Salisbury** 56.67 67 P P 09 09 49.4 -0.9
baz=312,SNR=6.6
M41A **Milan** 56.68 64 P P 09 09 49.0 -1.3
baz=312
L42A **Oliver, Polo** 56.75 63 P P 09 09 49.8 -1.0
baz=312
O40A **La Belle** 56.76 66 P P 09 09 50.2 -0.6
baz=312,SNR=5.9
Q39A **Willow Grove F** 56.84 67 P P 09 09 50.5 -1.0
baz=312
LZH **Lanzhou** 56.93 288 *eP* P 09 09 53.1 +0.7
LZH pP pP 09 10 07.6 +2.1
LZH sP sP 09 10 14.5 +3.6
LZH PP PP **09 12 01.3 +2.3**
LZH pmax pmax
comp=Z,39nm,1.3s
LZH pmax pmax
comp=Z,160nm,7.6s
LZH LR LR
comp=Z,1μm,12.8s
LZH LR LR
comp=Z,2μm,18.5s
N41A **Harden Midland** 56.94 65 P P 09 09 51.2 -1.0
baz=312
K43A **Burlington** 57.02 61 P P 09 09 51.7 -1.0
baz=312
TXAR **Lajitas Array** 57.02 83 P P 09 09 53.2 +0.2
comp=Z,34nm,0.8s,baz=305,slow=6.0,SNR=16
P40A **Paris** 57.05 66 P P 09 09 52.3 -0.7
baz=312,SNR=6.9
M42A **Sheffield** 57.06 63 P P 09 09 51.6 -1.5
baz=312
S38A **Stockton** 57.25 69 P P 09 09 53.4 -1.0
baz=312
TUL1 **Leonard** 57.30 72 P P 09 09 53.4 -1.4
baz=313
O41A **Passleys Farm,** 57.33 65 P P 09 09 53.8 -1.1
baz=312
N42A **Yates City** 57.33 64 P P 09 09 53.9 -1.0
baz=312
Q40A **Laux Farm, Aux** 57.40 67 P P 09 09 54.0 -1.4
baz=312
T38A **Diamond** 57.42 70 P P 09 09 54.5 -1.1
baz=313
P41A **Barry, Barry** 57.52 66 P P 09 09 55.5 -0.8
baz=312
M43A **Waltham Townsh** 57.52 63 P P 09 09 55.3 -1.0
baz=312
S39A **Bolivar** 57.55 69 P P 09 09 55.7 -0.9
baz=313
L44A **Lake County Fo** 57.60 62 P P 09 09 55.5 -1.4
baz=312
O42A **Bath** 57.73 65 P P 09 09 56.8 -0.9
baz=312
N43A **Stutzman Famil** 57.73 63 P P 09 09 56.5 -1.3
baz=312
R40A **Maddies Statio** 57.76 68 P P 09 09 56.5 -1.5
baz=313
Q41A **Truxton** 57.91 66 P P 09 09 58.3 -0.7
baz=313
HDIL **Hopedale** 57.93 64 *eP* P 09 09 58.5 -0.7
comp=Z,124nm,0.8s
T39A **Clever** 57.97 69 P P 09 09 58.7 -0.8

baz=313
P42A **Winchester** 57.99 65 P P 09 09 59.1 -0.4
baz=313
M44A **Midewin, Midew** 58.06 62 P P 09 09 59.4 -0.7
baz=312
O43A **Sugar Creek Fa** 58.10 64 P P 09 09 59.0 -1.3
baz=313
ARCES **ARCESS Array B** 58.30 351 P P 09 09 59.7 -1.6
comp=Z,13nm,0.7s,baz=19,slow=8.7,SNR=8.2
ARCES PcP PcP 09 10 51.8 -0.1
comp=Z,11nm,0.6s,baz=23,slow=4.9,SNR=3.6
Q42A **Golden Eagle** 58.34 66 P P 09 10 01.7 -0.3
baz=313,SNR=5.3
U39A **Green Forest** 58.35 70 P P 09 10 01.3 -0.8
baz=313
N44A **Piper City** 58.41 63 P P 09 10 01.4 -1.2
baz=313
P43A **Skaggs, Pawnee** 58.42 65 P P 09 10 01.9 -0.7
baz=313,SNR=5.3
M45A **Boilermakers S** 58.50 62 P P 09 10 01.9 -1.2
baz=313
S41A **Jillco Farms,** 58.54 68 P P 09 10 01.9 -1.5
baz=313
R42A **Luebbering** 58.62 67 P P 09 10 02.7 -1.2
baz=313
V39A **Pettigrew** 58.62 71 P P 09 10 02.6 -1.5
baz=313
O44A **Mansfield** 58.66 64 P P 09 10 03.1 -1.1
baz=313
N45A **Kentland** 58.72 63 P P 09 10 04.0 -0.7
baz=313
U40A **Yellville** 58.73 70 P P 09 10 03.8 -1.0
baz=313
Q43A **New Douglas** 58.79 66 P P 09 10 04.1 -1.1
baz=313
S42A **Caledonia** 58.97 67 P P 09 10 05.3 -1.1
baz=313
M46A **Old House Fiel** 58.98 61 P P 09 10 04.9 -1.5
baz=313
O45A **Potomac** 59.01 63 P P 09 10 06.2 -0.4
baz=313,SNR=6.3
P44A **Sand Creek, Wi** 59.04 64 P P 09 10 06.4 -0.5
baz=313
R43A **Red Bud** 59.12 66 P P 09 10 06.8 -0.6
baz=313
N46A **Monticello** 59.12 62 P P 09 10 06.4 -1.0
baz=313
Q44A **Meyer Farm, Va** 59.21 65 P P 09 10 06.9 -1.1
baz=313
APA **Apatity** 59.25 347 *iP* P 09 10 07.1 -0.8
APA pmax pmax
comp=Z,34nm,1.0s
APA MLR MLR
comp=Z,678μm,14.0s
SFIN **Lafayette** 59.27 63 P P 09 10 08.1 -0.3
baz=313
P45A **Graceland, Par** 59.50 64 P P 09 10 08.6 -1.5
baz=313
S43A **Fulton Ridge,** 59.52 67 P P 09 10 08.7 -1.5
baz=314
MIAR **Mount Ida** 59.55 72 P P 09 10 09.0 -1.6
baz=314
R44A **Waltonville** 59.62 66 P P 09 10 10.0 -0.9
baz=314
Q45A **Warren Harvey,** 59.70 65 P P 09 10 10.3 -1.1
baz=314
T43A **Greenville** 59.73 67 P P 09 10 10.3 -1.3
baz=314
P46A **Rosedale** 59.74 63 P P 09 10 10.4 -1.3
baz=314
435B **Jarrell** 59.76 78 P P 09 10 12.2 +0.2
baz=315
AAM **Ann Arbor** 59.83 59 P P 09 10 11.2 -1.1
baz=314
O47A **Sheridan** 59.88 62 P P 09 10 11.6 -1.1
baz=314,SNR=5.3
S44A **Carbondale** 59.90 66 P P 09 10 12.4 -0.4
baz=314
R45A **Skylar, Fairfi** 60.04 65 P P 09 10 12.6 -1.2
baz=314
Q46A **CEJHS Indians,** 60.06 64 P P 09 10 13.0 -1.0
baz=314
KURK **Kurchatov** 60.15 315 P P 09 10 14.3 0.0
KURK **Kurchatov** 60.15 315 P P 09 10 14.3 0.0
KURBB **Kurchatov Arra** 60.26 315 P P 09 10 14.3 -0.8
comp=Z,148nm,0.6s,baz=44,slow=6.6,SNR=27
W42A **Bald Knob** 60.26 70 P P 09 10 14.9 -0.5
baz=314
P47A **Martinsville** 60.35 63 P P 09 10 15.1 -0.8
baz=314,SNR=8.0
U44A **Portageville** 60.48 68 P P 09 10 16.1 -0.7
baz=314
R46A **Gibon Southern** 60.54 65 P P 09 10 16.6 -0.6
baz=314
Z40A **Long Farm, Mag** 60.55 73 P P 09 10 16.8 -0.5
baz=315
CD2 **Chengdu** 60.56 284 P P 09 10 16.0 -1.5
CD2 S S 09 18 26.7 -3.2
CD2 pmax pmax
comp=Z,40nm,0.5s
CD2 pmax pmax
comp=Z,320nm,5.0s
Q47A **Bedord North L** 60.65 63 P P 09 10 17.4 -0.5
baz=314
WMQ **Urumqi** 60.67 304 P P 09 10 20.2 +2.1
T45A **Paducah** 60.72 66 P P 09 10 17.6 -0.9
baz=314
R47A **Wooly Knot Far** 61.03 64 P P 09 10 19.0 -1.6
baz=314
240A **Hunter Patters** 61.19 74 P P 09 10 21.2 -0.5
baz=315
WCI **Wyandotte Cave** 61.21 64 P P 09 10 20.5 -1.3
baz=314
MKAR **Makanchi Array** 61.27 310 P P 09 10 20.5 -1.6
comp=Z,27nm,0.5s,baz=47,slow=6.7,SNR=26
141A **Papa Simpson,** 61.31 73 P P 09 10 22.0 -0.5
baz=315
R48A **Northridge Ran** 61.33 64 P P 09 10 20.6 -1.9
baz=314
Z42A **Norrel Spur, H** 61.41 72 P P 09 10 22.9 -0.2
baz=315
T47A **Sharon Grove** 61.62 65 P P 09 10 23.5 -1.1
baz=315
241A **Mo Tay, Goldon** 61.71 73 P P 09 10 25.4 +0.2
baz=315
S48A **Wiedeman Farm,** 61.75 64 P P 09 10 24.8 -0.6
baz=315
WVT **Waverly** 61.81 67 P P 09 10 25.9 +0.1
baz=315
BVAR **Borovoye Array** 61.89 321 P P 09 10 25.8 -0.3
comp=Z,66nm,0.3s,baz=51,slow=6.8,SNR=176
BVAR PcP PcP 09 11 06.4 -0.1
comp=Z,24nm,0.5s,baz=56,slow=3.1,SNR=5.9
BRVK **Borovoye** 61.90 321 *eP* P 09 10 25.6 -0.6
BRVK pmax pmax
comp=Z,25nm,0.7s
ERPA **Erie** 61.91 57 P P 09 10 25.6 -0.8
baz=315
GYA **Guiyang** 61.94 278 P P **09 10 27.5 +0.5**
GYA pP pP 09 10 43.2 +2.9
GYA sP sP 09 10 49.8 +4.2
GYA PP **PP 09 12 46.5 +3.1**
GYA S S **09 18 44.0 -3.7**
GYA sS sS 09 19 10.8 +0.9
GYA pmax pmax
comp=Z,30nm,1.0s
GYA pmax pmax
comp=Z,140nm,6.2s
OXF **Oxford** 62.03 69 P P 09 10 26.7 -0.6
baz=315
W46A **Michie** 62.20 68 P P 09 10 27.1 -1.3
baz=315
U48A **Cassie Pea, Po** 62.28 66 P P 09 10 28.9 -0.1
baz=315
X46A **Booneville** 62.48 68 P P 09 10 28.7 -1.6
baz=315
M54A **Oil Creek Stat** 62.51 57 P P 09 10 29.5 -1.0
baz=316
Y46A **Houston** 62.80 69 P P 09 10 31.5 -0.9
baz=315
W48A **Pulaski** 63.03 67 P P 09 10 33.3 -0.7
baz=315
X48A **Hartselle** 63.45 67 P P 09 10 34.8 -2.0
baz=316
MCWV **Mont Chateau** 63.74 59 P P 09 10 38.0 -0.6
baz=316
Z47A **Carrollton** 63.75 69 P P 09 10 38.3 -0.4
baz=316

X49A	Woodville	63.82	67	P		P	09 10 38.4	-0.8
	baz=316							
Z48A	Northport	63.92	69	P		P	09 10 38.9	-0.9
	baz=316							
147A	Livingston	64.01	70	P		P	09 10 39.1	-1.4
	baz=316							
SSPA	Standing Stone	64.07	57	P		P	09 10 38.5	-2.3
	baz=316							
LRAL	Lakeview Retre	64.49	69	P		P	09 10 43.7	0.0
	baz=316							
Y50A	Piedmont	64.61	67	P		P	09 10 44.2	-0.2
	baz=316							
Z49A	Columbiana	64.65	68	P		P	09 10 43.2	-1.4
	baz=316							
248A	Dixon Mills	64.73	70	P		P	09 10 45.0	-0.3
	baz=316							
149A	Jones	64.93	69	P		P	09 10 45.7	-0.8
	baz=316							
Z50A	Ashland	64.96	68	P		P	09 10 45.9	-0.8
	baz=316							
N59A	State Game Lan	64.97	55	P		P	09 10 45.9	-0.7
	baz=317							
BLA	Blacksburg	65.20	61	P		P	09 10 47.7	-0.6
	baz=317							
BLA	Blacksburg	65.20	61	*e*P		P	09 10 48.6	+0.4
	comp=Z,122nm,0.8s							
BLA	Blacksburg	65.20	61	*e*P		P	09 10 48.6	+0.4
BLA				pmax		pmax		
	comp=Z,122nm,0.8s							
KMI	Kunming	65.34	280	P		P	09 10 49.8	+0.3
VWCC	Virginia Weste	65.42	61	*e*P		P	09 10 49.6	0.0
250A	Grady	65.68	69	P		P	09 10 50.6	-0.8
	baz=317							
151A	Opelika	65.83	68	P		P	09 10 50.9	-1.5
	baz=317							
FINES	FINESS Array B	66.07	349	P		P	09 10 52.7	-0.7
	comp=Z,12nm,0.8s,baz=3.6,slow=8.1,SNR=6.3							
KMSC	Kings Mountain	66.20	63	P		P	09 10 54.2	-0.5
	baz=317							
GOGA	Godfrey	66.26	66	P		P	09 10 54.0	-1.0
	baz=317							
351A	Pinckard	66.58	69	P		P	09 10 56.4	-0.7
	baz=317							
153A	Fort Valley	66.60	67	P		P	09 10 55.9	-1.4
	baz=317							
USP	Ospenovka	67.58	312	P		P	09 11 03.3	-0.1
	SNR=6.1							
453A	Whigham	67.64	68	P		P	09 11 03.6	-0.3
	baz=318							
NB2	NORSAR Subarra	67.71	356	P		P	09 11 01.9	-2.0
	comp=Z,12nm,0.8s,baz=5.3,slow=6.5							
NOA	NORSAR Array B	67.71	356	P		P	09 11 01.9	-2.0
	comp=Z,4.3nm,0.8s,baz=3.0,slow=7.4,SNR=9.9							
NOA	NORSAR Array B	67.71	356	P		P	09 11 02.0	-2.0
KBK	Karagaybulak	67.84	311	P		P	09 11 05.2	0.0
	SNR=11							
AAK	Ala-Archa	68.07	311	P		P	09 11 06.4	-0.2
	comp=Z,109nm,0.5s,baz=118,slow=4.1,SNR=54							
AAK	Ala-Archa	68.07	311	P		P	09 11 06.6	0.0
	SNR=22							
355A	Pearson	68.12	67	P		P	09 11 06.1	-0.8
	baz=318							
KZA	Kyzart	68.14	311	P		P	09 11 07.2	-0.1
	SNR=14							
NHSC	New Hope	68.34	64	P		P	09 11 08.2	-0.1
	baz=318							
NHSC	New Hope	68.34	64	*e*P		P	09 11 09.2	+0.9
	comp=Z,408nm,1.0s							
EKS2	Erkin-Say	68.38	312	P		P	09 11 08.3	-0.2
	SNR=27							
455A	Stateville	68.47	68	P		P	09 11 08.8	-0.3
	baz=318							
AML	Almayashu	68.83	311	P		P	09 11 11.5	-0.2
	SNR=9.0							
357A	Townsend	68.85	66	P		P	09 11 10.8	-0.6
	baz=318							
555A	McAlpin	68.96	68	P		P	09 11 11.4	-0.8
	baz=318							
456A	Hilliard	69.06	67	P		P	09 11 12.8	0.0
	baz=318							
655A	Horseshoe Beac	69.25	69	P		P	09 11 13.3	-0.6
	baz=318							
556A	Lake Butler	69.38	68	P		P	09 11 14.6	-0.1
	baz=318							
KK31	Karatay Array	69.53	314	*e*P		P	09 11 15.1	-0.5
KK31	Karatay Array	69.53	314	*e*P		P	09 11 15.1	-0.5
557A	Orange Park	69.75	67	P		P	09 11 16.9	-0.1
	baz=318							
KSH	Kashi	69.76	308	P		P	09 11 20.4	+3.3
OBN	Obninsk	70.37	341	*e*P		P	09 11 19.3	-1.1
OBN				*e*			09 11 36.7	
OBN				pmax		pmax		
	comp=Z,35nm,1.0s							
758A	Lake Helen	70.85	68	P		P	09 11 23.5	-0.3
	baz=319							
859A	Kempfer Cattle	71.70	68	P		P	09 11 29.0	+0.1
	baz=319							
959A	Okeechobee	72.11	68	P		P	09 11 31.3	-0.1
	baz=319							
CMAR	Chiang Mai Arr	72.63	278	P		P	09 11 35.1	+0.5
	comp=Z,40nm,0.6s,baz=23,slow=6.0,SNR=21							
059Z	Ave Maria	72.68	70	P		P	09 11 35.2	+0.5
	baz=319							
AKASG	Malin Array Be	75.97	344	P		P	09 11 51.1	-2.5
	comp=Z,5.0nm,0.4s,baz=18,slow=5.7,SNR=12							
DOPR	Dopca	81.20	345	⇑*i*P		P	09 12 24.0	+1.5
TLCR		81.36	342	⇑*i*P		P	09 12 23.3	+0.1
GRER		81.51	344	⇑*i*P		P	09 12 25.2	+1.2
SECR		82.00	344	⇑*i*P		P	09 12 32.9	+6.3
BANR	Banloc	82.40	348	⇑*i*P		P	09 12 31.9	+3.2
BRTR	Keskin Array B	85.55	337	P		P	09 12 44.8	-0.3
	comp=Z,16nm,0.8s,baz=32,slow=2.9,SNR=5.5							
TTG	Podgorica	85.55	349	*e*P		P	09 12 42.7	-2.1
	comp=Z,261nm,1.7s							
ASAR	Alice Springs	86.66	225	P		P	09 12 51.0	+0.6
	comp=Z,19nm,0.8s,baz=29,slow=4.7,SNR=8.9							
ASAR	Alice Springs	86.66	225	P		P	09 12 51.0	+0.6
DBIC	Dimbokro	121.64	10	PKP		PKPdf	09 19 00.1	-0.6
	comp=Z,14nm,0.4s,baz=3.0,slow=1.8,SNR=44							
TIC	Toumodi	121.65	10	*e*PKP1		PKPdf	09 18 59.8	-0.9
KIC	Kosan Boka	121.96	10	*e*PKP1		PKPdf	09 19 00.4	-0.9
	comp=Z,86nm,0.9s							
LIC	Lamto	122.06	10	*e*PKP1		PKPdf	09 19 00.6	-0.9
	comp=Z,138nm,0.9s							
CPUP	Villa Florida	127.96	86	PKP		PKPdf	09 19 12.1	-0.2
	comp=Z,7.7nm,0.7s,baz=303,slow=1.7,SNR=9.9							
PLCA	Paso Flores	129.43	109	PKP		PKPdf	09 19 14.8	0.0
	comp=Z,11nm,0.9s,baz=284,slow=2.5,SNR=14							
TSUM	Tsumeb	146.05	336	*e*PKPdf		PKPbc	09 19 47.0	+0.2
MAW	Mawson	147.53	218	PKPbc		PKPbc	09 19 50.3	+0.9
	comp=Z,81nm,0.9s,baz=85,slow=2.4,SNR=10.0							

*ISCJB **11** 09:00:15.4±0.5, 1.°90N±0.°07×93.°18E±0.°04, h10km, mb5.2/17, Error ellipse: s-maj=10.3km s-min=6.0km az=2.7*
*IDC **11** 09:00:15.7±1.2, 1.°85N×92.°94E, h0km, mb4.9/10, mb1 5.1/11, mb1mx4.6/68, mbtmp4.9/11, ML5.3/1, Error ellipse: s-maj=35.6km s-min=23.1km az=19.0*
*NEIC **11** 09:00:18.9±0.6, 1.°98N×93.°34E, h10km, mb4.9/3, Error ellipse: s-maj=14.0km s-min=9.7km az=206.0*

ISC 11 09:00:18.3±0.6, 1.°94N±0.°09×93.°13E±0.°07, h10km, n163, σ2s42/159, mb5.2/17, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLSI	Meulaboh, Aceh	4.00	55	P	Pn	09 01 17.5	-2.2
TPTI		4.25	72	P	Pn	09 01 19.1	-4.1
GSI	Gunungsitoli	4.49	98	P	Pn	09 01 25.0	-1.4
GSI	Gunungsitoli	4.49	98	*e*Pn	Pn	09 01 24.2	-2.2
KCSI	Kotacane, Aceh	4.89	71	P	Pn	09 01 31.0	-1.0
LHMI	Lhok Sumawe	5.02	49	P	Pn	09 01 30.7	-3.0
LHMI	Lhok Sumawe	5.02	49	*e*Pn	Pn	09 01 31.3	-2.4
TSI	Tuntungan	5.65	74	P	Pn	09 01 41.6	-0.7
PSI	Prapat	5.85	82	Pn	Pn	09 01 43.0	-2.3
	36nm,0.3s,baz=90,slow=24,SNR=440						
MNSI	Mandailing Nat	6.55	100	P	Pn	09 01 53.8	-0.9
KULM	Kulim	8.21	66	*e*Pn	Pn	09 02 15.5	-2.1
	732nm,0.9s						
KULM				*e*Sn	Sn	09 03 50.5	0.0
IPM	Ipoh	8.28	72	*e*Pn	Pn	09 02 16.9	-1.6
	423nm,0.8s						
IPM				*e*Sn	Sn	09 03 55.3	+3.1
MASI	Maura Aman, Be	10.41	119	P	Pn	09 02 52.3	+4.4
TPRI	Tanjung Pinang	11.44	95	P	Pn	09 03 09.5	+7.6
MNAI	Manna	11.65	123	P	Pn	09 03 09.3	+4.6
LWLI	Liwa	12.93	122	P	Pn	09 03 33.0	+11
CGJI	Cibinong	15.15	124	P	P	09 04 06.5	+8.8
CMAR	Chiang Mai Arr	17.37	19	P	Pn	09 04 20.2	-0.8
	3.4nm,0.3s,baz=216,slow=12,SNR=13						
CHTO	Chiang Mai	17.71	18	*e*Pn	Pn	09 04 24.5	-0.7
	55nm,0.9s						
KKM	Kota Kinabalu	23.38	79	*e*P	P	09 05 30.4	+2.8
	328nm,1.0s						
LSA	Lhasa	27.67	356	*e*P	P	09 06 05.8	-1.2
	49nm,0.5s						
WHN	Wuhan	34.84	33	P	P	09 07 09.3	-0.3
FITZ	Fitzroy Crossi	37.70	123	*e*P	P	09 07 33.0	-1.3
FAKI	Fak Fak	39.40	97	*e*P	P	09 07 45.4	-3.4
	215nm,0.9s						
KKAR	Karatay Array	45.68	337	*e*P	P	09 08 40.4	+1.0
	184nm,1.2s						
WRAB	Tennant Creek	45.91	120	*e*P	P	09 08 40.8	-0.7
	4.3nm,0.5s						
ASAR	Alice Springs	47.12	125	P	P	09 08 50.2	-0.9
	1.9nm,0.6s,baz=343,slow=14,SNR=5.1						
SONM	Songino Array	47.13	12	P	P	09 08 51.5	+0.7
	30nm,0.7s,baz=190,slow=6.5,SNR=13						
KSAR	Wonju Array Be	47.63	38	P	P	09 08 54.0	-0.6
KSRS	Korea Array	47.66	38	P	P	09 08 54.0	-0.9
	8.1nm,0.9s,baz=220,slow=7.9,SNR=4.7						
GEYT	Alibeck	48.09	322	P	P	09 08 57.3	-1.1
	20nm,0.7s,baz=156,slow=8.1,SNR=5.3						
ABPO	Ambaimpanom	49.68	243	*e*P	P	09 09 08.5	-2.5
KURK	Kurchatov	50.13	348	P	P	09 09 14.7	+1.1
MJAR	Matsushiro Arr	53.96	45	P	P	09 09 42.6	0.0
	21nm,0.8s,baz=231,slow=5.2,SNR=4.2						
ABKAR	Akbulak array	55.01	334	*e*P	P	09 09 48.9	-1.0
	130nm,0.9s						
ASAJ	Asahikawa	60.58	39	*e*P	P	09 10 28.8	-0.4
KBZ	Khabaz	60.88	320	P	P	09 10 29.2	-1.9
	16nm,0.8s,baz=122,slow=9.6,SNR=8.0						
BRTR	Keskin Array B	65.62	313	P	P	09 10 60.0	-3.0
	5.1nm,0.5s,baz=135,slow=6.6,SNR=9.4						
AKASG	Malin Array Be	72.21	323	P	P	09 11 42.2	-1.3
	4.5nm,0.5s,baz=91,slow=4.8,SNR=8.0						
FINES	FINESS Array B	77.48	333	P	P	09 12 14.4	+0.6
	18nm,1.0s,baz=106,slow=5.1,SNR=2.7						
DPC	Dobruska-Polom	80.10	321	*e*P	P	09 12 29.4	+0.9
GERES	GERESS Array B	81.58	319	P	P	09 12 35.9	-0.7
	20nm,0.9s,baz=103,slow=4.2,SNR=7.3						
KHC	Kasperske Hory	81.69	319	*e*P	P	09 12 36.1	-1.0
NB2	NORSAR Subarra	84.39	331	P	P	09 12 54.7	+3.9
	comp=Z,170nm,2.0s,baz=96,slow=5.3						
NB2	NORSAR Subarra	84.39	331	P	P	09 12 54.7	+3.9
	baz=96,slow=5.3						
R43A	Red Bud	139.88	4	P	PKPdf	09 19 51.4	+4.1
	baz=355						
S42A	Caledonia	140.32	5	P	PKPdf	09 19 52.4	+4.3
	baz=354						
T43A	Greenville	141.04	4	P	PKPdf	09 19 53.0	+3.6
	baz=354						
WMOK	Wichita Mounta	141.84	16	P	PKPdf	09 19 50.8	-0.2
	baz=340						
WMOK	Wichita Mounta	141.84	16	*e*PKPdf	PKPdf	09 19 49.7	-1.3
GDL2	Guadalupe Moun	142.21	25	*e*PKPdf	PKPdf	09 19 52.6	+0.8
W45A	Hickory Valley	143.03	3	P	PKPdf	09 19 52.7	-0.3
	baz=356						
W46A	Michie	143.09	2	P	PKPdf	09 19 52.8	-0.4
	baz=357						
X39A	Fountain Ranch	143.11	10	P	PKPdf	09 19 54.2	+1.0
	baz=348						
MIAR	Mount Ida	143.16	9	P	PKPdf	09 19 54.1	+0.8
	baz=348						
ABTX	Abilene, Hawle	143.56	18	*e*PKPdf	PKPdf	09 19 55.7	+1.6
X44A	Crenshaw	143.62	5	P	PKPdf	09 19 54.4	+0.4
	baz=354						
X46A	Booneville	143.66	2	P	PKPdf	09 19 54.0	-0.2
	baz=357						
OXF	Oxford	143.66	4	P	PKPdf	09 19 54.2	+0.1
	baz=355						
X47A	Russelville	143.72	1	P	PKPdf	09 19 54.2	0.0
	baz=358						
Y40A	Okolona	143.73	9	P	PKPdf	09 19 56.2	+1.9
	baz=349						
X49A	Woodville	143.73	359	P	PKPdf	09 19 54.0	-0.3
	baz=0.6						
X45A	UM Field Stati	143.75	4	P	PKPdf	09 19 54.8	+0.4
	baz=355						
Y41A	Eaglette Beard	143.96	8	P	PKPdf	09 19 56.5	+1.8
	baz=350						
Y42A	Garnett, Star	144.11	7	P	PKPdf	09 19 57.3	+2.4
	baz=351						
Y43A	Makayla and Ka	144.13	6	P	PKPdf	09 19 56.7	+1.7
	baz=353,SNR=7.2						
Y45A	Yeager Farm, C	144.29	4	P	PKPdf	09 19 57.3	+2.0
	baz=355						
Y46A	Houston	144.32	3	P	PKPdf	09 19 56.2	+0.8
	baz=356,SNR=10						
Y47A	UCPARC, Winfie	144.33	1	P	PKPdf	09 19 55.0	-0.3
	baz=358,SNR=7.4						
Y48A	Jasper	144.33	0	P	PKPdf	09 19 55.9	+0.6
	baz=359						
Y50A	Piedmont	144.34	358	P	PKPdf	09 19 56.1	+0.7
	baz=1.6						
Y49A	Blount Mountai	144.39	359	P	PKPdf	09 19 55.9	+0.4
	baz=0.4						
Z40A	Long Farm, Mag	144.45	9	P	PKPdf	09 19 58.9	+3.3
	baz=348,SNR=7.5						
Z41A	Richland Creek	144.54	9	P	PKPdf	09 19 59.0	+3.3
	baz=349,SNR=8.9						
Z42A	Norrel Spur, H	144.65	7	P	PKPdf	09 19 58.9	+2.9
	baz=351,SNR=17						
Z45A	Winona	144.78	4	P	PKPdf	09 19 59.0	+2.9
	baz=355						
WHTX	Lake Whitney,	144.79	16	P	PKPdf	09 20 00.6	+4.4
	baz=341						
WHTX	Lake Whitney,	144.79	16	*e*PKPdf	PKPdf	09 19 59.8	+3.5
Z44A	Pea Ridge, Bel	144.81	5	P	PKPdf	09 19 59.4	+3.2
	baz=354,SNR=13						
Z48A	Northport	144.86	1	P	PKPdf	09 19 57.7	+1.4
	baz=358,SNR=7.8						
Z50A	Ashland	144.98	359	P	PKPdf	09 19 58.4	+1.8
	baz=1.3						
TXAR	Lajitas Array	144.99	26	PKPbc	PKPbc	09 19 56.5	+0.5
	comp=Z,25nm,0.9s,baz=66,slow=1.3,SNR=15						
Z46A	Louisville	145.00	3	P	PKPdf	09 19 59.4	+2.9
	baz=356,SNR=5.0						
140A	Cam and Jess,	145.02	10	P	PKPdf	09 19 59.7	+3.2
	baz=348						
Z47A	Carrollton	145.03	2	P	PKPdf	09 19 58.5	+1.9
	baz=358,SNR=14						
Z49A	Columbiana	145.05	360	P	PKPdf	09 19 58.5	+1.9
	baz=0.2,SNR=8.2						
141A	Papa Simpson,	145.17	9	P	PKPdf	09 20 00.4	+3.6
	baz=349						
LRAL	Lakeview Retre	145.21	0	P	PKPdf	09 19 58.8	+1.9
	baz=359,SNR=7.7						
LRAL	Lakeview Retre	145.21	0	*e*PKPdf	PKPdf	09 19 59.2	+2.3
143A	Sucs Landing,	145.28	7	P	PKPdf	09 20 00.6	+3.6
	baz=352,SNR=7.4						
142A	Monroe	145.36	8	P	PKPdf	09 20 00.8	+3.6
	baz=351						
155A	Kite	145.37	353	P	PKPdf	09 19 59.8	+2.6
	baz=7.4,SNR=6.6						
154A	Montrose	145.45	354	P	PKPab	09 19 59.6	+2.2
	baz=6.2,SNR=9.2						
144A	Alexander Plac	145.45	5	P	PKPdf	09 20 01.1	+3.8
	baz=353,SNR=7.2						
153A	Fort Valley	145.47	355	P	PKPab	09 19 59.6	+2.1
	baz=5.0						
JCT	Junction City	145.48	20	P	PKPdf	09 20 02.4	+4.9
	baz=336						
JCT	Junction City	145.48	20	*e*PKPdf	PKPbc	09 19 57.5	+0.1
145A	Houston Renfro	145.52	5	P	PKPab	09 20 00.9	+3.3
	baz=354						
146A	Union	145.54	3	P	PKPab	09 20 01.1	+3.3
	baz=356,SNR=12						
147A	Livingston	145.54	2	P	PKPab	09 20 00.9	+3.1
	baz=357,SNR=6.7						
240A	Hunter Patters	145.58	10	P	PKPab	09 20 02.5	+4.7
	baz=348						
148A	Greensboro	145.59	1	P	PKPab	09 20 00.4	+2.5
	baz=358,SNR=5.6						
150A	Eclectic	145.63	359	P	PKPab	09 20 00.5	+2.5
	baz=1.1,SNR=8.0						
149A	Jones	145.65	360	P	PKPab	09 20 00.2	+2.1
	baz=360,SNR=7.4						
NATX	Nacogdoches	145.68	12	P	PKPab	09 20 02.9	+4.7
	baz=346,SNR=10						
NATX	Nacogdoches	145.68	12	*e*PKPbc	PKPab	09 20 02.6	+4.4
151A	Opelika	145.69	358	P	PKPab	09 20 00.6	+2.3
	baz=2.4,SNR=13						
241A	Mo Tay, Goldon	145.74	9	P	PKPab	09 20 03.3	+4.9
	baz=349,SNR=7.1						
242A	Grayson	145.81	8	P	PKPab	09 20 02.0	+3.3
	baz=350						
VBMS	Vicksburg	145.85	6	P	PKPab	09 20 02.5	+3.6
	baz=353,SNR=6.4						
435B	Jarrell	145.89	17	P	PKPab	09 20 04.0	+4.8
	baz=340						
244A	Avery, Jackson	146.01	6	P	PKPab	09 20 03.1	+3.6
	baz=353,SNR=5.2						
243A	Waterproof	146.08	7	P	PKPab	09 20 02.8	+3.0
	baz=351						
253A	Americus	146.08	356	P	PKPab	09 20 02.0	+2.2
	baz=4.5,SNR=7.5						
245A	Little AP, Sta	146.09	5	P	PKPab	09 20 03.1	+3.4
	baz=354,SNR=8.0						
251A	Midway	146.12	358	P	PKPab	09 20 02.3	+2.4
	baz=2.2,SNR=11						
254A	Abbeville	146.13	355	P	PKPab	09 20 01.8	+1.8
	baz=6.0,SNR=7.7						
248A	Dixon Mills	146.14	1	P	PKPab	09 20 02.3	+2.3
	baz=358						
247A	Quitman	146.15	3	P	PKPab	09 20 03.6	+3.6
	baz=356,SNR=5.3						
252A	Lumpkin	146.19	357	P	PKPab	09 20 02.9	+2.8
	baz=3.4,SNR=10						
250A	Grady	146.26	359	P	PKPab	09 20 02.1	+1.7
	baz=0.7						
249A	Camden	146.27	0	P	PKPab	09 20 02.3	+1.9
	baz=359						
341A	Kurthwood	146.37	10	P	PKPab	09 20 04.6	+3.7
	baz=348,SNR=7.7						
342A	Flagon Creek P	146.46	8	P	PKPab	09 20 05.0	+3.8
	baz=350,SNR=5.7						
344A	Westbrook Farm	146.59	6	P	PKPab	09 20 03.9	+2.3
	baz=353						
356A	Blackshear	146.61	353	P	PKPab	09 20 03.3	+1.5
	baz=8.2						
TIGA	Tifton	146.66	355	P	PKPab	09 20 03.4	+1.5
	baz=5.6						
TIGA	Tifton	146.66	355	*e*PKPbc	PKPab	09 20 04.3	+2.3
355A	Pearson	146.68	354	P	PKPab	09 20 03.4	+1.4
	baz=8.9						
352A	Blakely	146.71	357	P	PKPab	09 20 04.3	+2.1
	baz=3.1,SNR=8.8						
346A	Big Creek Wild	146.76	4	P	PKPab	09 20 05.0	+2.6
	baz=355						
345A	Thompson Farm,	146.80	5	P	PKPab	09 20 04.4	+1.9
	baz=354						
353A	Camilla	146.80	356	P	PKPab	09 20 04.4	+1.9
	baz=4.4,SNR=6.1						
347A	Saraland	146.80	3	P	PKPab	09 20 05.6	+3.0
	baz=357,SNR=6.1						
348A	Jackson	146.81	2	P	PKPab	09 20 04.0	+1.4
	baz=358						
350A	Dozier	146.82	359	P	PKPab	09 20 04.6	+2.0
	baz=0.6						
349A	Repton	146.89	1	P	PKPab	09 20 04.9	+2.1
	baz=359						
441A	DeRidder	146.94	10	P	PKPab	09 20 06.8	+3.8
	baz=348						
351A	Pinckard	146.94	358	P	PKPab	09 20 03.9	+0.8
	baz=1.9,SNR=5.5						
BRAL	Brewton	147.07	0	*e*PKPdf	PKPbc	09 20 03.3	+1.1
442A	Mamou	147.10	9	P	PKPab	09 20 07.4	+3.7
	baz=349						
443A	Delano Plantat	147.14	8	P	PKPab	09 20 06.9	+3.1
	baz=351						
HKT	Hockley	147.15	14	*e*PKPbc	PKPab	09 20 05.4	+1.5
456A	Hilliard	147.19	352	P	PKPab	09 20 05.4	+1.4
	baz=8.5						
455A	Stateville	147.29	354	P	PKPab	09 20 05.9	+1.4
	baz=6.7						
453A	Whigham	147.29	356	P	PKPab	09 20 06.2	+1.8
	baz=4.3						
448A	Bay Minette	147.29	2	P	PKPab	09 20 07.2	+2.7
	baz=358						
444A	Pine Grove	147.31	6	P	PKPab	09 20 07.2	+2.7
	baz=352						
445A	Amite	147.34	6	P	PKPab	09 20 07.7	+3.1
	baz=353						
452A	Marianna	147.35	357	P	PKPab	09 20 06.0	+1.4
	baz=2.7						
446A	Poplarville	147.36	4	P	PKPab	09 20 06.7	+2.0
	baz=355						
454A	Quitman	147.38	355	P	PKPab	09 20 06.3	+1.6
	baz=5.6						
447A	Lucedale	147.40	3	P	PKPab	09 20 07.4	+2.5
	baz=356						
450A	Crestview	147.43	360	P	PKPab	09 20 06.8	+1.8
	baz=0.1						
451A	Vernon	147.60	358	P	PKPab	09 20 07.6	+2.0
	baz=1.7						
542A	Morse	147.65	9	P	PKPab	09 20 09.3	+3.4
	baz=349						
557A	Orange Park	147.84	352	P	PKPab	09 20 07.5	+0.9
	baz=9.2						
544A	White Castle	147.86	7	P	PKPab	09 20 09.1	+2.4
	baz=352						
555A	McAlpin	147.90	354	P	PKPab	09 20 07.8	+1.0
	baz=6.9						
556A	Lake Butler	147.95	353	P	PKPab	09 20 08.2	+1.1
	baz=8.0						
554A	Perry	148.01	355	P	PKPab	09 20 08.7	+1.4
	baz=5.6						
552A	Lynn Haven	148.07	357	P	PKPab	09 20 08.9	+1.4
	baz=2.6						
656A	Willston	148.59	353	P	PKPab	09 20 09.2	-0.4
	baz=7.9						

*ISCJB **11** 09:00:16.9±0.9, 1.°43N±0.°10×91.°2E±0.°1, h10km, mb5.5/14, Error ellipse: s-maj=20.2km s-min=8.4km az=143.3*
*IDC **11** 09:00:16.3±1.2, 1.°23N×91.°05E, h0km, mb5.2/11, mb1 5.3/11, mb1mx4.7/65, mbtmp5.2/11, Error ellipse: s-maj=34.9km s-min=16.5km az=57.0*
*BJI **11** 09:00:19.0, 1.°40N×91.°60E, h10km, mb5.2/2*

ISC 11 09:00:18.8±1.1, 1.°4N±0.°1×91.°2E±0.°2, h10km, n43, σ1s45/39, mb5.4/14, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSI	Banda Aceh	5.76	45	P	Pn	09 01 43.0	-1.4
PDSI	Padang	9.51

KURBB	Kurchatov Arra	50.23	350	P		P	09 09 14.7	-0.2
	28nm,0.7s,baz=172,slow=6.8,SNR=32							
ZALV	Zalesovo Beam	52.65	355	P		P	09 09 31.6	-1.5
	18nm,0.3s,baz=174,slow=7.0,SNR=14							
ZALV	Zalesovo Beam	52.65	355	P		P	09 09 31.6	-1.5
BVAR	Borovoye Array	54.30	345	P		P	09 09 45.6	+0.4
	14nm,0.7s,baz=142,slow=7.3,SNR=7.3							
BVAR	Borovoye Array	54.30	345	P		P	09 09 45.5	+0.4
MAT	Matsushiro	55.70	45	P		P	09 09 55.4	-0.2
MJAR	Matsushiro Arr	55.70	45	P		P	09 09 56.6	+1.0
	39nm,0.8s,baz=232,slow=7.8,SNR=16							
USRK	Ussuriysk Ar.	55.85	35	P		P	09 09 57.8	+1.2
	20nm,0.9s,baz=234,slow=4.9,SNR=6.9							
ULM	Lac du Bonnet	128.20	6	PKP		PKPdf	09 19 23.8	-1.7
	11nm,0.9s,baz=297,slow=3.3,SNR=5.2							
ULM	Lac du Bonnet	128.20	6	PKP		PKPdf	09 19 23.8	-1.7
TXAR	Lajitas Array	146.29	24	PKPbc		PKPab	09 20 01.6	+0.3
	26nm,0.9s,baz=264,slow=1.8,SNR=34							

MOS ***11*** *09:01:04.9±1.2, 2.2°23N×89.5°51E, h10km, mb6.0/22, Error ellipse: s-maj=9.2km s-min=6.9km az=83.1*
ISCJB ***11*** *09:01:05.4±0.3, 2.2°27N±0.0°06×89.5°53E±0.0°04, h10km, mb5.8/59, Error ellipse: s-maj=8.7km s-min=4.3km az=27.7*
IDC ***11*** *09:01:05.9±0.8, 2.2°24N×89.7°44E, h0km, mb5.4/19, mb1 5.4/22, mb1mx5.1/69, mbtmp5.4/22, ML5.1/3, Error ellipse: s-maj=21.3km s-min=13.5km az=38.0*
NEIC ***11*** *09:01:06.8±0.3, 2.2°20N×89.7°44E, h10km, mb5.9/22, Error ellipse: s-maj=10.8km s-min=6.6km az=213.0*

ISC 11 09:01:07.2±0.4, 2.2°25N±0.0°08×89.7°49E±0.0°06, h10km, n205, σ1s26/194, mb5.8/59, 14C-4D, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSI	**Gunungsitoli**	**8.13**	**97**	*e*Pn	**Pn**	**09 03 04.8**	**-0.6**
GSI				*e*Sn	**Sn**	**09 04 38.9**	**+1.3**
PSI	**Prapat**	**9.44**	**86**	Pn	**Pn**	**09 03 24.4**	**+0.9**
	10nm,0.3s,baz=286,slow=8.9,SNR=2.4						
PALK	**Pallekele**	**10.08**	**300**	Pn	**Pn**	**09 03 32.7**	**+0.5**
	34nm,0.3s,baz=116,slow=14,SNR=3.3						
PALK				Sn	Sn	09 05 14.1	-11
	789nm,0.3s,baz=296,slow=3.5,SNR=25						
PALK	**Pallekele**	**10.08**	**300**	Pn	**Pn**	**09 03 32.7**	**+0.5**
	373nm,1.2s						
PALK				Sn	Sn	09 05 14.1	-11
PALK	**Pallekele**	**10.08**	**300**	P	**Pn**	**09 03 32.7**	**+0.5**
PALK				pmax	pmax		
	comp=Z,373nm,1.2s						
SKHT	**Srikalahasti**	**14.96**	**320**	*e*P	**Pn**	**09 04 39.2**	**+0.2**
ADKI	**Addanki**	**16.45**	**326**	*e*P	**Pn**	**09 04 58.5**	**+0.3**
PVM	**Polavaram**	**16.79**	**333**	*e*P	**Pn**	**09 05 02.0**	**-0.7**
CHLP	**Challavanipeta**	**17.01**	**342**	*e*P	**Pn**	**09 05 05.8**	**+0.4**
SRLM	**Srisailam**	**17.27**	**323**	*e*P	**Pn**	**09 05 08.1**	**-0.6**
NJS	**Nagarjunasagar**	**17.39**	**325**	*e*P	**Pn**	**09 05 10.2**	**0.0**
URV	**Uravakonda**	**17.46**	**317**	*e*P	**Pn**	**09 05 11.3**	**+0.2**
HYBB	**Hyderabad (bro**	**18.51**	**325**	*e*P	**Pn**	**09 05 25.0**	**+0.9**
CMAR	**Chiang Mai Arr**	**18.58**	**29**	P	**Pn**	**09 05 26.8**	**+2.0**
	comp=Z,2.4nm,0.3s,baz=222,slow=12,SNR=12						
CHTO	**Chiang Mai**	**18.88**	**29**	*e*P	**P**	**09 05 26.6**	**-1.4**
	comp=Z,376nm,1.3s						
CHTO	**Chiang Mai**	**18.88**	**29**	*e*P	**P**	**09 05 26.6**	**-1.4**
CHTO				pmax	pmax		
	comp=Z,376nm,1.3s						
RPR	**Rampur**	**19.29**	**329**	*e*P	**P**	**09 05 32.1**	**-0.3**
H08S2	**Diego Garcia H**	**19.60**	**240**	T	T	09 25 38.6	
	baz=59,slow=75,SNR=4.9						
H08S3	**Diego Garcia H**	**19.60**	**240**	T	T	09 25 38.3	
	baz=59,slow=75,SNR=4.4						
H08S1	**Diego Carcia H**	**19.62**	**240**	T	T	09 25 40.6	
	baz=59,slow=75,SNR=4.6						
SRSP	**Sriramsagar**	**19.85**	**327**	*e*P	**P**	**09 05 38.9**	**+0.4**
KLRI	**Killari**	**20.18**	**322**	*e*P	**P**	**09 05 42.7**	**+0.5**
KSM	**Kuching**	**20.82**	**92**	*e*P	**P**	**09 05 47.4**	**-1.7**
	comp=Z,3μm,1.9s						
SMRI	**Semarang**	**22.86**	**114**	*e*P	**P**	**09 06 11.8**	**+0.8**
	comp=Z,1μm,1.1s						
KKM	**Kota Kinabalu**	**26.91**	**81**	*e*P	**P**	**09 06 49.1**	**+0.1**
	comp=Z,309nm,1.3s						
LSA	**Lhasa**	**27.34**	**3**	*e*P	**P**	**09 06 54.5**	**+1.4**
	comp=Z,784nm,0.9s						
LSA	**Lhasa**	**27.34**	**3**	*e*P	**P**	**09 06 54.5**	**+1.4**
LSA				pmax	pmax		
	comp=Z,784nm,0.9s						
TGY	**Tagaytay City**	**33.22**	**68**	P	**P**	**09 07 46.6**	**+1.8**
	comp=Z,1μm,0.8s,baz=272,slow=3.0,SNR=12						
ENH	**Enshi**	**33.70**	**32**	*e*P	**P**	**09 07 48.7**	**-0.1**
	comp=Z,212nm,0.6s						
XAN	**Xi'an**	**36.46**	**28**	P	**P**	**09 08 11.8**	**-0.8**
XAN				pmax	pmax		
	comp=Z,320nm,0.9s						
WHN	**Wuhan**	**36.68**	**37**	⇑P	**P**	**09 08 15.9**	**+1.5**
MBWA	**Marble Bar**	**37.65**	**130**	*e*P	**P**	**09 08 24.0**	**+1.2**
	comp=Z,353nm,0.6s						
GTA	**Gaotai**	**38.16**	**13**	*e*P	**P**	**09 08 28.0**	**+1.0**
GTA				pP	sP	09 08 41.9	+11
GTA				sP	pP	09 08 49.7	+20
GTA				pmax	pmax		
	comp=Z,580nm,1.1s						
FITZ	**Fitzroy Crossi**	**40.94**	**121**	P	**P**	**09 08 50.6**	**+0.3**
	comp=Z,19nm,0.6s,baz=257,slow=6.6,SNR=5.8						
SIJI	**Sorong**	**41.88**	**94**	P	**P**	**09 08 56.9**	**-1.3**
	comp=Z,31nm,0.9s,baz=320,slow=8.5,SNR=5.8						
AAK	**Ala-Archa**	**42.39**	**344**	*e*P	**P**	**09 09 01.9**	**-0.2**
AAK				pmax	pmax		
	comp=Z,47nm,1.2s						
H01W3	**Cape Leeuwin H**	**43.58**	**150**	T	T	09 55 59.6	
	baz=325,slow=76,SNR=4.0						
H01W2	**Cape Leeuwin H**	**43.59**	**150**	T	T	09 55 53.1	
	baz=325,slow=76,SNR=4.7						
H01W1	**Cape Leeuwin H**	**43.59**	**150**	T	T	09 55 32.2	
	baz=325,slow=76,SNR=3.7						
NWAO	**Narrogin (SRO)**	**43.72**	**146**	P	**P**	**09 09 13.8**	**+0.9**
	comp=Z,70nm,0.6s,baz=182,slow=7.5,SNR=26						
NWAO	**Narrogin (SRO)**	**43.72**	**146**	*e*P	**P**	**09 09 11.8**	**-1.0**
	comp=Z,2μm,1.3s						
NWAO	**Narrogin (SRO)**	**43.72**	**146**	*e*P	**P**	**09 09 11.8**	**-1.0**
NWAO				pmax	pmax		
	comp=Z,2μm,1.3s						
JOW	**Kunigami**	**44.48**	**53**	P	**P**	**09 09 20.0**	**+1.0**
	comp=Z,146nm,0.7s,baz=347,slow=6.2,SNR=6.5						
MKAR	**Makanchi Array**	**44.81**	**353**	P	**P**	**09 09 21.4**	**+0.1**
	comp=Z,24nm,0.6s,baz=168,slow=7.6,SNR=4.9						
GEYT	**Alibeck**	**45.69**	**325**	P	**P**	**09 09 29.6**	**+1.0**
	comp=Z,23nm,0.7s,baz=108,slow=4.8,SNR=6.2						
DL2	**Dalian**	**46.80**	**35**	P	**P**	**09 09 38.4**	**+1.3**
DL2				pmax	pmax		
	comp=Z,240nm,1.1s						
RAYN	**Ar Rayn**	**47.52**	**300**	*e*P	**P**	**09 09 43.6**	**+0.5**
	comp=Z,275nm,1.9s						
SONM	**Songino Array**	**47.70**	**15**	P	**P**	**09 09 45.2**	**+1.0**
	comp=Z,289nm,0.7s,baz=196,slow=9.0,SNR=27						
ULN	**Ulaanbaatar**	**47.91**	**16**	*e*P	**P**	**09 09 46.3**	**+0.5**
	comp=Z,115nm,0.7s						
ULN	**Ulaanbaatar**	**47.91**	**16**	*ce*P	**P**	**09 09 46.2**	**+0.4**
ULN				pmax	pmax		
	comp=Z,196nm,1.7s						
TJN	**Taejon**	**48.73**	**41**	*ce*P	**P**	**09 09 51.7**	**-0.5**
HVS	**Khovu-Aksy**	**48.84**	**4**	*e*P	**P**	**09 09 53.4**	**+0.5**
HVS				pmax	pmax		
	comp=Z,272nm,0.9s						
KURBB	**Kurchatov Arra**	**49.08**	**351**	P	**P**	**09 09 54.6**	**0.0**
	comp=Z,54nm,0.7s,baz=179,slow=7.3,SNR=23						
KURK	**Kurchatov**	**49.16**	**351**	*e*P	**P**	**09 09 54.6**	**-0.6**
KURK	**Kurchatov**	**49.16**	**351**	*ce*P	**P**	**09 09 54.3**	**-0.9**
KURK				pmax	pmax		
	comp=Z,122nm,1.1s						
WRAB	**Tennant Creek**	**49.22**	**119**	*e*P	**P**	**09 09 54.0**	**-2.2**
	comp=Z,25nm,0.8s						
WRAB	**Tennant Creek**	**49.22**	**119**	*e*P	**P**	**09 09 54.0**	**-2.2**
WRAB				pmax	pmax		
	comp=Z,25nm,0.8s						
FORT	**Forrest**	**49.27**	**135**	*e*P	**P**	**09 09 55.0**	**-1.4**
	comp=Z,4μm,0.8s						
ZAK	**Zakamensk**	**49.36**	**12**	*e*P	**P**	**09 09 54.1**	**-2.8**
ZAK				pmax	pmax		
	comp=Z,70nm,1.7s						
KSAR	**Wonju Array Be**	**49.68**	**40**	P	**P**	**09 09 59.4**	**-0.1**
KSAR	**Wonju Array Be**	**49.68**	**40**	P	**P**	**09 09 59.4**	**-0.1**
KSRS	**Korea Array**	**49.72**	**40**	P	**P**	**09 09 59.4**	**-0.3**
	comp=Z,50nm,1.1s,baz=235,slow=8.4,SNR=11						
MOY	**Mondy**	**50.18**	**9**	*e*P	**P**	**09 10 02.7**	**-0.5**
ASAR	**Alice Springs**	**50.29**	**123**	P	**P**	**09 10 05.3**	**+1.0**
	comp=Z,13nm,0.7s,baz=295,slow=7.0,SNR=10.0						
ZALV	**Zalesovo Beam**	**51.67**	**356**	P	**P**	**09 10 14.0**	**-0.2**
	comp=Z,38nm,0.6s,baz=176,slow=7.6,SNR=5.8						
ZALV	**Zalesovo Beam**	**51.67**	**356**	P	**P**	**09 10 14.0**	**-0.2**
ABKAR	**Akbulak array**	**53.20**	**336**	*e*P	**P**	**09 10 25.8**	**+0.1**
	comp=Z,27nm,0.6s						
HIA	**Hailar**	**53.49**	**24**	*e*P	**P**	**09 10 28.5**	**+0.7**
HIA				pmax	pmax		
	comp=Z,115nm,1.1s						
MSHR	**Mys Shultsa**	**54.71**	**37**	*ce*P	**P**	**09 10 36.5**	**-0.3**
MDJ	**Mudanjiang**	**55.03**	**34**	P	**P**	**09 10 38.7**	**-0.4**
MDJ				pmax	pmax		
	comp=Z,270nm,1.4s						
MDJ				pmax	pmax		
	comp=Z,746μm,13.7s						
GNI	**Garni**	**55.32**	**319**	*ce*P	**P**	**09 10 42.8**	**+1.3**
GNI				pmax	pmax		
	comp=Z,537nm,1.7s						
USRK	**Ussuriysk Ar.**	**56.15**	**36**	P	**P**	**09 10 47.3**	**+0.2**
	comp=Z,44nm,0.9s,baz=242,slow=4.1,SNR=14						
MAJO	**Matsushiro**	**56.35**	**47**	*e*P	**P**	**09 10 47.8**	**-1.0**
	comp=Z,166nm,1.2s						
MAJO	**Matsushiro**	**56.35**	**47**	*e*P	**P**	**09 10 47.8**	**-1.0**
MAJO				pmax	pmax		
	comp=Z,166nm,1.2s						
MAT	**Matsushiro**	**56.35**	**47**	P	**P**	**09 10 48.8**	**0.0**
MJAR	**Matsushiro Arr**	**56.35**	**47**	P	**P**	**09 10 48.8**	**+0.1**
	comp=Z,90nm,0.7s,baz=243,slow=7.5,SNR=30						
BOD	**Bodaibo**	**58.70**	**15**	*e*P	**P**	**09 11 04.4**	**-0.5**
BOD				pmax	pmax		
	comp=Z,177nm,0.8s						
ERM	**Erimo**	**62.15**	**43**	*e*P	**P**	**09 11 28.6**	**-0.1**
ERM				pmax	pmax		
	comp=Z,61nm,1.0s						
ASAJ	**Asahikawa**	**62.67**	**40**	P	**P**	**09 11 32.5**	**+0.2**
	comp=Z,33nm,0.6s,baz=252,slow=9.2,SNR=11						
BRTR	**Keskin Array B**	**62.78**	**314**	P	**P**	**09 11 32.9**	**-0.3**
	comp=Z,14nm,0.6s,baz=136,slow=5.6,SNR=15						
YSS	**Yuzh-Sakhalins**	**64.03**	**38**	*e*P	**P**	**09 11 41.4**	**+0.2**
	comp=Z,269nm,1.2s						
YSS	**Yuzh-Sakhalins**	**64.03**	**38**	*e*P	**P**	**09 11 42.0**	**+0.8**
YSS				pmax	pmax		
	comp=Z,110nm,1.2s						
ISP	**Isparta**	**64.42**	**311**	*e*P	**P**	**09 11 45.0**	**+0.9**
ISP				pmax	pmax		
	comp=Z,18nm,0.8s						
EIDS	**Eidsvold**	**65.58**	**119**	*e*P	**P**	**09 11 51.2**	**-0.5**
	comp=Z,151nm,1.4s						
NKL	**Nikolayevsk**	**65.90**	**31**	*e*P	**P**	**09 11 52.0**	**-1.2**
YAK	**Yakutsk**	**66.78**	**19**	*e*P	**P**	**09 11 57.9**	**-0.8**
	comp=Z,9μm,2.8s						
ARMA	**Armidale**	**67.43**	**124**	P	**P**	**09 12 05.0**	**+1.4**
	comp=Z,153nm,1.4s						
OBN	**Obninsk**	**67.79**	**330**	*e*P	**P**	**09 12 05.0**	**-0.2**
OBN				*e*		09 12 29.9	
OBN				*e*		09 14 35.0	
OBN				pmax	pmax		
	comp=Z,44nm,1.0s						
SANT	**Santorini**	**67.91**	**308**	⇑*i*P		09 12 15.1	+8.7
TIRR	**Tirgusor**	**68.08**	**317**	⇑*i*P	**P**	**09 12 08.7**	**+1.4**
TAU	**Tasmania Unive**	**68.63**	**138**	*e*P	**P**	**09 12 10.5**	**-0.2**
	comp=Z,153nm,1.2s						
TAU	**Tasmania Unive**	**68.63**	**138**	*e*P	**P**	**09 12 10.5**	**-0.2**
TAU				pmax	pmax		
	comp=Z,153nm,1.2s						
KIS	**Kishinev**	**68.69**	**320**	*e*P	**P**	**09 12 12.0**	**+1.0**
BUC1	**Bucharest**	**69.67**	**317**	⇑*i*P	P	09 12 22.3	+5.1
PLOR	**Plostina**	**69.72**	**318**	⇑*i*P	**P**	**09 12 18.4**	**+0.9**
MLR	**Muntele Rosu**	**70.07**	**318**	⇑*i*P	**P**	**09 12 21.9**	**+2.1**
VTS	**Vitosha**	**71.15**	**314**	⇑*i*P	**P**	**09 12 26.1**	**-0.4**
BURAR	**Bucovina Array**	**71.21**	**320**	⇑*i*P	P	09 12 35.6	+8.9
LOT	**Lotru**	**71.52**	**317**	⇑*i*P	P	09 12 22.8	-5.8
DEV	**Deva**	**72.23**	**318**	⇑*i*P	**P**	**09 12 34.5**	**+1.8**
SKR	**Severo-Kuril's**	**73.60**	**37**	*e*P	**P**	**09 12 39.4**	**-1.3**
SKR				pmax	pmax		
	comp=Z,253nm,0.8s						
TIXI	**Tiksi**	**73.64**	**12**	*e*P	**P**	**09 12 39.7**	**-0.9**
	comp=Z,184nm,0.7s						
TIXI	**Tiksi**	**73.64**	**12**	*ce*P	**P**	**09 12 38.5**	**-2.0**
TIXI				pmax	pmax		
	comp=Z,190nm,0.7s						
PDG	**Podgorica**	**73.96**	**314**	⇑*i*P	**P**	**09 12 43.5**	**+0.5**
TIP	**Timpagrande**	**75.22**	**310**	*e*P	**P**	**09 12 49.4**	**-1.1**
	comp=Z,97nm,1.6s						
PETK	**Petropavlovsk-**	**75.24**	**35**	P	**P**	**09 12 48.5**	**-1.8**
	comp=Z,14nm,0.5s,baz=285,slow=1.2,SNR=26						
CEL	**Celeste**	**75.75**	**309**	*e*P	**P**	**09 12 52.9**	**-0.7**
	comp=Z,164nm,1.8s						
SEY	**Seynchan**	**75.94**	**25**	*ce*P	**P**	**09 12 53.1**	**-0.9**
DPC	**Dobruska-Polom**	**77.57**	**321**	*e*P	**P**	**09 13 04.6**	**+1.0**
AQU	**L'Aquila**	**78.22**	**313**	*e*P	**P**	**09 13 06.2**	**-1.2**
	comp=Z,153nm,1.0s						
AQU	**L'Aquila**	**78.22**	**313**	*e*P	**P**	**09 13 06.2**	**-1.2**
AQU				pmax	pmax		
	comp=Z,153nm,1.0s						
ARCES	**ARCESS Array B**	**79.01**	**341**	P	**P**	**09 13 11.3**	**+0.2**
	comp=Z,33nm,0.8s,baz=108,slow=4.5,SNR=12						
KHC	**Kasperske Hory**	**79.10**	**320**	*e*P	**P**	**09 13 11.3**	**-0.8**
CLL	**Collm**	**79.81**	**322**	*e*P	**P**	**09 13 16.0**	**+0.2**
CLL	**Collm**	**79.81**	**322**	*e*P	**P**	**09 13 19.0**	**+3.2**
CLL				pmax	pmax		
	comp=Z,115nm,1.8s						
NB2	**NORSAR Subarra**	**82.36**	**331**	P	**P**	**09 13 28.0**	**-1.3**
	comp=Z,271nm,2.0s,baz=96,slow=5.1						
NB2	**NORSAR Subarra**	**82.36**	**331**	P	**P**	**09 13 28.0**	**-1.3**
	baz=96,slow=5.1						
NOA	**NORSAR Array B**	**82.36**	**331**	P	**P**	**09 13 28.1**	**-1.2**
	comp=Z,4.9nm,0.8s,baz=103,slow=5.5,SNR=3.7						
BFO	**Black Forest**	**82.44**	**318**	*e*P	**P**	**09 13 29.7**	**-0.3**
	comp=Z,110nm,1.3s						
BFO	**Black Forest**	**82.44**	**318**	*e*P	**P**	**09 13 29.7**	**-0.3**
BFO				pmax	pmax		
	comp=Z,110nm,1.3s						
ECH	**Echery**	**83.21**	**318**	*e*P	**P**	**09 13 31.4**	**-2.6**
	comp=Z,80nm,1.2s						
ECH	**Echery**	**83.21**	**318**	*e*P	**P**	**09 13 31.4**	**-2.6**
ECH				pmax	pmax		
	comp=Z,80nm,1.2s						
TAM	**Tamanrasset**	**83.58**	**293**	*e*P	**P**	**09 13 37.5**	**+1.0**
	comp=Z,105nm,1.5s						
TAM	**Tamanrasset**	**83.58**	**293**	*e*P	**P**	**09 13 37.5**	**+1.0**
TAM				pmax	pmax		
	comp=Z,105nm,1.5s						
SPITS	**Spitsbergen Ar**	**84.38**	**349**	P	**P**	**09 13 40.3**	**+0.9**
	comp=Z,35nm,0.7s,baz=64,slow=6.6,SNR=9.7						
ESK	**Eskdalemuir**	**89.71**	**325**	*e*P	**P**	**09 14 02.6**	**-3.0**
	comp=Z,8.6nm,0.8s						
ESK	**Eskdalemuir**	**89.71**	**325**	*e*P	**P**	**09 14 02.6**	**-3.0**
ESK				pmax	pmax		
	comp=Z,9.0nm,0.8s						
ESDC	**Sonseca Array**	**91.24**	**310**	P	**P**	**09 14 13.3**	**0.0**
	comp=Z,5.7nm,0.9s,baz=50,slow=2.9,SNR=4.5						
DAG	**Danmarks Havn**	**91.93**	**347**	*i* P	**P**	**09 14 15.5**	**0.0**
DAG	**Danmarks Havn**	**91.93**	**347**	*e*P	**P**	**09 14 15.5**	**0.0**
I03D	**Drain, OR**	**125.59**	**29**	P	**PKPdf**	**09 20 10.5**	**+1.3**
	baz=318						
I04A	**Tendick Farm,**	**125.97**	**28**	P	**PKPdf**	**09 20 11.7**	**+1.7**
	baz=319						
J04D	**Umpqua Nationa**	**126.53**	**28**	P	**PKPdf**	**09 20 12.7**	**+1.3**
	baz=320						
J05D	**Fort Rock, OR**	**126.91**	**28**	P	**PKPdf**	**09 20 13.5**	**+1.5**
	baz=320						
MSO	**Missoula**	**126.95**	**20**	P	**PKPdf**	**09 20 13.5**	**+1.6**
	baz=330						
ULM	**Lac du Bonnet**	**127.50**	**4**	PKP	**PKPdf**	**09 20 12.0**	**-0.6**
	comp=Z,3.9nm,0.7s,baz=5.3,slow=2.0,SNR=5.4						
PDAR	**Pinedale Array**	**132.00**	**19**	PKP	**PKPdf**	**09 20 22.0**	**+0.2**
	comp=Z,2.0nm,0.6s,baz=106,slow=1.6,SNR=8.8						
NVAR	**Mina Array Bea**	**132.07**	**30**	PKP	**PKPdf**	**09 20 22.7**	**+0.6**
	comp=Z,2.7nm,0.5s,baz=300,slow=2.7,SNR=7.2						
LPM	**Los Pinos Moun**	**140.59**	**21**	*e*PKPdf	**PKPdf**	**09 20 38.0**	**+0.1**
MSTX	**Muleshoe**	**142.16**	**17**	*e*PKPdf	**PKPdf**	**09 20 38.5**	**-2.2**
WMOK	**Wichita Mounta**	**142.39**	**11**	P	**PKPdf**	**09 20 36.9**	**-4.0**
	baz=346						
MNTX	**Cornudas Mount**	**143.40**	**22**	*e*PKPdf	PKPbc	09 20 40.5	+0.6
ASAL	**Salagasta**	**143.59**	**212**	*e*P	**PKPdf**	**09 20 49.4**	**+6.2**
RTCV	**Cerro Valdivia**	**144.00**	**213**	*e*P	**PKPdf**	**09 20 48.6**	**+4.8**
AUSP	**Uspallata**	**144.17**	**211**	*e*P	**PKPdf**	**09 20 48.5**	**+4.0**
ABTX	**Abilene, Hawle**	**144.25**	**13**	P	**PKPab**	**09 20 41.7**	**-0.4**
	baz=344						
ABTX	**Abilene, Hawle**	**144.25**	**13**	*e*PKPdf	**PKPab**	**09 20 41.5**	**-0.5**
ROC1	**El Roble**	**144.38**	**209**	*e*P	**PKPdf**	**09 20 47.1**	**+2.3**
Z48A	**Northport**	**144.45**	**356**	P	**PKPab**	**09 20 42.0**	**-0.7**
	baz=5.2						
RTLS	**Leoncito**	**144.46**	**212**	*e*P	**PKPdf**	**09 20 48.5**	**+3.5**
Z41A	**Richland Creek**	**144.62**	**3**	P	**PKPab**	**09 20 43.0**	**-0.2**
	baz=356						
Z42A	**Norrel Spur, H**	**144.64**	**2**	P	PKPbc	09 20 43.5	0.0
	baz=358						
Z44A	**Pea Ridge, Bel**	**144.66**	**360**	P	**PKPdf**	**09 20 44.7**	**-0.2**
	baz=0.2						
AMOG	**MOGNA**	**144.68**	**214**	*e*P	**PKPdf**	**09 20 47.3**	**+2.2**
Z46A	**Louisville**	**144.72**	**358**	P	**PKPdf**	**09 20 44.8**	**-0.2**
	baz=2.8						
151A	**Opelika**	**145.06**	**352**	P	**PKPbc**	**09 20 44.2**	**-0.7**
	baz=9.1						
150A	**Eclectic**	**145.07**	**353**	P	**PKPab**	**09 20 45.1**	**+0.2**
	baz=7.9						
140A	**Cam and Jess,**	**145.18**	**5**	P	**PKPbc**	**09 20 45.3**	**0.0**
	baz=355						
147A	**Livingston**	**145.20**	**357**	P	**PKPbc**	**09 20 44.7**	**-0.7**
	baz=4.0						
143A	**Socs Landing,**	**145.22**	**1**	P	**PKPdf**	**09 20 45.9**	**0.0**
	baz=358						
141A	**Papa Simpson,**	**145.26**	**4**	P	**PKPdf**	**09 20 46.0**	**0.0**
	baz=356						
144A	**Alexander Plac**	**145.31**	**360**	P	**PKPbc**	**09 20 45.6**	**-0.1**
	baz=0.2						
WHTX	**Lake Whitney,**	**145.31**	**10**	P	**PKPbc**	**09 20 45.4**	**-0.3**
	baz=348						
WHTX	**Lake Whitney,**	**145.31**	**10**	*e*PKPbc	**PKPbc**	**09 20 45.6**	**-0.2**
253A	**Americus**	**145.34**	**350**	P	**PKPbc**	**09 20 45.2**	**-0.6**
	baz=11						
142A	**Monroe**	**145.36**	**2**	P	**PKPbc**	**09 20 45.8**	**-0.1**
	baz=358						
251A	**Midway**	**145.50**	**352**	P	**PKPbc**	**09 20 46.0**	**-0.4**
	baz=9.1						
252A	**Lumpkin**	**145.50**	**351**	P	**PKPbc**	**09 20 46.1**	**-0.3**
	baz=10						
ACDV	**Cuesta del Vie**	**145.62**	**214**	*e*P	**PKPdf**	**09 20 46.0**	**-0.9**
VBMS	**Vicksburg**	**145.72**	**0**	P	**PKPab**	**09 20 47.7**	**+0.4**
	baz=0.1						
250A	**Grady**	**145.72**	**354**	P	**PKPbc**	**09 20 47.0**	**-0.1**
	baz=7.6						
AGUA	**GUANDACOL**	**145.77**	**216**	*e*P	**PKPdf**	**09 20 45.0**	**-2.1**
355A	**Pearson**	**145.81**	**348**	P	**PKPab**	**09 20 47.9**	**+0.2**
	baz=14						
249A	**Camden**	**145.81**	**355**	P	**PKPbc**	**09 20 47.2**	**-0.1**
	baz=6.1						
AROD	**Rodeo**	**145.81**	**214**	*e*P	**PKPdf**	**09 20 46.1**	**-1.3**
242A	**Grayson**	**145.84**	**2**	P	**PKPab**	**09 20 47.8**	**0.0**
	baz=357						
TIGA	**Tifton**	**145.85**	**349**	P	**PKPab**	**09 20 47.8**	**0.0**
	baz=12						
TIGA	**Tifton**	**145.85**	**349**	*e*PKPbc	**PKPbc**	**09 20 47.4**	**-0.1**
NATX	**Nacogdoches**	**145.95**	**6**	P	**PKPab**	**09 20 48.7**	**+0.5**
	baz=353						
NATX	**Nacogdoches**	**145.95**	**6**	*e*PKPbc	**PKPab**	**09 20 48.8**	**+0.6**
353A	**Camilla**	**146.06**	**350**	P	**PKPab**	**09 20 48.4**	**-0.2**
	baz=11						
VCA	**Vinchina**	**146.16**	**217**	*e*P	**PKPdf**	**09 20 45.0**	**-2.8**
TXAR	**Lajitas Array**	**146.16**	**21**	PKPbc	**PKPbc**	**09 20 48.4**	**-0.2**
	comp=Z,122nm,1.1s,baz=24,slow=3.3,SNR=21						
JCT	**Junction City**	**146.26**	**15**	P	**PKPdf**	**09 20 48.2**	**+0.4**
	baz=343						
351A	**Pinckard**	**146.33**	**352**	P	**PKPbc**	**09 20 48.4**	**-0.5**
	baz=8.9						
348A	**Jackson**	**146.43**	**356**	P	**PKPab**	**09 20 49.9**	**-0.1**
	baz=4.8						
349A	**Repton**	**146.44**	**355**	P	**PKPab**	**09 20 49.7**	**-0.3**
	baz=6.1						
435B	**Jarrell**	**146.46**	**11**	P	**PKPab**	**09 20 49.8**	**-0.4**
	baz=347						
347A	**Saraland**	**146.48**	**357**	P	**PKPbc**	**09 20 49.7**	**+0.3**
	baz=3.6						
344A	**Westbrook Farm**	**146.48**	**0**	P	**PKPbc**	**09 20 49.7**	**+0.3**
	baz=360						
341A	**Kurthwood**	**146.50**	**4**	P	**PKPbc**	**09 20 50.1**	**-0.3**
	baz=355						
342A	**Flagon Creek P**	**146.51**	**3**	P	**PKPab**	**09 20 50.0**	**-0.4**
	baz=357						
557A	**Orange Park**	**146.84**	**346**	P	**PKPbc**	**09 20 50.5**	**+0.1**
	baz=16						
451A	**Vernon**	**147.00**	**352**	P	**PKPbc**	**09 20 51.3**	**+0.4**
	baz=8.8						
556A	**Lake Butler**	**147.01**	**347**	P	**PKPab**	**09 20 52.0**	**-0.3**
	baz=15					

FINES	**FINES Array B**	**75.86**	**334**	P		**P**	**09 16 22.9**	**+0.2**
	11nm,0.8s,baz=112,slow=6.0,SNR=3.3								
ARCES	**ARCESS Array B**	**79.26**	**341**	P		**P**	**09 16 42.3**	**+0.8**
	5.1nm,0.6s,baz=100,slow=5.6,SNR=6.7								
GERES	**GERESS Array B**	**79.31**	**319**	P		**P**	**09 16 43.3**	**+0.9**
	2.2nm,0.6s,baz=98,slow=5.1,SNR=2.2								
NB2	**NORSAR Subarra**	**82.66**	**331**	P		**P**	**09 16 59.7**	**-0.3**
	comp=Z,22nm,1.0s,baz=97,slow=5.3								
NB2	**NORSAR Subarra**	**82.66**	**331**	P		**P**	**09 16 59.7**	**-0.3**
	baz=97,slow=5.3								
TXAR	**Lajitas Array**	**146.16**	**22**	PKPbc		**PKPdf**	**09 24 16.1**	**-0.7**
	comp=Z,4.8nm,0.6s,baz=235,slow=0.6,SNR=5.9								

IDC ***11*** *09:04:49.4±2.1,2.71N×90.29E,h0km,mb5.4/9, mb1 5.4/11,mb1mx4.8/70,mbtmp5.3/11,ML5.0/2, Error ellipse: s-maj=48.5km s-min=30.0km az=9.0*

ISC 11 09:04:51.3±1.9,2.8N±0.3×90.3E±0.2,h10km,n13, σ0.67/13,mb5.3/9,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**8.60**	**90**	Pn	**Pn**	**09 06 56.3**	**+0.3**
	20nm,0.3s,baz=334,slow=14,SNR=2.8						
CMAR	**Chiang Mai Arr**	**17.71**	**28**	P	**Pn**	**09 08 57.3**	**-0.9**
	1.7nm,0.3s,baz=220,slow=13,SNR=4.5						
MKAR	**Makanchi Array**	**44.38**	**352**	P	**P**	**09 13 02.7**	**+0.7**
	40nm,0.8s,baz=175,slow=8.7,SNR=5.9						
SONM	**Songino Array**	**46.96**	**15**	P	**P**	**09 13 22.8**	**+0.2**
	158nm,0.8s,baz=194,slow=8.9,SNR=16						
KURBB	**Kurchatov Arra**	**48.69**	**350**	P	**P**	**09 13 36.3**	**+0.6**
	44nm,0.9s,baz=173,slow=7.2,SNR=6.6						
KSRS	**Korea Array**	**48.77**	**40**	P	**P**	**09 13 36.5**	**-0.1**
	24nm,1.1s,baz=209,slow=9.7,SNR=3.9						
ZALV	**Zalesovo Beam**	**51.19**	**356**	P	**P**	**09 13 55.1**	**+0.5**
	55nm,0.8s,baz=74,slow=13,SNR=13						
USRK	**Ussuriysk Ar.**	**55.23**	**36**	P	**P**	**09 14 25.0**	**+0.4**
	29nm,1.0s,baz=252,slow=5.8,SNR=7.0						
FINES	**FINESS Array B**	**75.46**	**333**	P	**P**	**09 16 35.1**	**-0.3**
	20nm,0.7s,baz=104,slow=8.0,SNR=5.8						
ARCES	**ARCESS Array B**	**78.76**	**341**	P	**P**	**09 16 54.5**	**+0.6**
	59nm,0.8s,baz=95,slow=4.0,SNR=14						
NOA	**NORSAR Array B**	**82.28**	**331**	P	**P**	**09 17 12.5**	**-0.5**
	10nm,0.9s,baz=98,slow=5.7,SNR=4.2						
NVAR	**Mina Array Bea**	**131.19**	**30**	PKP	**PKPdf**	**09 24 04.4**	**-0.1**
	4.4nm,0.9s,baz=258,slow=1.7,SNR=4.5						
TXAR	**Lajitas Array**	**145.35**	**22**	PKPbc	**PKPbc**	**09 24 29.0**	**-1.2**
	59nm,1.1s,baz=270,slow=1.3,SNR=8.2						

ISCJB ***11*** *09:06:21.6±0.6,1.1N±0.1×91.97E±0.06,h10km,mb5.3/22, Error ellipse: s-maj=15.9km s-min=8.3km az=10.7*
IDC ***11*** *09:06:22.0±2.6,1.01N×91.77E,h0km,mb5.0/13, mb1 5.1/14,mb1mx4.7/71,mbtmp5.0/14,ML4.9/1,Error ellipse: s-maj=60.1km s-min=32.6km az=162.0*
NEIC ***11*** *09:06:22.6±0.5,0.92N×91.92E,h10km,mb5.0/2,Error ellipse: s-maj=11.4km s-min=6.7km az=202.0*

ISC 11 09:06:22.4±0.8,0.9N±0.1×91.90E±0.10,h10km,n54, σ1.33/52,mb5.3/22,3C-4D,North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GSI	**Gunungsitoli**	**5.69**	**86**	*e*Pn	**Pn**	**09 07 46.8**	**-0.3**
IPM	**Ipoh**	**9.79**	**68**	*e*Pn	**Pn**	**09 08 43.6**	**+0.2**
KSM	**Kuching**	**18.41**	**88**	*e*P	**Pn**	**09 10 38.8**	**+0.7**
	185nm,1.4s						
CMAR	**Chiang Mai Arr**	**18.78**	**21**	P	**P**	**09 10 40.9**	**-1.1**
	1.3nm,0.3s,baz=216,slow=12,SNR=6.1						
CHTO	**Chiang Mai**	**19.11**	**21**	*e*P	**P**	**09 10 43.8**	**-1.9**
	373nm,1.6s						
KKM	**Kota Kinabalu**	**24.80**	**78**	*e*P	**P**	**09 11 45.0**	**0.0**
	106nm,1.2s						
ENH	**Enshi**	**33.67**	**28**	*e*P	**P**	**09 13 03.3**	**-0.4**
	163nm,0.9s						
MBWA	**Marble Bar**	**34.93**	**130**	*e*P	**P**	**09 13 13.2**	**-1.6**
	68nm,0.7s						
AML	**Almayashu**	**44.21**	**341**	P	P	09 14 39.0	+6.8
	SNR=6.8						
KBK	**Karagaybulak**	**44.28**	**342**	P	P	09 14 39.7	+7.2
	SNR=6.1						
TKM2	**Tokmak 2**	**44.33**	**343**	P	P	09 14 39.6	+6.7
	SNR=5.2						
EKS2	**Erkin-Say**	**44.66**	**341**	P	P	09 14 42.4	+6.9
	SNR=5.9						
USP	**Osepenovka**	**44.97**	**342**	P	P	09 14 44.5	+6.6
	SNR=5.6						
KKAR	**Karatay Array**	**46.19**	**338**	*e*P	**P**	**09 14 48.2**	**+0.7**
	72nm,0.9s						
WRAB	**Tennant Creek**	**46.45**	**119**	*e*P	**P**	**09 14 50.9**	**+0.9**
	6.7nm,0.6s						
MKAR	**Makanchi Array**	**46.49**	**351**	P	**P**	**09 14 50.7**	**+0.9**
	22nm,0.7s,baz=172,slow=8.5,SNR=6.1						
GEYT	**Alibeck**	**48.20**	**324**	P	**P**	**09 15 03.0**	**-0.3**
	22nm,0.8s,baz=156,slow=7.9,SNR=7.2						
SONM	**Songino Array**	**48.43**	**13**	P	**P**	**09 15 05.8**	**+0.7**
	46nm,0.8s,baz=194,slow=9.4,SNR=5.8						
ULN	**Ulaanbaatar**	**48.61**	**14**	*e*P	**P**	**09 15 06.4**	**0.0**
	115nm,1.1s						
KSAR	**Wonju Array Be**	**49.21**	**38**	P	**P**	**09 15 11.8**	**+0.7**
KSRS	**Korea Array**	**49.24**	**38**	P	**P**	**09 15 11.8**	**+0.5**
	5.6nm,0.9s,baz=227,slow=7.7,SNR=4.2						
KURBB	**Kurchatov Arra**	**50.84**	**349**	P	**P**	**09 15 23.2**	**0.0**
	23nm,0.9s,baz=171,slow=7.5,SNR=5.5						
KURK	**Kurchatov**	**50.91**	**349**	P	**P**	**09 15 23.2**	**-0.5**
ZALV	**Zalesovo Beam**	**53.21**	**355**	P	**P**	**09 15 41.0**	**+0.2**
	18nm,0.7s,baz=186,slow=8.0,SNR=4.2						
BVAR	**Borovoye Array**	**54.96**	**344**	P	**P**	**09 15 53.3**	**-0.3**
	12nm,0.8s,baz=142,slow=7.2,SNR=5.8						
ABKAR	**Akbulak array**	**55.43**	**335**	*e*P	**P**	**09 15 56.8**	**-0.3**
	30nm,1.1s						
KBZ	**Khabaz**	**60.92**	**321**	P	**P**	**09 16 35.4**	**-0.2**
	21nm,0.8s,baz=134,slow=6.7,SNR=5.4						
BRTR	**Keskin Array B**	**65.45**	**14**	P	**P**	**09 17 05.4**	**-0.6**
	11nm,0.7s,baz=135,slow=5.5,SNR=4.8						
IDI	**Anoyia**	**70.83**	**307**	P	**P**	**09 17 39.4**	**-0.4**
	408nm,1.4s						
LEOM	**Leova**	**71.47**	**319**	||*i*P	P	09 17 51.4	+8.1
VRI	**Vrincioaia**	**72.28**	**318**	||*i*P	**P**	**09 17 48.7**	**+0.4**
AKASG	**Malin Array Be**	**72.32**	**324**	P	**P**	**09 17 48.7**	**+0.4**
	13nm,0.7s,baz=91,slow=5.7,SNR=5.8						
KIEV	**Kiev**	**72.33**	**324**	*e*P	**P**	**09 17 45.0**	**-3.4**
	412nm,1.9s						
SECR		**72.48**	**317**	||P	**P**	**09 17 51.3**	**+1.9**
TESR	**Tescani**	**72.53**	**319**	||*i*P	**P**	**09 17 49.3**	**-0.4**
PRAR	**RASCA**	**73.07**	**320**	||*i*P	**P**	**09 17 53.6**	**+0.7**
MTUR	**Matau**	**73.22**	**317**	||*i*P	**P**	**09 17 56.8**	**+2.9**
BURAR	**Bucovina Array**	**73.80**	**320**	||*i*P	**P**	**09 17 54.2**	**-3.1**
FINES	**FINESS Array B**	**77.86**	**333**	P	**P**	**09 18 20.4**	**+0.3**
	10nm,0.8s,baz=125,slow=8.7,SNR=4.0						
OKC	**Ostrava-Krasne**	**78.88**	**321**	*ex*	**PcP**	**09 18 34.4**	**-0.3**
OKC				*ex*	x	09 18 40.5	
KRLC	**Kraliky**	**79.80**	**321**	*e*P	**P**	**09 18 33.5**	**+2.5**
KRLC				*e*PCP	**PcP**	**09 18 39.6**	**+0.9**
KRLC				*ex*	x	09 18 45.4	
DPC	**Dobruska-Polom**	**80.14**	**321**	*e*P	**P**	**09 18 33.5**	**+0.6**
DPC				*e*PCP	**PcP**	**09 18 41.7**	**+1.5**
GOPC	**GO Pecny, Ondr**	**81.03**	**320**	*e*P	**P**	**09 18 37.1**	**-0.6**
GOPC				*e*PCP	**PcP**	**09 18 45.5**	**+1.4**
ARCES	**ARCESS Array B**	**81.07**	**341**	P	**P**	**09 18 38.1**	**+0.7**
	14nm,0.9s,baz=108,slow=4.8,SNR=4.4						
PRU	**Pruhonice**	**81.20**	**320**	*e*P	**P**	**09 18 40.1**	**+1.6**
PRU				*e*PCP	**PcP**	**09 18 46.3**	**+1.5**
PVCC	**Panska Ves**	**81.27**	**321**	*e*P	**P**	**09 18 42.5**	**+3.6**
GERES	**GERESS Array B**	**81.57**	**319**	P	**P**	**09 18 41.2**	**+0.5**
	32nm,0.9s,baz=100,slow=5.2,SNR=8.9						
KHC	**Kasperske Hory**	**81.69**	**319**	*e*P	**P**	**09 18 43.8**	**+2.6**
KHC				*ex*	x	09 18 49.6	
CLL	**Collm**	**82.37**	**322**	*e*(P)	**P**	**09 18 43.0**	**-1.6**
RLMT	**Red Lodge**	**130.49**	**20**	*e*Pdif	**Pdif**	**09 22 24.6**	**+0.5**
MIAR	**Mount Ida**	**144.38**	**8**	*e*PKPdf	**PKPdf**	**09 25 59.1**	**-0.5**
ABTX	**Abilene, Hawle**	**144.93**	**17**	*e*PKPdf	**PKPdf**	**09 26 00.6**	**0.0**
LRAL	**Lakeview Retre**	**146.25**	**358**	*e*PKPdf	**PKPbc**	**09 26 03.6**	**-0.2**
TXAR	**Lajitas Array**	**146.47**	**25**	PKPbc	**PKPbc**	**09 26 05.0**	**+0.3**
	4.7nm,0.8s,baz=289,slow=2.8,SNR=4.0						

ISCJB ***11*** *09:08:00.6±0.4,1.32N±0.08×91.88E±0.06,h10km, mb5.4/37,MS7.8/1,Error ellipse: s-maj=12.0km s-min=8.5km az=20.1*
IDC ***11*** *09:08:00.7±0.5,1.30N×91.80E,h0km,mb5.2/21, mb1 5.2/23,mb1mx4.9/72,mbtmp5.2/23,ML4.0/1,Error ellipse: s-maj=18.0km s-min=13.3km az=36.0*
MOS ***11*** *09:08:00.8±1.3,1.41N×91.84E,h10km,mb5.6/5,Error ellipse: s-maj=14.5km s-min=11.1km az=91.5*

NEIC ***11*** *09:08:01.6±0.3,1.25N×91.80E,h10km,mb5.2/1,Error ellipse: s-maj=12.1km s-min=9.6km az=30.0*

ISC 11 09:08:02.1±0.5,1.3N±0.1×91.83E±0.08,h10km,n278, σ0.76/237,mb5.4/37,2C,North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**7.25**	**78**	Pn	**Pn**	**09 09 49.0**	**+0.8**
	2.2nm,0.3s,baz=290,slow=8.8,SNR=3.3						
CMAR	**Chiang Mai Arr**	**18.44**	**22**	P	**P**	**09 12 17.4**	**-0.6**
	baz=218,slow=13,SNR=5.0						
H08S2	**Diego Garcia H**	**21.23**	**245**	T	T	09 34 29.7	
	baz=65,slow=75,SNR=13						
H08S3	**Diego Garcia H**	**21.23**	**245**	T	T	09 34 31.1	
	baz=65,slow=75,SNR=10						
H08S1	**Diego Garcia H**	**21.25**	**245**	T	T	09 34 33.2	
	baz=65,slow=75,SNR=16						
KAPI	**Kappang**	**28.59**	**103**	*e*P	**P**	**09 13 57.0**	**-1.7**
	46nm,1.1s						
ENH	**Enshi**	**33.35**	**29**	*e*P	**P**	**09 14 40.7**	**+0.1**
	92nm,0.9s						
FITZ	**Fitzroy Crossi**	**38.44**	**122**	P	**P**	**09 15 25.0**	**+0.7**
	26nm,0.8s,baz=348,slow=1.8,SNR=3.7						
SIJI	**Sorong**	**39.49**	**93**	P	**P**	**09 15 33.0**	**-0.3**
	29nm,0.8s,baz=295,slow=12,SNR=5.1						
KKAR	**Karatay Array**	**45.79**	**338**	*e*P	**P**	**09 16 23.5**	**-0.5**
	68nm,1.3s						
KKAR	**Karatay Array**	**45.79**	**338**	*e*P	**P**	**09 16 23.5**	**-0.5**
KKAR				pmax	pmax		
	comp=Z,68nm,1.3s						
MKAR	**Makanchi Array**	**46.09**	**351**	P	**P**	**09 16 26.0**	**-0.3**
	comp=Z,28nm,0.7s,baz=175,slow=8.7,SNR=12						
MKAR	**Makanchi Array**	**46.09**	**351**	P	**P**	**09 16 26.0**	**-0.3**
WRA	**Warramunga Arr**	**46.70**	**119**	P	**P**	**09 16 32.2**	**+0.7**
	comp=Z,295nm,0.9s,baz=297,slow=8.6,SNR=1.1						
ASAR	**Alice Springs**	**47.81**	**124**	P	**P**	**09 16 39.5**	**-0.7**
	comp=Z,20nm,0.9s,baz=301,slow=7.9,SNR=8.6						
ASAR				PcP	**PcP**	**09 18 10.1**	**+0.9**
	comp=Z,20nm,0.6s,baz=300,slow=3.2,SNR=18						
GEYT	**Alibeck**	**47.84**	**324**	P	**P**	**09 16 41.1**	**+0.9**
	comp=Z,32nm,0.8s,baz=148,slow=8.7,SNR=6.2						
SONM	**Songino Array**	**48.06**	**13**	P	**P**	**09 16 42.5**	**+0.6**
	comp=Z,96nm,0.7s,baz=193,slow=8.9,SNR=17						
OPO	**Ambohidratompo**	**48.11**	**244**	P	**P**	**09 16 42.5**	**-0.3**
	comp=Z,15nm,0.7s,baz=65,slow=5.6,SNR=11						
KSAR	**Wonju Array Be**	**48.95**	**38**	P	**P**	**09 16 49.6**	**+1.0**
KSAR	**Wonju Array Be**	**48.95**	**38**	P	**P**	**09 16 49.7**	**+1.0**
KSRS	**Korea Array**	**48.98**	**38**	P	**P**	**09 16 49.6**	**+0.8**
	comp=Z,28nm,0.9s,baz=222,slow=8.7,SNR=17						
ATD	**Arta Tunnel**	**49.65**	**284**	P	**P**	**09 16 55.5**	**+1.0**
	comp=Z,47nm,1.0s,baz=14,slow=4.1,SNR=5.6						
KURBB	**Kurchatov Arra**	**50.44**	**349**	P	**P**	**09 16 59.6**	**-0.2**
	comp=Z,27nm,0.9s,baz=170,slow=7.0,SNR=6.3						
KURK	**Kurchatov**	**50.51**	**349**	P	**P**	**09 16 59.6**	**-0.8**
KURK	**Kurchatov**	**50.51**	**349**	P	**P**	**09 16 59.6**	**-0.8**
ZALV	**Zalesovo Beam**	**52.81**	**355**	P	**P**	**09 17 16.7**	**-0.8**
	comp=Z,29nm,0.4s,baz=175,slow=6.9,SNR=20						
ZALV				PcP	**PcP**	**09 18 26.7**	**0.0**
	comp=Z,41nm,0.9s,baz=278,slow=2.3,SNR=6.1						
USRK	**Ussuriysk Ar.**	**55.60**	**34**	P	**P**	**09 17 38.8**	**+0.8**
	comp=Z,20nm,0.9s,baz=243,slow=5.7,SNR=9.2						
ZEA	**Zeya**	**59.88**	**23**	*e*P	**P**	**09 18 10.0**	**+2.1**
GOF	**Gofitskoye**	**61.15**	**323**	||*e*P	P	09 18 11.2	-5.6
GOF				pmax	pmax		
	comp=Z,146nm,1.4s						
YSS	**Yuzh-Sakhalins**	**63.39**	**36**	*e*P	**P**	**09 18 30.0**	**-1.8**
YSS				*e*		09 18 33.3	
YSS				pmax	pmax		
	comp=Z,50nm,1.3s						
BRTR	**Keskin Array B**	**65.13**	**314**	P	**P**	**09 18 43.1**	**-0.5**
	comp=Z,26nm,1.0s,baz=191,slow=1.3,SNR=5.1						
OBN	**Obninsk**	**69.79**	**330**	*e*P	P	09 19 05.6	-6.9
OBN				pmax	pmax		
	comp=Z,323nm,1.7s						
AKASG	**Malin Array Be**	**71.96**	**324**	P	**P**	**09 19 24.9**	**-1.0**
	comp=Z,4.5nm,0.5s,baz=89,slow=5.3,SNR=10.0						
SKR	**Severo-Kuril's**	**72.96**	**37**	*e*P	**P**	**09 19 32.5**	**+0.8**
SKR				pmax	pmax		
	comp=Z,219nm,1.0s						
FINES	**FINESS Array B**	**77.48**	**333**	P	**P**	**09 19 57.2**	**-0.4**
	comp=Z,15nm,0.9s,baz=108,slow=6.2,SNR=4.7						
SOKA	**Soboth**	**80.02**	**317**	*i* P	**P**	**09 20 12.1**	**+0.1**
	comp=Z,58nm,1.2s						
ARCES	**ARCESS Array B**	**80.68**	**341**	P	**P**	**09 20 14.7**	**-0.3**
	comp=Z,23nm,0.9s,baz=86,slow=5.5,SNR=7.9						
MYKA	**Tesa Mykaca**	**80.96**	**317**	*e*P	**P**	**09 20 17.5**	**+0.4**
	comp=Z,22nm,1.4s						
GERES	**GERESS Array B**	**81.22**	**319**	P	**P**	**09 20 19.0**	**+0.5**
	comp=Z,34nm,0.8s,baz=104,slow=2.9,SNR=4.7						
GERES	**GERESS Array B**	**81.22**	**319**	P	**P**	**09 20 19.0**	**+0.5**
CLL	**Collm**	**82.02**	**322**	*i* P	**P**	**09 20 23.6**	**+1.2**
WATA	**Walderalm**	**82.45**	**317**	*e*P	**P**	**09 20 25.8**	**+0.8**
	comp=Z,47nm,1.0s						
MOTA	**Moosalm**	**82.77**	**317**	*e*P	**P**	**09 20 27.3**	**+0.6**
	comp=Z,40nm,1.1s						
RETA	**Reutte**	**83.02**	**318**	*e*P	**P**	**09 20 28.2**	**+0.3**
	comp=Z,70nm,1.4s						
BILL	**Bilibino**	**83.02**	**21**	||*e*P	P	09 20 19.5	-7.9
BILL				*e*		09 23 38.3	
BILL				pmax	pmax		
	comp=Z,31nm,1.4s						
BILL				MLR	MLR		
	comp=Z,334μm,17.0s						
DAVA	**Damuels**	**83.59**	**317**	*e*P	**P**	**09 20 31.8**	**+0.8**
	comp=Z,55nm,0.8s						
NB2	**NORSAR Subarra**	**84.33**	**331**	P	**P**	**09 20 33.4**	**-0.9**
	comp=Z,192nm,2.0s,baz=94,slow=5.1						
NB2	**NORSAR Subarra**	**84.33**	**331**	P	P	**09 20 33.4**	**-0.9**
	baz=94,slow=5.1						
NOA	**NORSAR Array B**	**84.33**	**331**	P	**P**	**09 20 33.8**	**-0.5**
	comp=Z,4.2nm,1.0s,baz=96,slow=5.5,SNR=3.3						
SPITS	**Spitsbergen Ar**	**85.78**	**348**	P	**P**	**09 20 40.9**	**-0.3**
	comp=Z,11nm,0.7s,baz=54,slow=5.6,SNR=7.7						
URZ	**Urewera**	**87.07**	**128**	P	**P**	**09 20 48.0**	**-0.3**
	comp=Z,32nm,0.9s,baz=289,slow=4.4,SNR=5.9						
DAG	**Danmarks Havn**	**93.38**	**348**	*i* P	**P**	**09 21 16.4**	**-0.7**
	comp=Z,168nm,0.4s						
DAG	**Danmarks Havn**	**93.38**	**348**	*i* P	**P**	**09 21 16.4**	**-0.7**
DAG				pmax	pmax		
	comp=Z,170nm,0.4s						
DBIC	**Dimbokro**	**96.49**	**277**	P	**P**	**09 21 33.2**	**+0.6**
	comp=Z,8.1nm,1.0s,baz=81,slow=6.8,SNR=3.5						
YKA	**Yellowknife Ar**	**113.33**	**13**	PKKPbc	PKKPbc	09 37 24.3	-3.1
	comp=Z,0.3nm,0.5s,baz=151,slow=3.5,SNR=4.4						
B05A	**Bryant**	**122.53**	**26**	P	**PKPdf**	**09 26 58.0**	**0.0**
	baz=319						
I03D	**Drain, OR**	**125.27**	**31**	P	**PKPdf**	**09 27 03.8**	**+0.4**
	baz=315						
I04A	**Tendick Farm,**	**125.67**	**30**	P	**PKPdf**	**09 27 04.2**	**-0.1**
	baz=316						
J04D	**Umpqua Nationa**	**126.22**	**30**	P	**PKPdf**	**09 27 05.9**	**+0.4**
	baz=316						
J05D	**Fort Rock, OR**	**126.63**	**30**	P	**PKPdf**	**09 27 06.0**	**-0.3**
	baz=317						
K04D	**Chiloquin, OR**	**126.85**	**31**	P	**PKPdf**	**09 27 06.5**	**-0.2**
	baz=316						
MSO	**Missoula**	**127.01**	**22**	P	**PKPdf**	**09 27 06.7**	**-0.2**
	baz=327						
M02C	**Callahan**	**127.15**	**32**	P	**PKPdf**	**09 27 08.1**	**+0.9**
	baz=315						
ULM	**Lac du Bonnet**	**128.24**	**6**	PKP	**PKPdf**	**09 27 08.6**	**-0.4**
	comp=Z,5.3nm,0.7s,baz=353,slow=4.3,SNR=6.0						
O03D	**Paynes Creek**	**128.49**	**33**	P	**PKPdf**	**09 27 10.3**	**+0.5**
	baz=315						
BOZ	**Bozeman (W)**	**128.91**	**21**	P	**PKPdf**	**09 27 11.5**	**+0.9**
	baz=329						
A32A	**Rocking H Ranc**	**129.48**	**7**	P	**PKPdf**	**09 27 11.5**	**+0.2**
	baz=349						
HLID	**Hailey**	**129.54**	**25**	P	**PKPdf**	**09 27 12.3**	**+0.4**
	baz=325						
A33A	**Warroad**	**129.59**	**6**	P	**PKPdf**	**09 27 11.6**	**+0.1**
	baz=351						
LAO	**LASA Array**	**129.66**	**16**	P	**PKPdf**	**09 27 13.3**	**+1.4**
	baz=336						
B31A	**Greenbush Farm**	**129.81**	**8**	P	**PKPdf**	**09 27 12.2**	**+0.2**
	baz=348						
B32A	**Ashes, Strandq**	**129.99**	**7**	P	**PKPdf**	**09 27 12.4**	**0.0**
	baz=349						
MDND	**Maddock**	**130.06**	**10**	P	**PKPdf**	**09 27 12.9**	**+0.4**
	baz=345						
B34A	**Aery, Baudette**	**130.11**	**6**	P	**PKPdf**	**09 27 13.2**	**+0.6**
	baz=352						
B35A	**Bob, Littlefor**	**130.32**	**5**	P	**PKPdf**	**09 27 13.3**	**+0.3**
	baz=353						
C31A	**Landman Farms,**	**130.42**	**8**	P	**PKPdf**	**09 27 13.5**	**+0.3**
	baz=348						
C33A	**Trail**	**130.71**	**7**	P	**PKPdf**	**09 27 13.9**	**+0.2**
	baz=350						
D31A	**Mcclaflin, Tow**	**131.15**	**9**	P	**PKPdf**	**09 27 14.8**	**+0.3**
	baz=347						
NVAR	**Mina Array Bea**	**131.71**	**32**	PKP	**PKPdf**	**09 27 17.1**	**+0.9**
	comp=Z,3.7nm,0.7s,baz=302,slow=1.6,SNR=7.0						
NVAR				SKPbc	**SKPbc**	**09 30 42.0**	**-0.1**
	comp=Z,2.7nm,0.9s,baz=299,slow=4.2,SNR=5.2						
E35A	**Pequot Lakes**	**132.05**	**6**	P	**PKPdf**	**09 27 16.8**	**+0.5**
	baz=352						
BW06	**Boulder Array**	**132.10**	**21**	P	**PKPdf**	**09 27 17.5**	**+0.7**
	baz=331						
BW06	**Boulder Array**	**132.10**	**21**	*e*PKPdf	**PKPdf**	**09 27 16.8**	**0.0**
PDAR	**Pinedale Array**	**132.10**	**21**	PKP	**PKPdf**	**09 27 17.4**	**+0.5**
	comp=Z,3.8nm,0.9s,baz=19,slow=1.7,SNR=6.8						
E38A	**The Farm, Brul**	**132.22**	**3**	P	**PKPdf**	**09 27 18.5**	**+1.9**
	baz=356						
RSSD	**Black Hills**	**132.62**	**16**	P	**PKPdf**	**09 27 16.3**	**-1.4**
	baz=338						
LONY	**Lake Ozonia**	**132.72**	**347**	P	**PKPdf**	**09 27 15.3**	**-2.4**
	baz=19						
F36A	**Milaca**	**132.82**	**5**	P	**PKPdf**	**09 27 17.2**	**-0.6**
	baz=353						
F40A	**Park Falls**	**132.97**	**2**	P	**PKPdf**	**09 27 16.6**	**-1.4**
	baz=357						
F37A	**Hinrichs Farm,**	**133.03**	**4**	P	**PKPdf**	**09 27 17.6**	**-0.5**
	baz=354						
R11A	**Troy Canyon, C**	**133.16**	**30**	P	**PKPdf**	**09 27 19.8**	**+0.9**
	baz=321						
K22A	**Casper**	**133.24**	**19**	P	**PKPdf**	**09 27 18.4**	**-0.5**
	baz=334						
G35A	**Watkins**	**133.36**	**6**	P	**PKPdf**	**09 27 19.0**	**+0.2**
	baz=351						
G42A	**Mountain**	**133.68**	**0**	P	**PKPdf**	**09 27 18.8**	**-0.5**
	baz=360						
H35A	**Sunnyside Ranc**	**133.84**	**7**	P	**PKPdf**	**09 27 19.4**	**-0.4**
	baz=351						
MPMC	**Manual Prospec**	**133.89**	**33**	P	**PKPdf**	**09 27 21.4**	**+1.0**
	baz=317						
H36A	**Jessenland, He**	**134.05**	**6**	P	**PKPdf**	**09 27 21.0**	**+0.8**
	baz=352						
I33A	**Coleman**	**134.22**	**9**	P	**PKPdf**	**09 27 20.3**	**-0.2**
	baz=348						
ECSD	**EROS Data Cent**	**134.55**	**9**	P	**PKPdf**	**09 27 18.2**	**-2.9**
	baz=348						
O20A	**White River Ci**	**134.88**	**22**	P	**PKPdf**	**09 27 22.4**	**+0.3**
	baz=331						
MONP2	**Monument Peak**	**136.80**	**36**	P	**PKPdf**	**09 27 22.1**	**-3.7**
	baz=316						
Q24A	**Divide**	**137.01**	**20**	P	**PKPdf**	**09 27 25.6**	**-0.7**
	baz=335						
Y12C	**Blythe**	**137.23**	**33**	P	**PKPdf**	**09 27 26.2**	**-0.1**
	baz=319						
M39A	**Webster**	**137.28**	**4**	P	**PKPdf**	**09 27 25.2**	**-1.0**
	baz=354						
O34A	**Beatrice**	**138.00**	**10**	P	**PKPdf**	**09 27 27.4**	**-0.3**
	baz=347						
P37A	**Lathrop**	**138.93**	**7**	P	**PKPdf**	**09 27 28.8**	**-0.5**
	baz=351						
P38A	**Dawn**	**139.00**	**6**	P	**PKPdf**	**09 27 28.8**	**-0.6**
	baz=352						
Q39A	**Willow Grove F**	**139.63**	**6**	P	**PKPdf**	**09 27 30.5**	**-0.1**
	baz=353						
Q43A	**New Douglas**	**139.95**	**2**	P	**PKPdf**	**09 27 31.9**	**+0.7**
	baz=358						
Q44A	**Meyer Farm, Va**	**140.00**	**1**	P	**PKPdf**	**09 27 32.7**	**+1.4**
	baz=359						
ANMO	**Albuquerque**	**140.10**	**24**	P	**PKPdf**	**09 27 33.2**	**+1.4**
	baz=331						
R40A	**Maddies Statio**	**140.44**	**5**	P	**

Y47A	UCPARC, Winfie	145.00	360	P		PKPab	09 27 38.6	-0.9
	baz=0.6,SNR=8.4							
Y49A	Blount Mountai	145.01	357	P		PKPab	09 27 38.7	-0.8
	baz=3.1,SNR=5.8							
Y45A	Yeager Farm, C	145.01	2	P		PKPab	09 27 39.7	+0.1
	baz=358							
Y46A	Houston	145.02	1	P		PKPab	09 27 38.8	-0.7
	baz=359,SNR=14							
RGRS	Roger Stewart	145.17	348	*e*PKPdf		PKPbc	09 27 39.6	-0.5
GOGA	Godfrey	145.21	353	P		PKPbc	09 27 38.7	-1.5
	baz=8.3							
GOGA	Godfrey	145.21	353	*e*PKPdf		PKPbc	09 27 39.4	-0.8
GOGA	Godfrey	145.21	353	*e*PKIKP		PKPbc	09 27 39.4	-0.8
Z40A	Long Farm, Mag	145.29	8	P		PKPdf	09 27 41.3	+0.5
	baz=351,SNR=11							
Z41A	Richland Creek	145.37	7	P		PKPdf	09 27 41.2	+0.3
	baz=352,SNR=14							
Z42A	Norrel Spur, H	145.44	6	P		PKPdf	09 27 41.4	+0.4
	baz=353,SNR=20							
Z45A	Winona	145.50	2	P		PKPbc	09 27 39.7	-1.4
	baz=357							
Z48A	Northport	145.52	359	P		PKPbc	09 27 40.3	-0.9
	baz=1.1,SNR=16							
Z44A	Pea Ridge, Bel	145.56	3	P		PKPab	09 27 41.6	+0.1
	baz=356,SNR=26							
Z50A	Ashland	145.58	357	P		PKPdf	09 27 40.6	-0.7
	baz=4.0,SNR=13							
Z49A	Columbiana	145.67	358	P		PKPdf	09 27 41.0	-0.5
	baz=2.9,SNR=18							
Z46A	Louisville	145.70	1	P		PKPdf	09 27 41.6	+0.1
	baz=359,SNR=6.2							
Z47A	Carrollton	145.70	360	P		PKPdf	09 27 41.3	-0.2
	baz=0.2,SNR=22							
WHTX	Lake Whitney,	145.76	14	P		PKPbc	09 27 42.2	+0.2
	baz=343							
LRAL	Lakeview Retre	145.85	358	P		PKPdf	09 27 41.6	-0.2
	baz=2.1,SNR=14							
LRAL	Lakeview Retre	145.85	358	*e*PKPbc		PKPdf	09 27 41.6	-0.2
155A	Kite	145.85	351	P		PKPdf	09 27 42.2	+0.4
	baz=10,SNR=7.1							
140A	Cam and Jess,	145.88	8	P		PKPab	09 27 43.1	+0.4
	baz=350,SNR=5.4							
154A	Montrose	145.95	352	P		PKPbc	09 27 42.7	+0.1
	baz=9.1,SNR=13							
141A	Papa Simpson,	146.00	7	P		PKPab	09 27 43.6	+0.4
	baz=352,SNR=8.8							
153A	Fort Valley	146.00	353	P		PKPbc	09 27 42.7	-0.1
	baz=7.8,SNR=8.4							
143A	Socs Landing,	146.06	5	P		PKPbc	09 27 42.8	-0.1
	baz=354,SNR=5.2							
TXAR	Lajitas Array	146.14	25	PKPbc		PKPbc	09 27 43.3	-0.1
	comp=Z,26nm,0.7s,baz=172,slow=0.7,SNR=21							
142A	Monroe	146.16	6	P		PKPbc	09 27 43.5	+0.3
	baz=353							
144A	Alexander Plac	146.20	3	P		PKPbc	09 27 43.7	+0.4
	baz=356							
147A	Livingston	146.23	0	P		PKPbc	09 27 43.2	-0.2
	baz=360,SNR=8.0							
150A	Eclectic	146.23	357	P		PKPdf	09 27 43.0	+0.6
	baz=3.9,SNR=12							
148A	Greensboro	146.25	359	P		PKPbc	09 27 43.2	-0.2
	baz=1.1,SNR=8.9							
146A	Union	146.25	1	P		PKPbc	09 27 43.6	+0.1
	baz=358,SNR=8.8							
145A	Houston Renfro	146.26	3	P		PKPbc	09 27 44.0	+0.5
	baz=357							
151A	Opelika	146.27	356	P		PKPbc	09 27 43.8	+0.2
	baz=5.2,SNR=17							
149A	Jones	146.28	358	P		PKPbc	09 27 43.3	-0.3
	baz=2.5,SNR=9.2							
256A	Glennville	146.39	350	P		PKPab	09 27 45.6	+0.9
	baz=11							
240A	Hunter Patters	146.44	9	P		PKPab	09 27 44.8	-0.1
	baz=350							
JCT	Junction City	146.53	18	P		PKPdf	09 27 43.8	+0.8
	baz=339							
JCT	Junction City	146.53	18	*e*PKPbc		PKPdf	09 27 43.9	+0.8
JCT	Junction City	146.53	18	*e*PKP2		PKPdf	09 27 43.9	+0.8
NATX	Nacogdoches	146.57	10	P		PKPab	09 27 45.2	-0.2
	baz=348							
NATX	Nacogdoches	146.57	10	*e*PKPbc		PKPbc	09 27 44.9	+0.5
241A	Mo Tay, Goldon	146.57	7	P		PKPbc	09 27 44.7	+0.2
	baz=351,SNR=7.3							
VBMS	Vicksburg	146.61	4	P		PKPab	09 27 45.2	-0.3
	baz=356,SNR=7.7							
253A	Americus	146.62	354	P		PKPbc	09 27 44.4	-0.2
	baz=7.4,SNR=8.1							
242A	Grayson	146.62	6	P		PKPbc	09 27 45.2	+0.6
	baz=353,SNR=5.8							
254A	Abbeville	146.63	352	P		PKPbc	09 27 44.1	-0.5
	baz=8.9,SNR=6.0							
251A	Midway	146.70	356	P		PKPbc	09 27 45.1	+0.3
	baz=5.1,SNR=15							
252A	Lumpkin	146.74	355	P		PKPbc	09 27 45.2	+0.3
	baz=6.3,SNR=12							
244A	Avery, Jackson	146.77	4	P		PKPbc	09 27 45.3	+0.3
	baz=356,SNR=7.5							
248A	Dixon Mills	146.80	359	P		PKPbc	09 27 45.5	+0.4
	baz=0.8,SNR=9.3							
245A	Little AP, Sta	146.83	3	P		PKPbc	09 27 45.5	+0.3
	baz=357,SNR=8.3							
247A	Quitman	146.84	1	P		PKPbc	09 27 45.8	+0.5
	baz=359,SNR=7.9							
357A	Townsend	146.86	350	P		PKPbc	09 27 45.5	+0.2
	baz=12							
243A	Waterproof	146.87	5	P		PKPbc	09 27 45.4	+0.1
	baz=354							
250A	Grady	146.87	357	P		PKPdf	09 27 44.6	+1.0
	baz=3.5,SNR=6.3							
435B	Jarrell	146.88	15	P		PKPab	09 27 46.4	-0.3
	baz=343							
249A	Camden	146.91	358	P		PKPbc	09 27 45.6	+0.2
	baz=2.0,SNR=13							
356A	Blackshear	147.07	350	P		PKPdf	09 27 45.0	+1.1
	baz=11							
355A	Pearson	147.16	352	P		PKPbc	09 27 46.4	+0.3
	baz=9.8,SNR=6.4							
TIGA	Tifton	147.17	353	P		PKPbc	09 27 45.9	-0.3
	baz=8.5,SNR=6.1							
341A	Kurthwood	147.22	8	P		PKPbc	09 27 46.6	+0.3
	baz=351							
352A	Blakely	147.27	355	P		PKPbc	09 27 46.6	+0.2
	baz=6.0,SNR=7.6							
342A	Flagon Creek P	147.28	7	P		PKPab	09 27 47.6	-0.6
	baz=352							
353A	Camilla	147.33	354	P		PKPbc	09 27 47.1	+0.4
	baz=7.4,SNR=9.6							
344A	Westbrook Farm	147.35	4	P		PKPbc	09 27 46.5	-0.2
	baz=355							
350A	Dozier	147.43	357	P		PKPbc	09 27 47.4	+0.5
	baz=3.5,SNR=6.0							
348A	Jackson	147.48	360	P		PKPbc	09 27 47.1	0.0
	baz=0.6							
346A	Big Creek Wild	147.49	2	P		PKPbc	09 27 47.3	+0.2
	baz=358							
347A	Saraland	147.49	1	P		PKPbc	09 27 47.8	+0.8
	baz=359,SNR=7.9							
351A	Pinckard	147.53	356	P		PKPbc	09 27 46.6	-0.6
	baz=4.8							
349A	Repton	147.53	358	P		PKPbc	09 27 47.9	+0.7
	baz=1.9,SNR=6.8							
345A	Thompson Farm,	147.54	3	P		PKPbc	09 27 47.6	+0.3
	baz=357							
456A	Hilliard	147.64	350	P		PKPbc	09 27 47.1	-0.4
	baz=12							
BRAL	Brewton	147.71	358	P		PKPbc	09 27 48.0	+0.3
	baz=2.1							
BRAL	Brewton	147.71	358	*e*PKPbc		PKPbc	09 27 48.4	+0.7
BRAL				*e*PKPab		PKPab	09 27 50.6	+0.7
455A	Stateville	147.78	352	P		PKPbc	09 27 48.3	+0.4
	baz=9.7							
441A	DeRidder	147.79	8	P		PKPab	09 27 49.2	-1.0
	baz=351							
453A	Whigham	147.83	354	P		PKPbc	09 27 48.3	+0.3
	baz=7.3,SNR=6.5							
454A	Quitman	147.89	353	P		PKPbc	09 27 48.1	-0.1
	baz=8.6							
452A	Marianna	147.92	355	P		PKPbc	09 27 48.3	0.0
	baz=5.7							
442A	Mamou	147.93	7	P		PKPbc	09 27 49.5	+1.3
	baz=352							
443A	Delano Plantat	147.95	6	P		PKPbc	09 27 49.5	+1.1
	baz=353							
448A	Bay Minette	147.96	359	P		PKPbc	09 27 49.1	+0.7
	baz=0.6							
450A	Crestview	148.06	357	P		PKPbc	09 27 48.4	-0.2
	baz=3.0							
444A	Pine Grove	148.09	4	P		PKPbc	09 27 49.4	+0.7
	baz=355							
HKT	Hockley	148.09	13	*e*PKPbc		PKPbc	09 27 49.3	+0.6
HKT	Hockley	148.09	13	*e*PKP2		PKPbc	09 27 49.3	+0.6
447A	Lucedale	148.10	1	P		PKPbc	09 27 49.1	+0.4
	baz=359,SNR=5.1							
445A	Amite	148.10	4	P		PKPbc	09 27 48.8	0.0
	baz=356							
449A	Pace	148.12	358	P		PKPbc	09 27 50.0	+1.2
	baz=1.9							
451A	Vernon	148.19	356	P		PKPbc	09 27 49.5	+0.5
	baz=4.6							
557A	Orange Park	148.28	349	P		PKPbc	09 27 48.8	-0.4
	baz=12							
555A	McAlpin	148.38	351	P		PKPbc	09 27 49.5	0.0
	baz=10.0							
556A	Lake Butler	148.41	350	P		PKPbc	09 27 50.1	+0.5
	baz=11							
541A	Lake Charles	148.47	8	P		PKPbc	09 27 50.9	+1.2
	baz=350							
542A	Morse	148.49	7	P		PKPbc	09 27 50.8	+1.0
	baz=352							
554A	Perry	148.52	353	P		PKPbc	09 27 49.7	-0.1
	baz=8.6							
552A	Lynn Haven	148.64	355	P		PKPbc	09 27 49.8	-0.4
	baz=5.6							
833A	Chaparral WMA,	148.65	19	P		PKPbc	09 27 51.0	+0.7
	baz=338							
655A	Horseshoe Beac	149.02	352	P		PKPbc	09 27 51.2	0.0
	baz=9.6							
656A	Willston	149.05	350	P		PKPbc	09 27 51.5	+0.2
	baz=11							
757A	Oxford	149.38	349	P		PKPbc	09 27 50.9	-1.2
	baz=12							
859A	Kempfer Cattle	150.00	347	P		PKPbc	09 27 53.4	-0.3
	baz=15							
857A	Zephyrhills	150.07	349	P		PKPbc	09 27 53.5	-0.3
	baz=14							
959A	Okeechobee	150.51	347	P		PKPbc	09 27 54.5	-0.4
	baz=15							
957A	Wimauma	150.65	349	P		PKPbc	09 27 54.7	-0.5
	baz=12							
058A	Arcadia	151.16	348	P		PKPbc	09 27 56.0	-0.5
	baz=13							
059Z	Ave Maria	151.78	347	P		PKPbc	09 27 57.6	-0.3
	baz=14							
PTGA	Pitinga	151.80	271	PKPbc		PKPbc	09 27 58.7	+0.4
	comp=Z,26nm,0.7s,baz=311,slow=22,SNR=14							
LPAZ	La Paz	155.26	232	PKP		PKPdf	09 27 58.5	+1.0
	comp=Z,5.0nm,0.8s,baz=335,slow=0.6,SNR=3.7							
LPAZ				PKPbc		PKPbc	09 28 07.0	
	comp=Z,5.2nm,0.7s,baz=47,slow=2.8,SNR=8.3							

*ISCJB **11** 09:13:35.8±0.6, 1.′42N±0.′08×92.′15E±0.′06, h10km, mb5.0/19, Error ellipse: s-maj=12.7km s-min=7.4km az=20.4*
*IDC **11** 09:13:36.4±0.9, 1.′45N×92.′18E, h0km, mb4.7/13, mb1 4.8/15, mb1mx4.3/71, mbtmp4.7/15, ML4.9/2, Error ellipse: s-maj=28.5km s-min=16.8km az=41.0*
*NEIC **11** 09:13:37.7±0.5, 1.′42N×92.′15E, h10km, mb4.9/4, Error ellipse: s-maj=10.8km s-min=6.8km az=199.0*
ISC 11 09:13:38.4±0.7, 1.′4N±0.′1×92.′30E±0.′08, h10km, n32, σ1s79°/31, mb4.9/19, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GSI	Gunungsitoli	5.27	91	*e*Pn	Pn	09 14 57.7	+0.3
	2µm,0.8s						
GSI				*e*Sn	Sn	09 15 55.1	-3.1
LHMI	Lhok Sumawe	5.97	51	*e*Pn	Pn	09 15 09.9	+3.0
PSI	Prapat	6.75	78	Pn	Pn	09 15 20.5	+2.7
	19nm,0.3s,baz=309,slow=9.5,SNR=15						
KULM	Kulim	9.17	65	*e*Pn	Pn	09 15 53.7	+2.9
	274nm,0.6s						
IPM	Ipoh	9.22	71	*e*Pn	Pn	09 15 52.4	+0.8
	124nm,0.6s						
PALK	Pallekele	12.93	297	*e*Pn	Pn	09 16 39.7	-2.8
KSM	Kuching	18.00	90	*e*P	Pn	09 17 49.1	+0.1
	250nm,1.6s						
CMAR	Chiang Mai Arr	18.12	21	P	Pn	09 17 48.8	-1.6
	1.7nm,0.3s,baz=212,slow=12,SNR=8.1						
CHTO	Chiang Mai	18.45	20	*e*P	P	09 17 55.6	+1.2
	57nm,1.2s						
KKM	Kota Kinabalu	24.29	79	*e*P	P	09 18 56.9	+0.5
	5.0nm,0.4s						
MBWA	Marble Bar	34.99	131	*e*P	P	09 20 30.4	-0.9
	789nm,1.6s						
MKAR	Makanchi Array	46.01	350	P	P	09 22 01.6	-0.5
	12nm,0.8s,baz=172,slow=7.3,SNR=6.7						
WRA	Warramunga Arr	46.37	120	P	P	09 22 05.4	+0.1
	79nm,0.8s,baz=289,slow=7.8,SNR=9.0						
WRAB	Tennant Creek	46.37	119	*e*P	P	09 22 05.5	+0.1
	25nm,0.6s						
ASAR	Alice Springs	47.51	124	P	P	09 22 14.2	0.0
	4.2nm,0.4s,baz=300,slow=7.9,SNR=22						
SONM	Songino Array	47.80	13	P	P	09 22 16.1	-0.1
	18nm,0.9s,baz=197,slow=9.4,SNR=11						
GEYT	Alibeck	47.99	323	P	P	09 22 17.7	0.0
	7.1nm,0.8s,baz=176,slow=6.8,SNR=3.6						
KSAR	Wonju Array Be	48.53	38	P	P	09 22 22.3	+0.5
KSRS	Korea Array	48.56	38	P	P	09 22 22.3	+0.3
	3.4nm,0.9s,baz=235,slow=7.4,SNR=4.4						
KURBB	Kurchatov Arra	50.38	349	P	P	09 22 34.6	-1.1
	10nm,0.7s,baz=171,slow=7.1,SNR=11						
KURK	Kurchatov	50.45	349	P	P	09 22 34.6	-1.6
ZALV	Zalesovo Beam	52.70	354	P	P	09 22 51.8	-1.2
	16nm,0.5s,baz=176,slow=6.7,SNR=25						
BVAR	Borovoye Array	54.54	344	P	P	09 23 04.6	-2.0
	4.1nm,0.7s,baz=157,slow=9.8,SNR=4.6						
ABKAR	Akbulak array	55.10	335	*e*P	P	09 23 09.1	-1.6
	158nm,1.9s						
KBZ	Khabaz	60.74	321	P	P	09 23 50.0	-0.4
	5.7nm,0.7s,baz=119,slow=7.4,SNR=5.5						
BRTR	Keskin Array B	65.36	314	P	P	09 24 20.7	-0.7
	2.0nm,0.7s,baz=137,slow=6.3,SNR=3.3						
FINES	FINESS Array B	77.55	333	P	P	09 25 33.1	-1.2
	5.6nm,0.7s,baz=93,slow=5.4,SNR=14						
ARCES	ARCESS Array B	80.68	341	P	P	09 25 50.4	-1.0
	7.7nm,0.9s,baz=117,slow=1.4,SNR=5.7						
GERES	GERESS Array B	81.41	319	P	P	09 25 55.5	-0.3
	2.4nm,0.7s,baz=128,slow=5.6,SNR=4.1						
QSPA	South Pole Qui	91.39	180	*e*P	P	09 26 45.8	+1.2
	71nm,1.5s						
TXAR	Lajitas Array	145.80	25	PKPbc	PKPdf	09 33 18.0	-0.3
	0.5nm,0.5s,baz=285,slow=3.2,SNR=7.0						
PTGA	Pitinga	152.26	271	PKPbc	PKPdf	09 33 35.0	+6.0
	1.8nm,0.3s,baz=250,slow=1.6,SNR=4.3						

*ISCJB **11** 09:13:51.0±1.0, 1.′6N±0.′2×92.′2E±0.′2, h10km, mb4.6/10, Error ellipse: s-maj=36.3km s-min=17.3km az=43.8*
*IDC **11** 09:13:51.2±1.1, 1.′51N×92.′09E, h0km, mb4.5/10, mb1 4.7/10, mb1mx4.2/71, mbtmp4.5/10, Error ellipse: s-maj=43.9km s-min=19.9km az=43.0*
ISC 11 09:13:52.8±1.2, 1.′5N±0.′2×92.′1E±0.′2, h10km, n11, σ0s48°/11, mb4.8/10, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MKAR	Makanchi Array	45.89	351	P	P	09 22 15.2	-0.3
	2.8nm,0.5s,baz=170,slow=9.0,SNR=6.0						
WRA	Warramunga Arr	46.56	119	P	P	09 22 21.4	+0.2
	8.8nm,0.7s,baz=298,slow=8.6,SNR=1.8						
ASAR	Alice Springs	47.70	124	P	P	09 22 29.9	-0.2
	2.0nm,0.6s,baz=297,slow=7.7,SNR=3.5						
SONM	Songino Array	47.75	13	P	P	09 22 30.7	+0.5
	4.6nm,0.5s,baz=194,slow=8.4,SNR=5.9						
KSRS	Korea Array	48.59	38	P	P	09 22 36.3	-0.3
	3.4nm,0.9s,baz=225,slow=8.0,SNR=4.1						
KBZ	Khabaz	60.56	321	P	P	09 24 04.2	+0.6
	9.9nm,0.8s,baz=129,slow=11,SNR=4.9						
BRTR	Keskin Array B	65.18	314	P	P	09 24 34.4	-0.2
	3.8nm,0.6s,baz=130,slow=6.4,SNR=6.7						
FINES	FINESS Array B	77.39	333	P	P	09 25 47.0	-0.8
	5.4nm,0.7s,baz=88,slow=4.4,SNR=5.3						
ARCES	ARCESS Array B	80.54	341	P	P	09 26 05.0	0.0
	2.8nm,0.7s,baz=81,slow=5.6,SNR=4.7						
GERES	GERESS Array B	81.23	319	P	P	09 26 09.5	+0.2
	13nm,0.8s,baz=107,slow=4.5,SNR=5.5						
TXAR	Lajitas Array	145.78	25	PKPbc	PKPdf	09 33 33.0	+0.3
	1.2nm,0.5s,baz=207,slow=1.2,SNR=10						

*ISCJB **11** 09:13:58.0±1.2, 1.′3N±0.′2×91.′6E±0.′2, h10km, mb4.7/8, Error ellipse: s-maj=38.3km s-min=23.5km az=41.9*
*IDC **11** 09:13:58.1±1.0, 1.′31N×91.′52E, h0km, mb4.7/8, mb1 4.8/8, mb1mx4.2/71, mbtmp4.7/8, Error ellipse: s-maj=31.8km s-min=26.9km az=59.0*
ISC 11 09:13:59.5±1.0, 1.′3N±0.′2×91.′5E±0.′2, h10km, n11, σ0s55°/11, mb4.7/8, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MKAR	Makanchi Array	46.02	351	P	P	09 22 22.6	-0.7
	11nm,0.7s,baz=168,slow=9.0,SNR=8.1						
ASAR	Alice Springs	48.06	124	P	P	09 22 39.6	-0.1
	5.1nm,1.1s,baz=293,slow=7.9,SNR=5.3						
SONM	Songino Array	48.10	13	P	P	09 22 40.0	+0.3
	22nm,0.6s,baz=194,slow=9.1,SNR=9.9						
KSRS	Korea Array	49.14	39	P	P	09 22 47.7	+0.1
	5.7nm,0.8s,baz=216,slow=9.3,SNR=7.0						
BRTR	Keskin Array B	64.91	314	P	P	09 24 39.1	-0.5
	2.0nm,0.5s,baz=142,slow=6.2,SNR=4.9						
FINES	FINESS Array B	77.33	333	P	P	09 25 54.1	-0.1
	6.7nm,0.9s,baz=92,slow=4.4,SNR=3.7						
ARCES	ARCESS Array B	80.56	341	P	P	09 26 12.4	+0.6
	6.5nm,0.8s,baz=99,slow=7.5,SNR=4.6						
GERES	GERESS Array B	81.02	319	P	P	09 26 15.8	+1.0
	13nm,0.8s,baz=101,slow=5.1,SNR=12						
TXAR	Lajitas Array	146.24	24	PKPbc	PKPbc	09 33 40.7	-0.5
	3.3nm,0.6s,baz=41,slow=1.1,SNR=15						
PTGA	Pitinga	151.51	271	PKPbc	PKPbc	09 33 54.9	-0.2
	12nm,0.8s,baz=93,slow=4.0,SNR=8.0						
LPAZ	La Paz	155.04	232	PKPab	PKPab	09 34 19.0	0.0
	3.3nm,0.8s,baz=90,slow=5.1,SNR=5.3						

*IDC **11** 09:15:03.7±3.2, 3.′50N×92.′69E, h0km, mb4.8/13, mb1 4.9/14, mb1mx4.4/75, mbtmp4.8/14, ML4.9/1, Error ellipse: s-maj=77.8km s-min=36.8km az=151.0*
*ISCJB **11** 09:15:06.0±0.8, 3.′9N±0.′1×92.′6E±0.′1, h10km, mb4.8/16, Error ellipse: s-maj=20.5km s-min=15.0km az=137.2*
*NEIC **11** 09:15:07.8±0.7, 3.′92N×92.′57E, h10km, mb4.7/1, Error ellipse: s-maj=17.7km s-min=12.1km az=50.0*
ISC 11 09:15:07.8±1.0, 4.′0N±0.′2×92.′6E±0.′2, h10km, n21, σ0s85°/20, mb4.8/16, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MNAI	Manna	13.24	128	*e*Pn	Pn	09 18 16.3	+0.3
	532nm,0.8s						
CMAR	Chiang Mai Arr	15.69	23	Pn	Pn	09 18 49.2	0.0
	1.6nm,0.3s,baz=214,slow=14,SNR=5.6						
BJT	Baijiatuau	41.74	27	*e*P	P	09 22 56.2	-1.1
	9.8nm,0.3s						
MKAR	Makanchi Array	43.60	350	P	P	09 23 13.3	+1.1
	21nm,0.7s,baz=172,slow=8.0,SNR=11						
SONM	Songino Array	45.30	13	P	P	09 23 27.9	+2.0
	8.0nm,0.7s,baz=189,slow=8.2,SNR=2.8						
ULN	Ulaanbaatar	45.48	14	*e*P	P	09 23 27.6	+0.2
WRAB	Tennant Creek	47.38	122	*e*P	P	09 23 47.9	+5.2
	4.0nm,0.6s						
KURBB	Kurchatov Arra	47.99	348	P	P	09 23 48.0	+1.2
	16nm,0.8s,baz=171,slow=7.3,SNR=7.9						
KURK	Kurchatov	48.06	348	P	P	09 23 48.0	+0.6
ZALV	Zalesovo Beam	50.24	354	P	P	09 24 04.9	+0.9
	23nm,0.6s,baz=174,slow=7.1,SNR=6.5						
HIA	Hailar	50.71	23	*e*P	P	09 24 08.1	+0.4
	35nm,1.2s						
BVAR	Borovoye Array	52.23	343	P	P	09 24 19.2	+0.2
	9.6nm,0.7s,baz=139,slow=7.9,SNR=5.6						
USRK	Ussuriysk Ar.	52.98	35	P	P	09 24 24.3	-0.4
	4.2nm,0.8s,baz=256,slow=5.9,SNR=4.8						
BRTR	Keskin Array B	63.88	313	P	P	09 25 41.2	+0.1
	4.8nm,0.7s,baz=125,slow=7.3,SNR=5.0						
FINES	FINESS Array B	75.46	333	P	P	09 26 51.1	-0.8
	5.3nm,0.7s,baz=102,slow=4.5,SNR=4.0						
ARCES	ARCESS Array B	78.42	341	P	P	09 27 08.1	-0.4
	3.4nm,0.8s,baz=95,slow=6.7,SNR=4.0						
GERES	GERESS Array B	79.73	319	P	P	09 27 16.8	+0.6
	13nm,0.9s,baz=98,slow=6.9,SNR=8.1						
CLL	Collm	80.42	321	*e*P	P	09 27 20.0	+0.2
NOA	NORSAR Array B	82.38	331	P	P	09 27 29.0	-1.1
	4.1nm,1.0s,baz=96,slow=5.4,SNR=2.8						
SPITS	Spitsbergen Ar	83.34	348	P	P	09 27 33.9	-0.8
	7.0nm,0.7s,baz=52,slow=5.4,SNR=4.4						
EKA	Eskdalemuir Ar	90.06	325	P	P	09 28 07.8	-0.1
	2.2nm,0.8s,baz=94,slow=5.4,SNR=3.4						

*ISCJB **11** 09:19:10.7±1.1, 1.′3N±0.′2×91.′96E±0.′07, h10km, mb4.6/13, Error ellipse: s-maj=23.1km s-min=9.5km az=10.7*
*IDC **11** 09:19:10.7±2.4, 1.′23N×91.′86E, h0km, mb4.5/10, mb1 4.5/12, mb1mx4.1/78, mbtmp4.4/12, ML4.1/2, Error ellipse: s-maj=55.9km s-min=27.6km az=175.0*
*NEIC **11** 09:19:12.3±0.8, 1.′25N×91.′95E, h10km, mb4.5/3, Error ellipse: s-maj=18.4km s-min=7.1km az=193.0*
ISC 11 09:19:12.6±1.4, 1.′3N±0.′2×91.′96E±0.′10, h10km, n24, σ0s73°/23, mb4.6/13, 1C-1D, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GSI	Gunungsitoli	5.61	90	*e*Pn	Pn	09 20 35.3	-0.9
PSI	Prapat	7.12	78	Pn	Pn	09 20 56.6	-0.5
	7.3nm,0.3s,baz=279,slow=7.3,SNR=5.4						
PALK	Pallekele	12.71	298	*e*Pn	Pn	09 22 14.2	+0.7
	68nm,0.8s	

URV	Uravakonda	17.54	315	*e*P	P	09 24 36.1	+0.5
CMAR	Chiang Mai Arr	18.08	29	P	P	09 24 43.4	+1.9
	0.4nm,0.3s,baz=220,slow=13,SNR=3.1						
HYBB	Hyderabad (bro	18.51	324	*e*P	Pn	09 24 47.1	+0.7
RPR	Rampur	19.25	328	*e*P	Pn	09 24 55.2	-0.2
SRSP	Sriramsagar	19.83	326	*e*P	P	09 25 00.1	-0.6
KLRI	Killari	20.21	321	*e*P	Pn	09 25 06.0	-0.7
ENH	Enshi	33.19	32	*e*P	P	09 27 05.5	-1.2
	40nm,1.4s						
MKAR	Makanchi Array	44.55	353	P	P	09 28 41.4	-0.2
	8.2nm,0.7s,baz=171,slow=9.0,SNR=6.6						
GEYT	Alibeck	45.69	324	P	P	09 28 52.0	+1.1
	13nm,0.8s,baz=151,slow=9.5,SNR=6.6						
SONM	Songino Array	47.27	15	P	P	09 29 03.7	+0.4
	7.7nm,0.5s,baz=195,slow=9.5,SNR=7.6						
JNU	Nakatsue	48.88	47	*e*P	P	09 29 16.3	+0.5
WRA	Warramunga Arr	48.97	119	P	P	09 29 16.6	-0.2
	3.6nm,0.5s,baz=298,slow=8.6,SNR=8.7						
WRAB	Tennant Creek	48.98	119	*e*P	P	09 29 16.7	0.0
	4.8nm,0.5s						
ZALV	Zalesovo Beam	51.38	356	P	P	09 29 33.6	-0.8
	9.1nm,0.7s,baz=175,slow=7.2,SNR=4.4						
BVAR	Borovoye Array	52.83	345	P	P	09 29 44.3	-0.9
	5.0nm,0.8s,baz=153,slow=8.2,SNR=3.7						
BRTR	Keskin Array B	62.88	314	P	P	09 30 55.9	-0.4
	6.2nm,0.6s,baz=132,slow=6.0,SNR=12						
LBTB	Lobatse	68.06	242	P	P	09 31 30.4	+0.3
	9.8nm,0.7s,baz=77,slow=6.1,SNR=6.1						
IDI	Anoyia	68.26	307	P	P	09 31 31.5	+0.4
	14nm,0.6s,baz=89,slow=9.0,SNR=7.0						
BOSA	Boshof	69.25	238	P	P	09 31 37.1	-0.3
	6.2nm,0.9s,baz=87,slow=6.8,SNR=4.7						
AKASG	Malin Array Be	69.81	324	P	P	09 31 39.4	-0.9
	2.1nm,0.5s,baz=95,slow=4.7,SNR=6.5						
MLR	Muntele Rosu	70.14	318	P	P	09 31 43.2	+0.7
	1.7nm,0.8s,baz=116,slow=2.3,SNR=4.3						
FINES	FINESS Array B	75.49	334	P	P	09 32 13.3	-0.5
	5.4nm,0.6s,baz=72,slow=6.2,SNR=6.1						
ARCES	ARCESS Array B	78.85	341	P	P	09 32 32.5	-0.1
	10.0nm,0.8s,baz=97,slow=4.7,SNR=13						
GERES	GERESS Array B	79.02	319	P	P	09 32 34.4	+0.3
	6.8nm,0.8s,baz=103,slow=5.8,SNR=5.4						
CLL	Collm	79.84	322	*i* P	P	09 32 38.6	+0.3
HFS	Hagfors	80.94	331	P	P	09 32 43.8	-0.3
	4.6nm,0.5s,baz=128,slow=6.2,SNR=17						
NOA	NORSAR Array B	82.30	331	P	P	09 32 50.7	-0.6
	0.9nm,0.6s,baz=100,slow=5.4,SNR=4.1						
EKA	Eskdalemuir Ar	89.67	325	P	P	09 33 28.1	+0.3
	0.8nm,0.6s,baz=95,slow=5.0,SNR=4.6						
TXAR	Lajitas Array	145.70	21	PKPbc	PKPdf	09 40 09.1	-0.2
	1.2nm,0.5s,baz=16,slow=2.2,SNR=7.5						

NEIC 11 09:21:57.4±0.0, 64°.92N×148°.95W, h19km, ML3.9(AEIC), **After AEIC., Central Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MDM	Murphy Dome	0.31	83	P	Pb	09 22 04.7	+0.4
MDM				S	Sb	09 22 09.0	+0.1
COLA	College	0.47	95	P	Pb	09 22 07.4	+0.3
COLA				S	Sg	09 22 13.2	-0.3
CCB	Clear Creek Bu	0.56	119	P	Pg	09 22 09.0	+0.3
CCB				S	Sb	09 22 16.1	0.0
WRH	Wood River Hil	0.58	141	P	Pg	09 22 09.4	+0.3
WRH				S	Sg	09 22 17.4	+0.5
GLM	Gilmore Dome	0.67	84	P	Pg	09 22 10.6	0.0
GLM				S	Sb	09 22 19.1	-0.1
MLY	Manley	0.77	279	P	Pn	09 22 13.0	-0.3
MLY				S	Sg	09 22 23.4	+0.6
PS08	TAPS Pump Stn8	0.99	112	P	Pb	09 22 15.5	-0.4
PS08				S	Sb	09 22 28.5	0.0
PS06	TAPS Pump Stn6	0.99	341	P	Pg	09 22 17.2	+0.5
HDA	Harding Lake	1.00	120	P	Pb	09 22 15.5	-0.7
HDA				S	Sb	09 22 29.0	+0.1
MCK	McKinley	1.20	180	P	Pn	09 22 19.0	-0.1
MCK				S	Sn	09 22 35.2	+0.4
BPAW	Bear Paw Mtn.	1.21	228	P	Pn	09 22 18.7	-0.6
RND	Reindeer	1.52	178	P	Pn	09 22 23.9	+0.3
RND				S	Sb	09 22 45.2	+1.3
PRP	Porcupine Dome	1.56	66	P	Pn	09 22 23.9	-0.4
PRP				S	Sb	09 22 46.4	+1.3
TRF	Thorofare Moun	1.59	202	P	Pn	09 22 24.7	+0.1
KTH	Kantishna Hill	1.62	213	P	Pn	09 22 24.6	-0.5
HUR	Hurricane	1.98	189	P	Pn	09 22 30.9	+1.1
DHY	Denali Highway	1.98	159	P	Pn	09 22 30.9	+0.9
CAST	Castle Rocks	2.04	224	P	Pn	09 22 30.2	-0.5
PS10	TAPS Pump St10	2.05	136	P	Pn	09 22 30.6	-0.2
RIDG	Independ'e Rid	2.15	122	P	Pn	09 22 31.0	-1.2
FYU	Fort Yukon	2.25	41	P	Pn	09 22 33.3	-0.3
IM3	Indian Mountai	2.27	300	P	Pn	09 22 34.1	+0.2
SCRK	Sand Creek	2.35	112	P	Pn	09 22 34.0	-1.1
COLD	Coldfoot	2.37	348	P	Pn	09 22 35.8	+0.5
DOT	Dot Lake	2.48	119	P	Pn	09 22 35.4	-1.4
PPLA	Purkeypile	2.49	217	P	Pn	09 22 36.8	-0.1
PAX	Paxson	2.49	140	P	Pn	09 22 37.2	+0.3
MENT	Mentasta	3.05	128	P	Pn	09 22 43.6	-0.9
BM3	Burnt Mountain	3.06	33	P	Pn	09 22 44.5	-0.3
SML	Sawmill	3.14	175	P	Pn	09 22 46.3	+0.5
SKT	Skwentna	3.17	203	P	Pn	09 22 47.3	+1.0
SCM	Sheep Creek Mo	3.19	166	P	Pn	09 22 47.2	+0.7
EGAK	Eagle	3.33	89	P	Pn	09 22 47.9	-0.4
PMR	Palmer	3.34	182	P	Pn	09 22 49.3	+0.8
KNK	Knik Glacier	3.53	176	P	Pn	09 22 52.4	+1.2
SUA	Susitna One	3.57	194	P	Pn	09 22 52.8	+1.0
BCA3	Beaver Creek A	3.66	117	P	Pn	09 22 51.4	-1.6
TT01	Tatalina	3.72	240	P	Pn	09 22 52.6	-1.2
TOLK	Toolik Lake Re	3.74	356	P	Pn	09 22 55.9	+1.7
RC01	Rabbit Creek A	3.87	186	P	Pn	09 22 57.7	+2.0
SPCP	Crater Peak Br	3.95	203	P	Pn	09 22 58.3	+1.2
DIV	Divide	4.07	158	*e*Pn	Pn	09 23 00.1	+1.4
DAWY	Dawson	4.22	97	P	Pn	09 23 00.0	-0.6
BMRM	Bremner River	4.44	151	P	Pn	09 23 05.0	+1.3
VRDI	Verde Repeater	4.47	144	P	Pn	09 23 06.6	+2.4
EYAK	Cordova Ski Ar	4.63	160	P	Pn	09 23 07.7	+1.5
KIAG	Kiagna River	5.01	140	P	Pn	09 23 13.5	+1.8
KULT	Kultieth River	5.50	146	P	Pn	09 23 19.7	+1.4

IDC 11 09:21:58.3±3.1, 1°.23N×90°.96E, h0km, mb4.4/6, mb1 4.5/6, mb1mx3.8/78, mbtmp4.4/6, Error ellipse: s-maj=76.3km s-min=39.9km az=174.0, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	Makanchi Array	46.01	352	P	P	09 30 24.5	+1.0
	5.7nm,0.8s,baz=167,slow=10,SNR=3.3						
GEYT	Alibeck	47.37	324	P	P	09 30 33.6	-0.7
	2.8nm,0.6s,baz=168,slow=7.4,SNR=2.3						
SONM	Songino Array	48.31	14	P	P	09 30 41.7	0.0
	5.7nm,0.7s,baz=193,slow=9.0,SNR=3.2						
KSRS	Korea Array	49.56	39	P	P	09 30 49.6	-1.6
	2.3nm,0.8s,baz=221,slow=9.2,SNR=4.1						
BRTR	Keskin Array B	64.54	314	P	P	09 32 37.0	-0.5
	2.5nm,0.7s,baz=130,slow=7.3,SNR=3.6						
GERES	GERESS Array B	80.69	319	P	P	09 34 13.6	0.0
	2.9nm,0.6s,baz=115,slow=4.6,SNR=4.2						
TXAR	Lajitas Array	146.54	24	PKPbc	PKPbc	09 41 42.6	+0.1
	1.5nm,0.6s,baz=31,slow=2.2,SNR=4.0						

IDC 11 09:26:09.3±3.8, 1°.76N×92°.12E, h0km, mb4.5/1, mb1 4.5/2, mb1mx3.5/76, mbtmp4.3/2, ML4.8/1, Error ellipse: s-maj=280.2km s-min=74.5km az=107.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	17.90	22	P	Pn	09 30 18.5	-1.4
	1.1nm,0.3s,baz=215,slow=12,SNR=4.4						
SONM	Songino Array	47.54	13	P	P	09 34 47.3	+0.7
	5.4nm,0.8s,baz=200,slow=9.6,SNR=4.2						
TXAR	Lajitas Array	145.59	25	PKPbc	PKPdf	09 45 49.5	-1.1
	0.6nm,0.5s,baz=197,slow=0.3,SNR=4.5						

IDC 11 09:27:07.0±1.3, 2°.81N×93°.22E, h0km, mb4.3/9, mb1 4.5/9, mb1mx3.9/74, mbtmp4.3/9, Error ellipse: s-maj=71.7km s-min=19.5km az=50.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	Makanchi Array	44.83	349	P	P	09 35 22.5	-0.5
	1.9nm,0.7s,baz=169,slow=8.5,SNR=4.1						
WRA	Warramunga Arr	46.26	121	P	P	09 35 34.6	0.0
	9.5nm,0.7s,baz=298,slow=8.6,SNR=12						
ASAR	Alice Springs	47.54	126	P	P	09 35 43.7	-1.0
	2.5nm,0.9s,baz=305,slow=8.6,SNR=5.9						
KURBB	Kurchatov Arra	49.24	348	P	P	09 35 56.1	-1.1
	2.0nm,0.2s,baz=173,slow=7.3,SNR=4.9						
ZALV	Zalesovo Beam	51.44	354	P	P	09 36 14.0	+0.2
	2.5nm,0.6s,baz=185,slow=6.5,SNR=3.6						
BVAR	Borovoye Array	53.50	343	P	P	09 36 28.9	-0.3
	1.8nm,0.7s,baz=152,slow=9.6,SNR=2.5						
BRTR	Keskin Array B	65.10	313	P	P	09 37 48.7	-1.3
	1.2nm,0.8s,baz=128,slow=8.0,SNR=4.0						
FINES	FINESS Array B	76.76	333	P	P	09 39 01.6	+1.4
	3.7nm,0.7s,baz=108,slow=4.2,SNR=4.7						
GERES	GERESS Array B	80.99	319	P	P	09 39 24.2	+0.3
	1.2nm,0.4s,baz=107,slow=4.6,SNR=3.6						
PDAR	Pinedale Array	130.19	22	PKP	PKPdf	09 46 20.5	+0.6
	0.6nm,0.7s,baz=359,slow=3.6,SNR=2.7						
TXAR	Lajitas Array	144.18	26	PKP	PKPdf	09 46 46.3	+0.4
	8.6nm,0.8s,baz=295,slow=1.8,SNR=23						

*ISCJB **11** 09:27:19.6±0.9, 3°.2N±0°.1×93°.21E±0°.08, h10km, mb4.6/13, Error ellipse: s-maj=19.7km s-min=8.9km az=26.7*
*NEIC **11** 09:27:20.7±0.8, 3°.07N×93°.14E, h10km, mb4.7/1, Error ellipse: s-maj=18.9km s-min=8.9km az=211.0*
*IDC **11** 09:27:20.3±1.2, 3°.23N×93°.24E, h0km, mb4.6/12, mb1 4.7/14, mb1mx4.2/78, mbtmp4.6/14, ML4.5/2, Error ellipse: s-maj=32.3km s-min=20.8km az=33.0*

ISC 11 09:27:21.0±1.0, 3°.1N±0°.1×93°.2E±0°.1, h10km, n22, σ1°.02/21, mb4.7/13, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSI	Gunungsitoli	4.74	112	Pn	Pn	09 28 30.8	-1.8
PSI	Prapat	5.75	93	Pn	Pn	09 28 48.0	+1.3
	8.7nm,0.3s,baz=349,slow=2.6,SNR=6.1						
KULM	Kulim	7.78	73	Pn	Pn	09 29 14.6	+0.2
	60nm,0.7s						
IPM	Ipoh	7.96	80	*e*Pn	Pn	09 29 18.0	+1.1
	230nm,1.0s						
CMAR	Chiang Mai Arr	16.30	20	Pn	Pn	09 31 09.9	-0.3
	0.8nm,0.3s,baz=217,slow=13,SNR=6.3						
KSM	Kuching	17.20	95	*e*P	Pn	09 31 22.0	+0.4
	71nm,1.0s						
MKAR	Makanchi Array	44.56	349	P	P	09 35 32.8	-0.4
	7.6nm,0.7s,baz=167,slow=8.5,SNR=9.5						
SONM	Songino Array	46.03	12	P	P	09 35 44.1	-0.8
	9.5nm,0.6s,baz=195,slow=9.1,SNR=10						
KSAR	Wonju Array Be	46.72	39	P	P	09 35 50.1	-0.3
KSRS	Korea Array	46.75	39	P	P	09 35 50.1	-0.5
	5.3nm,0.8s,baz=227,slow=8.5,SNR=12						
GEYT	Alibeck	47.23	322	P	P	09 35 53.8	-0.7
	3.9nm,0.7s,baz=148,slow=8.7,SNR=4.0						
ASAR	Alice Springs	47.74	126	P	P	09 35 59.4	+0.8
	0.5nm,0.5s,baz=298,slow=8.3,SNR=3.4						
KURBB	Kurchatov Arra	48.97	348	P	P	09 36 07.3	-0.3
	1.9nm,0.3s,baz=173,slow=7.2,SNR=7.0						
KURK	Kurchatov	49.04	348	P	P	09 36 07.3	-0.8
ZALV	Zalesovo Beam	51.17	354	P	P	09 36 24.9	+0.7
	9.1nm,0.5s,baz=175,slow=6.8,SNR=13						
HIA	Hailar	51.30	22	*e*P	P	09 36 24.2	-1.2
	16nm,0.9s						
BVAR	Borovoye Array	53.23	343	P	P	09 36 39.1	-0.6
	5.2nm,0.9s,baz=152,slow=6.7,SNR=7.2						
USRK	Ussuriysk Ar.	53.37	34	P	P	09 36 39.4	-1.4
	3.7nm,0.9s,baz=203,slow=5.0,SNR=5.6						
IDI	Anoyia	70.55	306	P	P	09 38 38.3	+1.6
	24nm,1.0s,baz=94,slow=8.6,SNR=5.1						
FINES	FINESS Array B	76.50	333	P	P	09 39 10.5	-0.5
	6.3nm,0.9s,baz=94,slow=5.7,SNR=3.5						
GERES	GERESS Array B	80.76	319	P	P	09 39 36.3	+1.3
	8.2nm,0.9s,baz=104,slow=5.6,SNR=8.5						
TXAR	Lajitas Array	143.96	25	PKP	PKPab	09 46 55.9	+0.9
	4.3nm,1.0s,baz=316,slow=2.5,SNR=6.0						

*BJI **11** 09:27:50.6, 0°.75N×91°.39E, h8km, mb5.6/54, mB6.0/5, Ms5.9/4, Ms7 5.8/4*
*MOS **11** 09:27:54.8±1.3, 1°.27N×91°.79E, h10km, mb6.1/51, Error ellipse: s-maj=7.3km s-min=4.4km az=114.0*
*IDC **11** 09:27:54.4±0.4, 1°.20N×91°.76E, h0km, mb5.2/37, mb1 5.3/40, mb1mx5.1/74, mbtmp5.2/40, ML5.1/3, MS7.0/2, Ms1 7.0/2, ms1mx6.1/75, Error ellipse: s-maj=11.6km s-min=10.3km az=31.0*
*ISCJB **11** 09:27:55.2±0.1, 1°.27N±0°.03×91°.72E±0°.02, h10km, mb5.7/168, Error ellipse: s-maj=4.5km s-min=2.5km az=29.9*
*NEIC **11** 09:27:56.8±0.2, 1°.25N×91°.74E, h10km, mb6.0/63, Error ellipse: s-maj=5.3km s-min=3.3km az=204.0*
*DJA **11** 09:28:00.3±0.2, 1°N±3°×9°2E±°, h10km, M6.3/24, mb5.9/24, MLv6.6/3*

ISC 11 09:27:57.0±0.2, 1°.22N±0°.04×91°.72E±0°.04, h10km, n906, σ1°65/853, mb5.8/183, 19C-14D, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSI	Gunungsitoli	5.86	89	P	Pn	09 29 25.3	+1.3
	3µm,0.9s,36nm						
GSI	Gunungsitoli	5.86	89	*e*Pn	Pn	09 29 24.1	+0.1
LHMI	Lhok Sumawe	6.57	53	*e*Pn	Pn	09 29 33.4	-0.4
PBSI	Pulau Batu	6.69	101	P	Pn	09 29 33.3	-2.1
TSI	Tuntungan	7.21	72	P	Pn	09 29 48.3	+5.7
PSI	Prapat	7.37	78	Pn	Pn	09 29 42.6	-2.4
	36nm,0.3s,baz=307,slow=11,SNR=15						
PSI				Sn	Sn	09 31 02.2	-6.6
	17nm,0.3s,baz=326,slow=18,SNR=2.4						
PSI	Prapat	7.37	78	*e*Pn	Pn	09 29 43.2	-1.8
PSI				Sn	Sn	09 31 02.2	-6.6
PSI	Prapat	7.37	78	*e*P	Pn	09 29 43.2	-1.8
PSI						09 31 02.2	
SISI	Saibi	7.79	109	P	Pn	09 29 52.6	+2.0
PDSI	Padang	9.00	104	P	Pn	09 30 07.6	+0.4
	1µm,1.0s						
PPSI	Pulau Pagai	9.19	116	P	Pn	09 30 10.6	+0.9
	2µm,2.6s						
BKNI	Bangkinang	9.37	95	P	Pn	09 30 19.1	+6.9
	3µm,1.4s						
BKNI	Bangkinang	9.37	95	*e*Pn	Pn	09 30 12.9	+0.7
KULM	Kulim	9.79	65	*e*Pn	Pn	09 30 16.2	-1.9
IPM	Ipoh	9.85	71	*e*Pn	Pn	09 30 17.6	-1.2
SDSI	Sungai Dareh	9.95	102	P	Pn	09 30 26.8	+6.7
	0.6nm,1.2s						
PBA	Port Blair	10.42	6	*e*P	Pn	09 30 23.6	-3.1
PBA				IAmb	IAmb	09 30 46.2	
	comp=Z,1µm,1.6s						
RGRI	Rengat	10.73	98	P	Pn	09 30 38.2	+7.3
	comp=Z,407nm,1.0s						
MASI	Maura Aman, Be	11.38	112	P	Pn	09 30 45.9	+6.1
	comp=Z,2µm,1.2s						
DGPR	DIGLIPUR	11.94	6	*e*P	Pn	09 30 48.5	+1.0
MYKOM	Kota Tinggi	12.14	87	*e*Pn	Pn	09 30 49.3	-1.0
PALK	Pallekele	12.52	299	Pn	Pn	09 30 49.1	-6.3
	comp=Z,7.3nm,0.3s,baz=112,slow=0.9,SNR=3.5						
PALK	Pallekele	12.52	299	*e*Pn	Pn	09 30 54.1	-1.3
PALK				eSn	Sn	09 32 59.4	-16
PALK	Pallekele	12.52	299	*e*P	Pn	09 30 54.1	-1.3
MNAI	Manna	12.53	116	P	Pn	09 31 04.5	+9.0
MNAI	Manna	12.53	116	*e*Pn	Pn	09 30 55.8	+0.3
TPRI	Tanjung Pinang	12.81	91	P	Pn	09 31 01.0	+1.6
	comp=Z,435nm,2.5s						
MDSI	Maura Dua	13.68	115	P	P	09 31 18.0	-2.1
LWLI	Liwa	13.80	117	P	P	09 31 18.9	-2.7
KASI	Kota Agung	14.42	118	P	Pn	09 31 22.8	+1.5
KLI	Kotabumi	14.45	115	P	P	09 31 26.3	-2.4
PPBI	Pangkal Pinang	14.80	103	P	P	09 31 37.2	+4.6
BLSI	Bandar Lampung	15.02	116	P	P	09 31 41.0	+6.0
CGJI	Cibinong	15.97	119	P	P	09 31 46.2	+0.6
MDRS	Chennai	16.36	317	*e*P	Pn	09 31 44.1	-2.9
MDRS				IAmb	IAmb	09 31 48.1	
	comp=Z,3µm,2.0s						
TRD	Trivandrum	16.38	297	*e*P	Pn	09 31 46.5	-0.8
SKJI	Sukabumi	16.91	119	P	P	09 31 57.6	+1.6
SKHT	Srikalahasti	17.20	317	*e*P	Pn	09 31 57.1	-0.6
LEM	Lembang	17.77	117	Pn	Pn	09 32 04.2	-0.7
	comp=Z,9.8nm,0.3s,baz=273,slow=3.3,SNR=7.8						
LEM				LR	LR	09 38 39.3	
	comp=Z,445µm,21.6s,baz=298,slow=36						
XMIS	Christmas Isla	18.09	130	*e*Pn	Pn	09 32 07.8	-1.0
	comp=Z,1µm,1.9s						
JCJI	Jatiwangi	18.21	115	P	P	09 32 14.3	+3.9
CISI	Cisompet, Garu	18.27	119	P	Pn	09 32 10.7	-0.3
CISI	Cisompet, Garu	18.27	119	*e*Pn	Pn	09 32 09.1	-1.9
	comp=Z,710nm,1.1s						
VIS	Vishakhapatnam	18.35	334	*e*P	Pn	09 32 09.5	-2.4
VIS				IAmb	IAmb	09 32 13.8	
	comp=Z,1µm,1.3s						
CM01	Chiang Mai Arr	18.52	22	*e*P	P	09 32 13.4	-0.3
CM31	Chiang Mai Arr	18.54	22	*e*P	Pn	09 32 14.5	+0.3
CMAR	Chiang Mai Arr	18.54	22	P	P	09 32 13.6	-0.4
	comp=Z,1.2nm,0.3s,baz=215,slow=12,SNR=18						
ADKI	Addanki	18.59	322	*e*P	P	09 32 13.7	-0.8
KSM	Kuching	18.59	89	*e*P	Pn	09 32 16.4	+1.6
	comp=Z,603nm,1.1s						
CHLP	Challavanipeta	18.75	337	*e*P	Pn	09 32 17.4	+0.6
PVM	Polavaram	18.77	329	*e*P	P	09 32 16.4	-0.1
CHTO	Chiang Mai	18.87	22	*e*P	P	09 32 17.7	+0.1
	comp=Z,160nm,1.1s						
CHTO	Chiang Mai	18.87	22	P	Pn	09 32 23.6	+5.4
	SNR=5.1						
CHTO	Chiang Mai	18.87	22	P	Pn	09 32 23.6	+5.4
	SNR=5.1						
CHTO	Chiang Mai	18.87	22	*e*P	P	09 32 17.7	+0.1
CHTO				pmax	pmax		
	comp=Z,160nm,1.1s						
CMJI	Cimerak	18.93	118	P	P	09 32 18.6	+0.3
KPJI	Karang Pucung	19.16	117	P	Pn	09 32 22.1	+0.4
SRLM	Srisailam	19.45	320	*e*P	P	09 32 23.4	-0.7
NJS	Nagarjunasagar	19.54	322	*e*P	P	09 32 24.2	-0.7
URV	Uravakonda	19.75	314	*e*P	P	09 32 26.6	-0.7
STKI	Sintang	19.79	93	P	Pn	09 32 30.5	+1.2
	comp=Z,1µm,1.2s						
MNCY	Minicoy	19.88	291	*e*P	P	09 32 28.1	-0.6
PBKI	Pangkalan Bun	20.33	101	P	Pn	09 32 40.1	+4.5
SMRI	Semarang	20.41	114	P	Pn	09 32 39.3	+2.7
SMRI	Semarang	20.41	114	*e*P	Pn	09 32 37.2	+0.6
	comp=Z,4µm,1.5s						
SBUM	Sibu	20.53	86	*e*P	Pn	09 32 37.1	-0.9
	comp=Z,463nm,1.1s						
HYB	Hyderabad	20.66	322	*i* P	P	09 32 37.5	+0.3
HYB	Hyderabad	20.66	322	*e*P	P	09 32 36.5	-0.6
HYB				IAmb	IAmb	09 32 46.7	
	comp=Z,748nm,1.8s						
HYBB	Hyderabad (bro	20.66	322	*e*P	P	09 32 37.7	+0.5
UGM	Wanagama	20.84	116	P	Pn	09 32 42.9	+1.3
UGM	Wanagama	20.84	116	*e*P	P	09 32 40.1	+1.0
	comp=Z,1µm,1.3s						
DGAR	Diego Garcia	21.04	246	*e*P	P	09 32 41.2	-0.1
	comp=Z,9µm,1.8s						
DGAR	Diego Garcia	21.04	246	P	P	09 32 44.4	+3.1
	SNR=7.3						
DGAR	Diego Garcia	21.04	246	P	P	09 32 44.4	+3.1
	SNR=7.3						
DGAR	Diego Garcia	21.04	246	*i* P	P	09 32 48.7	+7.4
H08S2	Diego Garcia H	21.10	245	T	T	09 54 22.1	
	baz=65,slow=75,SNR=9.6						
H08S3	Diego Garcia H	21.10	245	T	T	09 54 25.7	
	baz=65,slow=75,SNR=14						
H08S1	Diego Garcia H	21.11	245	T	T	09 54 31.3	
	baz=65,slow=75,SNR=12						
WOJI	Wonogiri, Jawa	21.16	115	P	P	09 32 47.4	+4.7
RPR	Rampur	21.35	326	*e*P	P	09 32 45.2	+0.6
PCJI	Pacitan	21.54	116	P	P	09 32 49.2	+2.5
SRSP	Sriramsagar	21.95	324	*e*P	P	09 32 50.0	-1.0
GRJI	Gresik	22.24	112	P	P	09 32 58.7	+4.5
KLRI	Killari	22.38	319	*e*P	P	09 32 54.6	-1.2
GOA	Goa	22.64	310	*e*P	P	09 32 57.4	-1.1
GOA				IAmb	IAmb	09 33 02.1	
	comp=Z,156nm,0.3s						
BOK	Bokaro	23.14	346	*e*P	P	09 33 04.2	+0.5
BOK				IAmb	IAmb	09 33 08.6	
MTKI	Muara Teweh, K	23.28	95	P	P	09 33 07.7	+2.5
	comp=Z,440nm,2.2s						
BLJI	Banyuglugur	23.57	113	P	P	09 33 14.6	+6.6
GMJI	Gumukmas	23.63	114	P	P	09 33 11.6	+3.0
KMMI	Kalianget	23.67	111	P	P	09 33 13.4	+4.3
SHL	Shillong	24.21	0	*e*P	P	09 33 12.2	-2.1
SHL				IAmb	IAmb	09 33 46.4	
	comp=Z,394nm,1.6s						
JAGI	Jajag, Banyuwa	24.35	114	P	P	09 33 17.2	+1.7
POO	Poona	24.56	316	*e*P	P	09 33 17.4	0.0
POO				IAmb	IAmb	09 33 26.9	
	comp=Z,158nm,1.0s						
KBKI	Kotabaru	24.85	100	P	P	09 33 29.1	+9.1
	comp=Z,287nm,1.3s						
KKM	Kota Kinabalu	24.91	78	*e*P	P	09 33 20.8	+0.2
	comp=Z,368nm,1.1s

XAN	**Xi'an**	36.41	24	P		**P**	09 35 01.2	-0.7			
XAN				pP		sP	09 35 09.1	+2.8			
XAN				pmax		pmax					
	comp=Z,210nm,1.0s										
LZH	**Lanzhou**	36.47	17	*eP*		**P**	09 35 02.4	-0.2			
LZH				pP		pP	09 35 05.6	-0.1			
LZH				sP		sP	09 35 07.2	+0.3			
LZH				PP		**PP**	09 36 27.0	+1.3			
LZH				pmax		pmax					
	comp=Z,400nm,1.3s										
LZH				pmax		pmax					
	comp=Z,2μm,5.2s										
LZH				LR		LR					
	comp=Z,10μm,13.9s										
LZH				LR		LR					
	comp=Z,14μm,18.3s										
NIL	**Nilore**	36.61	334	*eP*		**P**	09 35 02.7	-0.9			
	comp=Z,1μm,1.6s										
NIL	**Nilore**	36.61	334	*eP*		**P**	09 35 02.7	-0.9			
NIL				pmax		pmax					
	comp=Z,1μm,1.6s										
AAI	**Ambon**	36.78	98	P		**P**	09 35 09.0	+3.6			
	comp=Z,147nm,1.3s										
MSAI	**Masohi**	37.47	97	P		**P**	09 35 13.2	+2.0			
	comp=Z,52nm,1.3s										
MEEK	**Meekatharra**	37.94	139	P		**P**	09 35 14.0	-1.1			
	baz=38,SNR=3.5										
WBK	**Wadi Bani Khal**	38.27	306	pP		**P**	09 35 22.0	+4.1			
	SNR=12										
WBK	**Wadi Bani Khal**	38.27	306	P		**P**	09 35 22.0	+4.1			
	SNR=12										
FITZ	**Fitzroy Crossi**	38.51	122	P		**P**	09 35 18.2	-1.7			
	comp=Z,19nm,1.0s,baz=315,slow=8.4,SNR=4.5										
GTA	**Gaotai**	38.73	10	*eP*		**P**	09 35 20.9	-0.7			
GTA				pP		pP	09 35 25.3	+0.6			
GTA				sP		sP	09 35 28.9	+3.0			
GTA				S		**S**	09 41 20.5	+1.7			
GTA				sS		sS	09 41 30.0	+6.1			
GTA				pmax		pmax					
	comp=Z,52nm,0.7s										
WSAR	**Wadi Sarin**	38.85	307	P		**P**	09 35 22.8	+0.1			
	comp=Z,56nm,1.1s,baz=172,slow=6.8,SNR=14										
JMDO	**Jabal Madar**	38.86	305	pP		P	09 35 34.0	+11			
	SNR=5.9										
SHAO	**Shalim**	39.17	297	P		**P**	09 35 24.5	-1.0			
SMDO	**Samad**	39.23	306	pP		P	09 35 31.0	+5.0			
	SNR=9.6										
SMDO	**Samad**	39.23	306	P		P	09 35 31.0	+5.0			
	SNR=9.6										
KBL	**Kabul**	39.34	330	*eP*		**P**	09 35 26.1	-0.8			
	comp=Z,194nm,1.6s										
KBL	**Kabul**	39.34	330	*eP*		**P**	09 35 26.1	-0.8			
KBL				pmax		pmax					
	comp=Z,195nm,1.6s										
BIDO	**Bidbid**	39.39	307	pP		**P**	09 35 31.0	+3.8			
	SNR=18										
BIDO	**Bidbid**	39.39	307	P		**P**	09 35 31.0	+3.8			
	SNR=18										
SWI	**Sorong**	39.60	93	P		**P**	09 35 29.7	+0.6			
	comp=Z,91nm,1.2s										
SIJI	**Sorong**	39.60	93	P		**P**	09 35 27.0	-2.2			
	comp=Z,22nm,0.9s,baz=272,slow=8.7,SNR=6.8										
BSY	**Bisya**	39.77	305	pP		P	09 35 42.0	+12			
	SNR=6.0										
NJ2	**Nanjing**	39.95	37	*eP*		**P**	09 35 32.8	+1.1			
NJ2				pmax		pmax					
	comp=Z,150nm,0.5s										
HOQ	**Hoqain**	40.07	306	pP		**P**	09 35 37.0	+4.0			
	SNR=13										
HOQ	**Hoqain**	40.07	306	P		**P**	09 35 37.0	+4.0			
	SNR=13										
RBK	**Rabkut**	40.26	296	pP		**P**	09 35 39.0	+4.4			
	SNR=9.2										
RBK	**Rabkut**	40.26	296	P		**P**	09 35 39.0	+4.4			
	SNR=9.2										
FAKI	**Fak Fak**	40.73	96	P		**P**	09 35 39.6	+1.1			
FAKI	**Fak Fak**	40.73	96	*eP*		**P**	09 35 37.5	-1.0			
	comp=Z,86nm,1.0s										
KSH	**Kashi**	40.73	341	P		**P**	09 35 36.4	-1.9			
KSH				S		**S**	09 41 40.4	-8.5			
KSH				pmax		pmax					
	comp=Z,170nm,1.0s										
WHFO	**Wadi Hawf**	40.79	296	pP		**P**	09 35 42.0	+3.0			
	SNR=8.7										
WHFO	**Wadi Hawf**	40.79	296	P		**P**	09 35 42.0	+3.0			
	SNR=8.7										
SOHO	**SOHO**	40.96	307	*i* P		**P**	09 35 40.2	0.0			
	SNR=12										
MTN	**Manton Dam**	41.53	111	P		**P**	09 35 44.6	-0.5			
	baz=42,SNR=3.5										
H01W3	**Cape Leeuwin H**	41.60	152	T		T	10 20 04.2				
	baz=326,slow=75,SNR=6.1										
ASHO	**Ashiyiah**	41.60	307	*i* P		**P**	09 35 45.4	-0.2			
	SNR=8.5										
H01W2	**Cape Leeuwin H**	41.61	152	T		T	10 20 03.6				
	baz=326,slow=75,SNR=6.2										
HATD	**Hatta, Dubai**	41.61	307	*i* P		**P**	09 35 46.8	+1.1			
	SNR=12										
UOSS	**Minazif**	41.61	307	*eP*		**P**	09 35 45.4	-0.2			
	comp=Z,54nm,1.3s										
UOSS	**Minazif**	41.61	307	P		**P**	09 35 46.9	+1.2			
H01W1	**Cape Leeuwin H**	41.62	152	T		T	10 20 08.0				
	baz=326,slow=75,SNR=5.8										
MSFE	**Esma-Masafi**	41.85	308	*i* P		**P**	09 35 47.8	+0.2			
	SNR=11										
BANOM	**Banah**	42.02	309	P		**P**	09 35 50.1	+1.1			
SFK	**Sufi-Kurgan**	42.02	339	P		**P**	09 35 49.2	+0.2			
SFK				pmax		pmax					
	comp=Z,222nm,1.2s										
WMQ	**Urumqi**	42.57	356	P		**P**	09 35 54.2	+1.0			
WMQ				pP		pP	09 35 55.9	-0.4			
WMQ				sP		sP	09 36 01.7	+4.1			
WMQ				pmax		pmax					
	comp=Z,340nm,1.3s										
ULHL	**Ulahol**	43.15	343	P		**P**	09 35 57.1	-1.0			
	SNR=5.4										
UZB	**Uzynbulak**	43.26	346	*eP*		**P**	09 35 58.0	-1.0			
	comp=Z,321nm,1.7s										
KZA	**Kyzart**	43.29	342	P		**P**	09 35 57.7	-1.8			
	SNR=6.5										
SATY	**Saty**	43.33	346	*eP*		**P**	09 35 58.6	-0.9			
	comp=Z,2μm,1.2s										
PDGK	**Podgornoye**	43.33	347	P		**P**	09 35 58.2	-1.2			
PDGK				pmax		pmax					
	comp=Z,332nm,1.5s										
HHC	**Hu-ho-hao-te**	43.35	22	*eP*		**P**	09 36 00.6	+0.9			
HHC				S		**S**	09 42 29.6	+2.0			
HHC				pmax		pmax					
	comp=Z,35nm,1.0s										
HHC				LR		LR					
	comp=Z,22μm,15.5s										
UCH	**Uchtor**	43.66	341	P		**P**	09 36 01.7	-0.8			
	SNR=18										
MDOK	**Medeo**	43.77	344	*eP*		**P**	09 36 01.8	-1.3			
AML	**Almayashu**	43.84	341	P		**P**	09 36 03.3	-0.6			
	SNR=20										
KBK	**Karagaybulak**	43.91	342	P		**P**	09 36 04.0	-0.2			
	SNR=11										
TKM2	**Tokmak 2**	43.96	343	P		**P**	09 36 03.8	-0.8			
	SNR=18										
TKM2	**Tokmak 2**	43.96	343	P		**P**	09 36 03.8	-0.8			
TKM2				pmax		pmax					
	comp=Z,20nm,1.0s										
AAK	**Ala-Archa**	44.03	342	P		**P**	09 36 05.3	+0.1			
	comp=Z,29nm,1.0s,baz=160,slow=5.7,SNR=10										
AAK	**Ala-Archa**	44.03	342	P		**P**	09 36 04.8	-0.4			
	SNR=6.5										
AAK	**Ala-Archa**	44.03	342	*eP*		**P**	09 36 05.4	+0.3			
	comp=Z,203nm,1.5s										
AAK	**Ala-Archa**	44.03	342	*i* P		**P**	09 36 05.3	+0.1			
	SNR=7.0										
AAK	**Ala-Archa**	44.03	342	‖ *i*P		**P**	09 36 04.6	-0.6			
BMNS	**Besmoynak**	44.11	343	*eP*		**P**	09 36 04.8	-1.0			
	comp=Z,1μm,1.3s										
FRU	**Bishkek**	44.17	342	*eP*		**P**	09 36 10.0	+3.9			
EKS2	**Erkin-Say**	44.28	341	P		**P**	09 36 06.7	-0.4			
	SNR=17										
BJT	**Baijiatuau**	44.57	27	*eP*		**P**	09 36 10.0	+0.7			
	comp=Z,393nm,1.1s										
BJT	**Baijiatuau**	44.57	27	*eP*		**P**	09 36 10.0	+0.7			
BJT				pmax		pmax					
	comp=Z,393nm,1.1s										
BJI	**Beijing**	44.59	27	⇑ *i*P		**P**	09 36 10.8	+1.4			
BJI				pmax		pmax					
	comp=Z,300nm,1.0s										
USP	**Ospenovka**	44.60	342	P		**P**	09 36 08.6	-1.0			
	SNR=18										
KUU	**Kurty**	44.64	344	⇓ *i*P		**P**	09 36 08.1	-1.8			
	comp=Z,738nm,1.3s										
IUG	**Iuzhnay**	45.17	337	*eP*		**P**	09 36 13.2	-1.0			
	comp=Z,1μm,1.0s										
DZA	**Taraz**	45.33	339	*eP*		**P**	09 36 14.1	-1.2			
	comp=Z,486nm,1.0s										
DZA				*eS*		**S**	09 42 53.8	-2.4			
KK06	**Karatay Array**	45.80	338	*eP*		**P**	09 36 17.7	-1.4			
KK07	**Karatay Array**	45.80	338	*eP*		**P**	09 36 17.8	-1.3			
KK02	**Karatay Array**	45.81	338	*eP*		**P**	09 36 17.9	-1.3			
KK31	**Karatay Array**	45.81	338	*eP*		**P**	09 36 17.9	-1.3			
KK31	**Karatay Array**	45.81	338	*eP*		**P**	09 36 17.9	-1.3			
KKAR	**Karatay Array**	45.81	338	*eP*		**P**	09 36 17.9	-1.3			
KKAR	**Karatay Array**	45.81	338	*eP*		**P**	09 36 17.9	-1.3			
KK03	**Karatay Array**	45.81	338	*eP*		**P**	09 36 17.9	-1.3			
KK01	**Karatay Array**	45.81	338	*eP*		**P**	09 36 18.0	-1.1			
KK05	**Karatay Array**	45.82	338	*eP*		**P**	09 36 18.2	-1.0			
KK04	**Karatay Array**	45.82	338	*eP*		**P**	09 36 18.1	-1.1			
KK08	**Karatay Array**	45.82	338	*eP*		**P**	09 36 18.0	-1.2			
MK01	**Makanchi Array**	46.11	351	*eP*		**P**	09 36 19.7	-1.8			
MK31	**Makanchi Array**	46.13	351	*eP*		**P**	09 36 20.4	-1.2			
MK31	**Makanchi Array**	46.13	351	*eP*		**P**	09 36 20.4	-1.2			
MKAR	**Makanchi Array**	46.13	351	P		**P**	09 36 20.2	-1.5			
	comp=Z,56nm,0.8s,baz=167,slow=8.2,SNR=22										
MKAR	**Makanchi Array**	46.13	351	*eP*		**P**	09 36 20.4	-1.2			
	comp=Z,399nm,1.0s										
MAKZ	**Makanchi**	46.20	351	*eP*		**P**	09 36 21.3	-0.9			
	comp=Z,270nm,1.6s										
MAKZ	**Makanchi**	46.20	351	P		**P**	09 36 20.6	-1.5			
MAKZ				pmax		pmax					
	comp=Z,133nm,1.4s										
DL2	**Dalian**	46.42	32	P		**P**	09 36 25.6	+1.6			
DL2				pmax		pmax					
	comp=Z,130nm,1.1s										
ZSN	**Zaisan**	46.43	354	*i* P		**P**	09 36 23.9	-0.1			
	comp=Z,444nm,1.1s										
WRA	**Warramunga Arr**	46.77	119	P		**P**	09 36 25.1	-2.0			
	comp=Z,38nm,0.6s,baz=296,slow=8.6,SNR=12										
WRAB	**Tennant Creek**	46.78	119	*eP*		**P**	09 36 25.1	-2.0			
	comp=Z,40nm,0.7s										
WRAB	**Tennant Creek**	46.78	119	*eP*		**P**	09 36 25.1	-2.0			
WRAB				pmax		pmax					
	comp=Z,40nm,0.7s										
GYB1	**ALIBECK ARRAY**	47.81	324	*eP*		**P**	09 36 34.6	-0.4			
GYA1	**ALIBECK ARRAY**	47.82	324	*eP*		**P**	09 36 34.6	-0.4			
GYB2	**ALIBECK ARRAY**	47.82	324	*eP*		**P**	09 36 34.7	-0.4			
GYB5	**ALIBECK ARRAY**	47.82	324	*eP*		**P**	09 36 34.7	-0.4			
GEYT	**Alibeck**	47.82	324	P		**P**	09 36 34.4	-0.6			
	comp=Z,63nm,0.9s,baz=141,slow=7.3,SNR=26										
GYA0	**ALIBECK ARRAY**	47.82	324	*eP*		**P**	09 36 34.9	-0.1			
GYA0B	**ALIBECK ARRAY**	47.82	324	*eP*		**P**	09 36 34.7	-0.3			
GYA2	**ALIBECK ARRAY**	47.82	324	*eP*		**P**	09 36 35.0	-0.1			
GYB3	**ALIBECK ARRAY**	47.83	324	*eP*		**P**	09 36 35.0	-0.1			
GYB4	**ALIBECK ARRAY**	47.84	324	*eP*		**P**	09 36 35.0	-0.1			
AS31	**Alice Springs**	47.87	124	*eP*		**P**	09 36 34.5	-1.2			
	comp=Z,7.2nm,1.2s										
ASAR	**Alice Springs**	47.87	124	P		**P**	09 36 33.6	-2.1			
	comp=Z,6.7nm,0.8s,baz=296,slow=7.1,SNR=14										
ASAR				PcP		**PcP**	09 38 02.7	-1.6			
	comp=Z,4.1nm,0.5s,baz=303,slow=3.2,SNR=9.9										
AS01	**Alice Springs**	47.91	124	*eP*		**P**	09 36 34.2	-1.7			
OPO	**Ambohidratompo**	47.98	244	P		**P**	09 36 36.0	-0.7			
	comp=Z,16nm,0.7s,baz=68,slow=5.2,SNR=13										
ABPO	**Ambohimpanom**	48.09	243	*eP*		**P**	09 36 37.1	-0.5			
ABPO	**Ambohimpanom**	48.09	243	*eP*		**P**	09 36 37.1	-0.5			
SONM	**Songino Array**	48.15	13	P		**P**	09 36 36.9	-0.6			
	comp=Z,122nm,0.9s,baz=193,slow=8.3,SNR=42										
SONA1	**Songino Array**	48.16	13	*eP*		**P**	09 36 37.0	-0.6			
ULN	**Ulaanbaatar**	48.33	14	pP		**P**	09 36 40.0	+1.1			
	SNR=12										
ULN	**Ulaanbaatar**	48.33	14	*ce*P		**P**	09 36 37.7	-1.2			
ULN				pmax		pmax					
	comp=Z,137nm,1.7s										
DAMY	**Dhamar**	48.59	288	*eP*		**P**	09 36 42.2	+0.6			
	comp=Z,1μm,1.6s										
KS15	**Wonju Array Si**	49.07	38	*eP*		**P**	09 36 44.8	+0.2			
KSAR	**Wonju Array Be**	49.07	38	P		**P**	09 36 43.8	-0.8			
KSAR	**Wonju Array Be**	49.07	38	P		**P**	09 36 43.8	-0.8			
KS01	**Wonju Array Si**	49.09	38	*eP*		**P**	09 36 43.6	-1.2			
KSRS	**Korea Array**	49.10	38	P		**P**	09 36 43.8	-1.0			
	comp=Z,18nm,0.9s,baz=226,slow=9.0,SNR=25										
JAY	**Jayapura**	49.12	94	P		**P**	09 36 45.1	-0.3			
ATD	**Arta Tunnel**	49.55	284	P		**P**	09 36 48.7	-0.1			
	comp=Z,98nm,1.1s,baz=66,slow=2.9,SNR=13										
OTUK	**Ortayu**	49.75	343	P		**P**	09 36 48.5	-1.1			
OTUK				pmax		pmax					
	comp=Z,221nm,1.2s										
HVS	**Khovu-Aksy**	49.77	2	*i* P		**P**	09 36 49.1	-0.7			
HVS				pmax		pmax					
	comp=Z,279nm,0.9s										
RAYN	**Ar Rayn**	49.95	300	*eP*		**P**	09 36 50.8	-0.9			
	comp=Z,25nm,0.9s										
ZAK	**Zakamensk**	49.96	10	*eP*		**P**	09 36 50.0	-1.3			
ZAK				pmax		pmax					
	comp=Z,68nm,1.9s										
SEM	**Semipalatinsk**	49.97	350	*eP*		**P**	09 36 50.2	-1.4			
	comp=Z,871nm,1.8s										
KURBB	**Kurchatov Arra**	50.48	349	P		**P**	09 36 53.7	-1.4			
	comp=Z,65nm,0.9s,baz=172,slow=7.1,SNR=24										
KURK	**Kurchatov**	50.55	349	*eP*		**P**	09 36 54.4	-1.3			
	comp=Z,380nm,1.4s										
KURK	**Kurchatov**	50.55	349	P		**P**	09 36 54.9	-0.8			
	SNR=15										
KURK	**Kurchatov**	50.55	349	P		**P**	09 36 54.2	-1.4			
KURK				pmax		pmax					
	comp=Z,344nm,1.4s										
MOY	**Mondy**	50.87	7	*eP*		**P**	09 36 58.8	+0.6			
MOY				pmax		pmax					
	comp=Z,595nm,3.2s										
BRZS	**Berezniki**	51.23	344	*eP*		**P**	09 36 59.7	-1.1			
	comp=Z,80nm,1.3s										
TLY	**Talaya**	51.28	9	*eP*		**P**	09 37 02.4	+1.3			
TLY				pmax		pmax					
	comp=Z,40nm,0.8s										
QIS	**Mount Isa**	51.62	118	P		**P**	09 37 02.0	-2.2			
	baz=52,SNR=6.9										
IRK	**Irkutsk**	51.92	10	*eP*		P	09 37 00.9	-5.0			
IRK				pmax		pmax					
	comp=Z,347nm,2.0s										
CN2	**Changchun**	51.93	31	*eP*		**P**	09 37 06.7	+0.6			
CN2				pmax		pmax					
	comp=Z,70nm,0.9s										
ZAA0	**Zalesovo Array**	52.86	355	*eP*		**P**	09 37 11.3	-1.6			
	comp=Z,301nm,1.3s										
ZALV	**Zalesovo Beam**	52.86	355	P		**P**	09 37 11.2	-1.7			
	comp=Z,61nm,0.7s,baz=177,slow=7.6,SNR=22										
ZALV	**Zalesovo Beam**	52.86	355	*eP*		**P**	09 37 11.0	-1.8			
ZALV	**Zalesovo Beam**	52.86	355	*eP*		**P**	09 37 11.0	-1.8			
HIA	**Hailar**	53.55	22	*eP*		**P**	09 37 16.5	-1.6			
	comp=Z,208nm,1.4s										
HIA	**Hailar**	53.55	22	*eP*		**P**	09 37 16.5	-1.6			
HIA				pmax		pmax					
	comp=Z,208nm,1.4s										
NVS	**Novosibirsk**	53.90	354	*eP*		**P**	09 37 18.3	-2.1			
NVS				pmax		pmax					
	comp=Z,262nm,1.7s										
NVS				pmax		pmax					
	comp=N,219nm,1.9s										
NVS				pmax		pmax					
	comp=E,80nm,1.5s										
MSHR	**Mys Shultsa**	54.23	35	*i* P		**P**	09 37 23.1	0.0			
KMBO	**Kilima Mbogo**	54.51	268	P		**P**	09 37 25.1	-0.9			
	comp=E,24nm,1.2s,baz=58,slow=8.4,SNR=10										
KMBO	**Kilima Mbogo**	54.51	268	*eP*		**P**	09 37 25.7	-0.3			
	comp=E,290nm,1.7s										
KMBO	**Kilima Mbogo**	54.51	268	pP		**P**	09 37 28.2	+2.3			
	SNR=11										
KMBO	**Kilima Mbogo**	54.51	268	P		**P**	09 37 28.2	+2.3			
	SNR=11										
KMBO	**Kilima Mbogo**	54.51	268	*i* P		**P**	09 37 25.3	-0.6			
	SNR=12										
KMBO	**Kilima Mbogo**	54.51	268	*eP*		**P**	09 37 25.7	-0.3			
KMBO				pmax		pmax					
	comp=Z,290nm,1.7s										
BVA0	**Borovoye Array**	54.59	344	*i* P		**P**	09 37 25.1	-0.5			
BVA0				pmax		pmax					
	comp=Z,113nm,1.3s										
BVAR	**Borovoye Array**	54.59	344	P		**P**	09 37 23.5	-2.1			
	comp=Z,32nm,0.9s,baz=142,slow=7.5,SNR=25										
BRVK	**Borovoye**	54.65	344	‖ *e*P		**P**	09 37 25.9	-0.1			
BRVK				pmax		pmax					
	comp=Z,184nm,1.2s										
MDJ	**Mudanjiang**	54.66	33	P		**P**	09 37 30.5	+4.3			
MDJ				pP		sP	09 37 33.7	+3.1			
MDJ				S		**S**	09 45 10.1	+3.8			
MDJ				pmax		pmax					
	comp=Z,160nm,3.0s										
MDJ	**Mudanjiang**	54.66	33	*eP*		**P**	09 37 25.0	-1.3			
	comp=Z,125nm,1.5s										
AB07	**Akbulak array**	55.03	335	*eP*		**P**	09 37 28.4	-0.4			
AB06	**Akbulak array**	55.04	335	*eP*		**P**	09 37 27.5	-1.4			
AB08	**Akbulak array**	55.04	335	*eP*		**P**	09 37 28.0	-0.9			
AB03	**Akbulak array**	55.05	335	*eP*		**P**	09 37 28.5	-0.4			
AB01	**Akbulak array**	55.05	335	*eP*		**P**	09 37 28.5	-0.4			
AB31	**Akbulak array**	55.05	335	*eP*		**P**	09 37 27.4	-1.6			
AB31	**Akbulak array**	55.05	335	*eP*		**P**	09 37 27.4	-1.6			
ABKAR	**Akbulak array**	55.05	335	*eP*		**P**	09 37 27.3	-1.6			
	comp=Z,1μm,1.6s										
AB02	**Akbulak array**	55.05	335	*eP*		**P**	09 37 28.0	-1.0			
AB04	**Akbulak array**	55.05	335	*eP*		**P**	09 37 28.6	-0.4			
AB05	**Akbulak array**	55.06	335	*eP*		**P**	09 37 28.6	-0.5			
AB09	**Akbulak array**	55.07	335	*eP*		**P**	09 37 28.1	-0.9			
MTSU	**Mount Surprise**	55.19	113	P		**P**	09 37 29.2	-1.4			
	baz=55,SNR=7.2										
MAT	**Matsushiro**	55.47	45	P		**P**	09 37 30.9	-1.4			
MJAR	**Matsushiro Arr**	55.47	45	P		**P**	09 37 30.7	-1.6			
	comp=Z,9.3nm,0.8s,baz=237,slow=6.1,SNR=8.0										
USRK	**Ussuriysk Ar.**	55.72	34	P		**P**	09 37 34.0	+0.2			
	comp=Z,8.9nm,0.8s,baz=231,slow=4.4,SNR=11										
MANU	**Manus Island**	55.74	93	*eP*		**P**	09 37 32.8	-1.7			
	comp=Z,150nm,1.1s										
HTT	**Hallett**	56.19	132	P		**P**	09 37 36.3	-1.2			
	baz=56,SNR=5.0										
PMG	**Port Moresby**	56.21	102	*eP*		**P**	09 37 36.4	-1.5			
	comp=Z,94nm,1.0s										
PMG	**Port Moresby**	56.21	102	*eP*		**P**	09 37 39.2	+1.3			
PMG				pmax		pmax					
	comp=Z,74nm,0.9s										
DDFL	**Dedoflistskaro**	57.33	320	P		**P**	09 37 48.5	+3.0			
CTAO	**Charters Tower**	57.46	115	*eP*		**P**	09 37 45.5	-1.2			
	comp=Z,121nm,1.1s										
CTAO	**Charters Tower**	57.46	115	*eP*		**P**	09 37 45.5	-1.2			
CTAO				pmax		pmax					
	comp=Z,121nm,1.1s										
STKA	**Stephens Creek**	57.52	130	P		**P**	09 37 45.5	-1.3			
	comp=Z,33nm,1.2s,baz=283,slow=6.0,SNR=6.4										
STKA	**Stephens Creek**	57.52	130	P		**P**	09 37 45.3	-1.6			
	baz=58,SNR=6.3										
STKA	**Stephens Creek**	57.52	130	*eP*		**P**	09 37 45.6	-1.3			
	comp=Z,1.2nm,0.8s										
STKA	**Stephens Creek**	57.52	130	*eP*		**P**	09 37 45.6	-1.3			
STKA				pmax		pmax					
	comp=Z,1.0nm,0.8s										
**GNI

BR231	**Keskin MP Arra**	**65.75**	**314**	*e*P		**P**	**09 38 42.3**	**-0.3**
BAGO	**Egridir - ISPA**	**66.62**	**311**	*i* P		**P**	**09 38 48.2**	**+0.1**
PATS	**Pohnpei**	**66.62**	**83**	P		**P**	**09 38 48.2**	**-0.2**
	baz=67,SNR=4.5							
KORT	**Korkueli**	**66.66**	**310**	*i* P		**P**	**09 38 48.6**	**+0.2**
VORR	**Voronezh**	**66.70**	**327**	P		**P**	**09 38 48.0**	**-0.2**
SIM	**Simferopol'**	**66.72**	**319**	*e*P		**P**	**09 38 49.2**	**+0.8**
SIM					pmax	pmax		
	comp=Z,94nm,1.3s							
YAK	**Yakutsk**	**67.03**	**18**	*e*P		**P**	**09 38 49.6**	**-0.5**
	comp=Z,444nm,1.1s							
YAK	**Yakutsk**	**67.03**	**18**	*e*P		**P**	**09 38 46.8**	**-3.3**
YAK				*e*			09 38 55.1	
YAK					pmax	pmax		
	comp=Z,92nm,1.1s							
YAK					pmax	pmax		
	comp=N,20nm,1.2s							
YAK					pmax	pmax		
	comp=E,40nm,1.5s							
YAK					pmax	pmax		
	comp=Z,266nm,1.0s							
YAK					pmax	pmax		
	comp=N,71nm,1.1s							
YAK					pmax	pmax		
	comp=E,140nm,1.3s							
BRDR	**BURDUR-Merkez**	**67.08**	**311**	*i* P		**P**	**09 38 49.4**	**-1.6**
MANT	**Manisa**	**68.45**	**311**	*e*P		**P**	**09 39 00.7**	**+0.9**
	comp=E,757nm,1.5s							
LBTB	**Lobatse**	**69.00**	**243**	P		**P**	**09 39 02.1**	**-1.3**
	comp=E,30nm,0.6s,baz=89,slow=5.9,SNR=22							
MOS	**Moscow**	**69.57**	**331**	*e*P		**P**	**09 39 04.6**	**-1.5**
MOS					pmax	pmax		
	comp=Z,602nm,1.6s							
OBN	**Obninsk**	**69.78**	**330**	*e*P		**P**	**09 39 06.3**	**-1.2**
	comp=Z,365nm,1.3s							
OBN	**Obninsk**	**69.78**	**330**	*e*P		**P**	**09 39 07.4**	**0.0**
OBN				*e*			09 39 12.6	
OBN				*e*			09 39 30.9	
OBN				*e*			09 41 38.9	
OBN				*e*PPP		PPP	09 43 21.4	
OBN					pmax	pmax		
	comp=Z,192nm,1.4s							
BOSA	**Boshof**	**70.06**	**239**	P		**P**	**09 39 08.2**	**-1.6**
	comp=Z,19nm,0.6s,baz=78,slow=5.2,SNR=24							
BOSA	**Boshof**	**70.06**	**239**	*e*P		**P**	**09 39 09.6**	**-0.3**
	comp=Z,40nm,0.8s							
BOSA	**Boshof**	**70.06**	**239**	*e*P		**P**	**09 39 09.6**	**-0.3**
BOSA					pmax	pmax		
	comp=Z,40nm,0.8s							
TLCR		**70.31**	**318**⇑	*i* P		**P**	**09 39 11.6**	**+0.7**
TIRR	**Tirgusor**	**70.34**	**317**⇓	*i* P		**P**	**09 39 10.4**	**-0.7**
IDI	**Anoyia**	**70.49**	**307**	P		**P**	**09 39 11.0**	**-1.3**
	comp=Z,34nm,0.6s,baz=94,slow=9.4,SNR=22							
IDI	**Anoyia**	**70.49**	**307**	*e*P		**P**	**09 39 11.9**	**-0.4**
	comp=Z,253nm,1.3s							
HARR	**Harsova**	**70.74**	**317**⇓	*i* P		**P**	**09 39 14.2**	**+0.7**
KIS	**Kishinev**	**70.90**	**320**	*e*P		**P**	**09 39 14.0**	**-0.5**
KIS	**Kishinev**	**70.90**	**320**	*e*P		**P**	**09 39 14.0**	**-0.5**
LEOM	**Leova**	**71.10**	**319**⇓	*i* P		**P**	**09 39 16.3**	**+0.6**
KLMR	**Klimovskoe**	**71.43**	**336**	*e*P		**P**	**09 39 14.8**	**-2.6**
KLMR					AMP		09 39 26.0	
	comp=Z,177nm,1.5s							
KLMR	**Klimovskoe**	**71.43**	**336**	*e*P		**P**	**09 39 14.8**	**-2.6**
KLMR					pmax	pmax		
	comp=Z,177nm,1.5s							
MAW	**Mawson**	**71.57**	**191**	P		**P**	**09 39 18.2**	**+0.1**
	comp=Z,11nm,0.8s,baz=42,slow=5.6,SNR=8.0							
VRI	**Vrincioaia**	**71.91**	**318**⇓	*i* P		**P**	**09 39 21.9**	**+1.2**
AKASG	**Malin Array Be**	**71.94**	**324**	P		**P**	**09 39 18.9**	**-1.8**
	comp=Z,2.7nm,0.4s,baz=92,slow=4.9,SNR=16							
AKBB	**Malin Array Si**	**71.94**	**324**	*e*P		**P**	**09 39 19.9**	**-0.8**
	comp=Z,224nm,1.5s							
AKBB	**Malin Array Si**	**71.94**	**324**	*e*P		**P**	**09 39 19.9**	**-0.8**
AKBB					pmax	pmax		
	comp=Z,224nm,1.5s							
KIEV	**Kiev**	**71.95**	**324**	*i* P		**P**	**09 39 19.2**	**-1.5**
	SNR=8.5							
AK11	**Malin Array Si**	**71.97**	**324**	*e*P		**P**	**09 39 19.1**	**-1.7**
TESR	**Tescani**	**72.16**	**319**⇑	*i* P		**P**	**09 39 22.2**	**+0.1**
MLR	**Muntele Rosu**	**72.32**	**318**	P		**P**	**09 39 23.0**	**-0.3**
	comp=Z,26nm,0.9s,baz=188,slow=1.1,SNR=20							
MLR	**Muntele Rosu**	**72.32**	**318**⇑	*i* P		**P**	**09 39 24.5**	**+1.2**
MLR	**Muntele Rosu**	**72.32**	**318**	*e*P		**P**	**09 39 23.7**	**+0.4**
	comp=Z,846nm,1.5s							
PRAR	**RASCA**	**72.69**	**320**⇑	*i* P		**P**	**09 39 25.7**	**+0.4**
HUMR	**Humele**	**72.71**	**317**⇓	*i* P		**P**	**09 39 25.8**	**+0.4**
DOPR	**Dopca**	**72.83**	**318**⇓	*i* P		**P**	**09 39 26.5**	**+0.3**
MTUR	**Matau**	**72.84**	**317**⇓	*i* P		**P**	**09 39 24.7**	**-1.6**
SKR	**Severo-Kuril's**	**73.08**	**37**	*e*P		P	09 39 16.8	-11
SKR				*e*S		**S**	**09 48 56.6**	**+1.7**
SKR					pmax	pmax		
	comp=Z,164nm,1.8s							
SKR					MLR	MLR		
	comp=Z,264µm,20.0s							
SKR					MLR	MLR		
	comp=Z,195µm,17.0s							
ARR	**Arges**	**73.17**	**317**⇓	*i* P		**P**	**09 39 28.5**	**+0.2**
AGG	**Agios Georgios**	**73.29**	**310**	*e*P		**P**	**09 39 28.1**	**-0.9**
	comp=Z,247nm,1.6s							
AGG	**Agios Georgios**	**73.29**	**310**	*e*P		**P**	**09 39 28.1**	**-0.9**
AGG					pmax	pmax		
	comp=Z,247nm,1.6s							
BURAR	**Bucovina Array**	**73.42**	**320**⇓	*i* P		**P**	**09 39 29.9**	**+0.2**
BUR04	**Bucovina Ar. S**	**73.43**	**320**	*e*P		**P**	**09 39 29.9**	**+0.1**
BUR08	**Bucovina Ar. S**	**73.44**	**320**	*e*P		**P**	**09 39 30.5**	**+0.6**
VAY	**Valandovo**	**73.62**	**313**	*i* P		**P**	**09 39 32.1**	**+1.2**
MA2	**Magadan**	**73.75**	**27**	*i* P		**P**	**09 39 30.0**	**-1.2**
TMCR	**Tamitsa**	**73.83**	**338**	*e*P		**P**	**09 39 28.8**	**-2.8**
TMCR					pmax	pmax		
	comp=Z,142nm,1.4s							
TIXI	**Tiksi**	**74.19**	**11**	*i* P		**P**	**09 39 31.5**	**-2.1**
TIXI					pmax	pmax		
	comp=Z,71nm,1.0s							
KRUS	**Krusevo**	**74.60**	**313**	*i* P		**P**	**09 39 34.0**	**-2.7**
SUR	**Sutherland**	**74.60**	**236**	P		**P**	**09 39 36.5**	**-0.5**
	comp=Z,1.4nm,0.7s,baz=88,slow=7.3,SNR=15							
SUR	**Sutherland**	**74.60**	**236**	*e*P		**P**	**09 39 36.4**	**-0.7**
	comp=Z,69nm,0.8s							
PETK	**Petropavlovsk-**	**74.80**	**35**	P		**P**	**09 39 37.2**	**-0.4**
	comp=Z,1.0nm,0.5s,baz=160,slow=1.0,SNR=4.3							
OHR	**Ohrid**	**74.81**	**312**	*i* P		**P**	**09 39 38.4**	**+0.1**
IDID	**Didziasalis**	**74.98**	**328**	*e*P		**P**	**09 39 38.2**	**-0.3**
IDID					IAmb	IAmb	09 39 47.2	
	comp=Z,134nm,1.2s							
IIGN	**Ignalina**	**75.27**	**327**	*e*P		**P**	**09 39 39.2**	**-1.0**
IIGN					IAmb	IAmb	09 39 49.0	
	comp=Z,88nm,1.1s							
PET	**Petropavlovsk**	**75.32**	**35**	*e*P		**P**	**09 39 40.4**	**-0.1**
	comp=Z,3µm,3.1s							
PET	**Petropavlovsk**	**75.32**	**35**	*e*P		P	09 39 46.4	+5.9
PET					pmax	pmax		
	comp=Z,63nm,1.4s							
TSUM	**Tsumeb**	**75.44**	**250**	P		**P**	**09 39 41.5**	**-0.6**
	comp=Z,5.7nm,0.7s,baz=356,slow=6.1,SNR=6.7							
KWP	**Kalwaria Pacla**	**75.58**	**321**	*e*P		**P**	**09 39 44.5**	**+2.4**
KWP	**Kalwaria Pacla**	**75.58**	**321**	*e*P		**P**	**09 39 44.5**	**+2.4**
UZH	**Uzhgorod**	**75.59**	**320**	*e*P		**P**	**09 39 43.6**	**+1.5**
UZH				*e*			09 39 50.0	
VSU	**Vasula**	**76.10**	**331**	*ce*P		**P**	**09 39 44.2**	**-0.6**
VSU					pmax	pmax		
	comp=Z,761nm,2.5s							
STHS	**Stebnicka Huta**	**76.45**	**321**	*e*P		**P**	**09 39 49.3**	**+2.2**
STHS				*e*			09 39 56.1	
STHS	**Stebnicka Huta**	**76.45**	**321**	*e*P		**P**	**09 39 49.3**	**+2.2**
STHS				*e*			09 39 56.1	
STHS					pmax	pmax		
	comp=Z,91nm,1.2s							
SUW	**Suwalki**	**76.53**	**326**	*e*P		**P**	**09 39 47.0**	**-0.4**
SUW	**Suwalki**	**76.53**	**326**	*e*P		**P**	**09 39 46.9**	**-0.5**
	comp=Z,657nm,1.1s							
SUW	**Suwalki**	**76.53**	**326**	*e*P		**P**	**09 39 47.0**	**-0.4**
NIE	**Niedzica**	**77.05**	**321**	*e*P		**P**	**09 39 53.6**	**+3.1**
NIE	**Niedzica**	**77.05**	**321**	*e*P		**P**	**09 39 53.6**	**+3.1**
APA	**Apatity**	**77.23**	**340**⇓	*i* P		P	09 39 57.9	+6.9
APA					pmax	pmax		
	comp=Z,29nm,1.1s							
BEL	**Belsk**	**77.33**	**323**	*e*P		**P**	**09 39 52.4**	**+0.5**
BEL	**Belsk**	**77.33**	**323**	*e*P		**P**	**09 39 52.4**	**+0.5**
FIA1	**FINESS Array S**	**77.48**	**333**	*e*P		**P**	**09 39 52.1**	**-0.5**
FINES	**FINESS Array B**	**77.49**	**333**	P		**P**	**09 39 51.2**	**-1.4**
	comp=Z,24nm,0.9s,baz=106,slow=5.5,SNR=10							
OJC	**Ojcow**	**77.55**	**321**	*e*P		**P**	**09 39 55.3**	**+2.0**
OJC	**Ojcow**	**77.55**	**321**	*e*P		**P**	**09 39 55.3**	**+2.0**
VYHS	**Vyhne**	**77.79**	**319**	*e*P		**P**	**09 39 56.7**	**+2.1**
VYHS				*e*			09 40 02.5	
VYHS	**Vyhne**	**77.79**	**319**	*e*P		**P**	**09 39 56.7**	**+2.1**
VYHS				*e*			09 40 02.5	
VYHS					pmax	pmax		
	comp=Z,197nm,1.6s							
MATE	**Matera**	**77.85**	**311**⇑	*i* P		**P**	**09 39 54.3**	**-0.8**
OKC	**Ostrava-Krasne**	**78.51**	**321**	*e*P		**P**	**09 39 59.2**	**+0.6**
OKC				*ex*		x	09 40 07.0	
OKC	**Ostrava-Krasne**	**78.51**	**321**	*e*P		**P**	**09 39 59.2**	**+0.6**
OKC				*e*			09 40 07.0	
MODS	**Modra-Piesok**	**78.78**	**319**	*e*P		**P**	**09 40 02.8**	**+2.7**
MODS				*e*			09 40 08.4	
MODS	**Modra-Piesok**	**78.78**	**319**	*e*P		**P**	**09 40 02.8**	**+2.7**
MODS				*e*			09 40 08.4	
MORC	**Moravsky Berou**	**78.88**	**321**	*e*P		**P**	**09 40 03.2**	**+2.5**
	comp=Z,2µm,1.8s							
MORC	**Moravsky Berou**	**78.88**	**321**	*e*P		**P**	**09 40 03.2**	**+2.5**
MORC					pmax	pmax		
	comp=Z,2µm,1.8s							
KRLC	**Kraliky**	**79.42**	**321**	*e*P		**P**	**09 40 04.4**	**+0.8**
KRLC				*ex*		x	09 40 12.2	
KRLC	**Kraliky**	**79.42**	**321**	*e*P		**P**	**09 40 04.4**	**+0.8**
KRLC				*e*			09 40 12.2	
CONA	**Conrad Observa**	**79.63**	**318**	*e*P		**P**	**09 40 05.7**	**+0.8**
	comp=Z,50nm,1.2s							
ARSA	**Arzberg**	**79.75**	**318**	*ep*P		**P**	**09 40 07.8**	**+2.3**
	comp=Z,100nm,1.2s,SNR=8.2							
DPC	**Dobruska-Polom**	**79.76**	**321**	*e*P		**P**	**09 40 05.6**	**+0.1**
DPC				*ex*		x	09 40 14.3	
DPC	**Dobruska-Polom**	**79.76**	**321**	*e*P		**P**	**09 40 05.6**	**+0.1**
DPC				*e*			09 40 14.3	
KSP	**Ksiaz**	**79.87**	**321**	*e*P		**P**	**09 40 08.7**	**+2.7**
KSP	**Ksiaz**	**79.87**	**321**	*e*P		**P**	**09 40 08.7**	**+2.7**
UPC	**Upice**	**79.98**	**321**	*e*P		**P**	**09 40 08.1**	**+1.5**
UPC				*ex*		x	09 40 15.5	
UPC	**Upice**	**79.98**	**321**	*e*P		**P**	**09 40 08.1**	**+1.5**
UPC				*e*			09 40 15.5	
SOKA	**Soboth**	**79.99**	**317**	*e*P		**P**	**09 40 07.7**	**+0.9**
	comp=Z,91nm,1.3s,SNR=8.1							
TREC	**Trest**	**80.11**	**320**	*e*P		**P**	**09 40 08.1**	**+0.7**
TREC	**Trest**	**80.11**	**320**	*e*P		**P**	**09 40 08.1**	**+0.7**
OBKA	**Obir**	**80.29**	**317**	*ep*P		**P**	**09 40 11.2**	**+2.7**
	comp=Z,55nm,1.2s,SNR=9.3							
AQU	**L'Aquila**	**80.54**	**313**	*e*P		**P**	**09 40 11.8**	**+1.9**
	comp=Z,269nm,1.5s							
AQU	**L'Aquila**	**80.54**	**313**	*e*P		**P**	**09 40 11.8**	**+1.9**
AQU					pmax	pmax		
	comp=Z,269nm,1.5s							
GOPC	**GO Pecny, Ondr**	**80.66**	**320**	*e*P		**P**	**09 40 11.4**	**+1.1**
GOPC				*ex*		x	09 40 18.7	
GOPC	**GO Pecny, Ondr**	**80.66**	**320**	*e*P		**P**	**09 40 11.4**	**+1.1**
GOPC				*e*			09 40 18.7	
MOA	**Molln**	**80.68**	**318**	*ep*P		**P**	**09 40 12.4**	**+1.9**
	comp=Z,111nm,1.4s,SNR=13							
ARCES	**ARCESS Array B**	**80.70**	**341**	P		**P**	**09 40 08.8**	**-1.3**
	comp=Z,19nm,0.9s,baz=82,slow=3.3,SNR=13							
PRU	**Pruhonice**	**80.83**	**320**	*e*P		**P**	**09 40 11.5**	**+0.3**
PRU				*ex*		x	09 40 19.5	
PRU	**Pruhonice**	**80.83**	**320**	*e*P		**P**	**09 40 11.5**	**+0.3**
PRU				*e*			09 40 19.5	
PVCC	**Panska Ves**	**80.90**	**321**	*e*P		**P**	**09 40 12.3**	**+0.8**
PVCC				*ex*		x	09 40 20.8	
PVCC	**Panska Ves**	**80.90**	**321**	*e*P		**P**	**09 40 12.3**	**+0.8**
PVCC				*e*			09 40 20.8	
MYKA	**Terra Mystica**	**80.93**	**317**	*e*P		**P**	**09 40 12.9**	**+1.0**
	comp=Z,81nm,1.2s,SNR=9.7							
KBA	**Koelnbreinsper**	**81.19**	**317**	*ep*P		**P**	**09 40 15.0**	**+1.6**
	comp=Z,43nm,1.1s,SNR=10							
GEA0	**GERESS Array S**	**81.20**	**319**	*e*P		**P**	**09 40 12.7**	**-0.6**
GEA0				*e*S		**S**	**09 50 19.0**	**-4.6**
GEC2	**GERESS Array S**	**81.20**	**319**	*e*P		**P**	**09 40 13.1**	**-0.2**
	comp=Z,619nm,1.3s							
GEC2				*e*S		**S**	**09 50 23.4**	**-0.3**
GEC2	**GERESS Array S**	**81.20**	**319**	*e*P		**P**	**09 40 13.1**	**-0.2**
GEC2				*e*S		**S**	**09 50 23.4**	**-0.3**
GEC2					pmax	pmax		
	comp=Z,619nm,1.3s							
GERES	**GERESS Array B**	**81.20**	**319**	P		**P**	**09 40 12.7**	**-0.6**
	comp=Z,99nm,1.0s,baz=103,slow=4.8,SNR=39							
KHC	**Kasperske Hory**	**81.32**	**319**	*e*P		**P**	**09 40 14.2**	**+0.3**
KHC				*ex*		x	09 40 21.9	
KHC	**Kasperske Hory**	**81.32**	**319**	*e*P		**P**	**09 40 14.3**	**+0.5**
	comp=Z,234nm,1.8s							
KHC	**Kasperske Hory**	**81.32**	**319**	*e*P		**P**	**09 40 14.2**	**+0.3**
KHC				*e*			09 40 21.9	
BRG	**Berggiesshubel**	**81.34**	**321**	*i* P		**P**	**09 40 11.5**	**-2.4**
	comp=Z,63nm,1.8s							
BRG				*i*			09 40 16.0	
	comp=Z,119nm,1.4s							
BRG				*i*			09 40 22.3	
	comp=Z,340nm,1.5s							
BRG				*i*			09 43 31.2	
	comp=Z,394nm,2.1s							
BRG	**Berggiesshubel**	**81.34**	**321**	*i* P		**P**	**09 40 11.5**	**-2.4**
BRG				*i*			09 40 16.0	
BRG					pmax	pmax		
	comp=Z,63nm,1.8s							
BRG					pmax	pmax		
	comp=Z,119nm,1.4s							
BRG					pmax	pmax		
	comp=Z,340nm,1.5s							
BRG					pmax	pmax		
	comp=Z,394nm,2.2s							
ABTA	**Abfaltersbach**	**81.71**	**317**	*ep*P		**P**	**09 40 17.3**	**+1.2**
	comp=Z,105nm,1.8s							
CLL	**Collm**	**81.99**	**322**	*e*P		**P**	**09 40 17.0**	**-0.3**
	comp=Z,183nm,1.4s							
CLL				*i* Pmax			09 40 19.4	
CLL				*i* (sP)		**PcP**	**09 40 24.5**	**+1.7**
CLL				*i*			09 40 30.7	
CLL	**Collm**	**81.99**	**322**	*e*P		**P**	**09 40 17.0**	**-0.3**
CLL					pmax	pmax		
	comp=Z,183nm,1.4s							
NKC	**Novy Kostel**	**82.20**	**320**	*e*P		**P**	**09 40 21.3**	**+2.8**
NKC				*ex*		x	09 40 26.8	
NKC	**Novy Kostel**	**82.20**	**320**	*e*P		**P**	**09 40 21.3**	**+2.8**
NKC				*e*			09 40 26.8	
WTTA	**Wattenberg**	**82.37**	**317**	*e*P		**P**	**09 40 20.1**	**+0.4**
	comp=Z,77nm,1.2s,SNR=8.4							
WATA	**Walderalm**	**82.42**	**317**	*e*P		**P**	**09 40 20.1**	**+0.2**
	comp=Z,60nm,1.0s,SNR=7.4							
MOTA	**Moosalm**	**82.74**	**317**	*e*P		**P**	**09 40 21.6**	**+0.1**
	comp=Z,29nm,0.7s,SNR=7.7							
FETA	**Feichten**	**82.96**	**317**	*ep*P		**P**	**09 40 24.0**	**+1.4**
	comp=Z,174nm,1.3s							
HFS	**Hagfors**	**82.98**	**330**	P		**P**	**09 40 21.1**	**-1.2**
	comp=Z,17nm,1.0s,baz=127,slow=3.9,SNR=7.8							
RETA	**Reutte**	**82.98**	**318**	*e*P		**P**	**09 40 23.0**	**+0.3**
	comp=Z,151nm,1.2s,SNR=9.5							
KEST	**Kesra**	**83.09**	**306**	*e*P		**P**	**09 40 24.4**	**+0.9**
	comp=Z,280nm,1.4s							
BILL	**Bilibino**	**83.12**	**21**⇑	*e*P		**P**	**09 40 22.0**	**-0.9**
BILL				*e*			09 43 34.4	
BILL				*e*S		**S**	**09 50 41.3**	**-1.2**
BILL					pmax	pmax		
	comp=Z,7.0nm,1.1s							
BILL					MLR	MLR		
	comp=Z,133µm,16.0s							
DAVA	**Damuels**	**83.56**	**317**	*p*P		**P**	**09 40 26.9**	**+1.2**
	comp=Z,195nm,1.1s,SNR=15							
TUE	**Stuetta**	**83.86**	**316**	*e*P		**P**	**09 40 28.8**	**+1.5**
	comp=Z,304nm,1.5s							
NC405	**NORSAR Array S**	**84.10**	**331**	*e*P		**P**	**09 40 26.4**	**-1.7**
NB2	**NORSAR Subarra**	**84.33**	**331**	P		**P**	**09 40 28.4**	**-0.9**
	comp=Z,89nm,1.4s,baz=94,slow=5.9							
NB2	**NORSAR Subarra**	**84.33**	**331**	P		**P**	**09 40 28.4**	**-0.9**
	baz=94,slow=5.9							
NOA	**NORSAR Array B**	**84.33**	**331**	P		**P**	**09 40 27.9**	**-1.4**
	comp=Z,6.8nm,0.9s,baz=96,slow=5.6,SNR=5.8							
BFO	**Black Forest**	**84.69**	**318**	*i* P		**P**	**09 40 33.6**	**+2.3**
KONO	**Kongsberg**	**84.96**	**330**	*ce*P		**P**	**09 40 34.9**	**+2.5**
KONO					pmax	pmax		
	comp=Z,686nm,1.2s							
SPA0	**Spitsbergen Ar**	**85.82**	**348**	*e*P		**P**	**09 40 36.3**	**-0.1**
SPITS	**Spitsbergen Ar**	**85.82**	**348**	P		**P**	**09 40 34.6**	**-1.8**
	comp=Z,37nm,0.9s,baz=94,slow=8.7,SNR=12							
WLF	**Walferdange**	**86.20**	**320**	⇑E		**P**	**09 40 41.3**	**+2.5**
WLF	**Walferdange**	**86.20**	**320**	*e*P		**P**	**09 40 39.9**	**+1.1**
	comp=Z,2.1nm,0.1s							
WLF	**Walferdange**	**86.20**	**320**	*e*P		**P**	**09 40 39.9**	**+1.1**
WLF					pmax	pmax		
	comp=Z,2.0nm,0.1s							
MEM	**Membach**	**86.33**	**320**	⇑P		**P**	**09 40 39.8**	**+0.4**
KBS	**Kingsbay**	**86.84**	**349**	*e*P		**P**	**09 40 43.9**	**+2.5**
KBS					pmax	pmax		
	comp=Z,574nm,1.7s							
URZ	**Urewera**	**87.12**	**128**	LR		LR	10 18 39.4	
	comp=Z,87µm,19.7s,baz=292,slow=35							
SNF	**Seneffe**	**87.43**	**320**	⇑E		**P**	**09 40 46.9**	**+2.2**
EKA	**Eskdalemuir Ar**	**91.79**	**325**	P		**P**	**09 41 04.5**	**-0.6**
	comp=Z,9.1nm,1.0s,baz=97,slow=6.8,SNR=6.4							
ESK	**Eskdalemuir**	**91.82**	**325**	*e*P		**P**	**09 41 07.1**	**+1.9**
	comp=Z,69nm,1.4s							
ESK	**Eskdalemuir**	**91.82**	**325**	*e*P		**P**	**09 41 07.1**	**+1.9**
ESK					pmax	pmax		
	comp=Z,69nm,1.4s							
GAMB	**Gambell**	**91.83**	**26**	*e*P		**P**	**09 41 05.7**	**+0.6**
DAG	**Danmarks Havn**	**93.42**	**348**	*i* P		**P**	**09 41 10.0**	**-2.2**
DAG	**Danmarks Havn**	**93.42**	**348**	*i* P		**P**	**09 41 10.0**	**-2.2**
ES19	**SONSECA Array**	**93.56**	**310**	*e*P		**P**	**09 41 15.3**	**+1.6**
ESDC	**Sonseca Array**	**93.61**	**310**	P		**P**	**09 41 14.4**	**+0.4**
	comp=Z,5.6nm,0.8s,baz=63,slow=4.0,SNR=8.4							
KOWA	**Kowa**	**95.25**	**285**	P		**P**	**09 41 22.0**	**+0.1**
	comp=Z,34nm,1.1s,baz=112,slow=2.8,SNR=6.7							
KIC	**Kosan Boka**	**96.28**	**276**	*e*P		**P**	**09 41 25.0**	**-1.7**
	comp=Z,320nm,1.8s							
TIC	**Toumodi**	**96.55**	**277**	*e*P		**P**	**09 41 26.0**	**-1.9**
LIC	**Lamto**	**96.57**	**276**	*e*P		**P**	**09 41 28.9**	**+0.9**
	comp=Z,97nm,1.5s							
TOLK	**Toolik Lake Re**	**98.99**	**19**	P		Pdif	09 41 40.0	+2.2
	baz=297							
EDM	**Edmonton**	**121.85**	**17**	*e*PKPdf		**PKPdf**	**09 46 51.1**	**-0.6**
EDM	**Edmonton**	**121.85**	**17**	*e*PKIKP		**PKPdf**	**09 46 51.1**	**-0.6**
B05A	**Bryant**	**122.64**	**26**	P		**PKPdf**	**09 46 54.6**	**+1.3**
	baz=319							
D05A	**Enumclaw**	**123.49**	**27**	*e*PKPdf		**PKPdf**	**09 46 57.0**	**+2.1**
G03D	**McMinnville, O**	**124.34**	**29**	P		**PKPdf**	**09 46 57.2**	**+0.6**
	baz=316							
NEW	**Newport**	**124.71**	**23**	P		**PKPdf**	**09 46 57.9**	**+0.6**
	baz=324							
I04A	**Tendick Farm,**	**125.79**	**30**	P		**PKPdf**	**09 46 59.3**	**-0.2**
	baz=316							
I05D	**Terrebonne, OR**	**125.92**	**29**	P		**PKPdf**	**09 47 00.5**	**+0.7**
	baz=318							
J04D	**Umpqua Nationa**	**126.34**	**30**	P		**PKPdf**	**09 47 00.7**	**-0.1**
	baz=316							
HUMO	**Hull Mountain**	**126.36**	**31**	*e*PKPdf		**PKPdf**	**09 47 03.0**	**+2.4**
J05D	**Fort Rock, OR**	**126.74**	**30**	P		**PKPdf**	**09 47 00.5**	**-1.0**
	baz=317							
MSO	**Missoula**	**127.12**	**22**	P		**PKPdf**	**09 47 02.7**	**+0.7**
	baz=327							
MSO	**Missoula**	**127.12**	**22**	*e*PKPdf		**PKPdf**	**09 47 02.8**	**+0.7**
M02C	**Callahan**	**127.27**	**32**	P		**PKPdf**	**09 47 03.1**	**+0.6**
	baz=315							
M04C	**Macdoel**	**127.53**	**31**	P		**PKPdf**	**09 47 02.3**	**-0.7**
	baz=316							
N02D	**Trinity Center**	**127.64**	**33**	P		**PKPdf**	**09 47 03.8**	**+0.6**
	baz=315							
HRY	**Holter Researc**	**127.98**	**20**	*e*PKPdf		**PKPdf**	**09 47 06.5**	**+2.8**
ULM	**Lac du Bonnet**	**128.32**	**6**	PKP		**PKPdf**	**09 47 03.2**	**-0.9**
	comp=Z,4.8nm,1.0s,baz=7.8,slow=3.5,SNR=4.3							
ULM					PP	**PP**	**09 49 06.0**	**-1.1**
	comp=Z,3.9nm,0.9s,baz=345,slow=5.6,SNR=3.5							
O03D	**Paynes Creek**	**128.60**	**33**	P		**PKPdf**	**09 47 05.9**	**+0.9**
	baz=315							
BOZ	**Bozeman (W)**	**129.01**	**21**	P		**PKPdf**	**09 47 06.5**	**+0.8**
	baz=329							
BOZ	**Bozeman (W)**	**129.01**	**21**	*e*PKPdf		**PKPdf**	**09 47 07.3**	**+1.5**
BOZ	**Bozeman (W)**	**129.01**	**21**	*e*PKIKP		**PKPdf**	**09 47 07.3**	**+1.5**
MFID	**Camas Ranch**	**129.16**	**26**	*e*PKPdf		**P

	baz=351							
MPMC	Manual Prospec	134.01	33	P	PKPdf	09 47 15.1	-0.4	
	baz=317							
H36A	Jessenland, He	134.13	6	P	PKPdf	09 47 14.6	-0.7	
	baz=352							
H38A	Maiden Rock	134.17	4	P	PKPdf	09 47 14.7	-0.7	
	baz=354							
H37A	Dierke Farm, C	134.21	5	P	PKPdf	09 47 14.1	-1.3	
	baz=354							
H39A	Augusta	134.22	3	P	PKPdf	09 47 13.5	-1.9	
	baz=356							
H40A	Chili	134.32	2	P	PKPdf	09 47 13.7	-1.9	
	baz=357							
EDW2	Edwards Air Fo	134.58	35	P	PKPdf	09 47 13.6	-2.8	
	baz=316							
ECSD	EROS Data Cent	134.63	8	P	PKPdf	09 47 13.3	-2.9	
	baz=348							
ECSD	EROS Data Cent	134.63	8	*e*PKPdf	PKPdf	09 47 16.2	0.0	
O20A	White River Ci	134.98	22	P	PKPdf	09 47 14.0	-3.3	
	baz=331							
I39A	Houston	135.03	3	P	PKPdf	09 47 15.0	-2.0	
	baz=355							
I42A	Draeger Farm,	135.09	1	P	PKPdf	09 47 15.1	-2.0	
	baz=359							
K31A	O'Neill	135.35	11	P	PKPdf	09 47 15.0	-2.7	
	baz=345							
BINY	Binghamton	135.37	347	P	PKPdf	09 47 17.2	-0.4	
	baz=18							
J38A	Wedel Dairy, R	135.50	4	P	PKPdf	09 47 15.5	-2.3	
	baz=354							
J39A	Decorah	135.54	4	P	PKPdf	09 47 16.6	-1.4	
	baz=355							
JFWS	Jewell Farm	136.03	2	P	PKPdf	09 47 18.1	-0.7	
	baz=357							
K41A	Shullsburg	136.34	2	P	PKPdf	09 47 19.0	-0.4	
	baz=357							
N59A	State Game Lan	136.54	346	P	PKPdf	09 47 19.4	-0.5	
	baz=18							
M54A	Oil Creek Stat	136.76	351	P	PKPdf	09 47 18.5	-1.8	
	baz=13							
L40A	Anamosa	136.84	3	P	PKPdf	09 47 18.3	-2.0	
	baz=356							
L41A	Preston	136.86	2	P	PKPdf	09 47 19.6	-0.8	
	baz=357							
PDMC	Parker Dam,Lak	137.13	32	P	PKPdf	09 47 21.2	+0.1	
	baz=320							
M37A	Trindle Farm,	137.25	6	P	PKPdf	09 47 20.4	-0.8	
	baz=352							
IKP	In-Ko-Pah, Jac	137.27	35	P	PKPdf	09 47 20.8	-0.7	
	baz=317							
SSPA	Standing Stone	137.28	348	P	PKPdf	09 47 20.1	-1.1	
	baz=15							
M38A	Pleasantville	137.33	5	P	PKPdf	09 47 20.5	-0.8	
	baz=353							
N54A	Moraine State	137.34	351	P	PKPdf	09 47 19.9	-1.5	
	baz=12							
M39A	Webster	137.36	4	P	PKPdf	09 47 19.6	-1.7	
	baz=354							
M46A	Old House Fiel	137.54	358	P	PKPdf	09 47 20.9	-0.8	
	baz=2.8							
KSCO	Kaye Shedlock'	137.85	17	P	PKPdf	09 47 19.3	-3.3	
	baz=338							
O47A	Sheridan	138.70	358	P	PKPdf	09 47 21.7	-2.1	
	baz=3.1							
O40A	La Belle	138.73	4	P	PKPdf	09 47 22.1	-1.8	
	baz=355							
O45A	Potomac	138.73	359	P	PKPdf	09 47 23.7	-0.2	
	baz=0.8							
T25A	Trinidad	139.01	20	P	PKPdf	09 47 23.9	-0.9	
	baz=335							
P37A	Lathrop	139.01	7	P	PKPdf	09 47 22.9	-1.5	
	baz=351							
P38A	Dawn	139.07	6	P	PKPdf	09 47 23.4	-1.2	
	baz=352							
KSU1	Kansas State U	139.15	10	P	PKPdf	09 47 22.6	-2.2	
	baz=347							
P41A	Barry, Barry	139.22	3	P	PKPdf	09 47 23.6	-1.2	
	baz=356							
P40A	Paris	139.30	4	P	PKPdf	09 47 24.1	-0.9	
	baz=354							
P43A	Skaggs, Pawnee	139.32	1	P	PKPdf	09 47 24.1	-0.9	
	baz=358							
P46A	Rosedale	139.35	359	P	PKPdf	09 47 23.5	-1.5	
	baz=1.6							
P42A	Winchester	139.35	2	P	PKPdf	09 47 22.3	-2.8	
	baz=357							
P47A	Martinsville	139.45	358	P	PKPdf	09 47 24.4	-0.9	
	baz=3.1							
P44A	Sand Creek, Wi	139.51	0	P	PKPdf	09 47 23.8	-1.5	
	baz=359							
214A	Organ Pipe Nat	139.65	33	P	PKPdf	09 47 24.8	-1.1	
	baz=320							
Q38A	Cooks Store, C	139.72	6	P	PKPdf	09 47 24.2	-1.5	
	baz=352							
Q40A	Laux Farm, Aux	139.83	5	P	PKPdf	09 47 24.1	-1.9	
	baz=354							
Q41A	Truxton	139.93	4	P	PKPdf	09 47 24.6	-1.5	
	baz=355							
Q47A	Bedord North L	140.00	358	P	PKPdf	09 47 25.0	-1.2	
	baz=2.9							
Q42A	Golden Eagle	140.01	3	P	PKPdf	09 47 25.1	-1.2	
	baz=356							
Q44A	Meyer Farm, Va	140.07	1	P	PKPdf	09 47 24.8	-1.5	
	baz=359							
Q45A	Warren Harvey,	140.08	360	P	PKPdf	09 47 27.1	+0.7	
	baz=0.2							
ANMO	Albuquerque	140.20	24	P	PKPdf	09 47 23.5	-3.5	
	baz=331							
ANMO	Albuquerque	140.20	24	*e*PKPdf	PKPdf	09 47 26.6	-0.4	
ANMO	Albuquerque	140.20	24	*e*PKIKP	PKPdf	09 47 26.6	-0.4	
R39A	Chumby, Stover	140.42	6	P	PKPdf	09 47 24.5	-2.5	
	baz=352							
TUC	Tucson	140.44	31	P	PKPdf	09 47 25.0	-2.4	
	baz=323							
R38A	Fenwick Farm,	140.45	7	P	PKPdf	09 47 25.8	-1.3	
	baz=351							
R48A	Northridge Ran	140.51	357	P	PKPdf	09 47 26.3	-0.9	
	baz=3.8							
R40A	Maddies Statio	140.51	5	P	PKPdf	09 47 26.0	-1.3	
	baz=354							
R41A	Rosebud	140.58	4	P	PKPdf	09 47 25.4	-1.9	
	baz=355							
R42A	Luebbering	140.63	3	P	PKPdf	09 47 25.8	-1.6	
	baz=356							
R47A	Wooly Knot Far	140.65	358	P	PKPdf	09 47 25.6	-1.9	
	baz=2.7							
R43A	Red Bud	140.67	2	P	PKPdf	09 47 26.2	-1.3	
	baz=357							
R45A	Skylar, Fairfi	140.68	360	P	PKPdf	09 47 25.6	-1.9	
	baz=360							
WCI	Wyandotte Cave	140.71	358	P	PKPdf	09 47 25.7	-1.9	
	baz=3.1							
R44A	Waltonville	140.72	1	P	PKPpre	09 47 24.7		
	baz=359							
Y22D	IRIS PASSCAL I	140.77	25	P	PKPpre	09 47 24.6		
	baz=330							
S38A	Stockton	141.00	7	P	PKPpre	09 47 25.2		
	baz=351							
S39A	Bolivar	141.00	6	P	PKPpre	09 47 25.3		
	baz=352							
S42A	Caledonia	141.14	3	P	PKPpre	09 47 25.8		
	baz=356							
S40A	Lebanon	141.18	5	P	PKPpre	09 47 25.6		
	baz=353							
S41A	Jillco Farms,	141.25	4	P	PKPpre	09 47 24.7		
	baz=354							
S45A	Carrier Mills	141.30	0	P	PKPpre	09 47 26.1		
	baz=360							
S43A	Fulton Ridge,	141.37	2	P	PKPpre	09 47 25.6		
	baz=357							
T38A	Diamond	141.53	8	P	PKPpre	09 47 27.1		
	baz=350							
T40A	Mansfield	141.62	5	P	PKPpre	09 47 27.3		
	baz=353							
T39A	Clever	141.66	7	P	PKPpre	09 47 25.1		
	baz=352							
121A	Cookes Peak, D	141.70	27	P	PKPpre	09 47 24.7		
	baz=328							
T41A	Mountain View	141.79	5	P	PKPpre	09 47 25.4		
	baz=354							
T48A	Bowling Green	141.82	358	P	PKPpre	09 47 25.8		
	baz=3.0							
T43A	Greenville	141.85	3	P	PKPpre	09 47 26.1		
	baz=357							
T42A	Van Buren	141.86	4	P	PKPpre	09 47 25.8		
	baz=355							
T44A	Benton	141.87	2	P	PKPpre	09 47 26.2		
	baz=358							
T46A	Princeton	141.93	359	P	PKPpre	09 47 26.3		
	baz=0.6							
AMTX	Amarillo	141.96	18	P	PKPpre	09 47 27.3		
	baz=338							
T47A	Sharon Grove	141.97	358	P	PKPpre	09 47 26.3		
	baz=1.9							
TZTN	Tazewell	142.17	354	P	PKPpre	09 47 27.3		
	baz=2.7							
U39A	Green Forest	142.28	7	P	PKPpre	09 47 27.8		
	baz=352							
U40A	Yellville	142.38	6	P	PKPpre	09 47 29.0		
	baz=352							
TUL1	Leonard	142.40	10	P	PKPpre	09 47 28.1		
	baz=348							
TUL1	Leonard	142.40	10	*e*PKPdf	PKPdf	09 47 28.8	-1.9	
U48A	Cassie Pea, Po	142.43	358	P	PKPdf	09 47 28.4	-2.3	
	baz=2.8							
MSTX	Muleshoe	142.44	20	P	PKPdf	09 47 28.5	-2.5	
	baz=336							
MSTX	Muleshoe	142.44	20	*e*PKPdf	PKPdf	09 47 28.5	-2.5	
U41A	Viola	142.48	5	P	PKPdf	09 47 28.2	-2.6	
	baz=354							
U42A	Revenden	142.52	4	P	PKPdf	09 47 28.3	-2.6	
	baz=355							
U47A	Clarksville	142.52	359	P	PKPdf	09 47 28.3	-2.6	
	baz=1.6							
U46A	Springville	142.61	360	P	PKPdf	09 47 29.1	-2.0	
	baz=0.1							
U44B	Burton Farm, H	142.62	1	P	PKPdf	09 47 28.4	-2.6	
	baz=358							
U45A	Rockin P Farm,	142.62	1	P	PKPdf	09 47 29.7	-1.3	
	baz=359							
V39A	Pettigrew	142.80	7	P	PKPdf	09 47 29.4	-2.1	
	baz=351							
WVT	Waverly	142.84	359	P	PKPdf	09 47 28.5	-2.9	
	baz=0.7							
WMOK	Wichita Mounta	142.90	14	P	PKPdf	09 47 28.3	-3.3	
	baz=342							
WMOK	Wichita Mounta	142.90	14	*e*PKPpre	PKPpre	09 47 26.8		
WMOK	Wichita Mounta	142.90	14	*e*PKIKP	PKPpre	09 47 26.8		
V40A	Witts Springs	142.93	6	P	PKPdf	09 47 29.3	-2.4	
	baz=352							
V41A	Mountainview	143.01	5	P	PKPbc	09 47 29.4	+1.0	
	baz=354							
V42A	Cord	143.05	4	P	PKPbc	09 47 29.8	+1.3	
	baz=355							
V47A	Nunnelly	143.14	359	P	PKPbc	09 47 28.7	0.0	
	baz=1.2							
V46A	Holladay	143.17	360	P	PKPbc	09 47 29.1	+0.3	
	baz=0.2							
V48A	Smith Brothers	143.21	358	P	PKPbc	09 47 29.5	+0.5	
	baz=2.4							
KMSC	Kings Mountain	143.25	350	P	PKPbc	09 47 30.2	+1.1	
	baz=12							
W39A	Magazine	143.41	8	P	PKPbc	09 47 30.5	+0.9	
	baz=351							
MNTX	Cornudas Mount	143.47	25	P	PKPbc	09 47 31.2	+1.4	
	baz=330							
MNTX	Cornudas Mount	143.47	25	*e*PKPdf	PKPdf	09 47 31.5	-1.2	
W40A	Ferguson Farm,	143.50	7	P	PKPbc	09 47 30.3	+0.5	
	baz=352							
W42A	Bald Knob	143.57	4	P	PKPbc	09 47 31.1	+1.1	
	baz=354							
W41B	Gary Mavity, V	143.61	5	P	PKPbc	09 47 30.5	+0.4	
	baz=353							
W47A	Westpoint	143.71	359	P	PKPbc	09 47 30.7	+0.3	
	baz=1.1							
W45A	Hickory Valley	143.80	1	P	PKPbc	09 47 30.5	-0.2	
	baz=358							
W48A	Pulaski	143.81	358	P	PKPbc	09 47 30.8	+0.1	
	baz=2.2							
ASAL	Salagasta	143.82	208	*e*P	PKPdf	09 47 33.3	-0.1	
W46A	Michie	143.84	0	P	PKPab	09 47 30.2	+0.1	
	baz=360							
PLAL	Pickwick Lake	143.99	360	*e*PKPdf	PKPbc	09 47 31.7	+0.5	
X39A	Fountain Ranch	144.04	8	P	PKPbc	09 47 31.3	-0.2	
	baz=350,SNR=8.3							
MIAR	Mount Ida	144.08	7	P	PKPab	09 47 30.9	-0.2	
	baz=351,SNR=8.6							
MIAR	Mount Ida	144.08	7	*e*PKPdf	PKPab	09 47 30.9	-0.2	
MIAR	Mount Ida	144.08	7	*e*PKIKP	PKPab	09 47 30.9	-0.2	
X40A	Basin Creek Fa	144.23	6	P	PKPab	09 47 31.6	-0.1	
	baz=352,SNR=6.4							
RTCV	Cerro Valdivia	144.27	209	*e*P	PKPdf	09 47 34.2	+0.1	
X43A	Marvell	144.37	4	P	PKPbc	09 47 32.4	0.0	
	baz=356							
AUSP	Uspallata	144.38	208	*e*P	PKPdf	09 47 35.0	+0.4	
X49A	Woodville	144.41	357	P	PKPab	09 47 32.2	-0.1	
	baz=3.3							
X46A	Booneville	144.41	0	P	PKPab	09 47 32.2	-0.1	
	baz=359							
X44A	Crenshaw	144.43	3	P	PKPab	09 47 31.6	-0.8	
	baz=357							
OXF	Oxford	144.44	2	P	PKPab	09 47 31.3	-1.1	
	baz=358							
OXF	Oxford	144.44	2	*e*PKPdf	PKPbc	09 47 32.7	0.0	
OXF	Oxford	144.44	2	*e*PKIKP	PKPbc	09 47 32.7	0.0	
X47A	Russelville	144.45	359	P	PKPab	09 47 31.0	-1.5	
	baz=0.7							
X48A	Hartselle	144.50	358	P	PKPab	09 47 30.4	-2.2	
	baz=2.1							
X45A	UM Field Stati	144.53	2	P	PKPab	09 47 32.8	+0.1	
	baz=358,SNR=7.0							
Y40A	Okolona	144.64	7	P	PKPab	09 47 32.6	-0.6	
	baz=351,SNR=5.7							
ABTX	Abilene, Hawle	144.67	17	P	PKPab	09 47 33.0	-0.4	
	baz=340							
ABTX	Abilene, Hawle	144.67	17	*e*PKPdf	PKPab	09 47 32.7	-0.7	
Y41A	Eaglette Beard	144.85	6	P	PKPab	09 47 32.6	-1.3	
	baz=352,SNR=5.8							
CCAR	Cane Creek	144.90	5	*e*PKPdf	PKPab	09 47 33.8	-0.3	
Y44A	Strider, Charl	144.96	3	P	PKPab	09 47 32.4	-1.9	
	baz=357,SNR=6.3							
Y43A	Makayla and Ka	144.97	4	P	PKPab	09 47 33.3	-1.0	
	baz=355,SNR=7.0							
Y42A	Garnett, Star	144.98	5	P	PKPab	09 47 33.4	-1.0	
	baz=354,SNR=5.3							
WLAR	White Oak Lake	144.98	7	*e*PKPdf	PKPab	09 47 34.1	-0.3	
AMOG	MOGNA	144.99	210	*e*P	PKPdf	09 47 35.6	+0.1	
Y50A	Piedmont	144.99	356	P	PKPab	09 47 32.8	-1.7	
	baz=4.4							
NHSC	New Hope	145.01	348	P	PKPab	09 47 33.9	-0.7	
	baz=14							
Y48A	Jasper	145.04	358	P	PKPbc	09 47 33.6	-1.0	
	baz=1.9							
Y47A	UCPRC, Winfie	145.06	359	P	PKPbc	09 47 32.4	-2.3	
	baz=0.7,SNR=13							
Y49A	Blount Mountai	145.07	357	P	PKPbc	09 47 33.7	-1.0	
	baz=3.2							
Y46A	Houston	145.08	1	P	PKPbc	09 47 33.0	-1.7	
	baz=359,SNR=32							
Y45A	Yeager Farm, C	145.08	2	P	PKPbc	09 47 32.7	-2.0	
	baz=358,SNR=13							
RGRS	Roger Stewart	145.21	348	*e*PKPbc	PKPbc	09 47 33.9	-1.3	
GOGA	Godfrey	145.26	353	P	PKPbc	09 47 34.7	-0.7	
	baz=8.4							
GOGA	Godfrey	145.26	353	*e*PKPbc	PKPbc	09 47 35.0	-0.4	
GOGA	Godfrey	145.26	353	*e*PKIKP	PKPbc	09 47 35.0	-0.4	
Z40A	Long Farm, Mag	145.37	8	P	PKPbc	09 47 35.3	-0.4	
	baz=351,SNR=7.3							
Z41A	Richland Creek	145.44	7	P	PKPbc	09 47 34.8	-1.2	
	baz=352,SNR=9.4							
Z42A	Norrel Spur, H	145.52	5	P	PKPbc	09 47 34.6	-1.6	
	baz=354,SNR=16							
Z45A	Winona	145.57	2	P	PKPdf	09 47 35.3	-0.9	
	baz=358							
Z48A	Northport	145.58	359	P	PKPdf	09 47 34.2	-2.1	
	baz=1.2,SNR=17							
Z44A	Pea Ridge, Bel	145.63	3	P	PKPdf	09 47 34.9	-1.4	
	baz=356,SNR=26							
Z50A	Ashland	145.64	356	P	PKPdf	09 47 34.8	-1.6	
	baz=4.1,SNR=8.2							
Z49A	Columbiana	145.73	357	P	PKPdf	09 47 35.1	-1.4	
	baz=3.1,SNR=20							
Z46A	Louisville	145.77	1	P	PKPdf	09 47 36.1	-0.5	
	baz=359,SNR=15							
Z47A	Carrollton	145.77	360	P	PKPdf	09 47 35.4	-1.2	
	baz=0.3,SNR=12							
WHTX	Lake Whitney,	145.85	14	P	PKPab	09 47 37.8	+0.2	
	baz=344							
WHTX	Lake Whitney,	145.85	14	*e*PKPdf	PKPdf	09 47 36.6	-0.2	
155A	Kite	145.90	351	P	PKPdf	09 47 36.2	-0.7	
	baz=10,SNR=8.0							
LRAL	Lakeview Retre	145.91	358	P	PKPdf	09 47 35.9	-1.0	
	baz=2.2,SNR=8.3							
LRAL	Lakeview Retre	145.91	358	*e*PKPdf	PKPdf	09 47 35.5	-1.4	
140A	Cam and Jess,	145.96	8	P	PKPbc	09 47 37.4	-0.2	
	baz=350							
154A	Montrose	146.00	352	P	PKPdf	09 47 36.5	-0.5	
	baz=9.2,SNR=9.1							
153A	Fort Valley	146.05	353	P	PKPbc	09 47 37.9	0.0	
	baz=7.9							
143A	Socs Landing,	146.13	5	P	PKPdf	09 47 37.1	-0.1	
	baz=354,SNR=5.9							
142A	Monroe	146.24	6	P	PKPab	09 47 39.1	+0.1	
	baz=353							
TX31	Lajitas Ar. Si	146.25	25	*e*PKPdf	PKPdf	09 47 37.1	-0.5	
TX31				*e*PKPdf	PKPbc	09 47 37.5	-1.3	
TXAR	Lajitas Array	146.25	25	PKPbc	PKPdf	09 47 37.1	-0.6	
	comp=Z,13nm,0.8s,baz=6.5,slow=0.8,SNR=23							
144A	Alexander Plac	146.27	3	P	PKPbc	09 47 38.2	-0.3	
	baz=356							
150A	Eclectic	146.29	357	P	PKPdf	09 47 37.3	-0.3	
	baz=4.0,SNR=8.5							
147A	Livingston	146.29	360	P	PKPdf	09 47 37.0	-0.5	
	baz=360,SNR=9.0							
148A	Greensboro	146.31	359	P	PKPdf	09 47 37.7	+0.1	
	baz=1.2							
146A	Union	146.32	1	P	PKPdf	09 47 37.7	+0.2	
	baz=359,SNR=11							
151A	Opelika	146.32	355	P	PKPdf	09 47 38.0	+0.4	
	baz=5.3,SNR=15							
145A	Houston Renfro	146.32	3	P	PKPdf	09 47 37.7	+0.2	
	baz=357,SNR=6.5							
149A	Jones	146.34	358	P	PKPdf	09 47 37.5	-0.1	
	baz=2.6,SNR=7.9							
AHML	Horco Molle	146.35	219	*e*P	PKPdf	09 47 37.7	-0.2	
256A	Glennville	146.43	350	P	PKPab	09 47 39.5	-0.4	
	baz=12							
240A	Hunter Patters	146.52	8	P	PKPab	09 47 40.9	+0.7	
	baz=350							
VCA	Vinchina	146.59	213	*e*P	PKPdf	09 47 38.1	-0.3	
JCT	Junction City	146.62	18	P	PKPbc	09 47 39.8	+0.1	
	baz=339							
JCT	Junction City	146.62	18	*e*PKPdf	PKPdf	09 47 38.0	-0.2	
JCT	Junction City	146.62	18	*e*PKP2	PKPdf	09 47 38.0	-0.2	
NATX	Nacogdoches	146.65	10	P	PKPab	09 47 40.8	+0.1	
	baz=348							
NATX	Nacogdoches	146.65	10	*e*PKPdf	PKPbc	09 47 39.4	-0.3	
241A	Mo Tay, Goldon	146.65	7	P	PKPab	09 47 40.5	-0.2	
	baz=352							
253A	Americus	146.67	354	P	PKPbc	09 47 39.3	-0.4	
	baz=7.5,SNR=9.4							
VBMS	Vicksburg	146.68	3	P	PKPbc	09 47 39.2	-0.5	
	baz=356							
VBMS	Vicksburg	146.68	3	*e*PKPdf	PKPdf	09 47 37.2	-0.9	
254A	Abbeville	146.68	352	P	PKPbc	09 47 39.5	-0.2	
	baz=9.0,SNR=9.6							
242A	Grayson	146.70	6	P	PKPdf	09 47 38.6	+0.4	
	baz=353							
251A	Midway	146.76	356	P	PKPbc	09 47 39.2	-0.8	
	baz=5.2,SNR=14							
252A	Lumpkin	146.80	354	P	PKPbc	09 47 39.6	-0.5	
	baz=6.4,SNR=13							
244A	Avery, Jackson	146.84	4	P	PKPbc	09 47 39.5	-0.7	
	baz=356,SNR=10							
248A	Dixon Mills	146.87	359	P	PKPbc	09 47 40.2	-0.1	
	baz=1.0							
245A	Little AP, Sta	146.90	3	P	PKPbc	09 47 40.5	+0.2	
	baz=357							
357A	Townsend	146.90	349	P	PKPab	09 47 41.5	-0.1	
	baz=12							
247A	Quitman	146.91	1	P	PKPbc	09 47 40.9	+0.5	
	baz=359							
250A	Grady	146.93	357	P	PKPbc	09 47 39.9	-0.6	
	baz=3.6,SNR=6.7							
246A	Jackson Lee, B	146.94	1	P	PKPbc	09 47 40.3	-0.2	
	baz=358							
243A	Waterproof	146.94	5	P	PKPab	09 47 41.3	-0.5	
	baz=354							
435B	Jarrell	146.97	15	P	PKPbc	09 47 40.0	-0.6	
	baz=343							
249A	Camden	146.97	358	P	PKPbc	09 47 40.3	-0.3	
	baz=2.1,SNR=12							
356A	Blackshear	147.11	350	P	PKPbc	09 47 40.6	-0.4	
	baz=11							
355A	Pearson	147.21	351	P	PKPbc	09 47 41.7	+0.4	
	baz=10.0							
TIGA	Tifton	147.22	353	P	PKPbc	09 47 41.7	+0.4	
	baz=8.6							
TIGA	Tifton	147.22	353	*e*PKPdf	PKPdf	09 47 39.7	+0.6	
FSA	Cafayete	147.23	219	*e*P	PKPdf	09 47 39.5	-0.1	
341A	Kurtwood	147.30	8	P	PKPbc	09 47 41.2	-0.3	
	baz=351							
352A	Blakely	147.33	355	P	PKPbc	09 47 40.6	-1.0	
	baz=6.2							
342A	Flagon Creek P	147.36	6	P	PKPbc	09 47 41.3	-0.4	
	baz=352							
HPIG		147.38	30	*e*PKPdf	PKPbc	09 47 41.3	-0.9	
353A	Camilla	147.38	354	P	PKPbc	09 47 41.7	-0.1	
	baz=7.5							
344A	Westbrook Farm	147.43	4	P	PKPdf	09 47 40.5	+1.0	
	baz=355							
ALOL	LOMAS DE OLMED	147.46	224	*e*P	PKPdf	09 47 39.4	-0.3	
350A	Dozier	147.49	357	P	PKPbc	09 47 42.0	-0.1	
	baz=3.6,SNR=13							
343A	Vidalia	147.52	5	P	PKPbc	09 47 41.0	-1.2	
	baz=354							
348A	Jackson	147.55	359	P	PKPbc	09 47 41.9	-0.3	
	baz=0.7							
346A	Big Creek Wild	147.55	2	P	PKPbc	09 47 42.6	+0.4	
	baz=358							
347A	Saraland	147.56	0	P	PKPbc	09 47 42.6	+0.4	
	baz=360							
351A	Pinckard	147.59	356	P	PKPbc	09 47 42.2	-0.2	
	baz=4.9,SNR=9.3							
349A	Repton	147.59	358	P	PKPbc	09 47 42.7	+0.4	
	baz=2.0,SNR=25							
345A	Thompson Farm,	147.61	3	P	PKPbc	09 47 43.0	+0.6	
	baz=357							
LCO	Las Campanas	147.67	210	*e*PKPbc	PKPbc	09 47 43.5	+0.5	
456A	Hilliard	147.68	350	P	PKPbc	09 47 43.5	+0.9	
	baz=12							
455A	Stateville	147.82	351	P	PKPbc	09 47 42.7	-0.3	
	baz=9.8,SNR=13							
441A	DeRidder	147.87	8	P	PKPbc	09 47 43.1	0.0	
	baz=351							
453A	Whigham	147.88	354	P	PKPbc	09 47 43.1	0.0	
	baz=7.4							
454A	Quitman	147.94	352	P	PKPbc	09 47 43.9	+0.6	
	baz=8.7							
452A	Marianna	147.97	355	P	PKPab	09 47 44.9	-1.0	
	baz=5.8

baz=14
859A Kempfer Cattle 150.04 347 P **PKPbc 09 47 47.9 -0.8**
baz=15
DWPF Disney Wildern 150.11 348 P **PKPbc 09 47 48.0 -0.9**
baz=14
857A Zephyrhills 150.11 349 P **PKPbc 09 47 47.4 -1.5**
baz=12
GRGR Grenville 150.41 297 *e*PKPdf **PKPdf 09 47 44.3 -0.4**
GRGR *e*PKPab **PKPab 09 47 57.9 +1.5**
959A Okeechobee 150.55 347 P **PKPbc 09 47 48.1 -1.9**
baz=15
958A Wauchula 150.68 348 P **PKPbc 09 47 47.9 -2.3**
baz=13
SJG San Juan 150.96 312 *e*PKPbc **PKPbc 09 47 52.1 +1.0**
SJG San Juan 150.96 312 *e*PKIKP **PKPbc 09 47 52.1 +1.0**
058A Arcadia 151.20 348 P **PKPdf 09 47 47.8 +2.2**
baz=13
AOPR Arecibo Observ 151.25 314 *e*PKPbc **PKPbc 09 47 52.3 +0.4**
OBIP Obispado Ponce 151.34 313 *e*PKPbc **PKPbc 09 47 53.7 +1.6**
PTGA Pitinga 151.68 271 *e*PKPdf **PKPdf 09 47 49.0 +2.3**
CRPR Cabo Rojo, PR 151.72 313 *e*PKPbc **PKPbc 09 47 53.6 +0.7**
059Z Ave Maria 151.82 347 P **PKPdf 09 47 49.4 +2.8**
baz=14
LPAZ La Paz 155.13 232 PKPbc PKPbc 09 48 00.1
comp=Z,10nm,1.1s,baz=79,slow=3.2,SNR=9.6
LPAZ La Paz 155.13 232 *e*PKPdf **PKPdf 09 47 54.5 +2.1**
LPAZ PKPbc **sPKPdf 09 48 00.1 +3.1**
LPAZ La Paz 155.13 232 *e*PKIKP **PKPdf 09 47 54.5 +2.1**
LPAZ 09 48 00.1
OTAV Otavalo 170.06 278 *e*PKPdf **PKPdf 09 48 09.0 +2.0**

IDC ***11*** *09:32:01.9±1.7,2°.20N×93°.09E,h0km,mb4.3/5,mb1 4.5/7, mb1mx3.9/78,mbtmp4.3/7,ML4.2/2,Error ellipse: s-maj=47.1km s-min=25.1km az=46.0,X*
ISCJB ***11*** *09:32:05.8±1.4,2°.3N±0°.2×93°.34E±0°.09,h33km,mb4.3/5, Error ellipse: s-maj=26.0km s-min=11.4km az=15.9*
ISC 11 09:32:07.7±1.5,2°.3N±0°.2×93°.3E±0°.1,h35km,n7,σ0s87/8, mb4.2/5,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**5.64**	**85**	Pn		**Pn**	**09 33 28.6**	**-0.6**
	10nm,0.3s,baz=301,slow=10,SNR=7.1							
PSI				Sn		**Sn**	**09 34 32.8**	**-0.1**
	5.0nm,0.3s,baz=243,slow=14,SNR=2.0							
CMAR	**Chiang Mai Arr**	**16.98**	**19**	P		**Pn**	**09 36 02.6**	**-0.1**
	0.3nm,0.3s,baz=212,slow=12,SNR=2.6							
MKAR	**Makanchi Array**	**45.34**	**349**	P		**P**	**09 40 23.0**	**+0.6**
	1.3nm,0.4s,baz=169,slow=8.1,SNR=7.7							
WRA	**Warramunga Arr**	**45.94**	**121**	P		**P**	**09 40 28.3**	**+0.8**
	3.2nm,1.1s,baz=299,slow=8.8,SNR=2.8							
SONM	**Songino Array**	**46.74**	**12**	P		**P**	**09 40 34.4**	**+0.8**
	4.1nm,0.8s,baz=196,slow=9.4,SNR=3.5							
ZALV	**Zalesovo Beam**	**51.94**	**354**	P		**P**	**09 41 13.0**	**0.0**
	3.0nm,0.4s,baz=181,slow=6.7,SNR=3.9							
GERES	**GERESS Array B**	**81.42**	**319**	P		**P**	**09 44 20.0**	**-1.3**
	1.7nm,0.7s,baz=101,slow=5.1,SNR=3.3							

IDC ***11*** *09:34:01.5±0.8,2°.38N×93°.02E,h0km,mb4.3/15, mb1 4.4/16,mb1mx4.1/73,mbtmp4.3/16,ML3.6/1,Error ellipse: s-maj=24.8km s-min=18.9km az=53.0*
ISCJB ***11*** *09:34:03.0±0.6,2°.39N±0°.1×93°.05E±0°.09,h21km, mb4.3/16,Error ellipse: s-maj=14.7km s-min=11.7km az=28.2*
NEIC ***11*** *09:34:03.0±0.4,2°.37N×93°.01E,h10km,mb4.3/1,Error ellipse: s-maj=11.2km s-min=9.2km az=26.0*
ISC 11 09:34:05.0±0.8,2°.4N±0°.1×93°.0E±0°.1,h21km,n20, σ0s59/20,mb4.4/16,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
IPM	**Ipoh**	**8.25**	**75**	*e*Pn		**Pn**	**09 36 03.6**	**+0.1**
CMAR	**Chiang Mai Arr**	**17.00**	**20**	P		**Pn**	**09 38 01.9**	**+0.3**
	0.1nm,0.3s,baz=215,slow=13,SNR=2.8							
MKAR	**Makanchi Array**	**45.22**	**350**	P		**P**	**09 42 20.9**	**+0.3**
	2.5nm,0.4s,baz=172,slow=7.3,SNR=10							
WRA	**Warramunga Arr**	**46.20**	**121**	P		**P**	**09 42 28.8**	**0.0**
	2.7nm,0.8s,baz=302,slow=8.6,SNR=6.0							
WRAB	**Tennant Creek**	**46.21**	**121**	*e*P		**P**	**09 42 28.9**	**0.0**
	1.1nm,0.3s							
SONM	**Songino Array**	**46.74**	**12**	P		**P**	**09 42 33.5**	**+0.8**
	1.6nm,0.5s,baz=198,slow=8.5,SNR=4.1							
ASAR	**Alice Springs**	**47.45**	**125**	P		**P**	**09 42 38.5**	**0.0**
	0.4nm,0.4s,baz=300,slow=7.7,SNR=3.4							
GEYT	**Alibeck**	**47.69**	**322**	P		**P**	**09 42 41.1**	**+0.9**
	2.5nm,0.5s,baz=147,slow=8.2,SNR=2.5							
KURBB	**Kurchatov Arra**	**49.62**	**348**	P		**P**	**09 42 54.7**	**0.0**
	2.5nm,0.6s,baz=172,slow=6.8,SNR=4.6							
OPO	**Ambohidratompo**	**49.67**	**243**	P		**P**	**09 42 56.1**	**+0.2**
	3.8nm,0.8s,baz=356,slow=8.0,SNR=4.0							
KURK	**Kurchatov**	**49.69**	**348**	P		**P**	**09 42 54.7**	**-0.5**
ZALV	**Zalesovo Beam**	**51.85**	**354**	P		**P**	**09 43 11.2**	**-0.3**
	4.3nm,0.4s,baz=177,slow=6.8,SNR=9.5							
KMBO	**Kilima Mbogo**	**55.87**	**267**	P		**P**	**09 43 42.7**	**+0.7**
	3.3nm,0.8s,baz=58,slow=10.0,SNR=5.1							
BRTR	**Keskin Array B**	**65.25**	**313**	P		**P**	**09 44 44.8**	**-0.7**
	1.9nm,0.8s,baz=129,slow=6.9,SNR=5.4							
MLR	**Muntele Rosu**	**72.37**	**317**	P		**P**	**09 45 29.6**	**-0.1**
	1.6nm,0.8s,baz=175,slow=5.2,SNR=5.0							
FINES	**FINESS Array B**	**77.05**	**333**	P		**P**	**09 45 55.2**	**-1.1**
	3.0nm,0.7s,baz=101,slow=2.9,SNR=6.4							
ARCES	**ARCESS Array B**	**80.05**	**341**	P		**P**	**09 46 11.9**	**-0.8**
	5.4nm,0.9s,baz=68,slow=6.7,SNR=5.0							
GERES	**GERESS Array B**	**81.19**	**319**	P		**P**	**09 46 19.2**	**-0.1**
	2.5nm,0.6s,baz=114,slow=5.5,SNR=5.3							
HFS	**Hagfors**	**82.64**	**330**	P		**P**	**09 46 25.6**	**-1.0**
	3.6nm,0.8s,baz=98,slow=11,SNR=6.5							
TXAR	**Lajitas Array**	**144.65**	**26**	PKP		**PKPab**	**09 53 39.3**	**-0.3**
	1.4nm,0.4s,baz=112,slow=0.5,SNR=23							

ISCJB ***11*** *09:34:10.9±0.9,2°.4N±0°.1×93°.42E±0°.10,h10km,mb4.2/9, Error ellipse: s-maj=21.9km s-min=10.6km az=29.2*
IDC ***11*** *09:34:11.2±1.4,2°.45N×93°.35E,h0km,mb4.2/8, mb1 4.4/10,mb1mx4.0/74,mbtmp4.3/10,ML4.4/2,Error ellipse: s-maj=42.9km s-min=22.5km az=41.0*
NEIC ***11*** *09:34:12.5±0.8,2°.41N×93°.40E,h10km,mb4.1/2,Error ellipse: s-maj=17.3km s-min=9.4km az=32.0*
ISC 11 09:34:12.7±1.1,2°.5N±0°.2×93°.4E±0°.1,h10km,n24, σ0s63/24,mb4.3/9,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**5.50**	**87**	Pn		**Pn**	**09 35 33.8**	**-1.1**
	11nm,0.3s,baz=286,slow=8.3,SNR=8.5							
PSI	**Prapat**	**5.50**	**87**	Pn		**Pn**	**09 35 33.8**	**-1.1**
IPM	**Ipoh**	**7.84**	**75**	*e*Pn		**Pn**	**09 36 07.6**	**+0.7**
CMAR	**Chiang Mai Arr**	**16.77**	**18**	Pn		**P**	**09 38 09.9**	**-0.2**
	0.5nm,0.3s,baz=216,slow=12,SNR=4.7							
CMAR	**Chiang Mai Arr**	**16.77**	**18**	Pn		**P**	**09 38 09.9**	**-0.2**
KSM	**Kuching**	**16.90**	**93**	*e*Pn		**Pn**	**09 38 09.8**	**+0.2**
	25nm,1.1s							
MKAR	**Makanchi Array**	**45.19**	**349**	P		**P**	**09 42 29.4**	**-0.5**
	2.7nm,0.8s,baz=172,slow=8.1,SNR=5.1							
MKAR	**Makanchi Array**	**45.19**	**349**	P		**P**	**09 42 29.4**	**-0.5**
WRA	**Warramunga Arr**	**45.92**	**121**	P		**P**	**09 42 36.9**	**+0.9**
	5.0nm,0.7s,baz=299,slow=8.7,SNR=8.5							
WRA	**Warramunga Arr**	**45.92**	**121**	P		**P**	**09 42 36.9**	**+0.9**
WRAB	**Tennant Creek**	**45.92**	**121**	*e*P		**P**	**09 42 36.0**	**-0.1**
	0.7nm,0.4s							
SONM	**Songino Array**	**46.55**	**12**	P		**P**	**09 42 40.8**	**+0.1**
	1.7nm,0.6s,baz=202,slow=8.2,SNR=4.7							
SONM	**Songino Array**	**46.55**	**12**	P		**P**	**09 42 40.8**	**+0.1**
GEYT	**Alibeck**	**47.85**	**322**	P		**P**	**09 42 50.8**	**-0.1**
	4.4nm,0.8s,baz=142,slow=7.3,SNR=3.1							
KURBB	**Kurchatov Arra**	**49.60**	**348**	P		**P**	**09 43 04.7**	**+0.7**
	0.7nm,0.5s,baz=174,slow=6.8,SNR=4.7							
KURK	**Kurchatov**	**49.67**	**348**	P		**P**	**09 43 04.7**	**+0.2**
ZALV	**Zalesovo Beam**	**51.79**	**354**	P		**P**	**09 43 21.5**	**+1.0**
	2.9nm,0.4s,baz=174,slow=7.4,SNR=3.5							
ZALV	**Zalesovo Beam**	**51.79**	**354**	P		**P**	**09 43 21.5**	**+1.0**
FINES	**FINESS Array B**	**77.14**	**333**	P		**P**	**09 46 05.6**	**-0.6**
	1.0nm,0.6s,baz=107,slow=7.4,SNR=3.7							
FINES	**FINESS Array B**	**77.14**	**333**	P		**P**	**09 46 05.6**	**-0.6**
GERES	**GERESS Array B**	**81.37**	**319**	P		**P**	**09 46 29.9**	**+0.1**
	1.7nm,0.7s,baz=90,slow=5.1,SNR=4.5							
GERES	**GERESS Array B**	**81.37**	**319**	P		**P**	**09 46 29.9**	**+0.1**
TXAR	**Lajitas Array**	**144.38**	**26**	PKP		**PKPdf**	**09 53 50.1**	**0.0**
	0.5nm,0.5s,baz=179,slow=0.7,SNR=3.7							
TXAR	**Lajitas Array**	**144.38**	**26**	PKP		**PKPdf**	**09 53 50.1**	**0.0**

ISCJB ***11*** *09:34:17.3±0.8,2°.5N±0°.1×93°.2E±0°.1,h10km,mb4.4/13, Error ellipse: s-maj=23.0km s-min=12.3km az=36.5*
IDC ***11*** *09:34:17.0±1.2,2°.34N×93°.06E,h0km,mb4.4/12, mb1 4.5/12,mb1mx4.1/72,mbtmp4.4/12,Error ellipse: s-maj=43.0km s-min=19.5km az=48.0*
NEIC ***11*** *09:34:18.9±0.6,2°.43N×93°.18E,h10km,mb4.6/1,Error ellipse: s-maj=18.3km s-min=10.0km az=219.0*
ISC 11 09:34:18.9±1.2,2°.4N±0°.2×93°.2E±0°.1,h10km,n17, σ0s62/16,mb4.4/13,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
IPM	**Ipoh**	**8.10**	**75**	*e*Pn		**Pn**	**09 36 15.9**	**-0.8**
MKAR	**Makanchi Array**	**45.22**	**349**	P		**P**	**09 42 36.0**	**-0.2**
	3.7nm,0.6s,baz=171,slow=8.3,SNR=8.4							
WRA	**Warramunga Arr**	**46.09**	**121**	P		**P**	**09 42 43.9**	**+0.3**
	3.3nm,0.5s,baz=299,slow=8.7,SNR=13							
WRAB	**Tennant Creek**	**46.10**	**121**	*e*P		**P**	**09 42 44.3**	**+0.7**
	4.1nm,0.7s							
SONM	**Songino Array**	**46.67**	**12**	P		**P**	**09 42 48.4**	**+0.6**
	6.3nm,0.6s,baz=195,slow=8.8,SNR=6.8							
KSAR	**Wonju Array Be**	**47.23**	**38**	P		**P**	**09 42 53.2**	**+1.0**
KSRS	**Korea Array**	**47.27**	**38**	P		**P**	**09 42 53.2**	**+0.8**
	2.6nm,0.8s,baz=226,slow=9.9,SNR=5.1							
ASAR	**Alice Springs**	**47.35**	**126**	P		**P**	**09 42 53.2**	**-0.2**
	1.4nm,0.8s,baz=301,slow=7.7,SNR=4.2							
GEYT	**Alibeck**	**47.76**	**322**	P		**P**	**09 42 56.4**	**0.0**
	8.3nm,0.9s,baz=131,slow=8.1,SNR=4.5							
KURBB	**Kurchatov Arra**	**49.62**	**348**	P		**P**	**09 43 10.3**	**-0.1**
	2.0nm,0.6s,baz=170,slow=6.9,SNR=4.5							
KURK	**Kurchatov**	**49.68**	**348**	P		**P**	**09 43 10.3**	**-0.6**
ZALV	**Zalesovo Beam**	**51.83**	**354**	P		**P**	**09 43 26.9**	**-0.1**
	7.6nm,0.5s,baz=182,slow=7.1,SNR=6.6							
MLR	**Muntele Rosu**	**72.44**	**317**	P		**P**	**09 45 45.8**	**0.0**
	1.0nm,0.7s,baz=263,slow=18,SNR=3.5							
FINES	**FINESS Array B**	**77.09**	**333**	P		**P**	**09 46 11.3**	**-0.9**
	2.2nm,0.6s,baz=104,slow=8.0,SNR=4.2							
ARCES	**ARCESS Array B**	**80.06**	**341**	P		**P**	**09 46 28.0**	**-0.6**
	3.6nm,0.8s,baz=100,slow=6.5,SNR=3.6							
GERES	**GERESS Array B**	**81.26**	**319**	P		**P**	**09 46 35.9**	**+0.4**
	2.6nm,0.7s,baz=106,slow=4.9,SNR=5.3							
TXAR	**Lajitas Array**	**144.55**	**26**	PKP	PKPbc		09 53 55.8	+0.6
	0.7nm,0.4s,baz=251,slow=0.6,SNR=12							

ISCJB ***11*** *09:34:38.5±0.3,24°.40N±0°.02×122°.45E±0°.02,h48km±6km, Error ellipse: s-maj=4.1km s-min=2.5km az=177.6*
TAP ***11*** *09:34:38.1,24°.43N×122°.46E,h57km,ML3.3,B*
JMA ***11*** *09:34:38.6±0.1,24°.48N×122°.49E,h56km±1km,M1.7*
ISC 11 09:34:38.9±1.2,24°.41N±0°.03×122°.45E±0°.02,h47km±10km, n53,σ0s81/93,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
EOS1	**EOS1**	**0.32**	**296**	P		**Pn**	**09 34 48.2**	**+0.2**
	baz=299							
EOS1				S		**Sn**	**09 34 55.8**	**+1.4**
	baz=299							
JYNG	**Yonagunijimaku**	**0.46**	**84**	P		**Pn**	**09 34 49.3**	**-0.2**
JYNG				S		**Sn**	**09 34 57.4**	**+0.4**
YOJ	**Yonaguni jima**	**0.52**	**84**	P		**Pn**	**09 34 50.1**	**-0.1**
	baz=85							
YOJ				S		**Sn**	**09 34 58.6**	**+0.3**
	baz=85							
YOJ	**Yonaguni jima**	**0.52**	**84**	P		**Pn**	**09 34 50.1**	**-0.1**
YOJ				S		**Sn**	**09 34 58.5**	**+0.3**
TWC	**Suao**	**0.58**	**290**	P		**Pn**	**09 34 50.6**	**-0.4**
	baz=293							
TWC				*e*S		**Sn**	**09 34 59.4**	**-0.3**
	baz=293							
ENAH	**Nanao**	**0.58**	**274**	*e*P		**Pn**	**09 34 50.8**	**-0.2**
	baz=272							
NANB	**Nanao**	**0.64**	**272**	*e*P		**Pn**	**09 34 51.6**	**-0.1**
	baz=270							
EGS		**0.64**	**313**	P		**Pn**	**09 34 51.3**	**-0.5**
	baz=318							
EGS				*e*S		**Sn**	**09 35 00.7**	**-0.3**
	baz=318							
ENA	**Nanau**	**0.64**	**272**	*e*P		**Pn**	**09 34 52.0**	**+0.2**
	baz=270							
TWB1	**Santiao Chiao**	**0.73**	**325**	*e*P		**Pn**	**09 34 52.4**	**-0.6**
	baz=331							
TWB1				*e*S		**Sn**	**09 35 02.5**	**-0.6**
	baz=331							
TWE	**Neicheng**	**0.78**	**294**	*e*P		**Pn**	**09 34 53.5**	**0.0**
	baz=299							
TWE				*e*S		**Sn**	**09 35 04.2**	**0.0**
	baz=299							
TIPB	**Shuangxi**	**0.80**	**315**	*e*P		**Pn**	**09 34 52.5**	**-1.4**
	baz=313							
TIPB				S		**Sn**	**09 35 03.3**	**-1.5**
	baz=313							
NACB	**Ninganchiao**	**0.81**	**254**	P		**Pn**	**09 34 53.5**	**-0.6**
	baz=252							
NACB				S		**Sn**	**09 35 04.3**	**-0.7**
	baz=252							
SLBB	**Yuanshan**	**0.81**	**295**	*e*P		**Pn**	**09 34 54.3**	**+0.2**
	baz=300							
ENTT	**Nioudou**	**0.83**	**286**	P		**Pn**	**09 34 54.9**	**+0.5**
	baz=291							
ENTT				*e*S		**Sn**	**09 35 06.4**	**+0.8**
	baz=291							
TWD	**Chiawan**	**0.84**	**247**	*e*P		**Pn**	**09 34 53.5**	**-1.0**
	baz=246							
TWD				*e*S		**Sn**	**09 35 04.8**	**-0.9**
	baz=246							
NWF	**Wu-fen Shan**	**0.90**	**318**	P		**Pn**	**09 34 55.0**	**-0.2**
	baz=316							
NWF				*e*S		**Sn**	**09 35 06.9**	**-0.3**
	baz=316							
WFSB	**Wu-fen Shan**	**0.90**	**318**	*e*P		**Pn**	**09 34 55.0**	**-0.2**
	baz=316							
WFSB				*e*S		**Sn**	**09 35 06.7**	**-0.4**
	baz=316							
ENLB	**Shoufeng**	**0.92**	**237**	*e*P		**Pn**	**09 34 55.3**	**-0.2**
	baz=228							
ENLB				*e*S		**Sn**	**09 35 07.1**	**-0.6**
	baz=228							
NWLT	**Wulai**	**0.94**	**293**	*e*P		**Pn**	**09 34 55.9**	**+0.1**
	baz=298							
NWLT				*e*S		**Sn**	**09 35 08.3**	**+0.2**
	baz=298							
NNS	**Nan Shan**	**0.98**	**272**	*e*P		**Pn**	**09 34 56.4**	**0.0**
	baz=262							
NNS				*e*S		**Sn**	**09 35 08.9**	**-0.4**
	baz=262							
YHNB	**Yeheng**	**1.01**	**285**	*e*P		**Pn**	**09 34 57.1**	**+0.3**
	baz=293							
YHNB				*e*S		**Sn**	**09 35 10.3**	**+0.3**
	baz=293							
YHNB	**Yeheng**	**1.01**	**285**	*e*P		**Pn**	**09 34 57.0**	**+0.2**
	2µm,2.6s							
TATO	**Taipei**	**1.04**	**303**	*e*P		**Pn**	**09 34 57.0**	**-0.1**
	baz=302							
TATO				*e*S		**Sn**	**09 35 10.2**	**-0.3**
	baz=302							
YM07	**YM07**	**1.07**	**316**	*e*P		**Pn**	**09 34 55.8**	**-1.9**
	baz=305							
YM07				*e*S		**Sn**	**09 35 10.2**	**-1.3**
	baz=305							
YM05	**YM05**	**1.10**	**313**	*e*P		**Pn**	**09 34 58.0**	**0.0**
	baz=302							
WHF	**Hehuan Shan**	**1.11**	**257**	*e*P		**Pn**	**09 34 58.1**	**-0.4**
	baz=256							
WHF				*e*S		**Sn**	**09 35 12.1**	**-0.7**
	baz=256							
YM04	**YM04**	**1.11**	**312**	*e*P		**Pn**	**09 34 57.8**	**-0.3**
	baz=311							
YM04				*e*S		**Sn**	**09 35 11.6**	**-0.7**
	baz=311							
TWY	**Chenhua**	**1.16**	**319**	*e*P		**Pn**	**09 34 59.2**	**+0.5**
	baz=317							
TWY				*e*S		**Sn**	**09 35 13.1**	**-0.3**
	baz=317							
TWS1	**Kuangyinshan**	**1.16**	**307**	*e*P		**Pn**	**09 34 58.9**	**+0.1**
	baz=305							
TWT	**Tachien**	**1.17**	**263**	*e*P		**Pn**	**09 34 59.8**	**+0.7**
	baz=262							
TWT				*e*S		**Sn**	**09 35 14.3**	**+0.3**
	baz=262							
IRIF	**Iriomote-Funau**	**1.17**	**93**	P		**Pn**	**09 34 58.5**	**-0.4**
IRIF				S		**Sn**	**09 35 13.5**	**-0.3**
TDCB	**Techi**	**1.19**	**263**	*e*P		**Pn**	**09 34 59.2**	**0.0**
	baz=262							
TDCB				*e*S		**Sn**	**09 35 14.2**	**-0.1**
	baz=262							
EGFH	**Guangfu**	**1.19**	**232**	*e*S		**Sn**	**09 35 12.9**	**-1.3**
	baz=225							
CHGB	**Renai**	**1.21**	**254**	*e*P		**Pn**	**09 34 59.2**	**-0.5**
	baz=244							
OWD	**Renai**	**1.25**	**249**	*e*P		**Pn**	**09 34 59.9**	**-0.1**
	baz=240							
OWD				*e*S		**Sn**	**09 35 14.5**	**-1.2**
	baz=240							
HGSD	**Ruisui**	**1.30**	**226**	*e*P		**Pn**	**09 34 59.7**	**-1.0**
	baz=220							
HGSD				*e*S		**Sn**	**09 35 15.4**	**-1.6**
	baz=220							
LIOB	**Emei**	**1.32**	**281**	*e*P		**Pn**	**09 35 02.1**	**+1.1**
	baz=280							
LIOB				*e*S		**Sn**	**09 35 18.9**	**+1.3**
	baz=280							
NSTT	**Nanjuang**	**1.34**	**280**	*e*P		**Pn**	**09 35 02.1**	**+0.9**
	baz=279							
NSTT				*e*S		**Sn**	**09 35 18.8**	**+1.0**
	baz=279							
JKRS	**Kuro-shima**	**1.44**	**96**	P		**Pn**	**09 35 02.8**	**+0.3**
JKRS				S		**Sn**	**09 35 20.8**	**+0.6**
YULB	**Yu-li**	**1.46**	**226**	*e*P		**Pn**	**09 35 01.6**	**-1.2**
	baz=237							
YULB				*e*S		**Sn**	**09 35 18.9**	**-1.8**
	baz=237							
TWF1	**Yuli**	**1.49**	**225**	*e*P		**Pn**	**09 35 02.0**	**-1.3**
	baz=236							
TWF1				*e*S		**Sn**	**09 35 19.5**	**-1.9**
	baz=236							
SMLT	**Sun Moon Lake**	**1.51**	**250**	*e*P		**Pn**	**09 35 04.0**	**+0.4**
	baz=242							
TWQ1	**Liyutan**	**1.53**	**268**	*e*P		**Pn**	**09 35 04.1**	**+0.3**
	baz=267							
TYC	**Yuchr**	**1.54**	**251**	*e*P		**Pn**	**09 35 04.8**	**+0.9**
	baz=243							
JIJ	**Ishigaki jima**	**1.55**	**91**	P		**Pn**	**09 35 04.0**	**0.0**
JIJ				*e*S		**Sn**	**09 35 22.6**	**-0.3**
FULB	**Fuli**	**1.60**	**222**	*e*P		**Pn**	**09 35 04.9**	**+0.1**
	baz=214							
JISG	**Ishigakijimahi**	**1.71**	**84**	P		**Pn**	**09 35 06.2**	**0.0**
JISG				*e*S		**Sn**	**09 35 26.5**	**-0.4**
CHN5	**Tsauling**	**1.81**	**244**	*e*P		**Pn**	**09 35 08.0**	**+0.3**
	baz=234							
CHN5				*e*S		**Sn**	**09 35 30.7**	**+1.2**
	baz=234							
CHN4	**Tsaushan**	**2.00**	**239**	*e*P		**Pn**	**09 35 11.5**	**+1.3**
	baz=231							
CHN4				*e*S		**Sn**	**09 35 35.7**	**+1.7**
	baz=231							
WTP	**Ta-pu**	**2.04**	**236**	*e*P		**Pn**	**09 35 12.3**	**+1.4**
	baz=235							
WTP				*e*S		**Sn**	**09 35 36.1**	**+1.0**
	baz=235							
JTJ	**Tarama**	**2.07**	**83**	P		**Pn**	**09 35 11.4**	**+0.2**
JTJ				*e*S		**Sn**	**09 35 35.7**	**0.0**
CHN1	**Nanshi**	**2.14**	**236**	*e*P		**Pn**	**09 35 13.4**	**+1.2**
	baz=236							
CHN1				*e*S		**Sn**	**09 35 39.2**	**+1.7**
	baz=236							

IDC 11 09:35:06.7±4.5,1°.46N×91°.77E,h0km,mb4.3/3,mb1 4.3/3, mb1mx3.6/72,mbtmp4.3/3,Error ellipse: s-maj=159.2km s-min=80.2km az=69.0,North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**45.90**	**351**	P		P	09 43 30.8	-0.3
	2.7nm,0.5s,baz=168,slow=8.7,SNR=5.7							
SONM	**Songino Array**	**47.90**	**13**	P		P	09 43 46.6	-0.2
	1.3nm,0.6s,baz=200,slow=9.7,SNR=2.4							
ZALV	**Zalesovo Beam**	**52.62**	**355**	P		P	09 44 22.4	+0.1
	2.8nm,0.5s,baz=184,slow=6.6,SNR=2.6							
TXAR	**Lajitas Array**	**146.00**	**25**	PKPbc		PKPdf	09 54 48.4	-0.2
	0.3nm,0.5s,baz=31,slow=2.1,SNR=2.3							

IDC 11 09:35:35.8±7.1,0°.15S×94°.09E,h0km,mb4.4/4,mb1 4.4/4, mb1mx3.7/70,mbtmp4.4/4,Error ellipse: s-maj=350.0km s-min=70.7km az=57.0,Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**47.88**	**349**	P		P	09 44 15.0	-0.7
	4.0nm,0.6s,baz=168,slow=9.0,SNR=6.7							
KURBB	**Kurchatov Arra**	**52.29**	**348**	P		P	09 44 49.1	+0.1
	3.3nm,0.6s,baz=173,slow=6.8,SNR=6.9							
ZALV	**Zalesovo Beam**	**54.46**	**353**	P		P	09 45 05.1	+0.2
	3.5nm,0.4s,baz=175,slow=7.4,SNR=5.2							
BVAR	**Borovoye Array**	**56.56**	**343**	P		P	09 45 20.1	0.0
	1.7nm,0.5s,baz=139,slow=9.6,SNR=3.2							
TXAR	**Lajitas Array**	**146.39**	**29**	PKPbc		PKPdf	09 55 18.7	+0.3
	0.2nm,0.4s,baz=45,slow=0.6,SNR=4.0							

IDC 11 09:37:30.9±3.4,1°.96N×93°.14E,h0km,mb4.4/5,mb1 4.5/6, mb1mx3.8/72,mbtmp4.4/6,ML4.4/1,Error ellipse: s-maj=90.3km s-min=56.4km az=123.0,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**17.36**	**19**	Pn		Pn	09 41 33.4	-1.4
	0.5nm,0.3s,baz=215,slow=11,SNR=6.4							
MKAR	**Makanchi

GSI	Gunungsitoli	6.18	89	*e*Pn	Pn	09 39 36.9	-1.0
PALK	Pallekele	12.23	300	*e*Pn	Pn	09 40 60.0	-1.1
CHTO	Chiang Mai 12nm,1.1s	18.96	23	*e*P	P	09 42 27.7	-0.5
LSA	Lhasa 22nm,0.6s	28.30	360	*e*P	P	09 44 01.9	+0.9
AAK	Ala-Archa 5.1nm,0.7s,baz=154,slow=7.2,SNR=5.1	43.91	342	P	P	09 46 13.2	-0.5
KKAR	Karatay Array 10nm,0.9s	45.67	339	*e*P	P	09 46 27.8	+0.2
MKAR	Makanchi Array 16nm,0.7s,baz=175,slow=9.1,SNR=20	46.06	351	P	P	09 46 30.6	0.0
WRA	Warramunga Arr 7.3nm,1.0s,baz=297,slow=8.7,SNR=4.5	47.06	119	P	P	09 46 40.1	+1.1
GEYT	Alibeck 6.5nm,0.7s,baz=156,slow=7.4,SNR=5.4	47.61	324	P	P	09 46 42.2	-0.8
SONM	Songino Array 22nm,0.6s,baz=194,slow=9.2,SNR=21	48.19	14	P	P	09 46 48.0	+0.6
ULN	Ulaanbaatar 12nm,1.3s	48.38	14	*e*P	P	09 46 48.7	-0.2
KSAR	Wonju Array Be	49.24	39	P	P	09 46 56.4	+0.9
KSRS	Korea Array 4.4nm,1.1s,baz=222,slow=9.2,SNR=5.0	49.27	39	P	P	09 46 56.4	+0.7
KURBB	Kurchatov Arra 14nm,0.7s,baz=173,slow=7.1,SNR=18	50.40	349	P	P	09 47 03.8	-0.3
KURK	Kurchatov	50.47	349	P	P	09 47 03.8	-0.8
ZALV	Zalesovo Beam 12nm,0.4s,baz=176,slow=6.8,SNR=22	52.81	355	P	P	09 47 21.6	-0.4
BVAR	Borovoye Array 4.6nm,0.7s,baz=144,slow=8.5,SNR=9.3	54.48	345	P	P	09 47 33.1	-1.2
KBZ	Khabaz 7.2nm,0.8s,baz=122,slow=7.3,SNR=9.2	60.32	321	P	P	09 48 17.1	+1.4
BRTR	Keskin Array B 2.3nm,0.7s,baz=138,slow=7.2,SNR=6.9	64.84	314	P	P	09 48 46.0	-0.3
AKASG	Malin Array Be 1.8nm,0.5s,baz=89,slow=5.4,SNR=7.1	71.73	324	P	P	09 49 29.1	+0.1
MLR	Muntele Rosu 3.0nm,0.7s,baz=203,slow=3.6,SNR=9.2	72.09	318	P	P	09 49 33.1	+1.7
FINES	FINESS Array B 5.8nm,0.9s,baz=134,slow=11,SNR=5.9	77.32	333	P	P	09 50 00.7	-0.5
GERES	GERESS Array B 6.7nm,0.9s,baz=92,slow=8.0,SNR=3.4	80.97	319	P	P	09 50 23.2	+1.5
BRG	Berggiesshubel 78nm,1.1s	81.12	121	*i* P	P	09 50 24.6	+2.3
JLU	Jordanelle	133.43	24	*e*PKPdf	PKPdf	09 57 20.2	-3.8
MPU	Maple Canyon	133.85	25	*e*PKPdf	PKPdf	09 57 29.7	+4.9
TMUT	Trail Mountain	134.63	25	*e*PKPdf	PKPdf	09 57 23.0	-3.3
MVCO	Mesa Verde	137.52	24	*e*PKPdf	PKPdf	09 57 26.4	-5.3
TXAR	Lajitas Array 1.2nm,0.4s,baz=14,slow=1.9,SNR=19	146.35	24	PKPbc	PKPab	09 57 49.4	0.0

IDC 11 09:38:38.6±4.9, 2°.46N×90°.88E, h0km, mb4.7/3, mb1 4.7/3, mb1mx3.8/71, mbtmp4.7/3, Error ellipse: s-maj=153.7km s-min=86.2km az=63.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	Makanchi Array 6.1nm,0.6s,baz=164,slow=7.6,SNR=5.0	44.79	352	P	P	09 46 54.0	-0.1
SONM	Songino Array 12nm,0.8s,baz=193,slow=9.5,SNR=4.6	47.15	14	P	P	09 47 12.8	-0.1
KURBB	Kurchatov Arra 6.2nm,0.6s,baz=169,slow=7.0,SNR=4.6	49.12	350	P	P	09 47 27.8	-0.2
TXAR	Lajitas Array 5.5nm,1.0s,baz=318,slow=1.0,SNR=4.6	145.46	23	PKPbc	PKPbc	09 58 18.7	-0.9

IDC 11 09:41:18.7±3.5, 1°.65N×93°.31E, h0km, mb4.3/2, mb1 4.5/3, mb1mx3.6/73, mbtmp4.4/3, ML4.2/1, Error ellipse: s-maj=129.2km s-min=69.3km az=93.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr 0.3nm,0.3s,baz=215,slow=12,SNR=5.1	17.59	18	P	Pn	09 45 24.0	-1.5
MKAR	Makanchi Array 3.4nm,0.7s,baz=163,slow=8.3,SNR=4.0	45.98	349	P	P	09 49 44.1	+0.4
ZALV	Zalesovo Beam 2.9nm,0.7s,baz=175,slow=6.9,SNR=3.1	52.60	354	P	P	09 50 34.1	0.0
TXAR	Lajitas Array 1.0nm,0.8s,baz=356,slow=1.0,SNR=3.3	145.17	27	PKP	PKPbc	10 00 58.3	-0.4

*CSEM **11** 09:42:15.2, 57°.74N×18°.72E, h1km, ML3.8, Mining explosion.*

UPP 11 09:42:15.2±0.4, 57°.74N×18°.72E, h1km, ML3.8, Baltic Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GOTU	Gotland	0.10	236	P	Pg	09 42 17.2	+0.2
GOTU				S	Sg	09 42 18.6	+0.3
GOTU	Gotland	0.10	236	P	Pg	09 42 17.2	+0.2
GOTU				S	Sg	09 42 18.6	+0.3
VSTU	Vaestervik	1.18	267	P	Pg	09 42 37.4	-0.3
VSTU	Vaestervik	1.18	267	P	Pg	09 42 37.3	-0.4
ASPU	Aespoe	1.19	255	P	Pg	09 42 37.4	-0.5
ASPU	Aespoe	1.19	255	P	Pg	09 42 37.4	-0.5
NYNU	Nynaeshamn	1.32	344	P	Pg	09 42 39.5	-1.0
NYNU	Nynaeshamn	1.32	344	P	Pg	09 42 39.5	-1.0
OSKU	Oskarshamn	1.52	250	P	Pn	09 42 42.9	-0.5
OSKU	Oskarshamn	1.52	250	P	Pn	09 42 42.9	-0.5

*ISCJB **11** 09:42:47.0±0.7, 2°.6N×0°.1×90°.54E×0°.1, h10km, mb4.1/11, Error ellipse: s-maj=19.8km s-min=11.7km az=27.2*
*IDC **11** 09:42:47.3±0.9, 2°.48N×90°.39E, h0km, mb4.1/9, mb1 4.3/9, mb1mx3.9/68, mbtmp4.1/9, Error ellipse: s-maj=33.1km s-min=20.8km az=55.0*
*NEIC **11** 09:42:48.8±0.5, 2°.54N×90°.50E, h10km, mb4.5/3, Error ellipse: s-maj=14.6km s-min=8.8km az=26.0*
ISC 11 09:42:49.2±0.8, 2°.6N×90°.5E×0°.1, h10km, n25, σ1s69/25, mb4.1/11, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSI	Gunungsitoli 181nm,0.5s	7.23	100	*e*Pn	Pn	09 44 34.6	-0.4
IPM	Ipoh	10.72	80	*e*Pn	Pn	09 45 21.1	-1.8
KSM	Kuching 21nm,0.7s	19.87	93	*e*P	Pn	09 47 24.9	+2.5
ENH	Enshi 7.8nm,0.7s	32.92	31	*e*P	P	09 49 23.5	-0.5
MKAR	Makanchi Array 1.9nm,0.9s,baz=162,slow=8.4,SNR=2.6	44.61	352	P	P	09 51 01.7	0.0
SONM	Songino Array 3.6nm,0.6s,baz=192,slow=9.0,SNR=6.4	47.14	15	P	P	09 51 22.7	+0.9
WRA	Warramunga Arr 2.5nm,0.7s,baz=298,slow=8.6,SNR=4.5	48.53	120	P	P	09 51 32.4	-0.6
ASAR	Alice Springs 0.8nm,0.9s,baz=299,slow=8.1,SNR=3.4	49.67	124	P	P	09 51 41.4	-0.3
ZALV	Zalesovo Beam 1.3nm,0.5s,baz=177,slow=7.1,SNR=3.0	51.41	356	P	P	09 51 53.9	-0.3
ABKAR	Akbulak array 0.5nm,0.3s	53.30	335	*e*P	P	09 52 08.1	-0.2
BOSA	Boshof 1.3nm,0.5s,baz=115,slow=3.3,SNR=4.4	69.69	238	P	P	09 53 58.6	-1.1
MLR	Muntele Rosu 0.7nm,0.6s,baz=32,slow=5.1,SNR=3.9	70.48	318	P	P	09 54 05.0	+0.7
FINES	FINESS Array B 3.5nm,1.0s,baz=64,slow=4.4,SNR=4.5	75.71	333	P	P	09 54 34.2	-0.5
ARSA	Arzberg 25nm,1.0s	77.90	318	*e*PKiKP	PKiKP	10 00 24.7	-1.4
SOKA	Soboth 22nm,1.4s	78.14	317	*e*PKiKP	PKiKP	10 00 23.0	-3.5
OBKA	Obir 21nm,1.4s	78.44	317	PKiKP	PKiKP	10 00 27.2	+0.2
MOA	Molln 9.1nm,1.3s	78.83	318	*e*pPKiKP	PKiKP	10 00 28.8	+1.3
MYKA	Terra Mystica 14nm,1.0s	79.08	317	*e*pPKiKP	PKiKP	10 00 30.4	+2.4
KBA	Koelnbreinsper 10nm,1.1s	79.34	317	pPKiKP	PKiKP	10 00 30.6	+2.1
GERES	GERESS Array B 1.1nm,0.6s,baz=104,slow=5.6,SNR=3.7	79.35	319	P	P	09 54 55.7	+0.2
ABTA	Abfaltersbach 9.0nm,1.3s	79.86	317	*e*PKiKP	PKiKP	10 00 29.9	+0.7
WTTA	Wattenberg 15nm,0.9s	80.52	317	*e*pPKiKP	PKiKP	10 00 33.1	+2.8
MOTA	Moosalm 7.6nm,0.8s	80.89	317	*e*pPKiKP	PKiKP	10 00 33.9	+3.0
RETA	Reutte 24nm,1.1s	81.14	318	*e*pPKiKP	PKiKP	10 00 33.6	+2.4
TXAR	Lajitas Array 1.2nm,0.7s,baz=357,slow=1.3,SNR=7.0	145.50	22	PKPbc	PKPbc	10 02 28.2	-0.3

*ISCJB **11** 09:43:05.0±1.2, 1°.1N×0°.2×92°.0E×0°.1, h10km, mb4.3/10, Error ellipse: s-maj=25.9km s-min=13.9km az=14.2*
*NEIC **11** 09:43:06.0±1.1, 1°.06N×91°.84E, h10km, mb4.4/2, Error ellipse: s-maj=26.3km s-min=12.4km az=14.0*
*IDC **11** 09:43:06.2±2.4, 1°.25N×91°.93E, h0km, mb4.3/8, mb1 4.4/10, mb1mx4.0/70, mbtmp4.3/10, ML4.4/2, Error ellipse: s-maj=58.1km s-min=27.1km az=176.0*
ISC 11 09:43:06.0±1.2, 1°.0N×0°.2×91°.9E×0°.1, h10km, n15, σ1s34/15, mb4.4/10, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	Prapat 5.7nm,0.3s,baz=275,slow=11,SNR=3.2	7.27	76	Pn	Pn	09 44 52.5	-0.1
PALK	Pallekele	12.75	299	*e*Pn	Pn	09 46 05.3	-2.2
CMAR	Chiang Mai Arr 0.5nm,0.3s,baz=216,slow=13,SNR=5.7	18.67	21	P	P	09 47 22.5	-2.0
KKM	Kota Kinabalu 2.8nm,0.2s	24.80	78	*e*P	P	09 48 29.6	+0.9
MKAR	Makanchi Array 3.3nm,0.7s,baz=169,slow=8.6,SNR=5.1	46.35	351	P	P	09 51 32.1	-0.3
WRAB	Tennant Creek 1.3nm,0.4s	46.55	119	*e*P	P	09 51 32.8	-1.5
GEYT	Alibeck 1.3nm,0.3s,baz=153,slow=9.7,SNR=3.2	48.07	324	P	P	09 51 48.2	+2.2
SONM	Songino Array 9.1nm,0.8s,baz=191,slow=9.2,SNR=7.2	48.30	13	P	P	09 51 47.8	+0.1
KSAR	Wonju Array Be	49.13	38	P	P	09 51 54.5	+0.5
KSRS	Korea Array 2.3nm,0.7s,baz=246,slow=9.2,SNR=6.4	49.16	38	P	P	09 51 54.5	+0.3
ZALV	Zalesovo Beam 2.6nm,0.4s,baz=179,slow=7.8,SNR=3.6	53.07	355	P	P	09 52 22.6	-0.8
BRTR	Keskin Array B 0.7nm,0.5s,baz=128,slow=6.0,SNR=4.2	65.34	314	P	P	09 53 49.5	+0.6
AKASG	Malin Array Be 2.2nm,0.8s,baz=80,slow=7.1,SNR=6.0	72.19	324	P	P	09 54 31.2	0.0
GERES	GERESS Array B 1.7nm,0.5s,baz=110,slow=5.6,SNR=6.2	81.45	319	P	P	09 55 25.5	+1.8
TXAR	Lajitas Array 1.0nm,0.5s,baz=25,slow=1.7,SNR=7.8	146.36	25	PKPbc	PKPbc	10 02 48.1	0.0

IDC 11 09:43:35.0±10.0, 2°.47N×90°.37E, h0km, mb4.4/4, mb1 4.4/5, mb1mx3.8/68, mbtmp4.4/5, ML4.8/1, Error ellipse: s-maj=200.8km s-min=55.5km az=161.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr 1.1nm,0.3s,baz=220,slow=12,SNR=4.2	17.98	27	P	Pn	09 47 46.6	+0.1
MKAR	Makanchi Array 1.2nm,0.4s,baz=169,slow=8.0,SNR=5.8	44.71	352	P	P	09 51 49.2	-0.6
GEYT	Alibeck 5.2nm,0.7s,baz=146,slow=11,SNR=5.5	46.03	324	P	P	09 52 00.9	+0.4
SONM	Songino Array 3.0nm,0.6s,baz=197,slow=9.3,SNR=3.0	47.27	15	P	P	09 52 10.7	+0.5
ZALV	Zalesovo Beam 2.9nm,0.4s,baz=176,slow=7.3,SNR=3.3	51.52	356	P	P	09 52 41.6	-0.8

IDC 11 09:44:57.8±3.2, 2°.51N×90°.05E, h0km, mb4.5/8, mb1 4.6/8, mb1mx3.9/68, mbtmp4.5/8, Error ellipse: s-maj=76.5km s-min=46.7km az=161.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	Makanchi Array 4.1nm,0.8s,baz=163,slow=8.9,SNR=6.2	44.62	352	P	P	09 53 11.7	-0.3
GEYT	Alibeck 4.6nm,0.7s,baz=158,slow=9.6,SNR=3.8	45.80	324	P	P	09 53 22.6	+1.0
SONM	Songino Array 15nm,0.6s,baz=194,slow=9.5,SNR=19	47.31	15	P	P	09 53 33.6	+0.2
ZALV	Zalesovo Beam 2.9nm,0.5s,baz=183,slow=7.0,SNR=3.9	51.45	356	P	P	09 54 04.0	-0.7
BRTR	Keskin Array B 3.2nm,0.7s,baz=141,slow=5.5,SNR=8.8	63.00	314	P	P	09 55 26.6	-0.4
FINES	FINESS Array B 3.3nm,0.8s,baz=111,slow=8.4,SNR=5.0	75.59	334	P	P	09 56 43.9	-0.4
ARCES	ARCESS Array B 2.3nm,0.7s,baz=101,slow=6.3,SNR=5.2	78.94	341	P	P	09 57 03.1	0.0
GERES	GERESS Array B 2.4nm,0.8s,baz=89,slow=5.6,SNR=4.3	79.14	319	P	P	09 57 04.9	+0.3
TXAR	Lajitas Array 3.3nm,0.9s,baz=314,slow=1.4,SNR=7.6	145.72	22	PKPbc	PKPdf	10 04 38.9	-0.4

IDC 11 09:46:14.7±4.0, 2°.54N×89°.67E, h0km, mb4.1/3, mb1 4.1/3, mb1mx3.5/70, mbtmp4.1/3, Error ellipse: s-maj=101.1km s-min=56.3km az=176.0, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GEYT	Alibeck 3.0nm,0.7s,baz=147,slow=8.8,SNR=3.5	45.56	325	P	P	09 54 37.3	+0.8
SONM	Songino Array 1.8nm,0.6s,baz=196,slow=9.1,SNR=2.8	47.38	15	P	P	09 54 50.4	-0.4
BRTR	Keskin Array B 0.9nm,0.6s,baz=128,slow=5.3,SNR=3.7	62.71	314	P	P	09 56 41.1	-0.8
TXAR	Lajitas Array 0.7nm,0.4s,baz=10,slow=1.9,SNR=6.8	145.83	21	PKPbc	PKPdf	10 05 56.2	-0.1

*ISCJB **11** 09:46:33.0±1.4, 2°.4N×0°.2×90°.1E×0°.2, h10km, mb4.3/11, Error ellipse: s-maj=38.9km s-min=15.4km az=38.9*
*IDC **11** 09:46:33.6±3.9, 2°.39N×90°.11E, h0km, mb4.2/7, mb1 4.2/7, mb1mx3.7/69, mbtmp4.2/7, Error ellipse: s-maj=80.2km s-min=55.0km az=170.0*
*NEIC **11** 09:46:34.8±1.1, 2°.35N×90°.05E, h10km, mb4.4/4, Error ellipse: s-maj=31.8km s-min=12.3km az=40.0*
ISC 11 09:46:35.0±1.5, 2°.4N×0°.3×90°.1E×0°.2, h10km, n14, σ0s75/14, mb4.4/11, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSM	Kuching 33nm,1.6s	20.23	92	*e*P	P	09 51 10.9	+0.3
LSA	Lhasa 14nm,1.3s	27.19	2	*e*P	P	09 52 19.5	0.0
AAK	Ala-Archa 1.9nm,0.6s,baz=150,slow=2.9,SNR=4.9	42.44	343	P	P	09 54 31.9	+1.5
KKAR	Karatay Array 3.8nm,0.8s	44.15	339	*e*P	P	09 54 43.7	-0.3
MKAR	Makanchi Array 2.9nm,0.7s,baz=168,slow=9.2,SNR=6.1	44.76	352	P	P	09 54 48.0	-0.8
GEYT	Alibeck 3.8nm,0.5s,baz=147,slow=8.3,SNR=4.7	45.93	324	P	P	09 54 59.0	+0.7
SONM	Songino Array 2.2nm,0.5s,baz=197,slow=9.1,SNR=4.7	47.43	15	P	P	09 55 10.4	+0.5
WRAB	Tennant Creek 48nm,2.1s	48.76	119	*e*P	P	09 55 20.4	-0.1
KURBB	Kurchatov Arra 1.2nm,0.3s,baz=171,slow=7.5,SNR=6.3	49.06	350	P	P	09 55 21.8	-0.5
KURK	Kurchatov	49.13	350	P	P	09 55 21.8	-1.1
ZALV	Zalesovo Beam 2.5nm,0.5s,baz=175,slow=6.8,SNR=3.5	51.59	356	P	P	09 55 40.5	-0.8
ABKAR	Akbulak array 1.5nm,0.5s	53.33	336	*e*P	P	09 55 54.1	-0.2
BRTR	Keskin Array B 0.8nm,0.6s,baz=128,slow=6.5,SNR=3.6	63.12	314	P	P	09 57 03.1	-0.2
TXAR	Lajitas Array 1.0nm,0.8s,baz=264,slow=1.3,SNR=3.4	145.83	22	PKPbc	PKPdf	10 06 15.0	+0.1

IDC 11 09:47:51.8±3.4, 0°.66S×92°.24E, h0km, mb4.4/5, mb1 4.4/6, mb1mx3.8/70, mbtmp4.4/6, ML4.4/1, Error ellipse: s-maj=79.7km s-min=38.2km az=178.0, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	Prapat 5.8nm,0.3s,baz=310,slow=9.8,SNR=4.8	7.51	63	Pn	Pn	09 49 42.1	-0.8
MKAR	Makanchi Array 3.6nm,0.8s,baz=169,slow=8.7,SNR=5.2	48.06	351	P	P	09 56 31.8	-1.2
GEYT	Alibeck	49.64	324	P	P	09 56 45.9	+0.5
SONM	Songino Array 4.7nm,0.9s,baz=155,slow=7.2,SNR=3.9	49.85	12	P	P	09 56 48.1	+1.2
ZALV	Zalesovo Beam 4.9nm,0.6s,baz=195,slow=9.0,SNR=4.7	54.77	355	P	P	09 57 22.5	-0.6
BRTR	Keskin Array B 1.3nm,0.8s,baz=116,slow=7.2,SNR=3.6	66.77	314	P	P	09 58 45.6	+0.1
TXAR	Lajitas Array 0.7nm,0.6s,baz=43,slow=1.1,SNR=5.0	147.70	27	PKPbc	PKPbc	10 07 38.4	-1.0

*IDC **11** 09:48:17.9±0.6, 1°.13N×91°.99E, h0km, mb4.6/19, mb1 4.7/21, mb1mx4.4/71, mbtmp4.6/21, ML4.6/2, Error ellipse: s-maj=18.2km s-min=14.2km az=52.0*
*ISCJB **11** 09:48:18.4±0.3, 1°.16N±0°.06×92°.06E±0°.04, h10km, mb4.8/55, Error ellipse: s-maj=8.7km s-min=5.0km az=16.6*
*NEIC **11** 09:48:19.4±0.3, 1°.19N×92°.00E, h10km, mb4.8/3, Error ellipse: s-maj=8.2km s-min=5.7km az=6.0*
*MOS **11** 09:48:22.1±1.5, 1°.15N×92°.18E, h34km, mb5.0/31, Error ellipse: s-maj=11.1km s-min=7.0km az=102.8*
*BJI **11** 09:48:24.0, 1°.30N×92°.40E, h10km, mb4.8/8*
*DJA **11** 09:48:27.1±1.8, 1°.N±4°×9°.2E±°, h20km±14km, M6.1/13, mb5.7/13, MLv6.3/8*
ISC 11 09:48:19.9±0.5, 1°.11N±0°.07×92°.01E±0°.07, h10km, n132, σ1s66/111, mb4.9/55, 9C-6D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLSI	Meulaboh, Aceh 1µm,0.7s,13nm	5.39	54	P	Pn	09 49 41.1	+0.6
GSI	Gunungsitoli	5.57	88	P	Pn	09 49 43.8	+0.9
GSI	Gunungsitoli 971nm,0.8s	5.57	88	*e*Pn	Pn	09 49 43.1	+0.1
KCSI	Kotacane, Aceh 2µm,0.8s,10.0nm	6.24	67	P	Pn	09 49 53.8	+1.7
PBSI	Pulau Batu 2µm,0.7s,20nm	6.38	100	P	Pn	09 49 54.1	+0.1
LHMI	Lhok Sumawe 418nm,0.6s	6.41	50	*e*Pn	Pn	09 49 52.0	-2.4
TSI	Tuntungan	6.97	70	P	Pn	09 50 06.2	+4.1
PSI	Prapat 10nm,0.3s,baz=291,slow=7.9,SNR=7.0	7.11	76	Pn	Pn	09 50 03.5	-0.8
SISI	Saibi	7.48	109	P	Pn	09 50 08.4	-0.8
PDSI	Padang	8.69	103	P	Pn	09 50 23.0	-2.8
PPSI	Pulau Pagai	8.88	116	P	Pn	09 50 23.2	-5.2
BKNI	Bangkinang 931nm,0.9s,14nm	9.06	95	P	Pn	09 50 37.1	+6.2
BKNI	Bangkinang 545nm,0.8s	9.06	95	*e*Pn	Pn	09 50 30.8	-0.2
KULM	Kulim 215nm,1.1s	9.57	64	*e*Pn	Pn	09 50 36.9	-1.0
IPM	Ipoh 123nm,0.9s	9.61	69	*e*Pn	Pn	09 50 38.2	-0.2
SDSI	Sungai Dareh	9.64	102	P	Pn	09 50 51.9	+13
MASI	Maura Aman, Be	11.07	112	P	Pn	09 51 08.2	+10
TPRI	Tanjung Pinang	12.52	91	P	Pn	09 51 19.3	+1.0
MDSI	Maura Dua	13.37	115	P	P	09 51 41.0	+1.5
KSM	Kuching 74nm,0.9s	18.30	89	*e*P	P	09 52 35.4	+1.1
CMAR	Chiang Mai Arr 0.9nm,0.3s,baz=216,slow=13,SNR=8.7	18.53	21	P	Pn	09 52 36.3	-0.7
STKI	Sintang	19.50	93	P	Pn	09 52 49.7	+1.0
WOJI	Wonogiri, Jawa	20.85	116	P	Pn	09 53 05.3	+0.6
H08S2	Diego Garcia H baz=62,slow=75,SNR=2.8	21.32	246	T	T	10 14 31.1	
H08S3	Diego Garcia H baz=62,slow=75,SNR=3.4	21.32	246	T	T	10 14 28.0	
H08S1	Diego Garcia H baz=62,slow=75,SNR=3.5	21.34	246	T	T	10 14 31.5	
KKM	Kota Kinabalu 62nm,1.0s	24.64	78	*e*P	P	09 53 39.9	-1.2
BKB	Balikpapan 334nm,1.5s	25.00	95	P	P	09 53 47.7	+3.5
MPSI	Mapaga 23nm,1.0s	27.90	91	P	P	09 54 12.2	+1.8
ENH	Enshi 13nm,0.6s	33.42	28	*e*P	P	09 54 58.8	-0.3
XAN	Xi'an	36.38	24	P	P	09 55 24.4	-0.2
XAN				pP	sP	09 55 31.0	+2.1
XAN	comp=Z,38nm,0.9s			pmax	pmax		
AAK	Ala-Archa	44.23	341	*e*P	P	09 56 30.1	+0.5
AAK	comp=Z,14nm,1.3s			pmax	pmax		
FRU	Bishkek	44.37	342	*e*P	P	09 56 40.0	+9.4
BJT	Baijiatuau comp=Z,2µm,2.8s	44.53	27	*e*P	P	09 56 28.5	-3.4
MKAR	Makanchi Array comp=Z,4.0nm,0.6s,baz=173,slow=9.1,SNR=7.8	46.28	351	P	P	09 56 44.4	-1.3
WRA	Warramunga Arr comp=Z,19nm,0.8s,baz=296,slow=8.5,SNR=13	46.46	119	P	P	09 56 47.0	-0.6
WRA	Warramunga Arr comp=Z,19nm,0.8s	46.46	119	P pmax	P pmax	09 56 47.0	-0.6
WRAB	Tennant Creek comp=Z,27nm,0.8s	46.47	119	*e*P	P	09 56 46.9	-0.7
ASAR	Alice Springs comp=Z,2.8nm,0.7s,baz=296,slow=7.8,SNR=9.0	47.57	124	P	P	09 56 55.6	-0.6
ASAR				PcP	PcP	09 58 25.4	-0.8
GEYT	comp=Z,3.4nm,0.8s,baz=319,slow=3.8,SNR=6.8 Alibeck	48.08	324	P	P	09 56 60.0	0.0
SONM	comp=Z,9.5nm,0.8s,baz=152,slow=9.6,SNR=6.3 Songino Array	48.18	13	P	P	09 57 01.2	+0.6
OPO	comp=Z,13nm,0.5s,baz=193,slow=8.5,SNR=14 Ambohidratompo	48.19	244	P	P	09 57 01.0	-0.2
ULN	comp=Z,3.9nm,0.7s,baz=330,slow=3.7,SNR=4.2 Ulaanbaatar	48.36	14	*e*P	P	09 57 01.5	-0.6
ULN	comp=Z,7.0nm,0.9s			pmax	pmax		
DGZ	Jazzator, Alta	48.56	356	*e*P	P	09 57 03.2	-0.4
DGZ	comp=Z,1.0nm,0.7s			pmax	pmax		
KSAR	Wonju Array Be	48.97	38	P	P	09 57 06.5	-0.2
KSRS	Korea Array comp=Z,4.8nm,0.8s,baz=224,slow=8.6,SNR=12	49.00	38	P	P	09 57 06.5	-0.4
KNGR	Kungurtug, Tuv	49.53	5	*e*P	P	09 57 10.6	-0.4
HVS	Khovu-Aksy	49.86	1	*e*P	P	09 57 13.2	-0.2
HVS	comp=Z,38nm,1.0s			pmax	pmax		
ZAK	Zakamensk	50.02	9	*e*P	P	09 57 08.0	-6.6
ZAK	comp=Z,11nm,1.4s			pmax	pmax		
RAYN	Ar Rayn comp=Z,13nm,1.0s	50.26	300	*e*P	P	09 57 23.3	+6.5
KURBB	Kurchatov Arra comp=Z,3.6nm,0.5s,baz=172,slow=6.9,SNR=9.4	50.64	349	P	P	09 57 18.1	-1.0
KURK	Kurchatov	50.71	349	P	P	09 57 18.1	-1.6
KURK	Kurchatov	50.71	349	*e*P	P	09 57 19.5	-0.2
KURK	comp=Z,13nm,1.0s			pmax	pmax		
TLY	Talaya	51.33	9	*e*P	P	09 57 27.1	+2.7
TLY	comp=Z,7.0nm,0.6s			pmax	pmax		
ZALV	Zalesovo Beam comp=Z,8.7nm,0.5s,baz=175,slow=7.4,SNR=11	52.99	355	P	P	09 57 35.5	-1.2
HIA	Hailar	53.54	22	*e*P	P	09 57 40.3	-0.6
HIA	comp=Z,9.0nm,1.0s			pmax	pmax		
NVS	Novosibirsk	54.04	354	*e*P	P	09 57 49.9	+5.6
NVS	comp=Z,35nm,1.1s			pmax	pmax		
NVS	comp=N,22nm,1.0s			pmax	pmax		
NVS	comp=E,11nm,1.4s			pmax	pmax		
KRAR	Krasnoyarsk	54.73	1	*e*P	P	09 57 49.8	+0.4
BVAR	Bor

comp=Z,4.0nm,0.8s,baz=289,slow=7.9,SNR=4.8
GNI Garni 57.83 318 *e*P **P** 09 58 13.9 +1.8
GNI pmax pmax
comp=Z,46nm,1.4s
KLR Kul'dur 58.77 29 *e*P **P** 09 58 14.7 -3.5
BOD Bodaibo 59.18 13 *e*P **P** 09 58 22.7 +1.8
BOD pmax pmax
comp=Z,24nm,1.4s
ZEI Tsey 59.70 321 *e*P P 09 58 15.1 -10
ZEI pmax pmax
comp=Z,30nm,1.7s
NCK Nalchik 60.25 321 *e*P **P** 09 58 32.0 +3.4
NCK pmax pmax
comp=Z,15nm,0.6s
NEY Neytrino 60.68 321 *e*P **P** 09 58 32.7 +0.9
NEY pmax pmax
comp=Z,1.0nm,0.9s
KIV Kislovodsk 61.05 321 *e*P **P** 09 58 37.5 +3.3
KIV pmax pmax
comp=Z,48nm,1.0s
ARU Arti 61.35 340*c i*P **P** 09 58 38.6 +2.8
ARU 10 00 53.2
ARU S **S** 10 06 59.5 +3.2
ARU SS **SS** 10 10 54.0 -2.9
ARU pmax pmax
comp=Z,43nm,2.5s
GOF Gofitskoye 61.39 322⇓ *e*P P 09 58 43.1 +6.8
GOF pmax pmax
comp=Z,72nm,1.4s
BRTR Keskin Array B 65.38 314 P **P** 09 59 01.6 -1.4
comp=Z,2.5nm,0.6s,baz=116,slow=2.9,SNR=3.9
YAK Yakutsk 67.04 18 *e*P **P** 09 59 12.0 -1.0
YAK pmax pmax
comp=Z,102nm,1.0s
YAK pmax pmax
comp=N,6.0nm,1.1s
YAK pmax pmax
comp=E,6.0nm,1.5s
MOS Moscow 69.81 331 *e*P P 09 59 35.2 +4.7
OBN Obninsk 70.02 330 *e*P **P** 09 59 35.2 +3.4
OBN *e* 09 59 45.7
OBN *e* 09 59 56.6
OBN *e* 10 02 08.8
OBN pmax pmax
comp=Z,24nm,1.1s
BOSA Boshof 70.26 239 P **P** 09 59 33.3 -0.7
comp=Z,2.4nm,0.6s,baz=79,slow=5.7,SNR=4.8
TIRR Tirgusor 70.62 317⇓ *i*P **P** 09 59 34.4 -1.3
TIRR Tirgusor 70.62 317 ⇓P **P** 09 59 34.4 -1.3
KIS Kishinev 71.17 320 *e*P **P** 09 59 36.0 -3.0
KIS Kishinev 71.17 320 *e*P **P** 09 59 36.0 -3.0
KLMR Klimovskoe 71.65 336 *e*P **P** 09 59 41.6 0.0
KLMR AMP 09 59 57.0
comp=Z,22nm,1.2s
KLMR Klimovskoe 71.65 336 *e*P **P** 09 59 41.6 0.0
KLMR pmax pmax
comp=Z,22nm,1.2s
SORM Soroca 71.85 321⇑ *i*P P 09 59 49.6 +6.5
SORM Soroca 71.85 321 ⇑P P 09 59 49.6 +6.5
KIEV Kiev 72.21 324 *e*P **P** 09 59 48.7 +3.5
KIEV pmax pmax
comp=Z,11nm,1.1s
PLOR Plostina 72.23 318⇓ *i*P **P** 09 59 48.1 +2.6
PLOR Plostina 72.23 318 ⇓P **P** 09 59 48.1 +2.6
TESR Tescani 72.43 319⇓ *i*P P 09 59 52.6 +6.0
MLR Muntele Rosu 72.60 318 P **P** 09 59 48.0 +0.2
comp=Z,3.9nm,0.7s,baz=70,slow=20,SNR=11
MLR Muntele Rosu 72.60 318⇑ *i*P **P** 09 59 48.2 +0.4
MLR Muntele Rosu 72.60 318 ⇑P **P** 09 59 48.2 +0.4
PRAR RASCA 72.96 320⇓ *i*P **P** 09 59 48.1 -1.7
SKR Severo-Kuril's 72.99 37 *e*P **P** 09 59 49.6 -0.2
BURAR Bucovina Array 73.69 320⇑ *i*P **P** 09 59 53.9 -0.3
BURAR Bucovina Array 73.69 320 ⇑P **P** 09 59 53.9 -0.3
MA2 Magadan 73.71 27 *e*P **P** 09 59 54.1 +0.2
TMCR Tamitsa 74.04 338 *e*P **P** 09 59 56.4 +0.7
TMCR pmax pmax
comp=Z,35nm,1.0s
TIXI Tiksi 74.24 11 *e*P **P** 09 59 55.4 -1.3
TIXI pmax pmax
comp=Z,8.0nm,0.9s
NACGM Naroch 75.07 327 *e* P 09 59 55.0 -6.9
SEY Seymchan 75.92 24 *e*P **P** 10 00 06.9 +0.3
VSU Vasula 76.34 331 *e*P **P** 10 00 10.7 +1.7
VSU pmax pmax
comp=Z,32nm,1.1s
STHS Stebnicka Huta 76.72 321 *e*P P 10 00 19.3 +7.8
STHS Stebnicka Huta 76.72 321 *e*P P 10 00 19.3 +7.8
STHS pmax pmax
comp=Z,13nm,0.9s
FINES FINESS Array B 77.71 333 P **P** 10 00 15.8 -0.9
comp=Z,4.0nm,0.7s,baz=108,slow=6.2,SNR=6.8
VYHS Vyhne 78.06 319 *e*P P 10 00 26.4 +7.4
VYHS Vyhne 78.06 319 *e*P P 10 00 26.4 +7.4
MODS Modra-Piesok 79.05 319 *e*P P 10 00 32.2 +7.7
MODS Modra-Piesok 79.05 319 *e*P P 10 00 32.3 +7.8
CONA Conrad Observa 79.91 318 P P 10 00 20.1 -9.2
comp=Z,7.2nm,1.2s
DPC Dobruska-Polom 80.03 321 *e*P **P** 10 00 32.7 +2.9
DPC *e*PCP **PcP** 10 00 37.7 +0.5
DPC Dobruska-Polom 80.03 321 *e*P **P** 10 00 32.7 +2.9
UPC Upice 80.25 321 *e*PCP **PcP** 10 00 38.3 +0.2
UPC Upice 80.25 321 *e*P P 10 00 38.3 +7.3
ARCES ARCESS Array B 80.89 341 P **P** 10 00 33.6 -0.4
comp=Z,5.8nm,0.8s,baz=116,slow=2.8,SNR=6.4
PRU Pruhonice 81.10 320 *e*P **P** 10 00 38.9 +3.4
PRU *e*PCP **PcP** 10 00 43.2 +1.4
PRU Pruhonice 81.10 320 *e*P **P** 10 00 38.9 +3.4
GERES GERESS Array B 81.47 319 P **P** 10 00 37.0 -0.6
comp=Z,12nm,0.9s,baz=102,slow=5.6,SNR=11
KHC Kasperske Hory 81.59 319 *e*P **P** 10 00 38.9 +0.7
KHC *e*PCP **PcP** 10 00 45.6 +1.5
KHC Kasperske Hory 81.59 319 *e*P **P** 10 00 38.9 +0.7
KHC *e* 10 00 45.6
CLL Collm 82.26 322 *e*(P) **P** 10 00 43.0 +1.4
CLL Collm 82.26 322 *e*P **P** 10 00 43.0 +1.4
BILL Bilibino 83.12 21⇑ *e*P **P** 10 00 47.0 +1.3
BILL *e* 10 03 59.3
BILL pmax pmax
comp=Z,3.0nm,1.3s
NB2 NORSAR Subarra 84.57 331 P **P** 10 00 54.0 +0.7
comp=Z,8.2nm,1.1s,baz=93,slow=5.3
VNDA Vanda 86.78 168 P **P** 10 01 04.5 +0.6
comp=Z,1.3nm,0.8s,baz=310,slow=5.2,SNR=4.0
NVAR Mina Array Bea 131.76 32 PKP **PKPdf** 10 07 34.1 0.0
comp=Z,0.5nm,0.6s,baz=316,slow=2.6,SNR=3.7
PDAR Pinedale Array 132.20 21 PKP **PKPdf** 10 07 34.0 -0.9
comp=Z,0.9nm,0.8s,baz=50,slow=1.5,SNR=5.4
ABTX Abilene, Hawle 144.69 17 *e*PKPdf **PKPdf** 10 07 57.5 -0.2
TXAR Lajitas Array 146.22 25 PKPbc **PKPab** 10 08 01.1 -1.0
comp=Z,5.0nm,0.8s,baz=266,slow=1.8,SNR=16
JCT Junction City 146.63 19 *e*PKPbc **PKPbc** 10 08 02.2 -0.4

ISCJB ***11*** *09:49:20.7±0.7, 37°.26N±0°.05×28°.18E±0°.04, h0km, Error ellipse: s-maj=7.7km s-min=3.8km az=25.1*
CSEM ***11*** *09:49:20.8±0.3, 37°.26N×28°.18E, h2km, ML2.8, Error ellipse: s-maj=8.2km s-min=4.6km az=26.0, Suspected Mining explosion.*
ISK ***11*** *09:49:20.8, 37°.22N×28°.15E, h5km, ML2.8/4*
DDA ***11*** *09:49:21.0, 37°.20N×28°.21E, h7km, Ml2.4, Suspected Mining explosion.*
ISC 11 09:49:19.5±1.0, 37°.35N±0°.05×28°.21E±0°.03, h0km, n21, σ0s48/29, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
YER	**Yerkesik**	**0.22**	**165**	PG		**Pg**	**09 49 23.8**	**+0.1**
YER				SG		**Sg**	**09 49 26.6**	**+0.1**
YER	**Yerkesik**	**0.22**	**165**	*e*Pg		**Pg**	**09 49 23.8**	**+0.1**
YER				*e*Sg		**Sg**	**09 49 26.6**	**+0.1**
MLSB	**Milas**	**0.35**	**262**	PG		**Pb**	**09 49 28.2**	**-0.5**
MLSB				SG		**Sg**	**09 49 31.8**	**+1.0**
MLSB	**Milas**	**0.35**	**262**	*e*Pg		**Pb**	**09 49 28.2**	**-0.5**
MLSB				*e*Sg		**Sg**	**09 49 31.8**	**+1.0**
TURN	**Turunc**	**0.56**	**147**	PG		**Pg**	**09 49 29.9**	**-0.4**
TURN				SG		**Sg**	**09 49 37.2**	**-0.5**
TURN	**Turunc**	**0.56**	**147**	*i* P		**Pg**	**09 49 29.9**	**-0.4**
TURN	**Turunc**	**0.56**	**147**	P		**Pg**	**09 49 29.9**	**-0.4**
TURN				*e*Sg		**Sg**	**09 49 37.2**	**-0.5**
TAVA	**DENIZLI_Tavas**	**0.57**	**78**	*i* P		**Pb**	**09 49 32.9**	**+0.5**
TAVA	**DENIZLI_Tavas**	**0.57**	**78**	P		**Pb**	**09 49 32.9**	**+0.5**
AYDB	**Zeytinkoy-Aydi**	**0.65**	**337**	PG		**Pn**	**09 49 35.9**	**-0.3**
AYDB	**Zeytinkoy-Aydi**	**0.65**	**337**	*e*Pg		**Pn**	**09 49 35.9**	**-0.3**
BDRM	**Kayabasi**	**0.68**	**246**	*i* P		**Pg**	**09 49 33.1**	**+0.6**
BDRM	**Kayabasi**	**0.68**	**246**	P		**Pg**	**09 49 33.1**	**+0.6**
BODT	**Bodrum**	**0.78**	**249**	PG		**Pg**	**09 49 34.4**	**0.0**
BODT				SG		**Sg**	**09 49 44.7**	**+0.3**
BODT	**Bodrum**	**0.78**	**249**	*e*Pg		**Pg**	**09 49 34.4**	**0.0**
BODT				*e*Sg		**Sg**	**09 49 44.7**	**+0.3**
GCAM	**G?zelcaml?**	**0.86**	**295**	PG		**Pb**	**09 49 37.1**	**-0.1**
GCAM	**G?zelcaml?**	**0.86**	**295**	*i* P		**Pg**	**09 49 35.5**	**-0.4**
GCAM	**G?zelcaml?**	**0.86**	**295**	P		**Pg**	**09 49 35.5**	**-0.4**
GCAM	**G?zelcaml?**	**0.86**	**295**	*e*Pg		**Pb**	**09 49 37.1**	**-0.1**
AKAS	**Kas**	**1.57**	**134**	PN		**Pg**	**09 49 50.2**	**+0.5**
AKAS	**Kas**	**1.57**	**134**	*e*Pn		**Pg**	**09 49 50.2**	**+0.5**

IDC ***11*** *09:51:31.9±2.3, 3°.38N×92°.23E, h0km, mb4.4/5, mb1 4.5/6, mb1mx4.0/69, mbtmp4.3/6, ML4.6/1, Error ellipse: s-maj=95.1km s-min=22.7km az=61.0*
ISCJB ***11*** *09:51:33.4±1.6, 3°.4N±0°.2×92°.2E±0°.3, h24km, mb4.4/5, Error ellipse: s-maj=48.0km s-min=18.8km az=157.9*
ISC 11 09:51:35.6±2.0, 3°.4N±0°.2×92°.3E±0°.4, h24km, n6, σ0s47/6, mb4.5/5, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**16.33**	**23**	Pn		**Pn**	**09 55 23.3**	**-0.1**
	0.7nm,0.3s,baz=211,slow=12,SNR=4.7							
MKAR	**Makanchi Array**	**44.08**	**350**	P		**P**	**09 59 41.8**	**0.0**
	5.4nm,0.7s,baz=169,slow=8.8,SNR=6.4							
WRA	**Warramunga Arr**	**47.39**	**121**	P		**P**	**10 00 08.9**	**+0.5**
	3.5nm,0.6s,baz=297,slow=8.6,SNR=5.4							
KURBB	**Kurchatov Arra**	**48.45**	**348**	P		**P**	**10 00 16.3**	**+0.2**
	2.0nm,0.4s,baz=163,slow=6.8,SNR=3.9							
ZALV	**Zalesovo Beam**	**50.75**	**354**	P		**P**	**10 00 33.4**	**-0.1**
	2.3nm,0.5s,baz=180,slow=7.1,SNR=4.3							
STKA	**Stephens Creek**	**58.51**	**131**	P		**P**	**10 01 29.7**	**-0.5**
	2.0nm,0.7s,baz=300,slow=7.7,SNR=4.2							

ISCJB ***11*** *09:51:38.4±0.2, 2°.53N±0°.03×90°.31E±0°.03, h10km, mb5.1/125, Error ellipse: s-maj=5.1km s-min=3.1km az=43.3*
IDC ***11*** *09:51:38.5±0.5, 2°.58N×90°.34E, h0km, mb4.9/34, mb1 5.0/35, mb1mx4.8/67, mbtmp4.9/35, ML4.9/1, Error ellipse: s-maj=14.1km s-min=12.0km az=25.0*
NEIC ***11*** *09:51:40.1±0.2, 2°.52N×90°.30E, h10km, mb5.3/43, Error ellipse: s-maj=5.1km s-min=3.3km az=207.0*
BJI ***11*** *09:51:40.8, 2°.50N×90°.30E, h20km, mb5.0/28, mB5.1/7, Ms5.2/4, Ms7 5.1/5*
MOS ***11*** *09:51:41.7±1.0, 2°.64N×90°.38E, h33km, mb5.4/34, Error ellipse: s-maj=9.4km s-min=5.5km az=111.5*
ISC 11 09:51:40.1±0.3, 2°.54N±0°.05×90°.24E±0°.05, h10km, n369, σ1s29/379, mb5.2/129, 15C-12D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PBA	**Port Blair**	**9.39**	**15**	*e*P		Pn	09 53 53.5	-2.1
PBA				IAmb		IAmb	09 54 02.7	
	comp=Z,64nm,0.8s							
KULM	**Kulim**	**10.73**	**75**	*e*Pn		**Pn**	**09 54 13.7**	**-0.3**
DGPR	**DIGLIPUR**	**10.90**	**14**	*e*P		**Pn**	**09 54 17.9**	**+1.6**
DGPR				IAmb		IAmb	09 54 24.8	
	comp=Z,376nm,1.4s							
IPM	**Ipoh**	**10.93**	**80**	*e*Pn		**Pn**	**09 54 17.6**	**+0.9**
TPRI	**Tanjung Pinang**	**14.37**	**96**	P		P	09 55 18.4	+7.6
	comp=Z,84nm,0.8s							
MDRS	**Chennai**	**14.40**	**317**	*e*P		**Pn**	**09 55 04.5**	**+0.3**
MDRS				IAmb		IAmb	09 55 05.1	
	comp=Z,94nm,0.9s							
MDSI	**Maura Dua**	**15.57**	**117**	P		**P**	**09 55 25.6**	**+1.4**
KASI	**Kota Agung**	**16.33**	**119**	P		**P**	**09 55 33.5**	**+0.8**
	comp=Z,203nm,1.5s							
VIS	**Vishakhapatnam**	**16.55**	**336**	*e*P		**Pn**	**09 55 32.4**	**0.0**
PPBI	**Pangkal Pinang**	**16.56**	**106**	P		P	09 55 43.4	+8.2
	comp=Z,0.5nm,0.7s,comp=Z,312nm							
ADKI	**Addanki**	**16.65**	**323**	*e*P		**P**	**09 55 35.5**	**-0.7**
PVM	**Polavaram**	**16.90**	**330**	*e*P		**Pn**	**09 55 37.6**	**+0.8**
CHLP	**Challapanipeta**	**16.99**	**340**	*e*P		**Pn**	**09 55 38.9**	**+0.9**
NJS	**Nagarjunasagar**	**17.60**	**323**	*e*P		**P**	**09 55 46.5**	**-0.2**
URV	**Uravakonda**	**17.78**	**315**	*e*P		**P**	**09 55 48.7**	**0.0**
CM01	**Chiang Mai Arr**	**17.95**	**28**	*e*Pn		**P**	**09 55 52.6**	**+2.1**
CM01				*e*Sn		**S**	**09 59 23.0**	**+6.3**
CM31	**Chiang Mai Arr**	**17.97**	**28**	*e*Pn		**Pn**	**09 55 50.5**	**+0.2**
CMAR	**Chiang Mai Arr**	**17.97**	**28**	P		**Pn**	**09 55 46.8**	**-3.4**
	comp=Z,0.2nm,0.3s,baz=220,slow=12,SNR=3.7							
CHTO	**Chiang Mai**	**18.28**	**27**	*e*Pn		**P**	**09 55 54.8**	**+0.6**
	comp=Z,42nm,1.2s							
CHTO	**Chiang Mai**	**18.28**	**27**	*e*P		**P**	**09 55 54.8**	**+0.6**
CHTO				pmax		pmax		
	comp=Z,42nm,1.2s							
HYB	**Hyderabad**	**18.72**	**323**	*i* P		**Pn**	**09 56 00.0**	**+0.5**
HYB	**Hyderabad**	**18.72**	**323**	*e*P		**P**	**09 55 59.3**	**+0.2**
HYB				IAmb		IAmb	09 56 00.7	
	comp=Z,288nm,1.6s							
HYBB	**Hyderabad (bro**	**18.72**	**323**	*e*P		**Pn**	**09 56 00.5**	**+1.0**
SKJI	**Sukabumi**	**18.84**	**120**	P		Pn	09 56 09.5	+8.6
	comp=Z,170nm,0.7s							
LEM	**Lembang**	**19.68**	**118**	P		**Pn**	**09 56 10.5**	**-0.7**
	comp=Z,3.2nm,0.3s,baz=230,slow=19,SNR=5.8							
SAIH	**SAIHA**	**20.01**	**7**	*e*P		**P**	**09 56 13.6**	**+0.3**
SRSP	**Sriramsagar**	**20.03**	**325**	*e*P		**P**	**09 56 13.6**	**+0.2**
KSM	**Kuching**	**20.08**	**93**	*e*P		**P**	**09 56 12.5**	**-1.5**
	comp=Z,133nm,1.1s							
CISI	**Cisompet, Garu**	**20.20**	**120**	P		Pn	09 56 16.7	-0.5
	comp=Z,300nm,1.1s							
CISI	**Cisompet, Garu**	**20.20**	**120**	*e*P		**P**	**09 56 15.1**	**-0.2**
	comp=Z,420nm,1.2s							
H08S2	**Diego Garcia H**	**20.39**	**240**	T		T	10 17 14.0	
	baz=60,slow=75,SNR=9.3							
H08S3	**Diego Garcia H**	**20.39**	**240**	T		T	10 17 13.4	
	baz=60,slow=75,SNR=8.2							
H08S1	**Diego Garcia H**	**20.41**	**240**	T		T	10 17 19.7	
	baz=60,slow=75,SNR=8.6							
KLRI	**Killari**	**20.43**	**320**	*e*P		Pn	09 56 19.0	-0.9
GOA	**Goa**	**20.68**	**309**	*e*P		**P**	**09 56 20.7**	**+0.3**
GOA				IAmb		IAmb	09 56 26.2	
	comp=Z,546nm,1.9s							
CMJI	**Cimerak**	**20.86**	**120**	P		Pn	09 56 24.7	-0.2
	comp=Z,308nm,2.4s							
STKI	**Sintang**	**21.37**	**96**	P		**P**	**09 56 29.9**	**+2.0**
BOK	**Bokaro**	**21.55**	**349**	*e*P		**P**	**09 56 29.2**	**-0.6**
BOK				IAmb		IAmb	09 56 43.1	
	comp=Z,789nm,2.5s							
SBUM	**Sibu**	**21.95**	**90**	*e*P		**P**	**09 56 33.8**	**-0.4**
	comp=Z,113nm,1.1s							
SMRI	**Semarang**	**22.29**	**115**	*e*P		**P**	**09 56 37.2**	**-0.7**
	comp=Z,253nm,1.0s							
IMP	**Imphal**	**22.45**	**9**	*e*P		**P**	**09 56 39.8**	**+0.3**
POO	**Poona**	**22.60**	**316**	*e*P		**P**	**09 56 41.0**	**-0.2**
POO				IAmb		IAmb	09 56 56.0	
	comp=Z,221nm,0.2s							
SHL	**Shillong**	**22.95**	**4**	*e*P		**P**	**09 56 45.1**	**+0.2**
KOHI	**KOHIMA**	**23.35**	**9**	*e*P		**P**	**09 56 49.0**	**+0.1**
GUWA	**GUWAHATI**	**23.56**	**3**	*e*P		**P**	**09 56 51.6**	**+0.7**
MOKO	**MOKOCHONG**	**24.00**	**9**	*e*P		**P**	**09 56 55.8**	**+0.5**
BHPL	**Bhopal**	**24.04**	**330**	*e*P		**P**	**09 56 54.3**	**-1.3**
BHPL				*e*P		**P**	**09 56 54.7**	**-0.9**
JORH	**JORHAT**	**24.37**	**9**	*e*P		**P**	**09 56 58.7**	**+0.1**
GTK	**Tadong**	**24.69**	**356**	*e*P		**P**	**09 57 01.8**	**+0.1**
ITAN	**ITANAGAR**	**24.69**	**7**	*e*P		**P**	**09 57 02.1**	**+0.6**
KMI	**Kunming**	**25.48**	**27**	P		**P**	**09 57 11.6**	**+2.7**
KMI				pmax		pmax		
	comp=Z,20nm,0.6s							
KKM	**Kota Kinabalu**	**26.13**	**81**	*e*P		**P**	**09 57 19.9**	**+5.2**
	comp=Z,62nm,1.0s							
JAGI	**Jajag, Banyuwa**	**26.23**	**115**	*e*P		**P**	**09 57 16.9**	**+1.4**
	comp=Z,75nm,1.1s							
LSA	**Lhasa**	**27.03**	**2**	*e*P		**P**	**09 57 23.9**	**+0.8**
	comp=Z,42nm,1.0s							
LSA	**Lhasa**	**27.03**	**2**	*e*P		**P**	**09 57 23.9**	**+0.8**
LSA				pmax		pmax		
	comp=Z,42nm,1.0s							
MYLDM	**Lahad Datu**	**28.31**	**84**	*e*P		**P**	**09 57 35.0**	**+0.7**
	comp=Z,147nm,1.3s							
GYA	**Guiyang**	**28.53**	**32**	P		**P**	**09 57 38.9**	**+2.6**
GYA				PP		**PnPn**	**09 58 31.0**	**+5.1**
GYA				PcP		**PcP**	**10 00 50.2**	**+2.3**
GYA				S		**S**	**10 02 25.4**	**+1.0**
GYA				SS		**SnSn**	**10 03 51.0**	**+7.4**
GYA				ScP		**ScP**	**10 04 27.8**	**-1.7**
GYA				pmax		pmax		
	comp=Z,20nm,1.0s							
GYA				pmax		pmax		
	comp=Z,120nm,5.2s							
GYA				LR		LR		
	comp=Z,580nm,18.0s							
GYA				LR		LR		
	comp=Z,520nm,18.4s							
GYA				LR		LR		
	comp=Z,550nm,18.2s							
BHJ	**Bhuj**	**28.67**	**318**	*e*P		**P**	**09 57 38.7**	**+1.3**
DDI	**Dehra Dun**	**29.95**	**339**	*e*P		**P**	**09 57 49.6**	**+0.8**
CD2	**Chengdu**	**30.98**	**23**	P		**P**	**09 57 58.4**	**+0.6**
CD2				S		**S**	**10 03 03.7**	**+1.1**
CD2				pmax		pmax		
	comp=Z,40nm,0.5s							
CD2				pmax		pmax		
	comp=Z,220nm,6.2s							
SMLA	**Simla**	**31.01**	**338**	*e*P		**P**	**09 57 58.4**	**+0.4**
SMLA				IAmb		IAmb	09 58 05.2	
	comp=Z,262nm,2.7s							
DHRM	**DHARAMSHALA**	**32.34**	**338**	*e*P		**P**	**09 58 09.4**	**-0.5**
DHRM				IAmb		IAmb	09 58 30.4	
	comp=Z,20nm,0.8s							
ENH	**Enshi**	**33.07**	**32**	*e*P		**P**	**09 58 15.3**	**-0.9**
	comp=Z,21nm,0.8s							
LZH	**Lanzhou**	**35.68**	**19**	*e*P		**P**	**09 58 41.2**	**+2.4**
LZH				pP		sP	09 58 47.3	+4.1
LZH				sP		pP	09 58 50.0	+8.1
LZH				PP		**PP**	**10 00 02.3**	**+2.3**
LZH				pmax		pmax		
	comp=Z,29nm,1.3s							
LZH				pmax		pmax		
	comp=Z,120nm,5.0s							
LZH				LR		LR		
	comp=Z,2μm,13.7s							
LZH				LR		LR		
	comp=Z,2μm,14.8s							
LZH				LR		LR		
	comp=Z,2μm,18.0s							
SOEI	**Soe**	**36.02**	**110**	*e*P		**P**	**09 58 42.2**	**+0.2**
	comp=Z,60nm,0.9s							
WSAR	**Wadi Sarin**	**36.89**	**307**	P		**P**	**09 58 50.4**	**+1.1**
	comp=Z,22nm,1.2s,baz=164,slow=11,SNR=5.7							
GTA	**Gaotai**	**37.72**	**12**	*e*P		**P**	**09 58 56.6**	**+0.4**
GTA				pP		sP	09 59 02.0	+1.5
GTA				sP		pP	09 59 05.0	+5.7
GTA				pmax		pmax		
	comp=Z,79nm,1.1s							
SOHO	**SOHO**	**39.00**	**306**	*i* P		**P**	**09 59 08.7**	**+1.7**
	SNR=8.5							
KSH	**Kashi**	**39.03**	**342**	P		**P**	**09 59 06.0**	**-1.2**
KSH				PP		**PnPn**	**10 00 40.1**	**+0.9**
KSH				S		**S**	**10 05 00.7**	**-5.8**
KSH				pmax		pmax		
	comp=Z,150nm,1.2s							
HATD	**Hatta, Dubai**	**39.65**	**307**	P		**P**	**09 59 14.6**	**+2.1**
UOSS	**Minazif**	**39.65**	**307**	P		**P**	**09 59 14.0**	**+1.6**
NJ2	**Nanjing**	**39.83**	**39**	*e*P		**P**	**09 59 14.2**	**+0.4**
NJ2				pmax		pmax		
	comp=Z,210nm,0.9s							
MEEK	**Meekatharra**	**39.90**	**138**	P		**P**	**09 59 14.8**	**+0.3**
	baz=40,SNR=8.4							
MORW	**Morawa**	**39.99**	**144**	P		**P**	**09 59 16.0**	**+0.8**
	baz=40,SNR=4.9							
WMQ	**Urumqi**	**41.17**	**357**	P		**P**	**09 59 27.0**	**+2.2**
BLDU	**Ballidu**	**41.52**	**145**	P		**P**	**09 59 27.1**	**-0.7**
	baz=42							
UZB	**Uzynbulak**	**41.66**	**348**	*e*P		**P**	**09 59 28.7**	**-0.2**
	comp=Z,143nm,1.1s							
SATY	**Saty**	**41.71**	**347**	*e*P		**P**	**09 59 30.3**	**+1.0**
	comp=Z,492nm,1.1s							
UCH	**Uchtor**	**41.96**	**342**	P		**P**	**09 59 33.2**	**+1.4**
	SNR=6.1							
AML	**Almayashu**	**42.12**	**342**	P		**P**	**09 59 34.6**	**+1.6**
	SNR=8.9							
MDOK	**Medeo**	**42.13**	**346**	*i* P		**P**	**09 59 33.7**	**+0.9**
	comp=Z,422nm,1.7s							
KBK	**Karagaybulak**	**42.22**	**343**	P		**P**	**09 59 35.2**	**+1.6**
	SNR=5.6							
MUN	**Mundaring**	**42.26**	**146**	P		**P**	**09 59 33.2**	**-0.6**
	baz=42							
TKM2	**Tokmak 2**	**42.28**	**344**	P		**P**	**09 59 35.1**	**+0.9**
	SNR=7.5							
AAK	**Ala-Archa**	**42.34**	**343**	P		**P**	**09 59 35.4**	**+0.9**
	comp=Z,12nm,1.0s,baz=177,slow=5.1,SNR=5.0							
AAK	**Ala-Archa**	**42.34**	**343**	P		**P**	**09 59 35.1**	**+0.6**
	SNR=7.4							
AAK	**Ala-Archa**	**42.34**	**343**	*i* P		**P**	**09 59 36.1**	**+1.5**
	SNR=7.1							
AAK	**Ala-Archa**	**42.34**	**343**⇓	*i*P		**P**	**09 59 34.6**	**+0.1**
AAK				pmax		pmax		
	comp=Z,9.0nm,0.8s							
BMNS	**Besmoynak**	**42.44**	**344**⇓	*i*P		**P**	**09 59 36.3**	**+1.0**
	comp=Z,527nm,1.1s							
EKS2	**Erkin-Say**	**42.58**	**342**	P		**P**	**09 59 37.9**	**+1.4**
	SNR=11							
HHC	**Hu-ho-hao-te**	**42.72**	**24**	*e*P		**P**	**09 59 37.6**	**0.0**
HHC				S		**S**	**10 05 57.6**	**-3.8**
HHC				pmax		pmax		
	comp=Z,33nm,1.0s							
HHC				pmax		pmax		
	comp=Z,90nm,6.0s							
HHC				LR		LR		
	comp=Z,4μm,15.6s							
HHC				LR		LR		
	comp=Z,5μm,15.3s							
HHC				LR		LR		
	comp=Z,6μm,15.6s							
USP	**Ospenovka**	**42.91**	**343**	P		**P**	**09 59 39.7**	**+0.6**
	SNR=5.4							
KUU	**Kurty**	**42.99**	**345**⇓	*i*P		**P**	**09 59 39.8**	**+0.2**
	comp=Z,222nm,1.2s							
IUG	**Iuzhnay**	**43.40**	**338**	*i* P		**P**	**09 59 44.0**	**+0.9**
	comp=Z,293nm,1.1s							
NWAO	**Narrogin (SRO)**	**43.54**	**146**	P		**P**	**09 59 44.1**	**-0.1**
	baz=44							
NWAO				P		**P**	**09 59 44.1**	**-0.1**
	baz=44							
KK31	**Karatay Array**	**44.05**	**339**	*e*P		**P**	**09 59 49.0**	**+0.7**
KK31	**Karatay Array**	**44.05**	**339**	*e*P		**P**	**09 59 49.0**	**+0.7**
KKAR	**Karatay Array**	**44.05**	**339**	*e*P		**P**	**09 59 48.7**	**+0.4**
KKAR	**Karatay Array**	**44.05**	**339**	*e*P		**P**	**09 59 48.7**	**+0.4**
KK03	**Karatay Array**	**44.06**	**339**	*e*P		**P**	**09 59 48.8**	**+0.5**
MK01	**Makanchi Array**	**44.60**	**352**	*e*P		**P**	**09 59 52.4**	**-0.2**
MKAR	**Makanchi Array**	**44.62**	**352**

ULN pmax pmax
comp=Z,38nm,1.7s
ATD Arta Tunnel 47.82 283 P **P** 10 00 19.9 +1.5
comp=Z,28nm,0.8s,baz=315,slow=4.2,SNR=8.9
RAYN Ar Rayn 48.03 300 *e*P **P** 10 00 20.4 +0.4
comp=Z,2.6nm,0.8s
SEM Semipalatinsk 48.45 351 *i* P **P** 10 00 22.4 -0.5
comp=Z,139nm,0.9s
HVS Khovu-Aksy 48.52 3 *i* P **P** 10 00 22.6 -0.7
HVS pmax pmax
comp=Z,47nm,0.9s
WRA Warramunga Arr 48.69 119 P **P** 10 00 24.4 -0.7
comp=Z,13nm,0.7s,baz=297,slow=8.5,SNR=10
WB2 Warramunga Arr 48.70 119 *e*P **P** 10 00 24.4 -0.8
comp=Z,79nm,0.9s
KURBB Kurchatov Arra 48.93 350 P **P** 10 00 26.0 -0.3
comp=Z,19nm,0.8s,baz=172,slow=7.4,SNR=20
FORT Forrest 48.94 136 P **P** 10 00 27.4 +0.6
baz=49
FORT Forrest 48.94 136 *e*P **P** 10 00 26.5 -0.3
comp=Z,511nm,0.9s
KSAR Wonju Array Be 48.98 40 P **P** 10 00 26.6 -0.4
KSAR Wonju Array Be 48.98 40 P **P** 10 00 26.6 -0.4
KURK Kurchatov 49.00 350 *e*P **P** 10 00 27.0 +0.1
comp=Z,29nm,0.9s
KURK Kurchatov 49.00 350 *ce*P **P** 10 00 26.5 -0.4
KURK pmax pmax
comp=Z,83nm,0.8s
KSRS Korea Array 49.02 40 P **P** 10 00 26.6 -0.6
comp=Z,3.1nm,1.0s,baz=223,slow=12,SNR=5.2
AS13 Alice Springs 49.81 124 P **P** 10 00 32.9 -0.7
baz=50
AS31 Alice Springs 49.83 124 *e*P **P** 10 00 33.0 -0.8
comp=Z,3.2nm,0.8s
ASAR Alice Springs 49.83 124 P **P** 10 00 33.0 -0.7
comp=Z,8.8nm,1.0s,baz=298,slow=7.4,SNR=9.6
AS01 Alice Springs 49.86 124 *e*P **P** 10 00 32.0 -2.0
TLY Talaya 50.25 11 *e*P **P** 10 00 37.1 +0.7
TLY pmax pmax
comp=Z,6.0nm,0.9s
ZAA0 Zalesovo Array 51.44 356 *e*P **P** 10 00 44.8 -0.5
comp=Z,19nm,0.7s
ZALV Zalesovo Beam 51.44 356 P **P** 10 00 44.7 -0.6
comp=Z,16nm,0.5s,baz=178,slow=7.2,SNR=15
NVS Novosibirsk 52.45 355⇑ *i*P **P** 10 00 51.8 -1.0
NVS *e* 10 01 59.8
NVS *e*S **S** 10 08 12.6 -6.4
NVS pmax pmax
comp=Z,28nm,1.0s
NVS pmax pmax
comp=N,15nm,0.9s
NVS pmax pmax
comp=E,9.0nm,0.9s
NVS smax smax
comp=E,35nm,2.0s
BVAR Borovoye Array 52.94 345 P **P** 10 00 55.9 -0.7
comp=E,8.2nm,0.7s,baz=148,slow=8.7,SNR=12
BRVK Borovoye 53.00 345 *ce*P **P** 10 00 55.8 -1.2
BRVK pmax pmax
comp=Z,100nm,2.5s
KMBO Kilima Mbogo 53.10 267 P **P** 10 00 59.7 +1.0
comp=Z,12nm,0.9s,baz=61,slow=10,SNR=17
KMBO Kilima Mbogo 53.10 267 *e*P **P** 10 00 59.7 +1.0
comp=Z,18nm,1.0s
KMBO Kilima Mbogo 53.10 267 P **P** 10 00 59.8 +1.1
KMBO Kilima Mbogo 53.10 267 *e*P **P** 10 00 59.7 +1.0
KMBO pmax pmax
comp=Z,18nm,1.0s
AB07 Akbulak array 53.23 336 *e*P **P** 10 00 59.2 +0.5
AB06 Akbulak array 53.24 336 *e*P **P** 10 00 59.3 +0.5
AB01 Akbulak array 53.25 336 *e*P **P** 10 00 59.4 +0.5
AB31 Akbulak array 53.25 336 *e*P **P** 10 00 59.0 +0.1
AB31 Akbulak array 53.25 336 *e*P **P** 10 00 59.0 +0.1
ABKAR Akbulak array 53.25 336 *e*P **P** 10 00 59.3 +0.4
comp=Z,256nm,0.9s
AB02 Akbulak array 53.25 336 *e*P **P** 10 00 59.4 +0.5
AB04 Akbulak array 53.25 336 *e*P **P** 10 00 59.4 +0.5
AB05 Akbulak array 53.26 336 *e*P **P** 10 00 59.5 +0.5
QIS Mount Isa 53.53 118 P **P** 10 01 01.0 -0.5
baz=54,SNR=5.4
AKT Akhty 54.38 321 *e*P **P** 10 01 07.9 +0.4
AKT *e* 10 02 18.2
AKT pmax pmax
comp=Z,90nm,1.4s
USRK Ussuriysk Ar. 55.48 36 P **P** 10 01 14.2 -1.0
comp=Z,2.8nm,0.7s,baz=262,slow=1.0,SNR=4.9
GNI Garni 55.60 319 P **P** 10 01 16.6 +0.2
comp=Z,16nm,0.9s,baz=155,slow=4.5,SNR=6.0
GNI Garni 55.60 319 *i* P **P** 10 01 16.9 +0.5
GNI pmax pmax
comp=Z,92nm,1.1s
MJAR Matsushiro Arr 55.61 46 P **P** 10 01 15.6 -0.8
comp=Z,5.5nm,1.0s,baz=242,slow=7.0,SNR=5.7
BBOO Buckleboo 55.76 133 P **P** 10 01 16.7 -0.7
baz=56,SNR=8.3
TBLG Delisi 56.41 320 *e*P **P** 10 01 23.1 +1.1
comp=Z,27nm,1.3s
TBLG Delisi 56.41 320 *e*P **P** 10 01 23.1 +1.1
TBLG pmax pmax
comp=Z,27nm,1.3s
GROC Groznyy 56.53 322 *e*P **P** 10 01 23.6 +0.8
GROC *e* 10 02 19.8
GROC *e* 10 03 29.6
GROC *e*S **S** 10 09 15.0 +0.6
GROC pmax pmax
comp=Z,39nm,0.8s
AKH Akhalkalaki 57.05 319 *e*P **P** 10 01 27.5 +0.7
comp=Z,38nm,1.7s
AKH Akhalkalaki 57.05 319 *e*P **P** 10 01 27.5 +0.7
AKH pmax pmax
comp=Z,38nm,1.7s
MTSU Mount Surprise 57.05 113 P **P** 10 01 26.8 -0.1
baz=57,SNR=5.0
ZEI Tsey 57.49 321 *e*P **P** 10 01 28.8 -1.0
ZEI pmax pmax
comp=Z,11nm,1.1s
NCK Nalchik 58.05 321 *i* P **P** 10 01 33.0 -0.5
NCK pmax pmax
comp=Z,19nm,1.1s
ASF Jabal al Asfar 58.06 307 P **P** 10 01 35.5 +1.6
comp=Z,20nm,1.1s,baz=98,slow=6.0,SNR=7.4
HTT Hallett 58.16 132 P **P** 10 01 35.6 +1.1
baz=58,SNR=4.7
BOD Bodaibo 58.23 15 *e*P **P** 10 01 31.8 -2.7
BOD pmax pmax
comp=Z,19nm,1.2s
KLR Kul'dur 58.42 31 P **P** 10 01 35.4 -0.6
comp=Z,0.8nm,0.9s,baz=283,slow=4.1,SNR=7.1
KLR Kul'dur 58.42 31 *e*P **P** 10 01 35.9 -0.1
NEY Neytrino 58.47 321 *i* P **P** 10 01 37.4 +0.7
NEY pmax pmax
comp=Z,15nm,2.2s
KBZ Khabaz 58.60 321 P **P** 10 01 38.1 +0.8
comp=Z,22nm,1.1s,baz=104,slow=4.7,SNR=7.6
KIV Kislovodsk 58.85 321 *e*P **P** 10 01 40.1 +0.9
comp=Z,107nm,1.3s
KIV Kislovodsk 58.85 321 P **P** 10 01 40.3 +1.1
KIV Kislovodsk 58.85 321 *e*P **P** 10 01 39.6 +0.4
KIV pmax pmax
comp=Z,62nm,1.0s
EIL Elat 58.89 303 P P 10 01 47.8 +8.2
comp=Z,31nm,1.1s,baz=99,slow=2.2,SNR=7.4
SVE Sverdlovsk 59.05 342 *e*P **P** 10 01 39.6 -0.6
GOF Gofitskoye 59.20 323‖ *e*P **P** 10 01 41.0 -0.5
GOF pmax pmax
comp=Z,41nm,1.3s
CTA Charters Tower 59.34 115 P **P** 10 01 42.2 -0.7
baz=59
ARU Arti 59.41 340 *c i*P **P** 10 01 41.5 -1.2
ARU 10 03 51.3
ARU S **S** 10 09 49.8 -1.8
ARU SS **SS** 10 13 43.4 -3.3
ARU pmax pmax
comp=Z,49nm,1.7s
STKA Stephens Creek 59.49 130 P **P** 10 01 43.6 -0.1
comp=Z,7.6nm,0.5s,baz=326,slow=4.0,SNR=18
STKA Stephens Creek 59.49 130 P **P** 10 01 43.6 -0.1
baz=60,SNR=11
STKA Stephens Creek 59.49 130 *e*P **P** 10 01 43.6 -0.1
comp=Z,5.5nm,1.0s
STKA Stephens Creek 59.49 130 *e*P **P** 10 01 43.7 -0.1
STKA pmax pmax
comp=Z,6.0nm,1.0s
SOC Sochi 60.55 320 *e*P **P** 10 01 49.2 -1.6
SOC pmax pmax
comp=Z,51nm,1.1s

ARPS Mount Arapiles 61.83 134 P **P** 10 02 00.3 +0.7
baz=62
CMSA Cobar Meteorol 62.55 128 P **P** 10 02 04.6 +0.1
baz=63,SNR=16
BR131 Keskin Array S 63.12 314 *e*P **P** 10 02 08.2 -0.2
BRTR Keskin Array B 63.12 314 P **P** 10 02 08.1 -0.3
comp=Z,7.8nm,0.8s,baz=127,slow=6.5,SNR=12
YSS Yuzh-Sakhalins 63.35 37 *e*P **P** 10 02 08.5 -1.0
YSS pmax pmax
comp=Z,10.0nm,0.8s
RMQ Roma 63.38 121 P **P** 10 02 10.4 +0.2
baz=63,SNR=9.4
ANTO Ankara 63.78 314 *e*P **P** 10 02 12.3 -0.4
comp=Z,35nm,1.2s
ANTO Ankara 63.78 314 *e*P **P** 10 02 12.3 -0.4
ANTO pmax pmax
comp=Z,35nm,1.2s
BR231 Keskin MP Arra 63.79 314 *e*P **P** 10 02 08.8 -3.9
LSZ Lusaka 63.88 252 P **P** 10 02 14.1 +0.4
comp=Z,5.4nm,0.8s,baz=56,slow=5.4,SNR=5.7
LSZ Lusaka 63.88 252 *e*P **P** 10 02 14.0 +0.2
comp=Z,39nm,2.0s
LSZ Lusaka 63.88 252 *e*P **P** 10 02 14.0 +0.2
LSZ pmax pmax
comp=Z,39nm,2.0s
TOO Toolangi 64.80 134 P **P** 10 02 20.2 +0.9
baz=65
EIDS Eidsvold 65.06 119 P **P** 10 02 21.3 +0.1
baz=65,SNR=5.6
YAK Yakutsk 66.26 19 *i* P **P** 10 02 26.8 -1.4
YAK pmax pmax
comp=Z,42nm,1.1s
CAN Canberra 66.52 130 P **P** 10 02 31.2 +0.7
baz=67
ARMA Armidale 66.97 125 P **P** 10 02 33.0 -0.5
baz=67,SNR=10
MOS Moscow 67.71 331 *e*P **P** 10 02 35.7 -1.9
MOS pmax pmax
comp=Z,144nm,1.2s
OBN Obninsk 67.92 330⇓ *i*P **P** 10 02 38.6 -0.3
OBN pmax pmax
comp=Z,99nm,1.7s
TIRR Tirgusor 68.38 317⇑ *i*P **P** 10 02 41.9 -0.1
TIRR Tirgusor 68.38 317 ⇑P **P** 10 02 41.9 -0.1
IDI Anoyia 68.53 307 P **P** 10 02 43.4 +0.2
comp=Z,31nm,0.9s,baz=93,slow=7.2,SNR=9.1
IDI Anoyia 68.53 307⇓ *i*P **P** 10 02 43.7 +0.5
BOSA Boshof 69.49 238 P **P** 10 02 49.5 0.0
comp=Z,11nm,0.6s,baz=78,slow=4.3,SNR=18
KLMR Klimovskoe 69.64 336 *e*P **P** 10 02 47.5 -2.1
KLMR AMP 10 02 49.8
comp=Z,36nm,0.9s
KLMR *e*PcP **PcP** 10 03 09.3 -3.1
KLMR Klimovskoe 69.64 336 *e*P **P** 10 02 47.4 -2.1
KLMR *e* 10 03 09.2
KLMR pmax pmax
comp=Z,36nm,0.9s
VRI Vrincioaia 69.96 318⇑ *i*P **P** 10 02 53.1 +1.3
VRI Vrincioaia 69.96 318 ⇑P **P** 10 02 53.1 +1.3
PLOR Plostina 70.00 318⇑ *i*P **P** 10 02 52.3 +0.1
PLOR Plostina 70.00 318 ⇑P **P** 10 02 52.3 +0.1
AKASG Malin Array Be 70.02 324 P **P** 10 02 51.2 -0.9
comp=Z,2.7nm,0.6s,baz=91,slow=4.9,SNR=14
AKBB Malin Array Si 70.02 324 *e*P **P** 10 02 51.3 -0.7
comp=Z,10.0nm,0.8s
AKBB Malin Array Si 70.02 324 *e*P **P** 10 02 51.3 -0.7
AKBB pmax pmax
comp=Z,10.0nm,0.8s
KIEV Kiev 70.02 324 P **P** 10 02 52.0 -0.1
KIEV Kiev 70.02 324 *i* P **P** 10 02 51.2 -0.9
KIEV pmax pmax
comp=Z,10.0nm,0.9s
AK11 Malin Array Si 70.04 324 *e*P **P** 10 02 51.3 -0.9
TESR Tescani 70.21 319 *i*P **P** 10 02 52.0 -1.3
MLR Muntele Rosu 70.37 318 P **P** 10 02 54.5 0.0
comp=Z,6.9nm,0.9s,baz=71,slow=3.5,SNR=9.7
MLR Muntele Rosu 70.37 318 *i*P **P** 10 02 55.7 +1.2
MLR Muntele Rosu 70.37 318 *e*P **P** 10 02 55.0 +0.5
comp=Z,247nm,1.8s
MLR Muntele Rosu 70.37 318⇓P **P** 10 02 55.7 +1.2
ARR Arges 71.22 317⇓ *i*P **P** 10 02 59.9 +0.3
BURAR Bucovina Array 71.47 320⇓ *i*P **P** 10 03 02.3 +1.1
BUR04 Bucovina Ar. S 71.48 320 *e*P **P** 10 03 01.5 +0.3
BUR08 Bucovina Ar. S 71.49 320 *e*P **P** 10 03 02.0 +0.7
TMCR Tamitsa 72.08 339 *e*P **P** 10 03 03.6 -0.6
TMCR pmax pmax
comp=Z,42nm,1.3s
SKR Severo-Kuril's 72.92 37 *e*P **P** 10 03 11.6 +2.0
SKR MLR MLR
comp=Z,107μm,17.0s
SKR MLR MLR
comp=Z,89μm,16.0s
NACGM Naroch 72.92 327 *e* **P** 10 03 09.0 -0.5
TIXI Tiksi 73.21 12 *ce*P **P** 10 03 08.6 -2.3
TIXI pmax pmax
comp=Z,34nm,0.8s
MA2 Magadan 73.26 28⇓ *i*P **P** 10 03 09.8 -1.6
VSU Vasula 74.24 331 *ce*P **P** 10 03 17.1 -0.1
VSU pmax pmax
comp=Z,67nm,1.0s
STHS Stebnicka Huta 74.51 321 *e*P **P** 10 03 20.2 +1.2
STHS Stebnicka Huta 74.51 321 *e*P **P** 10 03 20.2 +1.2
STHS pmax pmax
comp=Z,11nm,1.1s
TSUM Tsumeb 74.51 249 *e*P **P** 10 03 20.2 +0.4
comp=Z,10nm,1.2s
PET Petropavlovsk 75.10 36 *e*P **P** 10 03 20.4 -1.9
comp=Z,12nm,0.8s
PET Petropavlovsk 75.10 36 *e*P **P** 10 03 20.4 -1.9
PET pmax pmax
comp=Z,12nm,0.8s
FIA1 FINESS Array S 75.66 333 *e*P **P** 10 03 25.6 +0.3
FINES FINESS Array B 75.66 333 P **P** 10 03 25.0 -0.3
comp=Z,16nm,0.6s,baz=104,slow=6.0,SNR=32
VYHS Vyhne 75.84 319 *e*P **P** 10 03 27.5 +0.9
VYHS Vyhne 75.84 319 *e*P **P** 10 03 27.6 +0.9
CONA Conrad Observa 77.68 318 *e*P **P** 10 03 37.2 0.0
comp=Z,4.8nm,0.9s
ARSA Arzberg 77.79 318 *e*P **P** 10 03 38.3 +0.6
comp=Z,18nm,1.2s,SNR=5.1
DPC Dobruska-Polom 77.82 321 *e*P **P** 10 03 39.0 +1.1
DPC *e*PCP **PcP** 10 03 46.6 -1.2
DPC Dobruska-Polom 77.82 321 *e*P **P** 10 03 39.0 +1.1
DPC *e* 10 03 46.6
SOKA Soboth 78.03 317 *e*P **P** 10 03 39.1 0.0
comp=Z,8.8nm,0.9s
UPC Upice 78.04 321 *e*P **P** 10 03 40.3 +1.2
OBKA Obir 78.33 317 *e*P **P** 10 03 41.6 +0.8
comp=Z,19nm,1.4s
GOPC GO Pecny, Ondr 78.71 320 *e*P **P** 10 03 43.9 +1.1
GOPC GO Pecny, Ondr 78.71 320 *e*P **P** 10 03 43.9 +1.1
PRU Pruhonice 78.88 320 *e*P **P** 10 03 44.5 +0.8
PRU Pruhonice 78.88 320 *e*P **P** 10 03 44.5 +0.8
MYKA Terra Mystica 78.97 317 *e*P **P** 10 03 44.9 +0.6
comp=Z,8.2nm,0.9s
ARCES ARCESS Array B 78.98 341 P **P** 10 03 43.6 -0.3
comp=Z,8.2nm,0.7s,baz=91,slow=6.4,SNR=13
GEA0 GERESS Array S 79.24 319 *e*P **P** 10 03 45.9 +0.1
GEC2 GERESS Array S 79.25 319 *e*P **P** 10 03 46.5 +0.6
comp=Z,41nm,1.0s
GEC2 GERESS Array S 79.25 319 *e*P **P** 10 03 46.5 +0.6
GEC2 pmax pmax
comp=Z,41nm,1.0s
GERES GERESS Array B 79.25 319 P **P** 10 03 46.0 +0.2
comp=Z,24nm,1.0s,baz=98,slow=5.5,SNR=14
KHC Kasperske Hory 79.37 319 *e*P **P** 10 03 46.6 +0.2
KHC *e*PCP **PcP** 10 03 53.2 -1.4
KHC Kasperske Hory 79.37 319 *e*P **P** 10 03 46.6 +0.2
KHC *e* 10 03 53.2
ABTA Abfaltersbach 79.75 317 *e*P **P** 10 03 48.0 -0.6
comp=Z,9.9nm,0.9s
CLL Collm 80.05 322 *i* P **P** 10 03 50.5 +0.5
comp=Z,23nm,1.0s
CLL Collm 80.05 322 *i* P **P** 10 03 50.5 +0.5
CLL pmax pmax
comp=Z,23nm,1.0s
NKC Novy Kostel 80.25 320 *e*P **P** 10 03 51.6 +0.4
NKC Novy Kostel 80.25 320 *e*P **P** 10 03 51.6 +0.4
WTTA Wattenberg 80.41 317 *e*P **P** 10 03 51.4 -0.9
comp=Z,21nm,1.2s
WATA Walderalm 80.46 317 *e*P **P** 10 03 52.1 -0.4
comp=Z,12nm,0.9s
MOTA Moosalm 80.78 317 *e*P **P** 10 03 54.2 0.0
comp=Z,12nm,0.8s
FETA Feichten 81.00 317 *e*P **P** 10 03 55.0 -0.4
comp=Z,8.3nm,1.0s
RETA Reutte 81.03 318 *e*P **P** 10 03 55.4 -0.1
comp=Z,19nm,1.1s
HFS Hagfors 81.12 330 P **P** 10 03 55.1 -0.5
comp=Z,6.6nm,0.5s,baz=116,slow=6.6,SNR=28
KEST Kesra 81.13 306 P **P** 10 03 57.5 +1.2
comp=Z,26nm,1.1s,baz=273,slow=3.0,SNR=7.2
KEST Kesra 81.13 306 *e*P **P** 10 03 56.8 +0.5
comp=Z,43nm,1.1s
DAVA Damuels 81.60 317 *e*P **P** 10 03 59.1 +0.5
comp=Z,50nm,1.1s,SNR=7.0
NB2 NORSAR Subarra 82.48 331 P **P** 10 04 02.2 -0.6
comp=Z,26nm,1.2s,baz=93,slow=5.3
NB2 NORSAR Subarra 82.48 331 P **P** 10 04 02.2 -0.6
baz=93,slow=5.3
NOA NORSAR Array B 82.48 331 P **P** 10 04 02.3 -0.4
comp=Z,5.2nm,0.9s,baz=98,slow=5.5,SNR=6.3
NBO02 NORSAR Array S 82.65 331 *e*P **P** 10 04 03.6 -0.1
BFO Black Forest 82.73 318 *i* P **P** 10 04 05.0 +0.6
WLF Walferdange 84.25 319⇑P **P** 10 04 12.8 +0.7
TORD Torodi Ar. Bea 88.02 283 P **P** 10 04 31.4 -0.1
comp=Z,2.3nm,1.0s,baz=83,slow=4.9,SNR=6.8
EKA Eskdalemuir Ar 89.87 325 P **P** 10 04 39.2 -0.1
comp=Z,3.0nm,0.6s,baz=101,slow=5.6,SNR=20
ES19 SONSECA Array 91.59 310 *e*P **P** 10 04 48.0 +0.2
ESDC Sonseca Array 91.64 310 P **P** 10 04 48.2 +0.3
comp=Z,2.6nm,0.6s,baz=69,slow=4.1,SNR=5.8
KOWA Kowa 93.50 285 *e*P **P** 10 04 57.8 +0.9
comp=Z,2.2nm,0.9s
IM3 Indian Mountai 98.00 22 *e*P **P** 10 05 14.7 -1.6
TOLK Toolik Lake Re 98.23 19 P **P** 10 05 16.3 -1.1
baz=299
HUMO Hull Mountain 125.98 30 *e*PKPdf **PKPdf** 10 10 43.2 +0.2
J05D Fort Rock, OR 126.31 28 P **PKPdf** 10 10 43.5 -0.2
baz=320
MSO Missoula 126.43 20 P **PKPdf** 10 10 42.1 -1.7
baz=329
PDAR Pinedale Array 131.49 19 PKP **PKPdf** 10 10 51.6 -2.1
comp=Z,0.7nm,0.7s,baz=101,slow=1.5,SNR=4.6
PDAR Pinedale Array 131.49 19 *e*PKPdf **PKPdf** 10 10 53.2 -0.5
I38A Scanlan Farm, 133.57 3 P **PKPdf** 10 10 55.9 -1.4
baz=356
USIN University of 139.66 357 *e*PKPdf **PKPdf** 10 11 09.1 +0.3
X39A Fountain Ranch 142.92 6 P **PKPdf** 10 11 09.3 -5.5
baz=353
MIAR Mount Ida 142.94 5 P **PKPdf** 10 11 10.3 -4.4
baz=354
NHSC New Hope 143.41 346 P PKPbc 10 11 13.5 +0.9
baz=16
ABTX Abilene, Hawle 143.80 14 P PKPab 10 11 12.4 -0.8
baz=343
Z48A Northport 144.22 357 P **PKPab** 10 11 13.6 -1.1
baz=3.6
Z42A Norrel Spur, H 144.32 3 P **PKPab** 10 11 14.6 -0.5
baz=356
154A Montrose 144.48 350 P **PKPab** 10 11 15.1 -0.5
baz=11
LRAL Lakeview Retre 144.53 356 P **PKPab** 10 11 14.5 -1.3
baz=4.6
150A Eclectic 144.87 355 P **PKPab** 10 11 16.4 -0.7
baz=6.4
151A Opelika 144.88 353 P **PKPab** 10 11 16.1 -1.0
baz=7.6
WHTX Lake Whitney, 144.89 11 P **PKPab** 10 11 16.4 -0.8
baz=346
WHTX Lake Whitney, 144.89 11 *e*PKPdf **PKPab** 10 11 16.7 -0.5
143A Socs Landing, 144.92 2 P **PKPab** 10 11 16.9 -0.3
baz=357
141A Papa Simpson, 144.92 5 P **PKPab** 10 11 16.8 -0.5
baz=354
149A Jones 144.94 356 P **PKPab** 10 11 16.4 -0.9
baz=5.0
148A Greensboro 144.95 357 P **PKPab** 10 11 16.4 -1.0
baz=3.7
147A Livingston 144.95 358 P **PKPab** 10 11 16.6 -0.8
baz=2.5
146A Union 145.01 359 P **PKPab** 10 11 17.2 -0.4
baz=1.1
144A Alexander Plac 145.02 1 P **PKPab** 10 11 17.6 0.0
baz=359
142A Monroe 145.04 3 P **PKPbc** 10 11 17.5 -0.3
baz=356
145A Houston Renfro 145.05 0 P **PKPbc** 10 11 17.7 0.0
baz=360
254A Abbeville 145.16 350 P **PKPbc** 10 11 17.3 -0.9
baz=11
253A Americus 145.18 352 P **PKPbc** 10 11 17.2 -0.9
baz=9.7
251A Midway 145.31 354 P **PKPbc** 10 11 17.9 -0.7
baz=7.5
252A Lumpkin 145.33 352 P **PKPbc** 10 11 18.1 -0.6
baz=8.7
VBMS Vicksburg 145.43 1 P **PKPbc** 10 11 18.9 0.0
baz=359
VBMS Vicksburg 145.43 1 *e*PKPdf **PKPbc** 10 11 18.8 -0.2
241A Mo Tay, Goldon 145.50 5 P **PKPab** 10 11 19.3 -0.1
baz=354
248A Dixon Mills 145.51 357 P **PKPbc** 10 11 18.7 -0.6
baz=3.5
250A Grady 145.51 355 P **PKPbc** 10 11 18.4 -0.9
baz=6.0
242A Grayson 145.52 4 P **PKPbc** 10 11 18.8 -0.4
baz=356
NATX Nacogdoches 145.57 7 P **PKPdf** 10 11 19.3 -0.1
baz=351
NATX Nacogdoches 145.57 7 *e*PKPdf **PKPab** 10 11 19.9 +0.2
247A Quitman 145.58 358 P **PKPab** 10 11 19.6 -0.1
baz=1.9
249A Camden 145.59 356 P **PKPdf** 10 11 18.8 -0.6
baz=4.5
244A Avery, Jackson 145.60 1 P **PKPab** 10 11 19.7 -0.1
baz=358
TX31 Lajitas Ar. Si 145.62 22 *e*PKPdf **PKPdf** 10 11 18.8 -0.9
TX31 *e*PKPdf **PKPbc** 10 11 19.0 -0.8
TXAR Lajitas Array 145.62 22 PKPbc **PKPdf** 10 11 19.1 -0.6
comp=Z,19nm,0.9s,baz=284,slow=1.6,SNR=35
355A Pearson 145.67 349 P **PKPdf** 10 11 19.3 -0.3
baz=12
TIGA Tifton 145.71 351 P **PKPdf** 10 11 19.5 -0.1
baz=11
TIGA Tifton 145.71 351 *e*PKPdf **PKPdf** 10 11 19.2 -0.4
243A Waterproof 145.73 3 P **PKPab** 10 11 20.2 -0.1
baz=357
JCT Junction City 145.80 16 P **PKPdf** 10 11 19.2 -0.7
baz=342
JCT Junction City 145.80 16 *e*PKPdf **PKPdf** 10 11 19.2 -0.7
JCT Junction City 145.80 16 *e*PKP2 **PKPdf** 10 11 19.2 -0.7
352A Blakely 145.86 353 P **PKPdf** 10 11 19.9 0.0
baz=8.5
353A Camilla 145.89 352 P **PKPbc** 10 11 20.3 -0.2
baz=9.8
350A Dozier 146.07 355 P **PKPbc** 10 11 20.8 -0.2
baz=6.0
341A Kurthwood 146.16 5 P **PKPdf** 10 11 20.6 +0.2
baz=354
344A Westbrook Farm 146.19 1 P **PKPdf** 10 11 19.8 -0.7
baz=358
348A Jackson 146.19 357 P **PKPbc** 10 11 21.1 -0.3
baz=3.2
349A Repton 146.21 356 P **PKPbc** 10 11 21.1 -0.3
baz=4.5
347A Saraland 146.23 358 P **PKPbc** 10 11 21.4 -0.1
baz=2.1
455A Stateville 146.29 350 P **PKPbc** 10 11 21.6 -0.1
baz=12
345A Thompson Farm, 146.34 0 P **PKPbc** 10 11 21.8 0.0
baz=359
453A Whigham 146.39 352 P **PKPbc** 10 11 22.0 0.0
baz=9.7
447A Lucedale 146.84 358 P **PKPbc** 10 11 23.6 +0.3
baz=1.9
442A Mamou 146.84 4 P **PKPab** 10 11 24.0 -0.5
baz=355
833A Chaparral WMA, 147.95 16 P **PKPbc** 10 11 26.2 -0.2
baz=342
GRTK Grand Turk 149.94 324 *e*PKPdf **PKPdf** 10 11 25.9 -1.0
GRTK *e*PKPab **PKPab** 10 11 37.8 +0.6
SDDR Presa de Saban 151.94 320 *e*PKPdf **PKPdf** 10 11 30.8 +0.7
SDDR *e*PKPab **PKPab** 10 11 46.9 +1.3

IDC 11 09:52:42.0±3.5, 2°28N×91°.74E, h0km, mb4.6/6, mb1 4.7/6, mb1mx4.0/71, mbtmp4.6/6, Error ellipse: s-maj=80.5km s-min=44.4km az=177.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**45.10**	**351**	P	P	10 01 01.5	+1.4
	6.9nm,0.8s,baz=164,slow=7.5,SNR=3.8						
GEYT	**Alibeck**	**46.99**	**323**	P	P	10 01 15.9	+0.7
	6.4nm,0.8s,baz=175,slow=8.7,SNR=1.8						
SONM	**Songino Array**	**47.12**	**13**	P	P	10 01 15.4	-0.6
	16nm,0.8s,baz=195,slow=7.9,SNR=2.9						
KSRS	**Korea Array**	**48.26**	**39**	P	P	10 01 24.6	-0.4
	3.3nm,0.9s,baz=232,slow=9.0,SNR=4.3						
ZALV	**Zalesovo Beam**	**51.82**	**355**	P	P	10 01 50.3	-1.4
	4.9nm,0.4s,baz=179,slow=8.9,SNR=3.7						
GERES	**GERESS Array B**	**80.42**	**319**	P	P	10 04 54.3	-1.5
	3.8nm,0.6s,baz=96,slow=4.7,SNR=3.7						
TXAR	**Lajitas Array**	**145.28**	**24**	PKPbc	PKPdf	10 12 22.7	-0.1
	4.1nm,0.7s,baz=87,slow=1.2,SNR=5.0						

IDC 11 09:55:13.2±3.0, 2°.08N×90°.88E, h0km, mb4.4/7, mb1 4.4/8, mb1mx3.9/73, mbtmp4.3/8, ML4.4/1, Error ellipse: s-maj=66.0km s-min=36.9km az=174.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**18.09**	**25**	P	Pn	09 59 24.6	-1.6
	0.5nm,0.3s,baz=229,slow=14,SNR=5.7						
MKAR	**Makanchi Array**	**45.16**	**352**	P	P	10 03 31.9	+0.2
	9.4nm,0.6s,baz=170,slow=8.8,SNR=15						
GEYT	**Alibeck**	**46.64**	**324**	P	P	10 03 43.7	+0.1
	3.1nm,0.6s,baz=156,slow=11,SNR=3.4						
SONM	**Songino Array**	**47.52**	**14**	P	P	10 03 46.6	-3.7
	3.4nm,0.7s,baz=196,slow=8.3,SNR=4.0						
KSRS	**Korea Array**	**48.96**	**39**	P	P	10 04 00.8	-0.6
	1.8nm,0.8s,baz=201,slow=6.5,SNR=3.8						
KURBB	**Kurchatov Arra**	**49.49**	**350**	P	P	10 04 05.6	+0.3
	1.7nm,0.4s,baz=173,slow=7.4,SNR=5.6						
ZALV	**Zalesovo Beam**	**51.94**	**355**	P	P	10 04 24.1	+0.4
	7.6nm,0.4s,baz=176,slow=7.1,SNR=9.6						
BVAR	**Borovoye Array**	**53.55**	**345**	P	P	10 04 35.5	-0.2
	1.7nm,0.6s,baz=149,slow=11,SNR=3.8						
BRTR	**Keskin Array B**	**63.90**	**314**	P	P	10 05 47.3	-0.9
	0.6nm,0.7s,baz=130,slow=9.7,SNR=2.4						
TXAR	**Lajitas Array**	**145.80**	**23**	PKPbc	PKPdf	10 14 54.8	0.0
	1.4nm,0.9s,baz=318,slow=1.2,SNR=3.1						

IDC 11 09:55:46.3±28.0, 1°.25N×92°.87E, h0km, mb4.3/4, mb1 4.3/4, mb1mx3.6/73, mbtmp4.3/4, Error ellipse: s-maj=639.4km s-min=76.4km az=139.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**46.30**	**350**	P	P	10 04 13.8	0.0
	5.3nm,0.6s,baz=172,slow=8.7,SNR=5.6						
KURBB	**Kurchatov Arra**	**50.68**	**348**	P	P	10 04 47.4	-0.1
	3.8nm,0.8s,baz=170,slow=7.4,SNR=4.2						
ZALV	**Zalesovo Beam**	**52.95**	**354**	P	P	10 05 04.1	-0.2
	3.6nm,0.5s,baz=174,slow=8.2,SNR=3.2						
BRTR	**Keskin Array B**	**65.91**	**313**	P	P	10 06 34.5	0.0
	1.0nm,0.9s,baz=112,slow=6.5,SNR=2.6						

*ISCJB **11** 09:55:57.6±0.8, 1°.8N±0°.1×93°.20E±0°.07, h10km, mb4.4/11, Error ellipse: s-maj=16.8km s-min=9.3km az=15.6*
*IDC **11** 09:55:58.0±0.9, 1°.77N×93°.15E, h0km, mb4.3/11, mb1 4.5/13, mb1mx4.1/74, mbtmp4.4/13, ML4.9/2, Error ellipse: s-maj=31.8km s-min=15.5km az=44.0*
ISC 11 09:55:59.6±1.0, 1°.8N±0°.1×93°.18E±0°.10, h10km, n14, σ0§58/15, mb4.5/11, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**5.82**	**80**	P	**Pn**	**09 57 26.8**	**+0.6**
	24nm,0.3s,baz=280,slow=5.8,SNR=13						
PSI				Sn	**Sn**	09 58 32.8	-0.3
	9.5nm,0.3s,baz=106,slow=23,SNR=2.0						
CMAR	**Chiang Mai Arr**	**17.49**	**18**	P	**Pn**	**10 00 02.7**	**-1.1**
	1.6nm,0.3s,baz=229,slow=14,SNR=11						
WRA	**Warramunga Arr**	**45.78**	**120**	P	**P**	**10 04 21.4**	**-0.5**
	9.3nm,0.8s,baz=301,slow=8.8,SNR=5.7						
MKAR	**Makanchi Array**	**45.81**	**350**	P	**P**	**10 04 21.8**	**+0.1**
	5.4nm,0.8s,baz=160,slow=8.2,SNR=3.5						
ASAR	**Alice Springs**	**46.99**	**125**	P	**P**	**10 04 31.3**	**-0.1**
	3.2nm,1.0s,baz=302,slow=7.7,SNR=4.4						
SONM	**Songino Array**	**47.26**	**12**	P	**P**	**10 04 33.6**	**+0.5**
	4.2nm,0.8s,baz=195,slow=8.7,SNR=3.6						
GEYT	**Alibeck**	**48.24**	**322**	P	**P**	**10 04 40.7**	**-0.1**
	4.3nm,0.5s,baz=149,slow=10,SNR=4.1						
KURBB	**Kurchatov Arra**	**50.20**	**348**	P	**P**	**10 04 54.9**	**-0.6**
	3.7nm,0.9s,baz=170,slow=7.2,SNR=3.5						
ZALV	**Zalesovo Beam**	**52.43**	**354**	P	**P**	**10 05 13.0**	**+0.8**
	3.7nm,0.6s,baz=190,slow=6.0,SNR=4.8						
STKA	**Stephens Creek**	**56.77**	**130**	P	**P**	**10 05 43.9**	**-0.2**
	6.2nm,0.7s,baz=305,slow=7.0,SNR=8.0						
KBZ	**Khabaz**	**61.02**	**320**	P	**P**	**10 06 13.5**	**+0.1**
	2.9nm,0.8s,baz=114,slow=5.1,SNR=3.7						
BRTR	**Keskin Array B**	**65.76**	**313**	P	**P**	**10 06 44.9**	**-0.2**
	1.2nm,0.8s,baz=134,slow=6.7,SNR=2.6						
AKASG	**Malin Array Be**	**72.35**	**323**	P	**P**	**10 07 25.7**	**0.0**
	0.2nm,0.3s,baz=89,slow=5.1,SNR=4.6						
TXAR	**Lajitas Array**	**145.09**	**26**	PKPbc	**PKPbc**	**10 15 38.4**	**+0.7**
	0.5nm,0.6s,baz=323,slow=1.4,SNR=3.8						

*IDC **11** 09:56:04.7±1.4, 1°.83N×93°.00E, h0km, mb4.5/13, mb1 4.7/13, mb1mx4.2/72, mbtmp4.5/13, Error ellipse: s-maj=40.5km s-min=24.9km az=34.0*
*ISCJB **11** 09:56:05.0±0.8, 2°.3N±0°.1×93°.64E±0°.09, h10km, mb4.6/14, Error ellipse: s-maj=20.3km s-min=9.5km az=25.9*
*NEIC **11** 09:56:06.6±0.8, 2°.27N×93°.64E, h10km, mb4.5/3, Error ellipse: s-maj=19.7km s-min=9.9km az=24.0*
ISC 11 09:56:06.5±1.0, 2°.2N±0°.2×93°.6E±0°.1, h10km, n22, σ1§50/20, mb4.7/14, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSI	**Gunungsitoli**	**4.07**	**102**	*e*Pn	**Pn**	**09 57 07.1**	**-1.9**
KULM	**Kulim**	**7.69**	**66**	*e*Pn	**Pn**	**09 57 56.4**	**-2.3**
IPM	**Ipoh**	**7.76**	**73**	*e*Pn	**Pn**	**09 57 59.0**	**-0.8**
KSM	**Kuching**	**16.72**	**92**	*e*P	**Pn**	**10 00 01.3**	**+0.2**
	20nm,0.8s						
CHTO	**Chiang Mai**	**17.34**	**17**	*e*Pn	**P**	**10 00 09.3**	**-0.9**
	37nm,1.0s						
MKAR	**Makanchi Array**	**45.52**	**349**	P	**P**	**10 04 26.9**	**+0.6**
	16nm,0.8s,baz=164,slow=8.6,SNR=10						
WRA	**Warramunga Arr**	**45.62**	**121**	P	**P**	**10 04 29.1**	**+1.6**
	3.7nm,0.6s,baz=301,slow=8.4,SNR=4.6						
WRAB	**Tennant Creek**	**45.62**	**121**	*e*P	**P**	**10 04 29.2**	**+1.7**
	7.6nm,1.0s						
SONM	**Songino Array**	**46.81**	**12**	P	**P**	**10 04 40.0**	**+3.5**
	8.8nm,0.6s,baz=193,slow=8.8,SNR=7.5						
KSAR	**Wonju Array Be**	**47.16**	**38**	P	P	10 04 45.1	+5.8
KSRS	**Korea Array**	**47.19**	**38**	P	P	10 04 45.1	+5.6
	2.5nm,0.8s,baz=223,slow=8.3,SNR=5.4						
GEYT	**Alibeck**	**48.19**	**322**	P	**P**	**10 04 47.0**	**-0.4**
	19nm,0.8s,baz=155,slow=8.2,SNR=9.0						
KURBB	**Kurchatov Arra**	**49.93**	**348**	P	**P**	**10 05 01.1**	**+0.6**
	8.5nm,0.8s,baz=172,slow=7.3,SNR=7.3						
KURK	**Kurchatov**	**49.99**	**348**	P	**P**	**10 05 01.1**	**+0.1**
ZALV	**Zalesovo Beam**	**52.10**	**353**	P	**P**	**10 05 18.4**	**+1.7**
	12nm,0.6s,baz=184,slow=8.1,SNR=8.7						
BVAR	**Borovoye Array**	**54.20**	**343**	P	**P**	**10 05 31.8**	**-0.4**
	4.0nm,0.9s,baz=145,slow=8.2,SNR=4.3						
KBZ	**Khabaz**	**60.99**	**320**	P	**P**	**10 06 19.8**	**-0.4**
	6.7nm,0.9s,baz=166,slow=8.9,SNR=5.3						
BRTR	**Keskin Array B**	**65.80**	**313**	P	**P**	**10 06 50.8**	**-1.6**
	1.4nm,0.5s,baz=136,slow=7.4,SNR=3.7						
AKASG	**Malin Array Be**	**72.30**	**323**	P	**P**	**10 07 30.6**	**-1.8**
	0.3nm,0.3s,baz=93,slow=4.8,SNR=4.1						
FINES	**FINESS Array B**	**77.48**	**333**	P	**P**	**10 08 01.9**	**-0.2**
	2.9nm,0.7s,baz=143,slow=3.8,SNR=3.8						
GERES	**GERESS Array B**	**81.71**	**319**	P	**P**	**10 08 26.0**	**+0.5**
	5.9nm,0.7s,baz=101,slow=5.7,SNR=8.7						
TXAR	**Lajitas Array**	**144.57**	**27**	PKPbc	**PKPdf**	**10 15 43.7**	**-0.6**
	1.6nm,0.6s,baz=273,slow=1.9,SNR=5.6						

*ISCJB **11** 09:57:29.3±1.0, 2°.8N±0°.2×90°.3E±0°.2, h10km, mb4.4/9, Error ellipse: s-maj=43.5km s-min=17.7km az=140.0*
*IDC **11** 09:57:29.6±1.1, 2°.82N×90°.22E, h0km, mb4.4/9, mb1 4.5/9, mb1mx3.9/70, mbtmp4.4/9, Error ellipse: s-maj=47.8km s-min=20.1km az=48.0*
ISC 11 09:57:31.1±1.1, 2°.8N±0°.3×90°.2E±0°.3, h10km, n10, σ0§81/9, mb4.5/9, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**44.38**	**352**	P	**P**	**10 05 42.0**	**+0.1**
	1.8nm,0.4s,baz=171,slow=8.1,SNR=3.7						
GEYT	**Alibeck**	**45.69**	**324**	P	**P**	**10 05 53.5**	**+1.1**
	6.5nm,0.7s,baz=161,slow=9.2,SNR=3.1						
SONM	**Songino Array**	**47.01**	**15**	P	**P**	**10 06 03.0**	**+0.2**
	2.7nm,0.6s,baz=194,slow=9.8,SNR=3.4						
WRA	**Warramunga Arr**	**48.84**	**120**	P	**P**	**10 06 16.9**	**-0.3**
	9.6nm,0.8s,baz=298,slow=8.5,SNR=4.9						
ZALV	**Zalesovo Beam**	**51.20**	**356**	P	P	10 06 32.8	-1.8
	2.9nm,0.6s,baz=181,slow=6.7,SNR=2.0						
STKA	**Stephens Creek**	**59.67**	**130**	P	**P**	**10 07 36.7**	**+0.8**
	4.7nm,0.7s,baz=312,slow=6.5,SNR=4.6						
BRTR	**Keskin Array B**	**62.94**	**314**	P	**P**	**10 07 57.7**	**-0.5**
	1.1nm,0.6s,baz=128,slow=7.6,SNR=3.2						
FINES	**FINESS Array B**	**75.43**	**333**	P	**P**	**10 09 14.5**	**-0.5**
	3.0nm,0.7s,baz=116,slow=6.5,SNR=3.5						
GERES	**GERESS Array B**	**79.04**	**319**	P	**P**	**10 09 35.7**	**-0.1**
	3.3nm,0.8s,baz=98,slow=6.0,SNR=3.3						
TXAR	**Lajitas Array**	**145.41**	**22**	PKPbc	**PKPbc**	**10 17 09.0**	**-1.2**
	3.1nm,1.1s,baz=318,slow=1.7,SNR=3.9						

*ISCJB **11** 09:58:24.1±0.4, 1°.18N±0°.06×92°.32E±0°.05, h10km, mb4.5/26, Error ellipse: s-maj=9.3km s-min=6.4km az=15.8*
*IDC **11** 09:58:24.2±0.6, 1°.11N×92°.33E, h0km, mb4.4/19, mb1 4.6/21, mb1mx4.3/72, mbtmp4.5/21, ML4.3/2, Error ellipse: s-maj=18.6km s-min=14.1km az=41.0*
*NEIC **11** 09:58:26.0±0.3, 1°.20N×92°.31E, h10km, mb4.6/6, Error ellipse: s-maj=8.4km s-min=6.0km az=193.0*
*DJA **11** 09:58:29.2±0.6, 1°.1N±8°×9°.2E±°, h95km±9km, M6.1/12, mB7.1/1, mb5.5/12, MLv6.4/6, Mw(mB)7.0/1*
ISC 11 09:58:26.1±0.5, 1°.19N±0°.08×92°.38E±0°.06, h10km, n53, σ1§61/47, mb4.5/26, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSI	**Banda Aceh**	**5.18**	**34**	P	**Pb**	**09 59 55.6**	**-1.2**
GSI	**Gunungsitoli**	**5.20**	**89**	*e*Pn	**Pn**	**09 59 44.5**	**+0.5**
PBSI	**Pulau Batu**	**6.03**	**102**	P	Pb	10 00 03.9	-7.5
	2µm,1.0s						
TSI	**Tuntungan**	**6.60**	**70**	P	Pn	10 00 11.0	+7.8
	726nm,0.8s						
PSI	**Prapat**	**6.74**	**76**	Pn	**Pn**	**10 00 04.9**	**-0.3**
	7.0nm,0.3s,baz=260,slow=11,SNR=3.0						
PSI				Sn	**Sn**	**10 01 17.9**	**-4.3**
	6.7nm,0.3s,baz=112,slow=19,SNR=2.1						
SISI	**Saibi**	**7.17**	**110**	P	Pn	10 00 18.8	+7.8
	892nm,0.8s						
MNSI	**Mandailing Nat**	**7.21**	**93**	P	Pb	10 00 22.0	-10
	2µm,0.7s						
PDSI	**Padang**	**8.35**	**104**	P	Pn	10 00 37.2	+10
	402nm,0.8s,111µm						
KULM	**Kulim**	**9.21**	**64**	*e*Pn	**Pn**	**10 00 38.5**	**-0.6**
	74nm,0.7s						
IPM	**Ipoh**	**9.24**	**69**	*e*Pn	**Pn**	**10 00 39.9**	**+0.4**
	97nm,0.7s						
MDSI	**Maura Dua**	**13.07**	**116**	P	Pn	10 01 24.4	-7.6
LWLI	**Liwa**	**13.20**	**118**	P	Pn	10 01 27.7	-6.2
KLI	**Kotabumi**	**13.84**	**116**	P	**Pn**	**10 01 39.6**	**-3.0**
CISI	**Cisompet, Garu**	**17.68**	**120**	P	**P**	**10 02 35.1**	**+1.4**
CISI	**Cisompet, Garu**	**17.68**	**120**	*e*P	**P**	**10 02 35.1**	**+1.4**
	107nm,0.8s						
KSM	**Kuching**	**17.93**	**89**	*e*P	**P**	**10 02 37.3**	**+1.0**
	128nm,1.1s						
CMAR	**Chiang Mai Arr**	**18.33**	**20**	P	**Pn**	**10 02 40.1**	**-0.6**
	0.4nm,0.3s,baz=214,slow=12,SNR=8.9						
KPJI	**Karang Pucung**	**18.56**	**117**	P	**Pn**	**10 02 48.1**	**+4.6**
CHTO	**Chiang Mai**	**18.66**	**20**	*e*P	**Pn**	**10 02 44.6**	**-0.1**
	22nm,1.2s						
STKI	**Sintang**	**19.13**	**93**	P	**Pn**	**10 02 51.8**	**+1.3**
PBKI	**Pangkalan Bun**	**19.67**	**101**	P	**P**	**10 02 55.6**	**+0.1**
SMRI	**Semarang**	**19.80**	**115**	P	**Pn**	**10 03 03.4**	**+5.0**
SMRI	**Semarang**	**19.80**	**115**	*e*P	**Pn**	**10 03 00.2**	**+1.8**
	221nm,1.2s						
MTKI	**Muara Teweh, K**	**22.62**	**95**	P	**P**	**10 03 28.5**	**+1.1**
FITZ	**Fitzroy Crossi**	**37.93**	**122**	P	**P**	**10 05 43.4**	**-0.7**
	4.2nm,0.6s,baz=325,slow=9.0,SNR=5.1						
WRA	**Warramunga Arr**	**46.18**	**119**	P	**P**	**10 06 51.0**	**-0.5**
	6.6nm,0.7s,baz=297,slow=8.6,SNR=5.9						
WRAB	**Tennant Creek**	**46.19**	**119**	*e*P	**P**	**10 06 51.5**	**-0.1**
	28nm,1.2s						
MKAR	**Makanchi Array**	**46.27**	**350**	P	**P**	**10 06 51.8**	**0.0**
	3.2nm,0.6s,baz=173,slow=9.4,SNR=5.0						
ASAR	**Alice Springs**	**47.31**	**124**	P	**P**	**10 06 59.8**	**-0.6**
	1.3nm,0.5s,baz=301,slow=7.8,SNR=7.3						
SONM	**Songino Array**	**48.03**	**13**	P	**P**	**10 07 06.7**	**+1.1**
	6.9nm,0.8s,baz=196,slow=8.7,SNR=6.0						
ULN	**Ulaanbaatar**	**48.20**	**13**	*e*P	**P**	**10 07 07.7**	**+0.7**
	8.7nm,1.2s						
GEYT	**Alibeck**	**48.23**	**323**	P	**P**	**10 07 08.1**	**+0.8**
	7.3nm,0.8s,baz=142,slow=7.5,SNR=4.5						
OPO	**Ambohidratompo**	**48.56**	**244**	P	**P**	**10 07 09.8**	**-0.4**
	3.6nm,0.6s,baz=52,slow=5.5,SNR=5.3						
ABPO	**Ambohimpanom**	**48.67**	**243**	*e*P	**P**	**10 07 10.3**	**-0.8**
	38nm,1.0s						
KSAR	**Wonju Array Be**	**48.68**	**38**	P	**P**	**10 07 12.5**	**+1.8**
KSRS	**Korea Array**	**48.71**	**38**	P	**P**	**10 07 12.5**	**+1.6**
	2.3nm,0.7s,baz=220,slow=9.3,SNR=4.6						
RAYN	**Ar Rayn**	**50.54**	**300**	*e*P	**P**	**10 07 24.6**	**-0.6**
	6.0nm,0.8s						
KURBB	**Kurchatov Arra**	**50.64**	**349**	P	**P**	**10 07 25.2**	**-0.1**
	5.3nm,1.0s,baz=268,slow=22,SNR=4.1						
KURK	**Kurchatov**	**50.71**	**349**	P	**P**	**10 07 25.2**	**-0.6**
ZALV	**Zalesovo Beam**	**52.95**	**354**	P	**P**	**10 07 41.1**	**-1.5**
	2.1nm,0.3s,baz=189,slow=6.7,SNR=3.7						
BVAR	**Borovoye Array**	**54.80**	**344**	P	**P**	**10 07 55.8**	**-0.3**
	2.3nm,0.7s,baz=148,slow=8.7,SNR=4.2						
KMBO	**Kilima Mbogo**	**55.17**	**268**	P	**P**	**10 07 59.5**	**-0.3**
	2.5nm,0.7s,baz=60,slow=11,SNR=5.0						
ABKAR	**Akbulak array**	**55.35**	**335**	*e*P	**P**	**10 07 59.7**	**-0.5**
	2.7nm,0.7s						
STKA	**Stephens Creek**	**56.99**	**130**	P	**P**	**10 08 11.5**	**-0.7**
	3.1nm,0.7s,baz=303,slow=8.5,SNR=6.0						
KLR	**Kul'dur**	**58.52**	**29**	P	**P**	**10 08 25.6**	**+3.0**
	0.5nm,0.8s,baz=217,slow=5.3,SNR=6.9						
KBZ	**Khabaz**	**60.98**	**321**	P	**P**	**10 08 40.2**	**+0.6**
	9.5nm,0.8s,baz=132,slow=6.1,SNR=11						
LSZ	**Lusaka**	**65.50**	**253**	*e*P	**P**	**10 09 08.9**	**-1.5**
	4.3nm,0.9s						
BRTR	**Keskin Array B**	**65.59**	**314**	P	**P**	**10 09 09.8**	**-0.8**
	5.3nm,0.8s,baz=128,slow=7.2,SNR=10						
BOSA	**Boshof**	**70.61**	**239**	P	**P**	**10 09 41.2**	**-1.1**
	6.2nm,0.7s,baz=83,slow=6.2,SNR=7.9						
MLR	**Muntele Rosu**	**72.79**	**318**	P	**P**	**10 09 55.7**	**+0.6**
	1.4nm,0.9s,baz=115,slow=3.6,SNR=3.4						
FINES	**FINESS Array B**	**77.81**	**333**	P	**P**	**10 10 22.8**	**-0.7**
	3.4nm,0.8s,baz=90,slow=5.7,SNR=4.9						
GERES	**GERESS Array B**	**81.65**	**319**	P	**P**	**10 10 44.6**	**-0.1**
	3.5nm,0.7s,baz=98,slow=4.6,SNR=5.5						
TXAR	**Lajitas Array**	**145.99**	**26**	PKPbc	**PKPbc**	**10 18 07.0**	**0.0**
	2.6nm,0.7s,baz=31,slow=3.2,SNR=8.0						

*ISCJB **11** 10:01:16.3±1.2, 2°.51N±0°.03×90°.38E±0°.03, h7km±7km, mb5.2/152, MS6.3/2, Error ellipse: s-maj=5.8km s-min=3.6km az=28.8*
*IDC **11** 10:01:16.7±0.4, 2°.53N×90°.38E, h0km, mb5.0/47, mb1 5.0/51, mb1mx4.9/72, mbtmp4.9/51, ML4.6/4, Error ellipse: s-maj=11.9km s-min=8.8km az=19.0*
*NEIC **11** 10:01:18.3±0.1, 2°.48N×90°.35E, h10km, mb5.3/52, Error ellipse: s-maj=4.5km s-min=3.0km az=200.0*
*BJI **11** 10:01:18.5, 2°.50N×90°.40E, h20km, mb5.3/53, mB5.1/5, Ms5.5/2, Ms7 5.3/2*
*MOS **11** 10:01:20.6±0.9, 2°.59N×90°.45E, h37km, mb5.4/45, Error ellipse: s-maj=7.1km s-min=4.7km az=101.7*
*DJA **11** 10:01:21.4±2.8, 3°.N±5°×9°.0E±°, h18km±21km, M5.4/7, mb5.4/7*
ISC 11 10:01:20.4±0.8, 2°.51N±0°.05×90°.38E±0°.04, h23km±5km, n593, σ1§12/618, mb5.3/155, 21C-5D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LHMI	**Lhok Sumawe**	**7.09**	**67**	*e*Pn	**Pn**	**10 03 04.3**	**+1.5**
GSI	**Gunungsitoli**	**7.29**	**99**	*e*Pn	**Pn**	**10 03 05.6**	**0.0**
PSI	**Prapat**	**8.54**	**88**	Pn	**Pn**	**10 03 21.9**	**-0.9**
	3.4nm,0.3s,baz=288,slow=6.4,SNR=4.4						
PSI				Sn	**Sn**	**10 04 54.2**	**-4.5**
	5.4nm,0.3s,baz=243,slow=11,SNR=2.2						
PSI	**Prapat**	**8.54**	**88**	*e*Pn	**Pn**	**10 03 22.7**	**-0.2**
PSI				Sn	**Sn**	**10 04 54.2**	**-4.5**
PSI	**Prapat**	**8.54**	**88**	*e*P	**Pn**	**10 03 22.7**	**-0.2**
PSI						10 04 54.2	
PBA	**Port Blair**	**9.39**	**14**	*e*P	Pn	10 03 33.2	-1.1
PBA				IAmb	IAmb	10 03 42.0	
	comp=Z,166nm,0.3s						
KULM	**Kulim**	**10.62**	**75**	*e*Pn	**Pn**	**10 03 50.5**	**-0.6**
PALK	**Pallekele**	**10.74**	**297**	Pn	**Pn**	**10 03 49.6**	**-3.2**
	comp=Z,14nm,0.3s,baz=116,slow=7.5,SNR=4.6						
PALK	**Pallekele**	**10.74**	**297**	*e*Pn	**Pn**	**10 03 52.5**	**-0.3**
PALK				*e*Sn	Sn	10 05 41.8	-11
IPM	**Ipoh**	**10.81**	**79**	*e*Pn	**Pn**	**10 03 54.0**	**+0.2**
DGPR	**DIGLIPUR**	**10.90**	**13**	*e*P	**Pn**	**10 03 57.2**	**+2.2**
DGPR				IAmb	IAmb	10 04 00.0	
	comp=Z,265nm,0.2s						
MYKOM	**Kota Tinggi**	**13.48**	**93**	*e*Pn	**Pn**	**10 04 30.0**	**-0.4**
MDRS	**Chennai**	**14.51**	**317**	*e*P	**Pn**	**10 04 42.6**	**-1.8**
MDRS				IAmb	IAmb	10 04 44.4	
	comp=Z,632nm,1.0s						
TRD	**Trivandrum**	**14.62**	**295**	*e*P	**Pn**	**10 04 44.8**	**-1.1**
SKHT	**Srikalahasti**	**15.35**	**317**	*e*P	**Pn**	**10 04 54.4**	**-1.3**
KASI	**Kota Agung**	**16.20**	**120**	P	**Pn**	**10 05 04.2**	**-2.5**
VIS	**Vishakhapatnam**	**16.63**	**336**	*e*P	**Pn**	**10 05 10.7**	**-1.3**
VIS				IAmb	IAmb	10 05 11.7	
	comp=Z,508nm,0.2s						
ADKI	**Addanki**	**16.75**	**323**	*e*P	**Pn**	**10 05 12.8**	**-0.9**
PVM	**Polavaram**	**16.99**	**330**	*e*P	**Pn**	**10 05 16.8**	**+0.2**
CHLP	**Challavanipeta**	**17.06**	**339**	*e*P	**Pn**	**10 05 17.3**	**-0.2**
SRLM	**Srisailam**	**17.61**	**321**	*e*P	**Pn**	**10 05 24.3**	**-0.2**
NJS	**Nagarjunasagar**	**17.70**	**323**	*e*P	**Pn**	**10 05 24.9**	**-0.6**
URV	**Uravakonda**	**17.89**	**314**	*e*P	**Pn**	**10 05 27.7**	**-0.3**
CM01	**Chiang Mai Arr**	**17.91**	**27**	*e*Pn	**P**	**10 05 29.3**	**+0.7**
CM31	**Chiang Mai Arr**	**17.94**	**27**	*e*Pn	**Pn**	**10 05 28.4**	**0.0**
CMAR	**Chiang Mai Arr**	**17.94**	**27**	P	**Pn**	**10 05 28.6**	**+0.2**
	comp=Z,0.4nm,0.3s,baz=218,slow=13,SNR=6.1						
CHTO	**Chiang Mai**	**18.25**	**27**	*e*Pn	**Pn**	**10 05 32.5**	**+0.2**
	comp=Z,50nm,0.8s						
CHTO	**Chiang Mai**	**18.25**	**27**	*e*P	**Pn**	**10 05 32.5**	**+0.2**
CHTO				pmax	pmax		
	comp=Z,50nm,0.8s						
HYB	**Hyderabad**	**18.82**	**323**	*i* P	**P**	**10 05 38.5**	**-0.2**
HYB	**Hyderabad**	**18.82**	**323**	*e*P	**P**	**10 05 38.4**	**-0.3**
HYB				IAmb	IAmb	10 05 39.2	
	comp=Z,282nm,1.3s						
HYBB	**Hyderabad (bro**	**18.83**	**323**	*e*P	**P**	**10 05 38.7**	**0.0**
RPR	**Rampur**	**19.54**	**327**	*e*P	**Pn**	**10 05 47.5**	**-0.3**
LEM	**Lembang**	**19.55**	**118**	P	**P**	**10 05 46.5**	**-0.3**
	comp=Z,4.4nm,0.3s,baz=162,slow=20,SNR=2.2						
KSM	**Kuching**	**19.95**	**93**	*e*P	**Pn**	**10 05 52.6**	**-0.1**
	comp=Z,60nm,1.1s						
CISI	**Cisompet, Garu**	**20.07**	**120**	P	Pn	10 05 53.9	-0.3
CISI	**Cisompet, Garu**	**20.07**	**120**	*e*P	**P**	**10 05 53.6**	**+1.2**
	comp=Z,73nm,0.8s						
SRSP	**Sriramsagar**	**20.13**	**325**	*e*P	**P**	**10 05 53.0**	**+0.1**
H08S2	**Diego Garcia H**	**20.49**	**240**	T	T	10 26 48.4	
	baz=60,slow=76,SNR=7.1						
H08S3	**Diego Garcia H**	**20.49**	**240**	T	T	10 26 57.5	
	baz=60,slow=76,SNR=6.0						
H08S1	**Diego Carcia H**	**20.51**	**240**	T	T	10 27 13.6	
	baz=60,slow=76,SNR=5.6						
KLRI	**Killari**	**20.54**	**320**	*e*P	Pn	10 06 00.3	+0.6
GOA	**Goa**	**20

SFK **Sufi-Kurgan** 40.35 340 P **P** 10 08 56.9 +0.3
SFK pmax pmax
comp=Z,65nm,1.5s
SIJI **Sorong** 41.02 94 P **P** 10 09 01.1 -1.1
comp=Z,20nm,0.7s,baz=248,slow=1.8,SNR=6.8
WMQ **Urumqi** 41.21 357 P **P** 10 09 04.2 +0.8
WMQ sP sP 10 09 14.7 +1.3
WMQ pmax pmax
comp=Z,120nm,0.9s
ULHL **Ulaho**l 41.54 344 P **P** 10 09 07.4 +1.0
SNR=6.7
KZA **Kyzart** 41.67 343 P **P** 10 09 08.2 +0.6
SNR=6.8
UZB **Uzynbulak** 41.71 347 *i* P **P** 10 09 08.3 +0.6
comp=Z,185nm,1.1s
SATY **Saty** 41.77 347 *i* P **P** 10 09 09.2 +1.2
comp=Z,616nm,0.9s
PDGK **Podgornoye** 41.79 348 P **P** 10 09 08.3 +0.1
PDGK pmax pmax
comp=Z,37nm,1.2s
UCH **Uchtor** 42.02 342 P **P** 10 09 11.8 +1.2
SNR=14
KPKS **Kokpek** 42.09 347 *e*P **P** 10 09 11.2 +0.6
comp=Z,300nm,0.8s
MDOK **Medeo** 42.19 345 *i* P **P** 10 09 12.6 +1.0
comp=Z,222nm,1.1s
AML **Almayashu** 42.19 341 P **P** 10 09 13.3 +1.4
SNR=17
AAA **Alma-Ata** 42.27 345 *e*P **P** 10 09 13.6 +1.5
comp=Z,277nm,0.6s
KBK **Karagaybulak** 42.29 343 P **P** 10 09 13.7 +1.3
SNR=15
TKM2 **Tokmak 2** 42.35 344 P **P** 10 09 13.8 +0.9
SNR=13
TKM2 **Tokmak 2** 42.35 344 P **P** 10 09 13.0 +0.1
TKM2 pmax pmax
comp=Z,25nm,0.9s
AAK **Ala-Archa** 42.41 343 P **P** 10 09 13.9 +0.6
comp=Z,12nm,0.7s,baz=147,slow=5.3,SNR=14
AAK PcP **PcP** 10 11 06.4 +0.1
comp=Z,11nm,0.7s,baz=165,slow=6.2,SNR=6.0
AAK **Ala-Archa** 42.41 343 P **P** 10 09 14.7 +1.4
SNR=7.7
AAK **Ala-Archa** 42.41 343 *e*P **P** 10 09 14.8 +1.4
comp=Z,15nm,0.8s
AAK PcP **PcP** 10 11 06.4 +0.1
AAK **Ala-Archa** 42.41 343 *e*P **P** 10 09 12.6 -0.7
AAK pmax pmax
comp=Z,16nm,1.0s
BMNS **Besmoynak** 42.50 344 *e*P **P** 10 09 14.7 +0.6
comp=Z,670nm,0.9s
EKS2 **Erkin-Say** 42.65 342 P **P** 10 09 16.8 +1.5
SNR=15
HHC **Hu-ho-hao-te** 42.70 24 *e*P **P** 10 09 16.2 +0.5
HHC S **S** 10 15 35.3 -2.7
HHC pmax pmax
comp=Z,35nm,1.0s
HHC pmax pmax
comp=Z,76nm,5.4s
HHC LR LR
comp=Z,5μm,14.1s
HHC LR LR
comp=Z,4μm,14.3s
HHC LR LR
comp=Z,4μm,14.0s
USP **Ospenovka** 42.98 343 P **P** 10 09 18.9 +1.1
SNR=14
KUU **Kurty** 43.05 345 *i* P **P** 10 09 18.5 +0.1
comp=Z,241nm,1.1s
IUG **Iuzhnay** 43.48 338 *e*P **P** 10 09 23.2 +1.2
comp=Z,293nm,0.9s
JOW **Kunigami** 43.62 53 P **P** 10 09 23.5 +0.2
comp=Z,33nm,0.7s,baz=149,slow=6.6,SNR=5.3
DZA **Taraz** 43.66 340 *e*S **S** 10 15 52.5 +0.7
BJT **Baijiatuau** 44.06 29 *e*P **P** 10 09 27.8 +1.3
comp=Z,205nm,1.7s
BJT **Baijiatuau** 44.06 29 *e*P **P** 10 09 27.8 +1.3
BJT pmax pmax
comp=Z,205nm,1.7s
BJI **Beijing** 44.08 29 *e*P **P** 10 09 27.6 +0.9
BJI pmax pmax
comp=Z,69nm,0.9s
KK07 **Karatay Array** 44.12 339 *e*P **P** 10 09 27.4 +0.4
KK02 **Karatay Array** 44.13 339 *e*P **P** 10 09 27.8 +0.7
KK31 **Karatay Array** 44.13 339 *e*P **P** 10 09 27.5 +0.4
KK31 **Karatay Array** 44.13 339 *i* P **P** 10 09 27.2 +0.1
KK31 pmax pmax
comp=Z,17nm,0.8s
KKAR **Karatay Array** 44.13 339 *e*P **P** 10 09 27.5 +0.4
KKAR **Karatay Array** 44.13 339 *e*P **P** 10 09 27.5 +0.4
KK01 **Karatay Array** 44.13 339 *e*P **P** 10 09 27.9 +0.7
KK03 **Karatay Array** 44.13 339 *e*P **P** 10 09 27.9 +0.8
KK08 **Karatay Array** 44.14 339 *e*P **P** 10 09 27.9 +0.8
MK01 **Makanchi Array** 44.65 352 *e*P **P** 10 09 30.6 -0.6
MK31 **Makanchi Array** 44.67 352 *e*P **P** 10 09 31.5 +0.1
MK31 **Makanchi Array** 44.67 352 *e*P **P** 10 09 31.5 +0.1
MKAR **Makanchi Array** 44.67 352 P **P** 10 09 31.1 -0.2
comp=Z,32nm,0.7s,baz=172,slow=8.8,SNR=36
MKAR PcP **PcP** 10 11 13.3 -0.4
comp=Z,2.4nm,0.7s,baz=183,slow=5.5,SNR=2.6
MKAR **Makanchi Array** 44.67 352 *e*P **P** 10 09 31.5 +0.1
comp=Z,209nm,0.8s
MKAR PcP **PcP** 10 11 13.3 -0.4
MKAR **Makanchi Array** 44.67 352 *e*P **P** 10 09 31.5 +0.1
MKAR 10 11 13.3
MKAR pmax pmax
comp=Z,209nm,0.8s
MAKZ **Makanchi** 44.73 352 *e*P **P** 10 09 31.8 0.0
comp=Z,20nm,0.9s
MAKZ **Makanchi** 44.73 352 *e*P **P** 10 09 31.8 0.0
MAKZ pmax pmax
comp=Z,20nm,0.9s
BTLS **Baital** 44.73 344 *e*P **P** 10 09 32.1 +0.3
comp=Z,181nm,0.9s
ZSN **Zaisan** 45.02 355 *i* P **P** 10 09 35.2 +1.1
comp=Z,172nm,0.9s
GYB1 **ALIBECK ARRAY** 45.99 324 *e*P **P** 10 09 42.9 +0.9
comp=Z,16nm,0.6s
GYA1 **ALIBECK ARRAY** 45.99 324 *e*P **P** 10 09 42.8 +0.8
comp=Z,17nm,0.6s
GYB5 **ALIBECK ARRAY** 46.00 324 *e*P **P** 10 09 42.9 +0.8
comp=Z,19nm,0.6s
GEYT **Alibeck** 46.00 324 P **P** 10 09 42.6 +0.5
comp=Z,14nm,0.6s,baz=159,slow=9.2,SNR=17
GYA0 **ALIBECK ARRAY** 46.00 324 *e*P **P** 10 09 43.2 +1.1
comp=Z,18nm,0.6s
GYA0B **ALIBECK ARRAY** 46.00 324 *e*P **P** 10 09 43.2 +1.1
comp=Z,19nm,0.6s
GYB2 **ALIBECK ARRAY** 46.00 324 *e*P **P** 10 09 43.3 +1.3
comp=Z,19nm,0.6s
GYA2 **ALIBECK ARRAY** 46.00 324 *e*P **P** 10 09 43.1 +1.0
comp=Z,18nm,0.6s
GYB3 **ALIBECK ARRAY** 46.01 324 *e*P **P** 10 09 42.6 +0.5
comp=Z,16nm,0.6s
GYB4 **ALIBECK ARRAY** 46.01 324 *e*P **P** 10 09 43.2 +1.1
comp=Z,14nm,0.6s
DL2 **Dalian** 46.09 34 P **P** 10 09 44.0 +1.3
DL2 pmax pmax
comp=Z,76nm,0.8s
DGZ **Jazzator, Alta** 47.09 357 *e*P **P** 10 09 50.7 +0.2
DGZ pmax pmax
comp=Z,3.0nm,0.7s
SONM **Songino Array** 47.23 15 P **P** 10 09 51.9 +0.3
comp=Z,108nm,0.7s,baz=194,slow=9.5,SNR=90
SONA1 **Songino Array** 47.24 15 *e*P **P** 10 09 52.4 +0.7
OPO **Ambohidratompo** 47.37 242 P **P** 10 09 53.9 +0.6
comp=Z,5.0nm,0.7s,baz=69,slow=7.6,SNR=6.6
ULN **Ulaanbaatar** 47.43 15 *e*P **P** 10 09 53.6 +0.3
comp=Z,41nm,0.9s
ULN **Ulaanbaatar** 47.43 15 *ce*P **P** 10 09 52.5 -0.7
ULN pmax pmax
comp=Z,78nm,1.7s
ABPO **Ambohimpanom** 47.50 241 *e*P **P** 10 09 55.5 +1.2
comp=Z,46nm,1.1s
ABPO **Ambohimpanom** 47.50 241 *e*P **P** 10 09 55.5 +1.2
ABPO pmax pmax
comp=Z,46nm,1.1s
ATD **Arta Tunnel** 47.95 283 P **P** 10 09 58.4 +0.7
comp=Z,16nm,0.9s,baz=348,slow=6.5,SNR=4.6
TJN **Taejon** 47.96 41 *ce*P **P** 10 09 56.9 -0.4
OTUK **Ortayu** 48.14 344 P **P** 10 09 58.7 +0.1
OTUK pmax pmax
comp=Z,40nm,0.6s
RAYN **Ar Rayn** 48.16 300 *e*P **P** 10 09 59.0 -0.2
comp=Z,5.4nm,0.8s
HVS **Khovu-Aksy** 48.54 3 *e*P **P** 10 10 00.7 -1.0
HVS pmax pmax
comp=Z,75nm,0.9s
WRA **Warramunga Arr** 48.56 119 P **P** 10 10 02.3 0.0
comp=Z,19nm,0.9s,baz=296,slow=8.6,SNR=14
WRA PcP **PcP** 10 11 27.4 -0.6
comp=Z,9.4nm,0.8s,baz=312,slow=2.9,SNR=8.8
WRAB **Tennant Creek** 48.57 119 *e*P **P** 10 10 02.9 +0.6
comp=Z,50nm,1.1s
WRAB **Tennant Creek** 48.57 119 *e*P **P** 10 10 02.9 +0.6
WRAB pmax pmax
comp=Z,50nm,1.1s
JNU **Nakatsue** 48.62 47 P **P** 10 10 02.8 +0.3
comp=Z,28nm,0.8s,baz=160,slow=5.6,SNR=9.7
JNU **Nakatsue** 48.62 47 *e*P **P** 10 10 03.0 +0.5
comp=Z,66nm,1.2s
KSAR **Wonju Array Be** 48.92 40 P **P** 10 10 04.8 +0.1
KSAR PcP **PcP** 10 11 28.5 -0.4
KSAR **Wonju Array Be** 48.92 40 P **P** 10 10 04.8 +0.1
KSAR 10 11 28.5
ZAK **Zakamensk** 48.94 11 *e*P **P** 10 10 04.9 +0.1
ZAK pmax pmax
comp=Z,10.0nm,1.4s
KS01 **Wonju Array Si** 48.95 40 *e*P **P** 10 10 04.6 -0.3
KSRS **Korea Array** 48.95 40 P **P** 10 10 04.8 -0.2
comp=Z,20nm,1.1s,baz=229,slow=8.6,SNR=24
KSRS PcP **PcP** 10 11 28.5 -0.5
comp=Z,1.9nm,0.7s,baz=226,slow=2.8,SNR=5.5
KURBB **Kurchatov Arra** 48.98 350 P **P** 10 10 04.8 -0.1
comp=Z,32nm,0.7s,baz=174,slow=7.2,SNR=56
KURBB PcP **PcP** 10 11 29.0 +0.2
comp=Z,10nm,0.8s,baz=179,slow=2.9,SNR=9.6
KURK **Kurchatov** 49.06 350 *e*P **P** 10 10 05.4 -0.1
comp=Z,50nm,1.0s
KURK PcP **PcP** 10 11 29.0 0.0
KURK **Kurchatov** 49.06 350 *ce*P **P** 10 10 05.0 -0.5
KURK pmax pmax
comp=Z,125nm,0.8s
BRZS **Berezniki** 49.64 345 *e*P **P** 10 10 10.2 +0.1
comp=Z,42nm,1.2s
ASAR **Alice Springs** 49.70 124 P **P** 10 10 11.1 +0.1
comp=Z,4.2nm,0.9s,baz=296,slow=7.7,SNR=5.9
ASAR PcP **PcP** 10 11 32.0 -0.1
comp=Z,11nm,0.7s,baz=302,slow=3.3,SNR=26
AS01 **Alice Springs** 49.74 124 *e*P **P** 10 10 11.5 +0.2
MOY **Mondy** 49.79 9 *e*P **P** 10 10 11.6 +0.3
MOY pmax pmax
comp=Z,33nm,3.0s
TLY **Talaya** 50.25 11 *e*P **P** 10 10 15.8 +1.1
TLY pmax pmax
comp=Z,11nm,0.9s
ZAA0 **Zalesovo Array** 51.48 356 *e*P **P** 10 10 23.5 -0.3
comp=Z,29nm,0.6s
ZALV **Zalesovo Beam** 51.48 356 P **P** 10 10 23.4 -0.4
comp=Z,31nm,0.6s,baz=180,slow=7.6,SNR=28
ZALV **Zalesovo Beam** 51.48 356 *e*P **P** 10 10 23.2 -0.6
ZALV **Zalesovo Beam** 51.48 356 *e*P **P** 10 10 23.2 -0.6
CN2 **Changchun** 51.54 32 *e*P **P** 10 10 24.8 +0.3
CN2 pmax pmax
comp=Z,40nm,0.8s
NVS **Novosibirsk** 52.49 355 *e*P **P** 10 10 30.4 -1.0
NVS *e*S **S** 10 17 52.4 -4.0
NVS pmax pmax
comp=Z,34nm,0.9s
NVS pmax pmax
comp=N,17nm,0.8s
NVS pmax pmax
comp=E,10.0nm,0.7s
NVS smax smax
comp=N,9.0nm,1.0s
HIA **Hailar** 52.90 24 *e*P **P** 10 10 34.8 +0.2
comp=N,29nm,0.9s
HIA **Hailar** 52.90 24 *e*P **P** 10 10 34.4 -0.2
HIA pmax pmax
comp=Z,45nm,1.1s
BVA0 **Borovoye Array** 53.01 345 *i* P **P** 10 10 33.9 -1.3
BVA0 pmax pmax
comp=Z,8.0nm,0.7s
BVAR **Borovoye Array** 53.01 345 P **P** 10 10 34.4 -0.8
comp=Z,12nm,0.7s,baz=147,slow=8.4,SNR=23
BVAR PcP **PcP** 10 11 43.5 -0.2
comp=Z,5.0nm,0.9s,baz=124,slow=4.2,SNR=3.7
BRVK **Borovoye** 53.06 345 *ce*P **P** 10 10 34.0 -1.6
BRVK pmax pmax
comp=Z,46nm,1.2s
KMBO **Kilima Mbogo** 53.23 267 P **P** 10 10 38.7 +0.8
comp=Z,2.5nm,0.8s,baz=58,slow=12,SNR=7.9
AB07 **Akbulak array** 53.31 336 *e*P **P** 10 10 37.4 -0.1
AB06 **Akbulak array** 53.32 336 *e*P **P** 10 10 37.9 +0.3
AB08 **Akbulak array** 53.32 336 *e*P **P** 10 10 37.5 -0.1
AB03 **Akbulak array** 53.33 336 *e*P **P** 10 10 37.9 +0.3
AB01 **Akbulak array** 53.33 336 *e*P **P** 10 10 37.9 +0.2
AB31 **Akbulak array** 53.33 336 *e*P **P** 10 10 37.6 -0.1
AB31 **Akbulak array** 53.33 336 *e*P **P** 10 10 37.6 -0.1
ABKAR **Akbulak array** 53.33 336 *e*P **P** 10 10 37.6 -0.1
comp=Z,294nm,1.0s
AB02 **Akbulak array** 53.33 336 *e*P **P** 10 10 37.9 +0.3
AB04 **Akbulak array** 53.33 336 *e*P **P** 10 10 38.0 +0.3
AB05 **Akbulak array** 53.34 336 *e*P **P** 10 10 37.9 +0.2
AB09 **Akbulak array** 53.34 336 *e*P **P** 10 10 38.0 +0.3
KRAR **Krasnoyarsk** 53.38 2 *e*P **P** 10 10 37.7 -0.2
MSHR **Mys Shultsa** 53.98 37 *ce*P **P** 10 10 41.9 -0.7
MDJ **Mudanjiang** 54.32 34 P **P** 10 10 43.8 -1.2
MDJ S **S** 10 18 23.3 +1.6
MDJ pmax pmax
comp=Z,50nm,1.3s
MDJ **Mudanjiang** 54.32 34 *e*P **P** 10 10 45.9 +0.9
comp=Z,1μm,2.8s
USRK **Ussuriysk Ar.** 55.43 35 P **P** 10 10 53.1 0.0
comp=Z,13nm,0.9s,baz=243,slow=5.6,SNR=12
MJB9 **Matsu-Tunnel** 55.54 46 *e*P **P** 10 10 54.4 +0.3
comp=Z,126nm,1.7s
MAJO **Matsushiro** 55.54 46 *e*P **P** 10 10 54.3 +0.3
comp=Z,123nm,1.7s
MAJO **Matsushiro** 55.54 46 *e*P **P** 10 10 53.5 -0.5
MAJO pmax pmax
comp=Z,27nm,1.1s
MAT **Matsushiro** 55.54 46 P **P** 10 10 53.8 -0.2
MJAR **Matsushiro Arr** 55.54 46 P **P** 10 10 54.5 +0.5
comp=Z,23nm,1.0s,baz=236,slow=8.1,SNR=28
MJAR PcP **PcP** 10 11 53.1 -0.6
comp=Z,8.1nm,0.8s,baz=246,slow=4.8,SNR=6.5
GNI **Garni** 55.71 318 *e*P **P** 10 10 53.9 -1.5
GNI pmax pmax
comp=Z,39nm,1.1s
TBLG **Delisi** 56.52 320 *e*P **P** 10 11 01.3 +0.4
comp=Z,19nm,0.9s
TBLG **Delisi** 56.52 320 *e*P **P** 10 11 01.3 +0.4
TBLG pmax pmax
comp=Z,19nm,0.9s
GROC **Groznyy** 56.63 322 *e*P **P** 10 11 02.2 +0.5
GROC *e* 10 11 58.6
GROC pmax pmax
comp=Z,20nm,0.7s
MTSU **Mount Surprise** 56.92 113 P **P** 10 11 05.0 +0.8
baz=57,SNR=9.0
ZEI **Tsey** 57.60 321 *e*P **P** 10 11 08.2 -0.6
ZEI pmax pmax
comp=Z,4.0nm,0.6s
PMG **Port Moresby** 57.79 103 P **P** 10 11 10.5 +0.1
comp=Z,16nm,0.7s,baz=303,slow=8.0,SNR=4.0
PMG **Port Moresby** 57.79 103 *e*P **P** 10 11 10.1 -0.3
PMG pmax pmax
comp=Z,62nm,0.9s
ASF **Jabal al Asfar** 58.18 307 P **P** 10 11 13.4 +0.5
comp=Z,4.5nm,0.6s,baz=24,slow=10.0,SNR=5.9
BOD **Bodaibo** 58.23 15 *e*P **P** 10 11 10.9 -1.7
BOD pmax pmax
comp=Z,43nm,1.3s
KLR **Kul'dur** 58.38 31 P **P** 10 11 13.9 +0.1
comp=Z,2.8nm,1.0s,baz=250,slow=7.2,SNR=22
KLR **Kul'dur** 58.38 31 *e*P **P** 10 11 12.8 -1.1
NEY **Neytrino** 58.58 321 *e*P **P** 10 11 14.3 -1.3
NEY pmax pmax
comp=Z,2.0nm,0.8s
KBZ **Khabaz** 58.71 321 P **P** 10 11 16.5 +0.3
comp=Z,13nm,1.0s,baz=120,slow=6.7,SNR=6.6
KBZ PcP **PcP** 10 12 06.6 +0.6
comp=Z,6.9nm,0.8s,baz=158,slow=5.4,SNR=3.8
KIV **Kislovodsk** 58.95 321 *e*P **P** 10 11 18.7 +0.6
comp=Z,43nm,1.2s
KIV **Kislovodsk** 58.95 321 *e*P **P** 10 11 18.4 +0.3
KIV pmax pmax
comp=Z,31nm,1.0s
SVE **Sverdlovsk** 59.12 341 *e*P **P** 10 11 18.6 -0.3
CTA **Charters Tower** 59.21 115 P **P** 10 11 20.6 +0.4
comp=Z,31nm,0.8s,baz=273,slow=9.4,SNR=14
GOF **Gofitskoye** 59.30 323 ⇑ *e*P **P** 10 11 24.4 +4.0
ZEA **Zeya** 59.36 24 *e*P **P** 10 11 20.0 -0.6
ZEA pmax pmax
comp=Z,41nm,0.8s
STKA **Stephens Creek** 59.37 130 P **P** 10 11 21.6 +0.6
comp=Z,17nm,0.8s,baz=313,slow=7.5,SNR=19
STKA **Stephens Creek** 59.37 130 P **P** 10 11 21.7 +0.6
baz=60,SNR=18
STKA **Stephens Creek** 59.37 130 *e*P **P** 10 11 21.6 +0.6
comp=Z,0.2nm,0.5s
ARU **Arti** 59.49 340 *c* iP **P** 10 11 20.9 -0.5
ARU S **S** 10 19 30.6 +1.2
ARU SS **SS** 10 23 24.1 -0.8
ARU pmax pmax
comp=Z,23nm,1.0s
CLNS **Chul'man** 60.74 21 *e*P **P** 10 11 30.0 -0.1
CLNS pmax pmax
comp=Z,68nm,1.0s
CLNS pmax pmax
comp=E,28nm,0.9s
CLNS pmax pmax
comp=N,36nm,1.1s
ARPS **Mount Arapiles** 61.71 134 P **P** 10 11 38.2 +1.2
baz=62,SNR=5.9
ASAJ **Asahikawa** 61.90 40 P **P** 10 11 38.4 +0.3
comp=N,14nm,0.8s,baz=289,slow=4.8,SNR=7.8
CMSA **Cobar Meteorol** 62.43 128 P **P** 10 11 43.6 +1.7
baz=63,SNR=18
BR131 **Keskin Array S** 63.24 314 *e*P **P** 10 11 47.0 -0.4
BRTR **Keskin Array B** 63.24 314 P **P** 10 11 46.9 -0.4
comp=N,6.8nm,0.8s,baz=135,slow=6.7,SNR=13
RMQ **Roma** 63.25 121 P **P** 10 11 49.4 +2.0
baz=63,SNR=6.9
YSS **Yuzh-Sakhalins** 63.29 37 *e*P **P** 10 11 47.7 +0.3
comp=N,34nm,0.9s
YSS **Yuzh-Sakhalins** 63.29 37 *e*P **P** 10 11 47.6 +0.3
YSS pmax pmax
comp=Z,20nm,0.8s
LSZ **Lusaka** 63.99 252 *e*P **P** 10 11 52.7 0.0
comp=Z,16nm,1.2s
LSZ **Lusaka** 63.99 252 *e*P **P** 10 11 52.7 0.0
LSZ pmax pmax
comp=Z,16nm,1.2s
TOO **Toolangi** 64.68 134 P **P** 10 11 58.8 +2.1
baz=65,SNR=4.7
EIDS **Eidsvold** 64.93 119 P **P** 10 11 59.6 +1.1
baz=65,SNR=6.4
EIDS **Eidsvold** 64.93 119 *e*P **P** 10 11 58.7 +0.1
comp=Z,87nm,1.4s
YAK **Yakutsk** 66.25 19 *e*P **P** 10 12 05.3 -1.0
comp=Z,6.4nm,0.4s
YAK **Yakutsk** 66.25 19 *e*P **P** 10 12 04.5 -1.8
YAK pmax pmax
comp=Z,106nm,1.0s
YAK pmax pmax
comp=N,18nm,1.1s
YAK pmax pmax
comp=E,27nm,1.1s
ARMA **Armidale** 66.85 125 P **P** 10 12 12.8 +1.9
baz=67,SNR=10
ARMA **Armidale** 66.85 125 *e*P **P** 10 12 12.5 +1.6
comp=E,35nm,0.9s
MOS **Moscow** 67.80 331 *e*P **P** 10 12 14.9 -1.4
MOS pmax pmax
comp=Z,94nm,1.3s
OBN **Obninsk** 68.01 330 *ce*P **P** 10 12 16.7 -0.9
OBN *e* 10 12 41.1
OBN *e* 10 14 46.6
OBN *e*PPP PPP 10 16 24.4
OBN pmax pmax
comp=Z,56nm,1.7s
IDI **Anoyia** 68.65 307 P **P** 10 12 22.6 +0.4
comp=Z,22nm,0.6s,baz=162,slow=3.2,SNR=11
BOSA **Boshof** 69.58 238 P **P** 10 12 27.9 -0.3
comp=Z,7.3nm,0.6s,baz=80,slow=4.8,SNR=23
KLMR **Klimovskoe** 69.72 336 *e*P **P** 10 12 25.3 -2.9
KLMR AMP 10 12 28.6
comp=Z,36nm,0.9s
KLMR **Klimovskoe** 69.72 336 *e*P **P** 10 12 25.3 -2.9
KLMR pmax pmax
comp=Z,36nm,0.9s
VRI **Vrincioaia** 70.07 318 ⇑ *i*P **P** 10 12 31.7 +1.0
PLOR **Plostina** 70.11 318 ⇑ *i*P **P** 10 12 32.1 +1.1
AKASG **Malin Array Be** 70.12 324 P **P** 10 12 29.8 -1.0
comp=Z,3.6nm,0.6s,baz=91,slow=5.0,SNR=17
AKBB **Malin Array Si** 70.12 324 *e*P **P** 10 12 30.2 -0.6
comp=Z,11nm,0.7s
AKBB **Malin Array Si** 70.12 324 *e*P **P** 10 12 30.2 -0.6
AKBB pmax pmax
comp=Z,11nm,0.7s
KIEV **Kiev** 70.13 324 *e*P **P** 10 12 29.4 -1.5
KIEV pmax pmax
comp=Z,8.0nm,0.8s
AK11 **Malin Array Si** 70.14 324 *e*P **P** 10 12 29.6 -1.4
TESR **Tescani** 70.31 319 ⇑ *i*P **P** 10 12 31.9 -0.3
MLR **Muntele Rosu** 70.48 318 P **P** 10 12 34.1 +0.8
comp=Z,7.4nm,0.8s,baz=161,slow=3.7,SNR=20
MLR **Muntele Rosu** 70.48 318 ⇓ *i*P **P** 10 12 33.8 +0.5
MLR **Muntele Rosu** 70.48 318 *e*P **P** 10 12 34.0 +0.7
comp=Z,38nm,0.8s
MLR **Muntele Rosu** 70.48 318 *e*P **P** 10 12 34.0 +0.7
MLR pmax pmax
comp=Z,38nm,0.8s
ARR **Arges** 71.33 317 ⇑ *i*P **P** 10 12 37.5 -0.9
BURAR **Bucovina Array** 71.58 320 ⇑ *i*P **P** 10 12 40.9 +1.0
BUR04 **Bucovina Ar. S** 71.58 320 *e*P **P** 10 12 40.4 +0.4
BUR08 **Bucovina Ar. S** 71.60 320 *e*P **P** 10 12 40.6 +0.5
TMCR **Tamitsa** 72.15 339 *e*P **P** 10 12 42.3 -0.5
TMCR pmax pmax
comp=Z,20nm,0.8s
TIXI **Tiksi** 73.21 12 *e*P **P** 10 12 47.5 -1.5
comp=Z,70nm,0.8s
TIXI **Tiksi** 73.21 12 *ce*P **P** 10 12 47.6 -1.5
TIXI pmax pmax
comp=Z,81nm,0.8s
MA2 **Magadan** 73.23 28 P **P** 10 12 48.8 -0.6
comp=Z,25nm,0.8s,baz=252,slow=4.8,SNR=20
VSU **Vasula** 74.33 331 *ce*P **P** 10 12 55.2 -0.6
VSU pmax pmax
comp=Z,184nm,1.2s
PETK **Petropavlovsk-** 74.52 35 P **P** 10 12 55.6 -1.5
comp=Z,2.7nm,0.7s,baz=267,slow=1.7,SNR=4.6
STHS **Stebnicka Huta** 74.61 321 *e*P **P** 10 12 58.9 +1.2
STHS **Stebnicka Huta** 74.61 321 *e*P **P** 10 12 58.9 +1.2
STHS pmax pmax
comp=Z,11nm,1.0s
PET **Petropavlovsk** 75.05 36 *e*P **P** 10 12 58.6 -1.5
comp=Z,54nm,1.3s
PET **Petropavlovsk** 75.05 36 *e*P **P** 10 12 58.6 -1.5
PET pmax pmax
comp=Z,54nm,1.3s
SEY **Seymchan** 75.34 25 P **P** 10 13 00.7 -0.9
comp=Z,11nm,1.0s,baz=238,slow=5.9,SNR=13
SEY **Seymchan** 75.34 25 *ce*P **P** 10 13 00.3 -1.3
APA **Apatity** 75.58 341 ⇑ *i*P P 10 13 12.6 +10
APA pmax pmax
comp=Z,13nm,0.8s
APA MLR MLR
comp=Z,98μm,20.0s
FIA1 **FINESS Array S** 75.74 333 *e*P **P** 10 13 03.6 -0.3
FINES **FINESS Array B** 75.74 333 P **P** 10 13 03.8 -0.1
comp=Z,27nm,0.8s,baz=104,slow=8.0,SNR=29
VYHS **Vyhne** 75.94 319 *e*P **P** 10 13 05.6 +0.2
VYHS **Vyhne** 75.94 319 *e*P **P** 10 13 05.6 +0.2
KLNR **Kaliningrad** 76.55 326 *e*P **P** 10 13 07.8 -0.9
KLNR pmax pmax
comp=Z,91nm,0.9s
KRLC **Kraliky** 77.58 321 *e*P **P** 10 13 15.5 +0.8
KRLC **Kraliky** 77.58 321 *e*P **P** 10 13 15.5 +0.8
DPC **Dobruska-Polom** 77.92 321 *e*P **P** 10 13 17.0 +0.4
DPC *e*PCP **sP** 10 13 26.3 -0.6
DPC **Dobruska-Polom** 77.92 321 *e*P **P** 10 13 17.0 +0.4
DPC *e* 10 13 26.3
UPC **Upice** 78.15 321 *e*P **P** 10 13 19.0 +1.2
UPC **Upice** 78.15 321 *e*P **P** 10 13 19.0 +1.2
GOPC **GO Pecny, Ondr** 78.82 320 *e*P **P** 10 13 22.2 +0.7
GOPC **GO Pecny, Ondr** 78.82 320 *e*P **P** 10 13 22.2 +0.7
PRU **Pruhonice** 78.99 320 *e*P **P** 10 13 23.1 +0.7
PRU **Pruhonice** 78.99 320 *e*P **P** 10 13 23.1 +0.7
ARCES **ARCESS Array B** 79.05 341 P **P** 10 13 22.1 -0.3
comp=Z,16nm,0.9s,baz=99,slow=5.6,SNR=13
PVCC **Panska Ves** 79.06 321 *e*P **P** 10 13 23.8 +1.0
PVCC **Panska Ves** 79.06 321 *e*P **P** 10 13 23.8 +1.0
GEA0 **GERESS Array S** 79.35 319 *e*P **P** 10 13 24.8 +0.3
GEC2 **GERESS Array S** 79.35 319 *e*P **P** 10 13 25.1 +0.6

comp=Z,55nm,1.1s
GEC2 **GERESS Array S** 79.35 319 *e*P P 10 13 25.1 +0.6
GEC2 pmax pmax
comp=Z,55nm,1.1s
GERES **GERESS Array B** 79.35 319 P P 10 13 24.6 0.0
comp=Z,20nm,0.8s,baz=98,slow=5.5,SNR=26
KHC **Kasperske Hory** 79.48 319 *e*P P 10 13 25.5 +0.4
KHC *e*PCP PcP 10 13 33.9 +0.8
KHC **Kasperske Hory** 79.48 319 *e*P P 10 13 25.5 +0.4
KHC *e* 10 13 33.9
CLL **Collm** 80.16 322 *i* P P 10 13 28.9 +0.2
comp=Z,29nm,1.1s
CLL **Collm** 80.16 322 *i* P P 10 13 28.9 +0.2
CLL pmax pmax
comp=Z,29nm,1.1s
NKC **Novy Kostel** 80.36 320 *e*P P 10 13 30.6 +0.7
NKC **Novy Kostel** 80.36 320 *e*P P 10 13 30.6 +0.7
MOTA **Moosalm** 80.89 317 *i* P P 10 13 32.6 -0.3
SNR=9.6
HFS **Hagfors** 81.21 330 P P 10 13 34.1 -0.1
comp=Z,9.2nm,0.6s,baz=116,slow=6.6,SNR=30
KEST **Kesra** 81.26 306 P P 10 13 35.4 +0.3
comp=Z,26nm,1.0s,baz=291,slow=1.7,SNR=11
KEST **Kesra** 81.26 306 *e*P P 10 13 36.2 +1.2
comp=Z,35nm,1.0s
DAVA **Damuels** 81.71 317 *i* P P 10 13 37.8 +0.5
SNR=7.8
BILL **Bilibino** 82.42 22⇑ *i*P P 10 13 40.1 -0.3
BILL *e* 10 16 48.9
BILL pmax pmax
comp=Z,11nm,1.0s
NB2 **NORSAR Subarra** 82.57 331 P P 10 13 40.6 -0.7
comp=Z,15nm,1.0s,baz=95,slow=5.9
NOA **NORSAR Array B** 82.57 331 P P 10 13 40.9 -0.5
comp=Z,7.4nm,0.9s,baz=97,slow=5.6,SNR=8.6
BFO **Black Forest** 82.84 318 *e*P P 10 13 42.7 -0.4
comp=Z,1.1nm,0.8s
BFO **Black Forest** 82.84 318 *i* P P 10 13 43.4 +0.4
KONO **Kongsberg** 83.18 330*ce*P P 10 13 43.8 -0.7
KONO pmax pmax
comp=Z,648nm,2.5s
ECH **Echery** 83.61 318 *e*P P 10 13 46.7 -0.3
ECH **Echery** 83.61 318 *e*P P 10 13 46.7 -0.3
SPITS **Spitsbergen Ar** 84.30 349 P P 10 13 49.6 -0.3
comp=Z,4.7nm,0.6s,baz=64,slow=5.7,SNR=8.7
WLF **Walferdange** 84.36 319 ⇑P P 10 13 51.6 +0.9
MEM **Membach** 84.49 320 ⇓P P 10 13 51.1 -0.3
comp=Z,14nm,1.0s
BCLA **Clavier** 84.94 320 ⇑P P 10 13 53.7 +0.1
RPZ **Rata Peaks** 84.98 134 P P 10 13 53.9 -0.1
comp=Z,17nm,0.9s,baz=61,slow=2.9,SNR=4.8
SSB **Saint Sauveur** 85.30 315 *e*P P 10 13 56.2 +0.5
comp=Z,28nm,1.3s
SSB **Saint Sauveur** 85.30 315 *e*P P 10 13 56.2 +0.5
SSB pmax pmax
comp=Z,28nm,1.3s
DOU **Dourbes** 85.38 320 ⇓P P 10 13 56.5 +0.7
SNF **Seneffe** 85.59 320 ⇓P P 10 13 57.2 +0.3
comp=Z,20nm,0.8s
TORD **Torodi Ar. Bea** 88.15 283 P P 10 14 10.1 -0.1
comp=Z,123nm,0.9s,baz=84,slow=4.6,SNR=9.0
VNDA **Vanda** 88.47 168 P P 10 14 11.0 +0.7
comp=Z,2.5nm,0.9s,baz=345,slow=6.2,SNR=5.1
EKA **Eskdalemuir Ar** 89.97 325 P P 10 14 18.0 +0.2
comp=Z,4.0nm,0.6s,baz=96,slow=6.7,SNR=22
GAMB **Gambell** 91.28 26 *e*P P 10 14 23.3 -0.4
comp=Z,12nm,1.2s
ES19 **SONSECA Array** 91.71 310 *e*P P 10 14 27.1 +0.7
ESDC **Sonseca Array** 91.76 310 P P 10 14 26.7 +0.1
comp=Z,7.1nm,0.8s,baz=55,slow=4.6,SNR=13
KOWA **Kowa** 93.63 285 P P 10 14 36.0 +0.3
comp=Z,9.6nm,0.7s,baz=82,slow=7.7,SNR=16
KOWA **Kowa** 93.63 285 *e*P P 10 14 36.5 +0.8
comp=Z,6.2nm,1.4s
DBIC **Dimbokro** 94.90 277 P P 10 14 41.6 +0.1
comp=Z,4.1nm,0.8s,baz=62,slow=6.4,SNR=4.3
IM3 **Indian Mountai** 97.98 22 *e*P P 10 14 53.5 -0.8
TOLK **Toolik Lake Re** 98.21 19 P P 10 14 55.0 -0.4
baz=299
TOLK **Toolik Lake Re** 98.21 19 *e*P P 10 14 55.2 -0.3
comp=Z,24nm,2.0s
ILAR **Eielson Array** 101.09 22 P Pdif P 10 15 06.1 -2.2
comp=Z,0.5nm,0.7s,baz=308,slow=4.4,SNR=5.0
ILAR PP PP 10 19 08.1 -8.4
comp=Z,0.5nm,0.8s,baz=289,slow=5.7,SNR=4.1
RES **Resolute Bay** 102.86 1 Pdiff Pdif P 10 15 16.3 +0.4
comp=Z,1.3nm,1.0s,baz=320,slow=7.9,SNR=3.1
YKA **Yellowknife Ar** 112.46 12 PKiKP PKiKP 10 19 54.5 +0.2
comp=Z,0.1nm,0.7s,baz=332,slow=6.3,SNR=3.0
YKA PP PP 10 20 30.7 -9.0
comp=Z,0.6nm,0.7s,baz=333,slow=7.8,SNR=6.5
YKA PKKPbc PKKPbc 10 30 42.9 -3.5
comp=Z,0.4nm,0.7s,baz=153,slow=3.6,SNR=5.6
SCHQ **Schefferville** 119.83 345 PKP PKPdf 10 20 07.9 -0.8
comp=Z,2.0nm,0.8s,baz=79,slow=2.3,SNR=4.8
B05A **Bryant** 122.06 25 P PKPdf 10 20 12.6 -0.6
baz=321
NEW **Newport** 124.04 22 P PKPdf 10 20 16.5 -0.6
baz=326
I03D **Drain, OR** 124.94 29 P PKPdf 10 20 18.7 -0.2
baz=318
I04A **Tendick Farm,** 125.33 29 P PKPdf 10 20 19.1 -0.6
baz=319
I05D **Terrebonne, OR** 125.42 28 P PKPdf 10 20 19.8 -0.1
baz=320
J04D **Umpqua Nationa** 125.89 29 P PKPdf 10 20 20.1 -0.9
baz=319
F10A **Beach Ranch, E** 125.90 24 *e*PKPdf PKPdf 10 20 20.8 -0.1
HUMO **Hull Mountain** 125.94 30 *e*PKPdf PKPdf 10 20 21.0 +0.1
J05D **Fort Rock, OR** 126.27 28 P PKPdf 10 20 22.0 +0.3
baz=320
MSO **Missoula** 126.41 21 P PKPdf 10 20 20.3 -1.5
baz=329,SNR=5.7
MSO **Missoula** 126.41 21 *e*PKPdf PKPdf 10 20 21.0 -0.8
M02C **Callahan** 126.88 31 P PKPdf 10 20 22.6 -0.2
baz=317
M04C **Macdoel** 127.11 30 P PKPdf 10 20 23.1 -0.2
baz=318
ULM **Lac du Bonnet** 127.18 5 PKP PKPdf 10 20 22.1 -0.8
comp=Z,2.4nm,0.7s,baz=322,slow=2.0,SNR=4.5
N02D **Trinity Center** 127.26 31 P PKPdf 10 20 23.3 -0.2
baz=317
O03D **Paynes Creek** 128.23 31 P PKPdf 10 20 24.9 -0.6
baz=318
BOZ **Bozeman (W)** 128.27 20 P PKPdf 10 20 25.1 -0.3
baz=332
A32A **Rocking H Ranc** 128.44 6 P PKPdf 10 20 24.8 -0.6
baz=351
A33A **Warroad** 128.52 5 P PKPdf 10 20 25.2 -0.4
baz=353
MFID **Camas Ranch** 128.57 24 *e*PKPdf PKPdf 10 20 26.1 +0.1
B31A **Greenbush Farm** 128.80 7 P PKPdf 10 20 25.3 -0.8
baz=350
LAO **LASA Array** 128.87 15 P PKPdf 10 20 25.8 -0.6
baz=339
B32A **Ashes, Strandq** 128.95 6 P PKPdf 10 20 25.6 -0.8
baz=351
HLID **Hailey** 129.01 23 P PKPdf 10 20 26.9 0.0
baz=328
B34A **Aery, Baudette** 129.03 4 P PKPdf 10 20 26.0 -0.5
baz=354
MDND **Maddock** 129.10 9 P PKPdf 10 20 26.0 -0.8
baz=347
PKME **Peaks-Kenny Pk** 129.11 342 P PKPdf 10 20 25.5 -1.3
baz=26
B35A **Bob, Littlefor** 129.22 4 P PKPdf 10 20 26.1 -0.8
baz=355
C31A **Landman Farms,** 129.41 7 P PKPdf 10 20 26.5 -0.9
baz=350
RLMT **Red Lodge** 129.46 18 P PKPdf 10 20 27.0 -0.8
baz=334
EYMN **Ely** 129.73 2 P PKPdf 10 20 27.7 -0.3
baz=358
C34A **RKJ Ranch, Bem** 129.84 5 P PKPdf 10 20 27.4 -0.8
baz=353
C35A **Jirik Farms, M** 129.86 4 P PKPdf 10 20 27.1 -1.1
baz=354
D33A **AnnSam, Wauburn** 130.26 6 P PKPdf 10 20 28.6 -0.4
baz=352
TPAW **Teton Pass** 130.36 20 *e*PKPdf PKPdf 10 20 29.8 +0.2
D37A **Cotton** 130.48 3 P PKPdf 10 20 28.7 -0.7
baz=356
REDW **Red Top Meadow** 130.50 20 *e*PKPdf PKPdf 10 20 29.6 -0.3
E38A **The Farm, Brul** 131.07 2 P PKPdf 10 20 30.4 -0.1
baz=358
E36A **McGregor** 131.08 3 P PKPdf 10 20 30.4 -0.1
baz=355
LONY **Lake Ozonia** 131.19 346 P PKPdf 10 20 30.0 -0.8
baz=20
E41A **Kenton** 131.24 359 P PKPdf 10 20 30.5 -0.3
baz=0.9
E40A **Wakefield** 131.26 0 P PKPdf 10 20 30.8 -0.1
baz=360
NV01 **Mina Array Sit** 131.42 30 *e*PKPdf PKPdf 10 20 32.1 +0.4
NVAR **Mina Array Bea** 131.42 30 PKP PKPdf 10 20 31.9 +0.2
comp=Z,2.7nm,0.7s,baz=327,slow=1.8,SNR=13
BW06 **Boulder Array** 131.47 20 P PKPdf 10 20 31.1 -0.6
baz=333
PD31 **Pinedale Array** 131.47 20 *e*PKPdf PKPdf 10 20 29.7 -2.0
PDAR **Pinedale Array** 131.47 20 PKP PKPdf 10 20 29.7 -2.0
comp=Z,1.3nm,0.7s,baz=130,slow=1.2,SNR=9.2
PDAR PP PP 10 22 46.5 -3.0
comp=Z,0.5nm,0.8s,baz=29,slow=3.4,SNR=4.0
F33A **5 Mile Ranch,** 131.50 6 P PKPdf 10 20 31.3 0.0
baz=351
F44A **Big Bay de Noc** 131.65 357 P PKPdf 10 20 31.4 -0.2
baz=4.3
F38A **Pierce - Schro** 131.70 2 P PKPdf 10 20 31.7 0.0
baz=357
F36A **Milaca** 131.72 4 P PKPdf 10 20 31.6 -0.1
baz=355
F43A **Flat Rock, Esc** 131.82 358 P PKPdf 10 20 31.5 -0.4
baz=3.3
F45A **CMU Biological** 131.88 356 P PKPdf 10 20 31.8 -0.2
baz=5.5
F37A **Hinrichs Farm,** 131.91 3 P PKPdf 10 20 32.0 -0.1
baz=356
G33A **Ortonville** 132.12 6 P PKPdf 10 20 31.8 -0.8
baz=351
G35A **Watkins** 132.29 5 P PKPdf 10 20 32.4 -0.5
baz=354
G42A **Mountain** 132.45 359 P PKPdf 10 20 32.9 -0.3
baz=1.6
G38A **Ridgeland** 132.49 2 P PKPdf 10 20 33.0 -0.3
baz=357
DUG **Dugway, Tooele** 132.49 24 P PKPdf 10 20 33.5 -0.1
baz=328
DUG **Dugway, Tooele** 132.49 24 *e*PKPdf PKPdf 10 20 34.3 +0.7
DUG **Dugway, Tooele** 132.49 24 *e*PKIKP PKPdf 10 20 34.3 +0.7
K22A **Casper** 132.53 17 P PKPdf 10 20 33.1 -0.5
baz=337
H35A **Sunnyside Ranc** 132.78 5 P PKPdf 10 20 33.8 0.0
baz=353
R11A **Troy Canyon, C** 132.80 28 P PKPdf 10 20 34.4 +0.1
baz=324
VES **Vestal, Richgr** 132.96 33 P PKPdf 10 20 34.1 -0.3
baz=318
H36A **Jessenland, He** 132.97 4 P PKPdf 10 20 34.0 -0.2
baz=354
H43A **Windswept, Lux** 133.20 358 P PKPdf 10 20 34.8 +0.2
baz=2.6
ECSD **EROS Data Cent** 133.54 7 P PKPdf 10 20 34.6 -0.7
baz=350
ECSD **EROS Data Cent** 133.54 7 *e*PKPdf PKPdf 10 20 34.3 -0.9
MPMC **Manual Prospec** 133.65 32 P PKPdf 10 20 36.3 +0.3
baz=320
I39A **Houston** 133.82 2 P PKPdf 10 20 35.2 -0.5
baz=357
J36A **Seneca 1, Swea** 134.18 5 P PKPdf 10 20 36.6 +0.2
baz=354
BLG **Laguna Peak, P** 134.24 35 P PKPdf 10 20 37.4 +0.5
baz=317
Q16A **Castle Valley** 134.25 24 *e*PKPdf PKPdf 10 20 35.2 -1.8
O20A **White River Ci** 134.26 20 P PKPdf 10 20 36.4 -0.6
baz=334
J40A **Soldiers Grove** 134.29 1 P PKPdf 10 20 36.9 +0.2
baz=358
K31A **O'Neill** 134.33 9 P PKPdf 10 20 36.8 0.0
baz=347
SHOC **Shoshone, Teco** 134.40 31 P PKPdf 10 20 37.3 +0.1
baz=321
GSC **Goldstone, Bar** 134.58 32 P PKPdf 10 20 37.8 +0.2
baz=320
K38A **Parkersburg** 134.97 3 P PKPdf 10 20 37.4 -0.6
baz=356
LCMT **Little Creek M** 134.97 27 *e*PKPdf PKPdf 10 20 39.9 +1.5
PTCN **Pitcairn Islan** 135.04 124 *e*PKPdf PKPdf 10 20 39.8 +1.2
L39A **Vinton** 135.53 3 P PKPdf 10 20 38.6 -0.4
baz=357
PV10 **Paradox Valley** 135.54 22 *e*PKPdf PKPdf 10 20 39.6 +0.1
GMRC **Granite Mounta** 135.58 31 P PKPdf 10 20 40.3 +0.8
baz=321
L40A **Amarosa** 135.62 2 P PKPdf 10 20 39.6 +0.4
baz=358
SSPA **Standing Stone** 135.74 347 P PKPdf 10 20 39.8 +0.3
baz=17
M36A **Felix, Anita** 136.00 6 P PKPdf 10 20 41.0 +1.0
baz=353
NEE2 **Needles Airpor** 136.12 30 P PKPdf 10 20 41.7 +1.4
baz=323
O56A **Blue Knob Stat** 136.24 348 P PKPdf 10 20 41.4 +0.9
baz=16
IRM **Iron Mountain** 136.33 31 P PKPdf 10 20 41.8 +1.0
baz=322
MVCO **Mesa Verde** 136.77 22 P PKPdf 10 20 42.6 +0.8
baz=332
S22A **4UR Ranch, Cre** 136.89 20 P PKPdf 10 20 43.0 +0.9
baz=334
KSCO **Kaye Shedlock'** 136.98 15 P PKPdf 10 20 42.3 +0.3
baz=341
O34A **Beatrice** 137.03 8 P PKPdf 10 20 42.2 +0.3
baz=350
ACSO **Alum Creek Sta** 137.03 353 P PKPdf 10 20 42.4 +0.5
baz=9.8
SDCO **Great Sand Dun** 137.33 19 P PKPdf 10 20 42.9 0.0
baz=336
CBKS **Cedar Bluff** 137.84 12 P PKPdf 10 20 44.5 +1.0
baz=345
P38A **Dawn** 137.92 5 P PKPdf 10 20 44.2 +0.6
baz=354
W18A **Petrified Fore** 138.09 25 P PKPdf 10 20 45.4 +1.2
baz=329
Q39A **Willow Grove F** 138.54 4 P PKPdf 10 20 45.8 +1.1
baz=355
Q40A **Laux Farm, Aux** 138.64 3 P PKPdf 10 20 46.0 +1.1
baz=356
Q47A **Bedord North L** 138.66 356 P PKPdf 10 20 46.3 +1.3
baz=4.9
Q43A **New Douglas** 138.76 0 P PKPdf 10 20 46.3 +1.2
baz=360
Q42A **Golden Eagle** 138.78 1 P PKPdf 10 20 46.4 +1.3
baz=359
Q45A **Warren Harvey,** 138.78 358 P PKPdf 10 20 46.9 +1.8
baz=2.3
R47A **Wooly Knot Far** 139.30 356 P PKPdf 10 20 47.1 +1.0
baz=4.8
R38A **Fenwick Farm,** 139.32 5 P PKPdf 10 20 47.2 +1.1
baz=354
WCI **Wyandotte Cave** 139.35 356 P PKPdf 10 20 47.0 +0.8
baz=5.1
R41A **Rosebud** 139.37 2 P PKPdf 10 20 47.4 +1.2
baz=357
R45A **Skylar, Fairfi** 139.39 358 P PKPdf 10 20 47.4 +1.1
baz=2.1
ANMO **Albuquerque** 139.53 22 P PKPdf 10 20 47.6 +0.7
baz=334
BLA **Blacksburg** 139.57 349 P PKPdf 10 20 47.7 +1.0
baz=14
S42A **Caledonia** 139.91 1 P PKPdf 10 20 48.3 +1.1
baz=358
S46A **Don Dixon Farm** 139.97 358 P PKPdf 10 20 48.4 +1.1
baz=3.0
TUC **Tucson** 139.98 28 P PKPdf 10 20 48.4 +0.8
baz=326
S44A **Carbondale** 140.00 360 P PKPdf 10 20 48.4 +1.0
baz=0.6
S45A **Carrier Mills** 140.01 359 P PKPdf 10 20 48.5 +1.1
baz=1.7
S43A **Fulton Ridge,** 140.12 1 P PKPdf 10 20 49.2 +1.6
baz=359
Y22E **IRIS PASSCAL I** 140.13 23 P PKPdf 10 20 49.1 +1.1
baz=332
Y22D **IRIS PASSCAL I** 140.13 23 P PKPdf 10 20 49.1 +1.1
baz=332
T38A **Diamond** 140.42 6 P PKPdf 10 20 49.7 +1.5
baz=353
T40A **Mansfield** 140.45 4 P PKPdf 10 20 49.8 +1.6
baz=356
T41A **Mountain View** 140.60 3 P PKPdf 10 20 50.2 +1.7
baz=357
T46A **Princeton** 140.62 358 P PKPdf 10 20 49.9 +1.4
baz=2.8
T47A **Sharon Grove** 140.64 357 P PKPdf 10 20 49.9 +1.4
baz=4.0
T42A **Van Buren** 140.64 2 P PKPdf 10 20 49.7 +1.2
baz=358
CPUP **Villa Florida** 140.99 230 PKP PKPdf 10 20 49.1 -0.4
comp=Z,3.3nm,0.9s,baz=40,slow=6.3,SNR=3.9
U48A **Cassie Pea, Po** 141.08 356 P PKPdf 10 20 51.5 +2.1
baz=4.9
AMTX **Amarillo** 141.12 16 P PKPdf 10 20 51.5 +1.8
baz=341
121A **Cookes Peak, D** 141.14 25 P PKPdf 10 20 51.4 +1.6
baz=330
U47A **Clarksville** 141.19 357 P PKPdf 10 20 51.3 +1.8
baz=3.8
U42A **Revenden** 141.31 2 P PKPdf 10 20 51.4 +1.6
baz=358
MNTX **Cornudas Mount** 142.83 23 P PKPdf 10 20 55.1 +2.5
baz=333
X49A **Woodville** 143.05 355 P PKPdf 10 20 55.6 +2.6
baz=5.5
X42A **Stuttgart** 143.09 3 P PKPdf 10 20 55.8 +2.8
baz=357
OXF **Oxford** 143.18 360 P PKPdf 10 20 56.5 +3.4
baz=0.4
X45A **UM Field Stati** 143.26 360 P PKPdf 10 20 56.5 +3.2
baz=0.4
Y45A **Yeager Farm, C** 143.82 360 P PKPdf 10 20 56.9 +2.6
baz=0.2
WLAR **White Oak Lake** 143.85 5 *e*PKPpre PKPpre 10 20 51.8
Z48A **Northport** 144.26 357 P PKPab 10 20 52.4 -0.4
baz=3.6
Z50A **Ashland** 144.26 355 P PKPab 10 20 52.3 -0.6
baz=6.4
Z42A **Norrel Spur, H** 144.34 3 P PKPab 10 20 52.9 -0.2
baz=356,SNR=5.7
Z49A **Columbiana** 144.37 356 P PKPab 10 20 52.8 -0.5
baz=5.3
Z47A **Carrollton** 144.46 358 P PKPab 10 20 53.2 -0.4
baz=2.7
Z46A **Louisville** 144.49 359 P PKPab 10 20 53.9 +0.1
baz=1.2
LRAL **Lakeview Retre** 144.56 356 P PKPab 10 20 53.1 -0.9
baz=4.5,SNR=5.3
LRAL **Lakeview Retre** 144.56 356 *e*PKPdf PKPab 10 20 53.5 -0.5
153A **Fort Valley** 144.61 352 P PKPab 10 20 54.1 -0.1
baz=10.0
140A **Cam and Jess,** 144.84 6 P PKPab 10 20 52.9 -2.1
baz=353
WHTX **Lake Whitney,** 144.90 12 P PKPab 10 20 54.1 -1.2
baz=346
WHTX **Lake Whitney,** 144.90 12 *e*PKPdf PKPab 10 20 54.7 -0.6
150A **Eclectic** 144.91 355 P PKPab 10 20 54.5 -0.8
baz=6.3,SNR=8.5
151A **Opelika** 144.92 354 P PKPab 10 20 54.5 -0.8
baz=7.5,SNR=18
141A **Papa Simpson,** 144.94 5 P PKPab 10 20 55.0 -0.5
baz=354,SNR=5.3
143A **Socs Landing,** 144.94 3 P PKPab 10 20 55.1 -0.3
baz=357,SNR=10
148A **Greensboro** 144.98 357 P PKPab 10 20 54.6 -0.9
baz=3.6,SNR=6.8
149A **Jones** 144.98 356 P PKPab 10 20 54.4 -1.2
baz=5.0,SNR=5.1
147A **Livingston** 144.99 358 P PKPab 10 20 54.8 -0.8
baz=2.4
ROC1 **El Roble** 145.02 208 *e*PKPbc PKPab 10 20 56.0 -0.1
146A **Union** 145.04 359 P PKPbc 10 20 55.5 -0.3
baz=1.0,SNR=16
144A **Alexander Plac** 145.05 1 P PKPbc 10 20 55.8 0.0
baz=359,SNR=13
142A **Monroe** 145.07 3 P PKPbc 10 20 55.4 -0.5
baz=356
145A **Houston Renfro** 145.08 0 P PKPbc 10 20 55.3 -0.6
baz=360
254A **Abbeville** 145.21 351 P PKPbc 10 20 55.7 -0.6
baz=11,SNR=8.6
253A **Americus** 145.23 352 P PKPbc 10 20 55.9 -0.5
baz=9.7,SNR=7.9
251A **Midway** 145.36 354 P PKPbc 10 20 56.4 -0.4
baz=7.4,SNR=36
252A **Lumpkin** 145.37 353 P PKPbc 10 20 56.4 -0.5
baz=8.6,SNR=28
357A **Townsend** 145.38 348 P PKPbc 10 20 56.2 -0.7
baz=14
240A **Hunter Patters** 145.42 6 P PKPbc 10 20 56.6 -0.4
baz=358
VBMS **Vicksburg** 145.46 1 P PKPbc 10 20 57.1 0.0
baz=358,SNR=9.4
VBMS **Vicksburg** 145.46 1 *e*PKPdf PKPbc 10 20 57.2 +0.1
241A **Mo Tay, Goldon** 145.52 5 P PKPdf 10 20 57.3 0.0
baz=354,SNR=12
242A **Grayson** 145.54 4 P PKPdf 10 20 56.7 -0.7
baz=356
248A **Dixon Mills** 145.54 357 P PKPdf 10 20 56.9 -0.4
baz=3.4,SNR=16
250A **Grady** 145.56 355 P PKPdf 10 20 56.9 -0.5
baz=6.0,SNR=7.7
NATX **Nacogdoches** 145.59 8 P PKPdf 10 20 57.4 0.0
baz=351,SNR=13
NATX **Nacogdoches** 145.59 8 *e*PKPdf PKPdf 10 20 57.5 0.0
TX31 **Lajitas Ar. Si** 145.60 22 *e*PKPdf PKPdf 10 20 57.2 -0.5
TX31 *e*PKPdf PKPbc 10 20 57.6 -0.3
TXAR **Lajitas Array** 145.60 22 PKPbc PKPdf 10 20 57.4 -0.3
comp=Z,60nm,1.0s,baz=288,slow=1.6,SNR=73
356A **Blackshear** 145.61 349 P PKPdf 10 20 57.0 -0.5
baz=13
247A **Quitman** 145.62 358 P PKPdf 10 20 57.6 +0.1
baz=1.8,SNR=12
249A **Camden** 145.63 356 P PKPdf 10 20 57.2 -0.3
baz=4.5,SNR=17
244A **Avery, Jackson** 145.63 2 P PKPdf 10 20 57.4 -0.1
baz=358,SNR=24
246A **Jackson Lee, B** 145.67 359 P PKPdf 10 20 57.7 +0.1
baz=0.9
355A **Pearson** 145.73 350 P PKPdf 10 20 57.6 -0.1
baz=12,SNR=8.2
243A **Waterproof** 145.76 3 P PKPdf 10 20 57.7 0.0
baz=357
TIGA **Tifton** 145.76 351 P PKPdf 10 20 57.9 +0.2
baz=11,SNR=14
TIGA **Tifton** 145.76 351 *e*PKPdf PKPdf 10 20 58.2 +0.5
JCT **Junction City** 145.79 16 P PKPdf 10 20 57.3 -0.6
baz=342
JCT **Junction City** 145.79 16 *e*PKPdf PKPdf 10 20 57.3 -0.6
JCT **Junction City** 145.79 16 *e*PKP2 PKPdf 10 20 57.3 -0.6
352A **Blakely** 145.91 353 P PKPdf 10 20 58.1 +0.1
baz=8.4,SNR=8.5
353A **Camilla** 145.94 352 P PKPdf 10 20 58.1 0.0
baz=9.7,SNR=6.7
435B **Jarrell** 146.04 12 P PKPdf 10 20 59.0 +0.7
baz=346
350A **Dozier** 146.12 355 P PKPdf 10 20 58.8 +0.4
baz=5.9
456A **Hilliard** 146.17 348 P PKPdf 10 20 58.7 +0.3
baz=14
351A **Pinckard** 146.19 354 P PKPdf 10 20 58.5 0.0
baz=7.2,SNR=5.3
342A **Flagon Creek P** 146.21 4 P PKPdf 10 20 58.9 +0.4
baz=355
344A **Westbrook Farm** 146.21 2 P PKPdf 10 20 59.0 +0.5
baz=358
348A **Jackson** 146.23 357 P PKPdf 10 20 58.9 +0.4
baz=3.1
349A **Repton** 146.25 356 P PKPdf 10 20 59.4 +0.8
baz=4.4,SNR=9.2
347A **Saraland** 146.26 358 P PKPbc 10 20 59.7 +0.1
baz=2.0,SNR=9.2
346A **Big Creek Wild** 146.29 360 P PKPdf 10 20 58.6 0.0
baz=0.3
455A **Stateville** 146.34 350 P PKPdf 10 20 59.5 +0.7
baz=12
345A **Thompson Farm,** 146.37 1 P PKPdf 10 20 59.5 +0.7
baz=359,SNR=6.4
BRAL **Brewton** 146.42 356 P PKPbc 10 20 59.9 -0.2
baz=4.7
BRAL **Brewton** 146.42 356 *e*PKPdf PKPbc 10 21 00.3 +0.2
453A **Whigham** 146.44 352 P PKPdf 10 20 59.6 +0.7
baz=9.6,SNR=6.7
454A **Quitman** 146.47 351 P PKPbc 10 21 00.1 -0.2
baz=11
452A **Marianna** 146.56 353 P PKPbc 10 21 00.2 -0.3
baz=8.1
450A **Crestview** 146.75 355 P PKPbc 10 21 01.1 0.0
baz=5.6
557A **Orange Park** 146.79 347 P PKPbc 10 21 01.2 -0.1
baz=14
449A **Pace** 146.84 356 P PKPbc 10 21 01.5 +0.2
baz=4.4
451A **Vernon** 146.86 354 P PKPbc 10 21 01.8 +0.4
baz=7.1
442A **Mamou** 146.86 4 P PKPbc 10 21 02.0 +0.6

baz=355
447A **Lucedale** 146.87 358 P PKPbc 10 21 01.6 +0.1
baz=1.8,SNR=6.8
446A **Poplarville** 146.89 360 P PKPbc 10 21 01.5 0.0
baz=0.5
HPIG 146.89 27 *e*PKPdf PKPbc 10 21 02.1 +0.2
555A **McAlpin** 146.94 349 P PKPbc 10 21 01.8 +0.2
baz=12
444A **Pine Grove** 146.95 2 P PKPbc 10 21 01.8 +0.2
baz=358
556A **Lake Butler** 146.95 348 P PKPbc 10 21 01.8 +0.2
baz=13
554A **Perry** 147.10 350 P PKPbc 10 21 02.6 +0.5
baz=11
657A **Interlachen** 147.24 347 P PKPbc 10 21 03.2 +0.7
baz=14
658A **Bunnell** 147.26 346 P PKPbc 10 21 02.6 0.0
baz=16
552A **Lynn Haven** 147.28 353 P PKPbc 10 21 02.9 +0.3
baz=8.0
546A **Slidell** 147.44 0 P PKPbc 10 21 03.7 +0.7
baz=360
656A **Willston** 147.59 348 P PKPbc 10 21 03.4 -0.1
baz=13
757A **Oxford** 147.90 347 P PKPbc 10 21 04.0 -0.3
baz=14
833A **Chaparral WMA,** 147.94 16 P PKPbc 10 21 04.5 +0.1
baz=342
858A **St. Cloud** 148.44 346 P PKPbc 10 21 05.7 -0.1
baz=16
859A **Kempfer Cattle** 148.47 345 P PKPbc 10 21 05.8 -0.1
baz=17
857A **Zephyrhills** 148.59 347 P PKPbc 10 21 05.8 -0.4
baz=14
959A **Okeechobee** 148.98 345 P PKPbc 10 21 06.6 -0.6
baz=17
958A **Wauchula** 149.14 346 P PKPbc 10 21 07.1 -0.5
baz=15
957A **Wimauma** 149.17 347 P PKPbc 10 21 07.4 -0.3
baz=14
058A **Arcadia** 149.66 346 P PKPbc 10 21 08.5 -0.4
baz=16
PTGA **Pitinga** 150.30 273 PKPbc PKPbc 10 21 10.1 -0.7
comp=Z,6.9nm,0.7s,baz=85,slow=5.7,SNR=5.2
LPAZ **La Paz** 154.80 236 PKPbc PKPbc 10 21 21.8 +0.1
comp=Z,1.4nm,0.7s,baz=224,slow=25,SNR=4.3
SDV **Santo Domingo** 157.94 301 *e*PKPdf PKPdf 10 21 16.3 -0.3
ROSC **El Rosal** 163.06 296 PKP PKPdf 10 21 22.7 +0.1
comp=Z,8.8nm,0.7s,baz=31,slow=22,SNR=4.0
OTAV **Otavalo** 168.50 284 *e*PKPdf PKPdf 10 21 27.4 +0.3

IDC 11 10:05:05.1±1.6,**0.26S×92.59E,h0km,mb4.1/6,mb1 4.2/7, mb1mx3.7/73,mbtmp4.0/7,ML4.3/1,Error ellipse: s-maj=57.7km s-min=25.3km az=58.0,X,Southwest of Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
CMAR	**Chiang Mai Arr**	**19.62**	**18**	P	P		10 09 35.7	+0.3
	0.3nm,0.3s,baz=219,slow=12,SNR=3.4							
ASAR	**Alice Springs**	**46.33**	**123**	P	P		10 13 32.9	-0.4
	2.6nm,0.5s,baz=78,slow=8.8,SNR=22							
MKAR	**Makanchi Array**	**47.73**	**350**	P	P		10 13 42.8	-1.0
	1.2nm,0.7s,baz=170,slow=9.7,SNR=2.8							
SONM	**Songino Array**	**49.39**	**12**	P	P		10 13 58.4	+1.7
	4.0nm,0.7s,baz=193,slow=9.1,SNR=4.0							
KURBB	**Kurchatov Arra**	**52.09**	**349**	P	P		10 14 15.6	-1.3
	1.2nm,0.7s,baz=172,slow=6.6,SNR=5.1							
ZALV	**Zalesovo Beam**	**54.41**	**354**	P	P		10 14 33.4	-0.5
	2.0nm,0.5s,baz=182,slow=7.7,SNR=3.6							
GERES	**GERESS Array B**	**82.89**	**319**	P	P		10 17 32.9	+1.0
	0.8nm,0.4s,baz=111,slow=5.4,SNR=4.3							

*IDC **11** 10:08:27.4±0.4,2˚.61N×90˚.06E,h0km,mb4.8/41, mb1 4.8/44,mb1mx4.7/75,mbtmp4.8/44,ML4.5/3,Error ellipse: s-maj=14.1km s-min=9.9km az=34.0*
*ISCJB **11** 10:08:27.2±0.2,2˚.60N±0˚.03×90˚.07E±0˚.03,h10km, mb5.0/110,Error ellipse: s-maj=5.0km s-min=2.7km az=36.2*
*BJI **11** 10:08:28.0,2˚.60N×90˚.10E,h10km,mb4.9/28,mB4.9/5, Ms4.8/2,Ms7 4.5/2*
*NEIC **11** 10:08:29.0±0.2,2˚.59N×90˚.06E,h10km,mb5.1/27,Error ellipse: s-maj=4.4km s-min=2.7km az=203.0*
*MOS **11** 10:08:30.6±0.9,2˚.64N×90˚.09E,h34km,mb5.3/38,Error ellipse: s-maj=8.5km s-min=5.2km az=112.9*
*DJA **11** 10:08:37.1±0.9,3˚.N±5˚×9˚.0E±˚,h41km,8km,M6.1/13, mB7.3/1,mb5.5/13,MLv6.4/4,Mw(mB)7.3/1*
ISC 11 10:08:29.1±0.3,**2.61N**±0.05×**90.03E**±0.05,**h10**km,**n338,** σ1**906**/339,**mb5.1**/115,**15C-14D,Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
MLSI	**Meulaboh, Aceh**	**6.58**	**75**	P	Pn		**10 10 06.2**	**+0.3**
LHMI	**Lhok Sumawe**	**7.38**	**69**	P	Pn		**10 10 17.6**	**+0.7**
LHMI	**Lhok Sumawe**	**7.38**	**69**	*e*Pn	Pn		**10 10 15.1**	**-1.8**
GSI	**Gunungsitoli**	**7.65**	**100**	P	Pn		**10 10 18.6**	**-2.1**
GSI	**Gunungsitoli**	**7.65**	**100**	*e*Pn	Pn		**10 10 19.4**	**-1.3**
KCSI	**Kotacane, Aceh**	**7.79**	**83**	P	Pn		**10 10 23.8**	**+1.2**
PBSI	**Pulau Batu**	**8.66**	**108**	P	Pn		**10 10 33.3**	**-1.3**
PSI	**Prapat**	**8.89**	**89**	Pn	Pn		**10 10 37.2**	**-0.6**
	9.2nm,0.3s,baz=272,slow=10,SNR=6.4							
PSI	**Prapat**	**8.89**	**89**	*e*Pn	Pn		**10 10 37.6**	**-0.2**
PSI	**Prapat**	**8.89**	**89**	*e*P	Pn		**10 10 37.6**	**-0.2**
PBA	**Port Blair**	**9.38**	**17**	*e*P	Pn		10 10 42.4	-2.1
PBA					IAmb	IAmb	10 10 44.5	
	comp=Z,61nm,0.7s							
SISI	**Saibi**	**9.87**	**113**	P	Pn		10 10 56.5	+5.4
PALK	**Pallekele**	**10.38**	**297**	*e*Pn	Pn		**10 10 58.6**	**+0.4**
PALK				*e*Sn	Sn		10 12 44.8	-10
PALK	**Pallekele**	**10.38**	**297**	*e*P	Pn		**10 10 58.6**	**+0.4**
DGPR	**DIGLIPUR**	**10.89**	**15**	*e*P	Pn		**10 11 05.1**	**0.0**
DGPR					IAmb	IAmb	10 11 09.6	
KULM	**Kulim**	**10.93**	**76**	*e*Pn	Pn		**10 11 05.0**	**-0.7**
PDSI	**Padang**	**11.00**	**108**	P	Pn		**10 11 05.0**	**-1.7**
IPM	**Ipoh**	**11.13**	**80**	*e*Pn	Pn		**10 11 07.8**	**-0.7**
MYKOM	**Kota Tinggi**	**13.84**	**93**	*e*Pn	Pn		**10 11 45.3**	**-0.2**
MDRS	**Chennai**	**14.20**	**318**	*e*P	Pn		**10 11 49.3**	**-1.2**
TRD	**Trivandrum**	**14.26**	**295**	*e*P	Pn		**10 11 51.9**	**+0.6**
SKHT	**Srikalahasti**	**15.05**	**318**	*e*P	Pn		**10 12 01.4**	**-0.5**
MDSI	**Maura Dua**	**15.80**	**116**	P	P		**10 12 13.3**	**-2.4**
LWLI	**Liwa**	**15.93**	**118**	P	P		**10 12 19.2**	**+1.9**
LWLI	**Liwa**	**15.93**	**118**	P	P		**10 12 19.4**	**+2.1**
VIS	**Vishakhapatnam**	**16.40**	**337**	*e*P	Pn		**10 12 19.6**	**+0.2**
ADKI	**Addanki**	**16.47**	**324**	*e*P	Pn		**10 12 19.9**	**-0.5**
KASI	**Kota Agung**	**16.56**	**119**	P	Pn		**10 12 22.2**	**+0.7**
PVM	**Polavaram**	**16.73**	**331**	*e*P	Pn		**10 12 23.5**	**-0.2**
CHLP	**Challavanipeta**	**16.85**	**340**	*e*P	Pn		**10 12 25.8**	**+0.5**
SRLM	**Srisailam**	**17.32**	**321**	*e*P	Pn		**10 12 31.3**	**+0.1**
NJS	**Nagarjunasagar**	**17.42**	**323**	*e*P	Pn		**10 12 32.1**	**-0.3**
URV	**Uravakonda**	**17.58**	**315**	*e*P	Pn		**10 12 35.2**	**+0.8**
MNCY	**Minicoy**	**17.82**	**289**	*e*P	Pn		**10 12 37.6**	**+0.2**
CM01	**Chiang Mai Arr**	**17.99**	**29**	*e*Pn	P		**10 12 40.3**	**+0.3**
CM31	**Chiang Mai Arr**	**18.01**	**28**	*e*Pn	Pn		**10 12 39.6**	**-0.2**
CMAR	**Chiang Mai Arr**	**18.01**	**28**	P	P		**10 12 40.9**	**+0.7**
	comp=Z,0.2nm,0.3s,baz=219,slow=13,SNR=5.3							
CGJI	**Cibinong**	**18.12**	**120**	P	P		**10 12 45.0**	**+3.5**
CHTO	**Chiang Mai**	**18.32**	**28**	*e*Pn	P		**10 12 44.6**	**+1.0**
	comp=Z,22nm,1.1s							
CHTO	**Chiang Mai**	**18.32**	**28**	*e*P	P		**10 12 44.6**	**+1.0**
CHTO				pmax	pmax			
	comp=Z,22nm,1.1s							
HYB	**Hyderabad**	**18.54**	**323**	*i* P	Pn		**10 12 47.0**	**+0.8**
HYB	**Hyderabad**	**18.54**	**323**	*e*P	P		**10 12 45.9**	**-0.1**
HYB					IAmb	IAmb	10 12 47.9	
	comp=Z,35nm,0.7s							
HYBB	**Hyderabad (bro**	**18.54**	**323**	*e*P	Pn		**10 12 47.1**	**+0.9**
RPR	**Rampur**	**19.27**	**328**	*e*P	P		**10 12 53.5**	**-0.5**
SRSP	**Sriramsagar**	**19.85**	**326**	*e*P	P		**10 13 00.9**	**+0.5**
LEM	**Lembang**	**19.90**	**118**	P	Pn		**10 13 02.2**	**-0.6**
	comp=Z,4.4nm,0.3s,baz=319,slow=20,SNR=5.5							
KLRI	**Killari**	**20.24**	**320**	*e*P	P		**10 13 04.9**	**+0.2**
H08S2	**Diego Garcia H**	**20.24**	**240**	T	T		10 33 42.9	
	baz=60							
H08S3	**Diego Garcia H**	**20.24**	**240**	T	T		10 33 50.1	
	baz=60,slow=74							
H08S1	**Diego Garcia H**	**20.26**	**240**	T	T		10 33 54.7	
	baz=60,slow=74							
KSM	**Kuching**	**20.30**	**93**	*e*P	Pn		10 13 06.4	-0.9
	comp=Z,84nm,1.3s							
JCJI	**Jatiwangi**	**20.33**	**116**	P	Pn		10 13 09.6	+1.9
CISI	**Cisompet, Garu**	**20.42**	**120**	P	P		**10 13 06.8**	**+0.1**
CISI	**Cisompet, Garu**	**20.42**	**120**	*e*P	Pn		10 13 07.3	-1.5
	comp=Z,105nm,0.8s							
GOA	**Goa**	**20.47**	**310**	*e*P	Pn		10 13 08.6	-0.7
GOA					IAmb	IAmb	10 13 12.0	
	comp=Z,46nm,0.3s							
KPJI	**Karang Pucung**	**21.29**	**118**	P	P		**10 13 15.9**	**-0.2**
BOK	**Bokaro**	**21.44**	**350**	*e*P	P		**10 13 18.3**	**+0.7**
BOK					IAmb	IAmb	10 13 19.4	
	comp=Z,244nm,1.9s							
STKI	**Sintang**	**21.59**	**96**	P	P		**10 13 19.2**	**-0.1**
STKI	**Sintang**	**21.59**	**96**	P	P		**10 13 20.0**	**+0.7**
SBUM	**Sibu**	**22.17**	**90**	*e*P	P		**10 13 25.7**	**+0.1**
	comp=Z,22nm,0.9s							
POO	**Poona**	**22.40**	**316**	*e*P	P		**10 13 28.2**	**+0.3**
SMRI	**Semarang**	**22.52**	**115**	P	P		10 13 39.9	+11
SMRI	**Semarang**	**22.52**	**115**	*e*P	P		**10 13 25.8**	**-3.5**
	comp=Z,93nm,0.9s							
SHL	**Shillong**	**22.90**	**4**	*e*P	P		**10 13 32.4**	**-1.0**
WOJI	**Wonogiri, Jawa**	**23.29**	**117**	P	P		**10 13 35.8**	**-1.4**
BHPL	**Bhopal**	**23.87**	**330**	*e*P	P		**10 13 43.1**	**+0.1**
BHPL					IAmb	IAmb	10 13 51.9	
	comp=Z,125nm,1.7s							
MTKI	**Muara Teweh, K**	**25.11**	**98**	P	P		**10 13 54.1**	**-0.3**
KMI	**Kunming**	**25.52**	**28**	P	P		**10 14 00.0**	**+1.8**
KMI					pmax	pmax		
	comp=Z,14nm,0.7s							
KKM	**Kota Kinabalu**	**26.33**	**82**	*e*P	P		**10 14 12.0**	**+6.4**
LSA	**Lhasa**	**26.97**	**2**	*e*P	P		**10 14 12.1**	**+0.5**
	comp=Z,19nm,0.6s							
LSA	**Lhasa**	**26.97**	**2**	*e*P	P		**10 14 12.1**	**+0.5**
LSA					pmax	pmax		
	comp=Z,19nm,0.6s							
BHJ	**Bhuj**	**28.47**	**318**	*e*P	P		**10 14 24.2**	**-0.3**
BHJ					IAmb	IAmb	10 14 29.2	
	comp=Z,15nm,0.5s							
GYA	**Guiyang**	**28.59**	**32**	P	P		**10 14 27.8**	**+2.1**
GYA				PP	PnPn		**10 15 19.9**	**+4.3**
GYA				S	S		**10 19 14.4**	**+0.1**
GYA				pmax	pmax			
	comp=Z,20nm,1.0s							
GYA				pmax	pmax			
	comp=Z,120nm,5.2s							
GYA				LR	LR			
	comp=Z,550nm,17.0s							
GYA				LR	LR			
	comp=Z,500nm,17.8s							
GYA				LR	LR			
	comp=Z,530nm,17.6s							
NDI	**New Delhi**	**28.66**	**336**	*e*P	P		**10 14 25.0**	**-1.2**
MPSI	**Mapaga**	**29.94**	**94**	P	P		10 14 43.9	+6.1
SMLA	**Simla**	**30.86**	**338**	*e*P	P		**10 14 46.0**	**+0.4**
SMLA					IAmb	IAmb	10 14 58.8	
	comp=Z,25nm,0.5s							
CD2	**Chengdu**	**31.00**	**23**	P	P		**10 14 48.0**	**+1.0**
CD2				S	S		**10 19 53.5**	**+1.6**
CD2				pmax	pmax			
	comp=Z,40nm,0.7s							
MRSI	**Marisa**	**31.97**	**93**	P	P		**10 14 55.2**	**-0.5**
DHRM	**DHARAMSHALA**	**32.19**	**338**	*e*P	P		**10 14 57.8**	**+0.1**
DHRM					IAmb	IAmb	10 15 01.1	
	comp=Z,21nm,0.8s							
ENH	**Enshi**	**33.12**	**32**	*e*P	P		**10 15 05.2**	**-0.4**
	comp=Z,13nm,0.8s							
NIL	**Nilore**	**34.64**	**335**	*e*P	P		**10 15 19.3**	**+0.5**
	comp=Z,77nm,0.9s							
NIL	**Nilore**	**34.64**	**335**	*e*P	P		**10 15 19.3**	**+0.5**
NIL					pmax	pmax		
	comp=Z,77nm,0.9s							
LZH	**Lanzhou**	**35.68**	**19**	*e*P	P		**10 15 29.7**	**+1.8**
LZH				pP	sP		10 15 34.5	+2.3
LZH				sP	pP		10 15 37.2	+6.2
LZH				PP	PP		**10 16 51.0**	**+2.0**
LZH				pmax	pmax			
	comp=Z,25nm,1.3s							
LZH				pmax	pmax			
	comp=Z,100nm,5.2s							
LZH				LR	LR			
	comp=Z,1μm,14.5s							
LZH				LR	LR			
	comp=Z,1μm,14.8s							
LZH				LR	LR			
	comp=Z,2μm,18.1s							
WSAR	**Wadi Sarin**	**36.67**	**307**	P	P		**10 15 37.1**	**+0.7**
	comp=Z,5.2nm,0.7s,baz=240,slow=7.2,SNR=5.5							
GTA	**Gaotai**	**37.70**	**12**	*e*P	P		**10 15 45.5**	**+0.5**
GTA				pP	sP		10 15 50.0	+0.7
GTA				sP	pP		10 15 52.8	+4.7
GTA				pmax	pmax			
	comp=Z,37nm,1.2s							
KSH	**Kashi**	**38.90**	**343**	P	P		**10 15 53.0**	**-2.1**
KSH				S	S		**10 21 49.4**	**-4.1**
KSH				pmax	pmax			
	comp=Z,59nm,0.8s							
NJ2	**Nanjing**	**39.91**	**40**	*e*P	P		**10 16 03.2**	**-0.3**
MEEK	**Meekatharra**	**40.09**	**138**	P	P		**10 16 05.4**	**+0.3**
	baz=40,SNR=7.9							
SFK	**Sufi-Kurgan**	**40.14**	**340**	P	P		**10 16 05.8**	**+0.2**
SFK				pmax	pmax			
	comp=Z,52nm,1.5s							
MORW	**Morawa**	**40.17**	**143**	P	P		**10 16 06.7**	**+1.0**
	baz=40,SNR=5.8							
WMQ	**Urumqi**	**41.09**	**357**	P	P		**10 16 14.0**	**+0.8**
WMQ				pmax	pmax			
	comp=Z,160nm,0.7s							
ULHL	**Ulahol**	**41.35**	**344**	P	P		**10 16 16.6**	**+1.1**
	SNR=7.4							
KZA	**Kyzart**	**41.47**	**343**	P	P		**10 16 17.5**	**+0.8**
	SNR=8.2							
UZB	**Uzynbulak**	**41.54**	**348**	*i* P	P		**10 16 17.7**	**+0.7**
	comp=Z,133nm,0.7s							
SATY	**Saty**	**41.59**	**347**	*i* P	P		**10 16 18.2**	**+0.8**
	comp=Z,520nm,0.9s							
UCH	**Uchtor**	**41.83**	**343**	P	P		**10 16 20.8**	**+1.1**
	SNR=18							
KPKS	**Kokpek**	**41.92**	**348**	*i* P	P		**10 16 20.4**	**+0.4**
AML	**Almayashu**	**41.99**	**342**	P	P		**10 16 22.2**	**+1.3**
	SNR=23							
MDOK	**Medeo**	**42.01**	**346**	*i* P	P		**10 16 21.7**	**+0.9**
	comp=Z,208nm,1.2s							
KBK	**Karagaybulak**	**42.09**	**343**	P	P		**10 16 22.9**	**+1.3**
	SNR=12							
TKM2	**Tokmak 2**	**42.16**	**344**	P	P		**10 16 22.8**	**+0.8**
	SNR=14							
TKM2	**Tokmak 2**	**42.16**	**344**	P	P		**10 16 22.4**	**+0.3**
TKM2				pmax	pmax			
	comp=Z,26nm,1.0s							
AAK	**Ala-Archa**	**42.21**	**343**	P	P		**10 16 23.0**	**+0.5**
	comp=Z,8.8nm,0.7s,baz=136,slow=4.6,SNR=17							
AAK	**Ala-Archa**	**42.21**	**343**	P	P		**10 16 23.9**	**+1.5**
	SNR=8.0							
AAK	**Ala-Archa**	**42.21**	**343**	*e*P	P		**10 16 23.5**	**+1.1**
	comp=Z,7.7nm,0.7s							
AAK	**Ala-Archa**	**42.21**	**343**	*i* P	P		**10 16 22.9**	**+0.5**
AAK				pmax	pmax			
	comp=Z,11nm,0.9s							
BMNS	**Besmoynak**	**42.31**	**344**	*e*P	P		**10 16 24.0**	**+0.7**
	comp=Z,498nm,0.7s							
FRU	**Bishkek**	**42.35**	**343**	*e*P	P		**10 16 26.0**	**+2.5**
MUN	**Mundaring**	**42.43**	**146**	P	P		**10 16 27.5**	**+3.2**
	baz=43							
EKS2	**Erkin-Say**	**42.44**	**342**	P	P		**10 16 25.8**	**+1.4**
	SNR=18							
HHC	**Hu-ho-hao-te**	**42.75**	**24**	*e*P	P		**10 16 28.3**	**+1.5**
USP	**Ospenovka**	**42.78**	**343**	P	P		**10 16 27.6**	**+0.7**
	SNR=14							
KUU	**Kurty**	**42.87**	**345**	*i* P	P		**10 16 27.7**	**+0.1**
	comp=Z,193nm,1.0s							
KLBR	**Kellerberrin**	**43.02**	**144**	P	P		**10 16 29.0**	**0.0**
	baz=43							
IUG	**Iuzhnay**	**43.25**	**338**	*i* P	P		**10 16 31.9**	**+1.0**
	comp=Z,323nm,0.9s							
DZA	**Taraz**	**43.44**	**340**	*e*P	P		**10 16 33.4**	**+1.1**
DZA				*e*S	S		**10 23 00.5**	**-0.2**
MTN	**Manton Dam**	**43.60**	**112**	P	P		**10 16 33.2**	**-0.8**
	baz=44,SNR=4.3							
NWAO	**Narrogin (SRO)**	**43.72**	**146**	P	P		**10 16 34.0**	**-0.6**
	comp=Z,13nm,0.8s,baz=195,slow=11,SNR=4.3							
NWAO	**Narrogin (SRO)**	**43.72**	**146**	P	P		**10 16 34.4**	**-0.2**
	baz=44							
NWAO				P	P		**10 16 34.4**	**-0.2**
	baz=44							
NWAO	**Narrogin (SRO)**	**43.72**	**146**	P	P		**10 16 34.0**	**-0.6**
KK31	**Karatay Array**	**43.91**	**339**	*e*P	P		**10 16 36.5**	**+0.4**
KK31	**Karatay Array**	**43.91**	**339**	*i* P	P		**10 16 36.1**	**0.0**
KK31				pmax	pmax			
	comp=Z,21nm,0.9s							
KKAR	**Karatay Array**	**43.91**	**339**	*e*P	P		**10 16 36.5**	**+0.4**
KKAR	**Karatay Array**	**43.91**	**339**	*e*P	P		**10 16 36.5**	**+0.4**
MK01	**Makanchi Array**	**44.50**	**352**	*e*P	P		**10 16 40.2**	**-0.5**
MK31	**Makanchi Array**	**44.52**	**352**	*e*P	P		**10 16 40.6**	**-0.4**
MK31	**Makanchi Array**	**44.52**	**352**	*e*P	P		**10 16 40.6**	**-0.4**
MKAR	**Makanchi Array**	**44.52**	**352**	P	P		**10 16 40.6**	**-0.4**
	comp=Z,17nm,0.7s,baz=170,slow=8.6,SNR=66							
MKAR	**Makanchi Array**	**44.52**	**352**	*e*P	P		**10 16 40.6**	**-0.4**
	comp=Z,92nm,0.6s							
MKAR				pmax	pmax			
	comp=Z,92nm,0.6s							
BTLS	**Baital**	**44.54**	**344**	*i* P	P		**10 16 41.3**	**+0.2**
	comp=Z,107nm,0.7s							
MAKZ	**Makanchi**	**44.58**	**352**	P	P		**10 16 40.8**	**-0.6**
MAKZ				pmax	pmax			
	comp=Z,17nm,1.1s							
ZSN	**Zaisan**	**44.89**	**355**	*i* P	P		**10 16 44.5**	**+0.6**
	comp=Z,89nm,1.0s							
KMBL	**Kambalda**	**45.38**	**141**	P	P		**10 16 49.8**	**+1.8**
	baz=46							
GYA1	**ALIBECK ARRAY**	**45.71**	**324**	*e*P	P		**10 16 51.5**	**+0.9**
	comp=Z,20nm,0.7s							
GYB5	**ALIBECK ARRAY**	**45.71**	**324**	*e*P	P		**10 16 51.3**	**+0.7**
	comp=Z,20nm,0.6s							
GEYT	**Alibeck**	**45.72**	**324**	P	P		**10 16 51.5**	**+0.9**
	comp=Z,24nm,0.8s,baz=153,slow=10.0,SNR=26							
GYA0	**ALIBECK ARRAY**	**45.72**	**324**	*e*P	P		**10 16 51.4**	**+0.8**
	comp=Z,24nm,0.9s							
GYA0B	**ALIBECK ARRAY**	**45.72**	**324**	*e*P	P		**10 16 51.4**	**+0.8**
	comp=Z,23nm,0.8s							
GYB2	**ALIBECK ARRAY**	**45.72**	**324**	*e*P	P		**10 16 51.6**	**+1.0**
	comp=Z,25nm,0.8s							
GYA2	**ALIBECK ARRAY**	**45.72**	**324**	*e*P	P		**10 16 51.5**	**+0.9**
	comp=Z,27nm,0.9s							
GYB3	**ALIBECK ARRAY**	**45.73**	**324**	*e*P	P		**10 16 51.8**	**+1.1**
	comp=Z,22nm,0.8s							
GYB4	**ALIBECK ARRAY**	**45.73**	**324**	*e*P	P		**10 16 51.6**	**+1.0**
	comp=Z,21nm,0.8s							
WRKA	**Warakurna**	**46.17**	**129**	P	P		**10 16 54.6**	**+0.2**
	baz=46,SNR=5.1							
OPO	**Ambohidratompo**	**47.11**	**242**	P	P		**10 17 01.7**	**-0.3**
	comp=Z,1.0nm,0.4s,baz=27,slow=4.2,SNR=2.9							
SONM	**Songino Array**	**47.22**	**15**	P	P		**10 17 02.9**	**+0.6**
	comp=Z,33nm,0.5s,baz=195,slow=9.4,SNR=108							
SONA1	**Songino Array**	**47.23**	**15**	*e*P	P		**10 17 02.4**	**-0.1**
ABPO	**Ambohimpanom**	**47.25**	**241**	*e*P	P		**10 17 03.8**	**+0.7**
	comp=Z,19nm,1.0s							
ABPO	**Ambohimpanom**	**47.25**	**241**	*e*P	P		**10 17 03.8**	**+0.7**
ABPO				pmax	pmax			
	comp=Z,19nm,1.0s							
ULN	**Ulaanbaatar**	**47.42**	**16**	*ce*P	P		**10 17 03.6**	**-0.3**
ULN				pmax	pmax			
	comp=Z,7.0nm,0.7s							
ATD	**Arta Tunnel**	**47.59**	**283**	P	P		**10 17 06.4**	**+0.8**
	comp=Z,22nm,0.9s,baz=347,slow=10,SNR=4.8							
RAYN	**Ar Rayn**	**47.80**	**300**	*e*P	P		**10 17 07.2**	**0.0**
	comp=Z,21nm,1.2s							
OTUK	**Ortayu**	**47.95**	**344**	P	P		**10 17 07.8**	**-0.1**
OTUK				pmax	pmax			
	comp=Z,26nm,0.6s							
SEM	**Semipalatinsk**	**48.35**	**352**	*i* P	P		**10 17 10.5**	**-0.6**
	comp=Z,155nm,0.7s							
HVS	**Khovu-Aksy**	**48.46**	**3**	*i* P	P		**10 17 11.2**	**-0.6**
HVS				pmax	pmax			
	comp=Z,35nm,0.9s							
JNU	**Nakatsue**	**48.80**	**47**	P	P		**10 17 14.5**	**-0.2**
	comp=Z,16nm,1.1s,baz=337,slow=18,SNR=2.4							
KURBB	**Kurchatov Arra**	**48.82**	**350**	P	P		**10 17 14.2**	**-0.3**
	comp=Z,14nm,0.7s,baz=174,slow=7.2,SNR=61							
KURBB				PcP	PcP		**10 18 38.9**	**-0.2**
	comp=Z,2.1nm,0.8s,baz=177,slow=3.8,SNR=4.3							
KURK	**Kurchatov**	**48.90**	**350**	*e*P	P		**10 17 14.8**	**-0.2**
	comp=Z,12nm,0.6s							
KURK				PcP	PcP		**10 18 38.9**	**-0.5**
KURK	**Kurchatov**	**48.90**	**350**	P	P		**10 17 14.2**	**-0.9**
KURK							10 18 38.9	
KURK				pmax	pmax			
	comp=Z,14nm,0.7s							
KURK				pmax	pmax			
	comp=Z,2.0nm,0.8s							
ZAK	**Zakamensk**	**48.91**	**11**	*e*P	P		**10 17 14.5**	**-0.8**
ZAK				*e*			10 18 44.9	
ZAK				pmax	pmax			
	comp=Z,5.0nm,1.2s							
ZAK				pmax	pmax			
	comp=Z,9.0nm,1.4s							
WRA	**Warramunga Arr**	**48.92**	**119**	P	P		**10 17 15.2**	**-0.6**
	comp=Z,14nm,0.6s,baz=296,slow=8.6,SNR=34							
WRAB	**Tennant Creek**	**48.92**	**119**	*e*P	P		**10 17 15.4**	**-0.4**
	comp=Z,23nm,0.9s							
WRAB	**Tennant Creek**	**48.92**	**119**	*e*P	P		**10 17 15.4**	**-0.4**
WRAB				pmax	pmax			
	comp=Z,23nm,0.9s							
WB2	**Warramunga Arr**	**48.93**	**119**	*e*P	P		**10 17 15.3**	**-0.5**
KSAR	**Wonju Array Be**	**49.07**	**40**	P	P		**10 17 16.1**	**-0.5**
KSAR	**Wonju Array Be**	**49.07**	**40**	P	P		**10 17 16.1**	**-0.5**
KSRS	**Korea Array**	**49.10**	**40**	P	P		**10 17 16.1**	**-0.8**
	comp=Z,2.4nm,1.0s,baz=245,slow=13,SNR=4.1							
FORT	**Forrest**	**49.14**	**135**	P	P		**10 17 17.6**	**+0.3**
	baz=49,SNR=7.3							
ASAR	**Alice Springs**	**50.04**	**124**	P	P		**10 17 23.8**	**-0.6**
	comp=Z,4.2nm,0.9s,baz=297,slow=6.9,SNR=14							
AS01

MJAR	Matsushiro Arr	55.72	47	P		P	10 18 05.0	-1.1	
BBOO	Buckleboo	55.97	133	P		P	10 18 07.3	-0.6	
	baz=56								
TBLG	Delisi	56.22	320	*e*P		P	10 18 09.7	+0.1	
	comp=Z,39nm,1.2s								
TBLG	Delisi	56.22	320	*e*P		P	10 18 09.7	+0.1	
TBLG				pmax	pmax				
	comp=Z,39nm,1.2s								
GROC	Groznyy	56.34	322	*e*P		P	10 18 09.8	-0.6	
GROC				*e*			10 19 07.1		
GROC				*e*			10 20 15.6		
GROC				pmax	pmax				
	comp=Z,55nm,1.3s								
MTSU	Mount Surprise	57.28	113	P		P	10 18 17.6	+0.1	
	baz=57,SNR=12								
ZEI	Tsey	57.30	321	*e*P		P	10 18 17.1	-0.4	
ZEI				pmax	pmax				
	comp=Z,6.0nm,0.8s								
ASF	Jabal al Asfar	57.84	307	P		P	10 18 22.2	+0.9	
	comp=Z,4.1nm,0.6s,baz=127,slow=24,SNR=4.6								
NCK	Nalchik	57.86	321	*i* P		P	10 18 21.1	-0.1	
NCK				pmax	pmax				
	comp=Z,16nm,0.7s								
BOD	Bodaibo	58.22	15	*e*P		P	10 18 21.2	-2.2	
BOD				pmax	pmax				
	comp=Z,11nm,0.9s								
NEY	Neytrino	58.28	321	*i* P		P	10 18 25.3	+1.0	
NEY				pmax	pmax				
	comp=Z,2.0nm,0.7s								
HTT	Hallett	58.37	132	P		P	10 18 25.0	+0.1	
	baz=58,SNR=3.5								
KBZ	Khabaz	58.41	321	P		P	10 18 24.8	-0.1	
	comp=Z,12nm,1.0s,baz=118,slow=6.6,SNR=16								
KLR	Kul'dur	58.47	31	P		P	10 18 24.8	-0.6	
	comp=Z,0.2nm,0.9s,baz=285,slow=4.7,SNR=2.3								
KLR	Kul'dur	58.47	31	*i* P		P	10 18 24.2	-1.1	
KVAR	Kislovodsk Arr	58.65	322	P		P	10 18 27.1	+0.2	
	comp=Z,13nm,0.6s,baz=87,slow=4.0,SNR=11								
KIV	Kislovodsk	58.66	322	*e*P		P	10 18 27.1	+0.2	
KIV	Kislovodsk	58.66	322	*e*P		P	10 18 26.8	-0.1	
KIV				pmax	pmax				
	comp=Z,33nm,1.0s								
SVE	Sverdlovsk	58.92	342	*e*P		P	10 18 27.4	-0.9	
ARU	Arti	59.27	340	*e*P		P	10 18 29.8	-0.9	
	comp=Z,24nm,1.0s								
ARU	Arti	59.27	340	*c i*P		P	10 18 30.0	-0.7	
ARU							10 20 40.9		
ARU				S		S	10 26 39.8	+1.0	
ARU				SS		SS	10 30 30.6	-2.9	
ARU				pmax	pmax				
	comp=Z,31nm,1.2s								
MMAI	Mount Meron Ar	59.31	307	P		P	10 18 32.0	+0.4	
	comp=Z,6.8nm,0.8s,baz=315,slow=55,SNR=3.9								
CTA	Charters Tower	59.57	115	P		P	10 18 33.5	0.0	
	comp=Z,28nm,0.8s,baz=286,slow=8.3,SNR=15								
CTAO	Charters Tower	59.57	115	*e*P		P	10 18 33.1	-0.3	
	comp=Z,49nm,1.0s								
CTAO	Charters Tower	59.57	115	*e*P		P	10 18 33.1	-0.3	
CTAO				pmax	pmax				
	comp=Z,49nm,1.0s								
STKA	Stephens Creek	59.70	129	P		P	10 18 33.9	-0.3	
	comp=Z,14nm,0.7s,baz=305,slow=8.0,SNR=23								
STKA	Stephens Creek	59.70	129	P		P	10 18 34.0	-0.1	
	baz=60,SNR=14								
STKA	Stephens Creek	59.70	129	*e*P		P	10 18 34.0	-0.1	
	comp=Z,15nm,1.9s								
QLP	Quilpie	59.80	123	P		P	10 18 34.6	-0.3	
	baz=60,SNR=3.8								
ARPS	Mount Arapiles	62.03	134	P		P	10 18 50.1	+0.2	
	baz=62,SNR=6.7								
CMSA	Cobar Meteorol	62.77	128	P		P	10 18 55.2	+0.2	
	baz=63,SNR=33								
BR131	Keskin Array S	62.92	314	*e*P		P	10 18 55.5	-0.5	
BRTR	Keskin Array B	62.92	314	P		P	10 18 55.7	-0.3	
	comp=Z,13nm,0.7s,baz=134,slow=6.9,SNR=49								
RMQ	Roma	63.60	121	P		P	10 19 01.6	+1.0	
	baz=64,SNR=7.7								
EIDS	Eidsvold	65.28	119	P		P	10 19 12.0	+0.3	
	baz=65,SNR=12								
YAK	Yakutsk	66.27	19	*i* P		P	10 19 16.4	-0.8	
YAK				pmax	pmax				
	comp=Z,10.0nm,0.8s								
CAN	Canberra	66.73	130	P		P	10 19 21.1	+0.2	
	baz=67								
ARMA	Armidale	67.19	124	P		P	10 19 25.3	+1.3	
	baz=67,SNR=5.6								
MOS	Moscow	67.55	331	*e*P		P	10 19 22.1	-3.4	
MOS				*e*			10 19 33.4		
MOS				pmax	pmax				
	comp=Z,72nm,0.7s								
OBN	Obninsk	67.75	330	P		P	10 19 26.3	-0.5	
	comp=Z,12nm,0.4s,baz=85,slow=23,SNR=4.5								
OBN	Obninsk	67.75	330	*e*P		P	10 19 25.2	-1.6	
OBN				*e*			10 19 51.3		
OBN				*e*PPP	PPP		10 23 33.0		
OBN				pmax	pmax				
	comp=Z,31nm,1.2s								
TIRR	Tirgusor	68.18	317	⇑ *i*P		P	10 19 29.6	-0.2	
IDI	Anoyia	68.31	307	P		P	10 19 31.0	+0.1	
	comp=Z,31nm,0.7s,baz=84,slow=10,SNR=14								
IDI	Anoyia	68.31	307	⇑ *i*P		P	10 19 31.4	+0.5	
HARR	Harsova	68.58	317	⇑ *i*P		P	10 19 41.9	+10	
BOSA	Boshof	69.34	238	P		P	10 19 37.1	-0.4	
	comp=Z,3.8nm,0.8s,baz=79,slow=4.7,SNR=5.1								
SORM	Soroca	69.45	321	⇓ *i*P		P	10 19 37.0	-0.6	
KLMR	Klimovskoe	69.49	336	*e*P		P	10 19 33.9	-3.7	
KLMR				AMP			10 19 37.9		
	comp=Z,40nm,1.1s								
KLMR	Klimovskoe	69.49	336	*e*P		P	10 19 33.8	-3.8	
KLMR				pmax	pmax				
	comp=Z,40nm,1.1s								
VRI	Vrincioaia	69.76	318	⇓ *i*P		P	10 19 40.5	+0.9	
PLOR	Plostina	69.81	318	⇑ *i*P		P	10 19 40.7	+0.8	
AKASG	Malin Array Be	69.83	324	P		P	10 19 39.0	-0.9	
	comp=Z,4.6nm,0.6s,baz=94,slow=4.7,SNR=19								
AKASG	Malin Array Be	69.83	324	P		P	10 19 39.0	-0.9	
AK11	Malin Array Si	69.86	324	*e*P		P	10 19 38.9	-1.1	
TESR	Tescani	70.01	319	⇓ *i*P		P	10 19 40.5	-0.6	
MLR	Muntele Rosu	70.17	318	P		P	10 19 42.9	+0.7	
	comp=Z,5.0nm,0.7s,baz=73,slow=3.2,SNR=24								
MLR	Muntele Rosu	70.17	318	⇑ *i*P		P	10 19 43.1	+0.8	
MLR	Muntele Rosu	70.17	318	*e*P		P	10 19 42.8	+0.5	
	comp=Z,60nm,1.2s								
MLR	Muntele Rosu	70.17	318	*e*P		P	10 19 42.8	+0.5	
MLR				pmax	pmax				
	comp=Z,60nm,1.2s								
VOIR		70.76	317	⇑ *i*P		P	10 19 45.7	-0.1	
ARR	Arges	71.02	317	⇓ *i*P		P	10 19 47.1	-0.3	
BURAR	Bucovina Array	71.28	320	⇓ *i*P		P	10 19 49.8	+0.8	
BUR04	Bucovina Ar. S	71.28	320	*e*P		P	10 19 49.3	+0.3	
VTS	Vitosha	71.29	314	⇑ *i*P		P	10 19 48.9	-0.3	
BUR08	Bucovina Ar. S	71.30	320	*e*P		P	10 19 49.3	+0.2	
TMCR	Tamitsa	71.93	339	*e*P		P	10 19 51.9	-0.5	
TMCR				pmax	pmax				
	comp=Z,24nm,0.6s								
IDID	Didziasalis	72.92	328	*e*P		P	10 19 58.2	-0.3	
TIXI	Tiksi	73.18	12	*e*P		P	10 19 57.9	-1.8	
	comp=Z,20nm,0.9s								
TIXI	Tiksi	73.18	12	*i* P		P	10 19 58.3	-1.4	
TIXI				pmax	pmax				
	comp=Z,14nm,0.8s								
IIGN	Ignalina	73.20	328	*e*P		P	10 19 59.8	-0.3	
MA2	Magadan	73.30	28	*i* P		P	10 19 59.6	-1.0	
VSU	Vasula	74.07	331	*ce*P		P	10 20 04.9	-0.3	
VSU				pmax	pmax				
	comp=Z,105nm,1.7s								
STHS	Stebnicka Huta	74.32	321	*e*P		P	10 20 07.6	+0.7	
STHS	Stebnicka Huta	74.32	321	*e*P		P	10 20 07.6	+0.7	
STHS				pmax	pmax				
	comp=Z,7.0nm,1.0s								
APA	Apatity	75.37	341	⇑ *i*P		P	10 20 11.6	-0.9	
APA				pmax	pmax				
	comp=Z,16nm,1.0s								
APA				MLR	MLR				
	comp=Z,118µm,17.0s								
FIA1	FINESS Array S	75.50	334	*e*P		P	10 20 12.9	-0.4	
FINES	FINESS Array B	75.50	334	P		P	10 20 13.2	-0.2	
	comp=Z,11nm,0.9s,baz=91,slow=4.9,SNR=16								
VYHS	Vyhne	75.64	319	*e*P		P	10 20 14.7	+0.2	
VYHS	Vyhne	75.64	319	*e*P		P	10 20 14.7	+0.2	
KRLC	Kraliky	77.29	321	*e*P		P	10 20 24.2	+0.3	
KRLC	Kraliky	77.29	321	*e*P		P	10 20 24.2	+0.3	
DPC	Dobruska-Polom	77.63	321	*e*P		P	10 20 26.4	+0.6	
DPC	Dobruska-Polom	77.63	321	*e*P		P	10 20 26.4	+0.6	
PRU	Pruhonice	78.69	320	*e*P		P	10 20 31.8	+0.2	
PRU	Pruhonice	78.69	320	*e*P		P	10 20 31.8	+0.2	
ARCES	ARCESS Array B	78.85	341	P		P	10 20 32.0	-0.1	
	comp=Z,15nm,0.8s,baz=94,slow=6.0,SNR=31								
GEA0	GERESS Array S	79.05	319	*e*P		P	10 20 33.6	-0.1	
GEC2	GERESS Array S	79.05	319	*e*P		P	10 20 33.9	+0.1	
	comp=Z,31nm,1.1s								
GEC2	GERESS Array S	79.05	319	*e*P		P	10 20 33.9	+0.1	
GEC2				pmax	pmax				
	comp=Z,31nm,1.1s								
GERES	GERESS Array B	79.05	319	P		P	10 20 33.8	+0.1	
	comp=Z,13nm,0.8s,baz=102,slow=5.6,SNR=44								
KHC	Kasperske Hory	79.17	319	*e*P		P	10 20 34.4	0.0	
KHC				*e*pP		sP	10 20 39.6	+0.7	
KHC	Kasperske Hory	79.17	319	*e*P		P	10 20 34.4	0.0	
KHC				*e*			10 20 39.6		
SYO	Syowa Base	79.21	196	⇓ *e*P		P	10 20 36.8	+2.8	
CLL	Collm	79.87	322	*i* P		P	10 20 38.0	0.0	
	comp=Z,29nm,1.4s								
CLL	Collm	79.87	322	*i* P		P	10 20 38.0	0.0	
CLL				pmax	pmax				
	comp=Z,29nm,1.4s								
KEST	Kesra	80.92	306	P		P	10 20 44.8	+0.6	
	comp=Z,17nm,0.9s,baz=278,slow=0.8,SNR=8.1								
HFS	Hagfors	80.95	330	P		P	10 20 43.3	-0.4	
	comp=Z,10.0nm,0.8s,baz=126,slow=7.3,SNR=16								
DAVA	Damuels	81.40	317	*i* P		P	10 20 46.5	-0.1	
	comp=Z,23nm,0.9s,SNR=5.8								
NB2	NORSAR Subarra	82.31	331	P		P	10 20 50.0	-0.9	
	comp=Z,9.1nm,1.0s,baz=98,slow=5.3								
NOA	NORSAR Array B	82.31	331	P		P	10 20 50.3	-0.6	
	comp=Z,6.0nm,0.9s,baz=100,slow=5.4,SNR=6.4								
BILL	Bilibino	82.46	22	⇑ *e*P		P	10 20 53.8	+2.3	
BILL				*e*S		S	10 30 57.6	-10	
BILL				pmax	pmax				
	comp=Z,3.0nm,1.0s								
BFO	Black Forest	82.54	318	*i* P		P	10 20 52.8	+0.5	
SPITS	Spitsbergen Ar	84.14	349	P		P	10 20 59.3	-0.7	
	comp=Z,1.3nm,0.5s,baz=67,slow=7.4,SNR=6.1								
TORD	Torodi Ar. Bea	87.79	283	P		P	10 21 19.0	-0.3	
	comp=Z,0.8nm,0.4s,baz=84,slow=4.9,SNR=16								
ES19	SONSECA Array	91.38	310	*e*P		P	10 21 36.4	+0.7	
ESDC	Sonseca Array	91.43	310	P		P	10 21 36.0	0.0	
	comp=Z,0.6nm,0.5s,baz=48,slow=7.0,SNR=6.4								
KOWA	Kowa	93.27	285	P		P	10 21 45.0	+0.1	
	comp=Z,4.3nm,0.8s,baz=120,slow=7.9,SNR=9.0								
KOWA	Kowa	93.27	285	*e*P		P	10 21 45.6	+0.8	
	comp=Z,13nm,0.9s								
YKA	Yellowknife Ar	112.43	12	PP		PP	10 27 44.5	-5.9	
	comp=Z,0.3nm,0.8s,baz=335,slow=7.6,SNR=4.3								
YKA				PKKPbc		PKKPab	10 38 02.6	-2.0	
	comp=Z,0.3nm,0.7s,baz=157,slow=3.0,SNR=5.3								
PDAR	Pinedale Array	131.49	19	PKP		PKPdf	10 27 41.5	-1.2	
	comp=Z,0.2nm,0.4s,baz=90,slow=1.8,SNR=3.8								
150A	Eclectic	144.78	354	P		PKPab	10 28 03.5	-2.2	
	baz=6.8								
151A	Opelika	144.78	353	P		PKPab	10 28 04.0	-1.7	
	baz=8.0								
143A	Socs Landing,	144.86	2	P		PKPab	10 28 05.4	-0.6	
	baz=358								
146A	Union	144.94	359	P		PKPab	10 28 05.4	-0.9	
	baz=1.5								
251A	Midway	145.22	353	P		PKPbc	10 28 06.3	-1.0	
	baz=7.9								
VBMS	Vicksburg	145.36	1	P		PKPbc	10 28 07.2	-0.5	
	baz=359								
VBMS	Vicksburg	145.36	1	*e*PKPbc		PKPdf	10 28 08.6	+0.6	
248A	Dixon Mills	145.43	357	P		PKPdf	10 28 08.0	-0.1	
	baz=3.9								
241A	Mo Tay, Goldon	145.45	4	P		PKPbc	10 28 07.9	-0.1	
	baz=355								
242A	Grayson	145.46	3	P		PKPbc	10 28 07.6	-0.4	
	baz=356								
249A	Camden	145.50	356	P		PKPbc	10 28 07.4	-0.8	
	baz=5.0								
247A	Quitman	145.51	358	P		PKPbc	10 28 07.4	-0.8	
	baz=2.3								
NATX	Nacogdoches	145.53	7	P		PKPab	10 28 08.5	-0.1	
	baz=352								
NATX	Nacogdoches	145.53	7	*e*PKPdf		PKPdf	10 28 07.3	-1.0	
244A	Avery, Jackson	145.53	1	P		PKPdf	10 28 07.9	-0.4	
	baz=359								
355A	Pearson	145.56	349	P		PKPbc	10 28 08.3	-0.1	
	baz=12								
TIGA	Tifton	145.60	350	P		PKPbc	10 28 08.4	-0.1	
	baz=11								
TX31	Lajitas Ar. Si	145.64	21	*e*PKPdf		PKPdf	10 28 08.2	-0.6	
TX31				*e*PKPdf		PKPbc	10 28 08.8	-0.1	
TXAR	Lajitas Array	145.64	21	PKPbc		PKPdf	10 28 08.6	-0.1	
	comp=Z,3.4nm,0.9s,baz=270,slow=1.3,SNR=12								
352A	Blakely	145.76	352	P		PKPbc	10 28 08.9	-0.2	
	baz=8.9								
JCT	Junction City	145.79	15	P		PKPdf	10 28 08.1	-0.7	
	baz=342								
JCT	Junction City	145.79	15	*e*PKPdf		PKPdf	10 28 08.2	-0.7	
JCT	Junction City	145.79	15	*e*PKP2		PKPdf	10 28 08.2	-0.7	
350A	Dozier	145.99	354	P		PKPbc	10 28 09.8	+0.1	
	baz=6.4								
351A	Pinckard	146.05	353	P		PKPbc	10 28 09.9	-0.1	
	baz=7.7								
349A	Hampton	146.13	356	P		PKPab	10 28 10.5	-0.3	
	baz=4.9								
342A	Flagon Creek P	146.13	4	P		PKPab	10 28 10.7	0.0	
	baz=356								

DJA ***11*** *10:09:54.2±0.3,3˚N±5˚×9˚2E±˚, h10km, M6.0/20, mb5.7/20, MLv6.1/7*

ISCJB ***11*** *10:10:02.2±0.3,2˚.65N±0˚.06×92˚.73E±0˚.04, h10km, mb4.7/38, Error ellipse: s-maj=8.7km s-min=4.7km az=26.7*

IDC ***11*** *10:10:02.1±0.6,2˚.64N×92˚.76E, h0km, mb4.6/25, mb1 4.7/28, mb1mx4.5/74, mbtmp4.6/28, ML4.5/3, Error ellipse: s-maj=16.9km s-min=12.3km az=30.0*

NEIC ***11*** *10:10:04.0±0.3,2˚.67N×92˚.73E, h10km, mb5.0/11, Error ellipse: s-maj=7.4km s-min=4.8km az=210.0*

ISC 11 10:10:03.8±0.5,2˚.61N±0˚.07×92˚.72E±0˚.06, h10km, n70,
σ1§06/64, mb4.9/38, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MLSI	Meulaboh, Aceh	4.03	66	P		Pn	10 11 06.4	+0.8
GSI	Gunungsitoli	5.02	105	P		Pn	10 11 19.7	+0.4
	1µm,1.1s,15nm							
GSI	Gunungsitoli	5.02	105	*e*Pn		Pn	10 11 19.4	+0.2
	1µm,0.9s							
KCSI	Kotacane, Aceh	5.12	80	P		Pn	10 11 23.7	+3.0
	2µm,0.9s,12nm							
TSI	Tuntungan	5.90	81	P		Pn	10 11 33.2	+1.8
	835nm,0.8s,9.1nm							
PSI	Prapat	6.20	88	Pn		Pn	10 11 35.4	-0.2
	22nm,0.3s,baz=274,slow=5.6,SNR=15							
PSI				Sn		Sn	10 12 45.5	-1.2
	8.6nm,0.3s,baz=165,slow=20,SNR=2.2							
MNSI	Mandailing Nat	7.09	105	P		Pn	10 11 47.2	-0.5
SISI	Saibi	7.47	121	P		Pn	10 11 52.9	-0.1
PDSI	Padang	8.49	114	P		Pn	10 12 12.2	+5.2
IPM	Ipoh	8.49	77	*e*Pn		Pn	10 12 06.8	-0.2
BKNI	Bangkinang	8.62	105	P		Pn	10 12 02.8	-5.9
PPSI	Pulau Pagai	9.03	126	P		Pn	10 12 21.6	+7.2
MASI	Maura Aman, Be	11.10	121	P		Pn	10 12 43.1	+0.3
CGJI	Cibinong	15.86	125	P		P	10 13 52.6	+1.4
	236nm,1.0s							
CMAR	Chiang Mai Arr	16.89	21	Pn		Pn	10 13 59.1	-1.4
	0.3nm,0.3s,baz=217,slow=14,SNR=10							
CHTO	Chiang Mai	17.22	20	*e*P		Pn	10 14 03.1	-1.5
	81nm,1.0s							
LEM	Lembang	17.58	122	P		Pn	10 14 09.9	+0.6
	3.5nm,0.3s,baz=78,slow=14,SNR=6.8							
KSM	Kuching	17.61	93	*e*P		P	10 14 11.7	+1.1
	186nm,1.1s							
CISI	Cisompet, Garu	18.13	124	P		Pn	10 14 15.8	-0.3
PBKI	Pangkalan Bun	19.66	105	P		Pn	10 14 36.4	+1.8
	334nm,1.2s							
SMRI	Semarang	20.12	119	P		Pn	10 14 41.4	+1.4
	270nm,1.0s							
SMRI	Semarang	20.12	119	*e*P		P	10 14 39.1	+0.9
	177nm,0.9s							
H08S2	Diego Garcia H	22.61	243	T		T	10 38 47.4	
	baz=69							
H08S3	Diego Garcia H	22.61	243	T		T	10 38 42.9	
	baz=69							
H08S1	Diego Carcia H	22.62	243	T		T	10 38 52.2	
	baz=69							
KKM	Kota Kinabalu	23.67	81	*e*P		P	10 15 15.9	0.0
	124nm,1.3s							
BKB	Balikpapan	24.47	99	P		P	10 15 26.3	+2.9
	212nm,1.2s							
LSA	Lhasa	26.98	357	*e*P		P	10 15 47.4	+0.9
	97nm,1.2s							
MPSI	Mapaga	27.26	94	P		P	10 15 50.9	+2.3
KAPI	Kappang	28.05	106	*e*P		P	10 15 56.1	+0.5
	45nm,1.0s							
ENH	Enshi	31.77	28	*e*P		P	10 16 28.1	-0.4
	15nm,0.7s							
SIJI	Sorong	38.69	95	P		P	10 17 26.0	-2.3
	8.6nm,0.8s,baz=336,slow=4.7,SNR=4.6							
BJT	Baijiatuau	42.88	27	*e*P		P	10 18 03.8	+1.3
	31nm,0.8s							
KKAR	Karatay Array	44.91	337	*e*P		P	10 18 18.6	-0.2
	4.8nm,0.7s							
MKAR	Makanchi Array	44.94	350	P		P	10 18 18.6	-0.4
	12nm,0.7s,baz=168,slow=8.6,SNR=14							
SONM	Songino Array	46.58	13	P		P	10 18 29.8	-2.3
	13nm,0.9s,baz=193,slow=8.3,SNR=5.8							
WRA	Warramunga Arr	46.59	121	P		P	10 18 32.0	-0.4
	14nm,0.6s,baz=300,slow=8.7,SNR=16							
WRAB	Tennant Creek	46.59	121	*e*P		P	10 18 32.6	+0.1
	30nm,0.9s							
ULN	Ulaanbaatar	46.75	13	*e*P		P	10 18 33.6	+0.2
	13nm,1.0s							
GEYT	Ailbeck	47.32	322	P		P	10 18 38.4	+0.5
	6.6nm,0.6s,baz=164,slow=8.7,SNR=4.6							
KSAR	Wonju Array Be	47.36	39	P		P	10 18 38.8	+0.6
KSRS	Korea Array	47.39	39	P		P	10 18 38.8	+0.4
	3.5nm,0.8s,baz=219,slow=9.0,SNR=9.2							
ASAR	Alice Springs	47.83	125	P		P	10 18 41.8	-0.4
	4.4nm,0.9s,baz=295,slow=6.8,SNR=8.4							
KURBB	Kurchatov Arra	49.33	348	P		P	10 18 52.9	-0.2
	9.8nm,1.0s,baz=172,slow=7.0,SNR=5.9							
KURK	Kurchatov	49.40	348	*e*P		P	10 18 53.7	+0.1
OPO	Ambohidratompo	49.50	243	P		P	10 18 54.7	-0.5
	4.9nm,0.8s,baz=81,slow=6.6,SNR=4.8							
RAYN	Ar Rayn	50.15	299	*e*P		P	10 19 00.5	+0.6
	91nm,1.8s							
ZALV	Zalesovo Beam	51.58	354	P		P	10 19 10.2	0.0
	10nm,0.5s,baz=188,slow=8.7,SNR=9.5							
BVAR	Borovoye Array	53.54	343	P		P	10 19 23.9	-0.8
	3.3nm,0.8s,baz=142,slow=7.5,SNR=4.1							
ABKAR	Akbulak array	54.23	334	*e*P		P	10 19 29.3	-0.5
	10nm,0.8s							
KLR	Kul'dur	57.12	29	P		P	10 19 51.1	+0.5
	0.6nm,0.8s,baz=262,slow=7.0,SNR=7.4							
STKA	Stephens Creek	57.64	131	P		P	10 19 54.3	-0.2
	7.3nm,0.7s,baz=295,slow=8.5,SNR=6.7							
ASF	Jabal al Asfar	60.01	306	P		P	10 20 10.7	-0.5
	4.7nm,0.7s,baz=38,slow=4.8,SNR=5.0							
KBZ	Khabaz	60.11	320	P		P	10 20 12.0	+0.5
	5.7nm,1.0s,baz=126,slow=7.0,SNR=2.7							
ASAJ	Asahikawa	60.33	39	P		P	10 20 12.7	-0.3
	9.9nm,1.0s,baz=270,slow=15,SNR=3.3							
MMAI	Mount Meron Ar	61.46	306	P		P	10 20 21.2	+0.1
	3.2nm,0.6s,baz=36,slow=48,SNR=3.2							
BRTR	Keskin Array B	64.87	313	P		P	10 20 43.5	-0.2
	2.8nm,0.7s,baz=127,slow=7.1,SNR=4.5							
IDI	Anoyia	70.47	306	P		P	10 21 19.4	+0.4
	18nm,0.8s,baz=29,slow=9.0,SNR=5.0							
AKASG	Malin Array Be	71.44	323	P		P	10 21 24.8	+0.3
	0.5nm,0.5s,baz=93,slow=5.0,SNR=3.8							
BOSA	Boshof	71.64	239	P		P	10 21 26.8	+0.5
	10nm,0.9s,baz=80,slow=5.9,SNR=8.0							
MA2	Magadan	72.06	27	P		P	10 21 27.9	-0.2
	6.4nm,0.7s,baz=198,slow=6.0,SNR=6.5							
TIXI	Tiksi	72.64	11	*e*P		P	10 21 30.7	-0.5
	19nm,1.1s							
FINES	FINESS Array B	76.70	333	P		P	10 21 53.0	-2.0
	4.1nm,0.8s,baz=103,slow=4.4,SNR=3.6							
DPC	Dobruska-Polom	79.33	321	*e*P		P	10 22 10.9	+1.0
DPC				*ex*		x	10 22 15.5	
GERES	GERESS Array B	80.81	319	P		P	10 22 17.9	-0.1
	3.4nm,0.7s,baz=100,slow=5.5,SNR=5.0							
TORD	Torodi Ar. Bea	90.41	283	P		P	10 23 07.2	+0.8
	0.5nm,0.7s,baz=105,slow=2.8,SNR=1.8							
ESDC	Sonseca Array	93.50	310	P		P	10 23 21.0	+0.7
	0.3nm,0.4s,baz=52,slow=3.8,SNR=3.0							
NVAR	Mina Array Bea	130.12	32	PKP	

PDAR **Pinedale Array** 132.20 21 PKP **PKPdf** 10 31 21.7 -0.6
0.4nm,0.8s,baz=290,slow=2.6,SNR=2.7
TXAR **Lajitas Array** 146.22 25 PKPbc **PKPbc** 10 31 48.1 -0.9
2.5nm,0.8s,baz=54,slow=1.3,SNR=8.8

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*ISCJB **11** 10:13:31.5±1.2, 1.3N±0.2×90.8E±0.2, h10km, mb4.3/9, Error ellipse: s-maj=31.4km s-min=22.9km az=144.6*
*IDC **11** 10:13:32.1±1.6, 1.33N×90.84E, h0km, mb4.2/9, mb1 4.3/10, mb1mx3.9/75, mbtmp4.2/10, ML4.4/1, Error ellipse: s-maj=49.5km s-min=30.8km az=51.0*
ISC 11 10:13:33.5±1.3, **1.3N**±0.2×**90.9E**±0.2, **h10**km, **n11**, σ1§**06**/11, **mb4.4**/9, **North Indian Ocean**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**18.79**	**24**	P	**Pn**	**10 17 54.9**	**+1.3**
	0.5nm,0.3s,baz=219,slow=13,SNR=3.2						
MKAR	**Makanchi Array**	**45.91**	**352**	P	**P**	**10 21 55.6**	**-0.7**
	4.4nm,0.9s,baz=180,slow=9.0,SNR=3.2						
WRA	**Warramunga Arr**	**47.56**	**119**	P	**P**	**10 22 09.7**	**-0.1**
	2.6nm,0.7s,baz=295,slow=8.6,SNR=2.3						
SONM	**Songino Array**	**48.25**	**14**	P	**P**	**10 22 13.9**	**-0.8**
	3.0nm,0.6s,baz=193,slow=9.1,SNR=3.1						
KURBB	**Kurchatov Arra**	**50.23**	**350**	P	**P**	**10 22 28.8**	**-0.8**
	2.9nm,0.8s,baz=171,slow=6.5,SNR=2.4						
ZALV	**Zalesovo Beam**	**52.70**	**356**	P	**P**	**10 22 47.9**	**-0.2**
	3.7nm,0.4s,baz=182,slow=7.9,SNR=3.0						
BVAR	**Borovoye Array**	**54.27**	**345**	P	**P**	**10 23 00.0**	**+0.3**
	1.3nm,0.8s,baz=111,slow=7.9,SNR=2.0						
AKASG	**Malin Array Be**	**71.36**	**324**	P	**P**	**10 24 54.7**	**+1.1**
	0.2nm,0.3s,baz=92,slow=5.2,SNR=2.9						
FINES	**FINESS Array B**	**77.02**	**334**	P	**P**	**10 25 24.8**	**-1.7**
	4.4nm,0.8s,baz=74,slow=5.9,SNR=2.8						
GERES	**GERESS Array B**	**80.57**	**319**	P	**P**	**10 25 47.5**	**+1.1**
	2.8nm,0.9s,baz=99,slow=6.1,SNR=1.9						
TXAR	**Lajitas Array**	**146.50**	**23**	PKPbc	**PKPbc**	**10 33 16.2**	**+0.3**
	1.3nm,0.8s,baz=270,slow=0.9,SNR=5.3						

IDC 11 10:13:57.9±3.4, **0.45N**×**90.30E**, **h0**km, **mb4.4**/1, **mb1 4.6**/3, **mb1mx3.7**/76, **mbtmp4.5**/3, **ML4.2/2, Error ellipse: s-maj=72.7km s-min=49.2km az=12.0, North Indian Ocean**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**8.93**	**75**	Pn	Pn	10 16 06.5	-1.9
	2.6nm,0.3s,baz=246,slow=8.2,SNR=2.2						
CMAR	**Chiang Mai Arr**	**19.81**	**25**	P	Pn	10 18 32.0	+0.3
	0.3nm,0.3s,baz=216,slow=12,SNR=3.2						
MKAR	**Makanchi Array**	**46.69**	**352**	P	P	10 22 27.3	-1.2
	4.1nm,0.7s,baz=173,slow=9.6,SNR=3.4						
TXAR	**Lajitas Array**	**147.52**	**23**	PKPbc	PKPbc	10 33 44.9	-0.1
	1.3nm,0.6s,baz=277,slow=1.5,SNR=3.7						

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*ISCJB **11** 10:17:35.6±0.6, 2.08N±0.09×92.53E±0.08, h10km, mb4.2/16, Error ellipse: s-maj=13.9km s-min=10.2km az=25.2*
*IDC **11** 10:17:36.2±0.7, 2.06N×92.46E, h0km, mb4.2/14, mb1 4.3/16, mb1mx3.9/74, mbtmp4.2/16, ML4.2/2, Error ellipse: s-maj=24.6km s-min=16.2km az=45.0*
*NEIC **11** 10:17:37.6±0.5, 2.06N×92.52E, h10km, mb4.4/2, Error ellipse: s-maj=12.8km s-min=9.7km az=204.0*
ISC 11 10:17:37.6±0.7, **2.1N**±0.1×**92.5E**±0.1, **h10**km, **n21**, σ0§**96**/21, **mb4.2**/16, **Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**6.44**	**83**	Pn	**Pn**	**10 19 11.1**	**-1.6**
	6.1nm,0.3s,baz=320,slow=15,SNR=4.8						
PSI				Sn	Sn	10 20 11.5	-15
	2.9nm,0.3s,baz=342,slow=22,SNR=2.3						
IPM	**Ipoh**	**8.82**	**74**	*e*Pn	**Pn**	**10 19 45.7**	**+0.4**
CMAR	**Chiang Mai Arr**	**17.46**	**21**	P	**P**	**10 21 42.3**	**-0.4**
	0.3nm,0.3s,baz=218,slow=13,SNR=4.3						
LSA	**Lhasa**	**27.51**	**357**	*e*P	**P**	**10 23 25.0**	**0.0**
	11nm,1.0s						
FITZ	**Fitzroy Crossi**	**38.28**	**123**	P	**P**	**10 24 59.6**	**+1.1**
	2.3nm,0.7s,baz=299,slow=7.8,SNR=0.9						
MKAR	**Makanchi Array**	**45.43**	**350**	P	**P**	**10 25 57.2**	**+0.5**
	1.7nm,0.6s,baz=172,slow=9.0,SNR=4.8						
WRA	**Warramunga Arr**	**46.49**	**120**	P	**P**	**10 26 06.4**	**+1.0**
	3.2nm,0.6s,baz=302,slow=8.7,SNR=12						
GEYT	**Alibeck**	**47.63**	**323**	P	**P**	**10 26 14.2**	**+0.1**
	3.4nm,0.7s,baz=153,slow=7.7,SNR=3.7						
ASAR	**Alice Springs**	**47.69**	**125**	P	**P**	**10 26 13.7**	**-1.1**
	0.4nm,0.3s,baz=298,slow=7.8,SNR=4.5						
OPO	**Ambohidratompo**	**49.07**	**243**	P	**P**	**10 26 24.5**	**-1.2**
	0.8nm,0.5s,baz=61,slow=15,SNR=3.5						
KURBB	**Kurchatov Arra**	**49.81**	**348**	P	**P**	**10 26 29.7**	**-0.9**
	1.8nm,0.6s,baz=171,slow=6.6,SNR=5.3						
KURK	**Kurchatov**	**49.88**	**348**	P	**P**	**10 26 29.7**	**-1.4**
ZALV	**Zalesovo Beam**	**52.10**	**354**	P	**P**	**10 26 48.2**	**+0.4**
	2.5nm,0.4s,baz=61,slow=15,SNR=5.3						
BVAR	**Borovoye Array**	**54.00**	**344**	P	**P**	**10 27 00.9**	**-1.0**
	1.9nm,0.7s,baz=147,slow=8.9,SNR=5.0						
ABKAR	**Akbulak array**	**54.63**	**334**	*e*P	**P**	**10 27 06.8**	**+0.3**
	2.7nm,1.0s						
KBZ	**Khabaz**	**60.40**	**321**	P	**P**	**10 27 47.7**	**+0.5**
	3.2nm,0.9s,baz=120,slow=8.1,SNR=4.0						
BRTR	**Keskin Array B**	**65.09**	**313**	P	**P**	**10 28 17.8**	**-1.1**
	1.4nm,0.8s,baz=134,slow=7.0,SNR=4.5						
BOSA	**Boshof**	**71.18**	**239**	P	**P**	**10 28 57.9**	**+0.6**
	1.7nm,0.8s,baz=108,slow=9.6,SNR=3.6						
FINES	**FINESS Array B**	**77.09**	**333**	P	**P**	**10 29 30.6**	**-0.4**
	3.4nm,0.9s,baz=90,slow=4.2,SNR=2.9						
GERES	**GERESS Array B**	**81.09**	**319**	P	**P**	**10 29 54.2**	**+0.9**
	2.1nm,0.7s,baz=116,slow=6.1,SNR=4.7						
TXAR	**Lajitas Array**	**145.14**	**25**	PKPbc	**PKPdf**	**10 37 17.7**	**+1.3**
	1.5nm,0.9s,baz=318,slow=1.2,SNR=4.0						

NNC 11 10:18:30.2±3.3, **36.89N**×**70.88E**, **h0**km, **mb4.0**, **mpv3.6, 6C-3D, Error ellipse: s-maj=26.6km s-min=11.7km az=175.0, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZET	**Dzherino**	**2.51**	**320**	⇓P	Pn	10 19 12.1	-0.3
	7.1nm,0.3s						
DZET				⇑S	Sn	10 19 45.8	+1.9
	47nm,0.4s						
SFK	**Sufi-Kurgan**	**3.74**	**33**	⇑P	Pn	10 19 29.6	+0.2
	2.4nm,0.3s						
SFK				⇑S	Sn	10 20 17.2	+2.9
	5.3nm,0.3s						
MNAS	**Manas**	**5.73**	**12**	⇓P	Pn	10 19 57.0	+0.2
	8.0nm,1.1s						
MNAS				⇑S	Sn	10 21 02.5	-0.8
	7.0nm,0.5s						
KK31	**Karatay Array**	**6.22**	**358**	P	Pn	10 20 02.6	-0.7
	1.5nm,0.3s,baz=175,slow=12,SNR=43						
KK31				⇑S	Sn	10 21 13.8	-1.3
	5.0nm,0.4s,baz=187,slow=16,SNR=8.6						
AAK	**Ala-Archa**	**6.38**	**25**	⇑P	Pn	10 20 04.3	-1.3
	12nm,0.8s						
AAK				⇓S	Sn	10 21 20.3	+1.0
	15nm,1.1s						

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*IDC **11** 10:20:06.3±1.3, 1.61N×92.39E, h0km, mb3.8/8, mb1 4.0/8, mb1mx3.6/70, mbtmp3.8/8, Error ellipse: s-maj=52.8km s-min=20.3km az=51.0*
ISC 11 10:20:07.5±1.5, **1.5N**±0.4×**92.3E**±0.4, **h10**km, **n9**, σ0§**72**/8, **mb3.9**/8, **Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**45.98**	**350**	P	**P**	**10 28 29.7**	**-1.3**
	1.2nm,0.9s,baz=176,slow=8.7,SNR=2.8						
WRA	**Warramunga Arr**	**46.42**	**119**	P	**P**	**10 28 34.7**	**-0.1**
	2.3nm,0.7s,baz=296,slow=8.7,SNR=6.6						
ASAR	**Alice Springs**	**47.57**	**124**	P	**P**	**10 28 43.6**	**-0.1**
	0.5nm,0.7s,baz=289,slow=5.8,SNR=2.7						
SONM	**Songino Array**	**47.80**	**13**	P	P	10 28 42.3	-2.9
	0.6nm,0.5s,baz=201,slow=7.6,SNR=3.4						
KURBB	**Kurchatov Arra**	**50.35**	**349**	P	**P**	**10 29 05.2**	**+0.6**
	0.3nm,0.4s,baz=174,slow=7.5,SNR=2.7						
ZALV	**Zalesovo Beam**	**52.67**	**354**	P	**P**	**10 29 22.5**	**+0.6**
	1.2nm,0.4s,baz=174,slow=6.1,SNR=4.3						
BRTR	**Keskin Array B**	**65.31**	**314**	P	**P**	**10 30 49.9**	**-0.3**
	0.4nm,0.6s,baz=128,slow=6.6,SNR=2.7						
GERES	**GERESS Array B**	**81.37**	**319**	P	**P**	**10 32 24.9**	**+0.3**
	1.2nm,0.7s,baz=104,slow=5.6,SNR=4.7						
TXAR	**Lajitas Array**	**145.81**	**25**	PKPbc	**PKPbc**	**10 39 48.0**	**+0.2**
	1.1nm,0.8s,baz=270,slow=0.6,SNR=6.8						

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*IDC **11** 10:21:12.9±0.3, 2.83N×92.57E, h0km, mb4.8/51, mb1 4.8/54, mb1mx4.8/72, mbtmp4.8/54, ML4.6/3, Error ellipse: s-maj=11.0km s-min=8.6km az=38.0*
*ISCJB **11** 10:21:12.4±1.5, 2.81N±0.03×92.48E±0.02, h7km±9km, mb5.1/157, Error ellipse: s-maj=5.2km s-min=3.2km az=38.4*
*BJI **11** 10:21:14.5, 2.80N×92.50E, h10km, mb5.1/48, mB5.1/6, Ms5.5/6, Ms7 5.2/5*
*NEIC **11** 10:21:15.4±1.5, 2.82N×92.48E, h14km±9km, mb5.3/58, Error ellipse: s-maj=4.5km s-min=2.8km az=218.0*
*MOS **11** 10:21:16.5±1.2, 2.89N×92.50E, h34km, mb5.5/52, Error ellipse: s-maj=7.0km s-min=4.5km az=112.9*
*DJA **11** 10:21:27.4±0.8, 3°N±9°×9°3E±°, h57km±34km, M5.8/10, mB7.1/1, mb5.6/10, MLv5.8/7, Mw(mB)7.0/1*
ISC 11 10:21:15.7±0.6, **2.79N**±0.04×**92.44E**±0.04, **h18**km±3km, **h18**km:**pP-P, n676,** σ1§**10**/688, **mb5.2**/164, **24C-7D, Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MLSI	**Meulaboh, Aceh**	**4.23**	**70**	P	**Pn**	**10 22 19.7**	**+0.4**
LHMI	**Lhok Sumawe**	**5.11**	**62**	*e*Pn	**Pn**	**10 22 31.4**	**-0.1**
GSI	**Gunungsitoli**	**5.34**	**106**	P	**Pn**	**10 22 35.5**	**+0.8**
GSI	**Gunungsitoli**	**5.34**	**106**	*e*Pn	**Pn**	**10 22 34.5**	**-0.1**
KCSI	**Kotacane, Aceh**	**5.38**	**82**	P	**Pn**	**10 22 38.3**	**+3.2**
TSI	**Tuntungan**	**6.16**	**83**	P	**Pn**	**10 22 49.0**	**+3.1**
PSI	**Prapat**	**6.48**	**90**	Pn	**Pn**	**10 22 50.1**	**-0.3**
	14nm,0.3s,baz=275,slow=6.5,SNR=16						
PSI				Sn	**Sn**	**10 24 02.9**	**-1.1**
	37nm,0.3s,baz=185,slow=23,SNR=7.1						
PSI	**Prapat**	**6.48**	**90**	*e*P	**Pn**	**10 22 50.4**	**0.0**
PSI						10 24 02.9	
PBSI	**Pulau Batu**	**6.49**	**116**	P	**Pn**	**10 22 49.5**	**-0.9**
MNSI	**Mandailing Nat**	**7.41**	**105**	P	Pn	10 23 09.1	+6.0
SISI	**Saibi**	**7.81**	**121**	P	**Pn**	**10 23 05.0**	**-3.5**
KULM	**Kulim**	**8.56**	**73**	*e*Pn	**Pn**	**10 23 18.8**	**-0.2**
IPM	**Ipoh**	**8.74**	**79**	*e*Pn	**Pn**	**10 23 20.8**	**-0.6**
PBA	**Port Blair**	**8.82**	**2**	*e*P	Pn	10 23 22.6	+0.3
PBA				IAmb	IAmb	10 23 28.6	
	comp=Z,356nm,0.1s						
PDSI	**Padang**	**8.82**	**114**	P	Pn	10 23 12.0	-11
BKNI	**Bangkinang**	**8.94**	**106**	P	**Pn**	**10 23 25.7**	**+1.6**
BKNI	**Bangkinang**	**8.94**	**106**	*e*Pn	**Pn**	**10 23 23.6**	**-0.5**
	comp=Z,810nm,1.1s						
PPSI	**Pulau Pagai**	**9.37**	**126**	P	Pn	10 23 19.7	-10
DGPR	**DIGLIPUR**	**10.34**	**3**	*e*P	**Pn**	**10 23 43.6**	**+0.4**
MASI	**Maura Aman, Be**	**11.43**	**121**	P	**Pn**	**10 23 59.2**	**+0.9**
MYKOM	**Kota Tinggi**	**11.45**	**95**	*e*Pn	**Pn**	**10 23 57.9**	**-0.6**
TPRI	**Tanjung Pinang**	**12.23**	**99**	P	**Pn**	**10 24 10.0**	**+0.9**
PALK	**Pallekele**	**12.51**	**291**	*e*Pn	**Pn**	**10 24 13.0**	**0.0**
PALK	**Pallekele**	**12.51**	**291**	*e*P	**Pn**	**10 24 13.0**	**0.0**
MNAI	**Manna**	**12.69**	**124**	*e*Pn	**Pn**	**10 24 16.1**	**+0.7**
MDSI	**Maura Dua**	**13.78**	**122**	P	**Pn**	**10 24 29.4**	**-0.9**
MDRS	**Chennai**	**15.80**	**311**	*e*P	**Pn**	**10 24 56.1**	**-1.4**
MDRS				IAmb	IAmb	10 24 57.0	
	comp=Z,44nm,0.4s						
TRD	**Trivandrum**	**16.41**	**291**	*e*P	**Pn**	**10 25 05.8**	**+0.4**
CM01	**Chiang Mai Arr**	**16.80**	**22**	*e*Pn	**Pn**	**10 25 08.9**	**-1.3**
CM31	**Chiang Mai Arr**	**16.83**	**22**	*e*Pn	**Pn**	**10 25 10.4**	**-0.2**
CMAR	**Chiang Mai Arr**	**16.83**	**22**	Pn	**Pn**	**10 25 09.6**	**-1.0**
	comp=Z,0.4nm,0.3s,baz=217,slow=11,SNR=11						
CHTO	**Chiang Mai**	**17.16**	**21**	*e*Pn	**Pn**	**10 25 14.8**	**+0.1**
CHTO							
CHTO	**Chiang Mai**	**17.16**	**21**	*e*P	**Pn**	**10 25 14.8**	**+0.1**
CHTO				pmax	pmax		
	comp=Z,68nm,1.1s						
VIS	**Vishakhapatnam**	**17.32**	**330**	*e*P	**Pn**	**10 25 15.8**	**-1.0**
VIS				IAmb	IAmb	10 25 25.0	
	comp=Z,45nm,0.6s						
KSM	**Kuching**	**17.91**	**94**	*e*Pn	**P**	**10 25 25.4**	**+0.7**
	comp=Z,204nm,1.1s						
LEM	**Lembang**	**17.91**	**122**	P	**Pn**	**10 25 23.2**	**-1.1**
	comp=Z,3.8nm,0.3s,baz=306,slow=19,SNR=3.1						
CISI	**Cisompet, Garu**	**18.47**	**124**	*e*P	**Pn**	**10 25 31.0**	**0.0**
	comp=Z,139nm,0.8s						
HMDM	**Hanimaadhoo**	**19.59**	**282**	*e*P	**Pn**	**10 25 45.0**	**+0.6**
	comp=Z,7.7nm,1.0s						
SBUM	**Sibu**	**19.77**	**91**	*e*P	**Pn**	**10 25 46.0**	**-0.6**
	comp=Z,134nm,1.0s						
HYB	**Hyderabad**	**19.93**	**318**	*i* P	**Pn**	**10 25 48.5**	**0.0**
HYB	**Hyderabad**	**19.93**	**318**	*e*P	**P**	**10 25 45.1**	**-1.7**
HYB				IAmb	IAmb	10 25 49.3	
	comp=Z,128nm,1.9s						
MNCY	**Minicoy**	**20.06**	**287**	*e*P	**P**	**10 25 48.2**	**0.0**
SMRI	**Semarang**	**20.46**	**119**	*e*P	**P**	**10 25 52.5**	**-0.1**
	comp=Z,207nm,0.9s						
BOK	**Bokaro**	**21.82**	**344**	*e*P	**P**	**10 26 07.3**	**0.0**
BOK				IAmb	IAmb	10 26 11.3	
	comp=Z,75nm,1.4s						
GOA	**Goa**	**22.26**	**306**	*e*P	**P**	**10 26 13.2**	**+1.2**
GOA				IAmb	IAmb	10 26 19.7	
	comp=Z,79nm,1.3s						
DGAR	**Diego Garcia**	**22.37**	**243**	*e*P	**P**	**10 26 14.0**	**+0.9**
	comp=Z,4μm,2.0s						
DGAR	**Diego Garcia**	**22.37**	**243**	*e*P	**P**	**10 26 11.0**	**-2.1**
NGP	**Nagpur**	**22.43**	**326**	*ex*	**P**	**10 26 10.2**	**-3.5**
SHL	**Shillong**	**22.66**	**359**	*e*P	**P**	**10 26 15.6**	**-0.7**
KKM	**Kota Kinabalu**	**23.93**	**81**	*e*P	**P**	**10 26 30.1**	**+1.0**
	comp=Z,101nm,1.2s						
POO	**Poona**	**24.00**	**312**	*e*P	**P**	**10 26 28.8**	**-0.9**
POO				IAmb	IAmb	10 26 40.6	
	comp=Z,62nm,1.1s						
KMI	**Kunming**	**24.33**	**23**	P	**P**	**10 26 35.0**	**+2.2**
KMI				pmax	pmax		
	comp=Z,52nm,1.2s						
BHPL	**Bhopal**	**25.00**	**326**	*e*P	**P**	**10 26 39.1**	**+0.4**
BHPL				IAmb	IAmb	10 26 48.1	
	comp=Z,31nm,0.9s						
MYLDM	**Lahad Datu**	**26.11**	**84**	*e*P	**P**	**10 26 49.5**	**+0.6**
	comp=Z,100nm,1.0s						
LSA	**Lhasa**	**26.79**	**358**	*e*P	**P**	**10 26 57.2**	**+1.8**
	comp=Z,122nm,0.7s						
LSA	**Lhasa**	**26.79**	**358**	*e*P	**P**	**10 26 57.2**	**+1.8**
LSA				pmax	pmax		
	comp=Z,122nm,0.7s						
GYA	**Guiyang**	**27.21**	**29**	P	**P**	**10 27 01.0**	**+2.2**
GYA				PP	**PnPn**	**10 27 48.7**	**+6.2**
GYA				PcP	**PcP**	**10 30 21.4**	**+2.4**
GYA				S	**S**	**10 31 38.0**	**+0.8**
GYA				SS	**SnSn**	**10 32 54.2**	**+8.8**
GYA				ScP	**ScP**	**10 34 00.9**	**+2.1**
GYA				pmax	pmax		
	comp=Z,30nm,1.0s						
GYA				pmax	pmax		
	comp=Z,140nm,5.2s						
GYA				LR	LR		
	comp=Z,620nm,18.2s						
GYA				LR	LR		
	comp=Z,560nm,18.4s						
GYA				LR	LR		
	comp=Z,590nm,18.2s						
KAPI	**Kappang**	**28.37**	**106**	*e*P	**P**	**10 27 09.5**	**+0.3**
	comp=Z,47nm,1.0s						
KAPI	**Kappang**	**28.37**	**106**	*e*P	**P**	**10 27 10.4**	**+1.2**
KAPI				pmax	pmax		
	comp=Z,57nm,1.3s						
CD2	**Chengdu**	**29.95**	**20**	P	**P**	**10 27 23.2**	**+0.1**
CD2				S	**S**	**10 32 22.2**	**+2.1**
CD2				pmax	pmax		
	comp=Z,40nm,0.7s						
CD2				LR	LR		
	comp=Z,14μm,17.4s						
CD2				LR	LR		
	comp=Z,12μm,17.4s						
BHJ	**Bhuj**	**30.01**	**315**	*e*P	**P**	**10 27 23.5**	**-0.1**
BHJ				IAmb	IAmb	10 27 29.0	
	comp=Z,98nm,1.7s						
DDI	**Dehra Dun**	**30.59**	**335**	*e*P	**P**	**10 27 29.6**	**+0.9**
DDI				IAmb	IAmb	10 27 38.8	
	comp=Z,100nm,0.4s						
SMLA	**Simla**	**31.66**	**335**	*e*P	**P**	**10 27 38.1**	**0.0**
ENH	**Enshi**	**31.75**	**29**	*e*P	**P**	**10 27 38.7**	**-0.3**
	comp=Z,5.2nm,0.6s						
DHRM	**DHARAMSHALA**	**33.00**	**334**	*e*P	**P**	**10 27 52.4**	**+2.2**
DHRM				IAmb	IAmb	10 27 59.4	
	comp=Z,137nm,1.1s						
SOEI	**Soe**	**34.07**	**112**	P	**P**	**10 27 57.0**	**-2.6**
	comp=Z,94nm,1.0s						
WHN	**Wuhan**	**34.53**	**35**	⇑P	**P**	**10 28 04.2**	**+1.0**
SSLB	**Suanglung**	**34.58**	**50**	*e*P	**P**	**10 28 05.1**	**+1.3**
	comp=Z,55nm,1.5s						
XAN	**Xi'an**	**34.69**	**24**	P	**P**	**10 28 04.1**	**-0.5**
XAN				pP	pP	10 28 09.9	-0.2
XAN				pmax	pmax		
	comp=Z,30nm,0.8s						
LZH	**Lanzhou**	**34.78**	**16**	*e*P	**P**	**10 28 06.0**	**+0.5**
LZH				pP	pP	10 28 10.0	-0.9
LZH				sP	sP	10 28 13.2	+0.1
LZH				pmax	pmax		
	comp=Z,35nm,1.3s						
LZH				pmax	pmax		
	comp=Z,130nm,5.4s						
LZH				LR	LR		
	comp=Z,2μm,14.3s						
LZH				LR	LR		
	comp=Z,2μm,14.7s						
LZH				LR	LR		
	comp=Z,2μm,16.0s						
NIL	**Nilore**	**35.56**	**332**	*e*P	**P**	**10 28 12.9**	**+0.8**
	comp=Z,190nm,0.6s						
NIL	**Nilore**	**35.56**	**332**	*e*P	**P**	**10 28 12.9**	**+0.8**
NIL				pmax	pmax		
	comp=Z,189nm,0.6s						
MBWA	**Marble Bar**	**35.79**	**133**	*e*P	**P**	**10 28 14.1**	**-0.1**
	comp=Z,108nm,1.1s						
NJ2	**Nanjing**	**38.27**	**38**	*e*P	**P**	**10 28 36.1**	**+1.0**
NJ2				pmax	pmax		
	comp=Z,160nm,0.5s						
WSAR	**Wadi Sarin**	**38.52**	**305**	P	**P**	**10 28 39.7**	**+2.2**
	comp=Z,2.8nm,0.7s,baz=133,slow=6.9,SNR=3.0						
MEEK	**Meekatharra**	**38.67**	**141**	P	**P**	**10 28 38.9**	**+0.2**
	baz=39,SNR=19						
SIJI	**Sorong**	**38.99**	**95**	P	**P**	**10 28 39.8**	**-1.7**
	comp=Z,13nm,0.9s,baz=301,slow=6.8,SNR=5.2						
KSH	**Kashi**	**39.51**	**340**	P	**P**	**10 28 44.2**	**-1.4**
KSH				pmax	pmax		
	comp=Z,21nm,0.6s						
BLDU	**Ballidu**	**40.49**	**147**	P	**P**	**10 28 54.4**	**+0.7**
	baz=41,SNR=8.4						
SFK	**Sufi-Kurgan**	**40.84**	**338**	P	**P**	**10 28 57.4**	**+0.6**
SFK				pmax	pmax		
	comp=Z,26nm,0.6s						
WMQ	**Urumqi**	**41.08**	**355**	P	**P**	**10 29 00.1**	**+1.7**
WMQ				sP	sP	10 29 08.1	+1.9
WMQ				pmax	pmax		
	comp=Z,99nm,1.9s						
MUN	**Mundaring**	**41.29**	**149**	P	**P**	**10 29 01.0**	**+0.8**
	baz=41,SNR=6.6						
MTN	**Manton Dam**	**41.44**	**113**	P	**P**	**10 29 00.6**	**-1.2**
	baz=41,SNR=5.0						
HHC	**Hu-ho-hao-te**	**41.64**	**22**	*e*P	**P**	**10 29 04.6**	**+1.4**
HHC				S	**S**	**10 35 14.4**	**-4.6**
HHC				pmax	pmax		
	comp=Z,32nm,0.9s						
HHC				pmax	pmax		
	comp=Z,89nm,5.7s						
HHC				LR	LR		
	comp=Z,4μm,14.9s						
HHC				LR	LR		
	comp=Z,4μm,15.0s						
HHC				LR	LR		
	comp=Z,5μm,14.9s						
KLBR	**Kellerberrin**	**41.81**	**147**	P	**P**	**10 29 05.2**	**+0.6**
	baz=42,SNR=6.4						
UZB	**Uzynbulak**	**41.93**	**345**	*e*P	**P**	**10 29 05.5**	**-0.1**
	comp=Z,115nm,1.2s						
PDGK	**Podgornoye**	**41.98**	**346**	P	**P**	**10 29 06.8**	**+0.8**
PDGK				pmax	pmax		
	comp=Z,61nm,1.3s						
SATY	**Saty**	**42.00**	**345**	*e*P	**P**	**10 29 06.2**	**+0.1**
	comp=Z,267nm,1.1s						
KPKS	**Kokpek**	**42.31**	**345**	*e*P	**P**	**10 29 08.3**	**-0.3**
	comp=Z,155nm,1.1s						
MDOK	**Medeo**	**42.48**	**343**	*e*P	**P**	**10 29 10.4**	**+0.4**
	comp=Z,228nm,1.6s						
NWAO	**Narrogin (SRO)**	**42.57**	**149**	P	**P**	**10 29 10.4**	**-0.3**
	comp=Z,30nm,0.8s,baz=192,slow=7.6,SNR=16						
NWAO	**Narrogin (SRO)**	**42.57**	**149**	P	**P**	**10 29 10.9**	**+0.2**
	baz=43,SNR=11						
NWAO				P	**P**	**10 29 10.9**	**+0.2**
	baz=43,SNR=11						
AAK	**Ala-Archa**	**42.79**	**340**	P	**P**	**10 29 13.2**	**+0.6**
	comp=Z,2.8nm,0.8s,baz=150,slow=4.2,SNR=4.0						
AAK	**Ala-Archa**	**42.79**	**340**	*e*P	**P**	**10 29 13.2**	**+0.6**
	comp=Z,17nm,1.0s						
AAK	**Ala-Archa**	**42.79**	**340**	*ce*P	**P**	**10 29 12.1**	**-0.5**
AAK				pmax	pmax		
	comp=Z,53nm,1.7s						
BMNS	**Besmoynak**	**42.84**	**342**	*e*P	**P**	**10 29 12.5**	**-0.4**
	comp=Z,251nm,1.1s						
BJT	**Baijiatuau**	**42.85**	**27**	*e*P	**P**	**10 29 14.6**	**+1.7**
	comp=Z,197nm,1.7s						
BJT	**Baijiatuau**	**42.85**	**27**	*e*P	**P**	**10 29 14.6**	**+1.7**
BJT				pmax	pmax		
	comp=Z,197nm,1.7s						
BJI	**Beijing**	**42.87**	**27**	⇑*i*P	**P**	**10 29 14.8**	**+1.7**
BJI				pmax	pmax		
	comp=Z,64nm,1.3s						
FRU	**Bishkek**	**

comp=Z,29nm,0.6s
GEYT Alibeck 47.01 322 P **P** 10 29 47.5 +1.4
comp=Z,12nm,0.7s,baz=147,slow=8.5,SNR=11
GYA0 ALIBECK ARRAY 47.01 322 *e*P **P** 10 29 47.3 +1.2
comp=Z,30nm,0.6s
GYA0B ALIBECK ARRAY 47.01 322 *e*P **P** 10 29 46.8 +0.6
comp=Z,31nm,0.6s
GYA2 ALIBECK ARRAY 47.01 322 *e*P **P** 10 29 46.1 0.0
comp=Z,25nm,0.8s
GYB3 ALIBECK ARRAY 47.02 322 *e*P **P** 10 29 47.6 +1.5
comp=Z,26nm,0.6s
GYB4 ALIBECK ARRAY 47.02 322 *e*P **P** 10 29 47.4 +1.2
comp=Z,23nm,0.8s
KSAR Wonju Array Be 47.40 39 P **P** 10 29 49.4 +0.3
KSAR Wonju Array Be 47.40 39 P **P** 10 29 49.4 +0.3
KS01 Wonju Array Si 47.43 39 *e*P **P** 10 29 49.6 +0.2
KSRS Korea Array 47.43 39 P **P** 10 29 49.4 +0.1
comp=Z,5.5nm,0.9s,baz=222,slow=9.2,SNR=13
FORT Forrest 47.61 137 P **P** 10 29 51.6 +0.8
baz=48,SNR=7.2
FORT Forrest 47.61 137 *e*P **P** 10 29 51.5 +0.6
comp=Z,1μm,0.9s
AS31 Alice Springs 48.17 125 *e*P **P** 10 29 54.8 -0.6
comp=Z,9.2nm,1.3s
ASAR Alice Springs 48.17 125 P **P** 10 29 54.7 -0.7
comp=Z,14nm,0.9s,baz=302,slow=7.5,SNR=40
ASAR PcP **PcP** 10 31 22.5 -0.2
comp=Z,5.3nm,0.7s,baz=304,slow=2.6,SNR=8.7
HVS Khovu-Aksy 48.19 1 *e*P **P** 10 29 54.2 -0.9
HVS pmax pmax
comp=Z,42nm,1.0s
AS01 Alice Springs 48.20 125 *e*P **P** 10 29 54.8 -0.8
ZAK Zakamensk 48.31 9 *e*P **P** 10 29 56.8 +0.7
ZAK pmax pmax
comp=Z,10.0nm,1.1s
OTUK Ortayu 48.48 342 P **P** 10 29 56.0 -1.3
OTUK pmax pmax
comp=Z,44nm,1.3s
SEM Semipalatinsk 48.56 350 *e*P **P** 10 29 58.0 -0.2
KURBB Kurchatov Arra 49.09 348 P **P** 10 30 01.1 -0.9
comp=Z,12nm,0.9s,baz=171,slow=7.2,SNR=19
KURBB PcP **PcP** 10 31 26.0 +0.6
comp=Z,4.7nm,0.8s,baz=156,slow=3.0,SNR=6.4
KURK Kurchatov 49.16 348 *e*P **P** 10 30 02.6 +0.1
comp=Z,48nm,1.2s
KURK PcP **PcP** 10 31 26.0 +0.3
KURK Kurchatov 49.16 348*ce*P **P** 10 30 01.7 -0.8
KURK pmax pmax
comp=Z,265nm,1.7s
MOY Mondy 49.24 7 *e*P P 10 30 11.8 +8.6
OPO Ambohidratompo 49.32 243 P **P** 10 30 05.2 +0.7
comp=Z,6.1nm,0.9s,baz=73,slow=6.9,SNR=5.0
ABPO Ambohimpanom 49.45 242 *e*P **P** 10 30 06.6 +1.2
comp=Z,18nm,1.1s
ABPO Ambohimpanom 49.45 242 *e*P **P** 10 30 06.6 +1.2
ABPO pmax pmax
comp=Z,18nm,1.1s
TLY Talaya 49.62 9 *e*P **P** 10 30 07.8 +1.7
comp=Z,24nm,1.7s
TLY Talaya 49.62 9 *e*P **P** 10 30 08.1 +2.0
TLY pmax pmax
comp=Z,5.0nm,0.7s
RAYN Ar Rayn 49.82 299 *e*P **P** 10 30 09.0 +0.9
comp=Z,27nm,0.8s
RAYN Ar Rayn 49.82 299 *e*P **P** 10 30 04.1 -4.0
RAYN pmax pmax
comp=Z,14nm,1.7s
ATD Arta Tunnel 49.89 283 P **P** 10 30 09.3 +0.6
comp=Z,5.9nm,0.7s,baz=55,slow=3.6,SNR=3.9
CN2 Changchun 50.23 31 *e*P **P** 10 30 11.1 +0.4
CN2 pmax pmax
comp=Z,10.0nm,0.6s
IRK Irkutsk 50.27 9 *e*P **P** 10 30 07.6 -3.3
IRK pmax pmax
comp=Z,54nm,1.2s
ZAA0 Zalesovo Array 51.38 354 *e*P **P** 10 30 19.4 +0.1
comp=Z,110nm,1.3s
ZALV Zalesovo Beam 51.38 354 P **P** 10 30 18.3 -0.9
comp=Z,18nm,0.5s,baz=168,slow=7.4,SNR=10
ZALV Zalesovo Beam 51.38 354 *e*P **P** 10 30 18.6 -0.6
ZALV Zalesovo Beam 51.38 354 *e*P **P** 10 30 18.6 -0.6
QIS Mount Isa 51.72 119 P **P** 10 30 21.6 -0.8
baz=52,SNR=4.7
HIA Hailar 51.84 22 *e*P **P** 10 30 23.3 +0.5
comp=Z,24nm,0.9s
HIA Hailar 51.84 22 *e*P **P** 10 30 21.9 -0.9
HIA pmax pmax
comp=Z,23nm,1.1s
NVS Novosibirsk 52.43 353⇑ *i*P **P** 10 30 27.3 +0.3
NVS pmax pmax
comp=Z,42nm,0.9s
NVS pmax pmax
comp=N,27nm,0.8s
NVS pmax pmax
comp=E,24nm,0.9s
MDJ Mudanjiang 52.96 33 *e*P **P** 10 30 32.0 +0.8
comp=E,52nm,1.6s
KRAR Krasnoyarsk 53.07 0 *e*P **P** 10 30 32.2 +0.5
BVA0 Borovoye Array 53.29 344 *i*P **P** 10 30 31.9 -1.6
BVA0 pmax pmax
comp=Z,13nm,1.0s
BVAR Borovoye Array 53.29 344 P **P** 10 30 31.6 -1.9
comp=Z,8.4nm,0.9s,baz=144,slow=8.0,SNR=17
BRVK Borovoye 53.35 344 *e*P **P** 10 30 32.5 -1.4
comp=Z,32nm,1.3s
BRVK Borovoye 53.35 344*ce*P **P** 10 30 31.7 -2.2
BRVK pmax pmax
comp=Z,52nm,1.7s
AB07 Akbulak array 53.93 334 *e*P **P** 10 30 38.1 -0.2
AB06 Akbulak array 53.94 334 *e*P **P** 10 30 38.1 -0.2
AB08 Akbulak array 53.95 334 *e*P **P** 10 30 38.4 +0.1
AB03 Akbulak array 53.95 334 *e*P **P** 10 30 38.5 +0.1
AB01 Akbulak array 53.95 334 *e*P **P** 10 30 38.5 +0.1
AB31 Akbulak array 53.95 334 *e*P **P** 10 30 36.6 -1.8
AB31 Akbulak array 53.95 334 *e*P **P** 10 30 36.6 -1.8
ABKAR Akbulak array 53.95 334 *e*P **P** 10 30 36.4 -2.0
comp=Z,231nm,1.0s
AB02 Akbulak array 53.95 334 *e*P **P** 10 30 38.5 +0.1
AB04 Akbulak array 53.95 334 *e*P **P** 10 30 38.5 +0.1
AB05 Akbulak array 53.96 334 *e*P **P** 10 30 38.6 +0.1
AB09 Akbulak array 53.97 334 *e*P **P** 10 30 38.6 +0.2
USRK Ussuriysk Ar. 54.02 34 P **P** 10 30 38.0 -1.0
comp=Z,4.1nm,0.7s,baz=262,slow=13,SNR=6.1
MTSU Mount Surprise 55.15 114 P **P** 10 30 47.5 -0.2
baz=55,SNR=4.5
KMBO Kilima Mbogo 55.30 267 P **P** 10 30 49.3 +0.2
comp=Z,4.5nm,0.9s,baz=62,slow=11,SNR=8.9
KMBO Kilima Mbogo 55.30 267 *e*P **P** 10 30 50.0 +0.9
comp=Z,11nm,1.0s
AKTO Aktyubinsk 55.66 334 P **P** 10 30 50.8 0.0
comp=Z,6.4nm,1.0s,baz=130,slow=8.3,SNR=8.0
PMG Port Moresby 55.85 103 P **P** 10 30 51.9 -0.8
comp=Z,7.9nm,0.5s,baz=324,slow=8.7,SNR=4.3
HTT Hallett 56.73 134 P **P** 10 30 58.6 -0.1
baz=57,SNR=7.4
GNI Garni 56.88 317 P **P** 10 31 01.0 +1.1
comp=Z,7.6nm,0.3s,baz=222,slow=2.2,SNR=5.0
GNI Garni 56.88 317 *e*P **P** 10 30 59.3 -0.6
GNI pmax pmax
comp=Z,31nm,0.9s
KLR Kul'dur 57.11 30 P **P** 10 31 00.4 -0.7
comp=Z,1.1nm,0.8s,baz=245,slow=7.2,SNR=20
KLR Kul'dur 57.11 30*ce*P **P** 10 30 59.6 -1.5
BOD Bodaibo 57.46 13 *e*P **P** 10 31 01.2 -2.2
BOD pmax pmax
comp=Z,33nm,1.5s
GROC Groznyy 57.70 321 *e*P **P** 10 31 04.8 -0.6
GROC *e* 10 33 13.0
GROC pmax pmax
comp=Z,26nm,0.4s
QLP Quilpie 57.88 124 P **P** 10 31 07.6 +0.6
baz=58,SNR=5.6
STKA Stephens Creek 57.97 131 P **P** 10 31 07.3 -0.2
comp=Z,18nm,0.8s,baz=308,slow=5.8,SNR=38
STKA Stephens Creek 57.97 131 P **P** 10 31 07.3 -0.2
baz=58,SNR=22
STKA Stephens Creek 57.97 131 *e*P **P** 10 31 06.9 -0.6
comp=Z,23nm,1.8s
ZEA Zeya 58.26 24 *e*P **P** 10 31 09.2 +0.1
ZEA pmax pmax
comp=Z,31nm,0.8s
ZEI Tsey 58.70 320 *e*P **P** 10 31 15.7 +3.1
ZEI pmax pmax
comp=Z,11nm,0.7s
SVE Sverdlovsk 59.53 340 *e*P **P** 10 31 17.7 -0.2
SVE pmax pmax
comp=Z,60nm,1.0s
ASF Jabal al Asfar 59.67 306 P **P** 10 31 21.1 +1.6
comp=Z,6.8nm,0.8s,baz=91,slow=1.8,SNR=8.4
NEY Neytrino 59.68 320 *e*P **P** 10 31 17.3 -2.1
NEY pmax pmax
comp=Z,1.0nm,0.8s
CLNS Chul'man 59.77 20 *e*P **P** 10 31 19.5 -0.1
CLNS pmax pmax
comp=Z,22nm,1.1s
CLNS pmax pmax
comp=E,10.0nm,1.1s
CLNS pmax pmax
comp=N,8.0nm,1.1s
KBZ Khabaz 59.79 320 P **P** 10 31 20.8 +0.9
comp=N,4.9nm,0.8s,baz=128,slow=5.7,SNR=6.9
ARU Arti 59.94 339 *e*P **P** 10 31 19.6 -1.2
comp=N,30nm,1.0s
ARU Arti 59.94 339*d* *i*P **P** 10 31 17.5 -3.2
ARU S **S** 10 39 27.3 -4.7
ARU pmax pmax
comp=Z,21nm,1.2s
KVAR Kislovodsk Arr 60.03 320 P **P** 10 31 22.4 +0.7
comp=Z,4.1nm,0.4s,baz=114,slow=20,SNR=8.8
KIV Kislovodsk 60.03 320 *e*P **P** 10 31 21.7 0.0
comp=Z,60nm,1.4s
KIV Kislovodsk 60.03 320 *e*P **P** 10 31 20.9 -0.8
KIV pmax pmax
comp=Z,33nm,1.1s
ASAJ Asahikawa 60.37 40 P **P** 10 31 23.4 -0.5
comp=Z,6.4nm,0.9s,baz=258,slow=10,SNR=5.0
ARPS Mount Arapiles 60.45 136 P **P** 10 31 25.1 +0.5
baz=60,SNR=5.8
CMSA Cobar Meteorol 60.98 129 P **P** 10 31 28.7 +0.4
baz=61,SNR=24
MMAI Mount Meron Ar 61.13 306 P **P** 10 31 31.3 +1.9
comp=Z,3.7nm,0.6s,baz=130,slow=10,SNR=6.0
RMQ Roma 61.64 122 P **P** 10 31 32.9 0.0
baz=62,SNR=10
MBAR Mbarara 61.77 268 P **P** 10 31 34.5 +0.4
comp=Z,2.8nm,0.2s,baz=345,slow=20,SNR=3.1
SOC Sochi 61.78 319 *e*P **P** 10 31 32.1 -1.4
SOC *e*S **S** 10 39 50.7 -5.3
SOC pmax pmax
comp=Z,26nm,0.9s
YSS Yuzh-Sakhalins 61.83 37 *e*P **P** 10 31 34.3 +0.6
YSS *e* 10 32 20.3
YSS pmax pmax
comp=Z,20nm,1.2s
EIDS Eidsvold 63.28 120 P **P** 10 31 44.6 +0.7
baz=63,SNR=4.1
TOO Toolangi 63.41 135 P **P** 10 31 44.9 +0.4
baz=63,SNR=4.5
BR131 Keskin Array S 64.54 313 *e*P **P** 10 31 51.8 -0.3
BRTR Keskin Array B 64.54 313 P **P** 10 31 52.3 +0.2
comp=Z,3.8nm,0.6s,baz=140,slow=7.5,SNR=13
ILGA Ilgaz 64.92 314 *e*P **P** 10 31 54.9 +0.3
comp=Z,26nm,1.0s
ANTO Ankara 65.21 313 *e*P **P** 10 31 56.4 0.0
comp=Z,30nm,0.6s
ANTO Ankara 65.21 313 *e*P **P** 10 31 56.4 0.0
ANTO pmax pmax
comp=Z,30nm,0.6s
ARMA Armidale 65.32 125 P **P** 10 31 57.0 -0.3
baz=65,SNR=6.1
YAK Yakutsk 65.33 18 *e*P **P** 10 31 56.7 +0.1
comp=Z,85nm,1.0s
YAK Yakutsk 65.33 18 *e*P **P** 10 31 55.0 -1.5
YAK pmax pmax
comp=Z,44nm,0.9s
YAK pmax pmax
comp=N,9.0nm,0.9s
YAK pmax pmax
comp=E,12nm,1.1s
LSZ Lusaka 66.03 252 P **P** 10 32 03.2 +1.0
comp=E,1.7nm,0.5s,baz=84,slow=10,SNR=3.4
ISP Isparta 66.30 310 *e*P **P** 10 32 02.0 -1.5
ISP pmax pmax
comp=Z,10.0nm,0.9s
MANT Manisa 67.97 311 *e*P **P** 10 32 14.7 +0.5
comp=Z,40nm,0.8s
HNR Honiara 68.34 101 P **P** 10 32 15.3 -1.4
comp=Z,209nm,0.6s,baz=251,slow=3.2,SNR=3.2
KARP Karpathos 68.37 307 *e*P **P** 10 32 17.2 +0.7
comp=Z,51nm,0.8s
MOS Moscow 68.57 330 *e*P **P** 10 32 15.3 -2.0
MOS *e* 10 32 23.3
MOS pmax pmax
comp=Z,61nm,1.1s
OBN Obninsk 68.81 329 P **P** 10 32 18.8 0.0
comp=Z,25nm,0.4s,baz=46,slow=2.9,SNR=6.1
OBN Obninsk 68.81 329 *e*P **P** 10 32 17.8 -1.0
OBN *e* 10 32 25.5
OBN *e* 10 32 42.1
OBN *e* 10 34 49.6
OBN pmax pmax
comp=Z,71nm,1.7s
TIRR Tirgusor 69.69 317⇓ *i*P **P** 10 32 24.6 +0.1
TIRR Tirgusor 69.69 317 *e*P **P** 10 32 24.9 +0.4
comp=Z,25nm,0.8s
TIRR Tirgusor 69.69 317 *e*P **P** 10 32 24.9 +0.4
TIRR pmax pmax
comp=Z,25nm,0.8s
HARR Harsova 70.09 317⇑ *i*P **P** 10 32 27.8 +0.8
CASY Casey 70.13 172 *e*P **P** 10 32 27.0 +0.3
comp=Z,119nm,2.3s
IDI Anoyia 70.13 306 P **P** 10 32 28.2 +0.7
comp=Z,33nm,0.6s,baz=87,slow=9.0,SNR=16
IDI Anoyia 70.13 306 *e*P **P** 10 32 28.5 +1.0
comp=Z,61nm,0.6s
KIS Kishinev 70.18 319 *e*P **P** 10 32 26.0 -1.5
KIS Kishinev 70.18 319 *e*P **P** 10 32 26.0 -1.5
KIS *e* 10 32 34.0
KLMR Klimovskoe 70.31 335 *e*P **P** 10 32 25.7 -2.2
KLMR AMP 10 32 36.3
comp=Z,49nm,1.5s
KLMR *e*PcP **PcP** 10 32 46.6 -2.9
KLMR Klimovskoe 70.31 335 *e*P **P** 10 32 25.7 -2.2
KLMR *e* 10 32 46.5
KLMR pmax pmax
comp=Z,49nm,1.5s
LBTB Lobatse 70.36 242 *e*P **P** 10 32 29.9 +0.8
LBTB Lobatse 70.36 242 *e*P **P** 10 32 29.9 +0.8
SORM Soroca 70.83 320⇑ *i*P **P** 10 32 31.4 0.0
AKASG Malin Array Be 71.12 323 P **P** 10 32 32.5 -0.6
comp=Z,1.9nm,0.6s,baz=86,slow=5.1,SNR=20
AKBB Malin Array Si 71.12 323 *e*P **P** 10 32 32.6 -0.4
AKBB Malin Array Si 71.12 323 *e*P **P** 10 32 32.7 -0.4
KIEV Kiev 71.13 323*ce*P **P** 10 32 32.1 -1.1
KIEV pmax pmax
comp=Z,15nm,1.0s
AK11 Malin Array Si 71.15 323 *e*P **P** 10 32 32.6 -0.7
VRI Vrincioaia 71.24 318⇓ *i*P **P** 10 32 35.1 +1.1
PLOR Plostina 71.28 318⇓ *i*P **P** 10 32 35.3 +1.0
SKR Severo-Kuril's 71.40 37 *e*P **P** 10 32 35.2 +0.4
SKR *e* 10 32 44.7
SKR pmax pmax
comp=Z,82nm,1.0s
TESR Tescani 71.47 318⇓ *i*P **P** 10 32 35.4 +0.1
BOSA Boshof 71.48 239 P **P** 10 32 36.4 +0.4
comp=Z,15nm,0.8s,baz=78,slow=5.7,SNR=20
BOSA Boshof 71.48 239 *e*P **P** 10 32 35.9 0.0
comp=Z,18nm,0.8s
BOSA Boshof 71.48 239 *e*P **P** 10 32 35.9 0.0
BOSA pmax pmax
comp=Z,18nm,0.8s
MLR Muntele Rosu 71.66 317⇓ *i*P **P** 10 32 37.9 +1.2
MLR Muntele Rosu 71.66 317 *e*P **P** 10 32 37.4 +0.7
comp=Z,51nm,0.7s
MLR Muntele Rosu 71.66 317 *e*P **P** 10 32 37.4 +0.7
MLR pmax pmax
comp=Z,51nm,0.7s
MA2 Magadan 72.03 27 P **P** 10 32 38.4 -0.1
comp=Z,12nm,0.7s,baz=242,slow=4.5,SNR=17
TIXI Tiksi 72.52 11 *e*P **P** 10 32 40.6 -0.5
comp=Z,50nm,1.2s
TIXI Tiksi 72.52 11 *e*P **P** 10 32 37.8 -3.3
TIXI pmax pmax
comp=Z,18nm,0.9s
ARR Arges 72.53 317⇑ *i*P **P** 10 32 41.8 0.0
TMCR Tamitsa 72.65 338 *e*P **P** 10 32 41.3 -0.7
BURAR Bucovina Array 72.71 319⇓ *i*P **P** 10 32 43.7 +0.8
BUR04 Bucovina Ar. S 72.71 319 *e*P **P** 10 32 43.4 +0.5
BUR08 Bucovina Ar. S 72.73 319 *e*P **P** 10 32 44.1 +1.1
VTS Vitosha 72.89 314⇑ *i*P **P** 10 32 44.3 +0.2
VTS Vitosha 72.89 314 *e*P **P** 10 32 44.1 0.0
comp=Z,22nm,0.8s
VTS Vitosha 72.89 314 *e*P **P** 10 32 44.1 0.0
VTS pmax pmax
comp=Z,23nm,0.8s
MAW Mawson 73.24 191 P **P** 10 32 46.4 +0.9
comp=Z,13nm,0.8s,baz=19,slow=6.7,SNR=12
MAW Mawson 73.24 191 P **P** 10 32 46.8 +1.3
baz=73,SNR=6.3
MAW Mawson 73.24 191 *e*P **P** 10 32 46.7 +1.3
MAW Mawson 73.24 191 *e*P **P** 10 32 46.7 +1.3
PET Petropavlovsk 73.63 35⇑ *e*P **P** 10 32 46.5 -1.5
PET pmax pmax
comp=Z,52nm,2.5s
SEY Seymchan 74.23 24 P **P** 10 32 51.1 -0.3
comp=Z,9.4nm,1.0s,baz=231,slow=5.6,SNR=17
SEY Seymchan 74.23 24 *e*P **P** 10 32 49.9 -1.5
VSU Vasula 75.10 330 *e*P **P** 10 32 55.1 -1.4
VSU pmax pmax
comp=Z,68nm,1.0s
SUW Suwalki 75.65 325 *e*P **P** 10 32 59.5 -0.2
SUW Suwalki 75.65 325 *e*P **P** 10 32 59.5 -0.2
STHS Stebnicka Huta 75.71 320 *e*P **P** 10 33 02.0 +1.8
STHS *e* 10 33 09.9
STHS Stebnicka Huta 75.71 320 *e*P **P** 10 33 02.1 +1.8
STHS *e* 10 33 09.9
STHS pmax pmax
comp=Z,22nm,1.0s
APA Apatity 76.00 340⇓ *i*P P 10 33 08.6 +7.1
APA pmax pmax
comp=Z,19nm,0.7s
APA MLR MLR
comp=Z,260μm,17.0s
PSZ Piszkesteto 76.27 319 *e*P **P** 10 33 02.9 -0.6
comp=Z,12nm,1.1s
PSZ Piszkesteto 76.27 319 *e*P **P** 10 33 02.9 -0.6
PSZ pmax pmax
comp=Z,12nm,1.1s
NIE Niedzica 76.31 320 *e*P **P** 10 33 04.7 +1.0
NIE Niedzica 76.31 320 *e*P **P** 10 33 04.7 +1.0
FIA1 FINESS Array S 76.42 333 *e*P **P** 10 33 03.7 -0.3
FINES FINESS Array B 76.42 333 P **P** 10 33 03.7 -0.2
comp=Z,11nm,0.7s,baz=111,slow=9.0,SNR=20
BEL Belsk 76.53 323 *e*P P 10 33 14.1 +9.3
BEL Belsk 76.53 323 *e*P P 10 33 14.1 +9.3
OJC Ojcow 76.79 321 *e*P **P** 10 33 07.3 +0.9
OJC Ojcow 76.79 321 *e*P **P** 10 33 06.2 -0.2
comp=Z,26nm,0.8s
OJC Ojcow 76.79 321 *e*P **P** 10 33 07.3 +0.9
VYHS Vyhne 77.08 319 *e*P **P** 10 33 08.7 +0.7
VYHS *e* 10 33 16.8
VYHS Vyhne 77.08 319 *e*P **P** 10 33 08.7 +0.7
VYHS *e* 10 33 16.8
VYHS pmax pmax
comp=Z,29nm,1.4s
OKC Ostrava-Krasne 77.76 320 *e*P **P** 10 33 12.5 +0.7
OKC *e*PCP **PcP** 10 33 20.9 -0.9
OKC Ostrava-Krasne 77.76 320 *e*P **P** 10 33 12.5 +0.7
OKC *e* 10 33 20.9
MODS Modra-Piesok 78.08 319 *e*P **P** 10 33 14.5 +0.9
MODS *e* 10 33 22.8
MODS Modra-Piesok 78.08 319 *e*P **P** 10 33 14.5 +0.9
MODS *e* 10 33 22.8
KRLC Kraliky 78.67 320 *e*P **P** 10 33 17.8 +0.9
KRLC *e*pP **pP** 10 33 20.7 -2.1
KRLC *e*PCP **PcP** 10 33 26.1 +0.3
KRLC Kraliky 78.67 320 *e*P **P** 10 33 17.8 +0.9
KRLC *e* 10 33 26.1
DPC Dobruska-Polom 79.01 321 *e*P **P** 10 33 19.9 +1.1
DPC *e*pP **pP** 10 33 22.5 -2.1
DPC *e*PCP **PcP** 10 33 28.2 +0.9
DPC Dobruska-Polom 79.01 321 *e*P **P** 10 33 19.9 +1.1
DPC *e* 10 33 28.2
ARSA Arzberg 79.08 317 *i*P **P** 10 33 20.3 +1.1
SNR=7.2
KSP Ksiaz 79.10 321 *e*P **P** 10 33 20.7 +1.5
KSP Ksiaz 79.10 321 *e*P **P** 10 33 20.7 +1.5
UPC Upice 79.23 321 *e*P **P** 10 33 21.1 +1.2
UPC Upice 79.23 321 *e*P **P** 10 33 21.1 +1.2
ARCES ARCESS Array B 79.46 341 P **P** 10 33 20.4 -0.4
comp=Z,9.0nm,0.8s,baz=99,slow=6.3,SNR=9.7
GOPC GO Pecny, Ondr 79.92 320 *e*P **P** 10 33 24.2 +0.5
GOPC *e*pP **pP** 10 33 27.2 -2.4
GOPC *ex* x 10 33 32.5
GOPC GO Pecny, Ondr 79.92 320 *e*P **P** 10 33 24.2 +0.5
GOPC *e* 10 33 32.5
SYO Syowa Base 80.08 197⇑ *e*P **P** 10 33 23.4 -0.6
SYO Syowa Base 80.08 197⇓ *e*pP pP 10 33 31.6 +1.7
PRU Pruhonice 80.09 320 *e*P **P** 10 33 25.7 +1.1
PRU *e*pP **pP** 10 33 28.2 -2.2
PRU *e*PCP **sP** 10 33 33.6 +1.0
PRU Pruhonice 80.09 320 *e*P **P** 10 33 25.7 +1.1
PRU *e* 10 33 33.6
GEA0 GERESS Array S 80.49 319 *e*P **P** 10 33 27.3 +0.5
GEC2 GERESS Array S 80.49 319 *e*P **P** 10 33 28.0 +1.1
comp=Z,53nm,0.8s
GEC2 GERESS Array S 80.49 319 *e*P **P** 10 33 28.0 +1.1
GEC2 pmax pmax
comp=Z,53nm,0.8s
GERES GERESS Array B 80.49 319 P **P** 10 33 27.9 +0.9
comp=Z,18nm,0.8s,baz=97,slow=5.4,SNR=33
BRG Berggiesshubel 80.58 321 *i*P **P** 10 33 27.9 +0.7
comp=Z,46nm,1.6s
BRG *i* 10 33 36.0
comp=Z,22nm,0.9s
BRG Berggiesshubel 80.58 321 *i*P **P** 10 33 27.9 +0.7
BRG *i* 10 33 36.0
BRG pmax pmax
comp=Z,46nm,1.6s
BRG pmax pmax
comp=Z,22nm,0.9s
KHC Kasperske Hory 80.61 319 *e*P **P** 10 33 27.7 +0.3
KHC *ex* x 10 33 36.2
KHC Kasperske Hory 80.61 319 *e*P **P** 10 33 28.0 +0.5
comp=Z,14nm,1.5s
KHC Kasperske Hory 80.61 319 *e*P **P** 10 33 27.7 +0.3
KHC *e* 10 33 36.2
CLL Collm 81.22 321 *i*P **P** 10 33 30.7 +0.1
comp=Z,20nm,1.3s
CLL *i* (sP) **sP** 10 33 39.1 +0.5
comp=Z,24nm,1.1s
CLL Collm 81.22 321 *i*P **P** 10 33 30.7 +0.1
CLL pmax pmax
comp=Z,20nm,1.3s
BILL Bilibino 81.41 21⇑ *i*P **P** 10 33 31.0 -0.3
BILL *e* 10 36 35.3
BILL pmax pmax
comp=Z,5.0nm,1.2s
BILL MLR MLR
comp=Z,154μm,19.0s
HFS Hagfors 81.99 330 P **P** 10 33 34.5 0.0
comp=Z,9.8nm,0.8s,baz=114,slow=9.6,SNR=8.4
MOTA Moosalm 82.08 317 *i*P **P** 10 33 35.4 0.0
SNR=7.1
RETA Reutte 82.32 317 *i*P **P** 10 33 36.5 -0.1
SNR=5.5
KEST Kesra 82.77 305 P **P** 10 33 40.5 +1.3
comp=Z,28nm,0.9s,baz=194,slow=1.7,SNR=6.6
DAVA Damuels 82.91 317 *i*P **P** 10 33 40.7 +1.0
SNR=5.7
TUE Stuetta 83.22 316 *e*P **P** 10 33 42.2 +0.7
comp=Z,20nm,1.0s
NB2 NORSAR Subarra 83.32 331 P **P** 10 33 40.7 -0.7
comp=Z,27nm,1.1s,baz=92,slow=5.3
NB2 NORSAR Subarra 83.32 331 P **P** 10 33 40.7 -0.7
baz=92,slow=5.3
NOA NORSAR Array B 83.32 331 P **P** 10 33 40.8 -0.7
comp=Z,6.3nm,0.9s,baz=99,slow=5.6,SNR=7.4
NBO02 NORSAR Array S 83.49 331 *e*P **P** 10 33 42.2 0.0
KONO Kongsberg 83.98 330*ce*P **P** 10 33 43.6 -1.2
KONO pmax pmax
comp=Z,74nm,2.5s
BFO Black Forest 84.01 318 *e*P **P** 10 33 45.1 -0.1
comp=Z,13nm,1.3s
BFO Black Forest 84.01 318 *e*P **P** 10 33 45.1 -0.1
BFO pmax pmax
comp=Z,13nm,1.3s
SPITS Spitsbergen Ar 84.44 348 P **P** 10 33 46.6 -0.3
comp=Z,7.4nm,0.8s,baz=316,slow=8.1,SNR=4.4
WLF Walferdange 85.48 319⇑ P **P** 10 33 54.2 +1.6
MEM Membach 85.59 320⇑ P **P** 10 33 53.5 +0.4
URZ Urewera 87.53 128 P **P** 10 34 01.5 -1.3
comp=Z,29nm,1.1s,baz=274,slow=3.0,SNR=4.5
VNDA Vanda 88.32 168 P **P** 10 34 06.4 +0.5
comp=Z,1.8nm,0.8s,baz=298,slow=4.5,SNR=3.8
TORD Torodi Ar. Bea 90.09 283 P **P** 10 34 15.8 +0.4

comp=Z,102nm,0.8s,baz=81,slow=2.7,SNR=4.1
GAMB Gambell 90.12 26 eP P 10 34 14.8 +0.4
comp=Z,7.5nm,1.0s
EKA Eskdalemuir Ar 90.92 325 P P 10 34 18.9 +0.5
comp=Z,4.2nm,0.8s,baz=100,slow=4.7,SNR=6.9
ES19 SONSECA Array 93.11 310 eP P 10 34 29.9 +0.8
ESDC Sonseca Array 93.16 310 P P 10 34 29.2 -0.1
comp=Z,0.8nm,0.6s,baz=31,slow=3.7,SNR=2.6
SNAA Sanae 94.29 198 P P 10 34 34.5 +0.7
SNAA Sanae 94.29 198 P P 10 34 34.3 +0.5
comp=Z,2.5nm,0.8s,baz=92,slow=3.9,SNR=5.3
KOWA Kowa 95.55 285 P P 10 34 41.8 +1.2
comp=Z,1.9nm,0.6s,baz=354,slow=4.0,SNR=4.3
VNA2 Neumayer--Watz 95.83 199 P P 10 34 41.4 +0.7
baz=71,slow=2.5
DBIC Dimbokro 96.91 277 P P 10 34 48.1 +1.3
comp=Z,2.3nm,0.6s,baz=123,slow=4.7,SNR=3.7
IM3 Indian Mountai 96.95 22 eP P 10 34 45.6 -0.3
TOLK Toolik Lake Re 97.28 19 P Pdif 10 34 47.7 +0.2
baz=297
ILAR Eielson Array 100.07 22 P Pdif 10 34 57.6 -2.4
comp=Z,0.3nm,0.7s,baz=266,slow=2.5,SNR=3.2
RES Resolute Bay 102.52 2 P Pdif 10 35 10.3 -0.4
comp=Z,1.0nm,0.8s,baz=343,slow=3.8,SNR=4.2
YKA Yellowknife Ar 111.73 13 PKiKP PKiKP 10 39 47.7 -1.5
comp=Z,0.4nm,0.8s,baz=312,slow=1.8,SNR=6.8
YKA PP PP 10 40 25.8 -4.9
comp=Z,1.1nm,1.0s,baz=332,slow=7.2,SNR=7.4
YKA PKKPbc PKKPbc 10 50 41.9 -3.1
comp=Z,0.4nm,0.6s,baz=153,slow=3.4,SNR=9.2
FCC Fort Churchill 118.42 4 ePKPdf PKPdf 10 40 01.2 -0.8
FCC Fort Churchill 118.42 4 ePKIKP PKPdf 10 40 01.3 -0.8
B05A Bryant 120.92 26 P PKPdf 10 40 07.7 +0.4
baz=319
FFC Flin Flon 121.46 10 ePKIKP PKPdf 10 40 08.0 -0.1
FFC pmax pmax
comp=Z,70nm,2.5s
E03A Lebam 121.52 28 ePKPdf PKPdf 10 40 08.7 +0.2
D05A Enumclaw 121.78 27 ePKPdf PKPdf 10 40 09.6 +0.7
H04A Detroit Lake 123.54 29 ePKPdf PKPdf 10 40 12.6 +0.1
G05D Wamic, OR 123.54 28 P PKPdf 10 40 13.1 +0.6
baz=318
I03D Drain, OR 123.67 31 P PKPdf 10 40 12.9 +0.3
baz=316
I04A Tendick Farm, 124.08 30 P PKPdf 10 40 13.7 +0.1
baz=316
I05D Terrebonne, OR 124.20 29 P PKPdf 10 40 14.3 +0.6
baz=318
J04D Umpqua Nationa 124.63 30 P PKPdf 10 40 15.2 +0.3
baz=317
HUMO Hull Mountain 124.65 31 ePKPdf PKPdf 10 40 15.0 +0.4
F10A Beach Ranch, E 124.80 25 ePKPdf PKPdf 10 40 15.2 +0.3
PINE Pine Mountain 124.80 29 ePKPdf PKPdf 10 40 16.3 +1.2
J05D Fort Rock, OR 125.03 30 P PKPdf 10 40 16.1 +0.6
baz=318
MSO Missoula 125.40 22 P PKPdf 10 40 16.0 -0.2
baz=327
MSO Missoula 125.40 22 ePKPdf PKPdf 10 40 15.9 -0.2
M02C Callahan 125.56 32 P PKPdf 10 40 17.4 +0.8
baz=315
M04C Macdoel 125.82 31 P PKPdf 10 40 17.2 +0.2
baz=316
N02D Trinity Center 125.94 33 P PKPdf 10 40 17.7 +0.4
baz=315
J08A Circle Bar Ran 126.30 28 ePKPdf PKPdf 10 40 18.6 +0.7
ULM Lac du Bonnet 126.69 7 PKP PKPdf 10 40 17.5 -0.8
comp=Z,4.7nm,0.7s,baz=0.2,slow=4.8,SNR=10
ULM Lac du Bonnet 126.69 7 ePKPdf PKPdf 10 40 17.9 -0.4
ULM Lac du Bonnet 126.69 7 ePKIKP PKPdf 10 40 17.9 -0.4
O03D Paynes Creek 126.90 33 P PKPdf 10 40 18.9 -0.2
baz=315
WVOR Wild Horse Val 126.93 29 ePKPdf PKPdf 10 40 20.0 +0.8
WVOR Wild Horse Val 126.93 29 ePKIKP PKPdf 10 40 20.0 +0.8
DLMT Dillon 127.14 22 ePKPdf PKPdf 10 40 20.2 +0.7
BOZ Bozeman (W) 127.30 21 P PKPdf 10 40 19.5 -0.3
baz=329
BOZ Bozeman (W) 127.30 21 ePKPdf PKPdf 10 40 20.1 +0.3
BOZ Bozeman (W) 127.30 21 ePKIKP PKPdf 10 40 20.1 +0.3
A32A Rocking H Ranc 127.92 7 P PKPdf 10 40 19.9 -0.8
baz=349
HLID Hailey 127.93 25 P PKPdf 10 40 20.8 -0.3
baz=325
HLID Hailey 127.93 25 ePKPdf PKPdf 10 40 21.9 +0.8
A33A Warroad 128.04 7 P PKPdf 10 40 21.1 +0.2
baz=350
LAO LASA Array 128.06 16 P PKPdf 10 40 21.4 +0.3
baz=336
LAO LASA Array 128.06 16 ePKPdf PKPdf 10 40 22.2 +1.1
YHB Horse Butte 128.18 21 ePKPdf PKPdf 10 40 23.4 +1.8
B31A Greenbush Farm 128.25 9 P PKPdf 10 40 20.9 -0.4
baz=347
YHH Holmes Hill 128.27 21 ePKPdf PKPdf 10 40 23.0 +1.1
AFDM Forest Hills D 128.31 33 ePKPdf PKPdf 10 40 22.8 +1.1
YMR Madison River 128.34 21 ePKPdf PKPdf 10 40 22.9 +1.0
RCBR Riachuelo 128.41 265 ePKIKP PKPdf 10 40 21.7 -0.9
RCBR pmax pmax
comp=Z,441nm,1.7s
B32A Ashes, Strandq 128.43 8 P PKPdf 10 40 21.3 -0.4
baz=348
RLMT Red Lodge 128.53 20 P PKPdf 10 40 22.3 0.0
baz=332
B34A Aery, Baudette 128.56 6 P PKPdf 10 40 21.5 -0.4
baz=351
YFT Old Faithful 128.57 21 ePKPdf PKPdf 10 40 25.4 +3.0
PAHR Pah Rah Range 128.61 31 ePKPdf PKPdf 10 40 22.7 +0.2
AGMN Agassiz Nation 128.61 7 P PKPdf 10 40 21.4 -0.6
baz=349
B33A Robert and Kas 128.67 7 P PKPdf 10 40 21.5 -0.6
baz=350
H17A Grant Village 128.71 21 P PKPdf 10 40 22.4 -0.2
baz=330
B35A Bob, Littlefor 128.78 5 P PKPdf 10 40 21.5 -0.8
baz=352
C31A Landman Farms, 128.85 9 P PKPdf 10 40 22.0 -0.4
baz=347
C33A Trail 129.15 7 P PKPdf 10 40 22.6 -0.4
baz=349
TPAW Teton Pass 129.35 22 ePKPdf PKPdf 10 40 25.3 +1.4
EYMN Ely 129.36 3 P PKPdf 10 40 22.8 -0.7
baz=355
C34A RKJ Ranch, Bem 129.36 6 P PKPdf 10 40 22.8 -0.7
baz=350
LOHW Long Hollow 129.38 22 ePKPdf PKPdf 10 40 25.2 +1.3
C35A Jirik Farms, M 129.41 6 P PKPdf 10 40 23.1 -0.5
baz=352
SNOW Snow King Moun 129.45 22 ePKPdf PKPdf 10 40 24.8 +0.7
REDW Red Top Meadow 129.50 22 ePKPdf PKPdf 10 40 23.5 -0.7
C37A Embarrass 129.53 4 P PKPdf 10 40 23.5 -0.3
baz=354
C39A Grand Marais 129.56 2 P PKPdf 10 40 23.6 -0.2
baz=357
C38A Sawbill Land. 129.60 3 P PKPdf 10 40 24.3 +0.4
baz=355
D33A AnnSam, Waubun 129.75 7 P PKPdf 10 40 24.4 +0.1
baz=349
D35A Remer 130.01 6 P PKPdf 10 40 24.5 -0.3
baz=352
HVU Hansel Valley 130.08 25 ePKPdf PKPdf 10 40 26.4 +1.2
HVU Hansel Valley 130.08 25 ePKIKP PKPdf 10 40 26.4 +1.2
D37A Cotton 130.08 4 P PKPdf 10 40 25.2 +0.3
baz=354
NV01 Mina Array Sit 130.12 32 ePKPdf PKPdf 10 40 26.4 +1.0
NVAR Mina Array Bea 130.12 32 PKP PKPdf 10 40 26.5 +1.0
comp=Z,2.6nm,0.7s,baz=316,slow=2.5,SNR=17
NV11 Mina Array Sit 130.19 32 ePKPdf PKPdf 10 40 27.3 +1.7
E33A Westby DABS, E 130.36 8 P PKPdf 10 40 25.5 +0.1
baz=349
BW06 Boulder Array 130.49 21 P PKPdf 10 40 26.2 +0.1
baz=331
BW06 Boulder Array 130.49 21 ePKPdf PKPdf 10 40 26.0 -0.1
PD31 Pinedale Array 130.49 21 ePKPdf PKPdf 10 40 26.0 -0.1
PDAR Pinedale Array 130.49 21 PKP PKPdf 10 40 26.0 -0.1
comp=Z,1.7nm,0.7s,baz=76,slow=0.5,SNR=16
PDAR Pinedale Array 130.49 21 ePKPdf PKPdf 10 40 25.5 -0.6
E36A McGregor 130.65 5 P PKPdf 10 40 26.3 +0.3
baz=352
E40A Wakefield 130.94 2 P PKPdf 10 40 27.6 +1.1
baz=357
F33A 5 Mile Ranch, 130.97 8 P PKPdf 10 40 26.9 +0.3
baz=348
E39A Mellen 130.97 3 P PKPdf 10 40 26.9 +0.3
baz=356
RSSD Black Hills 131.02 16 P PKPdf 10 40 27.0 0.0
baz=338
E45A Wooded Hills, 131.02 358 P PKPdf 10 40 27.4 +0.8
baz=3.1
E43A Lone Tree Farm 131.05 359 P PKPdf 10 40 26.6 -0.1
baz=0.7
LBNH Lisbon 131.13 345 P PKPdf 10 40 26.8 -0.1
baz=21
RCTC Rector, Farmer 131.16 34 P PKPdf 10 40 27.9 +0.8
baz=316
F35A Swanville 131.17 7 P PKPdf 10 40 27.2 +0.3
baz=351
F36A Milaca 131.27 6 P PKPdf 10 40 25.4 -1.8
baz=352
F38A Pierce - Schro 131.31 4 P PKPdf 10 40 26.5 -0.7
baz=354
DUG Dugway, Tooele 131.37 26 P PKPdf 10 40 27.3 -0.4
baz=326
DUG Dugway, Tooele 131.37 26 ePKPdf PKPdf 10 40 28.1 +0.4
DUG Dugway, Tooele 131.37 26 ePKIKP PKPdf 10 40 28.1 +0.4
LONY Lake Ozonia 131.40 348 P PKPdf 10 40 27.3 -0.1
baz=17
F39A Loretta 131.42 3 P PKPdf 10 40 26.9 -0.5
baz=356
F44A Big Bay de Noc 131.44 359 P PKPdf 10 40 26.7 -0.7
baz=1.4
F40A Park Falls 131.45 2 P PKPdf 10 40 27.4 -0.1
baz=356
F37A Hinrichs Farm, 131.49 5 P PKPdf 10 40 27.2 -0.3
baz=353
R11A Troy Canyon, C 131.56 30 P PKPdf 10 40 28.3 +0.1
baz=321
R11A Troy Canyon, C 131.56 30 ePKPdf PKPdf 10 40 29.8 +1.6
G33A Ortonville 131.58 8 P PKPdf 10 40 27.2 -0.6
baz=348
VES Vestal, Richgr 131.58 35 P PKPdf 10 40 27.3 -0.7
baz=316
K22A Casper 131.63 19 P PKPdf 10 40 27.3 -0.8
baz=334
K22A Casper 131.63 19 ePKPdf PKPdf 10 40 28.2 0.0
F41A Three Lakes 131.67 1 P PKPdf 10 40 28.0 +0.1
baz=359
NLU North Lily Min 131.89 25 ePKPdf PKPdf 10 40 30.5 +1.7
SPMN Marine on St. 131.97 5 P PKPdf 10 40 28.3 -0.1
baz=353
DAC Darwin (Calif) 132.09 33 ePKPdf PKPdf 10 40 30.6 +1.3
DAC Darwin (Calif) 132.09 33 ePKIKP PKPdf 10 40 30.6 +1.3
G40A Rib Lake 132.10 3 P PKPdf 10 40 28.4 -0.4
baz=356
G38A Ridgeland 132.10 4 P PKPdf 10 40 28.8 +0.1
baz=354
G42A Mountain 132.18 1 P PKPdf 10 40 28.7 -0.1
baz=359
H35A Sunnyside Ranc 132.28 7 P PKPdf 10 40 28.7 -0.4
baz=350
MPMC Manual Prospec 132.31 33 P PKPdf 10 40 29.5 -0.2
baz=318
H36A Jessenland, He 132.50 6 P PKPdf 10 40 29.5 0.0
baz=351
SCZ2 Santa Cruz Isl 132.56 37 P PKPdf 10 40 29.1 -0.8
baz=314
H39A Augusta 132.63 4 P PKPdf 10 40 29.8 0.0
baz=355
H40A Chili 132.74 3 P PKPdf 10 40 29.4 -0.6
baz=356
ECSD EROS Data Cent 132.98 9 P PKPdf 10 40 30.0 -0.4
baz=348
ECSD EROS Data Cent 132.98 9 ePKPdf PKPdf 10 40 30.5 +0.1
I37A Lemond, Waseca 133.12 6 P PKPdf 10 40 30.7 0.0
baz=352
J32A Parkston 133.13 10 P PKPdf 10 40 30.7 0.0
baz=346
O20A White River Ci 133.27 22 P PKPdf 10 40 31.2 -0.2
baz=331
O20A White River Ci 133.27 22 ePKPdf PKPdf 10 40 31.9 +0.6
N23A Red Feather La 133.40 19 P PKPdf 10 40 30.8 -0.9
baz=334
I39A Houston 133.43 4 P PKPdf 10 40 30.7 -0.6
baz=354
K31A O'Neill 133.68 11 P PKPdf 10 40 31.5 -0.3
baz=344
J36A Seneca 1, Swea 133.69 7 P PKPdf 10 40 31.1 -0.7
baz=351
GMRC Granite Mounta 134.25 33 P PKPdf 10 40 33.1 -0.2
baz=319
JFWS Jewell Farm 134.44 3 P PKPdf 10 40 32.5 -0.7
baz=356
ISCO Idaho Springs 134.50 20 P PKPdf 10 40 32.5 -1.4
baz=334
K40A Colesburg 134.61 4 P PKPdf 10 40 31.0 -2.5
baz=355
K42A Prairie Point, 134.62 2 P PKPdf 10 40 31.6 -1.9
baz=357
L38A Oak Wood Farm, 135.01 6 P PKPdf 10 40 32.6 -1.7
baz=352
L42A Oliver, Polo 135.38 2 P PKPdf 10 40 34.3 -0.7
baz=357
MVCO Mesa Verde 135.70 24 P PKPdf 10 40 34.7 -1.4
baz=334
MVCO Mesa Verde 135.70 24 ePKPdf PKPdf 10 40 37.2 +1.1
M38A Pleasantville 135.71 6 P PKPdf 10 40 34.7 -0.9
baz=352
WUAZ Wupatki 135.85 28 P PKPdf 10 40 37.3 +1.0
baz=325
S22A 4UR Ranch, Cre 135.89 22 P PKPdf 10 40 37.3 +0.9
baz=332
M43A Waltham Townsh 135.97 2 P PKPdf 10 40 35.2 -0.9
baz=358
M45A Boilermakers S 136.03 360 P PKPdf 10 40 36.5 +0.3
baz=0.4
KSCO Kaye Shedlock' 136.15 17 P PKPdf 10 40 37.2 +0.5
baz=338
SDCO Great Sand Dun 136.38 21 P PKPdf 10 40 37.6 +0.2
baz=334
SDCO Great Sand Dun 136.38 21 ePKPdf PKPdf 10 40 37.4 0.0
N45A Kentland 136.57 360 P PKPdf 10 40 37.3 +0.1
O39A Kirksville 136.93 6 P PKPdf 10 40 38.0 0.0
baz=353
O41A Passleys Farm, 137.20 4 P PKPdf 10 40 38.0 -0.4
baz=355
T25A Trinidad 137.30 20 P PKPdf 10 40 38.9 -0.1
baz=335
P37A Lathrop 137.37 8 P PKPdf 10 40 39.2 +0.4
baz=350
P38A Dawn 137.44 7 P PKPdf 10 40 39.5 +0.6
baz=351
KSU1 Kansas State U 137.49 10 P PKPdf 10 40 39.4 +0.4
baz=356
P39B Salisbury 137.66 6 P PKPdf 10 40 39.5 +0.2
baz=352
P40A Paris 137.69 5 P PKPdf 10 40 39.6 +0.2
baz=353
P42A Winchester 137.76 3 P PKPdf 10 40 39.5 0.0
baz=356
Q39A Willow Grove F 138.08 6 P PKPdf 10 40 40.3 +0.2
baz=352
Q38A Cooks Store, C 138.09 7 P PKPdf 10 40 40.3 +0.2
baz=351
Q40A Laux Farm, Aux 138.22 5 P PKPdf 10 40 40.3 0.0
baz=353
Q41A Truxton 138.33 4 P PKPdf 10 40 40.9 +0.4
baz=354
Q42A Golden Eagle 138.42 3 P PKPdf 10 40 41.1 +0.4
baz=356
Q43A New Douglas 138.43 3 P PKPdf 10 40 40.9 +0.2
baz=357
ANMO Albuquerque 138.49 24 P PKPdf 10 40 41.9 +0.7
baz=331
ANMO Albuquerque 138.49 24 ePKPdf PKPdf 10 40 42.1 +0.9
ANMO Albuquerque 138.49 24 i PKIKP PKPdf 10 40 41.4 +0.2
Q44A Meyer Farm, Va 138.50 2 P PKPdf 10 40 40.6 -0.2
baz=358
R39A Chumby, Stover 138.79 7 P PKPdf 10 40 40.1 -1.3
baz=352
R38A Fenwick Farm, 138.81 8 P PKPdf 10 40 40.2 -1.3
baz=350
R40A Maddies Statio 138.90 6 P PKPdf 10 40 40.9 -0.7
baz=353
R43A Red Bud 139.08 3 P PKPdf 10 40 40.7 -1.3
baz=356
R47A Wooly Knot Far 139.11 359 P PKPdf 10 40 41.5 -0.4
baz=1.5
R44A Waltonville 139.15 2 P PKPdf 10 40 41.8 -0.2
baz=358
PLCA Paso Flores 139.22 200 ePKPdf PKPdf 10 40 43.2 +1.0
PLCA Paso Flores 139.22 200 ePKIKP PKPdf 10 40 43.2 +1.0
S38A Stockton 139.36 8 P PKPdf 10 40 42.0 -0.5
baz=350
S39A Bolivar 139.37 7 P PKPdf 10 40 41.8 -0.7
baz=351
S42A Caledonia 139.54 4 P PKPdf 10 40 41.9 -0.9
baz=355
S40A Lebanon 139.56 6 P PKPdf 10 40 42.3 -0.5
baz=352
S41A Jillco Farms, 139.64 5 P PKPdf 10 40 42.9 -0.1
baz=354
T38A Diamond 139.89 8 P PKPdf 10 40 43.6 +0.1
baz=350
121A Cookes Peak, D 139.99 27 P PKPdf 10 40 43.8 -0.2
baz=328
T39A Clever 140.03 7 P PKPdf 10 40 43.4 -0.3
baz=351
T41A Mountain View 140.18 5 P PKPdf 10 40 43.7 -0.3
baz=353
T42A Van Buren 140.25 4 P PKPdf 10 40 43.4 -0.7
baz=354
T43A Greenville 140.25 3 P PKPdf 10 40 43.6 -0.5
baz=356
T44A Benton 140.29 3 P PKPdf 10 40 43.9 -0.3
baz=357
T48A Bowling Green 140.29 359 P PKPdf 10 40 43.9 -0.3
baz=1.8
T46A Princeton 140.37 0 P PKPdf 10 40 44.0 -0.3
baz=359
U39A Green Forest 140.64 8 P PKPdf 10 40 44.1 -0.8
baz=351
HHAR Hobbs 140.68 8 ePKPdf PKPdf 10 40 44.4 -0.5
TZTN Tazewell 140.69 355 P PKPdf 10 40 44.4 -0.5
baz=6.2
MSTX Muleshoe 140.73 20 P PKPdf 10 40 44.5 -0.7
baz=336
MSTX Muleshoe 140.73 20 ePKPdf PKPdf 10 40 45.6 +0.4
U40A Yellvile 140.75 7 P PKPdf 10 40 44.3 -0.8
baz=352
U41A Viola 140.86 6 P PKPdf 10 40 44.7 -0.6
baz=353
U48A Cassie Pea, Po 140.89 359 P PKPdf 10 40 44.5 -0.7
baz=1.5
U42A Revenden 140.91 5 P PKPdf 10 40 45.4 +0.1
baz=354
U46A Springville 141.05 1 P PKPdf 10 40 45.7 +0.1
baz=359
V41A Mountainview 141.39 6 P PKPdf 10 40 45.6 -0.6
baz=353
V42A Cord 141.44 5 P PKPdf 10 40 45.7 -0.5
baz=354
TKL Tuckaleechee C 141.59 355 PKP PKPdf 10 40 46.1 -0.5
comp=Z,4.3nm,0.9s,baz=100,slow=6.1,SNR=3.6
MNTX Cornudas Mount 141.75 25 P PKPdf 10 40 46.7 -0.3
baz=330
MNTX Cornudas Mount 141.75 25 ePKPdf PKPdf 10 40 47.6 +0.6
W41B Gary Mavity, V 141.99 6 P PKPdf 10 40 46.9 -0.4
baz=352
W47A Westpoint 142.16 0 P PKPdf 10 40 47.2 -0.4
baz=360
W45A Hickory Valley 142.22 2 P PKPdf 10 40 46.1 -1.6
baz=357
W48A Pulaski 142.27 359 P PKPdf 10 40 46.0 -1.8
baz=0.9
X39A Fountain Ranch 142.39 9 P PKPdf 10 40 47.0 -1.0
baz=349
MIAR Mount Ida 142.44 8 ePKPdf PKPdf 10 40 46.5 -1.6
MIAR Mount Ida 142.44 8 ePKIKP PKPdf 10 40 46.5 -1.6
OXF Oxford 142.86 3 P PKPdf 10 40 48.2 -0.6
baz=357
X48A Hartselle 142.96 359 P PKPdf 10 40 48.2 -0.8
baz=0.8
ABTX Abilene, Hawle 142.97 17 P PKPdf 10 40 48.0 -1.1
baz=340
Y49A Blount Mountai 143.54 358 P PKPdf 10 40 49.0 -1.1
baz=1.9
Z40A Long Farm, Mag 143.73 8 P PKPbc 10 40 48.5 +0.7
baz=350
WHTX Lake Whitney, 144.16 14 P PKPbc 10 40 49.9 +0.7
baz=343
TX31 Lajitas Ar. Si 144.53 25 ePKPdf PKPbc 10 40 50.6 0.0
TXAR Lajitas Array 144.53 25 PKP PKPbc 10 40 51.0 +0.4
comp=Z,5.6nm,0.7s,baz=272,slow=2.6,SNR=20
AVIZ Vizcacheras 144.65 208 eP PKPdf 10 40 51.6 -0.6
144A Alexander Plac 144.67 4 P PKPdf 10 40 51.8 -0.3
baz=355
147A Livingston 144.73 1 P PKPdf 10 40 51.9 -0.3
baz=359
150A Eclectic 144.77 358 P PKPbc 10 40 51.1 0.0
baz=2.6
151A Opelika 144.81 357 P PKPbc 10 40 51.5 +0.2
baz=3.8
JCT Junction City 144.92 19 P PKPbc 10 40 51.8 +0.1
baz=338
JCT Junction City 144.92 19 ePKPdf PKPab 10 40 51.4 -0.3
JCT Junction City 144.92 19 ePKIKP PKPab 10 40 51.4 -0.3
NATX Nacogdoches 144.99 11 P PKPbc 10 40 52.1 +0.2
baz=348
NATX Nacogdoches 144.99 11 ePKPdf PKPbc 10 40 52.1 +0.3
241A Mo Tay, Goldon 145.01 8 P PKPbc 10 40 51.9 0.0
baz=351
242A Grayson 145.07 7 P PKPdf 10 40 52.5 -0.2
baz=352
VBMS Vicksburg 145.07 4 P PKPdf 10 40 52.5 -0.2
baz=355
VBMS Vicksburg 145.07 4 ePKPbc PKPdf 10 40 53.0 +0.2
AAGR Agrelo 145.12 208 eP PKPdf 10 40 53.1 +0.1
254A Abbeville 145.22 354 P PKPbc 10 40 52.2 -0.3
baz=7.4
244A Avery, Jackson 145.24 5 P PKPdf 10 40 53.1 +0.1
baz=354,SNR=10
251A Midway 145.25 357 P PKPdf 10 40 53.0 -0.1
baz=3.7,SNR=6.9
435B Jarrell 145.28 15 P PKPab 10 40 53.0 +0.1
baz=342
245A Little AP, Sta 145.30 3 P PKPdf 10 40 53.9 +0.7
baz=356
252A Lumpkin 145.30 356 P PKPdf 10 40 53.3 +0.2
baz=4.9,SNR=7.0
248A Dixon Mills 145.31 0 P PKPdf 10 40 53.5 +0.4
baz=360
243A Waterproof 145.32 6 P PKPdf 10 40 53.4 +0.2
baz=353
247A Quitman 145.34 2 P PKPdf 10 40 53.2 0.0
baz=358
246A Jackson Lee, B 145.36 2 P PKPdf 10 40 53.9 +0.6
baz=357
ARCO CERRO ARCO 145.37 208 eP PKPdf 10 40 53.9 +0.4
250A Grady 145.41 358 P PKPdf 10 40 53.4 +0.1
baz=2.2
249A Camden 145.43 359 P PKPab 10 40 53.7 +0.3
baz=0.7,SNR=6.7
ASAL Salagasta 145.53 209 eP PKPab 10 40 54.3 +0.3
341A Kurthwood 145.65 9 P PKPab 10 40 54.6 +0.4
baz=350
HPIG 145.67 29 ePKPdf PKPab 10 40 55.1 +0.3
356A Blackshear 145.69 352 P PKPbc 10 40 54.2 +0.1
baz=9.5
342A Flagon Creek P 145.73 7 P PKPab 10 40 54.5 -0.1
baz=352
TIGA Tifton 145.75 354 P PKPab 10 40 54.6 -0.1
baz=6.9
TIGA Tifton 145.75 354 ePKPdf PKPab 10 40 55.0 +0.3
355A Pearson 145.76 353 P PKPab 10 40 55.0 +0.3
baz=8.3,SNR=6.7
344A Westbrook Farm 145.82 5 P PKPab 10 40 55.5 +0.7
baz=354,SNR=5.1
352A Blakely 145.83 356 P PKPab 10 40 55.0 +0.1
baz=4.6,SNR=7.1
353A Camilla 145.91 355 P PKPbc 10 40 55.0 +0.2
baz=5.9
350A Dozier 145.96 358 P PKPab 10 40 55.5 +0.1
baz=2.1,SNR=5.3
346A Big Creek Wild 145.97 3 P PKPab 10 40 55.5 0.0
baz=356
347A Saraland 145.99 1 P PKPab 10 40 55.9 +0.4
baz=358
348A Jackson 145.99 1 P PKPab 10 40 55.3 -0.2
baz=359
345A Thompson Farm, 146.01 4 P PKPab 10 40 55.5 -0.1
baz=356
349A Repton 146.05 359 P PKPab 10 40 56.0 +0.3
baz=0.6,SNR=6.9
AUSP Uspallata 146.10 208 eP PKPdf 10 40 55.0 +0.1
441A DeRidder 146.22 9 P PKPab 10 40 56.5 +0.1
baz=350
BRAL Brewton 146.23 359 P PKPab 10 40 56.7 +0.3
baz=0.8
BRAL Brewton 146.23 359 ePKPdf PKPab 10 40 56.3 -0.1
BRAL ePKPbc PKPab 10 40 56.6 +0.3
442A Mamou 146.37 8 P PKPab 10 40 56.8 -0.2
baz=351
455A Stateville 146.38 353 P PKPbc 10 40 56.6 +0.4
baz=8.1

453A	Whigham baz=5.8	146.40	355	P	PKPbc	10 40 56.6	+0.3
452A	Marianna baz=4.2	146.47	356	P	PKPbc	10 40 56.3	-0.2
454A	Quitman baz=7.0	146.47	354	P	PKPbc	10 40 57.0	+0.4
HKT	Hockley	146.50	13	*e*PKPdf	PKPbc	10 40 56.6	+0.1
HKT	Hockley	146.50	13	*e*PKP2	PKPbc	10 40 56.6	+0.1
450A	Crestview baz=1.7	146.58	358	P	PKPbc	10 40 57.3	+0.5
447A	Lucedale baz=358	146.59	2	P	PKPab	10 40 57.8	-0.1
449A	Pace baz=0.6	146.64	359	P	PKPbc	10 40 57.2	+0.2
451A	Vernon baz=3.2	146.74	357	P	PKPbc	10 40 57.6	+0.3
555A	McAlpin baz=8.3	146.98	353	P	PKPbc	10 40 58.2	+0.2
556A	Lake Butler baz=9.4	147.03	352	P	PKPbc	10 40 58.5	+0.4
833A	Chaparral WMA, baz=338,SNR=11	147.04	19	P	PKPbc	10 40 58.6	+0.4
656A	Willston baz=9.3	147.67	352	P	PKPbc	10 40 60.0	+0.1
757A	Oxford baz=10	148.01	351	P	PKPbc	10 41 00.8	-0.1
859A	Kempfer Cattle baz=13	148.67	349	P	PKPbc	10 41 02.9	+0.3
857A	Zephyrhills baz=10	148.70	351	P	PKPbc	10 41 02.5	-0.2
058A	Arcadia baz=11	149.81	350	P	PKPdf	10 41 02.4	+1.6
ZAIG	Zacatecas	150.68	29	*e*PKPdf	PKPdf	10 41 02.5	-0.1
ZAIG				*e*PKPbc	PKiKP	10 41 09.1	+0.3
ZAIG				*e*PKPab	sPKPbc	10 41 16.2	-0.1
PTGA	Pitinga	152.34	274	*e*PKPbc	PKPbc	10 41 12.4	+0.5
LPAZ	La Paz comp=Z,4.1nm,0.9s,baz=165,slow=0.8,SNR=7.9	156.64	234	PKP	PKPdf	10 41 12.1	+0.4
LPAZ				PKPab	PKPab	10 41 40.9	+0.2
	comp=Z,6.7nm,0.9s,baz=109,slow=3.2,SNR=6.6						
LPAZ	La Paz	156.64	234	*e*PKPdf	PKPdf	10 41 12.8	+1.1
LPAZ				PKPab	PKPab	10 41 40.9	+0.2
LPAZ	La Paz	156.64	234	*e*PKIKP	PKPdf	10 41 12.8	+1.1
OTAV	Otavalo	170.41	288	*e*PKPdf	PKPdf	10 41 24.8	+0.3

*ISCJB **11** 10:25:01.0±0.3,0.60N±0.06×91.94E±0.04,h10km, mb4.7/60,Error ellipse: s-maj=8.2km s-min=5.6km az=18.5*

*IDC **11** 10:25:00.8±0.5,0.57N×91.92E,h0km,mb4.6/36, mb1 4.6/39,mb1mx4.5/71,mbtmp4.6/39,ML4.3/3,Error ellipse: s-maj=15.4km s-min=11.6km az=40.0*

*NEIC **11** 10:25:02.3±0.2,0.56N×91.88E,h10km,mb4.9/12,Error ellipse: s-maj=6.2km s-min=4.3km az=200.0*

ISC 11 10:25:02.3±0.4,0.59N±0.08×91.97E±0.06,h10km,n193, σ1837/186,mb4.8/60,3C-3D,North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GSI	Gunungsitoli	5.65	83	*e*Pn			Pn	10 26 27.4	+1.0
PSI	Prapat 1.8nm,0.3s,baz=189,slow=13,SNR=1.6	7.29	72	Pn			Pn	10 26 51.0	+1.9
PSI				Sn			Sn	10 28 05.5	-6.5
	3.6nm,0.3s,baz=278,slow=20,SNR=2.0								
IPM	Ipoh	9.83	67	*e*Pn			Pn	10 27 25.6	+1.7
PALK	Pallekele	13.05	301	*e*Pn			Pn	10 28 06.7	-1.3
LEM	Lembang 2.6nm,0.3s,baz=307,slow=20,SNR=3.3	17.26	116	P			Pn	10 29 04.3	+0.4
CISI	Cisompet, Garu 96nm,1.1s	17.75	117	*e*P			P	10 29 11.9	+1.2
KSM	Kuching 5.7nm,0.5s	18.36	87	*e*P			P	10 29 18.6	+1.3
CMAR	Chiang Mai Arr 0.5nm,0.3s,baz=214,slow=12,SNR=6.9	19.03	21	P			P	10 29 25.0	+0.3
CHTO	Chiang Mai 2.2nm,0.6s	19.36	20	*e*P			Pn	10 29 29.2	-0.1
LSA	Lhasa 27nm,0.9s	28.96	359	*e*P			P	10 31 03.9	+1.3
ENH	Enshi 25nm,1.0s	33.89	28	*e*P			P	10 31 46.0	+0.5
FITZ	Fitzroy Crossi 8.2nm,0.9s,baz=276,slow=4.3,SNR=7.3	37.97	121	P			P	10 32 20.7	+0.1
FITZ	Fitzroy Crossi 13nm,0.8s	37.97	121	P			P	10 32 20.7	+0.1
WSAR	Wadi Sarin 3.2nm,0.8s,baz=217,slow=5.1,SNR=3.0	39.43	307	P			P	10 32 32.6	-0.3
KZA	Kyzart SNR=5.5	43.96	342	P			P	10 33 11.2	+1.0
UCH	Uchtor SNR=9.2	44.33	341	P			P	10 33 13.8	+0.6
AML	Almayashu SNR=17	44.51	341	P			P	10 33 15.5	+0.9
TKM2	Tokmak 2 SNR=9.5	44.63	343	P			P	10 33 15.9	+0.6
EKS2	Erkin-Say SNR=8.8	44.96	341	P			P	10 33 19.0	+1.1
BJT	Baijiatuan 53nm,1.2s	45.01	26	*e*P			P	10 33 20.4	+2.3
USP	Ospennovka SNR=11	45.27	342	P			P	10 33 20.8	+0.5
WRA	Warramunga Arr 8.2nm,0.8s,baz=295,slow=8.7,SNR=9.6	46.25	119	P			P	10 33 28.6	+0.3
WRAB	Tennant Creek 9.3nm,0.8s	46.25	119	*e*P			P	10 33 28.9	+0.6
KKAR	Karatay Array 6.4nm,0.6s	46.48	338	*e*P			P	10 33 29.6	-0.2
MKAR	Makanchi Array 14nm,0.7s,baz=168,slow=8.7,SNR=20	46.79	351	P			P	10 33 32.2	+0.1
ASAR	Alice Springs 3.0nm,0.7s,baz=296,slow=7.9,SNR=9.2	47.31	124	P			P	10 33 36.5	-0.1
ASAR				PcP			PcP	10 35 07.6	0.0
	1.1nm,0.7s,baz=296,slow=2.5,SNR=3.4								
OPO	Ambohidratompo 2.7nm,0.6s,baz=59,slow=6.4,SNR=3.1	47.93	244	P			P	10 33 41.5	-0.2
ABPO	Ambohimpanom 105nm,1.7s	48.04	244	*e*P			P	10 33 41.7	-0.8
GEYT	Alibeck 14nm,0.7s,baz=148,slow=8.7,SNR=16	48.48	324	P			P	10 33 46.4	+0.9
SONM	Songino Array 17nm,0.7s,baz=193,slow=9.3,SNR=25	48.70	13	P			P	10 33 48.2	+1.2
ULN	Ulaanbaatar 13nm,1.3s	48.88	13	*e*P			P	10 33 48.9	+0.4
KSAR	Wonju Array Be	49.40	38	P			P	10 33 53.2	+0.8
KSRS	Korea Array 2.3nm,0.7s,baz=230,slow=9.6,SNR=6.7	49.43	38	P			P	10 33 53.2	+0.6
RAYN	Ar Rayn 8.1nm,1.0s	50.49	300	*e*P			P	10 34 00.6	-0.4
KURBB	Kurchatov Arra 10nm,0.7s,baz=173,slow=7.1,SNR=24	51.14	349	P			P	10 34 05.3	-0.1
KURK	Kurchatov	51.21	349	P			P	10 34 05.3	-0.6
ZALV	Zalesovo Beam 8.8nm,0.6s,baz=186,slow=7.9,SNR=9.9	53.51	355	P			P	10 34 22.6	-0.3
BVAR	Borovoye Array 4.0nm,0.7s,baz=140,slow=7.7,SNR=8.8	55.26	344	P			P	10 34 34.7	-1.0
ABKAR	Akbulak array 3.2nm,0.7s	55.72	335	*e*P			P	10 34 38.5	-0.6
USRK	Ussuriysk Ar. 3.6nm,0.8s,baz=5.7,slow=6.0,SNR=4.4	56.09	34	P			P	10 34 42.4	+0.6
STKA	Stephens Creek 2.8nm,0.8s,baz=310,slow=5.6,SNR=3.1	56.93	129	P			P	10 34 48.4	+0.4
AKTO	Aktyubinsk 1.8nm,0.7s,baz=89,slow=4.9,SNR=4.8	57.43	335	P			P	10 34 50.8	-0.5
GNI	Garni 5.8nm,0.4s,baz=213,slow=3.5,SNR=4.4	58.19	319	P			P	10 34 56.7	-0.3
KLR	Kul'dur 0.6nm,1.0s,baz=259,slow=6.5,SNR=7.2	59.24	29	P			P	10 35 04.7	+0.8
ASF	Jabal al Asfar 3.4nm,0.6s,baz=61,slow=8.0,SNR=3.5	60.60	307	P			P	10 35 14.1	+0.3
KBZ	Khabaz 8.3nm,0.8s,baz=125,slow=6.4,SNR=12	61.19	321	P			P	10 35 17.8	+0.5
BRTR	Keskin Array B 3.9nm,0.7s,baz=130,slow=7.1,SNR=11	65.71	314	P			P	10 35 47.2	-0.3
BOSA	Boshof 5.3nm,0.7s,baz=66,slow=7.6,SNR=6.6	69.96	239	P			P	10 36 13.8	-0.8
MAW	Mawson 3.7nm,0.9s,baz=55,slow=12,SNR=3.8	71.01	191	P			P	10 36 20.4	+0.4
IDI	Anoyia 12nm,0.8s,baz=86,slow=16,SNR=6.7	71.07	307	P			P	10 36 21.1	0.0
VRI	Vrincioaia	72.55	318	⇑*i*P			P	10 36 30.8	+1.0
PLOR	Plostina	72.59	318	⇑*i*P			P	10 36 30.8	+0.7
AKASG	Malin Array Be 1.1nm,0.6s,baz=88,slow=5.7,SNR=8.3	72.60	324	P			P	10 36 28.2	-1.6
TESR	Tescani	72.80	319	⇓*i*P			P	10 36 30.9	-0.3
MLR	Muntele Rosu 5.8nm,0.8s,baz=162,slow=4.0,SNR=25	72.96	318	P			P	10 36 33.1	+0.8
MLR	Muntele Rosu	72.96	318	⇓*i*P			P	10 36 33.4	+1.0
BURAR	Bucovina Array	74.06	320	⇑*i*P			P	10 36 39.6	+0.8
MA2	Magadan 1.4nm,0.5s,baz=251,slow=6.0,SNR=4.0	74.19	27	P			P	10 36 38.8	-0.3
TIXI	Tiksi 14nm,0.8s	74.75	11	*e*P			P	10 36 41.1	-1.0
SEY	Seymchan 2.6nm,0.9s,baz=241,slow=6.5,SNR=3.9	76.41	24	P			P	10 36 51.1	-0.7
SYO	Syowa Base	77.86	197	⇓*e*pP			pP	10 37 04.8	+1.7
FINES	FINESS Array B 4.2nm,0.7s,baz=103,slow=6.1,SNR=7.0	78.16	333	P			P	10 37 01.5	-0.1
KRLC	Kraliky	80.07	321	*e*P			P	10 37 13.3	+0.9
CONA	Conrad Observa 6.8nm,1.6s	80.27	319	*i*P			P	10 37 13.5	-0.1
ARSA	Arzberg 17nm,0.8s,SNR=6.5	80.38	318	*i*P			P	10 37 15.0	+0.8
DPC	Dobruska-Polom	80.41	321	*e*P			P	10 37 15.5	+1.2
SOKA	Soboth 13nm,0.8s	80.62	317	*i*P			P	10 37 16.0	+0.5
OBKA	Obir 9.8nm,1.1s	80.92	317	*i* PcP			PcP	10 37 27.7	+4.0
GOPC	GO Pecny, Ondr	81.30	320	*e*P			P	10 37 20.2	+1.2
MOA	Molln 8.5nm,1.1s	81.32	318	*i*P			P	10 37 20.0	+0.8
ARCES	ARCESS Array B 7.3nm,0.9s,baz=35,slow=4.4,SNR=6.4	81.37	341	P			P	10 37 19.2	+0.2
PRU	Pruhonice	81.47	320	*e*P			P	10 37 20.9	+1.0
MYKA	Terra Mystica 6.7nm,0.7s	81.56	317	*i*P			P	10 37 20.9	+0.4
KBA	Koelnbreinsper 6.0nm,0.8s	81.82	317	*i*P			P	10 37 22.8	+0.7
GERES	GERESS Array B 17nm,0.8s,baz=105,slow=5.0,SNR=34	81.84	319	P			P	10 37 22.8	+0.8
KHC	Kasperske Hory	81.96	319	*e*P			P	10 37 23.2	+0.6
KHC				*ex*			x	10 37 31.4	
BRG	Berggiesshubel 4.1nm,1.0s	81.99	321	*i*P			P	10 37 21.2	-1.4
BRG				*i*				10 37 23.5	
	13nm,1.1s								
CLL	Collm comp=Z,27nm,1.4s	82.64	322	*i*P			P	10 37 26.4	+0.4
WTTA	Wattenberg comp=Z,17nm,1.1s	83.00	317	*i*P			P	10 37 27.9	-0.3
MOTA	Moosalm comp=Z,6.0nm,0.6s	83.37	317	*i*P			P	10 37 29.9	-0.2
RETA	Reutte comp=Z,13nm,0.8s	83.62	318	*i*P			P	10 37 31.6	+0.4
HFS	Hagfors comp=Z,3.5nm,0.9s,baz=99,slow=4.5,SNR=3.6	83.65	330	P			P	10 37 30.8	-0.3
KEST	Kesra comp=Z,7.2nm,1.0s,baz=23,slow=7.7,SNR=3.3	83.66	306	P			P	10 37 32.1	+0.3
DAVA	Damuels comp=Z,31nm,0.8s	84.19	317	*i*P			P	10 37 35.1	+0.8
NOA	NORSAR Array B comp=Z,1.9nm,0.8s,baz=94,slow=5.7,SNR=2.9	85.00	331	P			P	10 37 36.9	-1.0
SPITS	Spitsbergen Ar comp=Z,4.0nm,0.6s,baz=112,slow=1.6,SNR=6.4	86.49	348	P			P	10 37 44.8	-0.2
TORD	Torodi Ar. Bea comp=Z,70nm,0.6s,baz=73,slow=3.9,SNR=4.1	90.14	283	P			P	10 38 03.9	+0.3
EKA	Eskdalemuir Ar comp=Z,1.1nm,0.6s,baz=106,slow=6.1,SNR=4.6	92.45	325	P			P	10 38 13.9	+0.4
ESDC	Sonseca Array comp=Z,0.3nm,0.4s,baz=140,slow=36,SNR=3.0	94.20	310	P			P	10 38 22.5	+0.5
KOWA	Kowa comp=Z,3.6nm,0.9s,baz=171,slow=6.9,SNR=5.9	95.65	285	P			P	10 38 29.1	+0.1
YKA	Yellowknife Ar comp=Z,0.1nm,0.8s,baz=328,slow=2.3,SNR=4.2	113.96	13	PKiKP			PKiKP	10 43 40.2	-1.2
ULM	Lac du Bonnet comp=Z,2.3nm,0.8s,baz=35,slow=2.9,SNR=4.6	128.91	6	PKP			PKPdf	10 44 09.4	-1.1
NVAR	Mina Array Bea comp=Z,0.3nm,0.5s,baz=235,slow=3.2,SNR=2.7	132.21	32	PKP			PKPdf	10 44 18.1	+0.7
PDAR	Pinedale Array comp=Z,0.6nm,0.7s,baz=82,slow=3.1,SNR=5.0	132.69	22	PKP			PKPdf	10 44 17.5	-0.8
S38A	Stockton baz=351	141.58	8	P			PKPdf	10 44 28.5	-5.9
S40A	Lebanon baz=353	141.78	6	P			PKPdf	10 44 28.9	-5.9
T41A	Mountain View baz=354	142.40	5	P			PKPdf	10 44 30.2	-5.8
T43A	Greenville baz=356	142.46	3	P			PKPdf	10 44 30.5	-5.6
T42A	Van Buren baz=355	142.46	4	P			PKPdf	10 44 30.5	-5.6
MSTX	Muleshoe baz=335	142.94	21	P			PKPdf	10 44 35.4	-1.8
U40A	Yellville baz=352	142.97	6	P			PKPdf	10 44 34.3	-2.7
TUL1	Leonard baz=347	142.97	10	P			PKPdf	10 44 33.1	-3.9
U41A	Viola baz=354	143.07	5	P			PKPbc	10 44 34.6	+0.7
WMOK	Wichita Mounta baz=342,SNR=11	143.44	15	P			PKPab	10 44 34.2	+0.2
WMOK	Wichita Mounta	143.44	15	*e*PKPdf			PKPab	10 44 34.3	+0.3
WVT	Waverly baz=0.5	143.47	360	P			PKPab	10 44 34.0	0.0
V41A	Mountainview baz=353	143.61	6	P			PKPab	10 44 34.8	+0.2
V47A	Nunnelly baz=1.0	143.76	359	P			PKPab	10 44 34.7	-0.5
V46A	Holladay	143.79	0	P			PKPab	10 44 34.7	-0.5
MNTX	Cornudas Mount baz=330	143.92	26	P			PKPdf	10 44 38.1	-0.7
W41B	Gary Mavity, V baz=353	144.20	6	P			PKPab	10 44 35.7	-1.1
W47A	Westpoint baz=0.9	144.34	359	P			PKPab	10 44 35.8	-1.5
W45A	Hickory Valley baz=358,SNR=6.3	144.42	2	P			PKPab	10 44 37.3	-0.4
W48A	Pulaski baz=2.0	144.44	358	P			PKPab	10 44 36.7	-1.0
W46A	Michie baz=360	144.46	0	P			PKPab	10 44 37.2	-0.6
X39A	Fountain Ranch baz=350,SNR=15	144.62	9	P			PKPbc	10 44 38.5	-0.1
MIAR	Mount Ida baz=351,SNR=12	144.66	8	P			PKPab	10 44 38.6	+0.1
MIAR	Mount Ida	144.66	8	*e*PKPdf			PKPbc	10 44 38.7	0.0
X40A	Basin Creek Fa baz=352	144.81	7	P			PKPab	10 44 38.9	-0.2
X42A	Stuttgart baz=354	144.88	5	P			PKPab	10 44 38.8	-0.5
X49A	Woodville baz=3.1	145.04	358	P			PKPbc	10 44 38.6	-1.3
OXF	Oxford baz=358	145.06	2	P			PKPbc	10 44 38.7	-1.3
OXF	Oxford	145.06	2	*e*PKPdf			PKPbc	10 44 39.3	-0.6
X47A	Russelville baz=0.5,SNR=5.2	145.07	360	P			PKPbc	10 44 38.4	-1.6
X48A	Hartselle baz=1.9	145.13	359	P			PKPbc	10 44 38.9	-1.3
X45A	UM Field Stati baz=358	145.15	2	P			PKPbc	10 44 39.2	-1.1
ABTX	Abilene, Hawle baz=340	145.19	17	P			PKPbc	10 44 39.6	-1.0
ABTX	Abilene, Hawle	145.19	17	*e*PKPdf			PKPbc	10 44 40.0	-0.5
Y40A	Okolona baz=351,SNR=6.4	145.23	8	P			PKPbc	10 44 40.2	-0.3
Y41A	Eaglette Beard baz=352	145.44	7	P			PKPbc	10 44 40.8	-0.4
Y44A	Strider, Charl baz=356	145.57	3	P			PKPdf	10 44 40.9	-0.7
Y43A	Makayla and Ka baz=355,SNR=7.0	145.57	4	P			PKPbc	10 44 41.7	+0.1
Y42A	Garnett, Star baz=354	145.57	6	P			PKPdf	10 44 41.5	0.0
Y50A	Piedmont baz=4.2	145.63	357	P			PKPdf	10 44 40.8	-0.9
Y48A	Jasper baz=1.7,SNR=7.3	145.67	359	P			PKPdf	10 44 40.6	-1.1
Y47A	UCPARC, Winfie baz=0.5,SNR=10	145.69	360	P			PKPdf	10 44 40.6	-1.1
Y45A	Yeager Farm, C baz=358	145.70	2	P			PKPdf	10 44 41.3	-0.5
Y46A	Houston baz=359,SNR=9.2	145.70	1	P			PKPdf	10 44 41.0	-0.8
Y49A	Blount Mountai baz=3.0	145.70	358	P			PKPdf	10 44 41.3	-0.5
GOGA	Godfrey baz=8.3	145.91	353	P			PKPdf	10 44 42.0	-0.2
GOGA	Godfrey	145.91	353	*e*PKPdf			PKPdf	10 44 42.2	+0.1
Z41A	Richland Creek baz=352	146.03	7	P			PKPdf	10 44 42.1	-0.2
Z42A	Norrel Spur, H baz=353	146.11	6	P			PKPdf	10 44 42.3	-0.2
Z48A	Northport baz=1.0	146.21	359	P			PKPdf	10 44 42.0	-0.6
Z44A	Pea Ridge, Bel baz=356	146.24	4	P			PKPdf	10 44 43.0	+0.3
Z43A	Armstrong Fami baz=354	146.24	5	P			PKPdf	10 44 42.4	-0.4
Z50A	Ashland baz=3.9	146.28	357	P			PKPdf	10 44 42.9	0.0
Z49A	Columbiana baz=2.9,SNR=5.2	146.37	358	P			PKPdf	10 44 43.2	+0.2
Z46A	Louisville baz=358	146.38	1	P			PKPdf	10 44 43.3	+0.3
WHTX	Lake Whitney, baz=343	146.39	15	P			PKPdf	10 44 42.9	-0.1
Z47A	Carrollton baz=0.1	146.39	0	P			PKPdf	10 44 42.8	-0.1
LRAL	Lakeview Retre baz=2.0	146.54	358	P			PKPbc	10 44 44.1	-0.5
154A	Montrose baz=9.1	146.65	352	P			PKPbc	10 44 44.4	-0.5
TXAR	Lajitas Array comp=Z,6.9nm,0.9s,baz=31,slow=0.5,SNR=20	146.70	25	PKPbc			PKPdf	10 44 43.7	0.0
143A	Socs Landing, baz=354	146.73	5	P			PKPbc	10 44 44.5	-0.7
147A	Livingston baz=360	146.91	0	P			PKPbc	10 44 45.2	-0.5
150A	Eclectic baz=3.8	146.93	357	P			PKPbc	10 44 45.1	-0.6
146A	Union baz=358	146.94	2	P			PKPbc	10 44 45.4	-0.4
148A	Greensboro baz=1.0	146.94	359	P			PKPbc	10 44 45.4	-0.4
257A	Skidaway Islan baz=13	146.94	349	P			PKPbc	10 44 46.1	+0.3
151A	Opelika baz=5.1,SNR=5.3	146.96	356	P			PKPbc	10 44 45.5	-0.3
149A	Jones baz=2.4	146.97	358	P			PKPbc	10 44 45.3	-0.5
JCT	Junction City baz=338	147.13	19	P			PKPbc	10 44 45.7	-0.7
JCT	Junction City	147.13	19	*e*PKPdf			PKPdf	10 44 48.8	+0.4
JCT				*e*PKPbc			PKPbc	10 44 46.2	-0.3
NATX	Nacogdoches baz=348	147.22	10	P			PKPbc	10 44 45.8	-0.8
241A	Mo Tay, Goldon baz=351	147.23	8	P			PKPbc	10 44 46.5	-0.1
254A	Abbeville baz=8.9	147.33	353	P			PKPbc	10 44 47.1	+0.2
251A	Midway baz=5.0,SNR=6.7	147.40	356	P			PKPbc	10 44 46.3	-0.8
252A	Lumpkin baz=6.3	147.44	355	P			PKPbc	10 44 46.2	-1.0
244A	Avery, Jackson baz=355	147.45	4	P			PKPbc	10 44 46.4	-0.8
248A	Dixon Mills baz=0.7	147.49	360	P			PKPbc	10 44 47.3	0.0
250A	Grady baz=3.4	147.56	357	P			PKPbc	10 44 46.4	-1.2
249A	Camden baz=1.9	147.60	359	P			PKPbc	10 44 47.7	+0.1
356A	Blackshear baz=11	147.77	351	P			PKPbc	10 44 48.4	+0.3
355A	Pearson baz=9.9	147.86	352	P			PKPbc	10 44 48.5	+0.1
TIGA	Tifton baz=8.5	147.87	353	P			PKPbc	10 44 48.5	+0.1
341A	Kurthwood baz=350	147.88	8	P			PKPbc	10 44 48.6	+0.2
342A	Flagon Creek P baz=352	147.95	7	P			PKPbc	10 44 48.4	-0.3
352A	Blakely baz=6.0	147.97	355	P			PKPbc	10 44 48.7	0.0
344A	Westbrook Farm baz=355	148.03	4	P			PKPbc	10 44 49.1	+0.3
353A	Camilla baz=7.3	148.03	354	P			PKPbc	10 44 48.5	-0.3
350A	Dozier baz=3.4	148.12	357	P			PKPbc	10 44 48.4	-0.6
347A	Saraland baz=359	148.18	1	P			PKPbc	10 44 49.1	-0.1
345A	Thompson Farm, baz=356	148.22	3	P			PKPbc	10 44 49.3	0.0
349A	Repton baz=1.8	148.22	359	P			PKPbc	10 44 49.6	+0.2
455A	Stateville baz=9.7	148.48	352	P			PKPbc	10 44 49.6	-0.4
453A	Whigham baz=7.3	148.53	354	P			PKPbc	10 44 50.0	-0.1
454A	Quitman baz=8.6	148.59	353	P			PKPbc	10 44 49.8	-0.5
451A	Vernon baz=4.6	148.89	356	P			PKPbc	10 44 49.9	-1.2
556A	Lake Butler baz=11	149.11	350	P			PKPbc	10 44 51.9	+0.3
757A	Oxford baz=12	150.09	349	P			PKPbc	10 44 53.1	-1.0
857A	Zephyrhills baz=12	150.77	349	P			PKPbc	10 44 54.4	-1.4
058A	Arcadia baz=13	151.87	348	P			PKPbc	10 44 57.1	-1.3

*ISCJB **11** 10:27:32.7±0.8, 1.18N±0.14×90.10E±0.11,h10km,mb4.2/17, Error ellipse: s-maj=23.2km s-min=15.6km az=136.6*

*IDC **11** 10:27:32.4±1.0, 1.173N×89.93E,h0km,mb4.2/15, mb1 4.3/16,mb1mx4.0/70,mbtmp4.2/16,ML4.4/1,Error ellipse: s-maj=37.5km s-min=18.8km az=46.0*

*NEIC **11** 10:27:33.9±0.7,1.173N×89.95E,h10km,mb4.2/1,Error ellipse: s-maj=22.2km s-min=13.4km az=48.0*

ISC 11 10:27:34.2±1.1,17N±0.2×90.0E±0.2,h10km,n21, σ0877/21,mb4.3/17,North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr 0.4nm,0.3s,baz=224,slow=21,SNR=4.0	18.80	27	P			Pn	10 31 54.2	-0.3
MKAR	Makanchi Array 1.0nm,0.7s,baz=170,slow=8.8,SNR=2.7	45.37	353	P			P	10 35 51.5	-1.2
GEYT	Alibeck 2.8nm,0.7s,baz=157,slow=7.8,SNR=3.5	46.38	325	P			P	10 36 00.7	-0.1
SONM	Songino Array 4.6nm,0.7s,baz=193,slow=9.4,SNR=4.7	48.07	15	P			P	10 36 15.1	+1.1
WRA	Warramunga Arr 1.3nm,0.9s,baz=296,slow=8.5,SNR=3.8	48.56	119	P			P	10 36 17.6	-0.5
ASAR	Alice Springs 0.7nm,0.8s,baz=298,slow=7.7,SNR=4.2	49.62	123	P			P	10 36 26.5	+0.3
KURBB	Kurchatov Arra 2.6nm,0.8s,baz=173,slow=7.4,SNR=4.7	49.66	350	P			P	10 36 25.9	0.0
KURK	Kurchatov	49.73	351	P			P	10 36 25.9	-0.6
ZALV	Zalesovo Beam 1.9nm,0.6s,baz=188,slow=8.7,SNR=3.0	52.21	356	P			P	10 36 44.5	-0.6
BVAR	Borovoye Array 0.6nm,0.3s,baz=158,slow=12,SNR=5.0	53.63	345	P			P	10 36 55.0	-0.7
ABKAR	Akbulak array 0.8nm,0.3s	53.85	336	*e*P			P	10 36 57.5	+0.1
BRTR	Keskin Array B 1.9nm,0.7s,baz=114,slow=4.8,SNR=5.7	63.47	314	P			P	10 38 03.4	-1.4
MLR	Muntele Rosu 2.0nm,0.7s,baz=44,slow=1.5,SNR=5.2	70.76	318	P			P	10 38 51.5	+0.

PSI	**Prapat**	**7.97**	**83**	Pn	**Pn**	**10 31 03.4**	**+0.8**
	3.2nm,0.3s,baz=231,slow=13,SNR=4.4							
PSI				Sn	**Sn**	**10 32 31.2**	**-1.7**
	4.1nm,0.3s,baz=232,slow=17,SNR=2.8							
IPM	**Ipoh**	**10.34**	**75**	*e*Pn	**Pn**	**10 31 34.2**	**-0.8**
	8.0nm,0.3s							
PALK	**Pallekele**	**11.61**	**298**	*e*Pn	**Pn**	**10 31 50.6**	**-1.8**
CMAR	**Chiang Mai Arr**	**18.27**	**25**	P	**P**	**10 33 21.3**	**+0.8**
	0.1nm,0.3s,baz=214,slow=12,SNR=4.0							
LEM	**Lembang**	**18.67**	**118**	P	**P**	**10 33 24.7**	**-0.4**
	4.4nm,0.3s,baz=292,slow=19,SNR=2.1							
KSM	**Kuching**	**19.29**	**91**	*e*P	**P**	**10 33 31.9**	**+0.2**
	1.5nm,0.4s							
MKAR	**Makanchi Array**	**45.43**	**352**	P	**P**	**10 37 25.2**	**-0.4**
	1.9nm,0.8s,baz=167,slow=9.1,SNR=4.3							
GEYT	**Alibeck**	**46.92**	**324**	P	**P**	**10 37 37.9**	**+0.5**
	0.9nm,0.4s,baz=162,slow=9.8,SNR=2.5							
WRA	**Warramunga Arr**	**47.68**	**119**	P	**P**	**10 37 43.2**	**-0.4**
	4.6nm,0.9s,baz=300,slow=8.5,SNR=6.4							
WRAB	**Tennant Creek**	**47.69**	**119**	*e*P	**P**	**10 37 44.0**	**+0.3**
	9.7nm,1.0s							
SONM	**Songino Array**	**47.73**	**14**	P	**P**	**10 37 45.1**	**+1.4**
	2.8nm,0.5s,baz=194,slow=8.8,SNR=8.2							
ASAR	**Alice Springs**	**48.79**	**124**	P	**P**	**10 37 52.1**	**-0.1**
	0.7nm,0.7s,baz=300,slow=7.4,SNR=5.0							
ASAR				PcP	**PcP**	**10 39 17.3**	**+0.2**
	0.8nm,0.6s,baz=307,slow=3.1,SNR=5.3							
RAYN	**Ar Rayn**	**49.04**	**300**	*e*P	P	10 38 01.4	+7.3
	5.8nm,0.9s							
KURBB	**Kurchatov Arra**	**49.76**	**350**	P	**P**	**10 37 58.5**	**-0.6**
	1.7nm,0.9s,baz=172,slow=7.0,SNR=4.3							
KURK	**Kurchatov**	**49.83**	**350**	P	**P**	**10 37 58.5**	**-1.1**
ZALV	**Zalesovo Beam**	**52.20**	**355**	P	**P**	**10 38 17.2**	**-0.2**
	2.1nm,0.3s,baz=0.6,slow=30,SNR=6.5							
BVAR	**Borovoye Array**	**53.83**	**345**	P	**P**	**10 38 28.9**	**-0.5**
	0.8nm,0.8s,baz=186,slow=5.8,SNR=2.7							
ABKAR	**Akbulak array**	**54.21**	**335**	*e*P	**P**	**10 38 32.0**	**-0.3**
	3.9nm,1.1s							
STKA	**Stephens Creek**	**58.45**	**130**	P	**P**	**10 39 03.0**	**+0.1**
	4.6nm,0.7s,baz=311,slow=6.0,SNR=8.4							
BRTR	**Keskin Array B**	**64.17**	**314**	P	**P**	**10 39 42.0**	**+0.3**
	0.3nm,0.4s,baz=155,slow=7.9,SNR=2.7							
GERES	**GERESS Array B**	**80.28**	**319**	P	**P**	**10 41 19.2**	**+1.3**
	0.4nm,0.3s,baz=50,slow=1.5,SNR=4.6							
TXAR	**Lajitas Array**	**145.98**	**23**	PKPbc	**PKPab**	**10 48 47.5**	**-0.3**
	1.1nm,0.6s,baz=61,slow=1.3,SNR=8.0							

ISCJB ***11*** *10:31:58.1±0.8,2°.1N±0°.1×92°.0E±0°.1, h10km, mb4.0/12, Error ellipse: s-maj=20.7km s-min=10.8km az=137.0*
IDC ***11*** *10:31:58.3±1.4,2°.06N×91°.91E, h0km, mb3.9/9, mb1 4.1/11,mb1mx3.8/72,mbtmp3.9/11, ML4.2/2, Error ellipse: s-maj=47.2km s-min=18.2km az=55.0*
NEIC ***11*** *10:31:60.0±0.7,2°.09N×92°.03E, h10km, mb4.0/2, Error ellipse: s-maj=19.7km s-min=9.8km az=223.0*
ISC 11 10:31:59.7±0.9,2°.1N±0°.1×92°.0E±0°.1, h10km, n28, σ0§97/28, mb4.0/12, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
GSI	**Gunungsitoli**	**5.63**	**98**	*e*Pn		**Pn**	**10 33 20.4**	**-3.1**
PSI	**Prapat**	**6.96**	**84**	Pn		**Pn**	**10 33 43.2**	**+1.2**
	2.9nm,0.3s,baz=267,slow=8.6,SNR=3.7							
PSI				Sn		Sn	10 34 48.9	-12
	2.6nm,0.3s,baz=343,slow=20,SNR=1.9							
PSI	**Prapat**	**6.96**	**84**	Pn		**Pn**	**10 33 43.2**	**+1.2**
PSI				Sn		Sn	10 34 49.0	-12
CMAR	**Chiang Mai Arr**	**17.67**	**22**	P		**P**	**10 36 06.3**	**-0.7**
	0.4nm,0.3s,baz=213,slow=12,SNR=4.0							
CMAR	**Chiang Mai Arr**	**17.67**	**22**	P		**P**	**10 36 06.3**	**-0.7**
FITZ	**Fitzroy Crossi**	**38.71**	**123**	P		**P**	**10 39 24.2**	**0.0**
	3.3nm,0.8s,baz=278,slow=7.1,SNR=2.9							
FITZ	**Fitzroy Crossi**	**38.71**	**123**	P		**P**	**10 39 24.2**	**0.0**
MKAR	**Makanchi Array**	**45.36**	**351**	P		**P**	**10 40 17.3**	**-0.8**
	0.7nm,0.6s,baz=179,slow=7.7,SNR=3.9							
MKAR	**Makanchi Array**	**45.36**	**351**	P		**P**	**10 40 17.3**	**-0.8**
WRA	**Warramunga Arr**	**46.94**	**120**	P		**P**	**10 40 32.1**	**+1.1**
	2.5nm,0.7s,baz=296,slow=8.5,SNR=6.5							
WRA	**Warramunga Arr**	**46.94**	**120**	P		**P**	**10 40 32.1**	**+1.1**
WRAB	**Tennant Creek**	**46.94**	**120**	*e*P		**P**	**10 40 31.8**	**+0.8**
	3.0nm,0.8s							
SONM	**Songino Array**	**47.27**	**13**	P		**P**	**10 40 33.5**	**+0.1**
	1.1nm,0.6s,baz=200,slow=8.5,SNR=3.8							
SONM	**Songino Array**	**47.27**	**13**	P		**P**	**10 40 33.5**	**+0.1**
ASAR	**Alice Springs**	**48.11**	**125**	P		**P**	**10 40 41.0**	**+0.9**
	0.7nm,0.9s,baz=301,slow=8.2,SNR=3.3							
ASAR	**Alice Springs**	**48.11**	**125**	P		**P**	**10 40 41.0**	**+0.9**
ZALV	**Zalesovo Beam**	**52.06**	**355**	P		**P**	**10 41 10.1**	**+0.5**
	1.1nm,0.4s,baz=188,slow=8.8,SNR=3.9							
ZALV	**Zalesovo Beam**	**52.06**	**355**	P		**P**	**10 41 10.1**	**+0.5**
BVAR	**Borovoye Array**	**53.87**	**344**	P		**P**	**10 41 23.3**	**+0.4**
	0.7nm,0.6s,baz=106,slow=11,SNR=3.4							
BVAR	**Borovoye Array**	**53.87**	**344**	P		**P**	**10 41 23.3**	**+0.4**
ABKAR	**Akbulak array**	**54.42**	**335**	*e*P		**P**	**10 41 27.2**	**+0.3**
	0.2nm,0.3s							
STKA	**Stephens Creek**	**57.84**	**130**	P		**P**	**10 41 52.4**	**+0.6**
	1.0nm,0.6s,baz=0.0,slow=1.0,SNR=2.7							
STKA	**Stephens Creek**	**57.84**	**130**	P		**P**	**10 41 52.4**	**+0.6**
ANTO	**Ankara**	**65.38**	**313**	*e*P		**P**	**10 42 42.7**	**0.0**
	59nm,0.7s							
GERES	**GERESS Array B**	**80.75**	**319**	P		**P**	**10 44 13.8**	**+0.2**
	0.2nm,0.4s,baz=116,slow=4.5,SNR=2.5							
GERES	**GERESS Array B**	**80.75**	**319**	P		**P**	**10 44 13.8**	**+0.2**
TXAR	**Lajitas Array**	**145.37**	**25**	PKPbc		**PKPbc**	**10 51 37.6**	**-1.0**
	0.4nm,0.6s,baz=336,slow=2.0,SNR=3.7							
TXAR	**Lajitas Array**	**145.37**	**25**	PKPbc		**PKPbc**	**10 51 37.6**	**-1.0**

ISCJB ***11*** *10:32:53.1±0.4,2°.45N±0°.06×90°.21E±0°.05, h10km, mb4.5/43, Error ellipse: s-maj=9.8km s-min=6.0km az=25.0*
IDC ***11*** *10:32:53.6±0.6,2°.51N×90°.17E, h0km, mb4.4/34, mb1 4.5/36, mb1mx4.4/71, mbtmp4.4/36, ML4.2/2, Error ellipse: s-maj=16.9km s-min=11.9km az=24.0*
NEIC ***11*** *10:32:55.0±0.3,2°.50N×90°.20E, h10km, mb4.6/7, Error ellipse: s-maj=8.3km s-min=5.6km az=192.0*
ISC 11 10:32:54.8±0.6,2°.46N±0°.10×90°.22E±0°.07, h10km, n72, σ1§06/71, mb4.6/43, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PSI	**Prapat**	**8.70**	**88**	Pn		**Pn**	**10 35 00.3**	**-0.6**
	3.9nm,0.3s,baz=258,slow=14,SNR=2.3							
PALK	**Pallekele**	**10.62**	**297**	*e*Pn		**Pn**	**10 35 26.7**	**-0.5**
IPM	**Ipoh**	**10.97**	**79**	*e*Pn		**Pn**	**10 35 31.9**	**-0.1**
SKHT	**Srikalahasti**	**15.28**	**318**	*e*P		**Pn**	**10 36 29.7**	**-1.1**
ADKI	**Addanki**	**16.70**	**323**	*e*P		**Pn**	**10 36 47.5**	**-1.5**
PVM	**Polavaram**	**16.95**	**331**	*e*P		**Pn**	**10 36 52.7**	**+0.5**
CHLP	**Challavanipeta**	**17.05**	**340**	*e*P		**P**	**10 36 54.5**	**-0.8**
SRLM	**Srisailam**	**17.55**	**321**	*e*P		**Pn**	**10 36 59.0**	**-0.8**
NJS	**Nagarjunasagar**	**17.65**	**323**	*e*P		**Pn**	**10 37 00.7**	**-0.2**
URV	**Uravakonda**	**17.82**	**315**	*e*P		**P**	**10 37 03.9**	**+0.1**
CMAR	**Chiang Mai Arr**	**18.05**	**28**	P		**Pn**	**10 37 05.5**	**-0.4**
	0.2nm,0.3s,baz=218,slow=12,SNR=9.5							
CHTO	**Chiang Mai**	**18.36**	**27**	*e*P		**Pn**	**10 37 09.3**	**-0.4**
	37nm,1.3s							
HYBB	**Hyderabad (bro**	**18.77**	**323**	*e*P		**Pn**	**10 37 15.0**	**+0.3**
RPR	**Rampur**	**19.49**	**327**	*e*P		**P**	**10 37 22.3**	**+0.1**
SRSP	**Sriramsagar**	**20.08**	**325**	*e*P		**P**	**10 37 28.8**	**+0.2**
KSM	**Kuching**	**20.10**	**92**	*e*P		**P**	**10 37 25.1**	**-3.8**
	100nm,1.5s							
KLRI	**Killari**	**20.47**	**320**	*e*P		**P**	**10 37 32.6**	**-0.3**
ODAN	**Odare**	**24.41**	**354**	*e*P		**P**	**10 38 15.2**	**+1.3**
RAMN	**Ramite**	**24.60**	**352**	*e*P		**P**	**10 38 18.2**	**+2.6**
JIRN	**Jiri**	**25.35**	**352**	*e*P		**P**	**10 38 24.6**	**+2.0**
	164nm,0.9s							
DMN	**Daman**	**25.48**	**349**	*e*P		**P**	**10 38 25.3**	**+1.7**
	144nm,0.9s							
GUN	**Gumba**	**25.64**	**351**	*e*P		**P**	**10 38 27.0**	**+1.8**
KOLN	**Koldanda**	**25.95**	**347**	*e*P		**P**	**10 38 30.1**	**+2.3**
	66nm,0.7s							
PYUN	**Piuthan**	**26.41**	**346**	*e*P		**P**	**10 38 33.7**	**+1.7**
LSA	**Lhasa**	**27.10**	**2**	*e*P		**P**	**10 38 39.9**	**+1.4**
	90nm,1.3s							
ENH	**Enshi**	**33.14**	**31**	*e*P		**P**	**10 39 31.4**	**-0.2**
	49nm,1.2s							
WSAR	**Wadi Sarin**	**36.91**	**307**	P		**P**	**10 40 02.7**	**-1.4**
	3.4nm,0.7s,baz=141,slow=11,SNR=3.6							
SIJI	**Sorong**	**41.17**	**94**	P		**P**	**10 40 40.5**	**+0.6**
	6.3nm,0.7s,baz=239,slow=19,SNR=2.9							
AAK	**Ala-Archa**	**42.40**	**343**	P		**P**	**10 40 49.6**	**-0.2**
	3.8nm,0.9s,baz=140,slow=1.8,SNR=8.7							

KKAR	**Karatay Array**	**44.12**	**339**	*e*P		**P**	**10 41 03.8**	**+0.4**
	6.4nm,0.7s							
MKAR	**Makanchi Array**	**44.69**	**352**	P		**P**	**10 41 08.1**	**+0.1**
	4.4nm,0.6s,baz=172,slow=9.2,SNR=10							
GEYT	**Alibeck**	**45.94**	**324**	P		**P**	**10 41 18.0**	**-0.1**
	10nm,0.8s,baz=94,slow=5.8,SNR=0.7							
SONM	**Songino Array**	**47.31**	**15**	P		**P**	**10 41 29.8**	**+1.1**
	11nm,0.5s,baz=196,slow=8.9,SNR=27							
ULN	**Ulaanbaatar**	**47.51**	**15**	*e*P		**P**	**10 41 31.0**	**+0.7**
	23nm,1.4s							
RAYN	**Ar Rayn**	**48.04**	**300**	*e*P		**P**	**10 41 34.9**	**+0.1**
	3.3nm,0.6s							
WRA	**Warramunga Arr**	**48.68**	**119**	P		**P**	**10 41 40.3**	**+0.7**
	3.6nm,0.6s,baz=298,slow=8.5,SNR=14							
WRAB	**Tennant Creek**	**48.68**	**119**	*e*P		**P**	**10 41 41.1**	**+1.4**
	4.2nm,0.5s							
JNU	**Nakatsue**	**48.76**	**47**	P		**P**	**10 41 41.1**	**+1.0**
	7.2nm,0.8s,baz=153,slow=18,SNR=3.1							
KURBB	**Kurchatov Arra**	**49.00**	**350**	P		**P**	**10 41 41.5**	**-0.1**
	4.6nm,0.7s,baz=173,slow=6.9,SNR=15							
KSAR	**Wonju Array Be**	**49.06**	**40**	P		**P**	**10 41 42.4**	**+0.1**
KURK	**Kurchatov**	**49.07**	**350**	P		**P**	**10 41 41.5**	**-0.6**
KSRS	**Korea Array**	**49.09**	**40**	P		**P**	**10 41 42.4**	**-0.1**
	2.0nm,0.8s,baz=226,slow=9.8,SNR=5.9							
ASAR	**Alice Springs**	**49.80**	**124**	P		**P**	**10 41 49.4**	**+1.2**
	1.0nm,0.6s,baz=294,slow=7.4,SNR=8.4							
ZALV	**Zalesovo Beam**	**51.51**	**356**	P		**P**	**10 42 00.2**	**-0.3**
	4.6nm,0.4s,baz=181,slow=7.0,SNR=9.5							
BVAR	**Borovoye Array**	**53.01**	**345**	P		**P**	**10 42 11.2**	**-0.5**
	2.0nm,0.7s,baz=160,slow=9.5,SNR=6.3							
KMBO	**Kilima Mbogo**	**53.08**	**267**	P		**P**	**10 42 13.2**	**0.0**
	1.6nm,0.5s,baz=58,slow=11,SNR=5.0							
ABKAR	**Akbulak array**	**53.31**	**336**	*e*P		**P**	**10 42 14.5**	**+0.5**
	2.5nm,0.4s							
AKTO	**Aktyubinsk**	**55.01**	**335**	P		**P**	**10 42 25.8**	**-0.6**
	5.5nm,0.8s,baz=130,slow=5.9,SNR=9.0							
USRK	**Usgsk Ar.**	**55.55**	**36**	P		**P**	**10 42 30.0**	**-0.5**
	2.1nm,0.7s,baz=262,slow=10.0,SNR=4.0							
GNI	**Garni**	**55.64**	**319**	P		**P**	**10 42 30.8**	**-0.6**
	10nm,0.5s,baz=167,slow=18,SNR=2.6							
MJAR	**Matsushiro Ar**	**55.68**	**46**	P		**P**	**10 42 31.3**	**-0.3**
	3.2nm,1.0s,baz=239,slow=9.5,SNR=6.4							
KBZ	**Khabaz**	**58.64**	**321**	P		**P**	**10 42 52.6**	**+0.3**
	7.4nm,1.0s,baz=157,slow=6.7,SNR=6.6							
STKA	**Stephens Creek**	**59.46**	**129**	P		**P**	**10 42 59.2**	**+1.0**
	4.2nm,0.8s,baz=319,slow=8.0,SNR=6.9							
ASAJ	**Asahikawa**	**62.04**	**40**	P		**P**	**10 43 16.0**	**+0.4**
	6.8nm,1.0s,baz=301,slow=5.9,SNR=2.7							
IDI	**Anoyia**	**68.55**	**307**	P		**P**	**10 43 57.8**	**-0.3**
	15nm,0.8s,baz=63,slow=5.6,SNR=4.5							
BOSA	**Boshof**	**69.43**	**238**	P		**P**	**10 44 03.3**	**-0.4**
	3.8nm,0.9s,baz=75,slow=3.1,SNR=4.1							
AKASG	**Malin Array Be**	**70.06**	**324**	P		**P**	**10 44 05.2**	**-1.8**
	2.0nm,0.7s,baz=92,slow=4.7,SNR=7.1							
MLR	**Muntele Rosu**	**70.41**	**318**	P		**P**	**10 44 10.1**	**+0.6**
	1.8nm,0.7s,baz=104,slow=7.9,SNR=5.6							
TIXI	**Tiksi**	**73.28**	**12**	*e*P		**P**	**10 44 24.9**	**-1.2**
	16nm,1.1s							
MA2	**Magadan**	**73.34**	**28**	P		**P**	**10 44 25.1**	**-1.5**
	4.6nm,0.8s,baz=162,slow=19,SNR=3.5							
FINES	**FINESS Array B**	**75.71**	**334**	P		**P**	**10 44 40.9**	**+0.5**
	3.4nm,0.8s,baz=108,slow=4.5,SNR=5.3							
ARCES	**ARCESS Array B**	**79.05**	**341**	P		**P**	**10 44 59.0**	**+0.1**
	0.3nm,0.8s,baz=86,slow=5.8,SNR=6.9							
GERES	**GERESS Array B**	**79.29**	**319**	P		**P**	**10 45 01.0**	**+0.3**
	2.9nm,0.8s,baz=99,slow=5.1,SNR=6.2							
HFS	**Hagfors**	**81.17**	**330**	P		**P**	**10 45 11.2**	**+0.7**
	3.9nm,0.9s,baz=86,slow=5.9,SNR=4.4							
NOA	**NORSAR Array B**	**82.53**	**331**	P		**P**	**10 45 19.0**	**+1.3**
	1.4nm,0.8s,baz=96,slow=5.8,SNR=2.9							
SPITS	**Spitsbergen Ar**	**84.32**	**349**	P		**P**	**10 45 26.9**	**+0.3**
	5.1nm,0.9s,baz=212,slow=14,SNR=2.6							
TORD	**Torodi Ar. Bea**	**88.01**	**285**	P		**P**	**10 45 46.0**	**-0.1**
	0.5nm,0.6s,baz=79,slow=4.7,SNR=4.3							
EKA	**Eskdalemuir Ar**	**89.92**	**325**	P		**P**	**10 45 55.9**	**+1.7**
	1.4nm,0.6s,baz=88,slow=6.7,SNR=4.3							
KOWA	**Kowa**	**93.49**	**285**	P		**P**	**10 46 11.4**	**-0.2**
	3.6nm,1.0s,baz=22,slow=4.5,SNR=5.6							
ILAR	**Eielson Array**	**101.19**	**22**	PP		PP	10 50 51.2	-2.5
	0.7nm,1.0s,baz=290,slow=2.7,SNR=3.1							
TXAR	**Lajitas Array**	**145.70**	**22**	PKPbc		**PKPab**	**10 52 35.9**	**+0.8**
	1.7nm,0.6s,baz=358,slow=1.6,SNR=12							
JCT	**Junction City**	**145.88**	**16**	*e*PKPdf		**PKPdf**	**10 52 33.4**	**-1.3**

ISCJB ***11*** *10:34:25.1±0.5,1°.63N±0°.08×91°.83E±0°.04, h10km, mb4.6/42, Error ellipse: s-maj=11.9km s-min=5.8km az=10.7*
IDC ***11*** *10:34:25.7±0.7,1°.66N×91°.71E, h0km, mb4.4/25, mb1 4.5/27, mb1mx4.3/73, mbtmp4.4/27, ML4.3/2, Error ellipse: s-maj=20.3km s-min=15.5km az=25.0*
NEIC ***11*** *10:34:26.9±0.4,1°.63N×91°.79E, h10km, mb4.9/10, Error ellipse: s-maj=10.2km s-min=5.7km az=190.0*
ISC 11 10:34:26.6±0.6,1°.6N±0°.1×91°.80E±0°.08, h10km, n71, σ1§25/62, mb4.6/45, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MLSI	**Meulaboh, Aceh**	**5.33**	**60**	P		Pn	10 35 36.5	-10
TPTI		**5.63**	**72**	P		**Pn**	**10 35 48.0**	**-2.5**
GSI	**Gunungsitoli**	**5.78**	**92**	P		**Pn**	**10 35 54.2**	**+1.7**
	789nm,0.8s							
GSI	**Gunungsitoli**	**5.78**	**92**	*e*Pn		**Pn**	**10 35 49.3**	**-3.2**
PBSI	**Pulau Batu**	**6.67**	**104**	P		**Pn**	**10 36 01.1**	**-3.7**
TSI	**Tuntungan**	**7.03**	**74**	P		**Pn**	**10 36 10.9**	**+1.2**
PSI	**Prapat**	**7.22**	**80**	Pn		**Pn**	**10 36 15.1**	**+2.6**
	5.6nm,0.3s,baz=311,slow=20,SNR=3.7							
PSI				Sn		Sn	10 37 25.2	-10
	11nm,0.3s,baz=320,slow=22,SNR=2.9							
MNSI	**Mandailing Nat**	**7.81**	**95**	P		**Pn**	**10 36 21.6**	**+1.1**
SISI	**Saibi**	**7.83**	**111**	P		Pn	10 36 09.8	-11
PDSI	**Padang**	**9.00**	**106**	P		Pn	10 36 30.9	-5.9
BKNI	**Bangkinang**	**9.32**	**97**	P		**Pn**	**10 36 41.2**	**+0.1**
BKNI	**Bangkinang**	**9.32**	**97**	*e*Pn		**Pn**	**10 36 41.1**	**+0.1**
	355nm,0.8s							
KULM	**Kulim**	**9.58**	**67**	*e*Pn		**Pn**	**10 36 43.2**	**-1.5**
	134nm,0.9s							
IPM	**Ipoh**	**9.66**	**72**	*e*Pn		**Pn**	**10 36 45.6**	**-0.2**
MASI	**Maura Aman, Be**	**11.43**	**114**	P		Pn	10 37 06.0	-4.1
PALK	**Pallekele**	**12.44**	**298**	*e*Pn		Pn	10 37 14.9	-9.0
	254nm,0.7s							
CMAR	**Chiang Mai Arr**	**18.20**	**22**	P		**P**	**10 38 40.0**	**+0.1**
	0.4nm,0.3s,baz=217,slow=12,SNR=4.5							
KSM	**Kuching**	**18.50**	**90**	*e*P		**P**	**10 38 42.9**	**-0.3**
	2µm,2.8s							
CHTO	**Chiang Mai**	**18.53**	**22**	P		**Pn**	**10 38 44.4**	**+0.8**
	4µm,3.8s							
KKM	**Kota Kinabalu**	**24.76**	**79**	*e*P		**P**	**10 39 47.9**	**-1.0**
	4.0nm,0.5s							
LSA	**Lhasa**	**28.00**	**359**	*e*P		**P**	**10 40 17.3**	**-1.0**
	40nm,0.8s							
WSAR	**Wadi Sarin**	**38.72**	**306**	P		**P**	**10 41 51.0**	**-0.2**
	2.0nm,0.7s,baz=144,slow=8.7,SNR=2.1							
AAK	**Ala-Archa**	**43.74**	**341**	P		**P**	**10 42 32.3**	**-0.2**
	0.5nm,0.7s,baz=198,slow=20,SNR=1.6							
BJT	**Baijiatuan**	**44.23**	**27**	*e*P		**P**	**10 42 36.8**	**+0.6**
	49nm,0.9s							
KKAR	**Karatay Array**	**45.53**	**338**	*e*P		**P**	**10 42 46.9**	**+0.4**
	18nm,1.1s							
MKAR	**Makanchi Array**	**45.82**	**351**	P		**P**	**10 42 48.8**	**0.0**
	6.4nm,0.8s,baz=151,slow=7.8,SNR=4.9							
WRA	**Warramunga Arr**	**46.86**	**119**	P		**P**	**10 42 59.6**	**+2.2**
	4.4nm,0.7s,baz=296,slow=8.6,SNR=2.8							
WRAB	**Tennant Creek**	**46.87**	**119**	*e*P		P	10 42 53.1	-4.3
	25nm,1.5s							
GEYT	**Alibeck**	**47.60**	**324**	P		**P**	**10 43 03.0**	**+0.1**
	12nm,0.8s,baz=155,slow=8.2,SNR=3.9							
SONM	**Songino Array**	**47.80**	**13**	P		**P**	**10 43 03.9**	**-0.5**
	6.6nm,0.7s,baz=187,slow=11,SNR=3.0							
ULN	**Ulaanbaatar**	**47.99**	**14**	*e*P		**P**	**10 43 05.8**	**0.0**
	18nm,1.4s							
ASAR	**Alice Springs**	**47.99**	**124**	P		**P**	**10 43 07.1**	**+0.9**
	0.8nm,0.6s,baz=300,slow=8.4,SNR=3.3							
KSAR	**Wonju Array Be**	**48.75**	**39**	P		**P**	**10 43 12.0**	**+0.2**
KSRS	**Korea Array**	**48.78**	**39**	P		**P**	**10 43 12.0**	**0.0**
	1.9nm,0.8s,baz=231,slow=6.9,SNR=4.5							
RAYN	**Ar Rayn**	**49.86**	**300**	*e*P		**P**	**10 43 20.5**	**-0.1**
	7.2nm,0.9s							
KURBB	**Kurchatov Arra**	**50.17**	**349**	P		**P**	**10 43 22.5**	**+0.2**
	7.0nm,0.9s,baz=172,slow=7.2,SNR=4.8							
KURK	**Kurchatov**	**50.24**	**349**	P		**P**	**10 43 22.5**	**-0.4**
ZALV	**Zalesovo Beam**	**52.54**	**355**	P		**P**	**10 43 40.0**	**0.0**
	5.3nm,0.7s,baz=195,slow=7.3,SNR=4.7							
BVAR	**Borovoye Array**	**54.30**	**344**	P		**P**	**10 43 52.2**	**-0.8**
	3.7nm,0.9s,baz=155,slow=7.8,SNR=3.7							
ABKAR	**Akbulak array**	**54.79**	**335**	*e*P		**P**	**10 43 56.8**	**+0.2**
	8.5nm,0.9s							
AKTO	**Aktyubinsk**	**56.49**	**335**	P		**P**	**10 44 07.5**	**-1.4**
	2.3nm,0.7s,baz=87,slow=18,SNR=1.8							
KLR	**Kul'dur**	**58.49**	**30**	P		**P**	**10 44 24.4**	**+1.5**
	0.2nm,0.8s,baz=271,slow=2.5,SNR=3.6							
KBZ	**Khabaz**	**60.34**	**321**	P		**P**	**10 44 35.2**	**-0.6**
	9.9nm,0.8s,baz=140,slow=5.5,SNR=8.0							
KVAR	**Kislovodsk Arr**	**60.58**	**321**	P		**P**	**10 44 37.9**	**+0.2**
	5.4nm,0.5s,baz=90,slow=4.0,SNR=3.0							
KIV	**Kislovodsk**	**60.58**	**321**	*e*P		**P**	**10 44 36.4**	**-1.3**
	45nm,1.2s							
MBAR	**Mbarara**	**61.09**	**268**	P		**P**	**10 44 42.3**	**+0.5**
	2.6nm,0.2s,baz=165,slow=20,SNR=2.6							
BRTR	**Keskin Array B**	**64.92**	**314**	P		**P**	**10 45 05.8**	**-0.9**
	3.5nm,0.8s,baz=124,slow=6.6,SNR=4.5							
TIRR	**Tirgusor**	**70.16**	**317**	*e*P		**P**	**10 45 40.4**	**+0.9**
	8.6nm,0.9s							
BOSA	**Boshof**	**70.31**	**239**	P		**P**	**10 45 41.6**	**+0.7**
	3.0nm,0.9s,baz=148,slow=5.8,SNR=3.2							
IDI	**Anoyia**	**70.36**	**307**	P		**P**	**10 45 42.6**	**+1.5**
	11nm,0.9s,baz=103,slow=16,SNR=2.6							
AKASG	**Malin Array Be**	**71.73**	**324**	P		**P**	**10 45 48.2**	**-0.8**
	3.5nm,0.8s,baz=93,slow=5.0,SNR=4.2							
MLR	**Muntele Rosu**	**72.14**	**318**	P		**P**	**10 45 51.4**	**-0.4**
	3.6nm,0.9s,baz=114,slow=5.3,SNR=5.1							
FINES	**FINESS Array B**	**77.23**	**333**	P		**P**	**10 46 20.1**	**-0.6**
	2.6nm,0.8s,baz=64,slow=6.3,SNR=2.4							
MORC	**Moravsky Berou**	**78.68**	**320**	*e*P		**P**	**10 46 28.9**	**-0.2**
	84nm,1.5s							
CONA	**Conrad Observa**	**79.44**	**318**	*e*P		**P**	**10 46 32.9**	**-0.5**
	4.3nm,1.2s							
CONA				*i* PcP		**PcP**	**10 46 42.1**	**+0.7**
	7.1nm,1.1s							
ARSA	**Arzberg**	**79.56**	**318**	*i* P		**P**	**10 46 34.1**	**+0.1**
	2.4nm,0.6s							
AR

KMI pmax pmax
comp=Z,23nm,0.8s
BHPL Bhopal 26.08 328 *e*P **P** **10 42 28.4 -0.3**
BHPL IAmb IAmb 10 42 36.2
LSA Lhasa 28.39 359 *e*P **P** **10 42 50.3 +0.3**
comp=Z,90nm,1.3s
LSA Lhasa 28.39 359 *e*P **P** **10 42 50.3 +0.3**
LSA pmax pmax
comp=Z,90nm,1.3s
GYA Guiyang 28.88 28 P **P** **10 42 56.9 +3.0**
GYA PP **PnPn** **10 43 51.0 +5.7**
GYA PcP **PcP** **10 46 04.8 +1.5**
GYA S **S** **10 47 46.4 +2.6**
GYA ScP **ScP** **10 49 44.2 -0.1**
GYA pmax pmax
comp=Z,30nm,1.0s
GYA pmax pmax
comp=Z,140nm,5.2s
BHJ Bhuj 30.82 317 *e*P **P** **10 43 10.2 -0.8**
BHJ IAmb IAmb 10 43 17.2
comp=Z,20nm,0.9s
CD2 Chengdu 31.64 20 P **P** **10 43 18.0 -0.2**
CD2 S **S** **10 48 29.4 +2.4**
CD2 pmax pmax
comp=Z,40nm,0.6s
CD2 pmax pmax
comp=Z,320nm,6.4s
SMLA Simla 32.92 336 *e*P **P** **10 43 28.9 -0.5**
SMLA IAmb IAmb 10 43 37.6
comp=Z,160nm,1.2s
ENH Enshi 33.41 28 *e*P **P** **10 43 33.0 -0.7**
comp=Z,28nm,0.8s
DHRM DHARAMSHALA 34.26 336 *e*P **P** **10 43 39.5 -1.7**
DHRM IAmb IAmb 10 43 48.3
comp=Z,112nm,1.1s
XAN Xi'an 36.37 24 P P 10 44 06.2 +6.9
XAN pP sP 10 44 12.3 +6.2
XAN pmax pmax
comp=Z,67nm,1.0s
LZH Lanzhou 36.47 16 *e*P **P** **10 44 03.0 +2.8**
LZH pP sP 10 44 08.3 +1.2
LZH sP pP 10 44 10.0 +4.9
LZH pmax pmax
comp=Z,36nm,1.3s
LZH pmax pmax
comp=Z,130nm,5.4s
LZH LR LR
comp=Z,2μm,14.5s
LZH LR LR
comp=Z,2μm,14.8s
NIL Nilore 36.76 333 *e*P **P** **10 44 02.2 -0.3**
comp=Z,140nm,0.8s
NIL Nilore 36.76 333 *e*P **P** **10 44 02.2 -0.3**
NIL pmax pmax
comp=Z,140nm,0.8s
GTA Gaotai 38.75 10 *e*P **P** **10 44 16.2 -3.2**
GTA pP pP 10 44 20.5 -3.8
GTA sP sP 10 44 23.6 -2.7
GTA pmax pmax
comp=Z,21nm,0.8s
WSAR Wadi Sarin 39.05 307 P **P** **10 44 20.6 -1.5**
comp=Z,8.4nm,0.9s,baz=93,slow=6.2,SNR=5.4
NJ2 Nanjing 39.87 37 *e*P **P** **10 44 29.1 +0.4**
FAKI Fak Fak 40.51 96 *e*P **P** **10 44 33.1 -1.3**
comp=Z,32nm,1.1s
KSH Kashi 40.86 341 P **P** **10 44 37.2 +0.2**
KSH pmax pmax
comp=Z,76nm,0.8s
WMQ Urumqi 42.65 355 P **P** **10 44 52.6 +1.1**
WMQ sP sP 10 44 59.1 +0.7
WMQ S **S** **10 51 20.0 +5.9**
WMQ SS **SS** **10 54 20.0 -4.6**
WMQ pmax pmax
comp=Z,100nm,2.3s
HHC Hu-ho-hao-te 43.33 22 *e*P **P** **10 44 57.6 +0.5**
HHC pmax pmax
comp=Z,39nm,1.0s
HHC pmax pmax
comp=Z,78nm,6.3s
AAK Ala-Archa 44.16 341 P **P** **10 45 03.0 -0.8**
comp=Z,4.1nm,0.7s,baz=324,slow=20,SNR=4.2
AAK Ala-Archa 44.16 341 *ce*P **P** **10 45 05.4 +1.6**
AAK pmax pmax
comp=Z,105nm,1.7s
FRU Bishkek 44.30 342 *e*P P 10 45 12.0 +7.2
BJT Baijiatuau 44.52 27 *e*P **P** **10 45 07.5 +0.9**
comp=Z,56nm,0.9s
BJT Baijiatuau 44.52 27 *e*P **P** **10 45 07.5 +0.9**
BJT pmax pmax
comp=Z,56nm,0.9s
BJI Beijing 44.54 27 *e*P **P** **10 45 07.5 +0.8**
BJI pmax pmax
comp=Z,20nm,0.8s
KK06 Karatay Array 45.93 338 *e*P **P** **10 45 16.5 -1.2**
KK07 Karatay Array 45.93 338 *e*P **P** **10 45 16.7 -1.1**
KK02 Karatay Array 45.94 338 *e*P **P** **10 45 16.9 -1.0**
KK31 Karatay Array 45.94 338 *e*P **P** **10 45 17.2 -0.6**
KK31 Karatay Array 45.94 338 *e*P **P** **10 45 17.2 -0.6**
KKAR Karatay Array 45.94 338 *e*P **P** **10 45 17.2 -0.6**
KKAR Karatay Array 45.94 338 *e*P **P** **10 45 17.2 -0.6**
KK01 Karatay Array 45.95 338 *e*P **P** **10 45 18.7 +0.8**
KK03 Karatay Array 45.95 338 *e*P **P** **10 45 16.4 -1.5**
KK04 Karatay Array 45.95 338 *e*P **P** **10 45 18.7 +0.8**
KK05 Karatay Array 45.95 338 *e*P **P** **10 45 18.7 +0.8**
KK08 Karatay Array 45.95 338 *e*P **P** **10 45 18.6 +0.6**
MK01 Makanchi Array 46.20 351 *e*P **P** **10 45 18.4 -1.4**
MK31 Makanchi Array 46.23 351 *e*P **P** **10 45 19.8 -0.2**
MK31 Makanchi Array 46.23 351 *e*P **P** **10 45 19.8 -0.2**
MKAR Makanchi Array 46.23 351 P **P** **10 45 18.8 -1.2**
comp=Z,10nm,0.7s,baz=167,slow=8.5,SNR=11
MKAR Makanchi Array 46.23 351 *e*P **P** **10 45 18.9 -1.1**
comp=Z,150nm,0.8s
MKAR Makanchi Array 46.23 351 *e*P **P** **10 45 18.9 -1.1**
MKAR pmax pmax
comp=Z,151nm,0.8s
WRA Warramunga Arr 46.56 119 P **P** **10 45 22.6 -0.5**
comp=Z,3.2nm,0.7s,baz=299,slow=8.5,SNR=5.0
WRAB Tennant Creek 46.56 119 *e*P **P** **10 45 23.7 +0.6**
comp=Z,21nm,1.1s
WRAB Tennant Creek 46.56 119 *e*P **P** **10 45 23.7 +0.6**
WRAB pmax pmax
comp=Z,21nm,1.1s
ASAR Alice Springs 47.66 124 P **P** **10 45 33.3 +1.6**
comp=Z,1.2nm,0.8s,baz=292,slow=7.4,SNR=3.4
ASAR PcP **PcP** **10 47 01.3 +0.2**
comp=Z,0.8nm,0.8s,baz=293,slow=3.6,SNR=3.0
GYB1 ALIBECK ARRAY 47.98 324 *e*P **P** **10 45 33.9 -0.1**
comp=Z,53nm,0.9s
GYA1 ALIBECK ARRAY 47.99 324 *e*P **P** **10 45 33.1 -0.8**
comp=Z,49nm,0.8s
GYB5 ALIBECK ARRAY 47.99 324 *e*P **P** **10 45 32.9 -1.1**
comp=Z,32nm,0.8s
GEYT Alibeck 47.99 324 P **P** **10 45 33.2 -0.8**
comp=Z,23nm,0.8s,baz=152,slow=9.4,SNR=15
GYA0 ALIBECK ARRAY 47.99 324 *e*P **P** **10 45 33.9 -0.1**
comp=Z,41nm,0.9s
GYA0B ALIBECK ARRAY 47.99 324 *e*P **P** **10 45 32.7 -1.3**
comp=Z,32nm,0.8s
GYB2 ALIBECK ARRAY 47.99 324 *e*P **P** **10 45 33.9 -0.1**
comp=Z,58nm,0.9s
GYA2 ALIBECK ARRAY 48.00 324 *e*P **P** **10 45 33.6 -0.4**
comp=Z,58nm,0.9s
GYB3 ALIBECK ARRAY 48.00 324 *e*P **P** **10 45 34.1 +0.1**
comp=Z,52nm,0.8s
GYB4 ALIBECK ARRAY 48.01 324 *e*P **P** **10 45 33.9 -0.2**
comp=Z,51nm,0.9s
OPO Ambohidratompo 48.14 244 P **P** **10 45 32.5 -3.1**
comp=Z,3.9nm,0.8s,baz=50,slow=6.3,SNR=3.8
SONM Songino Array 48.16 13 P **P** **10 45 34.9 -0.3**
comp=Z,13nm,0.8s,baz=193,slow=9.6,SNR=8.3
SONA1 Songino Array 48.17 13 *e*P **P** **10 45 34.7 -0.6**
ULN Ulaanbaatar 48.34 14 *e*P **P** **10 45 36.4 -0.2**
comp=Z,25nm,1.2s
ULN Ulaanbaatar 48.34 14 *i* P **P** **10 45 37.8 +1.2**
ULN pmax pmax
comp=Z,4.0nm,0.8s
KSAR Wonju Array Be 48.98 38 P **P** **10 45 41.2 -0.3**
KSAR Wonju Array Be 48.98 38 P **P** **10 45 41.3 -0.3**
KSRS Korea Array 49.01 38 P **P** **10 45 41.2 -0.5**
comp=Z,2.7nm,0.8s,baz=234,slow=7.8,SNR=5.5
HVS Khovu-Aksy 49.82 1 *i* P **P** **10 45 49.0 +1.2**
HVS pmax pmax
comp=Z,31nm,0.9s
ZAK Zakamensk 49.98 9 *e*P **P** **10 45 49.2 +0.1**
ZAK pmax pmax
comp=Z,12nm,1.7s
RAYN Ar Rayn 50.17 300 *e*P **P** **10 45 48.8 -2.2**
comp=Z,22nm,1.7s
RAYN Ar Rayn 50.17 300⇑ *e*P **P** **10 45 52.7 +1.8**
RAYN pmax pmax
comp=Z,18nm,1.7s
KURBB Kurchatov Arra 50.58 349 P **P** **10 45 52.0 -1.4**
comp=Z,12nm,0.8s,baz=171,slow=7.3,SNR=14
KURK Kurchatov 50.65 349 *e*P **P** **10 45 55.0 +1.0**
comp=Z,55nm,1.0s
KURK Kurchatov 50.65 349 *ce*P **P** **10 45 55.6 +1.6**
KURK pmax pmax
comp=Z,206nm,1.7s
TLY Talaya 51.30 9 *e*P **P** **10 46 00.6 +1.7**
comp=Z,24nm,1.3s
TLY Talaya 51.30 9 *e*P **P** **10 46 01.3 +2.4**
TLY pmax pmax
comp=Z,5.0nm,1.0s
CN2 Changchun 51.88 31 *e*P **P** **10 46 05.4 +2.1**
CN2 pmax pmax
comp=Z,10.0nm,0.7s
ZAA0 Zalesovo Array 52.94 355 *e*P **P** **10 46 09.3 -1.7**
comp=Z,38nm,0.8s
ZALV Zalesovo Beam 52.94 355 P **P** **10 46 09.5 -1.6**
comp=Z,16nm,0.7s,baz=190,slow=8.9,SNR=14
ZALV Zalesovo Beam 52.94 355 *e*P **P** **10 46 09.3 -1.7**
ZALV Zalesovo Beam 52.94 355 *e*P **P** **10 46 09.3 -1.7**
NVS Novosibirsk 53.98 354 *e*P **P** **10 46 17.4 -1.2**
NVS pmax pmax
comp=N,27nm,1.0s
NVS pmax pmax
comp=E,19nm,1.0s
NVS pmax pmax
comp=Z,34nm,1.0s
BVAR Borovoye Array 54.71 344 P **P** **10 46 23.7 -0.3**
comp=Z,7.0nm,0.8s,baz=146,slow=8.2,SNR=9.7
KMBO Kilima Mbogo 54.72 268 P **P** **10 46 23.1 -2.0**
comp=Z,1.2nm,0.5s,baz=22,slow=5.4,SNR=3.5
BRVK Borovoye 54.77 344 *e*P **P** **10 46 23.9 -0.4**
comp=Z,28nm,1.2s
BRVK Borovoye 54.77 344 *e*P **P** **10 46 24.0 -0.4**
BRVK pmax pmax
comp=Z,28nm,1.2s
AB07 Akbulak array 55.18 335 *e*P **P** **10 46 28.1 +0.7**
AB06 Akbulak array 55.19 335 *e*P **P** **10 46 27.8 +0.3**
AB08 Akbulak array 55.19 335 *e*P **P** **10 46 27.9 +0.3**
AB03 Akbulak array 55.19 335 *e*P **P** **10 46 27.9 +0.4**
AB01 Akbulak array 55.19 335 *e*P **P** **10 46 27.9 +0.3**
AB31 Akbulak array 55.19 335 *e*P **P** **10 46 28.2 +0.7**
AB31 Akbulak array 55.19 335 *e*P **P** **10 46 28.3 +0.7**
ABKAR Akbulak array 55.19 335 *e*P **P** **10 46 28.3 +0.7**
comp=Z,127nm,0.9s
AB02 Akbulak array 55.20 335 *e*P **P** **10 46 27.8 +0.2**
AB04 Akbulak array 55.20 335 *e*P **P** **10 46 27.9 +0.2**
AB05 Akbulak array 55.21 335 *e*P **P** **10 46 28.0 +0.3**
AB09 Akbulak array 55.21 335 *e*P **P** **10 46 28.0 +0.3**
USRK Ussuriysk Ar. 55.65 34 P **P** **10 46 32.1 +1.2**
comp=Z,1.5nm,0.8s,baz=159,slow=4.3,SNR=2.5
AKTO Aktyubinsk 56.90 335 P **P** **10 46 38.5 -1.3**
comp=Z,4.4nm,0.8s,baz=176,slow=5.2,SNR=7.0
GNI Garni 57.74 318 P **P** **10 46 46.1 0.0**
comp=Z,6.0nm,0.4s,baz=161,slow=5.2,SNR=4.0
GNI Garni 57.74 318 *ce*P **P** **10 46 48.0 +1.8**
GNI pmax pmax
comp=Z,154nm,2.5s
TBLG Delisi 58.54 320 *e*P **P** **10 46 51.5 0.0**
comp=Z,62nm,0.9s
TBLG Delisi 58.54 320 *e*P **P** **10 46 51.5 0.0**
TBLG pmax pmax
comp=Z,62nm,0.9s
GROC Groznyy 58.64 322 *e*P **P** **10 46 53.2 +1.0**
GROC *e* 10 47 43.8
GROC *e* 10 49 01.9
GROC pmax pmax
comp=Z,106nm,1.1s
KLR Kul'dur 58.77 29 P **P** **10 46 52.8 -0.1**
comp=Z,0.4nm,0.8s,baz=272,slow=7.7,SNR=6.2
KLR Kul'dur 58.77 29 *ce*P **P** **10 46 53.2 +0.3**
BOD Bodaibo 59.15 14 *e*P **P** **10 46 54.1 -1.3**
BOD pmax pmax
comp=Z,47nm,1.5s
ZEI Tsey 59.61 321 *e*P **P** **10 46 58.2 -1.0**
ZEI pmax pmax
comp=Z,16nm,0.8s
ZEA Zeya 59.95 23 *e*P **P** **10 47 02.6 +1.6**
ZEA pmax pmax
comp=Z,20nm,0.8s
NCK Nalchik 60.16 321 *i* P **P** **10 47 05.3 +2.5**
NCK pmax pmax
comp=Z,19nm,0.8s
NEY Neytrino 60.59 321 *ce*P **P** **10 47 07.7 +1.8**
NEY pmax pmax
comp=Z,3.0nm,0.8s
KBZ Khabaz 60.72 321 P **P** **10 47 05.9 -0.5**
comp=Z,14nm,0.8s,baz=114,slow=6.5,SNR=14
SVE Sverdlovsk 60.89 341 *e*P **P** **10 47 07.5 +0.1**
SVE pmax pmax
comp=Z,52nm,1.3s
KVAR Kislovodsk Arr 60.96 321 P **P** **10 47 08.7 +0.4**
comp=Z,12nm,0.7s,baz=303,slow=4.1,SNR=8.5
KIV Kislovodsk 60.97 321 *e*P **P** **10 47 07.8 -0.5**
comp=Z,102nm,1.3s
KIV Kislovodsk 60.97 321 *e*P **P** **10 47 09.9 +1.6**
KIV pmax pmax
comp=Z,59nm,1.0s
EIL Elat 61.05 303 P **P** **10 47 09.3 +0.3**
comp=Z,6.9nm,0.6s,baz=331,slow=13,SNR=1.8
ARU Arti 61.28 340 *e*P **P** **10 47 09.0 -1.0**
comp=Z,18nm,0.9s
GOF Gofitskoye 61.30 323⇑ *e*P P 10 47 15.9 +5.5
GOF pmax pmax
comp=Z,54nm,1.3s
LSZ Lusaka 65.06 253 P **P** **10 47 34.1 -2.0**
comp=Z,3.3nm,0.8s,baz=101,slow=3.3,SNR=3.8
BR131 Keskin Array S 65.28 314 *e*P **P** **10 47 35.5 -1.6**
BRTR Keskin Array B 65.28 314 P **P** **10 47 35.4 -1.8**
comp=Z,4.9nm,0.7s,baz=122,slow=6.7,SNR=9.3
ILGA Ilgaz 65.70 315 *e*P **P** **10 47 41.6 +1.7**
comp=Z,35nm,1.1s
ANTO Ankara 65.95 314 *e*P **P** **10 47 40.3 -1.0**
comp=Z,101nm,0.9s
ANTO Ankara 65.95 314 *e*P **P** **10 47 40.3 -1.0**
ANTO pmax pmax
comp=Z,101nm,0.9s
YAK Yakutsk 67.02 18 *e*P **P** **10 47 46.2 -1.4**
comp=Z,23nm,0.8s
YAK Yakutsk 67.02 18 *e*P **P** **10 47 47.1 -0.5**
YAK *e* 10 47 53.1
YAK pmax pmax
comp=Z,18nm,0.9s
YAK pmax pmax
comp=N,4.0nm,1.0s
YAK pmax pmax
comp=E,4.0nm,1.1s
YAK pmax pmax
comp=Z,47nm,0.9s
YAK pmax pmax
comp=E,16nm,1.4s
YAK pmax pmax
comp=N,11nm,1.1s
MOS Moscow 69.73 331 *e*P **P** **10 48 09.2 +4.5**
MOS pmax pmax
comp=Z,113nm,1.2s
OBN Obninsk 69.94 330 *e*P **P** **10 48 06.2 +0.2**
OBN *e* 10 48 11.0
OBN *e* 10 48 27.1
OBN *e* 10 50 41.7
OBN pmax pmax
comp=Z,54nm,1.0s
TIRR Tirgusor 70.53 317 *e*P **P** **10 48 05.6 -4.3**
comp=Z,46nm,1.2s
IDI Anoyia 70.69 307 P **P** **10 48 09.5 -1.6**
comp=Z,12nm,0.8s,baz=80,slow=11,SNR=3.5
KIS Kishinev 71.08 320⇑ *i*P P 10 48 19.0 +5.8
comp=Z,200nm,1.0s
KIS Kishinev 71.08 320⇑ *i*P P 10 48 19.0 +5.8
KIS pmax pmax
comp=Z,200nm,1.0s
KLMR Klimovskoe 71.57 336 *e*P **P** **10 48 15.9 +0.1**
KLMR AMP 10 48 23.2
comp=Z,32nm,1.2s
KLMR Klimovskoe 71.57 336 *e*P **P** **10 48 15.8 0.0**
KLMR pmax pmax
comp=Z,32nm,1.2s
SORM Soroca 71.76 321⇓ *i*P **P** **10 48 17.8 +0.6**
SORM Soroca 71.76 321⇓ P **P** **10 48 17.8 +0.6**
VRI Vrincioaia 72.10 318⇑ *i*P **P** **10 48 19.3 -0.1**
VRI Vrincioaia 72.10 318⇑ P **P** **10 48 19.3 -0.1**
AKASG Malin Array Be 72.12 324 P **P** **10 48 18.5 -0.8**
comp=Z,7.5nm,0.8s,baz=92,slow=4.9,SNR=13
AKBB Malin Array Si 72.12 324 *e*P **P** **10 48 17.4 -1.9**
comp=Z,16nm,0.7s
AKBB Malin Array Si 72.12 324 *e*P **P** **10 48 17.4 -1.9**
AKBB pmax pmax
comp=Z,16nm,0.7s
KIEV Kiev 72.12 324 *ce*P **P** **10 48 19.5 +0.1**
KIEV pmax pmax
comp=Z,37nm,2.5s
AK11 Malin Array Si 72.14 324 *e*P **P** **10 48 17.8 -1.6**
PLOR Plostina 72.14 318⇑ *i*P **P** **10 48 19.7 0.0**
PLOR Plostina 72.14 318⇑ P **P** **10 48 19.7 0.0**
MLR Muntele Rosu 72.51 318 P **P** **10 48 21.8 -0.2**
comp=Z,6.5nm,0.8s,baz=171,slow=5.7,SNR=12
MLR Muntele Rosu 72.51 318⇑ *i*P **P** **10 48 21.8 -0.2**
MLR Muntele Rosu 72.51 318 *e*P **P** **10 48 21.3 -0.7**
comp=Z,71nm,1.1s
VOIR 73.10 317⇓ *i*P **P** **10 48 28.1 +2.7**
VOIR 73.10 317⇓ P **P** **10 48 28.1 +2.7**
ARR Arges 73.36 317⇓ *i*P **P** **10 48 25.4 -1.6**
BURAR Bucovina Array 73.61 320⇓ *i*P **P** **10 48 30.8 +2.4**
BURAR Bucovina Array 73.61 320⇓ P **P** **10 48 30.8 +2.4**
BUR04 Bucovina Ar. S 73.61 320 *e*P **P** **10 48 28.1 -0.3**
BUR08 Bucovina Ar. S 73.62 320 *e*P **P** **10 48 27.9 -0.6**
VTS Vitosha 73.65 314⇑ *i*P **P** **10 48 29.7 +0.9**
VTS Vitosha 73.65 314⇑ P **P** **10 48 29.7 +0.9**
MA2 Magadan 73.71 27 P **P** **10 48 28.2 -0.3**
comp=Z,1.8nm,0.4s,baz=169,slow=8.6,SNR=4.1
TMCR Tamitsa 73.97 338 *e*P **P** **10 48 31.1 +1.1**
TIXI Tiksi 74.21 11 *e*P **P** **10 48 29.4 -1.9**
comp=Z,26nm,0.7s
TIXI Tiksi 74.21 11 *ce*P **P** **10 48 29.1 -2.2**
IDID Didziasalis 75.15 328 *e*P P 10 48 44.4 +7.4
IDID IAmb IAmb 10 48 45.5
comp=Z,12nm,0.5s
IIGN Ignalina 75.44 327 *e*P P 10 48 46.2 +7.5
IIGN IAmb IAmb 10 48 46.8
comp=Z,30nm,1.2s
UZH Uzhgorod 75.77 320 *e*P P 10 48 47.6 +6.9
UZH *e* 10 48 54.4
SEY Seymchan 75.91 24 P **P** **10 48 42.1 +0.8**
comp=Z,2.1nm,0.8s,baz=242,slow=9.9,SNR=3.8
CRVS Cervenica-Dubn 76.37 320 *e*P **P** **10 48 45.2 +1.0**
CRVS Cervenica-Dubn 76.37 320 *e*P **P** **10 48 45.2 +1.0**
PDG Pogorica 76.47 313⇑ *i*P **P** **10 48 45.2 +0.3**
STHS Stebnicka Huta 76.63 321 *e*P **P** **10 48 48.9 +3.2**
STHS *e* 10 48 53.9
STHS Stebnicka Huta 76.63 321 *e*P **P** **10 48 48.9 +3.2**
STHS *e* 10 48 53.9
STHS pmax pmax
comp=Z,24nm,1.0s
SUW Suwalki 76.70 326 *e*P **P** **10 48 44.3 -1.6**
comp=Z,194nm,1.1s
SUW Suwalki 76.70 326 *e*P **P** **10 48 44.3 -1.6**
SUW pmax pmax
comp=Z,194nm,1.1s
APA Apatity 77.36 340⇓ *i*P P 10 48 54.8 +5.5
APA pmax pmax
comp=Z,14nm,0.8s
FIA1 FINESS Array S 77.63 333 *e*P **P** **10 48 50.8 -0.2**
FINES FINESS Array B 77.63 333 P **P** **10 48 51.4 +0.4**
comp=Z,7.3nm,0.8s,baz=119,slow=7.2,SNR=8.4
VYHS Vyhne 77.97 319 *e*P **P** **10 48 55.2 +2.0**
VYHS *e* 10 49 00.7
VYHS Vyhne 77.97 319 *e*P **P** **10 48 55.2 +2.0**
VYHS *e* 10 49 00.7
VYHS pmax pmax
comp=Z,26nm,1.4s
SYO Syowa Base 78.38 197⇑ *e*P **P** **10 48 54.4 -0.6**
OKC Ostrava-Krasne 78.69 321 *e*P **P** **10 48 59.0 +1.9**
OKC *e*PCP **sP** **10 49 04.8 +0.6**
OKC Ostrava-Krasne 78.69 321 *e*P **P** **10 48 59.0 +1.9**
OKC *e* 10 49 04.8
MODS Modra-Piesok 78.96 319 *e*P **P** **10 49 01.0 +2.3**
MODS *e* 10 49 06.6
MODS Modra-Piesok 78.96 319 *e*P **P** **10 49 01.0 +2.3**
MODS *e* 10 49 06.6
MODS pmax pmax
comp=Z,91nm,1.3s
KRLC Kraliky 79.60 321 *e*P **P** **10 49 04.6 +2.4**
KRLC *e*PCP **PcP** **10 49 10.1 0.0**
KRLC Kraliky 79.60 321 *e*P **P** **10 49 04.6 +2.4**
KRLC *e* 10 49 10.1
CONA Conrad Observa 79.82 318 *i* pP **P** **10 49 05.4 +1.9**
comp=Z,18nm,1.4s
ARSA Arzberg 79.93 318 *i* P **P** **10 49 04.1 +0.1**
comp=Z,36nm,1.1s
DPC Dobruska-Polom 79.94 321 *e*P **P** **10 49 06.7 +2.7**
DPC *e*PCP **PcP** **10 49 12.2 +0.7**
DPC Dobruska-Polom 79.94 321 *e*P **P** **10 49 06.7 +2.7**
DPC *e* 10 49 12.2
UPC Upice 80.16 321 *e*P **P** **10 49 07.4 +2.2**
UPC *e*PCP **PcP** **10 49 13.1 +0.7**
UPC Upice 80.16 321 *e*P **P** **10 49 07.4 +2.2**
UPC *e* 10 49 13.1
SOKA Soboth 80.17 317 *e*P **P** **10 49 05.2 -0.2**
comp=Z,14nm,0.9s,SNR=5.3
TREC Trest 80.29 320 *e*P **P** **10 49 08.0 +2.1**
TREC Trest 80.29 320 *e*P **P** **10 49 08.0 +2.1**
OBKA Obir 80.48 317 *i* pP **P** **10 49 08.7 +1.6**
comp=Z,17nm,1.5s
AQU L'Aquila 80.74 313 *e*P **P** **10 49 07.0 -1.5**
comp=Z,58nm,1.2s
AQU L'Aquila 80.74 313 *e*P **P** **10 49 07.0 -1.5**
AQU pmax pmax
comp=Z,57nm,1.2s
ARCES ARCESS Array B 80.82 341 P **P** **10 49 08.5 +0.1**
comp=Z,8.9nm,0.8s,baz=119,slow=7.1,SNR=10.0
ARCES ARCESS Array B 80.82 341 *e*P **P** **10 49 08.6 +0.3**
GOPC GO Pecny, Ondr 80.84 320 *e*P **P** **10 49 11.3 +2.4**
GOPC *e*PCP **sP** **10 49 16.9 +0.9**
GOPC GO Pecny, Ondr 80.84 320 *e*P **P** **10 49 11.3 +2.4**
GOPC *e* 10 49 16.9
PRU Pruhonice 81.01 320 *e*P **P** **10 49 11.7 +2.0**
PRU *e*PCP **sP** **10 49 17.5 +0.7**
PRU Pruhonice 81.01 320 *e*P **P** **10 49 11.7 +2.0**
PRU *e* 10 49 17.5
MYKA Terra Mystica 81.11 317 *e*P **P** **10 49 10.1 -0.4**
comp=Z,6.0nm,1.0s,SNR=5.9
KBA Koelnbreinsper 81.38 317 *e*P **P** **10 49 08.9 -3.1**
comp=Z,8.9nm,1.6s,SNR=5.1
GEA0 GERESS Array S 81.38 319 *e*P **P** **10 49 10.7 -1.1**
GEC2 GERESS Array S 81.38 319 *e*P **P** **10 49 11.4 -0.4**
comp=Z,62nm,0.8s
GEC2 GERESS Array S 81.38 319 *e*P **P** **10 49 11.5 -0.4**
GEC2 pmax pmax
comp=Z,62nm,0.8s
GERES GERESS Array B 81.38 319 P **P** **10 49 11.4 -0.4**
comp=Z,19nm,0.8s,baz=102,slow=5.6,SNR=19
KHC Kasperske Hory 81.50 319 *e*P **P** **10 49 14.3 +1.9**
KHC *e*PCP **sP** **10 49 19.9 +0.4**
KHC Kasperske Hory 81.50 319 *e*P **P** **10 49 11.6 -0.8**
comp=Z,7.2nm,1.0s
BRG Berggiesshubel 81.52 321 *i* P **P** **10 49 12.8 +0.4**
comp=Z,6.0nm,1.0s
BRG *i* 10 49 20.3
comp=Z,52nm,1.5s
BRG Berggiesshubel 81.52 321 *i* P **P** **10 49 12.8 +0.4**
BRG *i* 10 49 20.3
BRG pmax pmax
comp=Z,6.0nm,1.0s
BRG pmax pmax
comp=Z,52nm,1.5s
ABTA Abfaltersbach 81.90 317 *i* pP **P** **10 49 15.7 +1.1**
comp=Z,20nm,1.2s
CLL Collm 82.17 322 *i* (P) **P** **10 49 17.9 +2.1**
comp=Z,31nm,1.2s
CLL *i* sP **sP** **10 49 23.6 +0.6**
CLL Collm 82.17 322 *i* P **P** **10 49 17.9 +2.1**
CLL pmax pmax
comp=Z,31nm,1.2s
WTTA Wattenberg 82.56 317 *i* pP **P** **10 49 19.9 +1.8**
comp=Z,21nm,0.9s
WATA Walderalm 82.61 317 *i* pP **P** **10 49 20.0 +1.6**
comp=Z,15nm,1.0s
MOTA Moosalm 82.92 317 *e*P **P** **10 49 18.7 -1.3**
comp=Z,44nm,1.0s,SNR=12
GRFO Grafenberg 83.10 320 *e*P **P** **10 49 20.2 -0.5**
comp=Z,9.2nm,0.6s
GRFO Grafenberg 83.10 320 *e*P **P** **10 49 20.2 -0.5**
GRFO pmax pmax

	comp=Z,9.0nm,0.6s						
BILL	**Bilibino**	**83.10**	**21**	*e*P	**P**	**10 49 22.8**	**+2.5**
BILL				*e*		10 52 31.4	
BILL	comp=Z,2.0nm,0.9s			pmax	pmax		
BILL	comp=Z,909µm,22.0s			MLR	MLR		
HFS	**Hagfors**	**83.14**	**330**	P	**P**	**10 49 21.2**	**+0.5**
	comp=Z,3.1nm,0.8s,baz=108,slow=14,SNR=3.0						
FETA	**Feichten**	**83.15**	**317**	*i* pP	**P**	**10 49 23.5**	**+2.2**
	comp=Z,46nm,1.5s						
RETA	**Reutte**	**83.17**	**318**	*i* P	**P**	**10 49 20.0**	**-1.2**
	comp=Z,28nm,1.4s,SNR=5.0						
RETA				*i* P	**sP**	**10 49 29.0**	**+0.6**
	comp=Z,50nm,1.0s						
KEST	**Kesra**	**83.30**	**306**	P	**P**	**10 49 21.4**	**-0.7**
	comp=Z,7.5nm,0.9s,baz=256,slow=2.7,SNR=3.9						
KEST	**Kesra**	**83.30**	**306**	*e*P	**P**	**10 49 22.1**	**-0.1**
	comp=Z,9.5nm,0.9s						
DAVA	**Damuels**	**83.75**	**317**	*e*P	**P**	**10 49 23.3**	**-1.0**
	comp=Z,32nm,0.8s,SNR=5.5						
DAVA				*i* P	**sP**	**10 49 32.5**	**+1.1**
	comp=Z,90nm,0.9s						
TUE	**Stuetta**	**84.04**	**316**	*e*P	**P**	**10 49 25.2**	**-0.7**
	comp=Z,39nm,1.5s						
NB2	**NORSAR Subarra**	**84.49**	**331**	P	**P**	**10 49 28.4**	**+0.8**
	comp=Z,8.7nm,1.0s,baz=94,slow=5.3						
NOA	**NORSAR Array B**	**84.49**	**331**	P	**P**	**10 49 28.2**	**+0.6**
	comp=Z,2.1nm,0.9s,baz=96,slow=5.6,SNR=3.1						
BFO	**Black Forest**	**84.87**	**318**	*i* P	**P**	**10 49 32.5**	**+2.7**
SPITS	**Spitsbergen Ar**	**85.92**	**348**	P	**P**	**10 49 33.0**	**-1.5**
	comp=Z,14nm,1.1s,baz=243,slow=6.3,SNR=3.7						
TAM	**Tamanrasset**	**86.24**	**293**	*e*P	**P**	**10 49 35.9**	**-1.4**
	comp=Z,36nm,1.4s						
TAM	**Tamanrasset**	**86.24**	**293**	*e*P	**P**	**10 49 35.9**	**-1.4**
TAM				pmax	pmax		
	comp=Z,36nm,1.4s						
TORD	**Torodi Ar. Bea**	**89.97**	**283**	P	**P**	**10 49 53.9**	**-1.2**
	comp=Z,46nm,0.4s,baz=70,slow=17,SNR=3.3						
EKA	**Eskdalemuir Ar**	**91.96**	**325**	P	**P**	**10 50 03.4**	**-0.1**
	comp=Z,0.8nm,0.6s,baz=197,slow=21,SNR=2.6						
SNAA	**Sanae**	**92.60**	**198**	P	**P**	**10 50 07.4**	**+1.2**
	comp=Z,1.3nm,0.8s,baz=355,slow=11,SNR=2.5						
ES19	**SONSECA Array**	**93.76**	**310**	*e*P	**P**	**10 50 09.4**	**-2.8**
ESDC	**Sonseca Array**	**93.81**	**310**	P	**P**	**10 50 13.4**	**+1.0**
	comp=Z,0.8nm,0.5s,baz=101,slow=4.1,SNR=5.9						
KOWA	**Kowa**	**95.47**	**285**	P	**P**	**10 50 20.0**	**-0.5**
	comp=Z,3.4nm,0.8s,baz=102,slow=5.7,SNR=2.7						
YKA	**Yellowknife Ar**	**113.42**	**13**	PP	PP	10 56 21.9	-1.2
	comp=Z,0.5nm,0.8s,baz=335,slow=6.7,SNR=5.5						
PDAR	**Pinedale Array**	**132.18**	**21**	PKP	**PKPdf**	**10 56 08.5**	**-1.0**
	comp=Z,0.2nm,0.4s,baz=76,slow=3.8,SNR=3.5						
IP01	**Cuckoo**	**139.96**	**347**	*e*PKPpre	PKPpre	10 56 17.6	
CNNC	**Cliffs of the**	**142.56**	**346**	*e*PKPdf	**PKPdf**	**10 56 27.9**	**-0.6**
WMOK	**Wichita Mounta**	**142.91**	**15**	P	**PKPdf**	**10 56 31.7**	**+2.5**
	baz=342						
WMOK	**Wichita Mounta**	**142.91**	**15**	*e*PKPpre	PKPpre	10 56 24.9	
WMOK	**Wichita Mounta**	**142.91**	**15**	*e*PKIKP	PKPpre	10 56 24.9	
X39A	**Fountain Ranch**	**144.07**	**9**	P	**PKPdf**	**10 56 36.2**	**+5.0**
	baz=350						
MIAR	**Mount Ida**	**144.11**	**8**	P	**PKPdf**	**10 56 36.1**	**+4.8**
	baz=351						
MIAR	**Mount Ida**	**144.11**	**8**	*e*PKPdf	PKPbc	10 56 29.3	+0.1
MIAR	**Mount Ida**	**144.11**	**8**	*e*PKIKP	PKPbc	10 56 29.3	+0.1
X45A	**UM Field Stati**	**144.58**	**2**	P	**PKPdf**	**10 56 37.2**	**+5.1**
	baz=358						
ABTX	**Abilene, Hawle**	**144.66**	**17**	P	**PKPdf**	**10 56 37.7**	**+5.3**
	baz=340						
ABTX	**Abilene, Hawle**	**144.66**	**17**	*e*PKPdf	PKPbc	10 56 31.6	+0.6
Y40A	**Okolona**	**144.67**	**7**	P	**PKPdf**	**10 56 37.9**	**+5.6**
	baz=351						
Y43A	**Makayla and Ka**	**145.01**	**4**	P	**PKPdf**	**10 56 39.6**	**+6.8**
	baz=355						
Y42A	**Garnett, Star**	**145.01**	**5**	P	**PKPdf**	**10 56 39.4**	**+6.6**
	baz=354						
WLAR	**White Oak Lake**	**145.02**	**7**	*e*PKPbc	**PKPab**	**10 56 30.6**	**-1.5**
Y47A	**UCPARC, Winfie**	**145.12**	**360**	P	**PKPdf**	**10 56 38.2**	**+5.1**
	baz=0.5						
Y46A	**Houston**	**145.14**	**1**	P	**PKPdf**	**10 56 38.7**	**+5.6**
	baz=359						
Z40A	**Long Farm, Mag**	**145.40**	**8**	P	**PKPdf**	**10 56 40.4**	**+6.8**
	baz=351						
Z41A	**Richland Creek**	**145.48**	**7**	P	**PKPab**	**10 56 40.9**	**+7.1**
	baz=352						
Z42A	**Norrel Spur, H**	**145.56**	**6**	P	**PKPab**	**10 56 41.1**	**+7.0**
	baz=353						
Z48A	**Northport**	**145.65**	**359**	P	**PKPab**	**10 56 39.9**	**+5.5**
	baz=1.0						
Z44A	**Pea Ridge, Bel**	**145.68**	**4**	P	**PKPab**	**10 56 41.2**	**+6.7**
	baz=356						
Z50A	**Ashland**	**145.71**	**357**	P	**PKPab**	**10 56 40.5**	**+5.8**
	baz=3.9						
Z49A	**Columbiana**	**145.80**	**358**	P	**PKPab**	**10 56 40.7**	**+5.7**
	baz=2.8						
Z46A	**Louisville**	**145.82**	**1**	P	**PKPab**	**10 56 41.6**	**+6.5**
	baz=359						
Z47A	**Carrollton**	**145.83**	**360**	P	**PKPab**	**10 56 41.2**	**+6.1**
	baz=0.1						
WHTX	**Lake Whitney,**	**145.85**	**14**	P	**PKPab**	**10 56 42.7**	**+7.5**
	baz=343						
WHTX	**Lake Whitney,**	**145.85**	**14**	*e*PKPdf	**PKPbc**	**10 56 34.6**	**-0.2**
LRAL	**Lakeview Retre**	**145.97**	**358**	P	**PKPab**	**10 56 41.1**	**+5.4**
	baz=2.0						
LRAL	**Lakeview Retre**	**145.97**	**358**	*e*PKPdf	**PKPdf**	**10 56 34.4**	**-0.1**
154A	**Montrose**	**146.08**	**352**	P	**PKPab**	**10 56 42.4**	**+6.3**
	baz=9.0						
141A	**Papa Simpson,**	**146.11**	**7**	P	**PKPab**	**10 56 42.8**	**+6.6**
	baz=352						
143A	**Socs Landing,**	**146.17**	**5**	P	**PKPab**	**10 56 42.8**	**+6.4**
	baz=354						
TX31	**Lajitas Ar. Si**	**146.21**	**25**	*e*PKPdf	**PKPdf**	**10 56 35.2**	**+0.1**
TX31				*e*PKPdf	**PKPbc**	**10 56 35.4**	**-0.8**
TXAR	**Lajitas Array**	**146.21**	**25**	PKPbc	**PKPdf**	**10 56 35.0**	**-0.2**
	comp=Z,3.4nm,0.9s,baz=352,slow=0.6,SNR=7.4						
TXAR	**Lajitas Array**	**146.21**	**25**	PKP2	**PKPdf**	**10 56 35.0**	**-0.2**
147A	**Livingston**	**146.35**	**0**	P	**PKPab**	**10 56 42.7**	**+5.6**
	baz=360						
150A	**Eclectic**	**146.36**	**357**	P	**PKPab**	**10 56 42.5**	**+5.3**
	baz=3.8						
148A	**Greensboro**	**146.37**	**359**	P	**PKPab**	**10 56 42.3**	**+5.1**
	baz=1.0						
151A	**Opelika**	**146.40**	**356**	P	**PKPab**	**10 56 42.7**	**+5.5**
	baz=5.0						
149A	**Jones**	**146.40**	**358**	P	**PKPab**	**10 56 42.4**	**+5.1**
	baz=2.4						
JCT	**Junction City**	**146.61**	**19**	P	**PKPab**	**10 56 43.3**	**+5.0**
	baz=338						
JCT	**Junction City**	**146.61**	**19**	*e*PKPdf	**PKPdf**	**10 56 35.0**	**-0.8**
JCT	**Junction City**	**146.61**	**19**	*e*PKIKP	**PKPdf**	**10 56 35.0**	**-0.8**
NATX	**Nacogdoches**	**146.67**	**10**	P	**PKPab**	**10 56 44.3**	**+5.9**
	baz=348						
NATX	**Nacogdoches**	**146.67**	**10**	*e*PKPdf	**PKPdf**	**10 56 35.0**	**-0.8**
VBMS	**Vicksburg**	**146.72**	**4**	P	**PKPab**	**10 56 44.7**	**+6.2**
	baz=356						
254A	**Abbeville**	**146.76**	**353**	P	**PKPab**	**10 56 42.9**	**+4.2**
	baz=8.8						
251A	**Midway**	**146.83**	**356**	P	**PKPab**	**10 56 44.0**	**+5.0**
	baz=5.0						
252A	**Lumpkin**	**146.87**	**355**	P	**PKPab**	**10 56 43.9**	**+4.8**
	baz=6.2						
244A	**Avery, Jackson**	**146.89**	**4**	P	**PKPab**	**10 56 44.6**	**+5.4**
	baz=355						
249A	**Camden**	**147.03**	**359**	P	**PKPab**	**10 56 44.7**	**+5.0**
	baz=1.8						
341A	**Kurthwood**	**147.33**	**8**	P	**PKPab**	**10 56 46.3**	**+5.4**
	baz=351						
347A	**Saraland**	**147.62**	**1**	P	**PKPab**	**10 56 46.2**	**+4.2**
	baz=359						
349A	**Repton**	**147.66**	**359**	P	**PKPab**	**10 56 47.3**	**+5.1**
	baz=1.7						
351A	**Pinckard**	**147.66**	**356**	P	**PKPab**	**10 56 46.8**	**+4.6**
	baz=4.7						
HKT	**Hockley**	**148.19**	**13**	*e*PKPdf	**PKPdf**	**10 56 37.0**	**-1.3**
HKT				*e*PKPab	**PKPab**	**10 56 44.9**	**+0.6**
HKT	**Hockley**	**148.19**	**13**	*e*PKIKP	**PKPdf**	**10 56 37.0**	**-1.3**
HKT				*e*		10 56 44.9	

*ISCJB **11** 10:38:35.5±1.4, 1°.3N±0°.2×92°.0E±0°.2, h10km, mb4.2/7, Error ellipse: s-maj=36.2km s-min=22.8km az=151.5*
*IDC **11** 10:38:36.2±1.8, 1°.34N×92°.00E, h0km, mb4.2/7, mb1 4.3/8, mb1mx3.8/73, mbtmp4.2/8, Error ellipse: s-maj=60.8km s-min=30.2km az=58.0*
ISC 11 10:38:37.6±1.5, 1°.3N±0°.2×92°.0E±0°.3, h10km, n10, σ0s96/10, mb4.2/7, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**18.32**	**21**	P	**P**	**10 42 53.2**	**+1.0**
	baz=213,slow=13,SNR=2.3						
MKAR	**Makanchi Array**	**46.07**	**351**	P	**P**	**10 47 00.2**	**-1.5**
	3.0nm,0.9s,baz=170,slow=8.8,SNR=2.1						
WRA	**Warramunga Arr**	**46.55**	**119**	P	**P**	**10 47 05.9**	**-0.1**
	4.1nm,0.9s,baz=294,slow=8.6,SNR=2.7						
SONM	**Songino Array**	**47.97**	**13**	P	**P**	**10 47 15.9**	**-0.8**
	4.6nm,0.7s,baz=206,slow=7.0,SNR=3.4						
KURBB	**Kurchatov Arra**	**50.43**	**349**	P	**P**	**10 47 36.3**	**+1.0**
	1.8nm,0.8s,baz=175,slow=8.1,SNR=2.8						
ZALV	**Zalesovo Beam**	**52.78**	**355**	P	**P**	**10 47 52.2**	**-0.6**
	1.6nm,0.5s,baz=181,slow=6.4,SNR=2.4						
BVAR	**Borovoye Array**	**54.57**	**344**	P	**P**	**10 48 06.7**	**+0.7**
	1.5nm,0.8s,baz=250,slow=42,SNR=2.7						
GERES	**GERESS Array B**	**81.32**	**319**	P	**P**	**10 50 54.3**	**-0.2**
	4.4nm,0.6s,baz=104,slow=4.1,SNR=2.6						
PDAR	**Pinedale Array**	**131.99**	**21**	PKP	**PKPdf**	**10 57 53.0**	**+0.8**
	0.1nm,0.5s,baz=25,slow=3.0,SNR=2.5						
TXAR	**Lajitas Array**	**146.01**	**25**	PKPbc	**PKPbc**	**10 58 18.6**	**0.0**
	1.0nm,0.8s,baz=260,slow=3.6,SNR=2.6						

*ISCJB **11** 10:40:18.3±0.8, 1°.1N±0°.1×92°.0E±0°.1, h10km, mb4.3/16, Error ellipse: s-maj=21.7km s-min=12.9km az=137.4*
*IDC **11** 10:40:18.8±1.0, 1°.06N×92°.01E, h0km, mb4.2/14, mb1 4.3/15, mb1mx4.0/72, mbtmp4.2/15, ML4.1/1, Error ellipse: s-maj=34.0km s-min=19.3km az=46.0*
*NEIC **11** 10:40:20.1±0.5, 1°.04N×92°.04E, h10km, mb4.3/2, Error ellipse: s-maj=18.0km s-min=9.3km az=48.0*
ISC 11 10:40:20.2±1.0, 1°.0N±0°.2×92°.0E±0°.2, h10km, n26, σ0s57/21, mb4.3/16, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**18.59**	**21**	P	**Pn**	**10 44 38.7**	**+0.7**
	0.2nm,0.3s,baz=217,slow=12,SNR=3.1						
H08S2	**Diego Garcia H**	**21.32**	**246**	T	T	11 08 23.0	
	baz=61,slow=72						
H08S3	**Diego Garcia H**	**21.32**	**246**	T	T	11 07 55.5	
	baz=61,slow=72						
H08S1	**Diego Garcia H**	**21.34**	**246**	T	T	11 08 23.0	
	baz=61,slow=72						
H08N1	**Diego Garcia H**	**22.23**	**250**	T	T	11 09 40.8	
	baz=321,slow=74						
H08N2	**Diego Garcia H**	**22.24**	**251**	T	T	11 09 41.5	
	baz=321,slow=74						
H08N3	**Diego Garcia H**	**22.26**	**250**	T	T	11 09 35.8	
	baz=321,slow=74						
MKAR	**Makanchi Array**	**46.36**	**351**	P	**P**	**10 48 46.5**	**-0.1**
	2.4nm,0.8s,baz=169,slow=8.4,SNR=4.2						
WRA	**Warramunga Arr**	**46.40**	**119**	P	**P**	**10 48 47.5**	**+0.1**
	5.0nm,0.9s,baz=297,slow=8.6,SNR=5.4						
WRAB	**Tennant Creek**	**46.40**	**119**	*e*P	**P**	**10 48 46.9**	**-0.4**
	7.1nm,1.0s						
ASAR	**Alice Springs**	**47.50**	**124**	P	**P**	**10 48 56.2**	**+0.2**
	1.2nm,1.0s,baz=283,slow=4.7,SNR=3.5						
ASAR				PcP	**PcP**	**10 50 26.1**	**-0.1**
	0.7nm,0.8s,baz=300,slow=4.2,SNR=4.4						
SONM	**Songino Array**	**48.25**	**13**	P	**P**	**10 49 01.1**	**-0.3**
	6.2nm,0.8s,baz=191,slow=8.8,SNR=5.9						
KSAR	**Wonju Array Be**	**49.00**	**38**	P	**P**	**10 49 07.0**	**-0.2**
KSRS	**Korea Array**	**49.03**	**38**	P	**P**	**10 49 07.0**	**-0.4**
	1.3nm,0.8s,baz=223,slow=13,SNR=2.9						
KURBB	**Kurchatov Arra**	**50.72**	**349**	P	**P**	**10 49 20.0**	**-0.1**
	2.1nm,0.3s,baz=172,slow=6.5,SNR=7.6						
KURK	**Kurchatov**	**50.79**	**349**	P	**P**	**10 49 20.0**	**-0.6**
ZALV	**Zalesovo Beam**	**53.07**	**355**	P	**P**	**10 49 37.4**	**-0.2**
	2.8nm,0.4s,baz=174,slow=6.5,SNR=4.4						
BVAR	**Borovoye Array**	**54.85**	**344**	P	**P**	**10 49 49.2**	**-1.4**
	2.5nm,0.9s,baz=168,slow=8.8,SNR=3.6						
ABKAR	**Akbulak array**	**55.35**	**335**	*e*P	**P**	**10 49 54.0**	**-0.3**
	0.6nm,0.4s						
USRK	**Usuriysk Ar.**	**55.68**	**34**	P	**P**	**10 49 57.3**	**+0.6**
	1.7nm,0.8s,baz=85,slow=18,SNR=3.4						
KBZ	**Khabaz**	**60.89**	**321**	P	**P**	**10 50 33.7**	**+0.6**
	4.6nm,0.8s,baz=146,slow=7.8,SNR=3.5						
BRTR	**Keskin Array B**	**65.45**	**314**	P	**P**	**10 51 04.2**	**+0.4**
	1.2nm,0.5s,baz=142,slow=6.4,SNR=5.9						
AKASG	**Malin Array Be**	**72.28**	**324**	P	**P**	**10 51 45.7**	**-0.2**
	0.6nm,0.3s,baz=90,slow=5.6,SNR=4.4						
FINES	**FINESS Array B**	**77.79**	**333**	P	**P**	**10 52 16.7**	**-0.7**
	1.2nm,0.5s,baz=111,slow=4.6,SNR=6.0						
GERES	**GERESS Array B**	**81.55**	**319**	P	**P**	**10 52 39.2**	**+0.9**
	2.8nm,0.9s,baz=130,slow=4.5,SNR=3.6						
TXAR	**Lajitas Array**	**146.27**	**25**	PKPbc	**PKPbc**	**11 00 02.1**	**+0.2**
	3.6nm,1.1s,baz=30,slow=0.5,SNR=11						

TAP 11 10:42:50.7, 24°.15N×121°.70E, h5km±1km, ML1.8, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NACB	**Ninganchiao**	**0.10**	**283**	*e*P	Pg	10 42 53.7	+0.9
	baz=283						
TWD	**Chiawan**	**0.12**	**234**	*e*P	Pg	10 42 53.5	+0.3
	baz=231						
ENLB	**Shoufeng**	**0.26**	**200**	*e*P	Pg	10 42 56.6	+0.7
	baz=200						
ENA	**Nanau**	**0.28**	**8**	*e*P	Pb	10 42 57.6	-0.6
	baz=9.0						
ENA				*e*S	Sb	10 43 01.9	-1.4
	baz=9.0						
NANB	**Nanao**	**0.28**	**9**	*e*P	Pb	10 42 57.6	-0.7
	baz=9.0						
WHF	**Hehuan Shan**	**0.40**	**269**	*e*P	Pb	10 42 59.6	-0.9
	baz=268						
NNSB	**Datong**	**0.40**	**314**	P	Pb	10 42 59.9	-0.5
	baz=313						
ESL	**Shilin**	**0.41**	**216**	*e*P	Pb	10 43 00.0	-0.5
	baz=215						
NNS	**Nan Shan**	**0.41**	**314**	*e*P	Pg	10 42 58.9	+0.1
	baz=314						
TWC	**Suao**	**0.48**	**16**	*e*P	Pg	10 43 00.4	+0.5
	baz=17						
CHGB	**Renai**	**0.49**	**259**	*e*P	Pb	10 43 01.4	-0.6
	baz=259						
ENTT	**Nioudou**	**0.50**	**346**	*e*P	Pb	10 43 02.3	+0.2
	baz=346						
OWD	**Renai**	**0.52**	**248**	*e*P	Pb	10 43 02.4	0.0
	baz=247						
TWE	**Neicheng**	**0.57**	**357**	*e*P	Pb	10 43 02.5	-0.7
	baz=358						
YHNB	**Yeheng**	**0.59**	**330**	*e*P	Pb	10 43 03.8	+0.1
	baz=330						
ILA	**Ilan**	**0.61**	**4**	*e*P	Pg	10 43 02.5	-0.1
	baz=4.0						
HGSD	**Ruisui**	**0.70**	**201**	*e*P	Pb	10 43 06.2	+0.8
	baz=201						
SSLB	**Suanglung**	**0.77**	**242**	*e*P	Pg	10 43 05.9	+0.3
	baz=242						
TIPB	**Shuangxi**	**0.82**	**8**	*e*P	Pb	10 43 07.2	-0.4
	baz=7.0						
YULB	**Yu-li**	**0.84**	**206**	*e*P	Pb	10 43 08.1	+0.3
	baz=206						

TAP 11 10:42:52.4, 24°.13N×121°.68E, h9km±1km, ML1.8, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NACB	**Ninganchiao**	**0.09**	**300**	P	Pg	10 42 55.5	+0.8
	baz=300						
NACB				*e*S	Sg	10 42 57.3	+1.0
	baz=300						
NACB	**Ninganchiao**	**0.09**	**300**	*e*S	Pg	10 42 55.6	+1.0
	baz=283						
TWD	**Chiawan**	**0.09**	**237**	P	Pg	10 42 55.2	+0.5
	baz=235						
TWD				S	Sg	10 42 56.8	+0.6
	baz=235						
TWD	**Chiawan**	**0.09**	**237**	*e*S	Pg	10 42 55.1	+0.5
	baz=231						
ENA	**Nanau**	**0.30**	**11**	*e*P	Pb	10 42 59.2	-0.8
	baz=12						
NANB	**Nanao**	**0.30**	**12**	P	Pb	10 42 59.3	-0.7
	baz=12						
NANB				*e*S	Sg	10 43 03.6	+1.1
	baz=12						
WHF	**Hehuan Shan**	**0.38**	**272**	*e*P	Pb	10 43 00.8	-0.7
	baz=272						
NNSB	**Datong**	**0.40**	**318**	*e*P	Pb	10 43 01.6	-0.2
	baz=317						
NNSB				*e*S	Sb	10 43 07.3	-0.8
	baz=317						
NNS	**Nan Shan**	**0.42**	**318**	*e*P	Pb	10 43 01.8	-0.3
	baz=318						
ENTT	**Nioudou**	**0.52**	**349**	*e*P	Pb	10 43 03.8	+0.1
	baz=349						

*IDC **11** 10:43:06.7±0.3, 0°.81N×92°.44E, h0km, mb6.2/66, mb1 6.2/69, mb1mx6.1/71, mbtmp6.2/69, ML5.9/3, MS7.8/60, Ms1 7.8/60, ms1mx7.8/69, Error ellipse: s-maj=9.2km s-min=7.2km az=23.0*
*ISCJB **11** 10:43:07.7±0.5, 0°.80N±0°.02×92°.51E±0°.01, h13km±3km, mb6.7/274, MS8.0/130, Error ellipse: s-maj=3.1km s-min=1.8km az=23.4*
*BJI **11** 10:43:08.0, 0°.78N×92°.56E, h18km, mb6.9/49, mB7.7/67, Ms8.2/81, Ms7 8.1/81*
*MOS **11** 10:43:08.7±1.0, 0°.80N×92°.45E, h26km, mb7.1/64, MS8.0/56, Error ellipse: s-maj=8.0km s-min=5.5km az=99.6*
*NEIC **11** 10:43:09.0±0.0, 0°.77N×92°.45E, h16km, Moment Tensor Solution. s6 Moment tensor: Scale 10^{21}Nm; M_{rr}-1.18; $M_{\theta\theta}$0.18; $M_{\phi\phi}$1.00; $M_{r\theta}$-0.92; $M_{r\phi}$-3.38; $M_{\theta\phi}$-1.33; Best double couple: $M_0$3.90000×10^{21} NP1:ϕ_s359.00000°, δ72.00000°, λ-26.00000°. NP2:ϕ_s98.00000°, δ65.00000°, λ-159.00000°. Principal axes: T 4.0200, Plg4.0000°, Azm49.0000°; N -0.2500, Plg58.0000°, Azm146.0000°; P -3.7700, Plg31.0000°, Azm316.0000°;*
*KLM **11** 10:43:09.0, 0°.74N×92°.44E, h10km, mb7.9*
*NEIC **11** 10:43:10.8±1.1, 0°.80N×92°.46E, h25km±7km, mb7.2/103, MW8.2, Error ellipse: s-maj=3.8km s-min=2.8km az=217.0*
NEIC Felt [V] at Sibolga. Also felt at Banda Aceh, Bukittinggi, Duri, Medan and Padang. Felt at Jakarta, Java. Felt [V] at Ayer Itam; [IV] at Petaling Jaya and Sungai Ara; [III] at Butterworth, Gelugor, Georgetown and Kuala Lumpur, Malaysia. Felt [IV] at Chetpet and [III] at Bangalore and Madras, India. Felt [IV] at Colombo and [II] at Kotte, Sri Lanka. Felt [II] at Kathu and Phuket, Thailand. Also felt in Bangladesh, Brunei, Maldives, Singapore and Vietnam. A local tsunami with a maximum wave height [one-half peak-to-trough] of 22 cm was recorded on Pulau Enggano.
*GCMT **11** 10:43:10.9±0.3, 0°.90N×92°.31E, h55km±1km, MW8.2/144, Moment Tensor Solution. s139, c273; s144, c583; Duration: 32s2 Moment tensor: Scale 10^{21}Nm; M_{rr}0.55±.05; $M_{\theta\theta}$-1.90±.03; $M_{\phi\phi}$1.35±.03; $M_{r\theta}$-0.34±.12; $M_{r\phi}$-2.36±.02; $M_{\theta\phi}$-0.29±.12; Best double couple: $M_0$2.89300×10^{21} NP1:ϕ_s17.00000°, δ87.00000°, λ-7.00000°. NP2:ϕ_s107.00000°, δ83.00000°, λ-177.00000°. Principal axes: T 2.5950, Plg3.0000°, Azm62.0000°; N 0.5980, Plg83.0000°, Azm176.0000°; P -3.1900, Plg7.0000°, Azm332.0000°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to surface/mantle waves, cutoff=200s.*
*DJA **11** 10:43:11.4±0.8, 1°.N±2°.×9°.2E±°, h27km±6km, M8.1/109, mb7.1/109, mB7.9/102, MLv7.9/5, Mw(mB)8.1/102, Mwp7.8/16*
*NEIC **11** 10:43:50.2±0.0, 0°.92N×92°.49E, h43km, Moment Tensor Solution. s36 Moment tensor: Scale 10^{21}Nm; M_{rr}0.45; $M_{\theta\theta}$-1.30; $M_{\phi\phi}$0.85; $M_{r\theta}$0.21; $M_{r\phi}$-1.63; $M_{\theta\phi}$-0.84; Best double couple: $M_0$2.20000×10^{21} NP1:ϕ_s104.00000°, δ68.00000°, λ164.00000°. NP2:ϕ_s200.00000°, δ75.00000°, λ23.00000°. Principal axes: T 2.1500, Plg26.0000°, Azm63.0000°; N 0.0500, Plg63.0000°, Azm231.0000°; P -2.2000, Plg5.0000°, Azm331.0000°;*
ISC 11 10:43:10.5±0.3, 0°.77N±0°.02×92°.43E±0°.03, h22km±3km, h22km:pP-P, n2153, σ1s89/2149, mb6.8/264, MS8.0/167, 74C-56D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSI	**Gunungsitoli**	**5.17**	**84**	P	**Pn**	**10 44 27.7**	**+1.0**
GSI	**Gunungsitoli**	**5.17**	**84**	*e*Pn	**Pn**	**10 44 26.9**	**+0.2**
MLSI	**Meulaboh, Aceh**	**5.28**	**49**	P	**Pn**	**10 44 29.2**	**+1.0**
TPTI		**5.36**	**62**	P	**Pn**	**10 44 28.7**	**-0.5**
	353µm,0.8s,1µm						
BSI	**Banda Aceh**	**5.50**	**31**	P	**Pn**	**10 44 30.2**	**-1.1**
PBSI	**Pulau Batu**	**5.91**	**98**	P	**Pn**	**10 44 37.7**	**+0.9**
	256µm,1.0s						
KCSI	**Kotacane, Aceh**	**6.00**	**63**	P	**Pn**	**10 44 38.7**	**+0.6**
	250µm,1.0s						
LHMI	**Lhok Sumawe**	**6.32**	**45**	*e*Pn	**Pn**	**10 44 43.6**	**+1.1**
LHMI				*e*Sn	**Sn**	**10 45 50.1**	**-4.1**
TSI	**Tuntungan**	**6.71**	**66**	P	**Pn**	**10 44 50.3**	**+2.5**
PSI	**Prapat**	**6.80**	**73**	Pn	**Pn**	**10 44 49.2**	**0.0**
	528nm,0.3s,baz=254,slow=9.0,SNR=162						
PSI	**Prapat**	**6.80**	**73**	*e*Pn	**Pn**	**10 44 49.0**	**-0.2**
PSI	**Prapat**	**6.80**	**73**	*e*P	**Pn**	**10 44 49.0**	**-0.2**
SISI	**Saibi**	**6.98**	**107**	P	**Pn**	**10 44 52.7**	**+1.2**
MNSI	**Mandailing Nat**	**7.15**	**90**	P	**Pn**	**10 44 54.7**	**+0.8**
PDSI	**Padang**	**8.20**	**102**	P	**Pn**	**10 45 09.1**	**+0.7**
PPSI	**Pulau Pagai**	**8.35**	**115**	P	**Pn**	**10 45 11.1**	**+0.7**
BKNI	**Bangkinang**	**8.62**	**93**	P	**Pn**	**10 45 15.2**	**+1.1**
BKNI	**Bangkinang**	**8.62**	**93**	*e*Pn	**Pn**	**10 45 14.8**	**+0.7**
BKNI

CISI	**Cisompet, Garu**	**17.43**	**119**	*e*Pn		**Pn**	**10 47 13.2**	**+0.5**
	comp=Z,54μm,1.2s								
CISI				*e*S		**S**	**10 50 31.3**	**-3.0**
KSM	**Kuching**	**17.89**	**88**	*e*Pn		**Pn**	**10 47 17.8**	**-0.5**
	comp=Z,12μm,1.1s								
KSM				*e*S		**S**	**10 50 45.0**	**+1.5**
KSM	**Kuching**	**17.89**	**88**		P	**P**	**10 47 19.0**	**+0.2**
SKHT	**Srikalahasti**	**18.02**	**316**	*e*P		**P**	**10 47 20.4**	**+0.3**
CMJI	**Cimerak**	**18.09**	**118**		P	**Pn**	**10 47 19.6**	**-1.1**
KPJI	**Karang Pucung**	**18.32**	**116**		P	**Pn**	**10 47 25.0**	**+1.5**
CM01	**Chiang Mai Arr**	**18.68**	**20**	*e*P		**P**	**10 47 25.6**	**-1.8**
CM01				*e*Pn		**Pn**	**10 47 28.6**	**+0.7**
CM31	**Chiang Mai Arr**	**18.71**	**20**	*e*P		**P**	**10 47 27.6**	**-0.1**
CM31				*e*Pn		**Pn**	**10 47 27.8**	**-0.4**
CMAR	**Chiang Mai Arr**	**18.71**	**20**	P		**P**	**10 47 27.4**	**-0.4**
	comp=Z,17nm,0.3s,baz=214,slow=12,SNR=189								
CMAR				LR		LR	10 54 04.0		
	comp=Z,3055μm,20.9s,baz=215,slow=35								
CHTO	**Chiang Mai**	**19.04**	**19**	*e*P		**P**	**10 47 30.4**	**-1.0**
CHTO				*e*S		**S**	**10 51 07.7**	**+1.3**
CHTO	**Chiang Mai**	**19.04**	**19**	P		**P**	**10 47 31.5**	**+0.1**
	SNR=1073								
CHTO	**Chiang Mai**	**19.04**	**19**	P		**P**	**10 47 31.5**	**+0.1**
	SNR=1073								
CHTO	**Chiang Mai**	**19.04**	**19**	*e*P		**P**	**10 47 30.4**	**-1.0**
CHTO				*e*S		**S**	**10 51 07.7**	**+1.3**
STKI	**Sintang**	**19.06**	**92**	P		**P**	**10 47 31.9**	**+0.2**
VIS	**Vishakhapatnam**	**19.08**	**333**	*e*P		**Pn**	**10 47 33.1**	**+0.5**
VIS				IAmb		IAmb	10 47 40.5		
	comp=Z,43μm,1.3s								
ADKI	**Addanki**	**19.38**	**321**	*e*P		**Pn**	**10 47 36.7**	**+0.4**
CHLP	**Challavanipeta**	**19.45**	**335**	*e*P		**Pn**	**10 47 36.7**	**-0.4**
PVM	**Polavaram**	**19.53**	**328**	*e*P		**Pn**	**10 47 38.4**	**+0.3**
PBKI	**Pangkalan Bun**	**19.54**	**100**	P		**P**	**10 47 36.2**	**-0.7**
SMRI	**Semarang**	**19.58**	**114**	P		**Pn**	**10 47 39.0**	**+0.3**
SMRI	**Semarang**	**19.58**	**114**	*e*P		**Pn**	**10 47 38.4**	**-0.4**
	comp=Z,23μm,1.1s								
SMRI				*e*S		S	10 51 01.7	-16	
SBUM	**Sibu**	**19.85**	**85**	*e*P		**P**	**10 47 41.1**	**+0.8**
	comp=Z,18μm,1.4s								
SBUM	**Sibu**	**19.85**	**85**			**Pn**	**10 47 42.0**	**0.0**
UGM	**Wanagama**	**20.00**	**116**		P	**Pn**	**10 47 43.7**	**0.0**
UGM	**Wanagama**	**20.00**	**116**	*e*P		**P**	**10 47 41.6**	**-0.4**
	comp=Z,80μm,2.0s								
SRLM	**Srisailam**	**20.26**	**319**	*e*P		**P**	**10 47 45.5**	**+0.8**
WOJI	**Wonogiri, Jawa**	**20.33**	**115**		P	Pn	10 47 47.6	0.0	
NJS	**Nagarjunasagar**	**20.33**	**321**	*e*P		**P**	**10 47 46.4**	**+0.9**
URV	**Uravakonda**	**20.57**	**314**	*e*P		Pn	10 47 49.8	-0.6	
PCJI	**Pacitan**	**20.70**	**116**		P	Pn	10 47 51.0	-1.0	
MNCY	**Minicoy**	**20.71**	**292**	*e*P		**P**	**10 47 50.0**	**+0.3**
MNCY				IAmb		IAmb	10 47 59.5		
	comp=Z,10μm,1.2s								
BWJI	**Bawean**	**21.24**	**108**	P		**P**	**10 47 55.8**	**+0.4**
GRJI	**Gresik**	**21.41**	**111**	P		**P**	**10 47 57.4**	**+0.2**
HYB	**Hyderabad**	**21.45**	**321**	*i* P		**P**	**10 47 58.5**	**+0.9**
HYB				*e*			10 51 56.0		
HYB	**Hyderabad**	**21.45**	**321**	*e*P		**P**	**10 47 57.3**	**-0.3**
HYB				IAmb		IAmb	10 48 04.3		
	comp=Z,7μm,1.0s								
HYBB	**Hyderabad (bro**	**21.45**	**321**	*e*P		**P**	**10 47 58.2**	**+0.5**
I52GB	**DIEGO GARCIA I**	**21.48**	**248**	P		**P**	**10 47 59.2**	**+1.3**
	baz=105,slow=18,SNR=5.5								
DGAR	**Diego Garcia**	**21.52**	**247**	*e*P		**P**	**10 47 58.9**	**+0.6**
DGAR	**Diego Garcia**	**21.52**	**247**	P		**P**	**10 47 59.3**	**+0.9**
	SNR=261								
DGAR	**Diego Garcia**	**21.52**	**247**	*e*P		**P**	**10 47 59.4**	**+1.1**
H08S2	**Diego Garcia H**	**21.57**	**247**	P		P	10 48 12.1	+14	
	baz=48,slow=13,SNR=2609								
H08S3	**Diego Garcia H**	**21.57**	**247**	P		P	10 48 12.1	+13	
	baz=48,slow=13,SNR=2048								
H08S1	**Diego Garcia H**	**21.58**	**247**	P		P	10 48 12.1	+13	
	baz=48,slow=13,SNR=3651								
SAIH	**SAIHA**	**21.60**	**1**	*e*P		**P**	**10 48 00.3**	**+1.0**
RPR	**Rampur**	**22.12**	**325**	*e*P		**P**	**10 48 06.6**	**+1.9**
BELO	**BELONIA**	**22.37**	**358**	*e*P		**P**	**10 48 07.4**	**0.0**
H08N1	**Diego Carcia H**	**22.51**	**251**	P		P	10 48 25.1	+16	
	baz=79,slow=6.7								
H08N2	**Diego Garcia H**	**22.52**	**251**	P		P	10 48 25.1	+16	
	baz=79,slow=6.7								
MTKI	**Muara Teweh, K**	**22.53**	**94**	P		**P**	**10 48 10.5**	**+1.2**
H08N3	**Diego Garcia H**	**22.53**	**251**	P		P	10 48 25.1	+16	
	baz=79,slow=6.7								
SRSP	**Sriramsagar**	**22.73**	**323**	*e*P		**P**	**10 48 12.8**	**+1.5**
BLJI	**Banyuglugur**	**22.74**	**112**	P		**P**	**10 48 10.9**	**-0.5**
BBKI	**Banjar Baru**	**22.79**	**101**	P		**P**	**10 48 13.3**	**+1.3**
GMJI	**Gumukmas**	**22.79**	**114**	P		**P**	**10 48 08.6**	**-3.4**
KMMI	**Kalianget**	**22.85**	**110**	P		**P**	**10 48 11.5**	**-1.1**
AGT	**Agartala**	**23.01**	**357**	*e*P		**P**	**10 48 14.3**	**+0.2**
AGT				IAmb		IAmb	10 48 19.6		
	comp=Z,5μm,1.1s								
KLRI	**Killari**	**23.19**	**319**	*e*P		**P**	**10 48 16.7**	**+0.6**
GOA	**Goa**	**23.48**	**309**	*e*P		**P**	**10 48 20.7**	**+1.7**
JAGI	**Jajag, Banyuwa**	**23.52**	**113**	P		**P**	**10 48 20.1**	**+0.7**
JAGI	**Jajag, Banyuwa**	**23.52**	**113**	*e*P		**P**	**10 48 18.2**	**-1.2**
	comp=Z,12μm,1.5s								
JAGI				*e*S		**S**	**10 52 35.8**	**+3.5**
BOK	**Bokaro**	**23.75**	**345**	*e*P		**P**	**10 48 22.8**	**+1.3**
BOK				IAmb		IAmb	10 48 26.1		
	comp=Z,16μm,1.1s								
SILR	**SILCHAR**	**23.88**	**1**	*e*P		**P**	**10 48 22.3**	**-0.4**
KBKI	**Kotabaru**	**24.07**	**100**	P		**P**	**10 48 25.6**	**+1.0**
NGP	**Nagpur**	**24.10**	**328**	*e*P		**P**	**10 48 24.2**	**-0.6**
KKM	**Kota Kinabalu**	**24.31**	**77**	*e*P		**P**	**10 48 27.3**	**+0.3**
	comp=Z,18μm,1.2s								
KKM				*e*S		**S**	**10 52 52.1**	**+6.9**
KKM	**Kota Kinabalu**	**24.31**	**77**			**P**	**10 48 27.0**	**0.0**
SRBI	**Singaraja**	**24.36**	**112**	P		**P**	**10 48 24.7**	**-2.6**
BKB	**Balikpapan**	**24.55**	**95**	P		**P**	**10 48 31.7**	**+2.7**
IGBI	**Denpasar**	**24.56**	**113**	P		**P**	**10 48 25.3**	**-3.8**
DNP	**Denpasar**	**24.56**	**113**	P		**P**	**10 48 28.9**	**-0.3**
SHL	**Shillong**	**24.66**	**359**	*e*P		**P**	**10 48 28.8**	**-1.3**
SHL				*e*P		**P**	**10 48 30.0**	**-0.1**
TURI	**Tura**	**24.72**	**355**	*e*P		**P**	**10 48 30.6**	**+0.1**
SMKI	**Samarinda**	**24.81**	**93**	P		**P**	**10 48 33.6**	**+2.2**
KOHI	**KOHIMA**	**24.86**	**4**	*e*P		**P**	**10 48 31.6**	**-0.3**
QIZ	**Qiongzhong**	**24.92**	**42**	P		**P**	**10 48 32.7**	**+0.4**
QIZ				S		**S**	**10 52 55.8**	**+1.0**
QIZ				pmax		pmax			
	comp=Z,381μm,10.6s								
QIZ				LR		LR			
	comp=Z,11329μm,20.6s								
QIZ				LR		LR			
	comp=Z,3747μm,19.2s								
KDM	**Kudat**	**25.09**	**75**			**P**	**10 48 34.0**	**+0.1**
SGKI	**Sangatta, Kali**	**25.21**	**93**	P		**P**	**10 48 38.2**	**+3.2**
GUWA	**GUWAHATI**	**25.29**	**358**	*e*P		**P**	**10 48 35.7**	**+0.1**
GUWA				IAmb		IAmb	10 48 39.4		
	comp=Z,11μm,1.3s								
POO	**Poona**	**25.38**	**315**	*e*P		**P**	**10 48 37.3**	**+0.8**
POO				IAmb		IAmb	10 48 45.3		
	comp=Z,2μm,0.8s								
MOKO	**MOKOCHONG**	**25.48**	**4**	*e*P		**P**	**10 48 38.0**	**+0.4**
MOKO				IAmb		IAmb	10 48 44.7		
	comp=Z,13μm,0.9s								
TEZP	**TEZPUR**	**25.70**	**1**	*e*P		**P**	**10 48 39.8**	**+0.4**
JORH	**JORHAT**	**25.89**	**4**	*e*P		**P**	**10 48 42.1**	**+1.2**
KMI	**Kunming**	**26.18**	**22**	⇑P		**P**	**10 48 45.5**	**+1.5**
KMI				pP		pP	10 48 50.0	-0.5	
KMI				sP		sP	10 48 52.3	-0.9	
KMI				PP		**PnPn**	**10 49 27.9**	**+4.9**
KMI				S		**S**	**10 53 15.5**	**+0.4**
KMI				sS		pS	10 53 22.6	-0.1	
KMI				pmax		pmax			
	comp=Z,1μm,1.2s								
KMI				pmax		pmax			
	comp=Z,277μm,9.0s								
KMI				LR		LR			
	comp=Z,4790μm,16.0s								
KMI				LR		LR			
	comp=Z,7050μm,15.6s								
KMI				LR		LR			
	comp=Z,3060μm,20.7s								
ITAN	**ITANAGAR**	**26.26**	**3**	*e*P		**P**	**10 48 45.2**	**+0.9**
ODAN	**Odare**	**26.39**	**350**	*e*P		**P**	**10 48 45.9**	**+0.1**
MYLDM	**Lahad Datu**	**26.40**	**80**	*e*P		**P**	**10 48 45.4**	**-0.4**
	comp=Z,26μm,1.3s								
LKP	**Lekhapani**	**26.62**	**7**	*e*P		**P**	**10 48 47.5**	**-0.1**
RAMN	**Ramite**	**26.63**	**348**	*e*P		**P**	**10 48 48.4**	**+0.4**
RAMN				*e*S		S	10 54 03.0	+41	
ZIRO	**ZIRO**	**26.64**	**3**	*e*P		**P**	**10 48 48.7**	**+0.7**
DIBR	**DIBRUGARH**	**26.66**	**5**	*e*P		**P**	**10 48 46.6**	**-1.3**
GTK	**Tadong**	**26.66**	**352**	*e*P		**P**	**10 48 49.2**	**+1.1**
BHPL	**Bhopal**	**26.67**	**328**	*e*P		**P**	**10 48 48.5**	**+0.3**
PLAI	**Plampang**	**26.99**	**111**	P		**P**	**10 48 48.7**	**-2.5**
JIRN	**Jiri**	**27.40**	**348**	*e*P		**P**	**10 48 55.0**	**-0.1**
PCI	**Palu**	**27.46**	**93**	P		**P**	**10 48 56.9**	**+1.5**
	comp=Z,3μm,2.1s,comp=Z,158μm								
MPSI	**Mapaga**	**27.47**	**91**	P		**P**	**10 48 56.1**	**+0.6**
PKIN	**Phulchoki**	**27.50**	**346**	*e*P		**P**	**10 48 55.8**	**0.0**
DMN	**Daman**	**27.60**	**346**	*e*P		**P**	**10 48 57.0**	**+0.3**
PPR	**Puerto Princes**	**27.65**	**70⇓**	*e*P		**P**	**10 48 57.5**	**+0.5**
GUN	**Gumba**	**27.71**	**347**	*e*P		**P**	**10 48 57.7**	**-0.1**
GUN	**Gumba**	**27.71**	**347**	*e*P		**P**	**10 48 57.7**	**-0.1**
	comp=Z,61μm,1.3s								
KKN	**Kakani**	**27.73**	**346**	*e*P		**P**	**10 48 57.5**	**-0.4**
KAPI	**Kappang**	**27.89**	**102**	P		**P**	**10 48 58.4**	**-0.9**
	SNR=67								
KAPI	**Kappang**	**27.89**	**102**	P		**P**	**10 48 58.4**	**-0.9**
	SNR=67								
GKN	**Gorkha**	**28.09**	**345**	*e*P		**P**	**10 49 00.8**	**-0.2**
BNSI	**Bone**	**28.13**	**101**	P		**P**	**10 49 02.4**	**+1.1**
KOLN	**Koldanda**	**28.15**	**343**	*e*P		**P**	**10 49 00.8**	**-0.8**
	comp=Z,38μm,0.9s								
KOLN	**Koldanda**	**28.15**	**343**	*e*P		**P**	**10 49 01.1**	**-0.5**
PYUN	**Piuthan**	**28.64**	**342**	*e*P		**P**	**10 49 05.3**	**-0.7**
LSA	**Lhasa**	**28.80**	**358**	P		**P**	**10 49 08.4**	**+0.7**
LSA				S		**S**	**10 53 59.4**	**+2.7**
LSA				LR		LR			
	comp=Z,1080μm,25.2s								
LSA				LR		LR			
	comp=Z,1965μm,26.9s								
LSA				LR		LR			
	comp=Z,4477μm,23.6s								
LSA	**Lhasa**	**28.80**	**358**	*e*P		**P**	**10 49 08.3**	**+0.7**
	comp=Z,1μm,4.0s								
LSA				*e*S		S	10 54 27.8	+31	
LSA	**Lhasa**	**28.80**	**358**	P		**P**	**10 49 08.8**	**+1.1**
LSA	**Lhasa**	**28.80**	**358**	*e*P		**P**	**10 49 08.3**	**+0.7**
LSA				pmax		pmax			
	comp=Z,1μm,4.0s								
BSSI	**Bau Bau, Buton**	**28.84**	**104**	P		**P**	**10 49 06.3**	**-1.4**
GYA	**Guiyang**	**28.99**	**27**	⇑*i*P		**P**	**10 49 06.2**	**-2.8**
GYA				PP		**PnPn**	**10 50 05.8**	**+4.7**
GYA				PcP		**PcP**	**10 52 19.2**	**+1.7**
GYA				S		**S**	**10 54 01.3**	**+2.2**
GYA				ScP		**ScP**	**10 55 58.6**	**+0.6**
GYA				ScS		**ScS**	**10 59 50.8**	**-1.3**
GYA				pmax		pmax			
	comp=Z,2μm,1.2s								
GYA				LR		LR			
	comp=Z,2764μm,22.0s								
GYA				LR		LR			
	comp=Z,3342μm,18.0s								
GYA				LR		LR			
	comp=Z,5033μm,19.0s								
APSI	**Ampana**	**29.27**	**93**	P		**P**	**10 49 12.0**	**+0.5**
MRSI	**Marisa**	**29.51**	**90**	P		**P**	**10 49 10.3**	**-3.4**
MCO	**Taipa Grande**	**29.56**	**43**	P		**P**	**10 49 15.0**	**+1.0**
WSI	**Waingapu**	**29.62**	**111**	P		**P**	**10 49 13.4**	**-1.2**
	comp=Z,4μm,1.0s,comp=Z,137μm								
BUSP	**Coron**	**29.73**	**67**	*e*P		**P**	**10 49 14.9**	**-0.6**
BASI	**Baing, Sumba**	**30.06**	**112**	P		**P**	**10 49 18.6**	**+0.1**
GZH	**Guangzhou**	**30.08**	**41**	P		P	10 49 24.3	+5.7	
GZH				PP		**PP**	**10 50 30.3**	**+3.6**
GZH				S		S	10 54 33.0	+17	
GZH				SS		**SS**	**10 56 25.9**	**+1.2**
GZH				pmax		pmax			
	comp=Z,304μm,12.5s								
HKC	**Hong Kong Obse**	**30.10**	**43**	⇑P		**P**	**10 49 19.0**	**+0.2**
ZCP	**Zamboanga City**	**30.19**	**78⇑**	*e*P		**P**	**10 49 21.5**	**+1.8**
LUWI	**Luwuk**	**30.39**	**93**	P		**P**	**10 49 21.1**	**-0.4**
LUWI	**Luwuk**	**30.39**	**93**	*e*P		P	10 49 16.1	-5.4	
	comp=Z,10μm,1.0s								
LUWI				*e*S		**S**	**10 54 25.6**	**+4.3**
LUBP	**Lubang**	**30.40**	**64**	*e*P		**P**	**10 49 20.8**	**-0.7**
EDFI	**Ende, Flores**	**30.65**	**109**	P		**P**	**10 49 23.4**	**-0.5**
SJMP	**San Jose**	**30.73**	**67**	*e*P		**P**	**10 49 23.9**	**-0.5**
BBSI	**Bau Bau**	**30.74**	**102**	P		**P**	**10 49 24.9**	**+0.4**
IPIL	**Ipil**	**30.84**	**76**	*e*P		**P**	**10 49 25.1**	**-0.3**
SCZP	**Santa Cruz**	**30.94**	**60**	*e*P		**P**	**10 49 25.1**	**-1.2**
JAP	**San Jose, Anti**	**30.96**	**70⇓**	*e*P		**P**	**10 49 27.9**	**+1.4**
MMRI	**Maumere**	**31.14**	**108**	P		**P**	**10 49 29.0**	**+0.9**
MMRI	**Maumere**	**31.14**	**108**	*e*P		**P**	**10 49 24.3**	**-3.7**
	comp=Z,3μm,1.0s								
MMRI				*e*S		**S**	**10 54 30.4**	**-2.6**
TGY	**Tagaytay City**	**31.16**	**64**	P		**P**	**10 49 28.7**	**+0.5**
	comp=Z,2μm,0.8s,baz=297,slow=4.2,SNR=56								
TGY				LR		LR	11 03 23.9		
	comp=Z,1201μm,19.1s,baz=245,slow=39								
BOLP	**Bolinao**	**31.21**	**59**	*e*P		**P**	**10 49 28.5**	**-0.2**
NDI	**New Delhi**	**31.34**	**334**	*e*P		**P**	**10 49 29.0**	**-0.6**
BHJ	**Bhuj**	**31.44**	**317**	*e*P		**P**	**10 49 31.6**	**+1.0**
OTRP	**Odiongan**	**31.52**	**67**	*e*P		**P**	**10 49 30.4**	**-1.1**
KMSI	**Cibinong**	**31.55**	**90**	P		**P**	**10 49 34.9**	**+3.2**
PAGZ	**Pagadian**	**31.64**	**76**	*e*P		**P**	**10 49 31.8**	**-0.7**
LQP	**Lukban**	**31.70**	**64⇑**	*e*P		**P**	**10 49 33.7**	**+0.5**
BOAC	**Boac**	**31.74**	**65**	*e*P		**P**	**10 49 32.3**	**-0.9**
DCPH	**Dipolog City**	**31.76**	**75⇑**	*e*P		**P**	**10 49 35.3**	**+1.8**
SNPH	**Sibulan**	**31.82**	**73**	*e*P		**P**	**10 49 34.8**	**+0.7**
CD2	**Chengdu**	**31.85**	**19**	⇑*i*P		**P**	**10 49 33.0**	**-1.1**
CD2				pP		pP	10 49 38.3	-2.4	
CD2				S		**S**	**10 54 45.0**	**+1.3**
CD2				sS		sS	10 54 53.6	-0.9	
CD2				pmax		pmax			
	comp=Z,8μm,0.8s								
CD2				pmax		pmax			
	comp=Z,228μm,7.5s								
CD2				LR		LR			
	comp=Z,5888μm,14.4s								
CD2				LR		LR			
	comp=Z,2697μm,13.9s								
PCPH	**Palayan**	**31.88**	**61⇑**	*e*P		**P**	**10 49 33.0**	**-1.6**
RCP	**Roxas**	**31.95**	**69⇑**	*e*P		**P**	**10 49 35.9**	**+0.8**
CTBH	**Cotabato--PC H**	**32.36**	**78⇑**	*e*P		**P**	**10 49 39.2**	**+0.3**
BALP	**Baler**	**32.38**	**67**	*e*P		**P**	**10 49 37.7**	**-1.2**
DDI	**Dehra Dun**	**32.41**	**336**	*e*P		**P**	**10 49 40.0**	**+0.9**
DDI				IAmb		IAmb	10 49 43.0		
	comp=Z,4μm,0.8s								
GQP	**Guinayangan**	**32.44**	**65⇓**	*e*P		**P**	**10 49 38.8**	**-0.6**
AUQP	**San Andres**	**32.45**	**66**	*e*P		**P**	**10 49 39.7**	**+0.2**
ABRA	**Dolores**	**32.48**	**57**	*e*P		**P**	**10 49 39.7**	**-0.1**
LLP	**Lapu-Lapu**	**32.76**	**72⇑**	*e*P		**P**	**10 49 42.4**	**+0.2**
GSPH	**General Santos**	**32.88**	**80⇓**	*i*P		**P**	**10 49 46.4**	**+2.9**
BATI	**Baumata**	**32.94**	**110**	P		**P**	**10 49 41.6**	**-2.3**
	comp=Z,761nm,0.6s,baz=6.4,slow=2.8,SNR=36								
BATI	**Baumata**	**32.94**	**110**	P		**P**	**10 49 41.8**	**-2.1**
APYP	**Conner**	**33.02**	**57**	*e*P		**P**	**10 49 44.3**	**-0.2**
CAUP	**Cauayan**	**33.10**	**59**	*e*P		**P**	**10 49 44.4**	**-0.9**
KCP	**Kidapawan**	**33.15**	**78⇓**	*e*P		**P**	**10 49 46.3**	**+0.5**
SGSI	**Sangihe**	**33.20**	**84**	P		**P**	**10 49 45.2**	**-1.0**
BUKP	**Musuan**	**33.28**	**77**	*e*P		**P**	**10 49 47.4**	**+0.5**
SOEI	**Soe**	**33.37**	**109**	P		**P**	**10 49 45.7**	**-2.1**
SOEI	**Soe**	**33.37**	**109**	*e*P		P	10 49 41.8	-6.0	
	comp=Z,6μm,1.1s								
SMLA	**Simla**	**33.48**	**336**	*e*P		**P**	**10 49 48.7**	**+0.3**
SMLA				IAmb		IAmb	10 50 00.8		
	comp=Z,4μm,0.7s								
SMLA				IAMs_20		IAMs_20	11 45 46.0		
	comp=Z,360μm,26.6s								
ENH	**Enshi**	**33.52**	**27**	*e*P		**P**	**10 49 47.9**	**-0.9**
	comp=Z,42nm,0.6s								
OCLP	**Ormoc**	**33.56**	**71**	*e*P		**P**	**10 49 49.6**	**+0.3**
MSLP	**Maasin**	**33.56**	**73**	*e*P		**P**	**10 49 48.5**	**-0.8**
DAV	**Davao City (W)**	**33.64**	**78**	P		**P**	**10 49 51.1**	**+1.0**
	comp=Z,1μm,1.0s,baz=71,slow=1.3,SNR=72								
DAV				LR		LR	11 04 24.9		
	comp=Z,3089μm,21.4s,baz=259,slow=38								
DAV	**Davao City (W)**	**33.64**	**78**	⇑*i*P		**P**	**10 49 50.1**	**+0.1**
DAV	**Davao City (W)**	**33.64**	**78**	*e*P		**P**	**10 49 50.8**	**+0.8**
	comp=Z,38μm,1.5s								
DAV				*e*S		S	10 55 33.1	+21	
DAV	**Davao City (W)**	**33.64**	**78**	P		**P**	**10 49 51.0**	**+1.0**
	SNR=205								
DAV	**Davao City (W)**	**33.64**	**78**	P		**P**	**10 49 51.0**	**+1.0**
	SNR=205								
SANI	**Sanana**	**33.67**	**95**	P		**P**	**10 49 48.3**	**-2.0**
CNP	**Catarman**	**34.02**	**69**	*e*P		**P**	**10 49 53.3**	**0.0**
BUTP	**Butuan**	**34.03**	**75**	*e*P		**P**	**10 49 53.0**	**-0.4**
SCPH	**Surigao**	**34.08**	**74⇓**	*e*P		**P**	**10 49 54.5**	**+0.7**
MBWA	**Marble Bar**	**34.46**	**131**	*e*P		**P**	**10 49 58.6**	**+1.6**
	comp=Z,5μm,1.9s								
MBWA	**Marble Bar**	**34.46**	**131**	P		**P**	**10 49 57.4**	**+0.4**
	SNR=44								
MBWA	**Marble Bar**	**34.46**	**131**	P		**P**	**10 49 57.4**	**+0.4**
	SNR=44								
DHRM	**DHARAMSHALA**	**34.82**	**336**	*e*P		**P**	**10 49 58.9**	**-1.3**
DHRM				*e*P		**pP**	**10 49 59.4**	**-7.4**
DHRM				IAmb		IAmb	10 50 04.7		
	comp=Z,2μm,0.8s								
DHRM				IAMs_20		IAMs_20	11 47 36.3		
	comp=Z,286μm,12.2s								
NLAI	**Namlea**	**34.88**	**97**	P		**P**	**10 49 57.6**	**-3.2**
QZH	**Quanzhou**	**34.88**	**44⇑**	*i*P		**P**	**10 50 00.4**	**-0.2**
QZH				S		**S**	**10 55 33.3**	**+2.4**
QZH				pmax		pmax			
	comp=Z,940nm,1.5s								
QZH				pmax		pmax			
	comp=Z,171μm,8.1s								
QZH				LR		LR			
	comp=Z,5856μm,19.5s								
QZH				LR		LR			
	comp=Z,4101μm,20.7s								
QZH				LR		LR			
	comp=Z,2864μm,20.3s								
TNTI	**Ternate**	**34.94**	**90**	*e*P		**P**	**10 49 58.7**	**-2.6**
	comp=Z,10μm,1.5s								
LBMI	**Labuha**	**35.10**	**92**	P		**P**	**10 50 01.0**	**-1.7**
TPUB	**Ta-pu**	**35.37**	**49**	*e*P		**P**	**10 50 04.8**	**-0.1**
	comp=Z,5μm,1.7s								
TPUB				*e*S		S	10 55 25.9	-13	
TWG	**Pinlang**	**35.43**	**50**	*e*P		**P**	**10 50 06.3**	**+0.9**
	comp=Z,21μm,1.2s								
TWG				*e*S		S	10 55 26.0	-13	
SSLB	**Suanglung**	**35.89**	**48**	*e*P		P	10 50 03.8	-5.6	
	comp=Z,7μm,1.5s								
SSLB				*e*S		**S**	**10 55 42.9**	**-3.6**
YULB	**Yu-li**	**35.93**	**49**	*e*P		**P**	**10 50 09.5**	**-0.1**
	comp=Z,5μm,1.4s								
YULB				*e*S		**S**	**10 55 39.9**	**-7.1**
AAI	**Ambon**	**36.02**	**97**	P		**P**	**10 50 08.8**	**-1.8**
WHN	**Wuhan**	**36.20**	**33**	⇑P		**P**	**10 50 11.8**	**0.0**
WHN				sP		**sP**	**10 50 24.3**	**+3.2**
WHN				S		**S**	**10 55 52.5**	**+1.6**
WHN				sS		**sS**	**10 56 04.6**	**+2.8**
WHN				LR		LR			
	comp=Z,10807μm,18.0s								
XAN	**Xi'an**	**36.53**	**23**	P		**P**	**10 50 13.2**	**-1.5**
XAN				pP		pP	10 50 20.3	-1.0	
XAN				sP		sP	10 50 22.2	-1.8	
XAN				S		**S**	**10 55 57.4**	**+1.4**
XAN				sS		sS	10 56 07.1	+0.2	
XAN				PcS		**PcS**	**10 56 21.0**	**-5.1**
XAN				pmax		pmax			
	comp=Z,82μm,6.5s								
XAN				LR		LR			
	comp=Z,5955μm,20.6s								
XAN				LR		LR			
	comp=Z,3122μm,20.6s								
NACB	**Ninganchiao**	**36.59**	**48**	*e*P		**P**	**10 50 15.3**	**0.0**
	comp=Z,9μm,1.6s								
NACB				*e*S		**S**	**10 55 57.1**	**0.0**
LZH	**Lanzhou**	**36.71**	**16**	⇑P		**P**	**10 50 15.6**	**-0.7**
LZH				pP		pP	10 50 20.5	-2.4	
LZH				sP		sP	10 50 23.4	-2.2	
LZH				PP		**PP**	**10 51 42.0**	**+1.9**
LZH				S		**S**	**10 55 58.2**	**-0.7**
LZH				sS		pS	10 56 07.8	+1.2	
LZH				SS		**SnSn**	**10

baz=41,SNR=39
NWAO P **P** **10 50 51.7 +0.6**
baz=41,SNR=39
NWAO Narrogin (SRO) 40.87 147 *e*P **P** **10 50 50.8 -0.3**
comp=Z,5μm,1.5s
NWAO *e*S **S** **10 56 59.3 -2.2**
NWAO Narrogin (SRO) 40.87 147 P **P** **10 50 51.2 0.0**
SNR=42
NWAO Narrogin (SRO) 40.87 147 P **P** **10 50 51.2 0.0**
SNR=42
NWAO Narrogin (SRO) 40.87 147 *e*P **P** **10 50 50.8 -0.3**
NWAO *e*S **S** **10 56 59.3 -2.2**
NWAO pmax pmax
comp=Z,5μm,1.5s
H01W2 Cape Leeuwin H 40.88 152 T T 11 35 55.2
baz=332,slow=76,SNR=11
H01W1 Cape Leeuwin H 40.89 152 T T 11 35 36.3
baz=332,slow=76,SNR=8.6
HOQ Hoqain 40.91 306 pP **P** **10 50 56.0 +4.3**
SNR=179
HOQ Hoqain 40.91 306 P **P** **10 50 56.0 +4.3**
SNR=179
RBK Rabkut 41.10 296 pP P 10 50 59.0 +5.7
SNR=75
TIY Taiyuan 41.13 24 *e*P **P** **10 50 55.1 +1.9**
TIY S **S** **10 57 06.2 +0.9**
TIY SS **SS** **11 00 02.1 -6.4**
TIY pmax pmax
comp=Z,102μm,7.2s
TIY LR LR
comp=Z,1135μm,13.3s
TIY LR LR
comp=Z,2168μm,16.5s
KSH Kashi 41.39 341 P **P** **10 50 53.3 -2.1**
KSH sP pP 10 51 00.7 -1.4
KSH PP **PnPn** **10 52 35.4 -0.6**
KSH S **S** **10 57 02.6 -6.7**
KSH pmax pmax
comp=Z,16μm,1.7s
KSH pmax pmax
comp=Z,216μm,7.3s
KSH LR LR
comp=Z,1620μm,18.2s
KSH LR LR
comp=Z,2554μm,17.1s
ARQ Araqi 41.44 305 pP **P** **10 50 60.0 +4.0**
SNR=51
ARQ Araqi 41.44 305 P **P** **10 50 60.0 +4.0**
SNR=51
KMPI Kaimana, Papua 41.49 96 P **P** **10 50 58.4 +1.9**
WHFO Wadi Hawf 41.63 296 P **P** **10 50 59.0 +1.4**
SNR=124
WHFO Wadi Hawf 41.63 296 P **P** **10 50 59.0 +1.4**
SNR=124
SOHO SOHO 41.80 307 *i* P **P** **10 51 00.0 +1.1**
SNR=132
RKPI Ransiki, Papua 41.81 93 P **P** **10 51 02.2 +3.1**
RER Riviere de l'E 41.95 237 *e*P **P** **10 51 00.4 +0.2**
comp=Z,8μm,1.0s
RKGY Rocky Gully 42.04 149 P **P** **10 51 02.1 +1.4**
baz=42,SNR=28
TIA Tai'an 42.05 30 P **P** **10 50 59.7 -1.1**
TIA PP **PP** **10 52 40.6 +2.2**
TIA PcP **PcP** **10 52 50.8 -4.7**
TIA pmax pmax
comp=Z,41μm,8.6s
TIA LR LR
comp=Z,2364μm,20.4s
TIA LR LR
comp=Z,2827μm,21.0s
ALNE Al Ain 42.40 306 *i* P **P** **10 51 04.7 +0.9**
SNR=218
PALU Palau 42.42 80 P **P** **10 51 01.9 -2.2**
baz=42,SNR=37
ASHO Ashiyiah 42.44 307 pP **P** **10 51 06.7 +2.5**
SNR=180
ASHO Ashiyiah 42.44 307 P **P** **10 51 06.7 +2.5**
SNR=180
ASHO Ashiyiah 42.44 307 *i* P **P** **10 51 05.2 +1.0**
SNR=101
KMBL Kambalda 42.45 141 P **P** **10 51 04.3 +0.2**
baz=43,SNR=98
HATD Hatta, Dubai 42.45 307 pP **P** **10 51 07.0 +2.7**
SNR=178
HATD Hatta, Dubai 42.45 307 P **P** **10 51 07.0 +2.7**
SNR=178
HATD Hatta, Dubai 42.45 307 *i* P **P** **10 51 06.0 +1.7**
SNR=62
UOSS Minazif 42.45 307 *e*P **P** **10 51 04.8 +0.6**
comp=Z,1μm,1.1s
UOSS Minazif 42.45 307 *i* P **P** **10 51 05.9 +1.7**
SNR=42
I39PW PALAU INFRASON 42.52 80 P **P** **10 51 09.0 +4.1**
baz=273,slow=13,SNR=1.5
MDH Madha 42.55 308 *i* P **P** **10 51 05.5 +0.5**
SNR=56
MSFE Esma-Masafi 42.69 308 *i* P **P** **10 51 07.7 +1.6**
SNR=102
SFK Sufi-Kurgan 42.70 338 *i* P **P** **10 51 07.4 +1.2**
SFK pmax pmax
comp=Z,6μm,1.2s
BTO Baotou 42.75 20 *e*P **P** **10 51 05.7 -0.8**
BANOM Banah 42.85 309 pP **P** **10 51 10.7 +3.2**
SNR=60
BANOM Banah 42.85 309 P **P** **10 51 10.7 +3.2**
SNR=60
BANOM Banah 42.85 309 *i* P **P** **10 51 09.2 +1.7**
SNR=54
NAZ Nazwa, Dubai 42.91 307 pP **P** **10 51 10.1 +2.3**
SNR=126
NAZ Nazwa, Dubai 42.91 307 P **P** **10 51 10.1 +2.3**
SNR=126
NAZ Nazwa, Dubai 42.91 307 *i* P **P** **10 51 09.0 +1.1**
SNR=145
SHME Shamm 43.04 309 *i* P **P** **10 51 09.2 +0.2**
SNR=112
WMQ Urumqi 43.07 355 P **P** **10 51 09.3 +0.3**
WMQ pP sP 10 51 19.0 +0.6
WMQ PcP **PcP** **10 53 00.4 +1.6**
WMQ S **S** **10 57 35.3 +1.4**
WMQ SS **SS** **11 00 41.1 -5.6**
WMQ ScS **ScS** **11 01 07.7 -0.8**
WMQ pmax pmax
comp=Z,4μm,1.7s
WMQ pmax pmax
comp=Z,82μm,3.8s
WMQ LR LR
comp=Z,797μm,22.9s
WMQ LR LR
comp=Z,878μm,21.5s
WMQ LR LR
comp=Z,840μm,27.1s
JOW Kunigami 43.10 50 P **P** **10 51 09.2 -0.2**
comp=Z,294nm,1.0s,baz=260,slow=5.6,SNR=25
JOW LR LR 11 10 26.5
comp=Z,2303μm,19.5s,baz=230,slow=38
JOW Kunigami 43.10 50 *e*P **P** **10 51 09.3 -0.1**
comp=Z,3μm,1.2s
JOW *e*S **S** **10 57 39.3 +4.8**
UMQ Umm Al-Quwin 43.16 308 *i* P **P** **10 51 11.2 +1.3**
SNR=69
WRKA Warakurna 43.16 129 P **P** **10 51 09.5 -0.5**
baz=43,SNR=100
AJN Ajban 43.25 306 *i* P **P** **10 51 12.1 +1.5**
SNR=159
HHC Hu-ho-hao-te 43.51 21 *e*P **P** **10 51 12.5 -0.1**
HHC pP sP 10 51 22.5 +0.5
HHC sP pP 10 51 25.9 +6.6
HHC S **S** **10 57 39.3 -1.1**
HHC ScS **ScS** **11 01 05.1 -6.4**
HHC pmax pmax
comp=Z,43μm,6.3s
HHC LR LR
comp=Z,2360μm,15.4s
HHC LR LR
comp=Z,2522μm,15.5s
HHC LR LR
comp=Z,2453μm,14.8s
DZET Dzherino 43.60 333 P **P** **10 51 12.0 -1.4**
DZET pmax pmax
comp=Z,931nm,0.9s
ULHL Ulahol 43.79 343 P **P** **10 51 14.1 -0.9**
SNR=244
UZB Uzynbulak 43.87 346 *e*P **P** **10 51 15.2 -0.3**
comp=Z,10μm,1.4s
UZB *i* sP **pP** **10 51 21.1 -1.1**
UZB *i* PP **PP** **10 52 57.3 -0.6**
UZB *i* S **S** **10 57 46.1 +0.4**
UZB *e*SS **SS** **11 01 04.0 +1.6**
UZB LR LR 11 10 05.0
comp=Z,583μm,17.2s
PDGK Podgornoye 43.93 346 P **P** **10 51 15.9 -0.1**
PDGK pmax pmax
comp=Z,5μm,1.2s
KZA Kyzart 43.94 342 P **P** **10 51 15.8 -0.6**
SNR=458
SATY Saty 43.94 345 *i* P **P** **10 51 15.9 -0.2**
comp=Z,26μm,1.5s
SATY *e*S **S** **10 57 47.4 +0.7**
SATY LR LR 11 10 02.0
comp=Z,1163μm,20.2s
KPKS Kokpek 44.25 346 *e*P **P** **10 51 17.9 -0.6**
comp=Z,13μm,0.9s
KPKS *i* S **S** **10 57 51.2 0.0**
KPKS *e*SS **SS** **11 01 10.6 +0.7**
KPKS LR LR 11 10 09.8
comp=Z,1601μm,17.8s
UCH Uchtor 44.31 341 P **P** **10 51 19.4 -0.1**
SNR=38
MDOK Medeo 44.40 344 *e*P **P** **10 51 19.7 -0.1**
comp=Z,20μm,1.7s
MDOK *i* S **S** **10 57 54.5 +1.1**
MDOK *i* SS **SS** **11 01 14.5 +1.6**
MDOK LR LR 11 09 42.5
comp=Z,889μm,17.8s
AAA Alma-Ata 44.48 344 *e*P **P** **10 51 20.1 -0.2**
comp=Z,6μm,0.8s
AAA *e*S **S** **10 57 55.1 +0.7**
AAA *e*SS **SS** **11 01 15.4 +1.1**
AAA LR LR 11 09 50.8
comp=Z,361μm,16.6s
AAA Alma-Ata 44.48 344 *e*P **P** **10 51 22.3 +2.0**
AAA *e*S **S** **10 57 53.3 -1.1**
AAA pmax pmax
comp=Z,101μm,7.4s
AML Almayashu 44.50 340 P **P** **10 51 21.0 +0.1**
SNR=52
KBK Karagaybulak 44.56 342 P **P** **10 51 22.4 +1.2**
SNR=488
TKM2 Tokmak 2 44.60 342 P **P** **10 51 20.5 -1.0**
SNR=596
TKM2 Tokmak 2 44.60 342 P **P** **10 51 21.2 -0.3**
TKM2 pmax pmax
comp=Z,4μm,1.2s
BJT Baijiatuau 44.65 26 *e*P **P** **10 51 22.5 +0.9**
comp=Z,6μm,1.0s
BJT *e*S S 10 58 06.8 +10
BJT Baijiatuau 44.65 26 *e*P **P** **10 51 22.5 +0.9**
BJT *e*S S 10 58 06.8 +10
BJT pmax pmax
comp=Z,6μm,1.0s
BJI Beijing 44.67 26 ⇑*i*P **P** **10 51 22.2 +0.4**
BJI S **S** **10 57 56.4 -0.7**
BJI pmax pmax
comp=Z,3μm,1.3s
AAK Ala-Archa 44.69 341 P **P** **10 51 21.3 -0.8**
comp=Z,209nm,0.7s,baz=152,slow=5.9,SNR=120
AAK Ala-Archa 44.69 341 P **P** **10 51 21.8 -0.3**
SNR=364
AAK Ala-Archa 44.69 341 P **P** **10 51 22.4 +0.3**
SNR=1108
AAK Ala-Archa 44.69 341 P **P** **10 51 22.4 +0.3**
SNR=1108
AAK Ala-Archa 44.69 341 *i* P **P** **10 51 22.4 +0.3**
SNR=458
AAK Ala-Archa 44.69 341 P **P** **10 51 22.2 +0.1**
AAK pmax pmax
comp=Z,1μm,1.5s
BMNS Besmoynak 44.74 343 *i* P **P** **10 51 21.9 -0.7**
comp=Z,19μm,0.9s
BMNS *i* S **S** **10 57 58.7 +0.2**
BMNS LR LR 11 10 34.1
comp=Z,1084μm,16.6s
FRU Bishkek 44.82 341 ⇑*e*P **P** **10 51 24.0 +0.9**
CHMS Chumysh 44.93 342 P **P** **10 51 23.7 -0.2**
SNR=110
EKS2 Erkin-Say 44.94 340 P **P** **10 51 24.4 +0.3**
SNR=35
MNAS Manas 45.23 339 P **P** **10 51 26.5 +0.1**
MNAS pmax pmax
comp=Z,2μm,1.5s
USP Ospenovka 45.25 342 P **P** **10 51 26.2 -0.3**
SNR=35
KUU Kurty 45.27 344 *i* P **P** **10 51 25.8 -0.8**
comp=Z,10μm,1.0s
KUU *e*S **S** **10 58 05.8 +0.1**
KUU LR LR 11 11 06.8
comp=Z,445μm,17.2s
TAS Tashkent 45.48 335 P **P** **10 51 27.3 -0.9**
IUG Iuzhnay 45.86 337 *i* P **P** **10 51 30.9 -0.5**
comp=Z,14μm,1.7s
IUG *i* sP **pP** **10 51 37.5 -0.6**
IUG LR LR 11 11 18.1
comp=Z,445μm,16.6s
WRA Warramunga Arr 45.93 119 P **P** **10 51 31.2 -1.0**
comp=Z,881nm,1.1s,baz=297,slow=8.5,SNR=203
WRA LR LR 11 09 04.8
comp=Z,652μm,21.0s,baz=300,slow=34
WRA P3KP 11 22 16.0
comp=Z,3.6nm,1.1s,baz=121,slow=3.0,SNR=2.5
WRAB Tennant Creek 45.94 119 *e*P **P** **10 51 31.4 -0.8**
comp=Z,23nm,0.6s
WRAB *e*S **S** **10 58 13.6 -2.5**
WRAB Tennant Creek 45.94 119 *e*P **P** **10 51 31.4 -0.8**
WRAB *e*S **S** **10 58 13.6 -2.5**
WB2 Warramunga Arr 45.94 119 *e*P **P** **10 51 31.3 -0.9**
DZA Taraz 46.00 338 *e*P **P** **10 51 31.4 -1.0**
comp=Z,7μm,0.8s
DZA LR LR 11 11 10.9
comp=Z,881μm,17.2s
FORT Forrest 46.16 136 P **P** **10 51 34.0 +0.2**
baz=46,SNR=90
FORT Forrest 46.16 136 *e*P **P** **10 51 32.8 -1.0**
FORT *e*S **S** **10 58 19.2 +0.3**
DL2 Dalian 46.42 32 ⇑*i*P **P** **10 51 35.5 -0.2**
DL2 S **S** **10 58 23.6 +1.2**
DL2 pmax pmax
comp=Z,3μm,1.0s
DL2 pmax pmax
comp=Z,142μm,5.0s
DL2 LR LR
comp=Z,2418μm,22.0s
DL2 LR LR
comp=Z,3924μm,22.1s
DL2 LR LR
comp=Z,1930μm,20.1s
KK31 Karatay Array 46.49 338 P **P** **10 51 35.7 -0.5**
KK31 pmax pmax
comp=Z,2μm,1.1s
KKAR Karatay Array 46.49 338 *e*P **P** **10 51 35.5 -0.7**
comp=Z,10nm,0.5s
KKAR Karatay Array 46.49 338 *e*P **P** **10 51 35.5 -0.7**
MK01 Makanchi Array 46.66 350 *e*P **P** **10 51 36.0 -1.6**
BRLS Boroldaу 46.69 337 *e*P **P** **10 51 36.5 -1.3**
BRLS *e*S **S** **10 58 25.2 -1.0**
BRLS *e*SS **SS** **11 01 52.5 -0.3**
BRLS LR LR 11 11 43.6
comp=Z,57μm,16.0s
MK31 Makanchi Array 46.69 350 *e*P **P** **10 51 36.6 -1.1**
MK31 Makanchi Array 46.69 350 *e*P **P** **10 51 36.6 -1.1**
MKAR Makanchi Array 46.69 350 P **P** **10 51 36.3 -1.4**
comp=Z,592nm,0.6s,baz=166,slow=6.6,SNR=329
MKAR LR LR 11 15 34.9
comp=Z,1192μm,18.3s,baz=154,slow=42
MKAR PKPPKP P'P'df 11 22 34.8 -25
comp=Z,3.7nm,0.8s,baz=292,slow=0.7,SNR=4.2
MKAR Makanchi Array 46.69 350 *e*P **P** **10 51 36.6 -1.1**
MAKZ Makanchi 46.76 350 *e*P **P** **10 51 37.1 -1.2**
MAKZ Makanchi 46.76 350 P **P** **10 51 37.9 -0.3**
ZSN Zaisan 46.96 353 *i* P **P** **10 51 40.2 +0.3**
comp=Z,5μm,1.5s
ZSN *i* sP **pP** **10 51 46.8 +0.3**
ZSN *i* PP **PP** **10 53 30.8 +0.3**
ZSN *i* S **S** **10 58 31.5 +1.5**
ZSN LR LR 11 13 29.9
comp=Z,279μm,18.4s
BTLS Baital 46.99 342 *e*P **P** **10 51 38.9 -1.2**
comp=Z,7μm,0.9s
BTLS *e*S **S** **10 58 30.3 -0.1**
BTLS *e*SS **SS** **11 01 58.9 +1.4**
BTLS LR LR 11 11 48.3
comp=Z,647μm,17.8s
AS31 Alice Springs 47.03 124 *e*P **P** **10 51 39.9 -0.9**
comp=Z,388nm,1.0s
ASAR Alice Springs 47.03 124 P **P** **10 51 39.9 -0.9**
comp=Z,117nm,1.2s,baz=296,slow=7.6,SNR=5.2
ASAR LR LR 11 11 27.0
comp=Z,1000μm,19.7s,baz=304,slow=36
ASAR P3KPbc 11 20 20.2
comp=Z,1.9nm,0.9s,baz=114,slow=3.5,SNR=4.6
ASAR P3KP 11 22 02.8
comp=Z,2.0nm,0.8s,baz=142,slow=1.0,SNR=3.0
AS01 Alice Springs 47.07 124 *e*P **P** **10 51 38.2 -2.9**
TJN Taejon 47.98 38 *ce*P **P** **10 51 46.8 -1.1**
BDHA Al Bayda' 48.17 288 *e*P **P** **10 51 50.5 +0.5**
INCN Inchon 48.25 37 *e*P P 10 51 44.1 -5.9
comp=Z,9μm,1.9s
INCN *e*S **S** **10 58 49.0 +0.4**
INCN Inchon 48.25 37 P **P** **10 51 50.1 +0.1**
SNR=56
INCN Inchon 48.25 37 P **P** **10 51 50.1 +0.1**
SNR=56
JNU Nakatsue 48.37 44 P **P** **10 51 50.1 -0.9**
comp=Z,538nm,1.2s,baz=231,slow=4.7,SNR=37
JNU LR LR 11 15 11.7
comp=Z,1774μm,19.1s,baz=245,slow=40
JNU Nakatsue 48.37 44 *e*P P 10 51 46.1 -4.9
comp=Z,7μm,1.7s
JNU *e*S **S** **10 58 58.4 +8.0**
JAY Jayapura 48.37 94 P **P** **10 51 49.1 -2.3**
OPO Ambohidratompo 48.42 244 P **P** **10 51 51.8 -0.1**
comp=Z,394nm,0.8s,baz=58,slow=6.4,SNR=104
OPO LR LR 11 07 07.4
comp=Z,1454μm,21.8s,baz=61,slow=30
SONM Songino Array 48.42 13 P **P** **10 51 50.7 -0.6**
comp=Z,2μm,1.1s,baz=192,slow=9.3,SNR=164
SONM LR LR 11 14 12.3
comp=Z,1437μm,19.8s,baz=197,slow=39
SONA1 Songino Array 48.44 13 *e*P **P** **10 51 50.1 -1.3**
ASHT Ashkhabad 48.45 324 P **P** **10 51 53.1 +1.5**
ASHT pmax pmax
comp=Z,2μm,1.1s
ABPO Ambohimpanom 48.53 244 *e*P P 10 51 44.6 -8.1
comp=Z,8μm,1.7s
ABPO Ambohimpanom 48.53 244 *e*P P 10 51 44.6 -8.0
ABPO pmax pmax
comp=Z,8μm,1.7s
GYB1 ALIBECK ARRAY 48.59 324 *e*P **P** **10 51 52.5 -0.2**
ULN Ulaanbaatar 48.60 13 *e*P **P** **10 51 52.1 -0.7**
comp=Z,5μm,1.5s
ULN *e*S S 10 59 03.9 +10
ULN Ulaanbaatar 48.60 13 P **P** **10 51 52.0 -0.7**
SNR=841
ULN Ulaanbaatar 48.60 13 P **P** **10 51 52.0 -0.7**
SNR=841
ULN Ulaanbaatar 48.60 13 *ce*P **P** **10 51 51.7 -1.0**
ULN pmax pmax
comp=Z,941nm,1.2s
ULN MLR MLR
comp=Z,2306μm,18.0s
GYA1 ALIBECK ARRAY 48.60 324 *e*P **P** **10 51 52.6 -0.1**
GYB2 ALIBECK ARRAY 48.60 324 *e*P **P** **10 51 53.1 +0.4**
GYB5 ALIBECK ARRAY 48.60 324 *e*P **P** **10 51 52.6 -0.1**
GEYT Alibeck 48.60 324 P **P** **10 51 52.6 -0.1**
comp=Z,728nm,0.9s,baz=149,slow=6.9,SNR=146
GEYT PKPPKP **P'P'df** **11 22 58.9 +0.6**
comp=Z,5.2nm,0.8s,baz=260,slow=7.2,SNR=4.6
GYA0 ALIBECK ARRAY 48.60 324 *e*P **P** **10 51 52.6 -0.1**
GYA0B ALIBECK ARRAY 48.60 324 *e*P **P** **10 51 52.7 -0.1**
GYA2 ALIBECK ARRAY 48.61 324 *e*P **P** **10 51 52.6 -0.1**
GYB3 ALIBECK ARRAY 48.62 324 *e*P **P** **10 51 52.8 -0.1**
GYB4 ALIBECK ARRAY 48.62 324 *e*P **P** **10 51 52.7 -0.2**
DGZ Jazzator, Alta 48.94 356 *e*P **P** **10 51 54.3 -1.0**
KS15 Wonju Array Si 48.98 38 *e*P **P** **10 51 55.5 -0.1**
KSAR Wonju Array Be 48.98 38 P **P** **10 51 55.3 -0.3**
KSAR P'P' 11 22 45.8
KSAR Wonju Array Be 48.98 38 P **P** **10 51 55.3 -0.3**
KS01 Wonju Array Si 49.01 38 *e*P **P** **10 51 54.2 -1.6**
KSRS Korea Array 49.01 38 P **P** **10 51 55.3 -0.5**
comp=Z,443nm,1.1s,baz=233,slow=6.7,SNR=99
KSRS LR LR 11 15 26.9
comp=Z,1925μm,18.6s,baz=238,slow=40
KSRS PKPPKP P'P'df 11 22 45.8 -12
comp=Z,8.0nm,1.1s,baz=54,slow=1.2,SNR=4.5
KSRS Korea Array 49.01 38 P **P** **10 51 55.3 -0.5**
KSRS pmax pmax
comp=Z,438nm,1.1s
KSRS MLR MLR
comp=Z,925μm,18.6s
DAMY Dhamar 49.41 289 *e*P **P** **10 52 00.5 +0.9**
comp=Z,12μm,1.8s
SNY Shenyang 49.58 31 ⇑P **P** **10 51 58.8 -1.3**
SNY S **S** **10 59 13.5 +6.4**
SNY pmax pmax
comp=Z,1μm,1.5s
SNY pmax pmax
comp=Z,156μm,12.0s
SNY LR LR
comp=Z,3045μm,18.0s
SNY LR LR
comp=Z,2138μm,19.2s
SNY LR LR
comp=Z,2751μm,20.0s
UDYN Al 'Udayn 49.69 288 *e*P **P** **10 52 02.3 +0.7**
HVS Khovu-Aksy 50.20 1 *e*P **P** **10 52 04.3 -0.5**
HVS pmax pmax
comp=Z,5μm,1.2s
HVS MLR MLR
comp=Z,4995μm,20.0s
ZAK Zakamensk 50.29 9 *e*P **P** **10 52 05.1 -0.4**
ZAK pmax pmax
comp=Z,2μm,1.6s
ATD Arta Tunnel 50.35 284 P **P** **10 52 07.0 +0.5**
comp=Z,339nm,1.0s,baz=77,slow=4.6,SNR=35
ATD LR LR 11 10 40.0
comp=Z,853μm,18.7s,baz=96,slow=33
ATD Arta Tunnel 50.35 284 P **P** **10 52 07.0 +0.5**
OTUK Ortayu 50.39 343 P **P** **10 52 05.4 -0.8**
OTUK pmax pmax
comp=Z,4μm,1.2s
SEM Semipalatinsk 50.53 350 *i* P **P** **10 52 06.6 -0.9**
comp=Z,10μm,1.6s
SEM *i* S **S** **10 59 20.4 -0.2**
SEM LR LR 11 14 37.0
comp=Z,820μm,19.6s
QIS Mount Isa 50.78 117 P **P** **10 52 08.6 -1.1**
baz=51,SNR=80
RAYN Ar Rayn 50.80 300 *e*P **P** **10 52 09.2 -0.5**
KURBB Kurtatov Arra 51.06 349 P **P** **10 52 09.9 -1.2**
comp=Z,387nm,0.7s,baz=172,slow=7.2,SNR=185
KURBB PKPPKP P'P'df 11 22 29.8 -24
comp=Z,4.5nm,0.9s,baz=277,slow=2.9,SNR=5.0
KURK Kurchatov 51.13 349 *e*P **P** **10 52 10.1 -1.6**
KURK P'P' 11 22 29.8
KURK Kurchatov 51.13 349 P **P** **10 52 09.5 -2.1**
SNR=1427
KURK Kurchatov 51.13 349 P **P** **10 52 09.5 -2.1**
SNR=1427
KURK Kurchatov 51.13 349 *ce*P **P** **10 52 10.0 -1.6**
KURK pmax pmax
comp=Z,8μm,1.7s
KURK MLR MLR
comp=Z,2548μm,21.0s
MOY Mondy 51.23 7 *e*P **P** **10 52 12.4 -0.2**
MOY pmax pmax
comp=Z,7μm,3.3s
TLY Talaya 51.60 9 *e*P **P** **10 52 15.6 +0.3**
comp=Z,7μm,1.8s
TLY *e*S S 10 59 46.5 +12
TLY Talaya 51.60 9 P **P** **10 52 15.6 +0.3**
SNR=542
TLY Talaya 51.60 9 P **P** **10 52 15.6 +0.3**
SNR=542
TLY Talaya 51.60 9 *e*P **P** **10 52 17.6 +2.3**
TLY *e*S **S** **10 59 32.9 -2.1**
TLY pmax pmax
comp=Z,1μm,1.2s
TLY MLR MLR
comp=Z,971μm,17.0s
BRZS Berezniki 51.85 344 *i* P **P** **10 52 16.4 -0.7**
comp=Z,643nm,1.7s
BRZS *i* S **S** **10 59 38.7 +0.2**
BRZS LR LR 11 15 00.7
comp=Z,19μm,14.8s
CN2 Changchun 51.96 30 *e*P **P** **10 52 16.6 -1.4**
CN2 *e*sP pP 10 52 23.9 -0.9
CN2 *e*S **S** **10 59 45.0 +4.9**
CN2 LR LR
comp=Z,2785μm,23.0s

CN2 LR LR
comp=Z,1780µm,23.0s
CN2 LR LR
comp=Z,1016µm,24.0s
IRK Irkutsk 52.25 9 *e*P **P 10 52 20.5 +0.5**
IRK *e*S **S 10 59 48.1 +4.3**
IRK pmax pmax
comp=Z,5µm,2.9s
COEN Coen 52.33 108 P **P 10 52 19.8 -1.5**
baz=52,SNR=22
COEN Coen 52.33 108 *e*P **P 10 52 19.9 -1.5**
BBOO Buckleboo 52.97 133 P **P 10 52 24.7 -1.0**
baz=53,SNR=46
BBOO Buckleboo 52.97 133 *e*P **P 10 52 24.5 -1.2**
ZALV Zalesovo Beam 53.38 354 P **P 10 52 26.6 -1.7**
comp=Z,581nm,0.6s,baz=185,slow=8.8,SNR=243
ZALV LR LR 11 16 38.0
comp=Z,1181µm,21.9s,baz=80,slow=38
ZALV PKPPKP P'P'df 11 22 33.5 -17
comp=Z,12nm,1.0s,baz=265,slow=3.0,SNR=3.0
GUMO Guam 53.43 74 P **P 10 52 28.4 -1.0**
comp=Z,386nm,1.0s,baz=246,slow=4.3,SNR=12
GUMO LR LR 11 14 42.5
comp=Z,590µm,21.5s,baz=238,slow=36
GUMO Guam 53.43 74 *e*P **P 10 52 28.7 -0.7**
GUMO Guam 53.43 74 *e*P **P 10 52 28.7 -0.7**
PAF Port-aux-Franc 53.47 198 *e*P **P 10 52 31.1 +2.1**
PAF Port-aux-Franc 53.47 198 *e*P **P 10 52 31.1 +2.1**
HIA Hailar 53.70 22 *e*P **P 10 52 28.9 -1.9**
comp=Z,3µm,1.1s
HIA *e*S S 10 59 45.7 -18
HIA Hailar 53.70 22 *e*P **P 10 52 29.8 -1.0**
HIA MLR MLR
comp=Z,4415µm,22.0s
INU Inuyama 53.86 45 *e*P **P 10 52 30.7 -1.5**
CIT Chita 54.07 16 *e*P **P 10 52 33.3 -0.2**
CIT *e* 10 53 38.1
CIT *e* 10 54 36.0
CIT *e*S **S 11 00 16.3 +7.6**
CIT pmax pmax
comp=Z,8µm,2.5s
MSHR Mys Shultsa 54.19 35 *ce*P **P 10 52 34.3 -0.2**
MTSU Mount Surprise 54.36 113 P **P 10 52 35.4 -0.8**
baz=54,SNR=115
CBIJ Chichi jima 54.41 57 *e*P **P 10 52 35.2 -1.2**
JCJ Chichijima 54.41 57 P **P 10 52 35.7 -0.7**
comp=Z,401nm,0.7s,baz=265,slow=5.7,SNR=13
JCJ LR LR 11 16 25.6
comp=Z,375µm,19.5s,baz=240,slow=37
NVS Novosibirsk 54.42 353 *e*P **P 10 52 34.6 -1.3**
NVS *e*S **S 11 00 06.1 -7.1**
NVS pmax pmax
comp=N,4µm,1.8s
NVS pmax pmax
comp=E,3µm,1.8s
NVS pmax pmax
comp=Z,7µm,1.8s
NVS smax smax
comp=N,1µm,2.3s
NVS smax smax
comp=E,2µm,2.3s
MDJ Mudanjiang 54.66 32 P **P 10 52 35.3 -2.6**
MDJ pP pP 10 52 38.4 -6.3
MDJ sP sP 10 52 44.1 -3.3
MDJ ScP **ScP 10 57 32.5 -5.5**
MDJ S **S 11 00 20.8 +4.0**
MDJ sS sS 11 00 29.0 +0.9
MDJ pmax pmax
comp=Z,74nm,2.0s
MDJ pmax pmax
comp=Z,152µm,8.4s
MDJ LR LR
comp=N,2978µm,21.5s
MDJ LR LR
comp=E,2123µm,21.1s
MDJ LR LR
comp=Z,1754µm,28.3s
MDJ Mudanjiang 54.66 32 P **P 10 52 35.5 -2.4**
MDJ pP pP 10 52 40.7 -4.0
MDJ sP sP 10 52 43.3 -4.1
MDJ ScS ScS 11 02 24.3 -1.8
MDJ pmax pmax
comp=Z,70µm,8.0s
MDJ LR LR
comp=Z,2978µm,21.2s
MDJ LR LR
comp=Z,2123µm,21.2s
MDJ LR LR
comp=Z,2270µm,16.5s
MDJ Mudanjiang 54.66 32 *e*P **P 10 52 37.5 -0.4**
comp=Z,7µm,1.9s
MDJ *e*S **S 11 00 09.5 -7.3**
JHJ Hachijo jima 2 54.85 49 P **P 10 52 40.0 +0.5**
comp=Z,171nm,0.9s,baz=46,slow=15,SNR=1.9
JHJ LR LR 11 17 05.9
comp=Z,581µm,18.5s,baz=273,slow=37
JHJ2 Mitsune 54.87 49 *e*P **P 10 52 36.5 -3.1**
comp=Z,946nm,1.1s
JHJ2 *e*S **S 11 00 24.2 +4.2**
MANU Manus Island 55.00 93 *e*P **P 10 52 40.2 -0.7**
KRAR Krasnoyarsk 55.07 0 *e*P **P 10 52 40.0 -0.6**
KMBO Kilima Mbogo 55.20 268 P **P 10 52 42.5 -0.2**
comp=Z,274nm,1.0s,baz=66,slow=10,SNR=114
KMBO LR LR 11 14 15.6
comp=Z,1283µm,18.2s,baz=92,slow=34
KMBO Kilima Mbogo 55.20 268 *e*P **P 10 52 41.8 -0.9**
KMBO Kilima Mbogo 55.20 268 P **P 10 52 42.9 +0.2**
SNR=341
KMBO Kilima Mbogo 55.20 268 P **P 10 52 42.9 +0.2**
SNR=341
KMBO Kilima Mbogo 55.20 268 *i* P **P 10 52 42.5 -0.2**
SNR=324
KMBO Kilima Mbogo 55.20 268 *e*P **P 10 52 41.8 -0.9**
BVA0 Borovoye Array 55.22 344 *i* P **P 10 52 39.1 -2.7**
BVA0 pmax pmax
comp=Z,749nm,1.1s
BVAR Borovoye Array 55.22 344 P **P 10 52 39.8 -2.0**
comp=Z,197nm,0.7s,baz=148,slow=8.4,SNR=205
BVAR LR LR 11 17 50.4
comp=Z,1583µm,18.7s,baz=157,slow=38
BVAR PKPPKP **P'P'df 11 22 49.7 +1.8**
comp=Z,11nm,1.1s,baz=202,slow=1.6,SNR=6.5
BRVK Borovoye 55.28 344 *e*P **P 10 52 41.7 -0.5**
BRVK *e*S S 11 00 34.5 +10
BRVK Borovoye 55.28 344 P **P 10 52 41.0 -1.2**
SNR=429
BRVK Borovoye 55.28 344 P **P 10 52 41.0 -1.2**
SNR=429
BRVK Borovoye 55.28 344 *ce*P **P 10 52 39.8 -2.4**
BRVK pmax pmax
comp=Z,2µm,1.7s
BRVK MLR MLR
comp=Z,2036µm,20.0s
MJB9 Matsu-Tunnel 55.28 45 *e*P **P 10 52 42.2 -0.4**
MAJO Matsushiro 55.28 45 *e*P **P 10 52 41.8 -0.8**
MAJO Matsushiro 55.28 45 *c i*P **P 10 52 41.6 -1.0**
MAJO pmax pmax
comp=Z,308nm,1.5s
MAJO MLR MLR
comp=Z,1312µm,19.0s
MAT Matsushiro 55.28 45 P **P 10 52 40.9 -1.7**
MAT S **S 11 00 25.3 -0.2**
MJAR Matsushiro Arr 55.29 45 P **P 10 52 42.0 -0.6**
comp=Z,144nm,1.1s,baz=235,slow=6.2,SNR=63
MJAR LR LR 11 18 40.5
comp=Z,963µm,19.4s,baz=235,slow=39
HTT Hallett 55.36 133 P **P 10 52 42.3 -0.9**
baz=56,SNR=141
PMG Port Moresby 55.42 102 P **P 10 52 43.7 -0.2**
comp=Z,262nm,0.8s,baz=84,slow=5.5,SNR=27
PMG LR LR 11 18 59.0
comp=Z,537µm,20.0s,baz=268,slow=39
PMG Port Moresby 55.42 102 *e*P **P 10 52 43.3 -0.6**
PMG Port Moresby 55.42 102 *e*P **P 10 52 42.0 -1.9**
PMG MLR MLR
comp=Z,2334µm,20.0s
I45RU USSURIYSK INFR 55.68 34 P **P 10 52 45.8 +0.5**
baz=233,slow=20,SNR=2.6
USRK Ussuriysk Ar. 55.69 34 P **P 10 52 45.0 -0.2**
comp=Z,339nm,1.1s,baz=242,slow=4.1,SNR=98
USRK LR LR 11 17 33.2
comp=Z,1120µm,20.0s,baz=217,slow=37
USRK PKPPKP **P'P'df 11 22 47.5 -0.7**
comp=Z,5.8nm,0.8s,baz=50,slow=3.0,SNR=4.4
AB31 Akbulak array 55.76 335 *i* P **P 10 52 44.6 -1.1**
AB31 pmax pmax
comp=Z,3µm,1.6s
ABKAR Akbulak array 55.76 335 *e*P **P 10 52 44.4 -1.4**
comp=Z,26nm,0.5s
CTAO Charters Tower 56.62 115 *e*P **P 10 52 51.7 -0.7**
comp=Z,27µm,3.9s
CTAO *e*S **S 11 00 41.1 -2.7**
CTAO Charters Tower 56.62 115 *e*P **P 10 52 51.7 -0.7**
CTAO *e*S **S 11 00 41.1 -2.7**
STKA Stephens Creek 56.69 130 P **P 10 52 51.8 -0.9**
comp=Z,109nm,0.7s,baz=306,slow=5.5,SNR=84
STKA LR LR 11 16 55.6
comp=Z,860µm,20.8s,baz=285,slow=36
STKA Stephens Creek 56.69 130 P **P 10 52 51.7 -0.9**
baz=57,SNR=137
QLP Quilpie 56.79 123 P **P 10 52 53.7 +0.2**
baz=57,SNR=39
KOND Kondoa 56.85 264 *i* P **P 10 52 55.1 +0.7**
AKT Akhty 57.12 321 ǁ *i*P **P 10 52 55.1 -0.7**
AKT *e* 10 53 45.7
AKT *e*S **S 11 00 48.7 -1.3**
AKT pmax pmax
comp=Z,9µm,1.4s
AKTO Aktyubinsk 57.47 335 P **P 10 52 56.4 -1.4**
comp=Z,126nm,1.0s,baz=134,slow=8.0,SNR=124
AKTO LR LR 11 20 47.1
comp=Z,577µm,18.8s,baz=143,slow=39
HAKT HAKKARI 57.84 315 *i* P **P 10 53 03.4 +2.4**
MAK Makhachkala 58.08 322 *e*P **P 10 53 03.7 +1.4**
MAK *e* 10 53 49.2
MAK *e* 10 55 09.4
MAK *e*PPP PPP 10 56 30.7
MAK *e*S **S 11 01 03.6 +1.5**
MAK *e*SS **SS 11 04 54.7 +0.9**
MAK *e*SSS SSS 11 07 14.3
MAK pmax pmax
comp=Z,36µm,2.9s
GNI Garni 58.37 318 P **P 10 53 04.9 +0.3**
comp=Z,242nm,1.1s,baz=173,slow=1.1,SNR=112
GNI Garni 58.37 318 *e*P **P 10 53 05.7 +1.1**
GNI Garni 58.37 318 P **P 10 53 04.9 +0.3**
SNR=475
GNI Garni 58.37 318 P **P 10 53 04.9 +0.3**
SNR=475
GNI Garni 58.37 318 *i* P **P 10 53 06.0 +1.4**
SNR=33
GNI Garni 58.37 318 *ce*P **P 10 53 02.9 -1.7**
GNI pmax pmax
comp=Z,3µm,1.7s
GNI MLR MLR
comp=Z,2725µm,22.0s
CLDR Caldiran 58.43 317 *e*P P 10 53 13.6 +8.4
CLDR Caldiran 58.43 317 *i* P **P 10 53 08.4 +3.3**
TVAN Van 58.50 316 *i* P P 10 53 15.2 +10
VMUR Van-Muradiye 58.60 317 *i* P P 10 53 12.5 +6.2
TASB TASBURUN-IGDIR 58.62 318 *e*P P 10 53 18.1 +12
GEVA Gevas 58.64 316 *i* P P 10 53 13.7 +7.2
IGDI IGDIR 58.67 318 *i* P **P 10 53 07.3 +0.7**
SIRT Sirnak 58.71 315 *e*P **P 10 53 08.6 +1.6**
SIRN S¨–rnak 58.73 315 *i* P P 10 53 15.0 +8.0
DYDN Diyadin 58.78 317 *i* P **P 10 53 11.2 +3.6**
KLR Kul'dur 58.86 29 P **P 10 53 07.1 -0.6**
comp=Z,83nm,1.2s,baz=244,slow=6.5,SNR=73
KLR Kul'dur 58.86 29 *e*P **P 10 53 06.7 -0.9**
ARPS Mount Arapiles 59.04 135 P **P 10 53 08.5 -0.6**
baz=59,SNR=172
ADCV BITLIS_Adilcev 59.10 316 *i* P P 10 53 14.9 +5.2
TBLG Delisi 59.16 320 *e*P P 10 53 20.8 +11
TBLG Delisi 59.16 320 *e*P **P 10 53 10.2 +0.3**
TBLG Delisi 59.16 320 *e*P **P 10 53 10.2 +0.3**
GROC Groznyy 59.26 322 *e*P **P 10 53 10.4 -0.1**
GROC *e* 10 53 59.4
GROC *e* 10 55 21.3
GROC *e*S **S 11 01 21.0 +3.5**
AGRB Hanur-Agry 59.27 317 *e*P **P 10 53 14.0 +3.1**
SRTM Siirt_Merkez 59.30 315 *i* P P 10 53 13.9 +2.9
TUTA Tutak 59.31 317 *i* P P 10 53 20.0 +8.8
EAK Akyaka 59.38 318 *i* P **P 10 53 13.3 +1.6**
DIGO Kars 59.41 318 *i* P **P 10 53 13.6 +1.7**
BOD Bodaibo 59.41 13 *e*P **P 10 53 10.6 -0.7**
BOD *e* 10 53 52.7
BOD pmax pmax
comp=Z,4µm,1.7s
GURO Guroymak-BITLI 59.47 315 *e*P P 10 53 23.0 +11
KARS Kars 59.71 318 *e*P P 10 53 26.6 +13
BTMN Batman 59.72 314 *i* P **P 10 53 16.5 +2.6**
EATA Eleskirt 59.74 317 *i* P **P 10 53 16.4 +2.0**
CMSA Cobar Meteorol 59.75 128 P P **P 10 53 13.6 -0.5**
baz=60,SNR=452
EKAR Karacoban 59.76 316 *i* P **P 10 53 16.4 +2.0**
AKH Akhalkalaki 59.81 319 ǁ *i*P **P 10 53 16.7 +2.1**
MARD Mardin 59.82 314 *i* P **P 10 53 14.1 -0.6**
SVAN Silvan-Diyarba 59.88 315 *e*P P 10 53 25.4 +10
SVAN Silvan-Diyarba 59.88 315 *i* P P 10 53 21.7 +6.7
ZEA Zeya 60.11 23 *e*P **P 10 53 14.8 -1.4**
ZEA pmax pmax
comp=N,630nm,1.2s
ZEA pmax pmax
comp=Z,2µm,1.6s
MAZI Mazidag 60.12 314 *e*P P 10 53 26.1 +9.3
VRTB Varto-Mus 60.14 316 *e*P P 10 53 25.4 +8.5
VRTB Varto-Mus 60.14 316 *i* P **P 10 53 17.3 +0.4**
HOMI Horasan 60.23 317 *i* P **P 10 53 18.9 +1.3**
ZEI Tsey 60.23 321 *e*P **P 10 53 14.4 -3.1**
ZEI *e* 10 55 30.2
ZEI *e*S **S 11 01 31.8 +1.2**
ZEI pmax pmax
comp=Z,843nm,0.8s
ZEI pmax pmax
comp=E,964nm,0.9s
ZEI pmax pmax
comp=N,735nm,0.8s
EPOS Posof 60.36 319 *i* P **P 10 53 14.7 -3.7**
DYBB Diyarbakir 60.55 314 *e*P **P 10 53 23.3 +3.7**
DIYA Diyarbakir 60.55 314 *i* P **P 10 53 21.0 +1.4**
HANI Diyarbakir_Han 60.56 315 *i* P **P 10 53 21.3 +1.6**
RMQ Roma 60.60 121 P P **P 10 53 20.5 +0.4**
baz=61,SNR=189
BGOL Bingol 60.61 315 *i* P **P 10 53 22.0 +2.0**
ECAT Cat-ERZURUM 60.67 316 *i* P **P 10 53 23.6 +3.0**
DDEM Demirkent 60.72 318 *i* P **P 10 53 24.4 +3.6**
ARTV Artvin 60.74 318 *i* P **P 10 53 21.3 +0.3**
NCK Nalchik 60.78 321 *e*P **P 10 53 18.9 -2.1**
NCK pmax pmax
comp=Z,277nm,1.0s
NCK MLR MLR
comp=Z,658µm,22.0s
DBAD Bademkaya 60.82 318 *i* P **P 10 53 21.0 -0.4**
ASF Jabal al Asfar 60.86 307 P **P 10 53 22.7 +0.8**
comp=Z,84nm,0.8s,baz=96,slow=5.6,SNR=32
ASF LR LR 11 20 39.9
comp=Z,1682µm,18.4s,baz=69,slow=37
DBOC Borcka 60.99 318 *i* P **P 10 53 23.2 +0.8**
SANL SANLIURFA_Merk 61.07 313 *i* P **P 10 53 27.8 +4.7**
KAPT Kop Dagi 61.18 316 *i* P P 10 53 37.7 +14
NEY Neytrino 61.21 321 *d i*P **P 10 53 24.2 +0.1**
SURC SANLIURFA_SURC 61.23 312 *i* P **P 10 53 28.5 +4.3**
ERM Erimo 61.28 41 *e*P **P 10 53 22.9 -1.5**
comp=Z,1µm,1.1s
ERM *e*S **S 11 01 50.8 +7.3**
ERM Erimo 61.28 41 *ce*P **P 10 53 22.7 -1.6**
ERM pmax pmax
comp=Z,256nm,1.2s
URFA Urfa 61.30 313 *e*P P 10 53 36.8 +12
KBZ Khabaz 61.34 321 P **P 10 53 24.6 -0.1**
comp=Z,128nm,0.8s,baz=125,slow=4.9,SNR=142
KBZ LR LR 11 22 41.6
comp=Z,314µm,19.7s,baz=96,slow=39
SVE Sverdlovsk 61.42 341 *de*P **P 10 53 23.5 -1.5**
SVE *e*S **S 11 01 45.5 +0.7**
SVE *e*SS **SS 11 05 45.4 -0.4**
SVE pmax pmax
comp=Z,5µm,1.5s
SVE pmax pmax
comp=Z,134µm,22.1s
SVE MLR MLR
comp=E,1291µm,23.0s
SVE MLR MLR
comp=N,1399µm,18.0s
SVE MLR MLR
comp=Z,2623µm,19.0s
BAYB BAYBURT 61.45 317 *i* P **P 10 53 29.1 +3.2**
TNCL Tunceli-Merkez 61.46 315 *i* P **P 10 53 22.1 -3.8**
PTK Pertek 61.48 315 *e*P P 10 53 38.6 +13
CHOM Cayeli-Rize 61.48 318 *e*P P 10 53 36.2 +10
ERZN Erzincan 61.53 316 *e*P P 10 53 35.8 +9.5
KVAR Kislovodsk Arr 61.58 321 P **P 10 53 26.2 -0.3**
baz=295,slow=1.9
KIV Kislovodsk 61.58 321 *e*P **P 10 53 26.7 +0.2**
comp=Z,9µm,1.4s
KIV *e*S S 11 02 00.3 +13
KIV Kislovodsk 61.58 321 P **P 10 53 26.1 -0.4**
SNR=683
KIV Kislovodsk 61.58 321 P **P 10 53 26.1 -0.4**
SNR=683
KIV Kislovodsk 61.58 321 *i* P **P 10 53 26.8 +0.3**
SNR=422
KIV Kislovodsk 61.58 321 *e*P **P 10 53 26.5 0.0**
KIV *e* 10 55 42.4
KIV *e*PPP PPP 10 57 09.2
KIV *e*S **S 11 01 48.3 +0.8**
KIV *e*SS **SS 11 05 52.0 +2.9**
KIV pmax pmax
comp=Z,1µm,1.0s
KIV MLR MLR
comp=Z,569µm,17.0s
BAYT Ayd¨–ntepe-Bay 61.59 317 *e*P P 10 53 40.9 +14
ELZG Elazig 61.60 314 *i* P **P 10 53 28.4 +1.5**
EUZM Uzumlu 61.60 316 *i* P **P 10 53 28.9 +2.1**
CLNS Chul'man 61.66 20 *e*P **P 10 53 27.1 +0.4**
CLNS *e**PP **sP 10 53 40.2 +4.0**
CLNS *e* 10 54 09.4
CLNS *e* 10 55 42.2
CLNS *e*PPP PPP 10 57 09.2
CLNS *e*S **S 11 01 45.7 -2.1**
CLNS *e* 11 03 11.5
CLNS *e*SS **SS 11 05 48.9 -0.7**
CLNS pmax pmax
comp=E,624nm,1.1s
CLNS pmax pmax
comp=N,838nm,1.4s
CLNS pmax pmax
comp=Z,1µm,1.3s
CLNS pmax pmax
comp=Z,444nm,1.1s
CLNS pmax pmax
comp=N,579nm,1.1s
CLNS pmax pmax
comp=E,412nm,0.9s
CLNS smax smax
comp=N,133µm,13.4s
CLNS smax smax
comp=E,142µm,11.6s
CLNS MLR MLR
comp=Z,323µm,18.0s
CLNS MLR MLR
comp=N,184µm,13.0s
CLNS MLR MLR
comp=E,271µm,15.0s
ATAB Bozova 61.69 313 *i* P **P 10 53 30.7 +3.4**
MBAR Mbarara 61.70 269 P **P 10 53 28.2 +0.2**
comp=E,226nm,1.0s,baz=89,slow=7.2,SNR=58
ARU Arti 61.82 339 P P 10 53 15.1 -13
comp=E,2.3nm,0.3s,baz=249,slow=14,SNR=2.6
ARU Arti 61.82 339 *e*P **P 10 53 27.2 -0.5**
ARU *e*S **S 11 01 55.4 +5.6**
ARU Arti 61.82 339 *d i*P **P 10 53 27.0 -0.7**
ARU 10 54 03.6
ARU 10 55 51.0
ARU PPP PPP 10 57 12.1
ARU *e*S **S 11 01 52.0 +2.2**
ARU SS **SS 11 05 50.9 -1.1**
ARU SSS SSS 11 08 37.8
ARU pmax pmax
comp=Z,1µm,1.7s
ARU MLR MLR
comp=Z,1965µm,19.0s
GOF Gofitskoye 61.92 322 ⇑ *i*P **P 10 53 29.6 +1.0**
GOF *e*S S 11 02 03.8 +12
GOF pmax pmax
comp=Z,4µm,1.6s
ASAJ Asahikawa 61.93 39 P **P 10 53 28.3 -0.4**
comp=Z,115nm,0.8s,baz=250,slow=6.4,SNR=65
ASAJ LR LR 11 20 18.5
comp=Z,5µm,20.8s,baz=253,slow=36
ASAJ Asahikawa 61.93 39 *e*P **P 10 53 27.7 -1.0**
comp=Z,378nm,0.9s
TOO Toolangi 62.01 134 P **P 10 53 29.8 +0.4**
baz=62,SNR=53
MACK Trabzon 62.09 317 *i* P **P 10 53 29.6 -0.3**
KELT Kelkit 62.10 316 *i* P **P 10 53 34.2 +4.0**
KTUT Trabzon 62.11 317 *e*P P 10 53 42.9 +13
REFA Refahiye_ERZ¨ 62.13 315 *i* P P 10 53 40.7 +10
GRNR Gornyy 62.16 30 *e*P **P 10 53 29.8 -0.3**
GRNR pmax pmax
comp=N,440nm,1.1s
GRNR pmax pmax
comp=E,330nm,1.1s
GRNR pmax pmax
comp=Z,450nm,1.1s
SHBL Chebaa 62.16 308 *e*P **P 10 53 33.0 +2.3**
KEMA Kemaliye 62.27 315 *i* P **P 10 53 29.4 -1.9**
AKCD Akcadag 62.29 314 *i* P P 10 53 39.2 +7.8
EIDS Eidsvold 62.30 119 P **P 10 53 30.9 -0.7**
baz=62,SNR=74
EIDS Eidsvold 62.30 119 *e*P **P 10 53 30.9 -0.7**
comp=Z,52nm,0.6s
HWQ Hawqa 62.31 309 *e*P **P 10 53 34.3 +2.7**
MMAI Mount Meron Ar 62.32 307 P **P 10 53 32.0 +0.3**
comp=Z,42nm,0.8s,baz=103,slow=11,SNR=31
MMAI LR LR 11 21 38.0
comp=Z,1672µm,18.1s,baz=105,slow=37
KUZU Kuzuini 62.33 312 *i* P **P 10 53 33.1 +1.5**
GAZ Gaziantep 62.38 312 *e*P P 10 53 40.5 +8.5
BHL Bhannes 62.41 308 *e*P **P 10 53 35.1 +2.8**
YAYL Yayladag 62.79 311 *e*P P 10 53 45.8 +11
YAYL Yayladag 62.79 311 *i* P **P 10 53 38.6 +3.8**
SUSE Susehri 62.86 316 *i* P P 10 53 42.1 +6.9
ELBS KAHRAMANMARAS 62.87 313 *i* P P **10 53 36.0 +0.6**
YNG Young 62.88 130 P P **P 10 53 35.0 -0.3**
baz=63,SNR=32
CUGUR Gurin_S¨VAS 62.92 314 *i* P **P 10 53 37.3 +1.6**
CUKAN kangal_SIVAS 63.02 315 *i* P **P 10 53 36.6 +0.3**
CUZAR Zara_SIVAS 63.03 315 *i* P P 10 53 41.3 +5.0
ANDN Andirin 63.17 312 *i* P **P 10 53 41.1 +3.8**
SOC Sochi 63.30 320 *e*P **P 10 53 36.6 -1.3**
SOC *e*S **S 11 02 07.5 -1.4**
SOC *e*SS **SS 11 06 11.7 -4.0**
SOC *e*SSS SSS 11 09 06.3
SOC MLR MLR
comp=Z,248µm,15.0s
ORDU Ordu-Boztepe 63.42 316 *i* P **P 10 53 40.0 +1.3**
YURE YUREGIR 63.43 311 *e*P **P 10 53 42.7 +3.8**
YSS Yuzh-Sakhalins 63.45 36 *e*P **P 10 53 38.8 +0.1**
comp=Z,6µm,1.4s
YSS *e*S S 11 01 57.0 -14
YSS Yuzh-Sakhalins 63.45 36 ⇑ *e*P **P 10 53 38.7 -0.1**
YSS pmax pmax
comp=N,180nm,1.3s
YSS pmax pmax
comp=Z,660nm,1.3s
YSS pmax pmax
comp=N,47µm,13.0s
YSS MLR MLR
comp=N,665µm,16.0s
YSS MLR MLR
comp=Z,1200µm,16.0s
YSS MLR MLR
comp=E,916µm,15.0s
SCER sogukcermik 63.47 315 *i* P P 10 53 50.9 +12
CUALT Altinyayla-SIV 63.51 314 *i* P **P 10 53 40.7 +1.1**
SAIM ADANA 63.51 313 *i* P **P 10 53 43.3 +3.8**
KOZT Kozan 63.52 312 *e*P **P 10 53 42.4 +2.9**
KRTS Karatas 63.53 311 *e*P P 10 53 51.4 +12
RSDY Resadiye-TOKAT 63.55 316 *e*P P 10 53 48.3 +8.7
CAN Canberra 63.72 130 *e*P **P 10 53 40.6 -0.3**
comp=E,916nm,1.9s
CAN Canberra 63.72 130 *e*P **P 10 53 40.6 -0.3**
CAN pmax pmax
comp=Z,916nm,1.9s
CUSAR Sarkisla-SIVAS 63.93 314 *i* P **P 10 53 42.7 +0.4**
YUK Yuzh-Kuril'sk 63.97 40 *d i*P **P 10 53 43.8 +1.5**
YUK *e*S S 11 02 26.5 +9.3
YUK pmax pmax
comp=Z,12µm,3.1s
YUK pmax pmax
comp=Z,7µm,1.3s
YUK pmax pmax
comp=E,6µm,1.1s

YUK pmax pmax
comp=N,4µm,1.2s
CNB Canberra Magne 63.99 130 P **P 10 53 42.3 -0.4**
baz=64,SNR=26
BNN Bunyan 64.00 314 *e*P **P 10 53 45.1 +2.3**
PHNC Paralimni 64.04 309 P P 10 53 50.8 +7.9
ERBA Erbaa 64.06 316 *i* P **P 10 53 43.2 +0.2**
TOKT Tokat 64.06 315 *e*P P 10 53 52.1 +9.0
YAHY KAYSERI_Yahyal 64.08 313 *i* P **P 10 53 47.5 +4.1**
TOKA Tokat 64.11 315 *i* P **P 10 53 46.1 +2.7**
ARMA Armidale 64.18 124 P **P 10 53 44.7 +0.6**
baz=64,SNR=76
ARMA Armidale 64.18 124 *e*P **P 10 53 43.7 -0.4**
comp=N,34nm,0.7s
GULE Gulek 64.23 312 *i* P P 10 53 50.6 +6.2
MILA Mila 64.48 132 P **P 10 53 46.5 +0.7**
baz=65,SNR=21
SILI Silifke-Mersin 64.56 310 *e*P P 10 53 55.6 +9.3
CSS Mathiatis 64.57 309 *e*P **P 10 53 46.4 -0.1**
comp=N,793nm,1.3s
CSS *e*S **S 11 02 26.1 +1.0**
CSS Mathiatis 64.57 309 P **P 10 53 48.7 +2.2**
CSS Mathiatis 64.57 309 P **P 10 53 47.6 +1.1**
MGCD Mangrove Creek 64.63 128 P **P 10 53 46.9 0.0**
baz=65,SNR=6.8
YOZ Yozgat 64.67 314 *e*P P 10 53 59.0 +12
KVT Kavak 64.71 316 *e*P P 10 53 57.6 +10
AVNS Nevsehir-Avano 64.71 313 *i* P P 10 53 54.0 +6.5
SAMS Samsun-Alacam 64.72 316 *i* P **P 10 53 49.8 +2.5**
MAMC Mammari 64.72 309 P **P 10 53 49.9 +2.5**
KERG Konya-Eregli 64.76 312 *i* P **P 10 53 50.6 +2.7**
GULN MERSIN_Gulnar 64.80 310 *i* P P 10 53 55.3 +7.4
SZAC Souni 64.86 308 P **P 10 53 50.0 +1.6**
RIV Riverview 64.87 128 P **P 10 53 48.3 -0.1**
baz=65,SNR=6.3
HAVZ Havza 64.94 316 *i* P **P 10 53 48.2 -0.6**
TEVE Tevekalti-Mers 64.95 310 *e*P P 10 54 00.4 +11
TEKE Tekeli-Mersin 65.11 310 *e*P P 10 53 58.7 +8.8
COAL Corum-Alaca 65.14 315 *i* P **P 10 53 49.4 -0.8**
ALFC Alefka 65.20 309 P **P 10 53 51.9 +1.3**
MOO Moorlands 65.28 138 P **P 10 53 51.8 +0.8**
baz=65,SNR=24
ANN Anapa 65.31 320 *e*P P 10 53 56.8 +5.8
ANN *e* 10 56 13.1
ANN *e*PPP PPP 10 57 54.6
ANN *e*SS SS 11 06 46.3 -0.7
ANN pmax pmax
comp=E,41µm,10.6s
ANN pmax pmax
comp=N,42µm,10.6s
ANN pmax pmax
comp=N,1µm,3.7s
ANN pmax pmax
comp=Z,3µm,3.7s
ANN pmax pmax
comp=E,944nm,3.7s
ANN pmax pmax
comp=Z,109µm,10.6s
ANN MLR MLR
comp=N,656µm,20.0s
ANN MLR MLR
comp=E,1204µm,20.0s
ANN MLR MLR
comp=Z,615µm,20.0s
PPCY Paphos 65.32 308 P **P 10 53 53.7 +2.4**
CDAG Cicekdag 65.35 314 *i* P **P 10 53 52.1 +0.5**
CORM Corum 65.37 315 *e*P P 10 53 59.4 +7.7
LSZ Lusaka 65.42 253 *e*P **P 10 53 53.0 +0.5**
comp=Z,47µm,2.1s
LSZ *e*S **S 11 02 35.1 -1.3**
LSZ Lusaka 65.42 253 P **P 10 53 52.6 +0.1**
SNR=372
LSZ Lusaka 65.42 253 P **P 10 53 52.6 +0.1**
SNR=372
LSZ Lusaka 65.42 253 *e*P **P 10 53 53.0 +0.5**
LSZ *e*S **S 11 02 35.1 -1.3**
ERMK Ermenek 65.42 310 *i* P **P 10 53 53.3 +1.1**
CTAK Corum_Osmancik 65.42 315 *i* P **P 10 53 51.5 -0.6**
TYV Tymovskoe 65.44 32 *e*P **P 10 53 52.3 +0.6**
TYV *e*S **S 11 02 39.3 +4.2**
TYV pmax pmax
comp=Z,489nm,1.4s
TYV pmax pmax
comp=Z,31µm,9.4s
TYV smax smax
comp=E,51nm,1.8s
TYV smax smax
comp=E,178µm,12.1s
AKSY AKSARAY - Alti 65.45 313 *i* P **P 10 53 53.7 +1.5**
DIKM Dikmen 65.48 316 *e*P P 10 54 02.1 +10
SULT Sultanhani-AKS 65.48 312 *e*P P 10 54 02.5 +10
TAU Tasmania Unive 65.58 139 *e*P **P 10 53 51.8 -1.0**
comp=E,4µm,1.4s
TAU *e*S **S 11 02 39.1 +2.0**
TAU Tasmania Unive 65.58 139 *e*P **P 10 53 51.8 -1.0**
TAU *e*S **S 11 02 39.1 +2.0**
TAU pmax pmax
comp=Z,4µm,1.4s
SNOP Sinop 65.65 317 *e*P **P 10 53 55.4 +2.1**
SINO SINOP_Merkez 65.66 317 *i* P P 10 54 01.2 +7.9
NKL Nikolayevsk 65.69 30 *e*P **P 10 53 52.0 -1.3**
NKL *e* 11 02 53.2
NKL pmax pmax
comp=E,280nm,1.2s
NKL pmax pmax
comp=Z,1µm,1.2s
SERE Sereflikochisa 65.70 313 *e*P P 10 54 04.2 +10
KUR Kuril'sk 65.78 40 *d i*P **P 10 53 55.7 +1.7**
KUR *e* 10 54 28.0
KUR *i* S S 11 02 54.7 +15
KUR *i* 11 03 46.0
KUR pmax pmax
comp=Z,5µm,3.1s
KUR pmax pmax
comp=Z,109µm,7.8s
KUR MLR MLR
comp=E,411µm,17.0s
KUR MLR MLR
comp=Z,926µm,17.0s
KUR MLR MLR
comp=N,310µm,15.0s
BLWY Bulawayo 65.80 248 *i* P **P 10 53 55.1 +0.3**
BLWY Bulawayo 65.80 248 *i* P **P 10 53 55.5 +0.7**
VRH Novokhopyorsk 65.88 328 *e*P **P 10 53 54.6 +0.1**
VRH *e*S **S 11 02 44.9 +4.5**
VRH pmax pmax
comp=Z,480nm,0.9s
VRH smax smax
comp=E,34µm,7.6s
BRTR Keskin Array B 65.92 314 P **P 10 53 54.4 -0.9**
comp=E,131nm,0.7s,baz=131,slow=7.2,SNR=166
BRTR PKPPKP **P'P'df 11 22 36.7 +3.7**
comp=E,12nm,1.0s,baz=246,slow=1.4,SNR=3.7
BRTR LR LR 11 25 03.0
comp=E,1009µm,19.0s,baz=100,slow=38
KMER Konya-Meram 66.20 311 *i* P **P 10 53 57.4 +0.3**
BBAL Bala 66.23 313 *i* P **P 10 53 59.3 +2.1**
AFSR Af˙ar-Bala (A 66.23 313 *e*P **P 10 54 00.4 +3.2**
CANT Cankiri 66.24 315 *e*P P 10 54 07.7 +10
KKUL Konya-Kulu 66.25 313 *i* P P 10 54 02.6 +5.2
ILGA Ilgaz 66.33 315 *i* P **P 10 53 54.9 -3.1**
ELDT Eldivan 66.34 314 *i* P **P 10 53 57.6 -0.4**
LADK Ladik-KONYA 66.34 312 *e*P P 10 54 08.4 +10
KAST KASTAMONU 66.34 316 *i* P **P 10 53 58.7 +0.9**
BZK Bozkurt 66.46 316 *e*P **P 10 54 03.2 +4.7**
KEPZ Antalya-Kepez 66.50 310 *i* P **P 10 53 59.8 +0.8**
ANTO Ankara 66.58 314 *e*P **P 10 53 59.4 0.0**
comp=E,25µm,3.9s
ANTO Ankara 66.58 314 P **P 10 53 58.7 -0.7**
SNR=198
ANTO Ankara 66.58 314 P **P 10 53 58.7 -0.7**
SNR=198
ANTO Ankara 66.58 314 *e*P **P 10 53 59.4 0.0**
LOD Lodumlu 66.61 314 *e*P P 10 54 08.4 +8.8
KDHN Kadinhani 66.63 312 *i* P **P 10 54 02.5 +2.7**
DOGA KONYA_Doganhis 66.83 312 *i* P **P 10 54 01.8 +0.6**
CMDR Camlidere-ANKA 67.02 314 *i* P **P 10 54 01.6 -0.7**
SUTC Sutluce-Ispart 67.14 311 *e*P P 10 54 10.8 +7.7
ANTB Antalya 67.23 310 *e*P P 10 54 12.6 +9.1
YAK Yakutsk 67.23 18 *e*P **P 10 54 01.4 -1.5**
comp=E,6µm,1.0s
YAK Yakutsk 67.23 18 *e*P **P 10 54 02.3 -0.7**
YAK *e*'PP **pP 10 54 10.4 +0.4**
YAK *e* 10 54 26.7
YAK *e* 10 56 32.6
YAK *e*S **S 11 03 01.3 +4.8**
YAK pmax pmax
comp=N,653nm,1.0s
YAK pmax pmax
comp=Z,3µm,1.1s
YAK pmax pmax
comp=E,1µm,1.1s
YAK pmax pmax
comp=Z,64µm,9.8s
YAK pmax pmax
comp=N,32µm,11.6s
YAK pmax pmax
comp=E,16µm,9.3s
YAK smax smax
comp=N,347µm,12.8s
YAK smax smax
comp=E,134µm,8.9s
YAK MLR MLR
comp=Z,1963µm,15.0s
YAK MLR MLR
comp=E,600µm,16.0s
YAK MLR MLR
comp=N,1858µm,15.0s
VSR Storozhevoye 67.26 327 *e*P **P 10 54 02.9 -0.5**
VSR *e*S **S 11 02 56.3 -0.9**
VSR pmax pmax
comp=Z,390nm,1.3s
VSR smax smax
comp=N,10µm,5.8s
VSR MLR MLR
comp=Z,1256µm,17.0s
KURC Kurucasile-Bar 67.30 316 *e*P P 10 54 12.6 +8.8
AUSIV SIVRIHISAR 67.35 313 *i* P **P 10 54 03.4 -1.0**
SVRH Sivrihisar-ESK 67.36 313 *e*P **P 10 54 06.7 +2.3**
BCAM Yenicaga 67.42 314 *i* P **P 10 54 05.5 +0.6**
BCK Bucak 67.44 311 *e*P P 10 54 15.7 +11
BAGO Egridir - ISPA 67.45 311 *i* P **P 10 54 05.9 +0.9**
VORR Voronezh 67.47 327 *e*P **P 10 54 03.0 -1.7**
VORR pmax pmax
comp=Z,5µm,2.2s
KORT Korkueli 67.49 310 *i* P **P 10 54 07.8 +2.4**
SIM Simferopol' 67.52 319 *e*P **P 10 54 06.4 +1.2**
SIM *e*S **S 11 02 57.0 -3.6**
SIM *e*SS **SS 11 07 27.0 +5.6**
SIM pmax pmax
comp=Z,527nm,0.9s
SIM pmax pmax
comp=Z,103µm,13.4s
AUMIH MIHALICIK 67.53 313 *i* P **P 10 54 06.5 +0.9**
BTIN Bart˙–n 67.57 315 *i* P **P 10 54 06.8 +1.3**
ISP Isparta 67.60 311 *e*P P 10 54 16.5 +10
ISP Isparta 67.60 311 *i* P **P 10 54 07.3 +1.3**
ISP Isparta 67.60 311 *e*P **P 10 54 05.7 -0.3**
comp=Z,4µm,1.6s
ISP *e*S S 11 03 12.5 +10
ISP Isparta 67.60 311 P **P 10 54 07.4 +1.4**
ISP Isparta 67.60 311 *e*P **P 10 54 04.9 -1.1**
ISP pmax pmax
comp=Z,84nm,0.7s
ISP MLR MLR
comp=Z,1338µm,19.0s
SHUT Suhut-Afyon 67.80 312 *e*P P 10 54 02.1 -5.2
KSL Kastellorizon 67.84 309 P **P 10 54 08.4 +1.0**
AKAS Kas 67.85 309 *i* P **P 10 54 04.0 -3.6**
BRDR BURDUR-Merkez 67.92 311 *i* P **P 10 54 08.8 +0.8**
MDUB Mudurnu 67.93 314 *e*P P 10 54 14.3 +6.3
HNR Honiara 67.97 100 *e*P **P 10 54 07.0 -1.7**
HNR Honiara 67.97 100 P **P 10 54 10.1 +1.5**
comp=Z,2µm,0.9s,baz=180,slow=7.1,SNR=15
HNR LR LR 11 25 16.3
comp=Z,343µm,21.9s,baz=278,slow=37
HNR Honiara 67.97 100 *e*P **P 10 54 06.8 -1.8**
comp=Z,16µm,1.3s
HNR Honiara 67.97 100 *e*P **P 10 54 06.9 -1.7**
KZIL AFYON_Kizioren 68.02 311 *i* P **P 10 54 12.4 +3.7**
LPSR Galich'ya Gora 68.08 328 *e*P **P 10 54 08.7 +0.2**
LPSR *e*S **S 11 03 02.0 -5.0**
LPSR pmax pmax
comp=Z,520nm,0.9s
LPSR pmax pmax
comp=Z,610nm,0.9s
LPSR smax smax
comp=E,15µm,5.1s
LPSR MLR MLR
comp=Z,827µm,18.0s
BTAS Taskesti 68.11 314 *i* P **P 10 54 09.5 +0.5**
CASY Casey 68.14 172 *e*P **P 10 54 08.1 -0.5**
comp=Z,122nm,1.2s
GOLH Golhisar 68.16 310 *i* P **P 10 54 07.4 -2.1**
BORA Eskisehir 68.28 313 *i* P **P 10 54 09.9 -0.3**
SAHE Sakarya_HENDEK 68.30 314 *i* P **P 10 54 09.2 -1.0**
FETY Fethiye 68.36 309 P **P 10 54 10.4 -0.3**
GULT Gulveren 68.41 314 *e*P P 10 54 21.6 +11
NRIK Noril'sk 68.53 358 P **P 10 54 10.7 -0.3**
comp=Z,106nm,0.8s,baz=151,slow=1.0
NRIK LR LR 11 29 05.2
comp=Z,230µm,18.7s,baz=61,slow=40
GEYV SAKARYA_Geyve 68.59 314 *i* P **P 10 54 13.0 +1.1**
AUBOZ OZOYUK 68.60 313 *i* P **P 10 54 13.4 +1.3**
AUKUT KUTAHYA 68.62 313 *i* P **P 10 54 11.0 -1.4**
TAVA DENIZLI_Tavas 68.72 310 *i* P P 10 54 20.0 +7.0
GDZ Gediz 68.76 312 *i* P **P 10 54 14.4 +1.2**
TURN Turunc 68.80 309 *i* P P 10 54 22.4 +9.1
KAND Kocaeli-Kandir 68.85 314 *i* P **P 10 54 12.3 -1.3**
ARG Arkhangelos 68.99 309 P **P 10 54 16.1 +1.5**
YER Yerkesik 69.12 310 P **P 10 54 16.9 +1.5**
MANT Manisa 69.28 311 *i* P **P 10 54 20.2 +3.6**
DEMI Demirci 69.32 312 *i* P **P 10 54 16.5 -0.2**
BUY Buyukada 69.55 314 *i* P **P 10 54 18.7 +0.7**
KARP Karpathos 69.58 308 P **P 10 54 19.6 +1.3**
DURS Dursunbey 69.66 312 *i* P **P 10 54 19.9 +1.1**
BDRM Kayabasi 69.75 309 *i* P **P 10 54 22.5 +3.2**
BODT Bodrum 69.85 309 P **P 10 54 19.8 -0.1**
AKHS Akhisar 69.95 311 *i* P P 10 54 28.7 +8.3
GCAM G?zelcaml? 70.07 310 *i* P **P 10 54 24.3 +3.0**
ELBA Catalca 70.14 314 *i* P **P 10 54 25.8 +4.2**
STEP BALIKESIR_Sava 70.15 312 *i* P **P 10 54 24.9 +3.1**
ZKR Zakros 70.23 307 P **P 10 54 25.2 +2.9**
MOS Moscow 70.31 331 *e*P **P 10 54 21.5 -0.8**
MOS *e* 10 54 39.6
MOS *e* 10 57 00.5
MOS pmax pmax
comp=Z,16µm,2.2s
MOS pmax pmax
comp=Z,5µm,1.6s
MOS MLR MLR
comp=E,904µm,19.0s
MOS MLR MLR
comp=Z,841µm,19.0s
BALY Balya 70.33 312 *i* P **P 10 54 22.9 +0.1**
SMG Samos 70.38 310 P **P 10 54 24.2 +1.1**
DGB ˙zmir 70.43 310 *i* P **P 10 54 23.8 +0.4**
BOSA Boshof 70.44 239 P **P 10 54 22.5 -1.4**
comp=Z,244nm,0.6s,baz=84,slow=5.0,SNR=117
BOSA LR LR 11 21 05.8
comp=Z,1744µm,20.0s,baz=64,slow=32
OBN Obninsk 70.53 330 LR LR 11 30 11.9
comp=Z,345µm,18.4s,baz=120,slow=40
OBN Obninsk 70.53 330 *e*P **P 10 54 22.9 -0.7**
comp=Z,11µm,1.8s
OBN Obninsk 70.53 330 *de*P **P 10 54 21.9 -1.7**
OBN *e* 10 54 43.5
OBN *e* 10 56 58.2
OBN *e*PPP PPP 10 58 39.4
OBN *e*S **S 11 03 36.4 +0.6**
OBN pmax pmax
comp=Z,2µm,2.2s
OBN pmax pmax
comp=Z,3µm,1.9s
OBN MLR MLR
comp=Z,936µm,19.0s
LHI Lord Howe Isla 70.62 124 P **P 10 54 24.5 -0.3**
baz=71,SNR=5.9
NPS Neapolis 70.74 307 P **P 10 54 26.3 +0.9**
ZEY ˙zmir 70.77 310 *i* P **P 10 54 27.9 +2.4**
LAST Lasithi 70.83 307 P **P 10 54 27.5 +1.5**
AYVA Ayvalik 70.90 312 *i* P **P 10 54 28.0 +1.8**
SART Tekirdag 70.91 313 *i* P P 10 54 33.7 +7.2
PSN Preselentsi 71.07 316 P **P 10 54 27.8 +0.6**
THR8 Santorini-Mono 71.11 308 P **P 10 54 27.7 +0.1**
TLCR 71.11 318 *||i*P **P 10 54 28.7 +1.3**
SANT Santorini 71.12 308 *||i*P **P 10 54 27.9 +0.2**
SANT Santorini 71.12 308 *e*P **P 10 54 28.1 +0.4**
comp=Z,9µm,1.5s
SANT Santorini 71.12 308 P **P 10 54 29.0 +1.3**
BAYC CANAKKALE_Bayr 71.12 312 *i* P **P 10 54 29.1 +1.4**
SAP2K Karterados 71.14 308 P **P 10 54 29.0 +1.2**
CHOS Chios island 71.15 310 P **P 10 54 29.2 +1.3**
THT1 Athinios (Pele 71.15 308 P **P 10 54 28.1 +0.3**
TIRR Tirgusor 71.16 317 *⇑i*P **P 10 54 26.9 -0.8**
TIRR Tirgusor 71.16 317 *e*P **P 10 54 26.7 -1.0**
comp=Z,4µm,1.4s
TIRR Tirgusor 71.16 317 *e*P **P 10 54 26.7 -1.0**
TIRR pmax pmax
comp=Z,4µm,1.4s
THR7 Fira-Santorini 71.16 308 P **P 10 54 29.1 +1.2**
THR2 Thira island, 71.16 308 P **P 10 54 28.4 +0.5**
THT2 Imerovigli 71.16 308 P **P 10 54 29.4 +1.4**
THR6 Thira Island, 71.17 308 P **P 10 54 28.7 +0.8**
THR3 Thira Island, 71.17 308 P **P 10 54 28.4 +0.4**
IACM Heraklion 71.19 307 P **P 10 54 30.6 +2.5**
THR9 Santorini-Faro 71.20 308 P **P 10 54 28.7 +0.6**
PRK Paraskevi 71.20 311 P **P 10 54 29.2 +1.1**
SAP4 Santorini-Oia 71.21 308 P **P 10 54 29.9 +1.7**
THR5 Thira Island, 71.22 308 P **P 10 54 28.7 +0.4**
SAP3 Santorini-Thir 71.22 308 P **P 10 54 27.5 -0.8**
APE Apeiranthos 71.23 309 *||i*P **P 10 54 27.9 -0.5**
APE Apeiranthos 71.23 309 P **P 10 54 28.4 0.0**
APE Apeiranthos 71.23 309 *e*P **P 10 54 28.4 0.0**
APE pmax pmax
comp=Z,188nm,0.8s
APE MLR MLR
comp=Z,569µm,20.0s
MAW Mawson 71.28 192 P **P 10 54 27.7 -0.2**
comp=Z,150nm,0.8s,baz=29,slow=7.8,SNR=68
MAW LR LR 11 20 08.8
comp=Z,1652µm,20.2s,baz=24,slow=31
MAW Mawson 71.28 192 P **P 10 54 27.7 -0.2**
baz=71,SNR=131
EZN Ezine 71.31 312 P **P 10 54 29.7 +1.0**
KESN Edirne-Kesan 71.32 313 *i* P **P 10 54 29.7 +0.5**
IDI Anoyia 71.33 307 P **P 10 54 28.7 -0.3**
comp=Z,479nm,0.8s,baz=94,slow=6.8,SNR=26
IDI PKPPKP **P'P'df 11 22 21.9 -2.1**
comp=Z,30nm,1.1s,baz=27,slow=4.5,SNR=3.2
IDI LR LR 11 27 23.1
comp=Z,525µm,21.9s,baz=93,slow=37
IDI Anoyia 71.33 307 *||i*P **P 10 54 29.6 +0.6**
IDI Anoyia 71.33 307 *e*P **P 10 54 28.3 -0.7**
comp=Z,2µm,0.8s
IDI P'P' 11 22 21.9
SIVA Sivas 71.33 307 P **P 10 54 29.3 +0.3**
TLB Topalu 71.45 317 *||i*P **P 10 54 29.1 -0.3**
PRD Provadia 71.47 316 P **P 10 54 31.1 +1.5**
SIGR SIGRI 71.50 311 P **P 10 54 31.1 +1.2**
BOZC Bozcaada 71.52 312 *i* P **P 10 54 30.6 +0.6**
HARR Harsova 71.55 317 *||i*P **P 10 54 30.0 -0.1**
CFR Carcaliu 71.57 318 *⇑i*P **P 10 54 29.2 -1.0**
ENEZ Enez 71.68 313 P **P 10 54 31.8 +0.9**
KIS Kishinev 71.70 320 *⇑i*P **P 10 54 30.0 -1.0**
comp=Z,2µm,2.0s
KIS *i* S **S 11 03 50.0 +0.2**
KIS LRM MLR 11 29 40.0
comp=Z,177µm,14.0s
KIS Kishinev 71.70 320 *||i*P **P 10 54 30.6 -0.4**
KIS Kishinev 71.70 320 *⇑i*P **P 10 54 30.0 -1.0**
KIS pmax pmax
comp=E,1µm,2.0s
KIS pmax pmax
comp=Z,2µm,2.0s
GADA Gvkgeada 71.72 312 P **P 10 54 32.4 +1.2**
ALN Alexandroupoli 71.80 313 P **P 10 54 32.8 +1.1**
JMB Yambol 71.84 315 P **P 10 54 33.1 +1.2**
GVD Gavdhos 71.87 306 P **P 10 54 33.0 +0.8**
VAM Vamos 71.90 307 P **P 10 54 32.9 +0.5**
LEOM Leova 71.91 319 *||i*P **P 10 54 33.2 +1.0**
AMRR Amara 71.94 317 *⇑i*P **P 10 54 33.4 +1.0**
MHLO Agia Marina, M 72.02 308 P **P 10 54 33.8 +0.7**
SERI Serifos 72.06 309 P **P 10 54 33.3 -0.1**
SMTH Samothraki Isl 72.07 312 P **P 10 54 32.6 -0.7**
IMMV Iera Moni Meta 72.09 307 P **P 10 54 35.3 +1.8**
KLMR Klimovskoe 72.13 336 *e*P **P 10 54 31.6 -1.6**
KLMR AMP 10 54 42.8
comp=Z,2µm,1.5s
KLMR *e*PP **PP 10 57 13.3 -0.3**
KLMR *e*S **S 11 03 50.9 -3.2**
KLMR *e*S **S 11 03 50.9 -3.2**
KLMR *e*SS **SS 11 08 27.4 -4.3**
KLMR *e*SS **SS 11 08 27.4 -4.3**
KLMR *e*SSS SSS 11 11 47.0
KLMR *e*SSS SSS 11 11 47.0
KLMR LQ LQ 11 19 31.1
KLMR LQ LQ 11 19 31.1
KLMR LR LR 11 25 31.9
KLMR AMP 11 29 33.9
comp=Z,89µm,17.0s
KLMR Klimovskoe 72.13 336 *e*P **P 10 54 31.6 -1.6**
KLMR *e* 10 57 13.3
KLMR *e*S **S 11 03 50.8 -3.3**
KLMR *e*SS **SS 11 08 27.4 -4.3**
KLMR *e*SSS SSS 11 11 47.0
KLMR pmax pmax
comp=Z,2µm,1.5s
KLMR MLR MLR
comp=Z,89µm,17.0s
LIA Limnos Island 72.18 312 P **P 10 54 34.5 +0.5**
RDO Rodhopi 72.23 313 P **P 10 54 35.5 +1.2**
KARY Karystos 72.30 310 P **P 10 54 35.6 +0.9**
PETR Petresti 72.34 318 *⇑i*P **P 10 54 36.9 +2.1**
SORM Soroca 72.38 321 *⇑i*P **P 10 54 33.9 -1.1**
SKY Skiros Island 72.41 311 P P 10 54 42.5 +7.1
GRER 72.41 318 *⇑i*P **P 10 54 38.1 +2.9**
KDZ Kurdzhali 72.45 314 P **P 10 54 37.1 +1.5**
ODBI Odobesti 72.47 318 *||i*P **P 10 54 36.4 +0.8**
DIM Dimitrovgrad 72.47 314 P **P 10 54 35.6 -0.1**
SZH Strazhica 72.52 315 P **P 10 54 37.2 +1.3**
ISR Istrita 72.62 317 *⇑i*P **P 10 54 38.9 +2.3**
SULR 72.69 317 *||i*P **P 10 54 38.9 +2.0**
ANKY Antikythira Is 72.72 307 P **P 10 54 38.6 +1.4**
VRI Vrincioaia 72.72 318 *⇑i*P **P 10 54 37.2 +0.1**
AKASG Malin Array Be 72.73 324 P **P 10 54 35.7 -1.3**
comp=Z,38nm,0.7s,baz=92,slow=5.0,SNR=134
AKASG PKKPbc **PKKPdf 11 14 01.4 -4.4**
comp=Z,0.6nm,0.4s,baz=322,slow=2.2,SNR=4.6
AKASG PKPPKP **P'P'df 11 22 17.3 -3.2**
comp=Z,1.2nm,0.7s,baz=289,slow=2.3,SNR=3.9
AKASG LR LR 11 30 47.7
comp=Z,325µm,19.3s,baz=85,slow=39
KIEV Kiev 72.73 324 *e*P **P 10 54 37.4 +0.3**
comp=Z,3µm,0.9s
KIEV *e*S **SKiKP 11 04 13.9 +3.8**
KIEV Kiev 72.73 324 *i* P **P 10 54 35.7 -1.3**
SNR=67
KIEV Kiev 72.73 324 *e*P **P 10 54 34.5 -2.5**
KIEV pmax pmax
comp=Z,116nm,1.0s
PTL Penteli 72.74 310 P **P 10 54 36.9 -0.5**
VLY Voula,Athens 72.75 309 P **P 10 54 37.3 -0.1**
SGRR Singureni 72.76 316 *⇑i*P **P 10 54 38.8 +1.5**
PLOR Plostina 72.77 318 *||i*P **P 10 54 37.5 +0.1**
EREA Eretria 72.77 310 P **P 10 54 39.0 +1.4**
ATHU Athens Univers 72.78 310 P **P 10 54 38.5 +0.8**
ATH Athens Observa 72.84 310 P **P 10 54 38.9 +1.0**
PLAR PLOIESTI 72.92 317 *||i*P **P 10 54 40.3 +2.1**
SECR 72.92 317 *⇑i*P **P 10 54 39.3 +1.0**
PVL Pavlikeni 72.93 315 P **P 10 54 40.3 +2.0**
KAVA Kavala 72.95 313 P **P 10 54 39.8 +1.3**
TESR Tescani 72.97 319 *||i*P **P 10 54 37.5 -1.0**
RZN Rozhen 72.97 314 P **P 10 54 39.9 +1.0**
KYTH Kithira 73.00 308 P **P 10 54 39.7 +0.7**
SKR Severo-Kuril's 73.01 37 *e*P **P 10 54 37.8 -0.8**
SKR *e* 10 57 17.7
SKR *e*S **SKiKP 11 04 08.3 -2.2**
SKR *e* 11 04 45.2
SKR pmax pmax
comp=Z,105µm,8.7s
SKR pmax pmax
comp=Z,5µm,1.1s
SKR smax smax
comp=E,344µm,12.2s
SKR smax smax
comp=N,187µm,14.5s
SKR MLR MLR
comp=Z,828µm,18.0s
ZIMR 73.02 316 *⇑i*P **P 10 54 39.4 +0.5**
DID Didima 73.11 309 P **P 10 54 38.5 -1.1**

MLR Muntele Rosu 73.14 318 P P 10 54 39.2 -0.5
comp=Z,97nm,0.9s,baz=248,slow=1.8,SNR=98
MLR LR LR 11 32 35.5
comp=Z,168µm,18.6s,baz=92,slow=41
MLR Muntele Rosu 73.14 318 ⇓iP P 10 54 39.7 0.0
KRND KRANIDI 73.15 309 P P 10 54 39.6 -0.2
VLI Veliai 73.18 308 P P 10 54 39.9 -0.1
VILL Villia 73.19 310 P P 10 54 40.0 -0.1
SKIA Skiathos 73.30 311 P P 10 54 43.6 +2.9
PAIG Paliouri 73.31 312 P P 10 54 41.0 +0.3
LOUT Loutraki 73.42 309 P P 10 54 40.6 -0.8
LTK Loutraki 73.43 310 P P 10 54 39.8 -1.7
SMIA Simia 73.43 310 P P 10 54 42.5 +1.0
NVR Nevrokopi 73.51 313 P P 10 54 43.3 +1.4
NEO Neokhori 73.51 311 P P 10 54 49.5 +7.6
HUMR Humele 73.53 316 ⇓iP P 10 54 41.6 -0.3
PROD Prodromos 73.53 310 P P 10 54 40.0 -2.1
LKR Lokris 73.54 310 P P 10 54 41.9 -0.2
XOR Xorichti 73.55 311 P P 10 54 48.0 +5.8
PGB Panagyurishte 73.58 314 P P 10 54 43.6 +1.3
PLG Polygyros 73.59 312 P P 10 54 43.2 +0.8
GOLR 73.62 317 ⇑iP P 10 54 42.3 -0.1
DOPR Dopca 73.64 318 ⇓iP P 10 54 42.2 -0.4
SRS Serrai 73.65 313 P P 10 54 43.2 +0.5
MTUR Matau 73.66 317 ⇓iP P 10 54 43.9 +1.1
DYR Agios Nikonas 73.66 308 P P 10 54 44.0 +1.1
MMB Musomiste 73.67 313 P P 10 54 45.9 +3.1
THAL Thalero 73.67 309 P P 10 54 42.7 -0.1
VLX Viachokerasia 73.75 309 P P 10 54 43.5 0.0
FYTO Fytoko, Volos 73.75 311 P P 10 54 44.7 +1.4
SOH Sokhos 73.76 312 P P 10 54 44.6 +1.2
AXAR Agios Charalam 73.82 310 P P 10 54 44.7 +0.9
MA2 Magadan 73.83 27 P P 10 54 41.7 -1.6
comp=Z,388nm,1.0s,baz=236,slow=5.3,SNR=91
MA2 LR LR 11 30 42.2
comp=Z,1109µm,19.0s,baz=246,slow=39
DSF Desfina 73.85 310 P P 10 54 43.6 -0.4
GUR Goura 73.89 309 P P 10 54 43.2 -1.1
HORT Hortiatis 73.89 312 P P 10 54 44.3 +0.1
ARR Arges 73.99 317 ⇓iP P 10 54 43.5 -1.2
THE Thessaloniki 74.00 312 P P 10 54 45.0 +0.3
KLV Kalavryta, Ach 74.06 309 P P 10 54 45.2 -0.1
ITM Ithomi 74.06 308 P P 10 54 46.0 +0.8
MPEP Malo Peshtene 74.09 315 P P 10 54 44.6 -0.6
AGG Agios Georgios 74.13 310 P P 10 54 43.8 -1.8
ALIK Aliki, Aigiali 74.14 310 P P 10 54 46.5 +0.9
KALE Kalithea 74.14 310 P P 10 54 44.4 -1.3
PYL PYLOS 74.15 308 P P 10 54 44.9 -0.8
KNT Kendrikon 74.17 313 P P 10 54 45.8 0.0
TRIZ Trizonia 74.19 310 P P 10 54 46.3 +0.4
KKB Krupnik 74.20 313 P P 10 54 46.4 +0.5
SERG Sergoula 74.21 310 P P 10 54 45.2 -0.9
BURAR Bucovina Array 74.23 320 ⇓iP P 10 54 45.9 -0.2
LAKA Lakka 74.24 310 P P 10 54 46.7 +0.5
LIT Litokhoron 74.24 312 P P 10 54 46.4 +0.2
VTS Vitosha 74.28 314 ⇓iP P 10 54 46.0 -0.5
VTS Vitosha 74.28 314 P P 10 54 46.9 +0.4
VTS Vitosha 74.28 314 P P 10 54 47.1 +0.6
AMT Artemida-Makis 74.30 309 P P 10 54 47.1 +0.5
EFP Efpalio 74.33 309 P P 10 54 47.4 +0.7
ANX Ano Chora 74.35 310 P P 10 54 45.7 -1.3
MDB Medias 74.37 318 ⇑iP P 10 54 47.7 +0.9
DRO Drossia 74.39 309 P P 10 54 47.5 +0.4
UPR University Cam 74.39 310 P P 10 54 49.4 +2.3
VAY Valandovo 74.45 313 P P 10 54 47.8 +0.5
VAY Valandovo 74.45 313 iP P 10 54 46.4 -1.0
THL Klokotos Trika 74.48 311 P P 10 54 47.5 -0.1
TIXI Tiksi 74.49 11 eP P 10 54 44.9 -2.0
comp=Z,420nm,1.8s
TIXI Tiksi 74.49 11 eP P 10 54 43.8 -3.1
TIXI pmax pmax
comp=Z,284nm,0.7s
TIXI MLR MLR
comp=Z,1597µm,20.0s
GRG Griva 74.49 312 P P 10 54 47.6 -0.1
EVR Evrytania 74.50 310 P P 10 54 48.3 +0.4
TMCR Tamitsa 74.51 338 eP P 10 54 47.5 +0.3
TMCR pmax pmax
comp=Z,976nm,0.8s
KTI Kastanea 74.58 312 P P 10 54 48.1 -0.2
RLS Riolos of Patr 74.59 309 P P 10 54 49.7 +1.5
LOT Lotru 74.60 317 ⇑iP P 10 54 48.2 -0.1
ARCR ARCALIA 74.64 319 ⇑iP P 10 54 49.7 +1.3
PVO Paravola 74.66 310 P P 10 54 49.7 +1.1
PETK Petropavlovsk- 74.76 35 P P 10 54 47.6 -1.3
comp=Z,89nm,1.0s,baz=210,slow=2.2,SNR=35
PETK PKKP PKKPdf 11 14 00.8 -2.0
comp=Z,7.8nm,1.0s,baz=116,slow=6.8,SNR=3.8
PETK PKPPKP P'P'df 11 22 17.8 +1.0
comp=Z,11nm,0.9s,baz=92,slow=7.0,SNR=6.1
PETK LR LR 11 31 23.1
comp=Z,801µm,18.8s,baz=256,slow=39
SRE Strehaia 74.78 316 ⇑iP P 10 54 51.1 +1.9
VTN Vitineika 74.78 309 P P 10 54 49.8 +0.5
KZN Kozani 74.82 312 P P 10 54 49.9 +0.3
MICGM Minsk 74.84 327 ⇑eP P 10 54 47.0 -2.3
MICGM PM 10 54 49.0
comp=Z,1.4nm,1.0s
MICGM PM 10 54 50.0
comp=E,1.0nm,1.5s
MICGM ePP PP 10 57 32.0 -4.9
MICGM ePPP PPP 10 59 34.0
MICGM eS S 11 04 20.0 -5.0
MICGM SM 11 04 27.0
comp=N,310nm,16.0s
MICGM eSS SS 11 09 05.0 -8.3
MICGM eSSS SSS 11 12 18.0
MICGM eLQ LQ 11 15 30.0
MICGM eLR LR 11 19 08.0
MICGM LRM MLR 11 33 30.0
comp=Z,98nm,17.0s
MICGM LRM MLR 11 33 32.0
comp=E,107nm,18.0s
MNK Minsk 74.84 327 ⇑eP P 10 54 47.0 -2.3
MNK e 10 57 32.0
MNK eS S 11 04 20.0 -5.0
MNK pmax pmax
comp=Z,1µm,1.0s
MNK pmax pmax
comp=E,960nm,1.5s
MNK smax smax
comp=N,310µm,16.0s
MNK MLR MLR
comp=E,98µm,17.0s
WAKE Wake Island 74.86 70 eP P 10 54 49.0 -1.1
comp=E,3µm,1.2s
PDO Prodromos 74.92 310 P P 10 54 50.1 0.0
SUR Sutherland 74.95 236 eP P 10 54 51.4 +0.8
comp=E,3µm,1.0s
SUR Sutherland 74.95 236 P P 10 54 52.2 +1.5
SNR=62
SUR Sutherland 74.95 236 P P 10 54 52.2 +1.5
SNR=62
KPRO Kipourio 75.05 311 P P 10 54 50.4 -0.6
DSL Palaion Diasel 75.09 310 P P 10 54 52.3 +1.1
KFL Anninata 75.13 309 P P 10 54 51.1 -0.3
FNA Florina 75.22 312 P P 10 54 52.4 +0.5
PENT Pentalofos 75.27 311 P P 10 54 52.2 -0.1
PET Petropavlovsk 75.28 35 eP P 10 54 49.8 -2.1
comp=E,2µm,1.1s
PET Petropavlovsk 75.28 35 eP P 10 54 49.7 -2.1
PET e 10 57 48.8
PET eS S 11 04 27.7 -2.2
PET eSS SS 11 09 18.8 -1.2
PET pmax pmax
comp=Z,2µm,1.2s
PET pmax pmax
comp=Z,719nm,3.1s
PET pmax pmax
comp=Z,108µm,15.2s
DEV Deva 75.30 317 ⇓iP P 10 54 53.4 +1.3
VLS Valsamata 75.30 309 P P 10 54 52.8 +0.5
BIA Bitola 75.30 312 P P 10 54 53.4 +1.0
BIA Bitola 75.30 312 iP P 10 54 53.2 +0.9
LKD2 Lefkada island 75.36 310 P P 10 54 52.0 -0.7
BMR Baia Mare 75.36 319 ⇑iP P 10 54 54.0 +1.5
FSK Fiskardo 75.37 310 P P 10 54 52.7 0.0
JAN Janina 75.38 311 P P 10 54 53.3 +0.5
NEST Nestorio 75.38 312 P P 10 54 53.0 +0.1
HERR Herculane 75.38 316 ⇓iP P 10 54 52.2 -0.5
SKO Skopje 75.42 313 P P 10 54 52.5 -0.5
SKO Skopje 75.42 313 iP P 10 54 51.9 -1.1

KRUS Krusevo 75.43 313 iP P 10 54 50.9 -2.3
DZM Mont Dzumac 75.50 113 P P 10 54 53.5 -0.4
comp=Z,113nm,1.0s,baz=307,slow=10,SNR=10
DZM LR LR 11 28 50.3
comp=Z,747µm,20.5s,baz=284,slow=36
DZM Mont Dzumac 75.50 113 eP P 10 54 53.8 -0.1
comp=Z,3µm,1.4s
DZM eS S 11 04 36.0 +2.3
comp=Z,1018µm,32.4s
DZM Mont Dzumac 75.50 113 eLR LR 11 18 20.4
comp=Z,1172µm,22.3s
DZM Mont Dzumac 75.50 113 eP P 10 54 54.4 +0.5
comp=Z,2µm,1.4s
NACGM Naroch 75.58 327 eP P 10 54 52.0 -1.6
NACGM PM 10 55 26.0
comp=Z,4.7nm,1.0s
LVV L'vov 75.61 322 eP P 10 54 52.9 -0.9
LVV e 10 55 07.0
LVV e 10 57 46.7
LVV eS S 11 04 28.7 -5.0
LVV e 11 05 23.4
LVV MLR MLR
comp=Z,501µm,25.0s
LVV MLR MLR
comp=N,522µm,22.0s
LVV MLR MLR
comp=E,546µm,23.0s
KBN Korca 75.62 312 P P 10 54 54.6 +0.4
PUL Pulkovo 75.63 333 ceP P 10 54 52.8 -0.9
PUL pmax pmax
comp=Z,958nm,0.6s
DRGR 75.65 318 ⇑iP P 10 54 53.8 -0.5
OHR Ohrid 75.71 312 iP P 10 54 52.6 -2.1
IDID Didziasalis 75.75 327 eP P 10 54 53.1 -1.3
IDID IAmb IAmb 10 55 08.1
comp=Z,332nm,1.1s
IGT Igoumenitsa 75.75 311 P P 10 54 55.5 +0.6
SGD Sagiada 75.84 311 P P 10 54 55.0 -0.4
TSUM Tsumeb 75.95 250 eP P 10 54 56.6 -0.1
comp=Z,41µm,2.3s
TSUM ePP PP 10 57 42.1 -5.2
IIGN Ignalina 76.03 327 eP P 10 54 54.8 -1.3
IIGN IAmb IAmb 10 55 06.8
comp=Z,269nm,0.9s
SEY Seymchan 76.06 24 P P 10 54 54.2 -1.9
comp=Z,220nm,0.9s,baz=257,slow=6.5,SNR=91
SEY LR LR 11 31 19.2
comp=Z,1930µm,19.4s,baz=248,slow=38
SEY Seymchan 76.06 24 eP P 10 54 54.0 -2.2
SRN Sarande 76.07 311 P P 10 54 56.9 +0.2
PHP Peshkopia 76.09 313 P P 10 54 56.7 -0.2
KEK Kerkira 76.19 311 P P 10 54 57.7 +0.3
KWP Kalwaria Pacla 76.38 321 eP P 10 54 59.4 +1.1
comp=Z,140µm,16.7s
KWP eS S 11 04 56.1 +14
KWP eSS SS 11 10 00.4 +23
KWP LMZ LR 11 25 50.3
comp=Z,729µm,32.2s
KWP Kalwaria Pacla 76.38 321 eP P 10 54 59.4 +1.1
KWP eS S 11 04 56.1 +14
UZH Uzhgorod 76.39 320 eP P 10 54 58.2 -0.1
UZH e 10 55 05.4
UZH eS S 11 04 40.0 -2.4
UZH ePS PnS 11 05 33.4 +12
TIR Tirane 76.45 312 ⇑iP P 10 54 59.9 +1.1
TIR Tirane 76.45 312 eP P 10 54 58.8 0.0
comp=Z,1µm,1.0s
TIR Tirane 76.45 312 P P 10 54 58.9 0.0
TIR Tirane 76.45 312 eP P 10 54 58.8 0.0
TIR pmax pmax
comp=Z,1µm,1.0s
PVY Plav 76.62 314 ⇓iP P 10 54 59.9 -0.1
IVA Berane 76.72 314 ⇓iP P 10 54 59.8 -0.7
VSU Vasula 76.84 331 ceP P 10 54 58.8 -1.8
VSU pmax pmax
comp=Z,3µm,1.7s
VSU MLR MLR
comp=Z,2311µm,20.0s
CRVS Cervenica-Dubn 76.99 320 eP P 10 55 02.0 +0.3
CRVS eS S 11 04 57.1 +8.1
CRVS eSS SS 11 09 44.8 -1.3
CRVS Cervenica-Dubn 76.99 320 eP P 10 55 02.0 +0.3
CRVS eSS SS 11 09 44.8 -1.3
KOME Kolasin 76.99 314 ⇓iP P 10 55 01.6 -0.4
ULC Ulcinj 77.02 313 ⇓iP P 10 55 01.4 -0.7
PDG Podgorica 77.10 313 ⇓iP P 10 55 01.1 -1.4
PDG Podgorica 77.10 313 P P 10 55 02.4 -0.1
TTG Podgorica 77.10 313 ⇓iP P 10 55 02.6 +0.1
DRME Dracevica, Mon 77.11 313 ⇓iP P 10 55 02.5 0.0
PLE Pljevlja 77.18 314 ⇓iP P 10 55 03.3 +0.2
MCQ Macquarie Isla 77.20 147 eP P 10 55 02.5 -0.2
MCQ Macquarie Isla 77.20 147 eP P 10 55 02.6 -0.2
STHS Stebnicka Huta 77.25 321 eP P 10 55 03.8 +0.6
STHS Stebnicka Huta 77.25 321 eP P 10 55 03.8 +0.6
SUW Suwalki 77.30 326 eP P 10 55 03.5 +0.1
comp=Z,458µm,2.2s
SUW eS S 11 04 59.8 +7.7
SUW LMZ LR 11 27 14.8
comp=Z,1131µm,29.1s
SUW Suwalki 77.30 326 eP P 10 55 03.4 +0.1
BUM Brajici-Budva 77.34 313 ⇓iP P 10 55 03.1 -0.8
NKY Niksic 77.36 314 ⇓iP P 10 55 03.5 -0.6
CEME Cevo 77.37 313 ⇓iP P 10 55 04.3 +0.2
LVZ Lovozero 77.64 341 eP P 10 55 04.8 -0.2
comp=Z,3µm,1.4s
LVZ Lovozero 77.64 341 ceP P 10 55 04.2 -0.8
LVZ pmax pmax
comp=Z,448nm,1.7s
LVZ MLR MLR
comp=Z,2396µm,18.0s
HCY Herceg Novi 77.66 313 ⇓iP P 10 55 05.4 -0.2
PSZ Piszkesteto 77.78 319 ⇑iP P 10 55 06.8 +0.5
PSZ Piszkesteto 77.78 319 eP P 10 55 07.0 +0.7
comp=Z,3µm,1.6s
PSZ Piszkesteto 77.78 319 eP P 10 55 07.0 +0.7
PSZ pmax pmax
comp=Z,3µm,1.6s
NIE Niedzica 77.85 321 eP P 10 55 08.7 +2.1
comp=Z,58µm,16.1s
NIE eS SKSac 11 05 14.2 -5.1
NIE eSS SS 11 10 00.2 +1.1
NIE LMZ LR 11 30 19.9
comp=Z,444µm,23.8s
NIE Niedzica 77.85 321 eP P 10 55 08.7 +2.1
NIE eS SKSac 11 05 14.2 -5.1
NIE eSS SS 11 10 00.2 +1.1
NIE MLR MLR
comp=Z,444µm,23.8s
APA Apatity 77.89 340 ⇑iP P 10 55 05.0 -1.4
APA i 10 55 22.2
APA i 10 58 09.8
APA i PPP PPP 10 59 45.1
APA i S S 11 04 54.0 -4.0
APA i 11 05 11.0
APA i PS PnS 11 05 43.0 +3.0
APA pmax pmax
comp=Z,149nm,0.9s
BEL Belsk 78.12 323 eP P 10 55 09.2 +1.3
comp=Z,245µm,17.5s
BEL eS S 11 05 14.3 +13
BEL LMZ LR 11 28 24.1
comp=Z,1447µm,28.4s
BEL Belsk 78.12 323 eP P 10 55 09.2 +1.3
BEL eS S 11 05 14.3 +13
SYO Syowa Base 78.16 197 ⇓iP P 10 55 07.8 0.0
SYO Syowa Base 78.16 197 ⇓ipP pP 10 55 15.0 +0.1
FINES FINESS Array B 78.21 333 P P 10 55 07.2 -1.0
comp=Z,250nm,0.8s,baz=106,slow=5.4,SNR=236
FINES PKKPbc PKKPbc 11 14 06.5 -3.3
comp=Z,7.8nm,1.0s,baz=225,slow=0.2,SNR=3.4
FINES LR LR 11 33 00.5
comp=Z,830µm,18.6s,baz=104,slow=38
LANS Liptovska Anna 78.32 320 eP P 10 55 09.5 +0.3
LANS Liptovska Anna 78.32 320 eP P 10 55 09.5 +0.3
OJC Ojcow 78.35 321 eP P 10 55 10.7 +1.4
comp=Z,131µm,17.2s
OJC ePP PP 10 58 24.0 +18
OJC eS SKSac 11 05 17.8 -5.0
OJC LMZ LR 11 26 32.1
comp=Z,716µm,33.3s
OJC Ojcow 78.35 321 eP P 10 55 10.7 +1.4
OJC eS SKSac 11 05 17.8 -5.0
TIP Timpagrande 78.42 310 ⇑iP P 10 55 10.5 +0.5
TIP Timpagrande 78.42 310 eP P 10 55 10.2 +0.2
comp=Z,2µm,1.4s
TIP Timpagrande 78.42 310 P P 10 55 12.9 +2.9
VYHS Vyhne 78.59 319 eP P 10 55 09.8 -0.9
VYHS Vyhne 78.59 319 eS S 11 05 16.0 +10
VYHS eSS SS 11 10 16.5 +6.2
VYHS eL L 11 23 52.9
VYHS Vyhne 78.59 319 eP P 10 55 09.8 -0.9
VYHS eS S 11 05 16.0 +10
VYHS eSS SS 11 10 16.5 +6.2
MATE Matera 78.68 311 ⇑iP P 10 55 10.9 -0.4
SRO2 Moca 78.73 319 eP P 10 55 14.5 +3.1
SRO2 Moca 78.73 319 eP P 10 55 14.5 +3.1
SRO Srobarova 78.80 319 eP P 10 55 14.3 +2.5
SRO Srobarova 78.80 319 eP P 10 55 14.3 +2.5
CEL Celeste 78.96 309 eP P 10 55 13.8 +0.8
comp=Z,1µm,1.0s
BLY Banja Luka 79.00 315 ⇓iP P 10 55 12.9 -0.1
KLNR Kaliningrad 79.14 326 eP P 10 55 13.3 -0.2
KLNR pmax pmax
comp=Z,589nm,1.0s
KLNR MLR MLR
comp=Z,457µm,23.0s
CUC Castrocucco 79.26 310 eP P 10 55 14.2 -0.3
comp=Z,4µm,1.9s
OKC Ostrava-Krasne 79.31 321 eP P 10 55 14.8 +0.3
OKC ex x 10 55 15.9
OKC ex x 10 55 32.2
OKC AMS AMS 11 37 40.0
comp=Z,356µm,19.5s
OKC Ostrava-Krasne 79.31 321 eP P 10 55 14.8 +0.3
OKC e 10 55 15.9
OKC MLR MLR
comp=Z,356µm,19.5s
RAC Raciborz 79.33 321 eP P 10 55 15.0 +0.4
RAC eS S 11 05 15.8 +1.7
RAC MLR MLR
comp=Z,400µm,22.4s
SMOL Smolenice 79.51 319 eP P 10 55 17.0 +1.3
SMOL Smolenice 79.51 319 eP P 10 55 17.1 +1.3
MODS Modra-Piesok 79.58 319 eP P 10 55 16.0 -0.1
MODS ePP PP 10 58 29.7 +13
MODS eS S 11 05 24.3 +7.3
MODS eSS SS 11 10 37.7 +12
MODS Modra-Piesok 79.58 319 eP P 10 55 16.0 -0.1
MODS eS S 11 05 24.3 +7.3
ZST Bratislava 79.67 319 eP P 10 55 16.0 -0.5
ZST ePP PP 10 58 31.4 +14
ZST eS S 11 05 18.7 +0.9
ZST eSS SS 11 10 33.7 +7.3
ZST eL L 11 32 08.7
ZST Bratislava 79.67 319 eP P 10 55 16.0 -0.5
ZST eS S 11 05 18.7 +0.9
ZST MLR MLR
comp=Z,174µm,21.7s
MORC Moravsky Berou 79.68 320 ⇑iP P 10 55 16.4 -0.3
MORC Moravsky Berou 79.68 320 eP P 10 55 16.7 +0.1
comp=Z,5µm,1.9s
MORC Moravsky Berou 79.68 320 eP P 10 55 16.7 +0.1
MORC pmax pmax
comp=Z,5µm,1.9s
KOGS Kog 79.93 317 eP P 10 55 18.6 +0.6
VAE Valguarnera 80.02 308 P P 10 55 19.0 +0.2
comp=Z,82nm,0.8s,baz=163,slow=4.6,SNR=11
VRAC Vranov 80.20 320 ⇓iP P 10 55 20.7 +1.3
KRLC Kraliky 80.22 321 eP P 10 55 18.0 -1.6
KRLC ex x 10 55 19.3
KRLC eSKS SKSac 11 05 37.3 +1.2
KRLC eSS SS 11 10 32.8 -1.9
KRLC AMS AMS 11 34 10.0
comp=Z,127µm,19.0s
KRLC Kraliky 80.22 321 eP P 10 55 18.0 -1.6
KRLC eSS SS 11 10 32.8 -1.9
KRLC MLR MLR
comp=Z,127µm,19.0s
CONA Conrad Observa 80.44 318 iP P 10 55 20.4 -0.5
comp=Z,208nm,1.2s,SNR=79
TARA Tarawa 80.48 89 eP P 10 55 22.0 +0.4
comp=Z,283nm,1.5s
GKP Gorka Klasztor 80.55 324 eP P 10 55 29.9 +8.8
comp=Z,155µm,17.8s
GKP ePP PP 10 58 47.8 +23
GKP eS S 11 05 38.3 +12
GKP LMZ LR 11 26 16.8
comp=Z,1432µm,37.8s
GKP Gorka Klasztor 80.55 324 eP P 10 55 30.0 +8.8
GKP eS S 11 05 38.3 +11
ARSA Arzberg 80.56 318 iP P 10 55 20.9 -0.6
comp=Z,582nm,1.0s,SNR=244
DPC Dobruska-Polom 80.56 321 eP P 10 55 21.0 -0.4
DPC ex x 10 55 23.2
DPC ex x 10 55 39.7
DPC eSKS SKSac 11 05 35.5 -2.9
DPC eSS SS 11 10 40.2 +0.4
DPC ePKPPKP P'P'df 11 22 07.2 +0.4
DPC AMS AMS 11 36 20.0
comp=Z,542µm,18.4s
DPC Dobruska-Polom 80.56 321 eP P 10 55 21.0 -0.4
DPC eS SKSac 11 05 35.5 -2.9
DPC eSS SS 11 10 40.2 +0.4
DPC MLR MLR
comp=Z,542µm,18.4s
KSP Ksiaz 80.67 321 eP P 10 55 23.2 +1.3
comp=Z,143µm,18.7s
KSP ePP PP 10 58 49.2 +23
KSP eS SKSac 11 05 47.7 +8.6
KSP LMZ LR 11 27 54.5
comp=Z,857µm,31.1s
KSP Ksiaz 80.67 321 eP P 10 55 23.2 +1.3
PERS Pernice 80.74 317 eP P 10 55 22.8 +0.3
UPC Upice 80.78 321 eP P 10 55 22.4 -0.1
UPC ex x 10 55 23.9
UPC ex x 10 55 40.6
UPC eSKS SKSac 11 05 43.0 +3.1
UPC eSS SS 11 10 42.3 -0.7
UPC AMS AMS 11 36 40.0
comp=Z,581µm,19.9s
UPC Upice 80.78 321 eP P 10 55 22.4 -0.1
UPC eSS SS 11 10 42.3 -0.7
UPC MLR MLR
comp=Z,581µm,19.9s
SOKA Soboth 80.80 317 iP P 10 55 21.9 -0.9
comp=Z,594nm,0.9s,SNR=195
TREC Trest 80.91 320 eP P 10 55 23.1 -0.2
TREC ex x 10 55 24.5
TREC ex x 10 55 40.8
TREC eSKS S 11 05 39.4 +8.5
TREC eSS SS 11 10 41.3 -3.7
TREC ePKKP PKKPbc 11 14 05.9 +2.7
TREC AMS AMS 11 32 30.0
comp=Z,739µm,23.0s
TREC Trest 80.91 320 eP P 10 55 23.1 -0.2
TREC eS S 11 05 39.4 +8.5
TREC eSS SS 11 10 41.3 -3.7
TREC e 11 14 05.9
TREC MLR MLR
comp=Z,739µm,23.0s
KEV Kevo 80.95 341 eP P 10 55 21.7 -1.3
comp=Z,2µm,1.5s
KEV Kevo 80.95 341 eP P 10 55 21.7 -1.3
KEV pmax pmax
comp=Z,2µm,1.5s
LJU Ljubljana 81.05 316 eP P 10 55 23.9 -0.1
LJU eS S 11 05 51.0 +19
LJU eSS SS 11 10 54.5 +7.2
LJU e 11 17 30.2
LJU e 11 22 42.3
OBKA Obir 81.11 317 iP P 10 55 24.6 +0.1
comp=Z,502nm,1.5s,SNR=84
ARCES ARCESS Array B 81.36 341 P P 10 55 23.8 -1.4
comp=Z,239nm,0.8s,baz=93,slow=6.0,SNR=112
ARCES LR LR 11 34 42.1
comp=Z,1148µm,19.1s,baz=112,slow=38
ARE0 ARCESS Array S 81.36 341 eP P 10 55 24.2 -1.0
AQU L'Aquila 81.37 313 eP P 10 55 25.5 -0.4
comp=Z,9µm,1.4s
AQU L'Aquila 81.37 313 eP P 10 55 25.5 -0.4
AQU pmax pmax
comp=Z,9µm,1.4s
GOPC GO Pecny, Ondr 81.46 320 eP P 10 55 25.9 -0.3
GOPC ex x 10 55 27.5
GOPC ex x 10 55 43.6
GOPC ex x 11 05 49.4
GOPC eSS SS 11 10 53.0 -0.2

GOPC *e*PKKP **PKKPbc** 11 14 03.7 **+1.7**
GOPC GO Pecny, Ondr 81.46 320 *e*P **P** **10 55 25.9 -0.3**
GOPC *e*SS SS 11 10 53.0 -0.2
MOA Molln 81.49 318 *i* P **P** **10 55 25.3 -1.0**
comp=Z,230nm,1.4s,SNR=84
TRI Trieste 81.53 316 *e*P **P** **10 55 25.9 -0.7**
comp=Z,4µm,1.7s
TRI Trieste 81.53 316 *e*P **P** **10 55 25.9 -0.7**
TRI pmax pmax
comp=Z,4µm,1.7s
CADS Cadrg 81.62 317 *e*P **P** **10 55 26.8 -0.3**
PRU Pruhonice 81.63 320 *e*P **P** **10 55 26.9 -0.1**
PRU *e*x x 10 55 28.3
PRU *e*x x 10 55 44.8
PRU *e*SKS **S** **11 05 46.6 +8.4**
PRU *e*SS **SS** **11 10 52.5 -3.1**
PRU AMS AMS 11 41 20.0
comp=Z,427µm,15.9s
PRU Pruhonice 81.63 320 *e*P **P** **10 55 26.9 -0.1**
PRU *e*S **S** **11 05 46.6 +8.4**
PRU *e*SS **SS** **11 10 52.5 -3.1**
PRU MLR MLR
comp=Z,427µm,15.9s
PVCC Panska Ves 81.69 321 *e*P **P** **10 55 27.9 +0.5**
PVCC *e*x x 10 55 45.3
PVCC *e*SKS **S** **11 05 46.3 +7.4**
PVCC *e*SS **SS** **11 10 56.3 -0.3**
PVCC AMS AMS 11 38 00.0
comp=Z,576µm,17.5s
PVCC Panska Ves 81.69 321 *e*P **P** **10 55 27.9 +0.5**
PVCC *e*S **S** **11 05 46.3 +7.4**
PVCC *e*SS **SS** **11 10 56.3 -0.3**
PVCC MLR MLR
comp=Z,576µm,17.5s
PRA Prague 81.71 320 *e*P **P** **10 55 28.2 +0.8**
PRA *e*SS SS 11 10 53.7 -3.1
PRA AMS AMS 11 38 10.0
comp=Z,432µm,18.8s
PRA Prague 81.71 320 *e*P **P** **10 55 28.2 +0.8**
PRA *e*SS SS 11 10 53.7 -3.1
PRA MLR MLR
comp=Z,432µm,18.8s
MYKA Terra Mystica 81.74 317 *i* P **P** **10 55 27.1 -0.7**
comp=Z,736nm,1.7s,SNR=128
KTK1 Kautokeino 81.93 340 *e*P **P** **10 55 27.5 -0.7**
I26DE FREYUNG INFRAS 82.00 319 P **P** **10 55 32.2 +3.0**
baz=58,slow=8.4,SNR=1.7
GERES GERESS Array B 82.00 319 P **P** **10 55 28.6 -0.6**
comp=Z,297nm,0.8s,baz=111,slow=5.3,SNR=192
GERES PKKPbc **PKKPbc** **11 14 04.5 +3.6**
comp=Z,6.6nm,1.0s,baz=257,slow=1.7,SNR=5.4
GERES LR LR 11 34 15.5
comp=Z,269µm,21.6s,baz=90,slow=37
KBA Koelnbreinsper 82.00 317 *e*P **P** **10 55 28.0 -1.3**
SNR=64
KHC Kasperske Hory 82.12 319 *e*P **P** **10 55 29.0 -0.7**
KHC *e*x x 10 55 30.5
KHC *e*SKS **S** **11 05 51.7 +8.2**
KHC *e*SS **SS** **11 10 56.1 -7.0**
KHC *e*PKKP **PKKPbc** **11 14 01.2 +0.7**
KHC *e*PKPPKP **P'P'df** **11 22 10.3 +6.3**
KHC AMS AMS 11 37 40.0
comp=Z,720µm,19.0s
KHC Kasperske Hory 82.12 319 *e*P **P** **10 55 29.4 -0.4**
comp=Z,1µm,1.3s
KHC Kasperske Hory 82.12 319 *e*P **P** **10 55 29.0 -0.7**
KHC *e*SS SS 11 10 56.1 -7.0
KHC MLR MLR
comp=Z,720µm,19.0s
BRG Berggiesshubel 82.14 321 *i* P **P** **10 55 30.7 +1.0**
comp=Z,382nm,1.3s
BRG *i* PCP **PcP** **10 55 34.7 -0.3**
comp=Z,3µm,2.1s
BRG *i* 10 55 51.3
comp=Z,6µm,1.8s
BRG *i* 10 56 10.6
comp=Z,2µm,1.6s
BRG *e*PKKP **PKKPbc** **11 13 57.1 -3.4**
comp=Z,123nm,1.7s
BRG *i* PKKS 11 17 17.2
comp=Z,35nm,1.3s
BRG *e*PKPPKP **P'P'df** **11 22 03.5 -0.3**
comp=Z,46nm,1.5s
comp=N,534µm,20.0s
comp=E,776µm,17.9s
comp=Z,1032µm,17.8s
BRG Berggiesshubel 82.14 321 *i* P **P** **10 55 30.7 +1.0**
BRG *i* 10 55 34.7
BRG pmax pmax
comp=Z,382nm,1.3s
BRG MLR MLR
comp=N,534µm,20.0s
BRG MLR MLR
comp=E,776µm,17.9s
BRG MLR MLR
comp=Z,1032µm,17.8s
BSD Bornholm Skovb 82.24 326 *i* P **P** **10 55 29.9 -0.2**
comp=Z,516µm,17.0s
BSD Bornholm Skovb 82.24 326 *i* P **P** **10 55 29.9 -0.2**
BSD MLR MLR
comp=Z,520µm,17.0s
RPZ Rata Peaks 82.31 134 PKKPbc PKKPbc 11 13 59.2 -0.6
comp=Z,12nm,0.8s,baz=111,slow=12,SNR=3.0
HAMF Hammerfest 82.33 342 *e*P **P** **10 55 29.5 -0.7**
ABTA Abfaltersbach 82.53 317 *i* P **P** **10 55 30.8 -1.2**
comp=Z,217nm,1.1s,SNR=78
CLL Collm 82.79 322 *i* P **P** **10 55 34.2 +1.1**
comp=Z,300nm,1.3s
CLL *e*pP **pP** **10 55 40.0 -0.2**
CLL *e*Pmax 10 55 47.0
CLL *i* P(2) 10 55 53.6
comp=Z,3µm,1.7s
CLL *i* 10 56 12.1
comp=Z,1µm,1.2s
CLL *i* Pmax 10 56 23.4
comp=Z,2µm,1.3s
CLL *e*S(2) 11 06 08.0
CLL *e*PS(2) 11 06 59.0
CLL *e* 11 07 57.0
CLL *e*SS SS 11 11 17.0 +4.2
CLL *i* (PKKPbc) 11 13 51.0
CLL *e*SSS SSS 11 14 48.0
CLL *e*PKPPKPc **P'P'df** **11 21 59.0 -3.6**
CLL Lmax 11 39 00.0
CLL Collm 82.79 322 *i* P **P** **10 55 34.2 +1.1**
CLL pmax pmax
comp=Z,3µm,1.7s
NKC Novy Kostel 83.00 320 *e*P **P** **10 55 33.8 -0.4**
NKC *e*PCP **PcP** **10 55 35.5 -3.4**
NKC *e*x x 10 55 53.5
NKC *e*x x 11 06 16.6
NKC *e*SS SS 11 11 07.9 -8.1
NKC *e*PKKP **PKKPbc** **11 14 02.4 +3.9**
NKC *e*PKPPKP P'P'df 11 22 10.5 +8.1
NKC AMS AMS 11 38 10.0
comp=Z,682µm,18.7s
NKC Novy Kostel 83.00 320 *e*P **P** **10 55 33.8 -0.4**
NKC MLR MLR
comp=Z,682µm,18.7s
RGN Rugen 83.06 325 *e*P **P** **10 55 33.7 -0.6**
comp=Z,2µm,1.3s
WTTA Wattenberg 83.18 317 *i* P **P** **10 55 34.2 -1.2**
comp=Z,27nm,0.7s,SNR=92
WATA Walderalm 83.23 317 *i* P **P** **10 55 34.2 -1.5**
comp=Z,18nm,0.6s,SNR=116
BILL Bilibino 83.28 21 ⇓*i* P **P** **10 55 34.5 -0.8**
BILL *e* 10 58 42.9
BILL *i* S **S** **11 05 55.6 +1.1**
BILL pmax pmax
comp=Z,124nm,1.0s
MOTA Moosalm 83.55 317 *i* P **P** **10 55 35.9 -1.5**
comp=Z,161nm,0.6s,SNR=330
TRO Tromso 83.58 340 *e*P **P** **10 55 35.5 -1.2**
GRFO Grafenberg 83.72 320 *e*P **P** **10 55 38.7 +0.8**
comp=Z,2µm,1.3s
GRFO Grafenberg 83.72 320 *e*P **P** **10 55 38.7 +0.8**
GRFO pmax pmax
comp=Z,2µm,1.3s
COP Copenhagen 83.72 326 *i* P **P** **10 55 39.9 +2.2**
comp=Z,645µm,18.0s
COP Copenhagen 83.72 326 *i* P **P** **10 55 39.9 +2.2**
COP MLR MLR
comp=Z,650µm,18.0s
HFS Hagfors 83.73 330 P **P** **10 55 36.9 -0.8**
comp=Z,66nm,0.7s,baz=122,slow=5.2,SNR=66

HFS LR LR 11 36 47.1
comp=Z,817µm,20.5s,baz=93,slow=38
VLC Villacollemand 83.75 314 P **P** **10 55 35.8 -2.5**
comp=Z,1µm,1.0s
FETA Feichten 83.77 317 *i* P **P** **10 55 37.7 -0.8**
comp=Z,358nm,1.2s
RETA Reutte 83.80 318 *i* P **P** **10 55 37.1 -1.4**
comp=Z,398nm,0.8s,SNR=177
LLD Lille Linde 83.80 326 *i* P **P** **10 55 38.7 +0.6**
comp=Z,285µm,17.0s
LLD Lille Linde 83.80 326 *e*P **P** **10 55 38.7 +0.6**
LLD MLR MLR
comp=Z,290µm,17.0s
KEST Kesra 83.93 306 P **P** **10 55 39.6 +0.2**
comp=Z,379nm,1.0s,baz=323,slow=2.7,SNR=55
KEST PKKPbc **PKKPbc** **11 13 59.1 +3.4**
comp=Z,9.1nm,0.7s,baz=36,slow=2.2,SNR=5.8
KEST LR LR 11 34 53.9
comp=Z,357µm,19.9s,baz=47,slow=37
HOPEN Hopen 84.08 347 *e*P **P** **10 55 39.8 +0.6**
VSL Villasalto 84.14 309 *e*P **P** **10 55 40.4 0.0**
comp=Z,1µm,1.1s
WTAZ Waiatarua 84.17 127 P P 10 55 48.1 +7.6
SMY Shemya 84.34 37 *e*P **P** **10 55 41.0 0.0**
comp=Z,2µm,0.8s
SMY Shemya 84.34 37 *e*P **P** **10 55 41.0 0.0**
SMY pmax pmax
comp=Z,2µm,0.8s
DAVA Damuels 84.37 317 *i* P **P** **10 55 41.0 -0.6**
comp=Z,655nm,0.8s,SNR=196
MOR8 Moi Rana 84.45 336 *e*P **P** **10 55 39.8 -1.5**
STEI Steigen 84.48 338 *e*P **P** **10 55 40.4 -1.0**
VRZ Vera Road 84.52 129 P P 10 55 47.5 +5.2
HIZ Hauiti 84.54 129 P P **10 55 43.6 +1.2**
MKAZ Moumakai 84.66 127 P P 10 55 49.2 +6.2
TUE Stuetta 84.67 316 *e*P **P** **10 55 42.1 -1.0**
comp=Z,5µm,1.6s
SNZO South Karori 84.69 131 *e*P **P** **10 55 42.2 -0.8**
comp=Z,4µm,1.1s
WAZ Wanganui 84.76 130 P P 10 55 48.2 +4.8
BJO Bjornoya 84.82 345 *e*P **P** **10 55 40.4 -2.6**
NC602 NORSAR Array S 84.87 331 *e*P **P** **10 55 41.9 -1.6**
STU Stuttgart 84.96 319 P **P** **10 55 44.9 +0.7**
comp=Z,965nm,1.2s
STU Stuttgart 84.96 319 P **P** **10 55 44.9 +0.7**
STU pmax pmax
comp=Z,965nm,1.2s
TOZ Tahuroa Road 84.98 128 P **P** **10 55 48.3 +3.8**
KONS Konsvik 85.03 337 *e*P **P** **10 55 43.9 -0.2**
STOK Stokkvaagen 85.05 337 *e*P **P** **10 55 43.3 -0.9**
TLZ Tolley Road 85.06 128 P **P** **10 55 48.4 +3.4**
NB2 NORSAR Subarra 85.07 331 P **P** **10 55 42.9 -1.7**
comp=Z,4µm,2.0s,baz=99,slow=5.1
NB2 NORSAR Subarra 85.07 331 P **P** **10 55 42.9 -1.7**
baz=99,slow=5.1
NOA NORSAR Array B 85.07 331 P **P** **10 55 42.9 -1.7**
comp=Z,52nm,0.9s,baz=96,slow=5.4,SNR=45
NOA PKKPbc **PKKPbc** **11 13 56.8 +2.7**
comp=Z,2.6nm,0.9s,baz=284,slow=1.9,SNR=3.6
NOA LR LR 11 37 57.3
comp=Z,475µm,18.7s,baz=90,slow=39
COVZ Chateau Observ 85.14 129 P **P** **10 55 48.0 +2.5**
FWVZ Fay West T-bar 85.15 129 P **P** **10 55 47.3 +1.6**
LOF Lofoten 85.15 338 *e*P **P** **10 55 44.5 -0.2**
OSL Oslo 85.17 330 *e*P **P** **10 55 44.5 -0.5**
NSS Namsos 85.20 335 *e*P **P** **10 55 44.5 -0.6**
KRVZ Karewarewa 85.20 129 P **P** **10 55 46.8 +1.0**
WATZ Wairara 85.24 129 P P 10 55 51.3 +5.3
MRZ Mangatainoka R 85.29 131 P P 10 55 52.4 +6.4
MOVZ Moawhango 85.32 129 P **P** **10 55 48.0 +1.7**
ABSA Djebel Ababsia 85.47 306 P **P** **10 55 48.3 +1.1**
BFO Black Forest 85.50 318 *e*P **P** **10 55 45.9 -1.1**
comp=Z,133nm,1.9s
BFO Black Forest 85.50 318 *i* P **P** **10 55 46.1 -0.9**
CMAH Djebel Manchou 85.53 306 P **P** **10 55 48.3 +0.8**
BHHZ Black Hill Sta 85.56 130 P **P** **10 55 47.9 +0.3**
PRWZ Pori Road 85.58 131 P P 10 55 53.3 +5.8
MUD Monsted U'grnd 85.63 326 *i* P **P** **10 55 48.3 +1.0**
comp=Z,850µm,17.0s
MUD Monsted U'grnd 85.63 326 *i* P **P** **10 55 48.3 +1.0**
MUD MLR MLR
comp=Z,850µm,17.0s
DVHZ Dannevirke 85.71 130 P **P** **10 55 49.6 +1.4**
KONO Kongsberg 85.71 330 *e*P **P** **10 55 47.4 -0.3**
KONO Kongsberg 85.71 330 *ce*P **P** **10 55 47.5 -0.2**
KONO pmax pmax
comp=Z,3µm,1.7s
TBLU Trondheim 85.78 333 *e*P **P** **10 55 48.6 +0.6**
KRHZ Kereru 85.81 130 P P 10 55 54.2 +5.5
KWHZ Kaweka Forest 85.84 129 P **P** **10 55 50.9 +2.0**
BKZ Black Stump Fm 85.87 129 P **P** **10 55 48.7 -0.3**
ANWZ Angora Road 85.96 130 P **P** **10 55 51.4 +2.1**
CAEH 'Ain El Ouahch 86.00 307 P **P** **10 55 53.4 +3.7**
MSVF Nonsavu 86.06 108 *e*P **P** **10 55 50.3 -0.1**
comp=Z,2µm,1.3s
MSVF Nonsavu 86.06 108 *e*P **P** **10 55 49.3 -1.1**
MSVF pmax pmax
comp=Z,106nm,1.1s
CKFL Kef-Lekhel 86.09 306 P **P** **10 55 51.1 +0.8**
HOMB Homborsund 86.14 328 *e*P **P** **10 55 49.8 -0.1**
DOMB Dombas 86.20 332 *e*P **P** **10 55 49.6 -0.6**
CASM Ain Smara 86.27 306 P **P** **10 55 51.9 +0.8**
ECH Echery 86.27 318 *e*P **P** **10 55 50.9 +0.1**
comp=Z,4µm,3.3s
ECH Echery 86.27 318 *e*P **P** **10 55 50.9 +0.1**
ECH pmax pmax
comp=Z,4µm,3.3s
URZ Urewera 86.29 128 LR LR 11 32 17.5
comp=Z,1045µm,21.2s,baz=276,slow=34
URZ Urewera 86.29 128 P **P** **10 55 49.5 -1.6**
HSPB Hornsund (broa 86.31 347 *e*P **P** **10 55 50.4 0.0**
HSPB Hornsund (broa 86.31 347 *e*P P 10 55 59.1 +8.7
HSPB *e* 11 06 18.9
CTEI Djebel Teioual 86.33 306 P **P** **10 55 52.3 +0.8**
VNDA Vanda 86.36 168 P **P** **10 55 50.0 -0.6**
comp=Z,71nm,1.1s,baz=294,slow=4.9,SNR=78
VNDA PKKPbc **PKKPbc** **11 13 51.4 0.0**
comp=Z,9.0nm,0.9s,baz=264,slow=2.6,SNR=4.6
VNDA LR LR 11 31 09.3
comp=Z,735µm,18.0s,baz=288,slow=33
VNDA Vanda 86.36 168 P **P** **10 55 50.0 -0.6**
SPA0 Spitsbergen Ar 86.41 348 *e*P **P** **10 55 49.8 -1.1**
SPITS Spitsbergen Ar 86.41 348 P **P** **10 55 49.5 -1.3**
comp=Z,64nm,0.7s,baz=106,slow=3.1,SNR=76
SPITS LR LR 11 41 52.2
comp=Z,802µm,19.4s,baz=110,slow=41
BNI Bardonecchia 86.45 315 *e*P **P** **10 55 51.6 -0.3**
comp=Z,472nm,0.8s
BNI Bardonecchia 86.45 315 *e*P **P** **10 55 51.6 -0.3**
BNI pmax pmax
comp=Z,472nm,0.8s
WTSB Winterswijk 86.70 322 *e*P **P** **10 55 53.6 +0.8**
DFRA Djebel Bou Aff 86.77 306 P **P** **10 55 54.8 +1.1**
HAZ Te Kaha 86.78 128 P **P** **10 55 51.8 -1.7**
SNART Snartemo 86.83 328 *e*P **P** **10 55 52.7 -0.5**
TAM Tamanrasset 86.85 293 *e*P **P** **10 55 55.2 +0.8**
comp=Z,136nm,2.4s
TAM Tamanrasset 86.85 293 *e*P **P** **10 55 55.2 +0.8**
FUNA Funafuti 86.92 99 P **P** **10 55 55.8 +1.2**
comp=Z,6µm,1.3s
MOL Molde 86.95 332 *e*P **P** **10 55 53.3 -0.4**
WLF Walferdange 87.00 320 ⇑P **P** **10 55 55.1 +0.7**
comp=Z,1µm,2.0s
WLF Walferdange 87.00 320 *e*P **P** **10 55 55.0 +0.7**
comp=Z,6µm,1.9s
WLF Walferdange 87.00 320 *e*P **P** **10 55 55.0 +0.7**
WLF pmax pmax
comp=Z,6µm,1.9s
CKHR Kef el Ahmar 87.05 306 P **P** **10 55 56.7 +1.6**
MEM Membach 87.13 320 ⇑P **P** **10 55 54.7 -0.2**
comp=Z,344nm,1.4s
SET Setif 87.15 306 P **P** **10 56 00.0 +4.5**
AKN Aaknes 87.18 332 *e*P **P** **10 55 55.2 +0.2**
HGN Heimansgroeve 87.19 321 *e*P **P** **10 55 56.1 +1.0**
ODD1 Odda 87.23 330 *e*P **P** **10 55 55.1 -0.2**
BLS5 Blasjo 87.29 329 *e*P **P** **10 55 53.3 -2.2**
KBS Kingsbay 87.42 349 *e*P **P** **10 55 57.1 +1.3**
comp=Z,2µm,1.3s
KBS Kingsbay 87.42 349 *e*P **P** **10 55 55.4 -0.4**
KBS Kingsbay 87.42 349 *e*P **P** **10 55 57.1 +1.3**
KBS pmax pmax
comp=Z,2µm,1.3s
SBA Scott Base 87.47 168 *e*P **P** **10 55 56.8 +0.8**
comp=Z,4.1nm,0.6s

SBA Scott Base 87.47 168 *e*P **P** **10 55 56.8 +0.8**
HYA Hoyanger 87.51 331 *e*P **P** **10 55 56.3 -0.2**
BCLA Clavier 87.58 320 P **P** **10 55 57.2 +0.2**
comp=Z,345nm,1.5s
NVL N'lazarevskaya 87.62 199 ⇓*i* P **P** **10 55 55.7 -1.1**
NVL *e*S **SKSac** **11 06 18.8 -4.4**
NVL pmax pmax
comp=Z,3µm,1.0s
NVL MLR MLR
comp=Z,238µm,17.0s
STAV Stavanger 87.65 329 *e*P **P** **10 55 57.7 +0.5**
BER Bergen 87.89 330 *e*P **P** **10 55 58.6 +0.3**
KMY Karmoy 87.90 329 *e*P **P** **10 55 58.1 -0.3**
ASK Askoy 87.97 330 *e*P **P** **10 55 54.3 -4.4**
SSB Saint Sauveur 87.97 315 *e*P **P** **10 55 59.7 +0.6**
comp=Z,88nm,2.4s
SSB Saint Sauveur 87.97 315 *e*P **P** **10 55 59.7 +0.6**
DOU Dourbes 88.02 320 ⇓P **P** **10 55 58.9 -0.3**
ATAF Djebel Tarf 88.05 306 P **P** **10 56 01.0 +1.2**
FOO Floro 88.08 331 *e*P **P** **10 55 59.2 0.0**
SUE Sulen 88.20 331 *e*P **P** **10 55 59.8 0.0**
SNF Seneffe 88.23 320 ⇑P **P** **10 56 00.1 -0.1**
comp=Z,615nm,1.1s
AKET Djebel Ketaf 88.38 306 P **P** **10 56 03.2 +1.8**
ABMS Boumerdes 88.70 307 P **P** **10 56 04.5 +1.8**
ADJB Djebel Djouab 88.73 306 P **P** **10 56 05.5 +2.4**
ABA Alger-Bouzarea 89.06 307 P **P** **10 56 06.1 +1.7**
EMHD Djebel Mahouad 89.13 306 P **P** **10 56 06.0 +1.1**
ELSH Elham, Standar 90.22 321 *e*P **P** **10 56 09.2 -0.3**
ELSH IAMs_20 IAMs_20 11 45 52.9
comp=Z,588µm,17.6s
EBNR Beni Rached 90.28 306 P **P** **10 56 13.4 +3.2**
ECHA Ech Chlef 90.41 306 P **P** **10 56 13.2 +2.5**
ETRT Tiaret 90.48 305 P **P** **10 56 13.5 +2.2**
WACR West Acre 90.49 323 *e*P **P** **10 56 10.1 -0.6**
WACR IAMs_20 IAMs_20 11 36 03.3
comp=Z,1143µm,26.3s
TORD Torodi Ar. Bea 90.54 283 P **P** **10 56 10.8 -1.0**
comp=Z,100nm,1.0s,baz=81,slow=4.6,SNR=68
TORD LR LR 11 35 01.7
comp=Z,804µm,19.6s,baz=75,slow=34
EANR 'Ain N'Sour 90.63 306 P **P** **10 56 13.6 +1.7**
QSPA South Pole Qui 90.72 180 P **P** **10 56 11.4 -0.3**
comp=Z,486nm,1.1s,baz=306,slow=2.4,SNR=67
QSPA PKKPbc **PKKPbc** **11 13 42.0 +0.8**
comp=Z,23nm,1.1s,baz=174,slow=4.6,SNR=3.6
QSPA LR LR 11 32 18.4
comp=Z,258µm,21.9s,baz=316,slow=32
OJGS Djebel Guires 90.93 305 P **P** **10 56 15.2 +1.9**
OKGL Djebel Kef Gue 91.00 306 P **P** **10 56 16.9 +3.3**
LMK Market Rasen 91.04 323 *e*P **P** **10 56 11.7 -1.5**
LMK IAMs_20 IAMs_20 11 35 18.1
comp=Z,1157µm,30.1s
CWF Charnwood Fore 91.67 323 *e*P **P** **10 56 15.3 -0.9**
CWF IAMs_20 IAMs_20 11 36 47.5
comp=Z,1067µm,26.2s
ODJA Bouhanifia 91.67 305 P **P** **10 56 21.1 +4.4**
WOL Wolverton 91.70 321 *e*P **P** **10 56 17.8 +1.4**
HPK Haverah Park 91.78 324 *e*P **P** **10 56 16.2 -0.5**
HPK IAMs_20 IAMs_20 11 35 55.2
comp=Z,984µm,28.6s
LBWR Ladybower, Pea 91.87 323 *e*P **P** **10 56 17.3 +0.2**
LBWR IAMs_20 IAMs_20 11 35 43.5
comp=Z,1039µm,28.4s
EDMD Edmundbyers 91.92 325 *e*P **P** **10 56 16.9 -0.5**
EDMD IAMs_20 IAMs_20 11 36 46.0
comp=Z,781µm,28.0s
GAMB Gambell 91.92 26 *e*P **P** **10 56 15.6 -1.5**
comp=Z,1µm,1.3s
USTO Oran 91.98 306 P P 10 56 25.4 +7.4
STNC Stoke 92.18 323 IAMs_20 IAMs_20 11 35 53.5
comp=Z,1162µm,29.2s
OTSS Djebel Tessala 92.20 305 P **P** **10 56 23.5 +4.3**
STRD Stroud 92.25 322 *e*P **P** **10 56 19.5 +0.6**
STRD IAMs_20 IAMs_20 11 46 19.8
comp=Z,1013µm,16.6s
MME1 Meikle Cairn 92.28 327 *e*P **P** **10 56 20.0 +1.0**
JQE Queens East 92.35 319 *e*P **P** **10 56 19.5 +0.1**
JRS Jersey 92.39 319 *e*P **P** **10 56 20.6 +1.0**
SNAA Sanae 92.39 198 P **P** **10 56 18.6 -0.7**
SNAA Sanae 92.39 198 P **P** **10 56 18.5 -0.7**
comp=Z,126nm,1.0s,baz=89,slow=4.4,SNR=85
SNAA PKKPbc **PKKPdf** **11 13 33.6 -0.1**
comp=Z,14nm,0.9s,baz=186,slow=3.0,SNR=3.6
SNAA LR LR 11 31 22.7
comp=Z,760µm,21.1s,baz=94,slow=31
SNAA Sanae 92.39 198 *e*P **P** **10 56 19.8 +0.6**
comp=Z,47µm,1.3s
SNAA PKKPbc **PKKPdf** **11 13 33.6 -0.1**
SNAA Sanae 92.39 198 *e*P **P** **10 56 19.8 +0.6**
SNAA 11 13 33.6
MCD Coleburn Disti 92.41 328 *e*P **P** **10 56 20.1 +0.5**
OLDB Oldbury-Upon-S 92.50 322 *e*P **P** **10 56 21.1 +1.0**
OLDB IAMs_20 IAMs_20 11 46 27.8
comp=Z,1062µm,16.9s
EDI Edinburgh 92.53 326 *e*P **P** **10 56 20.7 +0.6**
EDI IAMs_20 IAMs_20 11 47 07.0
comp=Z,1048µm,16.9s
ECK Cauldkaine Hil 92.56 325 *e*P **P** **10 56 20.2 -0.1**
EKA Eskdalemuir Ar 92.56 325 P **P** **10 56 19.6 -0.7**
comp=Z,46nm,0.8s,baz=98,slow=5.1,SNR=53
EKA PKKPbc **PKKPdf** **11 13 34.0 +1.2**
comp=Z,4.6nm,0.8s,baz=235,slow=3.2,SNR=5.4
EKA LR LR 11 43 04.9
comp=Z,347µm,19.8s,baz=55,slow=39
ESK Eskdalemuir 92.59 325 *e*P **P** **10 56 20.5 +0.1**
comp=Z,2µm,1.7s
ESK Eskdalemuir 92.59 325 *e*P **P** **10 56 18.9 -1.5**
ESK IAMs_20 IAMs_20 11 46 00.4
comp=Z,680µm,21.2s
ESK Eskdalemuir 92.59 325 *e*P **P** **10 56 20.5 +0.1**
ESK pmax pmax
comp=Z,2µm,1.7s
KESW Keswick, Cumbr 92.60 325 IAMs_20 IAMs_20 11 37 01.9
comp=Z,876µm,30.5s
BHH Howats Hill 92.62 325 *e*P **P** **10 56 18.8 -1.7**
HLM1 Long Mynd 92.64 322 *e*P **P** **10 56 21.0 +0.3**
HLM1 IAMs_20 IAMs_20 11 37 30.1
comp=Z,791µm,28.1s
MONM Monmouth 92.64 322 *e*P **P** **10 56 20.4 -0.3**
MONM IAMs_20 IAMs_20 11 37 19.7
comp=Z,797µm,25.1s
HGH Gray Hill 92.66 322 *e*P **P** **10 56 20.2 -0.6**
BBO1 Bothel 92.67 325 *e*P **P** **10 56 21.3 +0.6**
MCH1 Michaelchurch 92.75 322 *e*P **P** **10 56 21.1 -0.2**
MCH1 IAMs_20 IAMs_20 11 37 20.8
comp=Z,900µm,26.8s
FOEL Foel Wylfa 92.80 323 *e*P **P** **10 56 21.2 -0.3**
FOEL IAMs_20 IAMs_20 11 36 10.9
comp=Z,1167µm,27.2s
JMIC Jan Mayen 92.84 341 *e*P **P** **10 56 23.9 +2.6**
MDO Dochfour 93.02 327 *e*P **P** **10 56 22.9 +0.5**
LLW Llanuwychllyn 93.08 323 *e*P **P** **10 56 21.8 -0.9**
EAB Aberfoyle 93.14 326 *e*P **P** **10 56 23.3 +0.3**
PGBU Glenifferbraes 93.27 326 *e*P **P** **10 56 21.4 -2.1**
PGBU IAMs_20 IAMs_20 11 32 48.7
comp=Z,842µm,33.9s
LPW Lampeter 93.40 322 *e*P **P** **10 56 24.2 0.0**
LPW IAMs_20 IAMs_20 11 37 53.0
comp=Z,851µm,26.8s
DYA Yadsworthy 93.47 320 *e*P **P** **10 56 24.7 +0.1**
DYA IAMs_20 IAMs_20 11 47 19.9
comp=Z,728µm,17.5s
IOMK Kirk Michael 93.48 324 IAMs_20 IAMs_20 11 39 47.5
comp=Z,696µm,23.1s
WLF1 Llynfaes 93.48 323 *e*P **P** **10 56 25.0 +0.5**
WLF1 IAMs_20 IAMs_20 11 37 00.2
comp=Z,2073µm,27.4s
GAL1 Galloway 93.50 325 IAMs_20 IAMs_20 11 41 06.1
comp=Z,347µm,21.7s
KAC Achnashellach 93.52 328 *e*P **P** **10 56 24.9 +0.2**
WPS Cemaes, Angles 93.53 323 *e*P **P** **10 56 25.7 +1.0**
WPS IAMs_20 IAMs_20 11 37 00.6
comp=Z,1048µm,28.2s
KPL Plockton 93.73 327 *e*P **P** **10 56 26.2 +0.7**
KPL IAMs_20 IAMs_20 11 46 13.3
comp=Z,587µm,19.9s
HTL Hartland 93.77 321 IAMs_20 IAMs_20 11 47 19.0
comp=Z,430µm,17.8s
VNA2 Neumayer--Watz 93.94 199 pP pP 10 56 32.0 -1.5
VNA2 Neumayer--Watz 93.94 199 P **P** **10 56 25.6 -0.7**
baz=79,slow=4.5
VNA2 Neumayer--Watz 93.94 199 PKKP **PKKPbc** **11 13 31.8 -0.4**
DAG Danmarks Havn 94.01 348 *i* P **P** **10 56 26.0 -0.5**

comp=Z,1064µm,20.0s
DAG Danmarks Havn 94.01 348 *i* P **P 10 56 26.0 -0.5**
DAG MLR MLR
comp=Z,1100µm,20.0s
VNA1 Neumayer--Stat 94.27 199 P **P 10 56 26.9 -0.9**
ESDC Sonseca Array 94.44 310 P **P 10 56 29.8 +0.4**
comp=Z,25nm,0.8s,baz=64,slow=3.6,SNR=31
ESDC PKKPbc **PKKPbc 11 13 30.0 +0.2**
comp=Z,2.1nm,0.6s,baz=261,slow=2.1,SNR=4.7
VNA3 Neumayer Olymp 94.61 199 P **P 10 56 28.2 -1.2**
VNA3 Neumayer Olymp 94.61 199 PKKP 11 13 23.9
PAB San Pablo 94.75 310 *e*P **P 10 56 32.5 +1.7**
comp=Z,78nm,3.2s
PAB San Pablo 94.75 310 *e*P **P 10 56 32.5 +1.7**
AFI Afiamalu 95.81 104 P **P 10 56 36.3 +0.1**
comp=Z,64nm,1.0s,baz=330,slow=10.0,SNR=2.5
AFI LR LR 11 39 53.0
comp=Z,88µm,19.9s,baz=271,slow=36
AFI Afiamalu 95.81 104 *e*P **P 10 56 34.5 -1.6**
comp=Z,443nm,1.1s
AFI Afiamalu 95.81 104 *e*P **P 10 56 34.5 -1.6**
AFI pmax pmax
comp=Z,443nm,1.1s
UNV Unalaska Valle 95.91 36 *e*P **P 10 56 34.7 -1.0**
comp=Z,21nm,0.6s
KOWA Kowa 96.05 285 P **P 10 56 37.4 +0.3**
comp=Z,48nm,0.9s,baz=93,slow=5.1,SNR=46
KOWA LR LR 11 38 14.8
comp=Z,850µm,20.0s,baz=94,slow=34
AKUT Akutan 96.29 35 *e*P **P 10 56 35.4 -2.0**
comp=Z,451nm,0.8s
PBRG Braganca 96.33 312 *e*P **P 10 56 39.3 +1.3**
PBRG Braganca 96.33 312 *e*PP PP 11 00 47.5 +16
PBRG *e*SKS S 11 08 13.9 +17
PBRG *e*SS SS 11 14 52.7 +23
MVO Moncorvo 96.62 311 *e*P **P 10 56 39.6 +0.3**
comp=Z,600nm,1.6s
MVO Moncorvo 96.62 311 *e*PP PP 11 00 49.4 +16
MVO *e*SKS S 11 08 10.1 +10
MVO *e*SS SS 11 14 56.9 +23
MVO *e*LQ LQ 11 21 54.5
MVO *e*LR LR 11 30 50.7
comp=Z,255µm,20.0s
PBAR Barrancos 96.97 308 *e*P **P 10 56 41.5 +0.6**
comp=Z,2µm,1.8s
PBAR Barrancos 96.97 308 *e*SKS S 11 08 23.2 +21
PBAR *e*SS **SS 11 14 32.2 -6.7**
KIC Kosan Boka 97.04 276 *e*P **P 10 56 41.7 0.0**
comp=Z,824nm,0.9s
MTE Manteigas 97.10 311 *e*P Pdif 10 56 43.7 +2.1
comp=Z,1µm,1.7s
MTE Manteigas 97.10 311 *e*PP PP 11 00 52.5 +15
MTE *e*SKS S 11 08 25.0 +21
MTE *e*SS SS 11 15 02.0 +21
MTE *e*LQ LQ 11 22 12.0
MTE *e*LR LR 11 31 02.4
comp=Z,352µm,18.0s
PMRV Marv??o 97.10 310 *e*P Pdif 10 56 45.4 +3.8
comp=Z,418nm,1.8s
PMRV Marv??o 97.10 310 *e*PP PP 11 00 51.8 +14
PMRV *e*SKS S 11 08 19.5 +16
PMRV *e*SS SS 11 14 54.3 +14
PMRV *e*LQ LQ 11 21 57.8
PMRV *e*LR LR 11 28 01.2
comp=Z,248µm,18.0s
PCBR Castelo Branco 97.12 310 *e*P Pdif 10 56 45.9 +4.3
comp=Z,116nm,1.5s
PCBR Castelo Branco 97.12 310 *e*PP PP 11 00 59.1 +22
PVRL Vila Real 97.12 312 *e*P Pdif 10 56 47.0 +5.3
PVRL Vila Real 97.12 312 *e*PP PP 11 00 58.7 +21
DBIC Dimbokro 97.15 277 P Pdif 10 56 42.7 +0.4
comp=Z,88nm,0.9s,baz=76,slow=4.6,SNR=46
DBIC PKKP **PKKPdf 11 13 23.4 -0.4**
comp=Z,18nm,0.9s,baz=255,slow=4.8,SNR=2.5
DBIC LR LR 11 40 22.1
comp=Z,537µm,19.1s,baz=72,slow=35
POLO Lamas de Olo 97.17 312 *e*P Pdif 10 56 46.2 +4.3
comp=Z,428nm,1.7s
POLO Lamas de Olo 97.17 312 *e*PP PP 11 00 54.0 +16
POLO *e*SKS SKSac 11 07 35.8 +18
POLO *e*SS **SS 11 14 34.0 -7.7**
SCO Scoresbysund 97.25 342 *i* P Pdif 10 56 44.1 +2.6
comp=Z,1089µm,23.0s
SCO Scoresbysund 97.25 342 *e*P Pdif 10 56 44.1 +2.6
SCO MLR MLR
comp=Z,1100µm,23.0s
PCAB Cabril 97.30 312 i 10 56 52.4
PCAB Cabril 97.30 312 *e*PP PP 11 01 00.2 +21
TIC Toumodi 97.31 277 *e*P Pdif 10 56 43.1 +0.1
PESTR Estremoz 97.32 309 *e*P Pdif 10 56 46.8 +4.2
comp=Z,496nm,1.6s
PESTR Estremoz 97.32 309 *e*SKS S 11 08 24.8 +19
PESTR *e*SS SS 11 15 05.0 +21
PVIS Viseu 97.33 311 *e*P **P 10 56 41.1 -1.4**
comp=Z,88nm,1.5s
PVIS Viseu 97.33 311 *e*PP PP 11 01 00.6 +21
LIC Lamto 97.33 276 *e*P Pdif 10 56 43.1 0.0
comp=Z,741nm,1.0s
PGAV Gavieira, Arco 97.44 312 *e*P Pdif 10 56 49.5 +6.4
comp=Z,2µm,1.6s
PGAV Gavieira, Arco 97.44 312 *e*PP PP 11 00 55.9 +16
PGAV Gavieira, Arco 97.44 312 *e*SS SS 11 14 43.5 -2.0
PGAV *e*LQ LQ 11 22 06.6
PGAV *e*LR LR 11 30 39.8
comp=Z,264µm,24.0s
FALS False Pass 97.50 34 *e*P **P 10 56 40.7 -2.1**
comp=Z,217nm,0.8s
PVAQ Vaqueiros 97.60 308 *e*P Pdif 10 56 47.1 +3.3
comp=Z,486nm,1.6s
PVAQ Vaqueiros 97.60 308 *e*SS SS 11 15 01.9 +14
PVAQ *e*LQ LQ 11 21 55.0
PVAQ *e*LR LR 11 29 01.5
comp=Z,215µm,22.0s
PBEJ Beja 97.64 308 *e*P Pdif 10 56 48.2 +4.2
comp=Z,107nm,1.7s
PBEJ Beja 97.64 308 *e*PP PP 11 00 53.7 +12
EVO Evora 97.69 309 *e*P Pdif 10 56 47.0 +2.8
comp=Z,2µm,1.3s
PBDV Barranco-do-Ve 97.79 308 *e*P Pdif 10 56 46.2 +1.5
comp=Z,457nm,1.6s
PBDV Barranco-do-Ve 97.79 308 *e*PP PP 11 01 03.4 +21
PBDV *e*SKS S 11 08 28.9 +19
PBDV *e*SS **SS 11 14 56.0 +5.5**
PMTG Montargil 97.79 309 *e*P Pdif 10 56 48.6 +4.0
comp=Z,507nm,1.6s
PMTG Montargil 97.79 309 *e*PP PP 11 00 44.0 +1.2
PMTG *e*SKS S 11 08 25.1 +16
PMTG *e*SS **SS 11 14 47.9 -2.4**
PCVE Castro Verde 97.82 308 *e*P Pdif 10 56 49.8 +5.0
comp=Z,611nm,1.6s
PCVE Castro Verde 97.82 308 *e*SS SS 11 14 34.8 -16
PTOM Tomar 97.86 310 *e*P Pdif 10 56 49.3 +4.4
comp=Z,347nm,1.8s
PTOM Tomar 97.86 310 *e*PP PP 11 00 59.9 +17
ALMR Almeirim 98.05 310 *e*P Pdif 10 56 49.8 +4.0
ALMR *e*SS SS 11 14 55.0 +1.0
ALMR AMS AMS 11 52 48.3
comp=Z,277µm,19.7s
ALMR Almeirim 98.05 310 *e*P Pdif 10 56 49.7 +4.0
comp=Z,442nm,2.1s
ALMR Almeirim 98.05 310 *e*P Pdif 10 56 49.8 +4.0
ALMR *e*SS SS 11 14 54.9 +0.9
PNCL Nicolau / Gran 98.15 309 *e*P Pdif 10 56 48.0 +1.8
comp=Z,654nm,1.7s
PNCL Nicolau / Gran 98.15 309 *e*PP PP 11 01 02.3 +17
PNCL *e*SKS **S 11 08 11.0 -1.6**
PNCL *e*SS **SS 11 15 05.0 +10**
MORF Marmelete 98.35 308 *e*P Pdif 10 56 51.4 +4.2
MORF *e*SS SS 11 14 59.4 +1.0
MORF AMS AMS 11 56 26.5
comp=Z,376µm,19.7s
MORF Marmelete 98.35 308 *e*P Pdif 10 56 52.4 +5.2
comp=Z,1µm,1.7s
MORF Marmelete 98.35 308 *e*SKS S 11 08 31.2 +17
MORF *e*SS **SS 11 15 03.8 +5.4**
MORF Marmelete 98.35 308 *e*P Pdif 10 56 51.3 +4.1
MORF *e*SS SS 11 14 59.4 +1.0
PTEO Sao Teotonio 98.38 308 *e*P Pdif 10 56 51.7 +4.5
comp=Z,260nm,1.8s
PTEO Sao Teotonio 98.38 308 *e*PP PP 11 01 08.5 +21
PFVI Vila Bisbo 98.51 308 *e*P Pdif 10 56 51.8 +4.0
comp=Z,522nm,1.6s
PFVI Vila Bisbo 98.51 308 *e*SS SS 11 14 43.8 -17
LIS Lisbon 98.55 309 *e*SS SS 11 15 01.9 +0.8
LIS AMS AMS 11 57 50.9
comp=N,298µm,19.5s
PMST Lisbon--Monsan 98.58 309 *e*PP PP 11 01 10.2 +21
PMAFR Mafra 98.62 309 *e*PP PP 11 01 10.5 +21
PMAFR Mafra 98.62 309 *e*SS SS 11 15 02.1 0.0
BORG Borgarnes 99.25 337 LR LR 11 43 09.7
comp=N,765µm,21.9s,baz=66,slow=36
COLD Coldfoot 99.60 21 *e*P **Pdif 10 56 51.7 -0.3**
comp=N,28nm,0.8s
SUMG Summit 100.63 347 *i* P **Pdif 10 57 00.3 +3.3**
comp=Z,683µm,22.0s
SUMG Summit 100.63 347 *e*Pdif **Pdif 10 56 57.6 +0.6**
comp=Z,5µm,1.9s
SUMG Summit 100.63 347 *e*P **Pdif 10 56 57.6 +0.6**
SUMG pmax pmax
comp=Z,5µm,1.9s
PPLA Purkeypile 100.63 25 *e*Pdif **Pdif 10 56 58.3 +1.4**
comp=Z,28nm,0.8s
BPAW Bear Paw Mtn. 100.64 24 *e*Pdif **Pdif 10 56 55.2 -1.5**
comp=Z,152nm,0.8s
KTH Kantishna Hill 100.89 24 *e*Pdif **Pdif 10 57 00.1 +2.2**
comp=Z,52µm,2.0s
TRF Thorofare Moun 101.19 24 *e*Pdif **Pdif 10 56 58.1 -1.3**
comp=Z,15nm,0.6s
COLA College 101.52 22 *e*Pdif **Pdif 10 57 00.1 -0.4**
comp=Z,6µm,3.0s
COLA College 101.52 22 *e*P **Pdif 10 57 00.1 -0.4**
COLA pmax pmax
comp=Z,6µm,3.0s
MCK McKinley 101.61 23 *e*Pdif **Pdif 10 56 59.4 -1.7**
comp=Z,15µm,3.0s
MCK McKinley 101.61 23 *e*P **Pdif 10 56 59.4 -1.7**
ILAR Eielson Array 101.93 22 P **Pdif 10 57 02.0 -0.4**
comp=Z,8.7nm,0.8s,baz=292,slow=3.9,SNR=46
ILAR PP **PP 11 01 10.7 -2.6**
comp=Z,64nm,1.0s,baz=305,slow=6.3,SNR=5.5
ILAR PKiKP **PKiKP 11 01 22.4 -2.7**
comp=Z,71nm,1.1s,baz=305,slow=6.6,SNR=5.1
ILAR PKKPbc **PKKPbc 11 13 10.3 +0.5**
comp=Z,10nm,0.9s,baz=165,slow=2.8,SNR=5.5
KDAK Kodiak Island 102.42 30 P **Pdif 10 57 04.4 -0.3**
comp=Z,30nm,0.8s,baz=268,slow=2.5,SNR=9.9
KDAK PKKPbc **PKKPbc 11 13 10.1 +2.0**
comp=Z,35nm,1.2s,baz=355,slow=4.7,SNR=2.6
KDAK Kodiak Island 102.42 30 *e*Pdif **Pdif 10 57 08.7 +4.0**
comp=Z,30µm,5.0s
KDAK PKKPbc **PKKPbc 11 13 10.1 +2.0**
KDAK Kodiak Island 102.42 30 *e*P **Pdif 10 57 08.7 +4.0**
RC01 Rabbit Creek A 102.43 26 *e*Pdif **Pdif 10 57 04.2 -0.5**
comp=Z,42nm,0.9s
PMR Palmer 102.48 26 *e*Pdif **Pdif 10 57 03.9 -1.0**
comp=Z,149nm,1.2s
PMR Palmer 102.48 26 *e*P **Pdif 10 57 03.9 -1.0**
PMR pmax pmax
comp=Z,149nm,1.2s
KULLO Kullorsuaq 102.59 352 *i* P **Pdif 10 57 06.4 +1.2**
comp=Z,1216µm,19.0s
KULLO Kullorsuaq 102.59 352 *e*P **Pdif 10 57 06.4 +1.2**
KULLO MLR MLR
comp=Z,1200µm,19.0s
SML Sawmill 102.72 25 *e*Pdif **Pdif 10 57 05.1 -1.0**
comp=Z,97nm,1.4s
SML Sawmill 102.72 25 *e*P **Pdif 10 57 05.1 -1.0**
SML pmax pmax
comp=Z,97nm,1.4s
PAX Paxson 103.35 23 *e*Pdif **Pdif 10 57 10.0 +1.1**
comp=Z,337nm,1.0s
PAX Paxson 103.35 23 *e*P **Pdif 10 57 10.0 +1.1**
PAX pmax pmax
comp=Z,337nm,1.0s
DOT Dot Lake 103.56 23 *e*Pdif **Pdif 10 57 09.6 -0.1**
comp=Z,1µm,0.8s
EGAK Eagle 104.02 21 *e*Pdif **Pdif 10 57 10.9 -0.9**
comp=Z,368nm,1.6s
DIV Divide 104.13 25 *e*Pdif **Pdif 10 57 13.5 +1.1**
comp=Z,88nm,1.2s
INK Inuvik 104.25 16 Pdiff **Pdif 10 57 11.5 -1.1**
comp=Z,20nm,0.8s,baz=350,slow=6.6,SNR=29
INK PKKPbc **PKKPbc 11 13 02.4 -0.6**
comp=Z,19nm,0.9s,baz=22,slow=2.5,SNR=9.7
INK Inuvik 104.25 16 *e*Pdif **Pdif 10 57 11.5 -1.1**
comp=Z,53nm,1.2s
INK PKKPbc **PKKPbc 11 13 02.4 -0.6**
INK Inuvik 104.25 16 *e*P **Pdif 10 57 11.5 -1.1**
INK pmax pmax
comp=Z,53nm,1.2s
RES Resolute Bay 104.52 2 Pdiff **Pdif 10 57 15.3 +1.6**
comp=Z,13nm,0.9s,baz=337,slow=3.7,SNR=26
RES Resolute Bay 104.52 2 *e*Pdif **Pdif 10 57 14.6 +0.9**
comp=Z,53nm,1.2s
RES Resolute Bay 104.52 2 *e*P **Pdif 10 57 14.6 +0.9**
RES pmax pmax
comp=Z,53nm,1.2s
BMRM Bremner River 104.70 25 *e*Pdif **Pdif 10 57 14.9 -0.1**
comp=Z,505nm,1.0s
DAWY Dawson 105.06 21 *e*Pdif **Pdif 10 57 16.2 -0.2**
comp=Z,53nm,1.2s
PMPS Porto Santo 105.24 304 *e*P **Pdif 10 57 22.5 +4.7**
comp=Z,140nm,1.6s
PMPS Porto Santo 105.24 304 *e*PP PP 11 02 00.9 +22
FUL Funchal 105.78 304 *e*PP PP 11 02 05.3 +22
PMAR Madeira 105.78 304 *e*P **Pdif 10 57 29.4 +8.9**
PMAR Madeira 105.78 304 *e*PP PP 11 02 05.5 +22
PMOZ Porto Moniz, M 106.00 304 *e*PP PP 11 02 02.5 +18
PMOZ Porto Moniz, M 106.00 304 *e*LR LR 11 29 08.3
comp=Z,301µm,18.0s
ASCN Ascension 106.73 262 *e*PKPdf **PKiKP 11 01 34.6 -0.8**
RAR Rarotonga 106.86 112 PP PP 11 01 57.9 +6.5
comp=Z,24nm,0.8s,baz=241,slow=10,SNR=2.6
SFJD Kangerlussuaq 107.57 346 Pdiff **Pdif 10 57 28.1 +0.7**
comp=Z,5.2nm,0.8s,baz=204,slow=18,SNR=2.9
SFJD PP **PP 11 01 59.3 +4.4**
comp=Z,97nm,1.0s,baz=35,slow=9.9,SNR=4.0
SFJD Kangerlussuaq 107.57 346 *e*Pdif **Pdif 10 57 25.8 -1.6**
comp=Z,898nm,1.4s
SFJD PP **PP 11 01 59.2 +4.4**
SKAG Skagway 109.38 24 *e*Pdif **Pdif 10 57 38.0 +2.4**
SIT Sitka 110.86 26 *e*Pdif **Pdif 10 57 41.7 -0.6**
SIT Sitka 110.86 26 *e*P **Pdif 10 57 41.7 -0.6**
BART Pico Bartolome 111.03 311 *e*PP PP 11 02 38.4 +17
PSMN Pico do Norte, 111.20 310 *e*PP PP 11 02 39.3 +17
PSMN Pico do Norte, 111.20 310 *e*SS SS 11 18 13.3 +19
PSMN Pico do Norte, 111.20 310 *e*LQ LQ 11 28 31.6
PSMN *e*LR LR 11 36 01.9
comp=Z,47µm,19.0s
PSMA Santa Maria 111.25 310 *e*PP PP 11 02 44.6 +22
PCALD Caldeiras da R 111.27 311 *e*PP PP 11 02 43.9 +21
CMLA Cha da Macela 111.31 311 *e*PP PP 11 02 44.1 +21
CMLA Cha da Macela 111.31 311 *e*SS SS 11 18 19.6 +24
CMLA Cha da Macela 111.31 311 *e*LQ LQ 11 28 35.2
CMLA *e*LR LR 11 36 01.9
comp=Z,40µm,17.8s
PDA Ponta Delgada 111.42 311 *e*PP PP 11 02 45.0 +21
PSET Sete Cidades 111.43 311 *e*PP PP 11 02 41.6 +18
PSET Sete Cidades 111.43 311 *e*SS SS 11 18 20.6 +23
PSET Sete Cidades 111.43 311 *e*LQ LQ 11 28 35.2
PSET *e*LR LR 11 36 30.3
comp=Z,49µm,16.5s
DLBC Dease Lake 112.13 23 *e*Pdif **Pdif 10 57 43.7 -4.3**
ADH Angra Heroismo 112.28 313 *e*PP PP 11 02 52.5 +22
WRAK Wrangell Islan 112.54 25 *e*Pdif **Pdif 10 57 54.3 +4.5**
PGRA Graciosa 112.70 313 *e*PP PP 11 02 47.9 +15
PGRA Graciosa 112.70 313 *e*SS SS 11 18 33.4 +19
PGRA Graciosa 112.70 313 *e*LQ LQ 11 28 56.4
PGRA *e*LR LR 11 37 12.9
comp=Z,60µm,17.8s
CRAG Craig 112.82 26 *e*Pdif **Pdif 10 57 54.2 +3.2**
PMAN Manadas 112.92 313 *e*PP PP 11 02 45.5 +11
PICO Pico 113.21 313 *e*PP PP 11 02 56.8 +20
PCED Cedros 113.37 313 *e*PP PP 11 02 49.0 +11
YKA Yellowknife Ar 113.69 13 Pdiff **Pdif 10 57 55.5 +0.8**
comp=Z,4.1nm,0.9s,baz=326,slow=4.9,SNR=35
YKA PKiKP **PKiKP 11 01 46.0 -1.1**
comp=Z,6.7nm,0.9s,baz=327,slow=4.5,SNR=4.3
YKA PP PP 11 02 29.2 -10
comp=Z,61nm,0.9s,baz=334,slow=2.1,SNR=9.4
YKA PKKPbc **PKKPbc 11 12 31.5 -1.1**
comp=Z,9.0nm,0.8s,baz=150,slow=3.4,SNR=12
YKA Yellowknife Ar 113.69 13 *i* PKiKP **PKiKP 11 01 46.0 -1.1**
H07S1 FLORES T-PHASE 114.89 315 *e*SS SS 11 19 08.6 +26
H07S1 FLORES T-PHASE 114.89 315 *e*LQ LQ 11 29 56.7
H07S1 *e*LR LR 11 37 41.2
PAE Paea 116.84 109 *e*PKiKP PKPpre 11 01 49.8
comp=Z,43nm,1.3s
PPT2 Papeete2 116.85 109 *e*PKiKP PKPpre 11 01 49.7
comp=Z,360nm,1.5s
PPT2 Papeete2 116.85 109 *e*PS PS 11 12 46.4 -0.8
comp=Z,281µm,31.0s
PPT2 *e*SS SS 11 19 03.7 -6.5
comp=Z,637µm,32.8s
PPT2 Papeete2 116.85 109 *e*LQ LQ 11 32 35.3
comp=Z,1962µm,42.5s
PPT2 *e*LR LR 11 37 37.9
comp=Z,627µm,24.5s
PPT Papeete 116.86 109 PKP **PKPdf 11 01 55.0 +0.5**
comp=Z,17nm,0.6s,baz=270,slow=20,SNR=1.9
PPT Papeete 116.86 109 PKiKP **PKPdf 11 01 55.0 +0.5**
TIAR Tiarei 117.07 109 *e*PKiKP PKPpre 11 01 50.3
comp=Z,118nm,1.3s
TVO Taravao 117.13 110 *e*PKiKP PKPpre 11 01 50.4
comp=Z,78nm,1.2s
BBB Bella Bella 117.22 27 PKKPbc PKKPbc 11 12 22.2 +2.1
comp=Z,15nm,1.1s,baz=202,slow=1.4,SNR=3.2
PMOR Pomariorio Ree 118.81 107 *e*PKiKP PKPpre 11 01 53.6
comp=Z,571nm,1.1s
VAH Vaihoa 119.03 107 *e*PKiKP PKPpre 11 01 53.8
comp=Z,474nm,1.1s
FCC Fort Churchill 120.42 4 *e*PKPdf **PKPdf 11 02 00.2 0.0**
FCC Fort Churchill 120.42 4 *e*PKiKP **PKPdf 11 02 00.2 0.0**
PGC Sidney 121.82 27 *e*PKPdf **PKPdf 11 02 02.5 -0.6**
SCHQ Schefferville 122.02 346 PKP **PKPdf 11 02 01.9 -1.6**
comp=Z,44nm,0.7s,baz=33,slow=3.8,SNR=11
SCHQ PKKPbc **PKKPbc 11 12 03.8 +1.2**
comp=Z,24nm,0.9s,baz=0.0,slow=2.0,SNR=3.8
EDM Edmonton 122.06 18 *e*PKPdf **PKPdf 11 02 01.9 -1.7**
EDM Edmonton 122.06 18 *e*PKiKP **PKPdf 11 02 01.9 -1.7**
A04D Lummi Island 122.11 27 P **PKPdf 11 02 02.2 -1.5**
baz=317
NLWA Neilton Lookou 122.53 28 *e*PKPdf **PKPdf 11 02 04.4 -0.3**
B05A Bryant 122.72 27 P **PKPdf 11 02 04.0 -0.9**
baz=318
FFC Flin Flon 123.43 10 *e*PKPdf **PKPdf 11 02 05.3 -0.8**
FFC Flin Flon 123.43 10 *e*PKiKP **PKPdf 11 02 05.3 -0.8**
EFI East Falkland 123.52 202 *e*PKPdf **PKPdf 11 02 06.2 -0.1**
EFI East Falkland 123.52 202 *i* PKiKP **PKPdf 11 02 05.6 -0.7**
F04D Rainier, OR 123.88 29 P **PKPdf 11 02 06.5 -0.7**
baz=316
G03D McMinnville, O 124.38 30 P **PKPdf 11 02 07.3 -0.9**
baz=315
COR Corvallis 124.80 31 *e*PKPdf **PKPdf 11 02 09.4 +0.4**
COR Corvallis 124.80 31 *e*PKiKP **PKPdf 11 02 09.4 +0.4**
NEW Newport 124.84 24 SKKPbc SKKPbc 11 15 44.8 +3.5
comp=Z,9.6nm,0.9s,baz=117,slow=4.5,SNR=2.4
NEW Newport 124.84 24 P **PKPdf 11 02 08.3 -0.8**
baz=323
NEW Newport 124.84 24 *e*PKPdf **PKPdf 11 02 09.0 -0.1**
NEW SKKPbc SKKPbc 11 15 44.8 +3.5
NEW Newport 124.84 24 *e*PKiKP **PKPdf 11 02 09.0 -0.1**
HAWA Hanford 125.28 27 *e*PKPdf **PKPdf 11 02 08.7 -1.2**
G05D Wamic, OR 125.31 29 P **PKPdf 11 02 09.5 -0.5**
baz=317
I03D Drain, OR 125.40 31 P **PKPdf 11 02 09.7 -0.5**
baz=314,SNR=21
WALA Waterton Lakes 125.41 21 *e*PKPdf **PKPdf 11 02 11.5 +1.2**
I04A Tendick Farm, 125.81 31 P **PKPdf 11 02 10.2 -0.9**
baz=315,SNR=19
I05D Terrebonne, OR 125.96 30 P **PKPdf 11 02 10.6 -0.8**
baz=317,SNR=14
J04D Umpqua Nationa 126.36 31 P **PKPdf 11 02 11.8 -0.5**
baz=315,SNR=22
HUMO Hull Mountain 126.36 32 PKPdf **PKPdf 11 02 10.9 -1.3**
J05D Fort Rock, OR 126.77 30 P **PKPdf 11 02 12.5 -0.5**
baz=316,SNR=18
YBH Yreka Blue Hor 127.10 33 PKP **PKPdf 11 02 13.2 -0.4**
comp=Z,12nm,1.0s,baz=64,slow=1.0,SNR=5.8
M02C Callahan 127.26 33 P **PKPdf 11 02 13.0 -1.0**
baz=314
MSO Missoula 127.26 23 P **PKPdf 11 02 13.4 -0.4**
baz=326
BMO Blue Mountains 127.46 26 *e*PKPdf **PKPdf 11 02 14.5 +0.2**
BMO Blue Mountains 127.46 26 *e*PKiKP **PKPdf 11 02 14.5 +0.2**
M04C Macdoel 127.53 32 P **PKPdf 11 02 13.6 -1.0**
baz=315
N02D Trinity Center 127.62 33 P **PKPdf 11 02 13.8 -0.9**
baz=314
HRY Holter Researc 128.14 21 *e*PKPdf **PKPdf 11 02 16.9 +1.3**
MOD Modoc Plateau 128.25 31 *e*PKPdf **PKPdf 11 02 16.1 +0.1**
O03D Paynes Creek 128.59 33 P **PKPdf 11 02 15.4 -1.2**
baz=314
LRM Limekiln Ridge 128.67 22 *e*PKPdf **PKPdf 11 02 17.0 +0.3**
ULM Lac du Bonnet 128.68 7 PKP **PKPdf 11 02 15.2 -1.1**
comp=Z,99nm,0.9s,baz=17,slow=2.1,SNR=16
ULM SKKPbc SKKPbc 11 15 26.0 -2.1
comp=Z,20nm,0.9s,baz=162,slow=6.4,SNR=3.8
WVOR Wild Horse Val 128.69 29 *e*PKPdf **PKPdf 11 02 16.9 +0.2**
WVOR Wild Horse Val 128.69 29 *e*PKiKP **PKPdf 11 02 17.0 +0.2**
HOPS Hopland Field 128.76 35 *e*PKPdf **PKPdf 11 02 16.9 +0.1**
RKT Rikitea 128.92 119 *e*PKiKP **PKPdf 11 02 14.2 -3.3**
comp=Z,397nm,1.5s
RKT Rikitea 128.92 119 *e*SS SS 11 21 37.2 -5.7
comp=Z,684µm,36.5s
RKT Rikitea 128.92 119 *e*LR LR 11 42 53.8
comp=Z,718µm,39.2s
BOZ Bozeman (W) 129.17 22 P **PKPdf 11 02 16.1 -1.4**
baz=328
BOZ Bozeman (W) 129.17 22 *e*PKPdf **PKPdf 11 02 17.1 -0.4**
BOZ Bozeman (W) 129.17 22 *e*PKiKP **PKPdf 11 02 17.2 -0.4**
MFID Camas Ranch 129.25 26 *e*PKPdf **PKPdf 11 02 19.7 +2.0**
MCCM Marconi Confer 129.43 36 *e*PKPdf **PKPdf 11 02 18.1 0.0**
GCMT Greycliff 129.70 20 *e*PKPdf **PKPdf 11 02 18.8 +0.2**
HLID Hailey 129.75 25 P **PKPdf 11 02 17.2 -1.6**
baz=324
HLID Hailey 129.75 25 *e*PKPdf **PKPdf 11 02 18.3 -0.5**
A31A Linda, St. Vin 129.80 8 P **PKPdf 11 02 17.1 -1.4**
baz=347
QLMT Earthquake Lak 129.89 22 *e*PKPdf **PKPdf 11 02 20.8 +1.7**
A32A Rocking H Ranc 129.91 8 P **PKPdf 11 02 17.2 -1.5**
baz=348
LAO LASA Array 129.98 17 P **PKPdf 11 02 17.5 -1.4**
baz=335
LAO LASA Array 129.98 17 *e*PKPdf **PKPdf 11 02 20.2 +1.3**
A33A Warroad 130.03 7 P **PKPdf 11 02 17.8 -1.1**
baz=350
YMR Madison River 130.20 22 *e*PKPdf **PKPdf 11 02 20.9 +1.2**
B31A Greenbush Farm 130.23 9 P **PKPdf 11 02 18.1 -1.2**
baz=347
B32A Ashes, Strandq 130.42 8 P **PKPdf 11 02 18.5 -1.1**
baz=348
RLMT Red Lodge 130.42 20 P **PKPdf 11 02 18.7 -1.4**
baz=331
RLMT Red Lodge 130.42 20 *e*PKPdf **PKPdf 11 02 21.8 +1.7**
YFT Old Faithful 130.44 22 *e*PKPdf **PKPdf 11 02 22.8 +2.6**
MDND Maddock 130.46 11 P **PKPdf 11 02 18.8 -1.0**
baz=344
MDND Maddock 130.46 11 *e*PKPdf **PKPdf 11 02 20.0 +0.3**
LKWY Lake 130.50 21 *e*PKPdf **PKPdf 11 02 23.4 +3.2**
LKWY Lake 130.50 21 *e*PKiKP **PKPdf 11 02 23.5 +3.2**
B34A Aery, Baudette 130.56 6 P **PKPdf 11 02 19.0 -0.9**
baz=351
H17A Grant Village 130.58 22 P **PKPdf 11 02 18.5 -2.0**
baz=329
H17A Grant Village 130.58 22 *e*PKPdf **PKPdf 11 02 24.0 +3.6**
AGMN Agassiz Nation 130.60 7 P **PKPdf 11 02 18.8 -1.2**
baz=349
AGMN Agassiz Nation 130.60 7 *e*PKPdf **PKPdf 11 02 20.2 +0.2**
AGMN *e*PP **PP 11 04 38.6 +4.9**
B33A Robert and Kas 130.66 7 P **PKPdf 11 02 18.6 -1.5**
baz=349
B35A Bob, Littlefor 130.78 5 P **PKPdf 11 02 19.0 -1.3**
baz=352
C31A Landman Farms, 130.83 9 P **PKPdf 11 02 19.0 -1.5**
baz=346
BMN Battle Mountai 130.90 30 *e*PKPdf **PKPdf 11 02 23.1 +2.1**
BMN Battle Mountai 130.90 30 *e*PKiKP **PKPdf 11 02 23.2 +2.1**
CMB Columbia Colle 130.95 35 *e*PKPdf **PKPdf 11 02 19.8 -1.2**
CMB Columbia Colle 130.95 35 *e*PKiKP **PKPdf 11 02 19.8 -1.2**
C33A Trail 131.14 7 P **PKPdf 11 02 19.6 -1.5**
baz=349
SAO San Andreas Ge 131.20 37 *e*PKPdf **PKPdf 11 02 23.6 +2.1**
SAO San Andreas Ge 131.20 37 *e*PKiKP **PKPdf 11 02 23.6 +2.1**
C34A RKJ Ranch, Bem 131.35 7 P **PKPdf 11 02 20.4 -1.1**
baz=350
EYMN Ely 131.36 4 P **PKPdf 11 02 20.2 -1.3**
baz=355
EYMN Ely 131.36 4 *e*PKPdf **PKPdf 11 02 20.7 -0.8**
EYMN *e*PP **PP 11 04 45.2 +6.6**
PKME Peaks-Kenny Pk 131.38 343 P **PKPdf 11 02 20.6 -0.9**
baz=25
PKME Peaks-Kenny Pk 131.38 343 *e*PKPdf **PKPdf 11 02 22.5 +1.0**
C35A Jirik Farms, M 131.41 6 P **PKPdf 11 02 20.6 -1.0**
baz=351

C36A Pine Crest Far 131.45 5 P PKPdf 11 02 20.9 -0.8
baz=353
C40A Isle Royale Na 131.49 1 P PKPdf 11 02 20.7 -1.0
baz=358
C37A Embarrass 131.53 4 P PKPdf 11 02 20.3 -1.5
baz=354
C39A Grand Marais 131.56 2 P PKPdf 11 02 20.3 -1.6
baz=357
D32A Dogwood Acres, 131.58 9 P PKPdf 11 02 20.2 -1.7
baz=347
C38A Sawbill Land. 131.60 3 P PKPdf 11 02 20.5 -1.5
baz=355
D33A AnnSam, Waubun 131.74 8 P PKPdf 11 02 20.6 -1.6
baz=349
AHID Auburn Hatcher 131.77 23 ePKPdf PKPdf 11 02 21.6 -1.1
NVAR Mina Array Bea 131.82 33 PKhKP PKPpre 11 02 11.5
comp=Z,5.0nm,0.8s,baz=227,slow=1,6,SNR=4.4
NVAR PKP PKPdf 11 02 21.8 -1.1
comp=Z,19nm,0.9s,baz=298,slow=2.9,SNR=9.7
D34A Park Rapids 131.88 7 P PKPdf 11 02 20.7 -1.8
baz=350
CHRN Cochrane 131.90 194 eP PKPdf 11 02 25.7 +3.2
D36A Goodland 132.00 5 P PKPdf 11 02 21.1 -1.6
baz=352
E31A Nome 132.01 10 P PKPdf 11 02 21.4 -1.3
baz=346
D35A Remer 132.01 6 P PKPdf 11 02 21.5 -1.2
baz=351
D37A Cotton 132.08 4 P PKPdf 11 02 21.7 -1.2
baz=353
E32A Braaten, Kindr 132.10 9 P PKPdf 11 02 22.0 -0.9
baz=347
E33A Westby DABS, E 132.34 8 P PKPdf 11 02 22.9 -0.5
baz=349
BW06 Boulder Array 132.36 22 ePKPdf PKPdf 11 02 25.2 +1.4
PDAR Pinedale Array 132.36 22 PKhKP PKPpre 11 02 12.2
comp=Z,3.8nm,0.8s,baz=19,slow=1.4,SNR=5.3
PDAR PKP PKPdf 11 02 23.4 -0.4
comp=Z,27nm,0.9s,baz=191,slow=2.8,SNR=23
D41A Chassel 132.36 1 P PKPdf 11 02 23.0 -0.4
baz=359
E35A Pequot Lakes 132.49 6 P PKPdf 11 02 22.9 -0.7
baz=351
HWUT Hardware Ranch 132.55 24 ePKPdf PKPdf 11 02 23.4 -0.7
F31A Hecla 132.62 10 P PKPdf 11 02 23.1 -0.8
baz=345
E36A McGregor 132.65 5 P PKPdf 11 02 23.2 -0.7
baz=352
E38A The Farm, Brul 132.69 4 P PKPdf 11 02 23.2 -0.8
baz=355
E44A Grand Marais A 132.79 358 P PKPdf 11 02 23.5 -0.7
baz=2.2
F32A Veblen 132.80 9 P PKPdf 11 02 23.6 -0.6
baz=347
RCTC Rector, Farmer 132.81 35 P PKPdf 11 02 23.8 -0.7
baz=314
TIN Tinemaha, Big 132.85 34 P PKPdf 11 02 24.6 -0.2
baz=316
E40A Wakefield 132.94 2 P PKPdf 11 02 22.8 -1.8
baz=357
E41A Kenton 132.95 1 P PKPdf 11 02 23.5 -1.0
baz=358
RSSD Black Hills 132.95 16 ePKPdf PKPdf 11 02 27.1 +2.2
RSSD Black Hills 132.95 16 ePKIKP PKPdf 11 02 27.1 +2.2
F33A 5 Mile Ranch, 132.95 8 P PKPdf 11 02 23.5 -1.0
baz=348
E39A Mellen 132.98 3 P PKPdf 11 02 23.6 -0.9
baz=356
E42A Champion 133.00 0 P PKPdf 11 02 23.7 -0.9
baz=360
E45A Wooded Hills, 133.03 358 P PKPdf 11 02 24.0 -0.6
baz=3.2
SMMC Simmler 133.05 37 P PKPdf 11 02 24.4 -0.7
baz=313
E43A Lone Tree Farm 133.05 359 P PKPdf 11 02 24.2 -0.5
baz=0.7
LBNH Lisbon 133.06 345 P PKPdf 11 02 24.3 -0.5
baz=22
F34A Alexandria 133.14 7 P PKPdf 11 02 24.2 -0.7
baz=349
F35A Swanville 133.16 7 P PKPdf 11 02 24.3 -0.6
baz=350
DUG Dugway, Tooele 133.18 27 P PKPdf 11 02 24.7 -0.7
baz=324
DUG Dugway, Tooele 133.18 27 ePKPdf PKPdf 11 02 25.4 +0.1
DUG Dugway, Tooele 133.18 27 ePKIKP PKPdf 11 02 25.4 +0.1
VES Vestal, Richgr 133.22 36 P PKPdf 11 02 24.1 -1.2
baz=314
G31A Conde 133.24 10 P PKPdf 11 02 24.3 -0.8
baz=345
F36A Milaca 133.27 6 P PKPdf 11 02 24.5 -0.6
baz=352
R11A Troy Canyon, C 133.30 30 P PKPdf 11 02 25.3 -0.3
baz=320
R11A Troy Canyon, C 133.30 30 ePKPdf PKPdf 11 02 25.6 0.0
COWI Conover 133.31 1 ePKPdf PKPdf 11 02 24.4 -0.9
F38A Pierce - Schro 133.32 4 P PKPdf 11 02 24.4 -0.8
baz=354
G32A Webster 133.34 10 P PKPdf 11 02 25.1 -0.2
baz=346
LONY Lake Ozonia 133.35 347 P PKPdf 11 02 25.6 +0.2
baz=18
LONY Lake Ozonia 133.35 347 ePKPdf PKPdf 11 02 26.0 +0.6
CWC Cottonwood Cre 133.38 34 P PKPdf 11 02 24.7 -1.2
baz=316
F39A Loretta 133.42 3 P PKPdf 11 02 23.9 -1.6
baz=355
F44A Big Bay de Noc 133.44 359 P PKPdf 11 02 24.5 -0.9
baz=1.5
PKM Mcpherson Peak 133.45 37 P PKPdf 11 02 25.6 -0.4
baz=313
F40A Park Falls 133.46 2 P PKPdf 11 02 25.2 -0.3
baz=356
F37A Hinrichs Farm, 133.49 5 P PKPdf 11 02 25.3 -0.2
baz=353
K22A Casper 133.53 19 ePKPdf PKPdf 11 02 25.5 -0.5
G33A Ortonville 133.56 9 P PKPdf 11 02 24.9 -0.8
baz=348
F46A Macinaw City C 133.59 357 P PKPdf 11 02 25.3 -0.4
baz=3.8
F43A Flat Rock, Esc 133.60 360 P PKPdf 11 02 25.1 -0.6
baz=0.5
G34A Benson 133.63 8 P PKPdf 11 02 25.2 -0.7
baz=349
F42A Maple Grove Fa 133.67 1 P PKPdf 11 02 25.0 -0.9
baz=359
F41A Three Lakes 133.67 1 P PKPdf 11 02 25.0 -0.9
baz=358
ISA Isabella, Lake 133.70 35 P PKPdf 11 02 25.5 -0.9
baz=315
ISA Isabella, Lake 133.70 35 ePKPdf PKPdf 11 02 25.3 -1.0
ISA Isabella, Lake 133.70 35 ePKIKP PKPdf 11 02 25.3 -1.0
F45A CMU Biological 133.71 358 P PKPdf 11 02 25.3 -0.6
baz=2.8
DAC Darwin (Calif) 133.77 34 ePKPdf PKPdf 11 02 27.3 +0.7
DAC Darwin (Calif) 133.77 34 ePKIKP PKPdf 11 02 27.3 +0.7
G35A Watkins 133.80 7 P PKPdf 11 02 25.9 -0.3
baz=350
SBC Santa Barbara 133.81 38 P PKPdf 11 02 26.5 +0.1
baz=313
SUSD Miller 133.86 11 P PKPdf 11 02 25.9 -0.4
baz=344,SNR=10
G36A St. Michael 133.87 6 P PKPdf 11 02 25.9 -0.4
baz=351
ARVC Arvin 133.87 36 P PKPdf 11 02 24.9 -1.7
baz=314
H31A Wolsey 133.91 11 P PKPdf 11 02 25.3 -1.1
baz=345
SPMN Marine on St. 133.97 5 P PKPdf 11 02 25.2 -1.3
baz=353
SPMN Marine on St. 133.97 5 ePKPdf PKPdf 11 02 25.1 -1.3
MPMC Manual Prospec 133.98 34 P PKPdf 11 02 26.2 -0.8
baz=316
H33A Prehn Over Nor 134.02 9 P PKPdf 11 02 25.8 -0.8
baz=347
G39A Holcombe 134.03 4 P PKPdf 11 02 26.5 -0.1
baz=355
FURC Furnace Creek, 134.03 33 P PKPdf 11 02 26.1 -0.7
baz=317
SADO Sadowa 134.04 352 SKKPbc SKKPbc 11 15 06.5 -2.2
comp=Z,25nm,1.1s,baz=270,slow=1.7,SNR=4.3
SADO Sadowa 134.04 352 ePKPdf PKPdf 11 02 28.1 +1.5
SADO SKKPbc SKKPbc 11 15 06.5 -2.2
G38A Ridgeland 134.10 4 P PKPdf 11 02 26.1 -0.6
baz=354
G43A Wallace 134.17 0 P PKPdf 11 02 26.2 -0.7
baz=360
H34A Spellman Lake, 134.18 8 P PKPdf 11 02 25.9 -1.0
baz=348
G42A Mountain 134.18 1 P PKPdf 11 02 26.1 -0.8
baz=359
G41A Antigo 134.20 2 P PKPdf 11 02 25.7 -1.2
baz=358
H35A Sunnyside Ranc 134.27 7 P PKPdf 11 02 25.8 -1.2
baz=350
OSI Osito Audit: C 134.29 37 P PKPdf 11 02 26.3 -1.2
baz=314
OSI Osito Audit: C 134.29 37 ePKPdf PKPdf 11 02 29.6 +2.2
ACCN Adirondack Com 134.31 346 ePKPdf PKPdf 11 02 27.1 -0.1
I31A Royce, Wessing 134.34 11 P PKPdf 11 02 26.2 -1.0
baz=345
H36A Jessenland, He 134.50 6 P PKPdf 11 02 25.4 -2.1
baz=351
GLMI Grayling 134.53 357 P PKPdf 11 02 25.4 -2.1
baz=4.1
GLMI Grayling 134.53 357 ePKPdf PKPdf 11 02 26.9 -0.6
EDW2 Edwards Air Fo 134.53 36 P PKPdf 11 02 25.9 -2.0
baz=315
I32A Karley and Nic 134.53 10 P PKPdf 11 02 26.0 -1.6
baz=346
H38A Maiden Rock 134.56 5 P PKPdf 11 02 26.1 -1.5
baz=353
HRV Adam Dziewonsk 134.57 343 P PKPdf 11 02 26.2 -1.4
baz=23
HRV Adam Dziewonsk 134.57 343 ePKPdf PKPdf 11 02 28.6 +0.9
HRV Adam Dziewonsk 134.57 343 ePKIKP PKPdf 11 02 28.6 +0.9
H37A Dierke Farm, C 134.60 5 P PKPdf 11 02 27.0 -0.7
baz=352
H39A Augusta 134.63 4 P PKPdf 11 02 26.7 -1.0
baz=355
H40A Chili 134.74 3 P PKPdf 11 02 26.5 -1.4
baz=356
DECC Green Verdugo 134.77 37 P PKPdf 11 02 27.4 -1.0
baz=314
SHOC Shoshone, Teco 134.77 33 P PKPdf 11 02 27.6 -0.7
baz=316
H41A Junction City 134.78 2 P PKPdf 11 02 27.3 -0.7
baz=357
MSU Marysvale 134.83 27 ePKPdf PKPdf 11 02 28.6 0.0
MSU Marysvale 134.83 27 ePKIKP PKPdf 11 02 28.6 0.0
H42A Shiocton 134.91 1 P PKPdf 11 02 27.2 -1.0
baz=359
GSC Goldstone, Bar 134.91 34 P PKPdf 11 02 26.6 -2.0
baz=316
GSC Goldstone, Bar 134.91 34 ePKPdf PKPdf 11 02 26.4 -2.2
GSC Goldstone, Bar 134.91 34 ePKIKP PKPdf 11 02 26.4 -2.2
PASC Pasadena Art C 134.91 37 ePKPdf PKPdf 11 02 27.6 -1.0
SPB Sao Paulo 134.96 237 ePKPdf PKPdf 11 02 29.6 +0.8
H43A Windswept, Lux 134.96 0 P PKPdf 11 02 27.5 -0.8
baz=360
ECSD EROS Data Cent 134.96 9 P PKPdf 11 02 27.1 -1.3
baz=347
ECSD EROS Data Cent 134.96 9 ePKPdf PKPdf 11 02 26.8 -1.6
J31A Geddes 135.01 12 P PKPdf 11 02 26.7 -1.8
baz=344
O20A White River Ci 135.13 23 ePKPdf PKPpre 11 02 23.4
BINY Binghamton 135.97 348 ePKPdf PKPdf 11 02 31.1 +0.8
LDFC Landfair 136.02 33 ePKPdf PKPdf 11 02 32.4 +1.7
TRQA Tornquist 136.06 209 ePKPdf PKPpre 11 02 24.6
PFO Pinyon Flats O 136.33 36 ePKPdf PKPdf 11 02 31.2 -0.2
PFO Pinyon Flats O 136.33 36 ePKIKP PKPdf 11 02 31.2 -0.2
ISCO Idaho Springs 136.38 20 ePKPdf PKPpre 11 02 27.4
ISCO Idaho Springs 136.38 20 ePKIKP PKPpre 11 02 27.4
JFWS Jewell Farm 136.45 3 ePKPdf PKPpre 11 02 26.7
JFWS Jewell Farm 136.45 3 ePKIKP PKPpre 11 02 26.7
OGNE Ogallala 136.45 16 ePKPdf PKPdf 11 02 31.3 -0.1
PAL Palisades 136.61 345 ePKPdf PKPdf 11 02 32.5 +1.0
PAL Palisades 136.61 345 ePKIKP PKPdf 11 02 32.5 +1.0
PV01 Paradox Valley 136.72 24 ePKPdf PKPpre 11 02 27.6
BAR Barrett 136.86 37 ePKPdf PKPdf 11 02 33.2 +0.9
BGNE Belgrade 136.94 12 ePKPdf PKPdf 11 02 32.6 +0.4
AAM Ann Arbor 136.98 356 ePKPdf PKPdf 11 02 31.9 -0.2
AAM Ann Arbor 136.98 356 ePKIKP PKPdf 11 02 31.9 -0.2
BRNJ Basking Ridge 137.08 345 ePKPdf PKPdf 11 02 34.0 +1.6
SCIA State Center 137.22 6 ePKPdf PKPdf 11 02 35.2 +2.6
ALLY Allegheny Colle 137.25 352 ePKPdf PKPdf 11 02 33.9 +1.2
PLCA Paso Flores 137.33 199 PKhKP PKPpre 11 02 22.1
comp=Z,22nm,1.0s,baz=136,slow=1.8,SNR=12
PLCA SKKPbc SKKPbc 11 14 51.2 -5.2
comp=Z,43nm,1.1s,baz=343,slow=3.6,SNR=4.0
MVCO Mesa Verde 137.53 25 ePKPdf PKPdf 11 02 32.6 -1.1
WUAZ Wupatki 137.62 29 ePKPdf PKPpre 11 02 29.6
GLA Glamis 137.67 35 ePKPdf PKPdf 11 02 36.1 +2.3
GLA Glamis 137.67 35 ePKIKP PKPdf 11 02 36.1 +2.3
SSPA Standing Stone 137.86 349 ePKPdf PKPdf 11 02 34.2 +0.3
KSCO Kaye Shedlock' 138.07 18 ePKPdf PKPpre 11 02 26.6
SDCO Great Sand Dun 138.25 21 ePKPdf PKPdf 11 02 36.4 +1.3
W18A Petrified Fore 138.72 28 ePKPdf PKPdf 11 02 36.1 +0.3
SDMD Soldier's Deli 138.82 347 ePKPdf PKPdf 11 02 37.0 +1.4
ACSO Alum Creek Sta 138.98 355 ePKPdf PKPdf 11 02 36.9 +0.9
SFIN Lafayette 139.05 359 ePKPdf PKPdf 11 02 36.0 0.0
CBKS Cedar Bluff 139.05 15 ePKPdf PKPdf 11 02 38.4 +2.2
CBKS Cedar Bluff 139.05 15 ePKIKP PKPdf 11 02 38.4 +2.2
KSU1 Kansas State U 139.47 11 ePKPdf PKPdf 11 02 36.4 -0.4
CANA Caviahue 140.06 200 eP PKPdf 11 02 38.9 +0.7
CBN Corbin Frederi 140.09 347 ePKPdf PKPdf 11 02 38.1 +0.2
BLO Bloomington 140.24 359 ePKPdf PKPdf 11 02 37.6 -0.6
BLO Bloomington 140.24 359 ePKIKP PKPdf 11 02 37.6 -0.6
ANMO Albuquerque 140.32 25 PKhKP PKPpre 11 02 30.8
comp=Z,15nm,1.0s,baz=78,slow=2.6,SNR=15
ANMO Albuquerque 140.32 25 ePKPdf PKPpre 11 02 33.4
ANMO ePKPbc pPKPdf 11 02 44.6 -1.5
ANMO Albuquerque 140.32 25 ePKIKP PKPpre 11 02 33.4
ANMO e 11 02 44.7
TUC Tucson 140.45 32 ePKPdf PKPdf 11 02 41.1 +2.2
TUC Tucson 140.45 32 ePKIKP PKPdf 11 02 41.1 +2.2
LAZ Ladron 140.49 26 ePKPdf PKPdf 11 02 40.1 +1.0
BBSR BB Station 140.58 329 ePKPdf PKPdf 11 02 38.6 -0.4
OLIL Olney 140.69 1 ePKPdf PKPdf 11 02 40.0 +1.0
JSRW J. Sargeant Re 140.69 348 ePKPdf PKPdf 11 02 40.6 +1.5
LPM Los Pinos Moun 140.79 25 ePKPdf PKPdf 11 02 40.7 +1.1
WCI Wyandotte Cave 141.18 358 ePKPdf PKPdf 11 02 36.4 -3.5
WCI Wyandotte Cave 141.18 358 ePKIKP PKPdf 11 02 36.4 -3.5
SUCO SUCO 141.22 211 eP PKPdf 11 02 37.7 -2.6
CCM Cathedral Cave 141.22 5 ePKPdf PKPdf 11 02 38.4 -1.6
CCM Cathedral Cave 141.22 5 ePKIKP PKPdf 11 02 38.4 -1.6
CPUP Villa Florida 141.36 226 PKhKP PKPpre 11 02 34.4
comp=Z,43nm,0.9s,baz=119,slow=2.9,SNR=12
CCHI Chillan 141.56 200 eP PKPdf 11 02 40.9 +0.2
BLA Blacksburg 141.63 351 ePKPdf PKPdf 11 02 37.1 -3.8
BLA Blacksburg 141.63 351 ePKIKP PKPdf 11 02 37.1 -3.8
SIUC Southern Illin 141.68 2 ePKPdf PKPdf 11 02 40.5 -0.3
AMTX Amarillo 142.15 19 ePKPdf PKPdf 11 02 38.1 -3.9
MSTX Muleshoe 142.61 21 P PKPdf 11 02 40.2 -2.6
baz=334
TCA Tanti 142.62 213 eP PKPdf 11 02 40.1 -2.8
TCA Tanti 142.62 213 eP PKPdf 11 02 44.3 +1.5
U39A Green Forest 142.63 8 P PKPdf 11 02 40.7 -1.9
baz=350
TZTN Tazewell 142.69 355 P PKPdf 11 02 39.9 -2.8
baz=6.6
TZTN Tazewell 142.69 355 ePKPdf PKPdf 11 02 39.7 -3.1
PARMO Parma 142.70 3 ePKPdf PKPdf 11 02 40.2 -2.5
TUL1 Leonard 142.71 11 P PKPdf 11 02 40.1 -2.7
baz=346
TUL1 Leonard 142.71 11 ePKPdf PKPdf 11 02 39.9 -2.9
U40A Yellville 142.74 7 P PKPdf 11 02 40.1 -2.7
baz=351,SNR=14
U41A Viola 142.86 6 P PKPdf 11 02 40.1 -2.9
baz=353,SNR=33
U44A Portageville 142.87 3 P PKPdf 11 02 40.6 -2.4
baz=356
AVIZ Vizcacheras 142.87 207 eP PKPdf 11 02 42.5 -0.7
HSIG 142.89 35 ePKPdf PKPdf 11 02 40.7 -2.6
U48A Cassie Pea, Po 142.90 359 P PKPdf 11 02 40.5 -2.6
baz=1.6,SNR=28
U42A Revenden 142.91 5 P PKPdf 11 02 40.7 -2.4
baz=354,SNR=18
U43A Rector 142.96 4 P PKPdf 11 02 40.4 -2.7
baz=355,SNR=14
U47A Clarksville 142.98 360 P PKPdf 11 02 40.7 -2.5
baz=0.4,SNR=27
U44B Burton Farm, H 143.04 2 P PKPbc 11 02 40.9 +0.9
baz=357
CNNC Cliffs of the 143.05 347 ePKPdf PKPdf 11 02 42.3 -1.0
U45A Rockin P Farm, 143.06 2 P PKPbc 11 02 41.2 +1.1
baz=358
U46A Springville 143.06 1 P PKPbc 11 02 40.5 +0.5
baz=359,SNR=28
UTMT University of 143.06 2 ePKPdf PKPdf 11 02 43.6 +0.2
GLAT Glass 143.12 2 ePKPdf PKPdf 11 02 43.5 0.0
V39A Pettigrew 143.14 8 P PKPbc 11 02 40.6 +0.2
baz=350,SNR=29
WMOK Wichita Mounta 143.15 15 P PKPbc 11 02 40.0 -0.4
baz=341
WMOK Wichita Mounta 143.15 15 ePKPdf PKPbc 11 02 41.3 +0.9
WMOK Wichita Mounta 143.15 15 ePKIKP PKPbc 11 02 41.3 +0.9
ACAN Cantantal 143.23 210 eP PKPbc 11 02 42.1 +1.3
V40A Witts Springs 143.29 7 P PKPbc 11 02 41.0 +0.3
baz=351,SNR=27
WVT Waverly 143.29 0 P PKPbc 11 02 41.2 +0.5
baz=360
AAGR Agrelo 143.34 207 eP PKPdf 11 02 43.3 -0.8
SRIG Santa Rosalia 143.36 38 ePKPdf PKPbc 11 02 42.6 +1.5
GNAR Gosnell 143.38 3 ePKPdf PKPbc 11 02 42.0 +1.1
V41A Mountainview 143.38 6 P PKPbc 11 02 41.2 +0.1
baz=352,SNR=35
V42A Cord 143.44 5 P PKPbc 11 02 41.5 +0.3
baz=354,SNR=22
HALT Halls 143.47 2 ePKPdf PKPbc 11 02 41.9 +0.7
V44A Blytheville 143.53 3 P PKPbc 11 02 41.0 -0.4
baz=356
V43A Jonesboro 143.53 4 P PKPbc 11 02 42.6 +1.2
baz=355
MNTX Cornudas Mount 143.56 26 P PKPbc 11 02 42.1 +0.4
baz=329
MNTX Cornudas Mount 143.56 26 ePKPdf PKPdf 11 02 43.6 -0.8
GDL2 Guadalupe Moun 143.56 24 ePKPdf PKPdf 11 02 44.0 -0.6
ARCO CERRO ARCO 143.59 207 eP PKPdf 11 02 43.3 -1.3
TKL Tuckaleechee C 143.59 355 PKhKP PKPpre 11 02 40.0
comp=Z,37nm,0.5s,baz=124,slow=4.8,SNR=81
V47A Nunnelly 143.59 360 P PKPbc 11 02 41.9 +0.3
SNR=57
V46A Holladay 143.62 1 P PKPbc 11 02 41.8 +0.1
baz=359,SNR=52
V45A Humboldt 143.66 2 P PKPbc 11 02 42.0 +0.2
baz=358,SNR=19
V48A Smith Brothers 143.67 359 P PKPbc 11 02 42.0 +0.2
baz=1.2,SNR=36
HBAR Harrisburg 143.75 4 ePKPdf PKPbc 11 02 42.6 +0.6
W39A Magazine 143.75 9 P PKPbc 11 02 42.2 +0.1
baz=349,SNR=68
ASAL Salagasta 143.75 207 eP PKPdf 11 02 43.7 -1.1
KMSC Kings Mountain 143.80 351 P PKPab 11 02 41.8 +0.2
baz=10
KMSC Kings Mountain 143.80 351 ePKPdf PKPbc 11 02 42.8 +0.5
W40A Ferguson Farm, 143.86 8 P PKPbc 11 02 43.1 +0.8
baz=351,SNR=30
W42A Bald Knob 143.96 5 P PKPbc 11 02 43.3 +0.6
baz=353,SNR=19
W41B Gary Mavity, V 143.98 7 P PKPbc 11 02 43.0 +0.3
baz=352,SNR=61
W47A Westpoint 144.17 0 P PKPbc 11 02 43.5 +0.1
baz=360,SNR=70
SWET Sewanee 144.17 358 ePKPdf PKPbc 11 02 43.4 0.0
W43A Forest City 144.21 4 P PKPbc 11 02 43.5 0.0
baz=355,SNR=12
W44A Shelby Farms P 144.22 3 P PKPbc 11 02 43.5 0.0
baz=356
RTCV Cerro Valdivia 144.22 208 eP PKPdf 11 02 44.9 -0.7
MET Memphis--Engin 144.23 3 ePKPdf PKPbc 11 02 44.4 +0.8
W45A Hickory Valley 144.23 2 P PKPbc 11 02 43.4 -0.2
baz=357,SNR=154
W48A Pulaski 144.28 359 P PKPab 11 02 43.1 -0.3
baz=1.0,SNR=85
W46A Michie 144.28 1 P PKPbc 11 02 44.2 +0.5
baz=359,SNR=94
AUSP Uspallata 144.32 207 eP PKPdf 11 02 45.3 -0.8
UALR University of 144.36 7 ePKPdf PKPdf 11 02 45.4 -0.3
X39A Fountain Ranch 144.37 9 P PKPbc 11 02 44.1 0.0
baz=349
ROCH El Roble 144.38 204 ⇑ iP PKPab 11 02 43.6 -0.5
APLL PUNTA DE LOS L 144.39 212 eP PKPab 11 02 43.3 -0.7
MIAR Mount Ida 144.42 9 P PKPbc 11 02 44.8 +0.6
baz=350
MIAR Mount Ida 144.42 9 ePKPdf PKPbc 11 02 44.5 +0.4
MIAR Mount Ida 144.42 9 ePKIKP PKPbc 11 02 44.6 +0.4
SJA San Juan 144.51 209 eP PKPab 11 02 44.1 -0.3
X40A Basin Creek Fa 144.58 8 P PKPab 11 02 44.4 -0.1
baz=351,SNR=111
X41A Kaden, Bauxite 144.62 7 P PKPbc 11 02 44.7 -0.1
baz=351,SNR=70
RTLL Cerro Villicun 144.63 209 i P PKPdf 11 02 46.3 -0.1
X42A Stuttgart 144.66 6 P PKPbc 11 02 45.4 +0.5
baz=353,SNR=60
X43A Marvell 144.76 5 P PKPab 11 02 44.5 -0.6
baz=354,SNR=37
X44A Crenshaw 144.83 4 P PKPab 11 02 44.9 -0.5
baz=356,SNR=84
X46A Booneville 144.85 1 P PKPab 11 02 45.1 -0.3
baz=358,SNR=37
OXF Oxford 144.86 3 P PKPab 11 02 45.2 -0.3
baz=357,SNR=151
OXF Oxford 144.86 3 ePKPdf PKPdf 11 02 46.3 -0.2
OXF Oxford 144.86 3 ePKIKP PKPdf 11 02 46.3 -0.2
ABTX Abilene, Hawle 144.88 18 P PKPbc 11 02 45.8 0.0
baz=339
ABTX Abilene, Hawle 144.88 18 ePKPdf PKPdf 11 02 46.6 -0.1
X49A Woodville 144.88 358 P PKPab 11 02 45.1 -0.5
baz=2.1,SNR=88
X47A Russelville 144.90 0 P PKPab 11 02 45.0 -0.7
baz=359,SNR=206
X45A UM Field Stati 144.95 3 P PKPab 11 02 44.8 -1.0
baz=357,SNR=102
AMOG MOGNA 144.96 209 eP PKPab 11 02 45.3 -0.8
X48A Hartselle 144.96 359 P PKPab 11 02 45.2 -0.7
baz=0.8,SNR=173
Y40A Okolona 144.99 8 P PKPab 11 02 45.8 -0.2
baz=350
Y41A Eaglette Beard 145.21 7 P PKPbc 11 02 46.0 -0.7
baz=351,SNR=68
Y42A Garnett, Star 145.35 6 P PKPbc 11 02 46.6 -0.5
baz=353,SNR=147
Y43A Makayla and Ka 145.36 5 P PKPbc 11 02 46.7 -0.5
baz=354,SNR=288
Y44A Strider, Charl 145.37 4 P PKPbc 11 02 46.7 -0.5
baz=355,SNR=40
Y50A Piedmont 145.48 357 P PKPbc 11 02 46.7 -0.9
baz=3.2,SNR=130
Y45A Yeager Farm, C 145.50 3 P PKPbc 11 02 47.0 -0.7
baz=356,SNR=128
Y48A Jasper 145.50 359 P PKPbc 11 02 46.5 -1.2
baz=0.7,SNR=233
Y46A Houston 145.51 2 P PKPbc 11 02 46.4 -1.3
baz=358,SNR=436
Y47A UCPARC, Winfie 145.51 0 P PKPbc 11 02 46.7 -1.0
baz=359,SNR=116
Y49A Blount Mountai 145.54 358 P PKPdf 11 02 46.9 -0.9
baz=2.0,SNR=244
NHSC New Hope 145.59 349 P PKPdf 11 02 47.3 -0.5
baz=13,SNR=48
NHSC New Hope 145.59 349 ePKPdf PKPab 11 02 48.1 -0.1
CSU Charleston Sou 145.69 349 ePKPdf PKPab 11 02 49.1 +0.6
Z40A Long Farm, Mag 145.71 9 P PKPab 11 02 49.7 +1.1
baz=350
GOGA Godfrey 145.78 354 P PKPdf 11 02 48.2 0.0
baz=7.2,SNR=114
GOGA Godfrey 145.78 354 ePKPdf PKPdf 11 02 47.4 -0.8
GOGA Godfrey 145.78 354 ePKP2 PKPdf 11 02 47.4 -0.8
RGRS Roger Stewart 145.79 349 ePKPdf PKPdf 11 02 48.1 -0.1
Z41A Richland Creek 145.80 8 P PKPab 11 02 49.7 +0.7
baz=351
Z42A Norrel Spur, H 145.89 7 P PKPdf 11 02 48.4 0.0
baz=352,SNR=84
ACDV Cuesta del Vie 145.90 209 eP PKPdf 11 02 46.9 -1.8
Z45A Winona 145.99 3 P PKPdf 11 02 48.4 -0.1
baz=356,SNR=23
Z43A Armstrong Fami 146.03 6 P PKPbc 11 02 49.1 -0.2
baz=353,SNR=20
Z44A Pea Ridge, Bel 146.03 4 P PKPdf 11 02 48.4 -0.1
baz=355,SNR=184
Z48A Northport 146.04 360 P PKPdf 11 02 48.1 -0.5
baz=360,SNR=129
AROD Rodeo 146.07 209 eP PKPdf 11 02 48.1 -1.1
WHTX Lake Whitney, 146.10 15 P PKPdf 11 02 48.0 -0.8
baz=342
Z50A Ashland 146.12 358 P PKPdf 11 02 48.6 -0.2
baz=2.9,SNR=149
AGUA GUANDACOL 146.14 211 eP PKPdf 11 02 46.9 -2.1
Z46A Louisville 146.20 2 P PKPbc 11 02 49.4 -0.5
baz=358,SNR=84
Z49A Columbiana 146.21 358 P PKPdf 11 02 48.7 -0.1
baz=1.8,SNR=166
Z47A Carrollton 146.21 1 P PKPdf 11 02 48.8 -0.1
baz=359,SNR=163
140A Cam and Jess, 146.29 9 P PKPab 11 02 50.8 0.0
baz=349

TXAR	Lajitas Array	146.34	26	PKPbc	PKPdf	11 02 48.7	-0.7	
	comp=Z,173nm,0.8s,baz=340,slow=0.1,SNR=242							
LRAL	Lakeview Retre	146.37	359	P	PKPbc	11 02 50.6	+0.2	
	baz=1.0,SNR=81							
LRAL	Lakeview Retre	146.37	359	*e*PKPdf	PKPdf	11 02 49.0	-0.2	
141A	Papa Simpson,	146.43	8	P	PKPab	11 02 51.4	0.0	
	baz=350							
155A	Kite	146.44	352	P	PKPbc	11 02 50.7	+0.2	
	baz=9.2,SNR=41							
AHML	Horco Molle	146.44	218	*e*P	PKPdf	11 02 46.1	-3.4	
RPN	Rapa Nui	146.48	143	PKPbc	PKPab	11 02 51.5	-0.2	
	comp=Z,551nm,1.0s,baz=230,slow=20,SNR=7.2							
RPN	Rapa Nui	146.48	143	*e*PKPbc	PKPbc	11 02 50.4	-0.5	
RPN	Rapa Nui	146.48	143	*e*PKP2	PKPbc	11 02 50.4	-0.5	
143A	Socs Landing,	146.51	6	P	PKPbc	11 02 51.2	+0.4	
	baz=353							
154A	Montrose	146.53	353	P	PKPbc	11 02 50.9	0.0	
	baz=8.0,SNR=82							
153A	Fort Valley	146.57	354	P	PKPbc	11 02 50.8	-0.2	
	baz=6.7,SNR=35							
VCA	Vinchina	146.59	212	*e*P	PKPdf	11 02 47.3	-2.6	
VCA	Vinchina	146.59	212	⇑*i*P	PKPab	11 02 52.1	-0.3	
142A	Monroe	146.61	7	P	PKPab	11 02 52.0	-0.1	
	baz=352							
144A	Alexander Plac	146.67	4	P	PKPab	11 02 51.9	-0.4	
	baz=355,SNR=58							
GO04	Tololo Observa	146.69	207	*e*P	PKPbc	11 02 52.0	+0.3	
TLL	Tololo Astrono	146.70	207	*e*P	PKPbc	11 02 51.8	0.0	
147A	Livingston	146.73	1	P	PKPbc	11 02 51.7	+0.3	
	baz=359,SNR=83							
145A	Houston Renfro	146.73	4	P	PKPab	11 02 52.0	-0.5	
	baz=356,SNR=55							
146A	Union	146.75	2	P	PKPbc	11 02 51.9	+0.4	
	baz=357,SNR=193							
148A	Greensboro	146.76	360	P	PKPbc	11 02 51.3	-0.2	
	baz=360,SNR=146							
150A	Eclectic	146.77	358	P	PKPbc	11 02 51.9	+0.4	
	baz=2.8,SNR=106							
149A	Jones	146.81	359	P	PKPbc	11 02 51.8	+0.2	
	baz=1.4,SNR=111							
JCT	Junction City	146.81	20	P	PKPbc	11 02 51.7	-0.1	
	baz=337							
JCT	Junction City	146.81	20	*e*PKPdf	PKPdf	11 02 49.4	-0.7	
JCT	Junction City	146.81	20	*e*PKP2	PKPdf	11 02 49.4	-0.7	
151A	Opelika	146.82	357	P	PKPbc	11 02 51.2	-0.5	
	baz=4.0,SNR=204							
240A	Hunter Patters	146.85	10	P	PKPab	11 02 53.3	+0.3	
	baz=349							
257A	Skidaway Islan	146.85	350	P	PKPab	11 02 52.7	-0.3	
	baz=12							
LPIG	La Paz	146.86	40	PKPbc	PKPab	11 02 52.7	-0.6	
	comp=Z,432nm,0.9s,baz=227,slow=2.0,SNR=17							
NATX	Nacogdoches	146.96	11	P	PKPab	11 02 53.2	-0.3	
	baz=347							
NATX	Nacogdoches	146.96	11	*e*PKPdf	PKPdf	11 02 50.6	+0.4	
256A	Glennville	146.99	351	P	PKPbc	11 02 52.0	-0.2	
	baz=10,SNR=14							
241A	Mo Tay, Goldon	147.00	8	P	PKPbc	11 02 52.6	+0.4	
	baz=350							
242A	Grayson	147.06	7	P	PKPbc	11 02 52.7	+0.4	
	baz=352							
VBMS	Vicksburg	147.07	5	P	PKPbc	11 02 52.3	-0.1	
	baz=354,SNR=80							
253A	Americus	147.19	355	P	PKPbc	11 02 52.5	-0.3	
	baz=6.3,SNR=36							
435B	Jarrell	147.21	16	P	PKPbc	11 02 53.3	+0.4	
	baz=341							
254A	Abbeville	147.21	353	P	PKPbc	11 02 52.7	-0.2	
	baz=7.8,SNR=68							
244A	Avery, Jackson	147.24	5	P	PKPbc	11 02 53.3	+0.5	
	baz=354							
251A	Midway	147.25	357	P	PKPbc	11 02 52.6	-0.4	
	baz=3.9,SNR=144							
245A	Little AP, Sta	147.30	4	P	PKPbc	11 02 52.6	-0.4	
	baz=356,SNR=104							
252A	Lumpkin	147.30	356	P	PKPbc	11 02 52.5	-0.6	
	baz=5.2,SNR=116							
248A	Dixon Mills	147.32	0	P	PKPbc	11 02 52.8	-0.3	
	baz=360,SNR=83							
243A	Waterproof	147.32	6	P	PKPbc	11 02 53.5	+0.4	
	baz=353							
FSA	Cafayete	147.33	218	*e*P	PKPdf	11 02 47.7	-3.5	
247A	Quitman	147.34	2	P	PKPbc	11 02 53.3	+0.2	
	baz=358,SNR=142							
246A	Jackson Lee, B	147.36	2	P	PKPbc	11 02 53.5	+0.3	
	baz=357,SNR=14							
250A	Grady	147.41	358	P	PKPbc	11 02 53.3	-0.1	
	baz=2.3,SNR=91							
249A	Camden	147.43	359	P	PKPbc	11 02 53.2	-0.2	
	baz=0.8,SNR=140							
357A	Townsend	147.47	350	P	PKPbc	11 02 52.8	-0.7	
	baz=11							
LCO	Las Campanas	147.62	208	*e*PKPdf	PKPdf	11 02 51.7	0.0	
LCO	Las Campanas	147.62	208	*e*P	PKPab	11 03 03.6	+7.1	
341A	Kurthwood	147.64	9	P	PKPbc	11 02 53.1	-1.0	
	baz=350							
356A	Blackshear	147.67	351	P	PKPbc	11 02 53.9	-0.2	
	baz=10,SNR=25							
342A	Flagon Creek P	147.72	8	P	PKPbc	11 02 55.1	+0.9	
	baz=351							
TIGA	Tifton	147.75	354	P	PKPbc	11 02 54.2	-0.1	
	baz=7.4,SNR=28							
355A	Pearson	147.75	352	P	PKPbc	11 02 53.9	-0.5	
	baz=8.8,SNR=64							
344A	Westbrook Farm	147.82	5	P	PKPbc	11 02 55.3	+0.8	
	baz=354							
352A	Blakely	147.83	356	P	PKPbc	11 02 53.8	-0.7	
	baz=4.9,SNR=109							
343A	Vidalia	147.89	7	P	PKPbc	11 02 54.4	-0.3	
	baz=352							
353A	Camilla	147.90	355	P	PKPbc	11 02 54.0	-0.8	
	baz=6.2,SNR=48							
350A	Dozier	147.97	358	P	PKPbc	11 02 54.1	-0.8	
	baz=2.2,SNR=59							
346A	Big Creek Wild	147.97	3	P	PKPbc	11 02 53.9	-1.0	
	baz=356,SNR=66							
347A	Saraland	147.99	2	P	PKPbc	11 02 53.9	-1.0	
	baz=358,SNR=109							
348A	Jackson	147.99	1	P	PKPbc	11 02 54.1	-0.9	
	baz=359,SNR=28							
345A	Thompson Farm,	148.01	4	P	PKPbc	11 02 54.0	-1.0	
	baz=355							
349A	Repton	148.06	359	P	PKPbc	11 02 54.0	-1.1	
	baz=0.7,SNR=71							
351A	Pinckard	148.08	357	P	PKPbc	11 02 53.9	-1.3	
	baz=3.6,SNR=47							
AZAP	Zapla	148.08	221	*e*P	PKPdf	11 02 49.3	-3.3	
441A	DeRidder	148.20	9	P	PKPbc	11 02 55.3	-0.3	
	baz=349							
BRAL	Brewton	148.24	359	P	PKPbc	11 02 54.8	-0.8	
	baz=0.9,SNR=32							
BRAL	Brewton	148.24	359	*e*PKPdf	PKPdf	11 02 53.4	+1.1	
456A	Hilliard	148.24	351	P	PKPbc	11 02 54.4	-1.3	
	baz=10,SNR=16							
457A	Yulee	148.26	350	P	PKPdf	11 02 53.3	+0.9	
	baz=11,SNR=9.3							
442A	Mamou	148.35	8	P	PKPbc	11 02 55.2	-0.8	
	baz=351							
455A	Stateville	148.37	353	P	PKPdf	11 02 53.1	+0.6	
	baz=8.6,SNR=45							
443A	Delano Plantat	148.39	7	P	PKPbc	11 02 55.2	-0.8	
	baz=352							
453A	Whigham	148.40	355	P	PKPdf	11 02 54.1	+1.5	
	baz=6.1,SNR=62							
HKT	Hockley	148.45	14	*e*PKPdf	PKPdf	11 02 51.9	-0.7	
HKT	Hockley	148.45	14	*e*PKIKP	PKPdf	11 02 51.9	-0.7	
454A	Quitman	148.47	354	P	PKPdf	11 02 53.9	+1.2	
	baz=7.4,SNR=52							
448A	Bay Minette	148.47	0	P	PKPdf	11 02 54.2	+1.5	
	baz=359,SNR=23							
452A	Marianna	148.48	356	P	PKPdf	11 02 53.5	+0.7	
	baz=4.5,SNR=53							
444A	Pine Grove	148.55	5	P	PKPbc	11 02 55.5	-0.9	
	baz=354							
445A	Amite	148.57	5	P	PKPbc	11 02 55.5	-1.0	
	baz=355							
GO03	Copiap	148.57	210	*e*P	PKPdf	11 02 54.5	+1.4	
446A	Poplarville	148.57	3	P	PKPbc	11 02 55.5	-1.0	
	baz=356							
450A	Crestview	148.59	358	P	PKPdf	11 02 54.4	+1.5	
	baz=1.8,SNR=17							
447A	Lucedale	148.59	2	P	PKPbc	11 02 55.6	-1.0	
	baz=358							
449A	Pace	148.65	359	P	PKPbc	11 02 55.0	-1.7	
	baz=0.6,SNR=35							
ANWB	Willy Bob	148.69	307	*e*PKPdf	PKPdf	11 02 52.5	-0.9	
ANWB	Willy Bob	148.69	307	*e*P	PKPdf	11 02 51.9	-1.5	
451A	Vernon	148.74	357	P	PKPbc	11 02 56.0	-1.0	
	baz=3.4,SNR=44							
DEG	La Desirade	148.81	304	*e*P	PKPdf	11 02 53.9	+0.2	
541A	Lake Charles	148.88	9	P	PKPbc	11 02 55.7	-1.6	
	baz=349							
557A	Orange Park	148.88	350	P	PKPbc	11 02 55.9	-1.5	
	baz=11,SNR=43							
BBSP	Saint Philip	148.90	297	*e*P	PKPdf	11 02 55.1	+1.3	
542A	Morse	148.91	8	P	PKPbc	11 02 56.1	-1.3	
	baz=350							
833A	Chaparral WMA,	148.93	20	P	PKPbc	11 02 56.5	-1.1	
	baz=337							
555A	McAlpin	148.97	352	P	PKPdf	11 02 55.5	+2.0	
	baz=8.8,SNR=37							
BBGH	Gun Hill	148.97	297	*e*PKPdf	PKPdf	11 02 52.8	-1.1	
BBGH	Gun Hill	148.97	297	*e*P	PKPbc	11 02 56.5	-1.5	
556A	Lake Butler	149.01	351	P	PKPbc	11 02 56.2	-1.4	
	baz=9.9,SNR=39							
543A	St. Martinvill	149.05	7	P	PKPbc	11 02 57.6	-0.2	
	baz=352							
553A	Crawfordville	149.07	355	P	PKPbc	11 02 56.0	-1.8	
	baz=6.0,SNR=8.5							
BPA	Boggy Peak	149.09	306	*e*P	PKPbc	11 02 58.0	-0.3	
554A	Perry	149.10	353	P	PKPdf	11 02 55.7	+2.0	
	baz=7.5,SNR=15							
544A	White Castle	149.10	6	P	PKPbc	11 02 58.9	+1.1	
	baz=353							
546A	Slidell	149.10	4	P	PKPbc	11 02 56.7	-1.2	
	baz=356							
552A	Lynn Haven	149.19	356	P	PKPbc	11 02 56.4	-1.7	
	baz=4.4,SNR=24							
MGG	Marie-Galante	149.22	304	*e*P	PKPbc	11 02 56.5	-2.0	
545A	Edgard	149.23	5	P	PKPbc	11 02 58.2	0.0	
	baz=354							
657A	Interlachen	149.33	350	P	PKPbc	11 02 56.7	-1.7	
	baz=11,SNR=16							
658A	Bunnell	149.38	349	P	PKPbc	11 02 57.8	-0.8	
	baz=12							
MDVC	Dominica, Viel	149.45	303	*e*P	PKPbc	11 02 59.5	+0.4	
DLPL	La Plaine	149.45	303	*e*P	PKPbc	11 02 58.1	-1.1	
MDMP	Dominica, Moor	149.46	303	*e*P	PKPab	11 03 02.2	-1.7	
SMRT	St. Maarten	149.49	309	*e*P	PKPbc	11 02 58.4	-0.8	
MDPO	Dominica; Chan	149.51	303	*e*P	PKPbc	11 02 57.4	-1.8	
MLYT	Lee's Yard	149.53	306	*e*P	PKPbc	11 02 58.0	-1.3	
TBG	Guadaloupe-3	149.53	304	*e*P	PKPbc	11 02 58.7	-0.6	
BBL	Barber's Block	149.55	303	*e*P	PKPdf	11 02 56.2	+1.3	
655A	Horseshoe Beac	149.61	353	P	PKPbc	11 02 57.0	-2.1	
	baz=8.4,SNR=17							
NEV	Hard Times	149.61	307	*e*P	PKPdf	11 02 56.5	+1.6	
656A	Willston	149.65	351	P	PKPbc	11 02 57.1	-2.2	
	baz=9.9,SNR=42							
FDF	Fort de France	149.66	302	*e*PKPdf	PKPdf	11 02 55.2	+0.1	
FDF				*e*PKPbc	PKPbc	11 02 59.2	-0.6	
FDF	Fort de France	149.66	302	*e*P	PKPbc	11 02 59.1	-0.6	
FDF	Fort de France	149.66	302	*e*PKHKP	PKPpre	11 02 55.2		
FDF				*e*		11 02 59.2		
SEUS	St. Eustatius	149.74	308	*e*P	PKPbc	11 02 59.1	-0.7	
646A	Port Sulphur	149.74	4	P	PKPbc	11 03 00.6	+1.1	
	baz=356							
645A	Chauvin	149.81	5	P	PKPbc	11 02 59.4	-0.2	
	baz=354							
758A	Lake Helen	149.82	349	P	PKPbc	11 02 57.9	-1.8	
	baz=13							
SABA	Saba	149.87	308	*e*P	PKPbc	11 03 02.3	+2.1	
MCLT	Mule a Chique	149.95	300	*e*P	PKPbc	11 02 59.6	-0.8	
SLB	Belfond	149.98	300	*e*P	PKPbc	11 02 59.5	-1.0	
757A	Oxford	149.99	350	P	PKPbc	11 02 58.1	-2.0	
	baz=11,SNR=14							
KVTX	Kingsville	150.15	19	*e*PKPdf	PKPdf	11 02 57.2	+1.7	
GO02	Mina Guanaco	150.17	214	*e*P	PKPbc	11 03 01.3	+0.2	
SVCV	St. Vincent, C	150.32	299	*e*P	PKPdf	11 02 56.3	+0.2	
SSV	Crater Summit	150.34	299	*e*P	PKPbc	11 02 59.1	-2.4	
SVV	Soufriere Volc	150.36	299	*e*P	PKPbc	11 03 00.7	-0.7	
SVB	Belmont	150.41	299	*e*P	PKPbc	11 02 59.9	-1.6	
858A	St. Cloud	150.57	349	P	PKPdf	11 02 58.7	+2.6	
	baz=13,SNR=8.3							
859A	Kempfer Cattle	150.63	348	P	PKPbc	11 02 59.8	-1.9	
	baz=4							
857A	Zephyrhills	150.68	350	P	PKPbc	11 03 01.1	-0.7	
	baz=11							
DWPF	Disney Wildern	150.69	349	P	PKPbc	11 03 03.7	+1.9	
	baz=12							
DWPF	Disney Wildern	150.69	349	*e*PKPdf	PKPdf	11 02 57.7	+1.4	
PB14	IPOC Station P	151.04	214	*e*P	PKPbc	11 03 01.6	-1.6	
959A	Okeechobee	151.14	348	P	PKPbc	11 03 04.7	+1.8	
	baz=14							
GRSS	Sisters	151.15	298	*e*P	PKPbc	11 03 01.0	-2.2	
GRHS	Sauteurs	151.20	297	*e*P	PKPbc	11 03 01.8	-1.6	
GRGR	Grenville	151.25	297	*e*PKPdf	PKPdf	11 02 59.4	+1.9	
GRGR				*e*PKPbc	PKPbc	11 03 07.0	+3.4	
GRGR	Grenville	151.25	297	*e*P	PKPdf	11 02 58.2	+0.7	
958A	Wauchula	151.26	349	P	PKPbc	11 03 03.9	+0.8	
	baz=12							
957A	Wimauma	151.26	350	P	PKPbc	11 03 03.6	+0.4	
	baz=11							
060A	Indiantown	151.50	346	P	PKPbc	11 03 04.3	+0.6	
	baz=15							
TRN	Trinidad (W)	151.61	294	*e*P	PKPbc	11 03 04.5	+0.2	
059A	Moore Haven	151.74	348	P	PKPbc	11 03 04.7	+0.4	
	baz=14							
058A	Arcadia	151.78	349	P	PKPbc	11 03 05.4	+1.0	
	baz=12							
SJG	San Juan	151.78	313	PKP	PKPdf	11 02 58.2	0.0	
	comp=Z,93nm,0.6s,baz=26,slow=3.8,SNR=11							
SJG				PKPbc	PKPbc	11 03 03.5	-1.1	
	comp=Z,263nm,0.8s,baz=43,slow=7.2,SNR=30							
SJG	San Juan	151.78	313	*e*PKPdf	PKPdf	11 02 56.6	-1.6	
SJG				*e*PKPbc	PKPbc	11 03 05.3	+0.7	
SJG				*e*PKPab	PKPab	11 03 12.7	-0.8	
SJG	San Juan	151.78	313	*e*P	PKPdf	11 03 01.2	+2.9	
SJG	San Juan	151.78	313	*e*PKIKP	PKPdf	11 02 56.6	-1.6	
SJG				*e*		11 03 05.3		
SJG				*e*		11 03 12.7		
PB10	IPOC Station P	152.00	215	⇓*i*P	PKPdf	11 02 57.5	-0.9	
PB06	IPOC Station P	152.04	217	⇑*i*P	PKPdf	11 02 59.6	+0.9	
PTGA	Pitinga	152.40	270	PKP	PKPdf	11 02 59.3	-0.1	
	comp=Z,228nm,1.2s,baz=63,slow=1.1,SNR=28							
PTGA				PKPbc	PiKP	11 03 06.5	+0.1	
	comp=Z,361nm,0.9s,baz=93,slow=1.9,SNR=52							
059Z	Ave Maria	152.41	348	P	PKPbc	11 03 07.9	+2.1	
	baz=13							
PB09	IPOC Station P	152.50	219	⇑*i*P	PKPdf	11 03 01.0	+1.5	
GRTK	Grand Turk	152.65	325	*e*PKPdf	PKPdf	11 02 58.9	-0.6	
GRTK				*e*PKPbc	PKPbc	11 03 08.5	+2.1	
PB07	IPOC Station P	152.96	218	⇑*i*P	PKPbc	11 03 07.2	-0.2	
PB02	IPOC Station P	153.27	219	*e*P	PKPdf	11 03 01.4	+0.9	
PB08	IPOC Station P	153.63	222	⇑*i*P	PKPbc	11 03 09.1	-0.1	
PB11	IPOC Station P	154.23	222	⇑*i*P	PKPdf	11 03 02.3	+0.3	
MNMC	Minye Minye	154.63	223	*e*P	PKPdf	11 03 02.7	0.0	
PSGC	Pisagua	154.66	221	*e*P	PKPdf	11 03 02.5	0.0	
SDDR	Presa de Saban	154.68	322	*e*PKPdf	PKPdf	11 03 01.1	-1.4	
SDDR				*e*PKPab	PKPab	11 03 24.7	-1.0	
PCRV	Puerto La Cruz	154.72	296	PKP	PKPdf	11 03 02.7	0.0	
	comp=Z,32nm,1.1s,baz=14,slow=6.3,SNR=6.1							
PCRV				PKPbc	PKPbc	11 03 09.6	-1.7	
	comp=Z,62nm,0.8s,baz=175,slow=1.4,SNR=11							
LPAZ	La Paz	155.40	230	PKP	PKPdf	11 03 03.4	-0.9	
	comp=Z,43nm,0.8s,baz=107,slow=1.2,SNR=39							
LPAZ	La Paz	155.40	230	*e*P	PKPdf	11 03 05.6	+1.4	
PB12	IPOC Station P	155.49	223	*e*P	PKPdf	11 03 04.7	+1.1	
GTBY	Guantanamo Bay	156.08	330	*e*PKPdf	PKPdf	11 03 03.9	-0.4	
BBJ	Bamboo Saint A	158.44	332	*i* P	PKPdf	11 03 17.6	+10	
GWJ	Greenwich	158.45	331	*i* P	PKPdf	11 03 11.2	+3.7	
STH	Stony Hill	158.49	331	*i* P	PKPdf	11 03 10.5	+3.1	
YHJ	Yallahs	158.49	330	*i* P	PKPdf	11 03 09.7	+2.3	
HOJ	Hope	158.52	331	*i* P	PKPdf	11 03 11.2	+3.8	
MBJ	Montego Bay	158.69	334	*i* P	PKPdf	11 03 10.4	+2.7	
MBJ				*i* S	PP	11 07 28.9	+7.0	
MTDJ	Mount Denham	158.70	333	*e*PKPdf	PKPdf	11 03 08.3	+0.5	
PCJ	Portland Cotta	158.94	331	⇑*i*P	PKPdf	11 03 17.4	+9.5	
MCJ	Malvern	159.03	333	⇓*i*P	PKPdf	11 03 10.1	+2.0	
SDV	Santo Domingo	160.59	300	PKP	PKPdf	11 03 09.5	-0.6	
	comp=Z,102nm,1.2s,baz=54,slow=2.3,SNR=20							
SDV	Santo Domingo	160.59	300	*e*PKPdf	PKPdf	11 03 09.1	-1.1	
SDV	Santo Domingo	160.59	300	*e*P	PKPdf	11 03 11.1	+0.9	
CMIG	Matias Romero	160.85	22	PKP	PKPdf	11 03 09.2	-0.9	
	comp=Z,55nm,1.0s,baz=237,slow=1.0,SNR=12							
CODC	Agust`›n Codaz	162.37	307	*e*P	PKPdf	11 03 12.6	+0.9	
PAMC	Pamplona, Colo	163.12	299	*e*P	PKPdf	11 03 14.5	+1.4	
OCAC	Ocana	163.21	302	*e*P	PKPdf	11 03 14.9	+2.1	
BARC	Barichara	163.88	297	*e*P	PKPdf	11 03 17.9	+4.4	
APG	El Apazote	164.07	10	PKP	PKPdf	11 03 11.9	-1.7	
	comp=Z,59nm,1.0s,baz=287,slow=4.2,SNR=19							
APG				PKPab	PKPab	11 04 07.5	+1.0	
	comp=Z,299nm,0.9s,baz=326,slow=13,SNR=8.5							
BRRC	Barranca, Sant	164.11	300	*e*P	PKPdf	11 03 16.6	+3.1	
NNA	Nana	164.59	223	PKP	PKPdf	11 03 14.2	+0.3	
	comp=Z,103nm,1.1s,baz=0.6,slow=0.5,SNR=17							
NNA				PKPab	PKPab	11 04 09.2	+0.4	
	comp=Z,240nm,0.9s,baz=128,slow=0.6,SNR=5.3							
GUVC	San Jose del G	164.70	282	*e*P	PKPdf	11 03 20.1	+6.1	
MOTC	Monteria, Cord	164.81	309	*e*P	PKPdf	11 03 14.5	+0.4	
ZARC	Zaragoza, Cauc	164.90	303	*e*P	PKPdf	11 03 13.4	-0.8	
PTBC	PUERTO BERRIO	165.03	299	*e*P	PKPdf	11 03 13.5	-0.8	
CHIC	Chingaza	165.17	291	*e*P	PKPdf	11 03 14.9	0.0	
ROSC	El Rosal	165.64	293	PKP	PKPdf	11 03 13.8	-1.5	
	comp=Z,225nm,1.1s,baz=38,slow=3.0,SNR=9.6							
ROSC	El Rosal	165.64	293	*e*P	PKPdf	11 03 16.5	+1.3	
SJAC	San Juan de Ar	165.81	286	*e*P	PKPdf	11 03 19.6	+4.6	
NORC	Norcasia	165.84	297	*e*P	PKPdf	11 03 14.5	-0.5	
CAPC	Capurgana	166.18	313	*e*P	PKPdf	11 03 17.8	+2.6	
DBBC	Dabeiba	166.28	304	*e*P	PKPdf	11 03 33.1	+18	
GUYC	Guyana, Colomb	166.46	296	*e*P	PKPdf	11 03 18.1	+2.1	
RREF	El Recreo	166.55	295	*e*P	PKPdf	11 03 17.4	+1.0	
PRAC	Prado	166.56	289	*e*P	PKPdf	11 03 16.5	+1.0	
TOLC	Tolima	166.66	294	*e*P	PKPdf	11 03 16.4	+0.4	
ANIL	Santa Ana	166.77	293	*e*P	PKPdf	11 03 17.4	+1.4	
PLMC	San Jos¨ del	167.39	297	*e*P	PKPdf	11 03 17.1	+0.9	
BETC	Betania	167.40	286	*e*P	PKPdf	11 03 18.5	+2.3	
BCIP	Isla Barro Col	167.48	322	*e*PKPdf	PKPdf	11 03 15.1	-1.1	
BCIP	Isla Barro Col	167.48	322	*e*P	PKPdf	11 03 18.5	+2.3	
SOLC	Bahia Solano	167.70	305	*e*P	PKPdf	11 03 19.9	+3.6	
YOTC	Yotoco, Valle	167.83	293	*e*P	PKPdf	11 03 15.4	-1.2	
FLOC	Florencia	167.86	281	*e*P	PKPdf	11 03 17.6	+1.1	
CFLOR	Florencia	167.86	281	*e*P	PKPdf	11 03 19.1	+2.5	
PCON	Cinco Dias	168.41	285	*e*P	PKPdf	11 03 18.7	+1.1	
POPC	Popayan, Colom	168.62	287	*e*P	PKPdf	11 03 18.7	+1.4	
SOTA	Rioblanco	168.66	285	*e*P	PKPdf	11 03 18.5	+0.8	
JTS	JuntasAbangare	168.71	347	PKP	PKPdf	11 03 16.4	-0.7	
	comp=Z,9.2nm,1.0s,baz=27,slow=18,SNR=5.6							
JTS	JuntasAbangare	168.71	347	*e*PKPdf	PKPdf	11 03 16.8	-0.2	
JTS	JuntasAbangare	168.71	347	*e*PKIKP	PKPdf	11 03 16.8	-0.2	
ATAH	Atahualpa	168.88	235	PKP	PKPdf	11 03 17.2	-0.4	
	comp=Z,36nm,1.1s,baz=45,slow=2.4,SNR=11							
CRUC	La Cruz	169.13	282	*e*P	PKPdf	11 03 20.5	+2.7	
CPAS2	Pasto	169.49	281	*e*P	PKPdf	11 03 27.6	+10	
GCUF	Volcan Galeras	169.58	281	*e*P	PKPdf	11 03 20.2	+2.0	
GRGC	Isla de Gorgon	169.88	292	*e*P	PKPdf	11 03 21.8	+4.1	
CMBC	Cumbal	170.11	280	*e*P	PKPdf	11 03 23.1	+4.7	
TUMC	Tumaco	170.79	286	*e*P	PKPdf	11 03 28.0	+10	
OTAV	Otavalo	170.82	276	*e*PKPdf	PKPdf	11 03 18.2	-0.7	
OTAV	Otavalo	170.82	276	*e*P	PKPdf	11 03 19.7	+0.8	

*ISCJB **11** 10:56:24.3±0.5, 0.80N±0.08×92.50E±0.07, h10km, mb4.8/18, Error ellipse: s-maj=12.2km s-min=9.1km az=34.7*

*IDC **11** 10:56:24.6±0.6, 0.77N×92.49E, h0km, mb4.7/17, mb1 4.9/20, mb1mx4.5/70, mbtmp4.8/20, ML4.7/3, Error ellipse: s-maj=19.5km s-min=13.8km az=48.0*

*NEIC **11** 10:56:26.1±0.3, 0.77N×92.47E, h10km, mb4.8/1, Error ellipse: s-maj=8.9km s-min=6.6km az=214.0*

**IS

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**47.47**	**351**	P	P	11 07 29.5	-0.1
	4.3nm,0.8s,baz=168,slow=9.1,SNR=2.2						
SONM	**Songino Array**	**49.43**	**13**	P	P	11 07 45.6	+0.7
	3.1nm,0.5s,baz=195,slow=9.3,SNR=2.6						
KURBB	**Kurchatov Area**	**51.81**	**349**	P	P	11 08 02.0	-0.6
	3.9nm,0.9s,baz=172,slow=6.7,SNR=2.9						
ZALV	**Zalesovo Beam**	**54.20**	**355**	P	P	11 08 19.7	-0.5
	3.4nm,0.6s,baz=183,slow=8.1,SNR=1.9						
BRTR	**Keskin Array B**	**66.08**	**314**	P	P	11 09 42.1	-0.1
	1.9nm,0.7s,baz=139,slow=5.3,SNR=1.8						
GERES	**GERESS Array B**	**82.26**	**319**	P	P	11 11 17.2	+0.7
	4.7nm,0.8s,baz=96,slow=5.0,SNR=2.5						
TXAR	**Lajitas Array**	**147.42**	**26**	PKPbc	PKPbc	11 18 38.6	-1.2
	1.0nm,0.5s,baz=315,slow=0.1,SNR=3.7						

IDC 11 11:00:55.9±1.5, 0.04N×91.96E, h0km, mb4.2/5, mb1 4.3/5, mb1mx3.8/68, mbtmp4.2/5, Error ellipse: s-maj=58.0km s-min=9.0km az=59.0, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**46.00**	**118**	P	P	11 09 21.8	+0.4
	2.0nm,0.7s,baz=301,slow=8.7,SNR=1.3						
ASAR	**Alice Springs**	**47.02**	**123**	P	P	11 09 29.4	0.0
	3.8nm,1.1s,baz=294,slow=7.0,SNR=2.3						
MKAR	**Makanchi Array**	**47.33**	**351**	P	P	11 09 32.2	+0.8
	2.9nm,0.9s,baz=169,slow=9.9,SNR=3.1						
SONM	**Songino Array**	**49.23**	**13**	P	P	11 09 45.5	-0.7
	4.6nm,1.0s,baz=192,slow=8.2,SNR=3.7						
ZALV	**Zalesovo Beam**	**54.05**	**355**	P	P	11 10 22.4	+0.4
	1.5nm,0.4s,baz=186,slow=7.7,SNR=2.6						
TXAR	**Lajitas Array**	**147.20**	**26**	PKPbc	PKPdf	11 20 39.8	0.0
	1.1nm,0.9s,baz=219,slow=0.6,SNR=3.0						

IDC 11 11:02:03.2±1.6, 2.84N×93.88E, h0km, mb4.1/4, mb1 4.1/4, mb1mx3.7/66, mbtmp4.1/4, Error ellipse: s-maj=64.8km s-min=11.1km az=61.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**44.93**	**349**	P	P	11 10 19.0	-0.9
	2.6nm,0.7s,baz=165,slow=7.3,SNR=5.1						
SONM	**Songino Array**	**46.11**	**12**	P	P	11 10 29.1	-0.3
	1.9nm,0.9s,baz=203,slow=8.5,SNR=2.3						
ASAR	**Alice Springs**	**47.03**	**126**	P	P	11 10 36.7	-0.1
	1.0nm,0.7s,baz=293,slow=7.8,SNR=3.9						
ZALV	**Zalesovo Beam**	**51.49**	**353**	P	P	11 11 12.2	+1.8
	1.6nm,0.4s,baz=176,slow=7.1,SNR=5.2						

IDC 11 11:02:33.0±18.0, 2.79N×92.70E, h0km, mb4.2/3, mb1 4.2/4, mb1mx3.7/67, mbtmp4.1/4, ML4.5/1, Error ellipse: s-maj=377.9km s-min=105.1km az=147.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**16.73**	**21**	Pn	Pn	11 06 28.9	0.0
	0.7nm,0.3s,baz=212,slow=15,SNR=3.6						
MKAR	**Makanchi Array**	**44.76**	**350**	P	P	11 10 48.3	0.0
	2.0nm,0.7s,baz=169,slow=7.6,SNR=3.0						
KURBB	**Kurchatov Arra**	**49.14**	**348**	P	P	11 11 22.8	+0.3
	2.2nm,0.7s,baz=172,slow=7.5,SNR=4.4						
ZALV	**Zalesovo Beam**	**51.40**	**354**	P	P	11 11 39.0	-0.6
	1.9nm,0.5s,baz=185,slow=6.4,SNR=2.8						

IDC ***11*** *11:04:43.7±0.4, 0.59N×92.50E, h0km, mb4.9/34, mb1 5.0/37, mb1mx4.8/69, mbtmp4.9/37, ML4.5/3, Error ellipse: s-maj=12.8km s-min=10.9km az=33.0*

BJI ***11*** *11:04:43.0, 0.60N×92.50E, h10km, mb5.2/9*

ISCJB ***11*** *11:04:43.9±0.2, 0.68N±0.04×92.50E±0.03, h10km, mb5.1/60, MS7.8/1, Error ellipse: s-maj=6.1km s-min=3.4km az=21.8*

NEIC ***11*** *11:04:45.2±0.2, 0.60N×92.48E, h10km, mb5.1/5, Error ellipse: s-maj=6.3km s-min=4.8km az=194.0*

MOS ***11*** *11:04:47.3±1.2, 0.67N×92.57E, h34km, mb5.5/14, Error ellipse: s-maj=9.7km s-min=7.5km az=108.4*

DJA ***11*** *11:04:56.5±1.9, 1.1N±4.4×9.3E±11.5, h38km±13km, M6.4/12, mb5.9/12, MLv6.6/7*

ISC 11 11:04:45.3±0.4, 0.60N±0.06×92.45E±0.06, h10km, n212, σ1.921/198, mb5.2/64, 9C-2D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSI	**Gunungsitoli**	**5.17**	**82**	P	**Pn**	**11 06 02.2**	**-0.6**
GSI	**Gunungsitoli**	**5.17**	**82**	*e*Pn	**Pn**	**11 06 02.3**	**-0.6**
	2µm,0.7s						
MLSI	**Meulaboh, Aceh**	**5.37**	**47**	P	**Pn**	**11 06 04.3**	**-1.3**
TPTI		**5.41**	**61**	P	**Pn**	**11 06 04.9**	**-1.3**
PBSI	**Pulau Batu**	**5.86**	**96**	P	**Pn**	**11 06 13.8**	**+1.5**
	3µm,0.8s						
KCSI	**Kotacane, Aceh**	**6.05**	**61**	P	**Pn**	**11 06 14.5**	**-0.5**
	2µm,0.7s						
LHMI	**Lhok Sumawe**	**6.42**	**44**	*e*Pn	**Pn**	**11 06 19.9**	**-0.1**
	1µm,0.8s						
TSI	**Tuntungan**	**6.75**	**65**	P	**Pn**	**11 06 25.8**	**+1.2**
PSI	**Prapat**	**6.83**	**71**	Pn	**Pn**	**11 06 24.5**	**-1.2**
	13nm,0.3s,baz=258,slow=5.8,SNR=9.8						
PSI				Sn	Sn	11 07 31.1	-13
	16nm,0.3s,baz=304,slow=11,SNR=3.5						
SISI	**Saibi**	**6.91**	**106**	P	**Pn**	**11 06 27.3**	**+0.6**
	921nm,0.7s						
MNSI	**Mandailing Nat**	**7.13**	**88**	P	**Pn**	**11 06 29.3**	**-0.4**
	2µm,0.8s,26nm						
PDSI	**Padang**	**8.15**	**101**	P	**Pn**	**11 06 42.6**	**-1.2**
	499nm,2.2s						
BKNI	**Bangkinang**	**8.59**	**92**	P	**Pn**	**11 06 51.4**	**+1.6**
BKNI	**Bangkinang**	**8.59**	**92**	*e*Pn	**Pn**	**11 06 50.5**	**+0.7**
	793nm,0.8s						
SDSI	**Sungai Dareh**	**9.10**	**100**	P	**Pn**	**11 06 58.0**	**+1.2**
	0.6nm,0.7s						
IPM	**Ipoh**	**9.39**	**66**	*e*Pn	**Pn**	**11 07 00.5**	**-0.4**
	176nm,0.6s						
KULM	**Kulim**	**9.42**	**60**	*e*Pn	**Pn**	**11 06 59.9**	**-1.3**
	274nm,0.8s						
MASI	**Maura Aman, Be**	**10.46**	**111**	P	**Pn**	**11 07 17.3**	**+1.7**
PBA	**Port Blair**	**10.99**	**1**	*e*P	Pn	11 07 22.0	-0.8
MNAI	**Manna**	**11.59**	**115**	*e*Pn	**Pn**	**11 07 28.9**	**-2.1**
	405nm,0.6s						
TPRI	**Tanjung Pinang**	**12.07**	**88**	P	**Pn**	**11 07 37.5**	**-0.1**
DGPR	**DIGLIPUR**	**12.51**	**2**	*e*P	**Pn**	**11 07 44.7**	**+1.2**
MDSI	**Maura Dua**	**12.76**	**113**	P	Pn	11 07 56.2	+9.3
LWLI	**Liwa**	**12.86**	**116**	P	**Pn**	**11 07 47.2**	**-1.3**
KASI	**Kota Agung**	**13.48**	**117**	P	**Pn**	**11 07 55.2**	**-1.6**
KLI	**Kotabumi**	**13.53**	**114**	P	**P**	**11 08 07.8**	**+1.1**
CGJI	**Cibinong**	**15.03**	**119**	P	**P**	**11 08 22.1**	**-1.3**
LEM	**Lembang**	**16.83**	**116**	Pn	**Pn**	**11 08 41.7**	**+0.2**
	2.8nm,0.3s,baz=232,slow=19,SNR=1.8						
JCJI	**Jatiwangi**	**17.28**	**114**	P	**P**	**11 08 52.0**	**+3.6**
TRD	**Trivandrum**	**17.32**	**297**	*e*P	**Pn**	**11 08 45.7**	**-1.7**
CISI	**Cisompet, Garu**	**17.33**	**118**	P	**P**	**11 08 49.5**	**+0.5**
CISI	**Cisompet, Garu**	**17.33**	**118**	*e*P	**P**	**11 08 49.0**	**0.0**
	612nm,1.2s						
KSM	**Kuching**	**17.87**	**87**	*e*P	**Pn**	**11 08 54.2**	**-0.1**
	219nm,1.3s						
CMJI	**Cimerak**	**17.99**	**118**	P	**P**	**11 08 56.2**	**0.0**
KPJI	**Karang Pucung**	**18.23**	**116**	P	**P**	**11 09 00.1**	**+1.3**
CMAR	**Chiang Mai Arr**	**18.86**	**19**	P	**P**	**11 09 05.5**	**-0.2**
	0.4nm,0.3s,baz=221,slow=12,SNR=13						
STKI	**Sintang**	**19.03**	**92**	P	**Pn**	**11 09 10.6**	**+2.1**
CHTO	**Chiang Mai**	**19.19**	**19**	*e*P	**P**	**11 09 08.2**	**-1.2**
	77nm,1.4s						
CHTO	**Chiang Mai**	**19.19**	**19**	*e*P	**P**	**11 09 08.2**	**-1.2**
CHTO				pmax	pmax		
	comp=Z,77nm,1.4s						
VIS	**Vishakhapatnam**	**19.24**	**333**	*e*P	**P**	**11 09 09.5**	**-0.4**
WOJI	**Wonogiri, Jawa**	**20.23**	**115**	P	**P**	**11 09 20.5**	**-0.3**
PCJI	**Pacitan**	**20.61**	**115**	P	**P**	**11 09 19.3**	**-5.6**
MNCY	**Minicoy**	**20.79**	**292**	*e*P	**P**	**11 09 27.6**	**+0.6**
HYB	**Hyderabad**	**21.60**	**321**	*e*P	**P**	**11 09 35.9**	**+0.3**
MTKI	**Muara Teweh, K**	**22.49**	**94**	P	**P**	**11 09 47.5**	**+2.2**
GOA	**Goa**	**23.61**	**310**	*e*P	**P**	**11 09 56.5**	**-0.2**
BOK	**Bokaro**	**23.92**	**345**	*e*P	**P**	**11 09 56.9**	**-2.8**
BOK				IAmb	IAmb	11 10 01.0	
	comp=Z,31nm,0.7s						
KKM	**Kota Kinabalu**	**24.32**	**77**	*e*P	**P**	**11 10 04.4**	**+0.8**
	comp=Z,40nm,0.7s						
BKB	**Balikpapan**	**24.51**	**94**	P	**P**	**11 10 07.7**	**+2.5**
SHL	**Shillong**	**24.83**	**359**	*e*P	**P**	**11 10 08.1**	**0.0**
POO	**Poona**	**25.52**	**315**	*e*P	**P**	**11 10 13.0**	**-1.3**
POO				IAmb	IAmb	11 10 28.0	
BHPL	**Bhopal**	**26.83**	**328**	*e*P	**P**	**11 10 23.3**	**-2.8**
BHPL				IAmb	IAmb	11 10 35.2	
	comp=Z,56nm,1.0s						
MPSI	**Mapaga**	**27.44**	**90**	P	**P**	**11 10 31.9**	**+0.1**
LSA	**Lhasa**	**28.97**	**358**	*e*P	**P**	**11 10 46.2**	**+0.5**
	comp=Z,19µm,4.0s						
LSA	**Lhasa**	**28.97**	**358**	*e*P	**P**	**11 10 46.2**	**+0.5**
DDI	**Dehra Dun**	**32.58**	**336**	*e*P	**P**	**11 11 16.7**	**-0.4**
BATI	**Baumata**	**32.85**	**110**	P	**P**	**11 11 17.5**	**-2.2**
	comp=Z,28nm,0.5s,baz=327,slow=2.2,SNR=5.9						
SMLA	**Simla**	**33.65**	**336**	*e*P	**P**	**11 11 25.8**	**-0.5**
SMLA				IAmb	IAmb	11 11 44.9	
ENH	**Enshi**	**33.66**	**27**	*e*P	**P**	**11 11 26.6**	**0.0**
	comp=Z,52nm,0.6s						
DHRM	**DHARAMSHALA**	**34.98**	**336**	*e*P	**P**	**11 11 36.7**	**-1.5**
WHN	**Wuhan**	**36.32**	**33**	↑P	**P**	**11 11 50.8**	**+1.4**
MSAI	**Masohi**	**36.67**	**96**	P	**P**	**11 11 54.7**	**+2.0**
SIJI	**Sorong**	**38.84**	**92**	P	**P**	**11 12 09.9**	**-1.2**
	comp=Z,8.7nm,0.7s,baz=288,slow=10.0,SNR=4.3						
NWAO	**Narrogin (SRO)**	**40.72**	**147**	P	**P**	**11 12 26.4**	**0.0**
	comp=Z,16nm,0.9s,baz=186,slow=9.4,SNR=4.1						
RKPI	**Ransiki, Papua**	**41.77**	**93**	P	**P**	**11 12 36.8**	**+1.4**
WRA	**Warramunga Arr**	**45.83**	**119**	P	**P**	**11 13 07.7**	**-0.2**
	comp=Z,141nm,0.9s,baz=297,slow=8.6,SNR=24						
WRAB	**Tennant Creek**	**45.83**	**119**	*e*P	**P**	**11 13 07.5**	**-0.5**
	comp=Z,46nm,1.0s						
WRAB	**Tennant Creek**	**45.83**	**119**	*e*P	**P**	**11 13 07.5**	**-0.5**
WRAB				pmax	pmax		
	comp=Z,47nm,1.0s						
KKAR	**Karatay Array**	**46.66**	**338**	*e*P	**P**	**11 13 13.9**	**-0.2**
	comp=Z,42nm,1.0s						
KKAR	**Karatay Array**	**46.66**	**338**	*e*P	**P**	**11 13 13.9**	**-0.2**
KKAR				pmax	pmax		
	comp=Z,42nm,1.0s						
MKAR	**Makanchi Array**	**46.86**	**350**	P	**P**	**11 13 15.2**	**-0.5**
	comp=Z,17nm,0.9s,baz=166,slow=8.7,SNR=14						
ASAR	**Alice Springs**	**46.92**	**124**	P	**P**	**11 13 16.3**	**-0.2**
	comp=Z,9.0nm,0.6s,baz=297,slow=8.0,SNR=51						
TJN	**Taejon**	**48.09**	**38**	*ce*P	P	11 13 35.2	+10
JAY	**Jayapura**	**48.34**	**94**	P	**P**	**11 13 29.6**	**+1.9**
OPO	**Ambohidratompo**	**48.37**	**244**	P	**P**	**11 13 27.7**	**-0.3**
	comp=Z,19nm,0.7s,baz=59,slow=6.0,SNR=24						
ABPO	**Ambohimpanom**	**48.48**	**244**	*e*P	**P**	**11 13 29.0**	**+0.2**
	comp=Z,253nm,1.6s						
ABPO	**Ambohimpanom**	**48.48**	**244**	*e*P	**P**	**11 13 29.0**	**+0.2**
ABPO				pmax	pmax		
	comp=Z,253nm,1.6s						
SONM	**Songino Array**	**48.58**	**12**	P	**P**	**11 13 29.5**	**+0.4**
	comp=Z,22nm,0.7s,baz=194,slow=8.3,SNR=21						
GEYT	**Alibeck**	**48.76**	**324**	P	**P**	**11 13 31.6**	**+1.1**
	comp=Z,24nm,1.0s,baz=356,slow=18,SNR=9.1						
ULN	**Ulaanbaatar**	**48.76**	**13**	*e*P	**P**	**11 13 30.4**	**-0.1**
	comp=Z,15nm,0.9s						
ULN	**Ulaanbaatar**	**48.76**	**13**	*e*P	**P**	**11 13 30.4**	**-0.1**
ULN				pmax	pmax		
	comp=Z,15nm,0.9s						
KSAR	**Wonju Array Be**	**49.10**	**38**	P	**P**	**11 13 33.5**	**+0.5**
KSAR	**Wonju Array Be**	**49.10**	**38**	P	**P**	**11 13 33.6**	**+0.5**
KSRS	**Korea Array**	**49.13**	**38**	P	**P**	**11 13 33.5**	**+0.2**
	comp=Z,9.4nm,0.8s,baz=228,slow=8.5,SNR=17						
KURBB	**Kurchatov Arra**	**51.23**	**349**	P	**P**	**11 13 48.1**	**-0.9**
	comp=Z,16nm,0.9s,baz=170,slow=6.9,SNR=14						
KURK	**Kurchatov**	**51.30**	**349**	P	**P**	**11 13 48.1**	**-1.4**
KURK	**Kurchatov**	**51.30**	**349**	*ce*P	P	11 13 59.2	+10
KURK				pmax	pmax		
	comp=Z,496nm,2.5s						
ZALV	**Zalesovo Beam**	**53.55**	**354**	P	**P**	**11 14 05.4**	**-0.8**
	comp=Z,16nm,0.7s,baz=180,slow=6.3,SNR=11						
NVS	**Novosibirsk**	**54.59**	**353**	*e*P	**P**	**11 14 12.6**	**-1.2**
NVS				*e*		11 22 11.0	
NVS				pmax	pmax		
	comp=Z,64nm,1.1s						
KMBO	**Kilima Mbogo**	**55.23**	**268**	P	**P**	**11 14 20.1**	**+0.6**
	comp=Z,1.9nm,0.4s,baz=81,slow=10,SNR=4.4						
BVAR	**Borovoye Array**	**55.39**	**344**	P	**P**	**11 14 18.4**	**-1.2**
	comp=Z,8.1nm,0.8s,baz=141,slow=5.5,SNR=5.9						
MJAR	**Matsushiro Arr**	**55.39**	**45**	P	**P**	**11 14 21.0**	**+1.1**
	comp=Z,41nm,1.0s,baz=229,slow=5.6,SNR=4.5						
BRVK	**Borovoye**	**55.45**	**344**	*ce*P	P	11 14 28.8	+8.8
BRVK				pmax	pmax		
	comp=Z,371nm,2.5s						
USRK	**Ussuriysk Ar.**	**55.81**	**34**	P	**P**	**11 14 23.5**	**+0.7**
	comp=Z,9.1nm,0.8s,baz=237,slow=5.0,SNR=12						
ABKAR	**Akbulak array**	**55.92**	**335**	*e*P	**P**	**11 14 22.9**	**-0.6**
	comp=Z,22nm,0.9s						
STKA	**Stephens Creek**	**56.56**	**130**	P	**P**	**11 14 27.5**	**-0.9**
	comp=Z,9.2nm,0.9s,baz=311,slow=8.8,SNR=7.7						
GNI	**Garni**	**58.51**	**318**	*ce*P	P	11 14 51.5	+9.3
GNI				pmax	pmax		
	comp=Z,155nm,1.7s						
GROC	**Groznyy**	**59.41**	**322**	*e*P	**P**	**11 14 47.0**	**-1.2**
GROC				*e*		11 15 33.7	
GROC				pmax	pmax		
	comp=Z,75nm,1.2s						
ZEI	**Tsey**	**60.38**	**321**	*e*P	**P**	**11 14 55.3**	**+0.2**
ZEI				pmax	pmax		
	comp=Z,19nm,0.9s						
KBZ	**Khabaz**	**61.49**	**321**	P	**P**	**11 15 02.5**	**+0.1**
	comp=Z,9.5nm,1.1s,baz=198,slow=6.4,SNR=3.2						
KIV	**Kislovodsk**	**61.73**	**321**	*e*P	**P**	**11 15 04.1**	**-0.1**
KIV				pmax	pmax		
	comp=Z,34nm,1.0s						
ASAJ	**Asahikawa**	**62.05**	**39**	P	**P**	**11 15 06.4**	**+0.2**
	comp=Z,11nm,0.9s,baz=231,slow=11,SNR=4.0						
MMAI	**Mount Meron Ar**	**62.45**	**307**	P	**P**	**11 15 09.9**	**+0.8**
	comp=Z,4.0nm,0.7s,baz=110,slow=12,SNR=3.1						
BRTR	**Keskin Array B**	**66.05**	**314**	P	**P**	**11 15 32.9**	**+0.1**
	comp=Z,6.3nm,0.7s,baz=137,slow=6.5,SNR=8.2						
YAK	**Yakutsk**	**67.39**	**18**	*e*P	**P**	**11 15 39.5**	**-1.1**
	comp=Z,115nm,0.8s						
YAK	**Yakutsk**	**67.39**	**18**	*e*P	**P**	**11 15 38.6**	**-2.0**
YAK				*e*		11 15 47.6	
YAK				pmax	pmax		
	comp=Z,66nm,1.0s						
YAK				pmax	pmax		
	comp=N,9.0nm,1.1s						
YAK				pmax	pmax		
	comp=E,19nm,1.3s						
YAK				pmax	pmax		
	comp=Z,104nm,0.9s						
YAK				pmax	pmax		
	comp=E,32nm,1.2s						
YAK				pmax	pmax		
	comp=N,33nm,1.2s						
BOSA	**Boshof**	**70.38**	**239**	P	**P**	**11 15 59.6**	**-0.5**
	comp=N,25nm,0.9s,baz=85,slow=5.0,SNR=9.0						
OBN	**Obninsk**	**70.69**	**330**	*e*P	P	11 16 07.5	+6.2
OBN				*e*		11 18 43.7	
OBN				pmax	pmax		
	comp=Z,42nm,1.2s						
MAW	**Mawson**	**71.12**	**192**	P	**P**	**11 16 04.5**	**+0.9**
	comp=Z,10nm,0.9s,baz=334,slow=7.5,SNR=4.4						
IDI	**Anoyia**	**71.45**	**307**	P	**P**	**11 16 06.3**	**-0.1**
	comp=Z,21nm,0.8s,baz=78,slow=6.7,SNR=7.0						
VRI	**Vrincioaia**	**72.86**	**318**	↑*i*P	**P**	**11 16 15.8**	**+1.2**
AKASG	**Malin Array Be**	**72.88**	**324**	P	**P**	**11 16 13.0**	**-1.6**
	comp=Z,0.9nm,0.5s,baz=101,slow=3.5,SNR=4.1						
AKASG	**Malin Array Be**	**72.88**	**324**	P	**P**	**11 16 13.0**	**-1.6**
PLOR	**Plostina**	**72.91**	**318**	↑*i*P	**P**	**11 16 14.5**	**-0.4**
TESR	**Tescani**	**73.11**	**319**	↓*i*P	**P**	**11 16 16.0**	**-0.1**
MLR	**Muntele Rosu**	**73.28**	**318**	P	**P**	**11 16 18.4**	**+1.2**
	comp=Z,4.5nm,0.9s,baz=148,slow=12,SNR=22						
MLR	**Muntele Rosu**	**73.28**	**318**	↑*i*P	**P**	**11 16 18.5**	**+1.3**
VTS	**Vitosha**	**74.42**	**314**	↑*i*P	**P**	**11 16 24.3**	**+0.3**
TIXI	**Tiksi**	**74.65**	**11**	*e*P	**P**	**11 16 24.3**	**-0.2**
	comp=Z,62nm,0.7s						
TIXI	**Tiksi**	**74.65**	**11**	*e*P	**P**	**11 16 24.3**	**-0.2**
TIXI				pmax	pmax		
	comp=Z,62nm,0.7s						
SUR	**Sutherland**	**74.87**	**236**	P	**P**	**11 16 26.7**	**-0.2**
	comp=Z,2.2nm,0.9s,baz=100,slow=8.1,SNR=6.1						
PETK	**Petropavlovsk-**	**74.89**	**35**	P	**P**	**11 16 25.4**	**-0.9**
	comp=Z,16nm,1.1s,baz=197,slow=4.4,SNR=3.0						
CRVS	**Cervenica-Dubn**	**77.13**	**320**	*e*P	**P**	**11 16 41.9**	**+2.7**
CRVS				*e*		11 16 46.4	
CRVS	**Cervenica-Dubn**	**77.13**	**320**	*e*P	**P**	**11 16 41.9**	**+2.7**
CRVS				*e*		11 16 46.5	
STHS	**Stebnicka Huta**	**77.40**	**321**	*e*P	**P**	**11 16 41.9**	**+1.2**
STHS				*e*PCP	**PcP**	**11 16 51.3**	**+0.1**
STHS	**Stebnicka Huta**	**77.40**	**321**	*e*P	**P**	**11 16 41.9**	**+1.2**
STHS				*e*		11 16 51.3	
STHS				pmax	pmax		
	comp=Z,22nm,1.1s						
FINES	**FINESS Array B**	**78.37**	**333**	P	**P**	**11 16 45.4**	**-0.4**
	comp=Z,13nm,0.8s,baz=106,slow=6.2,SNR=4.5						
VYHS	**Vyhne**	**78.73**	**319**	*e*P	**P**	**11 16 49.7**	**+1.5**
VYHS				*e*PCP	**PcP**	**11 16 57.9**	**+0.9**
VYHS	**Vyhne**	**78.73**	**319**	*e*P	**P**	**11 16 49.7**	**+1.5**
VYHS				*e*		11 16 57.9	
VYHS				pmax	pmax		
	comp=Z,59nm,1.7s						
MODS	**Modra-Piesok**	**79.73**	**319**	*e*P	**P**	**11 16 54.4**	**+0.8**
MODS				*e*PCP	**PcP**	**11 17 03.0**	**+1.7**
MODS	**Modra-Piesok**	**79.73**	**319**	*e*P	**P**	**11 16 54.4**	**+0.8**
MODS				*e*		11 17 03.0	
KRLC	**Kraliky**	**80.36**	**321**	*e*P	**P**	**11 16 58.5**	**+1.5**
KRLC	**Kraliky**	**80.36**	**321**	*e*P	**P**	**11 16 58.5**	**+1.5**
CONA	**Conrad Observa**	**80.58**	**318**	*i* PcP	P	11 17 08.1	+10
	comp=Z,42nm,1.2s						
ARSA	**Arzberg**	**80.70**	**318**	*i* P	**P**	**11 16 59.9**	**+1.1**
	comp=Z,42nm,1.0s						
DPC	**Dobruska-Polom**	**80.71**	**321**	*e*P	**P**	**11 17 00.0**	**+1.1**
DPC				*e*PCP	**PcP**	**11 17 07.5**	**+1.9**
DPC	**Dobruska-Polom**	**80.71**	**321**	*e*P	**P**	**11 17 00.0**	**+1.1**
DPC				*e*		11 17 07.5	
SOKA	**Soboth**	**80.94**	**317**	*i* P	**P**	**11 17 01.3**	**+1.0**
	comp=Z,38nm,1.0s,SNR=5.8						
ARCES	**ARCESS Array B**	**81.52**	**341**	P	**P**	**11 17 03.2**	**+0.4**
	comp=Z,14nm,0.9s,baz=134,slow=6.9,SNR=5.9						
MYKA	**Terra Mystica**	**81.88**	**317**	*i* P	**P**	**11 17 06.2**	**+0.9**
	comp=Z,38nm,1.0s						
KBA	**Koelnbreinsper**	**82.14**	**317**	*i* pP	**P**	**11 17 09.0**	**+2.3**
	comp=Z,26nm,1.1s						
GERES	**GERESS Array B**	**82.15**	**319**	P	**P**	**11 17 07.5**	**+0.8**
	comp=Z,24nm,0.9s,baz=100,slow=5.5,SNR=16						
KHC	**Kasperske Hory**	**82.27**	**319**	*e*P	**P**	**11 17 08.3**	**+1.1**
KHC				*ex*	x	11 17 16.2	
KHC	**Kasperske Hory**	**82.27**	**319**	*e*P	**P**	**11 17 08.3**	**+1.1**
KHC				*e*		11 17 16.2	
CLL	**Collm**	**82.94**	**322**	*i* P	**P**	**11 17 10.9**	**+0.4**
NKC	**Novy Kostel**	**83.14**	**320**	*e*P	**P**	**11 17 15.6**	**+3.9**
NKC	**Novy Kostel**	**83.14**	**320**	*e*P	**P**	**11 17 15.6**	**+3.9**
BILL	**Bilibino**	**83.43**	**21**	↓*e*P	P	11 17 23.6	+11
BILL				pmax	pmax		
	comp=Z,14nm,1.3s						
BILL				MLR	MLR		
	comp=Z,292µm,16.0s						
MOTA	**Moosalm**	**83.69**	**317**	*i* P	**P**	**11 17 14.8**	**+0.1**
	comp=Z,44nm,1.1s						
RETA	**Reutte**	**83.94**	**318**	*i* P	**P**	**11 17 16.4**	**+0.5**
	comp=Z,36nm,1.3s						
KEST	**Kesra**	**84.05**	**306**	P	**P**	**11 17 18.3**	**+1.6**
	comp=Z,28nm,0.9s,baz=320,slow=5.8,SNR=6.3						
DAVA	**Damuels**	**84.52**	**317**	*i* P	**P**	**11 17 19.8**	**+0.9**
	comp=Z,54nm,1.0s						
NOA	**NORSAR Array B**	**85.23**	**331**	P	**P**	**11 17 21.6**	**-0.4**
	comp=Z,6.3nm,1.1s,baz=95,slow=5.8,SNR=2.6						
TORD	**Torodi Ar. Bea**	**90.61**	**283**	P	**P**	**11 17 49.2**	**+0.4**
	comp=Z,8.2nm,1.1s,baz=74,slow=3.2,SNR=2.9						
ESDC	**Sonseca Array**	**94.57**	**310**	P	**P**	**11 18 08.3**	**+1.6**
	comp=Z,0.8nm,0.6s,baz=36,slow=1.9,SNR=3.3						
YKA	**Yellowknife Ar**	**113.84**	**13**	PKKPab	PKKPab	11 34 12.1	-2.2
	comp=Z,0.3nm,0.8s,baz=145,slow=3.8,SNR=4.4						
NVAR	**Mina Array Bea**	**131.95**	**33**	PKP	**PKPdf**	**11 24 00.4**	**+0.5**
	comp=Z,1.1nm,0.8s,baz=257,slow=2.3,SNR=4.2						
PDAR	**Pinedale Array**	**132.50**	**22**	PKP	**PKPdf**	**11 24 01.6**	**+0.7**
	comp=Z,1.0nm,0.9s,baz=11,slow=3.0,SNR=4.1						
WMOK	**Wichita Mounta**	**143.31**	**16**	P	PKPab	11 24 16.7	+0.2
	baz=341						
WMOK	**Wichita Mounta**	**143.31**	**16**	*e*PKPdf

Error ellipse: s-maj=19.5km s-min=10.2km az=21.8
*IDC **11** 11:07:47.7±1.0, 2°.47N×92°.65E, h0km, mb4.5/7, mb1 4.6/8, mb1mx4.0/67, mbtmp4.5/8, ML4.2/1, Error ellipse: s-maj=30.1km s-min=22.1km az=42.0*
*NEIC **11** 11:07:48.9±0.6, 2°.35N×92°.54E, h10km, mb4.6/2, Error ellipse: s-maj=15.5km s-min=9.7km az=201.0*
ISC 11 11:07:49.1±0.9, 2°.4N±0°.1×92°.6E±0°.1, h10km, n17, σ0$78/17, mb4.6/10, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GSI	**Gunungsitoli**	**5.11**	**102**	*e*Pn	**Pn**	**11 09 06.0**	**+0.2**
PSI	**Prapat**	**6.35**	**86**	Pn	**Pn**	**11 09 23.5**	**+0.5**
	4.9nm,0.3s,baz=105,slow=20,SNR=4.7						
IPM	**Ipoh**	**8.68**	**76**	*e*Pn	**Pn**	**11 09 55.6**	**+0.7**
CMAR	**Chiang Mai Arr**	**17.14**	**21**	P	**P**	**11 11 51.6**	**+1.0**
	0.3nm,0.3s,baz=214,slow=12,SNR=2.6						
LSA	**Lhasa**	**27.19**	**357**	*e*P	**P**	**11 13 33.8**	**+0.2**
	15nm,0.9s						
MKAR	**Makanchi Array**	**45.12**	**350**	P	**P**	**11 16 05.1**	**-0.6**
	2.8nm,0.5s,baz=170,slow=6.8,SNR=5.4						
WRA	**Warramunga Arr**	**46.60**	**120**	P	**P**	**11 16 17.0**	**-0.8**
	89nm,1.1s,baz=303,slow=8.4,SNR=16						
GEYT	**Alibeck**	**47.41**	**323**	P	**P**	**11 16 24.9**	**+1.0**
	6.1nm,0.5s,baz=138,slow=9.3,SNR=3.2						
OPO	**Ambohidratompo**	**49.27**	**243**	P	**P**	**11 16 39.9**	**+1.2**
	3.5nm,0.7s,baz=80,slow=11,SNR=3.5						
KURBB	**Kurchatov Arra**	**49.51**	**348**	P	**P**	**11 16 39.5**	**-0.3**
	3.4nm,1.0s,baz=172,slow=6.6,SNR=4.6						
KURK	**Kurchatov**	**49.58**	**348**	P	**P**	**11 16 39.5**	**-0.8**
ZALV	**Zalesovo Beam**	**51.78**	**354**	P	**P**	**11 16 56.5**	**-0.4**
	6.1nm,0.4s,baz=175,slow=6.6,SNR=9.1						
ABKAR	**Akbulak array**	**54.37**	**334**	*e*P	**P**	**11 17 15.4**	**-0.6**
	5.2nm,0.9s						
KBZ	**Khabaz**	**60.18**	**320**	P	**P**	**11 17 57.2**	**0.0**
	5.1nm,0.8s,baz=180,slow=5.1,SNR=3.4						
FINES	**FINESS Array B**	**76.83**	**333**	P	**P**	**11 19 40.0**	**-1.1**
	4.1nm,0.9s,baz=99,slow=8.6,SNR=3.1						
PFO	**Pinyon Flats O**	**134.92**	**35**	*e*PKPdf	**PKPdf**	**11 27 08.4**	**-0.9**
TXAR	**Lajitas Array**	**144.82**	**25**	PKP	**PKPdf**	**11 27 27.6**	**+0.2**
	0.2nm,0.5s,baz=308,slow=3.0,SNR=2.5						

IDC 11 11:08:00.1±2.4, 1°.95N×92°.06E, h0km, mb4.3/5, mb1 4.5/6, mb1mx3.9/68, mbtmp4.3/6, ML4.5/1, Error ellipse: s-maj=96.6km s-min=21.6km az=59.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**17.74**	**22**	P	P	11 12 09.2	-0.4
	0.6nm,0.3s,baz=227,slow=14,SNR=4.4						
MKAR	**Makanchi Array**	**45.47**	**351**	P	P	11 16 20.7	-0.4
	2.3nm,0.6s,baz=167,slow=9.2,SNR=4.0						
WRA	**Warramunga Arr**	**46.83**	**120**	P	P	11 16 31.7	-0.6
	10nm,0.8s,baz=298,slow=8.7,SNR=5.7						
ASAR	**Alice Springs**	**48.00**	**125**	P	P	11 16 41.3	-0.1
	0.9nm,0.5s,baz=301,slow=7.8,SNR=4.5						
KURBB	**Kurchatov Arra**	**49.83**	**349**	P	P	11 16 54.7	-0.1
	2.2nm,0.7s,baz=174,slow=7.2,SNR=4.2						
ZALV	**Zalesovo Beam**	**52.17**	**355**	P	P	11 17 11.8	-0.7
	3.9nm,0.5s,baz=180,slow=7.0,SNR=5.2						
TXAR	**Lajitas Array**	**145.44**	**25**	PKPbc	PKPab	11 27 41.3	+0.1
	0.7nm,0.4s,baz=141,slow=1.4,SNR=7.7						

IDC 11 11:09:04.9±4.8, 1°.02N×93°.50E, h0km, mb4.4/3, mb1 4.4/3, mb1mx3.7/66, mbtmp4.4/3, Error ellipse: s-maj=183.8km s-min=25.2km az=59.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**36.89**	**123**	P	P	11 16 15.8	+0.2
	3.2nm,0.6s,baz=329,slow=12,SNR=2.6						
WRA	**Warramunga Arr**	**45.12**	**120**	P	P	11 17 23.9	+0.4
	34nm,1.0s,baz=292,slow=8.3,SNR=6.2						
SONM	**Songino Array**	**47.96**	**12**	P	P	11 17 44.6	-0.9
	5.6nm,0.9s,baz=192,slow=8.4,SNR=4.1						
ZALV	**Zalesovo Beam**	**53.24**	**354**	P	P	11 18 26.8	+1.7
	1.8nm,0.5s,baz=181,slow=6.7,SNR=2.2						
TXAR	**Lajitas Array**	**145.65**	**27**	PKPbc	PKPdf	11 28 43.2	-3.0
	1.4nm,0.9s,baz=298,slow=1.9,SNR=4.1						

IDC 11 11:10:00.8±2.7, 1°.30N×92°.52E, h0km, mb4.1/3, mb1 4.3/4, mb1mx3.7/70, mbtmp4.2/4, ML4.0/1, Error ellipse: s-maj=76.8km s-min=28.5km az=48.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**6.57**	**77**	Pn	Pn	11 11 39.1	+0.2
	2.9nm,0.3s,baz=274,slow=19,SNR=2.4						
WRA	**Warramunga Arr**	**46.10**	**119**	P	P	11 18 26.9	-0.3
	1.3nm,0.8s,baz=303,slow=8.8,SNR=2.1						
MKAR	**Makanchi Array**	**46.19**	**350**	P	P	11 18 27.1	-0.4
	2.3nm,0.7s,baz=179,slow=8.6,SNR=4.2						
ZALV	**Zalesovo Beam**	**52.86**	**354**	P	P	11 19 18.4	+0.1
	1.6nm,0.4s,baz=174,slow=7.2,SNR=3.0						

SJA 11 11:13:59.7±0.5, 31°.36S×68°.61W, h104km±3km, ML2.9, MW3.5, San Juan Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AMOG	**MOGNA**	**0.43**	**13**	*e*P	Pn	11 14 16.6	+1.0
AMOG				*e*S	Sn	11 14 28.3	+0.8
AUSP	**Uspallata**	**1.08**	**218**	*e*P	Pn	11 14 22.9	+1.2
AUSP				*e*S	Sn	11 14 40.1	+1.9
ASAL	**Salagasta**	**1.24**	**189**	*e*P	Pn	11 14 24.3	+1.1
AROD	**Rodeo**	**1.41**	**328**	*e*P	Pn	11 14 26.9	+1.5
AROD				*e*S	Sn	11 14 46.7	+1.9
ARCO	**CERRO ARCO**	**1.50**	**190**	*e*P	Pn	11 14 27.4	+1.0
ARCO				IAML		11 14 27.5	
	comp=Z,115nm,0.3s						
ACAN	**Cantantal**	**1.51**	**127**	*e*P	Pn	11 14 27.2	+0.8
AAGR	**Agrelo**	**1.73**	**186**	*e*P	Pn	11 14 30.1	+1.0

*CSEM **11** 11:14:57.6, 60°.02N×13°.63E, h0km, ML3.7, Mining explosion.*
UPP 11 11:14:57.6±0.2, 60°.02N×13°.63E, h0km, ML3.7, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NRAU	**Nora**	**0.84**	**122**	P	Pg	11 15 13.4	-0.3
NRAU				S	Sg	11 15 24.1	-0.6
NRAU	**Nora**	**0.84**	**122**	P	Pg	11 15 13.4	-0.4
NRAU				S	Sg	11 15 24.1	-0.6
NASU	**Vaermlandsnaes**	**1.12**	**192**	P	Pg	11 15 18.4	-0.7
NASU	**Vaermlandsnaes**	**1.12**	**192**	P	Pg	11 15 18.4	-0.6
FALU	**Falun**	**1.20**	**66**	P	Pg	11 15 19.9	-0.6
FALU	**Falun**	**1.20**	**66**	P	Pg	11 15 19.9	-0.6
ASKU	**Askersund**	**1.29**	**151**	P	Pg	11 15 21.6	-0.6
ASKU	**Askersund**	**1.29**	**151**	P	Pg	11 15 21.6	-0.6
STRU	**Stroemstad**	**1.59**	**233**	P	Pn	11 15 27.0	+0.1
STRU	**Stroemstad**	**1.59**	**233**	P	Pn	11 15 27.0	0.0
ESKU	**Eskilstuna**	**1.61**	**118**	P	Pn	11 15 27.6	+0.4
ESKU	**Eskilstuna**	**1.61**	**118**	P	Pn	11 15 27.6	+0.4
VANU	**Vaenersborg**	**1.73**	**208**	P	Pn	11 15 29.4	+0.5
VANU	**Vaenersborg**	**1.73**	**208**	P	Pn	11 15 29.4	+0.5
BACU	**Backbrunna**	**1.76**	**94**	P	Pn	11 15 29.8	+0.5
BACU	**Backbrunna**	**1.76**	**94**	P	Pn	11 15 29.8	+0.5
OSTU	**Oestervaala**	**1.77**	**82**	P	Pb	11 15 30.1	-0.7
OSTU	**Oestervaala**	**1.77**	**82**	P	Pb	11 15 30.1	-0.7
ROTU	**Roteberg**	**1.77**	**36**	P	Pn	11 15 29.4	0.0
ROTU	**Roteberg**	**1.77**	**36**	P	Pn	11 15 29.4	0.0

*ISCJB **11** 11:16:49.9±1.0, 36°.90N±0°.08×27°.92E±0°.03, h0km, Error ellipse: s-maj=12.1km s-min=3.7km az=0.2*
*CSEM **11** 11:16:50.7±0.4, 37°.08N×27°.93E, h1km, ML2.8, Error ellipse: s-maj=11.6km s-min=5.6km az=2.0, Suspected Mining explosion.*
*ISK **11** 11:16:50.5, 37°.14N×27°.89E, h13km, ML2.8/4, Suspected Mining explosion.*
*DDA **11** 11:16:51.2, 37°.16N×27°.88E, h7km, Ml2.6, Suspected Mining explosion.*
ISC 11 11:16:47.9±1.2, 36°.94N±0°.08×27°.93E±0°.03, h0km, n15, σ0$41/25, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YER	**Yerkesik**	**0.34**	**55**	PG	**Pb**	**11 16 57.4**	**+0.5**
YER				SG	**Sb**	**11 17 02.5**	**-0.4**
YER	**Yerkesik**	**0.34**	**55**	*e*Pg	**Pb**	**11 16 57.4**	**+0.5**
YER				*e*Sg	**Sb**	**11 17 02.5**	**-0.4**
MLSB	**Milas**	**0.38**	**341**	PG	**Pg**	**11 16 55.2**	**+0.1**
MLSB	**Milas**	**0.38**	**341**	*e*Pg	**Pg**	**11 16 55.2**	**+0.1**
BDRM	**Kayabasi**	**0.41**	**288**	*i* P	**Pb**	**11 16 58.4**	**+0.4**
BDRM				*i* S	**Sb**	**11 17 04.9**	**+0.1**
BDRM	**Kayabasi**	**0.41**	**288**	P	**Pb**	**11 16 58.4**	**+0.4**
BDRM				S	**Sb**	**11 17 04.9**	**+0.1**
BODT	**Bodrum**	**0.51**	**284**	PG	**Pb**	**11 17 00.1**	**+0.3**
BODT				SG	**Sb**	**11 17 07.2**	**-0.6**
BODT	**Bodrum**	**0.51**	**284**	*e*Pg	**Pb**	**11 17 00.1**	**+0.3**
BODT				*e*Sg	**Sb**	**11 17 07.2**	**-0.6**
TURN	**Turunc**	**0.54**	**97**	PG	**Pb**	**11 17 00.3**	**+0.1**
TURN	**Turunc**	**0.54**	**97**	*i* P	**Pb**	**11 17 00.3**	**+0.1**
TURN				*i* S	**Sb**	**11 17 08.7**	**+0.2**
TURN	**Turunc**	**0.54**	**97**	P	**Pb**	**11 17 00.3**	**+0.1**
TURN				S	**Sb**	**11 17 08.7**	**+0.2**
TAVA	**DENIZLI_Tavas**	**0.94**	**56**	*i* P	**Pn**	**11 17 08.2**	**-0.3**
TAVA				*i* S	**Sn**	**11 17 23.3**	**+0.6**
TAVA	**DENIZLI_Tavas**	**0.94**	**56**	P	**Pn**	**11 17 08.2**	**-0.3**
TAVA				S	**Sn**	**11 17 23.3**	**+0.6**
AYDB	**Zeytinkoy-Aydi**	**1.01**	**358**	PG	**Pg**	**11 17 06.6**	**-0.6**
AYDB	**Zeytinkoy-Aydi**	**1.01**	**358**	*e*Pg	**Pg**	**11 17 06.6**	**-0.6**

*ISCJB **11** 11:17:09.8±0.8, 3°.7N±0°.1×92°.81E±0°.08, h10km, mb4.4/14, Error ellipse: s-maj=17.9km s-min=10.8km az=21.2*
*IDC **11** 11:17:09.8±1.2, 3°.61N×92°.78E, h0km, mb4.4/13, mb1 4.5/15, mb1mx4.1/75, mbtmp4.4/15, ML4.1/2, Error ellipse: s-maj=33.8km s-min=22.3km az=35.0*
*NEIC **11** 11:17:11.5±0.5, 3°.66N×92°.79E, h10km, mb4.7/1, Error ellipse: s-maj=12.4km s-min=7.9km az=201.0*
ISC 11 11:17:11.4±1.2, 3°.6N±0°.2×92°.8E±0°.1, h10km, n19, σ0$62/18, mb4.4/13, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**6.19**	**98**	Pn	**Pn**	**11 18 43.5**	**+0.5**
	8.0nm,0.3s,baz=284,slow=5.0,SNR=7.6						
PSI				Sn	Sn	11 19 42.0	-12
	2.6nm,0.3s,baz=320,slow=16,SNR=1.8						
IPM	**Ipoh**	**8.27**	**84**	*e*Pn	**Pn**	**11 19 11.7**	**+0.2**
CMAR	**Chiang Mai Arr**	**15.92**	**22**	Pn	**Pn**	**11 20 55.8**	**+0.1**
	0.2nm,0.3s,baz=217,slow=14,SNR=17						
CHTO	**Chiang Mai**	**16.25**	**21**	*e*Pn	**Pn**	**11 20 59.5**	**-0.4**
MKAR	**Makanchi Array**	**43.95**	**350**	P	**P**	**11 25 19.2**	**+0.6**
	8.4nm,0.7s,baz=171,slow=8.8,SNR=21						
SONM	**Songino Array**	**45.57**	**13**	P	**P**	**11 25 31.1**	**-0.6**
	1.9nm,0.6s,baz=191,slow=9.4,SNR=3.6						
GEYT	**Alibeck**	**46.55**	**322**	P	**P**	**11 25 40.4**	**+0.9**
	8.5nm,0.8s,baz=142,slow=7.5,SNR=5.0						
WRA	**Warramunga Arr**	**47.07**	**122**	P	**P**	**11 25 43.4**	**-0.3**
	3.2nm,0.9s,baz=304,slow=8.3,SNR=4.6						
KURBB	**Kurchatov Arra**	**48.34**	**348**	P	**P**	**11 25 53.7**	**+0.6**
	6.4nm,0.9s,baz=167,slow=7.0,SNR=11						
KURK	**Kurchatov**	**48.41**	**348**	P	**P**	**11 25 53.7**	**+0.1**
ZALV	**Zalesovo Beam**	**50.58**	**354**	P	**P**	**11 26 10.7**	**+0.5**
	6.1nm,0.5s,baz=176,slow=7.1,SNR=10						
BVAR	**Borovoye Array**	**52.58**	**343**	P	**P**	**11 26 24.8**	**-0.4**
	4.8nm,0.8s,baz=140,slow=9.8,SNR=4.3						
ABKAR	**Akbulak array**	**53.34**	**334**	*e*P	**P**	**11 26 30.8**	**-0.1**
	9.3nm,1.0s						
BRTR	**Keskin Array B**	**64.22**	**313**	P	**P**	**11 27 46.2**	**-0.8**
	0.9nm,0.6s,baz=125,slow=7.7,SNR=2.7						
AKASG	**Malin Array Be**	**70.66**	**323**	P	**P**	**11 28 27.9**	**+0.7**
	0.3nm,0.3s,baz=97,slow=4.6,SNR=6.1						
MLR	**Muntele Rosu**	**71.28**	**317**	P	**P**	**11 28 31.8**	**+0.5**
	1.4nm,0.8s,baz=150,slow=6.1,SNR=4.8						
FINES	**FINESS Array B**	**75.82**	**333**	P	**P**	**11 28 56.3**	**-1.2**
	2.7nm,0.8s,baz=44,slow=8.2,SNR=3.6						
GERES	**GERESS Array B**	**80.08**	**319**	P	**P**	**11 29 21.9**	**+0.2**
	3.0nm,0.8s,baz=98,slow=5.5,SNR=7.5						
DBIC	**Dimbokro**	**97.15**	**277**	P	Pdif	11 30 46.0	+1.0
	3.1nm,0.9s,baz=270,slow=5.1,SNR=3.6						

IDC 11 11:17:55.0±3.8, 1°.01N×93°.15E, h0km, mb4.2/4, mb1 4.2/4, mb1mx3.6/72, mbtmp4.2/4, Error ellipse: s-maj=99.6km s-min=79.4km az=61.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**46.58**	**350**	P	P	11 26 24.9	+0.3
	3.3nm,0.9s,baz=178,slow=8.5,SNR=2.2						
SONM	**Songino Array**	**48.04**	**12**	P	P	11 26 35.6	-0.6
	2.9nm,0.7s,baz=194,slow=8.2,SNR=4.2						
KURBB	**Kurchatov Arra**	**50.97**	**348**	P	P	11 26 58.5	+0.2
	0.7nm,0.6s,baz=172,slow=6.8,SNR=2.8						
FINES	**FINESS Array B**	**78.32**	**333**	P	P	11 29 56.3	-0.5
	4.3nm,1.1s,baz=152,slow=8.6,SNR=3.3						
TXAR	**Lajitas Array**	**145.81**	**27**	PKPbc	PKPdf	11 37 36.5	-0.1
	0.7nm,0.8s,baz=346,slow=1.1,SNR=5.5						

IDC 11 11:18:10.4±1.3, 0°.54N×92°.55E, h0km, mb4.3/8, mb1 4.5/8, mb1mx3.9/72, mbtmp4.3/8, Error ellipse: s-maj=58.8km s-min=18.9km az=45.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**32.74**	**110**	P	P	11 24 43.9	-1.5
	18nm,0.5s,baz=210,slow=2.2,SNR=3.0						
WRA	**Warramunga Arr**	**45.71**	**119**	P	P	11 26 34.2	+0.5
	4.5nm,0.6s,baz=296,slow=8.6,SNR=7.6						
ASAR	**Alice Springs**	**46.80**	**124**	P	P	11 26 42.3	0.0
	1.9nm,0.8s,baz=300,slow=8.1,SNR=5.9						
MKAR	**Makanchi Array**	**46.93**	**350**	P	P	11 26 41.8	-1.0
	1.9nm,0.7s,baz=166,slow=7.8,SNR=2.8						
SONM	**Songino Array**	**48.62**	**12**	P	P	11 26 56.6	+0.5
	1.7nm,0.6s,baz=196,slow=8.6,SNR=3.9						
MLR	**Muntele Rosu**	**73.39**	**318**	P	P	11 29 44.4	-0.2
	1.1nm,0.8s,baz=33,slow=2.2,SNR=3.9						
FINES	**FINESS Array B**	**78.46**	**333**	P	P	11 30 13.1	+0.1
	3.2nm,0.9s,baz=149,slow=5.7,SNR=3.1						
GERES	**GERESS Array B**	**82.25**	**319**	P	P	11 30 33.8	-0.1
	2.3nm,0.7s,baz=104,slow=5.6,SNR=6.4						
TXAR	**Lajitas Array**	**146.49**	**26**	PKPbc	PKPbc	11 37 54.9	+0.4
	1.1nm,0.8s,baz=328,slow=0.7,SNR=5.2						

*NEIC **11** 11:20:27.1±0.8, 26°.00N×143°.60E, h10km, mb4.3/2, Error ellipse: s-maj=22.7km s-min=16.1km az=48.0*
*IDC **11** 11:20:29.0±1.1, 26°.71N×143°.59E, h0km, mb4.0/7, mb1 4.2/8, mb1mx3.8/69, mbtmp4.0/8, ML3.8/1, Error ellipse: s-maj=26.6km s-min=21.5km az=10.0*
ISC 11 11:20:33.0±1.0, 26°.3N±0°.2×143°.5E±0°.1, h38km, n21, σ1$89/16, mb4.1/9, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**1.40**	**303**	*e*Pn	**Pn**	**11 20 55.1**	**-0.8**
CBIJ				Pn	Pn	11 20 55.4	-0.6
CBIJ				Sn	**Sn**	**11 21 12.9**	**-0.3**
JCJ	**Chichijima**	**1.40**	**303**	Pn	**Pn**	**11 20 55.4**	**-0.6**
	25nm,0.3s,baz=49,slow=23,SNR=20						
JCJ				Sn	**Sn**	**11 21 12.9**	**-0.3**
	121nm,0.3s,baz=270,slow=20,SNR=26						
MJAR	**Matsushiro Arr**	**11.13**	**337**	Pn	Pn	11 23 03.6	-6.0
	0.7nm,0.3s,baz=157,slow=11,SNR=9.1						
KSRS	**Korea Array**	**17.23**	**314**	Pn	**P**	**11 24 32.7**	**+0.8**
	0.1nm,0.3s,baz=118,slow=11,SNR=5.7						
KSAR	**Wonju Array Be**	**17.25**	**314**	Pn	**P**	**11 24 32.7**	**+0.6**
H11N2	**WAKE ISLAND Hy**	**22.50**	**102**	T	T	11 48 41.1	
	baz=282,SNR=3.4						
H11N1	**WAKE ISLAND Hy**	**22.50**	**102**	T	T	11 48 28.7	
	baz=282						
H11N3	**WAKE ISLAND Hy**	**22.51**	**102**	T	T	11 48 47.9	
	baz=282						
H11S3	**WAKE ISLAND Hy**	**22.79**	**105**	T	T	11 48 36.0	
	baz=294,slow=74,SNR=9.2						
H11S1	**WAKE ISLAND Hy**	**22.80**	**105**	T	T	11 48 38.7	
	baz=294,slow=74,SNR=3.5						
H11S2	**WAKE ISLAND Hy**	**22.81**	**105**	T	T	11 48 36.3	
	baz=294,slow=74,SNR=2.6						
WRAB	**Tennant Creek**	**46.84**	**192**	*e*P	**P**	**11 28 54.8**	**-4.6**
	1.0nm,0.5s						
WRA	**Warramunga Arr**	**46.85**	**192**	P	**P**	**11 29 03.8**	**+4.3**
	2.9nm,0.7s,baz=16,slow=8.8,SNR=7.5						
MKAR	**Makanchi Array**	**51.86**	**310**	P	**P**	**11 29 37.5**	**-0.1**
	2.1nm,0.9s,baz=91,slow=7.2,SNR=4.7						
KURK	**Kurchatov**	**54.35**	**315**	P	**P**	**11 29 56.5**	**+0.8**
KURBB	**Kurchatov Arra**	**54.41**	**315**	P	**P**	**11 29 56.5**	**+0.4**
	3.6nm,0.8s,baz=90,slow=8.2,SNR=12						
ILAR	**Eielson Array**	**57.82**	**28**	P	**P**	**11 30 20.8**	**+0.5**
	0.6nm,0.7s,baz=259,slow=6.1,SNR=5.2						
KKAR	**Karatay Array**	**60.48**	**306**	*e*P	**P**	**11 30 40.1**	**+1.0**
	2.5nm,0.6s						
YKA	**Yellowknife Ar**	**72.25**	**28**	P	**P**	**11 31 52.6**	**-1.4**
	0.5nm,0.8s,baz=294,slow=5.9,SNR=6.7						
FINES	**FINESS Array B**	**79.14**	**334**	P	**P**	**11 32 34.2**	**+0.7**
	0.7nm,0.3s,baz=82,slow=10,SNR=16						
AKASG	**Malin Array Be**	**83.92**	**324**	P	**P**	**11 32 58.2**	**-0.7**
	1.1nm,0.6s,baz=59,slow=5.7,SNR=3.0						

*IDC **11** 11:20:33.5±1.9, 1°.81N×93°.69E, h0km, mb3.9/6, mb1 4.0/7, mb1mx3.7/74, mbtmp3.9/7, ML3.7/1, Error ellipse: s-maj=62.1km s-min=20.4km az=54.0*
*ISCJB **11** 11:20:34.0±1.2, 2°.1N±0°.2×93°.95E±0°.09, h10km, mb4.0/6, Error ellipse: s-maj=24.4km s-min=12.0km az=13.8*
ISC 11 11:20:36.6±1.5, 1°.9N±0°.2×94°.0E±0°.1, h10km, n8, σ1$44/7, mb4.1/6, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**5.01**	**80**	Pn	**Pn**	**11 21 52.3**	**+0.3**
	2.3nm,0.3s,baz=211,slow=12,SNR=2.6						
PSI				Sn	**Sn**	**11 22 49.4**	**-0.7**
	1.3nm,0.3s,baz=249,slow=8.3,SNR=3.7						
WRA	**Warramunga Arr**	**45.13**	**121**	P	**P**	**11 28 54.9**	**+1.1**
	1.4nm,0.6s,baz=299,slow=8.6,SNR=3.2						
MKAR	**Makanchi Array**	**45.87**	**349**	P	P	11 28 56.5	-2.6
	1.2nm,0.6s,baz=166,slow=7.6,SNR=5.4						
ASAR	**Alice Springs**	**46.39**	**126**	P	**P**	**11 29 02.5**	**-1.2**
	0.7nm,0.8s,baz=278,slow=6.5,SNR=3.1						
SONM	**Songino Array**	**47.00**	**11**	P	**P**	**11 29 09.6**	**+1.4**
	2.1nm,1.1s,baz=190,slow=10,SNR=2.3						
KURBB	**Kurchatov Arra**	**50.28**	**347**	P	P	11 29 31.1	-2.2
	1.3nm,0.8s,baz=178,slow=6.2,SNR=3.6						
ZALV	**Zalesovo Beam**	**52.43**	**353**	P	**P**	**11 29 47.5**	**-1.7**
	1.2nm,0.5s,baz=188,slow=8.7,SNR=3.0						
TXAR	**Lajitas Array**	**144.64**	**27**	PKP	**PKPab**	**11 40 13.8**	**+0.7**
	3.5nm,1.2s,baz=29,slow=2.1,SNR=3.1						

IDC 11 11:21:41.3±4.5, 1°.00N×92°.14E, h0km, mb4.1/2, mb1 4.1/2, mb1mx3.4/73, mbtmp4.1/2, Error ellipse: s-maj=171.0km s-min=83.3km az=71.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**46.42**	**351**	P	P	11 30 09.6	-0.2
	0.9nm,0.6s,baz=167,slow=6.4,SNR=2.7						
SONM	**Songino Array**	**48.27**	**13**	P	P	11 30 24.2	-0.1
	3.7nm,0.6s,baz=192,slow=9.5,SNR=6.5						
TXAR	**Lajitas Array**	**146.27**	**25**	PKPbc	PKPdf	11 41 23.9	+0.2
	0.5nm,0.8s,baz=316,slow=3.8,SNR=2.7						

IDC 11 11:23:42.6±2.1, 1°.21N×91°.83E, h0km, mb4.0/4, mb1 4.0/6, mb1mx3.6/75, mbtmp3.9/6, ML4.1/2, Error ellipse: s-maj=57.6km s-min=26.9km az=53.0, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**7.26**	**77**	Pn	Pn	11 25 31.3	+1.1
	1.5nm,0.3s,baz=268,slow=14,SNR=3.2						
CMAR	**Chiang Mai Arr**	**18.51**	**22**	P	P	11 27 59.0	-1.6
	0.4nm,0.3s,baz=216,slow=13,SNR=3.6						
MKAR	**Makanchi Array**	**46.16**	**351**	P	P	11 32 08.9	0.0
	1.0nm,0.8s,baz=160,slow=7.1,SNR=3.4						
WRA	**Warramunga Arr**	**46.67**	**119**	P	P	11 32 12.4	-1.0
	1.5nm,0.8s,baz=292,slow=9.3,SNR=2.6						
SONM	**Songino Array**	**48.13**	**13**	P	P	11 32 24.9	+0.4
	1.1nm,0.4s,baz=189,slow=9.1,SNR=4.0						
ZALV	**Zalesovo Beam**	**52.88**	**355**	P	P	11 32 59.0	-1.0
	0.9nm,0.3s,baz=183,slow=7.5,SNR=4.0						
TXAR	**Lajitas Array**	**146.20**	**25**	PKPbc	PKPab	11 43 26.6	+0.1
	0.5nm,0.7s,baz=104,slow=1.9,SNR=3.4						

IDC 11 11:24:14.8±1.9, 3°.59N×92°.30E, h0km, mb3.9/3, mb1 4.2/4, mb1mx3.6/74, mbtmp4.1/4, ML4.7/1, Error ellipse: s-maj=65.3km s-min=27.4km az=47.0, Off west coast of northern Sumatera

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

ASAR Alice Springs 46.90 124 P **P** **11 35 17.1 -1.0**
1.4nm,0.8s,baz=308,slow=7.9,SNR=4.1
MKAR Makanchi Array 46.92 350 P **P** **11 35 17.6 -0.2**
1.2nm,0.7s,baz=174,slow=8.7,SNR=4.7
SONM Songino Array 48.65 13 P **P** **11 35 32.6 +1.3**
2.9nm,0.9s,baz=193,slow=8.8,SNR=4.4
KURBB Kurchatov Arra 51.29 349 P **P** **11 35 50.8 -0.3**
1.1nm,0.8s,baz=172,slow=7.2,SNR=4.2
KURK Kurchatov 51.36 349 P **P** **11 35 50.9 -0.9**
ZALV Zalesovo Beam 53.61 354 P **P** **11 36 07.8 -0.5**
2.6nm,0.7s,baz=195,slow=6.7,SNR=4.3
BVAR Borovoye Array 55.44 344 P **P** **11 36 22.5 +0.8**
0.9nm,0.6s,baz=130,slow=4.5,SNR=2.9
BRTR Keskin Array B 66.08 314 P **P** **11 37 33.8 -0.8**
0.6nm,0.6s,baz=123,slow=5.3,SNR=3.2
FINES FINESS Array B 78.42 333 P **P** **11 38 46.4 -1.4**
1.0nm,0.7s,baz=105,slow=8.8,SNR=3.4
GERES GERESS Array B 82.18 319 P **P** **11 39 08.5 0.0**
2.8nm,0.7s,baz=102,slow=4.6,SNR=11
TXAR Lajitas Array 146.55 26 PKPbc **PKPbc** **11 46 28.6 -1.0**
1.3nm,0.8s,baz=259,slow=0.5,SNR=6.4
HKT Hockley 148.68 14 *e*PKPbc **PKPbc** **11 46 35.3 +0.1**

IDC 11 11:28:41.7±8.0**, 1°.43N**×**94°.16E, h0**km**, mb3.7**/4**, mb1 3.9**/4**, mb1mx3.4**/72**, mbtmp3.7**/4**, Error ellipse: s-maj=381.5km s-min=23.2km az=55.0, Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**44.75**	**120**	P		P	11 36 57.9	+0.6
	0.8nm,0.6s,baz=300,slow=8.9,SNR=2.2							
ASAR	**Alice Springs**	**45.98**	**125**	P		P	11 37 06.2	-0.9
	0.7nm,0.6s,baz=291,slow=7.8,SNR=2.8							
MKAR	**Makanchi Array**	**46.36**	**349**	P		P	11 37 10.2	+0.6
	1.1nm,0.7s,baz=168,slow=9.6,SNR=3.2							
KURBB	**Kurchatov Arra**	**50.78**	**347**	P		P	11 37 42.8	-0.8
	0.6nm,0.6s,baz=177,slow=6.7,SNR=4.1							

*ISCJB **11** 11:28:58.4*±*1.2,56°.86S*±*0°.04×28°.00W*±*0°.08, h254km*±*11km, mb5.4/80, Error ellipse: s-maj=8.6km s-min=5.0km az=141.8*
*MOS **11** 11:28:58.2*±*1.0,56°.87S×27°.92W, h250km, mb5.5/13, Error ellipse: s-maj=20.5km s-min=11.8km az=103.2*
*BJI **11** 11:28:59.0,56°.80S×28°.00W, h255km, mB5.2/2*
*NEIC **11** 11:29:02.5*±*0.8,56°.87S×27°.98W, h284km*±*7km, mb5.4/55, Error ellipse: s-maj=6.7km s-min=4.7km az=56.0*
*IDC **11** 11:29:02.2*±*0.8,56°.94S×28°.03W, h278km*±*6km, mb5.1/25, mb1 5.1/26, mb1mx5.1/30, mbtmp5.7/26, Error ellipse: s-maj=10.3km s-min=6.9km az=50.0*
ISC 11 11:29:01.2±0.5**,56°.80S**±0°.06×**27°.97W**±0°.06**, h272**km±4km**, h272**km**:pP-P, n575, s1**9**30/629, mb5.4**/78**, 9C-2D, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
HOPE	**Hope Point**	**5.46**	**294**	*e*Pn		**Pn**	**11 30 24.0**	**+0.9**
VNA1	**Neumayer--Stat**	**16.27**	**156**	P		**P**	**11 32 32.5**	**-0.7**
VNA1				S		**S**	**11 35 37.7**	**+8.4**
VNA1	**Neumayer--Stat**	**16.27**	**156**	P		**ScP**	**11 40 18.8**	**+1.0**
VNA3	**Neumayer Olymp**	**16.43**	**159**	P		**P**	**11 32 33.9**	**-1.1**
VNA3				S		**S**	**11 35 38.5**	**+5.9**
VNA3	**Neumayer Olymp**	**16.43**	**159**	P		**ScP**	**11 40 18.7**	**+0.5**
VNA2	**Neumayer--Watz**	**16.66**	**156**	P		**P**	**11 32 36.5**	**-1.1**
	baz=316,slow=13							
VNA2				S		**S**	**11 35 44.6**	**+7.3**
VNA2	**Neumayer--Watz**	**16.66**	**156**	P		**ScP**	**11 40 19.4**	**+0.8**
	baz=327,slow=4.3							
EFI	**East Falkland**	**18.23**	**274**	*e*P		**P**	**11 32 54.7**	**+0.1**
	835nm,1.0s							
EFI	**East Falkland**	**18.23**	**274**	*c i*P		**P**	**11 32 54.8**	**+0.1**
SNAA	**Sanae**	**18.23**	**155**	P		**P**	**11 32 53.6**	**-1.0**
SNAA				S		**S**	**11 36 00.6**	**-7.8**
SNAA	**Sanae**	**18.23**	**155**	P		**ScP**	**11 40 22.5**	**+0.4**
SNAA	**Sanae**	**18.23**	**155**	P		**P**	**11 32 53.6**	**-1.0**
	166nm,0.3s,baz=316,slow=6.0,SNR=268							
SNAA				S		**S**	**11 36 06.3**	**-2.1**
	baz=208,slow=15,SNR=4.2							
SNAA				PcP		**PcP**	**11 37 13.7**	**+0.5**
	4.3nm,0.3s,baz=342,slow=3.2,SNR=5.2							
SNAA				ScP		**ScP**	**11 40 22.8**	**+0.8**
	4.5nm,0.3s,baz=285,slow=3.8,SNR=38							
PMSA	**Palmer Station**	**19.08**	**231**	*e*P		**P**	**11 33 04.7**	**+1.1**
	4µm,0.8s							
CHRN	**Cochrane**	**28.59**	**270**	*e*P		**P**	**11 34 33.6**	**+1.5**
	10nm,0.7s							
TRQA	**Tornquist**	**29.24**	**295**	*e*P		**P**	**11 34 37.7**	**-0.4**
	79nm,0.7s							
PLCA	**Paso Flores**	**31.72**	**282**	P		**P**	**11 34 59.2**	**-0.6**
	137nm,0.9s,baz=163,slow=8.2,SNR=281							
PLCA				PcP		**PcP**	**11 37 44.6**	**+0.5**
	16nm,0.7s,baz=119,slow=2.2,SNR=7.5							
PLCA				ScP		**ScP**	**11 40 59.9**	**-0.8**
	12nm,0.8s,baz=151,slow=3.1,SNR=11							
PLCA	**Paso Flores**	**31.72**	**282**	*e*P		**P**	**11 34 59.2**	**-0.6**
	191nm,0.9s							
PLCA				PcP		**PcP**	**11 37 44.6**	**+0.5**
PLCA				ScP		**ScP**	**11 40 59.9**	**-0.8**
PLCA	**Paso Flores**	**31.72**	**282**	*e*P		**P**	**11 34 59.2**	**-0.6**
PLCA							11 37 44.6	
PLCA				pmax		pmax		
	comp=Z,191nm,0.9s							
QSPA	**South Pole Qui**	**33.44**	**180**	*e*P		**P**	**11 35 15.1**	**+0.6**
	comp=Z,226nm,0.6s							
SPB	**Sao Paulo**	**36.09**	**329**	*e*P		**P**	**11 35 39.2**	**+1.9**
	comp=Z,312nm,0.9s							
ACAN	**Cantantal**	**36.41**	**296**	*e*P		**P**	**11 35 39.2**	**-0.8**
CPUP	**Villa Florida**	**37.00**	**313**	P		**P**	**11 35 45.3**	**+0.4**
	comp=Z,87nm,0.4s,baz=155,slow=7.4,SNR=278							
CPUP				PcP		**PcP**	**11 38 00.2**	**+0.8**
	comp=Z,31nm,0.7s,baz=189,slow=1.7,SNR=7.7							
CPUP	**Villa Florida**	**37.00**	**313**	*e*P		**P**	**11 35 45.2**	**+0.4**
	comp=Z,310nm,1.1s							
CPUP				PcP		**PcP**	**11 38 00.2**	**+0.8**
RTCV	**Cerro Valdivia**	**37.42**	**294**	*e*P		**P**	**11 35 47.7**	**-0.8**
PEL	**Peldehue**	**37.49**	**291**	*e*P		**P**	**11 35 48.7**	**-0.3**
	comp=Z,88nm,0.5s							
PEL	**Peldehue**	**37.49**	**291**	*e*P		**P**	**11 35 48.7**	**-0.3**
PEL				pmax		pmax		
	comp=Z,88nm,0.5s							
AUSP	**Uspallata**	**37.55**	**293**	*e*P		**P**	**11 35 49.8**	**-0.1**
APLL	**PUNTA DE LOS L**	**37.62**	**298**	*e*P		**P**	**11 35 49.3**	**-0.8**
ROC1	**El Roble**	**37.79**	**291**	*e*P		**P**	**11 35 51.3**	**-0.5**
	comp=Z,101nm,0.8s							
ROC1	**El Roble**	**37.79**	**291**	*e*P		**P**	**11 35 51.1**	**-0.7**
RTLS	**Leoncito**	**37.85**	**294**	*e*P		**P**	**11 35 52.0**	**-0.3**
AMOG	**MOGNA**	**38.14**	**295**	*e*P		**P**	**11 35 54.2**	**-0.3**
ACDV	**Cuesta del Vie**	**39.08**	**295**	*e*P		**P**	**11 36 01.9**	**-0.5**
AROD	**Rodeo**	**39.26**	**295**	*e*P		**P**	**11 36 03.7**	**-0.3**
AGUA	**GUANDACOL**	**39.33**	**297**	*e*P		**P**	**11 36 03.6**	**-0.7**
MAW	**Mawson**	**39.80**	**143**	P		**P**	**11 36 07.7**	**+0.1**
	comp=Z,58nm,0.5s,baz=231,slow=7.7,SNR=186							
MAW				PcP		**PcP**	**11 38 08.7**	**+1.2**
	comp=Z,14nm,0.5s,baz=231,slow=4.8,SNR=5.9							
MAW				ScP		**ScP**	**11 41 30.6**	**+0.9**
	comp=Z,27nm,0.6s,baz=226,slow=4.2,SNR=30							
MAW	**Mawson**	**39.80**	**143**	*e*P		**P**	**11 36 07.3**	**-0.3**
	comp=Z,12nm,0.6s							
MAW				PcP		**PcP**	**11 38 08.7**	**+1.2**
MAW				ScP		**ScP**	**11 41 30.6**	**+0.9**
MAW	**Mawson**	**39.80**	**143**	*e*P		**P**	**11 36 07.3**	**-0.3**
MAW							11 38 08.7	
MAW				pmax		pmax		
	comp=Z,12nm,0.6s							
LCO	**Las Campanas**	**40.81**	**295**	*e*P		**P**	**11 36 16.1**	**-0.6**
	comp=Z,103nm,0.8s							
SUR	**Sutherland**	**41.25**	**75**	*e*P		**P**	**11 36 20.7**	**+0.5**
	comp=Z,62nm,1.1s							
ALOL	**LOMAS DE OLMED**	**42.03**	**306**	*e*P		**P**	**11 36 25.6**	**-0.7**
ASTB	**Santa Barbara**	**42.12**	**306**	*e*P		**P**	**11 36 26.6**	**-0.5**
HJA	**Humahuaca**	**43.19**	**305**	*e*P		**P**	**11 36 35.8**	**-0.2**
YJA	**Yavi**	**44.14**	**306**	*e*P		**P**	**11 36 43.5**	**-0.1**
SBA	**Scott Base**	**45.29**	**184**	*e*P		**P**	**11 36 52.6**	**+1.2**
	comp=Z,72nm,0.8s							
SBA	**Scott Base**	**45.29**	**184**	*e*P		**P**	**11 36 52.6**	**+1.2**
SBA				pmax		pmax		
	comp=Z,72nm,0.8s							
VNDA	**Vanda**	**45.80**	**183**	P		**P**	**11 36 56.3**	**+1.0**
	comp=Z,104nm,0.6s,baz=187,slow=6.5,SNR=237							
VNDA				ScP		**ScP**	**11 41 54.5**	**+0.6**
	comp=Z,6.7nm,0.8s,baz=217,slow=3.7,SNR=4.8							
VNDA	**Vanda**	**45.80**	**183**	*e*P		**P**	**11 36 56.4**	**+1.0**
	comp=Z,26nm,0.7s							
VNDA				ScP		**ScP**	**11 41 54.5**	**+0.6**
PB04	**IPOC Station P**	**46.14**	**300**	*e*P		**P**	**11 37 00.3**	**+1.4**
	comp=Z,299nm,1.0s							
BOSA	**Boshof**	**46.57**	**76**	P		**P**	**11 37 02.2**	**0.0**
	comp=Z,119nm,0.9s,baz=211,slow=7.8,SNR=70							
BOSA				ScP		**ScP**	**11 41 58.1**	**0.0**
	comp=Z,25nm,0.8s,baz=215,slow=4.0,SNR=12							
BOSA	**Boshof**	**46.57**	**76**	*e*P		**P**	**11 37 01.8**	**-0.4**
	comp=Z,168nm,1.0s							
BOSA				ScP		**ScP**	**11 41 58.1**	**0.0**
BOSA	**Boshof**	**46.57**	**76**	*e*P		**P**	**11 37 01.8**	**-0.4**
BOSA				pmax		pmax		
	comp=Z,168nm,1.0s							
PB01	**IPOC Station P**	**46.94**	**302**	*e*P		**P**	**11 37 05.4**	**+0.4**
	comp=Z,297nm,0.7s							
PB11	**IPOC Station P**	**48.12**	**303**	*e*P		**P**	**11 37 14.1**	**-0.1**
	comp=Z,187nm,0.9s							
MNMC	**Minye Minye**	**48.64**	**303**	*e*P		**P**	**11 37 18.8**	**+0.6**
	comp=Z,482nm,0.8s							
H10S2	**ASCENSION HYDR**	**48.85**	**18**	T		T	12 30 37.5	
	baz=188							
H10S3	**ASCENSION HYDR**	**48.85**	**18**	T		T	12 30 38.1	
	baz=188							
H10S1	**ASCENSION HYDR**	**48.87**	**18**	T		T	12 30 38.9	
	baz=188							
H10N1	**ASCENSION HYDR**	**49.97**	**18**	T		T	12 32 01.6	
	baz=191							
H10N3	**ASCENSION HYDR**	**49.97**	**18**	T		T	12 32 01.6	
	baz=191							
H10N2	**ASCENSION HYDR**	**49.98**	**18**	T		T	12 32 02.8	
	baz=191							
TSUM	**Tsumeb**	**50.43**	**61**	*e*P		**P**	**11 37 31.5**	**0.0**
LPAZ	**La Paz**	**50.47**	**307**	P		**P**	**11 37 33.2**	**+0.9**
	comp=Z,245nm,0.8s,baz=138,slow=5.7,SNR=403							
LPAZ				PcP		**PcP**	**11 38 47.7**	**+1.4**
	comp=Z,47nm,0.5s,baz=66,slow=3.4,SNR=9.9							
LPAZ				ScP		**ScP**	**11 42 14.7**	**-0.7**
	comp=Z,3.4nm,0.6s,baz=276,slow=4.0,SNR=3.7							
LPAZ				S		**S**	**11 44 26.0**	**+0.9**
	comp=Z,6.1nm,0.8s,baz=41,slow=22,SNR=7.4							
LPAZ	**La Paz**	**50.47**	**307**	*e*P		**P**	**11 37 33.3**	**+0.9**
	comp=Z,199nm,0.7s							
LPAZ				PcP		**PcP**	**11 38 47.7**	**+1.4**
LPAZ				ScP		**ScP**	**11 42 14.7**	**-0.7**
LPAZ				*e*S		**S**	**11 44 26.4**	**+1.2**
CASY	**Casey**	**53.34**	**160**	*e*P		**P**	**11 37 52.0**	**-0.1**
	comp=Z,84nm,1.0s							
NNA	**Nana**	**58.24**	**300**	*e*P		**P**	**11 38 27.3**	**-0.1**
	comp=Z,46nm,0.7s							
NNA	**Nana**	**58.24**	**300**	*e*P		**P**	**11 38 27.3**	**-0.1**
NNA				pmax		pmax		
	comp=Z,46nm,0.7s							
LSZ	**Lusaka**	**59.05**	**69**	*e*P		**P**	**11 38 32.9**	**-0.2**
	comp=Z,70nm,1.0s							
LSZ	**Lusaka**	**59.05**	**69**	*e*P		**P**	**11 38 32.9**	**-0.2**
LSZ				pmax		pmax		
	comp=Z,70nm,1.0s							
PTGA	**Pitinga**	**61.51**	**323**	*e*P		**P**	**11 38 49.5**	**0.0**
	comp=Z,89nm,0.7s							
RPN	**Rapa Nui**	**63.11**	**261**	P		**P**	**11 39 01.2**	**+1.3**
	comp=Z,73nm,0.8s,baz=153,slow=3.2,SNR=6.1							
LIC	**Lamto**	**65.56**	**25**↑	*i*P		**P**	**11 39 17.1**	**+1.3**
	comp=Z,237nm,0.6s							
KIC	**Kosan Boka**	**65.76**	**25**↑	*i*P		**P**	**11 39 18.0**	**+0.9**
	comp=Z,108nm,0.8s							
TIC	**Toumodi**	**65.97**	**25**↑	*i*P		**P**	**11 39 19.2**	**+0.8**
DBIC	**Dimbokro**	**66.03**	**25**	P		**P**	**11 39 19.9**	**+1.2**
	comp=Z,47nm,0.6s,baz=164,slow=7.6,SNR=96							
DBIC	**Dimbokro**	**66.03**	**25**	*e*P		**P**	**11 39 18.9**	**+0.1**
	comp=Z,49nm,0.7s							
DBIC	**Dimbokro**	**66.03**	**25**	P		**P**	**11 39 20.0**	**+1.2**
DBIC				pmax		pmax		
	comp=Z,47nm,0.6s							
ABPO	**Ambohimpanom**	**66.20**	**89**	*e*P		**P**	**11 39 18.9**	**-1.3**
	comp=Z,118nm,1.2s							
ABPO	**Ambohimpanom**	**66.20**	**89**	*e*P		**P**	**11 39 18.9**	**-1.3**
ABPO				pmax		pmax		
	comp=Z,118nm,1.2s							
OPO	**Ambohidratompo**	**66.54**	**88**	P		**P**	**11 39 23.8**	**+1.5**
	comp=Z,15nm,0.9s,baz=220,slow=7.0,SNR=14							
FLOC	**Florencia**	**69.68**	**308**	*e*P		**P**	**11 39 41.2**	**-0.3**
OTAV	**Otavalo**	**69.72**	**305**	*e*P		**P**	**11 39 43.4**	**+1.1**
	comp=Z,69nm,0.8s							
OTAV	**Otavalo**	**69.72**	**305**	*e*P		**P**	**11 39 43.3**	**+1.0**
CMBC	**Cumbal**	**70.06**	**306**	*e*P		**P**	**11 39 46.0**	**+1.6**
GCUF	**Volcan Galeras**	**70.11**	**306**	*e*P		**P**	**11 39 45.5**	**+0.8**
CRUC	**La Cruz**	**70.23**	**307**	*e*P		**P**	**11 39 47.6**	**+2.3**
SJAC	**San Juan de Ar**	**70.47**	**310**	*e*P		**P**	**11 39 48.8**	**+2.4**
BETC	**Betania**	**70.57**	**309**	*e*P		**P**	**11 39 48.0**	**+1.0**
SOTA	**Rioblanco**	**70.59**	**307**	*e*P		**P**	**11 39 48.8**	**+1.2**
PCON	**Cinco Dias**	**70.67**	**308**	*e*P		**P**	**11 39 49.9**	**+1.8**
POPC	**Popayan, Colom**	**70.98**	**307**	*e*P		**P**	**11 39 50.5**	**+0.8**
PRAC	**Prado**	**71.26**	**310**	*e*P		**P**	**11 39 51.4**	**+0.3**
PRAC	**Prado**	**71.26**	**310**	*e*P		**P**	**11 39 51.5**	**+0.4**
CHIC	**Chingaza**	**71.61**	**311**	*e*P		**P**	**11 39 53.4**	**-0.1**
BBTS	**Babate**	**71.83**	**12**	P		**P**	**11 39 56.1**	**+1.9**
	comp=Z,18nm,0.4s,baz=249,slow=3.4,SNR=4.2							
ROSC	**El Rosal**	**72.04**	**311**	P		**P**	**11 39 57.6**	**+1.5**
	comp=Z,62nm,0.8s,baz=168,slow=3.5,SNR=26							
ROSC	**El Rosal**	**72.04**	**311**	*e*P		**P**	**11 39 56.6**	**+0.5**
	comp=Z,59nm,0.9s							
ROSC	**El Rosal**	**72.04**	**311**	*e*P		**P**	**11 39 56.9**	**+0.8**
GRGC	**Isla de Gorgon**	**72.05**	**306**	*e*P		**P**	**11 39 56.4**	**+0.6**
YOTC	**Yotoco, Valle**	**72.13**	**308**	*e*P		**P**	**11 39 55.3**	**-1.0**
ANIL	**Santa Ana**	**72.18**	**310**	*e*P		**P**	**11 39 56.7**	**-0.2**
TOLC	**Tolima**	**72.23**	**310**	*e*P		**P**	**11 39 56.7**	**-0.4**
RREF	**El Recreo**	**72.53**	**310**	*e*P		**P**	**11 39 59.5**	**+0.2**
MALC	**Bahia Malaga**	**72.58**	**307**	*e*P		**P**	**11 40 00.1**	**+1.3**
MALC				*e*P		**P**	**11 40 00.7**	**+1.9**
GUYC	**Guyana, Colomb**	**72.84**	**310**	*e*P		**P**	**11 39 59.3**	**-1.6**
MBAR	**Mbarara**	**72.88**	**63**	P		**P**	**11 40 02.9**	**+2.1**
	comp=Z,5.6nm,0.3s,baz=156,slow=10.0,SNR=0.3							
NORC	**Norcasia**	**72.92**	**311**	*e*P		**P**	**11 39 59.5**	**-1.4**
BARC	**Barichara**	**73.16**	**313**	*e*P		**P**	**11 39 59.7**	**-2.8**
PCRV	**Puerto La Cruz**	**73.28**	**322**	P		**P**	**11 40 04.5**	**+1.6**
	comp=Z,412nm,0.5s,baz=151,slow=2.5,SNR=115							
PTBC	**PUERTO BERRIO,**	**73.63**	**311**	*e*P		**P**	**11 40 02.8**	**-2.2**
PAMC	**Pamplona, Colo**	**73.64**	**313**	*e*P		**P**	**11 40 04.5**	**-1.1**
HELC	**Santa Helena**	**73.76**	**310**	*e*P		**P**	**11 40 04.5**	**-1.6**
	comp=Z,107nm,0.8s							
HELC	**Santa Helena**	**73.76**	**310**	*e*P		**P**	**11 40 04.2**	**-1.9**
KOWA	**Kowa**	**73.79**	**24**	P		**P**	**11 40 07.6**	**+1.9**
	comp=Z,34nm,0.5s,baz=208,slow=4.5,SNR=54							
KOWA	**Kowa**	**73.79**	**24**	*e*P		**P**	**11 40 06.7**	**+1.0**
BRRC	**Barranca, Sant**	**73.84**	**312**	*e*P		**P**	**11 40 06.6**	**+0.4**
TORD	**Torodi Ar. Bea**	**73.93**	**30**	P		**P**	**11 40 08.2**	**+1.6**
	comp=Z,140nm,0.6s,baz=202,slow=5.8,SNR=3.2							
GRGR	**Grenville**	**74.14**	**326**	*e*P		**P**	**11 40 08.8**	**+0.9**
	comp=Z,447nm,0.6s							
SDV	**Santo Domingo**	**74.25**	**316**	P		**P**	**11 40 09.4**	**+0.7**
	comp=Z,187nm,0.9s,baz=160,slow=5.2,SNR=83							
SDV	**Santo Domingo**	**74.25**	**316**	*e*P		**P**	**11 40 09.1**	**+0.4**
	comp=Z,158nm,0.8s							
SDV	**Santo Domingo**	**74.25**	**316**	*e*P		**P**	**11 40 09.0**	**+0.4**
MAPC	**Malpelo**	**74.49**	**304**	*e*P		**P**	**11 40 10.2**	**+0.3**
ZARC	**Zaragoza, Cauc**	**74.66**	**311**	*e*P		**P**	**11 40 09.3**	**-1.5**
OCAC	**Ocana**	**74.71**	**313**	*e*P		**P**	**11 40 10.0**	**-1.3**
DBBC	**Dabeiba**	**74.80**	**310**	*e*P		**P**	**11 40 12.3**	**+0.6**
SVB	**Belmont**	**75.10**	**326**	*e*P		**P**	**11 40 13.7**	**+0.4**
	comp=Z,223nm,0.6s							
SVB	**Belmont**	**75.10**	**326**	*e*P		**P**	**11 40 14.2**	**+0.9**
KMBO	**Kilima Mbogo**	**75.71**	**70**	P		**P**	**11 40 20.9**	**+3.7**
	comp=Z,4.5nm,1.1s,baz=28,slow=10,SNR=2.7							
MOTC	**Monteria, Cord**	**76.15**	**311**	*e*P		**P**	**11 40 19.4**	**+0.1**
TRMF	**Trois Ilets**	**76.23**	**327**	*e*P		**P**	**11 40 21.4**	**+1.8**
LPMF	**Morne Lapointe**	**76.24**	**327**	*e*P		**P**	**11 40 21.1**	**+1.5**
ZAM	**Aeronautique**	**76.26**	**327**	*e*P		**P**	**11 40 21.2**	**+1.4**
CODC	**Agust´›n Codaz**	**76.30**	**314**	*e*P		**P**	**11 40 18.2**	**-1.9**
FDF	**Fort de France**	**76.45**	**327**	*e*P		**P**	**11 40 22.7**	**+1.8**
	comp=Z,364nm,1.1s							
FDF	**Fort de France**	**76.45**	**327**	*e*P		**P**	**11 40 22.7**	**+1.8**
FDF				pmax		pmax		
	comp=Z,364nm,1.1s							
BAMF	**Morne Balai**	**76.52**	**327**	*e*P		**P**	**11 40 23.5**	**+2.1**
PCM	**Pelee Case Pet**	**76.54**	**327**	*e*P		**P**	**11 40 22.6**	**+1.2**
PCM	**Pelee Case Pet**	**76.54**	**327**	*e*P		**P**	**11 40 23.1**	**+1.7**
WHZ	**Wether Hill Ro**	**76.81**	**191**	*e*P		**P**	**11 40 22.6**	**-0.1**
	comp=Z,45nm,0.9s							
BBL	**Barber's Block**	**77.29**	**327**	*e*P		**P**	**11 40 27.3**	**+1.7**
MLZ	**Mavora Lakes**	**77.31**	**192**	*e*P		**P**	**11 40 25.7**	**+0.3**
	comp=Z,40nm,0.8s							
DCZ	**Deep Cove**	**77.31**	**191**	*e*P		**P**	**11 40 25.2**	**-0.2**
	comp=Z,60nm,1.1s							
MGG	**Marie-Galante**	**77.61**	**327**	*e*P		**P**	**11 40 28.9**	**+1.6**
TBG	**Guadaloupe-3**	**77.65**	**327**	*e*P		**P**	**11 40 29.7**	**+2.2**
WKZ	**Wanaka**	**77.74**	**192**	*e*P		**P**	**11 40 27.7**	**-0.1**
	comp=Z,102nm,1.2s							
PHG	**Guadaloupe-2**	**77.80**	**327**	*e*P		**P**	**11 40 30.7**	**+2.2**
DOG	**Dongo Capester**	**77.81**	**327**	*e*P		**P**	**11 40 30.7**	**+2.2**
LBZ	**Lake Benmore**	**78.03**	**193**	*e*P		**P**	**11 40 30.4**	**+1.0**
GDHS	**Morne Mazeau,**	**78.08**	**327**	*e*P		**P**	**11 40 31.9**	**+2.0**
	comp=Z,986nm,0.7s							
BCIP	**Isla Barro Col**	**78.28**	**308**	*e*P		**P**	**11 40 31.1**	**+0.1**
	comp=Z,59nm,0.8s							
BCIP	**Isla Barro Col**	**78.28**	**308**	*e*P		**P**	**11 40 31.6**	**+0.6**
RPZ	**Rata Peaks**	**78.58**	**194**	P		**P**	**11 40 32.3**	**-0.1**
	comp=Z,45nm,0.8s,baz=204,slow=3.3,SNR=18							
RPZ	**Rata Peaks**	**78.58**	**194**	*e*P		**P**	**11 40 32.3**	**-0.1**
	comp=Z,74nm,1.1s							
OXZ	**Oxford**	**78.83**	**195**	*e*P		**P**	**11 40 33.1**	**-0.6**
	comp=Z,69nm,1.0s							
LTZ	**Lake Taylor**	**79.33**	**195**	*e*P		**P**	**11 40 36.5**	**0.0**
	comp=Z,156nm,1.1s							
ANWB	**Willy Bob**	**79.41**	**327**	*e*P		**P**	**11 40 37.7**	**+0.7**
	comp=Z,357nm,0.8s							
KHZ	**Kahutara**	**79.50**	**196**	*e*P		**P**	**11 40 37.7**	**+0.4**
	comp=Z,44nm,1.0s							
SABA	**Saba**	**79.81**	**326**	*e*P		**P**	**11 40 39.9**	**+0.8**
	comp=Z,399nm,1.0s							
SMRT	**St. Maarten**	**80.16**	**326**	*e*P		**P**	**11 40 41.0**	**0.0**
	comp=Z,149nm,0.6s							
THZ	**Tophouse**	**80.23**	**196**	*e*P		**P**	**11 40 41.0**	**-0.4**
	comp=Z,70nm,0.9s							
BUS	**Buena Vista**	**80.37**	**304**↑	*e*P		**P**	**11 40 43.4**	**+0.5**
CDVI	**St. Croix**	**80.41**	**325**	*e*P		**P**	**11 40 42.8**	**+0.5**
	comp=Z,120nm,0.7s							
TAU	**Tasmania Unive**	**80.58**	**176**	*e*P		**P**	**11 40 42.5**	**-0.6**
	comp=Z,168nm,0.8s							
TAU	**Tasmania Unive**	**80.58**	**176**	*e*P		**P**	**11 40 42.5**	**-0.6**
TAU				pmax		pmax		
	comp=Z,168nm,0.8s							
URSC	**Urasca**	**80.62**	**304**↓	*i*P		**P**	**11 40 45.2**	**+1.3**
BFZ	**Birch Farm**	**80.75**	**198**	*e*P		**P**	**11 40 44.7**	**+0.7**
	comp=Z,71nm,0.8s							
STVI	**Saint Thomas**	**81.03**	**325**	*e*P		**P**	**11 40 45.8**	**+0.2**
	comp=Z,274nm,1.0s							
CGA2	**Cerro Gallo 2**	**81.10**	**304**	*e*P		**P**	**11 40 47.7**	**+1.4**
SJG	**San Juan**	**81.19**	**323**	*e*P		**P**	**11 40 46.5**	**0.0**
	comp=Z,108nm,0.9s							
SJG	**San Juan**	**81.19**	**323**	*e*P		**P**	**11 40 46.5**	**0.0**
SJG				pmax		pmax		
	comp=Z,108nm,0.9s							
OBIP	**Obispado Ponce**	**81.27**	**323**	*e*P		**P**	**11 40 46.4**	**-0.6**
	comp=Z,83nm,1.0s							
CRPR	**Cabo Rojo, PR**	**81.41**	**323**	*e*P		**P**	**11 40 47.5**	**-0.1**
	comp=Z,411nm,1.0s							
JTS	**JuntasAbangare**	**81.56**	**303**	P		**P**	**11 40 48.9**	**+0.3**
	comp=Z,61nm,1.0s,baz=216,slow=1.7,SNR=25							
**

M39A **Webster** 111.79 313 P PKiKP 11 47 02.3 -0.4
baz=148
LPM **Los Pinos Moun** 112.28 299 *e*PKPdf PKiKP 11 47 02.0 -2.1
O34A **Beatrice** 112.57 309 P PKiKP 11 47 03.8 -0.5
baz=146
LAZ **Ladron** 112.60 298 *e*PKPdf PKiKP 11 47 04.3 -0.4
H43A **Windswept, Lux** 112.64 318 P PKiKP 11 47 05.8 +1.6
baz=149
TUC **Tucson** 112.70 294 P PKiKP 11 47 05.5 +0.6
baz=144
ANMO **Albuquerque** 112.71 299 *e*PKPdf PKiKP 11 46 57.8 -7.1
ANMO **Albuquerque** 112.71 299*c* *i*PKIKP PKiKP 11 47 04.6 -0.3
ANMO pmax pmax
comp=Z,9.0nm,1.2s
K37A **Belmond** 113.46 313 P PKiKP 11 47 05.3 -0.5
baz=147
T25A **Trinidad** 113.52 302 P PKiKP 11 47 06.8 +0.3
baz=144
I39A **Houston** 113.54 315 P PKiKP 11 47 05.8 -0.1
baz=148
G42A **Mountain** 113.54 318 P PKiKP 11 47 06.0 +0.1
baz=149
EKA **Eskdalemuir Ar** 113.58 15 PKiKP PKiKP 11 47 05.4 -0.3
comp=Z,1.0nm,0.5s,baz=206,slow=2.6,SNR=8.7
F43A **Flat Rock, Esc** 113.59 319 P PKiKP 11 47 06.3 +0.3
baz=149
K36A **Gilmore City** 113.68 312 P PKiKP 11 47 06.4 +0.1
baz=147
L35A **Bielow Farm, R** 113.69 311 P PKiKP 11 47 06.4 +0.1
baz=146
H40A **Chili** 113.75 316 P PKiKP 11 47 06.3 -0.1
baz=148
J37A **Redenius Farm,** 113.88 313 P PKiKP 11 47 06.2 -0.4
baz=147
E43A **Lone Tree Farm** 113.99 319 P PKiKP 11 47 06.2 -0.5
baz=149
K35A **Storm Lake** 114.07 312 P PKPdf 11 47 07.1 0.0
baz=146
H39A **Augusta** 114.14 316 P PKPdf 11 47 07.0 -0.1
baz=148
BGNE **Belgrade** 114.20 309 P PKPdf 11 47 07.0 -0.4
baz=146
J36A **Seneca 1, Swea** 114.21 313 P PKPdf 11 47 07.2 -0.1
baz=147
F41A **Three Lakes** 114.22 318 P PKPdf 11 47 06.8 -0.4
baz=148
G40A **Rib Lake** 114.23 317 P PKPdf 11 47 06.9 -0.3
baz=148
I37A **Lemond, Waseca** 114.41 314 P PKPdf 11 47 07.6 0.0
baz=147
W18A **Petrified Fore** 114.44 297 P PKPdf 11 47 08.1 -0.1
baz=144
L33A **Hoskins** 114.46 310 P PKPdf 11 47 07.8 0.0
baz=146
SDCO **Great Sand Dun** 114.52 302 P PKPdf 11 47 08.5 +0.1
baz=144
SDCO **Great Sand Dun** 114.52 302 *e*PKPdf PKPdf 11 47 08.2 -0.2
G39A **Holcombe** 114.61 316 P PKPdf 11 47 07.7 -0.3
baz=148
I36A **Fitzsimmons Fa** 114.66 313 P PKPdf 11 47 08.2 +0.1
baz=147
K33A **Hardington** 114.70 311 P PKPdf 11 47 08.2 -0.1
baz=146
F40A **Park Falls** 114.75 317 P PKPdf 11 47 07.8 -0.4
baz=148
G38A **Ridgeland** 114.77 316 P PKPdf 11 47 07.6 -0.7
baz=147
E41A **Kenton** 114.78 318 P PKPdf 11 47 08.1 -0.1
baz=148
F39A **Loretta** 115.04 317 P PKPdf 11 47 08.7 -0.1
baz=147
H36A **Jessenland, He** 115.09 314 P PKPdf 11 47 09.3 +0.4
baz=146
E40A **Wakefield** 115.11 318 P PKPdf 11 47 08.2 -0.7
baz=148
S22A **4UR Ranch, Cre** 115.14 301 P PKPdf 11 47 10.2 +0.6
baz=144
E39A **Mellen** 115.30 317 P PKPdf 11 47 09.0 -0.3
baz=147
GLA **Glamis** 115.34 292 P PKPdf 11 47 10.4 +0.5
baz=143
I34A **Hadley** 115.42 312 P PKPdf 11 47 09.6 0.0
baz=146
F38A **Pierce - Schro** 115.44 316 P PKPdf 11 47 09.6 +0.1
baz=147
K31A **O'Neill** 115.46 309 P PKPdf 11 47 09.3 -0.5
baz=145
ECSD **EROS Data Cent** 115.47 312 P PKPdf 11 47 09.6 -0.1
baz=146
ECSD **EROS Data Cent** 115.47 312 *e*PKPdf PKPdf 11 47 09.4 -0.3
MVCO **Mesa Verde** 115.51 299 P PKPdf 11 47 10.5 +0.2
baz=143
MVCO **Mesa Verde** 115.51 299 *e*PKPdf PKPdf 11 47 11.0 +0.7
H35A **Sunnyside Ranc** 115.55 313 P PKPdf 11 47 09.6 -0.2
baz=146
WUAZ **Wupatki** 115.56 296 P PKPdf 11 47 11.1 +0.8
baz=143
WUAZ **Wupatki** 115.56 296 *e*PKPdf PKPdf 11 47 10.8 +0.5
IKP **In-Ko-Pah, Jac** 115.68 291 P PKPdf 11 47 11.2 +0.6
baz=143
SCHQ **Schefferville** 115.68 336 PKP PKPdf 11 47 09.6 -0.2
comp=Z,15nm,0.5s,baz=194,slow=6.3,SNR=8.9
J32A **Parkston** 115.69 311 P PKPdf 11 47 09.8 -0.3
baz=145
Y12C **Blythe** 115.74 293 P PKPdf 11 47 11.0 +0.5
baz=143
E38A **The Farm, Brul** 115.86 317 P PKPdf 11 47 09.8 -0.6
baz=147
H34A **Spellman Lake,** 115.90 313 P PKPdf 11 47 10.3 -0.2
baz=146
NEY **Neytrino** 115.93 50 *i* PKIKP PKPdf 11 47 09.6 -1.2
PDMCI **Parker Dam,Lak** 115.98 293 P PKPdf 11 47 11.6 +0.6
baz=143
F36A **Milaca** 116.00 315 P PKPdf 11 47 10.5 -0.1
baz=146
MONP2 **Monument Peak** 116.03 291 P PKPdf 11 47 12.0 +0.6
baz=142
ISCO **Idaho Springs** 116.22 303 P PKPdf 11 47 12.0 +0.3
baz=143
ISCO **Idaho Springs** 116.22 303 *e*PKPdf PKPdf 11 47 11.6 -0.1
ISCO **Idaho Springs** 116.22 303 *e*PKIKP PKPdf 11 47 11.6 -0.1
PV01 **Paradox Valley** 116.28 300 *e*PKPdf PKPdf 11 47 11.7 0.0
H33A **Prehn Over Nor** 116.31 312 P PKPdf 11 47 11.3 0.0
baz=145
G34A **Benson** 116.32 313 P PKPdf 11 47 10.8 -0.5
baz=146
C39A **Grand Marais** 116.35 318 P PKPdf 11 47 10.6 -0.7
baz=147
IRM **Iron Mountain** 116.38 292 P PKPdf 11 47 12.4 +0.6
baz=142
KBZ **Khabaz** 116.39 50 PKP PKPdf 11 47 11.5 +0.1
comp=Z,4.6nm,0.8s,baz=180,slow=3.0,SNR=3.6
F35A **Swanville** 116.41 314 P PKPdf 11 47 10.9 -0.5
baz=146
E36A **McGregor** 116.44 316 P PKPdf 11 47 10.9 -0.5
baz=146
H32A **Carlson Farm,** 116.44 312 P PKPdf 11 47 11.0 -0.5
baz=145
KIV **Kislovodsk** 116.49 50 *e*PKIKP PKPdf 11 47 12.1 +0.3
KIV pmax pmax
comp=Z,10.0nm,1.0s
I31A **Royce, Wessing** 116.51 311 P PKPdf 11 47 11.7 0.0
baz=145
G33A **Ortonville** 116.60 313 P PKPdf 11 47 11.5 -0.3
baz=145
PFO **Pinyon Flats O** 116.62 291 P PKPdf 11 47 13.0 +0.6
baz=142
PFO **Pinyon Flats O** 116.62 291 *i* PKIKP PKPdf 11 47 14.2 +1.8
D37A **Cotton** 116.65 316 P PKPdf 11 47 11.7 -0.2
baz=146
C38A **Sawbill Land.** 116.69 318 P PKPdf 11 47 10.9 -1.0
baz=147
BELC **Belle Mtn. Jos** 116.69 292 P PKPdf 11 47 13.3 +0.8
baz=142,SNR=5.2
E35A **Pequot Lakes** 116.92 315 P PKPdf 11 47 12.6 +0.2
baz=146
D36A **Goodland** 116.95 316 P PKPdf 11 47 12.0 -0.4
baz=146
EYMN **Ely** 116.96 318 P PKPdf 11 47 11.7 -0.7
baz=147
C37A **Embarrass** 117.04 317 P PKPdf 11 47 12.0 -0.6
baz=146
KIEV **Kiev** 117.05 37 *e*PKPdf PKPdf 11 47 12.3 -0.1
KIEV **Kiev** 117.05 37 *e*PKIKP PKPdf 11 47 12.3 -0.1
AKASG **Malin Array Be** 117.06 37 PKP PKPdf 11 47 12.2 -0.3
comp=Z,2.9nm,0.4s,baz=236,slow=1.8,SNR=15
AKASG SKP 11 50 20.3
comp=Z,2.1nm,0.6s,baz=240,slow=1.1,SNR=5.7
AKASG PKKPab PKKPab 11 57 40.1 +0.6
comp=Z,3.2nm,0.9s,baz=31,slow=4.8,SNR=6.8
F33A **5 Mile Ranch,** 117.07 313 P PKPdf 11 47 12.5 -0.2
baz=145
G32A **Webster** 117.08 312 P PKPdf 11 47 12.7 -0.1
baz=145
GMRC **Granite Mounta** 117.13 292 P PKPdf 11 47 14.0 +0.6
baz=142,SNR=7.9
D35A **Remer** 117.21 315 P PKPdf 11 47 12.5 -0.4
baz=146
N23A **Red Feather La** 117.24 303 P PKPdf 11 47 13.5 -0.1
baz=143
C36A **Pine Crest Far** 117.31 317 P PKPdf 11 47 12.5 -0.6
baz=146
E33A **Westby DABS, E** 117.50 314 P PKPdf 11 47 13.0 -0.5
baz=145
HEC **Hector,Ludlow** 117.51 292 P PKPdf 11 47 14.7 +0.7
baz=142
D34A **Park Rapids** 117.66 315 P PKPdf 11 47 13.3 -0.5
baz=145
C35A **Jirik Farms, M** 117.69 316 P PKPdf 11 47 12.8 -1.0
baz=146
O20A **White River Ci** 117.71 301 P PKPdf 11 47 14.6 +0.2
baz=142
O20A **White River Ci** 117.71 301 *e*PKPdf PKPdf 11 47 14.5 +0.1
TUQ **Turquoise Moun** 117.78 293 P PKPdf 11 47 15.0 +0.4
baz=142,SNR=5.3
F31A **Hecla** 117.88 312 P PKPdf 11 47 14.1 -0.1
baz=144
D33A **AnnSam, Waubun** 117.96 314 P PKPdf 11 47 14.2 -0.2
baz=145
GSC **Goldstone, Bar** 118.12 292 P PKPdf 11 47 15.8 +0.6
baz=142,SNR=5.1
B35A **Bob, Littlefor** 118.14 316 P PKPdf 11 47 13.9 -0.7
baz=146,SNR=5.8
MSU **Marysvale** 118.32 298 *e*PKPdf PKPdf 11 47 16.6 +1.0
MSU **Marysvale** 118.32 298 *e*PKIKP PKPdf 11 47 16.6 +1.0
SHOC **Shoshone, Teco** 118.32 293 P PKPdf 11 47 16.1 +0.7
baz=142,SNR=5.3
EDW2 **Edwards Air Fo** 118.40 291 P PKPdf 11 47 16.3 +0.6
baz=142
C33A **Trail** 118.44 315 P PKPdf 11 47 14.9 -0.4
baz=145
B34A **Aery, Baudette** 118.60 316 P PKPdf 11 47 15.0 -0.5
baz=145,SNR=12
D31A **Mcclaflin, Tow** 118.63 313 P PKPdf 11 47 15.3 -0.4
baz=144
B33A **Robert and Kas** 118.78 315 P PKPdf 11 47 15.2 -0.7
baz=145,SNR=5.2
GEYT **Alibeck** 118.78 64 PKP PKPdf 11 47 16.0 -0.3
comp=Z,2.8nm,0.5s,baz=258,slow=5.7,SNR=4.2
K22A **Casper** 118.90 304 P PKPdf 11 47 16.1 -0.4
baz=142
K22A **Casper** 118.90 304 *e*PKPdf PKPdf 11 47 16.0 -0.5
AGMN **Agassiz Nation** 118.91 315 P PKPdf 11 47 15.5 -0.6
baz=144,SNR=7.5
RSSD **Black Hills** 118.95 307 P PKPdf 11 47 16.3 -0.4
baz=143
RSSD **Black Hills** 118.95 307 *e*PKPdf PKPdf 11 47 16.3 -0.4
RSSD **Black Hills** 118.95 307 *e*PKIKP PKPdf 11 47 16.3 -0.4
ARVC **Arvin** 119.02 290 P PKPdf 11 47 17.1 +0.3
baz=141
FURC **Furnace Creek,** 119.06 293 P PKPdf 11 47 17.9 +1.1
baz=141,SNR=5.6
MPMC **Manual Prospec** 119.06 292 P PKPdf 11 47 17.8 +0.7
baz=141
TPNV **Topoah Spring** 119.12 294 P PKPdf 11 47 18.1 +1.0
baz=141,SNR=17
C31A **Landman Farms,** 119.24 314 P PKPdf 11 47 15.8 -1.0
baz=144,SNR=7.6
A33A **Warroad** 119.25 316 P PKPdf 11 47 16.2 -0.5
baz=144,SNR=17
B32A **Ashes, Strandq** 119.25 315 P PKPdf 11 47 16.0 -0.8
baz=144
ISA **Isabella, Lake** 119.25 291 P PKPdf 11 47 18.6 +1.2
baz=141
ISA **Isabella, Lake** 119.25 291 *e*PKPdf PKPdf 11 47 18.4 +1.1
ISA **Isabella, Lake** 119.25 291 *e*PKIKP PKPdf 11 47 18.4 +1.1
DAC **Darwin (Calif)** 119.28 292 *e*PKPdf PKPdf 11 47 18.1 +0.6
DAC **Darwin (Calif)** 119.28 292 *e*PKIKP PKPdf 11 47 18.1 +0.6
PKM **Mcpherson Peak** 119.35 290 P PKPdf 11 47 18.7 +1.0
baz=141
CWC **Cottonwood Cre** 119.65 292 P PKPdf 11 47 19.1 +0.9
baz=141
A32A **Rocking H Ranc** 119.66 315 P PKPdf 11 47 17.0 -0.6
baz=144,SNR=8.2
VES **Vestal, Richgr** 119.71 291 P PKPdf 11 47 18.2 +0.1
baz=141
B31A **Greenbush Farm** 119.71 314 P PKPdf 11 47 17.2 -0.5
baz=144
SMMC **Simmler** 119.77 290 P PKPdf 11 47 19.8 +1.5
baz=141
R11A **Troy Canyon, C** 119.87 295 P PKPdf 11 47 19.3 +0.7
baz=141,SNR=9.4
DUG **Dugway, Tooele** 119.94 298 P PKPdf 11 47 19.2 +0.6
baz=141,SNR=23
DUG **Dugway, Tooele** 119.94 298 *e*PKPdf PKPdf 11 47 18.9 +0.3
DUG **Dugway, Tooele** 119.94 298 *e*PKIKP PKPdf 11 47 18.9 +0.3
A31A **Linda, St. Vin** 119.94 315 P PKPdf 11 47 17.7 -0.3
baz=144
MDND **Maddock** 120.03 312 P PKPdf 11 47 17.9 -0.4
baz=143
SIJI **Sorong** 120.11 156 PKP PKPdf 11 47 19.0 -0.7
comp=Z,25nm,0.6s,baz=346,slow=14,SNR=10
RCTC **Rector, Farmer** 120.15 291 P PKPdf 11 47 18.5 -0.4
baz=141
BW06 **Boulder Array** 120.38 302 P PKPdf 11 47 18.9 -0.6
baz=141,SNR=6.2
BW06 **Boulder Array** 120.38 302 *e*PKPdf PKPdf 11 47 18.9 -0.6
PDAR **Pinedale Array** 120.38 302 PKP PKPdf 11 47 18.8 -0.7
comp=Z,3.6nm,0.5s,baz=132,slow=4.9,SNR=31
PDAR PKKPab PKKPab 11 57 26.2 -0.1
comp=Z,0.6nm,0.7s,baz=278,slow=1.4,SNR=3.7
HWUT **Hardware Ranch** 120.43 300 *e*PKPdf PKPdf 11 47 19.8 +0.3
ULM **Lac du Bonnet** 120.50 316 PKP PKPdf 11 47 18.2 -0.9
comp=Z,20nm,0.7s,baz=147,slow=2.1,SNR=46
ULM pPKP pPKPdf 11 48 27.2 -0.6
comp=Z,5.4nm,1.0s,baz=224,slow=7.6,SNR=3.1
ULM PP PP 11 48 45.5 -5.6
comp=Z,24nm,0.9s,baz=137,slow=5.6,SNR=11
ULM PKKPab PKKPbc 11 57 26.2 +1.2
comp=Z,2.1nm,0.6s,baz=323,slow=4.4,SNR=5.2
MLAC **Mammoth, Mammt** 120.95 292 P PKPdf 11 47 21.8 +1.0
baz=140
AHID **Auburn Hatcher** 121.10 301 *e*PKPdf PKPdf 11 47 20.9 +0.1
HVU **Hansel Valley** 121.14 300 *e*PKPdf PKPdf 11 47 21.2 +0.3
HVU **Hansel Valley** 121.14 300 *e*PKIKP PKPdf 11 47 21.2 +0.3
HFS **Hagfors** 121.15 23 PKP PKPdf 11 47 19.6 -0.4
comp=Z,10nm,0.6s,baz=149,slow=5.9,SNR=13
NVAR **Mina Array Bea** 121.30 293 PKP PKPdf 11 47 22.6 +1.2
comp=Z,9.0nm,0.6s,baz=128,slow=3.0,SNR=64
NVAR PKKPab PKKPab 11 57 25.3 +2.4
comp=Z,0.5nm,0.6s,baz=304,slow=3.7,SNR=4.0
NB2 **NORSAR Subarra** 121.47 21 PKPdf PKPdf 11 47 20.5 -0.2
comp=Z,7.5nm,0.9s,baz=202,slow=1.9
NB2 **NORSAR Subarra** 121.47 21 PKPdf PKPdf 11 47 20.5 -0.2
baz=202,slow=1.9
NOA **NORSAR Array B** 121.47 21 PKP PKPdf 11 47 21.1 +0.4
comp=Z,9.9nm,0.8s,baz=159,slow=3.2,SNR=22
NOA SKP 11 50 29.5
comp=Z,1.9nm,0.8s,baz=206,slow=2.1,SNR=4.4
NOA PKKPbc PKKPbc 11 57 21.9 +0.2
comp=Z,2.6nm,0.5s,baz=26,slow=4.2,SNR=11
LAO **LASA Array** 121.92 307 P PKPdf 11 47 22.3 +0.2
baz=140,SNR=20
LAO **LASA Array** 121.92 307 *e*PKPdf PKPdf 11 47 22.2 +0.1
CMB **Columbia Colle** 122.06 291 *e*PKPdf PKPdf 11 47 23.4 +0.8
CMB **Columbia Colle** 122.06 291 *e*PKIKP PKPdf 11 47 23.4 +0.8
RLMT **Red Lodge** 122.06 304 P PKPdf 11 47 22.9 +0.2
baz=140,SNR=12
RLMT **Red Lodge** 122.06 304 *e*PKPdf PKPdf 11 47 22.8 +0.2
H17A **Grant Village** 122.11 303 P PKPdf 11 47 23.8 +1.0
baz=140,SNR=7.8
H17A **Grant Village** 122.11 303 *e*PKPdf PKPdf 11 47 24.2 +1.5
YFT **Old Faithful** 122.27 303 *e*PKPdf PKPdf 11 47 24.9 +1.8
BMN **Battle Mountai** 122.28 295 *e*PKPdf PKPdf 11 47 23.9 +0.8
BMN **Battle Mountai** 122.28 295 *e*PKIKP PKPdf 11 47 23.9 +0.8
DGMT **Dagmar** 122.42 310 *e*PKPdf PKPdf 11 47 20.9 -2.0
YMR **Madison River** 122.50 303 *e*PKPdf PKPdf 11 47 24.4 +1.0
GCMT **Greycliff** 122.76 305 *e*PKPdf PKPdf 11 47 24.1 +0.3
QLMT **Earthquake Lak** 122.83 303 *e*PKPdf PKPdf 11 47 25.5 +1.4
VSU **Vasula** 122.91 31*c* *i* PKIKP PKPdf 11 47 22.9 -0.5
VSU pmax pmax
comp=Z,187nm,2.5s
OBN **Obninsk** 123.21 38 *i* PKIKP PKPdf 11 47 23.7 -0.4
OBN pmax pmax
comp=Z,24nm,0.6s
HLID **Hailey** 123.28 300 P PKPdf 11 47 26.0 +1.0
baz=139
HLID **Hailey** 123.28 300 *e*PKPdf PKPdf 11 47 25.4 +0.5
NIL **Nilore** 123.36 78 *e*PKPdf PKPdf 11 47 25.3 +0.1
NIL **Nilore** 123.36 78 *e*PKIKP PKPdf 11 47 25.3 +0.1
MCMT **McKenzie Canyo** 123.49 302 *e*PKPdf PKPdf 11 47 26.0 +0.6
BOZ **Bozeman (W)** 123.51 303 P PKPdf 11 47 26.1 +0.8
baz=139
BOZ **Bozeman (W)** 123.51 303 *e*PKPdf PKPdf 11 47 26.0 +0.8
BOZ **Bozeman (W)** 123.51 303 *e*PKIKP PKPdf 11 47 26.0 +0.8
MFID **Camas Ranch** 123.85 299 *e*PKPdf PKPdf 11 47 26.4 +0.4
LRM **Limekiln Ridge** 124.06 303 *e*PKPdf PKPdf 11 47 27.0 +0.5
PYUN **Piuthan** 124.41 90 *e*P PKPdf 11 47 26.9 -0.8
HRY **Holter Researc** 124.44 304 *e*PKPdf PKPdf 11 47 27.8 +0.8
O03D **Paynes Creek** 124.48 292 P PKPdf 11 47 27.9 +0.7
baz=138
WVOR **Wild Horse Val** 124.48 296 *e*PKPdf PKPdf 11 47 28.2 +1.0
WVOR **Wild Horse Val** 124.48 296 *e*PKIKP PKPdf 11 47 28.2 +1.0
KOLN **Koldanda** 124.49 91 *e*P PKPpre 11 47 21.2
comp=Z,88nm,0.5s
SFJD **Kangerlussuaq** 124.64 349 PKP PKPdf 11 47 26.9 +0.4
comp=Z,28nm,0.7s,baz=146,slow=1.3,SNR=18
SFJD **Kangerlussuaq** 124.64 349 *i* P PKPdf 11 47 26.9 +0.4
MOD **Modoc Plateau** 124.92 295 *e*PKPdf PKPdf 11 47 28.9 +0.7
PUL **Pulkovo** 125.03 32 *i* PKIKP PKPdf 11 47 27.0 -0.5
CMAR **Chiang Mai Arr** 125.20 112 PKP PKPdf 11 47 29.1 -0.1
comp=Z,11nm,0.8s,baz=229,slow=3.7,SNR=18
CMAR pPKP pPKPdf 11 48 34.3 -3.5
comp=Z,6.6nm,0.9s,baz=225,slow=4.7,SNR=6.0
CMAR SKP 11 50 36.6
comp=Z,6.3nm,0.7s,baz=228,slow=4.6,SNR=7.7
GKN **Gorkha** 125.24 92 *e*P PKPpre 11 47 20.8
FINES **FINESS Array B** 125.25 28 PKP PKPdf 11 47 28.1 +0.3
comp=Z,53nm,0.6s,baz=171,slow=1.5,SNR=61
FINES SKPbc SKPbc 11 50 17.9
comp=Z,3.0nm,0.7s,baz=170,slow=1.3,SNR=3.9
FINES SKP 11 50 35.6
comp=Z,5.4nm,0.6s,baz=106,slow=4.8,SNR=4.9
N02D **Trinity Center** 125.44 292 P PKPdf 11 47 30.0 +0.9
baz=138,SNR=8.8
MSO **Missoula** 125.50 303 P PKPdf 11 47 29.8 +0.8
baz=138
M04C **Macdoel** 125.60 293 P PKPdf 11 47 30.5 +1.1
baz=138,SNR=7.7
BMO **Blue Mountains** 125.63 299 *e*PKPdf PKPdf 11 47 29.7 +0.4
BMO **Blue Mountains** 125.63 299 *e*PKIKP PKPdf 11 47 29.7 +0.4
M02C **Callahan** 125.83 292 P PKPdf 11 47 30.9 +1.1
baz=138,SNR=20
YBH **Yreka Blue Hor** 126.00 293 PKP PKPdf 11 47 29.7 -0.4
comp=Z,9.1nm,0.8s,baz=49,slow=7.8,SNR=37
K04D **Chiloquin, OR** 126.18 294 P PKPdf 11 47 31.3 +0.9
baz=137,SNR=7.7
J05D **Fort Rock, OR** 126.40 295 P PKPdf 11 47 31.9 +1.0
baz=137
FCC **Fort Churchill** 126.63 324 *e*PKPdf PKPdf 11 47 29.9 -0.6
FCC **Fort Churchill** 126.63 324 *e*PKIKP PKPdf 11 47 30.0 -0.6
HUMO **Hull Mountain** 126.77 293 *e*PKPdf PKPdf 11 47 32.1 +0.7
J04D **Umpqua Nationa** 126.81 294 P PKPdf 11 47 32.4 +0.7
baz=137,SNR=16
ILULI **Ilulissat** 126.83 350 *i* P PKPdf 11 47 31.1 +0.4
ILULI **Ilulissat** 126.83 350 *i* PKIKP PKPdf 11 47 31.1 +0.4
WALA **Waterton Lakes** 127.11 305 *e*PKPdf PKPdf 11 47 31.7 -0.3
I05D **Terrebonne, OR** 127.22 296 P PKPdf 11 47 33.4 +1.1
baz=137,SNR=24
I04A **Tendick Farm,** 127.36 295 P PKPdf 11 47 33.0 +0.4
baz=137,SNR=15
I03D **Drain, OR** 127.76 294 P PKPdf 11 47 34.0 +0.8
baz=136,SNR=6.1
HAWA **Hanford** 127.82 299 *e*PKPdf PKPdf 11 47 33.7 +0.4
G05D **Wamic, OR** 127.86 297 P PKPdf 11 47 34.6 +1.1
baz=136
CHM **Chimkent** 127.87 69 *e*PKP PKPdf 11 47 34.0 +0.5
IUG **Iuzhnay** 127.97 69 *e*PKP PKPdf 11 47 34.4 +0.5
NEW **Newport** 128.02 302 P PKPdf 11 47 33.8 +0.2
baz=136
NEW **Newport** 128.02 302 *e*PKPdf PKPdf 11 47 33.4 -0.3
NEW **Newport** 128.02 302 *e*PKIKP PKPdf 11 47 33.4 -0.3
AKTO **Aktyubinsk** 128.13 54 PKP PKPdf 11 47 34.1 +0.4
comp=Z,12nm,0.7s,baz=173,slow=1.6,SNR=11
ABKAR **Akbulak array** 128.15 56 *e*PKPdf PKPdf 11 47 34.2 +0.4
KLMR **Klimovskoe** 128.69 35 *e*PKPdf PKPdf 11 47 33.4 -1.0
KLMR AMP 11 47 36.3
comp=Z,67nm,1.1s
KLMR *e*pPKPdf pPKPdf 11 48 42.6 -0.5
KLMR *e*SKP 11 50 26.8
KLMR **Klimovskoe** 128.69 35 *e*PKIKP PKPdf 11 47 33.3 -1.1
KLMR pmax pmax
comp=Z,67nm,1.1s
G03D **McMinnville, O** 128.80 295 P PKPdf 11 47 36.1 +1.0
baz=136,SNR=5.5
KKAR **Karatay Array** 128.90 69 *e*PKPdf PKPdf 11 47 35.7 +0.2
KKAR **Karatay Array** 128.90 69 *e*PKIKP PKPdf 11 47 35.7 +0.2
DZA **Taraz** 129.17 69 *e*PKP PKPdf 11 47 36.7 +0.6
F04D **Rainier, OR** 129.29 296 P PKPdf 11 47 37.9 +1.8
baz=135
SUMG **Summit** 129.30 356 *i* P PKPdf 11 47 36.7 +0.9
SUMG **Summit** 129.30 356 *i* PKIKP PKPdf 11 47 36.7 +0.9
EDM **Edmonton** 129.84 309 *e*PKPdf PKPdf 11 47 36.6 -0.4
EDM **Edmonton** 129.84 309 *e*PKIKP PKPdf 11 47 36.6 -0.4
B05A **Bryant** 130.38 299 P PKPdf 11 47 38.7 +0.7
baz=134,SNR=23
NLWA **Neilton Lookou** 130.63 297 *e*PKPdf PKPdf 11 47 39.1 +0.4
AAK **Ala-Archa** 130.63 72 PKP PKPdf 11 47 40.0 +1.0
comp=Z,11nm,0.4s,baz=112,slow=2.8,SNR=13
AAK SKPbc SKPab 11 50 37.4 +0.5
comp=Z,46nm,0.7s,baz=193,slow=3.1,SNR=37
AAK **Ala-Archa** 130.63 72 *e*PKPdf PKPdf 11 47 39.0 +0.1
AAK SKPbc SKPab 11 50 37.4 +0.5
AAK **Ala-Archa** 130.63 72 *e*PKIKP PKPdf 11 47 37.4 -1.6
TMCR **Tamitsa** 130.74 32 *e*PKIKP PKPdf 11 47 37.8 -0.4
TMCR pmax pmax
comp=Z,93nm,1.4s
A04D **Lummi Island** 130.98 299 P PKPdf 11 47 40.1 +1.0
baz=134,SNR=6.8
TGY **Tagaytay City** 131.24 138 SKPbc SKPbc 11 50 37.4 -2.2
comp=Z,134nm,0.3s,baz=149,slow=5.9,SNR=4.1
ARCES **ARCESS Array B** 131.81 22 PKhKP PKPpre 11 47 35.3
comp=Z,1.3nm,0.4s,baz=211,slow=2.1,SNR=3.6
ARCES PKP PKPdf 11 47 40.5 +0.3
comp=Z,26nm,0.6s,baz=190,slow=1.5,SNR=42
ARCES SKPbc SKPbc 11 50 38.1 -1.6
comp=Z,14nm,0.7s,baz=203,slow=2.5,SNR=15
BTLS **Baital** 132.08 69 *e*PKP PKPdf 11 47 41.7 +0.3
AAA **Alma-Ata** 132.30 73 *e*PKP PKPdf 11 47 42.4 +0.4
MDOK **Medeo** 132.34 73 *e*PKP PKPdf 11 47 42.2 0.0
KUU **Kurty** 132.47 72 *e*PKP PKPdf 11 47 42.4 +0.1
ARU **Arti** 132.52 49 *i* PKIKP PKPdf 11 47 41.9 0.0
KULLO **Kullorsuaq** 132.55 350 *i* P PKPdf 11 47 41.8 +0.4
KULLO **Kullorsuaq** 132.55 350 *i* PKIKP PKPdf 11 47 41.8 +0.4
LVZ **Lovozero** 132.63 27 *e*PKPdf PKPdf 11 47 42.2 +0.4
LVZ **Lovozero** 132.63 27 *i* PKIKP PKPdf 11 47 41.8 0.0
KMI **Kunming** 132.67 111 PKP PKPdf 11 47 44.0 +0.5
KPKS **Kokpek** 133.41 74 *e*PKP PKPdf 11 47 43.5 -0.6
DAG **Danmarks Havn** 133.44 3 *i* P PKPdf 11 47 42.5 -0.5
DAG **Danmarks Havn** 133.44 3 *i* PKIKP PKPdf 11 47 42.5 -0.5
BRZS **Berezniki** 134.70 63 *e*PKP PKPdf 11 47 46.9 +0.7
BRVK **Borovoye** 135.52 58 *i* PKIKP PKPdf 11 47 47.7 +0.1
BVAR **Borovoye Array** 135.55 59 PKhKP PKPpre 11 47 43.6
comp=Z,1.6nm,0.4s,baz=174,slow=4.4,SNR=6.4
BVAR PKP PKPdf 11 47 48.3 +0.7
comp=Z,14nm,0.4s,baz=187,slow=1.7,SNR=34
BVAR SKPbc SKPbc 11 50 52.6 0.0
comp=Z,33nm,0.9s,baz=243,slow=3.0,SNR=29
GYA **Guiyang** 135.77 114 *e*Pdif Pdif 11 44 54.6 +0.3
GYA PKP PKPdf 11 47 49.0 -0.1
GYA PP PP 11 50 34.2 +3.4
GYA AMB AMB
comp=Z,140nm,7.9s
YKA **Yellowknife Ar** 136.44 318 PKhKP PKPpre 11 47 33.7
comp=Z,1.6nm,0.6s,baz=124,slow=4.0,SNR=32
YKA PKP PKPdf 11 47 49.5 +0.6
comp=Z,23nm,0.4s,baz=129,slow=2.1,SNR=84
YKA pPKP pPKPdf 11 48 55.2 -2.5
comp=Z,5.1nm,0.8s,baz=122,slow=2.4,SNR=3.4
YKA PP PP 11 50 29.0 -5.7
comp=Z,9.9nm,1.0s,baz=126,slow=5.8,SNR=8.6
YKA SKPbc SKPbc 11 50 54.0 -0.9
comp=Z,3.8nm,0.8s,baz=121,slow=2.5,SNR=5.2
YKA PKKP PKKPdf 11 57 25.2 -2.0
comp=Z,0.3nm,0.5s,baz=343,slow=0.8,SNR=9.9
SPITS **Spitsbergen Ar** 137.40 12 PKhKP PKPpre 11 47 39.3
comp=Z,3.0nm,0.4s,baz=235,slow=2.9,SNR=17
SPITS PKP PKiKP 11 47 51.8 -0.7
comp=Z,12nm,0.6s,baz=226,slow=3.8,SNR=7.9
SPITS SKPbc SKPbc 11 50 55.8 -1.5

comp=Z,21nm,0.9s,baz=197,slow=4.5,SNR=5.4
MKAR Makanchi Array 137.53 73 PKhKP PKPpre 11 47 40.4
comp=Z,5.3nm,0.7s,baz=215,slow=2.6,SNR=13
MKAR PKP **PKPdf 11 47 51.0 -0.6**
comp=Z,6.1nm,0.5s,baz=233,slow=2.5,SNR=21
MKAR SKPbc **SKPbc 11 50 57.0 -1.7**
comp=Z,9.6nm,0.8s,baz=250,slow=2.5,SNR=16
KBS Kingsbay 137.54 11 *i* PKIKP **PKPdf 11 47 50.6 -0.1**
CD2 Chengdu 137.86 107 PKP **PKPdf 11 47 52.6 -0.2**
KURBB Kurchatov Arra 138.01 66 PKhKP PKPpre 11 47 46.0
comp=Z,5.2nm,0.5s,baz=241,slow=4.0,SNR=14
KURBB SKPbc **SKPbc 11 50 59.9 0.0**
comp=Z,9.1nm,0.7s,baz=235,slow=3.9,SNR=21
KURK Kurchatov 138.11 66 PKPpre PKPpre 11 47 46.0
KURK SKPbc **SKPbc 11 50 59.9 -0.3**
KURK Kurchatov 138.11 66 *i* PKIKP **PKPdf 11 47 50.0 -2.5**
RES Resolute Bay 138.40 338 PKhKP PKPpre 11 47 43.7
comp=Z,4.1nm,0.5s,baz=129,slow=5.8,SNR=3.4
RES PKP **PKPdf 11 47 52.7 +0.4**
comp=Z,42nm,0.9s,baz=160,slow=5.0,SNR=9.0
WMQ Urumqi 138.47 80 *e*PKP **PKPdf 11 47 54.8 +1.3**
ENH Enshi 140.31 114 *e*PKPdf **PKPdf 11 47 55.1 -2.1**
WRAK Wrangell Islan 140.37 302 *e*PKPdf **PKPdf 11 47 56.9 +0.5**
LZH Lanzhou 141.88 102 ∥PKP **PKPdf 11 47 56.6 -3.4**
LZH sPKP 11 49 29.2
LZH PP **PP 11 51 08.3 -0.3**
LZH AMB AMB
comp=Z,350nm,9.5s
DGZ Jazzator, Alta 142.03 72 *i* PKIKP **PKPdf 11 48 03.4 +3.6**
GTA Gaotai 142.11 95 *e*PKP **PKPdf 11 47 56.4 -3.9**
NVS Novosibirsk 142.78 63 *e*PKIKP **PKPdf 11 47 58.5 -2.2**
NVS pmax pmax
comp=Z,55nm,1.1s
NVS pmax pmax
comp=N,16nm,1.2s
XAN Xi'an 143.01 109 PKP PKPbc 11 47 59.7 0.0
ZALV Zalesovo Beam 143.09 65 PKhKP PKPpre 11 47 58.5
comp=N,24nm,0.5s,baz=234,slow=4.8,SNR=23
ZALV SKPbc **SKPbc 11 51 12.2 -0.8**
comp=N,11nm,0.6s,baz=227,slow=3.8,SNR=8.3
SKAG Skagway 143.31 305 *e*PKPdf PKPbc 11 47 59.6 +0.1
JOW Kunigami 145.57 140 PKPbc **PKPbc 11 48 07.3 0.0**
comp=N,71nm,0.8s,baz=224,slow=3.5,SNR=7.1
JOW pPKPbc pPKPab 11 49 10.9 -3.8
comp=N,66nm,1.0s,baz=191,slow=5.2,SNR=2.9
INK Inuvik 146.11 320 PKPbc **PKPbc 11 48 07.8 +0.2**
comp=N,186nm,0.6s,baz=88,slow=2.8,SNR=295
HVS Khovu-Aksy 146.15 74 *i* PKP2 **PKPbc 11 48 08.3 -0.1**
NJ2 Nanjing 146.30 123 *e*PKPbc **PKPbc 11 48 08.8 -0.5**
DAWY Dawson 146.97 311 *e*PKPbc **PKPbc 11 48 09.8 -0.5**
EGAK Eagle 147.93 312 *e*PKPdf **PKPdf 11 48 07.3 -1.9**
EGAK *e*PKPbc **PKPbc 11 48 12.7 0.0**
EGAK *e*PKPab **PKPab 11 48 17.0 +0.7**
BMRM Bremner River 148.14 304 *e*PKPdf **PKPdf 11 48 08.4 -1.4**
BMRM *e*PKPbc **PKiKP 11 48 14.3 -0.7**
BMRM *e*PKPab **PKPab 11 48 17.6 +0.3**
KRAR Krasnoyarsk 148.14 66 *i* PKIKP **PKPdf 11 48 09.6 -0.2**
DIV Divide 148.73 304 *e*PKPbc **PKPbc 11 48 15.6 +0.7**
DIV *e*PKPab **PKPab 11 48 20.1 +0.4**
DOT Dot Lake 148.79 309 *e*PKPbc **PKPbc 11 48 16.0 +1.0**
DOT *e*PKPab **PKPab 11 48 21.1 +1.2**
PAX Paxson 149.19 308 *e*PKPbc **PKPbc 11 48 16.5 +0.4**
PAX *e*PKPab **PKPab 11 48 21.4 -0.2**
PAX Paxson 149.19 308 *e*PKP2 **PKPbc 11 48 16.5 +0.4**
CBIJ Chichi jima 149.49 163 *e*PKPbc **PKPbc 11 48 16.3 -1.4**
CBIJ *e*PKPab **PKPab 11 48 24.4 +0.8**
JCJ Chichijima 149.49 163 PKPbc **PKPbc 11 48 16.6 -1.2**
comp=N,152nm,0.4s,baz=90,slow=19,SNR=7.7
HHC Hu-ho-hao-te 149.49 104 *e*PKPbc **PKPdf 11 48 10.0 -2.7**
SML Sawmill 150.11 305 *e*PKPbc **PKPbc 11 48 18.6 +0.4**
SML *e*PKPab **PKPab 11 48 26.0 +0.6**
SML Sawmill 150.11 305 *e*PKIKP **PKPbc 11 48 18.6 +0.4**
SML *e* 11 48 26.0
ILAR Eielson Array 150.29 311 PKP **PKPdf 11 48 10.4 -2.6**
comp=N,5.8nm,0.9s,baz=315,slow=1.3,SNR=51
ILAR PKPbc **PKiKP 11 48 18.9 -0.3**
comp=N,174nm,0.8s,baz=147,slow=2.5,SNR=434
ILAR pPKPbc **pPKPbc 11 49 25.6 -1.2**
comp=N,45nm,1.1s,baz=110,slow=1.4,SNR=6.8
MOY Mondy 150.32 78 *e*PKIKP **PKPdf 11 48 13.7 +0.1**
MOY pmax pmax
comp=Z,143nm,1.6s
PMR Palmer 150.41 304 *e*PKPdf **PKPdf 11 48 10.8 -2.5**
PMR *e*PKPbc **PKiKP 11 48 19.2 -0.2**
PMR *e*PKPab **PKPab 11 48 26.8 +0.3**
PMR Palmer 150.41 304 *e*PKIKP **PKPdf 11 48 10.8 -2.5**
PMR *e* 11 48 26.8
RC01 Rabbit Creek A 150.53 303 *e*PKPbc **PKPbc 11 48 20.0 +0.8**
RC01 *e*PKPab **PKPab 11 48 27.7 +0.6**
COLA College 150.71 311 *e*PKPbc **PKPbc 11 48 19.5 +0.1**
COLA *e*PKPab **PKPab 11 48 28.5 +0.8**
COLA College 150.71 311 *e*PKIKP **PKPbc 11 48 19.5 +0.1**
COLA *e* 11 48 28.5
KDAK Kodiak Island 150.76 296 PKPbc **PKPbc 11 48 20.1 +0.4**
comp=Z,219nm,0.6s,baz=127,slow=1.4,SNR=366
KDAK Kodiak Island 150.76 296 *e*PKPbc **PKPbc 11 48 19.9 +0.2**
KDAK Kodiak Island 150.76 296 *i* PKIKP **PKPbc 11 48 19.8 0.0**
ZAK Zakamensk 150.89 82 *e*PKIKP **PKPdf 11 48 13.2 -1.4**
ZAK pmax pmax
comp=Z,65nm,1.2s
ZAK pmax pmax
comp=Z,29nm,1.1s
MCK McKinley 150.91 308 *e*PKPdf **PKPdf 11 48 11.7 -2.3**
MCK *e*PKPbc **PKiKP 11 48 20.5 0.0**
MCK McKinley 150.91 308 *e*PKIKP **PKPdf 11 48 11.7 -2.3**
SONM Songino Array 151.19 88 PKPbc **PKPbc 11 48 21.4 +0.1**
comp=Z,59nm,0.7s,baz=197,slow=5.9,SNR=28
SONM pPKPbc **pPKPdf 11 49 25.9 +1.8**
comp=Z,8.8nm,0.7s,baz=227,slow=3.6,SNR=4.9
TRF Thorofare Moun 151.43 307 *e*PKPbc **PKPbc 11 48 21.9 +0.5**
TRF *e*PKPab **PKPab 11 48 31.2 +0.2**
KTH Kantishna Hill 151.73 308 *e*PKPbc **PKPbc 11 48 22.1 +0.1**
TLY Talaya 151.76 80 *e*PKPdf **PKPdf 11 48 15.7 0.0**
TLY *e*PKPbc **PKiKP 11 48 22.9 +0.3**
TLY *e*PKPab **PKPab 11 48 32.4 -0.1**
TLY Talaya 151.76 80 *e*PKIKP **PKPdf 11 48 15.7 0.0**
TLY *e* 11 48 32.4
BPAW Bear Paw Mtn. 151.87 309 *e*PKPbc **PKPbc 11 48 22.4 +0.2**
BPAW *e*PKPab **PKPab 11 48 33.2 +0.5**
TOLK Toolik Lake Re 151.97 318 P **PKPbc 11 48 23.6 +1.2**
baz=95
COLD Coldfoot 152.06 315 *e*PKPbc **PKPbc 11 48 23.7 +1.2**
PPLA Purkeypile 152.14 306 *e*PKPbc **PKPbc 11 48 22.9 -0.1**
PPLA *e*PKPab **PKPab 11 48 34.6 +0.6**
JNU Nakatsue 152.21 139 PKPbc **PKPbc 11 48 23.8 -0.2**
comp=Z,32nm,0.7s,baz=306,slow=2.0,SNR=18
KSAR Wonju Array Be 154.83 130 PKP **PKPdf 11 48 20.3 -0.2**
KSAR PKPbc **PKPbc 11 48 29.3 -0.1**
KSAR PKPab **PKPab 11 48 46.3 +0.4**
KSAR Wonju Array Be 154.83 130 PKIKP **PKPdf 11 48 20.3 -0.2**
KSAR 11 48 29.3
KSAR 11 48 46.3
KSRS Korea Array 154.86 130 PKP **PKPdf 11 48 20.3 -0.3**
comp=Z,3.8nm,0.9s,baz=238,slow=8.1,SNR=5.2
KSRS PKPbc **PKPbc 11 48 29.3 -0.2**
comp=Z,4.0nm,0.7s,baz=182,slow=3.0,SNR=8.7
KSRS PKPab **PKPab 11 48 46.3 +0.3**
comp=Z,9.2nm,0.9s,baz=221,slow=5.0,SNR=8.6
MJAR Matsushiro Arr 157.70 150 PKP **PKPdf 11 48 23.8 -0.6**
comp=Z,1.7nm,0.8s,baz=162,slow=2.2,SNR=3.4
MJAR PKPab **PKPab 11 48 57.6 -0.8**
comp=Z,4.1nm,0.7s,baz=208,slow=5.4,SNR=4.6
BOD Bodaibo 159.61 71 *e*PKP2 **PKPab 11 49 05.7 -0.4**
BOD pmax pmax
comp=Z,28nm,1.2s
GAMB Gambell 160.95 306 *e*PKPab **PKPab 11 49 13.1 +1.3**
USRK Uusuriysk Ar. 162.15 126 PKPab **PKPab 11 49 17.1 -0.4**
comp=Z,5.2nm,0.8s,baz=29,slow=4.4,SNR=6.0
KLR Kul'dur 165.67 113 PKP **PKPdf 11 48 31.3 -0.8**
comp=Z,0.4nm,0.8s,baz=297,slow=3.4,SNR=4.3
ASAJ Asahikawa 165.97 151 PKPab **PKPab 11 49 34.6 +0.4**
comp=Z,5.8nm,0.9s,baz=243,slow=4.5,SNR=3.6
BILL Bilibino 166.99 336 ∥ *e*PKIKP **PKPdf 11 48 28.9 -3.6**
BILL *e* 11 53 25.1
BILL pmax pmax
comp=Z,18nm,1.1s
YSS Yuzh-Sakhalins 168.60 146 *e*PKPdf **PKPdf 11 48 32.3 -1.9**
YSS Yuzh-Sakhalins 168.60 146 *e*PKIKP **PKPdf 11 48 33.6 -0.6**
YSS pmax pmax
comp=Z,30nm,1.1s
SEY Seymchan 173.85 359 PKP **PKPdf 11 48 34.1 -2.2**
comp=Z,11nm,0.9s,baz=130,slow=2.1,SNR=9.4
SEY PKPab **PKPab 11 50 10.8 +2.0**
comp=Z,8.3nm,0.9s,baz=35,slow=2.6,SNR=8.4

PETK Petropavlovsk- 175.06 224 PKP **PKPdf 11 48 35.8 -1.3**
comp=Z,18nm,0.9s,baz=103,slow=4.5,SNR=13
PETK PKPab **PKPab 11 50 14.4 -0.1**
comp=Z,12nm,0.7s,baz=110,slow=7.4,SNR=9.7
MA2 Magadan 177.14 13 PKP **PKPdf 11 48 35.3 -2.0**
comp=Z,12nm,1.0s,baz=143,slow=5.2,SNR=5.1
MA2 PKPab PKPab 11 50 24.7 +1.3
comp=Z,6.5nm,0.8s,baz=14,slow=5.0,SNR=4.9

IDC 11 11:29:27.0±4.9, 0.55S×90.97E, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.4/73, mbtmp3.8/4, Error ellipse: s-maj=173.3km s-min=25.5km az=60.0, South Indian Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**46.60**	**117**	P	P	11 37 56.8	-0.6
	1.8nm,0.6s,baz=298,slow=8.6,SNR=4.8						
ASAR	**Alice Springs**	**47.54**	**122**	P	P	11 38 04.5	-0.1
	0.4nm,0.7s,baz=303,slow=8.8,SNR=3.5						
MKAR	**Makanchi Array**	**47.76**	**352**	P	P	11 38 04.2	-1.7
	0.3nm,0.4s,baz=164,slow=9.4,SNR=2.7						
SONM	**Songino Array**	**50.03**	**14**	P	P	11 38 25.3	+1.9
	2.6nm,0.5s,baz=190,slow=9.8,SNR=8.4						

IDC 11 11:30:39.1±8.1, 1.96N×93.39E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.4/72, mbtmp3.7/4, Error ellipse: s-maj=352.2km s-min=27.4km az=55.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**45.68**	**120**	P	P	11 39 02.0	-0.2
	1.4nm,0.7s,baz=297,slow=8.4,SNR=3.6						
MKAR	**Makanchi Array**	**45.69**	**349**	P	P	11 39 01.7	-0.1
	0.6nm,0.8s,baz=160,slow=7.8,SNR=3.1						
KURBB	**Kurchatov Arra**	**50.15**	**348**	P	P	11 39 35.2	-0.6
	0.5nm,0.6s,baz=170,slow=5.9,SNR=3.2						
ZALV	**Zalesovo Beam**	**52.30**	**354**	P	P	11 39 52.7	+0.4
	0.7nm,0.4s,baz=170,slow=5.8,SNR=3.4						

*ISCJB **11** 11:31:47.4±1.2, 1.4N±0.2×91.9E±0.2, h10km, mb4.0/6, Error ellipse: s-maj=32.6km s-min=25.4km az=146.0*
*IDC **11** 11:31:47.8±1.4, 1.4N×91.96E, h0km, mb3.9/6, mb1 4.0/6, mb1mx3.6/70, mbtmp3.9/6, Error ellipse: s-maj=39.8km s-min=27.7km az=56.0*
ISC 11 11:31:49.2±1.3, 1.4N±0.2×92.0E±0.2, h10km, n6, σ0§41/6, mb4.0/6, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**45.99**	**351**	P	**P**	**11 40 12.5**	**-0.2**
	0.6nm,0.6s,baz=170,slow=8.6,SNR=3.1						
WRA	**Warramunga Arr**	**46.66**	**119**	P	**P**	**11 40 18.3**	**-0.1**
	1.9nm,0.9s,baz=298,slow=8.6,SNR=2.8						
SONM	**Songino Array**	**47.92**	**13**	P	**P**	**11 40 27.9**	**0.0**
	1.5nm,0.5s,baz=191,slow=9.0,SNR=4.8						
KURBB	**Kurchatov Arra**	**50.35**	**349**	P	**P**	**11 40 46.0**	**-0.3**
	0.2nm,0.3s,baz=172,slow=8.4,SNR=3.6						
ZALV	**Zalesovo Beam**	**52.71**	**355**	P	**P**	**11 41 04.5**	**+0.6**
	1.1nm,0.8s,baz=178,slow=4.3,SNR=2.3						
KMBO	**Kilima Mbogo**	**54.75**	**268**	P	**P**	**11 41 19.9**	**0.0**
	2.3nm,0.8s,baz=183,slow=10,SNR=3.4						

*IDC **11** 11:32:18.3±1.6, 1.94N×92.24E, h0km, mb3.9/7, mb1 4.2/8, mb1mx3.7/70, mbtmp3.9/8, ML3.8/1, Error ellipse: s-maj=59.8km s-min=26.5km az=51.0*
*ISCJB **11** 11:32:21.7±1.3, 2.1N±0.2×92.4E±0.2, h33km, mb3.9/7, Error ellipse: s-maj=33.7km s-min=22.9km az=148.4*
ISC 11 11:32:23.9±1.4, 2.1N±0.2×92.4E±0.2, h35km, n8, σ1§10/8, mb3.9/7, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**17.51**	**21**	Pn	**Pn**	**11 36 24.9**	**-0.5**
	0.1nm,0.3s,baz=215,slow=14,SNR=4.6						
MKAR	**Makanchi Array**	**45.41**	**350**	P	**P**	**11 40 38.6**	**-0.5**
	1.3nm,0.8s,baz=175,slow=9.1,SNR=4.2						
WRA	**Warramunga Arr**	**46.60**	**120**	P	**P**	**11 40 48.8**	**-0.1**
	1.3nm,0.8s,baz=299,slow=8.8,SNR=3.4						
KURBB	**Kurchatov Arra**	**49.79**	**348**	P	**P**	**11 41 13.5**	**+0.5**
	0.4nm,0.5s,baz=168,slow=7.4,SNR=4.1						
ZALV	**Zalesovo Beam**	**52.09**	**354**	P	**P**	**11 41 32.0**	**+1.8**
	1.0nm,0.4s,baz=188,slow=7.2,SNR=3.3						
BVAR	**Borovoye Array**	**53.97**	**344**	P	**P**	**11 41 44.2**	**0.0**
	1.1nm,0.8s,baz=133,slow=8.7,SNR=4.3						
KBZ	**Khabaz**	**60.31**	**321**	P	**P**	**11 42 27.9**	**-1.2**
	0.8nm,0.4s,baz=305,slow=9.4,SNR=4.0						
GERES	**GERESS Array B**	**81.00**	**319**	P	**P**	**11 44 36.0**	**+0.8**
	1.2nm,0.7s,baz=90,slow=6.7,SNR=4.0						

IDC 11 11:33:53.3±10.0, 1.02N×92.55E, h0km, mb4.1/3, mb1 4.1/4, mb1mx3.7/70, mbtmp4.0/4, ML4.0/1, Error ellipse: s-maj=205.1km s-min=89.5km az=156.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**18.43**	**20**	P	P	11 38 11.1	+0.6
	0.2nm,0.3s,baz=222,slow=12,SNR=7.4						
MKAR	**Makanchi Array**	**46.47**	**350**	P	P	11 42 22.6	+0.4
	0.9nm,0.7s,baz=179,slow=8.9,SNR=4.7						
SONM	**Songino Array**	**48.16**	**12**	P	P	11 42 34.2	-1.3
	7.7nm,0.5s,baz=195,slow=9.5,SNR=27						
KURBB	**Kurchatov Arra**	**50.84**	**349**	P	P	11 42 56.3	+0.6
	0.7nm,0.6s,baz=174,slow=6.9,SNR=4.4						

IDC 11 11:33:53.5±21.0, 2.07N×90.98E, h0km, mb3.9/4, mb1 4.0/4, mb1mx3.5/69, mbtmp3.9/4, Error ellipse: s-maj=592.9km s-min=91.7km az=126.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**45.19**	**352**	P	P	11 42 12.2	+0.1
	0.9nm,0.6s,baz=171,slow=9.8,SNR=4.6						
KURBB	**Kurchatov Arra**	**49.52**	**350**	P	P	11 42 45.7	-0.1
	1.1nm,0.7s,baz=181,slow=7.6,SNR=5.2						
ZALV	**Zalesovo Beam**	**51.96**	**355**	P	P	11 43 03.9	-0.3
	0.6nm,0.4s,baz=188,slow=6.0,SNR=2.6						
GERES	**GERESS Array B**	**80.08**	**319**	P	P	11 46 05.5	+0.1
	0.7nm,0.7s,baz=144,slow=9.3,SNR=4.3						

*BJI **11** 11:33:55.4, 0.15N×92.65E, h10km, mb5.1/44, mB5.0/5, Ms5.3/4, Ms7 5.1/4*
*ISCJB **11** 11:33:59.9±0.2, 0.75N±0.03×92.86E±0.02, h10km, mb5.2/140, MS5.7/2, Error ellipse: s-maj=4.6km s-min=2.6km az=23.1*
*IDC **11** 11:33:59.8±0.4, 0.72N×92.87E, h0km, mb4.9/39, mb1 4.9/43, mb1mx4.8/71, mbtmp4.9/43, ML5.0/4, Error ellipse: s-maj=13.7km s-min=9.8km az=29.0*
*NEIC **11** 11:34:01.3±0.2, 0.73N×92.86E, h10km, mb5.4/45, Error ellipse: s-maj=6.1km s-min=3.5km az=199.0*
*MOS **11** 11:34:01.6±1.1, 0.78N×92.86E, h24km, mb5.5/37, Error ellipse: s-maj=7.8km s-min=5.0km az=112.2*
*DJA **11** 11:34:06.7±0.7, 1.1N±3.9×9.3E±1.1, h10km, M6.1/31, mb5.6/31, mB7.4/3, MLv6.2/7, Mw(mB)7.4/3*
ISC 11 11:34:01.7±0.3, 0.80N±0.05×92.84E±0.04, h10km, n418, σ1§51/419, mb5.3/142, 22C-6D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GSI	**Gunungsitoli**	**4.77**	**84**	*e*Sn	**Sn**	**11 36 07.9**	**-1.1**
MLSI	**Meulaboh, Aceh**	**4.96**	**46**	P	**Pn**	**11 35 16.0**	**-0.3**
PBSI	**Pulau Batu**	**5.51**	**99**	P	**Pn**	**11 35 23.8**	**-0.1**
KCSI	**Kotacane, Aceh**	**5.63**	**61**	P	**Pn**	**11 35 26.6**	**+1.1**
LHMI	**Lhok Sumawe**	**6.02**	**43**	*e*Pn	**Pn**	**11 35 31.8**	**+0.9**
LHMI				*e*Sn	**Sn**	**11 36 41.1**	**+1.2**
TSI	**Tuntungan**	**6.32**	**65**	P	**Pn**	**11 35 36.7**	**+1.7**
PSI	**Prapat**	**6.40**	**72**	Pn	**Pn**	**11 35 36.2**	**0.0**
	46nm,0.3s,baz=247,slow=9.8,SNR=7.5						
PSI				Sn	**Sn**	**11 36 42.7**	**-6.9**
	15nm,0.3s,baz=223,slow=19,SNR=1.8						
PPSI	**Pulau Pagai**	**8.00**	**116**	P	**Pn**	**11 35 58.3**	**+0.2**
BKNI	**Bangkinang**	**8.22**	**93**	Pn	**Pn**	**11 36 01.4**	**+0.3**

IPM Ipoh 8.96 66 *e*Pn **Pn 11 36 10.5 -0.8**
KULM Kulim 8.99 60 *e*Pn **Pn 11 36 10.0 -1.6**
MASI Maura Aman, Be 10.18 113 P **Pn 11 36 28.4 +0.3**
2μm,1.1s
PBA Port Blair 10.79 360 *e*P Pn 11 36 35.3 -1.0
PBA IAmb IAmb 11 36 51.5
comp=Z,200nm,1.1s
JMBI JAMBI 11.07 103 P Pn 11 36 52.4 +12
MNAI Manna 11.34 117 P **Pn 11 36 46.8 +2.9**
MNAI Manna 11.34 117 *e*Pn **Pn 11 36 42.1 -1.7**
TPRI Tanjung Pinang 11.69 89 P **Pn 11 36 49.4 +0.7**
comp=Z,251nm,0.7s
DGPR DIGLIPUR 12.30 0 *e*P **Pn 11 36 56.7 -0.4**
MDSI Maura Dua 12.49 115 P **Pn 11 36 59.2 -0.5**
comp=Z,203nm,1.6s,comp=Z,117μm
LWLI Liwa 12.61 117 P **Pn 11 37 03.5 +2.1**
comp=Z,702nm,0.8s
KASI Kota Agung 13.23 118 P **Pn 11 37 08.9 -0.9**
comp=Z,312nm,0.8s
KLI Kotabumi 13.26 115 P **P 11 37 16.4 -3.7**
PPBI Pangkal Pinang 13.62 102 P **P 11 37 26.2 +2.1**
PALK Pallekele 13.70 298 Pn **Pn 11 37 15.6 -0.7**
comp=Z,14nm,0.3s,baz=116,slow=12,SNR=11
PALK Sn Sn 11 39 36.1 -13
comp=Z,35nm,0.3s,baz=116,slow=6.9,SNR=12
PALK Pallekele 13.70 298 *e*Pn **Pn 11 37 14.8 -1.5**
PALK *e*Sn Sn 11 39 36.3 -12
PALK Pallekele 13.70 298 *i* P **Pn 11 37 15.4 -0.8**
SNR=6.6
PALK Pallekele 13.70 298 *c*e**P Pn 11 37 15.2 -1.0**
BLSI Bandar Lampung 13.82 116 P **Pn 11 37 15.7 -2.2**
CGJI Cibinong 14.79 120 P **Pn 11 37 27.2 -4.0**
LEM Lembang 16.58 117 Pn **Pn 11 37 54.4 -0.3**
comp=Z,4.5nm,0.3s,baz=224,slow=16,SNR=6.8
XMIS Christmas Isla 16.97 132 *e*Pn **Pn 11 37 58.3 -1.2**
comp=Z,130nm,1.0s
JCJI Jatiwangi 17.02 115 P **P 11 38 00.8 -1.1**
CISI Cisompet, Garu 17.09 119 P **Pn 11 37 59.1 -1.9**
CISI Cisompet, Garu 17.09 119 *e*Pn **Pn 11 37 58.7 -2.3**
comp=Z,413nm,1.0s
MDRS Chennai 17.44 315 *e*P **P 11 38 06.1 -0.4**
KSM Kuching 17.48 88 *e*Pn **Pn 11 38 06.0 +0.2**
comp=Z,203nm,1.0s
TRD Trivandrum 17.57 296 *e*P **Pn 11 38 07.5 +0.6**
TRD IAmb IAmb 11 38 11.0
comp=Z,1μm,2.1s
KPJI Karang Pucung 17.97 117 P **Pn 11 38 10.0 -1.9**
CM01 Chiang Mai Arr 18.52 19 *e*P **P 11 38 16.4 -2.0**
CM31 Chiang Mai Arr 18.55 19 *e*P **Pn 11 38 19.8 +0.9**
CMAR Chiang Mai Arr 18.55 19 P **Pn 11 38 20.1 +1.2**
comp=Z,1.1nm,0.3s,baz=214,slow=13,SNR=40
STKI Sintang 18.66 92 P **Pn 11 38 21.8 +1.5**
CHTO Chiang Mai 18.88 18 *e*P **Pn 11 38 22.8 -0.2**
comp=Z,46nm,1.1s
CHTO Chiang Mai 18.88 18 *e*P **Pn 11 38 22.8 -0.2**
CHTO pmax pmax
comp=Z,46nm,1.1s
PBKI Pangkalan Bun 19.15 101 P **Pn 11 38 27.4 +1.2**
SMRI Semarang 19.22 114 P **Pn 11 38 31.9 +4.8**
VIS Vishakhapatnam 19.24 331 *e*P **Pn 11 38 27.8 +0.5**
VIS IAmb IAmb 11 38 30.8
comp=Z,175nm,0.5s
SBUM Sibu 19.45 85 *e*P **Pn 11 38 29.9 +0.1**
comp=Z,182nm,0.9s
UGM Wanagama 19.64 116 P **Pn 11 38 36.4 +4.2**
UGM Wanagama 19.64 116 *e*P **Pn 11 38 31.3 -1.0**
comp=Z,218nm,1.1s
WOJI Wonogiri, Jawa 19.97 116 P **P 11 38 34.8 +0.4**
PCJI Pacitan 20.35 116 P Pn 11 38 42.4 +1.9
GRJI Gresik 21.05 112 P **P 11 38 51.2 +5.2**
MNCY Minicoy 21.07 291 *e*P **P 11 38 45.7 -0.6**
HYB Hyderabad 21.68 320 *i* P **P 11 38 53.5 +0.6**
HYB Hyderabad 21.68 320 *e*P **P 11 38 53.6 +0.6**
HYB IAmb IAmb 11 38 54.3
comp=Z,95nm,0.9s
DGAR Diego Garcia 21.91 248 *e*P **P 11 38 55.6 +0.3**
comp=Z,1μm,1.1s
DGAR Diego Garcia 21.91 248 *e*P **P 11 38 55.3 0.0**
H08S2 Diego Garcia H 21.95 247 T T 11 59 45.2
baz=60,slow=75,SNR=4.3
H08S3 Diego Garcia H 21.95 247 T T 11 59 45.4
baz=60,slow=75,SNR=4.4
H08S1 Diego Garcia H 21.97 247 T T 11 59 37.0
baz=60,slow=75,SNR=8.6
MTKI Muara Teweh, K 22.13 94 P **P 11 38 58.7 +1.0**
KBKI Kotabaru 23.67 100 P **P 11 39 18.9 +5.2**
GOA Goa 23.78 309 *e*P **P 11 39 14.9 +0.2**
BOK Bokaro 23.83 344 *e*P **P 11 39 17.0 +1.9**
BOK IAmb IAmb 11 39 18.2
KKM Kota Kinabalu 23.91 77 *e*P **P 11 39 16.4 +0.3**
comp=Z,79nm,0.9s
SRBI Singaraja 23.99 112 P **P 11 39 18.5 +1.7**
BKB Balikpapan 24.15 95 P **P 11 39 18.8 +0.6**
NGP Nagpur 24.30 327 *ex* P **P 11 39 15.8 -3.7**
SHL Shillong 24.64 358 *e*P **P 11 39 24.6 +1.7**
POO Poona 25.65 315 *e*P **P 11 39 33.8 +1.9**
POO IAmb IAmb 11 39 34.5
comp=Z,117nm,0.8s
MYLDM Lahad Datu 25.99 80 *e*P **P 11 39 35.8 +0.8**
comp=Z,135nm,1.1s
KMI Kunming 26.01 21 P **P 11 39 37.7 +2.4**
KMI pmax pmax
comp=Z,15nm,0.9s
ODAN Odare 26.44 349 *e*P **P 11 39 40.5 +1.4**
comp=Z,291nm,0.7s
RAMN Ramite 26.68 348 *e*P **P 11 39 43.3 +1.9**
comp=Z,390nm,0.9s
BHPL Bhopal 26.86 327 *e*P **P 11 39 44.2 +1.3**
MPSI Mapaga 27.07 91 P **P 11 39 44.7 0.0**
JIRN Jiri 27.46 347 *e*P **P 11 39 49.9 +1.4**
comp=Z,492nm,1.0s
PKIN Phulchoki 27.57 346 *e*P **P 11 39 50.6 +1.2**
DMN Daman 27.67 345 *e*P **P 11 39 51.6 +1.3**
BNSI Bone 27.73 101 P **P 11 39 49.3 -1.4**
GUN Gumba 27.77 347 *e*P **P 11 39 52.6 +1.3**
comp=Z,233nm,0.7s
KKN Kakani 27.80 346 *e*P **P 11 39 52.5 +1.1**
comp=Z,267nm,1.2s
GKN Gorkha 28.17 345 *e*P **P 11 39 55.7 +1.1**
comp=Z,129nm,0.6s
KOLN Koldanda 28.24 343 *e*P **P 11 39 56.5 +1.2**
comp=Z,150nm,0.9s
PYUN Piuthan 28.74 342 *e*P **P 11 40 00.7 +1.0**
comp=Z,172nm,0.9s
DANN Dangsing 28.74 343 *e*P **P 11 40 00.9 +1.0**
GYA Guiyang 28.78 26 P **P 11 40 02.0 +2.0**
GYA PP **PnPn 11 40 56.2 +5.4**
GYA PcP **PcP 11 43 11.0 +0.9**
GYA S **S 11 44 51.8 +2.0**
GYA ScP **ScP 11 46 51.4 -0.4**
GYA pmax pmax
comp=Z,30nm,1.0s
GYA pmax pmax
comp=Z,140nm,5.5s
GYA LR LR
comp=Z,620nm,18.0s
GYA LR LR
comp=Z,560nm,18.4s
GYA LR LR
comp=Z,590nm,18.2s
LSA Lhasa 28.79 357 *e*P **P 11 40 02.6 +2.2**
comp=Z,49nm,0.6s
LSA Lhasa 28.79 357 P **P 11 40 03.1 +2.7**
LSA Lhasa 28.79 357 *e*P **P 11 40 02.6 +2.2**
LSA pmax pmax
comp=Z,49nm,0.6s
MRSI Marisa 29.11 90 P **P 11 40 02.7 -0.3**
TGY Tagaytay City 30.78 63 P **P 11 40 18.0 +0.2**
comp=Z,141nm,0.4s,baz=192,slow=8.9,SNR=4.6
CD2 Chengdu 31.69 18 P **P 11 40 26.7 +1.1**
CD2 S **S 11 45 37.9 +2.6**
CD2 pmax pmax
comp=Z,50nm,0.6s
DDI Dehra Dun 32.55 336 *e*P **P 11 40 35.0 +1.8**
DAV Davao City (W) 33.24 78 *e*P **P 11 40 41.3 +1.9**
comp=Z,190nm,0.6s
DAV Davao City (W) 33.24 78 P **P 11 40 41.6 +2.2**
SNR=5.2
**DAV

DHRM DHARAMSHALA 34.96 335 *e*P P 11 40 53.8 -0.6
DHRM IAmb IAmb 11 40 55.6
TWG Pinlang 35.10 49 *e*P P 11 40 56.5 +1.0
comp=Z,119nm,1.0s
SSLB Suanglung 35.57 48 *e*P P 11 40 59.5 0.0
comp=Z,36nm,1.1s
YULB Yu-li 35.60 49 *e*P P 11 41 01.4 +1.6
comp=Z,23nm,0.9s
WHN Wuhan 35.95 33 P P 11 41 05.1 +2.5
WHN pP sP 11 41 15.5 +8.6
MSAI Masohi 36.31 97 P P 11 41 09.5 +3.5
XAN Xi'an 36.34 23 P P 11 41 06.8 +0.8
XAN pP sP 11 41 12.1 +1.8
YHNB Yeheng 36.40 47 *e*P P 11 41 05.4 -1.3
comp=Z,52nm,1.4s
LZH Lanzhou 36.57 15 *e*P P 11 41 08.5 +0.4
LZH pP sP 11 41 13.2 +0.8
LZH sP pP 11 41 16.0 +4.8
LZH PP PP 11 42 34.0 +2.6
LZH pmax pmax
comp=Z,34nm,1.3s
LZH pmax pmax
comp=Z,130nm,5.2s
LZH LR LR
comp=Z,2µm,14.5s
LZH LR LR
comp=Z,2µm,14.7s
LZH LR LR
comp=Z,2µm,18.3s
FITZ Fitzroy Crossi 37.34 122 P P 11 41 13.8 -0.8
comp=Z,8.4nm,0.9s,baz=298,slow=15,SNR=6.1
NIL Nilore 37.49 333 *e*P P 11 41 15.9 +0.1
comp=Z,274nm,0.7s
NIL Nilore 37.49 333 *e*P P 11 41 15.9 +0.1
NIL pmax pmax
comp=Z,274nm,0.7s
SIJI Sorong 38.47 92 P P 11 41 22.9 -1.4
comp=Z,26nm,0.9s,baz=307,slow=6.4,SNR=10
GTA Gaotai 38.95 9 *e*P P 11 41 29.3 +1.1
GTA pP sP 11 41 36.6 +4.1
GTA sP pP 11 41 39.8 +8.5
GTA pmax pmax
comp=Z,91nm,0.8s
WBK Wadi Bani Khal 39.42 306 P P 11 41 35.0 +2.8
SNR=5.1
WBK Wadi Bani Khal 39.42 306 pP P 11 41 35.0 +2.8
SNR=5.1
NJ2 Nanjing 39.62 36 *e*P P 11 41 33.1 -0.5
NJ2 pmax pmax
comp=Z,12nm,0.6s
WSAR Wadi Sarin 40.00 306 P P 11 41 38.1 +1.2
comp=Z,27nm,1.2s,baz=132,slow=9.5,SNR=7.1
SMDO Samad 40.38 306 P P 11 41 44.0 +3.7
SNR=5.2
SMDO Samad 40.38 306 pP P 11 41 44.0 +3.7
SNR=5.2
BIDO Bidbid 40.54 306 P P 11 41 44.0 +2.5
SNR=5.1
BIDO Bidbid 40.54 306 pP P 11 41 44.0 +2.5
SNR=5.1
KSH Kashi 41.50 340 P P 11 41 47.7 -1.6
KSH S S 11 48 00.4 -4.6
KSH pmax pmax
comp=Z,83nm,1.2s
SOHO SOHO 42.11 306 *i* P P 11 41 56.0 +1.6
SNR=7.3
ASHO Ashiyiah 42.75 307 *i* P P 11 42 01.0 +1.4
SNR=7.2
UOSS Minazif 42.76 307 *e*P P 11 42 00.3 +0.6
comp=Z,8.7nm,0.9s
HATD Hatta, Dubai 42.76 307 P P 11 42 02.3 +2.6
SFK Sufi-Kurgan 42.82 338 P P 11 42 00.7 +0.5
SFK pmax pmax
comp=Z,97nm,1.2s
MSFE Esma-Masafi 42.99 308 P P 11 42 04.0 +2.4
WMQ Urumqi 43.08 355 P P 11 42 03.2 +1.2
WMQ sP sP 11 42 10.4 +4.0
WMQ pmax pmax
comp=Z,120nm,1.5s
BANOM Banah 43.15 308 P P 11 42 02.7 -0.2
HHC Hu-ho-hao-te 43.33 21 *e*P P 11 42 06.5 +2.3
HHC S S 11 48 26.7 -5.2
HHC pmax pmax
comp=Z,46nm,1.1s
HHC pmax pmax
comp=Z,110nm,6.4s
HHC LR LR
comp=Z,5µm,14.4s
HHC LR LR
comp=Z,4µm,15.0s
HHC LR LR
comp=Z,5µm,15.5s
DZET Dzherino 43.76 333 P P 11 42 11.2 +3.6
DZET pmax pmax
comp=Z,19nm,0.6s
ULHL Ulahol 43.88 342 P P 11 42 08.9 +0.3
SNR=6.2
UZB Uzynbulak 43.94 345 *i* P P 11 42 09.2 +0.1
comp=Z,260nm,1.2s
UZB LR LR 11 59 57.9
comp=Z,36µm,17.1s
PDGK Podgornoye 43.99 346 P P 11 42 09.8 +0.3
PDGK pmax pmax
comp=Z,68nm,1.4s
SATY Saty 44.02 345 *i* P P 11 42 09.9 +0.3
comp=Z,732nm,1.3s
SATY LR LR 12 00 02.9
comp=Z,81µm,14.3s
KZA Kyzart 44.04 341 P P 11 42 10.5 +0.3
SNR=9.5
KPKS Kokpek 44.32 345 *i* P P 11 42 12.2 +0.2
comp=Z,418nm,1.0s
KPKS LR LR 12 00 10.7
comp=Z,63µm,15.0s
UCH Uchtor 44.42 341 P P 11 42 13.8 +0.5
SNR=11
BJT Baijiatuau 44.44 26 *e*P P 11 42 13.9 +0.9
comp=Z,50nm,0.8s
BJT Baijiatuau 44.44 26 *e*P P 11 42 13.9 +0.9
BJT pmax pmax
comp=Z,50nm,0.8s
BJI Beijing 44.46 26 P P 11 42 15.7 +2.6
BJI pmax pmax
comp=Z,43nm,1.1s
AML Almayashu 44.61 340 P P 11 42 15.4 +0.7
SNR=18
KBK Karagaybulak 44.66 341 P P 11 42 16.3 +1.4
SNR=14
TKM2 Tokmak 2 44.69 342 P P 11 42 16.1 +0.9
SNR=13
AAK Ala-Archa 44.79 341 P P 11 42 17.0 +1.1
comp=Z,7.5nm,0.7s,baz=181,slow=3.5,SNR=10
AAK Ala-Archa 44.79 341 P P 11 42 17.0 +1.1
SNR=7.6
AAK Ala-Archa 44.79 341 *e*P P 11 42 17.0 +1.1
AAK Ala-Archa 44.79 341 *i* P P 11 42 16.9 +1.0
SNR=8.0
AAK Ala-Archa 44.79 341 *ce*P P 11 42 15.8 -0.1
AAK pmax pmax
comp=Z,207nm,2.5s
BMNS Besmoynak 44.84 342 *e*P P 11 42 16.2 0.0
comp=Z,698nm,1.4s
BMNS LR LR 12 00 39.3
comp=Z,34µm,15.0s
EKS2 Erkin-Say 45.05 340 P P 11 42 18.8 +0.9
SNR=11
MNAS Manas 45.34 339 P P 11 42 25.9 +5.6
MNAS pmax pmax
comp=Z,22nm,1.0s
USP Ospenovka 45.35 341 P P 11 42 20.5 +0.3
SNR=18
KUU Kurty 45.36 343 *e*P P 11 42 19.7 -0.5
comp=Z,294nm,1.2s
KUU LR LR 12 00 26.4
comp=Z,24µm,14.3s
WRA Warramunga Arr 45.59 119 P P 11 42 21.6 -0.8
comp=Z,7.3nm,0.5s,baz=297,slow=8.6,SNR=34
WRAB Tennant Creek 45.60 119 *e*P P 11 42 21.8 -0.7
comp=Z,37nm,0.8s
WRAB Tennant Creek 45.60 119 *e*P P 11 42 21.8 -0.7
WRAB pmax pmax
comp=Z,37nm,0.8s
WB2 Warramunga Arr 45.60 119 *e*P P 11 42 21.8 -0.8
IUG luzhnay 45.99 336 *i* P P 11 42 26.1 +0.6
comp=Z,814nm,1.1s
DZA Taraz 46.13 338 *e*P P 11 42 26.7 +0.3
comp=Z,456nm,0.9s
DZA *e*S S 11 49 10.3 -2.0
KK06 Karatay Array 46.60 337 *e*P P 11 42 29.7 -0.4
KK07 Karatay Array 46.61 337 *e*P P 11 42 29.7 -0.4
KK02 Karatay Array 46.62 337 *e*P P 11 42 29.8 -0.4
KK31 Karatay Array 46.62 337 *i* P P 11 42 30.1 -0.1
KK31 pmax pmax
comp=Z,31nm,0.8s
KKAR Karatay Array 46.62 337 *e*P P 11 42 29.9 -0.2
comp=Z,54nm,1.1s
KKAR Karatay Array 46.62 337 *e*P P 11 42 30.0 -0.2
KKAR pmax pmax
comp=Z,54nm,1.1s
KK03 Karatay Array 46.62 337 *e*P P 11 42 29.9 -0.3
KK01 Karatay Array 46.62 337 *e*P P 11 42 29.9 -0.3
KK04 Karatay Array 46.62 337 *e*P P 11 42 29.8 -0.4
KK08 Karatay Array 46.63 337 *e*P P 11 42 29.9 -0.3
MK01 Makanchi Array 46.70 350 *e*P P 11 42 30.7 -0.1
ASAR Alice Springs 46.71 124 P P 11 42 30.2 -1.1
comp=Z,2.5nm,0.4s,baz=174,slow=4.6,SNR=4.5
MK31 Makanchi Array 46.73 350 *e*P P 11 42 30.9 -0.1
MK31 Makanchi Array 46.73 350 *e*P P 11 42 30.9 -0.1
MKAR Makanchi Array 46.73 350 P P 11 42 31.3 +0.3
comp=Z,37nm,0.8s,baz=165,slow=8.8,SNR=80
MKAR Makanchi Array 46.73 350 *e*P P 11 42 30.9 -0.1
comp=Z,184nm,0.8s
MKAR Makanchi Array 46.73 350 *e*P P 11 42 30.9 -0.1
MKAR pmax pmax
comp=Z,184nm,0.8s
ZSN Zaisan 46.98 353 *i* P P 11 42 34.5 +1.6
comp=Z,220nm,1.0s
BTLS Baital 47.09 342 *e*P P 11 42 33.1 -0.6
comp=Z,230nm,0.8s
BTLS LR LR 12 03 52.1
comp=Z,24µm,14.3s
TJN Taejon 47.70 38 *e*P P 11 42 37.9 -0.8
SONM Songino Array 48.31 12 P P 11 42 44.8 +1.4
comp=Z,26nm,0.9s,baz=191,slow=9.2,SNR=34
ULN Ulaanbaatar 48.48 13 *e*P P 11 42 45.4 +0.7
comp=Z,24nm,1.3s
ULN Ulaanbaatar 48.48 13 *ce*P P 11 42 45.1 +0.4
ULN pmax pmax
comp=Z,24nm,1.2s
KSAR Wonju Array Be 48.71 37 P P 11 42 47.4 +0.9
KSAR Wonju Array Be 48.71 37 P P 11 42 47.4 +0.9
KS01 Wonju Array Si 48.73 37 *e*P P 11 42 46.7 0.0
KSRS Korea Array 48.74 37 P P 11 42 47.4 +0.7
comp=Z,6.9nm,0.9s,baz=232,slow=8.7,SNR=15
OPO Ambohidratompo 48.80 244 P P 11 42 47.2 -0.5
comp=Z,4.5nm,1.0s,baz=71,slow=5.6,SNR=2.2
GYB1 ALIBECK ARRAY 48.81 323 *e*P P 11 42 48.4 +1.1
comp=Z,73nm,1.1s
GYA1 ALIBECK ARRAY 48.82 323 *e*P P 11 42 48.5 +1.1
comp=Z,57nm,1.1s
GYB2 ALIBECK ARRAY 48.82 323 *e*P P 11 42 48.5 +1.1
comp=Z,63nm,1.0s
GYB5 ALIBECK ARRAY 48.82 323 *e*P P 11 42 48.1 +0.6
comp=Z,36nm,0.8s
GEYT Alibeck 48.82 323 P P 11 42 49.0 +1.5
comp=Z,29nm,0.7s,baz=156,slow=9.1,SNR=40
GYA0 ALIBECK ARRAY 48.82 323 *e*P P 11 42 48.5 +1.0
comp=Z,71nm,1.1s
GYA0B ALIBECK ARRAY 48.82 323 *e*P P 11 42 48.1 +0.7
comp=Z,67nm,1.1s
GYA2 ALIBECK ARRAY 48.82 323 *e*P P 11 42 48.6 +1.2
comp=Z,63nm,1.0s
GYB3 ALIBECK ARRAY 48.83 323 *e*P P 11 42 48.6 +1.2
comp=Z,63nm,1.1s
GYB4 ALIBECK ARRAY 48.84 323 *e*P P 11 42 48.6 +1.1
comp=Z,64nm,1.1s
DGZ Jazzator, Alta 48.94 355 *i* P P 11 42 46.9 -1.3
DGZ pmax pmax
comp=Z,9.0nm,0.9s
DAMY Dhamar 49.78 288 *e*P P 11 42 56.7 +1.3
comp=Z,53nm,1.1s
HVS Khovu-Aksy 50.16 1 *e*P P 11 42 57.6 +0.2
HVS pmax pmax
comp=Z,83nm,0.9s
OTUK Ortayu 50.48 342 P P 11 42 59.5 -0.3
OTUK pmax pmax
comp=Z,61nm,0.8s
SEM Semipalatinsk 50.58 350 *e*P P 11 43 00.5 -0.2
comp=Z,42µm,15.7s
SEM LR LR 12 04 28.6
comp=Z,42µm,15.7s
KURBB Kurchatov Arra 51.11 348 P P 11 43 04.3 -0.2
comp=Z,28nm,0.9s,baz=170,slow=7.1,SNR=72
RAYN Ar Rayn 51.13 300 *e*P P 11 43 05.1 -0.2
comp=Z,37nm,0.9s
RAYN Ar Rayn 51.13 300⇑ *e*P P 11 43 05.6 +0.4
RAYN pmax pmax
comp=Z,35nm,0.8s
KURK Kurchatov 51.18 348 *e*P P 11 43 04.9 -0.2
comp=Z,47nm,1.0s
KURK Kurchatov 51.18 348 *ce*P P 11 43 04.1 -0.9
KURK pmax pmax
comp=Z,305nm,0.8s
TLY Talaya 51.51 9 *e*P P 11 43 09.6 +2.0
TLY pmax pmax
comp=Z,8.0nm,0.7s
BRZS Berezniki 51.94 344 *i* P P 11 43 10.6 -0.1
comp=Z,22nm,1.0s
ZAA0 Zalesovo Array 53.38 354 *e*P P 11 43 21.2 -0.1
comp=Z,37nm,0.8s
ZALV Zalesovo Beam 53.38 354 P P 11 43 21.0 -0.3
comp=Z,33nm,0.7s,baz=179,slow=7.2,SNR=3.7
HIA Hailar 53.52 22 *e*P P 11 43 23.2 +0.7
HIA pmax pmax
comp=Z,13nm,1.0s
MTSU Mount Surprise 53.99 113 P P 11 43 29.5 +3.0
baz=54,SNR=4.7
NVS Novosibirsk 54.44 353 *e*P P 11 43 28.6 -0.4
NVS pmax pmax
comp=Z,34nm,1.0s
NVS pmax pmax
comp=N,19nm,0.9s
NVS pmax pmax
comp=E,13nm,0.9s
MJAR Matsushiro Arr 54.98 44 P P 11 43 33.0 -0.4
comp=E,3.1nm,0.9s,baz=238,slow=7.7,SNR=5.6
PMG Port Moresby 55.03 102 P P 11 43 31.6 -2.4
comp=E,14nm,1.0s,baz=214,slow=7.3,SNR=2.3
KRAR Krasnoyarsk 55.04 0 *e*P P 11 43 33.2 -0.2
HTT Hallett 55.09 133 P P 11 43 38.9 +4.7
baz=56,SNR=3.9
BVA0 Borovoye Array 55.30 344 *i* P P 11 43 33.9 -1.5
BVA0 pmax pmax
comp=Z,30nm,1.3s
BVAR Borovoye Array 55.30 344 P P 11 43 34.3 -1.0
comp=Z,17nm,0.8s,baz=144,slow=8.4,SNR=52
BRVK Borovoye 55.36 344 *e*P P 11 43 34.8 -0.9
comp=Z,14nm,0.8s
BRVK Borovoye 55.36 344 *ce*P P 11 43 34.9 -0.9
BRVK pmax pmax
comp=Z,45nm,1.0s
USRK Ussuriysk Ar. 55.44 33 P P 11 43 37.1 +0.7
comp=Z,4.5nm,0.9s,baz=234,slow=6.1,SNR=4.4
KMBO Kilima Mbogo 55.61 268 P P 11 43 40.3 +1.7
comp=Z,4.7nm,1.0s,baz=53,slow=20,SNR=2.4
AB07 Akbulak array 55.89 335 *e*P P 11 43 38.8 -0.8
AB06 Akbulak array 55.90 335 *e*P P 11 43 38.9 -0.8
AB08 Akbulak array 55.90 335 *e*P P 11 43 38.9 -0.8
AB03 Akbulak array 55.90 335 *e*P P 11 43 38.9 -0.8
AB01 Akbulak array 55.91 335 *e*P P 11 43 38.9 -0.8
AB31 Akbulak array 55.91 335 *i* P P 11 43 38.9 -0.8
AB31 pmax pmax
comp=Z,37nm,0.8s
ABKAR Akbulak array 55.91 335 *e*P P 11 43 38.9 -0.8
comp=Z,1.1nm,0.5s
AB02 Akbulak array 55.91 335 *e*P P 11 43 38.9 -0.9
AB04 Akbulak array 55.91 335 *e*P P 11 43 39.0 -0.8
AB05 Akbulak array 55.92 335 *e*P P 11 43 39.0 -0.8
AB09 Akbulak array 55.92 335 *e*P P 11 43 39.0 -0.9
STKA Stephens Creek 56.39 130 P P 11 43 43.7 +0.1
comp=Z,16nm,0.9s,baz=283,slow=8.0,SNR=2.8
STKA Stephens Creek 56.39 130 P P 11 43 48.0 +4.4
baz=57,SNR=4.7
GNI Garni 58.62 318 P P 11 43 59.3 0.0
comp=Z,11nm,0.4s,baz=322,slow=18,SNR=7.7
GNI Garni 58.62 318 *e*P P 11 44 00.6 +1.2
comp=Z,48nm,1.1s
GNI Garni 58.62 318 *ce*P P 11 43 58.1 -1.2
GNI pmax pmax
comp=Z,157nm,1.2s
KLR Kul'dur 58.64 29 P P 11 43 59.0 0.0
comp=Z,0.7nm,1.0s,baz=269,slow=5.0,SNR=6.3
ARPS Mount Arapiles 58.77 135 P P 11 44 04.9 +4.7
baz=59,SNR=9.6
DGRG David-gareji 58.85 320 P P 11 44 01.2 +0.4
DGRG David-gareji 58.85 320 *e*P P 11 44 01.2 +0.4
BOD Bodaibo 59.29 13 *e*P P 11 44 01.2 -2.2
BOD pmax pmax
comp=Z,29nm,1.3s
TBLG Delisi 59.40 320 P P 11 44 05.8 +1.2
TBLG Delisi 59.40 320 *e*P P 11 44 05.6 +1.1
comp=Z,96nm,1.0s
TBLG Delisi 59.40 320 *e*P P 11 44 05.8 +1.2
CMSA Cobar Meteorol 59.45 128 P P 11 44 09.5 +4.5
baz=60,SNR=13
GROC Groznyy 59.49 322 *e*P P 11 44 05.7 +0.6
GROC *e* 11 44 52.2
GROC pmax pmax
comp=Z,67nm,0.8s
GUDG Gudauri 59.94 320 P P 11 44 10.6 +2.1
AKH Akhalkalaki 60.06 319 *e*P P 11 44 11.1 +1.8
comp=Z,22nm,1.1s
AKH Akhalkalaki 60.06 319 *e*P P 11 44 11.1 +1.8
AKH pmax pmax
comp=Z,23nm,1.1s
ZEI Tsey 60.47 320 *e*P P 11 44 12.1 0.0
ZEI pmax pmax
comp=Z,16nm,0.7s
ONI Oni 60.66 320 P P 11 44 14.3 +1.1
ONI Oni 60.66 320 *e*P P 11 44 14.3 +1.1
NCK Nalchik 61.02 321 *ce*P P 11 44 14.7 -0.9
ASF Jabal al Asfar 61.17 307 P P 11 44 18.2 +1.3
comp=Z,16nm,0.9s,baz=46,slow=7.5,SNR=8.6
NEY Neytrino 61.45 320 *ce*P P 11 44 19.1 +0.4
SVE Sverdlovsk 61.53 341 *e*P P 11 44 17.8 -1.0
KBZ Khabaz 61.57 321 P P 11 44 19.8 +0.5
comp=Z,18nm,1.0s,baz=114,slow=5.4,SNR=20
KIV Kislovodsk 61.81 321 P P 11 44 22.1 +1.0
SNR=5.4
KIV Kislovodsk 61.81 321 P P 11 44 22.1 +1.0
SNR=5.4
KIV Kislovodsk 61.81 321 P P 11 44 22.1 +1.0
KIV Kislovodsk 61.81 321 *e*P P 11 44 18.3 -2.8
KIV pmax pmax
comp=Z,41nm,1.1s
ARU Arti 61.93 339 P P 11 44 20.4 -1.0
comp=Z,8.1nm,0.6s,baz=121,slow=4.4,SNR=11
ARU Arti 61.93 339 *c i*P P 11 44 20.3 -1.2
ARU S S 11 52 41.2 -4.2
ARU pmax pmax
comp=Z,54nm,1.7s
MMAI Mount Meron Ar 62.63 307 P P 11 44 28.6 +1.8
comp=Z,11nm,0.7s,baz=104,slow=6.1,SNR=9.2
YSS Yuzh-Sakhalins 63.19 36 *e*P P 11 44 30.4 +0.4
YSS pmax pmax
comp=Z,19nm,1.1s
BR131 Keskin Array S 66.19 314 *e*P P 11 44 49.9 -0.2
BRTR Keskin Array B 66.19 314 P P 11 44 49.8 -0.2
comp=Z,23nm,0.9s,baz=132,slow=7.2,SNR=58
ILGA Ilgaz 66.60 315 *e*P P 11 44 53.2 +0.5
comp=Z,61nm,1.1s
ANTO Ankara 66.85 314 *e*P P 11 44 54.3 +0.1
comp=Z,42nm,0.8s
ANTO Ankara 66.85 314 P P 11 44 53.6 -0.6
SNR=5.9
ANTO Ankara 66.85 314 P P 11 44 53.6 -0.6
SNR=5.9
ANTO Ankara 66.85 314 *e*P P 11 44 54.3 +0.1
ANTO pmax pmax
comp=Z,42nm,0.8s
YAK Yakutsk 67.08 18 *e*P P 11 44 50.4 -4.7
comp=Z,85nm,1.0s
YAK Yakutsk 67.08 18 *e*P P 11 44 53.9 -1.1
YAK *e* 11 45 04.1
YAK pmax pmax
comp=Z,24nm,0.9s
YAK pmax pmax
comp=N,5.0nm,1.0s
YAK pmax pmax
comp=E,7.0nm,1.3s
YAK pmax pmax
comp=Z,82nm,1.0s
YAK pmax pmax
comp=N,22nm,1.1s
YAK pmax pmax
comp=E,28nm,1.1s
MANT Manisa 69.57 311 *e*P P 11 45 11.8 +0.3
comp=E,74nm,0.9s
KARP Karpathos 69.89 308 *e*P P 11 45 13.8 +0.6
comp=E,68nm,0.8s
MOS Moscow 70.48 330 *e*P P 11 45 14.3 -2.1
MOS pmax pmax
comp=Z,110nm,1.2s
OBN Obninsk 70.71 330 *e*P P 11 45 17.2 -0.6
OBN *e* 11 45 37.8
OBN *e* 11 47 51.4
OBN *e*PPP PPP 11 49 36.4
OBN pmax pmax
comp=Z,87nm,1.7s
BOSA Boshof 70.81 239 P P 11 45 17.8 -1.4
comp=Z,5.0nm,0.8s,baz=83,slow=7.2,SNR=5.5
MAW Mawson 71.39 192 P P 11 45 20.9 -0.7
comp=Z,8.1nm,0.9s,baz=27,slow=18,SNR=3.3
TIRR Tirgusor 71.41 317 ⇓ *i*P P 11 45 22.0 -0.3
TIRR Tirgusor 71.41 317 *e*P P 11 45 21.7 -0.5
comp=Z,31nm,1.1s
TIRR Tirgusor 71.41 317 *e*P P 11 45 21.7 -0.5
TIRR pmax pmax
comp=Z,31nm,1.1s
APE Apeiranthos 71.53 309 ⇓ *i*P P 11 45 22.6 -0.6
IDI Anoyia 71.63 307 P P 11 45 24.2 +0.3
comp=Z,51nm,0.8s,baz=93,slow=10,SNR=24
IDI Anoyia 71.63 307 ⇓ *i*P P 11 45 24.7 +0.8
TLB Topalu 71.70 317 ⇑ *i*P P 11 45 24.3 +0.3
KLMR Klimovskoe 72.27 336 *e*P P 11 45 24.4 -2.7
KLMR AMP 11 45 27.3
comp=Z,44nm,1.1s
KLMR Klimovskoe 72.27 336 *e*P P 11 45 24.3 -2.8
KLMR pmax pmax
comp=Z,44nm,1.1s
SORM Soroca 72.61 321 ⇓ *i*P P 11 45 28.8 -0.6
AKASG Malin Array Be 72.94 323 P P 11 45 30.1 -1.2
comp=Z,7.6nm,0.8s,baz=90,slow=4.4,SNR=5.9
KIEV Kiev 72.95 323 *ce*P P 11 45 29.9 -1.5
KIEV pmax pmax
comp=Z,7.0nm,1.0s
AK11 Malin Array Si 72.97 323 *e*P P 11 45 30.5 -1.0
VRI Vrincioaia 72.97 318 ⇑ *i*P P 11 45 32.3 +0.7
PLOR Plostina 73.02 318 ⇑ *i*P P 11 45 32.3 +0.4
TESR Tescani 73.21 319 ⇓ *i*P P 11 45 32.7 -0.3
MLR Muntele Rosu 73.39 318 P P 11 45 34.1 -0.2
comp=Z,8.1nm,1.1s,baz=62,slow=4.6,SNR=17
MLR Muntele Rosu 73.39 318 ⇑ *i*P P 11 45 34.8 +0.5
MLR Muntele Rosu 73.39 318 *e*P P 11 45 34.7 +0.5
comp=Z,54nm,1.1s
MA2 Magadan 73.61 27 P P 11 45 36.4 +1.3
comp=Z,5.9nm,1.0s,baz=190,slow=8.5,SNR=3.8
DOPR Dopca 73.89 318 ⇑ *i*P P 11 45 37.8 +0.7
ARR Arges 74.24 317 ⇑ *i*P P 11 45 38.9 -0.3
TIXI Tiksi 74.38 11 *ce*P P 11 45 37.6 -1.7
BURAR Bucovina Array 74.47 320 ⇑ *i*P P 11 45 41.3 +0.8
BUR04 Bucovina Ar. S 74.47 320 *e*P P 11 45 40.7 +0.2
BUR08 Bucovina Ar. S 74.49 320 *e*P P 11 45 41.2 +0.6
VTS Vitosha 74.55 314 ⇑ *i*P P 11 45 41.1 0.0
TMCR Tamitsa 74.63 338 *e*P P 11 45 40.2 -0.7
TMCR pmax pmax
comp=Z,28nm,0.6s
SEY Seymchan 75.87 24 *e*P P 11 45 48.1 0.0
UZH Uzhgorod 76.62 320 *e*P P 11 45 52.8 +0.1
UZH *e* 11 46 03.6
VSU Vasula 77.02 330 *e*P P 11 45 53.3 -1.4
VSU pmax pmax
comp=Z,65nm,1.0s
STHS Stebnicka Huta 77.48 321 *e*P P 11 45 58.3 +0.7
STHS Stebnicka Huta 77.48 321 *e*P P 11 45 58.3 +0.7
STHS pmax pmax
comp=Z,16nm,1.1s
APA Apatity 78.00 340 ⇓ *i*P P 11 45 59.3 -0.7
APA MLR MLR
comp=Z,80µm,20.0s
SYO Syowa Base 78.31 197 ⇑ *i*P P 11 46 01.0 -0.6
FIA1 FINESS Array S 78.36 333 *e*P P 11 46 01.2 -0.9
FINES FINESS Array B 78.36 333 P P 11 46 01.6 -0.5
comp=Z,18nm,0.8s,baz=104,slow=8.0,SNR=34
VYHS Vyhne 78.83 319 *e*P P 11 46 05.4 +0.3
VYHS Vyhne 78.83 319 *e*P P 11 46 05.4 +0.3
VYHS pmax pmax

comp=Z,17nm,1.3s
MODS Modra-Piesok 79.83 319 *e*P **P 11 46 11.0 +0.5**
MODS Modra-Piesok 79.83 319 *e*P **P 11 46 11.1 +0.5**
KRLC Kraliky 80.45 321 *e*P **P 11 46 14.6 +0.7**
KRLC Kraliky 80.45 321 *e*P **P 11 46 14.6 +0.7**
CONA Conrad Observa 80.69 318 *i* P **P 11 46 15.4 +0.2**
comp=Z,11nm,1.2s
DPC Dobruska-Polom 80.79 321 *e*P **P 11 46 16.8 +1.1**
DPC *ex* x 11 46 23.9
DPC Dobruska-Polom 80.79 321 *e*P **P 11 46 16.8 +1.1**
DPC *e* 11 46 23.9
ARSA Arzberg 80.81 318 *i* P **P 11 46 16.7 +0.8**
comp=Z,44nm,1.4s,SNR=7.5
SOKA Soboth 81.05 317 *i* P **P 11 46 17.9 +0.7**
comp=Z,26nm,0.9s,SNR=8.4
OBKA Obir 81.36 317 *i* P **P 11 46 19.5 +0.7**
comp=Z,16nm,0.9s
ARCES ARCESS Array B 81.46 341 P **P 11 46 18.4 -0.4**
comp=Z,20nm,0.9s,baz=98,slow=5.0,SNR=20
MYKA Terra Mystica 82.00 317 *i* P **P 11 46 22.6 +0.4**
comp=Z,23nm,1.4s
GEA0 GERESS Array S 82.25 319 *e*P **P 11 46 23.5 0.0**
GEC2 GERESS Array S 82.25 319 *e*P **P 11 46 24.1 +0.6**
comp=Z,36nm,1.0s
GEC2 GERESS Array S 82.25 319 *e*P **P 11 46 24.1 +0.6**
GEC2 pmax pmax
comp=Z,36nm,1.0s
GERES GERESS Array B 82.25 319 P **P 11 46 23.8 +0.3**
comp=Z,12nm,0.8s,baz=101,slow=5.6,SNR=39
KBA Koelnbreinsper 82.26 317 *i* P **P 11 46 23.7 0.0**
comp=Z,7.9nm,0.9s
KHC Kasperske Hory 82.36 319 *e*P **P 11 46 24.3 +0.3**
KHC *ex* x 11 46 32.9
KHC *ex* x 11 46 36.1
KHC Kasperske Hory 82.36 319 *e*P **P 11 46 24.3 +0.3**
KHC *e* 11 46 32.9
BRG Berggiesshubel 82.37 321 *i* P **P 11 46 24.3 +0.3**
comp=Z,67nm,1.9s
BRG Berggiesshubel 82.37 321 *i* P **P 11 46 24.3 +0.3**
BRG pmax pmax
comp=Z,67nm,2.0s
ABTA Abfaltersbach 82.78 317 *i* P **P 11 46 26.0 -0.3**
comp=Z,12nm,0.9s
CLL Collm 83.02 322 *i* P **P 11 46 27.4 +0.1**
CLL *i* 11 47 05.1
CLL Collm 83.02 322 *i* P **P 11 46 26.6 -0.7**
BILL Bilibino 83.11 21⇑ *e*P **P 11 46 29.8 +2.4**
BILL *e* 11 49 37.2
BILL *e*S S 11 58 02.5 +76
BILL pmax pmax
comp=Z,1.0nm,0.8s
BILL MLR MLR
comp=Z,61µm,18.0s
WTTA Wattenberg 83.44 317 *i* P **P 11 46 29.6 -0.2**
comp=Z,28nm,1.3s
MOTA Moosalm 83.80 317 *i* P **P 11 46 31.5 -0.1**
comp=Z,21nm,0.8s,SNR=8.7
HFS Hagfors 83.90 330 P **P 11 46 31.9 +0.2**
comp=Z,8.9nm,0.9s,baz=99,slow=9.3,SNR=7.8
FETA Feichten 84.03 317 *i* P **P 11 46 33.0 +0.2**
comp=Z,16nm,1.0s
RETA Reutte 84.05 318 *i* P **P 11 46 32.9 +0.1**
comp=Z,18nm,0.7s
KEST Kesra 84.24 306 P **P 11 46 35.4 +1.3**
comp=Z,8.5nm,0.8s,baz=47,slow=0.8,SNR=5.4
DAVA Damuels 84.63 317 *i* P **P 11 46 36.4 +0.5**
comp=Z,41nm,0.9s,SNR=7.9
NB2 NORSAR Subarra 85.24 331 P **P 11 46 37.7 -0.8**
comp=Z,10nm,1.0s,baz=93,slow=5.1
NOA NORSAR Array B 85.24 331 P **P 11 46 37.6 -0.8**
comp=Z,5.5nm,0.9s,baz=95,slow=5.7,SNR=8.3
NOA PP **PP 11 49 51.0 -5.0**
comp=Z,1.0nm,0.8s,baz=101,slow=7.2,SNR=4.0
NBO02 NORSAR Array S 85.41 331 *e*P **P 11 46 38.5 -0.8**
BFO Black Forest 85.75 318 *i* P **P 11 46 41.5 +0.2**
SPITS Spitsbergen Ar 86.46 348 P **P 11 46 43.8 -0.4**
comp=Z,9.7nm,0.7s,baz=116,slow=3.4,SNR=8.4
EKA Eskdalemuir Ar 92.77 325 P **P 11 47 13.9 -0.5**
comp=Z,4.0nm,0.9s,baz=106,slow=6.7,SNR=6.3
SCO Scoresbysund 97.34 342 *i* P **P 11 47 32.6 -2.3**
SCO Scoresbysund 97.34 342 *i* P **P 11 47 32.6 -2.3**
INK Inuvik 104.11 16 *e*Pdif **Pdif 11 48 04.5 -0.6**
INK Inuvik 104.11 16 *e*P **Pdif 11 48 04.5 -0.6**
NVAR Mina Array Bea 131.57 33 PKP **PKPdf 11 53 15.8 +0.2**
comp=Z,0.3nm,0.6s,baz=191,slow=0.9,SNR=2.8
PDAR Pinedale Array 132.18 22 PKP **PKPdf 11 53 14.0 -2.6**
comp=Z,0.4nm,0.6s,baz=327,slow=6.5,SNR=8.2
WMOK Wichita Mounta 143.01 16 P PKPab 11 53 31.8 +0.1
baz=340
WMOK Wichita Mounta 143.01 16 *e*PKPdf PKPab 11 53 32.0 +0.4
WMOK Wichita Mounta 143.01 16 *e*PKIKP PKPab 11 53 32.0 +0.4
W47A Westpoint 144.13 1 P **PKPab 11 53 34.9 -1.1**
baz=359
W45A Hickory Valley 144.18 3 P **PKPab 11 53 35.8 -0.3**
baz=356
W46A Michie 144.24 2 P **PKPab 11 53 35.2 -1.1**
baz=358
W48A Pulaski 144.25 360 P **PKPab 11 53 35.4 -0.9**
baz=0.4
X39A Fountain Ranch 144.28 10 P PKPbc 11 53 36.6 -0.2
baz=348
MIAR Mount Ida 144.33 9 P **PKPab 11 53 36.7 0.0**
baz=349
MIAR Mount Ida 144.33 9 *e*PKPdf **PKPab 11 53 36.5 -0.1**
MIAR Mount Ida 144.33 9 *e*PKIKP **PKPab 11 53 36.6 -0.1**
PLAL Pickwick Lake 144.40 1 *e*PKPdf **PKPab 11 53 36.3 -0.6**
X40A Basin Creek Fa 144.50 8 P **PKPab 11 53 36.9 -0.4**
baz=350
ABTX Abilene, Hawle 144.73 18 *e*PKPdf **PKPab 11 53 37.9 -0.4**
OXF Oxford 144.81 3 P **PKPab 11 53 37.2 -1.2**
baz=356
X47A Russelville 144.86 1 P **PKPab 11 53 37.2 -1.5**
baz=359
X49A Woodville 144.87 359 P **PKPab 11 53 37.0 -1.7**
baz=1.4
Y40A Okolona 144.90 9 P **PKPab 11 53 38.5 -0.2**
baz=349
X48A Hartselle 144.93 360 P **PKPab 11 53 37.2 -1.7**
baz=0.2
Y41A Eaglette Beard 145.13 8 P **PKPbc 11 53 39.1 -0.5**
baz=350
WLAR White Oak Lake 145.24 9 *e*PKPbc **PKPdf 11 53 40.6 +0.2**
Y42A Garnett, Star 145.28 7 P **PKPbc 11 53 39.9 -0.1**
baz=352
Y43A Makayla and Ka 145.29 6 P **PKPbc 11 53 39.7 -0.3**
baz=353
Y45A Yeager Farm, C 145.45 3 P **PKPbc 11 53 39.9 -0.7**
baz=356
Y46A Houston 145.47 2 P **PKPbc 11 53 39.5 -1.2**
baz=357
Y48A Jasper 145.47 0 P **PKPbc 11 53 39.4 -1.3**
baz=360
Y47A UCPARC, Winfie 145.48 1 P **PKPbc 11 53 39.0 -1.7**
baz=359
Y49A Blount Mountai 145.52 359 P **PKPdf 11 53 39.7 -1.2**
baz=1.3
GOGA Godfrey 145.79 354 *e*PKPbc **PKPdf 11 53 40.9 -0.4**
GOGA Godfrey 145.79 354 *e*PKP2 **PKPdf 11 53 40.9 -0.4**
Z44A Pea Ridge, Bel 145.97 5 P **PKPbc 11 53 42.0 -0.2**
baz=354
Z48A Northport 146.00 1 P **PKPdf 11 53 40.8 -0.9**
baz=359
TX31 Lajitas Ar. Si 146.14 26 *e*PKPdf **PKPdf 11 53 39.9 -2.3**
TX31 *e*PKPdf **PKPbc 11 53 41.6 -1.4**
TXAR Lajitas Array 146.14 26 PKP **PKPdf 11 53 40.0 -2.2**
comp=Z,2.4nm,0.6s,baz=320,slow=2.4,SNR=25
TXAR PKPbc **PKPbc 11 53 42.9 -0.2**
comp=Z,2.5nm,0.6s,baz=273,slow=0.6,SNR=20
Z49A Columbiana 146.18 359 P **PKPdf 11 53 41.6 -0.4**
baz=1.1
JCT Junction City 146.65 20 P **PKPdf 11 53 43.0 +0.2**
baz=337
JCT Junction City 146.65 20 *e*PKPdf **PKPdf 11 53 43.1 +0.2**
JCT Junction City 146.65 20 *e*PKP2 **PKPdf 11 53 43.1 +0.2**
146A Union 146.70 3 P **PKPbc 11 53 44.0 -0.4**
baz=356
148A Greensboro 146.73 1 P **PKPdf 11 53 43.5 +0.6**
baz=359
150A Eclectic 146.76 358 P **PKPdf 11 53 43.2 +0.2**
baz=2.0
151A Opelika 146.81 357 P **PKPdf 11 53 43.5 +0.4**
baz=3.3
251A Midway 147.25 357 P **PKPbc 11 53 45.0 -1.0**
baz=3.2
252A Lumpkin 147.30 356 P **PKPbc 11 53 45.7 -0.5**
baz=4.5

HKT Hockley 148.32 14 *i* PKIKP **PKPdf 11 53 43.3 -2.3**
LPAZ La Paz 155.73 230 PKPbc PKPdf 11 54 06.4 +8.6
comp=Z,1.5nm,0.9s,baz=184,slow=3.0,SNR=2.6
SDV Santo Domingo 160.93 301 PKPab **PKPab 11 54 46.8 +0.6**
comp=Z,2.2nm,0.5s,baz=90,slow=4.0,SNR=4.1

*ISCJB **11** 11:39:17.7±0.4, 0.°77N±0.°07×92.°37E±0.°05, h10km, mb4.6/31, Error ellipse: s-maj=11.0km s-min=7.3km az=14.8*
*IDC **11** 11:39:17.4±0.6, 0.°75N×92.°31E, h0km, mb4.5/19, mb1 4.6/20, mb1mx4.3/68, mbtmp4.5/20, ML4.2/1, Error ellipse: s-maj=23.6km s-min=13.6km az=47.0*
*NEIC **11** 11:39:19.0±0.5, 0.°72N×92.°24E, h10km, mb4.6/3, Error ellipse: s-maj=12.4km s-min=8.2km az=197.0*
*BJI **11** 11:39:25.0, 1.°40N×92.°40E, h10km, mb5.0/10*
ISC 11 11:39:19.6±0.6, 0.°7N±0.°1×92.°35E±0.°08, h10km, n63, σ1ş44/68, mb4.8/39, 1C-7D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GSI	**Gunungsitoli**	**5.26**	**84**	*e*Pn	**Pn**	**11 40 38.3**	**0.0**
PSI	**Prapat**	**6.89**	**72**	Pn	**Pn**	**11 41 04.5**	**+3.6**
	4.6nm,0.3s,baz=337,slow=7.7,SNR=4.9						
IPM	**Ipoh**	**9.44**	**67**	*e*Pn	**Pn**	**11 41 36.7**	**+0.9**
KULM	**Kulim**	**9.45**	**61**	*e*Pn	**Pn**	**11 41 37.4**	**+1.5**
	110nm,1.0s						
PALK	**Pallekele**	**13.31**	**300**	Pn	**Pn**	**11 42 30.8**	**+2.0**
	6.1nm,0.3s,baz=116,slow=13,SNR=4.2						
CMAR	**Chiang Mai Arr**	**18.78**	**20**	P	**P**	**11 43 36.6**	**-2.6**
	0.3nm,0.3s,baz=216,slow=12,SNR=4.5						
CHTO	**Chiang Mai**	**19.11**	**19**	*e*P	**P**	**11 43 41.0**	**-1.9**
	55nm,1.6s						
LSA	**Lhasa**	**28.85**	**358**	P	**P**	**11 45 17.4**	**-1.5**
	129nm,1.6s						
XAN	**Xi'an**	**36.61**	**23**	P	**P**	**11 46 27.3**	**+1.1**
XAN				pP	sP	11 46 32.7	+2.2
XAN				pmax	pmax		
	comp=Z,21nm,1.0s						
FITZ	**Fitzroy Crossi**	**37.71**	**121**	P	**P**	**11 46 34.7**	**-1.0**
	2.6nm,0.8s,baz=330,slow=8.1,SNR=3.2						
GTA	**Gaotai**	**39.11**	**9**	*e*P	**P**	**11 46 47.5**	**+0.1**
GTA				pP	sP	11 46 53.7	+2.0
GTA				sP	pP	11 46 57.3	+6.8
GTA				pmax	pmax		
	comp=Z,20nm,1.0s						
BJT	**Baijiatuau**	**44.73**	**26**	P	**P**	**11 47 35.7**	**+2.5**
	61nm,1.0s						
WRA	**Warramunga Arr**	**45.98**	**119**	P	**P**	**11 47 43.0**	**-0.4**
	4.2nm,0.6s,baz=296,slow=8.6,SNR=9.0						
WRAB	**Tennant Creek**	**45.98**	**119**	*e*P	**P**	**11 47 43.1**	**-0.4**
	10nm,1.0s						
MKAR	**Makanchi Array**	**46.73**	**351**	P	**P**	**11 47 46.6**	**-2.3**
	6.6nm,0.7s,baz=175,slow=8.9,SNR=13						
ASAR	**Alice Springs**	**47.07**	**124**	P	**P**	**11 47 51.3**	**-0.6**
	1.2nm,0.7s,baz=306,slow=6.8,SNR=4.2						
OPO	**Ambohidratompo**	**48.33**	**244**	P	**P**	**11 48 02.0**	**0.0**
	1.5nm,0.3s,baz=59,slow=2.9,SNR=6.1						
SONM	**Songino Array**	**48.49**	**13**	P	**P**	**11 48 02.1**	**-0.6**
	16nm,0.9s,baz=194,slow=7.7,SNR=19						
GEYT	**Alibeck**	**48.60**	**324**	P	**P**	**11 48 02.2**	**-1.4**
	9.0nm,0.8s,baz=148,slow=8.7,SNR=8.0						
ULN	**Ulaanbaatar**	**48.67**	**13**	*e*P	**P**	**11 48 03.3**	**-0.8**
	20nm,1.3s						
RAYN	**Ar Rayn**	**50.75**	**300**	*e*P	**P**	**11 48 19.2**	**-1.1**
	6.7nm,0.9s						
KURBB	**Kurchatov Arra**	**51.09**	**349**	P	**P**	**11 48 21.8**	**-0.5**
	8.8nm,0.9s,baz=173,slow=7.5,SNR=8.9						
KURK	**Kurchatov**	**51.16**	**349**	P	**P**	**11 48 21.8**	**-1.0**
ZALV	**Zalesovo Beam**	**53.42**	**354**	P	**P**	**11 48 39.7**	**+0.2**
	4.4nm,0.3s,baz=180,slow=7.1,SNR=4.1						
BVAR	**Borovoye Array**	**55.24**	**344**	P	**P**	**11 48 51.7**	**-1.2**
	6.5nm,0.9s,baz=180,slow=2.9,SNR=3.6						
STKA	**Stephens Creek**	**56.71**	**130**	P	**P**	**11 49 03.1**	**-0.7**
	0.9nm,0.7s,baz=333,slow=14,SNR=2.2						
KLR	**Kul'dur**	**58.94**	**29**	P	**P**	**11 49 19.4**	**+0.3**
	0.3nm,0.9s,baz=94,slow=19,SNR=3.3						
KBZ	**Khabaz**	**61.33**	**321**	P	**P**	**11 49 34.0**	**-1.6**
	8.8nm,0.9s,baz=126,slow=4.2,SNR=8.4						
KIV	**Kislovodsk**	**61.57**	**321**	*e*P	**P**	**11 49 37.4**	**0.0**
	68nm,1.3s						
BRTR	**Keskin Array B**	**65.89**	**314**	P	**P**	**11 50 03.5**	**-2.6**
	3.3nm,0.9s,baz=131,slow=6.7,SNR=6.5						
TLB	**Topalu**	**71.43**	**317**	*i*P	**P**	**11 50 41.7**	**+1.4**
SORM	**Soroca**	**72.37**	**321**	*i*P	**P**	**11 50 46.0**	**+0.1**
VRI	**Vrincioaia**	**72.71**	**318**	*i*P	**P**	**11 50 47.9**	**-0.1**
AKASG	**Malin Array Be**	**72.72**	**324**	P	**P**	**11 50 45.2**	**-2.6**
	0.6nm,0.4s,baz=91,slow=4.9,SNR=5.3						
PLOR	**Plostina**	**72.75**	**318**	*i*P	**P**	**11 50 47.8**	**-0.5**
TESR	**Tescani**	**72.95**	**319**	*i*P	**P**	**11 50 48.7**	**-0.7**
MLR	**Muntele Rosu**	**73.12**	**318**	P	**P**	**11 50 49.9**	**-0.7**
	3.4nm,0.9s,baz=156,slow=12,SNR=8.1						
MLR	**Muntele Rosu**	**73.12**	**318**	*i*P	**P**	**11 50 49.9**	**-0.7**
BURAR	**Bucovina Array**	**74.21**	**320**⇑	*i*P	**P**	**11 50 56.0**	**-0.9**
VTS	**Vitosha**	**74.26**	**314**	*i*P	**P**	**11 50 55.5**	**-1.9**
STHS	**Stebnicka Huta**	**77.24**	**321**	*e*P	**P**	**11 51 16.3**	**+2.2**
STHS				*e*		11 51 21.9	
FINES	**FINESS Array B**	**78.22**	**333**	P	**P**	**11 51 19.9**	**+0.7**
	3.6nm,0.8s,baz=151,slow=3.2,SNR=2.7						
VYHS	**Vyhne**	**78.58**	**319**	*e*P	**P**	**11 51 22.3**	**+0.7**
VYHS				*e*		11 51 28.6	
KRLC	**Kraliky**	**80.21**	**321**	*e*P	**P**	**11 51 30.7**	**+0.2**
KRLC				epP	**sP**	**11 51 35.8**	**+0.8**
KRLC				*e*PCP	**PcP**	**11 51 37.8**	**+0.1**
CONA	**Conrad Observa**	**80.43**	**318**	*i* pP	**P**	**11 51 33.3**	**+1.6**
	5.1nm,1.2s						
ARSA	**Arzberg**	**80.54**	**318**	*i* pP	**P**	**11 51 34.3**	**+2.0**
	15nm,1.1s						
ARSA				*i* PcP	**PcP**	**11 51 40.1**	**+0.9**
	31nm,1.1s						
DPC	**Dobruska-Polom**	**80.55**	**321**	*e*P	**P**	**11 51 33.6**	**+1.3**
DPC				epP	**sP**	**11 51 37.7**	**+0.9**
DPC				*ex*	x	11 51 40.0	
SOKA	**Soboth**	**80.78**	**317**	*i* pP	**P**	**11 51 34.8**	**+1.1**
	22nm,1.0s						
ARCES	**ARCESS Array B**	**81.38**	**341**	P	**P**	**11 51 36.2**	**-0.1**
	5.8nm,0.9s,baz=108,slow=2.9,SNR=2.7						
MYKA	**Terra Mystica**	**81.72**	**317**	*i* pP	**P**	**11 51 40.6**	**+1.9**
	6.2nm,1.0s						
KBA	**Koelnbreinsper**	**81.99**	**317**	*i* pP	**P**	**11 51 41.4**	**+1.2**
	14nm,1.4s						
GERES	**GERESS Array B**	**81.99**	**319**	P	**P**	**11 51 39.3**	**-0.8**
	7.4nm,0.8s,baz=100,slow=5.5,SNR=14						
KHC	**Kasperske Hory**	**82.11**	**319**	*e*P	**P**	**11 51 41.7**	**+1.1**
KHC				epP	**PcP**	**11 51 46.5**	**+0.5**
BRG	**Berggiesshubel**	**82.13**	**321**	*i* P	**P**	**11 51 43.8**	**+3.2**
	13nm,1.4s						
BRG				*i*		11 51 47.8	
	54nm,1.7s						
ABTA	**Abfaltersbach**	**82.51**	**317**	*i* PcP	P	11 51 49.9	+7.0
	19nm,1.1s						
CLL	**Collm**	**82.78**	**322**	*e*P	**P**	**11 51 44.0**	**0.0**
CLL				*i*		11 51 51.3	
WTTA	**Wattenberg**	**83.17**	**317**	*i* P	**P**	**11 51 46.4**	**+0.1**
	11nm,1.1s						
MOTA	**Moosalm**	**83.53**	**317**	*i* pP	**P**	**11 51 49.2**	**+1.0**
	7.2nm,0.8s						
MOTA				*i* P	**sP**	**11 51 54.9**	**+2.2**
	21nm,0.8s						
FETA	**Feichten**	**83.76**	**317**	*i* P	P	11 51 56.8	+7.5
	25nm,1.2s						
KEST	**Kesra**	**83.90**	**306**	P	**P**	**11 51 50.6**	**+0.4**
	8.8nm,1.1s,baz=90,slow=3.0,SNR=2.4						
DAVA	**Damuels**	**84.36**	**317**	*i* pP	**P**	**11 51 54.4**	**+2.0**
	19nm,1.0s						
DAVA				*i* P	**sP**	**11 52 00.2**	**+3.3**
	56nm,1.0s						
OGNE	**Ogallala**	**136.52**	**16**	*e*PKPdf	**PKPdf**	**11 58 42.3**	**-0.2**
TXAR	**Lajitas Array**	**146.43**	**26**	PKPbc	**PKPab**	**11 59 02.2**	**-0.5**
	1.3nm,0.8s,baz=12,slow=1.2,SNR=6.6						

IDC 11 11:40:11.6±1.9, 1.°04N×94.°05E, h0km, mb4.4/6, mb1 4.5/7, mb1mx3.9/69, mbtmp4.4/7, ML4.5/1, Error ellipse: s-maj=75.6km s-min=20.4km az=54.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**17.97**	**15**	P	Pn	11 44 22.2	-0.7
	0.7nm,0.3s,baz=219,slow=12,SNR=4.5						
WRA	**Warramunga Arr**	**44.66**	**120**	P	P	11 48 28.0	+1.6
	3.8nm,1.0s,baz=297,slow=8.7,SNR=3.6						
ASAR	**Alice Springs**	**45.85**	**125**	P	P	11 48 34.1	-1.9
	1.0nm,0.8s,baz=300,slow=7.5,SNR=2.9						
MKAR	**Makanchi Array**	**46.72**	**349**	P	P	11 48 41.6	-0.7
	7.6nm,0.7s,baz=165,slow=8.2,SNR=5.6						
GEYT	**Alibeck**	**49.37**	**322**	P	P	11 49 03.0	0.0
	6.2nm,0.7s,baz=157,slow=8.0,SNR=3.5						
KURBB	**Kurchatov Arra**	**51.13**	**347**	P	P	11 49 15.6	-0.6
	4.3nm,0.8s,baz=168,slow=6.7,SNR=4.5						
ZALV	**Zalesovo Beam**	**53.28**	**353**	P	P	11 49 33.0	+0.9
	6.6nm,0.5s,baz=179,slow=6.9,SNR=3.6						

*ISCJB **11** 11:41:24.1±0.6, 2.°64N±0.°09×89.°57E±0.°06, h10km, mb4.2/12, Error ellipse: s-maj=13.7km s-min=6.9km az=27.5*
*IDC **11** 11:41:25.1±0.8, 2.°68N×89.°59E, h0km, mb4.1/11, mb1 4.3/14, mb1mx4.0/71, mbtmp4.3/14, ML4.5/3, Error ellipse: s-maj=25.0km s-min=17.7km az=43.0*
*NEIC **11** 11:41:26.3±0.5, 2.°68N×89.°55E, h10km, mb4.5/3, Error ellipse: s-maj=12.5km s-min=7.7km az=199.0*
ISC 11 11:41:25.8±0.7, 2.°6N±0.°1×89.°62E±0.°07, h10km, n40, σ1ş39/35, mb4.3/12, 1D, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**9.30**	**89**	Pn	**Pn**	**11 43 41.0**	**+0.9**
	13nm,0.3s,baz=280,slow=11,SNR=4.2						
PSI				Sn	**Sn**	**11 45 20.6**	**-4.4**
	8.7nm,0.3s,baz=168,slow=19,SNR=4.8						
PALK	**Pallekele**	**10.02**	**298**	Pn	**Pn**	**11 43 50.2**	**+0.2**
	5.7nm,0.3s,baz=116,slow=6.7,SNR=2.7						
PALK				Sn	Sn	11 45 30.8	-12
	71nm,0.3s,baz=116,slow=2.8,SNR=19						
PALK	**Pallekele**	**10.02**	**298**	*e*Pn	**Pn**	**11 43 49.1**	**-0.9**
PALK					Sn	11 45 30.8	-12
IPM	**Ipoh**	**11.54**	**80**	*e*Pn	**Pn**	**11 44 11.4**	**+0.6**
SKHT	**Srikalahasti**	**14.78**	**319**	*e*P	**Pn**	**11 44 54.0**	**-1.0**
ADKI	**Addanki**	**16.23**	**325**	*e*P	**Pn**	**11 45 12.5**	**-1.6**
PVM	**Polavaram**	**16.54**	**332**	*e*P	**Pn**	**11 45 16.0**	**-1.4**
CHLP	**Challavaripeta**	**16.71**	**341**	*e*P	**Pn**	**11 45 19.0**	**-1.2**
SRLM	**Srisailam**	**17.07**	**322**	*e*P	**Pn**	**11 45 24.9**	**+0.1**
NJS	**Nagarjunasagar**	**17.18**	**324**	*e*P	**Pn**	**11 45 25.2**	**-0.8**
URV	**Uravakonda**	**17.29**	**316**	*e*P	**P**	**11 45 28.4**	**-0.6**
CMAR	**Chiang Mai Arr**	**18.21**	**29**	P	**P**	**11 45 39.9**	**+0.7**
	0.2nm,0.3s,baz=227,slow=13,SNR=4.0						
HYBB	**Hyderabad (bro**	**18.30**	**324**	*e*P	**P**	**11 45 39.6**	**-0.5**
CHTO	**Chiang Mai**	**18.52**	**29**	*e*P	**Pn**	**11 45 43.5**	**+0.9**
	26nm,1.2s						
SRSP	**Sriramsagar**	**19.62**	**327**	*e*P	**Pn**	**11 45 55.4**	**-0.6**
H08S2	**Diego Garcia H**	**19.89**	**239**	T	T	12 06 04.5	
	baz=59,slow=75,SNR=5.1						
H08S3	**Diego Garcia H**	**19.89**	**239**	T	T	12 06 26.7	
	baz=59,slow=75,SNR=3.9						
H08S1	**Diego Carcia H**	**19.91**	**239**	T	T	12 06 09.6	
	baz=59,slow=75,SNR=4.3						
KLRI	**Killari**	**19.98**	**321**	*e*P	**P**	**11 45 58.4**	**-0.2**
KSM	**Kuching**	**20.71**	**93**	*e*P	**P**	**11 46 08.4**	**+1.9**
	52nm,1.5s						
H01W3	**Cape Leeuwin H**	**43.82**	**150**	T	T	12 36 38.8	
	baz=325,slow=74,SNR=5.1						
H01W2	**Cape Leeuwin H**	**43.83**	**150**	T	T	12 36 32.8	
	baz=325,slow=74,SNR=4.2						
H01W1	**Cape Leeuwin H**	**43.84**	**150**	T	T	12 36 50.9	
	baz=325,slow=74,SNR=6.5						
MKAR	**Makanchi Array**	**44.47**	**353**	P	**P**	**11 49 38.0**	**+0.7**
	2.0nm,0.7s,baz=165,slow=6.0,SNR=2.5						
GEYT	**Alibeck**	**45.48**	**325**	P	**P**	**11 49 47.3**	**+1.9**
	3.6nm,0.8s,baz=161,slow=9.2,SNR=3.1						
SONM	**Songino Array**	**47.33**	**15**	P	**P**	**11 50 00.3**	**+0.4**
	8.3nm,0.7s,baz=194,slow=9.8,SNR=4.1						
KURBB	**Kurchatov Arra**	**48.76**	**351**	P	**P**	**11 50 10.5**	**-0.2**
	1.4nm,0.5s,baz=179,slow=7.7,SNR=5.2						
KURK	**Kurchatov**	**48.83**	**351**	P	**P**	**11 50 10.5**	**-0.8**
WRA	**Warramunga Arr**	**49.27**	**119**	P	**P**	**11 50 16.6**	**+1.4**
	2.2nm,0.8s,baz=298,slow=8.6,SNR=3.0						
ASAR	**Alice Springs**	**50.38**	**124**	P	**P**	**11 50 25.0**	**+1.4**
	0.7nm,0.8s,baz=295,slow=6.6,SNR=2.3						
ZALV	**Zalesovo Beam**	**51.33**	**356**	P	**P**	**11 50 30.1**	**-0.1**
	1.9nm,0.4s,baz=179,slow=6.9,SNR=3.7						
ABKAR	**Akbulak array**	**52.93**	**336**	*e*P	**P**	**11 50 41.8**	**-0.4**
	6.2nm,0.9s						
KLR	**Kul'dur**	**58.68**	**31**	P	**P**	**11 51 23.2**	**-0.3**
	0.9nm,1.0s,baz=276,slow=6.9,SNR=3.8						
BRTR	**Keskin Array B**	**62.62**	**314**	P	**P**	**11 51 51.0**	**+0.1**
	1.4nm,0.6s,baz=124,slow=7.2,SNR=3.2						
BOSA	**Boshof**	**68.99**	**238**	P	**P**	**11 52 32.8**	**+0.8**
	1.3nm,0.3s,baz=130,slow=7.9,SNR=4.5						
ARCES	**ARCESS Array B**	**78.72**	**341**	P	**P**	**11 53 26.7**	**-1.4**
	1.4nm,0.7s,baz=80,slow=6.9,SNR=3.0						
SYO	**Syowa Base**	**79.10**	**196**	*e*X	**P**	**11 53 27.0**	**-3.1**
NVAR	**Mina Array Bea**	**131.71**	**30**	PKP	**PKPdf**	**12 00 42.3**	**+2.4**
	1.3nm,0.8s,baz=255,slow=1.8,SNR=5.4						
TXAR	**Lajitas Array**	**145.78**	**21**	PKPbc	**PKPdf**	**12 01 05.8**	**+0.1**
	2.2nm,0.5s,baz=25,slow=1.5,SNR=17						
JCT	**Junction City**	**145.89**	**15**	*e*PKPbc	**PKPdf**	**12 01 05.6**	**-0.2**

*ISCJB **11** 11:41:37.1±0.5, 2.°71N±0.°09×89.°62E±0.°07, h10km, mb4.4/14, Error ellipse: s-maj=13.2km s-min=9.5km az=20.5*
*IDC **11** 11:41:37.8±0.7, 2.°72N×89.°59E, h0km, mb4.4/11, mb1 4.4/12, mb1mx4.0/68, mbtmp4.4/12, ML4.7/1, Error ellipse: s-maj=22.8km s-min=17.9km az=48.0*
*NEIC **11** 11:41:39.3±0.4, 2.°72N×89.°61E, h10km, mb4.4/4, Error ellipse: s-maj=10.9km s-min=7.8km az=199.0*
ISC 11 11:41:39.3±0.7, 2.°7N±0.°1×89.°61E±0.°09, h10km, n25, σ1ş49/22, mb4.4/14, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PALK	**Pallekele**	**9.99**	**298**	*e*Pn	**Pn**	**11 44 03.1**	**+0.1**
IPM	**Ipoh**	**11.54**	**81**	*e*Pn	**Pn**	**11 44 24.6**	**+0.4**
	22nm,0.5s						
CMAR	**Chiang Mai Arr**	**18.17**	**30**	P	**P**	**11 45 52.4**	**+0.2**
	0.9nm,0.3s,baz=232,slow=14,SNR=5.7						
CHTO	**Chiang Mai**	**18.48**	**29**	*e*P	**P**	**11 45 54.7**	**-0.8**
	2.3nm,0.4s						
KSM	**Kuching**	**20.72**	**93**	*e

CMAR	**Chiang Mai Arr**	**19.34**	**21**	P	Pn	11 48 22.4	+0.3
	0.1nm,0.3s,baz=215,slow=12,SNR=2.7							
WRA	**Warramunga Arr**	**46.33**	**118**	P	P	11 52 22.0	-0.1
	1.4nm,0.9s,baz=295,slow=8.4,SNR=2.6							
MKAR	**Makanchi Array**	**47.00**	**351**	P	P	11 52 27.0	+0.1
	1.0nm,0.6s,baz=181,slow=8.6,SNR=2.5							
SONM	**Songino Array**	**48.99**	**13**	P	P	11 52 41.3	-1.2
	0.8nm,0.6s,baz=201,slow=7.6,SNR=2.4							
KURBB	**Kurchatov Arra**	**51.34**	**349**	P	P	11 53 00.3	+0.3
	1.1nm,0.7s,baz=172,slow=6.1,SNR=2.9							
ZALV	**Zalesovo Beam**	**53.73**	**355**	P	P	11 53 17.4	-0.3
	1.3nm,0.4s,baz=178,slow=6.0,SNR=3.9							

IDC 11 11:45:09.1±4.9, 2.25N×92.47E, h0km, mb3.8/3, mb1 3.9/3, mb1mx3.4/67, mbtmp3.8/3, Error ellipse: s-maj=183.1km s-min=37.3km az=61.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**46.62**	**120**	P	P	11 53 39.4	-0.1
	0.5nm,0.7s,baz=300,slow=8.8,SNR=1.6						
SONM	**Songino Array**	**46.98**	**13**	P	P	11 53 42.1	0.0
	0.5nm,0.4s,baz=189,slow=9.6,SNR=1.3						
ZALV	**Zalesovo Beam**	**51.92**	**354**	P	P	11 54 19.4	-0.1
	1.5nm,0.5s,baz=187,slow=6.8,SNR=2.7						
TXAR	**Lajitas Array**	**145.00**	**25**	PKPbc	PKPab	12 04 47.5	-1.1
	0.2nm,0.4s,baz=153,slow=0.2,SNR=1.6						

*IDC **11** 11:45:26.9±0.5, 0.22N×92.15E, h0km, mb4.6/32, mb1 4.7/34, mb1mx4.5/66, mbtmp4.6/34, ML5.1/1, Error ellipse: s-maj=14.5km s-min=12.3km az=49.0*
*ISCJB **11** 11:45:27.2±0.3, 0.28N±0.07×92.19E±0.05, h10km, mb4.7/47, Error ellipse: s-maj=9.7km s-min=7.0km az=19.9*
*NEIC **11** 11:45:28.5±0.2, 0.24N×92.14E, h10km, mb4.7/11, Error ellipse: s-maj=7.4km s-min=5.4km az=204.0*
ISC 11 11:45:28.4±0.4, 0.21N±0.09×92.14E±0.07, h10km, n87, σ0s87/91, mb4.8/47, 4C-5D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**13.39**	**302**	Pn	**Pn**	**11 48 37.8**	**-0.9**
	8.9nm,0.3s,baz=116,slow=11,SNR=5.7						
PALK				Sn	Sn	11 50 55.0	-13
	6.4nm,0.3s,baz=296,slow=4.2,SNR=5.6						
CISI	**Cisompet, Garu**	**17.43**	**117**	*e*P	**Pn**	**11 49 32.0**	**0.0**
	86nm,1.0s						
KSM	**Kuching**	**18.21**	**86**	*e*P	**Pn**	**11 49 41.6**	**-0.1**
	14nm,1.0s						
CMAR	**Chiang Mai Arr**	**19.33**	**20**	P	**P**	**11 49 54.1**	**+0.1**
	baz=213,slow=11,SNR=8.8						
CHTO	**Chiang Mai**	**19.66**	**19**	*e*P	**P**	**11 49 56.7**	**-1.0**
	9.0nm,1.1s						
KKM	**Kota Kinabalu**	**24.72**	**76**	*e*P	**P**	**11 50 51.1**	**+0.7**
	19nm,0.8s						
LSA	**Lhasa**	**29.34**	**358**	*e*P	**P**	**11 51 31.6**	**-0.6**
	24nm,1.1s						
FITZ	**Fitzroy Crossi**	**37.63**	**121**	P	**P**	**11 52 43.6**	**-0.3**
	6.8nm,1.1s,baz=47,slow=20,SNR=3.7						
WSAR	**Wadi Sarin**	**39.79**	**307**	P	**P**	**11 53 02.0**	**0.0**
	2.6nm,0.7s,baz=158,slow=7.8,SNR=4.0						
WRA	**Warramunga Arr**	**45.92**	**118**	P	**P**	**11 53 51.7**	**-0.1**
	5.0nm,0.5s,baz=296,slow=8.6,SNR=14						
WRA				PcP	**PcP**	**11 55 28.5**	**-0.4**
	0.8nm,0.7s,baz=307,slow=2.6,SNR=3.1						
WRAB	**Tennant Creek**	**45.93**	**118**	*e*P	**P**	**11 53 52.3**	**+0.4**
	29nm,1.0s						
ASAR	**Alice Springs**	**46.97**	**123**	P	**P**	**11 53 59.8**	**-0.3**
	1.6nm,0.7s,baz=299,slow=7.7,SNR=5.9						
ASAR				PcP	**PcP**	**11 55 32.5**	**0.0**
	1.2nm,0.7s,baz=302,slow=3.8,SNR=5.3						
MKAR	**Makanchi Array**	**47.19**	**351**	P	**P**	**11 54 01.1**	**-0.2**
	7.3nm,0.6s,baz=169,slow=9.1,SNR=12						
OPO	**Ambohidratompo**	**47.91**	**245**	P	**P**	**11 54 08.2**	**+0.6**
	7.0nm,0.7s,baz=84,slow=4.6,SNR=8.1						
GEYT	**Alibeck**	**48.88**	**324**	P	**P**	**11 54 15.6**	**+1.0**
	3.0nm,0.5s,baz=153,slow=10.0,SNR=5.9						
SONM	**Songino Array**	**49.03**	**13**	P	**P**	**11 54 16.6**	**+0.9**
	8.7nm,0.6s,baz=192,slow=9.1,SNR=16						
ULN	**Ulaanbaatar**	**49.21**	**13**	*e*P	**P**	**11 54 17.7**	**+0.6**
	2.0nm,0.6s						
KSAR	**Wonju Array Be**	**49.60**	**38**	P	**P**	**11 54 20.5**	**+0.5**
KSRS	**Korea Array**	**49.63**	**38**	P	**P**	**11 54 20.5**	**+0.2**
	2.0nm,0.8s,baz=229,slow=10,SNR=5.3						
RAYN	**Ar Rayn**	**50.82**	**301**	*e*P	**P**	**11 54 29.8**	**+0.1**
	11nm,1.0s						
KURBB	**Kurchatov Arra**	**51.55**	**349**	P	**P**	**11 54 34.4**	**-0.2**
	12nm,0.9s,baz=171,slow=7.1,SNR=17						
KURBB				PcP	**PcP**	**11 55 48.6**	**+0.1**
	0.8nm,0.7s,baz=159,slow=4.1,SNR=4.1						
KURK	**Kurchatov**	**51.62**	**349**	P	**P**	**11 54 34.4**	**-0.7**
KURK				PcP	**PcP**	**11 55 48.6**	**-0.1**
ZALV	**Zalesovo Beam**	**53.90**	**355**	P	**P**	**11 54 51.6**	**-0.3**
	17nm,0.5s,baz=179,slow=6.7,SNR=30						
KMBO	**Kilima Mbogo**	**54.90**	**268**	P	**P**	**11 55 00.9**	**+0.7**
	1.7nm,0.7s,baz=55,slow=11,SNR=4.7						
BVAR	**Borovoye Array**	**55.67**	**344**	P	**P**	**11 55 03.7**	**-1.0**
	5.6nm,0.7s,baz=147,slow=8.1,SNR=19						
MJAR	**Matsushiro Arr**	**55.89**	**44**	P	**P**	**11 55 07.3**	**+0.6**
	3.9nm,1.1s,baz=245,slow=7.9,SNR=3.9						
AKTO	**Aktyubinsk**	**57.85**	**335**	P	**P**	**11 55 19.2**	**-1.1**
	1.2nm,0.5s,baz=145,slow=18,SNR=1.7						
KLR	**Kul'dur**	**59.49**	**29**	P	**P**	**11 55 32.1**	**+0.4**
	0.5nm,0.9s,baz=256,slow=6.4,SNR=9.1						
ASF	**Jabal al Asfar**	**60.96**	**307**	P	**P**	**11 55 43.7**	**+1.4**
	4.3nm,0.9s,baz=108,slow=6.4,SNR=3.8						
KBZ	**Khabaz**	**61.59**	**321**	P	**P**	**11 55 46.6**	**+0.5**
	8.9nm,0.9s,baz=127,slow=1.8,SNR=9.4						
ARU	**Arti**	**62.24**	**340**	P	**P**	**11 55 49.0**	**-1.2**
	baz=93,slow=18						
BRTR	**Keskin Array B**	**66.09**	**314**	P	**P**	**11 56 16.1**	**0.0**
	7.0nm,0.7s,baz=134,slow=6.8,SNR=19						
YAK	**Yakutsk**	**67.86**	**18**	*e*P	**P**	**11 56 26.1**	**-0.6**
	30nm,0.8s						
BOSA	**Boshof**	**69.91**	**239**	P	**P**	**11 56 39.9**	**-0.5**
	4.1nm,0.7s,baz=75,slow=4.4,SNR=8.3						
MAW	**Mawson**	**70.67**	**191**	P	**P**	**11 56 44.6**	**+0.5**
	3.3nm,0.8s,baz=352,slow=14,SNR=4.2						
TIRR	**Tirgusor**	**71.36**	**317**	*i*P	**P**	**11 56 49.3**	**+0.6**
IDI	**Anoyia**	**71.43**	**307**	P	**P**	**11 56 49.3**	**-0.1**
	12nm,0.5s,baz=63,slow=9.0,SNR=11						
SORM	**Soroca**	**72.63**	**321**	*i*P	**P**	**11 56 56.3**	**+0.1**
VRI	**Vrincioaia**	**72.94**	**318**	*i*P	**P**	**11 56 59.4**	**+1.2**
AKASG	**Malin Array Be**	**73.00**	**324**	P	**P**	**11 56 58.0**	**-0.4**
	3.1nm,0.7s,baz=90,slow=5.0,SNR=22						
TESR	**Tescani**	**73.19**	**319**	*i*P	**P**	**11 57 00.0**	**+0.3**
MLR	**Muntele Rosu**	**73.35**	**318**	P	**P**	**11 57 01.8**	**+1.0**
	5.8nm,0.8s,baz=79,slow=2.6,SNR=29						
MLR	**Muntele Rosu**	**73.35**	**318**	⇑*i*P	**P**	**11 57 02.2**	**+1.4**
VTS	**Vitosha**	**74.46**	**314**	*i*P	**P**	**11 57 07.3**	**-0.1**
BURAR	**Bucovina Array**	**74.46**	**320**	⇑*i*P	**P**	**11 57 08.4**	**+1.2**
BZS	**Buzias**	**76.31**	**317**	⇑*i*P	**P**	**11 57 17.6**	**-0.1**
STHS	**Stebnicka Huta**	**77.50**	**321**	*e*P	**P**	**11 57 25.6**	**+1.2**
SYO	**Syowa Base**	**77.54**	**197**	⇓*e*X	**P**	**11 57 21.0**	**-3.1**
FINES	**FINESS Array B**	**78.57**	**333**	P	**P**	**11 57 29.6**	**-0.4**
	6.9nm,0.7s,baz=100,slow=4.8,SNR=14						
VYHS	**Vyhne**	**78.82**	**320**	*e*P	**P**	**11 57 32.5**	**+0.7**
OKC	**Ostrava-Krasne**	**79.55**	**321**	*e*P	**P**	**11 57 36.9**	**+1.2**
MORC	**Moravsky Berou**	**79.92**	**321**	*e*P	**P**	**11 57 34.7**	**-3.0**
	72nm,1.5s						
CONA	**Conrad Observa**	**80.66**	**319**	*i*P	**P**	**11 57 42.4**	**+0.6**
	5.4nm,0.9s						
ARSA	**Arzberg**	**80.77**	**318**	*i*P	**P**	**11 57 43.6**	**+1.2**
	18nm,0.7s,SNR=6.5						
DPC	**Dobruska-Polom**	**80.81**	**321**	*e*P	**P**	**11 57 44.0**	**+1.5**
DPC				*ex*	x	11 57 53.2	
DPC				*ex*	x	11 58 01.2	
SOKA	**Soboth**	**81.01**	**317**	*i*P	**P**	**11 57 44.7**	**+0.9**
	16nm,0.7s,SNR=5.1						
UPC	**Upice**	**81.03**	**321**	*e*P	**P**	**11 57 45.1**	**+1.4**
ARCES	**ARCESS Array B**	**81.79**	**341**	P	**P**	**11 57 47.4**	**+0.1**
	11nm,0.9s,baz=84,slow=6.8,SNR=14						
PRU	**Pruhonice**	**81.87**	**320**	*e*P	**P**	**11 57 49.3**	**+1.2**
MYKA	**Terra Mystica**	**81.95**	**317**	*i*P	**P**	**11 57 49.5**	**+0.8**
	10.0nm,0.7s						
GERES	**GERESS Array B**	**82.23**	**319**	P	**P**	**11 57 51.2**	**+1.0**
	18nm,0.8s,baz=102,slow=5.6,SNR=57						
KHC	**Kasperske Hory**	**82.36**	**319**	*e*P	**P**	**11 57 52.0**	**+1.3**
CLL	**Collm**	**83.04**	**322**	*i*P	**P**	**11 57 55.0**	**+0.8**
CLL				*i*		11 57 59.6	
NKC	**Novy Kostel**	**83.24**	**320**	*e*P	**P**	**11 57 56.3**	**+1.0**
WTTA	**Wattenberg**	**83.39**	**317**	*i*P	**P**	**11 57 57.1**	**+0.8**
MOTA	**Moosalm**	**83.76**	**317**	*i*P	**P**	**11 57 58.2**	**0.0**
	9.5nm,0.5s						
RETA	**Reutte**	**84.01**	**318**	*i*P	**P**	**11 57 59.5**	**+0.2**
KEST	**Kesra**	**84.02**	**306**	P	**P**	**11 58 01.0**	**+1.3**
	7.1nm,0.8s,baz=269,slow=1.7,SNR=5.3						
HFS	**Hagfors**	**84.07**	**330**	P	**P**	**11 57 59.4**	**+0.1**
	2.5nm,0.4s,baz=141,slow=5.0,SNR=8.5						
DAVA	**Damuels**	**84.58**	**317**	*i*P	**P**	**11 58 03.0**	**+0.6**
NB2	**NORSAR Subarra**	**85.42**	**331**	P	**P**	**11 58 05.6**	**-0.5**
	comp=Z,1.2nm,0.7s,baz=98,slow=5.1						
NOA	**NORSAR Array B**	**85.42**	**331**	P	**P**	**11 58 05.5**	**-0.7**
	comp=Z,3.1nm,0.9s,baz=102,slow=5.5,SNR=3.7						
TAM	**Tamanrasset**	**86.79**	**293**	*e*P	**P**	**11 58 14.2**	**+0.3**
	comp=Z,1.3nm,0.6s						
SPITS	**Spitsbergen Ar**	**86.89**	**348**	P	**P**	**11 58 12.4**	**-0.7**
	comp=Z,5.8nm,0.7s,baz=80,slow=6.0,SNR=6.6						
TORD	**Torodi Ar. Bea**	**90.38**	**283**	P	**P**	**11 58 31.3**	**+0.5**
	comp=Z,107nm,0.9s,baz=93,slow=4.9,SNR=9.0						
KOWA	**Kowa**	**95.91**	**285**	P	**P**	**11 58 56.9**	**+0.6**
	comp=Z,2.8nm,0.6s,baz=117,slow=8.7,SNR=5.8						
DBIC	**Dimbokro**	**96.92**	**277**	P	**P**	**11 59 00.6**	**-0.4**
	comp=Z,2.1nm,0.6s,baz=86,slow=6.6,SNR=4.0						
ULM	**Lac du Bonnet**	**129.27**	**7**	PKP	**PKPdf**	**12 04 36.9**	**-0.4**
	comp=Z,2.8nm,0.7s,baz=15,slow=2.2,SNR=4.7						
NVAR	**Mina Array Bea**	**132.45**	**33**	PKP	**PKPdf**	**12 04 44.4**	**+0.4**
	comp=Z,0.7nm,0.7s,baz=309,slow=0.9,SNR=6.2						
PDAR	**Pinedale Array**	**132.99**	**22**	PKP	**PKPdf**	**12 04 43.5**	**-1.3**
	comp=Z,0.6nm,0.8s,baz=41,slow=2.7,SNR=3.8						
ANMO	**Albuquerque**	**140.95**	**25**	*e*PKPdf	**PKPdf**	**12 05 00.7**	**+1.0**
WMOK	**Wichita Mounta**	**143.77**	**15**	*e*PKPdf	PKPab	12 05 01.0	-0.4
MIAR	**Mount Ida**	**145.02**	**8**	*e*PKPdf	PKPbc	12 05 05.9	0.0
ABTX	**Abilene, Hawle**	**145.50**	**18**	*e*PKPbc	**PKPbc**	**12 05 06.9**	**-0.7**
TXAR	**Lajitas Array**	**146.97**	**26**	PKPbc	**PKPdf**	**12 05 10.8**	**+0.5**
	comp=Z,4.4nm,0.8s,baz=236,slow=0.7,SNR=20						
JCT	**Junction City**	**147.44**	**19**	*e*PKPdf	**PKPdf**	**12 05 11.2**	**+0.2**
JCT				*e*PKPbc	**PKPbc**	**12 05 13.1**	**-0.3**
JCT				*e*PKPab	**sPKPdf**	**12 05 15.6**	**-0.1**
LPAZ	**La Paz**	**154.82**	**230**	PKPbc	**PKPbc**	**12 05 32.0**	**0.0**
	comp=Z,1.6nm,0.6s,baz=44,slow=1.9,SNR=4.1						

IDC 11 11:46:58.2±10.0, 53.38N×160.56E, h0km, mb4.3/3, mb1 4.5/3, mb1mx3.5/72, mbtmp4.3/3, Error ellipse: s-maj=622.0km s-min=37.1km az=88.0, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FINES	**FINESS Array B**	**59.96**	**337**	P	P	11 57 05.8	+0.1
	0.5nm,0.4s,baz=19,slow=5.9,SNR=3.9						
WRA	**Warramunga Arr**	**76.46**	**205**	P	P	11 58 50.7	+1.2
	4.9nm,0.9s,baz=11,slow=4.9,SNR=7.0						
ASAR	**Alice Springs**	**80.14**	**205**	P	P	11 59 08.2	-1.6
	1.1nm,0.7s,baz=1.1,slow=4.6,SNR=4.2						

*ISCJB **11** 11:48:35.2±0.5, 1.13N±0.09×92.24E±0.07, h10km, mb4.4/22, Error ellipse: s-maj=13.6km s-min=8.0km az=27.1*
*IDC **11** 11:48:35.3±0.7, 1.10N×92.19E, h0km, mb4.3/19, mb1 4.5/21, mb1mx4.2/70, mbtmp4.3/21, ML3.6/2, Error ellipse: s-maj=26.6km s-min=13.0km az=43.0*
*NEIC **11** 11:48:36.6±0.5, 1.08N×92.18E, h10km, mb4.2/3, Error ellipse: s-maj=13.5km s-min=7.8km az=207.0*
ISC 11 11:48:36.7±0.8, 1.0N±0.1×92.20E±0.10, h10km, n35, σ1s11/35, mb4.4/22, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSI	**Gunungsitoli**	**5.39**	**87**	*e*Pn	**Pn**	**11 49 55.1**	**-2.1**
PSI	**Prapat**	**6.96**	**75**	Pn	**Pn**	**11 50 18.7**	**-0.1**
	0.7nm,0.3s,baz=329,slow=16,SNR=6.3						
PSI				Sn	Sn	11 51 27.5	-11
	1.2nm,0.3s,baz=212,slow=13,SNR=2.0						
IPM	**Ipoh**	**9.47**	**69**	*e*Pn	**Pn**	**11 50 55.9**	**+2.7**
KSM	**Kuching**	**18.11**	**88**	*e*P	**Pn**	**11 52 47.6**	**-1.0**
	19nm,1.0s						
CMAR	**Chiang Mai Arr**	**18.56**	**21**	P	**P**	**11 52 52.6**	**-1.1**
	0.1nm,0.3s,baz=219,slow=13,SNR=6.1						
CHTO	**Chiang Mai**	**18.89**	**20**	*e*P	**P**	**11 52 56.5**	**-1.0**
	13nm,1.2s						
KKM	**Kota Kinabalu**	**24.48**	**78**	*e*P	**P**	**11 53 57.8**	**+1.4**
	12nm,0.8s						
FITZ	**Fitzroy Crossi**	**37.99**	**122**	P	**P**	**11 55 55.5**	**+0.3**
	3.8nm,0.6s,baz=306,slow=8.7,SNR=6.0						
WRA	**Warramunga Arr**	**46.25**	**119**	P	**P**	**11 57 03.0**	**+0.3**
	10nm,0.8s,baz=296,slow=8.6,SNR=15						
WRAB	**Tennant Creek**	**46.26**	**119**	*e*P	**P**	**11 57 02.8**	**+0.1**
	15nm,0.9s						
MKAR	**Makanchi Array**	**46.41**	**351**	P	**P**	**11 57 02.4**	**-1.0**
	1.8nm,0.6s,baz=172,slow=8.9,SNR=6.0						
ASAR	**Alice Springs**	**47.36**	**124**	P	**P**	**11 57 11.5**	**+0.2**
	1.6nm,0.5s,baz=300,slow=7.9,SNR=15						
SONM	**Songino Array**	**48.24**	**13**	P	**P**	**11 57 17.9**	**+0.1**
	5.1nm,0.9s,baz=198,slow=9.1,SNR=7.2						
GEYT	**Alibeck**	**48.27**	**324**	P	**P**	**11 57 18.7**	**+0.6**
	5.7nm,0.5s,baz=167,slow=6.8,SNR=6.9						
KSAR	**Wonju Array Be**	**48.93**	**38**	P	**P**	**11 57 23.4**	**+0.3**
KSRS	**Korea Array**	**48.96**	**38**	P	**P**	**11 57 23.4**	**+0.1**
	2.0nm,0.8s,baz=226,slow=10,SNR=4.6						
KURBB	**Kurchatov Arra**	**50.77**	**349**	P	**P**	**11 57 35.8**	**-1.1**
	4.2nm,0.9s,baz=172,slow=7.3,SNR=7.6						
KURK	**Kurchatov**	**50.84**	**349**	P	**P**	**11 57 35.8**	**-1.6**
ZALV	**Zalesovo Beam**	**53.11**	**355**	P	**P**	**11 57 53.0**	**-1.2**
	3.3nm,0.5s,baz=179,slow=6.2,SNR=7.2						
BVAR	**Borovoye Array**	**54.92**	**344**	P	**P**	**11 58 05.1**	**-2.4**
	2.7nm,0.9s,baz=139,slow=9.4,SNR=4.3						
STKA	**Stephens Creek**	**57.02**	**130**	P	**P**	**11 58 23.5**	**+0.5**
	2.4nm,0.5s,baz=298,slow=6.3,SNR=8.1						
KLR	**Kul'dur**	**58.76**	**29**	P	**P**	**11 58 35.2**	**+0.3**
	0.4nm,0.8s,baz=253,slow=3.8,SNR=6.0						
KBZ	**Khabaz**	**61.00**	**321**	P	**P**	**11 58 51.0**	**+0.6**
	5.3nm,0.8s,baz=164,slow=6.0,SNR=7.1						
BRTR	**Keskin Array B**	**65.58**	**314**	P	**P**	**11 59 20.3**	**-0.8**
	1.5nm,0.6s,baz=134,slow=7.1,SNR=6.7						
AKASG	**Malin Array Be**	**72.39**	**324**	P	**P**	**12 00 01.4**	**-1.6**
	0.2nm,0.4s,baz=96,slow=4.1,SNR=4.1						
MLR	**Muntele Rosu**	**72.80**	**318**	P	**P**	**12 00 06.3**	**+0.6**
	2.8nm,1.0s,baz=188,slow=7.1,SNR=7.6						
FINES	**FINESS Array B**	**77.88**	**333**	P	**P**	**12 00 33.6**	**-0.8**
	4.8nm,0.9s,baz=46,slow=5.5,SNR=3.4						
DPC	**Dobruska-Polom**	**80.22**	**321**	*e*P	**P**	**12 00 48.0**	**+0.4**
ARCES	**ARCESS Array B**	**81.05**	**341**	P	**P**	**12 00 53.0**	**+1.5**
	3.2nm,0.9s,baz=91,slow=5.4,SNR=4.5						
GERES	**GERESS Array B**	**81.67**	**319**	P	**P**	**12 00 55.4**	**0.0**
	3.0nm,0.8s,baz=104,slow=5.6,SNR=7.9						
KHC	**Kasperske Hory**	**81.79**	**319**	*e*P	**P**	**12 00 56.7**	**+0.7**
KEST	**Kesra**	**83.60**	**306**	P	**P**	**12 01 06.7**	**+1.0**
	7.4nm,1.0s,baz=344,slow=7.4,SNR=3.2						
NVAR	**Mina Array Bea**	**131.74**	**32**	PKP	**PKPdf**	**12 07 50.9**	**+0.1**
	0.4nm,0.7s,baz=280,slow=3.3,SNR=3.5						
TXAR	**Lajitas Array**	**146.22**	**25**	PKPbc	**PKPbc**	**12 08 17.7**	**-0.6**
	2.5nm,0.6s,baz=23,slow=0.8,SNR=17						
JCT	**Junction City**	**146.66**	**19**	*e*PKPbc	**PKPbc**	**12 08 18.7**	**-0.7**

*ISCJB **11** 11:49:50.8±0.6, 0.50N±0.09×92.34E±0.07, h10km, mb4.2/14, Error ellipse: s-maj=13.3km s-min=9.9km az=24.3*
*IDC **11** 11:49:51.0±0.8, 0.43N×92.27E, h0km, mb4.2/13, mb1 4.3/15, mb1mx3.9/70, mbtmp4.2/15, ML4.0/2, Error ellipse: s-maj=24.5km s-min=16.2km az=46.0*
*NEIC **11** 11:49:52.5±0.4, 0.45N×92.33E, h10km, mb4.2/2, Error ellipse: s-maj=9.9km s-min=7.4km az=202.0*
ISC 11 11:49:52.5±0.8, 0.4N±0.1×92.3E±0.1, h10km, n23, σ0s79/23, mb4.3/14, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSI	**Gunungsitoli**	**5.33**	**80**	*e*Pn	**Pn**	**11 51 11.7**	**-0.5**
PSI	**Prapat**	**7.01**	**70**	Pn	**Pn**	**11 51 34.0**	**-1.4**
	2.0nm,0.3s,baz=177,slow=19,SNR=3.8						
IPM	**Ipoh**	**9.59**	**65**	*e*Pn	**Pn**	**11 52 10.5**	**-0.2**
	16nm,1.0s						
CMAR	**Chiang Mai Arr**	**19.07**	**20**	P	**P**	**11 54 15.1**	**-0.2**
	0.3nm,0.3s,baz=215,slow=12,SNR=6.6						
CHTO	**Chiang Mai**	**19.41**	**19**	*e*P	**P**	**11 54 18.8**	**-0.1**
	3.2nm,0.6s						
KKM	**Kota Kinabalu**	**24.49**	**76**	*e*P	**P**	**11 55 12.2**	**-0.2**
FITZ	**Fitzroy Crossi**	**37.58**	**121**	P	**P**	**11 57 08.0**	**+0.5**
	5.8nm,0.8s,baz=327,slow=8.0,SNR=3.4						
WRA	**Warramunga Arr**	**45.86**	**119**	P	**P**	**11 58 16.0**	**+0.7**
	4.8nm,0.8s,baz=294,slow=8.4,SNR=4.2						
WRAB	**Tennant Creek**	**45.86**	**119**	*e*P	**P**	**11 58 15.9**	**+0.5**
	3.2nm,0.5s						
ASAR	**Alice Springs**	**46.93**	**124**	P	**P**	**11 58 23.6**	**-0.2**
	1.5nm,0.8s,baz=298,slow=7.2,SNR=6.3						
MKAR	**Makanchi Array**	**47.02**	**351**	P	**P**	**11 58 23.4**	**-0.7**
	2.6nm,0.7s,baz=154,slow=9.0,SNR=3.5						
OPO	**Ambohidratompo**	**48.17**	**244**	P	**P**	**11 58 32.6**	**-1.0**
	2.3nm,0.8s,baz=73,slow=4.6,SNR=4.0						
SONM	**Songino Array**	**48.79**	**13**	P	**P**	**11 58 38.2**	**+0.2**
	5.1nm,1.0s,baz=194,slow=9.4,SNR=3.6						
KSAR	**Wonju Array Be**	**49.32**	**38**	P	**P**	**11 58 43.3**	**+1.3**
KSRS	**Korea Array**	**49.35**	**38**	P	**P**	**11 58 43.3**	**+1.1**
	1.4nm,0.8s,baz=227,slow=5.7,SNR=3.3						
KURBB	**Kurchatov Arra**	**51.38**	**349**	P	**P**	**11 58 56.6**	**-0.7**
	2.3nm,1.0s,baz=175,slow=7.0,SNR=3.0						
KURK	**Kurchatov**	**51.45**	**349**	P	**P**	**11 58 56.6**	**-1.2**
ZALV	**Zalesovo Beam**	**53.71**	**355**	P	**P**	**11 59 13.9**	**-0.7**
	2.3nm,0.6s,baz=167,slow=7.9,SNR=3.1						
BVAR	**Borovoye Array**	**55.52**	**344**	P	**P**	**11 59 26.7**	**-1.0**
	0.9nm,0.7s,baz=113,slow=11,SNR=2.0						
BRTR	**Keskin Array B**	**66.08**	**314**	P	**P**	**12 00 40.8**	**+0.7**
	0.5nm,0.3s,baz=105,slow=5.1,SNR=3.0						
FINES	**FINESS Array B**	**78.47**	**333**	P	**P**	**12 01 53.5**	**0.0**
	2.1nm,0.8s,baz=91,slow=7.0,SNR=2.7						
GERES	**GERESS Array B**	**82.20**	**319**	P	**P**	**12 02 14.9**	**+0.8**
	2.2nm,0.8s,baz=114,slow=6.0,SNR=4.3						
TXAR	**Lajitas Array**	**146.71**	**26**	PKPbc	**PKPbc**	**12 09 35.5**	**0.0**
	1.0nm,0.6s,baz=216,slow=0.4,SNR=5.4						

*IDC **11** 11:51:18.2±0.9, 21.80N×120.40E, h0km, mb4.1/9, mb1 4.3/9, mb1mx3.8/72, mbtmp4.1/9, Error ellipse: s-maj=42.5km s-min=19.0km az=66.0*
*TAP **11** 11:51:21.8, 21.93N×120.57E, h43km, ML4.3, C*
*ISCJB **11** 11:51:22.4±0.4, 21.93N±0.02×120.57E±0.02, h45km±3km, mb4.0/9, Error ellipse: s-maj=4.1km s-min=3.4km az=136.7*
*JMA **11** 11:51:22.6±0.6, 21.91N×120.60E, h59km, M4.0*
ISC 11 11:51:22.1±1.2, 21.88N±0.05×120.50E±0.04, h28km±8km, n115, σ0s99/172, mb4.2/9, 15C-4D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HEN	**Hengchun**	**0.26**	**61**	⇑*i*P	**Pn**	**11 51 29.5**	**-0.5**
	baz=75						
HEN				S	**Sn**	**11 51 35.2**	**+0.1**
	baz=75						
TWK1	**Hengchun**	**0.29**	**78**	⇑*i*P	**Pn**	**11 51 29.9**	**-0.6**
	baz=86						
TWK1				S	**Sn**	**11 51 35.7**	**-0.3**
	baz=86						
TWKBT	**Hengchun**	**0.30**	**79**	⇑P	**Pn**	**11 51 29.8**	**-0.8**
	baz=86						
TWKBT				S	**Sn**	**11 51 35.7**	**-0.5**
	baz=86						
TSEB	**Hengchuen, Pin**	**0.38**	**87**	⇑*i*P	**Pb**	**11 51 30.6**	**+0.2**
	baz=95						
TSEB				S	**Sb**	**11 51 36.

WSF					*eS*		**Sn**	**11 52 10.5**	**-1.9**
	baz=350								
EHY	**Hungye**	**1.79**	**25**	*eP*		**Pn**	**11 51 51.0**	**-0.2**
	baz=37								
EHY					*eS*		**Sn**	**11 52 11.8**	**-1.1**
	baz=37								
WGK	**Gukeng**	**1.80**	**2**	*eP*		**Pn**	**11 51 50.6**	**-0.7**
	baz=349								
WGK					*eS*		**Sn**	**11 52 12.5**	**-0.6**
	baz=349								
WDLH	**Douliu**	**1.80**	**1**	*eP*		**Pn**	**11 51 50.6**	**-0.7**
	baz=348								
WDLH					*eS*		**Sn**	**11 52 12.3**	**-0.8**
	baz=348								
HGSD	**Ruisui**	**1.82**	**28**	*eP*		**Pn**	**11 51 52.3**	**+0.8**
	baz=14								
PHUB	**P'eng-hu**	**1.83**	**332**	*eP*		**Pn**	**11 51 50.3**	**-1.5**
	baz=330								
PHUB					*eS*		**Sn**	**11 52 11.2**	**-2.8**
	baz=330								
PNG	**Penghu**	**1.89**	**333**	*eP*		**Pn**	**11 51 51.2**	**-1.3**
	baz=331								
PNG					*eS*		**Sn**	**11 52 13.2**	**-2.2**
	baz=331								
SSLB	**Suanglung**	**1.94**	**12**	*eP*		**Pn**	**11 51 52.5**	**-0.7**
	baz=359								
WJS	**Zhushan**	**1.94**	**6**	*eP*		**Pn**	**11 51 52.8**	**-0.5**
	baz=354								
WJS					*eS*		**Sn**	**11 52 15.3**	**-1.4**
	baz=354								
WTCT	**Ta-ch'eng**	**1.98**	**354**	*eP*		**Pn**	**11 51 53.4**	**-0.4**
	baz=353								
WTCT					*eS*		**Sn**	**11 52 16.3**	**-1.4**
	baz=353								
WNT	**Mingjian**	**1.99**	**5**	*eP*		**Pn**	**11 51 53.0**	**-0.9**
	baz=3.0								
WNT					*eS*		**Sn**	**11 52 16.5**	**-1.5**
	baz=3.0								
RLNB	**Erlin**	**2.00**	**356**	*eP*		**Pn**	**11 51 53.4**	**-0.7**
	baz=354								
RLNB					*eS*		**Sn**	**11 52 17.1**	**-1.1**
	baz=354								
SMLT	**Sun Moon Lake**	**2.02**	**11**	*eP*		**Pn**	**11 51 54.0**	**-0.5**
	baz=357								
SMLT					*eS*		**Sn**	**11 52 17.8**	**-1.2**
	baz=357								
TYC	**Yuchr**	**2.04**	**9**	*eP*		**Pn**	**11 51 54.2**	**-0.4**
	baz=356								
TYC					*eS*		**Sn**	**11 52 18.1**	**-1.0**
	baz=356								
ESL	**Shilin**	**2.11**	**24**	*eP*		**Pn**	**11 51 55.5**	**0.0**
	baz=36								
ESL					*eS*		**Sn**	**11 52 19.8**	**-1.1**
	baz=36								
OWD	**Renai**	**2.15**	**17**	*eP*		**Pn**	**11 51 56.2**	**-0.1**
	baz=5.0								
OWD					*eS*		**Sn**	**11 52 21.3**	**-0.9**
	baz=5.0								
DPDB	**Guoxing**	**2.18**	**10**	*eP*		**Pn**	**11 51 56.1**	**-0.4**
	baz=358								
DPDB					*eS*		**Sn**	**11 52 21.0**	**-1.7**
	baz=358								
WCHH	**Zhanghua**	**2.19**	**1**	*eP*		**Pn**	**11 51 56.0**	**-0.6**
	baz=360								
WCHH					*eS*		**Sn**	**11 52 22.1**	**-0.7**
	baz=360								
ENLB	**Shoufeng**	**2.25**	**27**	*eP*		**Pn**	**11 51 58.4**	**+0.9**
	baz=26								
CHGB	**Renai**	**2.26**	**16**	*eP*		**Pn**	**11 51 57.7**	**0.0**
	baz=3.0								
TCU	**Taichung**	**2.26**	**4**	*eP*		**Pn**	**11 51 57.4**	**-0.2**
	baz=3.0								
TCU					*eS*		**Sn**	**11 52 23.1**	**-1.5**
	baz=3.0								
WHF	**Hehuan Shan**	**2.36**	**17**	*eP*		**Pn**	**11 51 59.3**	**-0.1**
	baz=16								
WHF					*eS*		**Sn**	**11 52 25.4**	**-2.3**
	baz=16								
TWD	**Chiawan**	**2.41**	**25**	*eP*		**Pn**	**11 51 59.7**	**+0.1**
	baz=24								
TDCB	**Techi**	**2.44**	**14**	*eP*		**Pn**	**11 52 00.0**	**-0.2**
	baz=3.0								
TDCB					*eS*		**Sn**	**11 52 27.3**	**-1.9**
	baz=3.0								
TWT	**Tachien**	**2.44**	**15**	*eP*		**Pn**	**11 51 60.0**	**-0.3**
	baz=3.0								
TWQ1	**Liyutan**	**2.47**	**6**	*eP*		**Pn**	**11 52 00.4**	**-0.1**
	baz=354								
TWQ1					*eS*		**Sn**	**11 52 29.1**	**-0.6**
	baz=354								
NACB	**Ninganchiao**	**2.50**	**24**	*eP*		**Pn**	**11 52 00.0**	**-0.8**
	baz=23								
NSY	**Sanyi**	**2.53**	**5**	*eP*		**Pn**	**11 52 01.4**	**0.0**
	baz=354								
NSY					*eS*		**Sn**	**11 52 31.2**	**-0.1**
	baz=354								
NNSB	**Datong**	**2.66**	**18**	*eP*		**Pn**	**11 52 03.7**	**+0.5**
	baz=17								
NNSB					*eS*		**Sn**	**11 52 32.9**	**-1.8**
	baz=17								
NNS	**Nan Shan**	**2.67**	**17**	*eP*		**Pn**	**11 52 03.8**	**+0.5**
	baz=17								
NNS					*eS*		**Sn**	**11 52 34.1**	**-0.7**
	baz=17								
NSTT	**Nanjuang**	**2.77**	**10**	*eP*		**Pn**	**11 52 04.2**	**-0.5**
	baz=356								
NSTT					*eS*		**Sn**	**11 52 35.4**	**-1.8**
	baz=356								
ENA	**Nanau**	**2.78**	**24**	*eP*		**Pn**	**11 52 04.4**	**-0.3**
	baz=23								
NANB	**Nanao**	**2.78**	**24**	*eP*		**Pn**	**11 52 04.5**	**-0.3**
	baz=23								
LIOB	**Emei**	**2.79**	**10**	*eP*		**Pn**	**11 52 04.7**	**-0.2**
	baz=356								
LIOB					*eS*		**Sn**	**11 52 35.7**	**-2.0**
	baz=356								
ENAH	**Nanao**	**2.83**	**25**	*eP*		**Pn**	**11 52 05.9**	**+0.5**
	baz=24								
YHNB	**Yeheng**	**2.89**	**16**	*eP*		**Pn**	**11 52 06.5**	**+0.2**
	baz=15								
ENTT	**Nioudou**	**2.92**	**20**	*eP*		**Pn**	**11 52 07.6**	**+1.0**
	baz=33								
ENTT					*eS*		**Sn**	**11 52 40.6**	**-0.2**
	baz=33								
SBCB	**Hsinchu**	**2.93**	**9**	*eP*		**Pn**	**11 52 06.3**	**-0.5**
	baz=356								
TWC	**Suao**	**2.98**	**24**	*eP*		**Pn**	**11 52 08.5**	**+0.9**
	baz=24								
TWE	**Neicheng**	**3.02**	**21**	*eP*		**Pn**	**11 52 08.9**	**+0.8**
	baz=33								
NWLT	**Wulai**	**3.03**	**18**	*eP*		**Pn**	**11 52 09.0**	**+0.8**
	baz=4.0								
SLBB	**Yuanshan**	**3.04**	**20**	*eP*		**Pn**	**11 52 09.6**	**+1.1**
	baz=31								
EOS1	**EOS1**	**3.05**	**29**	*eP*		**Pn**	**11 52 09.7**	**+1.3**
	baz=39								
EOS1					*eS*		**Sn**	**11 52 43.0**	**-1.0**
	baz=39								
KNMB	**Chin-men Tao**	**3.22**	**323**	*eP*		**Pn**	**11 52 10.6**	**-0.2**
	baz=322								
EGS		**3.23**	**24**	*eP*		**Pn**	**11 52 12.1**	**+1.1**
	baz=23								
TWA	**Mucha**	**3.24**	**18**	*eP*		**Pn**	**11 52 11.6**	**+0.5**
	baz=5.0								
TIPB	**Shuangxi**	**3.31**	**21**	*eP*		**Pn**	**11 52 12.0**	**0.0**
	baz=30								
TWS1	**Kuangyinshan**	**3.31**	**15**	*eP*		**Pn**	**11 52 12.1**	**0.0**
	baz=14								
YM04	**YM04**	**3.39**	**16**	*eP*		**Pn**	**11 52 13.1**	**-0.1**
	baz=4.0								
YM10	**YM10**	**3.40**	**16**	*eP*		**Pn**	**11 52 13.5**	**+0.2**
	baz=4.0								
JYNG	**Yonagunijimaku**	**3.41**	**41**	P		**Pn**	**11 52 14.3**	**+0.9**
JYNG				S		**Sn**	**11 52 51.3**	**-1.6**
YM05	**YM05**	**3.41**	**17**	*eP*		**Pn**	**11 52 13.8**	**+0.2**
	baz=4.0								
YM03	**YM03**	**3.42**	**16**	*eP*		**Pn**	**11 52 13.2**	**-0.4**
	baz=4.0								
YM07	**YM07**	**3.44**	**17**	*eP*		**Pn**	**11 52 12.3**	**-1.5**
	baz=5.0								
YM08	**YM08**	**3.44**	**17**	*eP*		**Pn**	**11 52 14.1**	**+0.2**
	baz=5.0								
YOJ	**Yonaguni jima**	**3.46**	**42**	*eP*		**Pn**	**11 52 14.6**	**+0.6**
	baz=41								
YOJ	**Yonaguni jima**	**3.46**	**42**	P		**Pn**	**11 52 15.0**	**+1.0**
YOJ				S		**Sn**	**11 52 52.6**	**-1.5**
HATJ	**Hateruma jima**	**3.74**	**54**	P		**Pn**	**11 52 17.9**	**0.0**
HATJ				S		**Sn**	**11 52 59.6**	**-1.5**
IRIF	**Iriomote-Funau**	**3.85**	**50**	P		**Pn**	**11 52 19.7**	**+0.2**
IRIF				S		**Sn**	**11 53 03.4**	**-0.4**
JKRS	**Kuro-shima**	**4.00**	**53**	P		**Pn**	**11 52 21.8**	**+0.3**
JKRS				S		**Sn**	**11 53 06.7**	**-0.7**
JIJ	**Ishigaki jima**	**4.17**	**53**	P		**Pn**	**11 52 23.6**	**-0.2**
JIJ				S		**Sn**	**11 53 09.7**	**-1.9**
MATB	**Ma-tsu**	**4.28**	**353**	*eP*		**Pn**	**11 52 24.2**	**-1.2**
	baz=2.0								
JISG	**Ishigakijimahi**	**4.42**	**52**	P		**Pn**	**11 52 27.0**	**-0.3**
JISG				S		**Sn**	**11 53 16.7**	**-1.2**
JTJ	**Tarama**	**4.74**	**54**	P		**Pn**	**11 52 31.7**	**0.0**
JTJ				S		**Sn**	**11 53 24.3**	**-1.5**
JIRB	**Irabujima**	**5.20**	**55**	P		**Pn**	**11 52 38.2**	**+0.1**
JIRB				*eS*		**Sn**	**11 53 34.1**	**-3.1**
JOGS	**Gusukube**	**5.34**	**57**	P		**Pn**	**11 52 40.1**	**+0.1**
JOGS				*eS*		**Sn**	**11 53 38.8**	**-1.9**
ZALV	**Zalesovo Beam**	**41.85**	**329**	P		**P**	**11 59 10.9**	**+1.4**
	4.6nm,0.9s,baz=114,slow=6.5,SNR=5.0								
KURBB	**Kurchatov Arra**	**43.48**	**322**	P		**P**	**11 59 22.6**	**-0.3**
	2.3nm,0.9s,baz=119,slow=7.4,SNR=5.9								
WRA	**Warramunga Arr**	**43.72**	**161**	P		**P**	**11 59 24.5**	**-0.5**
	2.1nm,0.6s,baz=344,slow=9.1,SNR=7.8								
SEY	**Seymchan**	**46.35**	**20**	P		**P**	**11 59 46.3**	**+0.9**
	0.8nm,0.3s,baz=349,slow=18,SNR=3.6								
ASAR	**Alice Springs**	**47.12**	**163**	P		**P**	**11 59 52.1**	**+0.2**
	0.9nm,0.6s,baz=349,slow=8.0,SNR=6.2								
BVAR	**Borovoye Array**	**49.07**	**322**	P		**P**	**12 00 07.0**	**+0.3**
	2.1nm,0.8s,baz=104,slow=11,SNR=4.1								
KBZ	**Khabaz**	**66.43**	**309**	P		**P**	**12 02 09.7**	**+0.8**
	3.0nm,0.9s,baz=79,slow=5.2,SNR=4.1								
GERES	**GERESS Array B**	**84.21**	**321**	P		**P**	**12 03 51.2**	**+0.1**
	0.4nm,0.2s,baz=117,slow=6.0,SNR=2.9								
YKA	**Yellowknife Ar**	**85.33**	**22**	P		**P**	**12 03 57.8**	**+1.5**
	0.2nm,0.6s,baz=312,slow=5.3,SNR=5.1								

IDC ***11*** *11:52:26.9±0.4, 1°.15N×91°.94E, h0km, mb4.5/35, mb1 4.6/36, mb1mx4.4/71, mbtmp4.5/36, ML4.4/1, Error ellipse: s-maj=15.1km s-min=10.1km az=42.0*

ISCJB ***11*** *11:52:27.5±1.9, 1°.01N±0°.04×91°.92E±0°.05, h15km±14km, mb4.9/91, Error ellipse: s-maj=8.7km s-min=5.9km az=139.3*

NEIC ***11*** *11:52:28.6±0.2, 1°.08N×91°.96E, h10km, mb5.3/32, Error ellipse: s-maj=6.9km s-min=4.2km az=205.0*

BJI ***11*** *11:52:31.3, 1°.48N×91°.58E, h10km, mb5.0/34, mB5.0/6, Ms5.2/4, Ms7 5.0/4*

DJA ***11*** *11:52:38.9±0.3, 2°.N±4°×9°.2E±°, h10km, M6.1/28, mB4.0/1, mb5.3/28, MLv6.4/7, Mw(mB)3.1/1*

ISC 11 11:52:30.4±0.6, 1°.06N±0°.05×91°.83E±0°.06, h19km±2km, h19km:pP-P,n188,σ1°.76/187,mb5.0/91,1C,North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MLSI	**Meulaboh, Aceh**	**5.57**	**55**	P		**Pn**	**11 53 48.9**	**-3.4**
GSI	**Gunungsitoli**	**5.75**	**88**	P		**Pn**	**11 53 52.7**	**-2.1**
GSI	**Gunungsitoli**	**5.75**	**88**	*e*Pn		**Pn**	**11 53 52.2**	**-2.6**
PBSI	**Pulau Batu**	**6.54**	**100**	P		**Pn**	**11 54 03.9**	**-1.8**
LHMI	**Lhok Sumawe**	**6.57**	**51**	*e*Pn		**Pn**	**11 54 04.3**	**-1.8**
TSI	**Tuntungan**	**7.15**	**70**	P		**Pn**	**11 54 15.6**	**+1.6**
PSI	**Prapat**	**7.29**	**76**	Pn		**Pn**	**11 54 13.0**	**-3.1**
	baz=319,slow=20							
SISI	**Saibi**	**7.63**	**108**	P		**Pn**	**11 54 20.4**	**-0.3**
PDSI	**Padang**	**8.85**	**103**	P		Pn	11 54 33.3	-4.1
PPSI	**Pulau Pagai**	**9.01**	**115**	P		**Pn**	**11 54 40.2**	**+0.6**
BKNI	**Bangkinang**	**9.23**	**94**	P		**Pn**	**11 54 45.3**	**+2.6**
BKNI	**Bangkinang**	**9.23**	**94**	*e*Pn		**Pn**	**11 54 40.4**	**-2.3**
KULM	**Kulim**	**9.75**	**64**	*e*Pn		Pn	11 54 46.3	-3.5
IPM	**Ipoh**	**9.79**	**70**	*e*Pn		**Pn**	**11 54 47.9**	**-2.5**
SDSI	**Sungai Dareh**	**9.79**	**102**	P		**Pn**	**11 54 54.7**	**+4.3**
MASI	**Maura Aman, Be**	**11.21**	**112**	P		Pn	11 55 24.8	+15
MYKOM	**Kota Tinggi**	**12.03**	**86**	*e*Pn		**Pn**	**11 55 18.7**	**-2.4**
TPRI	**Tanjung Pinang**	**12.69**	**91**	P		P	11 55 37.0	-4.2
	68nm,2.7s							
MDSI	**Maura Dua**	**13.51**	**114**	P		**P**	**11 55 48.7**	**-1.6**
LWLI	**Liwa**	**13.62**	**116**	P		P	11 56 04.7	+13
KASI	**Kota Agung**	**14.24**	**117**	P		**P**	**11 55 56.0**	**-2.4**
	178nm,2.7s							
KLI	**Kotabumi**	**14.28**	**114**	P		P	11 56 09.6	+11
CGJI	**Cibinong**	**15.79**	**119**	P		**P**	**11 56 16.2**	**+0.5**
	117nm,0.7s							
LEM	**Lembang**	**17.59**	**117**	P		**P**	**11 56 37.0**	**+1.1**
	7.3nm,0.3s,baz=266,slow=6.7,SNR=3.7							
CISI	**Cisompet, Garu**	**18.09**	**118**	P		**P**	**11 56 47.8**	**+6.5**
CISI	**Cisompet, Garu**	**18.09**	**118**	*e*Pn		**Pn**	**11 56 39.8**	**-1.2**
	120nm,1.1s							
KSM	**Kuching**	**18.47**	**89**	*eP*		**Pn**	**11 56 46.2**	**+0.6**
	48nm,1.0s							
CM01	**Chiang Mai Arr**	**18.62**	**22**	*eP*		**Pn**	**11 56 48.2**	**+0.9**
CM31	**Chiang Mai Arr**	**18.64**	**22**	*eP*		**P**	**11 56 43.5**	**-3.8**
CMAR	**Chiang Mai Arr**	**18.64**	**22**	P		**P**	**11 56 44.0**	**-3.3**
	0.5nm,0.3s,baz=217,slow=13,SNR=5.0							
CHTO	**Chiang Mai**	**18.97**	**21**	*eP*		**Pn**	**11 56 51.6**	**0.0**
	26nm,1.0s							
KPJI	**Karang Pucung**	**18.98**	**116**	P		**Pn**	**11 56 57.2**	**+5.4**
STKI	**Sintang**	**19.67**	**93**	P		**Pn**	**11 57 02.3**	**+2.3**
PBKI	**Pangkalan Bun**	**20.18**	**101**	P		Pn	11 57 13.3	+7.2
	174nm,0.9s							
SMRI	**Semarang**	**20.24**	**114**	P		Pn	11 57 16.7	+10
WOJI	**Wonogiri, Jawa**	**20.99**	**115**	P		Pn	11 57 17.7	+2.2
	71nm,1.1s							
PCJI	**Pacitan**	**21.36**	**116**	P		P	11 57 27.7	+11
	116nm,1.2s							
MTKI	**Muara Teweh, K**	**23.15**	**95**	P		**P**	**11 57 39.2**	**+3.3**
	38nm,0.7s							
KKM	**Kota Kinabalu**	**24.82**	**78**	*eP*		**P**	**11 57 48.7**	**-3.3**
	59nm,1.0s							
BKB	**Balikpapan**	**25.17**	**95**	P		**P**	**11 58 00.4**	**+5.5**
	238nm,1.3s							
ODAN	**Odare**	**26.01**	**351**	*eP*		**P**	**11 58 02.4**	**-0.2**
	289nm,0.9s							
KMI	**Kunming**	**26.14**	**23**	P		**P**	**11 58 05.9**	**+2.1**
KMI				pmax	pmax			
	comp=Z,13nm,0.5s							
RAMN	**Ramite**	**26.23**	**349**	*eP*		**P**	**11 58 04.4**	**-0.3**
	368nm,0.9s							
JIRN	**Jiri**	**27.00**	**349**	*eP*		**P**	**11 58 11.7**	**0.0**
	471nm,1.0s							
PKIN	**Phulchoki**	**27.08**	**347**	*eP*		**P**	**11 58 12.7**	**+0.3**
DMN	**Daman**	**27.18**	**347**	*eP*		**P**	**11 58 13.4**	**+0.2**
	154nm,1.2s							
GUN	**Gumba**	**27.30**	**348**	*eP*		**P**	**11 58 14.9**	**+0.5**
	229nm,0.9s							
GKN	**Gorkha**	**27.66**	**346**	*eP*		**P**	**11 58 17.9**	**+0.4**
KOLN	**Koldanda**	**27.71**	**344**	*eP*		**P**	**11 58 18.2**	**+0.3**
	67nm,0.8s							
MPSI	**Mapaga**	**28.07**	**91**	P		P	11 58 29.1	+8.0
PYUN	**Piuthan**	**28.19**	**343**	*eP*		**P**	**11 58 22.3**	**+0.1**
	112nm,0.9s							
LSA	**Lhasa**	**28.49**	**359**	P		**P**	**11 58 27.7**	**+2.6**
LSA				pmax	pmax			
	comp=Z,47nm,0.8s							
LSA	**Lhasa**	**28.49**	**359**	*eP*		**P**	**11 58 27.8**	**+2.6**
	57nm,0.8s							
GYA	**Guiyang**	**29.00**	**28**	P		**P**	**11 58 31.0**	**+1.6**
GYA				PP		**PnPn**	**11 59 26.4**	**+4.8**
GYA				PcP		**PcP**	**12 01 39.8**	**+1.9**
GYA				S		**S**	**12 03 22.4**	**+2.5**
GYA				SS		**SnSn**	**12 04 51.0**	**+7.3**
GYA				ScP		**ScP**	**12 05 19.6**	**+0.9**
GYA				pmax	pmax			
	comp=Z,30nm,1.0s							
GYA				pmax	pmax			
	comp=Z,140nm,5.5s							
GYA				LR	LR			
	comp=N,580nm,18.0s							
GYA				LR	LR			
	comp=E,560nm,18.4s							
GYA				LR	LR			
	comp=Z,540nm,18.2s							
BSSI	**Bau Bau, Buton**	**29.49**	**104**	P		P	11 58 42.0	+8.3
	131nm,0.9s							
MRSI	**Marisa**	**30.11**	**91**	P		P	11 58 47.0	+7.8
	25nm,1.0s							
LUWI	**Luwuk**	**31.01**	**94**	P		P	11 58 57.8	+11
	57nm,1.2s							
CD2	**Chengdu**	**31.77**	**20**	P		**P**	**11 58 53.1**	**-0.6**
CD2				S		**S**	**12 04 04.8**	**+1.8**
CD2				pmax	pmax			
	comp=Z,80nm,0.4s							
MBWA	**Marble Bar**	**35.10**	**131**	*eP*		**P**	**11 59 22.2**	**-0.6**
LBMI	**Labuha**	**35.70**	**93**	P		P	11 59 40.4	+12
XAN	**Xi'an**	**36.50**	**24**	P		**P**	**11 59 35.3**	**+0.6**
XAN				pP		pP	11 59 41.0	+0.5
XAN				pmax		pmax		
	comp=Z,17nm,1.0s							
LZH	**Lanzhou**	**36.59**	**16**	*eP*		**P**	**11 59 36.8**	**+1.2**
LZH				pP		pP	11 59 41.3	-0.1
LZH				sP		sP	11 59 43.9	+0.2
LZH				PP		**PP**	**12 01 02.0**	**+2.9**
LZH				pmax		pmax		
	comp=Z,31nm,1.3s							
LZH				pmax		pmax		
	comp=Z,120nm,5.0s							
LZH				LR		LR		
	comp=N,1μm,14.3s							
LZH				LR		LR		
	comp=E,1μm,14.6s							
LZH				LR		LR		
	comp=Z,2μm,18.0s							
NIL	**Nilore**	**36.81**	**334**	*eP*		**P**	**11 59 38.8**	**+1.5**
	106nm,0.7s							
FITZ	**Fitzroy Crossi**	**38.32**	**121**	P		**P**	**11 59 48.8**	**-1.6**
	7.7nm,0.9s,baz=307,slow=5.8,SNR=7.2							
FITZ	**Fitzroy Crossi**	**38.32**	**121**	*eP*		**P**	**11 59 49.0**	**-1.4**
	22nm,1.1s							
WSAR	**Wadi Sarin**	**39.04**	**307**	P		**P**	**11 59 56.8**	**+0.5**
	4.9nm,0.7s,baz=204,slow=5.0,SNR=4.2							
SIJI	**Sorong**	**39.48**	**93**	P		**P**	**11 59 57.8**	**-2.4**
	3.5nm,0.5s,baz=210,slow=20,SNR=1.9							
NJ2	**Nanjing**	**40.00**	**37**	*eP*		**P**	**12 00 04.1**	**-0.1**
NJ2				pmax		pmax		
	comp=Z,12nm,1.0s							
KSH	**Kashi**	**40.92**	**341**	P		**P**	**12 00 11.5**	**-0.4**
KSH				pmax		pmax		
	comp=Z,42nm,0.7s							
H01W3	**Cape Leeuwin H**	**41.41**	**152**	T		T	12 44 42.5	
	baz=327,slow=74,SNR=6.5							
H01W2	**Cape Leeuwin H**	**41.42**	**152**	T		T	12 44 45.9	
	baz=327,slow=74,SNR=8.8							
H01W1	**Cape Leeuwin H**	**41.42**	**152**	T		T	12 44 44.0	
	baz=327,slow=74,SNR=6.1							
NWAO	**Narrogin (SRO)**	**41.44**	**147**	P		**P**	**12 00 15.7**	**-0.3**
	6.6nm,0.7s,baz=214,slow=7.9,SNR=4.0							
WMQ	**Urumqi**	**42.74**	**356**	P		**P**	**12 00 27.9**	**+1.3**
WMQ				sP		sP	12 00 34.4	-0.3
WMQ				pmax		pmax		
	comp=Z,73nm,1.3s							
HHC	**Hu-ho-hao-te**	**43.45**	**22**	*eP*		**P**	**12 00 34.6**	**+2.1**
HHC				S		**S**	**12 06 57.7**	**-2.5**
HHC				pmax		pmax		
	comp=Z,30nm,1.1s							
HHC				pmax		pmax		
	comp=Z,98nm,6.2s							
HHC				LR		LR		
	comp=N,4μm,15.3s							
HHC				LR		LR		
	comp=E,4μm,15.0s							
HHC				LR		LR		
	comp=Z,5μm,16.1s							
UCH	**Uchtor**	**43.84**	**341**	P		**P**	**12 00 38.0**	**+1.9**
	SNR=6.9							
AML	**Almayashu**	**44.02**	**341**	P		**P**	**12 00 39.4**	**+2.0**
	SNR=11							
KBK	**Karagaybulak**	**44.10**	**342**	P		**P**	**12 00 38.0**	**+0.3**
	SNR=6.8							
TKM2	**Tokmak 2**	**44.14**	**343**	P		**P**	**12 00 36.9**	**-1.2**
	SNR=5.5							
AAK	**Ala-Archa**	**44.22**	**342**	P		**P**	**12 00 38.2**	**-0.4**
	3.6nm,0.9s,baz=136,slow=14,SNR=3.8							
AAK	**Ala-Archa**	**44.22**	**342**	*eP*		**P**	**12 00 39.8**	**+1.1**
	81nm,1.9s							
EKS2	**Erkin-Say**	**44.47**	**341**	P		**P**	**12 00 42.8**	**+2.1**
	SNR=6.7							
BJI	**Beijing**	**44.67**	**27**	P		**P**	**12 00 44.7**	**+2.6**
BJI				pmax		pmax		
	comp=Z,23nm,1.4s							
USP	**Ospenovka**	**44.79**	**342**	P		**P**	**12 00 45.1**	**+2.1**
	SNR=6.8							
KK31	**Karatay Array**	**46.00**	**338**	*eP*		**P**	**12 00 54.3**	**+1.7**
KKAR	**Karatay Array**	**46.00**	**338**	*eP*		**P**	**12 00 54.3**	**+1.6**
MK01	**Makanchi Array**	**46.28**	**351**	*eP*		**P**	**12 00 53.5**	**-1.4**
MK31	**Makanchi Array**	**46.31**	**351**	*eP*		**P**	**12 00 55.0**	**-0.1**
MKAR	**Makanchi Array**	**46.31**	**351**	P		**P**	**12 00 53.6**	**-1.4**
	11nm,0.8s,baz=167,slow=8.4,SNR=17							
MKAR	**Makanchi Array**	**46.31**	**351**	*eP*		**P**	**12 00 54.0**	**-1.0**
	142nm,0.8s							
MAKZ	**Makanchi**	**46.37**	**351**	*eP*		**P**	**12 00 57.0**	**+1.5**
	14nm,0.9s							
WRA	**Warramunga Arr**	**46.59**	**119**	P		**P**	**12 00 57.0**	**-0.7**
	8.3nm,0.6s,baz=297,slow=8.6,SNR=24							
WRAB	**Tennant Creek**	**46.60**	**119**	*eP*		**P**	**12 00 56.6**	**-1.1**
	5nm,0.9s							
WB2	**Warramunga Arr**	**46.60**	**119**	*eP*		**P**	**12 00 56.3**	**-1.4**
ASAR	**Alice Springs**	**47.69**	**124**	P		**P**	**12 01 05.2**	**-1.0**
	5.5nm,1.1s,baz=302,slow=7.9,SNR=7.6							
AS01	**Alice Springs**	**47.73**	**124**	*eP*		**P**	**12 01 05.2**	**-1.3**
GYB1	**ALIBECK ARRAY**	**48.01**	**324**	*eP*		**P**	**12 01 08.7**	**+0.2**
	36nm,0.9s							
GYA1	**ALIBECK ARRAY**	**48.02**	**324**	*eP*		**P**	**12 01 08.7**	**+0.2**
	37nm,0.9s							
OPO	**Ambidratompo**	**48.02**	**244**	P		**P**	**12 01 09.5**	**+0.6**
	3.5nm,0.8s,baz=67,slow=17,SNR=3.5							

BR131	**Keskin Array S**	**65.29**	**314**	*e*P		**P**	**12 03 10.7**	**-0.8**
BRTR	**Keskin Array B**	**65.29**	**314**	P		**P**	**12 03 10.3**	**-1.2**
	4.6nm,0.8s,baz=135,slow=7.1,SNR=14							
ILGA	**Ilgaz**	**65.71**	**315**	*e*P		**P**	**12 03 15.9**	**+1.6**
	11nm,0.9s							
ANTO	**Ankara**	**65.95**	**314**	*e*P		**P**	**12 03 15.3**	**-0.4**
	101nm,0.9s							
BOSA	**Boshof**	**70.08**	**239**	P		**P**	**12 03 41.9**	**-0.1**
	2.9nm,0.9s,baz=83,slow=10.0,SNR=2.6							
TIRR	**Tirgusor**	**70.54**	**317**	*e*P		**P**	**12 03 43.5**	**-0.7**
	24nm,1.1s							
IDI	**Anoyia**	**70.68**	**307**	P		**P**	**12 03 44.9**	**-0.5**
	8.4nm,0.5s,baz=63,slow=11,SNR=7.7							
KIS	**Kishinev**	**71.10**	**320**	*e*P		P	12 03 54.0	+6.4
AKASG	**Malin Array Be**	**72.14**	**324**	P		**P**	**12 03 52.2**	**-1.5**
	0.3nm,0.3s,baz=92,slow=4.8,SNR=9.3							
AK11	**Malin Array Si**	**72.17**	**324**	*e*P		**P**	**12 03 52.8**	**-1.2**
MLR	**Muntele Rosu**	**72.52**	**318**	P		**P**	**12 03 56.9**	**+0.5**
	3.3nm,0.7s,baz=50,slow=3.9,SNR=18							
MLR	**Muntele Rosu**	**72.52**	**318**	*e*P		**P**	**12 03 56.5**	**+0.1**
	53nm,0.9s							
BUR04	**Bucovina Ar. S**	**73.62**	**320**	*e*P		**P**	**12 04 02.6**	**-0.2**
BUR08	**Bucovina Ar. S**	**73.64**	**320**	*e*P		**P**	**12 04 03.2**	**+0.2**
MA2	**Magadan**	**73.83**	**27**	P		**P**	**12 04 02.4**	**-1.3**
	1.8nm,0.6s,baz=143,slow=20,SNR=2.4							
SEY	**Seymchan**	**76.04**	**24**	P		**P**	**12 04 16.1**	**-0.2**
	0.4nm,0.4s,baz=116,slow=18,SNR=1.3							
FINES	**FINESS Array B**	**77.68**	**333**	P		**P**	**12 04 24.8**	**-0.8**
	3.2nm,0.7s,baz=129,slow=6.1,SNR=6.8							
SYO	**Syowa Base**	**78.26**	**197**⇑	*e*X		**P**	**12 04 26.4**	**-2.3**
OKC	**Ostrava-Krasne**	**78.71**	**321**	*e*PCP		**PcP**	**12 04 39.8**	**-0.6**
KRLC	**Kraliky**	**79.62**	**321**	*e*P		**P**	**12 04 36.5**	**-0.1**
CONA	**Conrad Observa**	**79.83**	**318**	*i* P		**P**	**12 04 35.2**	**-2.7**
	4.7nm,1.0s							
CONA				*i* PcP		**pP**	**12 04 44.8**	**+0.7**
	13nm,1.1s							
ARSA	**Arzberg**	**79.94**	**318**	*i* P		**P**	**12 04 38.3**	**-0.1**
	11nm,0.9s							
ARSA				*i* PcP		**sP**	**12 04 47.5**	**+0.6**
	35nm,0.9s,SNR=5.0							
DPC	**Dobruska-Polom**	**79.96**	**321**	*e*P		**P**	**12 04 38.9**	**+0.4**
DPC				*e*PCP		**sP**	**12 04 47.4**	**+0.5**
DPC				*ex*		x	12 04 53.7	
SOKA	**Soboth**	**80.18**	**317**	*i* P		**P**	**12 04 39.9**	**+0.1**
	8.3nm,0.9s							
SOKA				*i* PcP		**sP**	**12 04 48.5**	**+0.2**
	29nm,1.0s							
OBKA	**Obir**	**80.49**	**317**	*i* PcP		**PcP**	**12 04 51.5**	**+3.1**
	18nm,0.9s							
MOA	**Molln**	**80.88**	**318**	*i* PcP		**PcP**	**12 04 52.1**	**+2.1**
	13nm,1.4s							
ARCES	**ARCESS Array B**	**80.89**	**341**	P		**P**	**12 04 42.0**	**-1.0**
	5.1nm,0.8s,baz=123,slow=4.5,SNR=6.7							
PRU	**Pruhonice**	**81.03**	**320**	*e*PCP		**PcP**	**12 04 52.5**	**+2.0**
MYKA	**Terra Mystica**	**81.12**	**317**	*i* P		**P**	**12 04 44.7**	**-0.2**
	9.3nm,0.9s							
KBA	**Koelnbreinsper**	**81.39**	**317**	*i* PcP		**PcP**	**12 04 54.5**	**+2.1**
	6.8nm,0.8s							
GEA0	**GERESS Array S**	**81.39**	**319**	*e*P		**P**	**12 04 45.9**	**-0.3**
GEC2	**GERESS Array S**	**81.39**	**319**	*e*P		**P**	**12 04 46.6**	**+0.3**
	54nm,0.9s							
GERES	**GERESS Array B**	**81.39**	**319**	P		**P**	**12 04 46.3**	**0.0**
	10nm,0.8s,baz=102,slow=5.6,SNR=32							
KHC	**Kasperske Hory**	**81.52**	**319**	*e*P		**P**	**12 04 48.1**	**+1.3**
KHC				*e*PCP		**sP**	**12 04 55.1**	**-0.2**
KHC				*ex*		x	12 05 02.5	
BRG	**Berggiesshubel**	**81.54**	**321**	*i* P		P	12 04 55.4	+8.5
	53nm,1.8s							
CLL	**Collm**	**82.19**	**322**	*e*P		**P**	**12 04 49.0**	**-1.3**
CLL				*i*			12 04 59.2	
WTTA	**Wattenberg**	**82.57**	**317**	*i* P		**P**	**12 04 51.7**	**-0.9**
	7.5nm,0.9s							
WTTA				*i* PcP		**sP**	**12 05 00.9**	**-0.1**
	21nm,0.9s							
MOTA	**Moosalm**	**82.94**	**317**	*i* P		**P**	**12 04 53.7**	**-0.8**
	11nm,0.9s							
MOTA				*i* PcP		**sP**	**12 05 02.7**	**-0.2**
	26nm,0.9s							
FETA	**Feichten**	**83.16**	**317**	*i* P		**P**	**12 04 54.4**	**-1.2**
	11nm,1.3s							
FETA				*i* PcP		**sP**	**12 05 03.9**	**-0.2**
	20nm,1.0s							
RETA	**Reutte**	**83.18**	**318**	*i* P		**P**	**12 04 55.1**	**-0.6**
	7.0nm,0.8s							
RETA				*i* PcP		**sP**	**12 05 04.0**	**0.0**
	31nm,0.9s							
KEST	**Kesra**	**83.28**	**306**	P		**P**	**12 04 56.6**	**+0.3**
	7.5nm,1.0s,baz=0.0,slow=14,SNR=3.3							
DAVA	**Damuels**	**83.76**	**317**	*i* P		**P**	**12 04 58.9**	**+0.2**
	26nm,0.9s,SNR=5.2							
DAVA				*i* PcP		**sP**	**12 05 07.3**	**+0.2**
	62nm,0.9s,SNR=5.3							
NB2	**NORSAR Subarra**	**84.53**	**331**	P		**P**	**12 05 00.3**	**-1.9**
	comp=Z,4.1nm,0.8s,baz=98,slow=5.1							
BNI	**Bardonecchia**	**85.83**	**315**	*e*P		**P**	**12 05 11.7**	**+2.6**
	comp=Z,58nm,1.8s							
VNDA	**Vanda**	**86.77**	**168**	P		**P**	**12 05 13.0**	**+0.1**
	comp=Z,1.3nm,0.9s,baz=27,slow=6.8,SNR=4.0							
TORD	**Torodi Ar. Bea**	**89.90**	**283**	P		**P**	**12 05 28.9**	**-0.1**
	comp=Z,69nm,0.8s,baz=56,slow=5.5,SNR=3.0							
ESDC	**Sonseca Array**	**93.80**	**310**	P		**P**	**12 05 46.5**	**-0.2**
	comp=Z,0.3nm,0.4s,baz=63,slow=5.0,SNR=5.0							
KOWA	**Kowa**	**95.40**	**285**	P		**P**	**12 05 54.4**	**-0.1**
	comp=Z,0.7nm,0.3s,baz=68,slow=16,SNR=2.4							
NVAR	**Mina Array Bea**	**131.89**	**32**	PKP		**PKPdf**	**12 11 41.5**	**-1.9**
	comp=Z,0.2nm,0.5s,baz=321,slow=2.3,SNR=3.1							
PDAR	**Pinedale Array**	**132.31**	**21**	PKP		**PKPdf**	**12 11 41.4**	**-2.7**
	comp=Z,0.2nm,0.5s,baz=116,slow=4.1,SNR=2.9							
GDL2	**Guadalupe Moun**	**143.54**	**23**	*e*PKPdf		**PKPdf**	**12 12 03.7**	**-1.2**
TX31	**Lajitas Ar. Si**	**146.34**	**25**	*e*PKPdf		**PKPdf**	**12 12 09.6**	**-0.1**
TX31				*e*PKPdf		**PKPbc**	**12 12 10.0**	**-0.8**
TXAR	**Lajitas Array**	**146.34**	**25**	PKPbc		**PKPdf**	**12 12 10.0**	**+0.3**
	comp=Z,1.2nm,0.7s,baz=244,slow=1.8,SNR=9.3							

BJI ***11*** *11:53:29.8,2.4N×89.35E,h10km,mb5.6/70,mB5.9/3, Ms6.4/23,Ms7 6.3/19*
MOS ***11*** *11:53:33.9±0.9,2.92N×89.49E,h10km, mb6.0/84, Error ellipse: s-maj=6.6km s-min=4.5km az=106.6*
ISCJB ***11*** *11:53:34.3±0.8,2.94N±0.02×89.53E±0.02,h9km±5km, mb5.7/311,MS6.9/1, Error ellipse: s-maj=3.9km s-min=2.3km az=36.8*
IDC ***11*** *11:53:34.6±0.3,2.93N×89.56E,h0km,mb5.4/62, mb1 5.5/64,mb1mx5.4/70,mbtmp5.4/64,ML5.1/2,MS6.5/3, Ms1 6.5/3,ms1mx5.6/68,Error ellipse: s-maj=9.8km s-min=7.2km az=30.0*
NEIC ***11*** *11:53:36.2±0.1,2.91N×89.54E,h10km,mb5.7/151,Error ellipse: s-maj=3.6km s-min=2.2km az=29.0*
ISC 11 11:53:37.4±0.5**,2.93N**±0.03×**89.52E**±0.04**,h17**km±2km**,**
h18km:pP-P,n1282,σ**1s30/**1298**,mb5.8/**315**,66C-30D,**
North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MLSI	**Meulaboh, Aceh**	**7.00**	**79**	P		**Pn**	**11 55 20.0**	**+0.8**
LHMI	**Lhok Sumawe**	**7.76**	**73**	*e*Pn		**Pn**	**11 55 29.7**	**+0.1**
GSI	**Gunungsitoli**	**8.21**	**101**	P		**Pn**	**11 55 33.7**	**-2.2**
GSI	**Gunungsitoli**	**8.21**	**101**	*e*Pn		**Pn**	**11 55 34.4**	**-1.5**
KCSI	**Kotacane, Aceh**	**8.26**	**86**	P		**Pn**	**11 55 38.1**	**+1.5**
TSI	**Tuntungan**	**9.05**	**86**	P		**Pn**	**11 55 51.8**	**+4.4**
PBA	**Port Blair**	**9.24**	**20**	*e*P		Pn	11 55 47.9	-2.1
PBA				IAmb	IAmb	IAmb	11 56 07.5	
	comp=Z,764nm,0.3s							
PBSI	**Pulau Batu**	**9.25**	**109**	P		**Pn**	**11 55 48.6**	**-1.5**
PALK	**Pallekele**	**9.78**	**297**	Pn		**Pn**	**11 55 56.1**	**-1.3**
	comp=Z,27nm,0.3s,baz=116,slow=14,SNR=26							
PALK				Sn		Sn	11 57 36.8	-10
	comp=Z,295nm,0.3s,baz=296,slow=4.6,SNR=11							
PALK				LR		LR	11 59 03.1	
	comp=Z,317μm,21.4s,baz=83,slow=34							
PALK	**Pallekele**	**9.78**	**297**	*e*Pn		**Pn**	**11 55 55.2**	**-2.2**
PALK				*e*Sn		Sn	11 57 34.5	-12
PALK				Sn		Sn	11 57 36.8	-10
PALK	**Pallekele**	**9.78**	**297**	Pn		**Pn**	**11 55 54.8**	**-2.6**
	SNR=26							
PALK	**Pallekele**	**9.78**	**297**	P		**Pn**	**11 55 54.8**	**-2.6**
	SNR=26							
PALK	**Pallekele**	**9.78**	**297**	*i* P		**Pn**	**11 55 54.8**	**-2.6**
	SNR=11							
PALK	**Pallekele**	**9.78**	**297**	*e*P		**Pn**	**11 55 55.2**	**-2.2**
SISI	**Saibi**	**10.46**	**114**	P		**Pn**	**11 56 04.8**	**-1.9**
KULM	**Kulim**	**11.35**	**78**	*e*Pn		**Pn**	**11 56 17.4**	**-1.5**
IPM	**Ipoh**	**11.59**	**82**	*e*Pn		**Pn**	**11 56 20.2**	**-2.0**
BKNI	**Bangkinang**	**11.80**	**102**	P		Pn	11 56 33.6	+8.5
BKNI	**Bangkinang**	**11.80**	**102**	*e*Pn		**Pn**	**11 56 22.9**	**-2.2**
	comp=Z,2μm,1.0s							
PPSI	**Pulau Pagai**	**11.92**	**118**	P		**Pn**	**11 56 25.9**	**-0.7**
SDSI	**Sungai Dareh**	**12.51**	**108**	P		**P**	**11 56 45.5**	**-0.9**
RGRI	**Rengat**	**13.22**	**104**	P		**P**	**11 56 49.6**	**-4.7**
	comp=Z,729nm,1.1s							
MDRS	**Chennai**	**13.62**	**318**	*e*P		**Pn**	**11 56 47.0**	**-2.9**
MDRS				IAmb		IAmb	11 56 48.1	
	comp=Z,2μm,0.5s							
MASI	**Maura Aman, Be**	**14.07**	**115**	P		**Pn**	**11 56 54.0**	**-2.2**
MYKOM	**Kota Tinggi**	**14.37**	**94**	*e*Pn		**Pn**	**11 56 58.4**	**-1.8**
SKHT	**Srikalahasti**	**14.47**	**319**	*e*P		**Pn**	**11 56 58.6**	**-2.9**
JMBI	**JAMBI**	**14.83**	**108**	P		**Pn**	**11 57 09.0**	**+2.5**
	comp=Z,1μm,0.8s							
TPRI	**Tanjung Pinang**	**15.13**	**97**	P		**Pn**	**11 57 10.7**	**+0.2**
	comp=Z,816nm,1.3s							
MNAI	**Manna**	**15.26**	**118**	P		**P**	**11 57 16.3**	**-0.7**
MNAI	**Manna**	**15.26**	**118**	*e*Pn		**Pn**	**11 57 09.9**	**-2.3**
	comp=Z,1μm,0.9s							
VIS	**Vishakhapatnam**	**15.90**	**338**	*i* P		**Pn**	**11 57 19.0**	**-1.6**
ADKI	**Addanki**	**15.91**	**324**	*e*P		**Pn**	**11 57 18.8**	**-1.8**
PVM	**Polavaram**	**16.20**	**332**	*e*P		**Pn**	**11 57 21.4**	**-3.0**
CHLP	**Challavanipeta**	**16.38**	**341**	*e*P		**Pn**	**11 57 24.3**	**-2.3**
MDSI	**Maura Dua**	**16.40**	**117**	P		**P**	**11 57 28.4**	**-1.2**
LWLI	**Liwa**	**16.54**	**118**	P		**P**	**11 57 32.8**	**+1.5**
COCO	**West Island**	**16.69**	**154**	*e*Pn		**Pn**	**11 57 30.0**	**-0.6**
	comp=Z,548nm,1.1s							
COCO	**West Island**	**16.69**	**154**	P		**P**	**11 57 32.8**	**0.0**
	SNR=7.6							
COCO	**West Island**	**16.69**	**154**	P		**P**	**11 57 32.8**	**0.0**
	SNR=7.6							
COCO	**West Island**	**16.69**	**154**	*i* P		**P**	**11 57 33.0**	**+0.2**
SRLM	**Srisailam**	**16.75**	**322**	*e*P		**Pn**	**11 57 29.2**	**-2.2**
NJS	**Nagarjunasagar**	**16.86**	**324**	*e*P		**Pn**	**11 57 29.7**	**-3.0**
URV	**Uravakonda**	**16.99**	**315**	*e*P		**Pn**	**11 57 32.5**	**-1.9**
KASI	**Kota Agung**	**17.16**	**119**	P		**P**	**11 57 37.4**	**-0.7**
KLI	**Kotabumi**	**17.17**	**117**	P		**P**	**11 57 40.4**	**+2.2**
PPBI	**Pangkal Pinang**	**17.37**	**107**	P		**P**	**11 57 40.9**	**+0.5**
BLSI	**Bandar Lampung**	**17.74**	**118**	P		**Pn**	**11 57 42.9**	**-0.9**
CM01	**Chiang Mai Arr**	**17.96**	**30**	*e*Pn		**Pn**	**11 57 45.1**	**-1.4**
HYB	**Hyderabad**	**17.98**	**324**	*i* P		**Pn**	**11 57 44.0**	**-2.7**
HYB	**Hyderabad**	**17.98**	**324**	*e*P		**Pn**	**11 57 43.6**	**-3.1**
HYB				IAmb		IAmb	11 57 49.4	
	comp=Z,609nm,1.1s							
HYBB	**Hyderabad (bro**	**17.98**	**324**	*e*P		**Pn**	**11 57 46.2**	**-0.5**
CM31	**Chiang Mai Arr**	**17.98**	**30**	*e*P		**P**	**11 57 47.1**	**-0.1**
CMAR	**Chiang Mai Arr**	**17.98**	**30**	P		**P**	**11 57 47.2**	**0.0**
	comp=Z,2.0nm,0.3s,baz=226,slow=12,SNR=29							
CMAR				LR		LR	12 04 13.5	
	comp=Z,75μm,21.0s,baz=355,slow=36							
CHTO	**Chiang Mai**	**18.29**	**30**	*e*Pn		**Pn**	**11 57 49.1**	**-1.4**
	comp=Z,145nm,0.9s							
CHTO	**Chiang Mai**	**18.29**	**30**	Pn		**Pn**	**11 57 49.1**	**-1.4**
	SNR=43							
CHTO	**Chiang Mai**	**18.29**	**30**	P		**Pn**	**11 57 49.1**	**-1.4**
	SNR=43							
CHTO	**Chiang Mai**	**18.29**	**30**	*e*P		**Pn**	**11 57 49.1**	**-1.4**
CHTO				pmax		pmax		
	comp=Z,145nm,0.9s							
CGJI	**Cibinong**	**18.73**	**120**	P		**P**	**11 57 55.5**	**+0.1**
	comp=Z,1μm,1.0s							
RPR	**Rampur**	**18.73**	**328**	*e*P		**P**	**11 57 55.2**	**-0.1**
SRSP	**Sriramsagar**	**19.30**	**326**	*e*P		**P**	**11 58 00.6**	**-1.0**
SKJI	**Sukabumi**	**19.66**	**120**	P		**Pn**	**11 58 08.2**	**+1.1**
	comp=Z,1μm,2.0s							
KLRI	**Killari**	**19.67**	**321**	*e*P		**P**	**11 58 05.5**	**-0.3**
SAIH	**SAIHA**	**19.73**	**10**	*e*P		**P**	**11 58 06.8**	**+0.3**
GOA	**Goa**	**19.87**	**310**	*e*P		**Pn**	**11 58 09.1**	**-0.5**
DGAR	**Diego Garcia**	**19.89**	**239**	*e*P		**P**	**11 58 07.8**	**-0.3**
	comp=Z,2μm,1.1s							
DGAR	**Diego Garcia**	**19.89**	**239**	Pn		**Pn**	**11 58 09.1**	**-0.7**
	SNR=12							
DGAR	**Diego Garcia**	**19.89**	**239**	P		**Pn**	**11 58 09.1**	**-0.7**
	SNR=12							
DGAR	**Diego Garcia**	**19.89**	**239**	*e*P		**P**	**11 58 07.8**	**-0.3**
DGAR				pmax		pmax		
	comp=Z,2μm,1.1s							
H08S3	**Diego Garcia H**	**19.97**	**238**	T		T	12 18 26.4	
	baz=58,slow=74,SNR=162							
H08S2	**Diego Garcia H**	**19.97**	**238**	T		T	12 18 15.3	
	baz=58,slow=74,SNR=217							
H08S1	**Diego Garcia H**	**19.98**	**238**	T		T	12 18 00.5	
	baz=58,slow=74,SNR=222							
BELO	**BELONIA**	**20.29**	**5**	*e*P		**P**	**11 58 11.9**	**-0.5**
LEM	**Lembang**	**20.50**	**118**	P		**P**	**11 58 15.4**	**+0.4**
	comp=Z,349nm,1.0s,baz=356,slow=1.7,SNR=39							
NGP	**Nagpur**	**20.78**	**331**	*e*P		**P**	**11 58 18.7**	**+0.9**
NGP				*ex*		x	11 58 36.3	
	comp=Z,2μm,2.1s							
NGP				*ex*		x	12 02 01.8	
KSM	**Kuching**	**20.83**	**94**	*e*P		**P**	**11 58 19.1**	**+0.8**
	comp=Z,538nm,1.1s							
XMIS	**Christmas Isla**	**20.87**	**130**	*e*P		**P**	**11 58 19.0**	**+0.2**
	comp=Z,433nm,1.1s							
AGT	**Agartala**	**20.90**	**4**	*e*P		Pn	11 58 20.5	-1.0
CISI	**Cisompet, Garu**	**21.02**	**120**	P		**P**	**11 58 20.8**	**+0.3**
	comp=Z,2μm,1.1s							
CISI	**Cisompet, Garu**	**21.02**	**120**	*e*P		**P**	**11 58 20.5**	**0.0**
	comp=Z,1μm,1.0s							
BOK	**Bokaro**	**21.04**	**351**	*e*P		**P**	**11 58 20.2**	**-0.4**
CMJI	**Cimerak**	**21.68**	**120**	P		**P**	**11 58 27.4**	**-0.1**
	comp=Z,1μm,1.5s							
POO	**Poona**	**21.81**	**316**	*e*P		**P**	**11 58 29.0**	**0.0**
KPJI	**Karang Pucung**	**21.89**	**118**	P		**P**	**11 58 30.2**	**+0.4**
	comp=Z,940nm,2.4s							
SILR	**SILCHAR**	**21.96**	**8**	*e*P		**P**	**11 58 29.9**	**-0.5**
STKI	**Sintang**	**22.14**	**97**	P		**P**	**11 58 33.7**	**+1.2**
	comp=Z,852nm,1.5s,comp=Z,49μm							
IMP	**Imphal**	**22.19**	**11**	*e*P		**P**	**11 58 33.1**	**+0.1**
IMP				IAmb		IAmb	11 58 37.5	
	comp=Z,248nm,1.0s							
TURI	**Tura**	**22.51**	**2**	*e*P		**P**	**11 58 36.1**	**-0.2**
SHL	**Shillong**	**22.62**	**6**	*e*P		**P**	**11 58 36.9**	**-0.8**
SBUM	**Sibu**	**22.68**	**91**	*e*P		**P**	**11 58 38.5**	**+0.1**
	comp=Z,244nm,1.1s							
PBKI	**Pangkalan Bun**	**22.84**	**104**	P		**P**	**11 58 40.7**	**+0.7**
	comp=Z,1μm,1.1s							
KOHI	**KOHIMA**	**23.09**	**11**	*e*P		**P**	**11 58 41.7**	**-0.9**
KOHI				IAmb		IAmb	11 58 47.6	
SMRI	**Semarang**	**23.12**	**115**	P		**P**	**11 58 42.9**	**+0.1**
	comp=Z,1μm,1.9s							
SMRI	**Semarang**	**23.12**	**115**	*e*P		**P**	**11 58 42.5**	**-0.4**
GUWA	**GUWAHATI**	**23.23**	**5**	*e*P		**P**	**11 58 42.3**	**-1.4**
GUWA				IAmb		IAmb	11 58 45.9	
	comp=Z,416nm,0.9s							
BHPL	**Bhopal**	**23.34**	**331**	*e*P		**P**	**11 58 44.8**	**-0.3**
BHPL				IAmb		IAmb	11 58 47.8	
	comp=Z,253nm,0.9s							
UGM	**Wanagama**	**23.56**	**117**	P		**P**	**11 58 46.5**	**-0.8**
	comp=Z,808nm,2.0s							
UGM	**Wanagama**	**23.56**	**117**	*e*P		**P**	**11 58 45.5**	**-1.8**
	comp=Z,412nm,1.0s							
MOKO	**MOKOCHONG**	**23.75**	**11**	*e*P		**P**	**11 58 48.9**	**-0.3**
TEZP	**TEZPUR**	**23.76**	**7**	*e*P		**P**	**11 58 48.7**	**-0.4**
ODAN	**Odare**	**23.88**	**355**	*e*P		**P**	**11 58 51.4**	**+0.9**
WOJI	**Wonogiri, Jawa**	**23.89**	**117**	P		**P**	**11 58 49.1**	**-1.3**
	comp=Z,327nm,1.2s							
RAMN	**Ramite**	**24.05**	**354**	*e*P		**P**	**11 58 53.3**	**+1.2**
JORH	**JORHAT**	**24.11**	**10**	*e*P		**P**	**11 58 50.9**	**-1.4**
JORH				IAmb		IAmb	11 58 52.2	
	comp=Z,227nm,0.8s							
PCJI	**Pacitan**	**24.27**	**117**	P		**P**	**11 58 52.7**	**-1.2**
	comp=Z,724nm,1.3s							
GTK	**Tadong**	**24.27**	**358**	*e*P		**P**	**11 58 54.8**	**+0.8**
GTK				IAmb		IAmb	11 58 57.3	
	comp=Z,230nm,0.8s							
ITAN	**ITANAGAR**	**24.41**	**9**	*e*P		**P**	**11 58 55.2**	**0.0**
BWJI	**Bawean**	**24.70**	**111**	P		**P**	**11 58 59.4**	**+1.5**
	comp=Z,394nm,1.4s							
JIRN	**Jiri**	**24.80**	**353**	*e*P		**P**	**11 58 59.8**	**+0.8**
	comp=Z,3μm,1.1s							
ZIRO	**ZIRO**	**24.81**	**9**	*e*P		**P**	**11 58 58.5**	**-0.4**
PKIN	**Phulchoki**	**24.82**	**351**	*e*P		**P**	**11 59 00.8**	**+1.6**
	comp=Z,4μm,1.5s							
DMN	**Daman**	**24.90**	**351**	*e*P		**P**	**11 59 01.1**	**+1.3**
	comp=Z,1μm,1.1s							
GRJI	**Gresik**	**24.92**	**113**	P		P	11 59 10.5	+11
KKN	**Kakani**	**25.05**	**351**	*e*P		**P**	**11 59 02.1**	**+0.9**
	comp=Z,2μm,1.3s							
GUN	**Gumba**	**25.09**	**352**	*e*P		**P**	**11 59 02.7**	**+1.1**
	comp=Z,4μm,1.4s							
KOLN	**Koldanda**	**25.34**	**348**	*e*P		**P**	**11 59 04.9**	**+1.1**
	comp=Z,1μm,1.2s							
GKN	**Gorkha**	**25.37**	**350**	*e*P		**P**	**11 59 04.8**	**+0.9**
	comp=Z,3μm,1.4s							
KMI	**Kunming**	**25.48**	**29**	P		**P**	**11 59 07.0**	**+1.9**
KMI				pP		sP	11 59 11.5	-1.0
KMI				sP		pP	11 59 12.9	+2.6
KMI				PP		**PnPn**	**11 59 49.0**	**+8.3**
KMI				S		**S**	**12 03 32.4**	**+0.5**
KMI				sS		sS	12 03 40.9	+0.3
KMI				SS		SnSn	12 04 40.9	+16
KMI				pmax		pmax		
	comp=Z,150nm,1.1s							
KMI				LR		LR		
	comp=Z,69μm,19.9s							
KMI				LR		LR		
	comp=Z,78μm,20.6s							
KMI				LR		LR		
	comp=Z,77μm,18.3s							
QIZ	**Qiongzhong**	**25.52**	**50**	P		**P**	**11 59 06.1**	**+0.8**
QIZ				S		**S**	**12 03 34.9**	**+2.6**
QIZ				pmax		pmax		
	comp=Z,62nm,1.0s							
QIZ				LR		LR		
	comp=Z,66μm,22.6s							
QIZ				LR		LR		
	comp=Z,80μm,11.8s							
QIZ	**Qiongzhong**	**25.52**	**50**	*e*P		**P**	**11 59 05.2**	**-0.1**
	comp=Z,1μm,1.8s							
MTKI	**Muara Teweh, K**	**25.66**	**98**	P		P	11 59 14.1	+7.5
PYUN	**Piuthan**	**25.80**	**347**	*e*P		**P**	**11 59 08.9**	**+1.0**
	comp=Z,3μm,1.2s							
BLJI	**Banyuglugur**	**26.26**	**114**	P		**P**	**11 59 08.7**	**-3.3**
GMJI	**Gumukmas**	**26.33**	**115**	P		**P**	**11 59 09.7**	**-3.0**
KMMI	**Kalianget**	**26.34**	**112**	P		**P**	**11 59 11.2**	**-1.5**
LSA	**Lhasa**	**26.67**	**3**	P		**P**	**11 59 17.2**	**+1.1**
LSA				pmax		pmax		
	comp=Z,320nm,0.9s							
LSA	**Lhasa**	**26.67**	**3**	*e*P		**P**	**11 59 17.2**	**+1.1**
	comp=Z,2μm,1.4s							
LSA	**Lhasa**	**26.67**	**3**	*e*P		**P**	**11 59 17.2**	**+1.1**
LSA				pmax		pmax		
	comp=Z,2μm,1.4s							
KKM	**Kota Kinabalu**	**26.79**	**82**	*e*P		**P**	**11 59 17.2**	**+0.3**
	comp=Z,138nm,1.0s							
JAGI	**Jajag, Banyuwa**	**27.05**	**115**	P		**P**	**11 59 17.1**	**-2.1**
	comp=Z,150nm,0.7s							
JAGI	**Jajag, Banyuwa**	**27.05**	**115**	*e*P		**P**	**11 59 16.4**	**-2.8**
	comp=Z,169nm,1.0s							
KBKI	**Kotabaru**	**27.35**	**103**	P		**P**	**11 59 23.3**	**+1.5**
	comp=Z,234nm,1.5s							
BKB	**Balikpapan**	**27.69**	**98**	P		**P**	**11 59 29.4**	**+4.5**
	comp=Z,436nm,1.5s							
SRBI	**Singaraja**	**27.87**	**113**	P		**P**	**11 59 25.8**	**-0.7**
	comp=Z,168nm,1.0s							
SGKI	**Sangatta, Kali**	**28.29**	**97**	P		**P**	**11 59 31.1**	**+0.8**
	comp=Z,336nm,1.3s							
GYA	**Guiyang**	**28.60**	**34**⇑	*i* P		**P**	**11 59 33.0**	**0.0**
GYA				PP		**PnPn**	**12 00 28.5**	**+5.3**
GYA				S		**S**	**12 04 22.0**	**+1.1**
GYA				SS		**SnSn**	**12 05 49.9**	**+8.8**
GYA				ScP		**ScP**	**12 06 25.4**	**+0.5**
GYA				pmax		pmax		
	comp=Z,60n

comp=Z,171nm,1.1s
KBL Kabul 36.77 331 eP P 12 00 44.5 0.0
KBL pmax pmax
comp=Z,171nm,1.1s
SSLB Suanglung 36.78 53 eP P 12 00 45.9 +1.4
comp=Z,71nm,0.9s
SANI Sanana 36.79 97 P P 12 00 43.0 -1.7
comp=Z,254nm,1.7s
SOEI Soe 36.84 110 P P 12 00 42.0 -3.2
comp=Z,261nm,2.1s
SOEI Soe 36.84 110 eP P 12 00 41.0 -4.2
comp=Z,164nm,1.1s
YULB Yu-li 36.87 54 eP P 12 00 46.2 +1.0
comp=Z,141nm,1.0s
HOQ Hoqain 37.30 306 pP P 12 00 53.0 +4.1
SNR=14
HOQ Hoqain 37.30 306 P P 12 00 53.0 +4.1
SNR=14
NACB Ninganchiao 37.48 53 eP P 12 00 49.6 -0.8
GTA Gaotai 37.50 13 P P 12 00 50.7 +0.2
GTA pP pP 12 00 54.8 -1.0
GTA sP sP 12 00 58.0 0.0
GTA S **S 12 06 41.4 +2.6**
GTA sS sS 12 06 48.1 +0.5
GTA SS **SnSn 12 09 14.2 -2.8**
GTA ScS **ScS 12 11 03.0 -0.8**
GTA pmax pmax
comp=Z,320nm,1.0s
GTA LR LR
comp=Z,61μm,15.7s
YHNB Yeheng 37.55 52 eP P 12 00 52.5 +1.4
comp=Z,50nm,1.0s
TNTI Ternate 37.89 92 eP P 12 00 51.5 -2.5
comp=Z,45nm,0.7s
NLAI Namlea 38.06 99 P P 12 00 57.3 +1.9
comp=Z,232nm,1.2s
MBWA Marble Bar 38.06 130 eP P 12 00 54.8 -0.5
comp=Z,123nm,0.9s
MBWA Marble Bar 38.06 130 P P 12 00 55.3 0.0
SNR=12
MBWA Marble Bar 38.06 130 P P 12 00 55.3 0.0
SNR=12
WHFO Wadi Hawf 38.07 296 pP P 12 00 58.0 +2.5
SNR=7.9
WHFO Wadi Hawf 38.07 296 P P 12 00 58.0 +2.5
SNR=7.9
LBMI Labuha 38.14 95 P P 12 00 57.8 +1.7
comp=Z,352nm,2.2s
SOHO SOHO 38.19 306 i P P 12 00 57.7 +1.4
SNR=13
KSH Kashi 38.44 343 P P 12 00 56.8 -1.6
KSH sP sP 12 01 05.6 -0.3
KSH S **S 12 06 50.3 -2.8**
KSH PcS **PcS 12 06 57.5 -3.3**
KSH pmax pmax
comp=Z,960nm,1.2s
KSH LR LR
comp=Z,26μm,12.3s
KSH LR LR
comp=Z,34μm,8.4s
ASHO Ashiyiah 38.83 307 pP P 12 01 05.8 +4.0
SNR=13
ASHO Ashiyiah 38.83 307 P P 12 01 05.8 +4.0
SNR=13
ASHO Ashiyiah 38.83 307 i P P 12 01 03.0 +1.2
SNR=11
HATD Hatta, Dubai 38.84 307 pP P 12 01 05.0 +3.1
SNR=16
HATD Hatta, Dubai 38.84 307 P P 12 01 05.0 +3.1
SNR=16
HATD Hatta, Dubai 38.84 307 i P P 12 01 03.0 +1.1
SNR=16
UOSS Minazif 38.84 307 eP P 12 01 01.8 0.0
comp=Z,22nm,1.0s
UOSS Minazif 38.84 307 i P P 12 01 02.0 +0.2
SNR=11
MDH Madha 38.93 308 i P P 12 01 05.0 +2.4
SNR=11
MRIV Mauritius Mete 38.98 232 eP P 12 01 03.5 +0.4
comp=Z,133nm,1.1s
MSFE Esma-Masafi 39.07 308 i P P 12 01 05.6 +1.8
SNR=9.0
AAI Ambon 39.21 99 P P 12 01 03.7 -1.4
comp=Z,310nm,1.6s
BANOM Banah 39.24 309 pP P 12 01 09.7 +4.4
SNR=8.5
BANOM Banah 39.24 309 P P 12 01 09.7 +4.4
SNR=8.5
BANOM Banah 39.24 309 i P P 12 01 06.2 +0.9
SNR=10.0
NAZ Nazwa, Dubai 39.29 307 pP P 12 01 08.0 +2.4
SNR=21
NAZ Nazwa, Dubai 39.29 307 P P 12 01 08.0 +2.4
SNR=21
NAZ Nazwa, Dubai 39.29 307 i P P 12 01 06.6 +1.0
SNR=7.2
SHME Shamm 39.43 309 i P P 12 01 09.8 +3.0
SNR=6.8
UMQ Umm Al-Quwin 39.55 308 i P P 12 01 11.0 +3.3
SNR=9.3
AJN Ajban 39.63 306 i P P 12 01 09.5 +1.1
SNR=17
SFK Sufi-Kurgan 39.67 341 P P 12 01 09.1 +0.3
SFK pmax pmax
comp=Z,367nm,1.4s
MSAI Masohi 39.88 99 P P 12 01 09.2 -1.5
comp=Z,59nm,1.6s
NJ2 Nanjing 39.99 40 eP P 12 01 11.5 +0.1
NJ2 pmax pmax
comp=Z,45nm,1.0s
TIY Taiyuan 40.50 28 eP P 12 01 17.7 +2.1
MEEK Meekatharra 40.67 138 P P 12 01 17.4 +0.3
baz=41,SNR=59
MORW Morawa 40.73 143 P P 12 01 18.6 +1.1
baz=41,SNR=22
WMQ Urumqi 40.75 358 P P 12 01 18.2 +0.7
WMQ pP pP 12 01 21.0 -1.9
WMQ sP sP 12 01 25.7 +0.6
WMQ pmax pmax
comp=Z,400nm,0.9s
WMQ LR LR
comp=Z,60μm,37.3s
WMQ LR LR
comp=Z,55μm,29.5s
RER Riviere de l'E 40.83 233 eP P 12 01 23.5 +5.0
comp=Z,264nm,1.0s
UZB Uzynbulak 41.12 348 ⇓ iP P 12 01 21.3 +0.5
comp=Z,2μm,1.2s
UZB eS **S 12 07 31.6 -1.6**
UZB LR LR 12 18 00.6
comp=Z,17μm,13.9s
SATY Saty 41.17 348 ⇓ iP P 12 01 21.7 +0.7
comp=Z,6μm,1.1s
SATY i S **S 12 07 32.3 -1.5**
PDGK Podgornoye 41.21 349 P P 12 01 21.5 +0.1
PDGK pmax pmax
comp=Z,615nm,1.4s
FITZ Fitzroy Crossi 41.27 122 P P 12 01 21.3 -0.8
comp=Z,62nm,0.8s,baz=284,slow=3.0,SNR=21
FITZ Fitzroy Crossi 41.27 122 P P 12 01 21.3 -0.8
baz=41,SNR=18
FITZ Fitzroy Crossi 41.27 122 eP P 12 01 21.4 -0.8
comp=Z,83nm,0.9s
UCH Uchtor 41.37 343 P P 12 01 23.6 +0.4
SNR=22
KPKS Kokpek 41.50 348 ⇓ iP P 12 01 24.1 +0.4
comp=Z,2μm,1.1s
KPKS eS **S 12 07 36.8 -1.9**
AML Almayashu 41.53 342 P P 12 01 25.3 +1.0
SNR=24
MDOK Medeo 41.57 346 i P P 12 01 25.3 +0.9
comp=Z,3μm,1.7s
MDOK eS **S 12 07 38.6 -1.3**
KBK Karagaybulak 41.64 344 P P 12 01 26.1 +1.1
SNR=24
AAA Alma-Ata 41.65 346 ⇓ iP P 12 01 25.9 +0.9
comp=Z,956nm,1.7s
TKM2 Tokmak 2 41.71 345 P P 12 01 26.2 +0.5
SNR=52
TKM2 Tokmak 2 41.71 345 P P 12 01 24.9 -0.7
TKM2 pmax pmax
comp=Z,334nm,1.4s
AAK Ala-Archa 41.75 343 P P 12 01 26.7 +0.8
comp=Z,80nm,0.9s,baz=141,slow=8.0,SNR=26
AAK Ala-Archa 41.75 343 P P 12 01 26.6 +0.7
SNR=31
AAK Ala-Archa 41.75 343 eP P 12 01 26.9 +1.0
comp=Z,177nm,1.1s
AAK Ala-Archa 41.75 343 P P 12 01 27.3 +1.3
SNR=21
AAK Ala-Archa 41.75 343 P P 12 01 27.3 +1.3
SNR=21
AAK Ala-Archa 41.75 343 i P P 12 01 27.2 +1.3
SNR=31
AAK Ala-Archa 41.75 343 P P 12 01 26.1 +0.2
AAK pmax pmax
comp=Z,215nm,1.2s
TIA Tai'an 41.79 34 P P 12 01 26.1 0.0
TIA pmax pmax
comp=Z,51nm,1.0s
BTO Baotou 41.83 24 eP P 12 01 25.5 -1.0
BMNS Besmoynak 41.87 345 ⇓ iP P 12 01 27.4 +0.5
comp=Z,4μm,1.2s
FRU Bishkek 41.90 344 eP P 12 01 28.0 +1.1
SWI Sorong 41.90 95 P P 12 01 25.4 -1.9
comp=Z,126nm,1.8s
SIJI Sorong 41.91 95 P P 12 01 25.3 -2.1
comp=Z,62nm,1.0s,baz=311,slow=6.6,SNR=33
EKS2 Erkin-Say 41.98 343 P P 12 01 28.9 +1.1
SNR=37
CHMS Chumysh 42.01 344 P P 12 01 28.6 +0.8
SNR=11
BLDU Balliduu 42.26 144 P P 12 01 30.1 +0.1
baz=42,SNR=30
USP Ospenovka 42.33 344 P P 12 01 30.6 +0.1
SNR=27
KUU Kurty 42.43 346 ⇓ iP P 12 01 31.1 -0.2
comp=Z,2μm,1.2s
HHC Hu-ho-hao-te 42.67 25 eP P 12 01 33.4 0.0
HHC S **S 12 07 59.2 +3.2**
HHC pmax pmax
comp=Z,40nm,1.1s
HHC LR LR
comp=Z,6μm,14.3s
HHC LR LR
comp=Z,6μm,14.7s
HHC LR LR
comp=Z,7μm,15.3s
IUG Iuzhnay 42.77 339 ⇓ iP P 12 01 34.8 +0.7
comp=Z,2μm,1.7s
DZA Taraz 42.97 340 ⇓ eP P 12 01 36.1 +0.4
comp=Z,737nm,1.3s
MUN Mundaring 42.98 146 P P 12 01 36.6 +0.7
baz=43,SNR=11
CHM Chimkent 43.08 338 ⇓ iP P 12 01 37.7 +1.2
comp=Z,3μm,1.7s
CHM eS **S 12 08 01.1 -0.7**
FAKI Fak Fak 43.11 97 P P 12 01 35.7 -1.5
comp=Z,260nm,1.9s
FAKI Fak Fak 43.11 97 eP P 12 01 35.5 -1.7
comp=Z,208nm,1.1s
KK06 Karatay Array 43.42 340 eP P 12 01 39.3 0.0
KK07 Karatay Array 43.43 340 eP P 12 01 39.4 +0.1
KK02 Karatay Array 43.44 340 eP P 12 01 39.4 0.0
KK31 Karatay Array 43.44 340 eP P 12 01 40.0 +0.6
KK31 Karatay Array 43.44 340 eP P 12 01 40.0 +0.6
KKAR Karatay Array 43.44 340 eP P 12 01 40.0 +0.6
KKAR Karatay Array 43.44 340 eP P 12 01 40.0 +0.6
KK03 Karatay Array 43.44 340 eP P 12 01 39.5 0.0
KK01 Karatay Array 43.44 340 eP P 12 01 39.4 0.0
KK04 Karatay Array 43.44 340 eP P 12 01 39.5 0.0
KK05 Karatay Array 43.44 340 eP P 12 01 39.4 -0.1
KK08 Karatay Array 43.45 340 eP P 12 01 39.5 0.0
KLBR Kellerberrin 43.58 144 P P 12 01 40.8 0.0
baz=44,SNR=5.6
JOW Kunigami 44.06 54 P P 12 01 44.7 0.0
comp=Z,60nm,0.8s,baz=219,slow=2.3,SNR=7.0
JOW Kunigami 44.06 54 eP P 12 01 45.7 +1.1
comp=Z,132nm,0.8s
BTLS Baital 44.09 344 ⇓ iP P 12 01 44.8 +0.2
comp=Z,705nm,1.2s
BJT Baijiatuau 44.11 30 eP P 12 01 45.6 +0.7
comp=Z,172nm,1.2s
BJT Baijiatuau 44.11 30 eP P 12 01 45.6 +0.7
BJT pmax pmax
comp=Z,172nm,1.2s
BJI Beijing 44.13 30 ⇓ iP P 12 01 45.6 +0.6
BJI pmax pmax
comp=Z,150nm,1.1s
BJI LR LR
comp=Z,6μm,17.5s
BJI LR LR
comp=Z,8μm,17.3s
BJI LR LR
comp=Z,5μm,20.6s
MK31 Makanchi Array 44.14 353 eP P 12 01 45.0 -0.1
MK31 Makanchi Array 44.14 353 eP P 12 01 45.0 -0.1
MKAR Makanchi Array 44.14 353 P P 12 01 44.5 -0.6
comp=Z,113nm,0.9s,baz=172,slow=8.9,SNR=51
H01W3 Cape Leeuwin H 44.15 151 T T 12 48 39.0
baz=325,slow=75,SNR=104
H01W2 Cape Leeuwin H 44.16 151 T T 12 48 54.1
baz=325,slow=75,SNR=65
H01W1 Cape Leeuwin H 44.17 151 T T 12 48 50.0
baz=325,slow=75,SNR=49
MTN Manton Dam 44.19 112 P P 12 01 44.7 -1.2
baz=44,SNR=33
MTN Manton Dam 44.19 112 eP P 12 01 44.7 -1.2
comp=Z,164nm,0.8s
NWAO Narrogin (SRO) 44.27 146 P P 12 01 46.0 -0.2
comp=Z,105nm,0.8s,baz=185,slow=8.7,SNR=29
NWAO Narrogin (SRO) 44.27 146 P P 12 01 46.0 -0.2
baz=44,SNR=17
NWAO P P 12 01 46.0 -0.2
baz=44,SNR=17
NWAO Narrogin (SRO) 44.27 146 eP P 12 01 45.9 -0.2
comp=Z,150nm,1.0s
NWAO Narrogin (SRO) 44.27 146 P P 12 01 46.4 +0.2
SNR=5.8
NWAO Narrogin (SRO) 44.27 146 P P 12 01 46.4 +0.2
SNR=5.8
NWAO Narrogin (SRO) 44.27 146 P P 12 01 46.0 -0.2
NWAO pmax pmax
comp=Z,105nm,0.8s
ZSN Zaisan 44.53 356 ⇓ iP P 12 01 48.6 +0.5
comp=Z,819nm,1.0s
PALU Palau 44.97 83 P P 12 01 50.9 -1.3
baz=45,SNR=9.0
GYB1 ALIBECK ARRAY 45.15 324 eP P 12 01 54.3 +1.1
comp=Z,212nm,1.1s
GYA1 ALIBECK ARRAY 45.15 324 eP P 12 01 54.3 +1.0
comp=Z,177nm,1.0s
GYB2 ALIBECK ARRAY 45.16 324 eP P 12 01 54.4 +1.1
comp=Z,248nm,1.1s
GYB5 ALIBECK ARRAY 45.16 324 eP P 12 01 54.4 +1.1
comp=Z,140nm,0.9s
GEYT Alibeck 45.16 324 P P 12 01 54.3 +1.0
comp=Z,72nm,0.7s,baz=155,slow=8.2,SNR=34
GYA0 ALIBECK ARRAY 45.16 324 eP P 12 01 54.4 +1.0
comp=Z,187nm,1.0s
GYA0B ALIBECK ARRAY 45.16 324 eP P 12 01 54.4 +1.1
comp=Z,190nm,1.0s
GYA2 ALIBECK ARRAY 45.16 324 eP P 12 01 54.4 +1.1
comp=Z,176nm,1.0s
GYB3 ALIBECK ARRAY 45.17 324 eP P 12 01 54.5 +1.1
comp=Z,220nm,1.1s
GYB4 ALIBECK ARRAY 45.17 324 eP P 12 01 54.1 +0.7
comp=Z,201nm,1.1s
RKGY Rocky Gully 45.39 148 P P 12 01 55.9 +0.8
baz=46,SNR=7.0
KMBL Kambalda 45.95 140 P P 12 01 59.6 -0.1
baz=46,SNR=16
DAMY Dhamar 45.98 287 eP P 12 02 02.1 +1.7
comp=Z,90nm,1.1s
DL2 Dalian 46.23 35 P P 12 02 02.0 +0.3
DL2 pmax pmax
comp=Z,120nm,0.7s
DGZ Jazzator, Alta 46.64 358 eP P 12 02 04.8 -0.1
DGZ pmax pmax
comp=Z,14nm,1.0s
WRKA Warakurna 46.77 129 P P 12 02 06.2 -0.1
baz=47,SNR=36
OPO Ambohidratompo 46.82 241 P P 12 02 07.4 +0.6
comp=Z,22nm,0.8s,baz=64,slow=8.6,SNR=18
ABPO Ambohimpanom 46.96 241 eP P 12 02 08.7 +0.8
comp=Z,166nm,1.1s
ABPO Ambohimpanom 46.96 241 eP P 12 02 08.7 +0.8
ABPO pmax pmax
comp=Z,166nm,1.1s
ATD Arta Tunnel 47.02 283 P P 12 02 09.4 +1.0
comp=Z,59nm,0.8s,baz=63,slow=3.3,SNR=16
SONM Songino Array 47.05 16 P P 12 02 09.1 +0.9
comp=Z,336nm,0.8s,baz=196,slow=8.6,SNR=117
RAYN Ar Rayn 47.20 300 eP P 12 02 09.7 0.0
comp=Z,96nm,0.9s
ULN Ulaanbaatar 47.25 16 eP P 12 02 09.8 +0.1
comp=Z,233nm,1.1s
ULN Ulaanbaatar 47.25 16 P P 12 02 10.3 +0.5
SNR=29
ULN Ulaanbaatar 47.25 16 P P 12 02 10.3 +0.5
SNR=29
ULN Ulaanbaatar 47.25 16 ceP P 12 02 09.9 +0.1
ULN pmax pmax
comp=Z,279nm,1.2s
OTUK Ortayu 47.50 344 P P 12 02 11.0 -0.6
OTUK pmax pmax
comp=Z,322nm,1.4s
SEM Semipalatinsk 47.96 352 ⇓ iP P 12 02 14.6 -0.7
comp=Z,1μm,1.7s
SEM eS **S 12 09 09.6 -2.8**
HVS Khovu-Aksy 48.17 4 ci P 12 02 16.9 +0.2
HVS pmax pmax
comp=Z,485nm,0.9s
TJN Taejon 48.21 42 ceP P 12 02 16.6 -0.6
INCN Inchon 48.37 40 eP P 12 02 18.7 +0.2
comp=Z,57nm,1.0s
KURBB Kurchatov Arra 48.42 351 P P 12 02 18.7 +0.1
comp=Z,98nm,0.9s,baz=174,slow=7.0,SNR=56
KURK Kurchatov 48.50 351 P P 12 02 18.7 -0.5
KURK Kurchatov 48.50 351 ceP P 12 02 19.0 -0.2
KURK pmax pmax
comp=Z,1μm,1.2s
ZAK Zakamensk 48.70 12 eP P 12 02 20.8 -0.1
ZAK pmax pmax
comp=Z,65nm,1.8s
JNU Nakatsue 48.96 47 P P 12 02 24.1 +1.0
comp=Z,39nm,0.8s,baz=223,slow=1.5,SNR=12
JNU Nakatsue 48.96 47 eP P 12 02 25.3 +2.2
comp=Z,70nm,1.0s
KS15 Wonju Array Si 49.16 41 eP P 12 02 25.9 +1.4
KSAR Wonju Array Be 49.16 41 P P 12 02 24.2 -0.3
KSAR Wonju Array Be 49.16 41 P P 12 02 24.2 -0.3
KS01 Wonju Array Si 49.19 41 eP P 12 02 24.1 -0.6
KSRS Korea Array 49.19 41 P P 12 02 24.2 -0.5
comp=Z,35nm,1.2s,baz=232,slow=8.6,SNR=29
KSRS Korea Array 49.19 41 P P 12 02 24.2 -0.5
KSRS pmax pmax
comp=Z,36nm,1.2s
MOY Mondy 49.51 9 eP P 12 02 27.4 +0.3
MOY pmax pmax
comp=Z,165nm,2.9s
WRA Warramunga Arr 49.52 119 P P 12 02 26.9 -0.7
comp=Z,119nm,0.9s,baz=295,slow=8.4,SNR=55
WRAB Tennant Creek 49.52 119 eP P 12 02 26.4 -1.2
comp=Z,208nm,1.0s
WRAB Tennant Creek 49.52 119 eP P 12 02 26.4 -1.2
WRAB pmax pmax
comp=Z,208nm,1.0s
WB2 Warramunga Arr 49.53 119 eP P 12 02 27.2 -0.4
FORT Forrest 49.73 135 P P 12 02 29.4 +0.5
baz=50,SNR=14
FORT Forrest 49.73 135 eP P 12 02 29.1 +0.2
comp=Z,2μm,0.9s
TLY Talaya 50.01 11 eP P 12 02 31.7 +1.0
comp=Z,80nm,1.1s
TLY Talaya 50.01 11 P P 12 02 32.1 +1.4
SNR=16
TLY Talaya 50.01 11 P P 12 02 32.1 +1.4
SNR=16
TLY Talaya 50.01 11 eP P 12 02 32.2 +1.4
TLY pmax pmax
comp=Z,100nm,1.3s
ASAR Alice Springs 50.65 124 P P 12 02 35.6 -0.4
comp=Z,51nm,1.0s,baz=298,slow=7.1,SNR=49
ASAR PcP **PcP 12 03 51.5 -2.0**
comp=Z,17nm,0.9s,baz=297,slow=4.1,SNR=5.0
AS31 Alice Springs 50.65 124 eP P 12 02 35.7 -0.4
comp=Z,22nm,1.1s
IRK Irkutsk 50.66 12 eP P 12 02 36.0 +0.3
IRK eS **S 12 09 42.3 -7.6**
IRK pmax pmax
comp=Z,274nm,1.8s
AS01 Alice Springs 50.68 124 eP P 12 02 35.0 -1.4
ZAA0 Zalesovo Array 51.00 356 eP P 12 02 37.4 -0.8
comp=Z,94nm,0.8s
ZALV Zalesovo Beam 51.00 356 P P 12 02 38.0 -0.2
comp=Z,65nm,0.6s,baz=190,slow=8.0,SNR=37
ZALV Zalesovo Beam 51.00 356 eP P 12 02 36.8 -1.4
ZALV Zalesovo Beam 51.00 356 eP P 12 02 36.8 -1.4
JAY Jayapura 51.45 96 P P 12 02 40.5 -1.8
comp=Z,297nm,0.9s
CN2 Changchun 51.65 33 eP P 12 02 43.4 +0.2
CN2 esP sP 12 02 50.7 -0.1
CN2 eS **S 12 10 12.1 +8.4**
CN2 pmax pmax
comp=Z,40nm,0.9s
NVS Novosibirsk 52.00 355 ⇑ iP P 12 02 45.0 -0.6
NVS eS **S 12 10 05.8 -2.4**
NVS pmax pmax
comp=Z,232nm,1.4s
NVS pmax pmax
comp=N,125nm,1.5s
NVS pmax pmax
comp=E,80nm,1.5s
NVS smax smax
comp=N,143nm,2.3s
BVA0 Borovoye Array 52.38 346 i P P 12 02 46.7 -1.8
BVA0 pmax pmax
comp=Z,52nm,1.2s
BVAR Borovoye Array 52.38 346 P P 12 02 48.1 -0.5
comp=Z,21nm,0.8s,baz=166,slow=9.5,SNR=11
KMBO Kilima Mbogo 52.40 266 P P 12 02 49.9 +0.2
comp=Z,41nm,0.9s,baz=64,slow=9.4,SNR=39
KMBO Kilima Mbogo 52.40 266 eP P 12 02 50.4 +0.8
comp=Z,77nm,1.1s
KMBO Kilima Mbogo 52.40 266 pP P 12 02 50.1 +0.5
SNR=23
KMBO Kilima Mbogo 52.40 266 P P 12 02 50.1 +0.5
SNR=23
KMBO Kilima Mbogo 52.40 266 i P P 12 02 50.2 +0.6
SNR=36
KMBO Kilima Mbogo 52.40 266 eP P 12 02 50.4 +0.8
KMBO pmax pmax
comp=Z,77nm,1.1s
BRVK Borovoye 52.44 345 eP P 12 02 47.8 -1.2
comp=Z,43nm,0.9s
BRVK Borovoye 52.44 345 P P 12 02 48.3 -0.6
SNR=10
BRVK Borovoye 52.44 345 P P 12 02 48.3 -0.6
SNR=10
BRVK Borovoye 52.44 345 ceP P 12 02 47.4 -1.5
BRVK pmax pmax
comp=Z,209nm,1.2s
AB07 Akbulak array 52.58 336 eP P 12 02 50.0 -0.1
AB06 Akbulak array 52.59 336 eP P 12 02 50.1 0.0
AB08 Akbulak array 52.59 336 eP P 12 02 50.0 -0.1
AB03 Akbulak array 52.59 336 eP P 12 02 50.1 -0.1
AB01 Akbulak array 52.59 336 eP P 12 02 50.1 0.0
AB31 Akbulak array 52.59 336 eP P 12 02 50.1 -0.1
AB31 Akbulak array 52.59 336 eP P 12 02 50.1 -0.1
ABKAR Akbulak array 52.59 336 eP P 12 02 50.1 -0.1
comp=Z,2μm,1.1s
AB02 Akbulak array 52.60 336 eP P 12 02 50.1 -0.1
AB04 Akbulak array 52.60 336 eP P 12 02 50.1 0.0
AB05 Akbulak array 52.61 336 eP P 12 02 50.2 0.0
AB09 Akbulak array 52.61 336 eP P 12 02 50.2 0.0
HIA Hailar 52.87 24 eP P 12 02 52.4 +0.1
comp=Z,91nm,1.0s
HIA Hailar 52.87 24 eP P 12 02 52.3 +0.1
HIA pmax pmax
comp=Z,66nm,1.0s
CIT Chita 52.88 18 eP P 12 02 52.3 0.0
KRAR Krasnoyarsk 52.99 2 eP P 12 02 53.0 0.0
AKT Akhty 53.63 322 ⇑ iP P 12 02 58.4 +0.3
AKT e 12 04 05.4
AKT pmax pmax
comp=Z,386nm,1.3s
MSHR Mys Shultsa 54.16 37 ceP P 12 03 00.1 -1.7
AKTO Aktyubinsk 54.30 336 P P 12 03 02.5 -0.2
comp=Z,104nm,1.0s,baz=137,slow=7.8,SNR=36
QIS Mount Isa 54.36 118 P P 12 03 03.4 -0.2
baz=54,SNR=22
MDJ Mudanjiang 54.46 34 P P 12 03 03.1 -0.8
MDJ pP pP 12 03 07.9 -1.6
MDJ S **S 12 10 43.6 +1.6**
MDJ pmax pmax
comp=Z,110nm,2.0s
MDJ Mudanjiang 54.46 34 eP P 12 03 04.1 +0.2
comp=Z,620nm,1.9s
INU Inuyama 54.49 48 eP P 12 03 04.7 +0.3

comp=Z,48nm,0.9s
GNI Garni 54.83 319 P **P** **12 03 05.5 -1.5**
comp=Z,26nm,0.6s,baz=137,slow=3.3,SNR=16
GNI Garni 54.83 319 *e*P **P** **12 03 07.9 +1.0**
comp=Z,206nm,1.1s
GNI Garni 54.83 319 P **P** **12 03 08.2 +1.2**
SNR=16
GNI Garni 54.83 319 P **P** **12 03 08.2 +1.2**
SNR=16
GNI Garni 54.83 319 *i* P **P** **12 03 07.9 +1.0**
SNR=6.2
GNI Garni 54.83 319 *ce*P **P** **12 03 07.3 +0.4**
GNI pmax pmax
comp=Z,769nm,1.7s
USRK Ussuriysk Ar. 55.59 36 P **P** **12 03 11.1 -1.0**
comp=Z,16nm,0.9s,baz=238,slow=6.5,SNR=16
TBLG Delisi 55.65 320 *e*P **P** **12 03 13.4 +0.8**
comp=Z,366nm,1.2s
TBLG Delisi 55.65 320 *e*P **P** **12 03 13.4 +0.8**
TBLG pmax pmax
comp=Z,366nm,1.2s
CBIJ Chichi jima 55.74 59 P **P** **12 03 13.7 +0.2**
JCJ Chichijima 55.74 59 P **P** **12 03 13.7 +0.2**
comp=Z,108nm,0.7s,baz=318,slow=12,SNR=4.1
COEN Coen 55.78 109 *e*P **P** **12 03 12.4 -1.6**
comp=Z,109nm,1.8s
GROC Groznyy 55.78 322 *e*P **P** **12 03 12.7 -0.8**
GROC *e* 12 04 11.0
GROC pmax pmax
comp=Z,504nm,1.6s
MJB9 Matsu-Tunnel 55.87 47 *e*P **P** **12 03 15.3 +0.9**
comp=Z,64nm,1.1s
MAJO Matsushiro 55.88 47 *e*P **P** **12 03 15.2 +0.8**
comp=Z,34nm,1.1s
MAJO Matsushiro 55.88 47 *e*P **P** **12 03 14.0 -0.4**
MAJO pmax pmax
comp=Z,27nm,1.1s
MAT Matsushiro 55.88 47 P **P** **12 03 14.5 +0.1**
MJAR Matsushiro Arr 55.88 47 P **P** **12 03 14.2 -0.2**
comp=Z,7.3nm,0.7s,baz=245,slow=7.4,SNR=13
MJAR PcP **PcP** **12 04 14.0 +0.9**
comp=Z,15nm,0.8s,baz=250,slow=5.7,SNR=4.9
AKH Akhalkalaki 56.28 319 *e*P **P** **12 03 18.1 +0.8**
comp=Z,31nm,1.0s
AKH Akhalkalaki 56.28 319 *e*P **P** **12 03 18.2 +0.8**
AKH pmax pmax
comp=Z,31nm,1.0s
BBOO Buckleboo 56.56 133 P **P** **12 03 18.7 -0.6**
baz=57,SNR=20
BBOO Buckleboo 56.56 133 *e*P **P** **12 03 18.6 -0.6**
comp=Z,48nm,0.8s
ZEI Tsey 56.73 321 *e*P **P** **12 03 19.2 -1.4**
ZEI pmax pmax
comp=Z,108nm,1.1s
ASF Jabal al Asfar 57.24 307 P **P** **12 03 25.3 +1.0**
comp=Z,38nm,1.1s,baz=49,slow=5.9,SNR=16
NCK Nalchik 57.29 322 *e*P **P** **12 03 23.9 -0.4**
NCK pmax pmax
comp=Z,53nm,0.7s
NEY Neytrino 57.71 321 *e*P **P** **12 03 28.1 +0.6**
NEY pmax pmax
comp=Z,10.0nm,0.9s
KBZ Khabaz 57.84 322 P **P** **12 03 28.0 -0.1**
comp=Z,63nm,0.9s,baz=104,slow=5.1,SNR=22
MTSU Mount Surprise 57.88 113 P **P** **12 03 29.3 +0.4**
baz=58,SNR=14
MANU Manus Island 58.04 94 *e*P **P** **12 03 29.9 -0.2**
BOD Bodaibo 58.05 15 *e*P **P** **12 03 28.2 -1.1**
BOD pmax pmax
comp=Z,217nm,1.3s
KIV Kislovodsk 58.09 322 *e*P **P** **12 03 30.3 +0.3**
comp=Z,233nm,1.0s
KIV Kislovodsk 58.09 322 *i* P **P** **12 03 30.3 +0.3**
SNR=22
KIV Kislovodsk 58.09 322 *e*P **P** **12 03 30.3 +0.3**
KIV pmax pmax
comp=Z,233nm,1.0s
GOF Gofitskoye 58.45 323⇑ *e*P **P** **12 03 32.1 -0.3**
GOF pmax pmax
comp=Z,230nm,1.5s
SVE Sverdlovsk 58.46 342⇑ *e*P **P** **12 03 31.5 -0.7**
SVE pmax pmax
comp=Z,217nm,1.4s
KLR Kul'dur 58.46 31 P **P** **12 03 32.5 +0.1**
comp=Z,3.3nm,0.9s,baz=263,slow=7.8,SNR=22
KLR Kul'dur 58.46 31 *e*P **P** **12 03 31.4 -1.0**
MMAI Mount Meron Ar 58.71 307 P **P** **12 03 35.8 +1.3**
comp=Z,9.9nm,0.7s,baz=79,slow=10,SNR=8.1
PMG Port Moresby 58.72 103 P **P** **12 03 34.7 -0.1**
comp=Z,58nm,0.9s,baz=310,slow=3.9,SNR=12
PMG Port Moresby 58.72 103 *e*P **P** **12 03 35.0 +0.2**
comp=Z,100nm,1.0s
PMG Port Moresby 58.72 103 *ce*P **P** **12 03 34.0 -0.8**
PMG pmax pmax
comp=Z,956nm,2.5s
ARU Arti 58.80 340 P **P** **12 03 34.0 -0.6**
comp=Z,24nm,0.8s,baz=139,slow=3.9,SNR=19
ARU Arti 58.80 340 *d i*P **P** **12 03 33.8 -0.8**
ARU 12 04 19.7
ARU 12 05 45.3
ARU S **S** **12 11 37.9 -1.2**
ARU pmax pmax
comp=Z,170nm,1.7s
MBAR Mbarara 58.86 268 P **P** **12 03 35.6 -0.3**
comp=Z,35nm,1.1s,baz=78,slow=6.8,SNR=17
MBAR Mbarara 58.86 268 *e*P **P** **12 03 35.7 -0.3**
comp=Z,48nm,1.0s
MBAR Mbarara 58.86 268 *e*P **P** **12 03 35.7 -0.3**
MBAR pmax pmax
comp=Z,48nm,1.0s
HTT Hallett 58.96 132 P **P** **12 03 36.0 -0.2**
baz=59,SNR=22
ZEA Zeya 59.33 25 *e*P **P** **12 03 37.8 -0.6**
ZEA pmax pmax
comp=N,55nm,0.9s
ZEA pmax pmax
comp=Z,81nm,0.9s
SOC Sochi 59.78 320 *e*P **P** **12 03 39.6 -2.0**
SOC *e**PP **sP** **12 03 48.6 -0.7**
SOC *e* 12 05 53.2
SOC *e*S **S** **12 11 50.0 -2.2**
SOC pmax pmax
comp=Z,91nm,0.7s
CTA Charters Tower 60.16 115 P **P** **12 03 44.9 +0.2**
comp=Z,141nm,1.0s,baz=288,slow=8.9,SNR=35
CTAO Charters Tower 60.16 115 *e*P **P** **12 03 44.9 +0.2**
comp=Z,259nm,1.1s
CTAO Charters Tower 60.16 115 *e*P **P** **12 03 44.9 +0.2**
CTAO pmax pmax
comp=Z,259nm,1.1s
STKA Stephens Creek 60.30 129 P **P** **12 03 45.1 -0.3**
comp=Z,84nm,0.8s,baz=303,slow=7.0,SNR=59
STKA Stephens Creek 60.30 129 P **P** **12 03 45.0 -0.3**
baz=60,SNR=64
STKA Stephens Creek 60.30 129 *e*P **P** **12 03 45.0 -0.4**
comp=Z,20nm,0.9s
QLP Quilpie 60.40 123 P **P** **12 03 46.6 +0.5**
baz=60,SNR=42
CLNS Chul'man 60.66 21 *e*P **P** **12 03 48.0 +0.5**
CLNS pmax pmax
comp=Z,131nm,0.9s
CLNS pmax pmax
comp=E,65nm,1.0s
CLNS pmax pmax
comp=N,59nm,0.9s
CSS Mathiatis 60.96 309 *e*P **P** **12 03 50.4 +0.5**
comp=N,28nm,1.1s
MAMC Mammari 61.11 309 P **P** **12 03 51.7 +0.8**
SZAC Souni 61.24 308 P **P** **12 03 52.5 +0.6**
ALFC Alefka 61.59 309 P **P** **12 03 53.9 -0.3**
ERM Erimo 61.64 43 *e*P **P** **12 03 53.9 -0.4**
ERM pmax pmax
comp=Z,37nm,1.2s
ANN Anapa 61.80 320 *e*P **P** **12 03 52.7 -2.6**
ANN pmax pmax
comp=Z,90nm,1.1s
GRNR Gornyy 61.81 32 *e*P **P** **12 03 55.8 +0.5**
GRNR pmax pmax
comp=Z,84nm,1.0s
ASAJ Asahikawa 62.14 41 P **P** **12 03 58.1 +0.4**
comp=Z,20nm,0.9s,baz=250,slow=12,SNR=7.2
ASAJ Asahikawa 62.14 41 *e*P **P** **12 03 58.5 +0.8**
comp=Z,19nm,0.8s
ASAJ Asahikawa 62.14 41 P **P** **12 03 58.1 +0.4**
ASAJ pmax pmax
comp=Z,23nm,0.9s

BR131 Keskin Array S 62.33 314 *e*P **P** **12 03 59.0 -0.2**
BRTR Keskin Array B 62.33 314 P **P** **12 03 59.0 -0.2**
comp=Z,24nm,0.7s,baz=130,slow=6.9,SNR=27
VRH Novokhopyorsk 62.51 328 *e*P **P** **12 04 00.5 +0.5**
VRH pmax pmax
comp=Z,250nm,1.2s
ARPS Mount Arapiles 62.62 134 P **P** **12 04 01.6 +0.6**
baz=63,SNR=31
ILGA Ilgaz 62.76 315 *e*P **P** **12 04 02.3 +0.1**
comp=Z,157nm,1.2s
ANTO Ankara 62.99 314 *e*P **P** **12 04 03.5 0.0**
comp=Z,175nm,1.0s
ANTO Ankara 62.99 314 P **P** **12 04 03.5 0.0**
SNR=16
ANTO Ankara 62.99 314 P **P** **12 04 03.5 0.0**
SNR=16
ANTO Ankara 62.99 314 *e*P **P** **12 04 03.5 0.0**
ANTO pmax pmax
comp=Z,175nm,1.0s
BR231 Keskin MP Arra 62.99 314 *e*P **P** **12 04 03.7 +0.1**
LSZ Lusaka 63.31 251 *e*P **P** **12 04 05.5 -0.6**
comp=Z,51nm,1.1s
LSZ Lusaka 63.31 251 P **P** **12 04 06.5 +0.4**
SNR=13
LSZ Lusaka 63.31 251 P **P** **12 04 06.5 +0.4**
SNR=13
LSZ Lusaka 63.31 251 *e*P **P** **12 04 05.5 -0.6**
LSZ pmax pmax
comp=Z,51nm,1.1s
CMSA Cobar Meteorol 63.37 127 P **P** **12 04 06.3 +0.2**
baz=64,SNR=36
YSS Yuzh-Sakhalins 63.49 38 *e*P **P** **12 04 05.9 -0.7**
comp=Z,46nm,0.9s
YSS Yuzh-Sakhalins 63.49 38 *e*P **P** **12 04 05.5 -1.1**
YSS pmax pmax
comp=Z,10.0nm,0.8s
YSS pmax pmax
comp=N,10.0nm,0.9s
YSS pmax pmax
comp=E,10.0nm,0.6s
YSS MLR MLR
comp=N,35μm,18.0s
YSS MLR MLR
comp=E,28μm,18.0s
YSS MLR MLR
comp=Z,38μm,18.0s
SIM Simferopol' 64.00 319 *e*P **P** **12 04 10.2 +0.2**
SIM *e* 12 04 46.0
SIM pmax pmax
comp=Z,106nm,1.2s
ISP Isparta 64.00 311 *i* P **P** **12 04 10.4 +0.1**
ISP pmax pmax
comp=Z,40nm,1.3s
VORR Voronezh 64.09 328 *e*P **P** **12 04 12.0 +1.5**
RMQ Roma 64.20 121 P **P** **12 04 13.1 +1.4**
baz=64,SNR=33
LPSR Galich'ya Gora 64.72 329 *e*P **P** **12 04 12.6 -2.0**
LPSR pmax pmax
comp=Z,110nm,0.9s
TYV Tymovskoe 65.23 34 *e*P **P** **12 04 18.5 +0.6**
TYV pmax pmax
comp=Z,51nm,1.5s
NKL Nikolayevsk 65.31 31 *i* P **P** **12 04 18.4 0.0**
NKL pmax pmax
comp=N,75nm,1.0s
NKL pmax pmax
comp=E,32nm,1.0s
NKL pmax pmax
comp=Z,100nm,1.0s
TOO Toolangi 65.59 134 P **P** **12 04 21.4 +0.9**
baz=66,SNR=28
MANT Manisa 65.67 311 *e*P **P** **12 04 21.4 +0.1**
comp=Z,336nm,1.2s
EIDS Eidsvold 65.88 119 P **P** **12 04 22.7 +0.1**
baz=66,SNR=20
EIDS Eidsvold 65.88 119 *e*P **P** **12 04 22.8 +0.1**
comp=Z,124nm,0.9s
KARP Karpathos 65.97 308 *e*P **P** **12 04 23.7 +0.6**
comp=Z,162nm,0.9s
KARP Karpathos 65.97 308 P **P** **12 04 23.7 +0.6**
YAK Yakutsk 66.14 19 *e*P **P** **12 04 22.0 -1.5**
comp=Z,232nm,0.9s
YAK Yakutsk 66.14 19 *e*P **P** **12 04 20.9 -2.6**
YAK *e* 12 04 46.5
YAK *e*S **S** **12 13 10.9 -0.3**
YAK pmax pmax
comp=Z,218nm,1.0s
YAK pmax pmax
comp=N,61nm,1.3s
YAK pmax pmax
comp=E,89nm,1.4s
YAK smax smax
comp=E,939nm,2.2s
YNG Young 66.49 129 P **P** **12 04 26.3 -0.1**
baz=67,SNR=12
MOS Moscow 67.02 331 *e*P **P** **12 04 25.7 -3.6**
MOS *e* 12 04 34.4
MOS *e* 12 04 58.5
MOS *e*S **S** **12 13 20.5 -1.6**
MOS pmax pmax
comp=Z,522nm,1.5s
NPS Neapolis 67.13 307 P **P** **12 04 31.4 +0.9**
NPS Neapolis 67.13 307 P **P** **12 04 31.4 +0.9**
NPS Neapolis 67.13 307 P **P** **12 04 31.4 +0.9**
LAST Lasithi 67.21 307 P **P** **12 04 31.4 +0.3**
LAST Lasithi 67.21 307 P **P** **12 04 31.4 +0.3**
OBN Obninsk 67.22 330 *e*P **P** **12 04 30.2 -0.4**
comp=Z,79nm,0.8s
OBN Obninsk 67.22 330 *ce*P **P** **12 04 29.5 -1.0**
OBN *e* 12 04 36.2
OBN *e* 12 04 59.6
OBN *e* 12 06 56.0
OBN *e*S **S** **12 13 22.0 -2.4**
OBN *e*SS **SS** **12 17 43.4 -0.6**
OBN pmax pmax
comp=Z,345nm,1.7s
OBN MLR MLR
comp=Z,58μm,17.0s
CAN Canberra 67.33 130 *e*P **P** **12 04 32.4 +0.7**
comp=Z,77nm,1.0s
CAN Canberra 67.33 130 *e*P **P** **12 04 32.4 +0.7**
CAN pmax pmax
comp=Z,77nm,1.0s
SANT Santorini 67.51 308 *e*P **P** **12 04 32.5 -0.4**
comp=Z,193nm,1.1s
CHOS Chios island 67.54 310 P **P** **12 04 33.2 +0.1**
CHOS Chios island 67.54 310 P **P** **12 04 33.2 +0.1**
CNB Canberra Magne 67.60 130 P **P** **12 04 33.7 +0.2**
baz=68,SNR=9.3
TIRR Tirgusor 67.60 317⇓ *i*P **P** **12 04 33.1 -0.1**
TIRR Tirgusor 67.60 317 *e*P **P** **12 04 32.4 -0.8**
comp=Z,128nm,1.1s
TIRR Tirgusor 67.60 317 *e*P **P** **12 04 32.4 -0.8**
TIRR pmax pmax
comp=Z,128nm,1.1s
APE Apeiranthos 67.61 309 *e*P **P** **12 04 31.8 -1.8**
APE pmax pmax
comp=Z,57nm,1.0s
IDI Anoyia 67.71 307 P **P** **12 04 34.2 -0.1**
comp=Z,58nm,0.9s,baz=95,slow=8.7,SNR=11
IDI Anoyia 67.71 307⇓ *i*P **P** **12 04 34.1 -0.1**
IDI Anoyia 67.71 307 *e*P **P** **12 04 34.2 -0.1**
comp=Z,169nm,1.0s
ARMA Armidale 67.79 124 P **P** **12 04 36.4 +1.5**
baz=68,SNR=8.9
ARMA Armidale 67.79 124 *e*P **P** **12 04 36.6 +1.7**
comp=Z,149nm,1.1s
HARR Harsova 68.00 317⇑ *i*P **P** **12 04 35.6 -0.2**
CFR Carcaliu 68.02 318⇑ *i*P **P** **12 04 35.8 -0.1**
ENEZ Enez 68.08 313 P **P** **12 04 36.3 -0.1**
KIS Kishinev 68.19 320⇑ *i*P **P** **12 04 35.0 -1.9**
comp=Z,400nm,1.0s
KIS Kishinev 68.19 320⇑ *i*P **P** **12 04 35.0 -1.9**
KIS pmax pmax
comp=Z,400nm,1.0s
ALN Alexandroupoli 68.21 313 P **P** **12 04 36.2 -0.9**
ALN Alexandroupoli 68.21 313 P **P** **12 04 36.2 -0.9**
ALN Alexandroupoli 68.21 313 P **P** **12 04 36.2 -0.9**
VAM Vamos 68.29 307 P **P** **12 04 38.4 +0.6**
VAM Vamos 68.29 307 P **P** **12 04 38.4 +0.6**
VAM Vamos 68.29 307 P **P** **12 04 38.4 +0.6**
IMMV Iera Moni Meta 68.47 307 P **P** **12 04 38.7 -0.2**
PATS Pohnpei 68.61 84 P **P** **12 04 41.6 +1.4**
baz=69,SNR=5.8
KARY Karystos 68.69 310 P **P** **12 04 39.7 -0.5**

MOO Moorlands 68.83 138 P **P** **12 04 42.0 +1.1**
baz=69,SNR=3.6
SORM Soroca 68.88 321⇑ *i*P **P** **12 04 40.7 -0.5**
KLMR Klimovskoe 68.99 336 *e*P **P** **12 04 39.1 -2.5**
KLMR AMP 12 04 50.4
comp=Z,260nm,1.4s
KLMR *e*PP **PP** **12 07 10.8 -3.3**
KLMR Klimovskoe 68.99 336 *e*P **P** **12 04 39.1 -2.5**
KLMR *e* 12 07 10.7
KLMR pmax pmax
comp=Z,260nm,1.4s
BOSA Boshof 69.07 238 P **P** **12 04 42.9 0.0**
comp=Z,49nm,1.1s,baz=83,slow=5.3,SNR=22
BOSA Boshof 69.07 238 *e*P **P** **12 04 43.0 0.0**
comp=Z,57nm,1.0s
BOSA Boshof 69.07 238 *e*P **P** **12 04 43.0 +0.1**
BOSA pmax pmax
comp=Z,57nm,1.0s
ISR Istrita 69.07 318⇑ *i*P **P** **12 04 43.9 +1.3**
ANKY Antikythira Is 69.10 307 P **P** **12 04 43.4 +0.6**
ANKY Antikythira Is 69.10 307 P **P** **12 04 43.4 +0.6**
TAU Tasmania Unive 69.11 138 *e*P **P** **12 04 43.8 +1.1**
comp=Z,107nm,0.9s
TAU Tasmania Unive 69.11 138 *e*P **P** **12 04 43.8 +1.1**
TAU pmax pmax
comp=Z,107nm,0.9s
ATHU Athens Univers 69.17 310 P **P** **12 04 42.0 -1.3**
ATHU Athens Univers 69.17 310 P **P** **12 04 42.0 -1.3**
VRI Vrincioaia 69.18 318⇑ *i*P **P** **12 04 44.0 +0.8**
PLOR Plostina 69.23 318⇑ *i*P **P** **12 04 44.2 +0.7**
AKASG Malin Array Be 69.27 324 P **P** **12 04 42.8 -0.7**
comp=Z,14nm,0.8s,baz=92,slow=5.1,SNR=24
AKBB Malin Array Si 69.27 324 *e*P **P** **12 04 42.9 -0.7**
comp=Z,52nm,1.0s
AKBB Malin Array Si 69.27 324 *e*P **P** **12 04 42.9 -0.7**
AKBB pmax pmax
comp=Z,52nm,1.0s
KIEV Kiev 69.28 324 *e*P **P** **12 04 42.9 -0.7**
comp=Z,55nm,1.1s
KIEV Kiev 69.28 324 *i* P **P** **12 04 42.7 -0.9**
SNR=10.0
KIEV Kiev 69.28 324 *e*P **P** **12 04 41.8 -1.8**
KIEV pmax pmax
comp=Z,48nm,1.1s
AK11 Malin Array Si 69.30 324 *e*P **P** **12 04 42.9 -0.9**
SECR 69.37 317⇑ *i*P **P** **12 04 45.6 +1.3**
KYTH Kithira 69.38 308 P **P** **12 04 44.1 -0.5**
KYTH Kithira 69.38 308 P **P** **12 04 44.1 -0.5**
TESR Tescani 69.44 319⇓ *i*P **P** **12 04 44.3 -0.4**
DID Didima 69.50 309 P **P** **12 04 43.4 -1.9**
DID Didima 69.50 309 P **P** **12 04 43.4 -1.9**
KRND KRANIDI 69.54 309 P **P** **12 04 44.2 -1.3**
VILL Villia 69.58 310 P **P** **12 04 44.4 -1.4**
MLR Muntele Rosu 69.59 318 P **P** **12 04 46.4 +0.6**
comp=Z,30nm,0.9s,baz=147,slow=5.6,SNR=19
MLR Muntele Rosu 69.59 318⇑ *i*P **P** **12 04 46.8 +1.0**
MLR Muntele Rosu 69.59 318 *e*P **P** **12 04 46.4 +0.6**
comp=Z,590nm,1.1s
MLR Muntele Rosu 69.59 318 *e*P **P** **12 04 46.4 +0.6**
MLR pmax pmax
comp=Z,590nm,1.1s
PAIG Paliouri 69.71 312 P **P** **12 04 46.1 -0.4**
PAIG Paliouri 69.71 312 P **P** **12 04 46.1 -0.4**
PAIG Paliouri 69.71 312 P **P** **12 04 46.1 -0.4**
HUMR Humele 69.97 317⇑ *i*P **P** **12 04 48.2 +0.2**
PRAR RASCA 69.98 320⇑ *i*P **P** **12 04 48.2 +0.2**
DYR Agios Nikonas 70.05 308 P **P** **12 04 48.0 -0.7**
DOPR Dopca 70.10 318⇓ *i*P **P** **12 04 48.8 0.0**
MTUR Matau 70.11 317⇓ *i*P **P** **12 04 49.0 0.0**
VOIR 70.18 318⇓ *i*P **P** **12 04 49.1 -0.3**
DSF Desfina 70.24 310 P **P** **12 04 49.1 -0.8**
DSF Desfina 70.24 310 P **P** **12 04 49.1 -0.8**
GUR Goura 70.28 309 P **P** **12 04 48.9 -1.3**
GUR Goura 70.28 309 P **P** **12 04 48.9 -1.3**
ARR Arges 70.44 317⇑ *i*P **P** **12 04 50.6 -0.4**
AGG Agios Georgios 70.52 310 *e*P **P** **12 04 50.0 -1.6**
comp=Z,128nm,1.1s
AGG Agios Georgios 70.52 310 *e*P **P** **12 04 50.0 -1.6**
AGG pmax pmax
comp=Z,128nm,1.1s
KALE Kalithea 70.53 310 P **P** **12 04 50.2 -1.5**
KALE Kalithea 70.53 310 P **P** **12 04 50.2 -1.5**
PYL PYLOS 70.54 308 P **P** **12 04 50.3 -1.4**
PYL PYLOS 70.54 308 P **P** **12 04 50.3 -1.4**
KNT Kendrikon 70.58 313 P **P** **12 04 50.6 -1.2**
KNT Kendrikon 70.58 313 P **P** **12 04 50.6 -1.2**
KNT Kendrikon 70.58 313 P **P** **12 04 50.6 -1.2**
CASY Casey 70.69 171 *e*P **P** **12 04 52.4 +0.5**
comp=Z,38nm,0.9s
VTS Vitosha 70.70 314⇑ *i*P **P** **12 04 52.4 -0.3**
VTS Vitosha 70.70 314 *e*P **P** **12 04 52.4 -0.3**
comp=Z,152nm,1.0s
VTS Vitosha 70.70 314 P **P** **12 04 52.2 -0.5**
VTS Vitosha 70.70 314 *e*P **P** **12 04 52.4 -0.3**
VTS pmax pmax
comp=Z,152nm,1.0s
BURAR Bucovina Array 70.71 320⇓ *i*P **P** **12 04 53.4 +0.8**
BUR04 Bucovina Ar. S 70.71 320 *e*P **P** **12 04 52.6 0.0**
EFP Efpalio 70.72 310 P **P** **12 04 51.6 -1.1**
ANX Ano Chora 70.74 310 P **P** **12 04 51.6 -1.4**
DRO Drossia 70.77 309 P **P** **12 04 53.5 +0.4**
VAY Valandovo 70.86 313 *i* P **P** **12 04 52.3 -1.2**
EVR Evrytania 70.89 310 P **P** **12 04 52.9 -1.0**
EVR Evrytania 70.89 310 P **P** **12 04 52.9 -1.0**
LOT Lotru 71.04 317⇓ *i*P **P** **12 04 54.0 -0.7**
HNR Honiara 71.23 101 *e*P **P** **12 04 56.0 -0.3**
HNR Honiara 71.23 101 P **P** **12 04 57.2 +0.9**
comp=Z,461nm,1.0s,baz=153,slow=7.5,SNR=7.1
HNR Honiara 71.23 101 *e*P **P** **12 04 56.8 +0.5**
comp=Z,941nm,1.1s
HNR Honiara 71.23 101 *e*P **P** **12 04 56.8 +0.5**
HNR pmax pmax
comp=Z,941nm,1.1s
TMCR Tamitsa 71.45 339 *e*P **P** **12 04 55.6 -1.0**
TMCR pmax pmax
comp=Z,202nm,1.2s
MICGM Minsk 71.46 327 *e*P **P** **12 04 54.0 -2.9**
MNK Minsk 71.46 327 *e*P **P** **12 04 54.0 -2.9**
DEV Deva 71.75 318⇑ *i*P **P** **12 04 59.4 +0.6**
HERR Herculane 71.82 316⇑ *i*P **P** **12 04 59.3 0.0**
KRUS Krusevo 71.83 313 *i* P **P** **12 04 58.3 -1.3**
KRUS *i*P **P** **12 04 59.5 0.0**
OHR Ohrid 72.11 312 *i* P **P** **12 04 58.4 -2.7**
DRGR 72.11 318⇑ *i*P **P** **12 05 01.3 +0.2**
LVV L'vov 72.12 322 *e*P **P** **12 05 00.2 -0.7**
IGT Igoumenitsa 72.14 311 P **P** **12 05 00.4 -0.9**
IGT Igoumenitsa 72.14 311 P **P** **12 05 00.4 -0.9**
IGT Igoumenitsa 72.14 311 P **P** **12 05 00.4 -0.9**
NACGM Naroch 72.20 327 *e* **P** **12 05 01.0 -0.3**
IDID Didziasalis 72.37 328 *e*P **P** **12 05 02.0 -0.3**
IDID IAmb IAmb 12 05 11.3
comp=Z,67nm,1.1s
PUL Pulkovo 72.39 333 *ce*P **P** **12 05 02.5 +0.2**
PUL pmax pmax
comp=Z,225nm,0.8s
BZS Buzias 72.55 317⇓ *i*P **P** **12 05 03.4 -0.2**
IIGN Ignalina 72.66 328 *e*P **P** **12 05 03.8 -0.3**
IIGN IAmb IAmb 12 05 13.1
comp=Z,56nm,1.0s
SIRR Siria 72.68 318⇓ *i*P **P** **12 05 04.7 +0.3**
MAW Mawson 72.83 190 P **P** **12 05 05.1 +0.4**
comp=Z,9.5nm,0.8s,baz=83,slow=3.6,SNR=8.0
MAW Mawson 72.83 190 P **P** **12 05 04.7 -0.1**
baz=73,SNR=10
MAW Mawson 72.83 190 *e*P **P** **12 05 04.7 -0.1**
comp=Z,11nm,1.1s
MAW Mawson 72.83 190 *e*P **P** **12 05 04.7 -0.1**
MAW pmax pmax
comp=Z,11nm,1.1s
UZH Uzhgorod 72.87 320 *e*P **P** **12 05 04.6 -0.9**
UZH *i* 12 05 12.4
UZH *e* 12 05 24.2
KWP Kalwaria Pacla 72.89 321 *e*P **P** **12 05 05.8 +0.3**
KWP Kalwaria Pacla 72.89 321 *e*P **P** **12 05 05.8 +0.3**
TIXI Tiksi 72.98 12 *e*P **P** **12 05 03.8 -1.9**
comp=Z,183nm,0.9s
TIXI Tiksi 72.98 12 *e*P **P** **12 05 03.2 -2.4**
TIXI pmax pmax
comp=Z,150nm,0.8s
PVY Plav 73.03 314⇑ *i*P P 12 04 59.9 -6.8
SKR Severo-Kuril's 73.06 38⇑ *e*P **P** **12 05 07.2 +0.7**
IVA Berane 73.14 314⇑ *i*P P 12 05 00.5 -6.8
MA2 Magadan 73.25 28 P **P** **12 05 06.7 -0.8**

comp=Z,49nm,0.8s,baz=220,slow=4.6,SNR=26
DIVS Divibare 73.33 315 *e*P **P 12 05 08.1 -0.3**
comp=Z,59nm,1.0s
ULC Ulcinj 73.43 313⇑*i*P **P 12 05 08.0 -0.9**
CRVS Cervenica-Dubn 73.48 320 *e*P **P 12 05 11.2 +2.1**
CRVS Cervenica-Dubn 73.48 320 *e*P **P 12 05 11.2 +2.1**
TTG Podgorica 73.51 313⇑*i*P **P 12 05 08.2 -1.1**
TTG Podgorica 73.51 313 *e*P **P 12 05 08.5 -0.9**
comp=Z,60nm,1.1s
TTG Podgorica 73.51 313 *e*P **P 12 05 08.5 -0.9**
TTG pmax pmax
comp=Z,60nm,1.1s
VSU Vasula 73.54 331*ce*P **P 12 05 09.0 -0.2**
VSU pmax pmax
comp=Z,413nm,1.7s
PLE Pljevlja 73.59 314⇑*i*P **P 12 05 10.2 +0.2**
STHS Stebnicka Huta 73.75 321 *e*P **P 12 05 11.8 +1.1**
STHS Stebnicka Huta 73.75 321 *e*P **P 12 05 11.8 +1.1**
STHS pmax pmax
comp=Z,54nm,1.1s
BUM Brajici-Budva 73.75 313⇑*i*P **P 12 05 06.8 -4.1**
SUR Sutherland 73.75 235 *e*P **P 12 05 13.3 +2.1**
comp=Z,84nm,1.0s
SUR Sutherland 73.75 235 pP **P 12 05 14.5 +3.3**
SNR=7.5
SUR Sutherland 73.75 235 P **P 12 05 14.5 +3.3**
SNR=7.5
NKY Niksic 73.78 314⇑*i*P **P 12 05 09.9 -1.2**
SUW Suwalki 73.89 326 *e*P **P 12 05 10.7 -0.6**
SUW Suwalki 73.89 326 *e*P **P 12 05 10.7 -0.6**
UPM Unac-Piva 73.92 314⇑*i*P **P 12 05 12.2 +0.2**
TSUM Tsumeb 73.97 249 *e*P **P 12 05 13.1 +0.4**
comp=Z,30nm,1.1s
HCY Herceg Novi 74.07 313⇑*i*P P 12 05 06.5 -6.2
BRY Bratogost 74.12 314⇑*i*P **P 12 05 10.2 -2.9**
PSZ Piszkesteto 74.25 319 *e*P **P 12 05 12.9 -0.7**
comp=Z,24nm,1.0s
PSZ Piszkesteto 74.25 319 *e*P **P 12 05 13.0 -0.7**
PSZ pmax pmax
comp=Z,24nm,1.0s
NIE Niedzica 74.34 321 *e*P **P 12 05 14.6 +0.4**
NIE Niedzica 74.34 321 *e*P **P 12 05 14.6 +0.4**
BEL Belsk 74.66 323 *e*P **P 12 05 16.4 +0.5**
BEL Belsk 74.66 323 *e*P **P 12 05 16.4 +0.5**
LVZ Lovozero 74.66 341 *e*P **P 12 05 14.7 -0.9**
comp=Z,75nm,0.8s
LVZ Lovozero 74.66 341*ce*P **P 12 05 13.6 -2.0**
LVZ pmax pmax
comp=Z,194nm,1.7s
PETK Petropavlovsk- 74.68 35 P **P 12 05 14.8 -1.2**
comp=Z,12nn,0.9s,baz=329,slow=1.7,SNR=6.6
PETK Petropavlovsk- 74.68 35 *e*P **P 12 05 14.6 -1.4**
PETK Petropavlovsk- 74.68 35 *e*P **P 12 05 14.6 -1.4**
LANS Liptovska Anna 74.81 320 *e*P **P 12 05 17.0 +0.2**
LANS Liptovska Anna 74.81 320 *e*P **P 12 05 17.1 +0.2**
TIP Timpagrande 74.81 310 *e*P **P 12 05 17.2 +0.1**
comp=Z,32nn,1.0s
OJC Ojcow 74.85 321 *e*P **P 12 05 16.1 -1.0**
OJC Ojcow 74.85 321 *e*P **P 12 05 17.3 +0.3**
comp=Z,43nn,1.1s
OJC Ojcow 74.85 321 *e*P **P 12 05 16.1 -1.0**
APA Apatity 74.90 341⇓*i*P **P 12 05 16.0 -0.9**
APA pmax pmax
comp=Z,98nm,0.9s
APA MLR MLR
comp=Z,51µm,25.0s
FIA1 FINESS Array S 74.98 334 *e*P **P 12 05 17.2 -0.3**
FINES FINESS Array B 74.98 334 P **P 12 05 17.4 -0.2**
comp=Z,37nn,0.9s,baz=111,slow=8.4,SNR=21
VYHS Vyhne 75.07 319 *e*P **P 12 05 18.4 +0.1**
VYHS *e* 12 05 26.5
VYHS Vyhne 75.07 319 *e*P **P 12 05 18.4 +0.1**
VYHS *e* 12 05 26.5
VYHS pmax pmax
comp=Z,107nm,1.7s
PET Petropavlovsk 75.21 36 *e*P **P 12 05 18.1 -0.9**
comp=Z,56nn,0.9s
PET Petropavlovsk 75.21 36 *e*P **P 12 05 17.8 -1.2**
PET pmax pmax
comp=Z,73nm,1.1s
SEY Seymchan 75.32 25 P **P 12 05 18.0 -1.4**
comp=Z,34nn,1.2s,baz=257,slow=7.3,SNR=14
SEY Seymchan 75.32 25*ce*P **P 12 05 18.6 -0.8**
CEL Celeste 75.35 309 *e*P **P 12 05 20.8 +0.5**
comp=Z,53nn,0.4s
BLY Banja Luka 75.43 315 *e*P **P 12 05 20.3 -0.2**
comp=Z,75nn,1.0s
CUC Castrocucco 75.65 310 *e*P **P 12 05 21.2 -0.7**
comp=Z,46nn,1.1s
KLNR Kaliningrad 75.72 326 *e*P **P 12 05 21.6 -0.3**
KLNR pmax pmax
comp=Z,312nn,1.2s
OKC Ostrava-Krasne 75.80 321⇑*e*P **P 12 05 22.8 +0.3**
OKC *ex* x 12 05 30.6
OKC Ostrava-Krasne 75.80 321 *e*P **P 12 05 22.8 +0.3**
OKC *e* 12 05 30.6
MODS Modra-Piesok 76.06 319 *e*P **P 12 05 24.4 +0.4**
MODS *e* 12 05 32.3
MODS Modra-Piesok 76.06 319 *e*P **P 12 05 24.4 +0.4**
MODS *e* 12 05 32.4
MORC Moravsky Berou 76.17 321 *e*P **P 12 05 25.0 +0.3**
comp=Z,60nm,1.1s
MORC Moravsky Berou 76.17 321 *e*P **P 12 05 25.0 +0.3**
MORC pmax pmax
comp=Z,60nm,1.1s
VAE Valguarnera 76.41 308 P **P 12 05 28.2 +1.9**
comp=Z,12nn,0.6s,baz=27,slow=16,SNR=4.4
VRAC Vranov 76.68 320⇑*i*P **P 12 05 27.7 +0.1**
KRLC Kraliky 76.72 321⇑*e*P **P 12 05 28.3 +0.5**
KRLC *e*PCP **sP 12 05 36.2 +0.7**
KRLC Kraliky 76.72 321 *e*P **P 12 05 28.3 +0.5**
KRLC *e* 12 05 36.2
ARSA Arzberg 77.01 318 *i*P **P 12 05 29.8 +0.4**
SNR=8.7
DPC Dobruska-Polom 77.06 321⇑*e*P **P 12 05 30.7 +1.0**
DPC *e*PCP **sP 12 05 38.6 +1.1**
DPC Dobruska-Polom 77.06 321⇑*e*P **P 12 05 30.7 +1.0**
DPC *e* 12 05 38.6
KSP Ksiaz 77.17 321 *e*P **P 12 05 31.3 +1.1**
KSP Ksiaz 77.17 321 *e*P **P 12 05 31.3 +1.1**
SOKA Soboth 77.25 317 *i*P **P 12 05 30.9 0.0**
comp=Z,74nm,1.2s,SNR=7.8
UPC Upice 77.28 321⇑*e*P **P 12 05 31.9 +1.0**
UPC *e*PCP **sP 12 05 38.8 +0.1**
UPC Upice 77.28 321 *e*P **P 12 05 31.9 +1.0**
UPC *e* 12 05 38.8
TREC Trest 77.39 320⇑*e*P **P 12 05 31.7 +0.1**
TREC *e*PCP **sP 12 05 39.7 +0.4**
TREC Trest 77.39 320 *e*P **P 12 05 31.7 +0.1**
TREC *e* 12 05 39.7
OBKA Obir 77.55 317 *i*P **P 12 05 32.7 +0.1**
comp=Z,24nm,0.9s
AQU L'Aquila 77.78 313 *e*P **P 12 05 34.0 +0.1**
comp=Z,148nm,1.0s
AQU L'Aquila 77.78 313 *e*P **P 12 05 34.0 +0.1**
AQU pmax pmax
comp=Z,148nm,1.0s
MOA Molln 77.95 318 *i*P **P 12 05 34.2 -0.5**
comp=Z,17nm,1.7s
GOPC GO Pecny, Ondr 77.95 320⇑*e*P **P 12 05 35.1 +0.4**
GOPC *e*PCP **PcP 12 05 43.2 -1.2**
GOPC GO Pecny, Ondr 77.95 320 *e*P **P 12 05 35.1 +0.4**
GOPC *e* 12 05 43.2
KEV Kevo 77.99 342 *e*P **P 12 05 34.6 +0.3**
comp=Z,63nn,0.9s
KEV Kevo 77.99 342 *e*P **P 12 05 34.7 +0.3**
KEV pmax pmax
comp=Z,63nn,0.9s
PRU Pruhonice 78.12 320⇑*e*P **P 12 05 36.1 +0.5**
PRU *e*PCP **sP 12 05 43.1 -0.2**
PRU Pruhonice 78.12 320 *e*P **P 12 05 36.1 +0.5**
PRU *e* 12 05 43.1
MYKA Terra Mystica 78.19 317 *i*P **P 12 05 36.0 -0.1**
comp=Z,72nn,1.2s,SNR=7.1
PVCC Panska Ves 78.19 321⇑*e*P **P 12 05 36.7 +0.7**
PVCC *e*PCP **PcP 12 05 44.5 -0.9**
PVCC Panska Ves 78.19 321 *e*P **P 12 05 36.7 +0.7**
PVCC *e* 12 05 44.5
ARCES ARCESS Array B 78.38 341 P **P 12 05 37.0 +0.4**
comp=Z,129nm,0.9s,baz=109,slow=6.6,SNR=42
ARCES ARCESS Array B 78.38 341 *e*P **P 12 05 36.5 -0.1**
ARCES ARCESS Array B 78.38 341 *e*P **P 12 05 36.5 -0.1**
ARE0 ARCESS Array S 78.38 341 *e*P **P 12 05 37.2 +0.6**
comp=Z,181nm,1.1s

KBA Koelnbreinsper 78.45 317 *i*P **P 12 05 37.2 -0.5**
comp=Z,26nm,1.0s
GEC2 GERESS Array S 78.48 319 *e*P **P 12 05 38.1 +0.4**
comp=Z,174nm,1.1s
GEC2 GERESS Array S 78.48 319 *e*P **P 12 05 38.1 +0.4**
GEC2 pmax pmax
comp=Z,174nm,1.1s
GERES GERESS Array B 78.48 319 P **P 12 05 37.9 +0.2**
comp=Z,30nn,0.9s,baz=103,slow=5.8,SNR=13
KHC Kasperske Hory 78.60 319⇑*e*P **P 12 05 38.6 +0.3**
KHC *e*PCP **sP 12 05 45.6 -0.5**
KHC *ex* x 12 05 56.4
KHC Kasperske Hory 78.60 319 *e*P **P 12 05 38.6 +0.3**
comp=Z,13nn,1.0s
KHC Kasperske Hory 78.60 319 *e*P **P 12 05 38.6 +0.3**
KHC *e* 12 05 45.6
BRG Berggiesshubel 78.64 321 *i*P **P 12 05 39.0 +0.6**
comp=Z,73nn,1.5s
BRG *i* 12 05 45.8
comp=Z,132nn,1.4s
BRG *e* 12 12 51.4
comp=Z,44nn,1.8s
BRG Berggiesshubel 78.64 321 *i*P **P 12 05 39.0 +0.6**
BRG *i* 12 05 45.8
BRG pmax pmax
comp=Z,73nm,1.5s
BRG pmax pmax
comp=Z,132nm,1.4s
BRG pmax pmax
comp=Z,44nn,1.8s
ABTA Abfaltersbach 78.97 317 *i*P **P 12 05 40.1 -0.4**
comp=Z,38nn,1.2s
DZM Mont Dzumac 79.01 113 P **P 12 05 41.4 +0.2**
comp=Z,41nn,1.0s,baz=318,slow=6.1,SNR=9.6
DZM Mont Dzumac 79.01 113 *e*P **P 12 05 41.8 +0.6**
comp=Z,27nn,1.1s
CLL Collm 79.30 322 *i*P **P 12 05 41.9 -0.1**
CLL *i* 12 05 44.5
CLL *i* 12 05 50.1
comp=Z,112nn,1.2s
CLL Collm 79.30 322 *e*P **P 12 05 42.2 +0.3**
comp=Z,87nn,1.1s
CLL Collm 79.30 322 *e*P **P 12 05 42.3 +0.3**
CLL pmax pmax
comp=Z,87nn,1.1s
SYO Syowa Base 79.38 196⇑*e*X **P 12 05 40.2 -1.8**
SYO Syowa Base 79.38 196⇑*i*pP pP 12 05 45.4 -2.3
SYO Syowa Base 79.38 196⇑*i*PcP **PcP 12 05 50.1 0.0**
NKC Novy Kostel 79.49 320⇑*e*P **P 12 05 43.9 +0.8**
NKC *e*PCP **PcP 12 05 51.1 0.0**
NKC Novy Kostel 79.49 320 *e*P **P 12 05 43.9 +0.8**
NKC *e* 12 05 51.1
WTTA Wattenberg 79.63 317 *i*P **P 12 05 43.7 -0.4**
comp=Z,75nm,1.3s
WATA Walderalm 79.68 317 *i*P **P 12 05 43.7 -0.7**
comp=Z,71nn,1.3s
MOTA Moosalm 80.00 317 *i*P **P 12 05 45.5 -0.7**
comp=Z,67nn,1.1s,SNR=8.1
GRFO Grafenberg 80.20 320 *e*P **P 12 05 48.0 +1.0**
comp=Z,130nn,1.1s
GRFO Grafenberg 80.20 320 *e*P **P 12 05 48.0 +1.0**
GRFO pmax pmax
comp=Z,130nn,1.1s
FETA Feichten 80.22 317 *i*P **P 12 05 46.1 -1.2**
comp=Z,79nn,1.5s
RETA Reutte 80.25 318 *i*P **P 12 05 47.1 -0.3**
comp=Z,110nn,1.5s,SNR=6.6
KEST Kesra 80.31 306 P **P 12 05 48.5 +0.5**
comp=Z,27nn,0.9s,baz=319,slow=1.9,SNR=9.6
KEST Kesra 80.31 306 *e*P **P 12 05 48.8 +0.8**
comp=Z,117nn,1.1s
HFS Hagfors 80.42 331 P **P 12 05 47.7 -0.2**
comp=Z,29nn,0.8s,baz=114,slow=6.6,SNR=14
DAVA Damuels 80.82 317 *i*P **P 12 05 50.9 +0.3**
comp=Z,52nn,0.9s,SNR=10
DAVA *i*PcP **sP 12 05 58.9 +0.5**
comp=Z,189nn,1.1s
TUE Stuetta 81.11 316 *e*P **P 12 05 52.6 +0.4**
comp=Z,41nn,0.9s
STU Stuttgart 81.42 319 *e*P **P 12 05 53.4 -0.1**
comp=Z,34nn,0.8s
STU Stuttgart 81.42 319 *e*P **P 12 05 53.4 -0.1**
STU pmax pmax
comp=Z,34nn,0.8s
NB2 NORSAR Subarra 81.78 331 P **P 12 05 54.2 -1.0**
comp=Z,62nn,1.2s,baz=96,slow=5.3
NB2 NORSAR Subarra 81.78 331 P **P 12 05 54.2 -1.0**
baz=96,slow=5.3
NOA NORSAR Array B 81.78 331 P **P 12 05 54.6 -0.6**
comp=Z,20nn,1.0s,baz=98,slow=5.8,SNR=9.6
ABSA Djebel Ababsia 81.86 306 P **P 12 05 57.8 +1.6**
CMAH Djebel Manchou 81.92 306 P **P 12 05 55.4 -1.1**
BFO Black Forest 81.96 318 *e*P **P 12 05 56.3 -0.1**
comp=Z,86nn,1.1s
BFO Black Forest 81.96 318 *i*P **P 12 05 56.4 0.0**
BILL Bilibino 82.35 22⇓*i*P **P 12 05 57.7 -0.3**
BILL *e*PPP PPP 12 11 01.5
BILL pmax pmax
comp=Z,19nm,1.0s
BILL MLR MLR
comp=Z,62µm,21.0s
CAEH 'Ain El Ouahch 82.38 307 P P 12 06 04.9 +6.1
KONO Kongsberg 82.39 330 *e*P **P 12 05 58.3 0.0**
comp=Z,22nn,1.1s
KONO Kongsberg 82.39 330*ce*P **P 12 05 58.4 0.0**
KONO pmax pmax
comp=Z,438nn,1.7s
CKFL Kef-Lekhel 82.47 306 P **P 12 06 00.3 +0.8**
CTEI Djebel Teioual 82.71 306 P **P 12 06 01.3 +0.5**
ECH Echery 82.73 318 *e*P **P 12 06 00.4 0.0**
comp=Z,90nn,1.1s
ECH Echery 82.73 318 *e*P **P 12 06 00.4 0.0**
ECH pmax pmax
comp=Z,90nn,1.1s
DFRA Djebel Bou Aff 83.15 306 P **P 12 06 03.5 +0.5**
TAM Tamanrasset 83.34 292 *e*P **P 12 06 05.2 +0.9**
comp=Z,11µm,4.0s
TAM Tamanrasset 83.34 292 *e*P **P 12 06 05.2 +0.9**
WLF Walferdange 83.48 319⇓P **P 12 06 05.0 +0.8**
comp=Z,84nn,1.8s
WLF Walferdange 83.48 319 *e*P **P 12 06 05.2 +1.0**
comp=Z,17nn,0.9s
WLF Walferdange 83.48 319 *e*P **P 12 06 05.2 +1.0**
WLF pmax pmax
comp=Z,17nn,0.9s
MEM Membach 83.62 320⇓P **P 12 06 04.3 -0.6**
comp=Z,25nn,1.1s
SPA0 Spitsbergen Ar 83.72 349 *e*P **P 12 06 05.1 +0.2**
SPITS Spitsbergen Ar 83.72 349 P **P 12 06 05.0 0.0**
comp=Z,69nn,1.0s,baz=118,slow=10,SNR=13
SPITS Spitsbergen Ar 83.72 349 P **P 12 06 05.0 0.0**
BCLA Clavier 84.06 320⇓P **P 12 06 07.9 +0.7**
comp=Z,33nn,1.7s
SSB Saint Sauveur 84.39 315 *e*P **P 12 06 08.7 -0.4**
comp=Z,102nn,1.1s
SSB Saint Sauveur 84.39 315 *e*P **P 12 06 08.7 -0.4**
SSB pmax pmax
comp=Z,102nn,1.1s
SMY Shemya 84.40 37 *e*P **P 12 06 08.2 -0.6**
comp=Z,91nn,0.7s
SMY Shemya 84.40 37 *e*P **P 12 06 08.2 -0.6**
SMY pmax pmax
comp=Z,91nn,0.7s
DOU Dourbes 84.50 320⇑P **P 12 06 09.5 +0.1**
comp=Z,29nn,1.9s
SNF Seneffe 84.72 320⇑P **P 12 06 10.4 -0.1**
comp=Z,36nn,1.3s
AKET Djebel Ketaf 84.76 306 P **P 12 06 12.1 +0.8**
KBS Kingsbay 84.76 349 *e*P **P 12 06 10.0 -0.2**
KBS Kingsbay 84.76 349 *e*P **P 12 06 10.0 -0.2**
LBZ Lake Benmore 85.37 135 *e*P **P 12 06 13.3 -0.6**
comp=Z,56nn,1.2s
RPZ Rata Peaks 85.89 134 P **P 12 06 15.6 -0.9**
comp=Z,46nn,0.8s,baz=247,slow=4.0,SNR=12
RPZ Rata Peaks 85.89 134 *e*P **P 12 06 16.3 -0.2**
comp=Z,70nn,1.0s
OXZ Oxford 86.55 134 *e*P **P 12 06 19.4 -0.4**
comp=Z,68nn,0.8s
LTZ Lake Taylor 86.65 133 *e*P **P 12 06 20.0 -0.4**
comp=Z,64nn,1.1s
THZ Tophouse 87.00 132 *e*P **P 12 06 21.1 -1.0**
comp=Z,103nn,1.0s
CRLZ Canterbury Las 87.00 134 *e*P **P 12 06 22.9 +0.9**
comp=Z,124nn,1.1s
MQZ McQueen's Vall 87.04 134 *e*P **P 12 06 22.7 +0.5**
TOA0 Torodi Ar. Sit 87.22 283 *e*P **P 12 06 23.7 0.0**

comp=Z,43nn,1.0s
TORD Torodi Ar. Bea 87.22 283 P **P 12 06 23.0 -0.7**
comp=Z,57nn,0.5s,baz=78,slow=1.1,SNR=18
VNDA Vanda 89.06 168 P **P 12 06 31.1 0.0**
comp=Z,8.0nm,0.7s,baz=299,slow=5.7,SNR=26
VNDA Vanda 89.06 168 *e*P **P 12 06 30.9 -0.2**
comp=Z,18nm,0.9s
VNDA Vanda 89.06 168 *e*P **P 12 06 30.9 -0.2**
VNDA pmax pmax
comp=Z,18nm,0.9s
EKA Eskdalemuir Ar 89.14 325 P **P 12 06 32.4 +0.5**
comp=Z,8.8nm,0.7s,baz=105,slow=5.6,SNR=22
ESK Eskdalemuir 89.17 325 *e*P **P 12 06 32.9 +0.9**
comp=Z,21nn,0.9s
ESK Eskdalemuir 89.17 325 *e*P **P 12 06 32.9 +0.9**
ESK pmax pmax
comp=Z,21nn,0.9s
MSVF Nonsavu 89.48 108 *e*P **P 12 06 35.0 +0.6**
MSVF pmax pmax
comp=Z,50nn,1.2s
URZ Urewera 89.90 128 P **P 12 06 34.0 -1.9**
comp=Z,34nn,0.9s,baz=340,slow=5.8,SNR=6.2
SBA Scott Base 90.16 168 *e*P **P 12 06 37.1 +0.9**
comp=Z,1µm,2.4s
SBA Scott Base 90.16 168 *e*P **P 12 06 37.1 +0.9**
SBA pmax pmax
comp=Z,1µm,2.4s
ES19 SONSECA Array 90.78 310 *e*P **P 12 06 40.5 +0.5**
ESDC Sonseca Array 90.83 310 P **P 12 06 40.8 +0.5**
comp=Z,12nn,1.0s,baz=55,slow=3.4,SNR=15
ESDC PP **PP 12 10 19.9 +3.9**
comp=Z,3.3nn,0.8s,baz=86,slow=7.6,SNR=6.1
ESLA Sonseca Array 90.83 310 *e*P **P 12 06 41.3 +1.0**
comp=Z,30nn,1.0s
PAB San Pablo 91.14 310 *e*P **P 12 06 42.4 +0.7**
comp=Z,36nn,1.1s
PAB San Pablo 91.14 310 *e*P **P 12 06 42.4 +0.7**
PAB pmax pmax
comp=Z,36nn,1.1s
GAMB Gambell 91.28 26 *e*P **P 12 06 41.2 -0.4**
comp=Z,22nn,1.1s
DAG Danmarks Havn 91.28 347 *i*P **P 12 06 41.0 -0.5**
comp=Z,64nn,0.8s
DAG Danmarks Havn 91.28 347 *i*P **P 12 06 41.0 -0.5**
DAG pmax pmax
comp=Z,65nn,0.8s
KOWA Kowa 92.69 285 P **P 12 06 50.8 +1.5**
comp=Z,51nn,1.1s,baz=97,slow=5.0,SNR=16
KOWA Kowa 92.69 285 *e*P **P 12 06 50.2 +0.9**
comp=Z,59nn,1.1s
SNAA Sanae 93.50 198 P **P 12 06 54.6 +2.7**
SNAA Sanae 93.50 198 P **P 12 06 52.0 +0.1**
comp=Z,1.4nm,0.9s,baz=45,slow=4.3,SNR=2.9
SNAA Sanae 93.50 198 *e*P **P 12 06 53.6 +1.7**
KIC Kosan Boka 93.90 277 *e*PKP2 **P 12 06 56.7 +1.8**
comp=Z,218nm,1.2s
DBIC Dimbokro 94.00 277 P **P 12 06 56.5 +1.1**
comp=Z,35nn,1.2s,baz=81,slow=5.6,SNR=10
DBIC Dimbokro 94.00 277 *e*P **P 12 06 56.6 +1.3**
comp=Z,45nn,1.1s
DBIC Dimbokro 94.00 277 *e*P **P 12 06 56.7 +1.3**
DBIC pmax pmax
comp=Z,45nn,1.1s
TIC Toumodi 94.16 277 *e*PKP2 **P 12 06 57.7 +1.6**
LIC Lamto 94.20 276 *e*PKP2 **P 12 06 56.1 -0.2**
comp=Z,163nm,1.3s
SCO Scoresbysund 94.30 342 *i*P **P 12 07 00.0 +4.5**
comp=Z,51nn,1.6s
SCO Scoresbysund 94.30 342 *e*P **P 12 07 00.0 +4.5**
SCO pmax pmax
comp=Z,51nn,1.6s
VNA2 Neumayer--Watz 95.02 199 P **P 12 07 00.9 +2.1**
baz=52,slow=4.8
SUMG Summit 97.86 346 *i*P Pdif 12 07 12.4 +0.2
SUMG Summit 97.86 346 *e*P Pdif 12 07 13.3 +1.1
comp=Z,21nn,1.0s
SUMG Summit 97.86 346 *i*P Pdif 12 07 12.4 +0.2
IM3 Indian Mountai 97.91 22 *e*P **P 12 07 10.9 -1.1**
TOLK Toolik Lake Re 98.09 19 P **P 12 07 12.3 -0.5**
baz=300
TOLK Toolik Lake Re 98.09 19 *e*P **P 12 07 12.6 -0.3**
comp=Z,12nn,1.0s
COLD Coldfoot 98.59 20 *e*P Pdif 12 07 17.1 +2.0
comp=Z,1.5nm,0.7s
MLY Manley 99.46 22 *e*P **Pdif 12 07 22.3 +3.2**
comp=Z,4.1nm,1.0s
BPAW Bear Paw Mtn. 99.81 23 *e*P **Pdif 12 07 19.9 -0.8**
comp=Z,7.3nm,1.5s
MCK McKinley 100.78 23 *e*Pdif **Pdif 12 07 25.1 +0.1**
comp=Z,6.4nm,1.2s
MCK McKinley 100.78 23 *e*P **Pdif 12 07 25.1 +0.1**
MCK pmax pmax
comp=Z,6.0nm,1.2s
ILAR Eielson Array 101.01 21 P **Pdif 12 07 24.9 -1.0**
comp=Z,0.7nm,0.8s,baz=292,slow=5.4,SNR=7.1
ILAR PP PP 12 11 24.4 -9.4
comp=Z,2.6nm,0.9s,baz=295,slow=5.9,SNR=5.9
SUA Susitna One 101.15 25 *e*Pdif **Pdif 12 07 26.4 -0.3**
PMR Palmer 101.77 25 Pdif **Pdif 12 07 26.6 -2.7**
comp=Z,4.4nm,1.0s
PMR Palmer 101.77 25 P **Pdif 12 07 26.6 -2.7**
PMR pmax pmax
comp=Z,4.0nm,1.0s
SML Sawmill 101.99 24 *e*Pdif **Pdif 12 07 29.7 -0.7**
comp=Z,5.9nm,1.5s
SML Sawmill 101.99 24 *e*P **Pdif 12 07 29.7 -0.7**
SML pmax pmax
comp=Z,6.0nm,1.5s
RES Resolute Bay 102.46 1 P **Pdif 12 07 33.3 +1.2**
comp=Z,1.5nm,0.8s,baz=359,slow=5.0,SNR=5.1
INK Inuvik 102.96 15 P **Pdif 12 07 35.9 +1.5**
comp=Z,1.9nm,0.9s,baz=339,slow=4.7,SNR=4.0
INK PP **PP 12 11 41.1 -7.2**
comp=Z,4.4nm,1.0s,baz=334,slow=8.1,SNR=3.6
INK PKKP **PKKPdf 12 23 40.6 -1.1**
comp=Z,1.1nm,0.8s,baz=127,slow=6.2,SNR=3.1
INK Inuvik 102.96 15 *e*Pdif **Pdif 12 07 36.0 +1.5**
comp=Z,15nn,1.5s
INK PP **PP 12 11 41.1 -7.2**
INK PKKP **PKKPdf 12 23 40.6 -1.1**
SKAG Skagway 108.54 22 PKPdf **PKiKP 12 12 04.4 -0.6**
DLBC Dease Lake 111.22 21 *e*PKPdf **PKiKP 12 12 10.4 +0.1**
YKA Yellowknife Ar 112.23 12 Pdiff **Pdif 12 08 18.6 +2.8**
comp=Z,0.2nm,0.7s,baz=331,slow=3.5,SNR=3.1
YKA PKiKP **PKiKP 12 12 11.5 -0.4**
comp=Z,0.9nm,0.8s,baz=320,slow=3.9,SNR=5.5
YKA PP PP 12 12 46.8 -9.2
comp=Z,1.7nm,0.9s,baz=337,slow=5.9,SNR=5.1
YKA PKKPbc **PKKPbc 12 23 02.8 -2.4**
comp=Z,0.2nm,0.7s,baz=152,slow=3.8,SNR=4.0
FCC Fort Churchill 118.43 2 *e*PKPdf PKPpre 12 12 19.3
FCC Fort Churchill 118.43 2 *e*PKIKP PKPpre 12 12 19.3
EDM Edmonton 120.85 16 *e*PKPdf PKPpre 12 12 20.2
EDM Edmonton 120.85 16 *e*PKIKP PKPpre 12 12 20.2
FFC Flin Flon 121.76 8 *i*PKIKP **PKPdf 12 12 30.4 -0.1**
NLWA Neilton Lookou 121.96 26 *e*PKPdf **PKPdf 12 12 30.3 -0.8**
B05A Bryant 122.04 24 P **PKPdf 12 12 31.2 0.0**
baz=322
G03D McMinnville, O 123.89 27 P **PKPdf 12 12 35.3 +0.5**
baz=319
NEW Newport 123.97 21 PKP **PKPdf 12 12 35.2 +0.2**
comp=Z,8.2nm,0.9s,baz=145,slow=2.5,SNR=7.7
NEW Newport 123.97 21 P **PKPdf 12 12 35.2 +0.2**
baz=327
NEW Newport 123.97 21 *e*PKPdf **PKPdf 12 12 34.1 -0.9**
NEW PKP **PKPdf 12 12 35.2 +0.2**
NEW Newport 123.97 21 *e*PKIKP **PKPdf 12 12 34.1 -0.9**
NEW 12 12 35.2
WALA Waterton Lakes 124.37 18 *e*PKPdf **PKPdf 12 12 34.9 -0.9**
HAWA Hanford 124.59 24 *e*PKPdf **PKPdf 12 12 36.2 +0.1**
G05D Wamic, OR 124.75 26 P **PKPdf 12 12 36.9 +0.4**
baz=322
I03D Drain, OR 125.00 29 P **PKPdf 12 12 37.4 +0.5**
baz=319,SNR=6.0
I04A Tendick Farm, 125.37 28 P **PKPdf 12 12 37.4 -0.4**
baz=320,SNR=10
I05D Terrebonne, OR 125.44 27 P **PKPdf 12 12 38.1 +0.1**
baz=321,SNR=7.2
J04D Umpqua Nationa 125.93 28 P **PKPdf 12 12 39.1 0.0**
baz=320,SNR=8.8
HUMO Hull Mountain 126.00 29 *e*PKPdf **PKPdf 12 12 38.9 -0.1**
J05D Fort Rock, OR 126.31 28 P **PKPdf 12 12 39.9 +0.2**
baz=321,SNR=18
MSO Missoula 126.31 20 P **PKPdf 12 12 39.3 -0.3**
baz=330
YBH Yreka Blue Hor 126.78 30 PKP **PKPdf 12 12 40.7 +0.1**

comp=Z,1.5nm,0.8s,baz=326,slow=2.2,SNR=4.5
YBH PP **PP** 12 14 37.6 +0.8
comp=Z,2.8nm,1.0s,baz=34,slow=7.3,SNR=2.4
ULM Lac du Bonnet 126.83 4 PKP **PKPdf** 12 12 40.4 +0.1
comp=Z,9.1nm,1.0s,baz=9.8,slow=4.0,SNR=8.8
M02C Callahan 126.96 30 P **PKPdf** 12 12 41.3 +0.3
baz=318,SNR=11
M04C Macdoel 127.17 29 P **PKPdf** 12 12 41.5 0.0
baz=319,SNR=7.4
N02D Trinity Center 127.34 31 P **PKPdf** 12 12 42.0 +0.3
baz=318,SNR=9.4
MOD Modoc Plateau 127.81 28 *e*PKPdf **PKPdf** 12 12 42.9 +0.2
WVOR Wild Horse Val 128.15 26 *e*PKPdf **PKPdf** 12 12 43.3 0.0
WVOR Wild Horse Val 128.15 26 *e*PKIKP **PKPdf** 12 12 43.3 0.0
BOZ Bozeman (W) 128.16 19 P **PKPdf** 12 12 43.3 0.0
baz=333
BOZ Bozeman (W) 128.16 19 *e*PKPdf **PKPdf** 12 12 42.5 -0.7
BOZ Bozeman (W) 128.16 19 *e*PKIKP **PKPdf** 12 12 42.5 -0.7
A33A Warroad 128.17 4 P **PKPdf** 12 12 42.8 -0.1
baz=354
O03D Paynes Creek 128.31 30 P **PKPdf** 12 12 43.4 -0.1
baz=319,SNR=12
MCMT McKenzie Canyo 128.43 20 *e*PKPdf **PKPdf** 12 12 43.9 0.0
MCMT *e*PP **PP** 12 14 47.7 +0.1
PKME Peaks-Kenny Pk 128.44 341 P **PKPdf** 12 12 43.8 +0.3
baz=27
B31A Greenbush Farm 128.48 6 P **PKPdf** 12 12 43.4 -0.2
baz=351
MFID Camas Ranch 128.53 23 *e*PKPdf **PKPdf** 12 12 44.2 +0.2
GCMT Greycliff 128.59 17 *e*PKPdf **PKPdf** 12 12 43.9 -0.1
B32A Ashes, Strandq 128.62 5 P **PKPdf** 12 12 43.6 -0.2
baz=352
B34A Aery, Baudette 128.67 4 P **PKPdf** 12 12 44.1 +0.2
baz=355
LAO LASA Array 128.68 14 P **PKPdf** 12 12 45.0 +0.9
baz=340
LAO LASA Array 128.68 14 *e*PKPdf **PKPdf** 12 12 44.9 +0.9
MDND Maddock 128.81 8 P **PKPdf** 12 12 43.9 -0.3
baz=348
B33A Robert and Kas 128.82 4 P **PKPdf** 12 12 43.8 -0.4
baz=353
B35A Bob, Littlefor 128.84 3 P **PKPdf** 12 12 44.1 -0.2
baz=356
HLID Hailey 128.96 22 P **PKPdf** 12 12 45.3 +0.5
baz=329
HLID Hailey 128.96 22 *e*PKPdf **PKPdf** 12 12 44.6 -0.2
C31A Landman Farms, 129.09 6 P **PKPdf** 12 12 45.2 +0.5
baz=351
YMR Madison River 129.20 19 *e*PKPdf **PKPdf** 12 12 46.5 +1.2
RLMT Red Lodge 129.31 17 P **PKPdf** 12 12 46.0 +0.5
baz=336
RLMT Red Lodge 129.31 17 *e*PKPdf **PKPdf** 12 12 45.1 -0.5
EYMN Ely 129.33 1 P **PKPdf** 12 12 46.0 +0.8
baz=359
EYMN Ely 129.33 1 *e*PKPdf PKPpre 12 12 40.8
YFT Old Faithful 129.44 19 *e*PKPdf **PKPdf** 12 12 47.7 +1.9
C36A Pine Crest Far 129.48 2 P **PKPdf** 12 12 46.4 +0.9
baz=357
C35A Jirik Farms, M 129.49 3 P **PKPdf** 12 12 46.9 +1.4
baz=356
C37A Embarrass 129.53 1 P **PKPdf** 12 12 47.1 +1.5
baz=358
H17A Grant Village 129.57 19 P **PKPdf** 12 12 47.3 +1.2
baz=334
H17A Grant Village 129.57 19 *e*PKPdf **PKPdf** 12 12 47.8 +1.7
D31A Mcclaflin, Tow 129.83 6 P **PKPdf** 12 12 47.6 +1.5
baz=351
D33A AnnSam, Waubun 129.92 5 P **PKPdf** 12 12 46.8 +0.4
baz=353
D35A Remer 130.10 3 P **PKPdf** 12 12 47.0 +0.3
baz=355
BMN Battle Mountai 130.40 27 *e*PKPdf **PKPdf** 12 12 48.5 +0.8
BMN Battle Mountai 130.40 27 *e*PKIKP **PKPdf** 12 12 48.5 +0.8
E44A Grand Marais A 130.50 356 P **PKPdf** 12 12 48.0 +0.5
baz=5.9
E33A Westby DABS, E 130.54 5 P **PKPdf** 12 12 48.0 +0.5
baz=353
LONY Lake Ozonia 130.57 345 P **PKPdf** 12 12 48.4 +0.7
baz=21
E38A The Farm, Brul 130.67 1 P **PKPdf** 12 12 49.1 +1.3
baz=359
E36A McGregor 130.71 3 P **PKPdf** 12 12 47.9 +0.1
baz=356
CMB Columbia Colle 130.73 31 *e*PKPdf **PKPdf** 12 12 48.5 +0.4
CMB Columbia Colle 130.73 31 *e*PKIKP **PKPdf** 12 12 48.6 +0.4
E42A Champion 130.80 358 P **PKPdf** 12 12 48.1 0.0
baz=3.3
E40A Wakefield 130.84 359 P **PKPdf** 12 12 46.8 -1.3
baz=0.7
E39A Mellen 130.91 0 P **PKPdf** 12 12 48.1 -0.2
baz=360
F31A Hecla 130.94 7 P **PKPdf** 12 12 48.3 0.0
baz=350
F33A 5 Mile Ranch, 131.17 5 P **PKPdf** 12 12 48.9 +0.2
baz=352
F44A Big Bay de Noc 131.18 356 P **PKPdf** 12 12 49.0 +0.3
baz=5.3
F38A Pierce - Schro 131.31 1 P **PKPdf** 12 12 48.9 -0.1
baz=358
F36A Milaca 131.35 3 P **PKPdf** 12 12 49.0 -0.1
baz=356
BW06 Boulder Array 131.36 19 P **PKPdf** 12 12 49.3 -0.2
baz=334
BW06 Boulder Array 131.36 19 *e*PKPdf **PKPdf** 12 12 48.7 -0.8
PDAR Pinedale Array 131.36 19 PKP **PKPdf** 12 12 49.5 0.0
comp=Z,6.0nm,0.9s,baz=148,slow=0.4,SNR=21
PDAR SKPbc **SKPbc** 12 16 12.5 -1.4
comp=Z,4.6nm,0.9s,baz=45,slow=2.3,SNR=4.5
F43A Flat Rock, Esc 131.36 357 P **PKPdf** 12 12 49.5 +0.4
baz=4.4
F40A Park Falls 131.36 360 P **PKPdf** 12 12 49.3 +0.1
baz=0.4
NVAR Mina Array Bea 131.48 29 PKP **PKPdf** 12 12 50.8 +0.9
comp=Z,7.2nm,0.8s,baz=278,slow=1.8,SNR=34
NVAR SKPbc **SKPab** 12 16 15.1 +0.2
comp=Z,5.4nm,1.0s,baz=290,slow=3.1,SNR=3.6
F41A Three Lakes 131.53 359 P **PKPdf** 12 12 49.6 +0.1
baz=1.8
RSSD Black Hills 131.61 13 P **PKPdf** 12 12 49.7 -0.2
baz=342
HWUT Hardware Ranch 131.70 21 *e*PKPdf **PKPdf** 12 12 49.2 -0.9
G35A Watkins 131.93 4 P **PKPdf** 12 12 50.5 +0.3
baz=355
G39A Holcombe 131.99 1 P **PKPdf** 12 12 50.5 +0.2
baz=359
G42A Mountain 132.01 358 P **PKPdf** 12 12 50.6 +0.2
baz=2.7
G40A Rib Lake 132.01 360 P **PKPdf** 12 12 50.5 +0.1
baz=0.3
G38A Ridgeland 132.10 1 P **PKPdf** 12 12 51.1 +0.6
baz=358
TCUT Toone Canyon 132.19 21 *e*PKPdf **PKPdf** 12 12 51.7 +0.6
H33A Prehn Over Nor 132.27 6 P **PKPdf** 12 12 50.8 -0.1
baz=352
K22A Casper 132.37 16 P **PKPdf** 12 12 50.9 -0.4
baz=338
K22A Casper 132.37 16 *e*PKPdf **PKPdf** 12 12 51.7 +0.3
H32A Carlson Farm, 132.37 7 P **PKPdf** 12 12 51.0 -0.1
baz=351
H35A Sunnyside Ranc 132.43 4 P **PKPdf** 12 12 51.2 +0.1
baz=354
CTU Camp Tracy 132.43 22 *e*PKPdf **PKPdf** 12 12 51.4 -0.1
DUG Dugway, Tooele 132.46 23 P **PKPdf** 12 12 51.6 0.0
baz=329
DUG Dugway, Tooele 132.46 23 *e*PKPdf **PKPdf** 12 12 52.5 +1.0
DUG Dugway, Tooele 132.46 23 *e*PKIKP **PKPdf** 12 12 52.5 +1.0
JLU Jordanelle 132.62 22 *e*PKPdf **PKPdf** 12 12 51.6 -0.4
H40A Chili 132.66 360 P **PKPdf** 12 12 52.0 +0.4
baz=0.1
H41A Junction City 132.66 359 P **PKPdf** 12 12 51.6 0.0
baz=1.1
H43A Windswept, Lux 132.75 357 P **PKPdf** 12 12 52.2 +0.4
baz=3.6
R11A Troy Canyon, C 132.82 27 P **PKPdf** 12 12 52.7 +0.4
baz=325,SNR=14
R11A Troy Canyon, C 132.82 27 *e*PKPdf **PKPdf** 12 12 52.9 +0.5
I33A Coleman 132.89 6 P **PKPdf** 12 12 52.1 0.0
baz=351
NLU North Lily Min 132.95 23 *e*PKPdf **PKPdf** 12 12 52.8 +0.2
MPU Maple Canyon 133.07 22 *e*PKPdf **PKPdf** 12 12 53.8 +1.0
VES Vestal, Richgr 133.07 32 P **PKPdf** 12 12 52.9 +0.3
baz=319
CWC Cottonwood Cre 133.13 31 P **PKPdf** 12 12 52.8 -0.2
baz=321
I36A Fitzsimmons Fa 133.16 3 P **PKPdf** 12 12 53.0 +0.4
baz=355
I37A Lemond, Waseca 133.20 3 P **PKPdf** 12 12 52.7 +0.1
baz=356
I38A Scanlan Farm, 133.21 2 P **PKPdf** 12 12 52.7 +0.1
baz=357
ECSD EROS Data Cent 133.22 6 P **PKPdf** 12 12 52.9 +0.1
baz=352
ECSD EROS Data Cent 133.22 6 *e*PKPdf **PKPdf** 12 12 52.6 -0.1
I42A Draeger Farm, 133.37 358 P **PKPdf** 12 12 53.4 +0.4
baz=2.1
I39A Houston 133.42 1 P **PKPdf** 12 12 53.2 +0.2
baz=358
DAC Darwin (Calif) 133.51 31 *e*PKPdf **PKPdf** 12 12 54.2 +0.5
DAC Darwin (Calif) 133.51 31 *e*PKIKP **PKPdf** 12 12 54.2 +0.5
ISA Isabella, Lake 133.53 32 P **PKPdf** 12 12 53.3 -0.3
baz=320
TPNV Topopah Spring 133.64 29 P **PKPdf** 12 12 53.9 0.0
baz=323
FURC Furnace Creek, 133.73 30 P **PKPdf** 12 12 53.9 +0.1
baz=322
MPMC Manual Prospec 133.73 31 P **PKPdf** 12 12 54.0 -0.1
baz=321
J34A George 133.74 6 P **PKPdf** 12 12 54.1 +0.5
baz=352
ARVC Arvin 133.74 33 P **PKPdf** 12 12 54.0 +0.1
baz=319
J36A Seneca 1, Swea 133.82 4 P **PKPdf** 12 12 54.4 +0.6
baz=355
TMUT Trail Mountain 133.85 22 *e*PKPdf **PKPdf** 12 12 55.2 +0.8
J37A Redemius Farm, 133.89 3 P **PKPdf** 12 12 54.4 +0.5
baz=356
J41A Loganville 133.92 360 P **PKPdf** 12 12 54.1 +0.1
baz=0.6
J38A Wedel Dairy, R 133.93 2 P **PKPdf** 12 12 54.1 0.0
baz=357
J39A Decorah 133.94 1 P **PKPdf** 12 12 54.3 +0.3
baz=358
J42A Columbus 133.95 359 P **PKPdf** 12 12 54.8 +0.7
baz=1.8
K31A O'Neill 134.05 8 P **PKPdf** 12 12 54.7 +0.4
baz=348
K32A Verdigre 134.12 8 P **PKPdf** 12 12 54.8 +0.3
baz=350
SCZ2 Santa Cruz Isl 134.14 34 P **PKPdf** 12 12 54.8 +0.1
baz=317
MSU Marysvale 134.15 24 *e*PKPdf **PKPdf** 12 12 56.8 +1.9
MSU Marysvale 134.15 24 *e*PKIKP **PKPdf** 12 12 56.8 +1.9
O20A White River Ci 134.16 19 P **PKPdf** 12 12 54.6 -0.2
baz=335
O20A White River Ci 134.16 19 *e*PKPdf **PKPdf** 12 12 54.8 0.0
N23A Red Feather La 134.16 16 P **PKPdf** 12 12 54.6 -0.3
baz=338
SRU San Rafael Swe 134.27 22 *e*PKPdf **PKPdf** 12 12 55.3 +0.3
SRU San Rafael Swe 134.27 22 *e*PKIKP **PKPdf** 12 12 55.3 +0.3
N59A State Game Lan 134.34 344 P **PKPdf** 12 12 55.4 +0.5
baz=21
K35A Storm Lake 134.36 5 P **PKPdf** 12 12 55.5 +0.7
baz=353
JFWS Jewell Farm 134.37 360 P **PKPdf** 12 12 55.3 +0.5
baz=0.3
EDW2 Edwards Air Fo 134.38 32 P **PKPdf** 12 12 55.3 +0.1
baz=320
K37A Belmond 134.43 3 P **PKPdf** 12 12 55.3 +0.3
baz=356
CCUT Cedar City 134.47 26 *e*PKPdf **PKPdf** 12 12 55.3 -0.3
K42A Prairie Point, 134.49 359 P **PKPdf** 12 12 55.6 +0.5
baz=1.6
K36A Gilmore City 134.50 4 P **PKPdf** 12 12 55.3 +0.2
baz=354
K43A Burlington 134.54 358 P **PKPdf** 12 12 55.5 +0.4
baz=3.0
K39A Oelwein 134.56 1 P **PKPdf** 12 12 55.9 +0.7
baz=358
K40A Colesburg 134.58 1 P **PKPdf** 12 12 55.9 +0.7
baz=359
K38A Parkersburg 134.59 2 P **PKPdf** 12 12 55.8 +0.6
baz=357
GSC Goldstone, Bar 134.67 31 P **PKPdf** 12 12 56.6 +0.9
baz=322
GSC Goldstone, Bar 134.67 31 *e*PKPdf **PKPdf** 12 12 57.5 +1.7
GSC Goldstone, Bar 134.67 31 *e*PKIKP **PKPdf** 12 12 57.5 +1.7
K41A Shullsburg 134.68 360 P **PKPdf** 12 12 55.6 +0.1
baz=0.2
SNCC San Nicolas Is 134.75 35 P **PKPdf** 12 12 56.8 +1.0
baz=317
L35A Bielow Farm, R 134.94 5 P **PKPdf** 12 12 56.9 +1.0
baz=353
TUQ Turquoise Moun 135.01 30 P **PKPdf** 12 12 57.0 +0.6
baz=323
L37A Phoenix Point, 135.06 3 P **PKPdf** 12 12 57.2 +1.0
baz=355
L38A Oak Wood Farm, 135.09 3 P **PKPdf** 12 12 56.9 +0.7
baz=356
L39A Vinton 135.14 2 P **PKPdf** 12 12 57.2 +0.9
baz=358
L41A Preston 135.21 0 P **PKPdf** 12 12 57.1 +0.7
baz=360
L40A Anamosa 135.22 1 P **PKPdf** 12 12 57.1 +0.7
baz=359
ISCO Idaho Springs 135.27 17 P **PKPdf** 12 12 56.7 -0.4
baz=338
HEC Hector,Ludlow 135.28 31 P **PKPdf** 12 12 57.5 +0.6
baz=322
N54A Moraine State 135.28 349 P **PKPdf** 12 12 57.5 +0.9
baz=15
BGNE Belgrade 135.32 8 P **PKPdf** 12 12 58.0 +1.3
baz=349
BGNE Belgrade 135.32 8 *e*PKPdf **PKPdf** 12 12 56.9 +0.2
PV04 Paradox Valley 135.50 21 *e*PKPdf **PKPdf** 12 13 01.2 +3.9
M35A Neola 135.56 6 P **PKPdf** 12 12 58.3 +1.2
baz=352
O56A Blue Knob Stat 135.65 347 P **PKPdf** 12 12 58.2 +0.8
baz=17
GMRC Granite Mounta 135.65 30 P **PKPdf** 12 12 58.2 +0.6
baz=323
M39A Webster 135.78 2 P **PKPdf** 12 12 58.7 +1.2
baz=358
MURC Murrieta 135.78 33 P **PKPdf** 12 12 58.9 +1.1
baz=320
M43A Waltham Townsh 135.82 358 P **PKPdf** 12 12 59.0 +1.4
baz=2.1
PV01 Paradox Valley 135.84 21 *e*PKPdf **PKPdf** 12 12 58.3 +0.2
PFO Pinyon Flats O 136.16 32 P **PKPdf** 12 12 59.1 +0.4
baz=321
N39A Derby Farms, D 136.37 2 P **PKPdf** 12 12 59.6 +1.0
baz=357
IRM Iron Mountain 136.41 30 P **PKPdf** 12 13 00.4 +1.5
baz=323
N41A Harden Midland 136.57 0 P **PKPdf** 12 12 59.3 +0.3
baz=359
MVCO Mesa Verde 136.69 21 P **PKPdf** 12 13 00.1 +0.4
baz=333
MVCO Mesa Verde 136.69 21 *e*PKPdf **PKPdf** 12 12 58.8 -0.9
MONP2 Monument Peak 136.74 32 P **PKPdf** 12 13 00.9 +1.1
baz=320
S22A 4UR Ranch, Cre 136.78 19 P **PKPdf** 12 13 00.5 +0.6
baz=336
PDMCI Parker Dam,Lak 136.79 29 P **PKPdf** 12 13 00.5 +0.9
baz=324
KSCO Kaye Shedlock' 136.79 14 *e*PKPdf **PKPdf** 12 12 59.0 -0.7
SWSC Sam W. Stewart 137.03 32 P **PKPdf** 12 13 00.9 +0.8
baz=321
WUAZ Wupatki 137.04 25 P **PKPdf** 12 13 01.3 +1.1
baz=329
IKP In-Ko-Pah, Jac 137.09 32 P **PKPdf** 12 13 01.0 +0.7
baz=321
O40A La Belle 137.14 2 P **PKPdf** 12 13 01.4 +1.3
baz=358
O41A Passleys Farm, 137.16 0 P **PKPdf** 12 13 01.3 +1.2
baz=359
SDCO Great Sand Dun 137.20 18 P **PKPdf** 12 13 01.3 +0.6
baz=338
GLA Glamis 137.45 31 P **PKPdf** 12 13 01.9 +0.9
baz=323
P37A Lathrop 137.54 4 P **PKPdf** 12 13 01.7 +0.9
baz=354
P46A Rosedale 137.56 356 P **PKPdf** 12 13 01.8 +0.9
baz=4.8
P38A Dawn 137.56 3 P **PKPdf** 12 13 02.0 +1.1
baz=356
CBKS Cedar Bluff 137.59 11 P **PKPdf** 12 13 02.1 +1.0
baz=346
P42A Winchester 137.69 360 P **PKPdf** 12 13 01.3 +0.2
baz=0.2
P40A Paris 137.73 2 P **PKPdf** 12 13 00.8 -0.4
baz=358
P39B Salisbury 137.74 3 P **PKPdf** 12 13 01.5 +0.3
baz=357
P44A Sand Creek, Wi 137.78 358 P **PKPdf** 12 13 01.4 +0.1
baz=2.7
W18A Petrified Fore 138.06 24 P **PKPdf** 12 13 02.9 +0.7
baz=330
W18A Petrified Fore 138.06 24 *e*PKPdf **PKPdf** 12 13 03.4 +1.2
T25A Trinidad 138.08 17 P **PKPdf** 12 13 02.4 +0.2
baz=339
Q47A Bedord North L 138.18 355 P **PKPdf** 12 13 02.8 +0.8
baz=6.0
Q38A Cooks Store, C 138.22 4 P **PKPdf** 12 13 03.0 +0.9
baz=355
Q40A Laux Farm, Aux 138.26 2 P **PKPdf** 12 13 03.2 +1.0
baz=358
PLCA Paso Flores 138.28 203 PKhKP PKPpre 12 12 56.9
comp=Z,0.7nm,0.7s,baz=139,slow=9.3,SNR=3.2
PLCA PKP **PKPdf** 12 13 02.5 +0.2
comp=Z,5.3nm,1.0s,baz=140,slow=3.5,SNR=5.1
Q41A Truxton 138.32 1 P **PKPdf** 12 13 03.2 +0.9
baz=359
Q43A New Douglas 138.33 359 P **PKPdf** 12 13 03.5 +1.2
baz=1.1
Q44A Meyer Farm, Va 138.35 358 P **PKPdf** 12 13 03.7 +1.3
baz=2.1
Q42A Golden Eagle 138.37 0 P **PKPdf** 12 13 03.4 +1.0
baz=360
R47A Wooly Knot Far 138.82 355 P **PKPdf** 12 13 04.4 +1.2
baz=5.9
WCI Wyandotte Cave 138.87 355 P **PKPdf** 12 13 04.5 +1.2
baz=6.3
R39A Chumby, Stover 138.90 3 P **PKPdf** 12 13 04.2 +0.8
baz=356
R45A Skylar, Fairfi 138.94 357 P **PKPdf** 12 13 04.3 +0.9
baz=3.3
R40A Maddies Statio 138.95 2 P **PKPdf** 12 13 04.4 +1.0
baz=357
R38A Fenwick Farm, 138.97 4 P **PKPdf** 12 13 04.3 +0.8
baz=355
R44A Waltonville 139.01 358 P **PKPdf** 12 13 04.8 +1.2
baz=2.1
CCM Cathedral Cave 139.22 1 P **PKPdf** 12 13 05.3 +1.3
baz=359
214A Organ Pipe Nat 139.34 30 P **PKPdf** 12 13 05.3 +0.9
baz=324
S48A Wiedeman Farm, 139.41 355 P **PKPdf** 12 13 05.8 +1.5
baz=6.7
ANMO Albuquerque 139.45 20 P **PKPdf** 12 13 05.8 +1.1
baz=335
ANMO Albuquerque 139.45 20 *i* PKIKP **PKPdf** 12 13 05.5 +0.7
S39A Bolivar 139.50 3 P **PKPdf** 12 13 06.0 +1.5
baz=356
S42A Caledonia 139.51 0 P **PKPdf** 12 13 05.4 +0.9
baz=360
S46A Don Dixon Farm 139.51 357 P **PKPdf** 12 13 05.7 +1.2
baz=4.2
S38A Stockton 139.52 4 P **PKPdf** 12 13 05.6 +1.0
baz=355
S44A Carbondale 139.57 358 P **PKPdf** 12 13 06.2 +1.6
baz=1.8
S40A Lebanon 139.63 2 P **PKPdf** 12 13 05.9 +1.1
baz=357
S41A Jillco Farms, 139.67 2 P **PKPdf** 12 13 06.3 +1.5
baz=358
S43A Fulton Ridge, 139.70 359 P **PKPdf** 12 13 06.5 +1.6
baz=0.6
LPM Los Pinos Moun 139.96 21 *e*PKPdf **PKPdf** 12 13 06.1 +0.4
T48A Bowling Green 139.99 355 P **PKPdf** 12 13 06.9 +1.5
baz=6.3
TUC Tucson 140.01 27 P **PKPdf** 12 13 07.0 +1.3
baz=327
T38A Diamond 140.08 5 P **PKPdf** 12 13 06.9 +1.3
baz=354
T39A Clever 140.16 4 P **PKPdf** 12 13 07.5 +1.8
baz=356
T46A Princeton 140.16 357 P **PKPdf** 12 13 07.5 +1.8
baz=4.0
T47A Sharon Grove 140.16 356 P **PKPdf** 12 13 07.3 +1.6
baz=5.2
T44A Benton 140.18 359 P **PKPdf** 12 13 07.3 +1.6
baz=1.4
T43A Greenville 140.19 360 P **PKPdf** 12 13 07.4 +1.6
baz=0.3
TZTN Tazewell 140.20 351 P **PKPdf** 12 13 08.0 +2.1
baz=11
T41A Mountain View 140.22 2 P **PKPdf** 12 13 08.0 +2.1
baz=358
U48A Cassie Pea, Po 140.59 355 P **PKPdf** 12 13 08.5 +2.0
baz=6.1
CPUP Villa Florida 140.60 231 PKhKP PKPpre 12 12 59.6
comp=Z,5.5nm,1.0s,baz=56,slow=2.3,SNR=6.0
CPUP PKP **PKPdf** 12 13 06.2 -0.6
comp=Z,5.0nm,0.9s,baz=45,slow=1.4,SNR=6.0
U47A Clarksville 140.72 356 P **PKPdf** 12 13 08.6 +1.9
baz=5.0
U39A Green Forest 140.79 4 P **PKPdf** 12 13 08.4 +1.5
baz=355
U40A Yellville 140.86 3 P **PKPdf** 12 13 08.5 +1.5
baz=356
U41A Viola 140.91 2 P **PKPdf** 12 13 09.3 +2.2
baz=358
U42A Revenden 140.92 1 P **PKPdf** 12 13 09.3 +2.2
baz=359
AMTX Amarillo 140.94 15 *e*PKPdf PKPpre 12 13 01.0
TUL1 Leonard 141.05 7 P **PKPdf** 12 13 09.1 +1.8
baz=352
WVT Waverly 141.07 357 P **PKPdf** 12 13 08.8 +1.4
baz=4.2
121A Cookes Peak, D 141.11 24 P **PKPdf** 12 13 08.9 +1.1
baz=332
KMSC Kings Mountain 141.17 348 P **PKPdf** 12 13 09.5 +1.9
baz=15
V39A Pettigrew 141.32 4 P **PKPdf** 12 13 09.6 +1.7
baz=355
V47A Nunnelly 141.35 356 P **PKPdf** 12 13 10.1 +2.2
baz=4.7
V48A Smith Brothers 141.38 355 P **PKPdf** 12 13 10.3 +2.3
baz=5.8
V40A Witts Springs 141.41 3 P **PKPdf** 12 13 10.3 +2.3
baz=356
V46A Holladay 141.41 357 P **PKPdf** 12 13 10.3 +2.3
baz=3.7
CPCT Cooper Cave 141.42 352 *e*PKPdf **PKPdf** 12 13 07.6 -0.4
V41A Mountainview 141.46 2 P **PKPdf** 12 13 09.6 +1.5
baz=357
V42A Cord 141.46 1 P **PKPdf** 12 13 10.4 +2.3
baz=358
MSTX Muleshoe 141.51 17 P **PKPdf** 12 13 09.7 +1.3
baz=340
MSTX Muleshoe 141.51 17 *e*PKPdf PKPpre 12 13 02.7
WMOK Wichita Mounta 141.73 11 *e*PKPdf PKPpre 12 13 03.5
WMOK Wichita Mounta 141.73 11 *e*PKIKP PKPpre 12 13 03.5
W39A Magazine 141.95 4 P **PKPdf** 12 13 10.4 +1.4
baz=355
W40A Ferguson Farm, 142.00 3 P **PKPdf** 12 13 10.5 +1.4
baz=356
W41B Gary Mavity, V 142.06 2 P **PKPdf** 12 13 11.0 +1.9
baz=357
W45A Hickory Valley 142.10 358 P **PKPdf** 12 13 11.0 +1.7
baz=2.1
X39A Fountain Ranch 142.60 5 P **PKPdf** 12 13 12.6 +2.4
baz=354
MIAR Mount Ida 142.61 4 *e*PKPdf PKPpre 12 13 05.5
MIAR Mount Ida 142.61 4 *e*PKIKP PKPpre 12 13 05.5
GDL2 Guadalupe Moun 142.66 20 *e*PKPdf PKPpre 12 13 06.4
X48A Hartselle 142.68 355 P **PKPdf** 12 13 12.0 +1.7
baz=5.6
OXF Oxford 142.75 359 *e*PKPdf PKPpre 12 13 06.1
OXF Oxford 142.75 359 *e*PKIKP PKPpre 12 13 06.1
MNTX Cornudas Mount 142.76 21 P **PKPdf** 12 13 12.3 +1.7
baz=335
MNTX Cornudas Mount 142.76 21 *e*PKPdf **PKPdf** 12 13 10.5 -0.1
NHSC New Hope 142.86 346 P **PKPdf** 12 13 12.7 +2.1
baz=17
Y50A Piedmont 143.10 353 P **PKPdf** 12 13 13.3 +2.2
baz=7.8
Y40A Okolona 143.16 4 P **PKPdf** 12 13 12.9 +1.7
baz=355
Y49A Blount Mountai 143.21 354 P **PKPdf** 12 13 13.4 +2.1
baz=6.7
Y48A Jasper 143.22 355 P **PKPdf** 12 13 13.5 +2.2
baz=5.5
Y47A UCPARC, Winfie 143.28 356 P PKPbc 12 13 09.7 +1.4
baz=4.3
Y41A Eaglette Beard 143.33 3 P PKPbc 12 13 09.8 +1.3
baz=356
ABTX Abilene, Hawle 143.59 13 P PKPbc 12 13 10.0 +0.7
baz=344
ABTX Abilene, Hawle 143.59 13 *e*PKPdf PKPbc 12 13 09.1 -0.2
Z41A Richland Creek 143.94 3 P PKPbc 12 13 10.9 +0.7
baz=356
Z42A Norrel Spur, H 143.97 2 P PKPbc 12 13 11.2 +0.9

baz=358
Z47A Carrollton 144.00 357 P PKPbc 12 13 10.8 +0.4
baz=4.0
LRAL Lakeview Retre 144.08 355 ePKPdf PKPdf 12 13 13.0 +0.2
151A Opelika 144.40 353 P PKPbc 12 13 11.7 0.0
baz=8.8
150A Eclectic 144.41 354 P PKPab 12 13 11.5 0.0
baz=7.6
149A Jones 144.50 355 P PKPdf 12 13 13.5 -0.1
baz=6.3
140A Cam and Jess, 144.50 4 P PKPdf 12 13 13.0 -0.5
baz=355
147A Livingston 144.53 357 P PKPdf 12 13 13.2 -0.4
baz=3.8
RTCV Cerro Valdivia 144.58 213 eP PKPbc 12 13 12.7 +0.3
141A Papa Simpson, 144.59 4 P PKPdf 12 13 13.0 -0.7
baz=356,SNR=7.2
146A Union 144.60 358 P PKPbc 12 13 12.8 +0.4
baz=2.4,SNR=12
144A Alexander Plac 144.64 360 P PKPbc 12 13 12.9 +0.5
baz=0.1
WHTX Lake Whitney, 144.65 10 P PKPab 12 13 12.4 +0.1
baz=348,SNR=27
253A Americus 144.68 351 P PKPbc 12 13 12.9 +0.3
baz=11
142A Monroe 144.69 2 P PKPdf 12 13 13.5 -0.3
baz=357,SNR=5.0
AUSP Uspallata 144.75 212 eP PKPdf 12 13 14.2 -0.2
251A Midway 144.84 353 P PKPab 12 13 12.9 -0.1
baz=8.7,SNR=11
252A Lumpkin 144.84 352 P PKPbc 12 13 13.1 0.0
baz=9.9,SNR=13
VBMS Vicksburg 145.05 0 P PKPdf 12 13 14.3 -0.2
baz=360,SNR=8.6
250A Grady 145.06 354 P PKPbc 12 13 13.8 -0.1
baz=7.3
248A Dixon Mills 145.07 356 P PKPab 12 13 14.2 +0.3
baz=4.7,SNR=5.7
ANWB Willy Bob 145.08 307 ePKPbc PKPab 12 13 14.4 +0.1
240A Hunter Patters 145.09 5 P PKPdf 12 13 14.5 -0.1
baz=354
249A Camden 145.14 355 P PKPab 12 13 14.3 +0.2
baz=5.8,SNR=9.1
355A Pearson 145.15 349 P PKPdf 12 13 14.6 -0.2
baz=13
241A Mo Tay, Goldon 145.16 4 P PKPdf 12 13 14.9 +0.2
baz=356
247A Quitman 145.17 357 P PKPdf 12 13 14.7 0.0
baz=3.2,SNR=12
242A Grayson 145.17 2 P PKPdf 12 13 14.8 +0.1
baz=357
TIGA Tifton 145.20 350 P PKPab 12 13 14.5 +0.2
baz=12,SNR=8.2
244A Avery, Jackson 145.22 0 P PKPdf 12 13 15.0 +0.2
baz=360,SNR=28
246A Jackson Lee, B 145.23 358 P PKPdf 12 13 15.2 +0.4
baz=2.3
245A Little AP, Sta 145.23 359 P PKPdf 12 13 14.9 +0.1
baz=1.0,SNR=9.3
AMOG MOGNA 145.25 214 eP PKPdf 12 13 15.2 +0.2
NATX Nacogdoches 145.28 6 P PKPdf 12 13 15.3 +0.3
baz=353,SNR=18
NATX Nacogdoches 145.28 6 ePKPdf PKPdf 12 13 15.1 +0.2
243A Waterproof 145.37 1 P PKPdf 12 13 15.3 +0.3
baz=358
352A Blakely 145.38 352 P PKPdf 12 13 15.3 +0.2
baz=9.7
353A Camilla 145.40 351 P PKPdf 12 13 15.3 +0.2
baz=11
TXAR Lajitas Array 145.52 21 PKPbc PKPbc 12 13 15.6 0.0
comp=Z,100nm,1.0s,baz=282,slow=1.2,SNR=42
457A Yulee 145.57 346 P PKPab 12 13 16.0 +0.3
baz=16
456A Hilliard 145.57 347 P PKPab 12 13 16.0 +0.3
baz=15
JCT Junction City 145.61 14 P PKPbc 12 13 15.7 -0.1
baz=343
JCT Junction City 145.61 14 ePKPdf PKPdf 12 13 14.7 -0.9
JCT Junction City 145.61 14 ePKIKP PKPdf 12 13 14.7 -0.9
350A Dozier 145.61 354 P PKPab 12 13 16.4 +0.5
baz=7.3
351A Pinckard 145.67 353 P PKPab 12 13 16.4 +0.3
baz=8.6
348A Jackson 145.76 356 P PKPab 12 13 17.1 +0.6
baz=4.5
349A Repton 145.77 355 P PKPab 12 13 17.0 +0.5
baz=5.8,SNR=16
455A Stateville 145.77 349 P PKPab 12 13 16.8 +0.3
baz=13
435B Jarrell 145.80 11 P PKPab 12 13 16.8 +0.1
baz=347,SNR=5.1
344A Westbrook Farm 145.81 0 P PKPab 12 13 17.3 +0.7
baz=360
BRAL Brewton 145.94 355 ePKPbc PKPab 12 13 17.8 +0.7
345A Thompson Farm, 145.95 359 P PKPab 12 13 17.2 +0.1
baz=0.8,SNR=5.2
343A Vidalia 145.96 2 P PKPab 12 13 18.0 +0.8
baz=358
ZAM Aeronautique 146.03 302 eP PKPab 12 13 17.9 0.0
452A Marianna 146.03 352 P PKPab 12 13 17.8 +0.3
baz=9.4
TRMF Trois Ilets 146.06 302 eP PKPab 12 13 19.5 +1.5
PCM Pelee Case Pet 146.07 302 eP PKPab 12 13 18.1 +0.1
PCM Pelee Case Pet 146.07 302 eP PKPab 12 13 18.2 +0.1
557A Orange Park 146.19 346 P PKPab 12 13 18.1 0.0
baz=16
448A Bay Minette 146.24 356 P PKPab 12 13 18.3 0.0
baz=4.7
AGUA GUANDACOL 146.33 216 eP PKPdf 12 13 16.7 -0.2
451A Vernon 146.34 353 P PKPab 12 13 18.7 0.0
baz=8.5
449A Pace 146.36 355 P PKPab 12 13 18.7 0.0
baz=5.8
556A Lake Butler 146.36 347 P PKPab 12 13 18.7 0.0
baz=15
555A McAlpin 146.36 348 P PKPab 12 13 18.9 +0.2
baz=14
447A Lucedale 146.42 357 P PKPab 12 13 18.9 0.0
baz=3.2,SNR=6.8
446A Poplarville 146.45 358 P PKPab 12 13 20.2 +1.1
baz=2.0
445A Amite 146.53 360 P PKPab 12 13 20.2 +0.9
baz=0.2
554A Perry 146.54 349 P PKPab 12 13 20.4 +1.0
baz=12
444A Pine Grove 146.54 0 P PKPab 12 13 21.0 +1.6
baz=360,SNR=5.2
656A Williston 147.00 347 P PKPab 12 13 21.1 -0.1
baz=15
ALOL LOMAS DE OLMED 147.03 229 eP PKPdf 12 13 18.1 -0.1
542A Morse 147.07 3 P PKPab 12 13 22.0 +0.6
baz=356
833A Chaparral WMA, 147.77 15 P PKPbc 12 13 22.9 +0.8
baz=343
858A St. Cloud 147.82 345 P PKPbc 12 13 22.2 0.0
baz=17
859A Kempfer Cattle 147.84 344 P PKPbc 12 13 22.5 +0.3
baz=18
DWPF Disney Wildern 147.94 345 P PKPbc 12 13 22.4 -0.1
baz=17
LCO Las Campanas 147.95 214 ePKPdf PKPdf 12 13 19.4 -0.5
LCO ePKPbc PKPbc 12 13 22.6 -0.3
857A Zephyrhills 147.98 346 P PKPbc 12 13 22.4 -0.2
baz=16
SJG San Juan 148.19 312 ePKPbc PKPab 12 13 25.1 -1.2
SJG San Juan 148.19 312 ePKP2 PKPab 12 13 25.1 -1.2
959A Okeechobee 148.34 344 P PKPbc 12 13 23.2 -0.3
baz=18
958A Wauchula 148.52 345 P PKPbc 12 13 23.6 -0.4
baz=17
957A Wimauma 148.56 346 P PKPbc 12 13 23.7 -0.4
baz=16
KVTX Kingsville 148.87 13 ePKPbc PKPbc 12 13 26.7 +1.7
YJA Yavi 149.12 230 eP PKPdf 12 13 22.3 +0.2
GRTK Grand Turk 149.20 323 ePKPdf PKPdf 12 13 21.2 -0.5
GRTK ePKPbc PKPbc 12 13 28.3 +2.4
GRTK ePKPab PKPab 12 13 33.4 +3.2
PCRV Puerto La Cruz 151.16 297 PKPbc PKPbc 12 13 30.5 -0.4
comp=Z,14nm,0.5s,baz=206,slow=3.5,SNR=9.9
SDDR Presa de Saban 151.18 320 ePKPbc PKPbc 12 13 31.8 +0.9
ZAIG Zacatecas 151.87 24 ePKPdf PKPdf 12 13 27.3 +1.0
ZAIG ePKPbc sPKPdf 12 13 33.5 -0.7
LPAZ La Paz 154.32 237 PKP PKPdf 12 13 30.9 +0.5
comp=Z,6.3nm,0.9s,baz=66,slow=7.4,SNR=7.0
LPAZ PKPbc PKPbc 12 13 40.9 +2.3
comp=Z,8.2nm,0.8s,baz=87,slow=7.0,SNR=7.2
SDV Santo Domingo 156.99 301 PKP PKPdf 12 13 33.4 -0.1
comp=Z,10.0nm,1.0s,baz=326,slow=3.6,SNR=6.1
OCAC Ocana 159.60 303 eP PKPdf 12 13 42.5 +5.9
MOTC Monteria, Cord 161.20 308 eP PKPdf 12 13 39.7 +1.5
ZARC Zaragoza, Cauc 161.28 304 eP PKPab 12 14 21.4 -0.5
PTBC PUERTO BERRIO, 161.44 300 eP PKPdf 12 13 36.8 -1.6
ROSC El Rosal 162.10 295 PKP PKPdf 12 13 38.8 -0.9
comp=Z,11nm,0.7s,baz=143,slow=10,SNR=3.3
APG El Apazote 162.18 360 PKPab PKPab 12 14 24.1 -1.7
comp=Z,28nm,0.8s,baz=352,slow=10,SNR=10
NORC Norcasia 162.27 298 eP PKPdf 12 13 38.1 -1.3
PRAC Prado 163.07 293 eP PKPdf 12 13 41.5 +1.4
BCIP Isla Barro Col 163.97 319 ePKPdf PKPdf 12 13 39.7 -1.2
YOTC Yotoco, Valle 164.29 296 eP PKPdf 12 13 40.0 -1.4
SOTA Rioblanco 165.25 290 eP PKPdf 12 13 42.8 +0.1

IDC 11 11:57:54.7±3.1, 0.06S×91.95E, h0km, mb4.6/4, mb1 4.7/4, mb1mx3.9/75, mbtmp4.6/4, Error ellipse: s-maj=83.0km s-min=69.1km az=119.0, South Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	Makanchi Array	47.42	351	P	P	12 06 31.1	+0.1
	10nm,0.8s,baz=173,slow=7.7,SNR=5.1						
SONM	Songino Array	49.33	13	P	P	12 06 44.5	-1.4
	6.3nm,0.8s,baz=184,slow=8.5,SNR=4.0						
ZALV	Zalesovo Beam	54.15	355	P		12 07 22.8	+1.2
	5.7nm,0.5s,baz=185,slow=7.0,SNR=4.2						
GERES	GERESS Array B	82.31	319	P	P	12 10 17.9	-0.6
	2.3nm,0.8s,baz=113,slow=6.5,SNR=3.2						
TXAR	Lajitas Array	147.29	26	PKPbc	PKPbc	12 17 40.9	-0.2
	2.0nm,1.0s,baz=264,slow=1.6,SNR=2.2						

*ISCJB **11** 11:59:23.6±0.8, 1.9N±0.1×92.03E±0.09, h19km, mb4.3/7, Error ellipse: s-maj=18.8km s-min=10.9km az=27.0*
*IDC **11** 11:59:23.4±1.8, 1.91N×92.06E, h0km, mb4.4/6, mb1 4.4/7, mb1mx3.8/76, mbtmp4.3/7, ML4.1/1, Error ellipse: s-maj=63.7km s-min=26.8km az=57.0*
*NEIC **11** 11:59:24.5±1.1, 1.94N×92.16E, h10km, mb4.5/2, Error ellipse: s-maj=25.0km s-min=10.9km az=199.0*

ISC 11 11:59:25.9±0.9, 2.0N±0.1×92.14E±0.10, h19km, n16, σ1s29/16, mb4.5/7, 1D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSI	Gunungsitoli	5.47	97	ePn	Pn	12 00 46.3	-0.2
KULM	Kulim	9.10	69	ePn	Pn	12 01 33.9	-2.5
	60nm,0.5s						
IPM	Ipoh	9.21	74	ePn	Pn	12 01 35.6	-2.3
PALK	Pallekele	12.55	295	ePn	Pn	12 02 22.2	-1.5
CMAR	Chiang Mai Arr	17.68	22	P	P	12 03 33.8	+1.7
	0.2nm,0.3s,baz=217,slow=14,SNR=2.5						
KSM	Kuching	18.17	91	ePn	P	12 03 38.0	+0.5
	193nm,2.0s						
KKM	Kota Kinabalu	24.35	80	P	P	12 04 43.2	+0.1
	3.0nm,0.5s						
MKAR	Makanchi Array	45.45	351	P	P	12 07 44.5	+0.8
	5.1nm,0.7s,baz=172,slow=8.1,SNR=6.3						
WRA	Warramunga Arr	46.77	120	P	P	12 07 55.2	+0.6
	2.8nm,0.9s,baz=300,slow=9.0,SNR=2.5						
SONM	Songino Array	47.31	13	P	P	12 07 58.8	+0.3
	5.3nm,0.9s,baz=191,slow=8.2,SNR=4.3						
KURBB	Kurchatov Arra	49.82	349	P	P	12 08 18.5	+1.0
	3.0nm,1.0s,baz=170,slow=6.6,SNR=3.6						
KURK	Kurchatov	49.89	349	P	P	12 08 18.5	+0.5
ZALV	Zalesovo Beam	52.15	355	P	P	12 08 35.7	+0.7
	3.3nm,0.4s,baz=166,slow=6.6,SNR=4.3						
FINES	FINESS Array B	77.00	333	P	P	12 11 18.2	+0.9
	4.0nm,0.9s,baz=54,slow=7.1,SNR=3.2						
SYO	Syowa Base	79.23	197	eP	P	12 11 28.6	-0.8
TXAR	Lajitas Array	145.38	25	PKPbc	PKPab	12 19 03.6	+0.1
	0.6nm,0.6s,baz=297,slow=0.4,SNR=4.2						

*ISCJB **11** 12:00:33.8±0.4, 2.28N±0.06×92.50E±0.04, h10km, mb4.8/53, Error ellipse: s-maj=8.7km s-min=6.2km az=8.6*
*IDC **11** 12:00:33.8±0.5, 2.25N×92.50E, h0km, mb4.7/39, mb1 4.8/40, mb1mx4.6/73, mbtmp4.7/40, ML4.7/1, Error ellipse: s-maj=15.2km s-min=12.2km az=18.0*
*NEIC **11** 12:00:35.3±0.3, 2.24N×92.49E, h10km, mb5.1/7, Error ellipse: s-maj=8.7km s-min=5.8km az=186.0*

ISC 11 12:00:35.2±0.5, 2.23N±0.09×92.49E±0.07, h10km, n152, σ0s79/150, mb4.9/56, 1D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	Kulim	8.70	69	ePn	Pn	12 02 41.6	+0.4
	138nm,0.6s						
IPM	Ipoh	8.81	75	ePn	Pn	12 02 44.3	+1.4
	106nm,0.7s						
PBA	Port Blair	9.37	2	eP	Pn	12 02 49.5	-0.9
DGPR	DIGLIPUR	10.89	2	eP	Pn	12 03 10.9	-0.4
PALK	Pallekele	12.77	294	Pn	Pn	12 03 38.8	+1.8
MDRS	Chennai	16.21	312	eP	Pn	12 04 24.4	+1.1
CMAR	Chiang Mai Arr	17.33	21	Pn	Pn	12 04 37.0	-0.5
	1.1nm,0.3s,baz=213,slow=12,SNR=7.7						
KSM	Kuching	17.83	92	eP	P	12 04 46.6	+2.2
	20nm,0.9s						
VIS	Vishakhapatnam	17.83	330	eP	Pn	12 04 43.4	-0.2
VIS				IAmb	IAmb	12 04 46.2	
MNCY	Minicoy	20.27	288	eP	P	12 05 10.8	-0.4
BELO	BELONIA	20.92	357	eP	P	12 05 19.2	+1.1
BOK	Bokaro	22.38	344	eP	P	12 05 34.5	+0.7
IMP	Imphal	22.52	3	eP	P	12 05 35.9	+0.5
GOA	Goa	22.63	307	eP	P	12 05 36.6	0.0
GOA				IAmb	IAmb	12 05 49.3	
	comp=Z,180nm,1.9s						
SHL	Shillong	23.21	359	eP	P	12 05 42.1	-0.7
SHL				IAmb	IAmb	12 06 01.8	
	comp=Z,52nm,1.1s						
TURI	Tura	23.28	355	eP	P	12 05 43.1	-0.2
KOHI	KOHIMA	23.41	4	eP	P	12 05 44.3	-0.4
KOHI				ex	x	12 05 59.0	
KKM	Kota Kinabalu	23.96	80	eP	P	12 05 50.6	+0.4
	comp=Z,4.8nm,0.5s						
TEZP	TEZPUR	24.25	1	eP	P	12 05 52.6	-0.1
POO	Poona	24.42	313	eP	P	12 05 53.4	-0.9
POO				IAmb	IAmb	12 05 57.1	
	comp=Z,72nm,0.8s						
BHPL	Bhopal	25.49	326	eP	P	12 06 01.5	-2.4
LSA	Lhasa	27.35	357	eP	P	12 06 22.6	+1.4
	comp=Z,67nm,0.6s						
BHJ	Bhuj	30.44	315	eP	P	12 06 49.3	+1.1
DDI	Dehra Dun	31.11	335	eP	P	12 06 53.0	-1.1
SMLA	Simla	32.19	335	eP	P	12 07 00.5	-3.0
DHRM	DHARAMSHALA	33.53	335	eP	P	12 07 14.6	-0.9
FITZ	Fitzroy Crossi	38.39	123	P	P	12 07 56.2	-0.9
	comp=Z,5.9nm,0.7s,baz=268,slow=6.5,SNR=1.0						
BJT	Baijiatuau	43.33	27	eP	P	12 08 39.0	+1.5
	comp=Z,82nm,1.0s						
AAK	Ala-Archa	43.34	341	P	P	12 08 38.5	+0.7
	comp=Z,2.6nm,0.5s,baz=127,slow=7.9,SNR=4.8						
KKAR	Karatay Array	45.17	337	eP	P	12 08 52.2	-0.2
	comp=Z,18nm,0.8s						
MKAR	Makanchi Array	45.27	350	P	P	12 08 53.1	+0.1
	comp=Z,16nm,0.7s,baz=174,slow=8.9,SNR=18						
WRA	Warramunga Arr	46.60	120	P	P	12 09 03.8	-0.1
	comp=Z,7.9nm,1.1s,baz=302,slow=8.6,SNR=8.4						
SONM	Songino Array	47.00	13	P	P	12 09 07.6	+0.8
	comp=Z,28nm,0.8s,baz=192,slow=8.5,SNR=25						
ULN	Ulaanbaatar	47.18	13	eP	P	12 09 06.9	-1.3
	comp=Z,354nm,2.2s						
JNU	Nakatsue	47.30	45	P	P	12 09 09.7	+0.5
	comp=Z,10.0nm,0.8s,baz=190,slow=4.8,SNR=4.3						
GEYT Alibeck 47.48 323 P P 12 09 11.5 +0.9
comp=Z,11nm,0.7s,baz=148,slow=8.6,SNR=7.0
ASAR Alice Springs 47.80 125 P P 12 09 13.1 -0.2
comp=Z,2.1nm,0.9s,baz=297,slow=7.1,SNR=3.2
ASAR PcP PcP 12 10 42.6 +0.3
comp=Z,0.8nm,0.6s,baz=312,slow=5.6,SNR=2.6
KSAR Wonju Array Be 47.80 38 P P 12 09 13.8 +0.8
KSRS Korea Array 47.84 38 P P 12 09 13.8 +0.6
comp=Z,11nm,0.8s,baz=225,slow=8.8,SNR=21
KURBB Kurchatov Arra 49.65 348 P P 12 09 27.1 +0.1
comp=Z,9.1nm,0.7s,baz=169,slow=6.6,SNR=12
KURBB PcP PcP 12 10 48.4 +0.1
comp=Z,3.8nm,0.8s,baz=158,slow=2.9,SNR=4.6
KURK Kurchatov 49.72 348 P P 12 09 27.1 -0.4
KURK PcP PcP 12 10 48.4 -0.2
ZALV Zalesovo Beam 51.94 354 P P 12 09 44.3 +0.1
comp=Z,22nm,0.4s,baz=175,slow=6.9,SNR=22
HIA Hailar 52.34 22 eP P 12 09 48.0 +0.6
comp=Z,20nm,0.7s
BVAR Borovoye Array 53.84 344 P P 12 09 57.6 -0.8
comp=Z,9.7nm,0.7s,baz=140,slow=7.7,SNR=12
MJAR Matsushiro Arr 54.22 45 P P 12 10 02.0 +0.6
comp=Z,3.7nm,0.7s,baz=241,slow=6.2,SNR=9.8
USRK Ussuriysk Ar. 54.45 34 P P 12 10 03.1 +0.2
comp=Z,6.5nm,0.7s,baz=255,slow=9.4,SNR=12
ABKAR Akbulak array 54.48 334 eP P 12 10 02.6 -0.4
comp=Z,26nm,1.0s
KMBO Kilima Mbogo 55.32 267 P P 12 10 11.3 +1.3
comp=Z,1.3nm,0.5s,baz=85,slow=12,SNR=3.0
AKTO Aktyubinsk 56.19 334 P P 12 10 14.1 -1.2
comp=Z,4.8nm,0.8s,baz=119,slow=9.4,SNR=4.1
KLR Kul'dur 57.57 29 P P 12 10 25.6 +0.5
comp=Z,2.2nm,0.9s,baz=247,slow=7.7,SNR=20
KBZ Khabaz 60.25 321 P P 12 10 44.0 +0.2
comp=Z,10nm,0.8s,baz=134,slow=7.2,SNR=10
ARU Arti 60.48 339 P P 12 10 43.6 -1.6
comp=Z,8.3nm,0.8s,baz=10,slow=1.8,SNR=5.2
KVAR Kislovodsk Arr 60.49 321 P P 12 10 44.9 -0.8
comp=Z,9.5nm,0.7s,baz=214,slow=3.3,SNR=4.4
ASAJ Asahikawa 60.77 39 P P 12 10 47.3 -0.1
comp=Z,8.3nm,0.7s,baz=275,slow=2.6,SNR=8.0
BRTR Keskin Array B 64.96 313 P P 12 11 15.4 -0.2
comp=Z,5.2nm,0.7s,baz=131,slow=6.9,SNR=13
YAK Yakutsk 65.84 18 eP P 12 11 20.0 -0.6
comp=Z,113nm,0.9s
IDI Anoyia 70.50 307 P P 12 11 51.0 +0.4
comp=Z,26nm,0.6s,baz=88,slow=8.6,SNR=14
BOSA Boshof 71.24 239 P P 12 11 55.8 +0.5
comp=Z,4.4nm,1.0s,baz=70,slow=10,SNR=3.2
AKASG Malin Array Be 71.60 323 P P 12 11 56.0 -0.9
comp=Z,5.2nm,0.6s,baz=89,slow=5.2,SNR=11
MLR Muntele Rosu 72.11 317 P P 12 12 01.3 +1.1
comp=Z,2.7nm,0.9s,baz=253,slow=1.9,SNR=6.3
MA2 Magadan 72.51 27 P P 12 12 01.9 -0.2
comp=Z,17nm,0.6s,baz=254,slow=6.8,SNR=15
TIXI Tiksi 73.06 11 eP P 12 12 04.1 -1.1
comp=Z,42nm,0.6s
PETK Petropavlovsk- 73.54 35 P P 12 12 07.7 -0.7
comp=Z,4.7nm,0.9s,baz=267,slow=8.2,SNR=3.4
SEY Seymchan 74.72 24 P P 12 12 14.5 -0.6
comp=Z,7.2nm,0.7s,baz=260,slow=6.7,SNR=8.8
FINES FINESS Array B 76.94 333 P P 12 12 27.1 -0.7
comp=Z,10nm,0.8s,baz=86,slow=5.7,SNR=15
KRLC Kraliky 79.14 321 eP P 12 12 41.0 +0.7
CONA Conrad Observa 79.40 318 iP P 12 12 40.8 -1.0
comp=Z,3.5nm,0.7s
DPC Dobruska-Polom 79.47 321 eP P 12 12 43.2 +1.1
ARSA Arzberg 79.53 318 iP P 12 12 43.4 +0.9
comp=Z,6.5nm,1.1s
SYO Syowa Base 79.56 197 ||iX P 12 12 39.2 -2.9
UPC Upice 79.69 321 eP P 12 12 44.1 +0.8
ARCES ARCESS Array B 80.01 341 P P 12 12 44.0 -0.5
comp=Z,12nm,0.8s,baz=89,slow=5.1,SNR=10
GERES GERESS Array B 80.95 319 P P 12 12 50.3 +0.1
comp=Z,9.8nm,0.8s,baz=100,slow=5.5,SNR=17
KHC Kasperske Hory 81.06 319 eP P 12 12 50.9 +0.2
CLL Collm 81.69 321 iP P 12 12 54.2 +0.3
WTTA Wattenberg 82.16 317 iP P 12 12 56.9 +0.1
comp=Z,16nm,1.3s
HFS Hagfors 82.50 330 P P 12 12 57.5 -0.5
comp=Z,5.1nm,0.7s,baz=123,slow=7.3,SNR=6.5
KEST Kesra 83.14 306 P P 12 13 03.3 +1.3
comp=Z,10nm,0.8s,baz=4.8,slow=8.5,SNR=5.7
DAVA Damuels 83.35 317 iP P 12 13 03.0 +0.1
comp=Z,18nm,1.0s
NB2 DRSAR Subarra 83.83 331 P P 12 13 03.8 -1.1
comp=Z,9.3nm,1.0s,baz=92,slow=5.3
NOA NORSAR Array B 83.83 331 P P 12 13 04.2 -0.8
comp=Z,5.1nm,0.9s,baz=95,slow=5.7,SNR=5.0
SPITS Spitsbergen Ar 85.00 348 P P 12 13 09.6 -0.9
comp=Z,6.0nm,0.6s,baz=81,slow=6.0,SNR=8.7
TORD Torodi Ar. Bea 90.27 283 P P 12 13 37.7 +0.5
comp=Z,103nm,0.8s,baz=83,slow=5.6,SNR=8.8
EKA Eskdalemuir Ar 91.41 325 P P 12 13 41.0 -0.6
comp=Z,2.8nm,0.8s,baz=95,slow=5.8,SNR=6.1
ESDC Sonseca Array 93.56 310 P P 12 13 52.4 +0.4
comp=Z,1.3nm,0.6s,baz=68,slow=3.7,SNR=5.1
KOWA Kowa 95.74 285 P P 12 14 03.6 +1.2
comp=Z,3.1nm,0.7s,baz=79,slow=6.3,SNR=5.8
ILAR Eielson Array 100.56 22 PP PP 12 18 30.2 +0.7
comp=Z,0.8nm,0.9s,baz=256,slow=6.6,SNR=4.2
YKA Yellowknife Ar 112.27 13 PP PP 12 19 48.2 -7.1
comp=Z,1.0nm,0.9s,baz=329,slow=8.0,SNR=6.5
B05A Bryant 121.40 26 P PKPdf 12 19 28.7 -0.4
baz=318
I03D Drain, OR 124.13 31 P PKPdf 12 19 34.7 +0.2
baz=315
J04D Umpqua Nationa 125.08 30 P PKPdf 12 19 36.8 +0.2
baz=316
J05D Fort Rock, OR 125.49 30 P PKPdf 12 19 37.0 -0.3
baz=317
MSO Missoula 125.90 22 P PKPdf 12 19 37.0 -0.9
baz=327
M04C Macdoel 126.27 32 P PKPdf 12 19 38.7 -0.2
baz=316
ULM Lac du Bonnet 127.24 7 PKP PKPdf 12 19 39.6 -0.6
comp=Z,2.6nm,0.8s,baz=333,slow=4.6,SNR=4.5
HLID Hailey 128.41 25 P PKPdf 12 19 43.4 +0.5
baz=325
LAO LASA Array 128.58 16 P PKPdf 12 19 43.4 +0.4
baz=336
A33A Warroad 128.59 7 P PKPdf 12 19 42.4 -0.4
baz=350
B34A Aery, Baudette 129.11 6 P PKPdf 12 19 43.1 -0.8
baz=351
NVAR Mina Array Bea 130.57 32 PKP PKPdf 12 19 47.9 +0.7
comp=Z,1.2nm,0.6s,baz=282,slow=1.7,SNR=5.5
PDAR Pinedale Array 130.99 21 PKP PKPdf 12 19 47.8 -0.1
comp=Z,1.3nm,0.7s,baz=51,slow=0.9,SNR=5.7
F36A Milaca 131.82 6 P PKPdf 12 19 47.7 -1.4
baz=352
R11A Troy Canyon, C 132.02 30 P PKPdf 12 19 50.3 +0.4
baz=321
K31A O'Neill 134.22 12 P PKPdf 12 19 53.8 +0.1
baz=344
Z42A Norrel Spur, H 144.44 6 P PKPbc 12 20 11.1 +0.2
baz=352
WHTX Lake Whitney, 144.69 15 P PKPab 12 20 10.8 -0.8
baz=343
Z49A Columbiana 144.76 359 P PKPab 12 20 11.3 -0.6
baz=1.7
Z47A Carrollton 144.76 1 P PKPab 12 20 11.2 -0.6
baz=359
140A Cam and Jess, 144.85 9 P PKPbc 12 20 12.3 +0.1
baz=350
LRAL Lakeview Retre 144.93 359 P PKPab 12 20 11.7 -0.8
baz=0.9
LRAL Lakeview Retre 144.93 359 ePKPdf PKPab 12 20 11.6 -0.9
141A Papa Simpson, 144.99 8 P PKPab 12 20 12.4 -0.2
baz=351
TXAR Lajitas Array 145.01 25 PKP PKPbc 12 20 13.1 0.0
comp=Z,11nm,0.8s,baz=215,slow=1.1,SNR=30
143A Socs Landing, 145.07 6 P PKPab 12 20 13.1 +0.2
baz=353
144A Alexander Plac 145.22 4 P PKPdf 12 20 14.4 +0.5
baz=355
147A Livingston 145.28 1 P PKPbc 12 20 13.3 -0.3
baz=359
145A Houston Renfro 145.29 4 P PKPdf 12 20 14.2 +0.2
baz=356
146A Union 145.30 2 P PKPdf 12 20 14.3 +0.3
baz=357
148A Greensboro 145.32 0 P PKPbc 12 20 13.6 -0.1
baz=360
150A Eclectic 145.33 358 P PKPbc 12 20 13.4 -0.4
baz=2.6
149A Jones 145.36 359 P PKPbc 12 20 13.6 -0.3
baz=1.2

151A	**Opelika** baz=3.8	**145.38**	**357**	P		**PKPbc**	**12 20 13.7**	**-0.2**
240A	**Hunter Patters** baz=349	**145.41**	**9**	P		**PKPab**	**12 20 14.2**	**0.0**
JCT	**Junction City** baz=338	**145.43**	**19**	P		**PKPbc**	**12 20 13.6**	**-0.7**
JCT	**Junction City**	**145.43**	**19**	*e*PKPbc		**PKPbc**	**12 20 13.8**	**-0.5**
NATX	**Nacogdoches** baz=347	**145.53**	**11**	P		**PKPdf**	**12 20 14.5**	**0.0**
NATX	**Nacogdoches**	**145.53**	**11**	*e*PKPbc		**PKPab**	**12 20 14.9**	**+0.2**
241A	**Mo Tay, Goldon** baz=350	**145.56**	**8**	P		**PKPab**	**12 20 15.3**	**+0.6**
242A	**Grayson** baz=352	**145.62**	**7**	P		**PKPab**	**12 20 15.5**	**+0.5**
VBMS	**Vicksburg** baz=355	**145.63**	**5**	P		**PKPab**	**12 20 15.0**	**0.0**
253A	**Americus** baz=6.0	**145.75**	**355**	P		**PKPdf**	**12 20 15.0**	**+0.2**
254A	**Abbeville** baz=7.5	**145.78**	**354**	P		**PKPbc**	**12 20 15.2**	**-0.1**
244A	**Avery, Jackson** baz=354	**145.79**	**5**	P		**PKPab**	**12 20 15.7**	**+0.1**
435B	**Jarrell** baz=342	**145.80**	**16**	P		**PKPdf**	**12 20 15.0**	**+0.1**
251A	**Midway** baz=3.7	**145.81**	**357**	P		**PKPbc**	**12 20 15.3**	**0.0**
245A	**Little AP, Sta** baz=356	**145.86**	**4**	P		**PKPab**	**12 20 15.8**	**-0.1**
252A	**Lumpkin** baz=4.9	**145.87**	**356**	P		**PKPbc**	**12 20 15.4**	**-0.1**
248A	**Dixon Mills** baz=360	**145.87**	**0**	P		**PKPab**	**12 20 15.7**	**-0.2**
247A	**Quitman** baz=358	**145.89**	**2**	P		**PKPab**	**12 20 15.9**	**-0.1**
246A	**Jackson Lee, B** baz=357	**145.91**	**2**	P		**PKPab**	**12 20 16.0**	**-0.1**
250A	**Grady** baz=2.2	**145.96**	**358**	P		**PKPdf**	**12 20 15.4**	**+0.2**
249A	**Camden** baz=0.7	**145.99**	**359**	P		**PKPab**	**12 20 16.1**	**-0.2**
356A	**Blackshear** baz=9.7	**146.25**	**352**	P		**PKPbc**	**12 20 16.4**	**-0.3**
355A	**Pearson** baz=8.4	**146.32**	**353**	P		**PKPbc**	**12 20 17.1**	**+0.2**
344A	**Westbrook Farm** baz=354	**146.37**	**5**	P		**PKPab**	**12 20 17.6**	**-0.2**
353A	**Camilla** baz=5.9	**146.47**	**355**	P		**PKPbc**	**12 20 17.1**	**-0.3**
346A	**Big Creek Wild** baz=356	**146.52**	**3**	P		**PKPbc**	**12 20 17.4**	**-0.1**
347A	**Saraland** baz=358	**146.54**	**2**	P		**PKPbc**	**12 20 17.6**	**0.0**
345A	**Thompson Farm,** baz=355	**146.57**	**4**	P		**PKPbc**	**12 20 18.0**	**+0.3**
453A	**Whigham** baz=5.8	**146.97**	**355**	P		**PKPbc**	**12 20 18.9**	**0.0**
833A	**Chaparral WMA,** baz=338	**147.55**	**20**	P		**PKPbc**	**12 20 20.4**	**-0.1**
857A	**Zephyrhills** baz=10	**149.26**	**351**	P		**PKPdf**	**12 20 22.5**	**+1.8**

*MOS **11** 12:03:57.9±1.8,51°.31N×160°.80E,h60km,mb4.1/1, Error ellipse: s-maj=20.7km s-min=6.6km az=109.9*

KRSC 11 12:03:58.0±1.7,51°.31N×160°.80E,h60km±22km,ML3.8, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDTR	**Khodutka, Kamc**	**1.77**	**287**	*e*P	Pn	12 04 28.2	+2.0
KDTR				*e*S	Sn	12 04 49.3	+1.6
KDTR	**Khodutka, Kamc**	**1.77**	**287**	PN	Pn	12 04 28.2	+2.0
KDTR				S	Sn	12 04 49.3	+1.6
RUS	**Russkaya**	**1.81**	**309**	*e*P	Pn	12 04 28.7	+1.9
RUS				*e*S	Sn	12 04 50.2	+1.6
RUS	**Russkaya**	**1.81**	**309**	PN	Pn	12 04 28.7	+1.9
RUS				S	Sn	12 04 50.2	+1.6
SPN	**Mys Shipunski**	**1.85**	**345**	*e*P	Pn	12 04 28.7	+1.3
SPN				*e*S	Sn	12 04 50.3	+0.6
SPN	**Mys Shipunski**	**1.85**	**345**	PN	Pn	12 04 28.7	+1.3
SPN				S	Sn	12 04 50.3	+0.6
MTVR	**Mutnovka**	**2.00**	**307**	*e*P	Pn	12 04 32.3	+2.8
MTVR				*e*S	Sn	12 04 56.3	+2.8
MTVR	**Mutnovka**	**2.00**	**307**	PN	Pn	12 04 32.3	+2.8
MTVR				S	Sn	12 04 56.3	+2.8
NLC	**Nalytchevo**	**2.07**	**335**	*e*P	Pn	12 04 33.1	+2.8
NLC				*e*S	Sn	12 04 57.8	+2.9
NLC	**Nalytchevo**	**2.07**	**335**	PN	Pn	12 04 33.1	+2.8
NLC				S	Sn	12 04 57.8	+2.9
ASAK	**Asacha**	**2.09**	**302**	*e*P	Pn	12 04 33.4	+2.7
ASAK				*e*S	Sn	12 04 58.4	+2.7
ASAK	**Asacha**	**2.09**	**302**	PN	Pn	12 04 33.4	+2.7
ASAK				S	Sn	12 04 58.4	+2.7
DALK	**Dalny**	**2.13**	**325**	*e*P	Pn	12 04 33.9	+2.7
DALK				*e*S	Sn	12 04 59.4	+2.9
DALK	**Dalny**	**2.13**	**325**	PN	Pn	12 04 33.9	+2.7
DALK				S	Sn	12 04 59.4	+2.9
KRMR	**Karymshinskiy**	**2.24**	**314**	*e*P	Pn	12 04 35.3	+2.6
KRMR				*e*S	Sn	12 05 02.4	+3.2
KRMR	**Karymshinskiy**	**2.24**	**314**	PN	Pn	12 04 35.3	+2.6
KRMR				S	Sn	12 05 02.4	+3.2
UGLR	**Uglovaya**	**2.26**	**328**	*e*P	Pn	12 04 36.0	+3.0
UGLR				*e*S	Sn	12 05 02.9	+3.2
UGLR	**Uglovaya**	**2.26**	**328**	PN	Pn	12 04 36.0	+3.0
UGLR				S	Sn	12 05 02.9	+3.2
SDLR	**Sedlovina**	**2.29**	**330**	*e*P	Pn	12 04 35.9	+2.4
SDLR				*e*S	Sn	12 05 02.7	+2.0
SDLR	**Sedlovina**	**2.29**	**330**	PN	Pn	12 04 35.9	+2.4
SDLR				S	Sn	12 05 02.7	+2.0
AVH	**Avacha**	**2.33**	**328**	*e*P	Pn	12 04 37.2	+3.2
AVH	**Avacha**	**2.33**	**328**	PN	Pn	12 04 37.2	+3.2
KRER	**Koryakskii**	**2.36**	**329**	*e*P	Pn	12 04 37.5	+3.0
KRER	**Koryakskii**	**2.36**	**329**	PN	Pn	12 04 37.5	+3.0
KRX	**Arik**	**2.44**	**328**	*e*P	Pn	12 04 37.7	+2.2
KRX	**Arik**	**2.44**	**328**	PN	Pn	12 04 37.7	+2.2
GNL	**Ganaly**	**2.96**	**325**	*e*P	Pn	12 04 46.6	+4.1
GNL	**Ganaly**	**2.96**	**325**	PN	Pn	12 04 46.6	+4.1
SKR	**Severo-Kuril's**	**3.02**	**260**	*e*P	Pn	12 04 45.7	+2.4
SKR				*e*S	Sn	12 05 19.6	+1.4
SKR	**Severo-Kuril's**	**3.02**	**260**	*e*PN	Pn	12 04 45.4	+2.1
SKR				*e*S	Sn	12 05 19.5	+1.3
SKR	comp=N,70nm,0.3s			smax	smax		
SKR	comp=E,61nm,0.3s			smax	smax		
TUMR	**Tumrok**	**4.00**	**355**	*e*P	Pn	12 05 00.2	+3.4
TUMR	**Tumrok**	**4.00**	**355**	PN	Pn	12 05 00.2	+3.4
KMNR	**Kamenistaya**	**4.47**	**356**	*e*P	Pn	12 05 07.5	+4.3
KMNR	**Kamenistaya**	**4.47**	**356**	PN	Pn	12 05 07.5	+4.3
KBTR	**Krutoberegovo**	**5.05**	**13**	*e*P	Pn	12 05 12.8	+1.8
KBTR	**Krutoberegovo**	**5.05**	**13**	PN	Pn	12 05 12.8	+1.8

IDC 11 12:04:12.0±3.5,1°.52N×91°.96E,h0km,mb3.9/5,mb1 4.0/5, mb1mx3.6/73,mbtmp3.9/5,Error ellipse: s-maj=134.9km s-min=27.3km az=57.0,North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array** 1.1nm,0.7s,baz=169,slow=8.4,SNR=3.1	**45.88**	**351**	P	P	12 12 36.0	-0.2
WRA	**Warramunga Arr** 1.4nm,0.7s,baz=299,slow=8.6,SNR=2.8	**46.70**	**119**	P	P	12 12 42.8	-0.3
SONM	**Songino Array** 2.1nm,0.7s,baz=189,slow=10,SNR=4.7	**47.80**	**13**	P	P	12 12 52.4	+1.0
KURBB	**Kurchatov Arra** 1.0nm,0.7s,baz=174,slow=6.9,SNR=2.2	**50.24**	**349**	P	P	12 13 09.8	0.0
ZALV	**Zalesovo Beam** 1.5nm,0.7s,baz=190,slow=8.4,SNR=2.9	**52.59**	**355**	P	P	12 13 26.4	-1.0
TXAR	**Lajitas Array** 0.3nm,0.5s,baz=318,slow=2.0,SNR=5.3	**145.88**	**25**	PKPbc	PKPdf	12 23 53.1	-0.6

IDC 11 12:07:13.9±3.9,0°.47S×91°.73E,h0km,mb3.6/4,mb1 3.7/4, mb1mx3.3/72,mbtmp3.6/4,Error ellipse: s-maj=146.0km s-min=25.2km az=59.0,South Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 0.9nm,0.9s,baz=293,slow=8.8,SNR=2.8	**45.96**	**118**	P	P	12 15 38.8	-0.3
ASAR	**Alice Springs**	**46.94**	**123**	P	P	12 15 46.5	-0.3
MKAR	**Makanchi Array** 0.6nm,0.8s,baz=162,slow=9.5,SNR=2.2	**47.79**	**351**	P	P	12 15 52.0	-1.1
SONM	**Songino Array** 0.5nm,0.6s,baz=201,slow=9.5,SNR=2.3	**49.77**	**13**	P	P	12 16 08.9	+0.5
TXAR	**Lajitas Array** 0.3nm,0.5s,baz=118,slow=0.9,SNR=4.6	**147.75**	**26**	PKPbc	PKPbc	12 27 01.7	+0.1

IDC 11 12:08:00.4±6.0,0°.50S×90°.75E,h0km,mb3.7/3,mb1 3.9/3, mb1mx3.3/73,mbtmp3.7/3,Error ellipse: s-maj=258.4km s-min=29.1km az=56.0,South Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 1.0nm,0.8s,baz=296,slow=8.4,SNR=4.5	**46.82**	**117**	P	P	12 16 34.2	+1.8
ASAR	**Alice Springs** 0.4nm,0.9s,baz=306,slow=7.9,SNR=2.9	**47.75**	**122**	P	P	12 16 38.0	-1.6
ZALV	**Zalesovo Beam** 0.8nm,0.4s,baz=160,slow=7.1,SNR=3.4	**54.49**	**356**	P	P	12 17 30.5	+0.9
TXAR	**Lajitas Array** 0.3nm,0.7s,baz=250,slow=1.8,SNR=4.2	**148.20**	**24**	PKPbc	PKPdf	12 27 46.7	+0.7

*ISCJB **11** 12:10:51.0±0.2,1°.35N±0°.03×92°.64E±0°.02,h10km, mb5.1/147,MS6.0/2,Error ellipse: s-maj=4.3km s-min=2.3km az=33.5*

*IDC **11** 12:10:51.0±0.3,1°.32N×92°.62E,h0km,mb4.8/48, mb1 4.8/51,mb1mx4.8/69,mbtmp4.8/51,ML4.6/3,Error ellipse: s-maj=11.1km s-min=8.6km az=38.0*

*NEIC **11** 12:10:52.8±0.1,1°.35N×92°.63E,h10km,mb5.1/61,Error ellipse: s-maj=4.7km s-min=2.9km az=212.0*

*BJI **11** 12:10:52.0,1°.40N×92°.60E,h10km,mb5.1/53,mB5.4/1, Ms5.4/2,Ms7 5.4/2*

*MOS **11** 12:10:54.5±1.0,1°.40N×92°.66E,h34km,mb5.2/47,Error ellipse: s-maj=8.0km s-min=4.7km az=104.9*

*DJA **11** 12:10:55.9±2.0,1°.N±3°.9×3°.3E±°,h12km±11km,M5.8/39, mB7.0/1,mb5.5/39,MLv6.0/12,Mw(mB)7.0/1*

ISC 11 12:10:52.8±0.2,1°.30N±0°.04×92°.63E±0°.04,h10km,n567, σ1ᵎ19/574,mb5.1/153,18C-6D,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLSI	**Meulaboh, Aceh**	**4.79**	**52**	P	**Pn**	**12 12 04.4**	**-0.6**
GSI	**Gunungsitoli**	**4.94**	**90**	P	**Pn**	**12 12 07.4**	**+0.2**
GSI	**Gunungsitoli**	**4.94**	**90**	*e*Pn	**Pn**	**12 12 07.4**	**+0.2**
TPTI		**4.95**	**67**	P	**Pn**	**12 12 06.4**	**-0.8**
BSI	**Banda Aceh**	**4.95**	**32**	P	**Pn**	**12 12 05.8**	**-1.5**
KCSI	**Kotacane, Aceh**	**5.59**	**67**	P	**Pn**	**12 12 16.1**	**0.0**
PBSI	**Pulau Batu** 5μm,0.8s,13nm	**5.81**	**103**	P	**Pn**	**12 12 19.2**	**+0.2**
LHMI	**Lhok Sumawe**	**5.82**	**48**	P	**Pn**	**12 12 19.3**	**+0.1**
LHMI	**Lhok Sumawe**	**5.82**	**48**	*e*Pn	**Pn**	**12 12 19.4**	**+0.1**
TSI	**Tuntungan**	**6.32**	**70**	P	**Pn**	**12 12 26.6**	**+0.5**
SISI	**Saibi**	**6.96**	**112**	P	**Pn**	**12 12 34.4**	**-0.6**
MNSI	**Mandailing Nat**	**6.97**	**94**	P	**Pn**	**12 12 35.0**	**0.0**
PDSI	**Padang** 648nm,0.8s,3.0nm	**8.13**	**106**	P	**Pn**	**12 12 51.1**	**+0.1**
PPSI	**Pulau Pagai**	**8.41**	**119**	P	**Pn**	**12 12 54.8**	**0.0**
BKNI	**Bangkinang** 765nm,0.8s,4.2nm	**8.46**	**96**	P	**Pn**	**12 12 56.0**	**+0.4**
BKNI	**Bangkinang**	**8.46**	**96**	*e*Pn	**Pn**	**12 12 55.8**	**+0.2**
KULM	**Kulim**	**8.94**	**63**	*e*Pn	**Pn**	**12 13 01.5**	**-0.5**
IPM	**Ipoh**	**8.96**	**69**	*e*Pn	**Pn**	**12 13 02.4**	**0.0**
SDSI	**Sungai Dareh**	**9.07**	**104**	P	**Pn**	**12 13 06.5**	**+2.6**
KRJI	**Kerinci**	**9.45**	**111**	P	**Pn**	**12 13 08.5**	**-0.7**
RGRI	**Rengat** 255nm,0.7s	**9.84**	**99**	P	**Pn**	**12 13 14.8**	**+0.4**
PBA	**Port Blair**	**10.29**	**1**	*e*P	Pn	12 13 18.3	-2.4
PBA	comp=Z,514nm,0.2s			IAmb	IAmb	12 13 30.0	
MASI	**Maura Aman, Be**	**10.57**	**115**	P	**Pn**	**12 13 24.2**	**-0.3**
MYKOM	**Kota Tinggi**	**11.23**	**87**	*e*Pn	**Pn**	**12 13 32.8**	**-0.6**
MNAI	**Manna** comp=Z,217nm,0.6s	**11.75**	**119**	*e*Pn	**Pn**	**12 13 38.6**	**-2.0**
MNAI				*e*Sn	**Sn**	**12 15 45.0**	**-6.9**
DGPR	**DIGLIPUR**	**11.81**	**1**	*e*P	**Pn**	**12 13 41.6**	**+0.2**
DGPR				IAmb	IAmb	12 13 44.5	
TPRI	**Tanjung Pinang**	**11.90**	**92**	P	**Pn**	**12 13 42.9**	**+0.2**
DSRI	**Dabo**	**12.08**	**98**	P	**Pn**	**12 13 44.9**	**-0.2**
MDSI	**Maura Dua**	**12.89**	**117**	P	**Pn**	**12 13 56.0**	**-0.2**
LWLI	**Liwa**	**13.03**	**119**	P	**Pn**	**12 13 59.6**	**+1.4**
PALK	**Pallekele** comp=Z,5.6nm,0.3s,baz=116,slow=14,SNR=4.2	**13.29**	**297**	Pn	**Pn**	**12 13 59.5**	**-2.2**
PALK	comp=Z,13nm,0.3s,baz=115,slow=2.6,SNR=7.1			Sn	Sn	12 16 15.2	-14
PALK	**Pallekele**	**13.29**	**297**	Pn	**Pn**	**12 13 59.5**	**-2.2**
PALK				*e*Sn	Sn	12 16 16.0	-14
KASI	**Kota Agung**	**13.65**	**120**	P	**Pn**	**12 14 11.1**	**+4.5**
KLI	**Kotabumi**	**13.66**	**117**	P	P	12 14 25.3	+10
PPBI	**Pangkal Pinang**	**13.93**	**104**	P	**Pn**	**12 14 13.3**	**+2.8**
CGJI	**Cibinong**	**15.22**	**121**	P	**Pn**	**12 14 26.3**	**-1.7**
MDRS	**Chennai**	**16.95**	**314**	*e*P	**Pn**	**12 14 49.0**	**-1.2**
LEM	**Lembang** comp=Z,1.9nm,0.3s,baz=288,slow=20,SNR=2.6	**17.00**	**119**	P	**Pn**	**12 14 51.7**	**+0.8**
TRD	**Trivandrum**	**17.17**	**295**	*e*P	**Pn**	**12 14 51.7**	**-1.3**
JCJI	**Jatiwangi**	**17.42**	**117**	P	**P**	**12 14 59.5**	**+2.1**
XMIS	**Christmas Isla** comp=Z,105nm,1.1s	**17.46**	**132**	*e*Pn	**Pn**	**12 14 57.6**	**+1.0**
CISI	**Cisompet, Garu**	**17.51**	**120**	P	**Pn**	**12 14 59.1**	**+1.7**
CISI	**Cisompet, Garu** comp=Z,45nm,0.7s	**17.51**	**120**	*e*Pn	**Pn**	**12 14 57.9**	**+0.5**
CISI				*e*Sn	Sn	12 18 00.6	-12
KSM	**Kuching** comp=Z,158nm,0.9s	**17.67**	**89**	*e*Pn	**Pn**	**12 14 60.0**	**+0.6**
CM01	**Chiang Mai Arr**	**18.12**	**20**	*e*Pn	**Pn**	**12 15 04.0**	**-0.7**
CM31	**Chiang Mai Arr**	**18.15**	**20**	*e*Pn	**Pn**	**12 15 04.3**	**-0.8**
CMAR	**Chiang Mai Arr** comp=Z,0.5nm,0.3s,baz=216,slow=13,SNR=31	**18.15**	**20**	P	**Pn**	**12 15 03.8**	**-1.3**
KPJI	**Karang Pucung**	**18.38**	**118**	P	**Pn**	**12 15 08.7**	**+0.7**
CHTO	**Chiang Mai** comp=Z,29nm,0.9s	**18.48**	**19**	*e*P	**P**	**12 15 08.3**	**-0.8**
CHTO	**Chiang Mai**	**18.48**	**19**	*e*P	**P**	**12 15 08.3**	**-0.8**
CHTO	comp=Z,29nm,0.9s			pmax	pmax		
VIS	**Vishakhapatnam**	**18.71**	**331**	*e*P	**P**	**12 15 12.0**	**+0.4**
STKI	**Sintang**	**18.89**	**94**	P	**P**	**12 15 14.4**	**+0.8**
PBKI	**Pangkalan Bun**	**19.45**	**102**	P	**Pn**	**12 15 22.3**	**+1.4**
SMRI	**Semarang** comp=Z,137nm,0.9s	**19.61**	**115**	*e*P	**P**	**12 15 21.2**	**-0.4**
SBUM	**Sibu** comp=Z,116nm,1.0s	**19.61**	**86**	*e*P	**P**	**12 15 23.0**	**+1.4**
UGM	**Wanagama**	**20.05**	**117**	P	**P**	**12 15 28.7**	**+2.3**
UGM	**Wanagama** comp=Z,132nm,1.0s	**20.05**	**117**	*e*P	**P**	**12 15 26.1**	**-0.3**
WOJI	**Wonogiri, Jawa**	**20.38**	**117**	P	**P**	**12 15 32.1**	**+2.2**
PCJI	**Pacitan**	**20.76**	**117**	P	**P**	**12 15 34.9**	**+0.9**
HYB	**Hyderabad**	**21.17**	**320**	*e*P	**P**	**12 15 38.2**	**-0.4**
HYB	comp=Z,115nm,0.8s			IAmb	IAmb	12 15 40.1	
MTKI	**Muara Teweh, K**	**22.38**	**96**	P	**P**	**12 15 52.2**	**+0.7**
BLJI	**Banyuglugur** comp=Z,100nm,0.8s	**22.76**	**114**	P	**P**	**12 15 57.7**	**+2.2**
BOK	**Bokaro**	**23.30**	**344**	*e*P	**P**	**12 16 00.1**	**-1.0**
BOK	comp=Z,54nm,0.5s			IAmb	IAmb	12 16 06.7	
GOA	**Goa**	**23.31**	**308**	*e*P	**P**	**12 15 59.0**	**-2.1**
GOA	comp=Z,59nm,0.5s			IAmb	IAmb	12 16 02.1	
JAGI	**Jajag, Banyuwa**	**23.55**	**115**	P	**P**	**12 16 06.7**	**+3.1**
JAGI	**Jajag, Banyuwa** comp=Z,49nm,0.9s	**23.55**	**115**	*e*P	**P**	**12 16 02.9**	**-0.6**
NGP	**Nagpur**	**23.77**	**327**	*e*P	**P**	**12 16 04.7**	**-1.0**
KBKI	**Kotabaru**	**23.97**	**101**	P	**P**	**12 16 09.5**	**+1.9**
KKM	**Kota Kinabalu** comp=Z,118nm,0.9s	**24.00**	**78**	*e*P	**P**	**12 16 08.8**	**+0.7**
SHL	**Shillong**	**24.14**	**358**	*e*P	**P**	**12 16 08.0**	**-1.4**
SHL				IAmb	IAmb	12 16 17.4	
SRBI	**Singaraja**	**24.37**	**113**	P	**P**	**12 16 09.5**	**-1.9**
BKB	**Balikpapan**	**24.40**	**96**	P	**P**	**12 16 12.7**	**+1.1**
QIZ	**Qiongzhong**	**24.40**	**43**	P	**P**	**12 16 11.8**	**+0.2**
QIZ				S	**S**	**12 20 32.3**	**+0.9**
QIZ	comp=Z,23nm,0.9s			pmax	pmax		
AKL	**Akola**	**24.59**	**323**	*ex*	P	12 16 20.9	+7.5
SGKI	**Sangatta, Kali**	**25.04**	**94**	P	**P**	**12 16 17.9**	**+0.4**
POO	**Poona**	**25.16**	**314**	*e*P	**P**	**12 16 15.0**	**-3.5**
KMI	**Kunming**	**25.62**	**22**	P	**P**	**12 16 24.9**	**+2.0**
KMI				pmax	pmax		
ODAN	**Odare** comp=Z,107nm,0.9s	**25.91**	**349**	*e*P	**P**	**12 16 26.5**	**+1.0**
MYLDM	**Lahad Datu** comp=Z,109nm,0.9s	**26.11**	**81**	*e*P	**P**	**12 16 28.1**	**+0.9**
RAMN	**Ramite** comp=Z,210nm,1.1s	**26.16**	**348**	*e*P	**P**	**12 16 28.6**	**+0.9**
BHPL	**Bhopal**	**26.34**	**327**	*e*P	**P**	**12 16 30.0**	**+0.9**
BHPL	comp=Z,102nm,1.4s			IAmb	IAmb	12 16 39.4	
PLAI	**Plampang**	**27.00**	**112**	P	**P**	**12 16 34.0**	**-1.2**
GUN	**Gumba** comp=Z,181nm,1.2s	**27.24**	**347**	*e*P	**P**	**12 16 37.9**	**+0.3**
MPSI	**Mapaga**	**27.28**	**92**	P	**P**	**12 16 37.6**	**-0.2**
GKN	**Gorkha** comp=Z,84nm,0.9s	**27.64**	**345**	*e*P	**P**	**12 16 40.7**	**-0.3**
KOLN	**Koldanda**	**27.71**	**343**	*e*P	**P**	**12 16 42.3**	**+0.6**
BNSI	**Bone**	**28.03**	**102**	P	**P**	**12 16 44.0**	**-0.5**
LSA	**Lhasa** comp=Z,42nm,0.9s	**28.28**	**357**	*e*P	**P**	**12 16 48.1**	**+1.0**
LSA	**Lhasa**	**28.28**	**357**	*e*P	**P**	**12 16 48.1**	**+1.0**
LSA	comp=Z,42nm,0.9s			pmax	pmax		
GYA	**Guiyang**	**28.43**	**27**	P	**P**	**12 16 50.0**	**+2.0**
GYA				PP	**PnPn**	**12 17 41.2**	**+4.1**
GYA				PcP	**PcP**	**12 20 02.8**	**+2.4**
GYA				S	**S**	**12 21 36.5**	**+1.1**
GYA				SS	**SnSn**	**12 23 00.4**	**+6.7**
GYA				ScP	**ScP**	**12 23 42.7**	**+0.9**
GYA	comp=Z,20nm,1.0s			pmax	pmax		
MRSI	**Marisa**	**29.32**	**91**	P	**P**	**12 16 54.5**	**-1.4**
LUWI	**Luwuk**	**30.23**	**94**	P	**P**	**12 17 04.7**	**+0.7**
LUWI	**Luwuk** comp=Z,60nm,0.9s	**30.23**	**94**	*e*P	**P**	**12 17 03.1**	**-0.9**
TGY	**Tagaytay City** comp=Z,72nm,0.3s,baz=126,slow=8.5,SNR=3.5	**30.75**	**64**	P	**P**	**12 17 08.7**	**0.0**
BHJ	**Bhuj**	**31.20**	**316**	*e*P	**P**	**12 17 12.7**	**+0.2**
BHJ	comp=Z,48nm,1.1s			IAmb	IAmb	12 17 15.6	
CD2	**Chengdu**	**31.29**	**19**	P	**P**	**12 17 13.0**	**-0.2**
CD2				S	**S**	**12 22 21.0**	**+0.9**
CD2	comp=Z,100nm,0.6s			pmax	pmax		
BATI	**Baumata** comp=Z,37nm,0.8s,baz=49,slow=9.3,SNR=2.0	**32.93**	**111**	P	**P**	**12 17 25.8**	**-2.0**
ENH	**Enshi** comp=Z,31nm,0.9s	**32.97**	**27**	*e*P	**P**	**12 17 27.4**	**-0.6**
SMLA	**Simla**	**33.09**	**335**	*e*P	**P**	**12 17 28.6**	**-0.3**
SMLA	comp=Z,25nm,0.7s			IAmb	IAmb	12 17 32.4	
DAV	**Davao City (W)** comp=Z,230nm,0.4s,baz=92,slow=2.4,SNR=6.2	**33.34**	**79**	P	**P**	**12 17 32.7**	**+1.3**
DAV	**Davao City (W)** comp=Z,312nm,0.4s	**33.34**	**79**	*e*P	**P**	**12 17 32.8**	**+1.3**
DHRM	**DHARAMSHALA**	**34.42**	**335**	*e*P	**P**	**12 17 39.1**	**-1.8**
MBWA	**Marble Bar** comp=Z,111nm,1.3s	**34.65**	**132**	*e*P	**P**	**12 17 43.7**	**+1.0**
TWG	**Pinlang** comp=Z,2μm,2.5s	**34.94**	**50**	*e*P	**P**	**12 17 44.4**	**-0.7**
SSLB	**Suanglung** comp=Z,40nm,1.1s	**35.40**	**49**	*e*P	**P**	**12 17 49.6**	**+0.5**
WHN	**Wuhan**	**35.65**	**33**	⇑P	**P**	**12 17 52.3**	**+1.2**
XAN	**Xi'an**	**35.97**	**23**	P	**P**	**12 17 53.1**	**-0.8**
XAN				pP	sP	12 17 59.7	+1.5
XAN	comp=Z,56nm,1.0s			pmax	pmax		
LZH	**Lanzhou**	**36.15**	**15**	*e*P	**P**	**12 17 55.5**	**-0.1**
LZH				pP	pP	12 17 58.6	0.0
LZH				sP	sP	12 18 00.3	+0.4
LZH				PP	**PnPn**	**12 19 18.2**	**+1.3**
LZH	comp=Z,25nm,1.2s			pmax	pmax		
LZH	comp=Z,1μm,14.2s			LR	LR		
LZH	comp=Z,1μm,14.5s			LR	LR		
LZH	comp=Z,2μm,18.0s			LR	LR		
NIL	**Nilore** comp=Z,54nm,0.8s	**36.96**	**333**	*e*P	**P**	**12 18 01.5**	**-0.9**
NIL	**Nilore**	**36.96**	**333**	*e*P	**P**	**12 18 01.5**	**-0.9**
NIL	comp=Z,54nm,0.8s			pmax	pmax		
MEEK	**Meekatharra** baz=38,SNR=15	**37.40**	**140**	P	**P**	**12 18 07.3**	**+1.1**
FITZ	**Fitzroy Crossi** comp=Z,31nm,1.0s,baz=307,slow=5.5,SNR=20	**37.77**	**122**	P	**P**	**12 18 09.2**	**-0.2**
FITZ	**Fitzroy Crossi** baz=38,SNR=14	**37.77**	**122**	P	**P**	**12 18 09.2**	**-0.2**
FITZ	**Fitzroy Crossi** comp=Z,28nm,0.9s	**37.77**	**122**	*e*P	**P**	**12 18 09.2**	**-0.2**
GTA	**Gaotai**	**38.50**	**9**	*e*P	**P**	**12 18 15.6**	**+0.2**
GTA				pP	pP	12 18 20.4	+1.9
GTA				sP	sP	12 18 23.3	+3.5
GTA	comp=Z,14nm,1.0s			pmax	pmax		
SIJI	**Sorong** comp=Z,16nm,1.0s,baz=312,slow=13,SNR=5.0	**38.69**	**93**	P	**P**	**12 18 16.1**	**-1.2**
BLDU	**Ballidu** baz=39,SNR=4.3	**39.15**	**146**	P	**P**	**12 18 23.1**	**+2.3**
NJ2	**Nanjing** comp=Z,33nm,0.9s	**39.34**	**36**	*e*P	**P**	**12 18 22.6**	**+0.2**
NJ2				pmax	pmax		
MUN	**Mundaring** baz=40,SNR=3.1	**39.93**	**148**	P	**P**	**12 18 29.2**	**+1.9**
KSH	**Kashi**	**40.97**	**340**	P	**P**	**12 18 34.3**	**-1.7**
NWAO	**Narrogin (SRO)** comp=Z,13nm,1.0s,baz=144,slow=10,SNR=3.0	**41.21**	**148**	P	**P**	**12 18 37.3**	**-0.6**
PALU	**Palau** baz=42,SNR=5.1	**42.13**	**81**	P	**P**	**12 18 44.9**	**-0.9**
SFK	**Sufi-Kurgan**	**42.28**	**338**	P	**P**	**12 18 46.4**	**-0.5**
SFK	comp=Z,14nm,0.6s			pmax	pmax		
WMQ	**Urumqi**	**42.57**	**355**	P	**P**	**12 18 50.1**	**+1.1**
WMQ				pP	pP	12 18 53.4	+1.3
WMQ				s

comp=Z,25nm,0.8s
WB2 Warramunga Arr 46.02 120 *e*P **P 12 19 16.8 -0.1**
comp=Z,40nm,0.9s
KK06 Karatay Array 46.07 337 *e*P **P 12 19 16.3 -0.6**
KK07 Karatay Array 46.08 337 *e*P **P 12 19 16.6 -0.5**
KK02 Karatay Array 46.08 337 *e*P **P 12 19 16.6 -0.5**
KK31 Karatay Array 46.08 337 *e*P **P 12 19 16.6 -0.5**
KK31 Karatay Array 46.08 337 *e*P **P 12 19 16.6 -0.5**
KKAR Karatay Array 46.08 337 *e*P **P 12 19 16.3 -0.8**
KKAR Karatay Array 46.08 337 *e*P **P 12 19 16.3 -0.8**
KK03 Karatay Array 46.09 337 *e*P **P 12 19 16.9 -0.2**
KK01 Karatay Array 46.09 337 *e*P **P 12 19 16.8 -0.3**
KK04 Karatay Array 46.09 337 *e*P **P 12 19 16.9 -0.3**
KK05 Karatay Array 46.09 338 *e*P **P 12 19 16.8 -0.3**
KK08 Karatay Array 46.09 337 *e*P **P 12 19 16.9 -0.2**
MK01 Makanchi Array 46.18 350 *e*P **P 12 19 16.9 -0.9**
MK31 Makanchi Array 46.21 350 *e*P **P 12 19 17.5 -0.5**
MK31 Makanchi Array 46.21 350 *e*P **P 12 19 17.5 -0.5**
MKAR Makanchi Array 46.21 350 P **P 12 19 17.4 -0.5**
comp=Z,12nm,0.5s,baz=172,slow=7.9,SNR=50
MKAR PP **PP 12 21 10.8 +4.2**
comp=Z,7.3nm,0.9s,baz=156,slow=9.3,SNR=3.7
MKAR Makanchi Array 46.21 350 *e*P **P 12 19 17.5 -0.5**
comp=Z,91nm,0.6s
MKAR PP **PP 12 21 10.8 +4.2**
MKAR Makanchi Array 46.21 350 *e*P **P 12 19 17.5 -0.5**
MKAR 12 21 10.8
MKAR pmax pmax
comp=Z,91nm,0.6s
MAKZ Makanchi 46.28 350 *e*P **P 12 19 18.3 -0.2**
comp=Z,7.3nm,0.9s
MAKZ Makanchi 46.28 350 *e*P **P 12 19 18.3 -0.2**
MAKZ pmax pmax
comp=Z,7.0nm,0.9s
FORT Forrest 46.40 136 *e*P **P 12 19 21.3 +1.6**
comp=Z,562nm,0.6s
ASAR Alice Springs 47.16 124 P **P 12 19 25.4 -0.5**
comp=Z,14nm,1.0s,baz=298,slow=7.2,SNR=44
ASAR PcP **PcP 12 20 57.6 +0.1**
comp=Z,4.4nm,0.8s,baz=302,slow=2.5,SNR=8.3
AS31 Alice Springs 47.16 124 *e*P **P 12 19 25.6 -0.2**
comp=Z,3.9nm,1.1s
AS01 Alice Springs 47.20 124 *e*P **P 12 19 25.4 -0.8**
AS01 *e*PcP **PcP 12 20 57.5 -0.1**
TJN Taejon 47.44 39*ce*P **P 12 19 27.6 -0.2**
JNU Nakatsue 47.85 44 P **P 12 19 31.4 +0.3**
comp=Z,7.8nm,0.8s,baz=127,slow=1.2,SNR=5.2
SONM Songino Array 47.87 12 P **P 12 19 31.3 +0.2**
comp=Z,32nm,0.9s,baz=194,slow=8.6,SNR=57
SONM PcP **PcP 12 20 59.0 -0.7**
comp=Z,7.0nm,0.8s,baz=186,slow=3.9,SNR=4.2
SONA1 Songino Array 47.88 12 *e*P **P 12 19 31.3 +0.1**
ULN Ulaanbaatar 48.04 13 *e*P **P 12 19 32.4 0.0**
comp=Z,18nm,1.1s
ULN Ulaanbaatar 48.04 13*ce*P **P 12 19 32.1 -0.4**
ULN pmax pmax
comp=Z,16nm,1.0s
GYB1 ALIBECK ARRAY 48.29 323 *e*P **P 12 19 34.8 +0.4**
comp=Z,12nm,0.7s
GYA1 ALIBECK ARRAY 48.30 323 *e*P **P 12 19 35.1 +0.6**
comp=Z,12nm,0.6s
GEYT Alibeck 48.30 323 P **P 12 19 34.6 +0.1**
comp=Z,7.9nm,0.6s,baz=156,slow=8.1,SNR=12
GYA0 ALIBECK ARRAY 48.30 323 *e*P **P 12 19 35.0 +0.5**
comp=Z,11nm,0.6s
GYA0B ALIBECK ARRAY 48.30 323 *e*P **P 12 19 35.0 +0.5**
comp=Z,11nm,0.6s
GYB2 ALIBECK ARRAY 48.30 323 *e*P **P 12 19 35.7 +1.2**
comp=Z,10nm,0.6s
GYB5 ALIBECK ARRAY 48.30 323 *e*P **P 12 19 35.2 +0.7**
comp=Z,8.0nm,0.5s
GYA2 ALIBECK ARRAY 48.31 323 *e*P **P 12 19 35.3 +0.8**
comp=Z,10.0nm,0.7s
GYB3 ALIBECK ARRAY 48.31 323 *e*P **P 12 19 35.3 +0.7**
comp=Z,10.0nm,0.8s
GYB4 ALIBECK ARRAY 48.32 323 *e*P **P 12 19 35.2 +0.6**
comp=Z,11nm,1.0s
KS15 Wonju Array Si 48.44 38 *e*P **P 12 19 36.3 +0.8**
KSAR Wonju Array Be 48.44 38 P **P 12 19 36.1 +0.6**
KSAR Wonju Array Be 48.44 38 P **P 12 19 36.1 +0.6**
KS01 Wonju Array Si 48.47 38 *e*P **P 12 19 35.9 +0.2**
KSRS Korea Array 48.47 38 P **P 12 19 36.1 +0.4**
comp=Z,22nm,0.9s,baz=227,slow=8.8,SNR=44
OPO Ambohidratompo 48.83 244 P **P 12 19 39.4 +0.4**
comp=Z,4.6nm,0.8s,baz=66,slow=10,SNR=5.7
DAMY Dhamar 49.43 288 *e*P P 12 19 53.1 +9.3
comp=Z,58nm,1.3s
HVS Khovu-Aksy 49.67 1 *i*P **P 12 19 45.6 +0.8**
HVS pmax pmax
comp=Z,95nm,1.2s
ZAK Zakamensk 49.74 9 *e*P **P 12 19 44.8 -0.6**
ZAK *e* 12 21 04.3
ZAK pmax pmax
comp=Z,9.0nm,1.2s
ZAK pmax pmax
comp=Z,6.0nm,1.0s
OTUK Ortayu 49.95 342 P **P 12 19 46.1 -0.8**
OTUK pmax pmax
comp=Z,29nm,0.8s
ATD Arta Tunnel 50.42 284 P **P 12 19 51.5 +0.4**
comp=Z,17nm,0.8s,baz=117,slow=10,SNR=3.8
KURBB Kurchatov Arra 50.59 348 P **P 12 19 51.0 -0.6**
comp=Z,11nm,0.8s,baz=172,slow=7.3,SNR=33
KURBB PcP **PcP 12 21 09.3 +0.1**
comp=Z,3.5nm,0.8s,baz=166,slow=3.2,SNR=5.1
KURK Kurchatov 50.66 349 *e*P **P 12 19 51.5 -0.6**
comp=Z,17nm,0.8s
KURK PcP **PcP 12 21 09.3 -0.2**
KURK Kurchatov 50.66 349*ce*P **P 12 19 51.3 -0.9**
KURK pmax pmax
comp=Z,94nm,1.2s
MOY Mondy 50.69 7 *e*P **P 12 19 52.4 -0.1**
RAYN Ar Rayn 50.71 300 *e*P **P 12 19 52.6 -0.5**
comp=Z,25nm,0.9s
QIS Mount Isa 50.85 118 P **P 12 19 54.5 +0.3**
baz=51,SNR=5.1
TLY Talaya 51.06 9 *e*P **P 12 19 56.6 +1.4**
TLY pmax pmax
comp=Z,8.0nm,0.8s
ZAA0 Zalesovo Array 52.87 354 *e*P **P 12 20 08.1 -0.6**
comp=Z,19nm,0.7s
ZALV Zalesovo Beam 52.87 354 P **P 12 20 08.0 -0.7**
comp=Z,11nm,0.4s,baz=185,slow=7.3,SNR=38
ZALV Zalesovo Beam 52.87 354 *e*P **P 12 20 07.8 -0.8**
HIA Hailar 53.14 22 *e*P **P 12 20 10.8 0.0**
comp=Z,22nm,0.8s
HIA Hailar 53.14 22 *i*P **P 12 20 11.1 +0.3**
HIA pmax pmax
comp=Z,30nm,0.9s
MSHR Mys Shultsa 53.64 35*ce*P **P 12 20 15.1 +0.5**
NVS Novosibirsk 53.92 353 *e*P **P 12 20 15.1 -1.3**
NVS pmax pmax
comp=N,11nm,0.9s
NVS pmax pmax
comp=Z,22nm,0.9s
BVA0 Borovoye Array 54.77 344 *i*P **P 12 20 20.9 -1.7**
BVA0 pmax pmax
comp=Z,11nm,1.0s
BVAR Borovoye Array 54.77 344 P **P 12 20 21.0 -1.6**
comp=Z,7.9nm,0.9s,baz=149,slow=6.9,SNR=27
MAT Matsushiro 54.77 45 P **P 12 20 22.2 -0.7**
MJAR Matsushiro Arr 54.77 45 P **P 12 20 23.4 +0.4**
comp=Z,10.0nm,0.9s,baz=231,slow=8.4,SNR=20
MJAR PcP **PcP 12 21 25.4 0.0**
comp=Z,6.7nm,0.9s,baz=250,slow=4.2,SNR=5.7
BRVK Borovoye 54.83 344 *e*P **P 12 20 21.8 -1.2**
comp=Z,9.4nm,0.9s
BRVK Borovoye 54.83 344*ce*P **P 12 20 21.3 -1.7**
BRVK pmax pmax
comp=Z,31nm,1.2s
USRK Ussuriysk Ar. 55.14 34 P **P 12 20 26.1 +0.6**
comp=Z,20nm,0.9s,baz=236,slow=6.5,SNR=23
AB07 Akbulak array 55.35 335 *e*P **P 12 20 25.7 -1.2**
AB06 Akbulak array 55.36 335 *e*P **P 12 20 25.8 -1.2**
AB08 Akbulak array 55.37 335 *e*P **P 12 20 25.8 -1.2**
AB03 Akbulak array 55.37 335 *e*P **P 12 20 25.8 -1.2**
AB01 Akbulak array 55.37 335 *e*P **P 12 20 25.8 -1.2**
AB31 Akbulak array 55.37 335 *e*P **P 12 20 25.9 -1.1**
AB31 Akbulak array 55.37 335 *e*P **P 12 20 25.9 -1.1**
ABKAR Akbulak array 55.37 335 *e*P **P 12 20 25.9 -1.1**
comp=Z,170nm,1.1s
AB02 Akbulak array 55.37 335 *e*P **P 12 20 25.8 -1.2**
AB04 Akbulak array 55.38 335 *e*P **P 12 20 25.9 -1.2**
AB05 Akbulak array 55.38 335 *e*P **P 12 20 25.9 -1.2**
AB09 Akbulak array 55.39 335 *e*P **P 12 20 25.9 -1.2**

KMBO Kilima Mbogo 55.43 268 P **P 12 20 28.0 -0.3**
comp=Z,4.1nm,0.9s,baz=56,slow=10,SNR=7.8
KMBO Kilima Mbogo 55.43 268 *e*P **P 12 20 31.0 +2.7**
comp=Z,11nm,1.0s
KMBO Kilima Mbogo 55.43 268 *e*P **P 12 20 31.0 +2.7**
KMBO pmax pmax
comp=Z,11nm,1.0s
HTT Hallett 55.57 133 P **P 12 20 29.6 +0.8**
baz=56,SNR=3.5
CTA Charters Tower 56.66 115 P **P 12 20 37.1 +0.4**
comp=Z,15nm,0.9s,baz=287,slow=10,SNR=5.9
CTAO Charters Tower 56.66 115 *e*P **P 12 20 37.2 +0.4**
comp=Z,19nm,1.0s
CTAO Charters Tower 56.66 115 *e*P **P 12 20 37.2 +0.4**
CTAO pmax pmax
comp=Z,19nm,1.0s
STKA Stephens Creek 56.87 130 P **P 12 20 37.5 -0.5**
comp=Z,9.8nm,0.9s,baz=305,slow=6.7,SNR=13
STKA Stephens Creek 56.87 130 P **P 12 20 38.8 +0.7**
baz=57,SNR=9.1
STKA Stephens Creek 56.87 130 *e*P **P 12 20 38.8 +0.7**
comp=Z,1.4nm,0.8s
AKTO Aktyubinsk 57.08 334 P **P 12 20 38.1 -1.1**
comp=Z,6.4nm,0.8s,baz=121,slow=8.9,SNR=13
GNI Garni 58.11 318 *e*P **P 12 20 46.6 -0.3**
comp=Z,256nm,1.0s
GNI Garni 58.11 318*ce*P **P 12 20 47.1 +0.2**
GNI pmax pmax
comp=Z,50nm,0.8s
KLR Kul'dur 58.30 29 P **P 12 20 47.9 +0.1**
comp=Z,3.7nm,1.0s,baz=257,slow=6.0,SNR=56
KLR Kul'dur 58.30 29 ‖ *i*P **P 12 20 48.1 +0.3**
BOD Bodaibo 58.86 13 *e*P **P 12 20 50.7 -0.8**
BOD pmax pmax
comp=Z,29nm,1.2s
TBLG Delisi 58.89 320 *e*P **P 12 20 52.9 +0.8**
comp=Z,55nm,0.9s
TBLG Delisi 58.89 320 *e*P **P 12 20 52.9 +0.8**
TBLG pmax pmax
comp=Z,55nm,0.9s
GROC Groznyy 58.97 322 *e*P **P 12 20 52.9 +0.3**
GROC *e* 12 21 40.8
GROC *e* 12 23 03.7
GROC pmax pmax
comp=Z,75nm,1.1s
ARPS Mount Arapiles 59.26 135 P **P 12 20 55.7 +1.0**
baz=60,SNR=5.9
ZEA Zeya 59.55 23 *e*P **P 12 20 56.2 -0.2**
ZEA pmax pmax
comp=Z,32nm,1.0s
AKH Akhalkalaki 59.55 319 *e*P **P 12 21 00.4 +3.5**
comp=Z,18nm,0.9s
AKH Akhalkalaki 59.55 319 *e*P **P 12 21 00.4 +3.5**
AKH pmax pmax
comp=Z,18nm,0.9s
CMSA Cobar Meteorol 59.91 128 P **P 12 20 59.6 +0.3**
baz=60,SNR=14
ZEI Tsey 59.96 320 *e*P **P 12 20 59.3 -0.4**
ZEI pmax pmax
comp=Z,14nm,0.7s
NCK Nalchik 60.50 321 *i*P **P 12 21 03.7 +0.5**
NCK pmax pmax
comp=Z,18nm,0.8s
RMQ Roma 60.70 121 P **P 12 21 05.2 +0.4**
baz=61,SNR=7.1
ASF Jabal al Asfar 60.71 307 P **P 12 21 05.1 +0.2**
comp=Z,2.4nm,0.6s,baz=68,slow=11,SNR=4.9
NEY Neytrino 60.94 320 *i*P **P 12 21 06.7 +0.3**
NEY pmax pmax
comp=Z,4.0nm,0.8s
SVE Sverdlovsk 61.00 341 *e*P **P 12 21 05.4 -0.8**
KBZ Khabaz 61.06 321 P **P 12 21 07.3 +0.4**
comp=Z,16nm,0.9s,baz=123,slow=5.8,SNR=35
KIV Kislovodsk 61.30 321 *e*P **P 12 21 08.6 -0.1**
comp=Z,24nm,0.8s
KIV Kislovodsk 61.30 321 *e*P **P 12 21 08.1 -0.6**
KIV pmax pmax
comp=Z,26nm,1.0s
ARU Arti 61.40 339 *c i*P **P 12 21 07.2 -1.8**
ARU S **S 12 29 27.4 -2.4**
ARU SS SS 12 33 20.9 -10
ARU pmax pmax
comp=Z,23nm,1.7s
ASAJ Asahikawa 61.40 39 P **P 12 21 09.7 +0.5**
comp=Z,10.0nm,0.9s,baz=93,slow=12,SNR=5.0
EIL Elat 61.56 303 P P 12 21 16.4 +5.7
comp=Z,11nm,0.8s,baz=156,slow=1.8,SNR=9.3
MBAR Mbarara 61.92 269 *e*P **P 12 21 17.3 +3.8**
comp=Z,15nm,1.0s
MBAR Mbarara 61.92 269 *e*P **P 12 21 17.3 +3.8**
MBAR pmax pmax
comp=Z,15nm,1.0s
YSS Yuzh-Sakhalins 62.91 36 *e*P **P 12 21 18.5 -0.8**
YSS *e* 12 21 37.8
YSS pmax pmax
comp=Z,10.0nm,0.8s
BR131 Keskin Array S 65.70 314 *e*P **P 12 21 37.0 -0.9**
BRTR Keskin Array B 65.70 314 P **P 12 21 37.1 -0.8**
comp=Z,10nm,0.7s,baz=133,slow=6.8,SNR=48
LSZ Lusaka 65.77 253 *e*P **P 12 21 38.8 0.0**
comp=Z,9.4nm,0.9s
LSZ Lusaka 65.77 253 *e*P **P 12 21 38.8 0.0**
LSZ pmax pmax
comp=Z,9.0nm,0.9s
ILGA Ilgaz 66.10 315 *e*P **P 12 21 40.4 -0.2**
comp=Z,58nm,1.2s
ANTO Ankara 66.36 313 *e*P **P 12 21 41.8 -0.4**
comp=Z,28nm,0.8s
ANTO Ankara 66.36 313 *e*P **P 12 21 41.8 -0.4**
ANTO pmax pmax
comp=Z,28nm,0.8s
BR231 Keskin MP Arra 66.37 313 *e*P P 12 21 37.6 -4.6
YAK Yakutsk 66.67 18 *e*P **P 12 21 42.6 -1.0**
comp=Z,97nm,0.9s
YAK Yakutsk 66.67 18 *e*P **P 12 21 42.1 -1.4**
YAK pmax pmax
comp=Z,80nm,0.9s
YAK pmax pmax
comp=N,18nm,1.1s
YAK pmax pmax
comp=E,21nm,1.1s
MANT Manisa 69.09 311 *e*P **P 12 22 00.0 +0.5**
comp=E,56nm,1.0s
KARP Karpathos 69.42 308 *e*P **P 12 22 01.5 +0.1**
comp=E,55nm,0.9s
MOS Moscow 69.95 330 *e*P **P 12 22 01.3 -2.9**
MOS *e* 12 22 11.9
MOS pmax pmax
comp=Z,65nm,0.7s
OBN Obninsk 70.18 330 ‖ *e*P **P 12 22 04.3 -1.3**
OBN *e* 12 22 12.6
OBN *e* 12 22 26.4
OBN *e*PPP PPP 12 26 20.0
OBN pmax pmax
comp=Z,39nm,1.7s
BOSA Boshof 70.89 239 P **P 12 22 10.0 -0.7**
comp=Z,11nm,0.9s,baz=62,slow=5.7,SNR=9.8
BOSA Boshof 70.89 239 *e*P **P 12 22 11.4 +0.8**
comp=Z,20nm,0.7s
BOSA Boshof 70.89 239 P **P 12 22 10.0 -0.7**
BOSA pmax pmax
comp=Z,11nm,0.9s
TIRR Tirgusor 70.91 317 ‖ *i*P **P 12 22 09.4 -0.9**
TIRR Tirgusor 70.91 317 *e*P **P 12 22 09.0 -1.3**
comp=Z,7.2nm,0.9s
TIRR Tirgusor 70.91 317 *e*P **P 12 22 09.0 -1.3**
TIRR pmax pmax
comp=Z,7.0nm,0.9s
IDI Anoyia 71.17 307 P **P 12 22 12.2 0.0**
comp=Z,24nm,0.7s,baz=96,slow=7.2,SNR=15
TLB Topalu 71.20 317 ‖ *i*P **P 12 22 11.4 -0.7**
KLMR Klimovskoe 71.74 336 *e*P **P 12 22 12.9 -2.1**
KLMR AMP 12 22 26.1
comp=Z,23nm,1.2s
KLMR Klimovskoe 71.74 336 *e*P **P 12 22 12.8 -2.2**
KLMR pmax pmax
comp=Z,23nm,1.2s
MAW Mawson 71.83 192 P **P 12 22 15.9 +0.6**
comp=Z,7.4nm,0.8s,baz=359,slow=6.0,SNR=8.9
MAW Mawson 71.83 192 *e*P **P 12 22 16.1 +0.7**
comp=Z,2.7nm,0.8s
SORM Soroca 72.10 321 ‖ *i*P **P 12 22 16.4 -1.0**
AKASG Malin Array Be 72.43 323 P **P 12 22 17.9 -1.4**
comp=Z,3.8nm,0.7s,baz=93,slow=4.4,SNR=9.5
AKBB Malin Array Si 72.43 323 *e*P **P 12 22 18.3 -0.3**
comp=Z,4.3nm,0.6s

AKBB Malin Array Si 72.43 323 *e*P **P 12 22 18.3 -1.0**
AKBB pmax pmax
comp=Z,4.0nm,0.6s
KIEV Kiev 72.43 323 *i*P **P 12 22 17.7 -1.7**
KIEV pmax pmax
comp=Z,4.0nm,0.7s
PLOR Plostina 72.51 318 ⇑ *i*P **P 12 22 20.3 +0.3**
MLR Muntele Rosu 72.89 317 P **P 12 22 22.3 -0.1**
comp=Z,2.3nm,0.8s,baz=127,slow=3.8,SNR=16
MLR Muntele Rosu 72.89 317 ⇑ *i*P **P 12 22 22.3 -0.1**
MLR Muntele Rosu 72.89 317 *e*P **P 12 22 22.6 +0.3**
comp=Z,18nm,0.9s
MA2 Magadan 73.27 27 P **P 12 22 23.8 -0.4**
comp=Z,15nm,0.9s,baz=211,slow=6.3,SNR=12
TIXI Tiksi 73.94 11 *e*P **P 12 22 25.5 -2.3**
comp=Z,33nm,0.7s
TIXI Tiksi 73.94 11 *ce*P **P 12 22 26.2 -1.6**
TIXI pmax pmax
comp=Z,37nm,0.8s
BURAR Bucovina Array 73.96 319 ⇑ *i*P **P 12 22 28.7 +0.1**
BUR04 Bucovina Ar. S 73.96 319 *e*P **P 12 22 28.4 -0.2**
BUR08 Bucovina Ar. S 73.98 319 *e*P **P 12 22 28.9 +0.1**
VTS Vitosha 74.06 314 ⇑ *i*P **P 12 22 28.2 -1.2**
VTS Vitosha 74.06 314 *e*P **P 12 22 28.7 -0.7**
comp=Z,7.4nm,0.9s
VTS Vitosha 74.06 314 *e*P **P 12 22 28.7 -0.7**
VTS pmax pmax
comp=Z,7.0nm,0.9s
TMCR Tamitsa 74.10 338 *e*P **P 12 22 27.8 -1.1**
PET Petropavlovsk 74.73 35 ‖ *e*P **P 12 22 31.8 -1.0**
PET pmax pmax
comp=Z,18nm,1.0s
SEY Seymchan 75.50 24 P **P 12 22 36.5 -0.6**
comp=Z,10nm,0.9s,baz=243,slow=4.8,SNR=32
SEY Seymchan 75.50 24 *ce*P **P 12 22 35.5 -1.6**
TSUM Tsumeb 76.32 250 *e*P **P 12 22 44.8 +2.0**
comp=Z,9.3nm,0.9s
VSU Vasula 76.48 330 *ce*P **P 12 22 41.8 -0.9**
VSU pmax pmax
comp=Z,162nm,2.5s
STHS Stebnicka Huta 76.97 321 *e*P **P 12 22 46.3 +0.5**
STHS Stebnicka Huta 76.97 321 *e*P **P 12 22 46.3 +0.5**
STHS pmax pmax
comp=Z,11nm,1.0s
FIA1 FINESS Array S 77.83 333 *e*P **P 12 22 49.2 -1.0**
FINES FINESS Array B 77.83 333 P **P 12 22 49.4 -0.8**
comp=Z,12nm,0.8s,baz=104,slow=8.0,SNR=25
VYHS Vyhne 78.33 319 *e*P **P 12 22 53.2 -0.1**
VYHS Vyhne 78.33 319 *e*P **P 12 22 53.3 -0.1**
SYO Syowa Base 78.72 197 ‖ *e*P **P 12 22 54.0 -1.0**
MODS Modra-Piesok 79.32 319 *e*P **P 12 22 59.3 +0.5**
MODS Modra-Piesok 79.32 319 *e*P **P 12 22 59.3 +0.5**
DPC Dobruska-Polom 80.28 321 *e*P **P 12 23 04.9 +0.9**
DPC *e*PCP **PcP 12 23 13.6 +2.4**
DPC Dobruska-Polom 80.28 321 *e*P **P 12 23 04.9 +0.9**
DPC *e* 12 23 13.6
ARSA Arzberg 80.31 318 *i*P **P 12 23 04.3 +0.1**
comp=Z,7.4nm,0.7s
SOKA Soboth 80.55 317 *i*P **P 12 23 05.6 0.0**
comp=Z,15nm,1.1s
OBKA Obir 80.86 317 *i*P **P 12 23 07.9 +0.6**
comp=Z,12nm,1.0s
ARCES ARCESS Array B 80.93 341 P **P 12 23 06.3 -0.8**
comp=Z,9.3nm,0.9s,baz=111,slow=5.3,SNR=12
GEA0 GERESS Array S 81.74 319 *e*P **P 12 23 11.4 -0.5**
GEC2 GERESS Array S 81.74 319 *e*P **P 12 23 11.9 0.0**
comp=Z,12nm,0.8s
GEC2 GERESS Array S 81.74 319 *e*P **P 12 23 11.9 0.0**
GEC2 pmax pmax
comp=Z,12nm,0.8s
GERES GERESS Array B 81.74 319 P **P 12 23 11.8 0.0**
comp=Z,11nm,0.9s,baz=100,slow=5.5,SNR=39
KHC Kasperske Hory 81.86 319 *e*P **P 12 23 12.5 0.0**
KHC *ex* x 12 23 22.4
KHC Kasperske Hory 81.86 319 *e*P **P 12 23 12.5 0.0**
KHC *e* 12 23 22.4
BRG Berggiesshubel 81.86 321 *i*P **P 12 23 12.2 -0.1**
comp=Z,5.2nm,0.7s
BRG *i* 12 23 21.4
comp=Z,4.3nm,0.8s
BRG Berggiesshubel 81.86 321 *i*P **P 12 23 12.2 -0.1**
BRG *i* 12 23 21.4
BRG pmax pmax
comp=Z,5.0nm,0.7s
BRG pmax pmax
comp=Z,4.0nm,0.8s
BILL Bilibino 82.72 21 *d i*P **P 12 23 16.5 0.0**
BILL *e*S S 12 33 20.5 -14
BILL pmax pmax
comp=Z,4.0nm,1.0s
BILL MLR MLR
comp=Z,75μm,21.0s
MOTA Moosalm 83.30 317 *i*P **P 12 23 19.2 -1.0**
comp=Z,14nm,1.0s
HFS Hagfors 83.37 330 P **P 12 23 19.0 -1.0**
comp=Z,2.4nm,0.5s,baz=107,slow=5.1,SNR=8.3
KEST Kesra 83.79 306 P **P 12 23 23.9 +1.0**
comp=Z,15nm,0.9s,baz=314,slow=5.5,SNR=7.9
KEST Kesra 83.79 306 *e*P **P 12 23 24.2 +1.3**
comp=Z,32nm,1.0s
DAVA Damuels 84.13 317 *i*P **P 12 23 24.7 +0.3**
comp=Z,19nm,0.8s
NB2 NORSAR Subarra 84.71 331 P **P 12 23 25.2 -1.7**
comp=Z,5.2nm,1.0s,baz=95,slow=5.3
NOA NORSAR Array B 84.71 331 P **P 12 23 25.9 -1.0**
comp=Z,3.2nm,0.9s,baz=95,slow=5.7,SNR=6.3
SPITS Spitsbergen Ar 85.93 348 P **P 12 23 31.7 -1.0**
comp=Z,6.9nm,0.7s,baz=5.2,slow=0.9,SNR=5.5
VNDA Vanda 86.83 168 P **P 12 23 36.9 -0.2**
comp=Z,1.8nm,0.9s,baz=288,slow=4.2,SNR=5.0
TAM Tamanrasset 86.83 293 *e*P **P 12 23 39.0 +0.6**
comp=Z,3μm,3.8s
TAM Tamanrasset 86.83 293 *e*P **P 12 23 39.0 +0.6**
TAM pmax pmax
comp=Z,3μm,3.8s
NVL N'lazarevskaya 88.18 199 *e*P **P 12 23 43.5 -0.1**
NVL pmax pmax
comp=Z,23nm,0.9s
TORD Torodi Ar. Bea 90.62 283 P **P 12 23 56.1 -0.2**
comp=Z,79nm,0.8s,baz=77,slow=5.2,SNR=3.9
QSPA South Pole Qui 91.24 180 P **P 12 23 58.7 +0.4**
comp=Z,9.8nm,1.0s,baz=306,slow=4.7,SNR=5.0
EKA Eskdalemuir Ar 92.25 325 P **P 12 24 02.0 -1.0**
comp=Z,1.5nm,0.7s,baz=56,slow=7.9,SNR=5.2
DAG Danmarks Havn 93.54 348 *i*P **P 12 24 06.9 -1.6**
comp=Z,8.7nm,0.8s
DAG Danmarks Havn 93.54 348 *i*P **P 12 24 06.9 -1.6**
DAG pmax pmax
comp=Z,9.0nm,0.8s
ES19 SONSECA Array 94.21 310 *e*P **P 12 24 12.9 +0.5**
ESDC Sonseca Array 94.26 310 P **P 12 24 12.9 +0.2**
comp=Z,0.8nm,0.6s,baz=46,slow=2.6,SNR=4.0
KOWA Kowa 96.11 285 P **P 12 24 22.1 +0.5**
comp=Z,2.5nm,0.7s,baz=140,slow=2.4,SNR=5.4
DBIC Dimbokro 97.28 277 P **P 12 24 27.6 +0.7**
comp=Z,1.9nm,0.6s,baz=6.7,slow=4.3,SNR=2.6
TOLK Toolik Lake Re 98.62 19 P **P 12 24 31.6 -0.3**
baz=297
ILAR Eielson Array 101.37 22 P **Pdif 12 24 42.3 -1.8**
comp=Z,0.4nm,0.8s,baz=310,slow=4.2,SNR=3.7
ILAR PP **PP 12 28 50.4 -2.8**
comp=Z,0.7nm,0.9s,baz=288,slow=5.3,SNR=4.1
INK Inuvik 103.69 16 PKKP **PKKPbc 12 40 51.1 +2.3**
comp=Z,1.6nm,1.1s,baz=202,slow=1.2,SNR=4.2
YKA Yellowknife Ar 113.13 13 PKiKP **PKiKP 12 29 28.2 -2.0**
comp=Z,0.4nm,0.8s,baz=322,slow=2.2,SNR=5.4
YKA PP PP 12 30 10.1 -9.0
comp=Z,0.8nm,0.9s,baz=330,slow=7.2,SNR=5.8
YKA PKKPbc **PKKPbc 12 40 15.1 -3.6**
comp=Z,0.1nm,0.5s,baz=148,slow=3.2,SNR=4.4
B05A Bryant 122.16 27 P **PKPdf 12 29 47.7 -0.4**
baz=318
FFC Flin Flon 122.88 10 *e*PKPdf **PKPdf 12 29 48.4 -0.9**
FFC Flin Flon 122.88 10 *e*PKiKP **PKPdf 12 29 48.4 -0.9**
NEW Newport 124.28 24 P **PKPdf 12 29 52.0 -0.2**
baz=323
HAWA Hanford 124.72 27 *e*PKPdf **PKPdf 12 29 53.1 0.0**
I03D Drain, OR 124.84 31 P **PKPdf 12 29 53.0 -0.4**
baz=314
I04A Tendick Farm, 125.26 31 P **PKPdf 12 29 53.6 -0.6**
baz=316
I05D Terrebonne, OR 125.40 29 P **PKPdf 12 29 53.9 -0.7**
baz=317
J04D Umpqua Nationa 125.81 31 P **PKPdf 12 29 54.9 -0.6**
baz=316
HUMO Hull Mountain 125.81 32 *e*PKPdf **PKPdf 12 29 55.5 +0.2**

PINE	Pine Mountain	126.00	30	*e*PKPdf	PKPdf	12 29 55.7	-0.2	
F10A	Beach Ranch, E	126.06	25	*e*PKPdf	PKPdf	12 29 55.6	-0.2	
J05D	Fort Rock, OR	126.22	30	P	PKPdf	12 29 56.1	-0.1	
	baz=316							
MSO	Missoula	126.70	23	P	PKPdf	12 29 55.7	-1.3	
	baz=326,SNR=6.6							
MSO	Missoula	126.70	23	*e*PKPdf	PKPdf	12 29 56.1	-0.9	
M02C	Callahan	126.71	33	P	PKPdf	12 29 56.5	-0.6	
	baz=314							
M04C	Macdoel	126.98	32	P	PKPdf	12 29 57.3	-0.4	
	baz=315							
N02D	Trinity Center	127.08	33	P	PKPdf	12 29 58.2	+0.3	
	baz=314							
J08A	Circle Bar Ran	127.52	28	*e*PKPdf	PKPdf	12 29 59.2	+0.6	
MOD	Modoc Plateau	127.69	31	*e*PKPdf	PKPdf	12 29 59.3	+0.2	
O03D	Paynes Creek	128.04	33	P	PKPdf	12 29 58.9	-0.8	
	baz=314							
WVOR	Wild Horse Val	128.14	29	*e*PKPdf	PKPdf	12 30 00.6	+0.7	
WVOR	Wild Horse Val	128.14	29	*e*PKIKP	PKPdf	12 30 00.6	+0.7	
ULM	Lac du Bonnet	128.14	7	PKP	PKPdf	12 29 58.1	-1.4	
	comp=Z,3.9nm,0.9s,baz=10,slow=3.7,SNR=9.0							
BOZ	Bozeman (W)	128.60	22	P	PKPdf	12 30 00.3	-0.4	
	baz=328							
BOZ	Bozeman (W)	128.60	22	*e*PKPdf	PKPdf	12 30 00.9	+0.2	
BOZ	Bozeman (W)	128.60	22	*e*PKIKP	PKPdf	12 30 00.9	+0.2	
MFID	Camas Ranch	128.69	26	*e*PKPdf	PKPdf	12 30 02.0	+1.1	
HLID	Hailey	129.19	25	P	PKPdf	12 30 01.4	-0.5	
	baz=324							
LAO	LASA Array	129.42	17	P	PKPdf	12 30 02.8	+0.6	
	baz=335							
LAO	LASA Array	129.42	17	*e*PKPdf	PKPdf	12 30 03.6	+1.5	
A33A	Warroad	129.49	7	P	PKPdf	12 30 01.1	-0.9	
	baz=350							
RLMT	Red Lodge	129.86	20	P	PKPdf	12 30 03.2	0.0	
	baz=331							
B32A	Ashes, Strandq	129.87	8	P	PKPdf	12 30 01.9	-1.0	
	baz=348							
B34A	Aery, Baudette	130.02	6	P	PKPdf	12 30 03.0	-0.1	
	baz=350							
B35A	Bob, Littlefor	130.24	6	P	PKPdf	12 30 03.1	-0.5	
	baz=352							
C31A	Landman Farms,	130.28	9	P	PKPdf	12 30 03.8	+0.1	
	baz=346							
SNOW	Snow King Moun	130.75	22	*e*PKPdf	PKPdf	12 30 06.5	+1.5	
EYMN	Ely	130.83	4	P	PKPdf	12 30 03.8	-0.8	
	baz=355							
C38A	Sawbill Land.	131.07	3	P	PKPdf	12 30 04.7	-0.4	
	baz=355							
NV01	Mina Array Sit	131.27	32	*e*PKPdf	PKPdf	12 30 06.6	+0.5	
NVAR	Mina Array Bea	131.27	32	PKP	PKPdf	12 30 06.1	0.0	
	comp=Z,2.0nm,1.0s,baz=258,slow=1.9,SNR=7.8							
BW06	Boulder Array	131.80	22	P	PKPdf	12 30 06.3	-0.7	
	baz=330							
PDAR	Pinedale Array	131.80	22	PKP	PKPdf	12 30 06.7	-0.3	
	comp=Z,2.3nm,0.9s,baz=11,slow=1.5,SNR=11							
PDAR	Pinedale Array	131.80	22	*e*PKPdf	PKPdf	12 30 05.8	-1.1	
E38A	The Farm, Brul	132.16	4	P	PKPdf	12 30 06.8	-0.5	
	baz=354							
E44A	Grand Marais A	132.27	359	P	PKPdf	12 30 07.1	-0.4	
	baz=1.9							
RSSD	Black Hills	132.39	16	P	PKPdf	12 30 07.7	-0.3	
	baz=337							
DUG	Dugway, Tooele	132.62	27	P	PKPdf	12 30 08.4	-0.1	
	baz=324							
DUG	Dugway, Tooele	132.62	27	*e*PKPdf	PKPdf	12 30 09.1	+0.6	
DUG	Dugway, Tooele	132.62	27	*e*PKIKP	PKPdf	12 30 09.1	+0.6	
VES	Vestal, Richgr	132.68	36	P	PKPdf	12 30 08.2	-0.3	
	baz=314							
F36A	Milaca	132.73	6	P	PKPdf	12 30 07.8	-0.5	
	baz=352							
R11A	Troy Canyon, C	132.75	30	P	PKPdf	12 30 08.4	-0.4	
	baz=320							
F38A	Pierce - Schro	132.78	4	P	PKPdf	12 30 08.4	0.0	
	baz=354							
CWC	Cottonwood Cre	132.83	34	P	PKPdf	12 30 08.3	-0.7	
	baz=316							
F39A	Loretta	132.89	3	P	PKPdf	12 30 08.5	-0.1	
	baz=355							
F40A	Park Falls	132.92	3	P	PKPdf	12 30 08.3	-0.4	
	baz=356							
K22A	Casper	132.97	19	P	PKPdf	12 30 08.4	-0.7	
	baz=334							
NLU	North Lily Min	133.14	26	*e*PKPdf	PKPdf	12 30 10.7	+1.1	
MPMC	Manual Prospec	133.44	34	P	PKPdf	12 30 09.7	-0.5	
	baz=316							
G39A	Holcombe	133.50	4	P	PKPdf	12 30 09.7	-0.1	
	baz=355							
H32A	Carlson Farm,	133.53	10	P	PKPdf	12 30 09.5	-0.4	
	baz=346							
G42A	Mountain	133.66	1	P	PKPdf	12 30 09.8	-0.3	
	baz=358							
H35A	Sunnyside Ranc	133.73	7	P	PKPdf	12 30 10.3	+0.1	
	baz=350							
BLG	Laguna Peak, P	133.89	37	P	PKPdf	12 30 10.7	-0.1	
	baz=313							
H36A	Jessenland, He	133.96	7	P	PKPdf	12 30 10.7	+0.1	
	baz=351							
EDW2	Edwards Air Fo	133.99	36	P	PKPdf	12 30 10.6	-0.5	
	baz=315							
TMUT	Trail Mountain	134.06	26	*e*PKPdf	PKPdf	12 30 12.5	+1.1	
I33A	Coleman	134.08	9	P	PKPdf	12 30 10.6	-0.3	
	baz=347							
HRV	Adam Dziewonsk	134.12	344	P	PKPdf	12 30 10.7	-0.3	
	baz=22							
H40A	Chili	134.21	3	P	PKPdf	12 30 11.0	-0.1	
	baz=356							
MSU	Marysvale	134.27	27	*e*PKPdf	PKPdf	12 30 14.0	+2.3	
MSU	Marysvale	134.27	27	*e*PKIKP	PKPdf	12 30 14.0	+2.3	
H42A	Shiocton	134.38	1	P	PKPdf	12 30 11.3	-0.1	
	baz=358							
Q16A	Castle Valley	134.39	26	*e*PKPdf	PKPdf	12 30 13.5	+1.5	
ECSD	EROS Data Cent	134.41	9	P	PKPdf	12 30 11.4	-0.2	
	baz=347							
ECSD	EROS Data Cent	134.41	9	*e*PKPdf	PKPdf	12 30 11.0	-0.6	
O20A	White River Ci	134.57	23	P	PKPdf	12 30 12.1	-0.1	
	baz=330							
O20A	White River Ci	134.57	23	*e*PKPdf	PKPdf	12 30 12.2	-0.1	
I37A	Lemond, Waseca	134.57	6	P	PKPdf	12 30 12.0	+0.2	
	baz=352							
N23A	Red Feather La	134.73	20	P	PKPdf	12 30 12.2	-0.4	
	baz=334							
I39A	Houston	134.90	4	P	PKPdf	12 30 12.3	-0.2	
	baz=354							
J37A	Redenius Farm,	135.25	6	P	PKPdf	12 30 13.2	+0.1	
	baz=351							
J38A	Wedel Dairy, R	135.35	5	P	PKPdf	12 30 13.2	-0.1	
	baz=353							
GMRC	Granite Mounta	135.39	34	P	PKPdf	12 30 13.7	-0.1	
	baz=318							
J41A	Loganville	135.48	3	P	PKPdf	12 30 13.6	+0.1	
	baz=356							
J42A	Columbus	135.56	2	P	PKPdf	12 30 13.5	-0.2	
	baz=358							
ISCO	Idaho Springs	135.82	20	P	PKPdf	12 30 14.8	+0.1	
	baz=333							
PAL	Palisades	136.15	345	P	PKPdf	12 30 14.9	+0.1	
	baz=20							
L42A	Oliver, Polo	136.85	3	P	PKPdf	12 30 16.6	+0.4	
	baz=357							
WUAZ	Wupatki	137.06	29	P	PKPdf	12 30 17.2	+0.3	
	baz=324							
GLA	Glamis	137.13	35	P	PKPdf	12 30 17.2	+0.2	
	baz=318							
S22A	4UR Ranch, Cre	137.19	23	P	PKPdf	12 30 17.6	+0.3	
	baz=331							
M39A	Webster	137.20	5	P	PKPdf	12 30 17.5	+0.7	
	baz=353							
SDCO	Great Sand Dun	137.69	21	P	PKPdf	12 30 18.1	-0.1	
	baz=333							
O34A	Beatrice	137.85	11	P	PKPdf	12 30 18.7	+0.6	
	baz=346							
T25A	Trinidad	138.62	21	P	PKPdf	12 30 20.2	+0.4	
	baz=334							
P37A	Lathrop	138.81	8	P	PKPdf	12 30 19.8	-0.1	
	baz=349							
P38A	Dawn	138.89	7	P	PKPdf	12 30 20.2	+0.3	
	baz=351							
P45A	Graceland, Par	139.37	0	P	PKPdf	12 30 21.5	+0.7	
	baz=359							
ANMO	Albuquerque	139.76	25	P	PKPdf	12 30 22.9	+0.9	
	baz=330							
ANMO	Albuquerque	139.76	25	*c i*PKIKP	PKPdf	12 30 25.9	+3.9	
ANMO				pmax	pmax			
	comp=Z,5.0nm,1.2s							
TUC	Tucson	139.90	31	P	PKPdf	12 30 23.4	+1.2	
	baz=322							
R39A	Chumby, Stover	140.24	7	P	PKPdf	12 30 23.8	+1.3	
	baz=351							
R43A	Red Bud	140.55	3	P	PKPdf	12 30 24.2	+1.1	
	baz=356							
R47A	Wooly Knot Far	140.60	359	P	PKPdf	12 30 24.4	+1.3	
	baz=1.3							
R44A	Waltonville	140.62	2	P	PKPdf	12 30 24.3	+1.1	
	baz=357							
CCM	Cathedral Cave	140.68	5	P	PKPdf	12 30 24.3	+1.0	
	baz=354							
S41A	Jillco Farms,	141.10	6	P	PKPdf	12 30 25.4	+1.3	
	baz=353							
CPUP	Villa Florida	141.87	227	PKhKP	PKPpre	12 30 21.0		
	comp=Z,1.5nm,0.6s,baz=30,slow=5.0,SNR=3.1							
MSTX	Muleshoe	142.05	21	*e*PKPdf	PKPpre	12 30 20.1		
U47A	Clarksville	142.46	360	P	PKPdf	12 30 28.4	+1.9	
	baz=0.1							
WMOK	Wichita Mounta	142.59	16	*e*PKPpre	PKPpre	12 30 21.3		
WMOK	Wichita Mounta	142.59	16	*e*PKIKP	PKPpre	12 30 21.3		
V39A	Pettigrew	142.60	8	P	PKPdf	12 30 28.6	+1.7	
	baz=350							
MNTX	Cornudas Mount	143.00	26	*e*PKPdf	PKPdf	12 30 26.7	-1.0	
TKL	Tuckaleechee C	143.09	355	PKhKP	PKPpre	12 30 23.3		
	comp=Z,3.4nm,0.7s,baz=350,slow=6.1,SNR=3.4							
W47A	Westpoint	143.64	0	P	PKPab	12 30 27.0	+1.8	
	baz=360							
X39A	Fountain Ranch	143.82	9	P	PKPab	12 30 26.3	+0.4	
	baz=349,SNR=16							
MIAR	Mount Ida	143.88	9	P	PKPab	12 30 26.3	+0.3	
	baz=350,SNR=11							
MIAR	Mount Ida	143.88	9	*e*PKPdf	PKPab	12 30 26.5	+0.4	
MIAR	Mount Ida	143.88	9	*e*PKIKP	PKPab	12 30 26.5	+0.4	
ABTX	Abilene, Hawle	144.32	18	P	PKPab	12 30 27.5	-0.3	
	baz=339							
ABTX	Abilene, Hawle	144.32	18	*e*PKPdf	PKPab	12 30 27.3	-0.6	
OXF	Oxford	144.33	3	P	PKPab	12 30 27.5	-0.2	
	baz=356							
OXF	Oxford	144.33	3	*e*PKPdf	PKPab	12 30 27.0	-0.8	
OXF	Oxford	144.33	3	*e*PKIKP	PKPab	12 30 27.0	-0.8	
X49A	Woodville	144.37	359	P	PKPab	12 30 27.4	-0.5	
	baz=1.8							
X47A	Russelville	144.37	1	P	PKPab	12 30 27.1	-0.8	
	baz=359							
Y40A	Okolona	144.44	8	P	PKPab	12 30 27.6	-0.5	
	baz=350,SNR=5.9							
Y41A	Eaglette Beard	144.66	8	P	PKPab	12 30 28.4	-0.6	
	baz=351							
WLAR	White Oak Lake	144.79	8	*e*PKPdf	PKPab	12 30 30.0	+0.6	
Y42A	Garnett, Star	144.81	6	P	PKPab	12 30 28.8	-0.8	
	baz=352							
Y43A	Makayla and Ka	144.82	5	P	PKPab	12 30 28.8	-0.8	
	baz=354							
Y45A	Yeager Farm, C	144.97	3	P	PKPab	12 30 27.8	-2.3	
	baz=356							
Y50A	Piedmont	144.97	358	P	PKPab	12 30 27.8	-2.3	
	baz=2.8							
Y48A	Jasper	144.98	360	P	PKPab	12 30 28.1	-2.0	
	baz=0.3							
Y46A	Houston	144.98	2	P	PKPab	12 30 28.5	-1.6	
	baz=357,SNR=8.9							
Y47A	UCPARC, Winfie	144.99	1	P	PKPab	12 30 28.5	-1.7	
	baz=359,SNR=6.0							
Y49A	Blount Mountai	145.02	359	P	PKPab	12 30 28.9	-1.5	
	baz=1.7							
Z41A	Richland Creek	145.25	8	P	PKPbc	12 30 30.1	-1.0	
	baz=350							
GOGA	Godfrey	145.28	354	P	PKPbc	12 30 30.2	-0.9	
	baz=6.8,SNR=5.2							
GOGA	Godfrey	145.28	354	*e*PKPdf	PKPbc	12 30 30.5	-0.7	
GOGA	Godfrey	145.28	354	*e*PKIKP	PKPbc	12 30 30.5	-0.7	
Z42A	Norrel Spur, H	145.35	7	P	PKPbc	12 30 30.8	-0.6	
	baz=352,SNR=6.8							
Z44A	Pea Ridge, Bel	145.49	5	P	PKPbc	12 30 31.1	-0.7	
	baz=355							
Z48A	Northport	145.51	0	P	PKPbc	12 30 29.9	-2.0	
	baz=360,SNR=9.5							
WHTX	Lake Whitney,	145.54	15	P	PKPdf	12 30 31.2	-0.9	
	baz=342							
WHTX	Lake Whitney,	145.54	15	*e*PKPdf	PKPdf	12 30 31.8	-0.3	
Z50A	Ashland	145.61	358	P	PKPdf	12 30 30.4	-1.7	
	baz=2.5,SNR=6.5							
Z47A	Carrollton	145.69	1	P	PKPdf	12 30 30.9	-1.3	
	baz=359,SNR=7.9							
Z49A	Columbiana	145.69	359	P	PKPdf	12 30 31.1	-1.1	
	baz=1.5,SNR=14							
TX31	Lajitas Ar. Si	145.79	26	*e*PKPdf	PKPdf	12 30 32.0	-0.7	
TX31				*e*PKPdf	PKPbc	12 30 32.3	-0.7	
TXAR	Lajitas Array	145.79	26	PKPbc	PKPdf	12 30 32.3	-0.3	
	comp=Z,21nm,1.0s,baz=304,slow=1.7,SNR=61							
LRAL	Lakeview Retre	145.85	359	P	PKPdf	12 30 31.6	-0.9	
	baz=0.7,SNR=6.0							
LRAL	Lakeview Retre	145.85	359	*e*PKPdf	PKPdf	12 30 31.8	-0.7	
155A	Kite	145.95	353	P	PKPdf	12 30 32.5	-0.2	
	baz=8.7							
154A	Montrose	146.03	354	P	PKPdf	12 30 32.6	-0.3	
	baz=7.6,SNR=5.4							
147A	Livingston	146.20	1	P	PKPdf	12 30 33.1	0.0	
	baz=358,SNR=6.0							
JCT	Junction City	146.25	20	P	PKPdf	12 30 33.4	0.0	
	baz=337							
JCT	Junction City	146.25	20	*e*PKPdf	PKPdf	12 30 32.9	-0.5	
JCT	Junction City	146.25	20	*e*PKP2	PKPdf	12 30 32.9	-0.5	
150A	Eclectic	146.26	358	P	PKPdf	12 30 33.0	-0.2	
	baz=2.4,SNR=9.4							
149A	Jones	146.29	359	P	PKPdf	12 30 33.2	-0.1	
	baz=1.0,SNR=6.7							
240A	Hunter Patters	146.30	10	P	PKPdf	12 30 33.9	+0.6	
	baz=348							
151A	Opelika	146.31	357	P	PKPdf	12 30 33.5	+0.2	
	baz=3.7,SNR=13							
NATX	Nacogdoches	146.41	11	P	PKPdf	12 30 34.8	+1.3	
	baz=347							
NATX	Nacogdoches	146.41	11	*e*PKPdf	PKPdf	12 30 35.0	+1.5	
241A	Mo Tay, Goldon	146.45	9	P	PKPdf	12 30 35.2	+1.7	
	baz=350							
VBMS	Vicksburg	146.54	5	P	PKPdf	12 30 34.9	+1.2	
	baz=354							
244A	Avery, Jackson	146.70	5	P	PKPdf	12 30 34.9	+1.0	
	baz=354							
254A	Abbeville	146.72	354	P	PKPdf	12 30 35.0	+1.0	
	baz=7.4							
251A	Midway	146.74	357	P	PKPdf	12 30 34.8	+0.8	
	baz=3.5,SNR=16							
245A	Little AP, Sta	146.77	4	P	PKPdf	12 30 35.3	+1.2	
	baz=355							
252A	Lumpkin	146.80	356	P	PKPdf	12 30 35.3	+1.2	
	baz=4.8,SNR=5.8							
HPIG		146.85	31	*e*PKPdf	PKPdf	12 30 36.5	+1.8	
250A	Grady	146.89	358	P	PKPdf	12 30 35.8	+1.5	
	baz=2.0							
249A	Camden	146.91	360	P	PKPdf	12 30 35.8	+1.5	
	baz=0.5							
355A	Pearson	147.26	353	P	PKPdf	12 30 36.5	+1.6	
	baz=8.3							
353A	Camilla	147.40	355	P	PKPdf	12 30 36.8	+1.6	
	baz=5.8							
347A	Saraland	147.46	2	P	PKPdf	12 30 37.2	+2.0	
	baz=358							
345A	Thompson Farm,	147.48	4	P	PKPdf	12 30 37.3	+2.0	
	baz=355							
349A	Repton	147.53	360	P	PKPdf	12 30 37.9	+2.5	
	baz=0.3							
351A	Pinckard	147.57	357	P	PKPdf	12 30 37.9	+2.5	
	baz=3.3							
HKT	Hockley	147.90	14	*e*PKPbc	PKPbc	12 30 39.2	+0.3	
HKT	Hockley	147.90	14	*e*PKP2	PKPbc	12 30 39.2	+0.3	
454A	Quitman	147.97	354	P	PKPbc	12 30 39.4	+0.3	
	baz=7.0							
449A	Pace	148.12	360	P	PKPbc	12 30 39.9	+0.4	
	baz=0.3							
451A	Vernon	148.23	357	P	PKPbc	12 30 40.2	+0.4	
	baz=3.1							
833A	Chaparral WMA,	148.37	20	P	PKPbc	12 30 40.8	+0.5	
	baz=337							
557A	Orange Park	148.40	351	P	PKPbc	12 30 40.8	+0.6	
	baz=11							
555A	McAlpin	148.48	353	P	PKPbc	12 30 41.0	+0.5	
	baz=8.4							
556A	Lake Butler	148.52	352	P	PKPbc	12 30 40.7	+0.1	
	baz=9.5							
546A	Slidell	148.57	4	P	PKPbc	12 30 41.0	+0.3	
	baz=356							
959A	Okeechobee	150.68	348	P	PKPbc	12 30 45.3	-0.7	
	baz=13							
PTGA	Pitinga	152.59	271	*e*PKPbc	PKPbc	12 30 50.3	-0.5	
LPAZ	La Paz	155.89	231	PKP	PKPdf	12 30 48.8	-0.3	
	comp=Z,1.7nm,0.8s,baz=92,slow=4.7,SNR=4.0							
LPAZ				PKPab	PKPab	12 31 17.5	+1.6	
	comp=Z,4.6nm,0.9s,baz=96,slow=6.9,SNR=5.9							
SDV	Santo Domingo	160.50	302	PKPab	PKPab	12 31 34.8	-0.5	
	comp=Z,7.0nm,0.8s,baz=84,slow=4.1,SNR=7.9							

IDC 11 12:17:50.6±11.0, 1°.81N×93°.95E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.4/70, mbtmp3.7/4, Error ellipse: s-maj=516.4km s-min=28.6km az=55.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	45.12	121	P	P	12 26 09.1	-0.2
	0.9nm,0.5s,baz=298,slow=8.4,SNR=5.5						
MKAR	Makanchi Array	45.95	349	P	P	12 26 14.8	-0.6
	0.7nm,0.7s,baz=175,slow=9.1,SNR=3.1						
KURBB	Kurchatov Arra	50.37	347	P	P	12 26 49.4	-0.1
	0.5nm,0.7s,baz=169,slow=7.0,SNR=3.0						
ZALV	Zalesovo Beam	52.51	353	P	P	12 27 05.8	+0.3
	0.7nm,0.3s,baz=185,slow=7.0,SNR=4.2						

IDC 11 12:20:48.7±7.2, 1°.16N×92°.46E, h0km, mb3.7/5, mb1 3.8/6, mb1mx3.4/72, mbtmp3.7/6, ML4.0/1, Error ellipse: s-maj=136.5km s-min=60.1km az=5.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	18.33	20	P	Pn	12 25 04.5	-0.1
	0.2nm,0.3s,baz=209,slow=15,SNR=3.5						
MKAR	Makanchi Array	46.32	350	P	P	12 29 16.1	-0.2
	0.8nm,0.6s,baz=176,slow=8.9,SNR=5.5						
SONM	Songino Array	48.04	13	P	P	12 29 29.9	0.0
	0.7nm,0.6s,baz=197,slow=7.8,SNR=3.7						
KSRS	Korea Array	48.69	38	P	P	12 29 34.5	-0.4
	0.8nm,0.6s,baz=216,slow=8.6,SNR=3.7						
KURBB	Kurchatov Arra	50.69	349	P	P	12 29 49.9	0.0
	0.5nm,0.6s,baz=169,slow=7.8,SNR=3.3						
ZALV	Zalesovo Beam	52.99	354	P	P	12 30 07.0	-0.1
	0.4nm,0.3s,baz=169,slow=8.3,SNR=3.8						

BJI ***11*** *12:21:56.0, 3°.10N×92°.80E, h5km, mb4.8/40, mB4.9/4, Ms5.3/2, Ms7 5.1/2*
IDC ***11*** *12:21:56.8±0.7, 3°.16N×92°.75E, h0km, mb4.5/26, mb1 4.6/28, mb1mx4.4/72, mbtmp4.5/28, ML4.1/2, Error ellipse: s-maj=22.8km s-min=14.1km az=35.0*
ISCJB ***11*** *12:21:56.3±0.2, 3°.11N±0°.04×92°.76E±0°.03, h10km, mb4.8/84, Error ellipse: s-maj=6.1km s-min=3.3km az=28.0*
NEIC ***11*** *12:21:59.1±2.4, 3°.16N×92°.80E, h16km±14km, mb5.1/28, Error ellipse: s-maj=7.6km s-min=4.0km az=220.0*
MOS ***11*** *12:21:59.5±1.0, 3°.16N×92°.75E, h33km, mb5.0/20, Error ellipse: s-maj=10.5km s-min=5.7km az=105.3*
DJA ***11*** *12:22:16.6±1.5, 3°N±6°×9°4E±1°3, h64km±34km, M5.3/8, mb5.2/5, MLv5.4/8*

ISC 11 12:21:58.1±0.4, 3°.13N±0°.06×92°.76E±0°.05, h10km, n224, σ1s50/229, mb4.9/88, 16C-1D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSI	Banda Aceh	3.45	47	P	Pn	12 22 51.2	-0.8
BSI				S	Sn	12 23 26.8	-6.2
MLSI	Meulaboh, Aceh	3.81	73	P	Pn	12 22 56.4	-0.5
LHMI	Lhok Sumawe	4.67	63	P	Pn	12 23 09.1	+0.4
LHMI	Lhok Sumawe	4.67	63	*e*Pn	Pn	12 23 09.3	+0.6
KCSI	Kotacane, Aceh	5.02	85	P	Pn	12 23 13.9	+0.3
GSI	Gunungsitoli	5.14	111	*e*Pn	Pn	12 23 14.3	-1.0
TSI	Tuntungan	5.81	86	P	Pn	12 23 24.3	-0.1
PBSI	Pulau Batu	6.36	120	P	Pn	12 23 34.6	+2.5
PBSI				S	Sn	12 24 35.7	-9.1
SISI	Saibi	7.72	125	P	Pn	12 23 51.9	+1.1
KULM	Kulim	8.16	75	*e*Pn	Pn	12 23 56.2	-0.5
IPM	Ipoh	8.36	81	*e*Pn	Pn	12 23 58.9	-0.6
PBA	Port Blair	8.47	360	*e*P	Pn	12 24 01.2	+0.2
PBA				IAmb	IAmb	12 24 02.9	
PDSI	Padang	8.69	117	P	Pn	12 24 04.2	+0.2
DGPR	DIGLIPUR	9.98	1	*e*P	Pn	12 24 22.4	+0.6
DGPR				IAmb	IAmb	12 24 24.2	
	comp=Z,139nm,0.3s						
MYKOM	Kota Tinggi	11.16	97	*e*Pn	Pn	12 24 37.2	-0.7
MASI	Maura Aman, Be	11.34	123	P	Pn	12 24 41.0	+0.6
PALK	Pallekele	12.69	289	Pn	Pn	12 24 58.3	-0.6
	comp=Z,6.5nm,0.3s,baz=116,slow=15,SNR=8.7						
PALK				Sn	Sn	12 27 08.4	-12
	comp=Z,22nm,0.3s,baz=116,slow=5.5,SNR=15						
PALK	Pallekele	12.69	289	*e*Pn	Pn	12 24 58.3	-0.6
PALK				*e*Sn	Sn	12 27 07.9	-12
PALK	Pallekele	12.69	289	*i* P	Pn	12 24 58.8	-0.1
MDSI	Maura Dua	13.69	124	P	Pn	12 25 12.9	+0.4
MDRS	Chennai	15.83	309	*e*P	Pn	12 25 39.0	-2.3
MDRS				IAmb	IAmb	12 25 47.4	
	comp=Z,53nm,1.0s						
CM01	Chiang Mai Arr	16.36	21	*e*Pn	Pn	12 25 49.0	+0.9
CM31	Chiang Mai Arr	16.39	21	*e*Pn	Pn	12 25 47.9	-0.6
CMAR	Chiang Mai Arr	16.39	21	Pn	Pn	12 25 47.2	-1.3
	comp=Z,0.1nm,0.3s,baz=218,slow=14,SNR=10						
SKHT	Srikalahasti	16.65	310	*e*P	P

DANN Dangsing 26.50 342 *e*P **P** **12 27 37.4 +1.1**
PYUN Piuthan 26.52 340 *e*P **P** **12 27 37.2 +0.9**
comp=Z,104nm,1.0s
GYA Guiyang 26.75 29 P **P** **12 27 40.0 +1.7**
GYA PP **PnPn** **12 28 25.4 +5.8**
GYA PcP **PcP** **12 31 03.0 +1.3**
GYA S **S** **12 32 15.5 +1.1**
GYA SS **SnSn** **12 33 27.2 +9.0**
GYA ScP **ScP** **12 34 42.8 +0.7**
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,120nm,5.6s
CD2 Chengdu 29.52 19 P **P** **12 28 04.0 +1.1**
CD2 S **S** **12 33 00.5 +2.8**
CD2 pmax pmax
comp=Z,30nm,0.5s
DDI Dehra Dun 30.41 334 *e*P **P** **12 28 12.5 +1.6**
SMLA Simla 31.49 334 *e*P **P** **12 28 20.9 +0.6**
SMLA IAmb IAmb 12 28 22.1
comp=Z,28nm,0.6s
DHRM DHARAMSHALA 32.83 334 *e*P **P** **12 28 32.8 +0.5**
DHRM IAmb IAmb 12 28 38.9
comp=Z,17nm,0.6s
XAN Xi'an 34.24 24 P **P** **12 28 43.2 -1.2**
XAN pP sP 12 28 49.2 +0.5
XAN sP pP 12 28 52.2 +4.7
XAN pmax pmax
comp=Z,9.0nm,0.9s
LZH Lanzhou 34.35 16 *e*P **P** **12 28 45.7 +0.2**
LZH pP pP 12 28 48.6 +0.1
LZH sP sP 12 28 50.5 +0.7
LZH PP **PP** **12 30 02.3 -1.1**
LZH pmax pmax
comp=Z,24nm,1.2s
LZH pmax pmax
comp=Z,100nm,5.0s
LZH LR LR
comp=Z,1μm,14.0s
LZH LR LR
comp=Z,1μm,14.2s
LZH LR LR
comp=Z,2μm,17.8s
NIL Nilore 35.41 331 *e*P **P** **12 28 54.6 +0.1**
comp=Z,33nm,0.4s
NIL Nilore 35.41 331 *e*P **P** **12 28 54.6 +0.1**
NIL pmax pmax
comp=Z,33nm,0.4s
MBWA Marble Bar 35.79 134 *e*P **P** **12 28 58.3 +0.4**
comp=Z,4.8nm,0.4s
GTA Gaotai 36.67 9 *e*P **P** **12 29 05.8 +0.5**
GTA pP sP 12 29 10.1 +0.4
GTA sP pP 12 29 13.4 +5.0
GTA pmax pmax
comp=Z,22nm,0.9s
NJ2 Nanjing 37.80 38 *e*P **P** **12 29 15.8 +1.0**
NJ2 pmax pmax
comp=Z,13nm,0.6s
KSH Kashi 39.30 339 P **P** **12 29 25.9 -1.6**
KSH pmax pmax
comp=Z,8.0nm,0.5s
WMQ Urumqi 40.76 354 P **P** **12 29 41.2 +1.7**
WMQ pmax pmax
comp=Z,63nm,0.9s
HHC Hu-ho-hao-te 41.20 22 *e*P **P** **12 29 44.0 +0.8**
HHC S S 12 36 06.4 +9.5
HHC pmax pmax
comp=Z,33nm,1.0s
HHC pmax pmax
comp=Z,80nm,6.4s
HHC LR LR
comp=Z,3μm,14.7s
HHC LR LR
comp=Z,3μm,15.6s
HHC LR LR
comp=Z,5μm,16.2s
BJI Beijing 42.42 27 P **P** **12 29 54.5 +1.5**
BJI pmax pmax
comp=Z,19nm,0.9s
AAK Ala-Archa 42.58 340 P **P** **12 29 54.0 -0.5**
comp=Z,2.5nm,0.7s,baz=166,slow=10,SNR=5.2
AAK Ala-Archa 42.58 340 *e*P **P** **12 29 55.1 +0.5**
AAK Ala-Archa 42.58 340 *e*P **P** **12 29 52.9 -1.6**
AAK pmax pmax
comp=Z,6.0nm,1.2s
MK01 Makanchi Array 44.41 350 *e*P **P** **12 30 09.2 +0.1**
MK31 Makanchi Array 44.43 350 *e*P **P** **12 30 09.5 +0.2**
MK31 Makanchi Array 44.43 350 *e*P **P** **12 30 09.5 +0.2**
MKAR Makanchi Array 44.43 350 P **P** **12 30 09.5 +0.3**
comp=Z,16nm,0.7s,baz=168,slow=8.7,SNR=83
MKAR Makanchi Array 44.43 350 *e*P **P** **12 30 09.2 -0.1**
comp=Z,92nm,0.7s
MKAR Makanchi Array 44.43 350 *e*P **P** **12 30 09.2 -0.1**
MKAR pmax pmax
comp=Z,92nm,0.7s
KK07 Karatay Array 44.44 337 *e*P **P** **12 30 09.7 +0.3**
KK02 Karatay Array 44.45 337 *e*P **P** **12 30 09.7 +0.3**
KK31 Karatay Array 44.45 337 *e*P **P** **12 30 09.3 -0.1**
KK31 Karatay Array 44.45 337 *e*P **P** **12 30 09.3 -0.1**
KKAR Karatay Array 44.45 337 *e*P **P** **12 30 09.6 +0.1**
KKAR Karatay Array 44.45 337 *e*P **P** **12 30 09.6 +0.1**
KK01 Karatay Array 44.45 337 *e*P **P** **12 30 09.8 +0.3**
KK03 Karatay Array 44.45 337 *e*P **P** **12 30 09.1 -0.4**
KK04 Karatay Array 44.46 337 *e*P **P** **12 30 09.7 +0.2**
KK08 Karatay Array 44.46 337 *e*P **P** **12 30 09.2 -0.4**
MAKZ Makanchi 44.50 349 *e*P **P** **12 30 08.6 -1.2**
comp=Z,8.6nm,0.8s
MAKZ Makanchi 44.50 349 *e*P **P** **12 30 08.6 -1.2**
MAKZ pmax pmax
comp=Z,9.0nm,0.8s
SONM Songino Array 46.06 13 P **P** **12 30 22.9 +0.6**
comp=Z,6.2nm,0.8s,baz=194,slow=8.7,SNR=23
SONA1 Songino Array 46.07 13 *e*P **P** **12 30 22.6 +0.2**
ULN Ulaanbaatar 46.24 13 *e*P **P** **12 30 24.0 +0.3**
comp=Z,3.9nm,0.9s
ULN Ulaanbaatar 46.24 13 *ce*P **P** **12 30 23.2 -0.5**
ULN pmax pmax
comp=Z,10.0nm,2.5s
DGZ Jazzator, Alta 46.62 355 *e*P **P** **12 30 27.7 +1.0**
DGZ pmax pmax
comp=Z,4.0nm,0.9s
WRA Warramunga Arr 46.82 121 P **P** **12 30 28.2 -0.4**
comp=Z,5.8nm,0.8s,baz=300,slow=8.8,SNR=11
WRAB Tennant Creek 46.83 121 *e*P **P** **12 30 27.3 -1.3**
comp=Z,26nm,1.2s
WRAB Tennant Creek 46.83 121 *e*P **P** **12 30 27.3 -1.3**
WRAB pmax pmax
comp=Z,26nm,1.2s
GYB1 ALIBECK ARRAY 46.92 322 *e*P **P** **12 30 30.1 +0.9**
comp=Z,24nm,0.7s
GYA1 ALIBECK ARRAY 46.93 322 *e*P **P** **12 30 29.8 +0.6**
comp=Z,25nm,0.7s
KSAR Wonju Array Be 46.93 39 P **P** **12 30 30.0 +0.9**
KSAR Wonju Array Be 46.93 39 P **P** **12 30 30.0 +0.9**
GYB2 ALIBECK ARRAY 46.93 322 *e*P **P** **12 30 30.3 +1.1**
comp=Z,26nm,0.8s
GEYT Alibeck 46.93 322 P **P** **12 30 30.2 +1.0**
comp=Z,22nm,0.7s,baz=148,slow=8.7,SNR=40
GYA0 ALIBECK ARRAY 46.93 322 *e*P **P** **12 30 30.1 +0.9**
comp=Z,27nm,0.7s
GYA0B ALIBECK ARRAY 46.93 322 *e*P **P** **12 30 30.1 +0.9**
comp=Z,28nm,0.7s
GYB5 ALIBECK ARRAY 46.93 322 *e*P **P** **12 30 30.3 +1.0**
comp=Z,23nm,0.7s
GYA2 ALIBECK ARRAY 46.93 322 *e*P **P** **12 30 30.4 +1.1**
comp=Z,23nm,0.7s
GYB3 ALIBECK ARRAY 46.94 322 *e*P **P** **12 30 30.5 +1.2**
comp=Z,24nm,0.8s
GYB4 ALIBECK ARRAY 46.95 322 *e*P **P** **12 30 30.0 +0.6**
KSRS Korea Array 46.96 39 P **P** **12 30 30.0 +0.6**
comp=Z,1.9nm,1.0s,baz=216,slow=10,SNR=5.5
HVS Khovu-Aksy 47.84 1 *e*P **P** **12 30 36.6 +0.5**
HVS pmax pmax
comp=Z,29nm,0.9s
ZAK Zakamensk 47.91 9 *e*P **P** **12 30 36.3 -0.4**
ZAK pmax pmax
comp=Z,5.0nm,1.0s
ASAR Alice Springs 48.11 126 P **P** **12 30 40.2 +1.7**
comp=Z,2.8nm,0.9s,baz=300,slow=7.3,SNR=12
AS01 Alice Springs 48.14 126 *e*P **P** **12 30 39.0 +0.2**
KURBB Kurchatov Arra 48.82 348 P **P** **12 30 44.1 +0.5**
comp=Z,11nm,0.7s,baz=171,slow=7.2,SNR=69
KURK Kurchatov 48.89 348 *e*P **P** **12 30 43.9 -0.2**
comp=Z,11nm,0.8s
KURK Kurchatov 48.89 348 *ce*P **P** **12 30 44.6 +0.5**
KURK pmax pmax
comp=Z,50nm,1.0s
TLY Talaya 49.23 9 *e*P **P** **12 30 48.5 +1.8**
TLY pmax pmax
comp=Z,5.0nm,0.6s
RAYN Ar Rayn 49.94 298 *e*P **P** **12 30 52.6 -0.1**
comp=Z,10nm,0.9s
ZAA0 Zalesovo Array 51.07 354 *e*P **P** **12 31 01.0 +0.4**
comp=Z,12nm,0.8s
ZALV Zalesovo Beam 51.07 354 P **P** **12 31 00.9 +0.3**
comp=Z,12nm,0.7s,baz=187,slow=8.1,SNR=40
HIA Hailar 51.40 22 *e*P **P** **12 31 03.6 +0.4**
HIA pmax pmax
comp=Z,6.0nm,0.8s
NVS Novosibirsk 52.13 353⇑ *i*P **P** **12 31 08.7 +0.2**
NVS pmax pmax
comp=Z,20nm,1.1s
NVS pmax pmax
comp=N,15nm,1.4s
NVS pmax pmax
comp=E,8.0nm,1.4s
KRAR Krasnoyarsk 52.72 0 *e*P **P** **12 31 13.4 +0.5**
BVAR Borovoye Array 53.05 343 P **P** **12 31 15.2 -0.2**
comp=E,4.2nm,0.8s,baz=153,slow=9.7,SNR=18
BRVK Borovoye 53.12 343 *e*P **P** **12 31 15.5 -0.4**
comp=E,7.2nm,1.0s
BRVK Borovoye 53.12 343 *ce*P **P** **12 31 14.5 -1.4**
BRVK pmax pmax
comp=Z,18nm,1.2s
AB06 Akbulak array 53.77 334 *e*P **P** **12 31 20.4 -0.4**
AB08 Akbulak array 53.78 334 *e*P **P** **12 31 20.4 -0.4**
AB03 Akbulak array 53.78 334 *e*P **P** **12 31 20.4 -0.4**
AB01 Akbulak array 53.78 334 *e*P **P** **12 31 20.4 -0.4**
AB31 Akbulak array 53.78 334 *e*P **P** **12 31 20.5 -0.3**
AB31 Akbulak array 53.78 334 *e*P **P** **12 31 20.5 -0.3**
ABKAR Akbulak array 53.78 334 *e*P **P** **12 31 20.5 -0.3**
comp=Z,106nm,0.9s
AB02 Akbulak array 53.78 334 *e*P **P** **12 31 20.4 -0.4**
AB04 Akbulak array 53.79 334 *e*P **P** **12 31 20.5 -0.4**
AB05 Akbulak array 53.80 334 *e*P **P** **12 31 20.6 -0.4**
AB09 Akbulak array 53.80 334 *e*P **P** **12 31 20.6 -0.3**
AKTO Aktyubinsk 55.50 334 P **P** **12 31 32.3 -1.0**
comp=Z,2.3nm,0.5s,baz=119,slow=11,SNR=7.6
KLR Kul'dur 56.65 30 P **P** **12 31 42.1 +0.6**
comp=Z,0.3nm,0.9s,baz=260,slow=8.9,SNR=8.1
KLR Kul'dur 56.65 30 *e*P **P** **12 31 41.6 +0.1**
GNI Garni 56.85 317 *e*P **P** **12 31 44.2 +0.8**
comp=Z,94nm,1.2s
GNI Garni 56.85 317 *ce*P **P** **12 31 42.0 -1.4**
GNI pmax pmax
comp=Z,48nm,1.2s
BOD Bodaibo 57.05 13 *e*P **P** **12 31 42.1 -2.1**
BOD pmax pmax
comp=Z,15nm,1.1s
STKA Stephens Creek 57.95 131 P **P** **12 31 51.1 +0.1**
comp=Z,2.0nm,0.9s,baz=329,slow=17,SNR=3.1
ZEI Tsey 58.64 320 *e*P **P** **12 31 55.4 -0.6**
ZEI pmax pmax
comp=Z,5.0nm,0.8s
SVE Sverdlovsk 59.32 340 *e*P **P** **12 31 58.6 -1.5**
NEY Neytrino 59.62 320 *e*P **P** **12 32 02.7 0.0**
NEY pmax pmax
comp=Z,1.0nm,0.8s
KBZ Khabaz 59.73 320 P **P** **12 32 03.5 +0.4**
comp=Z,7.3nm,0.8s,baz=124,slow=6.4,SNR=19
ARU Arti 59.74 339 *c i*P **P** **12 32 02.2 -0.8**
ARU S **S** **12 40 13.7 -0.2**
ARU pmax pmax
comp=Z,11nm,1.2s
KIV Kislovodsk 59.97 320 *e*P **P** **12 32 04.8 -0.2**
KIV pmax pmax
comp=Z,15nm,1.1s
MMAI Mount Meron Ar 61.18 306 P **P** **12 32 15.2 +1.7**
comp=Z,1.1nm,0.2s,baz=101,slow=7.5,SNR=3.6
YSS Yuzh-Sakhalins 61.36 27 *e*P **P** 12 32 21.6 +7.3
BR131 Keskin Array S 64.54 313 *e*P **P** **12 32 35.2 -0.6**
BRTR Keskin Array B 64.54 313 P **P** **12 32 35.6 -0.2**
comp=Z,3.9nm,0.8s,baz=131,slow=7.3,SNR=22
YAK Yakutsk 64.90 18 *e*P **P** **12 32 35.7 -1.7**
YAK pmax pmax
comp=Z,22nm,1.0s
YAK pmax pmax
comp=N,5.0nm,1.1s
YAK pmax pmax
comp=E,5.0nm,1.2s
BR231 Keskin MP Arra 65.21 313 *e*P **P** **12 32 36.3 -3.8**
OBN Obninsk 68.67 329 *e*P **P** **12 33 00.3 -1.4**
OBN *e* 12 33 24.6
OBN *e* 12 35 32.1
OBN *e*PPP PPP 12 37 12.8
OBN pmax pmax
comp=Z,100nm,2.5s
OBN MLR MLR
comp=Z,26μm,18.0s
TIRR Tirgusor 69.67 316 *e*P **P** **12 33 07.8 -0.3**
comp=Z,7.9nm,0.9s
TIRR Tirgusor 69.67 316 *e*P **P** **12 33 07.8 -0.3**
TIRR pmax pmax
comp=Z,8.0nm,0.9s
IDI Anoyia 70.19 306 P **P** **12 33 12.5 +1.0**
comp=Z,11nm,0.6s,baz=84,slow=11,SNR=11
AKASG Malin Array Be 71.04 323 P **P** **12 33 15.4 -0.9**
comp=Z,1.6nm,0.6s,baz=89,slow=5.1,SNR=5.0
VRI Vrincioaia 71.20 318⇑ *i*P **P** **12 33 18.5 +1.0**
VRI Vrincioaia 71.20 318 P **P** **12 33 18.5 +1.0**
PLOR Plostina 71.25 318⇑ *i*P **P** **12 33 18.5 +0.8**
PLOR Plostina 71.25 318 P **P** **12 33 18.6 +0.8**
TESR Tescani 71.42 318⇑ *i*P **P** **12 33 18.5 -0.3**
MA2 Magadan 71.58 27 P **P** **12 33 19.6 +0.2**
comp=Z,2.9nm,0.6s,baz=167,slow=14,SNR=3.3
MLR Muntele Rosu 71.63 317 P **P** **12 33 21.2 +0.9**
comp=Z,3.5nm,0.8s,baz=191,slow=10,SNR=18
MLR Muntele Rosu 71.63 317⇑ *i*P **P** **12 33 21.0 +0.8**
MLR Muntele Rosu 71.63 317 *e*P **P** **12 33 20.4 +0.2**
comp=Z,18nm,0.8s
MLR Muntele Rosu 71.63 317 P **P** **12 33 21.0 +0.8**
TIXI Tiksi 72.12 11 *e*P **P** **12 33 21.6 -0.8**
comp=Z,17nm,0.8s
TIXI Tiksi 72.12 11 *ce*P **P** **12 33 21.0 -1.4**
TIXI pmax pmax
comp=Z,39nm,1.7s
BURAR Bucovina Array 72.66 319⇓ *i*P **P** **12 33 27.0 +0.7**
BURAR Bucovina Array 72.66 319 P **P** **12 33 27.0 +0.7**
BUR04 Bucovina Ar. S 72.66 319 *e*P **P** **12 33 26.4 +0.1**
BUR08 Bucovina Ar. S 72.68 319 *e*P **P** **12 33 27.2 +0.8**
VTS Vitosha 72.89 314⇑ *i*P **P** **12 33 27.0 -0.8**
VTS Vitosha 72.89 314 P **P** **12 33 27.0 -0.8**
SEY Seymchan 73.78 24 P **P** **12 33 31.6 -0.8**
comp=Z,2.9nm,0.9s,baz=231,slow=6.5,SNR=8.5
SEY Seymchan 73.78 24 *ce*P **P** **12 33 31.8 -0.7**
STHS Stebnicka Huta 75.65 320 *e*P **P** **12 33 44.4 +0.8**
STHS Stebnicka Huta 75.65 320 *e*P **P** **12 33 44.4 +0.8**
STHS pmax pmax
comp=Z,5.0nm,0.9s
FINES FINESS Array B 76.26 333 P **P** **12 33 46.2 -0.6**
comp=Z,4.5nm,0.9s,baz=129,slow=5.2,SNR=6.1
VYHS Vyhne 77.03 319 *e*P **P** **12 33 51.9 +0.4**
VYHS Vyhne 77.03 319 *e*P **P** **12 33 51.9 +0.4**
VYHS pmax pmax
comp=Z,5.0nm,1.0s
MODS Modra-Piesok 78.03 319 *e*P **P** **12 33 57.7 +0.6**
MODS Modra-Piesok 78.03 319 *e*P **P** **12 33 57.7 +0.6**
CONA Conrad Observa 78.91 318 *i*P **P** **12 34 02.3 +0.2**
comp=Z,5.8nm,1.2s
ARSA Arzberg 79.04 317 *i*P **P** **12 34 03.6 +0.8**
comp=Z,13nm,1.1s
SOKA Soboth 79.31 317 *i*P **P** **12 34 04.9 +0.7**
comp=Z,16nm,1.3s
GEA0 GERESS Array S 80.44 319 *e*P **P** **12 34 10.2 -0.2**
GEC2 GERESS Array S 80.44 319 *e*P **P** **12 34 05.8 -4.6**
comp=Z,16nm,0.9s
GEC2 GERESS Array S 80.44 319 *e*P **P** **12 34 05.8 -4.6**
GEC2 pmax pmax
comp=Z,16nm,0.9s
GERES GERESS Array B 80.44 319 P **P** **12 34 11.1 +0.7**
comp=Z,7.8nm,0.8s,baz=96,slow=5.5,SNR=34
SYO Syowa Base 80.50 197⇑ *e*X **P** **12 34 07.4 -2.6**
SYO Syowa Base 80.50 197⇑ *e*X **P** **12 34 14.6 +4.6**
BILL Bilibino 80.97 21⇑ *e*P **P** **12 34 12.6 -0.1**
BILL *e* 12 37 22.5
BILL *e*S **PnS** **12 45 03.8 -4.0**
BILL pmax pmax
comp=Z,3.0nm,1.5s
HFS Hagfors 81.85 330 P **P** **12 34 17.0 -0.4**
comp=Z,4.0nm,0.8s,baz=121,slow=14,SNR=4.0
MOTA Moosalm 82.05 317 *i*P **P** **12 34 18.8 -0.2**
comp=Z,12nm,1.1s
FETA Feichten 82.28 317 *i*P **P** **12 34 20.6 +0.4**
comp=Z,13nm,1.5s
RETA Reutte 82.29 317 *i*P **P** **12 34 20.4 +0.2**
comp=Z,16nm,1.3s
KEST Kesra 82.83 305 P **P** **12 34 22.6 -0.7**
comp=Z,7.4nm,1.0s,baz=314,slow=5.5,SNR=3.8
DAVA Damuels 82.87 317 *i*P **P** **12 34 22.2 -1.1**
comp=Z,13nm,0.8s
NOA NORSAR Array B 83.17 331 P **P** **12 34 23.4 -1.1**
comp=Z,2.0nm,0.8s,baz=95,slow=5.8,SNR=3.7
EKA Eskdalemuir Ar 90.82 325 P **P** **12 35 01.6 -0.1**
comp=Z,1.7nm,0.8s,baz=109,slow=5.6,SNR=5.4
MCK McKinley 99.33 23 *e*P **Pdif** **12 35 37.8 -2.6**
comp=Z,1.0nm,0.8s
MCK McKinley 99.33 23 *e*P **Pdif** **12 35 37.8 -2.6**
MCK pmax pmax
comp=Z,1.0nm,0.8s
MFID Camas Ranch 126.99 26 *e*Pdif **Pdif** **12 37 35.2 -8.9**
PDAR Pinedale Array 130.05 21 PKP **PKPdf** **12 41 08.3 -0.7**
comp=Z,0.4nm,0.7s,baz=157,slow=4.8,SNR=3.8
TXAR Lajitas Array 144.08 25 PKP **PKPab** **12 41 32.6 +0.1**
comp=Z,0.7nm,0.7s,baz=200,slow=0.2,SNR=6.6
HPIG 145.21 30 *e*PKPbc **PKPdf** **12 41 37.4 +0.1**

*ISCJB **11** 12:23:12.3±1.0, 5.2°S±0.1°×153.6°E±0.1°, h10km, mb3.9/6, Error ellipse: s-maj=21.4km s-min=12.2km az=153.5*
*IDC **11** 12:23:13.7±4.5, 5.09°S×153.53°E, h102km±39km, mb3.8/7, mb1 3.9/8, mb1mx3.5/57, mbtmp4.2/8, Error ellipse: s-maj=27.7km s-min=23.7km az=4.0*
ISC 11 12:23:12.6±1.0, 5.0°S±0.2°×153.6°E±0.1°, h100km, n12, σ1§68/12, mb4.0/7, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.72**	**235**	P	**Pn**		**12 25 02.0**	**-0.3**
	3.4nm,0.3s,baz=42,slow=2.4,SNR=10.0							
PMG				S	**Sn**		**12 26 26.9**	**-1.2**
	16nm,0.3s,baz=138,slow=18,SNR=8.9							
DZM	**Mont Dzumac**	**21.05**	**145**	P	**P**		**12 27 48.8**	**0.0**
	7.3nm,0.9s,baz=109,slow=18,SNR=5.3							
SIJI	**Sorong**	**22.65**	**280**	P	**P**		**12 28 07.2**	**+1.5**
	8.6nm,0.7s,baz=110,slow=2.5,SNR=5.0							
WRA	**Warramunga Arr**	**23.89**	**230**	P	**P**		**12 28 17.5**	**+0.3**
	4.6nm,0.6s,baz=54,slow=10,SNR=42							
ASAR	**Alice Springs**	**26.52**	**224**	P	**P**		**12 28 41.4**	**+0.3**
	1.5nm,0.4s,baz=56,slow=9.1,SNR=38							
H11S3	**WAKE ISLAND Hy**	**26.70**	**29**	T	T		12 57 01.0	
	baz=206,slow=72,SNR=5.0							
H11S2	**WAKE ISLAND Hy**	**26.70**	**29**	T	T		12 57 01.1	
	baz=206,slow=72,SNR=5.2							
H11S1	**WAKE ISLAND Hy**	**26.71**	**29**	T	T		12 57 12.9	
	baz=206,slow=72,SNR=3.7							
STKA	**Stephens Creek**	**28.99**	**201**	P	**P**		**12 29 03.6**	**+0.7**
	2.0nm,0.8s,baz=21,slow=12,SNR=4.5							
FITZ	**Fitzroy Crossi**	**30.24**	**242**	P	**P**		**12 29 13.9**	**-0.2**
	3.6nm,0.7s,baz=73,slow=11,SNR=7.9							
ILAR	**Eielson Array**	**82.06**	**22**	P	**P**		**12 35 22.9**	**+1.3**
	0.3nm,0.5s,baz=245,slow=4.9,SNR=6.9							
ILAR				pP	**pP**		**12 35 43.3**	**-4.3**
	1.0nm,0.7s,baz=244,slow=6.5,SNR=9.1							
TORD	**Torodi Ar. Bea**	**151.10**	**288**	PKPbc	**PKPbc**		**12 42 55.4**	**+0.2**
	1.8nm,0.7s,baz=75,slow=1.9,SNR=11							
TORD				pPKPbc	**pPKPdf**		**12 43 17.7**	**+0.9**
	1.3nm,0.7s,baz=61,slow=3.4,SNR=4.4							

IDC 11 12:24:01.8±4.6, 0.22°S×90.38°E, h0km, mb3.9/5, mb1 4.0/5, mb1mx3.5/70, mbtmp3.9/5, Error ellipse: s-maj=163.3km s-min=28.3km az=56.0, South Indian Ocean

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**47.27**	**117**	P	P		12 32 37.0	-0.4
	0.9nm,0.7s,baz=299,slow=8.5,SNR=3.6							
MKAR	**Makanchi Array**	**47.35**	**352**	P	P		12 32 38.6	+1.1
	0.9nm,0.7s,baz=170,slow=8.5,SNR=2.1							
SONM	**Songino Array**	**49.85**	**14**	P	P		12 32 57.9	+1.0
	2.9nm,0.7s,baz=193,slow=9.7,SNR=5.5							
KURBB	**Kurchatov Arra**	**51.65**	**350**	P	P		12 33 08.5	-1.7
	0.4nm,0.3s,baz=170,slow=6.9,SNR=4.2							
ZALV	**Zalesovo Beam**	**54.18**	**356**	P	P		12 33 28.4	-0.5
	1.4nm,0.5s,baz=174,slow=7.8,SNR=3.6							

IDC 11 12:25:12.7±5.0, 1.28°N×93.44°E, h0km, mb3.7/5, mb1 3.9/5, mb1mx3.4/69, mbtmp3.7/5, Error ellipse: s-maj=246.8km s-min=21.8km az=57.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**45.30**	**120**	P	P		12 33 33.9	+1.2
	0.9nm,0.7s,baz=298,slow=8.6,SNR=3.6							
MKAR	**Makanchi Array**	**46.37**	**349**	P	P		12 33 41.0	+0.3
	0.6nm,0.5s,baz=166,slow=10.0,SNR=4.1							
ASAR	**Alice Springs**	**46.48**	**125**	P	P		12 33 41.2	-0.8
	0.4nm,0.7s,baz=301,slow=7.8,SNR=2.7							
KURBB	**Kurchatov Arra**	**50.77**	**348**	P	P		12 34 14.1	-0.4
	0.5nm,0.5s,baz=170,slow=6.3,SNR=2.9							
STKA	**Stephens Creek**	**56.23**	**130**	P	P		12 34 54.0	-1.0
	2.2nm,0.8s,baz=305,slow=12,SNR=3.2							

*ISCJB **11** 12:26:28.5±0.7, 1.3°N±0.1°×92.69°E±0.08°, h10km, mb4.1/16, Error ellipse: s-maj=16.3km s-min=9.7km az=22.8*
*IDC **11** 12:26:28.9±0.8, 1.29°N×92.63°E, h0km, mb4.0/13, mb1 4.1/14, mb1mx3.8/70, mbtmp3.9/14, ML3.9/1, Error ellipse: s-maj=29.0km s-min=18.2km az=54.0*
*NEIC **11** 12:26:30.0±0.6, 1.23°N×92.73°E, h10km, mb4.1/3, Error ellipse: s-maj=13.7km s-min=8.1km az=198.0*
ISC 11 12:26:30.0±0.8, 1.3°N±0.1°×92.7°E±0.1°, h10km, n22, σ1§04/22, mb4.1/16, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
GSI	**Gunungsitoli**	**4.87**	**89**	*e*Pn	**Pn**		**12 27 41.4**	**-2.0**
IPM	**Ipoh**	**8.90**	**69**	*e*Pn	**Pn**		**12 28 40.2**	**+1.4**
KSM	**Kuching**	**17.60**	**89**	P	**P**		**12 30 36.4**	**-0.2**
	14nm,0.9s							
CMAR	**Chiang Mai Arr**	**18.16**	**19**	P	**P**		**12 30 43.0**	**+0.3**
	0.1nm,0.3s,baz=214,slow=12,SNR=2.7							
KKM	**Kota Kinabalu**	**23.93**	**78**	*e*P	**P**		**12 31 44.5**	**-0.1**
	61nm,1.3s							
LSA	**Lhasa**	**28.33**	**357**	*e*P	**P**		**12 32 24.3**	**-0.4**
	10nm,1.1s							
WRA	**Warramunga Arr**	**45.92**	**120**	P	**P**		**12 34 55.7**	**+2.3**
	1.7nm,0.8s,baz=300,slow=8.7,SNR=5.5							
MKAR	**Makanchi Array**	**46.26**	**350**	P	**P**		**12 34 56.4**	**+0.8**
	0.6nm,0.4s,baz=174,slow=8.6,SNR=6.9							
ASAR	**Alice Springs**	**47.07**	**124**	P	**P**		**12 35 02.2**	**-0.2**
	0.4nm,0.7s,baz=297,slow=6.3,SNR=2.9							
SONM	**Songino Array**	**47.89**	**12**	P	**P**		**12 35 06.8**	**-1.7**
	0.9nm,0.6s,baz=200,slow=8.6,SNR=3.6							
GEYT	**Alibeck**	**48.39**	**323**	P	**P**		**12 35 10.5**	**-1.8**
	1.0nm,0.4s,baz=201,slow=7.6,SNR=2.4							
KURBB	**Kurchatov Arra**	**50.64**	**348**	P	**P**		**12 35 29.9**	**+0.7**
	0.9nm,0.7s,baz=171,slow=7.6,SNR=5.1							
KURK	**Kurchatov**	**50.71**	**348**	P	**P**		**12 35 29.9**	**+0.2**
ZALV	**Zalesovo Beam**	**52.92**	**354**	P	**P**		**12 35 46.9**	**+0.7**
	1.2nm,0.3s,baz=185,slow=7.5,SNR=3.5							
BVAR	**Borovoye Array**	**54.83**	**344**	P	**P**		**12 36 00.3**	**+0.1**
	1.1nm,0.8s,baz=131,slow=5.9,SNR=4.4							
ABKAR	**Akbulak array**	**55.44**	**334**	*e*P	**P**		**12 36 04.6**	**-0.1**
	0.5nm,0.4s							
KBZ	**Khabaz**	**61.14**	**321**	P	**P**		**12 36 45.2**	**+0.6**
	1.9nm,0.9s,baz=179,slow=7.2,SNR=3.0							
BRTR	**Keskin Array B**	**65.78**	**314**	P	**P**		**12 37 15.8**	**+0.1**
	0.9nm,0.6s,baz=133,slow=6.6,SNR=5.1							
BOSA	**Boshof**	**70.93**	**239**	P	**P**		**12 37 48.2**	**0.0**
	2.1nm,0.7s,baz=94,slow=7.6,SNR=4.2							
FINES	**FINESS Array B**	**77.90**	**333**	P	**P**		**12 38 28.2**	**+0.4**
	2.1nm,0.9s,baz=64,slow=6.3,SNR=2.9							
GERES	**GERESS Array B**	**81.82**	**319**	P	**P**		**12 38 50.5**	**+1.0**
	0.4nm,0.4s,baz=72,slow=3.2,SNR=3.6							
TXAR	**Lajitas Array**	**145.79**	**26**	PKPbc	**PKPbc**		**12 46 10.3**	**+0.1**
	0.3nm,0.6s,baz=225,slow=0.1,SNR=3.6							

*ISCJB **11** 12:28:34.8±1.1, 1.2°N±0.1°×92.3°E±0.2°, h10km, mb4.0/6, Error ellipse: s-maj=28.0km s-min=20.1km az=12.0*

IDC ***11*** *12:28:35.0±1.1,1.22N×92.34E,h0km,mb3.9/6,mb1 4.0/7, mb1mx3.5/69,mbtmp3.9/7,ML4.0/1,Error ellipse: s-maj=32.9km s-min=25.2km az=85.0*

ISC 11 12:28:36.7±1.1,1.2N±0.2×92.4E±0.2,h10km,n8,σ0≤90/7, mb3.9/6,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**18.36**	**20**	P	**Pn**	**12 32 51.9**	**+0.2**
	0.2nm,0.3s,baz=214,slow=13,SNR=4.3						
WRA	**Warramunga Arr**	**46.17**	**119**	P	**P**	**12 37 02.1**	**+0.1**
	0.6nm,0.7s,baz=297,slow=8.5,SNR=3.7						
MKAR	**Makanchi Array**	**46.30**	**350**	P	**P**	**12 37 02.8**	**+0.2**
	0.8nm,0.8s,baz=164,slow=8.3,SNR=6.1						
SONM	**Songino Array**	**48.06**	**13**	P	**P**	**12 37 17.2**	**+0.8**
	0.8nm,0.5s,baz=192,slow=9.7,SNR=3.5						
OPO	**Ambohidratompo**	**48.54**	**244**	P	**P**	**12 37 21.0**	**+0.3**
	3.2nm,0.3s,baz=312,slow=1.0,SNR=6.4						
KURBB	**Kurchatov Arra**	**50.67**	**349**	P	P	12 37 33.6	-2.6
	0.7nm,0.7s,baz=170,slow=7.0,SNR=3.4						
ZALV	**Zalesovo Beam**	**52.98**	**354**	P	**P**	**12 37 52.0**	**-1.4**
	0.7nm,0.4s,baz=179,slow=9.8,SNR=3.4						
TXAR	**Lajitas Array**	**146.02**	**26**	PKPbc	**PKPdf**	**12 48 16.2**	**-0.8**
	0.2nm,0.5s,baz=8.5,slow=1.8,SNR=2.1						

ISCJB ***11*** *12:31:28.1±0.7,2.40N±0.09×89.84E±0.09,h10km, mb4.1/17,Error ellipse: s-maj=16.2km s-min=9.0km az=138.0*

IDC ***11*** *12:31:28.2±0.9,2.31N×89.69E,h0km,mb3.9/12, mb1 4.1/14,mb1mx3.8/71,mbtmp3.9/14,ML4.0/2,Error ellipse: s-maj=33.3km s-min=15.1km az=49.0*

NEIC ***11*** *12:31:29.5±0.5,2.37N×89.72E,h10km,mb4.5/6,Error ellipse: s-maj=12.6km s-min=7.2km az=220.0*

ISC 11 12:31:29.6±0.8,2.4N±0.1×89.7E±0.1,h10km,n30, σ0≤87/24,mb4.2/17,North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GSI	**Gunungsitoli**	**7.93**	**98**	*e*Pn	**Pn**	**12 33 24.8**	**-0.3**
PALK	**Pallekele**	**10.21**	**299**	Pn	**Pn**	**12 33 54.3**	**-2.0**
	1.4nm,0.3s,baz=114,slow=10.0,SNR=2.9						
IPM	**Ipoh**	**11.49**	**79**	*e*Pn	**Pn**	**12 34 13.1**	**-0.7**
	25nm,0.6s						
CMAR	**Chiang Mai Arr**	**18.37**	**29**	P	**P**	**12 35 44.5**	**-0.2**
	0.2nm,0.3s,baz=225,slow=12,SNR=11						
CHTO	**Chiang Mai**	**18.68**	**28**	*e*P	**P**	**12 35 47.5**	**-0.5**
	7.4nm,1.0s						
H08S3	**Diego Garcia H**	**19.85**	**240**	T	T	12 57 42.9	
	baz=59,slow=74,SNR=13						
H08S2	**Diego Garcia H**	**19.85**	**240**	T	T	12 57 46.1	
	baz=59,slow=74,SNR=4.4						
H08S1	**Diego Garcia H**	**19.86**	**240**	T	T	12 57 26.9	
	baz=59,slow=74,SNR=3.8						
LSA	**Lhasa**	**27.22**	**3**	*e*P	**P**	**12 37 13.1**	**-1.2**
	13nm,1.0s						
MBWA	**Marble Bar**	**37.55**	**130**	*e*P	**P**	**12 38 43.9**	**-0.4**
	10nm,0.5s						
FITZ	**Fitzroy Crossi**	**40.81**	**121**	P	**P**	**12 39 10.5**	**-1.1**
	1.7nm,0.8s,baz=307,slow=10,SNR=2.4						
H01W3	**Cape Leeuwin H**	**43.57**	**150**	T	T	13 26 05.5	
	baz=326,slow=74,SNR=3.3						
H01W2	**Cape Leeuwin H**	**43.58**	**150**	T	T	13 26 04.2	
	baz=326,slow=74,SNR=4.0						
H01W1	**Cape Leeuwin H**	**43.59**	**150**	T	T	13 26 06.7	
	baz=326,slow=74,SNR=3.7						
MKAR	**Makanchi Array**	**44.72**	**353**	P	**P**	**12 39 43.7**	**+0.8**
	1.1nm,0.8s,baz=177,slow=9.5,SNR=4.2						
GEYT	**Alibeck**	**45.72**	**325**	P	**P**	**12 39 52.1**	**+1.0**
	2.0nm,0.6s,baz=142,slow=7.5,SNR=4.3						
SONM	**Songino Array**	**47.53**	**15**	P	**P**	**12 40 06.3**	**+1.0**
	8.2nm,0.7s,baz=194,slow=9.6,SNR=33						
KURBB	**Kurchatov Arra**	**49.01**	**351**	P	**P**	**12 40 17.3**	**+0.9**
	0.5nm,0.6s,baz=175,slow=7.0,SNR=3.7						
WRA	**Warramunga Arr**	**49.08**	**119**	P	**P**	**12 40 17.8**	**+0.3**
	2.1nm,0.6s,baz=297,slow=8.6,SNR=10						
KURK	**Kurchatov**	**49.08**	**351**	P	**P**	**12 40 17.3**	**+0.4**
WRAB	**Tennant Creek**	**49.08**	**119**	*e*P	**P**	**12 40 17.1**	**-0.4**
	1.7nm,0.5s						
ASAR	**Alice Springs**	**50.17**	**124**	P	**P**	**12 40 26.1**	**+0.3**
	0.4nm,0.5s,baz=299,slow=7.6,SNR=7.1						
ZALV	**Zalesovo Beam**	**51.57**	**356**	P	**P**	**12 40 36.2**	**+0.5**
	0.7nm,0.3s,baz=178,slow=7.1,SNR=5.0						
ABKAR	**Akbulak array**	**53.18**	**336**	*e*P	**P**	**12 40 49.2**	**+1.3**
	3.9nm,0.9s						
KLR	**Kul'dur**	**58.84**	**31**	P	**P**	**12 41 28.0**	**-0.3**
	0.3nm,1.0s,baz=191,slow=5.2,SNR=5.1						
STKA	**Stephens Creek**	**59.79**	**129**	P	**P**	**12 41 35.8**	**+0.5**
	1.5nm,0.6s,baz=308,slow=7.9,SNR=4.0						
BRTR	**Keskin Array B**	**62.86**	**314**	P	**P**	**12 41 56.5**	**+0.4**
	0.9nm,0.6s,baz=132,slow=6.8,SNR=5.6						
TIXI	**Tiksi**	**73.48**	**12**	*e*P	**P**	**12 43 00.8**	**-1.1**
	3.4nm,0.6s						
GERES	**GERESS Array B**	**79.03**	**319**	P	**P**	**12 43 34.3**	**+0.2**
	0.5nm,0.5s,baz=96,slow=6.0,SNR=3.9						
TXAR	**Lajitas Array**	**145.97**	**21**	PKPbc	**PKPab**	**12 51 11.3**	**+0.5**
	1.2nm,0.8s,baz=318,slow=1.7,SNR=6.3						

IDC 11 12:32:36.3±3.8,3.25N×90.14E,h0km,mb4.1/4,mb1 4.2/4, mb1mx3.6/68,mbtmp4.1/4,Error ellipse: s-maj=144.0km s-min=29.6km az=60.0,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**43.91**	**352**	P	P	12 40 42.9	-1.9
	1.5nm,0.7s,baz=168,slow=8.2,SNR=3.9						
SONM	**Songino Array**	**46.58**	**15**	P	P	12 41 06.4	+0.3
	6.9nm,0.9s,baz=198,slow=8.8,SNR=5.3						
WRA	**Warramunga Arr**	**49.13**	**120**	P	P	12 41 25.8	-0.4
	1.0nm,0.6s,baz=297,slow=8.7,SNR=2.5						
ZALV	**Zalesovo Beam**	**50.73**	**356**	P	P	12 41 38.4	+0.7
	1.5nm,0.6s,baz=185,slow=8.8,SNR=2.8						
TXAR	**Lajitas Array**	**145.00**	**21**	PKPbc	PKPab	12 52 15.4	-0.3
	1.0nm,0.9s,baz=337,slow=2.1,SNR=2.7						

IDC 11 12:33:53.8±1.6,4.64N×91.94E,h0km,mb4.1/5,mb1 4.5/6, mb1mx3.7/70,mbtmp4.3/6,ML5.1/1,Error ellipse: s-maj=46.4km s-min=28.8km az=44.0,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PALK	**Pallekele**	**11.47**	**284**	Pn	Pn	12 36 39.3	+0.2
	13nm,0.3s,baz=115,slow=9.1,SNR=6.9						
MKAR	**Makanchi Array**	**42.81**	**350**	P	P	12 41 52.4	-1.1
	1.8nm,0.6s,baz=161,slow=8.3,SNR=3.8						
SONM	**Songino Array**	**44.79**	**14**	P	P	12 42 09.1	-0.4
	1.0nm,0.5s,baz=195,slow=9.1,SNR=2.2						
WRA	**Warramunga Arr**	**48.30**	**122**	P	P	12 42 37.2	-0.1
	1.6nm,0.6s,baz=300,slow=8.7,SNR=4.7						
ZALV	**Zalesovo Beam**	**49.49**	**354**	P	P	12 42 47.5	+1.6
	2.0nm,0.4s,baz=178,slow=8.0,SNR=4.2						
GERES	**GERESS Array B**	**78.78**	**319**	P	P	12 45 58.4	-0.3
	1.3nm,0.7s,baz=100,slow=4.5,SNR=4.3						

IDC 11 12:34:16.1±3.4,4.68N×92.31E,h0km,mb4.0/5,mb1 4.1/5, mb1mx3.6/69,mbtmp4.0/5,Error ellipse: s-maj=132.7km s-min=28.9km az=57.0,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**42.84**	**350**	P	P	12 42 16.9	+0.9
	1.7nm,0.6s,baz=168,slow=7.6,SNR=7.2						
SONM	**Songino Array**	**44.67**	**13**	P	P	12 42 30.2	-0.6
	1.2nm,0.7s,baz=200,slow=8.7,SNR=2.0						
WRA	**Warramunga Arr**	**48.01**	**122**	P	P	12 42 57.2	-0.1
	1.3nm,0.7s,baz=300,slow=8.7,SNR=5.2						
ZALV	**Zalesovo Beam**	**49.50**	**354**	P	P	12 43 08.3	+0.1
	1.8nm,0.4s,baz=182,slow=7.7,SNR=3.7						
BVAR	**Borovoye Array**	**51.46**	**343**	P	P	12 43 22.2	-0.9
	0.4nm,0.4s,baz=142,slow=7.3,SNR=3.5						

BJI ***11*** *12:37:42.1,1.99N×92.51E,h10km,mb4.8/42,mB4.9/6, Ms5.5/2,Ms7 5.3/2*

IDC ***11*** *12:37:46.8±0.5,2.58N×92.64E,h0km,mb4.6/32, mb1 4.7/35,mb1mx4.6/66,mbtmp4.6/35,ML4.7/3,Error ellipse: s-maj=16.1km s-min=11.0km az=43.0*

ISCJB ***11*** *12:37:46.7±1.5,2.59N±0.03×92.66E±0.03,h11km±9km, mb4.9/95,Error ellipse: s-maj=6.3km s-min=4.0km az=29.1*

NEIC ***11*** *12:37:48.4±0.2,2.58N×92.63E,h10km,mb5.1/37,Error ellipse: s-maj=5.2km s-min=3.2km az=209.0*

MOS ***11*** *12:37:50.0±1.0,2.63N×92.60E,h33km,mb5.3/26,Error ellipse: s-maj=10.0km s-min=5.3km az=113.9*

DJA ***11*** *12:37:59.7±1.1,2.7N±6.9×93.5E±1.5,h10km,M5.5/7,mb5.7/5, MLv5.5/7*

ISC 11 12:37:48.2±0.9,2.52N±0.05×92.66E±0.04,h11km±5km, n278,σ1≤48/291,mb5.0/98,16C-4D,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MLSI	**Meulaboh, Aceh**	**4.12**	**65**	P	**Pn**	**12 38 52.0**	**+0.8**
MLSI				S	**Sn**	**12 39 35.0**	**-4.4**
TPTI		**4.57**	**81**	P	**Pn**	**12 38 57.8**	**+0.4**
TPTI				S	**Sn**	**12 39 44.0**	**-6.6**
LHMI	**Lhok Sumawe**	**5.05**	**58**	*e*Pn	**Pn**	**12 39 05.9**	**+1.9**
LHMI				*e*Sn	**Sn**	**12 40 00.2**	**-2.2**
GSI	**Gunungsitoli**	**5.06**	**104**	P	**Pn**	**12 39 04.2**	**+0.1**
GSI	**Gunungsitoli**	**5.06**	**104**	*e*Pn	**Pn**	**12 39 05.2**	**+1.1**
TSI	**Tuntungan**	**5.98**	**80**	P	**Pn**	**12 39 18.9**	**+2.2**
	279nm,0.6s						
TSI				S	**Sn**	**12 40 25.9**	**+0.7**
	279nm,0.6s						
PBSI	**Pulau Batu**	**6.17**	**114**	P	**Pn**	**12 39 19.6**	**+0.2**
	3µm,0.6s,9.7nm						
MNSI	**Mandailing Nat**	**7.12**	**104**	P	**Pn**	**12 39 33.1**	**+0.6**
	330nm,0.5s						
MNSI				S	**Sn**	**12 40 48.3**	**-5.3**
	330nm,0.5s						
SISI	**Saibi**	**7.48**	**121**	P	**Pn**	**12 39 37.3**	**-0.1**
KULM	**Kulim**	**8.43**	**71**	*e*Pn	**Pn**	**12 39 51.1**	**+0.7**
KULM				*e*Sn	**Sn**	**12 41 19.7**	**-6.1**
IPM	**Ipoh**	**8.57**	**77**	*e*Pn	**Pn**	**12 39 53.0**	**+0.6**
IPM				*e*Sn	**Sn**	**12 41 25.0**	**-4.3**
PBA	**Port Blair**	**9.08**	**1**	*e*P	Pn	12 39 58.3	-1.0
PBA				IAmb	IAmb	12 40 01.0	
	comp=Z,35nm,0.9s						
DGPR	**DIGLIPUR**	**10.59**	**1**	*e*P	**Pn**	**12 40 19.3**	**-0.8**
DGPR				IAmb	IAmb	12 40 23.6	
	comp=Z,34nm,1.0s						
MYKOM	**Kota Tinggi**	**11.21**	**93**	*e*Pn	**Pn**	**12 40 30.1**	**+1.6**
MNAI	**Manna**	**12.35**	**124**	*e*Pn	**Pn**	**12 40 44.3**	**+0.1**
PALK	**Pallekele**	**12.81**	**292**	Pn	**Pn**	**12 40 48.4**	**-2.2**
	comp=Z,7.5nm,0.3s,baz=116,slow=13,SNR=10						
PALK				Sn	Sn	12 42 59.3	-14
	comp=Z,12nm,0.3s,baz=296,slow=1.9,SNR=7.2						
PALK	**Pallekele**	**12.81**	**292**	*i* P	**Pn**	**12 40 49.1**	**-1.5**
MDRS	**Chennai**	**16.14**	**311**	*e*P	**Pn**	**12 41 33.1**	**-2.3**
CM01	**Chiang Mai Arr**	**16.96**	**21**	*e*Pn	**Pn**	**12 41 44.4**	**-1.4**
CM31	**Chiang Mai Arr**	**16.99**	**21**	*e*Pn	**Pn**	**12 41 45.3**	**-0.8**
CMAR	**Chiang Mai Arr**	**16.99**	**21**	Pn	**Pn**	**12 41 45.2**	**-0.9**
	comp=Z,0.4nm,0.3s,baz=218,slow=13,SNR=17						
CHTO	**Chiang Mai**	**17.32**	**20**	*e*Pn	**Pn**	**12 41 49.3**	**-1.0**
	comp=Z,16nm,0.8s						
CHTO	**Chiang Mai**	**17.32**	**20**	*e*P	**Pn**	**12 41 49.3**	**-1.0**
CHTO				pmax	pmax		
	comp=Z,16nm,0.8s						
LEM	**Lembang**	**17.58**	**122**	P	**P**	**12 41 55.6**	**+0.9**
	comp=Z,3.3nm,0.3s,baz=149,slow=1.8,SNR=5.1						
VIS	**Vishakhapatnam**	**17.66**	**329**	*e*P	**Pn**	**12 41 53.4**	**-1.1**
KSM	**Kuching**	**17.67**	**93**	*e*P	**P**	**12 41 56.5**	**+1.0**
	comp=Z,40nm,1.1s						
CISI	**Cisompet, Garu**	**18.13**	**124**	*e*Pn	**Pn**	**12 41 57.5**	**-2.8**
	comp=Z,29nm,0.7s						
SBUM	**Sibu**	**19.54**	**90**	*e*P	**Pn**	**12 42 18.0**	**+0.6**
	comp=Z,32nm,0.9s						
HYB	**Hyderabad**	**20.27**	**318**	*i* P	Pn	12 42 26.0	-0.1
HYB	**Hyderabad**	**20.27**	**318**	*e*P	**P**	**12 42 23.9**	**-0.2**
HYB				IAmb	IAmb	12 42 26.4	
	comp=Z,23nm,0.5s						
BOK	**Bokaro**	**22.14**	**343**	*e*P	**P**	**12 42 45.0**	**+0.8**
BOK				IAmb	IAmb	12 42 47.7	
	comp=Z,84nm,1.1s						
GOA	**Goa**	**22.60**	**306**	*e*P	**P**	**12 42 47.3**	**-1.8**
GOA				IAmb	IAmb	12 42 51.6	
NGP	**Nagpur**	**22.77**	**325**	*e*P	**P**	**12 42 50.6**	**-0.3**
SHL	**Shillong**	**22.93**	**358**	*e*P	**P**	**12 42 52.9**	**+0.2**
POO	**Poona**	**24.35**	**312**	*e*P	**P**	**12 43 05.4**	**-1.1**
KMI	**Kunming**	**24.48**	**23**	P	**P**	**12 43 07.5**	**-0.4**
KMI				pmax	pmax		
	comp=Z,22nm,0.8s						
KMI				pmax	pmax		
	comp=Z,24µm,13.7s						
KMI				LR	LR		
	comp=Z,37µm,29.1s						
BHPL	**Bhopal**	**25.34**	**326**	*e*P	**P**	**12 43 15.8**	**+0.4**
BHPL				IAmb	IAmb	12 43 19.0	
	comp=Z,113nm,2.5s						
LSA	**Lhasa**	**27.07**	**357**	*e*P	**P**	**12 43 32.9**	**+1.4**
	comp=Z,35nm,0.8s						
LSA	**Lhasa**	**27.07**	**357**	*e*P	**P**	**12 43 32.9**	**+1.4**
LSA				pmax	pmax		
	comp=Z,35nm,0.8s						
GYA	**Guiyang**	**27.34**	**28**	P	**P**	**12 43 36.8**	**+3.2**
GYA				PP	**PnPn**	**12 44 23.0**	**+5.4**
GYA				PcP	**PcP**	**12 46 55.4**	**+2.4**
GYA				S	**S**	**12 48 15.5**	**+2.0**
GYA				SS	**SnSn**	**12 49 32.0**	**+10**
GYA				ScP	**ScP**	**12 50 34.3**	**+0.6**
GYA				pmax	pmax		
	comp=Z,20nm,1.0s						
GYA				pmax	pmax		
	comp=Z,120nm,5.6s						
CD2	**Chengdu**	**30.12**	**19**	P	**P**	**12 43 58.9**	**+0.7**
CD2				S	**S**	**12 48 59.6**	**+2.5**
CD2				pmax	pmax		
	comp=Z,30nm,0.4s						
DDI	**Dehra Dun**	**30.92**	**335**	*e*P	**P**	**12 44 04.1**	**-1.2**
ENH	**Enshi**	**31.88**	**28**	*e*P	**P**	**12 44 12.9**	**-0.8**
	comp=Z,7.1nm,0.6s						
SMLA	**Simla**	**32.00**	**334**	*e*P	**P**	**12 44 14.8**	**+0.1**
SMLA				IAmb	IAmb	12 44 15.6	
DAV	**Davao City (W)**	**33.10**	**81**	*e*P	**P**	**12 44 25.1**	**+0.4**
	comp=Z,353nm,0.4s						
DHRM	**DHARAMSHALA**	**33.34**	**334**	*e*P	**P**	**12 44 25.5**	**-1.2**
DHRM				IAmb	IAmb	12 44 26.7	
	comp=Z,237nm,0.1s						
XAN	**Xi'an**	**34.84**	**24**	P	**P**	**12 44 39.2**	**-0.3**
XAN				pP	sP	12 44 44.8	+0.7
XAN				sP	pP	12 44 47.6	+4.8
XAN				pmax	pmax		
	comp=Z,33nm,0.9s						
LZH	**Lanzhou**	**34.97**	**16**	*e*P	**P**	**12 44 40.5**	**-0.2**
LZH				pP	pP	12 44 43.6	-0.4
LZH				sP	sP	12 44 45.2	-0.1
LZH				PP	**PP**	**12 45 59.6**	**-0.5**
LZH				pmax	pmax		
	comp=Z,23nm,1.1s						
LZH				pmax	pmax		
	comp=Z,100nm,5.2s						
LZH				LR	LR		
	comp=Z,1µm,14.0s						
LZH				LR	LR		
	comp=Z,1µm,14.3s						
LZH				LR	LR		
	comp=Z,2µm,17.7s						
MBWA	**Marble Bar**	**35.45**	**133**	*e*P	**P**	**12 44 45.4**	**+0.5**
	comp=Z,78nm,1.2s						
NIL	**Nilore**	**35.90**	**332**	*e*P	**P**	**12 44 48.1**	**-0.5**
	comp=Z,70nm,0.8s						
NIL	**Nilore**	**35.90**	**332**	*e*P	**P**	**12 44 48.1**	**-0.5**
NIL				pmax	pmax		
	comp=Z,70nm,0.8s						
GTA	**Gaotai**	**37.29**	**9**	*e*P	**P**	**12 45 00.9**	**+0.3**
GTA				pP	sP	12 45 05.2	+0.1
GTA				sP	pP	12 45 08.0	+4.2
GTA				pmax	pmax		
	comp=Z,12nm,0.9s						
MEEK	**Meekatharra**	**38.32**	**141**	P	**P**	**12 45 11.0**	**+1.7**
	baz=39,SNR=4.1						
NJ2	**Nanjing**	**38.34**	**37**	*e*P	**P**	**12 45 09.5**	**+0.1**
NJ2				pmax	pmax		
	comp=Z,12nm,0.6s						
FITZ	**Fitzroy Crossi**	**38.41**	**124**	P	**P**	**12 45 10.2**	**+0.1**
	comp=Z,12nm,0.7s,baz=319,slow=6.7,SNR=32						
FITZ	**Fitzroy Crossi**	**38.41**	**124**	P	**P**	**12 45 10.3**	**+0.1**
	baz=39,SNR=12						
WSAR	**Wadi Sarin**	**38.86**	**305**	P	**P**	**12 45 14.9**	**+1.0**
	comp=Z,3.5nm,0.7s,baz=173,slow=6.6,SNR=4.1						
KSH	**Kashi**	**39.83**	**340**	P	**P**	**12 45 19.9**	**-2.0**
KSH				pmax	pmax		
	comp=Z,13nm,0.7s						
MUN	**Mundaring**	**40.95**	**149**	P	**P**	**12 45 32.6**	**+1.5**
	baz=41,SNR=4.2						
MTN	**Manton Dam**	**41.13**	**113**	P	**P**	**12 45 32.2**	**-0.6**
	baz=41,SNR=4.8						
WMQ	**Urumqi**	**41.36**	**355**	P	**P**	**12 45 35.6**	**+1.2**
WMQ				sP	sP	12 45 44.1	+5.1
WMQ				pmax	pmax		
	comp=Z,31nm,0.9s						
HHC	**Hu-ho-hao-te**	**41.80**	**22**	*e*P	**P**	**12 45 39.6**	**+1.5**
HHC				pmax	pmax		
	comp=Z,36nm,1.1s						
HHC				pmax	pmax		
	comp=Z,79nm,5.9s						
KZA	**Kyzart**	**42.37**	**341**	P	**P**	**12 45 43.5**	**+0.5**
	SNR=6.5						
UCH	**Uchtor**	**42.75**	**340**	P	**P**	**12 45 46.2**	**0.0**
	SNR=13						
AML	**Almayashu**	**42.95**	**339**	P	**P**	**12 45 48.1**	**+0.3**
	SNR=26						
KBK	**Karagaybulak**	**42.98**	**341**	P	**P**	**12 45 48.5**	**+0.7**
	SNR=5.3						
BJI	**Beijing**	**43.01**	**27**	P	**P**	**12 45 48.3**	**+0.5**
BJI				pmax	pmax		
	comp=Z,36nm,0.8s						
TKM2	**Tokmak 2**	**43.01**	**342**	P	**P**	**12 45 47.9**	**-0.2**
	SNR=11						
AAK	**Ala-Archa**	**43.12**	**340**	P	**P**	**12 45 48.7**	**-0.2**
	comp=Z,3.4nm,0.8s,baz=73,slow=2.6,SNR=9.2						
AAK	**Ala-Archa**	**43.12**	**340**	P	**P**	**12 45 49.2**	**+0.3**
	SNR=5.2						
AAK	**Ala-Archa**	**43.12**	**340**	*e*P	**P**	**12 45 48.4**	**-0.4**
	comp=Z,8.7nm,1.1s						
AAK	**Ala-Archa**	**43.12**	**340**	*i* P	**P**	**12 45 48.3**	**-0.6**
AAK				pmax	pmax		
	comp=Z,7.0nm,1.0s						
FRU	**Bishkek**	**43.25**	**341**	*e*P	**P**	**12 45 51.0**	**+1.2**
EKS2	**Erkin-Say**	**43.38**	**340**	P	**P**	**12 45 51.4**	**+0.4**
	SNR=9.0						
USP	**Ospennovka**	**43.68**	**341**	P	**P**	**12 45 53.2**	**-0.1**
	SNR=15						
WRKA	**Warakurna**	**44.10**	**131**	P	**P**	**12 45 57.8**	**+0.9**
	baz=44,SNR=6.7						
KK06	**Karatay Array**	**44.96**	**337**	*e*P	**P**	**12 46 02.9**	**-0.6**
KK07	**Karatay Array**	**44.96**	**337**	*e*P	**P**	**12 46 03.3**	**-0.3**
KK02	**Karatay Array**	**44.97**	**337**	*e*P	**P**	**12 46 03.0**	**-0.6**
KK31	**Karatay Array**	**44.97**	**337**	*e*P	**P**	**12 46 03.4**	**-0.2**
KK31	**Karatay Array**	**44.97**	**337**	*e*P	**P**	**12 46 03.4**	**-0.2**
KKAR	**Karatay Array**	**44.97**	**337**	*e*P	**P**	**12 46 03.2**	**-0.4**
KKAR	**Karatay Array**	**44.97**	**337**	*e*P	**P**	**12 46 03.2**	**-0.4**
KK03	**Karatay Array**	**44.97**	**337**	*e*P	**P**	**12 46 03.0**	**-0.7**
KK01	**Karatay Array**	**44.98**	**337**	*e*P	**P**	**12 46 03.4**	**-0.3**
KK05	**Karatay Array**	**44.98**	**337**	*e*P	**P**	**12 46 03.1**	**-0.5**
KK04	**Karatay Array**	**44.98**	**337**	*e*P	**P**	**12 46 03.2**	**-0.4**
KK08	**Karatay Array**	**44.98**	**337**	*e*P	**P**	**12 46 03.1**	**-0.5**
MK01	**Makanchi Array**	**44.99**	**350**	*e*P	**P**	**12 46 03.5**	**-0.2**
MK31	**Makanchi Array**	**45.01**	**350**	*e*P	**P**	**12 46 03.8**	**-0.1**
MK31	**Makanchi Array**	**45.01**	**350**	*e*P	**P**	**12 46 03.8**	**-0.1**
MKAR	**Makanchi Array**	**45.01**	**350**	P	**P**	**12 46 04.1**	**+0.3**
	comp=Z,20nm,0.6s,baz=170,slow=8.8,SNR=89						
MKAR	**Makanchi Array**	**45.01**	**350**	*e*P	**P**	**12 46 03.8**	**-0.1**
	comp=Z,129nm,0.6s						
MAKZ	**Makanchi**	**45.08**	**350**	*e*P	**P**	**12 46 04.2**	**-0.2**
	comp=Z,11nm,0.7s						
MAKZ	**Makanchi**	**45.08**	**350**	*e*P	**P**	**12 46 04.2**	**-0.2**
MAKZ				pmax	pmax		
	comp=Z,11nm,0.7s						
WRA	**Warramunga Arr**	**46.59**	**121**	P	**P**	**12 46 17.2**	**+0.5**
	comp=Z,10nm,0.5s,baz=299,slow=8.6,SNR=134						
WRAB	**Tennant Creek**	**46.60**	**121**	*e*P	**P**	**12 46 17.0**	**+0.2**
	comp=Z,17nm,0.8s						
WRAB	**Tennant Creek**	**46.60**	**121**	*e*P	**P**	**12 46 17.0**	**+0.2**
WRAB				pmax	pmax		
	comp=Z,17nm,0.8s						
SONM	**Songino Array**	**46.67**	**13**	P	**P**	**12 46 17.7**	**+0.6**
	comp=Z,8.5nm,0.8s,baz=194,slow=9.1,SNR=26						
SONA1	**Songino Array**	**46.69**	**13**	*e*P	**P**	**12 46 17.6**	**+0.3**
ULN	**Ulaanbaatar**	**46.85**	**13**	*e*P	**P**	**12 46 19.3**	**+0.8**
	comp=Z,14nm,1.6s						
ULN	**Ulaanbaatar**	**46.85**	**13**	*ce*P	**P**	**12 46 18.3**	**-0.2**
ULN				pmax	pmax		
	comp=Z,8.0nm,1.2s						
GYB1	**ALIBECK ARRAY**	**47.34**	**322**	*e*P	**P**	**12 46 22.9**	**+0.6**
	comp=Z,20nm,0.8s						
GYA1	**ALIBECK ARRAY**	**47.35**	**322**	*e*P	**P**	**12 46 22.9**	**+0.5**
	comp=Z,23nm,0.8s						
GYB2	**ALIBECK ARRAY**	**47.35**	**322**	*e*P	**P**	**12 46 23.4**	**+0.9**
	comp=Z,26nm,0.9s						
GEYT	**Alibeck**	**47.35**	**322**	P	**P**	**12 46 23.2**	**+0.7**
	comp=Z,20nm,0.7s,baz=148,slow=8.7,SNR=33						
GYA0	**ALIBECK ARRAY**	**47.35**	**322**	*e*P	**P**	**12 46 23.1**	**+0.6**
	comp=Z,22nm,0.8s						
GYA0B	**ALIBECK ARRAY**	**47.35**	**322**	*e*P	**P**	**12 46 23.1**	**+0.6**
	comp=Z,22nm,0.8s						
GYB5	**ALIBEC

KLR	Kul'dur	57.23	29	P		P	12 47 36.6	+1.0
	comp=Z,0.5nm,0.8s,baz=258,slow=7.8,SNR=15							
KLR	Kul'dur	57.23	29	*i* P		P	12 47 36.2	+0.6
GNI	Garni	57.23	317	*i* P		P	12 47 36.1	+0.1
GNI				pmax	pmax			
	comp=Z,44nm,0.9s							
STKA	Stephens Creek	57.63	131	P		P	12 47 39.5	+0.8
	comp=Z,6.7nm,0.7s,baz=306,slow=5.3,SNR=18							
STKA	Stephens Creek	57.63	131	P		P	12 47 39.6	+0.8
	baz=58,SNR=12							
STKA	Stephens Creek	57.63	131	*e*P		P	12 47 39.5	+0.8
	comp=Z,2.0nm,0.8s							
STKA	Stephens Creek	57.63	131	*e*P		P	12 47 39.5	+0.8
STKA				pmax	pmax			
	comp=Z,2.0nm,0.8s							
BOD	Bodaibo	57.66	13⇑	*i* P		P	12 47 38.1	-0.4
BOD				pmax	pmax			
	comp=Z,16nm,0.9s							
TBLG	Delisi	57.99	319	*e*P		P	12 47 41.7	+0.5
	comp=Z,28nm,0.9s							
TBLG	Delisi	57.99	319	*e*P		P	12 47 41.7	+0.5
TBLG				pmax	pmax			
	comp=Z,28nm,0.9s							
GROC	Groznyy	58.04	321	*e*P		P	12 47 40.4	-1.1
GROC				*e*			12 48 31.5	
GROC				pmax	pmax			
	comp=Z,22nm,0.5s							
ZEI	Tsey	59.04	320	*e*P		P	12 47 47.8	-0.9
ZEI				pmax	pmax			
	comp=Z,8.0nm,0.8s							
SVE	Sverdlovsk	59.86	340	*e*P		P	12 47 52.8	-1.0
ASF	Jabal al Asfar	60.01	306	P		P	12 47 56.1	+0.6
	comp=Z,7.1nm,0.8s,baz=66,slow=11,SNR=6.6							
NEY	Neytrino	60.02	320	*i* P		P	12 47 55.6	+0.2
NEY				pmax	pmax			
	comp=Z,2.0nm,0.7s							
KBZ	Khabaz	60.14	320	P		P	12 47 56.1	+0.1
	comp=Z,12nm,0.9s,baz=135,slow=6.2,SNR=27							
ARU	Arti	60.27	339*c*	*i* P		P	12 47 55.2	-1.4
ARU				S		S	12 56 09.0	-1.6
ARU				SS		SS	13 00 05.1	-3.0
ARU				pmax	pmax			
	comp=Z,13nm,1.0s							
KIV	Kislovodsk	60.38	320	*e*P		P	12 47 57.9	+0.1
	comp=Z,20nm,0.8s							
KIV	Kislovodsk	60.38	320	*e*P		P	12 47 57.2	-0.6
KIV				pmax	pmax			
	comp=Z,27nm,1.1s							
CMSA	Cobar Meteorol	60.64	128	P		P	12 48 00.9	+1.2
	baz=61,SNR=34							
GOF	Gofitskoye	60.69	322⇑	*e*P		P	12 48 07.2	+7.5
MMAI	Mount Meron Ar	61.47	306	P		P	12 48 05.8	+0.5
	comp=Z,5.5nm,0.7s,baz=116,slow=6.6,SNR=5.7							
VRH	Novokhopyorsk	64.53	327	*e*P		P	12 48 23.1	-2.1
VRH				pmax	pmax			
	comp=Z,20nm,0.8s							
BR131	Keskin Array S	64.89	313	*e*P		P	12 48 27.6	-0.5
BRTR	Keskin Array B	64.89	313	P		P	12 48 27.2	-0.8
	comp=Z,4.3nm,0.8s,baz=128,slow=6.9,SNR=19							
ILGA	Ilgaz	65.27	314	*e*P		P	12 48 30.7	+0.1
	comp=Z,11nm,1.1s							
YAK	Yakutsk	65.51	18	*e*P		P	12 48 28.5	-2.8
	comp=Z,26nm,0.8s							
YAK	Yakutsk	65.51	18	*e*P		P	12 48 30.8	-0.6
YAK				pmax	pmax			
	comp=Z,33nm,0.9s							
YAK				pmax	pmax			
	comp=N,4.0nm,1.0s							
YAK				pmax	pmax			
	comp=E,8.0nm,1.3s							
BR231	Keskin MP Arra	65.56	313	*e*P		P	12 48 27.9	-4.4
VSR	Storozhevoye	65.94	326	*e*P		P	12 48 32.2	-2.2
VSR				pmax	pmax			
	comp=Z,20nm,0.9s							
LPSR	Galich'ya Gora	66.73	328	*e*P		P	12 48 38.1	-1.3
LPSR				pmax	pmax			
	comp=Z,30nm,0.8s							
OBN	Obninsk	69.15	329⇑	*e*P		P	12 48 52.0	-2.6
OBN				*e*			12 49 00.8	
OBN				*e*			12 49 16.1	
OBN				*e*PPP	PPP		12 53 03.7	
OBN				pmax	pmax			
	comp=Z,15nm,1.0s							
OBN				MLR	MLR			
	comp=Z,37µm,19.0s							
TIRR	Tirgusor	70.04	317	*e*P		P	12 48 59.7	-0.6
	comp=Z,13nm,1.0s							
TIRR	Tirgusor	70.04	317	*e*P		P	12 48 59.7	-0.6
TIRR				pmax	pmax			
	comp=Z,13nm,1.0s							
CFR	Carcaliu	70.44	317⇑	*i* P		P	12 49 02.5	-0.3
CFR	Carcaliu	70.44	317	P		P	12 49 02.5	-0.3
IDI	Anoyia	70.47	307	P		P	12 49 03.8	+0.5
	comp=Z,14nm,0.6s,baz=72,slow=7.1,SNR=8.4							
KIS	Kishinev	70.53	319	*e*P		P	12 49 00.0	-3.3
KIS	Kishinev	70.53	319	*e*P		P	12 49 00.0	-3.3
KLMR	Klimovskoe	70.64	335	*e*P		P	12 48 59.6	-4.1
KLMR				AMP			12 49 02.7	
	comp=Z,7.0nm,0.7s							
KLMR	Klimovskoe	70.64	335	*e*P		P	12 48 59.5	-4.1
KLMR				pmax	pmax			
	comp=Z,7.0nm,0.7s							
SORM	Soroca	71.18	320⇓	*i* P		P	12 49 10.3	+3.1
SORM	Soroca	71.18	320	P		P	12 49 10.3	+3.1
AKASG	Malin Array Be	71.47	323	P		P	12 49 07.5	-1.4
	comp=Z,0.6nm,0.4s,baz=87,slow=5.1,SNR=14							
KIEV	Kiev	71.48	323	*i* P		P	12 49 07.5	-1.4
BOSA	Boshof	71.54	239	P		P	12 49 10.2	+0.2
	comp=Z,3.3nm,0.7s,baz=71,slow=7.6,SNR=5.1							
VRI	Vrincioaia	71.58	318⇑	*i* P		P	12 49 10.8	+1.0
VRI	Vrincioaia	71.58	318	P		P	12 49 10.8	+1.0
PLOR	Plostina	71.63	318⇑	*i* P		P	12 49 10.6	+0.5
PLOR	Plostina	71.63	318	P		P	12 49 10.6	+0.5
TESR	Tescani	71.81	318⇓	*i* P		P	12 49 05.8	-5.3
MLR	Muntele Rosu	72.01	317	P		P	12 49 12.7	+0.2
	comp=Z,3.5nm,1.0s,baz=77,slow=5.8,SNR=17							
MLR	Muntele Rosu	72.01	317	*i* P		P	12 49 10.8	-1.7
MLR	Muntele Rosu	72.01	317	*e*P		P	12 49 12.4	-0.1
	comp=Z,21nm,1.0s							
MLR	Muntele Rosu	72.01	317	P		P	12 49 10.8	-1.7
MA2	Magadan	72.17	27	*i* P		P	12 49 12.8	-0.1
TIXI	Tiksi	72.73	11	*e*P		P	12 49 15.3	-0.7
	comp=Z,24nm,1.1s							
TIXI	Tiksi	72.73	11	*ce*P		P	12 49 14.8	-1.3
TIXI				pmax	pmax			
	comp=Z,18nm,0.8s							
ARR	Arges	72.87	317⇓	*i* P		P	12 49 16.9	-0.6
BURAR	Bucovina Array	73.06	319⇑	*i* P		P	12 49 12.5	-6.1
BURAR	Bucovina Array	73.06	319	P		P	12 49 12.5	-6.1
BUR04	Bucovina Ar. S	73.06	319	*e*P		P	12 49 18.7	0.0
BUR08	Bucovina Ar. S	73.07	319	*e*P		P	12 49 19.3	+0.5
SEY	Seymchan	74.38	24	*ce*P		P	12 49 25.2	-0.7
VSU	Vasula	75.44	330	*i* P		P	12 49 31.3	-0.8
VSU				pmax	pmax			
	comp=Z,48nm,0.8s							
STHS	Stebnicka Huta	76.05	320	*e*P		P	12 49 36.4	+0.5
STHS				*e*			12 49 46.0	
STHS	Stebnicka Huta	76.05	320	*e*P		P	12 49 36.4	+0.5
STHS				*e*			12 49 46.0	
STHS				pmax	pmax			
	comp=Z,7.0nm,0.9s							
FINES	FINESS Array B	76.76	333	P		P	12 49 38.6	-0.9
	comp=Z,7.5nm,0.8s,baz=87,slow=5.5,SNR=16							
VYHS	Vyhne	77.42	319	*e*P		P	12 49 43.9	+0.2
VYHS	Vyhne	77.42	319	*e*P		P	12 49 43.9	+0.2
MODS	Modra-Piesok	78.42	319	*e*P		P	12 49 49.0	-0.2
MODS	Modra-Piesok	78.42	319	*e*P		P	12 49 49.1	-0.2
KRLC	Kraliky	79.02	320	*e*P		P	12 49 52.3	-0.2
KRLC	Kraliky	79.02	320	*e*P		P	12 49 52.3	-0.2
CONA	Conrad Observa	79.29	318	*i* PcP		PcP	12 50 00.3	-2.1
	comp=Z,4.1nm,1.5s							
DPC	Dobruska-Polom	79.36	321	*e*P		P	12 49 55.1	+0.8
DPC				*e*PCP		PcP	12 50 03.9	+1.4
DPC	Dobruska-Polom	79.36	321	*e*P		P	12 49 55.1	+0.8
DPC				*e*			12 50 03.9	
UPC	Upice	79.58	321	*e*P		P	12 49 55.9	+0.4
UPC	Upice	79.58	321	*e*P		P	12 49 55.9	+0.4
SOKA	Soboth	79.68	317	*i* P		P	12 49 56.6	+0.3
	comp=Z,8.1nm,1.0s							
ARCES	ARCESS Array B	79.79	341	P		P	12 49 55.9	-0.4
	comp=Z,4.2nm,0.8s,baz=84,slow=4.3,SNR=8.0							
SYO	Syowa Base	79.89	197⇑	*e*P		P	12 49 57.4	+0.7
GEA0	GERESS Array S	80.84	319	*e*P		P	12 50 02.5	0.0
GEC2	GERESS Array S	80.84	319	*e*P		P	12 50 03.0	+0.5
	comp=Z,15nm,0.9s							
GEC2	GERESS Array S	80.84	319	*e*P		P	12 50 03.0	+0.5
GEC2				pmax	pmax			
	comp=Z,15nm,0.9s							
GERES	GERESS Array B	80.84	319	P		P	12 50 02.6	+0.2
	comp=Z,8.5nm,0.8s,baz=98,slow=5.5,SNR=40							
BRG	Berggiesshubel	80.93	321	*i* P		P	12 50 03.1	+0.4
	comp=Z,7.0nm,0.7s							
BRG	Berggiesshubel	80.93	321	*i* P		P	12 50 03.1	+0.4
BRG				pmax	pmax			
	comp=Z,7.0nm,0.7s							
KHC	Kasperske Hory	80.95	319	*e*P		P	12 50 03.2	+0.2
KHC				*ep*P		sP	12 50 07.5	-0.2
KHC				*e*PCP		PcP	12 50 11.8	+2.3
KHC	Kasperske Hory	80.95	319	*e*P		P	12 50 03.2	+0.2
KHC				*e*			12 50 11.8	
CLL	Collm	81.57	321	*i* P		P	12 50 06.4	+0.2
	comp=Z,7.0nm,0.7s							
CLL	Collm	81.57	321	*i* P		P	12 50 06.4	+0.2
CLL				pmax	pmax			
	comp=Z,7.0nm,0.7s							
BILL	Bilibino	81.58	21⇑	*i* P		P	12 50 05.5	-0.3
BILL				*e*			12 53 13.2	
BILL				pmax	pmax			
	comp=Z,2.0nm,0.9s							
BILL				MLR	MLR			
	comp=Z,75µm,17.0s							
HFS	Hagfors	82.33	330	P		P	12 50 09.4	-0.5
	comp=Z,2.8nm,0.5s,baz=133,slow=6.1,SNR=10							
MOTA	Moosalm	82.43	317	*i* P		P	12 50 10.4	-0.6
	comp=Z,5.0nm,0.5s							
DAVA	Damuels	83.25	317	*i* P		P	12 50 15.7	+0.4
	comp=Z,20nm,1.1s							
NB2	NORSAR Subarra	83.66	331	P		P	12 50 15.6	-1.3
	comp=Z,3.6nm,0.8s,baz=96,slow=5.3							
NOA	NORSAR Array B	83.66	331	P		P	12 50 15.9	-1.0
	comp=Z,2.7nm,0.8s,baz=95,slow=5.5,SNR=5.7							
TORD	Torodi Ar. Bea	90.37	283	P		P	12 50 50.8	+0.3
	comp=Z,0.6nm,0.7s,baz=86,slow=5.0,SNR=4.5							
EKA	Eskdalemuir Ar	91.26	325	P		P	12 50 53.6	-0.1
	comp=Z,1.6nm,0.6s,baz=95,slow=5.8,SNR=6.7							
ESDC	Sonseca Array	93.51	310	P		P	12 51 05.0	+0.4
	comp=Z,0.8nm,0.5s,baz=81,slow=4.1,SNR=4.9							
KOWA	Kowa	95.83	285	P		P	12 51 16.2	+0.6
	comp=Z,1.0nm,0.6s,baz=0.0,slow=4.0,SNR=3.4							
MSO	Missoula	125.56	22	P		PKPdf	12 56 49.6	-0.5
	baz=327							
ULM	Lac du Bonnet	126.92	7	PKP		PKPdf	12 56 51.9	-0.6
	comp=Z,0.7nm,0.4s,baz=90,slow=2.0,SNR=4.0							
BOZ	Bozeman (W)	127.46	21	P		PKPdf	12 56 54.5	+0.6
	baz=329							
A33A	Warroad	128.27	7	P		PKPdf	12 56 55.3	+0.2
	baz=350							
IMW	Indian Meadow	129.17	22	*e*PKPdf		PKPdf	12 56 56.6	-0.7
NVAR	Mina Array Bea	130.22	32	PKP		PKPdf	12 56 59.8	+0.4
	comp=Z,0.4nm,0.5s,baz=283,slow=3.4,SNR=4.4							
ECSD	EROS Data Cent	133.21	9	P		PKPdf	12 57 04.5	-0.1
	baz=347							
BINY	Binghamton	134.31	348	*e*PKPdf		PKPdf	12 57 04.5	-2.3
ANMO	Albuquerque	138.64	24	*e*PKPdf		PKPdf	12 57 18.5	+3.2
ANMO	Albuquerque	138.64	24*c*	*i*PKIKP		PKPdf	12 57 18.9	+3.7
ANMO				pmax	pmax			
	comp=Z,6.0nm,2.5s							
TX31	Lajitas Ar. Si	144.67	25	*e*PKPdf		PKPbc	12 57 24.9	+0.1
TX31				*e*PKPdf		PKPdf	12 57 25.4	-0.6
TXAR	Lajitas Array	144.67	25	PKP		PKPbc	12 57 25.3	+0.5
	comp=Z,2.4nm,0.5s,baz=275,slow=2.4,SNR=26							
146A	Union	145.00	3	P		PKPbc	12 57 25.6	+0.1
	baz=357							
150A	Eclectic	145.04	358	P		PKPbc	12 57 25.7	0.0
	baz=2.3							
151A	Opelika	145.09	357	P		PKPab	12 57 25.9	0.0
	baz=3.5							
JCT	Junction City	145.09	19	P		PKPbc	12 57 25.9	-0.1
	baz=338							
JCT	Junction City	145.09	19	*e*PKPbc		PKPbc	12 57 26.0	-0.1
JCT	Junction City	145.09	19	*e*PKIKP		PKPbc	12 57 26.0	0.0
NATX	Nacogdoches	145.21	11	P		PKPdf	12 57 26.9	+0.1
	baz=347							
NATX	Nacogdoches	145.21	11	*e*PKPbc		PKPdf	12 57 27.3	+0.5
244A	Avery, Jackson	145.48	5	P		PKPab	12 57 27.6	+0.3
	baz=354							
251A	Midway	145.53	357	P		PKPab	12 57 27.6	+0.1
	baz=3.5							
252A	Lumpkin	145.58	356	P		PKPab	12 57 27.7	-0.1
	baz=4.6							
247A	Quitman	145.59	2	P		PKPab	12 57 28.2	+0.4
	baz=358							
249A	Camden	145.69	360	P		PKPab	12 57 28.3	+0.2
	baz=0.4							
HPIG		145.79	30	*e*PKPdf		PKPab	12 57 29.7	+0.8
TIGA	Tifton	146.04	354	P		PKPab	12 57 29.4	0.0
	baz=6.7							
355A	Pearson	146.05	353	P		PKPab	12 57 29.4	0.0
	baz=8.1							
556A	Lake Butler	147.32	352	P		PKPbc	12 57 33.2	+0.5
	baz=9.2							
PTGA	Pitinga	152.58	273	*e*PKPbc		PKPbc	12 57 46.8	+0.7
LPAZ	La Paz	156.67	233	PKPab		PKPab	12 58 14.9	+0.5
	comp=Z,1.4nm,0.6s,baz=153,slow=2.3,SNR=3.2							
LPAZ	La Paz	156.67	233	PKP2		PKPab	12 58 15.0	+0.5

IDC 11 12:38:45.0±1.7, 0°85S×90°87E, h0km, mb4.3/7, mb1 4.4/7, mb1mx3.8/66, mbtmp4.3/7, Error ellipse: s-maj=62.3km s-min=27.9km az=47.0, South Indian Ocean

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	Warramunga Arr	46.56	117	P		P	12 47 15.0	0.0
	1.7nm,0.6s,baz=298,slow=8.7,SNR=2.4							
MKAR	Makanchi Array	48.04	352	P		P	12 47 25.7	-0.5
	1.4nm,0.6s,baz=175,slow=9.6,SNR=2.6							
SONM	Songino Array	50.34	14	P		P	12 47 42.7	-1.2
	4.3nm,0.6s,baz=196,slow=9.4,SNR=6.8							
ZALV	Zalesovo Beam	54.84	356	P		P	12 48 18.4	+1.5
	2.3nm,0.5s,baz=182,slow=7.4,SNR=2.9							
BRTR	Keskin Array B	65.92	315	P		P	12 49 33.0	-0.3
	1.9nm,0.7s,baz=135,slow=7.1,SNR=4.6							
FINES	FINESS Array B	78.94	334	P		P	12 50 50.2	-0.1
	2.7nm,0.8s,baz=101,slow=6.0,SNR=4.4							
ARCES	ARCESS Array B	82.36	341	P		P	12 51 08.6	0.0
	2.5nm,0.8s,baz=98,slow=6.5,SNR=3.8							

IDC 11 12:40:18.9±4.7, 2°56N×91°38E, h0km, mb4.2/2, mb1 4.2/2, mb1mx3.4/66, mbtmp4.2/2, Error ellipse: s-maj=161.8km s-min=86.2km az=72.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MKAR	Makanchi Array	44.77	351	P		P	12 48 34.1	-0.1
	1.8nm,0.7s,baz=172,slow=9.1,SNR=2.9							
SONM	Songino Array	46.93	14	P		P	12 48 51.3	-0.1
	3.1nm,0.6s,baz=194,slow=9.2,SNR=3.9							
TXAR	Lajitas Array	145.16	23	PKPbc		PKPbc	12 59 58.0	-0.9
	0.3nm,0.5s,baz=248,slow=0.5,SNR=2.3							

IDC 11 12:41:20.6±1.0, 5°83N×93°53E, h0km, mb4.1/6, mb1 4.2/7, mb1mx3.7/67, mbtmp4.1/7, ML4.7/2, Error ellipse: s-maj=38.8km s-min=19.9km az=56.0
ISCJB 11 12:41:22.3±0.9, 5°9N±0°1×93°6E±0°1, h24km, mb4.1/6, Error ellipse: s-maj=20.1km s-min=16.1km az=37.9
ISC 11 12:41:24.2±1.0, 5°9N±0°2×93°6E±0°1, h24km, n10, σ1°38/10, mb4.1/6, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PALK	Pallekele	12.84	277	Pn		Pn	12 44 24.7	-0.7
	14nm,0.3s,baz=116,slow=13,SNR=4.9							
CMAR	Chiang Mai Arr	13.54	22	Pn		Pn	12 44 33.7	-1.1
	0.5nm,0.3s,baz=214,slow=13,SNR=2.9							
MKAR	Makanchi Array	41.88	348	P		P	12 49 12.7	+0.1
	1.6nm,0.7s,baz=156,slow=8.6,SNR=5.2							
KURBB	Kurchatov Arra	46.31	347	P		P	12 49 48.2	+0.3
	1.9nm,0.7s,baz=170,slow=7.2,SNR=7.2							
WRA	Warramunga Arr	47.63	124	P		P	12 49 58.7	-0.1
	1.5nm,0.8s,baz=300,slow=8.8,SNR=3.1							
ZALV	Zalesovo Beam	48.42	353	P		P	12 50 05.2	+0.8
	4.3nm,0.4s,baz=175,slow=6.6,SNR=10.0							
ASAR	Alice Springs	49.13	128	P		P	12 50 10.4	+0.1
	0.9nm,0.8s,baz=307,slow=8.1,SNR=3.6							
GERES	GERESS Array B	78.90	318	P		P	12 53 27.5	+1.7
	1.4nm,0.7s,baz=90,slow=6.7,SNR=4.2							
TXAR	Lajitas Array	141.25	24	PKP		PKPdf	13 00 55.3	+1.6
	0.5nm,0.6s,baz=50,slow=1.4,SNR=2.4							
CPUP	Villa Florida	145.59	231	PKPbc		PKPdf	13 00 59.0	-2.3
	1.3nm,0.7s,baz=214,slow=3.6,SNR=3.4							

IDC 11 12:43:41.7±1.5, 5°.00N×92°.68E, h0km, mb4.0/8, mb1 4.0/9, mb1mx3.7/66, mbtmp3.9/9, Error ellipse: s-maj=56.7km s-min=20.6km az=57.0
ISCJB 11 12:43:43.7±1.1, 5°.0N±0°.1×92°.7E±0°.2, h27km, mb4.0/8, Error ellipse: s-maj=32.0km s-min=16.6km az=152.8
ISC 11 12:43:45.7±1.2, 5°.0N±0°.2×92°.6E±0°.2, h27km, n10, σ0°65/10, mb4.0/8, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CMAR	Chiang Mai Arr	14.72	24	Pn		Pn	12 47 12.6	+0.3
	baz=216,slow=12,SNR=2.3							
MKAR	Makanchi Array	42.59	349	P		P	12 51 40.2	+0.8
	2.0nm,0.8s,baz=168,slow=8.4,SNR=4.2							
SONM	Songino Array	44.28	13	P		P	12 51 52.3	-0.9
	1.8nm,0.9s,baz=202,slow=8.6,SNR=4.3							
GEYT	Alibeck	45.41	321	P		P	12 52 02.3	+0.1
	4.6nm,0.8s,baz=141,slow=9.6,SNR=6.8							
KURBB	Kurchatov Arra	46.99	348	P		P	12 52 14.9	+0.6
	1.5nm,0.8s,baz=167,slow=7.5,SNR=5.5							
WRA	Warramunga Arr	47.90	122	P		P	12 52 21.5	-0.5
	0.7nm,0.9s,baz=304,slow=9.1,SNR=2.7							
ZALV	Zalesovo Beam	49.22	354	P		P	12 52 32.0	+0.5
	2.2nm,0.5s,baz=179,slow=7.3,SNR=5.7							
BVAR	Borovoye Array	51.25	343	P		P	12 52 46.4	-0.5
	1.0nm,0.8s,baz=148,slow=8.7,SNR=3.7							
STKA	Stephens Creek	59.26	132	P		P	12 53 45.7	+0.6
	1.1nm,0.8s,baz=319,slow=5.2,SNR=2.9							
TXAR	Lajitas Array	142.44	24	PKP		PKPdf	13 03 16.9	0.0
	0.4nm,0.6s,baz=268,slow=4.5,SNR=3.0							

ISCJB 11 12:49:13.1±1.1, 3°.8N±0°.2×92°.6E±0°.2, h10km, mb3.9/7, Error ellipse: s-maj=32.1km s-min=17.1km az=148.6
IDC 11 12:49:13.1±1.4, 3°.76N×92°.54E, h0km, mb3.9/7, mb1 4.0/8, mb1mx3.6/67, mbtmp3.9/8, ML3.8/1, Error ellipse: s-maj=58.0km s-min=20.2km az=52.0
ISC 11 12:49:15.2±1.5, 3°.8N±0°.2×92°.7E±0°.3, h10km, n8, σ0°36/7, mb4.1/7, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CMAR	Chiang Mai Arr	15.77	22	Pn		Pn	12 52 57.6	+0.1
	0.1nm,0.3s,baz=212,slow=14,SNR=3.5							
MKAR	Makanchi Array	43.72	350	P		P	12 57 20.6	-0.1
	2.1nm,0.6s,baz=171,slow=9.3,SNR=13							
GEYT	Alibeck	46.33	322	P		P	12 57 41.8	+0.2
	1.5nm,0.6s,baz=140,slow=11,SNR=3.5							
WRA	Warramunga Arr	47.26	122	P		P	12 57 49.5	+0.4
	0.7nm,0.8s,baz=298,slow=8.9,SNR=5.3							
KURBB	Kurchatov Arra	48.12	348	P		P	12 57 55.0	-0.3
	1.0nm,0.5s,baz=171,slow=6.7,SNR=6.7							
ASAR	Alice Springs	48.59	126	P		P	12 57 59.0	-0.4
	0.3nm,0.7s,baz=300,slow=7.4,SNR=2.9							
ZALV	Zalesovo Beam	50.36	354	P		P	12 58 12.1	-0.2
	2.0nm,0.4s,baz=181,slow=6.7,SNR=6.2							
GERES	GERESS Array B	79.86	319	P		P	13 01 22.6	-1.7
	0.4nm,0.4s,baz=88,slow=6.8,SNR=6.1							

IDC 11 12:50:27.3±2.7, 1°.58N×91°.85E, h0km, mb3.5/3, mb1 3.7/4, mb1mx3.3/67, mbtmp3.5/4, ML3.4/1, Error ellipse: s-maj=90.3km s-min=28.6km az=58.0, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CMAR	Chiang Mai Arr	18.16	22	P		P	12 54 42.0	+0.4
	0.1nm,0.3s,baz=213,slow=12,SNR=2.7							
MKAR	Makanchi Array	45.80	351	P		P	12 58 50.0	-0.9
	0.5nm,0.6s,baz=172,slow=7.8,SNR=2.3							
WRA	Warramunga Arr	46.83	119	P		P	12 58 59.2	-0.2
	0.6nm,0.8s,baz=299,slow=8.8,SNR=3.2							
KURBB	Kurchatov Arra	50.16	349	P		P	12 59 25.1	+0.5
	0.3nm,0.6s,baz=167,slow=6.8,SNR=2.6							

DJA 11 12:51:08.2±0.5, 2°N±5°×99°E±°, h10km, M3.4/5, MLv3.4/5, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SBSI	Sibolga	0.31	249	P		Pg	12 51 13.7	-0.7
SBSI				S		Sb	12 51 21.9	+0.9
MNSI	Mandailing Nat	0.95	155	P		Pg	12 51 24.6	-1.9
GSI	Gunungsitoli	1.64	258	P		Pn	12 51 36.6	-0.6
GSI				S		Sn	12 51 58.1	-0.3
BKNI	Bangkinang	2.28	125	P		Pb	12 51 47.9	-1.6

*IDC 11 12:51:32.0±2.3, 0°.53N×92°.23E, h0km, mb3.8/7, mb1 4.0/8,

XAN					pmax	pmax			
	comp=Z,7.0nm,0.9s								
NIL	**Nilore**	**36.61**	**333**	*e*P	**P**		**13 00 17.6**	**+0.2**
	comp=Z,32nm,0.8s								
GTA	**Gaotai**	**38.55**	**10**	*e*P	**P**		**13 00 34.6**	**+0.7**
GTA				pP	sP		13 00 38.7	+0.4
GTA				sP	pP		13 00 42.0	+5.0
GTA				pmax	pmax				
	comp=Z,7.0nm,1.0s								
AAK	**Ala-Archa**	**43.99**	**341**	P	**P**		**13 01 17.7**	**-1.0**
	comp=Z,0.8nm,0.5s,baz=222,slow=16,SNR=2.2								
BJT	**Baijiatuan**	**44.33**	**27**	*e*P	**P**		**13 01 22.8**	**+1.6**
	comp=Z,27nm,1.1s								
BJI	**Beijing**	**44.35**	**27**	P	**P**		**13 01 23.2**	**+1.9**
BJI				pmax	pmax				
	comp=Z,18nm,1.2s								
KKAR	**Karatay Array**	**45.78**	**338**	*e*P	**P**		**13 01 32.0**	**-0.8**
	comp=Z,7.9nm,0.9s								
MKAR	**Makanchi Array**	**46.04**	**351**	P	**P**		**13 01 34.3**	**-0.4**
	comp=Z,2.8nm,0.8s,baz=163,slow=8.7,SNR=8.2								
WRA	**Warramunga Arr**	**46.61**	**119**	P	**P**		**13 01 38.8**	**-0.9**
	comp=Z,1.4nm,0.7s,baz=297,slow=8.7,SNR=4.6								
WRAB	**Tennant Creek**	**46.61**	**119**	*e*P	**P**		**13 01 37.6**	**-2.0**
	comp=Z,1.0nm,0.4s								
ASAR	**Alice Springs**	**47.73**	**124**	P	**P**		**13 01 47.4**	**-1.0**
	comp=Z,0.5nm,0.8s,baz=290,slow=4.6,SNR=5.8								
ASAR				PcP	**PcP**		**13 03 17.2**	**-0.5**	
	comp=Z,0.3nm,0.8s,baz=294,slow=4.5,SNR=3.3								
GEYT	**Alibeck**	**47.87**	**324**	P	**P**		**13 01 49.3**	**+0.1**
	comp=Z,0.8nm,0.3s,baz=106,slow=3.1,SNR=5.1								
SONM	**Songino Array**	**47.96**	**13**	P	**P**		**13 01 50.8**	**+1.0**
	comp=Z,3.9nm,0.5s,baz=193,slow=9.3,SNR=15								
ULN	**Ulaanbaatar**	**48.14**	**14**	*e*P	**P**		**13 01 50.6**	**-0.6**
	comp=Z,14nm,1.4s								
KSAR	**Wonju Array Be**	**48.80**	**38**	P	**P**		**13 01 56.7**	**+0.4**
KSRS	**Korea Array**	**48.83**	**38**	P	**P**		**13 01 56.7**	**+0.1**
	comp=Z,1.1nm,0.8s,baz=223,slow=8.3,SNR=3.7								
KURBB	**Kurchatov Arra**	**50.40**	**349**	P	**P**		**13 02 08.1**	**-0.2**
	comp=Z,4.4nm,0.9s,baz=172,slow=7.0,SNR=11								
KURK	**Kurchatov**	**50.47**	**349**	*e*P	**P**		**13 02 08.8**	**0.0**
ZALV	**Zalesovo Beam**	**52.75**	**355**	P	**P**		**13 02 25.8**	**-0.1**
	comp=Z,2.9nm,0.5s,baz=178,slow=7.9,SNR=11								
BVAR	**Borovoye Array**	**54.53**	**344**	P	**P**		**13 02 37.8**	**-1.2**
	comp=Z,1.2nm,0.7s,baz=155,slow=4.8,SNR=6.8								
ABKAR	**Akbulak array**	**55.04**	**335**	*e*P	**P**		**13 02 41.9**	**-0.8**
	comp=Z,7.3nm,1.0s								
KBZ	**Khabaz**	**60.60**	**321**	P	**P**		**13 03 22.5**	**+0.6**
	comp=Z,2.2nm,0.7s,baz=142,slow=6.3,SNR=4.1								
BRTR	**Keskin Array B**	**65.19**	**314**	P	**P**		**13 03 52.2**	**-0.5**
	comp=Z,1.0nm,0.6s,baz=125,slow=6.2,SNR=5.6								
VRI	**Vrincioaia**	**71.99**	**318**	*i*P	**P**		**13 04 36.6**	**+1.7**
AKASG	**Malin Array Be**	**71.99**	**324**	P	**P**		**13 04 34.0**	**-0.8**
	comp=Z,0.5nm,0.4s,baz=98,slow=4.6,SNR=3.7								
PLOR	**Plostina**	**72.03**	**318**	*i*P	**P**		**13 04 38.0**	**+2.8**
MLR	**Muntele Rosu**	**72.40**	**318**	*i*P	**P**		**13 04 38.3**	**+0.7**
VOIR		**72.99**	**317**	*i*P	P		13 04 48.1	+7.1
BURAR	**Bucovina Array**	**73.49**	**320**	*i*P	**P**		**13 04 44.8**	**+0.9**
TIXI	**Tiksi**	**74.01**	**11**	*e*P	**P**		**13 04 45.3**	**-1.0**
FINES	**FINESS Array B**	**77.48**	**333**	P	**P**		**13 05 06.1**	**-0.3**
	comp=Z,1.2nm,0.8s,baz=108,slow=4.5,SNR=2.2								
VYHS	**Vyhne**	**77.86**	**319**	*e*P	**P**		**13 05 10.8**	**+2.0**
VYHS				*e*			13 05 16.9		
SYO	**Syowa Base**	**78.58**	**197**	*e*P	**P**		**13 05 13.0**	**+0.7**
KRLC	**Kraliky**	**79.48**	**321**	*e*PCP	**PcP**		**13 05 26.1**	**+0.3**
CONA	**Conrad Observa**	**79.71**	**318**	*i* PcP	P		13 05 27.3	+8.2
	comp=Z,4.6nm,1.0s								
ARSA	**Arzberg**	**79.82**	**318**	*i* pP	**P**		**13 05 22.6**	**+3.0**
	comp=Z,8.8nm,1.0s								
DPC	**Dobruska-Polom**	**79.82**	**321**	*e*P	**P**		**13 05 20.7**	**+1.1**
DPC				*e*PCP	**PcP**		**13 05 28.3**	**+1.0**
GERES	**GERESS Array B**	**81.27**	**319**	P	**P**		**13 05 28.1**	**+0.6**
	comp=Z,5.8nm,0.9s,baz=104,slow=5.6,SNR=16								
KHC	**Kasperske Hory**	**81.39**	**319**	*e*PCP	**PcP**		**13 05 36.3**	**+2.2**
RETA	**Reutte**	**83.06**	**318**	*i* P	**P**		**13 05 38.1**	**+1.2**
	comp=Z,9.7nm,0.8s								
KEST	**Kesra**	**83.22**	**306**	P	**P**		**13 05 35.8**	**-2.2**
	comp=Z,3.1nm,1.0s,baz=72,slow=3.2,SNR=1.7								
DAVA	**Damuels**	**83.64**	**317**	*i* pP	**P**		**13 05 42.8**	**+2.8**
	comp=Z,15nm,0.8s								
TORD	**Torodi Ar. Bea**	**89.97**	**283**	P	**P**		**13 06 12.1**	**+0.8**
	comp=Z,0.5nm,0.8s,baz=106,slow=3.1,SNR=2.2								
TXAR	**Lajitas Array**	**146.01**		PKPbc	**PKPbc**		**13 12 51.8**	**0.0**	
	comp=Z,0.6nm,0.6s,baz=302,slow=2.4,SNR=5.7								

IDC 11 12:53:53.7±5.5, 27.70S×65.58E, h0km, mb3.9/2, mb1 3.9/2, mb1mx3.4/61, mbtmp3.9/2, Error ellipse: s-maj=231.0km s-min=50.8km az=43.0, Indian Ocean Triple Junction

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**61.00**	**103**	P		P	13 04 09.3	0.0
	0.5nm,0.7s,baz=247,slow=5.9,SNR=4.1							
ZALV	**Zalesovo Beam**	**83.00**	**11**	P		P	13 06 20.3	0.0
	1.3nm,0.7s,baz=183,slow=5.2,SNR=4.6							
YKA	**Yellowknife Ar**	**145.20**	**0**	PKPbc		PKPbc	13 13 31.4	-0.8
	0.5nm,0.6s,baz=345,slow=3.4,SNR=15							

IDC 11 12:56:39.5±4.8, 2.16N×92.93E, h0km, mb3.4/2, mb1 3.7/2, mb1mx3.2/65, mbtmp3.4/2, Error ellipse: s-maj=310.0km s-min=67.8km az=45.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**46.18**	**120**	P		P	13 05 06.7	+0.3
	0.9nm,0.6s,baz=298,slow=8.7,SNR=6.2							
ASAR	**Alice Springs**	**47.40**	**125**	P		P	13 05 15.5	-0.5
	0.3nm,1.0s,baz=285,slow=7.4,SNR=2.9							
TXAR	**Lajitas Array**	**144.88**	**26**	PKP		PKPbc	13 16 19.0	+0.5
	0.4nm,0.9s,baz=252,slow=1.4,SNR=3.7							

IDC 11 12:57:22.6±1.7, 2.16N×93.22E, h0km, mb3.5/4, mb1 3.8/6, mb1mx3.5/67, mbtmp3.7/6, ML4.4/1, Error ellipse: s-maj=54.5km s-min=22.5km az=57.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**13.47**	**293**	Pn		Pn	13 00 34.8	-0.4
	1.8nm,0.3s,baz=115,slow=12,SNR=3.6							
CMAR	**Chiang Mai Arr**	**17.14**	**19**	P		Pn	13 01 24.0	+0.3
	baz=219,slow=13,SNR=3.5							
MKAR	**Makanchi Array**	**45.47**	**349**	P		P	13 05 44.3	+0.8
	0.5nm,0.6s,baz=145,slow=8.8,SNR=2.9							
WRA	**Warramunga Arr**	**45.93**	**121**	P		P	13 05 47.8	+0.2
	0.7nm,0.9s,baz=299,slow=8.8,SNR=3.4							
SONM	**Songino Array**	**46.90**	**12**	P		P	13 05 54.0	-0.9
	0.3nm,0.4s,baz=190,slow=8.1,SNR=3.1							
ASAR	**Alice Springs**	**47.16**	**125**	P		P	13 05 56.7	-0.5
	0.7nm,1.1s,baz=300,slow=7.2,SNR=3.1							

*CSEM **11** 12:58:50.7±0.1, 40.29N×30.43E, h12km, ML2.1, Error ellipse: s-maj=4.8km s-min=2.8km az=60.0*

DDA 11 12:58:51.0, 40.83N×30.16E, h7km, Ml2.1, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KAND	**Kocaeli-Kandir**	**0.27**	**5**	*i* P		Pg	12 58 56.6	+0.4
KAND				*i* S		Sg	12 59 01.2	+1.4
KAND	**Kocaeli-Kandir**	**0.27**	**5**	P		Pg	12 58 56.6	+0.4
KAND				S		Sg	12 59 01.2	+1.4
SAHE	**Sakarya_HENDEK**	**0.53**	**87**	*i* P		Pg	12 58 57.3	-3.9
SAHE				*i* S		Sg	12 59 03.0	-5.1
SAHE	**Sakarya_HENDEK**	**0.53**	**87**	P		Pg	12 58 57.3	-3.9
SAHE				S		Sg	12 59 03.0	-5.1
BORA	**Eskisehir**	**0.97**	**167**	*i* P		Pb	12 59 10.0	-0.3
BORA				*i* S		Sb	12 59 23.6	+0.2
BORA	**Eskisehir**	**0.97**	**167**	P		Pb	12 59 10.0	-0.2
BORA				S		Sb	12 59 23.6	+0.3

IDC 11 12:59:00.7±3.3, 0.74N×93.16E, h0km, mb3.7/4, mb1 3.8/5, mb1mx3.4/66, mbtmp3.6/5, ML3.5/1, Error ellipse: s-maj=108.7km s-min=24.2km az=65.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**18.50**	**18**	P		P	13 03 16.9	-1.7
	0.1nm,0.3s,baz=215,slow=11,SNR=2.4							
WRA	**Warramunga Arr**	**45.28**	**119**	P		P	13 07 21.4	+0.8
	0.8nm,0.6s,baz=298,slow=8.6,SNR=5.1							
ASAR	**Alice Springs**	**46.41**	**124**	P		P	13 07 28.4	-1.2
	0.5nm,0.9s,baz=301,slow=7.9,SNR=3.3							
SONM	**Songino Array**	**48.30**	**12**	P		P	13 07 45.4	+1.5
	0.8nm,0.7s,baz=197,slow=8.6,SNR=2.9							
ZALV	**Zalesovo Beam**	**53.48**	**354**	P		P	13 08 21.8	-0.8
	0.5nm,0.3s,baz=183,slow=7.2,SNR=3.2							

MEX 11 12:59:57.1±0.4, 16.33N×98.47W, h16km±999km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.33**	**79**	*i* P		Pg	13 00 03.2	-0.9
PNIG				*e*S		Sg	13 00 07.7	-1.2
TLIG	**Tlapa**	**1.23**	**356**	*e*P		Pn	13 00 16.7	-3.0
TLIG				*e*S		Sb	13 00 31.0	-4.8
VHO	**Vista Hermosa**	**1.82**	**66**	*e*P		Pn	13 00 26.1	-1.8
VHO				*e*S		Sn	13 00 46.3	-4.5
CAIG	**El Cayaco**	**1.87**	**293**	*e*P		Pn	13 00 25.5	-2.9
CAIG				*e*S		Sn	13 00 46.9	-4.8
PLIG	**Platanillo**	**2.28**	**334**	*e*P		Pn	13 00 33.2	-1.0
PLIG				*e*S		Sn	13 00 56.4	-5.6

*ISCJB **11** 13:04:03.7±1.5, 1.4N±0.2×93.7E±0.3, h10km, mb3.9/6, Error ellipse: s-maj=51.2km s-min=15.1km az=151.7*
*IDC **11** 13:04:04.4±2.6, 1.41N×93.72E, h0km, mb3.8/5, mb1 3.9/6, mb1mx3.4/71, mbtmp3.7/6, Error ellipse: s-maj=99.4km s-min=22.4km az=58.0*
*NEIC **11** 13:04:05.7±1.4, 1.41N×93.76E, h10km, mb4.6/1, Error ellipse: s-maj=46.6km s-min=13.5km az=63.0*

ISC 11 13:04:05.7±2.3, 1.4N±0.3×93.8E±0.5, h10km, n8, σ0.85/8, mb4.1/6, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**17.69**	**16**	P		**Pn**	**13 08 12.2**	**-0.2**
	baz=212,slow=12,SNR=4.1							
WRA	**Warramunga Arr**	**45.09**	**120**	P		**P**	**13 12 23.2**	**+0.7**
	1.0nm,0.5s,baz=297,slow=8.6,SNR=8.3							
WRAB	**Tennant Creek**	**45.10**	**120**	*e*P		**P**	**13 12 22.0**	**-0.5**
	11nm,1.5s							
MKAR	**Makanchi Array**	**46.30**	**349**	P		**P**	**13 12 30.6**	**-1.1**
	0.6nm,0.6s,baz=180,slow=9.0,SNR=5.4							
ASAR	**Alice Springs**	**46.30**	**125**	P		**P**	**13 12 31.7**	**-0.3**
	0.4nm,1.1s,baz=311,slow=7.1,SNR=3.5							
KURBB	**Kurchatov Arra**	**50.71**	**348**	P		**P**	**13 13 06.0**	**+0.5**
	0.6nm,0.2s,baz=177,slow=7.0,SNR=2.6							
KURK	**Kurchatov**	**50.78**	**348**	P		**P**	**13 13 06.0**	**0.0**
ZALV	**Zalesovo Beam**	**52.88**	**353**	P		**P**	**13 13 22.8**	**+1.2**
	1.0nm,0.4s,baz=179,slow=6.9,SNR=3.5							

*ISCJB **11** 13:06:44.7±1.0, 3.0N±0.1×92.6E±0.2, h10km, mb3.9/9, Error ellipse: s-maj=30.8km s-min=16.3km az=148.4*
*IDC **11** 13:06:44.7±1.5, 2.92N×92.47E, h0km, mb3.9/9, mb1 3.9/10, mb1mx3.6/71, mbtmp3.8/10, ML3.7/1, Error ellipse: s-maj=53.3km s-min=22.0km az=53.0*

ISC 11 13:06:46.7±1.4, 3.0N±0.2×92.6E±0.3, h10km, n13, σ0.73/9, mb4.0/9, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**16.57**	**22**	Pn		**Pn**	**13 10 38.5**	**-0.8**
	0.1nm,0.3s,baz=218,slow=13,SNR=5.1							
H01W3	**Cape Leeuwin H**	**42.78**	**154**	T		T	13 59 57.6	
	baz=324,slow=74							
H01W2	**Cape Leeuwin H**	**42.79**	**154**	T		T	14 00 00.0	
	baz=324,slow=74							
H01W1	**Cape Leeuwin H**	**42.80**	**154**	T		T	14 00 04.2	
	baz=324,slow=74							
MKAR	**Makanchi Array**	**44.52**	**350**	P		**P**	**13 14 58.8**	**+0.2**
	1.0nm,0.6s,baz=170,slow=9.0,SNR=7.9							
SONM	**Songino Array**	**46.22**	**13**	P		**P**	**13 15 13.1**	**+1.0**
	0.4nm,0.6s,baz=198,slow=8.8,SNR=2.3							
WRA	**Warramunga Arr**	**46.90**	**121**	P		**P**	**13 15 17.8**	**0.0**
	1.1nm,0.8s,baz=300,slow=8.6,SNR=3.8							
GEYT	**Alibeck**	**46.93**	**322**	P		**P**	**13 15 18.2**	**+0.4**
	1.2nm,0.5s,baz=157,slow=7.8,SNR=3.5							
ASAR	**Alice Springs**	**48.16**	**126**	P		**P**	**13 15 27.5**	**0.0**
	0.3nm,0.9s,baz=295,slow=7.9,SNR=3.1							
KURBB	**Kurchatov Arra**	**48.91**	**348**	P		**P**	**13 15 32.7**	**-0.1**
	0.6nm,0.6s,baz=170,slow=7.3,SNR=5.2							
ZALV	**Zalesovo Beam**	**51.18**	**354**	P		**P**	**13 15 50.2**	**+0.3**
	1.8nm,0.4s,baz=189,slow=8.9,SNR=7.8							
FINES	**FINESS Array B**	**76.30**	**333**	P		**P**	**13 18 34.4**	**-1.1**
	1.2nm,0.8s,baz=133,slow=9.7,SNR=2.8							
HFS	**Hagfors**	**81.87**	**330**	P		P	13 19 04.9	-1.3
	1.9nm,0.8s,baz=104,slow=15,SNR=2.2							

IDC 11 13:09:43.2±4.0, 0.74N×90.26E, h0km, mb4.0/5, mb1 4.0/5, mb1mx3.4/70, mbtmp4.0/5, Error ellipse: s-maj=120.0km s-min=72.2km az=61.0, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**46.40**	**352**	P		P	13 18 09.7	-1.8
	0.8nm,0.6s,baz=174,slow=9.2,SNR=5.9							
SONM	**Songino Array**	**48.96**	**14**	P		P	13 18 31.9	+0.4
	2.6nm,0.7s,baz=194,slow=9.2,SNR=9.8							
KURBB	**Kurchatov Arra**	**50.70**	**350**	P		P	13 18 45.2	+0.7
	1.5nm,0.7s,baz=176,slow=7.0,SNR=10							
ZALV	**Zalesovo Beam**	**53.23**	**356**	P		P	13 19 02.4	-0.9
	1.1nm,0.4s,baz=178,slow=7.4,SNR=4.4							
BVAR	**Borovoye Array**	**54.68**	**345**	P		P	13 19 14.7	+0.8
	0.3nm,0.4s,baz=156,slow=7.1,SNR=3.6							
TXAR	**Lajitas Array**	**147.27**	**23**	PKPbc		PKPbc	13 29 28.6	-1.0
	0.2nm,0.6s,baz=328,slow=3.2,SNR=2.0							

*ISCJB **11** 13:10:05.8±0.5, 0.92N±0.0×92.52E±0.0, h10km, mb4.3/26, MS5.3/2, Error ellipse: s-maj=9.1km s-min=5.4km az=37.5*
*IDC **11** 13:10:06.3±0.9, 0.95N×92.53E, h0km, mb4.1/16, mb1 4.2/18, mb1mx4.0/72, mbtmp4.1/18, ML4.1/2, Error ellipse: s-maj=29.4km s-min=14.6km az=43.0*
*NEIC **11** 13:10:07.2±0.4, 0.91N×92.42E, h10km, mb4.5/7, Error ellipse: s-maj=9.6km s-min=5.5km az=208.0*
*DJA **11** 13:10:21.4±1.3, 1°N±9°×9°E±1°5, h49km±85km, M5.3/6, mb5.3/6, MLv5.3/6*

ISC 11 13:10:07.4±0.6, 0.90N±0.07×92.51E±0.07, h10km, n65, σ1.52/69, mb4.3/26, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
GSI	**Gunungsitoli**	**5.08**	**85**	P		**Pn**	**13 11 24.1**	**+0.3**
GSI	**Gunungsitoli**	**5.08**	**85**	*e*Pn		**Pn**	**13 11 24.4**	**+0.6**
MLSI	**Meulaboh, Aceh**	**5.13**	**49**	P		**Pn**	**13 11 23.2**	**-1.2**
BSI	**Banda Aceh**	**5.35**	**31**	P		**Pn**	**13 11 26.6**	**-0.8**
BSI				S		Sn	13 12 20.2	-8.9
PBSI	**Pulau Batu**	**5.85**	**99**	P		**Pn**	**13 11 34.7**	**+0.4**
PBSI				S		Sn	13 12 34.3	-7.2
LHMI	**Lhok Sumawe**	**6.17**	**46**	P		**Pn**	**13 11 39.3**	**+0.5**
	369nm,0.7s,1.6nm							
LHMI	**Lhok Sumawe**	**6.17**	**46**	*e*Pn		**Pn**	**13 11 39.5**	**+0.7**
TSI	**Tuntungan**	**6.58**	**67**	P		**Pn**	**13 11 48.6**	**+4.3**
PSI	**Prapat**	**6.69**	**74**	*e*Pn		**Pn**	**13 11 46.0**	**+0.1**
SISI	**Saibi**	**6.94**	**109**	P		**Pn**	**13 11 49.4**	**+0.1**
MNSI	**Mandailing Nat**	**7.07**	**91**	P		**Pn**	**13 11 51.6**	**+0.5**
MNSI				S		**Sn**	**13 13 05.1**	**-6.5**
PDSI	**Padang**	**8.15**	**103**	P		**Pn**	**13 12 06.3**	**+0.3**
	110nm,1.0s							
BKNI	**Bangkinang**	**8.55**	**94**	P		**Pn**	**13 12 12.3**	**+0.9**
BKNI	**Bangkinang**	**8.55**	**94**	*e*Pn		**Pn**	**13 12 12.5**	**+1.1**
IPM	**Ipoh**	**9.22**	**67**	*e*Pn		**Pn**	**13 12 20.9**	**+0.3**
KULM	**Kulim**	**9.22**	**62**	*e*Pn		**Pn**	**13 12 20.4**	**-0.3**
MYKOM	**Kota Tinggi**	**11.37**	**85**	*e*Pn		**Pn**	**13 12 50.5**	**+0.4**
MNAI	**Manna**	**11.68**	**117**	*e*Pn		**Pn**	**13 12 54.2**	**0.0**
PALK	**Pallekele**	**13.36**	**299**	Pn		**Pn**	**13 13 15.4**	**-1.9**
	1.8nm,0.3s,baz=116,slow=12,SNR=3.1							
PALK	**Pallekele**	**13.36**	**299**	*e*Pn		**Pn**	**13 13 14.9**	**-2.5**
CISI	**Cisompet, Garu**	**17.43**	**119**	*e*P		**P**	**13 14 13.6**	**+1.4**
	69nm,1.1s							
KSM	**Kuching**	**17.81**	**88**	*e*Pn		**P**	**13 14 17.7**	**+1.3**
	38nm,0.9s							
CM01	**Chiang Mai Arr**	**18.53**	**20**	*e*P		**Pn**	**13 14 25.4**	**+1.0**
CM31	**Chiang Mai Arr**	**18.56**	**20**	*e*P		**Pn**	**13 14 24.9**	**+0.2**
CMAR	**Chiang Mai Arr**	**18.56**	**20**	P		**P**	**13 14 22.8**	**-1.8**
	0.2nm,0.3s,baz=212,slow=12,SNR=17							
CHTO	**Chiang Mai**	**18.89**	**19**	*e*P		**Pn**	**13 14 29.5**	**+0.7**
	5.6nm,1.0s							
SBUM	**Sibu**	**19.76**	**85**	*e*P		**Pn**	**13 14 39.9**	**+0.6**
	31nm,1.0s							
KMI	**Kunming**	**26.03**	**22**	P		**P**	**13 15 43.9**	**+2.7**
KMI				pmax	pmax			
	comp=Z,11nm,0.8s							
KMI				pmax	pmax			
	comp=Z,18μm,14.7s							
XAN	**Xi'an**	**36.38**	**23**	P		**P**	**13 17 11.8**	**-0.2**
XAN				pP	sP		13 17 17.3	+0.9
XAN				pmax	pmax			
	comp=Z,8.0nm,0.9s							
LZH	**Lanzhou**	**36.56**	**16**	*e*P		**P**	**13 17 15.2**	**+1.5**
LZH				pP	sP		13 17 18.3	+0.3
LZH				sP	pP		13 17 20.0	+3.2
LZH				PP	**PP**		**13 18 40.5**	**+3.5**
LZH				pmax	pmax			
	comp=Z,20nm,1.0s							
LZH				pmax	pmax			
	comp=Z,72nm,4.8s							
LZH				LR	LR			
	comp=N,390nm,13.6s							
LZH				LR	LR			
	comp=E,380nm,14.0s							
LZH				LR	LR			
	comp=Z,460nm,17.6s							
FITZ	**Fitzroy Crossi**	**37.67**	**122**	P		**P**	**13 17 22.8**	**-0.4**
	comp=Z,5.5nm,1.0s,baz=179,slow=2.2,SNR=4.8							
SIJI	**Sorong**	**38.80**	**92**	P		**P**	**13 17 32.1**	**-0.7**
	comp=Z,3.5nm,0.7s,baz=12,slow=20,SNR=3.8							
GTA	**Gaotai**	**38.91**	**9**	*e*P		**P**	**13 17 34.3**	**+0.8**
GTA				pP	sP		13 17 38.3	+0.5
GTA				sP	pP		13 17 41.7	+5.1
GTA				S	**S**		**13 23 31.7**	**-0.2**
GTA				sS	sS		13 23 40.8	+3.8
GTA				SS	**SnSn**		**13 26 18.2**	**-4.1**
GTA				pmax	pmax			
	comp=Z,4.0nm,0.7s							
GTA				pmax	pmax			
	comp=Z,23μm,5.0s							
GTA				LR	LR			
	comp=N,50μm,20.9s							
GTA				LR	LR			
	comp=E,42μm,22.3s							
GTA				LR	LR			
	comp=Z,39μm,22.6s							
NJ2	**Nanjing**	**39.73**	**36**	*e*P		**P**	**13 17 41.2**	**+0.9**
NJ2				pmax	pmax			
	comp=Z,9.0nm,0.5s							
WMQ	**Urumqi**	**42.95**	**355**	P		**P**	**13 18 07.4**	**+0.7**
HHC	**Hu-ho-hao-te**	**43.35**	**21**	*e*P		**P**	**13 18 12.0**	**+1.9**
HHC				pmax	pmax			
	comp=Z,18nm,1.1s							
HHC				pmax	pmax			
	comp=Z,23nm,6.1s							
BJI	**Beijing**	**44.52**	**26**	P		**P**	**13 18 20.0**	**+0.7**
BJI				pmax	pmax			
	comp=Z,24nm,1.1s							
WRA	**Warramunga Arr**	**45.92**	**119**	P		**P**	**13 18 31.6**	**+0.8**
	comp=Z,7.0nm,0.8s,baz=297,slow=8.5,SNR=30							
WB2	**Warramunga Arr**	**45.94**	**119**	*e*P		**P**	**13 18 31.1**	**+0.2**
MK01	**Makanchi Array**	**46.55**	**350**	*e*P		**P**	**13 18 34.9**	**-0.5**
MKAR	**Makanchi Array**	**46.57**	**350**	P		**P**	**13 18 35.7**	**+0.2**
	comp=Z,1.0nm,0.8s,baz=170,slow=8.6,SNR=5.3							
ASAR	**Alice Springs**	**47.04**	**124**	P		**P**	**13 18 40.0**	**+0.4**
	comp=Z,1.7nm,0.8s,baz=298,slow=7.0,SNR=13							
AS01	**Alice Springs**	**47.08**	**124**	*e*P		**P**	**13 18 40.0**	**+0.1**
SONM	**Songino Array**	**48.28**	**13**	P		**P**	**13 18 49.6**	**+0.7**
	comp=Z,4.2nm,0.7s,baz=191,slow=8.1,SNR=12							
SONA1	**Songino Array**	**48.29**	**13**	*e*P		**P**	**13 18 49.5**	**+0.5**
GEYT	**Alibeck**	**48.55**	**323**	P		**P**	**13 18 51.0**	**0.0**
	comp=Z,1.7nm,0.5s,baz=153,slow=9.7,SNR=3.3							
KSAR	**Wonju Array Be**	**48.83**	**38**	P		**P**	**13 18 53.2**	**+0.1**
KSRS	**Korea Array**	**48.86**	**38**	P		**P**	**13 18 53.2**	**-0.1**
	comp=Z,3.1nm,0.9s,baz=221,slow=8.8,SNR=7.8							
RAYN	**Ar Rayn**	**50.80**	**300**	*e*P		**P**	**13 19 08.0**	**-0.5**
	comp=Z,5.5nm,0.9s							
KURBB	**Kurchatov Arra**	**50.95**	**349**	P		**P**	**13 19 09.0**	**0.0**
	comp=Z,1.0nm,0.8s,baz=171,slow=7.0,SNR=4.6							
KURK	**Kurchatov**	**51.02**	**349**	P		**P**	**13 19 09.0**	**-0.5**
ZAA0	**Zalesovo Array**	**53.25**	**354**	*e*P		**P**	**13 19 25.6**	**-0.5**
	comp=Z,3.8n

MWZ **Matawai** 20.64 196 S **S** 13 20 04.3 +1.9
URZ **Urewera** 20.68 197 P **P** 13 16 26.5 0.0
24nm,0.4s,baz=325,slow=2.0,SNR=31
URZ S **S** 13 20 02.5 -0.5
16nm,0.7s,baz=231,slow=24,SNR=5.5
URZ **Urewera** 20.68 197 *e*P **P** 13 16 24.6 -1.9
47nm,0.5s
URZ S **S** 13 20 02.5 -0.5
URZ **Urewera** 20.68 197 P **P** 13 16 26.4 0.0
URZ **Urewera** 20.68 197 S **S** 13 20 04.3 +1.3
BKZ **Black Stump Fm** 21.70 197 *e*P **P** 13 16 35.9 -0.7
123nm,1.9s
PPT **Papeete** 24.57 92 P **P** 13 17 03.9 +0.9
35nm,0.7s,baz=37,slow=20,SNR=3.3
HNR **Honiara** 25.55 287 P **P** 13 17 12.6 +0.8
135nm,0.9s,baz=218,slow=5.8,SNR=4.2
DSZ **Denniston Nort** 25.55 203 P **P** 13 17 12.9 +1.2
LTZ **Lake Taylor** 26.30 201 *e*P **P** 13 17 17.6 -0.8
203nm,1.9s
OXZ **Oxford** 26.87 201 *e*P **P** 13 17 23.6 +0.3
31nm,0.6s
RPZ **Rata Peaks** 27.54 202 P **P** 13 17 30.3 +1.0
11nm,0.5s,baz=314,slow=2.0,SNR=9.8
EIDS **Eidsvold** 31.75 252 P **P** 13 18 06.7 +0.1
baz=32,SNR=4.6
ARMA **Armidale** 32.12 242 P **P** 13 18 10.9 +1.1
baz=32,SNR=31
RMQ **Roma** 33.94 250 P **P** 13 18 26.6 +1.0
baz=34,SNR=5.4
CTA **Charters Tower** 36.16 261 P **P** 13 18 44.2 -0.3
23nm,0.4s,baz=78,slow=9.9,SNR=60
CTAO **Charters Tower** 36.16 261 *e*P **P** 13 18 44.1 -0.5
126nm,0.4s
CMSA **Cobar Meteorol** 37.34 242 P **P** 13 18 54.3 0.0
baz=38,SNR=17
PMG **Port Moresby** 37.38 279 P **P** 13 18 54.5 -0.3
32nm,0.9s,baz=81,slow=7.6,SNR=6.5
PMG **Port Moresby** 37.38 279 *e*P **P** 13 18 53.4 -1.4
52nm,1.0s
PMG **Port Moresby** 37.38 279 *e*P **P** 13 18 54.9 +0.1
PMG pmax pmax
comp=Z,163nm,1.0s
QLP **Quilpie** 37.98 250 P **P** 13 18 59.8 0.0
baz=38,SNR=34
MTSU **Mount Surprise** 38.17 264 P **P** 13 19 01.0 -0.5
baz=38,SNR=13
TOO **Toolangi** 39.01 233 P **P** 13 19 08.3 +0.2
baz=39,SNR=8.3
COEN **Coen** 39.96 270 P **P** 13 19 16.0 -0.2
baz=40,SNR=6.8
COEN **Coen** 39.96 270 *e*P **P** 13 19 15.4 -0.9
comp=Z,19nm,0.7s
MANU **Manus Island** 40.00 290 *e*P **P** 13 19 15.8 -0.8
comp=Z,55nm,0.8s
STKA **Stephens Creek** 40.84 243 P **P** 13 19 23.5 +0.2
comp=Z,7.6nm,0.3s,baz=81,slow=9.3,SNR=32
STKA **Stephens Creek** 40.84 243 P **P** 13 19 23.9 +0.6
baz=41,SNR=43
STKA **Stephens Creek** 40.84 243 *e*P **P** 13 19 23.3 0.0
comp=Z,6.0nm,1.1s
QIS **Mount Isa** 42.34 260 P **P** 13 19 34.8 -0.8
baz=42,SNR=5.2
BBOO **Buckleboo** 45.60 242 P **P** 13 20 01.1 -0.2
baz=46,SNR=34
BBOO **Buckleboo** 45.60 242 *e*P **P** 13 20 00.7 -0.6
comp=Z,21nm,0.8s
WB2 **Warramunga Arr** 47.31 260 *e*P **P** 13 20 13.3 -1.4
WRA **Warramunga Arr** 47.32 260 P **P** 13 20 13.7 -1.1
comp=Z,12nm,0.5s,baz=95,slow=6.8,SNR=125
WRA PcP **PcP** 13 21 42.2 +0.5
comp=Z,6.8nm,0.8s,baz=89,slow=3.8,SNR=6.9
AS01 **Alice Springs** 47.32 255 *e*P **P** 13 20 14.5 -0.2
AS31 **Alice Springs** 47.36 255 *e*P **P** 13 20 14.8 -0.3
comp=Z,39nm,0.9s
ASAR **Alice Springs** 47.36 255 P **P** 13 20 15.0 -0.1
comp=Z,108nm,0.7s,baz=89,slow=8.2,SNR=745
ASAR PcP **PcP** 13 21 42.2 +0.4
comp=Z,10.0nm,0.8s,baz=104,slow=3.9,SNR=7.8
ASAR S **S** 13 26 46.7 -4.1
comp=Z,2.2nm,0.7s,baz=93,slow=15,SNR=8.5
GUMO **Guam** 50.54 306 P **P** 13 20 38.3 -0.8
comp=Z,144nm,1.0s,baz=159,slow=9.9,SNR=4.2
MTN **Manton Dam** 51.63 268 P **P** 13 20 46.5 -0.8
baz=52,SNR=14
MTN **Manton Dam** 51.63 268 *e*P **P** 13 20 45.6 -1.7
comp=Z,67nm,0.9s
FORT **Forrest** 52.31 245 P **P** 13 20 51.6 -0.5
baz=52,SNR=18
FORT **Forrest** 52.31 245 *e*P **P** 13 20 51.1 -1.0
comp=Z,835nm,0.8s
WRKA **Warakurna** 52.36 252 P **P** 13 20 52.5 -0.2
baz=52,SNR=57
SIJI **Sorong** 55.16 282 P **P** 13 21 12.7 -0.3
comp=Z,158nm,0.8s,baz=90,slow=4.5,SNR=71
FITZ **Fitzroy Crossi** 55.73 260 P **P** 13 21 17.2 +0.2
comp=Z,15nm,0.3s,baz=76,slow=7.4
FITZ **Fitzroy Crossi** 55.73 260 P **P** 13 21 17.1 +0.2
baz=56,SNR=92
FITZ **Fitzroy Crossi** 55.73 260 *e*P **P** 13 21 16.8 -0.1
KMBL **Kambalda** 57.59 244 P **P** 13 21 29.5 -0.3
baz=58,SNR=4.6
SOEI **Soe** 58.92 270 *e*P **P** 13 21 40.2 +0.8
comp=Z,118nm,0.8s
BATI **Baumata** 59.37 269 P **P** 13 21 43.2 +0.8
comp=Z,24nm,0.4s,baz=354,slow=1.4,SNR=3.8
TNTI **Ternate** 59.38 282 *e*P **P** 13 21 41.4 -1.1
comp=Z,343nm,1.5s
VNDA **Vanda** 60.05 186 P **P** 13 21 48.1 +2.2
comp=Z,6.3nm,0.9s,baz=10.0,slow=6.7,SNR=21
VNDA **Vanda** 60.05 186 *e*P **P** 13 21 48.4 +2.5
comp=Z,12nm,1.0s
MBWA **Marble Bar** 60.68 256 *e*P **P** 13 21 50.3 -0.9
comp=Z,359nm,1.5s
MEEK **Meekatharra** 60.87 249 P **P** 13 21 51.6 -0.8
baz=61,SNR=22
KLBR **Kellerberrin** 61.09 244 P **P** 13 21 53.4 -0.4
baz=61,SNR=23
NWAO **Narrogin (SRO)** 61.42 242 P **P** 13 21 55.6 -0.3
comp=Z,7.5nm,0.8s,baz=1.3,slow=6.3,SNR=5.6
NWAO **Narrogin (SRO)** 61.42 242 P **P** 13 21 56.0 0.0
baz=62,SNR=4.3
NWAO P **P** 13 21 56.0 0.0
baz=62,SNR=4.3
RKGY **Rocky Gully** 61.52 240 P **P** 13 21 56.9 +0.4
baz=62,SNR=4.9
BLDU **Ballidu** 62.08 245 P **P** 13 21 59.8 -0.5
baz=62,SNR=40
MUN **Mundaring** 62.37 243 P **P** 13 22 02.4 +0.1
baz=62,SNR=14
MORW **Morawa** 62.83 246 P **P** 13 22 04.9 -0.5
baz=63,SNR=5.4
LUWI **Luwuk** 63.02 279 *e*P **P** 13 22 06.8 0.0
comp=Z,169nm,1.2s
CASY **Casey** 66.75 205 *e*P **P** 13 22 31.3 +1.4
comp=Z,1.2nm,0.5s
MJAR **Matsushiro Arr** 70.16 322 P **P** 13 22 50.6 -0.9
comp=Z,15nm,0.8s,baz=169,slow=6.2,SNR=24
MAJO **Matsushiro** 70.16 322 *e*P **P** 13 22 49.7 -1.7
MAJO pmax pmax
comp=Z,29nm,1.0s
MAT **Matsushiro** 70.16 322 P **P** 13 22 50.8 -0.6
MJB9 **Matsu-Tunnel** 70.17 322 *e*P **P** 13 22 50.9 -0.6
comp=Z,40nm,1.0s
JOW **Kunigami** 70.85 308 P **P** 13 22 55.2 -0.6
comp=Z,27nm,0.8s,baz=128,slow=12,SNR=3.6
QSPA **South Pole Qui** 71.50 180 P **P** 13 23 01.0 +1.8
comp=Z,31nm,0.9s,baz=26,slow=2.3,SNR=55
QSPA **South Pole Qui** 71.50 180 P **P** 13 23 01.0 +1.8
JNU **Nakatsue** 72.60 315 P **P** 13 23 05.2 -0.9
comp=Z,14nm,0.7s,baz=66,slow=3.4,SNR=9.3
ASAJ **Asahikawa** 73.25 330 P **P** 13 23 10.1 +0.6
comp=Z,11nm,1.0s,baz=276,slow=1.8,SNR=6.3
YOJ **Yonaguni jima** 73.67 303 *e*P **P** 13 23 11.6 -0.8
comp=Z,142nm,1.0s
SBUM **Sibu** 74.12 278 *e*P **P** 13 23 15.3 0.0
comp=Z,22nm,1.2s
TWG **Pinlang** 74.44 301 *e*P **P** 13 23 14.5 -2.5
comp=Z,116nm,0.6s
YULB **Yu-li** 74.53 302 *e*P **P** 13 23 16.0 -1.5
comp=Z,21nm,0.8s
NACB **Ninganchiao** 74.66 302 *e*P **P** 13 23 17.3 -0.9
comp=Z,150nm,1.1s
SSLB **Suanglung** 74.99 302 *e*P **P** 13 23 19.1 -1.0
comp=Z,47nm,0.9s
TPUB **Ta-pu** 75.03 301 *e*P **P** 13 23 19.4 -1.0
comp=Z,132nm,0.8s
PETK **Petropavlovsk-** 75.07 344 P **P** 13 23 19.4 -0.5
comp=Z,12nm,0.8s,baz=129,slow=8.3,SNR=17

YHNB **Yeheng** 75.07 303 *e*P **P** 13 23 20.3 -0.4
comp=Z,69nm,1.0s
CISI **Cisompet, Garu** 75.14 267 *e*P **P** 13 23 20.1 -1.1
YSS **Yuzh-Sakhalins** 75.31 332 *e*P **P** 13 23 21.2 -0.1
comp=Z,44nm,1.0s
YSS **Yuzh-Sakhalins** 75.31 332⇓ *e*P **P** 13 23 21.8 +0.5
YSS pmax pmax
comp=Z,30nm,1.0s
LEM **Lembang** 75.54 268 P **P** 13 23 24.4 +0.7
comp=Z,59nm,0.9s,baz=106,slow=5.2,SNR=6.1
KSM **Kuching** 75.59 277 *e*P **P** 13 23 23.8 0.0
comp=Z,81nm,1.1s
FULC **Fullerton** 75.60 46 *e*P **P** 13 23 23.3 0.0
KSRS **Korea Array** 77.10 317 P **P** 13 23 32.7 +1.0
comp=Z,12nm,0.9s,baz=136,slow=6.2,SNR=26
KSAR **Wonju Array Be** 77.12 317 P **P** 13 23 32.7 +0.9
KS01 **Wonju Array Si** 77.14 317 *e*P **P** 13 23 32.1 +0.3
NV01 **Mina Array Sit** 77.95 42 *e*P **P** 13 23 36.8 +0.2
NVAR **Mina Array Bea** 77.95 42 P **P** 13 23 37.4 +0.7
comp=Z,1.8nm,0.8s,baz=222,slow=10.0,SNR=13
USRK **Ussuriysk Ar.** 78.78 324 P **P** 13 23 41.7 +1.0
comp=Z,6.2nm,1.0s,baz=82,slow=4.0,SNR=7.6
WVOR **Wild Horse Val** 80.09 39 *e*P **P** 13 23 48.0 0.0
comp=Z,6.4nm,1.2s
MDJ **Mudanjiang** 80.38 324 *e*P **P** 13 23 50.1 +0.8
NJ2 **Nanjing** 80.57 308 *e*P **P** 13 23 51.2 +0.6
NJ2 pmax pmax
comp=Z,23nm,0.8s
J08A **Circle Bar Ran** 80.73 38 *e*P **P** 13 23 51.4 -0.1
comp=Z,6.7nm,1.2s
GRNR **Gornyy** 80.95 331 *e*P **P** 13 23 52.2 0.0
GRNR pmax pmax
comp=Z,42nm,1.0s
G08A **Pilot Rock** 81.61 36 *e*P **P** 13 23 56.1 +0.1
comp=Z,6.3nm,1.1s
RC01 **Rabbit Creek A** 82.02 12 *e*P **P** 13 23 55.9 -1.7
comp=Z,22nm,1.6s
GAMB **Gambell** 82.12 2 *e*P **P** 13 23 58.2 +0.2
comp=Z,8.5nm,1.0s
KLR **Kul'dur** 82.15 328 P **P** 13 23 58.4 -0.1
comp=Z,0.3nm,0.9s,baz=77,slow=4.0,SNR=6.8
KLR **Kul'dur** 82.15 328 *e*P **P** 13 23 58.0 -0.5
ZAIG **Zacatecas** 82.15 63 P **P** 13 24 00.9 +1.3
SUA **Susitna One** 82.16 12 *e*P **P** 13 23 57.8 -0.7
comp=Z,9.2nm,0.8s
CN2 **Changchun** 82.30 321 *e*P **P** 13 24 00.0 +0.6
CN2 pmax pmax
comp=Z,10.0nm,1.5s
PMR **Palmer** 82.60 12 *e*P **P** 13 23 59.2 -1.3
comp=Z,13nm,1.3s
MA2 **Magadan** 82.61 343 *e*P **P** 13 23 59.0 -1.6
DIV **Divide** 82.91 14 *e*P **P** 13 24 01.3 -0.9
comp=Z,13nm,0.8s
WRAK **Wrangell Islan** 82.99 22 *e*P **P** 13 24 03.0 +0.3
comp=Z,6.2nm,0.9s
F10A **Beach Ranch, E** 82.99 37 *e*P **P** 13 24 02.4 -0.7
comp=Z,6.1nm,0.9s
BMRM **Bremner River** 83.04 15 *e*P **P** 13 24 02.1 -0.8
comp=Z,14nm,1.0s
TMUT **Trail Mountain** 83.06 45 *e*P **P** 13 24 04.3 +0.4
comp=Z,4.3nm,0.9s
SCM **Sheep Creek Mo** 83.19 13 *e*P **P** 13 24 03.1 -0.6
comp=Z,15nm,0.9s
KLU **Klutina** 83.20 14 *e*P **P** 13 24 03.1 -0.6
comp=Z,12nm,1.5s
HLID **Hailey** 83.28 40 *e*P **P** 13 24 05.0 +0.3
comp=Z,4.4nm,1.1s
LLLB **Lillooet** 83.38 31 *e*P **P** 13 24 04.6 -0.2
comp=Z,5.1nm,1.0s
SRU **San Rafael Swe** 83.43 45 *e*P **P** 13 24 06.0 +0.4
comp=Z,3.7nm,0.8s
MNTX **Cornudas Mount** 83.64 54 *e*P **P** 13 24 07.3 +0.7
comp=Z,4.2nm,1.2s
BALM **Baldy** 83.65 15 *e*P **P** 13 24 05.5 -0.6
comp=Z,11nm,1.3s
TX31 **Lajitas Ar. Si** 83.96 56 *e*P **P** 13 24 09.0 +0.7
TXAR **Lajitas Array** 83.96 56 P **P** 13 24 09.9 +1.5
comp=Z,3.3nm,1.1s,baz=216,slow=6.2,SNR=12
KTH **Kantishna Hill** 84.05 11 *e*P **P** 13 24 06.5 -1.5
comp=Z,7.5nm,1.2s
TRF **Thorofare Moun** 84.07 11 *e*P **P** 13 24 07.2 -1.1
comp=Z,14nm,0.8s
HARP **HAARP** 84.17 14 *e*P **P** 13 24 07.9 -0.7
comp=Z,20nm,1.1s
MAW **Mawson** 84.19 199 P **P** 13 24 09.7 +1.0
comp=Z,5.1nm,0.6s,baz=136,slow=3.9,SNR=11
ANMO **Albuquerque** 84.29 50 *e*P **P** 13 24 12.0 +2.0
comp=Z,5.8nm,1.4s
ANMO **Albuquerque** 84.29 50 *e*P **P** 13 24 06.9 -3.2
ANMO pmax pmax
comp=Z,3.0nm,1.3s
DHY **Denali Highway** 84.30 12 *e*P **P** 13 24 08.6 -0.8
comp=Z,25nm,1.7s
RND **Reindeer** 84.30 12 *e*P **P** 13 24 08.6 -0.7
comp=Z,31nm,1.0s
SKAG **Skagway** 84.34 19 *e*P **P** 13 24 10.2 +0.8
comp=Z,23nm,1.7s
MCK **McKinley** 84.58 11 *e*P **P** 13 24 09.8 -0.8
comp=Z,26nm,0.9s
PAX **Paxson** 84.60 13 *e*P **P** 13 24 09.1 -1.8
comp=Z,14nm,1.7s
MCMT **McKenzie Canyo** 84.91 39 *e*P **P** 13 24 13.6 +0.6
comp=Z,1.2nm,1.0s
MENT **Mentasta** 84.96 14 *e*P **P** 13 24 12.3 -0.3
comp=Z,9.8nm,1.0s
SEY **Seymchan** 85.08 346 P **P** 13 24 12.4 -0.6
comp=Z,14nm,0.9s,baz=135,slow=11,SNR=11
SEY **Seymchan** 85.08 346 *e*P **P** 13 24 12.3 -0.7
IPM **Ipoh** 85.33 276 *e*P **P** 13 24 16.0 +0.5
comp=Z,30nm,1.1s
DLBC **Dease Lake** 85.34 22 *e*P **P** 13 24 14.7 +0.2
comp=Z,5.4nm,0.9s
WRH **Wood River Hil** 85.41 12 *e*P **P** 13 24 13.9 -0.8
comp=Z,33nm,0.9s
RIDG **Independ'e Rid** 85.42 13 *e*P **P** 13 24 14.4 -0.4
comp=Z,16nm,1.1s
MLY **Manley** 85.45 10 *e*P **P** 13 24 13.6 -1.3
comp=Z,14nm,1.0s
DOT **Dot Lake** 85.51 13 *e*P **P** 13 24 14.6 -0.6
comp=Z,38nm,0.9s
HDA **Harding Lake** 85.58 12 *e*P **P** 13 24 14.6 -0.9
comp=Z,18nm,0.8s
CCB **Clear Creek Bu** 85.62 12 *e*P **P** 13 24 14.6 -1.0
comp=Z,24nm,0.8s
SCRK **Sand Creek** 85.81 13 *e*P **P** 13 24 16.3 -0.5
comp=Z,7.4nm,0.9s
COLA **College** 85.82 11 *e*P **P** 13 24 15.7 -0.9
comp=Z,37nm,0.8s
COLA **College** 85.82 11 *i* P **P** 13 24 16.0 -0.6
COLA pmax pmax
comp=Z,32nm,0.9s
MDM **Murphy Dome** 85.83 11 *e*P **P** 13 24 15.6 -1.1
comp=Z,23nm,1.0s
IM3 **Indian Mountai** 85.86 9 *e*P **P** 13 24 16.1 -0.7
PDAR **Pinedale Array** 85.89 42 P **P** 13 24 17.7 -0.2
comp=Z,0.2nm,0.4s,baz=174,slow=1.5,SNR=3.6
IL1 **Eielson Array** 85.91 12 *e*P **P** 13 24 16.0 -1.1
ILAR **Eielson Array** 85.91 12 P **P** 13 24 16.2 -0.9
comp=Z,11nm,1.1s,baz=230,slow=6.1,SNR=51
ILAR **Eielson Array** 85.91 12 P **P** 13 24 16.3 -0.9
ILAR pmax pmax
comp=Z,8.0nm,0.9s
ILB **Eielson Array** 85.91 12 *e*P **P** 13 24 16.0 -1.1
BJI **Beijing** 86.27 314 P **P** 13 24 20.1 +0.7
BJI pmax pmax
comp=Z,15nm,1.1s
DAWY **Dawson** 86.95 15 *e*P **P** 13 24 21.8 -0.4
comp=Z,11nm,0.9s
ENH **Enshi** 87.00 303 *e*P **P** 13 24 23.4 +0.2
comp=Z,106nm,1.4s
EGAK **Eagle** 87.13 14 *e*P **P** 13 24 23.0 0.0
comp=Z,11nm,1.1s
ZEA **Zeya** 87.16 330 *e*P **P** 13 24 24.1 +0.7
ZEA pmax pmax
comp=Z,41nm,1.0s
BILL **Bilibino** 87.39 353 ⇓ *i*P **P** 13 24 23.7 -0.5
BILL *e**PP **pP** 13 25 23.1 +1.2
BILL pmax pmax
comp=Z,11nm,1.0s
COLD **Coldfoot** 87.56 10 *e*P **P** 13 24 25.3 +0.3
comp=Z,5.4nm,0.8s
GYA **Guiyang** 87.84 299 *e*P **P** 13 24 27.6 +0.1
GYA pP pP 13 25 27.3 +2.1
GYA sP sP 13 25 52.0 +1.9
GYA PP **PP** 13 27 59.0 +1.7
GYA **Guiyang** 87.84 299 SKS **SKSac** 13 34 29.6 -3.6
GYA **Guiyang** 87.84 299 S **S** 13 34 47.8 -2.3

GYA pmax pmax
comp=Z,10.0nm,1.0s
PLCA **Paso Flores** 88.81 133 P **P** 13 24 32.0 +0.2
comp=Z,2.0nm,0.9s,baz=316,slow=6.2,SNR=3.8
XAN **Xi'an** 88.93 306 P **P** 13 24 33.7 +1.4
XAN pmax pmax
comp=Z,16nm,1.0s
TOLK **Toolik Lake Re** 88.95 9 *e*P **P** 13 24 31.4 -0.2
comp=Z,5.2nm,0.9s
HHC **Hu-ho-hao-te** 89.78 313 *e*P **P** 13 24 37.6 +1.4
HHC **Hu-ho-hao-te** 89.78 313 S **S** 13 35 11.1 +3.6
HHC pmax pmax
comp=Z,12nm,1.3s
HHC pmax pmax
comp=Z,21nm,7.8s
SNAA **Sanae** 89.85 178 P **P** 13 24 36.4 +0.3
SNAA **Sanae** 89.85 178 P **P** 13 24 36.3 +0.3
comp=Z,3.3nm,0.9s,baz=199,slow=9.5,SNR=6.5
VNA3 **Neumayer Olymp** 89.89 175 P **P** 13 24 34.9 -1.2
VNA2 **Neumayer--Watz** 90.36 176 P **P** 13 24 39.4 +1.1
baz=184,slow=2.5
VNA1 **Neumayer--Stat** 90.57 176 P **P** 13 24 40.3 +1.1
KMI **Kunming** 90.67 296 P **P** 13 24 40.8 0.0
YAK **Yakutsk** 91.26 337 *e*P **P** 13 24 41.0 -1.3
YAK pmax pmax
comp=Z,10.0nm,0.8s
CM01 **Chiang Mai Arr** 91.76 289 *e*P **P** 13 24 46.8 +1.1
INK **Inuvik** 91.79 14 *e*P **P** 13 24 43.4 -1.3
comp=Z,11nm,1.0s
CMAR **Chiang Mai Arr** 91.79 289 P **P** 13 24 47.4 +1.5
comp=Z,14nm,1.1s,baz=110,slow=2.6,SNR=21
CHTO **Chiang Mai** 91.90 289 *e*P **P** 13 24 47.3 +0.9
comp=Z,28nm,1.4s
LZH **Lanzhou** 93.56 307 ⇑ P **P** 13 24 54.6 +0.8
LZH pP pP 13 25 54.2 +2.3
LZH sP sP 13 26 19.8 +3.1
LZH PP **PP** 13 28 45.7 +3.5
LZH pmax pmax
comp=Z,20nm,1.4s
LZH pmax pmax
comp=Z,83nm,5.5s
YKA **Yellowknife Ar** 93.75 24 P **P** 13 24 53.4 -0.4
comp=Z,1.7nm,0.8s,baz=241,slow=4.3,SNR=30
ULN **Ulaanbaatar** 95.52 319 *i* P **P** 13 25 01.8 -0.7
ULN pmax pmax
comp=Z,3.0nm,1.0s
BOD **Bodaibo** 95.66 330 *e*P P 13 25 08.2 +5.5
BOD pmax pmax
comp=Z,14nm,1.1s
TIXI **Tiksi** 97.52 345 *e*P **P** 13 25 09.0 -1.8
TIXI pmax pmax
comp=Z,3.0nm,1.0s
ZALV **Zalesovo Beam** 110.51 322 PKiKP **PKiKP** 13 30 07.4 -0.8
comp=Z,1.7nm,0.5s,baz=178,slow=2.8,SNR=3.1
MKAR **Makanchi Array** 111.64 314 PKiKP **PKiKP** 13 30 09.7 -1.0
comp=Z,0.9nm,0.4s,baz=130,slow=1.1,SNR=14
KURK **Kurchatov** 114.22 318 PKP PKPdf 13 30 14.7 -0.7
KURK **Kurchatov** 114.22 318 PKIKP PKPdf 13 30 14.7 -0.7
KURK pmax pmax
comp=Z,2.0nm,0.6s
KURBB **Kurchatov Arra** 114.27 318 PKP PKPdf 13 30 14.7 -0.8
comp=Z,1.6nm,0.6s,baz=95,slow=1.7,SNR=6.7
AAK **Ala-Archa** 117.01 309 PKIKP **PKPdf** 13 30 20.5 -0.8
BVAR **Borovoye Array** 119.15 321 PKP **PKPdf** 13 30 24.2 -0.6
comp=Z,4.6nm,0.3s,baz=107,slow=3.2,SNR=32
BRVK **Borovoye** 119.21 321 *i* PKIKP **PKPdf** 13 30 24.1 -0.8
SPITS **Spitsbergen Ar** 120.08 357 PKP **PKPdf** 13 30 25.1 -0.9
comp=Z,4.4nm,0.7s,baz=183,slow=14,SNR=3.3
SPITS **Spitsbergen Ar** 120.08 357 PKIKP **PKPdf** 13 30 25.1 -0.9
SPITS pmax pmax
comp=Z,5.0nm,0.7s
ARU **Arti** 124.97 327 *i* PKIKP **PKPdf** 13 30 35.5 -0.4
ARU 13 32 27.9
ARU 13 37 25.5
AKTO **Aktyubinsk** 127.21 320 PKP **PKPdf** 13 30 40.2 -0.1
comp=Z,1.6nm,0.6s,baz=141,slow=3.4,SNR=4.0
ARCES **ARCESS Array B** 127.44 351 PKP **PKPdf** 13 30 39.9 -0.4
comp=Z,1.7nm,0.5s,baz=193,slow=0.3,SNR=12
BOSA **Boshof** 129.02 204 PKP **PKPdf** 13 30 44.8 0.0
comp=Z,1.9nm,0.6s,baz=162,slow=8.5,SNR=3.0
GEYT **Alibeck** 129.76 304 PKP **PKPdf** 13 30 45.9 +0.2
comp=Z,2.9nm,0.8s,baz=208,slow=2.9,SNR=4.7
LBTB **Lobatse** 132.10 206 PKP **PKPdf** 13 30 50.3 -0.4
comp=Z,7.0nm,0.8s,baz=55,slow=6.7,SNR=8.5
FINES **FINESS Array B** 134.56 346 PKP **PKPdf** 13 30 53.1 -0.8
comp=Z,2.2nm,0.7s,baz=39,slow=1.3,SNR=5.6
FINES **FINESS Array B** 134.56 346 PKIKP **PKPdf** 13 30 53.1 -0.8
FINES pmax pmax
comp=Z,3.0nm,0.8s
OBN **Obninsk** 136.16 334 *e*PKIKP **PKPdf** 13 30 56.4 -0.7
OBN pmax pmax
comp=Z,7.0nm,0.9s
KIV **Kislovodsk** 139.29 317 *e*PKIKP **PKPdf** 13 31 03.0 -0.4
KIV pmax pmax
comp=Z,5.0nm,1.0s
KMBO **Kilima Mbogo** 142.40 242 PKhKP PKPpre 13 31 06.8
comp=Z,1.0nm,0.3s,baz=53,slow=14,SNR=4.8
AKASG **Malin Array Be** 142.43 334 PKhKP PKPpre 13 31 03.4
comp=Z,1.0nm,0.3s,baz=36,slow=4.1,SNR=9.4
EKA **Eskdalemuir Ar** 142.82 7 PKhKP PKPpre 13 31 04.0
comp=Z,1.3nm,0.6s,baz=333,slow=2.4,SNR=5.0
EKA **Eskdalemuir Ar** 142.82 7 PKHKP PKPpre 13 31 04.0
EKA pmax pmax
comp=Z,1.0nm,0.6s
BEL **Belsk** 144.43 343 *e*PKP **PKPdf** 13 31 12.6 +0.5
BEL **Belsk** 144.43 343 *e*PKIKP **PKPdf** 13 31 12.6 +0.5
LVV **L'vov** 145.13 338 ⇑ *i*PKIKP **PKPab** 13 31 13.8 0.0
KIS **Kishinev** 145.37 330 *e*P **PKPdf** 13 31 14.0 +0.1
KIS **Kishinev** 145.37 330 *e*PKIKP **PKPdf** 13 31 14.0 +0.1
KWP **Kalwaria Pacla** 145.76 339 *e*PKP **PKPdf** 13 31 14.9 +0.3
KWP **Kalwaria Pacla** 145.76 339 *e*PKIKP **PKPdf** 13 31 14.9 +0.3
OJC **Ojcow** 146.16 342 *e*PKP **PKPbc** 13 31 16.8 +0.2
OJC **Ojcow** 146.16 342 *e*PKP2 **PKPbc** 13 31 16.8 +0.2
STHS **Stebnicka Huta** 146.43 340 *e*PKP **PKPdf** 13 31 16.5 +0.8
STHS **Stebnicka Huta** 146.43 340 *e*PKIKP **PKPdf** 13 31 16.5 +0.8
KSP **Ksiaz** 146.47 347 *e*PKP **PKPbc** 13 31 18.1 +0.6
KSP **Ksiaz** 146.47 347 *e*PKP2 **PKPbc** 13 31 18.1 +0.6
BURAR **Bucovina Array** 146.48 334 ⇑ *i*P **PKPab** 13 31 18.9 -0.3
BURAR **Bucovina Array** 146.48 334 PKP2 **PKPab** 13 31 18.9 -0.3
ILGA **Ilgaz** 146.49 318 *e*PKPdf **PKPdf** 13 31 17.1 +0.8
CLL **Collm** 146.66 350 *i* PKPbc **PKPbc** 13 31 17.5 -0.5
comp=Z,28nm,1.0s
CLL **Collm** 146.66 350 *i* (PKP) PKPab 13 31 33.4 +14
comp=Z,8.0nm,0.6s
CLL **Collm** 146.66 350 *e*PKP2 **PKPbc** 13 31 18.0 0.0
CLL pmax pmax
comp=Z,28nm,1.0s
TLCR 146.67 328 ⇑ *i*P **PKPbc** 13 31 18.5 +0.3
TLCR 146.67 328 PKP2 **PKPbc** 13 31 18.5 +0.3
NIE **Niedzica** 146.72 341 *e*PKP **PKPbc** 13 31 19.0 +0.7
NIE **Niedzica** 146.72 341 *e*P **PKPbc** 13 31 19.0 +0.7
UZH **Uzhgorod** 146.75 338 *e* *i*PKIKP **PKPbc** 13 31 18.0 -0.3
CRVS **Cervenica-Dubn** 146.80 340 *e*PKP **PKPbc** 13 31 19.0 +0.5
CRVS **Cervenica-Dubn** 146.80 340 *e*PKP2 **PKPbc** 13 31 19.0 +0.5
UPC **Upice** 146.85 347 *e*PKP **PKPbc** 13 31 19.1 +0.5
UPC 13 31 34.1
UPC **Upice** 146.85 347 *e*PKP2 **PKPbc** 13 31 19.1 +0.5
BRG **Berggiesshubel** 146.91 349 *i* P **PKPbc** 13 31 18.8 +0.1
comp=Z,18nm,1.1s
BRG **Berggiesshubel** 146.91 349 *i* PKP2 **PKPbc** 13 31 18.8 +0.1
BRG pmax pmax
comp=Z,18nm,1.1s
DPC **Dobruska-Polom** 146.93 346 *e*PKP **PKPbc** 13 31 19.4 +0.6
DPC *ex* x 13 31 21.4
DPC *ex* x 13 31 34.2
DPC **Dobruska-Polom** 146.93 346 *e*PKP2 **PKPbc** 13 31 19.4 +0.5
CFR **Carcaliu** 147.01 329 ⇑ *i*P **PKPbc** 13 31 19.7 +0.6
CFR **Carcaliu** 147.01 329 PKP2 **PKPbc** 13 31 19.7 +0.6
KRLC **Kraliky** 147.08 346 *e*PKP **PKPbc** 13 31 19.6 +0.3
KRLC *ex* x 13 31 21.7
KRLC *ex* x 13 31 35.3
KRLC **Kraliky** 147.08 346 *e*PKP2 **PKPbc** 13 31 19.6 +0.3
PVCC **Panska Ves** 147.13 348 *e*PKP **PKPbc** 13 31 20.0 +0.7
PVCC **Panska Ves** 147.13 348 *e*PKP2 **PKPbc** 13 31 20.0 +0.7
MORC **Moravsky Berou** 147.17 344 ⇓ *i*P **PKPbc** 13 31 20.1 +0.6
MORC **Moravsky Berou** 147.17 344 *e*PKPbc **PKPbc** 13 31 19.6 +0.1
MORC **Moravsky Berou** 147.17 344 PKP2 **PKPbc** 13 31 20.1 +0.6
VRI **Vrincioaia** 147.18 331 ⇑ *i*P **PKPbc** 13 31 19.4 -0.2
VRI **Vrincioaia** 147.18 331 PKIKP **PKPbc** 13 31 19.4 -0.2
LANS **Liptovska Anna** 147.21 342 *e*PKP **PKPbc** 13 31 20.3 +0.7
LANS **Liptovska Anna** 147.21 342 *e*PKP2 **PKPbc** 13 31 20.3 +0.7
BR131 **Keskin Array S** 147.25 316 *e*PKPbc **PKPbc** 13 31 19.9 -0.3
BRTR **Keskin Array B** 147.25 316 PKPbc **PKPbc** 13 31 20.1 0.0
comp=Z,14nm,0.9s,baz=130,slow=1.9,SNR=24

ARCR	ARCALIA	147.25	335	⫴	*iP*	PKPbc	13 31 20.8 +1.0
TIRR	Tirgusor	147.38	328	⇑	*iP*	PKPbc	13 31 20.3 +0.1
TIRR	Tirgusor	147.38	328		*e*PKPbc	PKPbc	13 31 20.1 0.0
TIRR	Tirgusor	147.38	328		PKP2	PKPbc	13 31 20.3 +0.1
HARR	Harsova	147.46	328	⫴	*iP*	PKPbc	13 31 21.1 +0.7
HARR	Harsova	147.46	328		PKP2	PKPbc	13 31 21.2 +0.8
TLB	Topalu	147.48	328	⇑	*iP*	PKPbc	13 31 20.5 +0.1
TLB	Topalu	147.48	328		PKP2	PKPbc	13 31 20.5 +0.1
PRU	Pruhonice	147.65	348		*e*PKP	PKPbc	13 31 21.3 +0.6
PRU	Pruhonice	147.65	348		*e*PKP2	PKPbc	13 31 21.3 +0.6
GOPC	GO Pecny, Ondr	147.67	348		*e*PKP	PKPbc	13 31 21.2 +0.4
GOPC	GO Pecny, Ondr	147.67	348		*e*PKP2	PKPbc	13 31 21.2 +0.4
DOPR	Dopca	147.70	332	⫴	*iP*	PKPbc	13 31 21.4 +0.4
ANTO	Ankara	147.72	317		*e*PKPbc	PKPbc	13 31 21.2 -0.1
BR231	Keskin MP Arra	147.75	317		*e*PKPbc	PKPbc	13 31 21.0 -0.5
NKC	Novy Kostel	147.78	351		*e*PKP	PKPbc	13 31 21.5 +0.4
NKC					*ex*	x	13 31 23.9
NKC	Novy Kostel	147.78	351		*e*PKP2	PKPbc	13 31 21.5 +0.4
MLR	Muntele Rosu	147.82	331	⇑	*iP*	PKPbc	13 31 22.1 +0.6
CJR	Cluj-Napoca	147.86	335	⫴	*iP*	PKPbc	13 31 22.2 +0.7
CJR	Cluj-Napoca	147.86	335		PKP2	PKPbc	13 31 22.2 +0.7
VYHS	Vyhne	147.98	342		*e*PKP	PKPbc	13 31 22.0 +0.4
VYHS	Vyhne	147.98	342		*e*P	PKPbc	13 31 22.1 +0.4
MBAR	Mbarara	148.01	236		PKPbc	PKPbc	13 31 23.5 +0.5
	comp=Z,4.5nm,0.2s,baz=229,slow=19,SNR=3.4						
DRGR		148.14	336	⫴	*iP*	PKPbc	13 31 22.5 +0.3
DRGR		148.14	336		PKP2	PKPbc	13 31 22.5 +0.3
PSZ	Piszkesteto	148.17	340	⇑	*iP*	PKPbc	13 31 21.2 -1.1
PSZ	Piszkesteto	148.17	340		PKIKP	PKPbc	13 31 21.2 -1.1
BCLA	Clavier	148.21	359	⇑	PKPab	PKPab	13 31 25.3 -0.5
VOIR		148.26	332	⇑	*iP*	PKPbc	13 31 23.0 +0.4
VOIR		148.26	332		PKP2	PKPbc	13 31 23.0 +0.4
ARR	Arges	148.50	332	⇑	*iP*	PKPbc	13 31 24.5 +1.3
MODS	Modra-Piesok	148.53	344		*e*PKP	PKPbc	13 31 24.0 +0.9
MODS	Modra-Piesok	148.53	344		*e*PKP2	PKPbc	13 31 24.0 +0.9
DOU	Dourbes	148.54	360	⫴	PKPbc	PKPbc	13 31 23.1 +0.1
DOU				⫴	PKPab	PKPab	13 31 26.5 -0.7
KHC	Kasperske Hory	148.66	349		*e*PKP	PKPbc	13 31 23.8 +0.4
KHC					*ex*	x	13 31 27.0
KHC					*ex*	x	13 31 39.1
KHC	Kasperske Hory	148.66	349		*e*PKPbc	PKPbc	13 31 23.8 +0.4
KHC	Kasperske Hory	148.66	349		*e*PKP2	PKPbc	13 31 23.8 +0.4
MMAI	Mount Meron Ar	148.88	304		PKPbc	PKPbc	13 31 25.3 +0.8
	comp=Z,12nm,0.6s,baz=70,slow=6.4,SNR=13						
GEC2	GERESS Array S	148.91	348		*e*PKPbc	PKPbc	13 31 23.7 -0.4
GERES	GERESS Array B	148.91	348		PKPbc	PKPbc	13 31 24.2 +0.1
	comp=Z,5.0nm,0.7s,baz=33,slow=3.2,SNR=20						
GEA0	GERESS Array S	148.91	348		*e*PKPbc	PKPbc	13 31 23.9 -0.2
WLF	Walferdange	148.95	358	⇑	PKPbc	PKPbc	13 31 24.7 +0.7
CONA	Conrad Observa	149.30	345		*i* PKiKP	PKPbc	13 31 25.6 +0.5
	comp=Z,23nm,1.2s,SNR=8.9						
MOA	Molln	149.74	347		*i* PKiKP	PKPbc	13 31 26.2 +0.1
	comp=Z,14nm,1.4s						
HERR	Herculane	149.83	334	⫴	*iP*	PKPbc	13 31 26.6 +0.2
BFO	Black Forest	150.15	355		*i* PKHKP	PKPbc	13 31 27.7 +0.6
SOKA	Soboth	150.67	345		*i* PKPbc	PKPbc	13 31 27.9 -0.5
	comp=Z,7.6nm,0.8s						
RETA	Reute	150.71	351		*i* PKiKP	PKPbc	13 31 28.7 +0.2
	comp=Z,16nm,1.4s						
WTTA	Wattenberg	150.80	350		*i* PKiKP	PKPbc	13 31 29.0 +0.1
	comp=Z,13nm,0.6s						
MOTA	Moosalm	150.80	351		*i* PKiKP	PKPbc	13 31 28.7 -0.1
	comp=Z,8.4nm,0.8s						
DAVA	Damuels	151.03	353		*i* PKiKP	PKiKP	13 31 29.9 +0.1
	comp=Z,25nm,1.1s						
ABTA	Abfaltersbach	151.15	349		*i* PKiKP	PKPbc	13 31 29.1 -0.4
	comp=Z,26nm,1.1s,SNR=5.1						
FETA	Feichten	151.17	351		*i* PKiKP	PKPbc	13 31 29.9 +0.2
	comp=Z,17nm,1.0s						
MANT	Manisa	151.21	319		*e*PKPbc	PKPbc	13 31 29.5 -0.6
VTS	Vitosha	151.31	331	⇑	*iP*	PKPbc	13 31 30.0 -0.1
VTS	Vitosha	151.31	331		PKIKP	PKPbc	13 31 30.0 -0.1
DIVS	Divibare	151.44	336		*e*PKPbc	PKPbc	13 31 30.2 -0.1
ES19	SONSECA Array	157.69	17		*e*PKPab	PKPab	13 32 06.1 -0.1
ESDC	Sonseca Array	157.70	18		PKPab	PKPab	13 32 06.5 +0.3
	comp=Z,2.5nm,0.7s,baz=329,slow=3.4,SNR=10						
TORD	Torodi Ar. Bea	173.94	152		PKPab	PKPab	13 33 18.6 +0.4
	comp=Z,1.2nm,0.8s,baz=205,slow=4.4,SNR=4.6						

*ISCJB **11** 13:12:14.3±1.0, 1°.2N±0°.2×92°.0E±0°.2, h10km, mb4.0/10, Error ellipse: s-maj=29.6km s-min=16.4km az=145.0*

*IDC **11** 13:12:14.5±1.2, 1°.12N×91°.95E, h0km, mb4.0/10, mb1 4.1/11,mb1mx3.7/73,mbtmp3.9/11,ML3.7/1, Error ellipse: s-maj=42.7km s-min=19.1km az=50.0*

ISC 11 13:12:16.1±1.2, 1°.1N±0°.2×92°.0E±0°.2, h10km, n12, σ0§82/12, mb4.0/10, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	Chiang Mai Arr	18.53	21	P	Pn	13 16 32.8	-0.3
	0.1nm,0.3s,baz=210,slow=14,SNR=3.3						
FITZ	Fitzroy Crossi	38.22	122	P	P	13 19 35.9	-0.6
	2.6nm,0.6s,baz=318,slow=12						
MKAR	Makanchi Array	46.27	351	P	P	13 20 42.0	+0.1
	0.6nm,0.7s,baz=170,slow=9.6,SNR=2.5						
WRA	Warramunga Arr	46.48	119	P	P	13 20 44.4	+0.5
	5.6nm,0.7s,baz=298,slow=8.5,SNR=7.0						
SONM	Songino Array	48.18	13	P	P	13 20 57.9	+1.1
	1.3nm,0.7s,baz=192,slow=10,SNR=3.8						
KURBB	Kurchatov Arra	50.63	349	P	P	13 21 14.1	-1.2
	1.0nm,0.8s,baz=170,slow=7.0,SNR=4.4						
ZALV	Zalesovo Beam	52.99	355	P	P	13 21 32.4	-0.4
	1.0nm,0.4s,baz=181,slow=9.3,SNR=3.2						
BVAR	Borovoye Array	54.76	344	P	P	13 21 44.5	-1.3
	0.7nm,0.8s,baz=156,slow=7.4,SNR=2.7						
BRTR	Keskin Array B	65.36	314	P	P	13 22 58.9	-0.2
	0.6nm,0.5s,baz=128,slow=8.1,SNR=3.2						
FINES	FINESS Array B	77.70	333	P	P	13 24 13.2	+0.4
	1.1nm,0.7s,baz=318,slow=1.9,SNR=2.3						
GERES	GERESS Array B	81.45	319	P	P	13 24 34.4	+0.6
	1.4nm,0.7s,baz=104,slow=5.6,SNR=4.8						
TXAR	Lajitas Array	146.22	25	PKPbc	PKPab	13 31 57.8	-0.5
	1.0nm,0.8s,baz=268,slow=3.3,SNR=5.1						

*BJI **11** 13:15:24.1, 4°.17N×90°.64E, h10km, mb4.7/35, mB4.9/4, Ms5.5/3*

*ISCJB **11** 13:15:26.7±0.3, 4°.54N±0°.05×90°.73E±0°.04, h10km, mb4.5/42, MS5.1/2, Error ellipse: s-maj=7.5km s-min=4.5km az=30.6*

*IDC **11** 13:15:27.2±0.8, 4°.60N×90°.83E, h0km, mb4.3/20, mb1 4.3/22,mb1mx4.1/74,mbtmp4.3/22,ML4.0/2, Error ellipse: s-maj=25.1km s-min=15.3km az=44.0*

*NEIC **11** 13:15:30.1±2.2, 4°.60N×90°.78E, h17km±14km, mb5.0/16, Error ellipse: s-maj=6.6km s-min=4.4km az=47.0*

ISC 11 13:15:28.7±0.5, 4°.51N±0°.07×90°.70E±0°.06, h10km, n103, σ1§15/106, mb4.8/45, 1C-1D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LHMI	Lhok Sumawe	6.26	83	*e*Pn	Pn	13 17 01.8	+0.6
PBA	Port Blair	7.38	16	*e*P	Pn	13 17 15.5	-1.0
GSI	Gunungsitoli	7.57	115	*e*Pn	Pn	13 17 19.5	+0.4
PSI	Prapat	8.38	101	*e*Pn	Pn	13 17 30.6	+0.2
DGPR	DIGLIPUR	8.88	14	*e*P	Pn	13 17 36.9	-0.3
KULM	Kulim	9.94	85	*e*Pn	Pn	13 17 51.0	-0.8
IPM	Ipoh	10.29	90	*e*Pn	Pn	13 17 55.7	-0.8
PALK	Pallekele	10.32	286	Pn	Pn	13 17 58.5	+1.5
	1.8nm,0.3s,baz=116,slow=16,SNR=3.9						
PALK					Sn	Sn	13 19 40.2 -13
	15nm,0.3s,baz=116,slow=7.5,SNR=12						
MDRS	Chennai	13.37	310	*e*P	Pn	13 18 37.9	-0.8
MDRS				IAmb	IAmb	13 18 49.1	
	comp=Z,15nm,0.4s						
MYKOM	Kota Tinggi	13.40	101	*e*Pn	Pn	13 18 38.5	-0.6
VIS	Vishakhapatnam	14.98	332	*e*P	Pn	13 18 58.7	-1.9
MNAI	Manna	15.08	126	*e*Pn	Pn	13 19 01.2	-0.8
	comp=Z,225nm,1.2s						
CM01	Chiang Mai Arr	16.00	30	*e*Pn	Pn	13 19 12.0	-2.1
CM31	Chiang Mai Arr	16.03	30	*e*Pn	Pn	13 19 12.4	-2.0
CMAR	Chiang Mai Arr	16.03	30	Pn	Pn	13 19 13.4	-1.0
	comp=Z,0.2nm,0.3s,baz=223,slow=13,SNR=9.6						
CHTO	Chiang Mai	16.33	29	*e*Pn	Pn	13 19 16.2	-2.1
	comp=Z,10nm,1.1s						
HYB	Hyderabad	17.50	318	*e*P	Pn	13 19 30.9	-2.1
COCO	West Island	17.68	160	*e*Pn	Pn	13 19 35.4	+0.2
	comp=Z,212nm,1.4s						
BOK	Bokaro	19.73	347	*e*P	P	13 19 57.9	-0.7
KSM	Kuching	19.81	98	*e*P	Pn	13 20 01.6	+0.5
	comp=Z,18nm,1.0s						
GOA	Goa	19.86	305	*e*P	P	13 20 01.2	+1.1
NGP	Nagpur	20.04	327	*e*P	P	13 20 01.9	-0.2
SHL	Shillong	20.96	3	*e*P	P	13 20 11.2	-1.1
SHL				IAmb	IAmb	13 20 13.4	
	comp=Z,62nm,1.3s						
POO	Poona	21.57	312	*e*P	P	13 20 18.5	-0.2
SBUM	Sibu	21.57	95	*e*P	P	13 20 19.6	+0.9
	comp=Z,9.1nm,1.0s						
H08S3	Diego Garcia H	21.82	237	T	T	13 42 59.6	
	baz=56						
H08S2	Diego Garcia H	21.82	236	T	T	13 43 01.8	
	baz=56						
H08S1	Diego Carcia H	21.83	236	T	T	13 42 59.8	
	baz=56						
BHPL	Bhopal	22.61	327	*e*P	P	13 20 28.1	-1.7
BHPL				IAmb	IAmb	13 20 41.4	
	comp=Z,46nm,1.4s						
KMI	Kunming	23.53	28	P	P	13 20 39.9	+0.4
KMI				pmax	pmax		
	comp=Z,21nm,0.7s						
KMI				pmax	pmax		
	comp=Z,6µm,12.3s						
QIZ	Qiongzhong	23.61	51	*e*P	P	13 20 40.6	+0.6
	comp=Z,102nm,1.8s						
LSA	Lhasa	25.05	1	P	P	13 20 55.1	+1.3
LSA				pmax	pmax		
	comp=Z,49nm,0.8s						
LSA	Lhasa	25.05	1	*e*P	P	13 20 54.5	+0.6
	comp=Z,39nm,0.8s						
GYA	Guiyang	26.63	33	P	P	13 21 08.9	+1.1
GYA				PP	PnPn	13 21 52.0	+3.5
GYA				S	S	13 25 41.4	-1.6
GYA				SS	SnSn	13 26 52.0	+6.2
GYA				ScP	ScP	13 28 13.2	+0.9
GYA				pmax	pmax		
	comp=Z,20nm,1.0s						
GYA				pmax	pmax		
	comp=Z,120nm,5.6s						
CD2	Chengdu	28.99	24	P	P	13 21 28.6	-0.2
CD2				S	S	13 26 21.3	+1.3
CD2				pmax	pmax		
	comp=Z,30nm,0.5s						
SMLA	Simla	29.38	336	*e*P	P	13 21 33.1	+1.0
SMLA				IAmb	IAmb	13 21 45.5	
	comp=Z,109nm,1.7s						
DHRM	DHARAMSHALA	30.72	336	*e*P	P	13 21 45.7	+1.4
DHRM				IAmb	IAmb	13 21 51.6	
	comp=Z,13nm,0.4s						
ENH	Enshi	31.16	33	*e*P	P	13 21 47.3	-0.7
	comp=Z,16nm,0.9s						
LZH	Lanzhou	33.67	19	*e*P	P	13 22 10.3	+0.2
LZH				pP	pP	13 22 13.2	0.0
LZH				sP	sP	13 22 14.7	+0.3
LZH				PP	PnPn	13 23 23.5	+1.5
LZH				pmax	pmax		
	comp=Z,25nm,1.2s						
LZH				pmax	pmax		
	comp=Z,110nm,4.9s						
LZH				LR	LR		
	comp=Z,1µm,13.5s						
LZH				LR	LR		
	comp=Z,1µm,14.0s						
GTA	Gaotai	35.71	12	*e*P	P	13 22 27.8	+0.2
GTA				pP	sP	13 22 31.9	0.0
GTA				sP	pP	13 22 35.2	+4.5
GTA				S	S	13 28 03.6	-0.9
GTA				sS	sS	13 28 13.2	+3.6
GTA				pmax	pmax		
	comp=Z,15nm,1.0s						
KSH	Kashi	37.31	341	P	P	13 22 40.3	-1.0
NJ2	Nanjing	38.03	41	*e*P	P	13 22 47.0	-0.3
NJ2				pmax	pmax		
	comp=Z,15nm,0.7s						
WMQ	Urumqi	39.24	357	P	P	13 22 58.8	+1.4
WMQ				sP	sP	13 23 08.9	+7.2
WMQ				pmax	pmax		
	comp=Z,26nm,0.9s						
AAK	Ala-Archa	40.61	342	P	P	13 23 09.5	+0.6
	comp=Z,0.7nm,0.5s,baz=186,slow=18,SNR=3.2						
AAK	Ala-Archa	40.61	342	*e*P	P	13 23 09.7	+0.7
	comp=Z,13nm,1.2s						
HHC	Hu-ho-hao-te	40.74	24	*e*P	P	13 23 10.6	+0.6
HHC				S	S	13 29 22.8	+2.1
HHC				pmax	pmax		
	comp=Z,30nm,1.1s						
HHC				pmax	pmax		
	comp=Z,76nm,6.5s						
HHC				LR	LR		
	comp=Z,3µm,15.9s						
HHC				LR	LR		
	comp=Z,2µm,15.4s						
BJI	Beijing	42.18	29	⇑	*iP*	P	13 23 22.5 +0.9
BJI				pmax	pmax		
	comp=Z,18nm,0.6s						
KK06	Karatay Array	42.38	338		*e*P	P	13 23 23.5 +0.2
KK07	Karatay Array	42.39	338		*e*P	P	13 23 23.3 -0.1
KK02	Karatay Array	42.40	338		*e*P	P	13 23 23.7 +0.3
KK31	Karatay Array	42.40	338		*e*P	P	13 23 23.5 +0.1
KKAR	Karatay Array	42.40	338		*e*P	P	13 23 23.3 -0.1
KK03	Karatay Array	42.40	338		*e*P	P	13 23 23.7 +0.2
KK01	Karatay Array	42.40	338		*e*P	P	13 23 23.6 +0.2
KK05	Karatay Array	42.40	338		*e*P	P	13 23 23.8 +0.4
KK04	Karatay Array	42.40	338		*e*P	P	13 23 23.7 +0.2
KK08	Karatay Array	42.41	338		*e*P	P	13 23 23.9 +0.4
MK01	Makanchi Array	42.72	351		*e*P	P	13 23 25.6 -0.4
MK31	Makanchi Array	42.74	351		*e*P	P	13 23 25.8 -0.4
MKAR	Makanchi Array	42.74	351		P	P	13 23 26.0 -0.2
	comp=Z,5.5nm,0.9s,baz=167,slow=8.9,SNR=17						
MKAR	Makanchi Array	42.74	351		*e*P	P	13 23 25.6 -0.6
	comp=Z,70nm,0.7s						
MAKZ	Makanchi	42.80	351		*e*P	P	13 23 26.3 -0.4
	comp=Z,8.6nm,1.0s						
GEYT	Alibeck	44.59	323		P	P	13 23 42.5 +1.2
	comp=Z,3.2nm,0.8s,baz=174,slow=5.7,SNR=6.0						
SONM	Songino Array	45.22	15		P	P	13 23 46.5 +0.3
	comp=Z,18nm,0.7s,baz=195,slow=9.3,SNR=51						
SONA1	Songino Array	45.23	15		*e*P	P	13 23 46.2 -0.1
ULN	Ulaanbaatar	45.42	15		*e*P	P	13 23 47.4 -0.4
	comp=Z,6.8nm,0.8s						
KURBB	Kurchatov Arra	47.08	349		P	P	13 24 00.5 -0.1
	comp=Z,4.9nm,0.8s,baz=173,slow=7.4,SNR=30						
KURK	Kurchatov	47.15	350		*e*P	P	13 24 00.7 -0.5
	comp=Z,12nm,0.9s						
WRA	Warramunga Arr	49.29	121		P	P	13 24 17.7 -0.5
	comp=Z,1.3nm,0.7s,baz=300,slow=8.7,SNR=4.0						
ZAA0	Zalesovo Array	49.52	355		*e*P	P	13 24 18.8 -0.6
	comp=Z,12nm,0.6s						
ZALV	Zalesovo Beam	49.52	355		P	P	13 24 19.1 -0.2
	comp=Z,4.9nm,0.7s,baz=185,slow=8.2,SNR=14						
ZALV	Zalesovo Beam	49.52	355		*e*P	P	13 24 18.9 -0.5
ASAR	Alice Springs	50.57	126		P	P	13 24 28.1 +0.1
	comp=Z,0.8nm,0.8s,baz=316,slow=6.5,SNR=4.1						
BVAR	Borovoye Array	51.17	344		P	P	13 24 31.5 -0.4
	comp=Z,2.7nm,0.8s,baz=142,slow=7.5,SNR=12						
AB07	Akbulak array	51.64	335		*e*P	P	13 24 35.5 0.0
AB06	Akbulak array	51.65	335		*e*P	P	13 24 35.3 -0.3
AB08	Akbulak array	51.65	335		*e*P	P	13 24 35.5 -0.1
AB03	Akbulak array	51.66	335		*e*P	P	13 24 35.4 -0.2
AB01	Akbulak array	51.66	335		*e*P	P	13 24 35.6 -0.1
AB31	Akbulak array	51.66	335		*e*P	P	13 24 35.6 -0.1
ABKAR	Akbulak array	51.66	335		*e*P	P	13 24 35.4 -0.2
	comp=Z,86nm,0.6s						
AB02	Akbulak array	51.66	335		*e*P	P	13 24 35.5 -0.1
AB04	Akbulak array	51.66	335		*e*P	P	13 24 35.6 -0.1
AB05	Akbulak array	51.67	335		*e*P	P	13 24 35.7 -0.1
AB09	Akbulak array	51.67	335		*e*P	P	13 24 35.6 -0.1
AKTO	Aktyubinsk	53.37	335		P	P	13 24 47.4 -1.0
	comp=Z,1.0nm,0.6s,baz=265,slow=6.8,SNR=3.6						
KLR	Kul'dur	56.50	31		P	P	13 25 10.2 -0.9
	comp=Z,0.3nm,0.8s,baz=275,slow=9.2,SNR=5.5						
KBZ	Khabaz	57.37	320		P	P	13 25 17.2 0.0
	comp=Z,1.9nm,0.8s,baz=151,slow=7.5,SNR=4.3						
STKA	Stephens Creek	60.40	131		P	P	13 25 38.1 -0.4
	comp=Z,1.9nm,0.9s,baz=335,slow=14,SNR=3.3						
BRTR	Keskin Array B	62.11	313		P	P	13 25 49.6 -0.6
	comp=Z,0.4nm,0.4s,baz=134,slow=5.3,SNR=3.7						
YAK	Yakutsk	64.26	19		*e*P	P	13 26 02.2 -1.6
	comp=Z,31nm,1.0s						
AKASG	Malin Array Be	68.71	323		P	P	13 26 31.9 -0.7
	comp=Z,0.2nm,0.3s,baz=95,slow=4.4,SNR=5.6						
BUR04	Bucovina Ar. S	70.28	319		*e*P	P	13 26 43.0 +0.5
TIXI	Tiksi	71.19	12		*e*P	P	13 26 46.0 -1.4
	comp=Z,26nm,0.7s						
MA2	Magadan	71.31	28		P	P	13 26 47.6 -0.8
	comp=Z,10nm,0.7s,baz=234,slow=4.9,SNR=9.8						
SEY	Seymchan	73.39	25		P	P	13 26 59.1 -1.6
	comp=Z,4.2nm,1.0s,baz=110,slow=3.8,SNR=7.1						
FINES	FINESS Array B	74.11	333		P	P	13 27 04.2 -0.7
	comp=Z,3.9nm,0.7s,baz=134,slow=5.5,SNR=8.1						
GEA0	GERESS Array S	78.06	319		*e*P	P	13 27 27.9 0.0
GERES	GERESS Array B	78.06	319		P	P	13 27 27.9 0.0
	comp=Z,2.9nm,0.9s,baz=104,slow=5.6,SNR=8.3						
HFS	Hagfors	79.64	330		P	P	13 27 36.5 +0.3
	comp=Z,2.7nm,0.9s,baz=246,slow=11,SNR=3.3						
SYO	Syowa Base	81.22	196	⫴	*eX*	P	13 27 40.4 -4.0
SPITS	Spitsbergen Ar	82.42	348		P	P	13 27 49.2 -1.5
	comp=Z,8.5nm,1.0s,baz=125,slow=6.4,SNR=3.3						
TORD	Torodi Ar. Bea	88.03	283		P	P	13 28 22.6 +2.6
	comp=Z,0.4nm,1.1s,baz=16,slow=1.1,SNR=2.7						

IDC 11 13:18:13.7±2.5, 0°.83S×90°.73E, h0km, mb3.9/5, mb1 4.1/5, mb1mx3.5/73, mbtmp3.9/5, Error ellipse: s-maj=82.0km s-min=28.4km az=61.0, South Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	Chiang Mai Arr	20.80	22	P	Pn	13 22 58.5	-0.6
	3.2nm,1.0s,baz=207,slow=12,SNR=5.4						
WRA	Warramunga Arr	46.69	117	P	P	13 26 43.9	-0.8
	5.7nm,1.0s,baz=296,slow=8.5,SNR=8.9						
MKAR	Makanchi Array	48.00	352	P	P	13 26 53.4	-1.0
	0.6nm,0.8s,baz=168,slow=7.4,SNR=2.1						
SONM	Songino Array	50.35	14	P	P	13 27 11.3	-1.2
	1.1nm,0.7s,baz=192,slow=9.8,SNR=3.6						
ZALV	Zalesovo Beam	54.81	356	P	P	13 27 45.2	-0.1
	0.8nm,0.4s,baz=177,slow=7.2,SNR=2.7						
TXAR	Lajitas Array	148.50	25	PKPbc	PKPbc	13 38 04.6	+1.2
	0.4nm,0.6s,baz=282,slow=1.8,SNR=3.2						

IDC 11 13:18:47.1±4.9, 8°.95N×94°.57E, h0km, mb3.9/5, mb1 4.1/5, mb1mx3.5/74, mbtmp3.9/5, Error ellipse: s-maj=118.2km s-min=66.3km az=122.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MKAR	Makanchi Array	39.14	347	P	P	13 26 16.5	0.0
	1.2nm,0.6s,baz=166,slow=8.9,SNR=5.4						
KURBB	Kurchatov Arra	43.62	345	P	P	13 26 53.4	+0.2
	0.5nm,0.7s,baz=168,slow=7.9,SNR=2.8						
ZALV	Zalesovo Beam	45.55	352	P	P	13 27 08.0	-0.6
	1.2nm,0.4s,baz=169,slow=6.4,SNR=4.9						
BRTR	Keskin Array B	62.06	310	P	P	13 29 09.4	-0.5
	0.8nm,0.7s,baz=120,slow=6.5,SNR=4.6						
GERES	GERESS Array B	77.31	318	P	P	13 30 44.3	+0.5
	2.1nm,0.7s,baz=104,slow=4.4,SNR=9.2						
TXAR	Lajitas Array	138.08	24	PKP	PKPdf	13 38 14.3	-0.6
	1.0nm,0.7s,baz=276,slow=2.4,SNR=4.9						

*IDC **11** 13:19:35.8±0.6, 2°.55N×90°.17E, h0km, mb4.4/31, mb1 4.4/33,mb1mx4.3/73,mbtmp4.4/33,ML4.2/2, Error ellipse: s-maj=18.7km s-min=11.5km az=38.0*

*ISCJB **11** 13:19:36.5±1.9, 2°.53N±0°.05×90°.21E±0°.04, h15km±11km, mb4.7/85, Error ellipse: s-maj=9.2km s-min=6.2km az=20.7*

*NEIC **11** 13:19:37.4±0.2, 2°.53N×90°.20E, h10km, mb4.9/12, Error ellipse: s-maj=5.6km s-min=3.8km az=196.0*

*MOS **11** 13:19:38.0±1.0, 2°.61N×90°.20E, h26km, mb5.1/24, Error ellipse: s-maj=10.1km s-min=5.3km az=105.1*

ISC 11 13:19:36.7±2.0, 2°.43N±0°.06×90°.15E±0°.06, h9km±12km, n187, σ1§48/199, mb4.8/85, 7C, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LHMI	Lhok Sumawe	7.33	67	*e*Pn	Pn	13 21 23.3	-0.7
GSI	Gunungsitoli	7.50	98	*e*Pn	Pn	13 21 22.4	-4.0
PALK	Pallekele	10.57	297	Pn	Pn	13 22 09.4	+0.8
	3.4nm,0.3s,baz=116,slow=14,SNR=3.3						
PALK					Sn	Sn	13 23 56.3 -11
	12nm,0.3s,baz=116,slow=5.0,SNR=11						
PALK	Pallekele	10.57	297	*e*Pn	Pn	13 22 09.9	+1.3
PALK					Sn	Sn	13 23 56.3 -11
PALK	Pallekele	10.57	297	*e

LZH					LR	LR		
	comp=E,1μm,14.3s							
LZH					LR	LR		
	comp=Z,2μm,17.5s							
GTA	**Gaotai**	**37.85**	**12**	*e*P	**P**		**13 26 54.4**	**+0.4**
GTA				pP	sP		13 27 00.2	+2.3
GTA				sP	pP		13 27 03.0	+6.2
GTA				S	**S**		**13 32 47.8**	**+2.3**
GTA				sS	ScP		13 32 56.4	-2.1
GTA				SS	**SnSn**		**13 35 22.9**	**-3.4**
GTA				pmax	pmax			
	comp=Z,19nm,1.0s							
GTA				pmax	pmax			
	comp=Z,31μm,5.2s							
GTA				LR	LR			
	comp=N,38μm,20.0s							
GTA				LR	LR			
	comp=E,28μm,19.7s							
GTA				LR	LR			
	comp=Z,61μm,20.2s							
KSH	**Kashi**	**39.11**	**343**	P	**P**		**13 27 03.3**	**-1.3**
KSH				pmax	pmax			
	comp=Z,34nm,0.8s							
NJ2	**Nanjing**	**39.97**	**39**	*e*P	**P**		**13 27 09.7**	**-2.1**
NJ2				pmax	pmax			
	comp=Z,12nm,0.5s							
SFK	**Sufi-Kurgan**	**40.35**	**340**	P	**P**		**13 27 15.8**	**+0.7**
SFK				pmax	pmax			
	comp=Z,10.0nm,0.5s							
FITZ	**Fitzroy Crossi**	**40.47**	**122**	P	**P**		**13 27 15.9**	**-0.2**
	comp=Z,2.2nm,0.8s,baz=270,slow=4.0,SNR=3.0							
WMQ	**Urumqi**	**41.28**	**357**	P	**P**		**13 27 23.2**	**+0.7**
WMQ				pP	sP		13 27 32.3	+6.0
WMQ				sP	pP		13 27 35.9	+11
WMQ				pmax	pmax			
	comp=Z,29nm,1.1s							
KZA	**Kyzart**	**41.68**	**343**	P	**P**		**13 27 27.1**	**+0.9**
	SNR=5.9							
PDGK	**Podgornoye**	**41.82**	**348**	P	**P**		**13 27 26.9**	**-0.1**
PDGK				pmax	pmax			
	comp=Z,11nm,1.1s							
UCH	**Uchtor**	**42.03**	**343**	P	**P**		**13 27 29.8**	**+0.6**
	SNR=12							
AML	**Almayashu**	**42.20**	**342**	P	**P**		**13 27 31.1**	**+0.6**
	SNR=16							
KBK	**Karagaybulak**	**42.30**	**343**	P	**P**		**13 27 32.6**	**+1.6**
	SNR=5.8							
TKM2	**Tokmak 2**	**42.36**	**344**	P	**P**		**13 27 32.0**	**+0.5**
	SNR=8.8							
TKM2	**Tokmak 2**	**42.36**	**344**	P	**P**		**13 27 31.6**	**+0.1**
TKM2				pmax	pmax			
	comp=Z,12nm,1.0s							
AAK	**Ala-Archa**	**42.41**	**343**	P	**P**		**13 27 32.2**	**+0.3**
	comp=Z,4.0nm,0.8s,baz=98,slow=7.2,SNR=9.7							
AAK				PcP	**PcP**		**13 29 25.4**	**+0.4**
	comp=Z,1.8nm,0.7s,baz=160,slow=4.8,SNR=3.7							
AAK	**Ala-Archa**	**42.41**	**343**	*e*P	**P**		**13 27 32.3**	**+0.3**
	comp=Z,5.5nm,0.8s							
AAK				PcP	**PcP**		**13 29 25.4**	**+0.4**
AAK	**Ala-Archa**	**42.41**	**343**	*i* P	**P**		**13 27 33.0**	**+1.1**
AAK				pmax	pmax			
	comp=Z,6.0nm,0.8s							
FRU	**Bishkek**	**42.56**	**343**	*e*P	P		13 27 23.0	-10
EKS2	**Erkin-Say**	**42.65**	**342**	P	**P**		**13 27 35.0**	**+1.2**
	SNR=5.9							
HHC	**Hu-ho-hao-te**	**42.86**	**24**	*e*P	**P**		**13 27 35.7**	**+0.2**
HHC				S	**S**		**13 34 04.9**	**+4.6**
HHC				pmax	pmax			
	comp=Z,28nm,1.1s							
HHC				pmax	pmax			
	comp=Z,73nm,6.3s							
HHC				LR	LR			
	comp=N,4μm,14.9s							
HHC				LR	LR			
	comp=E,4μm,15.8s							
HHC				LR	LR			
	comp=Z,5μm,15.7s							
MNAS	**Manas**	**42.90**	**341**	P	**P**		**13 27 36.0**	**+0.2**
MNAS				pmax	pmax			
	comp=Z,3.0nm,0.7s							
USP	**Ospenovka**	**42.99**	**343**	P	**P**		**13 27 37.3**	**+0.9**
	SNR=10							
H01W3	**Cape Leeuwin H**	**43.41**	**151**	T	T		14 14 09.6	
	baz=326,slow=74,SNR=19							
H01W2	**Cape Leeuwin H**	**43.42**	**151**	T	T		14 14 11.4	
	baz=326,slow=74,SNR=14							
H01W1	**Cape Leeuwin H**	**43.42**	**151**	T	T		14 14 10.8	
	baz=326,slow=74,SNR=21							
JOW	**Kunigami**	**43.85**	**53**	P	**P**		**13 27 43.9**	**+0.3**
	comp=Z,8.0nm,0.5s,baz=248,slow=5.4,SNR=3.1							
KK06	**Karatay Array**	**44.11**	**339**	*e*P	**P**		**13 27 45.4**	**-0.1**
KK07	**Karatay Array**	**44.12**	**339**	*e*P	**P**		**13 27 45.4**	**-0.1**
KK02	**Karatay Array**	**44.12**	**339**	*e*P	**P**		**13 27 45.7**	**+0.2**
KK31	**Karatay Array**	**44.12**	**339**	*e*P	**P**		**13 27 45.7**	**+0.1**
KK31	**Karatay Array**	**44.12**	**339**	*e*P	**P**		**13 27 45.7**	**+0.1**
KKAR	**Karatay Array**	**44.12**	**339**	*e*P	**P**		**13 27 45.7**	**+0.1**
KKAR	**Karatay Array**	**44.12**	**339**	*e*P	**P**		**13 27 45.7**	**+0.1**
KK03	**Karatay Array**	**44.13**	**339**	*e*P	**P**		**13 27 45.8**	**+0.2**
KK01	**Karatay Array**	**44.13**	**339**	*e*P	**P**		**13 27 45.8**	**+0.2**
KK04	**Karatay Array**	**44.13**	**339**	*e*P	**P**		**13 27 45.7**	**+0.1**
KK05	**Karatay Array**	**44.13**	**339**	*e*P	**P**		**13 27 45.7**	**0.0**
KK08	**Karatay Array**	**44.13**	**339**	*e*P	**P**		**13 27 45.6**	**0.0**
BJI	**Beijing**	**44.26**	**29**	P	**P**		**13 27 47.5**	**+0.9**
BJI				pmax	pmax			
	comp=Z,18nm,0.7s							
MK01	**Makanchi Array**	**44.69**	**352**	*e*P	**P**		**13 27 49.6**	**-0.5**
MK31	**Makanchi Array**	**44.72**	**352**	*e*P	**P**		**13 27 49.0**	**-1.3**
MK31	**Makanchi Array**	**44.72**	**352**	*e*P	**P**		**13 27 49.0**	**-1.3**
MKAR	**Makanchi Array**	**44.72**	**352**	P	**P**		**13 27 49.8**	**-0.5**
	comp=Z,6.1nm,0.7s,baz=172,slow=9.1,SNR=21							
MKAR	**Makanchi Array**	**44.72**	**352**	*e*P	**P**		**13 27 48.9**	**-1.4**
	comp=Z,39nm,0.7s							
MKAR	**Makanchi Array**	**44.72**	**352**	*e*P	**P**		**13 27 48.9**	**-1.4**
MKAR				pmax	pmax			
	comp=Z,39nm,0.7s							
MAKZ	**Makanchi**	**44.77**	**352**	P	**P**		**13 27 49.6**	**-1.1**
MAKZ				pmax	pmax			
	comp=Z,3.0nm,1.1s							
GYB1	**ALIBECK ARRAY**	**45.92**	**324**	*e*P	**P**		**13 28 00.4**	**+0.4**
	comp=Z,12nm,0.7s							
GYA1	**ALIBECK ARRAY**	**45.93**	**324**	*e*P	**P**		**13 28 00.6**	**+0.5**
	comp=Z,14nm,0.7s							
GYB2	**ALIBECK ARRAY**	**45.93**	**324**	*e*P	**P**		**13 28 01.0**	**+0.9**
	comp=Z,13nm,0.6s							
GYB5	**ALIBECK ARRAY**	**45.93**	**324**	*e*P	**P**		**13 28 00.7**	**+0.6**
	comp=Z,13nm,0.6s							
GEYT	**Alibeck**	**45.93**	**324**	P	**P**		**13 28 01.2**	**+1.1**
	comp=Z,11nm,0.6s,baz=158,slow=9.1,SNR=21							
GYA0	**ALIBECK ARRAY**	**45.93**	**324**	*e*P	**P**		**13 28 00.8**	**+0.7**
	comp=Z,14nm,0.7s							
GYA2	**ALIBECK ARRAY**	**45.93**	**324**	*e*P	**P**		**13 28 01.0**	**+1.0**
	comp=Z,14nm,0.8s							
GYB3	**ALIBECK ARRAY**	**45.94**	**324**	*e*P	**P**		**13 28 01.1**	**+1.0**
	comp=Z,13nm,0.8s							
GYB4	**ALIBECK ARRAY**	**45.95**	**324**	*e*P	**P**		**13 28 01.0**	**+0.8**
	comp=Z,12nm,0.8s							
SONM	**Songino Array**	**47.36**	**15**	P	**P**		**13 28 11.7**	**+0.5**
	comp=Z,32nm,0.6s,baz=194,slow=9.6,SNR=75							
SONA1	**Songino Array**	**47.38**	**15**	*e*P	**P**		**13 28 11.3**	**0.0**
ULN	**Ulaanbaatar**	**47.56**	**15**	*e*P	**P**		**13 28 12.5**	**-0.3**
	comp=Z,8.7nm,1.0s							
ULN	**Ulaanbaatar**	**47.56**	**15**	*ce*P	P		**13 28 11.9**	**-0.9**
ULN				pmax	pmax			
	comp=Z,5.0nm,0.6s							
RAYN	**Ar Rayn**	**48.00**	**300**	*e*P	**P**		**13 28 16.6**	**+0.2**
	comp=Z,4.2nm,0.6s							
RAYN	**Ar Rayn**	**48.00**	**300**	*e*P	**P**		**13 28 16.7**	**+0.2**
RAYN				pmax	pmax			
	comp=Z,4.0nm,0.6s							
OTUK	**Ortayu**	**48.16**	**344**	P	**P**		**13 28 16.9**	**-0.3**
OTUK				pmax	pmax			
	comp=Z,11nm,0.7s							
HVS	**Khovu-Aksy**	**48.63**	**3**	*i* P	**P**		**13 28 20.8**	**-0.1**
HVS				pmax	pmax			
	comp=Z,24nm,0.6s							
WRA	**Warramunga Arr**	**48.72**	**119**	P	**P**		**13 28 22.9**	**+0.8**
	comp=Z,2.3nm,0.6s,baz=297,slow=8.6,SNR=9.4							
WRA				PcP	**PcP**		**13 29 46.9**	**-0.4**
	comp=Z,0.9nm,0.6s,baz=311,slow=2.9,SNR=3.8							
KURBB	**Kurchatov Arra**	**49.02**	**350**	P	**P**		**13 28 23.4**	**-0.4**
	comp=Z,6.8nm,0.7s,baz=172,slow=7.3,SNR=26							
KURBB				PcP	**PcP**		**13 29 47.8**	**+0.1**
	comp=Z,2.9nm,0.7s,baz=181,slow=3.2,SNR=10							
ZAK	**Zakamensk**	**49.06**	**11**	*e*P	**P**		**13 28 23.2**	**-1.1**
ZAK				pmax	pmax			
	comp=Z,3.0nm,1.6s							
KURK	**Kurchatov**	**49.09**	**350**	*e*P	**P**		**13 28 24.0**	**-0.4**
	comp=Z,12nm,0.9s							
KURK				PcP	**PcP**		**13 29 47.8**	**-0.1**
KURK	**Kurchatov**	**49.09**	**350**	P	**P**		**13 28 23.7**	**-0.7**
KURK				pmax	pmax			
	comp=Z,19nm,1.2s							
KSAR	**Wonju Array Be**	**49.13**	**40**	P	**P**		**13 28 24.6**	**-0.3**
KSAR	**Wonju Array Be**	**49.13**	**40**	P	**P**		**13 28 24.6**	**-0.3**
KSRS	**Korea Array**	**49.16**	**40**	P	**P**		**13 28 24.6**	**-0.5**
	comp=Z,1.5nm,0.7s,baz=238,slow=7.0,SNR=5.3							
ASAR	**Alice Springs**	**49.84**	**124**	P	**P**		**13 28 31.9**	**+1.3**
	comp=Z,0.3nm,0.4s,baz=297,slow=7.4,SNR=5.8							
ASAR				PcP	**PcP**		**13 29 52.0**	**+0.7**
	comp=Z,1.4nm,0.8s,baz=302,slow=3.2,SNR=6.9							
ZAA0	**Zalesovo Array**	**51.54**	**356**	*e*P	**P**		**13 28 42.0**	**-0.8**
	comp=Z,27nm,1.4s							
ZALV	**Zalesovo Beam**	**51.54**	**356**	P	**P**		**13 28 42.2**	**-0.7**
	comp=Z,11nm,0.7s,baz=183,slow=8.0,SNR=21							
ZALV				PcP	**PcP**		**13 29 56.2**	**-0.7**
	comp=Z,1.4nm,0.6s,baz=156,slow=5.7,SNR=3.2							
ZALV	**Zalesovo Beam**	**51.54**	**356**	*e*P	**P**		**13 28 41.8**	**-1.0**
ZALV				PcP	**PcP**		**13 29 56.2**	**-0.7**
ZALV	**Zalesovo Beam**	**51.54**	**356**	*e*P	**P**		**13 28 41.8**	**-1.0**
ZALV							13 29 56.2	
CN2	**Changchun**	**51.72**	**32**	*e*P	**P**		**13 28 44.3**	**-0.1**
CN2				pmax	pmax			
	comp=Z,10.0nm,0.9s							
NVS	**Novosibirsk**	**52.55**	**355**	*e*P	**P**		**13 28 49.0**	**-1.4**
KMBO	**Kilima Mbogo**	**53.00**	**267**	P	**P**		**13 28 56.0**	**+1.2**
	comp=Z,1.5nm,0.4s,baz=69,slow=15,SNR=3.7							
BVA0	**Borovoye Array**	**53.02**	**345**	*i* P	**P**		**13 28 52.5**	**-1.4**
BVA0				pmax	pmax			
	comp=Z,3.0nm,0.9s							
BVAR	**Borovoye Array**	**53.02**	**345**	P	**P**		**13 28 53.1**	**-0.8**
	comp=Z,2.5nm,0.7s,baz=147,slow=8.3,SNR=9.8							
BRVK	**Borovoye**	**53.08**	**345**	*ce*P	**P**		**13 28 53.1**	**-1.2**
BRVK				pmax	pmax			
	comp=Z,11nm,1.2s							
AB07	**Akbulak array**	**53.29**	**336**	*e*P	**P**		**13 28 56.0**	**+0.1**
AB08	**Akbulak array**	**53.30**	**336**	*e*P	**P**		**13 28 56.1**	**+0.1**
AB06	**Akbulak array**	**53.30**	**336**	*e*P	**P**		**13 28 56.0**	**0.0**
AB03	**Akbulak array**	**53.30**	**336**	*e*P	**P**		**13 28 56.2**	**+0.1**
AB01	**Akbulak array**	**53.31**	**336**	*e*P	**P**		**13 28 56.2**	**+0.2**
AB31	**Akbulak array**	**53.31**	**336**	*e*P	**P**		**13 28 56.2**	**+0.1**
AB31	**Akbulak array**	**53.31**	**336**	*i* P	**P**		**13 28 56.1**	**+0.1**
AB31				pmax	pmax			
	comp=Z,19nm,1.0s							
ABKAR	**Akbulak array**	**53.31**	**336**	*e*P	**P**		**13 28 56.2**	**+0.2**
	comp=Z,104nm,0.9s							
AB02	**Akbulak array**	**53.31**	**336**	*e*P	**P**		**13 28 56.3**	**+0.2**
AB04	**Akbulak array**	**53.31**	**336**	*e*P	**P**		**13 28 56.3**	**+0.2**
AB05	**Akbulak array**	**53.32**	**336**	*e*P	**P**		**13 28 56.3**	**+0.1**
AB09	**Akbulak array**	**53.32**	**336**	*e*P	**P**		**13 28 56.3**	**+0.1**
KRAR	**Krasnoyarsk**	**53.47**	**2**	*i* P	**P**		**13 28 57.4**	**+0.3**
AKTO	**Aktyubinsk**	**55.01**	**335**	P	**P**		**13 29 07.5**	**-1.1**
	comp=Z,1.4nm,0.3s,baz=123,slow=8.4,SNR=7.9							
USRK	**Ussuriysk Ar.**	**55.62**	**36**	P	**P**		**13 29 12.4**	**-0.6**
	comp=Z,1.9nm,0.5s,baz=249,slow=7.2,SNR=6.8							
MJAR	**Matsushiro Arr**	**55.76**	**46**	P	**P**		**13 29 14.0**	**-0.2**
	comp=Z,1.3nm,0.5s,baz=246,slow=6.9,SNR=6.9							
MJAR	**Matsushiro Arr**	**55.76**	**46**	P	**P**		**13 29 14.0**	**-0.2**
BOD	**Bodaibo**	**58.36**	**15**	*e*P	**P**		**13 29 31.1**	**-1.1**
BOD				pmax	pmax			
	comp=Z,7.0nm,0.8s							
NEY	**Neytrino**	**58.49**	**321**	*i* P	**P**		**13 29 35.9**	**+2.3**
NEY				pmax	pmax			
	comp=Z,1.0nm,0.6s							
KLR	**Kul'dur**	**58.56**	**31**	P	**P**		**13 29 33.5**	**-0.3**
	comp=Z,0.5nm,0.8s,baz=258,slow=9.0,SNR=10							
KLR	**Kul'dur**	**58.56**	**31**	*i* P	**P**		**13 29 33.8**	**+0.1**
KBZ	**Khabaz**	**58.63**	**321**	P	**P**		**13 29 34.5**	**+0.2**
	comp=Z,5.1nm,1.0s,baz=111,slow=5.4,SNR=7.8							
KIV	**Kislovodsk**	**58.88**	**322**	*e*P	**P**		**13 29 36.7**	**+0.6**
KIV				pmax	pmax			
	comp=Z,12nm,1.0s							
SVE	**Sverdlovsk**	**59.13**	**342**	*e*P	**P**		**13 29 36.7**	**-0.8**
SVE				pmax	pmax			
	comp=Z,19nm,0.8s							
CTA	**Charters Tower**	**59.38**	**115**	P	**P**		**13 29 41.3**	**+1.3**
	comp=Z,4.0nm,0.7s,baz=305,slow=12,SNR=3.7							
ARU	**Arti**	**59.48**	**340**	*c i*P	**P**		**13 29 39.0**	**-1.0**
ARU							13 30 22.9	
ARU							13 31 48.3	
ARU				S	**S**		**13 37 46.9**	**-2.5**
ARU				SS	**SS**		**13 41 37.8**	**-6.9**
ARU				pmax	pmax			
	comp=Z,13nm,1.2s							
STKA	**Stephens Creek**	**59.49**	**129**	P	**P**		**13 29 42.2**	**+1.7**
	comp=Z,2.5nm,0.7s,baz=320,slow=6.4,SNR=5.8							
ZEA	**Zeya**	**59.52**	**25**	*e*P	**P**		**13 29 39.4**	**-0.9**
ZEA				pmax	pmax			
	comp=Z,11nm,0.9s							
ANN	**Anapa**	**62.59**	**320**	*e*P	**P**		**13 29 57.8**	**-3.5**
ANN				pmax	pmax			
	comp=Z,77nm,1.3s							
BR131	**Keskin Array S**	**63.13**	**314**	*e*P	**P**		**13 30 05.0**	**-0.2**
BRTR	**Keskin Array B**	**63.13**	**314**	P	**P**		**13 30 05.1**	**-0.2**
	comp=Z,2.8nm,0.6s,baz=125,slow=6.8,SNR=13							
YSS	**Yuzh-Sakhalins**	**63.49**	**37**	*e*P	**P**		**13 30 06.4**	**-0.9**
YSS				pmax	pmax			
	comp=Z,10.0nm,0.6s							
YAK	**Yakutsk**	**66.40**	**19**	*i* P	**P**		**13 30 24.8**	**-1.1**
YAK				pmax	pmax			
	comp=Z,13nm,0.6s							
OBN	**Obninsk**	**67.96**	**330**	*i* P	**P**		**13 30 38.0**	**+2.1**
OBN				*e*			13 31 08.3	
OBN				*e*			13 33 07.1	
OBN				*i* PPP	PPP		13 34 45.5	
OBN				pmax	pmax			
	comp=Z,8.0nm,0.7s							
IDI	**Anoyia**	**68.52**	**307**	P	**P**		**13 30 40.0**	**+0.1**
	comp=Z,7.8nm,0.6s,baz=94,slow=10.0,SNR=7.2							
KLMR	**Klimovskoe**	**69.70**	**336**	*e*P	**P**		**13 30 44.8**	**-1.9**
KLMR				AMP			13 30 47.1	
	comp=Z,14nm,0.8s							
KLMR	**Klimovskoe**	**69.70**	**336**	*e*P	**P**		**13 30 44.8**	**-1.9**
KLMR				pmax	pmax			
	comp=Z,14nm,0.8s							
AKASG	**Malin Array Be**	**70.05**	**324**	P	**P**		**13 30 48.4**	**-0.6**
	comp=Z,1.9nm,0.6s,baz=95,slow=4.8,SNR=6.2							
KIEV	**Kiev**	**70.06**	**324**	*i* P	**P**		**13 30 50.2**	**+1.1**
KIEV				pmax	pmax			
	comp=Z,27nm,0.3s							
MLR	**Muntele Rosu**	**70.38**	**318**	P	**P**		**13 30 52.1**	**+0.7**
	comp=Z,1.3nm,0.7s,baz=187,slow=5.9,SNR=6.8							
MLR	**Muntele Rosu**	**70.38**	**318**	*e*P	**P**		**13 30 51.5**	**+0.1**
	comp=Z,20nm,1.1s							
BUR04	**Bucovina Ar. S**	**71.50**	**320**	*e*P	**P**		**13 30 58.2**	**+0.1**
BUR08	**Bucovina Ar. S**	**71.52**	**320**	*e*P	**P**		**13 30 58.6**	**+0.4**
TMCR	**Tamitsa**	**72.14**	**339**	*e*P	**P**		**13 31 01.4**	**0.0**
TIXI	**Tiksi**	**73.33**	**12**	*e*P	**P**		**13 31 06.5**	**-1.9**
	comp=Z,17nm,0.8s							
TIXI	**Tiksi**	**73.33**	**12**	*ce*P	**P**		**13 31 05.9**	**-2.5**
TIXI				pmax	pmax			
	comp=Z,18nm,0.8s							
MA2	**Magadan**	**73.40**	**28**	P	**P**		**13 31 07.8**	**-1.2**
	comp=Z,3.0nm,0.4s,baz=193,slow=5.8,SNR=4.4							
SEY	**Seymchan**	**75.50**	**25**	*i* P	**P**		**13 31 19.6**	**-1.6**
FINES	**FINESS Array B**	**75.71**	**334**	P	**P**		**13 31 22.2**	**-0.2**
	comp=Z,4.7nm,0.7s,baz=115,slow=8.6,SNR=9.8							
ARCES	**ARCESS Array B**	**79.06**	**341**	P	**P**		**13 31 41.2**	**+0.2**
	comp=Z,6.5nm,0.8s,baz=105,slow=5.7,SNR=9.1							
SYO	**Syowa Base**	**79.08**	**196**	*e*P	**P**		**13 31 41.0**	**-0.1**
GERES	**GERESS Array B**	**79.27**	**319**	P	**P**		**13 31 42.7**	**0.0**
	comp=Z,2.3nm,0.7s,baz=101,slow=6.9,SNR=7.0							
CLL	**Collm**	**80.08**	**322**	*i* P	**P**		**13 31 47.5**	**+0.5**
CLL	**Collm**	**80.08**	**322**	*i* P	**P**		**13 31 47.3**	**+0.3**
HFS	**Hagfors**	**81.17**	**330**	P	**P**		**13 31 52.6**	**0.0**
	comp=Z,2.1nm,0.5s,baz=114,slow=3.6,SNR=8.1							
NB2	**NORSAR Subarra**	**82.53**	**331**	P	**P**		**13 31 59.3**	**-0.5**
	comp=Z,4.1nm,1.0s,baz=94,slow=5.3							
NOA	**NORSAR Array B**	**82.53**	**331**	P	**P**		**13 31 59.4**	**-0.4**
	comp=Z,1.6nm,0.8s,baz=97,slow=5.6,SNR=4.1							
BILL	**Bilibino**	**82.58**	**22**	*i* P	**P**		**13 31 59.5**	**-0.4**
BILL				pmax	pmax			
	comp=Z,3.0nm,1.0s							
BILL				MLR	MLR			
	comp=Z,9μm,17.0s							
SPITS	**Spitsbergen Ar**	**84.33**	**349**	P	**P**		**13 32 08.0**	**-0.8**
	comp=Z,4.4nm,0.7s,baz=190,slow=14,SNR=8.6							
SPITS	**Spitsbergen Ar**	**84.33**	**349**	P	**P**		**13 32 08.0**	**-0.8**
TORD	**Torodi Ar. Bea**	**87.95**	**283**	P	**P**		**13 32 28.3**	**+0.4**
	comp=Z,72nm,0.6s,baz=43,slow=8.7,SNR=3.9							
EKA	**Eskdalemuir Ar**	**89.91**	**325**	P	**P**		**13 32 35.7**	**-0.5**
	comp=Z,0.5nm,0.5s,baz=86,slow=4.6,SNR=4.2							
VNA2	**Neumayer--Watz**	**94.75**	**199**	P	**PKiKP**		**13 37 34.9**	**-5.6**
	baz=320,slow=24							
VNA1	**Neumayer--Stat**	**95.07**	**199**	P	**PKiKP**		**13 37 47.9**	**+6.9**
NVAR	**Mina Array Bea**	**131.60**	**30**	PKP	**PKPdf**		**13 38 51.9**	**+1.1**
	comp=Z,0.3nm,0.5s,baz=249,slow=3.8,SNR=3.1							
PFO	**Pinyon Flats O**	**136.24**	**33**	*i* PKIKP	**PKPdf**		**13 39 00.0**	**+0.5**
TX31	**Lajitas Ar. Si**	**145.76**	**22**	*e*PKPdf	**PKPdf**		**13 39 16.2**	**-0.5**
TX31				*e*PKPdf	**PKPbc**		**13 39 16.4**	**-0.7**
TXAR	**Lajitas Array**	**145.76**	**22**	PKPbc	**PKPdf**		**13 39 16.8**	**+0.1**
	comp=Z,4.4nm,0.6s,baz=335,slow=1.5,SNR=27							
JCT	**Junction City**	**145.93**	**15**	*e*PKPdf	**PKPdf**		**13 39 15.6**	**-1.3**
JCT	**Junction City**	**145.93**	**15**	*e*PKP2	**PKPdf**		**13 39 15.6**	**-1.3**

IDC 11 13:23:26.3±6.5, 4°84'N×94°32'E, h0km, mb3.6/3, mb1 3.8/4, mb1mx3.3/74, mbtmp3.6/4, ML3.8/1, Error ellipse: s-maj=197.9km s-min=31.3km az=73.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
CMAR	**Chiang Mai Arr**	**14.27**	**18**	Pn	Pn		13 26 49.1	-0.7
	0.1nm,0.3s,baz=216,slow=12,SNR=2.8							
SONM	**Songino Array**	**44.08**	**12**	P	P		13 31 36.3	0.0
	1.6nm,0.8s,baz=195,slow=9.0,SNR=4.4							
WRA	**Warramunga Arr**	**46.41**	**123**	P	P		13 31 54.4	-0.6
	1.1nm,0.9s,baz=300,slow=9.0,SNR=3.4							
ASAR	**Alice Springs**	**47.88**	**128**	P	P		13 32 06.9	+0.4
	0.3nm,0.7s,baz=297,slow=8.2,SNR=3.2							

*ISCJB **11** 13:24:28.6±0.7, 37°70N±0°08×135°8E±0°1, h350km, mb3.1/2, Error ellipse: s-maj=13.3km s-min=9.5km az=44.9*
*IDC **11** 13:24:29.2±1.2, 37°56N×135°55E, h330km±16km, mb3.0/2, mb1 3.2/4, mb1mx2.7/71, mbtmp3.8/4, Error ellipse: s-maj=28.5km s-min=20.1km az=58.0*
*JMA **11** 13:24:31.1±0.1, 37°38N×136°04E, h349km, M3.5*
ISC 11 13:24:29.5±1.1, 37.7N±0°1×136°0E±0°1, h350km, n12, σ1§61/13, Sea of Japan

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
MAT	**Matsushiro**	**2.11**	**121**	P	**Pn**		**13 25 22.3**	**+0.7**
MAT	**Matsushiro**	**2.11**	**121**	P	**Pn**		**13 25 22.3**	**+0.7**
MJAR	**Matsushiro Arr**	**2.11**	**121**	P	**Pn**		**13 25 22.0**	**+0.4**
	2.4nm,0.3s,baz=290,slow=10,SNR=34							
JNG	**Nsakai**	**2.11**	**125**	P	**Pn**		**13 25 22.5**	**+0.8**
JKY	**Yasaka**	**2.13**	**199**	P	**Pn**		**13 25 21.3**	**-0.5**
JWT	**Wachi**	**2.41**	**191**	P	**Pn**		**13 25 23.4**	**-0.5**
JMM	**Marumori**	**3.83**	**85**	P	**Pn**		**13 25 38.6**	**+1.9**
JFK	**Kawauchi**	**3.91**	**93**	P	**Pn**		**13 25 38.5**	**+0.9**
JFK				*e*S	**S**		**13 26 30.4**	**-2.1**
KSRS	**Korea Array**	**6.39**	**271**	P	Pn		13 26 00.4	-4.4
	0.1nm,0.3s,baz=85,slow=12,SNR=2.7							
ASAJ	**Asahikawa**	**8.18**	**36**	P	**Pn**		**13 26 27.9**	**+2.3**
	1.8nm,0.3s,baz=235,slow=11,SNR=20							
ASAJ				S	**S**		**13 27 57.3**	**-3.0**
	0.2nm,0.3s,baz=335,slow=17,SNR=3.3							
ZALV	**Zalesovo Beam**	**38.28**	**312**	P	**P**		**13 31 16.9**	**-0.2**
	0.5nm,0.4s,baz=92,slow=6.7,SNR=5.0							
WRA	**Warramunga Arr**	**57.30**	**182**	P	**P**		**13 33 42.6**	**+0.8**
	0.4nm,0.4s,baz=359,slow=7.5,SNR=8.5							

IDC 11 13:25:46.8±2.3, 2°80N×95°85E, h0km, mb3.8/7, mb1 3.9/8, mb1mx3.6/71, mbtmp3.8/8, ML3.6/1, Error ellipse: s-maj=95.4km s-min=19.8km az=58.0, Off west coast of northern Sumatera

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

IDC 11 13:30:49.3±2.2, 0°80'N×90°35'E, h0km, mb3.7/7, mb1 3.8/8, mb1mx3.5/68, mbtmp3.7/8, ML3.9/1, Error ellipse: s-maj=74.1km s-min=20.7km az=58.0, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**19.47**	**25**	P	Pn	13 35 19.6	+0.6
	0.1nm,0.3s,baz=216,slow=13,SNR=9.3						
MKAR	**Makanchi Array**	**46.35**	**352**	P	P	13 39 17.2	0.0
	0.8nm,0.8s,baz=148,slow=8.5,SNR=3.0						
WRA	**Warramunga Arr**	**47.77**	**118**	P	P	13 39 28.3	-0.4
	0.9nm,0.7s,baz=294,slow=8.4,SNR=2.9						
ASAR	**Alice Springs**	**48.78**	**123**	P	P	13 39 36.9	+0.3
	0.3nm,0.7s,baz=306,slow=7.9,SNR=2.5						
SONM	**Songino Array**	**48.88**	**14**	P	P	13 39 35.6	-1.4
	0.8nm,0.5s,baz=199,slow=7.9,SNR=3.6						
KURBB	**Kurchatov Arra**	**50.65**	**350**	P	P	13 39 49.8	-0.4
	0.8nm,0.6s,baz=176,slow=6.3,SNR=3.6						
ZALV	**Zalesovo Beam**	**53.17**	**356**	P	P	13 40 08.1	-0.9
	1.1nm,0.6s,baz=182,slow=8.3,SNR=4.0						
BVAR	**Borovoye Array**	**54.64**	**345**	P	P	13 40 20.8	+1.0
	0.5nm,0.9s,baz=158,slow=9.2,SNR=2.6						

*ISCJB **11** 13:32:34.4±0.5, 2°17N±0°07×89°74E±0°04, h10km, mb4.4/35, MS4.4/1, Error ellipse: s-maj=10.9km s-min=5.2km az=22.6*

*IDC **11** 13:32:35.1±0.7, 2°24N×89°96E, h0km, mb4.1/19, mb1 4.2/21, mb1mx4.0/68, mbtmp4.1/21, ML4.0/2, Error ellipse: s-maj=20.6km s-min=15.4km az=50.0*

*NEIC **11** 13:32:36.5±0.5, 2°16N×89°75E, h10km, mb4.6/9, Error ellipse: s-maj=11.0km s-min=5.8km az=203.0*

ISC 11 13:32:36.5±0.6, 2°13N±0°09×89°75E±0°07, h10km, n88, σ1°56/81, mb4.3/35, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LHMI	**Lhok Sumawe**	**7.81**	**67**	*e*Pn	**Pn**	**13 34 31.8**	**+1.5**
GSI	**Gunungsitoli**	**7.86**	**96**	*e*Pn	**Pn**	**13 34 32.2**	**+1.2**
PSI	**Prapat**	**9.19**	**86**	*e*Pn	**Pn**	**13 34 50.6**	**+1.3**
PALK	**Pallekele**	**10.37**	**300**	Pn	**Pn**	**13 35 07.0**	**+1.6**
	2.0nm,0.3s,baz=116,slow=3.4,SNR=2.9						
PALK				Sn	Sn	13 36 48.4	-13
	17nm,0.3s,baz=296,slow=18,SNR=9.2						
KULM	**Kulim**	**11.32**	**74**	*e*Pn	**Pn**	**13 35 16.9**	**-1.5**
IPM	**Ipoh**	**11.49**	**78**	*e*Pn	**Pn**	**13 35 21.0**	**+0.2**
MNAI	**Manna**	**14.68**	**116**	*e*Pn	**Pn**	**13 36 02.0**	**-2.5**
SKHT	**Srikalahasti**	**15.22**	**320**	*e*P	**Pn**	**13 36 10.5**	**-1.2**
ADKI	**Addanki**	**16.70**	**325**	*e*P	**Pn**	**13 36 27.7**	**-3.0**
PVM	**Polavaram**	**17.02**	**333**	*e*P	**Pn**	**13 36 32.6**	**-2.2**
CHLP	**Challavanipeta**	**17.21**	**341**	*e*P	**Pn**	**13 36 34.5**	**-2.6**
SRLM	**Srisailam**	**17.53**	**323**	*e*P	**Pn**	**13 36 39.8**	**-1.4**
NJS	**Nagarjunasagar**	**17.64**	**325**	*e*P	**Pn**	**13 36 40.5**	**-2.0**
URV	**Uravakonda**	**17.73**	**317**	*e*P	**Pn**	**13 36 43.2**	**-0.5**
CM01	**Chiang Mai Arr**	**18.54**	**29**	*e*P	**Pn**	**13 36 54.9**	**+1.3**
CM31	**Chiang Mai Arr**	**18.56**	**28**	*e*P	**Pn**	**13 36 56.8**	**+2.9**
CMAR	**Chiang Mai Arr**	**18.56**	**28**	P	**Pn**	**13 36 52.6**	**-1.3**
	0.1nm,0.3s,baz=232,slow=14,SNR=4.1						
HYBB	**Hyderabad (bro**	**18.76**	**325**	*e*P	**P**	**13 36 55.2**	**-0.8**
CHTO	**Chiang Mai**	**18.87**	**28**	*e*P	**Pn**	**13 36 58.0**	**+0.4**
	29nm,1.4s						
RPR	**Rampur**	**19.53**	**329**	*e*P	**Pn**	**13 37 05.2**	**-0.4**
H08S2	**Diego Garcia H**	**19.77**	**240**	T	T	13 57 41.2	
	baz=59,slow=76,SNR=13						
H08S3	**Diego Garcia H**	**19.77**	**240**	T	T	13 57 41.0	
	baz=59,slow=76,SNR=12						
H08S1	**Diego Carcia H**	**19.78**	**240**	T	T	13 57 48.0	
	baz=59,slow=76,SNR=20						
SRSP	**Sriramsagar**	**20.09**	**327**	*e*P	**P**	**13 37 09.8**	**-0.6**
KSM	**Kuching**	**20.56**	**91**	*e*P	Pn	13 37 16.2	-1.5
	14nm,1.0s						
SBUM	**Sibu**	**22.45**	**89**	*e*P	**P**	**13 37 38.2**	**+2.2**
	14nm,1.1s						
KMI	**Kunming**	**26.07**	**28**	P	**P**	**13 38 14.2**	**+3.6**
KMI				pmax	pmax		
	comp=Z,12nm,0.6s						
KMI				pmax	pmax		
	comp=Z,3μm,11.8s						
LSA	**Lhasa**	**27.45**	**3**	P	**P**	**13 38 23.1**	**-0.2**
LSA	**Lhasa**	**27.45**	**3**	*e*P	**P**	**13 38 22.9**	**-0.4**
CD2	**Chengdu**	**31.55**	**23**	*e*P	**P**	**13 39 00.2**	**+1.0**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
ENH	**Enshi**	**33.67**	**32**	P	**P**	**13 39 19.7**	**+1.9**
	comp=Z,9.2nm,0.5s						
NIL	**Nilore**	**34.96**	**336**	*e*P	**P**	**13 39 28.0**	**-0.8**
	comp=Z,38nm,0.8s						
LZH	**Lanzhou**	**36.22**	**19**	*e*P	P	13 39 44.3	+4.4
LZH				pP	sP	13 39 47.5	+3.3
LZH				sP	pP	13 39 49.1	+6.1
LZH				PP	**PP**	**13 41 09.0**	**+6.7**
LZH				pmax	pmax		
	comp=Z,21nm,1.1s						
LZH				pmax	pmax		
	comp=Z,92nm,5.0s						
LZH				LR	LR		
	comp=N,450nm,13.8s						
LZH				LR	LR		
	comp=E,410nm,14.0s						
LZH				LR	LR		
	comp=Z,480nm,17.2s						
XAN	**Xi'an**	**36.45**	**27**	P	**P**	**13 39 40.7**	**-1.0**
XAN				pP	sP	13 39 45.1	-1.0
XAN				pmax	pmax		
	comp=Z,5.0nm,1.0s						
GTA	**Gaotai**	**38.23**	**13**	*e*P	**P**	**13 39 56.7**	**-0.1**
GTA				pP	sP	13 40 01.1	-0.1
GTA				sP	pP	13 40 04.3	+4.4
GTA				pmax	pmax		
	comp=Z,5.0nm,1.2s						
KSH	**Kashi**	**39.27**	**343**	P	**P**	**13 40 03.1**	**-2.5**
KSH				pmax	pmax		
	comp=Z,20nm,0.9s						
NJ2	**Nanjing**	**40.45**	**40**	*e*P	**P**	**13 40 14.9**	**-0.5**
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.5s						
WMQ	**Urumqi**	**41.56**	**358**	P	**P**	**13 40 26.4**	**+2.0**
WMQ				LR	LR		
	comp=N,40μm,39.1s						
WMQ				LR	LR		
	comp=E,31μm,21.7s						
WMQ				LR	LR		
	comp=Z,16μm,26.3s						
AAK	**Ala-Archa**	**42.58**	**343**	P	**P**	**13 40 33.3**	**+0.4**
	comp=Z,0.6nm,0.3s,baz=220,slow=7.9,SNR=2.8						
HHC	**Hu-ho-hao-te**	**43.29**	**24**	*e*P	**P**	**13 40 40.3**	**+1.7**
HHC				pmax	pmax		
	comp=Z,17nm,1.1s						
HHC				pmax	pmax		
	comp=Z,32nm,6.0s						
H01W3	**Cape Leeuwin H**	**43.34**	**150**	T	T	14 27 21.9	
	baz=326,slow=74,SNR=14						
H01W2	**Cape Leeuwin H**	**43.35**	**150**	T	T	14 27 14.1	
	baz=326,slow=74,SNR=11						
H01W1	**Cape Leeuwin H**	**43.36**	**150**	T	T	14 27 14.9	
	baz=326,slow=74,SNR=11						
KK06	**Karatay Array**	**44.25**	**340**	*e*P	**P**	**13 40 45.1**	**-1.1**
KK07	**Karatay Array**	**44.26**	**340**	*e*P	**P**	**13 40 45.5**	**-0.7**
KKAR	**Karatay Array**	**44.26**	**340**	*e*P	**P**	**13 40 45.8**	**-0.5**
	comp=Z,3.2nm,0.6s						
KK01	**Karatay Array**	**44.27**	**340**	*e*P	**P**	**13 40 44.9**	**-1.5**
KK08	**Karatay Array**	**44.27**	**340**	*e*P	**P**	**13 40 45.4**	**-0.9**
BJI	**Beijing**	**44.71**	**29**	*e*P	**P**	**13 40 52.0**	**+2.2**
BJI				pmax	pmax		
	comp=Z,15nm,0.4s						
MK01	**Makanchi Array**	**44.94**	**353**	*e*P	**P**	**13 40 51.3**	**-0.3**
MK31	**Makanchi Array**	**44.96**	**353**	*e*P	**P**	**13 40 51.9**	**0.0**
MKAR	**Makanchi Array**	**44.96**	**353**	P	**P**	**13 40 51.0**	**-0.8**
	comp=Z,1.9nm,0.7s,baz=173,slow=9.7,SNR=4.9						
MKAR	**Makanchi Array**	**44.96**	**353**	*e*P	**P**	**13 40 51.7**	**-0.1**
	comp=Z,15nm,0.7s						
GEYT	**Alibeck**	**45.94**	**325**	P	**P**	**13 41 00.6**	**+0.8**
	comp=Z,1.7nm,0.6s,baz=155,slow=7.9,SNR=3.7						
SONM	**Songino Array**	**47.75**	**15**	P	**P**	**13 41 13.5**	**-0.4**
	comp=Z,12nm,0.8s,baz=194,slow=9.5,SNR=18						
SONA1	**Songino Array**	**47.77**	**15**	*e*P	**P**	**13 41 13.6**	**-0.4**
WRA	**Warramunga Arr**	**48.92**	**119**	P	**P**	**13 41 23.3**	**0.0**
	comp=Z,3.0nm,0.6s,baz=296,slow=8.6,SNR=11						
KURBB	**Kurchatov Arra**	**49.25**	**351**	P	**P**	**13 41 24.5**	**-0.6**
	comp=Z,2.5nm,0.8s,baz=174,slow=7.4,SNR=8.4						
KURK	**Kurchatov**	**49.32**	**351**	*e*P	**P**	**13 41 26.2**	**+0.5**
	comp=Z,5.1nm,0.9s						
KSAR	**Wonju Array Be**	**49.61**	**40**	P	**P**	**13 41 25.8**	**-2.4**
KSRS	**Korea Array**	**49.64**	**40**	P	**P**	**13 41 25.8**	**-2.6**
	comp=Z,0.9nm,0.8s,baz=253,slow=9.4,SNR=3.5						
ASAR	**Alice Springs**	**50.01**	**124**	P	**P**	**13 41 30.9**	**-0.6**
	comp=Z,1.2nm,1.0s,baz=310,slow=6.8,SNR=6.0						
ZALV	**Zalesovo Beam**	**51.81**	**356**	P	**P**	**13 41 44.1**	**-0.3**
	comp=Z,2.4nm,0.6s,baz=176,slow=7.4,SNR=4.8						
ZALV	**Zalesovo Beam**	**51.81**	**356**	*e*P	**P**	**13 41 44.0**	**-0.4**
KMBO	**Kilima Mbogo**	**52.59**	**267**	P	**P**	**13 41 53.3**	**+2.0**
	comp=Z,1.4nm,0.4s,baz=61,slow=11,SNR=4.7						
BVAR	**Borovoye Array**	**53.21**	**346**	P	**P**	**13 41 54.7**	**-0.2**
	comp=Z,0.6nm,0.6s,baz=140,slow=7.0,SNR=2.9						
AB07	**Akbulak array**	**53.40**	**336**	*e*P	**P**	**13 41 55.6**	**-0.7**
AB06	**Akbulak array**	**53.41**	**336**	*e*P	**P**	**13 41 56.0**	**-0.4**
AB08	**Akbulak array**	**53.41**	**336**	*e*P	**P**	**13 41 55.9**	**-0.5**
AB03	**Akbulak array**	**53.41**	**336**	*e*P	**P**	**13 41 55.9**	**-0.5**
AB01	**Akbulak array**	**53.42**	**336**	*e*P	**P**	**13 41 55.9**	**-0.6**
AB31	**Akbulak array**	**53.42**	**336**	*e*P	**P**	**13 41 56.1**	**-0.4**
ABKAR	**Akbulak array**	**53.42**	**336**	*e*P	**P**	**13 41 56.0**	**-0.5**
	comp=Z,83nm,0.6s						
AB02	**Akbulak array**	**53.42**	**336**	*e*P	**P**	**13 41 56.1**	**-0.4**
AB04	**Akbulak array**	**53.42**	**336**	*e*P	**P**	**13 41 56.1**	**-0.4**
AB05	**Akbulak array**	**53.43**	**336**	*e*P	**P**	**13 41 56.0**	**-0.6**
AB09	**Akbulak array**	**53.43**	**336**	*e*P	**P**	**13 41 56.0**	**-0.6**
AKTO	**Aktyubinsk**	**55.12**	**336**	P	**P**	**13 42 08.1**	**-0.8**
	comp=Z,0.4nm,0.4s,baz=102,slow=14,SNR=2.6						
STKA	**Stephens Creek**	**59.61**	**129**	P	**P**	**13 42 38.8**	**-2.2**
	comp=Z,1.4nm,0.7s,baz=277,slow=7.4,SNR=3.6						
BRTR	**Keskin Array B**	**63.05**	**314**	P	**P**	**13 43 04.4**	**+0.1**
	comp=Z,0.7nm,0.7s,baz=132,slow=7.8,SNR=3.8						
BOSA	**Boshof**	**68.86**	**238**	P	**P**	**13 43 44.2**	**+2.3**
	comp=Z,4.7nm,0.7s,baz=91,slow=4.6,SNR=7.7						
TIXI	**Tiksi**	**73.71**	**12**	*e*P	**P**	**13 44 08.0**	**-2.2**
	comp=Z,7.7nm,0.6s						
FINES	**FINESS Array B**	**75.80**	**334**	P	**P**	**13 44 22.2**	**-0.3**
	comp=Z,1.3nm,0.7s,baz=134,slow=8.2,SNR=4.5						
ARCES	**ARCESS Array B**	**79.21**	**341**	P	**P**	**13 44 41.2**	**-0.3**
	comp=Z,2.1nm,0.8s,baz=86,slow=5.1,SNR=6.8						
GERES	**GERESS Array B**	**79.23**	**319**	P	**P**	**13 44 42.7**	**+0.6**
	comp=Z,0.4nm,0.2s,baz=159,slow=3.0,SNR=2.4						
HFS	**Hagfors**	**81.23**	**331**	P	**P**	**13 44 52.0**	**-0.5**
	comp=Z,3.3nm,1.1s,baz=124,slow=2.1,SNR=4.7						
TX31	**Lajitas Ar. Si**	**146.18**	**21**	*e*PKPdf	**PKPbc**	**13 52 17.4**	**-0.6**
TXAR	**Lajitas Array**	**146.18**	**21**	PKPbc	**PKPab**	**13 52 17.7**	**-0.9**
	comp=Z,0.8nm,0.7s,baz=346,slow=2.6,SNR=3.9						

*TIR **11** 13:38:35.1, 41°47N×19°56E, h20km, Md3.5/7*

*ATH **11** 13:38:35.6, 41°50N×19°56E, h18km±1km, ML2.8/5, Error ellipse: s-maj=4.5km s-min=1.7km az=345.0*

*ISCJB **11** 13:38:36.1±0.3, 41°49N±0°01×19°58E±0°02, h4km±2km, Error ellipse: s-maj=3.0km s-min=1.9km az=149.1*

*SKO **11** 13:38:36.3, 41°50N×19°52E, h4km, M2.3, ML2.8*

*PDG **11** 13:38:36.7±0.5, 41°49N×19°63E, h9km±1km, ML3.0/8, Error ellipse: s-maj=0.8km s-min=1.3km az=0.0*

*THE **11** 13:38:37.4, 41°53N×19°66E, h10km±1km, ML2.9/2, Error ellipse: s-maj=1.5km s-min=0.8km az=58.0*

*CSEM **11** 13:38:37.1±0.1, 41°50N×19°57E, h10km, ML2.9, Error ellipse: s-maj=3.5km s-min=2.3km az=66.0*

*BEO **11** 13:38:38.0±0.4, 41°56N×19°68E, h0km*

ISC 11 13:38:37.0±0.9, 41°50N±0°01×19°60E±0°02, h10km±7km, n132, σ1°15/225, 17C-14D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.25**	**128**	*e*Pg	**Pg**	**13 38 41.7**	**-0.3**
TIR				*e*Sg	**Sg**	**13 38 46.3**	**+0.9**
TIR	**Tirane**	**0.25**	**128**	P	**Pg**	**13 38 41.7**	**-0.3**
TIR				S	**Sg**	**13 38 45.8**	**+0.3**
TIR				AML	AML	13 38 46.9	
	comp=E,26129μm,0.5s						
TIR				AML	AML	13 38 47.0	
	comp=N,11399μm,0.4s						
TIR	**Tirane**	**0.25**	**128**	P	**Pg**	**13 38 41.7**	**-0.3**
TIR				S	**Sg**	**13 38 46.3**	**+0.9**
TIR	**Tirane**	**0.25**	**128**	P	**Pg**	**13 38 41.7**	**-0.3**
TIR				S	**Sg**	**13 38 45.9**	**+0.5**
TIR				*e*Sg	Sg	13 38 46.3	+0.9
TIR	**Tirane**	**0.25**	**128**	*i* PG	**Pg**	**13 38 41.7**	**-0.3**
TIR				*i* SG	**Sg**	**13 38 46.3**	**+0.9**
ULC	**Ulcinj**	**0.54**	**330**	↓*i*Pg	**Pg**	**13 38 46.9**	**-0.5**
ULC				*e*Sg	**Sb**	**13 38 55.8**	**-0.5**
ULC	**Ulcinj**	**0.54**	**330**	P	**Pg**	**13 38 46.9**	**-0.5**
ULC				*e*Sg	**Sb**	**13 38 55.8**	**-0.5**
PUK	**Puka**	**0.58**	**22**	*i* Pg	Pg	13 38 43.4	-4.9
PUK				*i* Sg	**Sb**	**13 38 57.3**	**-0.5**
PUK	**Puka**	**0.58**	**22**	*i* PG	Pg	13 38 43.4	-4.9
PUK				*i* SG	**Sb**	**13 38 57.3**	**-0.4**
PHP	**Peshkopia**	**0.66**	**73**	P	**Pg**	**13 38 48.2**	**-1.5**
PHP				S	**Sg**	**13 38 58.5**	**+0.2**
PHP	**Peshkopia**	**0.66**	**73**	P	**Pg**	**13 38 48.2**	**-1.5**
PHP				S	**Sg**	**13 38 58.5**	**+0.2**
PHP	**Peshkopia**	**0.66**	**73**	*i* PG	**Pg**	**13 38 48.1**	**-1.6**
PHP				*i* SG	**Sg**	**13 38 58.8**	**+0.6**
DRME	**Dracevica, Mon**	**0.75**	**336**	↓*i*Pg	**Pg**	**13 38 50.8**	**-0.7**
DRME				*e*Sg	**Sb**	**13 39 03.0**	**+0.4**
DRME	**Dracevica, Mon**	**0.75**	**336**	↓*i*Pg	**Pg**	**13 38 50.8**	**-0.7**
DRME				*e*Sg	**Sb**	**13 39 03.0**	**+0.4**
BCI	**Bajram Curri**	**0.93**	**22**	*i* Pg	**Pg**	**13 38 53.3**	**-1.6**
BCI				*i* Sg	**Sn**	**13 39 08.9**	**-0.8**
BCI	**Bajram Curri**	**0.93**	**22**	*i* PG	**Pg**	**13 38 53.3**	**-1.6**
BCI				*i* SG	**Sn**	**13 39 08.9**	**-0.8**
BUM	**Brajici-Budva**	**0.96**	**327**	↑*i*Pg	**Pg**	**13 38 55.0**	**-0.4**
BUM				*e*Sg	**Sn**	**13 39 10.3**	**-0.1**
BUM	**Brajici-Budva**	**0.96**	**327**	↑*i*Pg	**Pg**	**13 38 55.0**	**-0.4**
BUM				*e*Sg	**Sn**	**13 39 10.3**	**-0.1**
PDG	**Podgorica**	**0.96**	**345**	*e*Pg	**Pg**	**13 38 55.2**	**-0.3**
PDG				*e*Sg	**Sg**	**13 39 08.0**	**-0.1**
PDG	**Podgorica**	**0.96**	**345**	P	**Pg**	**13 38 54.7**	**-0.8**
PDG				S	**Sn**	**13 39 09.7**	**-0.7**
PDG	**Podgorica**	**0.96**	**345**	P	**Pg**	**13 38 54.7**	**-0.8**
PDG	**Podgorica**	**0.96**	**345**	*e*Pg	**Pg**	**13 38 55.2**	**-0.3**
PDG				*e*Sg	**Sg**	**13 39 08.0**	**-0.1**
PDG				S	**Sn**	**13 39 09.7**	**-0.7**
TTG	**Podgorica**	**0.96**	**345**	↑*i*Pg	**Pg**	**13 38 54.6**	**-0.9**
TTG				*e*Sg	**Sn**	**13 39 10.3**	**-0.1**
OHR	**Ohrid**	**0.98**	**113**	*i* Pg	**Pg**	**13 38 54.2**	**-1.6**
OHR				*i* Sg	**Sb**	**13 39 09.6**	**+0.4**
OHR				*e*Lg	Lg	13 39 14.8	
	comp=N,178nm,0.5s						
OHR				*e*Lg	Lg	13 39 16.4	
	comp=E,196nm,0.6s						
PRZK	**Prizren**	**1.12**	**50**	P	**Pb**	**13 38 56.7**	**-1.7**
PVY	**Plav**	**1.12**	**14**	↑*i*Pg	**Pb**	**13 38 57.6**	**-1.0**
PVY				*e*Sg	**Sn**	**13 39 15.3**	**+0.7**
PVY	**Plav**	**1.12**	**14**	↑*i*Pg	**Pb**	**13 38 57.6**	**-1.0**
PVY				*e*Sg	**Sn**	**13 39 15.3**	**+0.7**
CEME	**Cevo**	**1.16**	**334**	↑*i*Pg	**Pb**	**13 38 58.7**	**-0.5**
CEME				*e*Sg	**Sn**	**13 39 17.0**	**+1.6**
CEME	**Cevo**	**1.16**	**334**	↑*i*Pg	**Pb**	**13 38 58.7**	**-0.5**
CEME				*e*Sg	**Sn**	**13 39 17.0**	**+1.6**
KRUS	**Krusevo**	**1.25**	**96**	*i* Pg	**Pn**	**13 38 58.2**	**-2.4**
KRUS				*i* Sg	**Sn**	**13 39 18.1**	**+0.6**
PEJK	**Peje**	**1.25**	**24**	P	**Pn**	**13 38 59.1**	**-1.5**
KBN	**Korca**	**1.25**	**134**	*i* Pn	**Pg**	**13 39 02.9**	**+1.9**
KBN	**Korca**	**1.25**	**134**	*i* PN	**Pg**	**13 39 02.9**	**+1.9**
KBN				*i* SN	**Sn**	**13 39 20.1**	**+2.5**
HCY	**Herceg Novi**	**1.26**	**319**	↓*i*Pg	**Pn**	**13 39 00.3**	**-0.3**
HCY				*e*Sg	**Sg**	**13 39 20.1**	**+2.7**
HCY	**Herceg Novi**	**1.26**	**319**	↓*i*Pg	**Pn**	**13 39 00.3**	**-0.3**
HCY				*e*Sg	**Sg**	**13 39 18.2**	**+0.8**
KOME	**Kolasin**	**1.35**	**357**	↑*i*Pg	**Pn**	**13 39 01.8**	**-0.2**
KOME				*e*Sg	**Sg**	**13 39 23.2**	**+2.7**
KOME	**Kolasin**	**1.35**	**357**	↑*i*Pg	**Pn**	**13 39 01.8**	**-0.2**
KOME				*e*Sg	**Sg**	**13 39 23.2**	**+2.7**
NKME	**Niksic**	**1.35**	**339**	↓*i*Pg	**Pn**	**13 39 01.9**	**-0.1**
NKME				*e*Sg	**Sg**	**13 39 23.4**	**+2.8**
NKME	**Niksic**	**1.35**	**339**	↓*i*Pg	**Pn**	**13 39 01.9**	**-0.1**
NKME				*e*Sg	**Sg**	**13 39 23.4**	**+2.8**
BIA	**Bitola**	**1.38**	**110**	*i* Pg	**Pg**	**13 39 03.8**	**+0.2**
BIA				*i* Sg	**Sg**	**13 39 23.3**	**+1.8**
BEY	**Berane**	**1.39**	**9**	↑*i*Pg	**Pn**	**13 39 01.8**	**-0.7**
BEY	**Berane**	**1.39**	**9**	P	**Pn**	**13 39 02.4**	**-0.1**
BEY				*e*Sg	**Sg**	**13 39 24.3**	**+2.7**
IVA	**Berane**	**1.39**	**9**	↑*i*Pg	**Pn**	**13 39 01.8**	**-0.7**
IVA				*e*Sg	**Sg**	**13 39 24.3**	**+2.7**
NKY	**Niksic**	**1.39**	**341**	↑*i*Pg	**Pn**	**13 39 02.8**	**+0.3**
NKY				*e*Sg	**Sg**	**13 39 24.9**	**+3.3**
NKY	**Niksic**	**1.39**	**341**	↑*i*Pg	**Pn**	**13 39 02.8**	**+0.3**
NKY				*e*Sg	**Sg**	**13 39 24.9**	**+3.3**
SKO	**Skopje**	**1.45**	**70**	*e*Pg	**Pn**	**13 39 03.6**	**+0.3**
SKO				*e*Sg	**Sn**	**13 39 22.4**	**-0.1**
SKO	**Skopje**	**1.45**	**70**	P	**Pn**	**13 39 03.4**	**+0.1**
SKO				S	**Sb**	**13 39 23.0**	**+0.3**
SKO	**Skopje**	**1.45**	**70**	P	**Pn**	**13 39 03.4**	**+0.1**
SKO				*e*Sg	**Sn**	**13 39 22.4**	**-0.1**
SKO				S	**Sb**	**13 39 23.0**	**+0.3**
SKO	**Skopje**	**1.45**	**70**	*i* Pg	**Pg**	**13 39 04.5**	**-0.3**
FNA	**Florina**	**1.52**	**118**	P	**Pn**	**13 39 03.2**	**-1.0**
FNA				S	**Sb**	**13 39 25.0**	**+0.4**
FNA				AML	AML	13 39 28.4	
	comp=N,747μm,0.5s						
FNA				AML	AML	13 39 29.6	
	comp=E,932μm,0.7s						
FNA	**Florina**	**1.52**	**118**	P	**Pn**	**13 39 03.9**	**-0.4**
FNA				S	**Sn**	**13 39 23.5**	**-0.7**
FNA	**Florina**	**1.52**	**118**	P	**Pn**	**13 39 03.9**	**-0.4**
FNA				S	**Sg**	**13 39 25.3**	**-0.5**
TREB	**Trebinje**	**1.53**	**323**	*e*Pg	**Pb**	**13 39 05.1**	**-0.4**
TREB				*e*Sg	**Sg**	**13 39 26.7**	**+0.5**
NEST	**Nestorio**	**1.54**	**134**	P	**Pb**	**13 39 05.7**	**0.0**
NEST				S	**Sg**	**13 39 27.3**	**+0.8**
NEST				AML	AML	13 39 37.0	
	comp=E,308μm,0.5s						
NEST				AML	AML	13 39 38.5	
	comp=N,216μm,0.6s						
NEST	**Nestorio**	**1.54**	**134**	P	**Pb**	**13 39 06.0**	**+0.3**
NEST	**Nestorio**	**1.54**	**134**	P	**Pb**	**13 39 05.2**	**-0.5**
NEST				S	**Sg**	**13 39 26.6**	**+0.1**
BRY	**Bratogost**	**1.61**	**331**	*e*Pn	**Pb**	**13 39 06.5**	**-0.4**
BRY				*e*Sn	**Sb**	**13 39 28.0**	**+0.7**
SRN	**Sarande**	**1.65**	**169**	P	**Pn**	**13 39 06.2**	**+0.2**
SRN				S	**Sb**	**13 39 28.0**	**-0.2**
SRN	**Sarande**	**1.65**	**169**	P	**Pn**	**13 39 06.2**	**+0.2**
SRN	**Sarande**	**1.65**	**169**	*i* Pn	**Pb**	**13 39 06.9**	**-0.5**
SRN				S	**Sb**	**13 39 28.0**	**-0.2**
SRN	**Sarande**	**1.65**	**169**	*i* PN	**Pb**	**13 39 07.0**	**-0.5**
SRN				*i* SN	**Sb**	**13 39 28.2**	**0.0**
SCTE	**Santa Cesarea**	**1.67**	**212**	P	**Pb**	**13 39 07.0**	**-0.7**
SCTE				S	**Sn**	**13 39 27.1**	**-0.5**
SCTE				AML	AML	13 39 31.2	
	comp=N,138μm,0.4s						
SCTE				AML	AML	13 39 35.7	
	comp=E,146μm,0.6s						
SCTE	**Santa Cesarea**	**1.67**	**212**	P	**Pn**	**13 39 06.5**	**+0.3**
SCTE				S	**Sn**	**13 39 27.6**	**-0.1**
SMRK	**Smrekonice**	**1.69**	**35**	P	**Pb**	**13 39 08.3**	**0.0**
PENT	**Pentalofos**	**1.75**	**138**	P	**Pb**	**13 39 09.0**	**-0.2**
PENT	**Pentalofos**	**1.75**	**138**	P	**Pb**	**13 39 09.3**	**+0.1**
PENT	**Pentalofos**	**1.75**	**138**	P	**Pb**	**13 39 08.3**	**-0.9**
SJES	**Sjenica**	**1.78**	**9**	*e*Pn	**Pb**	**13 39 09.4**	**-0.4**
SJES	**Sjenica**	**1.78**	**9**	*e*Pn	**Pb**	**13 39 09.4**	**-0.4**
KEK	**Kerkira**	**1.79**	**175**	P	**Pn**	**13 39 07.4**	**-0.6**
KEK				S	**Sn**	**13 39 30.9**	**+0.1**
KEK				AML	AML	13 39 41.4	
	comp=N,436μm,0.6s						
KEK				AML	AML	13 39 44.6	
	comp=E,290μm,0.4s						
KEK	**Kerkira**	**1.79**	**175**	P	**Pn**	**13 39 07.9**	**-0.1**
KEK				S	**Sb**	**13 39 32.3**	**-0.1**
KEK	**Kerkira**	**1.79**	**175**	P	**Pn**	**13 39 07.9**	**-0.1**
KEK				S	**Sn**	**13 39 31.2**	**+0.4**
PLE	**Pljevlja**	**1.83**	**355**	↑*i*Pn	**Pb**	**13 39 09.8**	**-0.9**
PLE				*e*Sn	**Sg**	**13 39 35.9**	**-0.1**
PLE	**Pljevlja**	**1.83**

MLR	**Muntele Rosu**	**6.10**	**47**	S	Sn	13 40 58.5	-19

*ISCJB **11** 13:39:59.9±0.5, 1.°30N±0.°07×91.°49E±0.°05, h10km, mb4.5/40, MS4.4/1, Error ellipse: s-maj=10.6km s-min=7.3km az=14.3*
*IDC **11** 13:40:00.1±0.8, 1.°33N×91.°49E, h0km, mb4.2/20, mb1 4.3/22, mb1mx4.1/67, mbtmp4.2/22, ML4.1/2, Error ellipse: s-maj=25.5km s-min=14.2km az=44.0*
*NEIC **11** 13:40:01.7±0.3, 1.°32N×91.°50E, h10km, mb4.6/8, Error ellipse: s-maj=7.4km s-min=5.2km az=200.0*
ISC 11 13:40:01.5±0.8, 1.°3N±0.°1×91.°46E±0.°08, h10km, n85, σ1°05/83, mb4.6/40, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LHMI	**Lhok Sumawe**	**6.74**	**54**	*e*Pn	**Pn**	**13 41 41.2**	**+0.6**
KULM	**Kulim**	**10.00**	**66**	*e*Pn	**Pn**	**13 42 24.8**	**-0.6**
IPM	**Ipoh**	**10.07**	**71**	Pn	**Pn**	**13 42 28.3**	**+1.9**
PALK	**Pallekele**	**12.26**	**299**	Pn	**Pn**	**13 42 55.3**	**-1.1**
	2.3nm,0.3s,baz=116,slow=22,SNR=6.8						
PALK	**Pallekele**	**12.26**	**299**	*e*Pn	**Pn**	**13 42 56.5**	**0.0**
CM01	**Chiang Mai Arr**	**18.56**	**23**	*e*P	**P**	**13 44 17.2**	**-1.5**
CM31	**Chiang Mai Arr**	**18.59**	**23**	*e*P	**P**	**13 44 18.3**	**-0.7**
CMAR	**Chiang Mai Arr**	**18.59**	**23**	P	**P**	**13 44 17.6**	**-1.5**
	0.2nm,0.3s,baz=215,slow=13,SNR=15						
CHTO	**Chiang Mai**	**18.91**	**22**	*e*P	**P**	**13 44 21.6**	**-1.0**
	10.0nm,0.6s						
H08S2	**Diego Garcia H**	**20.89**	**245**	T	T	14 06 28.0	
	baz=65,slow=75,SNR=5.5						
H08S3	**Diego Garcia H**	**20.89**	**245**	T	T	14 06 35.1	
	baz=65,slow=75,SNR=6.0						
H08S1	**Diego Garcia H**	**20.91**	**245**	T	T	14 06 36.7	
	baz=65,slow=75,SNR=4.3						
ODAN	**Odare**	**25.73**	**352**	*e*P	**P**	**13 45 34.0**	**+1.4**
	71nm,0.8s						
RAMN	**Ramite**	**25.95**	**350**	*e*P	**P**	**13 45 36.4**	**+1.8**
	51nm,0.6s						
KMI	**Kunming**	**26.09**	**24**	P	**P**	**13 45 37.2**	**+1.3**
KMI				pmax	pmax		
	comp=Z,13nm,0.6s						
KMI				pmax	pmax		
	comp=Z,21μm,16.6s						
JIRN	**Jiri**	**26.71**	**350**	*e*P	**P**	**13 45 42.9**	**+1.2**
	comp=Z,73nm,1.0s						
DMN	**Daman**	**26.88**	**347**	*e*P	**P**	**13 45 44.7**	**+1.7**
GUN	**Gumba**	**27.02**	**349**	*e*P	**P**	**13 45 45.5**	**+1.2**
	comp=Z,24nm,0.7s						
GKN	**Gorkha**	**27.36**	**347**	*e*P	**P**	**13 45 48.4**	**+1.1**
KOLN	**Koldanda**	**27.40**	**345**	*e*P	**P**	**13 45 48.9**	**+1.3**
PYUN	**Piuthan**	**27.88**	**344**	*e*P	**P**	**13 45 53.0**	**+1.1**
LSA	**Lhasa**	**28.27**	**359**	*e*P	**P**	**13 45 57.1**	**+1.4**
	comp=Z,14nm,0.7s						
CD2	**Chengdu**	**31.69**	**20**	*e*P	**P**	**13 46 24.5**	**-1.0**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
ENH	**Enshi**	**33.53**	**29**	*e*P	**P**	**13 46 41.5**	**-0.2**
	comp=Z,11nm,0.9s						
NIL	**Nilore**	**36.45**	**334**	*e*P	**P**	**13 47 07.5**	**+0.7**
	comp=Z,36nm,0.6s						
XAN	**Xi'an**	**36.46**	**25**	P	**P**	**13 47 06.4**	**-0.5**
XAN				pP	sP	13 47 11.0	-0.2
XAN				pmax	pmax		
	comp=Z,10.0nm,0.7s						
LZH	**Lanzhou**	**36.49**	**17**	*e*P	**P**	**13 47 07.0**	**-0.3**
LZH				pP	pP	13 47 10.2	-0.1
LZH				sP	sP	13 47 11.8	+0.2
LZH				PP	**PP**	**13 48 34.0**	**+3.6**
LZH				pmax	pmax		
	comp=Z,20nm,1.1s						
LZH				pmax	pmax		
	comp=Z,81nm,5.2s						
LZH				LR	LR		
	comp=N,440nm,13.7s						
LZH				LR	LR		
	comp=E,450nm,14.0s						
LZH				LR	LR		
	comp=Z,490nm,17.5s						
GTA	**Gaotai**	**38.71**	**10**	*e*P	**P**	**13 47 26.5**	**+0.5**
GTA				pP	sP	13 47 30.7	+0.4
GTA				sP	pP	13 47 33.6	+4.5
GTA				pmax	pmax		
	comp=Z,13nm,0.8s						
FITZ	**Fitzroy Crossi**	**38.76**	**121**	P	**P**	**13 47 26.4**	**-0.1**
	comp=Z,1.3nm,0.6s,baz=294,slow=10,SNR=5.6						
NJ2	**Nanjing**	**40.05**	**37**	*e*P	**P**	**13 47 33.1**	**-4.0**
NJ2				pmax	pmax		
	comp=Z,20nm,1.0s						
KSH	**Kashi**	**40.60**	**341**	P	**P**	**13 47 40.5**	**-1.2**
KSH				pmax	pmax		
	comp=Z,15nm,0.4s						
WMQ	**Urumqi**	**42.49**	**356**	P	**P**	**13 47 58.8**	**+1.7**
HHC	**Hu-ho-hao-te**	**43.40**	**22**	*e*P	**P**	**13 48 03.4**	**-1.1**
HHC				pmax	pmax		
	comp=Z,26nm,1.0s						
HHC				pmax	pmax		
	comp=Z,30nm,6.7s						
AAK	**Ala-Archa**	**43.90**	**342**	*e*P	**P**	**13 48 09.6**	**+1.0**
	comp=Z,2.9nm,0.8s						
BJI	**Beijing**	**44.65**	**27**	P	**P**	**13 48 16.3**	**+1.9**
BJI				pmax	pmax		
	comp=Z,18nm,0.9s						
KK06	**Karatay Array**	**45.65**	**339**	*e*P	**P**	**13 48 22.4**	**0.0**
KK07	**Karatay Array**	**45.65**	**339**	*e*P	**P**	**13 48 22.4**	**0.0**
KK02	**Karatay Array**	**45.66**	**339**	*e*P	**P**	**13 48 22.8**	**+0.4**
KK31	**Karatay Array**	**45.66**	**339**	*e*P	**P**	**13 48 22.7**	**+0.2**
KKAR	**Karatay Array**	**45.66**	**339**	*e*P	**P**	**13 48 22.8**	**+0.3**
	comp=Z,4.0nm,0.6s						
KK03	**Karatay Array**	**45.66**	**339**	*e*P	**P**	**13 48 22.6**	**+0.1**
KK01	**Karatay Array**	**45.66**	**339**	*e*P	**P**	**13 48 22.8**	**+0.2**
KK04	**Karatay Array**	**45.67**	**339**	*e*P	**P**	**13 48 23.1**	**+0.5**
KK08	**Karatay Array**	**45.67**	**339**	*e*P	**P**	**13 48 22.6**	**0.0**
MK01	**Makanchi Array**	**46.01**	**351**	*e*P	**P**	**13 48 24.8**	**-0.4**
MK31	**Makanchi Array**	**46.03**	**351**	*e*P	**P**	**13 48 25.2**	**-0.1**
MKAR	**Makanchi Array**	**46.03**	**351**	P	**P**	**13 48 25.1**	**-0.3**
	comp=Z,5.2nm,0.6s,baz=169,slow=8.9,SNR=44						
MKAR	**Makanchi Array**	**46.03**	**351**	*e*P	**P**	**13 48 25.3**	**-0.1**
	comp=Z,40nm,0.7s						
MAKZ	**Makanchi**	**46.10**	**351**	*e*P	**P**	**13 48 25.8**	**-0.1**
	comp=Z,3.6nm,0.8s						
WRA	**Warramunga Arr**	**47.02**	**119**	P	**P**	**13 48 33.4**	**-0.2**
	comp=Z,1.7nm,0.8s,baz=297,slow=8.6,SNR=15						
GEYT	**Alibeck**	**47.62**	**324**	P	**P**	**13 48 37.2**	**-0.8**
	comp=Z,2.7nm,0.6s,baz=157,slow=7.9,SNR=5.8						
ASAR	**Alice Springs**	**48.12**	**124**	P	**P**	**13 48 42.0**	**0.0**
	comp=Z,0.5nm,0.6s,baz=302,slow=7.8,SNR=5.6						
SONM	**Songino Array**	**48.15**	**13**	P	**P**	**13 48 42.8**	**+0.8**
	comp=Z,1.4nm,0.6s,baz=193,slow=9.3,SNR=71						
SONA1	**Songino Array**	**48.16**	**13**	*e*P	**P**	**13 48 42.6**	**+0.5**
KSAR	**Wonju Array Be**	**49.18**	**39**	P	**P**	**13 48 50.4**	**+0.4**
KSRS	**Korea Array**	**49.21**	**39**	P	**P**	**13 48 50.4**	**+0.2**
	comp=Z,1.8nm,0.8s,baz=223,slow=7.9,SNR=4.8						
KURBB	**Kurchatov Arra**	**50.38**	**349**	P	**P**	**13 48 58.8**	**0.0**
	comp=Z,2.9nm,0.7s,baz=172,slow=7.3,SNR=16						
KURK	**Kurchatov**	**50.45**	**349**	*e*P	**P**	**13 48 59.8**	**+0.4**
	comp=Z,6.3nm,0.8s						
ZAA0	**Zalesovo Array**	**52.78**	**355**	*e*P	**P**	**13 49 16.2**	**-0.6**
	comp=Z,12nm,1.3s						
ZALV	**Zalesovo Beam**	**52.78**	**355**	P	**P**	**13 49 16.4**	**-0.3**
	comp=Z,2.6nm,0.4s,baz=188,slow=8.4,SNR=17						
ZALV	**Zalesovo Beam**	**52.78**	**355**	*e*P	**P**	**13 49 16.2**	**-0.6**
BVAR	**Borovoye Array**	**54.47**	**345**	P	**P**	**13 49 28.5**	**-0.7**
	comp=Z,2.8nm,1.0s,baz=141,slow=9.3,SNR=6.1						
AB07	**Akbulak array**	**54.87**	**335**	*e*P	**P**	**13 49 31.9**	**-0.3**
AB06	**Akbulak array**	**54.88**	**335**	*e*P	**P**	**13 49 32.1**	**-0.1**
AB08	**Akbulak array**	**54.88**	**335**	*e*P	**P**	**13 49 32.1**	**-0.1**
AB31	**Akbulak array**	**54.89**	**335**	*e*P	**P**	**13 49 32.0**	**-0.2**
ABKAR	**Akbulak array**	**54.89**	**335**	*e*P	**P**	**13 49 32.0**	**-0.2**
	comp=Z,20nm,0.9s						
AB04	**Akbulak array**	**54.89**	**335**	*e*P	**P**	**13 49 31.8**	**-0.5**
AB05	**Akbulak array**	**54.90**	**335**	*e*P	**P**	**13 49 32.1**	**-0.3**
AB09	**Akbulak array**	**54.90**	**335**	*e*P	**P**	**13 49 32.1**	**-0.3**
AKTO	**Aktyubinsk**	**56.60**	**335**	P	**P**	**13 49 44.7**	**+0.1**
	comp=Z,1.5nm,0.9s,baz=113,slow=13,SNR=3.7						
KLR	**Kul'dur**	**58.89**	**30**	P	**P**	**13 50 00.5**	**-0.2**
	comp=Z,0.2nm,0.9s,baz=252,slow=6.5,SNR=7.7						
KBZ	**Khabaz**	**60.34**	**321**	P	**P**	**13 50 11.5**	**+0.8**
	comp=Z,3.4nm,0.8s,baz=159,slow=3.6,SNR=7.9						
BRTR	**Keskin Array B**	**64.86**	**314**	P	**P**	**13 50 40.2**	**-1.1**
	comp=Z,0.8nm,0.5s,baz=136,slow=5.5,SNR=4.7						
AKASG	**Malin Array Be**	**71.74**	**324**	P	**P**	**13 51 23.7**	**-0.3**
	comp=Z,0.2nm,0.3s,baz=97,slow=5.0,SNR=3.0						
MLR	**Muntele Rosu**	**72.11**	**318**	P	**P**	**13 51 27.3**	**+0.8**
	comp=Z,1.1nm,0.7s,baz=105,slow=19,SNR=5.1						
BUR04	**Bucovina Ar. S**	**73.22**	**320**	*e*P	**P**	**13 51 33.6**	**+0.6**
TIXI	**Tiksi**	**74.18**	**12**	*e*P	**P**	**13 51 36.9**	**-1.2**
	comp=Z,38nm,0.8s						
PETK	**Petropavlovsk-**	**74.90**	**35**	P	**P**	**13 51 40.7**	**-1.9**
	comp=Z,2.8nm,0.8s,baz=276,slow=13,SNR=3.1						
FINES	**FINESS Array B**	**77.32**	**333**	P	**P**	**13 51 55.6**	**-0.6**
	comp=Z,1.4nm,0.6s,baz=64,slow=4.4,SNR=6.7						
GERES	**GERESS Array B**	**80.98**	**319**	P	**P**	**13 52 17.6**	**+0.9**
	comp=Z,3.9nm,1.0s,baz=96,slow=5.5,SNR=11						
CLL	**Collm**	**81.79**	**322**	*e*P	**P**	**13 52 22.0**	**+1.3**
SPITS	**Spitsbergen Ar**	**85.71**	**348**	P	**P**	**13 52 40.1**	**-0.3**
	comp=Z,9.0nm,1.1s,baz=321,slow=1.8,SNR=2.7						
VNDA	**Vanda**	**87.06**	**168**	P	**P**	**13 52 47.8**	**+0.8**
	comp=Z,0.7nm,0.7s,baz=61,slow=2.1,SNR=3.3						
TXAR	**Lajitas Array**	**146.30**	**24**	PKPbc	**PKPab**	**13 59 43.6**	**-0.5**
	comp=Z,0.6nm,0.4s,baz=17,slow=2.4,SNR=11						

*BJI **11** 13:42:34.4, 1.°61N×93.°54E, h10km, mb5.1/55, mB5.0/6, Ms5.8/8, Ms7 5.6/11*
*IDC **11** 13:42:38.5±0.3, 2.°17N×93.°68E, h0km, mb4.8/47, mb1 4.8/48, mb1mx4.7/67, mbtmp4.8/48, ML4.2/1, Error ellipse: s-maj=11.7km s-min=9.3km az=40.0*
*NEIC **11** 13:42:40.3±0.1, 2.°16N×93.°58E, h10km, mb5.3/47, Error ellipse: s-maj=4.6km s-min=2.9km az=208.0*
*ISCJB **11** 13:42:41.1±1.1, 2.°14N±0.°03×93.°63E±0.°03, h27km±8km, mb5.2/164, Error ellipse: s-maj=5.7km s-min=3.9km az=42.7*
*DJA **11** 13:42:42.6±0.3, 2.°N±3.°×9.°4E±.°, h10km, M5.9/28, mb5.4/28, mB6.5/9, MLv5.6/8, Mw(mB)6.2/9*
*MOS **11** 13:42:42.7±0.9, 2.°23N×93.°62E, h37km, mb5.5/53, Error ellipse: s-maj=7.4km s-min=4.1km az=114.2*
ISC 11 13:42:42.2±1.4, 2.°11N±0.°04×93.°65E±0.°04, h24km±9km, n579, σ1°23/588, mb5.2/171, 39C-34D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MLSI	**Meulaboh, Aceh**	**3.49**	**52**	P	**Pn**	**13 43 36.0**	**+1.0**
GSI	**Gunungsitoli**	**4.01**	**102**	P	**Pn**	**13 43 43.9**	**+1.7**
GSI	**Gunungsitoli**	**4.01**	**102**	*e*Pn	**Pn**	**13 43 44.1**	**+1.9**
LHMI	**Lhok Sumawe**	**4.52**	**47**	P	**Pn**	**13 43 51.2**	**+2.0**
LHMI	**Lhok Sumawe**	**4.52**	**47**	*e*Pn	**Pn**	**13 43 51.2**	**+2.0**
PSI	**Prapat**	**5.32**	**83**	*e*Pn	**Pn**	**13 44 01.7**	**+1.4**
PSI	**Prapat**	**5.32**	**83**	*e*P	**Pn**	**13 44 01.7**	**+1.4**
MNSI	**Mandailing Nat**	**6.08**	**102**	P	**Pn**	**13 44 12.5**	**+1.9**
SISI	**Saibi**	**6.43**	**122**	P	**Pn**	**13 44 16.8**	**+1.4**
PDSI	**Padang**	**7.45**	**114**	P	**Pn**	**13 44 30.8**	**+1.3**
BKNI	**Bangkinang**	**7.60**	**103**	P	**Pn**	**13 44 33.5**	**+1.9**
BKNI	**Bangkinang**	**7.60**	**103**	*e*Pn	**Pn**	**13 44 33.4**	**+1.7**
KULM	**Kulim**	**7.67**	**66**	*e*Pn	**Pn**	**13 44 32.6**	**+0.1**
	270nm,0.9s						
IPM	**Ipoh**	**7.73**	**72**	*e*Pn	**Pn**	**13 44 34.6**	**+1.2**
PPSI	**Pulau Pagai**	**8.00**	**127**	P	**Pn**	**13 44 38.4**	**+1.4**
SDSI	**Sungai Dareh**	**8.35**	**111**	P	**Pn**	**13 44 44.3**	**+2.4**
RGRI	**Rengat**	**9.02**	**106**	P	**Pn**	**13 44 53.9**	**+2.8**
	220nm,0.6s,30μm						
PBA	**Port Blair**	**9.52**	**355**	*e*P	Pn	13 44 54.9	-3.1
MASI	**Maura Aman, Be**	**10.05**	**121**	P	**Pn**	**13 45 07.1**	**+1.8**
MYKOM	**Kota Tinggi**	**10.20**	**92**	*e*Pn	**Pn**	**13 45 07.9**	**+0.6**
TPRI	**Tanjung Pinang**	**10.94**	**96**	P	**Pn**	**13 45 18.3**	**+0.9**
DGPR	**DIGLIPUR**	**11.02**	**356**	*e*P	**Pn**	**13 45 16.5**	**-1.9**
MNAI	**Manna**	**11.31**	**125**	P	**Pn**	**13 45 23.7**	**+1.2**
MNAI	**Manna**	**11.31**	**125**	*e*Pn	**Pn**	**13 45 23.9**	**+1.4**
MDSI	**Maura Dua**	**12.40**	**122**	P	**Pn**	**13 45 38.5**	**+1.1**
LWLI	**Liwa**	**12.59**	**124**	P	**Pn**	**13 45 41.4**	**+1.4**
KLI	**Kotabumi**	**13.17**	**122**	P	**P**	**13 45 54.5**	**-3.3**
KASI	**Kota Agung**	**13.23**	**125**	P	**Pn**	**13 45 48.4**	**-0.3**
PALK	**Pallekele**	**13.88**	**292**	Pn	**Pn**	**13 46 00.2**	**+2.6**
	5.4nm,0.3s,baz=296,slow=20,SNR=5.5						
PALK				Sn	Sn	13 48 17.8	-13
	28nm,0.3s,baz=116,slow=3.1,SNR=16						
PALK	**Pallekele**	**13.88**	**292**	*e*Pn	**Pn**	**13 45 57.8**	**+0.2**
PALK				Sn	Sn	13 48 17.8	-13
PALK	**Pallekele**	**13.88**	**292**	*e*P	**Pn**	**13 45 57.8**	**+0.2**
CGJI	**Cibinong**	**14.82**	**126**	P	**Pn**	**13 46 09.9**	**-0.6**
SKJI	**Sukabumi**	**15.75**	**125**	P	**P**	**13 46 28.9**	**+2.4**
LEM	**Lembang**	**16.53**	**123**	Pn	**P**	**13 46 35.5**	**+0.2**
	12nm,0.3s,baz=351,slow=4.8,SNR=9.3						
KSM	**Kuching**	**16.67**	**92**	*e*Pn	**P**	**13 46 36.1**	**-0.5**
	62nm,1.0s						
CM01	**Chiang Mai Arr**	**17.02**	**17**	*e*Pn	**P**	**13 46 40.0**	**-0.6**
CM31	**Chiang Mai Arr**	**17.05**	**17**	*e*Pn	**Pn**	**13 46 38.0**	**-1.3**
CMAR	**Chiang Mai Arr**	**17.05**	**17**	Pn	**Pn**	**13 46 39.1**	**-0.1**
	0.3nm,0.3s,baz=211,slow=11,SNR=15						
CISI	**Cisompet, Garu**	**17.09**	**124**	P	**Pn**	**13 46 39.9**	**+0.1**
CISI	**Cisompet, Garu**	**17.09**	**124**	*e*Pn	**Pn**	**13 46 39.9**	**+0.1**
	131nm,0.6s						
MDRS	**Chennai**	**17.16**	**310**	*e*P	**Pn**	**13 46 37.4**	**-3.1**
MDRS				lAmb	lAmb	13 46 40.8	
	comp=Z,60nm,0.5s						
CHTO	**Chiang Mai**	**17.39**	**17**	*e*Pn	**Pn**	**13 46 42.0**	**-1.4**
	comp=Z,31nm,0.8s						
CHTO	**Chiang Mai**	**17.39**	**17**	P	**P**	**13 46 47.5**	**+2.9**
	SNR=8.4						
CHTO	**Chiang Mai**	**17.39**	**17**	pPn	**P**	**13 46 47.5**	**+2.9**
	SNR=8.4						
CHTO	**Chiang Mai**	**17.39**	**17**	*e*P	**Pn**	**13 46 42.0**	**-1.4**
CHTO				pmax	pmax		
	comp=Z,31nm,0.8s						
KPJI	**Karang Pucung**	**17.91**	**122**	P	**P**	**13 46 53.3**	**+2.9**
	comp=Z,160nm,0.6s						
STKI	**Sintang**	**17.94**	**96**	P	**P**	**13 46 55.3**	**+4.5**
VIS	**Vishakhapatnam**	**18.53**	**328**	*e*P	**P**	**13 46 56.2**	**-0.9**
SBUM	**Sibu**	**18.56**	**89**	*e*P	**Pn**	**13 46 59.1**	**+1.2**
	comp=Z,49nm,1.4s						
UGM	**Wanagama**	**19.56**	**121**	*e*P	**Pn**	**13 47 09.6**	**-0.4**
	comp=Z,350nm,1.6s						
HYB	**Hyderabad**	**21.24**	**317**	*i* P	**P**	**13 47 26.0**	**-0.8**
HYB	**Hyderabad**	**21.24**	**317**	*e*P	**P**	**13 47 26.9**	**+0.1**
HYB				lAmb	lAmb	13 47 30.2	
	comp=Z,198nm,2.2s						
MTKI	**Muara Teweh, K**	**21.46**	**98**	P	**P**	**13 47 31.8**	**+2.6**
MNGI	**Mangalore**	**21.52**	**301**	*ex*	**P**	**13 47 34.8**	**+5.1**
BOK	**Bokaro**	**22.82**	**341**	*e*P	**P**	**13 47 44.1**	**+0.5**
BOK				lAmb	lAmb	13 47 46.0	
	comp=Z,68nm,1.0s						
KKM	**Kota Kinabalu**	**22.84**	**79**	*e*P	**P**	**13 47 44.0**	**-0.1**
	comp=Z,42nm,0.8s						
QIZ	**Qiongzhong**	**23.11**	**42**	P	**P**	**13 47 46.5**	**-0.2**
QIZ				S	**S**	**13 51 58.5**	**+1.7**
QIZ	**Qiongzhong**	**23.11**	**42**	*e*P	**P**	**13 47 47.1**	**+0.5**
	comp=Z,99nm,1.8s						
SHL	**Shillong**	**23.38**	**356**	*e*P	**P**	**13 47 49.4**	**-0.1**
SHL				lAmb	lAmb	13 47 50.6	
GOA	**Goa**	**23.63**	**305**	*e*P	**P**	**13 47 49.6**	**-2.3**
GOA				lAmb	lAmb	13 47 55.7	
	comp=Z,204nm,1.9s						
NGP	**Nagpur**	**23.67**	**324**	*e*P	**P**	**13 47 52.1**	**-0.1**
KMI	**Kunming**	**24.50**	**20**	P	**P**	**13 48 02.0**	**+1.9**
KMI				pmax	pmax		
	comp=Z,29nm,0.9s						
KMI				LR	LR		
	comp=Z,19μm,21.1s						
KMI				LR	LR		
	comp=Z,24μm,19.4s						
KMI				LR	LR		
	comp=Z,30μm,21.1s						
AKL	**Akola**	**24.59**	**320**	*e*P	**P**	**13 48 02.5**	**+1.8**
MYLDM	**Lahad Datu**	**24.99**	**82**	*e*P	**P**	**13 48 06.0**	**+1.6**
	comp=Z,73nm,1.0s						
ODAN	**Odare**	**25.33**	**347**	*e*P	**P**	**13 48 08.5**	**+0.9**
POO	**Poona**	**25.35**	**311**	*e*P	**P**	**13 48 06.9**	**-0.8**
POO				lAmb	lAmb	13 48 10.4	
	comp=Z,63nm,1.6s						
RAMN	**Ramite**	**25.60**	**345**	*e*P	**P**	**13 48 11.3**	**+1.2**
BHPL	**Bhopal**	**26.24**	**324**	*e*P	**P**	**13 48 16.6**	**+0.9**
BHPL				lAmb	lAmb	13 48 17.3	
	comp=Z,54nm,0.2s						
MPSI	**Mapaga**	**26.30**	**93**	P	**P**	**13 48 18.3**	**+1.9**
JIRN	**Jiri**	**26.39**	**345**	*e*P	**P**	**13 48 18.2**	**+0.9**
DMN	**Daman**	**26.64**	**343**	*e*P	**P**	**13 48 20.1**	**+0.6**
	comp=Z,32nm,0.7s						
GUN	**Gumba**	**26.71**	**345**	*e*P	**P**	**13 48 20.9**	**+0.7**
	comp=Z,34nm,0.7s						
KKN	**Kakani**	**26.76**	**343**	*e*P	**P**	**13 48 21.0**	**+0.5**
GKN	**Gorkha**	**27.15**	**342**	*e*P	**P**	**13 48 24.7**	**+0.7**
	comp=Z,54nm,0.7s						
GYA	**Guiyang**	**27.25**	**26**	⇑*i*P	**P**	**13 48 25.2**	**+0.4**
GYA				PP	**PnPn**	**13 49 14.2**	**+5.3**
GYA				PcP	**PcP**	**13 51 46.6**	**+2.0**
GYA				S	**S**	**13 53 05.0**	**+2.1**
GYA				SS	**SnSn**	**13 54 20.8**	**+8.9**
GYA				ScP	**ScP**	**13 55 25.4**	**+1.6**
GYA				pmax	pmax		
	comp=Z,20nm,0.8s						
GYA				pmax	pmax		
	comp=Z,140nm,5.8s						
KOLN	**Koldanda**	**27.26**	**340**	*e*P	**P**	**13 48 25.9**	**+0.8**
	comp=Z,29nm,0.7s						
LSA	**Lhasa**	**27.54**	**355**	P	**P**	**13 48 29.4**	**+1.6**
LSA				pmax	pmax		
	comp=Z,52nm,0.8s						
LSA	**Lhasa**	**27.54**	**355**	*e*P	**P**	**13 48 28.2**	**+0.5**
	comp=Z,41nm,0.8s						
LSA	**Lhasa**	**27.54**	**355**	P	**P**	**13 48 29.9**	**+2.1**
LSA	**Lhasa**	**27.54**	**355**	*e*P	**P**	**13 48 28.3**	**+0.5**
LSA				pmax	pmax		
	comp=Z,41nm,0.8s						
DANN	**Dangsing**	**27.75**	**341**	*e*P	**P**	**13 48 30.3**	**+0.8**
PYUN	**Piuthan**	**27.77**	**339**	*e*P	**P**	**13 48 30.2**	**+0.5**
	comp=Z,60nm,1.0s						
CD2	**Chengdu**	**30.20**	**17**	P	**P**	**13 48 51.3**	**+0.3**
CD2				S	**S**	**13 53 52.8**	**+3.7**
CD2				pmax	pmax		
	comp=Z,80nm,0.4s						
CD2				LR	LR		
	comp=Z,24μm,18.9s						
DDI	**Dehra Dun**	**31.71**	**334**	*e*P	**P**	**13 49 04.9**	**+0.5**
ENH	**Enshi**	**31.78**	**27**	*e*P	**P**	**13 49 04.3**	**-0.6**
	comp=Z,37nm,0.8s						
BATI	**Baumata**	**32.29**	**113**	P	**P**	**13 49 08.5**	**-1.2**
	comp=Z,16nm,0.8s,baz=130,slow=7.9,SNR=3.4						
SMLA	**Simla**	**32.80**	**333**	*e*P	**P**	**13 49 13.8**	**+0.1**
SMLA				lAmb	lAmb	13 49 15.6	
	comp=Z,90nm,1.5s						
DHRM	**DHARAMSHALA**	**34.13**	**333**	*e*P	**P**	**13 49 24.7**	**-1.0**
DHRM				lAmb	lAmb	13 49 26.2	
	comp=Z,51nm,1.4s						
WHN	**Wuhan**	**34.41**	**33**	⇓P	**P**	**13 49 29.3**	**+1.5**
WHN				pmax	pmax		
	comp=Z,84nm,0.9s						
XAN	**Xi'an**	**34.82**	**23**	P	**P**	**13 49 31.0**	**-0.4**
XAN				pP	pP	13 49 35.4	-3.2
XAN				sP	sP	13 49 37.7	-3.8
XAN				pmax	pmax		
	comp=Z,80nm,1.0s						
LZH	**Lanzhou**	**35.10**	**14**	⇓P	**P**	**13 49 33.2**	**-0.7**
LZH				pP	pP	13 49 36.5	-4.6
LZH				PP	**PnPn**	**13 50 52.3**	**+0.6**
LZH				pmax	pmax		
	comp=Z,39nm,1.3s						
LZH				pmax	pmax		
	comp=Z,130nm,5.4s						
LZH				LR	LR		
	comp=Z,1μm,14.0s						
LZH				LR	LR		
	comp=Z,1μm,14.1s						
LZH				LR	LR		
	comp=Z,2μm,17.4s						
NIL	**Nilore**	**36.72**	**331**	*e*P	**P**	**13 49 47.5**	**-0.2**
	comp=Z,86nm,0.8s						
NIL	**Nilore**	**36.72**	**331**	*e*P	**P**	**13 49 47.5**	**-0.2**
NIL				pmax	pmax		
	comp=Z,86nm,0.8s						
FITZ	**Fitzroy Crossi**	**37.36**	**124**	P	**P**	**13 49 52.5**	**-0.9**
	comp=Z,2.4nm,0.5s,baz=301,slow=5.1,SNR=6.9						
GTA	**Gaotai**	**37.55**	**8**	*e*P	**P**	**13 49 55.0**	**+0.2**
GTA				pP	pP	13 49 59.4	-2.5
GTA				sP	sP	13 50 02.5	-2.3
GTA				S	**S**	**13 55 42.4**	**-0.3**
GTA				SS	**SnSn**	**13 58 19.1**	**-2.7**
GTA				pmax	pmax		
	comp=Z,30nm,1.0s						
GTA				LR	LR		
	comp=Z,20μm,20.4s						
SWI	**Sorong**	**37.72**	**94**	P	P	13 50 10.0	+14
SIJI	**Sorong**	**37.73**	**94**	P	**P**	**13 49 55.2**	**-1.3**
	comp=Z,8.8nm,0.8s,baz=304,slow=6.3,SNR=5.7						
NJ2	**Nanjing**	**38.08**	**36**	*e*P	**P**	**13 50 00.1**	**+0.9**
NJ2

SNR=5.6
AAK Ala-Archa 43.84 340 *i* P **P** 13 50 47.5 +0.8
SNR=6.7
AAK Ala-Archa 43.84 340 *e*P **P** 13 50 46.6 -0.1
AAK pmax pmax
comp=Z,7.0nm,1.0s
BMNS Besmoynak 43.86 341⇑ *i*P **P** 13 50 47.4 +0.6
comp=Z,497nm,0.9s
BMNS *e*S **S** 13 57 17.7 +0.9
FRU Bishkek 43.97 340 *e*P **P** 13 50 49.0 +1.4
EKS2 Erkin-Say 44.11 339 P **P** 13 50 49.7 +0.9
SNR=6.9
KUU Kurty 44.35 342⇑ *i*P **P** 13 50 50.6 -0.1
comp=Z,223nm,1.0s
USP Ospenovka 44.39 340 P **P** 13 50 51.0 0.0
SNR=20
MNAS Manas 44.43 338 P **P** 13 50 51.1 -0.4
MNAS pmax pmax
comp=Z,14nm,0.9s
IUG Iuzhnay 45.14 335⇑ *i*P **P** 13 50 57.2 +0.2
comp=Z,430nm,0.9s
DZA Taraz 45.23 337⇑ *i*P **P** 13 50 57.5 -0.1
comp=Z,310nm,0.8s
CHM Chimkent 45.46 335⇑ *e*P **P** 13 50 58.8 -0.7
WRA Warramunga Arr 45.54 121 P **P** 13 51 01.2 +0.7
comp=Z,14nm,0.7s,baz=304,slow=8.6,SNR=37
WB2 Warramunga Arr 45.55 121 *e*P **P** 13 51 01.2 +0.6
comp=Z,16nm,0.7s
MK01 Makanchi Array 45.57 349 *e*P **P** 13 51 00.5 +0.2
MK31 Makanchi Array 45.59 349 *e*P **P** 13 51 00.6 +0.1
MK31 Makanchi Array 45.59 349 *e*P **P** 13 51 00.6 +0.1
MKAR Makanchi Array 45.59 349 P **P** 13 51 00.9 +0.4
comp=Z,50nm,0.7s,baz=166,slow=8.6,SNR=144
MKAR Makanchi Array 45.59 349 *e*P **P** 13 51 00.6 +0.1
comp=Z,307nm,0.7s
MKAR Makanchi Array 45.59 349 *e*P **P** 13 51 00.6 +0.1
MKAR pmax pmax
comp=Z,307nm,0.7s
MAKZ Makanchi 45.66 349 *e*P **P** 13 51 01.0 -0.1
comp=Z,29nm,0.8s
MAKZ Makanchi 45.66 349 P **P** 13 51 00.7 -0.3
MAKZ pmax pmax
comp=Z,26nm,0.8s
KK06 Karatay Array 45.72 336 *e*P **P** 13 51 01.1 -0.4
KK07 Karatay Array 45.73 336 *e*P **P** 13 51 01.2 -0.4
KK02 Karatay Array 45.73 336 *e*P **P** 13 51 00.9 -0.8
KK31 Karatay Array 45.73 336 *e*P **P** 13 51 01.1 -0.6
KK31 Karatay Array 45.73 336 *e*P **P** 13 51 01.1 -0.6
KKAR Karatay Array 45.73 336 *e*P **P** 13 51 00.9 -0.7
KKAR Karatay Array 45.73 336 *e*P **P** 13 51 00.9 -0.7
KK01 Karatay Array 45.74 336 *e*P **P** 13 51 01.0 -0.6
KK03 Karatay Array 45.74 336 *e*P **P** 13 51 01.0 -0.6
KK05 Karatay Array 45.74 336 *e*P **P** 13 51 01.0 -0.7
KK04 Karatay Array 45.74 336 *e*P **P** 13 51 01.2 -0.5
KK08 Karatay Array 45.74 336 *e*P **P** 13 51 01.4 -0.3
ZSN Zaisan 45.80 352⇑ *i*P **P** 13 51 03.6 +1.5
comp=Z,202nm,1.0s
BTLS Baital 46.11 341⇑ *i*P **P** 13 51 04.4 -0.1
comp=Z,165nm,0.8s
ASAR Alice Springs 46.79 126 P **P** 13 51 11.0 +0.7
comp=Z,3.9nm,0.6s,baz=293,slow=7.9,SNR=33
ASAR PcP **PcP** 13 52 43.8 +0.4
comp=Z,4.3nm,0.8s,baz=300,slow=3.9,SNR=7.5
AS31 Alice Springs 46.80 126 *e*P **P** 13 51 11.2 +0.9
comp=Z,2.8nm,0.5s
AS01 Alice Springs 46.83 126 *e*P **P** 13 51 11.2 +0.6
SONM Songino Array 46.86 12 P **P** 13 51 11.1 +0.5
comp=Z,26nm,0.7s,baz=193,slow=8.9,SNR=31
SONM PcP **PcP** 13 52 43.4 +0.1
comp=Z,6.1nm,0.8s,baz=188,slow=4.1,SNR=4.5
SONA1 Songino Array 46.88 12 *e*P **P** 13 51 10.8 +0.1
ULN Ulaanbaatar 47.03 12 *e*P **P** 13 51 12.0 +0.1
comp=Z,14nm,0.9s
ULN Ulaanbaatar 47.03 12 P **P** 13 51 12.6 +0.7
SNR=6.1
ULN Ulaanbaatar 47.03 12 P **P** 13 51 12.6 +0.7
SNR=6.1
ULN Ulaanbaatar 47.03 12 *ce*P **P** 13 51 12.4 +0.5
ULN pmax pmax
comp=Z,21nm,1.2s
KSAR Wonju Array Be 47.18 38 P **P** 13 51 13.5 +0.5
KSAR Wonju Array Be 47.18 38 P **P** 13 51 13.5 +0.5
KS01 Wonju Array Si 47.20 38 *e*P **P** 13 51 13.5 +0.2
KSRS Korea Array 47.21 38 P **P** 13 51 13.5 +0.2
comp=Z,8.1nm,0.9s,baz=227,slow=9.2,SNR=21
DGZ Jazzator, Alta 47.71 355 *i* P **P** 13 51 18.0 +0.8
DGZ pmax pmax
comp=Z,8.0nm,0.9s
GYB1 ALIBECK ARRAY 48.27 322 *e*P **P** 13 51 22.1 +0.5
comp=Z,33nm,0.8s
GYA1 ALIBECK ARRAY 48.27 322 *e*P **P** 13 51 22.3 +0.7
comp=Z,34nm,0.8s
GYB2 ALIBECK ARRAY 48.28 322 *e*P **P** 13 51 22.3 +0.7
comp=Z,35nm,0.8s
GYB5 ALIBECK ARRAY 48.28 322 *e*P **P** 13 51 22.3 +0.7
comp=Z,30nm,0.7s
GEYT Alibeck 48.28 322 P **P** 13 51 22.4 +0.8
comp=Z,28nm,0.7s,baz=148,slow=8.6,SNR=47
GYA0 ALIBECK ARRAY 48.28 322 *e*P **P** 13 51 22.3 +0.7
comp=Z,32nm,0.8s
GYA0B ALIBECK ARRAY 48.28 322 *e*P **P** 13 51 22.4 +0.7
comp=Z,34nm,0.8s
GYA2 ALIBECK ARRAY 48.28 322 *e*P **P** 13 51 22.4 +0.7
comp=Z,35nm,0.8s
GYB3 ALIBECK ARRAY 48.29 322 *e*P **P** 13 51 22.4 +0.7
comp=Z,33nm,0.8s
GYB4 ALIBECK ARRAY 48.29 322 *e*P **P** 13 51 22.4 +0.7
comp=Z,31nm,0.8s
ZAK Zakamensk 48.78 8 *e*P **P** 13 51 25.3 -0.1
ZAK *e* 13 52 49.2
ZAK pmax pmax
comp=Z,8.0nm,1.3s
ZAK pmax pmax
comp=Z,5.0nm,1.1s
HVS Khovu-Aksy 48.85 0 *e*P **P** 13 51 26.5 +0.6
HVS pmax pmax
comp=Z,82nm,1.0s
SEM Semipalatinsk 49.45 349⇑ *i*P **P** 13 51 30.6 +0.1
comp=Z,360nm,0.7s
OTUK Ortayu 49.49 341 P **P** 13 51 30.5 -0.3
OTUK pmax pmax
comp=Z,47nm,0.7s
MOY Mondy 49.77 6 *e*P **P** 13 51 33.5 +0.6
MOY pmax pmax
comp=Z,14nm,2.6s
KURBB Kurchatov Arra 50.00 347 P **P** 13 51 34.9 +0.3
comp=Z,32nm,0.7s,baz=171,slow=7.2,SNR=112
KURBB PcP **PcP** 13 52 54.4 +0.1
comp=Z,7.3nm,0.8s,baz=171,slow=3.2,SNR=6.3
KURK Kurchatov 50.07 348 *e*P **P** 13 51 35.4 +0.4
comp=Z,57nm,1.1s
KURK PcP **PcP** 13 52 54.4 -0.2
KURK Kurchatov 50.07 348 P **P** 13 51 35.6 +0.6
SNR=15
KURK Kurchatov 50.07 348 P **P** 13 51 35.6 +0.6
SNR=15
KURK Kurchatov 50.07 348 *ce*P **P** 13 51 35.3 +0.2
KURK pmax pmax
comp=Z,289nm,1.7s
OPO Ambohidratompo 50.10 244 P **P** 13 51 36.8 +0.8
comp=Z,4.6nm,0.8s,baz=56,slow=6.8,SNR=6.2
TLY Talaya 50.10 8 *e*P **P** 13 51 36.8 +1.5
TLY pmax pmax
comp=Z,15nm,0.8s
DAMY Dhamar 50.16 287 *e*P **P** 13 51 36.8 +0.1
comp=Z,71nm,1.3s
CN2 Changchun 50.19 30 *e*P **P** 13 51 38.6 +2.5
CN2 pmax pmax
comp=Z,10.0nm,1.4s
ABPO Ambohimpanom 50.21 243 *i* P **P** 13 51 39.1 +2.2
IRK Irkutsk 50.74 8 *e*P **P** 13 51 40.4 +0.3
IRK pmax pmax
comp=Z,35nm,2.7s
BRZS Berezniki 50.92 343⇑ *e*P **P** 13 51 41.6 +0.1
comp=Z,19nm,1.0s
RAYN Ar Rayn 51.20 299 *e*P **P** 13 51 44.5 +0.4
comp=Z,34nm,0.8s
ATD Arta Tunnel 51.22 283 P **P** 13 51 46.2 +1.8
comp=Z,32nm,0.9s,baz=353,slow=3.3,SNR=8.6
HIA Hailar 52.01 21 *e*P **P** 13 51 49.8 +0.1
comp=Z,21nm,0.9s
HIA Hailar 52.01 21 *e*P **P** 13 51 49.7 0.0
HIA pmax pmax
comp=Z,25nm,1.0s
ZAA0 Zalesovo Array 52.17 353 *e*P **P** 13 51 51.0 +0.1
comp=Z,54nm,1.0s
ZALV Zalesovo Beam 52.17 353 P **P** 13 51 51.1 +0.3
comp=Z,36nm,0.7s,baz=187,slow=7.0,SNR=68
ZALV Zalesovo Beam 52.17 353 *e*P **P** 13 51 50.8 0.0
ZALV Zalesovo Beam 52.17 353 *e*P **P** 13 51 50.8 0.0
NVS Novosibirsk 53.24 353⇑ *i*P **P** 13 51 58.6 -0.1
NVS *e*S **S** 13 59 25.8 -2.6
NVS pmax pmax
comp=Z,34nm,0.9s
NVS pmax pmax
comp=N,18nm,0.9s
NVS pmax pmax
comp=E,13nm,1.0s
NVS smax smax
comp=N,12nm,1.8s
MJAR Matsushiro Arr 53.48 45 P **P** 13 52 01.3 +0.5
comp=N,1.5nm,0.8s,baz=219,slow=6.2,SNR=4.0
KRAR Krasnoyarsk 53.74 359 *e*P **P** 13 52 03.5 +1.2
USRK Ussuriysk Ar. 53.90 34 P **P** 13 52 04.1 +0.3
comp=N,7.1nm,0.9s,baz=242,slow=6.4,SNR=10.0
BVA0 Borovoye Array 54.28 343 *i* P **P** 13 52 05.1 -1.3
BVA0 pmax pmax
comp=Z,17nm,0.8s
BVAR Borovoye Array 54.28 343 P **P** 13 52 05.2 -1.2
comp=Z,18nm,0.7s,baz=144,slow=8.0,SNR=65
BRVK Borovoye 54.34 343 *e*P **P** 13 52 05.9 -0.9
comp=Z,16nm,0.8s
BRVK Borovoye 54.34 343 P **P** 13 52 06.2 -0.6
SNR=8.0
BRVK Borovoye 54.34 343 P **P** 13 52 06.2 -0.6
SNR=8.0
BRVK Borovoye 54.34 343 *ce*P **P** 13 52 06.0 -0.8
BRVK pmax pmax
comp=Z,66nm,1.2s
PMG Port Moresby 54.52 103 *ce*P **P** 13 52 04.6 -4.2
PMG pmax pmax
comp=Z,98nm,1.7s
AB07 Akbulak array 55.06 334 *e*P **P** 13 52 11.3 -0.8
AB06 Akbulak array 55.08 334 *e*P **P** 13 52 11.3 -0.8
AB08 Akbulak array 55.08 334 *e*P **P** 13 52 11.4 -0.8
AB03 Akbulak array 55.08 334 *e*P **P** 13 52 11.5 -0.7
AB01 Akbulak array 55.08 334 *e*P **P** 13 52 11.4 -0.8
AB31 Akbulak array 55.08 334 *e*P **P** 13 52 11.4 -0.8
AB31 Akbulak array 55.08 334 *e*P **P** 13 52 11.4 -0.8
ABKAR Akbulak array 55.08 334 *e*P **P** 13 52 11.5 -0.7
comp=Z,182nm,0.8s
AB02 Akbulak array 55.08 334 *e*P **P** 13 52 11.3 -0.9
AB04 Akbulak array 55.09 334 *e*P **P** 13 52 11.5 -0.8
AB05 Akbulak array 55.10 334 *e*P **P** 13 52 11.5 -0.9
AB09 Akbulak array 55.10 334 *e*P **P** 13 52 11.5 -0.8
HTT Hallett 55.39 134 P **P** 13 52 15.9 +1.1
baz=56,SNR=3.8
KMBO Kilima Mbogo 56.48 267 P **P** 13 52 24.0 +0.8
comp=Z,3.5nm,0.5s,baz=66,slow=11,SNR=14
KMBO Kilima Mbogo 56.48 267 *e*P **P** 13 52 24.3 +1.1
comp=Z,39nm,2.2s
KMBO Kilima Mbogo 56.48 267 *e*P **P** 13 52 24.3 +1.1
KMBO pmax pmax
comp=Z,79nm,2.2s
STKA Stephens Creek 56.62 131 P **P** 13 52 23.8 +0.2
comp=Z,2.3nm,0.5s,baz=295,slow=7.8,SNR=6.5
STKA Stephens Creek 56.62 131 P **P** 13 52 24.6 +1.1
baz=57,SNR=5.4
AKTO Aktyubinsk 56.80 334 P **P** 13 52 23.2 -1.3
comp=Z,5.3nm,0.7s,baz=113,slow=8.6,SNR=13
AKTO Aktyubinsk 56.80 334 P P 13 52 19.3 -5.2
KLR Kul'dur 57.10 29 P **P** 13 52 26.4 -0.3
comp=Z,1.4nm,0.9s,baz=252,slow=7.8,SNR=31
KLR Kul'dur 57.10 29 *i* P **P** 13 52 26.9 +0.2
BOD Bodaibo 57.84 13⇓ *i*P **P** 13 52 30.9 -0.8
BOD pmax pmax
comp=Z,35nm,1.1s
GNI Garni 58.20 317 P **P** 13 52 35.2 +0.5
comp=Z,22nm,0.8s,baz=331,slow=10,SNR=13
GNI Garni 58.20 317 *e*P **P** 13 52 35.4 +0.6
comp=Z,136nm,1.0s
GNI Garni 58.20 317 P **P** 13 52 35.8 +1.0
SNR=8.6
GNI Garni 58.20 317 pP **P** 13 52 35.8 +1.0
SNR=8.6
GNI Garni 58.20 317 *i* P **P** 13 52 36.0 +1.2
SNR=5.3
GNI Garni 58.20 317 *e*P **P** 13 52 35.3 +0.5
GNI pmax pmax
comp=Z,95nm,1.1s
ZEA Zeya 58.41 23 *e*P **P** 13 52 36.1 +0.4
ZEA pmax pmax
comp=Z,27nm,0.9s
TBLG Delisi 58.94 319 *e*P **P** 13 52 39.8 +0.1
comp=Z,31nm,0.8s
TBLG Delisi 58.94 319 *e*P **P** 13 52 39.8 +0.1
TBLG pmax pmax
comp=Z,31nm,0.8s
GROC Groznyy 58.98 321 *e*P **P** 13 52 39.1 -0.8
GROC *e* 13 53 28.9
GROC pmax pmax
comp=Z,45nm,0.8s
AKH Akhalkalaki 59.62 318 *e*P **P** 13 52 45.1 +0.4
comp=Z,19nm,0.9s
AKH Akhalkalaki 59.62 318 *e*P **P** 13 52 45.1 +0.4
AKH pmax pmax
comp=Z,19nm,0.9s
ZEI Tsey 59.99 320 *e*P **P** 13 52 46.9 -0.3
ZEI pmax pmax
comp=Z,23nm,0.8s
ASAJ Asahikawa 60.13 39 P **P** 13 52 47.9 0.0
comp=Z,3.7nm,0.6s,baz=255,slow=11,SNR=5.1
GRNR Gornyy 60.39 30 *e*P **P** 13 52 50.0 +0.4
GRNR pmax pmax
comp=Z,46nm,1.0s
NCK Nalchik 60.52 320 *e*P **P** 13 52 50.4 -0.2
NCK pmax pmax
comp=Z,20nm,1.0s
SVE Sverdlovsk 60.57 340⇓ *e*P **P** 13 52 50.0 -0.7
SVE pmax pmax
comp=Z,64nm,1.2s
NEY Neytrino 60.97 320 *e*P **P** 13 52 54.0 +0.1
NEY pmax pmax
comp=Z,4.0nm,0.8s
ARU Arti 61.00 339 *c i*P **P** 13 52 52.3 -1.3
ARU S **S** 14 01 09.8 -0.9
ARU pmax pmax
comp=Z,42nm,1.7s
ASF Jabal al Asfar 61.05 306 P **P** 13 52 55.9 +1.4
comp=Z,14nm,0.7s,baz=66,slow=8.4,SNR=20
KBZ Khabaz 61.08 320 P **P** 13 52 54.5 +0.2
comp=Z,25nm,0.8s,baz=130,slow=5.3,SNR=55
KBZ PcP **PcP** 13 53 37.5 +0.3
comp=Z,6.5nm,0.8s,baz=119,slow=3.5,SNR=4.0
KIV Kislovodsk 61.32 320 *e*P **P** 13 52 56.1 0.0
comp=Z,42nm,0.8s
KIV Kislovodsk 61.32 320 P **P** 13 52 57.1 +1.0
SNR=10.0
KIV Kislovodsk 61.32 320 P **P** 13 52 57.1 +1.0
SNR=10.0
KIV Kislovodsk 61.32 320 P **P** 13 52 56.9 +0.8
KIV Kislovodsk 61.32 320 *e*P **P** 13 52 55.0 -1.1
KIV pmax pmax
comp=Z,54nm,1.0s
YSS Yuzh-Sakhalins 61.65 36 *e*P **P** 13 52 58.2 0.0
comp=Z,45nm,1.1s
YSS Yuzh-Sakhalins 61.65 36⇑ *e*P **P** 13 52 58.4 +0.3
YSS *e* 13 53 13.0
YSS pmax pmax
comp=Z,30nm,1.1s
MMAI Mount Meron Ar 62.50 306 P **P** 13 53 05.8 +1.6
comp=Z,16nm,0.7s,baz=91,slow=8.6,SNR=10
MBAR Mbarara 62.95 268 P **P** 13 53 08.1 +0.4
comp=Z,2.3nm,0.2s,baz=89,slow=7.0,SNR=9.5
MBAR Mbarara 62.95 268 *e*P **P** 13 53 07.4 -0.3
comp=Z,25nm,1.4s
MBAR Mbarara 62.95 268 *e*P **P** 13 53 07.4 -0.3
MBAR pmax pmax
comp=Z,25nm,1.4s
ANN Anapa 65.08 319 *e*P **P** 13 53 20.5 -0.4
ANN pmax pmax
comp=Z,70nm,1.2s
VRH Novokhopyorsk 65.41 327 *e*P **P** 13 53 21.4 -1.5
VRH pmax pmax
comp=Z,50nm,0.7s
YAK Yakutsk 65.59 18 *e*P **P** 13 53 22.9 -0.9
comp=Z,81nm,0.9s
YAK Yakutsk 65.59 18 *e*P **P** 13 53 20.5 -3.3
YAK pmax pmax
comp=Z,72nm,0.9s
YAK pmax pmax
comp=E,20nm,1.1s
YAK pmax pmax
comp=N,15nm,1.1s
BR131 Keskin Array S 65.88 313 *e*P **P** 13 53 25.2 -1.2
BRTR Keskin Array B 65.88 313 P **P** 13 53 26.0 -0.4
comp=N,9.1nm,0.7s,baz=129,slow=7.1,SNR=50
ILGA Ilgaz 66.25 314 *e*P **P** 13 53 28.1 -0.8
ANTO Ankara 66.55 313 *e*P **P** 13 53 29.7 -0.9
comp=N,253nm,1.7s
ANTO Ankara 66.55 313 *e*P **P** 13 53 29.7 -0.9
ANTO pmax pmax
comp=Z,253nm,1.7s
VSR Storozhevoye 66.82 326 *e*P **P** 13 53 30.1 -1.9
VSR pmax pmax
comp=Z,30nm,0.7s
LSZ Lusaka 66.98 253 P **P** 13 53 33.9 +0.1
comp=Z,5.2nm,0.9s,baz=71,slow=5.4,SNR=6.6
LSZ Lusaka 66.98 253 *e*P **P** 13 53 33.7 -0.2
comp=Z,6.3nm,0.9s
LSZ Lusaka 66.98 253 *e*P **P** 13 53 33.7 -0.2
LSZ pmax pmax
comp=Z,6.0nm,0.9s
LPSR Galich'ya Gora 67.60 327 *e*P **P** 13 53 35.6 -1.3
LPSR pmax pmax
comp=Z,40nm,0.8s
ISP Isparta 67.66 310 *e*P **P** 13 53 37.0 -0.7
ISP pmax pmax
comp=Z,18nm,1.0s
MANT Manisa 69.33 310 *e*P **P** 13 53 47.1 -1.2
OBN Obninsk 70.00 329 *e*P **P** 13 53 51.0 -0.7
OBN *e* 13 54 13.0
OBN *e* 13 56 21.0
OBN *e*PPP PPP 13 58 12.2
OBN pmax pmax
comp=Z,67nm,1.7s
OBN MLR MLR
comp=Z,10μm,20.0s
TIRR Tirgusor 71.01 317⇓ *i*P **P** 13 53 58.2 0.0
TIRR Tirgusor 71.01 317 ⇓P **P** 13 53 58.2 0.0
TLB Topalu 71.30 317⇓ *i*P **P** 13 54 00.1 +0.2
TLB Topalu 71.30 317 ⇓P **P** 13 54 00.1 +0.2
CFR Carcaliu 71.40 317⇑ *i*P **P** 13 54 00.6 +0.1
CFR Carcaliu 71.40 317 ⇑P **P** 13 54 00.6 +0.1
HARR Harsova 71.41 317⇓ *i*P **P** 13 54 00.5 -0.1
HARR Harsova 71.41 317 ⇓P **P** 13 54 00.5 -0.1
KLMR Klimovskoe 71.42 335 *e*P **P** 13 53 56.7 -3.6
KLMR AMP 13 54 00.2
comp=Z,27nm,1.3s
KLMR *e*PcP **PcP** 13 54 16.1 -3.7
KLMR Klimovskoe 71.42 335 *e*P **P** 13 53 56.6 -3.7
KLMR *e* 13 54 16.1
KLMR pmax pmax
comp=Z,27nm,1.3s
IDI Anoyia 71.50 306 P **P** 13 54 02.4 +0.9
comp=Z,51nm,0.8s,baz=94,slow=9.2,SNR=27
IDI Anoyia 71.50 306⇑ *i*P **P** 13 54 02.8 +1.3
MA2 Magadan 72.08 27⇑ *e*P **P** 13 54 03.1 -1.3
SORM Soroca 72.12 320⇓ *i*P **P** 13 54 04.4 -0.4
SORM Soroca 72.12 320 ⇓P **P** 13 54 04.4 -0.4
BOSA Boshof 72.17 239 P **P** 13 54 05.7 0.0
comp=Z,14nm,1.1s,baz=81,slow=5.8,SNR=10
BOSA Boshof 72.17 239 *e*P **P** 13 54 05.7 0.0
comp=Z,11nm,0.8s
BOSA Boshof 72.17 239 *e*P **P** 13 54 05.7 0.0
BOSA pmax pmax
comp=Z,11nm,0.8s
IAS Iasi 72.36 319⇓ *i*P P 13 54 13.3 +7.1
IAS Iasi 72.36 319 ⇓P P 13 54 13.3 +7.1
AKASG Malin Array Be 72.38 323 P **P** 13 54 04.8 -1.5
comp=Z,12nm,0.8s,baz=90,slow=4.8,SNR=43
AKBB Malin Array Si 72.38 323 *e*P **P** 13 54 05.1 -1.2
comp=Z,17nm,0.9s
AKBB Malin Array Si 72.38 323 *e*P **P** 13 54 05.1 -1.2
AKBB pmax pmax
comp=Z,17nm,0.9s
KIEV Kiev 72.39 323 *e*P **P** 13 54 05.0 -1.3
comp=Z,15nm,0.9s
KIEV Kiev 72.39 323 *i* P **P** 13 54 05.4 -0.9
SNR=8.5
KIEV Kiev 72.39 323 *i* P **P** 13 54 05.1 -1.3
KIEV pmax pmax
comp=Z,16nm,1.0s
AK11 Malin Array Si 72.41 323 *e*P **P** 13 54 04.9 -1.6
VRI Vrincioaia 72.55 318⇑ *i*P **P** 13 54 08.3 +0.9
VRI Vrincioaia 72.55 318 ⇑P **P** 13 54 08.3 +0.9
PLOR Plostina 72.59 318⇓ *i*P **P** 13 54 07.9 +0.1
PLOR Plostina 72.59 318 ⇓P **P** 13 54 07.9 +0.1
TESR Tescani 72.77 318⇓ *i*P **P** 13 54 08.5 -0.2
SECR 72.78 317⇓ *i*P **P** 13 54 06.2 -2.6
MAW Mawson 72.83 192 P **P** 13 54 09.9 +1.4
comp=Z,2.1nm,0.7s,baz=54,slow=5.0,SNR=6.9
TIXI Tiksi 72.94 11 *e*P **P** 13 54 08.1 -1.2
comp=Z,38nm,0.8s
TIXI Tiksi 72.94 11 *ce*P **P** 13 54 08.0 -1.2
TIXI pmax pmax
comp=Z,87nm,1.7s
PETK Petropavlovsk- 72.97 35 P **P** 13 54 07.0 -2.8
comp=Z,4.3nm,0.9s,baz=223,slow=12,SNR=3.7
PETK Petropavlovsk- 72.97 35 P **P** 13 54 07.0 -2.8
MLR Muntele Rosu 72.98 317 P **P** 13 54 09.9 -0.3
comp=Z,8.6nm,0.9s,baz=80,slow=3.2,SNR=39
MLR Muntele Rosu 72.98 317⇓ *i*P **P** 13 54 10.8 +0.6
MLR Muntele Rosu 72.98 317 *e*P **P** 13 54 10.0 -0.1
comp=Z,44nm,0.9s
MLR Muntele Rosu 72.98 317 ⇓P **P** 13 54 10.8 +0.6
PRAR RASCA 73.28 319⇓ *i*P **P** 13 54 12.1 +0.4
HUMR Humele 73.40 316⇑ *i*P **P** 13 54 12.6 +0.1
DOPR Dopca 73.47 317⇑ *i*P **P** 13 54 13.4 +0.5
PET Petropavlovsk 73.49 35 *e*P **P** 13 54 11.9 -0.9
PET pmax pmax
comp=Z,21nm,1.0s
VOIR 73.57 317⇑ *i*P P 13 54 06.6 -7.0
VOIR 73.57 317 ⇑P P 13 54 06.6 -7.0
TMCR Tamitsa 73.72 338 *e*P **P** 13 54 11.3 -2.7
ARR Arges 73.84 317⇓ *i*P **P** 13 54 15.1 -0.1
BURAR Bucovina Array 74.00 319⇓ *i*P **P** 13 54 17.1 +1.0
BURAR Bucovina Array 74.00 319 ⇓P **P** 13 54 17.1 +1.0
BUR04 Bucovina Ar. S 74.01 319 *e*P **P** 13 54 16.3 +0.1
BUR08 Bucovina Ar. S 74.02 319 *e*P **P** 13 54 16.4 +0.2
VTS Vitosha 74.23 314⇓ *i*P **P** 13 54 17.5 -0.1
VTS Vitosha 74.23 314 ⇓P **P** 13 54 17.5 -0.1
SEY Seymchan 74.35 24 *ce*P **P** 13 54 16.5 -1.1
NACGM Naroch 75.13 327 *e* **P** 13 54 22.0 -0.3
DRGR 75.47 318⇓ *i*P **P** 13 54 25.3 +0.7
DRGR 75.47 318 ⇓P **P** 13 54 25.3 +0.7
TRPA Tarpa 75.88 319⇓ *ex* **P** 13 54 27.5 +0.7
BZS Buzias 75.97 317⇓ *i*P **P** 13 54 27.3 -0.1
BZS Buzias 75.97 317 ⇓P **P** 13 54 27.3 -0.1
KWP Kalwaria Pacla 76.11 321 *e*P **P** 13 54 28.4 +0.3
KWP Kalwaria Pacla 76.11 321 *e*P **P** 13 54 28.4 +0.3
UZH Uzhgorod 76.15 320 *c i*P **P** 13 54 28.6 +0.3
UZH *e* 13 54 35.9
UZH *e* 13 54 43.8
VSU Vasula 76.28 330 *ce*P **P** 13 54 27.4 -1.4
VSU pmax pmax
comp=Z,124nm,1.7s
CRVS Cervenica-Dubn 76.75 320 *e*P **P** 13 54 32.0 +0.3
CRVS Cervenica-Dubn 76.75 320 *e*P **P** 13 54 32.0 +0.3
SUW Suwalki 76.89 325 *e*P **P** 13 54 32.0 -0.4
SUW Suwalki 76.89 325 *e*P **P** 13 54 32.0 -0.4
STHS Stebnicka Huta 76.99 320 *e*P **P** 13 54 34.3 +1.2
STHS Stebnicka Huta 76.99 320 *e*P **P** 13 54 34.3 +1.2
STHS pmax pmax
comp=Z,19nm,0.9s
PDG Podgorica 77.07 313⇑ *i*P **P** 13 54 33.0 -0.7
FINES FINESS Array B 77.56 333 P **P** 13 54 34.3 -1.7
comp=Z,6.8nm,0.8s,baz=115,slow=8.6,SNR=15
NIE Niedzica 77.60 320 *e*P **P** 13 54 37.4 +0.9
NIE Niedzica 77.60 320 *e*P **P** 13 54 37.4 +0.9
BEL Belsk 77.79 323 *e*P **P** 13 54 38.2 +0.7
BEL Belsk 77.79 323 *e*P **P** 13 54 38.2 +0.7
OJC Ojcow 78.07 321 *e*P **P** 13 54 39.5 +0.4
OJC Ojcow 78.07 321 *e*P **P** 13 54 38.8 -0.3
comp=Z,23nm,0.9s
OJC Ojcow 78.07 321 *e*P **P** 13 54 39.5 +0.4
VYHS Vyhne 78.37 319 *e*P **P** 13 54 41.2 +0.4
VYHS Vyhne 78.37 319 *e*P **P** 13 54 41.2 +0.4
VYHS pmax pmax
comp=Z,12nm,1.2s
OKC Ostrava-Krasne 79.05 320 *e*P **P** 13 54 44.8 +0.3
OKC Ostrava-Krasne 79.05 320 *e*P **P** 13 54 44.8 +0.3
MODS Modra-Piesok 79.38 319 *e*P **P** 13 54 46.9 +0.5
MODS Modra-Piesok 79.38 319 *e*P **P** 13 54 46.9 +0.5
MORC Moravsky Berou 79.43 320⇓ *i*P **P** 13 54 45.9 -0.7

MORC	Moravsky Berou	79.43	320	*e*P		P		13 54 46.3	-0.3
	comp=Z,73nm,1.2s								
MORC	Moravsky Berou	79.43	320	⇓P		P		13 54 45.9	-0.7
ZST	Bratislava	79.47	319	*e*P		P		13 54 46.5	-0.3
ZST	Bratislava	79.47	319	*e*P		P		13 54 46.5	-0.3
ZST					pmax	pmax			
	comp=Z,33nm,0.9s								
KRLC	Kraliky	79.96	320	*e*P		P		13 54 50.2	+0.7
KRLC	Kraliky	79.96	320	*e*P		P		13 54 50.2	+0.7
CONA	Conrad Observa	80.25	318	*i* P		P		13 54 51.1	-0.1
	comp=Z,14nm,1.4s								
DPC	Dobruska-Polom	80.29	321	*e*P		P		13 54 52.1	+0.8
DPC				*e*pP		PcP		13 54 55.4	-3.0
DPC	Dobruska-Polom	80.29	321	*e*P		P		13 54 52.1	+0.8
KSP	Ksiaz	80.38	321	*e*P		P		13 54 52.4	+0.6
KSP	Ksiaz	80.38	321	*e*P		P		13 54 52.3	+0.6
ARSA	Arzberg	80.39	317	*i* P		P		13 54 52.7	+0.8
	comp=Z,32nm,1.1s,SNR=8.8								
ARCES	ARCESS Array B	80.49	341	P		P		13 54 51.3	-0.7
	comp=Z,6.4nm,0.9s,baz=76,slow=6.4,SNR=7.3								
UPC	Upice	80.51	321	*e*P		P		13 54 53.5	+1.1
UPC				*e*pP		PcP		13 54 57.6	-1.7
UPC	Upice	80.51	321	*e*P		P		13 54 53.5	+1.1
SOKA	Soboth	80.65	317	*i* P		P		13 54 53.9	+0.5
	comp=Z,37nm,1.1s,SNR=7.9								
PRU	Pruhonice	81.38	320	*e*P		P		13 54 57.4	+0.3
PRU	Pruhonice	81.38	320	*e*P		P		13 54 57.4	+0.3
PVCC	Panska Ves	81.43	321	*e*P		P		13 54 58.0	+0.7
PVCC	Panska Ves	81.43	321	*e*P		P		13 54 58.0	+0.7
BILL	Bilibino	81.59	21	⇓*i* P		P		13 54 57.3	-0.5
BILL				*e*				13 58 03.7	
BILL				*e*S		PnS		14 05 47.3	-11
BILL					pmax	pmax			
	comp=Z,5.0nm,1.5s								
BILL					MLR	MLR			
	comp=Z,8μm,22.0s								
GEA0	GERESS Array S	81.79	319	*e*P		P		13 54 59.2	-0.1
GEC2	GERESS Array S	81.79	319	*e*P		P		13 54 58.7	-0.7
	comp=Z,26nm,1.0s								
GEC2	GERESS Array S	81.79	319	*e*P		P		13 54 58.7	-0.7
GEC2					pmax	pmax			
	comp=Z,26nm,1.0s								
GERES	GERESS Array B	81.79	319	P		P		13 54 59.5	+0.1
	comp=Z,12nm,0.8s,baz=99,slow=5.3,SNR=49								
BRG	Berggiesshubel	81.86	321	*i* P		P		13 54 59.6	0.0
	comp=Z,28nm,1.4s								
BRG	Berggiesshubel	81.86	321	*i* P		P		13 54 59.6	0.0
BRG					pmax	pmax			
	comp=Z,28nm,1.4s								
KHC	Kasperske Hory	81.90	319	*e*P		P		13 54 59.8	-0.2
KHC	Kasperske Hory	81.90	319	*e*P		P		13 54 59.7	-0.2
	comp=Z,1.3nm,0.8s								
KHC	Kasperske Hory	81.90	319	*e*P		P		13 54 59.8	-0.2
CLL	Collm	82.50	321	*i* P		P		13 55 02.7	-0.2
	comp=Z,14nm,1.1s								
CLL	Collm	82.50	321	*i* P		P		13 55 02.7	-0.2
CLL					pmax	pmax			
	comp=Z,14nm,1.1s								
WTTA	Wattenberg	83.03	317	*i* P		P		13 55 05.3	-0.7
	comp=Z,11nm,0.8s								
WATA	Walderalm	83.07	317	*i* P		P		13 55 05.6	-0.6
	comp=Z,8.5nm,0.8s								
HFS	Hagfors	83.17	330	P		P		13 55 04.8	-1.4
	comp=Z,14nm,1.1s,baz=98,slow=6.0,SNR=7.9								
MOTA	Moosalm	83.39	317	*i* P		P		13 55 07.5	-0.4
	comp=Z,9.1nm,0.8s								
FETA	Feichten	83.62	317	*i* P		P		13 55 08.9	-0.2
	comp=Z,14nm,1.0s								
RETA	Reutte	83.63	317	*i* P		P		13 55 08.6	-0.4
	comp=Z,15nm,1.0s								
KEST	Kesra	84.14	306	P		P		13 55 10.6	-1.2
	comp=Z,12nm,0.9s,baz=177,slow=2.0,SNR=8.1								
DAVA	Damuels	84.22	317	*i* P		P		13 55 12.2	+0.1
	comp=Z,24nm,1.1s,SNR=5.6								
NB2	NORSAR Subarra	84.49	331	P		P		13 55 11.9	-1.1
	comp=Z,17nm,1.1s,baz=92,slow=5.3								
NB2	NORSAR Subarra	84.49	331	P		P		13 55 11.9	-1.1
	baz=92,slow=5.3								
NOA	NORSAR Array B	84.49	331	P		P		13 55 11.5	-1.5
	comp=Z,4.6nm,0.8s,baz=96,slow=5.2,SNR=8.6								
TUE	Stuetta	84.54	316	*e*P		P		13 55 13.2	-0.6
	comp=Z,8.3nm,0.8s								
SPITS	Spitsbergen Ar	85.34	348	P		P		13 55 15.4	-1.5
	comp=Z,6.9nm,0.8s,baz=141,slow=9.3,SNR=4.7								
WLF	Walferdange	86.78	319	⇑P		P		13 55 25.2	+0.6
VNDA	Vanda	87.42	168	P		P		13 55 27.5	+0.4
	comp=Z,1.5nm,0.9s,baz=313,slow=4.4,SNR=5.8								
TAM	Tamanrasset	87.46	293	*e*P		P		13 55 29.6	+0.9
	comp=Z,3.2nm,0.6s								
TAM	Tamanrasset	87.46	293	*e*P		P		13 55 29.6	+0.9
TAM					pmax	pmax			
	comp=Z,3.0nm,0.6s								
SNF	Seneffe	87.98	320	⇑P		P		13 55 29.9	-0.4
GAMB	Gambell	90.18	26	*e*P		P		13 55 39.7	-0.7
	comp=Z,10nm,1.3s								
TORD	Torodi Ar. Bea	91.42	283	P		P		13 55 47.2	0.0
	comp=Z,60nm,0.5s,baz=89,slow=5.3,SNR=12								
EKA	Eskdalemuir Ar	92.15	325	P		P		13 55 49.4	-0.4
	comp=Z,7.3nm,1.0s,baz=98,slow=5.3,SNR=7.6								
ESDC	Sonseca Array	94.52	310	P		P		13 56 00.9	-0.2
	comp=Z,0.6nm,0.4s,baz=50,slow=4.1,SNR=4.7								
KOWA	Kowa	96.89	285	P		P		13 56 13.2	+0.9
	comp=Z,3.4nm,0.9s,baz=217,slow=0.9,SNR=7.6								
IM3	Indian Mountai	97.11	22	*e*P		P		13 56 11.8	-0.5
TOLK	Toolik Lake Re	97.52	19	P		Pdif		13 56 14.4	+0.2
	baz=296								
TOLK	Toolik Lake Re	97.52	19	*e*P		P		13 56 14.0	-0.1
	comp=Z,8.0nm,1.2s								
ILAR	Eielson Array	100.23	22	P		Pdif		13 56 24.4	-1.9
	comp=Z,0.4nm,0.9s,baz=307,slow=3.5,SNR=4.4								
B05A	Bryant	120.98	27	P		PKPdf		14 01 33.2	+0.2
	baz=317								
FFC	Flin Flon	121.90	11	*e*PKPdf		PKPdf		14 01 33.5	-1.0
FFC	Flin Flon	121.90	11	*e*PKIKP		PKPdf		14 01 33.5	-1.0
F10A	Beach Ranch, E	124.89	26	*e*PKPdf		PKPdf		14 01 40.3	-0.3
J05D	Fort Rock, OR	125.00	31	P		PKPdf		14 01 42.0	+0.9
	baz=316								
M02C	Callahan	125.47	33	P		PKPdf		14 01 42.4	+0.5
	baz=313								
MSO	Missoula	125.56	23	P		PKPdf		14 01 41.5	-0.5
	baz=326								
M04C	Macdoel	125.75	32	P		PKPdf		14 01 42.8	+0.3
	baz=315								
WVOR	Wild Horse Val	126.93	30	*e*PKPdf		PKPdf		14 01 44.8	+0.1
WVOR	Wild Horse Val	126.93	30	*e*PKIKP		PKPdf		14 01 44.8	+0.1
ULM	Lac du Bonnet	127.20	8	PKP		PKPdf		14 01 43.0	-1.8
	comp=Z,4.7nm,0.9s,baz=342,slow=1.4,SNR=9.1								
ULM	Lac du Bonnet	127.20	8	*e*PKPdf		PKPdf		14 01 44.2	-0.6
ULM	Lac du Bonnet	127.20	8	*e*PKIKP		PKPdf		14 01 44.2	-0.6
BOZ	Bozeman (W)	127.47	22	P		PKPdf		14 01 46.1	+0.4
	baz=328								
BOZ	Bozeman (W)	127.47	22	*e*PKPdf		PKPdf		14 01 45.8	+0.1
BOZ				*e*PKPdf		PKiKP		14 01 46.4	+0.1
BOZ	Bozeman (W)	127.47	22	*e*PKIKP		PKPdf		14 01 45.8	+0.1
HLID	Hailey	128.02	26	P		PKPdf		14 01 47.5	+0.7
	baz=324								
HLID	Hailey	128.02	26	*e*PKPdf		PKPdf		14 01 47.2	+0.4
GCMT	Greycliff	128.02	21	*e*PKPdf		PKPdf		14 01 45.9	-0.8
AFDM	Forest Hills D	128.20	34	*e*PKPdf		PKPdf		14 01 47.4	+0.3
YHH	Holmes Hill	128.45	22	*e*PKPdf		PKPdf		14 01 48.2	+0.4
A33A	Warroad	128.55	8	P		PKPdf		14 01 47.7	+0.2
	baz=348								
RLMT	Red Lodge	128.74	21	P		PKPdf		14 01 49.4	+1.2
	baz=330								
MOOW	Moose Ponds	129.37	23	*e*PKPdf		PKPdf		14 01 50.4	+0.9
C35A	Jirik Farms, M	129.94	7	P		PKPdf		14 01 50.0	-0.2
	baz=350								
NV01	Mina Array Sit	130.04	33	*e*PKPdf		PKPdf		14 01 50.5	-0.4
NVAR	Mina Array Bea	130.04	33	PKP		PKPdf		14 01 49.8	-1.1
	comp=Z,1.8nm,0.7s,baz=298,slow=2.0,SNR=10								
BW06	Boulder Array	130.66	22	P		PKPdf		14 01 51.9	-0.1
	baz=329								
BW06	Boulder Array	130.66	22	*e*PKPdf		PKPdf		14 01 51.7	-0.3
PDAR	Pinedale Array	130.66	22	PKP		PKPdf		14 01 49.6	-2.4
	comp=Z,1.7nm,0.9s,baz=0.0,slow=1.5,SNR=13								
PDAR	Pinedale Array	130.66	22	*e*PKPdf		PKPdf		14 01 51.6	-0.3
R11A	Troy Canyon, C	131.53	31	P		PKPdf		14 01 54.1	+0.4
	baz=320								
R11A	Troy Canyon, C	131.53	31	*e*PKPdf		PKPdf		14 01 54.0	+0.4
DAC	Darwin (Calif)	131.98	34	*e*PKPdf		PKPdf		14 01 55.1	+0.5
DAC	Darwin (Calif)	131.98	34	*e*PKIKP		PKPdf		14 01 55.1	+0.5
TMUT	Trail Mountain	132.88	26	*e*PKPdf		PKPdf		14 01 57.8	+1.4
O20A	White River Ci	133.43	23	P		PKPdf		14 01 57.7	+0.5
	baz=329								
O20A	White River Ci	133.43	23	*e*PKPdf		PKPdf		14 01 57.2	0.0
ECSD	EROS Data Cent	133.44	10	P		PKPdf		14 01 56.6	-0.3
	baz=346								
ECSD	EROS Data Cent	133.44	10	*e*PKPdf		PKPdf		14 01 56.3	-0.6
ANMO	Albuquerque	138.59	25	P		PKPdf		14 02 07.0	0.0
	baz=329								
ANMO	Albuquerque	138.59	25	*e*PKPdf		PKPdf		14 02 07.1	+0.1
ANMO	Albuquerque	138.59	25	*i* PKIKP		PKPdf		14 02 06.0	-1.0
Q41A	Truxton	138.89	6	P		PKPdf		14 02 06.6	-0.5
	baz=353								
PLCA	Paso Flores	138.98	198	PKhKP		PKPpre		14 02 01.6	
	comp=Z,1.5nm,0.7s,baz=140,slow=2.1,SNR=6.8								
R40A	Maddies Statio	139.43	7	P		PKPdf		14 02 07.4	-0.7
	baz=351								
S38A	Stockton	139.84	9	P		PKPdf		14 02 07.5	-1.4
	baz=348								
S41A	Jillco Farms,	140.18	7	P		PKPdf		14 02 08.8	-0.8
	baz=352								
WMOK	Wichita Mounta	141.53	17	P		PKPpre		14 02 09.0	
	baz=340								
MNTX	Cornudas Mount	141.82	27	P		PKPdf		14 02 11.0	-1.6
	baz=328								
MNTX	Cornudas Mount	141.82	27	*e*PKPdf		PKPdf		14 02 11.3	-1.4
V42A	Cord	141.98	7	P		PKPdf		14 02 11.8	-1.0
	baz=352								
X39A	Fountain Ranch	142.85	11	P		PKPpre		14 02 10.8	
	baz=347								
MIAR	Mount Ida	142.91	10	P		PKPpre		14 02 10.5	
	baz=348								
MIAR	Mount Ida	142.91	10	*e*PKPpre		PKPpre		14 02 11.0	
MIAR	Mount Ida	142.91	10	*e*PKIKP		PKPpre		14 02 11.0	
CPUP	Villa Florida	143.16	227	PKhKP		PKPpre		14 02 12.0	
	comp=Z,1.3nm,0.8s,baz=131,slow=5.8,SNR=5.8								
X48A	Hartselle	143.62	1	P		PKPab		14 02 12.3	+0.1
	baz=359								
Y47A	UCPARC, Winfie	144.15	2	P		PKPab		14 02 13.9	-0.4
	baz=358								
Y49A	Blount Mountai	144.22	0	P		PKPab		14 02 13.2	-1.4
Z41A	Richland Creek	144.30	9	P		PKPbc		14 02 15.0	-0.2
	baz=349								
Z42A	Norrel Spur, H	144.41	8	P		PKPbc		14 02 15.5	0.0
	baz=350								
WHTX	Lake Whitney,	144.48	16	P		PKPab		14 02 14.9	-0.7
	baz=341								
TX31	Lajitas Ar. Si	144.61	27	*e*PKPdf		PKPab		14 02 16.0	-0.3
TX31				*e*PKPdf		PKPbc		14 02 16.4	0.0
TXAR	Lajitas Array	144.61	27	PKP		PKPbc		14 02 16.6	+0.1
	comp=Z,12nm,0.9s,baz=282,slow=2.4,SNR=49								
AVIZ	Vizcacheras	144.61	206	*e*P		PKPdf		14 02 18.2	+0.5
Z48A	Northport	144.68	2	P		PKPab		14 02 15.2	-1.0
	baz=358								
Z47A	Carrollton	144.84	2	P		PKPab		14 02 15.6	-1.2
	baz=357								
Z49A	Columbiana	144.88	0	P		PKPab		14 02 16.1	-0.9
	baz=360								
141A	Papa Simpson,	144.92	10	P		PKPbc		14 02 17.6	+0.4
	baz=349								
ACAN	Cantantal	144.99	209	*e*P		PKPdf		14 02 18.8	+0.5
LRAL	Lakeview Retre	145.04	1	P		PKPbc		14 02 16.9	-0.7
	baz=359								
LRAL	Lakeview Retre	145.04	1	*e*PKPbc		PKPbc		14 02 16.4	-1.1
LRAL				*e*PKPdf		PKPab		14 02 17.2	-0.3
AAGR	Agrelo	145.08	206	*e*P		PKPdf		14 02 19.6	+1.1
JCT	Junction City	145.14	21	P		PKPbc		14 02 17.7	-0.4
	baz=336								
JCT	Junction City	145.14	21	*e*PKPbc		PKPbc		14 02 17.1	-0.9
JCT	Junction City	145.14	21	*e*PKIKP		PKPbc		14 02 17.1	-0.9
144A	Alexander Plac	145.23	6	P		PKPdf		14 02 18.5	-0.1
	baz=353								
145A	Houston Renfro	145.31	5	P		PKPdf		14 02 18.8	+0.1
	baz=354								
240A	Hunter Patters	145.31	11	P		PKPdf		14 02 18.7	-0.1
	baz=347								
146A	Union	145.34	4	P		PKPdf		14 02 18.9	+0.1
	baz=355								
147A	Livingston	145.35	3	P		PKPbc		14 02 18.1	-0.4
	baz=357								
NATX	Nacogdoches	145.40	13	P		PKPab		14 02 19.0	+0.1
	baz=346								
NATX	Nacogdoches	145.40	13	*e*PKPbc		PKPbc		14 02 18.4	-0.4
148A	Greensboro	145.41	2	P		PKPbc		14 02 18.3	-0.4
	baz=359								
150A	Eclectic	145.47	360	P		PKPbc		14 02 18.4	-0.5
	baz=0.7								
149A	Jones	145.47	1	P		PKPbc		14 02 18.2	-0.7
	baz=359								
241A	Mo Tay, Goldon	145.48	10	P		PKPab		14 02 19.3	+0.1
	baz=348								
ASAL	Salagasta	145.50	207	*e*P		PKPab		14 02 20.9	+1.5
151A	Opelika	145.53	358	P		PKPdf		14 02 18.6	-0.5
	baz=1.9								
242A	Grayson	145.57	9	P		PKPab		14 02 19.5	0.0
	baz=350								
VBMS	Vicksburg	145.63	6	P		PKPab		14 02 19.7	0.0
	baz=353								
VBMS	Vicksburg	145.63	6	*e*PKPdf		PKPab		14 02 19.9	+0.1
HPIG		145.63	32	*e*PKPdf		PKPab		14 02 20.2	0.0
244A	Avery, Jackson	145.78	7	P		PKPab		14 02 20.2	-0.1
	baz=352								
243A	Waterproof	145.84	8	P		PKPab		14 02 20.4	-0.1
	baz=351								
245A	Little AP, Sta	145.88	5	P		PKPab		14 02 20.6	0.0
	baz=354								
253A	Americus	145.95	357	P		PKPbc		14 02 20.3	-0.1
	baz=4.1								
247A	Quitman	145.95	3	P		PKPab		14 02 21.0	0.0
	baz=356								
248A	Dixon Mills	145.95	2	P		PKPbc		14 02 20.7	+0.2
	baz=358								
251A	Midway	145.97	359	P		PKPbc		14 02 20.5	-0.1
	baz=1.8								
RTCV	Cerro Valdivia	145.98	208	*e*P		PKPab		14 02 21.1	0.0
254A	Abbeville	146.00	355	P		PKPbc		14 02 20.5	-0.1
	baz=5.6								
252A	Lumpkin	146.04	358	P		PKPbc		14 02 20.7	-0.1
	baz=3.0								
AUSP	Uspallata	146.06	206	*e*P		PKPab		14 02 22.0	+0.2
249A	Camden	146.09	1	P		PKPbc		14 02 21.1	+0.2
	baz=359								
250A	Grady	146.09	360	P		PKPbc		14 02 20.7	-0.3
	baz=0.3								
341A	Kurthwood	146.11	10	P		PKPbc		14 02 21.1	+0.1
	baz=348								
APLL	PUNTA DE LOS L	146.17	212	*e*P		PKPbc		14 02 21.6	+0.3
342A	Flagon Creek P	146.22	9	P		PKPab		14 02 21.8	-0.1
	baz=349								
ZON	Zonda	146.31	208	*e*P		PKPbc		14 02 21.5	-0.1
344A	Westbrook Farm	146.36	7	P		PKPab		14 02 22.3	-0.2
	baz=352								
RTLS	Leoncito	146.38	207	*e*P		PKPbc		14 02 22.5	+0.3
345A	Thompson Farm,	146.58	6	P		PKPbc		14 02 22.6	+0.2
	baz=354								
347A	Saraland	146.60	3	P		PKPab		14 02 23.1	-0.3
	baz=356								
348A	Jackson	146.63	2	P		PKPab		14 02 23.1	-0.4
	baz=357								
353A	Camilla	146.66	357	P		PKPbc		14 02 22.7	+0.1
	baz=4.0								
349A	Repton	146.71	1	P		PKPbc		14 02 22.9	+0.2
	baz=359								
AMOG	MOGNA	146.72	209	*e*P		PKPbc		14 02 22.5	-0.5
HKT	Hockley	146.85	15	*e*PKPdf		PKPbc		14 02 22.4	-0.7
HKT	Hockley	146.85	15	*e*PKP2		PKPbc		14 02 22.4	-0.7
453A	Whigham	147.16	357	P		PKPbc		14 02 24.2	+0.1
	baz=3.8								
455A	Stateville	147.17	355	P		PKPbc		14 02 23.9	-0.2
	baz=6.2								
452A	Marianna	147.20	358	P		PKPbc		14 02 24.3	+0.1
	baz=2.3								
833A	Chaparral WMA,	147.25	22	P		PKPbc		14 02 24.9	+0.5
	baz=356								
ACDV	Cuesta del Vie	147.66	209	*e*P		PKPbc		14 02 24.4	-1.3
AROD	Rodeo	147.83	208	*e*P		PKPbc		14 02 25.0	-1.3
AGUA	GUANDACOL	147.91	210	*e*P		PKPdf		14 02 24.6	+1.3
VCA	Vinchina	148.37	211	*e*P		PKPdf		14 02 25.4	+1.2
LCO	Las Campanas	149.38	208	*e*PKPbc		PKPbc		14 02 30.7	+0.4
LNIG	Linares	150.29	25	*e*PKPbc		PKPbc		14 02 31.2	-1.2
ZAIG	Zacatecas	150.65	32	*e*PKPbc		PKPbc		14 02 34.7	+1.1
PB11	IPOC Station P	156.04	222	*e*PKPab		PKPab		14 03 03.6	+0.6
LPAZ	La Paz	157.19	231	PKPab		PKPab		14 03 09.6	+0.9
	comp=Z,2.5nm,0.5s,baz=62,slow=4.8,SNR=8.7								

*ISCJB **11** 13:42:52.4±0.7, 2°.12N±0°.08×93°.7E±0°.1, h10km, mb4.7/19, Error ellipse: s-maj=15.9km s-min=9.7km az=149.1*
*IDC **11** 13:42:52.7±1.1, 2°.10N×93°.62E, h0km, mb4.6/13, mb1 4.7/14, mb1mx4.2/67, mbtmp4.6/14, ML4.9/1, Error ellipse: s-maj=29.8km s-min=16.2km az=52.0, X*
*NEIC **11** 13:42:53.7±0.7, 2°.10N×93°.58E, h10km, mb4.8/3, Error ellipse: s-maj=13.0km s-min=9.1km az=47.0*

ISC 11 13:42:53.7±0.7, 2°.10N±0°.10×93°.60E±0°.10, h10km, n41, σ0°90/41, mb4.8/19, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Op	ISC	Time h m s	Res ISC
LHMI	Lhok Sumawe	4.56	47	*e*Pn		Pn		13 44 01.0	-1.9
BKNI	Bangkinang	7.65	103	Pn		Pn		13 44 43.0	-2.3
PALK	Pallekele	13.84	292	*e*Pn		Pn		13 46 07.5	-2.7
CMAR	Chiang Mai Arr	17.08	18	P		P		13 46 54.2	-0.3
	1.6nm,0.3s,baz=211,slow=12,SNR=19								
CMAR	Chiang Mai Arr	17.08	18	P		P		13 46 54.2	-0.3
CHTO	Chiang Mai	17.42	17	Pn		Pn		13 46 56.7	-0.3
MBWA	Marble Bar	34.48	133	*e*P		P		13 49 41.7	-0.4
SIJI	Sorong	37.78	94	P		P		13 50 10.0	-0.5
	27nm,0.7s,baz=291,slow=5.9,SNR=15								
WRA	Warramunga Arr	45.58	121	P		P		13 51 15.1	+0.7
	8.7nm,0.8s,baz=298,slow=8.7,SNR=8.5								
WRA	Warramunga Arr	45.58	121	P		P		13 51 15.1	+0.7
WRAB	Tennant Creek	45.58	121	*e*P		P		13 51 15.0	+0.7
	7.9nm,0.6s								
ASAR	Alice Springs	46.83	126	P		P		13 51 24.9	+0.7
	2.5nm,0.4s,baz=298,slow=7.9,SNR=15								
ASAR	Alice Springs	46.83	126	P		P		13 51 24.9	+0.7
SONM	Songino Array	46.88	12	P		P		13 51 24.8	+0.4
	12nm,0.7s,baz=191,slow=8.8,SNR=10.0								
SONM	Songino Array	46.88	12	P		P		13 51 24.8	+0.4
ULN	Ulaanbaatar	47.05	12	*e*P		P		13 51 25.2	-0.5
	5.8nm,0.7s								
KSAR	Wonju Array Be	47.22	38	P		P		13 51 27.4	+0.4
KSRS	Korea Array	47.25	38	P		P		13 51 27.4	+0.2
	5.8nm,0.7s,baz=224,slow=7.8,SNR=11								
GEYT	Alibeck	48.26	322	P		P		13 51 36.6	+1.5
	4.2nm,0.5s,baz=134,slow=8.4,SNR=5.8								
ZALV	Zalesovo Beam	52.18	353	P		P		13 52 05.2	+0.7
	8.3nm,0.5s,baz=172,slow=7.2,SNR=7.5								
ZALV	Zalesovo Beam	52.18	353	P		P		13 52 05.2	+0.7
CBIJ	Chichi jima	52.71	57	P		P		13 52 08.6	-0.3
JCJ	Chichijima	52.71	57	P		P		13 52 08.6	-0.3
	50nm,0.5s,baz=139,slow=23,SNR=4.7								
MJAR	Matsushiro Ar	53.52	45	P		P		13 52 15.6	+0.8
	1.3nm,0.6s,baz=232,slow=6.4,SNR=4.6								
MJAR	Matsushiro Ar	53.52	45	P		P		13 52 15.6	+0.8
USRK	Ussuriysk Ar.	53.94	34	P		P		13 52 18.3	+0.7
	3.1nm,0.5s,baz=247,slow=5.0,SNR=11								
ABKAR	Akbulak array	55.07	334	P		P		13 52 26.1	+0.3
	4.3nm,0.7s								
STKA	Stephens Creek	56.65	131	P		P		13 52 38.1	+0.7
	5.1nm,0.6s,baz=296,slow=6.1,SNR=11								
STKA	Stephens Creek	56.65	131	P		P		13 52 38.1	+0.7
KLR	Kul'dur	57.14	29	P		P		13 52 41.5	+1.0
	0.5nm,0.7s,baz=237,slow=7.4,SNR=7.2								
KLR	Kul'dur	57.14	29	P		P		13 52 41.5	+1.0
YAK	Yakutsk	65.62	18	*e*P		P		13 53 37.2	-0.5
	24nm,0.6s								
AKASG	Malin Array Be	72.37	323	P		P		13 54 19.8	-0.1
	3.1nm,0.7s,baz=91,slow=4.8,SNR=4.4								
AKASG	Malin Array Be	72.37	323	P		P		13 54 19.8	-0.1
PETK	Petropavlovsk-	73.01	35	P		P		13 54 24.0	+0.3
	4.6nm,0.9s,baz=217,slow=6.2,

1.7nm,0.8s,baz=192,slow=8.2,SNR=3.7

KURBB	**Kurchatov Arra**	**50.20**	**348**	P	**P**	**13 56 43.8**	**-0.2**
	1.1nm,0.9s,baz=176,slow=7.8,SNR=3.1						
KURK	**Kurchatov**	**50.27**	**348**	P	**P**	**13 56 43.8**	**-0.7**
ZALV	**Zalesovo Beam**	**52.44**	**354**	P	**P**	**13 57 00.1**	**-0.6**
	2.0nm,0.8s,baz=187,slow=6.8,SNR=3.8						
FINES	**FINESS Array B**	**77.58**	**333**	P	**P**	**13 59 44.7**	**+0.6**
	1.3nm,0.7s,baz=120,slow=5.1,SNR=2.7						
TXAR	**Lajitas Array**	**145.20**	**26**	PKPbc	**PKPdf**	**14 07 27.3**	**+0.4**
	0.4nm,0.6s,baz=270,slow=2.7,SNR=3.2						

ISCJB ***11*** *13:49:52.1±0.6, 1°.05N±0°.09×92°.05E±0°.07, h10km, mb4.0/15, Error ellipse: s-maj=14.9km s-min=8.9km az=29.8*

IDC ***11*** *13:49:52.6±0.9, 1°.05N×92°.08E, h0km, mb3.9/13, mb1 4.1/15, mb1mx3.8/72, mbtmp3.9/15, ML4.1/2, Error ellipse: s-maj=38.1km s-min=15.1km az=46.0*

NEIC ***11*** *13:49:54.0±0.6, 1°.00N×92°.06E, h10km, mb4.0/4, Error ellipse: s-maj=15.0km s-min=8.6km az=29.0*

ISC 11 13:49:53.5±0.8, 0°.9N±0°.1×92°.07E±0°.09, h10km, n26, σ1§27/26, mb4.0/15, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GSI	**Gunungsitoli**	**5.51**	**86**	*e*Pn	**Pn**	**13 51 14.1**	**-1.6**
LHMI	**Lhok Sumawe**	**6.49**	**48**	*e*Pn	**Pn**	**13 51 29.2**	**+0.1**
MNAI	**Manna**	**12.07**	**116**	*e*Pn	**Pn**	**13 52 43.0**	**-2.7**
PALK	**Pallekele**	**12.98**	**299**	Pn	**Pn**	**13 52 58.0**	**-0.2**
	1.7nm,0.3s,baz=113,slow=15,SNR=3.5						
PALK	**Pallekele**	**12.98**	**299**	*e*Pn	**Pn**	**13 52 57.7**	**-0.5**
KSM	**Kuching**	**18.24**	**88**	*e*P	**P**	**13 54 09.3**	**+2.1**
	18nm,0.9s						
CMAR	**Chiang Mai Arr**	**18.70**	**21**	P	**Pn**	**13 54 12.4**	**-0.2**
	0.2nm,0.3s,baz=214,slow=12,SNR=3.8						
CHTO	**Chiang Mai**	**19.03**	**20**	*e*P	**P**	**13 54 14.6**	**-1.2**
	1.6nm,0.6s						
FITZ	**Fitzroy Crossi**	**38.04**	**121**	P	**P**	**13 57 13.2**	**+0.8**
	3.1nm,0.7s,baz=320,slow=4.3,SNR=5.8						
WRA	**Warramunga Arr**	**46.31**	**119**	P	**P**	**13 58 21.1**	**+1.2**
	4.6nm,0.8s,baz=296,slow=8.5,SNR=12						
WRAB	**Tennant Creek**	**46.32**	**119**	*e*P	**P**	**13 58 20.8**	**+0.8**
	5.5nm,0.7s						
MKAR	**Makanchi Array**	**46.49**	**351**	P	**P**	**13 58 19.9**	**-1.1**
	0.5nm,0.6s,baz=166,slow=8.8,SNR=3.1						
ASAR	**Alice Springs**	**47.41**	**124**	P	**P**	**13 58 29.5**	**+1.0**
	0.5nm,0.6s,baz=304,slow=8.1,SNR=3.6						
GEYT	**Allbeck**	**48.28**	**324**	P	**P**	**13 58 33.6**	**-1.4**
	1.1nm,0.5s,baz=132,slow=7.6,SNR=2.2						
SONM	**Songino Array**	**48.37**	**13**	P	**P**	**13 58 35.7**	**+0.1**
	1.5nm,0.8s,baz=194,slow=9.4,SNR=3.8						
ULN	**Ulaanbaatar**	**48.54**	**13**	*e*P	**P**	**13 58 39.8**	**+2.8**
KURBB	**Kurchatov Arra**	**50.85**	**349**	P	**P**	**13 58 54.1**	**-0.2**
	0.6nm,0.6s,baz=172,slow=6.5,SNR=3.5						
KURK	**Kurchatov**	**50.92**	**349**	P	**P**	**13 58 54.1**	**-0.7**
ZALV	**Zalesovo Beam**	**53.20**	**355**	P	**P**	**13 59 10.6**	**-1.2**
	0.9nm,0.4s,baz=174,slow=7.8,SNR=4.7						
BVAR	**Borovoye Array**	**54.98**	**344**	P	**P**	**13 59 23.8**	**-1.0**
	0.5nm,0.6s,baz=160,slow=11,SNR=3.0						
ABKAR	**Akbulak array**	**55.48**	**335**	*e*P	**P**	**13 59 28.0**	**-0.5**
	0.3nm,0.4s						
KBZ	**Khabaz**	**61.01**	**321**	P	**P**	**14 00 08.4**	**+1.1**
	1.2nm,0.7s,baz=140,slow=4.3,SNR=3.3						
BRTR	**Keskin Array B**	**65.56**	**314**	P	**P**	**14 00 37.9**	**0.0**
	0.5nm,0.5s,baz=127,slow=5.8,SNR=3.2						
FINES	**FINESS Array B**	**77.92**	**333**	P	**P**	**14 01 51.8**	**+0.3**
	1.2nm,0.5s,baz=172,slow=3.1,SNR=5.9						
GERES	**GERESS Array B**	**81.66**	**319**	P	**P**	**14 02 13.2**	**+1.0**
	0.3nm,0.3s,baz=103,slow=4.8,SNR=4.1						
TXAR	**Lajitas Array**	**146.37**	**25**	PKPbc	**PKPdf**	**14 09 35.3**	**+0.9**
	1.1nm,0.9s,baz=31,slow=0.5,SNR=5.1						

ISCJB ***11*** *13:50:47.7±1.4, 1°.5N±0°.2×91°.9E±0°.2, h10km, mb4.1/8, Error ellipse: s-maj=38.1km s-min=15.3km az=142.0*

NEIC ***11*** *13:50:49.5±1.1, 1°.52N×91°.90E, h10km, mb4.3/2, Error ellipse: s-maj=34.3km s-min=13.5km az=52.0*

IDC ***11*** *13:50:51.7±3.3, 2°.09N×92°.77E, h0km, mb4.0/6, mb1 4.1/6, mb1mx3.5/70, mbtmp4.0/6, Error ellipse: s-maj=120.2km s-min=23.1km az=60.0*

ISC 11 13:50:49.5±1.6, 1°.6N±0°.2×92°.0E±0°.2, h10km, n10, σ1§61/10, mb4.3/8, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GSI	**Gunungsitoli**	**5.63**	**93**	*e*Pn	**Pn**	**13 52 14.2**	**+0.9**
MBWA	**Marble Bar**	**35.37**	**131**	*e*P	**P**	**13 57 45.0**	**-0.6**
	2.3nm,0.4s						
MKAR	**Makanchi Array**	**45.78**	**351**	P	**P**	**13 59 12.5**	**+1.2**
	0.5nm,0.5s,baz=166,slow=7.4,SNR=3.3						
WRA	**Warramunga Arr**	**46.76**	**119**	P	**P**	**13 59 18.6**	**-0.8**
	0.8nm,0.5s,baz=298,slow=8.5,SNR=5.1						
WRAB	**Tennant Creek**	**46.76**	**119**	*e*P	**P**	**13 59 18.9**	**-0.6**
	2.6nm,0.8s						
SONM	**Songino Array**	**47.71**	**13**	P	**P**	**13 59 27.1**	**+0.6**
	1.7nm,0.4s,baz=193,slow=9.0,SNR=7.7						
ASAR	**Alice Springs**	**47.90**	**124**	P	**P**	**13 59 30.4**	**+2.0**
	0.6nm,0.7s,baz=306,slow=7.9,SNR=2.8						
ZALV	**Zalesovo Beam**	**52.49**	**355**	P	**P**	**14 00 03.3**	**+0.8**
	1.3nm,0.4s,baz=174,slow=6.9,SNR=5.0						
PETK	**Petropavlovsk-**	**74.34**	**35**	P	**P**	**14 02 24.2**	**-3.0**
	3.8nm,0.9s,baz=116,slow=3.4,SNR=5.6						
TXAR	**Lajitas Array**	**145.78**	**25**	PKPbc	**PKPdf**	**14 10 29.6**	**+0.3**
	0.4nm,0.5s,baz=253,slow=1.0,SNR=4.6						

IDC 11 13:52:17.4±2.7, 2°.88N×93°.19E, h0km, mb3.7/4, mb1 3.9/5, mb1mx3.4/71, mbtmp3.8/5, ML4.2/1, Error ellipse: s-maj=100.1km s-min=31.0km az=58.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**16.48**	**20**	Pn	Pn	13 56 10.5	+0.3
	0.3nm,0.3s,baz=213,slow=12,SNR=7.4						
MKAR	**Makanchi Array**	**44.76**	**349**	P	P	14 00 32.1	-0.6
	0.9nm,0.6s,baz=168,slow=9.4,SNR=4.9						
WRA	**Warramunga Arr**	**46.32**	**121**	P	P	14 00 44.8	-0.7
	0.5nm,0.7s,baz=300,slow=8.7,SNR=2.4						
KURBB	**Kurchatov Arra**	**49.16**	**348**	P	P	14 01 06.6	-0.5
	0.8nm,0.8s,baz=173,slow=6.3,SNR=3.4						
ZALV	**Zalesovo Beam**	**51.37**	**354**	P	P	14 01 24.0	+0.3
	0.8nm,0.3s,baz=183,slow=6.7,SNR=3.3						
TXAR	**Lajitas Array**	**144.13**	**26**	PKP	PKPdf	14 11 57.7	+1.5
	0.3nm,0.7s,baz=288,slow=0.9,SNR=2.2						

JMA ***11*** *13:52:26.5, 23°.92N×121°.79E, h45km±1km, M2.6*

ISCJB ***11*** *13:52:27.2±0.2, 23°.96N±0°.02×121°.84E±0°.02, h43km±5km, Error ellipse: s-maj=3.0km s-min=1.9km az=136.8*

TAP ***11*** *13:52:27.0, 23°.98N×121°.79E, h46km, ML2.9, B*

ISC 11 13:52:27.7±1.0, 23°.96N±0°.02×121°.83E±0°.02, h33km±2km, n85, σ0§85/147, 5C-9D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HWA	**Hwalien**	**0.21**	**275**	*e*P	**Pb**	**13 52 35.1**	**+0.7**
	baz=262						
HWA				*e*S	**Sb**	**13 52 41.4**	**+2.4**
	baz=262						
ENLB	**Shoufeng**	**0.21**	**256**	⇑*i*P	**Pb**	**13 52 35.1**	**+0.6**
	baz=247						
ENLB				*e*S	**Sb**	**13 52 41.3**	**+2.2**
	baz=247						
TWD	**Chiawan**	**0.25**	**300**	⇑*i*P	**Pn**	**13 52 34.9**	**+0.2**
	baz=301						
TWD				S	**Sb**	**13 52 40.7**	**+1.0**
	baz=301						
NACB	**Ninganchiao**	**0.30**	**315**	⇑P	**Pn**	**13 52 35.3**	**-0.4**
	baz=318						
NACB				S	**Sn**	**13 52 41.5**	**+1.0**
	baz=318						
ESL	**Shilin**	**0.39**	**249**	⇓P	**Pb**	**13 52 36.2**	**-0.5**
	baz=252						
ESL				*e*S	**Sb**	**13 52 43.2**	**+0.3**
	baz=252						
NANB	**Nanao**	**0.47**	**351**	⇑P	**Pb**	**13 52 37.4**	**-0.5**
	baz=349						
NANB				S	**Sb**	**13 52 45.1**	**+0.2**
	baz=349						
ENA	**Nanau**	**0.47**	**350**	*e*P	**Pb**	**13 52 37.4**	**-0.5**
	baz=349						
ENA				*e*S	**Sb**	**13 52 45.3**	**+0.2**
	baz=349						
ENAH	**Nanao**	**0.49**	**358**	P	**Pb**	**13 52 37.9**	**-0.3**
	baz=355						
ENAH				S	**Sb**	**13 52 46.1**	**+0.7**
	baz=355						
WHF	**Hehuan Shan**	**0.55**	**290**	⇓*i*P	**Pn**	**13 52 38.5**	**-1.1**
	baz=284						
WHF				*e*S	**Sb**	**13 52 46.5**	**-1.0**
	baz=284						
HGSD	**Ruisui**	**0.59**	**219**	*e*P	**Pn**	**13 52 38.9**	**-0.8**
	baz=208						
HGSD				*e*S	**Sn**	**13 52 48.2**	**-0.1**
	baz=208						
OWD	**Renai**	**0.60**	**270**	*e*P	**Pn**	**13 52 39.1**	**-0.8**
	baz=273						
OWD				*e*S	**Sn**	**13 52 47.5**	**-1.1**
	baz=273						
CHGB	**Renai**	**0.61**	**280**	⇓P	**Pn**	**13 52 39.4**	**-0.8**
	baz=273						
CHGB				S	**Sn**	**13 52 47.9**	**-1.1**
	baz=273						
NNSB	**Datong**	**0.62**	**319**	⇓P	**Pn**	**13 52 39.4**	**-0.8**
	baz=320						
NNSB				*e*S	**Sn**	**13 52 48.3**	**-0.8**
	baz=320						
NNS	**Nan Shan**	**0.64**	**319**	P	**Pn**	**13 52 39.6**	**-0.9**
	baz=321						
NNS				*e*S	**Sn**	**13 52 48.7**	**-0.8**
	baz=321						
EHY	**Hungye**	**0.65**	**226**	*e*P	**Pn**	**13 52 39.0**	**-1.5**
	baz=222						
EHY				*e*S	**Sn**	**13 52 48.2**	**-1.4**
	baz=222						
EOS1	**EOS1**	**0.65**	**25**	*e*P	**Pn**	**13 52 40.4**	**-0.1**
	baz=40						
EOS1				*e*S	**Sn**	**13 52 50.5**	**+0.9**
	baz=40						
TWC	**Suao**	**0.65**	**2**	⇑P	**Pn**	**13 52 40.2**	**-0.3**
	baz=6.0						
TWC				*e*S	**Sn**	**13 52 49.9**	**+0.3**
	baz=6.0						
TWT	**Tachien**	**0.67**	**296**	⇓P	**Pn**	**13 52 40.5**	**-0.5**
	baz=290						
TWT				S	**Sn**	**13 52 49.6**	**-0.7**
	baz=290						
TDCB	**Techi**	**0.68**	**296**	⇓*i*P	**Pn**	**13 52 40.5**	**-0.6**
	baz=293						
TDCB				S	**Sn**	**13 52 49.6**	**-1.0**
	baz=293						
ENTT	**Nioudou**	**0.72**	**341**	P	**Pn**	**13 52 40.9**	**-0.7**
	baz=336						
ENTT				*e*S	**Sn**	**13 52 51.2**	**-0.3**
	baz=336						
YULB	**Yu-li**	**0.74**	**221**	P	**Pn**	**13 52 40.2**	**-1.7**
	baz=226						
YULB				*e*S	**Sn**	**13 52 49.9**	**-2.2**
	baz=226						
TWE	**Neicheng**	**0.77**	**349**	P	**Pn**	**13 52 41.8**	**-0.5**
	baz=344						
TWE				*e*S	**Sn**	**13 52 52.2**	**-0.5**
	baz=344						
TWF1	**Yuli**	**0.78**	**219**	*e*P	**Pn**	**13 52 40.8**	**-1.6**
	baz=225						
SLBB	**Yuanshan**	**0.81**	**347**	*e*P	**Pn**	**13 52 42.4**	**-0.5**
	baz=342						
SSLB	**Suanglung**	**0.82**	**258**	⇓*i*P	**Pn**	**13 52 41.9**	**-1.0**
	baz=250						
YHNB	**Yeheng**	**0.82**	**330**	⇓P	**Pn**	**13 52 42.4**	**-0.6**
	baz=331						
YHNB				*e*S	**Sn**	**13 52 52.8**	**-1.3**
	baz=331						
DPDB	**Guoxing**	**0.83**	**275**	⇓P	**Pn**	**13 52 42.5**	**-0.6**
	baz=270						
DPDB				*e*S	**Sn**	**13 52 53.9**	**-0.3**
	baz=270						
SMLT	**Sun Moon Lake**	**0.85**	**265**	P	**Pn**	**13 52 42.9**	**-0.6**
	baz=256						
NWLT	**Wulai**	**0.87**	**340**	*e*P	**Pn**	**13 52 43.0**	**-0.7**
	baz=335						
NWLT				*e*S	**Sn**	**13 52 54.2**	**-0.9**
	baz=335						
EGS		**0.89**	**6**	*e*P	**Pn**	**13 52 44.4**	**+0.5**
	baz=9.0						
TYC	**Yuchr**	**0.89**	**267**	*e*P	**Pn**	**13 52 43.2**	**-0.7**
	baz=258						
FULB	**Fuli**	**0.90**	**213**	*e*P	**Pn**	**13 52 43.6**	**-0.5**
	baz=200						
FULB				*e*S	**Sn**	**13 52 56.2**	**+0.3**
	baz=200						
CHKT	**Chengkung**	**0.95**	**207**	*e*P	**Pn**	**13 52 43.8**	**-1.0**
	baz=196						
LIOB	**Emei**	**1.01**	**313**	*e*P	**Pn**	**13 52 45.9**	**+0.3**
	baz=314						
LIOB				*e*S	**Sn**	**13 52 59.0**	**+0.3**
	baz=314						
TIPB	**Shuangxi**	**1.01**	**360**	*e*P	**Pn**	**13 52 44.8**	**-0.8**
	baz=353						
TIPB				*e*S	**Sn**	**13 52 58.3**	**-0.4**
	baz=353						
NSTT	**Nanjuang**	**1.01**	**312**	P	**Pn**	**13 52 45.9**	**+0.4**
	baz=313						
NSTT				*e*S	**Sn**	**13 52 58.5**	**-0.2**
	baz=313						
WJS	**Zhushan**	**1.02**	**263**	*e*P	**Pn**	**13 52 45.7**	**0.0**
	baz=260						
WJS				*e*S	**Sn**	**13 52 59.5**	**+0.7**
	baz=260						
TWQ1	**Liyutan**	**1.04**	**292**	*e*P	**Pn**	**13 52 45.6**	**-0.3**
	baz=292						
TWQ1				*e*S	**Sn**	**13 52 59.0**	**-0.4**
	baz=292						
TWA	**Mucha**	**1.04**	**348**	*e*P	**Pn**	**13 52 45.9**	**-0.1**
	baz=340						
TWA				*e*S	**Sn**	**13 52 59.4**	**0.0**
	baz=340						
WNT	**Mingjian**	**1.05**	**266**	*e*P	**Pn**	**13 52 46.3**	**+0.2**
	baz=264						
TWB1	**Santiao Chiao**	**1.06**	**8**	*e*P	**Pn**	**13 52 46.4**	**+0.2**
	baz=23						
TATO	**Taipei**	**1.06**	**343**	*e*P	**Pn**	**13 52 45.8**	**-0.4**
	baz=344						
TATO				*e*S	**Sn**	**13 52 59.6**	**-0.2**
	baz=344						
ELDTW	**Lidau**	**1.07**	**224**	*e*P	**Pn**	**13 52 45.1**	**-1.3**
	baz=217						
ELDTW				*e*S	**Sn**	**13 52 58.6**	**-1.6**
	baz=217						
TCU	**Taichung**	**1.07**	**280**	*e*P	**Pn**	**13 52 46.5**	**+0.2**
	baz=278						
TCU				*e*S	**Sn**	**13 53 01.2**	**+1.1**
	baz=278						
NSY	**Sanyi**	**1.08**	**295**	*e*P	**Pn**	**13 52 46.5**	**0.0**
	baz=295						
NWF	**Wu-fen Shan**	**1.11**	**358**	*e*P	**Pn**	**13 52 47.0**	**0.0**
	baz=348						
WFSB	**Wu-fen Shan**	**1.11**	**358**	*e*P	**Pn**	**13 52 47.0**	**+0.1**
	baz=348						
NMLH	**Miaoli**	**1.11**	**302**	*e*P	**Pn**	**13 52 47.1**	**+0.1**
	baz=301						
CHN5	**Tsauling**	**1.11**	**251**	*e*P	**Pn**	**13 52 46.9**	**-0.2**
	baz=248						
CHN5				*e*S	**Sn**	**13 53 01.7**	**+0.4**
	baz=248						
JYNG	**Yonagunijimaku**	**1.13**	**64**	P	**Pn**	**13 52 46.9**	**-0.3**
JYNG				S	**Sn**	**13 53 02.7**	**+1.1**
NCUH	**Zhongli**	**1.17**	**330**	*e*P	**Pn**	**13 52 47.1**	**-0.5**
	baz=331						
WCHH	**Zhanghua**	**1.17**	**276**	*e*P	**Pn**	**13 52 47.5**	**-0.2**
	baz=274						
WCHH				*e*S	**Sn**	**13 53 04.0**	**+1.5**
	baz=274						
YOJ	**Yonaguni jima**	**1.19**	**65**	*e*P	**Pn**	**13 52 47.8**	**-0.2**
	baz=66						
YOJ				*e*S	**Sn**	**13 53 02.4**	**-0.7**
	baz=66						
YOJ	**Yonaguni jima**	**1.19**	**65**	P	**Pn**	**13 52 48.0**	**0.0**
YOJ				S	**Sn**	**13 53 02.9**	**-0.1**
TWS1	**Kuangyinshan**	**1.20**	**342**	*e*P	**Pn**	**13 52 47.7**	**-0.4**
	baz=343						
WDLH	**Douliu**	**1.21**	**258**	*e*P	**Pn**	**13 52 48.3**	**0.0**
	baz=243						
WDLH				*e*S	**Sn**	**13 53 04.5**	**+0.9**
	baz=243						
YM04	**YM04**	**1.22**	**347**	*e*P	**Pn**	**13 52 48.6**	**+0.2**
	baz=336						
YM05	**YM05**	**1.23**	**349**	*e*P	**Pn**	**13 52 47.9**	**-0.7**
	baz=337						
YM07	**YM07**	**1.23**	**351**	*e*P	**Pn**	**13 52 47.0**	**-1.6**
	baz=340						
STYT	**Tauyuan**	**1.26**	**231**	*e*P	**Pn**	**13 52 48.8**	**-0.3**
	baz=224						
STYT				*e*S	**Sn**	**13 53 05.0**	**+0.1**
	baz=224						
TPUB	**Ta-pu**	**1.28**	**240**	*e*P	**Pn**	**13 52 49.0**	**-0.3**
	baz=237						
CHN4	**Tsaushan**	**1.28**	**242**	*e*P	**Pn**	**13 52 49.9**	**+0.5**
	baz=230						
CHN4				*e*S	**Sn**	**13 53 07.0**	**+1.6**
	baz=230						
WTP	**Ta-pu**	**1.32**	**238**	*e*P	**Pn**	**13 52 50.0**	**+0.2**
	baz=234						
WTP				*e*S	**Sn**	**13 53 07.0**	**+0.6**
	baz=234						
TWGBT	**Beinan**	**1.33**	**211**	*e*P	**Pn**	**13 52 49.6**	**-0.3**
	baz=202						
TWG	**Pinlang**	**1.33**	**212**	*e*P	**Pn**	**13 52 49.3**	**-0.6**
	baz=203						
RLNB	**Erlin**	**1.35**	**267**	*e*P	**Pn**	**13 52 50.3**	**+0.2**
	baz=276						
RLNB				*e*S	**Sn**	**13 53 08.4**	**+1.5**
	baz=276						
CHY	**Chiayi**	**1.37**	**251**	*e*P	**Pn**	**13 52 49.8**	**-0.7**
	baz=247						
CHY				*e*S	**Sn**	**13 53 08.2**	**+0.8**
	baz=247						
TWK	**Hsinying**	**1.41**	**241**	*e*P	**Pn**	**13 52 51.4**	**+0.3**
	baz=236						
TWK				*e*S	**Sn**	**13 53 09.5**	**+0.9**
	baz=236						
WTCT	**Ta-ch'eng**	**1.42**	**267**	*e*P	**Pn**	**13 52 51.0**	**-0.2**
	baz=277						
WTCT				*e*S	**Sn**	**13 53 10.1**	**+1.3**
	baz=277						
CHN1	**Nanshi**	**1.42**	**237**	*e*P	**Pn**	**13 52 51.4**	**+0.2**
	baz=233						
CHN1				*e*S	**Sn**	**13 53 09.8**	**+1.1**
	baz=233						
SGST	**Jiashian**	**1.44**	**233**	*e*P	**Pn**	**13 52 51.9**	**+0.4**
	baz=229						
SGST				*e*S	**Sn**	**13 53 10.1**	**+0.9**
	baz=229						
SLGT	**Liugui**	**1.45**	**229**	*e*P	**Pn**	**13 52 52.2**	**+0.6**
	baz=225						
SLGT				*e*S	**Sn**	**13 53 10.1**	**+0.6**
	baz=225						
ECL	**Taimali**	**1.58**	**211**	*e*P	**Pn**	**13 52 53.7**	**+0.4**
	baz=202						
ECL				*e*S	**Sn**	**13 53 10.1**	**-2.5**
	baz=202						
SSD	**Sandimen**	**1.63**	**223**	*e*P	**Pn**	**13 52 54.4**	**+0.2**
	baz=208						
SSD				*e*S	**Sn**	**13 53 14.8**	**+0.8**
	baz=208						
MASBT	**Mashibuluo**	**1.73**	**220**	*e*P	**Pn**	**13 52 56.0**	**+0.5**
	baz=207						
MASBT				*e*S	**Sn**	**13 53 18.0**	**+1.5**
	baz=207						
IRIF	**Iriomote-Funau**	**1.78**	**77**	P	**Pn**	**13 52 56.0**	**-0.1**
IRIF				S	**Sn**	**13 53 17.5**	**0.0**
EAST	**Anshuo**	**1.81**	**210**	*e*P	**Pn**	**13 52 57.4**	**+0.8**
	baz=204						
HATJ	**Hateruma jima**	**1.81**	**86**	P	**Pn**	**13 52 56.4**	**-0.1**
HATJ				*e*S	**Sn**	**13 53 18.4**	**+0.1**
JKRS	**Kuro-shima**	**2.01**	**82**	P	**Pn**	**13 52 59.6**	**+0.3**
JKRS				*e*S	**Sn**	**13 53 24.2**	**+0.9**
WDGT	**Dungji**	**2.11**	**251**	P	**Pn**	**13 52 59.9**	**-0.7**
	baz=246						
WDGT				*e*S	**Sn**	**13 53 23.5**	**-2.2**
	baz=246						
PHUB	**P'eng-hu**	**2.12**	**258**	*e*P	**Pn**	**13 52 59.8**	**-0.9**
	baz=268						
PHUB				*e*S	**Sn**	**13 53 24.7**	**-1.2**
	baz=268						
PNG	**Penghu**	**2.12**	**260**	*e*P	**Pn**	**13 52 59.7**	**-1.1**
	baz=257						
JIJ	**Ishigaki jima**	**2.15**	**79**	P	**Pn**	**13 53 00.7**	**-0.5**
JIJ				S	**Sn**	**13 53 25.5**	**-1.3**
JISG	**Ishigakijimahi**	**2.35**	**74**	P	**Pn**	**13 53 03.4**	**-0.6**
JISG				*e*S	**Sn**	**13 53 31.0**	**-0.7**
JTJ	**Tarama**	**2.71**	**75**	P	**Pn**	**13 53 08.6**	**-0.3**
JTJ				S	**Sn**	**13 53 40.9**	**+0.4**

IDC 11 13:55:56.5±2.6, 3°.69N×92°.49E, h0km, mb3.3/4, mb1 3.6/5, mb1mx3.2/74, mbtmp3.4/5, ML3.8/1, Error ellipse: s-maj=103.7km s-min=23.0km az=59.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**15.97**	**23**	Pn	Pn	13 59 43.4	+0.6
	0.1nm,0.3s,baz=214,slow=13,SNR=4.4						
MKAR	**Makanchi Array**	**43.84**	**350**	P	P	14 04 04.5	+0.1
	0.3nm,0.4s,baz=164,slow=9.6,SNR=4.2						
WRA	**Warramunga Arr**	**47.34**	**121**	P	P	14 04 31.2	-1.3
	0.4nm,0.4s,baz=299,slow=8.5,SNR=14						
KURBB	**Kurchatov Arra**	**48.22**	**348**	P	P	14 04 38.4	-0.4
	0.3nm,0.7s,baz=172,slow=7.4,SNR=2.9						
ASAR	**Alice Springs**	**48.65**	**126**	P	P	14 04 43.8	+1.2
	0.3nm,0.9s,baz=296,slow=8.0,SNR=3.4						

ISCJB ***11*** *13:56:52.6±1.2, 2°.3N±0°.2×89°.0E±0°.3, h10km, mb3.8/8, Error ellipse: s-maj=47.2km s-min=18.4km az=139.0*

IDC ***11*** *13:56:52.8±1.3, 2°.28N×88°.94E, h0km, mb3.7/8, mb1 3.8/8, mb1mx3.5/74, mbtmp3.7/8, Error ellipse: s-maj=54.3km s-min=21.2km az=49.0*

ISC 11 13:56:54.2±1.3, 2°.3N±0°.3×88°.9E±0°.3, h10km, n9, σ1§09/9, mb3.9/8, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**44.73**	**354**	P	**P**	**14 05 08.3**	**+0.6**
	0.6nm,0.7s,baz=172,slow=7.9,SNR=2.9						
SONM	**Songino Array**	**47.84**	**16**	P	**P**	**14 05 32.9**	**+0.5**
	1.2nm,0.6s,baz=195,slow=9.1,SNR=5.5						
KURBB	**Kurchatov Arra**	**48.99**	**351**	P	**P**	**14 05 38.8**	**-2.1**
	0.3nm,0.7s,baz=175,slow=6.8,SNR=3.2						
WRA	**Warramunga Arr**	**49.71**	**119**	P	**P**	**14 05 47.5**	**+0.5**
	1.0nm,0.6s,baz=298,slow=8.5,SNR=4.7						
ASAR	**Alice Springs**	**50.77**	**123**	P	**P**	**14 05 54.7**	**-0.3**
	0.3nm,0.7s,baz=294,slow=7.4,SNR=2.5						
BRTR	**Keskin Array B**	**62.37**	**314**	P	**P**	**14 07 18.1**	**+0.6**
	0.8nm,0.7s,baz=127,slow=7.9,SNR=4.9						
FINES	**FINESS Array B**	**75.32**	**334

PBA Port Blair 10.26 11 eP Pn 14 00 33.0 -1.2
BKNI Bangkinang 10.30 96 P Pn 14 00 37.5 +2.7
BKNI Bangkinang 10.30 96 ePn Pn 14 00 33.0 -1.8
KULM Kulim 10.52 69 ePn Pn 14 00 36.1 -1.7
IPM Ipoh 10.62 74 ePn Pn 14 00 37.6 -1.6
PALK Pallekele 11.58 300 Pn Pn 14 00 47.0 -5.5
2.5nm,0.3s,baz=296,slow=24,SNR=31
PALK Sn Sn 14 02 51.5 -10
8.3nm,0.3s,baz=116,slow=6.5,SNR=5.7
PALK Pallekele 11.58 300 ePn Pn 14 00 50.0 -2.5
PALK Sn Sn 14 02 51.5 -10
PALK Pallekele 11.58 300 Pn Pn 14 00 50.6 -1.9
SNR=15
PALK Pallekele 11.58 300 P Pn 14 00 50.6 -1.9
SNR=15
PALK Pallekele 11.58 300 i P Pn 14 00 50.6 -1.9
SNR=8.6
PALK Pallekele 11.58 300 eP Pn 14 00 50.0 -2.5
DGPR DIGLIPUR 11.78 10 eP Pn 14 00 54.8 -0.2
MASI Maura Aman, Be 12.33 112 P Pn 14 01 03.2 +0.6
MYKOM Kota Tinggi 13.04 89 ePn Pn 14 01 08.8 -3.6
MNAI Manna 13.47 116 ePn Pn 14 01 14.8 -3.4
MDSI Maura Dua 14.63 114 P Pn 14 01 36.3 +2.3
LWLI Liwa 14.74 116 P Pn 14 01 35.1 -0.6
COCO West Island 14.87 156 ePn Pn 14 01 34.1 -3.2
COCO West Island 14.87 156 i P Pn 14 01 39.3 +2.0
KASI Kota Agung 15.36 117 P Pn 14 01 44.7 +1.0
TRD Trivandrum 15.44 297 eP Pn 14 01 43.1 -1.7
MDRS Chennai 15.53 318 eP Pn 14 01 43.8 -2.2
MDRS IAmb IAmb 14 01 44.8
comp=Z,143nm,0.5s
PPBI Pangkal Pinang 15.76 103 P P 14 02 02.6 +10
SKHT Srikalahasti 16.38 318 eP Pn 14 01 56.5 -0.3
CGJI Cibinong 16.91 119 P Pn 14 02 02.3 -1.3
comp=Z,125nm,1.4s
VIS Vishakhapatnam 17.70 336 eP Pn 14 02 12.8 -0.7
VIS IAmb IAmb 14 02 23.0
comp=Z,769nm,1.5s
ADKI Addanki 17.80 324 eP Pn 14 02 14.0 -0.7
PVM Polavaram 18.06 331 eP Pn 14 02 17.5 -0.4
CHLP Challavanipeta 18.14 339 eP Pn 14 02 18.2 -0.6
CM01 Chiang Mai Arr 18.61 25 eP P 14 02 21.4 -2.8
CM31 Chiang Mai Arr 18.64 25 eP P 14 02 22.2 -2.3
CMAR Chiang Mai Arr 18.64 25 P P 14 02 23.8 -0.7
comp=Z,0.2nm,0.3s,baz=219,slow=13,SNR=27
SRLM Srisailam 18.66 322 eP P 14 02 24.9 +0.2
LEM Lembang 18.71 116 P P 14 02 24.9 -0.6
comp=Z,1.7nm,0.3s,baz=330,slow=6.5,SNR=6.9
NJS Nagarjunasagar 18.75 324 eP P 14 02 26.0 +0.2
URV Uravakonda 18.90 316 eP P 14 02 27.3 -0.1
MNCY Minicoy 18.93 291 eP P 14 02 27.7 0.0
CHTO Chiang Mai 18.95 24 eP P 14 02 27.1 -0.8
comp=Z,101nm,1.1s
CHTO Chiang Mai 18.95 24 Pn P 14 02 28.0 0.0
SNR=48
CHTO Chiang Mai 18.95 24 P P 14 02 28.0 0.0
SNR=48
CHTO Chiang Mai 18.95 24 eP P 14 02 27.1 -0.8
CHTO pmax pmax
comp=Z,101nm,1.1s
JCJI Jatiwangi 19.16 115 P Pn 14 02 40.6 +9.3
CISI Cisompet, Garu 19.21 118 P P 14 02 31.3 +0.4
comp=Z,185nm,1.2s
CISI Cisompet, Garu 19.21 118 eP P 14 02 30.0 -0.9
comp=Z,544nm,1.7s
KSM Kuching 19.50 90 eP P 14 02 33.0 -1.0
comp=Z,126nm,1.1s
CMJI Cimerak 19.87 118 P Pn 14 02 40.6 +0.8
comp=Z,193nm,1.6s
HYB Hyderabad 19.87 323 i P P 14 02 36.0 -2.1
HYB Hyderabad 19.87 323 eP P 14 02 37.6 -0.5
HYB IAmb IAmb 14 02 42.2
comp=Z,202nm,1.2s
HYBB Hyderabad (bro 19.88 323 eP P 14 02 38.1 0.0
KPJI Karang Pucung 20.10 116 P Pn 14 02 42.0 -0.5
comp=Z,126nm,0.9s
H08S2 Diego Garcia H 20.41 243 T T 14 23 43.6
baz=63,slow=75,SNR=49
H08S3 Diego Garcia H 20.41 243 T T 14 23 38.6
baz=63,slow=75,SNR=38
H08S1 Diego Garcia H 20.43 243 T T 14 23 44.8
baz=63,slow=75,SNR=35
RPR Rampur 20.61 328 eP P 14 02 46.5 +0.6
STKI Sintang 20.72 94 P P 14 02 48.2 +0.9
comp=Z,224nm,1.3s
SRSP Sriramsagar 21.18 326 eP P 14 02 52.3 0.0
PBKI Pangkalan Bun 21.27 101 P P 14 03 03.2 +10
SMRI Semarang 21.36 114 P P 14 02 58.9 +4.7
comp=Z,246nm,1.1s
SMRI Semarang 21.36 114 eP P 14 02 53.6 -0.6
comp=Z,344nm,1.1s
SBUM Sibu 21.42 87 eP P 14 02 53.7 -1.1
comp=Z,177nm,1.4s
KLRI Killari 21.57 321 eP P 14 02 56.4 -0.1
GOA Goa 21.76 311 eP P 14 02 57.5 -1.0
UGM Wanagama 21.78 116 P P 14 03 02.9 +4.2
comp=Z,220nm,1.4s
WOJI Wonogiri, Jawa 22.11 115 P P 14 03 04.8 +2.6
comp=Z,42nm,1.1s
PCJI Pacitan 22.48 116 P P 14 03 07.3 +1.1
comp=Z,211nm,1.4s,comp=Z,12µm
NGP Nagpur 22.64 330 eP P 14 03 06.8 -1.0
NGP IAmb IAmb 14 03 16.7
comp=Z,6µm,4.3s
BOK Bokaro 22.66 348 eP P 14 03 07.9 -0.1
BOK IAmb IAmb 14 03 19.1
comp=Z,184nm,1.3s
PWJI Pagerwojo 22.98 115 P P 14 03 12.7 +1.2
comp=Z,63nm,1.7s,comp=Z,14µm
POO Poona 23.72 317 eP P 14 03 18.2 -0.6
SHL Shillong 23.94 2 eP P 14 03 20.7 -0.3
SHL IAmb IAmb 14 03 30.0
comp=Z,58nm,1.2s
MTKI Muara Teweh, K 24.21 96 P P 14 03 24.2 +0.8
comp=Z,94nm,1.9s,comp=Z,11µm
GMJI Gumukmas 24.57 114 P P 14 03 33.8 +7.1
BHPL Bhopal 25.20 330 eP P 14 03 32.8 +0.4
BHPL IAmb IAmb 14 03 42.3
comp=Z,87nm,0.4s
QIZ Qiongzhong 25.51 46 P P 14 03 36.8 +1.6
QIZ S S 14 08 08.1 +6.9
QIZ pmax pmax
comp=Z,28nm,1.3s
KKM Kota Kinabalu 25.74 79 eP P 14 03 36.8 -0.6
comp=Z,211nm,1.5s
KBKI Kotabaru 25.80 101 P P 14 03 39.7 +1.9
comp=Z,54nm,1.2s
SRBI Singaraja 26.14 112 P P 14 03 41.2 +0.3
comp=Z,55nm,1.5s
KMI Kunming 26.15 25 P P 14 03 43.8 +2.7
KMI pmax pmax
comp=Z,24nm,1.1s
KMI LR LR
comp=Z,9µm,18.8s
KMI LR LR
comp=Z,11µm,18.6s
KMI LR LR
comp=Z,16µm,20.2s
PKIN Phulchoki 26.43 349 eP P 14 03 46.8 +3.1
DMN Daman 26.52 349 eP P 14 03 47.6 +3.1
KKN Kakani 26.66 349 eP P 14 03 47.9 +2.2
GUN Gumba 26.67 350 eP P 14 03 46.5 +0.6
comp=Z,299nm,1.3s
GKN Gorkha 27.00 348 eP P 14 03 49.1 +0.5
comp=Z,215nm,1.1s
KOLN Koldanda 27.01 346 eP P 14 03 49.7 +0.9
comp=Z,205nm,1.0s
PYUN Piuthan 27.48 345 eP P 14 03 53.8 +0.8
comp=Z,532nm,1.1s
DANN Dangsing 27.52 346 eP P 14 03 54.3 +0.8
MYLDM Lahad Datu 27.88 82 eP P 14 03 57.2 +0.6
comp=Z,106nm,1.0s
LSA Lhasa 28.04 1 P P 14 03 59.2 +0.9
LSA pmax pmax
comp=Z,14nm,0.8s
LSA Lhasa 28.04 1 eP P 14 03 58.8 +0.5
comp=Z,103nm,0.8s
LSA Lhasa 28.04 1 P P 14 03 59.2 +0.9
LSA Lhasa 28.04 1 eP P 14 03 58.8 +0.5
LSA pmax pmax
comp=Z,103nm,0.8s
MPSI Mapaga 29.11 92 P P 14 04 09.9 +2.4
comp=Z,18nm,1.3s
GYA Guiyang 29.11 30⇑ i P P 14 04 08.9 +1.4
GYA PP PnPn 14 05 02.6 +2.0
GYA PcP PcP 14 07 16.4 +1.2
GYA S S 14 09 00.2 +2.2
GYA SS SnSn 14 10 31.8 +8.3
GYA ScP ScP 14 10 56.5 +1.4
GYA pmax pmax
comp=Z,40nm,0.8s
GYA pmax pmax
comp=Z,140nm,5.8s
BNSI Bone 29.86 101 P P 14 04 15.5 +1.3
comp=Z,35nm,1.6s,comp=Z,14µm
DDI Dehra Dun 31.11 338 eP P 14 04 24.7 -0.3
MRSI Marisa 31.14 92 P P 14 04 33.5 +8.0
CD2 Chengdu 31.71 22 P P 14 04 30.6 +0.3
CD2 S S 14 09 42.6 +4.1
CD2 pmax pmax
comp=Z,40nm,0.4s
CD2 LR LR
comp=Z,35µm,21.9s
CD2 LR LR
comp=Z,45µm,20.9s
CD2 LR LR
comp=Z,24µm,16.9s
LUWI Luwuk 32.06 94 eP P 14 04 31.3 -2.3
comp=Z,66nm,1.1s
SMLA Simla 32.16 338 eP P 14 04 34.0 -0.2
SMLA IAmb IAmb 14 04 38.5
comp=Z,39nm,0.7s
DHRM DHARAMSHALA 33.49 337 eP P 14 04 45.5 -0.7
DHRM IAmb IAmb 14 04 54.8
comp=Z,104nm,0.4s
ENH Enshi 33.65 30 eP P 14 04 46.6 -0.7
comp=Z,55nm,1.0s
BATI Baumata 34.71 110 P P 14 04 53.2 -3.5
comp=Z,50nm,1.0s,baz=297,slow=4.5,SNR=4.6
BATI Baumata 34.71 110 P P 14 05 02.9 +6.1
SOEI Soe 35.15 109 P P 14 05 04.0 +3.4
comp=Z,48nm,1.1s
NIL Nilore 35.95 335 eP P 14 05 07.2 0.0
comp=Z,284nm,0.8s
NIL Nilore 35.95 335 eP P 14 05 07.2 0.0
NIL pmax pmax
comp=Z,284nm,0.8s
LZH Lanzhou 36.46 18 eP P 14 05 11.9 +0.2
LZH pP pP 14 05 16.1 -3.8
LZH sP sP 14 05 18.5 -4.7
LZH PP PP 14 06 36.5 +1.5
LZH pmax pmax
comp=Z,59nm,1.3s
LZH pmax pmax
comp=Z,180nm,5.0s
LZH LR LR
comp=Z,2µm,14.0s
LZH LR LR
comp=Z,2µm,14.3s
LZH LR LR
comp=Z,2µm,17.6s
XAN Xi'an 36.53 26 P P 14 05 10.9 -1.2
XAN pP pP 14 05 15.3 -5.0
XAN sP sP 14 05 18.6 -5.1
XAN pmax pmax
comp=Z,15nm,1.4s
WSAR Wadi Sarin 37.95 307 P P 14 05 25.4 +1.1
comp=Z,15nm,0.8s,baz=155,slow=9.9,SNR=11
BIDO Bidbid 38.49 307 pP P 14 05 32.0 +3.1
SNR=8.9
BIDO Bidbid 38.49 307 P P 14 05 32.0 +3.1
SNR=8.9
GTA Gaotai 38.61 11 eP P 14 05 30.7 +1.0
GTA pP pP 14 05 35.0 -3.0
GTA sP sP 14 05 38.0 -3.3
GTA S S 14 11 27.2 +2.7
GTA sS pS 14 11 36.0 +2.0
GTA SS SnSn 14 14 08.2 -5.2
GTA pmax pmax
comp=Z,15nm,1.0s
GTA LR LR
comp=Z,7µm,17.6s
GTA LR LR
comp=Z,5µm,20.2s
GTA LR LR
comp=Z,13µm,20.9s
KBL Kabul 38.63 331 eP P 14 05 30.1 0.0
comp=Z,40nm,0.9s
KBL Kabul 38.63 331 eP P 14 05 30.1 0.0
KBL pmax pmax
comp=Z,40nm,0.9s
MEEK Meekatharra 38.76 138 P P 14 05 31.4 +0.3
baz=39,SNR=16
MORW Morawa 38.84 143 P P 14 05 32.9 +1.2
baz=39,SNR=5.8
FITZ Fitzroy Crossi 39.43 121 P P 14 05 35.2 -1.6
comp=Z,18nm,0.9s,baz=270,slow=20
FITZ Fitzroy Crossi 39.43 121 P P 14 05 35.9 -0.9
baz=40,SNR=11
FITZ Fitzroy Crossi 39.43 121 eP P 14 05 35.8 -0.9
comp=Z,40nm,1.2s
SOHO SOHO 40.06 307 i P P 14 05 43.1 +1.2
SNR=13
KSH Kashi 40.17 342 P P 14 05 40.5 -2.3
KSH sP pP 14 05 48.9 -2.2
KSH PP PnPn 14 07 21.1 +1.9
KSH PcP PcP 14 07 44.6 -2.2
KSH S S 14 11 44.8 -3.2
KSH pmax pmax
comp=Z,57nm,0.8s
KSH LR LR
comp=Z,6µm,13.8s
KSH LR LR
comp=Z,4µm,13.1s
KSH LR LR
comp=Z,9µm,12.8s
NJ2 Nanjing 40.27 38 eP P 14 05 44.1 +0.6
NJ2 pmax pmax
comp=Z,19nm,0.5s
BLDU Ballidu 40.36 144 P P 14 05 44.6 +0.3
baz=40,SNR=4.6
SIJI Sorong 40.52 93 P P 14 05 43.4 -2.6
comp=Z,3.4nm,0.6s,baz=309,slow=10,SNR=7.3
ALNE Al Ain 40.65 306 i P P 14 05 48.3 +1.4
SNR=9.0
ASHO Ashiyiah 40.70 307 P P 14 05 48.6 +1.2
HATD Hatta, Dubai 40.72 308 pP P 14 05 51.0 +3.6
SNR=7.4
HATD Hatta, Dubai 40.72 308 P P 14 05 51.0 +3.6
SNR=7.4
HATD Hatta, Dubai 40.72 308 P P 14 05 48.8 +1.4
UOSS Minazif 40.72 308 P P 14 05 47.8 +0.4
MUN Mundaring 41.10 146 P P 14 05 51.1 +0.7
baz=41,SNR=3.9
SFK Sufi-Kurgan 41.43 340 P P 14 05 53.4 +0.1
SFK pmax pmax
comp=Z,121nm,1.1s
AJN Ajban 41.50 306 i P P 14 05 54.6 +0.8
SNR=7.2
KLBR Kellerberrin 41.69 144 P P 14 05 55.9 +0.6
baz=42,SNR=5.3
WMQ Urumqi 42.22 357 P P 14 06 01.2 +1.7
WMQ pP pP 14 06 02.5 -5.3
WMQ sP sP 14 06 08.0 -3.1
WMQ PP PP 14 07 41.8 +4.2
WMQ pmax pmax
comp=Z,32nm,1.3s
WMQ LR LR
comp=Z,25µm,20.3s
WMQ LR LR
comp=Z,36µm,26.3s
H01W3 Cape Leeuwin H 42.29 151 T T 14 51 55.3
baz=46,slow=74,SNR=37
H01W2 Cape Leeuwin H 42.30 151 T T 14 51 28.3
baz=328,slow=74,SNR=21
H01W1 Cape Leeuwin H 42.31 151 T T 14 51 05.2
SNR=24
NWAO Narrogin (SRO) 42.38 146 P P 14 06 00.1 -0.8
comp=Z,24nm,0.7s,baz=180,slow=8.3,SNR=16
NWAO Narrogin (SRO) 42.38 146 P P 14 06 01.0 +0.1
baz=42,SNR=13
NWAO P P 14 06 01.0 +0.1
baz=42,SNR=13
MTN Manton Dam 42.48 111 P P 14 06 00.1 -1.8
baz=43,SNR=4.1
ULHL Ulahol 42.61 344 P P 14 06 11.0 +8.1
SNR=6.3
KZA Kyzart 42.74 343 P P 14 06 04.8 +0.6
SNR=15
UZB Uzynbulak 42.77 347 eP P 14 06 04.2 +0.1
comp=Z,159nm,1.4s
SATY Saty 42.83 347⇓ i P P 14 06 05.1 +0.6
comp=Z,462nm,1.7s
PDGK Podgornoye 42.84 348 P P 14 06 04.3 -0.4
PDGK pmax pmax
comp=Z,89nm,1.2s
UCH Uchtor 43.10 342 P P 14 06 07.2 0.0
SNR=23
KPKS Kokpek 43.15 347⇓ i P P 14 06 07.3 +0.2
comp=Z,225nm,1.2s
MDOK Medeo 43.25 345 i P P 14 06 08.6 +0.5
comp=Z,270nm,1.7s
AML Almayashu 43.27 341 P P 14 06 08.5 +0.1
SNR=27
KBK Karagaybulak 43.36 343 P P 14 06 11.7 +2.8
SNR=13
TKM2 Tokmak 2 43.42 344 P P 14 06 09.6 +0.2
SNR=26
TKM2 Tokmak 2 43.42 344 P P 14 06 09.0 -0.4
TKM2 pmax pmax
comp=Z,60nm,1.3s
HHC Hu-ho-hao-te 43.43 23 eP P 14 06 10.9 +1.5
HHC S S 14 12 32.9 -3.3
HHC pmax pmax
comp=Z,42nm,1.1s
HHC pmax pmax
comp=Z,95nm,6.4s
HHC LR LR
comp=Z,6µm,14.9s
HHC LR LR
comp=Z,4µm,15.2s
HHC LR LR
comp=Z,5µm,15.6s
AAK Ala-Archa 43.48 342 P P 14 06 09.7 -0.2
comp=Z,8.8nm,1.0s,baz=165,slow=8.7,SNR=11
AAK Ala-Archa 43.48 342 P P 14 06 10.6 +0.8
SNR=13
AAK Ala-Archa 43.48 342 P P 14 06 11.0 +1.1
SNR=16
AAK Ala-Archa 43.48 342 P P 14 06 11.0 +1.1
SNR=18
AAK Ala-Archa 43.48 342 i P P 14 06 11.4 +1.6
SNR=14
BMNS Besmoynak 43.57 344⇓ i P P 14 06 11.0 +0.5
comp=Z,352nm,1.7s
FRU Bishkek 43.62 343 eP P 14 06 12.0 +1.2
EKS2 Erkin-Say 43.72 342 P P 14 06 12.7 +0.9
SNR=17
MNAS Manas 43.97 340 P P 14 06 13.8 0.0
MNAS pmax pmax
comp=Z,59nm,1.4s
KMBL Kambalda 44.04 141 P P 14 06 14.6 +0.2
baz=44,SNR=4.5
KUU Kurty 44.12 345⇓ eP P 14 06 14.6 -0.2
comp=Z,190nm,1.7s
KUU eS S 14 12 45.0 -0.9
IUG Iuzhnay 44.55 338 eP P 14 06 19.4 +1.0
comp=Z,335nm,1.2s
BJT Baijiatuao 44.72 28 eP P 14 06 19.3 -0.4
comp=Z,54nm,1.1s
BJT Baijiatuao 44.72 28 eP P 14 06 19.3 -0.4
BJT pmax pmax
comp=Z,54nm,1.1s
BJI Beijing 44.74 28 eP P 14 06 21.4 +1.6
BJI pmax pmax
comp=Z,37nm,1.4s
WRKA Warakurna 44.89 129 P P 14 06 20.9 -0.3
baz=45,SNR=4.1
KK06 Karatay Array 45.19 339 eP P 14 06 23.1 -0.3
KK07 Karatay Array 45.20 339 eP P 14 06 23.2 -0.3
KK02 Karatay Array 45.21 339 eP P 14 06 23.2 -0.3
KK31 Karatay Array 45.21 339 eP P 14 06 23.2 -0.3
KK31 Karatay Array 45.21 339 eP P 14 06 23.2 -0.3
KKAR Karatay Array 45.21 339 eP P 14 06 23.1 -0.4
KKAR Karatay Array 45.21 339 eP P 14 06 23.1 -0.4
KK03 Karatay Array 45.21 339 eP P 14 06 23.5 0.0
KK01 Karatay Array 45.21 339 eP P 14 06 23.5 0.0
KK04 Karatay Array 45.22 339 eP P 14 06 23.5 0.0
KK05 Karatay Array 45.22 339 eP P 14 06 23.2 -0.3
KK08 Karatay Array 45.22 339 eP P 14 06 23.7 +0.1
MK01 Makanchi Array 45.68 352 eP P 14 06 25.6 -1.7
MK31 Makanchi Array 45.71 352 eP P 14 06 26.1 -1.3
MK31 Makanchi Array 45.71 352 eP P 14 06 26.1 -1.3
MKAR Makanchi Array 45.71 352 P P 14 06 26.7 -0.7
comp=Z,5.8nm,0.8s,baz=169,slow=9.1,SNR=29
MKAR Makanchi Array 45.71 352 eP P 14 06 26.2 -1.2
comp=Z,164nm,0.9s
MKAR Makanchi Array 45.71 352 eP P 14 06 26.2 -1.2
comp=Z,164nm,0.9s
MKAR pmax pmax
comp=Z,164nm,0.9s
MAKZ Makanchi 45.77 352 eP P 14 06 27.1 -0.8
comp=Z,42nm,1.1s
MAKZ Makanchi 45.77 352 eP P 14 06 27.1 -0.8
MAKZ pmax pmax
comp=Z,42nm,1.1s
BTLS Baital 45.80 343⇓ i P P 14 06 28.3 +0.1
comp=Z,86nm,1.2s
ZSN Zaisan 46.05 354⇓ i P P 14 06 30.9 +0.8
comp=Z,83nm,1.2s
ZSN eS S 14 13 14.2 +0.4
GYB1 ALIBECK ARRAY 47.04 324 eP P 14 06 38.4 +0.4
comp=Z,53nm,0.8s
GYA1 ALIBECK ARRAY 47.05 324 eP P 14 06 38.5 +0.4
comp=Z,47nm,0.8s
GYB2 ALIBECK ARRAY 47.05 324 eP P 14 06 38.7 +0.6
comp=Z,54nm,0.8s
GYB5 ALIBECK ARRAY 47.05 324 eP P 14 06 38.1 -0.1
comp=Z,48nm,0.8s
GEYT Alibeck 47.05 324 P P 14 06 38.9 +0.7
comp=Z,19nm,0.7s,baz=157,slow=9.2,SNR=36
GYA0 ALIBECK ARRAY 47.05 324 eP P 14 06 38.7 +0.5
comp=Z,50nm,0.8s
GYA0B ALIBECK ARRAY 47.05 324 eP P 14 06 38.7 +0.6
comp=Z,50nm,0.8s
GYA2 ALIBECK ARRAY 47.05 324 eP P 14 06 38.4 +0.2
comp=Z,57nm,0.8s
GYB3 ALIBECK ARRAY 47.06 324 eP P 14 06 38.5 +0.3
comp=Z,47nm,0.8s
GYB4 ALIBECK ARRAY 47.07 324 eP P 14 06 38.8 +0.6
comp=Z,51nm,0.8s
OPO Ambohidratompo 47.30 243 P P 14 06 40.8 +0.3
comp=Z,5.8nm,0.9s,baz=58,slow=5.6,SNR=6.2
DAMY Dhamar 47.63 288 eP P 14 06 45.3 +2.0
comp=Z,118nm,1.5s
WRA Warramunga Arr 47.71 119 P P 14 06 42.3 -1.2
comp=Z,19nm,0.9s,baz=296,slow=8.4,SNR=37
WRAB Tennant Creek 47.71 119 eP P 14 06 42.6 -0.9
comp=Z,47nm,1.1s
WRAB Tennant Creek 47.71 119 eP P 14 06 42.6 -0.9
WRAB pmax pmax
comp=Z,47nm,1.1s
WB2 Warramunga Arr 47.72 119 eP P 14 06 42.1 -1.5
SONM Songino Array 48.08 14 P P 14 06 46.3 +0.2
comp=Z,38nm,0.9s,baz=195,slow=9.2,SNR=59
SONA1 Songino Array 48.09 14 eP P 14 06 46.2 0.0
ULN Ulaanbaatar 48.27 15 eP P 14 06 47.8 +0.2
comp=Z,39nm,0.9s
ULN Ulaanbaatar 48.27 15 P P 14 06 48.6 +1.0
SNR=24
ULN Ulaanbaatar 48.27 15 P P 14 06 48.6 +1.0
SNR=24
ULN Ulaanbaatar 48.27 15 ceP P 14 06 48.5 +1.0
ULN pmax pmax
comp=Z,24nm,1.2s
ATD Arta Tunnel 48.60 284 P P 14 06 50.4 -0.1
comp=Z,12nm,0.7s,baz=107,slow=19,SNR=3.3
ASAR Alice Springs 48.79 124 P P 14 06 51.0 -0.8
comp=Z,2.8nm,0.8s,baz=297,slow=7.4,SNR=19
ASAR PcP PcP 14 08 16.3 -0.2
comp=Z,5.7nm,1.0s,baz=300,slow=3.5,SNR=7.7
AS31 Alice Springs 48.79 124 eP P 14 06 50.9 -0.9
comp=Z,2.3nm,1.0s
AS01 Alice Springs 48.83 124 eP P 14 06 49.8 -2.4
RAYN Ar Rayn 49.02 300 eP P 14 06 53.5 -0.1
comp=Z,38nm,1.0s
OTUK Ortayu 49.21 344 P P 14 06 54.0 -0.6
OTUK pmax pmax
comp=Z,102nm,1.3s
KSAR Wonju Array Be 49.41 39 P P 14 06 56.8 +0.5
KSAR Wonju Array Be 49.41 39 P P 14 06 56.8 +0.5
KS01 Wonju Array Si 49.44 39 eP P 14 06 55.9 -0.6
KSRS Korea Array 49.44 39 P P 14 06 56.8 +0.3
comp=Z,5.2nm,1.1s,baz=228,slow=8.0,SNR=11
HVS Khovu-Aksy 49.51 2 i P P 14 06 56.8 -0.1
HVS pmax pmax
comp=Z,39nm,0.7s
SEM Semipalatinsk 49.54 351 eP P 14 06 57.1 -0.2

comp=Z,121nm,1.7s
ZAK Zakamensk 49.83 10 *e*P **P 14 06 59.7 +0.3**
ZAK pmax pmax
comp=Z,20nm,1.3s
KURBB Kurchatov Arra 50.03 350 P **P 14 07 00.2 -0.6**
comp=Z,8.5nm,0.8s,baz=173,slow=7.3,SNR=33
JAY Jayapura 50.05 95 P **P 14 07 01.2 -0.4**
comp=Z,112nm,1.2s
KURK Kurchatov 50.10 350 *e*P **P 14 07 00.5 -0.8**
comp=Z,73nm,1.1s
KURK Kurchatov 50.10 350 P **P 14 07 02.4 +1.1**
SNR=29
KURK Kurchatov 50.10 350 P **P 14 07 02.4 +1.1**
SNR=29
KURK Kurchatov 50.10 350 *ce*P **P 14 07 00.3 -1.0**
KURK pmax pmax
comp=Z,149nm,1.7s
MOY Mondy 50.71 8 *e*P **P 14 07 07.8 +1.8**
MOY pmax pmax
comp=Z,41nm,2.0s
TLY Talaya 51.15 10 *e*P **P 14 07 09.3 +0.1**
comp=Z,19nm,0.9s
TLY Talaya 51.15 10 pP P 14 07 18.2 +9.0
SNR=9.2
TLY Talaya 51.15 10 *e*P **P 14 07 11.4 +2.2**
TLY pmax pmax
comp=Z,31nm,1.3s
IRK Irkutsk 51.80 10 *e*P **P 14 07 14.5 +0.4**
IRK pmax pmax
comp=Z,65nm,2.0s
CN2 Changchun 52.15 31 *e*P **P 14 07 17.0 +0.2**
CN2 pmax pmax
comp=Z,10.0nm,1.0s
ZAA0 Zalesovo Array 52.50 356 *e*P **P 14 07 17.5 -1.7**
comp=Z,60nm,1.1s
ZALV Zalesovo Beam 52.50 356 P **P 14 07 18.1 -1.1**
comp=Z,13nm,0.8s,baz=182,slow=7.7,SNR=21
ZALV Zalesovo Beam 52.50 356 *e*P **P 14 07 17.6 -1.5**
ZALV Zalesovo Beam 52.50 356 *e*P **P 14 07 17.7 -1.5**
QIS Mount Isa 52.56 117 P **P 14 07 19.6 -0.7**
baz=53,SNR=6.1
NVS Novosibirsk 53.52 355 *e*P **P 14 07 25.1 -1.6**
NVS *e* 14 09 33.9
NVS *e*S **S 14 14 53.6 -4.2**
NVS pmax pmax
comp=Z,51nm,1.0s
NVS pmax pmax
comp=N,31nm,1.2s
NVS pmax pmax
comp=E,16nm,1.2s
NVS pmax pmax
comp=Z,16nm,1.6s
NVS smax smax
comp=E,17nm,1.8s
KMBO Kilima Mbogo 53.61 268 P **P 14 07 29.1 +0.6**
comp=E,3.5nm,0.8s,baz=57,slow=11,SNR=9.1
KMBO Kilima Mbogo 53.61 268 *e*P **P 14 07 29.1 +0.6**
comp=E,9.5nm,0.8s
KMBO Kilima Mbogo 53.61 268 pP **P 14 07 30.4 +1.9**
SNR=5.4
KMBO Kilima Mbogo 53.61 268 P **P 14 07 30.4 +1.9**
SNR=5.4
KMBO Kilima Mbogo 53.61 268 *i*P **P 14 07 29.8 +1.3**
SNR=5.8
KMBO Kilima Mbogo 53.61 268 *e*P **P 14 07 29.1 +0.6**
KMBO pmax pmax
comp=Z,10.0nm,0.8s
HIA Hailar 53.64 23 *e*P **P 14 07 28.1 +0.4**
comp=Z,30nm,1.0s
HIA Hailar 53.64 23 *i*P **P 14 07 28.6 +0.8**
HIA pmax pmax
comp=Z,17nm,1.2s
BVA0 Borovoye Array 54.07 345 *i*P **P 14 07 29.2 -1.6**
BVA0 pmax pmax
comp=Z,21nm,1.0s
BVAR Borovoye Array 54.07 345 P **P 14 07 29.6 -1.2**
comp=Z,3.1nm,0.7s,baz=152,slow=8.5,SNR=18
BRVK Borovoye 54.13 345 *e*P **P 14 07 30.1 -1.1**
comp=Z,20nm,1.0s
BRVK Borovoye 54.13 345 pP P 14 07 38.4 +7.2
SNR=6.1
BRVK Borovoye 54.13 345 *ce*P **P 14 07 29.8 -1.4**
BRVK pmax pmax
comp=Z,22nm,1.2s
KRAR Krasnoyarsk 54.36 1 *i*P **P 14 07 34.1 +1.3**
AB07 Akbulak array 54.39 336 *e*P **P 14 07 32.4 -0.8**
AB06 Akbulak array 54.40 336 *e*P **P 14 07 32.4 -0.9**
AB08 Akbulak array 54.40 336 *e*P **P 14 07 32.5 -0.8**
AB03 Akbulak array 54.40 336 *e*P **P 14 07 32.7 -0.6**
AB01 Akbulak array 54.41 336 *e*P **P 14 07 32.5 -0.9**
AB31 Akbulak array 54.41 336 *e*P **P 14 07 32.5 -0.8**
AB31 Akbulak array 54.41 336 *e*P **P 14 07 32.5 -0.8**
ABKAR Akbulak array 54.41 336 *e*P **P 14 07 32.6 -0.7**
comp=Z,628nm,1.4s
AB02 Akbulak array 54.41 336 *e*P **P 14 07 32.5 -0.8**
AB04 Akbulak array 54.41 336 *e*P **P 14 07 32.3 -1.0**
AB05 Akbulak array 54.42 336 *e*P **P 14 07 32.6 -0.9**
AB09 Akbulak array 54.42 336 *e*P **P 14 07 32.7 -0.8**
MDJ Mudanjiang 54.91 33 P **P 14 07 38.0 +0.9**
comp=Z,86nm,1.6s
MJAR Matsushiro Arr 55.91 46 P **P 14 07 44.6 +0.1**
comp=Z,2.3nm,0.8s,baz=193,slow=17,SNR=4.5
USRK Ussuriysk Ar. 55.99 35 P **P 14 07 45.0 +0.2**
comp=Z,3.5nm,0.9s,baz=232,slow=2.2,SNR=4.6
AKTO Aktyubinsk 56.11 335 P **P 14 07 44.9 -0.8**
comp=Z,4.0nm,0.7s,baz=120,slow=5.1,SNR=12
MTSU Mount Surprise 56.14 113 P **P 14 07 46.6 +0.2**
baz=56,SNR=3.7
GNI Garni 56.74 319 P **P 14 07 51.7 +1.2**
comp=Z,8.9nm,0.8s,baz=183,slow=2.2,SNR=11
GNI Garni 56.74 319 *e*P **P 14 07 50.4 -0.1**
comp=Z,81nm,1.2s
GNI Garni 56.74 319 pP **P 14 07 53.0 +2.5**
SNR=15
GNI Garni 56.74 319 P **P 14 07 53.0 +2.5**
SNR=15
GNI Garni 56.74 319 *ce*P **P 14 07 51.4 +0.9**
GNI pmax pmax
comp=Z,141nm,1.7s
HTT Hallett 57.06 132 P **P 14 07 52.4 -0.3**
baz=57,SNR=7.2
PMG Port Moresby 57.16 102 P **P 14 07 52.7 -1.0**
comp=Z,26nm,1.0s,baz=346,slow=4.5,SNR=4.5
PMG Port Moresby 57.16 102 *e*P **P 14 07 52.5 -1.2**
comp=Z,54nm,1.4s
PMG Port Moresby 57.16 102 *ce*P **P 14 07 53.1 -0.6**
PMG pmax pmax
comp=Z,167nm,1.2s
TBLG Delisi 57.55 320 *e*P **P 14 07 56.5 +0.4**
comp=Z,124nm,1.2s
TBLG Delisi 57.55 320 *e*P **P 14 07 56.5 +0.4**
TBLG pmax pmax
comp=Z,125nm,1.2s
GROC Groznyy 57.68 322 *e*P **P 14 07 57.4 +0.5**
GROC *e* 14 08 50.1
GROC *e* 14 10 06.1
GROC pmax pmax
comp=Z,112nm,1.2s
AKH Akhalkalaki 58.19 319 *e*P **P 14 08 00.7 0.0**
comp=Z,50nm,1.2s
AKH Akhalkalaki 58.19 319 *e*P **P 14 08 00.7 0.0**
AKH pmax pmax
comp=Z,50nm,1.2s
CTA Charters Tower 58.40 115 P **P 14 08 02.7 +0.3**
comp=Z,18nm,0.9s,baz=282,slow=11,SNR=8.2
STKA Stephens Creek 58.41 129 P **P 14 08 01.9 -0.3**
comp=Z,18nm,0.9s,baz=303,slow=7.1,SNR=31
STKA LR LR 14 30 13.6
comp=Z,11μm,21.6s,baz=311,slow=33
STKA Stephens Creek 58.41 129 P **P 14 08 01.9 -0.3**
baz=58,SNR=7.4
STKA Stephens Creek 58.41 129 *e*P **P 14 08 01.4 -0.8**
comp=Z,6.5nm,1.0s
STKA Stephens Creek 58.41 129 *e*P **P 14 08 01.4 -0.8**
STKA pmax pmax
comp=Z,7.0nm,1.0s
QLP Quilpie 58.55 123 P **P 14 08 03.8 +0.5**
baz=59,SNR=5.4
ZEI Tsey 58.63 321 *e*P **P 14 08 03.7 -0.1**
ZEI pmax pmax
comp=Z,25nm,0.9s
KLR Kul'dur 59.02 30 P **P 14 08 05.8 -0.3**
comp=Z,0.6nm,1.0s,baz=270,slow=8.0
KLR Kul'dur 59.02 30⇑ *e*P **P 14 08 04.2 -1.9**
BOD Bodaibo 59.08 14 *e*P **P 14 08 05.8 -0.5**
BOD pmax pmax
comp=Z,70nm,1.3s
NCK Nalchik 59.19 322 *e*P **P 14 08 08.0 +0.5**
NCK pmax pmax
comp=Z,22nm,1.3s
NEY Neytrino 59.61 321 *i*P **P 14 08 11.5 +0.9**
NEY pmax pmax
comp=Z,12nm,2.2s
KBZ Khabaz 59.75 321 P **P 14 08 11.3 +0.1**
comp=Z,7.4nm,0.8s,baz=118,slow=6.3,SNR=18
KIV Kislovodsk 59.99 322 *e*P **P 14 08 12.9 -0.2**
comp=Z,136nm,1.2s
KIV Kislovodsk 59.99 322 P **P 14 08 14.0 +0.9**
SNR=32
KIV Kislovodsk 59.99 322 P **P 14 08 14.0 +0.9**
SNR=32
KIV Kislovodsk 59.99 322 *i*P **P 14 08 14.1 +0.9**
SNR=11
KIV Kislovodsk 59.99 322 *e*P **P 14 08 13.4 +0.3**
KIV pmax pmax
comp=Z,99nm,1.0s
ZEA Zeya 60.08 24 *e*P **P 14 08 13.0 -0.3**
ZEA pmax pmax
comp=Z,22nm,0.9s
MBAR Mbarara 60.10 268 P **P 14 08 14.2 -0.2**
comp=Z,4.3nm,0.2s,baz=79,slow=6.0,SNR=12
MBAR Mbarara 60.10 268 *e*P **P 14 08 13.6 -0.9**
comp=Z,24nm,1.2s
MBAR Mbarara 60.10 268 *e*P **P 14 08 13.6 -0.9**
MBAR pmax pmax
comp=Z,24nm,1.2s
SVE Sverdlovsk 60.20 341⇑ *e*P P 14 08 21.3 +7.2
SVE pmax pmax
comp=Z,50nm,1.1s
GOF Gofitskoye 60.35 323⇑ *e*P P 14 08 22.4 +7.0
GOF pmax pmax
comp=Z,71nm,1.3s
ARU Arti 60.56 340 *e*P **P 14 08 15.9 -0.7**
comp=Z,21nm,1.0s
ARU Arti 60.56 340 *d i*P **P 14 08 15.7 -0.9**
ARU 14 10 25.1
ARU S **S 14 16 29.9 -0.7**
ARU pmax pmax
comp=Z,17nm,1.6s
CMSA Cobar Meteorol 61.49 127 P **P 14 08 23.6 +0.2**
baz=62,SNR=22
CLNS Chul'man 61.52 21 *e*P **P 14 08 23.7 +0.6**
CLNS pmax pmax
comp=Z,30nm,1.1s
CLNS pmax pmax
comp=N,20nm,1.3s
CLNS pmax pmax
comp=E,18nm,1.1s
GRNR Gornyy 62.34 31 *i*P **P 14 08 29.1 +0.4**
RMQ Roma 62.37 121 P **P 14 08 30.9 +1.5**
baz=62,SNR=8.1
TOO Toolangi 63.69 134 P **P 14 08 39.0 +1.0**
baz=64,SNR=4.7
YSS Yuzh-Sakhalins 63.82 37 *e*P **P 14 08 38.3 -0.3**
YSS *e* 14 09 18.0
YSS pmax pmax
comp=Z,10.0nm,1.3s
EIDS Eidsvold 64.07 119 P **P 14 08 41.2 +0.5**
baz=64,SNR=3.4
LSZ Lusaka 64.10 252 P **P 14 08 42.0 +0.8**
comp=Z,5.7nm,0.9s,baz=66,slow=12,SNR=9.4
LSZ Lusaka 64.10 252 *e*P **P 14 08 40.7 -0.5**
comp=Z,17nm,1.1s
LSZ Lusaka 64.10 252 P **P 14 08 42.4 +1.2**
SNR=5.5
LSZ Lusaka 64.10 252 P **P 14 08 42.4 +1.2**
SNR=5.5
LSZ Lusaka 64.10 252 *e*P **P 14 08 40.7 -0.5**
LSZ pmax pmax
comp=Z,17nm,1.1s
BR131 Keskin Array S 64.23 314 *e*P **P 14 08 40.9 -0.8**
BRTR Keskin Array B 64.23 314 P **P 14 08 41.4 -0.3**
comp=Z,4.4nm,0.7s,baz=133,slow=6.5,SNR=22
VRH Novokhopyorsk 64.39 328 *e*P **P 14 08 41.6 -0.6**
VRH pmax pmax
comp=Z,20nm,0.6s
ILGA Ilgaz 64.67 315 *e*P **P 14 08 42.7 -1.9**
comp=Z,101nm,1.4s
ANTO Ankara 64.89 314 *e*P **P 14 08 46.1 +0.2**
comp=Z,246nm,1.3s
ANTO Ankara 64.89 314 P **P 14 08 46.4 +0.4**
SNR=11
ANTO Ankara 64.89 314 P **P 14 08 46.4 +0.4**
SNR=11
ANTO Ankara 64.89 314 *e*P **P 14 08 46.1 +0.2**
ANTO pmax pmax
comp=Z,246nm,1.3s
VSR Storozhevoye 65.76 327 *e*P **P 14 08 49.9 -1.3**
VSR pmax pmax
comp=Z,10.0nm,0.8s
SIM Simferopol' 65.90 319 *e*P **P 14 08 54.0 +1.8**
SIM pmax pmax
comp=Z,27nm,1.2s
ARMA Armidale 65.93 124 P **P 14 08 54.4 +1.5**
baz=66,SNR=4.4
VORR Voronezh 65.97 328 P **P 14 08 54.0 +1.5**
LPSR Galich'ya Gora 66.60 328 *e*P **P 14 08 55.9 -0.6**
LPSR pmax pmax
comp=Z,30nm,0.8s
YAK Yakutsk 67.04 19 P **P 14 08 57.5 -1.7**
comp=Z,5.7nm,0.4s,baz=206,slow=3.2,SNR=12
YAK Yakutsk 67.04 19 *e*P **P 14 08 58.3 -0.9**
comp=Z,122nm,1.1s
YAK Yakutsk 67.04 19 *e*P **P 14 08 57.1 -2.1**
YAK pmax pmax
comp=Z,40nm,1.1s
YAK pmax pmax
comp=N,10.0nm,1.2s
YAK pmax pmax
comp=E,16nm,1.2s
LBTB Lobatse 68.33 242 *e*P **P 14 09 07.4 -0.8**
comp=E,32nm,0.9s
LBTB Lobatse 68.33 242 *e*P **P 14 09 07.4 -0.8**
LBTB pmax pmax
comp=Z,32nm,0.9s
MOS Moscow 68.87 331 *e*P **P 14 09 08.6 -2.2**
MOS *i* 14 09 17.3
MOS *e*S **S 14 18 09.0 -4.1**
OBN Obninsk 69.08 330⇑ *e*P **P 14 09 12.6 +0.5**
OBN *e* 14 09 19.5
OBN *e* 14 09 31.4
OBN *e* 14 11 49.1
OBN *e*PPP PPP 14 13 22.8
OBN pmax pmax
comp=Z,51nm,1.7s
BOSA Boshof 69.43 239 P **P 14 09 15.0 0.0**
comp=Z,5.5nm,0.7s,baz=67,slow=4.5,SNR=9.7
TIRR Tirgusor 69.51 317⇑ *i*P **P 14 09 15.4 +0.4**
TIRR Tirgusor 69.51 317 *e*P **P 14 09 14.6 -0.4**
comp=Z,40nm,1.1s
TIRR Tirgusor 69.51 317 *e*P **P 14 09 14.6 -0.4**
TIRR pmax pmax
comp=Z,40nm,1.1s
IDI Anoyia 69.59 307 P **P 14 09 15.7 -0.1**
comp=Z,12nm,0.6s,baz=106,slow=7.7,SNR=14
IDI Anoyia 69.59 307⇓ *i*P **P 14 09 16.4 +0.6**
IDI Anoyia 69.59 307 *e*P **P 14 09 15.9 +0.1**
comp=Z,92nm,1.2s
TLB Topalu 69.80 317⇑ *i*P **P 14 09 17.4 +0.6**
CFR Carcaliu 69.93 318⇓ *i*P **P 14 09 17.7 +0.1**
KIS Kishinev 70.09 320 *e*P **P 14 09 20.0 +1.5**
KIS Kishinev 70.09 320 *e*P **P 14 09 20.0 +1.5**
KIS *e* 14 09 25.0
SORM Soroca 70.78 321⇓ *i*P **P 14 09 22.8 +0.1**
KLMR Klimovskoe 70.80 336 *e*P **P 14 09 20.9 -1.6**
KLMR AMP 14 09 31.4
comp=Z,92nm,1.2s
KLMR *e*PP **PP 14 11 58.4 -1.2**
KLMR Klimovskoe 70.80 336 *e*P **P 14 09 20.8 -1.7**
KLMR *e* 14 11 58.3
KLMR pmax pmax
comp=Z,92nm,1.2s
ODBI Odobesti 70.84 318⇑ *i*P P 14 09 30.3 +7.2
ISR Istrita 70.98 318⇑ *i*P P 14 09 34.0 +10
VRI Vrincioaia 71.09 318⇓ *i*P **P 14 09 26.1 +1.4**
PLOR Plostina 71.14 318⇓ *i*P **P 14 09 26.4 +1.4**
AKASG Malin Array Be 71.17 324 P **P 14 09 24.2 -0.8**
comp=Z,4.6nm,0.8s,baz=96,slow=4.7,SNR=19
AKBB Malin Array Si 71.17 324 *e*P **P 14 09 24.0 -1.0**
comp=Z,24nm,1.2s
AKBB Malin Array Si 71.17 324 *e*P **P 14 09 24.0 -1.0**
AKBB pmax pmax
comp=Z,24nm,1.2s
KIEV Kiev 71.18 324 *e*P **P 14 09 23.8 -1.3**
comp=Z,24nm,1.2s
KIEV Kiev 71.18 324 *e*P **P 14 09 23.8 -1.3**
KIEV pmax pmax
comp=Z,24nm,1.2s
AK11 Malin Array Si 71.20 324 *e*P **P 14 09 24.2 -0.9**
TESR Tescani 71.34 319⇑ *i*P **P 14 09 25.9 -0.3**
MLR Muntele Rosu 71.50 318 P **P 14 09 27.9 +0.6**
comp=Z,6.0nm,0.8s,baz=172,slow=8.2,SNR=35
MLR Muntele Rosu 71.50 318⇓ *i*P **P 14 09 28.7 +1.4**
MLR Muntele Rosu 71.50 318 *e*P **P 14 09 26.9 -0.4**
comp=Z,249nm,1.4s
MLR Muntele Rosu 71.50 318 *e*P **P 14 09 26.9 -0.4**
MLR pmax pmax
comp=Z,249nm,1.4s
MAW Mawson 71.69 191 P **P 14 09 28.8 +1.0**
comp=Z,5.3nm,0.9s,baz=0.2,slow=7.6,SNR=4.4
PRAR RASCA 71.88 320⇑ *i*P **P 14 09 30.0 +0.6**
DOPR Dopca 72.01 318⇑ *i*P **P 14 09 30.7 +0.5**
MTUR Matau 72.02 317⇑ *i*P **P 14 09 30.6 +0.2**
VOIR 72.08 318⇓ *i*P **P 14 09 30.3 -0.5**
ARR Arges 72.35 317⇓ *i*P **P 14 09 32.1 -0.2**
VTS Vitosha 72.60 314⇑ *i*P **P 14 09 33.7 -0.3**
VTS Vitosha 72.60 314 *e*P **P 14 09 32.5 -1.4**
comp=Z,30nm,1.0s
VTS Vitosha 72.60 314 *e*P **P 14 09 32.6 -1.4**
VTS pmax pmax
comp=Z,30nm,1.0s
BURAR Bucovina Array 72.61 320⇑ *i*P **P 14 09 34.8 +0.9**
BUR04 Bucovina Ar. S 72.62 320 *e*P **P 14 09 33.5 -0.4**
BUR08 Bucovina Ar. S 72.63 320 *e*P **P 14 09 33.8 -0.3**
TMCR Tamitsa 73.23 339 *e*P **P 14 09 38.3 +1.3**
TMCR pmax pmax
comp=Z,32nm,1.1s
MICGM Minsk 73.34 327 *e* P 14 09 45.0 +7.1
MNK Minsk 73.34 327 *e*P P 14 09 45.0 +7.1
HERR Herculane 73.73 316⇓ *i*P **P 14 09 40.9 +0.5**
MA2 Magadan 73.90 27 P **P 14 09 41.1 -0.1**
comp=Z,3.7nm,0.7s,baz=206,slow=7.4,SNR=4.0
LVV L'vov 74.02 322 *e*P **P 14 09 43.3 +1.3**
DRGR 74.02 318⇑ *i*P **P 14 09 42.3 +0.1**
NACGM Naroch 74.08 327 *e* **P 14 09 42.0 -0.2**
TIXI Tiksi 74.09 12 *e*P **P 14 09 40.1 -1.9**
comp=Z,101nm,1.2s
TIXI Tiksi 74.09 12⇑ *i*P **P 14 09 39.9 -2.0**
TIXI pmax pmax
comp=Z,24nm,0.9s
IDID Didziasalis 74.25 328 *e*P P 14 09 51.1 +7.9
IDID IAmb IAmb 14 09 52.7
comp=Z,20nm,0.4s
BZS Buzias 74.46 317⇑ *i*P **P 14 09 44.3 -0.4**
IIGN Ignalina 74.54 328 *e*P P 14 09 52.7 +7.8
IIGN IAmb IAmb 14 09 54.3
comp=Z,22nm,1.0s
UZH Uzhgorod 74.78 320 *e*P **P 14 09 45.6 -0.8**
UZH *i* 14 09 54.4
UZH *e* 14 10 06.6
KWP Kalwaria Pacla 74.79 321 *e*P **P 14 09 47.1 +0.6**
KWP Kalwaria Pacla 74.79 321 *e*P **P 14 09 47.1 +0.6**
VSU Vasula 75.40 331 *ce*P **P 14 09 49.4 -0.4**
VSU pmax pmax
comp=Z,93nm,1.7s
PET Petropavlovsk 75.61 35⇑ *e*P **P 14 09 49.9 -1.2**
PET pmax pmax
comp=Z,20nm,1.3s
STHS Stebnicka Huta 75.65 321 *e*P **P 14 09 52.2 +0.7**
STHS *e* 14 10 00.5
STHS Stebnicka Huta 75.65 321 *e*P **P 14 09 52.2 +0.7**
STHS *e* 14 10 00.5
STHS pmax pmax
comp=Z,18nm,1.1s
SUW Suwalki 75.78 326 *e*P **P 14 09 53.4 +1.4**
SUW Suwalki 75.78 326 *e*P **P 14 09 53.4 +1.4**
SEY Seymchan 76.06 24 P **P 14 09 52.9 -0.6**
comp=Z,2.8nm,0.9s,baz=260,slow=5.6,SNR=6.5
SEY Seymchan 76.06 24 *ce*P **P 14 09 52.0 -1.5**
NIE Niedzica 76.25 321 *e*P **P 14 09 55.8 +0.9**
NIE Niedzica 76.25 321 *e*P **P 14 09 55.8 +0.9**
APA Apatity 76.65 341⇓ *i*P P 14 10 03.6 +6.8
APA pmax pmax
comp=Z,18nm,0.9s
OJC Ojcow 76.76 321 *e*P **P 14 09 58.6 +0.8**
OJC Ojcow 76.76 321 *e*P **P 14 09 56.7 -1.0**
comp=Z,56nm,1.4s
OJC Ojcow 76.76 321 *e*P **P 14 09 58.6 +0.8**
FIA1 FINESS Array S 76.82 333 *e*P **P 14 09 57.4 -0.4**
FINES FINESS Array B 76.82 333 P **P 14 09 57.5 -0.3**
comp=Z,9.9nm,0.7s,baz=104,slow=8.0,SNR=27
VYHS Vyhne 76.97 320 *e*P **P 14 09 59.9 +0.9**
VYHS *e* 14 10 07.4
VYHS Vyhne 76.97 320 *e*P **P 14 09 59.9 +0.9**
VYHS *e* 14 10 07.4
VYHS pmax pmax
comp=Z,33nm,1.6s
MODS Modra-Piesok 77.97 319 *e*P **P 14 10 05.0 +0.4**
MODS *e*PCP **pP 14 10 13.1 -0.3**
MODS Modra-Piesok 77.97 319 *e*P **P 14 10 05.0 +0.4**
MODS *e* 14 10 13.1
MORC Moravsky Berou 78.08 321 *e*P **P 14 10 04.2 -1.0**
comp=Z,59nm,1.1s
MORC Moravsky Berou 78.08 321 *e*P **P 14 10 04.2 -1.0**
MORC pmax pmax
comp=Z,59nm,1.1s
SYO Syowa Base 78.39 197⇓ *e*P **P 14 10 05.9 -0.5**
SYO Syowa Base 78.39 197⇓ *i*pP **P 14 10 10.4 +4.0**
KRLC Kraliky 78.62 321 *e*PCP **PcP 14 10 17.2 +0.1**
CONA Conrad Observa 78.81 319 *i*PcP P 14 10 16.6 +7.2
comp=Z,14nm,1.5s
ARSA Arzberg 78.92 318 *i*pP **P 14 10 10.7 +0.8**
comp=Z,38nm,1.3s,SNR=7.3
DPC Dobruska-Polom 78.96 321 *e*P **P 14 10 11.3 +1.2**
DPC *e*PCP **pP 14 10 19.4 +0.5**
DPC Dobruska-Polom 78.96 321 *e*P **P 14 10 11.3 +1.2**
DPC *e* 14 10 19.4
KSP Ksiaz 79.08 322 *e*P **P 14 10 11.9 +1.3**
KSP Ksiaz 79.08 322 *e*P **P 14 10 11.9 +1.3**
SOKA Soboth 79.16 317 *i*pP **P 14 10 12.1 +0.9**
comp=Z,15nm,1.3s
UPC Upice 79.19 321 *e*P **P 14 10 13.0 +1.7**
UPC *e*PCP **pP 14 10 20.6 +0.5**
UPC Upice 79.19 321 *e*P **P 14 10 13.0 +1.7**
UPC *e* 14 10 20.6
OBKA Obir 79.46 317 *i*PcP P 14 10 22.1 +9.2
comp=Z,39nm,1.4s
GOPC GO Pecny, Ondr 79.86 320 *e*PCP **PcP 14 10 23.9 +1.4**
MOA Molln 79.86 318 *i*P **P 14 10 16.9 +1.9**
comp=Z,12nm,1.4s
PRU Pruhonice 80.03 320 *e*P **P 14 10 17.1 +1.3**
PRU *e*PCP **pP 14 10 24.8 +0.2**
PRU Pruhonice 80.03 320 *e*P **P 14 10 17.1 +1.3**
PRU *e* 14 10 24.8
PVCC Panska Ves 80.10 321 *e*PCP **PcP 14 10 25.5 +2.0**
ARCES ARCESS Array B 80.13 341 P **P 14 10 17.2 +1.2**
comp=Z,9.4nm,0.9s,baz=133,slow=5.1,SNR=11
KBA Koelnbreinsper 80.36 317 *i*P **P 14 10 20.3 +2.4**
comp=Z,32nm,1.4s
GEA0 GERESS Array S 80.38 319 *e*P **P 14 10 17.8 -0.1**
GEC2 GERESS Array S 80.38 319 *e*P **P 14 10 17.6 -0.3**
comp=Z,127nm,1.2s
GEC2 GERESS Array S 80.38 319 *e*P **P 14 10 17.6 -0.3**
GEC2 pmax pmax
comp=Z,127nm,1.2s
GERES GERESS Array B 80.38 319 P **P 14 10 18.6 +0.8**
comp=Z,9.5nm,0.8s,baz=104,slow=5.6,SNR=35
KHC Kasperske Hory 80.51 319 *e*P **P 14 10 19.4 +0.9**
KHC *e*PCP **pP 14 10 27.2 -0.1**
KHC *ex* x 14 10 34.4
KHC Kasperske Hory 80.51 319 *e*P **P 14 10 18.3 -0.2**
comp=Z,45nm,1.7s
KHC Kasperske Hory 80.51 319 *e*P **P 14 10 19.4 +0.9**
KHC *e* 14 10 27.2
BRG Berggiesshubel 80.55 321 *i*P **P 14 10 19.9 +1.3**
comp=Z,22nm,1.3s
BRG *i* 14 10 27.5
comp=Z,70nm,1.5s
BRG Berggiesshubel 80.55 321 *i*P **P 14 10 19.9 +1.3**
BRG *i* 14 10 27.5
BRG pmax pmax
comp=Z,22nm,1.3s
BRG pmax pmax
comp=Z,70nm,1.5s
ABTA Abfaltersbach 80.88 317 *i*P **P 14 10 22.2 +1.6**
comp=Z,13nm,1.5s

CLL	**Collm**	**81.20**	**322**	*i* P		**P**	**14 10 21.9**	**-0.2**
	comp=Z,15nm,1.2s							
CLL				⇓*i*Pmax			14 10 30.5	
	comp=Z,42nm,1.2s							
CLL	**Collm**	**81.20**	**322**	*e*P		**P**	**14 10 21.4**	**-0.7**
	comp=Z,27nm,1.0s							
CLL	**Collm**	**81.20**	**322**	*e*P		**P**	**14 10 21.4**	**-0.7**
CLL				pmax	pmax			
	comp=Z,27nm,1.0s							
NKC	**Novy Kostel**	**81.39**	**320**	*e*PCP		**PcP**	**14 10 32.3**	**+3.1**
MOTA	**Moosalm**	**81.91**	**317**	*i* P		**P**	**14 10 26.0**	**-0.1**
	comp=Z,4.9nm,0.6s							
FETA	**Feichten**	**82.13**	**317**	*i* P		**P**	**14 10 29.2**	**+2.0**
	comp=Z,39nm,1.3s							
RETA	**Reutte**	**82.16**	**318**	*i* P		**P**	**14 10 27.7**	**+0.4**
	comp=Z,26nm,1.2s,SNR=10							
KEST	**Kesra**	**82.18**	**306**	P		**P**	**14 10 28.4**	**+0.7**
	comp=Z,8.6nm,0.8s,baz=300,slow=2.7,SNR=7.4							
KEST	**Kesra**	**82.18**	**306**	*e*P		**P**	**14 10 29.3**	**+1.6**
	comp=Z,37nm,0.9s							
HFS	**Hagfors**	**82.28**	**331**	P		**P**	**14 10 27.1**	**-0.5**
	comp=Z,5.7nm,0.9s,baz=108,slow=9.4,SNR=6.0							
DAVA	**Damuels**	**82.73**	**317**	*i* pP		**P**	**14 10 31.3**	**+0.9**
	comp=Z,61nm,1.6s,SNR=8.4							
TUE	**Stuetta**	**83.02**	**316**	*e*P		**P**	**14 10 32.0**	**0.0**
	comp=Z,60nm,1.5s							
BILL	**Bilibino**	**83.19**	**22**	⇓*i*P		**P**	**14 10 31.8**	**-0.3**
BILL				*e*			14 13 47.9	
BILL				pmax	pmax			
	comp=Z,6.0nm,1.2s							
BILL				MLR	MLR			
	comp=Z,8µm,21.0s							
NB2	**NORSAR Subarra**	**83.64**	**331**	P		**P**	**14 10 34.2**	**-0.5**
	comp=Z,24nm,1.1s,baz=92,slow=5.3							
NB2	**NORSAR Subarra**	**83.64**	**331**	P		**P**	**14 10 34.2**	**-0.5**
	baz=92,slow=5.3							
NOA	**NORSAR Array B**	**83.64**	**331**	P		**P**	**14 10 33.5**	**-1.1**
	comp=Z,2.5nm,0.8s,baz=96,slow=5.7,SNR=5.9							
NBO02	**NORSAR Array S**	**83.81**	**331**	*e*P		**P**	**14 10 35.8**	**+0.3**
TAM	**Tamanrasset**	**85.07**	**293**	*e*P		**P**	**14 10 44.3**	**+1.4**
	comp=Z,25nm,1.1s							
TAM	**Tamanrasset**	**85.07**	**293**	*e*P		**P**	**14 10 44.3**	**+1.4**
TAM				pmax	pmax			
	comp=Z,25nm,1.1s							
MEM	**Membach**	**85.53**	**320**	⇑P		**P**	**14 10 44.9**	**+0.5**
VNDA	**Vanda**	**87.42**	**168**	P		**P**	**14 10 52.4**	**-0.7**
	comp=Z,3.5nm,1.0s,baz=290,slow=6.2,SNR=8.8							
VNDA	**Vanda**	**87.42**	**168**	*e*P		**P**	**14 10 52.2**	**-0.9**
	comp=Z,15nm,1.3s							
VNDA	**Vanda**	**87.42**	**168**	*e*P		**P**	**14 10 52.2**	**-0.9**
VNDA				pmax	pmax			
	comp=Z,15nm,1.3s							
NVL	**N'lazarevskaya**	**87.79**	**199**	*e*P		**P**	**14 10 55.0**	**+0.1**
NVL				pmax	pmax			
	comp=Z,36nm,1.0s							
TORD	**Torodi Ar. Bea**	**88.80**	**283**	P		**P**	**14 11 01.2**	**+0.2**
	comp=Z,0.7nm,0.6s,baz=94,slow=3.6,SNR=5.2							
EKA	**Eskdalemuir Ar**	**91.03**	**325**	P		**P**	**14 11 11.2**	**+0.6**
	comp=Z,1.4nm,0.7s,baz=83,slow=5.8,SNR=4.7							
QSPA	**South Pole Qui**	**91.46**	**180**	P		**P**	**14 11 12.9**	**+0.5**
	comp=Z,8.1nm,1.0s,baz=303,slow=2.4,SNR=8.8							
QSPA	**South Pole Qui**	**91.46**	**180**	*e*P		**P**	**14 11 12.7**	**+0.3**
	comp=Z,35nm,1.5s							
GAMB	**Gambell**	**91.97**	**26**	*e*P		**P**	**14 11 13.9**	**-0.8**
	comp=Z,8.4nm,1.2s							
ES19	**SONSECA Array**	**92.67**	**310**	*e*P		**P**	**14 11 18.9**	**+0.4**
ESDC	**Sonseca Array**	**92.72**	**310**	P		**P**	**14 11 18.9**	**+0.1**
	comp=Z,0.7nm,0.6s,baz=59,slow=4.1,SNR=3.5							
DAG	**Danmarks Havn**	**92.94**	**347**	*i* P		**P**	**14 11 18.6**	**-0.3**
DAG	**Danmarks Havn**	**92.94**	**347**	*i* P		**P**	**14 11 18.6**	**-0.3**
KOWA	**Kowa**	**94.30**	**285**	P		**P**	**14 11 26.7**	**+0.3**
	comp=Z,5.0nm,0.8s,baz=84,slow=6.6,SNR=9.1							
KOWA	**Kowa**	**94.30**	**285**	*e*P		**P**	**14 11 26.8**	**+0.3**
	comp=Z,37nm,1.4s							
DBIC	**Dimbokro**	**95.45**	**277**	P		**P**	**14 11 31.8**	**0.0**
	comp=Z,4.3nm,1.0s,baz=117,slow=7.2,SNR=3.6							
IM3	**Indian Mountai**	**98.73**	**22**	*e*P		**P**	**14 11 44.5**	**-1.0**
TOLK	**Toolik Lake Re**	**99.01**	**19**	P		**Pdif**	**14 11 47.3**	**+0.5**
	baz=298							
TOLK	**Toolik Lake Re**	**99.01**	**19**	*e*P		**Pdif**	**14 11 46.0**	**-0.7**
	comp=Z,19nm,1.6s							
YKA	**Yellowknife Ar**	**113.33**	**13**	PKiKP		**PKiKP**	**14 16 43.4**	**-0.3**
	comp=Z,0.2nm,0.7s,baz=333,slow=2.4,SNR=3.6							
FFC	**Flin Flon**	**122.97**	**9**	*i* PKIKP		**PKPdf**	**14 17 03.0**	**+0.5**
HUMO	**Hull Mountain**	**126.57**	**31**	*e*PKPdf		**PKPdf**	**14 17 09.6**	**-0.3**
F10A	**Beach Ranch, E**	**126.62**	**24**	*e*PKPdf		**PKPdf**	**14 17 09.6**	**-0.4**
J05D	**Fort Rock, OR**	**126.93**	**29**	P		**PKPdf**	**14 17 11.5**	**+0.8**
	baz=318							
MSO	**Missoula**	**127.18**	**21**	P		**PKPdf**	**14 17 11.0**	**0.0**
	baz=328							
BOZ	**Bozeman (W)**	**129.06**	**20**	P		**PKPdf**	**14 17 14.7**	**0.0**
	baz=331							
A33A	**Warroad**	**129.47**	**5**	P		**PKPdf**	**14 17 15.4**	**+0.3**
	baz=352							
HLID	**Hailey**	**129.75**	**24**	P		**PKPdf**	**14 17 17.2**	**+1.2**
	baz=326							
NVAR	**Mina Array Bea**	**132.05**	**31**	PKP		**PKPdf**	**14 17 21.6**	**+0.9**
	comp=Z,1.6nm,0.8s,baz=257,slow=2.1,SNR=10							
BW06	**Boulder Array**	**132.25**	**20**	*e*PKPdf		**PKPdf**	**14 17 19.5**	**-1.5**
PDAR	**Pinedale Array**	**132.25**	**20**	PKP		**PKPdf**	**14 17 20.1**	**-0.9**
	comp=Z,0.4nm,0.5s,baz=30,slow=3.6,SNR=6.6							
PDAR	**Pinedale Array**	**132.25**	**20**	*e*PKPdf		**PKPdf**	**14 17 19.4**	**-1.5**
WASM	**Alta Sierra Ca**	**133.91**	**34**	*e*PKPpre		PKPpre	14 17 14.2	
ECSD	**EROS Data Cent**	**134.47**	**8**	*e*PKPdf		**PKPdf**	**14 17 22.8**	**-1.9**
ANMO	**Albuquerque**	**140.29**	**22***c*	*i*PKIKP		**PKPdf**	**14 17 37.5**	**+1.5**
ANMO				pmax	pmax			
	comp=Z,4.0nm,1.7s							
LAZ	**Ladron**	**140.50**	**24**	*e*PKPdf		**PKPdf**	**14 17 35.1**	**-1.3**
WMOK	**Wichita Mounta**	**142.84**	**13**	P		**PKPdf**	**14 17 37.2**	**-3.1**
	baz=344							
MNTX	**Cornudas Mount**	**143.57**	**24**	*e*PKPdf		PKPbc	14 17 39.5	+0.5
X39A	**Fountain Ranch**	**143.87**	**7**	P		PKPbc	14 17 40.8	+1.0
	baz=352							
ABTX	**Abilene, Hawle**	**144.64**	**15**	P		**PKPab**	**14 17 41.9**	**-0.2**
	baz=342							
ABTX	**Abilene, Hawle**	**144.64**	**15**	*e*PKPdf		**PKPab**	**14 17 41.5**	**-0.6**
Z48A	**Northport**	**145.26**	**358**	P		**PKPbc**	**14 17 43.8**	**-0.4**
	baz=2.8							
Z49A	**Columbiana**	**145.39**	**356**	P		**PKPbc**	**14 17 44.7**	**+0.1**
	baz=4.6							
LRAL	**Lakeview Retre**	**145.58**	**357**	P		**PKPdf**	**14 17 45.0**	**-0.1**
	baz=3.8							
LRAL	**Lakeview Retre**	**145.58**	**357**	*e*PKPdf		**PKPdf**	**14 17 45.1**	**0.0**
WHTX	**Lake Whitney,**	**145.77**	**13**	P		**PKPab**	**14 17 46.1**	**-0.2**
	baz=345							
WHTX	**Lake Whitney,**	**145.77**	**13**	*e*PKPdf		**PKPdf**	**14 17 45.2**	**-0.3**
150A	**Eclectic**	**145.93**	**355**	P		**PKPab**	**14 17 47.0**	**+0.1**
	baz=5.6							
151A	**Opelika**	**145.95**	**354**	P		**PKPab**	**14 17 47.2**	**+0.3**
	baz=6.8							
147A	**Livingston**	**145.99**	**359**	P		**PKPbc**	**14 17 46.3**	**-0.2**
	baz=1.6							
148A	**Greensboro**	**145.99**	**358**	P		**PKPbc**	**14 17 46.8**	**+0.2**
	baz=2.8							
149A	**Jones**	**146.00**	**356**	P		**PKPbc**	**14 17 46.4**	**-0.2**
	baz=4.2							
146A	**Union**	**146.03**	**360**	P		**PKPab**	**14 17 47.7**	**+0.5**
	baz=0.2							
TX31	**Lajitas Ar. Si**	**146.34**	**23**	*e*PKPdf		**PKPdf**	**14 17 47.3**	**+0.6**
TXAR	**Lajitas Array**	**146.35**	**23**	PKPbc		**PKPbc**	**14 17 48.0**	**+0.2**
	comp=Z,8.9nm,0.9s,baz=280,slow=2.2,SNR=42							
251A	**Midway**	**146.39**	**354**	P		**PKPab**	**14 17 48.7**	**+0.1**
	baz=6.7							
JCT	**Junction City**	**146.62**	**17**	P		**PKPbc**	**14 17 48.3**	**-0.3**
	baz=340							
JCT	**Junction City**	**146.62**	**17**	*e*PKPdf		**PKPbc**	**14 17 48.0**	**-0.6**
JCT	**Junction City**	**146.62**	**17**	*e*PKP2		**PKPbc**	**14 17 48.0**	**-0.6**
HPIG		**147.56**	**28**	*e*PKPbc		**PKPbc**	**14 17 51.2**	**-0.4**

IDC 11 14:01:57.6±3.8, 1.76N×93.10E, h0km, mb3.8/3, mb1 3.9/4, mb1mx3.4/73, mbtmp3.7/4, ML3.8/1, Error ellipse: s-maj=113.4km s-min=34.6km az=64.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**17.55**	**19**	P		P	14 06 05.6	+0.5
	0.1nm,0.3s,baz=206,slow=12,SNR=1.4							
WRA	**Warramunga Arr**	**45.83**	**120**	P		P	14 10 21.9	+0.1
	0.5nm,0.5s,baz=295,slow=8.4,SNR=1.3							
MKAR	**Makanchi Array**	**45.84**	**350**	P		P	14 10 22.3	+0.9
	1.6nm,0.9s,baz=166,slow=8.0,SNR=2.5							
SONM	**Songino Array**	**47.32**	**12**	P		P	14 10 31.3	-1.9
	1.2nm,0.7s,baz=207,slow=8.5,SNR=1.8							

ISCJB ***11*** *14:05:11.5±0.4, 1.79N×0.07×89.69E×0.05, h10km, mb4.5/33, Error ellipse: s-maj=10.6km s-min=6.5km az=24.6*

IDC ***11*** *14:05:12.2±0.8, 1.75N×89.53E, h0km, mb4.3/17, mb1 4.4/19, mb1mx4.1/71, mbtmp4.2/19, ML3.8/2, Error ellipse: s-maj=32.0km s-min=15.3km az=44.0*

NEIC ***11*** *14:05:13.2±0.3, 1.77N×89.61E, h10km, mb4.8/12, Error ellipse: s-maj=8.7km s-min=4.7km az=207.0*

ISC 11 14:05:13.0±0.7, 1.7N±0.1×89.58E±0.08, h10km, n85, σ1§06/81, mb4.6/33, 4C-5D, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
PALK	**Pallekele**	**10.43**	**302**	Pn		**Pn**	**14 07 41.1**	**-1.7**
	2.2nm,0.3s,baz=116,slow=22,SNR=5.9							
PALK				Sn		Sn	14 09 29.4	-11
	13nm,0.3s,baz=116,slow=23,SNR=7.4							
BKNI	**Bangkinang**	**11.54**	**97**	*e*Pn		**Pn**	**14 07 56.2**	**-1.7**
IPM	**Ipoh**	**11.76**	**76**	*e*Pn		**Pn**	**14 08 00.6**	**-0.4**
MYKOM	**Kota Tinggi**	**14.27**	**89**	*e*Pn		**Pn**	**14 08 34.5**	**-0.8**
CM01	**Chiang Mai Arr**	**19.00**	**28**	*e*P		**P**	**14 09 34.7**	**-0.3**
CM31	**Chiang Mai Arr**	**19.02**	**28**	*e*P		**P**	**14 09 35.0**	**-0.3**
CMAR	**Chiang Mai Arr**	**19.02**	**28**	P		**P**	**14 09 35.0**	**-0.2**
	0.1nm,0.3s,baz=222,slow=13,SNR=4.2							
CHTO	**Chiang Mai**	**19.33**	**28**	*e*P		**P**	**14 09 37.8**	**-0.8**
	66nm,2.0s							
H08S2	**Diego Garcia H**	**19.41**	**241**	T		T	14 29 28.9	
	baz=61,slow=75,SNR=26							
H08S3	**Diego Garcia H**	**19.41**	**241**	T		T	14 29 26.9	
	baz=61,slow=75,SNR=13							
H08S1	**Diego Garcia H**	**19.42**	**241**	T		T	14 29 24.8	
	baz=61,slow=75,SNR=22							
KSM	**Kuching**	**20.73**	**90**	P		**P**	**14 09 52.8**	**-1.1**
GYA	**Guiyang**	**29.59**	**32**	*e*P		**P**	**14 11 20.4**	**+1.8**
GYA				pmax	pmax			
	comp=Z,10.0nm,0.8s							
CD2	**Chengdu**	**32.01**	**23**	*e*P		**P**	**14 11 40.0**	**+0.3**
CD2				pmax	pmax			
	comp=Z,10.0nm,0.5s							
ENH	**Enshi**	**34.12**	**32**	*e*P		**P**	**14 11 57.2**	**-1.1**
	comp=Z,19nm,1.1s							
NIL	**Nilore**	**35.27**	**336**	*e*P		**P**	**14 12 07.6**	**-0.5**
	comp=Z,52nm,1.2s							
GTA	**Gaotai**	**38.68**	**13**	*e*P		**P**	**14 12 39.5**	**+2.3**
GTA				pP		sP	14 12 43.8	+2.3
GTA				sP		pP	14 12 46.9	+6.6
GTA				pmax	pmax			
	comp=Z,10.0nm,1.1s							
NJ2	**Nanjing**	**40.89**	**39**	*e*P		**P**	**14 12 54.0**	**-1.5**
NJ2				pmax	pmax			
	comp=Z,10.0nm,0.5s							
HHC	**Hu-ho-hao-te**	**43.76**	**24**	*e*P		**P**	**14 13 20.2**	**+1.3**
HHC				pmax	pmax			
	comp=Z,13nm,1.0s							
HHC				pmax	pmax			
	comp=Z,40nm,6.2s							
KK06	**Karatay Array**	**44.59**	**340**	*e*P		**P**	**14 13 25.5**	**+0.1**
KK07	**Karatay Array**	**44.59**	**340**	*e*P		**P**	**14 13 25.3**	**-0.2**
KK02	**Karatay Array**	**44.60**	**340**	*e*P		**P**	**14 13 25.4**	**-0.2**
KKAR	**Karatay Array**	**44.60**	**340**	P		**P**	**14 13 24.5**	**-1.0**
	comp=Z,6.6nm,0.9s							
KK03	**Karatay Array**	**44.61**	**340**	*e*P		**P**	**14 13 25.2**	**-0.4**
KK01	**Karatay Array**	**44.61**	**340**	*e*P		**P**	**14 13 24.6**	**-0.9**
KK04	**Karatay Array**	**44.61**	**340**	*e*P		**P**	**14 13 24.8**	**-0.8**
KK05	**Karatay Array**	**44.61**	**340**	*e*P		**P**	**14 13 25.0**	**-0.6**
KK08	**Karatay Array**	**44.61**	**340**	*e*P		**P**	**14 13 25.1**	**-0.5**
MK01	**Makanchi Array**	**45.34**	**353**	*e*P		**P**	**14 13 30.6**	**-0.7**
MK31	**Makanchi Array**	**45.36**	**353**	*e*P		**P**	**14 13 31.3**	**-0.2**
MKAR	**Makanchi Array**	**45.36**	**353**	P		**P**	**14 13 31.3**	**-0.2**
	comp=Z,1.1nm,0.7s,baz=172,slow=9.4,SNR=4.5							
GEYT	**Alibeck**	**46.19**	**325**	P		**P**	**14 13 38.8**	**+0.6**
	comp=Z,1.9nm,0.7s,baz=159,slow=9.5,SNR=4.0							
RAYN	**Ar Rayn**	**47.87**	**301**	*e*P		**P**	**14 13 50.5**	**-1.1**
	comp=Z,7.4nm,0.8s							
SONM	**Songino Array**	**48.21**	**15**	P		**P**	**14 13 54.7**	**+0.7**
	comp=Z,9.4nm,0.8s,baz=195,slow=9.2,SNR=4.1							
SONA1	**Songino Array**	**48.22**	**15**	*e*P		**P**	**14 13 54.1**	**+0.1**
WRA	**Warramunga Arr**	**48.88**	**118**	P		**P**	**14 13 60.0**	**+0.6**
	comp=Z,6.5nm,1.1s,baz=297,slow=8.5,SNR=10.0							
KURBB	**Kurchatov Arra**	**49.64**	**351**	*e*P		**P**	**14 14 04.7**	**0.0**
	comp=Z,6.3nm,0.8s,baz=174,slow=7.1,SNR=9.9							
KURK	**Kurchatov**	**49.72**	**351**	*e*P		**P**	**14 14 04.7**	**-0.6**
	comp=Z,12nm,1.0s							
ASAR	**Alice Springs**	**49.92**	**123**	P		**P**	**14 14 08.1**	**+0.7**
	comp=Z,2.9nm,1.0s,baz=302,slow=7.9,SNR=16							
AS31	**Alice Springs**	**49.92**	**123**	*e*P		**P**	**14 14 07.0**	**-0.4**
	comp=Z,1.6nm,1.0s							
AS01	**Alice Springs**	**49.96**	**123**	*e*P		**P**	**14 14 06.7**	**-1.0**
ZAA0	**Zalesovo Array**	**52.23**	**356**	*e*P		**P**	**14 14 23.6**	**-0.5**
	comp=Z,5.8nm,0.8s							
ZALV	**Zalesovo Beam**	**52.23**	**356**	P		**P**	**14 14 23.7**	**-0.4**
	comp=Z,2.8nm,0.5s,baz=172,slow=7.1,SNR=7.1							
AB07	**Akbulak array**	**53.72**	**336**	*e*P		**P**	**14 14 35.1**	**-0.1**
AB08	**Akbulak array**	**53.73**	**336**	*e*P		**P**	**14 14 35.2**	**-0.1**
AB06	**Akbulak array**	**53.73**	**336**	*e*P		**P**	**14 14 35.0**	**-0.3**
AB03	**Akbulak array**	**53.73**	**336**	*e*P		**P**	**14 14 35.3**	**0.0**
AB01	**Akbulak array**	**53.74**	**336**	*e*P		**P**	**14 14 35.5**	**+0.2**
AB31	**Akbulak array**	**53.74**	**336**	*e*P		**P**	**14 14 35.7**	**+0.3**
ABKAR	**Akbulak array**	**53.74**	**336**	*e*P		**P**	**14 14 35.4**	**+0.1**
	comp=Z,38nm,0.8s							
AB02	**Akbulak array**	**53.74**	**336**	*e*P		**P**	**14 14 35.4**	**0.0**
AB04	**Akbulak array**	**53.74**	**336**	*e*P		**P**	**14 14 35.0**	**-0.4**
AB05	**Akbulak array**	**53.75**	**336**	*e*P		**P**	**14 14 34.7**	**-0.8**
AB09	**Akbulak array**	**53.75**	**336**	*e*P		**P**	**14 14 35.2**	**-0.2**
KBZ	**Khabaz**	**58.84**	**322**	P		**P**	**14 15 12.8**	**+0.9**
	comp=Z,3.1nm,0.8s,baz=172,slow=12,SNR=8.0							
STKA	**Stephens Creek**	**59.48**	**129**	P		**P**	**14 15 17.4**	**+0.8**
	comp=Z,3.2nm,0.9s,baz=268,slow=10,SNR=4.1							
BRTR	**Keskin Array B**	**63.22**	**314**	P		**P**	**14 15 41.6**	**-0.3**
	comp=Z,1.4nm,0.7s,baz=109,slow=5.0,SNR=9.5							
BR131	**Keskin Array S**	**63.22**	**314**	*e*P		**P**	**14 15 41.2**	**-0.7**
VRI	**Vrincioaia**	**70.14**	**319**	⇓*i*P		**P**	**14 16 28.3**	**+2.5**
PLOR	**Plostina**	**70.18**	**319**	⇓*i*P		**P**	**14 16 27.8**	**+1.7**
AKASG	**Malin Array Be**	**70.30**	**324**	P		**P**	**14 16 25.8**	**-0.8**
	comp=Z,2.6nm,0.7s,baz=96,slow=4.9,SNR=8.9							
TESR	**Tescani**	**70.40**	**319**	⇑*i*P		P	14 16 33.2	+5.8
MLR	**Muntele Rosu**	**70.54**	**318**	⇑*i*P		**P**	**14 16 30.8**	**+2.4**
MLR	**Muntele Rosu**	**70.54**	**318**	*e*P		**P**	**14 16 28.9**	**+0.5**
	comp=Z,29nm,1.0s							
VOIR		**71.12**	**318**	⇓*i*P		P	14 16 34.2	+2.3
VTS	**Vitosha**	**71.59**	**315**	⇓*i*P		P	14 16 40.0	+5.1
BURAR	**Bucovina Array**	**71.68**	**320**	⇑*i*P		**P**	**14 16 37.7**	**+2.4**
BUR04	**Bucovina Ar. S**	**71.68**	**320**	*e*P		**P**	**14 16 36.0**	**+0.7**
BUR08	**Bucovina Ar. S**	**71.70**	**320**	*e*P		**P**	**14 16 35.4**	**-0.1**
DRGR		**73.07**	**319**	⇑*i*P		P	14 16 45.3	+1.7
BZS	**Buzias**	**73.49**	**317**	⇓*i*P		P	14 16 51.8	+5.8
TIXI	**Tiksi**	**74.16**	**12**	*e*P		**P**	**14 16 48.8**	**-0.6**
	comp=Z,20nm,1.1s							
FINES	**FINESS Array B**	**76.11**	**334**	P		**P**	**14 17 02.1**	**+1.3**
	comp=Z,3.1nm,1.0s,baz=123,slow=10,SNR=4.1							
DPC	**Dobruska-Polom**	**78.05**	**321**	*e*P		**P**	**14 17 13.3**	**+1.3**
DPC				*e*PCP		**PcP**	**14 17 19.6**	**-2.1**
GEA0	**GERESS Array S**	**79.44**	**319**	*e*P		**P**	**14 17 19.3**	**-0.5**
GEC2	**GERESS Array S**	**79.44**	**319**	*e*P		**P**	**14 17 19.3**	**-0.5**
	comp=Z,14nm,1.0s							
GERES	**GERESS Array B**	**79.44**	**319**	P		**P**	**14 17 20.1**	**+0.3**
	comp=Z,2.2nm,0.7s,baz=103,slow=5.9,SNR=12							
ARCES	**ARCESS Array B**	**79.56**	**341**	P		**P**	**14 17 20.3**	**+0.4**
	comp=Z,7.4nm,0.9s,baz=57,slow=4.5,SNR=4.9							
KHC	**Kasperske Hory**	**79.57**	**320**	*e*P		**P**	**14 17 20.6**	**+0.2**
KHC				*e*PCP		**PcP**	**14 17 27.4**	**-0.9**
KHC				ex		x	14 17 35.6	
CLL	**Collm**	**80.29**	**322**	*i* P		**P**	**14 17 25.0**	**+0.8**
	comp=Z,9.0nm,1.1s							
CLL				*i*			14 17 30.9	
HFS	**Hagfors**	**81.52**	**331**	P		**P**	**14 17 32.3**	**+1.7**
	comp=Z,5.4nm,0.9s,baz=123,slow=7.1,SNR=2.1							
NOA	**NORSAR Array B**	**82.88**	**331**	P		**P**	**14 17 37.2**	**-0.6**
	comp=Z,1.3nm,0.9s,baz=96,slow=5.7,SNR=2.7							
TORD	**Torodi Ar. Bea**	**87.56**	**283**	P		**P**	**14 18 03.0**	**+0.9**
	comp=Z,0.8nm,0.7s,baz=92,slow=5.5,SNR=4.0							
PDAR	**Pinedale Array**	**132.49**	**19**	PKP		**PKPdf**	**14 24 31.2**	**+2.7**
	comp=Z,0.3nm,0.8s,baz=51,slow=7.1,SNR=2.4							
TXAR	**Lajitas Array**	**146.64**	**21**	PKPbc		**PKPab**	**14 24 57.9**	**+1.1**
	comp=Z,6.2nm,1.1s,baz=210,slow=1.0,SNR=9.7							

BJI ***11*** *14:08:38.8, 1.10N×92.10E, h10km, mb5.0/57, mB5.8/11, Ms5.7/17, Ms7 5.7/15*

IDC ***11*** *14:08:39.3±0.4, 1.04N×92.12E, h0km, mb4.7/39, mb1 4.7/41, mb1mx4.6/68, mbtmp4.7/41, ML4.8/2, MS5.7/3, Ms1 5.7/3, ms1mx4.8/74, Error ellipse: s-maj=14.1km s-min=10.0km az=46.0*

NEIC ***11*** *14:08:40.4±2.1, 1.11N×92.11E, h8km±13km, mb5.2/49, Error ellipse: s-maj=5.5km s-min=3.5km az=224.0*

ISCJB ***11*** *14:08:42.5±0.2, 1.12N±0.03×92.18E±0.02, h33km, mb5.0/127, Error ellipse: s-maj=4.7km s-min=2.5km az=31.5*

MOS ***11*** *14:08:43.0±1.3, 1.18N×92.15E, h33km, mb5.3/51, Error ellipse: s-maj=7.8km s-min=4.6km az=109.3*

DJA ***11*** *14:08:45.9±0.2, 1.1N±3×9°E±°, h10km, M6.1/49, mb5.4/49, mB6.6/14, MLv6.0/7, Mw(mB)6.4/14, Mwp7.2/1*

ISC 11 14:08:44.5±0.3, 1.04N±0.05×92.09E±0.05, h35km, n377, σ1§43/378, mb5.1/139, 22C-5D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
MLSI	**Meulaboh, Aceh**	**5.37**	**53**	P		**Pn**	**14 10 01.5**	**-0.8**
BSI	**Banda Aceh**	**5.46**	**36**	P		**Pn**	**14 10 02.5**	**-1.0**
GSI	**Gunungsitoli**	**5.49**	**87**	P		**Pn**	**14 10 03.5**	**-0.4**
GSI	**Gunungsitoli**	**5.49**	**87**	*e*Pn		**Pn**	**14 10 02.3**	**-1.6**
TPTI		**5.55**	**66**	P		**Pn**	**14 10 02.2**	**-2.4**
LHMI	**Lhok Sumawe**	**6.39**	**49**	P		**Pn**	**14 10 15.7**	**-0.6**
LHMI	**Lhok Sumawe**	**6.39**	**49**	*e*Pn		**Pn**	**14 10 15.6**	**-0.7**
TSI	**Tuntungan**	**6.92**	**69**	P		**Pn**	**14 10 24.1**	**+0.6**
PSI	**Prapat**	**7.05**	**76**	*e*Pn		**Pn**	**14 10 23.9**	**-1.6**
PSI	**Prapat**	**7.05**	**76**	*e*P		**Pn**	**14 10 23.9**	**-1.6**
SISI	**Saibi**	**7.38**	**109**	P		**Pn**	**14 10 28.5**	**-1.4**
MNSI	**Mandailing Nat**	**7.50**	**92**	P		**Pn**	**14 10 30.5**	**-0.9**
PDSI	**Padang**	**8.60**	**103**	P		**Pn**	**14 10 44.7**	**-1.9**
PPSI	**Pulau Pagai**	**8.77**	**116**	P		**Pn**	**14 10 47.7**	**-1.3**
BKNI	**Bangkinang**	**8.98**	**94**	P		**Pn**	**14 10 50.4**	**-1.4**
BKNI	**Bangkinang**	**8.98**	**94**	*e*Pn		**Pn**	**14 10 51.0**	**-0.8**
KULM	**Kulim**	**9.53**	**64**	*e*Pn		**Pn**	**14 10 57.3**	**-2.1**
SDSI	**Sungai Dareh**	**9.54**	**102**	P		**Pn**	**14 10 58.5**	**-1.0**
IPM	**Ipoh**	**9.56**	**69**	*e*Pn		**Pn**	**14 10 57.8**	**-2.0**
RGRI	**Rengat**	**10.34**	**98**	P		**Pn**	**14 11 08.6**	**-1.8**
PBA	**Port Blair**	**10.57**	**4**	*e*P		Pn	14 11 12.8	-0.8
MASI	**Maura Aman, Be**	**10.96**	**112**	P		**Pn**	**14 11 18.4**	**-0.7**
MYKOM	**Kota Tinggi**	**11.78**	**86**	*e*Pn		**Pn**	**14 11 27.9**	**-2.3**
**D

CD2 LR LR
comp=Z,21µm,23.8s
CD2 LR LR
comp=Z,21µm,15.9s
SMLA Simla 33.10 336 *e*P **P 14 15 17.9 +0.7**
SMLA IAmb IAmb 14 15 30.2
comp=Z,209nm,1.9s
BATI Baumata 33.35 110 P **P 14 15 17.6 -2.1**
comp=Z,19nm,0.5s,baz=271,slow=2.8,SNR=6.7
ENH Enshi 33.45 28 *e*P **P 14 15 18.3 -2.0**
comp=Z,31nm,0.9s
DHRM DHARAMSHALA 34.43 336 *e*P **P 14 15 28.2 -0.9**
DHRM IAmb IAmb 14 15 48.6
comp=Z,39nm,1.0s
XAN Xi'an 36.42 24 P **P 14 15 45.6 -0.4**
XAN pP pP 14 15 51.1 -5.0
XAN sP sP 14 15 53.0 -7.3
XAN pmax pmax
comp=Z,53nm,0.9s
LZH Lanzhou 36.54 16 *e*P **P 14 15 46.9 -0.2**
LZH pP pP 14 15 50.1 -7.2
LZH sP sP 14 15 51.6 -10
LZH PP **PP 14 17 11.0 +0.3**
LZH pmax pmax
comp=Z,27nm,1.3s
LZH pmax pmax
comp=Z,110nm,5.2s
LZH LR LR
comp=Z,1µm,13.7s
LZH LR LR
comp=Z,1µm,14.1s
LZH LR LR
comp=Z,2µm,17.6s
NIL Nilore 36.94 333 *e*P **P 14 15 49.6 -0.8**
comp=Z,48nm,0.8s
NIL Nilore 36.94 333 *e*P **P 14 15 49.6 -0.8**
NIL pmax pmax
comp=Z,48nm,0.8s
MEEK Meekatharra 37.56 139 P **P 14 15 57.3 +1.5**
baz=38,SNR=10
FITZ Fitzroy Crossi 38.10 122 P **P 14 15 59.4 -0.9**
comp=Z,11nm,0.7s,baz=266,slow=4.2,SNR=21
FITZ Fitzroy Crossi 38.10 122 P **P 14 16 01.1 +0.7**
baz=38,SNR=4.3
FITZ Fitzroy Crossi 38.10 122 *e*P **P 14 16 00.3 0.0**
GTA Gaotai 38.84 10 *e*P **P 14 16 06.8 +0.4**
GTA pP pP 14 16 10.8 -5.9
GTA sP sP 14 16 13.8 -7.1
GTA S **S 14 22 05.0 +2.9**
GTA sS sS 14 22 16.5 -2.5
GTA SS **SnSn 14 24 48.5 -5.3**
GTA pmax pmax
comp=Z,29nm,1.0s
GTA LR LR
comp=Z,7µm,16.2s
GTA LR LR
comp=Z,7µm,19.5s
GTA LR LR
comp=Z,12µm,19.5s
SWI Sorong 39.22 93 P **P 14 16 09.7 -0.1**
comp=Z,21nm,0.8s
SIJI Sorong 39.22 93 P **P 14 16 08.2 -1.7**
comp=Z,12nm,0.8s,baz=250,slow=5.2,SNR=9.9
WSAR Wadi Sarin 39.25 307 P **P 14 16 10.2 +0.2**
comp=Z,2.7nm,0.7s,baz=136,slow=8.7,SNR=4.4
NJ2 Nanjing 39.87 37 *e*P **P 14 16 15.3 +0.4**
NJ2 pmax pmax
comp=Z,9.0nm,0.6s
KLBR Kellerberrin 40.57 145 P **P 14 16 22.9 +2.1**
baz=41,SNR=7.1
KSH Kashi 41.02 341 P **P 14 16 23.4 -1.2**
KSH pmax pmax
comp=Z,30nm,0.8s
MTN Manton Dam 41.12 111 P **P 14 16 24.4 -1.2**
baz=41,SNR=3.9
SFK Sufi-Kurgan 42.32 339 P **P 14 16 35.0 -0.4**
SFK pmax pmax
comp=Z,18nm,0.8s
WMQ Urumqi 42.78 355 P **P 14 16 39.2 +0.4**
WMQ pP pP 14 16 42.9 -6.2
WMQ sP sP 14 16 47.9 -5.4
WMQ PP **PcP 14 18 23.5 -6.3**
WMQ pmax pmax
comp=Z,33nm,0.7s
KMBL Kambalda 42.87 141 P **P 14 16 41.2 +1.6**
baz=43,SNR=5.0
HHC Hu-ho-hao-te 43.38 22 *e*P **P 14 16 44.3 +0.5**
HHC pmax pmax
comp=Z,39nm,1.2s
ULHL Ulahol 43.43 343 P **P 14 16 45.8 +1.5**
SNR=5.5
KZA Kyzart 43.58 342 P **P 14 16 45.9 +0.2**
SNR=7.6
PDGK Podgornoye 43.59 347 P **P 14 16 44.9 -0.5**
PDGK pmax pmax
comp=Z,31nm,1.2s
WRKA Warakurna 43.59 129 P **P 14 16 46.6 +0.9**
baz=44,SNR=8.1
UCH Uchtor 43.95 341 P **P 14 16 50.5 +1.8**
SNR=10
AML Almayashu 44.13 340 P **P 14 16 50.5 +0.4**
SNR=22
KBK Karagaybulak 44.20 342 P **P 14 16 51.7 +1.4**
SNR=8.3
TKM2 Tokmak 2 44.24 343 P **P 14 16 52.4 +1.6**
SNR=14
TKM2 Tokmak 2 44.24 343 P **P 14 16 50.7 -0.1**
TKM2 pmax pmax
comp=Z,21nm,1.4s
AAK Ala-Archa 44.32 341 P **P 14 16 51.5 +0.1**
comp=Z,2.2nm,0.4s,baz=177,slow=8.1,SNR=4.8
AAK Ala-Archa 44.32 341 *i* P **P 14 16 50.3 -1.1**
AAK pmax pmax
comp=Z,9.0nm,1.1s
FRU Bishkek 44.46 342 *e*P **P 14 16 55.0 +2.7**
BJT Baijiatuau 44.56 27 *e*P **P 14 16 54.4 +1.3**
comp=Z,47nm,0.9s
BJT Baijiatuau 44.56 27 *e*P **P 14 16 54.4 +1.3**
BJT pmax pmax
comp=Z,47nm,0.9s
EKS2 Erkin-Say 44.58 341 P **P 14 16 55.2 +1.8**
SNR=12
BJI Beijing 44.58 27⇑ *i*P **P 14 16 55.5 +2.3**
BJI pmax pmax
comp=Z,70nm,0.9s
MNAS Manas 44.85 339 P **P 14 16 55.7 +0.1**
MNAS pmax pmax
comp=Z,12nm,1.3s
USP Ospenovka 44.89 342 P **P 14 16 55.7 0.0**
SNR=11
KK06 Karatay Array 46.10 338 *e*P **P 14 17 04.2 -1.1**
KK07 Karatay Array 46.10 338 *e*P **P 14 17 04.3 -1.1**
KK02 Karatay Array 46.11 338 *e*P **P 14 17 04.3 -1.1**
KK31 Karatay Array 46.11 338 *e*P **P 14 17 04.4 -1.0**
KK31 Karatay Array 46.11 338 *e*P **P 14 17 04.4 -1.0**
KKAR Karatay Array 46.11 338 *e*P **P 14 17 04.5 -0.9**
KKAR Karatay Array 46.11 338 *e*P **P 14 17 04.5 -0.9**
KK01 Karatay Array 46.12 338 *e*P **P 14 17 04.5 -0.9**
KK03 Karatay Array 46.12 338 *e*P **P 14 17 04.4 -1.0**
KK04 Karatay Array 46.12 338 *e*P **P 14 17 04.5 -1.0**
KK05 Karatay Array 46.12 338 *e*P **P 14 17 04.3 -1.1**
KK08 Karatay Array 46.12 338 *e*P **P 14 17 04.6 -0.9**
MK01 Makanchi Array 46.34 351 *e*P **P 14 17 06.0 -1.1**
WRA Warramunga Arr 46.36 119 P **P 14 17 06.8 -0.9**
comp=Z,21nm,0.7s,baz=296,slow=8.6,SNR=67
WRAB Tennant Creek 46.37 119 *e*P **P 14 17 06.8 -0.9**
comp=Z,28nm,0.8s
WRAB Tennant Creek 46.37 119 *e*P **P 14 17 06.8 -0.9**
WRAB pmax pmax
comp=Z,28nm,0.8s
MK31 Makanchi Array 46.37 351 *e*P **P 14 17 06.7 -0.7**
MK31 Makanchi Array 46.37 351 *i* P **P 14 17 06.7 -0.7**
MK31 pmax pmax
comp=Z,18nm,0.8s
MKAR Makanchi Array 46.37 351 P **P 14 17 06.7 -0.7**
comp=Z,19nm,0.8s,baz=172,slow=7.5,SNR=45
MKAR Makanchi Array 46.37 351 *e*P **P 14 17 06.6 -0.7**
comp=Z,98nm,0.8s
MKAR Makanchi Array 46.37 351 *e*P **P 14 17 06.6 -0.7**
MKAR pmax pmax
comp=Z,98nm,0.8s
WB2 Warramunga Arr 46.37 119 *e*P **P 14 17 07.1 -0.7**
MAKZ Makanchi 46.43 350 *e*P **P 14 17 07.1 -0.8**
comp=Z,23nm,1.4s
MAKZ Makanchi 46.43 350 *e*P **P 14 17 07.1 -0.8**
MAKZ pmax pmax
comp=Z,23nm,1.4s
AS31 Alice Springs 47.47 124 *e*P **P 14 17 16.4 0.0**
comp=Z,3.3nm,1.0s
ASAR Alice Springs 47.47 124 P **P 14 17 16.5 +0.2**
comp=Z,2.9nm,0.5s,baz=300,slow=7.6,SNR=40
AS01 Alice Springs 47.50 124 *e*P **P 14 17 16.4 -0.3**
GYB1 ALIBECK ARRAY 48.17 324 *e*P **P 14 17 21.4 -0.2**
comp=Z,20nm,0.8s
GYA1 ALIBECK ARRAY 48.18 324 *e*P **P 14 17 21.6 0.0**
comp=Z,23nm,0.8s
GYB5 ALIBECK ARRAY 48.19 324 *e*P **P 14 17 21.0 -0.7**
comp=Z,23nm,0.8s
GEYT Alibeck 48.19 324 P **P 14 17 22.4 +0.7**
comp=Z,16nm,0.8s,baz=150,slow=6.8,SNR=20
GYA0 ALIBECK ARRAY 48.19 324 *e*P **P 14 17 22.0 +0.3**
comp=Z,23nm,0.9s
GYA0B ALIBECK ARRAY 48.19 324 *e*P **P 14 17 22.0 +0.3**
comp=Z,22nm,0.9s
GYB2 ALIBECK ARRAY 48.19 324 *e*P **P 14 17 22.0 +0.3**
comp=Z,30nm,1.0s
GYA2 ALIBECK ARRAY 48.19 324 *e*P **P 14 17 21.6 -0.2**
comp=Z,23nm,0.8s
GYB3 ALIBECK ARRAY 48.20 324 *e*P **P 14 17 21.7 -0.1**
comp=Z,21nm,0.8s
GYB4 ALIBECK ARRAY 48.20 324 *e*P **P 14 17 21.6 -0.2**
comp=Z,23nm,0.8s
SONM Songino Array 48.24 13 P **P 14 17 22.8 +0.8**
comp=Z,31nm,0.8s,baz=194,slow=7.7,SNR=48
SONA1 Songino Array 48.25 13 *e*P **P 14 17 21.9 -0.2**
ABPO Ambohimpanom 48.34 243 P **P 14 17 21.1 -2.2**
comp=Z,70nm,1.4s
ABPO Ambohimpanom 48.34 243 P **P 14 17 21.1 -2.2**
ABPO pmax pmax
comp=Z,70nm,1.4s
ULN Ulaanbaatar 48.42 13 *e*P **P 14 17 22.7 -0.7**
comp=Z,17nm,1.1s
ULN Ulaanbaatar 48.42 13*ce*P **P 14 17 22.5 -0.9**
ULN pmax pmax
comp=Z,24nm,1.7s
DGZ Jazzator, Alta 48.64 356 *e*P **P 14 17 25.4 +0.3**
DGZ pmax pmax
comp=Z,5.0nm,0.8s
JAY Jayapura 48.73 94 P **P 14 17 26.5 +0.2**
comp=Z,112nm,0.8s
KSAR Wonju Array Be 48.98 38 P **P 14 17 27.8 +0.1**
KSAR Wonju Array Be 48.98 38 P **P 14 17 27.8 +0.1**
KS01 Wonju Array Si 49.00 38 *e*P **P 14 17 26.6 -1.4**
KSRS Korea Array 49.01 38 P **P 14 17 27.8 -0.2**
comp=Z,7.5nm,0.9s,baz=226,slow=8.4,SNR=16
HVS Khovu-Aksy 49.94 1 *e*P **P 14 17 34.7 -0.2**
HVS pmax pmax
comp=Z,88nm,0.9s
OTUK Ortayu 50.03 343 P **P 14 17 34.9 -0.7**
OTUK pmax pmax
comp=Z,28nm,0.8s
ZAK Zakamensk 50.08 9 *e*P **P 14 17 34.3 -1.7**
ZAK pmax pmax
comp=Z,9.0nm,1.8s
RAYN Ar Rayn 50.37 300 *e*P **P 14 17 38.2 -0.4**
comp=Z,13nm,0.9s
KURBB Kurchatov Arra 50.73 349 P **P 14 17 39.7 -1.1**
comp=Z,18nm,0.8s,baz=172,slow=7.4,SNR=54
KURK Kurchatov 50.80 349 *e*P **P 14 17 40.6 -0.7**
comp=Z,32nm,0.9s
KURK Kurchatov 50.80 349*ce*P **P 14 17 41.2 -0.1**
KURK pmax pmax
comp=Z,101nm,0.8s
TLY Talaya 51.39 9 *e*P **P 14 17 45.1 -0.7**
comp=Z,7.8nm,0.8s
TLY Talaya 51.39 9 *e*P **P 14 17 47.0 +1.2**
TLY pmax pmax
comp=Z,8.0nm,0.9s
CN2 Changchun 51.90 30 *e*P **P 14 17 51.3 +1.6**
CN2 pmax pmax
comp=Z,10.0nm,0.7s
IRK Irkutsk 52.04 9 *e*P **P 14 17 52.3 +1.7**
IRK *e*S **S 14 25 10.6 -1.2**
IRK pmax pmax
comp=Z,65nm,2.1s
ZAA0 Zalesovo Array 53.08 355 *e*P **P 14 17 56.7 -1.5**
comp=Z,27nm,0.8s
ZALV Zalesovo Beam 53.08 355 P **P 14 17 57.5 -0.7**
comp=Z,26nm,0.7s,baz=184,slow=7.4,SNR=50
ZALV Zalesovo Beam 53.08 355 *e*P **P 14 17 56.7 -1.5**
ZALV Zalesovo Beam 53.08 355 *e*P **P 14 17 56.7 -1.5**
HIA Hailar 53.58 22 P **P 14 18 01.4 -0.6**
comp=Z,20nm,1.1s
HIA Hailar 53.58 22 *e*P **P 14 18 02.4 +0.3**
HIA pmax pmax
comp=Z,15nm,0.9s
NVS Novosibirsk 54.12 354 *e*P **P 14 18 05.6 -0.2**
NVS *e*S **S 14 25 40.0 0.0**
NVS pmax pmax
comp=N,15nm,0.8s
NVS pmax pmax
comp=E,8.0nm,0.8s
NVS pmax pmax
comp=Z,24nm,0.8s
NVS smax smax
comp=E,45nm,2.5s
MTSU Mount Surprise 54.77 113 P **P 14 18 12.1 +0.8**
baz=55,SNR=4.4
KRAR Krasnoyarsk 54.81 1 *e*P **P 14 18 11.4 +0.6**
BVA0 Borovoye Array 54.87 344 *i* P **P 14 18 09.7 -1.6**
BVA0 pmax pmax
comp=Z,16nm,0.9s
BVAR Borovoye Array 54.87 344 P **P 14 18 10.3 -1.0**
comp=Z,9.4nm,0.7s,baz=142,slow=7.2,SNR=30
KMBO Kilima Mbogo 54.87 268 P **P 14 18 11.4 -1.0**
comp=Z,1.5nm,0.6s,baz=32,slow=6.5,SNR=4.8
KMBO Kilima Mbogo 54.87 268 *e*P **P 14 18 12.8 +0.4**
comp=Z,47nm,1.9s
KMBO Kilima Mbogo 54.87 268 *e*P **P 14 18 12.8 +0.4**
KMBO pmax pmax
comp=Z,47nm,1.9s
BRVK Borovoye 54.92 344 *e*P **P 14 18 10.2 -1.5**
comp=Z,13nm,0.9s
BRVK Borovoye 54.92 344*ce*P **P 14 18 11.3 -0.4**
BRVK pmax pmax
comp=Z,37nm,1.0s
MJAR Matsushiro Arr 55.34 45 P **P 14 18 13.9 -1.1**
comp=Z,4.3nm,1.1s,baz=236,slow=8.9,SNR=5.2
AB07 Akbulak array 55.35 335 *e*P **P 14 18 13.4 -1.5**
AB06 Akbulak array 55.36 335 *e*P **P 14 18 13.5 -1.5**
AB08 Akbulak array 55.36 335 *e*P **P 14 18 13.8 -1.2**
AB03 Akbulak array 55.37 335 *e*P **P 14 18 14.0 -1.0**
AB01 Akbulak array 55.37 335 *e*P **P 14 18 14.0 -1.0**
AB31 Akbulak array 55.37 335 *e*P **P 14 18 13.9 -1.1**
AB31 Akbulak array 55.37 335 *e*P **P 14 18 13.9 -1.1**
ABKAR Akbulak array 55.37 335 *e*P **P 14 18 14.0 -1.0**
comp=Z,83nm,0.9s
AB02 Akbulak array 55.37 335 *e*P **P 14 18 13.9 -1.2**
AB04 Akbulak array 55.37 335 *e*P **P 14 18 14.1 -1.0**
AB05 Akbulak array 55.38 335 *e*P **P 14 18 14.2 -0.9**
AB09 Akbulak array 55.38 335 *e*P **P 14 18 14.2 -1.0**
USRK Ussuriysk Ar. 55.65 34 P **P 14 18 18.0 +0.9**
comp=Z,4.9nm,0.8s,baz=236,slow=4.5,SNR=6.8
HTT Hallett 55.80 132 P **P 14 18 19.6 +1.1**
baz=56,SNR=5.1
AKTO Aktyubinsk 57.08 335 P **P 14 18 27.1 -0.2**
comp=Z,5.6nm,1.0s,baz=120,slow=9.1,SNR=9.9
STKA Stephens Creek 57.12 130 P **P 14 18 27.8 -0.2**
comp=Z,5.9nm,0.8s,baz=308,slow=7.3,SNR=10
STKA Stephens Creek 57.12 130 P **P 14 18 28.4 +0.5**
baz=57,SNR=9.2
STKA Stephens Creek 57.12 130 *e*P **P 14 18 27.7 -0.2**
comp=Z,4.7nm,1.5s
STKA Stephens Creek 57.12 130 *e*P **P 14 18 27.7 -0.2**
STKA pmax pmax
comp=Z,5.0nm,1.5s
GNI Garni 57.94 318*ce*P **P 14 18 33.2 -0.5**
GNI pmax pmax
comp=Z,20nm,0.8s
TBLG Delisi 58.74 320 *e*P **P 14 18 39.5 +0.4**
comp=Z,38nm,0.8s
TBLG Delisi 58.74 320 *e*P **P 14 18 39.5 +0.4**
TBLG pmax pmax
comp=Z,38nm,0.8s
KLR Kul'dur 58.79 29 P **P 14 18 40.6 +1.3**
comp=Z,1.0nm,0.8s
KLR Kul'dur 58.79 29 *e*P **P 14 18 39.9 +0.6**
GROC Groznyy 58.84 322 *e*P **P 14 18 41.5 +1.8**
GROC *e* 14 19 30.3
GROC *e*S **S 14 26 45.3 +2.4**
GROC pmax pmax
comp=Z,71nm,1.0s
BOD Bodaibo 59.23 13 *e*P **P 14 18 41.8 -0.3**
BOD pmax pmax
comp=Z,27nm,2.1s
ARPS Mount Arapiles 59.47 135 P **P 14 18 45.5 +1.3**
baz=60,SNR=6.2
ZEI Tsey 59.81 321 *e*P **P 14 18 46.0 -0.7**
ZEI pmax pmax
comp=Z,21nm,1.0s
ZEA Zeya 60.00 23 *e*P **P 14 18 48.2 +0.7**
ZEA pmax pmax
comp=Z,20nm,0.8s
CMSA Cobar Meteorol 60.19 128 P **P 14 18 50.2 +0.9**
baz=60,SNR=8.9
NCK Nalchik 60.36 321 *e*P **P 14 18 50.5 +0.3**
NCK pmax pmax
comp=Z,28nm,1.0s
NEY Neytrino 60.79 321 *i* P **P 14 18 53.7 +0.4**
NEY pmax pmax
comp=Z,1.0nm,0.6s
KBZ Khabaz 60.91 321 P **P 14 18 54.0 +0.1**
comp=Z,20nm,0.9s,baz=131,slow=5.2,SNR=31
KBZ Khabaz 60.91 321 P **P 14 18 54.0 +0.1**
SVE Sverdlovsk 61.06 341⇓ *e*P **P 14 18 55.4 +0.7**
SVE pmax pmax
comp=Z,35nm,0.9s
KIV Kislovodsk 61.16 321 *e*P **P 14 18 56.1 +0.4**
comp=Z,43nm,1.0s
KIV Kislovodsk 61.16 321 *e*P **P 14 18 56.2 +0.4**
KIV pmax pmax
comp=Z,39nm,1.0s
EIL Elat 61.24 304 LR LR 14 45 11.7
comp=Z,6µm,18.6s,baz=158,slow=36
MBAR Mbarara 61.37 269 *e*P **P 14 18 56.9 -0.9**
comp=Z,21nm,1.4s
MBAR Mbarara 61.37 269 *e*P **P 14 18 56.9 -0.9**
MBAR pmax pmax
comp=Z,21nm,1.4s
ARU Arti 61.44 340 P **P 14 18 57.2 -0.1**
comp=Z,6.0nm,0.7s,baz=107,slow=0.9,SNR=9.7
ARU Arti 61.44 340*d i*P **P 14 18 57.5 +0.2**
ARU S **S 14 27 19.2 +3.3**
ARU SS **SS 14 31 19.2 +2.0**
ARU pmax pmax
comp=Z,15nm,1.0s
GOF Gofitskoye 61.50 322⇑ *e*P **P 14 18 59.3 +1.4**
CLNS Chul'man 61.52 20 *e*P **P 14 18 59.4 +1.6**
CLNS pmax pmax
comp=Z,16nm,0.8s
CLNS pmax pmax
comp=N,5.0nm,0.8s
CLNS pmax pmax
comp=E,7.0nm,0.9s
LSZ Lusaka 65.18 253 P **P 14 19 21.9 -1.0**
comp=E,2.0nm,0.6s,baz=280,slow=0.6,SNR=5.4
VRH Novokhopyorsk 65.47 328 *e*P **P 14 19 23.6 -0.4**
VRH pmax pmax
comp=Z,20nm,0.9s
BR131 Keskin Array S 65.48 314 *e*P **P 14 19 23.9 -0.6**
BRTR Keskin Array B 65.48 314 P **P 14 19 24.4 -0.1**
comp=Z,3.4nm,0.5s,baz=130,slow=5.8,SNR=16
ANTO Ankara 66.14 314 *e*P **P 14 19 29.0 +0.3**
comp=Z,31nm,1.1s
ANTO Ankara 66.14 314 *e*P **P 14 19 29.0 +0.3**
ANTO pmax pmax
comp=Z,31nm,1.1s
BR231 Keskin MP Arra 66.15 314 *e*P **P 14 19 25.2 -3.6**
VSR Storozhevoye 66.85 327 *e*P **P 14 19 32.5 -0.4**
VSR pmax pmax
comp=Z,10.0nm,0.8s
YAK Yakutsk 67.08 18 *e*P **P 14 19 33.2 -0.9**
comp=Z,39nm,0.9s
YAK Yakutsk 67.08 18 *e*P **P 14 19 33.6 -0.5**
YAK pmax pmax
comp=Z,30nm,0.9s
YAK pmax pmax
comp=N,6.0nm,1.1s
YAK pmax pmax
comp=E,7.0nm,1.1s
SIM Simferopol' 67.09 319 *e*P **P 14 19 36.6 +2.0**
SIM *e* 14 20 03.0
SIM pmax pmax
comp=Z,23nm,0.9s
LPSR Galich'ya Gora 67.67 328 *e*P **P 14 19 37.1 -0.9**
LPSR pmax pmax
comp=Z,30nm,1.2s
LBTB Lobatse 69.25 243 *e*P **P 14 19 48.6 0.0**
comp=Z,14nm,0.8s
LBTB Lobatse 69.25 243 *e*P **P 14 19 48.6 0.0**
LBTB pmax pmax
comp=Z,14nm,0.8s
MOS Moscow 69.91 331 *e*P **P 14 19 50.7 -1.2**
MOS *e* 14 20 14.0
OBN Obninsk 70.13 330*ce*P **P 14 19 53.6 +0.4**
OBN *e* 14 20 14.0
OBN pmax pmax
comp=Z,11nm,0.4s
BOSA Boshof 70.29 239 P **P 14 19 55.3 +0.3**
comp=Z,7.0nm,1.1s,baz=77,slow=4.6,SNR=4.8
TIRR Tirgusor 70.73 317⇑ *i*P **P 14 19 58.6 +1.5**
IDI Anoyia 70.89 307⇑ *i*P **P 14 19 59.7 +1.2**
TLB Topalu 71.02 317⇑ *i*P **P 14 20 00.8 +1.9**
CFR Carcaliu 71.14 318⇑ *i*P **P 14 20 01.4 +1.8**
KIS Kishinev 71.28 320 *e*P P 14 20 09.0 +8.5
KIS Kishinev 71.28 320 *e*P P 14 20 09.0 +8.5
KIS *e* 14 20 25.0
MAW Mawson 71.47 191 P **P 14 20 01.8 +0.7**
comp=Z,7.9nm,0.9s,baz=22,slow=6.3,SNR=5.8
MAW Mawson 71.47 191 *e*P **P 14 20 03.2 +2.0**
comp=Z,3.7nm,1.2s
MAW Mawson 71.47 191 *e*P **P 14 20 03.2 +2.0**
MAW pmax pmax
comp=Z,4.0nm,1.2s
KLMR Klimovskoe 71.75 336 *e*P **P 14 20 00.9 -2.1**
KLMR AMP 14 20 04.6
comp=Z,16nm,1.0s
KLMR Klimovskoe 71.75 336 *e*P **P 14 20 00.8 -2.2**
KLMR pmax pmax
comp=Z,16nm,1.0s
SORM Soroca 71.96 321⇑ *i*P **P 14 20 05.7 +1.2**
VRI Vrincioaia 72.29 318⇑ *i*P **P 14 20 07.7 +1.1**
AKASG Malin Array Be 72.31 324 P **P 14 20 05.8 -0.7**
comp=Z,1.0nm,0.4s,baz=88,slow=5.4,SNR=4.7
AKBB Malin Array Si 72.31 324 *e*P **P 14 20 06.1 -0.4**
comp=Z,35nm,1.8s
AKBB Malin Array Si 72.31 324 *e*P **P 14 20 06.1 -0.4**
AKBB pmax pmax
comp=Z,35nm,1.8s
AK11 Malin Array Si 72.33 324 *e*P **P 14 20 05.6 -1.1**
PLOR Plostina 72.34 318⇑ *i*P **P 14 20 08.0 +1.1**
TESR Tescani 72.54 319⇑ *i*P **P 14 20 08.0 -0.1**
MLR Muntele Rosu 72.71 318 P **P 14 20 10.2 +0.9**
comp=Z,5.9nm,1.0s,baz=50,slow=5.6,SNR=20
MLR Muntele Rosu 72.71 318 *i* P **P 14 20 10.9 +1.7**
MLR Muntele Rosu 72.71 318 *e*P **P 14 20 10.1 +0.9**
comp=Z,36nm,0.9s
MLR Muntele Rosu 72.71 318 *e*P **P 14 20 10.1 +0.9**
MLR pmax pmax
comp=Z,36nm,0.9s
DOPR Dopca 73.22 318⇓ *i*P **P 14 20 12.9 +0.8**
VOIR 73.30 317⇑ *i*P **P 14 20 12.9 +0.2**
ARR Arges 73.56 317⇓ *i*P **P 14 20 13.5 -0.7**
BURAR Bucovina Array 73.80 320⇓ *i*P **P 14 20 15.9 +0.3**
BUR04 Bucovina Ar. S 73.81 320 *e*P **P 14 20 16.1 +0.4**
BUR08 Bucovina Ar. S 73.82 320 *e*P **P 14 20 15.7 0.0**
VTS Vitosha 73.85 314⇑ *i*P **P 14 20 15.9 -0.2**
VTS Vitosha 73.85 314 *e*P **P 14 20 15.4 -0.7**
comp=Z,13nm,0.8s
VTS Vitosha 73.85 314 *e*P **P 14 20 15.4 -0.7**
VTS pmax pmax
comp=Z,13nm,0.8s
TMCR Tamitsa 74.14 338 *e*P **P 14 20 17.7 +0.7**
TMCR pmax pmax
comp=Z,18nm,0.7s
TIXI Tiksi 74.29 11 *e*P **P 14 20 16.5 -1.3**
comp=Z,17nm,0.7s
TIXI Tiksi 74.29 11*ce*P **P 14 20 16.4 -1.4**
TIXI pmax pmax
comp=Z,17nm,0.7s
NACGM Naroch 75.17 327 *e* **P 14 20 23.0 -0.2**
DRGR 75.22 318⇑ *i*P **P 14 20 23.0 -0.9**
SEY Seymchan 75.96 24*ce*P **P 14 20 26.4 -1.2**
CRVS Cervenica-Dubn 76.56 320 *e*P **P 14 20 32.0 +0.6**
CRVS Cervenica-Dubn 76.56 320 *e*P **P 14 20 32.0 +0.6**
STHS Stebnicka Huta 76.83 321 *e*P **P 14 20 35.8 +2.9**

STHS	**Stebnicka Huta**	**76.83**	**321**	*e*P		**P**	**14 20 35.8**	**+2.9**
STHS				pmax	pmax			
	comp=Z,10.0nm,1.0s							
SUW	**Suwalki**	**76.89**	**326**	*e*P		**P**	**14 20 34.4**	**+1.3**
SUW	**Suwalki**	**76.89**	**326**	*e*P		**P**	**14 20 34.4**	**+1.3**
NIE	**Niedzica**	**77.43**	**321**	*e*P		**P**	**14 20 33.7**	**-2.6**
NIE	**Niedzica**	**77.43**	**321**	*e*P		**P**	**14 20 33.7**	**-2.6**
FIA1	**FINESS Array S**	**77.81**	**333**	*e*P		**P**	**14 20 37.6**	**-0.4**
FINES	**FINESS Array B**	**77.81**	**333**	P		**P**	**14 20 37.7**	**-0.4**
	comp=Z,7.3nm,0.7s,baz=97,slow=6.4,SNR=16							
OJC	**Ojcow**	**77.92**	**321**	*e*P		**P**	**14 20 41.5**	**+2.5**
OJC	**Ojcow**	**77.92**	**321**	*e*P		**P**	**14 20 41.5**	**+2.5**
VYHS	**Vyhne**	**78.17**	**319**	*e*P		**P**	**14 20 41.3**	**+0.9**
VYHS	**Vyhne**	**78.17**	**319**	*e*P		**P**	**14 20 41.3**	**+0.9**
VYHS				pmax	pmax			
	comp=Z,11nm,1.5s							
MODS	**Modra-Piesok**	**79.16**	**319**	*e*P		**P**	**14 20 48.4**	**+2.6**
MODS	**Modra-Piesok**	**79.16**	**319**	*e*P		**P**	**14 20 48.4**	**+2.6**
CONA	**Conrad Observa**	**80.01**	**318**	*i* pP		**P**	**14 20 52.6**	**+2.0**
	comp=Z,8.0nm,1.2s							
ARSA	**Arzberg**	**80.13**	**318**	*i* pP		**P**	**14 20 52.8**	**+1.7**
	comp=Z,15nm,1.0s							
DPC	**Dobruska-Polom**	**80.14**	**321**	*e*P		**P**	**14 20 54.1**	**+3.0**
DPC				*ex*		x	14 21 01.0	
DPC	**Dobruska-Polom**	**80.14**	**321**	*e*P		**P**	**14 20 54.1**	**+3.0**
DPC				*e*			14 21 01.0	
KSP	**Ksiaz**	**80.24**	**321**	*e*P		**P**	**14 20 54.5**	**+2.8**
KSP	**Ksiaz**	**80.24**	**321**	*e*P		**P**	**14 20 54.5**	**+2.8**
ARCES	**ARCESS Array B**	**80.99**	**341**	P		**P**	**14 20 55.6**	**+0.3**
	comp=Z,10nm,0.8s,baz=129,slow=3.9,SNR=12							
GEA0	**GERESS Array S**	**81.58**	**319**	*e*P		**P**	**14 20 59.3**	**+0.4**
GEC2	**GERESS Array S**	**81.58**	**319**	*e*P		**P**	**14 20 59.5**	**+0.5**
	comp=Z,37nm,1.1s							
GEC2	**GERESS Array S**	**81.58**	**319**	*e*P		**P**	**14 20 59.5**	**+0.5**
GEC2				pmax	pmax			
	comp=Z,37nm,1.1s							
GERES	**GERESS Array B**	**81.58**	**319**	P		**P**	**14 20 59.3**	**+0.4**
	comp=Z,14nm,1.0s,baz=102,slow=5.6,SNR=27							
KHC	**Kasperske Hory**	**81.70**	**319**	*e*P		**P**	**14 21 01.8**	**+2.3**
KHC				*ex*		x	14 21 09.8	
KHC	**Kasperske Hory**	**81.70**	**319**	*e*P		**P**	**14 21 01.8**	**+2.3**
KHC				*e*			14 21 09.8	
ABTA	**Abfaltersbach**	**82.10**	**317**	*i* P		**P**	**14 21 01.4**	**-0.3**
	comp=Z,12nm,1.4s							
CLL	**Collm**	**82.37**	**322**	*i* P		**P**	**14 21 04.0**	**+1.1**
	comp=Z,11nm,1.3s							
CLL				*i*			14 21 26.2	
CLL	**Collm**	**82.37**	**322**	*i* P		**P**	**14 21 04.0**	**+1.1**
CLL				pmax	pmax			
	comp=Z,11nm,1.3s							
BILL	**Bilibino**	**83.16**	**21**⇑	*e*P		**P**	**14 21 07.6**	**+1.0**
BILL				*e*			14 24 16.3	
BILL				pmax	pmax			
	comp=Z,6.0nm,1.3s							
BILL				MLR	MLR			
	comp=Z,5μm,20.0s							
HFS	**Hagfors**	**83.32**	**330**	P		**P**	**14 21 08.9**	**+1.3**
	comp=Z,5.6nm,1.0s,baz=88,slow=7.8,SNR=5.9							
FETA	**Feichten**	**83.34**	**317**	*i* pP		**P**	**14 21 10.4**	**+2.1**
	comp=Z,21nm,1.3s							
RETA	**Reutte**	**83.37**	**318**	*i* pP		**P**	**14 21 10.0**	**+1.8**
	comp=Z,18nm,1.2s							
KEST	**Kesra**	**83.50**	**306**	P		**P**	**14 21 10.3**	**+1.1**
	comp=Z,6.5nm,0.9s,baz=322,slow=5.3,SNR=3.9							
DAVA	**Damuels**	**83.94**	**317**	*i* pP		**P**	**14 21 13.2**	**+1.9**
	comp=Z,28nm,1.4s							
NB2	**NORSAR Subarra**	**84.67**	**331**	P		**P**	**14 21 16.3**	**+1.7**
	comp=Z,1.3nm,0.7s,baz=93,slow=6.2							
NOA	**NORSAR Array B**	**84.67**	**331**	P		**P**	**14 21 16.0**	**+1.4**
	comp=Z,2.3nm,1.0s,baz=348,slow=20,SNR=2.8							
NOA	**NORSAR Array B**	**84.67**	**331**	P		**P**	**14 21 16.0**	**+1.4**
SPITS	**Spitsbergen Ar**	**86.07**	**348**	P		**P**	**14 21 22.2**	**+0.9**
	comp=Z,5.1nm,0.9s,baz=137,slow=12,SNR=2.9							
TAM	**Tamanrasset**	**86.43**	**293**	*e*P		**P**	**14 21 26.4**	**+2.1**
	comp=Z,10.0nm,0.9s							
TAM	**Tamanrasset**	**86.43**	**293**	*e*P		**P**	**14 21 26.4**	**+2.1**
TAM				pmax	pmax			
	comp=Z,10.0nm,0.9s							
TORD	**Torodi Ar. Bea**	**90.15**	**283**	P		**P**	**14 21 42.3**	**+0.3**
	comp=Z,1.4nm,1.0s,baz=95,slow=4.5,SNR=5.0							
QSPA	**South Pole Qui**	**90.99**	**180**	P		**P**	**14 21 46.2**	**+1.3**
	comp=Z,7.3nm,0.9s,baz=305,slow=3.2,SNR=9.4							
QSPA	**South Pole Qui**	**90.99**	**180**	*e*P		**P**	**14 21 45.1**	**+0.2**
	comp=Z,21nm,1.4s							
GAMB	**Gambell**	**91.83**	**26**	*e*P		**P**	**14 21 48.5**	**-0.2**
	comp=Z,21nm,1.8s							
SNAA	**Sanae**	**92.53**	**198**	P		**P**	**14 21 53.5**	**+1.6**
	comp=Z,2.1nm,0.9s,baz=169,slow=21,SNR=2.5							
ESDC	**Sonseca Array**	**94.01**	**310**	P		**P**	**14 22 00.3**	**+0.9**
	comp=Z,0.3nm,0.4s,baz=66,slow=4.5,SNR=3.0							
KOWA	**Kowa**	**95.65**	**285**	LR		LR	15 05 15.6	
	comp=Z,5μm,18.3s,baz=98,slow=36							
YKA	**Yellowknife Ar**	**113.50**	**13**	PKiKP		**PKiKP**	**14 27 18.2**	**-0.5**
	comp=Z,0.1nm,0.4s,baz=330,slow=2.5,SNR=3.0							
LAO	**LASA Array**	**129.82**	**16**	P		**PKPdf**	**14 27 50.9**	**+0.3**
	baz=336							
NVAR	**Mina Array Bea**	**131.78**	**32**	PKP		**PKPdf**	**14 27 56.3**	**+1.6**
	comp=Z,0.5nm,0.7s,baz=288,slow=5.7,SNR=4.4							
PDAR	**Pinedale Array**	**132.24**	**22**	PKP		**PKPdf**	**14 27 55.6**	**+0.1**
	comp=Z,0.5nm,0.7s,baz=28,slow=4.1,SNR=3.3							
PLCA	**Paso Flores**	**137.47**	**200**	PKP		**PKPdf**	**14 28 06.5**	**+1.3**
	comp=Z,3.2nm,1.1s,baz=134,slow=4.0,SNR=3.6							
WMOK	**Wichita Mounta**	**142.98**	**15**	P		PKPpre	14 28 11.0	
	baz=342							
WMOK	**Wichita Mounta**	**142.98**	**15**	*e*PKPpre		PKPpre	14 28 10.1	
WMOK	**Wichita Mounta**	**142.98**	**15**	*e*PKHKP		PKPpre	14 28 10.1	
MNTX	**Cornudas Mount**	**143.47**	**25**	*e*PKPdf		**PKPdf**	**14 28 14.9**	**-1.2**
X39A	**Fountain Ranch**	**144.16**	**9**	P		**PKPdf**	**14 28 15.6**	**-1.7**
	baz=349							
MIAR	**Mount Ida**	**144.21**	**8**	P		**PKPdf**	**14 28 15.4**	**-1.9**
	baz=350							
MIAR	**Mount Ida**	**144.21**	**8**	*e*PKPdf		**PKPdf**	**14 28 15.6**	**-1.8**
MIAR	**Mount Ida**	**144.21**	**8**	*e*PKIKP		**PKPdf**	**14 28 15.6**	**-1.8**
Y47A	**UCPARC, Winfie**	**145.24**	**360**	P		**PKPdf**	**14 28 18.0**	**-1.2**
	baz=0.1							
Z48A	**Northport**	**145.77**	**359**	P		**PKPab**	**14 28 19.7**	**-1.2**
	baz=0.6							
Z50A	**Ashland**	**145.84**	**357**	P		**PKPdf**	**14 28 19.2**	**-1.1**
	baz=3.5							
Z49A	**Columbiana**	**145.93**	**358**	P		**PKPab**	**14 28 20.4**	**-1.0**
	baz=2.4							
Z47A	**Carrollton**	**145.95**	**0**	P		**PKPab**	**14 28 20.5**	**-1.0**
	baz=360							
TX31	**Lajitas Ar. Si**	**146.25**	**25**	*e*PKPdf		**PKPab**	**14 28 22.1**	**-0.9**
TX31				*e*PKPdf		**PKPbc**	**14 28 22.2**	**0.0**
TXAR	**Lajitas Array**	**146.25**	**25**	PKPbc		**PKPab**	**14 28 22.3**	**-0.6**
	comp=Z,24nm,0.6s,baz=147,slow=0.1,SNR=17							
JCT	**Junction City**	**146.67**	**19**	*e*PKPbc		**PKPab**	**14 28 23.6**	**-0.9**
JCT	**Junction City**	**146.67**	**19**	*e*PKP2		**PKPab**	**14 28 23.6**	**-0.9**
HPIG		**147.35**	**30**	*e*PKPbc		**PKPbc**	**14 28 25.2**	**-0.4**
LPAZ	**La Paz**	**155.31**	**231**	PKP		**PKPdf**	**14 28 36.5**	**+0.5**
	comp=Z,1.3nm,0.8s,baz=176,slow=1.0,SNR=3.9							

IDC 11 14:15:34.8±4.1, 4.2°N×90.1°E, 18 km, h0 km, mb3.6/6, mb1 3.7/6, mb1mx3.4/67, mbtmp3.6/6, Error ellipse: s-maj=158.4km s-min=24.9km az=60.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**42.98**	**352**	P	P	14 23 36.5	+0.7
	1.1nm,0.6s,baz=164,slow=8.8,SNR=7.7						
SONM	**Songino Array**	**45.66**	**15**	P	P	14 23 57.0	-0.3
	0.2nm,0.4s,baz=184,slow=8.7,SNR=0.9						
KURBB	**Kurchatov Arr**	**47.29**	**350**	P	P	14 24 10.6	+0.7
	0.9nm,0.8s,baz=172,slow=7.2,SNR=2.6						
WRA	**Warramunga Arr**	**49.57**	**121**	P	P	14 24 27.4	-0.7
	0.5nm,0.6s,baz=293,slow=8.3,SNR=1.6						
ZALV	**Zalesovo Beam**	**49.79**	**356**	P	P	14 24 27.1	-2.0
	0.5nm,0.3s,baz=175,slow=7.2,SNR=2.8						
ASAR	**Alice Springs**	**50.81**	**125**	P	P	14 24 38.0	+0.6
	0.4nm,0.9s,baz=300,slow=7.4,SNR=1.7						

IDC 11 14:16:27.7±4.0, 3.9°N×90.3°E, 8 km, h0 km, mb3.7/5, mb1 3.8/5, mb1mx3.4/67, mbtmp3.7/5, Error ellipse: s-maj=144.3km s-min=26.8km az=58.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**43.21**	**352**	P	P	14 24 31.2	+0.6
	1.0nm,0.6s,baz=167,slow=9.1,SNR=5.2						
SONM	**Songino Array**	**45.80**	**15**	P	P	14 24 51.6	+0.2
	0.8nm,0.6s,baz=196,slow=7.8,SNR=3.5						
KURBB	**Kurchatov Arr**	**47.53**	**350**	P	P	14 25 05.3	+0.6
	0.8nm,0.7s,baz=177,slow=6.9,SNR=4.4						
WRA	**Warramunga Arr**	**49.30**	**121**	P	P	14 25 18.8	-0.1
	0.3nm,0.3s,baz=297,slow=8.4,SNR=12						
ZALV	**Zalesovo Beam**	**50.01**	**356**	P	P	14 25 22.0	-1.8
	0.8nm,0.4s,baz=177,slow=6.0,SNR=2.7						

IDC 11 14:17:05.6±4.3, 2.7°N×91.6°E, 0 km, mb3.5/5, mb1 3.6/5, mb1mx3.3/65, mbtmp3.5/5, Error ellipse: s-maj=164.5km s-min=26.4km az=60.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SONM	**Songino Array**	**46.69**	**14**	P	P	14 25 35.9	-0.3
	0.4nm,0.5s,baz=202,slow=7.6,SNR=1.9						
WRA	**Warramunga Arr**	**47.59**	**120**	P	P	14 25 44.2	+0.7
	0.7nm,0.8s,baz=296,slow=8.6,SNR=2.0						
ASAR	**Alice Springs**	**48.79**	**125**	P	P	14 25 52.2	-0.7
	0.4nm,0.9s,baz=296,slow=8.2,SNR=4.7						
KURBB	**Kurchatov Arr**	**48.98**	**349**	P	P	14 25 54.2	+0.4
	0.3nm,0.6s,baz=170,slow=7.5,SNR=1.8						
ZALV	**Zalesovo Beam**	**51.35**	**355**	P	P	14 26 11.2	-0.5
	0.5nm,0.5s,baz=188,slow=8.7,SNR=1.5						

IDC 11 14:17:32.9±2.6, 5.5°N×155.6°E, 0 km, mb3.5/3, mb1 3.8/3, mb1mx3.4/49, mbtmp3.5/3, Error ellipse: s-maj=178.9km s-min=30.9km az=129.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**25.20**	**233**	P	P	14 23 01.1	+0.6
	0.5nm,0.4s,baz=59,slow=9.1,SNR=7.6						
ASAR	**Alice Springs**	**27.64**	**227**	P	P	14 23 21.9	-0.6
	0.2nm,0.3s,baz=60,slow=9.4,SNR=8.2						
ILAR	**Eielson Array**	**81.77**	**21**	P	P	14 29 53.3	0.0
	0.2nm,0.6s,baz=234,slow=6.2,SNR=4.5						

*ISCJB **11** 14:17:49.9±0.4, 1.3°N×0.6°E, 60 km, mb4.5/33, Error ellipse: s-maj=9.3km s-min=5.4km az=21.3*

*IDC **11** 14:17:50.1±0.7, 1.3°N×91.5°E, 0 km, mb4.2/20, mb1 4.3/21, mb1mx4.1/69, mbtmp4.2/21, ML3.3/1, Error ellipse: s-maj=21.6km s-min=14.7km az=46.0*

*NEIC **11** 14:17:51.5±0.3, 1.3°N×91.5°E, 10 km, mb4.9/12, Error ellipse: s-maj=6.2km s-min=3.5km az=203.0*

ISC 11 14:17:51.4±0.5, 1.3°N±0.9×91.5°E±0.7, 10 km, n109, σ 92/108, mb4.6/33, 1C-3D, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GSI	**Gunungsitoli**	**6.07**	**90**	Pn	**Pn**	**14 19 20.3**	**-1.0**
LHMI	**Lhok Sumawe**	**6.67**	**54**	*e*Pn	**Pn**	**14 19 27.0**	**-2.5**
PSI	**Prapat**	**7.55**	**79**	*e*Pn	**Pn**	**14 19 41.6**	**-0.3**
BKNI	**Bangkinang**	**9.59**	**99**	*e*Pn	**Pn**	**14 20 08.4**	**-1.2**
KULM	**Kulim**	**9.94**	**67**	*e*Pn	**Pn**	**14 20 14.6**	**+0.2**
IPM	**Ipoh**	**10.01**	**72**	*e*Pn	**Pn**	**14 20 16.4**	**+1.0**
PALK	**Pallekele**	**12.27**	**299**	Pn	**Pn**	**14 20 42.7**	**-3.7**
	1.8nm,0.3s,baz=119,slow=19,SNR=3.6						
PALK	**Pallekele**	**12.27**	**299**	*e*Pn	**Pn**	**14 20 46.5**	**+0.1**
MYKOM	**Kota Tinggi**	**12.35**	**88**	*e*Pn	**Pn**	**14 20 47.1**	**-0.3**
CM01	**Chiang Mai Arr**	**18.48**	**23**	*e*P	**P**	**14 22 07.6**	**-0.1**
CM31	**Chiang Mai Arr**	**18.51**	**23**	*e*P	**P**	**14 22 07.8**	**-0.2**
CMAR	**Chiang Mai Arr**	**18.51**	**23**	P	**P**	**14 22 07.3**	**-0.7**
	0.0nm,0.3s,baz=216,slow=12,SNR=8.9						
CMAR	**Chiang Mai Arr**	**18.51**	**23**	P	**P**	**14 22 07.3**	**-0.7**
KSM	**Kuching**	**18.80**	**89**	*e*P	**Pn**	**14 22 12.8**	**+1.0**
	88nm,1.2s						
CHTO	**Chiang Mai**	**18.83**	**22**	*e*P	**P**	**14 22 11.4**	**-0.2**
	78nm,1.4s						
SBUM	**Sibu**	**20.73**	**87**	*e*P	**P**	**14 22 32.6**	**+0.2**
	72nm,1.2s						
LSA	**Lhasa**	**28.20**	**359**	P	**P**	**14 23 46.5**	**+1.5**
LSA				pmax	pmax		
	comp=Z,20nm,1.6s						
LSA	**Lhasa**	**28.20**	**359**	*e*P	**P**	**14 23 46.1**	**+1.1**
ENH	**Enshi**	**33.46**	**29**	*e*P	**P**	**14 24 30.1**	**-0.8**
	comp=Z,10nm,0.8s						
XAN	**Xi'an**	**36.38**	**25**	P	**P**	**14 24 55.8**	**-0.3**
XAN				pmax	pmax		
	comp=Z,17nm,0.8s						
NIL	**Nilore**	**36.41**	**334**	*e*P	**P**	**14 24 56.4**	**+0.1**
	comp=Z,47nm,0.9s						
GTA	**Gaotai**	**38.64**	**10**	*e*P	**P**	**14 25 16.0**	**+0.7**
GTA				pP	sP	14 25 20.0	+0.4
GTA				sP	pP	14 25 23.4	+5.0
GTA				pmax	pmax		
	comp=Z,11nm,0.7s						
FITZ	**Fitzroy Crossi**	**38.75**	**121**	*e*P	**P**	**14 25 16.1**	**-0.2**
KSH	**Kashi**	**40.55**	**341**	P	**P**	**14 25 28.6**	**-2.6**
KSH				pmax	pmax		
	comp=Z,20nm,1.0s						
AAK	**Ala-Archa**	**43.85**	**342**	P	**P**	**14 25 59.1**	**+1.0**
	comp=Z,3.0nm,0.9s,baz=159,slow=7.7,SNR=6.1						
AAK	**Ala-Archa**	**43.85**	**342**	P	**P**	**14 25 59.1**	**+1.0**
KK06	**Karatay Array**	**45.60**	**338**	*e*P	**P**	**14 26 12.0**	**+0.1**
KK07	**Karatay Array**	**45.61**	**338**	*e*P	**P**	**14 26 12.2**	**+0.3**
KK02	**Karatay Array**	**45.62**	**338**	*e*P	**P**	**14 26 12.0**	**0.0**
KK31	**Karatay Array**	**45.62**	**338**	*e*P	**P**	**14 26 12.0**	**0.0**
KKAR	**Karatay Array**	**45.62**	**338**	*e*P	**P**	**14 26 12.7**	**+0.7**
	comp=Z,5.0nm,0.8s						
KK01	**Karatay Array**	**45.62**	**338**	*e*P	**P**	**14 26 12.2**	**+0.1**
KK03	**Karatay Array**	**45.62**	**338**	*e*P	**P**	**14 26 12.2**	**+0.1**
KK04	**Karatay Array**	**45.62**	**338**	*e*P	**P**	**14 26 12.0**	**-0.1**
KK05	**Karatay Array**	**45.62**	**338**	*e*P	**P**	**14 26 12.3**	**+0.2**
KK08	**Karatay Array**	**45.63**	**338**	*e*P	**P**	**14 26 12.3**	**+0.2**
MK01	**Makanchi Array**	**45.95**	**351**	*e*P	**P**	**14 26 14.4**	**-0.2**
MK31	**Makanchi Array**	**45.98**	**351**	*e*P	**P**	**14 26 14.5**	**-0.3**
MKAR	**Makanchi Array**	**45.98**	**351**	P	**P**	**14 26 15.3**	**+0.5**
	comp=Z,5.1nm,0.6s,baz=168,slow=9.0,SNR=29						
MKAR	**Makanchi Array**	**45.98**	**351**	*e*P	**P**	**14 26 14.7**	**-0.1**
	comp=Z,63nm,0.9s						
WRA	**Warramunga Arr**	**47.02**	**119**	P	**P**	**14 26 23.0**	**-0.4**
	comp=Z,3.3nm,0.7s,baz=296,slow=8.6,SNR=12						
WRA	**Warramunga Arr**	**47.02**	**119**	P	**P**	**14 26 23.0**	**-0.4**
WRAB	**Tennant Creek**	**47.02**	**119**	*e*P	**P**	**14 26 22.8**	**-0.7**
	comp=Z,3.9nm,0.7s						
GEYT	**Alibeck**	**47.60**	**324**	P	**P**	**14 26 28.6**	**+1.0**
	comp=Z,5.3nm,0.7s,baz=158,slow=9.4,SNR=10						
SONM	**Songino Array**	**48.08**	**13**	P	**P**	**14 26 32.4**	**+1.1**
	comp=Z,16nm,0.7s,baz=192,slow=9.2,SNR=46						
SONM	**Songino Array**	**48.08**	**13**	P	**P**	**14 26 32.4**	**+1.1**
SONA1	**Songino Array**	**48.09**	**13**	*e*P	**P**	**14 26 32.1**	**+0.6**
ASAR	**Alice Springs**	**48.12**	**124**	P	**P**	**14 26 31.7**	**-0.2**
	comp=Z,0.4nm,0.6s,baz=302,slow=7.7,SNR=5.9						
ASAR	**Alice Springs**	**48.12**	**124**	P	**P**	**14 26 31.7**	**-0.2**
ULN	**Ulaanbaatar**	**48.26**	**14**	*e*P	**P**	**14 26 32.9**	**+0.1**
	comp=Z,4.3nm,0.9s						
KSAR	**Wonju Array Be**	**49.10**	**39**	P	**P**	**14 26 39.7**	**+0.5**
KSRS	**Korea Array**	**49.13**	**39**	P	**P**	**14 26 39.7**	**+0.3**
	comp=Z,1.7nm,0.7s,baz=208,slow=10.0,SNR=5.5						
KURBB	**Kurchatov Arra**	**50.32**	**349**	P	**P**	**14 26 48.5**	**+0.2**
	comp=Z,4.7nm,0.9s,baz=173,slow=7.3,SNR=23						
KURK	**Kurchatov**	**50.39**	**349**	*e*P	**P**	**14 26 48.7**	**-0.1**
ZAA0	**Zalesovo Array**	**52.72**	**355**	*e*P	**P**	**14 27 05.9**	**-0.3**
	comp=Z,24nm,1.1s						
ZALV	**Zalesovo Beam**	**52.72**	**355**	P	**P**	**14 27 06.1**	**0.0**
	comp=Z,5.3nm,0.7s,baz=185,slow=7.2,SNR=15						
ZALV	**Zalesovo Beam**	**52.72**	**355**	*e*P	**P**	**14 27 05.8**	**-0.4**
KMBO	**Kilima Mbogo**	**54.30**	**268**	P	**P**	**14 27 19.8**	**+0.9**
	comp=Z,1.0nm,0.4s,baz=77,slow=9.0,SNR=3.5						
KMBO	**Kilima Mbogo**	**54.30**	**268**	P	**P**	**14 27 19.8**	**+0.9**
AB31	**Akbulak array**	**54.85**	**335**	*e*P	**P**	**14 27 21.4**	**-0.4**
ABKAR	**Akbulak array**	**54.85**	**335**	*e*P	**P**	**14 27 21.5**	**-0.3**
	comp=Z,84nm,1.0s						
AB05	**Akbulak array**	**54.87**	**335**	*e*P	**P**	**14 27 21.8**	**-0.1**
MJAR	**Matsushiro Arr**	**55.53**	**45**	P	**P**	**14 27 27.3**	**+0.2**
	comp=Z,1.9nm,0.8s,baz=172,slow=9.9,SNR=5.3						
MJAR	**Matsushiro Arr**	**55.53**	**45**	P	**P**	**14 27 27.3**	**+0.2**
STKA	**Stephens Creek**	**57.76**	**130**	P	**P**	**14 27 43.0**	**0.0**
	comp=Z,1.6nm,0.8s,baz=350,slow=12,SNR=3.0						
STKA	**Stephens Creek**	**57.76**	**130**	P	**P**	**14 27 43.0**	**0.0**
KLR	**Kul'dur**	**58.82**	**30**	P	**P**	**14 27 50.4**	**+0.4**
	comp=Z,0.4nm,0.9s,baz=250,slow=6.6,SNR=13						
KLR	**Kul'dur**	**58.82**	**30**	P	**P**	**14 27 50.4**	**+0.4**
KBZ	**Khabaz**	**60.31**	**321**	P	**P**	**14 28 01.2**	**+0.8**
	comp=Z,5.8nm,0.8s,baz=137,slow=6.8,SNR=17						
KBZ	**Khabaz**	**60.31**	**321**	P	**P**	**14 28 01.2**	**+0.8**
BRTR	**Keskin Array B**	**64.85**	**314**	P	**P**	**14 28 31.3**	**+0.2**
	comp=Z,1.7nm,0.8s,baz=135,slow=6.7,SNR=9.1						
BRTR	**Keskin Array B**	**64.85**	**314**	P	**P**	**14 28 31.3**	**+0.2**
YAK	**Yakutsk**	**66.98**	**18**	*e*P	**P**	**14 28 43.6**	**-0.5**
	comp=Z,6.9nm,0.7s						
VRI	**Vrincioaia**	**71.68**	**318**	*i* P	**P**	**14 29 15.5**	**+1.9**
AKASG	**Malin Array Be**	**71.72**	**324**	P	**P**	**14 29 13.2**	**-0.5**
	comp=Z,1.1nm,0.7s,baz=96,slow=4.8,SNR=5.6						
AKASG	**Malin Array Be**	**71.72**	**324**	P	**P**	**14 29 13.2**	**-0.5**
MLR	**Muntele Rosu**	**72.09**	**318**	P	**P**	**14 29 17.4**	**+1.2**
	comp=Z,2.1nm,0.8s,baz=122,slow=3.2,SNR=12						
MLR	**Muntele Rosu**	**72.09**	**318**	*i* P	**P**	**14 29 18.2**	**+1.9**
MLR	**Muntele Rosu**	**72.09**	**318**	P	**P**	**14 29 17.4**	**+1.2**
BURAR	**Bucovina Array**	**73.19**	**320**	*i* P	**P**	**14 29 23.1**	**+0.4**
BUR04	**Bucovina Ar. S**	**73.20**	**320**	*e*P	**P**	**14 29 22.6**	**-0.2**
VTS	**Vitosha**	**73.22**	**314**	*i* P	**P**	**14 29 23.8**	**+0.7**
TIXI	**Tiksi**	**74.11**	**12**	*e*P	**P**	**14 29 26.4**	**-1.1**
FINES	**FINESS Array B**	**77.28**	**333**	P	**P**	**14 29 45.7**	**-0.1**
	comp=Z,1.7nm,0.6s,baz=85,slow=4.0,SNR=6.5						
FINES	**FINESS Array B**	**77.28**	**333**	P	**P**	**14 29 45.7**	**-0.1**
DPC	**Dobruska-Polom**	**79.53**	**321**	*e*P	**P**	**14 30 00.5**	**+1.9**
DPC				*ex*	x	14 30 07.9	
GEA0	**GERESS Array S**	**80.97**	**319**	*e*P	**P**	**14 30 07.3**	**+0.9**
GERES	**GERESS Array B**	**80.97**	**319**	P	**P**	**14 30 07.7**	**+1.2**
	comp=Z,6.1nm,0.8s,baz=96,slow=5.4,SNR=29						
GERES	**GERESS Array B**	**80.97**	**319**	P	**P**	**14 30 07.7**	**+1.2**
CLL	**Collm**	**81.77**	**322**	*i* P	**P**	**14 30 11.7**	**+1.2**
	comp=Z,5.0nm,0.9s						
VNDA	**Vanda**	**87.11**	**168**	P	**P**	**14 30 37.0**	**0.0**
	comp=Z,0.9nm,0.8s,baz=315,slow=2.9,SNR=4.5						
VNDA	**Vanda**	**87.11**	**168**	P	**P**	**14 30 37.0**	**0.0**
QLMT	**Earthquake Lak**	**129.70**	**21**	*e*PKPdf	**PKPdf**	**14 37 00.4**	**-1.1**
WMOK	**Wichita Mounta**	**142.84**	**14**	P	**PKPdf**	**14 37 22.2**	**-3.7**
	baz=343						
X39A	**Fountain Ranch**	**143.95**	**8**	P	PKPbc	14 37 26.2	+0.7
	baz=350						
MIAR	**Mount Ida**	**143.98**	**7**	P	PKPbc	14 37 26.1	+0.5
	baz=351						
Z48A	**Northport**	**145.46**	**359**	P	**PKPbc**	**14 37 29.7**	**-0.6**
	baz=1.6						
Z50A	**Ashland**	**145.50**	**356**	P	**PKPbc**	**14 37 30.2**	**-0.4**
	baz=4.5						
Z44A	**Pea Ridge, Bel**	**145.52**	**3**	P	**PKPab**	**14 37 30.8**	**+0.1**
	baz=356						
Z49A	**Columbiana**	**145.60**	**357**	P	**PKPdf**	**14 37 30.6**	**-0.1**
	baz=3.4						
Z47A	**Carrollton**	**145.64**	**359**	P	**PKPdf**	**14 37 30.8**	**+0.1**
	baz=0.7						
LRAL	**Lakeview Retre**	**145.78**	**358**	P	**PKPbc**	**14 37 31.4**	**+0.1**
	baz=2.6						
150A	**Eclectic**	**146.15**	**356**	P	**PKPb

GYA	**Guiyang**	**27.61**	**29**	P	**P**	**14 24 34.8 +2.6**
GYA				PP	**PnPn**	**14 25 22.0 +4.5**
GYA				PcP	**PcP**	**14 27 51.7 +1.8**
GYA				S	**S**	**14 29 14.8 +0.8**
GYA				SS	**SnSn**	**14 30 32.2 +7.0**
GYA				ScP	**ScP**	**14 31 31.0 +0.2**
GYA				pmax	pmax	
	comp=Z,20nm,0.8s					
GYA				pmax	pmax	
	comp=Z,120nm,5.6s					
GYA				LR	LR	
	comp=Z,550nm,18.0s					
GYA				LR	LR	
	comp=Z,510nm,18.4s					
CD2	**Chengdu**	**30.34**	**20**	P	**P**	**14 24 56.5 +0.2**
CD2				S	**S**	**14 29 58.1 +1.4**
CD2				pmax	pmax	
	comp=Z,40nm,0.5s					
SMLA	**Simla**	**31.87**	**335**	*e*P	**P**	**14 25 10.0 +0.2**
SMLA				IAmb	IAmb	14 25 10.9
	comp=Z,69nm,1.9s					
ENH	**Enshi**	**32.15**	**29**	*e*P	**P**	**14 25 11.4 -0.9**
	comp=Z,15nm,0.9s					
DHRM	**DHARAMSHALA**	**33.21**	**335**	*e*P	**P**	**14 25 20.6 -1.2**
DHRM				IAmb	IAmb	14 25 26.4
XAN	**Xi'an**	**35.09**	**25**	P	**P**	**14 25 37.3 -0.5**
XAN				pP	sP	14 25 41.9 -0.3
XAN				sP	pP	14 25 44.4 +3.5
XAN				pmax	pmax	
	comp=Z,35nm,1.1s					
LZH	**Lanzhou**	**35.16**	**16**	*e*P	P	14 25 47.0 +8.4
LZH				pP	sP	14 25 50.0 +7.1
LZH				sP	pP	14 25 51.7 +10
LZH				PP	**PP**	**14 27 06.2 +7.8**
LZH				pmax	pmax	
	comp=Z,23nm,1.3s					
LZH				pmax	pmax	
	comp=Z,100nm,5.0s					
LZH				LR	LR	
	comp=N,1µm,13.7s					
LZH				LR	LR	
	comp=E,1µm,14.0s					
LZH				LR	LR	
	comp=Z,2µm,17.6s					
NJ2	**Nanjing**	**38.67**	**38**	*e*P	**P**	**14 26 06.6 -1.7**
NJ2				pmax	pmax	
	comp=Z,10.0nm,0.5s					
FITZ	**Fitzroy Crossi**	**38.74**	**123**	P	**P**	**14 26 08.1 -1.0**
	comp=Z,2.9nm,0.6s,baz=294,slow=5.3,SNR=6.6					
WMQ	**Urumqi**	**41.39**	**355**	P	**P**	**14 26 32.3 +1.5**
WMQ				sP	sP	14 26 41.0 +5.8
HHC	**Hu-ho-hao-te**	**42.03**	**22**	*e*P	**P**	**14 26 37.0 +0.8**
HHC				sP	sP	14 26 45.4 +4.8
HHC				S	**S**	**14 32 54.0 -1.4**
HHC				pmax	pmax	
	comp=Z,21nm,1.1s					
HHC				pmax	pmax	
	comp=Z,82nm,6.4s					
HHC				LR	LR	
	comp=Z,2µm,14.9s					
HHC				LR	LR	
	comp=Z,4µm,15.9s					
HHC				LR	LR	
	comp=Z,3µm,14.9s					
AAK	**Ala-Archa**	**43.03**	**341**	P	**P**	**14 26 44.5 +0.1**
	comp=Z,2.2nm,0.9s,baz=172,slow=19,SNR=3.3					
AAK	**Ala-Archa**	**43.03**	**341**	*e*P	**P**	**14 26 44.2 -0.2**
AAK				pmax	pmax	
	comp=Z,4.0nm,1.1s					
BJT	**Baijiatuan**	**43.25**	**27**	P	**P**	**14 26 45.5 -0.5**
	comp=Z,21nm,0.8s					
BJT	**Baijiatuan**	**43.25**	**27**	P	**P**	**14 26 45.5 -0.5**
BJT				pmax	pmax	
	comp=Z,21nm,0.8s					
BJI	**Beijing**	**43.27**	**27**⇑	*i*P	**P**	**14 26 47.2 +1.1**
BJI				pmax	pmax	
	comp=Z,43nm,1.2s					
KK06	**Karatay Array**	**44.85**	**337**	*e*P	**P**	**14 26 58.8 -0.1**
KK07	**Karatay Array**	**44.85**	**337**	*e*P	**P**	**14 26 59.0 +0.2**
KK02	**Karatay Array**	**44.86**	**337**	*e*P	**P**	**14 26 58.9 -0.1**
KK31	**Karatay Array**	**44.86**	**337**	*e*P	**P**	**14 26 58.9 0.0**
KK31	**Karatay Array**	**44.86**	**337**	*e*P	**P**	**14 26 58.9 0.0**
KKAR	**Karatay Array**	**44.86**	**337**	*e*P	**P**	**14 26 58.8 -0.1**
KKAR	**Karatay Array**	**44.86**	**337**	*e*P	**P**	**14 26 58.8 -0.1**
KK03	**Karatay Array**	**44.87**	**337**	*e*P	**P**	**14 26 58.8 -0.1**
KK01	**Karatay Array**	**44.87**	**337**	*e*P	**P**	**14 26 58.8 -0.1**
KK04	**Karatay Array**	**44.87**	**337**	*e*P	**P**	**14 26 58.8 -0.2**
KK05	**Karatay Array**	**44.87**	**337**	*e*P	**P**	**14 26 58.6 -0.4**
KK08	**Karatay Array**	**44.87**	**337**	*e*P	**P**	**14 26 59.0 0.0**
MK31	**Makanchi Array**	**45.01**	**350**	*e*P	**P**	**14 27 00.2 +0.2**
MK31	**Makanchi Array**	**45.01**	**350**	*e*P	**P**	**14 27 00.2 +0.2**
MKAR	**Makanchi Array**	**45.01**	**350**	P	**P**	**14 27 00.3 +0.3**
	comp=Z,6.1nm,0.8s,baz=162,slow=8.4,SNR=11					
MKAR	**Makanchi Array**	**45.01**	**350**	*e*P	**P**	**14 27 00.1 +0.1**
	comp=Z,63nm,0.9s					
MKAR	**Makanchi Array**	**45.01**	**350**	*e*P	**P**	**14 27 00.1 +0.1**
MKAR				pmax	pmax	
	comp=Z,63nm,0.9s					
SONM	**Songino Array**	**46.84**	**13**	P	**P**	**14 27 14.9 +0.3**
	comp=Z,4.8nm,0.9s,baz=198,slow=9.4,SNR=7.3					
SONA1	**Songino Array**	**46.85**	**13**	*e*P	**P**	**14 27 14.9 +0.2**
WRA	**Warramunga Arr**	**46.94**	**120**	P	**P**	**14 27 15.1 -0.6**
	comp=Z,3.7nm,0.9s,baz=308,slow=8.7,SNR=8.9					
ULN	**Ulaanbaatar**	**47.02**	**14**	*c*e*P*	**P**	**14 27 16.1 +0.1**
ULN				pmax	pmax	
	comp=Z,8.0nm,2.5s					
GYB1	**ALIBECK ARRAY**	**47.13**	**323**	*e*P	**P**	**14 27 17.2 +0.2**
	comp=Z,18nm,1.1s					
GYA1	**ALIBECK ARRAY**	**47.13**	**323**	*e*P	**P**	**14 27 16.9 0.0**
	comp=Z,12nm,0.8s					
GYB5	**ALIBECK ARRAY**	**47.14**	**323**	*e*P	**P**	**14 27 17.1 +0.1**
	comp=Z,24nm,1.2s					
GEYT	**Alibeck**	**47.14**	**323**	P	**P**	**14 27 18.2 +1.2**
	comp=Z,9.1nm,0.9s,baz=147,slow=8.3,SNR=10.0					
GYA0	**ALIBECK ARRAY**	**47.14**	**323**	*e*P	**P**	**14 27 17.2 +0.2**
	comp=Z,20nm,1.1s					
GYA0B	**ALIBECK ARRAY**	**47.14**	**323**	*e*P	**P**	**14 27 17.1 +0.1**
	comp=Z,20nm,1.1s					
GYA2	**ALIBECK ARRAY**	**47.14**	**323**	*e*P	**P**	**14 27 17.4 +0.4**
	comp=Z,14nm,0.9s					
GYB3	**ALIBECK ARRAY**	**47.15**	**323**	*e*P	**P**	**14 27 18.1 +1.0**
	comp=Z,22nm,1.3s					
GYB4	**ALIBECK ARRAY**	**47.15**	**323**	*e*P	**P**	**14 27 17.2 +0.1**
	comp=Z,16nm,1.1s					
DGZ	**Jazzator, Alta**	**47.25**	**356**	*e*P	**P**	**14 27 19.2 +1.4**
KSAR	**Wonju Array Be**	**47.80**	**39**	P	**P**	**14 27 21.7 -0.4**
KSAR	**Wonju Array Be**	**47.80**	**39**	P	**P**	**14 27 21.7 -0.4**
KSRS	**Korea Array**	**47.83**	**39**	P	**P**	**14 27 21.7 -0.6**
	comp=Z,3.6nm,0.9s,baz=232,slow=10.0,SNR=7.9					
KSRS	**Korea Array**	**47.83**	**39**	P	**P**	**14 27 21.7 -0.6**
KSRS				pmax	pmax	
	comp=Z,3.0nm,0.9s					
ASAR	**Alice Springs**	**48.15**	**125**	P	**P**	**14 27 24.4 -0.7**
	comp=Z,2.2nm,0.9s,baz=301,slow=7.5,SNR=8.4					
HVS	**Khovu-Aksy**	**48.53**	**1**	*e*P	**P**	**14 27 27.6 0.0**
HVS				pmax	pmax	
	comp=Z,30nm,1.0s					
OPO	**Ambohidratompo**	**48.98**	**243**	P	**P**	**14 27 33.3 +1.6**
	comp=Z,4.3nm,0.4s,baz=79,slow=7.9,SNR=3.6					
ABPO	**Ambohimpanom**	**49.10**	**242**	*i* P	**P**	**14 27 34.8 +2.2**
KURK	**Kurchatov**	**49.45**	**349**	*e*P	**P**	**14 27 34.6 +0.1**
	comp=Z,16nm,1.0s					
KURK	**Kurchatov**	**49.45**	**349**	*e*P	**P**	**14 27 34.6 +0.1**
KURK				pmax	pmax	
	comp=Z,16nm,1.0s					
RAYN	**Ar Rayn**	**49.79**	**299**	*e*P	**P**	**14 27 38.2 +0.6**
	comp=Z,6.9nm,1.1s					
TLY	**Talaya**	**49.99**	**9**	*e*P	**P**	**14 27 41.3 +2.6**
TLY				pmax	pmax	
	comp=Z,8.0nm,1.0s					
CN2	**Changchun**	**50.62**	**31**	*e*P	**P**	**14 27 44.5 +0.9**
CN2				pmax	pmax	
	comp=Z,10.0nm,0.8s					
ZAA0	**Zalesovo Array**	**51.69**	**354**	*e*P	**P**	**14 27 51.7 +0.3**
	comp=Z,24nm,1.1s					
ZALV	**Zalesovo Beam**	**51.69**	**354**	P	**P**	**14 27 51.5 +0.1**
	comp=Z,7.0nm,0.4s,baz=176,slow=6.7,SNR=18					
HIA	**Hailar**	**52.23**	**23**	*e*P	**P**	**14 27 54.5 -1.1**
HIA				pmax	pmax	
	comp=Z,12nm,1.2s					
NVS	**Novosibirsk**	**52.74**	**353**	*e*P	**P**	**14 27 59.3 +0.1**
NVS				*e*		14 30 06.4
NVS				pmax	pmax	
	comp=N,11nm,1.1s					
NVS				pmax	pmax	
	comp=E,9.0nm,1.1s					
NVS				pmax	pmax	
	comp=Z,25nm,1.1s					
KRAR	**Krasnoyarsk**	**53.40**	**0**	*e*P	**P**	**14 28 04.2 +0.2**
BVAR	**Borovoye Array**	**53.55**	**344**	P	**P**	**14 28 04.7 -0.6**
	comp=Z,12nm,1.2s,baz=140,slow=9.1,SNR=7.6					
BRVK	**Borovoye**	**53.61**	**344**	*e*P	**P**	**14 28 05.4 -0.3**
BRVK				pmax	pmax	
	comp=Z,6.0nm,1.1s					
AB07	**Akbulak array**	**54.14**	**334**	*e*P	**P**	**14 28 09.4 -0.1**
AB06	**Akbulak array**	**54.15**	**334**	*e*P	**P**	**14 28 09.4 -0.2**
AB08	**Akbulak array**	**54.15**	**334**	*e*P	**P**	**14 28 09.6 -0.1**
AB03	**Akbulak array**	**54.15**	**334**	*e*P	**P**	**14 28 09.6 -0.1**
AB01	**Akbulak array**	**54.16**	**334**	*e*P	**P**	**14 28 09.8 0.0**
AB31	**Akbulak array**	**54.16**	**334**	*e*P	**P**	**14 28 09.6 -0.1**
AB31	**Akbulak array**	**54.16**	**334**	*e*P	**P**	**14 28 09.6 -0.1**
ABKAR	**Akbulak array**	**54.16**	**334**	*e*P	**P**	**14 28 09.6 -0.1**
	comp=Z,84nm,1.0s					
AB02	**Akbulak array**	**54.16**	**334**	*e*P	**P**	**14 28 09.8 0.0**
AB04	**Akbulak array**	**54.16**	**334**	*e*P	**P**	**14 28 09.8 0.0**
AB05	**Akbulak array**	**54.17**	**334**	*e*P	**P**	**14 28 09.4 -0.4**
AB09	**Akbulak array**	**54.17**	**334**	*e*P	**P**	**14 28 09.7 -0.1**
USRK	**Ussuriysk Ar.**	**54.42**	**34**	P	**P**	**14 28 12.2 +0.5**
	comp=Z,2.8nm,0.8s,baz=270,slow=6.7,SNR=4.8					
GNI	**Garni**	**56.98**	**318**	*e*P	**P**	**14 28 32.4 +1.9**
GNI				pmax	pmax	
	comp=Z,19nm,0.8s					
KLR	**Kul'dur**	**57.51**	**30**	P	**P**	**14 28 34.3 +0.5**
	comp=Z,0.7nm,1.0s,baz=242,slow=8.9,SNR=8.0					
KLR	**Kul'dur**	**57.51**	**30**	*e*P	**P**	**14 28 31.2 -2.6**
GROC	**Groznyy**	**57.82**	**321**	*e*P	**P**	**14 28 35.1 -1.0**
GROC				*e*		14 30 45.3
GROC				pmax	pmax	
	comp=Z,39nm,1.0s					
BOD	**Bodaibo**	**57.83**	**14**	*e*P	**P**	**14 28 35.3 -0.6**
BOD				pmax	pmax	
	comp=Z,15nm,1.3s					
STKA	**Stephens Creek**	**57.92**	**130**	P	**P**	**14 28 36.0 -1.0**
	comp=Z,1.3nm,0.7s,baz=311,slow=10,SNR=3.8					
ZEA	**Zeya**	**58.66**	**24**	*e*P	**P**	**14 28 42.0 +0.3**
ZEA				pmax	pmax	
	comp=Z,20nm,1.0s					
ZEI	**Tsey**	**58.81**	**320**	*e*P	**P**	**14 28 42.8 -0.5**
ZEI				pmax	pmax	
	comp=Z,5.0nm,0.9s					
SVE	**Sverdlovsk**	**59.77**	**341**⇓	*e*P	**P**	**14 28 49.0 -0.4**
SVE				pmax	pmax	
	comp=Z,27nm,1.3s					
NEY	**Neytrino**	**59.79**	**320**	*e*P	**P**	**14 28 50.6 +0.6**
NEY				pmax	pmax	
	comp=Z,2.0nm,0.9s					
KBZ	**Khabaz**	**59.91**	**321**	P	**P**	**14 28 51.6 +1.1**
	comp=Z,6.3nm,0.9s,baz=177,slow=4.2,SNR=7.1					
KIV	**Kislovodsk**	**60.15**	**321**	*e*P	**P**	**14 28 52.6 +0.2**
KIV				pmax	pmax	
	comp=Z,22nm,1.1s					
ARU	**Arti**	**60.18**	**339**	*d i*P	**P**	**14 28 50.7 -1.5**
ARU						14 31 02.8
ARU				S	**S**	**14 37 03.4 -2.3**
ARU				SS	**SS**	**14 40 57.3 -5.6**
ARU				pmax	pmax	
	comp=Z,6.0nm,1.0s					
GRNR	**Gornyy**	**60.82**	**30**	*i* P	P	14 28 46.5 -10
MBAR	**Mbarara**	**61.54**	**268**	P	**P**	**14 29 02.2 -0.3**
	comp=Z,3.4nm,0.2s,baz=129,slow=4.5,SNR=5.0					
YSS	**Yuzh-Sakhalins**	**62.23**	**37**	*e*P	**P**	**14 29 06.8 +0.5**
YSS				pmax	pmax	
	comp=Z,10.0nm,1.2s					
VRH	**Novokhopyorsk**	**64.35**	**327**	*e*P	**P**	**14 29 18.8 -1.5**
VRH				pmax	pmax	
	comp=Z,10.0nm,1.0s					
BR131	**Keskin Array S**	**64.61**	**313**	*e*P	**P**	**14 29 23.6 +1.1**
BRTR	**Keskin Array B**	**64.61**	**313**	P	**P**	**14 29 22.6 +0.2**
	comp=Z,1.9nm,0.8s,baz=128,slow=8.0,SNR=6.3					
YAK	**Yakutsk**	**65.71**	**18**	*e*P	**P**	**14 29 28.6 -0.3**
	comp=Z,23nm,1.0s					
YAK	**Yakutsk**	**65.71**	**18**	*e*P	**P**	**14 29 27.9 -1.0**
YAK				pmax	pmax	
	comp=Z,24nm,1.1s					
VSR	**Storozhevoye**	**65.75**	**327**	*e*P	**P**	**14 29 28.9 -0.5**
VSR				pmax	pmax	
	comp=Z,10.0nm,1.2s					
LPSR	**Galich'ya Gora**	**66.55**	**328**	*e*P	**P**	**14 29 33.2 -1.3**
LPSR				pmax	pmax	
	comp=Z,10.0nm,0.6s					
OBN	**Obninsk**	**68.98**	**329**	*e*P	**P**	**14 29 50.0 +0.3**
OBN				*e*		14 29 58.6
OBN				*e*		14 30 14.7
OBN				pmax	pmax	
	comp=Z,27nm,1.2s					
KLMR	**Klimovskoe**	**70.52**	**336**	*e*P	**P**	**14 29 57.6 -1.6**
KLMR				AMP		14 30 09.3
	comp=Z,12nm,1.3s					
KLMR	**Klimovskoe**	**70.52**	**336**	*e*P	**P**	**14 29 57.5 -1.6**
KLMR				pmax	pmax	
	comp=Z,12nm,1.3s					
SORM	**Soroca**	**70.95**	**320**⇑	*i*P	**P**	**14 30 02.1 +0.1**
SORM	**Soroca**	**70.95**	**320**⇑	P	**P**	**14 30 02.1 +0.1**
AKASG	**Malin Array Be**	**71.26**	**323**	P	**P**	**14 30 03.5 -0.4**
	comp=Z,1.0nm,0.5s,baz=87,slow=5.1,SNR=4.8					
KIEV	**Kiev**	**71.27**	**323**	*e*P	**P**	**14 30 04.4 +0.5**
KIEV				pmax	pmax	
	comp=Z,3.0nm,1.1s					
VRI	**Vrincioaia**	**71.34**	**318**⇑	*i*P	**P**	**14 30 06.5 +2.0**
VRI	**Vrincioaia**	**71.34**	**318**⇑	P	**P**	**14 30 06.5 +2.0**
PLOR	**Plostina**	**71.38**	**318**⇓	*i*P	**P**	**14 30 06.7 +1.9**
PLOR	**Plostina**	**71.38**	**318**⇓	P	**P**	**14 30 06.7 +1.9**
TESR	**Tescani**	**71.57**	**318**⇓	*i*P	**P**	**14 30 05.8 -0.1**
MLR	**Muntele Rosu**	**71.76**	**317**⇑	*i*P	**P**	**14 30 09.0 +1.8**
MLR	**Muntele Rosu**	**71.76**	**317**⇑	P	**P**	**14 30 09.0 +1.8**
MA2	**Magadan**	**72.43**	**27**	P	**P**	**14 30 09.8 -1.0**
	comp=Z,4.9nm,0.6s,baz=161,slow=5.1,SNR=3.7					
ARR	**Arges**	**72.62**	**317**⇓	*i*P	P	14 30 22.1 +10
BURAR	**Bucovina Array**	**72.82**	**319**⇓	*i*P	**P**	**14 30 15.3 +1.9**
BURAR	**Bucovina Array**	**72.82**	**319**⇓	P	**P**	**14 30 15.3 +1.9**
BUR04	**Bucovina Ar. S**	**72.82**	**319**	*e*P	**P**	**14 30 14.6 +1.1**
TIXI	**Tiksi**	**72.89**	**11**	*e*P	**P**	**14 30 11.6 -1.6**
	comp=Z,17nm,0.6s					
TIXI	**Tiksi**	**72.89**	**11**	*e*P	**P**	**14 30 11.7 -1.5**
TIXI				pmax	pmax	
	comp=Z,9.0nm,1.0s					
VTS	**Vitosha**	**72.97**	**314**⇓	*i*P	**P**	**14 30 15.4 +0.9**
VTS	**Vitosha**	**72.97**	**314**⇓	P	**P**	**14 30 15.4 +0.9**
SEY	**Seymchan**	**74.62**	**24**	P	**P**	**14 30 23.4 -0.2**
	comp=Z,3.7nm,1.0s,baz=245,slow=8.3					
SEY	**Seymchan**	**74.62**	**24**	*e*P	**P**	**14 30 22.0 -1.5**
VSU	**Vasula**	**75.28**	**330**	*e*P	**P**	**14 30 29.2 +1.8**
VSU				pmax	pmax	
	comp=Z,40nm,1.1s					
STHS	**Stebnicka Huta**	**75.82**	**320**	*e*P	**P**	**14 30 32.3 +1.5**
STHS				*e*		14 30 40.4
STHS	**Stebnicka Huta**	**75.82**	**320**	*e*P	**P**	**14 30 32.3 +1.5**
STHS				*e*		14 30 40.4
STHS				pmax	pmax	
	comp=Z,5.0nm,1.1s					
FINES	**FINESS Array B**	**76.62**	**333**	P	**P**	**14 30 34.4 -0.6**
	comp=Z,3.9nm,0.8s,baz=90,slow=5.7,SNR=6.5					
VYHS	**Vyhne**	**77.18**	**319**	*e*P	**P**	**14 30 39.0 +0.5**
VYHS				*e*PCP	**PcP**	**14 30 48.8 -0.5**
VYHS	**Vyhne**	**77.18**	**319**	*e*P	**P**	**14 30 39.1 +0.5**
VYHS				*e*		14 30 48.8
VYHS				pmax	pmax	
	comp=Z,10.0nm,1.5s					
MODS	**Modra-Piesok**	**78.18**	**319**	*e*P	**P**	**14 30 44.9 +0.8**
MODS				*e*PCP	**PcP**	**14 30 54.3 +0.7**
MODS	**Modra-Piesok**	**78.18**	**319**	*e*P	**P**	**14 30 44.9 +0.8**
MODS				*e*		14 30 54.3
KRLC	**Kraliky**	**78.79**	**321**	*e*PCP	**PcP**	**14 30 57.9 +1.7**
DPC	**Dobruska-Polom**	**79.13**	**321**	*e*P	**P**	**14 30 51.0 +1.7**
DPC				*e*PCP	**PcP**	**14 30 59.8 +2.1**
DPC	**Dobruska-Polom**	**79.13**	**321**	*e*P	**P**	**14 30 51.0 +1.7**
DPC				*e*		14 30 59.8
GEA0	**GERESS Array S**	**80.60**	**319**	*e*P	**P**	**14 30 58.8 +1.4**
GEC2	**GERESS Array S**	**80.60**	**319**	*e*P	**P**	**14 30 59.0 +1.6**
	comp=Z,16nm,1.1s					
GEC2	**GERESS Array S**	**80.60**	**319**	*e*P	**P**	**14 30 59.0 +1.6**
GEC2				pmax	pmax	
	comp=Z,16nm,1.1s					
GERES	**GERESS Array B**	**80.60**	**319**	P	**P**	**14 30 58.8 +1.4**
	comp=Z,3.4nm,0.8s,baz=98,slow=5.5,SNR=7.6					
CLL	**Collm**	**81.35**	**321**	*i* P	**P**	**14 31 02.6 +1.4**
	comp=Z,9.0nm,1.3s					
CLL	**Collm**	**81.35**	**321**	*i* P	**P**	**14 31 02.6 +1.4**
CLL				pmax	pmax	
	comp=Z,5.0nm,0.9s					
BILL	**Bilibino**	**81.80**	**21**⇑	*e*P	**P**	**14 31 02.3 -0.9**
BILL				pmax	pmax	
	comp=Z,6.0nm,1.6s					
BILL				MLR	MLR	
	comp=Z,3µm,19.0s					
TOLK	**Toolik Lake Re**	**97.67**	**19**	P	Pdif	14 32 19.6 +0.5
	baz=297					
F10A	**Beach Ranch, E**	**125.19**	**25**	*e*PKPdf	**PKPdf**	**14 37 46.5 +0.8**
NVAR	**Mina Array Bea**	**130.52**	**32**	PKP	**PKPdf**	**14 37 57.8 +1.6**
	comp=Z,0.2nm,0.3s,baz=86,slow=2.1,SNR=3.9					
PDAR	**Pinedale Array**	**130.88**	**21**	PKP	**PKPdf**	**14 37 58.0 +1.2**
	comp=Z,0.1nm,0.3s,baz=230,slow=3.7,SNR=4.7					
PDAR	**Pinedale Array**	**130.88**	**21**	*e*PKPdf	**PKPdf**	**14 37 57.1 +0.4**
TX31	**Lajitas Ar. Si**	**144.92**	**25**	*e*PKPdf	PKPbc	14 38 21.8 0.0
TXAR	**Lajitas Array**	**144.92**	**25**	PKP	PKPbc	14 38 22.1 +0.3
	comp=Z,2.3nm,0.7s,baz=281,slow=3.0,SNR=7.2					
JCT	**Junction City**	**145.30**	**18**	P	**PKPbc**	**14 38 22.4 -0.5**
	baz=339					
JCT	**Junction City**	**145.30**	**18**	*e*PKPbc	**PKPdf**	**14 38 23.2 -0.1**
JCT	**Junction City**	**145.30**	**18**	*e*PKIKP	**PKPdf**	**14 38 23.2 -0.1**
NATX	**Nacogdoches**	**145.35**	**10**	P	**PKPdf**	**14 38 23.8 +0.5**
	baz=348					
241A	**Mo Tay, Goldon**	**145.37**	**8**	P	**PKPdf**	**14 38 24.5 +1.3**
	baz=351					
254A	**Abbeville**	**145.53**	**353**	P	**PKPab**	**14 38 23.9 +0.2**
	baz=7.8					
251A	**Midway**	**145.57**	**356**	P	**PKPab**	**14 38 23.7 -0.2**
	baz=4.0					
252A	**Lumpkin**	**145.62**	**355**	P	**PKPab**	**14 38 24.3 +0.3**
	baz=5.2					
HPIG		**146.07**	**29**	*e*PKPdf	**PKPab**	**14 38 26.0 -0.2**

*ISCJB **11** 14:20:55.8±0.2,2.91N±0.04×89.97E±0.04,h10km, mb4.8/56, Error ellipse: s-maj=7.4km s-min=3.8km az=38.7*
*IDC **11** 14:20:55.5±0.5,2.83N×89.82E,h0km,mb4.6/31, mb1 4.7/32,mb1mx4.5/66,mbtmp4.6/32,ML4.1/1, Error ellipse: s-maj=17.9km s-min=11.3km az=47.0*
*NEIC **11** 14:20:57.0±0.2,2.83N×89.93E,h10km,mb5.1/23, Error ellipse: s-maj=7.3km s-min=4.2km az=211.0*
*BJI **11** 14:20:59.2,3.20N×89.86E,h7km,mb4.9/22,mB4.8/2, Ms5.6/2,Ms7 5.4/2*

ISC 11 14:20:57.2±0.4,2.84N±0.06×89.82E±0.05,h10km,n164, σ1§55/168,mb4.9/56,5C-3D,North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LHMI	**Lhok Sumawe**	**7.50**	**71**	*e*Pn	**Pn**	**14 22 47.0**	**+0.4**
PSI	**Prapat**	**9.10**	**90**	*e*Pn	**Pn**	**14 23 08.2**	**-0.6**
PALK	**Pallekele**	**10.09**	**296**	Pn	**Pn**	**14 23 25.0**	**+2.8**
	11nm,0.3s,baz=296,slow=5.2,SNR=3.7						
PALK				Sn	**Sn**	**14 25 11.1**	**-4.5**
	32nm,0.3s,baz=296,slow=5.8,SNR=7.1						
PALK	**Pallekele**	**10.09**	**296**	*e*Pn	**Pn**	**14 23 24.4**	**+2.2**
PALK				Sn	**Sn**	**14 25 11.1**	**-4.5**
KULM	**Kulim**	**11.08**	**77**	*e*Pn	**Pn**	**14 23 33.1**	**-2.7**
IPM	**Ipoh**	**11.30**	**81**	*e*Pn	**Pn**	**14 23 36.0**	**-2.9**
BKNI	**Bangkinang**	**11.49**	**102**	*e*Pn	**Pn**	**14 23 39.6**	**-1.9**
MYKOM	**Kota Tinggi**	**14.06**	**94**	*e*Pn	**Pn**	**14 24 13.3**	**-3.3**
SKHT	**Srikalahasti**	**14.73**	**318**	*e*P	**Pn**	**14 24 28.0**	**+2.3**
ADKI	**Addanki**	**16.15**	**324**	*e*P	**Pn**	**14 24 45.6**	**+1.2**
PVM	**Polavaram**	**16.42**	**331**	*e*P	**P**	**14 24 49.5**	**-1.1**
COCO	**West Island**	**16.48**	**155**	*e*Pn	**Pn**	**14 24 47.4**	**-1.3**
	114nm,0.8s						
CHLP	**Challavanipeta**	**16.56**	**340**	*e*P	**Pn**	**14 24 49.9**	**+0.3**
SRLM	**Srisailam**	**17.00**	**321**	*e*P	**P**	**14 24 56.6**	**-0.6**
NJS	**Nagarjunasagar**	**17.10**	**323**	*e*P	**P**	**14 24 58.0**	**-0.2**
URV	**Uravakonda**	**17.26**	**315**	*e*P	**P**	**14 25 01.2**	**+1.2**
CM01	**Chiang Mai Arr**	**17.89**	**29**	*e*Pn	**Pn**	**14 25 03.7**	**-2.6**
CMAR	**Chiang Mai Arr**	**17.91**	**29**	P	**P**	**14 25 08.3**	**+1.2**
	0.3nm,0.3s,baz=223,slow=12,SNR=4.5						
CHTO	**Chiang Mai**	**18.21**	**29**	*e*Pn	**Pn**	**14 25 09.8**	**-0.5**
	17nm,0.8s						
HYB	**Hyderabad**	**18.22**	**323**	*i* P	**P**	**14 25 11.5**	**+0.9**
RPR	**Rampur**	**18.96**	**328**	*e*P	**Pn**	**14 25 21.1**	**+1.7**
SRSP	**Sriramsagar**	**19.53**	**326**	*e*P	**Pn**	**14 25 27.0**	**+0.7**
KLRI	**Killari**	**19.92**	**320**	*e*P	**Pn**	**14 25 31.1**	**+0.1**
H08S3	**Diego Garcia H**	**20.18**	**239**	T	T	14 46 22.6	
	baz=59,slow=74,SNR=22						
H08S2	**Diego Garcia H**	**20.18**	**239**	T	T	14 46 25.2	
	baz=59,slow=74,SNR=19						
H08S1	**Diego Carcia H**	**20.20**	**239**	T	T	14 46 29.7	
	baz=59,slow=74,SNR=19						
LEM	**Lembang**	**20.20**	**118**	P	Pn	14 25 37.8	+3.3
	58nm,0.8s,baz=75,slow=5.7,SNR=4.2						
KSM	**Kuching**	**20.52**	**93**	*e*P	**P**	**14 25 33.1**	**-2.8**
CISI	**Cisompet, Garu**	**20.72**	**120**	P	**P**	**14 25 37.8**	**-0.2**
SMRI	**Semarang**	**22.81**	**116**	P	**P**	**14 26 00.5**	**0.0**
	158nm,0.9s						
LSA	**Lhasa**	**

GYB5	**ALIBECK ARRAY** 15nm,0.9s	45.40	324	*e*P		P		14 29 17.7	+1.5
GEYT	**Alibeck** 12nm,0.8s,baz=151,slow=9.4,SNR=9.0	45.40	324	P		P		14 29 17.3	+1.2
GYA0	**ALIBECK ARRAY** 16nm,0.8s	45.40	324	*e*P		P		14 29 17.4	+1.2
GYA2	**ALIBECK ARRAY** 17nm,0.8s	45.40	324	*e*P		P		14 29 17.6	+1.4
GYB4	**ALIBECK ARRAY** 15nm,0.8s	45.41	324	*e*P		P		14 29 17.8	+1.6
KMBL	**Kambalda** baz=46,SNR=5.8	45.69	141	P		P		14 29 22.3	+3.8
SONM	**Songino Array** 29nm,0.7s,baz=194,slow=9.1,SNR=28	47.05	15	P		P		14 29 29.8	+0.7
SONA1	**Songino Array**	47.06	15	*e*P		P		14 29 29.3	+0.1
ULN	**Ulaanbaatar** 18nm,0.9s	47.25	16	*e*P		P		14 29 30.5	-0.2
KURBB	**Kurchatov Arra** 9.3nm,0.8s,baz=174,slow=7.3,SNR=15	48.56	350	P		P		14 29 40.7	+0.2
KURK	**Kurchatov**	48.63	351	P		P		14 29 40.7	-0.4
WRA	**Warramunga Arr** 14nm,0.8s,baz=297,slow=8.6,SNR=10	49.22	119	P		P		14 29 45.9	-0.3
WRAB	**Tennant Creek** 31nm,1.1s	49.22	119	*e*P		P		14 29 43.2	-3.0
WB2	**Warramunga Arr** 48nm,1.5s	49.23	119	*e*P		P		14 29 46.3	+0.1
ASPA	**Alice Springs** baz=50	50.35	124	P		P		14 29 55.1	+0.4
ASAR	**Alice Springs** 1.5nm,0.5s,baz=298,slow=7.2,SNR=9.3	50.35	124	P		P		14 29 54.6	-0.1
AS01	**Alice Springs**	50.39	124	*e*P		P		14 29 55.6	+0.5
ZALV	**Zalesovo Beam** 5.4nm,0.6s,baz=174,slow=7.5,SNR=5.1	51.10	356	P		P		14 29 59.6	-0.2
BVAR	**Borovoye Array** 4.1nm,0.8s,baz=133,slow=8.1,SNR=6.7	52.54	345	P		P		14 30 10.3	-0.3
KMBO	**Kilima Mbogo** 1.0nm,0.3s,baz=64,slow=6.1	52.69	266	P		P		14 30 13.1	+0.3
AB07	**Akbulak array**	52.78	336	*e*P		P		14 30 13.4	+1.0
AB06	**Akbulak array**	52.79	336	*e*P		P		14 30 13.4	+0.9
AB08	**Akbulak array**	52.79	336	*e*P		P		14 30 13.4	+0.9
AB03	**Akbulak array**	52.79	336	*e*P		P		14 30 13.5	+1.0
AB01	**Akbulak array**	52.79	336	*e*P		P		14 30 13.5	+1.0
AB31	**Akbulak array**	52.79	336	*e*P		P		14 30 13.4	+0.9
ABKAR	**Akbulak array** 133nm,0.6s	52.79	336	*e*P		P		14 30 13.5	+0.9
AB02	**Akbulak array**	52.80	336	*e*P		P		14 30 13.5	+1.0
AB04	**Akbulak array**	52.80	336	*e*P		P		14 30 13.6	+1.0
AB05	**Akbulak array**	52.81	336	*e*P		P		14 30 13.7	+1.0
AB09	**Akbulak array**	52.81	336	*e*P		P		14 30 13.7	+1.0
AKTO	**Aktyubinsk** 4.5nm,0.6s,baz=111,slow=8.8,SNR=9.0	54.50	336	P		P		14 30 25.4	+0.3
MJAR	**Matsushiro Arr** 1.0nm,0.7s,baz=264,slow=2.3,SNR=3.7	55.72	47	P		P		14 30 33.4	-0.8
KBZ	**Khabaz** 6.8nm,0.9s,baz=244,slow=18,SNR=5.0	58.09	321	P		P		14 30 51.6	+0.8
KLR	**Kul'dur** 0.3nm,1.0s,baz=279,slow=6.5,SNR=4.0	58.38	31	P		P		14 30 52.1	-0.6
ARU	**Arti** 11nm,0.9s	58.98	340	*e*P		P		14 30 56.9	+0.1
STKA	**Stephens Creek** 24nm,0.9s,baz=303,slow=6.3,SNR=14	60.01	129	P		P		14 31 05.2	+0.8
STKA	**Stephens Creek** baz=60,SNR=14	60.01	129	P		P		14 31 05.5	+1.1
STKA	**Stephens Creek** 5.2nm,0.9s	60.01	129	*e*P		P		14 31 04.8	+0.4
ARPS	**Mount Arapiles** baz=62,SNR=6.3	62.35	134	P		P		14 31 23.1	+3.0
BR131	**Keskin Array S**	62.60	314	*e*P		P		14 31 22.2	+0.2
BRTR	**Keskin Array B** 4.3nm,0.7s,baz=134,slow=6.0,SNR=14	62.60	314	P		P		14 31 22.3	+0.3
CMSA	**Cobar Meteorol** baz=63,SNR=8.6	63.08	128	P		P		14 31 24.6	-0.6
RMQ	**Roma** baz=64,SNR=12	63.90	121	P		P		14 31 31.3	+0.6
TOO	**Toolangi** baz=66,SNR=4.2	65.32	134	P		P		14 31 41.9	+2.1
EIDS	**Eidsvold** baz=66,SNR=6.1	65.58	119	P		P		14 31 41.1	-0.6
EIDS	**Eidsvold** 79nm,1.4s	65.58	119	*e*P		P		14 31 40.7	-0.9
ARMA	**Armidale** baz=68,SNR=11	67.50	124	P		P		14 31 56.9	+2.9
IDI	**Anoyia** 8.6nm,0.6s,baz=100,slow=11,SNR=7.4	68.00	307	P		P		14 31 57.1	+0.1
SORM	**Soroca**	69.13	321	⇑*i*P		P		14 32 03.6	-0.1
BOSA	**Boshof** 3.8nm,0.8s,baz=99,slow=5.9,SNR=6.3	69.28	238	P		P		14 32 03.9	-1.3
VRI	**Vrincioaia**	69.44	318	⇑*i*P		P		14 32 07.6	+1.9
PLOR	**Plostina**	69.49	318	⇓*i*P		P		14 32 07.8	+1.8
AKASG	**Malin Array Be** 3.2nm,0.7s,baz=92,slow=5.1,SNR=6.0	69.52	324	P		P		14 32 04.6	-1.4
TESR	**Tescani**	69.69	319	⇓*i*P		P		14 32 07.8	+0.5
MLR	**Muntele Rosu** 2.3nm,0.6s,baz=128,slow=2.5,SNR=6.9	69.85	318	P		P		14 32 09.2	+0.8
MLR	**Muntele Rosu**	69.85	318	⇓*i*P		P		14 32 09.7	+1.3
MLR	**Muntele Rosu** 25nm,1.1s	69.85	318	*e*P		P		14 32 08.6	+0.2
VOIR		70.44	317	⇑*i*P		P		14 32 13.3	+1.4
BURAR	**Bucovina Array**	70.96	320	⇑*i*P		P		14 32 16.8	+1.7
BUR04	**Bucovina Ar. S**	70.97	320	*e*P		P		14 32 15.8	+0.6
VTS	**Vitosha**	70.97	314	⇑*i*P		P		14 32 14.4	-0.9
BUR08	**Bucovina Ar. S**	70.98	320	*e*P		P		14 32 15.8	+0.6
TIXI	**Tiksi** 17nm,0.6s	73.00	12	*e*P		P		14 32 24.6	-2.0
FIA1	**FINESS Array S**	75.19	334	*e*P		P		14 32 38.7	-1.0
FINES	**FINESS Array B** 7.2nm,0.8s,baz=104,slow=8.0,SNR=7.2	75.19	334	P		P		14 32 38.9	-0.8
DPC	**Dobruska-Polom**	77.31	321	*e*P		P		14 32 53.4	+1.3
DPC				*ep*P		sP		14 32 58.7	+2.1
ARCES	**ARCESS Array B** 5.4nm,0.6s,baz=91,slow=6.1,SNR=12	78.56	341	P		P		14 32 58.5	-0.1
GEC2	**GERESS Array S** 16nm,1.1s	78.73	319	*e*P		P		14 32 59.9	-0.2
GERES	**GERESS Array B** 6.4nm,0.8s,baz=104,slow=5.6,SNR=7.3	78.73	319	P		P		14 33 00.3	+0.3
KHC	**Kasperske Hory**	78.86	319	*e*P		P		14 33 01.2	+0.5
KHC				*ep*P		sP		14 33 07.0	+1.8
CLL	**Collm** comp=Z,12nm,1.2s	79.55	322	*i* P		P		14 33 04.6	+0.3
HFS	**Hagfors** comp=Z,4.3nm,0.5s,baz=116,slow=6.6,SNR=19	80.64	330	P		P		14 33 09.7	-0.3
NB2	**NORSAR Subarra** comp=Z,5.0nm,1.0s,baz=97,slow=5.3	82.00	331	P		P		14 33 16.8	-0.5
NOA	**NORSAR Array B** comp=Z,3.1nm,0.9s,baz=97,slow=5.6,SNR=4.5	82.00	331	P		P		14 33 16.8	-0.5
BFO	**Black Forest**	82.22	318	*e*P		P		14 33 18.6	-0.1
SPITS	**Spitsbergen Ar** comp=Z,5.3nm,0.8s,baz=77,slow=9.0,SNR=7.3	83.86	349	P		P		14 33 26.4	-0.3
TORD	**Torodi Ar. Bea** comp=Z,73nm,0.8s,baz=82,slow=5.2,SNR=6.8	87.53	283	P		P		14 33 45.6	-0.6
VNDA	**Vanda** comp=Z,1.7nm,0.9s,baz=309,slow=4.0,SNR=5.8	88.92	168	P		P		14 33 54.8	+3.4
EKA	**Eskdalemuir Ar** comp=Z,1.3nm,0.6s,baz=94,slow=5.7,SNR=7.0	89.38	325	P		P		14 33 54.3	+0.3
ES19	**SONSECA Array**	91.06	310	*e*P		P		14 34 02.5	+0.2
ESDC	**Sonseca Array** comp=Z,0.6nm,0.5s,baz=63,slow=4.5,SNR=5.5	91.11	310	P		P		14 34 03.3	+0.7
KOWA	**Kowa** comp=Z,5.7nm,0.8s,baz=76,slow=7.3,SNR=13	93.00	285	P		P		14 34 12.3	+0.6
KOWA	**Kowa** comp=Z,6.3nm,0.8s	93.00	285	*e*P		P		14 34 11.7	-0.1
TOLK	**Toolik Lake Re** baz=300	98.08	19	P		P		14 34 33.1	-0.6
PDAR	**Pinedale Array** comp=Z,0.3nm,0.5s,baz=132,slow=1.3,SNR=3.2	131.34	19	PKP		PKPdf		14 40 07.8	-2.7
NVAR	**Mina Array Bea** comp=Z,0.4nm,0.7s,baz=309,slow=0.9,SNR=3.5	131.40	30	PKP		PKPdf		14 40 10.0	-0.7
151A	**Opelika** baz=8.1	144.52	353	P		PKPab		14 40 32.1	-0.8
150A	**Eclectic** baz=6.9	144.52	354	P		PKPab		14 40 32.3	-0.6
148A	**Greensboro** baz=4.3	144.62	356	P		PKPab		14 40 32.0	-1.2
WHTX	**Lake Whitney,** baz=347	144.67	11	P		PKPab		14 40 32.5	-0.9
146A	**Union** baz=1.7	144.70	358	P		PKPab		14 40 33.4	-0.2
251A	**Midway** baz=8.1	144.96	353	P		PKPab		14 40 33.7	-0.8
252A	**Lumpkin** baz=9.3	144.97	352	P		PKPab		14 40 33.8	-0.7
248A	**Dixon Mills** baz=4.1	145.18	356	P		PKPbc		14 40 34.6	-0.6
249A	**Camden** baz=5.1	145.25	355	P		PKPbc		14 40 34.6	-0.8
247A	**Quitman** baz=2.5	145.26	358	P		PKPbc		14 40 35.0	-0.5
244A	**Avery, Jackson** baz=359	145.30	1	P		PKPbc		14 40 35.1	-0.5
245A	**Little AP, Sta** baz=0.3	145.31	360	P		PKPbc		14 40 35.0	-0.7
TIGA	**Tifton** baz=11	145.33	350	P		PKPbc		14 40 35.2	-0.6
TIGA	**Tifton**	145.33	350	*e*PKPbc		PKPbc		14 40 34.9	-0.8
TX31	**Lajitas Ar. Si**	145.49	21	*e*PKPbc		PKPbc		14 40 35.1	-1.4
TXAR	**Lajitas Array** comp=Z,5.0nm,0.5s,baz=12,slow=2.0,SNR=35	145.49	21	PKPbc		PKPbc		14 40 35.2	-1.3
JCT	**Junction City** baz=343	145.61	15	P		PKPdf		14 40 35.0	-1.6
JCT	**Junction City**	145.61	15	*e*PKPdf		PKPdf		14 40 34.7	-2.0

*ISCJB **11** 14:26:24.7±0.4,2.16N±0.06×92.37E±0.04,h10km, mb4.5/45, Error ellipse: s-maj=9.5km s-min=5.1km az=23.8*
*IDC **11** 14:26:25.4±0.7,2.21N×92.42E,h0km,mb4.3/29, mb1 4.4/31,mb1mx4.2/74,mbtmp4.3/31,ML4.3/2, Error ellipse: s-maj=21.2km s-min=13.2km az=35.0*
*NEIC **11** 14:26:28.1±2.0,2.22N×92.39E,h18km±12km,mb4.8/9, Error ellipse: s-maj=7.2km s-min=3.9km az=220.0*

ISC 11 14:26:26.7±0.6,2.14N±0.09×92.38E±0.08,h10km,n102, σ0.78/105,mb4.6/45,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GSI	**Gunungsitoli**	5.26	99	*e*Pn	Pn	14 27 45.8	+0.3
LHMI	**Lhok Sumawe**	5.50	56	*e*Pn	Pn	14 27 49.4	+0.7
PSI	**Prapat**	6.57	84	*e*Pn	Pn	14 28 04.1	+0.5
KULM	**Kulim**	8.83	69	*e*Pn	Pn	14 28 33.8	-0.7
BKNI	**Bangkinang**	8.85	102	*e*Pn	Pn	14 28 35.0	+0.3
IPM	**Ipoh**	8.94	75	*e*Pn	Pn	14 28 36.2	+0.1
MYKOM	**Kota Tinggi**	11.47	92	*e*Pn	Pn	14 29 11.2	+0.5
MNAI	**Manna**	12.39	121	*e*Pn	Pn	14 29 23.4	+0.1
PALK	**Pallekele** 2.6nm,0.3s,baz=116,slow=12,SNR=8.8	12.70	294	Pn	Pn	14 29 27.9	+0.4
PALK				Sn	Sn	14 31 39.8	-9.4
	6.0nm,0.3s,baz=111,slow=0.6,SNR=9.0						
CM01	**Chiang Mai Arr**	17.42	21	*e*P	Pn	14 30 30.1	+0.1
CMAR	**Chiang Mai Arr** 0.3nm,0.3s,baz=215,slow=13,SNR=4.7	17.45	21	P	Pn	14 30 29.4	-0.9
CHTO	**Chiang Mai** 6.8nm,0.8s	17.77	21	*e*Pn	Pn	14 30 33.6	-0.8
CISI	**Cisompet, Garu** 24nm,0.8s	18.17	122	*e*Pn	Pn	14 30 40.0	+0.6
H08S2	**Diego Garcia H** SNR=4.7	22.09	244	T	T	14 55 39.6	
H08S3	**Diego Garcia H** SNR=3.6	22.09	244	T	T	14 55 39.4	
H08S1	**Diego Garcia H** SNR=5.1	22.11	244	T	T	14 55 40.8	
KMI	**Kunming**	24.94	23	P	P	14 31 51.8	+1.2
KMI	comp=Z,21nm,0.8s			pmax	pmax		
KMI	comp=Z,11μm,14.4s			pmax	pmax		
KMI	comp=N,3μm,17.7s			LR	LR		
KMI	comp=E,3μm,21.3s			LR	LR		
KMI	comp=Z,7μm,18.0s			LR	LR		
LSA	**Lhasa** comp=Z,14nm,0.6s	27.43	358	*e*P	P	14 32 14.0	+0.7
GYA	**Guiyang** comp=Z,10.0nm,0.8s	27.80	28	*e*P	P	14 32 17.0	+0.7
GYA				pmax	pmax		
CD2	**Chengdu** comp=Z,10.0nm,0.5s	30.57	19	*e*P	P	14 32 41.4	+0.6
CD2				pmax	pmax		
XAN	**Xi'an** comp=Z,24nm,0.9s	35.30	24	P	P	14 33 21.1	-1.0
XAN				pmax	pmax		
LZH	**Lanzhou**	35.41	16	*e*P	P	14 33 22.8	-0.3
LZH				pP	pP	14 33 25.9	-0.3
LZH				sP	sP	14 33 27.5	+0.1
LZH				PP	PnPn	14 34 43.0	+1.3
LZH	comp=Z,21nm,1.2s			pmax	pmax		
LZH	comp=Z,100nm,4.9s			pmax	pmax		
LZH	comp=N,1μm,13.8s			LR	LR		
LZH	comp=E,1μm,14.1s			LR	LR		
LZH	comp=Z,2μm,17.4s			LR	LR		
NIL	**Nilore** comp=Z,19nm,0.8s	36.09	332	*e*P	P	14 33 28.9	0.0
GTA	**Gaotai**	37.71	9	*e*P	P	14 33 42.6	-0.1
GTA				pP	pP	14 33 47.0	+1.2
GTA				sP	sP	14 33 50.0	+3.0
GTA	comp=Z,5.0nm,0.9s			pmax	pmax		
FITZ	**Fitzroy Crossi** comp=Z,2.3nm,0.9s,baz=287,slow=14,SNR=3.4	38.44	123	P	P	14 33 50.0	+1.0
NJ2	**Nanjing** comp=Z,9.0nm,0.6s	38.81	37	*e*P	P	14 33 52.0	+0.1
NJ2				pmax	pmax		
WMQ	**Urumqi**	41.71	355	P	P	14 34 16.0	+0.1
WMQ				sP	sP	14 34 29.3	+9.1
WMQ	comp=Z,10.0nm,0.6s			pmax	pmax		
HHC	**Hu-ho-hao-te**	42.26	22	*e*P	P	14 34 21.7	+1.3
HHC				S	S	14 40 43.4	+2.3
HHC	comp=Z,18nm,1.1s			pmax	pmax		
HHC	comp=Z,78nm,6.3s			pmax	pmax		
HHC	comp=N,2μm,14.9s			LR	LR		
HHC	comp=E,2μm,15.3s			LR	LR		
HHC	comp=Z,2μm,15.0s			LR	LR		
AAK	**Ala-Archa** comp=Z,0.9nm,0.4s,baz=27,slow=18,SNR=3.1	43.38	341	P	P	14 34 30.7	+1.2
BJI	**Beijing**	43.47	27	P	P	14 34 31.4	+1.3
BJI	comp=Z,26nm,0.7s			pmax	pmax		
KK06	**Karatay Array**	45.20	337	*e*P	P	14 34 42.9	-1.1
KK07	**Karatay Array**	45.20	337	*e*P	P	14 34 43.2	-0.8
KK02	**Karatay Array**	45.21	337	*e*P	P	14 34 43.3	-0.8
KK31	**Karatay Array**	45.21	337	*e*P	P	14 34 44.1	0.0
KKAR	**Karatay Array**	45.21	337	*e*P	P	14 34 44.2	+0.2
KK01	**Karatay Array**	45.21	337	*e*P	P	14 34 42.3	-1.8
KK03	**Karatay Array**	45.21	337	*e*P	P	14 34 43.2	-0.9
KK05	**Karatay Array**	45.22	337	*e*P	P	14 34 43.7	-0.4
KK04	**Karatay Array**	45.22	337	*e*P	P	14 34 43.9	-0.2
KK08	**Karatay Array**	45.22	337	*e*P	P	14 34 43.0	-1.1
MK01	**Makanchi Array**	45.31	350	*e*P	P	14 34 44.2	-0.6
MK31	**Makanchi Array**	45.34	350	*e*P	P	14 34 44.4	-0.6
MKAR	**Makanchi Array** comp=Z,5.4nm,0.7s,baz=168,slow=8.8,SNR=18	45.34	350	P	P	14 34 45.4	+0.3
WRA	**Warramunga Arr** comp=Z,2.2nm,1.0s,baz=300,slow=8.6,SNR=5.5	46.65	120	P	P	14 34 55.2	-0.5
SONM	**Songino Array** comp=Z,8.9nm,0.8s,baz=190,slow=9.1,SNR=16	47.10	13	P	P	14 34 59.4	+0.4
SONM				PcP	PcP	14 36 31.0	+0.2
	comp=Z,1.5nm,0.7s,baz=193,slow=5.9,SNR=3.7						
SONA1	**Songino Array**	47.12	13	*e*P	P	14 34 58.7	-0.4
ULN	**Ulaanbaatar**	47.28	13	*e*P	P	14 35 00.3	-0.1
GEYT	**Alibeck** comp=Z,4.5nm,0.7s,baz=154,slow=7.9,SNR=7.6	47.48	323	P	P	14 35 03.4	+1.3
ASAR	**Alice Springs** comp=Z,0.5nm,0.7s,baz=299,slow=7.6,SNR=4.9	47.85	125	P	P	14 35 04.8	-0.3
ASAR				PcP	PcP	14 36 34.2	+0.2
	comp=Z,1.1nm,0.8s,baz=303,slow=3.1,SNR=3.8						
KSAR	**Wonju Array Be**	47.94	39	P	P	14 35 05.0	-0.5
KSRS	**Korea Array** comp=Z,4.1nm,1.0s,baz=222,slow=8.8,SNR=7.3	47.97	39	P	P	14 35 05.0	-0.7
KURBB	**Kurchatov Arra** comp=Z,5.2nm,0.9s,baz=170,slow=7.1,SNR=17	49.71	348	P	P	14 35 18.6	-0.3
KURBB				PcP	PcP	14 36 40.1	+0.1
	comp=Z,1.4nm,0.8s,baz=156,slow=3.2,SNR=6.4						
KURK	**Kurchatov**	49.78	349	P	P	14 35 18.6	-0.8
KURK				PcP	PcP	14 36 40.1	-0.1
ZAA0	**Zalesovo Array** comp=Z,13nm,1.1s	52.01	354	*e*P	P	14 35 35.7	-0.5
ZALV	**Zalesovo Beam** comp=Z,6.5nm,0.4s,baz=185,slow=7.7,SNR=21	52.01	354	P	P	14 35 36.3	+0.1
ZALV	**Zalesovo Beam**	52.01	354	*e*P	P	14 35 35.6	-0.6
BVAR	**Borovoye Array** comp=Z,3.5nm,0.7s,baz=154,slow=8.2,SNR=10	53.89	344	P	P	14 35 49.2	-0.9
MJAR	**Matsushiro Arr** comp=Z,1.2nm,0.8s,baz=229,slow=6.0,SNR=3.6	54.36	45	P	P	14 35 53.4	-0.4
AB07	**Akbulak array**	54.48	334	*e*P	P	14 35 54.0	-0.5
AB06	**Akbulak array**	54.49	334	*e*P	P	14 35 53.8	-0.8
AB08	**Akbulak array**	54.50	334	*e*P	P	14 35 53.8	-0.7
AB03	**Akbulak array**	54.50	334	*e*P	P	14 35 53.7	-0.9
AB01	**Akbulak array**	54.50	334	*e*P	P	14 35 54.0	-0.7
AB31	**Akbulak array**	54.50	334	*e*P	P	14 35 53.7	-0.9
AB02	**Akbulak array**	54.50	334	*e*P	P	14 35 54.1	-0.5
AB04	**Akbulak array**	54.51	334	*e*P	P	14 35 54.1	-0.6
AB05	**Akbulak array**	54.52	334	*e*P	P	14 35 54.1	-0.6
AB09	**Akbulak array**	54.52	334	*e*P	P	14 35 54.0	-0.8
USRK	**Ussuriysk Ar.** comp=Z,1.1nm,0.6s,baz=230,slow=1.5,SNR=4.3	54.58	34	P	P	14 35 55.0	-0.3
AKTO	**Aktyubinsk** comp=Z,1.0nm,0.5s,baz=151,slow=9.2,SNR=3.2	56.21	334	P	P	14 36 06.2	-0.8
KLR	**Kul'dur** comp=Z,0.6nm,0.9s,baz=252,slow=7.3,SNR=16	57.69	29	P	P	14 36 17.2	-0.2
KBZ	**Khabaz** comp=Z,4.4nm,0.8s,baz=111,slow=6.2,SNR=9.2	60.25	321	P	P	14 36 35.1	-0.2
ARU	**Arti** comp=Z,1.9nm,0.3s,baz=127,slow=5.1	60.52	339	P	P	14 36 35.8	-1.1
BR131	**Keskin Array S**	64.94	313	*e*P	P	14 37 06.7	-0.3
BRTR	**Keskin Array B** comp=Z,2.3nm,0.7s,baz=130,slow=6.3,SNR=12	64.94	313	P	P	14 37 07.0	+0.1
YAK	**Yakutsk** comp=Z,32nm,0.9s	65.95	18	*e*P	P	14 37 12.0	-0.8
IDI	**Anoyia** comp=Z,9.0nm,0.5s,baz=77,slow=8.5,SNR=7.0	70.47	307	P	P	14 37 43.2	+1.3
AKASG	**Malin Array Be** comp=Z,0.5nm,0.4s,baz=92,slow=4.6,SNR=4.9	71.60	323	P	P	14 37 47.5	-0.7
MLR	**Muntele Rosu** comp=Z,1.1nm,0.7s,baz=166,slow=8.3,SNR=6.5	72.09	317	P	P	14 37 52.4	+0.9
MLR	**Muntele Rosu** comp=Z,7.1nm,0.9s	72.09	317	*e*P	P	14 37 52.7	+1.1
MA2	**Magadan** comp=Z,4.6nm,0.6s,baz=272,slow=6.9,SNR=4.6	72.63	27	P	P	14 37 53.9	-0.4
BUR04	**Bucovina Ar. S**	73.16	319	*e*P	P	14 37 58.1	+0.3
TIXI	**Tiksi** comp=Z,19nm,0.7s	73.16	11	*e*P	P	14 37 55.8	-1.4
SEY	**Seymchan** comp=Z,1.8nm,0.5s,baz=255,slow=12,SNR=11	74.84	24	P	P	14 38 06.5	-0.7
FINES	**FINESS Array B** comp=Z,4.0nm,0.8s,baz=108,slow=6.2,SNR=8.9	76.96	333	P	P	14 38 18.9	-0.4
ARCES	**ARCESS Array B** comp=Z,3.0nm,0.8s,baz=108,slow=7.8,SNR=5.2	80.05	341	P	P	14 38 35.5	-0.7
GEA0	**GERESS Array S**	80.94	319	*e*P	P	14 38 41.9	+0.3
GEC2	**GERESS Array S** comp=Z,7.4nm,0.9s	80.94	319	*e*P	P	14 38 41.9	+0.3
GERES	**GERESS Array B** comp=Z,4.0nm,0.8s,baz=100,slow=5.7,SNR=14	80.94	319	P	P	14 38 42.0	+0.4
HFS	**Hagfors** comp=Z,3.1nm,0.7s,baz=180,slow=5.8,SNR=5.2	82.51	330	P	P	14 38 48.8	-0.7
NB2	**NORSAR Subarra** comp=Z,3.0nm,0.9s,baz=94,slow=5.6	83.85	331	P	P	14 38 55.9	-0.5
NOA	**NORSAR Array B** comp=Z,2.0nm,0.8s,baz=96,slow=6.1,SNR=4.1	83.85	331	P	P	14 38 55.9	-0.5
TORD	**Torodi Ar. Bea** comp=Z,1.1nm,1.0s,baz=97,slow=4.7,SNR=4.2	90.18	283	P	P	14 39 28.4	+0.2
EKA	**Eskdalemuir Ar** comp=Z,1.4nm,0.8s,baz=108,slow=6.9,SNR=4.0	91.41	325	P	P	14 39 33.4	+0.4
NVAR	**Mina Array Bea** comp=Z,0.5nm,0.6s,baz=343,slow=2.8,SNR=5.1	130.69	32	PKP	PKPdf	14 45 39.8	+0.9
PDAR	**Pinedale Array** comp=Z,0.4nm,0.7s,baz=93,slow=3.0,SNR=3.7	131.11	21	PKP	PKPdf	14 45 39.1	-0.5
AGOC	**Agoura**	133.52	36	*e*PKPdf	PKPdf	14 45 43.7	-0.4
RVR	**Riverside**	134.44	35	*e*PKPdf	PKPdf	14 45 45.4	-0.4
BGNE	**Belgrade**	135.61	11	*e*PKPdf	PKPdf	14 45 50.4	+2.6
TX31	**Lajitas Ar. Si**	145.13	25	*e*PKPbc	PKPbc	14 46 04.1	-0.8
TXAR	**Lajitas Array** comp=Z,4.0nm,0.8s,baz=270,slow=2.5,SNR=16	145.13	25	PKPbc	PKPbc	14 46 05.0	+0.1
JCT	**Junction City**	145.54	19	*e*PKPbc	PKPbc	14 46 05.2	-0.9

*ISCJB **11** 14:28:07.7±1.2,43.05N±0.07×145.87E±0.07, h47km±12km,Error ellipse: s-maj=13.4km s-min=6.8km az=149.7*
*JMA **11** 14:28:08.5±0.1,43.03N×145.80E,h43km±1km,M3.0*
*SKHL **11** 14:28:09.4±0.4,43.06N×145.96E,h43km±1km,mb4.1/4*

ISC 11 14:28:07.1±2.1,43.0N±0.1×145.92E±0.07,h45km±19km, n10,σ0.74/19,Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NEM2	**Nemuro 2**	0.40	341	P	Pn	14 28 17.3	+0.5
NEM2				*e*S	Sn	14 28 23.6	-0.2
GLVR	**Golovnino**	0.81	339	*i* P	Pn	14 28 22.7	+0.6
GLVR				AMB	AMB	14 28 22.9	
GLVR	162nm,0.3s			*e*S	Sn	14 28 32.9	-0.1
GLVR	1μm,0.3s			A	A	14 28 33.5	
GLVR	804nm,0.3s			A	A	14 28 33.5	
JAK	**Akkeshi**	0.90	271	P	Pn	14 28 23.4	+0.1
JAK				*e*S	Sn	14 28 34.6	-0.5
GRPR	**Tuman**	1.01	354	*i* P	Pn	14 28 25.4	+0.5
GRPR	90nm,0.2s			AMB	AMB	14 28 25.7	
GRPR				*i* S	Sn	14 28 37.2	-0.8
GRPR	310nm,0.2s			A	A	14 28 38.3	
GRPR	400nm,0.2s			A	A	14 28 38.3	
YUK	**Yuzh-Kuril'sk**	1.05	358	*e*P	Pn	14 28 26.0	+0.6
YUK	90nm,0.3s			AMB	AMB	14 28 28.1	
YUK	560nm,0.3s			*e*S	Sn

s-maj=301.2km s-min=77.0km az=149.0, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**48.66**	**349**	P	P	14 39 58.6	-0.1
	0.5nm,0.5s,baz=181,slow=8.2,SNR=2.3						
SONM	**Songino Array**	**49.75**	**11**	P	P	14 40 07.1	-0.2
	1.4nm,0.7s,baz=188,slow=9.6,SNR=3.8						
KURBB	**Kurchatov Arra**	**53.07**	**348**	P	P	14 40 31.8	0.0
	0.4nm,0.7s,baz=174,slow=7.4,SNR=2.3						
BRTR	**Keskin Array B**	**68.30**	**314**	P	P	14 42 16.3	0.0
	0.4nm,0.4s,baz=110,slow=7.3,SNR=2.6						

ISCJB ***11*** *14:32:15.6±0.6, 4.7N±0.1×92.3E±0.1, h10km, mb4.1/14, MS4.8/1, Error ellipse: s-maj=19.4km s-min=9.3km az=42.6*

IDC ***11*** *14:32:16.1±1.1, 4.69N×92.21E, h0km, mb4.0/11, mb1 4.1/12, mb1mx3.7/76, mbtmp4.0/12, ML3.8/1, MS4.8/1, Ms1 4.8/1, ms1mx3.8/70, Error ellipse: s-maj=49.0km s-min=19.8km az=51.0*

NEIC ***11*** *14:32:17.3±0.7, 4.64N×92.29E, h10km, mb4.2/2, Error ellipse: s-maj=20.2km s-min=9.7km az=46.0*

ISC 11 14:32:17.4±0.8, 4.7N±0.1×92.3E±0.1, h10km, n21, σ1§12/19, mb4.1/14, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LHMI	**Lhok Sumawe**	**4.64**	**83**	Pn	**Pn**	**14 33 27.3**	**-0.3**
GSI	**Gunungsitoli**	**6.21**	**122**	*e*Pn	**Pn**	**14 33 49.5**	**+0.3**
IPM	**Ipoh**	**8.68**	**91**	*e*Pn	Pn	14 34 16.1	-6.9
CMAR	**Chiang Mai Arr**	**15.17**	**25**	Pn	**Pn**	**14 35 52.1**	**+0.2**
	0.1nm,0.3s,baz=215,slow=15,SNR=7.2						
MBWA	**Marble Bar**	**37.16**	**135**	*e*P	**P**	**14 39 26.0**	**-2.7**
	102nm,1.3s						
MKAR	**Makanchi Array**	**42.87**	**350**	P	**P**	**14 40 16.1**	**+0.2**
	1.5nm,0.7s,baz=170,slow=8.5,SNR=7.1						
GEYT	**Alibeck**	**45.48**	**321**	P	**P**	**14 40 38.0**	**+1.0**
	4.4nm,0.7s,baz=151,slow=6.8,SNR=9.6						
KURBB	**Kurchatov Arra**	**47.26**	**348**	P	**P**	**14 40 50.3**	**-0.4**
	1.3nm,0.8s,baz=173,slow=7.3,SNR=8.4						
KURK	**Kurchatov**	**47.33**	**348**	P	**P**	**14 40 52.1**	**+0.8**
WRA	**Warramunga Arr**	**47.98**	**122**	P	**P**	**14 40 58.0**	**+1.2**
	0.8nm,0.6s,baz=298,slow=9.0,SNR=5.9						
WRAB	**Tennant Creek**	**47.99**	**122**	*e*P	**P**	**14 40 58.4**	**+1.5**
	2.0nm,0.7s						
ZALV	**Zalesovo Beam**	**49.52**	**354**	P	**P**	**14 41 07.6**	**-0.5**
	2.1nm,0.6s,baz=174,slow=7.6,SNR=7.0						
BVAR	**Borovoye Array**	**51.48**	**343**	P	**P**	**14 41 23.8**	**+0.8**
	0.8nm,0.6s,baz=256,slow=41,SNR=2.1						
ABKAR	**Akbulak array**	**52.24**	**334**	*e*P	**P**	**14 41 29.1**	**+0.5**
	2.1nm,0.9s						
JCJ	**Chichijima**	**52.46**	**59**	LR	LR	15 03 33.4	
	comp=Z,863nm,20.0s,baz=144,slow=36						
STKA	**Stephens Creek**	**59.27**	**131**	P	**P**	**14 42 20.9**	**+1.4**
	1.9nm,0.7s,baz=311,slow=10,SNR=4.6						
BRTR	**Keskin Array B**	**63.20**	**312**	P	**P**	**14 42 46.0**	**-0.2**
	0.7nm,0.8s,baz=124,slow=6.1,SNR=3.9						
FINES	**FINESS Array B**	**74.72**	**333**	P	**P**	**14 43 55.6**	**-1.6**
	1.8nm,0.9s,baz=75,slow=13,SNR=2.7						
GERES	**GERESS Array B**	**79.02**	**319**	P	**P**	**14 44 21.5**	**-0.4**
	0.8nm,0.7s,baz=98,slow=5.5,SNR=4.9						
CLL	**Collm**	**79.71**	**321**	*i* P	**P**	**14 44 25.4**	**0.0**
HFS	**Hagfors**	**80.32**	**330**	P	**P**	**14 44 27.4**	**-1.1**
	1.4nm,0.8s,baz=92,slow=10,SNR=3.8						

IDC 11 14:34:12.6±7.5, 4.64N×91.47E, h0km, mb3.8/5, mb1 4.0/6, mb1mx3.6/75, mbtmp3.8/6, ML3.9/1, Error ellipse: s-maj=168.2km s-min=59.8km az=145.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**15.56**	**27**	Pn	Pn	14 37 54.1	+0.7
	0.2nm,0.3s,baz=218,slow=14,SNR=3.1						
MKAR	**Makanchi Array**	**42.74**	**351**	P	P	14 42 12.4	+0.7
	0.9nm,0.8s,baz=182,slow=8.5,SNR=2.7						
SONM	**Songino Array**	**44.91**	**14**	P	P	14 42 29.1	-0.1
	0.9nm,0.6s,baz=198,slow=8.0,SNR=3.4						
KURBB	**Kurchatov Arra**	**47.10**	**349**	P	P	14 42 44.5	-1.8
	0.4nm,0.7s,baz=168,slow=6.6,SNR=1.8						
ZALV	**Zalesovo Beam**	**49.46**	**355**	P	P	14 43 04.5	+0.1
	1.0nm,0.5s,baz=182,slow=6.5,SNR=2.9						
GERES	**GERESS Array B**	**78.48**	**319**	P	P	14 46 16.1	+0.3
	1.2nm,0.8s,baz=100,slow=4.1,SNR=4.1						

ISCJB ***11*** *14:34:16.4±0.2, 1.50N±0.03×90.84E±0.02, h10km, mb4.9/133, Error ellipse: s-maj=4.8km s-min=2.8km az=33.7*

IDC ***11*** *14:34:16.5±0.4, 1.44N×90.80E, h0km, mb4.6/39, mb1 4.6/42, mb1mx4.5/73, mbtmp4.6/42, ML4.5/3, Error ellipse: s-maj=13.5km s-min=9.2km az=40.0*

MOS ***11*** *14:34:16.0±1.0, 1.50N×90.84E, h9km, mb5.2/38, Error ellipse: s-maj=8.1km s-min=5.0km az=116.2*

NEIC ***11*** *14:34:18.0±0.1, 1.48N×90.83E, h10km, mb5.3/55, Error ellipse: s-maj=4.0km s-min=2.5km az=206.0*

BJI ***11*** *14:34:19.9, 1.50N×90.80E, h10km, mb4.7/45, mB5.4/14, Ms5.3/14, Ms7 5.2/15*

DJA ***11*** *14:34:25.6±2.0, 1°N±6°×9°1E±°, h15km±14km, M5.7/18, mb5.3/18, mB6.2/8, MLv5.7/1, Mw(mB)6.0/8*

ISC 11 14:34:19.3±0.7, 1.44N±0.05×90.80E±0.04, h17km±4km, n399, σ1§27/383, mb5.0/137, 20C-6D, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLSI	**Meulaboh, Aceh**	**6.26**	**63**	P	**Pn**	**14 35 49.3**	**-1.7**
GSI	**Gunungsitoli**	**6.77**	**91**	P	**Pn**	**14 36 00.4**	**+2.4**
GSI	**Gunungsitoli**	**6.77**	**91**	*e*Pn	**Pn**	**14 35 57.7**	**-0.3**
LHMI	**Lhok Sumawe**	**7.20**	**58**	P	Pn	14 36 09.2	+5.4
LHMI	**Lhok Sumawe**	**7.20**	**58**	*e*Pn	**Pn**	**14 36 03.3**	**-0.6**
TSI	**Tuntungan**	**8.02**	**77**	P	Pb	14 36 28.9	-9.0
PSI	**Prapat**	**8.23**	**80**	*e*Pn	**Pn**	**14 36 17.1**	**-1.0**
PSI	**Prapat**	**8.23**	**80**	*e*P	**Pn**	**14 36 17.1**	**-1.0**
SISI	**Saibi**	**8.73**	**108**	P	**Pn**	**14 36 22.4**	**-2.5**
MNSI	**Mandailing Nat**	**8.80**	**94**	P	**Pn**	**14 36 27.9**	**+2.1**
PDSI	**Padang**	**9.94**	**104**	P	**Pn**	**14 36 43.9**	**+2.4**
BKNI	**Bangkinang**	**10.29**	**96**	P	Pn	14 36 52.7	+6.3
BKNI	**Bangkinang**	**10.29**	**96**	*e*Pn	**Pn**	**14 36 41.8**	**-4.6**
PBA	**Port Blair**	**10.33**	**11**	*e*P	Pn	14 36 45.8	-1.1
KULM	**Kulim**	**10.55**	**68**	*e*Pn	**Pn**	**14 36 48.4**	**-1.4**
IPM	**Ipoh**	**10.65**	**73**	*e*Pn	**Pn**	**14 36 49.4**	**-1.8**
PALK	**Pallekele**	**11.62**	**300**	Pn	**Pn**	**14 37 04.0**	**-0.5**
	18nm,0.3s,baz=116,slow=12,SNR=8.6						
PALK				Sn	Sn	14 39 03.8	-10
	7.3nm,0.3s,baz=290,slow=0.4,SNR=3.1						
PALK	**Pallekele**	**11.62**	**300**	*e*Pn	**Pn**	**14 37 03.1**	**-1.5**
PALK				Sn	Sn	14 39 03.8	-10
PALK	**Pallekele**	**11.62**	**300**	*i* P	**Pn**	**14 37 03.8**	**-0.8**
	SNR=7.1						
PALK	**Pallekele**	**11.62**	**300**	*e*P	**Pn**	**14 37 03.1**	**-1.5**
DGPR	**DIGLIPUR**	**11.86**	**10**	*e*P	**Pn**	**14 37 07.9**	**+0.2**
MYKOM	**Kota Tinggi**	**13.05**	**88**	*e*Pn	**Pn**	**14 37 23.3**	**-0.8**
MNAI	**Manna**	**13.44**	**115**	*e*Pn	**Pn**	**14 37 25.2**	**-4.2**
TPRI	**Tanjung Pinang**	**13.73**	**92**	P	**P**	**14 37 41.1**	**-0.8**
MDSI	**Maura Dua**	**14.60**	**114**	P	**Pn**	**14 37 46.9**	**+1.6**
	40nm,0.9s,6μm						
LWLI	**Liwa**	**14.71**	**116**	P	**Pn**	**14 37 47.1**	**+0.2**
	124nm,0.7s,8μm						
KASI	**Kota Agung**	**15.32**	**117**	P	**P**	**14 37 57.7**	**-2.0**
KLI	**Kotabumi**	**15.37**	**114**	P	P	14 38 09.8	+10
TRD	**Trivandrum**	**15.47**	**297**	*e*P	**Pn**	**14 37 54.9**	**-2.0**
MDRS	**Chennai**	**15.58**	**318**	*e*P	**Pn**	**14 37 56.4**	**-2.0**
MDRS				IAmb	IAmb	14 38 05.6	
	comp=Z,198nm,0.8s						
PPBI	**Pangkal Pinang**	**15.74**	**103**	P	P	14 38 14.3	+10
SKHT	**Srikalahasti**	**16.43**	**319**	*e*P	**Pn**	**14 38 10.1**	**+0.8**
CGJI	**Cibinong**	**16.88**	**118**	P	**Pn**	**14 38 14.2**	**-0.7**
	comp=Z,117nm,1.2s,comp=Z,11μm						
VIS	**Vishakhapatnam**	**17.77**	**336**	*e*P	**Pn**	**14 38 25.1**	**-1.0**
VIS				IAmb	IAmb	14 38 35.2	
	comp=Z,133nm,0.7s						
SKJI	**Sukabumi**	**17.82**	**118**	P	P	14 38 36.3	+9.0
ADKI	**Addanki**	**17.86**	**324**	*e*P	**P**	**14 38 27.6**	**-0.2**
PVM	**Polavaram**	**18.12**	**331**	*e*P	**Pn**	**14 38 29.7**	**-0.7**
CHLP	**Challavanipeta**	**18.21**	**339**	*e*P	**P**	**14 38 32.6**	**+1.0**
CM01	**Chiang Mai Arr**	**18.68**	**25**	*e*P	**P**	**14 38 35.0**	**-1.8**
LEM	**Lembang**	**18.68**	**116**	P	**Pn**	**14 38 37.3**	**-0.1**
	comp=Z,1.9nm,0.3s,baz=3.5,slow=18,SNR=3.6						
CM31	**Chiang Mai Arr**	**18.71**	**25**	*e*P	**P**	**14 38 36.6**	**-0.5**
CMAR	**Chiang Mai Arr**	**18.71**	**25**	P	**Pn**	**14 38 37.6**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=219,slow=13,SNR=8.6						
SRLM	**Srisailam**	**18.71**	**322**	*e*P	**Pn**	**14 38 38.5**	**+0.8**
NJS	**Nagarjunasagar**	**18.81**	**324**	*e*P	**Pn**	**14 38 39.0**	**+0.2**
URV	**Uravakonda**	**18.95**	**316**	*e*P	**P**	**14 38 39.8**	**0.0**
MNCY	**Minicoy**	**18.95**	**292**	*e*P	**Pn**	**14 38 40.8**	**+0.2**
CHTO	**Chiang Mai**	**19.03**	**24**	*e*P	**Pn**	**14 38 41.3**	**-0.1**
	comp=Z,54nm,1.4s						
CHTO	**Chiang Mai**	**19.03**	**24**	*e*P	**Pn**	**14 38 41.3**	**-0.1**
CHTO				pmax	pmax		
	comp=Z,54nm,1.4s						
JCJI	**Jatiwangi**	**19.13**	**114**	P	Pn	14 38 53.0	+10
CISI	**Cisompet, Garu**	**19.18**	**118**	P	**Pn**	**14 38 45.1**	**+1.8**
CISI	**Cisompet, Garu**	**19.18**	**118**	*e*P	**P**	**14 38 42.0**	**-0.4**
	comp=Z,176nm,1.1s						
KSM	**Kuching**	**19.50**	**90**	*e*P	**P**	**14 38 45.0**	**-0.8**
	comp=Z,95nm,1.2s						
HYB	**Hyderabad**	**19.93**	**324**	*i* P	**P**	**14 38 48.5**	**-2.1**
HYB	**Hyderabad**	**19.93**	**324**	*e*P	**P**	**14 38 49.2**	**-1.4**
HYB				IAmb	IAmb	14 39 00.6	
	comp=Z,320nm,1.3s						
HYBB	**Hyderabad (bro**	**19.93**	**324**	*e*P	**Pn**	**14 38 51.9**	**-0.4**
KPJI	**Karang Pucung**	**20.07**	**116**	P	Pn	14 38 54.4	+0.4
H08S2	**Diego Garcia H**	**20.37**	**243**	T	T	14 59 33.9	
	comp=Z,379nm,1.2s baz=63,slow=75,SNR=21						
H08S3	**Diego Garcia H**	**20.37**	**244**	T	T	14 59 34.0	
	baz=63,slow=75,SNR=17						
H08S1	**Diego Garcia H**	**20.39**	**243**	T	T	14 59 35.3	
	baz=63,slow=75,SNR=23						
STKI	**Sintang**	**20.72**	**94**	P	Pn	14 39 00.3	-1.2
SRSP	**Sriramsagar**	**21.25**	**326**	*e*P	**P**	**14 39 04.9**	**+0.1**
PBKI	**Pangkalan Bun**	**21.26**	**101**	P	**P**	**14 39 09.3**	**+4.3**
	comp=Z,379nm,1.2s						
SMRI	**Semarang**	**21.33**	**114**	P	**P**	**14 39 12.0**	**+6.2**
SMRI	**Semarang**	**21.33**	**114**	*e*P	**P**	**14 39 04.3**	**-1.5**
	comp=Z,506nm,1.3s						
SBUM	**Sibu**	**21.43**	**87**	*e*P	**P**	**14 39 05.0**	**-1.8**
	comp=Z,174nm,1.7s						
KLRI	**Killari**	**21.63**	**321**	*e*P	**P**	**14 39 09.1**	**+0.1**
UGM	**Wanagama**	**21.75**	**116**	*e*P	**P**	**14 39 09.6**	**-0.7**
	comp=Z,293nm,1.3s						
GOA	**Goa**	**21.81**	**311**	*e*P	**P**	**14 39 10.2**	**-0.7**
GOA				IAmb	IAmb	14 39 21.2	
	comp=Z,236nm,1.8s						
WOJI	**Wonogiri, Jawa**	**22.08**	**115**	P	**P**	**14 39 18.6**	**+4.8**
PCJI	**Pacitan**	**22.45**	**116**	P	**P**	**14 39 16.5**	**-1.3**
NGP	**Nagpur**	**22.70**	**330**	*e*P	**P**	**14 39 19.8**	**-0.6**
BOK	**Bokaro**	**22.73**	**348**	*e*P	**P**	**14 39 20.5**	**-0.1**
BOK				IAmb	IAmb	14 39 31.6	
	comp=Z,190nm,0.2s						
POO	**Poona**	**23.77**	**317**	*e*P	**P**	**14 39 30.8**	**-0.5**
SHL	**Shillong**	**24.01**	**2**	IAmb	IAmb	14 39 11.0	
	comp=Z,2μm,4.2s						
SHL				*e*P	**P**	**14 39 33.1**	**-0.5**
MTKI	**Muara Teweh, K**	**24.21**	**95**	P	P	14 39 43.3	+7.9
BHPL	**Bhopal**	**25.27**	**330**	*e*P	**P**	**14 39 44.9**	**0.0**
QIZ	**Qiongzhong**	**25.57**	**46**	P	**P**	14 39 55.5	+7.8
QIZ				S	**S**	**14 44 16.3**	**+1.3**
QIZ				pmax	pmax		
	comp=Z,14nm,1.0s						
KKM	**Kota Kinabalu**	**25.76**	**79**	*e*P	**P**	**14 39 49.3**	**-0.3**
	comp=Z,113nm,1.1s						
KBKI	**Kotabaru**	**25.79**	**101**	P	**P**	**14 39 52.6**	**+2.9**
SRBI	**Singaraja**	**26.11**	**112**	P	**P**	**14 39 49.8**	**-2.9**
KMI	**Kunming**	**26.22**	**25**	P	**P**	**14 39 55.6**	**+1.9**
KMI				pmax	pmax		
	comp=Z,9.0nm,0.6s						
KMI				pmax	pmax		
	comp=Z,1μm,13.5s						
KMI				LR	LR		
	comp=Z,3μm,16.7s						
KMI				LR	LR		
	comp=Z,4μm,17.7s						
KMI				LR	LR		
	comp=Z,2μm,16.5s						
BKB	**Balikpapan**	**26.23**	**96**	P	P	14 40 03.7	+10
MYLDM	**Lahad Datu**	**27.89**	**82**	*e*P	**P**	**14 40 08.9**	**+0.2**
	comp=Z,104nm,1.1s						
LSA	**Lhasa**	**28.11**	**1**	P	**P**	**14 40 12.5**	**+1.5**
LSA				pmax	pmax		
	comp=Z,21nm,1.2s						
LSA	**Lhasa**	**28.11**	**1**	*e*P	**P**	**14 40 11.7**	**+0.7**
LSA	**Lhasa**	**28.11**	**1**	*e*P	**P**	**14 40 11.7**	**+0.7**
MPSI	**Mapaga**	**29.11**	**92**	P	P	14 40 27.9	+8.3
GYA	**Guiyang**	**29.18**	**30**	P	**P**	**14 40 22.5**	**+2.3**
GYA				PP	**PnPn**	**14 41 17.0**	**+3.9**
GYA				PcP	**PcP**	**14 43 29.4**	**+1.8**
GYA				S	**S**	**14 45 13.8**	**+1.7**
GYA				SS	**SnSn**	**14 46 44.2**	**+6.9**
GYA				ScP	**ScP**	**14 47 09.6**	**+0.9**
GYA				pmax	pmax		
	comp=Z,30nm,0.8s						
GYA				pmax	pmax		
	comp=Z,140nm,5.6s						
GYA				LR	LR		
	comp=Z,580nm,18.0s						
GYA				LR	LR		
	comp=Z,550nm,18.4s						
GYA				LR	LR		
	comp=Z,540nm,18.2s						
BNSI	**Bone**	**29.85**	**101**	P	P	14 40 34.7	+8.6
MRSI	**Marisa**	**31.15**	**91**	P	P	14 40 45.8	+8.2
DDI	**Dehra Dun**	**31.17**	**338**	*e*P	**P**	**14 40 37.8**	**+0.1**
CD2	**Chengdu**	**31.78**	**21**	P	**P**	**14 40 42.3**	**-0.7**
CD2				S	**S**	**14 45 53.9**	**+1.3**
CD2				pmax	pmax		
	comp=Z,20nm,0.5s						
LUWI	**Luwuk**	**32.06**	**94**	P	P	14 40 54.4	+8.8
SMLA	**Simla**	**32.23**	**338**	*e*P	**P**	**14 40 48.1**	**+1.3**
DHRM	**DHARAMSHALA**	**33.56**	**337**	*e*P	**P**	**14 40 58.0**	**-0.7**
ENH	**Enshi**	**33.72**	**30**	*e*P	**P**	**14 40 59.9**	**0.0**
	comp=Z,24nm,0.8s						
NIL	**Nilore**	**36.02**	**335**	*e*P	**P**	**14 41 19.7**	**-0.1**
	comp=Z,8.8nm,0.6s						
NIL	**Nilore**	**36.02**	**335**	*e*P	**P**	**14 41 19.7**	**-0.1**
NIL				pmax	pmax		
	comp=Z,9.0nm,0.6s						
MBWA	**Marble Bar**	**36.12**	**130**	*e*P	**P**	**14 41 20.4**	**-0.4**
LZH	**Lanzhou**	**36.54**	**18**	*e*P	**P**	**14 41 24.3**	**0.0**
LZH				pP	pP	14 41 28.7	-0.8
LZH				sP	sP	14 41 31.2	-0.4
LZH				PP	**PP**	**14 42 49.0**	**+1.3**
LZH				pmax	pmax		
	comp=Z,52nm,1.3s						
LZH				pmax	pmax		
	comp=Z,140nm,5.2s						
LZH				LR	LR		
	comp=Z,1μm,13.9s						
LZH				LR	LR		
	comp=Z,1μm,14.3s						
LZH				LR	LR		
	comp=Z,2μm,17.8s						
XAN	**Xi'an**	**36.60**	**26**	P	P	14 41 31.5	+6.8
XAN				pP	sP	14 41 35.9	+3.9
XAN				sP	pP	14 41 39.1	+9.2
XAN				pmax	pmax		
	comp=Z,12nm,0.9s						
WSAR	**Wadi Sarin**	**37.99**	**307**	P	**P**	**14 41 37.5**	**+0.8**
	comp=Z,6.4nm,0.7s,baz=156,slow=9.6,SNR=7.6						
BIDO	**Bidbid**	**38.53**	**307**	pP	P	14 41 46.0	+4.8
	SNR=7.9						
BIDO	**Bidbid**	**38.53**	**307**	P	P	14 41 46.0	+4.8
	SNR=7.9						
GTA	**Gaotai**	**38.68**	**11**	*e*P	**P**	**14 41 42.8**	**+0.4**
GTA				pP	pP	14 41 47.1	-0.5
GTA				sP	sP	14 41 50.6	+0.9
GTA				S	**S**	**14 47 39.5**	**+0.9**
GTA				sS	sS	14 47 49.0	+1.8
GTA				SS	**SnSn**	**14 50 23.4**	**-4.0**
GTA				pmax	pmax		
	comp=Z,9.0nm,1.2s						
GTA				pmax	pmax		
	comp=Z,2μm,9.0s						
GTA				LR	LR		
	comp=Z,2μm,18.5s						
GTA				LR	LR		
	comp=Z,3μm,17.6s						
GTA				LR	LR		
	comp=Z,5μm,18.5s						
KBL	**Kabul**	**38.70**	**331**	*e*P	**P**	**14 41 42.5**	**-0.2**
	comp=Z,38nm,1.3s						
KBL	**Kabul**	**38.70**	**331**	*e*P	**P**	**14 41 42.5**	**-0.2**
KBL				pmax	pmax		
	comp=Z,38nm,1.3s						
MEEK	**Meekatharra**	**38.71**	**138**	P	**P**	**14 41 43.3**	**+0.6**
	baz=39,SNR=16						
MORW	**Morawa**	**38.78**	**143**	P	**P**	**14 41 44.3**	**+1.1**
	baz=39,SNR=18						
FITZ	**Fitzroy Crossi**	**39.40**	**121**	P	**P**	**14 41 47.6**	**-0.9**
	comp=Z,14nm,0.9s,baz=282,slow=5.3,SNR=17						
FITZ	**Fitzroy Crossi**	**39.40**	**121**	P	**P**	**14 41 47.6**	**-0.9**
	baz=40,SNR=9.4						
SOHO	**SOHO**	**40.10**	**307**	*i* P	**P**	**14 41 55.7**	**+1.4**
	SNR=7.5						
KSH	**Kashi**	**40.24**	**342**	P	**P**	**14 41 55.2**	**-0.2**
KSH				pmax	pmax		
	comp=Z,130nm,1.1s						
BLDU	**Ballidu**	**40.30**	**144**	P	**P**	**14 41 56.5**	**+0.6**
	baz=40,SNR=4.4						
NJ2	**Nanjing**	**40.33**	**38**	*e*P	**P**	**14 41 54.9**	**-1.2**
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.5s						
SIJI	**Sorong**	**40.52**	**93**	P	**P**	**14 41 59.3**	**+1.3**
	comp=Z,6.8nm,1.0s,baz=278,slow=6.4,SNR=6.4						
ALNE	**Al Ain**	**40.69**	**306**	*i* P	**P**	**14 42 00.7**	**+1.5**
	SNR=7.1						
HATD	**Hatta, Dubai**	**40.76**	**308**	P	**P**	**14 42 01.5**	**+1.7**
MDH	**Madha**	**40.86**	**308**	P	**P**	**14 42 00.6**	**0.0**
MUN	**Mundaring**	**41.03**	**146**	P	**P**	**14 42 02.9**	**+1.0**
	baz=41,SNR=3.8						
KLBR	**Kellerberrin**	**41.63**	**144**	P	**P**	**14 42 07.3**	**+0.5**
	baz=42,SNR=5.7						
H01W3	**Cape Leeuwin H**	**42.23**	**151**	T	T	15 27 17.7	
	baz=327,slow=74,SNR=8.1						
H01W2	**Cape Leeuwin H**	**42.24**	**151**	T	T	15 27 14.8	
	SNR=7.6						
H01W1	**Cape Leeuwin H**	**42.24**	**151**	T	T	15 27 17.7	
	baz=280,slow=74,SNR=6.8						
WMQ	**Urumqi**	**42.29**	**357**	P	**P**	**14 42 15.0**	**+2.8**
WMQ				sP	sP	14 42 20.1	+0.6
WMQ				pmax	pmax		
	comp=Z,27nm,0.7s						
NWAO	**Narrogin (SRO)**	**42.32**	**146**	P	**P**	**14 42 12.7**	**+0.3**
	comp=Z,33nm,0.9s,baz=184,slow=8.0,SNR=16						
NWAO	**Narrogin (SRO)**	**42.32**	**146**	P	**P**	**14 42 12.5**	**0.0**
	baz=42,SNR=11						
NWAO				P	**P**	**14 42 12.5**	**0.0**
	baz=42,SNR=11						
HHC	**Hu-ho-hao-te**	**43.50**	**23**	*e*P	**P**	**14 42 23.2**	**+1.1**
HHC				sP	sP	14 42 30.8	+1.4
HHC				pmax	pmax		
	comp=Z,19nm,1.0s						
HHC				pmax	pmax		
	comp=Z,76nm,6.4s						
HHC				LR	LR		
	comp=Z,2μm,15.7s						
HHC				LR	LR		
	comp=Z,2μm,14.4s						
HHC				LR	LR		
	comp=Z,3μm,15.0s						
AAK	**Ala-Archa**	**43.55**	**342**	P	**P**	**14 42 23.0**	**+0.6**
	comp=Z,4.1nm,0.9s,baz=187,slow=12,SNR=9.4						
AAK	**Ala-Archa**	**43.55**	**342**	*e*P	**P**	**14 42 22.3**	**-0.2**
	comp=Z,20nm,1.3s						
AAK	**Ala-Archa**	**43.55**	**342**	P	**P**	**14 42 23.8**	**+1.4**
	SNR=6.3						
AAK	**Ala-Archa**	**43.55**	**342**	P	**P**	**14 42 23.8**	**+1.4**
	SNR=6.3						
AAK	**Ala-Archa**	**43.55**	**342**	P	**P**	**14 42 23.6**	**+1.1**
AAK	**Ala-Archa**	**43.55**	**342**	||*i* P	**P**	**14 42 22.6**	**+0.1**
AAK				pmax	pmax		
	comp=Z,26nm,1.6s						
FRU	**Bishkek**	**43.69**	**343**	*e*P	**P**	**14 42 24.0**	**+0.5**
BJI	**Beijing**	**44.81**	**28**	P	**P**	**14 42 33.6**	**+1.2**
BJI				pmax	pmax		
	comp=Z,14nm,1.2s						
WRKA	**Warakurna**	**44.84**	**128**	P	**P**	**14 42 32.7**	**-0.3**
	baz=45,SNR=3.9						
KK06	**Karatay Array**	**45.26**	**339**	*e*P	**P**	**14 42 35.1**	**-0.9**
KK07	**Karatay Array**	**45.27**	**339**	*e*P	**P**	**14 42 35.2**	**-0.8**
KK02	**Karatay Array**	**45.28**	**339**	*e*P	**P**	**14 42 35.2**	**-0.9**
KK31	**Karatay Array**	**45.28**	**339**	*e*P	**P**	**14 42 36.0**	**-0.1**
KK31	**Karatay Array**	**45.28**	**339**	*e*P	**P**	**14 42 36.0**	**-0.1**
KKAR	**Karatay Array**	**45.28**	**339**	*e*P	**P**	**14 42 35.5**	**-0.6**
KKAR	**Karatay Array**	**45.28**	**339**	*e*P	**P**	**14 42 35.5**	**-0.6**
KK01	**Karatay Array**	**45.28**	**339**	*e*P	**P**	**14 42 35.5**	**-0.6**
KK03	**Karatay Array**	**45.28**	**339**	*e*P	**P**	**14 42 35.5**	**-0.6**
KK04	**Karatay Array**	**45.28**	**339**	*e*P	**P**	**14 42 35.4**	**-0.8**
KK05	**Karatay Array**	**45.28**	**339**	*e*P	**P**	**14 42 35.8**	**-0.4**
KK08	**Karatay Array**	**45.29**	**339**	*e*P	**P**	**14 42 35.0**	**-1.1**
MK01	**Makanchi Array**	**45.76**	**352**	*e*P	**P**	**14 42 37.8**	**-2.1**
MK31	**Makanchi Array**	**45.78**	**352**	*e*P	**P**	**14 42 38.4**	**-1.7**
MK31	**Makanchi Array**	**45.78**	**352**	*e*P	**P**	**14 42 38.4**	**-1.7**
MKAR	**Makanchi Array**	**45.78**	**352**	P	**P**	**14 42 39.8**	**-0.3**
	comp=Z,4.3nm,0.8s,baz=169,slow=8.7,SNR=13						
**MKAR

KURK	Kurchatov	50.18	350	*e*P		P		14 43 13.2	-0.8
	comp=Z,26nm,1.0s								
KURK	Kurchatov	50.18	350	P		P		14 43 14.4	+0.5
	SNR=11								
KURK	Kurchatov	50.18	350	P		P		14 43 14.4	+0.5
	SNR=11								
KURK	Kurchatov	50.18	350	*ce*P		P		14 43 12.8	-1.2
KURK				pmax		pmax			
	comp=Z,73nm,1.7s								
IRK	Irkutsk	51.87	10	*e*P		P		14 43 25.5	-1.2
IRK				pmax		pmax			
	comp=Z,31nm,2.4s								
CN2	Changchun	52.22	31	*e*P		P		14 43 37.2	+7.8
CN2				pmax		pmax			
	comp=Z,10.0nm,1.3s								
ZAA0	Zalesovo Array	52.57	356	*e*P		P		14 43 30.4	-1.4
	comp=Z,24nm,1.1s								
ZALV	Zalesovo Beam	52.57	356	P		P		14 43 30.7	-1.2
	comp=Z,4.4nm,0.4s,baz=188,slow=7.6,SNR=12								
ZALV	Zalesovo Beam	52.57	356	*e*P		P		14 43 30.4	-1.4
ZALV	Zalesovo Beam	52.57	356	*e*P		P		14 43 30.4	-1.4
NVS	Novosibirsk	53.59	355	*e*P		P		14 43 38.5	-0.9
NVS				pmax		pmax			
	comp=Z,15nm,1.0s								
NVS				pmax		pmax			
	comp=N,12nm,1.3s								
KMBO	Kilima Mbogo	53.61	268	P		P		14 43 40.1	-0.4
	comp=N,4.2nm,0.7s,baz=55,slow=9.6,SNR=12								
KMBO	Kilima Mbogo	53.61	268	*e*P		P		14 43 40.3	-0.3
	comp=N,17nm,1.3s								
KMBO	Kilima Mbogo	53.61	268	pP		P		14 43 42.1	+1.5
	SNR=5.7								
KMBO	Kilima Mbogo	53.61	268	P		P		14 43 42.1	+1.5
	SNR=5.7								
KMBO	Kilima Mbogo	53.61	268	*i* P		P		14 43 41.4	+0.9
	SNR=7.8								
BRVK	Borovoye	54.20	345	*ce*P		P		14 43 43.7	-0.2
BRVK				pmax		pmax			
	comp=Z,15nm,1.2s								
KRAR	Krasnoyarsk	54.43	1	*e*P		P		14 43 46.2	+0.7
AB07	Akbulak array	54.46	336	*e*P		P		14 43 44.9	-0.9
AB08	Akbulak array	54.47	336	*e*P		P		14 43 45.1	-0.8
AB06	Akbulak array	54.47	336	*e*P		P		14 43 45.2	-0.7
AB03	Akbulak array	54.47	336	*e*P		P		14 43 45.1	-0.8
AB01	Akbulak array	54.47	336	*e*P		P		14 43 45.2	-0.7
AB31	Akbulak array	54.47	336	*e*P		P		14 43 45.2	-0.6
AB31	Akbulak array	54.47	336	*e*P		P		14 43 45.3	-0.6
ABKAR	Akbulak array	54.47	336	*e*P		P		14 43 45.3	-0.6
	comp=Z,23nm,1.0s								
AB02	Akbulak array	54.48	336	*e*P		P		14 43 45.4	-0.6
AB04	Akbulak array	54.48	336	*e*P		P		14 43 45.4	-0.5
AB05	Akbulak array	54.49	336	*e*P		P		14 43 45.5	-0.5
AB09	Akbulak array	54.49	336	*e*P		P		14 43 45.5	-0.5
MJAR	Matsushiro Arr	55.97	46	P		P		14 43 55.7	-1.3
	comp=Z,1.6nm,0.8s,baz=235,slow=6.9,SNR=4.3								
AKTO	Aktyubinsk	56.18	335	P		P		14 43 57.4	-0.8
	comp=Z,1.5nm,0.5s,baz=124,slow=8.2,SNR=5.4								
GNI	Garni	56.79	319	P		P		14 44 02.4	-0.5
	comp=Z,4.2nm,0.4s,baz=176,slow=2.1,SNR=5.2								
GNI	Garni	56.79	319	*e*P		P		14 44 02.5	-0.5
	comp=Z,311nm,1.4s								
GNI	Garni	56.79	319	*ce*P		P		14 44 03.8	+0.8
GNI				pmax		pmax			
	comp=Z,62nm,1.7s								
PMG	Port Moresby	57.15	102	P		P		14 44 05.2	-0.5
	comp=Z,20nm,0.9s,baz=270,slow=10,SNR=3.9								
PMG	Port Moresby	57.15	102	P		P		14 44 04.7	-1.1
	comp=Z,38nm,1.1s								
PMG	Port Moresby	57.15	102	*i* P		P		14 43 51.4	-14
TBLG	Delisi	57.61	320	*e*P		P		14 44 08.4	-0.1
	comp=Z,71nm,1.1s								
TBLG	Delisi	57.61	320	*e*P		P		14 44 08.5	-0.1
TBLG				pmax		pmax			
	comp=Z,71nm,1.1s								
GROC	Groznyy	57.74	322	*e*P		P		14 44 12.5	+3.1
GROC				*e*				14 45 02.0	
GROC				*e*				14 46 16.8	
GROC				pmax		pmax			
	comp=Z,116nm,1.1s								
STKA	Stephens Creek	58.36	129	P		P		14 44 13.8	-0.2
	comp=Z,15nm,0.9s,baz=317,slow=6.9,SNR=22								
STKA	Stephens Creek	58.36	129	P		P		14 44 14.0	0.0
	baz=58,SNR=10								
STKA	Stephens Creek	58.36	129	*e*P		P		14 44 13.6	-0.4
	comp=Z,4.7nm,1.0s								
STKA	Stephens Creek	58.36	129	*e*P		P		14 44 13.6	-0.4
STKA				pmax		pmax			
	comp=Z,5.0nm,1.0s								
ZEI	Tsey	58.69	321	*e*P		P		14 44 16.6	+0.3
ZEI				pmax		pmax			
	comp=Z,11nm,0.9s								
KLR	Kul'dur	59.08	30	P		P		14 44 18.8	+0.1
	comp=Z,0.1nm,0.7s,baz=253,slow=5.5,SNR=4.9								
KLR	Kul'dur	59.08	30	*i* P		P		14 44 16.3	-2.4
NCK	Nalchik	59.25	322	*i* P		P		14 44 20.4	+0.4
NCK				pmax		pmax			
	comp=Z,14nm,1.2s								
NEY	Neytrino	59.67	321	*i* P		P		14 44 23.3	+0.2
NEY				pmax		pmax			
	comp=Z,1.0nm,0.7s								
KBZ	Khabaz	59.80	322	P		P		14 44 24.1	+0.4
	comp=Z,8.1nm,0.9s,baz=130,slow=4.8,SNR=18								
EIL	Elat	59.96	304	P		P		14 44 25.2	+0.1
	comp=Z,8.0nm,0.9s,baz=128,slow=3.5,SNR=7.0								
KIV	Kislovodsk	60.05	322	*e*P		P		14 44 25.2	-0.4
	comp=Z,13nm,0.9s								
KIV	Kislovodsk	60.05	322	P		P		14 44 26.2	+0.6
	SNR=15								
KIV	Kislovodsk	60.05	322	P		P		14 44 26.2	+0.6
	SNR=15								
KIV	Kislovodsk	60.05	322	P		P		14 44 26.5	+0.9
KIV	Kislovodsk	60.05	322	*e*P		P		14 44 26.0	+0.4
KIV				pmax		pmax			
	comp=Z,60nm,1.0s								
MBAR	Mbarara	60.09	268	P		P		14 44 25.8	-0.7
	comp=Z,3.4nm,0.2s,baz=65,slow=3.8,SNR=10								
MBAR	Mbarara	60.09	268	*e*P		P		14 44 26.5	0.0
	comp=Z,18nm,1.2s								
MBAR	Mbarara	60.09	268	*e*P		P		14 44 26.5	0.0
MBAR				pmax		pmax			
	comp=Z,18nm,1.2s								
ZEA	Zeya	60.15	24	*e*P		P		14 44 26.6	+0.7
ZEA				pmax		pmax			
	comp=Z,11nm,0.9s								
SVE	Sverdlovsk	60.27	341	*e*P		P		14 44 26.1	-0.6
SVE				pmax		pmax			
	comp=Z,25nm,1.1s								
GOF	Gofitskoye	60.41	323	*e*P		P		14 44 36.3	+8.4
ARU	Arti	60.63	340	P		P		14 44 28.4	-0.8
	comp=Z,1.0nm,0.3s,baz=161,slow=4.4,SNR=4.8								
ARU	Arti	60.63	340	*c i* P		P		14 44 30.2	+1.0
ARU								14 46 44.0	
ARU				S		S		14 52 45.5	+0.8
ARU				SS		SS		14 56 36.7	-6.6
ARU				pmax		pmax			
	comp=Z,13nm,1.7s								
CMSA	Cobar Meteorol	61.45	127	P		P		14 44 35.5	+0.4
	baz=62,SNR=9.1								
RMQ	Roma	62.33	121	P		P		14 44 42.6	+1.3
	baz=62,SNR=6.2								
TOO	Toolangi	63.64	134	P		P		14 44 51.0	+1.2
	baz=64,SNR=4.5								
YSS	Yuzh-Sakhalins	63.88	37	*e*P		P		14 44 46.2	-4.9
YSS				pmax		pmax			
	comp=Z,10.0nm,0.6s								
LSZ	Lusaka	64.07	252	P		P		14 44 52.6	-0.5
	comp=Z,4.8nm,0.9s,baz=59,slow=5.7,SNR=5.8								
LSZ	Lusaka	64.07	252	*e*P		P		14 44 53.1	0.0
	comp=Z,33nm,1.7s								
LSZ	Lusaka	64.07	252	*e*P		P		14 44 53.1	0.0
LSZ				pmax		pmax			
	comp=Z,33nm,1.7s								
BR131	Keskin Array S	64.28	314	*e*P		P		14 44 53.3	-0.8
BRTR	Keskin Array B	64.28	314	P		P		14 44 53.5	-0.6
	comp=Z,4.2nm,0.8s,baz=131,slow=7.1,SNR=21								
VRH	Novokhopyorsk	64.45	328	*e*P		P		14 44 53.6	-1.2
VRH				pmax		pmax			
	comp=Z,20nm,0.8s								
ILGA	Ilgaz	64.72	315	*e*P		P		14 44 56.2	-0.9
	comp=Z,58nm,1.3s								
ANTO	Ankara	64.94	314	*e*P		P		14 44 57.6	-0.8
	comp=Z,106nm,1.0s								
ANTO	Ankara	64.94	314	*e*P		P		14 44 57.6	-0.8
ANTO				pmax		pmax			
	comp=Z,106nm,1.0s								
VSR	Storozhevoye	65.82	327	*e*P		P		14 45 01.7	-2.0
VSR				pmax		pmax			
	comp=Z,10.0nm,1.1s								
SIM	Simferopol'	65.96	319	*e*P		P		14 45 05.5	+0.8
SIM				*e*				14 45 36.0	
SIM				pmax		pmax			
	comp=Z,17nm,0.8s								
LPSR	Galich'ya Gora	66.66	328	*e*P		P		14 45 07.8	-1.2
LPSR				*e*PP		sP		14 45 16.6	+0.1
LPSR				pmax		pmax			
	comp=Z,10.0nm,1.0s								
YAK	Yakutsk	67.12	19	*i* P		P		14 45 10.7	-1.1
YAK				pmax		pmax			
	comp=Z,25nm,1.3s								
LBTB	Lobatse	68.29	242	*e*P		P		14 45 20.0	-0.1
	comp=Z,12nm,0.8s								
LBTB	Lobatse	68.29	242	*e*P		P		14 45 20.0	-0.1
LBTB				pmax		pmax			
	comp=Z,12nm,0.8s								
MOS	Moscow	68.94	331	*e*P		P		14 45 21.8	-1.5
MOS				*e*				14 45 29.7	
MOS				pmax		pmax			
	comp=Z,47nm,1.0s								
OBN	Obninsk	69.14	330	P		P		14 45 24.3	-0.3
	comp=Z,25nm,0.4s,baz=161,slow=8.5,SNR=3.4								
OBN	Obninsk	69.14	330	*e*P		P		14 45 23.7	-0.9
OBN				*e*				14 45 30.4	
OBN				*e*				14 45 47.1	
OBN				*e*				14 48 02.3	
OBN				pmax		pmax			
	comp=Z,14nm,1.3s								
BOSA	Boshof	69.39	239	P		P		14 45 26.8	-0.1
	comp=Z,3.3nm,0.7s,baz=71,slow=6.0,SNR=4.3								
TIRR	Tirgusor	69.56	317	*i* P		P		14 45 27.5	0.0
TIRR	Tirgusor	69.56	317	*e*P		P		14 45 27.0	-0.5
	comp=Z,27nm,1.0s								
TIRR	Tirgusor	69.56	317	*e*P		P		14 45 27.0	-0.5
TIRR				pmax		pmax			
	comp=Z,27nm,1.0s								
IDI	Anoyia	69.63	307	P		P		14 45 27.9	-0.3
	comp=Z,15nm,0.5s,baz=100,slow=12,SNR=16								
CFR	Carcaliu	69.99	318	*i* P		P		14 45 29.9	-0.1
KIS	Kishinev	70.15	320	*e*P		P		14 45 29.0	-2.0
KIS	Kishinev	70.15	320	*e*P		P		14 45 29.0	-2.0
SORM	Soroca	70.84	321	*i* P		P		14 45 34.7	-0.5
KLMR	Klimovskoe	70.86	336	*e*P		P		14 45 33.2	-1.9
KLMR				AMP				14 45 44.3	
	comp=Z,44nm,1.2s								
KLMR				*e*PcP		PcP		14 45 53.7	-1.9
KLMR	Klimovskoe	70.86	336	*e*P		P		14 45 33.2	-1.9
KLMR				*e*				14 45 53.7	
KLMR				pmax		pmax			
	comp=Z,44nm,1.2s								
VRI	Vrincioaia	71.14	318	*i* P		P		14 45 38.3	+1.1
AKASG	Malin Array Be	71.23	324	P		P		14 45 36.7	-0.8
	comp=Z,3.7nm,0.8s,baz=92,slow=4.8,SNR=13								
KIEV	Kiev	71.24	324	*e*P		P		14 45 36.0	-1.6
KIEV				pmax		pmax			
	comp=Z,3.0nm,0.7s								
TESR	Tescani	71.40	319	*i* P		P		14 45 38.2	-0.5
MLR	Muntele Rosu	71.55	318	*i* P		P		14 45 40.4	+0.6
MLR	Muntele Rosu	71.55	318	*e*P		P		14 45 39.9	+0.1
	comp=Z,81nm,1.0s								
MLR	Muntele Rosu	71.55	318	*e*P		P		14 45 39.9	+0.1
MLR				pmax		pmax			
	comp=Z,81nm,1.0s								
PRAR	RASCA	71.94	320	*i* P		P		14 45 41.9	0.0
DOPR	Dopca	72.06	318	*i* P		P		14 45 43.4	+0.7
VOIR		72.14	318	*i* P		P		14 45 42.6	-0.6
VTS	Vitosha	72.65	314	*i* P		P		14 45 46.1	-0.4
VTS	Vitosha	72.65	314	*e*P		P		14 45 45.7	-0.8
	comp=Z,15nm,0.9s								
VTS	Vitosha	72.65	314	*e*P		P		14 45 45.7	-0.8
VTS				pmax		pmax			
	comp=Z,15nm,0.9s								
BURAR	Bucovina Array	72.67	320	*i* P		P		14 45 47.1	+0.7
BUR04	Bucovina Ar. S	72.67	320	*e*P		P		14 45 46.5	+0.1
BUR08	Bucovina Ar. S	72.69	320	*e*P		P		14 45 46.4	-0.2
TMCR	Tamitsa	73.30	339	*e*P		P		14 45 48.5	-1.1
MICGM	Minsk	73.40	327	*e*		P		14 45 51.0	+0.6
MNK	Minsk	73.40	327	*e*P		P		14 45 51.0	+0.6
DRGR		74.08	318	*i* P		P		14 45 54.7	0.0
LVV	L'vov	74.08	322	*e*P		P		14 46 03.7	+9.2
NACGM	Naroch	74.14	327	*e*		P		14 45 54.0	-0.8
TIXI	Tiksi	74.16	12	*e*P		P		14 45 53.2	-1.3
	comp=Z,15nm,0.8s								
TIXI	Tiksi	74.16	12	*ce*P		P		14 45 53.1	-1.4
TIXI				pmax		pmax			
	comp=Z,11nm,1.0s								
IDID	Didziasalis	74.31	328	*e*P		P		14 45 53.3	-2.4
IDID				IAmb		IAmb		14 46 05.6	
	comp=Z,9.5nm,0.7s								
IIGN	Ignalina	74.60	328	*e*P		P		14 45 55.3	-2.1
IIGN				IAmb		IAmb		14 46 07.2	
	comp=Z,18nm,1.1s								
UZH	Uzhgorod	74.84	320	*e*P		P		14 46 06.8	+7.9
UZH				*e*				14 46 15.4	
DIVS	Divibare	75.29	315	*e*P		P		14 46 01.6	-0.2
	comp=Z,18nm,1.2s								
CRVS	Cervenica-Dubn	75.44	320	*e*P		P		14 46 02.1	-0.3
CRVS				*e*				14 46 11.6	
CRVS	Cervenica-Dubn	75.44	320	*e*P		P		14 46 02.1	-0.3
CRVS				*e*				14 46 11.6	
VSU	Vasula	75.47	331	*e*P		P		14 46 02.1	-0.2
VSU				pmax		pmax			
	comp=Z,43nm,0.9s								
STHS	Stebnicka Huta	75.71	321	*e*P		P		14 46 05.1	+1.1
STHS	Stebnicka Huta	75.71	321	*e*P		P		14 46 05.1	+1.1
STHS				pmax		pmax			
	comp=Z,10.0nm,1.2s								
SEY	Seymchan	76.13	24	*e*P		P		14 46 04.5	-1.5
NIE	Niedzica	76.31	321	*e*P		P		14 46 17.0	+10
APA	Apatity	76.72	341	*i* P		P		14 46 14.8	+5.5
APA				pmax		pmax			
	comp=Z,11nm,1.1s								
APA				MLR		MLR			
	comp=Z,2μm,21.0s								
OJC	Ojcow	76.81	321	*e*P		P		14 46 11.0	+0.7
OJC	Ojcow	76.81	321	*e*P		P		14 46 11.0	+0.7
FIA1	FINESS Array S	76.88	334	*e*P		P		14 46 09.8	-0.5
	comp=Z,19nm,0.8s								
FINES	FINESS Array B	76.89	334	P		P		14 46 10.2	-0.2
	comp=Z,9.4nm,0.9s,baz=102,slow=5.8,SNR=13								
VYHS	Vyhne	77.03	320	*e*P		P		14 46 11.7	+0.2
VYHS				*e*PCP		sP		14 46 20.0	+0.9
VYHS	Vyhne	77.03	320	*e*P		P		14 46 11.7	+0.2
VYHS				*e*				14 46 20.1	
VYHS				pmax		pmax			
	comp=Z,17nm,1.6s								
MODS	Modra-Piesok	78.02	319	*e*P		P		14 46 18.0	+1.0
MODS				*e*PCP		PcP		14 46 25.9	-0.8
MODS	Modra-Piesok	78.02	319	*e*P		P		14 46 18.0	+1.0
MODS				*e*				14 46 25.9	
MORC	Moravsky Berou	78.14	321	*e*P		P		14 46 18.0	+0.3
	comp=Z,53nm,1.2s								
MORC	Moravsky Berou	78.14	321	*e*P		P		14 46 18.0	+0.3
MORC				pmax		pmax			
	comp=Z,53nm,1.2s								
SYO	Syowa Base	78.32	197	*e*P		P		14 46 18.0	-0.2
KRLC	Kraliky	78.68	321	*ex*		PcP		14 46 30.0	+0.4
CONA	Conrad Observa	78.87	319	P		P		14 46 21.9	0.0
	comp=Z,5.8nm,1.1s								
ARSA	Arzberg	78.97	318	*i* P		P		14 46 22.7	+0.4
	comp=Z,21nm,1.1s								
DPC	Dobruska-Polom	79.02	321	*e*P		P		14 46 23.6	+1.0
DPC				*e*PCP		PcP		14 46 31.9	+0.8
DPC				*ex*		x		14 46 38.8	
DPC	Dobruska-Polom	79.02	321	*e*P		P		14 46 23.6	+1.0
DPC				*e*				14 46 31.9	
KSP	Ksiaz	79.13	322	*e*P		P		14 46 24.1	+1.0
KSP	Ksiaz	79.13	322	*e*P		P		14 46 24.1	+1.0
UPC	Upice	79.25	321	*e*P		P		14 46 24.7	+1.0
UPC				*e*PCP		PcP		14 46 33.4	+1.4
UPC	Upice	79.25	321	*e*P		P		14 46 24.7	+1.0
UPC				*e*				14 46 33.4	
PRU	Pruhonice	80.08	320	*e*PCP		PcP		14 46 37.4	+1.8
MYKA	Terra Mystica	80.15	317	*i* P		P		14 46 29.6	+0.8
	comp=Z,24nm,1.1s								
ARCES	ARCESS Array B	80.20	341	P		P		14 46 28.1	-0.4
	comp=Z,4.9nm,0.9s,baz=88,slow=8.6,SNR=6.4								
GEC2	GERESS Array S	80.44	319	*e*P		P		14 46 30.7	+0.3
	comp=Z,78nm,1.1s								
GEC2	GERESS Array S	80.44	319	*e*P		P		14 46 30.7	+0.3
GEC2				pmax		pmax			
	comp=Z,78nm,1.1s								
GERES	GERESS Array B	80.44	319	P		P		14 46 31.1	+0.7
	comp=Z,1.1nm,0.9s,baz=98,slow=5.5,SNR=37								
KHC	Kasperske Hory	80.56	320	*e*P		P		14 46 31.3	+0.3
KHC				*ex*		x		14 46 40.2	
KHC				*ex*		x		14 46 46.9	
KHC	Kasperske Hory	80.56	320	*e*P		P		14 46 31.1	+0.1
	comp=Z,20nm,1.5s								
KHC	Kasperske Hory	80.56	320	*e*P		P		14 46 31.3	+0.3
CLL	Collm	81.26	322	*i* P		P		14 46 34.6	+0.1
	comp=Z,17nm,1.2s								
CLL				*i*				14 46 43.1	
	comp=Z,21nm,1.1s								
CLL	Collm	81.26	322	*i* P		P		14 46 34.6	+0.1
CLL				*i*				14 46 43.1	
CLL				pmax		pmax			
	comp=Z,17nm,1.2s								
MOTA	Moosalm	81.96	317	*i* P		P		14 46 38.0	-0.6
	comp=Z,12nm,1.0s								
GRFO	Grafenberg	82.17	320	*e*P		P		14 46 40.1	+0.7
	comp=Z,34nm,1.3s								
GRFO	Grafenberg	82.17	320	*e*P		P		14 46 40.1	+0.7
GRFO				pmax		pmax			
	comp=Z,34nm,1.3s								
FETA	Feichten	82.18	317	*i* P		P		14 46 40.3	+0.6
	comp=Z,20nm,1.1s								
RETA	Reutte	82.21	318	*i* P		P		14 46 40.1	+0.3
	comp=Z,20nm,1.2s								
KEST	Kesra	82.22	306	P		P		14 46 40.2	+0.1
	comp=Z,8.6nm,0.9s,baz=306,slow=4.4,SNR=6.8								
HFS	Hagfors	82.35	331	P		P		14 46 40.3	+0.2
	comp=Z,4.4nm,0.9s,baz=108,slow=9.3,SNR=4.7								
DAVA	Damuels	82.78	317	*i* P		P		14 46 43.4	+0.5
	comp=Z,34nm,1.2s								
BILL	Bilibino	83.26	22	*i* P		P		14 46 43.4	-1.3
BILL				*e*				14 49 58.5	
BILL				pmax		pmax			
	comp=Z,2.0nm,1.0s								
NB2	NORSAR Subarra	83.70	331	P		P		14 46 46.4	-0.8
	comp=Z,24nm,1.4s,baz=96,slow=5.3								
NB2	NORSAR Subarra	83.70	331	P		P		14 46 46.4	-0.8
	baz=96,slow=5.3								
NOA	NORSAR Array B	83.70	331	P		P		14 46 46.8	-0.3
	comp=Z,1.5nm,0.8s,baz=94,slow=5.8,SNR=2.8								
BFO	Black Forest	83.92	318	*i* P		P		14 46 49.3	+0.8
ECH	Echery	84.69	318	*e*P		P		14 46 52.2	-0.3
	comp=Z,13nm,1.0s								
ECH	Echery	84.69	318	*e*P		P		14 46 52.2	-0.3
ECH				pmax		pmax			
	comp=Z,13nm,1.0s								
TAM	Tamanrasset	85.09	293	*e*P		P		14 46 54.2	-0.9
	comp=Z,20nm,1.1s								
TAM	Tamanrasset	85.09	293	*e*P		P		14 46 54.3	-0.9
TAM				pmax		pmax			
	comp=Z,20nm,1.1s								
VNDA	Vanda	87.34	168	P		P		14 47 05.7	+0.8
	comp=Z,2.5nm,1.0s,baz=300,slow=4.1,SNR=7.0								
TORD	Torodi Ar. Bea	88.81	283	P		P		14 47 13.8	+0.6
	comp=Z,0.7nm,0.9s,baz=90,slow=5.9,SNR=5.0								
QSPA	South Pole Qui	91.38	180	P		P		14 47 24.5	+0.2
	comp=Z,5.5nm,1.0s,baz=314,slow=3.1,SNR=7.0								
QSPA	South Pole Qui	91.38	180	*e*P		P		14 47 24.5	+0.2
	comp=Z,10nm,1.1s								
ES19	SONSECA Array	92.72	310	*e*P		P		14 47 30.4	-0.6
ES19				*e*S		S		14 58 37.5	+1.9
ESDC	Sonseca Array	92.77	310	P		P		14 47 31.7	+0.5
	comp=Z,0.8nm,0.7s,baz=62,slow=3.5,SNR=5.6								
KOWA	Kowa	94.31	285	*e*P		P		14 47 39.4	+0.7
	comp=Z,20nm,1.2s								
ILAR	Eielson Array	101.92	22	PP		PP		14 52 27.9	+5.2
	comp=Z,0.4nm,0.8s,baz=286,slow=8.0,SNR=4.4								
YKA	Yellowknife Ar	113.40	13	PP		PP		14 53 41.7	-4.7
	comp=Z,0.3nm,0.9s,baz=334,slow=7.3,SNR=2.6								
WAH2	Wahluke Slope	125.10	25	*e*PKPdf		PKPdf		14 53 18.4	-0.7
MDW	Midway	125.12	25	*e*PKPdf		PKPdf		14 53 18.4	-0.8
MDW	Midway	125.12	25	*e*PKIKP		PKPdf		14 53 18.4	-0.8
GBL	Gable Mountain	125.27	25	*e*PKPdf		PKPdf		14 53 18.4	-1.0
GBL	Gable Mountain	125.27	25	*e*PKIKP		PKPdf		14 53 18.4	-1.0
NV01	Mina Array Sit	132.11	31	*e*PKPdf		PKPdf		14 53 34.4	+1.4
NVAR	Mina Array Bea	132.11	31	PKP		PKPdf		14 53 34.3	+1.3
	comp=Z,0.5nm,0.6s,baz=301,slow=3.5,SNR=4.7								
HMTC	Hemet	136.33	34	*e*PKPpre		PKPpre		14 53 30.2	
IP04	Greensprings	139.35	347	*e*PKPpre		PKPpre		14 53 36.0	
TX31	Lajitas Ar. Si	146.42	23	*e*PKPdf		PKPbc		14 53 59.7	-0.6
TX31				*e*PKPdf		PKPdf		14 53 59.9	+0.8
TXAR	Lajitas Array	146.42	23	PKPbc		PKPbc		14 54 00.2	-0.1
	comp=Z,1.9nm,0.5s,baz=276,sl

ellipse: s-maj=23.0km s-min=13.2km az=224.0

ISC 11 14:35:33.2±0.8,3°4'N±0°1'×93°2'E±0°1',h10km,n12, σ1§01/12,mb4.5/8,1C,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LHMI	**Lhok Sumawe**	**4.16**	**64**	Pn	**Pn**	**14 36 36.8**	**+0.1**
MBWA	**Marble Bar**	**35.66**	**134**	*e*P	**P**	**14 42 30.1**	**-1.7**
MKAR	**Makanchi Array**	**44.25**	**349**	P	**P**	**14 43 43.3**	**+0.4**
	4.8nm,0.8s,baz=175,slow=8.2,SNR=2.0						
WRA	**Warramunga Arr**	**46.59**	**122**	P	**P**	**14 44 01.7**	**-0.1**
	3.2nm,0.8s,baz=300,slow=8.5,SNR=1.3						
KURBB	**Kurchatov Arra**	**48.65**	**348**	P	**P**	**14 44 17.3**	**0.0**
	3.9nm,0.8s,baz=170,slow=7.1,SNR=1.7						
KURK	**Kurchatov**	**48.72**	**348**	P	**P**	**14 44 17.3**	**-0.6**
ZALV	**Zalesovo Beam**	**50.85**	**354**	P	**P**	**14 44 35.2**	**+1.2**
	7.2nm,0.6s,baz=184,slow=8.2,SNR=2.4						
ABKAR	**Akbulak array**	**53.73**	**334**	*e*P	**P**	**14 44 54.3**	**-1.2**
	2.3nm,0.6s						
STKA	**Stephens Creek**	**57.80**	**131**	P	**P**	**14 45 26.5**	**+1.4**
	6.3nm,0.8s,baz=304,slow=7.8,SNR=3.0						
BRTR	**Keskin Array B**	**64.68**	**313**	P	**P**	**14 46 11.6**	**-0.2**
	2.1nm,0.9s,baz=119,slow=6.9,SNR=1.6						
GERES	**GERESS Array B**	**80.53**	**319**	P	**P**	**14 47 46.6**	**+0.7**
	4.5nm,0.8s,baz=101,slow=5.1,SNR=1.9						
SYO	**Syowa Base**	**80.89**	**197**	*e*P	**P**	**14 47 47.6**	**+0.5**

IDC 11 14:36:02.0±15.0,0°43S×89°57E,h0km,mb4.1/3, mb1 4.1/3,mb1mx3.5/77,mbtmp4.1/3,Error ellipse: s-maj=339.3km s-min=74.6km az=155.0,South Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**47.46**	**353**	P	P	14 44 38.4	-0.2
	4.0nm,1.1s,baz=171,slow=8.5,SNR=1.3						
SONM	**Songino Array**	**50.25**	**15**	P	P	14 45 00.0	-0.1
	2.1nm,0.6s,baz=192,slow=9.0,SNR=1.4						
BRTR	**Keskin Array B**	**64.70**	**315**	P	P	14 46 42.3	0.0
	0.6nm,0.6s,baz=133,slow=7.3,SNR=0.9						

IDC 11 14:36:46.5±4.3,0.73N×90.87E,h0km,mb4.1/5,mb1 4.2/5, mb1mx3.6/77,mbtmp4.1/5,Error ellipse: s-maj=152.9km s-min=28.1km az=56.0,North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**46.49**	**352**	P	P	14 45 14.3	-1.2
	2.2nm,0.8s,baz=170,slow=9.0,SNR=3.5						
WRA	**Warramunga Arr**	**47.28**	**118**	P	P	14 45 21.8	-0.4
	1.7nm,1.1s,baz=299,slow=8.7,SNR=2.7						
SONM	**Songino Array**	**48.82**	**14**	P	P	14 45 34.8	+1.0
	1.4nm,0.6s,baz=195,slow=8.7,SNR=2.7						
KURBB	**Kurchatov Arra**	**50.81**	**350**	P	P	14 45 49.2	+0.5
	2.2nm,0.7s,baz=169,slow=7.2,SNR=3.6						
ZALV	**Zalesovo Beam**	**53.28**	**356**	P	P	14 46 06.5	-0.6
	2.8nm,0.4s,baz=176,slow=6.1,SNR=6.2						

IDC 11 14:37:33.6±8.7,3.16N×94.22E,h0km,mb3.9/4,mb1 4.0/4, mb1mx3.5/78,mbtmp3.9/4,Error ellipse: s-maj=395.3km s-min=32.1km az=55.0,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**44.68**	**348**	P	P	14 45 47.4	-0.9
	0.9nm,0.7s,baz=176,slow=9.8,SNR=1.2						
WRA	**Warramunga Arr**	**45.59**	**122**	P	P	14 45 55.7	-0.2
	1.0nm,0.7s,baz=300,slow=8.7,SNR=1.2						
KURBB	**Kurchatov Arra**	**49.11**	**347**	P	P	14 46 22.4	-0.5
	0.5nm,0.5s,baz=169,slow=6.8,SNR=1.4						
ZALV	**Zalesovo Beam**	**51.21**	**353**	P	P	14 46 39.5	+0.9
	2.3nm,0.4s,baz=172,slow=7.3,SNR=4.6						

IDC 11 14:38:20.2±1.1,1.95N×94.29E,h0km,mb4.0/8,mb1 4.2/9, mb1mx3.7/78,mbtmp4.1/9,ML3.9/1,Error ellipse: s-maj=39.1km s-min=20.3km az=55.0

ISCJB 11 14:38:21.4±1.0,1.9N±0.1'×94.3E±0.2,h20km,mb4.1/8, Error ellipse: s-maj=29.8km s-min=17.1km az=154.6

ISC 11 14:38:23.4±1.1,2.0N±0.2'×94.3E±0.2',h20km,n10, σ0§64/10,mb4.2/8,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**17.02**	**15**	P	**Pn**	**14 42 21.4**	**+1.0**
	0.2nm,0.3s,baz=211,slow=12,SNR=5.7						
MKAR	**Makanchi Array**	**45.87**	**349**	P	**P**	**14 46 44.6**	**+0.2**
	1.9nm,0.6s,baz=172,slow=7.3,SNR=6.3						
ASAR	**Alice Springs**	**46.16**	**126**	P	**P**	**14 46 47.5**	**+0.4**
	1.4nm,0.4s,baz=296,slow=7.7,SNR=14						
SONM	**Songino Array**	**46.88**	**11**	P	**P**	**14 46 52.2**	**-0.2**
	1.8nm,0.6s,baz=190,slow=8.9,SNR=5.0						
KSRS	**Korea Array**	**46.93**	**37**	P	**P**	**14 46 51.6**	**-1.2**
	1.1nm,0.7s,baz=216,slow=8.4,SNR=4.1						
KURBB	**Kurchatov Arra**	**50.39**	**347**	P	**P**	**14 47 18.8**	**+0.3**
	1.7nm,0.8s,baz=169,slow=7.1,SNR=4.5						
STKA	**Stephens Creek**	**56.02**	**131**	P	**P**	**14 48 01.0**	**0.0**
	2.2nm,0.7s,baz=295,slow=8.1,SNR=4.3						
BRTR	**Keskin Array B**	**66.48**	**313**	P	**P**	**14 49 11.8**	**-0.1**
	0.6nm,0.7s,baz=128,slow=4.4,SNR=3.0						
GERES	**GERESS Array B**	**82.35**	**319**	P	**P**	**14 50 43.9**	**-0.2**
	1.0nm,0.8s,baz=104,slow=5.6,SNR=3.9						
TXAR	**Lajitas Array**	**144.44**	**28**	PKP	**PKPab**	**14 57 57.8**	**+0.4**
	1.0nm,0.8s,baz=261,slow=0.1,SNR=3.6						

IDC 11 14:40:36.1±1.5,3.68N×92.87E,h0km,mb4.2/8,mb1 4.3/9, mb1mx3.8/77,mbtmp4.3/9,ML4.0/1,MS5.3/1,Ms1 5.3/1, ms1mx4.0/69,Error ellipse: s-maj=59.1km s-min=25.6km az=53.0

NEIC 11 14:40:37.1±0.7,3.71N×92.96E,h10km,mb4.0/1,Error ellipse: s-maj=16.3km s-min=9.6km az=24.0

ISC 11 14:40:40.3±1.0,3.7N±0.2'×92.9E±0.1',h35km,n16, σ1§45/15,mb4.2/10,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPM	**Ipoh**	**8.10**	**84**	*e*Pn	**Pn**	**14 42 35.0**	**-0.5**
BKNI	**Bangkinang**	**8.74**	**112**	*e*Pn	**Pn**	**14 42 42.4**	**-2.0**
PALK	**Pallekele**	**12.70**	**287**	*e*Pn	**Pn**	**14 43 36.5**	**-2.1**
CMAR	**Chiang Mai Arr**	**15.82**	**21**	Pn	**Pn**	**14 44 19.5**	**-1.1**
	0.2nm,0.3s,baz=217,slow=13,SNR=5.9						
CHTO	**Chiang Mai**	**16.15**	**21**	Pn	**Pn**	**14 44 22.4**	**-2.4**
MKAR	**Makanchi Array**	**43.94**	**349**	P	**P**	**14 48 44.8**	**+0.9**
	5.2nm,0.8s,baz=169,slow=8.5,SNR=6.9						
WRA	**Warramunga Arr**	**46.94**	**122**	P	**P**	**14 49 09.5**	**+1.5**
	0.6nm,0.8s,baz=307,slow=9.0,SNR=8.9						
KURBB	**Kurchatov Arra**	**48.34**	**348**	P	**P**	**14 49 18.8**	**+0.4**
	5.0nm,0.8s,baz=170,slow=7.1,SNR=12						
KURK	**Kurchatov**	**48.41**	**348**	*e*P	**P**	**14 49 19.8**	**+0.9**
	66nm,1.1s						
ZALV	**Zalesovo Beam**	**50.56**	**354**	P	**P**	**14 49 36.8**	**+1.6**
	8.0nm,0.5s,baz=174,slow=6.5,SNR=20						
BVAR	**Borovoye Array**	**52.60**	**343**	P	**P**	**14 49 51.2**	**+0.7**
	2.2nm,0.7s,baz=148,slow=6.8,SNR=6.7						
ABKAR	**Akbulak array**	**53.38**	**334**	*e*P	**P**	**14 49 56.2**	**-0.1**
	1.3nm,0.6s						
KVAR	**Kislovodsk Arr**	**59.68**	**320**	LR	LR	15 16 54.2	
	comp=Z,3µm,21.5s,baz=26,slow=36						
FINES	**FINESS Array B**	**75.87**	**333**	P	**P**	**14 52 23.4**	**+0.5**
	2.3nm,0.8s,baz=122,slow=7.1,SNR=3.9						
GERES	**GERESS Array B**	**80.17**	**319**	P	**P**	**14 52 48.8**	**+1.6**
	1.4nm,0.7s,baz=99,slow=6.1,SNR=5.6						
HFS	**Hagfors**	**81.47**	**330**	P	**P**	**14 52 54.5**	**+0.7**
	0.7nm,0.4s,baz=106,slow=7.7,SNR=4.0						

ISCJB 11 14:43:00.1±0.9,1.9N±0.1'×93.8E±0.2,h10km,mb4.1/9, Error ellipse: s-maj=33.5km s-min=14.4km az=148.1

IDC 11 14:43:00.3±1.2,1.92N×93.75E,h0km,mb4.1/9, mb1 4.2/10,mb1mx3.8/74,mbtmp4.1/10,ML3.6/1,Error ellipse: s-maj=58.9km s-min=17.5km az=53.0

ISC 11 14:43:02.3±1.1,2.0N±0.2'×93.9E±0.3,h10km,n10, σ0§56/10,mb4.2/9,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**17.06**	**17**	P	**P**	**14 47 02.9**	**0.0**
	0.1nm,0.3s,baz=202,slow=11,SNR=4.2						
WRA	**Warramunga Arr**	**45.31**	**121**	P	**P**	**14 51 20.1**	**-0.7**
	3.0nm,1.0s,baz=301,slow=8.5,SNR=6.1						
MKAR	**Makanchi Array**	**45.71**	**349**	P	**P**	**14 51 24.1**	**+0.5**
	2.5nm,0.6s,baz=171,slow=8.6,SNR=7.4						
ASAR	**Alice Springs**	**46.56**	**126**	P	**P**	**14 51 30.6**	**-0.1**
	0.8nm,0.5s,baz=294,slow=7.5,SNR=7.0						
GEYT	**Alibeck**	**48.48**	**322**	P	**P**	**14 51 45.6**	**+0.2**
	2.9nm,0.7s,baz=143,slow=5.4,SNR=5.1						
KURBB	**Kurchatov Arra**	**50.13**	**347**	P	**P**	**14 51 57.8**	**+0.1**
	1.8nm,0.8s,baz=172,slow=7.7,SNR=8.1						
ZALV	**Zalesovo Beam**	**52.28**	**353**	P	**P**	**14 52 14.1**	**+0.4**
	1.9nm,0.4s,baz=172,slow=7.2,SNR=7.6						
STKA	**Stephens Creek**	**56.40**	**131**	P	**P**	**14 52 44.8**	**+0.6**
	1.5nm,0.7s,baz=292,slow=10,SNR=3.5						
FINES	**FINESS Array B**	**77.74**	**333**	P	**P**	**14 54 58.3**	**-0.9**
	2.1nm,1.0s,baz=90,slow=8.3,SNR=2.2						
GERES	**GERESS Array B**	**82.00**	**319**	P	**P**	**14 55 22.8**	**0.0**
	0.7nm,0.6s,baz=94,slow=4.3,SNR=4.2						

IDC 11 14:43:53.1±5.3,0.18S×89.75E,h0km,mb3.9/4,mb1 4.0/4, mb1mx3.4/72,mbtmp3.9/4,Error ellipse: s-maj=180.9km s-min=35.1km az=57.0,South Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**47.24**	**353**	P	P	14 52 26.7	-1.3
	1.5nm,0.7s,baz=158,slow=8.8,SNR=2.5						
WRA	**Warramunga Arr**	**47.85**	**117**	P	P	14 52 32.8	-0.4
	1.4nm,0.8s,baz=294,slow=8.7,SNR=2.1						
SONM	**Songino Array**	**49.97**	**15**	P	P	14 52 50.1	+1.0
	1.7nm,0.7s,baz=186,slow=9.5,SNR=3.5						
KURBB	**Kurchatov Arra**	**51.51**	**351**	P	P	14 53 00.6	+0.1
	1.3nm,0.8s,baz=170,slow=6.8,SNR=2.6						

ISCJB 11 14:45:59.3±0.5,45.21S±0.08×14.8W±0.1,h10km, mb4.3/12,Error ellipse: s-maj=14.6km s-min=11.3km az=21.3

IDC 11 14:45:59.4±0.6,45.19S×14.84W,h0km,mb4.4/11, mb1 4.5/11,mb1mx4.2/40,mbtmp4.4/11,Error ellipse: s-maj=20.7km s-min=16.7km az=114.0

NEIC 11 14:46:00.8±0.5,45.16S×14.89W,h10km,mb4.9/2,Error ellipse: s-maj=14.5km s-min=12.7km az=150.0

ISC 11 14:46:00.8±0.6,45.2S±0.1×14.9W±0.1,h10km,n32, σ1§11/25,mb4.3/12,Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**25.73**	**175**	P	**P**	**14 51 31.4**	**+0.4**
VNA2	**Neumayer--Watz**	**26.06**	**174**	P	**P**	**14 51 33.5**	**-0.6**
	baz=344,slow=11						
VNA3	**Neumayer Olymp**	**26.24**	**176**	P	**P**	**14 51 35.0**	**-0.7**
SNAA	**Sanae**	**27.18**	**172**	P	**P**	**14 51 45.8**	**+1.6**
SNAA	**Sanae**	**27.18**	**172**	P	**P**	**14 51 45.7**	**+1.6**
	6.3nm,1.0s,baz=338,slow=13,SNR=6.1						
SNAA	**Sanae**	**27.18**	**172**	*e*P	**P**	**14 51 46.7**	**+2.6**
BOSA	**Boshof**	**35.69**	**76**	P	**P**	**14 52 59.0**	**-0.5**
	3.7nm,0.9s,baz=161,slow=9.3,SNR=4.2						
H10S2	**ASCENSION HYDR**	**36.10**	**0**	T	T	15 31 36.0	
	baz=180,slow=75,SNR=21						
H10S3	**ASCENSION HYDR**	**36.11**	**0**	T	T	15 31 45.2	
	baz=180,slow=75,SNR=26						
H10S1	**ASCENSION HYDR**	**36.12**	**0**	T	T	15 31 38.3	
	baz=180,slow=75,SNR=27						
H10N1	**ASCENSION HYDR**	**37.21**	**1**	T	T	15 33 13.8	
H10N3	**ASCENSION HYDR**	**37.22**	**1**	T	T	15 33 10.1	
	SNR=13						
H10N2	**ASCENSION HYDR**	**37.23**	**1**	T	T	15 33 13.8	
TSUM	**Tsumeb**	**37.34**	**57**	P	**P**	**14 53 14.3**	**+0.7**
	4.8nm,0.8s,baz=230,slow=8.4,SNR=6.7						
TSUM	**Tsumeb**	**37.34**	**57**	*e*P	**P**	**14 53 14.9**	**+1.2**
	4.2nm,0.6s						
LBTB	**Lobatse**	**38.24**	**72**	P	**P**	**14 53 21.1**	**-0.1**
	6.9nm,0.9s,baz=220,slow=9.5,SNR=5.5						
CPUP	**Villa Florida**	**38.73**	**284**	P	**P**	**14 53 26.6**	**+1.5**
	0.9nm,0.5s,baz=102,slow=7.0,SNR=3.0						
PLCA	**Paso Flores**	**40.30**	**256**	P	**P**	**14 53 38.6**	**+0.4**
	0.6nm,0.5s,baz=159,slow=8.6,SNR=4.8						
MAW	**Mawson**	**44.71**	**148**	P	**P**	**14 54 13.1**	**-0.5**
	10.0nm,1.0s,baz=261,slow=8.9,SNR=6.0						
QSPA	**South Pole Qui**	**45.06**	**180**	P	**P**	**14 54 16.5**	**-0.2**
	11nm,1.0s,baz=211,slow=4.2,SNR=14						
QSPA	**South Pole Qui**	**45.06**	**180**	*e*P	**P**	**14 54 16.1**	**-0.5**
	53nm,1.1s						
LSZ	**Lusaka**	**46.87**	**65**	*e*P	**P**	**14 54 30.9**	**-0.5**
SAML	**Samuel**	**54.98**	**296**	*e*P	**P**	**14 55 31.0**	**-1.3**
VNDA	**Vanda**	**57.54**	**179**	P	**P**	**14 55 49.8**	**-0.1**
	13nm,1.2s,baz=212,slow=7.7,SNR=12						
TORD	**Torodi Ar. Bea**	**59.98**	**19**	P	**P**	**14 56 06.7**	**-0.7**
	3.0nm,1.0s,baz=203,slow=4.8,SNR=8.8						
ESDC	**Sonseca Array**	**85.06**	**8**	P	**P**	**14 58 37.5**	**+1.1**
	0.4nm,0.5s,baz=176,slow=5.1,SNR=11						
BRTR	**Keskin Array B**	**95.10**	**35**	P	**P**	**14 59 24.6**	**+0.7**
	0.8nm,0.7s,baz=213,slow=4.8,SNR=3.2						
PDAR	**Pinedale Array**	**121.39**	**301**	PKP	**PKPdf**	**15 04 52.3**	**-1.8**
	1.0nm,1.0s,baz=48,slow=1.3,SNR=4.9						
NVAR	**Mina Array Bea**	**124.52**	**292**	PKP	**PKPdf**	**15 04 60.0**	**-0.2**
	0.2nm,0.3s,baz=139,slow=3.2,SNR=4.1						
YKA	**Yellowknife Ar**	**132.98**	**321**	PKP	**PKPdf**	**15 05 14.2**	**-1.0**
	0.9nm,0.5s,baz=111,slow=2.0,SNR=19						
INK	**Inuvik**	**141.49**	**328**	PKhKP	PKPpre	15 05 24.6	
	2.5nm,0.8s,baz=61,slow=3.1,SNR=12						
ILAR	**Eielson Array**	**147.32**	**4**	PKPbc	**PKPbc**	**15 05 42.7**	**-0.7**
	7.5nm,0.7s,baz=128,slow=1.1,SNR=132						

IDC 11 14:46:22.3±1.0,22.59N×121.68E,h0km,mb3.6/9, mb1 3.8/12,mb1mx3.6/69,mbtmp3.8/12,ML4.0/3,Error ellipse: s-maj=25.6km s-min=21.4km az=69.0

ISCJB 11 14:46:23.6±0.4,22.63N±0.02×121.64E±0.02,h15km±3km, mb3.7/10,Error ellipse: s-maj=3.0km s-min=2.5km az=18.3

JMA 11 14:46:23.5±0.1,22.62N×121.59E,h21km,M4.3

NEIC 11 14:46:24.0±0.6,22.65N×121.60E,h10km,mb4.3/1,Error ellipse: s-maj=9.6km s-min=8.4km az=12.0

TAP 11 14:46:25.4,22.66N×121.51E,h23km,ML4.3,B

ISC 11 14:46:24.2±1.0,22.64N±0.02×121.58E±0.02,h15km±7km, n141,σ1§05/197,mb3.6/10,18C-16D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTN	**Taitung**	**0.42**	**286**	*i*P	**Pg**	**14 46 32.8**	**+0.2**
	baz=286						
TTN				*e*S	**Sg**	**14 46 38.5**	**+0.1**
	baz=286						
TWGBT	**Beinan**	**0.50**	**291**	P	**Pg**	**14 46 33.7**	**-0.4**
	baz=298						
TWGBT				S	**Sg**	**14 46 40.9**	**+0.1**
	baz=298						
CHKT	**Chengkung**	**0.50**	**337**	*i*P	**Pg**	**14 46 34.4**	**+0.2**
	baz=350						
CHKT				*i* S	**Sg**	**14 46 40.8**	**-0.1**
	baz=350						
TWG	**Pinlang**	**0.50**	**291**	P	**Pg**	**14 46 33.6**	**-0.6**
	baz=298						
TWG				S	**Sg**	**14 46 40.8**	**-0.3**
	baz=298						
TWG	**Pinlang**	**0.50**	**291**	*e*Pg	**Pg**	**14 46 33.7**	**-0.6**
ECL	**Taimali**	**0.58**	**266**	*i*P	**Pg**	**14 46 35.3**	**-0.4**
	baz=263						
ECL				S	**Sg**	**14 46 42.7**	**-0.8**
	baz=263						
LAY	**Lan-yu**	**0.60**	**183**	*i*P	**Pg**	**14 46 36.5**	**+0.5**
	baz=166						
LAY				*e*S	**Sg**	**14 46 44.7**	**+0.8**
	baz=166						
FULB	**Fuli**	**0.62**	**335**	*i*P	**Pg**	**14 46 36.1**	**-0.3**
	baz=340						
FULB				*i* S	**Sg**	**14 46 44.5**	**-0.2**
	baz=340						
TAW	**Tawu**	**0.69**	**246**	*e*P	**Pb**	**14 46 37.3**	**-0.7**
	baz=255						
EAST	**Anshuo**	**0.72**	**250**	*e*P	**Pb**	**14 46 37.7**	**-0.9**
	baz=258						
ELDTW	**Lidau**	**0.76**	**317**	P	**Pb**	**14 46 38.0**	**-1.2**
	baz=310						
ELDTW				*e*S	**Sb**	**14 46 47.1**	**-2.3**
	baz=310						
TWF1	**Yuli**	**0.76**	**340**	P	**Pb**	**14 46 38.4**	**-0.8**
	baz=352						
TWF1				*e*S	**Sb**	**14 46 47.5**	**-1.9**
	baz=352						
YULB	**Yu-li**	**0.80**	**341**	P	**Pb**	**14 46 39.1**	**-0.7**
	baz=330						
YULB				*e*S	**Sb**	**14 46 48.4**	**-2.1**
	baz=330						
YULB	**Yu-li**	**0.80**	**341**	*e*Pg	**Pb**	**14 46 38.9**	**-0.9**
HGSD	**Ruisui**	**0.86**	**350**	*e*P	**Pb**	**14 46 39.8**	**-1.1**
	baz=4.0						
MASBT	**Mashibuluo**	**0.88**	**269**	P	**Pb**	**14 46 40.0**	**-1.1**
	baz=263						
MASBT				*e*S	**Sb**	**14 46 49.5**	**-3.2**
	baz=263						
SSD	**Sandimen**	**0.88**	**277**	*i*P	**Pb**	**14 46 40.0**	**-1.3**
	baz=276						
EHY	**Hungye**	**0.90**	**345**	P	**Pb**	**14 46 40.7**	**-0.9**
	baz=336						
SLGT	**Liugui**	**0.93**	**293**	*e*P	**Pb**	**14 46 41.0**	**-1.1**
	baz=293						
SSPT	**Xinbi**	**0.95**	**261**	*e*P	**Pb**	**14 46 41.9**	**-0.5**
	baz=259						
TSEB	**Hengchuen, Pin**	**0.97**	**221**	*e*P	**Pb**	**14 46 42.6**	**-0.1**
	baz=218						
TSEB				*e*S	**Sb**	**14 46 54.7**	**-0.6**
	baz=218						
TWKBT	**Hengchun**	**0.99**	**226**	P	**Pb**	**14 46 42.5**	**-0.7**
	baz=221						
TWKBT				*e*S	**Sb**	**14 46 53.4**	**-2.7**
	baz=221						
TWK1	**Hengchun**	**1.00**	**226**	*e*P	**Pb**	**14 46 42.3**	**-0.9**
	baz=221						
TWK1				*e*S	**Sb**	**14 46 54.0**	**-2.1**
	baz=221						
HEN	**Hengchun**	**1.00**	**231**	*e*P	**Pb**	**14 46 41.9**	**-1.4**
	baz=227						
SGST	**Jiashian**	**1.02**	**296**	*i*P	**Pb**	**14 46 43.5**	**-0.2**
	baz=300						
SGST				*e*S	**Sb**	**14 46 55.6**	**-1.3**
	baz=300						
WTP	**Ta-pu**	**1.08**	**304**	*i*P	**Pb**	**14 46 44.4**	**-0.3**
	baz=306						
WTP				*e*S	**Sb**	**14 46 58.3**	**-0.3**
	baz=306						
TPUB	**Ta-pu**	**1.10**	**307**	P	**Pb**	**14 46 44.6**	**-0.3**
	baz=309						
TPUB				*e*S	**Sb**	**14 46 58.1**	**-1.0**
	baz=309						
TPUB	**Ta-pu**	**1.10**	**307**	*e*Pg	**Pb**	**14 46 44.4**	**-0.6**
CHN1	**Nanshi**	**1.11**	**300**	*i*P	**Pn**	**14 46 45.4**	**0.0**
	baz=308						
CHN1				*e*S	**Sb**	**14 46 59.7**	**+0.2**
	baz=308						
ALS	**Alishan**	**1.12**	**321**	P	**Pb**	**14 46 45.2**	**-0.4**
	baz=335						
ALS				*e*S	**Sb**	**14 46 59.6**	**-0.6**
	baz=335						
WLCH	**Liuqiu**	**1.15**	**256**	*e*P	**Pg**	**14 46 48.3**	**+1.9**
	baz=238						
CHN4	**Tsaushan**	**1.16**	**308**	*e*P	**Pn**	**14 46 45.5**	**-0.4**
	baz=310						
CHN4				*e*S	**Sb**	**14 47 00.4**	**-0.4**
	baz=310						
TWP	**Hsiaoliuchiu**	**1.16**	**256**	*e*P	**Pg**	**14 46 48.1**	**+1.4**
	baz=238						
ESL	**Shilin**	**1.18**	**353**	*e*P	**Pn**	**14 46 44.8**	**-1.4**
	baz=345						
TWK	**Hsinying**	**1.19**	**302**	*e*P	**Pn**	**14 46 46.5**	**+0.1**
	baz=304						
TWK				*e*S	**Sn**	**14 47 02.4**	**+0.1**
	baz=304						
CHN3	**Shinhua**	**1.20**	**292**	*e*P	**Pg**	**14 46 48.5**	**+1.1**
	baz=292						
CHN3				*e*S	**Sg**	**14 47 05.4**	**+2.2**
	baz=292						
WSSB	**Gushan**	**1.22**	**270**	*e*P	**Pg**	**14 46 48.0**	**+0.2**
	baz=269						
ENLB	**Shoufeng**	**1.26**	**1**	P	**Pn**	**14 46 46.4**	**-1.0**
	baz=16						
CHN5	**Tsauling**	**1.27**	**319**	*e*P	**Pn**	**14 46 47.6**	**+0.1**
	baz=322						
CHN5				*e*S	**Sg**	**14 47 05.2**	**-0.1**
	baz=322						
SSLB	**Suanglung**	**1.28**	**333**	P	**Pn**	**14 46 47.1**	**-0.6**
	baz=346						
SSLB	**Suanglung**	**1.28**	**333**	*e*P	**Pn**	**14 46 47.2**	**-0.5**
HWA	**Hwalien**	**1.33**	**1**	*e*P	**Pn**	**14 46 47.9**	**-0.5**
	baz=16						
CHN2	**Minshiung**	**1.35**	**311**	P	**Pb**	**14 46 49.6**	**+0.3**
	baz=314						
CHN2				S	**Sb**	**14 47 07.3**	**+0.9**
	baz=314						
OWD	**Renai**	**1.36**	**344**	*e*P	**Pn**	**14 46 48.4**	**-0.5**
	baz=358						
CHY	**Chiayi**	**1.37**	**309**	*e*P	**Pb**	**14 46 49.6**	**0.0**
	baz=311						
CHY				*e*S	**Sb**	**14 47 07.8**	**+1.0**
	baz=311						
SCLT	**Jiali**	**1.39**	**293**	*e*P	**Pb**	**14 46 50.0**	**+0.1**
	baz=294						
SCLT				*e*S	**Sg**	**14 47 09.3**	**+0.2**
	baz=294						
SMLT	**Sun Moon Lake**	**1.39**	**333**	*e*P	**Pb**	**14 46 49.8**	**-0.2**
	baz=344						
SMLT				*e*S	**Sn**	**14 47 06.7**	**-0.7**
	baz=344						
WGK	**Gukeng**	**1.40**	**318**	*e*P	**Pb**	**14 46 50.2**	**+0.1**
	baz=321						
WGK				*e*S	**Sg**	**14 47 09.4**	**-0.2**
	baz=321						
WJS	**Zhushan**	**1.42**	**327**	*e*P	**Pb**	**14 46 50.3**	**-0.1**
	baz=344						
WJS				*e*S	**Sn**	**14 47 08.1**	**+0.2**
	baz=344						
WDLH	**Douliu**	**1.42**	**318**	*e*P	**Pb**	**14 46 51.0**	**+0.6**
	baz=320						
TYC	**Yuchr**	**1.43**	**332**	*e*P	**Pb**	**14 46 50.7**	**+0.1**
	baz=349						
TYC				*e*S	**Sb**	**14 47 08.7**	**+0.1**
	baz=349						
TWD	**Chiawan**	**1.44**	**1**	P	**Pn**	**14 46 48.7**	**-1.

NNS	**Nan Shan**	**1.81**	**354**	*e*P		**Pn**	**14 46 55.0**	**0.0**
	baz=9.0							
ENAH	**Nanao**	**1.82**	**7**	*e*P		**Pn**	**14 46 54.3**	**-0.7**
	baz=18							
TWQ1	**Liyutan**	**1.86**	**337**	⇑P		**Pb**	**14 46 57.6**	**-0.4**
	baz=340							
TWQ1				*e*S		**Sb**	**14 47 21.0**	**0.0**
	baz=340							
WDGT	**Dungji**	**1.88**	**290**	⇓P		**Pn**	**14 46 55.8**	**0.0**
	baz=290							
WDGT				*e*S		**Sn**	**14 47 17.1**	**-2.1**
	baz=290							
NSY	**Sanyi**	**1.92**	**337**	*e*P		**Pb**	**14 46 58.6**	**-0.5**
	baz=341							
NSY				*e*S		**Sb**	**14 47 23.2**	**+0.3**
	baz=341							
EOS1	**EOS1**	**1.97**	**15**	*e*P		**Pn**	**14 46 57.6**	**+0.5**
	baz=29							
EOS1				*e*S		**Sn**	**14 47 21.2**	**-0.2**
	baz=29							
TWC	**Suao**	**1.98**	**7**	*e*P		**Pn**	**14 46 56.7**	**-0.5**
	baz=21							
TWC				*e*S		**Sn**	**14 47 20.8**	**-1.0**
	baz=21							
ENTT	**Nioudou**	**1.99**	**360**	*e*P		**Pn**	**14 46 56.7**	**-0.8**
	baz=3.0							
NMLH	**Miaoli**	**2.03**	**339**	*e*P		**Pn**	**14 46 59.2**	**+1.3**
	baz=342							
YHNB	**Yeheng**	**2.03**	**355**	*e*P		**Pn**	**14 46 58.4**	**+0.3**
	baz=8.0							
PHUB	**P'eng-hu**	**2.04**	**296**	*e*P		**Pn**	**14 46 58.1**	**0.0**
	baz=297							
PHUB				*e*S		**Sn**	**14 47 20.9**	**-2.5**
	baz=297							
NSTT	**Nanjuang**	**2.06**	**345**	*e*P		**Pn**	**14 46 59.6**	**+1.3**
	baz=349							
NSTT				*e*S		**Sb**	**14 47 25.7**	**-1.0**
	baz=349							
LIOB	**Emei**	**2.07**	**346**	*e*P		**Pn**	**14 46 59.2**	**+0.8**
	baz=349							
TWE	**Neicheng**	**2.08**	**2**	*e*P		**Pn**	**14 46 58.4**	**-0.2**
	baz=5.0							
PNG	**Penghu**	**2.08**	**297**	*e*P		**Pn**	**14 46 58.7**	**0.0**
	baz=298							
PNG				*e*S		**Sn**	**14 47 22.4**	**-1.9**
	baz=298							
ILA	**Ilan**	**2.12**	**4**	*e*P		**Pb**	**14 47 01.1**	**-1.3**
	baz=356							
NWLT	**Wulai**	**2.13**	**358**	*e*P		**Pn**	**14 47 01.1**	**+1.8**
	baz=11							
JYNG	**Yonagunijimaku**	**2.20**	**34**	P		**Pn**	**14 47 00.7**	**+0.5**
JYNG				S		**Sn**	**14 47 26.5**	**-0.7**
SBCB	**Hsinchu**	**2.21**	**346**	*e*P		**Pb**	**14 47 03.0**	**-1.1**
	baz=349							
NTC	**Toucheng**	**2.22**	**6**	*e*P		**Pn**	**14 47 01.5**	**+0.9**
	baz=356							
EGS		**2.22**	**8**	*e*P		**Pn**	**14 47 00.2**	**-0.4**
	baz=21							
YOJ	**Yonaguni jima**	**2.24**	**36**⇑	*e*P		**Pn**	**14 47 01.5**	**+0.7**
	baz=50							
YOJ				*e*S		**Sn**	**14 47 28.2**	**0.0**
	baz=50							
YOJ	**Yonaguni jima**	**2.24**	**36**	P		**Pn**	**14 47 01.5**	**+0.7**
YOJ				S		**Sn**	**14 47 27.4**	**-0.8**
YOJ	**Yonaguni jima**	**2.24**	**36**	*e*Pn		**Pn**	**14 47 01.0**	**+0.2**
TATO	**Taipei**	**2.33**	**358**	*e*P		**Pn**	**14 47 02.8**	**+0.7**
	baz=9.0							
TATO	**Taipei**	**2.33**	**358**	*e*Pn		**Pn**	**14 47 02.5**	**+0.5**
TWA	**Mucha**	**2.33**	**0**	*e*P		**Pn**	**14 47 02.9**	**+0.7**
	baz=13							
TIPB	**Shuangxi**	**2.33**	**5**	*e*P		**Pn**	**14 47 02.3**	**+0.2**
	baz=358							
TIPB				*e*S		**Sn**	**14 47 30.4**	**-0.2**
	baz=358							
TWB1	**Santiao Chiao**	**2.39**	**9**	*e*P		**Pn**	**14 47 03.1**	**+0.2**
	baz=12							
NWF	**Wu-fen Shan**	**2.43**	**4**	*e*P		**Pn**	**14 47 04.7**	**+1.2**
	baz=358							
NWF				*e*S		**Sn**	**14 47 34.5**	**+1.5**
	baz=358							
WFSB	**Wu-fen Shan**	**2.43**	**4**	*e*P		**Pn**	**14 47 04.8**	**+1.3**
	baz=355							
WFSB				*e*S		**Sn**	**14 47 34.8**	**+1.9**
	baz=355							
TWS1	**Kuangyinshan**	**2.46**	**357**	*e*P		**Pn**	**14 47 05.6**	**+1.8**
	baz=14							
HATJ	**Hateruma jima**	**2.48**	**55**	P		**Pn**	**14 47 04.9**	**+0.7**
HATJ				S		**Sn**	**14 47 32.7**	**-1.6**
YM04	**YM04**	**2.51**	**359**	*e*P		**Pn**	**14 47 05.8**	**+1.3**
	baz=2.0							
YM10	**YM10**	**2.51**	**360**	*e*P		**Pn**	**14 47 05.7**	**+1.2**
	baz=3.0							
YM05	**YM05**	**2.52**	**360**	*e*P		**Pn**	**14 47 05.0**	**+0.3**
	baz=3.0							
NTST	**Danshui**	**2.52**	**357**	*e*P		**Pn**	**14 47 06.5**	**+1.8**
	baz=14							
YM07	**YM07**	**2.53**	**1**	*e*P		**Pn**	**14 47 03.8**	**-1.0**
	baz=4.0							
YM08	**YM08**	**2.54**	**0**	*e*P		**Pn**	**14 47 04.0**	**-1.0**
	baz=3.0							
IRIF	**Iriomote-Funau**	**2.60**	**49**	P		**Pn**	**14 47 06.6**	**+0.9**
IRIF				S		**Sn**	**14 47 37.3**	**+0.3**
JKRS	**Kuro-shima**	**2.74**	**54**	P		**Pn**	**14 47 08.5**	**+0.8**
JKRS				S		**Sn**	**14 47 39.0**	**-1.6**
JIJ	**Ishigaki jima**	**2.91**	**53**	P		**Pn**	**14 47 10.9**	**+0.8**
JIJ				S		**Sn**	**14 47 43.0**	**-1.8**
JISG	**Ishigakijimahi**	**3.17**	**52**	P		**Pn**	**14 47 13.7**	**+0.1**
JISG				S		**Sn**	**14 47 49.0**	**-2.1**
KNMB	**Chin-men Tao**	**3.45**	**302**	*e*P		**Pn**	**14 47 16.7**	**-0.7**
	baz=303							
JTJ	**Tarama**	**3.49**	**55**	P		**Pn**	**14 47 19.0**	**+1.0**
JTJ				S		**Sn**	**14 47 57.9**	**-1.1**
MATB	**Ma-tsu**	**3.80**	**337**	*e*P		**Pn**	**14 47 22.1**	**-0.3**
	baz=340							
JIRB	**Irabujima**	**3.95**	**56**	P		**Pn**	**14 47 24.8**	**+0.5**
JMJ	**Miyako jima 2**	**4.03**	**57**	*e*P		**Pn**	**14 47 25.5**	**0.0**
	baz=59							
JMJ	**Miyako jima 2**	**4.03**	**57**	P		**Pn**	**14 47 26.8**	**+1.3**
JMJ				S		**Sn**	**14 48 12.8**	**+0.3**
JIKM	**Ikemajima**	**4.06**	**55**	P		**Pn**	**14 47 27.1**	**+1.3**
JIKM				S		**Sn**	**14 48 11.8**	**-1.3**
JOGS	**Gusukube**	**4.09**	**58**	P		**Pn**	**14 47 27.5**	**+1.2**
JOGS				S		**Sn**	**14 48 14.2**	**+0.2**
JOW	**Kunigami**	**7.38**	**54**	Pn		**Pn**	**14 48 10.3**	**-1.2**
	5.5nm,0.3s,baz=5.8,slow=15,SNR=1.9							
JOW				Sn		**Sn**	**14 49 31.5**	**-3.5**
	0.9nm,0.3s,baz=281,slow=26,SNR=1.1							
JOW	**Kunigami**	**7.38**	**54**	*e*P		**Pn**	**14 48 10.6**	**-0.9**
	baz=58							
KSAR	**Wonju Array Be**	**15.72**	**19**	Pn		**P**	**14 50 07.3**	**-1.8**
KSRS	**Korea Array**	**15.75**	**19**	Pn		**Pn**	**14 50 07.3**	**+1.8**
	1.1nm,0.3s,baz=199,slow=12,SNR=16							
MJAR	**Matsushiro Arr**	**19.98**	**42**	P		**Pn**	**14 50 58.0**	**0.0**
	0.2nm,0.3s,baz=224,slow=7.8,SNR=5.8							
CMAR	**Chiang Mai Arr**	**21.60**	**263**	P		**P**	**14 51 15.9**	**+2.1**
	0.5nm,0.8s,baz=68,slow=9.9,SNR=3.1							
MKAR	**Makanchi Array**	**39.71**	**317**	P		**P**	**14 53 57.3**	**+1.3**
	1.1nm,0.7s,baz=124,slow=8.0,SNR=3.2							
ZALV	**Zalesovo Beam**	**41.74**	**328**	P		**P**	**14 54 12.9**	**+0.3**
	3.6nm,0.7s,baz=130,slow=7.3,SNR=5.2							
H11N1	**WAKE ISLAND Hy 42.23**		**85**	T		T	15 39 28.7	
	baz=282,slow=75,SNR=151							
H11N2	**WAKE ISLAND Hy 42.23**		**85**	T		T	15 39 24.0	
	baz=282,slow=75,SNR=121							
H11N3	**WAKE ISLAND Hy 42.25**		**85**	T		T	15 39 32.2	
	baz=282,slow=75,SNR=107							
H11S3	**WAKE ISLAND Hy 42.31**		**87**	T		T	15 39 33.2	
	baz=284,slow=74,SNR=32							
H11S1	**WAKE ISLAND Hy 42.32**		**87**	T		T	15 39 37.7	
	baz=284,slow=74,SNR=46							
H11S2	**WAKE ISLAND Hy 42.33**		**87**	T		T	15 39 34.5	
	baz=284,slow=74,SNR=30							
KURK	**Kurchatov**	**43.51**	**321**	P		**P**	**14 54 29.1**	**+2.0**
	3.2nm,0.5s							
KURBB	**Kurchatov Arra**	**43.53**	**321**	P		**P**	**14 54 28.3**	**+1.2**
	0.7nm,0.7s,baz=114,slow=9.0,SNR=2.6							
WRA	**Warramunga Arr**	**44.12**	**163**	P		**P**	**14 54 31.7**	**-0.5**
	0.5nm,0.6s,baz=345,slow=8.9,SNR=2.2							
ASAR	**Alice Springs**	**47.56**	**165**	P		**P**	**14 54 59.6**	**+0.2**
	0.3nm,0.7s,baz=340,slow=6.6,SNR=1.9							
BVAR	**Borovoye Array**	**49.10**	**321**	P		**P**	**14 55 12.2**	**+1.2**
	0.4nm,0.5s,baz=107,slow=7.7,SNR=2.0							
HFS	**Hagfors**	**79.09**	**331**	P		**P**	**14 58 28.6**	**+0.7**
	1.2nm,0.5s,baz=344,slow=4.7,SNR=2.0							
YKA	**Yellowknife Ar**	**84.25**	**23**	P		**P**	**14 58 54.2**	**-0.8**
	0.2nm,0.8s,baz=327,slow=4.4,SNR=2.4							

*ISCJB **11** 14:48:07.7±0.8, 15°.6S±0°.2×173°.3W±0°.2, h10km, mb4.0/9, Error ellipse: s-maj=38.6km s-min=12.2km az=136.5*
*IDC **11** 14:48:07.6±1.0, 15°.68S×173°.16W, h0km, mb3.9/8, mb1 4.2/9, mb1mx3.9/52, mbtmp3.9/9, ML4.4/1, Error ellipse: s-maj=50.4km s-min=16.9km az=135.0*
*NEIC **11** 14:48:09.0±0.7, 15°.64S×173°.16W, h10km, mb4.4/1, Error ellipse: s-maj=34.7km s-min=10.9km az=136.0*
ISC 11 14:48:08.9±1.0, 15°.5S±0°.3×173°.1W±0°.3, h10km, n11, σ1ᵗ71/12, mb3.9/9, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.05**	**38**	Pn	**Pn**	**14 48 43.5**	**-0.1**
	104nm,0.3s,baz=193,slow=2.6,SNR=229						
AFI				Sn	**Sn**	**14 49 05.8**	**-3.5**
	135nm,0.3s,baz=228,slow=22,SNR=10						
URZ	**Urewera**	**24.23**	**199**	P	**P**	**14 53 24.5**	**-1.4**
	8.2nm,0.4s,baz=268,slow=4.2,SNR=11						
STKA	**Stephens Creek**	**44.23**	**240**	P	**P**	**14 56 17.9**	**-0.6**
	1.4nm,0.7s,baz=63,slow=11,SNR=3.1						
WRAB	**Tennant Creek**	**50.09**	**257**	*e*P	**P**	**14 57 03.6**	**-0.9**
	5.2nm,1.1s						
WRA	**Warramunga Arr**	**50.10**	**257**	P	**P**	**14 57 03.7**	**-0.9**
	0.9nm,0.7s,baz=97,slow=6.7,SNR=13						
ASAR	**Alice Springs**	**50.35**	**252**	P	**P**	**14 57 05.3**	**-1.2**
	1.3nm,0.3s,baz=90,slow=7.7,SNR=42						
NVAR	**Mina Array Bea**	**74.23**	**42**	P	**P**	**14 59 48.1**	**+1.7**
	0.9nm,0.8s,baz=233,slow=9.3,SNR=5.6						
PDAR	**Pinedale Array**	**82.17**	**42**	P	**P**	**15 00 31.6**	**+1.2**
	0.5nm,0.8s,baz=203,slow=3.5,SNR=4.0						
ILAR	**Eielson Array**	**82.52**	**11**	P	**P**	**15 00 33.0**	**+1.5**
	0.5nm,0.7s,baz=233,slow=5.9,SNR=9.0						
YKA	**Yellowknife Ar**	**90.10**	**23**	P	**P**	**15 01 10.1**	**+1.4**
	0.1nm,0.3s,baz=233,slow=5.1,SNR=3.9						
BRTR	**Keskin Array B**	**146.45**	**321**	PKPbc	**PKPab**	**15 07 52.0**	**+0.3**
	1.9nm,0.9s,baz=106,slow=2.7,SNR=4.7						

*ISCJB **11** 14:49:00.7±0.4, 1°.87N±0°.05×94°.17E±0°.04, h10km, mb4.4/27, Error ellipse: s-maj=8.2km s-min=4.9km az=33.9*
*DJA **11** 14:49:00.2±1.9, 2°.N±6°×9°.4E±1°.8, h10km, M5.1/8, mb5.1/7, mB6.2/3, MLv5.0/8, Mw(mB)5.8/3*
*IDC **11** 14:49:01.1±0.9, 1°.89N×94°.17E, h0km, mb4.2/12, mb1 4.3/13, mb1mx3.9/68, mbtmp4.2/13, ML4.2/1, Error ellipse: s-maj=31.9km s-min=16.3km az=54.0*
*NEIC **11** 14:49:04.4±1.9, 1°.91N×94°.18E, h21km±13km, mb4.7/10, Error ellipse: s-maj=8.7km s-min=5.3km az=45.0*
ISC 11 14:49:02.7±0.6, 1°.91N±0°.07×94°.16E±0°.07, h10km, n64, σ0ᵗ91/64, mb4.5/27, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MLSI	**Meulaboh, Aceh**	**3.24**	**44**	P	**Pn**	**14 49 52.9**	**-0.8**
TPTI		**3.30**	**66**	P	**Pn**	**14 49 53.7**	**-0.8**
GSI	**Gunungsitoli**	**3.47**	**100**	P	**Pn**	**14 49 56.9**	**+0.1**
GSI	**Gunungsitoli**	**3.47**	**100**	*e*Pn	**Pn**	**14 49 56.8**	**+0.1**
BSI	**Banda Aceh**	**3.74**	**18**	P	**Pn**	**14 49 58.7**	**-1.9**
LHMI	**Lhok Sumawe**	**4.32**	**40**	P	**Pn**	**14 50 08.5**	**0.0**
LHMI	**Lhok Sumawe**	**4.32**	**40**	*e*Pn	**Pn**	**14 50 09.3**	**+0.8**
PSI	**Prapat**	**4.84**	**79**	*e*Pn	**Pn**	**14 50 16.0**	**+0.2**
MNSI	**Mandailing Nat**	**5.53**	**101**	P	**Pn**	**14 50 25.5**	**+0.3**
SISI	**Saibi**	**5.88**	**123**	P	**Pn**	**14 50 29.3**	**-0.7**
	170nm,0.7s						
PDSI	**Padang**	**6.90**	**114**	P	**Pn**	**14 50 43.3**	**-0.7**
	86nm,0.4s						
BKNI	**Bangkinang**	**7.06**	**103**	*e*Pn	**Pn**	**14 50 45.8**	**-0.3**
KULM	**Kulim**	**7.30**	**62**	*e*Pn	**Pn**	**14 50 49.0**	**-0.5**
IPM	**Ipoh**	**7.32**	**69**	*e*Pn	**Pn**	**14 50 49.7**	**-0.1**
SDSI	**Sungai Dareh**	**7.80**	**111**	P	**Pn**	**14 51 55.2**	**-1.1**
MASI	**Maura Aman, Be**	**9.51**	**122**	P	**Pn**	**14 51 19.4**	**-0.5**
MYKOM	**Kota Tinggi**	**9.69**	**91**	*e*Pn	**Pn**	**14 51 22.7**	**+0.4**
MNAI	**Manna**	**10.77**	**125**	*e*Pn	**Pn**	**14 51 36.7**	**-0.4**
PALK	**Pallekele**	**14.43**	**292**	*e*Pn	**Pn**	**14 52 27.5**	**+0.2**
CM01	**Chiang Mai Arr**	**17.07**	**16**	*e*Pn	**Pn**	**14 53 00.8**	**-0.9**
CM31	**Chiang Mai Arr**	**17.10**	**16**	*e*Pn	**Pn**	**14 53 02.5**	**+0.4**
CMAR	**Chiang Mai Arr**	**17.10**	**16**	P	**Pn**	**14 53 02.3**	**+0.2**
	0.3nm,0.3s,baz=205,slow=12,SNR=31						
CHTO	**Chiang Mai**	**17.44**	**15**	*e*P	**Pn**	**14 53 08.0**	**+1.6**
	12nm,1.1s						
SBUM	**Sibu**	**18.05**	**88**	*e*P	**Pn**	**14 53 14.6**	**+0.7**
	28nm,1.9s						
HYB	**Hyderabad**	**21.74**	**316**	*i* P	**P**	**14 53 54.0**	**-0.6**
KKM	**Kota Kinabalu**	**22.38**	**79**	*e*P	**P**	**14 54 01.9**	**+0.4**
	27nm,1.1s						
MYLDM	**Lahad Datu**	**24.51**	**82**	*e*P	**P**	**14 54 24.4**	**+1.8**
	27nm,1.3s						
GYA	**Guiyang**	**27.21**	**25**	*e*P	**P**	**14 54 50.0**	**+3.0**
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
LSA	**Lhasa**	**27.79**	**354**	*e*P	**P**	**14 54 52.9**	**+0.3**
	comp=Z,12nm,0.6s						
CD2	**Chengdu**	**30.24**	**17**	*e*P	**P**	**14 55 14.8**	**+0.9**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
XAN	**Xi'an**	**34.82**	**22**	P	**P**	**14 55 53.5**	**-0.5**
XAN				pP	pP	14 55 59.2	+2.2
XAN				sP	sP	14 56 01.9	+3.6
XAN				pmax	pmax		
	comp=Z,27nm,0.7s						
GTA	**Gaotai**	**37.68**	**7**	*e*P	**P**	**14 56 16.5**	**-2.0**
GTA				pP	pP	14 56 20.6	-1.0
GTA				sP	sP	14 56 24.0	+1.2
GTA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
NJ2	**Nanjing**	**37.95**	**35**	*e*P	**P**	**14 56 21.3**	**+0.6**
NJ2				pmax	pmax		
	comp=Z,11nm,0.5s						
HHC	**Hu-ho-hao-te**	**41.84**	**20**	*e*P	**P**	**14 56 55.8**	**+2.8**
HHC				pmax	pmax		
	comp=Z,19nm,1.0s						
HHC				pmax	pmax		
	comp=Z,34nm,6.1s						
WRA	**Warramunga Arr**	**44.99**	**121**	P	**P**	**14 57 18.9**	**+0.1**
	comp=Z,1.0nm,0.8s,baz=303,slow=8.3,SNR=6.1						
MK01	**Makanchi Array**	**45.87**	**349**	*e*P	**P**	**14 57 24.9**	**-0.3**
MK31	**Makanchi Array**	**45.89**	**349**	*e*P	**P**	**14 57 25.6**	**+0.2**
MKAR	**Makanchi Array**	**45.89**	**349**	P	**P**	**14 57 25.7**	**+0.3**
	comp=Z,4.2nm,0.6s,baz=171,slow=8.7,SNR=30						
MKAR	**Makanchi Array**	**45.89**	**349**	*e*P	**P**	**14 57 25.6**	**+0.1**
	comp=Z,30nm,0.6s						
ASAR	**Alice Springs**	**46.26**	**126**	P	**P**	**14 57 28.4**	**-0.4**
	comp=Z,1.9nm,0.5s,baz=296,slow=7.8,SNR=20						
SONM	**Songino Array**	**46.96**	**11**	P	**P**	**14 57 34.2**	**+0.3**
	comp=Z,2.6nm,0.6s,baz=192,slow=8.8,SNR=13						
SONA1	**Songino Array**	**46.97**	**11**	*e*P	**P**	**14 57 33.7**	**-0.4**
KSAR	**Wonju Array Be**	**47.03**	**37**	P	**P**	**14 57 34.4**	**-0.1**
KSRS	**Korea Array**	**47.06**	**37**	P	**P**	**14 57 34.4**	**-0.3**
	comp=Z,1.6nm,0.7s,baz=218,slow=9.1,SNR=5.6						
GEYT	**Alibeck**	**48.75**	**322**	P	**P**	**14 57 47.9**	**-0.1**
	comp=Z,2.0nm,0.6s,baz=152,slow=9.6,SNR=4.3						
KURBB	**Kurchatov Arra**	**50.31**	**347**	P	**P**	**14 57 59.7**	**+0.2**
	comp=Z,1.5nm,0.7s,baz=177,slow=6.8,SNR=7.5						
KURK	**Kurchatov**	**50.38**	**347**	P	**P**	**14 57 59.7**	**-0.3**
ZAA0	**Zalesovo Array**	**52.44**	**353**	*e*P	**P**	**14 58 15.0**	**-0.4**
	comp=Z,5.8nm,0.8s						
ZALV	**Zalesovo Beam**	**52.44**	**353**	P	**P**	**14 58 15.2**	**-0.2**
	comp=Z,2.7nm,0.4s,baz=184,slow=7.6,SNR=9.7						
ZALV	**Zalesovo Beam**	**52.44**	**353**	*e*P	**P**	**14 58 14.9**	**-0.5**
BVAR	**Borovoye Array**	**54.63**	**343**	P	**P**	**14 58 31.7**	**+0.2**
	comp=Z,1.3nm,0.6s,baz=141,slow=9.3,SNR=7.1						
AB31	**Akbulak array**	**55.49**	**333**	*e*P	**P**	**14 58 38.7**	**+0.9**
ABKAR	**Akbulak array**	**55.49**	**333**	*e*P	**P**	**14 58 38.7**	**+0.9**
	comp=Z,32nm,1.0s						
STKA	**Stephens Creek**	**56.10**	**131**	P	**P**	**14 58 42.1**	**-0.4**
	comp=Z,1.8nm,0.7s,baz=318,slow=11,SNR=4.5						
KLR	**Kalu**	**57.03**	**28**	P	**P**	**14 58 48.6**	**-0.2**
	comp=Z,0.3nm,0.8s,baz=262,slow=7.3,SNR=7.0						
LSZ	**Lusaka**	**67.41**	**253**	*e*Pn	**P**	**15 00 00.9**	**+1.7**
	comp=Z,4.2nm,0.5s						
TIXI	**Tiksi**	**73.05**	**11**	*e*P	**P**	**15 00 31.4**	**-1.2**
	comp=Z,5.7nm,0.7s						
BUR04	**Bucovina Ar. S**	**74.50**	**319**	*e*P	**P**	**15 00 40.6**	**-1.1**
FINES	**FINESS Array B**	**77.98**	**333**	P	**P**	**15 00 60.0**	**-1.1**
	comp=Z,3.4nm,1.0s,baz=130,slow=2.2,SNR=3.8						
GEA0	**GERESS Array S**	**82.28**	**319**	*e*P	**P**	**15 01 23.6**	**-1.1**
GERES	**GERESS Array B**	**82.28**	**319**	P	**P**	**15 01 24.8**	**+0.1**
	comp=Z,1.0nm,0.6s,baz=99,slow=4.2,SNR=6.4						
TORD	**Torodi Ar. Bea**	**91.97**	**283**	P	**P**	**15 02 13.7**	**+1.2**
	comp=Z,0.3nm,0.5s,baz=80,slow=5.2,SNR=5.7						
WCI	**Wyandotte Cave**	**140.06**	**1**	*e*PKPdf	**PKPdf**	**15 08 32.0**	**-0.1**
TXAR	**Lajitas Array**	**144.56**	**27**	PKP	**PKPab**	**15 08 38.7**	**-0.2**
	comp=Z,0.9nm,0.8s,baz=328,slow=4.4,SNR=6.1						

*ISCJB **11** 14:49:52.8±0.6, 1°.4N±0°.1×91°.57E±0°.09, h10km, mb4.4/18, Error ellipse: s-maj=18.2km s-min=8.7km az=34.7*
*IDC **11** 14:49:52.7±0.8, 1°.39N×91°.57E, h0km, mb4.3/15, mb1 4.5/18, mb1mx4.1/70, mbtmp4.4/18, ML4.6/2, Error ellipse: s-maj=33.1km s-min=14.8km az=45.0*
*NEIC **11** 14:49:54.8±4.0, 1°.37N×91°.51E, h15km±25km, mb4.7/3, Error ellipse: s-maj=14.8km s-min=7.0km az=218.0*
ISC 11 14:49:54.2±0.8, 1°.4N±0°.2×91°.5E±0°.1, h10km, n36, σ0ᵗ84/35, mb4.5/18, 3C-1D, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PALK	**Pallekele**	**12.29**	**299**	Pn	**Pn**	**14 52 48.4**	**-1.0**
	4.6nm,0.3s,baz=116,slow=8.9,SNR=5.3						
PALK				Sn	Sn	14 54 53.6	-13
	4.5nm,0.3s,baz=116,slow=9.4,SNR=4.3						
LEM	**Lembang**	**18.00**	**117**	P	**P**	**14 54 06.2**	**+0.8**
	1.2nm,0.3s,baz=287,slow=19,SNR=2.6						
CMAR	**Chiang Mai Arr**	**18.47**	**23**	P	**P**	**14 54 09.8**	**-0.6**
	baz=216,slow=12,SNR=2.7						
KSM	**Kuching**	**18.77**	**89**	*e*P	**Pn**	**14 54 14.3**	**+0.2**
H08S2	**Diego Garcia H**	**21.00**	**244**	T	T	15 16 21.5	
	baz=65,slow=75,SNR=7.4						
H08S3	**Diego Garcia H**	**21.00**	**245**	T	T	15 16 19.6	
	baz=65,slow=75,SNR=10						
H08S1	**Diego Carcia H**	**21.02**	**245**	T	T	15 16 18.1	
	baz=65,slow=75,SNR=8.5						
AAK	**Ala-Archa**	**43.84**	**342**	P	**P**	**14 58 01.0**	**+0.2**
	2.4nm,0.7s,baz=293,slow=3.1,SNR=5.2						
KKAR	**Karatay Array**	**45.60**	**338**	*e*P	**P**	**14 58 15.0**	**+0.3**
	3.1nm,0.7s						
MKAR	**Makanchi Array**	**45.96**	**351**	P	**P**	**14 58 17.2**	**-0.2**
	5.0nm,0.7s,baz=169,slow=8.9,SNR=5.8						
WRA	**Warramunga Arr**	**47.00**	**119**	P	**P**	**14 58 25.5**	**-0.5**
	3.1nm,0.7s,baz=296,slow=8.7,SNR=5.8						
WRA				PcP	**PcP**	**14 59 57.6**	**-0.8**
	1.0nm,0.8s,baz=325,slow=3.3,SNR=3.3						
WRAB	**Tennant Creek**	**47.01**	**119**	*e*P	**P**	**14 58 25.4**	**-0.7**
	5.2nm,0.9s						
GEYT	**Alibeck**	**47.60**	**324**	P	**P**	**14 58 31.6**	**+1.2**
	4.7nm,0.7s,baz=156,slow=8.1,SNR=6.6						
SONM	**Songino Array**	**48.04**	**13**	P	**P**	**14 58 34.3**	**+0.5**
	14nm,0.7s,baz=192,slow=9.1,SNR=20						
SONM				PcP	**PcP**	**15 00 01.6**	**-0.1**
	1.2nm,0.7s,baz=210,slow=4.2,SNR=2.5						
ASAR	**Alice Springs**	**48.10**	**124**	P	**P**	**14 58 34.5**	**-0.1**
	1.1nm,0.8s,baz=298,slow=8.0,SNR=3.2						
ASAR				PcP	**PcP**	**15 00 01.9**	**-0.5**
	1.2nm,0.7s,baz=306,slow=2.9,SNR=5.5						
ULN	**Ulaanbaatar**	**48.23**	**14**	*e*P	**P**	**14 58 35.4**	**+0.1**
	81nm,2.5s						
KURBB	**Kurchatov Arra**	**50.30**	**349**	P	**P**	**14 58 50.2**	**-0.7**
	4.4nm,0.9s,baz=172,slow=6.7,SNR=12						
KURK	**Kurchatov**	**50.37**	**349**	*e*P	**P**	**14 58 51.0**	**-0.4**
ZALV	**Zalesovo Beam**	**52.70**	**355**	P	**P**	**14 59 08.1**	**-0.7**
	6.1nm,0.8s,baz=184,slow=7.0,SNR=5.4						
BVAR	**Borovoye Array**	**54.40**	**344**	P	**P**	**14 59 19.8**	**-1.5**
	1.6nm,0.8s,baz=167,slow=7.3,SNR=5.3						
KBZ	**Khabaz**	**60.31**	**321**	P	**P**	**15 00 04.4**	**+1.2**
	7.1nm,0.8s,baz=142,slow=5.8,SNR=13						
BRTR	**Keskin Array B**	**64.86**	**314**	P	**P**	**15 00 33.7**	**-0.2**
	2.6nm,0.9s,baz=131,slow=6.7,SNR=7.2					

PALK Pallekele 12.55 299 *e*P P **Pn** 14 57 25.9 -2.2
TPRI Tanjung Pinang 12.76 91 P P **Pn** 14 57 29.1 -1.8
MDSI Maura Dua 13.64 115 P P **Pn** 14 57 40.6 -2.3
LWLI Liwa 13.76 117 P P **P** 14 57 49.5 -3.7
KASI Kota Agung 14.38 118 P P **Pn** 14 57 48.6 -4.4
CGJI Cibinong 15.94 119 P P **P** 14 58 16.6 -0.7
MDRS Chennai 16.39 316 *e*P P **Pn** 14 58 18.8 -0.7
TRD Trivandrum 16.42 297 *e*P P **Pn** 14 58 18.2 -1.7
SKJI Sukabumi 16.88 119 P P **P** 14 58 29.2 +1.5
LEM Lembang 17.73 117 P P **Pn** 14 58 35.8 -0.8
comp=Z,2.6nm,0.3s,baz=299,slow=19,SNR=4.6
JCJI Jatiwangi 18.17 115 P P 14 58 50.6 +8.6
CISI Cisompet, Garu 18.23 119 *e*Pn **Pn** **14 58 40.3 -2.4**
comp=Z,206nm,1.1s
VIS Vishakhapatnam 18.37 334 *e*P P **Pn** **14 58 43.9 -0.2**
VIS IAmb IAmb 14 58 44.7
comp=Z,486nm,2.1s
CM01 Chiang Mai Arr 18.49 22 *e*P P **P** **14 58 42.1 -3.3**
CM31 Chiang Mai Arr 18.52 22 *e*P P **P** **14 58 43.0 -2.8**
CMAR Chiang Mai Arr 18.52 22 P P **P** **14 58 42.6 -3.1**
comp=Z,0.2nm,0.3s,baz=216,slow=13,SNR=15
KSM Kuching 18.54 89 *e*P P **14 58 45.2 -0.9**
comp=Z,140nm,1.1s
CHTO Chiang Mai 18.84 22 *e*P P **14 58 47.1 -2.3**
comp=Z,267nm,1.7s
CHTO Chiang Mai 18.84 22 P **Pn** **14 58 49.9 0.0**
SNR=43
CHTO Chiang Mai 18.84 22 P **Pn** **14 58 49.9 0.0**
SNR=43
CHTO Chiang Mai 18.84 22 *e*P P **14 58 47.1 -2.3**
CHTO pmax pmax
comp=Z,267nm,1.7s
KPJI Karang Pucung 19.12 117 P P **14 58 51.8 -0.7**
STKI Sintang 19.75 93 P P **14 58 59.4 +0.1**
PBKI Pangkalan Bun 20.28 101 P Pn 14 59 10.1 +2.9
SMRI Semarang 20.37 114 P Pn 14 59 17.4 +9.2
MNGI Mangalore 20.42 305 *ex* P **14 59 00.1 -6.5**
SBUM Sibu 20.48 86 *e*P P **14 59 06.5 -0.9**
comp=Z,100nm,1.0s
HYB Hyderabad 20.68 322 *i* P Pn 14 59 12.0 +0.2
UGM Wanagama 20.80 116 P Pn 14 59 23.1 +10
WOJI Wonogiri, Jawa 21.12 116 P P **14 59 18.4 +4.1**
comp=Z,95nm,1.3s
H08S2 Diego Garcia H 21.15 245 T T 15 21 01.3
baz=65,slow=75,SNR=28
H08S3 Diego Garcia H 21.15 245 T T 15 21 02.0
baz=65,slow=75,SNR=26
H08S1 Diego Carcia H 21.16 245 T T 15 21 09.6
baz=65,slow=75,SNR=33
PCJI Pacitan 21.50 116 P P 14 59 28.7 +10
GOA Goa 22.68 310 *e*P P **14 59 29.1 -1.8**
BOK Bokaro 23.14 346 *e*P P **14 59 34.8 -1.0**
BOK IAmb IAmb 14 59 38.5
MTKI Muara Teweh, K 23.23 95 P P **14 59 38.3 +1.6**
comp=Z,107nm,1.3s
NGP Nagpur 23.36 329 *e*P P **14 59 36.1 -1.9**
NGP IAmb IAmb 14 59 42.7
comp=Z,48nm,1.1s
GMJI Gumukmas 23.59 114 P P 14 59 48.8 +8.6
AKL Akola 24.13 324 *ex* P **14 59 47.7 +2.4**
SHL Shillong 24.20 0 *e*P P **14 59 43.7 -2.4**
SHL IAmb IAmb 14 59 55.2
comp=Z,55nm,0.4s
POO Poona 24.59 315 *e*P P **14 59 47.4 -2.2**
POO IAmb IAmb 14 59 54.3
comp=Z,272nm,2.1s
KBKI Kotabaru 24.80 101 P P **14 59 51.1 -0.5**
KKM Kota Kinabalu 24.86 78 *e*P P **14 59 50.5 -1.7**
comp=Z,79nm,1.0s
QIZ Qiongzhong 25.04 44 P P **14 59 53.7 +0.1**
QIZ S S **15 04 17.7 +0.1**
QIZ LR LR
comp=Z,3µm,15.3s
QIZ LR LR
comp=Z,2µm,15.4s
BKB Balikpapan 25.25 96 P P **14 59 56.9 +1.3**
ODAN Odare 25.83 351 *e*P P **15 00 01.6 +0.6**
comp=Z,895nm,1.4s
SGKI Sangatta, Kali 25.90 94 P P 15 00 13.7 +12
BHPL Bhopal 25.93 329 *e*P P **15 00 00.2 -1.5**
BHPL IAmb IAmb 15 00 07.7
comp=Z,45nm,1.0s
KMI Kunming 26.01 23 P P **15 00 04.1 +1.4**
KMI pmax pmax
comp=Z,68nm,1.2s
KMI LR LR
comp=Z,3µm,16.6s
KMI LR LR
comp=Z,3µm,15.6s
KMI LR LR
comp=Z,3µm,23.5s
RAMN Ramite 26.05 349 *e*P P **15 00 04.2 +1.2**
comp=Z,882nm,1.4s
JIRN Jiri 26.82 349 *e*P P **15 00 10.8 +0.7**
comp=Z,1µm,1.3s
MYLDM Lahad Datu 26.98 81 *e*P P **15 00 11.2 -0.1**
comp=Z,94nm,1.2s
DMN Daman 27.00 347 *e*P P **15 00 11.9 +0.3**
comp=Z,282nm,1.3s
GUN Gumba 27.12 349 *e*P P **15 00 13.2 +0.4**
comp=Z,616nm,1.5s
KKN Kakani 27.13 347 *e*P P **15 00 12.8 +0.1**
comp=Z,311nm,1.4s
GKN Gorkha 27.48 346 *e*P P **15 00 16.4 +0.6**
comp=Z,391nm,1.5s
KOLN Koldanda 27.53 344 *e*P P **15 00 16.9 +0.6**
comp=Z,229nm,1.6s
PYUN Piuthan 28.01 343 *e*P P **15 00 20.8 +0.2**
comp=Z,192nm,1.2s
MPSI Mapaga 28.15 92 P P **15 00 22.9 +1.1**
LSA Lhasa 28.32 359 P P **15 00 24.4 +0.8**
LSA pmax pmax
comp=Z,40nm,1.2s
LSA Lhasa 28.32 359 *e*P P **15 00 24.4 +0.8**
comp=Z,100nm,1.1s
LSA Lhasa 28.32 359 P P **15 00 24.3 +0.7**
LSA Lhasa 28.32 359 *e*P P **15 00 24.4 +0.8**
LSA pmax pmax
comp=Z,100nm,1.1s
BNSI Bone 28.87 101 P P 15 00 36.9 +8.7
GYA Guiyang 28.89 28⇑ *i*P P **15 00 30.9 +2.5**
GYA PP **PnPn** **15 01 23.8 +4.0**
GYA PcP **PcP** **15 03 39.6 +1.9**
GYA S S **15 05 19.2 +0.7**
GYA SS **SnSn** **15 06 48.0 +6.9**
GYA ScP **ScP** **15 07 18.5 -0.4**
GYA pmax pmax
comp=Z,30nm,1.0s
GYA pmax pmax
comp=Z,140nm,5.6s
GYA LR LR
comp=Z,580nm,18.0s
GYA LR LR
comp=Z,550nm,18.4s
GYA LR LR
comp=Z,540nm,18.2s
APSI Ampana 29.96 94 P P **15 00 41.7 +3.8**
MRSI Marisa 30.18 91 P P **15 00 42.1 +2.2**
comp=Z,20nm,1.1s
LUWI Luwuk 31.09 94 P P **15 00 51.9 +4.0**
comp=Z,57nm,1.1s
LUWI Luwuk 31.09 94 *e*P P **15 00 46.6 -1.3**
comp=Z,82nm,1.2s
CD2 Chengdu 31.63 20 P P **15 00 52.2 -0.3**
CD2 S S **15 06 03.0 +1.7**
CD2 pmax pmax
comp=Z,90nm,0.6s
DDI Dehra Dun 31.73 337 *e*P P **15 00 52.2 -1.1**
DDI IAmb IAmb 15 00 58.1
comp=Z,152nm,1.4s
SMLA Simla 32.79 336 *e*P P **15 01 03.0 +0.4**
ENH Enshi 33.43 29 *e*P P **15 01 06.0 -2.2**
comp=Z,209nm,1.6s
BATI Baumata 33.72 110 LR LR 15 15 43.6
comp=Z,3µm,20.5s,baz=214,slow=38
DHRM DHARAMSHALA 34.13 336 *e*P P **15 01 14.1 -0.4**
SOEI Soe 34.15 109 P P 15 01 29.6 +15
SANI Sanana 34.37 95 P P 15 01 28.4 +12
LBMI Labuha 35.78 93 P P **15 01 31.9 +3.1**
XAN Xi'an 36.38 24 P P **15 01 32.7 -1.0**
XAN pP pP 15 01 38.5 +0.4
XAN sP sP 15 01 40.5 +0.6
XAN pmax pmax
comp=Z,16nm,1.0s
LZH Lanzhou 36.45 17 *e*P P **15 01 34.0 -0.4**
LZH pP pP 15 01 37.8 -1.0
LZH sP sP 15 01 40.5 -0.1
LZH PP **PP** **15 02 58.1 +0.6**
LZH pmax pmax
comp=Z,88nm,1.3s
LZH pmax pmax
comp=Z,170nm,5.0s
LZH LR LR
comp=Z,1µm,13.8s
LZH LR LR
comp=Z,1µm,14.2s
LZH LR LR
comp=Z,2µm,17.6s
NIL Nilore 36.62 334 *e*P P **15 01 35.2 -0.6**
comp=Z,141nm,1.1s
NIL Nilore 36.62 334 *e*P P **15 01 35.2 -0.6**
NIL pmax pmax
comp=Z,141nm,1.1s
MEEK Meekatharra 37.92 139 P P **15 01 47.2 +0.4**
baz=38,SNR=6.0
FITZ Fitzroy Crossi 38.47 122 P P **15 01 51.4 -0.2**
baz=39,SNR=4.1
WSAR Wadi Sarin 38.88 307 P P **15 01 56.4 +1.4**
comp=Z,3.4nm,0.6s,baz=185,slow=5.1,SNR=6.9
KBL Kabul 39.35 330 *e*P P **15 01 58.0 -1.0**
comp=Z,27nm,1.3s
KBL Kabul 39.35 330 *e*P P **15 01 58.0 -1.0**
KBL pmax pmax
comp=Z,27nm,1.3s
NJ2 Nanjing 39.91 37 *e*P P **15 02 02.3 -1.1**
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
KSH Kashi 40.74 341 P P **15 02 10.9 +0.5**
KSH sP sP 15 02 17.4 +0.8
KSH S **S** **15 08 20.7 +0.1**
KSH pmax pmax
comp=Z,240nm,1.7s
KSH pmax pmax
comp=Z,990nm,4.4s
KSH LR LR
comp=Z,490nm,6.2s
KSH LR LR
comp=Z,590nm,5.9s
KSH LR LR
comp=Z,24µm,44.1s
H01W3 Cape Leeuwin H 41.59 152 T T 15 46 38.3
baz=327,slow=74,SNR=34
ALNE Al Ain 41.59 306 *i* P P **15 02 18.4 +0.9**
SNR=6.7
H01W2 Cape Leeuwin H 41.60 152 T T 15 46 39.0
baz=327,slow=74,SNR=35
H01W1 Cape Leeuwin H 41.60 152 T T 15 46 40.0
baz=327,slow=74,SNR=32
HATD Hatta, Dubai 41.65 307 P P **15 02 20.4 +2.5**
MSFE Esma-Masafi 41.88 308 P P **15 02 22.5 +2.6**
TIA Tai'an 42.00 31 P P 15 02 28.3 +7.7
TIA pmax pmax
comp=Z,25nm,1.5s
SFK Sufi-Kurgan 42.03 339 P P **15 02 21.2 +0.1**
SFK pmax pmax
comp=Z,48nm,1.1s
BTO Baotou 42.55 21 *e*P P **15 02 22.3 -2.8**
WMQ Urumqi 42.56 356 P P **15 02 25.9 +0.8**
WMQ pP pP 15 02 28.2 -1.4
WMQ sP sP 15 02 33.9 +2.5
WMQ PP **PP** **15 04 03.7 -0.3**
WMQ LR LR
comp=Z,23µm,39.3s
WMQ LR LR
comp=Z,15µm,39.0s
WMQ LR LR
comp=Z,10µm,39.2s
KZA Kyzart 43.30 342 P P **15 02 32.1 +0.6**
SNR=14
HHC Hu-ho-hao-te 43.33 22 *e*P P **15 02 31.8 +0.4**
HHC sP sP 15 02 39.4 +1.7
HHC S **S** **15 09 00.8 +2.1**
HHC pmax pmax
comp=Z,22nm,1.0s
HHC pmax pmax
comp=Z,94nm,6.2s
HHC LR LR
comp=Z,1µm,15.3s
HHC LR LR
comp=Z,1µm,15.0s
HHC LR LR
comp=Z,4µm,16.0s
PDGK Podgornoye 43.33 347 P P **15 02 30.3 -1.1**
PDGK pmax pmax
comp=Z,58nm,1.3s
UCH Uchtor 43.66 341 P P **15 02 37.8 +3.2**
SNR=14
AML Almayashu 43.84 341 P P **15 02 36.2 +0.3**
SNR=22
KBK Karagaybulak 43.91 342 P P **15 02 36.7 +0.5**
SNR=20
TKM2 Tokmak 2 43.96 343 P P **15 02 36.6 -0.1**
SNR=22
TKM2 Tokmak 2 43.96 343 P P **15 02 35.4 -1.2**
TKM2 pmax pmax
comp=Z,46nm,1.5s
AAK Ala-Archa 44.04 342 P P **15 02 37.4 +0.2**
comp=Z,6.3nm,1.0s,baz=157,slow=7.6,SNR=12
AAK LR LR 15 21 14.3
comp=Z,2µm,20.0s,baz=31,slow=36
AAK Ala-Archa 44.04 342 P P **15 02 37.6 +0.3**
SNR=12
AAK Ala-Archa 44.04 342 *e*P P **15 02 37.2 0.0**
comp=Z,46nm,1.4s
AAK Ala-Archa 44.04 342 P P **15 02 38.3 +1.1**
SNR=20
AAK Ala-Archa 44.04 342 P P **15 02 38.3 +1.1**
SNR=20
AAK Ala-Archa 44.04 342 *i* P P **15 02 37.5 +0.2**
SNR=9.2
AAK Ala-Archa 44.04 342 P P **15 02 36.6 -0.6**
AAK pmax pmax
comp=Z,39nm,1.5s
FRU Bishkek 44.18 342 *e*P P **15 02 39.0 +0.8**
BJT Baijiatuan 44.53 27 *e*P P **15 02 41.7 +0.7**
comp=Z,258nm,1.3s
BJT Baijiatuan 44.53 27 *e*P P **15 02 41.7 +0.7**
BJT pmax pmax
comp=Z,258nm,1.3s
BJI Beijing 44.55 27 *e*P P **15 02 41.4 +0.2**
BJI pmax pmax
comp=Z,64nm,1.3s
MNAS Manas 44.56 340 P P **15 02 41.0 -0.4**
MNAS pmax pmax
comp=Z,37nm,1.4s
USP Ospenovka 44.61 342 P P **15 02 41.5 -0.1**
SNR=14
KK06 Karatay Array 45.80 338 *e*P P **15 02 50.3 -0.8**
KK07 Karatay Array 45.81 338 *e*P P **15 02 50.4 -0.7**
KK02 Karatay Array 45.82 338 *e*P P **15 02 50.6 -0.6**
KK31 Karatay Array 45.82 338 *e*P P **15 02 50.4 -0.8**
KK31 Karatay Array 45.82 338 *e*P P **15 02 50.4 -0.8**
KKAR Karatay Array 45.82 338 *e*P P **15 02 50.5 -0.7**
KKAR Karatay Array 45.82 338 *e*P P **15 02 50.5 -0.7**
KK01 Karatay Array 45.82 338 *e*P P **15 02 50.6 -0.6**
KK03 Karatay Array 45.82 338 *e*P P **15 02 50.5 -0.7**
KK04 Karatay Array 45.83 338 *e*P P **15 02 50.6 -0.6**
KK05 Karatay Array 45.83 338 *e*P P **15 02 50.6 -0.7**
KK08 Karatay Array 45.83 338 *e*P P **15 02 50.6 -0.7**
MK01 Makanchi Array 46.11 351 *e*P P **15 02 52.6 -0.8**
MK31 Makanchi Array 46.13 351 *e*P P **15 02 53.0 -0.6**
MK31 Makanchi Array 46.13 351 *e*P P **15 02 53.0 -0.6**
MKAR Makanchi Array 46.13 351 P P **15 02 53.3 -0.3**
comp=Z,11nm,0.8s,baz=163,slow=8.7,SNR=19
MKAR Makanchi Array 46.13 351 *e*P P **15 02 53.0 -0.6**
comp=Z,97nm,1.0s
MKAR Makanchi Array 46.13 351 *e*P P **15 02 53.0 -0.6**
MKAR pmax pmax
comp=Z,97nm,1.0s
MAKZ Makanchi 46.19 351 *e*P P **15 02 53.4 -0.7**
comp=Z,55nm,1.4s
MAKZ Makanchi 46.19 351 P P **15 02 53.1 -1.0**
MAKZ pmax pmax
comp=Z,38nm,1.6s
WRA Warramunga Arr 46.73 119 P P **15 02 57.0 -1.7**
comp=Z,6.6nm,0.7s,baz=297,slow=8.6,SNR=34
WRAB Tennant Creek 46.74 119 *e*P P **15 02 57.3 -1.6**
comp=Z,25nm,1.0s
WRAB Tennant Creek 46.74 119 *e*P P **15 02 57.3 -1.6**
WRAB pmax pmax
comp=Z,25nm,1.0s
WB2 Warramunga Arr 46.74 119 *e*P P **15 02 57.5 -1.4**
WC3 Warramunga Arr 46.77 119 P P **15 02 57.5 -1.5**
baz=47
GYB1 ALIBECK ARRAY 47.83 324 *e*P P **15 03 02.6 -4.5**
comp=Z,24nm,1.0s
GYA1 ALIBECK ARRAY 47.84 324 *e*P P **15 03 02.7 -4.4**
comp=Z,20nm,0.9s
GYA1 *e*pP **pP** **15 03 08.6 -3.1**
ASAR Alice Springs 47.84 124 P P **15 03 06.2 -1.1**
comp=Z,1.0nm,0.6s,baz=298,slow=7.9,SNR=11
ASAR PcP **PcP** **15 04 36.9 +0.7**
comp=Z,2.5nm,0.9s,baz=296,slow=3.3,SNR=5.7
AS31 Alice Springs 47.84 124 *e*P P **15 03 05.9 -1.5**
comp=Z,3.4nm,1.3s
GYB2 ALIBECK ARRAY 47.84 324 *e*P P **15 03 02.8 -4.4**
comp=Z,26nm,1.0s
GYB5 ALIBECK ARRAY 47.84 324 *e*P P **15 03 08.6 +1.4**
comp=Z,31nm,1.0s
GEYT Alibeck 47.84 324 P P **15 03 07.6 +0.5**
comp=Z,15nm,1.0s,baz=150,slow=6.8,SNR=17
GYA0 ALIBECK ARRAY 47.84 324 *e*P P **15 03 09.2 +2.0**
comp=Z,20nm,0.9s
GYA0B ALIBECK ARRAY 47.84 324 *e*P P **15 03 08.7 +1.5**
comp=Z,23nm,1.0s
GYA2 ALIBECK ARRAY 47.84 324 *e*P P **15 03 02.6 -4.6**
comp=Z,26nm,1.0s
GYB3 ALIBECK ARRAY 47.85 324 *e*P P **15 03 08.9 +1.6**
comp=Z,25nm,1.0s
GYB4 ALIBECK ARRAY 47.86 324 *e*P P **15 03 02.7 -4.5**
comp=Z,23nm,0.9s
AS01 Alice Springs 47.88 124 *e*P P **15 03 05.6 -2.1**
OPO Ambohidratompo 48.03 244 P P **15 03 10.6 +1.5**
comp=Z,4.0nm,0.7s,baz=76,slow=8.6,SNR=5.9
TJN Taejon 48.04 39 *e*P P **15 03 09.1 +0.5**
SONM Songino Array 48.13 13 P P **15 03 09.6 +0.3**
comp=Z,29nm,0.9s,baz=190,slow=8.6,SNR=36
ABPO Ambohimpanom 48.14 243 *i* P P **15 03 12.5 +2.6**
SONA1 Songino Array 48.14 13 *e*P P **15 03 08.9 -0.5**
ULN Ulaanbaatar 48.31 14 *e*P P **15 03 10.5 -0.2**
comp=Z,94nm,1.4s
ULN Ulaanbaatar 48.31 14 P P **15 03 10.5 -0.2**
SNR=27
ULN Ulaanbaatar 48.31 14 P P **15 03 10.5 -0.2**
SNR=27
ULN Ulaanbaatar 48.31 14 *ce*P P **15 03 09.3 -1.4**
ULN pmax pmax
comp=Z,42nm,1.7s
DGZ Jazzator, Alta 48.43 356 *e*P P **15 03 09.2 -2.5**
DGZ pmax pmax
comp=Z,1.0nm,0.9s
KSAR Wonju Array Be 49.03 38 P P **15 03 16.0 -0.2**
KSAR Wonju Array Be 49.03 38 P P **15 03 16.0 -0.2**
KS01 Wonju Array Si 49.06 38 *e*P P **15 03 15.8 -0.7**
KSRS Korea Array 49.06 38 P P **15 03 16.0 -0.5**
comp=Z,1.1nm,0.7s,baz=231,slow=7.7,SNR=4.9
JAY Jayapura 49.07 94 P P 15 03 23.7 +6.7
OTUK Ortayu 49.75 343 P P **15 03 21.0 -0.7**
OTUK pmax pmax
comp=Z,57nm,1.3s
HVS Khovu-Aksy 49.75 2 *e*P P **15 03 20.5 -1.2**
HVS pmax pmax
comp=Z,77nm,1.0s
ZAK Zakamensk 49.94 10 *e*P P **15 03 23.1 -0.1**
ZAK pmax pmax
comp=Z,23nm,1.9s
RAYN Ar Rayn 49.99 300 *e*P P **15 03 23.8 -0.1**
comp=Z,6.0nm,0.9s
KURBB Kurchatov Arra 50.48 349 P P **15 03 26.4 -0.6**
comp=Z,11nm,0.8s,baz=172,slow=7.1,SNR=24
KURK Kurchatov 50.55 349 *e*P P **15 03 26.8 -0.8**
comp=Z,75nm,1.2s
KURK Kurchatov 50.55 349 P P **15 03 27.3 -0.3**
SNR=37
KURK Kurchatov 50.55 349 P P **15 03 27.3 -0.3**
SNR=37
KURK Kurchatov 50.55 349 *ce*P P **15 03 26.5 -1.1**
KURK pmax pmax
comp=Z,218nm,1.7s
MOY Mondy 50.86 7 *e*P P **15 03 33.7 +3.6**
MOY pmax pmax
comp=Z,58nm,2.5s
TLY Talaya 51.26 9 *e*P P **15 03 32.4 -0.6**
comp=Z,106nm,1.8s
TLY Talaya 51.26 9 P P **15 03 34.4 +1.5**
SNR=22
TLY Talaya 51.26 9 P P **15 03 34.4 +1.5**
SNR=22
TLY Talaya 51.26 9 *e*P P **15 03 34.1 +1.1**
TLY pmax pmax
comp=Z,43nm,1.4s
CN2 Changchun 51.90 31 *e*P P **15 03 39.0 +1.1**
CN2 *es*P sP 15 03 45.9 +1.7
CN2 pmax pmax
comp=Z,10.0nm,1.0s
IRK Irkutsk 51.91 10 *e*P P **15 03 38.0 +0.2**
IRK pmax pmax
comp=Z,111nm,2.1s
ZAA0 Zalesovo Array 52.86 355 *e*P P **15 03 43.3 -1.4**
comp=Z,88nm,1.4s
ZALV Zalesovo Beam 52.86 355 P P **15 03 44.1 -0.7**
comp=Z,5.5nm,0.4s,baz=183,slow=8.1,SNR=18
ZALV Zalesovo Beam 52.86 355 *e*P P **15 03 43.3 -1.5**
ZALV Zalesovo Beam 52.86 355 *e*P P **15 03 43.3 -1.5**
HIA Hailar 53.53 22 *e*P P **15 03 50.4 +0.5**
HIA pmax pmax
comp=Z,14nm,1.0s
CIT Chita 53.81 17 *e*P P 15 03 58.6 +6.7
CIT pmax pmax
comp=Z,137nm,1.5s
NVS Novosibirsk 53.89 354 *e*P P **15 03 50.3 -2.1**
NVS pmax pmax
comp=N,26nm,1.2s
NVS pmax pmax
comp=Z,49nm,1.2s
NVS pmax pmax
comp=E,23nm,1.4s
MSHR Mys Shultsa 54.20 35 *ce*P P **15 03 54.8 0.0**
KMBO Kilima Mbogo 54.56 268 P P **15 03 58.8 +0.5**
comp=E,2.4nm,0.9s,baz=58,slow=12,SNR=5.2
BVA0 Borovoye Array 54.59 344 *i* P P **15 03 55.0 -2.6**
BVA0 pmax pmax
comp=Z,16nm,1.2s
BVAR Borovoye Array 54.59 344 P P **15 03 56.2 -1.4**
comp=Z,3.4nm,0.7s,baz=142,slow=8.2,SNR=17
KRAR Krasnoyarsk 54.62 1 *e*P P **15 03 55.9 -1.7**
BRVK Borovoye 54.65 344 *e*P P **15 03 56.4 -1.5**
comp=Z,30nm,1.3s
BRVK Borovoye 54.65 344 P P **15 03 57.4 -0.6**
SNR=10.0
BRVK Borovoye 54.65 344 P P **15 03 57.4 -0.6**
SNR=10.0
BRVK Borovoye 54.65 344 *ce*P P **15 03 55.7 -2.3**
BRVK pmax pmax
comp=Z,47nm,1.7s
AB31 Akbulak array 55.06 335 *e*P P **15 03 59.8 -1.2**
AB31 Akbulak array 55.06 335 *i* P P **15 03 59.8 -1.2**
AB31 pmax pmax
comp=Z,41nm,1.5s
ABKAR Akbulak array 55.06 335 *e*P P **15 04 00.0 -1.0**
comp=Z,120nm,1.1s
USRK Ussuriysk Ar. 55.68 34 P P **15 04 06.0 +0.5**
comp=Z,2.4nm,0.8s,baz=288,slow=0.6,SNR=5.6
AKTO Aktyubinsk 56.77 335 P P **15 04 11.9 -1.3**
comp=Z,1.4nm,0.7s,baz=124,slow=9.6,SNR=5.3
AKTO Aktyubinsk 56.77 335 P P **15 04 12.0 -1.3**
AKTO pmax pmax
comp=Z,23nm,1.5s
CTAO Charters Tower 57.42 115 P P **15 04 16.5 -1.9**
comp=Z,148nm,1.1s
CTAO Charters Tower 57.42 115 P P **15 04 16.5 -1.9**
CTAO pmax pmax
comp=Z,148nm,1.1s
STKA Stephens Creek 57.49 130 P P **15 04 17.1 -1.6**
comp=Z,1.3nm,0.6s,baz=307,slow=5.0,SNR=4.9
GNI Garni 57.58 318 P P **15 04 20.0 +0.6**
comp=Z,5.4nm,0.6s,baz=169,slow=5.2,SNR=4.3
GNI Garni 57.58 318 *e*P P **15 04 19.0 -0.4**
comp=Z,843nm,2.0s
GNI Garni 57.58 318 P P **15 04 21.4 +2.0**
SNR=7.6
GNI Garni 57.58 318 P P **15 04 21.4 +2.0**
SNR=7.6
GNI Garni 57.58 318 P P **15 04 20.7 +1.3**
GNI Garni 57.58 318 *e*P P **15 04 19.1 -0.3**
GNI pmax pmax
comp=Z,21nm,1.0s

TBLG	**Delisi**	**58.38**	**320**	*e*P		**P**	**15 04 24.6**	**-0.2**
	comp=Z,42nm,1.0s							
TBLG	**Delisi**	**58.38**	**320**	*e*P		**P**	**15 04 24.6**	**-0.2**
TBLG				pmax	pmax			
	comp=Z,42nm,1.0s							
GROC	**Groznyy**	**58.49**	**322**	*e*P		**P**	**15 04 25.5**	**0.0**
GROC				*e*			15 05 15.4	
GROC				pmax	pmax			
	comp=Z,105nm,1.3s							
KLR	**Kul'dur**	**58.79**	**30**	P		**P**	**15 04 26.9**	**-0.5**
	comp=Z,1.2nm,1.1s,baz=269,slow=8.8,SNR=10							
KLR	**Kul'dur**	**58.79**	**30**	*e*P		**P**	**15 04 27.2**	**-0.2**
BOD	**Bodaibo**	**59.12**	**14**	*e*P		**P**	**15 04 28.8**	**-0.8**
BOD				pmax	pmax			
	comp=Z,85nm,1.5s							
ZEI	**Tsey**	**59.46**	**321**	*e*P		**P**	**15 04 29.3**	**-3.2**
ZEI				pmax	pmax			
	comp=Z,14nm,1.1s							
ZEA	**Zeya**	**59.95**	**23**	*e*P		**P**	**15 04 36.1**	**+0.7**
ZEA				pmax	pmax			
	comp=Z,35nm,1.0s							
NCK	**Nalchik**	**60.01**	**321**	*e*P		**P**	**15 04 36.1**	**+0.1**
NCK				pmax	pmax			
	comp=Z,13nm,1.1s							
ASF	**Jabal al Asfar**	**60.05**	**307**	LR		LR	15 31 12.5	
	comp=Z,1μm,19.6s,baz=40,slow=37							
NEY	**Neytrino**	**60.44**	**321**	*e*P		**P**	**15 04 38.3**	**-0.9**
NEY				pmax	pmax			
	comp=Z,3.0nm,0.9s							
KBZ	**Khabaz**	**60.56**	**321**	P		**P**	**15 04 39.8**	**+0.1**
	comp=Z,9.8nm,1.0s,baz=120,slow=4.3,SNR=15							
SVE	**Sverdlovsk**	**60.77**	**341**⇓	*e*P		**P**	**15 04 40.2**	**-0.7**
SVE				pmax	pmax			
	comp=Z,58nm,1.5s							
KIV	**Kislovodsk**	**60.81**	**321**	*e*P		**P**	**15 04 40.0**	**-1.6**
	comp=Z,73nm,1.1s							
KIV	**Kislovodsk**	**60.81**	**321**	P		**P**	**15 04 42.7**	**+1.1**
	SNR=21							
KIV	**Kislovodsk**	**60.81**	**321**	P		**P**	**15 04 42.7**	**+1.1**
	SNR=21							
KIV	**Kislovodsk**	**60.81**	**321**	*i* P		**P**	**15 04 42.6**	**+1.0**
	SNR=14							
KIV	**Kislovodsk**	**60.81**	**321**	*e*P		**P**	**15 04 41.6**	**0.0**
KIV				pmax	pmax			
	comp=Z,67nm,1.1s							
GOF	**Gofitskoye**	**61.15**	**323**⇑	*e*P		**P**	**15 04 45.5**	**+1.7**
GOF				pmax	pmax			
	comp=Z,64nm,1.4s							
ARU	**Arti**	**61.15**	**340**	*e*P		**P**	**15 04 42.2**	**-1.4**
	comp=Z,38nm,1.3s							
ARU	**Arti**	**61.15**	**340**	*d* iP		**P**	**15 04 42.1**	**-1.4**
ARU				S		**S**	**15 12 58.4**	**-4.0**
ARU				pmax	pmax			
	comp=Z,23nm,1.7s							
CLNS	**Chul'man**	**61.45**	**20**	*e*P		**P**	**15 04 48.6**	**+3.0**
CLNS				pmax	pmax			
	comp=Z,47nm,1.0s							
CLNS				pmax	pmax			
	comp=E,23nm,1.1s							
CLNS				pmax	pmax			
	comp=N,29nm,1.2s							
GRNR	**Gornyy**	**62.09**	**30**	*i* P		**P**	**15 04 51.0**	**+1.0**
YSS	**Yuzh-Sakhalins**	**63.47**	**37**	*e*P		**P**	**15 05 00.6**	**+1.3**
YSS				pmax	pmax			
	comp=Z,21nm,1.2s							
BRTR	**Keskin Array B**	**65.12**	**314**	P		**P**	**15 05 10.1**	**-0.4**
	comp=Z,4.1nm,0.9s,baz=149,slow=12,SNR=7.2							
VRH	**Novokhopyorsk**	**65.13**	**328**	*e*P		**P**	**15 05 10.3**	**+0.3**
VRH				pmax	pmax			
	comp=Z,10.0nm,0.7s							
TYV	**Tymovskoe**	**65.41**	**33**	*e*P		P	15 05 17.1	+5.2
TYV				pmax	pmax			
	comp=Z,16nm,1.4s							
ANTO	**Ankara**	**65.78**	**314**	P		**P**	**15 05 14.7**	**+0.1**
	comp=Z,386nm,1.0s							
ANTO	**Ankara**	**65.78**	**314**	P		**P**	**15 05 14.7**	**+0.1**
ANTO				pmax	pmax			
	comp=Z,386nm,1.0s							
VSR	**Storozhevoye**	**66.52**	**327**	*e*P		**P**	**15 05 18.8**	**-0.2**
VSR				pmax	pmax			
	comp=Z,10.0nm,1.0s							
SIM	**Simferopol'**	**66.74**	**319**	*e*P		**P**	**15 05 21.3**	**+0.7**
SIM				pmax	pmax			
	comp=Z,19nm,1.0s							
YAK	**Yakutsk**	**67.01**	**18**	*e*P		**P**	**15 05 20.7**	**-1.2**
	comp=Z,139nm,1.2s							
YAK	**Yakutsk**	**67.01**	**18**	*e*P		P	15 05 26.7	+4.8
YAK				pmax	pmax			
	comp=Z,86nm,1.1s							
YAK				pmax	pmax			
	comp=N,24nm,1.1s							
YAK				pmax	pmax			
	comp=E,38nm,1.3s							
LPSR	**Galich'ya Gora**	**67.34**	**328**	*e*P		**P**	**15 05 22.6**	**-1.6**
LPSR				pmax	pmax			
	comp=Z,8.0nm,0.6s							
HNR	**Honiara**	**68.71**	**101**	*e*P		**P**	**15 05 30.6**	**-2.9**
	comp=Z,129nm,0.9s							
HNR	**Honiara**	**68.71**	**101**	*e*P		**P**	**15 05 30.6**	**-2.9**
HNR				pmax	pmax			
	comp=Z,129nm,0.9s							
LBTB	**Lobatse**	**69.05**	**243**	*e*P		**P**	**15 05 34.8**	**-0.8**
	comp=Z,34nm,1.4s							
LBTB	**Lobatse**	**69.05**	**243**	*e*P		**P**	**15 05 34.8**	**-0.8**
LBTB				pmax	pmax			
	comp=Z,34nm,1.4s							
MOS	**Moscow**	**69.58**	**331**	*e*P		**P**	**15 05 38.6**	**+0.4**
MOS				pmax	pmax			
	comp=Z,153nm,1.3s							
OBN	**Obninsk**	**69.80**	**330**	*ce*P		**P**	**15 05 38.6**	**-0.9**
OBN				*e*			15 05 45.6	
OBN				*e*			15 06 01.2	
OBN				*e*			15 08 17.7	
OBN				pmax	pmax			
	comp=Z,129nm,2.5s							
BOSA	**Boshof**	**70.11**	**239**	P		**P**	**15 05 42.6**	**+0.4**
	comp=Z,3.8nm,0.7s,baz=82,slow=7.0,SNR=6.2							
TIRR	**Tirgusor**	**70.37**	**317**⇑	*i* P		**P**	**15 05 41.7**	**-1.5**
TLB	**Topalu**	**70.66**	**317**⇓	*i* P		**P**	**15 05 45.7**	**+0.7**
KIS	**Kishinev**	**70.93**	**320**	*e*P		**P**	**15 05 45.0**	**-1.6**
KIS	**Kishinev**	**70.93**	**320**	*e*P		**P**	**15 05 45.0**	**-1.6**
KIS				*e*			15 05 54.0	
KLMR	**Klimovskoe**	**71.44**	**336**	*e*P		**P**	**15 05 45.5**	**-4.0**
KLMR				AMP			15 05 58.1	
	comp=Z,37nm,1.4s							
KLMR				*e*PP		**PP**	**15 08 21.3**	**-6.7**
KLMR	**Klimovskoe**	**71.44**	**336**	*e*P		**P**	**15 05 45.4**	**-4.0**
KLMR				pmax	pmax			
	comp=Z,37nm,1.4s							
MAW	**Mawson**	**71.59**	**191**	P		**P**	**15 05 51.4**	**+1.2**
	comp=Z,3.5nm,0.9s,baz=38,slow=11,SNR=2.9							
SORM	**Soroca**	**71.61**	**321**⇑	*i* P		**P**	**15 05 50.5**	**-0.2**
VRI	**Vrincioaia**	**71.94**	**318**⇑	*i* P		**P**	**15 05 53.3**	**+0.5**
AKASG	**Malin Array Be**	**71.96**	**324**	P		**P**	**15 05 52.2**	**-0.6**
	comp=Z,0.5nm,0.3s,baz=91,slow=4.7,SNR=11							
KIEV	**Kiev**	**71.97**	**324**	*e*P		**P**	**15 05 51.3**	**-1.5**
	comp=Z,24nm,1.3s							
KIEV	**Kiev**	**71.97**	**324**	*e*P		**P**	**15 05 53.1**	**+0.3**
KIEV				pmax	pmax			
	comp=Z,5.0nm,1.1s							
AK11	**Malin Array Si**	**71.99**	**324**	*e*P		**P**	**15 05 51.0**	**-2.0**
MLR	**Muntele Rosu**	**72.35**	**318**	P		**P**	**15 05 56.0**	**+0.7**
	comp=Z,2.8nm,0.7s,baz=42,slow=3.8,SNR=17							
MLR	**Muntele Rosu**	**72.35**	**318**⇑	*i* P		**P**	**15 05 55.9**	**+0.5**
MLR	**Muntele Rosu**	**72.35**	**318**	*e*P		**P**	**15 05 55.4**	**0.0**
	comp=Z,109nm,1.2s							
MLR	**Muntele Rosu**	**72.35**	**318**	*e*P		**P**	**15 05 55.4**	**0.0**
MLR				pmax	pmax			
	comp=Z,109nm,1.2s							
BURAR	**Bucovina Array**	**73.45**	**320**⇑	*i* P		**P**	**15 06 03.0**	**+1.2**
BUR04	**Bucovina Ar. S**	**73.45**	**320**	*e*P		**P**	**15 06 01.8**	**0.0**
BUR08	**Bucovina Ar. S**	**73.47**	**320**	*e*P		**P**	**15 06 00.8**	**-1.1**
VTS	**Vitosha**	**73.48**	**314**⇑	*i* P		**P**	**15 06 00.9**	**-1.3**
VTS	**Vitosha**	**73.48**	**314**	*e*P		**P**	**15 06 00.6**	**-1.6**
	comp=Z,19nm,1.1s							
VTS	**Vitosha**	**73.48**	**314**	*e*P		**P**	**15 06 00.6**	**-1.6**
VTS				pmax	pmax			
	comp=Z,19nm,1.1s							
MA2	**Magadan**	**73.72**	**27**	P		**P**	**15 06 02.0**	**-1.0**
	comp=Z,2.4nm,0.6s,baz=199,slow=7.2,SNR=2.2							
TMCR	**Tamitsa**	**73.84**	**338**	*e*P		**P**	**15 06 04.6**	**+1.0**
TMCR				pmax	pmax			
	comp=Z,51nm,1.4s							
TIXI	**Tiksi**	**74.17**	**11**	*e*P		**P**	**15 06 03.5**	**-1.9**
TIXI				pmax	pmax			
	comp=Z,8.0nm,0.8s							
HERR	**Herculane**	**74.59**	**316**⇑	*i* P		**P**	**15 06 08.7**	**+0.3**
LVV	**L'vov**	**74.83**	**322**	*e*P		**P**	**15 06 11.7**	**+2.0**
NACGM	**Naroch**	**74.84**	**327**	*e*		**P**	**15 06 10.0**	**+0.4**
DRGR		**74.87**	**318**⇓	*i* P		**P**	**15 06 10.7**	**+0.6**
IDID	**Didziasalis**	**75.00**	**328**	*e*P		**P**	**15 06 11.5**	**+0.9**
IDID				IAmb	IAmb		15 06 20.1	
	comp=Z,19nm,1.2s							
PET	**Petropavlovsk**	**75.28**	**35**	*e*P		**P**	**15 06 14.9**	**+2.7**
PET				pmax	pmax			
	comp=Z,21nm,1.3s							
IIGN	**Ignalina**	**75.29**	**327**	*e*P		**P**	**15 06 13.1**	**+0.9**
IIGN				IAmb	IAmb		15 06 21.9	
	comp=Z,36nm,1.6s							
KWP	**Kalwaria Pacla**	**75.61**	**321**	*e*P		**P**	**15 06 16.9**	**+2.7**
KWP	**Kalwaria Pacla**	**75.61**	**321**	*e*P		**P**	**15 06 16.9**	**+2.7**
UZH	**Uzhgorod**	**75.61**	**320**	*e*P		P	15 06 22.6	+8.4
UZH				*e*			15 06 30.2	
SEY	**Seymchan**	**75.92**	**24**	*e*P		**P**	**15 06 16.1**	**+0.4**
CRVS	**Cervenica-Dubn**	**76.21**	**320**	*e*P		**P**	**15 06 22.1**	**+4.4**
CRVS	**Cervenica-Dubn**	**76.21**	**320**	*e*		**P**	**15 06 22.0**	**+4.4**
STHS	**Stebnicka Huta**	**76.47**	**321**	*e*P		**P**	**15 06 20.3**	**+1.1**
STHS				*e*			15 06 28.2	
STHS	**Stebnicka Huta**	**76.47**	**321**	*e*P		**P**	**15 06 20.3**	**+1.1**
STHS				*e*			15 06 28.2	
STHS				pmax	pmax			
	comp=Z,15nm,1.2s							
NIE	**Niedzica**	**77.07**	**321**	*e*P		**P**	**15 06 23.1**	**+0.5**
NIE	**Niedzica**	**77.07**	**321**	*e*P		**P**	**15 06 23.1**	**+0.5**
FINES	**FINESS Array B**	**77.50**	**333**	P		**P**	**15 06 24.7**	**+0.1**
	comp=Z,2.1nm,0.7s,baz=97,slow=6.0,SNR=5.0							
VYHS	**Vyhne**	**77.81**	**319**	*e*P		**P**	**15 06 27.8**	**+1.1**
VYHS				*e*			15 06 34.6	
VYHS	**Vyhne**	**77.81**	**319**	*e*P		**P**	**15 06 27.8**	**+1.1**
VYHS				*e*			15 06 34.6	
VYHS				pmax	pmax			
	comp=Z,29nm,1.5s							
SYO	**Syowa Base**	**78.40**	**197**⇑	*e*P		**P**	**15 06 30.0**	**+0.5**
MODS	**Modra-Piesok**	**78.80**	**319**	*e*P		**P**	**15 06 33.2**	**+1.0**
MODS				*e*			15 06 41.4	
MODS	**Modra-Piesok**	**78.80**	**319**	*e*P		**P**	**15 06 33.2**	**+1.0**
MODS				*e*			15 06 41.4	
MORC	**Moravsky Berou**	**78.90**	**321**	*e*P		**P**	**15 06 32.1**	**-0.7**
	comp=Z,183nm,1.5s							
MORC	**Moravsky Berou**	**78.90**	**321**	*e*P		**P**	**15 06 32.1**	**-0.7**
MORC				pmax	pmax			
	comp=Z,183nm,1.5s							
KRLC	**Kraliky**	**79.44**	**321**	*e*P		**P**	**15 06 37.4**	**+1.7**
KRLC				*e*PCP		**PcP**	**15 06 44.9**	**+1.2**
KRLC	**Kraliky**	**79.44**	**321**	*e*P		**P**	**15 06 37.4**	**+1.7**
KRLC				*e*			15 06 44.9	
CONA	**Conrad Observa**	**79.66**	**318**	*i* P		**P**	**15 06 37.7**	**+0.7**
	comp=Z,5.4nm,1.2s							
CONA				*i* PcP		**PcP**	**15 06 45.3**	**+0.5**
	comp=Z,11nm,1.1s							
ARSA	**Arzberg**	**79.77**	**318**	*i* pP		**P**	**15 06 39.1**	**+1.5**
	comp=Z,12nm,1.1s,SNR=6.2							
ARSA				*i* PcP		**PcP**	**15 06 46.6**	**+1.4**
	comp=Z,48nm,1.1s							
DPC	**Dobruska-Polom**	**79.78**	**321**	*e*P		**P**	**15 06 38.9**	**+1.3**
DPC				*e*PCP		**PcP**	**15 06 47.1**	**+1.9**
DPC				*ex*		x	15 06 54.0	
DPC	**Dobruska-Polom**	**79.78**	**321**	*e*P		**P**	**15 06 38.9**	**+1.3**
DPC				*e*			15 06 47.1	
DPC				*e*			15 06 54.0	
SOKA	**Soboth**	**80.01**	**317**	*i* P		**P**	**15 06 39.5**	**+0.6**
	comp=Z,7.4nm,0.9s							
SOKA				*i* PcP		**PcP**	**15 06 47.7**	**+1.4**
	comp=Z,39nm,1.3s,SNR=6.2							
OBKA	**Obir**	**80.32**	**317**	*i* PcP		**PcP**	**15 06 49.3**	**+1.6**
	comp=Z,28nm,1.5s							
ARCES	**ARCESS Array B**	**80.70**	**341**	P		**P**	**15 06 41.5**	**-0.6**
	comp=Z,2.4nm,0.7s,baz=155,slow=32,SNR=4.2							
MOA	**Molln**	**80.70**	**318**	*i* P		**P**	**15 06 42.4**	**-0.2**
	comp=Z,4.0nm,1.0s							
MOA				*i* PcP		**PcP**	**15 06 51.7**	**+2.4**
	comp=Z,18nm,1.6s							
MYKA	**Terra Mystica**	**80.95**	**317**	*i* PcP		**PcP**	**15 06 51.0**	**+0.6**
	comp=Z,55nm,1.9s							
KBA	**Koelnbreinsper**	**81.22**	**317**	*i* P		**P**	**15 06 42.4**	**-3.1**
	comp=Z,5.7nm,1.1s							
KBA				*i* PcP		**sP**	**15 06 54.3**	**+2.4**
	comp=Z,21nm,1.2s							
GEA0	**GERESS Array S**	**81.22**	**319**	*e*P		**P**	**15 06 45.0**	**-0.4**
GEC2	**GERESS Array S**	**81.22**	**319**	*e*P		**P**	**15 06 45.1**	**-0.3**
	comp=Z,95nm,1.2s							
GEC2	**GERESS Array S**	**81.22**	**319**	*e*P		**P**	**15 06 45.1**	**-0.3**
GEC2				pmax	pmax			
	comp=Z,95nm,1.2s							
GERES	**GERESS Array B**	**81.22**	**319**	P		**P**	**15 06 46.0**	**+0.6**
	comp=Z,12nm,1.0s,baz=107,slow=4.6,SNR=32							
KHC	**Kasperske Hory**	**81.34**	**319**	*e*P		**P**	**15 06 47.8**	**+1.9**
KHC				*ex*		x	15 06 55.4	
KHC	**Kasperske Hory**	**81.34**	**319**	P		**P**	**15 06 46.9**	**+0.9**
	comp=Z,24nm,1.5s							
KHC	**Kasperske Hory**	**81.34**	**319**	*e*P		**P**	**15 06 47.8**	**+1.9**
KHC				*e*			15 06 55.4	
CLL	**Collm**	**82.02**	**322**	*i* P		**P**	**15 06 49.6**	**+0.2**
	comp=Z,9.0nm,1.1s							
CLL				*i*			15 06 57.6	
	comp=Z,33nm,1.5s							
CLL	**Collm**	**82.02**	**322**	*i* P		**P**	**15 06 49.6**	**+0.2**
CLL				*i*			15 06 57.6	
CLL				pmax	pmax			
	comp=Z,9.0nm,1.1s							
WTTA	**Wattenberg**	**82.39**	**317**	*i* P		**P**	**15 06 50.0**	**-1.7**
	comp=Z,6.8nm,1.0s							
WTTA				*i* PcP		**sP**	**15 07 00.0**	**+1.9**
	comp=Z,40nm,1.2s,SNR=5.6							
WATA	**Walderalm**	**82.44**	**317**	*i* P		**P**	**15 06 52.4**	**+0.5**
	comp=Z,2.5nm,0.5s							
MOTA	**Moosalm**	**82.76**	**317**	*i* P		**P**	**15 06 54.3**	**+0.7**
	comp=Z,11nm,1.0s							
FETA	**Feichten**	**82.98**	**317**	*i* pP		**P**	**15 06 55.9**	**+1.1**
	comp=Z,7.6nm,1.2s							
FETA				*i* PcP		**sP**	**15 07 03.5**	**+2.3**
	comp=Z,42nm,1.3s,SNR=7.0							
RETA	**Reutte**	**83.01**	**318**	*i* P		**P**	**15 06 55.2**	**+0.4**
	comp=Z,20nm,1.3s							
RETA				*i* PcP		**sP**	**15 07 03.0**	**+1.8**
	comp=Z,56nm,1.3s,SNR=5.3							
BILL	**Bilibino**	**83.10**	**21**⇓	*e*P		**P**	**15 06 58.9**	**+4.2**
BILL				*e*			15 10 03.8	
BILL				pmax	pmax			
	comp=Z,23nm,1.7s							
KEST	**Kesra**	**83.12**	**306**	P		**P**	**15 06 57.0**	**+1.4**
	comp=Z,6.3nm,1.0s,baz=104,slow=4.2,SNR=3.1							
DAVA	**Damuels**	**83.59**	**317**	*i* P		**P**	**15 06 58.6**	**+0.8**
	comp=Z,31nm,1.4s							
DAVA				*i* PcP		**sP**	**15 07 07.0**	**+2.6**
	comp=Z,123nm,1.6s,SNR=7.3							
TUE	**Stuetta**	**83.88**	**316**	*e*P		**P**	**15 06 58.9**	**-0.6**
	comp=Z,52nm,1.3s							
TAM	**Tamanrasset**	**86.06**	**293**	*e*P		**P**	**15 07 10.2**	**-0.6**
	comp=Z,14nm,1.1s							
TAM	**Tamanrasset**	**86.06**	**293**	*e*P		**P**	**15 07 10.2**	**-0.6**
TAM				pmax	pmax			
	comp=Z,14nm,1.1s							
TORD	**Torodi Ar. Bea**	**89.79**	**283**	P		**P**	**15 07 29.3**	**+0.6**
	comp=Z,0.9nm,0.8s,baz=72,slow=4.8,SNR=4.3							
GAMB	**Gambell**	**91.80**	**26**	*e*P		**P**	**15 07 37.8**	**+0.9**
	comp=Z,21nm,1.6s							
ESDC	**Sonseca Array**	**93.64**	**310**	P		**P**	**15 07 46.9**	**+0.8**
	comp=Z,0.2nm,0.3s,baz=43,slow=3.4,SNR=3.5							
TOLK	**Toolik Lake Re**	**98.97**	**19**	P		**P**	**15 08 08.9**	**-0.7**
	baz=297							
M02C	**Callahan**	**127.23**	**32**	P		**PKPdf**	**15 13 32.8**	**-1.5**
	baz=314							
O03D	**Paynes Creek**	**128.57**	**33**	P		**PKPdf**	**15 13 35.5**	**-1.4**
	baz=315							
HLID	**Hailey**	**129.61**	**25**	P		**PKPdf**	**15 13 37.1**	**-1.8**
	baz=325							
A33A	**Warroad**	**129.65**	**6**	P		**PKPdf**	**15 13 37.5**	**-1.1**
	baz=351							
PKME	**Peaks-Kenny Pk**	**130.75**	**342**	P		**PKPdf**	**15 13 40.5**	**-0.2**
	baz=25							
EYMN	**Ely**	**130.94**	**3**	P		**PKPdf**	**15 13 40.9**	**-0.1**
	baz=356							
NVAR	**Mina Array Bea**	**131.79**	**32**	PKP		**PKPdf**	**15 13 40.6**	**-2.6**
	comp=Z,0.2nm,0.6s,baz=305,slow=3.2,SNR=2.6							
PDAR	**Pinedale Array**	**132.18**	**21**	PKP		**PKPdf**	**15 13 44.5**	**+0.6**
	comp=Z,0.2nm,0.6s,baz=318,slow=6.6,SNR=2.5							
E44A	**Grand Marais A**	**132.31**	**358**	P		**PKPdf**	**15 13 42.5**	**-1.2**
	baz=2.9							
E43A	**Lone Tree Farm**	**132.58**	**359**	P		**PKPdf**	**15 13 43.5**	**-0.7**
	baz=1.5							
LONY	**Lake Ozonia**	**132.76**	**347**	P		**PKPdf**	**15 13 44.1**	**-0.5**
	baz=18							
F36A	**Milaca**	**132.88**	**5**	P		**PKPdf**	**15 13 44.2**	**-0.6**
	baz=353							
F41A	**Three Lakes**	**133.23**	**1**	P		**PKPdf**	**15 13 45.4**	**-0.1**
	baz=359							
PKM	**Mcpherson Peak**	**133.48**	**36**	P		**PKPdf**	**15 13 45.8**	**-0.7**
	baz=314							
G40A	**Rib Lake**	**133.67**	**2**	P		**PKPdf**	**15 13 45.9**	**-0.4**
	baz=357							
G42A	**Mountain**	**133.73**	**0**	P		**PKPdf**	**15 13 44.8**	**-1.6**
	baz=360							
H40A	**Chili**	**134.31**	**2**	P		**PKPdf**	**15 13 45.4**	**-2.1**
	baz=357							
EDW2	**Edwards Air Fo**	**134.54**	**35**	P		**PKPdf**	**15 13 47.1**	**-1.3**
	baz=316							
L40A	**Anamosa**	**136.82**	**3**	P		**PKPdf**	**15 13 51.7**	**-0.6**
	baz=356							
Q24A	**Divide**	**137.09**	**19**	P		**PKPdf**	**15 13 53.6**	**+0.3**
	baz=335							
SWSC	**Sam W. Stewart**	**137.20**	**35**	P		**PKPdf**	**15 13 53.3**	**+0.1**
	baz=317							
IKP	**In-Ko-Pah, Jac**	**137.24**	**36**	P		**PKPdf**	**15 13 53.6**	**+0.1**
	baz=316							
Q45A	**Warren Harvey,**	**140.07**	**360**	P		**PKPdf**	**15 13 59.2**	**+0.8**
	baz=360							
ANMO	**Albuquerque**	**140.17**	**24**	P		**PKPdf**	**15 13 59.0**	**+0.1**
	baz=331							
S39A	**Bolivar**	**140.99**	**6**	P		**PKPdf**	**15 14 00.5**	**+0.4**
	baz=352							
T40A	**Mansfield**	**141.61**	**6**	P		**PKPdf**	**15 14 02.2**	**+1.1**
	baz=353							
T41A	**Mountain View**	**141.78**	**5**	P		**PKPdf**	**15 14 02.9**	**+1.4**
	baz=354							
MSTX	**Muleshoe**	**142.41**	**20**	P		**PKPdf**	**15 14 04.9**	**+2.0**
	baz=336							
WVT	**Waverly**	**142.83**	**359**	P		**PKPdf**	**15 14 05.4**	**+2.1**
	baz=0.4							
WMOK	**Wichita Mounta**	**142.88**	**14**	P		**PKPdf**	**15 14 05.8**	**+2.3**
	baz=342							
MNTX	**Cornudas Mount**	**143.44**	**25**	P		**PKPdf**	**15 14 06.3**	**+1.7**
	baz=330							
X39A	**Fountain Ranch**	**144.02**	**8**	P		**PKPdf**	**15 14 09.7**	**+4.2**
	baz=350,SNR=7.5							
MIAR	**Mount Ida**	**144.06**	**8**	P		**PKPdf**	**15 14 09.3**	**+3.7**
	baz=351,SNR=7.1							
MIAR	**Mount Ida**	**144.06**	**8**	*e*PKPdf		PKPbc	15 14 04.1	+0.7
MIAR	**Mount Ida**	**144.06**	**8**	*e*PKIKP		PKPbc	15 14 04.1	+0.7
X40A	**Basin Creek Fa**	**144.21**	**7**	P		**PKPdf**	**15 14 09.5**	**+3.7**
	baz=352							
X49A	**Woodville**	**144.40**	**357**	P		**PKPdf**	**15 14 09.0**	**+2.9**
	baz=3.0							
OXF	**Oxford**	**144.43**	**2**	P		**PKPdf**	**15 14 09.4**	**+3.2**
	baz=358							
Y40A	**Okkolona**	**144.63**	**7**	P		**PKPdf**	**15 14 10.4**	**+3.9**
	baz=351							
ABTX	**Abilene, Hawle**	**144.65**	**17**	P		**PKPdf**	**15 14 11.0**	**+4.3**
	baz=340							
Y42A	**Garnett, Star**	**144.96**	**5**	P		**PKPdf**	**15 14 10.9**	**+3.7**
	baz=354							
Y50A	**Piedmont**	**144.99**	**356**	P		**PKPdf**	**15 14 11.0**	**+3.8**
	baz=4.1							
Y48A	**Jasper**	**145.03**	**358**	P		**PKPdf**	**15 14 10.8**	**+3.5**
	baz=1.6							
Y47A	**UCPARC, Winfie**	**145.05**	**359**	P		**PKPdf**	**15 14 11.9**	**+4.6**
	baz=0.4,SNR=6.8							
Y49A	**Blount Mountai**	**145.06**	**357**	P		**PKPdf**	**15 14 12.2**	**+4.9**
	baz=2.9							
Y46A	**Houston**	**145.07**	**1**	P		**PKPdf**	**15 14 11.9**	**+4.6**
	baz=359							
GOGA	**Godfrey**	**145.25**	**353**	P		**PKPdf**	**15 14 12.6**	**+4.9**
	baz=8.1							
Z41A	**Richland Creek**	**145.43**	**7**	P		**PKPab**	**15 14 13.3**	**+5.3**
	baz=352							
Z42A	**Norrel Spur, H**	**145.50**	**5**	P		**PKPab**	**15 14 13.7**	**+5.4**
	baz=353							
Z48A	**Northport**	**145.57**	**359**	P		**PKPab**	**15 14 12.9**	**+4.4**
	baz=1.0,SNR=5.7							
Z50A	**Ashland**	**145.63**	**357**	P		**PKPab**	**15 14 13.6**	**+4.8**
	baz=3.8							
Z49A	**Columbiana**	**145.72**	**357**	P		**PKPab**	**15 14 14.6**	**+5.5**
	baz=2.8,SNR=8.3							
Z46A	**Louisville**	**145.76**	**1**	P		**PKPab**	**15 14 14.2**	**+5.0**
	baz=358							
Z47A	**Carrollton**	**145.76**	**360**	P		**PKPab**	**15 14 14.2**	**+5.0**
	baz=0.1							
WHTX	**Lake Whitney,**	**145.82**	**14**	P		**PKPab**	**15 14 14.4**	**+4.9**
	baz=343							
155A	**Kite**	**145.89**	**351**	P		**PKPab**	**15 14 15.3**	**+5.6**
	baz=10.0,SNR=8.3							
LRAL	**Lakeview Retre**	**145.90**	**358**	P		**PKPab**	**15 14 15.0**	**+5.2**
	baz=1.9							
140A	**Cam and Jess,**	**145.94**	**8**	P		**PKPab**	**15 14 15.5**	**+5.7**
	baz=350							
154A	**Montrose**	**145.99**	**352**	P		**PKPab**	**15 14 15.8**	**+5.7**
	baz=8.9							
TX31	**Lajitas Ar. Si**

comp=Z,2µm,18.3s,baz=350,slow=40
CHTO **Chiang Mai** 16.94 18 *e*P P **15 01 52.0 +0.9**
H01W3 **Cape Leeuwin H** 42.01 154 T T 15 51 01.4
baz=39,slow=74,SNR=3.0
H01W2 **Cape Leeuwin H** 42.02 154 T T 15 50 59.6
baz=334,slow=74,SNR=2.7
H01W1 **Cape Leeuwin H** 42.03 154 T T 15 50 58.7
MKAR **Makanchi Array** 45.08 349 P P **15 06 09.2 +1.0**
4.0nm,0.5s,baz=170,slow=8.9,SNR=17
KKAR **Karatay Array** 45.24 336 *e*P P **15 06 09.5 +0.1**
WRA **Warramunga Arr** 45.88 121 P P **15 06 15.4 +0.5**
1.7nm,0.9s,baz=301,slow=8.9,SNR=3.6
WRAB **Tennant Creek** 45.88 121 *e*P P **15 06 15.1 +0.2**
1.3nm,0.5s
SONM **Songino Array** 46.39 12 P P **15 06 18.8 +0.2**
1.2nm,0.5s,baz=192,slow=11,SNR=3.4
ASAR **Alice Springs** 47.16 126 P P **15 06 25.3 +0.4**
1.3nm,0.6s,baz=296,slow=7.4,SNR=5.0
GEYT **Alibeck** 47.83 322 P P **15 06 31.2 +1.3**
0.7nm,0.4s,baz=174,slow=7.4,SNR=4.6
KURBB **Kurchatov Arra** 49.49 347 P P **15 06 43.1 +0.7**
2.7nm,0.5s,baz=173,slow=7.4,SNR=8.0
KURK **Kurchatov** 49.56 348 P P **15 06 43.1 +0.2**
ZALV **Zalesovo Beam** 51.67 353 P P **15 06 59.4 +0.6**
4.2nm,0.6s,baz=176,slow=7.2,SNR=6.3
BVAR **Borovoye Array** 53.78 343 P P **15 07 14.2 -0.2**
1.4nm,0.6s,baz=148,slow=8.7,SNR=3.9
ABKAR **Akbulak array** 54.59 334 *e*P P **15 07 19.8 -0.6**
0.9nm,0.6s
GERES **GERESS Array B** 81.36 319 P P **15 10 08.7 -0.3**
1.2nm,0.6s,baz=104,slow=4.3,SNR=6.0
HFS **Hagfors** 82.69 330 P P **15 10 14.2 -1.4**
1.5nm,0.8s,baz=142,slow=7.3,SNR=5.4

IDC 11 15:03:23.9±12.0, 3°33N×91°32E, h0km, mb3.7/4, mb1 3.8/4, mb1mx3.3/72, mbtmp3.7/4, Error ellipse: s-maj=588.3km s-min=30.2km az=59.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MKAR	**Makanchi Array**	**44.00**	**351**	P		P	15 11 33.0	-0.1
	0.7nm,0.7s,baz=161,slow=8.6,SNR=3.8							
KURBB	**Kurchatov Arra**	**48.35**	**349**	P		P	15 12 07.4	+0.2
	0.4nm,0.6s,baz=164,slow=7.5,SNR=3.2							
ASAR	**Alice Springs**	**49.38**	**125**	P		P	15 12 15.7	-0.1
	0.3nm,0.3s,baz=294,slow=7.2,SNR=4.9							
ZALV	**Zalesovo Beam**	**50.74**	**355**	P		P	15 12 25.0	-0.5
	1.1nm,0.4s,baz=179,slow=7.5,SNR=3.4							

*ISCJB **11** 15:03:34.9±0.8, 1°77N±0°09×93°9E±0°1, h10km, mb4.1/11, Error ellipse: s-maj=18.7km s-min=9.4km az=142.5*
*IDC **11** 15:03:35.4±1.4, 1°75N×93°85E, h0km, mb3.9/9, mb1 4.0/10, mb1mx3.6/74, mbtmp3.9/10, ML4.1/1, Error ellipse: s-maj=51.8km s-min=17.4km az=57.0*
*NEIC **11** 15:03:37.4±0.8, 1°84N×94°00E, h10km, mb4.5/1, Error ellipse: s-maj=17.2km s-min=9.6km az=59.0*
ISC 11 15:03:37.1±1.0, 1°8N±0°1×94°0E±0°2, h10km, n18, σ1s03/18, mb4.1/11, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
GSI	**Gunungsitoli**	**3.65**	**98**	*e*Pn		**Pn**	**15 04 33.3**	**-0.4**
KULM	**Kulim**	**7.52**	**62**	*e*Pn		**Pn**	**15 05 24.7**	**-2.3**
IPM	**Ipoh**	**7.54**	**69**	*e*Pn		**Pn**	**15 05 28.5**	**+1.3**
MNAI	**Manna**	**10.88**	**124**	*e*Pn		**Pn**	**15 06 14.1**	**+1.1**
CMAR	**Chiang Mai Arr**	**17.25**	**16**	P		**Pn**	**15 07 38.2**	**-0.1**
	0.3nm,0.3s,baz=214,slow=13,SNR=4.0							
MBWA	**Marble Bar**	**34.02**	**133**	*e*P		**P**	**15 10 21.6**	**+0.2**
	91nm,1.3s							
WRA	**Warramunga Arr**	**45.12**	**121**	P		**P**	**15 11 53.8**	**-0.3**
	2.5nm,0.9s,baz=302,slow=8.9,SNR=7.8							
WRAB	**Tennant Creek**	**45.12**	**121**	*e*P		**P**	**15 11 53.0**	**-1.1**
	5.6nm,1.0s							
MKAR	**Makanchi Array**	**45.95**	**349**	P		**P**	**15 11 59.7**	**-0.6**
	1.3nm,0.7s,baz=166,slow=7.7,SNR=7.4							
ASAR	**Alice Springs**	**46.37**	**126**	P		**P**	**15 12 04.2**	**+0.2**
	1.9nm,0.6s,baz=296,slow=7.8,SNR=17							
SONM	**Songino Array**	**47.09**	**11**	P		**P**	**15 12 09.4**	**0.0**
	0.6nm,0.4s,baz=206,slow=7.6,SNR=2.3							
KSAR	**Wonju Array Be**	**47.23**	**37**	P		**P**	**15 12 11.7**	**+1.2**
KSRS	**Korea Array**	**47.26**	**37**	P		**P**	**15 12 11.6**	**+1.0**
	0.6nm,0.6s,baz=218,slow=7.8,SNR=3.6							
GEYT	**Alibeck**	**48.71**	**322**	P		**P**	**15 12 21.5**	**-0.4**
	1.0nm,0.5s,baz=146,slow=10,SNR=2.8							
KURBB	**Kurchatov Arra**	**50.37**	**347**	P		**P**	**15 12 33.9**	**-0.3**
	0.4nm,0.5s,baz=172,slow=7.3,SNR=3.4							
KURK	**Kurchatov**	**50.43**	**347**	P		**P**	**15 12 33.9**	**-0.9**
ZALV	**Zalesovo Beam**	**52.51**	**353**	P		**P**	**15 12 51.8**	**+1.5**
	0.6nm,0.4s,baz=190,slow=7.3,SNR=2.5							
STKA	**Stephens Creek**	**56.19**	**131**	P		**P**	**15 13 18.1**	**+0.6**
	0.9nm,0.7s,baz=306,slow=14,SNR=3.5							

*BJI **11** 15:06:37.9, 1°30N×92°40E, h10km, mb4.7/18, mB5.2/8, Ms5.0/4, Ms7 4.9/4*
*ISCJB **11** 15:06:38.1±0.3, 1°26N±0°04×92°28E±0°04, h10km, mb4.5/58, MS4.7/2, Error ellipse: s-maj=7.1km s-min=4.9km az=38.7*
*IDC **11** 15:06:38.5±0.4, 1°18N×92°26E, h0km, mb4.3/37, mb1 4.4/38, mb1mx4.3/74, mbtmp4.3/38, Error ellipse: s-maj=14.8km s-min=10.0km az=50.0*
*NEIC **11** 15:06:39.8±0.2, 1°27N×92°31E, h10km, mb5.0/20, Error ellipse: s-maj=7.5km s-min=4.8km az=219.0*
ISC 11 15:06:39.7±0.4, 1°25N±0°06×92°26E±0°06, h10km, n143, σ1s19/150, mb4.6/63, 4C-2D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
GSI	**Gunungsitoli**	**5.31**	**89**	*e*Pn		**Pn**	**15 07 58.6**	**-0.6**
PSI	**Prapat**	**6.83**	**77**	*e*Pn		**Pn**	**15 08 20.4**	**+0.1**
KULM	**Kulim**	**9.29**	**64**	*e*Pn		Pn	15 08 43.9	-10
IPM	**Ipoh**	**9.32**	**70**	*e*Pn		**Pn**	**15 08 51.2**	**-3.1**
PBA	**Port Blair**	**10.35**	**3**	*e*P		Pn	15 09 03.3	-5.1
MDRS	**Chennai**	**16.72**	**315**	*e*P		**Pn**	**15 10 33.7**	**-0.6**
CMAR	**Chiang Mai Arr**	**18.32**	**21**	P		**P**	**15 10 55.2**	**+1.0**
	baz=219,slow=14,SNR=7.1							
VIS	**Vishakhapatnam**	**18.58**	**332**	*e*P		**P**	**15 10 55.9**	**-1.2**
SBUM	**Sibu**	**19.98**	**86**	*e*P		**Pn**	**15 11 14.8**	**+0.5**
	13nm,1.1s							
HYB	**Hyderabad**	**20.98**	**321**	*e*P		**P**	**15 11 21.0**	**-2.3**
GOA	**Goa**	**23.05**	**309**	*e*P		**P**	**15 11 45.0**	**-0.5**
GOA				IAmb		IAmb	15 11 49.7	
BOK	**Bokaro**	**23.25**	**345**	*e*P		**P**	**15 11 48.6**	**+1.1**
BOK				IAmb		IAmb	15 11 51.4	
	comp=Z,41nm,1.3s							
NGP	**Nagpur**	**23.61**	**328**	*e*P		**P**	**15 11 50.4**	**-0.7**
NGP				IAmb		IAmb	15 12 11.8	
	comp=Z,9.1nm,0.5s							
SHL	**Shillong**	**24.18**	**359**	*e*P		**P**	**15 11 55.2**	**-1.4**
POO	**Poona**	**24.93**	**315**	*e*P		**P**	**15 12 02.6**	**-0.8**
BHPL	**Bhopal**	**26.18**	**328**	*e*P		**P**	**15 12 15.6**	**+0.9**
MYLDM	**Lahad Datu**	**26.48**	**81**	*e*P		**P**	**15 12 19.4**	**+2.0**
	comp=Z,33nm,1.1s							
GYA	**Guiyang**	**28.64**	**28**	P		**P**	**15 12 39.0**	**+2.2**
GYA				PP		**PnPn**	**15 13 30.6**	**+3.6**
GYA				PcP		**PcP**	**15 15 49.2**	**+1.4**
GYA				S		**S**	**15 17 25.0**	**-0.7**
GYA				SS		**SnSn**	**15 18 51.5**	**+5.7**
GYA				ScP		**ScP**	**15 19 29.8**	**+0.4**
GYA				pmax		pmax		
	comp=Z,20nm,1.0s							
GYA				pmax		pmax		
	comp=Z,120nm,5.6s							
GYA				LR		LR		
	comp=Z,530nm,18.2s							
CD2	**Chengdu**	**31.45**	**19**	P		**P**	**15 13 00.6**	**-1.0**
CD2				S		**S**	**15 18 09.5**	**-0.1**
CD2				pmax		pmax		
	comp=Z,30nm,0.6s							
DDI	**Dehra Dun**	**31.91**	**336**	*e*P		**P**	**15 13 05.2**	**-0.4**
DDI				IAmb		IAmb	15 13 05.6	
	comp=Z,18nm,0.4s							
SMLA	**Simla**	**32.98**	**336**	*e*P		**P**	**15 13 14.9**	**0.0**
SMLA				IAmb		IAmb	15 13 19.3	
	comp=Z,56nm,2.1s							
BATI	**Baumata**	**33.26**	**111**	P		**P**	**15 13 16.5**	**-1.2**
	comp=Z,12nm,0.7s,baz=37,slow=2.1,SNR=4.2							
DHRM	**DHARAMSHALA**	**34.32**	**336**	*e*P		**P**	**15 13 27.4**	**+0.5**
DHRM				IAmb		IAmb	15 13 36.6	
	comp=Z,7.2nm,0.8s							
FITZ	**Fitzroy Crossi**	**38.05**	**122**	P		**P**	**15 13 58.8**	**+0.1**
	comp=Z,5.7nm,0.7s,baz=292,slow=6.5,SNR=7.8							
GTA	**Gaotai**	**38.60**	**9**	*e*P		**P**	**15 14 00.0**	**-3.3**
GTA				S		**S**	**15 19 59.2**	**-0.5**
GTA				sS		sS	15 20 07.6	+2.8
GTA				pmax		pmax		
	comp=Z,4.0nm,1.3s							
GTA				pmax		pmax		
	comp=Z,2µm,10.5s							
GTA				LR		LR		
	comp=Z,2µm,20.4s							
GTA				LR		LR		
	comp=Z,3µm,20.7s							
GTA				LR		LR		
	comp=Z,5µm,20.6s							
SIJI	**Sorong**	**39.06**	**93**	P		**P**	**15 14 07.2**	**-0.1**
	comp=Z,3.5nm,0.8s,baz=120,slow=22,SNR=3.3							
NJ2	**Nanjing**	**39.59**	**37**	*e*P		**P**	**15 14 09.9**	**-1.6**
NJ2				pmax		pmax		
	comp=Z,14nm,0.5s							
NWAO	**Narrogin (SRO)**	**41.36**	**148**	P		**P**	**15 14 26.5**	**+0.4**
	comp=Z,10nm,1.0s,baz=208,slow=8.9,SNR=3.2							
HHC	**Hu-ho-hao-te**	**43.12**	**22**	*e*P		**P**	**15 14 41.9**	**+1.4**
HHC				pmax		pmax		
	comp=Z,13nm,1.0s							
HHC				pmax		pmax		
	comp=Z,69nm,6.2s							
AAK	**Ala-Archa**	**44.18**	**341**	P		**P**	**15 14 50.0**	**+0.9**
	comp=Z,0.9nm,0.7s,baz=176,slow=5.7,SNR=3.8							
AAK	**Ala-Archa**	**44.18**	**341**	*e*P		**P**	**15 14 51.2**	**+2.1**
	comp=Z,22nm,1.3s							
KK06	**Karatay Array**	**45.98**	**338**	*e*P		**P**	**15 15 03.8**	**+0.6**
KK07	**Karatay Array**	**45.98**	**338**	*e*P		**P**	**15 15 03.3**	**+0.1**
KK02	**Karatay Array**	**45.99**	**338**	*e*P		**P**	**15 15 02.8**	**-0.4**
KK31	**Karatay Array**	**45.99**	**338**	*e*P		**P**	**15 15 04.1**	**+0.8**
KKAR	**Karatay Array**	**45.99**	**338**	*e*P		**P**	**15 15 04.0**	**+0.7**
KK01	**Karatay Array**	**45.99**	**338**	*e*P		**P**	**15 15 02.9**	**-0.4**
KK03	**Karatay Array**	**45.99**	**338**	*e*P		**P**	**15 15 03.6**	**+0.3**
KK05	**Karatay Array**	**45.99**	**338**	*e*P		**P**	**15 15 02.7**	**-0.7**
KK04	**Karatay Array**	**46.00**	**338**	*e*P		**P**	**15 15 01.6**	**-1.7**
MK01	**Makanchi Array**	**46.17**	**351**	*e*P		**P**	**15 15 03.9**	**-0.7**
MKAR	**Makanchi Array**	**46.19**	**351**	P		**P**	**15 15 06.0**	**+1.2**
	comp=Z,2.3nm,0.7s,baz=167,slow=8.3,SNR=13							
MKAR	**Makanchi Array**	**46.19**	**351**	*e*P		**P**	**15 15 04.4**	**-0.4**
	comp=Z,40nm,0.7s							
MK31	**Makanchi Array**	**46.19**	**351**	*e*P		**P**	**15 15 04.4**	**-0.4**
WRA	**Warramunga Arr**	**46.31**	**119**	P		**P**	**15 15 06.2**	**+0.1**
	comp=Z,12nm,0.8s,baz=296,slow=8.6,SNR=42							
WB2	**Warramunga Arr**	**46.32**	**119**	*e*P		**P**	**15 15 06.0**	**-0.2**
	comp=Z,15nm,0.8s							
ASAR	**Alice Springs**	**47.43**	**124**	P		**P**	**15 15 14.8**	**-0.1**
	comp=Z,2.4nm,0.8s,baz=300,slow=7.8,SNR=15							
AS01	**Alice Springs**	**47.47**	**124**	*e*P		**P**	**15 15 14.8**	**-0.5**
SONM	**Songino Array**	**48.00**	**13**	P		**P**	**15 15 18.5**	**-0.6**
	comp=Z,4.2nm,0.9s,baz=189,slow=8.9,SNR=11							
SONA1	**Songino Array**	**48.01**	**13**	*e*P		**P**	**15 15 16.4**	**-2.7**
GYB1	**ALIBECK ARRAY**	**48.11**	**323**	*e*P		**P**	**15 15 18.4**	**-1.6**
	comp=Z,11nm,0.8s							
GYA1	**ALIBECK ARRAY**	**48.12**	**323**	*e*P		**P**	**15 15 19.2**	**-0.8**
	comp=Z,12nm,0.8s							
GYB2	**ALIBECK ARRAY**	**48.12**	**323**	*e*P		**P**	**15 15 19.6**	**-0.5**
	comp=Z,13nm,0.8s							
GYB5	**ALIBECK ARRAY**	**48.12**	**323**	*e*P		**P**	**15 15 21.9**	**+1.8**
	comp=Z,11nm,0.8s							
GEYT	**Alibeck**	**48.12**	**323**	P		**P**	**15 15 21.9**	**+1.8**
	comp=Z,3.1nm,0.8s,baz=141,slow=7.3,SNR=7.5							
GYA0	**ALIBECK ARRAY**	**48.12**	**323**	*e*P		**P**	**15 15 20.3**	**+0.2**
	comp=Z,11nm,0.8s							
GYA2	**ALIBECK ARRAY**	**48.13**	**323**	*e*P		**P**	**15 15 20.6**	**+0.5**
	comp=Z,9.6nm,0.7s							
GYB3	**ALIBECK ARRAY**	**48.13**	**323**	*e*P		**P**	**15 15 21.8**	**+1.6**
	comp=Z,9.6nm,0.7s							
GYB4	**ALIBECK ARRAY**	**48.14**	**323**	*e*P		**P**	**15 15 21.7**	**+1.5**
	comp=Z,9.3nm,0.8s							
OPO	**Ambohidratompo**	**48.48**	**244**	P		**P**	**15 15 23.9**	**+0.6**
	comp=Z,1.9nm,0.6s,baz=282,slow=11,SNR=3.0							
KSAR	**Wonju Array Be**	**48.70**	**38**	P		**P**	**15 15 24.8**	**+0.3**
KSRS	**Korea Array**	**48.74**	**38**	P		**P**	**15 15 24.8**	**+0.1**
	comp=Z,2.0nm,0.9s,baz=211,slow=10,SNR=5.0							
KURBB	**Kurchatov Arra**	**50.36**	**349**	P		**P**	**15 15 39.1**	**+0.8**
	comp=Z,2.8nm,0.7s,baz=171,slow=7.3,SNR=25							
KURK	**Kurchatov**	**50.63**	**349**	*e*P		**P**	**15 15 38.6**	**-0.3**
	comp=Z,12nm,1.0s							
ZAA0	**Zalesovo Array**	**52.89**	**354**	*e*P		**P**	**15 15 55.0**	**-0.7**
	comp=Z,9.5nm,0.9s							
ZALV	**Zalesovo Beam**	**52.89**	**354**	P		**P**	**15 15 56.5**	**+0.8**
	comp=Z,3.4nm,0.6s,baz=185,slow=7.0,SNR=13							
ZALV				PP		**PP**	**15 17 53.6**	**-1.7**
	comp=Z,3.5nm,0.6s,baz=179,slow=7.6,SNR=4.0							
ZALV	**Zalesovo Beam**	**52.89**	**354**	*e*P		**P**	**15 15 55.0**	**-0.7**
ZALV				PP		**PP**	**15 17 53.6**	**-1.7**
BVAR	**Borovoye Array**	**54.72**	**344**	P		**P**	**15 16 09.8**	**+0.7**
	comp=Z,3.3nm,1.0s,baz=131,slow=6.3,SNR=8.9							
KMBO	**Kilima Mbogo**	**55.06**	**268**	P		**P**	**15 16 12.9**	**+0.2**
	comp=Z,0.6nm,0.5s,baz=66,slow=12,SNR=3.2							
AB07	**Akbulak array**	**55.24**	**335**	*e*P		**P**	**15 16 12.4**	**-0.6**
AB06	**Akbulak array**	**55.25**	**335**	*e*P		**P**	**15 16 12.4**	**-0.7**
AB08	**Akbulak array**	**55.25**	**335**	*e*P		**P**	**15 16 12.8**	**-0.3**
AB03	**Akbulak array**	**55.26**	**335**	*e*P		**P**	**15 16 12.9**	**-0.2**
AB01	**Akbulak array**	**55.26**	**335**	*e*P		**P**	**15 16 12.8**	**-0.3**
AB31	**Akbulak array**	**55.26**	**335**	*e*P		**P**	**15 16 13.1**	**0.0**
ABKAR	**Akbulak array**	**55.26**	**335**	*e*P		**P**	**15 16 13.1**	**0.0**
	comp=Z,46nm,0.6s							
AB02	**Akbulak array**	**55.26**	**335**	*e*P		**P**	**15 16 13.1**	**-0.1**
AB04	**Akbulak array**	**55.26**	**335**	*e*P		**P**	**15 16 13.1**	**0.0**
AB05	**Akbulak array**	**55.27**	**335**	*e*P		**P**	**15 16 12.7**	**-0.5**
AB09	**Akbulak array**	**55.27**	**335**	*e*P		**P**	**15 16 12.9**	**-0.3**
USRK	**Ussuriysk Ar.**	**55.38**	**34**	P		**P**	**15 16 15.0**	**+0.9**
	comp=Z,0.8nm,0.7s,baz=236,slow=10,SNR=3.1							
CTA	**Charters Tower**	**56.97**	**115**	P		**P**	**15 16 26.6**	**+0.6**
	comp=Z,3.1nm,0.6s,baz=284,slow=18,SNR=3.0							
STKA	**Stephens Creek**	**57.12**	**130**	P		**P**	**15 16 27.1**	**+0.3**
	comp=Z,2.4nm,0.6s,baz=303,slow=12,SNR=9.2							
KLR	**Kul'dur**	**58.52**	**29**	P		**P**	**15 16 38.5**	**+2.2**
	comp=Z,0.2nm,0.9s,baz=253,slow=9.2,SNR=7.7							
ASF	**Jabal al Asfar**	**60.44**	**307**	P		**P**	**15 16 51.5**	**+1.5**
	comp=Z,1.3nm,0.5s,baz=58,slow=10,SNR=2.3							
KBZ	**Khabaz**	**60.87**	**321**	P		**P**	**15 16 53.8**	**+1.3**
	comp=Z,6.8nm,0.9s,baz=166,slow=6.2,SNR=16							
KVAR	**Kislovodsk Arr**	**61.10**	**321**	P		**P**	**15 16 55.5**	**+1.2**
	comp=Z,13nm,0.9s,baz=281,slow=3.0,SNR=9.0							
ARU	**Arti**	**61.31**	**339**	P		**P**	**15 16 55.6**	**+0.3**
	comp=Z,1.4nm,0.2s,baz=288,slow=6.4,SNR=4.3							
LSZ	**Lusaka**	**65.41**	**253**	P		**P**	**15 17 23.2**	**-0.2**
	comp=Z,2.5nm,0.6s,baz=88,slow=7.1,SNR=5.7							
BRTR	**Keskin Array B**	**65.47**	**314**	P		**P**	**15 17 23.6**	**+0.1**
	comp=Z,2.3nm,0.8s,baz=126,slow=6.3,SNR=8.1							
YAK	**Yakutsk**	**66.83**	**18**	*e*P		**P**	**15 17 30.4**	**-1.1**
BOSA	**Boshof**	**70.55**	**239**	P		**P**	**15 17 55.0**	**-0.5**
	comp=Z,2.2nm,0.6s,baz=90,slow=9.1,SNR=3.2							
MAW	**Mawson**	**71.71**	**191**	P		**P**	**15 18 01.8**	**+0.2**
	comp=Z,2.9nm,0.6s,baz=7.6,slow=1.8,SNR=4.2							
AKASG	**Malin Array Be**	**72.25**	**323**	P		**P**	**15 18 04.9**	**-0.3**
	comp=Z,1.0nm,0.7s,baz=93,slow=4.6,SNR=6.6							
VRI	**Vrincioaia**	**72.26**	**318**	||*i*P		**P**	**15 18 06.6**	**+1.2**
PLOR	**Plostina**	**72.30**	**318**	||*i*P		**P**	**15 18 07.5**	**+1.8**
TESR	**Tescani**	**72.50**	**319**	||*i*P		**P**	**15 18 07.3**	**+0.5**
MLR	**Muntele Rosu**	**72.67**	**318**	P		**P**	**15 18 08.8**	**+0.7**
	comp=Z,2.7nm,0.9s,baz=115,slow=0.8,SNR=13							
MLR	**Muntele Rosu**	**72.67**	**318**	||*i*P		**P**	**15 18 09.3**	**+1.2**
MLR	**Muntele Rosu**	**72.67**	**318**	*e*P		**P**	**15 18 08.1**	**+0.1**
	comp=Z,18nm,1.0s							
BURAR	**Bucovina Array**	**73.76**	**320**	||*i*P		**P**	**15 18 16.1**	**+1.7**
BUR04	**Bucovina Ar. S**	**73.76**	**320**	*e*P		**P**	**15 18 13.8**	**-0.6**
BUR08	**Bucovina Ar. S**	**73.78**	**320**	*e*P		**P**	**15 18 15.9**	**+1.3**
VTS	**Vitosha**	**73.83**	**314**	*e*P		**P**	**15 18 14.6**	**-0.3**
	comp=Z,5.5nm,0.8s							
TIXI	**Tiksi**	**74.06**	**11**	*e*P		**P**	**15 18 14.8**	**-0.7**
	comp=Z,8.0nm,0.8s							
SEY	**Seymchan**	**75.70**	**24**	P		**P**	**15 18 25.0**	**-0.2**
	comp=Z,1.3nm,1.0s,baz=109,slow=23,SNR=4.2							
STHS	**Stebnicka Huta**	**76.78**	**321**	*e*P		**P**	**15 18 33.3**	**+1.7**
STHS				*e*PCP		**PcP**	**15 18 41.6**	**-1.3**
FINES	**FINESS Array B**	**77.71**	**333**	P		**P**	**15 18 36.6**	**+0.1**
	comp=Z,4.1nm,0.8s,baz=96,slow=12,SNR=9.0							
VYHS	**Vyhne**	**78.12**	**319**	*e*P		**P**	**15 18 39.6**	**+0.4**
VYHS				*e*PCP		**PcP**	**15 18 47.7**	**-1.1**
SYO	**Syowa Base**	**78.56**	**197**	||*e*X		**P**	**15 18 40.0**	**-1.1**
MODS	**Modra-Piesok**	**79.12**	**319**	*e*P		**P**	**15 18 46.2**	**+1.5**
MODS				*e*PCP		**PcP**	**15 18 53.8**	**+0.7**
DPC	**Dobruska-Polom**	**80.09**	**321**	*e*P		**P**	**15 18 52.0**	**+2.1**
DPC				*e*PCP		**PcP**	**15 18 59.7**	**+2.4**
ARCES	**ARCESS Array B**	**80.85**	**341**	P		**P**	**15 18 53.9**	**+0.2**
	comp=Z,4.0nm,0.9s,baz=64,slow=8.4,SNR=5.0							
GEA0	**GERESS Array S**	**81.53**	**319**	*e*P		**P**	**15 18 57.9**	**+0.1**
GEC2	**GERESS Array S**	**81.54**	**319**	*e*P		**P**	**15 18 58.6**	**+0.8**
	comp=Z,17nm,1.3s							
GERES	**GERESS Array B**	**81.54**	**319**	P		**P**	**15 18 58.3**	**+0.5**
	comp=Z,3.0nm,0.8s,baz=100,slow=5.5,SNR=17							
KHC	**Kasperske Hory**	**81.66**	**319**	*e*P		**P**	**15 19 00.1**	**+1.8**
KHC				*e*x		x	15 19 07.5	
KEST	**Kesra**	**83.52**	**306**	P		**P**	**15 19 10.1**	**+1.7**
	comp=Z,5.1nm,0.9s,baz=96,slow=10,SNR=2.3							
NOA	**NORSAR Array B**	**84.57**	**331**	P		**P**	**15 19 13.7**	**+0.5**
	comp=Z,1.0nm,0.9s,baz=96,slow=5.3,SNR=2.5							
VNDA	**Vanda**	**86.86**	**168**	P		**P**	**15 19 23.0**	**-1.2**
	comp=Z,1.8nm,1.1s,baz=290,slow=5.0,SNR=3.3							
QSPA	**South Pole Qui**	**91.19**	**180**	P		**P**	**15 19 45.2**	**+0.2**
	comp=Z,2.6nm,0.6s,baz=316,slow=1.9,SNR=4.7							
NVAR	**Mina Array Bea**	**131.51**	**32**	PKP		**PKPdf**	**15 25 54.5**	**+1.0**
	comp=Z,0.4nm,0.7s,baz=354,slow=2.7,SNR=3.3							
PDAR	**Pinedale Array**	**131.98**	**22**	PKP		**PKPdf**	**15 25 54.7**	**+0.4**
	comp=Z,0.1nm,0.5s,baz=336,slow=2.0,SNR=3.6							
Q24A	**Divide**	**136.90**	**20**	*e*PKPdf		**PKPdf**	**15 26 01.3**	**-2.4**
WMOK	**Wichita Mounta**	**142.74**	**15**	P		PKPpre	15 26 10.2	
	baz=342							
WMOK	**Wichita Mounta**	**142.74**	**15**	*e*PKPpre		PKPpre	15 26 10.2	
MNTX	**Cornudas Mount**	**143.21**	**26**	P		PKPbc	15 26 12.2	+0.4
	baz=330							
X39A	**Fountain Ranch**	**143.93**	**9**	P		PKPbc	15 26 14.7	+0.9
	baz=349							
MIAR	**Mount Ida**	**143.98**	**8**	P		PKPbc	15 26 14.8	+0.9
	baz=350							
Z48A	**Northport**	**145.56**	**360**	P		**PKPdf**	**15 26 18.1**	**-0.8**
	baz=0.2							
Z50A	**Ashland**	**145.64**	**357**	P		**PKPdf**	**15 26 18.8**	**-0.4**
	baz=3.1							
Z49A	**Columbiana**	**145.72**	**358**	P		**PKPbc**	**15 26 19.5**	**-0.1**
	baz=2.0							
Z47A	**Carrollton**	**145.74**	**0**	P		**PKPdf**	**15 26 19.3**	**+0.1**
	baz=359							
LRAL	**Lakeview Retre**	**145.90**	**359**	P		**PKPdf**	**15 26 19.8**	**+0.2**
	baz=1.2							
LRAL	**Lakeview Retre**	**145.90**	**359**	*e*PKPdf		**PKPdf**	**15 26 19.8**	**+0.2**
155A	**Kite**	**145.95**	**352**	P		**PKPab**	**15 26 20.9**	**+0.2**
	baz=9.3							
TX31	**Lajitas Ar. Si**	**145.99**	**25**	*e*PKPdf		**PKPdf**	**15 26 20.1**	**+0.1**
TX31				*e*PKPdf		**PKPbc**	**15 26 20.2**	**-0.4**
TXAR	**Lajitas Array**	**145.99**	**25**	PKPbc		**PKPab**	**15 26 21.2**	**+0.1**
	comp=Z,2.5nm,0.8s,baz=274,slow=2.1,SNR=18							
150A	**Eclectic**	**146.29**	**357**	P		**PKPbc**	**15 26 21.6**	**+0.3**
	baz=3.0							
151A	**Opelika**	**146.33**	**356**	P		**PKPbc**	**15 26 21.0**	**-0.4**
	baz=4.2							
JCT	**Junction City**	**146.42**	**19**	P		**PKPbc**	**15 26 21.7**	**-0.2**
	baz=338							
JCT	**Junction City**	**146.42**	**19**	*e*PKPdf		**PKPdf**	**15 26 20.7**	**+0.1**
251A	**Midway**	**146.77**	**356**	P		**PKPbc**	**15 26 23.0**	**+0.3**
	baz=4.1							

*ISCJB **11** 15:07:18.1±0.4, 5°97N±0°07×94°83E±0°08, h10km, mb4.4/21, Error ellipse: s-maj=13.4km s-min=7.0km az=137.4*
*IDC **11** 15:07:18.2±0.8, 5°81N×94°70E, h0km, mb4.3/17, mb1 4.4/19, mb1mx4.1/78, mbtmp4.3/19, ML4.9/2, Error ellipse: s-maj=33.5km s-min=12.6km az=48.0*
*NEIC **11** 15:07:19.9±0.4, 5°92N×94°79E, h10km, mb4.6/3, Error ellipse: s-maj=11.5km s-min=6

baz=60,slow=75,SNR=6.7
H08S3 Diego Garcia H 20.35 240 T T 15 34 55.3
baz=60,slow=75,SNR=8.8
H08S1 Diego Garcia H 20.37 240 T T 15 34 53.0
baz=60,slow=75,SNR=10
KMI Kunming 25.40 28 P **P 15 14 53.9 +2.2**
KMI pmax pmax
comp=Z,10.0nm,0.5s
KMI pmax pmax
comp=Z,910nm,11.2s
KMI LR LR
comp=Z,1μm,17.7s
KMI LR LR
comp=Z,830nm,15.2s
KMI LR LR
comp=Z,4μm,38.5s
GYA Guiyang 28.47 32 P **P 15 15 20.4 +1.1**
GYA PP **PnPn 15 16 12.3 +3.7**
GYA PcP **PcP 15 18 32.0 +0.7**
GYA S **S 15 20 07.5 +0.5**
GYA ScP **SS 15 22 11.8 +4.3**
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,120nm,5.6s
GYA LR LR
comp=Z,520nm,18.0s
GYA LR LR
comp=Z,500nm,18.4s
GYA LR LR
comp=Z,530nm,18.2s
CD2 Chengdu 30.88 23 P **P 15 15 40.0 -0.5**
CD2 S **S 15 20 43.1 -1.5**
CD2 pmax pmax
comp=Z,30nm,0.5s
NIL Nilore 34.58 335 *e*P **P 15 16 13.2 +0.4**
comp=Z,21nm,0.8s
NIL Nilore 34.58 335 *e*P **P 15 16 13.2 +0.4**
NIL pmax pmax
comp=Z,21nm,0.8s
LZH Lanzhou 35.57 19 *e*P **P 15 16 20.6 -0.8**
LZH PP **PnPn 15 17 40.7 +0.1**
LZH pmax pmax
comp=Z,22nm,1.0s
LZH pmax pmax
comp=Z,100nm,4.8s
LZH LR LR
comp=Z,1μm,13.6s
LZH LR LR
comp=Z,1μm,14.0s
LZH LR LR
comp=Z,2μm,17.2s
XAN Xi'an 35.78 27 P P 15 16 33.3 +10
XAN pP sP 15 16 37.9 +10
XAN sP pP 15 16 40.4 +14
XAN pmax pmax
comp=Z,5.0nm,1.1s
WSAR Wadi Sarin 36.66 306 P **P 15 16 32.2 +1.4**
comp=Z,11nm,1.2s,baz=114,slow=3.2,SNR=4.9
GTA Gaotai 37.59 12 *e*P **P 15 16 38.5 -0.1**
GTA pP pP 15 16 42.6 +0.9
GTA sP sP 15 16 46.2 +3.2
GTA S **S 15 22 28.8 +0.6**
GTA sS sS 15 22 38.3 +5.0
GTA pmax pmax
comp=Z,1μm,10.0s
GTA LR LR
comp=Z,2μm,20.9s
GTA LR LR
comp=Z,3μm,20.9s
GTA LR LR
comp=Z,5μm,20.5s
KSH Kashi 38.82 342 P **P 15 16 47.6 -1.4**
KSH pmax pmax
comp=Z,32nm,0.7s
NJ2 Nanjing 39.79 40 *e*P **P 15 16 56.4 -0.7**
NJ2 pmax pmax
comp=Z,16nm,0.5s
FITZ Fitzroy Crossi 40.66 122 P **P 15 17 04.2 -0.3**
comp=Z,1.5nm,0.6s,baz=299,slow=10,SNR=2.3
WMQ Urumqi 40.99 357 P **P 15 17 06.0 -0.9**
WMQ pmax pmax
comp=Z,16nm,1.7s
WMQ LR LR
comp=Z,14μm,39.0s
WMQ LR LR
comp=Z,11μm,39.0s
WMQ LR LR
comp=Z,7μm,39.2s
SIJI Sorong 41.31 94 P **P 15 17 09.5 -0.5**
comp=Z,3.7nm,0.7s,baz=270,slow=20,SNR=2.6
UCH Uchtor 41.75 343 P **P 15 17 15.0 +1.4**
SNR=6.7
AML Almayashu 41.91 342 P **P 15 17 16.5 +1.6**
SNR=7.0
KBK Karagaybulak 42.01 343 P **P 15 17 17.8 +2.3**
SNR=6.0
TKM2 Tokmak 2 42.08 344 P **P 15 17 17.0 +1.0**
SNR=8.0
AAK Ala-Archa 42.13 343 P **P 15 17 16.4 0.0**
comp=Z,5.1nm,1.0s,baz=20,slow=3.3,SNR=4.7
AAK Ala-Archa 42.13 343 *e*P **P 15 17 17.4 +1.0**
comp=Z,6.9nm,1.0s
AAK Ala-Archa 42.13 343 *i* P **P 15 17 14.4 -2.0**
AAK pmax pmax
comp=Z,6.0nm,1.0s
EKS2 Erkin-Say 42.37 342 P **P 15 17 19.3 +1.0**
SNR=7.7
HHC Hu-ho-hao-te 42.63 24 *e*P **P 15 17 21.8 +1.4**
HHC S **S 15 23 42.5 -1.1**
HHC pmax pmax
comp=Z,21nm,1.1s
HHC pmax pmax
comp=Z,75nm,6.0s
HHC LR LR
comp=Z,760nm,14.3s
HHC LR LR
comp=Z,740nm,15.0s
HHC LR LR
comp=Z,980nm,15.3s
USP Ospenovka 42.70 343 P **P 15 17 21.5 +0.5**
SNR=5.6
H01W3 Cape Leeuwin H 43.68 151 T T 16 03 45.9
baz=326,slow=74,SNR=4.8
H01W2 Cape Leeuwin H 43.69 151 T T 16 03 45.3
baz=326,slow=74,SNR=5.2
H01W1 Cape Leeuwin H 43.70 151 T T 16 03 46.5
baz=326,slow=74,SNR=6.1
KK06 Karatay Array 43.83 339 *e*P **P 15 17 30.1 +0.1**
KK07 Karatay Array 43.83 339 *e*P **P 15 17 30.4 +0.3**
KK02 Karatay Array 43.84 339 *e*P **P 15 17 30.3 +0.2**
KK31 Karatay Array 43.84 339 *e*P **P 15 17 30.4 +0.3**
KK31 Karatay Array 43.84 339 *e*P **P 15 17 30.4 +0.3**
KKAR Karatay Array 43.84 339 *e*P **P 15 17 30.4 +0.3**
KKAR Karatay Array 43.84 339 *e*P **P 15 17 30.4 +0.3**
KK03 Karatay Array 43.84 339 *e*P **P 15 17 30.5 +0.3**
KK01 Karatay Array 43.85 339 *e*P **P 15 17 30.4 +0.3**
KK04 Karatay Array 43.85 339 *e*P **P 15 17 30.5 +0.3**
KK05 Karatay Array 43.85 339 *e*P **P 15 17 30.6 +0.4**
KK08 Karatay Array 43.85 339 *e*P **P 15 17 30.3 +0.1**
MK01 Makanchi Array 44.41 352 *e*P **P 15 17 34.0 -0.6**
MK31 Makanchi Array 44.43 352 *e*P **P 15 17 34.2 -0.6**
MK31 Makanchi Array 44.43 352 *e*P **P 15 17 34.2 -0.6**
MKAR Makanchi Array 44.43 352 P **P 15 17 34.5 -0.2**
comp=Z,4.8nm,0.8s,baz=171,slow=8.6,SNR=5.8
GYB1 ALIBECK ARRAY 45.66 324 *e*P **P 15 17 45.6 +0.9**
comp=Z,16nm,0.7s
GYA1 ALIBECK ARRAY 45.67 324 *e*P **P 15 17 45.6 +0.9**
comp=Z,18nm,0.8s
GYB2 ALIBECK ARRAY 45.67 324 *e*P **P 15 17 45.7 +0.9**
comp=Z,18nm,0.8s
GYB5 ALIBECK ARRAY 45.67 324 *e*P **P 15 17 45.7 +0.9**
comp=Z,18nm,0.6s
GEYT Alibeck 45.67 324 P **P 15 17 45.5 +0.7**
comp=Z,15nm,0.6s,baz=151,slow=9.5,SNR=19
GYA0 ALIBECK ARRAY 45.67 324 *e*P **P 15 17 45.7 +0.9**
comp=Z,20nm,0.7s
GYA0B ALIBECK ARRAY 45.67 324 *e*P **P 15 17 45.6 +0.8**
comp=Z,20nm,0.7s
GYA2 ALIBECK ARRAY 45.67 324 *e*P **P 15 17 45.2 +0.3**
comp=Z,18nm,0.8s
GYB3 ALIBECK ARRAY 45.68 324 *e*P **P 15 17 44.2 -0.6**
comp=Z,18nm,0.7s
GYB4 ALIBECK ARRAY 45.68 324 *e*P **P 15 17 44.8 -0.1**
comp=Z,16nm,0.7s
SONM Songino Array 47.11 15 P **P 15 17 55.9 -0.1**
comp=Z,9.0nm,0.8s,baz=195,slow=8.9,SNR=13
SONA1 Songino Array 47.12 15 *e*P **P 15 17 55.7 -0.5**
ULN Ulaanbaatar 47.31 16 *e*P P 15 17 54.9 -2.7
ULN pmax pmax
comp=Z,4.0nm,0.9s
RAYN Ar Rayn 47.81 300 *e*P **P 15 18 02.0 +0.1**
comp=Z,6.9nm,1.0s
HVS Khovu-Aksy 48.35 3 *e*P **P 15 18 03.7 -1.9**
HVS pmax pmax
comp=Z,17nm,0.9s
KURBB Kurchatov Arra 48.73 350 P **P 15 18 08.5 +0.1**
comp=Z,5.9nm,0.8s,baz=172,slow=7.4,SNR=16
KURBB PcP **PcP 15 19 32.4 -1.0**
comp=Z,2.9nm,0.9s,baz=177,slow=3.5,SNR=5.8
KURK Kurchatov 48.81 350 *e*P **P 15 18 08.6 -0.4**
comp=Z,85nm,1.1s
KURK PcP **PcP 15 19 32.4 -1.3**
KURK Kurchatov 48.81 350 *c e*P P 15 18 06.6 -2.4
KURK pmax pmax
comp=Z,50nm,1.7s
WRA Warramunga Arr 48.91 119 P **P 15 18 07.5 -2.8**
comp=Z,2.9nm,0.8s,baz=295,slow=8.5,SNR=4.0
WB2 Warramunga Arr 48.92 119 *e*P **P 15 18 15.0 +4.6**
comp=Z,11nm,0.8s
ASAR Alice Springs 50.05 124 P **P 15 18 17.5 -1.4**
comp=Z,1.0nm,0.9s,baz=299,slow=7.8,SNR=2.7
ASAR PcP **PcP 15 19 38.2 -0.7**
comp=Z,0.9nm,0.9s,baz=296,slow=4.2,SNR=3.5
TLY Talaya 50.11 11 *e*P P 15 18 13.5 -5.4
TLY pmax pmax
comp=Z,2.0nm,0.8s
ZALV Zalesovo Beam 51.26 356 P **P 15 18 26.6 -0.9**
comp=Z,5.1nm,0.7s,baz=183,slow=7.5,SNR=5.6
ZALV Zalesovo Beam 51.26 356 *e*P **P 15 18 26.3 -1.2**
ZALV Zalesovo Beam 51.26 356 *e*P **P 15 18 26.3 -1.2**
NVS Novosibirsk 52.27 355 *e*P **P 15 18 33.5 -1.5**
BVAR Borovoye Array 52.74 345 P **P 15 18 38.4 -0.2**
comp=Z,4.2nm,0.9s,baz=159,slow=9.2,SNR=6.8
BRVK Borovoye 52.80 345 *c e*P **P 15 18 37.0 -2.0**
BRVK pmax pmax
comp=Z,10.0nm,1.7s
HIA Hailar 52.83 24 *i* P P 15 18 34.3 -5.1
HIA pmax pmax
comp=Z,3.0nm,0.9s
AB07 Akbulak array 53.01 336 *e*P **P 15 18 40.4 -0.3**
AB06 Akbulak array 53.02 336 *e*P **P 15 18 40.5 -0.2**
AB08 Akbulak array 53.02 336 *e*P **P 15 18 40.5 -0.2**
AB03 Akbulak array 53.03 336 *e*P **P 15 18 40.7 0.0**
AB01 Akbulak array 53.03 336 *e*P **P 15 18 40.6 -0.2**
AB31 Akbulak array 53.03 336 *e*P **P 15 18 40.5 -0.3**
AB31 Akbulak array 53.03 336 *e*P **P 15 18 40.5 -0.3**
ABKAR Akbulak array 53.03 336 *e*P **P 15 18 40.5 -0.3**
comp=Z,94nm,0.8s
AB02 Akbulak array 53.03 336 *e*P **P 15 18 40.8 -0.1**
AB04 Akbulak array 53.03 336 *e*P **P 15 18 40.8 -0.1**
AB05 Akbulak array 53.04 336 *e*P **P 15 18 40.8 -0.1**
AB09 Akbulak array 53.04 336 *e*P **P 15 18 41.0 +0.1**
AKTO Aktyubinsk 54.73 335 P **P 15 18 53.9 +0.6**
comp=Z,3.1nm,0.7s,baz=132,slow=6.9,SNR=6.4
GNI Garni 55.37 318 *c e*P **P 15 18 56.4 -1.9**
GNI pmax pmax
comp=Z,36nm,1.2s
USRK Ussuriysk Ar. 55.43 36 P **P 15 18 58.1 -0.3**
comp=Z,0.8nm,0.7s,baz=134,slow=46,SNR=2.6
ZEI Tsey 57.26 321 *e*P **P 15 19 11.8 0.0**
ZEI pmax pmax
comp=Z,3.0nm,0.6s
NCK Nalchik 57.82 321 *e*P **P 15 19 15.8 +0.3**
NCK pmax pmax
comp=Z,10.0nm,0.9s
ASF Jabal al Asfar 57.83 307 P **P 15 19 17.2 +1.3**
comp=Z,2.8nm,0.5s,baz=104,slow=2.6,SNR=4.4
BOD Bodaibo 58.11 15 *e*P **P 15 19 14.9 -2.3**
BOD pmax pmax
comp=Z,6.0nm,1.5s
NEY Neytrino 58.24 321 *e*P **P 15 19 18.7 +0.1**
NEY pmax pmax
comp=Z,1.0nm,0.7s
KLR Kul'dur 58.35 31 *e*P P 15 19 15.7 -3.4
KBZ Khabaz 58.37 321 P **P 15 19 20.0 +0.7**
comp=Z,7.8nm,1.0s,baz=142,slow=5.5,SNR=7.3
KVAR Kislovodsk Arr 58.61 321 P **P 15 19 21.3 +0.2**
comp=Z,20nm,1.1s,baz=263,slow=1.9,SNR=9.2
KIV Kislovodsk 58.62 321 *e*P **P 15 19 20.4 -0.8**
KIV pmax pmax
comp=Z,23nm,1.0s
SVE Sverdlovsk 58.84 342 *e*P **P 15 19 22.1 -0.2**
SVE pmax pmax
comp=Z,21nm,1.2s
ARU Arti 59.20 340 *c i*P **P 15 19 23.3 -1.5**
ARU 15 21 35.0
ARU S **S 15 27 32.0 -0.5**
ARU pmax pmax
comp=Z,16nm,1.7s
CTA Charters Tower 59.55 115 P **P 15 19 27.5 -0.4**
comp=Z,3.2nm,0.9s,baz=270,slow=4.0,SNR=2.0
STKA Stephens Creek 59.71 130 P **P 15 19 27.5 -1.3**
comp=Z,2.3nm,0.7s,baz=280,slow=5.8,SNR=4.9
YAK Yakutsk 66.15 19 *e*P P 15 20 07.3 -3.8
YAK pmax pmax
comp=Z,8.0nm,0.8s
OBN Obninsk 67.69 330 *e*P **P 15 20 19.3 -1.7**
OBN *e* 15 20 45.3
OBN *e* 15 22 50.0
OBN pmax pmax
comp=Z,13nm,1.5s
IDI Anoyia 68.30 307 P **P 15 20 25.8 +0.4**
comp=Z,20nm,1.1s,baz=72,slow=12,SNR=3.1
HARR Harsova 68.55 317 *j i*P **P 15 20 26.0 -0.7**
SORM Soroca 69.41 321 *j i*P **P 15 20 31.4 -0.5**
KLMR Klimovskoe 69.42 336 *e*P P 15 20 26.9 -4.8
KLMR AMP 15 20 31.8
comp=Z,14nm,1.0s
KLMR Klimovskoe 69.42 336 *e*P P 15 20 26.8 -4.9
KLMR pmax pmax
comp=Z,14nm,1.0s
VRI Vrincioaia 69.73 318 *j i*P **P 15 20 34.9 +0.9**
AKASG Malin Array Be 69.79 324 P **P 15 20 33.5 -0.7**
comp=Z,0.7nm,0.6s,baz=94,slow=4.8,SNR=8.0
MLR Muntele Rosu 70.14 318 P **P 15 20 37.4 +0.7**
comp=Z,2.8nm,1.0s,baz=321,slow=4.3,SNR=6.4
MLR Muntele Rosu 70.14 318 *j i*P **P 15 20 37.4 +0.7**
ARR Arges 70.99 317 *j i*P **P 15 20 40.4 -1.4**
BURAR Bucovina Array 71.25 320 *j i*P **P 15 20 44.0 +0.7**
BUR04 Bucovina Ar. S 71.25 320 *e*P **P 15 20 43.4 0.0**
BUR08 Bucovina Ar. S 71.27 320 *e*P **P 15 20 43.8 +0.3**
TIXI Tiksi 73.07 12 *e*P **P 15 20 51.1 -2.5**
comp=Z,8.0nm,0.8s
TIXI Tiksi 73.07 12 *c e*P P 15 20 49.7 -3.9
TIXI pmax pmax
comp=Z,7.0nm,0.8s
VSU Vasula 74.02 331 *c e*P **P 15 20 58.8 -0.6**
VSU pmax pmax
comp=Z,55nm,1.7s
STHS Stebnicka Huta 74.28 321 *e*P **P 15 21 01.5 +0.3**
STHS Stebnicka Huta 74.28 321 *e*P **P 15 21 01.6 +0.3**
STHS pmax pmax
comp=Z,4.0nm,1.2s
FINES FINESS Array B 75.44 333 P **P 15 21 07.2 -0.4**
comp=Z,4.6nm,0.7s,baz=115,slow=6.7,SNR=8.6
VYHS Vyhne 75.61 319 *e*P **P 15 21 08.8 -0.1**
VYHS Vyhne 75.61 319 *e*P **P 15 21 08.8 -0.1**
ARCES ARCESS Array B 78.77 341 P **P 15 21 25.9 -0.4**
comp=Z,8.0nm,1.0s,baz=93,slow=2.6,SNR=6.1
GEA0 GERESS Array S 79.02 319 *e*P **P 15 21 27.7 -0.4**
GEC2 GERESS Array S 79.02 319 *e*P **P 15 21 27.9 -0.2**
comp=Z,17nm,1.3s
GEC2 GERESS Array S 79.02 319 *e*P **P 15 21 27.9 -0.2**
GEC2 pmax pmax
comp=Z,17nm,1.3s
GERES GERESS Array B 79.02 319 P **P 15 21 28.4 +0.2**
comp=Z,4.1nm,0.8s,baz=104,slow=5.6,SNR=8.3
SYO Syowa Base 79.33 196 *j e*P **P 15 21 28.0 -1.2**
SYO Syowa Base 79.33 196 *j e*P P 15 21 36.0 +6.8
CLL Collm 79.83 322 *i* P **P 15 21 32.2 -0.2**
comp=Z,5.0nm,1.0s
CLL *e* pP **sP 15 21 40.0 +3.1**
CLL *e* 15 21 46.0
CLL Collm 79.83 322 *i* P **P 15 21 32.2 -0.2**
CLL pmax pmax
comp=Z,5.0nm,1.0s
HFS Hagfors 80.90 330 P **P 15 21 37.4 -0.5**
comp=Z,2.8nm,0.7s,baz=113,slow=10,SNR=5.3
NOA NORSAR Array B 82.25 331 P **P 15 21 45.5 +0.3**
comp=Z,2.2nm,0.9s,baz=100,slow=5.1,SNR=3.9
BILL Bilibino 82.34 22 *j e*P P 15 21 41.9 -3.5
BILL *e* 15 24 48.0
BILL pmax pmax
comp=Z,2.0nm,1.2s
SPITS Spitsbergen Ar 84.05 349 P **P 15 21 53.2 -0.9**
comp=Z,8.1nm,1.0s,baz=96,slow=15,SNR=3.8
TORD Torodi Ar. Bea 87.83 283 P **P 15 22 13.3 -0.8**
comp=Z,167nm,1.2s,baz=90,slow=1.7,SNR=2.4
EKA Eskdalemuir Ar 89.65 325 P **P 15 22 21.8 0.0**
comp=Z,0.4nm,0.5s,baz=98,slow=5.1,SNR=4.3
ESDC Sonseca Array 91.41 310 P **P 15 22 30.9 +0.4**
comp=Z,0.3nm,0.4s,baz=42,slow=4.0,SNR=4.0
KOWA Kowa 93.31 285 P **P 15 22 40.0 +0.4**
comp=Z,1.8nm,0.7s,baz=70,slow=8.0,SNR=4.8
YKA Yellowknife Ar 112.32 12 PKiKP **PKiKP 15 27 58.2 -1.4**
comp=Z,0.1nm,0.4s,baz=316,slow=3.4,SNR=2.9
YKA PP **PP 15 28 46.7 +2.6**
comp=Z,0.1nm,0.5s,baz=340,slow=8.9,SNR=4.2
FRNY Flat Rock 130.47 345 *e*PKPdf **PKPdf 15 28 38.5 +3.6**
NVAR Mina Array Bea 131.38 30 PKP **PKPdf 15 28 37.1 -0.1**
comp=Z,0.1nm,0.3s,baz=346,slow=1.9,SNR=3.0
TMUT Trail Mountain 133.83 23 *e*PKPdf **PKPdf 15 28 42.5 +0.6**
TX31 Lajitas Ar. Si 145.52 22 *e*PKPdf **PKPbc 15 29 01.4 -1.7**
TXAR Lajitas Array 145.52 22 PKPbc **PKPdf 15 29 01.6 -1.4**
comp=Z,4.5nm,0.7s,baz=302,slow=1.3,SNR=18

*ISCJB **11** 15:12:12.0±0.7, 1.°11N±0.°09×91.°33E±0.°08, h10km, mb4.0/13, Error ellipse: s-maj=14.7km s-min=10.6km az=35.9*
*IDC **11** 15:12:12.6±0.9, 0.°97N×91.°22E, h0km, mb4.0/11, mb1 4.1/12, mb1mx3.7/73, mbtmp3.9/12, Error ellipse: s-maj=34.2km s-min=18.3km az=58.0*
*NEIC **11** 15:12:13.9±0.6, 1.°06N×91.°31E, h10km, mb4.5/2, Error ellipse: s-maj=14.4km s-min=10.0km az=213.0*
ISC 11 15:12:13.8±0.9, 1.°1N±0.°1×91.°3E±0.°1, h10km, n22, σ1s10/22, mb4.1/13, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
LHMI	**Lhok Sumawe**	**7.01**	**54**	*e*Pn		**Pn**	**15 13 55.9**	**-0.7**
PALK	**Pallekele**	**12.23**	**301**	*e*P		**Pn**	**15 15 07.3**	**-1.0**
CMAR	**Chiang Mai Arr**	**18.86**	**23**	P		P	**15 16 34.8**	**+0.5**
	baz=214,slow=12,SNR=2.5							
KSM	**Kuching**	**19.02**	**89**	*e*P		**P**	**15 16 35.2**	**-0.8**
CHTO	**Chiang Mai**	**19.18**	**23**	P		**P**	**15 16 36.9**	**-0.9**
MKAR	**Makanchi Array**	**46.23**	**351**	P		P	**15 20 39.4**	**+0.3**
	0.8nm,0.7s,baz=165,slow=6.0,SNR=2.4							
WRA	**Warramunga Arr**	**47.06**	**119**	P		**P**	**15 20 45.9**	**-0.2**
	2.0nm,0.7s,baz=297,slow=8.5,SNR=5.2							
WRAB	**Tennant Creek**	**47.07**	**119**	*e*P		**P**	**15 20 45.8**	**-0.4**
	3.1nm,0.7s							
ASAR	**Alice Springs**	**48.13**	**124**	P		**P**	**15 20 54.9**	**+0.5**
	0.3nm,0.6s,baz=302,slow=7.5,SNR=2.9							
SONM	**Songino Array**	**48.41**	**14**	P		**P**	**15 20 58.0**	**+1.8**
	2.4nm,0.8s,baz=192,slow=9.6,SNR=4.2							
SONM	**Songino Array**	**48.41**	**14**	P		**P**	**15 20 58.0**	**+1.8**
KURBB	**Kurchatov Arra**	**50.57**	**350**	P		**P**	**15 21 12.9**	**+0.4**
	0.8nm,0.7s,baz=178,slow=7.0,SNR=3.3							
KURK	**Kurchatov**	**50.64**	**350**	P		**P**	**15 21 12.9**	**-0.1**
ZALV	**Zalesovo Beam**	**52.99**	**355**	P		**P**	**15 21 32.1**	**+1.6**
	1.0nm,0.4s,baz=174,slow=7.0,SNR=3.5							
BVAR	**Borovoye Array**	**54.64**	**345**	P		**P**	**15 21 42.7**	**0.0**
	0.4nm,0.4s,baz=119,slow=10,SNR=3.3							
ABKAR	**Akbulak array**	**55.02**	**335**	*e*P		**P**	**15 21 44.5**	**-1.0**
BRTR	**Keskin Array B**	**64.90**	**314**	P		**P**	**15 22 52.5**	**-1.2**
	0.7nm,0.5s,baz=98,slow=5.7,SNR=3.1							
MLR	**Muntele Rosu**	**72.16**	**318**	P		**P**	**15 23 40.0**	**+0.9**
	0.4nm,0.6s,baz=138,slow=14,SNR=2.8							
TIXI	**Tiksi**	**74.44**	**12**	*e*P		**P**	**15 23 50.7**	**-1.1**
	2.9nm,0.7s							
GERES	**GERESS Array B**	**81.05**	**319**	P		**P**	**15 24 31.7**	**+2.4**
	1.7nm,0.7s,baz=101,slow=5.1,SNR=2.4							
QSPA	**South Pole Qui**	**91.00**	**180**	P		**P**	**15 25 18.2**	**0.0**
	1.1nm,0.5s,baz=351,slow=1.4,SNR=14							
TXAR	**Lajitas Array**	**146.57**	**24**	PKPbc		**PKPab**	**15 31 57.5**	**+0.1**
	0.8nm,0.7s,baz=280,slow=1.5,SNR=4.7							

IDC 11 15:14:03.7±32.0, 0.°37S×92.°54E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.3/70, mbtmp3.7/3, Error ellipse: s-maj=1344.0km s-min=30.4km az=54.0, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**45.29**	**118**	P		P	15 22 23.5	-0.1
	0.7nm,0.9s,baz=292,slow=8.0,SNR=2.9							
MKAR	**Makanchi Array**	**47.83**	**351**	P		P	15 22 42.9	-0.3
	0.4nm,0.4s,baz=176,slow=5.5,SNR=4.0							
ZALV	**Zalesovo Beam**	**54.51**	**354**	P		P	15 23 33.2	0.0
	0.6nm,0.3s,baz=162,slow=7.0,SNR=3.1							

IDC 11 15:14:52.3±2.8, 2.°50N×93.°32E, h0km, mb3.9/3, mb1 3.9/4, mb1mx3.4/73, mbtmp3.8/4, ML4.1/1, Error ellipse: s-maj=92.7km s-min=29.4km az=63.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**16.79**	**19**	Pn		Pn	15 18 46.9	-2.1
	0.3nm,0.3s,baz=222,slow=13,SNR=3.7							
WRA	**Warramunga Arr**	**46.02**	**121**	P		P	15 23 18.1	0.0
	0.5nm,0.7s,baz=297,slow=8.6,SNR=3.0							
SONM	**Songino Array**	**46.55**	**12**	P		P	15 23 22.6	+0.7
	4.9nm,0.7s,baz=196,slow=9.5,SNR=9.4							
KURBB	**Kurchatov Arra**	**49.55**	**348**	P		P	15 23 44.9	0.0
	0.3nm,0.3s,baz=175,slow=6.7,SNR=4.0							
TXAR	**Lajitas Array**	**144.41**	**26**	PKP		PKPab	15 34 29.3	-0.3
	0.3nm,0.4s,baz=316,slow=2.5,SNR=3.5							

*ISCJB **11** 15:15:32.2±1.6, 2.°2N±0.°2×91.°0E±0.°2, h10km, mb4.0/6, Error ellipse: s-maj=46.0km s-min=14.6km az=138.5*
*IDC **11** 15:15:32.7±3.3, 2.°18N×90.°98E, h0km, mb3.8/5, mb1 3.9/5, mb1mx3.5/71, mbtmp3.8/5, Error ellipse: s-maj=130.4km s-min=23.6km az=60.0*
*NEIC **11** 15:15:33.6±1.2, 2.°15N×90.°90E, h10km, mb4.3/1, Error ellipse: s-maj=36.3km s-min=12.7km az=48.0*
ISC 11 15:15:33.6±1.9, 2.°1N±0.°3×90.°9E±0.°3, h10km, n9, σ0s57/9, mb4.0/6, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
GSI	**Gunungsitoli**	**6.73**	**97**	*e*Pn		**Pn**	**15 17 12.3**	**-0.3**
SONM	**Songino Array**	**47.48**	**14**	P		**P**	**15 24 08.9**	**+0.1**
	0.9nm,0.5s,baz=209,slow=10,SNR=2.4							
WRA	**Warramunga Arr**	**47.93**	**119**	P		**P**	**15 24 13.2**	**+0.6**
	1.0nm,0.7s,baz=296,slow=8.5,SNR=5.1							
WRAB	**Tennant Creek**	**47.93**	**119**	P		**P**	**15 24 13.2**	**+0.5**
	2.3nm,0.9s							
ASAR	**Alice Springs**	**49.06**	**124**	P		**P**	**15 24 21.4**	**0.0**
	0.7nm,0.7s,baz=297,slow=8.3,SNR=6.6							
KURBB	**Kurchatov Arra**	**49.45**	**350**	P		**P**	**15 24 23.9**	**0.0**
	0.3nm,0.3s,baz=176,slow=7.2,SNR=3.1							
KURK	**Kurchatov**	**49.53**	**350**	P		**P**	**15 24 23.9**	**-0.5**
ZALV	**Zalesovo Beam**	**51.91**	**355**	P		**P**	**15 24 42.9**	**+0.7**
	0.9nm,0.5s,baz=176,slow=6.4,SNR=2.8							
TXAR	**Lajitas Array**	**145.76**	**23**	PKPbc		**PKPdf**	**15 35 12.7**	**-0.7**
	0.5nm,0.8s,baz=298,slow=3.8,SNR=2.2							

IDC 11 15:19:43.3±2.5, 2.°98N×89.°73E, h0km, mb3.6/6, mb1 3.7/7, mb1mx3.4/71, mbtmp3.6/7, ML2.9/1, Error ellipse: s-maj=83.7km s-min=21.7km az=62.0, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**17.84**	**30**	P		Pn	15 23 52.8	-0.4
	0.0nm,0.3s,baz=213,slow=13,SNR=5.4							
MKAR	**Makanchi Array**	**44.12**	**353**	P		P	15 27 53.7	+0.2
	0.6nm,0.6s,baz=168,slow=8.1,SNR=5.2							
SONM	**Songino Array**	**46.94**	**15**	P		P	15 28 17.3	+1.3
	0.7nm,0.7s,baz=197,slow=9.0,SNR=3.7							
KURBB	**Kurchatov Arra**	**48.41**	**350**	P		P	15 28 28.2	+1.0
	0.4nm,0.7s,baz=157,slow=9.5,SNR=3.5							
WRA	**Warramunga Arr**	**49.35**	**119**	P		P	15 28 33.3	-1.7
	0.5nm,0.8s,baz=308,slow=9.0,SNR=2.5							
ASAR	**Alice Springs**	**50.49**	**124**	P		P	15 28 45.0	+1.3
	0.5nm,0.7s,baz=301,slow=7.5,SNR=8.9							
ZALV	**Zalesovo Beam**	**50.97**	**356**	P		P	15 28 44.6	-2.1
	0.3nm,0.4s,baz=191,slow=7.6,SNR=3.1							

IDC 11 15:25:25.9±1.9,3°14N×92°54E,h0km,mb3.7/5,mb1 3.8/6, mb1mx3.4/69,mbtmp3.6/6,ML3.4/1,Error ellipse: s-maj=67.8km s-min=31.6km az=55.0,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**16.46**	**22**	Pn	Pn	15 29 19.2	+0.8
	0.1nm,0.3s,baz=214,slow=13,SNR=3.2						
MKAR	**Makanchi Array**	**44.38**	**350**	P	P	15 33 37.8	-0.4
	0.5nm,0.5s,baz=168,slow=8.8,SNR=6.7						
WRA	**Warramunga Arr**	**47.02**	**121**	P	P	15 33 59.3	-0.2
	0.2nm,0.4s,baz=295,slow=8.8,SNR=2.5						
KURBB	**Kurchatov Arra**	**48.77**	**348**	P	P	15 34 12.3	-0.1
	0.5nm,0.6s,baz=169,slow=7.8,SNR=4.1						
ZALV	**Zalesovo Beam**	**51.04**	**354**	P	P	15 34 29.2	-0.4
	0.9nm,0.4s,baz=174,slow=7.2,SNR=4.6						
GERES	**GERESS Array B**	**80.29**	**319**	P	P	15 37 39.4	+0.5
	0.7nm,0.7s,baz=101,slow=3.5,SNR=4.9						

*ISCJB **11** 15:27:24.9±0.7,1°21N±0°09×92°26E±0°08, h10km, mb4.0/13,MS4.8/2,Error ellipse: s-maj=14.5km s-min=9.6km az=31.9*

*IDC **11** 15:27:25.5±1.1,1°28N×92°38E, h0km, mb3.7/10, mb1 3.8/11,mb1mx3.6/69,mbtmp3.7/11,ML3.9/1,MS4.7/2, Ms1 4.7/2,ms1mx3.9/58,Error ellipse: s-maj=40.3km s-min=19.2km az=49.0*

*NEIC **11** 15:27:26.7±0.8,1°18N×92°25E, h10km, mb4.4/3,Error ellipse: s-maj=16.8km s-min=11.3km az=215.0*

ISC 11 15:27:26.5±0.9,1°1N±0°1×92°3E±0°1,h10km,n27, σ1§37/21,mb4.1/13,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSI	**Gunungsitoli**	**5.31**	**88**	*e*Pn	**Pn**	**15 28 44.2**	**-1.8**
LHMI	**Lhok Sumawe**	**6.21**	**49**	*e*Pn	**Pn**	**15 28 59.6**	**+1.3**
IPM	**Ipoh**	**9.36**	**69**	*e*Pn	**Pn**	**15 29 43.3**	**+1.6**
KSM	**Kuching**	**18.04**	**89**	*e*Pn	**P**	**15 31 38.9**	**+0.9**
CMAR	**Chiang Mai Arr**	**18.44**	**20**	*e*P	**P**	**15 31 42.2**	**-0.2**
	0.1nm,0.3s,baz=217,slow=13,SNR=5.3						
CHTO	**Chiang Mai**	**18.77**	**20**	*e*P	**P**	**15 31 45.5**	**-0.5**
	17nm,1.4s						
H08S2	**Diego Garcia H**	**21.56**	**246**	T	T	15 53 56.8	
	baz=65,slow=75,SNR=13						
H08S3	**Diego Garcia H**	**21.56**	**246**	T	T	15 53 56.4	
	baz=65,slow=75,SNR=12						
H08S1	**Diego Garcia H**	**21.57**	**246**	T	T	15 53 57.9	
	baz=65,slow=75,SNR=12						
MBWA	**Marble Bar**	**34.80**	**131**	*e*P	**P**	**15 34 17.1**	**-0.7**
WRA	**Warramunga Arr**	**46.24**	**119**	P	**P**	**15 35 51.1**	**-1.3**
	0.6nm,0.6s,baz=296,slow=8.7,SNR=3.1						
WRAB	**Tennant Creek**	**46.25**	**119**	*e*P	**P**	**15 35 55.2**	**+2.8**
	4.7nm,1.0s						
MKAR	**Makanchi Array**	**46.32**	**351**	P	**P**	**15 35 51.5**	**-1.1**
	2.1nm,0.9s,baz=152,slow=7.9,SNR=5.1						
ASAR	**Alice Springs**	**47.36**	**124**	P	**P**	**15 36 03.4**	**+2.2**
	0.1nm,0.5s,baz=307,slow=7.8,SNR=5.8						
SONM	**Songino Array**	**48.12**	**13**	P	**P**	**15 36 05.4**	**-1.4**
	1.3nm,0.6s,baz=202,slow=8.6,SNR=4.8						
GEYT	**Alibeck**	**48.23**	**323**	P	**P**	**15 36 07.5**	**-0.2**
	0.7nm,0.4s,baz=134,slow=4.2,SNR=3.7						
KURBB	**Kurchatov Arra**	**50.69**	**349**	P	**P**	**15 36 25.7**	**-0.4**
	0.8nm,0.8s,baz=172,slow=6.4,SNR=5.0						
KURK	**Kurchatov**	**50.76**	**349**	P	**P**	**15 36 25.7**	**-1.0**
ZALV	**Zalesovo Beam**	**53.02**	**354**	P	**P**	**15 36 43.0**	**-0.5**
	1.1nm,0.6s,baz=165,slow=7.4,SNR=4.6						
BVAR	**Borovoye Array**	**54.84**	**349**	P	**P**	**15 36 56.1**	**-0.8**
	0.5nm,0.8s,baz=134,slow=8.3,SNR=2.6						
ABKAR	**Akbulak array**	**55.38**	**335**	*e*P	P	15 37 06.2	+5.4
	5.1nm,1.2s						
AKTO	**Aktyubinsk**	**57.09**	**335**	LR	LR	16 04 21.9	
	comp=Z,492nm,18.8s,baz=349,slow=39						
BRTR	**Keskin Array B**	**65.56**	**314**	P	**P**	**15 38 12.3**	**+1.5**
	0.7nm,0.7s,baz=139,slow=8.1,SNR=4.2						
MA2	**Magadan**	**73.59**	**27**	LR	LR	16 12 16.9	
	comp=Z,658nm,21.6s,slow=37						
TIXI	**Tiksi**	**74.18**	**11**	*e*P	**P**	**15 39 01.5**	**-1.5**
VAE	**Valguarnera**	**79.69**	**308**	P	**P**	**15 39 35.7**	**+0.8**
	14nm,0.5s,baz=155,slow=3.2,SNR=3.7						
GERES	**GERESS Array B**	**81.64**	**319**	P	**P**	**15 39 45.1**	**0.0**
	2.0nm,0.7s,baz=97,slow=5.5,SNR=7.5						

*ISCJB **11** 15:29:57.6±0.5,27°5N±0°1×126°8E±0°1, h167km±13km, mb3.5/5,Error ellipse: s-maj=26.0km s-min=4.7km az=138.9*

*IDC **11** 15:29:57.9±2.8,26°97N×126°83E, h182km±20km, mb3.3/5, mb1 3.4/5,mb1mx2.9/64,mbtmp3.8/5,Error ellipse: s-maj=107.6km s-min=30.2km az=9.0*

*JMA **11** 15:29:59.8±0.3,27°51N×126°81E, h155km, M3.7*

ISC 11 15:29:58.5±0.9,27°5N±0°1×126°7E±0°1,h157km±16km, n23,σ1§31/38,mb3.5/5,Northwest of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAGN	**Aguni-jima**	**1.06**	**153**	P	**Pn**	**15 30 25.4**	**+1.0**
JAGN				*e*S	**Sn**	**15 30 44.8**	**+0.5**
JKE	**Kume jima 2**	**1.21**	**177**	P	**Pn**	**15 30 26.7**	**+0.9**
JIH	**Iheya**	**1.23**	**114**	P	**Pn**	**15 30 26.9**	**+1.0**
JIH				S	**Sn**	**15 30 46.5**	**-0.4**
JNTH	**Nagotoyohara**	**1.55**	**131**	P	**Pn**	**15 30 29.9**	**+0.8**
JNTH				S	**Sn**	**15 30 51.2**	**-1.4**
JOW	**Kunigami**	**1.56**	**116**	P	**Pn**	**15 30 29.8**	**+0.5**
	37nm,0.3s,baz=312,slow=16,SNR=220						
JOW				S	**Sn**	**15 30 51.3**	**-1.5**
	161nm,0.3s,baz=334,slow=26,SNR=43						
JOW	**Kunigami**	**1.56**	**116**	P	**Pn**	**15 30 29.7**	**+0.5**
JOW				S	**Sn**	**15 30 51.0**	**-1.9**
JOKE	**Okinoerabujima**	**1.67**	**96**	P	**Pn**	**15 30 30.7**	**+0.4**
JOKE				S	**Sn**	**15 30 53.0**	**-1.8**
JJT3	**Tamagusuku3**	**1.69**	**145**	P	**Pn**	**15 30 31.9**	**+1.3**
JJT3				*e*S	**Sn**	**15 30 55.2**	**-0.1**
JTK	**Tokunoshima**	**2.01**	**82**	P	**Pn**	**15 30 34.4**	**+0.3**
JTK				S	**Sn**	**15 30 59.7**	**-1.8**
JAMN	**Amaminishikomi**	**2.30**	**72**	P	**Pn**	**15 30 37.7**	**+0.2**
JAMN				*e*S	**Sn**	**15 31 05.8**	**-1.8**
JAM	**Amami Oshima**	**2.71**	**71**	P	**Pn**	**15 30 42.5**	**+0.1**
JAM				*e*S	**Sn**	**15 31 14.1**	**-2.4**
JIKM	**Ikemajima**	**2.91**	**207**	P	**Pn**	**15 30 45.5**	**+0.4**
JIKM				*e*S	**Sn**	**15 31 19.8**	**-1.3**
JZK	**Kikaishima**	**2.99**	**74**	*e*S	**Sn**	**15 31 21.4**	**-1.4**
JMJ	**Miyako jima 2**	**2.99**	**205**	P	**Pn**	**15 30 46.2**	**+0.1**
JOGS	**Gusukube**	**3.00**	**203**	P	**Pn**	**15 30 46.4**	**+0.2**
JOGS				*e*S	**Sn**	**15 31 23.0**	**-0.1**
JIRB	**Irabujima**	**3.03**	**207**	P	**Pn**	**15 30 46.1**	**-0.4**
JIRB				S	**Sn**	**15 31 22.0**	**-1.7**
JTJ	**Tarama**	**3.40**	**212**	P	**Pn**	**15 30 50.9**	**-0.3**
JTJ				*e*S	**Sn**	**15 31 29.5**	**-2.6**
JISG	**Ishigakijimahi**	**3.64**	**217**	P	**Pn**	**15 30 53.9**	**-0.4**
JISG				S	**Sn**	**15 31 35.4**	**-2.3**
SONM	**Songino Array**	**25.72**	**327**	P	**P**	**15 35 17.2**	**+2.9**
	2.3nm,0.5s,baz=140,slow=11,SNR=9.4						
MKAR	**Makanchi Array**	**39.65**	**311**	P	**P**	**15 37 14.7**	**-0.3**
	0.6nm,0.6s,baz=104,slow=9.9,SNR=6.3						
KURBB	**Kurchatov Arra**	**42.97**	**316**	P	**P**	**15 37 41.7**	**-0.1**
	0.4nm,0.4s,baz=104,slow=8.9,SNR=3.3						
BVAR	**Borovoye Array**	**48.40**	**318**	P	**P**	**15 38 25.1**	**+0.7**
	0.6nm,0.5s,baz=104,slow=12,SNR=3.6						
YKA	**Yellowknife Ar**	**77.91**	**25**	P	**P**	**15 41 37.9**	**-0.7**
	0.3nm,0.6s,baz=299,slow=5.6,SNR=7.1						

IDC 11 15:32:45.7±13.0,5°69N×92°25E,h0km,mb3.5/2, mb1 3.7/3,mb1mx3.1/70,mbtmp3.5/3,Error ellipse: s-maj=302.3km s-min=53.7km az=89.0,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**14.27**	**27**	Pn	Pn	15 36 09.0	-0.2
	baz=220,slow=12,SNR=2.9						
WRA	**Warramunga Arr**	**48.60**	**123**	P	P	15 41 31.8	+0.3
	0.5nm,0.6s,baz=300,slow=8.8,SNR=4.6						
ASAR	**Alice Springs**	**50.03**	**127**	P	P	15 41 41.9	-0.5
	0.4nm,1.0s,baz=299,slow=7.6,SNR=3.6						

IDC 11 15:34:59.5±16.0,2°98N×92°65E,h0km,mb3.5/2, mb1 3.7/3,mb1mx3.2/69,mbtmp3.6/3,Error ellipse: s-maj=319.7km s-min=109.5km az=149.0,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**16.57**	**21**	Pn	Pn	15 38 53.5	-0.1
	baz=216,slow=13,SNR=6.9						
MKAR	**Makanchi Array**	**44.56**	**350**	P	P	15 43 13.9	+0.6
	0.4nm,0.7s,baz=150,slow=6.1,SNR=3.2						
ZALV	**Zalesovo Beam**	**51.21**	**354**	P	P	15 44 03.9	-0.8
	0.4nm,0.4s,baz=171,slow=7.8,SNR=3.0						

*ISCJB **11** 15:35:19.9±0.9,0°1N±0°1×92°2E±0°1, h10km, mb3.9/9, MS4.7/1,Error ellipse: s-maj=18.3km s-min=11.7km az=42.5*

*IDC **11** 15:35:20.1±1.5,0°00S×92°03E, h0km, mb3.8/8, mb1 3.9/9, mb1mx3.6/69, mbtmp3.7/9, MS4.6/1, Ms1 4.5/1, ms1mx3.6/55, Error ellipse: s-maj=57.4km s-min=20.7km az=55.0*

*NEIC **11** 15:35:21.5±0.8,0°00N×92°17E, h10km, mb4.2/2, Error ellipse: s-maj=17.4km s-min=10.3km az=225.0*

ISC 11 15:35:21.4±1.3,0°0S±0°1×92°2E±0°1,h10km,n18, σ0§95/17,mb3.9/9,Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSI	**Gunungsitoli**	**5.56**	**76**	*e*Pn	**Pn**	**15 36 43.0**	**-1.2**
LHMI	**Lhok Sumawe**	**7.06**	**42**	*e*Pn	**Pn**	**15 37 06.1**	**+1.2**
MNAI	**Manna**	**11.60**	**112**	*e*Pn	**Pn**	**15 38 05.7**	**-1.5**
KSM	**Kuching**	**18.19**	**85**	*e*Pn	**P**	**15 39 35.4**	**+0.9**
CMAR	**Chiang Mai Arr**	**19.53**	**20**	P	**Pn**	**15 39 50.6**	**+0.1**
	baz=210,slow=12,SNR=5.1						
CHTO	**Chiang Mai**	**19.86**	**19**	P	**P**	**15 39 51.6**	**-1.2**
	6.7nm,1.3s						
WRA	**Warramunga Arr**	**45.78**	**118**	P	**P**	**15 43 44.5**	**+0.9**
	1.7nm,0.8s,baz=295,slow=8.6,SNR=12						
WRAB	**Tennant Creek**	**45.78**	**118**	*e*P	**P**	**15 43 44.7**	**+1.1**
	4.5nm,0.7s						
ASAR	**Alice Springs**	**46.81**	**123**	P	**P**	**15 43 52.6**	**+0.9**
	0.6nm,0.9s,baz=291,slow=7.3,SNR=4.3						
MKAR	**Makanchi Array**	**47.42**	**351**	P	**P**	**15 43 54.7**	**-1.4**
	0.6nm,0.7s,baz=176,slow=8.7,SNR=4.5						
SONM	**Songino Array**	**49.24**	**13**	P	**P**	**15 44 10.5**	**+0.2**
	0.7nm,0.6s,baz=189,slow=10.0,SNR=3.8						
KURBB	**Kurchatov Arra**	**51.78**	**349**	P	**P**	**15 44 29.5**	**+0.3**
	0.4nm,0.3s,baz=173,slow=7.0,SNR=6.0						
KURK	**Kurchatov**	**51.85**	**349**	P	**P**	**15 44 29.5**	**-0.2**
ZALV	**Zalesovo Beam**	**54.13**	**355**	P	**P**	**15 44 46.0**	**-0.5**
	0.9nm,0.6s,baz=175,slow=7.2,SNR=2.9						
BVAR	**Borovoye Array**	**55.90**	**344**	P	**P**	**15 44 59.0**	**-0.4**
	0.5nm,0.5s,baz=149,slow=6.7,SNR=4.1						
STKA	**Stephens Creek**	**56.38**	**129**	LR	LR	16 08 24.4	
	comp=Z,573nm,19.8s,baz=108,slow=35						
GERES	**GERESS Array B**	**82.43**	**319**	P	**P**	**15 47 44.1**	**0.0**
	1.1nm,0.8s,baz=108,slow=7.2,SNR=6.0						
TXAR	**Lajitas Array**	**147.16**	**26**	PKPbc	**PKPab**	**15 55 06.9**	**-0.4**
	0.3nm,0.6s,baz=270,slow=5.4,SNR=2.6						

*ISCJB **11** 15:37:14.4±1.6,2°55N±0°04×91°93E±0°03, h7km±10km, mb4.6/80,MS4.6/1,Error ellipse: s-maj=7.6km s-min=4.2km az=33.4*

*IDC **11** 15:37:15.5±0.4,2°53N×91°95E, h0km, mb4.3/38, mb1 4.4/41,mb1mx4.3/67,mbtmp4.4/41,ML4.4/3,Error ellipse: s-maj=13.6km s-min=7.7km az=35.0*

*NEIC **11** 15:37:16.8±0.2,2°55N×91°93E, h10km, mb4.8/23,Error ellipse: s-maj=5.4km s-min=3.2km az=211.0*

*DJA **11** 15:37:17.0±0.3,3°N±6°×9°2E±°, h10km, M5.4/13, mb5.3/13, mB5.8/6, MLv5.3/4, Mw(mB)5.4/6*

*MOS **11** 15:37:18.4±1.0,2°62N×91°99E, h33km, mb4.8/50,Error ellipse: s-maj=8.5km s-min=5.6km az=106.5*

ISC 11 15:37:16.7±2.3,2°56N±0°06×91°98E±0°05,h9km±14km, n216,σ1§06/225,mb4.6/80,12C-3D,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLSI	**Meulaboh, Aceh**	**4.73**	**69**	P	**Pn**	**15 38 29.6**	**+1.4**
TPTI		**5.24**	**82**	P	**Pn**	**15 38 36.1**	**+0.9**
	296nm,0.8s,6μm						
TPTI				S	**Sn**	**15 39 32.6**	**-3.2**
	296nm,0.8s,6μm						
LHMI	**Lhok Sumawe**	**5.62**	**62**	P	**Pn**	**15 38 38.7**	**-1.8**
LHMI	**Lhok Sumawe**	**5.62**	**62**	*e*Pn	**Pn**	**15 38 42.7**	**+2.3**
GSI	**Gunungsitoli**	**5.73**	**102**	P	**Pn**	**15 38 42.7**	**+0.7**
	382nm,0.6s,1.4nm						
GSI				S	**Sn**	**15 39 45.6**	**-2.3**
	382nm,0.6s,1.4nm						
GSI	**Gunungsitoli**	**5.73**	**102**	*e*Pn	**Pn**	**15 38 42.7**	**+0.7**
KCSI	**Kotacane, Aceh**	**5.86**	**80**	P	**Pn**	**15 38 43.9**	**+0.1**
PSI	**Prapat**	**6.94**	**88**	*e*Pn	**Pn**	**15 38 59.5**	**+0.8**
PSI	**Prapat**	**6.94**	**88**	*e*P	**Pn**	**15 38 59.5**	**+0.8**
SISI	**Saibi**	**8.09**	**118**	P	**Pn**	**15 39 18.1**	**+3.7**
KULM	**Kulim**	**9.06**	**72**	*e*Pn	**Pn**	**15 39 28.4**	**+0.7**
IPM	**Ipoh**	**9.23**	**78**	*e*Pn	**Pn**	**15 39 31.0**	**+0.9**
PPSI	**Pulau Pagai**	**9.61**	**123**	P	**Pn**	**15 39 35.9**	**+0.6**
PALK	**Pallekele**	**12.17**	**293**	Pn	**Pn**	**15 40 08.1**	**-2.3**
	3.2nm,0.3s,baz=115,slow=10,SNR=9.1						
PALK	**Pallekele**	**12.17**	**293**	*e*Pn	**Pn**	**15 40 07.0**	**-3.4**
PALK	**Pallekele**	**12.17**	**293**	*e*P	**Pn**	**15 40 07.0**	**-3.4**
MNAI	**Manna**	**12.94**	**122**	*e*Pn	**Pn**	**15 40 20.6**	**-0.3**
LWLI	**Liwa**	**14.22**	**122**	P	**Pn**	**15 40 41.4**	**+2.8**
KASI	**Kota Agung**	**14.86**	**123**	P	**P**	**15 40 50.9**	**-2.1**
CGJI	**Cibinong**	**16.45**	**124**	P	**Pn**	**15 41 07.8**	**0.0**
SKHT	**Srikalahasti**	**16.45**	**313**	*e*P	**Pn**	**15 41 07.7**	**-0.1**
CM01	**Chiang Mai Arr**	**17.18**	**23**	*e*Pn	**Pn**	**15 41 16.7**	**-0.5**
CM31	**Chiang Mai Arr**	**17.21**	**23**	*e*Pn	**Pn**	**15 41 17.1**	**-0.4**
CMAR	**Chiang Mai Arr**	**17.21**	**23**	P	**Pn**	**15 41 17.4**	**0.0**
	0.3nm,0.3s,baz=217,slow=14,SNR=23						
CHTO	**Chiang Mai**	**17.53**	**22**	*e*Pn	**Pn**	**15 41 20.7**	**-0.8**
	20nm,0.9s						
CHTO	**Chiang Mai**	**17.53**	**22**	*e*P	**Pn**	**15 41 20.7**	**-0.8**
CHTO				pmax	pmax		
	comp=Z,20nm,0.9s						
CHLP	**Challavanipeta**	**17.65**	**334**	*e*P	**Pn**	**15 41 22.2**	**-0.7**
ADKI	**Addanki**	**17.73**	**319**	*e*P	**Pn**	**15 41 23.0**	**-0.9**
PVM	**Polavaram**	**17.79**	**326**	*e*P	**Pn**	**15 41 24.6**	**-0.2**
LEM	**Lembang**	**18.18**	**121**	P	**Pn**	**15 41 29.3**	**-0.4**
	comp=Z,2.1nm,0.3s,baz=308,slow=18,SNR=2.3						
LEM				S	**S**	**15 44 56.6**	**-2.0**
	comp=Z,5.1nm,0.3s,baz=319,slow=19,SNR=2.2						
KSM	**Kuching**	**18.35**	**93**	*e*P	**P**	**15 41 33.1**	**+1.4**
	comp=Z,29nm,1.0s						
SRLM	**Srisailam**	**18.63**	**317**	*e*P	**Pn**	**15 41 34.8**	**-0.3**
NJS	**Nagarjunasagar**	**18.68**	**319**	*e*P	**P**	**15 41 34.5**	**-0.8**
CISI	**Cisompet, Garu**	**18.73**	**123**	*e*P	**Pn**	**15 41 37.4**	**+1.1**
	comp=Z,47nm,0.9s						
URV	**Uravakonda**	**19.04**	**311**	*e*P	**P**	**15 41 38.9**	**-0.4**
HYB	**Hyderabad**	**19.79**	**319**	*i* P	**P**	**15 41 47.0**	**-0.6**
HYBB	**Hyderabad (bro**	**19.80**	**319**	*e*P	**P**	**15 41 46.9**	**-0.7**
SBUM	**Sibu**	**20.22**	**90**	*e*P	**P**	**15 41 53.4**	**+1.2**
	comp=Z,26nm,1.0s						
RPR	**Rampur**	**20.41**	**323**	*e*P	**P**	**15 41 54.1**	**-0.1**
SRSP	**Sriramsagar**	**21.04**	**322**	*e*P	**P**	**15 42 01.0**	**-0.1**
KLRI	**Killari**	**21.57**	**317**	*e*P	**P**	**15 42 06.7**	**0.0**
ODAN	**Odare**	**24.56**	**350**	*e*P	**P**	**15 42 39.2**	**+1.9**
	comp=Z,64nm,1.0s						
RAMN	**Ramite**	**24.79**	**348**	*e*P	**P**	**15 42 41.7**	**+2.3**
	comp=Z,105nm,0.9s						
JIRN	**Jiri**	**25.57**	**348**	*e*P	**P**	**15 42 46.7**	**+0.2**
	comp=Z,62nm,0.8s						
GUN	**Gumba**	**25.87**	**348**	*e*P	**P**	**15 42 49.1**	**-0.2**
	comp=Z,38nm,0.8s						
KKN	**Kakani**	**25.89**	**346**	*e*P	**P**	**15 42 49.7**	**+0.4**
GKN	**Gorkha**	**26.25**	**345**	*e*P	**P**	**15 42 54.1**	**+1.6**
	comp=Z,31nm,0.9s						
MYLDM	**Lahad Datu**	**26.58**	**84**	*e*P	**P**	**15 42 55.7**	**+0.2**
	comp=Z,23nm,0.8s						
PYUN	**Piuthan**	**26.81**	**342**	*e*P	**P**	**15 42 59.4**	**+1.8**
LSA	**Lhasa**	**27.00**	**358**	P	**P**	**15 43 01.1**	**+1.5**
LSA				pmax	pmax		
	comp=Z,28nm,0.8s						
LSA	**Lhasa**	**27.00**	**358**	*e*P	**P**	**15 43 00.8**	**+1.2**
	comp=Z,19nm,0.8s						
LSA	**Lhasa**	**27.00**	**358**	*e*P	**P**	**15 43 00.8**	**+1.2**
LSA				pmax	pmax		
	comp=Z,19nm,0.8s						
GYA	**Guiyang**	**27.63**	**29**	*e*P	**P**	**15 43 07.8**	**+2.9**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
KAPI	**Kappang**	**28.75**	**105**	*e*P	**P**	**15 43 15.8**	**+0.9**
	comp=Z,12nm,0.9s						
KAPI	**Kappang**	**28.75**	**105**	*e*P	**P**	**15 43 15.8**	**+0.9**
KAPI				pmax	pmax		
	comp=Z,12nm,0.9s						
CD2	**Chengdu**	**30.32**	**20**	*e*P	**P**	**15 43 29.5**	**+0.9**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
ENH	**Enshi**	**32.17**	**29**	*e*P	**P**	**15 43 45.1**	**+0.2**
	comp=Z,11nm,0.8s						
BATI	**Baumata**	**34.00**	**112**	P	**P**	**15 43 59.8**	**-1.3**
	comp=Z,7.4nm,0.5s,baz=20,slow=3.0,SNR=4.6						
XAN	**Xi'an**	**35.09**	**25**	P	**P**	**15 44 10.7**	**+0.4**
XAN				pP	sP	15 44 14.4	+0.1
XAN				sP	pP	15 44 16.3	+3.2
XAN				pmax	pmax		
	comp=Z,43nm,0.7s						
NIL	**Nilore**	**35.54**	**333**	*e*P	**P**	**15 44 13.6**	**-0.7**
	comp=Z,17nm,0.8s						
NIL	**Nilore**	**35.54**	**333**	*e*P	**P**	**15 44 13.6**	**-0.7**
NIL				pmax	pmax		
	comp=Z,17nm,0.8s						
GTA	**Gaotai**	**37.37**	**10**	*e*P	**P**	**15 44 30.9**	**+1.0**
GTA				pP	sP	15 44 35.0	+1.2
GTA				sP	pP	15 44 38.1	+5.4
GTA				pmax	pmax		
	comp=Z,5.0nm,1.0s						
NJ2	**Nanjing**	**38.73**	**38**	*e*P	**P**	**15 44 43.2**	**+1.9**
NJ2				pmax	pmax		
	comp=Z,16nm,0.5s						
FITZ	**Fitzroy Crossi**	**39.00**	**123**	P	**P**	**15 44 43.1**	**-0.6**
	comp=Z,9.9nm,0.8s,baz=290,slow=7.0,SNR=12						
SIJI	**Sorong**	**39.42**	**94**	P	**P**	**15 44 46.9**	**-0.5**
	comp=Z,1.2nm,0.3s,baz=31,slow=5.2,SNR=4.1						
HHC	**Hu-ho-hao-te**	**42.02**	**22**	*e*P	**P**	**15 45 10.6**	**+2.0**
HHC				S	**S**	**15 51 26.6**	**-1.2**
HHC				pmax	pmax		
	comp=Z,14nm,1.1s						
HHC				pmax	pmax		
	comp=Z,59nm,6.1s						
HHC				LR	LR		
	comp=N,530nm,14.4s						
HHC				LR	LR		
	comp=E,560nm,15.9s						
HHC				LR	LR		
	comp=Z,620nm,15.9s						
AAK	**Ala-Archa**	**42.85**	**341**	P	**P**	**15 45 17.1**	**+1.7**
	comp=Z,1.1nm,0.6s,baz=191,slow=16,SNR=4.1						
AAK	**Ala-Archa**	**42.85**	**341**	*i* P	**P**	**15 45 15.0**	**-0.5**
AAK				pmax	pmax		
	comp=Z,3.0nm,1.0s						
KK06	**Karatay Array**	**44.66**	**338**	*e*P	**P**	**15 45 29.9**	**+0.1**
KK07	**Karatay Array**	**44.66**	**338**	*e*P	**P**	**15 45 30.0**	**+0.1**
KK02	**Karatay Array**	**44.67**	**338**	*e*P	**P**	**15 45 29.7**	**-0.2**
KK31	**Karatay Array**	**44.67**	**338**	*e*P	**P**	**15 45 30.2**	**+0.3**
KK31	**Karatay Array**	**44.67**	**338**	*e*P	**P**	**15 45 30.2**	**+0.3**
KKAR	**Karatay Array**	**44.67**	**338**	*e*P	**P**	**15 45 29.9**	**0.0**
KKAR	**Karatay Array**	**44.67**	**338**	*e*P	**P**	**15 45 29.9**	**0.0**
KK01	**Karatay Array**	**44.68**	**338**	*e*P	**P**	**15 45 29.9**	**0.0**
KK03	**Karatay Array**	**44.68**	**338**	*e*P	**P**	**15 45 29.7**	**-0.3**
KK04	**Karatay Array**	**44.68**	**338**	*e*P	**P**	**15 45 30.1**	**+0.1**
KK05	**Karatay Array**	**44.68**	**338**	*e*P	**P**	**15 45 29.9**	**0.0**
KK08	**Karatay Array**	**44.68**	**338**	*e*P	**P**	**15 45 30.2**	**+0.2**
MK01	**Makanchi Array**	**44.83**	**351**	*e*P	**P**	**15 45 31.0**	**-0.1**
MK31	**Makanchi Array**	**44.86**	**351**	*e*P	**P**	**15 45 31.4**	**+0.1**
MK31	**Makanchi Array**	**44.86**	**351**	*e*P	**P**	**15 45 31.4**	**+0.1**
MKAR	**Makanchi Array**	**44.86**	**351**	P	**P**	**15 45 31.5**	**+0.2**
	comp=Z,7.2nm,0.9s,baz=167,slow=8.3,SNR=20						
MKAR	**Makanchi Array**	**44.86**	**351**	*e*P	**P**	**15 45 31.5**	**+0.2**
	comp=Z,29nm,0.8s						
SONM	**Songino Array**	**46.79**	**13**	P	**P**	**15 45 47.8**	**+1.1**
	comp=Z,4.2nm,0.7s,baz=192,slow=8.9,SNR=10						
SONM				PcP	**PcP**	**15 47 20.8**	**+1.0**
	comp=Z,2.9nm,0.8s,baz=192,slow=4.2,SNR=2.7						
SONA1	**Songino Array**	**46.80**	**13**	*e*P	**P**	**15 45 47.2**	**+0.4**
TJN	**Taejon**	**46.88**	**40**	*e*P	**P**	**15 45 47.0**	**-0.4**
GYB5	**ALIBECK ARRAY**	**46.91**	**323**	*e*P	**P**	**15 45 48.5**	**+0.8**
	comp=Z,5.5nm,0.8s						
GEYT	**Alibeck**	**46.91**	**323**	P	**P**	**15 45 48.4**	**+0.6**
	comp=Z,4.9nm,0.8s,baz=151,slow=10,SNR=9.5						
GYA0	**ALIBECK ARRAY**	**46.91**	**323**	*e*P	**P**	**15 45 48.4**	**+0.7**
	comp=Z,7.4nm,0.8s						
GYB4	**ALIBECK ARRAY**	**46.

AB02	Akbulak array	53.96	335	eP		P		15 46 39.8	-1.0
AB04	Akbulak array	53.96	335	eP		P		15 46 40.1	-0.7
AB05	Akbulak array	53.97	335	eP		P		15 46 40.2	-0.6
AB09	Akbulak array	53.97	335	eP		P		15 46 40.3	-0.6
JHJ	Hachijo jima 2	54.04	50	P		P		15 46 42.0	+0.4
	comp=Z,243nm,0.8s,baz=180,slow=11,SNR=3.2								
MJAR	Matsushiro Arr	54.35	46	P		P		15 46 44.7	+0.8
	comp=Z,3.0nm,0.8s,baz=229,slow=6.6,SNR=6.3								
USRK	Ussuriysk Ar.	54.47	35	P		P		15 46 45.9	+1.3
	comp=Z,2.4nm,0.7s,baz=243,slow=8.0,SNR=9.5								
KMBO	Kilima Mbogo	54.84	267	P		P		15 46 49.5	+1.3
	comp=Z,0.4nm,0.4s,baz=38,slow=21,SNR=2.9								
AKTO	Aktyubinsk	55.67	334	P		P		15 46 53.5	+0.3
	comp=Z,1.8nm,0.7s,baz=127,slow=6.5,SNR=5.9								
PMG	Port Moresby	56.24	103	P		P		15 46 57.7	-0.2
	comp=Z,9.2nm,0.6s,baz=122,slow=19,SNR=4.2								
GNI	Garni	56.74	318	eP		P		15 46 58.9	-2.4
GNI				pmax	pmax				
	comp=Z,13nm,0.9s								
KLR	Kul'dur	57.53	30	P		P		15 47 07.9	+1.5
	comp=Z,0.5nm,0.8s,baz=252,slow=8.9,SNR=12								
KLR	Kul'dur	57.53	30	eP		P		15 47 05.6	-0.8
BOD	Bodaibo	57.78	14	eP		P		15 47 08.4	+0.3
BOD				pmax	pmax				
	comp=Z,10.0nm,0.8s								
STKA	Stephens Creek	58.17	130	P		P		15 47 11.5	+0.2
	comp=Z,2.6nm,0.6s,baz=333,slow=3.7,SNR=9.8								
ZEI	Tsey	58.58	320	eP		P		15 47 14.4	+0.2
ZEI				pmax	pmax				
	comp=Z,4.0nm,0.9s								
ZEA	Zeya	58.65	24	eP		P		15 47 14.2	0.0
ZEA				pmax	pmax				
	comp=Z,10.0nm,0.6s								
ASF	Jabal al Asfar	59.44	306	P		P		15 47 21.4	+1.1
	comp=Z,1.1nm,0.3s,baz=84,slow=21,SNR=2.6								
NEY	Neytrino	59.55	320	i P		P		15 47 20.3	-0.6
NEY				pmax	pmax				
	comp=Z,1.0nm,0.8s								
SVE	Sverdlovsk	59.59	341	eP		P		15 47 20.5	-0.2
SVE				pmax	pmax				
	comp=Z,12nm,1.0s								
KBZ	Khabaz	59.67	321	P		P		15 47 22.2	+0.7
	comp=Z,5.1nm,0.8s,baz=153,slow=6.4,SNR=12								
KIV	Kislovodsk	59.92	321	eP		P		15 47 21.2	-2.1
KIV				pmax	pmax				
	comp=Z,14nm,1.0s								
ARU	Arti	59.99	339	P		P		15 47 22.6	-0.8
	comp=Z,2.4nm,0.6s,baz=127,slow=3.1,SNR=4.1								
ARU	Arti	59.99	339	d iP		P		15 47 22.4	-1.0
ARU								15 49 33.2	
ARU				S		S		15 55 36.8	+0.9
ARU				pmax	pmax				
	comp=Z,5.0nm,1.0s								
ASAJ	Asahikawa	60.83	40	P		P		15 47 28.8	-0.7
	comp=Z,5.1nm,0.9s,baz=236,slow=11,SNR=3.9								
VRH	Novokhopyorsk	64.13	327	eP		P		15 47 49.7	-1.6
VRH				pmax	pmax				
	comp=Z,6.0nm,0.5s								
BR131	Keskin Array S	64.36	313	eP		P		15 47 52.9	-0.4
BRTR	Keskin Array B	64.36	313	P		P		15 47 53.1	-0.2
	comp=Z,2.4nm,0.8s,baz=125,slow=6.7,SNR=12								
VSR	Storozhevoye	65.53	327	eP		P		15 47 58.6	-1.8
VSR				pmax	pmax				
	comp=Z,3.0nm,0.5s								
YAK	Yakutsk	65.68	18	eP		P		15 48 00.9	-0.3
	comp=Z,14nm,0.8s								
YAK	Yakutsk	65.68	18	i P		P		15 47 59.9	-1.3
YAK				pmax	pmax				
	comp=Z,20nm,1.0s								
LPSR	Galich'ya Gora	66.33	328	eP		P		15 48 04.6	-1.0
LPSR				pmax	pmax				
	comp=Z,10.0nm,0.8s								
OBN	Obninsk	68.77	330	ceP		P		15 48 19.4	-1.5
OBN				e				15 48 26.9	
OBN				e				15 48 40.6	
OBN				e				15 50 52.1	
OBN				pmax	pmax				
	comp=Z,24nm,1.7s								
IDI	Anoyia	69.90	307	P		P		15 48 28.2	-0.3
	comp=Z,5.0nm,0.7s,baz=278,slow=13,SNR=2.7								
SORM	Soroca	70.72	321	‖i P		P		15 48 32.5	-0.6
BOSA	Boshof	70.98	239	P		P		15 48 34.7	-0.6
	comp=Z,3.9nm,1.0s,baz=45,slow=13,SNR=2.3								
AKASG	Malin Array Be	71.03	323	P		P		15 48 34.2	-0.8
	comp=Z,1.4nm,0.7s,baz=92,slow=4.9,SNR=6.7								
KIEV	Kiev	71.04	323	i P		P		15 48 33.5	-1.5
KIEV				pmax	pmax				
	comp=Z,3.0nm,0.9s								
PLOR	Plostina	71.14	318	⇑i P		P		15 48 36.5	+0.7
TESR	Tescani	71.33	319	⇑i P		P		15 48 36.8	-0.1
MLR	Muntele Rosu	71.52	317	P		P		15 48 38.7	+0.5
	comp=Z,2.0nm,0.9s,baz=118,slow=4.6,SNR=6.5								
MLR	Muntele Rosu	71.52	317	⇑i P		P		15 48 38.9	+0.7
MLR	Muntele Rosu	71.52	317	eP		P		15 48 37.9	-0.4
	comp=Z,12nm,0.9s								
MLR	Muntele Rosu	71.52	317	eP		P		15 48 37.9	-0.4
MLR				pmax	pmax				
	comp=Z,12nm,0.9s								
BURAR	Bucovina Array	72.58	319	⇑i P		P		15 48 45.8	+1.3
BUR04	Bucovina Ar. S	72.59	319	eP		P		15 48 44.4	-0.2
BUR08	Bucovina Ar. S	72.60	319	eP		P		15 48 42.6	-2.0
VTS	Vitosha	72.72	314	‖i P		P		15 48 45.4	-0.1
TIXI	Tiksi	72.83	11	eP		P		15 48 44.2	-1.1
	comp=Z,12nm,0.7s								
TIXI	Tiksi	72.83	11	ceP		P		15 48 44.7	-0.7
TIXI				pmax	pmax				
	comp=Z,8.0nm,0.5s								
SEY	Seymchan	74.62	24	ceP		P		15 48 54.5	-1.5
VSU	Vasula	75.07	330	ceP		P		15 48 57.9	-0.8
VSU				pmax	pmax				
	comp=Z,62nm,1.7s								
FINES	FINESS Array B	76.41	333	P		P		15 49 06.0	-0.4
	comp=Z,6.3nm,1.0s,baz=86,slow=7.8,SNR=8.5								
FINES	FINESS Array B	76.41	333	P		P		15 49 06.0	-0.4
FINES				pmax	pmax				
	comp=Z,6.0nm,1.0s								
KRLC	Kraliky	78.56	321	ePCP		PcP		15 49 27.3	-0.4
DPC	Dobruska-Polom	78.89	321	eP		P		15 49 21.8	+1.3
DPC				ePCP		PcP		15 49 29.7	+0.5
DPC	Dobruska-Polom	78.89	321	eP		P		15 49 21.8	+1.3
DPC				e				15 49 29.7	
ARCES	ARCESS Array B	79.53	341	P		P		15 49 23.8	+0.3
	comp=Z,4.6nm,0.9s,baz=41,slow=3.9,SNR=3.7								
PRU	Pruhonice	79.97	320	ePCP		PcP		15 49 35.7	+1.9
GEA0	GERESS Array S	80.36	319	eP		P		15 49 27.6	-1.0
GEC2	GERESS Array S	80.36	319	eP		P		15 49 28.8	+0.1
	comp=Z,9.1nm,0.8s								
GEC2	GERESS Array S	80.36	319	eP		P		15 49 28.8	+0.1
GEC2				pmax	pmax				
	comp=Z,9.0nm,0.8s								
GERES	GERESS Array B	80.36	319	P		P		15 49 29.3	+0.7
	comp=Z,3.1nm,0.7s,baz=109,slow=5.3,SNR=12								
GERES	GERESS Array B	80.36	319	P		P		15 49 29.3	+0.7
GERES				pmax	pmax				
	comp=Z,6.0nm,1.0s								
KHC	Kasperske Hory	80.48	319	eP		P		15 49 31.0	+1.8
KHC				ex		x		15 49 38.9	
KHC	Kasperske Hory	80.48	319	eP		P		15 49 31.0	+1.8
KHC				e				15 49 38.9	
BILL	Bilibino	81.79	21	⇑eP		P		15 49 35.7	0.0
BILL				e				15 52 46.3	
BILL				eS		S		15 59 39.8	-8.9
BILL				pmax	pmax				
	comp=Z,1.0nm,0.5s								
HFS	Hagfors	81.96	330	P		P		15 49 36.5	-0.2
	comp=Z,2.5nm,0.9s,baz=105,slow=16,SNR=2.9								
NOA	NORSAR Array B	83.29	331	P		P		15 49 44.7	+1.0
	comp=Z,1.4nm,0.8s,baz=93,slow=5.4,SNR=2.6								
VNDA	Vanda	88.20	168	P		P		15 50 07.8	+0.1
	comp=Z,0.5nm,0.3s,baz=270,slow=2.0,SNR=5.8								
TORD	Torodi Ar. Bea	89.70	283	P		P		15 50 17.0	+1.0
	comp=Z,127nm,1.0s,baz=58,slow=3.6,SNR=2.5								
ESDC	Sonseca Array	92.96	310	P		P		15 50 31.5	+0.7
	comp=Z,0.1nm,0.3s,baz=83,slow=3.9,SNR=2.7								
YKA	Yellowknife Ar	112.05	13	PKiKP		PKiKP		15 55 51.9	-0.3
	comp=Z,0.1nm,0.3s,baz=305,slow=2.3,SNR=3.3								
YKA				PP		PP		15 56 34.3	-1.1
	comp=Z,0.1nm,0.6s,baz=336,slow=6.4,SNR=4.2								
WAH2	Wahluke Slope	123.58	26	ePKPdf		PKPdf		15 56 14.8	-0.1
ULM	Lac du Bonnet	126.96	6	PKP		PKPdf		15 56 21.0	-0.3
	comp=Z,0.8nm,0.5s,baz=60,slow=4.8,SNR=2.7								
ULM	Lac du Bonnet	126.96	6	PKiKP		PKPdf		15 56 21.0	-0.3
ULM				pmax	pmax				
	comp=Z,1.0nm,0.5s								
NVAR	Mina Array Bea	130.55	31	PKP		PKPdf		15 56 30.3	+1.6
	comp=Z,0.8nm,0.7s,baz=351,slow=3.1,SNR=6.3								
PLCA	Paso Flores	138.85	200	PKP		PKPdf		15 56 45.0	+1.0
	comp=Z,1.1nm,0.9s,baz=194,slow=2.2,SNR=2.8								
PLCA	Paso Flores	138.85	200	PKiKP		PKPdf		15 56 45.0	+1.0
PLCA				pmax	pmax				
	comp=Z,1.0nm,0.7s								
TX31	Lajitas Ar. Si	144.92	24	ePKPbc		PKPbc		15 56 54.5	+0.2
TXAR	Lajitas Array	144.92	24	PKP		PKPdf		15 56 55.0	-0.2
	comp=Z,4.9nm,0.9s,baz=270,slow=1.6,SNR=25								
JCT	Junction City	145.27	18	ePKPdf		PKPbc		15 56 54.7	-0.6
JCT	Junction City	145.27	18	ePKiKP		PKPbc		15 56 54.7	-0.6
HPIG		146.09	29	ePKPdf		PKPbc		15 56 58.0	-0.2

*ISCJB **11** 15:38:35.3±0.8, 3.°9N±0.°1×92.°51E±0.°08, h10km, mb4.3/8, Error ellipse: s-maj=17.4km s-min=8.8km az=28.7*
*IDC **11** 15:38:36.3±7.1, 3.°90N×92.°53E, h0km, mb4.2/6, mb1 4.3/8, mb1mx3.8/68, mbtmp4.2/8, ML4.5/2, Error ellipse: s-maj=143.9km s-min=42.4km az=156.0*
*NEIC **11** 15:38:37.2±0.9, 3.°85N×92.°50E, h10km, mb4.2/2, Error ellipse: s-maj=18.1km s-min=10.1km az=210.0*
ISC 11 15:38:37.8±0.9, 4.°0N±0.°1×92.°54E±0.°09, h10km, n17, σ1§13/17, mb4.3/8, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LHMI	Lhok Sumawe	4.57	74	ePn		Pn		15 39 45.8	-1.3
GSI	Gunungsitoli	5.68	117	Pn		Pn		15 40 01.7	-0.6
IPM	Ipoh	8.48	86	ePn		Pn		15 40 39.5	-1.3
PALK	Pallekele	12.23	286	Pn		Pn		15 41 31.1	-1.1
	4.2nm,0.3s,baz=116,slow=14,SNR=3.0								
PALK	Pallekele	12.23	286	ePn		Pn		15 41 31.3	-1.0
MNAI	Manna	13.29	128	Pn		Pn		15 41 47.5	+0.9
CMAR	Chiang Mai Arr	15.72	23	Pn		Pn		15 42 21.5	+2.1
	0.4nm,0.3s,baz=215,slow=14,SNR=3.2								
CHTO	Chiang Mai	16.04	22	eP		P		15 42 27.1	0.0
	1.6nm,0.4s								
KSM	Kuching	17.92	97	ePn		Pn		15 42 47.2	-0.1
MKAR	Makanchi Array	43.59	350	P		P		15 46 41.8	-0.4
	1.6nm,0.5s,baz=169,slow=8.9,SNR=5.4								
SONM	Songino Array	45.31	13	P		P		15 46 56.5	+0.5
	2.3nm,0.6s,baz=197,slow=8.7,SNR=3.3								
GEYT	Alibeck	46.16	322	P		P		15 47 04.5	+1.8
	2.1nm,0.7s,baz=134,slow=6.2,SNR=3.0								
KURBB	Kurchatov Arra	47.98	348	P		P		15 47 16.6	-0.1
	0.7nm,0.5s,baz=170,slow=7.2,SNR=4.2								
KURK	Kurchatov	48.05	348	eP		P		15 47 16.6	-0.6
	12nm,0.6s								
ZALV	Zalesovo Beam	50.24	354	P		P		15 47 33.9	-0.1
	4.8nm,0.5s,baz=175,slow=6.6,SNR=9.2								
TIXI	Tiksi	71.36	11	eP		P		15 49 56.0	-1.6
	4.5nm,0.5s								
GERES	GERESS Array B	79.69	319	P		P		15 50 46.3	+0.4
	1.1nm,0.8s,baz=91,slow=6.9,SNR=2.1								

*ISCJB **11** 15:41:34.8±0.3, 0.°85N±0.°04×92.°40E±0.°03, h10km, mb4.5/37, Error ellipse: s-maj=6.2km s-min=3.8km az=27.9*
*IDC **11** 15:41:35.6±0.6, 0.°84N×92.°40E, h0km, mb4.3/21, mb1 4.4/24, mb1mx4.1/67, mbtmp4.3/24, ML4.6/3, Error ellipse: s-maj=18.5km s-min=12.1km az=48.0*
*DJA **11** 15:41:37.5±1.9, 1.°N±4.°×9.°2E±.°, h22km±19km, M5.7/20, mb5.5/20, mB6.0/13, MLv5.8/7, Mw(mB)5.6/13*
*NEIC **11** 15:41:37.0±3.0, 0.°89N×92.°38E, h10km±18km, mb4.8/17, Error ellipse: s-maj=8.1km s-min=4.9km az=47.0*
ISC 11 15:41:36.7±0.5, 0.°79N±0.°06×92.°44E±0.°05, h10km, n90, σ1§54/97, mb4.6/37, 1C, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GSI	Gunungsitoli	5.16	84	P		Pn		15 42 55.7	+1.7
	272nm,0.6s,10µm3.3nm								
GSI				S		Sn		15 43 47.3	-6.4
	272nm,0.6s,10µm3.3nm								
GSI	Gunungsitoli	5.16	84	ePn		Pn		15 42 55.5	+1.5
MLSI	Meulaboh, Aceh	5.25	49	P		Pn		15 42 56.0	+0.7
MLSI				S		Sn		15 43 48.9	-7.1
TPTI		5.33	63	P		Pn		15 42 56.8	+0.4
TPTI				S		Sn		15 43 50.7	-7.3
BSI	Banda Aceh	5.47	31	P		Pn		15 42 58.5	+0.1
BSI				S		Sn		15 43 56.9	-4.6
KCSI	Kotacane, Aceh	5.98	63	P		Pn		15 43 06.6	+1.3
KCSI				S		Sn		15 44 04.3	-10
LHMI	Lhok Sumawe	6.30	46	P		Pn		15 43 11.2	+1.5
	979nm,0.6s,19µm4.2nm								
LHMI				S		Sn		15 44 24.1	+2.3
	979nm,0.6s,19µm4.2nm								
LHMI	Lhok Sumawe	6.30	46	ePn		Pn		15 43 11.2	+1.5
TSI	Tuntungan	6.68	66	P		Pn		15 43 16.2	+1.2
TSI				S		Sn		15 44 20.7	-11
PSI	Prapat	6.78	73	ePn		Pn		15 43 17.4	+1.0
SISI	Saibi	6.97	108	P		Pn		15 43 20.9	+1.9
SISI				S		Sn		15 44 33.4	-5.0
MNSI	Mandailing Nat	7.14	90	P		Pn		15 43 22.7	+1.5
MNSI				S		Sn		15 44 35.4	-7.1
PDSI	Padang	8.20	102	P		Pn		15 43 37.4	+1.6
PDSI				S		Sn		15 45 03.2	-5.4
PPSI	Pulau Pagai	8.35	115	P		Pn		15 43 39.6	+1.7
PPSI				S		Sn		15 45 06.0	-6.7
BKNI	Bangkinang	8.61	93	P		Pn		15 43 43.0	+1.5
BKNI	Bangkinang	8.61	93	ePn		Pn		15 43 43.8	+2.3
SDSI	Sungai Dareh	9.15	101	P		Pn		15 43 50.2	+1.3
IPM	Ipoh	9.32	67	ePn		Pn		15 43 52.3	+1.0
KULM	Kulim	9.33	61	ePn		Pn		15 43 51.7	+0.3
KRJI	Kerinci	9.46	108	P		Pn		15 43 54.5	+1.2
KRJI				S		Sn		15 45 35.5	-4.4
RGRI	Rengat	9.96	97	P		Pn		15 44 01.2	+1.2
MASI	Maura Aman, Be	10.54	112	P		Pn		15 44 09.9	+1.8
MASI				S		Sn		15 46 01.7	-4.7
MYKOM	Kota Tinggi	11.45	85	ePn		Pn		15 44 21.7	+1.3
MNAI	Manna	11.69	116	P		Pn		15 44 24.6	+0.9
MNAI				S		Sn		15 46 23.5	-11
MNAI	Manna	11.69	116	ePn		Pn		15 44 24.6	+0.9
TPRI	Tanjung Pinang	12.09	89	P		Pn		15 44 29.7	+0.6
MDSI	Maura Dua	12.82	114	P		Pn		15 44 40.9	+1.4
PALK	Pallekele	13.36	299	Pn		Pn		15 44 45.6	-0.9
	5.9nm,0.3s,baz=116,slow=14,SNR=3.7								
PALK	Pallekele	13.36	299	ePn		Pn		15 44 44.9	-1.6
KASI	Kota Agung	13.58	118	P		Pn		15 44 50.9	+1.4
CGJI	Cibinong	15.13	119	P		Pn		15 45 09.9	-0.8
LEM	Lembang	16.93	117	Pn		Pn		15 45 35.2	+1.2
	2.4nm,0.3s,baz=322,slow=10,SNR=3.6								
CISI	Cisompet, Garu	17.43	119	ePn		Pn		15 45 42.0	+1.7
	162nm,1.3s								
KSM	Kuching	17.88	88	ePn		Pn		15 45 46.2	+0.5
	34nm,1.5s								
CM01	Chiang Mai Arr	18.65	20	eP		P		15 45 52.9	-2.0
CM31	Chiang Mai Arr	18.68	20	eP		P		15 45 53.3	-1.9
CMAR	Chiang Mai Arr	18.68	20	P		P		15 45 54.8	-0.4
	0.4nm,0.3s,baz=215,slow=12,SNR=11								
CHTO	Chiang Mai	19.01	19	eP		P		15 45 57.5	-1.4
	20nm,1.1s								
SBUM	Sibu	19.84	85	eP		P		15 46 10.0	+2.1
	11nm,0.8s								
HYB	Hyderabad	21.44	321	i P		P		15 46 25.0	-0.3
LSA	Lhasa	28.77	358	eP		P		15 47 34.4	-0.9
GYA	Guiyang	28.96	27	eP		P		15 47 38.2	+1.6
GYA				pmax	pmax				
	comp=Z,10.0nm,0.9s								
CD2	Chengdu	31.82	19	eP		P		15 48 02.0	+0.2
CD2				pmax	pmax				
	comp=Z,10.0nm,0.5s								
BATI	Baumata	32.93	110	P		P		15 48 11.1	-0.6
	comp=Z,7.2nm,0.5s,baz=270,slow=6.1,SNR=3.5								
ENH	Enshi	33.50	27	eP		P		15 48 15.5	-1.0
	comp=Z,6.8nm,0.6s								
XAN	Xi'an	36.50	23	P		P		15 48 42.2	-0.2
XAN				pP		pP		15 48 46.6	+1.2
XAN				sP		sP		15 48 49.6	+2.9
XAN				pmax	pmax				
	comp=Z,8.0nm,0.8s								
FITZ	Fitzroy Crossi	37.67	122	P		P		15 48 53.2	+0.8
	comp=Z,4.6nm,0.7s,baz=312,slow=10,SNR=7.6								
AAK	Ala-Archa	44.67	341	P		P		15 49 49.5	-0.4
	comp=Z,0.8nm,0.5s,baz=154,slow=11,SNR=2.9								
WRA	Warramunga Arr	45.93	119	P		P		15 50 00.7	+0.6
	comp=Z,6.6nm,0.8s,baz=297,slow=8.6,SNR=11								
KK06	Karatay Array	46.46	338	eP		P		15 50 02.7	-1.3
KK07	Karatay Array	46.46	338	eP		P		15 50 03.1	-0.9
KK08	Karatay Array	46.48	338	eP		P		15 50 03.3	-0.8
MK01	Makanchi Array	46.64	350	eP		P		15 50 04.5	-0.8
MK31	Makanchi Array	46.67	350	eP		P		15 50 04.7	-0.8
MKAR	Makanchi Array	46.67	350	P		P		15 50 05.0	-0.4
	comp=Z,2.6nm,0.7s,baz=168,slow=9.3,SNR=9.0								
MKAR	Makanchi Array	46.67	350	eP		P		15 50 05.1	-0.4
	comp=Z,30nm,0.6s								
ASAR	Alice Springs	47.03	124	P		P		15 50 09.6	+0.8
	comp=Z,1.6nm,0.8s,baz=299,slow=7.8,SNR=8.5								
AS01	Alice Springs	47.07	124	eP		P		15 50 09.6	+0.5
SONM	Songino Array	48.40	13	P		P		15 50 20.2	+1.1
	comp=Z,0.4nm,0.4s,baz=192,slow=10,SNR=3.1								
OPO	Ambohidratompo	48.44	244	P		P		15 50 20.8	+0.9
	comp=Z,1.8nm,0.6s,baz=68,slow=5.4,SNR=3.1								
GYB1	ALIBECK ARRAY	48.58	324	eP		P		15 50 20.8	+0.2
	comp=Z,12nm,1.0s								
GYA1	ALIBECK ARRAY	48.59	324	eP		P		15 50 20.6	0.0
	comp=Z,9.8nm,0.8s								
GYB2	ALIBECK ARRAY	48.59	324	eP		P		15 50 20.6	0.0
	comp=Z,12nm,1.0s								
GEYT	Alibeck	48.59	324	P		P		15 50 20.5	-0.2
	comp=Z,3.2nm,0.5s,baz=148,slow=8.7,SNR=8.8								
GYA0	ALIBECK ARRAY	48.59	324	eP		P		15 50 18.4	-2.2
	comp=Z,8.2nm,0.9s								
GYA0B	ALIBECK ARRAY	48.59	324	eP		P		15 50 18.5	-2.1
	comp=Z,8.8nm,0.9s								
GYA2	ALIBECK ARRAY	48.59	324	eP		P		15 50 19.9	-0.7
	comp=Z,13nm,0.9s								
GYB3	ALIBECK ARRAY	48.60	324	eP		P		15 50 21.0	+0.3
	comp=Z,10nm,0.9s								
GYB4	ALIBECK ARRAY	48.61	324	eP		P		15 50 21.0	+0.2
	comp=Z,11nm,0.9s								
KSAR	Wonju Array Be	48.95	38	P		P		15 50 24.5	+1.2
KSRS	Korea Array	48.98	38	P		P		15 50 24.5	+1.0
	comp=Z,1.2nm,0.8s,baz=231,slow=7.7,SNR=4.4								
KURBB	Kurchatov Arra	51.04	349	P		P		15 50 38.6	-0.4
	comp=Z,2.1nm,0.8s,baz=169,slow=7.2,SNR=9.2								
KURK	Kurchatov	51.11	349	eP		P		15 50 38.0	-1.5
	comp=Z,4.8nm,0.8s								
ZALV	Zalesovo Beam	53.35	354	P		P		15 50 55.6	-0.5
	comp=Z,3.0nm,0.5s,baz=174,slow=7.7,SNR=7.9								
ZALV	Zalesovo Beam	53.35	354	eP		P		15 50 54.9	-1.2
BVAR	Borovoye Array	55.20	344	P		P		15 51 08.7	-0.9
	comp=Z,1.1nm,0.8s,baz=124,slow=7.9,SNR=4.6								
AB31	Akbulak array	55.74	335	eP		P		15 51 12.4	-1.1
ABKAR	Akbulak array	55.74	335	eP		P		15 51 12.4	-1.2
	comp=Z,24nm,0.8s								
STKA	Stephens Creek	56.69	130	P		P		15 51 21.7	+1.0
	comp=Z,2.0nm,0.7s,baz=325,slow=6.7,SNR=3.8								
KLR	Kul'dur	58.83	29	P		P		15 51 37.0	+1.6
	comp=Z,0.1nm,0.6s,baz=281,slow=11,SNR=2.5								
KBZ	Khabaz	61.33	321	P		P		15 51 53.5	+0.8
	comp=Z,2.1nm,0.8s,baz=90,slow=6.5,SNR=4.5								
BR131	Keskin Array S	65.91	314	eP		P		15 52 22.1	-1.1
BRTR	Keskin Array B	65.91	314	P		P		15 52 22.7	-0.6
	comp=Z,1.4nm,0.8s,baz=134,slow=5.3,SNR=5.4								
BOSA	Boshof	70.47	239	P		P		15 52 52.4	+0.4
	comp=Z,4.9nm,1.0s,baz=116,slow=6.5,SNR=3.9								
TIXI	Tiksi	74.46	11	eP		P		15 53 13.8	-1.0
	comp=Z,4.5nm,0.8s								
SYO	Syowa Base	78.18	197	⇑eX		P		15 53 33.8	-2.2
FINES	FINESS Array B	78.19	333	P		P		15 53 35.5	-0.6
	comp=Z,1.9nm,0.7s,baz=107,slow=6.4,SNR=4.9								
VAE	Valguarnera	80.02	308	P		P		15 53 47.8	+1.0
	comp=Z,5.9nm,0.4s,baz=97,slow=8.1,SNR=2.0								
GERES	GERESS Array B	81.99	319	P		P		15 53 57.7	+0.6
	comp=Z,1.5nm,0.7s,baz=104,slow=5.6

FINES	FINESS Array B	78.08	333	P	P	15 53 50.2	+0.5
SYO	Syowa Base	78.30	197	*e*P	P	15 53 52.0	+1.3
GERES	GERESS Array B	81.90	319	P	P	15 54 11.7	+0.9
	3.1nm,0.8s,baz=104,slow=5.6,SNR=8.4						
GERES	GERESS Array B	81.90	319	P	P	15 54 11.7	+0.9
TXAR	Lajitas Array	146.21	26	PKPbc	PKPbc	16 01 32.7	+0.3
	1.1nm,0.6s,baz=299,slow=1.9,SNR=8.3						
TXAR	Lajitas Array	146.21	26	PKPbc	PKPbc	16 01 32.7	+0.3

BJI ***11*** *15:46:45.3,2.°31N×92.°14E,h16km,mb4.8/59,mB5.0/23, Ms4.8/16,Ms7 4.7/15*
IDC ***11*** *15:46:49.5±0.3,2.°93N×92.°24E,h0km,mb4.5/47, mb1 4.5/50,mb1mx4.5/64,mbtmp4.5/50,ML4.4/3,MS4.2/2, Ms1 4.2/2,ms1mx3.7/59,Error ellipse: s-maj=12.3km s-min=8.4km az=34.0*
ISCJB ***11*** *15:46:50.9±0.2,2.°95N±0.°03×92.°23E±0.°02,h23km, mb4.8/113,Error ellipse: s-maj=4.4km s-min=2.5km az=30.0*
NEIC ***11*** *15:46:51.2±1.9,2.°95N×92.°20E,h14km±12km,mb5.2/44, Error ellipse: s-maj=5.5km s-min=3.2km az=224.0*
DJA ***11*** *15:46:51.3±1.9,3.°N±4.°×9.°2E±.°,h21km±19km,M5.6/19, mb5.6/19,mB6.0/14,MLv5.5/8,Mw(mB)5.6/14*
MOS ***11*** *15:46:52.6±0.9,2.°97N×92.°25E,h35km,mb5.1/30,Error ellipse: s-maj=8.5km s-min=5.4km az=108.0*
ISC 11 15:46:52.3±0.6,2.94N±0.04×92.20E±0.04,h19km±2km, n315,σ1§41/343,mb4.8/117,11C-7D,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSI	**Banda Aceh**	**4.00**	**50**	P	**Pn**	**15 47 51.9**	**-0.8**
BSI				S	**Sn**	**15 48 33.6**	**-5.5**
MLSI	**Meulaboh, Aceh**	**4.40**	**72**	P	**Pn**	**15 47 57.7**	**-0.5**
MLSI				S	**Sn**	**15 48 47.7**	**-1.3**
TPTI		**4.99**	**86**	P	**Pn**	**15 48 06.4**	**+0.2**
LHMI	**Lhok Sumawe**	**5.26**	**64**	P	**Pn**	**15 48 08.9**	**-1.0**
LHMI				S	**Sn**	**15 49 10.8**	**+0.7**
LHMI	**Lhok Sumawe**	**5.26**	**64**	*e*Pn	**Pn**	**15 48 10.2**	**+0.3**
KCSI	**Kotacane, Aceh**	**5.60**	**84**	P	**Pn**	**15 48 14.6**	**0.0**
GSI	**Gunungsitoli**	**5.62**	**107**	P	**Pn**	**15 48 14.8**	**-0.1**
	590nm,0.6s,10μm2.8nm						
GSI				S	Sn	15 49 07.8	-11
	590nm,0.6s,10μm2.8nm						
GSI	**Gunungsitoli**	**5.62**	**107**	*e*Pn	**Pn**	**15 48 14.3**	**-0.6**
TSI	**Tuntungan**	**6.38**	**85**	P	**Pn**	**15 48 25.3**	**-0.1**
	748nm,0.7s,13μm						
PSI	**Prapat**	**6.72**	**91**	*e*Pn	**Pn**	**15 48 30.0**	**-0.2**
PSI	**Prapat**	**6.72**	**91**	*e*P	**Pn**	**15 48 30.0**	**-0.2**
MNSI	**Mandailing Nat**	**7.68**	**106**	P	**Pn**	**15 48 43.5**	**+0.3**
SISI	**Saibi**	**8.09**	**121**	P	**Pn**	**15 48 49.6**	**+0.8**
SISI				S	**Pn**	**15 48 49.8**	**+1.0**
PBA	**Port Blair**	**8.68**	**4**	*e*P	Pn	15 48 57.2	+0.2
KULM	**Kulim**	**8.75**	**74**	*e*Pn	**Pn**	**15 48 57.2**	**-0.7**
IPM	**Ipoh**	**8.94**	**80**	*e*Pn	**Pn**	**15 48 59.6**	**-1.0**
PDSI	**Padang**	**9.11**	**115**	P	**Pn**	**15 49 03.4**	**+0.6**
	78nm,0.6s,19μm						
PPSI	**Pulau Pagai**	**9.65**	**126**	P	**Pn**	**15 49 11.5**	**+1.3**
DGPR	**DILIPUR**	**10.20**	**4**	*e*P	**Pn**	**15 49 17.7**	**-0.1**
KRJI	**Kerinci**	**10.52**	**118**	P	**Pn**	**15 49 22.8**	**+0.4**
MYKOM	**Kota Tinggi**	**11.70**	**95**	*e*Pn	**Pn**	**15 49 38.0**	**-0.4**
MASI	**Maura Aman, Be**	**11.71**	**121**	P	**Pn**	**15 49 38.5**	**-0.1**
PALK	**Pallekele**	**12.23**	**291**	Pn	**Pn**	**15 49 44.2**	**-1.4**
	5.0nm,0.3s,baz=116,slow=13,SNR=11						
PALK	**Pallekele**	**12.23**	**291**	*e*Pn	**Pn**	**15 49 43.2**	**-2.5**
PALK	**Pallekele**	**12.23**	**291**	*i* P	**Pn**	**15 49 44.0**	**-1.7**
MNAI	**Manna**	**12.97**	**124**	P	**Pn**	**15 49 55.9**	**+0.2**
MNAI	**Manna**	**12.97**	**124**	*e*Pn	**Pn**	**15 49 55.6**	**-0.1**
MDSI	**Maura Dua**	**14.06**	**122**	P	**Pn**	**15 50 09.6**	**-1.1**
KASI	**Kota Agung**	**14.89**	**124**	P	**Pn**	**15 50 21.6**	**-0.3**
MDRS	**Chennai**	**15.52**	**311**	*e*P	**Pn**	**15 50 28.1**	**-2.3**
TRD	**Trivandrum**	**16.13**	**291**	*e*P	**Pn**	**15 50 37.2**	**-1.0**
SKHT	**Srikalahasti**	**16.35**	**312**	*e*P	**Pn**	**15 50 40.3**	**-0.7**
CM01	**Chiang Mai Arr**	**16.75**	**23**	*e*Pn	**Pn**	**15 50 44.8**	**-1.4**
CM31	**Chiang Mai Arr**	**16.78**	**23**	*e*Pn	**Pn**	**15 50 44.9**	**-1.6**
CMAR	**Chiang Mai Arr**	**16.78**	**23**	Pn	**Pn**	**15 50 45.8**	**-0.7**
	0.3nm,0.3s,baz=216,slow=13,SNR=26						
VIS	**Vishakhapatnam**	**17.07**	**330**	*e*P	**Pn**	**15 50 49.2**	**-1.0**
CHTO	**Chiang Mai**	**17.11**	**22**	*e*Pn	**Pn**	**15 50 49.1**	**-1.4**
	58nm,1.0s						
CHTO	**Chiang Mai**	**17.11**	**22**	*e*P	**Pn**	**15 50 49.1**	**-1.4**
CHTO				pmax	pmax		
	comp=Z,58nm,1.0s						
CHLP	**Challavanipeta**	**17.41**	**333**	*e*P	**Pn**	**15 50 53.3**	**-0.9**
ADKI	**Addanki**	**17.59**	**318**	*e*P	**Pn**	**15 50 54.3**	**-2.3**
PVM	**Polavaram**	**17.61**	**325**	*e*P	**Pn**	**15 50 55.6**	**-1.1**
KSM	**Kuching**	**18.16**	**94**	*e*Pn	**P**	**15 51 04.6**	**+0.8**
	comp=Z,373nm,1.9s						
LEM	**Lembang**	**18.20**	**122**	P	**Pn**	**15 51 03.9**	**-0.3**
	comp=Z,1.0nm,0.3s,baz=315,slow=12,SNR=6.7						
SRLM	**Srisailam**	**18.51**	**316**	*e*P	**P**	**15 51 07.0**	**-0.7**
NJS	**Nagarjunasagar**	**18.54**	**318**	*e*P	**P**	**15 51 07.3**	**-0.7**
CISI	**Cisompet, Garu**	**18.75**	**124**	*e*P	**P**	**15 51 09.9**	**-0.5**
	comp=Z,54nm,0.6s						
XMIS	**Christmas Isla**	**18.90**	**135**	*e*P	**P**	**15 51 10.8**	**-1.2**
	comp=Z,262nm,1.8s						
URV	**Uravakonda**	**18.95**	**310**	*e*P	**P**	**15 51 12.5**	**-0.1**
HYB	**Hyderabad**	**19.66**	**318**	*i* P	**P**	**15 51 21.0**	**+0.7**
HYB	**Hyderabad**	**19.66**	**318**	*e*P	**P**	**15 51 19.6**	**-0.7**
HYB				IAmb	IAmb	15 51 20.7	
	comp=Z,147nm,1.8s						
HYBB	**Hyderabad (bro**	**19.66**	**318**	*e*P	**P**	**15 51 19.9**	**-0.4**
SBUM	**Sibu**	**20.01**	**91**	*e*P	Pn	15 51 25.3	-0.6
	comp=Z,120nm,1.2s						
RPR	**Rampur**	**20.24**	**322**	*e*P	**P**	**15 51 26.3**	**-0.3**
SRSP	**Sriramsagar**	**20.89**	**321**	*e*P	**P**	**15 51 33.4**	**-0.3**
KLRI	**Killari**	**21.45**	**316**	*e*P	**P**	**15 51 39.2**	**-0.5**
BOK	**Bokaro**	**21.61**	**344**	*e*P	**P**	**15 51 40.9**	**-0.5**
BOK				IAmb	IAmb	15 51 43.6	
	comp=Z,68nm,1.1s						
GOA	**Goa**	**21.98**	**306**	*e*P	**P**	**15 51 44.9**	**-0.5**
NGP	**Nagpur**	**22.17**	**326**	*e*P	**P**	**15 51 45.9**	**-1.6**
SHL	**Shillong**	**22.50**	**359**	*ex*	**P**	**15 51 46.1**	**-5.0**
POO	**Poona**	**23.73**	**312**	*e*P	**P**	**15 52 02.1**	**-1.5**
ODAN	**Odare**	**24.23**	**349**	*e*P	**P**	**15 52 10.0**	**+1.6**
	comp=Z,157nm,1.4s						
KMI	**Kunming**	**24.29**	**24**	P	**P**	**15 52 11.4**	**+2.5**
KMI				pmax	pmax		
	comp=Z,39nm,0.9s						
KMI				pmax	pmax		
	comp=Z,560nm,12.5s						
RAMN	**Ramite**	**24.47**	**348**	*e*P	**P**	**15 52 11.8**	**+1.2**
	comp=Z,78nm,0.7s						
BOM	**Bombay**	**24.72**	**311**	*ex*	**P**	**15 52 19.7**	**+7.0**
BHPL	**Bhopal**	**24.74**	**326**	*e*P	**P**	**15 52 12.8**	**-0.1**
BHPL				IAmb	IAmb	15 52 14.9	
	comp=Z,15nm,0.3s						
JIRN	**Jiri**	**25.25**	**347**	*e*P	**P**	**15 52 18.6**	**+0.9**
	comp=Z,113nm,0.7s						
PKIN	**Phulchoki**	**25.35**	**346**	*e*P	**P**	**15 52 19.7**	**+1.1**
	comp=Z,29nm,0.7s						
GUN	**Gumba**	**25.56**	**347**	*e*P	**P**	**15 52 21.3**	**+0.8**
	comp=Z,54nm,0.6s						
GKN	**Gorkha**	**25.95**	**345**	*e*P	**P**	**15 52 24.6**	**+0.7**
	comp=Z,38nm,0.7s						
KOLN	**Koldanda**	**26.02**	**342**	*e*P	**P**	**15 52 25.3**	**+0.7**
	comp=Z,39nm,0.6s						
MYLDM	**Lahad Datu**	**26.33**	**84**	*e*P	**P**	**15 52 28.2**	**+0.8**
	comp=Z,163nm,1.6s						
LSA	**Lhasa**	**26.64**	**358**	P	**P**	**15 52 31.7**	**+1.3**
LSA				pmax	pmax		
	comp=Z,9.0nm,0.7s						
LSA	**Lhasa**	**26.64**	**358**	*e*P	**P**	**15 52 31.0**	**+0.6**
	comp=Z,15nm,0.6s						
LSA	**Lhasa**	**26.64**	**358**	*e*P	**P**	**15 52 31.0**	**+0.6**
LSA				pmax	pmax		
	comp=Z,15nm,0.6s						
GYA	**Guiyang**	**27.20**	**29**	P	**P**	**15 52 37.8**	**+2.7**
GYA				PP	**PnPn**	**15 53 24.2**	**+5.4**
GYA				PcP	**PcP**	**15 55 56.0**	**+0.6**
GYA				S	**S**	**15 57 20.8**	**+7.5**
GYA				SS	**SnSn**	**15 58 30.3**	**+8.8**
GYA				ScP	**ScP**	**15 59 34.5**	**-0.5**
GYA				pmax	pmax		
	comp=Z,20nm,1.0s						
GYA				pmax	pmax		
	comp=Z,130nm,5.6s						
GYA				LR	LR		
	comp=Z,550nm,18.0s						
GYA				LR	LR		
	comp=Z,520nm,18.4s						
GYA				LR	LR		
	comp=Z,560nm,18.2s						
CD2	**Chengdu**	**29.89**	**20**	P	**P**	**15 53 00.0**	**+1.0**
CD2				S	**S**	**15 57 58.6**	**+3.1**
CD2				pmax	pmax		
	comp=Z,70nm,0.7s						
DDI	**Dehra Dun**	**30.35**	**335**	*e*P	**P**	**15 53 05.1**	**+2.0**
DDI				IAmb	IAmb	15 53 05.8	
	comp=Z,28nm,0.4s						
SMLA	**Simla**	**31.43**	**335**	*e*P	**P**	**15 53 12.5**	**0.0**
SMLA				IAmb	IAmb	15 53 15.2	
	comp=Z,3μm,5.3s						
ENH	**Enshi**	**31.74**	**29**	*e*P	**P**	**15 53 14.2**	**-1.1**
	comp=Z,12nm,0.8s						
DHRM	**DHARAMSHALA**	**32.76**	**335**	*e*P	**P**	**15 53 24.2**	**-0.3**
DHRM				IAmb	IAmb	15 53 24.4	
	comp=Z,80nm,1.8s						
BATI	**Baumata**	**33.95**	**113**	P	**P**	**15 53 33.6**	**-1.3**
	comp=Z,6.9nm,0.6s,baz=321,slow=6.5,SNR=2.7						
XAN	**Xi'an**	**34.66**	**25**	P	**P**	**15 53 40.1**	**-0.6**
XAN				pP	pP	15 53 46.2	-0.4
XAN				sP	sP	15 53 48.8	-0.1
XAN				pmax	pmax		
	comp=Z,68nm,0.8s						
LZH	**Lanzhou**	**34.70**	**17**	*e*P	**P**	**15 53 41.5**	**+0.3**
LZH				pP	pP	15 53 48.0	+0.9
LZH				sP	sP	15 53 51.1	+1.7
LZH				PP	**PP**	**15 54 59.2**	**-0.9**
LZH				pmax	pmax		
	comp=Z,25nm,1.3s						
LZH				pmax	pmax		
	comp=Z,120nm,5.1s						
LZH				LR	LR		
	comp=Z,1μm,14.0s						
LZH				LR	LR		
	comp=Z,1μm,14.1s						
LZH				LR	LR		
	comp=Z,2μm,17.5s						
NIL	**Nilore**	**35.31**	**332**	*e*P	**P**	**15 53 46.0**	**-0.4**
	comp=Z,52nm,0.6s						
NIL	**Nilore**	**35.31**	**332**	*e*P	**P**	**15 53 46.0**	**-0.4**
NIL				pmax	pmax		
	comp=Z,52nm,0.6s						
GTA	**Gaotai**	**36.96**	**10**	*e*P	**P**	**15 54 01.2**	**+0.7**
GTA				pP	sP	15 54 08.3	-0.4
GTA				sP	pP	15 54 12.1	+5.7
GTA				S	**S**	**15 59 45.6**	**+0.6**
GTA				pmax	pmax		
	comp=Z,18nm,0.9s						
GTA				LR	LR		
	comp=Z,700nm,24.7s						
GTA				LR	LR		
	comp=Z,710nm,18.5s						
GTA				LR	LR		
	comp=Z,3μm,16.6s						
WSAR	**Wadi Sarin**	**38.24**	**305**	P	**P**	**15 54 12.0**	**+0.5**
	comp=Z,3.7nm,0.7s,baz=135,slow=7.5,SNR=3.5						
WSAR	**Wadi Sarin**	**38.24**	**305**	P	**P**	**15 54 12.0**	**+0.5**
NJ2	**Nanjing**	**38.30**	**38**	*e*P	**P**	**15 54 10.4**	**-1.4**
NJ2				pmax	pmax		
	comp=Z,20nm,0.5s						
MEEK	**Meekatharra**	**38.94**	**141**	P	**P**	**15 54 18.2**	**+1.0**
	baz=39,SNR=8.4						
FITZ	**Fitzroy Crossi**	**39.02**	**124**	P	**P**	**15 54 17.7**	**-0.4**
	baz=39,SNR=6.9						
FITZ	**Fitzroy Crossi**	**39.02**	**124**	*e*P	**P**	**15 54 17.7**	**-0.4**
TIY	**Taiyuan**	**39.27**	**26**	*e*P	**P**	**15 54 17.7**	**-2.3**
TIY				S	**S**	**16 00 20.5**	**+0.5**
TIY				sS	**sS**	**16 00 31.2**	**+1.6**
TIY				SS	**SS**	**16 03 07.7**	**-6.0**
TIY				LR	LR		
	comp=Z,200nm,8.3s						
TIY				LR	LR		
	comp=Z,860nm,18.6s						
KSH	**Kashi**	**39.28**	**340**	P	**P**	**15 54 18.5**	**-1.6**
KSH				pmax	pmax		
	comp=Z,13nm,0.9s						
TARG	**Taragay, Kyrgy**	**40.73**	**343**	*e*P	**P**	**15 54 32.1**	**-0.4**
	comp=Z,13nm,1.1s						
WMQ	**Urumqi**	**40.91**	**355**	P	**P**	**15 54 35.1**	**+1.6**
WMQ				pmax	pmax		
	comp=Z,20nm,1.1s						
KDJ	**Kajisay**	**41.28**	**343**	*e*P	**P**	**15 54 37.0**	**+0.3**
	comp=Z,9.1nm,0.8s						
HHC	**Hu-ho-hao-te**	**41.59**	**22**	*e*P	**P**	**15 54 40.6**	**+1.4**
HHC				S	**S**	**16 00 56.1**	**+1.5**
HHC				pmax	pmax		
	comp=Z,41nm,1.1s						
HHC				pmax	pmax		
	comp=Z,89nm,6.1s						
HHC				LR	LR		
	comp=Z,560nm,15.6s						
HHC				LR	LR		
	comp=Z,590nm,14.8s						
HHC				LR	LR		
	comp=Z,620nm,14.5s						
JOW	**Kunigami**	**41.92**	**52**	P	**P**	**15 54 42.2**	**+0.3**
	comp=Z,15nm,0.7s,baz=254,slow=7.4,SNR=3.1						
UCH	**Uchtor**	**42.20**	**340**	P	**P**	**15 54 45.1**	**+0.5**
	SNR=11						
AML	**Almayashu**	**42.40**	**340**	P	**P**	**15 54 46.5**	**+0.4**
	SNR=23						
KBK	**Karagaybulak**	**42.44**	**341**	P	**P**	**15 54 48.2**	**+2.0**
	SNR=8.1						
TKM2	**Tokmak 2**	**42.47**	**342**	P	**P**	**15 54 47.9**	**+1.4**
	SNR=8.0						
AAK	**Ala-Archa**	**42.57**	**341**	P	**P**	**15 54 47.6**	**+0.3**
	comp=Z,2.8nm,0.8s,baz=47,slow=4.4,SNR=12						
AAK	**Ala-Archa**	**42.57**	**341**	*e*P	**P**	**15 54 47.6**	**+0.3**
	comp=Z,5.2nm,0.6s						
AAK	**Ala-Archa**	**42.57**	**341**	*e*P	**P**	**15 54 46.8**	**-0.5**
AAK				pmax	pmax		
	comp=Z,4.0nm,1.0s						
FRU	**Bishkek**	**42.71**	**341**	*e*P	**P**	**15 54 52.0**	**+3.8**
NWAO	**Narrogin (SRO)**	**42.82**	**148**	P	**P**	**15 54 48.7**	**-0.5**
	comp=Z,7.2nm,0.7s,baz=160,slow=8.2,SNR=5.2						
NWAO	**Narrogin (SRO)**	**42.82**	**148**	P	**P**	**15 54 50.0**	**+0.8**
	baz=43,SNR=4.0						
NWAO				P	**P**	**15 54 50.0**	**+0.8**
	baz=43,SNR=4.0						
EKS2	**Erkin-Say**	**42.84**	**340**	P	**P**	**15 54 51.7**	**+2.4**
	SNR=12						
BJI	**Beijing**	**42.85**	**27**	*i* P	**P**	**15 54 51.6**	**+2.3**
BJI				pmax	pmax		
	comp=Z,54nm,0.9s						
USP	**Ospenovka**	**43.13**	**341**	P	**P**	**15 54 52.1**	**+0.4**
	SNR=8.9						
KMBL	**Kambalda**	**44.29**	**143**	P	**P**	**15 55 02.3**	**+1.2**
	baz=44,SNR=5.5						
KK06	**Karatay Array**	**44.40**	**337**	*e*P	**P**	**15 55 01.4**	**-0.4**
KK07	**Karatay Array**	**44.40**	**337**	*e*P	**P**	**15 55 01.5**	**-0.4**
KK02	**Karatay Array**	**44.41**	**337**	*e*P	**P**	**15 55 01.5**	**-0.4**
KK31	**Karatay Array**	**44.41**	**337**	*e*P	**P**	**15 55 01.6**	**-0.3**
KK31	**Karatay Array**	**44.41**	**337**	*e*P	**P**	**15 55 01.6**	**-0.3**
KKAR	**Karatay Array**	**44.41**	**337**	*e*P	**P**	**15 55 01.6**	**-0.3**
KKAR	**Karatay Array**	**44.41**	**337**	*e*P	**P**	**15 55 01.6**	**-0.3**
KK01	**Karatay Array**	**44.41**	**337**	*e*P	**P**	**15 55 01.4**	**-0.5**
KK03	**Karatay Array**	**44.41**	**337**	*e*P	**P**	**15 55 01.6**	**-0.3**
KK05	**Karatay Array**	**44.42**	**337**	*e*P	**P**	**15 55 01.3**	**-0.7**
KK04	**Karatay Array**	**44.42**	**337**	*e*P	**P**	**15 55 01.5**	**-0.5**
KK08	**Karatay Array**	**44.42**	**337**	*e*P	**P**	**15 55 01.6**	**-0.4**
MK01	**Makanchi Array**	**44.50**	**350**	*e*P	**P**	**15 55 01.7**	**-0.9**
MK31	**Makanchi Array**	**44.53**	**350**	*e*P	**P**	**15 55 02.1**	**-0.7**
MK31	**Makanchi Array**	**44.53**	**350**	*e*P	**P**	**15 55 02.1**	**-0.7**
MKAR	**Makanchi Array**	**44.53**	**350**	P	**P**	**15 55 02.8**	**+0.1**
	comp=Z,6.6nm,0.7s,baz=170,slow=7.7,SNR=27						
MKAR	**Makanchi Array**	**44.53**	**350**	*e*P	**P**	**15 55 02.3**	**-0.5**
	comp=Z,54nm,0.6s						
MKAR	**Makanchi Array**	**44.53**	**350**	*e*P	**P**	**15 55 02.3**	**-0.5**
MKAR				pmax	pmax		
	comp=Z,54nm,0.6s						
MAKZ	**Makanchi**	**44.59**	**350**	*e*P	**P**	**15 55 03.0**	**-0.3**
	comp=Z,20nm,1.7s						
MAKZ	**Makanchi**	**44.59**	**350**	*e*P	**P**	**15 55 03.0**	**-0.3**
MAKZ				pmax	pmax		
	comp=Z,20nm,1.7s						
WRKA	**Warakurna**	**44.72**	**131**	P	**P**	**15 55 04.5**	**-0.2**
	baz=45,SNR=7.9						
SONM	**Songino Array**	**46.38**	**13**	P	**P**	**15 55 18.2**	**+0.6**
	comp=Z,7.6nm,0.9s,baz=193,slow=8.8,SNR=22						
SONM				PcP	**PcP**	**15 56 52.8**	**+0.4**
	comp=Z,2.0nm,0.8s,baz=194,slow=4.1,SNR=2.7						
SONA1	**Songino Array**	**46.39**	**13**	*e*P	**P**	**15 55 16.9**	**-0.7**
ULN	**Ulaanbaatar**	**46.56**	**14**	*ce*P	**P**	**15 55 18.8**	**-0.2**
ULN				pmax	pmax		
	comp=Z,14nm,2.5s						
GYB1	**ALIBECK ARRAY**	**46.73**	**323**	*e*P	**P**	**15 55 20.6**	**+0.2**
	comp=Z,28nm,0.7s						
GYA1	**ALIBECK ARRAY**	**46.74**	**323**	*e*P	**P**	**15 55 20.7**	**+0.2**
	comp=Z,23nm,0.7s						
GYB2	**ALIBECK ARRAY**	**46.74**	**323**	*e*P	**P**	**15 55 20.5**	**0.0**
	comp=Z,31nm,0.8s						
GEYT	**Alibeck**	**46.74**	**323**	P	**P**	**15 55 21.4**	**+0.9**
	comp=Z,11nm,0.8s,baz=152,slow=7.9,SNR=21						
GYA0	**ALIBECK ARRAY**	**46.74**	**323**	*e*P	**P**	**15 55 20.6**	**+0.2**
	comp=Z,30nm,0.6s						
GYA0B	**ALIBECK ARRAY**	**46.74**	**323**	*e*P	**P**	**15 55 20.8**	**+0.3**
	comp=Z,31nm,0.7s						
GYB5	**ALIBECK ARRAY**	**46.74**	**323**	*e*P	**P**	**15 55 20.9**	**+0.4**
	comp=Z,32nm,0.7s						
GYA2	**ALIBECK ARRAY**	**46.74**	**323**	*e*P	**P**	**15 55 20.2**	**-0.2**
	comp=Z,28nm,0.8s						
GYB3	**ALIBECK ARRAY**	**46.75**	**323**	*e*P	**P**	**15 55 20.3**	**-0.2**
	comp=Z,27nm,0.7s						
GYB4	**ALIBECK ARRAY**	**46.76**	**323**	*e*P	**P**	**15 55 20.8**	**+0.2**
	comp=Z,29nm,0.8s						
DGZ	**Jazzator, Alta**	**46.77**	**356**	*e*P	**P**	**15 55 19.4**	**-1.2**
JNU	**Nakatsue**	**47.01**	**46**	P	**P**	**15 55 23.0**	**+0.4**
	comp=Z,6.6nm,0.8s,baz=50,slow=5.6,SNR=2.7						
JNU	**Nakatsue**	**47.01**	**46**	P	**P**	**15 55 23.0**	**+0.4**
WRA	**Warramunga Arr**	**47.20**	**121**	P	**P**	**15 55 24.1**	**-0.2**
	comp=Z,9.3nm,0.7s,baz=299,slow=8.8,SNR=58						
WRA				PcP	**PcP**	**15 56 56.0**	**+0.2**
	comp=Z,1.9nm,0.9s,baz=301,slow=9.0,SNR=4.5						
WRAB	**Tennant Creek**	**47.21**	**121**	*e*P	**P**	**15 55 24.1**	**-0.2**
	comp=Z,13nm,0.8s						
WRAB	**Tennant Creek**	**47.21**	**121**	*e*P	**P**	**15 55 24.2**	**-0.2**
WRAB				pmax	pmax		
	comp=Z,13nm,0.8s						
WB2	**Warramunga Arr**	**47.22**	**121**	*e*P	**P**	**15 55 23.8**	**-0.6**
	comp=Z,16nm,0.8s						
KSAR	**Wonju Array Be**	**47.44**	**39**	P	**P**	**15 55 26.1**	**+0.3**
KSAR				PcP	**PcP**	**15 56 56.9**	**+0.7**
KSAR	**Wonju Array Be**	**47.44**	**39**	P	**P**	**15 55 26.1**	**+0.3**
KSAR						15 56 56.9	
KS01	**Wonju Array Si**	**47.46**	**39**	*e*P	**P**	**15 55 25.6**	**-0.4**
KSRS	**Korea Array**	**47.47**	**39**	P	**P**	**15 55 26.1**	**+0.1**
	comp=Z,3.9nm,0.8s,baz=225,slow=9.7,SNR=13						
KSRS				PcP	**PcP**	**15 56 56.9**	**+0.6**
	comp=Z,1.2nm,0.7s,baz=216,slow=2.6,SNR=5.4						
HVS	**Khovu-Aksy**	**48.05**	**1**	*e*P	**P**	**15 55 30.7**	**+0.2**
HVS				pmax	pmax		
	comp=Z,24nm,1.0s						
ZAK	**Zakamensk**	**48.20**	**10**	*e*P	**P**	**15 55 31.7**	**0.0**
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.1s						
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.3s						
AS31	**Alice Springs**	**48.45**	**125**	*e*P	**P**	**15 55 33.4**	**-0.6**
	comp=Z,1.0nm,0.7s						
ASAR	**Alice Springs**	**48.45**	**125**	P	**P**	**15 55 33.6**	**-0.3**
	comp=Z,2.2nm,0.8s,baz=297,slow=7.6,SNR=25						
ASAR				PcP	**PcP**	**15 57 00.8**	**+0.6**
	comp=Z,2.8nm,0.8s,baz=302,slow=4.3,SNR=7.5						
AS01	**Alice Springs**	**48.49**	**125**	*e*P	**P**	**15 55 33.5**	**-0.8**
KURBB	**Kurchatov Arra**	**48.90**	**348**	P	**P**	**15 55 37.0**	**+0.1**
	comp=Z,2.9nm,0.7s,baz=170,slow=7.3,SNR=23						
KURK	**Kurchatov**	**48.97**	**349**	*e*P	**P**	**15 55 37.0**	**-0.4**
	comp=Z,8.9nm,1.0s						
KURK	**Kurchatov**	**48.97**	**349**	*e*P	**P**	**15 55 37.1**	**-0.4**
KURK				pmax	pmax		
	comp=Z,9.0nm,1.0s						
OPO	**Ambohidratompo**	**49.18**	**242**	P	**P**	**15 55 40.7**	**+0.9**
	comp=Z,3.3nm,0.7s,baz=73,slow=7.4,SNR=4.8						
TLY	**Talaya**	**49.52**	**9**	*e*P	**P**	**15 55 43.3**	**+1.7**
TLY				pmax	pmax		
	comp=Z,9.0nm,1.1s						
RAYN	**Ar Rayn**	**49.54**	**299**	*e*P	**P**	**15 55 41.9**	**-0.4**
	comp=Z,10nm,0.9s						
ATD	**Arta Tunnel**	**49.63**	**283**	P	**P**	**15 55 44.0**	**+0.8**
	comp=Z,9.4nm,0.8s,baz=45,slow=15,SNR=2.5						
CN2	**Changchun**	**50.22**	**31**	*e*P	**P**	**15 55 47.8**	**+0.7**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.4s						
ZAA0	**Zalesovo Array**	**51.21**	**354**	*e*P	**P**	**15 55 54.0**	**-0.3**
	comp=Z,8.4nm,0.7s						
ZALV	**Zalesovo Beam**	**51.21**	**354**	P	**P**	**15 55 54.5**	**+0.2**
	comp=Z,5.1nm,0.5s,baz=186,slow=7.9,SNR=16						
ZALV				LR	LR	16 20 31.1	
	comp=Z,618nm,20.1s,baz=88,slow=40						
ZALV	**Zalesovo Beam**	**51.21**	**354**	*e*P	**P**	**15 55 54.0**	**-0.4**
**

comp=Z,7.1nm,0.8s,baz=99,slow=0.7,SNR=9.0
NEY Neytrino 59.41 320 *i* P **P 15 56 54.0 0.0**
NEY pmax pmax
comp=Z,1.0nm,0.8s
KBZ Khabaz 59.52 320 P **P 15 56 55.1 +0.6**
comp=Z,3.1nm,0.9s,baz=66,slow=4.1,SNR=6.1
ARU Arti 59.72 339 *eP* **P 15 56 54.4 -1.2**
comp=Z,7.0nm,0.9s
ARU Arti 59.72 339 *c i*P **P 15 56 54.9 -0.7**
ARU 15 57 37.9
ARU S **S 16 05 05.9 +0.5**
ARU SS **SS 16 08 56.5 -5.0**
ARU pmax pmax
comp=Z,12nm,1.7s
KIV Kislovodsk 59.77 321 *eP* **P 15 56 54.9 -1.4**
KIV pmax pmax
comp=Z,14nm,1.0s
ASAJ Asahikawa 60.41 40 P **P 15 57 00.2 -0.4**
comp=Z,4.0nm,0.6s,baz=172,slow=4.7,SNR=6.7
GRNR Gornyy 60.41 31 *i* P **P 15 57 00.4 -0.1**
MMAI Mount Meron Ar 60.85 306 P **P 15 57 05.9 +2.0**
comp=Z,5.9nm,0.7s,baz=101,slow=7.5,SNR=6.8
CMSA Cobar Meteorol 61.26 128 P **P 15 57 07.5 +0.8**
baz=61,SNR=20
YSS Yuzh-Sakhalins 61.86 37 *eP* **P 15 57 12.8 +2.5**
comp=Z,28nm,1.4s
YSS Yuzh-Sakhalins 61.86 37 *eP* **P 15 57 11.6 +1.3**
YSS pmax pmax
comp=Z,10.0nm,0.9s
RMQ Roma 61.92 122 P **P 15 57 13.3 +2.1**
baz=62,SNR=7.7
EIDS Eidsvold 63.56 120 P **P 15 57 23.1 +1.0**
baz=64,SNR=3.6
TYV Tymovskoe 63.75 33 *eP* **P 15 57 19.9 -3.0**
TYV pmax pmax
comp=Z,11nm,1.6s
BR131 Keskin Array S 64.27 313 *eP* **P 15 57 26.0 -0.7**
BRTR Keskin Array B 64.27 313 P **P 15 57 26.4 -0.3**
comp=Z,1.1nm,0.6s,baz=136,slow=7.3,SNR=7.7
YAK Yakutsk 65.26 18 *eP* **P 15 57 32.1 -0.4**
comp=Z,21nm,0.8s
YAK Yakutsk 65.26 18 *eP* **P 15 57 31.6 -0.9**
YAK pmax pmax
comp=Z,35nm,1.0s
YAK pmax pmax
comp=N,10.0nm,1.1s
YAK pmax pmax
comp=E,12nm,1.2s
SIM Simferopol' 65.74 319 *eP* **P 15 57 37.4 +1.4**
SIM *e* 15 58 06.0
SIM pmax pmax
comp=Z,15nm,0.7s
LSZ Lusaka 65.85 252 P **P 15 57 36.1 -1.3**
comp=Z,3.2nm,0.4s
LSZ Lusaka 65.85 252 P **P 15 57 36.1 -1.3**
LSZ pmax pmax
comp=Z,3.0nm,0.4s
KARP Karpathos 68.09 307 *eP* **P 15 57 50.2 -0.9**
comp=Z,35nm,0.8s
OBN Obninsk 68.56 329 *ce*P **P 15 57 53.4 -0.2**
OBN *e* 15 58 21.6
OBN *e* 16 00 21.2
OBN *e*PPP PPP 16 02 02.8
OBN pmax pmax
comp=Z,62nm,2.5s
HNR Honiara 68.61 101 P **P 15 57 55.2 +0.5**
comp=Z,70nm,0.8s,baz=263,slow=2.5,SNR=7.6
HNR Honiara 68.61 101 *eP* **P 15 57 52.3 -2.5**
comp=Z,82nm,0.8s
HNR Honiara 68.61 101 *eP* **P 15 57 52.3 -2.5**
HNR pmax pmax
comp=Z,82nm,0.8s
IDI Anoyia 69.85 306 P **P 15 58 02.9 +0.7**
comp=Z,17nm,0.7s,baz=94,slow=7.1,SNR=15
IDI Anoyia 69.85 306 *eP* **P 15 58 02.5 +0.4**
comp=Z,34nm,0.8s
LBTB Lobatse 70.22 242 *eP* **P 15 58 04.1 -0.6**
comp=Z,17nm,0.8s
LBTB Lobatse 70.22 242 *eP* **P 15 58 04.1 -0.6**
LBTB pmax pmax
comp=Z,17nm,0.8s
SORM Soroca 70.57 320 *i*P **P 15 58 06.0 -0.2**
AKASG Malin Array Be 70.86 323 P **P 15 58 07.6 -0.4**
comp=Z,0.2nm,0.2s,baz=92,slow=4.8,SNR=7.5
VRI Vrincioaia 70.97 318 *i*P **P 15 58 09.7 +1.0**
PLOR Plostina 71.01 318 *i*P **P 15 58 09.7 +0.6**
TESR Tescani 71.20 318 *i*P **P 15 58 09.8 -0.3**
BOSA Boshof 71.36 239 P **P 15 58 11.6 0.0**
comp=Z,6.2nm,0.8s,baz=73,slow=4.4,SNR=7.3
MLR Muntele Rosu 71.39 317 P **P 15 58 12.4 +0.9**
comp=Z,2.2nm,0.9s,baz=136,slow=3.5,SNR=9.9
MLR Muntele Rosu 71.39 317 *i*P **P 15 58 13.5 +2.0**
MLR Muntele Rosu 71.39 317 *eP* **P 15 58 11.4 -0.1**
comp=Z,12nm,0.8s
MLR Muntele Rosu 71.39 317 *eP* **P 15 58 11.4 -0.1**
MLR pmax pmax
comp=Z,12nm,0.8s
ARR Arges 72.25 317 *i*P **P 15 58 17.1 +0.5**
TIXI Tiksi 72.42 11 *eP* **P 15 58 15.8 -1.2**
comp=Z,16nm,0.7s
TIXI Tiksi 72.42 11 *ce*P **P 15 58 16.2 -0.7**
TIXI pmax pmax
comp=Z,38nm,1.7s
BURAR Bucovina Array 72.44 319 *i*P **P 15 58 18.3 +0.6**
BUR04 Bucovina Ar. S 72.44 319 *eP* **P 15 58 16.0 -1.7**
BUR08 Bucovina Ar. S 72.46 319 *eP* **P 15 58 17.0 -0.8**
PETK Petropavlovsk- 73.13 35 P **P 15 58 21.3 -0.2**
comp=Z,1.8nm,0.8s,baz=259,slow=4.3,SNR=3.7
SEY Seymchan 74.19 24 *ce*P **P 15 58 27.6 0.0**
VSU Vasula 74.85 330 *ce*P **P 15 58 30.9 -0.6**
VSU pmax pmax
comp=Z,75nm,1.7s
STHS Stebnicka Huta 75.44 320 *eP* **P 15 58 35.7 +0.6**
STHS *e* 15 58 44.8
STHS Stebnicka Huta 75.44 320 *eP* **P 15 58 35.7 +0.6**
STHS *e* 15 58 44.8
STHS pmax pmax
comp=Z,4.0nm,0.7s
FINES FINESS Array B 76.18 333 P **P 15 58 38.2 -0.9**
comp=Z,4.9nm,0.9s,baz=104,slow=8.0,SNR=7.9
DZM Mont Dzumac 76.56 113 P **P 15 58 42.5 +0.4**
comp=Z,8.7nm,1.0s,baz=16,slow=20,SNR=2.3
VYHS Vyhne 76.81 319 *eP* **P 15 58 44.3 +1.4**
VYHS *e* 15 58 51.1
VYHS Vyhne 76.81 319 *eP* **P 15 58 44.3 +1.4**
VYHS *e* 15 58 51.1
VYHS pmax pmax
comp=Z,6.0nm,1.6s
MODS Modra-Piesok 77.81 319 *eP* **P 15 58 47.5 -1.0**
MODS *e*PCP **sP 15 58 57.1 +0.1**
MODS Modra-Piesok 77.81 319 *eP* **P 15 58 47.6 -1.0**
MODS *e* 15 58 57.1
KRLC Kraliky 78.41 320 *eP* **P 15 58 52.5 +0.6**
KRLC *e*PCP **sP 15 58 59.8 -0.5**
KRLC Kraliky 78.41 320 *eP* **P 15 58 52.5 +0.6**
KRLC *e* 15 58 59.8
DPC Dobruska-Polom 78.74 321 *eP* **P 15 58 55.7 +2.0**
DPC *e*PCP **PcP 15 59 02.9 +0.4**
DPC Dobruska-Polom 78.74 321 *eP* **P 15 58 55.7 +2.0**
DPC *e* 15 59 02.9
GEA0 GERESS Array S 80.22 319 *eP* **P 15 59 01.6 -0.2**
GEC2 GERESS Array S 80.22 319 *eP* **P 15 59 01.7 -0.2**
comp=Z,19nm,1.0s
GEC2 GERESS Array S 80.22 319 *eP* **P 15 59 01.7 -0.2**
GEC2 pmax pmax
comp=Z,19nm,1.0s
GERES GERESS Array B 80.22 319 P **P 15 59 02.6 +0.7**
comp=Z,5.9nm,0.8s,baz=101,slow=5.6,SNR=30
KHC Kasperske Hory 80.34 319 *eP* **P 15 59 03.7 +1.3**
KHC *e*PCP **sP 15 59 11.0 +0.1**
KHC Kasperske Hory 80.34 319 *eP* **P 15 59 03.7 +1.3**
CLL Collm 80.96 321 *i* P **P 15 59 06.1 +0.5**
comp=Z,9.0nm,1.2s
CLL *i* 15 59 13.8
comp=Z,6.0nm,1.0s
CLL Collm 80.96 321 *i* P **P 15 59 06.1 +0.5**
CLL pmax pmax
comp=Z,9.0nm,1.2s
BILL Bilibino 81.36 21 *i*P **P 15 59 08.1 +0.7**
BILL *e* 16 02 16.6
BILL *eS* **PnS 16 10 02.4 -3.3**
BILL pmax pmax
comp=Z,3.0nm,1.2s
HFS Hagfors 81.74 330 P **P 15 59 10.3 +0.7**
comp=Z,1.5nm,0.7s,baz=101,slow=7.5,SNR=3.1
KEST Kesra 82.49 305 P **P 15 59 15.2 +1.1**
comp=Z,4.8nm,0.8s,baz=35,slow=3.5,SNR=3.7
NB2 NORSAR Subarra 83.07 331 P **P 15 59 16.9 +0.3**
comp=Z,2.9nm,0.8s,baz=92,slow=5.3
NOA NORSAR Array B 83.07 331 P **P 15 59 17.3 +0.7**
comp=Z,1.3nm,0.8s,baz=93,slow=5.8,SNR=3.8
RPZ Rata Peaks 83.98 134 P **P 15 59 20.5 -1.0**
comp=Z,6.2nm,0.6s
SPITS Spitsbergen Ar 84.25 348 P **P 15 59 21.4 -0.9**
comp=Z,8.0nm,0.9s,baz=343,slow=9.8,SNR=2.7
VNDA Vanda 88.52 168 P **P 15 59 43.0 -0.2**
comp=Z,1.0nm,0.9s,baz=296,slow=5.6,SNR=3.8
TORD Torodi Ar. Bea 89.83 283 P **P 15 59 51.0 +0.3**
comp=Z,0.5nm,0.7s,baz=85,slow=4.0,SNR=3.2
GAMB Gambell 90.09 26 *eP* **P 15 59 50.6 -0.1**
comp=Z,6.5nm,1.1s
EKA Eskdalemuir Ar 90.66 325 P **P 15 59 54.3 +0.7**
comp=Z,0.7nm,0.6s,baz=96,slow=4.5,SNR=3.9
QSPA South Pole Qui 92.87 180 P **P 16 00 03.6 -0.2**
comp=Z,1.1nm,0.4s,baz=329,slow=2.6,SNR=9.9
ESDC Sonseca Array 92.89 310 P **P 16 00 04.5 +0.1**
comp=Z,0.2nm,0.4s,baz=84,slow=6.1,SNR=4.0
KOWA Kowa 95.28 285 P **P 16 00 16.1 +0.3**
comp=Z,0.9nm,0.5s,baz=292,slow=17,SNR=3.7
INK Inuvik 102.24 16 PKiKP **PKiKP 16 05 06.7 -1.1**
comp=Z,0.8nm,0.9s,baz=326,slow=3.6,SNR=3.4
YKA Yellowknife Ar 111.64 13 PKiKP **PKiKP 16 05 25.2 -0.2**
comp=Z,0.1nm,0.5s,baz=328,slow=2.2,SNR=3.0
YKA PP **PP 16 06 04.5 -2.0**
comp=Z,0.2nm,0.7s,baz=325,slow=7.6,SNR=4.2
PINE Pine Mountain 124.79 29 *e*PKPdf **PKPdf 16 05 49.5 -2.0**
MSO Missoula 125.35 22 *e*PKPdf **PKPdf 16 05 51.1 -1.3**
ULM Lac du Bonnet 126.57 6 PKP **PKPdf 16 05 56.6 +2.2**
comp=Z,1.4nm,0.7s,baz=250,slow=5.4,SNR=3.2
NV01 Mina Array Sit 130.12 31 *e*PKPdf **PKPdf 16 06 00.8 -1.1**
NVAR Mina Array Bea 130.12 31 PKP **PKPdf 16 06 02.8 +1.0**
comp=Z,1.0nm,0.6s,baz=325,slow=1.8,SNR=8.0
PDAR Pinedale Array 130.44 21 PKP **PKPdf 16 06 03.0 +0.6**
comp=Z,0.8nm,0.6s,baz=236,slow=0.7,SNR=6.9
PDAR Pinedale Array 130.44 21 *e*PKPdf **PKPdf 16 06 02.0 -0.4**
SMCO Snowmass 134.52 21 *e*PKPdf **PKPdf 16 06 08.3 -2.1**
CPUP Villa Florida 142.65 229 PKhKP PKPpre 16 06 22.1
comp=Z,1.3nm,0.9s,baz=167,slow=5.5,SNR=2.3
CPUP PKP **PKPdf 16 06 25.3 +0.3**
comp=Z,0.9nm,0.6s,baz=282,slow=16,SNR=2.5
TX31 Lajitas Ar. Si 144.49 24 *e*PKPdf **PKPab 16 06 26.7 +0.1**
TX31 *e*PKPdf PKPbc 16 06 27.0 +0.1
TXAR Lajitas Array 144.49 24 PKP PKPbc 16 06 27.5 +0.7
comp=Z,3.1nm,0.8s,baz=250,slow=0.9,SNR=30
JCT Junction City 144.85 18 *e*PKPdf **PKPab 16 06 27.8 -0.1**
JCT Junction City 144.85 18 *e*PKIKP **PKPab 16 06 27.8 -0.1**
LPAZ La Paz 156.54 234 PKP **PKPdf 16 06 48.3 +0.4**
comp=Z,1.5nm,0.8s,baz=144,slow=0.7,SNR=5.0

*ISCJB **11** 15:51:06.6±0.7,0.7°N±0.1°×94.0°E±0.1°,h10km,mb3.9/13, Error ellipse: s-maj=18.6km s-min=9.9km az=135.1*
*IDC **11** 15:51:06.5±1.0,0.6°N×93.95°E,h0km,mb3.8/11, mb1 3.9/12,mb1mx3.7/65,mbtmp3.8/12,ML4.0/1, Error ellipse: s-maj=32.3km s-min=19.5km az=48.0*
*NEIC **11** 15:51:08.4±0.7,0.6°N×94.02°E,h10km,mb4.3/2, Error ellipse: s-maj=19.3km s-min=10.1km az=224.0*
ISC 11 15:51:08.5±0.8,0.7°N±0.1°×94.0°E±0.1°,h10km,n20, σ1§12/20,mb4.0/13,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GSI	Gunungsitoli	3.60	81	*e*Pn	Pn	15 52 03.3	-1.1
MNAI	Manna	10.25	120	*e*Pn	Pn	15 53 36.3	+0.5
CMAR	Chiang Mai Arr	18.28	15	P	Pn	15 55 22.3	-0.2
	0.2nm,0.3s,baz=208,slow=14,SNR=3.7						
FITZ	Fitzroy Crossi	36.28	123	*e*P	P	15 58 12.3	-0.2
	6.6nm,1.1s						
WRA	Warramunga Arr	44.51	120	P	P	15 59 20.4	-0.3
	1.4nm,0.5s,baz=297,slow=8.5,SNR=5.1						
WRAB	Tennant Creek	44.52	120	*e*P	P	15 59 20.5	-0.3
	2.3nm,0.6s						
ASAR	Alice Springs	45.68	125	P	P	15 59 29.5	-0.5
	0.3nm,0.5s,baz=300,slow=7.4,SNR=3.0						
MKAR	Makanchi Array	47.03	349	P	P	15 59 40.9	+0.8
	0.8nm,0.6s,baz=165,slow=8.4,SNR=4.6						
KSAR	Wonju Array Be	48.05	37	P	P	15 59 48.4	+0.1
KSRS	Korea Array	48.09	37	P	P	15 59 48.4	-0.1
	0.8nm,0.7s,baz=222,slow=28,SNR=4.3						
SONM	Songino Array	48.15	11	P	P	15 59 47.9	-1.1
	1.0nm,0.8s,baz=201,slow=7.7,SNR=2.5						
KURBB	Kurchatov Arra	51.44	347	P	P	16 00 13.6	-0.3
	0.4nm,0.6s,baz=170,slow=6.8,SNR=3.8						
KURK	Kurchatov	51.51	348	P	P	16 00 13.6	-0.8
ZALV	Zalesovo Beam	53.60	353	P	P	16 00 31.0	+1.2
	0.9nm,0.4s,baz=175,slow=6.6,SNR=4.4						
BRTR	Keskin Array B	67.11	313	P	P	16 02 00.9	-1.9
	0.6nm,0.6s,baz=105,slow=6.6,SNR=4.3						
TIXI	Tiksi	74.23	11	*e*P	P	16 02 48.2	+2.9
FINES	FINESS Array B	78.97	333	P	P	16 03 13.8	+1.4
	0.5nm,0.6s,baz=133,slow=7.8,SNR=3.0						
GERES	GERESS Array B	83.09	319	P	P	16 03 35.1	+0.3
	1.0nm,0.8s,baz=106,slow=3.5,SNR=3.7						
TORD	Torodi Ar. Bea	92.11	283	P	P	16 04 17.8	-1.2
	0.4nm,0.8s,baz=73,slow=4.8,SNR=2.7						
TXAR	Lajitas Array	145.67	28	PKPbc	PKPdf	16 10 48.0	-0.2
	0.2nm,0.5s,baz=255,slow=1.8,SNR=4.0						

IDC 11 15:53:55.7±4.5,1.25°N×92.53°E,h0km,mb3.7/4,mb1 3.7/4, mb1mx3.3/68,mbtmp3.7/4,Error ellipse: s-maj=144.0km s-min=74.9km az=60.0,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	Makanchi Array	46.23	350	P	P	16 02 22.8	0.0
	0.7nm,0.7s,baz=169,slow=9.3,SNR=3.3						
SONM	Songino Array	47.94	13	P	P	16 02 36.0	-0.2
	0.5nm,0.5s,baz=198,slow=8.7,SNR=2.9						
KURBB	Kurchatov Arra	50.61	349	P	P	16 02 56.1	-0.2
	0.6nm,0.9s,baz=169,slow=7.1,SNR=2.6						
ZALV	Zalesovo Beam	52.91	354	P	P	16 03 13.4	-0.1
	0.8nm,0.5s,baz=176,slow=8.5,SNR=3.7						
TXAR	Lajitas Array	145.87	26	PKPbc	PKPdf	16 13 37.1	-0.4
	0.2nm,0.6s,baz=298,slow=1.9,SNR=3.2						

*ISCJB **11** 15:54:11.9±0.5,2.75°N±0.08°×93.46°E±0.07,h10km, mb4.0/21,MS4.7/1,Error ellipse: s-maj=12.9km s-min=9.6km az=34.2*
*IDC **11** 15:54:12.1±0.6,2.73°N×93.56°E,h0km,mb3.9/18, mb1 4.1/20,mb1mx3.9/70,mbtmp4.0/20,ML3.9/2,MS4.6/1, Ms1 4.6/1,ms1mx3.6/57,Error ellipse: s-maj=22.0km s-min=14.6km az=55.0*
*NEIC **11** 15:54:13.7±0.5,2.72°N×93.42°E,h10km,mb4.5/3,Error ellipse: s-maj=12.5km s-min=9.1km az=33.0*
ISC 11 15:54:13.7±0.6,2.7°N±0.1°×93.43°E±0.09,h10km,n31, σ1§34/30,mb4.0/21,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GSI	Gunungsitoli	4.37	109	*e*Pn	Pn	15 55 15.1	-5.2
IPM	Ipoh	7.78	77	Pn	Pn	15 56 09.3	+2.2
PALK	Pallekele	13.46	290	Pn	Pn	15 57 26.0	+1.0
	1.4nm,0.3s,baz=116,slow=16,SNR=3.0						
PALK	Pallekele	13.46	290	Pn	Pn	15 57 23.7	-1.3
CMAR	Chiang Mai Arr	16.55	19	Pn	Pn	15 58 05.3	-0.8
	0.1nm,0.3s,baz=220,slow=13,SNR=4.4						
AAK	Ala-Archa	43.20	340	P	P	16 02 15.5	+0.4
	0.6nm,0.5s,baz=174,slow=10,SNR=3.3						
MKAR	Makanchi Array	44.96	349	P	P	16 02 28.4	-0.7
	1.5nm,0.5s,baz=171,slow=8.5,SNR=9.7						
KKAR	Karatay Array	45.10	336	*e*P	P	16 02 28.8	-1.4
WRA	Warramunga Arr	46.03	121	P	P	16 02 37.2	-0.8
	0.9nm,0.7s,baz=298,slow=8.6,SNR=4.6						
WRAB	Tennant Creek	46.04	121	*e*P	P	16 02 36.5	-1.5
SONM	Songino Array	46.32	12	P	P	16 02 39.8	-0.2
	0.7nm,0.6s,baz=190,slow=7.3,SNR=3.0						
KSAR	Wonju Array Be	46.84	38	P	P	16 02 43.6	-0.4
KSRS	Korea Array	46.87	38	P	P	16 02 43.6	-0.6
	0.6nm,0.8s,baz=230,slow=5.3,SNR=2.8						
ASAR	Alice Springs	47.32	126	P	P	16 02 47.8	-0.2
	0.5nm,0.8s,baz=301,slow=7.9,SNR=3.9						
ASAR				PcP	PcP	16 04 16.2	-2.9
	0.4nm,0.9s,baz=302,slow=3.2,SNR=2.9						
KURBB	Kurchatov Arra	49.37	348	P	P	16 03 03.2	-0.2
	1.2nm,0.6s,baz=169,slow=6.9,SNR=10						
KURK	Kurchatov	49.44	348	*e*P	P	16 03 00.4	-3.5
	11nm,0.7s						
OPO	Ambohidratompo	50.18	243	P	P	16 03 11.4	+1.2
	1.4nm,0.3s,baz=21,slow=0.9,SNR=4.3						
ZALV	Zalesovo Beam	51.56	354	P	P	16 03 20.1	+0.2
	2.2nm,0.4s,baz=179,slow=6.6,SNR=7.7						
USRK	Ussuriysk Ar.	53.52	34	LR	LR	16 27 43.9	
	comp=Z,588nm,19.3s,baz=325,slow=38						
BVAR	Borovoye Array	53.65	343	P	P	16 03 34.3	-1.1
	1.0nm,0.6s,baz=141,slow=9.3,SNR=6.0						
ABKAR	Akbulak array	54.45	334	*e*P	P	16 03 40.0	-1.3
	0.9nm,0.6s						
STKA	Stephens Creek	57.17	131	P	P	16 04 00.4	-0.7
	0.7nm,0.8s,baz=318,slow=12,SNR=3.1						
KBZ	Khabaz	60.48	320	P	P	16 04 23.7	-0.2
	0.7nm,0.6s,baz=136,slow=4.9,SNR=2.7						
BRTR	Keskin Array B	65.32	313	P	P	16 04 55.8	-0.7
	0.8nm,0.8s,baz=130,slow=6.6,SNR=4.9						
IDI	Anoyia	70.97	306	P	P	16 05 32.9	+0.9
	3.1nm,0.6s,baz=135,slow=11,SNR=3.4						
MLR	Muntele Rosu	72.39	317	P	P	16 05 41.5	+1.1
	0.8nm,0.7s,baz=121,slow=5.9,SNR=5.0						
TIXI	Tiksi	72.40	11	*e*P	P	16 05 40.9	+1.2
	2.6nm,0.6s						
FINES	FINESS Array B	76.93	333	P	P	16 06 08.1	+1.9
	1.8nm,0.8s,baz=106,slow=8.0,SNR=3.6						
GERES	GERESS Array B	81.20	319	P	P	16 06 31.0	+1.0
	1.2nm,0.8s,baz=103,slow=4.2,SNR=5.6						
QSPA	South Pole Qui	92.65	180	P	P	16 07 26.2	+0.5
	0.9nm,0.5s,baz=12,slow=3.5,SNR=7.4						
TXAR	Lajitas Array	144.17	26	PKP	PKPdf	16 13 50.0	-0.8
	1.3nm,1.0s,baz=222,slow=1.7,SNR=5.1						

*ISCJB **11** 15:57:12.9±0.5,2.03°N±0.07°×92.38°E±0.05,h10km, mb4.3/23,Error ellipse: s-maj=10.3km s-min=6.1km az=30.3*
*IDC **11** 15:57:13.7±0.9,2.05°N×92.41°E,h0km,mb4.0/15, mb1 4.1/18,mb1mx3.9/72,mbtmp4.0/18,ML4.1/3,Error ellipse: s-maj=30.4km s-min=14.5km az=48.0*
*NEIC **11** 15:57:15.1±0.3,2.08°N×92.37°E,h10km,mb4.7/6,Error ellipse: s-maj=7.5km s-min=4.0km az=210.0*
ISC 11 15:57:14.9±0.6,2.02°N±0.09°×92.40°E±0.08,h10km,n52, σ0§83/49,mb4.3/23,1C,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GSI	Gunungsitoli	5.22	98	*e*Pn	Pn	15 58 34.2	+1.2
LHMI	Lhok Sumawe	5.54	55	*e*Pn	Pn	15 58 39.3	+1.8
PSI	Prapat	6.56	83	*e*Pn	Pn	15 58 52.5	+0.9
KULM	Kulim	8.85	68	*e*Pn	Pn	15 59 23.0	+0.1
IPM	Ipoh	8.95	74	*e*Pn	Pn	15 59 25.3	+1.0
MYKOM	Kota Tinggi	11.44	91	*e*Pn	Pn	15 59 59.6	+1.1
MNAI	Manna	12.30	121	*e*Pn	Pn	16 00 11.4	+1.1
PALK	Pallekele	12.77	294	Pn	Pn	16 00 17.7	+0.9
	0.5nm,0.3s,baz=116,slow=15,SNR=4.7						
LEM	Lembang	17.55	120	P	P	16 01 21.1	0.0
	1.1nm,0.3s,baz=327,slow=23,SNR=3.2						
CM31	Chiang Mai Arr	17.55	21	*e*Pn	P	16 01 19.3	-1.6
CMAR	Chiang Mai Arr	17.55	21	P	P	16 01 19.6	-1.3
	0.2nm,0.3s,baz=214,slow=12,SNR=9.8						
CHTO	Chiang Mai	17.88	21	*e*Pn	P	16 01 23.2	-1.3
	8.1nm,1.1s						
SBUM	Sibu	19.81	88	*e*P	Pn	16 01 46.8	-0.5
	10nm,0.9s						
H08S2	Diego Garcia H	22.06	244	T	T	16 24 48.0	
	baz=60,slow=75,SNR=4.9						
H08S3	Diego Garcia H	22.06	244	T	T	16 24 46.6	
	baz=60,slow=75,SNR=3.5						
H08S1	Diego Carcia H	22.08	244	T	T	16 24 49.1	
	baz=60,slow=75,SNR=4.4						
LSA	Lhasa	27.55	358	*e*P	P	16 03 03.6	+1.0
	23nm,1.1s						
CD2	Chengdu	30.68	19	*e*P	P	16 03 30.8	+0.9
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
ENH	Enshi	32.43	28	*e*P	P	16 03 44.4	-1.0
	comp=Z,7.4nm,0.6s						
XAN	Xi'an	35.40	24	P	P	16 04 09.9	-1.2
XAN				pP	sP	16 04 19.2	+3.8
XAN				sP	pP	16 04 23.7	+10
XAN				pmax	pmax		
	comp=Z,20nm,0.8s						
GTA	Gaotai	37.82	9	*e*P	P	16 04 32.4	+0.6
GTA				pP	sP	16 04 37.9	+1.8
GTA				sP	pP	16 04 41.3	+6.4
GTA				pmax	pmax		
	comp=Z,3.0nm,1.1s						
AAK	Ala-Archa	43.50	341	P	P	16 05 18.5	-0.2
	comp=Z,0.6nm,0.4s,baz=143,slow=10,SNR=3.0						
KK06	Karatay Array	45.32	337	*e*P	P	16 05 33.0	-0.1
KK07	Karatay Array	45.32	337	*e*P	P	16 05 32.9	-0.3
MK01	Makanchi Array	45.43	350	*e*P	P	16 05 33.6	-0.4
MK31	Makanchi Array	45.46	350	*e*P	P	16 05 33.9	-0.2
MKAR	Makanchi Array	45.46	350	P	P	16 05 34.1	0.0
	comp=Z,2.4nm,0.7s,baz=167,slow=8.8,SNR=11						
MKAR	Makanchi Array	45.46	350	*e*P	P	16 05 33.8	-0.3
	comp=Z,24nm,0.6s						
WRA	Warramunga Arr	46.57	120	P	P	16 05 43.5	+0.2
	comp=Z,1.9nm,0.6s,baz=300,slow=8.6,SNR=8.3						
SONM	Songino Array	47.22	13	P	P	16 05 48.4	+0.4
	comp=Z,6.4nm,0.8s,baz=195,slow=8.8,SNR=16						
SONA1	Songino Array	47.23	13	*e*P	P	16 05 48.0	-0.1
GEYT	Alibeck	47.59	323	P	P	16 05 51.8	+0.8
	comp=Z,1.4nm,0.5s,baz=129,slow=5.7,SNR=4.2						
ASAR	Alice Springs	47.76	125	P	P	16 05 52.6	0.0
	comp=Z,0.3nm,0.4s,baz=298,slow=7.5,SNR=6.5						
KSAR	Wonju Array Be	48.01	38	P	P	16 05 54.6	+0.3
KSRS	Korea Array	48.05	38	P	P	16 05 54.6	+0.1
	comp=Z,2.0nm,0.8s,baz=234,slow=8.3,SNR=4.2						
KURBB	Kurchatov Arra	49.83	348	P	P	16 06 08.1	+0.1
	comp=Z,1.4nm,0.7s,baz=170,slow=7.1,SNR=7.2						
KURK	Kurchatov	49.90	349	P	P	16 06 08.1	-0.4
ZAA0	Zalesovo Array	52.13	354	*e*P	P	16 06 24.7	-0.5
	comp=Z,7.1nm,0.6s						
ZALV	Zalesovo Beam	52.13	354	P	P	16 06 25.2	0.0
	comp=Z,2.6nm,0.4s,baz=185,slow=7.8,SNR=9.9						
ZALV	Zalesovo Beam	52.13	354	*e*P	P	16 06 24.0	-1.2
BVAR	Borovoye Array	54.01	344	P	P	16 06 38.8	-0.4
	comp=Z,1.4nm,0.7s,baz=152,slow=6.5,SNR=9.4						
AB31	Akbulak array	54.62	334	*e*P	P	16 06 42.9	-0.7
ABKAR	Akbulak array	54.62	334	*e*P	P	16 06 42.9	-0.8
	comp=Z,30nm,0.9s						
STKA	Stephens Creek	57.50	130	P	P	16 07 05.2	+0.6
	comp=Z,1.8nm,0.9s,baz=304,slow=15,SNR=2.6						
KLR	Kul'dur	57.78	29	P	P	16 07 06.8	+0.5
	comp=Z,0.2nm,0.7s,baz=271,slow=6.1,SNR=7.8						
KBZ	Khabaz	60.36	321	P	P	16 07 25.2	+1.0
	comp=Z,1.9nm,0.8s,baz=190,slow=4.7,SNR=4.3						
BRTR	Keskin Array B	65.04	313	P	P	16 07 55.8	+0.1
	comp=Z,0.6nm,0.8s,baz=152,slow=8.8,SNR=3.6						
TIXI	Tiksi	73.27	11	*e*P	P	16 08 44.6	-1.4
	comp=Z,7.2nm,0.6s						
SYO	Syowa Base	79.34	197	*e*P	P	16 09 19.0	-1.5
GERES	GERESS Array B	81.05	319	P	P	16 09 30.6	+

2.1nm,0.5s,baz=168,slow=7.8,SNR=11
MKAR Makanchi Array 45.38 350 P P 16 05 48.1 +0.3
WRA Warramunga Arr 46.40 120 P P 16 05 56.9 +0.6
2.1nm,0.8s,baz=302,slow=8.8,SNR=6.1
WRA Warramunga Arr 46.40 120 P P 16 05 56.9 +0.6
WRAB Tennant Creek 46.41 120 *eP* P 16 05 56.5 +0.2
SONM Songino Array 47.04 13 P P 16 06 02.6 +1.6
0.9nm,0.6s,baz=198,slow=7.6,SNR=2.7
SONM Songino Array 47.04 13 P P 16 06 02.6 +1.6
ASAR Alice Springs 47.61 125 P P 16 06 05.1 -0.6
1.4nm,0.9s,baz=295,slow=7.2,SNR=8.9
ASAR Alice Springs 47.61 125 P P 16 06 05.1 -0.6
GEYT Alibeck 47.65 323 P P 16 06 06.5 +0.7
3.9nm,0.6s,baz=160,slow=9.3,SNR=7.0
KSAR Wonju Array Be 47.76 38 P P 16 06 08.3 +1.7
KSRS Korea Array 47.79 38 P P 16 06 08.3 +1.5
1.8nm,0.8s,baz=226,slow=9.5,SNR=4.2
KURBB Kurchatov Arra 49.77 348 P P 16 06 22.3 +0.5
1.3nm,0.7s,baz=170,slow=6.9,SNR=7.0
KURK Kurchatov 49.84 348 P P 16 06 22.3 0.0
ZALV Zalesovo Beam 52.04 354 P P 16 06 39.3 +0.4
3.4nm,0.4s,baz=180,slow=8.0,SNR=8.4
ZALV Zalesovo Beam 52.04 354 P P 16 06 39.3 +0.4
BVAR Borovoye Array 53.97 344 P P 16 06 52.9 -0.3
1.2nm,0.7s,baz=151,slow=9.8,SNR=6.8
BVAR Borovoye Array 53.97 344 P P 16 06 52.9 -0.3
ABKAR Akbulak array 54.63 334 *eP* P 16 06 57.6 -0.3
1.9nm,0.6s
STKA Stephens Creek 57.38 130 P P 16 07 19.5 +1.5
1.7nm,0.7s,baz=322,slow=8.8,SNR=5.8
STKA Stephens Creek 57.38 130 P P 16 07 19.5 +1.5
KBZ Khabaz 60.43 320 P P 16 07 39.5 +0.6
1.6nm,0.7s,baz=150,slow=10,SNR=4.3
KBZ Khabaz 60.43 320 P P 16 07 39.5 +0.6
BRTR Keskin Array B 65.15 313 P P 16 08 10.1 -0.7
0.8nm,0.8s,baz=147,slow=7.7,SNR=3.5
BRTR Keskin Array B 65.15 313 P P 16 08 10.1 -0.7
TIXI Tiksi 73.11 11 *eP* P 16 08 59.2 -0.1
1.0nm,0.4s
SYO Syowa Base 79.53 197↑ *eX* P 16 09 33.8 -2.0

*IDC **11** 15:58:15.8±1.1,2˙.48N×91˙.91E, h0km, mb4.1/10, mb1 4.2/11, mb1mx3.8/70, mbtmp4.1/11, ML3.9/1, Error ellipse: s-maj=41.4km s-min=19.9km az=51.0*
*ISCJB **11** 15:58:16.2±0.6,2˙.7N±0˙.1×92˙.2E±0˙.1, h10km, mb4.2/14, Error ellipse: s-maj=19.2km s-min=8.7km az=42.8*
*NEIC **11** 15:58:18.2±0.6,2˙.75N×92˙.25E, h10km, mb4.6/4, Error ellipse: s-maj=17.7km s-min=9.2km az=218.0*

ISC 11 15:58:18.2±0.8, 2˙.7N±0˙.1×92˙.25E±0˙.10, h10km, n33, σ1§30/33, mb4.2/14, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KULM	**Kulim**	**8.76**	**73**	*e*Pn			**Pn**	**16 00 23.4**	**-1.7**
	85nm,0.8s								
PALK	**Pallekele**	**12.35**	**292**	Pn			**Pn**	**16 01 15.4**	**+1.1**
	3.6nm,0.3s,baz=115,slow=8.7,SNR=4.1								
PALK	**Pallekele**	**12.35**	**292**	Pn			**Pn**	**16 01 15.4**	**+1.1**
MNAI	**Manna**	**12.81**	**123**	*e*Pn			**Pn**	**16 01 21.8**	**+1.1**
CMAR	**Chiang Mai Arr**	**16.95**	**22**	P			**P**	**16 02 20.4**	**+2.8**
	0.2nm,0.3s,baz=210,slow=12,SNR=2.8								
CMAR	**Chiang Mai Arr**	**16.95**	**22**	P			**P**	**16 02 20.4**	**+2.8**
CHTO	**Chiang Mai**	**17.27**	**22**	*e*Pn			**P**	**16 02 21.3**	**0.0**
HYB	**Hyderabad**	**19.84**	**318**	*i* P			**Pn**	**16 02 51.5**	**+0.4**
FITZ	**Fitzroy Crossi**	**38.87**	**123**	P			**P**	**16 05 44.0**	**-0.1**
	62nm,1.1s								
KKAR	**Karatay Array**	**44.62**	**337**	*e*P			**P**	**16 06 30.9**	**0.0**
	1.9nm,0.6s								
MKAR	**Makanchi Array**	**44.73**	**350**	P			**P**	**16 06 32.2**	**+0.5**
	1.6nm,0.5s,baz=170,slow=7.2,SNR=5.6								
MKAR	**Makanchi Array**	**44.73**	**350**	P			**P**	**16 06 32.2**	**+0.5**
SONM	**Songino Array**	**46.56**	**13**	P			**P**	**16 06 48.2**	**+1.9**
	1.3nm,0.7s,baz=198,slow=8.9,SNR=3.0								
SONM	**Songino Array**	**46.56**	**13**	P			**P**	**16 06 48.2**	**+1.9**
WRA	**Warramunga Arr**	**47.06**	**121**	P			**P**	**16 06 51.3**	**+0.7**
	2.2nm,0.7s,baz=300,slow=8.7,SNR=5.4								
WRA	**Warramunga Arr**	**47.06**	**121**	P			**P**	**16 06 51.3**	**+0.7**
WRAB	**Tennant Creek**	**47.06**	**121**	*e*P			**P**	**16 06 51.3**	**+0.7**
	17nm,1.3s								
ASAR	**Alice Springs**	**48.29**	**125**	P			**P**	**16 06 59.5**	**-0.6**
	1.1nm,0.8s,baz=300,slow=7.4,SNR=2.9								
ASAR	**Alice Springs**	**48.29**	**125**	P			**P**	**16 06 59.5**	**-0.6**
KURBB	**Kurchatov Arra**	**49.11**	**348**	P			**P**	**16 07 06.6**	**+0.7**
	2.0nm,0.8s,baz=172,slow=6.9,SNR=5.4								
KURK	**Kurchatov**	**49.18**	**349**	*e*P			**P**	**16 07 06.2**	**-0.2**
ZALV	**Zalesovo Beam**	**51.41**	**354**	P			**P**	**16 07 23.4**	**+0.2**
	8.1nm,0.5s,baz=176,slow=7.4,SNR=8.6								
ZALV	**Zalesovo Beam**	**51.41**	**354**	P			**P**	**16 07 23.4**	**+0.2**
BVAR	**Borovoye Array**	**53.29**	**344**	P			**P**	**16 07 36.3**	**-1.0**
	1.4nm,0.7s,baz=144,slow=8.5,SNR=3.4								
BVAR	**Borovoye Array**	**53.29**	**344**	P			**P**	**16 07 36.3**	**-1.0**
ABKAR	**Akbulak array**	**53.92**	**334**	*e*P			**P**	**16 07 41.2**	**-0.7**
	2.5nm,0.8s								
BRTR	**Keskin Array B**	**64.44**	**313**	P			**P**	**16 08 54.2**	**-1.0**
	0.7nm,0.7s,baz=136,slow=5.6,SNR=2.9								
BRTR	**Keskin Array B**	**64.44**	**313**	P			**P**	**16 08 54.2**	**-1.0**
AKASG	**Malin Array Be**	**71.05**	**323**	P			**P**	**16 09 34.6**	**-1.9**
	0.3nm,0.4s,baz=88,slow=5.2,SNR=4.4								
AKASG	**Malin Array Be**	**71.05**	**323**	P			**P**	**16 09 34.6**	**-1.9**
TIXI	**Tiksi**	**72.61**	**11**	*e*P			**P**	**16 09 43.3**	**-2.2**
GERES	**GERESS Array B**	**80.41**	**319**	P			**P**	**16 10 30.8**	**+0.5**
	2.0nm,0.7s,baz=97,slow=5.5,SNR=7.6								
GERES	**GERESS Array B**	**80.41**	**319**	P			**P**	**16 10 30.8**	**+0.5**

IDC 11 16:03:02.4±34.0, 20˙.80S×178˙.36W, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.5/48, mbtmp3.7/4, Error ellipse: s-maj=648.7km s-min=146.4km az=90.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**37.36**	**244**	P			P	16 10 16.6	-0.2
	0.9nm,0.6s,baz=84,slow=10,SNR=2.7								
ASAR	**Alice Springs**	**44.12**	**257**	P			P	16 11 12.5	-0.5
	0.8nm,0.7s,baz=96,slow=8.1,SNR=6.8								
WRA	**Warramunga Arr**	**44.23**	**262**	P			P	16 11 14.2	+0.4
	0.3nm,0.3s,baz=96,slow=8.5,SNR=7.6								
FITZ	**Fitzroy Crossi**	**52.66**	**263**	P			P	16 12 18.6	-0.2
	1.3nm,0.7s,baz=108,slow=6.4,SNR=3.2								

WEL 11 16:03:26.1, 44˚S±1˚×17˚2E±˚, h11km±1km, ML3.5/7, South Island

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
EYCZ	**Eyrewell**	**0.20**	**8**	P			Pb	16 03 32.9	+1.0
EYCZ	**Eyrewell**	**0.20**	**8**	S			Sg	16 03 36.2	+2.8
CRLZ	**Canterbury Las**	**0.23**	**78**	P			Pb	16 03 33.4	+1.1
CRLZ	**Canterbury Las**	**0.23**	**78**	S			Sg	16 03 36.6	+2.5
MQZ	**McQueen's Vall**	**0.26**	**109**	P			Pb	16 03 32.9	0.0
MQZ	**McQueen's Vall**	**0.26**	**109**	S			Sb	16 03 36.3	-1.0
OXZ	**Oxford**	**0.36**	**326**	P			Pb	16 03 35.7	+1.1
OXZ	**Oxford**	**0.36**	**326**	S			Sb	16 03 41.2	+1.0
AKCZ	**Akaroa Harbour**	**0.50**	**120**	P			Pb	16 03 37.4	+0.5
OKCZ	**Okains Bay**	**0.55**	**101**	P			Pb	16 03 38.5	+0.7
LTZ	**Lake Taylor**	**0.84**	**358**	P			Pn	16 03 44.5	+0.5
LTZ	**Lake Taylor**	**0.84**	**358**	S			Sn	16 03 56.6	+0.2
RPZ	**Rata Peaks**	**0.92**	**264**	P			Pn	16 03 45.9	+0.9
INZ	**Inchbonnie**	**1.10**	**324**	P			Pn	16 03 49.4	+1.9
WVZ	**Waitaha Valley**	**1.28**	**295**	P			Pg	16 03 51.5	+0.9
KHZ	**Kahutara**	**1.50**	**37**	P			Pn	16 03 53.3	+0.3
LBZ	**Lake Benmore**	**1.72**	**243**	P			Pb	16 03 57.5	-0.2
FOZ	**Fox Glacier**	**1.82**	**272**	P			Pb	16 03 59.8	+0.4
ODZ	**Otahua Downs**	**1.86**	**220**	P			Pn	16 03 58.7	+0.8
THZ	**Tophouse**	**1.91**	**13**	P			Pn	16 03 59.2	+0.5
DSZ	**Denniston Nort**	**1.92**	**348**	P			Pb	16 03 60.0	-1.1
BSWZ	**Blackbirch Sta**	**2.23**	**32**	P			Pn	16 04 03.7	+0.7
TUWZ	**Tuamarina**	**2.50**	**29**	P			Pn	16 04 07.0	+0.3
NNZ	**Nelson**	**2.53**	**18**	P			Pn	16 04 08.4	+1.2
JCZ	**Jackson Bay**	**2.59**	**259**	P			Pn	16 04 10.0	+1.8
WKZ	**Wanaka**	**2.66**	**242**	P			Pn	16 04 10.9	+2.0
EAZ	**Earnscleugh**	**2.69**	**232**	P			Pn	16 04 10.2	+0.9
QRZ	**Quartz Range**	**2.80**	**3**	P			Pn	16 04 11.7	+0.9
PLWZ	**Palliser**	**2.99**	**48**	P			Pn	16 04 13.0	-0.5
TUZ	**Tuapeka**	**3.01**	**218**	P			Pn	16 04 14.5	+0.7
CAW	**Cannon Point**	**3.24**	**40**	P			Pn	16 04 16.3	-0.6
KIW	**Kapiti Island**	**3.37**	**36**	P			Pn	16 04 18.7	+0.1
MTW	**Mount Morrison**	**3.41**	**45**	P			Pn	16 04 18.4	-0.9
MLZ	**Mavora Lakes**	**3.47**	**238**	P			Pn	16 04 21.5	+1.4
OGWZ	**Otaki Gorge**	**3.52**	**38**	P			Pn	16 04 20.2	-0.5
SYZ	**Scrubby Hill**	**3.68**	**217**	P			Pn	16 04 24.9	+2.0
MRZ	**Mangatainoka R**	**3.83**	**40**	P			Pn	16 04 24.4	-0.6
WHZ	**Wether Hill Ro**	**3.85**	**232**	P			Pn	16 04 25.6	+0.3
BFZ	**Birch Farm**	**4.14**	**46**	P			Pn	16 04 28.1	-1.3
ANWZ	**Angora Road**	**4.43**	**46**	P			Pn	16 04 31.6	-1.6
APZ	**The Paps**	**4.43**	**222**	P			Pn	16 04 35.2	+1.9
PREZ	**Palmer Road**	**4.50**	**19**	P			Pn	16 04 36.3	+2.1
PKE	**Pukeiti**	**4.60**	**16**	P			Pn	16 04 37.6	+2.0
VRZ	**Vera Road**	**4.86**	**23**	P			Pn	16 04 41.1	+2.0
HIZ	**Hauiti**	**5.46**	**21**	P			Pn	16 04 47.9	+0.5

*ISCJB **11** 16:04:20.2±1.4,3˙.35N±0˙.04×92˙.85E±0˙.03, h3km±8km, mb4.8/113, Error ellipse: s-maj=6.7km s-min=4.0km az=26.8*
*IDC **11** 16:04:21.6±0.5,3˙.30N×92˙.84E, h0km, mb4.5/40, mb1 4.6/42, mb1mx4.5/70, mbtmp4.5/42, ML4.4/2, Error ellipse: s-maj=14.6km s-min=11.4km az=19.0*
*BJI **11** 16:04:22.2,3˙.40N×92˙.90E, h10km, mb4.8/51, mB5.1/24, Ms4.7/9, Ms7 4.6/9*
*NEIC **11** 16:04:23.9±2.1,3˙.37N×92˙.86E, h15km±13km, mb5.1/40, Error ellipse: s-maj=6.3km s-min=3.9km az=223.0*
*MOS **11** 16:04:24.8±1.0,3˙.42N×92˙.92E, h33km, mb5.1/33, Error ellipse: s-maj=9.4km s-min=5.2km az=108.1*
*DJA **11** 16:04:32.1±2.4,4˙.7N±5˙.9×9˙.3E±˚, h21km±19km, M5.1/12, mb4.6/12, mB6.0/6, MLv5.0/6, Mw(mB)5.7/6*

ISC 11 16:04:23.9±1.8, 3˙.36N±0˙.05×92˙.77E±0˙.05, h14km±11km, n316, σ1§32/322, mb4.9/122, 17C-9D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MLSI	**Meulaboh, Aceh**	**3.73**	**76**	P			**Pn**	**16 05 18.3**	**-2.9**
TPTI		**4.40**	**91**	P			**Pn**	**16 05 33.1**	**+2.7**
LHMI	**Lhok Sumawe**	**4.56**	**66**	P			**Pn**	**16 05 31.2**	**-1.3**
KCSI	**Kotacane, Aceh**	**4.99**	**88**	P			**Pn**	**16 05 41.5**	**+3.0**
TSI	**Tuntungan**	**5.78**	**88**	P			**Pn**	**16 05 47.9**	**-1.5**
PSI	**Prapat**	**6.17**	**95**	*e*Pn			**Pn**	**16 05 53.5**	**-1.3**
PSI	**Prapat**	**6.17**	**95**	*e*P			**Pn**	**16 05 53.5**	**-1.3**
MNSI	**Mandailing Nat**	**7.26**	**110**	P			**Pn**	**16 06 12.4**	**+2.7**
KULM	**Kulim**	**8.09**	**76**	*e*Pn			**Pn**	**16 06 19.7**	**-1.3**
PBA	**Port Blair**	**8.24**	**360**	*e*P			Pn	16 06 22.5	-0.6
IPM	**Ipoh**	**8.31**	**82**	*e*Pn			**Pn**	**16 06 22.6**	**-1.4**
BKNI	**Bangkinang**	**8.79**	**110**	*e*Pn			**Pn**	**16 06 30.3**	**-0.5**
DGPR	**DIGLIPUR**	**9.76**	**1**	*e*P			**Pn**	**16 06 43.5**	**-0.4**
MYKOM	**Kota Tinggi**	**11.18**	**98**	*e*Pn			**Pn**	**16 07 01.6**	**-1.8**
PALK	**Pallekele**	**12.63**	**288**	Pn			**Pn**	**16 07 23.2**	**-0.2**
	3.5nm,0.3s,baz=116,slow=12,SNR=7.8								
PALK				Sn			Sn	16 09 34.1	-10
	2.4nm,0.3s,baz=294,slow=3.6,SNR=4.5								
PALK	**Pallekele**	**12.63**	**288**	*e*P			**Pn**	**16 07 23.0**	**-0.3**
MNAI	**Manna**	**12.74**	**127**	*e*Pn			**Pn**	**16 07 21.6**	**-3.3**
LWLI	**Liwa**	**14.01**	**126**	P			**P**	**16 07 51.1**	**+0.9**
MDRS	**Chennai**	**15.70**	**309**	*e*P			**Pn**	**16 08 05.1**	**+0.3**
MDRS				IAmb			IAmb	16 08 11.5	
	comp=Z,96nm,1.6s								
COCO	**West Island**	**15.97**	**165**	*e*Pn			**Pn**	**16 08 10.1**	**+1.8**
	comp=Z,153nm,1.1s								
COCO	**West Island**	**15.97**	**165**	*e*P			**Pn**	**16 08 10.1**	**+1.8**
COCO				pmax			pmax		
	comp=Z,153nm,1.1s								
CM01	**Chiang Mai Arr**	**16.15**	**22**	*e*Pn			**Pn**	**16 08 08.9**	**-1.7**
CM31	**Chiang Mai Arr**	**16.17**	**21**	*e*Pn			**Pn**	**16 08 08.8**	**-2.1**
CMAR	**Chiang Mai Arr**	**16.17**	**21**	Pn			**Pn**	**16 08 10.2**	**-0.7**
	comp=Z,0.3nm,0.3s,baz=216,slow=13,SNR=62								
CGJI	**Cibinong**	**16.27**	**128**	P			**P**	**16 08 17.5**	**+2.4**
CHTO	**Chiang Mai**	**16.50**	**21**	*e*Pn			**Pn**	**16 08 13.4**	**-1.7**
	comp=Z,18nm,1.0s								
CHTO	**Chiang Mai**	**16.50**	**21**	*e*P			**Pn**	**16 08 13.4**	**-1.7**
CHTO				pmax			pmax		
	comp=Z,18nm,1.0s								
SKHT	**Srikalahasti**	**16.52**	**309**	*e*P			**Pn**	**16 08 15.9**	**+0.6**
TRD	**Trivandrum**	**16.54**	**289**	*e*P			**P**	**16 08 17.0**	**-1.2**
VIS	**Vishakhapatnam**	**17.01**	**328**	*e*P			**Pn**	**16 08 20.3**	**-1.3**
VIS				IAmb			IAmb	16 08 21.4	
CHLP	**Challavanipeta**	**17.30**	**331**	*e*P			**Pn**	**16 08 24.6**	**-0.6**
PVM	**Polavaram**	**17.61**	**322**	*e*P			**Pn**	**16 08 29.5**	**+0.4**
KSM	**Kuching**	**17.62**	**96**	*e*Pn			**Pn**	**16 08 29.7**	**+0.4**
	comp=Z,42nm,1.2s								
ADKI	**Addanki**	**17.68**	**315**	*e*P			**P**	**16 08 31.7**	**+0.9**
CISI	**Cisompet, Garu**	**18.52**	**126**	*e*P			**P**	**16 08 39.9**	**-0.2**
	comp=Z,37nm,1.1s								
SRLM	**Srisailam**	**18.62**	**314**	*e*P			**Pn**	**16 08 42.1**	**+0.6**
NJS	**Nagarjunasagar**	**18.63**	**316**	*e*P			**Pn**	**16 08 42.0**	**+0.4**
STKI	**Sintang**	**18.98**	**100**	P			**Pn**	**16 08 47.2**	**+1.3**
URV	**Urvakonda**	**19.14**	**308**	*e*P			**P**	**16 08 47.4**	**+0.5**
SBUM	**Sibu**	**19.44**	**92**	*e*P			**Pn**	**16 08 51.4**	**-0.1**
	comp=Z,51nm,1.7s								
HYB	**Hyderabad**	**19.74**	**316**	*i* P			**Pn**	**16 08 54.5**	**-0.5**
HYB	**Hyderabad**	**19.74**	**316**	*e*P			**P**	**16 08 54.1**	**+0.6**
HYB				IAmb			IAmb	16 08 55.5	
	comp=Z,53nm,0.2s								
HYBB	**Hyderabad (bro**	**19.74**	**316**	*e*P			**P**	**16 08 54.3**	**+0.8**
RPR	**Rampur**	**20.27**	**320**	*e*P			**P**	**16 08 59.2**	**-0.1**
SRSP	**Sriramsagar**	**20.94**	**319**	*e*P			**P**	**16 09 07.3**	**+0.7**
BOK	**Bokaro**	**21.38**	**342**	*e*P			**P**	**16 09 11.3**	**+0.1**
BOK				IAmb			IAmb	16 09 16.0	
	comp=Z,71nm,0.7s								
KLRI	**Killari**	**21.56**	**314**	*e*P			**P**	**16 09 14.0**	**+0.7**
SHL	**Shillong**	**22.09**	**358**	*e*P			**P**	**16 09 19.6**	**+0.5**
SHL				IAmb			IAmb	16 09 23.0	
	comp=Z,592nm,1.1s								
NGP	**Nagpur**	**22.16**	**324**	*e*P			**P**	**16 09 19.1**	**-0.4**
NGP				IAmb			IAmb	16 09 22.2	
	comp=Z,16nm,0.7s								
GOA	**Goa**	**22.21**	**304**	*e*P			**P**	**16 09 20.5**	**+0.3**
GOA				IAmb			IAmb	16 09 23.1	
	comp=Z,34nm,1.3s								
H08S2	**Diego Garcia H**	**23.00**	**242**	T			T	16 34 14.1	
	baz=60,slow=75,SNR=11								
H08S3	**Diego Garcia H**	**23.00**	**242**	T			T	16 34 28.9	
	baz=60,slow=75,SNR=10								
H08S1	**Diego Garcia H**	**23.02**	**242**	T			T	16 34 32.3	
	baz=60,slow=75,SNR=8.7								
BBKI	**Banjar Baru**	**23.07**	**107**	P			**P**	**16 09 29.3**	**-0.1**
AKL	**Akola**	**23.08**	**320**	*ex*			P	16 09 36.7	+7.3
KMI	**Kunming**	**23.67**	**23**	P			**P**	**16 09 36.8**	**+1.4**
KMI				pmax			pmax		
	comp=Z,12nm,0.6s								
KMI				pmax			pmax		
	comp=Z,350nm,4.4s								
ODAN	**Odare**	**23.93**	**348**	*e*P			**P**	**16 09 39.1**	**+1.2**
	comp=Z,151nm,1.1s								
RAMN	**Ramite**	**24.19**	**346**	*e*P			**P**	**16 09 41.8**	**+1.4**
	comp=Z,94nm,0.7s								
BHPL	**Bhopal**	**24.72**	**324**	*e*P			**P**	**16 09 45.1**	**+0.1**
BHPL				IAmb			IAmb	16 09 46.5	
	comp=Z,16nm,1.0s								
JIRN	**Jiri**	**24.97**	**346**	*e*P			**P**	**16 09 48.7**	**+1.1**
	comp=Z,171nm,0.8s								
PKIN	**Phulchoki**	**25.09**	**344**	*e*P			**P**	**16 09 50.4**	**+1.8**
	comp=Z,67nm,0.9s								
DMN	**Daman**	**25.20**	**344**	*e*P			**P**	**16 09 51.6**	**+2.0**
	comp=Z,71nm,0.8s								
GUN	**Gumba**	**25.28**	**346**	*e*P			**P**	**16 09 51.4**	**+1.0**
	comp=Z,104nm,0.8s								
KKN	**Kakani**	**25.32**	**344**	*e*P			**P**	**16 09 51.5**	**+0.9**
	comp=Z,76nm,0.9s								
GKN	**Gorkha**	**25.70**	**343**	*e*P			**P**	**16 09 55.0**	**+1.0**
	comp=Z,132nm,0.8s								
MYLDM	**Lahad Datu**	**25.72**	**85**	*e*P			**P**	**16 09 52.0**	**-2.1**
	comp=Z,30nm,1.2s								
KOLN	**Koldanda**	**25.80**	**341**	*e*P			**P**	**16 09 56.2**	**+1.2**
	comp=Z,72nm,0.8s								
LSA	**Lhasa**	**26.24**	**357**	P			**P**	**16 10 00.8**	**+1.6**
LSA				pmax			pmax		
	comp=Z,76nm,0.9s								
LSA	**Lhasa**	**26.24**	**357**	*e*P			**P**	**16 10 00.9**	**+1.7**
	comp=Z,54nm,0.8s								
LSA	**Lhasa**	**26.24**	**357**	*e*P			**P**	**16 10 00.9**	**+1.7**
LSA				pmax			pmax		
	comp=Z,54nm,0.8s								
DANN	**Dangsing**	**26.29**	**342**	*e*P			**P**	**16 10 00.8**	**+1.3**
PYUN	**Piuthan**	**26.31**	**340**	*e*P			**P**	**16 10 00.7**	**+1.1**
	comp=Z,92nm,0.9s								
GYA	**Guiyang**	**26.55**	**29**	P			**P**	**16 10 03.2**	**+1.5**
GYA				PP			**PnPn**	**16 10 47.6**	**+5.5**
GYA				PcP			**PcP**	**16 13 28.2**	**+1.9**
GYA				S			**S**	**16 14 36.0**	**+0.1**
GYA				SS			**SnSn**	**16 15 46.8**	**+8.6**
GYA				ScP			**ScP**	**16 17 05.2**	**-0.9**
GYA				pmax			pmax		
	comp=Z,20nm,1.0s								
GYA				pmax			pmax		
	comp=Z,130nm,5.6s								
GYA				LR			LR		
	comp=Z,560nm,18.2s								
CD2	**Chengdu**	**29.30**	**20**	P			**P**	**16 10 26.4**	**+0.3**
CD2				S			**S**	**16 15 20.2**	**+1.2**
CD2				pmax			pmax		
	comp=Z,60nm,0.5s								
DDI	**Dehra Dun**	**30.22**	**334**	*e*P			**P**	**16 10 34.4**	**+0.1**
DDI				IAmb			IAmb	16 10 37.8	
	comp=Z,413nm,2.2s								
LUWI	**Luwuk**	**30.30**	**98**	*e*P			**P**	**16 10 34.4**	**-0.8**
	comp=Z,74nm,0.4s								
ENH	**Enshi**	**31.09**	**29**	*e*P			**P**	**16 10 39.6**	**-2.3**
	comp=Z,16nm,1.3s								
SMLA	**Simla**	**31.30**	**334**	*e*P			**P**	**16 10 44.5**	**+0.8**
SMLA				IAmb			IAmb	16 10 45.4	
	comp=Z,51nm,0.4s								
DHRM	**DHARAMSHALA**	**32.64**	**334**	*e*P			**P**	**16 10 55.3**	**-0.4**
DHRM				IAmb			IAmb	16 10 55.7	
	comp=Z,91nm,1.8s								
XAN	**Xi'an**	**34.03**	**24**	P			**P**	**16 11 07.1**	**-0.6**
XAN				pP			pP	16 11 11.0	-1.1
XAN				pmax			pmax		
	comp=Z,21nm,0.9s								
XAN				pmax			pmax		
	comp=Z,370nm,13.0s								
LZH	**Lanzhou**	**34.13**	**16**	*e*P			**P**	**16 11 08.7**	**0.0**
LZH				pP			pP	16 11 12.0	-1.0
LZH				PP			**PnPn**	**16 12 23.8**	**+1.3**
LZH				pmax			pmax		
	comp=Z,24nm,1.3s								
LZH				pmax			pmax		
	comp=Z,110nm,4.9s								
LZH				LR			LR		
	comp=Z,1μm,13.7s								
LZH				LR			LR		
	comp=Z,1μm,14.0s								
LZH				LR			LR		
	comp=Z,2μm,17.2s								
LBMI	**Labuha**	**34.94**	**96**	P			**P**	**16 11 19.3**	**+3.5**
NIL	**Nilore**	**35.22**	**331**	*e*P			**P**	**16 11 18.0**	**+0.1**
	comp=Z,132nm,0.8s								
NIL	**Nilore**	**35.22**	**331**	*e*P			**P**	**16 11 18.0**	**+0.1**
NIL				pmax			pmax		
	comp=Z,132nm,0.8s								
GTA	**Gaotai**	**36.45**	**9**	⇓P			**P**	**16 11 29.1**	**+0.5**
GTA				pP			sP	16 11 34.2	-0.5
GTA				sP			pP	16 11 37.6	+4.7
GTA				PcP			**PcP**	**16 13 53.3**	**+0.7**
GTA				pmax			pmax		
	comp=Z,17nm,1.1s								
NJ2	**Nanjing**	**37.61**	**38**	*e*P			**P**	**16 11 38.2**	**-0.2**
NJ2				pmax			pmax		
	comp=Z,17nm,0.9s								
TIY	**Taiyuan**	**38.65**	**25**	*e*P			**P**	**16 11 43.7**	**-3.4**
TIY				SS			SS	16 20 26.5	-7.3
TIY				LR			LR		
	comp=Z,390nm,11.4s								
TIY				LR			LR		
	comp=Z,210nm,10.4s								
FITZ	**Fitzroy Crossi**	**38.78**	**124**	P			**P**	**16 11 48.2**	**-0.2**
	comp=Z,3.4nm,0.9s,baz=300,slow=15,SNR=3.3								
KSH	**Kashi**	**39.09**	**339**	P			**P**	**16 11 49.3**	**-1.6**
KSH				pmax			pmax		
	comp=Z,12nm,0.7s								
WMQ	**Urumqi**	**40.54**	**354**	P			**P**	**16 12 04.6**	**+1.8**
HHC	**Hu-ho-hao-te**	**40.98**	**22**	*e*P			**P**	**16 12 06.8**	**+0.2**
HHC				pmax			pmax

GYA2	**ALIBECK ARRAY**	46.77	322	*e*P		P		16 12 54.1	+1.0
	comp=Z,24nm,0.8s								
GYB3	**ALIBECK ARRAY**	46.77	322	*e*P		P		16 12 54.2	+1.1
	comp=Z,22nm,0.8s								
GYB4	**ALIBECK ARRAY**	46.78	322	*e*P		P		16 12 54.2	+1.0
	comp=Z,21nm,0.8s								
KSRS	**Korea Array**	46.78	39	P		P		16 12 53.4	+0.3
	comp=Z,3.4nm,0.9s,baz=228,slow=9.1,SNR=10								
WRA	**Warramunga Arr**	46.93	121	P		P		16 12 52.9	-1.7
	comp=Z,5.0nm,1.0s,baz=300,slow=8.6,SNR=11								
WB2	**Warramunga Arr**	46.94	121	*e*P		P		16 12 52.5	-2.1
WR7	**Warramunga Arr**	47.05	121	P		P		16 12 54.7	-0.8
	baz=47								
HVS	**Khovu-Aksy**	47.62	1	*i* P		P		16 12 58.4	-1.1
HVS					pmax	pmax			
	comp=Z,40nm,0.9s								
ZAK	**Zakamensk**	47.69	9	*e*P		P		16 12 58.4	-1.7
ZAK				*e*				16 14 27.9	
ZAK					pmax	pmax			
	comp=Z,6.0nm,1.1s								
ZAK					pmax	pmax			
	comp=Z,3.0nm,1.7s								
AS31	**Alice Springs**	48.23	126	*e*P		P		16 13 02.8	-1.8
	comp=Z,1.6nm,1.1s								
ASAR	**Alice Springs**	48.23	126	P		P		16 13 03.1	-1.5
	comp=Z,2.8nm,0.9s,baz=303,slow=7.2,SNR=14								
AS01	**Alice Springs**	48.26	126	*e*P		P		16 13 02.8	-2.1
KURBB	**Kurchatov Arra**	48.61	348	P		P		16 13 07.7	+0.7
	comp=Z,14nm,0.8s,baz=169,slow=7.1,SNR=121								
KURK	**Kurchatov**	48.67	348	*e*P		P		16 13 07.5	-0.1
	comp=Z,16nm,0.8s								
KURK	**Kurchatov**	48.67	348	*ce*P		P		16 13 06.6	-1.0
KURK					pmax	pmax			
	comp=Z,117nm,1.7s								
TLY	**Talaya**	49.01	9	*e*P		P		16 13 12.0	+1.8
TLY					pmax	pmax			
	comp=Z,4.0nm,0.6s								
RAYN	**Ar Rayn**	49.84	298	*e*P		P		16 13 17.6	+0.5
	comp=Z,12nm,0.8s								
ZAA0	**Zalesovo Array**	50.85	354	*e*P		P		16 13 24.4	+0.3
	comp=Z,33nm,1.3s								
ZALV	**Zalesovo Beam**	50.85	354	P		P		16 13 24.5	+0.5
	comp=Z,12nm,0.5s,baz=187,slow=8.2,SNR=60								
ZALV	**Zalesovo Beam**	50.85	354	*e*P		P		16 13 24.3	+0.2
ZALV	**Zalesovo Beam**	50.85	354	*e*P		P		16 13 24.3	+0.2
HIA	**Hailar**	51.18	22	*i* P		P		16 13 25.7	-1.0
HIA					pmax	pmax			
	comp=Z,11nm,1.0s								
NVS	**Novosibirsk**	51.90	353	*e*P		P		16 13 31.6	-0.3
NVS					pmax	pmax			
	comp=Z,19nm,0.9s								
NVS					pmax	pmax			
	comp=N,14nm,0.8s								
NVS					pmax	pmax			
	comp=E,5.0nm,0.7s								
BVAR	**Borovoye Array**	52.84	343	P		P		16 13 38.7	-0.3
	comp=E,6.6nm,0.8s,baz=145,slow=8.8,SNR=47								
BRVK	**Borovoye**	52.90	343	*e*P		P		16 13 38.8	-0.6
	comp=E,8.1nm,0.9s								
BRVK	**Borovoye**	52.90	343	*ce*P		P		16 13 39.2	-0.2
BRVK					pmax	pmax			
	comp=Z,41nm,1.7s								
MJAR	**Matsushiro Arr**	53.23	46	P		P		16 13 42.1	-0.1
	comp=Z,1.6nm,0.7s,baz=233,slow=6.1,SNR=5.6								
USRK	**Ussuriysk Ar.**	53.36	35	P		P		16 13 43.3	+0.3
	comp=Z,2.0nm,0.8s,baz=236,slow=15,SNR=3.5								
AB07	**Akbulak array**	53.57	334	*e*P		P		16 13 43.8	-0.5
AB06	**Akbulak array**	53.58	334	*e*P		P		16 13 44.1	-0.4
AB08	**Akbulak array**	53.58	334	*e*P		P		16 13 44.1	-0.3
AB03	**Akbulak array**	53.58	334	*e*P		P		16 13 44.1	-0.4
AB01	**Akbulak array**	53.59	334	*e*P		P		16 13 44.1	-0.4
AB31	**Akbulak array**	53.59	334	*e*P		P		16 13 44.4	-0.1
AB31	**Akbulak array**	53.59	334	*e*P		P		16 13 44.4	-0.1
ABKAR	**Akbulak array**	53.59	334	*e*P		P		16 13 44.3	-0.2
	comp=Z,68nm,0.8s								
AB02	**Akbulak array**	53.59	334	*e*P		P		16 13 44.1	-0.4
AB04	**Akbulak array**	53.59	334	*e*P		P		16 13 43.9	-0.6
AB05	**Akbulak array**	53.60	334	*e*P		P		16 13 44.0	-0.7
AB09	**Akbulak array**	53.60	334	*e*P		P		16 13 44.0	-0.7
AKTO	**Aktyubinsk**	55.30	334	P		P		16 13 56.7	-0.3
	comp=Z,3.1nm,0.9s,baz=120,slow=12,SNR=7.0								
KMBO	**Kilima Mbogo**	55.67	266	P		P		16 14 01.7	+1.1
	comp=Z,2.0nm,0.8s,baz=53,slow=11,SNR=7.1								
KLR	**Kul'dur**	56.45	30	P		P		16 14 05.5	+0.2
	comp=Z,0.6nm,0.9s,baz=260,slow=7.1,SNR=16								
KLR	**Kul'dur**	56.45	30	*e*P		P		16 14 03.9	-1.3
GNI	**Garni**	56.69	317	P		P		16 14 07.4	0.0
	comp=Z,8.4nm,0.7s,baz=180,slow=12,SNR=5.5								
GNI	**Garni**	56.69	317	*e*P		P		16 14 07.0	-0.3
	comp=Z,16nm,1.1s								
GNI	**Garni**	56.69	317	*ce*P		P		16 14 06.9	-0.5
GNI					pmax	pmax			
	comp=Z,49nm,1.2s								
BOD	**Bodaibo**	56.83	13	*e*P		P		16 14 06.5	-1.2
BOD					pmax	pmax			
	comp=Z,19nm,1.0s								
GROC	**Groznyy**	57.47	321	*e*P		P		16 14 09.7	-2.9
GROC				*e*				16 15 02.6	
GROC					pmax	pmax			
	comp=Z,29nm,1.0s								
STKA	**Stephens Creek**	58.09	131	P		P		16 14 16.0	-1.1
	comp=Z,2.6nm,0.9s,baz=301,slow=6.0,SNR=4.4								
STKA	**Stephens Creek**	58.09	131	P		P		16 14 16.1	-1.0
	baz=58,SNR=3.5								
ZEI	**Tsey**	58.48	319	*e*P		P		16 14 20.0	0.0
ZEI					pmax	pmax			
	comp=Z,8.0nm,0.9s								
NCK	**Nalchik**	59.01	320	*e*P		P		16 14 23.7	+0.3
NCK					pmax	pmax			
	comp=Z,6.0nm,0.7s								
SVE	**Sverdlovsk**	59.11	340	*e*P		P		16 14 23.6	-0.2
SVE					pmax	pmax			
	comp=Z,21nm,1.2s								
NEY	**Neytrino**	59.46	319	*e*P		P		16 14 25.1	-1.6
NEY					pmax	pmax			
	comp=Z,1.0nm,0.8s								
ARU	**Arti**	59.53	339	*c i*P		P		16 14 26.1	-0.6
ARU								16 16 37.4	
ARU					S	S		16 22 33.1	-2.8
ARU					pmax	pmax			
	comp=Z,17nm,1.7s								
KBZ	**Khabaz**	59.57	320	P		P		16 14 27.4	+0.2
	comp=Z,9.3nm,0.9s,baz=140,slow=5.9,SNR=24								
ASF	**Jabal al Asfar**	59.62	306	P		P		16 14 29.7	+1.9
	comp=Z,4.4nm,0.8s,baz=90,slow=5.1,SNR=5.2								
ASAJ	**Asahikawa**	59.72	40	P		P		16 14 28.6	+0.4
	comp=Z,2.6nm,0.8s,baz=287,slow=19,SNR=3.0								
KIV	**Kislovodsk**	59.81	320	*e*P		P		16 14 29.0	0.0
KIV					pmax	pmax			
	comp=Z,15nm,1.0s								
MMAI	**Mount Meron Ar**	61.06	306	P		P		16 14 39.7	+1.9
	comp=Z,5.3nm,0.8s,baz=91,slow=7.2,SNR=5.2								
YSS	**Yuzh-Sakhalins**	61.17	37	*e*P		P		16 14 38.4	+0.3
YSS					pmax	pmax			
	comp=Z,10.0nm,0.9s								
TYV	**Tymovskoe**	63.08	33	*e*P		P		16 14 46.2	-4.7
TYV					pmax	pmax			
	comp=Z,6.0nm,1.4s								
VRH	**Novokhopyorsk**	63.89	327	*e*P		P		16 14 54.2	-2.0
VRH					pmax	pmax			
	comp=Z,9.0nm,0.5s								
BR131	**Keskin Array S**	64.40	313	*e*P		P		16 14 59.3	-0.7
BRTR	**Keskin Array B**	64.40	313	P		P		16 14 59.6	-0.4
	comp=Z,3.7nm,0.7s,baz=133,slow=7.9,SNR=30								
YAK	**Yakutsk**	64.68	18	*e*P		P		16 15 00.0	-1.1
	comp=Z,32nm,0.9s								
YAK	**Yakutsk**	64.68	18	*i* P		P		16 15 00.7	-0.4
YAK					pmax	pmax			
	comp=Z,29nm,0.9s								
ILGA	**Ilgaz**	64.77	314	*e*P		P		16 15 02.2	-0.3
	comp=Z,19nm,1.1s								
BR231	**Keskin MP Arra**	65.07	313	*e*P		P		16 15 00.6	-3.7
VSR	**Storozhevoye**	65.30	326	*e*P		P		16 15 04.1	-1.3
VSR					pmax	pmax			
	comp=Z,10.0nm,1.0s								
SIM	**Simferopol'**	65.81	318	*e*P		P		16 15 09.4	+0.5
SIM					pmax	pmax			
	comp=Z,22nm,0.7s								
LSZ	**Lusaka**	66.53	252	P		P		16 15 14.8	+0.6
	comp=Z,0.9nm,0.4s,baz=63,slow=11,SNR=3.0								
OBN	**Obninsk**	68.49	329	*e*P		P		16 15 24.1	-1.5
OBN				*e*				16 15 49.2	
OBN				*e*				16 17 59.7	
OBN				*e*PPP		PPP		16 19 33.2	
OBN					pmax	pmax			
	comp=Z,28nm,1.7s								
TIRR	**Tirgusor**	69.51	316	*e*P		P		16 15 32.1	-0.1
	comp=Z,6.6nm,0.8s								
TIRR	**Tirgusor**	69.51	316	*e*P		P		16 15 32.1	-0.1
TIRR					pmax	pmax			
	comp=Z,7.0nm,0.8s								
CFR	**Carcaliu**	69.90	317	*i*P		P		16 15 34.9	+0.3
KLMR	**Klimovskoe**	69.93	335	*e*P		P		16 15 31.5	-3.0
KLMR					AMP			16 15 33.1	
	comp=Z,12nm,1.7s								
KLMR	**Klimovskoe**	69.93	335	*e*P		P		16 15 31.4	-3.0
KLMR					pmax	pmax			
	comp=Z,12nm,1.7s								
IDI	**Anoyia**	70.06	306	P		P		16 15 36.6	+0.7
	comp=Z,21nm,0.7s,baz=100,slow=9.5,SNR=16								
IDI	**Anoyia**	70.06	306	*e*P		P		16 15 36.7	+0.7
	comp=Z,23nm,0.8s								
SORM	**Soroca**	70.61	320	*i*P		P		16 15 38.6	-0.3
AKASG	**Malin Array Be**	70.87	323	P		P		16 15 39.8	-0.7
	comp=Z,2.3nm,0.6s,baz=89,slow=4.9,SNR=21								
KIEV	**Kiev**	70.88	323	*e*P		P		16 15 39.4	-1.0
	comp=Z,10.0nm,1.1s								
KIEV	**Kiev**	70.88	323	*i* P		P		16 15 39.2	-1.3
KIEV					pmax	pmax			
	comp=Z,6.0nm,0.9s								
AK11	**Malin Array Si**	70.90	323	*e*P		P		16 15 39.4	-1.2
VRI	**Vrincioaia**	71.04	318	*i*P		P		16 15 42.6	+1.0
PLOR	**Plostina**	71.09	318	*i*P		P		16 15 43.1	+1.2
TESR	**Tescani**	71.27	318	*i*P		P		16 15 42.8	-0.1
MA2	**Magadan**	71.37	27	P		P		16 15 43.3	0.0
	comp=Z,9.1nm,0.9s,baz=233,slow=6.5,SNR=3.9								
MLR	**Muntele Rosu**	71.47	317	P		P		16 15 45.0	+0.7
	comp=Z,4.4nm,0.8s,baz=71,slow=3.0,SNR=36								
MLR	**Muntele Rosu**	71.47	317	*i*P		P		16 15 45.1	+0.7
MLR	**Muntele Rosu**	71.47	317	*e*P		P		16 15 44.6	+0.2
	comp=Z,21nm,0.8s								
MLR	**Muntele Rosu**	71.47	317	*e*P		P		16 15 44.6	+0.2
MLR					pmax	pmax			
	comp=Z,21nm,0.8s								
TIXI	**Tiksi**	71.90	11	*e*P		P		16 15 45.3	-0.9
	comp=Z,26nm,0.8s								
TIXI	**Tiksi**	71.90	11	*ce*P		P		16 15 45.0	-1.2
TIXI					pmax	pmax			
	comp=Z,58nm,1.7s								
DOPR	**Dopca**	71.97	317	*i*P		P		16 15 47.7	+0.5
BOSA	**Boshof**	72.07	239	P		P		16 15 48.6	+0.3
	comp=Z,2.5nm,0.7s,baz=73,slow=8.5,SNR=3.6								
VOIR		72.07	317	*i*P		P		16 15 48.2	+0.3
BURAR	**Bucovina Array**	72.50	319	*i*P		P		16 15 51.5	+1.1
BUR04	**Bucovina Ar. S**	72.50	319	*e*P		P		16 15 49.2	-1.3
BUR08	**Bucovina Ar. S**	72.52	319	*e*P		P		16 15 49.1	-1.5
VTS	**Vitosha**	72.74	314	*i*P		P		16 15 52.1	0.0
SEY	**Seymchan**	73.57	24	P		P		16 15 56.0	-0.4
	comp=Z,4.4nm,0.9s,baz=253,slow=6.1,SNR=11								
SEY	**Seymchan**	73.57	24	*ce*P		P		16 15 55.3	-1.0
IDID	**Didziasalis**	73.76	327	*e*P		P		16 15 56.8	-0.8
IDID					IAmb	IAmb		16 15 58.5	
	comp=Z,6.7nm,0.8s								
HERR	**Herculane**	73.77	316	*i*P		P		16 15 58.0	+0.1
DRGR		73.97	318	*i*P		P		16 15 59.2	+0.1
IIGN	**Ignalina**	74.06	327	*e*P		P		16 15 58.5	-0.9
IIGN					IAmb	IAmb		16 16 01.1	
	comp=Z,10.0nm,0.9s								
BZS	**Buzias**	74.47	316	*i*P		P		16 16 01.8	-0.2
CRVS	**Cervenica-Dubn**	75.24	320	*e*P		P		16 16 07.1	+0.7
CRVS	**Cervenica-Dubn**	75.24	320	*e*P		P		16 16 07.1	+0.7
STHS	**Stebnicka Huta**	75.48	320	*e*P		P		16 16 09.2	+1.5
STHS	**Stebnicka Huta**	75.48	320	*e*P		P		16 16 09.3	+1.5
STHS					pmax	pmax			
	comp=Z,6.0nm,1.0s								
FINES	**FINESS Array B**	76.06	333	P		P		16 16 10.4	-0.4
	comp=Z,4.9nm,0.8s,baz=97,slow=8.3,SNR=13								
NIE	**Niedzica**	76.09	320	*e*P		P		16 16 12.2	+0.9
NIE	**Niedzica**	76.09	320	*e*P		P		16 16 12.2	+0.9
VYHS	**Vyhne**	76.87	319	*e*P		P		16 16 16.2	+0.5
VYHS	**Vyhne**	76.87	319	*e*P		P		16 16 16.2	+0.5
VYHS					pmax	pmax			
	comp=Z,4.0nm,0.9s								
KLNR	**Kaliningrad**	77.21	325	*i* P		P		16 16 17.2	-0.2
KLNR					pmax	pmax			
	comp=Z,49nm,0.7s								
MODS	**Modra-Piesok**	77.87	319	*e*P		P		16 16 21.9	+0.6
MODS	**Modra-Piesok**	77.87	319	*e*P		P		16 16 21.9	+0.6
MORC	**Moravsky Berou**	77.92	320	*i*P		P		16 16 22.3	+0.7
ZST	**Bratislava**	77.96	318	*e*P		P		16 16 22.9	+1.1
ZST	**Bratislava**	77.96	318	*e*P		P		16 16 22.9	+1.1
KRLC	**Kraliky**	78.45	320	*e*P		P		16 16 25.5	+1.0
KRLC					*e*pP	PcP		16 16 33.2	-0.5
KRLC	**Kraliky**	78.45	320	*e*P		P		16 16 25.5	+1.0
KRLC					*e*			16 16 33.2	
CONA	**Conrad Observa**	78.75	318	*i* P		P		16 16 26.8	+0.5
	comp=Z,7.3nm,1.0s								
DPC	**Dobruska-Polom**	78.78	321	*e*P		P		16 16 27.6	+1.3
DPC					*e*pP	PcP		16 16 35.0	-0.1
DPC	**Dobruska-Polom**	78.78	321	*e*P		P		16 16 27.6	+1.3
DPC					*e*			16 16 35.0	
ARSA	**Arzberg**	78.89	317	*i* P		P		16 16 28.1	+1.2
	comp=Z,16nm,0.9s								
UPC	**Upice**	79.00	321	*e*P		P		16 16 28.6	+1.1
UPC	**Upice**	79.00	321	*e*P		P		16 16 28.6	+1.1
ARCES	**ARCESS Array B**	79.04	341	P		P		16 16 27.5	+0.2
	comp=Z,5.6nm,0.9s,baz=66,slow=12,SNR=5.4								
PRU	**Pruhonice**	79.87	320	*e*P		P		16 16 33.1	+0.9
PRU	**Pruhonice**	79.87	320	*e*P		P		16 16 33.1	+0.9
GEA0	**GERESS Array S**	80.28	319	*e*P		P		16 16 34.5	-0.1
GEC2	**GERESS Array S**	80.28	319	*e*P		P		16 16 34.9	+0.3
	comp=Z,19nm,0.9s								
GEC2	**GERESS Array S**	80.28	319	*e*P		P		16 16 34.9	+0.3
GEC2					pmax	pmax			
	comp=Z,19nm,0.9s								
GERES	**GERESS Array B**	80.28	319	P		P		16 16 35.4	+0.7
	comp=Z,12nm,0.8s,baz=96,slow=5.5,SNR=74								
KHC	**Kasperske Hory**	80.40	319	*e*P		P		16 16 35.6	+0.5
KHC					*e*pP	PcP		16 16 42.5	+0.3
KHC	**Kasperske Hory**	80.40	319	*e*P		P		16 16 35.1	-0.1
	comp=Z,2.6nm,0.9s								
KHC	**Kasperske Hory**	80.40	319	*e*P		P		16 16 35.6	+0.5
KHC					*e*			16 16 42.5	
BILL	**Bilibino**	80.76	21	*i*P		P		16 16 36.2	-0.4
BILL					*e*			16 19 44.2	
BILL					*e*S	S		16 26 47.1	+3.2
BILL					pmax	pmax			
	comp=Z,4.0nm,1.1s								
CLL	**Collm**	80.99	321	*e*P		P		16 16 37.0	-1.2
	comp=Z,13nm,1.1s								
CLL	**Collm**	80.99	321	*e*P		P		16 16 37.0	-1.2
CLL					pmax	pmax			
	comp=Z,13nm,1.1s								
NKC	**Novy Kostel**	81.23	320	*e*P		P		16 16 40.5	+0.9
NKC	**Novy Kostel**	81.23	320	*e*P		P		16 16 40.5	+0.9
WTTA	**Wattenberg**	81.52	317	*i* P		P		16 16 41.3	0.0
	comp=Z,18nm,0.9s								
WATA	**Walderalm**	81.57	317	*i* P		P		16 16 41.2	-0.4
	comp=Z,6.4nm,0.8s								
HFS	**Hagfors**	81.66	330	P		P		16 16 41.5	-0.1
	comp=Z,1.6nm,0.6s,baz=116,slow=9.8,SNR=4.5								
MOTA	**Moosalm**	81.89	317	*i* P		P		16 16 43.2	-0.1
	comp=Z,11nm,0.8s								
RETA	**Reutte**	82.13	317	*i* P		P		16 16 44.7	+0.2
	comp=Z,19nm,1.2s								
KEST	**Kesra**	82.71	305	P		P		16 16 49.2	+1.5
	comp=Z,12nm,0.8s,baz=48,slow=2.2,SNR=7.4								
DAVA	**Damuels**	82.72	317	*i* P		P		16 16 48.3	+0.6
	comp=Z,22nm,1.1s								
NB2	**NORSAR Subarra**	82.98	331	P		P		16 16 47.7	-0.8
	comp=Z,4.6nm,0.9s,baz=94,slow=5.9								
NOA	**NORSAR Array B**	82.98	331	P		P		16 16 47.9	-0.6
	comp=Z,2.7nm,0.9s,baz=95,slow=5.4,SNR=5.0								
BFO	**Black Forest**	83.81	319	*i* P		P		16 16 53.4	+0.3
SPITS	**Spitsbergen Ar**	83.95	348	P		P		16 16 53.0	-0.2
	comp=Z,15nm,1.1s,baz=104,slow=6.1,SNR=3.7								
GAMB	**Gambell**	89.46	26	*e*P		P		16 17 20.1	-0.2
	comp=Z,5.4nm,0.9s								
TORD	**Torodi Ar. Bea**	90.29	283	P		P		16 17 25.1	-0.1
	comp=Z,0.5nm,0.9s,baz=116,slow=6.6,SNR=2.7								
EKA	**Eskdalemuir Ar**	90.64	325	P		P		16 17 26.1	+0.1
	comp=Z,2.6nm,0.8s,baz=104,slow=5.9,SNR=5.8								
ESDC	**Sonseca Array**	93.06	310	P		P		16 17 38.6	+0.9
	comp=Z,0.8nm,0.7s,baz=35,slow=4.7,SNR=4.2								
ILAR	**Eielson Array**	99.41	22	P		Pdif		16 18 04.3	-1.5
	comp=Z,0.4nm,0.9s,baz=316,slow=6.3,SNR=3.8								
YKA	**Yellowknife Ar**	111.10	13	PP		PP		16 23 30.4	-4.6
	comp=Z,0.6nm,0.9s,baz=332,slow=7.5,SNR=6.2								
YKA					PKKPab	PKKPab		16 34 01.2	-3.6
	comp=Z,0.1nm,0.3s,baz=152,slow=3.2,SNR=4.1								
NVAR	**Mina Array Bea**	129.46	32	PKP		PKPdf		16 23 33.8	+0.7
	comp=Z,0.8nm,0.8s,baz=293,slow=1.7,SNR=5.2								
PDAR	**Pinedale Array**	129.84	21	PKP		PKPdf		16 23 34.4	+0.7
	comp=Z,0.2nm,0.4s,baz=306,slow=2.1,SNR=3.7								
ANMO	**Albuquerque**	137.83	24	*c i*PKIKP		PKPdf		16 23 49.6	+0.7
ANMO					pmax	pmax			
	comp=Z,5.0nm,2.5s								
PLCA	**Paso Flores**	139.87	200	PKP		PKPdf		16 23 50.5	-1.8
	comp=Z,1.4nm,0.9s,baz=225,slow=5.7,SNR=2.5								
MNTX	**Cornudas Mount**	141.09	25	*e*PKPdf		PKPdf		16 23 56.2	+1.6
TX31	**Lajitas Ar. Si**	143.87	25	*e*PKPpre		PKPbc		16 23 56.7	-0.6
TXAR	**Lajitas Array**	143.87	25	PKP		PKPbc		16 23 57.7	+0.3
	comp=Z,1.2nm,0.8s,baz=254,slow=2.2,SNR=9.6								
JCT	**Junction City**	144.27	19	*e*PKPdf		PKPab		16 23 58.0	-0.1
JCT	**Junction City**	144.27	19	*e*PKIKP		PKPab		16 23 58.0	-0.1
HPIG		145.01	29	*e*PKPbc		PKPdf		16 24 01.6	-0.4

*ISCJB **11** 16:06:49.6±1.8,2.3N±0.3×92.9E±0.4,h10km,mb4.0/7, Error ellipse: s-maj=65.1km s-min=12.4km az=140.1*
*IDC **11** 16:06:50.5±2.0,2.3S×92.9E,h0km,mb3.9/6,mb1 4.0/6, mb1mx3.5/72,mbtmp3.9/6,Error ellipse: s-maj=77.3km s-min=25.7km az=52.0*
*NEIC **11** 16:06:52.5±2.4,2.3S×93.0E,h10km,mb4.3/1,Error ellipse: s-maj=88.0km s-min=12.9km az=53.0*

ISC 11 16:06:51.5±1.8,2.2N±0.3×92.9E±0.4,h10km,n11, σ1§20/11,mb4.1/7,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MNAI	**Manna**	11.96	123	Pn		Pn	16 09 41.3	-1.0
CISI	**Cisompet, Garu**	17.74	123	P		P	16 11 00.1	+0.3
MKAR	**Makanchi Array**	45.36	350	P		P	16 15 09.8	-0.2
	0.5nm,0.5s,baz=172,slow=9.1,SNR=2.6							
WRA	**Warramunga Arr**	46.21	120	P		P	16 15 17.7	+0.5
	1.0nm,0.8s,baz=296,slow=8.3,SNR=2.4							
SONM	**Songino Array**	46.91	12	P		P	16 15 21.3	-1.1
	2.5nm,0.6s,baz=198,slow=9.3,SNR=5.0							
GEYT	**Alibeck**	47.76	322	P		P	16 15 28.5	-0.5
	1.0nm,0.6s,baz=142,slow=7.3,SNR=2.4							
KURBB	**Kurchatov Arra**	49.75	348	P		P	16 15 43.0	-1.0
	0.7nm,0.5s,baz=175,slow=7.3,SNR=2.5							
KURK	**Kurchatov**	49.82	348	P		P	16 15 43.0	-1.5
ZALV	**Zalesovo Beam**	51.99	354	P		P	16 16 01.3	+0.4
	1.0nm,0.4s,baz=179,slow=6.8,SNR=3.5							
TIXI	**Tiksi**	72.98	11	*e*P		P	16 18 23.1	+2.1
	1.6nm,0.5s							
TXAR	**Lajitas Array**	144.83	26	PKP		PKPdf	16 26 30.6	+0.8
	0.7nm,0.7s,baz=222,slow=2.2,SNR=5.0							

IDC 11 16:07:34.2±4.4,0.7S×92.3E,h0km,mb4.0/5,mb1 4.1/5, mb1mx3.5/73,mbtmp4.0/5,Error ellipse: s-maj=162.8km s-min=27.9km az=55.0,Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	45.30	118	P		P	16 15 53.8	-0.4
	1.3nm,0.8s,baz=298,slow=8.9,SNR=3.2							
MKAR	**Makanchi Array**	48.18	351	P		P	16 16 15.6	-0.8
	0.9nm,0.7s,baz=172,slow=9.5,SNR=2.6							
SONM	**Songino Array**	49.94	12	P		P	16 16 31.6	+1.7
	2.4nm,0.7s,baz=192,slow=8.8,SNR=4.4					

APZ	The Paps	2.87	198	P		Pn	16 13 09.8	-0.5
DSZ	Denniston Nort	3.00	39	P		Pn	16 13 12.2	0.0
THZ	Tophouse	3.54	50	P		Pn	16 13 18.9	-0.7
QRZ	Quartz Range	4.07	37	P		Pn	16 13 26.7	0.0
NNZ	Nelson	4.18	47	P		Pn	16 13 29.8	+1.6
TUWZ	Tuamarina	4.35	53	P		Pn	16 13 34.0	+3.5
TCW	Tory Channel	4.68	53	P		Pn	16 13 38.6	+3.5
CAW	Cannon Point	5.21	57	P		Pn	16 13 40.4	-2.0
PREZ	Palmer Road	6.00	39	P		Pn	16 13 54.6	+1.4
PKE	Pukeiti	6.04	37	P		Pn	16 13 55.0	+1.2
WAZ	Wanganui	6.08	46	P		Pn	16 13 57.0	+2.7
VRZ	Vera Road	6.45	41	P		Pn	16 14 00.3	+1.0
PKVZ	Pokaka	6.61	45	P		Pn	16 14 04.1	+2.4
FWVZ	Far West T-bar	6.74	46	P		Pn	16 14 06.6	+3.0
TLZ	Tolley Road	7.45	41	P		Pn	16 14 14.2	+1.1
KBAZ	Karaka Road Bo	8.20	33	P		Pn	16 14 25.4	+2.1

*ISCJB **11** 16:13:36.1±0.3,0.88N±0.05×92.74E±0.04,h10km, mb4.6/64, Error ellipse: s-maj=7.6km s-min=5.3km az=2.3*
*IDC **11** 16:13:36.5±0.5,0.81N×92.66E,h0km,mb4.5/35, mb1 4.5/37,mb1mx4.4/74,mbtmp4.5/37,ML4.2/2, Error ellipse: s-maj=13.6km s-min=12.1km az=13.0*
*NEIC **11** 16:13:37.7±0.3,0.92N×92.67E,h10km,mb4.8/23, Error ellipse: s-maj=7.0km s-min=4.8km az=7.0*

ISC 11 16:13:37.7±0.5,0.85N±0.08×92.67E±0.06,h10km,n148, σ1♀18/142,**mb4.7**/64,**5C-4D,Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
GSI	Gunungsitoli	4.93	85	*e*Pn		Pn	16 14 51.1	-0.8
LHMI	Lhok Sumawe	6.10	44	*e*Pn		Pn	16 15 07.2	-0.8
PSI	Prapat	6.55	73	*e*Pn		Pn	16 15 13.4	-0.9
IPM	Ipoh	9.09	67	*e*Pn		Pn	16 15 49.2	+0.1
KULM	Kulim	9.11	61	*e*Pn		Pn	16 15 48.8	-0.6
MYKOM	Kota Tinggi	11.22	85	*e*Pn		Pn	16 16 18.5	+0.2
PALK	Pallekele	13.53	298	Pn		Pn	16 16 48.3	-1.6
	1.1nm,0.3s,baz=116,slow=12,SNR=2.7							
PALK				Sn		Sn	16 19 09.7	-11
	3.7nm,0.3s,baz=113,slow=2.8,SNR=3.7							
PALK	Pallekele	13.53	298	*e*Pn		Pn	16 16 48.0	-1.9
PALK				Sn		Sn	16 19 09.7	-11
KSM	Kuching	17.65	88	P		P	16 17 47.3	+2.4
	18nm,1.1s							
CM01	Chiang Mai Arr	18.52	19	*e*P		P	16 17 53.1	-1.3
CM31	Chiang Mai Arr	18.55	19	*e*P		Pn	16 17 54.3	-0.7
CMAR	Chiang Mai Arr	18.55	19	P		Pn	16 17 54.7	-0.2
	0.3nm,0.3s,baz=214,slow=12,SNR=25							
CHTO	Chiang Mai	18.88	19	*e*P		P	16 17 58.0	-0.5
	12nm,1.1s							
SBUM	Sibu	19.61	85	*e*P		P	16 18 03.7	-2.8
	26nm,1.0s							
H08S2	Diego Garcia H	21.82	247	T		T	16 41 29.7	
	baz=98							
H08S3	Diego Garcia H	21.82	247	T		T	16 41 17.1	
	baz=98							
H08S1	Diego Carcia H	21.84	247	T		T	16 41 33.7	
	baz=98							
ODAN	Odare	26.35	349	*e*P		P	16 19 15.8	+1.4
RAMN	Ramite	26.59	348	*e*P		P	16 19 18.5	+1.9
	38nm,0.9s							
JIRN	Jiri	27.37	347	*e*P		P	16 19 25.2	+1.5
	37nm,0.8s							
DMN	Daman	27.57	345	*e*P		P	16 19 26.5	+1.1
GUN	Gumba	27.68	347	*e*P		P	16 19 27.8	+1.3
	27nm,0.8s							
KKN	Kakani	27.70	346	*e*P		P	16 19 27.8	+1.2
GKN	Gorkha	28.07	345	*e*P		P	16 19 31.0	+1.2
KOLN	Koldanda	28.14	343	*e*P		P	16 19 31.7	+1.3
PYUN	Piuthan	28.64	342	*e*P		P	16 19 36.0	+1.2
LSA	Lhasa	28.73	357	P		P	16 19 37.8	+1.9
LSA				pmax		pmax		
	comp=Z,26nm,0.7s							
LSA	Lhasa	28.73	357	*e*P		P	16 19 35.3	-0.7
	comp=Z,16nm,0.6s							
GYA	Guiyang	28.80	27	*e*P		P	16 19 38.4	+2.1
GYA				pmax		pmax		
	comp=Z,10.0nm,0.8s							
CD2	Chengdu	31.69	18	*e*P		P	16 20 01.5	-0.2
CD2				pmax		pmax		
	comp=Z,10.0nm,0.5s							
ENH	Enshi	33.34	27	*e*P		P	16 20 15.4	-0.7
	comp=Z,18nm,1.2s							
XAN	Xi'an	36.36	23	P		P	16 20 42.3	+0.1
XAN				pP		sP	16 20 47.8	+1.3
XAN				sP		pP	16 20 50.5	+5.2
XAN				pmax		pmax		
	comp=Z,12nm,0.7s							
NIL	Nilore	37.37	333	*e*P		P	16 20 50.7	-0.1
	comp=Z,16nm,0.6s							
FITZ	Fitzroy Crossi	37.51	122	P		P	16 20 52.1	0.0
	comp=Z,2.9nm,0.6s,baz=285,slow=12,SNR=2.7							
SIJI	Sorong	38.64	92	P		P	16 21 01.1	-0.6
	comp=Z,5.0nm,0.7s,baz=247,slow=5.8,SNR=4.4							
GTA	Gaotai	38.93	9	*e*P		P	16 21 05.0	+1.0
GTA				pP		sP	16 21 10.5	+2.2
GTA				sP		pP	16 21 13.6	+6.5
GTA				pmax		pmax		
	comp=Z,5.0nm,1.0s							
WSAR	Wadi Sarin	39.83	307	P		P	16 21 11.6	0.0
	comp=Z,3.2nm,0.7s,baz=140,slow=7.9,SNR=3.2							
H01W3	Cape Leeuwin H	40.84	153	T		T	17 03 44.2	
	baz=325,slow=74,SNR=6.9							
H01W2	Cape Leeuwin H	40.85	153	T		T	17 03 45.7	
	baz=325,slow=74,SNR=5.7							
H01W1	Cape Leeuwin H	40.85	153	T		T	17 03 58.6	
	baz=325,slow=74,SNR=4.9							
TARG	Taragay, Kyrgy	42.84	344	*e*P		P	16 21 37.1	+0.5
	comp=Z,15nm,1.3s							
KDJ	Kajisay	43.39	343	*e*P		P	16 21 40.8	0.0
	comp=Z,7.2nm,0.7s							
AAK	Ala-Archa	44.68	341	P		P	16 21 52.5	+1.5
	comp=Z,1.9nm,0.7s,baz=31,slow=16,SNR=8.2							
AAK	Ala-Archa	44.68	341	*e*P		P	16 21 50.8	-0.3
	comp=Z,13nm,1.8s							
WRA	Warramunga Arr	45.76	119	P		P	16 21 60.0	+0.1
	comp=Z,8.8nm,0.7s,baz=297,slow=8.5,SNR=14							
WB2	Warramunga Arr	45.77	119	*e*P		P	16 21 58.8	-1.1
KK06	Karatay Array	46.49	338	*e*P		P	16 22 04.6	-0.6
KK07	Karatay Array	46.49	338	*e*P		P	16 22 04.5	-0.7
KK02	Karatay Array	46.50	338	*e*P		P	16 22 04.9	-0.4
KK31	Karatay Array	46.50	338	*e*P		P	16 22 05.1	-0.2
KKAR	Karatay Array	46.50	338	*e*P		P	16 22 05.1	-0.2
KK01	Karatay Array	46.51	338	*e*P		P	16 22 04.8	-0.5
KK03	Karatay Array	46.51	338	*e*P		P	16 22 04.9	-0.4
KK05	Karatay Array	46.51	338	*e*P		P	16 22 04.9	-0.5
KK04	Karatay Array	46.51	338	*e*P		P	16 22 04.8	-0.5
KK08	Karatay Array	46.51	338	*e*P		P	16 22 05.0	-0.4
MK01	Makanchi Array	46.62	350	*e*P		P	16 22 06.1	-0.1
MK31	Makanchi Array	46.65	350	*e*P		P	16 22 06.1	-0.3
MKAR	Makanchi Array	46.65	350	P		P	16 22 07.0	+0.6
	comp=Z,7.5nm,0.7s,baz=168,slow=8.9,SNR=25							
SONM	Songino Array	48.29	12	P		P	16 22 20.4	+1.1
	comp=Z,7.3nm,0.7s,baz=191,slow=9.2,SNR=24							
SONA1	Songino Array	48.30	12	*e*P		P	16 22 19.9	+0.5
GYB1	ALIBECK ARRAY	48.67	323	*e*P		P	16 22 21.5	-0.7
	comp=Z,9.3nm,1.1s							
GYA1	ALIBECK ARRAY	48.67	323	*e*P		P	16 22 22.1	-0.2
	comp=Z,10nm,1.0s							
GEYT	Alibeck	48.68	323	P		P	16 22 23.8	+1.5
	comp=Z,5.6nm,0.8s,baz=148,slow=8.7,SNR=14							
GYA0	ALIBECK ARRAY	48.68	323	*e*P		P	16 22 22.0	-0.3
	comp=Z,11nm,1.2s							
GYB5	ALIBECK ARRAY	48.68	323	*e*P		P	16 22 22.1	-0.3
	comp=Z,11nm,1.1s							
GYA2	ALIBECK ARRAY	48.68	323	*e*P		P	16 22 21.5	-0.8
	comp=Z,10nm,1.0s							
GYB3	ALIBECK ARRAY	48.69	323	*e*P		P	16 22 22.9	+0.5
	comp=Z,8.1nm,0.9s							
GYB4	ALIBECK ARRAY	48.69	323	*e*P		P	16 22 22.6	+0.1
	comp=Z,7.5nm,1.0s							
KSAR	Wonju Array Be	48.77	38	P		P	16 22 24.1	+1.2
KS01	Wonju Array Si	48.80	38	*e*P		P	16 22 22.6	-0.6
KSRS	Korea Array	48.80	38	P		P	16 22 24.1	+1.0
	comp=Z,5.2nm,0.7s,baz=224,slow=7.7,SNR=16							
RAYN	Ar Rayn	50.96	300	*e*P		P	16 22 39.7	-0.3
	comp=Z,3.3nm,0.8s							
KURBB	Kurchatov Arra	51.02	348	P		P	16 22 40.2	+0.3
	comp=Z,5.9nm,0.8s,baz=172,slow=7.1,SNR=13							
KURK	Kurchatov	51.09	349	*e*P		P	16 22 39.9	-0.4
	comp=Z,12nm,1.0s							
ZAA0	Zalesovo Array	53.31	354	*e*P		P	16 22 56.5	-0.4
	comp=Z,17nm,1.2s							
ZALV	Zalesovo Beam	53.31	354	P		P	16 22 57.0	+0.2
	comp=Z,8.8nm,0.6s,baz=186,slow=7.8,SNR=19							
ZALV	Zalesovo Beam	53.31	354	*e*P		P	16 22 56.6	-0.3
BVAR	Borovoye Array	55.20	344	P		P	16 23 10.3	-0.4
	comp=Z,3.4nm,0.7s,baz=133,slow=8.1,SNR=12							
KMBO	Kilima Mbogo	55.45	268	P		P	16 23 14.6	+1.2
	comp=Z,0.7nm,0.4s,baz=142,slow=16,SNR=3.1							
USRK	Ussuriysk Ar.	55.49	34	P		P	16 23 14.0	+1.2
	comp=Z,4.9nm,0.9s,baz=227,slow=7.0,SNR=6.0							
AB07	Akbulak array	55.77	335	*e*P		P	16 23 12.5	-2.3
AB06	Akbulak array	55.78	335	*e*P		P	16 23 12.3	-2.5
AB08	Akbulak array	55.78	335	*e*P		P	16 23 12.5	-2.3
AB03	Akbulak array	55.78	335	*e*P		P	16 23 12.5	-2.3
AB01	Akbulak array	55.78	335	*e*P		P	16 23 12.8	-2.1
AB31	Akbulak array	55.78	335	*e*P		P	16 23 12.8	-2.1
ABKAR	Akbulak array	55.78	335	*e*P		P	16 23 12.7	-2.2
	comp=Z,60nm,0.8s							
AB02	Akbulak array	55.78	335	*e*P		P	16 23 12.4	-2.5
AB04	Akbulak array	55.79	335	*e*P		P	16 23 11.9	-3.0
AB05	Akbulak array	55.80	335	*e*P		P	16 23 12.6	-2.4
AB09	Akbulak array	55.80	335	*e*P		P	16 23 12.9	-2.1
CTA	Charters Tower	56.44	115	P		P	16 23 20.4	+0.3
	comp=Z,6.4nm,0.9s,baz=283,slow=14,SNR=3.2							
AKTO	Aktyubinsk	57.49	334	P		P	16 23 26.9	-0.1
	comp=Z,1.8nm,0.5s,baz=127,slow=5.8,SNR=7.2							
KLR	Kul'dur	58.67	29	P		P	16 23 36.2	+0.8
	comp=Z,0.7nm,0.9s,baz=258,slow=6.1,SNR=17							
KBZ	Khabaz	61.42	321	P		P	16 23 55.3	+1.0
	comp=Z,4.1nm,0.9s,baz=149,slow=4.5,SNR=9.1							
ASAJ	Asahikawa	61.72	39	P		P	16 23 57.3	+1.0
	comp=Z,3.5nm,0.7s,baz=221,slow=9.3,SNR=3.3							
LSZ	Lusaka	65.67	253	P		P	16 24 22.9	-0.3
	comp=Z,1.5nm,0.6s,baz=65,slow=3.8,SNR=4.1							
LSZ				PcP		PcP	16 24 52.6	-1.9
	comp=Z,1.5nm,0.7s,baz=129,slow=6.5,SNR=3.7							
BRTR	Keskin Array B	66.03	314	P		P	16 24 25.3	+0.3
	comp=Z,3.6nm,0.8s,baz=133,slow=7.2,SNR=22							
BR131	Keskin Array S	66.03	314	*e*P		P	16 24 23.4	-1.6
YAK	Yakutsk	67.08	18	*e*P		P	16 24 29.9	-1.2
	comp=Z,22nm,1.1s							
LBTB	Lobatse	69.68	243	P		P	16 24 48.7	+0.4
	comp=Z,9.3nm,0.7s,baz=110,slow=6.5,SNR=11							
BOSA	Boshof	70.69	239	P		P	16 24 54.5	+0.1
	comp=Z,3.6nm,0.6s,baz=119,slow=8.2,SNR=3.8							
IDI	Anoyia	71.47	307	P		P	16 25 00.1	+1.1
	comp=Z,7.2nm,0.5s,baz=94,slow=12,SNR=11							
HARR	Harsova	71.66	317	*i*P		P	16 25 04.2	+4.5
SORM	Soroca	72.47	321	*i*P		P	16 25 04.6	+0.1
AKASG	Malin Array Be	72.80	323	P		P	16 25 06.0	-0.4
	comp=Z,0.9nm,0.5s,baz=90,slow=5.2,SNR=12							
VRI	Vrincioaia	72.82	318	*i*P		P	16 25 08.2	+1.5
PLOR	Plostina	72.82	318	*i*P		P	16 25 08.2	+1.1
TESR	Tescani	73.06	319	*i*P		P	16 25 08.3	+0.1
MLR	Muntele Rosu	73.23	318	P		P	16 25 10.3	+0.9
	comp=Z,1.7nm,0.7s,baz=153,slow=4.5,SNR=12							
MLR	Muntele Rosu	73.23	318	*i*P		P	16 25 10.4	+1.0
BURAR	Bucovina Array	74.32	320	*i*P		P	16 25 16.8	+1.2
BUR04	Bucovina Ar. S	74.32	320	*e*P		P	16 25 15.4	-0.2
BUR08	Bucovina Ar. S	74.34	320	*e*P		P	16 25 16.1	+0.3
TIXI	Tiksi	74.36	11	*e*P		P	16 25 14.2	-1.1
	comp=Z,13nm,0.6s							
VTS	Vitosha	74.39	314	*i*P		P	16 25 16.4	+0.2
SUR	Sutherland	75.19	236	P		P	16 25 21.2	0.0
	comp=Z,0.4nm,0.7s,baz=102,slow=9.3,SNR=4.2							
SEY	Seychan	75.89	24	P		P	16 25 23.6	-0.6
	comp=Z,2.0nm,0.8s,baz=235,slow=5.6,SNR=6.2							
FINES	FINESS Array B	78.24	333	P		P	16 25 37.6	+0.1
	comp=Z,7.6nm,0.6s,baz=98,slow=5.5,SNR=20							
SYO	Syowa Base	78.31	197	*i*PcP		PcP	16 25 45.4	-1.6
KRLC	Kraliky	80.31	321	*e*P		P	16 25 50.8	+1.7
CONA	Conrad Observa	80.54	318	*i* P		P	16 25 51.6	+1.2
	comp=Z,3.5nm,1.1s							
DPC	Dobruska-Polom	80.64	321	*e*P		P	16 25 52.1	+1.2
DPC				*ex*		x	16 26 01.4	
ARSA	Arzberg	80.66	318	*i* P		P	16 25 52.1	+1.1
	comp=Z,10nm,0.8s,SNR=6.9							
ARCES	ARCESS Array B	81.35	341	P		P	16 25 54.9	+0.7
	comp=Z,8.6nm,0.9s,baz=87,slow=5.4,SNR=13							
GEA0	GERESS Array S	82.09	319	*e*P		P	16 25 59.0	+0.4
GEC2	GERESS Array S	82.10	319	*e*P		P	16 25 59.1	+0.4
	comp=Z,10nm,0.8s							
GERES	GERESS Array B	82.10	319	P		P	16 25 59.9	+1.2
	comp=Z,6.2nm,0.8s,baz=103,slow=5.3,SNR=44							
KHC	Kasperske Hory	82.22	319	*e*P		P	16 26 01.1	+1.8
WTTA	Wattenberg	83.28	317	*i* P		P	16 26 05.8	+0.7
	comp=Z,10nm,0.8s							
WATA	Walderalm	83.33	317	*i* P		P	16 26 05.6	+0.3
	comp=Z,3.4nm,0.6s							
HFS	Hagfors	83.77	330	P		P	16 26 07.1	+0.1
	comp=Z,4.7nm,1.0s,baz=97,slow=7.4,SNR=4.6							
RETA	Reutte	83.89	318	*i* P		P	16 26 08.5	+0.4
	comp=Z,7.5nm,0.6s							
KEST	Kesra	84.08	306	P		P	16 26 10.4	+1.2
	comp=Z,13nm,0.9s,baz=284,slow=3.7,SNR=7.8							
DAVA	Damuels	84.47	317	*i* P		P	16 26 11.9	+0.8
	comp=Z,20nm,0.9s							
NOA	NORSAR Array B	85.11	331	P		P	16 26 14.0	+0.1
	comp=Z,0.6nm,0.6s,baz=119,slow=4.4,SNR=3.1							
TOA0	Torodi Ar. Sit	90.75	283	*e*P		P	16 26 40.8	-1.0
TORD	Torodi Ar. Bea	90.75	283	P		P	16 26 42.2	+0.4
	comp=Z,1.2nm,1.0s,baz=90,slow=0.3,SNR=3.5							
EKA	Eskdalemuir Ar	92.63	325	P		P	16 26 50.1	+0.5
	comp=Z,1.6nm,0.8s,baz=101,slow=6.6,SNR=3.5							
NVAR	Mina Array Bea	131.62	33	PKP		PKPdf	16 32 52.5	+0.8
	comp=Z,0.4nm,0.6s,baz=258,slow=3.3,SNR=3.3							
PDAR	Pinedale Array	132.19	22	PKP		PKPdf	16 32 52.9	+0.3
	comp=Z,0.2nm,0.3s,baz=280,slow=0.5,SNR=3.5							
TKL	Tuckaleechee C	143.53	355	PKP		PKPdf	16 33 14.6	+1.2
	comp=Z,3.1nm,0.7s,baz=0.0,slow=2.0,SNR=3.2							
MIAR	Mount Ida	144.30	9	*e*PKPdf		PKPbc	16 33 13.1	+0.1
WLAR	White Oak Lake	145.22	8	*e*PKPbc		PKPdf	16 33 16.1	-0.2
TX31	Lajitas Ar. Si	146.16	26	*e*PKPdf		PKPdf	16 33 18.1	-0.1
TXAR	Lajitas Array	146.16	26	PKPbc		PKPbc	16 33 19.2	0.0
	comp=Z,4.0nm,0.8s,baz=285,slow=1.5,SNR=24							
LPAZ	La Paz	155.64	230	PKPab		PKPab	16 33 59.8	+0.1
	comp=Z,1.7nm,0.8s,baz=9.0,slow=2.5,SNR=4.6							

*IDC **11** 16:13:39.3±0.6,20.99N×120.17E,h0km,mb4.2/24, mb1 4.3/24,mb1mx4.1/64,mbtmp4.2/24, Error ellipse: s-maj=20.2km s-min=13.3km az=69.0*
*ISCJB **11** 16:13:41.5±0.4,20.92N±0.05×120.09E±0.05,h25km, mb4.2/30, Error ellipse: s-maj=9.1km s-min=4.3km az=139.6*
*JMA **11** 16:13:41.8±0.6,20.51N×120.42E,h73km,M4.0*
*NEIC **11** 16:13:44.9±1.7,21.01N×120.21E,h37km±15km, mb4.2/3, Error ellipse: s-maj=15.6km s-min=9.1km az=72.0*

ISC 11 16:13:43.5±0.6,20.95N±0.08×119.98E±0.08,h25km,n48, σ1♀59/54,**mb4.2**/30,**Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
NACB	Ninganchiao	3.54	25	*e*Pn		Pn	16 14 33.9	-3.0
TATO	Taipei	4.24	19	Pn		Pn	16 14 44.9	-1.6
JYNG	Yonagunijimaku	4.43	38	P		Pn	16 14 51.3	+2.1
JYNG				*e*S		Sn	16 15 41.8	+1.9
YOJ	Yonaguni jima	4.47	38	P		Pn	16 14 52.7	+2.9
YOJ				*e*S		Sn	16 15 42.4	+1.3
HATJ	Hateruma jima	4.70	48	S		Sn	16 15 45.5	-1.0
IRIF	Iriomote-Funau	4.83	45	P		Pn	16 14 54.4	-0.3
IRIF				*e*S		Sn	16 15 50.6	+0.8
JKRS	Kuro-shima	4.95	48	P		Pn	16 14 55.2	-1.2
JKRS				*e*S		Sn	16 15 52.2	-0.7
JIJ	Ishigaki jima	5.13	48	P		Pn	16 14 57.8	-1.0
JIJ				*e*S		Sn	16 15 55.3	-1.9
JISG	Ishigakijimahi	5.39	47	P		Pn	16 15 01.2	-1.2
JTJ	Tarama	5.70	49	P		Pn	16 15 06.2	-0.4
JTJ				S		Sn	16 16 10.1	-1.1
JIRB	Irabujima	6.15	50	*e*S		Sn	16 16 20.6	-1.7
JNU	Nakatsue	15.52	36	Pn		P	16 17 24.1	-0.9
	0.6nm,0.3s,baz=193,slow=8.3,SNR=6.1							
KSAR	Wonju Array Be	17.81	21	P		P	16 17 51.9	+1.7
KSRS	Korea Array	17.83	21	P		P	16 17 51.9	+1.5
	0.1nm,0.8s,baz=199,slow=12,SNR=12							
CBIJ	Chichi jima	21.17	69	P		P	16 18 31.1	+4.0
JCJ	Chichijima	21.17	69	P		P	16 18 31.1	+4.0
	62nm,0.6s,baz=275,slow=18,SNR=3.3							
JHJ	Hachijo jima 2	21.36	51	P		P	16 18 31.6	+2.6
	209nm,0.8s,baz=240,slow=20,SNR=2.4							
MJAR	Matsushiro Arr	22.23	42	P		P	16 18 37.0	-1.4
	3.3nm,1.0s,baz=235,slow=10,SNR=5.5							
ULN	Ulaanbaatar	28.81	342	*e*P		P	16 19 41.4	+1.7
	2.8nm,0.9s							
SONM	Songino Array	28.98	341	P		P	16 19 42.7	+1.5
	4.3nm,0.9s,baz=162,slow=9.2,SNR=7.9							
KLR	Kul'dur	29.74	16	P		P	16 19 47.6	-0.2
	0.2nm,0.6s,baz=183,slow=5.1,SNR=9.0							
ASAJ	Asahikawa	29.77	34	P		P	16 19 46.5	-1.6
	3.1nm,0.8s,baz=310,slow=7.9,SNR=2.4							
FITZ	Fitzroy Crossi	39.20	171	P		P	16 21 10.1	+0.3
	1.4nm,0.3s,baz=331,slow=10,SNR=3.3							
MKAR	Makanchi Array	39.96	319	P		P	16 21 17.8	+1.8
	2.0nm,0.6s,baz=115,slow=9.6,SNR=17							
ZALV	Zalesovo Beam	42.40	330	P		P	16 21 37.1	+1.3
	3.0nm,0.6s,baz=122,slow=7.4,SNR=13							
WRAB	Tennant Creek	43.00	160	P		P	16 21 41.1	0.0
	2.8nm,0.6s							
WRA	Warramunga Arr	43.01	160	P		P	16 21 41.4	+0.3
	2.5nm,0.5s,baz=343,slow=9.0,SNR=7.2							
PETK	Petropavlovsk-	43.16	33	P		P	16 21 41.7	-0.4
	3.8nm,0.8s,baz=316,slow=4.0,SNR=3.8							
KURK	Kurchatov	43.91	323	*e*P		P	16 21 48.9	+0.8
KURBB	Kurchatov Arra	43.92	323	P		P	16 21 49.6	+1.4
	4.1nm,0.8s,baz=121,slow=7.6,SNR=32							
ASAR	Alice Springs	46.38	162	P		P	16 22 07.7	-0.4
	2.6nm,0.7s,baz=344,slow=6.8,SNR=9.0							
SEY	Seymchan	47.38	19	P		P	16 22 15.0	-0.3
	0.6nm,0.5s,baz=252,slow=16							
BVAR	Borovoye Array	49.51	323	P		P	16 22 33.5	+1.5
	1.6nm,0.8s,baz=119,slow=12,SNR=8.8							
AKTO	Aktyubinsk	56.34	317	P		P	16 23 23.0	+0.6
	2.5nm,0.6s,baz=111,slow=9.2,SNR=7.0							
STKA	Stephens Creek	56.47	158	P		P	16 23 23.6	+0.2
	2.6nm,0.7s,baz=350,slow=6.7,SNR=5.3							
KBZ	Khabaz	66.65	310	P		P	16 24 32.4	+0.3
	2.5nm,0.8s,baz=51,slow=2.2,SNR=4.6							
SPITS	Spitsbergen Ar	72.39	348	P		P	16 25 07.1	0.0
	4.9nm,0.8s,baz=55,slow=12,SNR=4.3							
ILAR	Eielson Array	72.58	27	P		P	16 25 06.1	-2.3
	0.9nm,0.5s,baz=269,slow=5.1,SNR=22							
FINES	FINESS Array B	73.67	330	P		P	16 25 14.1	-0.7
	2.4nm,0.8s,baz=90,slow=3.8,SNR=5.9							
BRTR	Keskin Array B	74.20	307	P		P	16 25 17.8	-0.7
	0.6nm,0.8s,baz=72,slow=4.7,SNR=2.6							
AKASG	Malin Array Be	74.54	319	P		P	16 25 18.8	-1.3
	1.1nm,0.7s,baz=80,slow=4.7,SNR=5.1							
EGAK	Eagle	74.96	26	*e*P		P	16 25 21.0	-1.3
	2.4nm,0.6s							
MLR	Muntele Rosu	78.09	314	P		P	16 25 40.3	-0.3
	0.8nm,0.8s,baz=22,slow=5.4							
HFS	Hagfors	79.83	331	P		P	16 25 48.2	-1.4
	2.7nm,0.7s,baz=95,slow=8.7,SNR=3.6							
NB2	NORSAR Subarra	80.55	332	P		P	16 25 51.8	-1.8
	comp=Z,2.2nm,0.8s,baz=64,slow=5.6							
NOA	NORSAR Array B	80.55	332	P		P	16 25 52.2	-1.4
	comp=Z,2.7nm,0.7s,baz=64,slow=5.3,SNR=4.2							
YKA	Yellowknife Ar	86.36	22	P		P	16 26 21.9	-1.4
	comp

SIJI S S 16 19 26.7 -14
2.1nm,0.3s,baz=70,slow=22,SNR=8.2
FITZ Fitzroy Crossi 11.88 191 P **P** 16 19 28.4 -1.1
1.2nm,0.3s,baz=29,slow=10.0,SNR=23
FITZ S **S** 16 21 48.3 +6.5
0.2nm,0.3s,baz=68,slow=19,SNR=1.8
WRA Warramunga Arr 14.77 156 P **P** 16 20 00.8 -0.4
1.2nm,0.3s,baz=331,slow=12,SNR=32
WRA S **S** 16 22 37.1 -3.4
0.6nm,0.3s,baz=337,slow=19,SNR=5.3
ASAR Alice Springs 18.06 163 P **P** 16 20 37.2 +0.4
0.7nm,0.3s,baz=342,slow=12,SNR=46
ASAR S **S** 16 23 45.0 -0.4
0.5nm,0.3s,baz=348,slow=23,SNR=20
CTA Charters Tower 22.26 129 P **P** 16 21 18.5 +0.7
11nm,1.0s,baz=315,slow=14,SNR=2.7
STKA Stephens Creek 28.31 155 P **P** 16 22 11.8 +0.1
0.8nm,0.6s,baz=318,slow=12,SNR=3.1
KSRS Korea Array 43.62 360 P **P** 16 24 19.6 -0.3
0.6nm,0.4s,baz=179,slow=9.8,SNR=5.5
PETK Petropavlovsk- 64.35 19 P **P** 16 26 50.1 +1.9
3.2nm,0.8s,baz=216,slow=12,SNR=2.5
MKAR Makanchi Array 66.70 328 P **P** 16 27 03.5 +0.2
0.5nm,0.6s,baz=114,slow=8.7,SNR=4.5
KURBB Kurchatov Arra 71.02 329 P **P** 16 27 29.9 +0.4
0.3nm,0.5s,baz=132,slow=5.1,SNR=4.7
RAR Rarotonga 71.06 110 P **P** 16 27 29.1 -1.3
11nm,0.5s,baz=321,slow=8.2,SNR=4.5
SEY Seymchan 71.57 11 P **P** 16 27 32.6 +0.1
0.3nm,0.5s,baz=34,slow=5.5,SNR=3.7

IDC 11 16:17:56.3±8.1, 3.90N×92.41E, h0km, mb3.7/3, mb1 4.0/4, mb1mx3.3/72, mbtmp3.7/4, ML3.6/1, Error ellipse: s-maj=196.1km s-min=63.6km az=134.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**15.81**	**23**	Pn		Pn	16 21 39.8	-0.8
	0.1nm,0.3s,baz=215,slow=13,SNR=4.4							
H08S2	**Diego Garcia H**	**22.95**	**240**	T		T	16 48 02.1	
	baz=60,slow=75,SNR=4.7							
H08S3	**Diego Garcia H**	**22.95**	**240**	T		T	16 48 08.8	
	baz=60,slow=75,SNR=4.9							
H08S1	**Diego Carcia H**	**22.96**	**240**	T		T	16 47 59.6	
	baz=60,slow=75,SNR=4.3							
MKAR	**Makanchi Array**	**43.62**	**350**	P		P	16 26 02.5	0.0
	0.3nm,0.5s,baz=161,slow=9.9,SNR=3.2							
ZALV	**Zalesovo Beam**	**50.27**	**354**	P		P	16 26 54.4	+0.1
	0.7nm,0.4s,baz=173,slow=8.2,SNR=2.7							
GERES	**GERESS Array B**	**79.64**	**319**	P		P	16 30 05.8	-0.1
	0.5nm,0.8s,baz=86,slow=8.0,SNR=3.1							

*ISCJB **11** 16:21:43.1±0.2, 10.64S±0.04×113.70E±0.03, h10km, mb4.7/54, Error ellipse: s-maj=5.5km s-min=3.4km az=25.0*

*IDC **11** 16:21:44.9±0.5, 10.37S×113.92E, h0km, mb4.5/28, mb1 4.6/31, mb1mx4.4/59, mbtmp4.5/31, ML4.3/3, Error ellipse: s-maj=15.3km s-min=11.9km az=49.0*

*NEIC **11** 16:21:47.0±1.2, 10.56S×113.73E, h22km±8km, mb4.9/28, Error ellipse: s-maj=6.4km s-min=3.7km az=207.0*

*DJA **11** 16:21:48.2±1.3, 11˚S±4˚×11˚4E±˚, h38km±15km, M5.1/21, mb5.2/15, mB5.6/13, MLv5.1/21, Mw(mB)5.1/13*

ISC 11 16:21:45.6±0.3, 10.55S±0.06×113.82E±0.05, h10km, n192, σ1s60/181, mb4.8/54, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JAGI	**Jajag, Banyuwa**	**2.09**	**9**	P		**Pn**	**16 22 22.6**	**+1.8**
JAGI	**Jajag, Banyuwa**	**2.09**	**9**	*e*Pn		**Pn**	**16 22 22.2**	**+1.4**
IGBI	**Denpasar**	**2.16**	**37**	P		**Pn**	**16 22 24.1**	**+2.4**
GMJI	**Gumukmas**	**2.29**	**351**	P		**Pn**	**16 22 24.5**	**+1.0**
DNP	**Denpasar**	**2.31**	**37**	P		**Pn**	**16 22 26.9**	**+3.1**
BLJI	**Banyuglugur**	**2.80**	**355**	P		**Pn**	**16 22 33.6**	**+3.1**
SRBI	**Singaraja**	**2.81**	**29**	P		**Pn**	**16 22 34.0**	**+3.4**
KMMI	**Kalianget**	**3.48**	**2**	P		**Pn**	**16 22 43.8**	**+3.9**
PCJI	**Pacitan**	**3.50**	**312**	P		**Pn**	**16 22 43.2**	**+3.0**
GRJI	**Gresik**	**3.85**	**340**	P		**Pn**	**16 22 46.9**	**+2.0**
WOJI	**Wonogiri, Jawa**	**3.93**	**313**	P		**Pn**	**16 22 47.5**	**+1.5**
UGM	**Wanagama**	**4.18**	**309**	P		**Pn**	**16 22 50.8**	**+1.3**
UGM	**Wanagama**	**4.18**	**309**	*e*Pn		**Pn**	**16 22 49.7**	**+0.2**
PLAI	**Plampang**	**4.26**	**67**	P		**Pn**	**16 22 52.4**	**+1.8**
BWJI	**Bawean**	**4.81**	**346**	P		**Pn**	**16 23 01.1**	**+3.0**
SMRI	**Semarang**	**4.82**	**316**	P		Pn	16 23 03.4	+5.1
SMRI	**Semarang**	**4.82**	**316**	*e*Pn		**Pn**	**16 22 59.0**	**+0.7**
KPJI	**Karang Pucung**	**5.79**	**303**	P		**Pn**	**16 23 12.8**	**+1.2**
CMJI	**Cimerak**	**5.97**	**297**	P		**Pn**	**16 23 12.6**	**-1.5**
WSI	**Waingapu**	**6.44**	**83**	P		Pn	16 23 18.2	-2.4
CISI	**Cisompet, Garu**	**6.63**	**296**	P		**Pn**	**16 23 23.1**	**-0.2**
	373nm,0.6s,5μm							
CISI	**Cisompet, Garu**	**6.63**	**296**	*e*Pn		**Pn**	**16 23 22.4**	**-0.9**
LEM	**Lembang**	**7.16**	**301**	Pn		**Pn**	**16 23 31.4**	**+0.8**
	1.6nm,0.3s,baz=142,slow=22,SNR=7.8							
LEM				Sn		**Sn**	**16 24 51.8**	**-0.3**
	6.5nm,0.3s,baz=22,slow=20,SNR=4.1							
KBKI	**Kotabaru**	**7.57**	**18**	P		**Pn**	**16 23 39.1**	**+3.0**
	106nm,1.2s,3μm							
BSSI	**Bau Bau, Buton**	**7.92**	**57**	P		**Pn**	**16 23 43.9**	**+2.9**
	283nm,0.9s,3μm							
SKJI	**Sukabumi**	**7.99**	**296**	P		Pn	16 23 51.0	+9.1
XMIS	**Christmas Isla**	**8.03**	**270**	*e*Pn		**Pn**	**16 23 41.0**	**-1.4**
KAPI	**Kappang**	**8.05**	**47**	*e*Pn		**Pn**	**16 23 42.6**	**-0.1**
	37nm,0.6s							
PBKI	**Pangkalan Bun**	**8.08**	**345**	P		**Pn**	**16 23 45.1**	**+2.0**
	164nm,1.0s,4μm							
MMRI	**Maumere**	**8.52**	**78**	P		**Pn**	**16 23 51.1**	**+1.9**
	146nm,0.9s,4μm							
MMRI	**Maumere**	**8.52**	**78**	*e*Pn		**Pn**	**16 23 51.0**	**+1.9**
BNSI	**Bone**	**8.73**	**46**	P		**Pn**	**16 23 56.2**	**+4.2**
	95nm,0.8s,4μm							
CGJI	**Cibinong**	**8.94**	**295**	P		**Pn**	**16 23 53.5**	**-1.3**
	190nm,0.5s,3μm							
MTKI	**Muara Teweh, K**	**9.61**	**6**	P		Pn	16 24 11.9	+7.8
BATI	**Baumata**	**9.69**	**89**	Pn		**Pn**	**16 24 06.2**	**+0.9**
	6.2nm,0.3s,baz=275,slow=8.8,SNR=12							
BATI				Sn		**Sn**	**16 25 50.1**	**-4.2**
	1.1nm,0.3s,baz=198,slow=19,SNR=9.0							
BATI	**Baumata**	**9.69**	**89**	P		**Pn**	**16 24 05.8**	**+0.5**
	36nm,0.6s							
BBSI	**Bau Bau**	**10.02**	**61**	P		**Pn**	**16 24 12.1**	**+2.4**
	12nm,0.9s							
SOEI	**Soe**	**10.32**	**87**	P		**Pn**	**16 24 15.6**	**+1.7**
	112nm,0.9s							
SOEI	**Soe**	**10.32**	**87**	*e*Pn		**Pn**	**16 24 15.8**	**+1.9**
KASI	**Kota Agung**	**10.49**	**298**	P		**Pn**	**16 24 14.1**	**-2.1**
	74nm,0.7s,4μm							
KLI	**Kotabumi**	**10.52**	**302**	P		Pn	16 24 26.6	+10
STKI	**Sintang**	**10.80**	**347**	P		**Pn**	**16 24 22.5**	**+2.1**
LWLI	**Liwa**	**11.12**	**299**	P		Pn	16 24 33.3	+8.4
MDSI	**Maura Dua**	**11.29**	**302**	P		**Pn**	**16 24 31.0**	**+3.8**
MBWA	**Marble Bar**	**11.98**	**152**	*e*Pn		Pn	16 24 30.6	-6.0
APSI	**Ampana**	**12.34**	**40**	P		Pn	16 24 58.8	+17
MPSI	**Mapaga**	**12.39**	**30**	P		Pn	16 24 59.6	+17
MNAI	**Manna**	**12.40**	**299**	*e*Pn		**Pn**	**16 24 39.4**	**-2.9**
SBUM	**Sibu**	**13.01**	**353**	*e*Pn		**Pn**	**16 24 51.4**	**+0.7**
MASI	**Maura Aman, Be**	**13.64**	**302**	P		**P**	**16 25 05.9**	**-2.4**
FITZ	**Fitzroy Crossi**	**13.69**	**125**	Pn		Pn	16 24 56.5	-3.4
	0.7nm,0.3s,baz=307,slow=8.7,SNR=7.7							
FITZ				Sn		Sn	16 27 20.2	-12
	2.1nm,0.3s,baz=230,slow=24,SNR=7.0							
FITZ	**Fitzroy Crossi**	**13.69**	**125**	P		Pn	16 24 56.7	-3.2
	baz=14,SNR=5.5							
MYKOM	**Kota Tinggi**	**15.77**	**320**	*e*Pn		**Pn**	**16 25 25.8**	**-2.2**
	17nm,1.0s							
MYLDM	**Lahad Datu**	**16.31**	**17**	*e*Pn		**Pn**	**16 25 34.3**	**-0.6**
	98nm,1.3s							
MEEK	**Meekatharra**	**16.63**	**165**	P		**Pn**	**16 25 34.5**	**-4.5**
	baz=17,SNR=9.7							
COCO	**West Island**	**16.73**	**263**	*e*Pn		**Pn**	**16 25 36.8**	**-3.4**
	144nm,1.0s							
MTN	**Manton Dam**	**17.11**	**99**	P		**Pn**	**16 25 45.5**	**+0.4**
	baz=17,SNR=9.6							
MTN	**Manton Dam**	**17.11**	**99**	*e*Pn		**Pn**	**16 25 45.8**	**+0.8**
	57nm,1.3s							
TNTI	**Ternate**	**17.56**	**51**	*e*Pn		**Pn**	**16 25 51.3**	**+0.6**
	55nm,1.2s							
FAKI	**Fak Fak**	**19.80**	**69**	*e*P		**P**	**16 26 17.1**	**+0.7**
	146nm,1.3s							
SIJI	**Sorong**	**19.83**	**62**	P		**P**	**16 26 16.1**	**-0.6**
	1.6nm,0.3s,baz=277,slow=4.3,SNR=20							
SIJI				S		**S**	**16 29 54.1**	**-6.2**
	0.3nm,0.3s,baz=66,slow=21,SNR=7.9							
WRKA	**Warakurna**	**19.91**	**138**	P		**P**	**16 26 18.3**	**+0.7**
	baz=20,SNR=12							
WRA	**Warramunga Arr**	**21.87**	**118**	P		**P**	**16 26 39.1**	**+0.3**
	12nm,0.8s,baz=292,slow=12,SNR=19							
WRA				S		S	16 30 31.9	-8.7
	2.2nm,0.7s,baz=283,slow=24,SNR=3.9							
WRAB	**Tennant Creek**	**21.87**	**118**	*e*P		**P**	**16 26 39.8**	**+1.0**
	23nm,0.8s							
WB2	**Warramunga Arr**	**21.88**	**118**	*e*P		**P**	**16 26 39.8**	**+0.9**
	30nm,1.0s							
WC3	**Warramunga Arr**	**21.90**	**118**	P		**P**	**16 26 40.3**	**+1.2**
	baz=22							
KMBL	**Kambalda**	**22.02**	**161**	P		**P**	**16 26 39.6**	**-0.8**
	baz=22,SNR=5.6							
AS31	**Alice Springs**	**23.17**	**127**	*e*P		**P**	**16 26 52.2**	**-0.3**
	5.7nm,0.8s							
ASAR	**Alice Springs**	**23.17**	**127**	P		**P**	**16 26 52.7**	**+0.2**
	11nm,0.9s,baz=298,slow=6.8,SNR=26							
ASAR				S		**S**	**16 31 02.3**	**-2.1**
	1.5nm,0.8s,baz=311,slow=17,SNR=5.7							
AS01	**Alice Springs**	**23.20**	**127**	*e*P		**P**	**16 26 52.9**	**-0.1**
FORT	**Forrest**	**24.09**	**149**	P		**P**	**16 27 01.2**	**-0.3**
	baz=24,SNR=14							
FORT	**Forrest**	**24.09**	**149**	*e*P		**P**	**16 27 00.3**	**-1.1**
	1μm,0.8s							
QIS	**Mount Isa**	**26.72**	**115**	P		**P**	**16 27 26.5**	**+1.0**
	baz=27,SNR=5.1							
QIZ	**Qiongzhong**	**29.65**	**352**	*e*P		**P**	**16 27 52.2**	**+0.6**
	36nm,1.1s							
CM01	**Chiang Mai Arr**	**32.31**	**333**	*e*P		**P**	**16 28 15.2**	**+0.2**
CM31	**Chiang Mai Arr**	**32.35**	**333**	*e*P		**P**	**16 28 15.5**	**+0.1**
CMAR	**Chiang Mai Arr**	**32.35**	**333**	P		**P**	**16 28 16.1**	**+0.8**
	13nm,0.9s,baz=169,slow=8.1,SNR=31							
CHTO	**Chiang Mai**	**32.66**	**333**	*e*P		**P**	**16 28 18.4**	**+0.3**
	13nm,1.0s							
QLP	**Quilpie**	**32.83**	**123**	P		**P**	**16 28 19.8**	**+0.3**
	baz=33,SNR=4.0							
STKA	**Stephens Creek**	**33.30**	**134**	P		**P**	**16 28 24.1**	**+0.4**
	5.7nm,0.7s,baz=301,slow=8.1,SNR=8.6							
STKA	**Stephens Creek**	**33.30**	**134**	P		**P**	**16 28 22.8**	**-0.9**
	baz=33,SNR=5.8							
STKA	**Stephens Creek**	**33.30**	**134**	*e*P		**P**	**16 28 24.0**	**+0.4**
	2.2nm,0.8s							
PALK	**Pallekele**	**37.42**	**297**	P		**P**	**16 28 58.4**	**-1.0**
	9.7nm,0.4s,baz=116,slow=8.3,SNR=3.0							
ENH	**Enshi**	**40.80**	**354**	*e*P		**P**	**16 29 26.7**	**-0.6**
	22nm,0.8s							
H08S2	**Diego Garcia H**	**40.88**	**270**	T		T	17 13 01.2	
	baz=96,slow=74,SNR=40							
H08S3	**Diego Garcia H**	**40.90**	**271**	T		T	17 13 01.9	
	baz=96,slow=74,SNR=44							
H08S1	**Diego Carcia H**	**40.90**	**270**	T		T	17 13 02.6	
	baz=96,slow=74,SNR=34							
CD2	**Chengdu**	**42.34**	**347**	*e*P		**P**	**16 29 40.5**	**+0.5**
CD2				pmax		pmax		
	comp=Z,10.0nm,0.5s							
HYB	**Hyderabad**	**44.57**	**308**	*i* P		**P**	**16 30 00.0**	**+1.8**
XAN	**Xi'an**	**44.59**	**354**	P		**P**	**16 30 00.8**	**+2.7**
XAN				pP		sP	16 30 06.3	+3.8
XAN				sP		pP	16 30 09.3	+8.1
XAN				pmax		pmax		
	comp=Z,8.0nm,1.3s							
JNU	**Nakatsue**	**46.38**	**20**	P		**P**	**16 30 11.3**	**-1.0**
	comp=Z,8.5nm,1.0s,baz=208,slow=15,SNR=2.8							
KSAR	**Wonju Array Be**	**49.53**	**15**	P		**P**	**16 30 36.9**	**+0.3**
KSRS	**Korea Array**	**49.55**	**15**	P		**P**	**16 30 36.9**	**+0.2**
	comp=Z,6.2nm,1.0s,baz=194,slow=7.4,SNR=13							
KS01	**Wonju Array Si**	**49.57**	**15**	*e*P		**P**	**16 30 36.5**	**-0.3**
GTA	**Gaotai**	**51.38**	**346**	*e*P		**P**	**16 30 51.7**	**+0.9**
GTA				pP		sP	16 30 57.2	+2.0
GTA				sP		pP	16 31 00.5	+6.6
GTA				pmax		pmax		
	comp=Z,5.0nm,1.2s							
MJAR	**Matsushiro Arr**	**52.17**	**25**	P		**P**	**16 30 55.0**	**-1.5**
	comp=Z,2.2nm,0.8s,baz=210,slow=9.1,SNR=3.9							
MJAR	**Matsushiro Arr**	**52.17**	**25**	P		**P**	**16 30 55.0**	**-1.5**
MDJ	**Mudanjiang**	**56.74**	**13**	*e*P		**P**	**16 31 29.1**	**-0.5**
	comp=Z,19nm,1.0s							
USRK	**Ussuriysk Ar.**	**56.94**	**16**	P		**P**	**16 31 30.4**	**-0.6**
	comp=Z,13nm,0.8s,baz=193,slow=5.5,SNR=17							
ULN	**Ulaanbaatar**	**58.47**	**355**	*e*P		**P**	**16 31 41.1**	**-0.8**
	comp=Z,10nm,1.1s							
NIL	**Nilore**	**58.48**	**320**	*e*P		**P**	**16 31 40.1**	**-2.1**
	comp=Z,14nm,0.8s							
SONM	**Songino Array**	**58.50**	**354**	P		**P**	**16 31 42.1**	**0.0**
	comp=Z,11nm,1.1s,baz=168,slow=8.4,SNR=14							
SONA1	**Songino Array**	**58.51**	**354**	*e*P		**P**	**16 31 41.0**	**-1.2**
ASAJ	**Asahikawa**	**60.36**	**24**	P		**P**	**16 31 54.7**	**-0.1**
	comp=Z,3.2nm,0.8s,baz=261,slow=19,SNR=4.0							
KBL	**Kabul**	**61.74**	**319**	*e*P		**P**	**16 32 02.8**	**-1.9**
	comp=Z,8.6nm,0.8s							
KDJ	**Kajisay**	**62.27**	**330**	*e*P		**P**	**16 32 07.6**	**-0.5**
	comp=Z,12nm,1.1s							
KZA	**Kyzart**	**63.20**	**329**	P		**P**	**16 32 14.8**	**+0.2**
	SNR=10							
MK01	**Makanchi Array**	**63.64**	**336**	*e*P		**P**	**16 32 16.2**	**-0.7**
TKM2	**Tokmak 2**	**63.64**	**330**	P		**P**	**16 32 17.2**	**-0.1**
	SNR=8.2							
MK31	**Makanchi Array**	**63.66**	**336**	*e*P		**P**	**16 32 16.4**	**-0.6**
MKAR	**Makanchi Array**	**63.66**	**336**	*e*P		**P**	**16 32 16.7**	**-0.4**
	comp=Z,2.8nm,0.8s,baz=153,slow=7.3,SNR=12							
MKAR	**Makanchi Array**	**63.66**	**336**	*e*P		**P**	**16 32 16.3**	**-0.7**
	comp=Z,44nm,1.1s							
KBK	**Karagaybulak**	**63.77**	**329**	P		**P**	**16 32 18.6**	**+0.5**
	SNR=9.7							
AAK	**Ala-Archa**	**63.99**	**329**	P		**P**	**16 32 20.1**	**+0.6**
	comp=Z,5.8nm,1.0s,baz=122,slow=4.3,SNR=13							
AAK	**Ala-Archa**	**63.99**	**329**	P		**P**	**16 32 20.3**	**+0.8**
	SNR=7.1							
AAK	**Ala-Archa**	**63.99**	**329**	*e*P		**P**	**16 32 19.1**	**-0.4**
	comp=Z,14nm,1.3s							
AML	**Almayashu**	**64.04**	**328**	P		**P**	**16 32 20.4**	**+0.3**
	SNR=8.4							
EKS2	**Erkin-Say**	**64.38**	**328**	P		**P**	**16 32 22.6**	**+0.6**
	SNR=9.6							
KK06	**Karatay Array**	**66.39**	**327**	*e*P		**P**	**16 32 34.1**	**-0.9**
KK07	**Karatay Array**	**66.41**	**327**	*e*P		**P**	**16 32 34.0**	**-1.0**
KK02	**Karatay Array**	**66.41**	**327**	*e*P		**P**	**16 32 34.1**	**-0.9**
KK31	**Karatay Array**	**66.41**	**327**	*e*P		**P**	**16 32 33.9**	**-1.1**
KKAR	**Karatay Array**	**66.41**	**327**	*e*P		**P**	**16 32 33.9**	**-1.1**
KK05	**Karatay Array**	**66.41**	**327**	*e*P		**P**	**16 32 34.1**	**-1.0**
KK01	**Karatay Array**	**66.41**	**327**	*e*P		**P**	**16 32 34.0**	**-1.0**
KK03	**Karatay Array**	**66.41**	**327**	*e*P		**P**	**16 32 34.1**	**-1.0**
KK04	**Karatay Array**	**66.42**	**327**	*e*P		**P**	**16 32 34.2**	**-0.9**
KK08	**Karatay Array**	**66.42**	**327**	*e*P		**P**	**16 32 34.1**	**-1.0**
KURBB	**Kurchatov Arra**	**68.22**	**337**	P		**P**	**16 32 45.7**	**-0.6**
	comp=Z,4.2nm,1.0s,baz=148,slow=5.3,SNR=18							
KURK	**Kurchatov**	**68.26**	**337**	*e*P		**P**	**16 32 45.9**	**-0.6**
	comp=Z,6.7nm,0.8s							
ZALV	**Zalesovo Beam**	**68.80**	**342**	P		**P**	**16 32 49.4**	**-0.5**
	comp=Z,2.0nm,0.4s,baz=137,slow=5.0,SNR=8.4							
ZALV	**Zalesovo Beam**	**68.80**	**342**	*e*P		**P**	**16 32 48.7**	**-1.1**
GEYT	**Alibeck**	**70.92**	**316**	P		**P**	**16 33 03.7**	**+0.3**
	comp=Z,5.5nm,1.1s,baz=169,slow=3.0,SNR=7.9							
GYA2	**ALIBECK ARRAY**	**70.92**	**316**	*e*P		**P**	**16 33 01.7**	**-1.7**
	comp=Z,14nm,1.0s							
GYB5	**ALIBECK ARRAY**	**70.93**	**316**	*e*P		**P**	**16 33 02.9**	**-0.5**
	comp=Z,16nm,1.1s							
GYB4	**ALIBECK ARRAY**	**70.94**	**316**	*e*P		**P**	**16 33 03.1**	**-0.4**
	comp=Z,10nm,0.8s							
BVAR	**Borovoye Array**	**73.36**	**334**	P		**P**	**16 33 17.4**	**-0.2**
	comp=Z,4.3nm,1.0s,baz=132,slow=6.0,SNR=12							
YAK	**Yakutsk**	**73.41**	**8**	*e*P		**P**	**16 33 16.8**	**-0.8**
	comp=Z,18nm,0.4s							
BRVK	**Borovoye**	**73.43**	**334**	*e*P		**P**	**16 33 18.0**	**0.0**
	comp=Z,24nm,1.1s							
PETK	**Petropavlovsk-**	**73.61**	**26**	P		**P**	**16 33 18.7**	**-0.3**
	comp=Z,7.6nm,0.9s,baz=280,slow=4.4,SNR=3.7							
RAYN	**Ar Rayn**	**74.85**	**298**	*e*P		**P**	**16 33 25.3**	**-1.6**
	comp=Z,5.5nm,1.0s							
AB07	**Akbulak array**	**75.96**	**327**	*e*P		**P**	**16 33 30.8**	**-1.9**
AB06	**Akbulak array**	**75.96**	**327**	*e*P		**P**	**16 33 30.8**	**-1.9**
AB03	**Akbulak array**	**75.97**	**327**	*e*P		**P**	**16 33 31.3**	**-1.5**
AB08	**Akbulak array**	**75.97**	**327**	*e*P		**P**	**16 33 31.5**	**-1.3**
AB01	**Akbulak array**	**75.97**	**327**	*e*P		**P**	**16 33 31.3**	**-1.5**
AB02	**Akbulak array**	**75.97**	**327**	*e*P		**P**	**16 33 31.1**	**-1.6**
AB31	**Akbulak array**	**75.97**	**327**	*e*P		**P**	**16 33 31.3**	**-1.5**
ABKAR	**Akbulak array**	**75.97**	**327**	*e*P		**P**	**16 33 31.2**	**-1.5**
	comp=Z,73nm,0.6s							
AB05	**Akbulak array**	**75.98**	**327**	*e*P		**P**	**16 33 31.5**	**-1.4**
AB09	**Akbulak array**	**75.99**	**327**	*e*P		**P**	**16 33 31.6**	**-1.3**
KMBO	**Kilima Mbogo**	**76.59**	**271**	P		**P**	**16 33 40.1**	**+2.7**
	comp=Z,2.2nm,0.7s,baz=341,slow=4.1,SNR=3.6							
AKTO	**Aktyubinsk**	**77.67**	**327**	P		**P**	**16 33 42.4**	**+0.1**
	comp=Z,1.6nm,0.6s,baz=96,slow=6.9,SNR=6.1							
QSPA	**South Pole Qui**	**79.45**	**180**	P		**P**	**16 33 55.6**	**+3.4**
	comp=Z,2.5nm,0.7s,baz=320,slow=4.9,SNR=4.4							
ARU	**Arti**	**80.79**	**332**	*e*P		**P**	**16 33 58.0**	**-1.3**
	comp=Z,38nm,1.6s							
TIXI	**Tiksi**	**82.63**	**5**	*e*P		**P**	**16 34 07.5**	**-1.1**
	comp=Z,11nm,0.9s							
RAR	**Rarotonga**	**82.94**	**110**	P		**P**	**16 34 12.3**	**+0.9**
	comp=Z,15nm,0.7s,baz=207,slow=14,SNR=2.5							
MBAR	**Mbarara**	**83.09**	**271**	P		**P**	**16 34 13.9**	**+1.3**
	comp=Z,3.7nm,0.2s,baz=105,slow=1.1,SNR=3.8							
LSZ	**Lusaka**	**83.11**	**256**	P		**P**	**16 34 14.5**	**+1.9**
	comp=Z,0.8nm,0.3s,baz=90,slow=8.1,SNR=2.2							
BOSA	**Boshof**	**83.78**	**242**	P		**P**	**16 34 19.6**	**+3.7**
	comp=Z,3.4nm,0.9s,baz=79,slow=5.2,SNR=2.2							
KBZ	**Khabaz**	**83.82**	**316**	P		**P**	**16 34 16.2**	**+0.8**
	comp=Z,1.4nm,0.7s,baz=90,slow=6.1,SNR=3.9							
SNAA	**Sanae**	**88.11**	**196**	P		**P**	**16 34 36.4**	**+0.1**
	comp=Z,2.3nm,1.0s,baz=140,slow=16,SNR=3.9							
BRTR	**Keskin Array B**	**89.22**	**311**	P		**P**	**16 34 42.9**	**+0.7**
	comp=Z,1.6nm,0.9s,baz=142,slow=4.7,SNR=7.8							
BR231	**Keskin MP Arra**	**89.90**	**310**	*e*P		**P**	**16 34 42.7**	**-2.6**
KLMR	**Klimovskoe**	**91.63**	**332**	*e*P		**P**	**16 34 55.4**	**+2.7**
KLMR				AMP			16 35 08.8	
	comp=Z,17nm,1.4s							
GAMB	**Gambell**	**92.64**	**25**	*e*P		**P**	**16 34 57.5**	**+0.2**
	comp=Z,13nm,1.4s							
CRVS	**Cervenica-Dubn**	**99.40**	**318**	*e*PDIFF		**Pdif**	**16 35 29.1**	**+0.6**
YKA	**Yellowknife Ar**	**117.65**	**23**	PKP		**PKPdf**	**16 40 32.2**	**+0.5**
	comp=Z,0.5nm,0.5s,baz=310,slow=1.9,SNR=15							
NVAR	**Mina Array Bea**	**125.93**	**50**	PKP		**PKPdf**	**16 40 48.4**	**-0.2**
	comp=Z,0.1nm,0.4s,baz=275,slow=3.3,SNR=2.1							
TXAR	**Lajitas Array**	**140.35**	**56**	PKhKP		PKPpre	16 41 12.9	
	comp=Z,0.3nm,0.8s,baz=270,slow=1.8,SNR=3.4							
U39A	**Green Forest**	**144.35**	**39**	P		**PKPab**	**16 41 21.9**	**+1.3**
	baz=310							
CCM	**Cathedral Cave**	**144.57**	**35**	P		**PKPab**	**16 41 21.7**	**+0.3**
	baz=314							
CCM	**Cathedral Cave**	**144.57**	**35**	*e*PKPdf		**PKPab**	**16 41 21.3**	**-0.1**
S41A	**Jillco Farms,**	**144.60**	**36**	P		**PKPab**	**16 41 21.7**	**+0.2**
	baz=313							
U40A	**Yellville**	**144.75**	**39**	P		**PKPab**	**16 41 22.4**	**+0.4**
	baz=310							
P44A	**Sand Creek, Wi**	**144.96**	**31**	P		**PKPab**	**16 41 23.3**	**+0.6**
	baz=319							
T41A	**Mountain View**	**144.96**	**37**	P		**PKPbc**	**16 41 23.0**	**+0.2**
	baz=312							
S42A	**Caledonia**	**145.03**	**35**	P		**PKPbc**	**16 41 23.3**	**+0.3**
	baz=315							
X39A	**Fountain Ranch**	**145.09**	**43**	P		**PKPab**	**16 41 25.0**	**+1.6**
	baz=307							
V40A	**Witts Springs**	**145.13**	**40**	P		**PKPbc**	**16 41 23.3**	**-0.2**
	baz=310							
PKME	**Peaks-Kenny Pk**	**145.31**	**4**	*e*PKP		**PKPbc**	**16 41 23.5

	ERCV	**ERCIS-VAN**	**0.21**	**301**	PG	**Pg**	**16 27 14.3**	**-1.0**
	ERCV				SG	**Sg**	**16 27 18.8**	**+0.5**
	ERCV	**ERCIS-VAN**	**0.21**	**301**	*e*Pg	**Pg**	**16 27 14.3**	**-1.0**
	ERCV				*e*Sg	**Sg**	**16 27 18.8**	**+0.5**
	VANB	**Van**	**0.35**	**203**	PG	**Pb**	**16 27 18.5**	**-0.6**
	VANB				SG	**Sb**	**16 27 25.9**	**+1.2**
	VANB	**Van**	**0.35**	**203**	*e*Pg	**Pb**	**16 27 18.5**	**-0.6**
	CLDR	**Caldiran**	**0.36**	**50**	PG	**Pg**	**16 27 16.5**	**-1.5**
	CLDR				SG	**Sg**	**16 27 22.8**	**0.0**
	CLDR	**Caldiran**	**0.36**	**50**	*i* P	**Pg**	**16 27 16.5**	**-1.5**
	CLDR				*i* S	**Sg**	**16 27 22.6**	**-0.2**
	CLDR	**Caldiran**	**0.36**	**50**	P	**Pg**	**16 27 16.5**	**-1.5**
	CLDR				eSg	**Sg**	**16 27 22.8**	**0.0**
	TVAN	**Van**	**0.40**	**198**	*i* P	**Pg**	**16 27 18.4**	**-0.5**
	TVAN				*i* S	**Sb**	**16 27 26.4**	**0.0**
	TVAN	**Van**	**0.40**	**198**	P	**Pg**	**16 27 18.4**	**-0.5**
	DYDN	**Diyadin**	**0.64**	**9**⇑	*e*P	**Pg**	**16 27 22.5**	**-0.7**
	DYDN				*e*S	**Sg**	**16 27 31.6**	**-0.1**
	DYDN				IAML		16 27 37.5	
		comp=Z,596nm,0.4s						
	DYDN	**Diyadin**	**0.64**	**9**	*i* P	**Pg**	**16 27 22.7**	**-0.6**
	DYDN				*i* S	**Sg**	**16 27 29.8**	**-1.8**
	DYDN	**Diyadin**	**0.64**	**9**	P	**Pg**	**16 27 22.7**	**-0.6**
	DYDN				S	**Sg**	**16 27 29.8**	**-1.8**
	ADCV	**BITLIS_Adilcev**	**0.66**	**261**	*i* P	**Pg**	**16 27 22.7**	**-1.0**
	ADCV				*i* S	**Sb**	**16 27 33.3**	**-0.6**
	ADCV	**BITLIS_Adilcev**	**0.66**	**261**	P	**Pg**	**16 27 22.7**	**-1.0**
	ADCV				S	**Sb**	**16 27 33.3**	**-0.6**
	GEVA	**Gevas**	**0.72**	**214**⇑	*i* P	**Pg**	**16 27 23.1**	**-1.6**
	GEVA				*e*S	**Sb**	**16 27 34.8**	**-0.7**
	GEVA				IAML		16 27 47.3	
		comp=Z,787nm,0.4s						
	GEVA	**Gevas**	**0.72**	**214**	*i* P	**Pg**	**16 27 23.2**	**-1.6**
	GEVA				*i* S	**Sb**	**16 27 35.3**	**-0.2**
	GEVA	**Gevas**	**0.72**	**214**	P	**Pg**	**16 27 23.2**	**-1.6**
	GEVA				S	**Sb**	**16 27 35.3**	**-0.2**
	TUTA	**Tutak**	**0.76**	**310**⇓	*i* P	**Pg**	**16 27 24.0**	**-1.5**
	TUTA				*e*S	**Sg**	**16 27 35.6**	**0.0**
	TUTA	**Tutak**	**0.76**	**310**	*i* P	**Pg**	**16 27 24.1**	**-1.5**
	TUTA				*i* S	**Sg**	**16 27 35.5**	**0.0**
	TUTA	**Tutak**	**0.76**	**310**	P	**Pg**	**16 27 24.1**	**-1.5**
	TUTA				S	**Sg**	**16 27 35.5**	**0.0**
	IGDI	**IGDIR**	**1.03**	**22**	*i* P	**Pg**	**16 27 29.7**	**-0.9**
	IGDI				*e*S	**Sg**	**16 27 43.6**	**-0.6**
	IGDI				IAML		16 27 50.6	
		comp=Z,343nm,0.5s						
	IGDI	**IGDIR**	**1.03**	**22**	*i* P	**Pg**	**16 27 29.8**	**-0.9**
	IGDI				*i* S	**Sn**	**16 27 45.5**	**-0.4**
	TASB	**TASBURUN-IGDIR**	**1.19**	**26**	PN	**Pb**	**16 27 32.7**	**-0.8**
	TASB	**TASBURUN-IGDIR**	**1.19**	**26**	*e*Pn	**Pb**	**16 27 32.7**	**-0.8**
	EKAR	**Karacoban**	**1.22**	**287**	*e*P	**Pn**	**16 27 32.4**	**-1.7**
	EKAR				IAML		16 28 03.3	
		comp=Z,435nm,0.5s						
	EKAR	**Karacoban**	**1.22**	**287**	*i* P	**Pn**	**16 27 31.9**	**-2.2**
	EKAR				*i* S	**Sn**	**16 27 51.1**	**+0.4**
	EKAR	**Karacoban**	**1.22**	**287**	P	**Pn**	**16 27 31.9**	**-2.2**
	EKAR				S	**Sn**	**16 27 51.1**	**+0.4**
	GURO	**Guroymak-BITLI**	**1.25**	**254**	PN	**Pn**	**16 27 32.8**	**-1.7**
	GURO	**Guroymak-BITLI**	**1.25**	**254**	*e*Pn	**Pn**	**16 27 32.8**	**-1.7**
	EATA	**Eleskirt**	**1.26**	**319**⇓	*i* P	**Pn**	**16 27 33.3**	**-1.6**
	EATA				*e*S	**Sb**	**16 27 51.0**	**-0.2**
	EATA	**Eleskirt**	**1.26**	**319**	*i* P	**Pn**	**16 27 33.1**	**-1.6**
	EATA	**Eleskirt**	**1.26**	**319**	P	**Pn**	**16 27 33.1**	**-1.6**
	HYR	**Heyderabad**	**1.28**	**51**	⇓P	**Pg**	**16 27 34.6**	**-0.9**
	HYR				⇓S	**Sn**	**16 27 54.0**	**+1.9**
	HAKT	**HAKKARI**	**1.36**	**175**	*i* P	**Pn**	**16 27 34.7**	**-1.3**
	HAKT	**HAKKARI**	**1.36**	**175**	P	**Pn**	**16 27 34.7**	**-1.3**
	YOVA	**Hakkari_Y¨…kse**	**1.44**	**156**	*i* P	**Pb**	**16 27 36.6**	**-1.2**
	YOVA	**Hakkari_Y¨…kse**	**1.44**	**156**	P	**Pb**	**16 27 36.6**	**-1.2**
	DIGO	**Kars**	**1.51**	**354**	*e*P	**Pn**	**16 27 37.8**	**-0.3**
	DIGO				*i* Pg	**Pb**	**16 27 38.5**	**-0.5**
	DIGO	**Kars**	**1.51**	**354**	*i* P	**Pn**	**16 27 38.2**	**+0.1**
	DIGO	**Kars**	**1.51**	**354**	P	**Pn**	**16 27 38.2**	**+0.1**
	NAX	**Nakhchivan**	**1.53**	**80**	⇓P	**Pg**	**16 27 39.2**	**-0.9**
	NAX				⇑S	**Sg**	**16 28 00.8**	**+0.9**
	SRTM	**Siirt_Merkez**	**1.58**	**235**	*i* P	**Pn**	**16 27 39.0**	**0.0**
	SRTM	**Siirt_Merkez**	**1.58**	**235**	P	**Pn**	**16 27 39.0**	**0.0**
	SBZ	**Shahbuz**	**1.62**	**72**	⇑P	**Pg**	**16 27 40.4**	**-1.5**
	SBZ				⇓S	**Sg**	**16 28 02.7**	**-0.2**
	VRTB	**Varto-Mus**	**1.66**	**279**	PN	**Pb**	**16 27 40.9**	**-0.7**
	VRTB	**Varto-Mus**	**1.66**	**279**	*i* P	**Pn**	**16 27 40.5**	**+0.4**
	VRTB	**Varto-Mus**	**1.66**	**279**	P	**Pn**	**16 27 40.5**	**+0.4**
	VRTB	**Varto-Mus**	**1.66**	**279**	*e*Pn	**Pb**	**16 27 40.9**	**-0.7**
	SIRT	**Sirnak**	**1.67**	**213**	PN	**Pb**	**16 27 40.9**	**-0.7**
	SIRT	**Sirnak**	**1.67**	**213**	*e*Pn	**Pb**	**16 27 40.9**	**-0.7**
	SIRN	**S¨–rnak**	**1.68**	**213**	*i* P	**Pb**	**16 27 41.0**	**-0.8**
	SIRN	**S¨–rnak**	**1.68**	**213**	P	**Pb**	**16 27 41.0**	**-0.8**
	HOMI	**Horasan**	**1.71**	**312**	*e*P	**Pn**	**16 27 40.8**	**-0.1**
	HOMI	**Horasan**	**1.71**	**312**	*i* P	**Pn**	**16 27 41.5**	**+0.6**
	KARS	**Kars**	**1.75**	**348**	PN	**Pn**	**16 27 41.9**	**+0.5**
	KARS	**Kars**	**1.75**	**348**	*e*Pn	**Pn**	**16 27 41.9**	**+0.5**
	EAK	**Akyaka**	**1.77**	**1**	*e*P	**Pb**	**16 27 43.8**	**+0.3**
	EAK	**Akyaka**	**1.77**	**1**	*i* P	**Pb**	**16 27 44.3**	**-0.5**
	EAK	**Akyaka**	**1.77**	**1**	P	**Pb**	**16 27 44.3**	**-0.5**
	SENK	**Senkaya-Erzuru**	**1.89**	**331**	PN	**Pb**	**16 27 44.0**	**-0.7**
	SENK	**Senkaya-Erzuru**	**1.89**	**331**	*e*Pn	**Pb**	**16 27 44.0**	**-0.7**
	ORD	**Ordubad**	**1.90**	**89**	⇑P	**Pb**	**16 27 44.2**	**-1.3**
	ORD				⇓S	**Sg**	**16 28 09.2**	**-2.5**
	ERZM	**Erzurum**	**1.97**	**301**	*e*P	**Pn**	**16 27 44.8**	**+0.3**
	ERZM	**Erzurum**	**1.97**	**301**	*i* P	**Pn**	**16 27 44.2**	**-0.2**
	ERZM	**Erzurum**	**1.97**	**301**	P	**Pn**	**16 27 44.2**	**-0.2**
	SVAN	**Silvan-Diyarba**	**2.01**	**248**	PN	**Pb**	**16 27 46.1**	**-1.3**
	SVAN	**Silvan-Diyarba**	**2.01**	**248**	*e*Pn	**Pb**	**16 27 46.1**	**-1.3**
	BTMN	**Batman**	**2.07**	**241**	*i* P	**Pb**	**16 27 47.6**	**-0.9**
	BTMN	**Batman**	**2.07**	**241**	P	**Pb**	**16 27 47.6**	**-0.9**
	ECAT	**Cat-ERZURUM**	**2.13**	**290**	*e*P	**Pn**	**16 27 47.8**	**+1.2**
	BNGB	**Bing¨ll**	**2.25**	**273**	PN	**Pb**	**16 27 50.0**	**-1.6**
	BINT	**Bingol**	**2.40**	**270**	*e*Pn	**Pn**	**16 27 50.0**	**-0.2**
	GDB	**GEDABAY**	**2.47**	**42**	⇑P	**Pn**	**16 27 52.4**	**+1.2**
	GDB				⇓S	**Sb**	**16 28 24.5**	**-1.4**
	AKH	**Akhalkalaki**	**2.50**	**359**	PN	**Pn**	**16 27 53.3**	**+1.7**
	AKH	**Akhalkalaki**	**2.50**	**359**	*e*Pn	**Pn**	**16 27 53.3**	**+1.7**
	QZX	**Qazax, Azerbai**	**2.55**	**32**	⇓P	**Pn**	**16 27 53.3**	**+1.1**
	QZX				⇓S	**Sb**	**16 28 26.1**	**-2.0**
	KOPT	**Kop Dagi**	**2.62**	**296**	*e*P	**Pn**	**16 27 55.0**	**+1.6**
	EPOS	**Posof**	**2.67**	**346**	*e*P	**Pb**	**16 27 58.7**	**0.0**
	GANJ	**Ganja**	**2.74**	**50**	⇑P	**Pn**	**16 27 56.4**	**+1.6**
	GANJ				⇑S	**Sb**	**16 28 30.9**	**-2.6**
	DIY	**Diyarbakir**	**2.81**	**250**	*e*Pn	**Pn**	**16 27 57.9**	**+2.0**
	MAZI	**Mazidag**	**2.85**	**240**	PN	**Pn**	**16 27 57.9**	**+1.4**
	MAZI	**Mazidag**	**2.85**	**240**	*e*Pn	**Pn**	**16 27 57.9**	**+1.4**
	DYBB	**Diyarbakir**	**2.86**	**251**	PN	**Pn**	**16 27 57.9**	**+1.5**
	BAYB	**BAYBURT**	**2.89**	**299**	*e*P	**Pb**	**16 28 02.2**	**-0.3**
	TBLG	**Delisi**	**2.95**	**17**	PN	**Pn**	**16 27 58.7**	**+0.9**
	TBLG	**Delisi**	**2.95**	**17**	*e*Pn	**Pn**	**16 27 58.7**	**+0.9**
	BAYT	**Ayd¨–ntepe-Bay**	**3.03**	**300**	PN	**Pn**	**16 28 00.3**	**+1.4**
	BAYT	**Ayd¨–ntepe-Bay**	**3.03**	**300**	*e*Pn	**Pn**	**16 28 00.3**	**+1.4**
	ERZN	**Erzincan**	**3.06**	**284**	PN	**Pn**	**16 28 00.8**	**+1.5**
	CHOM	**Cayeli-Rize**	**3.06**	**316**	*e*Pn	**Pn**	**16 28 00.8**	**+1.5**
	BRDA	**Brd**	**3.10**	**63**	⇓P	**Pn**	**16 28 01.1**	**+1.4**
	BRDA				⇑S	**Sn**	**16 28 39.4**	**+2.6**
	EUZM	**Uzumlu**	**3.10**	**286**	*e*P	**Pb**	**16 28 05.8**	**-0.3**
	TNCL	**Tunceli-Merkez**	**3.14**	**275**	*e*P	**Pb**	**16 28 07.5**	**+0.8**
	PTK	**Pertek**	**3.26**	**271**	PN	**Pn**	**16 28 03.8**	**+1.7**
	MNGR	**Mingechevir, A**	**3.29**	**54**	⇓P	**Pn**	**16 28 03.7**	**+1.4**
	MNGR				⇓S	**Sn**	**16 28 44.1**	**+2.7**
	ZRD	**Zardab**	**3.46**	**65**	⇑P	**Pn**	**16 28 06.0**	**+1.3**
	ZRD				⇑S	**Sn**	**16 28 48.3**	**+2.6**
	KELT	**Kelkit**	**3.55**	**292**	*e*P	**Pb**	**16 28 12.5**	**-1.4**
	SEKA	**Sheki**	**3.61**	**49**	⇑P	**Pn**	**16 28 09.0**	**+2.2**
	SEKA				⇑S	**Sb**	**16 28 53.6**	**-5.0**
	LRK	**Lerik**	**3.74**	**93**	⇑P	**Pn**	**16 28 09.9**	**+1.2**
	LRK				⇓S	**Sn**	**16 28 54.7**	**+1.8**
	REFA	**Refahiye_ERZ¨**	**3.76**	**279**	*e*P	**Pb**	**16 28 19.9**	**+2.5**
	GLBA	**Clilabad**	**3.77**	**83**	⇓P	**Pn**	**16 28 10.3**	**+1.3**
	GLBA				⇓S	**Sn**	**16 28 55.6**	**+2.2**
	KDMR	**Kurdemir**	**3.85**	**66**	⇑S	**Sn**	**16 28 57.8**	**+2.4**
	QBL	**Gabala**	**3.86**	**57**	⇑S	**Sn**	**16 28 33.3**	**+2.6**
	SAAT	**Saatly**	**3.88**	**74**	⇑S	**Sn**	**16 28 57.8**	**+1.8**
	URFA	**Urfa**	**4.02**	**250**	PN	**Pn**	**16 28 14.4**	**+2.0**
	URFA	**Urfa**	**4.02**	**250**	*e*Pn	**Pn**	**16 28 14.4**	**+2.0**
	IML	**Ismayilli**	**4.02**	**61**	⇓S	**Sn**	**16 29 02.1**	**+2.5**
	MALT	**Malatya**	**4.07**	**263**	PN	**Pn**	**16 28 15.3**	**+2.2**
	MALT	**Malatya**	**4.07**	**263**	*e*Pn	**Pn**	**16 28 15.3**	**+2.2**
	LKRN	**Lenkeran, Azer**	**4.08**	**91**	⇓P	**Pn**	**16 28 14.4**	**+1.2**
	LKRN				⇓S	**Sn**	**16 29 03.1**	**+2.2**
	ASTR	**Astara**	**4.10**	**93**	⇓P	**Pn**	**16 28 15.0**	**+1.5**
	ASTR				⇓S	**Sn**	**16 29 03.6**	**+2.1**
	XNQ	**Khinaliq**	**4.17**	**56**	⇓P	**Pn**	**16 28 16.6**	**+1.9**
	PQL	**Pirkuli**	**4.30**	**63**	⇓P	**Pn**	**16 28 17.9**	**+1.5**
	QSAR	**Qusar**	**4.44**	**53**	⇑P	**Pn**	**16 28 19.6**	**+1.4**
	ATGJ	**Altiaghaj**	**4.57**	**63**	⇑P	**Pn**	**16 28 21.1**	**+1.1**
	SIZA	**Siyzn**	**4.63**	**61**	⇑P	**Pn**	**16 28 22.2**	**+1.3**

IDC ***11*** *16:31:12.9±1.0,2°.61N×93°.02E, h0km, mb3.9/14, mb1 4.0/16, mb1mx3.8/68, mbtmp4.0/16, ML4.3/2, Error ellipse: s-maj=32.2km s-min=17.9km az=43.0*

NEIC ***11*** *16:31:18.4±0.6, 3°.25N×92°.88E, h10km, mb4.6/8, Error ellipse: s-maj=12.1km s-min=6.2km az=208.0*

ISCJB ***11*** *16:31:19.8±0.5, 3°.14N±0°.06×92°.95E±0°.04, h33km, mb4.2/20, Error ellipse: s-maj=9.2km s-min=4.8km az=33.6*

DJA ***11*** *16:31:29.1±4.0, 3°N±8°×9°3E±3°.5, h40km±119km, M4.7/6, mb4.8/4, mB5.7/3, MLv4.6/6, Mw(mB)5.2/3*

ISC 11 16:31:21.7±0.6, 3°.20N±0°.08×92°.94E±0°.07, h35km, n66, σ1§21/61, mb4.2/20, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MLSI	**Meulaboh, Aceh**	**3.61**	**73**	P		**Pn**	**16 32 15.4**	**+0.2**
LHMI	**Lhok Sumawe**	**4.47**	**63**	P		**Pn**	**16 32 29.6**	**+2.5**
LHMI	**Lhok Sumawe**	**4.47**	**63**	*e*Pn		**Pn**	**16 32 27.1**	**0.0**
GSI	**Gunungsitoli**	**5.00**	**112**	P		**Pn**	**16 32 35.3**	**+1.0**
GSI	**Gunungsitoli**	**5.00**	**112**	*e*Pn		**Pn**	**16 32 33.3**	**-1.0**
PSI	**Prapat**	**5.99**	**94**	*e*Pn		**Pn**	**16 32 48.8**	**+0.7**
MNSI	**Mandailing Nat**	**7.05**	**110**	P		**Pn**	**16 33 02.0**	**-0.5**
SISI	**Saibi**	**7.62**	**126**	P		**Pn**	**16 33 11.3**	**+1.0**
KULM	**Kulim**	**7.96**	**75**	*e*Pn		**Pn**	**16 33 15.0**	**0.0**
IPM	**Ipoh**	**8.16**	**81**	*e*Pn		**Pn**	**16 33 17.9**	**0.0**
MYKOM	**Kota Tinggi**	**10.99**	**97**	*e*Pn		**Pn**	**16 33 57.0**	**+0.4**
MNAI	**Manna**	**12.51**	**127**	*e*Pn		**Pn**	**16 34 19.3**	**+1.9**
PALK	**Pallekele**	**12.84**	**289**	Pn		**Pn**	**16 34 21.4**	**-0.6**
	1.7nm,0.3s,baz=116,slow=13,SNR=3.3							
PALK				Sn		Sn	16 36 32.0	-12
	3.3nm,0.3s,baz=115,slow=17,SNR=6.0							
PALK	**Pallekele**	**12.84**	**289**	*e*Pn		**Pn**	**16 34 19.3**	**-2.6**
PALK				Sn		Sn	16 36 32.0	-12
CM01	**Chiang Mai Arr**	**16.23**	**21**	*e*Pn		**Pn**	**16 35 04.7**	**-2.5**
CM31	**Chiang Mai Arr**	**16.26**	**21**	*e*Pn		**Pn**	**16 35 05.2**	**-2.3**
CMAR	**Chiang Mai Arr**	**16.26**	**21**	Pn		**P**	**16 35 09.7**	**-0.6**
	0.4nm,0.3s,baz=216,slow=12,SNR=11							
CMAR				Sn		**Sn**	**16 38 07.2**	**+0.3**
	baz=191,slow=33,SNR=2.5							
CHTO	**Chiang Mai**	**16.59**	**20**	*e*Pn		**Pn**	**16 35 08.8**	**-2.9**
	9.7nm,1.4s							
KSM	**Kuching**	**17.44**	**95**	*e*Pn		**P**	**16 35 23.0**	**-0.4**
CISI	**Cisompet, Garu**	**18.29**	**126**	*e*P		**P**	**16 35 31.7**	**-1.2**
	56nm,1.4s							
SBUM	**Sibu**	**19.27**	**92**	*e*P		**Pn**	**16 35 45.2**	**+0.5**
	8.3nm,0.8s							
ODAN	**Odare**	**24.12**	**348**	*e*P		**P**	**16 36 35.6**	**+1.0**
RAMN	**Ramite**	**24.38**	**346**	*e*P		**P**	**16 36 38.6**	**+1.5**
	25nm,0.6s							
JIRN	**Jiri**	**25.16**	**346**	*e*P		**P**	**16 36 45.3**	**+1.0**
PKIN	**Phulchoki**	**25.29**	**344**	*e*P		**P**	**16 36 46.9**	**+1.6**
	13nm,0.6s							
DMN	**Daman**	**25.40**	**344**	*e*P		**P**	**16 36 48.6**	**+2.3**
	21nm,0.7s							
GUN	**Gumbia**	**25.48**	**345**	*e*P		**P**	**16 36 48.2**	**+1.1**
	32nm,0.7s							
KKN	**Kakani**	**25.52**	**344**	*e*P		**P**	**16 36 48.2**	**+0.8**
GKN	**Gorkha**	**25.90**	**343**	*e*P		**P**	**16 36 51.9**	**+1.1**
	23nm,0.5s							
KOLN	**Koldanda**	**26.01**	**341**	*e*P		**P**	**16 36 53.0**	**+1.2**
LSA	**Lhasa**	**26.41**	**356**	P		**P**	**16 36 57.1**	**+1.4**
LSA				pmax		pmax		
	comp=Z,22nm,0.5s							
LSA	**Lhasa**	**26.41**	**356**	*e*P		**P**	**16 36 56.6**	**+0.9**
	comp=Z,14nm,0.6s							
PYUN	**Piuthan**	**26.52**	**340**	*e*P		**P**	**16 36 57.6**	**+1.2**
CD2	**Chengdu**	**29.39**	**19**	*e*P		**P**	**16 37 22.0**	**+0.1**
CD2				pmax		pmax		
	comp=Z,10.0nm,0.5s							
NIL	**Nilore**	**35.43**	**331**	*e*P		**P**	**16 38 14.6**	**-0.2**
	comp=Z,15nm,0.6s							
GTA	**Gaotai**	**36.58**	**9**	*e*P		**P**	**16 38 25.4**	**+0.9**
GTA				pP		pP	16 38 29.0	-5.7
GTA				sP		sP	16 38 31.5	-7.4
GTA				pmax		pmax		
	comp=Z,6.0nm,0.8s							
H01W3	**Cape Leeuwin H**	**42.80**	**154**	T		T	17 25 43.0	
	baz=330,slow=76,SNR=2.9							
H01W2	**Cape Leeuwin H**	**42.81**	**154**	T		T	17 25 25.1	
	baz=330,slow=76,SNR=6.2							
H01W1	**Cape Leeuwin H**	**42.82**	**154**	T		T	17 25 50.8	
	baz=330,slow=76,SNR=3.7							
MK01	**Makanchi Array**	**44.37**	**350**	*e*P		**P**	**16 39 29.1**	**+0.3**
MK31	**Makanchi Array**	**44.40**	**350**	*e*P		**P**	**16 39 29.4**	**+0.5**
MKAR	**Makanchi Array**	**44.40**	**350**	P		**P**	**16 39 29.7**	**+0.8**
	comp=Z,3.6nm,0.6s,baz=169,slow=8.4,SNR=37							
MKAR	**Makanchi Array**	**44.40**	**350**	*e*P		**P**	**16 39 29.4**	**+0.5**
	comp=Z,26nm,0.6s							
KK06	**Karatay Array**	**44.45**	**336**	*e*P		**P**	**16 39 29.5**	**+0.1**
KK07	**Karatay Array**	**44.45**	**336**	*e*P		**P**	**16 39 29.6**	**+0.1**
KK08	**Karatay Array**	**44.47**	**336**	*e*P		**P**	**16 39 29.9**	**+0.3**
SONM	**Songino Array**	**45.95**	**13**	P		**P**	**16 39 41.8**	**+0.4**
	comp=Z,1.4nm,0.7s,baz=194,slow=9.1,SNR=6.4							
SONA1	**Songino Array**	**45.96**	**13**	*e*P		**P**	**16 39 41.0**	**-0.5**
WRA	**Warramunga Arr**	**46.70**	**121**	P		P	16 39 40.8	-6.8
	comp=Z,0.6nm,0.7s,baz=297,slow=8.5,SNR=3.1							
KSAR	**Wonju Array Be**	**46.76**	**39**	P		**P**	**16 39 48.4**	**+0.6**
KSRS	**Korea Array**	**46.79**	**39**	P		**P**	**16 39 48.4**	**+0.4**
	comp=Z,0.7nm,0.7s,baz=204,slow=5.3,SNR=3.3							
GEYT	**Alibeck**	**46.99**	**322**	P		**P**	**16 39 51.6**	**+2.0**
	comp=Z,1.4nm,0.5s,baz=169,slow=8.9,SNR=3.6							
ASAR	**Alice Springs**	**48.00**	**126**	P		P	16 39 51.0	-6.7
	comp=Z,0.3nm,0.9s,baz=298,slow=8.0,SNR=2.7							
KURBB	**Kurchatov Arra**	**48.79**	**348**	P		**P**	**16 40 03.6**	**+0.3**
	comp=Z,1.7nm,0.6s,baz=169,slow=7.0,SNR=20							
KURK	**Kurchatov**	**48.86**	**348**	P		**P**	**16 40 03.6**	**-0.2**
RAYN	**Ar Rayn**	**50.07**	**298**	*e*P		**P**	**16 40 14.8**	**+1.2**
	comp=Z,1.5nm,0.9s							
ZALV	**Zalesovo Beam**	**51.02**	**354**	P		**P**	**16 40 21.0**	**+0.9**
	comp=Z,3.7nm,0.4s,baz=178,slow=7.6,SNR=15							
ZALV	**Zalesovo Beam**	**51.02**	**354**	*e*P		**P**	**16 40 20.5**	**+0.3**
BVAR	**Borovoye Array**	**53.04**	**343**	P		**P**	**16 40 35.5**	**+0.3**
	comp=Z,1.8nm,0.6s,baz=140,slow=8.7,SNR=14							
BRTR	**Keskin Array B**	**64.63**	**313**	P		**P**	**16 41 57.5**	**+1.3**
	comp=Z,0.5nm,0.6s,baz=116,slow=3.4,SNR=3.4							
AKASG	**Malin Array Be**	**71.09**	**323**	P		**P**	**16 42 36.1**	**-0.4**
	comp=Z,0.7nm,0.6s,baz=92,slow=5.2,SNR=3.6							
TIXI	**Tiksi**	**72.02**	**11**	*e*P		**P**	**16 42 41.7**	**+0.1**
	comp=Z,3.8nm,0.5s							
FINES	**FINESS Array B**	**76.28**	**333**	P		**P**	**16 43 06.3**	**-0.3**
	comp=Z,1.2nm,0.8s,baz=124,slow=17,SNR=2.6							
GERES	**GERESS Array B**	**80.51**	**319**	P		**P**	**16 43 28.0**	**-2.5**
	comp=Z,0.6nm,0.7s,baz=104,slow=5.6,SNR=4.4							
HFS	**Hagfors**	**81.88**	**330**	P		**P**	**16 43 36.0**	**-1.4**
	comp=Z,1.6nm,0.8s,baz=90,slow=2.9,SNR=2.4							
TXAR	**Lajitas Array**	**143.94**	**25**	PKP		PKPab	16 50 50.6	-0.9
	comp=Z,0.1nm,0.4s,baz=8.5,slow=1.8,SNR=3.2							

ISCJB ***11*** *16:37:49.6±0.7, 2°.1N±0°.1×90°.2E±0°.1, h10km, mb4.1/21, MS4.2/1, Error ellipse: s-maj=21.1km s-min=11.2km az=43.8*

IDC ***11*** *16:37:49.5±1.0, 2°.02N×90°.14E, h0km, mb4.0/18, mb1 4.1/19, mb1mx3.9/68, mbtmp4.0/19, ML3.2/1, MS4.3/1, Ms1 4.3/1, ms1mx3.4/54, Error ellipse: s-maj=34.6km s-min=16.7km az=41.0*

NEIC ***11*** *16:37:50.8±0.7, 1°.98N×90°.21E, h10km, mb4.6/3, Error ellipse: s-maj=25.2km s-min=10.3km az=45.0*

ISC 11 16:37:50.9±1.0, 2°.1N±0°.2×90°.3E±0°.2, h10km, n35, σ1§36/29, mb4.2/21, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CMAR	**Chiang Mai Arr**	**18.39**	**27**	P		**P**	**16 42 07.3**	**+1.1**
	0.0nm,0.3s,baz=225,slow=9.9,SNR=4.3							
CISI	**Cisompet, Garu**	**19.94**	**119**	*e*P		**P**	**16 42 20.9**	**-2.4**
H08S2	**Diego Garcia H**	**20.18**	**241**	T		T	17 02 13.5	
	baz=61,slow=75,SNR=26							
H08S3	**Diego Garcia H**	**20.18**	**241**	T		T	17 02 08.2	
	baz=61,slow=75,SNR=27							
H08S1	**Diego Carcia H**	**20.20**	**241**	T		T	17 02 14.8	
	baz=61,slow=75,SNR=27							
AAK	**Ala-Archa**	**42.80**	**343**	P		**P**	**16 45 51.0**	**+1.9**
	0.7nm,0.6s,baz=152,slow=9.0,SNR=4.6							
H01W3	**Cape Leeuwin H**	**43.02**	**151**	T		T	17 31 51.5	
	baz=324,slow=74,SNR=6.1							
H01W2	**Cape Leeuwin H**	**43.04**	**151**	T		T	17 31 52.4	
	baz=324,slow=74,SNR=7.2							
H01W1	**Cape Leeuwin H**	**43.04**	**151**	T		T	17 31 47.3	
	baz=324,slow=74,SNR=5.9							
KKAR	**Karatay Array**	**44.51**	**339**	*e*P		**P**	**16 46 03.5**	**+0.8**
MKAR	**Makanchi Array**	**45.10**	**352**	P		**P**	**16 46 06.5**	**-0.8**
	0.7nm,0.7s,baz=163,slow=8.9,SNR=6.8							
GEYT	**Alibeck**	**46.30**	**324**	P		**P**	**16 46 16.6**	**-0.4**
	2.0nm,0.7s,baz=148,slow=8.7,SNR=4.9							
GEYT				LR		LR	17 05 35.6	
	comp=Z,322nm,20.9s,baz=110,slow=36							
SONM	**Songino Array**	**47.69**	**15**	P		**P**	**16 46 27.8**	**0.0**
	3.3nm,0.6s,baz=195,slow=10,SNR=4.1							
WRA	**Warramunga Arr**	**48.44**	**119**	P		**P**	**16 46 34.9**	**+1.0**
	1.1nm,0.7s,baz=296,slow=8.5,SNR=4.1							
WRAB	**Tennant Creek**	**48.45**	**119**	*e*P		**P**	**16 46 34.8**	**+0.8**
	5.5nm,1.0s							
KURBB	**Kurchatov Arra**	**49.40**	**350**	P		**P**	**16 46 40.9**	**+0.2**
	2.0nm,0.8s,baz=173,slow=7.4,SNR=17							
KURK	**Kurchatov**	**49.48**	**350**	*e*P		**P**	**16 46 41.3**	**-0.1**
ASAR	**Alice Springs**	**49.54**	**124**	P		**P**	**16 46 43.0**	**+0.7**
	0.3nm

Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSI	**Gunungsitoli**	**5.28**	**80**	P	**Pn**	**16 51 15.0**	**-0.7**
GSI	**Gunungsitoli**	**5.28**	**80**	*e*Pn	**Pn**	**16 51 14.8**	**-1.0**
MLSI	**Meulaboh, Aceh**	**5.56**	**46**	P	**Pn**	**16 51 19.0**	**-0.5**
TPTI		**5.58**	**60**	P	**Pn**	**16 51 20.8**	**+1.0**
BSI	**Banda Aceh**	**5.83**	**30**	P	**Pn**	**16 51 19.8**	**-3.5**
LHMI	**Lhok Sumawe**	**6.62**	**44**	P	**Pn**	**16 51 33.9**	**-0.2**
LHMI	**Lhok Sumawe**	**6.62**	**44**	*e*Pn	**Pn**	**16 51 34.4**	**+0.3**
TSI	**Tuntungan**	**6.91**	**64**	P	Pn	16 51 29.0	-9.1
SISI	**Saibi**	**6.94**	**104**	P	**Pn**	**16 51 36.4**	**-2.1**
PSI	**Prapat**	**6.97**	**70**	*e*Pn	**Pn**	**16 51 39.1**	**+0.1**
MNSI	**Mandailing Nat** 546nm,0.5s,7μm	**7.22**	**87**	P	**Pn**	**16 51 42.4**	**0.0**
PDSI	**Padang** 153nm,1.0s,9μm	**8.20**	**99**	P	**Pn**	**16 51 54.9**	**-1.0**
PPSI	**Pulau Pagai**	**8.27**	**112**	P	**Pn**	**16 51 56.5**	**-0.2**
KRJI	**Kerinci**	**9.43**	**105**	P	**Pn**	**16 52 12.6**	**-0.2**
IPM	**Ipoh**	**9.54**	**65**	*e*Pn	**Pn**	**16 52 14.3**	**0.0**
KULM	**Kulim**	**9.58**	**60**	*e*Pn	**Pn**	**16 52 12.6**	**-2.2**
MYKOM	**Kota Tinggi**	**11.56**	**83**	*e*Pn	**Pn**	**16 52 40.9**	**-1.0**
MNAI	**Manna**	**11.60**	**114**	*e*Pn	**Pn**	**16 52 40.8**	**-1.6**
PALK	**Pallekele** 1.9nm,0.3s,baz=116,slow=13,SNR=6.0	**13.48**	**301**	Pn	Pn	16 53 03.3	-4.8
PALK				Sn	Sn	16 55 15.9	-21
	1.4nm,0.3s,baz=116,slow=15,SNR=3.8						
CISI	**Cisompet, Garu** 176nm,1.4s	**17.32**	**118**	*e*Pn	**Pn**	**16 53 57.9**	**-0.7**
KSM	**Kuching** 37nm,1.1s	**17.97**	**87**	*e*Pn	**Pn**	**16 54 06.2**	**-0.3**
CM01	**Chiang Mai Arr**	**19.03**	**20**	*e*P	**P**	**16 54 16.7**	**-1.6**
CM31	**Chiang Mai Arr**	**19.06**	**19**	*e*P	**P**	**16 54 17.4**	**-1.2**
CMAR	**Chiang Mai Arr** 0.2nm,0.3s,baz=215,slow=12,SNR=33	**19.06**	**19**	P	**P**	**16 54 18.0**	**-0.7**
CHTO	**Chiang Mai** 13nm,0.9s	**19.39**	**19**	*e*P	**P**	**16 54 21.5**	**-0.8**
SBUM	**Sibu** 42nm,1.4s	**19.95**	**84**	*e*P	**Pn**	**16 54 29.8**	**-0.6**
HYB	**Hyderabad**	**21.68**	**322**	*i* P	**P**	**16 54 46.0**	**-1.2**
LSA	**Lhasa**	**29.14**	**358**	P	**P**	**16 55 59.2**	**+1.5**
LSA	comp=Z,10.0nm,1.1s			pmax	pmax		
LSA	**Lhasa** comp=Z,8.1nm,0.9s	**29.14**	**358**	*e*P	**P**	**16 55 57.4**	**-0.3**
CD2	**Chengdu**	**32.20**	**19**	*e*P	**P**	**16 56 25.0**	**+0.9**
CD2	comp=Z,10.0nm,0.5s			pmax	pmax		
ENH	**Enshi** comp=Z,7.6nm,0.8s	**33.86**	**27**	*e*P	**P**	**16 56 38.4**	**-0.3**
XAN	**Xi'an**	**36.87**	**23**	P	**P**	**16 57 04.5**	**0.0**
XAN				pP	pP	16 57 10.1	-4.6
XAN				sP	sP	16 57 12.7	-6.3
XAN	comp=Z,13nm,1.0s			pmax	pmax		
FITZ	**Fitzroy Crossi** comp=Z,7.0nm,0.9s,baz=302,slow=4.6,SNR=5.6	**37.54**	**121**	P	**P**	**16 57 11.0**	**+0.7**
GTA	**Gaotai**	**39.40**	**9**	*e*P	**P**	**16 57 26.5**	**+0.6**
GTA				pP	pP	16 57 31.9	-4.2
GTA				sP	sP	16 57 34.6	-5.7
GTA	comp=Z,3.0nm,1.1s			pmax	pmax		
AAK	**Ala-Archa** comp=Z,0.5nm,0.5s,baz=153,slow=9.0,SNR=3.4	**45.00**	**341**	P	**P**	**16 58 11.4**	**-0.1**
WRA	**Warramunga Arr** comp=Z,7.5nm,0.9s,baz=296,slow=8.5,SNR=24	**45.82**	**119**	P	**P**	**16 58 18.6**	**+0.4**
WRAB	**Tennant Creek** comp=Z,11nm,0.9s	**45.82**	**119**	*e*P	**P**	**16 58 19.2**	**+1.0**
ASAR	**Alice Springs** comp=Z,1.7nm,0.7s,baz=299,slow=8.0,SNR=18	**46.89**	**124**	P	**P**	**16 58 27.3**	**+0.7**
AS01	**Alice Springs**	**46.93**	**124**	*e*P	**P**	**16 58 27.9**	**+1.0**
MK01	**Makanchi Array**	**47.00**	**351**	*e*P	**P**	**16 58 26.4**	**-0.6**
MK31	**Makanchi Array**	**47.02**	**351**	*e*P	**P**	**16 58 26.7**	**-0.6**
MKAR	**Makanchi Array** comp=Z,4.2nm,0.9s,baz=168,slow=8.7,SNR=22	**47.02**	**351**	P	**P**	**16 58 27.2**	**0.0**
MKAR	**Makanchi Array** comp=Z,20nm,0.8s	**47.02**	**351**	*e*P	**P**	**16 58 26.8**	**-0.4**
OPO	**Ambohidratompo** comp=Z,1.8nm,0.6s,baz=86,slow=14,SNR=2.9	**48.21**	**244**	P	**P**	**16 58 37.0**	**0.0**
SONM	**Songino Array** comp=Z,4.9nm,0.8s,baz=195,slow=9.0,SNR=22	**48.78**	**13**	*e*P	**P**	**16 58 41.9**	**+1.0**
SONA1	**Songino Array**	**48.79**	**13**	*e*P	**P**	**16 58 41.0**	**0.0**
GEYT	**Alibeck** comp=Z,2.1nm,0.8s,baz=152,slow=9.8,SNR=5.9	**48.85**	**324**	P	**P**	**16 58 42.1**	**+0.6**
KSAR	**Wonju Array Be**	**49.29**	**38**	P	**P**	**16 58 46.2**	**+1.3**
KSRS	**Korea Array** comp=Z,1.0nm,0.8s,baz=230,slow=8.8,SNR=4.6	**49.33**	**38**	P	**P**	**16 58 46.2**	**+1.1**
KURBB	**Kurchatov Arra** comp=Z,2.9nm,0.9s,baz=172,slow=6.8,SNR=24	**51.39**	**349**	P	**P**	**16 59 00.2**	**-0.2**
KURK	**Kurchatov** comp=Z,6.1nm,1.0s	**51.46**	**349**	*e*P	**P**	**16 59 00.5**	**-0.5**
ZAA0	**Zalesovo Array** comp=Z,4.7nm,0.8s	**53.72**	**354**	*e*P	**P**	**16 59 16.6**	**-1.0**
ZALV	**Zalesovo Beam** comp=Z,2.7nm,0.6s,baz=187,slow=6.3,SNR=17	**53.72**	**354**	P	**P**	**16 59 17.2**	**-0.4**
ZALV	**Zalesovo Beam**	**53.72**	**354**	*e*P	**P**	**16 59 16.8**	**-0.8**
BVAR	**Borovoye Array** comp=Z,1.1nm,0.7s,baz=138,slow=5.2,SNR=7.2	**55.54**	**344**	P	**P**	**16 59 29.8**	**-1.1**
AB31	**Akbulak array**	**56.05**	**335**	*e*P	**P**	**16 59 33.4**	**-1.2**
ABKAR	**Akbulak array** comp=Z,13nm,0.9s	**56.05**	**335**	*e*P	**P**	**16 59 33.7**	**-1.0**
STKA	**Stephens Creek** comp=Z,1.7nm,0.7s,baz=297,slow=2.3,SNR=2.9	**56.51**	**129**	P	**P**	**16 59 40.6**	**+2.3**
AKTO	**Aktyubinsk** comp=Z,0.6nm,0.5s,baz=135,slow=8.6,SNR=2.4	**57.76**	**335**	P	**P**	**16 59 47.5**	**+0.8**
ASAJ	**Asahikawa** comp=Z,4.3nm,1.0s,baz=262,slow=15,SNR=2.4	**62.24**	**39**	P	**P**	**17 00 17.9**	**+0.2**
BRTR	**Keskin Array B** comp=Z,1.5nm,0.8s,baz=131,slow=6.0,SNR=10	**66.11**	**314**	P	**P**	**17 00 42.9**	**-0.5**
YAK	**Yakutsk** comp=Z,8.5nm,0.6s	**67.59**	**18**	*e*P	**P**	**17 00 51.8**	**-0.2**
BOSA	**Boshof** comp=Z,3.1nm,1.0s,baz=60,slow=16,SNR=2.3	**70.21**	**239**	P	**P**	**17 01 08.4**	**-0.8**
IDI	**Anoyia** comp=Z,7.7nm,0.8s,baz=96,slow=6.4,SNR=5.2	**71.49**	**307**	P	**P**	**17 01 16.5**	**-0.3**
AKASG	**Malin Array Be** comp=Z,0.5nm,0.6s,baz=97,slow=4.5,SNR=3.7	**72.97**	**324**	P	**P**	**17 01 24.8**	**-0.4**
MLR	**Muntele Rosu** comp=Z,1.5nm,0.9s,baz=132,slow=15,SNR=11	**73.35**	**318**	P	**P**	**17 01 28.6**	**+0.8**
MLR	**Muntele Rosu** comp=Z,8.8nm,1.0s	**73.35**	**318**	*e*P	**P**	**17 01 27.2**	**-0.6**
BUR04	**Bucovina Ar. S**	**74.46**	**320**	*e*P	**P**	**17 01 33.6**	**-0.5**
BUR08	**Bucovina Ar. S**	**74.47**	**320**	*e*P	**P**	**17 01 33.2**	**-1.1**
TIXI	**Tiksi** comp=Z,5.2nm,0.7s	**74.84**	**11**	*e*P	**P**	**17 01 35.1**	**-0.7**
STHS	**Stebnicka Huta**	**77.48**	**321**	*e*P	**P**	**17 01 52.6**	**+1.3**
FINES	**FINESS Array B** comp=Z,2.7nm,0.9s,baz=81,slow=6.0,SNR=6.0	**78.49**	**333**	P	**P**	**17 01 56.3**	**-0.2**
VYHS	**Vyhne**	**78.82**	**319**	*e*P	**P**	**17 01 58.9**	**+0.2**
MODS	**Modra-Piesok**	**79.81**	**319**	*e*P	**P**	**17 02 05.4**	**+1.3**
DPC	**Dobruska-Polom**	**80.79**	**321**	*e*P	**P**	**17 02 11.1**	**+1.7**
ARCES	**ARCESS Array B** comp=Z,3.8nm,0.8s,baz=126,slow=4.6,SNR=4.2	**81.67**	**341**	P	**P**	**17 02 14.1**	**+0.6**
GEA0	**GERESS Array S**	**82.23**	**319**	*e*P	**P**	**17 02 17.2**	**+0.2**
GEC2	**GERESS Array S** comp=Z,6.9nm,0.8s	**82.23**	**319**	*e*P	**P**	**17 02 17.1**	**0.0**
GERES	**GERESS Array B** comp=Z,5.4nm,0.8s,baz=104,slow=5.6,SNR=29	**82.23**	**319**	P	**P**	**17 02 18.0**	**+1.0**
KHC	**Kasperske Hory**	**82.35**	**319**	*e*P	**P**	**17 02 19.2**	**+1.6**
TORD	**Torodi Ar. Bea** comp=Z,0.6nm,0.9s,baz=132,slow=2.1,SNR=3.4	**90.56**	**283**	P	**P**	**17 02 57.9**	**-0.7**
MIAR	**Mount Ida**	**144.78**	**9**	*e*PKPdf	PKPbc	17 09 32.5	+0.5
TX31	**Lajitas Ar. Si**	**146.69**	**26**	*e*PKPbc	**PKPbc**	**17 09 38.4**	**+0.2**
TXAR	**Lajitas Array** comp=Z,1.2nm,0.8s,baz=285,slow=1.9,SNR=7.6	**146.69**	**26**	PKPbc	**PKPbc**	**17 09 38.4**	**+0.2**

*IDC **11** 16:56:18.6±0.7,2˚.79N×91˚.43E,h0km,mb3.9/16, mb1 4.1/19,mb1mx3.8/70,mbtmp3.9/19,ML3.9/3,Error ellipse: s-maj=27.7km s-min=15.2km az=54.0*
*NEIC **11** 16:56:19.9±0.5,2˚.77N×91˚.43E,h10km,mb4.3/11,Error ellipse: s-maj=13.6km s-min=7.8km az=215.0*
*ISCJB **11** 16:56:21.6±0.5,2˚.80N±0˚.09×91˚.55E±0˚.09,h33km, mb4.0/18,Error ellipse: s-maj=16.1km s-min=9.4km az=44.9*

ISC 11 16:56:23.5±0.7,2˚.8N±0˚.1×91˚.5E±0˚.1,h35km,n25, σ0:92/25,mb4.0/18,1D,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSI	**Gunungsitoli**	**6.28**	**104**	*e*Pn	**Pn**	**16 57 52.9**	**-0.7**
PALK	**Pallekele** 1.9nm,0.3s,baz=116,slow=14,SNR=9.7	**11.61**	**293**	Pn	**Pn**	**16 59 04.4**	**-2.4**
	comp=Z,31nm,1.0s						
LSA	**Lhasa**	**26.98**	**2**	*e*P	**P**	**17 03 51.3**	**-0.6**
LSA				pmax	pmax		
	comp=Z,31nm,1.0s						
GYA	**Guiyang**	**28.52**	**32**	P	**P**	**17 04 07.2**	**+1.8**
GYA				PP	**PnPn**	**17 04 59.2**	**+4.1**
GYA				PcP	**PcP**	**17 07 18.5**	**+1.4**
GYA				S	**S**	**17 08 54.4**	**+1.6**
GYA				SS	**SnSn**	**17 10 19.0**	**+6.8**
GYA				ScP	**ScP**	**17 10 58.2**	**+0.3**
GYA	comp=Z,20nm,1.0s			pmax	pmax		
GYA	comp=Z,120nm,5.6s			pmax	pmax		
GYA	comp=N,550nm,18.0s			LR	LR		
GYA	comp=E,520nm,18.4s			LR	LR		
GYA	comp=Z,560nm,18.2s			LR	LR		
CD2	**Chengdu**	**30.95**	**23**	P	**P**	**17 04 26.5**	**-0.3**
CD2				S	**S**	**17 09 32.6**	**+1.8**
CD2	comp=Z,20nm,0.4s			pmax	pmax		
MRSI	**Marisa**	**31.81**	**93**	P	P	17 04 43.5	+9.0
ENH	**Enshi** comp=Z,23nm,1.0s	**33.05**	**32**	*e*P	**P**	**17 04 44.4**	**-0.9**
BBSI	**Bau Bau**	**33.33**	**104**	P	P	17 04 52.8	+5.0
NIL	**Nilore** comp=Z,18nm,0.7s	**34.72**	**335**	*e*P	**P**	**17 04 59.7**	**-0.1**
NIL	comp=Z,18nm,0.7s			pmax	pmax		
BATI	**Baumata** comp=Z,17nm,0.8s,baz=326,slow=7.3,SNR=3.0	**35.67**	**111**	P	**P**	**17 05 06.3**	**-1.9**
BATI	comp=Z,716nm,21.9s,baz=262,slow=37			LR	LR	17 20 13.4	
XAN	**Xi'an**	**35.84**	**27**	P	**P**	**17 05 11.7**	**+2.3**
XAN				pP	sP	17 05 16.6	+0.3
XAN	comp=Z,12nm,0.9s			pmax	pmax		
WSAR	**Wadi Sarin** comp=Z,3.7nm,0.8s,baz=131,slow=9.3,SNR=3.1	**36.81**	**307**	P	**P**	**17 05 17.3**	**-0.5**
WSAR	comp=Z,822nm,20.0s,baz=164,slow=34			LR	LR	17 19 10.5	
NLAI	**Namlea**	**37.35**	**99**	P	**P**	**17 05 26.0**	**+3.5**
GTA	**Gaotai**	**37.68**	**12**	⇑P	**P**	**17 05 25.8**	**+0.7**
GTA				pP	sP	17 05 32.4	+0.3
GTA				sP	pP	17 05 35.3	+5.2
GTA				ScP	**ScP**	**17 11 30.8**	**+1.4**
GTA	comp=Z,12nm,1.3s			pmax	pmax		
GTA	comp=Z,180nm,7.2s			pmax	pmax		
MEEK	**Meekatharra** baz=40,SNR=21	**39.97**	**138**	P	**P**	**17 05 45.3**	**+0.9**
MORW	**Morawa** baz=40,SNR=3.5	**40.06**	**144**	P	**P**	**17 05 46.5**	**+1.4**
FITZ	**Fitzroy Crossi** comp=Z,8.1nm,0.9s,baz=279,slow=4.3,SNR=7.7	**40.52**	**122**	P	**P**	**17 05 48.4**	**-0.6**
FITZ	**Fitzroy Crossi** baz=41,SNR=4.4	**40.52**	**122**	P	**P**	**17 05 48.8**	**-0.2**
FITZ	**Fitzroy Crossi** comp=Z,9.8nm,0.9s	**40.52**	**122**	*e*P	**P**	**17 05 48.5**	**-0.6**
TARG	**Taragay, Kyrgy** comp=Z,11nm,1.1s	**40.52**	**346**	*e*P	**P**	**17 05 48.6**	**-0.6**
KDJ	**Kajisay** comp=Z,13nm,1.1s	**41.06**	**345**	*e*P	**P**	**17 05 53.2**	**-0.1**
KDJ	**Kajisay** comp=Z,13nm,1.1s	**41.06**	**345**	*e*P	**P**	**17 05 53.2**	**-0.1**
KDJ				pmax	pmax		
SIJI	**Sorong** comp=Z,5.1nm,0.8s,baz=276,slow=7.4,SNR=5.0	**41.21**	**94**	P	**P**	**17 05 53.7**	**-1.1**
ULHL	**Ulahol** SNR=7.6	**41.41**	**344**	P	**P**	**17 05 57.3**	**+1.0**
BLDU	**Ballidu** baz=42,SNR=5.2	**41.59**	**145**	P	**P**	**17 05 58.4**	**+0.7**
UCH	**Uchtor** SNR=11	**41.89**	**343**	P	**P**	**17 06 01.4**	**+1.0**
AML	**Almayashu** SNR=12	**42.05**	**342**	P	**P**	**17 06 02.9**	**+1.2**
KBK	**Karagaybulak** SNR=9.0	**42.15**	**343**	P	**P**	**17 06 03.9**	**+1.6**
TKM2	**Tokmak 2** SNR=8.6	**42.22**	**344**	P	**P**	**17 06 03.4**	**+0.5**
AAK	**Ala-Archa** SNR=6.5	**42.27**	**343**	P	**P**	**17 06 04.7**	**+1.5**
AAK	**Ala-Archa** comp=Z,6.5nm,0.9s	**42.27**	**343**	*e*P	**P**	**17 06 03.6**	**+0.4**
AAK	**Ala-Archa**	**42.27**	**343**	*e*P	**P**	**17 06 04.0**	**+0.8**
AAK	comp=Z,5.0nm,1.0s			pmax	pmax		
USP	**Ospenovka** SNR=6.0	**42.84**	**343**	P	**P**	**17 06 08.7**	**+0.9**
MTN	**Manton Dam** baz=44,SNR=3.8	**43.45**	**112**	P	**P**	**17 06 12.4**	**-0.6**
H01W3	**Cape Leeuwin H** baz=326,slow=74,SNR=42	**43.53**	**151**	T	T	17 52 43.1	
H01W2	**Cape Leeuwin H** baz=326,slow=74,SNR=40	**43.54**	**151**	T	T	17 52 39.4	
H01W1	**Cape Leeuwin H** baz=326,slow=74,SNR=42	**43.55**	**151**	T	T	17 52 44.6	
NWAO	**Narrogin (SRO)** comp=Z,29nm,1.0s,baz=188,slow=7.4,SNR=9.8	**43.61**	**146**	P	**P**	**17 06 14.4**	**+0.4**
NWAO	**Narrogin (SRO)** baz=44,SNR=4.7	**43.61**	**146**	P	**P**	**17 06 14.4**	**+0.4**
NWAO	baz=44,SNR=4.7			P	**P**	**17 06 14.4**	**+0.4**
KK06	**Karatay Array**	**43.97**	**339**	*e*P	**P**	**17 06 16.5**	**-0.3**
KK07	**Karatay Array**	**43.98**	**339**	*e*P	**P**	**17 06 16.3**	**-0.6**
KK02	**Karatay Array**	**43.99**	**339**	*e*P	**P**	**17 06 16.4**	**-0.5**
KK31	**Karatay Array**	**43.99**	**339**	*e*P	**P**	**17 06 16.2**	**-0.7**
KK31	**Karatay Array**	**43.99**	**339**	*e*P	**P**	**17 06 16.2**	**-0.7**
KKAR	**Karatay Array**	**43.99**	**339**	*e*P	**P**	**17 06 16.1**	**-0.8**
KKAR	**Karatay Array**	**43.99**	**339**	*e*P	**P**	**17 06 16.1**	**-0.8**
KK01	**Karatay Array**	**43.99**	**339**	*e*P	**P**	**17 06 16.4**	**-0.6**
KK03	**Karatay Array**	**43.99**	**339**	*e*P	**P**	**17 06 16.7**	**-0.2**
KK04	**Karatay Array**	**43.99**	**339**	*e*P	**P**	**17 06 16.6**	**-0.4**
KK05	**Karatay Array**	**43.99**	**339**	*e*P	**P**	**17 06 16.7**	**-0.3**
KK08	**Karatay Array**	**44.00**	**339**	*e*P	**P**	**17 06 16.9**	**-0.1**
MK01	**Makanchi Array**	**44.54**	**352**	*e*P	**P**	**17 06 20.6**	**-0.7**
MK31	**Makanchi Array**	**44.56**	**352**	*e*P	**P**	**17 06 20.9**	**-0.5**
MK31	**Makanchi Array**	**44.56**	**352**	*e*P	**P**	**17 06 21.0**	**-0.5**
MKAR	**Makanchi Array** comp=Z,3.3nm,0.7s,baz=169,slow=8.3,SNR=18	**44.56**	**352**	P	**P**	**17 06 21.3**	**-0.2**
MKAR	**Makanchi Array** comp=Z,31nm,0.9s	**44.56**	**352**	*e*P	**P**	**17 06 21.1**	**-0.4**
MKAR	**Makanchi Array**	**44.56**	**352**	*e*P	**P**	**17 06 21.1**	**-0.4**
MKAR	comp=Z,31nm,0.9s			pmax	pmax		
MAKZ	**Makanchi** comp=Z,6.8nm,1.0s	**44.62**	**352**	*e*P	**P**	**17 06 21.5**	**-0.5**
MAKZ	**Makanchi**	**44.62**	**352**	*e*P	**P**	**17 06 21.5**	**-0.5**
MAKZ	comp=Z,7.0nm,1.0s			pmax	pmax		
GYB1	**ALIBECK ARRAY** comp=Z,13nm,0.8s	**45.81**	**324**	*e*P	**P**	**17 06 31.4**	**-0.2**
GYA1	**ALIBECK ARRAY** comp=Z,13nm,0.8s	**45.82**	**324**	*e*P	**P**	**17 06 31.6**	**-0.1**
GYB5	**ALIBECK ARRAY** comp=Z,11nm,0.8s	**45.82**	**324**	*e*P	**P**	**17 06 31.8**	**+0.1**
GEYT	**Alibeck** comp=Z,9.8nm,0.7s,baz=148,slow=8.7,SNR=16	**45.82**	**324**	P	**P**	**17 06 32.9**	**+1.2**
GYA0	**ALIBECK ARRAY** comp=Z,11nm,0.8s	**45.82**	**324**	*e*P	**P**	**17 06 30.6**	**-1.1**
GYA0B	**ALIBECK ARRAY** comp=Z,12nm,0.8s	**45.82**	**324**	*e*P	**P**	**17 06 30.6**	**-1.1**
GYB2	**ALIBECK ARRAY** comp=Z,15nm,0.8s	**45.82**	**324**	*e*P	**P**	**17 06 31.2**	**-0.4**
GYA2	**ALIBECK ARRAY** comp=Z,11nm,0.8s	**45.82**	**324**	*e*P	**P**	**17 06 30.7**	**-1.0**
GYB3	**ALIBECK ARRAY** comp=Z,15nm,0.8s	**45.83**	**324**	*e*P	**P**	**17 06 30.6**	**-1.1**
GYB4	**ALIBECK ARRAY** comp=Z,13nm,0.8s	**45.84**	**324**	*e*P	**P**	**17 06 31.2**	**-0.6**
WRKA	**Warakurna** baz=46,SNR=3.8	**46.04**	**129**	P	**P**	**17 06 34.2**	**+0.6**
DGZ	**Jazzator, Alta**	**47.00**	**358**	*e*P	**P**	**17 06 40.2**	**-0.6**
DGZ	comp=Z,1.0nm,1.0s			pmax	pmax		
SONM	**Songino Array** comp=Z,22nm,0.9s,baz=194,slow=9.2,SNR=39	**47.20**	**15**	P	**P**	**17 06 43.1**	**+0.7**
SONA1	**Songino Array**	**47.21**	**15**	*e*P	**P**	**17 06 42.7**	**+0.2**
OPO	**Ambohidratompo** comp=Z,2.2nm,0.8s,baz=72,slow=13,SNR=1.9	**47.25**	**242**	P	**P**	**17 06 45.3**	**+2.0**
ULN	**Ulaanbaatar**	**47.40**	**15**	*e*P	**P**	**17 06 43.5**	**-0.5**

*DJA **11** 16:58:07.4±0.5,2˚.N±5˚×9˚0E±˚,h10km,M5.4/13,mb5.2/13, mB5.8/9,MLv5.6/4,Mw(mB)5.4/9*
*IDC **11** 16:58:08.0±0.3,2˚.68N×90˚.29E,h0km,mb4.5/48, mb1 4.6/51,mb1mx4.5/69,mbtmp4.5/51,ML4.2/3,MS4.4/4, Ms1 4.4/4,ms1mx3.7/51,Error ellipse: s-maj=12.7km s-min=8.7km az=39.0*
*ISCJB **11** 16:58:08.7±0.2,2˚.66N±0˚.03×90˚.26E±0˚.03,h16km, mb4.7/112,Error ellipse: s-maj=5.0km s-min=2.8km az=35.9*
*NEIC **11** 16:58:09.4±0.1,2˚.67N×90˚.25E,h10km,mb4.9/43,Error ellipse: s-maj=4.3km s-min=2.7km az=209.0*
*MOS **11** 16:58:10.8±0.9,2˚.69N×90˚.30E,h33km,mb5.0/40,Error ellipse: s-maj=8.3km s-min=5.2km az=109.3*

ISC 11 16:58:10.3±0.8,2˚.59N±0˚.05×90˚.19E±0˚.05,h16km±4km, n319,σ1:43/325,mb4.8/115,12C-5D,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSI	**Banda Aceh**	**5.86**	**60**	P	**Pn**	**16 59 36.5**	**0.0**
BSI	**Banda Aceh**	**5.86**	**60**	P	**Pn**	**16 59 36.9**	**+0.4**
MLSI	**Meulaboh, Aceh**	**6.42**	**75**	P	**Pn**	**16 59 44.0**	**-0.3**
MLSI	**Meulaboh, Aceh**	**6.42**	**75**	P	**Pn**	**16 59 44.0**	**-0.3**
TPTI	158nm,0.8s	**7.01**	**84**	P	**Pn**	**16 59 51.7**	**-0.7**
TPTI		**7.01**	**84**	P	**Pn**	**16 59 52.1**	**-0.3**
LHMI	**Lhok Sumawe** 153nm,0.8s	**7.23**	**69**	P	**Pn**	**16 59 57.0**	**+1.6**
LHMI	**Lhok Sumawe**	**7.23**	**69**	P	**Pn**	**16 59 57.4**	**+2.0**
LHMI	**Lhok Sumawe**	**7.23**	**69**	*e*Pn	**Pn**	**16 59 56.0**	**+0.6**
GSI	**Gunungsitoli**	**7.49**	**100**	P	**Pn**	**16 59 57.4**	**-1.6**
GSI	**Gunungsitoli**	**7.49**	**100**	P	**Pn**	**16 59 56.1**	**-2.9**
GSI	**Gunungsitoli**	**7.49**	**100**	*e*Pn	**Pn**	**16 59 56.7**	**-2.3**
TSI	**Tuntungan**	**8.41**	**84**	P	**Pn**	**17 00 11.8**	**+0.2**
PSI	**Prapat**	**8.73**	**88**	*e*Pn	**Pn**	**17 00 14.5**	**-1.6**
PSI	**Prapat**	**8.73**	**88**	*e*P	**Pn**	**17 00 14.5**	**-1.6**
MNSI	**Mandailing Nat**	**9.55**	**101**	P	**Pn**	**17 00 27.5**	**+0.2**
SISI	**Saibi**	**9.71**	**114**	P	**Pn**	**17 00 27.1**	**-2.4**
SISI	**Saibi**	**9.71**	**114**	P	**Pn**	**17 00 27.5**	**-2.0**
PALK	**Pallekele** 2.9nm,0.3s,baz=115,slow=13,SNR=5.1	**10.53**	**297**	Pn	**Pn**	**17 00 39.8**	**-1.0**
PALK				Sn	Sn	17 02 26.2	-12
	7.1nm,0.3s,baz=297,slow=1.0,SNR=11						
PALK				LR	LR	17 04 17.9	
	comp=Z,2μm,20.4s,baz=116,slow=35						
PALK	**Pallekele**	**10.53**	**297**	*e*Pn	**Pn**	**17 00 39.4**	**-1.3**
PALK				Sn	Sn	17 02 26.2	-12
PALK	**Pallekele**	**10.53**	**297**	*e*P	**Pn**	**17 00 39.4**	**-1.3**
KULM	**Kulim**	**10.77**	**75**	*e*Pn	**Pn**	**17 00 43.0**	**-1.1**
PDSI	**Padang**	**10.84**	**109**	P	**Pn**	**17 00 43.4**	**-1.6**
IPM	**Ipoh**	**10.98**	**80**	*e*Pn	**Pn**	**17 00 46.1**	**-0.8**
BKNI	**Bangkinang**	**11.08**	**102**	*e*Pn	**Pn**	**17 00 47.1**	**-1.0**
PPSI	**Pulau Pagai**	**11.16**	**118**	P	**Pn**	**17 00 47.5**	**-1.9**
KRJI	**Kerinci**	**12.19**	**112**	P	**Pn**	**17 01 01.9**	**-1.6**
MYKOM	**Kota Tinggi**	**13.67**	**93**	*e*Pn	**Pn**	**17 01 23.4**	**-0.2**
TPRI	**Tanjung Pinang**	**14.43**	**96**	P	**Pn**	**17 01 33.9**	**-0.1**
MDSI	**Maura Dua**	**15.65**	**117**	P	**Pn**	**17 01 51.3**	**+1.0**
LWLI	**Liwa**	**15.78**	**119**	P	**P**	**17 01 55.2**	**-0.8**
KASI	**Kota Agung**	**16.41**	**119**	P	**Pn**	**17 02 01.0**	**+0.9**
KLI	**Kotabumi**	**16.42**	**117**	P	**P**	**17 02 02.6**	**-0.3**
CM01	**Chiang Mai Arr**	**17.93**	**28**	*e*Pn	**Pn**	**17 02 16.7**	**-2.4**
CM31	**Chiang Mai Arr**	**17.95**	**28**	*e*Pn	**Pn**	**17 02 17.8**	**-1.6**
CMAR	**Chiang Mai Arr** 0.1nm,0.3s,baz=218,slow=13,SNR=19	**17.95**	**28**	P	**Pn**	**17 02 17.3**	**-2.1**
CGJI	**Cibinong**	**17.98**	**121**	P	**Pn**	**17 02 19.4**	**-0.3**
CHTO	**Chiang Mai** 27nm,1.2s	**18.26**	**27**	*e*Pn	**Pn**	**17 02 21.1**	**-2.1**
CHTO	**Chiang Mai**	**18.26**	**27**	*e*P	**Pn**	**17 02 21.1**	**-2.1**
CHTO	comp=Z,27nm,1.2s			pmax	pmax		
HYB	**Hyderabad**	**18.64**	**323**	*i* P	**Pn**	**17 02 31.5**	**+3.6**
SKJI	**Sukabumi**	**18.91**	**120**	P	**Pn**	**17 02 34.3**	**+3.1**
LEM	**Lembang** comp=Z,1.16nm,0.3s,baz=290,slow=12,SNR=11	**19.75**	**118**	P	**P**	**17 02 39.4**	**-0.6**
KSM	**Kuching** comp=Z,35nm,1.1s	**20.14**	**93**	*e*P	**P**	**17 02 43.6**	**-0.3**
CISI	**Cisompet, Garu**	**20.27**	**120**	P	**P**	**17 02 46.3**	**+0.9**
CISI	**Cisompet, Garu** comp=Z,90nm,0.7s	**20.27**	**120**	*e*P	**P**	**17 02 45.5**	**+0.1**
H08S2	**Diego Garcia H** baz=60,slow=75,SNR=26	**20.37**	**240**	T	T	17 23 49.3	
H08S3	**Diego Garcia H** baz=60,slow=75,SNR=39	**20.37**	**240**	T	T	17 23 35.5	
H08S1	**Diego Garcia H** baz=60,slow=75,SNR=19	**20.39**	**240**	T	T	17 23 39.9	
KPJI	**Karang Puc

comp=Z,11nm,1.1s
ULN Ulaanbaatar 47.40 15 *ce* P **P 17 06 43.7 -0.3**
ULN pmax pmax
comp=Z,11nm,1.2s
ATD Arta Tunnel 47.75 283 P **P 17 06 48.7 +1.5**
comp=Z,15nm,0.8s,baz=46,slow=8.2,SNR=3.6
RAYN Ar Rayn 47.95 300 *eP* **P 17 06 48.1 -0.5**
comp=Z,8.8nm,0.8s
RAYN Ar Rayn 47.95 300 *eP* **P 17 06 48.1 -0.5**
RAYN pmax pmax
comp=Z,9.0nm,0.8s
HVS Khovu-Aksy 48.47 3 *i* P **P 17 06 52.2 +0.1**
WRA Warramunga Arr 48.77 119 P **P 17 06 54.8 -0.1**
comp=Z,7.1nm,0.6s,baz=297,slow=8.6,SNR=52
WRA PcP **PcP 17 08 19.6 -0.2**
comp=Z,1.9nm,0.6s,baz=316,slow=3.4,SNR=5.2
WRAB Tennant Creek 48.77 119 *eP* **P 17 06 54.9 0.0**
comp=Z,6.6nm,0.6s
WRAB Tennant Creek 48.77 119 *eP* **P 17 06 54.9 0.0**
WRAB pmax pmax
comp=Z,7.0nm,0.6s
WB2 Warramunga Arr 48.78 119 *eP* **P 17 06 54.7 -0.3**
comp=Z,66nm,1.8s
WC3 Warramunga Arr 48.80 119 P **P 17 06 55.3 +0.2**
baz=49
KURBB Kurchatov Arra 48.87 350 P **P 17 06 55.0 -0.1**
comp=Z,4.6nm,0.8s,baz=174,slow=7.3,SNR=35
KURBB PcP **PcP 17 08 19.9 +0.4**
comp=Z,2.3nm,0.8s,baz=177,slow=2.7,SNR=4.3
ZAK Zakamensk 48.90 11 *eP* **P 17 06 56.3 +0.8**
ZAK *e* 17 08 19.5
ZAK pmax pmax
comp=Z,4.0nm,1.2s
ZAK pmax pmax
comp=Z,3.0nm,1.3s
KURK Kurchatov 48.94 350 *eP* **P 17 06 55.2 -0.4**
comp=Z,9.9nm,0.9s
KURK PcP **PcP 17 08 19.9 +0.2**
KURK Kurchatov 48.94 350 *ce* P **P 17 06 55.8 +0.1**
KURK pmax pmax
comp=Z,52nm,1.2s
KSAR Wonju Array Be 48.98 40 P **P 17 06 55.9 -0.3**
KSAR Wonju Array Be 48.98 40 P **P 17 06 55.9 -0.3**
KSRS Korea Array 49.01 40 P **P 17 06 55.9 -0.5**
comp=Z,3.4nm,0.9s,baz=295,slow=9.5,SNR=8.9
ASAR Alice Springs 49.90 124 P **P 17 07 03.5 -0.1**
comp=Z,2.7nm,0.8s,baz=297,slow=7.2,SNR=24
ASAR PcP **PcP 17 08 23.8 -0.1**
comp=Z,2.9nm,0.7s,baz=304,slow=3.2,SNR=11
AS31 Alice Springs 49.90 124 *eP* **P 17 07 02.9 -0.7**
comp=Z,1.2nm,0.8s
AS01 Alice Springs 49.94 124 *eP* **P 17 07 02.9 -0.9**
ZAA0 Zalesovo Array 51.38 356 *eP* **P 17 07 13.4 -0.7**
comp=Z,16nm,1.4s
ZALV Zalesovo Beam 51.38 356 P **P 17 07 13.6 -0.5**
comp=Z,4.0nm,0.7s,baz=191,slow=7.8,SNR=16
ZALV LR LR 17 30 56.8
comp=Z,308nm,20.5s,baz=244,slow=38
ZALV Zalesovo Beam 51.38 356 *eP* **P 17 07 13.1 -1.0**
ZALV Zalesovo Beam 51.38 356 *eP* **P 17 07 13.1 -1.0**
NVS Novosibirsk 52.39 355 *eP* **P 17 07 20.0 -1.6**
NVS pmax pmax
comp=Z,13nm,1.0s
BVAR Borovoye Array 52.88 345 P **P 17 07 24.4 -0.9**
comp=Z,2.3nm,0.8s,baz=148,slow=6.6,SNR=13
HIA Hailar 52.90 24 *i* P **P 17 07 23.6 -2.0**
HIA pmax pmax
comp=Z,11nm,1.1s
BRVK Borovoye 52.93 345 *eP* **P 17 07 24.5 -1.2**
comp=Z,5.0nm,1.1s
BRVK Borovoye 52.93 345 *ce* P **P 17 07 23.8 -1.9**
BRVK pmax pmax
comp=Z,15nm,1.2s
KMBO Kilima Mbogo 53.05 267 P **P 17 07 27.8 +0.2**
comp=Z,2.6nm,0.9s,baz=56,slow=10,SNR=6.8
KMBO Kilima Mbogo 53.05 267 *eP* **P 17 07 26.9 -0.7**
comp=Z,5.8nm,0.8s
KMBO Kilima Mbogo 53.05 267 *eP* **P 17 07 26.9 -0.7**
KMBO pmax pmax
comp=Z,6.0nm,0.8s
AB07 Akbulak array 53.16 336 *eP* **P 17 07 27.1 -0.4**
AB08 Akbulak array 53.17 336 *eP* **P 17 07 27.4 -0.1**
AB06 Akbulak array 53.17 336 *eP* **P 17 07 27.2 -0.3**
AB03 Akbulak array 53.17 336 *eP* **P 17 07 27.2 -0.3**
AB01 Akbulak array 53.18 336 *eP* **P 17 07 27.2 -0.3**
AB31 Akbulak array 53.18 336 *eP* **P 17 07 27.4 -0.2**
AB31 Akbulak array 53.18 336 *eP* **P 17 07 27.4 -0.2**
ABKAR Akbulak array 53.18 336 *eP* **P 17 07 27.5 -0.1**
comp=Z,130nm,0.9s
AB02 Akbulak array 53.18 336 *eP* **P 17 07 27.3 -0.2**
AB04 Akbulak array 53.18 336 *eP* **P 17 07 27.5 -0.1**
AB05 Akbulak array 53.19 336 *eP* **P 17 07 27.6 -0.1**
AB09 Akbulak array 53.19 336 *eP* **P 17 07 27.5 -0.1**
KRAR Krasnoyarsk 53.30 *i* P **P 17 07 27.9 -0.4**
AKTO Aktyubinsk 54.88 335 P **P 17 07 39.9 -0.2**
comp=Z,4.1nm,1.0s,baz=135,slow=5.7,SNR=7.0
USRK Ussuriysk Ar. 55.47 36 P **P 17 07 42.5 -1.9**
comp=Z,1.0nm,0.7s,baz=248,slow=9.5,SNR=3.0
GNI Garni 55.53 319 *i* P **P 17 07 43.1 -2.0**
GNI pmax pmax
comp=Z,18nm,1.1s
MJAR Matsushiro Ar 55.62 47 P **P 17 07 43.9 -1.7**
comp=Z,1.2nm,0.9s,baz=235,slow=8.1,SNR=2.8
GROC Groznyy 56.45 322 *eP* **P 17 07 49.0 -2.4**
GROC *e* 17 08 44.2
GROC pmax pmax
comp=Z,16nm,0.4s
MTSU Mount Surprise 57.13 113 P **P 17 07 57.9 +1.2**
baz=57,SNR=6.5
ZEI Tsey 57.41 321 *eP* **P 17 07 57.8 -0.7**
ZEI pmax pmax
comp=Z,5.0nm,0.9s
NCK Nalchik 57.97 321 *i* P **P 17 08 02.1 -0.1**
NCK pmax pmax
comp=Z,7.0nm,1.2s
ASF Jabal al Asfar 57.98 307 P **P 17 08 03.4 +0.8**
comp=Z,1.5nm,0.4s,baz=140,slow=7.9,SNR=3.0
BOD Bodaibo 58.20 15 *eP* **P 17 08 02.9 -0.5**
BOD pmax pmax
comp=Z,8.0nm,1.3s
NEY Neytrino 58.39 321 *i* P **P 17 08 05.1 -0.2**
NEY pmax pmax
comp=Z,1.0nm,0.8s
KLR Kul'dur 58.40 31 P **P 17 08 05.0 -0.1**
comp=Z,0.6nm,1.0s
KLR Kul'dur 58.40 31 *i* P **P 17 08 04.3 -0.8**
KBZ Khabaz 58.52 321 P **P 17 08 06.3 +0.3**
comp=Z,5.5nm,0.9s,baz=146,slow=4.7,SNR=9.0
KIV Kislovodsk 58.77 321 *eP* **P 17 08 08.4 +0.5**
comp=Z,23nm,0.9s
KIV Kislovodsk 58.77 321 *eP* **P 17 08 07.5 -0.4**
KIV pmax pmax
comp=Z,21nm,0.9s
SVE Sverdlovsk 58.99 342 *eP* **P 17 08 08.3 -0.7**
SVE pmax pmax
comp=Z,20nm,1.3s
GOF Gofitskoye 59.12 323 ǁ *eP* P 17 08 00.7 -9.4
GOF pmax pmax
comp=Z,26nm,1.3s
ARU Arti 59.34 340 *eP* **P 17 08 10.6 -0.9**
comp=Z,6.3nm,0.8s
ARU Arti 59.34 340 *eP* **P 17 08 10.6 -0.9**
ARU pmax pmax
comp=Z,6.0nm,0.8s
ZEA Zeya 59.36 25 *eP* **P 17 08 11.8 +0.2**
ZEA pmax pmax
comp=Z,12nm,1.0s
CTA Charters Tower 59.41 115 P **P 17 08 13.4 +0.8**
comp=Z,17nm,0.8s,baz=308,slow=6.6,SNR=13
CTAO Charters Tower 59.41 115 *eP* **P 17 08 12.4 -0.2**
comp=Z,68nm,1.4s
CTAO Charters Tower 59.41 115 *eP* **P 17 08 12.4 -0.2**
CTAO pmax pmax
comp=Z,69nm,1.4s
MBAR Mbarara 59.52 268 P **P 17 08 15.2 +1.5**
comp=Z,2.7nm,0.2s,baz=73,slow=19,SNR=2.5
STKA Stephens Creek 59.56 130 P **P 17 08 13.8 +0.3**
comp=Z,18nm,0.8s,baz=303,slow=8.0,SNR=36
STKA Stephens Creek 59.56 130 P **P 17 08 14.1 +0.6**
baz=60,SNR=23
STKA Stephens Creek 59.56 130 *eP* **P 17 08 13.0 -0.5**
comp=Z,4.5nm,0.8s
STKA Stephens Creek 59.56 130 *eP* **P 17 08 13.0 -0.5**
STKA pmax pmax
comp=Z,5.0nm,0.8s
QLP Quilpie 59.65 123 P **P 17 08 15.0 +0.9**
baz=60,SNR=4.0
ARPS Mount Arapiles 61.90 134 P **P 17 08 30.1 +0.8**
baz=62,SNR=8.0
CMSA Cobar Meteorol 62.63 128 P **P 17 08 35.2 +1.0**
baz=63,SNR=21
BR131 Keskin Array S 63.05 314 *eP* **P 17 08 36.8 -0.4**
BRTR Keskin Array B 63.05 314 *eP* **P 17 08 37.3 +0.2**
comp=Z,6.0nm,0.7s,baz=134,slow=7.1,SNR=21
VRH Novokhopyorsk 63.15 328 *eP* **P 17 08 36.7 -0.7**
VRH *e* *PP **pP** 17 08 41.7 -0.8
VRH pmax pmax
comp=Z,8.0nm,0.7s
YSS Yuzh-Sakhalins 63.34 37 *eP* **P 17 08 41.3 +2.6**
RMQ Roma 63.45 121 P **P 17 08 41.5 +1.6**
baz=64,SNR=15
LSZ Lusaka 63.84 252 P **P 17 08 42.7 0.0**
comp=Z,2.2nm,0.7s,baz=58,slow=9.5,SNR=2.6
VSR Storozhevoye 64.53 327 *eP* **P 17 08 45.8 -0.6**
VSR pmax pmax
comp=Z,7.0nm,0.5s
TOO Toolangi 64.88 134 P **P 17 08 50.6 +1.6**
baz=65,SNR=5.4
EIDS Eidsvold 65.13 119 P **P 17 08 52.1 +1.2**
baz=65,SNR=6.5
LPSR Galich'ya Gora 65.36 328 *eP* **P 17 08 51.3 -0.5**
LPSR pmax pmax
comp=Z,10.0nm,0.8s
YAK Yakutsk 66.23 19 P **P 17 08 55.3 -1.9**
comp=Z,3.5nm,0.4s,baz=233,slow=1.9,SNR=6.0
YAK Yakutsk 66.23 19 *eP* **P 17 08 56.5 -0.7**
comp=Z,17nm,0.9s
YAK Yakutsk 66.23 19 *eP* **P 17 08 55.5 -1.7**
YAK pmax pmax
comp=Z,15nm,1.1s
YAK pmax pmax
comp=N,5.0nm,1.2s
YAK pmax pmax
comp=E,5.0nm,1.0s
ARMA Armidale 67.05 125 P **P 17 09 05.2 +1.9**
baz=67,SNR=10
OBN Obninsk 67.84 330 *eP* **P 17 09 06.9 -0.7**
OBN pmax pmax
comp=Z,12nm,0.8s
LBTB Lobatse 68.28 242 *eP* **P 17 09 10.7 -0.4**
comp=Z,14nm,1.1s
LBTB Lobatse 68.28 242 *eP* **P 17 09 10.7 -0.4**
LBTB pmax pmax
comp=Z,14nm,1.1s
IDI Anoyia 68.45 307 P **P 17 09 12.4 +0.4**
comp=Z,11nm,0.8s,baz=105,slow=7.9,SNR=6.9
IDI Anoyia 68.45 307 *eP* **P 17 09 11.9 -0.1**
comp=Z,22nm,0.7s
BOSA Boshof 69.47 238 P **P 17 09 18.4 -0.1**
comp=Z,4.2nm,0.9s,baz=50,slow=9.2,SNR=3.2
SORM Soroca 69.56 321 ǁ *iP* **P 17 09 18.6 +0.1**
KLMR Klimovskoe 69.57 336 *eP* **P 17 09 15.0 -3.3**
KLMR AMP 17 09 23.6
comp=Z,17nm,0.9s
KLMR *eS* **S 17 18 21.4 -4.1**
KLMR *eS* **S 17 18 21.4 -4.1**
KLMR Klimovskoe 69.57 336 *eP* **P 17 09 14.9 -3.3**
KLMR *eS* **S 17 18 21.4 -4.1**
KLMR pmax pmax
comp=Z,17nm,0.9s
VRI Vrincioaia 69.88 318 ǁ *iP* **P 17 09 21.6 +1.0**
PLOR Plostina 69.93 318 ǁ *iP* **P 17 09 22.2 +1.3**
AKASG Malin Array Be 69.94 324 P **P 17 09 20.1 -0.7**
comp=Z,3.0nm,0.6s,baz=92,slow=5.1,SNR=8.0
KIEV Kiev 69.95 324 *i* P **P 17 09 19.0 -1.8**
KIEV pmax pmax
comp=Z,4.0nm,1.0s
TESR Tescani 70.13 319 ǁ *iP* **P 17 09 22.4 +0.3**
MLR Muntele Rosu 70.29 318 P **P 17 09 23.9 +0.7**
comp=Z,1.6nm,0.8s,baz=128,slow=4.4,SNR=8.5
MLR Muntele Rosu 70.29 318 ǁ *iP* **P 17 09 24.3 +1.1**
MLR Muntele Rosu 70.29 318 *eP* **P 17 09 23.5 +0.3**
comp=Z,20nm,0.8s
MLR Muntele Rosu 70.29 318 *eP* **P 17 09 23.5 +0.3**
MLR pmax pmax
comp=Z,20nm,0.8s
HNR Honiara 70.50 101 P **P 17 09 24.6 -0.4**
comp=Z,36nm,0.3s,baz=270,slow=20,SNR=4.0
ARR Arges 71.14 317 ǁ *iP* **P 17 09 25.0 -3.3**
BURAR Bucovina Array 71.40 320 ǁ *iP* **P 17 09 30.8 +0.9**
BUR04 Bucovina Ar. S 71.40 320 *eP* **P 17 09 29.9 0.0**
VTS Vitosha 71.41 314 ǁ *iP* **P 17 09 29.9 -0.3**
BUR08 Bucovina Ar. S 71.42 320 *eP* **P 17 09 30.2 +0.2**
TMCR Tamitsa 72.01 339 *eP* **P 17 09 33.2 +0.2**
TMCR pmax pmax
comp=Z,11nm,0.7s
MAW Mawson 72.62 191 P **P 17 09 37.1 +0.5**
comp=Z,3.2nm,0.9s,baz=34,slow=3.6,SNR=2.3
NACGM Naroch 72.85 327 *e* **P 17 09 38.0 -0.3**
IDID Didziasalis 73.02 328 *eP* **P 17 09 39.6 +0.4**
IDID IAmb IAmb 17 09 45.4
comp=Z,9.2nm,0.9s
TIXI Tiksi 73.17 12 *eP* **P 17 09 38.1 -1.7**
comp=Z,14nm,1.0s
TIXI Tiksi 73.17 12 *i* P **P 17 09 37.7 -2.1**
TIXI pmax pmax
comp=Z,8.0nm,0.9s
MA2 Magadan 73.24 28 P **P 17 09 40.3 -0.2**
comp=Z,3.5nm,0.6s,baz=215,slow=14,SNR=2.0
IIGN Ignalina 73.31 328 *eP* **P 17 09 41.5 +0.6**
IIGN IAmb IAmb 17 09 47.1
comp=Z,6.2nm,0.6s
CRVS Cervenica-Dubn 74.16 320 *eP* **P 17 09 47.0 +0.8**
CRVS Cervenica-Dubn 74.16 320 *eP* **P 17 09 47.0 +0.8**
VSU Vasula 74.17 331 *ce* P **P 17 09 45.5 -0.4**
VSU pmax pmax
comp=Z,41nm,0.8s
STHS Stebnicka Huta 74.43 321 *eP* **P 17 09 49.7 +1.9**
STHS *e* 17 09 54.4
STHS Stebnicka Huta 74.43 321 *eP* **P 17 09 49.7 +1.9**
STHS pmax pmax
comp=Z,5.0nm,0.9s
SEY Seymchan 75.34 25 P **P 17 09 51.5 -1.2**
comp=Z,2.6nm,1.0s,baz=56,slow=2.4,SNR=5.0
SEY Seymchan 75.34 25 *i* P **P 17 09 50.4 -2.3**
FINES FINESS Array B 75.58 333 P **P 17 09 54.1 0.0**
comp=Z,4.7nm,0.9s,baz=98,slow=6.6,SNR=8.8
VYHS Vyhne 75.76 319 *eP* **P 17 09 55.2 -0.2**
VYHS *e* 17 10 00.2
VYHS Vyhne 75.76 319 *eP* **P 17 09 55.3 -0.2**
VYHS pmax pmax
comp=Z,5.0nm,1.3s
MODS Modra-Piesok 76.75 319 *eP* **P 17 10 02.0 +0.9**
MODS *e* 17 10 06.7
MODS Modra-Piesok 76.75 319 *eP* **P 17 10 02.0 +0.9**
MODS *e* 17 10 06.7
VAE Valguarnera 77.15 308 P **P 17 10 04.8 +1.2**
comp=Z,6.0nm,0.4s,baz=135,slow=4.3,SNR=2.6
DPC Dobruska-Polom 77.74 321 *eP* **P 17 10 08.0 +1.4**
DPC *ep* P **pP 17 10 12.5 +0.6**
DPC Dobruska-Polom 77.74 321 *eP* **P 17 10 08.0 +1.4**
DPC *e* 17 10 12.5
ARCES ARCESS Array B 78.91 341 P **P 17 10 12.3 -0.3**
comp=Z,7.3nm,0.9s,baz=53,slow=6.7,SNR=7.0
ARCES ARCESS Array B 78.91 341 *eP* **P 17 10 11.5 -1.2**
ARCES ARCESS Array B 78.91 341 *eP* **P 17 10 11.5 -1.2**
GEA0 GERESS Array S 79.17 319 *eP* **P 17 10 14.0 -0.6**
GEC2 GERESS Array S 79.17 319 *eP* **P 17 10 13.9 -0.7**
comp=Z,12nm,0.8s
GEC2 GERESS Array S 79.17 319 *eP* **P 17 10 13.9 -0.7**
GEC2 pmax pmax
comp=Z,13nm,0.8s
GERES GERESS Array B 79.17 319 P **P 17 10 15.2 +0.6**
comp=Z,9.9nm,0.9s,baz=104,slow=5.6,SNR=20
SYO Syowa Base 79.25 196 ǁ *eX* **P 17 10 13.3 -1.1**
SYO Syowa Base 79.25 196 ǁ *epP* pP 17 10 19.0 -0.7
KHC Kasperske Hory 79.29 319 *eP* **P 17 10 16.2 +1.0**
KHC *ep* **pP 17 10 20.8 +0.3**
KHC *ex* x 17 10 27.7
KHC Kasperske Hory 79.29 319 *eP* **P 17 10 16.2 +1.0**
KHC *e* 17 10 20.8
KHC *e* 17 10 27.7
BRG Berggiesshubel 79.33 321 *i* P P 17 10 21.0 +5.8
comp=Z,7.5nm,1.0s
BRG Berggiesshubel 79.33 321 *i* P P 17 10 21.0 +5.7
BRG pmax pmax
comp=Z,8.0nm,1.0s
CLL Collm 79.98 322 *i* P **P 17 10 19.5 +0.7**
CLL *i* (sP) **pP 17 10 24.1 0.0**
comp=Z,8.0nm,1.0s
CLL Collm 79.98 322 *i* P **P 17 10 19.5 +0.7**
HFS Hagfors 81.05 330 P **P 17 10 24.4 0.0**
comp=Z,2.8nm,0.7s,baz=108,slow=1.8,SNR=4.4
KEST Kesra 81.06 306 P **P 17 10 25.1 0.0**
comp=Z,11nm,0.9s,baz=287,slow=0.8,SNR=3.8
NB2 NORSAR Subarra 82.40 331 P **P 17 10 31.4 -0.2**
comp=Z,4.9nm,1.0s,baz=95,slow=5.1
NOA NORSAR Array B 82.40 331 P **P 17 10 31.2 -0.4**
comp=Z,2.4nm,0.9s,baz=95,slow=6.1,SNR=3.7
BILL Bilibino 82.42 22 ǁ *eP* **P 17 10 29.6 -1.8**
BILL *e* 17 13 42.0
BILL *eS* **PnS 17 21 26.3 -11**
BILL pmax pmax
comp=Z,4.0nm,1.2s
TAM Tamanrasset 84.09 293 *eP* **P 17 10 41.1 -0.1**
comp=Z,7.1nm,0.9s
TAM Tamanrasset 84.09 293 *eP* **P 17 10 41.1 -0.1**
TAM pmax pmax
comp=Z,7.0nm,0.9s
TORD Torodi Ar. Bea 87.95 283 P **P 17 11 01.3 +1.0**
comp=Z,1.1nm,0.5s,baz=84,slow=5.9,SNR=3.7
VNDA Vanda 88.59 168 P **P 17 11 03.3 +1.3**
comp=Z,1.2nm,0.8s,baz=316,slow=5.0,SNR=3.8
NVL N'lazarevskaya 88.60 199 *eP* **P 17 11 02.2 +0.1**
NVL pmax pmax
comp=Z,14nm,0.8s
EKA Eskdalemuir Ar 89.80 325 P **P 17 11 09.9 +1.8**
comp=Z,1.5nm,0.7s,baz=107,slow=6.0,SNR=3.9
ESDC Sonseca Array 91.56 310 P **P 17 11 18.7 +1.9**
comp=Z,0.9nm,0.6s,baz=71,slow=4.3,SNR=3.1
SNAA Sanae 93.40 198 P **P 17 11 25.6 +1.0**
comp=Z,2.0nm,0.9s,baz=42,slow=16,SNR=2.1
KOWA Kowa 93.43 285 P **P 17 11 26.2 +0.4**
comp=Z,3.1nm,0.8s,baz=85,slow=8.0,SNR=6.4
DBIC Dimbokro 94.71 277 P **P 17 11 34.9 +3.2**
comp=Z,5.9nm,1.0s,baz=88,slow=4.7,SNR=3.2
ILAR Eielson Array 101.08 22 PP PP 17 16 16.4 +9.0
comp=Z,0.3nm,0.9s,baz=287,slow=4.7,SNR=5.5
YKA Yellowknife Ar 112.41 12 PP PP 17 17 31.4 +1.0
comp=Z,0.5nm,1.0s,baz=333,slow=7.4,SNR=5.3
PDAR Pinedale Array 131.45 19 PKP **PKPdf 17 17 22.1 -0.7**
comp=Z,0.2nm,0.6s,baz=32,slow=3.6,SNR=2.6
TX31 Lajitas Ar. Si 145.59 22 *e* PKPdf **PKPdf 17 17 48.4 -0.4**
TXAR Lajitas Array 145.59 22 PKPbc **PKPab 17 17 49.1 0.0**
comp=Z,5.2nm,0.8s,baz=284,slow=1.7,SNR=37
TIGA Tifton 145.65 351 *e* PKPdf **PKPdf 17 17 48.0 -0.6**
JCT Junction City 145.76 15 *e* PKPdf **PKPdf 17 17 47.6 -1.4**
JCT Junction City 145.76 15 *e* PKP2 **PKPdf 17 17 47.6 -1.4**

KRSC 11 16:59:18.2±1.5, 50.70N×156.94E, h131km±11km, ML3.5, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**0.52**	**268**	*eP*		Pn	16 59 38.5	+1.1
SKR				*eS*		Sn	16 59 52.7	+0.7
PAU	**Pauzhetka**	**0.77**	**354**	*eP*		Pn	16 59 40.6	+1.5
PAU				*eS*		Sn	16 59 58.1	+3.0
KDTR	**Khodutka, Kamc**	**1.32**	**32**	*eP*		Pn	16 59 46.0	+1.7
KDTR				*eS*		Sn	17 00 05.5	+1.2
MIPR	**Malaya Ipel'ka**	**1.58**	**356**	*eP*		Pn	16 59 48.1	+0.9
ASAK	**Asacha**	**1.79**	**19**	*eP*		Pn	16 59 51.5	+1.8
ASAK				*S*		Sn	17 00 16.5	+2.7
MTVR	**Mutnovka**	**1.95**	**23**	*eP*		Pn	16 59 53.5	+1.9
MTVR				*eS*		Sn	17 00 19.5	+2.2
RUS	**Russkaya**	**2.00**	**29**	*eP*		Pn	16 59 53.4	+1.4
RUS				*eS*		Sn	17 00 18.6	+0.6
APC	**Apacha**	**2.23**	**3**	*eP*		Pn	16 59 55.7	+0.8
KRMR	**Karymshinskiy**	**2.26**	**19**	*eP*		Pn	16 59 56.9	+1.6
KRMR				*eS*		Sn	17 00 25.0	+1.2
PET	**Petropavlovsk**	**2.56**	**24**	*eP*		Pn	17 00 00.0	+1.0
PET				*eS*		Sn	17 00 30.4	-0.2
DALK	**Dalny**	**2.59**	**25**	*eP*		Pn	17 00 01.0	+1.5
DALK				*eS*		Sn	17 00 32.8	+1.5
UGLR	**Uglovaya**	**2.77**	**24**	*eP*		Pn	17 00 04.3	+2.4
AVH	**Avacha**	**2.80**	**23**	*eP*		Pn	17 00 05.0	+2.8
KOK	**Koryaka**	**2.80**	**21**	*eP*		Pn	17 00 05.0	+2.8
SMAR	**Somma**	**2.81**	**23**	*eP*		Pn	17 00 04.6	+2.1
KRER	**Koryakskii**	**2.84**	**23**	*eP*		Pn	17 00 05.1	+2.3
SDLR	**Sedlovina**	**2.85**	**24**	*eP*		Pn	17 00 04.7	+1.8
KRX	**Arik**	**2.87**	**21**	*eP*		Pn	17 00 05.3	+2.2
GNL	**Ganaly**	**3.06**	**11**	*eP*		Pn	17 00 06.8	+1.2
SPN	**Mys Shipunski**	**3.07**	**37**	*eP*		Pn	17 00 06.9	+1.3
SPN				*eS*		Sn	17 00 41.9	-0.4
KMNR	**Kamenistaya**	**5.44**	**20**	P		Pn	17 00 39.1	+2.0

MEX 11 17:03:53.1±0.3, 16.08N×98.38W, h5km±9km, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.39**	**38**	*i* P		Pg	17 04 00.3	-0.4
PNIG				*eS*		Sg	17 04 06.1	+0.2
TLIG	**Tlapa**	**1.48**	**353**	*eP*		Pn	17 04 16.9	-3.7
TLIG				*eS*		Sn	17 04 35.1	-5.3

IDC ***11*** *17:04:33.8±1.6, 0.87N×92.46E, h0km, mb3.7/7, mb1 3.8/9, mb1mx3.5/74, mbtmp3.7/9, ML3.6/2, Error ellipse: s-maj=47.7km s-min=25.6km az=48.0*
ISCJB ***11*** *17:04:36.0±1.3, 0.8N±0.2×92.3E±0.2, h33km, mb3.7/7, Error ellipse: s-maj=28.4km s-min=19.4km az=27.6*
ISC 11 17:04:38.7±1.4, 0.8N±0.2×92.4E±0.2, h35km, n9, σ1s 07/9, mb3.7/7, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
PALK	**Pallekele**	**13.28**	**299**		Pn	**Pn**	**17 07 44.4**	**-0.6**
	0.4nm,0.3s,baz=117,slow=11,SNR=2.5							
CMAR	**Chiang Mai Arr**	**18.70**	**20**	P		**P**	**17 08 54.5**	**+0.3**
	0.1nm,0.3s,baz=227,slow=12,SNR=4.5							
WRA	**Warramunga Arr**	**46.01**	**119**	P		**P**	**17 12 58.6**	**-0.5**
	0.9nm,1.0s,baz=300,slow=8.2,SNR=4.1							
MKAR	**Makanchi Array**	**46.65**	**350**	P		**P**	**17 13 03.4**	**-0.4**
	0.8nm,0.9s,baz=171,slow=9.9,SNR=3.8							
SONM	**Songino Array**	**48.41**	**13**	P		**P**	**17 13 17.7**	**+0.2**
	0.7nm,0.5s,baz=201,slow=7.9,SNR=3.7							
KURBB	**Kurchatov Arra**	**51.01**	**349**	P		**P**	**17 13 36.1**	**-1.1**
	0.6nm,0.8s,baz=171,slow=5.4,SNR=3.0							
ZALV	**Zalesovo Beam**	**53.34**	**354**	P		**P**	**17 13 53.7**	**-0.7**
	0.6nm,0.4s,baz=192,slow=8.3,SNR=2.7							
BVAR	**Borovoye Array**	**55.17**	**344**	P		**P**	**17 14 07.2**	**-0.5**
	0.4nm,0.8s,baz=177,slow=8.5,SNR=3.4							
GERES	**GERESS Array B**	**81.93**	**319**	P		**P**	**17 16 57.1**	**+2.0**
	0.4nm,0.7s,baz=116,slow=4.5,SNR=3.6							

IDC 11 17:06:01.9±1.7, 2.84N×89.76E, h0km, mb3.4/5, mb1 3.6/6, mb1mx3.3/73, mbtmp3.5/6, ML3.8/1, Error ellipse: s-maj=59.6km s-min=21.4km az=53.0, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
PALK	**Pallekele**	**10.04**	**296**	Pn		Pn	17 08 28.7	+1.1
	0.8nm,0.3s,baz=115,slow=13,SNR=2.6							
MKAR	**Makanchi Array**	**44.26**	**353**	P		P	17 14 11.7	-1.5
	0.4nm,0.8s,baz=152,slow=9.4,SNR=2.1							
SONM	**Songino Array**	**47.07**	**15**	P		P	17 14 36.9	+1.3
	0.3nm,0.4s,baz=187,slow=6.6,SNR=2.1							
KURBB	**Kurchatov Arra**	**48.55**	**350**	P		P	17 14 46.5	-0.3
	0.3nm,0.7s,baz=161,slow=8.7,SNR=3.0							
WRA	**Warramunga Arr**	**49.26**	**119**	P		P	17 14 51.7	-1.1
	0.9nm,0.8s,baz=294,slow=8.6,SNR=2.8							
ASAR	**Alice Springs**	**50.39**	**124**	P		P	17 15 02.2	+0.8
	0.4nm,0.8s,baz=296,slow=7.1,SNR=3.3							

ISCJB ***11*** *17:07:21.8±0.6, 2.6N±0.1×89.6E±0.1, h10km, mb4.0/21, Error ellipse: s-maj=18.3km s-min=10.5km az=41.8*
IDC ***11*** *17:07:22.3±0.8, 2.63N×89.68E, h0km, mb4.0/18, mb1 4.1/20, mb1mx3.9/73, mbtmp4.0/20, ML3.7/2, Error ellipse: s-maj=30.0km s-min=15.3km az=45.0*
NEIC ***11*** *17:07:23.8±0.5, 2.60N×89.62E, h10km, mb4.7/2, Error ellipse: s-maj=14.5km s-min=8.3km az=222.0*
ISC 11 17:07:23.6±0.9, 2.8N±0.2×89.5E±0.1, h10km, n32, σ1s 45/27, mb4.1/21, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
PALK	**Pallekele**	**9.92**	**298**	Pn		**Pn**	**17 09 48.2**	**+1.8**
	1.1nm,0.3s,baz=118,slow=7.7,SNR=4.1							
PALK						Sn	**Sn**	17 11 32.9	-5.1

7.6nm,0.3s,baz=296,slow=0.4,SNR=5.0
CMAR Chiang Mai Arr 18.32 30 P **P** 17 11 37.5 -0.5
0.1nm,0.3s,baz=220,slow=12,SNR=3.2
H08S3 Diego Garcia H 19.75 239 T T 17 32 27.1
baz=59,slow=75,SNR=9.1
H08S2 Diego Garcia H 19.75 239 T T 17 32 27.9
baz=59,slow=75,SNR=8.0
H08S1 Diego Garcia H 19.77 239 T T 17 32 29.3
baz=59,slow=75,SNR=3.8
LSA Lhasa 27.04 3 *eP* **P** 17 13 08.0 +1.3
18nm,0.8s
AAK Ala-Archa 42.09 343 P **P** 17 15 16.5 +0.5
1.9nm,0.8s,baz=212,slow=9.2,SNR=5.7
H01W3 Cape Leeuwin H 43.85 150 T T 18 02 08.7
baz=324,slow=76,SNR=16
H01W2 Cape Leeuwin H 43.86 150 T T 18 02 09.5
baz=324,slow=76,SNR=20
H01W1 Cape Leeuwin H 43.86 150 T T 18 02 16.4
baz=324,slow=76,SNR=14
MKAR Makanchi Array 44.50 353 P **P** 17 15 35.1 -0.1
1.2nm,0.5s,baz=169,slow=7.6,SNR=9.9
GEYT Alibeck 45.44 325 P **P** 17 15 44.9 +2.0
3.3nm,0.6s,baz=158,slow=9.3,SNR=9.3
SONM Songino Array 47.41 15 P **P** 17 15 57.8 -0.5
3.9nm,0.5s,baz=195,slow=9.2,SNR=11
KURBB Kurchatov Arra 48.78 351 P **P** 17 16 08.7 0.0
1.6nm,0.8s,baz=173,slow=7.1,SNR=7.9
KURK Kurchatov 48.85 351 *eP* **P** 17 16 09.1 -0.1
WRA Warramunga Arr 49.37 119 P **P** 17 16 13.3 -0.4
1.9nm,0.9s,baz=297,slow=8.6,SNR=6.1
WRAB Tennant Creek 49.37 119 *eP* **P** 17 16 13.8 0.0
ASAR Alice Springs 50.47 124 P **P** 17 16 22.4 +0.3
0.2nm,0.5s,baz=294,slow=7.4,SNR=4.5
ZALV Zalesovo Beam 51.36 356 P **P** 17 16 27.1 -1.2
1.6nm,0.6s,baz=184,slow=6.8,SNR=5.2
BVAR Borovoye Array 52.73 346 P **P** 17 16 38.1 -0.4
1.0nm,0.7s,baz=154,slow=11,SNR=5.0
ABKAR Akbulak array 52.92 336 *eP* **P** 17 16 40.8 +0.9
5.3nm,0.7s
AKTO Aktyubinsk 54.62 336 P **P** 17 16 52.0 -0.4
1.6nm,0.8s,baz=117,slow=19,SNR=4.8
KBZ Khabaz 58.11 322 P **P** 17 17 18.7 +1.4
2.2nm,0.9s,baz=128,slow=5.3,SNR=4.7
KLR Kul'dur 58.79 31 P **P** 17 17 20.1 -2.0
0.1nm,0.6s
STKA Stephens Creek 60.09 129 P **P** 17 17 29.8 -1.5
0.9nm,0.8s,baz=8.1,slow=14,SNR=1.6
BRTR Keskin Array B 62.56 314 P **P** 17 17 49.2 +1.0
1.6nm,0.7s,baz=128,slow=8.3,SNR=8.6
MLR Muntele Rosu 69.84 318 P **P** 17 18 35.8 +1.1
0.9nm,0.7s,baz=90,slow=19,SNR=4.7
FINES FINESS Array B 75.30 334 P **P** 17 19 06.3 -0.5
1.9nm,0.6s,baz=123,slow=7.0,SNR=6.9
ARCES ARCESS Array B 78.72 341 P **P** 17 19 26.9 +1.0
1.7nm,0.6s,baz=359,slow=4.5,SNR=3.8
GERES GERESS Array B 78.73 319 P **P** 17 19 26.2 -0.3
1.6nm,0.9s,baz=101,slow=6.9,SNR=5.5
HFS Hagfors 80.73 331 P **P** 17 19 37.2 +0.3
1.1nm,0.6s,baz=188,slow=1.0,SNR=5.1
TXAR Lajitas Array 145.87 21 PKPbc **PKPab** 17 27 05.1 +0.5
1.5nm,0.6s,baz=282,slow=1.2,SNR=8.7

MEX 11 17:12:50.0±0.4, 16°20N×98°56W, h16km±12km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.46**	**64**	*eP*	Pg	17 12 57.8	-1.4
PNIG				*eS*	Sg	17 13 03.6	-1.8
TLIG	**Tlapa**	**1.36**	**360**	*eP*	Pn	17 13 11.5	-3.0
TLIG				*eS*	Sn	17 13 27.2	-5.0
CAIG	**El Cayaco**	**1.85**	**298**	*eP*	Pn	17 13 17.7	-3.4
CAIG				*i S*	Sn	17 13 38.8	-5.3
PLIG	**Platanillo**	**2.37**	**338**	*eP*	Pn	17 13 27.5	-0.8
PLIG				*eS*	Sn	17 13 52.2	-4.8

*IDC **11** 17:13:04.8±0.9, 2°52N×90°49E, h0km, mb4.0/14, mb1 4.1/16, mb1mx3.8/70, mbtmp4.0/16, ML3.8/2, Error ellipse: s-maj=33.5km s-min=16.0km az=47.0*
*NEIC **11** 17:13:06.2±0.6, 2°51N×90°48E, h10km, mb4.5/2, Error ellipse: s-maj=15.6km s-min=9.4km az=221.0*
*ISCJB **11** 17:13:07.5±0.7, 2°5N±0°1×90°4E±0°1, h33km, mb4.1/16, Error ellipse: s-maj=19.8km s-min=11.9km az=41.3*
ISC 11 17:13:09.7±0.9, 2°5N±0°2×90°3E±0°1, h35km, n26, σ1§51/20, mb4.1/16, 1C, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**10.68**	**297**	Pn	**Pn**	**17 15 41.5**	**+1.1**
	2.2nm,0.3s,baz=115,slow=11,SNR=5.7						
PALK				Sn	**Sn**	**17 17 34.3**	**-4.4**
	3.5nm,0.3s,baz=296,slow=1.9,SNR=7.1						
CMAR	**Chiang Mai Arr**	**17.97**	**28**	P	**Pn**	**17 17 15.4**	**-1.5**
	0.1nm,0.3s,baz=215,slow=11,SNR=4.7						
H08S3	**Diego Garcia H**	**20.43**	**240**	T	T	17 38 47.0	
	baz=61,slow=75,SNR=13						
H08S2	**Diego Garcia H**	**20.43**	**240**	T	T	17 38 47.0	
	baz=61,slow=75,SNR=16						
H08S1	**Diego Garcia H**	**20.45**	**240**	T	T	17 38 45.5	
	baz=61,slow=75,SNR=11						
AAK	**Ala-Archa**	**42.39**	**343**	P	**P**	**17 21 01.2**	**+0.2**
	0.6nm,0.4s,baz=355,slow=13,SNR=5.0						
H01W3	**Cape Leeuwin H**	**43.39**	**151**	T	T	18 07 10.7	
	baz=325,slow=76,SNR=7.6						
H01W2	**Cape Leeuwin H**	**43.41**	**151**	T	T	18 07 13.4	
	baz=325,slow=76,SNR=6.9						
H01W1	**Cape Leeuwin H**	**43.41**	**151**	T	T	18 07 13.1	
	baz=325,slow=76,SNR=8.0						
MKAR	**Makanchi Array**	**44.66**	**352**	P	**P**	**17 21 19.7**	**+0.6**
	1.6nm,0.8s,baz=170,slow=9.1,SNR=9.8						
GEYT	**Alibeck**	**45.96**	**324**	P	**P**	**17 21 31.4**	**+1.8**
	3.3nm,0.7s,baz=153,slow=8.3,SNR=8.9						
SONM	**Songino Array**	**47.25**	**15**	P	**P**	**17 21 40.6**	**+1.0**
	1.5nm,0.5s,baz=196,slow=9.5,SNR=8.7						
WRA	**Warramunga Arr**	**48.62**	**119**	P	**P**	**17 21 49.8**	**-0.7**
	1.9nm,0.8s,baz=296,slow=8.4,SNR=8.3						
KURBB	**Kurchatov Arra**	**48.97**	**350**	P	**P**	**17 21 53.1**	**+0.4**
	1.5nm,0.8s,baz=173,slow=7.3,SNR=14						
KURK	**Kurchatov**	**49.05**	**350**	P	**P**	**17 21 53.9**	**+0.7**
	5.8nm,0.7s						
ASAR	**Alice Springs**	**49.75**	**124**	P	**P**	**17 21 58.2**	**-0.9**
	0.3nm,0.8s,baz=298,slow=7.3,SNR=5.2						
ZALV	**Zalesovo Beam**	**51.48**	**356**	P	**P**	**17 22 11.9**	**+0.3**
	0.7nm,0.4s,baz=172,slow=7.2,SNR=4.9						
BVAR	**Borovoye Array**	**52.99**	**345**	P	**P**	**17 22 22.5**	**-0.4**
	0.9nm,0.7s,baz=134,slow=8.5,SNR=7.1						
BRVK	**Borovoye**	**53.05**	**345**	*eP*	**P**	**17 22 23.2**	**-0.1**
	4.0nm,1.0s						
KBZ	**Khabaz**	**58.67**	**321**	P	**P**	**17 23 03.7**	**0.0**
	2.1nm,1.0s,baz=171,slow=13,SNR=4.5						
STKA	**Stephens Creek**	**59.42**	**130**	P	**P**	**17 23 08.8**	**-0.3**
	3.1nm,1.1s,baz=342,slow=7.6,SNR=3.6						
BRTR	**Keskin Array B**	**63.19**	**314**	P	**P**	**17 23 35.9**	**+1.1**
	1.0nm,0.8s,baz=136,slow=7.9,SNR=8.0						
PETK	**Petropavlovsk-**	**74.56**	**35**	P	**P**	**17 24 43.1**	**-1.9**
	3.3nm,0.9s,baz=262,slow=10,SNR=3.6						
SYO	**Syowa Base**	**79.19**	**196**	*epP*	P	17 25 15.8	+5.1
GERES	**GERESS Array B**	**79.31**	**319**	P	**P**	**17 25 13.7**	**+1.7**
	1.4nm,0.8s,baz=97,slow=8.0,SNR=8.7						
TXAR	**Lajitas Array**	**145.63**	**22**	PKPbc	**PKPdf**	**17 32 44.7**	**-0.6**
	0.9nm,0.5s,baz=301,slow=1.1,SNR=11						

IDC 11 17:15:41.7±12.0, 0°54N×92°68E, h0km, mb3.7/3, mb1 3.9/4, mb1mx3.5/67, mbtmp3.6/4, ML3.5/1, MS4.2/1, Ms1 4.2/1, ms1mx3.3/49, Error ellipse: s-maj=297.7km s-min=38.9km az=78.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**18.84**	**19**	P	Pn	17 20 03.9	0.0
	0.1nm,0.3s,baz=212,slow=12,SNR=4.0						
FITZ	**Fitzroy Crossi**	**37.33**	**121**	P	P	17 22 58.1	+1.9
	5.9nm,1.1s,baz=301,slow=5.9,SNR=3.1						
WRA	**Warramunga Arr**	**45.60**	**119**	P	P	17 24 03.3	-0.8
	0.8nm,0.9s,baz=294,slow=8.8,SNR=4.0						
ASAR	**Alice Springs**	**46.70**	**124**	P	P	17 24 11.7	-1.0
	0.4nm,0.9s,baz=305,slow=6.7,SNR=3.0						
JNU	**Nakatsue**	**48.35**	**44**	LR	LR	17 46 37.6	
	comp=Z,274nm,19.4s,baz=142,slow=38						

*ISCJB **11** 17:16:09.4±0.2, 3°38N±0°04×89°85E±0°03, h10km, mb4.7/79, Error ellipse: s-maj=5.9km s-min=3.5km az=26.4*
*IDC **11** 17:16:09.4±0.5, 3°35N×89°79E, h0km, mb4.4/30, mb1 4.5/32, mb1mx4.3/69, mbtmp4.4/32, ML4.3/2, MS4.0/1, Ms1 4.0/1, ms1mx3.3/45, Error ellipse: s-maj=15.7km s-min=11.6km az=43.0*
*MOS **11** 17:16:10.3±1.1, 3°42N×89°84E, h18km, mb5.1/28, Error ellipse: s-maj=8.5km s-min=5.4km az=105.5*
*NEIC **11** 17:16:11.1±0.2, 3°36N×89°85E, h10km, mb4.9/37, Error ellipse: s-maj=4.5km s-min=2.9km az=203.0*
*BJI **11** 17:16:11.0, 3°60N×89°80E, h10km, mb4.6/27, mB5.0/16, Ms4.6/6, Ms7 4.3/4*
ISC 11 17:16:11.4±0.4, 3°50N±0°06×89°85E±0°05, h10km, n246, σ1§32/241, mb4.8/83, 12C-5D, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLSI	**Meulaboh, Aceh**	**6.59**	**83**	P	**Pn**	**17 17 48.3**	**-0.1**
LHMI	**Lhok Sumawe**	**7.29**	**76**	P	**Pn**	**17 17 59.1**	**+1.1**
LHMI	**Lhok Sumawe**	**7.29**	**76**	*ePn*	**Pn**	**17 17 59.1**	**+1.1**
TPTI		**7.33**	**92**	P	**Pn**	**17 17 58.3**	**-0.2**
GSI	**Gunungsitoli**	**8.03**	**106**	P	**Pn**	**17 18 07.5**	**-0.7**
PBA	**Port Blair**	**8.60**	**19**	*eP*	Pn	17 18 17.8	+1.9
PBA	**Port Blair**	**8.60**	**19**	*ePn*	Pn	17 18 17.8	+1.8
PSI	**Prapat**	**9.09**	**94**	*ePn*	**Pn**	**17 18 22.7**	**-0.2**
PSI	**Prapat**	**9.09**	**94**	*eP*	**Pn**	**17 18 22.7**	**-0.2**
PALK	**Pallekele**	**9.84**	**293**	Pn	**Pn**	**17 18 32.9**	**-0.2**
	21nm,0.3s,baz=116,slow=14,SNR=21						
PALK				Sn	Sn	17 20 11.3	-13
	29nm,0.3s,baz=116,slow=6.6,SNR=9.3						
PALK	**Pallekele**	**9.84**	**293**	*i* P	**Pn**	**17 18 33.5**	**+0.3**
DGPR	**DIGLIPUR**	**10.09**	**17**	*eP*	**Pn**	**17 18 37.9**	**+1.4**
KULM	**Kulim**	**10.92**	**80**	*ePn*	**Pn**	**17 18 47.2**	**-0.7**
IPM	**Ipoh**	**11.20**	**85**	*ePn*	**Pn**	**17 18 50.5**	**-1.1**
PDSI	**Padang**	**11.48**	**112**	P	**Pn**	**17 18 59.2**	**+3.6**
MDRS	**Chennai**	**13.43**	**316**	*eP*	**Pn**	**17 19 22.6**	**+0.4**
TRD	**Trivandrum**	**13.74**	**292**	*eP*	**Pn**	**17 19 27.4**	**+0.9**
MYKOM	**Kota Tinggi**	**14.09**	**97**	*ePn*	**Pn**	**17 19 30.4**	**-0.9**
TPRI	**Tanjung Pinang**	**14.89**	**100**	P	**Pn**	**17 19 44.7**	**+2.5**
VIS	**Vishakhapatnam**	**15.51**	**336**	*eP*	**Pn**	**17 19 47.5**	**-2.9**
VIS				IAmb	IAmb	17 19 48.8	
	comp=Z,80nm,0.6s						
VIS				*i* x	x	17 22 29.9	
MDSI	**Maura Dua**	**16.37**	**119**	P	**Pn**	**17 20 02.8**	**+1.3**
LWLI	**Liwa**	**16.53**	**121**	P	**P**	**17 20 07.7**	**+1.4**
KASI	**Kota Agung**	**17.16**	**121**	P	**Pn**	**17 20 11.2**	**-0.3**
CM01	**Chiang Mai Arr**	**17.30**	**30**	*ePn*	**Pn**	**17 20 13.3**	**0.0**
CM31	**Chiang Mai Arr**	**17.33**	**30**	*ePn*	**P**	**17 20 14.5**	**-0.5**
CMAR	**Chiang Mai Arr**	**17.33**	**30**	P	**P**	**17 20 15.2**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=223,slow=12,SNR=8.8						
CHTO	**Chiang Mai**	**17.63**	**30**	*ePn*	**Pn**	**17 20 17.7**	**+0.4**
	comp=Z,18nm,1.1s						
CHTO	**Chiang Mai**	**17.63**	**30**	*eP*	**Pn**	**17 20 17.7**	**+0.4**
CHTO				pmax	pmax		
	comp=Z,18nm,1.1s						
HYB	**Hyderabad**	**17.72**	**322**	*i* P	**Pn**	**17 20 17.0**	**-1.5**
HYB	**Hyderabad**	**17.72**	**322**	*eP*	**Pn**	**17 20 17.7**	**-0.8**
HYB				IAmb	IAmb	17 20 19.4	
	comp=Z,25nm,0.4s						
CGJI	**Cibinong**	**18.74**	**122**	P	**Pn**	**17 20 31.8**	**+0.8**
GOA	**Goa**	**19.77**	**308**	*eP*	**Pn**	**17 20 43.4**	**+0.1**
GOA				IAmb	IAmb	17 20 44.6	
NGP	**Nagpur**	**20.45**	**330**	*eP*	Pn	17 20 50.6	-0.7
NGP				*ex*	x	17 24 31.9	
LEM	**Lembang**	**20.49**	**120**	P	**P**	**17 20 49.5**	**-0.4**
	comp=Z,16nm,0.7s,baz=251,slow=18,SNR=4.7						
BOK	**Bokaro**	**20.53**	**350**	*eP*	**P**	**17 20 49.7**	**-0.4**
BOK				IAmb	IAmb	17 20 56.8	
	comp=Z,150nm,1.4s						
KSM	**Kuching**	**20.54**	**95**	*eP*	**P**	**17 20 48.4**	**-1.9**
	comp=Z,48nm,1.2s						
H08S3	**Diego Garcia H**	**20.55**	**237**	T	T	17 42 07.2	
	baz=360,slow=74,SNR=27						
H08S2	**Diego Garcia H**	**20.55**	**237**	T	T	17 42 53.3	
	SNR=31						
H08S1	**Diego Carcia H**	**20.57**	**237**	T	T	17 41 54.5	
	baz=56,slow=74,SNR=33						
CISI	**Cisompet, Garu**	**21.03**	**122**	P	**P**	**17 20 56.0**	**+0.4**
CISI	**Cisompet, Garu**	**21.03**	**122**	*eP*	**P**	**17 20 53.1**	**-2.5**
	comp=Z,52nm,0.8s						
POO	**Poona**	**21.64**	**315**	*eP*	**P**	**17 21 03.0**	**+0.8**
POO				IAmb	IAmb	17 21 12.0	
	comp=Z,26nm,0.7s						
STKI	**Sintang**	**21.89**	**99**	P	**P**	**17 21 06.3**	**+1.5**
SHL	**Shillong**	**22.03**	**5**	*eP*	**P**	**17 21 06.6**	**+0.3**
SHL				*ex*	x	17 25 16.0	
SHL	**Shillong**	**22.03**	**5**	*eP*	**P**	**17 21 06.7**	**+0.3**
	comp=Z,116nm,1.0s						
SHL	**Shillong**	**22.03**	**5**	*eP*	**P**	**17 21 06.7**	**+0.3**
SHL				pmax	pmax		
	comp=Z,116nm,1.0s						
SBUM	**Sibu**	**22.37**	**92**	*eP*	**P**	**17 21 10.7**	**+0.7**
	comp=Z,35nm,1.2s						
BHPL	**Bhopal**	**23.01**	**330**	*eP*	**P**	**17 21 16.9**	**+0.2**
ODAN	**Odare**	**23.35**	**354**	*eP*	**P**	**17 21 21.7**	**+1.4**
RAMN	**Ramite**	**23.52**	**353**	*eP*	**P**	**17 21 24.3**	**+2.2**
JIRN	**Jiri**	**24.28**	**352**	*eP*	**P**	**17 21 31.0**	**+1.6**
DMN	**Daman**	**24.40**	**350**	*eP*	**P**	**17 21 31.9**	**+1.5**
KKN	**Kakani**	**24.54**	**350**	*eP*	**P**	**17 21 33.0**	**+1.3**
GUN	**Gumba**	**24.57**	**352**	*eP*	**P**	**17 21 33.3**	**+1.2**
KOLN	**Koldanda**	**24.86**	**347**	*eP*	**P**	**17 21 36.5**	**+2.0**
GKN	**Gorkha**	**24.87**	**349**	*eP*	**P**	**17 21 36.0**	**+1.5**
QIZ	**Qiongzhong**	**24.90**	**50**	*eP*	**P**	**17 21 36.2**	**+1.4**
	comp=Z,38nm,0.9s						
PYUN	**Piuthan**	**25.32**	**346**	*eP*	**P**	**17 21 40.5**	**+1.8**
DANN	**Dangsing**	**25.38**	**347**	*eP*	**P**	**17 21 41.2**	**+1.8**
LSA	**Lhasa**	**26.09**	**3**	P	**P**	**17 21 47.9**	**+2.0**
LSA				pmax	pmax		
	comp=Z,64nm,1.0s						
LSA	**Lhasa**	**26.09**	**3**	*eP*	**P**	**17 21 48.0**	**+2.0**
	comp=Z,69nm,0.9s						
LSA	**Lhasa**	**26.09**	**3**	*eP*	**P**	**17 21 48.0**	**+2.0**
LSA				pmax	pmax		
	comp=Z,69nm,0.9s						
KKM	**Kota Kinabalu**	**26.40**	**83**	*eP*	**P**	**17 21 49.0**	**+0.4**
	comp=Z,34nm,1.0s						
SMLA	**Simla**	**29.97**	**338**	*eP*	**P**	**17 22 22.0**	**+1.9**
SMLA				IAmb	IAmb	17 22 22.8	
	comp=Z,38nm,1.0s						
DHRM	**DHARAMSHALA**	**31.30**	**338**	*eP*	**P**	**17 22 32.3**	**+0.2**
MRSI	**Marisa**	**32.21**	**95**	P	**P**	**17 22 39.1**	**-1.0**
ENH	**Enshi**	**32.47**	**33**	*eP*	**P**	**17 22 42.8**	**+0.6**
	comp=Z,37nm,1.3s						
NIL	**Nilore**	**33.76**	**335**	*eP*	**P**	**17 22 54.5**	**+1.1**
	comp=Z,58nm,0.8s						
NIL	**Nilore**	**33.76**	**335**	*eP*	**P**	**17 22 54.5**	**+1.1**
NIL				pmax	pmax		
	comp=Z,58nm,0.8s						
BBSI	**Bau Bau**	**33.88**	**105**	P	P	17 23 08.1	+13
LZH	**Lanzhou**	**34.91**	**20**	*eP*	**P**	**17 22 59.3**	**-4.2**
LZH				pP	pP	17 23 02.5	-4.1
LZH				sP	sP	17 23 04.1	-3.8
LZH				PP	**PnPn**	**17 24 17.8**	**-2.4**
LZH				pmax	pmax		
	comp=Z,53nm,1.3s						
LZH				pmax	pmax		
	comp=Z,140nm,5.5s						
LZH				LR	LR		
	comp=N,1μm,15.4s						
LZH				LR	LR		
	comp=E,1μm,14.9s						
LZH				LR	LR		
	comp=Z,2μm,18.2s						
XAN	**Xi'an**	**35.20**	**28**	P	**P**	**17 23 05.5**	**-0.4**
XAN				pP	sP	17 23 09.7	-0.6
XAN				sP	pP	17 23 12.5	+3.5
XAN				pmax	pmax		
	comp=Z,6.0nm,0.7s						
DAV	**Davao City (W)**	**35.75**	**83**	LR	LR	17 41 22.7	
	comp=Z,218nm,18.5s,baz=351,slow=42						
WSAR	**Wadi Sarin**	**36.00**	**306**	P	**P**	**17 23 13.1**	**+0.2**
	comp=Z,3.3nm,0.7s,baz=169,slow=13,SNR=3.9						
GTA	**Gaotai**	**36.87**	**13**	*i*P	**P**	**17 23 21.3**	**+1.0**
GTA				S	**S**	**17 29 01.0**	**-4.1**
GTA				pmax	pmax		
	comp=Z,16nm,1.3s						
GTA				pmax	pmax		
	comp=Z,170nm,6.5s						
GTA				LR	LR		
	comp=Z,350nm,13.9s						
GTA				LR	LR		
	comp=Z,400nm,17.7s						
GTA				LR	LR		
	comp=Z,3μm,16.9s						
NLAI	**Namlea**	**37.83**	**100**	P	**P**	**17 23 30.3**	**+1.7**
TARG	**Taragay, Kyrgy**	**39.56**	**346**	*eP*	**P**	**17 23 44.7**	**+1.4**
	comp=Z,25nm,1.1s						
NRN	**Naryn**	**39.76**	**344**	*eP*	**P**	**17 23 46.0**	**+1.2**
	comp=Z,7.5nm,0.9s						
NRN	**Naryn**	**39.76**	**344**	*eP*	**P**	**17 23 46.1**	**+1.2**
NRN				pmax	pmax		
	comp=Z,8.0nm,0.9s						
KDJ	**Kajisay**	**40.10**	**345**	*eP*	**P**	**17 23 48.7**	**+1.2**
	comp=Z,24nm,1.0s						
KDJ	**Kajisay**	**40.10**	**345**	*eP*	**P**	**17 23 48.7**	**+1.2**
KDJ				pmax	pmax		
	comp=Z,24nm,1.0s						
ULHL	**Ulahol**	**40.45**	**344**	P	**P**	**17 23 52.0**	**+1.6**
	SNR=16						
KZA	**Kyzart**	**40.57**	**343**	P	**P**	**17 23 53.1**	**+1.4**
	SNR=12						
UCH	**Uchtor**	**40.92**	**343**	P	**P**	**17 23 56.1**	**+1.5**
	SNR=33						
AML	**Almayashu**	**41.09**	**342**	P	**P**	**17 23 57.5**	**+1.6**
	SNR=43						
KBK	**Karagaybulak**	**41.19**	**343**	P	**P**	**17 23 58.4**	**+1.9**
	SNR=25						
TKM2	**Tokmak 2**	**41.25**	**344**	P	**P**	**17 23 58.3**	**+1.3**
	SNR=26						
AAK	**Ala-Archa**	**41.30**	**343**	P	**P**	**17 23 58.3**	**+0.9**
	comp=Z,13nm,0.9s,baz=157,slow=6.0,SNR=34						
AAK	**Ala-Archa**	**41.30**	**343**	P	**P**	**17 23 59.1**	**+1.7**
	SNR=20						
AAK	**Ala-Archa**	**41.30**	**343**	*eP*	**P**	**17 23 59.0**	**+1.7**
	comp=Z,21nm,1.0s						
AAK	**Ala-Archa**	**41.30**	**343**	*i* P	**P**	**17 23 57.4**	**0.0**
AAK				pmax	pmax		
	comp=Z,17nm,1.0s						
FRU	**Bishkek**	**41.45**	**343**	*eP*	**P**	**17 24 00.0**	**+1.6**
FRU				*e*		17 24 12.0	
EKS2	**Erkin-Say**	**41.54**	**342**	P	**P**	**17 24 01.1**	**+1.8**
	SNR=30						
SIJI	**Sorong**	**41.63**	**95**	P	**P**	**17 23 58.7**	**-1.6**
	comp=Z,5.3nm,0.8s,baz=267,slow=18,SNR=4.2						
USP	**Ospenovka**	**41.88**	**343**	P	**P**	**17 24 03.0**	**+1.1**
	SNR=19						
KK06	**Karatay Array**	**43.01**	**339**	*eP*	**P**	**17 24 11.9**	**+0.8**
KK07	**Karatay Array**	**43.01**	**339**	*eP*	**P**	**17 24 11.9**	**+0.8**
KK02	**Karatay Array**	**43.02**	**339**	*eP*	**P**	**17 24 12.0**	**+0.8**
KK31	**Karatay Array**	**43.02**	**339**	*eP*	**P**	**17 24 12.2**	**+1.0**
KK31	**Karatay Array**	**43.02**	**339**	*eP*	**P**	**17 24 12.2**	**+1.0**
KKAR	**Karatay Array**	**43.02**	**339**	*eP*	**P**	**17 24 12.2**	**+1.0**
KKAR	**Karatay Array**	**43.02**	**339**	*eP*	**P**	**17 24 12.2**	**+1.0**
KK03	**Karatay Array**	**43.02**	**339**	*eP*	**P**	**17 24 11.9**	**+0.7**
KK01	**Karatay Array**	**43.02**	**339**	*eP*	**P**	**17 24 11.9**	**+0.7**
KK04	**Karatay Array**	**43.03**	**339**	*eP*	**P**	**17 24 12.0**	**+0.7**
KK05	**Karatay Array**	**43.03**	**339**	*eP*	**P**	**17 24 11.9**	**+0.7**
KK08	**Karatay Array**	**43.03**	**339**	*eP*	**P**	**17 24 12.2**	**+0.9**
KK09	**Karatay Array**	**43.04**	**339**	*eP*	**P**	**17 24 12.0**	**+0.6**
MK01	**Makanchi Array**	**43.60**	**352**	*eP*	**P**	**17 24 15.8**	**0.0**
MK31	**Makanchi Array**	**43.62**	**352**	*eP*	**P**	**17 24 16.4**	**+0.5**
MK31	**Makanchi Array**	**43.62**	**352**	*eP*	**P**	**17 24 16.5**	**+0.5**
MKAR	**Makanchi Array**	**43.62**	**352**	P	**P**	**17 24 16.2**	**+0.2**
	comp=Z,5.1nm,0.8s,baz=172,slow=8.1,SNR=20						
MKAR	**Makanchi Array**	**43.62**	**352**	*eP*	**P**	**17 24 16.4**	**+0.5**
	comp=Z,52nm,1.1s						
MKAR	**Makanchi Array**	**43.62**	**352**	*eP*	**P**	**17 24 16.5**	**+0.5**
MKAR				pmax	pmax		
	comp=Z,53nm,1.1s						
MAKZ	**Makanchi**	**43.68**	**352**	*eP*	**P**	**17 24 17.0**	**+0.5**
	comp=Z,13nm,1.2s						
MAKZ	**Makanchi**	**43.68**	**352**	*eP*	**P**	**17 24 17.0**	**+0.5**
MAKZ				pmax	pmax		
	comp=Z,13nm,1.2s						
H01W3	**Cape Leeuwin H**	**44.49**	**151**	T	T	18 11 38.0	
	baz=326,slow=75,SNR=46						
H01W2	**Cape Leeuwin H**	**44.50**	**151**	T	T	18 11 38.7	
	baz=326,slow=75,SNR=30						
H01W1	**Cape Leeuwin H**	**44.50**	**151**	T	T	18 11 39.2	
	baz=326,slow=75,SNR=36						
GYB1	**ALIBECK ARRAY**	**44.88**	**324**	*eP*	**P**	**17 24 27.4**	**+1.1**
	comp=Z,15nm,0.9s						
GYA1	**ALIBECK ARRAY**	**44.88**	**324**	*eP*	**P**	**17 24 27.7**	**+1.4**
	comp=Z,17nm,0.9s						
GYB2	**ALIBECK ARRAY**	**44.89**	**324**	*eP*	**P**	**17 24 28.1**	**+1.7**
	comp=Z,18nm,0.9s						
GYB5	**ALIBECK ARRAY**	**44.89**	**324**	*eP*	**P**	**17 24 28.0**	**+1.6**
	comp=Z,19nm,1.0s						
GEYT	**Alibeck**	**44.89**	**324**	P	**P**	**17 24 27.6**	**+1.3**
	comp=Z,14nm,0.8s,baz=147,slow=8.5,SNR=28						
GYA0	**ALIBECK ARRAY**	**44.89**	**324**	*eP*	**P**	**17 24 28.0**	**+1.7**
	comp=Z,17nm,0.9s						
GYA0B	**ALIBECK ARRAY**	**44.89**	**324**	*eP*	**P**	**17 24 28.1**	**+1.7**
	comp=Z,16nm,0.9s						
GYA2	**ALIBECK ARRAY**	**44.89**	**324**	*eP*	**P**	**17 24 28.0**	**+1.6**
	comp=Z,20nm,0.9s						
GYB3	**ALIBECK ARRAY**	**44.90**	**324**	*eP*	**P**	**17 24 28.1**	**+1.7**
	comp=Z,18nm,0.9s						
GYB4	**ALIBECK ARRAY**	**44.90**	**324**	*eP*	**P**	**17 24 28.1**	**+

comp=Z,25nm,1.2s
AB07 Akbulak array 52.19 336 *e*P P **17 25 22.9 +0.5**
AB06 Akbulak array 52.20 336 *e*P P **17 25 22.9 +0.5**
AB08 Akbulak array 52.20 336 *e*P P **17 25 22.9 +0.4**
AB03 Akbulak array 52.21 336 *e*P P **17 25 22.9 +0.4**
AB01 Akbulak array 52.21 336 *e*P P **17 25 22.9 +0.5**
AB31 Akbulak array 52.21 336 *e*P P **17 25 23.1 +0.6**
AB31 Akbulak array 52.21 336 *e*P P **17 25 23.1 +0.6**
ABKAR Akbulak array 52.21 336 *e*P P **17 25 23.1 +0.6**
AB02 Akbulak array 52.21 336 *e*P P **17 25 22.9 +0.4**
AB04 Akbulak array 52.22 336 *e*P P **17 25 23.0 +0.4**
HIA Hailar 52.22 24 *i*P P **17 25 23.5 +0.9**
HIA pmax pmax
comp=Z,6.0nm,0.9s
AB05 Akbulak array 52.23 336 *e*P P **17 25 23.1 +0.5**
AB09 Akbulak array 52.23 336 *e*P P **17 25 23.0 +0.4**
KRAR Krasnoyarsk 52.41 2 *i*P P **17 25 24.5 +0.7**
KMBO Kilima Mbogo 52.77 266 P P **17 25 25.6 -2.0**
comp=Z,2.3nm,0.8s,baz=55,slow=11,SNR=5.7
AKTO Aktyubinsk 53.92 335 P P **17 25 34.7 -0.3**
comp=Z,4.9nm,0.9s,baz=132,slow=7.3,SNR=11
GNI Garni 54.62 318*ce*P P **17 25 40.9 +0.3**
GNI pmax pmax
comp=Z,27nm,1.2s
GROC Groznyy 55.53 322 *e*P P 17 25 40.3 -6.6
GROC *e* 17 26 44.0
GROC pmax pmax
comp=Z,16nm,0.5s
ZEI Tsey 56.50 321 *e*P P **17 25 52.2 -1.9**
ZEI pmax pmax
comp=Z,4.0nm,1.0s
BOD Bodaibo 57.41 15 *e*P P **17 25 55.5 -4.5**
BOD pmax pmax
comp=Z,11nm,1.7s
NEY Neytrino 57.48 321 *i*P P **17 26 00.9 -0.1**
NEY pmax pmax
comp=Z,1.0nm,1.0s
KBZ Khabaz 57.60 321 P P **17 26 01.7 +0.1**
comp=Z,8.0nm,0.9s,baz=132,slow=5.7,SNR=16
KLR Kul'dur 57.80 31 *i*P P **17 26 01.2 -1.8**
KIV Kislovodsk 57.85 321 *e*P P **17 26 04.3 +0.8**
comp=Z,26nm,1.2s
KIV Kislovodsk 57.85 321 *e*P P **17 26 03.5 0.0**
KIV pmax pmax
comp=Z,20nm,1.1s
SVE Sverdlovsk 58.02 342⇓*e*P P **17 26 04.7 +0.4**
SVE pmax pmax
comp=Z,23nm,1.1s
ARU Arti 58.38 340*c i*P P **17 26 07.2 +0.4**
ARU 17 28 13.5
ARU S **S** **17 34 10.2 +0.7**
ARU SS **SS** **17 37 58.4 -3.3**
ARU pmax pmax
comp=Z,9.0nm,1.2s
ZEA Zeya 58.68 25 *e*P P **17 26 09.0 0.0**
STKA Stephens Creek 60.41 130 P P **17 26 20.9 -0.4**
comp=Z,3.5nm,0.7s,baz=304,slow=8.8,SNR=8.0
STKA Stephens Creek 60.41 130 *e*P P **17 26 21.7 +0.4**
comp=Z,1.4nm,0.6s
STKA Stephens Creek 60.41 130 *e*P P **17 26 21.7 +0.4**
STKA pmax pmax
comp=Z,1.0nm,0.6s
GRNR Gornyy 61.15 32 *i*P P **17 26 27.0 +0.9**
BR131 Keskin Array S 62.17 314 *e*P P **17 26 33.1 -0.3**
BRTR Keskin Array B 62.17 314 P P **17 26 33.0 -0.3**
comp=Z,3.9nm,0.8s,baz=128,slow=7.1,SNR=22
VRH Novokhopyorsk 62.20 328 *e*P P **17 26 30.8 -2.3**
VRH pmax pmax
comp=Z,10.0nm,0.9s
BR231 Keskin MP Arra 62.84 313 *e*P P **17 26 33.8 -4.0**
VSR Storozhevoye 63.58 327 *e*P P **17 26 41.6 -0.7**
VSR pmax pmax
comp=Z,20nm,1.5s
SIM Simferopol' 63.78 319 *e*P P **17 26 44.2 +0.4**
SIM pmax pmax
comp=Z,7.0nm,1.0s
LSZ Lusaka 63.80 251 P P **17 26 44.1 -0.5**
comp=Z,1.2nm,0.4s,baz=131,slow=24,SNR=3.1
LPSR Galich'ya Gora 64.41 328 *e*P P **17 26 46.5 -1.2**
LPSR pmax pmax
comp=Z,10.0nm,0.8s
YAK Yakutsk 65.49 19 *i*P P **17 26 55.1 +0.5**
YAK pmax pmax
comp=Z,11nm,1.1s
OBN Obninsk 66.89 330 *e*P P **17 27 01.9 -1.8**
OBN *e* 17 27 14.1
OBN *e* 17 27 28.6
OBN *e* 17 29 30.6
OBN *e*PPP PPP 17 31 05.4
OBN pmax pmax
comp=Z,21nm,1.2s
LBTB Lobatse 68.41 242 *e*P P **17 27 12.8 -1.2**
comp=Z,12nm,0.9s
LBTB Lobatse 68.41 242 *e*P P **17 27 12.8 -1.2**
LBTB pmax pmax
comp=Z,12nm,0.9s
KLMR Klimovskoe 68.60 336 *e*P P **17 27 13.1 -1.3**
KLMR AMP 17 27 19.7
comp=Z,21nm,1.3s
KLMR Klimovskoe 68.60 336 *e*P P **17 27 13.1 -1.3**
KLMR pmax pmax
comp=Z,21nm,1.3s
SORM Soroca 68.64 321⇓*i*P P **17 27 14.3 -0.6**
VRI Vrincioaia 68.98 318⇓*i*P P **17 27 18.2 +1.1**
AKASG Malin Array Be 69.01 324 P P **17 27 16.9 -0.3**
comp=Z,0.9nm,0.5s,baz=93,slow=5.0,SNR=8.5
PLOR Plostina 69.02 318⇓*i*P P **17 27 18.5 +1.1**
TESR Tescani 69.22 319⇑*i*P P **17 27 18.7 +0.1**
MLR Muntele Rosu 69.39 318 P P **17 27 20.1 +0.3**
comp=Z,1.7nm,0.6s,baz=306,slow=17,SNR=11
MLR Muntele Rosu 69.39 318⇑*i*P P **17 27 21.1 +1.3**
MLR Muntele Rosu 69.39 318 *e*P P **17 27 21.0 +1.2**
comp=Z,25nm,1.3s
BOSA Boshof 69.66 238 P P **17 27 20.9 -0.9**
comp=Z,7.4nm,0.9s,baz=61,slow=4.8,SNR=6.3
ARR Arges 70.24 317⇑*i*P P **17 27 25.2 +0.2**
BURAR Bucovina Array 70.49 320⇑*i*P P **17 27 27.1 +0.6**
BUR04 Bucovina Ar. S 70.49 320 *e*P P **17 27 26.9 +0.4**
BUR08 Bucovina Ar. S 70.50 320 *e*P P **17 27 27.0 +0.4**
VTS Vitosha 70.54 314⇑*i*P P **17 27 25.8 -1.1**
TIXI Tiksi 72.35 12*ce*P P **17 27 35.8 -1.3**
TIXI pmax pmax
comp=Z,6.0nm,1.0s
VSU Vasula 73.21 331 *i*P P **17 27 41.6 -0.8**
STHS Stebnicka Huta 73.51 321 *e*P P **17 27 47.8 +3.3**
STHS Stebnicka Huta 73.51 321 *e*P P **17 27 47.8 +3.3**
FINES FINESS Array B 74.62 333 P P **17 27 50.8 +0.1**
comp=Z,7.4nm,1.0s,baz=141,slow=6.6,SNR=8.9
SEY Seymchan 74.66 25 *i*P P **17 27 51.1 +0.2**
VYHS Vyhne 74.85 319 *e*P P **17 27 54.1 +1.8**
VYHS Vyhne 74.85 319 *e*P P **17 27 54.1 +1.8**
KRLC Kraliky 76.48 321 *e*P P **17 28 02.8 +1.1**
KRLC Kraliky 76.48 321 *e*P P **17 28 02.8 +1.1**
DPC Dobruska-Polom 76.82 321 *e*P P **17 28 04.7 +1.1**
DPC *e*pP **sP** **17 28 08.9 +0.8**
DPC *es*P **PcP** **17 28 13.9 -0.9**
DPC Dobruska-Polom 76.82 321 *e*P P **17 28 04.7 +1.1**
DPC *e* 17 28 08.9
DPC *e* 17 28 13.9
ARCES ARCESS Array B 77.95 341 P P **17 28 10.5 +1.0**
comp=Z,4.8nm,0.9s,baz=349,slow=3.7,SNR=5.8
GEA0 GERESS Array S 78.26 319 *e*P P **17 28 11.8 +0.1**
GEC2 GERESS Array S 78.26 319 *e*P P **17 28 12.6 +0.8**
comp=Z,6.3nm,0.9s
GEC2 GERESS Array S 78.26 319 *e*P P **17 28 12.6 +0.8**
GEC2 pmax pmax
comp=Z,6.0nm,0.9s
GERES GERESS Array B 78.26 319 P P **17 28 12.3 +0.6**
comp=Z,3.1nm,0.8s,baz=104,slow=5.6,SNR=18
CLL Collm 79.06 321 *e*P P **17 28 17.0 +1.1**
CLL *i*pP P **17 28 20.1 +4.2**
comp=Z,6.0nm,0.9s
CLL Collm 79.06 321 *i*P P **17 28 20.1 +4.2**
HFS Hagfors 80.09 330 P P **17 28 21.8 +0.4**
comp=Z,1.5nm,0.5s,baz=92,slow=3.6,SNR=9.2
BILL Bilibino 81.70 22⇑*e*P P **17 28 31.0 +1.2**
BILL *e* 17 31 38.3
BILL pmax pmax
comp=Z,1.0nm,1.2s
BILL MLR MLR
comp=Z,243nm,18.0s
TORD Torodi Ar. Bea 87.42 283 P P **17 28 59.4 -0.4**
comp=Z,2.2nm,1.3s,baz=122,slow=3.9,SNR=3.6
EKA Eskdalemuir Ar 88.86 325 P P **17 29 06.2 +0.4**
comp=Z,1.8nm,0.8s,baz=110,slow=4.9,SNR=4.6
KOWA Kowa 92.87 285 P P **17 29 24.5 -0.8**
comp=Z,2.9nm,1.0s,baz=80,slow=9.1,SNR=4.5
NVAR Mina Array Bea 130.82 29 PKP **PKPdf** **17 35 23.3 -0.5**
comp=Z,0.3nm,0.5s,baz=296,slow=2.9,SNR=2.3
TX31 Lajitas Ar. Si 144.87 21 *e*PKPbc **PKPab** **17 35 48.6 -0.1**
TX31 *e*PKPbc PKPbc 17 35 48.9 +0.2
TXAR Lajitas Array 144.87 21 PKPbc PKPbc 17 35 48.8 +0.1
comp=Z,0.5nm,0.5s,baz=152,slow=1.1,SNR=10
LPAZ La Paz 154.90 238 PKPbc **PKPbc** **17 36 14.1 -1.0**
comp=Z,1.6nm,1.0s,baz=351,slow=0.6,SNR=4.6

*IDC **11** 17:18:04.7±1.6,0.°20N×92.°20E, h0km, mb4.4/6, mb1 4.5/7, mb1mx3.8/67, mbtmp4.3/7, ML3.9/1, MS3.8/2, Ms1 3.8/2, ms1mx3.3/48, Error ellipse: s-maj=55.4km s-min=27.3km az=55.0*
*ISCJB **11** 17:18:08.1±1.5,0.°3N±0.°2×92.°3E±0.°3, h33km, mb4.2/6, MS3.9/2, Error ellipse: s-maj=40.7km s-min=23.4km az=149.5*
ISC 11 17:18:10.3±1.5,**0.°3N**±0.°2×**92.°3E**±0.°3,**h35km**,**n10**,σ**0s64**/8,
mb4.2/6,**Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**19.20**	**19**	P	**Pn**	**17 22 32.3**	**-0.1**
	0.1nm,0.3s,baz=214,slow=12,SNR=4.1						
WRA	**Warramunga Arr**	**45.77**	**119**	P	**P**	**17 26 28.9**	**0.0**
	4.9nm,0.6s,baz=297,slow=8.5,SNR=6.8						
MKAR	**Makanchi Array**	**47.16**	**351**	P	**P**	**17 26 38.9**	**-0.4**
	1.3nm,0.7s,baz=172,slow=9.7,SNR=3.0						
SONM	**Songino Array**	**48.92**	**13**	P	**P**	**17 26 53.9**	**+0.8**
	2.1nm,0.5s,baz=192,slow=8.8,SNR=4.0						
ZALV	**Zalesovo Beam**	**53.85**	**355**	P	**P**	**17 27 28.8**	**-0.8**
	1.2nm,0.3s,baz=186,slow=7.0,SNR=3.1						
BVAR	**Borovoye Array**	**55.66**	**344**	P	**P**	**17 27 42.4**	**-0.5**
	1.7nm,0.8s,baz=140,slow=7.6,SNR=2.3						
STKA	**Stephens Creek**	**56.44**	**129**	LR	LR	17 49 35.1	
	comp=Z,173nm,21.0s,baz=294,slow=34						
MLR	**Muntele Rosu**	**73.44**	**318**	LR	LR	18 03 00.7	
	comp=Z,32nm,21.7s,baz=106,slow=37						
GERES	**GERESS Array B**	**82.31**	**319**	P	**P**	**17 30 29.0**	**+0.4**
	1.2nm,0.8s,baz=100,slow=5.3,SNR=2.6						
TXAR	**Lajitas Array**	**146.82**	**26**	PKPbc	**PKPbc**	**17 37 49.3**	**-0.4**
	0.7nm,0.6s,baz=351,slow=1.2,SNR=4.4						

MAN 11 17:21:15,9.°88N×123.°15E, h9km, mb4.3, ML3.1, MS2.9, 2C, Negros

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SNPH	**Sibulan**	**0.54**	**170**	*e*P	Pb	17 21 26.3	-0.3
SNPH				*e*S	Sb	17 21 33.7	-0.8
LLP	**Lapu-Lapu**	**0.92**	**61**⇑	*e*P	Pg	17 21 32.4	-0.3
LLP				*e*S	Sg	17 21 44.8	+0.1
GUIM	**Jordan**	**0.93**	**324**	*e*P	Pn	17 21 34.3	+0.1
GUIM				*e*S	Sn	17 21 47.9	+0.3
DCPH	**Dipolog City**	**1.30**	**171**⇑	*e*P	Pn	17 21 38.2	-1.1
DCPH				*e*S	Sb	17 21 55.6	-0.9
MSLP	**Maasin**	**1.71**	**81**	*e*P	Pb	17 21 45.9	-0.6
MSLP				*e*S	Sg	17 22 09.1	-0.8
OCLP	**Ormoc**	**1.85**	**51**	*e*P	Pn	17 21 47.1	+0.1
OCLP				*e*S	Sg	17 22 13.8	-0.9
IPIL	**Ipil**	**2.15**	**195**	*e*P	Pn	17 21 51.7	+0.6
IPIL				*e*S	Sb	17 22 20.7	-0.2

*ISCJB **11** 17:22:18.9±0.8,0.°8N±0.°1×91.°0E±0.°1, h10km, mb3.9/13, Error ellipse: s-maj=23.3km s-min=12.2km az=40.7*
*IDC **11** 17:22:19.0±1.1,0.°72N×91.°00E, h0km, mb3.8/12, mb1 4.0/14, mb1mx3.8/69, mbtmp3.9/14, ML4.1/2, Error ellipse: s-maj=37.3km s-min=18.2km az=44.0*
*NEIC **11** 17:22:20.8±0.6,0.°78N×91.°03E, h10km, mb4.4/1, Error ellipse: s-maj=20.5km s-min=10.3km az=220.0*
ISC 11 17:22:21.1±1.1,**0.°8N**±0.°2×**91.°1E**±0.°2,**h10km**,**n17**,
σ**1s08**/**17**,**mb4.0**/**13**,**North Indian Ocean**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PALK	**Pallekele**	**12.17**	**302**	Pn	**Pn**	**17 25 15.5**	**+0.7**
	1.2nm,0.3s,baz=116,slow=14,SNR=7.0						
CMAR	**Chiang Mai Arr**	**19.19**	**23**	P	**P**	**17 26 46.0**	**+0.7**
	0.2nm,0.3s,baz=215,slow=12,SNR=9.1						
MKAR	**Makanchi Array**	**46.46**	**352**	P	**P**	**17 30 47.4**	**-1.0**
	1.0nm,0.7s,baz=171,slow=8.9,SNR=4.6						
WRA	**Warramunga Arr**	**47.14**	**118**	P	**P**	**17 30 53.5**	**-0.6**
	1.4nm,0.6s,baz=297,slow=8.5,SNR=7.0						
WRAB	**Tennant Creek**	**47.15**	**118**	*e*P	**P**	**17 30 55.2**	**+1.1**
	2.4nm,0.6s						
GEYT	**Alibeck**	**47.78**	**325**	P	**P**	**17 30 59.5**	**+0.7**
	1.3nm,0.7s,baz=181,slow=8.4,SNR=2.8						
ASAR	**Alice Springs**	**48.18**	**123**	P	**P**	**17 31 01.4**	**-0.8**
	0.4nm,0.9s,baz=304,slow=7.7,SNR=2.6						
SONM	**Songino Array**	**48.72**	**14**	P	**P**	**17 31 06.1**	**+0.1**
	1.4nm,0.5s,baz=197,slow=9.3,SNR=6.5						
KURBB	**Kurchatov Arra**	**50.78**	**350**	P	**P**	**17 31 21.1**	**-0.4**
	0.7nm,0.7s,baz=173,slow=7.3,SNR=5.5						
KURK	**Kurchatov**	**50.86**	**350**	P	**P**	**17 31 21.1**	**-1.0**
ZALV	**Zalesovo Beam**	**53.23**	**355**	P	**P**	**17 31 39.1**	**-0.5**
	1.0nm,0.4s,baz=180,slow=7.7,SNR=4.3						
BVAR	**Borovoye Array**	**54.83**	**345**	P	**P**	**17 31 51.2**	**-0.2**
	0.4nm,0.7s,baz=170,slow=10.0,SNR=2.9						
KBZ	**Khabaz**	**60.47**	**322**	P	**P**	**17 32 30.1**	**-1.1**
	1.0nm,0.9s,baz=322,slow=6.4,SNR=2.2						
BRTR	**Keskin Array B**	**64.92**	**314**	P	**P**	**17 33 00.0**	**-1.2**
	0.4nm,0.6s,baz=104,slow=6.1,SNR=3.2						
FINES	**FINESS Array B**	**77.58**	**334**	P	**P**	**17 34 16.0**	**-1.2**
	3.1nm,0.9s,baz=76,slow=8.0,SNR=5.4						
GERES	**GERESS Array B**	**81.09**	**319**	P	**P**	**17 34 37.5**	**+0.7**
	1.2nm,0.8s,baz=96,slow=5.5,SNR=5.9						
TXAR	**Lajitas Array**	**146.91**	**24**	PKPbc	**PKPdf**	**17 42 05.3**	**+2.4**
	0.1nm,0.5s,baz=104,slow=1.9,SNR=2.5						

*IDC **11** 17:24:18.1±1.1,2.°46N×91.°64E, h0km, mb3.9/11, mb1 4.1/13, mb1mx3.8/68, mbtmp3.9/13, ML4.1/2, MS4.0/1, Ms1 4.0/1, ms1mx3.1/55, Error ellipse: s-maj=37.6km s-min=18.9km az=45.0*
*NEIC **11** 17:24:19.4±0.6,2.°46N×91.°65E, h10km, mb4.4/1, Error ellipse: s-maj=16.7km s-min=9.9km az=220.0*
*ISCJB **11** 17:24:20.8±0.8,2.°5N±0.°1×91.°6E±0.°1, h33km, mb4.0/12, MS4.0/1, Error ellipse: s-maj=21.0km s-min=12.3km az=40.4*
ISC 11 17:24:23.2±1.1,**2.°5N**±0.°2×**91.°6E**±0.°1,**h35km**,**n17**,
σ**0s94**/**16**,**mb3.9**/**12**,**Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PALK	**Pallekele**	**11.88**	**294**	Pn	**Pn**	**17 27 09.2**	**-1.1**
	1.8nm,0.3s,baz=119,slow=19,SNR=2.7						
CMAR	**Chiang Mai Arr**	**17.43**	**24**	P	**Pn**	**17 28 22.6**	**-1.2**
	0.2nm,0.3s,baz=216,slow=13,SNR=5.1						
FITZ	**Fitzroy Crossi**	**39.24**	**123**	LR	LR	17 49 52.4	
	comp=Z,188nm,18.7s,baz=148,slow=39						
MKAR	**Makanchi Array**	**44.89**	**351**	P	**P**	**17 32 34.2**	**-0.2**
	1.2nm,0.7s,baz=172,slow=8.2,SNR=5.2						
GEYT	**Alibeck**	**46.77**	**323**	P	**P**	**17 32 50.4**	**+0.9**
	1.9nm,0.8s,baz=151,slow=9.5,SNR=4.6						
SONM	**Songino Array**	**46.96**	**14**	P	**P**	**17 32 52.0**	**+1.2**
	1.1nm,0.8s,baz=188,slow=8.7,SNR=3.9						
WRA	**Warramunga Arr**	**47.46**	**120**	P	**P**	**17 32 53.5**	**-1.5**
	2.0nm,0.8s,baz=297,slow=8.6,SNR=4.9						
WRAB	**Tennant Creek**	**47.47**	**120**	*e*P	**P**	**17 32 54.3**	**-0.8**
	3.2nm,0.8s						
ASAR	**Alice Springs**	**48.65**	**125**	P	**P**	**17 33 04.9**	**+0.8**
	0.5nm,0.8s,baz=297,slow=4.1,SNR=3.5						
KURBB	**Kurchatov Arra**	**49.25**	**349**	P	**P**	**17 33 07.7**	**-0.5**
	0.7nm,0.6s,baz=170,slow=7.7,SNR=5.0						
KURK	**Kurchatov**	**49.32**	**349**	P	**P**	**17 33 07.7**	**-1.1**
ZALV	**Zalesovo Beam**	**51.62**	**355**	P	**P**	**17 33 26.1**	**0.0**
	1.1nm,0.4s,baz=192,slow=7.3,SNR=3.6						
BVAR	**Borovoye Array**	**53.37**	**344**	P	**P**	**17 33 38.4**	**-0.8**
	0.9nm,0.7s,baz=138,slow=6.8,SNR=5.8						
KBZ	**Khabaz**	**59.52**	**321**	P	**P**	**17 34 23.5**	**+0.4**
	1.8nm,0.8s,baz=126,slow=7.1,SNR=4.6						
BRTR	**Keskin Array B**	**64.17**	**313**	P	**P**	**17 34 55.0**	**+0.3**
	1.0nm,0.9s,baz=122,slow=6.3,SNR=4.1						
GERES	**GERESS Array B**	**80.20**	**319**	P	**P**	**17 36 31.2**	**+0.9**
	1.0nm,0.7s,baz=100,slow=4.1,SNR=5.5						
TXAR	**Lajitas Array**	**145.15**	**24**	PKPbc	**PKPdf**	**17 43 57.8**	**-0.2**
	0.2nm,0.4s,baz=228,slow=1.1,SNR=6.3						

MAN 11 17:25:18,9.°79N×123.°22E, h2km, mb4.4, ML3.2, MS3.0, 3C-1D, Negros

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SNPH	**Sibulan**	**0.44**	**177**	*e*P	Pb	17 25 29.5	+0.9
SNPH				*e*S	Sb	17 25 36.0	+0.3
LLP	**Lapu-Lapu**	**0.91**	**55**⇑	*e*P	Pg	17 25 35.8	+0.4
LLP				*i* S	Sb	17 25 48.4	-0.7
GUIM	**Jordan**	**1.04**	**324**	*e*P	Pg	17 25 37.5	-0.4
GUIM				*e*S	Sg	17 25 51.2	-0.1
DCPH	**Dipolog City**	**1.21**	**174**⇑	*e*P	Pg	17 25 41.2	+0.1
DCPH				*e*S	Sb	17 25 58.1	+0.6
JAP	**San Jose, Anti**	**1.57**	**307**⇑	*e*P	Pg	17 25 49.0	+0.8
MSLP	**Maasin**	**1.66**	**78**	*e*P	Pn	17 25 48.6	+0.6
MSLP				*e*S	Sg	17 26 12.0	+0.8
RCP	**Roxas**	**1.82**	**345**⇓	*e*P	Pn	17 25 51.2	+0.8
RCP				*e*S	Sg	17 26 16.0	-0.6
OCLP	**Ormoc**	**1.86**	**47**	*e*P	Pn	17 25 50.0	-0.9
OCLP				*e*S	Sg	17 26 18.8	+1.0
IPIL	**Ipil**	**2.09**	**198**	*e*P	Pn	17 25 55.1	+1.1
IPIL				*e*S	Sb	17 26 23.8	+0.8

*IDC **11** 17:25:52.2±1.2,3.°21N×92.°78E, h0km, mb3.9/10, mb1 4.0/11, mb1mx3.7/67, mbtmp3.9/11, ML4.0/1, Error ellipse: s-maj=43.3km s-min=19.5km az=51.0*
*ISCJB **11** 17:25:55.7±0.9,3.°3N±0.°1×92.°9E±0.°2, h33km, mb4.0/10, Error ellipse: s-maj=27.9km s-min=16.3km az=146.1*
ISC 11 17:25:57.8±1.2,**3.°3N**±0.°2×**92.°9E**±0.°2,**h35km**,**n11**,
σ**0s88**/**11**,**mb3.9**/**10**,**Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**16.16**	**21**	Pn	**Pn**	**17 29 41.5**	**-0.8**
	0.2nm,0.3s,baz=215,slow=12,SNR=5.3						
MKAR	**Makanchi Array**	**44.27**	**350**	P	**P**	**17 34 04.6**	**+0.6**
	2.5nm,0.8s,baz=172,slow=8.9,SNR=9.9						
SONM	**Songino Array**	**45.84**	**13**	P	**P**	**17 34 17.2**	**+0.6**
	1.0nm,0.6s,baz=206,slow=10,SNR=3.5						
WRA	**Warramunga Arr**	**46.79**	**121**	P	**P**	**17 34 23.4**	**-1.0**
	1.3nm,0.8s,baz=302,slow=8.7,SNR=3.4						
GEYT	**Alibeck**	**46.87**	**322**	P	**P**	**17 34 25.5**	**+0.7**
	2.2nm,0.6s,baz=152,slow=9.6,SNR=5.8						
ASAR	**Alice Springs**	**48.10**	**126**	P	**P**	**17 34 35.5**	**+1.0**
	0.4nm,0.8s,baz=295,slow=7.7,SNR=4.8						
KURBB	**Kurchatov Arra**	**48.67**	**348**	P	**P**	**17 34 38.8**	**+0.5**
	2.0nm,0.7s,baz=170,slow=6.8,SNR=9.2						
ZALV	**Zalesovo Beam**	**50.90**	**354**	P	**P**	**17 34 56.0**	**+0.7**
	2.0nm,0.4s,baz=186,slow=9.1,SNR=5.5						
BVAR	**Borovoye Array**	**52.92**	**343**	P	**P**	**17 35 09.8**	**-0.5**
	0.7nm,0.6s,baz=132,slow=9.9,SNR=4.3						
BRTR	**Keskin Array B**	**64.52**	**313**	P	**P**	**17 36 30.5**	**-1.0**
	0.4nm,0.7s,baz=133,slow=8.7,SNR=3.5						
GERES	**GERESS Array B**	**80.40**	**319**	P	**P**	**17 38 05.5**	**-0.4**
	1.0nm,0.7s,baz=103,slow=4.2,SNR=4.5						

*IDC **11** 17:27:57.7±1.1,2.°90N×92.°84E, h0km, mb4.0/11, mb1 4.1/13, mb1mx3.8/68, mbtmp4.0/13, ML4.2/2, Error ellipse: s-maj=37.6km s-min=19.5km az=46.0*
*NEIC **11** 17:27:59.6±0.4,3.°00N×92.°85E, h10km, mb4.3/8, Error ellipse: s-maj=8.4km s-min=4.5km az=200.0*
*ISCJB **11** 17:28:00.9±0.6,3.°02N±0.°09×92.°90E±0.°06, h33km, mb4.1/15, Error ellipse: s-maj=14.0km s-min=7.3km az=21.7*
ISC 11 17:28:02.7±0.9,**3.°0N**±0.°1×**92.°86E**±0.°09,**h35km**,**n38**,
σ**0s92**/**38**,**mb4.2**/**15**,**Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**6.06**	**91**	*e*Pn	**Pn**	**17 29 30.2**	**+0.1**
KULM	**Kulim**	**8.11**	**73**	*e*Pn	**Pn**	**17 29 57.8**	**-0.2**
IPM	**Ipoh**	**8.29**	**79**	*e*Pn	**Pn**	**17 29 59.8**	**-0.8**
PALK	**Pallekele**	**12.84**	**290**	Pn	**Pn**	**17 31 01.2**	**-1.6**
	2.8nm,0.3s,baz=116,slow=15,SNR=2.5						
CM01	**Chiang Mai Arr**	**16.48**	**21**	*e*Pn	**Pn**	**17 31 50.6**	**-0.8**
CM31	**Chiang Mai Arr**	**16.51**	**21**	*e*Pn	**Pn**	**17 31 50.2**	**-1.5**
CMAR	**Chiang Mai Arr**	**16.51**	**21**	Pn	**Pn**	**17 31 50.6**	**-1.1**
	0.2nm,0.3s,baz=214,slow=13,SNR=3.4						
CHTO	**Chiang Mai**	**16.84**	**20**	*e*Pn	**Pn**	**17 31 54.2**	**-1.7**
	4.1nm,0.8s						
KSM	**Kuching**	**17.50**	**94**	*e*Pn	**P**	**17 32 04.9**	**-0.1**
	21nm,1.0s						
SBUM	**Sibu**	**19.35**	**91**	*e*P	**Pn**	**17 32 26.6**	**-0.1**
	12nm,1.0s						
KDJ	**Kajisay**	**41.44**	**342**	*e*P	**P**	**17 35 47.1**	**+0.9**
	2.7nm,0.9s						
MK01	**Makanchi Array**	**44.59**	**350**	*e*P	**P**	**17 36 12.0**	**+0.5**
MK31	**Makanchi Array**	**44.61**	**350**	*e*P	**P**	**17 36 12.6**	**+0.9**
MKAR	**Makanchi Array**	**44.61**	**350**	P	**P**	**17 36 12.5**	**+0.9**
	4.1nm,0.9s,baz=164,slow=8.4,SNR=12						
MKAR	**Makanchi Array**	**44.61**	**350**	*e*P	**P**	**17 36 12.6**	**+0.9**
	21nm,0.9s						
SONM	**Songino Array**	**46.20**	**13**	P	**P**	**17 36 25.2**	**+0.9**
	1.1nm,0.8s,baz=201,slow=9.3,SNR=3.4						
WRA	**Warramunga Arr**	**46.65**	**121**	P	**P**	**17 36 28.3**	**+0.1**
	2.4nm,0.9s,baz=299,slow=8.6,SNR=5.1						
GYA1	**ALIBECK ARRAY**	**47.12**	**322**	*e*P	**P**	**17 36 32.6**	**+1.0**
	4.6nm,0.8s						
GEYT	**Alibeck**	**47.12**	**322**	P	**P**	**17 36 32.2**	**+0.6**
	3.0nm,0.8s,baz=142,slow=7.5,SNR=6.9						
GYA2	**ALIBECK ARRAY**	**47.12**	**322**	*e*P	**P**	**17 36 31.8**	**+0.2**
	3.9nm,0.8s						
ASAR	**Alice Springs**	**47.93**	**126**	P	**P**	**17 36 37.7**	**-0.4**
	0.4nm,0.4s,baz=316,slow=7.8,SNR=4.4						
KURBB	**Kurchatov Arra**	**49.01**	**348**	P	**P**	**17 36 46.3**	**+0.5**
	2.0nm,0.7s,baz=173,slow=7.4,SNR=13						
KURK	**Kurchatov**	**49.07**	**348**	*e*P	**P**	**17 36 47.4**	**+1.0**
	3.3nm,1.0s						
ZALV	**Zalesovo Beam**	**51.24**	**354**	P	**P**	**17 37 03.5**	**+0.7**
	1.9nm,0.6s,baz=188,slow=7.5,SNR=6.5						
BVAR	**Borovoye Array**	**53.24**	**343**	P	**P**	**17 37 18.0**	**+0.3**
	0.7nm,0.7s,baz=148,slow=8.4,SNR=4.3						
AB03	**Akbulak array**	**53.97**	**334**	*e*P	**P**	**17 37 23.4**	**+0.4**
AB01	**Akbulak array**	**53.97**	**334**	*e*P	**P**	**17 37 23.5**	**+0.4**
AB31	**Akbulak array**	**53.97**	**334**	*e*P	**P**	**17 37 23.

mb1 4.2/16,mb1mx3.9/68,mbtmp4.0/16,ML4.0/2,Error ellipse: s-maj=37.3km s-min=16.2km az=48.0
*NEIC **11** 17:30:32.0±0.5, 1.12N×92.00E, h10km, mb4.7/1, Error ellipse: s-maj=16.0km s-min=7.8km az=223.0*

ISC 11 17:30:31.9±0.9, 1.1N±0.2×92.0E±0.2, h10km, n19, σ0s59/19, mb4.1/15, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PALK	Pallekele	12.83	299	Pn		Pn	17 33 34.3	-0.3
	1.5nm,0.3s,baz=125,slow=0.2,SNR=3.7							
CMAR	Chiang Mai Arr	18.55	21	P		P	17 34 48.5	-0.6
	0.1nm,0.3s,baz=216,slow=13,SNR=6.3							
MKAR	Makanchi Array	46.30	351	P		P	17 38 57.9	0.0
	1.3nm,0.7s,baz=173,slow=9.0,SNR=4.2							
WRA	Warramunga Arr	46.46	119	P		P	17 38 59.5	-0.1
	3.8nm,0.7s,baz=296,slow=8.6,SNR=7.0							
WRAB	Tennant Creek	46.46	119	*eP*		P	17 39 00.9	+1.3
	6.4nm,0.8s							
ASAR	Alice Springs	47.56	124	P		P	17 39 08.3	+0.1
	0.4nm,0.5s,baz=306,slow=7.9,SNR=3.9							
GEYT	Alibeck	48.09	324	P		P	17 39 12.3	+0.3
	1.9nm,0.8s,baz=163,slow=5.4,SNR=3.1							
SONM	Songino Array	48.20	13	P		P	17 39 13.2	+0.4
	1.3nm,0.4s,baz=191,slow=8.9,SNR=7.7							
KURBB	Kurchatov Arra	50.66	349	P		P	17 39 31.8	+0.4
	1.1nm,0.8s,baz=172,slow=7.5,SNR=6.7							
KURK	Kurchatov	50.73	349	P		P	17 39 31.8	-0.1
ZALV	Zalesovo Beam	53.01	355	P		P	17 39 48.7	-0.1
	2.3nm,0.4s,baz=173,slow=6.8,SNR=10							
BVAR	Borovoye Array	54.79	344	P		P	17 40 01.4	-0.5
	0.6nm,0.8s,baz=169,slow=10.0,SNR=3.5							
STKA	Stephens Creek	57.22	130	P		P	17 40 18.9	-0.8
	2.3nm,1.1s,baz=312,slow=5.1,SNR=3.3							
KBZ	Khabaz	60.82	321	P		P	17 40 43.7	-0.7
	1.9nm,0.8s,baz=138,slow=4.0,SNR=4.9							
BRTR	Keskin Array B	65.39	314	P		P	17 41 14.8	-0.3
	0.7nm,0.6s,baz=122,slow=5.8,SNR=3.8							
FINES	FINESS Array B	77.73	333	P		P	17 42 28.6	-0.2
	2.4nm,0.9s,baz=108,slow=6.2,SNR=5.3							
ARCES	ARCESS Array B	80.91	341	P		P	17 42 46.3	+0.2
	1.7nm,0.8s,baz=71,slow=7.8,SNR=3.7							
GERES	GERESS Array B	81.48	319	P		P	17 42 50.9	+1.2
	0.8nm,0.8s,baz=76,slow=5.6,SNR=3.8							
TXAR	Lajitas Array	146.24	25	PKPbc		PKPbc	17 50 13.3	-0.3
	0.5nm,0.5s,baz=38,slow=1.0,SNR=8.4							

IDC 11 17:31:32.1±2.7, 0.40N×91.02E, h0km, mb3.9/5, mb1 4.0/6, mb1mx3.6/67, mbtmp3.9/6, ML3.6/1, Error ellipse: s-maj=82.9km s-min=27.8km az=58.0, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	19.56	23	P		Pn	17 36 03.4	+0.5
	0.1nm,0.3s,baz=219,slow=12,SNR=3.4							
MKAR	Makanchi Array	46.83	352	P		P	17 40 03.7	-0.1
	0.7nm,0.6s,baz=160,slow=8.1,SNR=2.3							
WRA	Warramunga Arr	46.99	118	P		P	17 40 05.3	-0.2
	1.5nm,0.7s,baz=297,slow=8.6,SNR=2.8							
SONM	Songino Array	49.10	14	P		P	17 40 20.2	-1.2
	1.5nm,0.6s,baz=197,slow=9.0,SNR=2.3							
KURBB	Kurchatov Arra	51.15	350	P		P	17 40 37.2	+0.4
	0.9nm,0.7s,baz=174,slow=6.6,SNR=2.9							
ZALV	Zalesovo Beam	53.61	355	P		P	17 40 54.8	-0.2
	1.2nm,0.5s,baz=173,slow=7.5,SNR=2.6							

IDC 11 17:34:06.7±2.0, 1.68N×92.94E, h0km, mb3.6/5, mb1 3.8/5, mb1mx3.4/63, mbtmp3.6/5, Error ellipse: s-maj=90.3km s-min=27.3km az=52.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MKAR	Makanchi Array	45.88	350	P		P	17 42 30.0	-0.9
	0.2nm,0.6s,baz=169,slow=9.3,SNR=2.7							
WRA	Warramunga Arr	45.93	120	P		P	17 42 31.5	-0.2
	0.7nm,0.6s,baz=296,slow=8.6,SNR=6.5							
KURBB	Kurchatov Arra	50.27	348	P		P	17 43 03.8	-0.9
	0.4nm,0.7s,baz=175,slow=7.8,SNR=2.8							
ZALV	Zalesovo Beam	52.52	354	P		P	17 43 22.9	+1.4
	0.4nm,0.3s,baz=161,slow=9.2,SNR=3.2							
GERES	GERESS Array B	81.65	319	P		P	17 46 27.2	+0.2
	0.5nm,0.6s,baz=104,slow=4.1,SNR=4.2							

NNC 11 17:36:14.3±2.5, 37.01N×70.80E, h0km, mb3.6, mpv3.2, 4C-4D, Error ellipse: s-maj=21.2km s-min=16.9km az=146.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SFK	Sufi-Kurgan	3.68	34	⇑P		Pn	17 37 12.8	+0.2
	0.6nm,0.1s							
SFK				⇓S		Sn	17 37 58.3	+1.5
	4.8nm,0.4s							
MNAS	Manas	5.63	13	⇑P		Pn	17 37 39.7	+0.4
	0.9nm,0.5s							
MNAS				⇑S		Sn	17 38 45.1	+0.3
	4.1nm,0.5s							
KK31	Karatay Array	6.10	358	⇓P		Pn	17 37 46.9	+1.3
	2.5nm,0.3s							
KK31				⇑S		Sn	17 38 58.0	+1.9
	1.9nm,0.3s							
AAK	Ala-Archa	6.30	26	⇓P		Pn	17 37 47.4	-1.3
	2.0nm,0.8s							
AAK				⇓S		Sn	17 39 02.1	+0.7
	3.6nm,0.8s							
AB31	Akbulak array	14.56	331	P		Pn	17 39 39.6	-1.9
	0.2nm,0.3s,baz=139,slow=15,SNR=8.0							

*IDC **11** 17:41:07.2±1.2, 0.25N×92.14E, h0km, mb3.8/9, mb1 3.9/10, mb1mx3.6/64, mbtmp3.8/10, ML4.0/1, Error ellipse: s-maj=46.2km s-min=19.0km az=51.0*
*ISCJB **11** 17:41:10.7±1.1, 0.4N±0.2×92.3E±0.2, h33km, mb3.8/9, Error ellipse: s-maj=33.5km s-min=16.9km az=145.8*

ISC 11 17:41:12.5±1.3, 0.3N±0.2×92.2E±0.2, h35km, n11, σ0s72/11, mb3.8/9, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	19.24	20	Pn		P	17 45 33.1	-0.9
	0.2nm,0.3s,baz=210,slow=14,SNR=8.8							
WRA	Warramunga Arr	45.89	118	P		P	17 49 32.5	+0.5
	2.7nm,0.6s,baz=297,slow=8.5,SNR=18							
ASAR	Alice Springs	46.95	123	P		P	17 49 39.8	-0.5
	0.7nm,0.9s,baz=299,slow=7.2,SNR=8.0							
MKAR	Makanchi Array	47.14	351	P		P	17 49 41.7	+0.4
	0.8nm,0.8s,baz=165,slow=9.6,SNR=6.6							
SONM	Songino Array	48.95	13	P		P	17 49 56.5	+1.1
	1.5nm,0.7s,baz=190,slow=7.9,SNR=5.6							
KURBB	Kurchatov Arra	51.49	349	P		P	17 50 13.8	-0.7
	0.7nm,0.8s,baz=170,slow=7.4,SNR=5.1							
ZALV	Zalesovo Beam	53.84	355	P		P	17 50 31.7	-0.1
	0.8nm,0.4s,baz=193,slow=6.1,SNR=5.1							
BVAR	Borovoye Array	55.63	344	P		P	17 50 44.8	0.0
	0.4nm,0.8s,baz=141,slow=7.1,SNR=3.1							
BRTR	Keskin Array B	66.09	314	P		P	17 51 56.0	-0.5
	0.2nm,0.4s,baz=132,slow=8.0,SNR=3.1							
GERES	GERESS Array B	82.23	319	P		P	17 53 31.0	+0.7
	1.5nm,0.7s,baz=104,slow=5.6,SNR=12							
TXAR	Lajitas Array	146.88	26	PKPbc		PKPbc	18 00 51.4	-0.7
	0.5nm,0.6s,baz=216,slow=1.9,SNR=6.4							

*DJA **11** 17:41:32.2±5.4, 3.7N±16.9×92.2E±4.5, h10km, M4.8/5, mb5.0/5, mB5.5/3, MLv4.7/5, Mw(mB)4.9/3*
*NEIC **11** 17:41:33.6±0.6, 2.46N×92.25E, h10km, mb4.7/2, Error ellipse: s-maj=13.7km s-min=6.6km az=206.0*
*IDC **11** 17:41:33.4±2.1, 3.04N×92.85E, h0km, mb4.0/6, mb1 4.2/6, mb1mx3.6/63, mbtmp4.0/6, Error ellipse: s-maj=217.6km s-min=20.0km az=43.0*
*ISCJB **11** 17:41:35.5±0.7, 2.58N±0.10×92.38E±0.06, h33km, mb4.2/9, Error ellipse: s-maj=14.7km s-min=7.7km az=20.7*

ISC 11 17:41:37.8±0.9, 2.6N±0.1×92.4E±0.1, h35km, n23, σ0s97/23, mb4.2/9, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
BSI	Banda Aceh	4.05	45	P		Pn	17 42 37.5	+0.1
MLSI	Meulaboh, Aceh	4.31	68	P		Pn	17 42 42.0	+1.1
TPTI		4.80	82	P		Pn	17 42 47.5	-0.2
	80nm,0.5s,3μm0.5nm							
LHMI	Lhok Sumawe	5.21	60	P		Pn	17 42 53.4	+0.1
LHMI	Lhok Sumawe	5.21	60	*eP*n		Pn	17 42 55.4	+2.1
GSI	Gunungsitoli	5.32	104	P		Pn	17 42 55.2	+0.3
GSI	Gunungsitoli	5.32	104	*eP*n		Pn	17 42 55.5	+0.6
PSI	Prapat	6.51	88	*eP*n		Pn	17 43 12.5	+1.3
KULM	Kulim	8.63	72	*eP*n		Pn	17 43 40.9	+0.5
IPM	Ipoh	8.79	78	*eP*n		Pn	17 43 43.6	+1.1
GTA	Gaotai	37.23	9	*eP*		P	17 48 43.6	-2.6
GTA					pP	pP	17 48 49.9	-6.5
GTA					sP	sP	17 48 52.6	-8.0
GTA					pmax	pmax		
	comp=Z,2.0nm,0.9s							
FITZ	Fitzroy Crossi	38.67	123	P		P	17 48 58.2	-0.3
	comp=Z,3.0nm,0.7s,baz=327,slow=9.4,SNR=6.3							
KK06	Karatay Array	44.77	337	*eP*		P	17 49 48.6	+0.6
MK31	Makanchi Array	44.87	350	*eP*		P	17 49 48.5	-0.3
MKAR	Makanchi Array	44.87	350	*eP*		P	17 49 48.7	-0.1
	comp=Z,14nm,1.1s							
WRA	Warramunga Arr	46.86	121	P		P	17 50 04.4	-0.5
	comp=Z,2.7nm,0.7s,baz=298,slow=8.8,SNR=9.4							
GEYT	Alibeck	47.12	323	P		P	17 50 07.5	+0.8
	comp=Z,1.6nm,0.5s,baz=138,slow=11,SNR=4.4							
ASAR	Alice Springs	48.09	125	P		P	17 50 13.8	-0.7
	comp=Z,0.8nm,1.0s,baz=296,slow=8.4,SNR=4.1							
ZAA0	Zalesovo Array	51.54	354	*eP*		P	17 50 40.4	+0.3
	comp=Z,4.1nm,0.5s							
AB31	Akbulak array	54.09	334	*eP*		P	17 50 59.4	+0.4
ABKAR	Akbulak array	54.09	334	*eP*		P	17 50 59.2	+0.2
FINES	FINESS Array B	76.56	333	P		P	17 53 24.0	-0.3
	comp=Z,0.8nm,0.6s,baz=97,slow=4.5,SNR=4.8							
GERES	GERESS Array B	80.60	319	P		P	17 53 47.9	+0.9
	comp=Z,1.3nm,0.7s,baz=104,slow=5.6,SNR=6.7							

*NEIC **11** 17:41:50.5±0.0, 32.22N×115.25W, h8km, MD2.7(ECX), ML2.8(PAS), After ECX.*

ECX 11 17:41:50.5±0.8, 32.22N×115.25W, h8km, MD2.5, ML2.7, 2D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CPBX	Cerro Prieto	0.20	348	*eP*		Pg	17 41 53.6	-1.0
CPBX				*eS*		Sg	17 41 58.0	+0.6
CPBX				IAML			17 42 00.8	
	comp=N,3μm,0.2s							
CPBX				*e*			17 42 00.8	
CPBX				⇓*e*			17 42 02.1	
CPBX				IAML			17 42 02.1	
	comp=E,5μm,0.2s							
EMSC	East Mesa	0.56	24	*eP*g		Pg	17 42 01.6	+0.1
ERPC	Ernies Place	0.63	326	*eP*g		Pg	17 42 02.2	-0.4
ERPC				*eP*n		Pn	17 42 10.3	+4.6
COA	Coachella	0.65	10	*eP*g		Pg	17 42 02.6	-0.5
WESC	Westside Schoo	0.67	323	*eP*		Pg	17 42 02.6	-0.9
YUH	Yuha Desert	0.71	307	*eP*g		Pg	17 42 02.8	-1.4
ECBX	El Chinero	0.77	167	*eP*		Pg	17 42 04.3	-0.9
ECBX				*eS*		Sg	17 42 14.8	-0.4
ECBX				⇓*e*			17 42 16.6	
ECBX				IAML			17 42 16.6	
	comp=E,176nm,0.4s							
IKP	In-Ko-Pah, Jac	0.84	301	*eP*		Pg	17 42 05.0	-1.7
CRR	Carrizo Plain	0.90	318	*eP*g		Pg	17 42 06.3	-1.5
GLA	Glamis	0.90	23	*eP*g		Pg	17 42 07.0	-0.9
GLA				*eS*g		Sg	17 42 17.1	-2.6
CBKC	Canebrake	1.08	309	*eP*g		Pg	17 42 09.8	-1.5
ZAX	El Zacaton	1.12	231	*eP*		Pg	17 42 09.8	-2.1
ZAX				*eS*		Sg	17 42 24.9	-1.6
SPIG	San Pedro Mart	1.19	189	*eP*		Pg	17 42 10.8	-2.5
SPIG				*eS*		Sg	17 42 27.0	-1.7
SPX	San Pedro Mart	1.19	189	*eP*		Pg	17 42 10.8	-2.5
SPX				*eS*		Sg	17 42 26.7	-2.0
CBX	Cerro Bola	1.20	275	*eP*		Pg	17 42 11.1	-2.5
CBX				*eS*		Sg	17 42 27.1	-2.0
CBX				IAML			17 42 27.8	
	comp=E,166nm,0.3s							
CBX				*e*			17 42 27.8	
ECNX	Esteban Cantu	1.27	244	*eP*		Pn	17 42 12.8	-1.9
BAR	Barrett	1.28	291	*eP*n		Pn	17 42 12.5	-2.3
BAR				*eS*n		Sb	17 42 29.4	-2.2
BAR	Barrett	1.28	291	*eP*		Pn	17 42 12.7	-2.1
113A	Mohawk Valley,	1.37	66	*eP*n		Pn	17 42 13.5	-2.4
BORC	Borrego Spring	1.43	317	*eS*n		Sg	17 42 36.3	-0.3
EML	El Monte Cty P	1.50	297	*eS*n		Sn	17 42 35.9	-1.6
DPP	Dos Picos Cty	1.62	299	*eS*n		Sn	17 42 39.6	-0.9
Y12C	Blythe	1.64	22	*eP*n		Pn	17 42 19.5	-0.2
HWE	Hans Werner Br	1.65	300	*eS*n		Sn	17 42 40.1	-1.1
CPE	Camp Elliot	1.70	294	*eP*n		Pn	17 42 17.8	-2.7
CPE				*eS*n		Sn	17 42 42.2	-0.2
HEC	Hector,Ludlow	2.75	341	*eP*n		Pn	17 42 35.2	+0.2
MWC	Mount Wilson	3.08	311	*eS*n		Sn	17 43 18.5	+1.7
ALPC	Antelope	3.54	315	*eS*n		Sn	17 43 19.8	-8.1
ALPC				*eS*g		Sb	17 43 26.4	-10
CCCA	Chr Cany lake	3.73	333	*eP*g		Pb	17 42 55.6	-1.2
SBC	Santa Barbara	4.34	302	*eP*n		Pn	17 42 55.4	-1.4

*IDC **11** 17:43:33.6±1.8, 2.19N×91.57E, h0km, mb3.8/7, mb1 3.9/8, mb1mx3.6/64, mbtmp3.8/8, ML3.5/1, Error ellipse: s-maj=55.7km s-min=24.9km az=44.0*
*ISCJB **11** 17:43:35.8±1.4, 2.1N±0.2×91.4E±0.2, h33km, mb3.9/7, Error ellipse: s-maj=36.4km s-min=18.9km az=29.2*

ISC 11 17:43:38.2±1.5, 2.1N±0.3×91.5E±0.2, h35km, n8, σ0s95/8, mb4.0/7, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PALK	Pallekele	11.90	296	Pn		Pn	17 46 25.5	0.0
	0.3nm,0.3s,baz=115,slow=15,SNR=1.9							
MKAR	Makanchi Array	45.27	351	P		P	17 51 51.9	-0.5
	1.1nm,0.7s,baz=174,slow=8.7,SNR=4.6							
GEYT	Alibeck	46.99	324	P		P	17 52 06.9	+0.7
	1.4nm,0.7s,baz=117,slow=8.4,SNR=3.3							
SONM	Songino Array	47.39	14	P		P	17 52 09.8	+0.6
	0.8nm,0.5s,baz=196,slow=8.9,SNR=3.6							
WRA	Warramunga Arr	47.41	120	P		P	17 52 09.6	0.0
	0.9nm,0.9s,baz=299,slow=8.6,SNR=3.6							
KURBB	Kurchatov Arra	49.61	349	P		P	17 52 25.4	-0.6
	0.8nm,0.6s,baz=170,slow=6.7,SNR=5.2							
ZALV	Zalesovo Beam	52.01	355	P		P	17 52 43.7	-0.3
	1.0nm,0.4s,baz=177,slow=6.6,SNR=4.4							
BVAR	Borovoye Array	53.72	344	P		P	17 52 55.0	-1.7
	0.3nm,0.5s,baz=140,slow=9.2,SNR=2.7							

IDC 11 17:44:55.7±7.8, 2.45N×92.03E, h0km, mb3.6/4, mb1 3.7/4, mb1mx3.3/63, mbtmp3.6/4, Error ellipse: s-maj=342.3km s-min=27.7km az=56.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MKAR	Makanchi Array	44.98	351	P		P	17 53 13.0	+0.2
	0.8nm,0.5s,baz=174,slow=8.8,SNR=5.8							
WRA	Warramunga Arr	47.10	120	P		P	17 53 29.8	-0.1
	0.7nm,0.8s,baz=300,slow=8.7,SNR=2.6							
KURBB	Kurchatov Arra	49.34	349	P		P	17 53 46.4	-0.3
	0.3nm,0.6s,baz=174,slow=6.8,SNR=2.8							
ZALV	Zalesovo Beam	51.67	355	P		P	17 54 04.1	-0.2
	0.7nm,0.4s,baz=161,slow=9.2,SNR=2.4							
TXAR	Lajitas Array	145.00	24	PKPbc		PKPab	18 04 34.1	-1.0
	0.1nm,0.4s,baz=2.9,slow=1.8,SNR=3.5							

*IDC **11** 17:46:09.7±1.1, 1.59N×92.30E, h0km, mb3.6/10, mb1 3.7/12, mb1mx3.6/65, mbtmp3.6/12, ML3.7/2, Error ellipse: s-maj=39.0km s-min=18.8km az=46.0*
*ISCJB **11** 17:46:12.3±0.9, 1.5N±0.1×92.2E±0.1, h33km, mb3.6/10, Error ellipse: s-maj=22.4km s-min=14.5km az=38.0*

ISC 11 17:46:14.7±1.1, 1.6N±0.2×92.2E±0.2, h35km, n13, σ1s07/13, mb3.6/10, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PALK	Pallekele	12.83	297	Pn		Pn	17 49 14.4	-0.4
	1.0nm,0.3s,baz=115,slow=16,SNR=2.8							
CMAR	Chiang Mai Arr	18.04	21	P		P	17 50 23.1	+0.2
	0.1nm,0.3s,baz=210,slow=12,SNR=3.5							
MKAR	Makanchi Array	45.89	350	P		P	17 54 33.6	-0.2
	0.2nm,0.6s,baz=175,slow=7.2,SNR=2.5							
WRA	Warramunga Arr	46.47	120	P		P	17 54 39.1	+0.3
	1.7nm,0.6s,baz=296,slow=8.6,SNR=9.3							
ASAR	Alice Springs	47.62	124	P		P	17 54 47.3	-0.5
	0.5nm,0.9s,baz=305,slow=8.1,SNR=4.5							
SONM	Songino Array	47.70	13	P		P	17 54 48.3	+0.2
	1.0nm,0.6s,baz=197,slow=7.7,SNR=3.9							
GEYT	Alibeck	47.87	323	P		P	17 54 48.5	-0.9
	0.7nm,0.6s,baz=188,slow=8.7,SNR=2.3							
KURBB	Kurchatov Arra	50.26	349	P		P	17 55 06.2	-1.2
	0.1nm,0.3s,baz=175,slow=8.6,SNR=3.4							
ZALV	Zalesovo Beam	52.58	354	P		P	17 55 24.1	-0.6
	0.3nm,0.4s,baz=186,slow=13,SNR=2.3							
BVAR	Borovoye Array	54.42	344	P		P	17 55 39.1	+0.9
	0.1nm,0.3s,baz=141,slow=2.8,SNR=2.4							
BRTR	Keskin Array B	65.24	314	P		P	17 56 53.6	+0.4
	0.4nm,1.0s,baz=27,slow=1.6,SNR=2.1							
GERES	GERESS Array B	81.29	319	P		P	17 58 29.8	+2.2
	0.6nm,0.7s,baz=118,slow=5.7,SNR=3.7							
TXAR	Lajitas Array	145.72	25	PKPbc		PKPdf	18 05 48.9	-1.5
	0.5nm,0.5s,baz=278,slow=0.4,SNR=7.9							

*IDC **11** 17:47:35.7±1.1, 2.26N×92.56E, h0km, mb3.7/9, mb1 3.8/11, mb1mx3.6/67, mbtmp3.7/11, ML4.4/1, Error ellipse: s-maj=39.0km s-min=19.8km az=49.0*
*DJA **11** 17:47:49.4±4.1, 4.1N±6.9×9.4E±1.7, h18km±65km, M4.8/7, mB5.6/2, mb4.9/3, MLv4.8/7, Mw(mB)5.1/2*

ISC 11 17:47:38.1±0.9, 3.6N±0.1×93.13E±0.08, h10km, n19, σ2s45/14, mb3.7/9, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
BSI	Banda Aceh	2.88	49	P		Pb	17 48 29.3	-0.4
MLSI	Meulaboh, Aceh	3.34	78	P		Pn	17 48 32.8	+2.3
LHMI	Lhok Sumawe	4.15	67	P		Pn	17 48 43.1	+1.6
LHMI				S		Sn	17 49 28.2	-1.9
GSI	Gunungsitoli	4.99	117	P		Pn	17 48 54.0	+0.8
TSI	Tuntungan	5.43	91	P		Pn	17 48 59.9	+0.7
MNSI	Mandailing Nat	7.02	113	P		Pn	17 49 23.2	+2.1
	121nm,0.6s,5μm1.5nm							
SISI	Saibi	7.70	129	P		Pn	17 49 33.1	+2.7
PALK	Pallekele	12.90	287	Pn		Pn	17 50 38.6	-3.1
	1.9nm,0.3s,baz=115,slow=13,SNR=3.2							
CMAR	Chiang Mai Arr	15.84	21	P		P	17 51 37.5	+12
	baz=213,slow=13,SNR=2.2							
MKAR	Makanchi Array	44.06	349	P		P	17 55 55.0	+8.8
	0.8nm,0.5s,baz=174,slow=8.6,SNR=8.0							
SONM	Songino Array	45.54	13	P		P	17 56 08.9	+11
	0.6nm,0.6s,baz=193,slow=7.8,SNR=3.5							
WRA	Warramunga Arr	46.74	122	P		P	17 56 05.1	-2.8
	0.9nm,0.7s,baz=300,slow=8.7,SNR=5.9							
ASAR	Alice Springs	48.07	126	P		P	17 56 15.2	-3.1
	0.3nm,0.5s,baz=292,slow=8.1,SNR=5.0							
KURBB	Kurchatov Arra	48.46	348	P		P	17 56 28.3	+7.5
	0.6nm,0.8s,baz=170,slow=6.6,SNR=2.9							
ZALV	Zalesovo Beam	50.66	354	P		P	17 56 45.8	+8.3
	0.8nm,0.3s,baz=171,slow=7.6,SNR=4.3							
BVAR	Borovoye Array	52.73	343	P		P	17 57 00.4	+7.3
	0.3nm,0.6s,baz=156,slow=13,SNR=2.3							
BRTR	Keskin Array B	64.51	313	P		P	17 58 18.8	+3.2
	0.5nm,0.9s,baz=134,slow=6.2,SNR=2.7							
GERES	GERESS Array B	80.35	319	P		P	17 59 51.6	+1.7
	0.4nm,0.7s,baz=97,slow=4.0,SNR=2.8							
TXAR	Lajitas Array	143.52	25	PKP		PKPdf	18 07 14.9	+0.8
	0.2nm,0.4s,baz=96,slow=1.5,SNR=5.1							

*ISCJB **11** 17:49:57.6±0.4, 40.01N±0.03×29.08E±0.04, h0km, Error ellipse: s-maj=3.9km s-min=3.6km az=15.0*
*DDA **11** 17:49:57.9, 40.00N×29.08E, h7km, Ml2.5*
*CSEM **11** 17:49:57.9±0.1, 40.01N×29.09E, h1km, ML2.1, Error ellipse: s-maj=2.5km s-min=2.4km az=178.0, Suspected Mining explosion.*
*ISK **11** 17:49:57.5, 40.00N×29.10E, h6km, ML2.1/13, Suspected Mining explosion.*

ISC 11 17:49:58.0±0.9, 40.00N±0.02×29.08E±0.02, h0km, n36, σ0s50/46, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ORLT	Orhaneli	0.15	287	PG		Pg	17 50 00.9	+0.1
ORLT	Orhaneli	0.15	287	*eP*g		Pg	17 50 00.9	+0.1
ARMT	Armutlu	0.59	343	PG		Pg	17 50 09.4	+0.1
ARMT	Armutlu	0.59	343	*eP*g		Pg	17 50 09.4	+0.1
YLV	Yalova	0.61	21	PG		Pg	17 50 09.8	+0.2
YLV				SG		Sg	17 50 18.1	+0.6
YLV	Yalova	0.61	21	*eP*g		Pg	17 50 09.8	+0.2
YLV				*eS*g		Sg	17 50 18.1	+0.6
KCTX	Karacabey (Bur	0.61	296	PG		Pg	17 50 10.2	+0.4
KCTX	Karacabey (Bur	0.61	296	*eP*g		Pg	17 50 10.2	+0.4
DURS	Dursunbey	0.62	230	*i* P		Pg	17 50 10.2	+0.4
DURS				*i* S		Sg	17 50 18.7	+1.0
DURS	Dursunbey	0.62	230	P		Pg	17 50 10.2	+0.4
DURS				S		Sg	17 50 18.7	+1.0
CAVI	Cavuskoy	0.62	71	PG		Pg	17 50 09.8	0.0
CAVI				SG		Sg	17 50 18.3	+0.5
CAVI	Cavuskoy	0.62	71

comp=Z,126nm,21.3s,baz=132,slow=39
MKAR Makanchi Array 45.53 349 *e*P **P 18 01 13.9 +0.3**
60nm,1.0s
WRA Warramunga Arr 45.82 121 P **P 18 01 15.8 -0.6**
1.0nm,0.7s,baz=299,slow=8.7,SNR=4.0
SONM Songino Array 46.93 12 P **P 18 01 24.7 -0.1**
1.8nm,0.7s,baz=192,slow=9.0,SNR=7.0
ASAR Alice Springs 47.06 125 P **P 18 01 25.6 -0.5**
0.8nm,0.9s,baz=303,slow=7.3,SNR=5.2
GEYT Alibeck 48.08 322 P **P 18 01 34.2 +0.4**
0.9nm,0.6s,baz=116,slow=3.4,SNR=3.2
KURBB Kurchatov Arra 49.93 348 P **P 18 01 47.4 -0.3**
1.3nm,0.8s,baz=180,slow=6.6,SNR=9.5
KURK Kurchatov 50.00 348 P **P 18 01 47.4 -0.8**
ZALV Zalesovo Beam 52.14 354 P **P 18 02 04.1 -0.1**
2.5nm,0.5s,baz=179,slow=7.2,SNR=11
KOWA Kowa 96.58 285 LR LR 18 49 40.4
comp=Z,131nm,19.6s,baz=180,slow=35
TCUT Toone Canyon 131.44 25 *e*Pdif **Pdif 18 08 57.7 -1.7**
MSU Marysvale 133.23 28 *e*PKPdf **PKPdf 18 12 09.9 -0.6**
PV09 Paradox Valley 134.58 25 *e*PKPdf **PKPdf 18 12 12.9 -0.2**

IDC ***11*** *17:54:34.7±0.6,2.′17N×92.′61E,h0km,mb4.3/27, mb1 4.5/29,mb1mx4.2/73,mbtmp4.4/29,ML4.6/2,MS4.0/2, Ms1 4.1/2,ms1mx3.3/46,Error ellipse: s-maj=20.0km s-min=11.8km az=42.0*
NEIC ***11*** *17:54:36.5±2.0,2.′20N×92.′61E,h10km±12km,mb4.9/36, Error ellipse: s-maj=6.8km s-min=3.4km az=218.0*
ISCJB ***11*** *17:54:38.2±0.3,2.′25N±0.′04×92.′67E±0.′03,h33km, mb4.6/75,Error ellipse: s-maj=7.1km s-min=3.1km az=30.2*
MOS ***11*** *17:54:38.1±1.0,2.′23N×92.′61E,h33km,mb5.0/31,Error ellipse: s-maj=9.5km s-min=5.6km az=106.4*
DJA ***11*** *17:54:38.0±0.3,2.′N±5.′×9.′3E±.″,h10km,M5.3/19,mb5.3/19, mB5.8/13,MLv5.3/5,Mw(mB)5.3/13,Mwp6.8/1*
ISC 11 17:54:41.1±1.1,2.′33N±0.′07×92.′64E±0.′06,h41km±10km, n224,σ1§10/214,mb4.8/82,8C-4D,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSI	**Banda Aceh**	**4.11**	**40**	P	**Sn**	**17 56 27.4**	**-1.0**
TPTI		**4.62**	**78**	P	**Pn**	**17 55 47.1**	**-1.4**
GSI	**Gunungsitoli**	**5.03**	**102**	P	**Pn**	**17 55 52.7**	**-1.4**
	1µm,0.9s,14µm3.4nm						
GSI	**Gunungsitoli**	**5.03**	**102**	*e*Pn	**Pn**	**17 55 52.5**	**-1.6**
PSI	**Prapat**	**6.29**	**86**	*e*Pn	**Pn**	**17 56 10.7**	**-0.9**
PSI	**Prapat**	**6.29**	**86**	*e*P	**Pn**	**17 56 10.7**	**-0.9**
SISI	**Saibi**	**7.40**	**119**	P	Pn	17 56 23.3	-3.3
	327nm,1.2s,4µm1.0nm						
KULM	**Kulim**	**8.51**	**70**	*e*Pn	**Pn**	**17 56 41.6**	**-0.3**
BKNI	**Bangkinang**	**8.62**	**103**	P	**Pn**	**17 56 42.5**	**-1.0**
	288nm,0.8s,3µm						
IPM	**Ipoh**	**8.63**	**75**	*e*Pn	**Pn**	**17 56 43.3**	**-0.3**
PPSI	**Pulau Pagai**	**8.93**	**124**	P	Pn	17 56 44.5	-3.2
	447nm,0.7s,6µm						
PBA	**Port Blair**	**9.27**	**1**	*e*P	Pn	17 56 50.9	-1.4
PBA	**Port Blair**	**9.27**	**1**	*e*Pn	Pn	17 56 51.1	-1.2
DGPR	**DIGLIPUR**	**10.78**	**1**	*e*P	Pn	17 57 11.7	-1.3
MASI	**Maura Aman, Be**	**11.02**	**119**	P	Pn	17 57 13.7	-2.7
	193nm,1.1s						
MYKOM	**Kota Tinggi**	**11.21**	**93**	*e*Pn	Pn	17 57 17.0	-1.9
TPRI	**Tanjung Pinang**	**11.96**	**97**	P	**Pn**	**17 57 28.9**	**-0.2**
	50nm,0.8s,2µm						
PALK	**Pallekele**	**12.87**	**293**	Pn	Pn	17 57 38.6	-3.1
	6.7nm,0.3s,baz=116,slow=13,SNR=18						
PALK	**Pallekele**	**12.87**	**293**	*e*Pn	Pn	17 57 38.9	-2.8
PALK	**Pallekele**	**12.87**	**293**	*i* P	**Pn**	**17 57 39.5**	**-2.2**
MDSI	**Maura Dua**	**13.37**	**120**	P	**Pn**	**17 57 48.6**	**+0.2**
	32nm,0.8s,3µm						
LWLI	**Liwa**	**13.54**	**123**	P	**Pn**	**17 57 51.9**	**+1.1**
	150nm,0.8s						
KASI	**Kota Agung**	**14.18**	**123**	P	Pn	17 57 56.7	-2.7
	54nm,0.8s,2µm						
CGJI	**Cibinong**	**15.77**	**124**	P	**P**	**17 58 24.1**	**+0.3**
MDRS	**Chennai**	**16.26**	**312**	*e*P	**Pn**	**17 58 25.5**	**-1.2**
MDRS				IAmb	IAmb	17 58 30.0	
	comp=Z,76nm,1.3s						
TRD	**Trivandrum**	**16.77**	**292**	*e*P	**Pn**	**17 58 31.5**	**-1.7**
TRD				IAmb	IAmb	17 58 34.6	
	comp=Z,23nm,0.9s						
CM01	**Chiang Mai Arr**	**17.15**	**21**	*e*Pn	**Pn**	**17 58 36.6**	**-1.3**
CM31	**Chiang Mai Arr**	**17.18**	**21**	*e*Pn	**Pn**	**17 58 38.0**	**-0.2**
CMAR	**Chiang Mai Arr**	**17.18**	**21**	P	**Pn**	**17 58 38.4**	**+0.1**
	comp=Z,0.5nm,0.3s,baz=216,slow=12,SNR=14						
CMAR				LR	LR	18 06 10.3	
	comp=Z,454nm,19.1s,baz=194,slow=40						
LEM	**Lembang**	**17.50**	**121**	P	**Pn**	**17 58 43.9**	**+1.6**
CHTO	**Chiang Mai**	**17.51**	**20**	*e*Pn	**Pn**	**17 58 41.6**	**-0.7**
	comp=Z,28nm,1.0s						
CHTO	**Chiang Mai**	**17.51**	**20**	*e*P	**Pn**	**17 58 41.6**	**-0.7**
CHTO				pmax	pmax		
	comp=Z,28nm,1.0s						
KSM	**Kuching**	**17.67**	**92**	*e*P	**Pn**	**17 58 44.2**	**-0.2**
	comp=Z,64nm,1.0s						
VIS	**Vishakhapatnam**	**17.82**	**330**	*e*P	**Pn**	**17 58 45.4**	**-0.8**
VIS				IAmb	IAmb	17 58 48.8	
	comp=Z,32nm,0.8s						
CISI	**Cisompet, Garu**	**18.04**	**123**	P	**P**	**17 58 49.3**	**+0.3**
	comp=Z,53nm,0.6s						
CISI	**Cisompet, Garu**	**18.04**	**123**	*e*Pn	**P**	**17 58 46.8**	**-2.2**
	comp=Z,14nm,1.5s						
KPJI	**Karang Pucung**	**18.87**	**121**	P	**P**	**17 59 00.0**	**+1.9**
	comp=Z,56nm,0.6s						
STKI	**Sintang**	**18.96**	**97**	P	**P**	**17 59 01.3**	**+2.2**
	comp=Z,118nm,1.2s,comp=Z,6µm						
SBUM	**Sibu**	**19.56**	**89**	*e*P	**P**	**17 59 06.8**	**+1.1**
	comp=Z,46nm,0.9s						
PBKI	**Pangkalan Bun**	**19.66**	**105**	P	**P**	**17 59 07.4**	**+0.6**
MNCI	**Minicoy**	**20.37**	**288**	*e*P	**P**	**17 59 14.0**	**-0.5**
	comp=Z,359nm,1.6s						
HYB	**Hyderabad**	**20.41**	**318**	*i* P	**P**	**17 59 15.0**	**+0.1**
HYB	**Hyderabad**	**20.41**	**318**	*e*P	**P**	**17 59 15.2**	**+0.3**
HYB				IAmb	IAmb	17 59 21.0	
	comp=Z,22nm,0.8s						
BOK	**Bokaro**	**22.32**	**344**	*e*P	**P**	**17 59 35.2**	**-0.2**
BOK				IAmb	IAmb	17 59 37.8	
	comp=Z,422nm,2.2s						
GOA	**Goa**	**22.70**	**306**	*e*P	**P**	**17 59 38.7**	**-0.8**
GOA				IAmb	IAmb	17 59 50.9	
	comp=Z,163nm,1.8s						
NGP	**Nagpur**	**22.92**	**326**	*e*P	**P**	**17 59 41.4**	**-0.4**
NGP				IAmb	IAmb	17 59 45.8	
	comp=Z,216nm,2.4s						
SHL	**Shillong**	**23.12**	**358**	*e*P	**P**	**17 59 43.5**	**-0.4**
SHL				IAmb	IAmb	17 59 50.1	
	comp=Z,46nm,0.5s						
SHL	**Shillong**	**23.12**	**358**	*e*P	**P**	**17 59 43.5**	**-0.4**
	comp=Z,147nm,1.3s						
SHL	**Shillong**	**23.12**	**358**	*e*P	**P**	**17 59 43.5**	**-0.4**
SHL				pmax	pmax		
	comp=Z,147nm,1.3s						
AKL	**Akola**	**23.79**	**321**	*e*P	**P**	**17 59 51.8**	**+1.5**
BOM	**Bombay**	**25.46**	**312**	*e*P	**P**	**18 00 06.0**	**+0.6**
BHPL	**Bhopal**	**25.49**	**326**	*e*P	**P**	**18 00 06.5**	**+0.7**
BHPL				IAmb	IAmb	18 00 07.6	
	comp=Z,16nm,1.0s						
MYLDM	**Lahad Datu**	**25.95**	**83**	*e*P	**P**	**18 00 10.5**	**+0.5**
	comp=Z,70nm,1.2s						
DDI	**Dehra Dun**	**31.09**	**335**	*e*P	**P**	**18 00 56.1**	**+0.4**
DDI				IAmb	IAmb	18 00 58.0	
	comp=Z,252nm,2.2s						
SMLA	**Simla**	**32.16**	**335**	*e*P	**P**	**18 01 05.2**	**+0.2**
SMLA				IAmb	IAmb	18 01 06.6	
	comp=Z,25nm,0.3s						
DHRM	**DHARAMSHALA**	**33.50**	**334**	*e*P	**P**	**18 01 16.7**	**-0.4**
DHRM				IAmb	IAmb	18 01 16.9	
	comp=Z,84nm,1.9s						
NIL	**Nilore**	**36.06**	**332**	*e*P	**P**	**18 01 39.3**	**+0.4**
	comp=Z,21nm,0.9s						
NIL	**Nilore**	**36.06**	**332**	*e*P	**P**	**18 01 39.3**	**+0.4**
NIL				pmax	pmax		
	comp=Z,21nm,0.9s						
FITZ	**Fitzroy Crossi**	**38.31**	**123**	P	**P**	**18 01 56.6**	**-1.6**
	comp=Z,9.6nm,0.6s,baz=316,slow=6.8,SNR=36						
NRN	**Naryn**	**41.72**	**341**	*e*P	**P**	**18 02 26.6**	**+0.1**
	comp=Z,9.3nm,1.1s						
NRN	**Naryn**	**41.72**	**341**	*e*P	**P**	**18 02 26.6**	**+0.1**
NRN				pmax	pmax		
	comp=Z,9.0nm,1.1s						
PRZ	**Przheval'sk**	**41.97**	**344**	*e*P	**P**	**18 02 30.4**	**+2.0**
KDJ	**Kajisay**	**41.99**	**343**	*e*P	**P**	**18 02 29.9**	**+1.4**
	comp=Z,15nm,1.1s						
KDJ	**Kajisay**	**41.99**	**343**	*e*P	**P**	**18 02 29.9**	**+1.4**
KDJ				pmax	pmax		
	comp=Z,15nm,1.1s						
ULHL	**Ulahol**	**42.38**	**342**	P	**P**	**18 02 33.0**	**+1.2**
	SNR=5.1						
UCH	**Uchtor**	**42.92**	**340**	P	**P**	**18 02 37.5**	**+1.0**
	SNR=8.7						
AML	**Almayashu**	**43.12**	**339**	P	**P**	**18 02 39.2**	**+1.2**
	SNR=14						
KBK	**Karagaybulak**	**43.16**	**341**	P	**P**	**18 02 39.3**	**+1.2**
	SNR=9.3						
TKM2	**Tokmak 2**	**43.19**	**342**	P	**P**	**18 02 39.2**	**+0.9**
	SNR=7.6						
AAK	**Ala-Archa**	**43.29**	**340**	P	**P**	**18 02 39.4**	**+0.3**
	comp=Z,3.7nm,1.1s,baz=139,slow=6.7,SNR=8.3						
AAK	**Ala-Archa**	**43.29**	**340**	*e*P	**P**	**18 02 40.6**	**+1.5**
	comp=Z,10nm,1.4s						
AAK	**Ala-Archa**	**43.29**	**340**	*i* P	**P**	**18 02 39.5**	**+0.4**
AAK				pmax	pmax		
	comp=Z,9.0nm,1.4s						
FRU	**Bishkek**	**43.43**	**341**	*e*P	**P**	**18 02 40.0**	**0.0**
KK06	**Karatay Array**	**45.13**	**337**	*e*P	**P**	**18 02 53.9**	**+0.2**
KK07	**Karatay Array**	**45.13**	**337**	*e*P	**P**	**18 02 54.0**	**+0.3**
KK02	**Karatay Array**	**45.14**	**337**	*e*P	**P**	**18 02 53.9**	**+0.1**
KK31	**Karatay Array**	**45.14**	**337**	*e*P	**P**	**18 02 54.4**	**+0.7**
KK31	**Karatay Array**	**45.14**	**337**	*e*P	**P**	**18 02 54.4**	**+0.7**
KKAR	**Karatay Array**	**45.14**	**337**	*e*P	**P**	**18 02 54.3**	**+0.6**
KK03	**Karatay Array**	**45.15**	**337**	*e*P	**P**	**18 02 54.0**	**+0.2**
KK01	**Karatay Array**	**45.15**	**337**	*e*P	**P**	**18 02 54.0**	**+0.3**
KK04	**Karatay Array**	**45.15**	**337**	*e*P	**P**	**18 02 54.1**	**+0.3**
KK05	**Karatay Array**	**45.15**	**337**	*e*P	**P**	**18 02 53.9**	**+0.1**
KK08	**Karatay Array**	**45.15**	**337**	*e*P	**P**	**18 02 54.2**	**+0.4**
KK09	**Karatay Array**	**45.16**	**337**	*e*P	**P**	**18 02 54.1**	**+0.2**
MK01	**Makanchi Array**	**45.17**	**350**	*e*P	**P**	**18 02 54.6**	**+0.7**
MK31	**Makanchi Array**	**45.20**	**350**	*e*P	**P**	**18 02 55.2**	**+1.1**
MK31	**Makanchi Array**	**45.20**	**350**	*e*P	**P**	**18 02 55.2**	**+1.1**
MKAR	**Makanchi Array**	**45.20**	**350**	P	**P**	**18 02 55.0**	**+0.9**
	comp=Z,6.7nm,0.8s,baz=163,slow=8.6,SNR=22						
MKAR	**Makanchi Array**	**45.20**	**350**	*e*P	**P**	**18 02 55.2**	**+1.1**
	comp=Z,60nm,1.0s						
MKAR	**Makanchi Array**	**45.20**	**350**	P	**P**	**18 02 55.0**	**+0.9**
MKAR				pmax	pmax		
	comp=Z,7.0nm,0.8s						
MAKZ	**Makanchi**	**45.27**	**350**	*e*P	**P**	**18 02 55.6**	**+0.9**
	comp=Z,32nm,1.8s						
MAKZ	**Makanchi**	**45.27**	**350**	*e*P	**P**	**18 02 55.6**	**+0.9**
MAKZ				pmax	pmax		
	comp=Z,32nm,1.8s						
WRA	**Warramunga Arr**	**46.51**	**120**	P	**P**	**18 03 03.8**	**-1.1**
	comp=Z,12nm,0.6s,baz=300,slow=8.6,SNR=41						
WB2	**Warramunga Arr**	**46.52**	**120**	*e*P	**P**	**18 03 03.9**	**-1.1**
	comp=Z,60nm,1.5s						
SONM	**Songino Array**	**46.87**	**13**	P	**P**	**18 03 08.2**	**+0.9**
	comp=Z,11nm,0.8s,baz=195,slow=8.9,SNR=32						
SONA1	**Songino Array**	**46.88**	**13**	*e*P	**P**	**18 03 09.0**	**+1.6**
ULN	**Ulaanbaatar**	**47.04**	**13**	*ce*P	**P**	**18 03 09.8**	**+1.0**
ULN				pmax	pmax		
	comp=Z,10.0nm,1.2s						
GYB1	**ALIBECK ARRAY**	**47.48**	**323**	*e*P	**P**	**18 03 13.7**	**+1.4**
	comp=Z,13nm,1.2s						
GYA1	**ALIBECK ARRAY**	**47.49**	**323**	*e*P	**P**	**18 03 13.7**	**+1.4**
	comp=Z,12nm,1.0s						
GYB2	**ALIBECK ARRAY**	**47.49**	**323**	*e*P	**P**	**18 03 13.9**	**+1.5**
	comp=Z,16nm,1.1s						
GEYT	**Alibeck**	**47.50**	**323**	P	**P**	**18 03 13.3**	**+1.0**
	comp=Z,4.1nm,0.8s,baz=143,slow=10,SNR=12						
GYA0	**ALIBECK ARRAY**	**47.50**	**323**	*e*P	**P**	**18 03 13.8**	**+1.4**
	comp=Z,9.0nm,1.0s						
GYA0B	**ALIBECK ARRAY**	**47.50**	**323**	*e*P	**P**	**18 03 13.8**	**+1.5**
	comp=Z,9.2nm,1.0s						
GYB5	**ALIBECK ARRAY**	**47.50**	**323**	*e*P	**P**	**18 03 13.5**	**+1.1**
	comp=Z,11nm,1.0s						
GYA2	**ALIBECK ARRAY**	**47.50**	**323**	*e*P	**P**	**18 03 13.8**	**+1.5**
	comp=Z,7.7nm,0.9s						
GYB3	**ALIBECK ARRAY**	**47.51**	**323**	*e*P	**P**	**18 03 13.9**	**+1.5**
	comp=Z,11nm,1.0s						
GYB4	**ALIBECK ARRAY**	**47.51**	**323**	*e*P	**P**	**18 03 13.8**	**+1.4**
	comp=Z,11nm,1.0s						
KSAR	**Wonju Array Be**	**47.63**	**38**	P	**P**	**18 03 14.6**	**+1.3**
KSAR	**Wonju Array Be**	**47.63**	**38**	P	**P**	**18 03 14.6**	**+1.3**
KSRS	**Korea Array**	**47.66**	**38**	P	**P**	**18 03 14.6**	**+1.1**
	comp=Z,2.9nm,0.9s,baz=228,slow=8.4,SNR=7.5						
ASAR	**Alice Springs**	**47.73**	**125**	P	**P**	**18 03 13.0**	**-1.4**
	comp=Z,1.8nm,0.5s,baz=298,slow=7.6,SNR=27						
ASAR				PcP	**PcP**	**18 04 42.9**	**-0.4**
	comp=Z,1.3nm,0.5s,baz=301,slow=2.9,SNR=7.5						
AS31	**Alice Springs**	**47.73**	**125**	*e*P	**P**	**18 03 13.1**	**-1.4**
	comp=Z,3.7nm,1.4s						
AS01	**Alice Springs**	**47.77**	**125**	*e*P	**P**	**18 03 13.0**	**-1.7**
HVS	**Khovu-Aksy**	**48.64**	**1**	*i* P	**P**	**18 03 23.0**	**+2.0**
HVS				pmax	pmax		
	comp=Z,33nm,1.0s						
ZAK	**Zakamensk**	**48.72**	**9**	*e*P	**P**	**18 03 22.2**	**+0.5**
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.6s						
KURBB	**Kurchatov Arra**	**49.58**	**348**	P	**P**	**18 03 28.5**	**+0.4**
	comp=Z,4.3nm,0.8s,baz=171,slow=7.2,SNR=21						
KURK	**Kurchatov**	**49.65**	**348**	*e*P	**P**	**18 03 29.3**	**+0.6**
	comp=Z,8.6nm,1.0s						
KURK	**Kurchatov**	**49.65**	**348**	*ce*P	**P**	**18 03 29.2**	**+0.6**
KURK				pmax	pmax		
	comp=Z,56nm,1.7s						
TLY	**Talaya**	**50.04**	**9**	*e*P	**P**	**18 03 34.2**	**+2.6**
	comp=Z,6.3nm,1.1s						
TLY	**Talaya**	**50.04**	**9**	*e*P	**P**	**18 03 33.3**	**+1.7**
TLY				pmax	pmax		
	comp=Z,6.0nm,0.9s						
RAYN	**Ar Rayn**	**50.22**	**299**	*e*P	**P**	**18 03 34.0**	**+0.5**
	comp=Z,12nm,0.8s						
RAYN	**Ar Rayn**	**50.22**	**299**	*e*P	**P**	**18 03 34.0**	**+0.5**
RAYN				pmax	pmax		
	comp=Z,12nm,0.8s						
ZAA0	**Zalesovo Array**	**51.85**	**354**	*e*P	**P**	**18 03 46.0**	**+0.9**
	comp=Z,13nm,0.9s						
ZALV	**Zalesovo Beam**	**51.85**	**354**	P	**P**	**18 03 46.0**	**+0.9**
	comp=Z,6.1nm,0.6s,baz=184,slow=7.6,SNR=28						
ZALV				LR	LR	18 30 23.0	
	comp=Z,136nm,20.8s,baz=112,slow=41						
ZALV	**Zalesovo Beam**	**51.85**	**354**	*e*P	**P**	**18 03 45.5**	**+0.3**
ZALV	**Zalesovo Beam**	**51.85**	**354**	*e*P	**P**	**18 03 45.5**	**+0.3**
NVS	**Novosibirsk**	**52.91**	**353**	*e*P	**P**	**18 03 52.1**	**-0.8**
KRAR	**Krasnoyarsk**	**53.52**	**0**	*i* P	**P**	**18 03 59.2**	**+1.8**
BVAR	**Borovoye Array**	**53.79**	**344**	P	**P**	**18 03 59.1**	**-0.4**
	comp=Z,4.0nm,0.8s,baz=141,slow=7.4,SNR=21						
BRVK	**Borovoye**	**53.85**	**343**	*e*P	**P**	**18 03 59.7**	**-0.2**
	comp=Z,4.8nm,0.9s						
BRVK	**Borovoye**	**53.85**	**343**	*ce*P	**P**	**18 03 59.2**	**-0.7**
BRVK				pmax	pmax		
	comp=Z,10.0nm,0.8s						
USRK	**Ussuriysk Ar.**	**54.28**	**34**	P	**P**	**18 04 03.9**	**+0.7**
	comp=Z,1.9nm,0.7s,baz=258,slow=9.5,SNR=4.2						
AB07	**Akbulak array**	**54.44**	**334**	*e*P	**P**	**18 04 04.1**	**-0.1**
AB06	**Akbulak array**	**54.45**	**334**	*e*P	**P**	**18 04 04.2**	**-0.1**
AB08	**Akbulak array**	**54.45**	**334**	*e*P	**P**	**18 04 04.3**	**0.0**
AB03	**Akbulak array**	**54.45**	**334**	*e*P	**P**	**18 04 04.3**	**0.0**
AB01	**Akbulak array**	**54.45**	**334**	*e*P	**P**	**18 04 04.3**	**0.0**
AB31	**Akbulak array**	**54.45**	**334**	*e*P	**P**	**18 04 04.4**	**0.0**
AB31	**Akbulak array**	**54.45**	**334**	*e*P	**P**	**18 04 04.4**	**0.0**
ABKAR	**Akbulak array**	**54.45**	**334**	*e*P	**P**	**18 04 04.4**	**+0.1**
AB02	**Akbulak array**	**54.45**	**334**	*e*P	**P**	**18 04 04.3**	**-0.1**
AB04	**Akbulak array**	**54.46**	**334**	*e*P	**P**	**18 04 04.3**	**0.0**
AB05	**Akbulak array**	**54.47**	**334**	*e*P	**P**	**18 04 04.4**	**0.0**
AB09	**Akbulak array**	**54.47**	**334**	*e*P	**P**	**18 04 04.5**	**0.0**
KMBO	**Kilima Mbogo**	**55.49**	**267**	P	**P**	**18 04 12.2**	**-0.5**
	comp=Z,0.5nm,0.4s,baz=95,slow=12,SNR=3.8						
GNI	**Garni**	**57.36**	**318**	*i* P	**P**	**18 04 24.9**	**-0.7**
GNI				pmax	pmax		
	comp=Z,37nm,1.3s						
KLR	**Kul'dur**	**57.40**	**29**	P	**P**	**18 04 26.1**	**+0.6**
	comp=Z,0.6nm,1.0s,baz=259,slow=7.4,SNR=16						
STKA	**Stephens Creek**	**57.52**	**130**	P	**P**	**18 04 25.6**	**-1.0**
	comp=Z,3.1nm,0.5s,baz=316,slow=6.6,SNR=14						
BOD	**Bodaibo**	**57.85**	**13**	*e*P	**P**	**18 04 29.0**	**+0.5**
BOD				pmax	pmax		
	comp=Z,16nm,1.4s						
GROC	**Groznyy**	**58.18**	**321**	*e*P	**P**	**18 04 28.8**	**-2.3**
GROC				*e*		18 05 17.3	
GROC				*e*		18 06 40.6	
GROC				*e*S	**S**	**18 12 27.5**	**-2.4**
GROC				pmax	pmax		
	comp=Z,16nm,0.5s						
ZEA	**Zeya**	**58.60**	**23**	*e*P	**P**	**18 04 35.0**	**+1.2**
ZEA				pmax	pmax		
	comp=Z,8.0nm,0.9s						
ZEI	**Tsey**	**59.18**	**320**	*e*P	**P**	**18 04 38.9**	**+0.6**
ZEI				pmax	pmax		
	comp=Z,5.0nm,1.0s						
SVE	**Sverdlovsk**	**60.03**	**340**	*e*P	**P**	**18 04 43.8**	**+0.2**
SVE				pmax	pmax		
	comp=Z,20nm,1.2s						
NEY	**Neytrino**	**60.16**	**320**	*e*P	**P**	**18 04 47.1**	**+2.1**
NEY				pmax	pmax		
	comp=Z,2.0nm,0.8s						
KBZ	**Khabaz**	**60.27**	**320**	P	**P**	**18 04 46.4**	**+0.9**
	comp=Z,4.1nm,0.8s,baz=129,slow=4.0,SNR=12						
ARU	**Arti**	**60.44**	**339**	*e*P	**P**	**18 04 45.8**	**-0.7**
	comp=Z,5.5nm,0.8s						
ARU	**Arti**	**60.44**	**339**	*e*P	**P**	**18 04 45.8**	**-0.7**
ARU				pmax	pmax		
	comp=Z,6.0nm,0.8s						
KIV	**Kislovodsk**	**60.52**	**321**	*e*P	**P**	**18 04 47.9**	**+0.6**
KIV				pmax	pmax		
	comp=Z,14nm,1.1s						
YSS	**Yuzh-Sakhalins**	**62.07**	**37**	*i* P	**P**	**18 04 59.2**	**+1.6**
YSS				pmax	pmax		
	comp=Z,7.0nm,1.1s						
TYV	**Tymovskoe**	**64.02**	**33**	*e*P	**P**	**18 05 11.3**	**+0.8**
TYV				pmax	pmax		
	comp=Z,11nm,1.5s						
TYV				pmax	pmax		
	comp=Z,300nm,4.1s						
VRH	**Novokhopyorsk**	**64.68**	**327**	*e*P	**P**	**18 05 13.9**	**-0.9**
VRH				pmax	pmax		
	comp=Z,10.0nm,1.1s						
BR131	**Keskin Array S**	**65.01**	**313**	*e*P	**P**	**18 05 17.4**	**0.0**
BRTR	**Keskin Array B**	**65.01**	**313**	P	**P**	**18 05 16.9**	**-0.4**
	comp=Z,1.9nm,0.8s,baz=127,slow=6.6,SNR=15						
BRTR	**Keskin Array B**	**65.01**	**313**	P	**P**	**18 05 17.0**	**-0.4**
BR231	**Keskin MP Arra**	**65.67**	**313**	*e*P	P	18 05 17.8	-3.8
YAK	**Yakutsk**	**65.69**	**18**	*e*P	**P**	**18 05 21.0**	**-0.2**
YAK				pmax	pmax		
	comp=Z,29nm,0.9s						
YAK				pmax	pmax		
	comp=E,11nm,1.2s						
YAK				pmax	pmax		
	comp=N,9.0nm,1.1s						
VSR	**Storozhevoye**	**66.09**	**326**	*e*P	**P**	**18 05 22.0**	**-1.9**
VSR				pmax	pmax		
	comp=Z,4.0nm,0.6s						
LPSR	**Galich'ya Gora**	**66.88**	**328**	*e*P	**P**	**18 05 28.0**	**-1.0**
LPSR				pmax	pmax		
	comp=Z,20nm,0.9s						
MOS	**Moscow**	**69.07**	**330**	*e*P	P	18 05 38.0	-4.6
OBN	**Obninsk**	**69.30**	**329**	*e*P	**P**	**18 05 44.1**	**0.0**
OBN				*e*		18 05 53.4	
OBN				*e*		18 06 08.5	
OBN				*e*		18 08 15.8	
OBN				*e*PPP	PPP	18 10 01.7	
OBN				pmax	pmax		
	comp=Z,32nm,1.6s						
IDI	**Anoyia**	**70.57**	**307**	P	**P**	**18 05 52.7**	**+0.3**
	comp=Z,8.8nm,0.9s,baz=86,slow=6.9,SNR=4.0						
AKASG	**Malin Array Be**	**71.61**	**323**	P	**P**	**18 05 57.6**	**-0.7**
	comp=Z,0.2nm,0.3s,baz=91,slow=4.8,SNR=11						
KIEV	**Kiev**	**71.62**	**323**	*i* P	**P**	**18 05 57.5**	**-0.8**
KIEV				pmax	pmax		
	comp=Z,12nm,2.0s						
VRI	**Vrincioaia**	**71.71**	**318**	*i* P	**P**	**18 05 59.9**	**+0.8**
PLOR	**Plostina**	**71.76**	**318**	*i* P	**P**	**18 06 00.6**	**+1.2**
MLR	**Muntele Rosu**	**72.14**	**317**	P	**P**	**18 06 02.0**	**+0.3**
	comp=Z,0.9nm,0.8s,baz=166,slow=2.9,SNR=6.3						
MLR	**Muntele Rosu**	**72.14**	**317**	*i* P	**P**	**18 06 02.7**	**+0.9**
MLR	**Muntele Rosu**	**72.14**	**317**	*e*P	**P**	**18 06 02.3**	**+0.5**
	comp=Z,11nm,1.0s						
TIXI	**Tiksi**	**72.93**	**11**	*e*P	**P**	**18 06 05.8**	**+0.1**
	comp=Z,16nm,0.8s						
TIXI	**Tiksi**	**72.93**	**11**	*e*P	**P**	**18 06 05.8**	**+0.1**
TIXI				pmax	pmax		
	comp=Z,16nm,0.8s						
BURAR	**Bucovina Array**	**73.19**	**319**	*i* P	**P**	**18 06 08.9**	**+1.0**
BUR04	**Bucovina Ar. S**	**73.19**	**319**	*e*P	**P**	**18 06 08.7**	**+0.8**
BUR08	**Bucovina Ar. S**	**73.21**	**319**	*e*P	**P**	**18

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**13.36**	**302**	Pn	**Pn**	**18 01 38.4**	**-0.8**
	0.6nm,0.3s,baz=116,slow=17,SNR=1.6						
CMAR	**Chiang Mai Arr**	**19.44**	**20**	P	**P**	**18 02 55.5**	**0.0**
	0.0nm,0.3s,baz=210,slow=12,SNR=4.7						
WRA	**Warramunga Arr**	**45.96**	**118**	P	**P**	**18 06 51.5**	**-0.5**
	1.3nm,0.9s,baz=296,slow=8.7,SNR=4.4						
ASAR	**Alice Springs**	**46.99**	**123**	P	**P**	**18 06 59.7**	**-0.4**
	0.3nm,0.8s,baz=293,slow=7.7,SNR=2.5						
MKAR	**Makanchi Array**	**47.26**	**351**	P	**P**	**18 07 01.4**	**-0.3**
	0.6nm,0.7s,baz=167,slow=9.5,SNR=2.7						
SONM	**Songino Array**	**49.13**	**13**	P	**P**	**18 07 16.6**	**+0.3**
	0.8nm,0.7s,baz=198,slow=9.1,SNR=2.9						
KURBB	**Kurchatov Arra**	**51.62**	**349**	P	**P**	**18 07 34.3**	**-0.5**
	0.7nm,0.8s,baz=170,slow=7.2,SNR=3.5						
ZALV	**Zalesovo Beam**	**53.98**	**355**	P	**P**	**18 07 51.8**	**-0.4**
	0.7nm,0.4s,baz=179,slow=7.3,SNR=3.6						
BVAR	**Borovoye Array**	**55.73**	**344**	P	**P**	**18 08 04.4**	**-0.6**
	0.4nm,0.6s,baz=146,slow=11,SNR=2.9						
BRTR	**Keskin Array B**	**66.09**	**314**	P	**P**	**18 09 16.4**	**+0.5**
	0.6nm,0.8s,baz=128,slow=3.3,SNR=3.3						
GERES	**GERESS Array B**	**82.24**	**319**	P	**P**	**18 10 51.4**	**+1.5**
	0.4nm,0.7s,baz=150,slow=11,SNR=3.8						

IDC 11 17:59:20.3±2.2, 0.°58N×92.°75E, h0km, mb3.6/5, mb1 3.9/5, mb1mx3.4/77, mbtmp3.6/5, Error ellipse: s-maj=108.6km s-min=22.5km az=51.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**45.56**	**119**	P	P	18 07 42.8	+0.5
	1.3nm,0.9s,baz=296,slow=8.6,SNR=2.2						
ASAR	**Alice Springs**	**46.66**	**124**	P	P	18 07 50.3	-0.7
	0.3nm,0.8s,baz=301,slow=7.2,SNR=2.8						
MKAR	**Makanchi Array**	**46.93**	**350**	P	P	18 07 52.4	-0.3
	0.5nm,0.6s,baz=171,slow=8.0,SNR=2.6						
KURBB	**Kurchatov Arra**	**51.30**	**348**	P	P	18 08 26.3	+0.2
	0.4nm,0.5s,baz=176,slow=7.0,SNR=3.0						
GERES	**GERESS Array B**	**82.36**	**319**	P	P	18 11 44.3	0.0
	0.8nm,0.6s,baz=114,slow=4.4,SNR=3.7						

*ISCJB **11** 17:59:40.8±0.4, 52.°49N±0.°09×173.°41W±0.°08, h250km, mb3.5/8, Error ellipse: s-maj=12.8km s-min=4.1km az=156.4*
*IDC **11** 17:59:40.4±5.6, 52.°94N×173.°66W, h194km±53km, mb3.0/6, mb1 3.3/9, mb1mx2.9/85, mbtmp3.7/9, Error ellipse: s-maj=37.9km s-min=16.1km az=2.0*
*NEIC **11** 17:59:44.2±0.0, 52.°52N×173.°58W, h230km, ML3.3(AEIC), After AEIC.*

ISC 11 17:59:43.0±0.7, 52.°5N±0.°2×173.°47W±0.°06, h250km, n64, σ1§78/66, mb3.3/8, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOFP	**Korovin Flat P**	**0.46**	**236**	*e*Pn	**Pn**	**18 00 13.9**	**-2.0**
KOFP				*e*S	**S**	**18 00 38.1**	**-3.5**
KOKL	**Mount Kliuchef**	**0.49**	**245**	*e*Pn	**Pn**	**18 00 14.0**	**-1.9**
KOKL				*e*S	**S**	**18 00 38.9**	**-2.9**
KOWE	**Korovin West**	**0.51**	**251**	*e*Pn	**Pn**	**18 00 13.6**	**-2.4**
GSTD	**Great Sitkin T**	**1.71**	**255**	*e*Pn	**Pn**	**18 00 21.1**	**-1.9**
GSTD				*e*S	**S**	**18 00 49.0**	**-5.5**
ETKA	**Kagalaska Isla**	**1.93**	**251**	*e*Pn	**Pn**	**18 00 23.2**	**-1.6**
ADAG	**Mount Adagdak**	**2.00**	**255**	*e*Pn	**Pn**	**18 00 24.0**	**-1.5**
KIRH	**Kanaga Island**	**2.32**	**255**	*e*Pn	**Pn**	**18 00 27.4**	**-1.0**
KINC	**Kanaga Island**	**2.33**	**256**	*e*Pn	**Pn**	**18 00 27.3**	**-1.2**
KIKV	**Kanaga Island**	**2.37**	**255**	*e*Pn	**Pn**	**18 00 27.7**	**-1.2**
TAPA	**Tanaga Point A**	**2.77**	**257**	*e*Pn	**Pn**	**18 00 32.0**	**-1.0**
OKSP	**Okmok Steeple**	**3.22**	**75**	P	**Pn**	**18 00 36.0**	**-1.8**
OKSP				S	**S**	**18 01 17.2**	**-4.0**
GALAA	**Gareloi Lava P**	**3.35**	**259**	*e*Pn	**Pn**	**18 00 38.7**	**-0.7**
OKTU	**Okmok Mt. Tuli**	**3.39**	**73**	*e*Pn	**Pn**	**18 00 37.9**	**-1.9**
OKTU				*e*S	**S**	**18 01 23.6**	**-1.1**
MSOM	**Makushin Julie**	**4.13**	**69**	*e*Pn	**Pn**	**18 00 46.8**	**-1.3**
UNV	**Unalaska Valle**	**4.39**	**70**	*e*Pn	**Pn**	**18 00 50.7**	**-0.6**
SDPT	**Sand Point**	**8.17**	**65**	*e*Pn	Pn	18 01 34.9	-3.3
CHGN	**Chignik**	**9.55**	**61**	*e*Pn	**Pn**	**18 01 53.5**	**-2.1**
OHAK	**Old Harbor**	**12.52**	**60**	*e*Pn	Pn	18 02 29.6	-3.1
KDAK	**Kodiak Island**	**13.02**	**58**	P	Pn	18 02 35.5	-3.3
	1.0nm,0.3s,baz=245,slow=1.2,SNR=85						
KDAK				S	S	18 04 49.1	-14
	0.1nm,0.3s,baz=150,slow=20,SNR=4.0						
KDAK	**Kodiak Island**	**13.02**	**58**	*e*Pn	**Pn**	**18 02 36.5**	**-2.3**
BRLK	**Bradley Lake**	**14.46**	**51**	*e*Pn	**Pn**	**18 02 54.6**	**-1.9**
SKT	**Skwentna**	**15.10**	**43**	*e*P	**P**	**18 03 05.1**	**+1.5**
	18nm,1.6s						
SUA	**Susitna One**	**15.20**	**45**	*e*P	**P**	**18 03 05.3**	**+0.5**
	18nm,1.6s						
PPLA	**Purkeypile**	**15.31**	**39**	*e*P	**Pn**	**18 03 10.9**	**+4.3**
	14nm,1.4s						
CAST	**Castle Rocks**	**15.64**	**37**	*e*P	**P**	**18 03 10.3**	**+0.8**
	3.4nm,0.4s						
PMR	**Palmer**	**15.95**	**46**	*e*P	**P**	**18 03 13.0**	**+0.2**
	23nm,1.9s						
GHO	**Glory Hole Cre**	**16.11**	**45**	*e*P	**P**	**18 03 14.6**	**-0.2**
	5.5nm,1.0s						
KTH	**Kantishna Hill**	**16.15**	**38**	*e*P	**P**	**18 03 15.7**	**+0.6**
	15nm,1.3s						
TRF	**Thorofare Moun**	**16.34**	**39**	*e*P	**P**	**18 03 17.8**	**+0.5**
	12nm,1.5s						
SML	**Sawmill**	**16.39**	**46**	*e*P	**P**	**18 03 17.7**	**0.0**
	29nm,1.8s						
BPAW	**Bear Paw Mtn.**	**16.43**	**36**	*e*P	**P**	**18 03 19.4**	**+1.2**
	6.6nm,1.2s						
SCM	**Sheep Creek Mo**	**16.84**	**46**	*e*P	**P**	**18 03 22.6**	**0.0**
	10nm,1.1s						
RND	**Reindeer**	**16.87**	**40**	*e*P	**P**	**18 03 22.9**	**-0.1**
	6.6nm,0.5s						
MCK	**McKinley**	**17.00**	**39**	*e*P	**P**	**18 03 25.0**	**+0.6**
	5.5nm,0.6s						
MLY	**Manley**	**17.05**	**34**	*e*P	**P**	**18 03 25.4**	**+0.4**
	3.9nm,0.5s						
DHY	**Denali Highway**	**17.32**	**42**	*e*P	**P**	**18 03 28.0**	**0.0**
	5.7nm,0.6s						
KLU	**Klutina**	**17.35**	**48**	*e*P	**P**	**18 03 27.3**	**-1.0**
	14nm,1.6s						
PETK	**Petropavlovsk-**	**17.39**	**283**	P	**P**	**18 03 29.2**	**+0.5**
	0.2nm,0.3s,baz=81,slow=14,SNR=1.3						
WRH	**Wood River Hil**	**17.69**	**38**	*e*P	**P**	**18 03 30.3**	**-1.5**
	3.5nm,1.1s						
BMRM	**Bremner River**	**17.80**	**50**	*e*P	**P**	**18 03 34.2**	**+1.0**
	19nm,1.8s						
CCB	**Clear Creek Bu**	**17.89**	**37**	*e*P	**P**	**18 03 33.2**	**-0.8**
	3.0nm,0.8s						
MDM	**Murphy Dome**	**17.89**	**36**	*e*P	**P**	**18 03 33.9**	**-0.2**
	21nm,1.9s						
HARP	**HAARP**	**18.00**	**46**	*e*P	**P**	**18 03 35.7**	**+0.5**
	46nm,1.9s						
PAX	**Paxson**	**18.07**	**44**	*e*P	**P**	**18 03 36.3**	**+0.3**
	2.7nm,0.5s						
HDA	**Harding Lake**	**18.09**	**39**	*e*P	**P**	**18 03 35.4**	**-0.8**
	11nm,0.5s						
ILAR	**Eielson Array**	**18.29**	**38**	P	**P**	**18 03 38.1**	**-0.2**
	0.7nm,0.3s,baz=229,slow=11,SNR=32						
ILB	**Eielson Array**	**18.29**	**38**	*e*P	**P**	**18 03 37.3**	**-1.1**
IL1	**Eielson Array**	**18.29**	**38**	*e*P	**P**	**18 03 38.7**	**+0.4**
RIDG	**Independ'e Rid**	**18.63**	**42**	*e*P	**P**	**18 03 41.5**	**-0.6**
	6.1nm,0.5s						
DOT	**Dot Lake**	**18.91**	**43**	*e*P	**P**	**18 03 44.7**	**-0.4**
	17nm,1.1s						
SCRK	**Sand Creek**	**19.07**	**42**	*e*P	**P**	**18 03 46.5**	**-0.3**
	13nm,0.9s						
EGAK	**Eagle**	**20.51**	**41**	*e*P	**P**	**18 04 01.7**	**-0.3**
	15nm,1.8s						
DAWY	**Dawson**	**21.00**	**43**	*e*P	**P**	**18 04 07.5**	**+0.3**
	6.1nm,1.4s						
INK	**Inuvik**	**24.62**	**35**	P	**P**	**18 04 40.6**	**+0.4**
	0.4nm,0.3s,baz=247,slow=7.7,SNR=5.5						
YAK	**Yakutsk**	**31.16**	**310**	P	**P**	**18 05 37.5**	**-0.7**
	13nm,0.4s,baz=131,slow=11,SNR=4.7						
YKA	**Yellowknife Ar**	**32.02**	**49**	P	**P**	**18 05 44.9**	**-0.8**
	0.1nm,0.4s,baz=280,slow=8.1,SNR=2.8						
HOPS	**Hopland Field**	**36.91**	**91**	*e*P	**P**	**18 06 28.3**	**+0.5**
WORM	**Onyx Ranch**	**41.97**	**91**	*e*P	**P**	**18 07 07.4**	**-2.1**
PDAR	**Pinedale Array**	**42.82**	**77**	P	**P**	**18 07 19.9**	**+3.3**
	0.7nm,0.4s,baz=305,slow=3.7,SNR=9.6						
PDAR	**Pinedale Array**	**42.82**	**77**	*e*P	**P**	**18 07 19.5**	**+2.9**
BREC	**Barre Substati**	**43.40**	**93**	*e*P	**P**	**18 07 22.9**	**+2.0**
KURBB	**Kurchatov Arra**	**60.65**	**316**	P	**P**	**18 09 28.1**	**+0.8**
	0.3nm,0.5s,baz=44,slow=7.6,SNR=4.9						
MKAR	**Makanchi Array**	**61.83**	**311**	P	**P**	**18 09 35.4**	**0.0**
	0.3nm,0.7s,baz=28,slow=4.5,SNR=2.9						
ASAR	**Alice Springs**	**88.63**	**227**	P	**P**	**18 12 11.9**	**+4.4**
	0.5nm,1.1s,baz=24,slow=6.2,SNR=4.2						

*IDC **11** 18:03:03.4±1.5, 1.°40N×92.°50E, h0km, mb3.4/6, mb1 3.6/7, mb1mx3.3/79, mbtmp3.4/7, ML3.1/1, Error ellipse: s-maj=55.5km s-min=21.2km az=57.0*
*ISCJB **11** 18:03:06.6±1.3, 1.°4N±0.°2×92.°5E±0.°2, h33km, mb3.5/6, Error ellipse: s-maj=38.5km s-min=18.1km az=155.1*

ISC 11 18:03:08.6±1.5, 1.°4N±0.°2×92.°5E±0.°3, h35km, n8, σ1§02/8, mb3.5/6, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**18.08**	**20**	P	**P**	**18 07 17.9**	**+0.6**
	0.0nm,0.3s,baz=216,slow=13,SNR=3.6						
MKAR	**Makanchi Array**	**46.09**	**350**	P	**P**	**18 11 28.5**	**-0.8**
	0.2nm,0.5s,baz=183,slow=9.1,SNR=1.9						
WRA	**Warramunga Arr**	**46.15**	**120**	P	**P**	**18 11 30.4**	**+0.2**
	0.9nm,0.7s,baz=296,slow=8.6,SNR=4.8						
ASAR	**Alice Springs**	**47.30**	**124**	P	**P**	**18 11 39.2**	**0.0**
	0.2nm,0.7s,baz=293,slow=8.0,SNR=3.9						
SONM	**Songino Array**	**47.79**	**13**	P	**P**	**18 11 42.9**	**+0.2**
	0.8nm,0.7s,baz=190,slow=10.0,SNR=3.7						
KURBB	**Kurchatov Arra**	**50.46**	**348**	P	**P**	**18 12 01.8**	**-1.1**
	0.2nm,0.5s,baz=170,slow=7.0,SNR=3.0						
GERES	**GERESS Array B**	**81.59**	**319**	P	**P**	**18 15 24.4**	**+1.2**
	0.8nm,1.0s,baz=129,slow=4.0,SNR=2.9						
TXAR	**Lajitas Array**	**145.74**	**26**	PKPbc	**PKPdf**	**18 22 43.2**	**-1.2**
	0.4nm,0.6s,baz=51,slow=0.7,SNR=4.7						

*ISCJB **11** 18:05:33.4±0.6, 2.°47N±0.°09×89.°93E±0.°08, h10km, mb4.1/20, Error ellipse: s-maj=14.6km s-min=10.2km az=38.2*
*IDC **11** 18:05:33.9±0.7, 2.°53N×89.°84E, h0km, mb4.0/18, mb1 4.1/20, mb1mx3.9/80, mbtmp4.0/20, ML3.7/2, Error ellipse: s-maj=25.8km s-min=15.7km az=52.0*
*NEIC **11** 18:05:35.4±0.5, 2.°59N×89.°91E, h10km, mb4.6/2, Error ellipse: s-maj=12.1km s-min=8.0km az=209.0*

ISC 11 18:05:35.4±0.8, 2.°5N±0.°1×89.°91E±0.°10, h10km, n43, σ1§84/36, mb4.2/20, 3C-1D, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**10.31**	**298**	Pn	**Pn**	**18 08 02.2**	**-1.3**
	0.8nm,0.3s,baz=116,slow=13,SNR=3.9						
PALK				Sn	Sn	18 09 47.9	-11
	9.6nm,0.3s,baz=122,slow=0.1,SNR=10						
IPM	**Ipoh**	**11.27**	**80**	*e*P	**Pn**	**18 08 16.3**	**-0.3**
	24nm,0.8s						
CMAR	**Chiang Mai Arr**	**18.14**	**29**	P	**Pn**	**18 09 45.9**	**-1.7**
	0.1nm,0.3s,baz=213,slow=13,SNR=5.0						
H08S3	**Diego Garcia H**	**20.10**	**240**	T	T	18 30 43.7	
	baz=60,slow=75,SNR=11						
H08S2	**Diego Garcia H**	**20.10**	**240**	T	T	18 30 33.6	
	baz=60,slow=75,SNR=22						
H08S1	**Diego Garcia H**	**20.12**	**240**	T	T	18 30 37.6	
	baz=60,slow=75,SNR=15						
ODAN	**Odare**	**24.31**	**355**	*e*P	**P**	**18 10 54.2**	**+0.6**
RAMN	**Ramite**	**24.49**	**353**	*e*P	**P**	**18 10 57.8**	**+2.6**
PKIN	**Pinkhoki**	**25.28**	**351**	*e*P	**P**	**18 11 04.8**	**+2.4**
DMN	**Daman**	**25.36**	**350**	*e*P	**P**	**18 11 08.0**	**+4.9**
KKN	**Kakani**	**25.51**	**350**	*e*P	**P**	**18 11 06.6**	**+2.2**
GUN	**Gumba**	**25.53**	**352**	*e*P	**P**	**18 10 58.5**	**-6.2**
KOLN	**Koldanda**	**25.81**	**347**	*e*P	**P**	**18 11 09.7**	**+2.5**
GKN	**Gorkha**	**25.83**	**349**	*e*P	**P**	**18 11 09.5**	**+2.3**
AAK	**Ala-Archa**	**42.24**	**343**	P	**P**	**18 13 28.7**	**-0.4**
	1.1nm,0.8s,baz=161,slow=3.9,SNR=5.0						
H01W3	**Cape Leeuwin H**	**43.61**	**151**	T	T	19 00 08.9	
	baz=325,slow=76,SNR=14						
H01W2	**Cape Leeuwin H**	**43.62**	**151**	T	T	19 00 09.8	
	baz=325,slow=76,SNR=11						
H01W1	**Cape Leeuwin H**	**43.63**	**151**	T	T	19 00 10.4	
	baz=325,slow=76,SNR=17						
MKAR	**Makanchi Array**	**44.59**	**353**	P	**P**	**18 13 48.0**	**+0.3**
	1.4nm,0.5s,baz=170,slow=8.7,SNR=13						
GEYT	**Alibeck**	**45.71**	**324**	P	**P**	**18 13 56.9**	**+0.1**
	1.4nm,0.6s,baz=140,slow=9.7,SNR=7.2						
SONM	**Songino Array**	**47.33**	**15**	P	**P**	**18 14 09.9**	**+0.4**
	4.0nm,0.5s,baz=193,slow=9.3,SNR=17						
KURBB	**Kurchatov Arra**	**48.88**	**350**	P	**P**	**18 14 21.0**	**-0.2**
	1.2nm,0.7s,baz=179,slow=9.1,SNR=14						
KURK	**Kurchatov**	**48.95**	**351**	P	**P**	**18 14 21.0**	**-0.8**
WRA	**Warramunga Arr**	**48.98**	**119**	P	**P**	**18 14 23.0**	**+0.4**
	2.3nm,0.8s,baz=296,slow=8.6,SNR=9.0						
ASAR	**Alice Springs**	**50.10**	**124**	P	**P**	**18 14 31.9**	**+0.8**
	0.6nm,0.9s,baz=298,slow=7.1,SNR=5.6						
ZALV	**Zalesovo Beam**	**51.42**	**356**	P	**P**	**18 14 40.0**	**-0.4**
	1.6nm,0.5s,baz=180,slow=7.0,SNR=6.8						
BVAR	**Borovoye Array**	**52.86**	**345**	P	**P**	**18 14 49.7**	**-1.6**
	0.6nm,0.7s,baz=153,slow=10.0,SNR=4.7						
ABKAR	**Akak array**	**53.12**	**336**	*e*P	**P**	**18 14 54.0**	**+0.9**
	4.2nm,0.7s						
AKTO	**Aktyubinsk**	**54.82**	**336**	P	**P**	**18 15 05.6**	**0.0**
	2.2nm,1.0s,baz=107,slow=7.1,SNR=5.1						
KBZ	**Khabaz**	**58.40**	**321**	P	**P**	**18 15 31.4**	**+0.2**
	1.9nm,0.9s,baz=191,slow=8.9,SNR=3.9						
STKA	**Stephens Creek**	**59.74**	**129**	P	**P**	**18 15 40.4**	**-0.3**
	0.6nm,0.5s,baz=335,slow=10,SNR=2.9						
BRTR	**Keskin Array B**	**62.89**	**314**	P	**P**	**18 16 01.9**	**-0.3**
	1.1nm,0.6s,baz=133,slow=6.7,SNR=7.8						
HARR	**Harsova**	**68.56**	**317**	⇓*i*P	P	18 16 47.1	+8.7
BOSA	**Boshof**	**69.20**	**238**	P	**P**	**18 16 42.2**	**-0.7**
	1.0nm,0.5s,baz=115,slow=12,SNR=4.8						
VRI	**Vrincioaia**	**69.74**	**318**	⇑*i*P	**P**	**18 16 47.2**	**+1.4**
MLR	**Muntele Rosu**	**70.15**	**318**	⇑*i*P	**P**	**18 16 49.7**	**+1.3**
BURAR	**Bucovina Array**	**71.26**	**320**	⇑*i*P	**P**	**18 16 56.0**	**+0.8**
TIXI	**Tiksi**	**73.28**	**12**	*e*P	**P**	**18 17 05.4**	**-1.2**
	5.2nm,0.8s						
FINES	**FINESS Array B**	**75.51**	**334**	P	**P**	**18 17 19.2**	**-0.6**
	1.4nm,0.7s,baz=104,slow=8.0,SNR=6.6						
ARCES	**ARCESS Array B**	**78.88**	**341**	P	**P**	**18 17 38.6**	**+0.1**
	2.1nm,0.7s,baz=89,slow=6.4,SNR=7.8						
GERES	**GERESS Array B**	**79.03**	**319**	P	**P**	**18 17 40.1**	**+0.2**
	0.8nm,0.6s,baz=120,slow=7.9,SNR=7.2						
HFS	**Hagfors**	**80.96**	**331**	P	**P**	**18 17 50.5**	**+0.5**
	1.5nm,0.6s,baz=157,slow=8.0,SNR=7.4						
TXAR	**Lajitas Array**	**145.75**	**21**	PKPbc	**PKPab**	**18 25 16.9**	**+1.0**
	1.9nm,0.9s,baz=308,slow=0.9,SNR=10						

IDC 11 18:09:20.3±2.3, 0.°59N×93.°63E, h0km, mb3.5/4, mb1 3.7/5, mb1mx3.3/74, mbtmp3.6/5, ML4.1/1, Error ellipse: s-maj=76.3km s-min=27.0km az=50.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**14.50**	**298**	Pn	Pn	18 12 46.8	-0.2
	0.9nm,0.3s,baz=117,slow=16,SNR=2.1						
WRA	**Warramunga Arr**	**44.80**	**119**	P	P	18 17 36.1	-0.2
	0.5nm,0.7s,baz=297,slow=9.2,SNR=2.5						
MKAR	**Makanchi Array**	**47.08**	**349**	P	P	18 17 54.1	+0.2
	0.5nm,0.6s,baz=155,slow=9.7,SNR=3.8						
SONM	**Songino Array**	**48.35**	**11**	P	P	18 18 03.9	0.0
	0.7nm,0.6s,baz=193,slow=12,SNR=2.8						
KURBB	**Kurchatov Arra**	**51.48**	**348**	P	P	18 18 26.9	-0.5
	0.3nm,1.0s,baz=174,slow=8.6,SNR=3.3						

IDC 11 18:10:24.1±3.1, 1.°60N×93.°56E, h0km, mb3.3/3, mb1 3.5/4, mb1mx3.2/72, mbtmp3.3/4, ML3.5/1, Error ellipse: s-maj=107.9km s-min=26.1km az=62.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**17.56**	**17**	P	Pn	18 14 30.4	0.0
	0.1nm,0.3s,baz=214,slow=13,SNR=4.1						
WRA	**Warramunga Arr**	**45.35**	**120**	P	P	18 18 44.4	-0.1
	0.7nm,0.7s,baz=298,slow=9.0,SNR=3.5						
MKAR	**Makanchi Array**	**46.07**	**349**	P	P	18 18 49.8	0.0
	0.3nm,0.6s,baz=159,slow=8.6,SNR=2.4						
ASAR	**Alice Springs**	**46.57**	**125**	P	P	18 18 53.8	-0.3
	0.2nm,0.8s,baz=295,slow=7.0,SNR=2.7						

*ISCJB **11** 18:11:21.2±1.8, 1.°5N±0.°3×91.°7E±0.°4, h10km, mb3.8/6, Error ellipse: s-maj=65.9km s-min=24.7km az=144.1*
*IDC **11** 18:11:21.2±1.9, 1.°44N×91.°58E, h0km, mb3.7/6, mb1 3.9/6, mb1mx3.5/70, mbtmp3.7/6, Error ellipse: s-maj=72.9km s-min=27.3km az=54.0*

ISC 11 18:11:22.6±1.9, 1.°4N±0.°3×91.°6E±0.°4, h10km, n7, σ0§51/7, mb3.8/6, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**45.91**	**351**	P	**P**	**18 19 45.3**	**-0.1**
	0.7nm,0.6s,baz=166,slow=8.4,SNR=5.3						
WRA	**Warramunga Arr**	**46.98**	**119**	P	**P**	**18 19 54.3**	**0.0**
	0.6nm,0.4s,baz=297,slow=8.4,SNR=9.1						
SONM	**Songino Array**	**47.97**	**13**	P	**P**	**18 20 02.1**	**+0.4**
	1.2nm,0.6s,baz=189,slow=8.8,SNR=5.8						
KURBB	**Kurchatov Arra**	**50.26**	**349**	P	**P**	**18 20 18.3**	**-0.6**
	0.4nm,0.6s,baz=169,slow=6.9,SNR=4.4						
ZALV	**Zalesovo Beam**	**52.65**	**355**	P	**P**	**18 20 36.7**	**-0.1**
	0.5nm,0.4s,baz=176,slow=7.1,SNR=4.4						
GERES	**GERESS Array B**	**80.96**	**319**	P	**P**	**18 23 37.9**	**+0.3**
	0.8nm,0.8s,baz=79,slow=6.9,SNR=5.5						
TXAR	**Lajitas Array**	**146.10**	**24**	PKPbc	**PKPab**	**18 31 03.8**	**-0.6**
	0.5nm,0.7s,baz=207,slow=4.2,SNR=5.4						

*IDC **11** 18:14:03.8±0.9, 1.°12N×91.°92E, h0km, mb4.1/17, mb1 4.3/19, mb1mx4.0/69, mbtmp4.1/19, ML3.7/2, MS4.1/3, Ms1 4.1/3, ms1mx3.4/48, Error ellipse: s-maj=30.6km s-min=16.7km az=41.0*
*ISCJB **11** 18:14:04.2±0.6, 1.°2N±0.°1×92.°01E±0.°06, h10km, mb4.3/20, Error ellipse: s-maj=15.4km s-min=8.9km az=7.7*
*NEIC **11** 18:14:05.6±0.5, 1.°16N×91.°97E, h10km, mb4.7/5, Error ellipse: s-maj=11.8km s-min=6.7km az=193.0*

ISC 11 18:14:05.5±1.0, 1.°1N±0.°2×91.°96E±0.°10, h10km, n52, σ0§79/47, mb4.4/20, 2C-3D, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**7.16**	**76**	*e*Pn	**Pn**	**18 15 50.3**	**-0.1**
IPM	**Ipoh**	**9.65**	**70**	*e*Pn	**Pn**	**18 16 24.8**	**+0.3**
PALK	**Pallekele**	**12.78**	**299**	Pn	**Pn**	**18 17 07.3**	**-0.2**
	1.1nm,0.3s,baz=115,slow=16,SNR=3.6						
CMAR	**Chiang Mai Arr**	**18.54**	**21**	P	**P**	**18 18 21.7**	**-0.8**
	0.1nm,0.3s,baz=214,slow=12,SNR=14						
CHTO	**Chiang Mai**	**18.87**	**21**	*e*P	**P**	**18 18 26.1**	**+0.1**
	8.4nm,1.5s						
H08S2	**Diego Garcia H**	**21.28**	**246**	T	T	18 40 43.1	
	baz=61,slow=76,SNR=13						
H08S3	**Diego Garcia H**	**21.28**	**246**	T	T	18 40 33.9	
	baz=61,slow=76,SNR=12						
H08S1	**Diego Garcia H**	**21.30**	**246**	T	T	18 40 27.4	
	baz=61,slow=76,SNR=12						
MK01	**Makanchi Array**	**46.24**	**351**	*e*P	**P**	**18 22 30.7**	**-0.2**
MK31	**Makanchi Array**	**46.27**	**351**	*e*P	**P**	**18 22 31.0**	**-0.1**
MKAR	**Makanchi Array**	**46.27**	**351**	P	**P**	**18 22 31.0**	**-0.1**
	1.8nm,0.8s,baz=170,slow=9.6,SNR=16						
MKAR	**Makanchi Array**	**46.27**	**351**	*e*P	**P**	**18 22 31.0**	**-0.1**
	58nm,0.6s						
WRA	**Warramunga Arr**	**46.51**	**119**	P	**P**	**18 22 33.5**	**0.0**
	2.7nm,0.7s,baz=297,slow=8.6,SNR=18						
ASAR	**Alice Springs**	**47.62**	**124**	P	**P**	**18 22 42.0**	**-0.1**
	0.6nm,0.6s,baz=301,slow=7.8,SNR=12						
GYA1	**ALIBECK ARRAY**	**48.04**	**324**	*e*P	**P**	**18 22 45.9**	**+0.7**
	6.6nm,0.8s						
GEYT	**Alibeck**	**48.05**	**324**	P	**P**	**18 22 46.0**	**+0.8**
	2.7nm,0.8s,baz=166,slow=8.6,SNR=6.8						
SONM	**Songino Array**	**48.19**	**13**	P	**P**	**18 22 46.8**	**+0.6**
	6.0nm,0.7s,baz=192,slow=9.2,SNR=22						
SONA1	**Songino Array**	**48.20**	**13**	*e*P	**P**	**18 22 47.0**	**+0.6**
KSAR	**Wonju Array Be**	**48.99**	**38**	P	**P**	**18 22 53.6**	**+1.1**
KSRS	**Korea Array**	**49.02**	**38**	P	**P**	**18 22 53.6**	**+0.9**
	1.4nm,0.8s,baz=235,slow=7.1,SNR=4.7						
KURBB	**Kurchatov Arra**	**50.62**	**349**	P	**P**	**18 23 04.2**	**-0.4**
	2.3nm,

59nm,0.8s
MDSI Maura Dua 11.89 122 P **Pn** 18 18 28.6 -1.9
95nm,0.5s,1μm
LWLI Liwa 12.08 125 P **Pn** 18 18 31.6 -1.6
285nm,0.8s,6μm
KLI Kotabumi 12.66 122 P **P** 18 18 52.4 +0.5
KASI Kota Agung 12.72 126 P **Pn** 18 18 39.5 -2.4
88nm,0.6s,2μm
CGJI Cibinong 14.32 126 P **Pn** 18 19 04.5 +0.8
53nm,0.7s,3μm
PALK Pallekele 14.40 292 Pn **Pn** 18 19 04.9 +0.1
4.0nm,0.3s,baz=116,slow=7.3,SNR=3.3
PALK Sn Sn 18 21 30.2 -13
6.7nm,0.3s,baz=117,slow=3.5,SNR=6.0
PALK Pallekele 14.40 292 *e*Pn **Pn** 18 19 05.2 +0.4
PALK Sn Sn 18 21 30.2 -13
LEM Lembang 16.02 123 Pn **Pn** 18 19 25.2 -1.1
1.3nm,0.3s,baz=26,slow=21,SNR=3.5
LEM LR LR 18 26 20.5
comp=Z,1μm,19.6s,baz=328,slow=40
KSM Kuching 16.17 91 *e*Pn **Pn** 18 19 28.0 -0.1
68nm,1.2s
CISI Cisompet, Garu 16.58 125 P **P** 18 19 39.5 +3.9
CISI Cisompet, Garu 16.58 125 *e*Pn **Pn** 18 19 29.1 -4.3
73nm,1.0s
CM01 Chiang Mai Arr 17.06 16 *e*Pn **Pn** 18 19 39.5 +0.2
CM31 Chiang Mai Arr 17.09 16 *e*Pn **P** 18 19 41.0 -0.1
CMAR Chiang Mai Arr 17.09 16 P **Pn** 18 19 40.0 +0.4
0.7nm,0.3s,baz=212,slow=12,SNR=36
KPJI Karang Pucung 17.40 122 P **P** 18 19 44.2 -0.3
CHTO Chiang Mai 17.43 15 *e*Pn **Pn** 18 19 41.8 -2.1
22nm,1.1s
STKI Sintang 17.44 96 P **P** 18 19 47.7 +2.7
WOJI Wonogiri, Jawa 19.35 120 P **P** 18 20 05.3 -0.8
MTKI Muara Teweh, K 20.95 98 P Pn 18 20 33.6 +7.4
HYB Hyderabad 21.71 316 *i* P **P** 18 20 32.0 +0.4
KKM Kota Kinabalu 22.40 79 *e*P **P** 18 20 40.3 +1.2
39nm,1.0s
BKB Balikpapan 22.98 98 P **P** 18 20 45.6 +0.5
SRBI Singaraja 23.26 116 P **P** 18 20 51.6 +3.7
26nm,1.6s,672nm
SHL Shillong 23.60 355 *e*P **P** 18 20 51.1 -0.2
42nm,0.7s
MYLDM **Lahad Datu 24.53 82** *e*P **P** 18 21 02.6 +2.7
56nm,1.2s
MPSI Mapaga 25.81 93 P **P** 18 21 14.9 +3.4
18nm,1.1s
PCI Palu 25.85 96 P P 18 21 25.1 +13
LSA Lhasa 27.77 354 P **P** 18 21 31.7 +2.2
LSA pmax pmax
comp=Z,7.0nm,1.0s
BBSI Bau Bau 29.34 105 P **P** 18 21 46.2 +3.0
comp=Z,5.3nm,0.9s,comp=Z,3μm
SOEI Soe 32.18 112 *e*P **P** 18 22 03.7 -4.7
comp=Z,89nm,0.8s
XAN Xi'an 34.81 22 P **P** 18 22 30.9 -0.1
XAN pP pP 18 22 36.9 -4.2
XAN sP sP 18 22 39.9 -5.4
XAN PP **PnPn** **18 23 43.7 -4.2**
XAN S **S** **18 27 51.4 -8.1**
XAN sS sS 18 28 01.4 -15
XAN SS SnSn 18 29 55.7 -19
XAN pmax pmax
comp=Z,35nm,0.8s
XAN LR LR
comp=N,740nm,21.7s
XAN LR LR
comp=E,1μm,19.5s
XAN LR LR
comp=Z,820nm,15.2s
FITZ Fitzroy Crossi 36.85 124 P **P** **18 22 47.7 -0.9**
comp=Z,4.1nm,0.8s,baz=296,slow=9.8,SNR=3.5
MEEK Meekatharra 36.94 142 P **P** **18 22 49.5 +0.2**
baz=37,SNR=6.3
NIL Nilore 37.12 330 *e*P **P** **18 22 50.7 0.0**
comp=Z,9.4nm,0.8s
SWI Sorong 37.22 94 P **P** **18 22 52.9 +1.0**
SIJI Sorong 37.23 94 P **P** **18 22 50.5 -1.5**
comp=Z,11nm,0.9s,baz=300,slow=6.7,SNR=5.8
GTA Gaotai 37.67 7 *e*P **P** **18 22 56.2 +0.8**
GTA pP pP 18 23 04.8 -0.8
GTA sP sP 18 23 08.6 -1.2
GTA S **S** **18 28 43.5 +0.3**
GTA pmax pmax
comp=Z,6.0nm,0.8s
GTA pmax pmax
comp=Z,140nm,5.1s
GTA LR LR
comp=N,280nm,14.3s
GTA LR LR
comp=E,370nm,13.1s
GTA LR LR
comp=Z,580nm,15.6s
WSAR Wadi Sarin 40.40 304 LR LR 18 39 44.1
comp=Z,284nm,18.2s,baz=122,slow=36
NWAO Narrogin (SRO) 40.97 150 P **P** **18 23 21.7 -1.2**
comp=Z,10nm,0.8s,baz=184,slow=13,SNR=5.4
NWAO Narrogin (SRO) 40.97 150 P **P** **18 23 22.4 -0.5**
baz=41,SNR=5.0
NWAO P **P** **18 23 22.4 -0.5**
baz=41,SNR=5.0
NRN Naryn 42.59 340 *e*P **P** **18 23 35.9 -0.5**
comp=Z,7.9nm,1.1s
WRKA Warakurna 42.60 131 P **P** **18 23 36.6 +0.2**
baz=43,SNR=3.5
BJI Beijing 42.90 25 P **P** **18 23 40.4 +1.9**
BJI pmax pmax
comp=Z,17nm,1.0s
AAK Ala-Archa 44.18 339 LR LR 18 43 55.8
comp=Z,257nm,20.4s,baz=88,slow=38
WRA Warramunga Arr 45.03 121 P **P** **18 23 55.4 -0.6**
comp=Z,7.7nm,0.9s,baz=300,slow=8.9,SNR=13
WB2 Warramunga Arr 45.04 121 *e*P **P** **18 23 55.3 -0.8**
MK01 Makanchi Array 45.84 349 *e*P **P** **18 24 02.7 +0.6**
MK31 Makanchi Array 45.87 349 *e*P **P** **18 24 03.2 +1.0**
MKAR Makanchi Array 45.87 349 P **P** **18 24 03.2 +1.0**
comp=Z,9.7nm,0.7s,baz=165,slow=8.4,SNR=44
MKAR Makanchi Array 45.87 349 *e*P **P** **18 24 03.2 +1.0**
comp=Z,58nm,0.6s
MAKZ Makanchi 45.94 348 *e*P **P** **18 24 03.8 +1.0**
comp=Z,4.9nm,0.7s
KK06 Karatay Array 46.09 336 *e*P **P** **18 24 04.6 +0.6**
KK07 Karatay Array 46.09 336 *e*P **P** **18 24 04.2 +0.2**
KK02 Karatay Array 46.10 336 *e*P **P** **18 24 04.3 +0.2**
KK31 Karatay Array 46.10 336 *e*P **P** **18 24 04.7 +0.6**
KKAR Karatay Array 46.10 336 *e*P **P** **18 24 04.7 +0.6**
KK01 Karatay Array 46.10 336 *e*P **P** **18 24 04.2 +0.1**
KK03 Karatay Array 46.10 336 *e*P **P** **18 24 04.3 +0.1**
KK08 Karatay Array 46.11 336 *e*P **P** **18 24 04.5 +0.3**
AS31 Alice Springs 46.29 126 *e*P **P** **18 24 05.8 -0.1**
comp=Z,3.6nm,1.1s
ASAR Alice Springs 46.29 126 P **P** **18 24 05.5 -0.4**
comp=Z,4.2nm,0.5s,baz=296,slow=7.6,SNR=42
AS01 Alice Springs 46.33 126 *e*P **P** **18 24 05.2 -1.0**
SONM Songino Array 46.95 11 P **P** **18 24 12.1 +1.3**
comp=Z,5.9nm,0.7s,baz=191,slow=9.0,SNR=12
SONA1 Songino Array 46.96 11 *e*P **P** **18 24 11.8 +0.9**
KSAR Wonju Array Be 47.03 37 P **P** **18 24 12.1 +0.6**
KSRS Korea Array 47.06 37 P **P** **18 24 12.1 +0.4**
comp=Z,2.2nm,1.0s,baz=229,slow=8.4,SNR=4.3
GYB1 ALIBECK ARRAY 48.71 322 *e*P **P** **18 24 25.8 +1.2**
comp=Z,7.8nm,0.8s
GYA1 ALIBECK ARRAY 48.72 322 *e*P **P** **18 24 25.6 +0.9**
comp=Z,6.6nm,0.8s
GYB2 ALIBECK ARRAY 48.72 322 *e*P **P** **18 24 25.7 +1.1**
comp=Z,8.2nm,0.6s
GEYT Alibeck 48.72 322 P **P** **18 24 25.5 +0.9**
comp=Z,3.5nm,0.6s,baz=147,slow=8.3,SNR=9.7
GYA0 ALIBECK ARRAY 48.72 322 *e*P **P** **18 24 25.7 +1.1**
comp=Z,7.4nm,0.8s
GYA0B **ALIBECK ARRAY 48.72 322** *e*P **P** **18 24 25.7 +1.0**
comp=Z,7.4nm,0.8s
GYB5 ALIBECK ARRAY 48.72 322 *e*P **P** **18 24 25.2 +0.6**
comp=Z,32nm,1.7s
GYA2 ALIBECK ARRAY 48.73 322 *e*P **P** **18 24 25.2 +0.5**
comp=Z,8.3nm,0.8s
GYB3 ALIBECK ARRAY 48.73 322 *e*P **P** **18 24 25.8 +1.0**
comp=Z,6.6nm,0.7s
QIS Mount Isa 49.83 119 P **P** **18 24 31.0 -2.3**
baz=50,SNR=4.0
KURBB **Kurchatov Arra 50.29 347** P **P** **18 24 37.0 +0.7**
comp=Z,3.2nm,0.7s,baz=172,slow=6.7,SNR=18
KURK Kurchatov 50.36 347 *e*P **P** **18 24 37.7 +0.9**
comp=Z,30nm,1.9s
OPO Ambohidratompo 50.46 244 P **P** **18 24 38.2 -0.1**
comp=Z,5.8nm,0.7s,baz=62,slow=9.3,SNR=6.4

JCJ Chichijima 52.36 57 LR LR 18 45 46.1
comp=Z,2μm,20.4s,baz=236,slow=34
ZAA0 Zalesovo Array 52.42 353 *e*P **P** **18 24 53.1 +0.9**
comp=Z,13nm,1.3s
ZALV Zalesovo Beam 52.42 353 P **P** **18 24 53.0 +0.8**
comp=Z,8.8nm,0.7s,baz=190,slow=7.6,SNR=20
ZALV Zalesovo Beam 52.42 353 *e*P **P** **18 24 52.6 +0.5**
USRK Ussuriysk Ar. 53.79 33 P **P** **18 25 03.6 +1.2**
comp=Z,0.9nm,0.4s,baz=240,slow=6.7,SNR=4.8
BVAR Borovoye Array 54.60 343 P **P** **18 25 08.1 -0.2**
comp=Z,2.7nm,0.7s,baz=143,slow=8.3,SNR=20
AB07 Akbulak array 55.45 333 *e*P **P** **18 25 13.6 -0.8**
AB06 Akbulak array 55.46 333 *e*P **P** **18 25 13.9 -0.6**
AB08 Akbulak array 55.46 333 *e*P **P** **18 25 14.2 -0.3**
AB03 Akbulak array 55.46 333 *e*P **P** **18 25 14.2 -0.3**
AB01 Akbulak array 55.47 333 *e*P **P** **18 25 14.1 -0.4**
AB31 Akbulak array 55.47 333 *e*P **P** **18 25 14.2 -0.4**
ABKAR **Akbulak array 55.47 333** *e*P **P** **18 25 14.2 -0.4**
AB02 Akbulak array 55.47 333 *e*P **P** **18 25 14.2 -0.3**
AB04 Akbulak array 55.47 333 *e*P **P** **18 25 14.1 -0.5**
AB05 Akbulak array 55.48 333 *e*P **P** **18 25 14.2 -0.4**
AB09 Akbulak array 55.48 333 *e*P **P** **18 25 14.2 -0.5**
QLP Quilpie 56.00 124 P **P** **18 25 18.9 +0.2**
baz=56,SNR=3.7
STKA Stephens Creek 56.13 131 P **P** **18 25 19.5 -0.2**
comp=Z,5.0nm,0.7s,baz=308,slow=7.8,SNR=13
STKA Stephens Creek 56.13 131 P **P** **18 25 19.4 -0.3**
baz=56,SNR=7.7
STKA Stephens Creek 56.13 131 *e*P **P** **18 25 19.6 0.0**
comp=Z,1.5nm,0.8s
KMBO Kilima Mbogo 56.95 267 P **P** **18 25 26.7 +0.6**
comp=Z,0.5nm,0.3s,baz=67,slow=9.8,SNR=3.9
CMSA Cobar Meteorol 59.12 129 P **P** **18 25 40.8 +0.1**
baz=59,SNR=8.0
KBZ Khabaz 61.53 320 P **P** **18 25 57.2 +0.2**
comp=Z,3.3nm,0.8s,baz=125,slow=2.8,SNR=7.3
MMAI Mount Meron Ar 63.00 306 P **P** **18 26 08.8 +1.7**
comp=Z,1.3nm,0.6s,baz=95,slow=16,SNR=3.1
YAK Yakutsk 65.62 18 *e*P **P** **18 26 23.7 +0.1**
comp=Z,13nm,0.7s
BR131 Keskin Array S 66.37 313 *e*P **P** **18 26 29.0 0.0**
BRTR Keskin Array B 66.37 313 P **P** **18 26 29.1 0.0**
comp=Z,1.9nm,0.7s,baz=134,slow=6.8,SNR=11
BR231 Keskin MP Arra 67.03 313 *e*P **P** **18 26 28.7 -4.6**
CFR Carcaliu 71.87 317⇑ *i*P **P** **18 27 01.6 -1.2**
IDI Anoyia 72.00 306 P **P** **18 27 04.1 +0.2**
comp=Z,6.6nm,0.7s,baz=99,slow=10,SNR=7.5
BOSA Boshof 72.50 239 P **P** **18 27 07.2 0.0**
comp=Z,3.2nm,1.0s,baz=169,slow=5.4,SNR=3.1
SORM Soroca 72.58 320⇑ *i*P **P** **18 27 06.5 -0.5**
AKASG **Malin Array Be 72.83 323** P **P** **18 27 07.6 -0.8**
comp=Z,0.6nm,0.5s,baz=94,slow=4.4,SNR=6.9
AKASG LR LR 19 01 48.0
comp=Z,72nm,21.6s,baz=95,slow=38
AK11 Malin Array Si 72.85 323 *e*P **P** **18 27 08.3 -0.3**
VRI Vrincioaia 73.01 318⇑ *i*P **P** **18 27 10.7 +1.0**
TIXI Tiksi 73.03 11 *e*P **P** **18 27 09.4 +0.2**
comp=Z,5.8nm,0.8s
PLOR Plostina 73.06 318⇑ *i*P **P** **18 27 11.4 +1.4**
TESR Tescani 73.23 318⇑ *i*P **P** **18 27 10.7 -0.3**
MLR Muntele Rosu 73.44 317 P **P** **18 27 12.9 +0.5**
comp=Z,1.2nm,0.7s,baz=186,slow=9.6
MLR Muntele Rosu 73.44 317⇓ *i*P **P** **18 27 13.3 +0.9**
MLR Muntele Rosu 73.44 317 *e*P **P** **18 27 13.3 +0.9**
comp=Z,48nm,1.8s
VOIR 74.04 317⇑ *i*P **P** **18 27 15.8 -0.1**
SEY Seymchan 74.32 24 P **P** **18 27 16.5 -0.5**
comp=Z,2.1nm,1.0s,baz=163,slow=19,SNR=4.5
BURAR **Bucovina Array 74.47 319**⇓ *i*P **P** **18 27 19.5 +1.2**
BUR04 **Bucovina Ar. S 74.47 319** *e*P **P** **18 27 19.1 +0.7**
BUR08 **Bucovina Ar. S 74.48 319** *e*P **P** **18 27 19.6 +1.2**
VTS Vitosha 74.71 314⇑ *i*P **P** **18 27 18.4 -1.5**
KWP Kalwaria Pacla 76.56 321 *e*P **P** **18 27 31.4 +1.2**
comp=Z,76nm,0.8s
CRVS Cervenica-Dubn 77.20 320 *e*P **P** **18 27 35.1 +1.3**
STHS Stebnicka Huta 77.45 320 *e*P **P** **18 27 36.8 +1.6**
FINES FINESS Array B 77.95 333 P **P** **18 27 37.2 -0.5**
comp=Z,1.9nm,0.7s,baz=104,slow=6.1,SNR=6.1
VYHS Vyhne 78.83 319 *e*P **P** **18 27 43.5 +0.6**
MODS Modra-Piesok 79.84 319 *e*P **P** **18 27 48.8 +0.4**
KRLC Kraliky 80.41 320 *e*P **P** **18 27 52.2 +0.7**
KRLC *e*PCP **pP** **18 28 01.2 -1.3**
DPC Dobruska-Polom 80.75 321 *e*P **P** **18 27 54.4 +1.2**
DPC *ex* x 18 28 03.0
ARCES **ARCESS Array B 80.83 341** P **P** **18 27 52.4 -0.8**
comp=Z,6.9nm,1.1s,baz=69,slow=6.6,SNR=3.8
GEA0 GERESS Array S 82.25 319 *e*P **P** **18 28 02.2 +0.9**
GERES **GERESS Array B 82.25 319** P **P** **18 28 02.3 +1.0**
comp=Z,3.6nm,0.7s,baz=104,slow=5.6,SNR=15
KHC Kasperske Hory 82.36 319 *e*P **P** **18 28 02.6 +0.8**
KHC *ex* x 18 28 10.2
HFS Hagfors 83.57 330 P **P** **18 28 08.1 +0.4**
comp=Z,3.5nm,0.9s,baz=152,slow=6.4,SNR=4.2
NB2 NORSAR Subarra 84.89 331 P **P** **18 28 12.5 -2.0**
comp=Z,2.0nm,0.8s,baz=98,slow=5.1
NOA NORSAR Array B 84.89 331 P **P** **18 28 15.1 +0.6**
comp=Z,1.3nm,0.8s,baz=96,slow=5.4,SNR=3.7
TOA0 Torodi Ar. Sit 91.94 283 *e*P **P** **18 28 49.7 +0.6**
TORD Torodi Ar. Bea 91.94 283 P **P** **18 28 49.1 0.0**
comp=Z,1.1nm,0.7s,baz=89,slow=4.9,SNR=7.2
EKA Eskdalemuir Ar 92.58 325 P **P** **18 28 51.7 +0.5**
comp=Z,0.7nm,0.7s,baz=126,slow=4.8,SNR=3.8
TX31 Lajitas Ar. Si 144.55 27 *e*PKPdf PKPbc 18 35 16.2 +0.6
TX31 *e*PKPdf **PKPdf** **18 35 16.5 -0.5**
TXAR Lajitas Array 144.55 27 PKP PKPbc 18 35 16.2 +0.6
comp=Z,2.8nm,0.8s,baz=288,slow=1.2,SNR=10
JCT Junction City 145.14 21 *e*PKPbc **PKPbc** **18 35 16.3 -1.2**
HPIG 145.53 32 *e*PKPdf **PKPdf** **18 35 16.9 -2.1**

IDC 11 18:22:22.7±1.9, 4.°18N×92.°45E, h0km, mb3.5/2, mb1 3.9/4, mb1mx3.3/66, mbtmp3.7/4, ML3.4/2, Error ellipse: s-maj=53.9km s-min=29.6km az=44.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
PALK	**Pallekele**	**12.09**	**285**	Pn	Pn		18 25 16.8	+0.4
	0.3nm,0.3s,baz=115,slow=15,SNR=2.5							
CMAR	**Chiang Mai Arr**	**15.55**	**24**	Pn	Pn		18 26 04.2	+0.8
	0.1nm,0.3s,baz=218,slow=13,SNR=5.2							
MKAR	**Makanchi Array**	**43.35**	**350**	P	P		18 30 26.4	-0.4
	0.3nm,0.5s,baz=166,slow=8.2,SNR=4.5							
WRA	**Warramunga Arr**	**47.63**	**122**	P	P		18 31 00.9	-0.1
	0.7nm,0.9s,baz=300,slow=8.5,SNR=6.5							

DJA 11 18:31:22.1±0.6, 10.°S±3.°×11.°6E±.°, h22km±6km, M4.3/13, MLv4.3/13, South of Bali

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
IGBI	**Denpasar**	**0.85**	**330**	P	Pb		18 31 37.5	-0.7
IGBI				S	Sb		18 31 48.1	-1.0
DNP	**Denpasar**	**0.95**	**338**	P	Pb		18 31 39.3	-0.5
DNP				S	Sn		18 31 53.5	+0.6
SRBI	**Singaraja**	**1.51**	**346**	P	Pn		18 31 48.3	+0.5
SRBI				S	Sb		18 32 08.5	+0.4
JAGI	**Jajag, Banyuwa**	**1.77**	**308**	P	Pn		18 31 50.3	-1.1
JAGI				S	Sn		18 32 11.2	-2.1
PLAI	**Plampang**	**2.30**	**72**	P	Pn		18 31 57.8	-0.9
GMJI	**Gumukmas**	**2.46**	**301**	P	Pn		18 32 00.4	-0.5
BLJI	**Banyuglugur**	**2.66**	**313**	P	Pn		18 32 04.3	+0.7
KMMI	**Kalianget**	**2.96**	**327**	P	Pn		18 32 10.6	+2.9
PWJI	**Pagerwojo**	**4.02**	**292**	P	Pn		18 32 22.0	-0.4
PCJI	**Pacitan**	**4.55**	**287**	P	Pn		18 32 29.4	-0.2

*IDC **11** 18:32:15.1±0.7, 2.°59N×94.°27E, h0km, mb4.0/19, mb1 4.1/21, mb1mx3.9/70, mbtmp4.0/21, ML4.2/1, Error ellipse: s-maj=23.1km s-min=13.4km az=41.0*
*ISCJB **11** 18:32:16.4±0.4, 2.°62N±0.°06×94.°29E±0.°04, h21km, mb4.2/28, Error ellipse: s-maj=9.4km s-min=5.3km az=26.5*
*NEIC **11** 18:32:16.7±0.3, 2.°62N×94.°27E, h10km, mb4.7/11, Error ellipse: s-maj=6.6km s-min=4.2km az=207.0*
*DJA **11** 18:32:20.5±1.3, 3.°N±6.°×9.°5E±1.°2, h10km, M4.6/8, mb4.8/7, mB5.3/6, MLv4.4/8, Mw(mB)4.7/6*
ISC 11 18:32:18.7±0.5, 2.°68N±0.°06×94.°32E±0.°08, h21km, n87, σ0°93/80, mb4.3/28, 1D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
MLSI	**Meulaboh, Aceh**	**2.61**	**53**	P	**Pn**		**18 33 00.0**	**+0.3**
TPTI		**2.92**	**79**	P	**Pn**		**18 33 02.3**	**-1.6**
BSI	**Banda Aceh**	**2.96**	**19**	P	**Pb**		**18 33 08.4**	**-2.5**
GSI	**Gunungsitoli**	**3.53**	**113**	P	**Pn**		**18 33 12.6**	**+0.2**
GSI	**Gunungsitoli**	**3.53**	**113**	*e*Pn	**Pn**		**18 33 12.7**	**+0.4**
LHMI	**Lhok Sumawe**	**3.65**	**46**	P	**Pn**		**18 33 17.4**	**+3.5**
PSI	**Prapat**	**4.60**	**88**	Pn	**Pn**		**18 33 27.9**	**+0.7**
	baz=288,slow=9.3							
MNSI	**Mandailing Nat**	**5.58**	**109**	P	**Pn**		**18 33 41.0**	**+0.4**
	120nm,0.5s,3μm0.6nm							
SISI	**Saibi**	**6.21**	**130**	P	**Pn**		**18 33 47.3**	**-1.9**
	50nm,0.9s,0.2nm							
KULM	**Kulim**	**6.83**	**67**	*e*Pn	**Pn**		**18 33 58.6**	**+0.9**
IPM	**Ipoh**	**6.93**	**75**	*e*Pn	**Pn**		**18 34 00.2**	**+1.0**
PDSI	**Padang**	**7.10**	**120**	P	**Pb**		**18 34 22.0**	**+0.6**
MDSI	**Maura Dua**	**12.15**	**126**	P	**P**		**18 35 25.3**	**+2.1**
LWLI	**Liwa**	**12.38**	**128**	P	**P**		18 35 38.4	+13
CM01	**Chiang Mai Arr**	**16.29**	**16**	*e*Pn	**Pn**		**18 36 06.6**	**+0.2**
CM31	**Chiang Mai Arr**	**16.32**	**16**	*e*Pn	**Pn**		**18 36 07.3**	**+0.5**
CMAR	**Chiang Mai Arr**	**16.32**	**16**	Pn	**Pn**		**18 36 06.7**	**-0.1**
	0.3nm,0.3s,baz=211,slow=12,SNR=48							
CHTO	**Chiang Mai**	**16.66**	**15**	*e*Pn	**Pn**		**18 36 10.9**	**-0.2**
	34nm,1.1s							
SHL	**Shillong**	**22.88**	**354**	*e*P	**P**		**18 37 20.6**	**-0.6**
	41nm,0.9s							
H08S2	**Diego Garcia H**	**24.07**	**245**	T	T		19 02 56.8	
	baz=64,slow=75,SNR=26							
H08S3	**Diego Garcia H**	**24.07**	**245**	T	T		19 02 39.1	
	baz=64,slow=75,SNR=33							
H08S1	**Diego Garcia H**	**24.09**	**245**	T	T		19 02 41.5	
	baz=64,slow=75,SNR=33							
MYLDM	**Lahad Datu**	**24.25**	**83**	*e*P	**P**		**18 37 33.3**	**-1.3**
	50nm,1.2s							
XAN	**Xi'an**	**34.05**	**22**	P	**P**		**18 39 00.2**	**-1.4**
XAN				sP	pP		18 39 08.2	+0.2
XAN				pmax	pmax			
	comp=Z,6.0nm,1.0s							
GTA	**Gaotai**	**36.90**	**7**	⇓P	**P**		**18 39 26.6**	**+0.5**
GTA				pP	pP		18 39 31.7	-0.9
GTA				sP	sP		18 39 34.9	-0.3
GTA				pmax	pmax			
	comp=Z,7.0nm,0.9s							
SIJI	**Sorong**	**37.11**	**95**	P	**P**		**18 39 27.1**	**-1.0**
	comp=Z,4.8nm,0.8s,baz=62,slow=15,SNR=4.4							
H01W3	**Cape Leeuwin H**	**41.74**	**155**	T	T		19 25 07.2	
	baz=332,slow=76,SNR=8.9							
H01W2	**Cape Leeuwin H**	**41.75**	**155**	T	T		19 25 08.1	
	baz=332,slow=76,SNR=10							
H01W1	**Cape Leeuwin H**	**41.76**	**155**	T	T		19 25 12.3	
	baz=332,slow=76,SNR=11							
NRN	**Naryn**	**41.96**	**339**	*e*P	**P**		**18 40 08.5**	**-0.1**
	comp=Z,7.1nm,1.1s							
AAK	**Ala-Archa**	**43.55**	**339**	P	**P**		**18 40 21.2**	**-0.1**
	comp=Z,0.5nm,0.3s,baz=143,slow=10,SNR=4.1							
MK01	**Makanchi Array**	**45.15**	**348**	*e*P	**P**		**18 40 34.2**	**+0.5**
MK31	**Makanchi Array**	**45.17**	**348**	*e*P	**P**		**18 40 34.7**	**+0.7**
MKAR	**Makanchi Array**	**45.17**	**348**	P	**P**		**18 40 34.9**	**+0.9**
	comp=Z,4.3nm,0.9s,baz=167,slow=8.8,SNR=25							
MKAR	**Makanchi Array**	**45.17**	**348**	*e*P	**P**		**18 40 34.7**	**+0.7**
	comp=Z,25nm,0.6s							
WRA	**Warramunga Arr**	**45.26**	**122**	P	**P**		**18 40 33.8**	**-1.3**
	comp=Z,0.8nm,0.7s,baz=298,slow=9.1,SNR=4.7							
KK06	**Karatay Array**	**45.48**	**336**	*e*P	**P**		**18 40 36.3**	**-0.2**
KK07	**Karatay Array**	**45.49**	**335**	*e*P	**P**		**18 40 36.5**	**0.0**
KK02	**Karatay Array**	**45.49**	**336**	*e*P	**P**		**18 40 36.5**	**-0.1**
KK31	**Karatay Array**	**45.49**	**336**	*e*P	**P**		**18 40 36.5**	**-0.1**
KKAR	**Karatay Array**	**45.49**	**336**	*e*P	**P**		**18 40 36.3**	**-0.3**
KK01	**Karatay Array**	**45.50**	**336**	*e*P	**P**		**18 40 36.0**	**-0.6**
KK03	**Karatay Array**	**45.50**	**336**	*e*P	**P**		**18 40 36.4**	**-0.3**
KK05	**Karatay Array**	**45.50**	**336**	*e*P	**P**		**18 40 36.2**	**-0.4**
KK04	**Karatay Array**	**45.50**	**336**	*e*P	**P**		**18 40 36.2**	**-0.5**
KK08	**Karatay Array**	**45.51**	**335**	*e*P	**P**		**18 40 37.1**	**+0.4**
KK09	**Karatay Array**	**45.52**	**336**	*e*P	**P**		**18 40 36.4**	**-0.4**
SONM	**Songino Array**	**46.18**	**11**	P	**P**		**18 40 42.4**	**+0.4**
	comp=Z,1.2nm,0.7s,baz=193,slow=8.5,SNR=6.2							
SONA1	**Songino Array**	**46.19**	**11**	*e*P	**P**		**18 40 42.6**	**+0.4**
KSAR	**Wonju Array Be**	**46.32**	**37**	P	**P**		**18 40 43.3**	**+0.1**
KSRS	**Korea Array**	**46.35**	**37**	P	**P**		**18 40 43.3**	**-0.1**
	comp=Z,1.6nm,0.9s,baz=213,slow=7.8,SNR=3.6							
ASAR	**Alice Springs**	**46.58**	**126**	P	**P**		**18 40 45.7**	**+0.2**
	comp=Z,0.7nm,0.6s,baz=295,slow=7.7,SNR=13							
ASAR				PcP	**PcP**		**18 42 19.6**	**+0.1**
	comp=Z,0.5nm,0.7s,baz=318,slow=3.5,SNR=4.7							
GEYT	**Alibeck**	**48.25**	**321**	P	**P**		**18 40 59.1**	**+0.8**
	comp=Z,2.3nm,0.7s,baz=147,slow=8.5,SNR=8.0							
KURBB	**Kurchatov**	**49.60**	**347**	P	**P**		**18 41 09.3**	**+1.0**
	comp=Z,2.4nm,0.8s,baz=170,slow=6.8,SNR=19							
KURK	**Kurchatov**	**49.67**	**347**	*e*P	**P**		**18 41 09.9**	**+1.0**
	comp=Z,6.6nm,1.1s							
RAYN	**Ar Rayn**	**51.52**	**298**	*e*P	**P**		**18 41 24.5**	**+1.1**
	comp=Z,7.1nm,1.0s							
ZAA0	**Zalesovo Array**	**51.70**	**353**	*e*P	**P**		**18 41 25.0**	**+0.9**
	comp=Z,11nm,1.2s							
ZALV	**Zalesovo Beam**	**51.70**	**353**	P	**P**		**18 41 24.7**	**+0.6**
	comp=Z,2.7nm,0.7s,baz=178,slow=5.6,SNR=16							
ZALV	**Zalesovo Beam**	**51.70**	**353**	*e*P	**P**		**18 41 24.6**	**+0.4**
BVAR	**Borovoye Array**	**53.95**	**342**	P	**P**		**18 41 40.6**	**-0.2**
	comp=Z,1.1nm,0.6s,baz=145,slow=7.9,SNR=11							
AB07	**Akbulak array**	**54.86**	**333**	*e*P	**P**		**18 41 47.4**	**-0.1**
AB08	**Akbulak array**	**54.88**	**333**	*e*P	**P**		**18 41 47.5**	**-0.1**
AB03	**Akbulak array**	**54.88**	**333**	*e*P	**P**		**18 41 47.5**	**-0.1**
AB01	**Akbulak array**	**54.88**	**333**	*e*P	**P**		**18 41 47.5**	**-0.2**
AB02	**Akbulak array**	**54.88**	**333**	*e*P	**P**		**18 41 47.5**	**-0.1**
AB31	**Akbulak array**	**54.88**	**333**	*e*P	**P**		**18 41 47.5**	**-0.2**
ABKAR	**Akbulak array**	**54.88**	**333**	*e*P	**P**		**18 41 47.5**	**-0.2**
AB04	**Akbulak array**	**54.89**	**333**	*e*P	**P**		**18 41 47.5**	**-0.1**
AB05	**Akbulak array**	**54.90**	**333**	*e*P	**P**		**18 41 47.6**	**-0.2**
AB09	**Akbulak array**	**54.90**	**333**	*e*P	**P**		**18 41 47.5**	**-0.2**
KLR	**Kul'dur**	**56.29**	**29**	P	**P**		**18 41 58.3**	**+0.6**
	comp=Z,0.1nm,0.5s,baz=250,slow=4.6,SNR=7.5							
STKA	**Stephens Creek**	**56.48**	**131**	P	**P**		**18 41 59.5**	**+0.1**
	comp=Z,1.3nm,0.7s,baz=340,slow=7.5,SNR=4.3							
KMBO	**Kilima Mbogo**	**57.17**	**267**	P	**P**		**18 42 05.3**	**+0.4**
	comp=Z,1.6nm,0.8s,baz=54,slow=7.7,SNR=3.9							
KBZ	**Khabaz**	**61.08**	**320**	P	**P**		**18 42 31.0**	**-0.2**
	comp=Z,2.1nm,1.0s,baz=180,slow=2.0,SNR=3.2							
BRTR	**Keskin Array B**	**65.99**	**313**	P	**P**		**18 43 03.6**	**-0.4**
	comp=Z,0.6nm,0.8s,baz=

WRA **Warramunga Arr 43.94 122** P **P** **18 43 18.6 +0.3**
0.4nm,0.8s,baz=301,slow=9.1,SNR=5.0
ASAR **Alice Springs 45.32 127** P **P** **18 43 29.6 +0.3**
0.3nm,0.8s,baz=303,slow=7.7,SNR=4.2
MKAR **Makanchi Array 45.65 347** P **P** **18 43 31.6 +0.1**
0.9nm,0.4s,baz=158,slow=8.9,SNR=16
SONM **Songino Array 46.08 10** P **P** **18 43 34.9 -0.2**
0.7nm,0.6s,baz=190,slow=8.5,SNR=4.4
KURBB **Kurchatov Arra 50.12 346** P **P** **18 44 06.3 +0.3**
0.7nm,0.5s,baz=170,slow=6.9,SNR=6.7
ZALV **Zalesovo Beam 52.06 352** P **P** **18 44 20.4 -0.2**
1.1nm,0.5s,baz=178,slow=6.9,SNR=5.5
BVAR **Borovoye Array 54.56 341** P **P** **18 44 38.1 -0.9**
0.4nm,0.7s,baz=150,slow=9.8,SNR=2.9
ARCES **ARCESS Array B 80.84 340** P **P** **18 47 24.3 -0.1**
2.2nm,0.7s,baz=72,slow=7.8,SNR=3.9

MEX 11 18:35:39.7±0.3, 16°33N×98°28W, h18km±12km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.15**	**67**	*i* P	Pb	18 35 43.3	+0.2
PNIG				eS	Sb	18 35 46.1	+0.9
TLIG	**Tlapa**	**1.26**	**347**	*e*P	Pn	18 35 59.0	-3.5
TLIG				eS	Sb	18 36 14.1	-4.7
VHO	**Vista Hermosa**	**1.65**	**63**	*e*P	Pn	18 36 03.2	-4.8
VHO				eS	Sn	18 36 24.4	-4.5
PLIG	**Platanillo**	**2.36**	**330**	*e*P	Pn	18 36 07.1	-11
PLIG				eS	Sn	18 36 42.7	-3.5

IDC ***11*** *18:35:56.4±1.2, 1.50N×92.69E, h0km, mb3.9/10, mb1 4.0/11,mb1mx3.7/69,mbtmp3.8/11,ML3.3/1, Error ellipse: s-maj=43.0km s-min=20.6km az=50.0*
NEIC ***11*** *18:35:58.0±0.7, 1.56N×92.77E, h10km, mb4.4/1, Error ellipse: s-maj=21.2km s-min=12.0km az=55.0*
ISCJB ***11*** *18:35:59.6±0.9, 1.6N±0.1×92.8E±0.2, h33km, mb4.0/11, Error ellipse: s-maj=28.4km s-min=16.0km az=146.0*
ISC 11 18:36:01.9±1.2, 1.6N±0.2×92.8E±0.2, h35km, n13, σ0s72/13, mb4.0/11, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr 17.81 19**			P	**Pn**	**18 40 06.2**	**-1.1**
	0.0nm,0.3s,baz=205,slow=12,SNR=3.3						
MKAR	**Makanchi Array 45.96 350**			P	**P**	**18 44 20.4**	**-1.1**
	1.0nm,0.7s,baz=167,slow=8.4,SNR=4.7						
WRA	**Warramunga Arr 45.99 120**			P	**P**	**18 44 22.4**	**+0.2**
	1.8nm,0.9s,baz=300,slow=8.4,SNR=5.4						
ASAR	**Alice Springs 47.17 125**			P	**P**	**18 44 31.0**	**-0.4**
	0.5nm,0.7s,baz=294,slow=7.7,SNR=4.1						
SONM	**Songino Array 47.55 12**			P	**P**	**18 44 35.5**	**+1.4**
	1.2nm,0.8s,baz=196,slow=8.2,SNR=6.8						
KURBB	**Kurchatov Arra 50.34 348**			P	**P**	**18 44 55.5**	**+0.3**
	2.0nm,1.0s,baz=171,slow=6.7,SNR=7.2						
KURK	**Kurchatov 50.41 348**			*e*P	**P**	**18 44 56.0**	**+0.2**
	3.2nm,0.6s						
ZALV	**Zalesovo Beam 52.61 354**			P	**P**	**18 45 12.1**	**-0.1**
	1.2nm,0.6s,baz=193,slow=8.4,SNR=4.8						
BVAR	**Borovoye Array 54.55 344**			P	**P**	**18 45 26.5**	**0.0**
	1.3nm,0.8s,baz=145,slow=5.3,SNR=5.7						
KBZ	**Khabaz 60.96 321**			P	**P**	**18 46 11.4**	**-0.2**
	1.5nm,0.9s,baz=174,slow=5.5,SNR=3.9						
BRTR	**Keskin Array B 65.64 313**			P	**P**	**18 46 42.3**	**-0.6**
	0.8nm,0.6s,baz=130,slow=7.6,SNR=6.3						
GERES	**GERESS Array B 81.65 319**			P	**P**	**18 48 16.9**	**+0.2**
	0.7nm,0.6s,baz=142,slow=4.9,SNR=5.0						
TXAR	**Lajitas Array 145.45 26**			PKPbc	**PKPbc**	**18 55 37.1**	**0.0**
	1.0nm,1.0s,baz=333,slow=0.6,SNR=5.6						

IDC 11 18:39:39.2±21.0, 3.21N×92.78E, h0km, mb3.7/3, mb1 3.7/4, mb1mx3.3/68, mbtmp3.6/4, ML3.3/1, Error ellipse: s-maj=427.4km s-min=107.0km az=146.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr 16.31 21**			Pn	Pn	18 43 29.7	-0.1
	0.0nm,0.3s,baz=212,slow=12,SNR=3.1						
MKAR	**Makanchi Array 44.36 350**			P	P	18 47 51.6	+0.3
	0.8nm,0.6s,baz=172,slow=8.8,SNR=7.8						
KURBB	**Kurchatov Arra 48.75 348**			P	P	18 48 25.6	-0.1
	0.5nm,0.6s,baz=170,slow=7.2,SNR=5.1						
ZALV	**Zalesovo Beam 50.99 354**			P	P	18 48 42.1	-0.6
	0.7nm,0.6s,baz=188,slow=8.7,SNR=3.1						

IDC 11 18:43:20.3±4.4, 0.30S×91.98E, h0km, mb3.7/5, mb1 3.8/5, mb1mx3.4/65, mbtmp3.7/5, Error ellipse: s-maj=161.6km s-min=28.2km az=55.0, South Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr 45.82 118**			P	P	18 51 44.1	-0.4
	1.0nm,0.9s,baz=300,slow=9.0,SNR=3.0						
MKAR	**Makanchi Array 47.66 351**			P	P	18 51 57.3	-1.2
	0.5nm,0.7s,baz=170,slow=7.4,SNR=3.7						
SONM	**Songino Array 49.56 13**			P	P	18 52 14.4	+1.3
	0.7nm,0.4s,baz=191,slow=8.9,SNR=5.7						
KURBB	**Kurchatov Arra 52.01 349**			P	P	18 52 30.9	-0.5
	0.4nm,0.7s,baz=167,slow=6.7,SNR=3.0						
ZALV	**Zalesovo Beam 54.39 355**			P	P	18 52 49.0	+0.2
	0.4nm,0.3s,baz=169,slow=7.2,SNR=2.5						

IDC ***11*** *18:47:43.8±1.8, 2.76N×91.31E, h0km, mb3.6/5, mb1 3.7/7, mb1mx3.4/66, mbtmp3.6/7, ML3.6/2, Error ellipse: s-maj=49.9km s-min=26.1km az=51.0*
ISCJB ***11*** *18:47:45.7±1.4, 2.7N±0.2×91.2E±0.1, h33km, mb3.6/5, Error ellipse: s-maj=26.6km s-min=19.0km az=17.8*
ISC 11 18:47:48.4±1.4, 2.8N±0.2×91.3E±0.2, h35km, n8, σ1s09/8, mb3.5/5, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	**Pallekele 11.42 293**			Pn	**Pn**	**18 50 28.9**	**-0.3**
	0.8nm,0.3s,baz=117,slow=11,SNR=2.4						
CMAR	**Chiang Mai Arr 17.32 25**			P	**P**	**18 51 48.5**	**-0.2**
	0.0nm,0.3s,baz=225,slow=11,SNR=2.9						
MKAR	**Makanchi Array 44.54 351**			P	**P**	**18 55 57.8**	**+1.0**
	0.4nm,0.6s,baz=171,slow=11,SNR=3.6						
SONM	**Songino Array 46.76 14**			P	**P**	**18 56 13.5**	**-1.0**
	1.4nm,0.7s,baz=196,slow=9.3,SNR=9.0						
WRA	**Warramunga Arr 47.93 120**			P	**P**	**18 56 23.7**	**-0.2**
	0.4nm,0.7s,baz=295,slow=8.2,SNR=3.1						
KURBB	**Kurchatov Arra 48.88 349**			P	**P**	**18 56 30.1**	**-0.5**
	0.5nm,0.9s,baz=176,slow=7.3,SNR=2.7						
ZALV	**Zalesovo Beam 51.29 355**			P	**P**	**18 56 50.6**	**+1.7**
	0.4nm,0.5s,baz=168,slow=7.5,SNR=2.9						
TXAR	**Lajitas Array 145.02 23**			PKPbc	**PKPdf**	**19 07 23.7**	**+0.7**
	0.5nm,0.9s,baz=243,slow=3.7,SNR=3.1						

IDC ***11*** *18:49:00.3±0.9, 0.47N×92.08E, h0km, mb4.1/11, mb1 4.2/12,mb1mx3.9/66,mbtmp4.1/12,ML3.7/1, Error ellipse: s-maj=40.1km s-min=14.6km az=51.0*
NEIC ***11*** *18:49:01.6±0.7, 0.47N×92.05E, h10km, mb4.6/1, Error ellipse: s-maj=25.5km s-min=10.3km az=57.0*
ISCJB ***11*** *18:49:03.4±0.8, 0.6N±0.1×92.2E±0.2, h33km, mb4.2/12, Error ellipse: s-maj=29.6km s-min=12.4km az=145.1*
ISC 11 18:49:05.6±1.0, 0.5N±0.2×92.1E±0.2, h35km, n14, σ0s69/16, mb4.2/12, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr 19.07 20**			P	**P**	**18 53 25.4**	**+0.1**
	0.1nm,0.3s,baz=216,slow=12,SNR=8.9						
FITZ	**Fitzroy Crossi 37.80 121**			P	**P**	**18 56 18.2**	**-0.7**
	6.2nm,0.7s,baz=284,slow=5.6,SNR=12						
WRA	**Warramunga Arr 46.08 119**			P	**P**	**18 57 26.5**	**-0.1**
	5.1nm,0.6s,baz=296,slow=8.6,SNR=29						
MKAR	**Makanchi Array 46.9 351**			P	**P**	**18 57 31.8**	**-0.9**
	0.8nm,0.6s,baz=166,slow=9.4,SNR=7.2						
ASAR	**Alice Springs 47.15 124**			P	**P**	**18 57 34.9**	**0.0**
	1.3nm,0.6s,baz=300,slow=7.8,SNR=19						
ASAR				PcP	**PcP**	**18 59 06.6**	**+0.2**
	0.8nm,0.6s,baz=300,slow=3.0,SNR=8.1						
GEYT	**Alibeck 48.64 324**			P	**P**	**18 57 46.5**	**+0.2**
	1.8nm,0.6s,baz=126,slow=9.8,SNR=5.7						
SONM	**Songino Array 48.76 13**			P	**P**	**18 57 47.9**	**+0.8**
	1.3nm,0.5s,baz=194,slow=8.5,SNR=7.7						
SONM				PcP	**PcP**	**18 59 11.9**	**+0.1**
	0.6nm,0.7s,baz=147,slow=2.9,SNR=3.0						
KURBB	**Kurchatov Arra 51.26 349**			P	**P**	**18 58 05.3**	**-0.6**
	0.5nm,0.7s,baz=176,slow=7.2,SNR=4.3						
KURK	**Kurchatov 51.34 349**			*e*P	**P**	**18 58 04.8**	**-1.6**
	6.0nm,0.8s						
ZALV	**Zalesovo Beam 53.62 355**			P	**P**	**18 58 22.8**	**-0.5**
	0.7nm,0.3s,baz=181,slow=7.3,SNR=5.8						
STKA	**Stephens Creek 56.76 129**			P	**P**	**18 58 46.5**	**+0.2**
	2.8nm,1.0s,baz=315,slow=8.7,SNR=3.4						
BRTR	**Keskin Array B 65.88 314**			P	**P**	**18 59 47.8**	**-0.4**
	0.5nm,0.5s,baz=106,slow=2.1,SNR=3.4						
GERES	**GERESS Array B 82.00 319**			P	**P**	**19 01 23.1**	**+0.8**
	2.5nm,0.8s,baz=108,slow=4.3,SNR=13						
TXAR	**Lajitas Array 146.73 26**			PKPbc	**PKPbc**	**19 08 44.8**	**+0.1**
	1.0nm,0.5s,baz=28,slow=0.9,SNR=19						

BJI ***11*** *18:54:39.9, 1.93N×92.63E, h14km, mb5.3/75, mB5.4/53, Ms5.2/72, Ms7 4.9/67*
IDC ***11*** *18:54:43.4±0.3, 2.47N×92.75E, h0km, mb5.1/41, mb1 5.1/45, mb1mx5.0/63, mbtmp5.1/45, ML4.7/3, MS4.8/31, Ms1 4.8/31, ms1mx4.6/63, Error ellipse: s-maj=12.1km s-min=9.1km az=28.0*
MOS ***11*** *18:54:45.5±0.9, 2.55N×92.76E, h24km, mb5.5/76, MS4.9/15, Error ellipse: s-maj=6.3km s-min=4.0km az=114.1*
NEIC ***11*** *18:54:45.2±0.1, 2.48N×92.69E, h10km, mb5.4/86, Error ellipse: s-maj=4.7km s-min=2.8km az=208.0*
ISCJB ***11*** *18:54:46.4±0.6, 2.48N±0.0×92.69E±0.0, h29km±4km, mb5.4/229, MS4.9/60, Error ellipse: s-maj=4.2km s-min=2.8km az=27.9*
DJA ***11*** *18:54:48.8±0.7, 2°N±3°×9°3E±°, h19km±6km, M5.6/70, mb5.5/70, mB5.9/49, MLv6.2/12, Mw(mB)5.5/49*
ISC 11 18:54:49.3±0.3, 2.49N±0.0°×92.69E±0.0, h38km±2km, h39km:pP-P, n966, σ1s24/1022, mb5.4/232, MS4.9/61, 34C-28D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSI	**Banda Aceh 3.96 41**			P	**Pn**	**18 55 48.9**	**+1.3**
MLSI	**Meulaboh, Aceh 4.11 65**			P	**Pn**	**18 55 50.3**	**+0.7**
TPTI		**4.55**	**80**	P	**Pn**	**18 55 56.1**	**+0.4**
GSI	**Gunungsitoli 5.03 104**			P	**Pn**	**18 56 01.7**	**-0.5**
	3µm,0.8s,40µm18nm						
GSI	**Gunungsitoli 5.03 104**			*e*Pn	**Pn**	**18 56 01.5**	**-0.7**
LHMI	**Lhok Sumawe 5.04 57**			P	**Pn**	**18 56 05.3**	**+2.8**
	2µm,0.5s,30µm13nm						
LHMI	**Lhok Sumawe 5.04 57**			*e*Pn	**Pn**	**18 56 04.4**	**+1.9**
KCSI	**Kotacane, Aceh 5.18 79**			P	**Pn**	**18 56 07.0**	**+2.6**
	4µm,0.7s,56µm19nm						
TSI	**Tuntungan 5.95 80**			P	**Pn**	**18 56 17.5**	**+2.5**
	1µm,0.5s,27µm11nm						
PSI	**Prapat 6.24 87**			Pn	**Pn**	**18 56 17.8**	**-1.2**
	baz=267,slow=8.8						
PSI				Sn	**Sn**	**18 57 24.9**	**-4.2**
	36nm,0.3s,baz=135,slow=1.4,SNR=3.0						
PSI	**Prapat 6.24 87**			*e*Pn	**Pn**	**18 56 18.5**	**-0.5**
PSI				Sn	**Sn**	**18 57 24.9**	**-4.2**
PSI	**Prapat 6.24 87**			*e*P	**Pn**	**18 56 18.5**	**-0.5**
PSI						18 57 24.9	
MNSI	**Mandailing Nat 7.09 104**			P	**Pn**	**18 56 31.0**	**+0.4**
	2µm,0.8s,29µm27nm						
SISI	**Saibi 7.44 121**			P	**Pn**	**18 56 34.6**	**-0.8**
	994nm,0.9s,9µm5.6nm						
KULM	**Kulim 8.41 70**			*e*Pn	**Pn**	**18 56 48.0**	**-0.8**
PDSI	**Padang 8.48 113**			P	**Pn**	**18 56 49.2**	**-0.5**
	390nm,0.7s,8µm3.6nm						
IPM	**Ipoh 8.55 76**			*e*Pn	**Pn**	**18 56 51.1**	**+0.4**
BKNI	**Bangkinang 8.62 104**			P	**Pn**	**18 56 52.4**	**+0.8**
	2µm,0.9s,12µm4.9nm						
BKNI	**Bangkinang 8.62 104**			*e*Pn	**Pn**	**18 56 51.9**	**+0.3**
PPSI	**Pulau Pagai 8.99 125**			P	**Pn**	**18 56 56.9**	**+0.2**
	1µm,1.0s,12µm						
PBA	**Port Blair 9.10 0**			*e*P	Pn	18 56 57.4	-0.8
SDSI	**Sungai Dareh 9.38 111**			P	**Pn**	**18 57 05.2**	**+3.2**
	0.3nm,0.7s,13nm						
RGRI	**Rengat 10.05 106**			P	**Pn**	**18 57 11.5**	**+0.3**
DGPR	**DIGLIPUR 10.62 1**			*e*P	**Pn**	**18 57 18.9**	**-0.1**
MASI	**Maura Aman, Be 11.07 120**			P	**Pn**	**18 57 28.4**	**+3.2**
	1µm,0.9s,7µm						
MYKOM	**Kota Tinggi 11.18 93**			*e*Pn	**Pn**	**18 57 26.1**	**-0.5**
TPRI	**Tanjung Pinang 11.94 97**			P	**Pn**	**18 57 37.4**	**+0.3**
	85nm,0.8s,2µm						
MNAI	**Manna 12.31 124**			P	**Pn**	**18 57 43.1**	**+0.9**
MNAI	**Manna 12.31 124**			*e*Pn	**Pn**	**18 57 41.1**	**-1.1**
PALK	**Pallekele 12.85 292**			Pn	**Pn**	**18 57 49.1**	**-0.4**
	13nm,0.3s,baz=116,slow=13,SNR=41						
PALK				Sn	Sn	19 00 01.8	-10
	86nm,0.3s,baz=116,slow=2.1,SNR=20						
PALK				LR	LR	19 02 04.8	
	comp=Z,6µm,19.5s,baz=111,slow=34						
PALK	**Pallekele 12.85 292**			Pn	**Pn**	**18 57 50.0**	**+0.5**
	SNR=20						
PALK	**Pallekele 12.85 292**			P	**Pn**	**18 57 50.0**	**+0.5**
	SNR=20						
PALK	**Pallekele 12.85 292**			*i* P	**Pn**	**18 57 48.9**	**-0.6**
	SNR=34						
PALK	**Pallekele 12.85 292**			*i* P	**Pn**	**18 57 49.9**	**+0.3**
MDSI	**Maura Dua 13.41 121**			P	**Pn**	**18 57 57.0**	**-0.2**
	171nm,0.9s,1µm						
LWLI	**Liwa 13.59 123**			P	**Pn**	**18 57 59.2**	**-0.6**
	395nm,0.7s						
KLI	**Kotabumi 14.19 121**			P	**Pn**	**18 58 07.8**	**0.0**
PPBI	**Pangkal Pinang 14.22 109**			P	**P**	**18 58 18.7**	**+3.7**
KASI	**Kota Agung 14.23 124**			P	**Pn**	**18 58 06.9**	**-1.5**
	228nm,1.0s,2µm						
BLSI	**Bandar Lampung 14.78 122**			P	P	18 58 29.1	+7.9
CGJI	**Cibinong 15.82 125**			P	**Pn**	**18 58 29.1**	**-0.4**
	108nm,0.7s,3µm						
MDRS	**Chennai 16.18 311**			*e*P	**Pn**	**18 58 33.4**	**-0.6**
TRD	**Trivandrum 16.75 292**			*e*P	**Pn**	**18 58 40.8**	**-0.5**
SKJI	**Sukabumi 16.75 124**			P	**P**	**18 58 46.3**	**+3.2**
CM01	**Chiang Mai Arr 16.98 21**			*e*Pn	**Pn**	**18 58 43.3**	**-0.8**
CM31	**Chiang Mai Arr 17.01 21**			*e*Pn	**Pn**	**18 58 44.5**	**0.0**
CMAR	**Chiang Mai Arr 17.01 21**			P	**Pn**	**18 58 44.0**	**-0.5**
	0.8nm,0.3s,baz=216,slow=13,SNR=58						
CMAR				LR	LR	19 05 55.4	
	comp=Z,2µm,18.8s,baz=214,slow=40						
CMAR	**Chiang Mai Arr 17.01 21**			P	**Pn**	**18 58 44.0**	**-0.5**
CHTO	**Chiang Mai 17.34 20**			*e*Pn	**Pn**	**18 58 47.6**	**-1.0**
	72nm,0.8s						
CHTO	**Chiang Mai 17.34 20**			Pn	**Pn**	**18 58 48.2**	**-0.3**
	SNR=51						
CHTO	**Chiang Mai 17.34 20**			P	**Pn**	**18 58 48.2**	**-0.3**
	SNR=51						
CHTO	**Chiang Mai 17.34 20**			*e*P	**Pn**	**18 58 47.6**	**-1.0**
CHTO				pmax	pmax		
	comp=Z,71nm,0.8s						
LEM	**Lembang 17.55 122**			P	**Pn**	**18 58 49.9**	**-1.4**
	comp=Z,1.2nm,0.3s,baz=149,slow=4.3,SNR=18						
KSM	**Kuching 17.64 93**			*e*Pn	**Pn**	**18 58 52.2**	**-0.1**
	comp=Z,259nm,1.1s						
VIS	**Vishakhapatnam 17.70 329**			*i* P	**Pn**	**18 58 52.1**	**-0.9**
VIS				*i* x	x	19 01 58.7	
JCJI	**Jatiwangi 17.93 120**			P	**P**	**18 58 58.0**	**+1.8**
	comp=Z,656nm,1.0s,comp=Z,6µm						
CISI	**Cisompet, Garu 18.10 124**			P	**Pn**	**18 58 57.7**	**-0.3**
	comp=Z,167nm,0.8s,comp=Z,2µm						
CISI	**Cisompet, Garu 18.10 124**			*e*Pn	**Pn**	**18 58 56.0**	**-2.0**
	comp=Z,129nm,0.8s						
KPJI	**Karang Pucung 18.92 121**			P	**Pn**	**18 59 09.2**	**+1.3**
	comp=Z,97nm,0.7s,comp=Z,2µm						
STKI	**Sintang 18.94 97**			P	**Pn**	**18 59 09.1**	**+1.0**
	comp=Z,356nm,0.9s,comp=Z,6µm						
SBUM	**Sibu 19.52 90**			*e*P	**P**	**18 59 13.9**	**+0.3**
	comp=Z,193nm,0.8s						
PBKI	**Pangkalan Bun 19.67 105**			P	**Pn**	**18 59 17.3**	**+0.4**
	comp=Z,348nm,1.0s,comp=Z,4µm						
SAIH	**SAIHA 19.88 1**			*e*P	**P**	**18 59 17.3**	**-0.3**
SAIH				IAmb	IAmb	18 59 28.0	
	comp=Z,315nm,0.8s						
SMRI	**Semarang 20.09 118**			P	Pn	18 59 23.8	+1.9
	comp=Z,210nm,1.0s						
SMRI	**Semarang 20.09 118**			*e*P	**P**	**18 59 20.9**	**+1.0**
	comp=Z,162nm,0.9s						
HYB	**Hyderabad 20.31 318**			*i* P	Pn	18 59 23.5	-1.0
HYB	**Hyderabad 20.31 318**			*e*P	**P**	**18 59 21.6**	**-0.6**
BELO	**BELONIA 20.67 357**			*e*P	**P**	**18 59 24.9**	**-1.1**
BELO				IAmb	IAmb	18 59 32.2	
	comp=Z,182nm,0.7s						
WOJI	**Wonogiri, Jawa 20.89 120**			P	Pn	18 59 33.7	+2.6
	comp=Z,64nm,1.1s						
AGT	**Agartala 21.31 356**			*e*P	**P**	**18 59 32.7**	**-0.2**
PWJI	**Pagerwojo 21.74 119**			P	**P**	**18 59 38.7**	**+1.1**
BOK	**Bokaro 22.18 343**			*e*P	**P**	**18 59 42.3**	**+0.1**
IMP	**Imphal 22.24 3**			*e*P	**P**	**18 59 42.9**	**-0.1**
IMP				IAmb	IAmb	18 59 46.9	
	comp=Z,376nm,1.2s						
DGAR	**Diego Garcia 22.46 244**			*e*P	**P**	**18 59 45.2**	**-0.2**
	comp=Z,3µm,1.8s						
DGAR	**Diego Garcia 22.46 244**			*i* P	**P**	**18 59 46.7**	**+1.3**
MTKI	**Muara Teweh, K 22.46 98**			P	**P**	**18 59 46.6**	**+1.1**
	comp=Z,108nm,1.6s,comp=Z,2µm						
GOA	**Goa 22.64 306**			*e*P	**P**	**18 59 46.8**	**-0.4**
GOA				IAmb	IAmb	18 59 53.1	
	comp=Z,20nm,0.7s						
NGP	**Nagpur 22.81 325**			*e*P	**P**	**18 59 49.5**	**+0.5**
NGP				*ex*	x	19 00 19.5	
	comp=Z,215nm,1.8s						
NGP				*ex*	x	19 03 56.6	
SHL	**Shillong 22.95 358**			*e*P	**P**	**18 59 51.6**	**+0.9**
SHL				IAmb	IAmb	18 59 58.5	
	comp=Z,3µm,3.1s						
TURI	**Tura 23.04 355**			*e*P	**P**	**18 59 49.4**	**-1.9**
KOHI	**KOHIMA 23.13 3**			*e*P	**P**	**18 59 52.4**	**0.0**
KOHI				IAmb	IAmb	18 59 55.0	
BLJI	**Banyuglugur 23.21 116**			P	**P**	**18 59 54.7**	**+1.6**
	comp=Z,33nm,0.9s,comp=Z,2µm						
QIZ	**Qiongzhong 23.50 44**			P	**P**	**18 59 56.4**	**+0.5**
QIZ				S	**S**	**19 04 10.9**	**+3.8**
QIZ				pmax	pmax		
	comp=Z,1µm,1.8s						
QIZ				LR	LR		
	comp=Z,4µm,23.5s						
QIZ				LR	LR		
	comp=Z,2µm,19.3s						
QIZ				LR	LR		
	comp=Z,2µm,17.5s						
GUWA	**GUWAHATI 23.58 358**			*e*P	**P**	**18 59 54.9**	**-1.8**
KKM	**Kota Kinabalu 23.72 81**			*e*P	**P**	**18 59 57.8**	**-0.4**
	comp=Z,321nm,1.5s						
MOKO	**MOKOCHONG 23.76 4**			*e*P	**P**	**18 59 57.5**	**-0.9**
MOKO				IAmb	IAmb	19 00 01.1	
	comp=Z,169nm,0.8s						
TEZP	**TEZPUR 23.99 0**			*e*P	**P**	**19 00 00.4**	**0.0**
TEZP				IAmb	IAmb	19 00 02.8	
	comp=Z,120nm,0.9s						
JAGI	**Jajag, Banyuwa 24.02 117**			*e*P	**P**	**18 59 59.7**	**-1.2**
	comp=Z,28nm,0.8s						
JORH	**JORHAT 24.16 3**			*e*P	**P**	**18 59 60.0**	**-2.0**
KBKI	**Kotabaru 24.16 104**			P	**P**	**19 00 04.3**	**+2.1**
	comp=Z,46nm,0.9s,comp=Z,2µm						
POO	**Poona 24.39 312**			*e*P	**P**	**19 00 03.6**	**-0.7**
BKB	**Balikpapan 24.49 98**			P	**P**	**19 00 09.0**	**+3.8**
	comp=Z,275nm,1.0s,comp=Z,5µm						
KMI	**Kunming 24.50 22**			P	**P**	**19 00 07.6**	**+2.2**
KMI				pP	pP	19 00 11.1	-5.0
KMI				sP	sP	19 00 13.0	-7.8
KMI				PP	**PnPn**	**19 00 43.4**	**+6.0**
KMI				S	**S**	**19 04 25.9**	**+2.4**
KMI				pmax	pmax		
	comp=Z,210nm,1.0s						
KMI				pmax	pmax		
	comp=Z,640nm,5.7s						
KMI				LR	LR		
	comp=Z,3µm,14.7s						
KMI				LR	LR		
	comp=Z,3µm,18.5s						
KMI				LR	LR		
	comp=Z,2µm,22.1s						
ITAN	**ITANAGAR 24.53 2**			*e*P	**P**	**19 00 05.9**	**+0.5**
SMKI	**Samarinda 24.69 96**			P	**P**	**19 00 12.4**	**+5.4**
	comp=Z,72nm,0.7s,comp=Z,2µm						
ODAN	**Odare 24.75 349**			*e*P	**P**	**19 00 09.3**	**+1.6**
	comp=Z,207nm,0.9s						
SRBI	**Singaraja 24.80 115**			P	**P**	**19 00 09.0**	**+1.0**
	comp=Z,49nm,0.9s,comp=Z,871nm						
LKP	**Lekhapani 24.88 7**			*e*P	**P**	**19 00 08.0**	**-0.6**
ZIRO	**ZIRO 24.92 2**			*e*P	**P**	**19 00 09.2**	**+0.1**
ZIRO				IAmb	IAmb	19 00 11.6	
	comp=Z,73nm,0.6s						
RAMN	**Ramite 25.01 347**			*e*P	**P**	**19 00 12.1**	**+2.1**
	comp=Z,338nm,1.0s						
SGKI	**Sangatta, Kali 25.09 97**			P	**P**	**19 00 13.6**	**+2.9**
	comp=Z,74nm,0.7s,comp=Z,3µm						
BHPL	**Bhopal 25.38 326**			*e*P	**P**	**19 00 14.4**	**+1.2**
BHPL				IAmb	IAmb	19 00 15.1	
	comp=Z,77nm,1.5s						
JIRN	**Jiri 25.79 347**			*e*P	**P**	**19 00 18.8**	**+1.6**
MYLDM	**Lahad Datu 25.89 83**			*e*P	**P**	**19 00 17.1**	**-0.8**
PKIN	**Phulchoki 25.90 345**			*e*P	**P**	**19 00 19.7**	**+1.6**
DMN	**Daman 26.01 345**			*e*P	**P**	**19 00 20.5**	**+1.4**
GUN	**Gumba 26.10 346**			*e*P	**P**	**19 00 21.5**	**+1.5**
KKN	**Kakani 26.13 345**			*e*P	**P**	**19 00 21.4**	**+1.2**
GKN	**Gorkha 26.51 344**			*e*P	**P**	**19 00 25.0**	**+1.5**
	comp=Z,238nm,0.8s						
KOLN	**Koldanda 26.59 342**			*e*P	**P**	**19 00 25.4**	**+1.1**
	comp=Z,108nm,0.9s						
DANN	**Dangsing 27.09 343**			*e*P	**P**	**19 00 30.6**	**+1.7**
PYUN	**Piuthan 27.09 341**			*e*P	**P**	**19 00 30.3**	**+1.4**
LSA	**Lhasa 27.10 357**			P	**P**	**19 00 31.3**	**+2.2**
LSA				pmax	pmax		
	comp=Z,930nm,14.2s						
MPSI	**Mapaga 27.29 94**			P	**P**	**19 00 31.6**	**+1.1**
	comp=Z,40nm,0.8s,comp=

QZH LR LR
comp=Z,2µm,19.4s
QZH LR LR
comp=Z,2µm,25.6s
SANI Sanana 33.60 97 P **P 19 01 26.0 -0.3**
comp=Z,47nm,1.2s,comp=Z,811nm
TWG Pinlang 34.14 51 *eP* **P 19 01 30.7 -0.2**
comp=Z,200nm,1.0s
WHN Wuhan 34.62 34 ⇓P **P 19 01 36.0 +1.0**
WHN pmax pmax
comp=Z,210nm,1.2s
YULB Yu-li 34.62 51 *eP* **P 19 01 34.5 -0.6**
comp=Z,64nm,1.2s
XAN Xi'an 34.85 24 P **P 19 01 36.7 -0.3**
XAN pP pP 19 01 41.2 -6.6
XAN sP sP 19 01 43.7 -8.8
XAN PP **PnPn 19 02 52.2 -2.1**
XAN S **S 19 07 03.2 -2.3**
XAN pmax pmax
comp=Z,140nm,1.1s
XAN LR LR
comp=Z,2µm,23.3s
XAN LR LR
comp=Z,3µm,20.1s
XAN LR LR
comp=Z,3µm,19.5s
NLAI Namlea 34.87 99 P **P 19 01 38.8 +1.5**
comp=Z,75nm,1.0s
LBMI Labuha 34.94 95 P **P 19 01 38.7 +0.7**
comp=Z,191nm,0.9s,comp=Z,2µm
LZH Lanzhou 34.98 16 ⇓P **P 19 01 38.8 +0.6**
LZH pP pP 19 01 43.9 -5.2
LZH sP sP 19 01 45.9 -7.8
LZH PP **PP 19 02 57.2 -0.9**
LZH S **S 19 07 08.1 +0.4**
LZH pmax pmax
comp=Z,140nm,1.3s
LZH pmax pmax
comp=Z,660nm,5.4s
LZH LR LR
comp=Z,3µm,14.4s
LZH LR LR
comp=Z,4µm,12.8s
LZH LR LR
comp=Z,5µm,15.7s
NIL Nilore 35.93 332 *eP* **P 19 01 46.1 -0.1**
comp=Z,165nm,0.8s
NIL Nilore 35.93 332 *eP* **P 19 01 46.1 -0.1**
NIL pmax pmax
comp=Z,165nm,0.8s
AAI Ambon 36.02 100 P **P 19 01 47.4 +0.2**
comp=Z,109nm,1.1s
MSAI Masohi 36.69 99 P **P 19 01 53.5 +0.6**
GTA Gaotai 37.31 9 P **P 19 01 58.3 +0.2**
GTA pP pP 19 02 04.8 -4.2
GTA sP sP 19 02 08.0 -5.6
GTA PcP **PcP 19 04 17.2 +0.3**
GTA S **S 19 07 42.5 -0.7**
GTA ScP **ScP 19 08 00.5 -0.7**
GTA pmax pmax
comp=Z,41nm,1.0s
GTA pmax pmax
comp=Z,250nm,6.2s
GTA LR LR
comp=Z,1µm,19.4s
GTA LR LR
comp=Z,730nm,18.1s
GTA LR LR
comp=Z,2µm,17.7s
NJ2 Nanjing 38.35 37 *eP* **P 19 02 07.2 +0.5**
NJ2 S **S 19 08 01.3 +2.5**
NJ2 pmax pmax
comp=Z,80nm,0.9s
NJ2 pmax pmax
comp=Z,420nm,3.8s
NJ2 LR LR
comp=Z,3µm,17.4s
NJ2 LR LR
comp=Z,3µm,19.5s
NJ2 LR LR
comp=Z,2µm,15.7s
FITZ Fitzroy Crossi 38.37 124 *eP* **P 19 02 05.4 -1.7**
comp=Z,30nm,0.8s
SWI Sorong 38.71 94 P **P 19 02 09.7 -0.3**
comp=Z,29nm,0.8s
WSAR Wadi Sarin 38.89 305 P **P 19 02 12.8 +1.3**
comp=Z,7.5nm,0.8s,baz=135,slow=8.4,SNR=5.8
TIY Taiyuan 39.46 25 *eP* **P 19 02 17.7 +1.6**
TIY sP **sP 19 02 31.0 -0.6**
TIY S **S 19 08 15.7 +0.1**
TIY sS **sS 19 08 29.9 -3.9**
TIY pmax pmax
comp=Z,25nm,1.1s
TIY LR LR
comp=Z,3µm,17.5s
TIY LR LR
comp=Z,2µm,18.8s
TIY LR LR
comp=Z,4µm,19.7s
KSH Kashi 39.87 340 P **P 19 02 18.2 -1.3**
KSH sP pP 19 02 25.3 -5.2
KSH PP **PnPn 19 03 54.6 -0.5**
KSH S **S 19 08 16.8 -4.9**
KSH ScS **ScS 19 12 22.1 -1.9**
KSH pmax pmax
comp=Z,28nm,0.8s
KSH pmax pmax
comp=Z,360nm,3.9s
KSH LR LR
comp=Z,980nm,11.7s
KSH LR LR
comp=Z,740nm,11.2s
KSH LR LR
comp=Z,3µm,17.0s
FAKI Fak Fak 39.91 98 *eP* **P 19 02 18.3 -1.8**
comp=Z,27nm,0.9s
TIA Tai'an 40.45 31 P **P 19 02 24.9 +0.7**
TIA S **S 19 08 33.3 +3.0**
TIA pmax pmax
comp=Z,27nm,1.3s
TIA LR LR
comp=Z,980nm,17.7s
TIA LR LR
comp=Z,2µm,20.0s
TIA LR LR
comp=Z,2µm,22.6s
SOHO SOHO 41.01 305 P **P 19 02 30.6 +1.6**
BTO Baotou 41.05 20 *eP* **P 19 02 28.9 -0.3**
TARG Taragay, Kyrgy 41.29 343 *eP* **P 19 02 32.7 +1.1**
comp=Z,30nm,1.0s
WMQ Urumqi 41.39 355 P **P 19 02 33.5 +1.6**
WMQ PP **PnPn 19 04 12.6 -0.3**
WMQ PcP **PcP 19 04 31.6 +2.0**
WMQ S **S 19 08 48.1 +3.9**
WMQ SS **SS 19 11 52.4 +3.1**
WMQ pmax pmax
comp=Z,100nm,1.3s
WMQ pmax pmax
comp=Z,660nm,3.8s
WMQ LR LR
comp=Z,2µm,24.9s
WMQ LR LR
comp=Z,2µm,18.1s
WMQ LR LR
comp=Z,3µm,31.9s
ALNE Al Ain 41.62 304 *i* P **P 19 02 36.0 +1.9**
SNR=8.2
ASHO Ashiyiah 41.64 305 P **P 19 02 36.3 +2.0**
JOW Kunigami 41.81 51 LR LR 19 22 03.1
comp=Z,992nm,18.8s,baz=251,slow=39
HHC Hu-ho-hao-te 41.82 22 *eP* **P 19 02 36.5 +1.0**
HHC pP pP 19 02 42.7 -3.8
HHC sP sP 19 02 47.1 -4.0
HHC S **S 19 08 50.2 -0.5**
HHC pmax pmax
comp=Z,78nm,1.0s
HHC pmax pmax
comp=Z,100nm,5.8s
HHC LR LR
comp=Z,2µm,16.1s
HHC LR LR
comp=Z,2µm,16.1s
HHC LR LR
comp=Z,2µm,15.3s
KDJ Kajisay 41.84 343 *eP* **P 19 02 36.4 +0.6**
comp=Z,44nm,0.9s

BANOM Banah 42.01 307 P **P 19 02 38.3 +1.1**
NWAO Narrogin (SRO) 42.19 149 LR LR 19 18 12.9
comp=Z,2µm,19.5s,baz=213,slow=33
NWAO Narrogin (SRO) 42.19 149 *eP* **P 19 02 38.9 +0.3**
comp=Z,34nm,0.9s
NWAO Narrogin (SRO) 42.19 149 *eP* **P 19 02 38.9 +0.3**
NWAO pmax pmax
comp=Z,34nm,0.9s
ULHL Ulahol 42.23 342 P **P 19 02 39.7 +0.7**
SNR=37
UZB Uzynbulak 42.27 345 *eP* **P 19 02 40.1 +0.8**
comp=Z,318nm,1.2s
UZB *i* PP **PP 19 04 18.3 +0.6**
UZB *eS* **S 19 08 58.1 +0.6**
H01W3 Cape Leeuwin H 42.28 153 T T 19 48 48.0
baz=330,slow=76,SNR=16
H01W2 Cape Leeuwin H 42.29 153 T T 19 48 45.0
baz=330,slow=76,SNR=12
H01W1 Cape Leeuwin H 42.30 153 T T 19 48 48.8
baz=330,slow=76,SNR=14
SATY Saty 42.35 344 *eP* **P 19 02 40.7 +0.8**
comp=Z,785nm,1.1s
SATY *i* PP **PP 19 04 19.0 +0.5**
SATY *i* S **S 19 08 59.2 +0.6**
KZA Kyzart 42.40 341 P **P 19 02 41.3 +0.7**
SNR=20
KPKS Kokpek 42.66 345 *eP* **P 19 02 42.8 +0.5**
comp=Z,435nm,1.1s
KPKS *i* PP **PP 19 04 21.8 0.0**
KPKS *eS* **S 19 09 03.7 +0.7**
UCH Uchtor 42.78 340 P **P 19 02 44.8 +1.1**
SNR=36
MDOK Medeo 42.83 343 *eP* **P 19 02 44.2 +0.5**
comp=Z,508nm,1.3s
MDOK *i* S **S 19 09 06.0 +0.3**
AAA Alma-Ata 42.91 343 *eP* **P 19 02 45.1 +0.8**
comp=Z,126nm,1.2s
AAA *eS* **S 19 09 07.5 +0.8**
AAA LR LR 19 20 20.6
comp=Z,236nm,19.6s
AAA Alma-Ata 42.91 343 *eP* **P 19 02 45.9 +1.6**
AAA *eS* **S 19 09 06.9 +0.3**
AAA pmax pmax
comp=Z,200nm,3.8s
AAA smax smax
comp=N,700nm,10.2s
AAA MLR MLR
comp=Z,700nm,21.0s
AML Almayashu 42.98 339 P **P 19 02 46.4 +1.1**
SNR=63
BJI Beijing 43.02 27 ⇓*i*P **P 19 02 47.0 +1.9**
BJI S **S 19 09 11.9 +3.8**
BJI pmax pmax
comp=Z,130nm,1.2s
BJI LR LR
comp=Z,2µm,21.6s
BJI LR LR
comp=Z,3µm,20.6s
KBK Karagaybulak 43.02 341 P **P 19 02 46.8 +1.4**
SNR=41
TKM2 Tokmak 2 43.05 342 P **P 19 02 46.2 +0.6**
SNR=30
AAK Ala-Archa 43.15 340 P **P 19 02 47.2 +0.8**
comp=Z,8.0nm,0.8s,baz=154,slow=5.9,SNR=18
AAK PcP **PcP 19 04 36.3 +0.7**
comp=Z,5.4nm,0.7s,baz=158,slow=9.7,SNR=4.4
AAK Ala-Archa 43.15 340 P **P 19 02 47.5 +1.1**
SNR=12
AAK Ala-Archa 43.15 340 *eP* **P 19 02 46.9 +0.5**
comp=Z,15nm,1.0s
AAK PcP **PcP 19 04 36.3 +0.7**
AAK Ala-Archa 43.15 340 P **P 19 02 48.0 +1.6**
SNR=9.8
AAK Ala-Archa 43.15 340 P **P 19 02 48.0 +1.6**
SNR=9.8
AAK Ala-Archa 43.15 340 *i* P **P 19 02 47.6 +1.1**
SNR=15
AAK Ala-Archa 43.15 340 *i* P **P 19 02 46.5 +0.1**
AAK pmax pmax
comp=Z,14nm,1.0s
BMNS Besmoynak 43.19 342 *eP* **P 19 02 47.1 +0.4**
comp=Z,665nm,1.0s
BMNS *i* S **S 19 09 11.6 +0.6**
BMNS LR LR 19 20 14.8
comp=Z,809nm,16.9s
FRU Bishkek 43.28 341 *eP* **P 19 02 49.0 +1.7**
FRU *i* 19 03 04.0
CHMS Chumysh 43.39 341 P **P 19 02 48.9 +0.7**
SNR=5.0
EKS2 Erkin-Say 43.42 340 P **P 19 02 49.5 +1.0**
SNR=33
KUU Kurty 43.70 343 *eP* **P 19 02 50.4 -0.2**
comp=Z,276nm,1.2s
KUU *i* S **S 19 09 17.8 -0.4**
KUU LR LR 19 20 30.7
comp=Z,332nm,18.0s
USP Ospenovka 43.71 341 P **P 19 02 51.6 +0.8**
SNR=29
IUG Iuzhnay 44.40 336 *eP* **P 19 02 56.9 +0.5**
comp=Z,833nm,0.9s
IUG *eS* **S 19 09 29.0 +0.5**
DZA Taraz 44.51 338 *eP* **P 19 02 57.2 +0.1**
comp=Z,422nm,0.9s
DZA *i* PP **PP 19 04 41.2 -0.4**
DL2 Dalian 44.83 32 P **P 19 03 01.2 +1.5**
DL2 S **S 19 09 35.8 +1.2**
DL2 pmax pmax
comp=Z,66nm,1.1s
DL2 pmax pmax
comp=Z,310nm,4.4s
DL2 LR LR
comp=Z,1µm,18.8s
DL2 LR LR
comp=Z,1µm,16.1s
DL2 LR LR
comp=Z,2µm,18.4s
KK06 Karatay Array 44.99 337 *eP* **P 19 03 01.1 +0.1**
KK07 Karatay Array 45.00 337 *eP* **P 19 03 01.3 +0.3**
KK02 Karatay Array 45.01 337 *eP* **P 19 03 01.1 0.0**
KK31 Karatay Array 45.01 337 *eP* **P 19 03 01.4 +0.4**
KK31 Karatay Array 45.01 337 *eP* **P 19 03 01.5 +0.4**
KKAR Karatay Array 45.01 337 *eP* **P 19 03 01.4 +0.4**
KKAR Karatay Array 45.01 337 *eP* **P 19 03 01.5 +0.4**
KK01 Karatay Array 45.01 337 *eP* **P 19 03 01.2 +0.1**
KK03 Karatay Array 45.01 337 *eP* **P 19 03 01.1 0.0**
KK05 Karatay Array 45.01 337 *eP* **P 19 03 01.1 -0.1**
KK04 Karatay Array 45.01 337 *eP* **P 19 03 01.0 -0.1**
KK08 Karatay Array 45.02 337 *eP* **P 19 03 01.6 +0.4**
MK31 Makanchi Array 45.04 350 *eP* **P 19 03 01.6 +0.2**
MK31 Makanchi Array 45.04 350 *eP* **P 19 03 01.6 +0.2**
MKAR Makanchi Array 45.04 350 P **P 19 03 02.0 +0.7**
comp=Z,50nm,0.8s,baz=167,slow=8.8,SNR=248
MAKZ Makanchi 45.11 350 *eP* **P 19 03 02.5 +0.6**
comp=Z,26nm,0.9s
MAKZ Makanchi 45.11 350 *eP* **P 19 03 02.5 +0.6**
MAKZ pmax pmax
comp=Z,26nm,0.9s
ZSN Zaisan 45.29 353 *eP* **P 19 03 04.8 +1.5**
comp=Z,351nm,1.0s
ZSN *i* S **S 19 09 43.3 +2.1**
BTLS Baital 45.44 341 *eP* **P 19 03 04.4 -0.1**
comp=Z,175nm,1.1s
TJN Taejon 46.48 39 *ceP* **P 19 03 11.2 -1.6**
WRA Warramunga Arr 46.56 121 P **P 19 03 12.2 -1.5**
comp=Z,37nm,0.7s,baz=300,slow=8.6,SNR=170
WRA LR LR 19 23 32.2
comp=Z,665nm,21.2s,baz=265,slow=37
WRAB Tennant Creek 46.56 121 *eP* **P 19 03 13.1 -0.7**
comp=Z,58nm,0.8s
WRAB Tennant Creek 46.56 121 *eP* **P 19 03 13.1 -0.7**
WRAB pmax pmax
comp=Z,58nm,0.8s
WB2 Warramunga Arr 46.57 121 *eP* **P 19 03 12.2 -1.6**
WC3 Warramunga Arr 46.59 121 P **P 19 03 12.5 -1.5**
baz=47
SONM Songino Array 46.70 13 P **P 19 03 14.0 -0.5**
comp=Z,58nm,1.0s,baz=193,slow=9.0,SNR=211
SONM PcP **PcP 19 04 47.6 -0.1**
comp=Z,7.4nm,0.8s,baz=189,slow=4.3,SNR=4.2
SONM LR LR 19 25 16.9
comp=Z,1µm,20.9s,baz=194,slow=39
SONA1 Songino Array 46.71 13 *eP* **P 19 03 14.3 -0.3**
ULN Ulaanbaatar 46.87 13 *eP* **P 19 03 16.5 +0.6**
comp=Z,33nm,1.0s
ULN Ulaanbaatar 46.87 13 P **P 19 03 16.5 +0.6**
SNR=20

ULN Ulaanbaatar 46.87 13 P **P 19 03 16.5 +0.6**
SNR=20
ULN Ulaanbaatar 46.87 13 *ceP* **P 19 03 16.2 +0.3**
ULN pmax pmax
comp=Z,46nm,1.2s
JNU Nakatsue 46.96 45 LR LR 19 25 57.6
comp=Z,1µm,18.1s,baz=241,slow=40
FORT Forrest 47.23 137 *eP* **P 19 03 20.0 +1.3**
comp=Z,777nm,0.9s
DGZ Jazzator, Alta 47.25 355 *i* P **P 19 03 17.9 -0.9**
DGZ pmax pmax
comp=Z,15nm,0.8s
GYB1 ALIBECK ARRAY 47.38 322 *eP* **P 19 03 21.3 +1.4**
comp=Z,34nm,0.8s
GYA1 ALIBECK ARRAY 47.39 322 *eP* **P 19 03 21.4 +1.4**
comp=Z,36nm,0.8s
GEYT Alibeck 47.39 322 P **P 19 03 20.4 +0.4**
comp=Z,33nm,0.8s,baz=148,slow=8.6,SNR=89
GEYT LR LR 19 23 48.4
comp=Z,3µm,21.6s,baz=130,slow=37
GYA0 ALIBECK ARRAY 47.39 322 *eP* **P 19 03 21.4 +1.5**
comp=Z,35nm,0.8s
GYA0B ALIBECK ARRAY 47.39 322 *eP* **P 19 03 21.5 +1.5**
comp=Z,36nm,0.8s
GYB5 ALIBECK ARRAY 47.39 322 *eP* **P 19 03 21.1 +1.2**
comp=Z,34nm,0.9s
GYB4 ALIBECK ARRAY 47.41 322 *eP* **P 19 03 21.5 +1.4**
comp=Z,33nm,0.8s
KSAR Wonju Array Be 47.47 39 P **P 19 03 19.6 -1.0**
KSAR PcP **PcP 19 04 49.7 -0.8**
KSAR Wonju Array Be 47.47 39 P **P 19 03 19.6 -1.0**
KSAR 19 04 49.7
KS01 Wonju Array Si 47.50 38 *eP* **P 19 03 20.3 -0.4**
KSRS Korea Array 47.50 39 P **P 19 03 19.6 -1.2**
comp=Z,31nm,1.1s,baz=230,slow=8.4,SNR=41
KSRS PcP **PcP 19 04 49.7 -0.9**
comp=Z,2.2nm,0.7s,baz=217,slow=5.2,SNR=5.4
KSRS LR LR 19 25 52.8
comp=Z,1µm,18.2s,baz=232,slow=39
ASAR Alice Springs 47.79 125 P **P 19 03 21.8 -1.6**
comp=Z,10nm,0.8s,baz=296,slow=7.7,SNR=189
ASAR PcP **PcP 19 04 51.1 -0.8**
comp=Z,4.1nm,0.7s,baz=305,slow=3.7,SNR=5.5
ASAR S **S 19 10 12.7 -5.0**
comp=Z,0.6nm,0.8s,baz=294,slow=12,SNR=4.4
AS01 Alice Springs 47.83 125 *eP* **P 19 03 21.3 -2.3**
JAY Jayapura 48.26 96 P **P 19 03 26.2 -0.9**
comp=Z,141nm,0.8s,comp=Z,7µm
HVS Khovu-Aksy 48.48 1 *c iP* **P 19 03 27.7 -0.5**
HVS pmax pmax
comp=Z,173nm,0.9s
ZAK Zakamensk 48.55 9 *eP* **P 19 03 28.6 -0.2**
ZAK pmax pmax
comp=Z,23nm,1.5s
SEM Semipalatinsk 48.89 349 *eP* **P 19 03 30.9 -0.6**
comp=Z,261nm,1.0s
SEM *eS* **S 19 10 31.9 -0.9**
SEM LR LR 19 24 43.5
comp=Z,494nm,18.6s
OPO Ambohidratompo 49.42 243 P **P 19 03 36.5 +0.4**
comp=Z,12nm,0.7s,baz=64,slow=3.7,SNR=17
OPO LR LR 19 21 17.6
comp=Z,805nm,18.6s,baz=57,slow=32
KURBB Kurchatov Arra 49.43 348 P **P 19 03 35.7 +0.3**
comp=Z,24nm,0.8s,baz=171,slow=7.4,SNR=216
KURBB PcP **PcP 19 04 57.3 +0.1**
comp=Z,17nm,1.0s,baz=167,slow=3.5,SNR=8.6
MOY Mondy 49.50 7 *eP* **P 19 03 37.0 +1.0**
MOY pmax pmax
comp=Z,20nm,2.1s
KURK Kurchatov 49.50 348 *eP* **P 19 03 36.0 +0.1**
comp=Z,42nm,1.0s
KURK PcP **PcP 19 04 57.3 -0.1**
KURK Kurchatov 49.50 348 P **P 19 03 36.5 +0.6**
SNR=18
KURK Kurchatov 49.50 348 P **P 19 03 36.5 +0.6**
SNR=18
KURK Kurchatov 49.50 348 P **P 19 03 35.7 -0.2**
KURK 19 04 57.3
KURK pmax pmax
comp=Z,23nm,0.9s
KURK pmax pmax
comp=Z,17nm,1.0s
ABPO Ambohimpanom 49.54 242 *eP* **P 19 03 38.1 +1.1**
comp=Z,46nm,1.1s
ABPO Ambohimpanom 49.54 242 *i* P **P 19 03 38.5 +1.6**
TLY Talaya 49.87 9 *eP* **P 19 03 40.5 +1.8**
comp=Z,24nm,0.9s
TLY Talaya 49.87 9 P **P 19 03 40.6 +1.8**
SNR=16
TLY Talaya 49.87 9 P **P 19 03 40.6 +1.8**
SNR=16
TLY Talaya 49.87 9 *eP* **P 19 03 40.6 +1.8**
TLY *eS* **S 19 10 42.6 -3.4**
TLY *e* 19 13 29.5
TLY pmax pmax
comp=Z,30nm,1.0s
TLY MLR MLR
comp=Z,1µm,19.0s
RAYN Ar Rayn 50.18 299 *eP* **P 19 03 42.2 +0.6**
comp=Z,17nm,0.8s
ATD Arta Tunnel 50.20 283 LR LR 19 21 02.7
comp=Z,326nm,21.9s,baz=80,slow=31
CN2 Changchun 50.35 31 *eP* **P 19 03 42.6 +0.1**
CN2 *eS* **S 19 10 53.3 +0.4**
CN2 SS **SS 19 14 24.8 -2.2**
CN2 pmax pmax
comp=Z,20nm,1.0s
CN2 pmax pmax
comp=Z,300nm,6.0s
CN2 LR LR
comp=Z,900nm,24.0s
CN2 LR LR
comp=Z,1µm,24.0s
CN2 LR LR
comp=Z,700nm,27.0s
IRK Irkutsk 50.51 9 *eP* **P 19 03 44.1 +0.5**
IRK *eS* **S 19 10 56.9 +1.9**
IRK pmax pmax
comp=Z,62nm,1.8s
ZAA0 Zalesovo Array 51.70 354 *eP* **P 19 03 53.0 +0.5**
comp=Z,102nm,1.1s
ZALV Zalesovo Beam 51.70 354 P **P 19 03 52.5 +0.1**
comp=Z,31nm,0.4s,baz=186,slow=6.9,SNR=195
ZALV S **S 19 11 12.0 +0.8**
comp=Z,0.9nm,0.7s,baz=192,slow=14,SNR=4.4
CIT Chita 52.35 16 *eP* **P 19 03 58.1 +0.7**
CIT *e* 19 04 12.9
CIT *e* 19 05 08.8
CIT pmax pmax
comp=Z,141nm,1.4s
MSHR Mys Shultsa 52.64 35 *ceP* **P 19 03 59.1 -0.5**
NVS Novosibirsk 52.75 353 *i* P **P 19 04 00.4 +0.2**
NVS *e* 19 04 15.4
NVS *eS* **S 19 11 22.5 -3.0**
NVS pmax pmax
comp=Z,80nm,0.9s
NVS pmax pmax
comp=N,45nm,0.9s
NVS pmax pmax
comp=E,22nm,0.8s
NVS smax smax
comp=E,68nm,2.8s
MDJ Mudanjiang 53.07 32 P **P 19 04 01.8 -1.0**
MDJ pP pP 19 04 06.6 -7.5
MDJ sP sP 19 04 08.4 -10
MDJ S **S 19 11 32.7 +2.3**
MDJ pmax pmax
comp=E,56nm,1.5s
MDJ pmax pmax
comp=E,500nm,7.2s
MDJ LR LR
comp=E,920nm,16.7s
MDJ LR LR
comp=E,2µm,19.5s
MDJ LR LR
comp=E,1µm,20.3s
KRAR Krasnoyarsk 53.36 0 *i* P **P 19 04 05.5 +0.8**
JHJ Hachijo jima 2 53.54 50 LR LR 19 28 19.4
comp=E,378nm,18.1s,baz=86,slow=38
BVAR Borovoye Array 53.64 343 P **P 19 04 06.3 -0.6**
comp=E,17nm,0.8s,baz=144,slow=7.5,SNR=100
BRVK Borovoye 53.70 343 *eP* **P 19 04 06.8 -0.5**
comp=E,20nm,0.9s
BRVK Borovoye 53.70 343 P **P 19 04 07.2 -0.1**
SNR=6.7

BRVK Borovoye 53.70 343 P P 19 04 07.2 -0.1
SNR=6.7
BRVK Borovoye 53.70 343 *ce*P **P 19 04 05.9 -1.4**
BRVK pmax pmax
comp=Z,52nm,1.0s
MJB9 Matsu-Tunnel 53.89 45 *e*P **P 19 04 09.5 +0.5**
comp=Z,96nm,1.7s
MAJO Matsushiro 53.89 45 *e*P **P 19 04 09.5 +0.5**
comp=Z,101nm,1.8s
MAJO Matsushiro 53.89 45 *i* P **P 19 04 09.3 +0.3**
MAJO pmax pmax
comp=Z,24nm,1.2s
MAT Matsushiro 53.89 45 P **P 19 04 08.4 -0.6**
MJAR Matsushiro Arr 53.89 45 P **P 19 04 08.4 -0.6**
comp=Z,10nm,1.0s,baz=236,slow=8.0,SNR=15
MJAR PcP **PcP 19 05 14.1 -0.2**
comp=Z,18nm,1.2s,baz=241,slow=5.0,SNR=9.7
MJAR LR LR 19 29 44.9
comp=Z,668nm,18.2s,baz=270,slow=39
USRK Ussuriysk Ar. 54.12 34 P **P 19 04 10.5 0.0**
comp=Z,20nm,1.0s,baz=242,slow=4.1,SNR=22
USRK LR LR 19 30 49.5
comp=Z,873nm,18.2s,baz=213,slow=40
AB07 Akbulak array 54.30 334 *e*P **P 19 04 11.3 -0.5**
AB06 Akbulak array 54.31 334 *e*P **P 19 04 11.4 -0.5**
AB03 Akbulak array 54.32 334 *e*P **P 19 04 11.3 -0.5**
AB01 Akbulak array 54.32 334 *e*P **P 19 04 11.4 -0.5**
AB31 Akbulak array 54.32 334 *e*P **P 19 04 11.7 -0.2**
AB31 Akbulak array 54.32 334 *e*P **P 19 04 11.7 -0.2**
ABKAR Akbulak array 54.32 334 *e*P **P 19 04 11.7 -0.2**
comp=Z,328nm,0.8s
AB02 Akbulak array 54.32 334 *e*P **P 19 04 11.4 -0.4**
AB05 Akbulak array 54.34 334 *e*P **P 19 04 11.0 -1.0**
AB09 Akbulak array 54.34 334 *e*P **P 19 04 11.6 -0.4**
MANU Manus Island 54.85 94 *e*P **P 19 04 15.7 -0.7**
comp=Z,53nm,1.0s
KMBO Kilima Mbogo 55.54 267 P **P 19 04 22.6 +1.0**
comp=Z,3.7nm,0.6s,baz=66,slow=12,SNR=13
KMBO LR LR 19 25 49.1
comp=Z,778nm,18.8s,baz=94,slow=34
KMBO Kilima Mbogo 55.54 267 *e*P **P 19 04 23.0 +1.4**
comp=Z,9.1nm,0.9s
KMBO Kilima Mbogo 55.54 267 *i* P **P 19 04 22.6 +1.0**
SNR=6.4
KMBO Kilima Mbogo 55.54 267 *e*P **P 19 04 23.0 +1.4**
KMBO pmax pmax
comp=Z,9.0nm,0.9s
PMG Port Moresby 55.54 103 P **P 19 04 20.9 -0.4**
comp=Z,22nm,0.8s,baz=333,slow=11,SNR=4.8
PMG LR LR 19 29 27.5
comp=Z,358nm,21.4s,baz=322,slow=38
AKTO Aktyubinsk 56.03 334 P **P 19 04 23.4 -0.8**
comp=Z,14nm,0.9s,baz=108,slow=7.2,SNR=34
MAK Makhachkala 56.89 322 *e*P **P 19 04 27.9 -2.5**
MAK *e*S **S 19 12 18.3 -3.2**
MAK pmax pmax
comp=Z,40nm,0.8s
MAK MLR MLR
comp=Z,544nm,15.0s
KLR Kul'dur 57.24 29 *i* P **P 19 04 33.2 +0.4**
GNI Garni 57.27 317 P **P 19 04 34.0 +0.7**
comp=Z,12nm,0.8s,baz=4.8,slow=12,SNR=9.8
GNI Garni 57.27 317 *e*P **P 19 04 34.7 +1.3**
comp=Z,32nm,1.0s
GNI Garni 57.27 317 P **P 19 04 35.1 +1.7**
SNR=6.7
GNI Garni 57.27 317 P **P 19 04 35.1 +1.7**
SNR=6.7
GNI Garni 57.27 317 P **P 19 04 34.1 +0.7**
GNI Garni 57.27 317 *ce*P **P 19 04 32.9 -0.5**
GNI pmax pmax
comp=Z,79nm,1.2s
STKA Stephens Creek 57.59 131 P **P 19 04 34.5 -1.1**
comp=Z,20nm,0.8s,baz=307,slow=5.6,SNR=29
STKA Stephens Creek 57.59 131 *e*P **P 19 04 35.1 -0.5**
comp=Z,4.4nm,0.8s
BOD Bodaibo 57.68 13 *e*P **P 19 04 35.8 0.0**
BOD pmax pmax
comp=Z,90nm,1.3s
TBLG Delisi 58.03 319 *e*P **P 19 04 39.6 +1.1**
comp=Z,42nm,0.9s
TBLG Delisi 58.03 319 *e*P **P 19 04 39.6 +1.1**
TBLG pmax pmax
comp=Z,42nm,0.9s
GROC Groznyy 58.08 321 *e*P **P 19 04 37.5 -1.3**
GROC *e* 19 05 28.3
GROC *e*S **S 19 12 34.6 -2.6**
GROC pmax pmax
comp=Z,37nm,0.6s
ZEA Zeya 58.43 23 *e*P **P 19 04 40.6 -0.5**
ZEA *e*S **S 19 12 42.0 +0.6**
ZEA pmax pmax
comp=Z,46nm,1.0s
ZEA smax smax
comp=E,500nm,16.0s
ZEA MLR MLR
comp=Z,1μm,16.0s
ZEA MLR MLR
comp=N,1μm,17.0s
ZEA MLR MLR
comp=E,600nm,17.0s
AKH Akhalkalaki 58.70 318 *e*P **P 19 04 45.2 +1.8**
comp=E,14nm,1.0s
AKH Akhalkalaki 58.70 318 *e*P **P 19 04 45.2 +1.8**
AKH pmax pmax
comp=Z,14nm,1.0s
ZEI Tsey 59.08 320 *e*P **P 19 04 46.3 +0.2**
ZEI pmax pmax
comp=Z,13nm,0.8s
NCK Nalchik 59.62 320 *i* P **P 19 04 49.6 0.0**
NCK pmax pmax
comp=Z,20nm,0.9s
SVE Sverdlovsk 59.89 340 *d i*P **P 19 04 50.6 -0.5**
SVE pmax pmax
comp=Z,54nm,0.9s
CLNS Chul'man 59.95 20 *e*P **P 19 04 51.8 +0.2**
CLNS pmax pmax
comp=Z,64nm,1.3s
CLNS pmax pmax
comp=E,23nm,1.0s
CLNS pmax pmax
comp=N,30nm,1.2s
ASF Jabal al Asfar 60.05 306 P **P 19 04 54.3 +1.5**
comp=N,11nm,0.8s,baz=64,slow=4.5,SNR=20
NEY Neytrino 60.06 320 *i* P **P 19 04 52.8 0.0**
NEY pmax pmax
comp=Z,5.0nm,0.8s
KBZ Khabaz 60.17 320 P **P 19 04 54.0 +0.7**
comp=Z,25nm,0.8s,baz=118,slow=5.6,SNR=70
KBZ PcP **PcP 19 05 38.7 +0.1**
comp=Z,14nm,0.8s,baz=171,slow=3.1,SNR=5.4
ARU Arti 60.30 339 *e*P **P 19 04 52.5 -1.5**
comp=Z,25nm,0.9s
ARU Arti 60.30 339 *c i*P **P 19 04 52.6 -1.4**
ARU 19 05 35.9
ARU S **S 19 13 05.0 -0.5**
ARU pmax pmax
comp=Z,48nm,1.7s
ARU MLR MLR
comp=Z,1μm,17.0s
KIV Kislovodsk 60.42 320 *e*P **P 19 04 55.9 +0.8**
comp=Z,36nm,0.9s
KIV Kislovodsk 60.42 320 P **P 19 04 55.9 +0.8**
SNR=12
KIV Kislovodsk 60.42 320 P **P 19 04 55.9 +0.8**
SNR=12
KIV Kislovodsk 60.42 320 *i* P **P 19 04 55.9 +0.8**
SNR=14
KIV Kislovodsk 60.42 320 *e*P **P 19 04 55.3 +0.2**
KIV *e*S **S 19 13 07.9 +0.2**
KIV *e*SS **SS 19 17 07.8 +1.8**
KIV pmax pmax
comp=Z,41nm,1.0s
KIV pmax pmax
comp=Z,47nm,4.1s
ASAJ Asahikawa 60.44 39 P **P 19 04 55.2 0.0**
comp=Z,4.8nm,0.4s,baz=231,slow=7.6,SNR=18
ASAJ Asahikawa 60.44 39 *e*P **P 19 04 56.0 +0.9**
comp=Z,19nm,0.8s
GRNR Gornyy 60.54 30 *e*P **P 19 04 55.2 -0.5**
GRNR pmax pmax
comp=Z,84nm,1.0s
GOF Gofitskoye 60.73 322 ⇑ *i*P **P 19 04 56.8 -0.3**
GOF pmax pmax
comp=Z,22nm,0.8s
MMAI Mount Meron Ar 61.50 306 P **P 19 05 03.4 +0.7**
comp=Z,9.8nm,0.8s,baz=96,slow=7.2,SNR=12
YSS Yuzh-Sakhalins 61.91 37 ⇑ *e*P **P 19 05 05.3 +0.2**
YSS *e*S **S 19 13 27.2 +0.9**
YSS pmax pmax
comp=Z,60nm,1.4s
YSS MLR MLR
comp=Z,600nm,20.0s
SOC Sochi 62.17 319 *e*P **P 19 05 03.0 -3.8**
SOC *e* 19 07 22.3
SOC *e*PPP PPP 19 08 52.6
SOC *e*S **S 19 13 23.4 -6.3**
SOC *e*SS **SS 19 17 34.1 +0.9**
SOC *e*SSS SSS 19 20 17.9
SOC pmax pmax
comp=Z,18nm,0.6s
SOC MLR MLR
comp=Z,511nm,21.0s
TYV Tymovskoe 63.85 33 *e*P **P 19 05 18.7 +0.8**
TYV *e*S **S 19 13 53.4 +2.9**
TYV pmax pmax
comp=Z,30nm,1.2s
TYV pmax pmax
comp=Z,200nm,5.0s
TYV smax smax
comp=E,11nm,1.4s
TYV smax smax
comp=N,500nm,9.1s
TYV MLR MLR
comp=E,2μm,15.0s
TYV MLR MLR
comp=Z,1μm,16.0s
NKL Nikolayevsk 64.07 30 *e*P **P 19 05 19.5 +0.2**
NKL pmax pmax
comp=Z,82nm,1.1s
VRH Novokhopyorsk 64.57 327 *e*P **P 19 05 21.4 -1.1**
VRH pmax pmax
comp=Z,40nm,0.9s
BR131 Keskin Array S 64.93 313 *e*P **P 19 05 25.3 0.0**
BRTR Keskin Array B 64.93 313 P **P 19 05 24.9 -0.4**
comp=Z,6.6nm,0.8s,baz=132,slow=7.2,SNR=51
BRTR Keskin Array B 64.93 313 P **P 19 05 25.0 -0.4**
ARMA Armidale 64.95 125 *e*P **P 19 05 28.4 +2.8**
comp=Z,26nm,0.8s
ILGA Ilgaz 65.31 314 *e*P **P 19 05 28.5 +0.6**
comp=Z,19nm,1.0s
PATS Pohnpei 65.51 84 *e*P **P 19 05 31.0 +1.6**
comp=Z,302nm,1.4s
YAK Yakutsk 65.52 18 *e*P **P 19 05 27.8 -0.7**
YAK *e**PP **pP 19 05 37.8 -2.3**
YAK *e* 19 05 57.7
YAK *e*S **S 19 14 09.2 -1.5**
YAK *e*S **S 19 14 09.2 -1.5**
YAK *e*SS **SS 19 18 31.1 +6.3**
YAK pmax pmax
comp=Z,206nm,1.0s
YAK pmax pmax
comp=E,80nm,1.3s
YAK pmax pmax
comp=N,57nm,1.1s
YAK pmax pmax
comp=Z,74nm,3.2s
YAK pmax pmax
comp=N,36nm,3.6s
YAK pmax pmax
comp=E,54nm,3.6s
YAK smax smax
comp=N,150nm,3.3s
YAK smax smax
comp=E,140nm,2.7s
YAK MLR MLR
comp=Z,1μm,18.0s
YAK MLR MLR
comp=E,561nm,17.0s
ANTO Ankara 65.59 313 *e*P **P 19 05 29.8 +0.3**
comp=E,20nm,0.9s
ANTO Ankara 65.59 313 *e*P **P 19 05 29.8 +0.3**
ANTO pmax pmax
comp=Z,20nm,0.9s
BR231 Keskin MP Arra 65.59 313 *e*P **P 19 05 30.0 +0.3**
VSR Storozhevoye 65.97 326 *e*P **P 19 05 30.1 -1.6**
VSR pmax pmax
comp=Z,30nm,0.8s
LSZ Lusaka 66.18 252 LR LR 19 29 07.3
comp=Z,733nm,20.7s,baz=96,slow=31
LSZ Lusaka 66.18 252 *e*P **P 19 05 34.0 +0.2**
comp=Z,70nm,1.8s
LSZ Lusaka 66.18 252 P **P 19 05 34.8 +0.9**
SNR=6.1
LSZ Lusaka 66.18 252 P **P 19 05 34.8 +0.9**
SNR=6.1
LSZ Lusaka 66.18 252 *e*P **P 19 05 34.0 +0.2**
LSZ pmax pmax
comp=Z,70nm,1.8s
SIM Simferopol' 66.40 319 *de*P **P 19 05 34.9 +0.3**
SIM *e* 19 05 57.0
SIM *e*S **S 19 14 23.0 +1.0**
SIM pmax pmax
comp=Z,27nm,0.8s
ISP Isparta 66.68 310 *i* P **P 19 05 37.1 +0.4**
ISP pmax pmax
comp=Z,12nm,0.9s
LPSR Galich'ya Gora 66.77 328 *e*P **P 19 05 35.6 -1.1**
LPSR pmax pmax
comp=Z,60nm,0.9s
HNR Honiara 68.04 101 P **P 19 05 44.0 -1.5**
HNR Honiara 68.04 101 P **P 19 05 45.2 -0.3**
comp=Z,95nm,0.8s,baz=186,slow=3.3,SNR=9.4
HNR Honiara 68.04 101 *e*P **P 19 05 45.5 0.0**
comp=Z,123nm,0.9s
MANT Manisa 68.35 311 *e*P **P 19 05 47.9 +0.5**
comp=Z,62nm,1.1s
KARP Karpathos 68.74 307 *e*P **P 19 05 50.8 +1.2**
comp=Z,39nm,0.9s
MOS Moscow 68.95 330 *e*P **P 19 05 48.6 -1.8**
MOS pmax pmax
comp=Z,108nm,1.2s
MOS MLR MLR
comp=Z,2μm,20.0s
OBN Obninsk 69.18 329 *e*P **P 19 05 50.3 -1.5**
OBN *e* 19 06 04.5
OBN *e* 19 06 13.8
OBN *e* 19 08 23.7
OBN pmax pmax
comp=Z,93nm,1.7s
OBN MLR MLR
comp=Z,822nm,24.0s
ZKR Zakros 69.41 307 P **P 19 05 55.0 +1.3**
ZKR Zakros 69.41 307 P **P 19 05 55.0 +1.3**
CASY Casey 69.81 172 *e*P **P 19 05 56.5 +1.1**
comp=Z,29nm,1.1s
LAST Lasithi 70.01 307 P **P 19 05 58.4 +0.9**
LAST Lasithi 70.01 307 P **P 19 05 58.4 +0.9**
TLCR 70.02 318 ⇑ *i*P **P 19 05 57.5 +0.3**
TIRR Tirgusor 70.08 317 ⇓ *i*P **P 19 05 58.1 +0.5**
TIRR Tirgusor 70.08 317 *e*P **P 19 05 57.6 0.0**
comp=Z,26nm,0.9s
TIRR Tirgusor 70.08 317 *e*P **P 19 05 57.6 0.0**
TIRR pmax pmax
comp=Z,26nm,0.9s
TLB Topalu 70.37 317 ⇓ *i*P **P 19 05 59.7 +0.3**
LBTB Lobatse 70.45 242 *e*P **P 19 06 00.9 +0.5**
comp=Z,58nm,1.0s
LBTB Lobatse 70.45 242 *e*P **P 19 06 00.9 +0.5**
LBTB pmax pmax
comp=Z,58nm,1.0s
CFR Carcaliu 70.48 317 ⇓ *i*P **P 19 06 00.1 +0.1**
HARR Harsova 70.48 317 ⇓ *i*P **P 19 06 00.7 +0.7**
IDI Anoyia 70.51 307 P **P 19 06 00.6 +0.1**
comp=Z,46nm,1.0s,baz=91,slow=8.7,SNR=26
IDI Anoyia 70.51 307 ⇑ *i*P **P 19 06 01.3 +0.8**
IDI Anoyia 70.51 307 *e*P **P 19 06 01.1 +0.5**
comp=Z,44nm,0.9s
KLMR Klimovskoe 70.68 335 *e*P **P 19 05 58.8 -2.2**
KLMR AMP 19 06 00.8
comp=Z,23nm,0.9s
KLMR *e*S **S 19 15 09.0 -3.2**
KLMR *e*S **S 19 15 09.0 -3.2**
KLMR LQ LQ 19 31 18.2
KLMR LQ LQ 19 31 18.2
KLMR LR LR 19 35 01.8
KLMR Klimovskoe 70.68 335 *e*P **P 19 05 58.7 -2.2**
KLMR *e*S **S 19 15 09.0 -3.2**
KLMR pmax pmax
comp=Z,23nm,0.9s
ENEZ Enez 70.71 312 P **P 19 06 01.4 -0.1**
GADA Gvkgeada 70.77 312 P **P 19 06 01.2 -0.7**
GADA Gvkgeada 70.77 312 P **P 19 06 01.2 -0.7**
LEOM Leova 70.78 319 ⇑ *i*P **P 19 06 02.6 +0.8**
ALN Alexandroupoli 70.83 313 P **P 19 06 01.4 -0.8**
ALN Alexandroupoli 70.83 313 P **P 19 06 01.4 -0.8**
ALN Alexandroupoli 70.83 313 P **P 19 06 01.4 -0.8**
VAM Vamos 71.08 307 P **P 19 06 05.0 +1.1**
VAM Vamos 71.08 307 P **P 19 06 05.0 +1.1**
VAM Vamos 71.08 307 P **P 19 06 05.0 +1.1**
SMTH Samothraki Isl 71.11 312 P **P 19 06 03.3 -0.7**
SMTH Samothraki Isl 71.11 312 P **P 19 06 03.3 -0.7**
SORM Soroca 71.22 320 ⇓ *i*P **P 19 06 04.2 -0.3**
RDO Rodhopi 71.26 313 P **P 19 06 04.0 -0.8**
RDO Rodhopi 71.26 313 P **P 19 06 04.0 -0.8**
IMMV Iera Moni Meta 71.27 307 P **P 19 06 06.3 +1.2**
IAS Iasi 71.45 319 ⇑ *i*P **P 19 06 07.1 +1.2**
SKR Severo-Kuril's 71.48 37 *e*P **P 19 06 07.3 +1.3**
SKR *e*S **S 19 15 26.3 +4.4**
SKR *e* 19 15 56.0
SKR pmax pmax
comp=Z,185nm,1.0s
SKR MLR MLR
comp=Z,700nm,20.0s
SKR MLR MLR
comp=Z,900nm,17.0s
AKASG Malin Array Be 71.51 323 P **P 19 06 05.2 -1.0**
comp=Z,11nm,0.8s,baz=92,slow=4.7,SNR=49
AKBB Malin Array Si 71.51 323 *e*P **P 19 06 05.5 -0.6**
comp=Z,14nm,0.9s
AKBB Malin Array Si 71.51 323 *e*P **P 19 06 05.6 -0.6**
AKBB pmax pmax
comp=Z,14nm,0.9s
KIEV Kiev 71.51 323 *e*P **P 19 06 05.6 -0.6**
comp=Z,14nm,0.9s
KIEV Kiev 71.51 323 *i* P **P 19 06 05.5 -0.6**
SNR=9.1
KIEV Kiev 71.51 323 *i* P **P 19 06 05.3 -0.9**
KIEV pmax pmax
comp=Z,16nm,1.0s
AK11 Malin Array Si 71.53 323 *e*P **P 19 06 05.2 -1.1**
BOSA Boshof 71.55 239 P **P 19 06 06.7 -0.3**
comp=Z,22nm,1.0s,baz=80,slow=5.5,SNR=21
BOSA PKKP **PKKPdf 19 25 47.0 +3.5**
comp=Z,5.0nm,0.7s,baz=69,slow=6.3,SNR=5.5
BOSA LR LR 19 35 23.0
comp=Z,470nm,19.1s,baz=66,slow=34
BOSA Boshof 71.55 239 *e*P **P 19 06 06.7 -0.3**
comp=Z,78nm,1.4s
BOSA Boshof 71.55 239 *e*P **P 19 06 06.7 -0.3**
BOSA pmax pmax
comp=Z,78nm,1.4s
VRI Vrincioaia 71.62 318 ⇑ *i*P **P 19 06 07.9 +0.9**
SGRR Singureni 71.70 316 ⇑ *i*P **P 19 06 08.3 +0.9**
SECR 71.84 317 ⇑ *i*P **P 19 06 09.9 +1.5**
TESR Tescani 71.85 318 ⇓ *i*P **P 19 06 08.2 -0.2**
ANKY Antikythira Is 71.89 307 P **P 19 06 09.9 +1.1**
ANKY Antikythira Is 71.89 307 P **P 19 06 09.9 +1.1**
ZIMR 71.98 315 ⇓ *i*P **P 19 06 09.2 0.0**
MLR Muntele Rosu 72.05 317 ⇑ *i*P **P 19 06 10.5 +0.8**
MLR Muntele Rosu 72.05 317 *e*P **P 19 06 09.8 +0.1**
comp=Z,57nm,1.0s
MLR Muntele Rosu 72.05 317 *e*P **P 19 06 09.8 +0.1**
MLR pmax pmax
comp=Z,57nm,1.0s
MA2 Magadan 72.18 27 *e*P **P 19 06 09.7 -0.3**
DID Didima 72.24 309 P **P 19 06 09.8 -1.1**
DID Didima 72.24 309 P **P 19 06 09.8 -1.1**
PRAR RASCA 72.36 319 ⇓ *i*P **P 19 06 11.9 +0.5**
HUMR Humele 72.47 316 ⇓ *i*P **P 19 06 11.3 -0.8**
DOPR Dopca 72.55 318 ⇓ *i*P **P 19 06 12.9 +0.3**
MTUR Matau 72.58 317 ⇑ *i*P **P 19 06 13.0 +0.1**
VOIR 72.64 317 ⇑ *i*P **P 19 06 12.8 -0.4**
TIXI Tiksi 72.76 11 *e*P **P 19 06 12.0 -1.2**
comp=Z,92nm,1.0s
TIXI Tiksi 72.76 11 *e*P **P 19 06 12.0 -1.2**
TIXI pmax pmax
comp=Z,92nm,1.0s
DYR Agios Nikonas 72.81 308 P **P 19 06 14.0 -0.3**
ARR Arges 72.91 317 ⇑ *i*P **P 19 06 14.6 -0.2**
MAW Mawson 73.01 191 P **P 19 06 15.3 +0.6**
comp=Z,16nm,1.0s,baz=5.5,slow=7.3,SNR=9.1
MAW Mawson 73.01 191 *e*P **P 19 06 15.7 +1.0**
comp=Z,6.2nm,1.1s
GUR Goura 73.01 309 P **P 19 06 14.3 -1.3**
GUR Goura 73.01 309 P **P 19 06 14.3 -1.3**
TMCR Tamitsa 73.02 338 *e*P **P 19 06 14.0 -0.9**
TMCR pmax pmax
comp=Z,37nm,0.9s
BURAR Bucovina Array 73.09 319 ⇓ *i*P **P 19 06 16.9 +1.0**
BUR04 Bucovina Ar. S 73.10 319 *e*P **P 19 06 16.2 +0.3**
BUR08 Bucovina Ar. S 73.11 319 *e*P **P 19 06 16.7 +0.7**
ITM Ithomi 73.20 308 P **P 19 06 16.2 -0.4**
ITM Ithomi 73.20 308 P **P 19 06 16.2 -0.4**
PETK Petropavlovsk- 73.21 35 LR LR 19 42 27.3
comp=Z,515nm,19.0s,baz=238,slow=39
AGG Agios Georgios 73.22 310 *e*P **P 19 06 15.4 -1.3**
comp=Z,67nm,1.4s
AGG Agios Georgios 73.22 310 *e*P **P 19 06 15.4 -1.3**
AGG pmax pmax
comp=Z,67nm,1.4s
VTS Vitosha 73.28 314 ⇑ *i*P **P 19 06 17.0 -0.1**
VTS Vitosha 73.28 314 *e*P **P 19 06 16.8 -0.3**
comp=Z,16nm,0.8s
VTS Vitosha 73.28 314 *e*P **P 19 06 16.8 -0.3**
VTS pmax pmax
comp=Z,16nm,0.8s
TRIZ Trizonia 73.30 309 P **P 19 06 17.0 -0.1**
ANX Ano Chora 73.46 309 P **P 19 06 17.4 -0.8**
DRO Drossia 73.51 309 P **P 19 06 18.9 +0.5**
LOT Lotru 73.52 317 ⇑ *i*P **P 19 06 18.3 -0.1**
PET Petropavlovsk 73.72 35 *e*P **P 19 06 18.5 -0.8**
comp=Z,37nm,1.0s
PET Petropavlovsk 73.72 35 *e*P **P 19 06 18.5 -0.8**
PET pmax pmax
comp=Z,37nm,1.0s
CJR Cluj-Napoca 73.94 318 ⇓ *i*P **P 19 06 21.3 +0.5**
PDO Prodromos 74.03 309 P **P 19 06 21.5 +0.1**
PUL Pulkovo 74.23 332 *ce*P **P 19 06 21.9 -0.2**
PUL pmax pmax
comp=Z,94nm,0.6s
NACGM Naroch 74.28 327 *e* **P 19 06 22.0 -0.5**
NACGM *e*LR LR 19 36 23.0
HERR Herculane 74.33 316 ⇓ *i*P **P 19 06 22.9 -0.1**
SEY Seymchan 74.39 24 *ce*P **P 19 06 21.9 -1.1**
LVV L'vov 74.43 321 *e*P **P 19 06 23.7 +0.2**
IDID Didziasalis 74.44 327 *e*P **P 19 06 23.3 -0.1**
IDID lAmb lAmb 19 06 24.9
comp=Z,25nm,0.9s
LKD2 Lefkada island 74.46 310 P **P 19 06 24.0 0.0**
LKD2 Lefkada island 74.46 310 P **P 19 06 24.0 0.0**
DRGR 74.55 318 ⇑ *i*P **P 19 06 24.8 +0.4**
IIGN Ignalina 74.73 327 *e*P **P 19 06 25.0 -0.1**
IIGN lAmb lAmb 19 06 26.6
comp=Z,27nm,0.9s
BZS Buzias 75.03 317 ⇑ *i*P **P 19 06 27.0 -0.1**
KWP Kalwaria Pacla 75.21 321 *e*P **P 19 06 28.4 +0.3**
KWP Kalwaria Pacla 75.21 321 *e*P **P 19 06 28.4 +0.3**
UZH Uzhgorod 75.24 320 *e*P **P 19 06 27.1 -1.1**
UZH *e* 19 06 44.7
VSU Vasula 75.48 330 *ce*P **P 19 06 29.3 0.0**
VSU pmax pmax
comp=Z,133nm,1.0s
CRVS Cervenica-Dubn 75.84 320 *e*P **P 19 06 32.1 +0.4**
CRVS Cervenica-Dubn 75.84 320 *e*P **P 19 06 32.1 +0.4**
SUW Suwalki 76.03 325 *e*P **P 19 06 32.1 -0.5**
SUW Suwalki 76.03 325 *e*P **P 19 06 32.4 -0.3**
comp=Z,155nm,0.9s
SUW Suwalki 76.03 325 *e*P **P 19 06 32.1 -0.5**
STHS Stebnicka Huta 76.09 320 *e*P **P 19 06 34.2 +1.1**
STHS Stebnicka Huta 76.09 320 *e*P **P 19 06 34.3 +1.1**
STHS pmax pmax
comp=Z,24nm,1.0s
PDG Podgorica 76.11 313 ⇓ *i*P **P 19 06 31.5 -1.8**
APA Apatity 76.36 340 ⇓ *i*P **P 19 06 32.7 -1.5**
APA pmax pmax
comp=Z,17nm,0.8s
APA MLR MLR
comp=Z,1μm,15.0s
PSZ Piszkesteto 76.66 319 ⇓ *i*P **P 19 06 36.8 +0.4**
PSZ Piszkesteto 76.66 319 *e*P **P 19 06 36.5 +0.1**
comp=Z,8.6nm,0.9s
PSZ Piszkesteto 76.66 319 *e*P **P 19 06 36.5 +0.1**
PSZ pmax pmax

comp=Z,9,0nm,0.9s
NIE Niedzica 76.69 320 *e*P **P 19 06 37.0 +0.5**
NIE Niedzica 76.69 320 *e*P **P 19 06 37.0 +0.5**
FIA1 FINESS Array S 76.79 333 *e*P **P 19 06 36.1 -0.7**
FINES FINESS Array B 76.79 333 P **P 19 06 36.4 -0.4**
comp=Z,22nm,0.8s,baz=104,slow=8.0,SNR=51
FINES LR LR 19 42 21.9
comp=Z,1µm,20.8s,baz=118,slow=37
BEL Belsk 76.91 323 *e*P **P 19 06 38.4 +0.8**
BEL Belsk 76.91 323 *e*P **P 19 06 38.4 +0.8**
LANS Liptovska Anna 77.17 320 *e*P **P 19 06 39.8 +0.5**
LANS Liptovska Anna 77.17 320 *e*P **P 19 06 39.8 +0.5**
OJC Ojcow 77.18 321 *e*P **P 19 06 39.5 +0.3**
OJC Ojcow 77.18 321 *e*P **P 19 06 39.8 +0.6**
comp=Z,34nm,0.9s
OJC Ojcow 77.18 321 *e*P **P 19 06 39.5 +0.3**
VYHS Vyhne 77.46 319 *e*P **P 19 06 41.0 +0.2**
VYHS Vyhne 77.46 319 *e*P **P 19 06 41.0 +0.2**
VYHS pmax pmax
comp=Z,17nm,1.1s
TIP Timpagrande 77.53 309⇓ *i*P **P 19 06 42.5 +1.0**
KLNR Kaliningrad 77.87 325 *i*P **P 19 06 42.9 0.0**
KLNR pmax pmax
comp=Z,114nm,0.9s
OKC Ostrava-Krasne 78.15 320 *e*P **P 19 06 45.0 +0.4**
OKC *e*pP **PcP 19 06 51.9 -2.2**
OKC *e*PCP **pP 19 06 56.2 -0.2**
OKC Ostrava-Krasne 78.15 320 *e*P **P 19 06 45.0 +0.4**
OKC *e* 19 06 51.9
OKC *e* 19 06 56.2
MODS Modra-Piesok 78.46 319 *e*P **P 19 06 47.0 +0.6**
MODS Modra-Piesok 78.46 319 *e*P **P 19 06 47.0 +0.6**
MORC Moravsky Berou 78.52 320⇓ *i*P **P 19 06 47.2 +0.5**
MORC Moravsky Berou 78.52 320 *e*P **P 19 06 47.3 +0.5**
comp=Z,74nm,1.0s
MORC Moravsky Berou 78.52 320 *e*P **P 19 06 47.3 +0.5**
MORC pmax pmax
comp=Z,73nm,1.0s
ZST Bratislava 78.55 319 *e*P **P 19 06 46.9 0.0**
ZST *e* 19 16 32.2
ZST Bratislava 78.55 319 *e*P **P 19 06 46.9 0.0**
ZST *e* 19 16 32.2
ZST pmax pmax
comp=Z,41nm,1.0s
VRAC Vranov 79.06 320⇓ *i*P **P 19 06 50.2 +0.5**
KRLC Kraliky 79.06 320 *e*P **P 19 06 50.5 +0.8**
KRLC *ex* x 19 07 01.9
KRLC *ex* x 19 07 06.7
KRLC Kraliky 79.06 320 *e*P **P 19 06 50.5 +0.8**
KRLC *e* 19 07 01.9
GKP Gorka Klasztor 79.32 324 *e*P **P 19 06 50.6 -0.4**
GKP Gorka Klasztor 79.32 324 *e*P **P 19 06 50.6 -0.4**
CONA Conrad Observa 79.33 318 *i*P **P 19 06 51.5 +0.2**
comp=Z,16nm,0.9s,SNR=6.7
DPC Dobruska-Polom 79.39 321 *e*P **P 19 06 52.6 +1.1**
DPC *e*PCP **PcP 19 07 01.2 +1.7**
DPC *ex* x 19 07 09.4
DPC Dobruska-Polom 79.39 321 *e*P **P 19 06 52.6 +1.1**
DPC *e* 19 07 01.2
ARSA Arzberg 79.46 317 *i*P **P 19 06 52.6 +0.6**
comp=Z,52nm,0.9s,SNR=15
KSP Ksiaz 79.49 321 *e*P **P 19 06 52.6 +0.7**
KSP Ksiaz 79.49 321 *e*P **P 19 06 52.6 +0.7**
UPC Upice 79.61 321 *e*P **P 19 06 53.6 +0.9**
UPC Upice 79.61 321 *e*P **P 19 06 53.6 +0.9**
SOKA Soboth 79.72 317 *i*P **P 19 06 53.6 +0.1**
comp=Z,45nm,0.9s,SNR=8.7
ARCES ARCESS Array B 79.82 341 P **P 19 06 52.8 -0.6**
comp=Z,18nm,0.8s,baz=116,slow=5.6,SNR=26
ARCES ARCESS Array B 79.82 341 *e*P **P 19 06 53.0 -0.3**
ARCES ARCESS Array B 79.82 341 *e*P **P 19 06 53.1 -0.3**
ARE0 ARCESS Array S 79.82 341 *e*P **P 19 06 54.0 +0.6**
comp=Z,28nm,1.0s
SYO Syowa Base 79.87 197⇑ *e*P **P 19 06 53.0 -0.6**
OBKA Obir 80.03 317 *i*P **P 19 06 55.3 +0.1**
comp=Z,32nm,1.0s,SNR=5.5
GOPC GO Pecny, Ondr 80.31 320 *e*P **P 19 06 57.1 +0.6**
GOPC *ex* x 19 07 14.1
GOPC GO Pecny, Ondr 80.31 320 *e*P **P 19 06 57.1 +0.6**
MOA Molln 80.39 318 *i*P **P 19 06 57.0 0.0**
comp=Z,12nm,1.0s
PRU Pruhonice 80.47 320 *e*P **P 19 06 57.6 +0.3**
PRU Pruhonice 80.47 320 *e*P **P 19 06 57.6 +0.3**
PVCC Panska Ves 80.53 321 *e*P **P 19 06 58.4 +0.8**
PVCC *ex* x 19 07 15.8
PVCC Panska Ves 80.53 321 *e*P **P 19 06 58.4 +0.8**
PRA Prague 80.56 320 *e*P **P 19 06 58.4 +0.7**
PRA Prague 80.56 320 *e*P **P 19 06 58.4 +0.7**
MYKA Terra Mystica 80.67 317 *i*P **P 19 06 58.8 +0.3**
comp=Z,23nm,0.8s
GEA0 GERESS Array S 80.88 319 *e*P **P 19 06 57.1 -2.5**
GEC2 GERESS Array S 80.88 319 *e*P **P 19 06 60.0 +0.3**
comp=Z,67nm,0.9s
GEC2 GERESS Array S 80.88 319 *e*P **P 19 07 00.0 +0.3**
GEC2 pmax pmax
comp=Z,67nm,0.9s
GERES GERESS Array B 80.88 319 P **P 19 06 59.9 +0.3**
comp=Z,43nm,0.8s,baz=98,slow=5.5,SNR=235
KBA Koelnbreinsper 80.92 317 *i*P **P 19 07 00.0 0.0**
comp=Z,47nm,0.8s
BRG Berggiesshubel 80.97 321 *i*P **P 19 07 00.4 +0.5**
comp=Z,36nm,1.0s
BRG *i* 19 07 16.6
comp=Z,19nm,1.1s
BRG Berggiesshubel 80.97 321 *i*P **P 19 07 00.4 +0.5**
BRG pmax pmax
comp=Z,36nm,1.0s
BRG pmax pmax
comp=Z,19nm,1.1s
BSD Bornholm Skovb 80.97 325 *i*P **P 19 06 59.2 -0.6**
comp=Z,46nm,0.9s
BSD Bornholm Skovb 80.97 325 *i*P **P 19 06 59.2 -0.6**
BSD pmax pmax
comp=Z,46nm,0.9s
KHC Kasperske Hory 80.99 319 *e*P **P 19 07 00.4 +0.2**
KHC *ex* x 19 07 11.5
KHC *ex* x 19 07 15.7
KHC Kasperske Hory 80.99 319 *e*P **P 19 07 00.7 +0.5**
comp=Z,6,6nm,0.8s
KHC Kasperske Hory 80.99 319 *e*P **P 19 07 00.7 +0.5**
KHC pmax pmax
comp=Z,7,0nm,0.8s
ABTA Abfaltersbach 81.45 317 *i*P **P 19 07 02.5 -0.2**
comp=Z,19nm,1.0s
BILL Bilibino 81.59 21⇑ *i*P **P 19 07 01.8 -1.1**
BILL *e* 19 10 08.7
BILL *i*S **S 19 17 08.1 -3.9**
BILL pmax pmax
comp=Z,29nm,1.4s
BILL MLR MLR
comp=Z,2µm,20.0s
CLL Collm 81.61 321 *i*P **P 19 07 03.1 -0.2**
comp=Z,28nm,1.0s
CLL *e* 19 07 20.0
CLL LmV 19 46 00.0
comp=Z,700nm,21.0s
CLL Collm 81.61 321 *i*P **P 19 07 03.1 -0.2**
CLL pmax pmax
comp=Z,28nm,1.0s
NKC Novy Kostel 81.84 320 *e*P **P 19 07 05.1 +0.5**
NKC *ex* x 19 07 13.8
NKC Novy Kostel 81.84 320 *e*P **P 19 07 05.1 +0.5**
NKC *e* 19 07 13.8
WTTA Wattenberg 82.10 317 *i*P **P 19 07 05.9 -0.4**
comp=Z,34nm,0.9s,SNR=7.0
WATA Walderalm 82.14 317 *i*P **P 19 07 06.1 -0.3**
comp=Z,28nm,0.9s,SNR=8.7
HFS Hagfors 82.36 330 LR LR 19 46 49.5
comp=Z,515nm,20.0s,baz=108,slow=38
COP Copenhagen 82.45 326 *i*P **P 19 07 09.0 +1.4**
comp=Z,41nm,0.9s
COP Copenhagen 82.45 326 *i*P **P 19 07 09.0 +1.4**
COP pmax pmax
comp=Z,41nm,0.9s
MOTA Moosalm 82.47 317 *i*P **P 19 07 07.9 -0.2**
comp=Z,54nm,1.0s,SNR=24
LLD Lille Linde 82.53 325 *i*P **P 19 07 08.6 +0.6**
comp=Z,43nm,0.8s
LLD Lille Linde 82.53 325 *i*P **P 19 07 08.6 +0.6**
LLD pmax pmax
comp=Z,43nm,0.8s
FETA Feichten 82.69 317 *i*P **P 19 07 09.7 +0.4**
comp=Z,28nm,0.9s,SNR=8.0
RETA Reutte 82.71 317 *i*P **P 19 07 09.3 0.0**
comp=Z,47nm,1.1s,SNR=12
KEST Kesra 83.14 306 P **P 19 07 13.0 +1.2**
comp=Z,24nm,0.9s,baz=285,slow=1.4,SNR=19
KEST Kesra 83.14 306 *e*P **P 19 07 13.4 +1.6**
comp=Z,33nm,0.9s
DAVA Damuels 83.29 317 *i*P **P 19 07 13.0 +0.6**
comp=Z,76nm,0.9s,SNR=18
NC405 NORSAR Array S 83.46 331 *e*P **P 19 07 11.4 -1.4**
NC602 NORSAR Array S 83.50 331 *e*P **P 19 07 12.5 -0.5**
TUE Stuetta 83.61 316 *e*P **P 19 07 14.3 +0.2**
comp=Z,21nm,0.8s
NC303 NORSAR Array S 83.64 331 *e*P **P 19 07 13.3 -0.3**
NB2 NORSAR Subarra 83.69 331 P **P 19 07 13.1 -0.9**
comp=Z,27nm,0.9s,baz=97,slow=5.3
NB2 NORSAR Subarra 83.69 331 P **P 19 07 13.1 -0.9**
baz=97,slow=5.3
NOA NORSAR Array B 83.69 331 P **P 19 07 12.7 -1.3**
comp=Z,16nm,0.8s,baz=96,slow=5.4,SNR=35
NOA LR LR 19 46 58.1
comp=Z,491nm,19.7s,baz=90,slow=37
NAO01 NORSAR Array S 83.83 331 *e*P **P 19 07 14.3 -0.4**
NBO02 NORSAR Array S 83.87 331 *e*P **P 19 07 14.7 -0.2**
NBO00 NORSAR Array S 83.90 331 *e*P **P 19 07 14.8 -0.3**
NC204 NORSAR Array S 83.94 331 *e*P **P 19 07 15.1 -0.2**
OXZ Oxford 83.96 134 *e*P **P 19 07 16.7 +1.0**
comp=Z,179nm,1.8s
MUD Monsted U'grnd 84.34 326 *i*P **P 19 07 17.9 +0.6**
comp=Z,49nm,1.0s
MUD Monsted U'grnd 84.34 326 *i*P **P 19 07 17.9 +0.6**
MUD pmax pmax
comp=Z,49nm,1.0s
KONO Kongsberg 84.36 330 *e*P **P 19 07 17.3 -0.1**
comp=Z,97nm,2.0s
KONO Kongsberg 84.36 330 *ce*P **P 19 07 17.6 +0.2**
KONO pmax pmax
comp=Z,264nm,1.2s
BFO Black Forest 84.39 318 *i*P **P 19 07 18.0 +0.2**
SPITS Spitsbergen Ar 84.78 348 P **P 19 07 18.3 -0.9**
comp=Z,7.2nm,0.6s,baz=103,slow=4.6,SNR=16
SPITS LR LR 19 48 50.1
comp=Z,1µm,21.9s,baz=275,slow=38
BNI Bardonecchia 85.42 315 *e*P **P 19 07 23.1 -0.2**
comp=Z,22nm,1.0s
BNI Bardonecchia 85.42 315 *e*P **P 19 07 23.1 -0.2**
BNI pmax pmax
comp=Z,22nm,1.0s
WLF Walferdange 85.87 319⇓ P **P 19 07 25.3 +0.1**
comp=Z,15nm,1.2s
WLF Walferdange 85.87 319 *e*P **P 19 07 25.4 +0.3**
comp=Z,22nm,1.1s
WLF Walferdange 85.87 319 *e*P **P 19 07 25.4 +0.3**
WLF pmax pmax
comp=Z,23nm,1.1s
MEM Membach 85.98 320⇓ P **P 19 07 25.8 +0.2**
comp=Z,15nm,1.0s
BCLA Clavier 86.42 320⇓ P **P 19 07 27.8 -0.1**
TAM Tamanrasset 86.43 293 *e*P **P 19 07 30.2 +1.5**
comp=Z,14nm,1.0s
TAM Tamanrasset 86.43 293 *e*P **P 19 07 30.2 +1.5**
TAM pmax pmax
comp=Z,14nm,1.0s
BKZ Black Stump Fm 86.75 129 *e*P **P 19 07 28.9 -0.9**
comp=Z,31nm,0.9s
DOU Dourbes 86.88 320⇑ P **P 19 07 29.6 -0.5**
SSB Saint Sauveur 86.94 315 *e*P **P 19 07 31.0 +0.4**
comp=Z,18nm,0.8s
SSB Saint Sauveur 86.94 315 *e*P **P 19 07 31.0 +0.4**
SSB pmax pmax
comp=Z,18nm,0.8s
SNF Seneffe 87.08 320⇓ P **P 19 07 31.1 +0.1**
VNDA Vanda 87.99 168 P **P 19 07 34.5 -0.3**
comp=Z,8.4nm,1.2s,baz=286,slow=5.2,SNR=7.3
VNDA LR LR 19 41 17.6
comp=Z,1µm,20.2s,baz=298,slow=32
VNDA Vanda 87.99 168 *e*P **P 19 07 34.9 0.0**
comp=Z,24nm,1.5s
VNDA Vanda 87.99 168 *e*P **P 19 07 34.9 0.0**
VNDA pmax pmax
comp=Z,24nm,1.5s
GAMB Gambell 90.27 26 *e*P **P 19 07 45.8 0.0**
comp=Z,22nm,1.1s
TOA0 Torodi Ar. Sit 90.41 283 *e*P **P 19 07 47.5 0.0**
TORD Torodi Ar. Bea 90.41 283 P **P 19 07 48.0 +0.5**
comp=Z,3.0nm,0.8s,baz=85,slow=5.4,SNR=16
EKA Eskdalemuir Ar 91.30 325 *e*P **P 19 07 50.8 0.0**
comp=Z,9.8nm,0.8s,baz=102,slow=5.0,SNR=26
EKA LR LR 19 52 24.1
comp=Z,409nm,22.0s,baz=70,slow=38
DAG Danmarks Havn 92.39 348 *i*P **P 19 07 54.3 -1.1**
comp=Z,13nm,1.1s
DAG Danmarks Havn 92.39 348 *i*P **P 19 07 54.3 -1.1**
DAG pmax pmax
comp=Z,13nm,1.1s
QSPA South Pole Qui 92.43 180 LR LR 19 43 02.7
comp=Z,1µm,21.9s,baz=295,slow=31
ES19 SONSECA Array 93.49 310 *e*P **P 19 08 02.2 +0.8**
ESDC Sonseca Array 93.54 310 P **P 19 08 02.4 +0.7**
comp=Z,6.1nm,0.8s,baz=59,slow=4.4,SNR=30
ESLA Sonseca Array 93.54 310 *e*P **P 19 08 02.5 +0.8**
comp=Z,9.6nm,0.9s
SNAA Sanae 94.10 198 LR LR 19 44 57.6
comp=Z,428nm,18.8s,baz=134,slow=32
KOWA Kowa 95.87 285 P **P 19 08 13.2 +0.5**
comp=Z,5.2nm,0.9s,baz=266,slow=6.9,SNR=12
KOWA LR LR 19 50 12.1
comp=Z,309nm,20.0s,baz=94,slow=35
KOWA Kowa 95.87 285 *e*P **P 19 08 13.8 +1.1**
comp=Z,10nm,0.9s
AFI Afiamalu 95.96 104 LR LR 19 52 47.9
comp=Z,131nm,21.2s,baz=300,slow=36
KIC Kosan Boka 97.10 277 *e*P Pdif 19 08 19.7 +1.2
comp=Z,22nm,0.8s
IM3 Indian Mountai 97.12 22 *e*P **P 19 08 16.7 -0.6**
DBIC Dimbokro 97.20 277 P Pdif 19 08 20.2 +1.3
comp=Z,3.7nm,0.7s,baz=30,slow=6.9,SNR=5.9
TIC Toumodi 97.36 277 *e*P **P 19 08 17.9 -1.7**
LIC Lamto 97.39 277 *e*P Pdif 19 08 20.0 +0.2
comp=Z,72nm,1.5s
TOLK Toolik Lake Re 97.48 19 P **P 19 08 18.7 -0.2**
baz=297
TOLK Toolik Lake Re 97.48 19 *e*P Pdif 19 08 19.1 0.0
comp=Z,11nm,1.0s
BORG Borgarnes 97.78 337 LR LR 19 53 21.9
comp=Z,501nm,21.9s,baz=34,slow=36
MDM Murphy Dome 99.65 22 *e*Pdif **Pdif 19 08 28.7 0.0**
comp=Z,9.8nm,1.4s
ILAR Eielson Array 100.24 22 P **Pdif 19 08 29.8 -1.5**
comp=Z,0.7nm,0.9s,baz=306,slow=5.7,SNR=7.0
ILAR PP **PP 19 12 36.2 -0.8**
comp=Z,1.4nm,0.9s,baz=300,slow=8.0,SNR=5.7
INK Inuvik 102.53 16 *e*Pdif **Pdif 19 08 40.8 -0.6**
INK Inuvik 102.53 16 *e*P **Pdif 19 08 40.8 -0.6**
YKA Yellowknife Ar 111.96 13 Pdiff **Pdif 19 09 24.2 +0.8**
comp=Z,0.4nm,0.9s,baz=330,slow=5.5,SNR=6.5
YKA PKiKP **PKiKP 19 13 18.7 -1.4**
comp=Z,0.8nm,0.9s,baz=331,slow=1.9,SNR=11
YKA PP **PP 19 13 57.9 -5.2**
comp=Z,2.8nm,1.0s,baz=329,slow=7.7,SNR=17
SCHQ Schefferville 120.41 346 PKP **PKPdf 19 13 35.8 -0.9**
comp=Z,1.8nm,0.6s,baz=27,slow=4.4,SNR=4.3
A04D Lummi Island 120.46 26 P **PKPdf 19 13 36.2 -0.6**
baz=318
B05A Bryant 121.07 26 P **PKPdf 19 13 37.5 -0.5**
baz=318
FFC Flin Flon 121.70 10 *e*PKPdf **PKPdf 19 13 38.4 -0.7**
FFC Flin Flon 121.70 10 *e*PKIKP **PKPdf 19 13 38.4 -0.7**
LTY Liberty 122.46 26 *e*PKPdf **PKPdf 19 13 40.0 -0.9**
NEW Newport 123.17 23 P **PKPdf 19 13 42.1 0.0**
baz=324
G05D Wamic, OR 123.68 28 P **PKPdf 19 13 42.7 -0.5**
baz=318
I03D Drain, OR 123.80 31 P **PKPdf 19 13 42.7 -0.8**
baz=315
I04A Tendick Farm, 124.20 30 P **PKPdf 19 13 43.5 -0.8**
baz=316
J04D Umpqua Nationa 124.75 31 P **PKPdf 19 13 44.8 -0.7**
baz=316
KTRM Thompson Ridge 125.03 32 *e*PKPdf **PKPdf 19 13 46.4 +0.3**
J05D Fort Rock, OR 125.16 30 P **PKPdf 19 13 46.1 -0.2**
baz=317
MSO Missoula 125.58 22 P **PKPdf 19 13 45.4 -1.6**
baz=327,SNR=9.1
M02C Callahan 125.67 33 P **PKPdf 19 13 46.5 -0.7**
baz=314
M04C Macdoel 125.94 32 P **PKPdf 19 13 47.5 -0.3**
baz=316
N02D Trinity Center 126.05 33 P **PKPdf 19 13 47.5 -0.5**
baz=314
HRY Holter Researc 126.45 21 *e*PKPdf **PKPdf 19 13 48.6 -0.1**
LTIM Timbered Crate 126.55 32 *e*PKPpre PKPpre 19 13 39.9
ULM Lac du Bonnet 126.95 7 PKP **PKPdf 19 13 48.5 -0.8**
comp=Z,7.3nm,0.9s,baz=12,slow=3.0,SNR=13
ULM PP **PP 19 15 43.2 -3.1**
comp=Z,4.5nm,1.0s,baz=331,slow=3.0,SNR=5.4
O03D Paynes Creek 127.01 33 P **PKPdf 19 13 49.4 -0.4**
baz=315
BOZ Bozeman (W) 127.48 21 P **PKPdf 19 13 49.5 -1.2**
baz=329,SNR=11
BOZ Bozeman (W) 127.48 21 *e*PKPdf **PKPdf 19 13 50.5 -0.2**
BOZ Bozeman (W) 127.48 21 *e*PKIKP **PKPdf 19 13 50.5 -0.2**
GDXM Geysers 127.49 35 *e*PKPdf **PKPdf 19 13 51.1 +0.3**
GCMT Greycliff 128.00 20 *e*PKPdf **PKPdf 19 13 52.1 +0.5**
HLID Hailey 128.09 25 P **PKPdf 19 13 51.1 -0.8**
baz=325
A32A Rocking H Ranc 128.18 8 P **PKPdf 19 13 50.5 -1.2**
baz=348
A33A Warroad 128.30 7 P **PKPdf 19 13 50.8 -1.1**
baz=350
YHB Horse Butte 128.36 22 *e*PKPdf **PKPdf 19 13 53.1 +0.7**
YMR Madison River 128.51 21 *e*PKPdf **PKPdf 19 13 54.1 +1.4**
RLMT Red Lodge 128.72 20 P **PKPdf 19 13 52.3 -0.8**
baz=332
RLMT Red Lodge 128.72 20 *e*PKPdf **PKPdf 19 13 53.2 +0.1**
B34A Aery, Baudette 128.83 6 P **PKPdf 19 13 52.0 -1.0**
baz=351
AGMN Agassiz Nation 128.87 7 P **PKPdf 19 13 52.2 -0.8**
baz=349
H17A Grant Village 128.89 21 *e*PKPdf **PKPdf 19 13 55.5 +2.0**
B35A Bob, Littlefor 129.04 6 P **PKPdf 19 13 52.2 -1.1**
baz=352
C34A RKJ Ranch, Bem 129.62 7 P **PKPdf 19 13 53.2 -1.3**
baz=350
EYMN Ely 129.63 4 P **PKPdf 19 13 53.7 -0.8**
baz=355
C35A Jirik Farms, M 129.67 6 P **PKPdf 19 13 53.9 -0.7**
baz=351
C36A Pine Crest Far 129.72 5 P **PKPdf 19 13 53.7 -0.9**
baz=353
C40A Isle Royale Na 129.77 2 P **PKPdf 19 13 53.8 -0.9**
baz=358
C37A Embarrass 129.80 4 P **PKPdf 19 13 54.9 +0.1**
baz=354
D34A Park Rapids 130.14 7 P **PKPdf 19 13 54.2 -1.3**
baz=350
NVAR Mina Array Bea 130.23 32 PKP **PKPdf 19 13 56.1 -0.1**
comp=Z,3.1nm,0.9s,baz=295,slow=2.0,SNR=15
D36A Goodland 130.27 5 P **PKPdf 19 13 55.6 -0.1**
baz=352
D35A Remer 130.28 6 P **PKPdf 19 13 55.7 0.0**
baz=351
D37A Cotton 130.35 5 P **PKPdf 19 13 56.2 +0.3**
baz=353
D41A Chassel 130.64 1 P **PKPdf 19 13 56.8 +0.4**
baz=358
BW06 Boulder Array 130.67 22 *e*PKPdf **PKPdf 19 13 54.9 -2.1**
PDAR Pinedale Array 130.67 22 PKP **PKPdf 19 13 56.0 -0.9**
comp=Z,3.6nm,0.9s,baz=349,slow=1.5,SNR=24
PDAR Pinedale Array 130.67 22 *e*PKPdf **PKPdf 19 13 54.0 -2.9**
HWUT Hardware Ranch 130.88 24 *e*PKPdf **PKPdf 19 13 57.7 +0.4**
E36A McGregor 130.91 5 P **PKPdf 19 13 57.1 +0.1**
baz=352
E38A The Farm, Brul 130.97 4 P **PKPdf 19 13 57.6 +0.5**
baz=354
E44A Grand Marais A 131.08 359 P **PKPdf 19 13 57.9 +0.6**
baz=1.8
E40A Wakefield 131.22 2 P **PKPdf 19 13 58.1 +0.6**
baz=357
F33A 5 Mile Ranch, 131.22 8 P **PKPdf 19 13 57.9 +0.3**
baz=348
E41A Kenton 131.23 2 P **PKPdf 19 13 57.4 -0.1**
baz=358
RSSD Black Hills 131.23 16 P **PKPdf 19 13 57.7 -0.2**
baz=338
E39A Mellen 131.25 3 P **PKPdf 19 13 57.7 +0.1**
baz=356
E43A Lone Tree Farm 131.34 360 P **PKPdf 19 13 57.9 +0.1**
baz=0.4
DUG Dugway, Tooele 131.52 26 P **PKPdf 19 13 58.3 -0.2**
baz=325
DUG Dugway, Tooele 131.52 26 *e*PKPdf **PKPdf 19 13 59.2 +0.7**
DUG Dugway, Tooele 131.52 26 *e*PKIKP **PKPdf 19 13 59.2 +0.7**
F36A Milaca 131.54 6 P **PKPdf 19 13 58.3 +0.1**
baz=352
F38A Pierce - Schro 131.59 4 P **PKPdf 19 13 58.5 +0.2**
baz=354
VES Vestal, Richgr 131.68 35 P **PKPdf 19 13 58.7 0.0**
baz=315
R11A Troy Canyon, C 131.69 30 P **PKPdf 19 13 58.7 -0.2**
baz=321
F39A Loretta 131.69 3 P **PKPdf 19 13 58.6 +0.1**
baz=355
F40A Park Falls 131.73 3 P **PKPdf 19 13 58.9 +0.3**
baz=356
F44A Big Bay de Noc 131.74 359 P **PKPdf 19 13 59.3 +0.8**
baz=1.2
K22A Casper 131.82 19 P **PKPdf 19 13 59.1 +0.1**
baz=334
G33A Ortonville 131.83 9 P **PKPdf 19 13 59.4 +0.6**
baz=348
F43A Flat Rock, Esc 131.88 360 P **PKPdf 19 13 59.5 +0.7**
baz=0.2
PKM Mcpherson Peak 131.92 36 P **PKPdf 19 13 59.9 +0.4**
baz=314
F41A Three Lakes 131.95 2 P **PKPdf 19 13 59.4 +0.4**
baz=358
F45A CMU Biological 132.00 358 P **PKPdf 19 13 59.8 +0.7**
baz=2.4
SUSD Miller 132.12 11 P **PKPdf 19 13 59.8 +0.5**
baz=344
G36A St. Michael 132.14 6 P **PKPdf 19 13 59.9 +0.6**
baz=351
G39A Holcombe 132.31 4 P **PKPdf 19 14 00.1 +0.5**
baz=355
G38A Ridgeland 132.37 4 P **PKPdf 19 14 00.3 +0.5**
baz=354
G40A Rib Lake 132.38 3 P **PKPdf 19 14 00.4 +0.6**
baz=356
MPMC Manual Prospec 132.41 33 P **PKPdf 19 14 00.4 0.0**
baz=317
TPNV Topopah Spring 132.42 32 P **PKPdf 19 14 00.2 -0.1**
baz=319
G43A Wallace 132.46 0 P **PKPdf 19 14 00.4 +0.5**
baz=360
G42A Mountain 132.46 1 P **PKPdf 19 14 00.3 +0.3**
baz=358
H36A Jessenland, He 132.76 6 P **PKPdf 19 14 00.7 +0.1**
baz=351
H38A Maiden Rock 132.83 5 P **PKPdf 19 14 01.4 +0.8**
baz=353
HRV Adam Dziewonsk 132.99 344 P **PKPdf 19 14 01.5 +0.5**
baz=22
H40A Chili 133.01 3 P **PKPdf 19 14 01.4 +0.4**
baz=356
SNCC San Nicolas Is 133.22 38 P **PKPdf 19 14 02.1 +0.3**
baz=313
ECSD EROS Data Cent 133.23 9 P **PKPdf 19 14 01.7 +0.3**
baz=347
ECSD EROS Data Cent 133.23 9 *e*PKPdf **PKPdf 19 14 01.0 -0.5**
GSC Goldstone, Bar 133.35 34 P **PKPdf 19 14 02.5 +0.4**
baz=318
I37A Lemond, Waseca 133.38 6 P **PKPdf 19 14 02.2 +0.5**
baz=352
O20A White River Ci 133.44 22 P **PKPdf 19 14 02.2 0.0**
baz=331
J33A Davis 133.57 10 P **PKPdf 19 14 02.3 +0.2**
baz=347
I39A Houston 133.71 4 P **PKPdf 19 14 02.1 -0.3**
baz=354
J34A George 133.77 9 P **PKPdf 19 14 02.8 +0.3**
baz=348
K31A O'Neill 133.91 12 P **PKPdf 19 14 02.6 -0.1**
baz=344
HEC Hector,Ludlow 133.96 34 P **PKPdf 19 14 03.3 +0.2**
baz=318
J43A Natural Harves 134.32 1 P **PKPdf 19 14 03.6 +0.1**
baz=358
GMRC Granite Mounta 134.36 33 P **PKPdf 19 14 04.5 +0.5**
baz=318
DANC Danby, Needles 134.62 33 *e*PKPpre PKPpre 19 13 55.1
L33A Hoskins 134.64 10 P **PKPdf 19 14 04.7 +0.5**
baz=346
ISCO Idaho Springs 134.68 20 P **PKPdf 19 14 04.4 -0.3**
baz=334
BELC Belle Mtn. Jos 134.75 34 P **PKPdf 19 14 05.4 +0.7**
baz=318

L35A	Bielow Farm, R	134.98	9	P	PKPdf	19 14 05.8	+1.1
	baz=348						
IRM	Iron Mountain	135.11	33	P	PKPdf	19 14 06.1	+0.8
	baz=319						
L40A	Anamosa	135.51	4	P	PKPdf	19 14 06.8	+1.1
	baz=354						
PDMCI	Parker Dam,Lak	135.54	32	P	PKPdf	19 14 07.2	+1.2
	baz=320						
Q24A	Divide	135.59	20	P	PKPdf	19 14 07.3	+0.9
	baz=334						
M54A	Oil Creek Stat	135.66	352	P	PKPdf	19 14 07.2	+1.1
	baz=11						
M39A	Webster	136.01	5	P	PKPdf	19 14 07.7	+1.0
	baz=353						
S22A	4UR Ranch, Cre	136.06	22	P	PKPdf	19 14 07.9	+0.6
	baz=331						
GLA	Glamis	136.11	34	P	PKPdf	19 14 08.3	+1.1
	baz=318						
SSPA	Standing Stone	136.22	350	P	PKPdf	19 14 08.2	+1.1
	baz=14						
N54A	Moraine State	136.24	352	P	PKPdf	19 14 08.3	+1.2
	baz=11						
M44A	Midewin, Midew	136.32	1	P	PKPdf	19 14 08.4	+1.1
	baz=359						
KSCO	Kaye Shedlock'	136.35	17	P	PKPdf	19 14 08.6	+1.0
	baz=338						
SDCO	Great Sand Dun	136.56	21	P	PKPdf	19 14 09.0	+0.8
	baz=333						
O34A	Beatrice	136.67	10	P	PKPdf	19 14 09.0	+1.1
	baz=346						
O56A	Blue Knob Stat	136.70	350	P	PKPdf	19 14 09.4	+1.3
	baz=13						
N46A	Monticello	136.81	359	P	PKPdf	19 14 09.4	+1.2
	baz=0.8						
X16A	Lo Mia Camp, P	136.84	30	*e*PKPdf	PKPdf	19 14 09.4	+0.7
N41A	Harden Midland	136.88	4	P	PKPdf	19 14 09.4	+1.1
	baz=355						
W18A	Petrified Fore	137.08	27	P	PKPdf	19 14 10.1	+1.0
	baz=326						
CBKS	Cedar Bluff	137.33	14	P	PKPdf	19 14 10.3	+1.1
	baz=342						
T25A	Trinidad	137.49	20	P	PKPdf	19 14 10.6	+0.8
	baz=334						
O44A	Mansfield	137.55	1	P	PKPdf	19 14 10.8	+1.2
	baz=358						
P37A	Lathrop	137.63	8	P	PKPdf	19 14 10.8	+1.0
	baz=350						
P38A	Dawn	137.70	7	P	PKPdf	19 14 11.0	+1.1
	baz=351						
P40A	Paris	137.96	5	P	PKPdf	19 14 11.6	+1.3
	baz=353						
P42A	Winchester	138.03	4	P	PKPdf	19 14 11.9	+1.4
	baz=356						
P46A	Rosedale	138.09	360	P	PKPdf	19 14 12.1	+1.5
	baz=0.1						
P45A	Graceland, Par	138.18	0	P	PKPdf	19 14 12.4	+1.6
	baz=359						
P44A	Sand Creek, Wi	138.23	2	P	PKPdf	19 14 12.5	+1.6
	baz=358						
Q39A	Willow Grove F	138.34	7	P	PKPdf	19 14 12.7	+1.6
	baz=352						
Q41A	Truxton	138.60	5	P	PKPdf	19 14 13.2	+1.6
	baz=354						
ANMO	Albuquerque	138.65	24	P	PKPdf	19 14 13.5	+1.4
	baz=330						
ANMO	Albuquerque	138.65	24	*i* PKIKP	PKPdf	19 14 10.4	-1.6
Q42A	Golden Eagle	138.69	4	P	PKPdf	19 14 13.2	+1.5
	baz=355						
Q43A	New Douglas	138.71	3	P	PKPdf	19 14 13.4	+1.7
	baz=356						
Q47A	Bedord North L	138.77	359	P	PKPdf	19 14 13.3	+1.4
	baz=1.3						
Q44A	Meyer Farm, Va	138.78	2	P	PKPdf	19 14 13.4	+1.5
	baz=357						
Q45A	Warren Harvey,	138.81	1	P	PKPdf	19 14 13.6	+1.7
	baz=359						
LAZ	Ladron	138.83	25	*e*PKPdf	PKPdf	19 14 12.8	+0.4
TUC	Tucson	138.85	31	P	PKPdf	19 14 13.8	+1.5
	baz=323						
PLCA	Paso Flores	139.03	200	PKP	PKPdf	19 14 11.7	-0.7
	comp=Z,4.0nm,1.1s,baz=189,slow=4.0,SNR=5.4						
R39A	Chumby, Stover	139.05	7	P	PKPdf	19 14 13.8	+1.4
	baz=351						
R40A	Maddies Statio	139.16	6	P	PKPdf	19 14 13.8	+1.2
	baz=352						
R43A	Red Bud	139.36	3	P	PKPdf	19 14 14.6	+1.7
	baz=356						
R45A	Skylar, Fairfi	139.41	1	P	PKPdf	19 14 14.5	+1.4
	baz=358						
R47A	Wooly Knot Far	139.41	359	P	PKPdf	19 14 14.9	+1.8
	baz=1.2						
R44A	Waltonville	139.43	2	P	PKPdf	19 14 14.8	+1.7
	baz=357						
CCM	Cathedral Cave	139.49	5	P	PKPdf	19 14 15.0	+1.8
	baz=354						
R46A	Gibon Southern	139.50	0	P	PKPdf	19 14 15.0	+1.8
	baz=360						
S38A	Stockton	139.61	8	P	PKPdf	19 14 14.7	+1.3
	baz=350						
S39A	Bolivar	139.63	7	P	PKPdf	19 14 14.9	+1.4
	baz=351						
S42A	Caledonia	139.81	4	P	PKPdf	19 14 15.6	+1.8
	baz=355						
S40A	Lebanon	139.82	6	P	PKPdf	19 14 15.4	+1.5
	baz=352						
S41A	Jillco Farms,	139.91	5	P	PKPdf	19 14 15.7	+1.7
	baz=353						
S44A	Carbondale	139.97	2	P	PKPdf	19 14 15.8	+1.7
	baz=357						
T38A	Diamond	140.14	9	P	PKPdf	19 14 16.3	+1.9
	baz=349						
T40A	Mansfield	140.26	7	P	PKPdf	19 14 16.3	+1.7
	baz=352						
T39A	Clever	140.28	8	P	PKPdf	19 14 16.6	+1.9
	baz=350						
T41A	Mountain View	140.45	6	P	PKPdf	19 14 16.7	+1.7
	baz=353						
AMTX	Amarillo	140.45	19	P	PKPdf	19 14 17.0	+1.9
	baz=337						
T42A	Van Buren	140.52	5	P	PKPdf	19 14 16.6	+1.5
	baz=354						
T43A	Greenville	140.53	4	P	PKPdf	19 14 17.0	+1.9
	baz=355						
T44A	Benton	140.56	3	P	PKPdf	19 14 17.2	+2.1
	baz=356						
T47A	Sharon Grove	140.72	360	P	PKPdf	19 14 17.2	+1.8
	baz=0.3						
MSTX	Muleshoe	140.91	21	*e*PKPpre	PKPpre	19 14 10.1	
U40A	Yellville	141.01	7	P	PKPdf	19 14 17.8	+1.7
	baz=351						
U41A	Viola	141.12	6	P	PKPdf	19 14 18.2	+1.9
	baz=353						
U42A	Revenden	141.18	5	P	PKPdf	19 14 18.1	+1.8
	baz=354						
U48A	Cassie Pea, Po	141.19	359	P	PKPdf	19 14 18.4	+2.1
	baz=1.2						
U47A	Clarksville	141.26	360	P	PKPdf	19 14 18.1	+1.7
U45A	Rockin P Farm,	141.33	2	P	PKPdf	19 14 18.7	+2.1
	baz=358						
V39A	Pettigrew	141.41	8	P	PKPdf	19 14 18.9	+2.1
	baz=350						
WMOK	Wichita Mounta	141.43	15	P	PKPdf	19 14 18.9	+2.0
	baz=342						
WMOK	Wichita Mounta	141.43	15	*e*PKPpre	PKPpre	19 14 10.5	
WMOK	Wichita Mounta	141.43	15	*e*PKHKP	PKPpre	19 14 10.5	
V40A	Witts Springs	141.55	7	P	PKPdf	19 14 19.0	+1.9
	baz=351						
WVT	Waverly	141.57	1	P	PKPdf	19 14 19.0	+2.0
	baz=359						
V41A	Mountainview	141.65	6	P	PKPdf	19 14 19.3	+2.1
	baz=352						
V42A	Cord	141.71	5	P	PKPdf	19 14 19.3	+2.0
	baz=353						
V48A	Smith Brothers	141.96	359	P	PKPdf	19 14 19.9	+2.1
	baz=0.8						
W40A	Ferguson Farm,	142.12	8	P	PKPdf	19 14 20.3	+2.2
	baz=351						
W41B	Gary Mavity, V	142.25	7	P	PKPdf	19 14 20.7	+2.5
	baz=352						
W47A	Westpoint	142.45	0	P	PKPdf	19 14 21.1	+2.5
	baz=360						
W48A	Pulaski	142.56	359	P	PKPdf	19 14 21.5	+2.7
	baz=0.6						
MIAR	Mount Ida	142.69	9	P	PKPdf	19 14 21.6	+2.5
	baz=350						
CPUP	Villa Florida	142.72	228	PKP	PKPdf	19 14 18.8	-0.5
	comp=Z,3.5nm,1.0s,baz=191,slow=0.7,SNR=4.2						
ABTX	Abilene, Hawle	143.17	17	P	PKPdf	19 14 22.1	+2.1
	baz=339						
ABTX	Abilene, Hawle	143.17	17	*e*PKPpre	PKPpre	19 14 16.6	
X49A	Woodville	143.18	359	P	PKPdf	19 14 22.5	+2.5
	baz=1.6						
X47A	Russelville	143.18	1	P	PKPdf	19 14 21.8	+1.9
	baz=359						
X48A	Hartselle	143.25	360	P	PKPdf	19 14 22.2	+2.1
	baz=0.4						
Y41A	Eaglette Beard	143.48	7	P	PKPdf	19 14 23.2	+2.8
	baz=351						
Y48A	Jasper	143.79	360	P	PKPbc	19 14 18.8	+0.2
	baz=0.2						
Y46A	Houston	143.79	2	P	PKPbc	19 14 19.0	+0.4
	baz=357						
Y47A	UCPARC, Winfie	143.79	1	P	PKPbc	19 14 18.9	+0.3
	baz=359						
Y49A	Blount Mountai	143.83	359	P	PKPbc	19 14 19.1	+0.4
	baz=1.5						
NHSC	New Hope	143.96	350	P	PKPab	19 14 18.7	+0.1
	baz=12						
Z40A	Long Farm, Mag	143.98	9	P	PKPbc	19 14 19.0	-0.2
	baz=350						
Z41A	Richland Creek	144.06	8	P	PKPbc	19 14 19.3	-0.1
	baz=351						
GOGA	Godfrey	144.10	355	P	PKPbc	19 14 19.5	-0.1
	baz=6.5						
Z42A	Norrel Spur, H	144.16	7	P	PKPab	19 14 19.4	+0.1
	baz=352						
Z44A	Pea Ridge, Bel	144.30	4	P	PKPab	19 14 19.7	-0.1
	baz=355,SNR=6.2						
Z48A	Northport	144.32	0	P	PKPab	19 14 19.2	-0.7
	baz=360						
WHTX	Lake Whitney,	144.38	15	P	PKPab	19 14 19.4	-0.7
	baz=342						
WHTX	Lake Whitney,	144.38	15	*e*PKPdf	PKPab	19 14 19.8	-0.3
Z50A	Ashland	144.42	358	P	PKPab	19 14 19.5	-0.8
	baz=2.4						
Z47A	Carrollton	144.49	1	P	PKPab	19 14 19.7	-0.8
	baz=359						
Z49A	Columbiana	144.50	359	P	PKPab	19 14 19.4	-1.1
	baz=1.3,SNR=7.6						
140A	Cam and Jess,	144.56	9	P	PKPab	19 14 20.7	-0.1
	baz=349						
LRAL	Lakeview Retre	144.66	360	P	PKPab	19 14 20.2	-1.0
	baz=0.5						
LRAL	Lakeview Retre	144.66	360	*e*PKPdf	PKPab	19 14 20.9	-0.2
TXAR	Lajitas Array	144.69	25	PKP	PKPab	19 14 21.0	-0.5
	comp=Z,17nm,0.6s,baz=274,slow=1.0,SNR=174						
141A	Papa Simpson,	144.69	8	P	PKPab	19 14 21.3	0.0
	baz=350,SNR=7.3						
155A	Kite	144.78	353	P	PKPab	19 14 20.1	-1.4
	baz=8.4						
143A	Socs Landing,	144.78	6	P	PKPab	19 14 20.6	-0.9
	baz=353						
154A	Montrose	144.86	354	P	PKPab	19 14 21.1	-0.8
	baz=7.3						
142A	Monroe	144.87	7	P	PKPab	19 14 21.6	-0.3
	baz=352						
153A	Fort Valley	144.89	355	P	PKPab	19 14 21.1	-0.9
	baz=6.0						
144A	Alexander Plac	144.94	5	P	PKPab	19 14 22.2	0.0
	baz=355,SNR=5.9						
145A	Houston Renfro	145.01	4	P	PKPab	19 14 22.1	-0.3
	baz=360,SNR=5.8						
147A	Livingston	145.01	1	P	PKPab	19 14 21.7	-0.7
	baz=358,SNR=6.9						
146A	Union	145.02	3	P	PKPab	19 14 22.4	-0.1
	baz=357,SNR=18						
148A	Greensboro	145.05	0	P	PKPbc	19 14 21.7	-0.9
	baz=360,SNR=5.8						
150A	Eclectic	145.07	358	P	PKPbc	19 14 21.8	-0.8
	baz=2.2,SNR=15						
149A	Jones	145.09	359	P	PKPbc	19 14 21.4	-1.3
	baz=0.9,SNR=11						
JCT	Junction City	145.11	19	P	PKPbc	19 14 21.6	-1.3
	baz=338						
240A	Hunter Patters	145.12	10	P	PKPbc	19 14 22.4	-0.4
	baz=349						
151A	Opelika	145.12	357	P	PKPbc	19 14 22.0	-0.8
	baz=3.4,SNR=29						
NATX	Nacogdoches	145.23	11	P	PKPbc	19 14 22.9	-0.3
	baz=347						
NATX	Nacogdoches	145.23	11	*e*PKPbc	PKPdf	19 14 23.7	+0.1
241A	Mo Tay, Goldon	145.26	8	P	PKPbc	19 14 23.0	-0.2
	baz=350						
242A	Grayson	145.33	7	P	PKPbc	19 14 23.2	-0.3
	baz=352						
256A	Glennville	145.33	352	P	PKPbc	19 14 23.1	-0.4
	baz=9.5						
VBMS	Vicksburg	145.34	5	P	PKPbc	19 14 23.3	-0.2
	baz=354,SNR=8.6						
435B	Jarrell	145.49	16	P	PKPdf	19 14 23.1	-1.0
	baz=342						
253A	Americus	145.50	355	P	PKPdf	19 14 23.5	-0.6
	baz=5.6						
244A	Avery, Jackson	145.50	5	P	PKPdf	19 14 23.9	-0.2
	baz=354,SNR=16						
254A	Abbeville	145.54	354	P	PKPdf	19 14 23.7	-0.4
	baz=7.1,SNR=15						
251A	Midway	145.56	357	P	PKPdf	19 14 23.7	-0.4
	baz=2.5,SNR=31						
245A	Little AP, Sta	145.58	4	P	PKPdf	19 14 24.1	0.0
	baz=355,SNR=14						
243A	Waterproof	145.59	6	P	PKPbc	19 14 24.2	-0.1
	baz=353						
248A	Dixon Mills	145.60	1	P	PKPdf	19 14 24.2	0.0
	baz=359,SNR=12						
252A	Lumpkin	145.61	356	P	PKPdf	19 14 23.9	-0.4
	baz=4.5,SNR=25						
247A	Quitman	145.62	2	P	PKPbc	19 14 24.5	+0.1
	baz=358,SNR=13						
246A	Jackson Lee, B	145.64	3	P	PKPbc	19 14 24.4	-0.1
	baz=357						
250A	Grady	145.70	358	P	PKPdf	19 14 24.1	-0.2
	baz=1.8,SNR=9.6						
249A	Camden	145.72	360	P	PKPdf	19 14 24.5	+0.1
	baz=0.3,SNR=21						
357A	Townsend	145.82	351	P	PKPdf	19 14 24.6	+0.1
	baz=10						
341A	Kurthwood	145.90	9	P	PKPbc	19 14 25.1	-0.2
	baz=350						
342A	Flagon Creek P	145.98	8	P	PKPbc	19 14 25.7	+0.1
	baz=351						
356A	Blackshear	146.01	352	P	PKPdf	19 14 25.2	+0.3
	baz=9.2						
ROC1	El Roble	146.04	205	*e*PKPdf	PKPdf	19 14 25.0	-0.2
TIGA	Tifton	146.07	354	P	PKPbc	19 14 25.6	-0.2
	baz=6.6,SNR=5.3						
TIGA	Tifton	146.07	354	*e*PKPdf	PKPab	19 14 26.1	-0.3
355A	Pearson	146.08	353	P	PKPbc	19 14 25.8	-0.1
	baz=8.0,SNR=9.8						
344A	Westbrook Farm	146.09	5	P	PKPbc	19 14 25.9	0.0
	baz=354						
352A	Blakely	146.14	356	P	PKPbc	19 14 25.8	-0.3
	baz=4.2						
353A	Camilla	146.22	355	P	PKPbc	19 14 26.0	-0.3
	baz=5.5,SNR=10						
346A	Big Creek Wild	146.24	3	P	PKPbc	19 14 26.3	-0.1
	baz=356						
350A	Dozier	146.26	358	P	PKPdf	19 14 25.6	+0.3
	baz=1.7						
347A	Saraland	146.27	2	P	PKPbc	19 14 26.6	+0.2
	baz=358,SNR=7.4						
348A	Jackson	146.28	1	P	PKPbc	19 14 26.0	-0.5
	baz=359						
345A	Thompson Farm,	146.29	4	P	PKPbc	19 14 26.3	-0.2
	baz=355						
349A	Repton	146.34	360	P	PKPbc	19 14 26.5	-0.1
	baz=0.2,SNR=9.2						
351A	Pinckard	146.38	357	P	PKPbc	19 14 26.7	-0.1
	baz=3.1						
441A	DeRidder	146.47	9	P	PKPbc	19 14 26.9	-0.1
	baz=349						
BRAL	Brewton	146.52	360	P	PKPbc	19 14 27.3	+0.2
	baz=0.5						
BRAL	Brewton	146.52	360	*e*PKPdf	PKPab	19 14 27.9	-0.2
457A	Yulee	146.62	351	P	PKPbc	19 14 26.8	-0.6
	baz=10						
442A	Mamou	146.62	8	P	PKPbc	19 14 27.3	-0.1
	baz=351						
455A	Stateville	146.70	353	P	PKPbc	19 14 27.7	0.0
	baz=7.8,SNR=6.6						
453A	Whigham	146.72	355	P	PKPbc	19 14 27.7	-0.1
	baz=5.4						
HKT	Hockley	146.73	14	*e*PKPdf	PKPbc	19 14 27.1	-0.6
HKT	Hockley	146.73	14	*e*PKP2	PKPbc	19 14 27.1	-0.6
448A	Bay Minette	146.76	1	P	PKPbc	19 14 27.7	-0.2
	baz=359						
452A	Marianna	146.78	357	P	PKPbc	19 14 27.8	-0.2
	baz=3.9						
454A	Quitman	146.79	354	P	PKPbc	19 14 28.0	0.0
	baz=6.7						
444A	Pine Grove	146.81	5	P	PKPbc	19 14 28.1	0.0
	baz=354						
445A	Amite	146.84	5	P	PKPbc	19 14 28.3	+0.2
	baz=354						
446A	Poplarville	146.84	3	P	PKPbc	19 14 28.2	+0.1
	baz=356						
447A	Lucedale	146.87	2	P	PKPbc	19 14 28.3	+0.1
	baz=358						
450A	Crestview	146.88	359	P	PKPbc	19 14 28.4	+0.1
	baz=1.3						
449A	Pace	146.93	360	P	PKPbc	19 14 28.7	+0.3
	baz=0.2						
451A	Vernon	147.04	358	P	PKPbc	19 14 28.9	+0.2
	baz=2.9,SNR=8.7						
542A	Morse	147.18	8	P	PKPbc	19 14 28.4	-0.7
	baz=350						
833A	Chaparral WMA,	147.23	20	P	PKPbc	19 14 29.1	-0.2
	baz=337						
557A	Orange Park	147.24	351	P	PKPbc	19 14 28.6	-0.7
	baz=10						
555A	McAlpin	147.30	353	P	PKPbc	19 14 29.4	0.0
	baz=8.0						
556A	Lake Butler	147.35	352	P	PKPbc	19 14 29.1	-0.5
	baz=9.1						
546A	Slidell	147.38	4	P	PKPbc	19 14 28.8	-0.9
	baz=356						
554A	Perry	147.42	354	P	PKPbc	19 14 29.3	-0.5
	baz=6.7						
552A	Lynn Haven	147.50	357	P	PKPbc	19 14 30.1	+0.1
	baz=3.7						
657A	Interlachen	147.68	351	P	PKPbc	19 14 30.2	-0.3
	baz=10						
658A	Bunnell	147.74	350	P	PKPbc	19 14 29.9	-0.8
	baz=11						
656A	Willston	147.99	352	P	PKPbc	19 14 31.0	-0.3
	baz=9.0						
758A	Lake Helen	148.18	350	P	PKPbc	19 14 31.5	-0.4
	baz=12						
757A	Oxford	148.34	351	P	PKPbc	19 14 32.1	-0.2
	baz=10.0						
859A	Kempfer Cattle	149.00	349	P	PKPbc	19 14 33.5	-0.5
	baz=12						
857A	Zephyrhills	149.03	351	P	PKPbc	19 14 33.3	-0.7
	baz=9.8						
DWPF	Disney Wildern	149.05	350	P	PKPbc	19 14 33.4	-0.7
	baz=11						
LCO	Las Campanas	149.25	209	*e*PKPbc	PKPbc	19 14 35.1	+0.1
959A	Okeechobee	149.52	349	P	PKPbc	19 14 34.5	-0.8
	baz=13						
957A	Wimauma	149.61	351	P	PKPbc	19 14 34.9	-0.7
	baz=10.0						
958A	Wauchula	149.62	350	P	PKPbc	19 14 34.7	-0.8
	baz=11						
060A	Indiantown	149.89	348	P	PKPbc	19 14 35.1	-1.2
	baz=14						
059A	Moore Haven	150.11	349	P	PKPbc	19 14 35.8	-0.9
	baz=12						
058A	Arcadia	150.14	350	P	PKPbc	19 14 36.0	-0.9
	baz=11						
SJG	San Juan	150.78	315	*e*PKPdf	PKPbc	19 14 37.9	-0.7
SJG	San Juan	150.78	315	*e*PKIKP	PKPbc	19 14 37.9	-0.7
ZAIG	Zacatecas	150.81	30	*e*PKPbc	PKPbc	19 14 39.6	+0.7
MPR	Mayaguez	151.40	317	*e*PKPbc	PKPbc	19 14 39.1	-1.0
SDDR	Presa de Saban	153.47	324	*e*PKPbc	PKPbc	19 14 44.5	-0.3
SDDR				*e*PKPab	pPKPbc	19 14 57.7	+0.6
SAML	Samuel	155.16	254	*e*PKPdf	PKPdf	19 14 39.6	+0.1
SAML				*e*PKPbc	PKPbc	19 14 48.0	
LPAZ	La Paz	156.67	233	PKP	PKPdf	19 14 42.1	-0.1
	comp=Z,5.1nm,0.9s,baz=54,slow=4.5,SNR=10.0						
SDV	Santo Domingo	159.90	304	PKPab	PKPab	19 15 24.1	-0.8
	comp=Z,13nm,0.9s,baz=54,slow=4.3,SNR=16						
SDV	Santo Domingo	159.90	304	*e*PKPdf	PKPdf	19 14 44.1	-1.5
SDV				*e*PKPab	PKPab	19 15 24.8	-0.1
APG	El Apazote	162.34	10	PKPab	PKPab	19 15 33.6	-1.7
	comp=Z,14nm,0.9s,baz=311,slow=9.4,SNR=8.8						
ROSC	El Rosal	165.11	299	PKP	PKPdf	19 14 51.1	0.0
	comp=Z,7.6nm,0.5s,baz=348,slow=20,SNR=5.4						
OTAV	Otavalo	170.74	287	*e*PKPdf	PKPdf	19 14 54.7	-0.4

BJI ***11*** *19:04:13.9, 0.˚72N×91.˚98E, h10km, mb5.1/75, mB5.5/35, Ms5.1/49, Ms7 4.9/45*

IDC ***11*** *19:04:17.4±0.3, 1.˚15N×92.˚06E, h0km, mb4.8/53, mb1 4.9/56, mb1mx4.8/68, mbtmp4.8/56, ML4.2/2, MS4.6/15, Ms1 4.6/15, ms1mx4.2/68, Error ellipse: s-maj=10.6km s-min=8.1km az=29.0*

ISCJB ***11*** *19:04:17.4±0.8, 1.˚19N±0.˚02×92.˚05E±0.˚02, h9km±5km, mb5.3/246, MS5.0/169, Error ellipse: s-maj=4.1km s-min=2.6km az=33.2*

NEIC ***11*** *19:04:20.0±1.9, 1.˚19N×92.˚09E, h14km±11km, mb5.5/100, MS5.0/135, Error ellipse: s-maj=5.2km s-min=3.1km az=215.0*

DJA ***11*** *19:04:21.5±0.2, 1.˚N±3˚×9.˚2E±˚, h10km, M5.6/70, mb5.5/70, mB6.0/43, MLv6.0/10, Mw(mB)5.6/43*

MOS ***11*** *19:04:26.9±1.9, 1.˚19N×92.˚30E, h96km, mb5.5/64, MS4.8/16, Error ellipse: s-maj=14.1km s-min=10.2km az=102.8*

ISC 11 19:04:21.7±0.5, 1.˚14N±0.˚04×92.˚01E±0.˚04, h26km±3km, h26km:pP-P, n1004, σ1944/920, mb5.3/258, MS5.0/169, 40C-31D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MLSI	Meulaboh, Aceh	5.37	55	P	Pn	19 05 39.3	-1.0
	2µm,0.6s,37µm10.0nm						
GSI	Gunungsitoli	5.57	88	P	Pn	19 05 42.2	-0.8
	2µm,1.0s,19µm6.5nm						
GSI	Gunungsitoli	5.57	88	*e*Pn	Pn	19 05 41.5	-1.5
TPTI		5.58	68	P	Pn	19 05 41.7	-1.4
	2µm,0.8s,40µm9.7nm						
KCSI	Kotacane, Aceh	6.22	68	P	Pn	19 05 52.2	+0.2
	2µm,0.7s,22µm9.1nm						
LHMI	Lhok Sumawe	6.38	50	P	Pn	19 05 54.7	+0.5
	1µm,0.7s,20µm5.6nm						
LHMI	Lhok Sumawe	6.38	50	*e*Pn	Pn	19 05 53.9	-0.3
TSI	Tuntungan	6.96	70	P	Pn	19 06 04.2	+2.2
PSI	Prapat	7.10	77	Pn	Pn	19 06 03.0	-1.3
	baz=270,slow=0.0						
PSI	Prapat	7.10	77	*e*Pn	Pn	19 06 02.3	-1.9
PSI	Prapat	7.10	77	*e*P	Pn	19 06 02.3	-1.9
SISI	Saibi	7.49	109	P	Pn	19 06 08.1	-1.3
	1µm,0.8s,12µm4.7nm						
MNSI	Mandailing Nat	7.58	93	P	Pn	19 06 09.5	-1.1
	1µm,0.6s,15µm4.8nm						
PDSI	Padang	8.70	104	P	Pn	19 06 24.4	-1.6
	720nm,1.0s,12µm2.0nm						
PPSI	Pulau Pagai	8.89	116	P	Pn	19 06 27.3	-1.3
	682nm,0.5s,11µm3.1nm						
BKNI	Bangkinang	9.07	95	P	Pn	19 06 30.6	-0.4
	1µm,0.9s,9µm3.5nm						
BKNI	Bangkinang	9.07	95	*e*Pn	Pn	19 06 29.9

PPBI Pangkal Pinang 14.50 103 P P 19 07 54.2 +2.3
CGJI Cibinong 15.68 120 P Pn 19 07 57.9 -3.2
164nm,0.9s
TNG Tangerang 16.32 117 P P 19 08 23.1 +11
TNG P P 19 08 23.2 +11
MDRS Chennai 16.62 316 eP Pn 19 08 12.0 -1.0
MDRS IAmb IAmb 19 08 21.1
comp=Z,1µm,1.9s
SKJI Sukabumi 16.62 119 P P 19 08 19.2 +3.8
SKHT Srikalahasti 17.46 316 eP Pn 19 08 22.2 -1.5
LEM Lembang 17.47 117 Pn Pn 19 08 23.7 -0.3
comp=Z,0.5nm,0.3s,baz=309,slow=5.6,SNR=10.0
LEM LR LR 19 14 42.3
comp=Z,2µm,18.7s,baz=318,slow=36
JCJI Jatiwangi 17.91 115 P P 19 08 33.0 +3.3
CISI Cisompet, Garu 17.98 119 P P 19 08 30.9 +0.4
comp=Z,320nm,0.9s,comp=Z,5µm
CISI Cisompet, Garu 17.98 119 *e*Pn **Pn 19 08 27.7 -2.5**
comp=Z,378nm,1.1s
KSM Kuching 18.30 89 *e*P **P 19 08 32.9 -1.1**
comp=Z,258nm,0.9s
CM01 Chiang Mai Arr 18.47 21 *e*P **P 19 08 33.4 -2.5**
CM31 Chiang Mai Arr 18.50 21 *e*P **P 19 08 34.1 -2.1**
CMAR Chiang Mai Arr 18.50 21 P P 19 08 34.5 -1.6
comp=Z,0.5nm,0.3s,baz=215,slow=13,SNR=51
CMAR LR LR 19 15 49.2
comp=Z,827nm,19.4s,baz=208,slow=37
VIS Vishakhapatnam 18.55 333 *i* P **P 19 08 36.8 +0.1**
VIS *i* x x 19 11 53.0
CMJI Cimerak 18.64 119 P Pn 19 08 39.7 +1.6
comp=Z,321nm,1.2s,comp=Z,3µm
ADKI Addanki 18.83 322 *e*P **P 19 08 39.2 -0.5**
CHTO Chiang Mai 18.83 21 *e*P **P 19 08 38.1 -1.7**
comp=Z,70nm,1.2s
CHTO Chiang Mai 18.83 21 *e*P **P 19 08 38.1 -1.7**
CHTO pmax pmax
comp=Z,70nm,1.2s
KPJI Karang Pucung 18.86 117 P Pn 19 08 42.8 +1.9
CHLP Challavanipeta 18.94 336 *e*P **P 19 08 40.5 -0.4**
PVM Polavaram 18.99 328 *e*P **P 19 08 41.6 +0.1**
STKI Sintang 19.50 93 P Pn 19 08 48.6 +0.1
comp=Z,435nm,1.3s,comp=Z,8µm
SRLM Srisailam 19.70 320 *e*P **P 19 08 49.1 -0.3**
NJS Nagarjunasagar 19.78 321 *e*P **P 19 08 50.0 -0.1**
URV Uravakonda 20.01 314 *e*P **P 19 08 52.5 -0.2**
PBKI Pangkalan Bun 20.02 101 P Pn 19 08 54.0 -0.7
comp=Z,432nm,1.1s,comp=Z,6µm
SMRI Semarang 20.11 114 P Pn 19 08 57.4 +1.6
SMRI Semarang 20.11 114 *e*P **P 19 08 54.1 +0.2**
comp=Z,727nm,1.3s
MNCI Minicoy 20.16 291 *e*P Pn 19 08 55.5 -0.9
comp=Z,357nm,1.4s
SBUM Sibu 20.24 86 *e*P **P 19 08 55.7 +0.4**
comp=Z,259nm,1.1s
UGM Wanagama 20.54 116 P Pn 19 09 01.8 +1.0
UGM Wanagama 20.54 116 *e*P **P 19 08 58.0 -0.5**
comp=Z,460nm,1.2s
WOJI Wonogiri, Jawa 20.87 116 P Pn 19 09 04.1 -0.5
comp=Z,206nm,1.2s,comp=Z,3µm
HYB Hyderabad 20.90 321 *i* P **P 19 09 02.0 -0.4**
HYB Hyderabad 20.90 321 *e*P **P 19 09 01.8 -0.6**
HYB IAmb IAmb 19 09 13.1
comp=Z,317nm,1.4s
HYBB Hyderabad (bro 20.90 321 *e*P **P 19 09 01.9 -0.5**
SAIH SAIHA 21.24 2 *e*P **P 19 09 06.1 0.0**
PCJI Pacitan 21.24 116 P P 19 09 08.4 +2.3
comp=Z,136nm,1.0s
DGAR Diego Garcia 21.28 246 PFAKE 19 09 20.0 +14
DGAR LR LR
comp=Z,1µm,21.0s
DGAR Diego Garcia 21.28 246 *i* P **P 19 09 06.4 -0.1**
H08S2 Diego Garcia H 21.33 246 P P 19 09 07.5 +0.7
H08S2 T T 19 30 58.9
baz=60
H08S3 Diego Garcia H 21.34 246 P P 19 09 06.6 -0.2
H08S3 T T 19 30 58.5
baz=60
H08S1 Diego Garcia H 21.35 246 P P 19 09 05.3 -1.7
H08S1 T T 19 30 59.4
baz=60
RPR Rampur 21.57 325 *e*P **P 19 09 09.4 -0.1**
PWJI Pagerwojo 21.74 115 P P 19 09 16.7 +5.3
GRJI Gresik 21.94 112 P P 19 09 17.5 +3.9
BELO BELONIA 21.98 359 *e*P **P 19 09 15.4 +1.6**
BELO IAmb IAmb 19 09 23.8
comp=Z,78nm,0.9s
SRSP Sriramsagar 22.18 324 *e*P **P 19 09 15.7 -0.4**
H08N1 Diego Garcia H 22.24 250 P P 19 09 13.9 -2.6
baz=87,slow=8.2,SNR=7.4
H08N2 Diego Garcia H 22.25 250 P P 19 09 15.6 -1.0
baz=87,slow=8.2,SNR=6.1
H08N3 Diego Garcia H 22.26 250 P P 19 09 14.3 -2.4
baz=87,slow=8.2,SNR=6.8
AGT Agartala 22.62 358 *e*P **P 19 09 21.2 +0.5**
AGT IAmb IAmb 19 09 24.6
comp=Z,61nm,0.7s
KLRI Killari 22.63 319 *e*P **P 19 09 20.4 -0.6**
GOA Goa 22.92 309 *e*P **P 19 09 25.0 +1.0**
GOA IAmb IAmb 19 09 33.3
comp=Z,121nm,1.2s
MTKI Muara Teweh, K 22.98 95 P P 19 09 24.6 -0.1
comp=Z,227nm,1.1s,comp=Z,4µm
BLJI Banyuglugur 23.27 113 P P 19 09 27.6 0.0
comp=Z,65nm,1.1s
BOK Bokaro 23.29 346 *e*P **P 19 09 28.1 +0.5**
BOK IAmb IAmb 19 09 37.9
comp=Z,522nm,1.7s
GMJI Gumukmas 23.33 114 P P 19 09 30.0 +1.9
comp=Z,34nm,1.1s
KMMI Kalianget 23.37 111 P P 19 09 29.2 +0.6
comp=Z,91nm,1.3s
IMP Imphal 23.62 4 *e*P **P 19 09 30.0 -1.0**
JAGI Jajag, Banyuwa 24.05 114 P P 19 09 34.5 -0.6
comp=Z,67nm,1.1s
JAGI Jajag, Banyuwa 24.05 114 *e*P **P 19 09 32.9 -2.2**
comp=Z,71nm,1.0s
SHL Shillong 24.28 360 *e*P **P 19 09 37.9 +0.6**
SHL Shillong 24.28 360 *e*P **P 19 09 36.9 -0.4**
comp=Z,97nm,1.0s
SHL Shillong 24.28 360 *e*P **P 19 09 36.9 -0.4**
SHL pmax pmax
comp=Z,97nm,1.0s
TURI Tura 24.32 356 *e*P **P 19 09 37.4 -0.1**
KOHI KOHIMA 24.52 5 *e*P **P 19 09 38.0 -1.4**
KOHI IAmb IAmb 19 09 43.0
comp=Z,85nm,1.0s
KBKI Kotabaru 24.55 100 P P 19 09 40.9 +1.2
comp=Z,84nm,1.8s,comp=Z,2µm
KKM Kota Kinabalu 24.64 78 *e*P **P 19 09 40.3 -0.3**
comp=Z,186nm,0.9s
KKM LR LR
comp=Z,2µm,22.0s
SRBI Singaraja 24.89 112 P P 19 09 42.3 -0.4
comp=Z,75nm,0.9s
GUWA GUWAHATI 24.91 359 *e*P **P 19 09 43.2 +0.5**
QIZ Qiongzhong 24.93 43 P P 19 09 43.1 0.0
QIZ S **S 19 14 07.6 +2.4**
QIZ pmax pmax
comp=Z,27nm,1.0s
QIZ LR LR
comp=Z,3µm,15.7s
QIZ LR LR
comp=Z,2µm,14.5s
BKB Balikpapan 25.00 95 P P 19 09 45.8 +2.0
comp=Z,659nm,1.0s,comp=Z,8µm
IGBI Denpasar 25.09 114 P P 19 09 46.0 +1.4
comp=Z,193nm,1.0s
MOKO MOKOCHONG 25.15 5 *e*P **P 19 09 43.3 -1.8**
MOKO IAmb IAmb 19 09 48.3
comp=Z,106nm,1.3s
TEZP TEZPUR 25.34 2 *e*P **P 19 09 46.0 -0.6**
SGKI Sangatta, Kali 25.65 94 P P 19 09 51.4 +1.7
comp=Z,179nm,1.6s,comp=Z,3µm
ITAN ITANAGAR 25.90 3 *e*P **P 19 09 51.5 -0.3**
ITAN IAmb IAmb 19 09 57.0
comp=Z,86nm,0.8s
ODAN Odare 25.95 351 *e*P **P 19 09 52.8 +0.3**
comp=Z,808nm,1.7s
KMI Kunming 26.00 23 P P 19 09 54.4 +1.5
KMI pP pP 19 09 57.6 -2.9
KMI sP sP 19 09 59.1 -4.6
KMI PP **PnPn 19 10 36.9 +5.7**
KMI S **S 19 14 23.1 +0.7**
KMI SS **SnSn 19 15 28.7 +8.0**
KMI pmax pmax
comp=Z,82nm,1.2s
KMI pmax pmax
comp=Z,1µm,6.1s
KMI LR LR
comp=Z,2µm,14.3s
KMI LR LR
comp=Z,2µm,14.6s
KMI LR LR
comp=Z,2µm,14.3s
BHPL Bhopal 26.13 328 *e*P **P 19 09 54.7 +0.8**
RAMN Ramite 26.18 349 *e*P **P 19 09 55.5 +0.9**
comp=Z,1µm,1.7s
GTK Tadong 26.23 353 *e*P **P 19 09 55.3 +0.3**
GTK IAmb IAmb 19 09 59.6
comp=Z,42nm,0.8s
ZIRO ZIRO 26.29 4 *e*P **P 19 09 54.6 -0.9**
LKP Lekhapani 26.30 8 *e*P **P 19 09 54.1 -1.3**
LKP IAmb IAmb 19 09 57.3
comp=Z,151nm,1.2s
MYLDM Lahad Datu 26.75 81 *e*P **P 19 09 59.5 -0.1**
comp=Z,201nm,1.0s
DMN Daman 27.13 346 *e*P **P 19 10 04.2 +1.0**
comp=Z,182nm,1.0s
GUN Gumba 27.25 348 *e*P **P 19 10 04.5 +0.1**
KKN Kakani 27.27 347 *e*P **P 19 10 05.4 +1.0**
comp=Z,251nm,1.3s
PLAI Plampang 27.52 112 P P 19 10 08.3 +1.7
comp=Z,42nm,1.1s
GKN Gorkha 27.62 346 *e*P **P 19 10 08.3 +0.8**
comp=Z,418nm,1.3s
KOLN Koldanda 27.67 344 *e*P **P 19 10 09.0 +1.0**
MPSI Mapaga 27.90 91 P P 19 10 09.9 0.0
comp=Z,41nm,0.9s
PCI Palu 27.90 94 P P 19 10 10.7 +0.7
comp=Z,74nm,1.7s,comp=Z,2µm
PYUN Piuthan 28.16 343 *e*P **P 19 10 13.4 +1.1**
comp=Z,246nm,1.0s
KAPI Kappang 28.38 103 PFAKE 19 10 30.0 +16
KAPI LR LR
comp=Z,1µm,19.0s
LSA Lhasa 28.41 358 P P 19 10 15.5 +0.7
LSA pmax pmax
comp=Z,19nm,1.0s
BNSI Bone 28.61 101 P P 19 10 16.7 +0.4
comp=Z,72nm,1.9s,comp=Z,2µm
GYA Guiyang 28.85 28⇑ *i*P **P 19 10 18.2 -0.2**
GYA PP **PnPn 19 11 14.0 +3.9**
GYA S **S 19 15 10.6 +3.4**
GYA SS **SnSn 19 16 37.7 +7.5**
GYA ScP **SS 19 17 10.0 0.0**
GYA pmax pmax
comp=Z,40nm,0.8s
GYA pmax pmax
comp=Z,150nm,5.6s
GYA LR LR
comp=Z,680nm,18.0s
GYA LR LR
comp=Z,610nm,18.4s
GYA LR LR
comp=Z,640nm,18.2s
APSI Ampana 29.71 94 P P 19 10 26.9 +0.9
comp=Z,72nm,1.1s,comp=Z,1µm
MRSI Marisa 29.93 91 P P 19 10 27.9 -0.2
comp=Z,45nm,1.4s
LUWI Luwuk 30.84 94 P P 19 10 36.0 0.0
comp=Z,108nm,1.1s,comp=Z,1µm
LUWI Luwuk 30.84 94 *e*P **P 19 10 35.1 -0.9**
comp=Z,156nm,1.2s
BBSI Bau Bau 31.22 102 P P 19 10 40.2 +0.7
comp=Z,12nm,1.6s
TGY Tagaytay City 31.37 64 P P 19 10 40.9 +0.1
comp=Z,166nm,0.4s,baz=246,slow=0.3,SNR=6.7
TGY LR LR 19 23 05.6
comp=Z,559nm,19.4s,baz=247,slow=36
CD2 Chengdu 31.63 19 P P 19 10 42.7 -0.2
CD2 S **S 19 15 53.1 +2.5**
CD2 pmax pmax
comp=Z,140nm,0.7s
CD2 LR LR
comp=Z,3µm,14.9s
CD2 LR LR
comp=Z,5µm,13.4s
CD2 LR LR
comp=Z,2µm,13.9s
KMSI Cibinong 31.97 91 P P 19 10 56.6 +11
SMLA Simla 32.97 336 *e*P **P 19 10 55.1 +0.6**
BATI Baumata 33.46 110 P P 19 10 56.3 -2.8
comp=Z,49nm,0.6s,baz=340,slow=1.9,SNR=18
SOEI Soe 33.89 109 P P 19 11 05.8 +2.8
comp=Z,74nm,0.9s
SOEI Soe 33.89 109 *e*P **P 19 10 59.0 -4.0**
comp=Z,58nm,0.9s
DAV Davao City (W) 33.98 79 P P 19 11 04.6 +1.0
comp=Z,158nm,0.4s,baz=62,slow=1.2,SNR=16
DAV Davao City (W) 33.98 79 P P 19 11 04.6 +1.0
DAV LR LR
comp=Z,813nm,19.0s
DAV Davao City (W) 33.98 79 PKiKP **P 19 11 05.1 +1.5**
SNR=13
DAV Davao City (W) 33.98 79 P P 19 11 05.1 +1.5
SNR=13
SANI Sanana 34.12 95 P P 19 11 03.3 -1.5
comp=Z,50nm,1.4s
DHRM DHARAMSHALA 34.30 336 *e*P **P 19 11 05.1 -1.3**
DHRM IAmb IAmb 19 11 11.8
comp=Z,487nm,2.5s
QZH Quanzhou 34.91 45⇑ *i*P **P 19 11 12.0 +0.5**
QZH pmax pmax
comp=Z,51nm,1.0s
QZH LR LR
comp=Z,2µm,14.2s
QZH LR LR
comp=Z,870nm,15.2s
QZH LR LR
comp=Z,2µm,12.8s
MBWA Marble Bar 35.02 131 PFAKE 19 11 20.0 +7.5
MBWA LR LR
comp=Z,2µm,19.0s
NLAI Namlea 35.34 97 P P 19 11 16.6 +1.2
comp=Z,71nm,0.7s,comp=Z,857nm
TNTI Ternate 35.35 90 *e*P **P 19 11 12.5 -3.0**
comp=Z,121nm,1.6s
TPUB Ta-pu 35.44 49 *e*P **P 19 11 17.1 +0.9**
comp=Z,46nm,1.2s
TWG Pinlang 35.51 50 *e*P **P 19 11 16.6 -0.2**
comp=Z,188nm,1.0s
LBMI Labuha 35.53 93 P P 19 11 17.4 +0.3
comp=Z,168nm,1.4s,comp=Z,3µm
SSLB Suanglung 35.96 49 *e*P **P 19 11 21.9 +1.3**
comp=Z,98nm,1.5s
YULB Yu-li 36.00 50 *e*P **P 19 11 21.4 +0.5**
comp=Z,38nm,0.9s
WHN Wuhan 36.11 34⇓ *i*P **P 19 11 22.6 +0.8**
WHN pmax pmax
comp=Z,200nm,1.2s
XAN Xi'an 36.35 24 P P 19 11 22.6 -1.2
XAN pP pP 19 11 27.1 -4.5
XAN sP sP 19 11 29.7 -5.0
XAN PP **PnPn 19 12 44.6 -1.8**
XAN S **S 19 16 59.3 -4.3**
XAN pmax pmax
comp=Z,94nm,1.0s
XAN LR LR
comp=Z,2µm,19.0s
XAN LR LR
comp=Z,2µm,16.3s
XAN LR LR
comp=Z,2µm,13.6s
LZH Lanzhou 36.46 16 *e*P **P 19 11 24.8 -0.1**
LZH pP pP 19 11 27.8 -4.8
LZH sP sP 19 11 29.8 -6.0
LZH PP **PP 19 12 49.2 +1.1**
LZH SS SS 19 19 32.0 -13
LZH pmax pmax
comp=Z,120nm,1.3s
LZH pmax pmax
comp=Z,550nm,5.0s
LZH LR LR
comp=Z,2µm,15.7s
LZH LR LR
comp=Z,3µm,14.9s
LZH LR LR
comp=Z,3µm,15.7s
NACB Ninganchiao 36.66 49 *e*P **P 19 11 25.9 -0.7**
comp=Z,42nm,0.9s
YHNB Yeheng 36.78 48 PFAKE 19 11 40.0 +12
YHNB LR LR
comp=Z,1µm,20.0s
NIL Nilore 36.81 333 *e*P **P 19 11 28.7 +1.0**
comp=Z,57nm,0.9s
NIL LR LR
comp=Z,803nm,19.0s
NIL Nilore 36.81 333 *e*P **P 19 11 28.7 +1.0**
NIL pmax pmax
comp=Z,57nm,0.9s
NIL MLR MLR
comp=Z,803nm,19.0s
TATO Taipei 37.04 48 PFAKE 19 11 40.0 +10
TATO LR LR
comp=Z,1µm,21.0s
MEEK Meekatharra 37.69 139 P P 19 11 35.3 0.0
baz=38,SNR=14
MORW Morawa 37.83 144 P P 19 11 37.4 +1.0
baz=38,SNR=5.8
FITZ Fitzroy Crossi 38.22 122 P P 19 11 38.9 -0.9
comp=Z,24nm,0.7s,baz=297,slow=5.7,SNR=30
FITZ LR LR 19 25 15.2
comp=Z,532nm,20.6s,baz=316,slow=33
FITZ Fitzroy Crossi 38.22 122 P P 19 11 39.0 -0.8
baz=38,SNR=24
FITZ Fitzroy Crossi 38.22 122 *e*P **P 19 11 39.3 -0.5**
comp=Z,29nm,0.8s
GTA Gaotai 38.75 10⇑ P **P 19 11 44.1 0.0**
GTA pP pP 19 11 49.9 -2.0
GTA sP sP 19 11 52.7 -2.4
GTA pmax pmax
comp=Z,32nm,1.1s
WSAR Wadi Sarin 39.13 307 P P 19 11 49.7 +2.3
comp=Z,19nm,1.1s,baz=171,slow=9.2,SNR=7.3
WSAR LR LR 19 26 38.8
comp=Z,1µm,19.0s,baz=140,slow=34
SWI Sorong 39.30 93 P P 19 11 47.1 -1.9
comp=Z,62nm,1.3s
SIJI Sorong 39.30 93 P P 19 11 46.9 -2.2
comp=Z,24nm,0.8s,baz=312,slow=6.0,SNR=21
BLDU Ballidu 39.37 145 P P 19 11 49.6 +0.3
baz=39,SNR=4.2
BIDO Bidbid 39.67 307 pPKiKP P 19 12 04.0 +12
SNR=5.9
NJ2 Nanjing 39.83 37 *e*P **P 19 11 53.2 +0.1**
NJ2 pmax pmax
comp=Z,41nm,1.3s
MUN Mundaring 40.13 147 P P 19 11 56.6 +1.0
baz=40,SNR=3.6
FAKI Fak Fak 40.43 96 P P 19 11 57.0 -1.4
comp=Z,75nm,1.4s
FAKI Fak Fak 40.43 96 *e*P **P 19 11 56.8 -1.6**
comp=Z,122nm,1.4s
KLBR Kellerberrin 40.70 145 P P 19 12 00.7 +0.4
baz=41,SNR=8.4
KSH Kashi 40.90 341 P P 19 12 00.5 -1.5
KSH sP pP 19 12 06.6 -3.2
KSH PcP **PcP 19 14 01.3 -1.1**
KSH S **S 19 18 10.1 -2.1**
KSH SS **SS 19 21 06.0 -8.4**
KSH pmax pmax
comp=Z,60nm,1.1s
KSH pmax pmax
comp=Z,320nm,2.9s
KSH LR LR
comp=Z,640nm,6.9s
KSH LR LR
comp=Z,650nm,7.4s
KSH LR LR
comp=Z,960nm,10.7s
TIY Taiyuan 40.96 25 *e*P **P 19 12 03.9 +1.4**
SOHO SOHO 41.24 306 *i* P **P 19 12 05.7 +0.7**
SNR=7.3
H01W3 Cape Leeuwin H 41.40 152 T T 19 56 37.5
baz=327,slow=74,SNR=6.8
H01W2 Cape Leeuwin H 41.41 152 T T 19 56 40.3
baz=327,slow=74,SNR=5.7
NWAO Narrogin (SRO) 41.41 147 P P 19 12 06.0 -0.2
comp=Z,28nm,1.1s,baz=198,slow=10.0,SNR=4.9
NWAO Narrogin (SRO) 41.41 147 *e*P **P 19 12 06.6 +0.4**
comp=Z,85nm,1.5s
NWAO LR LR
comp=Z,2µm,20.0s
NWAO Narrogin (SRO) 41.41 147 *e*P **P 19 12 06.6 +0.4**
NWAO pmax pmax
comp=Z,85nm,1.5s
NWAO MLR MLR
comp=Z,2µm,20.0s
H01W1 Cape Leeuwin H 41.41 152 T T 19 56 38.1
baz=327,slow=74,SNR=5.4
RER Riviere de l'E 41.81 236 PFAKE 19 12 20.0 +10
RER LR LR
comp=Z,3µm,22.0s
ALNE Al Ain 41.84 306 *i* P **P 19 12 12.4 +2.5**
SNR=8.8
ASHO Ashiyiah 41.88 307 P P 19 12 11.9 +1.6
HATD Hatta, Dubai 41.89 307 P P 19 12 13.3 +3.0
TIA Tai'an 41.94 31 P P 19 12 11.0 +0.5
TIA pmax pmax
comp=Z,21nm,0.9s
MSFE Esma-Masafi 42.13 308 P P 19 12 15.6 +3.3
SFK Sufi-Kurgan 42.20 339 P P 19 12 12.6 -0.2
SFK pmax pmax
comp=Z,53nm,1.1s
TARG Taragay, Kyrgy 42.38 344 *e*P **P 19 12 13.7 -0.8**
comp=Z,54nm,1.1s
BTO Baotou 42.54 20 *e*P **P 19 12 13.7 -1.7**
NRN Naryn 42.63 342 *e*P **P 19 12 18.1 +1.7**
comp=Z,31nm,1.1s
NRN Naryn 42.63 342 *e*P **P 19 12 18.1 +1.7**
NRN pmax pmax
comp=Z,31nm,1.1s
WMQ Urumqi 42.67 355 P P 19 12 18.0 +1.7
WMQ sP pP 19 12 25.7 +1.5
WMQ PP **PP 19 14 01.4 +5.8**
WMQ pmax pmax
comp=Z,58nm,1.7s
WMQ pmax pmax
comp=Z,1µm,7.3s
WMQ LR LR
comp=Z,2µm,23.1s
WMQ LR LR
comp=Z,1µm,13.9s
WMQ LR LR
comp=Z,1µm,27.7s
KDJ Kajisay 42.93 344 *e*P **P 19 12 18.7 +0.1**
comp=Z,50nm,1.0s
PRZ Przheval'sk 42.93 345 *e*P **P 19 12 19.6 +0.9**
comp=Z,92nm,1.0s
PRZ Przheval'sk 42.93 345 *e*P **P 19 12 19.6 +0.9**
PRZ pmax pmax
comp=Z,92nm,1.0s
KMBL Kambalda 43.00 141 P P 19 12 19.7 +0.5
baz=43,SNR=6.4
JOW Kunigami 43.18 51 P P 19 12 20.2 -0.5
comp=Z,14nm,0.7s,baz=190,slow=2.9,SNR=4.4
ULHL Ulahol 43.30 343 P P 19 12 21.4 -0.4
SNR=12
HHC Hu-ho-hao-te 43.31 22 *e*P **P 19 12 21.8 +0.1**
HHC sP sP 19 12 31.2 -1.5
HHC PP **PP 19 14 05.6 +2.9**
HHC S **S 19 18 55.8 +8.0**
HHC pmax pmax
comp=Z,69nm,1.1s
HHC pmax pmax
comp=Z,100nm,6.6s
HHC LR LR
comp=Z,1µm,14.0s
HHC LR LR
comp=Z,2µm,13.9s
HHC LR LR
comp=Z,2µm,14.1s
UZB Uzynbulak 43.40 346 *e*P **P 19 12 21.9 -0.6**
comp=Z,182nm,1.4s
UZB *e*S **S 19 18 48.0 -1.2**
KZA Kyzart 43.45 342 P P 19 12 22.9 -0.3
SNR=8.1
PDGK Podgornoye 43.47 347 P P 19 12 21.6 -1.3
PDGK pmax pmax
comp=Z,50nm,1.1s
SATY Saty 43.47 345 *e*P **P 19 12 23.1 +0.2**
comp=Z,386nm,1.4s
SATY *e*S **S 19 18 49.3 -0.8**
WRKA Warakurna 43.72 129 P P 19 12 24.8 -0.4
baz=44,SNR=10
KPKS Kokpek 43.78 346 *e*P **P 19 12 25.0 -0.4**
comp=Z,186nm,1.3s
UCH Uchtor 43.82 341 P P 19 12 27.8 +1.6
SNR=10.0

MDOK Medeo 43.92 344 *e*P P 19 12 26.3 -0.3
comp=Z,324nm,1.6s
MDOK eS S 19 18 55.5 -1.2
AML Almayashu 44.01 340 P P 19 12 27.5 -0.1
SNR=29
KBK Karagaybulak 44.07 342 P P 19 12 30.4 +2.5
SNR=19
TKM2 Tokmak 2 44.11 343 P P 19 12 29.7 +1.4
SNR=21
TKM2 Tokmak 2 44.11 343 P P 19 12 28.5 +0.3
TKM2 pmax pmax
comp=Z,40nm,1.3s
AAK Ala-Archa 44.20 341 P P 19 12 29.1 +0.3
comp=Z,9.3nm,1.1s,baz=163,slow=6.1,SNR=14
AAK Ala-Archa 44.20 341 P P 19 12 31.2 +2.4
SNR=8.0
AAK Ala-Archa 44.20 341 *e*P P 19 12 29.7 +0.9
comp=Z,30nm,1.3s
AAK LR LR
comp=Z,2µm,21.0s
AAK Ala-Archa 44.20 341 P P 19 12 31.6 +2.7
SNR=12
AAK Ala-Archa 44.20 341 *i* P P 19 12 29.4 +0.5
SNR=9.0
AAK Ala-Archa 44.20 341 P P 19 12 29.1 +0.3
AAK pmax pmax
comp=Z,23nm,1.5s
BMNS Besmoynak 44.26 343 *e*P P 19 12 28.6 -0.8
comp=Z,350nm,1.3s
BMNS *e*S S 19 19 00.1 -1.6
BMNS LR LR 19 31 06.6
comp=Z,351nm,15.1s
FRU Bishkek 44.34 342⇑ *e*P P 19 12 30.0 +0.2
FRU pmax pmax
comp=Z,50nm,2.0s
FRU pmax pmax
comp=Z,120nm,2.0s
EKS2 Erkin-Say 44.45 341 P P 19 12 31.3 +0.5
SNR=16
BJI Beijing 44.52 27⇑ *i*P P 19 12 32.2 +1.0
BJI pmax pmax
comp=Z,160nm,1.1s
BJI pmax pmax
comp=Z,1µm,4.3s
MNAS Manas 44.73 339 P P 19 12 31.3 -1.8
MNAS pmax pmax
comp=Z,25nm,1.1s
USP Ospenovka 44.76 342 P P 19 12 32.7 -0.5
SNR=15
KUU Kurty 44.79 344 *e*P P 19 12 32.4 -1.0
comp=Z,177nm,1.5s
KUU *e*S S 19 19 07.4 -1.7
IUG Iuzhnay 45.35 337 *e*P P 19 12 37.8 -0.2
comp=Z,280nm,1.3s
IUG LR LR 19 33 24.0
comp=Z,275nm,15.8s
DZA Taraz 45.50 339 *e*P P 19 12 39.6 +0.5
comp=Z,193nm,1.0s
KK06 Karatay Array 45.97 338 *e*P P 19 12 42.3 -0.5
KK07 Karatay Array 45.98 338 *e*P P 19 12 42.4 -0.5
KK02 Karatay Array 45.99 338 *e*P P 19 12 43.1 +0.2
KK31 Karatay Array 45.99 338 *e*P P 19 12 42.9 0.0
KK31 Karatay Array 45.99 338 P P 19 12 42.4 -0.5
KK31 pmax pmax
comp=Z,27nm,1.0s
KKAR Karatay Array 45.99 338 *e*P P 19 12 42.8 -0.1
KKAR Karatay Array 45.99 338 *e*P P 19 12 42.8 -0.1
KK03 Karatay Array 45.99 338 *e*P P 19 12 42.5 -0.5
KK01 Karatay Array 45.99 338 *e*P P 19 12 42.5 -0.5
KK04 Karatay Array 45.99 338 *e*P P 19 12 42.5 -0.5
KK05 Karatay Array 45.99 338 *e*P P 19 12 43.8 +0.8
KK08 Karatay Array 46.00 338 *e*P P 19 12 42.6 -0.4
KK09 Karatay Array 46.01 338 *e*P P 19 12 43.1 0.0
MK01 Makanchi Array 46.23 351 *e*P P 19 12 43.6 -1.2
MK31 Makanchi Array 46.25 351 *e*P P 19 12 44.4 -0.6
MK31 Makanchi Array 46.25 351 *i* P P 19 12 43.3 -1.6
MK31 pmax pmax
comp=Z,37nm,1.0s
MKAR Makanchi Array 46.25 351 P P 19 12 44.4 -0.6
comp=Z,6.1nm,0.8s,baz=172,slow=8.2,SNR=19
MKAR PP PP 19 14 34.5 +0.7
comp=Z,5.6nm,1.0s,baz=167,slow=7.0,SNR=2.1
MKAR Makanchi Array 46.25 351 *e*P P 19 12 44.4 -0.6
comp=Z,146nm,0.9s
MKAR PP PP 19 14 34.5 +0.7
MKAR Makanchi Array 46.25 351 *e*P P 19 12 44.4 -0.6
MKAR 19 14 34.5
MKAR pmax pmax
comp=Z,146nm,0.9s
MAKZ Makanchi 46.32 350 *e*P P 19 12 44.7 -0.7
comp=Z,24nm,1.1s
MAKZ Makanchi 46.32 350 P P 19 12 43.7 -1.7
MAKZ pmax pmax
comp=Z,26nm,1.2s
DL2 Dalian 46.33 32 P P 19 12 46.5 +0.9
DL2 *e*S S 19 19 35.1 +3.8
DL2 pmax pmax
comp=Z,51nm,1.1s
DL2 LR LR
comp=Z,1µm,15.5s
DL2 LR LR
comp=Z,1µm,16.3s
DL2 LR LR
comp=Z,1µm,16.2s
WRA Warramunga Arr 46.48 119 P P 19 12 46.5 -0.7
comp=Z,43nm,0.8s,baz=296,slow=8.6,SNR=162
WRAB Tennant Creek 46.48 119 *e*P P 19 12 46.7 -0.4
comp=Z,59nm,0.8s
WRAB Tennant Creek 46.48 119 *e*P P 19 12 46.7 -0.4
WRAB pmax pmax
comp=Z,59nm,0.8s
WB2 Warramunga Arr 46.49 119 *e*P P 19 12 46.4 -0.8
comp=Z,55nm,0.8s
BTLS Baital 46.51 342 *e*P P 19 12 46.0 -0.9
comp=Z,94nm,1.2s
ZSN Zaisan 46.54 353 *e*P P 19 12 47.7 +0.5
comp=Z,74nm,1.4s
ZSN *e*S S 19 19 34.4 +0.2
FORT Forrest 46.72 136 *e*P P 19 12 49.2 +0.5
comp=Z,50nm,0.9s
ASAR Alice Springs 47.59 124 P P 19 12 54.9 -0.9
comp=Z,15nm,1.1s,baz=298,slow=7.3,SNR=40
ASAR PcP PcP 19 14 25.1 -0.4
comp=Z,6.2nm,0.9s,baz=294,slow=3.3,SNR=8.0
ASAR LR LR 19 33 44.7
comp=Z,719nm,19.1s,baz=304,slow=37
AS31 Alice Springs 47.59 124 *e*P P 19 12 54.9 -0.9
comp=Z,4.1nm,0.8s
AS01 Alice Springs 47.63 124 *e*P P 19 12 54.9 -1.1
TJN Taejon 47.95 39 *ce*P P 19 12 57.4 -0.9
GYB1 ALIBECK ARRAY 48.04 324 *e*P P 19 13 01.2 +2.2
comp=Z,58nm,0.9s
GYA1 ALIBECK ARRAY 48.05 324 *e*P P 19 13 00.7 +1.6
comp=Z,54nm,0.8s
GEYT Alibeck 48.05 324 P P 19 12 59.9 +0.7
comp=Z,16nm,0.9s,baz=150,slow=6.8,SNR=27
GYA0 ALIBECK ARRAY 48.05 324 *e*P P 19 13 00.4 +1.2
comp=Z,48nm,0.9s
GYA0B ALIBECK ARRAY 48.05 324 *e*P P 19 13 00.4 +1.3
comp=Z,50nm,0.9s
GYB2 ALIBECK ARRAY 48.05 324 *e*P P 19 13 00.9 +1.7
comp=Z,59nm,0.9s
GYB5 ALIBECK ARRAY 48.05 324 *e*P P 19 13 00.8 +1.6
comp=Z,55nm,1.0s
GYA2 ALIBECK ARRAY 48.06 324 *e*P P 19 13 00.4 +1.2
comp=Z,51nm,0.8s
GYB3 ALIBECK ARRAY 48.06 324 *e*P P 19 13 00.9 +1.6
comp=Z,57nm,0.9s
GYB4 ALIBECK ARRAY 48.07 324 *e*P P 19 13 00.9 +1.6
comp=Z,56nm,0.9s
SONM Songino Array 48.15 13 P P 19 12 60.0 +0.1
comp=Z,47nm,0.9s,baz=194,slow=8.5,SNR=161
SONM PP PP 19 14 53.5 +1.2
comp=Z,21nm,1.4s,baz=200,slow=7.0,SNR=3.0
SONA1 Songino Array 48.17 13 *e*P P 19 12 59.2 -0.8
INCN Inchon 48.20 37 PFAKE 19 13 10.0 +10
INCN LR LR
comp=Z,3µm,22.0s
OPO Ambohidratompo 48.21 244 P P 19 13 01.7 +0.9
comp=Z,6.7nm,1.0s,baz=54,slow=8.0,SNR=5.3
ABPO Ambohimpanom 48.32 243 *e*P P 19 13 02.8 +1.2
comp=Z,46nm,1.1s
ABPO LR LR
comp=Z,363nm,20.0s
ABPO Ambohimpanom 48.32 243 *e*P P 19 13 02.8 +1.2
ABPO pmax pmax
comp=Z,46nm,1.1s
ABPO MLR MLR
comp=Z,363nm,20.0s
ULN Ulaanbaatar 48.33 14 *e*P P 19 13 01.1 -0.2
comp=Z,35nm,1.1s
ULN LR LR
comp=Z,1µm,20.0s
ULN Ulaanbaatar 48.33 14 P P 19 13 01.4 +0.1
SNR=18
ULN Ulaanbaatar 48.33 14 *ce*P P 19 13 00.7 -0.6
ULN pmax pmax
comp=Z,49nm,1.7s
JNU Nakatsue 48.39 45 P P 19 13 01.5 -0.3
comp=Z,20nm,1.0s,baz=225,slow=2.5,SNR=4.2
DGZ Jazzator, Alta 48.53 356 *i* P P 19 13 01.6 -1.2
DGZ pmax pmax
comp=Z,6.0nm,1.7s
JAY Jayapura 48.82 94 P P 19 13 03.2 -2.2
comp=Z,259nm,1.2s,comp=Z,8µm
DAMY Dhamar 48.89 288 *e*P P 19 13 09.0 +2.7
comp=Z,98nm,1.3s
KS15 Wonju Array Si 48.94 38 *e*P P 19 13 06.1 +0.2
KSAR Wonju Array Be 48.94 38 P P 19 13 05.5 -0.4
KSAR Wonju Array Be 48.94 38 P P 19 13 05.5 -0.4
KS01 Wonju Array Si 48.97 38 *e*P P 19 13 04.9 -1.2
KSRS Korea Array 48.97 38 P P 19 13 05.5 -0.6
comp=Z,22nm,0.9s,baz=227,slow=8.8,SNR=52
HVS Khovu-Aksy 49.83 1 *e*P P 19 13 11.0 -1.6
HVS pmax pmax
comp=Z,62nm,1.0s
ATD Arta Tunnel 49.86 284 P P 19 13 14.2 +0.8
comp=Z,8.2nm,0.8s,baz=69,slow=12,SNR=3.5
OTUK Ortayu 49.91 343 P P 19 13 12.0 -1.1
OTUK pmax pmax
comp=Z,54nm,0.9s
ZAK Zakamensk 49.99 9 *e*P P 19 13 12.6 -1.2
ZAK pmax pmax
comp=Z,12nm,1.2s
SEM Semipalatinsk 50.09 350 *e*P P 19 13 13.6 -1.2
comp=Z,189nm,1.6s
SEM *e*S S 19 20 22.8 -1.9
SEM LR LR 19 34 26.6
comp=Z,285nm,18.1s
RAYN Ar Rayn 50.25 300 *e*P P 19 13 16.4 +0.2
comp=Z,21nm,1.0s
RAYN LR LR
comp=Z,1µm,20.0s
KURBB Kurchatov Arra 50.61 349 P P 19 13 17.4 -1.0
comp=Z,16nm,1.0s,baz=171,slow=6.9,SNR=31
KURK Kurchatov 50.68 349 *e*P P 19 13 18.0 -0.9
comp=Z,71nm,1.1s
KURK LR LR
comp=Z,3µm,21.0s
KURK Kurchatov 50.68 349 P P 19 13 18.5 -0.4
SNR=19
KURK Kurchatov 50.68 349 *ce*P P 19 13 17.8 -1.1
KURK pmax pmax
comp=Z,186nm,1.7s
MOY Mondy 50.91 7 *e*P P 19 13 21.5 +0.7
MOY pmax pmax
comp=Z,37nm,2.2s
TLY Talaya 51.30 9 *e*P P 19 13 24.4 +0.8
comp=Z,15nm,0.9s
TLY LR LR
comp=Z,914nm,22.0s
TLY Talaya 51.30 9 P P 19 13 24.7 +1.1
SNR=14
TLY Talaya 51.30 9 *e*P P 19 13 24.2 +0.6
TLY pmax pmax
comp=Z,33nm,1.9s
QIS Mount Isa 51.33 118 P P 19 13 23.8 -0.5
baz=51,SNR=6.3
CN2 Changchun 51.85 30 *e*P P 19 13 27.4 -0.4
CN2 pmax pmax
comp=Z,20nm,0.9s
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=Z,900nm,15.0s
CN2 LR LR
comp=Z,900nm,15.0s
CN2 LR LR
comp=Z,600nm,15.0s
IRK Irkutsk 51.95 10 *e*P P 19 13 28.4 0.0
IRK pmax pmax
comp=Z,70nm,1.8s
ZAA0 Zalesovo Array 52.96 355 *e*P P 19 13 34.5 -1.4
comp=Z,75nm,1.1s
ZALV Zalesovo Beam 52.96 355 P P 19 13 34.9 -1.0
comp=Z,16nm,0.8s,baz=181,slow=7.5,SNR=36
ZALV Zalesovo Beam 52.96 355 *e*P P 19 13 34.4 -1.5
ZALV Zalesovo Beam 52.96 355 *e*P P 19 13 34.4 -1.5
PAF Port-aux-Franc 53.70 198 PFAKE 19 13 50.0 +8.7
PAF LR LR
comp=Z,3µm,19.0s
GUMO Guam 53.73 74 PFAKE 19 13 50.0 +7.8
GUMO LR LR
comp=Z,594nm,22.0s
CIT Chita 53.83 16 *e*P P 19 13 41.4 -0.9
CIT *e* 19 13 48.4
CIT *e* 19 14 00.4
CIT pmax pmax
comp=Z,880nm,1.7s
INU Inuyama 53.89 46 *e*P P 19 13 42.6 -0.5
comp=Z,60nm,1.2s
NVS Novosibirsk 54.00 354 *e*P P 19 13 42.7 -0.8
NVS *e*S S 19 21 14.3 -3.5
NVS pmax pmax
comp=Z,650nm,1.1s
NVS pmax pmax
comp=N,35nm,1.2s
NVS pmax pmax
comp=E,15nm,1.2s
NVS smax smax
comp=N,20nm,2.0s
MSHR Mys Shultsa 54.12 35 *ce*P P 19 13 44.7 +0.1
MDJ Mudanjiang 54.57 32 P P 19 13 46.3 -1.5
MDJ sP pP 19 13 52.8 -3.0
MDJ S S 19 21 28.2 +2.4
MDJ ScS ScS 19 23 34.8 -0.7
MDJ pmax pmax
comp=N,30nm,2.0s
MDJ pmax pmax
comp=N,320nm,4.0s
MDJ LR LR
comp=N,920nm,14.3s
MDJ LR LR
comp=N,2µm,18.3s
MDJ LR LR
comp=N,1µm,23.1s
MDJ Mudanjiang 54.57 32 ScS P 19 13 46.8 -1.0
KRAR Krasnoyarsk 54.70 1 *i* P P 19 13 48.8 +0.3
BVA0 Borovoye Array 54.74 344 *i* P P 19 13 45.0 -4.0
BVA0 pmax pmax
comp=Z,37nm,1.2s
BVAR Borovoye Array 54.74 344 P P 19 13 47.3 -1.7
comp=Z,5.0nm,0.9s,baz=156,slow=8.9,SNR=16
KMBO Kilima Mbogo 54.80 268 P P 19 13 51.0 +0.7
comp=Z,3.6nm,1.0s,baz=74,slow=6.7,SNR=6.6
KMBO Kilima Mbogo 54.80 268 *e*P P 19 13 52.1 +1.7
comp=Z,21nm,1.1s
KMBO Kilima Mbogo 54.80 268 *i* P P 19 13 52.1 +1.7
SNR=11
KMBO Kilima Mbogo 54.80 268 *e*P P 19 13 52.1 +1.7
KMBO pmax pmax
comp=Z,21nm,1.1s
BRVK Borovoye 54.80 344 *e*P P 19 13 47.9 -1.4
comp=Z,39nm,1.1s
BRVK Borovoye 54.80 344 P P 19 13 50.4 +1.1
SNR=14
BRVK Borovoye 54.80 344 *ce*P P 19 13 47.6 -1.8
BRVK pmax pmax
comp=Z,40nm,1.2s
MTSU Mount Surprise 54.89 113 P P 19 13 50.4 -0.2
baz=55,SNR=8.6
AB07 Akbulak array 55.22 335 *e*P P 19 13 51.3 -1.2
AB06 Akbulak array 55.23 335 *e*P P 19 13 51.3 -1.3
AB08 Akbulak array 55.23 335 *e*P P 19 13 51.4 -1.2
AB03 Akbulak array 55.24 335 *e*P P 19 13 51.8 -0.8
AB01 Akbulak array 55.24 335 *e*P P 19 13 51.8 -0.8
AB31 Akbulak array 55.24 335 *e*P P 19 13 51.8 -0.8
AB31 Akbulak array 55.24 335 *e*P P 19 13 51.8 -0.8
ABKAR Akbulak array 55.24 335 *e*P P 19 13 51.8 -0.8
AB02 Akbulak array 55.24 335 *e*P P 19 13 51.5 -1.1
AB04 Akbulak array 55.25 335 *e*P P 19 13 51.9 -0.8
AB05 Akbulak array 55.26 335 *e*P P 19 13 52.0 -0.8
AB09 Akbulak array 55.26 335 *e*P P 19 13 51.6 -1.1
MAT Matsushiro 55.31 45 P P 19 13 52.5 -0.9
MJAR Matsushiro Arr 55.31 45 P P 19 13 53.4 0.0
comp=Z,8.0nm,1.0s,baz=231,slow=8.6,SNR=12
MJAR PcP PcP 19 14 53.5 -0.4
comp=Z,3.5nm,0.8s,baz=248,slow=5.0,SNR=4.2
MANU Manus Island 55.44 93 *e*P P 19 13 54.3 -0.4
comp=Z,132nm,1.4s
USRK Ussuriysk Ar. 55.61 34 P P 19 13 55.2 -0.2
comp=Z,13nm,1.0s,baz=240,slow=6.1,SNR=16
PMG Port Moresby 55.91 102 P P 19 13 57.2 -0.8
comp=Z,37nm,0.8s,baz=303,slow=4.9,SNR=7.4
PMG Port Moresby 55.91 102 *e*P P 19 13 57.8 -0.2
comp=Z,45nm,0.9s
PMG LR LR
comp=Z,303nm,20.0s
PMG Port Moresby 55.91 102 *e*P P 19 13 57.8 -0.2
PMG pmax pmax
comp=Z,45nm,0.9s
PMG MLR MLR
comp=Z,303nm,20.0s
HTT Hallett 55.93 132 P P 19 13 57.7 -0.2
baz=56,SNR=8.3
AKT Akhty 56.57 321⇑ *i*P P 19 14 03.9 +1.5
AKT *e*S S 19 21 52.9 0.0
AKT pmax pmax
comp=Z,178nm,1.3s
AKTO Aktyubinsk 56.95 335 P P 19 14 03.6 -1.2
comp=Z,4.6nm,1.0s,baz=146,slow=9.3,SNR=6.5
CTAO Charters Tower 57.16 115 *e*P P 19 14 06.9 0.0
comp=Z,57nm,1.0s
CTAO LR LR
comp=Z,2µm,22.0s
CTAO Charters Tower 57.16 115 *e*P P 19 14 06.9 0.0
CTAO pmax pmax
comp=Z,57nm,1.0s
CTAO MLR MLR
comp=Z,2µm,22.0s
STKA Stephens Creek 57.25 130 P P 19 14 06.7 -0.5
comp=Z,6.1nm,0.6s,baz=302,slow=7.0,SNR=24
STKA Stephens Creek 57.25 130 P P 19 14 06.8 -0.5
baz=57,SNR=14
STKA Stephens Creek 57.25 130 *e*P P 19 14 06.8 -0.5
comp=Z,2.2nm,0.8s
STKA Stephens Creek 57.25 130 *e*P P 19 14 06.8 -0.5
STKA pmax pmax
comp=Z,2.0nm,0.8s
GNI Garni 57.81 318 P P 19 14 12.6 +1.3
comp=Z,4.6nm,0.4s,baz=243,slow=2.4,SNR=13
GNI LR LR 19 38 53.7
comp=Z,507nm,21.8s,baz=96,slow=36
GNI Garni 57.81 318 *e*P P 19 14 13.8 +2.5
comp=Z,42nm,1.1s
GNI Garni 57.81 318 P P 19 14 13.6 +2.3
SNR=11
GNI Garni 57.81 318 P P 19 14 13.4 +2.2
GNI Garni 57.81 318 *i* P P 19 14 09.9 -1.4
GNI pmax pmax
comp=Z,96nm,1.1s
TBLG Delisi 58.61 320 *e*P P 19 14 18.3 +1.6
comp=Z,90nm,1.1s
TBLG Delisi 58.61 320 *e*P P 19 14 18.3 +1.6
TBLG pmax pmax
comp=Z,90nm,1.1s
GROC Groznyy 58.71 322 *e*P P 19 14 18.2 +0.9
GROC *e*S S 19 22 22.9 +2.3
GROC pmax pmax
comp=Z,177nm,1.2s
KLR Kul'dur 58.74 29 P P 19 14 16.9 -0.5
comp=Z,2.0nm,0.9s,baz=258,slow=6.8,SNR=44
KLR Kul'dur 58.74 29 *c* *i*P P 19 14 17.1 -0.3
BOD Bodaibo 59.15 14 *e*P P 19 14 19.3 -0.7
BOD pmax pmax
comp=Z,56nm,1.9s
AKH Akhalkalaki 59.26 319 *e*P P 19 14 22.9 +1.5
comp=Z,30nm,1.0s
AKH Akhalkalaki 59.26 319 *e*P P 19 14 22.9 +1.5
AKH pmax pmax
comp=Z,30nm,1.0s
ARPS Mount Arapiles 59.60 135 P P 19 14 23.8 +0.2
baz=60,SNR=9.5
ZEI Tsey 59.68 321 *e*P P 19 14 25.7 +1.4
ZEI pmax pmax
comp=Z,30nm,0.9s
ZEA Zeya 59.93 23 *e*P P 19 14 25.2 -0.3
ZEA pmax pmax
comp=Z,36nm,1.2s
NCK Nalchik 60.23 321 *i* P P 19 14 27.1 -0.7
NCK pmax pmax
comp=Z,39nm,1.2s
ASF Jabal al Asfar 60.30 307 P P 19 14 29.3 +0.7
comp=Z,1.9nm,0.5s,baz=120,slow=3.6,SNR=3.5
ASF LR LR 19 41 11.1
comp=Z,830nm,18.4s,baz=68,slow=37
CMSA Cobar Meteorol 60.31 128 P P 19 14 28.6 0.0
baz=60,SNR=20
NEY Neytrino 60.66 321 *i* P P 19 14 30.2 -0.8
NEY pmax pmax
comp=Z,6.0nm,1.0s
KBZ Khabaz 60.78 321 P P 19 14 32.0 +0.5
comp=Z,18nm,0.9s,baz=94,slow=5.5,SNR=27
KBZ LR LR 19 42 49.3
comp=Z,298nm,21.4s,baz=110,slow=38
SVE Sverdlovsk 60.93 341⇑ *e*P P 19 14 31.3 -1.0
SVE pmax pmax
comp=Z,77nm,1.1s
KVAR Kislovodsk Arr 61.02 321 P P 19 14 33.6 +0.2
comp=Z,54nm,1.1s,baz=101,slow=10,SNR=32
KIV Kislovodsk 61.03 321 *e*P P 19 14 33.4 0.0
comp=Z,190nm,1.3s
KIV LR LR
comp=Z,652nm,20.0s
KIV Kislovodsk 61.03 321 P P 19 14 34.2 +0.8
SNR=29
KIV Kislovodsk 61.03 321 *i* P P 19 14 33.5 0.0
SNR=16
KIV Kislovodsk 61.03 321 *e*P P 19 14 33.1 -0.3
KIV *e*S S 19 22 49.7 -1.0
KIV pmax pmax
comp=Z,117nm,1.0s
KIV pmax pmax
comp=Z,102nm,5.8s
RMQ Roma 61.15 121 P P 19 14 35.6 +1.1
baz=61,SNR=6.6
ERM Erimo 61.27 41 PFAKE 19 14 50.0 +15
ERM LR LR
comp=Z,975nm,19.0s
MBAR Mbarara 61.29 269 P P 19 14 36.1 +0.2
comp=Z,3.2nm,0.2s,baz=76,slow=4.8,SNR=12
MBAR Mbarara 61.29 269 *e*P P 19 14 35.9 +0.1
comp=Z,34nm,1.1s
MBAR LR LR
comp=Z,665nm,19.0s
MBAR Mbarara 61.29 269 *e*P P 19 14 35.9 +0.1
MBAR pmax pmax
comp=Z,34nm,1.1s
MBAR MLR MLR
comp=Z,665nm,19.0s
ARU Arti 61.32 340 *e*P P 19 14 33.6 -1.3
comp=Z,34nm,1.1s
ARU LR LR
comp=Z,953nm,20.0s
ARU Arti 61.32 340 *d* *i*P P 19 14 35.5 +0.6
ARU 19 16 51.0
ARU S S 19 22 56.9 +3.2
ARU SS SS 19 26 55.0 +0.5
ARU pmax pmax
comp=Z,27nm,1.2s
GOF Gofitskoye 61.37 322⇑ *e*P P 19 14 36.9 +1.4
GOF pmax pmax
comp=Z,76nm,1.1s
CLNS Chul'man 61.44 20 *e*P P 19 14 35.7 -0.2
CLNS pmax pmax
comp=Z,33nm,1.1s
CLNS pmax pmax
comp=E,19nm,1.2s
CLNS pmax pmax
comp=N,21nm,1.3s
MMAI Mount Meron Ar 61.77 307 LR LR 19 42 01.0
comp=N,852nm,19.0s,baz=95,slow=37
ASAJ Asahikawa 61.90 39 P P 19 14 39.2 0.0
comp=N,8.9nm,0.9s,baz=280,slow=14,SNR=8.8
ASAJ Asahikawa 61.90 39 *e*P P 19 14 39.6 +0.5
comp=N,23nm,1.3s
GRNR Gornyy 62.04 30 *e*P P 19 14 39.2 -0.8
GRNR pmax pmax
comp=Z,46nm,1.0s

TOO	**Toolangi**	**62.57**	**134**	P	**P**	**19 14 44.4**	**+0.6**		
	baz=63,SNR=5.9								
SOC	**Sochi**	**62.74**	**320**	*e*P	P	19 14 50.4	+5.6		
SOC				*e*S	S	19 23 23.0	+11		
SOC				pmax	pmax				
	comp=Z,68nm,1.2s								
EIDS	**Eidsvold**	**62.84**	**119**	P	**P**	**19 14 45.9**	**+0.1**		
	baz=63,SNR=3.6								
YSS	**Yuzh-Sakhalins**	**63.40**	**36**	*e*P	**P**	**19 14 49.2**	**+0.2**		
	comp=Z,86nm,1.7s								
YSS				LR	LR				
	comp=Z,220nm,20.0s								
YSS	**Yuzh-Sakhalins**	**63.40**	**36**⇑	*e*P	**P**	**19 14 48.6**	**-0.4**		
YSS				*e*		19 15 24.2			
YSS				pmax	pmax				
	comp=Z,20nm,1.5s								
CSS	**Mathiatis**	**64.01**	**309**	PFAKE		19 15 10.0	+17		
CSS				LR	LR				
	comp=Z,136nm,21.0s								
CAN	**Canberra**	**64.28**	**130**	PFAKE		19 15 10.0	+15		
CAN				LR	LR				
	comp=Z,2µm,21.0s								
SHO	**Shikotan**	**64.51**	**41**	P	**P**	**19 15 00.7**	**+4.3**		
ANN	**Anapa**	**64.75**	**320**	*e*P	**P**	**19 14 55.2**	**-2.8**		
ANN				pmax	pmax				
	comp=Z,98nm,1.8s								
LSZ	**Lusaka**	**65.13**	**253**	*e*P	**P**	**19 15 00.7**	**-0.5**		
	comp=Z,23nm,1.1s								
LSZ				LR	LR				
	comp=Z,595nm,19.0s								
LSZ	**Lusaka**	**65.13**	**253**	*e*P	**P**	**19 15 00.7**	**-0.5**		
LSZ				pmax	pmax				
	comp=Z,23nm,1.1s								
LSZ				MLR	MLR				
	comp=Z,595nm,19.0s								
VRH	**Novokhopyorsk**	**65.34**	**328**	*e*P	**P**	**19 15 01.6**	**0.0**		
VRH				*e**SP	**pP**	**19 15 08.9**	**-0.9**		
VRH				pmax	pmax				
	comp=Z,20nm,0.8s								
TYV	**Tymovskoe**	**65.35**	**33**	*e*P	**P**	**19 15 00.2**	**-1.5**		
TYV				*e*S	**S**	**19 23 39.3**	**-4.9**		
TYV				pmax	pmax				
	comp=Z,400nm,5.6s								
TYV				pmax	pmax				
	comp=Z,19nm,1.7s								
TYV				smax	smax				
	comp=N,8.0nm,1.3s								
TYV				smax	smax				
	comp=E,300nm,10.8s								
TYV				MLR	MLR				
	comp=Z,900nm,12.0s								
BR131	**Keskin Array S**	**65.36**	**314**	*e*P	**P**	**19 15 02.7**	**+0.4**		
BRTR	**Keskin Array B**	**65.36**	**314**	P	**P**	**19 15 02.5**	**+0.3**		
	comp=Z,5.9nm,0.9s,baz=129,slow=7.0,SNR=24								
ILGA	**Ilgaz**	**65.77**	**315**	*e*P	**P**	**19 15 05.8**	**+0.8**		
	comp=Z,105nm,1.4s								
ANTO	**Ankara**	**66.02**	**314**	*e*P	**P**	**19 15 06.9**	**+0.5**		
	comp=Z,55nm,1.0s								
ANTO				LR	LR				
	comp=Z,331nm,19.0s								
ANTO	**Ankara**	**66.02**	**314**	P	**P**	**19 15 07.6**	**+1.2**		
	SNR=13								
ANTO	**Ankara**	**66.02**	**314**	*e*P	**P**	**19 15 06.9**	**+0.5**		
ANTO				pmax	pmax				
	comp=Z,55nm,1.0s								
ANTO				MLR	MLR				
	comp=Z,331nm,19.0s								
BR231	**Keskin MP Arra**	**66.02**	**314**	*e*P	**P**	**19 15 03.2**	**-3.2**		
TAU	**Tasmania Unive**	**66.13**	**139**	PFAKE		19 15 20.0	+13		
TAU				LR	LR				
	comp=Z,2µm,19.0s								
PATS	**Pohnpei**	**66.34**	**83**	P	**P**	**19 15 09.4**	**+0.5**		
	baz=66,SNR=4.9								
PATS	**Pohnpei**	**66.34**	**83**	*e*P	**P**	**19 15 10.4**	**+1.6**		
	comp=Z,227nm,1.3s								
VSR	**Storozhevoye**	**66.72**	**327**	*e*P	**P**	**19 15 10.2**	**-0.4**		
VSR				*e**SP	**pP**	**19 15 17.4**	**-1.3**		
VSR				pmax	pmax				
	comp=Z,10.0nm,0.7s								
SIM	**Simferopol'**	**66.96**	**319**	*ce*P	**P**	**19 15 12.9**	**+0.6**		
SIM				*e*		19 15 43.0			
SIM				*e*S	**S**	**19 24 05.0**	**+0.9**		
SIM				pmax	pmax				
	comp=Z,53nm,1.0s								
SIM				MLR	MLR				
	comp=Z,400nm,16.9s								
YAK	**Yakutsk**	**67.01**	**18**	P	**P**	**19 15 11.6**	**-0.6**		
	comp=Z,17nm,0.4s,baz=315,slow=3.5,SNR=15								
YAK	**Yakutsk**	**67.01**	**18**	P	**P**	**19 15 11.6**	**-0.6**		
YAK				LR	LR				
	comp=Z,2µm,21.0s								
YAK	**Yakutsk**	**67.01**	**18**	*e*P	**P**	**19 15 09.5**	**-2.7**		
YAK				*e**PP	**pP**	**19 15 18.7**	**-1.6**		
YAK				*e*		19 15 38.6			
YAK				*e*S	**S**	**19 24 01.0**	**-3.0**		
YAK				*e*		19 25 08.8			
YAK				pmax	pmax				
	comp=Z,54nm,1.0s								
YAK				smax	smax				
	comp=N,160nm,3.4s								
YAK				smax	smax				
	comp=E,149nm,2.6s								
YAK				MLR	MLR				
	comp=Z,652nm,16.0s								
YAK				MLR	MLR				
	comp=N,337nm,15.0s								
YAK				MLR	MLR				
	comp=E,102nm,16.0s								
ISP	**Isparta**	**67.04**	**311**	*i* P	**P**	**19 15 12.6**	**-0.5**		
ISP				pmax	pmax				
	comp=Z,15nm,1.0s								
LPSR	**Galich'ya Gora**	**67.54**	**328**	*e*P	**P**	**19 15 16.1**	**+0.4**		
LPSR				*e**SP	**pP**	**19 15 23.0**	**-0.9**		
LPSR				pmax	pmax				
	comp=Z,20nm,0.6s								
HNR	**Honiara**	**68.45**	**101**	P	**P**	**19 15 21.0**	**-1.2**		
HNR	**Honiara**	**68.45**	**101**	P	**P**	**19 15 22.3**	**+0.2**		
	comp=Z,133nm,0.9s,baz=222,slow=5.8,SNR=12								
HNR	**Honiara**	**68.45**	**101**	*e*P	**P**	**19 15 22.4**	**+0.2**		
	comp=Z,254nm,1.0s								
HNR				LR	LR				
	comp=Z,461nm,22.0s								
HNR	**Honiara**	**68.45**	**101**	*e*P	**P**	**19 15 22.4**	**+0.2**		
HNR				pmax	pmax				
	comp=Z,254nm,1.0s								
HNR				MLR	MLR				
	comp=Z,461nm,22.0s								
CASY	**Casey**	**68.57**	**172**	PFAKE		19 15 30.0	+8.1		
CASY				LR	LR				
	comp=Z,216nm,20.0s								
MANT	**Manisa**	**68.72**	**311**	*e*P	**P**	**19 15 25.1**	**+1.3**		
	comp=Z,85nm,1.0s								
KARP	**Karpathos**	**69.02**	**308**	*e*P	**P**	**19 15 25.6**	**+0.1**		
	comp=Z,48nm,0.9s								
LBTB	**Lobatse**	**69.23**	**243**	P	**P**	**19 15 25.6**	**-1.4**		
	comp=Z,5.2nm,0.7s,baz=111,slow=4.2,SNR=6.5								
LBTB	**Lobatse**	**69.23**	**243**	*e*P	**P**	**19 15 26.4**	**-0.6**		
	comp=Z,27nm,0.9s								
LBTB	**Lobatse**	**69.23**	**243**	*e*P	**P**	**19 15 26.4**	**-0.6**		
LBTB				pmax	pmax				
	comp=Z,27nm,0.9s								
MOS	**Moscow**	**69.78**	**331**	*e*P	**P**	**19 15 27.0**	**-2.6**		
MOS				*i*		19 15 36.0			
MOS				pmax	pmax				
	comp=Z,94nm,1.3s								
OBN	**Obninsk**	**70.00**	**330**	*e*P	**P**	**19 15 30.1**	**-0.8**		
	comp=Z,75nm,1.2s								
OBN				LR	LR				
	comp=Z,946nm,22.0s								
OBN	**Obninsk**	**70.00**	**330**	*e*P	**P**	**19 15 30.8**	**-0.2**		
OBN				*e*		19 15 37.2			
OBN				*e*		19 15 51.2			
OBN				*e*		19 18 02.8			
OBN				*e*PPP	PPP	19 19 46.5			
OBN				pmax	pmax				
	comp=Z,75nm,1.7s								
OBN				MLR	MLR				
	comp=Z,631nm,22.0s								
NPS	**Neapolis**	**70.19**	**307**	P	P	19 15 41.6	+9.0		
LAST	**Lasithi**	**70.27**	**307**	*e*P	**P**	**19 15 32.8**	**-0.4**		
LAST	**Lasithi**	**70.27**	**307**	P	**P**	**19 15 32.8**	**-0.4**		
BOSA	**Boshof**	**70.28**	**239**	P	**P**	**19 15 32.6**	**-0.8**		
	comp=Z,6.3nm,1.0s,baz=29,slow=7.2,SNR=4.0								
BOSA	**Boshof**	**70.28**	**239**	*e*P	**P**	**19 15 33.2**	**-0.2**		
	comp=Z,42nm,1.3s								
BOSA	**Boshof**	**70.28**	**239**	*e*P	**P**	**19 15 33.3**	**-0.2**		
BOSA				pmax	pmax				
	comp=Z,42nm,1.3s								
SANT	**Santorini**	**70.56**	**308**	PFAKE		19 15 50.0	+15		
SANT				LR	LR				
	comp=Z,342nm,22.0s								
CHOS	**Chios island**	**70.58**	**310**	P	**P**	**19 15 35.0**	**-0.1**		
TIRR	**Tirgusor**	**70.60**	**317**⇓	*i*P	**P**	**19 15 35.5**	**+0.7**		
TIRR	**Tirgusor**	**70.60**	**317**	*e*P	**P**	**19 15 35.9**	**+1.0**		
	comp=Z,36nm,0.9s								
TIRR	**Tirgusor**	**70.60**	**317**	⇓P	**P**	**19 15 35.6**	**+0.7**		
PRK	**Paraskevi**	**70.64**	**311**	P	**P**	**19 15 35.4**	**+0.1**		
IDI	**Anoyia**	**70.77**	**307**	P	**P**	**19 15 35.4**	**-0.9**		
	comp=Z,15nm,0.9s,baz=99,slow=8.7,SNR=6.3								
IDI	**Anoyia**	**70.77**	**307**⇓	*i*P	**P**	**19 15 36.1**	**-0.1**		
IDI	**Anoyia**	**70.77**	**307**	*e*P	**P**	**19 15 37.5**	**+1.2**		
	comp=Z,55nm,0.9s								
TLB	**Topalu**	**70.89**	**317**⇓	*i*P	**P**	**19 15 40.1**	**+3.4**		
TLB	**Topalu**	**70.89**	**317**	⇓P	**P**	**19 15 40.1**	**+3.4**		
CFR	**Carcaliu**	**71.01**	**318**⇓	*i*P	**P**	**19 15 37.6**	**+0.2**		
CFR	**Carcaliu**	**71.01**	**318**	⇓P	**P**	**19 15 37.6**	**+0.2**		
ENEZ	**Enez**	**71.12**	**313**	P	**P**	**19 15 38.3**	**+0.2**		
KIS	**Kishinev**	**71.15**	**320**	*e*P	**P**	**19 15 36.0**	**-2.2**		
KIS	**Kishinev**	**71.15**	**320**	*e*P	**P**	**19 15 36.0**	**-2.2**		
KIS				*i*		19 15 45.0			
GADA	**Gvkgeada**	**71.16**	**312**	*e*P	**P**	**19 15 38.5**	**+0.1**		
GADA	**Gvkgeada**	**71.16**	**312**	P	**P**	**19 15 38.5**	**+0.1**		
ALN	**Alexandroupoli**	**71.24**	**313**	P	**P**	**19 15 37.9**	**-1.0**		
VAM	**Vamos**	**71.34**	**307**	P	**P**	**19 15 40.2**	**+0.6**		
LEOM	**Leova**	**71.35**	**319**⇓	*i*P	**P**	**19 15 36.1**	**-3.3**		
LEOM	**Leova**	**71.35**	**319**	⇓P	**P**	**19 15 36.1**	**-3.3**		
SMTH	**Samothraki Isl**	**71.50**	**312**	*e*P	**P**	**19 15 40.2**	**-0.3**		
SMTH	**Samothraki Isl**	**71.50**	**312**	P	**P**	**19 15 40.2**	**-0.3**		
IMMV	**Iera Moni Meta**	**71.53**	**307**	P	**P**	**19 15 40.8**	**0.0**		
MAW	**Mawson**	**71.56**	**191**	P	**P**	**19 15 41.5**	**+1.3**		
	comp=Z,5.8nm,0.9s,baz=358,slow=6.1,SNR=4.1								
LIA	**Limnos Island**	**71.62**	**312**	*e*P	**P**	**19 15 40.3**	**-0.9**		
LIA	**Limnos Island**	**71.62**	**312**	P	**P**	**19 15 40.3**	**-0.9**		
KLMR	**Klimovskoe**	**71.62**	**336**	*e*P	**P**	**19 15 38.5**	**-2.3**		
KLMR				AMP		19 15 49.3			
	comp=Z,59nm,1.3s								
KLMR	**Klimovskoe**	**71.62**	**336**	*e*P	**P**	**19 15 38.4**	**-2.3**		
KLMR				pmax	pmax				
	comp=Z,59nm,1.3s								
RDO	**Rodhopi**	**71.67**	**313**	*e*P	**P**	**19 15 39.7**	**-1.8**		
RDO	**Rodhopi**	**71.67**	**313**	P	**P**	**19 15 39.7**	**-1.8**		
KARY	**Karystos**	**71.74**	**310**	P	P	19 15 49.4	+7.4		
SORM	**Soroca**	**71.83**	**321**⇓	*i*P	**P**	**19 15 42.0**	**-0.2**		
SORM	**Soroca**	**71.83**	**321**	⇓P	**P**	**19 15 42.0**	**-0.2**		
ISR	**Istrita**	**72.06**	**317**⇓	*i*P	**P**	**19 15 45.5**	**+1.6**		
ISR	**Istrita**	**72.06**	**317**	⇓P	**P**	**19 15 45.5**	**+1.6**		
ANKY	**Antikythira Is**	**72.16**	**307**	P	P	19 15 53.6	+9.1		
VRI	**Vrincioaia**	**72.16**	**318**⇓	*i*P	**P**	**19 15 45.4**	**+1.0**		
VRI	**Vrincioaia**	**72.16**	**318**	⇓P	**P**	**19 15 45.4**	**+1.0**		
AKASG	**Malin Array Be**	**72.18**	**324**	P	**P**	**19 15 43.4**	**-0.9**		
	comp=Z,5.3nm,0.6s,baz=91,slow=4.9,SNR=20								
AKASG				LR	LR	19 49 45.1			
	comp=Z,236nm,21.4s,baz=120,slow=38								
AKBB	**Malin Array Si**	**72.18**	**324**	*e*P	**P**	**19 15 43.4**	**-0.9**		
	comp=Z,37nm,1.2s								
AKBB	**Malin Array Si**	**72.18**	**324**	*e*P	**P**	**19 15 43.4**	**-0.9**		
AKBB				pmax	pmax				
	comp=Z,37nm,1.2s								
KIEV	**Kiev**	**72.19**	**324**	*e*P	**P**	**19 15 43.5**	**-0.9**		
	comp=Z,36nm,1.2s								
KIEV				LR	LR				
	comp=Z,593nm,19.0s								
KIEV	**Kiev**	**72.19**	**324**	*i* P	**P**	**19 15 43.1**	**-1.2**		
KIEV				pmax	pmax				
	comp=Z,10.0nm,1.1s								
AK11	**Malin Array Si**	**72.20**	**324**	*e*P	**P**	**19 15 43.5**	**-0.9**		
PLOR	**Plostina**	**72.21**	**318**⇓	*i*P	**P**	**19 15 45.7**	**+1.0**		
PLOR	**Plostina**	**72.21**	**318**	⇓P	**P**	**19 15 45.7**	**+1.0**		
SECR		**72.36**	**317**⇓	*i*P	**P**	**19 15 45.9**	**+0.3**		
TESR	**Tescani**	**72.41**	**319**⇑	*i*P	**P**	**19 15 45.6**	**-0.2**		
DID	**Didima**	**72.55**	**309**	P	**P**	**19 15 42.8**	**-4.1**		
DID	**Didima**	**72.55**	**309**	P	**P**	**19 15 42.8**	**-4.1**		
MLR	**Muntele Rosu**	**72.58**	**318**	P	**P**	**19 15 47.1**	**+0.1**		
	comp=Z,8.8nm,0.8s,baz=139,slow=3.1,SNR=31								
MLR				LR	LR	19 51 12.6			
	comp=Z,189nm,20.2s,baz=105,slow=39								
MLR	**Muntele Rosu**	**72.58**	**318**⇑	*i*P	**P**	**19 15 48.0**	**+1.0**		
MLR	**Muntele Rosu**	**72.58**	**318**	*e*P	**P**	**19 15 47.4**	**+0.4**		
	comp=Z,122nm,1.0s								
MLR	**Muntele Rosu**	**72.58**	**318**	⇑P	**P**	**19 15 48.0**	**+1.0**		
VLI	**Veliai**	**72.62**	**308**	*e*P	**P**	**19 15 49.3**	**+2.0**		
VLI	**Veliai**	**72.62**	**308**	P	**P**	**19 15 49.3**	**+2.0**		
PAIG	**Paliouri**	**72.75**	**312**	*e*P	**P**	**19 15 46.9**	**-1.1**		
PAIG	**Paliouri**	**72.75**	**312**	P	**P**	**19 15 46.9**	**-1.1**		
PAIG	**Paliouri**	**72.75**	**312**	*e*P	**P**	**19 15 46.9**	**-1.1**		
PRAR	**RASCA**	**72.94**	**320**⇑	*i*P	**P**	**19 15 50.4**	**+1.4**		
NVR	**Nevrokopi**	**72.95**	**313**	*e*P	**P**	**19 15 48.2**	**-1.0**		
NVR	**Nevrokopi**	**72.95**	**313**	P	**P**	**19 15 48.2**	**-1.0**		
DOPR	**Dopca**	**73.09**	**318**⇓	*i*P	**P**	**19 15 50.1**	**+0.2**		
MTUR	**Matau**	**73.10**	**317**⇑	*i*P	**P**	**19 15 51.7**	**+1.6**		
MTUR	**Matau**	**73.10**	**317**	⇑P	**P**	**19 15 51.7**	**+1.6**		
DYR	**Agios Nikonas**	**73.10**	**308**	P	**P**	**19 15 49.7**	**-0.5**		
VOIR		**73.17**	**317**⇑	*i*P	**P**	**19 15 50.2**	**-0.2**		
VOIR		**73.17**	**317**	⇑P	**P**	**19 15 50.2**	**-0.2**		
VLX	**Vlachokerasia**	**73.19**	**309**	P	P	19 15 58.4	+7.6		
GUR	**Goura**	**73.33**	**309**	P	**P**	**19 15 49.9**	**-1.7**		
ARR	**Arges**	**73.43**	**317**⇓	*i*P	**P**	**19 15 51.9**	**-0.1**		
KLV	**Kalavryta, Ach**	**73.50**	**309**	*e*P	**P**	**19 15 50.8**	**-1.8**		
KLV	**Kalavryta, Ach**	**73.50**	**309**	P	**P**	**19 15 50.8**	**-1.8**		
ITM	**Ithomi**	**73.50**	**308**	P	**P**	**19 15 51.1**	**-1.4**		
PYL	**PYLOS**	**73.59**	**308**	P	**P**	**19 15 51.9**	**-1.1**		
KNT	**Kendrikon**	**73.61**	**313**	P	**P**	**19 15 48.4**	**-4.7**		
KNT	**Kendrikon**	**73.61**	**313**	P	**P**	**19 15 48.4**	**-4.7**		
KNT	**Kendrikon**	**73.61**	**313**	P	**P**	**19 15 48.4**	**-4.7**		
BURAR	**Bucovina Array**	**73.67**	**320**⇓	*i*P	**P**	**19 15 54.5**	**+1.1**		
BURAR	**Bucovina Array**	**73.67**	**320**	⇓P	**P**	**19 15 54.5**	**+1.1**		
BUR04	**Bucovina Ar. S**	**73.67**	**320**	*e*P	**P**	**19 15 53.4**	**0.0**		
MA2	**Magadan**	**73.68**	**27**⇑	*e*P	**P**	**19 15 52.7**	**-0.4**		
BUR08	**Bucovina Ar. S**	**73.69**	**320**	*e*P	**P**	**19 15 54.0**	**+0.5**		
VTS	**Vitosha**	**73.72**	**314**⇑	*i*P	**P**	**19 15 53.7**	**-0.1**		
VTS	**Vitosha**	**73.72**	**314**	*e*P	**P**	**19 15 53.4**	**-0.4**		
	comp=Z,36nm,0.9s								
VTS	**Vitosha**	**73.72**	**314**	⇑P	**P**	**19 15 53.7**	**-0.1**		
AMT	**Artemida-Makis**	**73.74**	**309**	P	**P**	**19 15 53.3**	**-0.6**		
ANX	**Ano Chora**	**73.79**	**310**	P	**P**	**19 15 53.6**	**-0.7**		
DRO	**Drossia**	**73.82**	**309**	P	**P**	**19 15 55.9**	**+1.5**		
GRG	**Griva**	**73.93**	**312**	*e*P	**P**	**19 15 53.4**	**-1.6**		
GRG	**Griva**	**73.93**	**312**	P	**P**	**19 15 53.4**	**-1.6**		
GRG	**Griva**	**73.93**	**312**	*e*P	**P**	**19 15 53.4**	**-1.6**		
TMCR	**Tamitsa**	**74.01**	**338**	*e*P	**P**	**19 15 53.8**	**-1.0**		
TMCR				pmax	pmax				
	comp=Z,67nm,1.3s								
RLS	**Riolos of Patr**	**74.03**	**309**	P	P	19 16 03.9	+8.3		
LOT	**Lotru**	**74.04**	**317**⇑	*i*P	**P**	**19 15 55.4**	**-0.2**		
ARCR	**ARCALIA**	**74.08**	**319**⇑	*i*P	**P**	**19 15 58.3**	**+2.6**		
TIXI	**Tiksi**	**74.20**	**11**	*e*P	**P**	**19 15 54.1**	**-1.8**		
	comp=Z,40nm,1.0s								
TIXI				LR	LR				
	comp=Z,805nm,21.0s								
TIXI	**Tiksi**	**74.20**	**11***c*	*i*P	**P**	**19 15 53.9**	**-2.0**		
TIXI				pmax	pmax				
	comp=Z,24nm,1.0s								
MICGM	**Minsk**	**74.30**	**327**	*e*	**P**	**19 15 58.0**	**+1.2**		
MNK	**Minsk**	**74.30**	**327**	*e*P	**P**	**19 15 58.0**	**+1.2**		
PDO	**Prodromos**	**74.36**	**310**	P	**P**	**19 15 56.2**	**-1.3**		
VLS	**Valsamata**	**74.74**	**309**	P	P	19 15 51.0	-8.7		
SUR	**Sutherland**	**74.81**	**236**	*e*P	**P**	**19 16 01.8**	**+1.4**		
	comp=Z,48nm,1.0s								
SUR				LR	LR				
	comp=Z,1µm,20.0s								
HERR	**Herculane**	**74.82**	**316**⇓	*i*P	**P**	**19 16 00.2**	**+0.2**		
NACGM	**Naroch**	**75.04**	**327**	*e*	**P**	**19 16 02.0**	**+1.0**		
DRGR		**75.09**	**318**⇑	*i*P	**P**	**19 16 01.2**	**-0.5**		
DRGR		**75.09**	**318**	⇑P	**P**	**19 16 01.2**	**-0.5**		
WAKE	**Wake Island**	**75.13**	**70**	PFAKE		19 16 10.0	+7.7		
WAKE				LR	LR				
	comp=Z,2µm,19.0s								
IDID	**Didziasalis**	**75.20**	**328**	*e*P	**P**	**19 16 01.8**	**-0.2**		
IDID				IAmb	IAmb	19 16 11.3			
	comp=Z,19nm,1.1s								
PET	**Petropavlovsk**	**75.21**	**35**	PFAKE		19 16 10.0	+7.9		
PET				LR	LR				
	comp=Z,732nm,22.0s								
PET	**Petropavlovsk**	**75.21**	**35**⇑	*e*P	**P**	**19 16 00.1**	**-2.0**		
PET				pmax	pmax				
	comp=Z,43nm,1.7s								
IIGN	**Ignalina**	**75.49**	**327**	*e*P	**P**	**19 16 03.5**	**-0.1**		
IIGN				IAmb	IAmb	19 16 13.0			
	comp=Z,21nm,1.1s								
BZS	**Buzias**	**75.55**	**317**⇑	*i*P	**P**	**19 16 04.4**	**+0.2**		
BZS	**Buzias**	**75.55**	**317**	⇑P	**P**	**19 16 04.4**	**+0.2**		
TSUM	**Tsumeb**	**75.69**	**250**	PFAKE		19 16 20.0	+14		
TSUM				LR	LR				
	comp=Z,313nm,19.0s								
KWP	**Kalwaria Pacla**	**75.83**	**321**	*e*P	**P**	**19 16 06.1**	**+0.3**		
KWP	**Kalwaria Pacla**	**75.83**	**321**	*e*P	**P**	**19 16 06.0**	**+0.3**		
	comp=Z,456nm,1.2s								
KWP	**Kalwaria Pacla**	**75.83**	**321**	*e*P	**P**	**19 16 06.1**	**+0.3**		
UZH	**Uzhgorod**	**75.83**	**320**	*e*P	**P**	**19 16 03.9**	**-1.8**		
UZH				*e*		19 16 14.3			
TIR	**Tirane**	**75.89**	**312**	PFAKE		19 16 20.0	+14		
TIR				LR	LR				
	comp=Z,1µm,21.0s								
SEY	**Seymchan**	**75.89**	**24**	LR	LR	19 52 11.0			
	comp=Z,882nm,20.3s,baz=153,slow=38								
SEY	**Seymchan**	**75.89**	**24***ce*P		**P**	**19 16 03.9**	**-1.9**		
VSU	**Vasula**	**76.31**	**331**	*i* P	**P**	**19 16 07.6**	**-0.6**		
VSU				pmax	pmax				
	comp=Z,47nm,1.2s								
DIVS	**Divibare**	**76.34**	**315**	*e*P	**P**	**19 16 10.3**	**+1.5**		
	comp=Z,45nm,1.4s								
CRVS	**Cervenica-Dubn**	**76.43**	**320**	*e*P	**P**	**19 16 09.9**	**+0.7**		
CRVS				*e*		19 16 18.0			
CRVS	**Cervenica-Dubn**	**76.43**	**320**	*e*P	**P**	**19 16 09.9**	**+0.7**		
CRVS				*e*		19 16 18.0			
STHS	**Stebnicka Huta**	**76.70**	**321**	*e*P	**P**	**19 16 11.6**	**+0.9**		
STHS				*e*		19 16 20.1			
STHS	**Stebnicka Huta**	**76.70**	**321**	*e*P	**P**	**19 16 11.6**	**+0.9**		
STHS				*e*		19 16 20.1			
STHS				pmax	pmax				
	comp=Z,32nm,1.1s								
SUW	**Suwalki**	**76.75**	**326**	*e*P	**P**	**19 16 10.2**	**-0.6**		
SUW	**Suwalki**	**76.75**	**326**	*e*P	**P**	**19 16 10.4**	**-0.5**		
	comp=Z,147nm,1.0s								
SUW	**Suwalki**	**76.75**	**326**	*e*P	**P**	**19 16 10.2**	**-0.6**		
LVZ	**Lovozero**	**77.15**	**341**	PFAKE		19 16 20.0	+7.1		
LVZ				LR	LR				
	comp=Z,863nm,21.0s								
PSZ	**Piszkesteto**	**77.22**	**319**	PFAKE		19 16 30.0	+16		
PSZ				LR	LR				
	comp=Z,390nm,19.0s								
NIE	**Niedzica**	**77.30**	**321**	*e*P	**P**	**19 16 14.8**	**+0.7**		
NIE	**Niedzica**	**77.30**	**321**	*e*P	**P**	**19 16 14.8**	**+0.7**		
APA	**Apatity**	**77.40**	**340**⇑	*i*P	**P**	**19 16 12.1**	**-2.1**		
APA				pmax	pmax				
	comp=Z,8.0nm,1.0s								
APA				MLR	MLR				
	comp=Z,1µm,15.0s								
FIA1	**FINESS Array S**	**77.68**	**333**	*e*P	**P**	**19 16 14.7**	**-1.2**		
FIA1				*e*P	**P**	**19 16 15.3**	**-0.6**		
FINES	**FINESS Array B**	**77.68**	**333**	P	**P**	**19 16 15.2**	**-0.8**		
	comp=Z,9.3nm,0.7s,baz=90,slow=6.1,SNR=14								
LANS	**Liptovska Anna**	**77.77**	**320**	*e*P	**P**	**19 16 17.4**	**+0.7**		
LANS				*e*		19 16 25.9			
LANS	**Liptovska Anna**	**77.77**	**320**	*e*P	**P**	**19 16 17.4**	**+0.7**		
LANS				*e*		19 16 25.9			
OJC	**Ojcow**	**77.80**	**321**	*e*P	**P**	**19 16 17.2**	**+0.4**		
OJC	**Ojcow**	**77.80**	**321**	*e*P	**P**	**19 16 17.2**	**+0.4**		
	comp=Z,43nm,1.1s								
OJC	**Ojcow**	**77.80**	**321**	*e*P	**P**	**19 16 17.2**	**+0.4**		
TIP	**Timpagrande**	**77.86**	**310**	PFAKE		19 16 30.0	+13		
TIP				LR	LR				
	comp=Z,232nm,19.0s								
VYHS	**Vyhne**	**78.03**	**319**	*e*P	**P**	**19 16 18.1**	**-0.1**		
VYHS				*e*		19 16 27.1			
VYHS	**Vyhne**	**78.03**	**319**	*e*P	**P**	**19 16 18.1**	**-0.1**		
VYHS		

comp=Z,62nm,1.7s
BRG Berggiesshubel 81.59 321 *i* P **P** **19 16 37.6 +0.2**
BRG *i* 19 16 46.2
BRG pmax pmax
comp=Z,44nm,1.9s
BRG pmax pmax
comp=Z,62nm,1.7s
ABTA Abfaltersbach 81.97 317 *i* P **P** **19 16 39.1 -0.5**
comp=Z,26nm,1.9s
CLL Collm 82.23 322 *i* P **P** **19 16 40.8 0.0**
CLL *i* 19 16 49.1
comp=Z,24nm,1.3s
CLL *i* 19 16 59.0
CLL Collm 82.23 322 *eP* **P** **19 16 40.6 -0.2**
comp=Z,16nm,1.1s
CLL Collm 82.23 322 *i* P **P** **19 16 40.8 0.0**
CLL *i* 19 16 49.1
NKC Novy Kostel 82.44 320 *eP* **P** **19 16 43.0 +1.1**
NKC *ex* x 19 16 51.1
NKC Novy Kostel 82.44 320 *eP* **P** **19 16 43.0 +1.1**
NKC *e* 19 16 51.0
WTTA Wattenberg 82.62 317 *i* P **P** **19 16 42.9 -0.3**
comp=Z,21nm,1.0s
MOTA Moosalm 82.99 317 *i* P **P** **19 16 44.5 -0.5**
comp=Z,19nm,0.9s,SNR=9.8
BILL Bilibino 83.09 21 ⇓ *i* P **P** **19 16 43.4 -1.4**
BILL *e* 19 19 57.4
BILL *eS* **S** **19 27 02.2 -0.4**
BILL pmax pmax
comp=Z,7.0nm,1.4s
GRFO Grafenberg 83.17 320 *eP* **P** **19 16 46.5 +0.8**
comp=Z,64nm,1.6s
GRFO Grafenberg 83.17 320 *eP* **P** **19 16 46.5 +0.8**
GRFO pmax pmax
comp=Z,63nm,1.6s
VLC Villacollemand 83.19 314 PFAKE 19 17 00.0 +14
VLC LR LR
comp=Z,598nm,22.0s
HFS Hagfors 83.19 330 P **P** **19 16 45.2 -0.4**
comp=Z,5.3nm,1.0s,baz=114,slow=10,SNR=4.4
FETA Feichten 83.21 317 *i* P **P** **19 16 46.9 +0.7**
comp=Z,48nm,1.3s
RETA Reutte 83.24 318 *i* P **P** **19 16 46.3 +0.1**
comp=Z,53nm,0.9s,SNR=9.7
KEST Kesra 83.37 306 P **P** **19 16 48.5 +1.3**
comp=Z,17nm,1.0s,baz=222,slow=0.3,SNR=8.0
KEST Kesra 83.37 306 *eP* **P** **19 16 48.4 +1.3**
comp=Z,52nm,0.9s
DAVA Damuels 83.81 317 *i* P **P** **19 16 49.3 +0.1**
comp=Z,57nm,1.0s,SNR=12
TUE Stuetta 84.11 316 *eP* **P** **19 16 51.0 +0.2**
comp=Z,38nm,1.1s
NB2 NORSAR Subarra 84.54 331 P **P** **19 16 51.8 -0.7**
comp=Z,12nm,1.1s,baz=91,slow=5.3
NOA NORSAR Array B 84.54 331 P **P** **19 16 51.8 -0.7**
comp=Z,2.3nm,0.8s,baz=99,slow=5.6,SNR=4.7
NOA PP **PP** **19 20 12.4 +4.4**
comp=Z,3.3nm,1.1s,baz=91,slow=8.4,SNR=2.9
ABSA Djebel Ababsia 84.91 306 P **P** **19 16 59.1 +4.1**
BFO Black Forest 84.94 318 PFAKE 19 17 10.0 +15
BFO LR LR
comp=Z,464nm,19.0s
CMAH Djebel Manchou 84.97 306 P **P** **19 16 56.0 +0.7**
KONO Kongsberg 85.17 330 *i* P **P** **19 16 56.2 +0.6**
KONO pmax pmax
comp=Z,18nm,1.0s
SNZO South Karori 85.25 131 PFAKE 19 17 10.0 +14
SNZO LR LR
comp=Z,2μm,19.0s
CASM Ain Smara 85.71 306 P P 19 17 08.0 +9.1
ECH Echery 85.71 318 PFAKE 19 17 10.0 +11
ECH LR LR
comp=Z,447nm,20.0s
CTEI Djebel Teioual 85.77 306 P **P** **19 17 03.0 +3.7**
BNI Bardonecchia 85.89 315 *eP* **P** **19 16 59.9 +0.2**
comp=Z,27nm,1.0s
BNI LR LR
comp=Z,662nm,21.0s
BNI Bardonecchia 85.89 315 *eP* **P** **19 16 59.9 +0.2**
BNI pmax pmax
comp=Z,27nm,1.0s
BNI MLR MLR
comp=Z,662nm,21.0s
SPITS Spitsbergen Ar 85.95 348 P **P** **19 16 58.4 -0.8**
comp=Z,13nm,1.0s,baz=89,slow=8.9,SNR=3.0
DFRA Djebel Bou Aff 86.21 306 P P 19 17 07.0 +5.5
TAM Tamanrasset 86.32 293 *eP* **P** **19 17 03.5 +1.2**
comp=Z,33nm,1.0s
TAM LR LR
comp=Z,328nm,21.0s
TAM Tamanrasset 86.32 293 *eP* **P** **19 17 03.5 +1.2**
TAM pmax pmax
comp=Z,33nm,1.0s
TAM MLR MLR
comp=Z,328nm,21.0s
WLF Walferdange 86.44 320 ⇑ P **P** **19 17 01.7 -0.5**
WLF Walferdange 86.44 320 PFAKE 19 17 10.0 +7.8
WLF LR LR
comp=Z,563nm,19.0s
MSVF Nonsavu 86.57 108 PFAKE 19 17 10.0 +6.5
MSVF LR LR
comp=Z,1μm,19.0s
MEM Membach 86.58 320 ⇓ P **P** **19 17 02.6 -0.2**
VNDA Vanda 86.81 168 P **P** **19 17 03.0 -0.4**
comp=Z,1.8nm,0.9s,baz=352,slow=4.1,SNR=5.0
VNDA Vanda 86.81 168 *eP* **P** **19 17 03.9 +0.5**
comp=Z,24nm,1.7s
VNDA Vanda 86.81 168 *eP* **P** **19 17 03.9 +0.5**
VNDA pmax pmax
comp=Z,25nm,1.7s
KBS Kingsbay 86.97 349 PFAKE 19 17 20.0 +16
KBS LR LR
comp=Z,989nm,20.0s
FUNA Funafuti 87.39 99 PFAKE 19 17 20.0 +13
FUNA LR LR
comp=Z,8μm,20.0s
SSB Saint Sauveur 87.41 315 PFAKE 19 17 20.0 +13
SSB LR LR
comp=Z,352nm,20.0s
NVL N'lazarevskaya 87.83 199 *eP* P 19 17 17.0 +8.6
NVL pmax pmax
comp=Z,35nm,0.9s
SBA Scott Base 87.92 168 PFAKE 19 17 20.0 +11
SBA LR LR
comp=Z,751nm,20.0s
TOA0 Torodi Ar. Sit 90.05 283 *eP* **P** **19 17 20.4 +0.3**
TOA0 *eP* **P** **19 17 21.2 +1.1**
TORD Torodi Ar. Bea 90.05 283 P **P** **19 17 19.3 -0.7**
comp=Z,2.9nm,1.1s,baz=105,slow=1.6,SNR=7.7
TORD PP **PP** **19 20 56.7 +3.1**
comp=Z,1.1nm,1.0s,baz=78,slow=4.0,SNR=2.5
RAO Raoul Island 90.62 119 PFAKE 19 17 30.0 +7.6
RAO LR LR
comp=Z,1μm,20.0s
QSPA South Pole Qui 91.09 180 P **P** **19 17 23.7 -0.3**
comp=Z,11nm,1.2s,baz=310,slow=5.1,SNR=4.6
QSPA South Pole Qui 91.09 180 P **P** **19 17 23.7 -0.3**
QSPA LR LR
comp=Z,1μm,19.0s
GAMB Gambell 91.77 26 *eP* **P** **19 17 26.6 -0.4**
comp=Z,11nm,1.0s
ESK Eskdalemuir 92.04 325 PFAKE 19 17 40.0 +12
ESK LR LR
comp=Z,839nm,21.0s
SNAA Sanae 92.61 198 P **P** **19 17 27.9 -3.0**
SNAA Sanae 92.61 198 P **P** **19 17 30.9 +0.1**
comp=Z,2.0nm,0.9s,baz=49,slow=11,SNR=4.7
DAG Danmarks Havn 93.55 348 *i* P **P** **19 17 33.2 -1.8**
DAG Danmarks Havn 93.55 348 *i* P **P** **19 17 33.2 -1.8**
ES19 SONSECA Array 93.83 310 *eP* **P** **19 17 37.7 +0.5**
ESDC Sonseca Array 93.88 310 P **P** **19 17 37.2 -0.2**
comp=Z,1.3nm,0.8s,baz=70,slow=4.5,SNR=6.5
ESDC PP PP 19 21 32.4 +9.2
comp=Z,0.2nm,0.4s,baz=66,slow=9.9,SNR=4.1
VNA2 Neumayer--Watz 94.15 199 P **P** **19 17 38.3 +0.5**
baz=82,slow=3.1
PAB San Pablo 94.19 310 PFAKE 19 17 50.0 +11
PAB LR LR
comp=Z,560nm,21.0s
KOWA Kowa 95.55 285 P **P** **19 17 47.0 +1.6**
comp=Z,4.8nm,1.0s,baz=95,slow=5.8,SNR=5.6
KOWA Kowa 95.55 285 *eP* **P** **19 17 47.4 +1.9**
comp=Z,26nm,1.2s
AFI Afiamalu 96.31 104 PFAKE 19 18 00.0 +11
AFI LR LR
comp=Z,1μm,22.0s
MTE Manteigas 96.54 311 PFAKE 19 18 00.0 +10
MTE LR LR
comp=Z,833nm,20.0s
KIC Kosan Boka 96.58 276 *eP* P 19 17 58.0 +7.8
comp=Z,25nm,1.0s
DBIC Dimbokro 96.69 277 P **P** **19 17 51.2 +0.6**
comp=Z,2.0nm,0.8s,baz=45,slow=1.4,SNR=2.5
RTC Rabat Centre 96.72 304 PFAKE 19 18 00.0 +10
RTC LR LR
comp=Z,1μm,20.0s
TIC Toumodi 96.85 277 *eP* P 19 17 58.7 +7.3
LIC Lamto 96.87 276 *eP* P 19 17 59.4 +7.9
comp=Z,73nm,1.8s
SHEL Horse Pasture 97.77 254 PFAKE 19 18 10.0 +14
SHEL LR LR
comp=Z,738nm,22.0s
JOHN Johnston Islan 97.78 73 PFAKE 19 18 10.0 +14
JOHN LR LR
comp=Z,142nm,20.0s
IM3 Indian Mountai 98.62 22 *eP* **P** **19 17 56.4 -1.8**
BORG Borgarnes 98.74 337 PFAKE 19 18 10.0 +11
BORG LR LR
comp=Z,1μm,20.0s
TOLK Toolik Lake Re 98.97 19 P **P** **19 17 59.1 -0.7**
baz=297
TOLK Toolik Lake Re 98.97 19 *eP* **P** **19 17 59.5 -0.3**
comp=Z,24nm,1.7s
COLA College 101.33 22 PFAKE 19 18 20.0 +10
COLA LR LR
comp=Z,227nm,20.0s
ILAR Eielson Array 101.74 22 PP PP 19 22 09.9 -13
comp=Z,0.3nm,0.9s,baz=312,slow=8.0,SNR=4.2
KDAK Kodiak Island 102.30 30 PFAKE 19 18 30.0 +15
KDAK LR LR
comp=Z,254nm,20.0s
EGAK Eagle 103.82 21 PFAKE 19 18 30.0 +8.6
EGAK LR LR
comp=Z,420nm,20.0s
ASCN Ascension 106.37 262 PFAKE 19 23 00.0
ASCN LR LR
comp=Z,1μm,19.0s
SFJD Kangerlussuaq 107.10 346 PFAKE 19 23 00.0
SFJD LR LR
comp=Z,472nm,19.0s
RAR Rarotonga 107.38 112 PFAKE 19 23 00.0
RAR LR LR
comp=Z,4μm,20.0s
KIP Kipapa 108.12 67 PFAKE 19 23 00.0
KIP LR LR
comp=Z,5μm,22.0s
CMLA Cha da Macela 110.74 311 PFAKE 19 23 00.0
CMLA LR LR
comp=Z,931nm,20.0s
HOPE Hope Point 112.39 210 PFAKE 19 23 10.0
HOPE LR LR
comp=Z,984nm,20.0s
YKA Yellowknife Ar 113.42 13 PKiKP **PKiKP** **19 22 55.7 -1.4**
comp=Z,0.2nm,0.6s,baz=320,slow=2.4,SNR=3.6
YKA PP **PP** **19 23 46.8 -0.9**
comp=Z,1.1nm,0.9s,baz=333,slow=6.9,SNR=7.9
YKA PKKPbc **PKKPbc** **19 33 43.9 -0.3**
comp=Z,0.1nm,0.4s,baz=134,slow=2.7,SNR=5.2
PMSA Palmer Station 114.17 191 PFAKE 19 23 10.0 +11
PMSA LR LR
comp=Z,2μm,20.0s
SACV Santiago Islan 114.38 287 PFAKE 19 23 10.0 +10
SACV LR LR
comp=Z,184nm,22.0s
NLWA Neilton Lookou 122.40 28 PFAKE 19 23 30.0 +15
NLWA LR LR
comp=Z,197nm,21.0s
B05A Bryant 122.57 26 P **PKPdf** **19 23 14.5 -0.7**
baz=318
FFC Flin Flon 123.14 10 *e*PKPdf **PKPdf** **19 23 14.9 -1.2**
FFC Flin Flon 123.14 10 *e*PKIKP **PKPdf** **19 23 14.9 -1.2**
EFI East Falkland 123.72 202 PFAKE 19 23 30.0 +13
EFI LR LR
comp=Z,1μm,22.0s
NEW Newport 124.67 23 P **PKPdf** **19 23 18.9 -0.4**
baz=324
HAWA Hanford 125.13 26 PFAKE 19 23 30.0 +10
HAWA LR LR
comp=Z,367nm,22.0s
I03D Drain, OR 125.29 31 P **PKPdf** **19 23 20.5 -0.1**
baz=315
I04A Tendick Farm, 125.70 30 P **PKPdf** **19 23 20.7 -0.7**
baz=316
I05D Terrebonne, OR 125.84 29 P **PKPdf** **19 23 21.5 -0.2**
baz=317
J04D Umpqua Nationa 126.25 31 P **PKPdf** **19 23 22.3 -0.4**
baz=316
HUMO Hull Mountain 126.26 32 *e*PKPdf **PKPdf** **19 23 22.5 0.0**
PINE Pine Mountain 126.43 29 *e*PKPdf **PKPdf** **19 23 23.2 +0.2**
F10A Beach Ranch, E 126.46 25 *e*PKPdf **PKPdf** **19 23 22.6 -0.2**
J05D Fort Rock, OR 126.66 30 P **PKPdf** **19 23 23.1 -0.4**
baz=317
YBH Yreka Blue Hor 127.01 32 PKP **PKPdf** **19 23 24.0 -0.1**
comp=Z,0.3nm,0.3s,baz=252,slow=3.2,SNR=3.4
YBH Yreka Blue Hor 127.01 32 PKIKP **PKPdf** **19 23 24.0 -0.1**
MSO Missoula 127.07 22 P **PKPdf** **19 23 23.7 -0.4**
baz=327
MSO Missoula 127.07 22 *e*PKPdf **PKPdf** **19 23 23.6 -0.5**
M02C Callahan 127.17 33 P **PKPdf** **19 23 24.0 -0.3**
baz=314
BMO Blue Mountains 127.31 26 PFAKE 19 23 40.0 +15
BMO LR LR
comp=Z,219nm,20.0s
M04C Macdoel 127.43 32 P **PKPdf** **19 23 24.8 -0.1**
baz=316
N02D Trinity Center 127.54 33 P **PKPdf** **19 23 25.0 -0.1**
baz=314
RCBR Riachuelo 127.82 264 PFAKE 19 23 40.0 +14
RCBR LR LR
comp=Z,209μm,22.0s
ULM Lac du Bonnet 128.36 6 PKP **PKPdf** **19 23 24.6 -1.7**
comp=Z,2.8nm,0.8s,baz=321,slow=4.7,SNR=5.7
O03D Paynes Creek 128.51 33 P **PKPdf** **19 23 26.8 -0.1**
baz=315
WVOR Wild Horse Val 128.57 29 PFAKE 19 23 40.0 +13
WVOR LR LR
comp=Z,292nm,21.0s
DGMT Dagmar 128.62 14 PFAKE 19 23 40.0 +13
DGMT LR LR
comp=Z,377nm,21.0s
BOZ Bozeman (W) 128.97 21 P **PKPdf** **19 23 27.6 -0.2**
baz=329
BOZ Bozeman (W) 128.97 21 *e*PKPdf **PKPdf** **19 23 28.0 +0.2**
BOZ LR LR
comp=Z,233nm,20.0s
BOZ Bozeman (W) 128.97 21 *e*PKIKP **PKPdf** **19 23 28.0 +0.2**
BOZ MLR MLR
comp=Z,233nm,20.0s
GCMT Greycliff 129.49 20 *e*PKPdf **PKPdf** **19 23 29.1 +0.4**
HLID Hailey 129.59 25 P **PKPdf** **19 23 29.0 0.0**
baz=325
HLID Hailey 129.59 25 *e*PKPdf **PKPdf** **19 23 29.8 +0.8**
HLID LR LR
comp=Z,362nm,22.0s
LAO LASA Array 129.74 16 PFAKE 19 23 40.0 +11
LAO LR LR
comp=Z,644nm,21.0s
YHB Horse Butte 129.85 21 *e*PKPdf **PKPdf** **19 23 30.0 +0.4**
AFDM Forest Hills D 129.91 34 *e*PKPdf **PKPdf** **19 23 29.8 +0.2**
VPK Verdi Peak 130.04 32 *e*PKPpre PKPpre 19 23 18.0
RLMT Red Lodge 130.21 20 P **PKPdf** **19 23 29.9 -0.3**
baz=332
RLMT Red Lodge 130.21 20 PFAKE 19 23 40.0 +10
RLMT LR LR
comp=Z,465nm,19.0s
PAHR Pah Rah Range 130.22 32 *e*PKPpre PKPpre 19 23 17.8
AGMN Agassiz Nation 130.28 7 PFAKE 19 23 40.0 +10
AGMN LR LR
comp=Z,489nm,21.0s
B35A Bob, Littlefor 130.44 5 P **PKPdf** **19 23 29.4 -0.9**
baz=352
PKME Peaks-Kenny Pk 130.90 343 P **PKPdf** **19 23 30.9 -0.3**
baz=25
PKME Peaks-Kenny Pk 130.90 343 PFAKE 19 23 40.0 +8.8
PKME LR LR
comp=Z,623nm,22.0s
EYMN Ely 131.01 3 P **PKPdf** **19 23 31.1 -0.3**
baz=355
EYMN Ely 131.01 3 PFAKE 19 23 40.0 +8.6
EYMN LR LR
comp=Z,526nm,20.0s
LOHW Long Hollow 131.05 22 *e*PKPdf **PKPdf** **19 23 32.5 +0.6**
C35A Jirik Farms, M 131.07 5 P **PKPdf** **19 23 31.1 -0.4**
baz=352
REDW Red Top Meadow 131.17 22 *e*PKPdf **PKPdf** **19 23 32.9 +0.8**
AHID Auburn Hatcher 131.59 23 *e*PKPpre PKPpre 19 23 20.3
AHID LR LR
comp=Z,416nm,20.0s
D35A Remer 131.68 6 P **PKPdf** **19 23 32.5 -0.2**
baz=352
NV01 Mina Array Sit 131.73 32 *e*PKPdf **PKPdf** **19 23 33.5 +0.2**
NVAR Mina Array Bea 131.73 32 PKP **PKPdf** **19 23 33.3 0.0**
comp=Z,1.8nm,0.8s,baz=329,slow=1.6,SNR=8.8
NVAR SKPbc **SKPab** **19 26 58.7 +0.6**
comp=Z,0.8nm,0.8s,baz=328,slow=3.2,SNR=3.8
D37A Cotton 131.74 4 P **PKPdf** **19 23 32.6 -0.2**
baz=354
NV11 Mina Array Sit 131.81 32 *e*PKPdf **PKPdf** **19 23 34.4 +1.1**
BW06 Boulder Array 132.17 21 P **PKPdf** **19 23 33.8 -0.2**
baz=330
BW06 Boulder Array 132.17 21 *e*PKPdf **PKPdf** **19 23 34.0 0.0**
BW06 LR LR
comp=Z,436nm,21.0s
PD31 Pinedale Array 132.17 21 *e*PKPdf **PKPdf** **19 23 34.1 +0.1**
PDAR Pinedale Array 132.17 21 PKP **PKPdf** **19 23 33.3 -0.7**
comp=Z,1.4nm,0.8s,baz=349,slow=1.5,SNR=11
PDAR Pinedale Array 132.17 21 *e*PKPdf **PKPdf** **19 23 32.4 -1.6**
E36A McGregor 132.31 5 P **PKPdf** **19 23 33.8 -0.1**
baz=353
E38A The Farm, Brul 132.35 3 P **PKPdf** **19 23 34.1 +0.2**
baz=355
E41A Kenton 132.58 1 P **PKPdf** **19 23 34.5 +0.1**
baz=359
LBNH Lisbon 132.59 344 P **PKPdf** **19 23 34.1 -0.3**
baz=22
RSSD Black Hills 132.71 16 P **PKPdf** **19 23 34.6 -0.4**
baz=338
LONY Lake Ozonia 132.90 347 P **PKPdf** **19 23 34.8 -0.2**
baz=18
LONY Lake Ozonia 132.90 347 PFAKE 19 23 50.0 +15
LONY LR LR
comp=Z,258nm,20.0s
F36A Milaca 132.94 5 P **PKPdf** **19 23 34.7 -0.3**
baz=352
COWI Conover 132.94 1 PFAKE 19 23 50.0 +15
COWI LR LR
comp=Z,292nm,21.0s
R11A Troy Canyon, C 133.19 30 P **PKPdf** **19 23 35.8 -0.2**
baz=321
R11A Troy Canyon, C 133.19 30 *e*PKPdf **PKPdf** **19 23 36.6 +0.5**
CWC Cottonwood Cre 133.30 34 P **PKPdf** **19 23 36.0 -0.3**
baz=316
G39A Holcombe 133.68 3 P **PKPdf** **19 23 36.4 -0.1**
baz=356
G38A Ridgeland 133.76 4 P **PKPdf** **19 23 36.1 -0.5**
baz=355
G42A Mountain 133.81 0 P **PKPdf** **19 23 36.4 -0.4**
baz=359
MPMC Manual Prospec 133.91 34 P **PKPdf** **19 23 36.7 -0.7**
baz=317
GLMI Grayling 134.13 357 PFAKE 19 23 50.0 +13
GLMI LR LR
comp=Z,216nm,21.0s
H40A Chili 134.38 2 P **PKPdf** **19 23 37.4 -0.4**
baz=356
EDW2 Edwards Air Fo 134.47 35 P **PKPdf** **19 23 37.8 -0.6**
baz=316
H43A Windswept, Lux 134.59 360 P **PKPdf** **19 23 37.9 -0.3**
baz=0.2
ECSD EROS Data Cent 134.66 9 P **PKPdf** **19 23 38.6 +0.2**
baz=348
ECSD EROS Data Cent 134.66 9 *e*PKPdf **PKPdf** **19 23 38.1 -0.3**
ECSD LR LR
comp=Z,280nm,19.0s
Q16A Castle Valley 134.79 26 *e*PKPdf **PKPdf** **19 23 37.0 -2.0**
SBI Santa Barbara 134.84 37 *e*PKPpre PKPpre 19 23 28.5
PASC Pasadena Art C 134.86 36 *e*PKPpre PKPpre 19 23 27.8
O20A White River Ci 134.94 22 *e*PKPdf **PKPdf** **19 23 40.2 +1.0**
GMRC Granite Mounta 135.85 33 P **PKPdf** **19 23 40.7 -0.3**
baz=318
ISCO Idaho Springs 136.17 20 PFAKE 19 23 50.0 +8.3
ISCO LR LR
comp=Z,345nm,21.0s
TRQA Tornquist 136.18 210 PFAKE 19 23 50.0 +8.6
TRQA LR LR
comp=Z,788nm,20.0s
OGNE Ogallala 136.20 15 PFAKE 19 23 50.0 +8.6
OGNE LR LR
comp=Z,336nm,19.0s
PFO Pinyon Flats O 136.26 35 PFAKE 19 23 50.0 +8.2
PFO LR LR
comp=Z,690nm,22.0s
SCIA State Center 136.89 6 PFAKE 19 23 50.0 +7.4
SCIA LR LR
comp=Z,197nm,19.0s
MVCO Mesa Verde 137.37 24 PFAKE 19 24 00.0 +16
MVCO LR LR
comp=Z,404nm,19.0s
WUAZ Wupatki 137.49 29 PFAKE 19 24 00.0 +16
WUAZ LR LR
comp=Z,276nm,21.0s
PLCA Paso Flores 137.54 200 PKP **PKPdf** **19 23 42.9 -1.0**
comp=Z,1.6nm,1.0s,baz=268,slow=1.3,SNR=3.4
SDCO Great Sand Dun 138.05 21 PFAKE 19 24 00.0 +15
SDCO LR LR
comp=Z,260nm,21.0s
HDIL Hopedale 138.48 1 PFAKE 19 24 00.0 +14
HDIL LR LR
comp=Z,618nm,22.0s
CBKS Cedar Bluff 138.79 14 PFAKE 19 24 00.0 +14
CBKS LR LR
comp=Z,477nm,22.0s
MHTCO State Highway 138.89 20 *e*PKPdf **PKPdf** **19 23 47.0 +0.3**
KSU1 Kansas State U 139.18 10 PFAKE 19 24 00.0 +13
KSU1 LR LR
comp=Z,206nm,20.0s
CBN Corbin Frederi 139.64 347 PFAKE 19 24 00.0 +12
CBN LR LR
comp=Z,349nm,19.0s
Q38A Cooks Store, C 139.76 7 P **PKPdf** **19 23 48.3 +0.4**
baz=351
ANMO Albuquerque 140.15 24 P **PKPdf** **19 23 50.0 +1.0**
baz=330
ANMO Albuquerque 140.15 24 *e*PKPdf **PKPdf** **19 23 49.9 +0.9**
ANMO LR LR
comp=Z,273nm,20.0s
ANMO Albuquerque 140.15 24 *e*PKIKP **PKPdf** **19 23 50.0 +1.0**
TUC Tucson 140.35 31 PFAKE 19 24 00.0 +11
TUC LR LR
comp=Z,416nm,20.0s
R39A Chumby, Stover 140.46 6 P **PKPdf** **19 23 50.8 +1.6**
baz=352
R41A Rosebud 140.63 4 P **PKPdf** **19 23 51.5 +2.0**
baz=355
R43A Red Bud 140.73 2 P **PKPdf** **19 23 51.6 +1.9**
baz=357
S38A Stockton 141.03 7 P **PKPdf** **19 23 52.2 +1.9**
baz=350
VWCC Virginia Weste 141.09 350 *e*PKPpre PKPpre 19 23 43.8
S42A Caledonia 141.19 4 P **PKPdf** **19 23 52.2 +1.7**
baz=355
BLA Blacksburg 141.20 350 PFAKE 19 24 00.0 +9.4
BLA LR LR
comp=Z,447nm,19.0s
S40A Lebanon 141.22 6 P **PKPdf** **19 23 52.7 +2.1**
baz=353
S41A Jillco Farms, 141.31 5 P **PKPdf** **19 23 52.8 +2.1**
baz=354
CPUP Villa Florida 141.31 227 PKP **PKPdf** **19 23 50.2 -0.9**
comp=Z,5.2nm,1.1s,baz=119,slow=3.6,SNR=3.9
S48A Wiedeman Farm, 141.35 358 P **PKPdf** **19 23 52.1 +1.3**
baz=3.0
S43A Fulton Ridge, 141.43 3 P **PKPdf** **19 23 52.9 +1.9**
baz=356
T38A Diamond 141.56 8 P **PKPdf** **19 23 52.9 +1.6**
baz=350
121A Cookes Peak, D 141.63 27 P **PKPdf** **19 23 53.7 +2.0**
baz=327
T40A Mansfield 141.67 6 P **PKPdf** **19 23 53.1 +1.6**
baz=353
T39A Clever 141.70 7 P **PKPdf** **19 23 53.1 +1.6**
baz=351
T41A Mountain View 141.84 5 P **PKPdf** **19 23 53.8 +2.0**
baz=354
T43A Greenville 141.91 3 P **PKPdf** **19 23 53.6 +1.8**
baz=356
T42A Van Buren 141.91 4 P **PKPdf** **19 23 53.6 +1.8**
baz=355

T48A	**Bowling Green**	**141.91**	**358**	P		**PKPdf**	**19 23 53.5**	**+1.7**
	baz=2.4							
HHAR	**Hobbs**	**142.35**	**8**	*e*PKPdf		**PKPdf**	**19 23 54.2**	**+1.5**
MSTX	**Muleshoe**	**142.41**	**20**	P		**PKPdf**	**19 23 54.8**	**+1.8**
	baz=335							
U40A	**Yellville**	**142.42**	**6**	P		**PKPdf**	**19 23 50.0**	**-2.8**
	baz=352							
U42A	**Revenden**	**142.57**	**4**	P		**PKPdf**	**19 23 50.7**	**-2.3**
	baz=355							
CNNC	**Cliffs of the**	**142.59**	**346**	PFAKE			19 24 00.0	+6.9
CNNC				LR	LR			
	comp=Z,678nm,20.0s							
V39A	**Pettigrew**	**142.83**	**8**	P		**PKPdf**	**19 23 50.5**	**-3.1**
	baz=350							
WMOK	**Wichita Mounta**	**142.90**	**15**	P		PKPpre	19 23 49.0	
	baz=342							
WMOK	**Wichita Mounta**	**142.90**	**15**	*e*PKPpre		PKPpre	19 23 48.8	
WMOK				LR	LR			
	comp=Z,518nm,22.0s							
WMOK	**Wichita Mounta**	**142.90**	**15**	*e*PKIKP		PKPpre	19 23 48.8	
V40A	**Witts Springs**	**142.97**	**7**	*e*PKPdf		**PKPdf**	**19 23 54.3**	**+0.5**
MNTX	**Cornudas Mount**	**143.41**	**25**	P		PKPbc	19 23 51.4	-0.4
	baz=330							
MNTX	**Cornudas Mount**	**143.41**	**25**	PFAKE			19 24 10.0	+15
MNTX				LR	LR			
	comp=Z,383nm,21.0s							
X39A	**Fountain Ranch**	**144.07**	**9**	P		**PKPab**	**19 23 53.2**	**0.0**
	baz=349,SNR=14							
MIAR	**Mount Ida**	**144.11**	**8**	P		**PKPab**	**19 23 53.0**	**-0.4**
	baz=350,SNR=13							
MIAR	**Mount Ida**	**144.11**	**8**	*e*PKPdf		**PKPab**	**19 23 53.4**	**+0.1**
MIAR				LR	LR			
	comp=Z,235nm,19.0s							
MIAR	**Mount Ida**	**144.11**	**8**	*e*PKIKP		**PKPab**	**19 23 53.4**	**+0.1**
MIAR				MLR	MLR			
	comp=Z,235nm,19.0s							
X40A	**Basin Creek Fa**	**144.26**	**7**	P		**PKPab**	**19 23 52.7**	**-1.2**
	baz=352							
AUSP	**Uspallata**	**144.46**	**208**	*e*P		**PKPdf**	**19 23 56.8**	**-0.1**
APLL	**PUNTA DE LOS L**	**144.48**	**213**	*e*P		**PKPdf**	**19 23 56.3**	**-0.3**
X49A	**Woodville**	**144.50**	**358**	P		**PKPab**	**19 23 53.7**	**-1.1**
	baz=2.7							
OXF	**Oxford**	**144.51**	**2**	P		**PKPab**	**19 23 53.3**	**-1.5**
	baz=357							
X47A	**Russelville**	**144.53**	**360**	P		**PKPab**	**19 23 53.4**	**-1.4**
	baz=0.1							
ABTX	**Abilene, Hawle**	**144.65**	**17**	P		**PKPab**	**19 23 54.4**	**-1.0**
	baz=340							
ABTX	**Abilene, Hawle**	**144.65**	**17**	*e*PKPdf		**PKPab**	**19 23 54.7**	**-0.8**
Y40A	**Okolona**	**144.68**	**8**	P		**PKPab**	**19 23 54.8**	**-0.7**
	baz=351							
RTLS	**Leoncito**	**144.77**	**208**	*e*P		**PKPdf**	**19 23 57.1**	**-0.3**
Y41A	**Eaglette Beard**	**144.89**	**7**	P		**PKPab**	**19 23 54.8**	**-1.4**
	baz=352							
WLAR	**White Oak Lake**	**145.02**	**7**	*e*PKPdf		**PKPdf**	**19 23 57.0**	**-0.4**
Y42A	**Garnett, Star**	**145.02**	**6**	P		**PKPab**	**19 23 54.2**	**-2.5**
	baz=353							
Y50A	**Piedmont**	**145.09**	**357**	P		**PKPbc**	**19 23 55.1**	**-1.8**
	baz=3.8							
Y48A	**Jasper**	**145.12**	**359**	P		**PKPbc**	**19 23 55.1**	**-1.9**
	baz=1.3							
Y47A	**UCPARC, Winfie**	**145.14**	**360**	P		**PKPbc**	**19 23 55.0**	**-2.1**
	baz=0.1,SNR=5.4							
NHSC	**New Hope**	**145.14**	**348**	PFAKE			19 24 10.0	+12
NHSC				LR	LR			
	comp=Z,349nm,20.0s							
Y45A	**Yeager Farm, C**	**145.15**	**2**	P		**PKPbc**	**19 23 55.8**	**-1.3**
	baz=357							
Y46A	**Houston**	**145.15**	**1**	P		**PKPbc**	**19 23 55.6**	**-1.5**
	baz=358							
Y49A	**Blount Mountai**	**145.15**	**358**	P		**PKPbc**	**19 23 55.7**	**-1.4**
	baz=2.6							
GOGA	**Godfrey**	**145.37**	**353**	P		**PKPbc**	**19 23 56.3**	**-1.5**
	baz=7.8							
GOGA	**Godfrey**	**145.37**	**353**	*e*PKPbc		**PKPbc**	**19 23 57.6**	**-0.2**
GOGA	**Godfrey**	**145.37**	**353**	*e*PKIKP		**PKPbc**	**19 23 57.6**	**-0.2**
Z40A	**Long Farm, Mag**	**145.40**	**8**	P		**PKPbc**	**19 23 57.3**	**-0.6**
	baz=350							
Z41A	**Richland Creek**	**145.48**	**7**	P		**PKPbc**	**19 23 57.4**	**-0.7**
	baz=351							
Z41A	**Richland Creek**	**145.48**	**7**	*e*PKPbc		**PKPdf**	**19 23 58.2**	**0.0**
Z42A	**Norrel Spur, H**	**145.56**	**6**	P		**PKPdf**	**19 23 57.4**	**-0.9**
	baz=353							
Z45A	**Winona**	**145.63**	**3**	P		**PKPdf**	**19 23 57.3**	**-1.2**
	baz=357							
Z48A	**Northport**	**145.66**	**359**	P		**PKPdf**	**19 23 56.5**	**-2.0**
	baz=0.6,SNR=5.6							
Z44A	**Pea Ridge, Bel**	**145.69**	**4**	P		**PKPdf**	**19 23 57.7**	**-0.8**
	baz=356,SNR=9.8							
Z50A	**Ashland**	**145.73**	**357**	P		**PKPdf**	**19 23 57.5**	**-1.2**
	baz=3.5							
Z49A	**Columbiana**	**145.82**	**358**	P		**PKPdf**	**19 23 57.4**	**-1.4**
	baz=2.4,SNR=8.4							
Z47A	**Carrollton**	**145.84**	**0**	P		**PKPdf**	**19 23 57.9**	**-0.9**
	baz=360,SNR=7.5							
WHTX	**Lake Whitney,**	**145.85**	**14**	P		**PKPdf**	**19 23 58.3**	**-0.6**
	baz=343							
LRAL	**Lakeview Retre**	**145.99**	**359**	P		**PKPdf**	**19 23 58.1**	**-1.0**
	baz=1.6							
155A	**Kite**	**146.01**	**352**	P		**PKPdf**	**19 23 58.5**	**-0.6**
	baz=9.7							
154A	**Montrose**	**146.11**	**353**	P		**PKPdf**	**19 23 59.4**	**+0.1**
	baz=8.6							
TX31	**Lajitas Ar. Si**	**146.19**	**25**	*e*PKPdf		**PKPdf**	**19 23 59.3**	**-0.4**
TX31				*e*PKPdf		**PKPbc**	**19 23 59.8**	**-0.9**
TXAR	**Lajitas Array**	**146.19**	**25**	PKPbc		**PKPdf**	**19 23 59.4**	**-0.3**
	comp=Z,14nm,0.8s,baz=261,slow=0.8,SNR=68							
AROD	**Rodeo**	**146.20**	**210**	*e*P		**PKPdf**	**19 23 59.8**	**-0.2**
147A	**Livingston**	**146.36**	**0**	P		**PKPdf**	**19 23 59.4**	**-0.3**
	baz=359,SNR=5.6							
150A	**Eclectic**	**146.38**	**357**	P		**PKPdf**	**19 23 59.7**	**-0.1**
	baz=3.4							
145A	**Houston Renfro**	**146.38**	**3**	P		**PKPdf**	**19 23 59.8**	**0.0**
	baz=356							
146A	**Union**	**146.39**	**2**	P		**PKPdf**	**19 23 59.3**	**-0.5**
	baz=358							
148A	**Greensboro**	**146.39**	**359**	P		**PKPdf**	**19 23 59.7**	**-0.1**
	baz=0.6							
257A	**Skidaway Islan**	**146.41**	**349**	P		**PKPdf**	**19 23 59.8**	**-0.1**
	baz=12							
151A	**Opelika**	**146.42**	**356**	P		**PKPdf**	**19 23 59.4**	**-0.4**
	baz=4.6,SNR=6.0							
149A	**Jones**	**146.42**	**358**	P		**PKPdf**	**19 23 59.9**	**0.0**
	baz=2.0							
AHML	**Horco Molle**	**146.48**	**219**	*e*P		**PKPdf**	**19 23 59.6**	**-0.6**
256A	**Glennville**	**146.55**	**351**	P		**PKPdf**	**19 24 00.6**	**+0.5**
	baz=11							
JCT	**Junction City**	**146.60**	**19**	P		**PKPdf**	**19 24 00.6**	**+0.4**
	baz=338							
JCT	**Junction City**	**146.60**	**19**	*e*PKPdf		**PKPdf**	**19 24 00.1**	**-0.2**
JCT				LR	LR			
	comp=Z,293nm,20.0s							
JCT	**Junction City**	**146.60**	**19**	*e*PKP2		**PKPdf**	**19 24 00.1**	**-0.2**
JCT				MLR	MLR			
	comp=Z,293nm,20.0s							
NATX	**Nacogdoches**	**146.67**	**10**	P		**PKPdf**	**19 24 00.6**	**+0.3**
	baz=348							
NATX	**Nacogdoches**	**146.67**	**10**	*e*PKPdf		**PKPbc**	**19 24 01.9**	**0.0**
253A	**Americus**	**146.77**	**354**	P		**PKPdf**	**19 24 00.9**	**+0.4**
	baz=6.9							
254A	**Abbeville**	**146.79**	**353**	P		**PKPdf**	**19 24 01.1**	**+0.6**
	baz=8.4							
251A	**Midway**	**146.85**	**356**	P		**PKPdf**	**19 24 01.3**	**+0.7**
	baz=4.5							
244A	**Avery, Jackson**	**146.90**	**4**	P		**PKPdf**	**19 24 01.5**	**+0.8**
	baz=355							
252A	**Lumpkin**	**146.90**	**355**	P		**PKPdf**	**19 24 01.5**	**+0.8**
	baz=5.8							
245A	**Little AP, Sta**	**146.96**	**3**	P		**PKPbc**	**19 24 01.7**	**-0.9**
	baz=356							
435B	**Jarrell**	**146.96**	**15**	P		**PKPbc**	**19 24 02.5**	**-0.2**
	baz=342							
250A	**Grady**	**147.02**	**357**	P		**PKPdf**	**19 24 01.7**	**+0.8**
	baz=3.0							
RPN	**Rapa Nui**	**147.03**	**143**	PFAKE			19 24 10.0	+5.5
RPN				LR	LR			
	comp=Z,1μm,19.0s							
249A	**Camden**	**147.05**	**359**	P		**PKPbc**	**19 24 02.1**	**-0.8**
	baz=1.4							
HPIG		**147.30**	**30**	*e*PKPdf		**PKPbc**	**19 24 03.8**	**-0.2**
355A	**Pearson**	**147.32**	**352**	P		**PKPbc**	**19 24 03.2**	**-0.5**
	baz=9.3							
FSA	**Cafayete**	**147.36**	**219**	*e*P		**PKPdf**	**19 24 01.4**	**-0.4**
342A	**Flagon Creek P**	**147.40**	**7**	P		**PKPbc**	**19 24 03.4**	**-0.5**
	baz=352							
353A	**Camilla**	**147.49**	**354**	P		**PKPbc**	**19 24 03.4**	**-0.7**
	baz=6.8							
350A	**Dozier**	**147.58**	**357**	P		**PKPbc**	**19 24 04.3**	**-0.1**
	baz=2.9							
ALOL	**LOMAS DE OLMED**	**147.61**	**224**	*e*P		**PKPdf**	**19 24 01.5**	**-0.6**
349A	**Repton**	**147.68**	**359**	P		**PKPbc**	**19 24 04.9**	**+0.3**
	baz=1.3							
LCO	**Las Campanas**	**147.75**	**209**	*e*PKPdf		**PKPdf**	**19 24 03.3**	**+0.8**
LCO				LR	LR			
	comp=Z,900nm,21.0s							
457A	**Yulee**	**147.82**	**350**	P		**PKPbc**	**19 24 05.3**	**+0.2**
	baz=12							
455A	**Stateville**	**147.94**	**352**	P		**PKPbc**	**19 24 05.5**	**+0.1**
	baz=9.2							
ANWB	**Willy Bob**	**148.13**	**307**	PFAKE			19 24 10.0	+0.9
ANWB				LR	LR			
	comp=Z,437nm,21.0s							
HKT	**Hockley**	**148.19**	**13**	*e*PKPbc		**PKPbc**	**19 24 05.4**	**-0.6**
HKT	**Hockley**	**148.19**	**13**	*e*PKP2		**PKPbc**	**19 24 05.4**	**-0.6**
BBGH	**Gun Hill**	**148.43**	**298**	PFAKE			19 24 20.0	+10
BBGH				LR	LR			
	comp=Z,2μm,22.0s							
557A	**Orange Park**	**148.44**	**350**	P		**PKPbc**	**19 24 06.6**	**-0.2**
	baz=12							
553A	**Crawfordville**	**148.66**	**354**	P		**PKPbc**	**19 24 07.6**	**+0.3**
	baz=6.7							
833A	**Chaparral WMA,**	**148.72**	**20**	P		**PKPbc**	**19 24 07.6**	**0.0**
	baz=338							
552A	**Lynn Haven**	**148.79**	**355**	P		**PKPbc**	**19 24 07.1**	**-0.5**
	baz=5.0							
657A	**Interlachen**	**148.89**	**350**	P		**PKPbc**	**19 24 07.1**	**-0.9**
	baz=12							
658A	**Bunnell**	**148.93**	**349**	P		**PKPbc**	**19 24 07.7**	**-0.3**
	baz=13							
HJA	**Humahuaca**	**148.99**	**223**	*e*P		**PKPdf**	**19 24 04.4**	**-0.4**
FDF	**Fort de France**	**149.11**	**302**	PFAKE			19 24 20.0	+6.8
FDF				LR	LR			
	comp=Z,232nm,20.0s							
655A	**Horseshoe Beac**	**149.18**	**352**	P		**PKPbc**	**19 24 08.3**	**-0.3**
	baz=9.1							
656A	**Williston**	**149.21**	**351**	P		**PKPbc**	**19 24 08.4**	**-0.3**
	baz=10							
757A	**Oxford**	**149.55**	**350**	P		**PKPbc**	**19 24 10.5**	**+0.9**
	baz=12							
YJA	**Yavi**	**149.74**	**225**	*e*P		**PKPdf**	**19 24 06.0**	**-0.1**
KVTX	**Kingsville**	**149.93**	**18**	PFAKE			19 24 20.0	+4.0
KVTX				LR	LR			
	comp=Z,850nm,21.0s							
859A	**Kempfer Cattle**	**150.18**	**347**	P		**PKPbc**	**19 24 11.4**	**+0.2**
	baz=14							
857A	**Zephyrhills**	**150.24**	**350**	P		**PKPbc**	**19 24 12.8**	**+1.5**
	baz=11							
959A	**Okeechobee**	**150.69**	**347**	P		**PKPbc**	**19 24 12.0**	**-0.4**
	baz=14							
GRGR	**Grenville**	**150.71**	**298**	PFAKE			19 24 20.0	+0.3
GRGR				LR	LR			
	comp=Z,327nm,21.0s							
958A	**Wauchula**	**150.81**	**349**	P		**PKPbc**	**19 24 13.1**	**+0.5**
	baz=13							
SJG	**San Juan**	**151.22**	**313**	PFAKE			19 24 20.0	-1.7
SJG				LR	LR			
	comp=Z,200nm,21.0s							
059A	**Moore Haven**	**151.28**	**347**	P		**PKPab**	**19 24 18.0**	**-3.6**
	baz=14							
058A	**Arcadia**	**151.34**	**348**	P		**PKPab**	**19 24 19.8**	**-2.0**
	baz=13							
LNIG	**Linares**	**151.82**	**22**	*e*PKPbc		**PKPbc**	**19 24 13.9**	**-1.2**
PTGA	**Pitinga**	**151.98**	**271**	*e*PKPdf		**PKPdf**	**19 24 10.8**	**+1.6**
PTGA				LR	LR			
	comp=Z,14μm,20.0s							
GRTK	**Grand Turk**	**152.10**	**325**	PFAKE			19 24 20.0	+4.2
GRTK				LR	LR			
	comp=Z,327nm,21.0s							
ZAIG	**Zacatecas**	**152.31**	**30**	*e*PKPbc		**PKPbc**	**19 24 16.3**	**-0.3**
SAML	**Samuel**	**154.12**	**252**	*e*PKPbc		**PKPbc**	**19 24 20.7**	**+0.3**
SAML				LR	LR			
	comp=Z,414nm,22.0s							
SDDR	**Presa de Saban**	**154.13**	**321**	PFAKE			19 24 20.0	-0.4
SDDR				LR	LR			
	comp=Z,276nm,19.0s							
MNMC	**Minye Minye**	**154.61**	**224**	*e*PKPdf		**PKPdf**	**19 24 13.9**	**+0.7**
MNMC				*e*PKPbc		**pPKPdf**	**19 24 22.0**	**+0.1**
LPAZ	**La Paz**	**155.31**	**231**	PKP		**PKPdf**	**19 24 13.0**	**-1.7**
	comp=Z,2.2nm,0.7s,baz=30,slow=3.4,SNR=7.2							
LPAZ	**La Paz**	**155.31**	**231**	*e*PKPdf		**PKPdf**	**19 24 15.2**	**+0.5**
LPAZ	**La Paz**	**155.31**	**231**	*e*PKIKP		**PKPdf**	**19 24 15.2**	**+0.5**
GTBY	**Guantanamo Bay**	**155.54**	**330**	PFAKE			19 24 30.0	-10
GTBY				LR	LR			
	comp=Z,153nm,21.0s							
MTDJ	**Mount Denham**	**158.17**	**332**	PFAKE			19 24 30.0	+12
MTDJ				LR	LR			
	comp=Z,301nm,20.0s							
TEIG	**Tepich**	**158.76**	**1**	PFAKE			19 24 30.0	+12
TEIG				LR	LR			
	comp=Z,10.0nm,21.0s							
SDV	**Santo Domingo**	**160.04**	**300**	PKPab		**PKPab**	**19 24 59.9**	**+0.1**
	comp=Z,2.8nm,0.6s,baz=42,slow=4.6,SNR=5.3							
SDV	**Santo Domingo**	**160.04**	**300**	*e*PKPab		**PKPab**	**19 25 01.1**	**+1.3**
APG	**El Apazote**	**163.77**	**9**	PKPab		**PKPab**	**19 25 13.8**	**-2.0**
	comp=Z,7.4nm,0.9s,baz=322,slow=10,SNR=6.0							
NNA	**Nana**	**164.56**	**225**	PFAKE			19 24 40.0	+16
NNA				LR	LR			
	comp=Z,179nm,22.0s							
BCIP	**Isla Barro Col**	**166.93**	**322**	PFAKE			19 24 40.0	+14
BCIP				LR	LR			
	comp=Z,214nm,22.0s							
JTS	**JuntasAbangare**	**168.25**	**345**	PFAKE			19 24 40.0	+13
JTS				LR	LR			
	comp=Z,247nm,19.0s							
OTAV	**Otavalo**	**170.36**	**278**	PFAKE			19 24 40.0	+11
OTAV				LR	LR			
	comp=Z,297nm,21.0s							

MAN 11 19:06:23,14.11N×120.05E,h20km,mb4.5,ML3.3,MS3.1, 2C,Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.42**	**153**	*e*P	Pb	19 06 32.8	+1.0
LUBP				*e*S	Sb	19 06 38.6	+1.0
TGY	**Tagaytay City**	**0.86**	**90**	*i*P	Pb	19 06 39.2	-0.1
TGY				*i* S	Sb	19 06 49.4	-1.0
PCPH	**Palayan**	**1.76**	**35**	*e*P	Pn	19 06 52.8	+0.3
PCPH				*e*S	Sn	19 07 12.4	-1.9
BOAC	**Boac**	**1.86**	**110**	*e*P	Pn	19 06 54.4	+0.6
BOAC				*e*S	Sb	19 07 23.7	+4.6
SJMP	**San Jose**	**1.94**	**147**	*e*P	Pn	19 06 56.2	+1.3
SJMP				*e*S	Sb	19 07 20.1	-1.4
BUSP	**Coron**	**2.10**	**176**	*e*P	Pb	19 06 58.8	-1.6
BUSP				*e*S	Sn	19 07 23.5	+0.9
BALP	**Baler**	**2.19**	**42**	*e*P	Pn	19 06 58.7	+0.4
BALP				*e*S	Sn	19 07 26.8	+1.9

*IDC **11** 19:08:50.0±0.9,2.54N×90.13E,h0km,mb4.0/14, mb1 4.1/16,mb1mx3.8/72,mbtmp4.0/16,ML4.4/1,Error ellipse: s-maj=34.2km s-min=17.0km az=46.0*
*NEIC **11** 19:08:51.6±0.5,2.57N×90.11E,h10km,mb4.2/1,Error ellipse: s-maj=15.2km s-min=8.1km az=222.0*
*ISCJB **11** 19:08:53.0±0.6,2.6N±0.1×90.1E±0.1,h33km,mb4.1/15, Error ellipse: s-maj=19.3km s-min=10.4km az=44.0*
ISC 11 19:08:55.5±0.8,2.6N±0.2×90.1E±0.1,h35km,n29, σ1s15/23,mb4.1/15,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**10.45**	**297**	Pn	**Pn**	**19 11 21.4**	**-1.7**
	2.6nm,0.3s,baz=116,slow=14,SNR=1.9						
PALK				Sn	Sn	19 13 10.1	-9.0
	3.7nm,0.3s,baz=115,slow=7.3,SNR=3.1						
CMAR	**Chiang Mai Arr**	**18.01**	**28**	P	**Pn**	**19 13 02.1**	**-1.1**
	baz=200,slow=9.6,SNR=2.2						
H08S2	**Diego Garcia H**	**20.29**	**240**	T	T	19 34 16.3	
	baz=60						
H08S3	**Diego Garcia H**	**20.29**	**240**	T	T	19 34 23.4	
	baz=60						
H08S1	**Diego Garcia H**	**20.30**	**240**	T	T	19 34 17.5	
	baz=60						
H01W3	**Cape Leeuwin H**	**43.56**	**151**	T	T	20 03 39.4	
	baz=328						
H01W2	**Cape Leeuwin H**	**43.57**	**151**	T	T	20 03 27.7	
	baz=328						
H01W1	**Cape Leeuwin H**	**43.58**	**151**	T	T	20 03 34.5	
	baz=328						
MKAR	**Makanchi Array**	**44.56**	**352**	P	**P**	**19 17 03.9**	**-0.2**
	0.8nm,0.5s,baz=168,slow=9.1,SNR=4.7						
GEYT	**Alibeck**	**45.78**	**324**	P	**P**	**19 17 14.9**	**+1.0**
	2.3nm,0.7s,baz=153,slow=9.7,SNR=3.7						
SONM	**Songino Array**	**47.23**	**15**	P	**P**	**19 17 25.8**	**+0.6**
	3.4nm,0.5s,baz=195,slow=9.5,SNR=20						
WRA	**Warramunga Arr**	**48.84**	**119**	P	**P**	**19 17 37.6**	**-0.4**
	1.9nm,0.5s,baz=298,slow=8.5,SNR=5.9						
WRAB	**Tennant Creek**	**48.85**	**119**	*e*P	**P**	**19 17 37.5**	**-0.6**
	1.5nm,0.6s						
KURBB	**Kurchatov Arra**	**48.86**	**350**	P	**P**	**19 17 36.8**	**-0.9**
	1.7nm,0.8s,baz=180,slow=7.1,SNR=4.5						
KURK	**Kurchatov**	**48.94**	**350**	P	**P**	**19 17 36.8**	**-1.4**
ASAR	**Alice Springs**	**49.97**	**124**	P	**P**	**19 17 44.5**	**-2.2**
	0.3nm,0.6s,baz=299,slow=7.5,SNR=4.3						
ZALV	**Zalesovo Beam**	**51.39**	**356**	P	**P**	**19 17 55.9**	**-0.8**
	1.3nm,0.4s,baz=174,slow=7.6,SNR=4.5						
BVAR	**Borovoye Array**	**52.87**	**345**	P	**P**	**19 18 07.5**	**-0.2**
	1.2nm,0.9s,baz=152,slow=6.5,SNR=3.1						
CTAO	**Charters Tower**	**59.49**	**115**	*e*P	**P**	**19 18 56.3**	**+0.7**
STKA	**Stephens Creek**	**59.63**	**129**	P	**P**	**19 18 56.6**	**+0.2**
	2.8nm,0.8s,baz=323,slow=3.0,SNR=4.0						
BRTR	**Keskin Array B**	**62.99**	**314**	P	**P**	**19 19 18.8**	**-0.4**
	0.7nm,0.5s,baz=140,slow=5.7,SNR=4.3						
IDI	**Anoyia**	**68.38**	**307**	P	**P**	**19 19 54.6**	**+0.6**
	4.6nm,0.9s,baz=48,slow=14,SNR=3.5						
MLR	**Muntele Rosu**	**70.24**	**318**	P	**P**	**19 20 06.0**	**+0.7**
	0.5nm,0.7s,baz=117,slow=14,SNR=3.0						
FINES	**FINESS Array B**	**75.55**	**334**	P	**P**	**19 20 36.4**	**+0.1**
	2.0nm,0.9s,baz=102,slow=8.0,SNR=3.4						
GERES	**GERESS Array B**	**79.12**	**319**	P	**P**	**19 20 57.3**	**+0.6**
	0.3nm,0.5s,baz=113,slow=7.6,SNR=3.0						
CLL	**Collm**	**79.93**	**322**	*e*(pP)	**P**	**19 21 04.0**	**+3.1**
INK	**Inuvik**	**103.15**	**15**	Pdiff	**Pdif**	**19 22 50.6**	**-0.1**
	baz=8.8,slow=3.5						
YKA	**Yellowknife Ar**	**112.45**	**12**	Pdiff	**Pdif**	**19 23 33.2**	**+1.0**
	0.2nm,0.7s,baz=324,slow=3.1,SNR=3.1						
TXAR	**Lajitas Array**	**145.64**	**22**	PKPbc	**PKPdf**	**19 28 31.1**	**0.0**
	0.6nm,0.8s,baz=320,slow=2.7,SNR=3.5						

IDC 11 19:12:04.6±13.0,2.91N×92.63E,h0km,mb3.5/4, mb1 3.5/5,mb1mx3.2/70,mbtmp3.5/5,ML2.9/1,Error ellipse: s-maj=267.5km s-min=96.6km az=156.0,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**16.65**	**21**	Pn	Pn	19 15 59.3	-0.2
	0.0nm,0.3s,baz=205,slow=12,SNR=3.3						
MKAR	**Makanchi Array**	**44.63**	**350**	P	P	19 20 18.6	-0.3
	0.6nm,0.6s,baz=171,slow=8.1,SNR=4.6						
SONM	**Songino Array**	**46.31**	**13**	P	P	19 20 32.5	+0.2
	0.2nm,0.5s,baz=210,slow=10,SNR=1.0						
KURBB	**Kurchatov Arra**	**49.02**	**348**	P	P	19 20 53.4	+0.3
	0.7nm,0.8s,baz=166,slow=6.7,SNR=3.0						
ZALV	**Zalesovo Beam**	**51.28**	**354**	P	P	19 21 09.7	-0.5
	0.4nm,0.4s,baz=179,slow=10,SNR=1.9						

*ISCJB **11** 19:13:18.3±0.7,0.9N±0.1×91.84E±0.07,h10km,mb4.1/21, Error ellipse: s-maj=15.8km s-min=9.8km az=2.2*
*IDC **11** 19:13:18.5±0.9,0.89N×91.74E,h0km,mb4.1/19, mb1 4.3/20,mb1mx4.0/68,mbtmp4.1/20,ML4.0/1,Error ellipse: s-maj=27.0km s-min=17.1km az=36.0*
*NEIC **11** 19:13:19.8±0.5,0.88N×91.78E,h10km,mb4.3/1,Error ellipse: s-maj=11.6km s-min=7.4km az=185.0*
ISC 11 19:13:20.2±1.0,0.9N±0.2×91.8E±0.1,h10km,n31, σ0s79/32,mb4.2/21,North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LHMI	**Lhok Sumawe**	**6.69**	**50**	*e*P	**Pn**	**19 14 59.5**	**+0.8**
KULM	**Kulim**	**9.85**	**64**	*e*P	**Pn**	**19 15 41.3**	**-0.6**
IPM	**Ipoh**	**9.87**	**69**	*e*P	**Pn**	**19 15 42.5**	**+0.2**
CMAR	**Chiang Mai Arr**	**18.80**	**21**	P	**Pn**	**19 17 40.3**	**-0.2**
	0.2nm,0.3s,baz=216,slow=12,SNR=19						
CHTO	**Chiang Mai**	**19.13**	**21**	*e*P	**Pn**	**19 17 44.6**	**+0.1**
AAK	**Ala-Archa**	**44.36**	**342**	P	**P**	**19 21 31.4**	**+0.4**
	0.8nm,0.6s,baz=133,slow=1.4,SNR=4.1						
MKAR	**Makanchi Array**	**46.46**	**351**	P	P	19 21 47.2	-0.2
	3.8nm,0.7s,baz=167,slow=8.8,SNR=23						
WRA	**Warramunga Arr**	**46.54**	**119**	P	**P**	**19 21 48.4**	**0.0**
	1.4nm,0.7s,baz=296,slow=8.7,SNR=10						
ASAR	**Alice Springs**	**47.62**	**124**	P	**P**	**19 21 57.1**	**+0.2**
	0.7nm,0.9s,baz=304,slow=8.0,SNR=4.1						
GEYT	**Alibeck**	**48.13**	**324**	P	**P**	**19 22 01.1**	**+0.5**
	2.0nm,0.7s,baz=133,slow=8.3,SNR=5.4						
SONM	**Songino Array**	**48.44**	**13**	P

SAHE				*i* S	**Sb**	**19 14 00.2**	**-0.8**
SAHE	**Sakarya_HENDEK**	**0.14**	**295**	P	**Pb**	**19 13 57.5**	**-0.5**
SAHE				S	**Sb**	**19 14 00.2**	**-0.8**
BTAS	**Taskesti**	**0.22**	**184**	*i* P	**Pg**	**19 13 58.5**	**+0.3**
BTAS				*i* S	**Sg**	**19 14 01.4**	**0.0**
BTAS	**Taskesti**	**0.22**	**184**	P	**Pg**	**19 13 58.5**	**+0.3**
MDUB	**Mudurnu**	**0.35**	**157**	PG	**Pg**	**19 14 00.1**	**-0.3**
MDUB				SG	**Sg**	**19 14 05.2**	**0.0**
MDUB	**Mudurnu**	**0.35**	**157**	*e*Pg	**Pg**	**19 14 00.1**	**-0.3**
MDUB				*e*Sg	**Sg**	**19 14 05.2**	**0.0**
GULT	**Gulveren**	**0.53**	**227**	PG	**Pb**	**19 14 04.5**	**-0.1**
GULT	**Gulveren**	**0.53**	**227**	*e*Pg	**Pb**	**19 14 04.5**	**-0.1**
SAUV	**Serdivan-Sakar**	**0.53**	**265**	PG	**Pb**	**19 14 04.3**	**-0.3**
SAUV				SG	**Sb**	**19 14 11.9**	**-0.2**
SAUV	**Serdivan-Sakar**	**0.53**	**265**	*e*Pg	**Pb**	**19 14 04.3**	**-0.3**
SAUV				*e*Sg	**Sb**	**19 14 11.9**	**-0.2**
GEYV	**SAKARYA_Geyve**	**0.63**	**241**	*i* P	**Pb**	**19 14 06.1**	**-0.2**
GEYV				*i* S	**Sb**	**19 14 14.9**	**-0.2**
GEYV	**SAKARYA_Geyve**	**0.63**	**241**	P	**Pb**	**19 14 06.1**	**-0.2**
GEYV				S	**Sb**	**19 14 14.9**	**-0.2**
KAND	**Kocaeli-Kandir**	**0.70**	**296**	*i* P	**Pb**	**19 14 07.5**	**+0.1**
KAND				*i* S	**Sb**	**19 14 17.4**	**+0.4**
KAND	**Kocaeli-Kandir**	**0.70**	**296**	P	**Pb**	**19 14 07.5**	**+0.1**
KAND				S	**Sb**	**19 14 17.4**	**+0.4**
BCAM	**Yenicaga**	**0.79**	**88**	*i* P	**Pb**	**19 14 09.2**	**+0.1**
BCAM				*i* S	**Sn**	**19 14 21.4**	**-0.8**
BCAM	**Yenicaga**	**0.79**	**88**	P	**Pb**	**19 14 09.2**	**+0.1**
AUMIH	**MIHALİCIK**	**0.99**	**159**	*i* P	**Pn**	**19 14 13.1**	**0.0**
AUMIH				*i* S	**Sn**	**19 14 27.7**	**+0.6**
AUMIH	**MIHALICIK**	**0.99**	**159**	P	**Pn**	**19 14 13.1**	**0.0**
AUMIH				S	**Sn**	**19 14 27.7**	**+0.6**
BORA	**Eskisehir**	**1.01**	**206**	*i* P	**Pn**	**19 14 12.8**	**-0.6**
BORA				*i* S	**Sn**	**19 14 27.9**	**+0.4**
BORA	**Eskisehir**	**1.01**	**206**	P	**Pn**	**19 14 12.8**	**-0.6**
BORA				S	**Sn**	**19 14 27.9**	**+0.4**
HRT	**Hereke**	**1.03**	**272**	PG	**Pn**	**19 14 13.9**	**+0.3**
HRT				SG	**Sn**	**19 14 28.2**	**+0.3**
HRT	**Hereke**	**1.03**	**272**	*e*Pg	**Pn**	**19 14 13.9**	**+0.3**
HRT				*e*Sg	**Sn**	**19 14 28.2**	**+0.3**
ADVT	**Abdulvahap**	**1.04**	**250**	PG	**Pn**	**19 14 13.5**	**-0.2**
ADVT				SG	**Sn**	**19 14 27.9**	**-0.2**
ADVT	**Abdulvahap**	**1.04**	**250**	*e*Pg	**Pn**	**19 14 13.5**	**-0.2**
ADVT				*e*Sg	**Sn**	**19 14 27.9**	**-0.2**
SILT	**Sile**	**1.10**	**289**	PN	**Pg**	**19 14 15.3**	**+0.7**
SILT	**Sile**	**1.10**	**289**	*e*Pn	**Pg**	**19 14 15.3**	**+0.7**
CMDR	**Camlidere-ANKA**	**1.15**	**105**	*i* P	**Pg**	**19 14 15.7**	**+0.3**
CMDR				*i* S	**Sn**	**19 14 32.1**	**+1.2**
CMDR	**Camlidere-ANKA**	**1.15**	**105**	P	**Pg**	**19 14 15.7**	**+0.3**
CMDR				S	**Sn**	**19 14 32.1**	**+1.2**
BTIN	**Bart¯–n**	**1.25**	**47**	*i* P	**Pg**	**19 14 17.1**	**-0.4**
BTIN				*i* S	**Sg**	**19 14 33.5**	**-0.3**
BTIN	**Bart¯–n**	**1.25**	**47**	P	**Pg**	**19 14 17.1**	**-0.4**
BTIN				S	**Sg**	**19 14 33.5**	**-0.3**
YLV	**Yalova**	**1.27**	**260**	PN	**Pg**	**19 14 18.7**	**+0.8**
YLV	**Yalova**	**1.27**	**260**	*e*Pn	**Pg**	**19 14 18.7**	**+0.8**
SVRH	**Sivrihisar-ESK**	**1.40**	**164**	PN	**Pg**	**19 14 19.8**	**-0.4**
SVRH	**Sivrihisar-ESK**	**1.40**	**164**	*e*Pn	**Pg**	**19 14 19.8**	**-0.4**
BUY	**Buyukada**	**1.45**	**273**	PN	**Pg**	**19 14 21.1**	**0.0**
BUY	**Buyukada**	**1.45**	**273**	*i* P	**Pb**	**19 14 20.0**	**-0.2**
BUY				*i* S	**Sg**	**19 14 40.2**	**+0.3**
BUY	**Buyukada**	**1.45**	**273**	P	**Pb**	**19 14 20.0**	**-0.2**
BUY	**Buyukada**	**1.45**	**273**	*e*Pn	**Pg**	**19 14 21.1**	**0.0**
BUY				S	**Sg**	**19 14 40.2**	**+0.3**
ISK	**Istanbul-Kandi**	**1.51**	**281**	PN	**Pg**	**19 14 22.4**	**0.0**
ISK	**Istanbul-Kandi**	**1.51**	**281**	*e*Pn	**Pg**	**19 14 22.4**	**0.0**
KLYT	**Kilyos**	**1.57**	**288**	PN	**Pg**	**19 14 23.7**	**+0.2**
KLYT	**Kilyos**	**1.57**	**288**	*e*Pn	**Pg**	**19 14 23.7**	**+0.2**
ARMT	**Armutlu**	**1.66**	**263**	PN	**Pg**	**19 14 24.7**	**-0.5**
ARMT	**Armutlu**	**1.66**	**263**	*e*Pn	**Pg**	**19 14 24.7**	**-0.5**
KURC	**Kurucasile-Bar**	**1.67**	**50**	PN	**Pg**	**19 14 25.4**	**0.0**
KURC	**Kurucasile-Bar**	**1.67**	**50**	*e*Pn	**Pg**	**19 14 25.4**	**0.0**
TVSB	**Tavsanli**	**1.80**	**222**	PN	**Pn**	**19 14 24.8**	**+0.6**
TVSB	**Tavsanli**	**1.80**	**222**	*e*Pn	**Pn**	**19 14 24.8**	**+0.6**
CTKS	**Kestenalik-??a**	**1.96**	**284**	PN	**Pb**	**19 14 28.3**	**-0.5**
CTKS	**Kestenalik-??a**	**1.96**	**284**	*e*Pn	**Pb**	**19 14 28.3**	**-0.5**

MEX 11 19:14:21.1±0.3, 16°17'N×98°57'W, h20km±82km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.48**	**62**	*i* P	Pg	19 14 29.2	-1.8
PNIG				*i* S	Sg	19 14 35.8	-1.8
TLIG	**Tlapa**	**1.39**	**0**	*i* P	Pn	19 14 43.0	-2.5
TLIG				*e*S	Sn	19 14 58.9	-4.5
CAIG	**El Cayaco**	**1.85**	**299**	*e*P	Pn	19 14 48.9	-2.8
CAIG				*i* S	Sn	19 15 10.1	-4.4
PLIG	**Platanillo**	**2.38**	**338**	*e*P	Pn	19 14 57.0	-2.2
PLIG				*e*S	Sn	19 15 24.3	-3.6

*IDC **11** 19:14:26.0±0.6, 0°.99N×92°.04E, h0km, mb4.3/24, mb1 4.4/27, mb1mx4.2/70, mbtmp4.3/27, ML4.4/3, Error ellipse: s-maj=18.0km s-min=11.7km az=41.0*
*NEIC **11** 19:14:28.6±0.4, 1°.17N×92°.20E, h10km, mb4.8/22, Error ellipse: s-maj=9.6km s-min=5.3km az=207.0*
*ISCJB **11** 19:14:30.6±0.3, 1°.23N±0°.05×92°.32E±0°.03, h33km, mb4.5/44, Error ellipse: s-maj=7.6km s-min=3.8km az=29.1*
*DJA **11** 19:14:36.4±0.4, 1°N±4°×9°.3E±°, h10km, M5.3/19, mb4.9/19, mB5.8/6, MLv5.5/7, Mw(mB)5.4/6, Mwp6.5/1*

ISC 11 19:14:32.3±0.4, 1°.14N±0°.07×92°.18E±0°.06, h35km, n130, σ1.9/68/121, mb4.7/44, 3C-7D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLSI	**Meulaboh, Aceh**	**5.24**	**54**	P	**Pn**	**19 15 47.9**	**-0.3**
BSI	**Banda Aceh**	**5.33**	**36**	P	**Pn**	**19 15 51.7**	**+2.2**
GSI	**Gunungsitoli**	**5.40**	**88**	P	**Pn**	**19 15 49.0**	**-1.4**
GSI	**Gunungsitoli**	**5.40**	**88**	*e*Pn	**Pn**	**19 15 49.0**	**-1.4**
TPTI		**5.42**	**67**	P	**Pn**	**19 15 49.3**	**-1.4**
TSI	**Tuntungan**	**6.80**	**70**	P	**Pn**	**19 16 08.2**	**-1.4**
PSI	**Prapat**	**6.94**	**76**	*e*Pn	**Pn**	**19 16 09.9**	**-1.8**
SISI	**Saibi**	**7.33**	**109**	P	**Pn**	**19 16 14.9**	**-2.0**
MNSI	**Mandailing Nat** 562nm,0.6s,11µm3.2nm	**7.41**	**93**	P	**Pn**	**19 16 17.2**	**-0.8**
PDSI	**Padang**	**8.53**	**104**	P	**Pn**	**19 16 31.0**	**-2.4**
PPSI	**Pulau Pagai**	**8.74**	**116**	P	**Pn**	**19 16 34.7**	**-1.5**
BKNI	**Bangkinang**	**8.90**	**95**	P	Pn	19 16 45.9	+7.5
BKNI	**Bangkinang**	**8.90**	**95**	*e*Pn	**Pn**	**19 16 37.7**	**-0.7**
KULM	**Kulim**	**9.41**	**64**	*e*Pn	**Pn**	**19 16 41.9**	**-3.5**
SDSI	**Sungai Dareh** 0.2nm,0.7s,4.8nm	**9.47**	**102**	P	**Pn**	**19 16 44.9**	**-1.4**
MASI	**Maura Aman, Be**	**10.92**	**113**	P	**Pn**	**19 17 05.1**	**-1.1**
MYKOM	**Kota Tinggi**	**11.69**	**87**	*e*Pn	**Pn**	**19 17 15.4**	**-1.3**
TPRI	**Tanjung Pinang** 35nm,1.1s	**12.35**	**91**	P	**Pn**	**19 17 24.9**	**-0.8**
PALK	**Pallekele** 1.8nm,0.3s,baz=116,slow=15,SNR=3.5	**12.96**	**298**	Pn	**Pn**	**19 17 31.9**	**-2.2**
PALK	**Pallekele**	**12.96**	**298**	*e*Pn	**Pn**	**19 17 32.4**	**-1.8**
MDSI	**Maura Dua** 28nm,0.7s,1µm	**13.23**	**115**	P	**Pn**	**19 17 37.4**	**-0.3**
LWLI	**Liwa** 137nm,0.7s	**13.35**	**117**	P	**Pn**	**19 17 39.7**	**+0.2**
KASI	**Kota Agung**	**13.97**	**118**	P	**Pn**	**19 17 50.7**	**+2.8**
CGJI	**Cibinong**	**15.53**	**120**	P	**Pn**	**19 18 13.5**	**+0.7**
LEM	**Lembang** 1.5nm,0.3s,baz=282,slow=20,SNR=3.4	**17.32**	**117**	P	**Pn**	**19 18 31.8**	**+0.1**
CISI	**Cisompet, Garu**	**17.83**	**119**	P	**P**	**19 18 40.8**	**+2.5**
CISI	**Cisompet, Garu** 76nm,0.9s	**17.83**	**119**	*e*Pn	**Pn**	**19 18 36.0**	**-1.8**
KSM	**Kuching** 63nm,0.9s	**18.13**	**89**	*e*Pn	**P**	**19 18 43.3**	**+1.7**
CM01	**Chiang Mai Arr**	**18.42**	**21**	*e*Pn	**P**	**19 18 42.6**	**-2.1**
CM31	**Chiang Mai Arr**	**18.45**	**21**	*e*Pn	**P**	**19 18 44.2**	**-0.9**
CMAR	**Chiang Mai Arr** 0.4nm,0.3s,baz=216,slow=13,SNR=14	**18.45**	**21**	P	**P**	**19 18 44.0**	**-1.1**
CHTO	**Chiang Mai** 22nm,0.9s	**18.78**	**20**	*e*P	**P**	**19 18 47.7**	**-1.0**
STKI	**Sintang** 60nm,1.0s,4µm181µm	**19.33**	**93**	P	**Pn**	**19 18 56.5**	**+0.5**
PBKI	**Pangkalan Bun** 107nm,1.2s	**19.86**	**101**	P	**Pn**	**19 19 02.3**	**0.0**
SMRI	**Semarang**	**19.95**	**114**	P	**Pn**	**19 19 09.0**	**+5.5**
SBUM	**Sibu** 166nm,1.9s	**20.07**	**86**	*e*P	**P**	**19 19 03.7**	**+0.8**
WOJI	**Wonogiri, Jawa**	**20.71**	**116**	P	Pn	19 19 11.8	-0.5
	31nm,0.9s						
HYB	**Hyderabad**	**21.01**	**321**	*i* P	**P**	**19 19 13.5**	**+0.5**
H08S2	**Diego Garcia H** baz=69	**21.48**	**246**	T	T	19 41 12.6	
H08S3	**Diego Garcia H** baz=69	**21.49**	**246**	T	T	19 41 11.0	
H08S1	**Diego Carcia H** baz=69	**21.50**	**246**	T	T	19 41 12.5	
MTKI	**Muara Teweh, K** 33nm,0.5s	**22.81**	**95**	P	**P**	**19 19 33.6**	**+1.3**
KBKI	**Kotabaru**	**24.38**	**100**	P	P	19 19 58.3	+11
KKM	**Kota Kinabalu** 32nm,0.9s	**24.47**	**78**	*e*P	**P**	**19 19 49.5**	**+1.1**
MYLDM	**Lahad Datu** 52nm,1.1s	**26.58**	**81**	*e*P	**P**	**19 20 09.2**	**+1.7**
BATI	**Baumata** 11nm,0.6s,baz=18,slow=3.2,SNR=4.3	**33.30**	**111**	P	**P**	**19 21 04.7**	**-2.4**
XAN	**Xi'an**	**36.29**	**24**	P	**P**	**19 21 32.0**	**-0.6**
XAN				sP	pP	19 21 40.8	-2.0
XAN	comp=Z,10.0nm,0.9s			pmax	pmax		
LZH	**Lanzhou**	**36.42**	**16**	*e*P	**P**	**19 21 36.5**	**+2.7**
LZH				pP	pP	19 21 39.7	-4.3
LZH				sP	sP	19 21 41.2	-7.0
LZH	comp=Z,20nm,1.2s			pmax	pmax		
FITZ	**Fitzroy Crossi** comp=Z,3.5nm,0.8s,baz=278,slow=9.1,SNR=3.9	**38.07**	**122**	P	**P**	**19 21 47.0**	**-0.9**
GTA	**Gaotai**	**38.73**	**9**	*e*P	**P**	**19 21 53.3**	**+0.1**
GTA				pP	pP	19 21 58.3	-5.2
GTA				sP	sP	19 22 01.8	-5.9
GTA	comp=Z,6.0nm,1.0s			pmax	pmax		
NRN	**Naryn** comp=Z,8.4nm,1.2s	**42.69**	**342**	*e*P	**P**	**19 22 26.0**	**-0.2**
PRZ	**Przheval'sk** comp=Z,31nm,1.4s	**42.98**	**345**	*e*P	**P**	**19 22 29.8**	**+1.4**
KDJ	**Kajisay** comp=Z,9.1nm,1.1s	**42.98**	**344**	*e*P	**P**	**19 22 28.5**	**+0.1**
AAK	**Ala-Archa** comp=Z,1.3nm,0.8s,baz=90,slow=4.0,SNR=2.6	**44.26**	**341**	P	**P**	**19 22 37.3**	**-1.3**
KK06	**Karatay Array**	**46.04**	**338**	*e*P	**P**	**19 22 52.5**	**-0.1**
KK07	**Karatay Array**	**46.05**	**338**	*e*P	**P**	**19 22 52.6**	**-0.1**
KK08	**Karatay Array**	**46.07**	**338**	*e*P	**P**	**19 22 52.7**	**-0.1**
MK01	**Makanchi Array**	**46.26**	**351**	*e*P	**P**	**19 22 53.9**	**-0.4**
MK31	**Makanchi Array**	**46.29**	**351**	*e*P	**P**	**19 22 54.5**	**0.0**
MKAR	**Makanchi Array** comp=Z,3.9nm,0.7s,baz=163,slow=8.9,SNR=8.0	**46.29**	**351**	P	**P**	**19 22 54.1**	**-0.3**
MKAR	**Makanchi Array** comp=Z,43nm,0.8s	**46.29**	**351**	*e*P	**P**	**19 22 54.5**	**0.0**
WRA	**Warramunga Arr** comp=Z,9.5nm,0.8s,baz=296,slow=8.5,SNR=21	**46.33**	**119**	P	**P**	**19 22 54.5**	**-0.8**
WB2	**Warramunga Arr** comp=Z,12nm,0.8s	**46.34**	**119**	*e*P	**P**	**19 22 54.3**	**-1.0**
ASAR	**Alice Springs** comp=Z,1.9nm,0.8s,baz=300,slow=7.3,SNR=9.8	**47.45**	**124**	P	**P**	**19 23 03.2**	**-0.7**
AS01	**Alice Springs**	**47.48**	**124**	*e*P	**P**	**19 23 03.2**	**-1.0**
SONM	**Songino Array** comp=Z,5.3nm,0.5s,baz=193,slow=8.4,SNR=14	**48.12**	**13**	P	**P**	**19 23 08.9**	**0.0**
SONA1	**Songino Array**	**48.13**	**13**	*e*P	**P**	**19 23 09.6**	**+0.6**
GEYT	**Alibeck** comp=Z,1.1nm,0.8s,baz=139,slow=9.9,SNR=4.9	**48.16**	**324**	P	**P**	**19 23 07.4**	**-1.8**
ULN	**Ulaanbaatar** comp=Z,10nm,1.2s	**48.30**	**13**	*e*P	**P**	**19 23 08.1**	**-2.2**
OPO	**Ambohidratompo** comp=Z,0.8nm,0.3s,baz=78,slow=14,SNR=2.0	**48.36**	**244**	P	**P**	**19 23 07.6**	**-3.6**
ABPO	**Ambohimpanom** comp=Z,20nm,1.4s	**48.47**	**243**	*e*P	**P**	**19 23 16.3**	**+4.2**
KSAR	**Wonju Array Be**	**48.84**	**38**	P	**P**	**19 23 16.3**	**+1.9**
KS01	**Wonju Array Si**	**48.87**	**38**	*e*P	**P**	**19 23 13.7**	**-0.9**
KSRS	**Korea Array** comp=Z,1.8nm,0.8s,baz=225,slow=8.5,SNR=4.8	**48.87**	**38**	P	**P**	**19 23 16.3**	**+1.6**
RAYN	**Ar Rayn** comp=Z,7.2nm,0.9s	**50.40**	**300**	*e*P	**P**	**19 23 27.7**	**+1.2**
KURBB	**Kurchatov Arra** comp=Z,5.5nm,0.8s,baz=172,slow=7.0,SNR=10	**50.65**	**349**	P	**P**	**19 23 27.6**	**-0.4**
KURK	**Kurchatov** comp=Z,7.7nm,0.8s	**50.72**	**349**	*e*P	**P**	**19 23 28.3**	**-0.2**
ZAA0	**Zalesovo Array** comp=Z,11nm,1.0s	**52.98**	**355**	*e*P	**P**	**19 23 45.0**	**-0.3**
ZALV	**Zalesovo Beam** comp=Z,6.7nm,0.8s,baz=176,slow=6.6,SNR=10	**52.98**	**355**	P	**P**	**19 23 45.0**	**-0.3**
ZALV	**Zalesovo Beam**	**52.98**	**355**	*e*P	**P**	**19 23 44.8**	**-0.5**
BVAR	**Borovoye Array** comp=Z,2.9nm,0.8s,baz=154,slow=7.9,SNR=6.8	**54.80**	**344**	P	**P**	**19 23 57.2**	**-1.4**
BRVK	**Borovoye** comp=Z,21nm,1.9s	**54.85**	**344**	*e*P	**P**	**19 23 58.0**	**-1.0**
MJAR	**Matsushiro Arr** comp=Z,1.1nm,0.7s,baz=226,slow=6.5,SNR=3.6	**55.20**	**45**	P	**P**	**19 24 03.5**	**+1.6**
AB08	**Akbulak array**	**55.31**	**335**	*e*P	**P**	**19 24 01.9**	**-0.4**
AB01	**Akbulak array**	**55.32**	**335**	*e*P	**P**	**19 24 02.0**	**-0.4**
AB31	**Akbulak array**	**55.32**	**335**	*e*P	**P**	**19 24 02.1**	**-0.3**
ABKAR	**Akbulak array**	**55.32**	**335**	*e*P	**P**	**19 24 02.1**	**-0.3**
STKA	**Stephens Creek** comp=Z,2.9nm,0.9s,baz=319,slow=8.0,SNR=5.4	**57.11**	**130**	P	**P**	**19 24 14.2**	**-1.3**
KLR	**Kul'dur** comp=Z,0.1nm,0.4s,baz=267,slow=6.4,SNR=4.5	**58.66**	**29**	P	**P**	**19 24 27.5**	**+1.4**
ASF	**Jabal al Asfar** comp=Z,1.0nm,0.5s,baz=50,slow=7.9,SNR=2.3	**60.44**	**307**	P	**P**	**19 24 36.6**	**-2.2**
KBZ	**Khabaz** comp=Z,5.0nm,0.9s,baz=139,slow=4.1,SNR=7.3	**60.90**	**321**	P	**P**	**19 24 41.4**	**-0.1**
LSZ	**Lusaka** comp=Z,1.9nm,0.7s,baz=1.5,slow=1.9,SNR=4.6	**65.29**	**253**	P	**P**	**19 25 11.3**	**-0.2**
LSZ	**Lusaka** comp=Z,5.0nm,0.9s	**65.29**	**253**	*e*P	**P**	**19 25 14.2**	**+2.7**
BR131	**Keskin Array S**	**65.48**	**314**	*e*P	**P**	**19 25 14.4**	**+2.1**
BRTR	**Keskin Array B** comp=Z,1.2nm,0.6s,baz=135,slow=7.1,SNR=7.3	**65.48**	**314**	P	**P**	**19 25 13.1**	**+0.8**
BR231	**Keskin MP Arra**	**66.15**	**314**	*e*P	**P**	**19 25 14.5**	**-2.0**
YAK	**Yakutsk** comp=Z,4.0nm,0.4s,baz=8.0,slow=2.1,SNR=3.5	**66.96**	**18**	P	**P**	**19 25 21.4**	**+0.3**
LBTB	**Lobatse** comp=Z,16nm,0.8s	**69.38**	**243**	*e*P	**P**	**19 25 40.0**	**+2.9**
IDI	**Anoyia**	**70.91**	**307**	‖ *i*P	**P**	**19 25 48.9**	**+2.6**
KLMR	**Klimovskoe**	**71.69**	**336**	*e*P	**P**	**19 25 48.2**	**-2.2**
KLMR	comp=Z,12nm,1.5s			AMP		19 26 07.1	
SORM	**Soroca**	**71.94**	**321**	‖ *i*P	**P**	**19 25 53.7**	**+1.6**
VRI	**Vrincioaia**	**72.28**	**318**	‖ *i*P	**P**	**19 25 55.4**	**+1.1**
AKASG	**Malin Array Be** comp=Z,0.1nm,0.3s,baz=90,slow=5.5,SNR=4.1	**72.28**	**324**	P	**P**	**19 25 52.9**	**-1.3**
PLOR	**Plostina**	**72.33**	**318**	‖ *i*P	**P**	**19 25 56.5**	**+1.9**
MLR	**Muntele Rosu**	**72.69**	**318**	‖ *i*P	**P**	**19 25 59.9**	**+3.0**
MLR	**Muntele Rosu** comp=Z,40nm,1.6s	**72.69**	**318**	*e*P	**P**	**19 25 58.0**	**+1.1**
ARR	**Arges**	**73.55**	**317**	⇑ *i*P	**P**	**19 26 01.6**	**-0.3**
BURAR	**Bucovina Array**	**73.78**	**320**	‖ *i*P	**P**	**19 26 05.2**	**+1.9**
BUR04	**Bucovina Ar. S**	**73.79**	**320**	*e*P	**P**	**19 26 04.3**	**+1.0**
BUR08	**Bucovina Ar. S**	**73.80**	**320**	*e*P	**P**	**19 26 05.1**	**+1.7**
VTS	**Vitosha**	**73.84**	**314**	‖ *i*P	**P**	**19 26 04.4**	**+0.6**
TIXI	**Tiksi** comp=Z,7.2nm,0.8s	**74.18**	**11**	*e*P	**P**	**19 26 04.2**	**-0.8**
STHS	**Stebnicka Huta**	**76.81**	**321**	*e*P	**P**	**19 26 23.2**	**+2.7**
FINES	**FINESS Array B** comp=Z,2.1nm,0.6s,baz=86,slow=5.3,SNR=6.7	**77.77**	**333**	P	**P**	**19 26 25.5**	**0.0**
VYHS	**Vyhne**	**78.15**	**319**	*e*P	**P**	**19 26 31.7**	**+3.7**
SYO	**Syowa Base**	**78.44**	**197**	‖ *i*X	**P**	**19 26 25.6**	**-3.5**
SYO	**Syowa Base**	**78.44**	**197**	⇑ *e*pP	P	19 26 34.4	+5.3
DPC	**Dobruska-Polom**	**80.12**	**321**	*e*P	P	19 26 45.0	+6.2
GEC2	**GERESS Array S** comp=Z,5.7nm,0.9s	**81.56**	**319**	*e*P	**P**	**19 26 47.6**	**+1.0**
GERES	**GERESS Array B** comp=Z,1.2nm,0.7s,baz=104,slow=4.1,SNR=2.3	**81.56**	**319**	P	**P**	**19 26 46.3**	**-0.3**
KHC	**Kasperske Hory**	**81.68**	**319**	*e*P	**P**	**19 26 51.8**	**+4.6**
KHC				*ex*	x	19 26 56.8	
NOA	**NORSAR Array B** comp=Z,2.3nm,1.1s,baz=28,slow=3.5,SNR=2.8	**84.63**	**331**	P	**P**	**19 27 02.2**	**+0.1**
RLMT	**Red Lodge**	**130.16**	**20**	*e*PKPpre	PKPpre	19 33 27.9	
DUG	**Dugway, Tooele**	**132.96**	**26**	*e*PKPpre	PKPpre	19 33 35.9	
MSU	**Marysvale**	**134.61**	**27**	*e*PKPdf	**PKPdf**	**19 33 47.3**	**-0.6**
SSPA	**Standing Stone**	**137.45**	**349**	*e*PKPdf	**PKPdf**	**19 33 51.4**	**-1.4**
O56A	**Blue Knob Stat**	**137.93**	**349**	*e*PKPdf	**PKPdf**	**19 33 52.6**	**-1.1**
SDCO	**Great Sand Dun**	**138.00**	**21**	*e*PKPdf	**PKPdf**	**19 33 55.5**	**+1.2**
TX31	**Lajitas Ar. Si**	**146.12**	**25**	*e*PKPdf	**PKPbc**	**19 34 09.7**	**+0.1**
TX31				*e*PKPdf	**PKPab**	**19 34 10.3**	**+0.1**
TXAR	**Lajitas Array** comp=Z,0.8nm,0.6s,baz=7.4,slow=1.0,SNR=8.1	**146.12**	**25**	PKPbc	**PKPdf**	**19 34 08.7**	**0.0**

*IDC **11** 19:20:19.0±1.2, 2°.19N×90°.79E, h0km, mb3.9/11, mb1 4.0/13, mb1mx3.7/67, mbtmp3.9/13, ML3.9/2, Error ellipse: s-maj=37.6km s-min=20.6km az=44.0*
*NEIC **11** 19:20:20.5±0.8, 2°.25N×90°.83E, h10km, mb4.2/1, Error ellipse: s-maj=21.4km s-min=13.4km az=216.0*

*ISCJB **11** 19:20:22.1±0.9, 2°.2N±0°.1×90°.65E±0°.10, h33km, mb4.0/12, Error ellipse: s-maj=21.8km s-min=11.5km az=27.4*

ISC 11 19:20:24.2±1.1, 2°.3N±0°.2×90°.7E±0°.1, h35km, n19, σ1.9/35/17, mb4.0/12, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	**Pallekele** 0.9nm,0.3s,baz=116,slow=18,SNR=3.0	**11.16**	**297**	Pn	**Pn**	**19 23 01.5**	**+0.1**
PALK	1.6nm,0.3s,baz=295,slow=13,SNR=2.8			Sn	**Sn**	**19 25 02.7**	**-2.3**
CMAR	**Chiang Mai Arr** 0.1nm,0.3s,baz=218,slow=12,SNR=4.8	**18.01**	**26**	P	**Pn**	**19 24 29.7**	**-2.2**
H08S2	**Diego Garcia H** baz=66,slow=74	**20.67**	**241**	T	T	19 46 13.4	
H08S3	**Diego Garcia H** baz=66,slow=74	**20.67**	**241**	T	T	19 46 15.1	
H08S1	**Diego Carcia H** baz=66	**20.69**	**241**	T	T	19 46 20.7	
FITZ	**Fitzroy Crossi** 2.7nm,0.9s,baz=306,slow=8.7,SNR=2.5	**39.89**	**122**	P	**P**	**19 27 54.4**	**-0.7**
AAK	**Ala-Archa** 0.5nm,0.4s,baz=153,slow=6.8,SNR=4.0	**42.75**	**342**	P	**P**	**19 28 20.9**	**+2.5**
MKAR	**Makanchi Array** 1.4nm,0.7s,baz=170,slow=8.0,SNR=10.0	**44.97**	**352**	P	**P**	**19 28 36.6**	**+0.6**
GEYT	**Alibeck** 1.6nm,0.7s,baz=141,slow=5.4,SNR=4.3	**46.41**	**324**	P	**P**	**19 28 49.5**	**+1.9**
SONM	**Songino Array** 6.4nm,0.7s,baz=193,slow=8.9,SNR=32	**47.39**	**14**	P	**P**	**19 28 55.9**	**+0.8**
WRA	**Warramunga Arr** 1.1nm,1.0s,baz=293,slow=8.7,SNR=3.0	**48.14**	**119**	P	**P**	**19 29 01.2**	**-0.1**
KURBB	**Kurchatov Arra** 1.3nm,0.6s,baz=172,slow=7.2,SNR=10	**49.29**	**350**	P	**P**	**19 29 09.8**	**+0.3**
KURK	**Kurchatov**	**49.36**	**350**	*e*P	**P**	**19 29 10.5**	**+0.4**
ZALV	**Zalesovo Beam** 1.9nm,0.4s,baz=174,slow=6.9,SNR=11	**51.76**	**356**	P	**P**	**19 29 28.3**	**+0.2**
BVAR	**Borovoye Array** 0.5nm,0.7s,baz=134,slow=6.2,SNR=4.2	**53.34**	**345**	P	**P**	**19 29 39.6**	**-0.3**
BRVK	**Borovoye** 1.5nm,0.5s	**53.40**	**345**	*e*P	**P**	**19 29 40.0**	**-0.4**
BRTR	**Keskin Array B** 0.3nm,0.5s,baz=121,slow=6.2,SNR=2.7	**63.66**	**314**	P	**P**	**19 30 52.2**	**-0.2**
GERES	**GERESS Array B** 0.7nm,0.7s,baz=95,slow=7.4,SNR=5.0	**79.77**	**319**	P	**P**	**19 32 29.8**	**+0.8**
TXAR	**Lajitas Array** 0.3nm,0.6s,baz=177,slow=2.3,SNR=4.1	**145.70**	**23**	PKPbc	**PKPdf**	**19 39 58.2**	**-1.7**

*CSEM **11** 19:22:26.4±0.6, 36°.83N×27°.52E, h1km, ML2.1, Error ellipse: s-maj=13.3km s-min=3.6km az=28.0, Suspected Mining explosion.*
*ISK **11** 19:22:28.9, 37°.01N×27°.45E, h2km, ML2.1/5*
*DDA **11** 19:22:30.7, 37°.06N×27°.47E, h7km, Ml2.7, Suspected Mining explosion.*

ISC 11 19:22:24.7±2.0, 36°.8N±0°.1×27°.46E±0°.07, h0km, n17, σ0.9/47/25, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BDRM	**Kayabasi**	**0.28**	**357**	*i* P	**Pb**	**19 22 31.9**	**-0.6**
BDRM				*i* S	**Sg**	**19 22 33.5**	**0.0**
BDRM	**Kayabasi**	**0.28**	**357**	P	**P

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LHMI	**Lhok Sumawe**	**6.29**	**49**	*e*Pn	**Pn**	**19 29 55.7**	**+0.8**
PSI	**Prapat**	**6.94**	**76**	*e*Pn	**Pn**	**19 30 03.5**	**-0.5**
KULM	**Kulim**	**9.42**	**63**	*e*Pn	**Pn**	**19 30 37.3**	**-0.7**
IPM	**Ipoh**	**9.45**	**69**	*e*Pn	**Pn**	**19 30 37.8**	**-0.5**
KSM	**Kuching** 16nm,0.8s	**18.12**	**89**	*e*Pn	**Pn**	**19 32 36.6**	**+2.6**
CM01	**Chiang Mai Arr**	**18.47**	**21**	*e*P	**P**	**19 32 36.8**	**-1.4**
CM31	**Chiang Mai Arr**	**18.50**	**21**	*e*P	**P**	**19 32 37.7**	**-0.8**
CMAR	**Chiang Mai Arr** 0.3nm,0.3s,baz=218,slow=12,SNR=18	**18.50**	**21**	P	**P**	**19 32 37.9**	**-0.6**
CHTO	**Chiang Mai** 28nm,1.6s	**18.83**	**20**	*e*P	**P**	**19 32 42.1**	**0.0**
H08S2	**Diego Garcia H** baz=62	**21.47**	**246**	T	T	19 55 30.3	
H08S3	**Diego Garcia H** baz=62	**21.48**	**246**	T	T	19 55 20.0	
H08S1	**Diego Garcia H** baz=62	**21.49**	**246**	T	T	19 55 32.2	
XAN	**Xi'an**	**36.34**	**24**	P	**P**	**19 35 25.9**	**-0.4**
XAN				pP	pP	19 35 31.2	+1.8
XAN				sP	sP	19 35 34.1	+3.5
XAN	comp=Z,9.0nm,0.7s			pmax	pmax		
GTA	**Gaotai**	**38.78**	**9**	*e*P	**P**	**19 35 47.4**	**+0.4**
GTA				pP	pP	19 35 52.4	+2.3
GTA				sP	sP	19 35 55.5	+4.1
GTA	comp=Z,6.0nm,0.8s			pmax	pmax		
WRA	**Warramunga Arr** comp=Z,3.7nm,0.8s,baz=295,slow=8.3,SNR=11	**46.29**	**119**	P	**P**	**19 36 48.2**	**-0.1**
WB2	**Warramunga Ar**	**46.30**	**119**	*e*P	**P**	**19 36 46.9**	**-1.5**
MK01	**Makanchi Array**	**46.32**	**351**	*e*P	**P**	**19 36 47.6**	**-0.5**
MK31	**Makanchi Array**	**46.34**	**351**	*e*P	**P**	**19 36 48.0**	**-0.3**
MKAR	**Makanchi Array** comp=Z,2.7nm,0.7s,baz=165,slow=9.0,SNR=19	**46.34**	**351**	*e*P	**P**	**19 36 48.1**	**-0.2**
MKAR	**Makanchi Array** comp=Z,17nm,0.8s	**46.34**	**351**	*e*P	**P**	**19 36 48.3**	**0.0**
ASAR	**Alice Springs** comp=Z,0.4nm,0.6s,baz=297,slow=8.1,SNR=6.7	**47.40**	**124**	P	**P**	**19 36 56.5**	**-0.5**
SONM	**Songino Array** comp=Z,5.7nm,0.6s,baz=191,slow=9.1,SNR=22	**48.17**	**13**	P	**P**	**19 37 03.3**	**+0.7**
SONA1	**Songino Array**	**48.19**	**13**	*e*P	**P**	**19 37 03.4**	**+0.6**
GEYT	**Alibeck** comp=Z,2.4nm,0.8s,baz=161,slow=9.4,SNR=7.1	**48.21**	**324**	P	**P**	**19 37 03.6**	**+0.5**
KSAR	**Wonju Array Be**	**48.88**	**38**	P	**P**	**19 37 08.2**	**+0.1**
KSRS	**Korea Array** comp=Z,2.3nm,0.7s,baz=227,slow=7.6,SNR=9.6	**48.91**	**38**	P	**P**	**19 37 08.2**	**-0.1**
KURBB	**Kurchatov Arra** comp=Z,4.1nm,0.7s,baz=172,slow=7.2,SNR=29	**50.71**	**349**	P	**P**	**19 37 21.4**	**-0.4**
KURK	**Kurchatov** comp=Z,6.5nm,1.0s	**50.78**	**349**	*e*P	**P**	**19 37 21.9**	**-0.4**
ZAA0	**Zalesovo Array** comp=Z,5.5nm,0.6s	**53.04**	**355**	*e*P	**P**	**19 37 38.7**	**-0.4**
ZALV	**Zalesovo Beam** comp=Z,6.1nm,0.5s,baz=184,slow=7.5,SNR=19	**53.04**	**355**	*e*P	**P**	**19 37 38.8**	**-0.4**
ZALV	**Zalesovo Beam**	**53.04**	**355**	*e*P	**P**	**19 37 38.6**	**-0.6**
BVAR	**Borovoye Array** comp=Z,2.2nm,0.7s,baz=146,slow=8.4,SNR=12	**54.85**	**344**	P	**P**	**19 37 51.5**	**-0.9**
BRVK	**Borovoye** comp=Z,2.7nm,0.9s	**54.91**	**344**	*e*P	P	19 37 51.5	-1.4
AB31	**Akbulak array**	**55.38**	**335**	*e*P	**P**	**19 37 55.6**	**-0.6**
ABKAR	**Akbulak array**	**55.38**	**335**	*e*P	**P**	**19 37 55.9**	**-0.4**
KBZ	**Khabaz** comp=Z,3.9nm,0.8s,baz=132,slow=7.2,SNR=11	**55.95**	**321**	P	**P**	**19 38 36.0**	**+0.6**
BRTR	**Keskin Array B** comp=Z,1.4nm,0.8s,baz=131,slow=9.7,SNR=8.4	**65.53**	**314**	P	**P**	**19 39 05.7**	**-0.5**
BR231	**Keskin MP Arra**	**66.19**	**314**	*e*P	P	19 39 06.0	-4.3
VRI	**Vrincioaia**	**72.33**	**318**	*i*P	**P**	**19 39 48.5**	**+0.4**
AKASG	**Malin Array Be** comp=Z,0.1nm,0.2s,baz=98,slow=4.3,SNR=3.5	**72.34**	**324**	P	**P**	**19 39 47.4**	**-0.7**
PLOR	**Plostina**	**72.38**	**318**	*i*P	**P**	**19 39 48.9**	**+0.4**
PLAR	**PLOIESTI**	**72.53**	**317**	*i*P	**P**	**19 39 49.0**	**-0.3**
TESR	**Tescani**	**72.58**	**319**	*i*P	**P**	**19 39 49.7**	**+0.1**
MLR	**Muntele Rosu**	**72.75**	**318**	*i*P	**P**	**19 39 51.8**	**+1.0**
MLR	**Muntele Rosu** comp=Z,5.4nm,0.9s	**72.75**	**318**	*e*P	P	19 39 49.6	-1.2
MTUR	**Matau**	**73.27**	**317**	*i*P	P	19 39 46.9	-6.9
BURAR	**Bucovina Array**	**73.84**	**320**	*i*P	**P**	**19 39 57.9**	**+0.8**
TIXI	**Tiksi** comp=Z,5.6nm,0.7s	**74.23**	**11**	*e*P	**P**	**19 39 57.5**	**-1.2**
FINES	**FINESS Array B** comp=Z,3.8nm,0.9s,baz=59,slow=7.4,SNR=7.8	**77.82**	**333**	P	P	19 40 18.1	-1.3
ARCES	**ARCESS Array B** comp=Z,4.6nm,0.8s,baz=151,slow=2.8,SNR=4.4	**80.98**	**341**	P	**P**	**19 40 36.5**	**-0.1**
GEA0	**GERESS Array S**	**81.61**	**319**	*e*P	**P**	**19 40 40.9**	**+0.4**
GERES	**GERESS Array B** comp=Z,1.3nm,0.7s,baz=104,slow=5.6,SNR=8.0	**81.61**	**319**	P	**P**	**19 40 41.2**	**+0.7**
TXAR	**Lajitas Array** comp=Z,1.4nm,0.7s,baz=266,slow=1.2,SNR=17	**146.17**	**25**	PKPbc	**PKPdf**	**19 48 03.3**	**+0.7**

IDC ***11*** *19:32:04.9± 1.1, 32.°93N × 87.°05E, h0km, mb3.7/8, mb1 3.8/11, mb1mx3.5/69, mbtmp3.6/11, ML3.1/3, MS4.0/1, Ms1 4.0/1, ms1mx3.1/60, Error ellipse: s-maj=44.0km s-min=17.8km az=62.0*

ISCJB ***11*** *19:32:09.0± 0.5, 33.°13N ± 0.°04 × 87.°1E ± 0.°1, h33km, mb3.7/6, MS3.8/1, Error ellipse: s-maj=16.9km s-min=5.9km az=6.7*

ISC 11 19:32:10.9± 0.7, 33.°06N ± 0.°08 × 86.°87E ± 0.°10, h35km, n22, σ 2s 26/22, mb3.7/6, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSA	**Lhasa**	**4.96**	**131**	P	**Pn**	**19 33 27.4**	**+4.1**
LSA	comp=Z,13nm,1.0s			pmax	pmax		
GUN	**Gumba** comp=Z,64nm,0.9s	**5.20**	**190**	*e*P	**Pn**	**19 33 28.7**	**+2.2**
GKN	**Gorkha** comp=Z,24nm,0.4s	**5.39**	**202**	*e*P	**Pn**	**19 33 31.5**	**+2.5**
JIRN	**Jiri**	**5.41**	**186**	*e*P	**Pn**	**19 33 32.2**	**+2.8**
KKN	**Kakani** comp=Z,17nm,0.5s	**5.43**	**195**	*e*P	**Pn**	**19 33 31.9**	**+2.4**
PKIN	**Phulchoki** comp=Z,32nm,0.6s	**5.61**	**194**	*e*P	**Pn**	**19 33 35.1**	**+3.0**
PYUN	**Piuthan** comp=Z,25nm,0.6s	**5.97**	**215**	*e*P	**Pn**	**19 33 38.9**	**+2.0**
KOLN	**Koldanda**	**5.98**	**209**	*e*P	**Pn**	**19 33 38.7**	**+1.6**
RAMN	**Ramite** comp=Z,65nm,1.0s	**6.09**	**182**	*e*P	**Pn**	**19 33 40.1**	**+1.4**
ODAN	**Odare** comp=Z,52nm,0.8s	**6.19**	**176**	*e*P	**Pn**	**19 33 41.4**	**+1.4**
WMQ	**Urumqi**	**10.77**	**3**	*e*P	**Pn**	**19 34 45.2**	**+2.7**
MKAR	**Makanchi Array** comp=Z,0.0nm,0.3s,baz=159,slow=12,SNR=3.0	**14.16**	**347**	Pn	**Pn**	**19 35 27.9**	**-0.9**
CMAR	**Chiang Mai Arr** comp=Z,0.1nm,0.3s,baz=319,slow=12,SNR=7.7	**18.13**	**140**	P	**Pn**	**19 36 16.2**	**-3.8**
KURBB	**Kurchatov Arra** comp=Z,0.0nm,0.3s,baz=148,slow=11,SNR=4.2	**18.60**	**343**	P	**Pn**	**19 36 25.4**	**0.0**
SONM	**Songino Array** comp=Z,1.2nm,0.9s,baz=226,slow=14,SNR=6.7	**20.86**	**39**	P	**P**	**19 36 49.5**	**-0.2**
ZALV	**Zalesovo Beam** comp=Z,1.3nm,0.8s,baz=179,slow=11,SNR=6.9	**20.93**	**357**	P	**P**	**19 36 48.8**	**-1.6**
ZALV	comp=Z,343nm,18.6s,baz=271,slow=39			LR	LR	19 45 55.1	
HFS	**Hagfors** comp=Z,2.0nm,0.7s,baz=79,slow=7.8,SNR=3.9	**53.73**	**324**	P	**P**	**19 41 31.2**	**+2.1**
NOA	**NORSAR Array B** comp=Z,0.8nm,0.8s,baz=86,slow=7.1,SNR=3.7	**54.86**	**325**	P	**P**	**19 41 37.0**	**-0.5**
WRA	**Warramunga Arr** comp=Z,0.4nm,0.4s,baz=317,slow=7.7,SNR=10	**69.51**	**132**	P	**P**	**19 43 14.3**	**-1.8**
ASAR	**Alice Springs** comp=Z,0.5nm,0.9s,baz=316,slow=5.6,SNR=4.6	**72.06**	**135**	P	**P**	**19 43 29.8**	**-1.7**
ILAR	**Eielson Array** comp=Z,0.6nm,1.0s,baz=317,slow=4.9,SNR=4.0	**73.87**	**21**	P	**P**	**19 43 42.0**	**+0.3**
YKA	**Yellowknife Ar** comp=Z,0.4nm,0.9s,baz=338,slow=5.4,SNR=7.8	**83.22**	**10**	P	**P**	**19 44 32.8**	**-0.4**

IDC ***11*** *19:41:46.3± 1.9, 36.°28N × 142.°36E, h0km, mb3.7/7, mb1 3.7/10, mb1mx3.5/72, mbtmp3.7/10, ML3.5/3, Error ellipse: s-maj=44.8km s-min=24.0km az=85.0*

ISC 11 19:41:48.3± 1.0, 36.°30N ± 0.°07 × 142.°20E ± 0.°09, h15km, n17, σ 2s 64/14, mb3.6/7, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr** 3.0nm,0.3s,baz=91,slow=15,SNR=18	**3.23**	**276**	Pn	**Pn**	**19 42 39.4**	**+0.9**
MJAR				Sn	**Sb**	**19 43 23.6**	**-0.8**
MAT	**Matsushiro**	**3.23**	**276**	P	**Pn**	**19 42 39.7**	**+1.2**
JHJ	**Hachijo jima 2** 40nm,0.3s,baz=322,slow=20,SNR=5.8	**3.74**	**213**	Pn	**Pn**	**19 42 46.4**	**+0.9**
JHJ	31nm,0.3s,baz=99,slow=19,SNR=4.0			Sn	**Sn**	**19 43 23.8**	**-5.5**
ASAJ	**Asahikawa** 0.5nm,0.3s,baz=189,slow=12,SNR=10	**7.82**	**2**	Pn	**Pn**	**19 43 41.8**	**+0.3**
ASAJ	0.2nm,0.3s,baz=143,slow=15,SNR=2.8			Sn	**Sn**	**19 45 03.8**	**-5.8**
H11N2	**WAKE ISLAND Hy** baz=312,slow=75,SNR=8.6	**27.23**	**121**	T	T	20 16 00.7	
H11N1	**WAKE ISLAND Hy** baz=312,slow=75,SNR=7.9	**27.23**	**121**	T	T	20 16 02.7	
H11N3	**WAKE ISLAND Hy** baz=312,slow=75,SNR=5.6	**27.25**	**121**	T	T	20 16 04.0	
H11S1	**WAKE ISLAND Hy** baz=315,slow=76,SNR=4.1	**27.93**	**123**	T	T	20 16 56.4	
H11S3	**WAKE ISLAND Hy** baz=315,slow=76,SNR=4.3	**27.93**	**123**	T	T	20 16 54.7	
H11S2	**WAKE ISLAND Hy** baz=315,slow=76,SNR=3.4	**27.94**	**123**	T	T	20 16 57.2	
SONM	**Songino Array** 1.1nm,0.6s,baz=106,slow=8.6,SNR=6.8	**28.72**	**305**	P	**P**	**19 47 46.7**	**+1.6**
ZALV	**Zalesovo Beam** 0.6nm,0.5s,baz=94,slow=5.8,SNR=2.9	**42.88**	**313**	P	**P**	**19 49 46.5**	**+0.7**
MKAR	**Makanchi Array** 1.8nm,0.7s,baz=86,slow=9.6,SNR=16	**45.05**	**303**	P	**P**	**19 50 04.4**	**+1.0**
KURBB	**Kurchatov Arra** 1.1nm,0.5s,baz=84,slow=8.4,SNR=6.8	**46.95**	**309**	P	**P**	**19 50 19.2**	**+0.9**
BVAR	**Borovoye Array** 0.3nm,0.6s,baz=90,slow=8.6,SNR=2.8	**51.54**	**313**	P	**P**	**19 50 55.1**	**+1.7**
WRA	**Warramunga Arr** 0.5nm,0.9s,baz=12,slow=6.8,SNR=4.0	**56.42**	**189**	P	**P**	**19 51 29.6**	**+0.3**
AKASG	**Malin Array Be** 0.1nm,0.3s,baz=52,slow=4.8,SNR=3.2	**75.27**	**323**	P	**P**	**19 53 31.1**	**+0.7**

IDC 11 19:43:28.8± 13.0, 3.°44N × 91.°15E, h0km, mb3.6/4, mb1 3.6/6, mb1mx3.3/71, mbtmp3.6/6, ML3.3/2, Error ellipse: s-maj=255.9km s-min=47.1km az=166.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	**Pallekele** 0.2nm,0.3s,baz=118,slow=16,SNR=2.7	**11.08**	**291**	Pn	Pn	19 46 08.1	-0.6
CMAR	**Chiang Mai Arr** 0.1nm,0.3s,baz=218,slow=13,SNR=3.2	**16.76**	**27**	Pn	Pn	19 47 24.2	-1.0
MKAR	**Makanchi Array** 0.5nm,0.6s,baz=174,slow=7.8,SNR=4.3	**43.86**	**351**	P	P	19 51 37.5	+0.6
SONM	**Songino Array** 1.3nm,0.5s,baz=191,slow=9.5,SNR=8.7	**46.13**	**14**	P	P	19 51 55.1	-0.1
KURBB	**Kurchatov Arra** 0.4nm,0.8s,baz=167,slow=8.5,SNR=2.9	**48.21**	**349**	P	P	19 52 10.8	-0.3
ZALV	**Zalesovo Beam** 0.2nm,0.4s,baz=193,slow=5.8,SNR=2.9	**50.61**	**355**	P	P	19 52 29.2	-0.2

ISCJB ***11*** *19:44:52.9± 1.1, 2.°5N ± 0.°2 × 91.°7E ± 0.°1, h10km, mb3.9/12, Error ellipse: s-maj=23.5km s-min=17.5km az=12.1*

IDC ***11*** *19:44:53.5± 1.4, 2.°52N × 91.°80E, h0km, mb3.9/11, mb1 4.0/13, mb1mx3.7/71, mbtmp3.9/13, ML3.8/2, Error ellipse: s-maj=38.2km s-min=26.7km az=34.0*

NEIC ***11*** *19:44:54.8± 1.0, 2.°54N × 91.°73E, h10km, mb4.3/1, Error ellipse: s-maj=21.0km s-min=15.3km az=190.0*

ISC 11 19:44:54.9± 1.3, 2.°5N ± 0.°2 × 91.°7E ± 0.°1, h10km, n15, σ 1s 08/15, mb4.0/12, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	**Pallekele** 0.6nm,0.3s,baz=116,slow=15,SNR=3.0	**11.96**	**294**	Pn	**Pn**	**19 47 44.0**	**-1.6**
PALK	1.9nm,0.3s,baz=111,slow=2.1,SNR=5.2			Sn	Sn	19 49 47.6	-12
CMAR	**Chiang Mai Arr** 0.1nm,0.3s,baz=217,slow=13,SNR=11	**17.37**	**24**	P	**Pn**	**19 48 56.2**	**-1.3**
MKAR	**Makanchi Array** 1.2nm,0.7s,baz=166,slow=7.4,SNR=12	**44.88**	**351**	P	**P**	**19 53 09.4**	**-0.2**
GEYT	**Alibeck** 1.2nm,0.8s,baz=185,slow=10,SNR=3.8	**46.81**	**323**	P	**P**	**19 53 26.6**	**+1.7**
SONM	**Songino Array** 0.9nm,0.7s,baz=203,slow=8.1,SNR=5.9	**46.91**	**14**	P	**P**	**19 53 26.2**	**+0.5**
WRA	**Warramunga Arr** 0.5nm,0.7s,baz=298,slow=8.8,SNR=4.1	**47.39**	**120**	P	**P**	**19 53 29.2**	**-0.5**
KURBB	**Kurchatov Arra** 0.6nm,0.8s,baz=167,slow=7.0,SNR=6.2	**49.24**	**349**	P	**P**	**19 53 43.4**	**-0.1**
KURK	**Kurchatov**	**49.31**	**349**	P	**P**	**19 53 43.4**	**-0.6**
ZALV	**Zalesovo Beam** 0.9nm,0.6s,baz=180,slow=8.5,SNR=5.6	**51.60**	**355**	P	**P**	**19 54 00.9**	**-0.3**
BVAR	**Borovoye Array** 1.0nm,0.8s,baz=152,slow=6.5,SNR=8.3	**53.37**	**344**	P	**P**	**19 54 13.9**	**-0.6**
BRVK	**Borovoye** 2.9nm,0.8s	**53.43**	**344**	*e*P	**P**	**19 54 13.6**	**-1.3**
KBZ	**Khabaz** 1.4nm,0.8s,baz=301,slow=2.6,SNR=3.9	**59.56**	**321**	P	**P**	**19 55 00.3**	**+1.6**
BRTR	**Keskin Array B** 0.7nm,0.6s,baz=140,slow=8.0,SNR=5.6	**64.22**	**313**	P	**P**	**19 55 30.4**	**0.0**
FINES	**FINESS Array B** 1.5nm,0.9s,baz=110,slow=3.2,SNR=3.2	**76.36**	**333**	P	**P**	**19 56 43.7**	**-0.4**
GERES	**GERESS Array B** 1.3nm,0.6s,baz=104,slow=5.6,SNR=8.3	**80.25**	**319**	P	**P**	**19 57 07.0**	**+1.0**

ISCJB ***11*** *19:47:53.4± 0.7, 2.°1N ± 0.°1 × 90.°33E ± 0.°05, h10km, mb4.0/15, Error ellipse: s-maj=15.2km s-min=6.7km az=14.5*

IDC ***11*** *19:47:54.5± 1.1, 2.°22N × 90.°38E, h0km, mb3.9/13, mb1 4.0/15, mb1mx3.8/71, mbtmp3.9/15, ML3.9/2, Error ellipse: s-maj=35.9km s-min=20.2km az=44.0*

NEIC ***11*** *19:47:55.8± 0.5, 2.°17N × 90.°28E, h10km, mb4.6/3, Error ellipse: s-maj=11.7km s-min=5.5km az=196.0*

DJA ***11*** *19:48:29.1± 1.0, 3.°N ± 12.°× 9.°3E ± ", h61km ± 56km, M4.5/4, mb4.5/4, mB5.3/3, MLv4.5/4, Mw(mB)4.7/3*

ISC 11 19:47:56.5± 0.9, 2.°3N ± 0.°1 × 90.°33E ± 0.°09, h10km, n67, σ 0s 77/60, mb4.2/15, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSI	**Banda Aceh**	**5.90**	**57**	P	**Pn**	**19 49 24.5**	**+0.4**
MLSI	**Meulaboh, Aceh**	**6.38**	**72**	P	**Pn**	**19 49 29.8**	**-0.8**
TPTI		**6.91**	**82**	P	Pn	19 49 34.6	-3.3
LHMI	**Lhok Sumawe**	**7.23**	**66**	P	**Pn**	**19 49 41.2**	**-1.1**
LHMI	**Lhok Sumawe**	**7.23**	**66**	*e*Pn	**Pn**	**19 49 44.5**	**+2.3**
GSI	**Gunungsitoli** 58nm,0.8s,4µm0.3nm	**7.31**	**97**	P	**Pn**	**19 49 45.0**	**+1.7**
GSI	**Gunungsitoli**	**7.31**	**97**	*e*Pn	Pn	19 49 38.6	-4.7
PSI	**Prapat**	**8.60**	**86**	*e*Pn	Pn	19 49 54.3	-7.0
KULM	**Kulim**	**10.73**	**73**	*e*Pn	**Pn**	**19 50 30.9**	**+0.6**
PALK	**Pallekele** 1.9nm,0.3s,baz=116,slow=13,SNR=6.1	**10.80**	**298**	Pn	**Pn**	**19 50 31.7**	**+0.3**
PALK	7.3nm,0.3s,baz=116,slow=2.4,SNR=11			Sn	Sn	19 52 19.8	-13
IPM	**Ipoh**	**10.90**	**78**	*e*Pn	**Pn**	**19 50 33.3**	**+0.6**
CMAR	**Chiang Mai Arr** 0.1nm,0.3s,baz=219,slow=11,SNR=5.4	**18.17**	**27**	P	**Pn**	**19 52 08.8**	**-0.3**
HYB	**Hyderabad**	**18.99**	**323**	*i* P	**P**	**19 52 18.0**	**-0.4**
H08S2	**Diego Garcia H** baz=60,slow=75,SNR=17	**20.34**	**241**	T	T	20 13 25.2	
H08S3	**Diego Garcia H** baz=60,slow=75,SNR=15	**20.34**	**241**	T	T	20 13 44.2	
H08S1	**Diego Garcia H** baz=60,slow=75,SNR=18	**20.35**	**241**	T	T	20 13 25.8	
ODAN	**Odare** 18nm,0.8s	**24.62**	**354**	*e*P	**P**	**19 53 18.1**	**+0.7**
RAMN	**Ramite** 18nm,0.7s	**24.80**	**352**	*e*P	**P**	**19 53 20.4**	**+1.3**
DMN	**Daman**	**25.69**	**349**	*e*P	**P**	**19 53 28.7**	**+1.5**
KKN	**Kakani**	**25.84**	**350**	*e*P	**P**	**19 53 28.7**	**+0.3**
GUN	**Gumba**	**25.85**	**351**	*e*P	**P**	**19 53 28.6**	**-0.1**
GKN	**Gorkha**	**26.16**	**349**	*e*P	**P**	**19 53 31.0**	**-0.4**
KOLN	**Koldanda** 12nm,0.8s	**26.16**	**346**	*e*P	**P**	**19 53 31.9**	**+0.5**
PYUN	**Piuthan**	**26.63**	**345**	*e*P	**P**	**19 53 35.3**	**-0.3**
H01W3	**Cape Leeuwin H** baz=324	**43.18**	**151**	T	T	20 43 08.9	
H01W2	**Cape Leeuwin H** baz=324	**43.19**	**151**	T	T	20 42 58.0	
H01W1	**Cape Leeuwin H** baz=324	**43.20**	**151**	T	T	20 42 56.1	
KK06	**Karatay Array**	**44.32**	**339**	*e*P	**P**	**19 56 07.1**	**+0.3**
KK07	**Karatay Array**	**44.33**	**339**	*e*P	**P**	**19 56 06.8**	**0.0**
KK01	**Karatay Array**	**44.34**	**339**	*e*P	**P**	**19 56 07.0**	**+0.1**
KK03	**Karatay Array**	**44.34**	**339**	*e*P	**P**	**19 56 07.0**	**+0.1**
KK04	**Karatay Array**	**44.34**	**339**	*e*P	**P**	**19 56 07.2**	**+0.3**
KK05	**Karatay Array**	**44.34**	**339**	*e*P	**P**	**19 56 07.2**	**+0.2**
KK08	**Karatay Array**	**44.35**	**339**	*e*P	**P**	**19 56 07.3**	**+0.4**
MK01	**Makanchi Array**	**44.88**	**352**	*e*P	**P**	**19 56 10.3**	**-0.8**
MK31	**Makanchi Array**	**44.90**	**352**	*e*P	**P**	**19 56 10.8**	**-0.5**
MKAR	**Makanchi Array** 2.1nm,0.6s,baz=171,slow=9.1,SNR=23	**44.90**	**352**	P	**P**	**19 56 10.7**	**-0.7**
MKAR	**Makanchi Array** 14nm,0.8s	**44.90**	**352**	*e*P	**P**	**19 56 10.5**	**-0.8**
GEYT	**Alibeck** 2.7nm,0.7s,baz=158,slow=9.6,SNR=9.8	**46.16**	**324**	P	**P**	**19 56 22.0**	**+0.5**
GYB2	**ALIBECK ARRAY** 4.8nm,0.8s	**46.16**	**324**	*e*P	**P**	**19 56 20.6**	**-0.8**
SONM	**Songino Array** 2.9nm,0.5s,baz=195,slow=9.5,SNR=24	**47.47**	**15**	P	**P**	**19 56 32.2**	**+0.5**
SONA1	**Songino Array**	**47.48**	**15**	*e*P	**P**	**19 56 32.1**	**+0.3**
WRA	**Warramunga Arr** 0.4nm,0.5s,baz=297,slow=8.8,SNR=3.0	**48.49**	**119**	P	**P**	**19 56 38.3**	**-1.5**
KURBB	**Kurchatov Arra** 2.1nm,0.7s,baz=173,slow=7.1,SNR=20	**49.21**	**350**	P	**P**	**19 56 44.6**	**-0.2**
KURBB	0.5nm,0.7s,baz=170,slow=3.0,SNR=2.5			PcP	**PcP**	**19 58 08.9**	**+1.0**
KURK	**Kurchatov**	**49.28**	**350**	P	**P**	**19 56 44.6**	**-0.8**
KURK				PcP	**PcP**	**19 58 08.9**	**+0.7**
ASAR	**Alice Springs** 0.2nm,0.6s,baz=295,slow=7.7,SNR=4.1	**49.60**	**124**	P	**P**	**19 56 46.8**	**-1.7**
ZAA0	**Zalesovo Array** 8.3nm,1.4s	**51.71**	**356**	*e*P	**P**	**19 57 03.0**	**-0.8**
ZALV	**Zalesovo Beam** 2.5nm,0.7s,baz=180,slow=7.3,SNR=8.4	**51.71**	**356**	P	**P**	**19 57 02.9**	**-0.9**
ZALV	**Zalesovo Beam**	**51.71**	**356**	*e*P	P	19 57 02.3	-1.4
BVAR	**Borovoye Array** 1.2nm,0.8s,baz=147,slow=8.2,SNR=9.3	**53.22**	**345**	P	**P**	**19 57 13.8**	**-1.2**
BVAR	0.3nm,0.6s,baz=143,slow=5.0,SNR=2.1			PcP	**PcP**	**19 58 23.2**	**+0.4**
AB07	**Akbulak array**	**53.51**	**336**	*e*P	**P**	**19 57 17.1**	**0.0**
AB08	**Akbulak array**	**53.52**	**336**	*e*P	**P**	**19 57 16.7**	**-0.5**
AB06	**Akbulak array**	**53.52**	**336**	*e*P	**P**	**19 57 17.1**	**-0.1**
AB03	**Akbulak array**	**53.52**	**336**	*e*P	**P**	**19 57 16.4**	**-0.8**
AB01	**Akbulak array**	**53.53**	**336**	*e*P	**P**	**19 57 17.1**	**-0.1**
AB31	**Akbulak array**	**53.53**	**336**	*e*P	**P**	**19 57 16.8**	**-0.4**
ABKAR	**Akbulak array**	**53.53**	**336**	*e*P	**P**	**19 57 16.8**	**-0.4**
AB02	**Akbulak array**	**53.53**	**336**	*e*P	**P**	**19 57 17.1**	**-0.1**
AB04	**Akbulak array**	**53.53**	**336**	*e*P	**P**	**19 57 17.2**	**-0.1**
AB05	**Akbulak array**	**53.54**	**336**	*e*P	**P**	**19 57 17.4**	**0.0**
AB09	**Akbulak array**	**53.54**	**336**	*e*P	**P**	**19 57 17.3**	**-0.1**
KBZ	**Khabaz** 1.1nm,0.8s,baz=180,slow=8.1,SNR=3.4	**58.86**	**321**	P	**P**	**19 57 55.3**	**-0.2**
BRTR	**Keskin Array B** 0.2nm,0.6s,baz=98,slow=2.9,SNR=2.3	**63.37**	**314**	P	**P**	**19 58 26.5**	**+0.1**
FINES	**FINESS Array B** 1.4nm,0.8s,baz=104,slow=8.0,SNR=3.9	**75.94**	**334**	P	**P**	**19 59 43.5**	**+0.3**
GERES	**GERESS Array B** 0.6nm,0.9s,baz=98,slow=7.1,SNR=5.0	**79.50**	**319**	P	**P**	**20 00 03.2**	**-0.4**
HFS	**Hagfors** 3.0nm,1.0s,baz=96,slow=14,SNR=3.5	**81.39**	**330**	P	**P**	**20 00 13.6**	**+0.2**
TXAR	**Lajitas Array** 0.6nm,0.8s,baz=347,slow=2.8,SNR=4.3	**145.84**	**22**	PKPbc	**PKPdf**	**20 07 37.8**	**+1.4**

ISCJB ***11*** *19:48:09.7± 0.6, 39.°08N ± 0.°03 × 27.°11E ± 0.°04, h8km ± 4km, Error ellipse: s-maj=5.3km s-min=3.8km az=44.6*

CSEM ***11*** *19:48:09.6± 0.2, 39.°05N × 27.°14E, h10km, ML2.1, Error ellipse: s-maj=4.3km s-min=2.9km az=163.0*

ISK ***11*** *19:48:09.3, 39.°07N × 27.°13E, h8km, ML2.1/8*

DDA ***11*** *19:48:09.4, 39.°07N × 27.°11E, h7km, Ml2.7*

ISC 11 19:48:09.6± 1.0, 39.°07N ± 0.°02 × 27.°14E ± 0.°02, h12km ± 7km, n34, σ 0s 61/50, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DKL	**Dikili**	**0.19**	**271**		**Pg**	**19 48 13.8**	**+0.1**
DKL				SG	**Sg**	**19 48 16.5**	**0.0**
DKL	**Dikili**	**0.19**	**271**	*e*Pg	**Pg**	**19 48 13.8**	**+0.1**
DKL				*e*Sg	**Sg**	**19 48 16.5**	**0.0**
STEP	**BALIKESIR_Sava**	**0.54**	**55**	*i* P	**Pb**	**19 48 20.7**	**-0.4**
STEP				*i* S	**Sb**	**19 48 28.9**	**+0.1**
STEP	**BALIKESIR_Sava**	**0.54**	**55**	P	**Pb**	**19 48 20.7**	**-0.4**
STEP				S	**Sb**	**19 48 28.9**	**+0.1**
BALY	**Balya**	**0.77**	**29**	*i* P	**Pg**	**19 48 23.3**	**-1.1**
BALY				*i* S	**Sb**	**19 48 36.8**	**+1.5**
BALY	**Balya**	**0.77**	**29**	P	**Pg**	**19 48 23.3**	**-1.1**
BALY				S	**Sb**	**19 48 36.8**	**+1.5

GERES	GERESS Array B	80.90	319	P		P	20 08 11.4	+0.4
	0.2nm,0.5s,baz=111,slow=5.4,SNR=3.3							
TXAR	Lajitas Array	144.47	25	PKP		PKPdf	20 15 34.0	+0.2
	0.2nm,0.5s,baz=266,slow=2.0,SNR=3.9							

*NEIC **11** 20:03:14.1±0.0, 19.08N×68.62W, h165km, MD3.6(RSPR), After RSPR.*
NEIC Felt at Aguadilla, Puerto Rico.
RSPR 11 20:03:14.2, 19.08N×68.62W, h165km±8km, MD3.6/8, 9C-3D, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IDE	Isla Desecheo	1.28	122	⫴eP	Pn	20 03 43.8	+0.9
IDE	Isla Desecheo	1.28	122	ePn	Pn	20 03 43.8	+0.9
AGP	Aguadilla	1.55	115	ePn	Pn	20 03 46.8	+1.4
LSP	Las Mesas	1.71	121	⫴eP	Pn	20 03 47.4	+0.4
LSP	Las Mesas	1.71	121	eS	Sn	20 04 13.9	+1.5
LSP	Las Mesas	1.71	121	eSn	Sn	20 04 13.9	+1.5
CRPR	Cabo Rojo, PR	1.78	126	⫴eP	Pn	20 03 47.1	-0.8
CRPR	Cabo Rojo, PR	1.78	126	ePn	Pn	20 03 46.9	-0.9
AOPR	Arecibo Observ	1.91	112	⫴eP	Pn	20 03 49.7	+0.4
AOPR	Arecibo Observ	1.91	112	eS	Sn	20 04 16.8	+0.4
AOPR	Arecibo Observ	1.91	112	ePn	Pn	20 03 49.7	+0.4
AOPR				eS	Sn	20 04 16.8	+0.4
EMPR	Esperanza - Ma	2.06	106	⫴eP	Pn	20 03 51.9	+0.9
EMPR	Esperanza - Ma	2.06	106	eS	Sn	20 04 20.5	+1.1
EMPR	Esperanza - Ma	2.06	106	⫴eP	Pn	20 03 51.9	+0.9
EMPR				eS	Sn	20 04 20.5	+1.1
CELP	Cerrillos	2.17	117	⫴eP	Pn	20 03 52.3	+0.1
CELP				eS	Sn	20 04 21.4	-0.2
CELP	Cerrillos	2.17	117	ePn	Pn	20 03 52.3	+0.1
SJG	San Juan	2.53	112	⫴eP	Pn	20 03 57.2	+0.8
SJG	San Juan	2.53	112	eS	Sn	20 04 29.0	-0.1
SJG	San Juan	2.53	112	ePn	Pn	20 03 56.7	+0.3
SJG				eSn	Sn	20 04 29.0	-0.1
SDDR	Presa de Saban	2.53	268	⫴eP	Pn	20 03 55.8	-0.7
SDDR	Presa de Saban	2.53	268	ePn	Pn	20 03 55.8	-0.7
CBYP	Canovanas	2.73	107	⫴eP	Pn	20 03 59.0	0.0
CBYP	Canovanas	2.73	107	eS	Sn	20 04 33.3	-0.4
CBYP	Canovanas	2.73	107	eSn	Sn	20 04 33.3	-0.4
CUPR	Culebra, Puert	3.25	103	⫴eP	Pn	20 04 05.9	+0.6
CUPR	Culebra, Puert	3.25	103	⫴eP	Pn	20 04 05.9	+0.6

*ISCJB **11** 20:04:52.8±0.5, 6.84N±0.03×73.13W±0.04, h153km±4km, mb3.0/3, Error ellipse: s-maj=7.1km s-min=4.7km az=28.8*
*IDC **11** 20:04:53.4±1.3, 6.76N×72.93W, h164km±14km, mb2.8/3, mb1 3.3/5, mb1mx3.0/44, mbtmp3.5/5, Error ellipse: s-maj=35.2km s-min=14.8km az=128.0*
*RSNC **11** 20:04:54.5±1.1, 6.80N×73.14W, h145km±5km, ML3.9, Mw4.2*
ISC 11 20:04:53.1±0.8, 6.82N±0.04×73.12W±0.05, h152km±6km, n29, σ0.85/43, mb3.2/3, 1D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BARC	Barichara	0.23	196	*i* P	Pn	20 05 14.2	+0.2
BARC				eS	Sn	20 05 28.7	-1.2
BARC				*i*		20 05 30.5	
	comp=Z,2μm,0.2s						
BRRC	Barranca, Sant	0.66	296	⫴*i* P	Pn	20 05 16.1	+0.6
BRRC				eS	Sn	20 05 32.6	+0.1
BRRC				*i*		20 05 34.1	
	comp=Z,2μm,0.4s						
PAMC	Pamplona, Colo	0.67	39	*i* P	Pn	20 05 17.1	+1.0
PAMC				eS	Sn	20 05 33.9	+0.2
PTBC	PUERTO BERRIO,	1.36	258	eP	Pn	20 05 20.7	-0.7
PTBC				eS	Sn	20 05 41.7	-1.2
PTBC				*i*		20 05 44.0	
	comp=Z,464nm,0.2s						
OCAC	Ocana	1.43	352	*i* P	Pn	20 05 22.8	+0.6
OCAC				eS	Sn	20 05 44.8	+0.3
YOPC	Yopal, Colombi	1.61	154	*i* P	Pn	20 05 24.1	0.0
YOPC				eS	Sn	20 05 48.1	+0.2
ZARC	Zaragoza, Cauc	1.85	291	eP	Pn	20 05 26.8	+0.2
ZARC				eS	Sn	20 05 53.1	+0.7
ZARC				*i*		20 05 58.1	
	comp=Z,620nm,0.7s						
NORC	Norcasia	2.14	234	eP	Pn	20 05 29.9	-0.2
NORC				eS	Sn	20 05 57.8	-0.7
CHIC	Chingaza	2.26	196	eP	Pn	20 05 32.4	+0.6
CHIC				eS	Sn	20 06 01.6	0.0
ROSC	El Rosal	2.30	211	P	Pn	20 05 33.7	+1.4
	comp=Z,356nm,0.3s,baz=50,slow=0.5,SNR=67						
ROSC	El Rosal	2.30	211	eP	Pn	20 05 34.0	+1.7
HELC	Santa Helena	2.47	256	eP	Pn	20 05 34.2	-0.1
HELC				eS	Sn	20 06 04.7	-1.3
HELC				*i*		20 06 13.2	
	comp=Z,423nm,0.3s						
VILC	Villavicencio,	2.75	192	eP	Pn	20 05 37.9	+0.3
GUYC	Guyana, Colomb	2.76	235	eP	Pn	20 05 38.8	+0.8
GUYC				eS	Sn	20 06 12.9	+0.4
GUYC				*i*		20 06 20.9	
	comp=Z,444nm,0.4s						
RREF	El Recreo	2.92	229	eP	Pn	20 05 41.2	+1.1
RREF				eS	Sn	20 06 17.5	+1.1
RREF				*i*		20 06 23.9	
	comp=Z,307nm,0.4s						
DBBC	Dabeiba	3.08	274	eP	Pn	20 05 42.5	+0.9
CODC	Agust'›n Codaz	3.11	354	eP	Pn	20 05 42.2	+0.2
CODC				eS	Sn	20 06 20.9	+1.0
CODC				*i*		20 06 41.5	
	comp=Z,203nm,0.4s						
SDV	Santo Domingo	3.21	50	P	Pn	20 05 43.9	+0.5
	comp=Z,18nm,0.3s,baz=232,slow=11,SNR=72						
SDV				S	Sn	20 06 21.2	-1.1
	comp=Z,61nm,0.3s,baz=257,slow=24,SNR=33						
SDV	Santo Domingo	3.21	50	eP	Pn	20 05 43.8	+0.5
ANIL	Santa Ana	3.24	225	eP	Pn	20 05 45.1	+1.2
ANIL				*i*		20 06 31.1	
	comp=Z,603nm,0.3s						
PRAC	Prado	3.55	210	eP	Pn	20 05 47.5	-0.2
SJAC	San Juan de Ar	3.62	193	eP	Pn	20 05 50.0	+1.5
SJAC				*i*		20 06 38.7	
	comp=Z,376nm,0.3s						
PLMC	San Jos'' del	3.68	239	eP	Pn	20 05 49.9	+0.6
YOTC	Yotoco, Valle	4.27	229	eP	Pn	20 05 57.1	+0.1
TXAR	Lajitas Array	36.47	312	P	P	20 11 44.7	+1.0
	comp=Z,0.2nm,0.4s,baz=118,slow=7.9,SNR=2.9						
PDAR	Pinedale Array	48.08	324	P	P	20 13 17.5	-0.2
	comp=Z,0.1nm,0.5s,baz=115,slow=10,SNR=2.1						
YKA	Yellowknife Ar	63.27	340	P	P	20 15 04.8	-0.4
	comp=Z,0.2nm,0.5s,baz=133,slow=6.7,SNR=6.9						
ASAR	Alice Springs	149.11	234	PKPbc	PKPbc	20 24 23.2	-1.2
	comp=Z,0.7nm,0.5s,baz=120,slow=3.5,SNR=13						
WRA	Warramunga Arr	150.34	241	PKPbc	PKPbc	20 24 26.1	-1.3
	comp=Z,1.0nm,0.6s,baz=108,slow=2.8,SNR=11						

*IDC **11** 20:04:56.0±1.8, 8.08S×118.04E, h0km, mb3.8/3, mb1 3.9/6, mb1mx3.5/59, mbtmp3.8/6, ML3.6/3, MS3.3/1, Ms1 3.5/1, ms1mx2.9/35, Error ellipse: s-maj=96.5km s-min=22.1km az=53.0*
*ISCJB **11** 20:04:58.7±0.9, 7.97S±0.08×118.18E±0.06, h33km, mb3.9/3, MS3.2/1, Error ellipse: s-maj=11.9km s-min=8.8km az=179.8*
*DJA **11** 20:04:58.7±0.3, 8°S±3'×11.8E±°, h10km, M3.7/6, MLv3.7/6*
ISC 11 20:05:01.2±1.1, 8.08S±0.10×118.10E±0.07, h35km, n11, σ0.95/12, mb3.9/3, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLAI	Plampang	0.81	204	P	Pn	20 05 15.2	-0.9
PLAI				S	Sn	20 05 28.6	+1.7
WSI	Waingapu	2.68	126	P	Pn	20 05 42.3	+0.4
SRBI	Singaraja	2.86	270	P	Pn	20 05 43.7	-0.7
JAGI	Jajag, Banyuwa	3.93	264	P	Pn	20 05 59.5	+0.4
BATI	Baumata	5.88	111	Pn	Pn	20 06 25.7	-0.3
	1.6nm,0.3s,baz=297,slow=14,SNR=3.6						
FITZ	Fitzroy Crossi	12.36	144	Pn	Pn	20 07 55.3	+0.5
	0.2nm,0.3s,baz=328,slow=12,SNR=6.1						
FITZ				Sn	Sn	20 10 09.7	-1.8
	0.2nm,0.3s,baz=305,slow=13,SNR=4.0						
WRA	Warramunga Arr	19.65	129	P	P	20 09 27.0	-0.2
	0.2nm,0.3s,baz=303,slow=12,SNR=7.7						
ASAR	Alice Springs	21.67	137	P	P	20 09 49.0	0.0
	2.9nm,0.6s,baz=315,slow=8.8,SNR=28						
STKA	Stephens Creek	32.22	141	P	P	20 11 26.0	-0.3
	0.7nm,0.5s,baz=306,slow=8.2,SNR=4.6						
CMAR	Chiang Mai Arr	32.45	325	LR	LR	20 26 34.5	
	comp=Z,48nm,18.2s,baz=45,slow=40						
ZALV	Zalesovo Beam	67.88	340	P	P	20 15 56.0	+0.1
	0.4nm,0.3s,baz=158,slow=6.1,SNR=2.8						

IDC 11 20:05:18.9±1.9, 2.76N×89.87E, h0km, mb3.5/5, mb1 3.6/7, mb1mx3.4/74, mbtmp3.5/7, ML3.3/2, Error ellipse: s-maj=49.0km s-min=26.9km az=47.0, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PALK	Pallekele	10.17	297	Pn	Pn	20 07 47.4	+1.0
	0.3nm,0.3s,baz=114,slow=20,SNR=2.2						
PALK				Sn	Sn	20 09 31.8	-9.5
	2.1nm,0.3s,baz=18,slow=20,SNR=6.1						
CMAR	Chiang Mai Arr	17.96	29	P	Pn	20 09 29.6	-0.6
	0.0nm,0.3s,baz=213,slow=13,SNR=2.9						
H08S3	Diego Garcia H	20.18	239	T	T	20 30 05.6	
	baz=59,slow=75,SNR=5.1						
H08S2	Diego Garcia H	20.18	239	T	T	20 30 05.6	
	baz=59,slow=75,SNR=5.9						
H08S1	Diego Carcia H	20.20	239	T	T	20 30 05.6	
	baz=59,slow=75,SNR=2.5						
MKAR	Makanchi Array	44.35	353	P	P	20 13 30.9	-0.1
	0.2nm,0.4s,baz=165,slow=8.7,SNR=4.7						
SONM	Songino Array	47.12	15	P	P	20 13 54.8	+1.8
	1.3nm,0.6s,baz=196,slow=8.9,SNR=8.6						
KURBB	Kurchatov Arra	48.65	350	P	P	20 14 04.6	+0.1
	0.3nm,0.8s,baz=174,slow=6.0,SNR=3.5						
WRA	Warramunga Arr	49.13	119	P	P	20 14 08.6	-0.3
	0.5nm,0.5s,baz=298,slow=8.8,SNR=6.4						
BVAR	Borovoye Array	52.63	345	P	P	20 14 32.6	-2.1
	0.3nm,0.5s,baz=164,slow=5.7,SNR=2.6						

IDC 11 20:05:36.2±21.0, 1.54N×90.97E, h0km, mb3.5/4, mb1 3.5/5, mb1mx3.2/75, mbtmp3.4/5, ML3.5/1, Error ellipse: s-maj=431.6km s-min=82.9km az=153.0, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	Chiang Mai Arr	18.54	24	P	P	20 09 54.6	0.0
	0.1nm,0.3s,baz=225,slow=11,SNR=3.4						
MKAR	Makanchi Array	45.70	352	P	P	20 13 58.3	-0.8
	0.4nm,0.5s,baz=172,slow=8.0,SNR=5.1						
KURBB	Kurchatov Arra	50.03	350	P	P	20 14 32.8	+0.4
	0.3nm,0.6s,baz=163,slow=6.8,SNR=3.7						
ZALV	Zalesovo Beam	52.48	355	P	P	20 14 49.7	-1.2
	0.7nm,0.5s,baz=165,slow=7.3,SNR=3.4						
BVAR	Borovoye Array	54.09	345	P	P	20 15 03.7	+1.0
	0.2nm,0.5s,baz=161,slow=9.2,SNR=2.6						

*ISCJB **11** 20:07:27.1±0.6, 50.20N±0.04×19.13E±0.04, h0km, Error ellipse: s-maj=6.6km s-min=2.7km az=20.1*
*CSEM **11** 20:07:28.4±0.4, 50.22N×19.22E, h1km, ML2.7/8, Error ellipse: s-maj=9.6km s-min=4.3km az=17.0*
*PRU **11** 20:07:29.0, 50.22N×19.22E, h0km*
*WAR **11** 20:07:29.9, 50.18N×19.34E, h1km, Mw2.5*
ISC 11 20:07:28.5±0.8, 50.12N±0.05×19.26E±0.02, h0km, n31, σ0.84/51, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OJC	Ojcow	0.36	74	ePg	Pg	20 07 35.5	+0.1
OJC				eSg	Sg	20 07 39.9	-0.2
OJC	Ojcow	0.36	74	ePg	Pg	20 07 35.5	+0.1
OJC				eSg	Sg	20 07 39.9	-0.2
OJC	Ojcow	0.36	74	ePg	Pg	20 07 35.5	+0.1
OJC				eSg	Sg	20 07 39.9	-0.2
OKC	Ostrava-Krasne	0.77	249	ePG	Pb	20 07 45.4	+0.6
OKC				eSG	Sb	20 07 56.7	+0.9
	comp=Z,19nm,0.5s						
OKC	Ostrava-Krasne	0.77	249	Pg	Pb	20 07 45.4	+0.6
OKC				Sg	Sb	20 07 56.7	+0.9
	19nm,0.5s						
NIE	Niedzica	0.98	136	ePg	Pn	20 07 49.1	-0.5
NIE				eSg	Sb	20 08 02.4	+0.6
NIE	Niedzica	0.98	136	ePg	Pn	20 07 49.1	-0.5
NIE				eSg	Sb	20 08 02.4	+0.6
NIE	Niedzica	0.98	136	ePg	Pn	20 07 49.1	-0.5
NIE				eSg	Sb	20 08 02.4	+0.6
LANS	Liptovska Anna	0.98	172	ePg	Pn	20 07 49.4	-0.2
LANS				eSg	Sn	20 08 04.3	0.0
LANS	Liptovska Anna	0.98	172	ePG	Pn	20 07 49.4	-0.2
LANS				eSG	Sn	20 08 04.3	0.0
KRLC	Kraliky	1.59	269	ePG	Pn	20 07 57.7	-0.4
KRLC				eSG	Sn	20 08 18.6	-0.8
	comp=Z,5.9nm,0.5s						
KRLC	Kraliky	1.59	269	Pg	Pn	20 07 57.7	-0.4
KRLC				Sg	Sn	20 08 18.6	-0.8
	5.9nm,0.5s						
VYHS	Vyhne	1.65	190	ePn	Pb	20 07 59.8	-0.1
VYHS				eSn	Sn	20 08 20.4	-0.4
VYHS	Vyhne	1.65	190	ePN	Pb	20 07 59.8	-0.1
VYHS				eSN	Sn	20 08 20.4	-0.4
VYHS				eLG	Lg	20 08 28.0	
DPC	Dobruska-Polom	1.90	278	ePG	Pn	20 08 02.7	+0.5
DPC				eSG	Sb	20 08 28.2	-0.1
	comp=Z,16nm,0.4s						
DPC	Dobruska-Polom	1.90	278	Pg	Pn	20 08 02.7	+0.5
DPC				Sg	Sb	20 08 28.2	-0.1
	16nm,0.4s						
KSP	Ksiaz	2.03	292	ePg	Pg	20 08 07.9	+0.5
KSP				eSg	Sg	20 08 33.1	-0.5
KSP	Ksiaz	2.03	292	ePg	Pg	20 08 07.9	+0.5
KSP				eSg	Sg	20 08 33.1	-0.5
KSP	Ksiaz	2.03	292	ePg	Pg	20 08 07.9	+0.5
KSP				eSg	Sg	20 08 33.1	-0.5
UPC	Upice	2.12	282	eSG	Sb	20 08 33.7	-0.9
	comp=Z,12nm,0.6s						
UPC	Upice	2.12	282	Sg	Sb	20 08 33.7	-0.9
	12nm,0.6s						
GOPC	GO Pecny, Ondr	2.89	268	eSG	Sb	20 08 58.4	+1.5
	comp=Z,6.0nm,0.5s						
GOPC	GO Pecny, Ondr	2.89	268	Sg	Sb	20 08 58.4	+1.5
	6.0nm,0.5s						
PVCC	Panska Ves	3.03	279	eSG	Sg	20 09 05.7	-0.2
	comp=Z,8.5nm,0.5s						
PVCC	Panska Ves	3.03	279	Sg	Sg	20 09 05.7	-0.2
	8.5nm,0.5s						
PRU	Pruhonice	3.04	269	eSG	Sg	20 09 04.5	-1.7
	comp=9.3nm,0.8s						
PRU	Pruhonice	3.04	269	Sg	Sg	20 09 04.5	-1.7
	9.3nm,0.8s						
BRG	Berggiesshubel	3.48	285	SG	Sg	20 09 19.4	-0.8
	4.5nm,0.5s						
KHC	Kasperske Hory	3.82	257	*ex*	Sb	20 09 26.7	+3.0
KHC				eSG	Sg	20 09 30.2	-1.1
	comp=Z,4.5nm,0.6s						
NKC	Novy Kostel	4.38	274	eSG	Sg	20 09 47.8	-1.3
NKC	Novy Kostel	4.38	274	Sg	Sg	20 09 47.8	-1.3

IDC 11 20:10:46.5±9.8, 0.96S×90.03E, h0km, mb3.5/5, mb1 3.7/6, mb1mx3.3/78, mbtmp3.6/6, ML3.8/1, Error ellipse: s-maj=182.7km s-min=53.5km az=176.0, South Indian Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PALK	Pallekele	12.39	311	Pn	Pn	20 13 45.1	+0.7
	0.5nm,0.3s,baz=115,slow=16,SNR=2.9						
CMAR	Chiang Mai Arr	21.20	24	P	P	20 15 33.9	0.0
	0.8nm,0.6s,baz=218,slow=9.6,SNR=10						
MKAR	Makanchi Array	48.04	353	P	P	20 19 26.4	-1.2
	0.2nm,0.5s,baz=156,slow=7.3,SNR=2.8						
SONM	Songino Array	50.65	14	P	P	20 19 48.0	+0.3
	1.3nm,0.6s,baz=197,slow=8.8,SNR=6.2						
KURBB	Kurchatov Arra	52.32	351	P	P	20 20 00.1	+0.2
	0.3nm,0.6s,baz=163,slow=7.7,SNR=4.0						
ZALV	Zalesovo Beam	54.89	356	P	P	20 20 19.0	+0.2
	0.5nm,0.4s,baz=164,slow=6.0,SNR=2.8						

*IPEC **11** 20:13:25.5±0.3, 51.61N×16.21E, h0km, ML3.1/3, Error ellipse: s-maj=3.2km s-min=1.7km az=66.0*
*ISCJB **11** 20:13:25.6±0.3, 51.47N±0.02×16.11E±0.02, h0km, mb3.5/7, Error ellipse: s-maj=2.6km s-min=1.8km az=7.7*
*CSEM **11** 20:13:27.0±0.2, 51.51N×16.12E, h2km, ML3.9/18, Error ellipse: s-maj=3.4km s-min=2.4km az=10.0*

*LDG **11** 20:13:27.0±0.3, 51.44N×16.06E, h1km, Ml3.6/6, Error ellipse: s-maj=8.7km s-min=4.1km az=22.0, Suspected Mining induced.*
*IDC **11** 20:13:27.7±0.6, 51.49N×16.04E, h0km, mb3.5/6, mb1 3.6/13, mb1mx3.4/70, mbtmp3.5/13, ML3.3/7, Error ellipse: s-maj=11.8km s-min=6.4km az=108.0*
*BGR **11** 20:13:28.1±0.5, 51.49N×16.12E, h1km, ML3.5/17, Error ellipse: s-maj=7.8km s-min=2.2km az=9.0*
ISC 11 20:13:25.7±0.5, 51.53N±0.02×16.10E±0.02, h0km, n152, σ1.89/243, mb3.6/7, 4C-17D, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSP	Ksiaz	0.70	170	*i* Pg	Pb	20 13 40.5	-0.3
KSP				eSg	Sg	20 13 49.5	+1.3
KSP				*e*		20 13 52.6	
KSP	Ksiaz	0.70	170	ePg	Pb	20 13 40.5	-0.3
KSP	Ksiaz	0.70	170	Pg	Pb	20 13 40.5	-0.3
KSP				eSg	Sg	20 13 49.5	+1.3
UPC	Upice	1.03	183	⫴*i* PG	Pb	20 13 46.5	+0.1
UPC				eSG	Sg	20 13 59.8	+1.1
	comp=Z,509nm,0.5s						
UPC	Upice	1.03	183	Pg	Pb	20 13 46.5	+0.1
UPC				Sg	Sg	20 13 59.8	+1.1
	509nm,0.5s						
DPC	Dobruska-Polom	1.19	173	ePg	Pg	20 13 49.3	+0.7
DPC	Dobruska-Polom	1.19	173	⫴ePG	Pg	20 13 49.3	+0.7
DPC				eSG	Sg	20 14 04.2	+0.2
	comp=Z,161nm,0.4s						
DPC	Dobruska-Polom	1.19	173	Pg	Pg	20 13 49.3	+0.7
DPC				Sg	Sg	20 14 04.2	+0.2
	161nm,0.4s						
PVCC	Panska Ves	1.40	224	⫴ePG	Pb	20 13 53.4	+0.7
PVCC				eSG	Sn	20 14 12.7	+1.1
	comp=Z,614nm,0.2s						
PVCC	Panska Ves	1.40	224	Pg	Pb	20 13 53.4	+0.7
PVCC				Sg	Sn	20 14 12.7	+1.1
	614nm,0.2s						
BRG	Berggiesshubel	1.51	245	PN	Pn	20 13 54.5	+0.5
BRG				PG	Pg	20 13 56.2	+1.5
BRG				SG	Sn	20 14 16.0	+1.6
	251nm,0.4s						
BRG	Berggiesshubel	1.51	245	ePn	Pb	20 13 55.0	+0.4
BRG				eSg	Sn	20 14 16.1	+1.7
BRG	Berggiesshubel	1.51	245	Pn	Pb	20 13 55.0	+0.4
BRG				Sg	Sn	20 14 16.1	+1.7
KRLC	Kraliky	1.52	163	⫴ePG	Pn	20 13 54.8	+0.6
KRLC				eSG	Sg	20 14 13.2	-1.4
	comp=Z,46nm,0.6s						
KRLC	Kraliky	1.52	163	Pg	Pn	20 13 54.8	+0.6
KRLC				Sg	Sg	20 14 13.2	-1.4
	46nm,0.6s						
PRA	Prague	1.81	217	⫴ePN	Pn	20 13 59.0	+0.9
PRA	Prague	1.81	217	Pn	Pn	20 13 59.0	+0.9
GOPC	GO Pecny, Ondr	1.82	208	⫴ePN	Pn	20 13 58.9	+0.5
GOPC				ePG	Pg	20 14 00.9	+0.2
GOPC				eSG	Sb	20 14 23.8	+0.4
	comp=Z,88nm,0.4s						
GOPC	GO Pecny, Ondr	1.82	208	Pn	Pn	20 13 58.9	+0.5
FBE	Freiberg	1.83	252	ePn	Pn	20 13 59.1	+0.7
FBE				eSg	Sg	20 14 26.1	+1.5
FBE	Freiberg	1.83	252	Pn	Pn	20 13 59.1	+0.7
FBE				Sg	Sg	20 14 26.1	+1.5
PRU	Pruhonice	1.84	213	⫴ePN	Pn	20 13 59.0	+0.5
PRU				ePG	Pb	20 14 00.5	+0.3
PRU				eSG	Sb	20 14 24.4	+0.7
	comp=Z,90nm,0.3s						
PRU	Pruhonice	1.84	213	Pn	Pn	20 13 59.0	+0.5
GKP	Gorka Klasztor	1.87	21	ePn	Pg	20 14 02.4	+0.8
GKP				ePg	Pb	20 14 08.2	+7.4
GKP				eSn	Sg	20 14 31.1	+5.3
GKP				eSg	Sb	20 14 34.7	+10
GKP	Gorka Klasztor	1.87	21	ePn	Pg	20 14 02.4	+0.8
CLL	Collm	1.95	265	ePn	Pn	20 14 00.7	+0.6
CLL	Collm	1.95	265	*i* Pn	Pn	20 14 00.6	+0.6
	comp=Z,13nm,0.7s						
CLL				*i* Pg	Pg	20 14 04.0	+0.9
CLL				*i*		20 14 08.3	
CLL				eSg	Sg	20 14 30.0	+1.5
	comp=Z,78nm,0.6s						
CLL	Collm	1.95	265	Pn	Pn	20 14 00.7	+0.6
RAC	Raciborz	1.97	137	ePg	Pg	20 14 03.5	+0.1
RAC				eSg	Sg	20 14 29.9	+1.0
MORC	Moravsky Berou	1.98	152	ePn	Pn	20 14 01.1	+0.5
MORC	Moravsky Berou	1.98	152	⫴*i* P	Pn	20 14 01.1	+0.5
MORC	Moravsky Berou	1.98	152	⫴*i* P	Pn	20 14 01.1	+0.5
MORC				S	Sb	20 14 28.1	+0.1
MORC				eSg	Sg	20 14 29.0	-0.4
	comp=Z,152nm,0.7s						
OKC	Ostrava-Krasne	2.14	142	ePn	Pn	20 14 02.9	+0.3
OKC				eSg	Sg	20 14 34.0	-0.4
OKC	Ostrava-Krasne	2.14	142	⫴ePN	Pn	20 14 03.0	+0.3
OKC				ePG	Pg	20 14 06.9	+0.2
OKC				eSG	Sb	20 14 33.8	+1.4
	comp=Z,119nm,0.6s						
OKC	Ostrava-Krasne	2.14	142	Pn	Pn	20 14 02.9	+0.3
OKC	Ostrava-Krasne	2.14	142	Pg	Pg	20 14 06.9	+0.2
OKC				Sg	Sg	20 14 34.0	-0.4
CHZP	Chorzow	2.21	123	ePn	Pn	20 14 03.8	+0.1
CHZP				ePg	Pg	20 14 09.6	+1.5
CHZP				eSn	Sn	20 14 29.6	-2.1
CHZP				eSg	Sg	20 14 38.6	+1.9
VRAC	Vranov	2.25	172	Pn	Pn	20 14 05.3	+1.1
	comp=Z,5.0nm,0.3s,baz=338,slow=14,SNR=34						
VRAC				Lg	Lg	20 14 37.5	
	comp=Z,11nm,0.3s,baz=260,slow=20,SNR=9.1						
VRAC	Vranov	2.25	172	⫴*i* P	Pn	20 14 05.5	+1.3
VRAC	Vranov	2.25	172	ePn	Pn	20 14 05.7	+0.5
VRAC	Vranov	2.25	172	⫴*i* P	Pn	20 14 05.5	+1.3
VRAC				S	Sg

LANS	**Liptovska Anna**	**3.21 137**	*e*Pn		**Pn**	**20 14 18.8**	**+1.3**
LANS	**Liptovska Anna**	**3.21 137**	*e*PN		**Pn**	**20 14 18.8**	**+1.3**
LANS			*e*PG		**Pg**	**20 14 26.8**	**-0.5**
LANS			*e*SG		**Sg**	**20 15 09.7**	**+0.7**
MODS	**Modra-Piesok**	**3.25 166**	*e*Pn		**Pn**	**20 14 18.0**	**0.0**
MODS	**Modra-Piesok**	**3.25 166**	*e*PN		**Pn**	**20 14 18.0**	**0.0**
MODS			*e*PG		**Pg**	**20 14 28.6**	**+0.6**
MODS			*e*SG		**Sg**	**20 15 09.6**	**-0.6**
NIE	**Niedzica**	**3.42 127**	*e*Pn		**Pn**	**20 14 21.6**	**+1.4**
NIE			*e*Pg		**Pg**	**20 14 31.6**	**+0.5**
NIE			*e*Sg		**Sg**	**20 15 17.2**	**+1.7**
NIE	**Niedzica**	**3.42 127**	*e*Pn		**Pn**	**20 14 21.6**	**+1.4**
VYHS	**Vyhne**	**3.52 149**	*e*Pn		**Pn**	**20 14 22.5**	**+0.9**
VYHS	**Vyhne**	**3.52 149**	*e*PN		**Pn**	**20 14 22.5**	**+0.9**
VYHS			*e*PG		**Pg**	**20 14 33.7**	**+0.6**
VYHS			*e*SG		**Sg**	**20 15 16.1**	**-2.5**
VYHS			*e*LG	Lg		20 15 31.8	
CLZ	**Clausthal**	**3.58 277**	*e*Pn		**Pn**	**20 14 24.4**	**+1.9**
CLZ	**Clausthal**	**3.58 277**	Pn		**Pn**	**20 14 24.4**	**+1.9**
CONA	**Conrad Observa**	**3.61 183**	Pn		**Pn**	**20 14 24.6**	**+1.6**
	comp=Z,0.2nm,0.1s						
CONA	**Conrad Observa**	**3.61 183**	Pg		**Pg**	**20 14 34.7**	**-0.2**
	comp=Z,19nm,0.4s						
CONA			Sg		**Sg**	**20 15 21.6**	**-0.1**
	comp=Z,50nm,0.5s						
CONA	**Conrad Observa**	**3.61 183**	*i* Pn		**Pn**	**20 14 24.6**	**+1.6**
	comp=Z,0.2nm,0.1s						
CONA			*i* Pg		**Pg**	**20 14 34.7**	**-0.2**
	comp=Z,19nm,0.4s						
CONA			*i* Sg		**Sg**	**20 15 21.6**	**-0.1**
	comp=Z,50nm,0.5s						
GRA1	**Grafenberg Arr**	**3.61 241**	Pn		**Pn**	**20 14 24.4**	**+1.5**
GRA1			Sg		**Sg**	**20 15 23.5**	**+1.7**
GRF	**Grafenberg Arr**	**3.61 241**	*e*Pn		**Pn**	**20 14 24.4**	**+1.5**
GRF			*e*Sg		**Sg**	**20 15 23.5**	**+1.7**
BSD	**Bornholm Skovb**	**3.66 349**	*i* P		**Pn**	**20 14 24.4**	**+0.9**
BSD			*i* S		**Sn**	**20 15 06.5**	**-0.8**
BSD	**Bornholm Skovb**	**3.66 349**	*i* P		**Pn**	**20 14 24.4**	**+0.9**
BSD			*i* S		**Sn**	**20 15 06.5**	**-0.8**
SOP	**Sopron**	**3.87 175**	*e*Pn		**Pn**	**20 14 30.3**	**+3.9**
SOP			*e*Sn		**Sg**	**20 15 27.0**	**-2.8**
SOP	**Sopron**	**3.87 175**	*e*PN		**Pn**	**20 14 30.3**	**+3.9**
MOA	**Molln**	**3.88 199**	Pn		**Pn**	**20 14 28.0**	**+1.4**
	comp=Z,5.0nm,0.2s						
MOA			Sg		**Sg**	**20 15 31.9**	**+1.7**
	comp=Z,43nm,0.4s						
MOA	**Molln**	**3.88 199**	*i* Pn		**Pn**	**20 14 28.0**	**+1.4**
	comp=Z,5.0nm,0.2s						
MOA			*e*Sg		**Sg**	**20 15 31.9**	**+1.7**
	comp=Z,43nm,0.4s						
STHS	**Stebnicka Huta**	**3.91 121**	*e*Pn		**Pn**	**20 14 28.2**	**+1.2**
STHS	**Stebnicka Huta**	**3.91 121**	*e*PN		**Pn**	**20 14 28.2**	**+1.2**
STHS			*e*PG		**Pg**	**20 14 42.2**	**+1.6**
STHS			*e*SG		**Sg**	**20 15 30.5**	**-0.7**
STHS			*e*LG	Lg		20 15 48.1	
ARSA	**Arzberg**	**4.30 185**	Pn		**Pn**	**20 14 35.7**	**+3.3**
	comp=Z,3.0nm,0.3s						
ARSA			Sg		**Sg**	**20 15 42.3**	**-1.6**
	comp=Z,58nm,0.7s						
ARSA	**Arzberg**	**4.30 185**	*i* Pn		**Pn**	**20 14 35.7**	**+3.3**
	comp=Z,3.0nm,0.3s						
ARSA			*e*Sg		**Sg**	**20 15 42.3**	**-1.6**
	comp=Z,58nm,0.7s						
CRVS	**Cervenica-Dubn**	**4.33 125**	*e*Pn		**Pn**	**20 14 34.6**	**+1.8**
CRVS	**Cervenica-Dubn**	**4.33 125**	*e*PN		**Pn**	**20 14 34.6**	**+1.8**
CRVS			*e*PG		**Pg**	**20 14 50.1**	**+1.4**
CRVS			*e*SG		**Sg**	**20 15 43.5**	**-1.3**
PSZ	**Piszkesteto**	**4.38 144**	*i* P		**Pn**	**20 14 35.0**	**+1.6**
PSZ	**Piszkesteto**	**4.38 144**	*e*P		**Pn**	**20 14 35.1**	**+1.6**
PSZ	**Piszkesteto**	**4.38 144**	*i* P		**Pn**	**20 14 35.0**	**+1.6**
PSZ			S		**Sn**	**20 15 28.7**	**+3.5**
LLD	**Lille Linde**	**4.46 330**	*i* P		**Pn**	**20 14 34.0**	**-0.4**
LLD	**Lille Linde**	**4.46 330**	*i* P		**Pn**	**20 14 34.1**	**-0.4**
	SNR=49						
KWP	**Kalwaria Pacla**	**4.62 112**	*e*Pn		**Pn**	**20 14 37.5**	**+0.8**
KWP			*e*Pg		**Pg**	**20 14 52.5**	**-1.7**
KWP			*e*Sg		**Sg**	**20 15 59.4**	**+5.4**
KWP	**Kalwaria Pacla**	**4.62 112**	*e*Pn		**Pn**	**20 14 37.5**	**+0.8**
KBA	**Koelnbreinsper**	**4.81 203**	Pn		**Pn**	**20 14 41.2**	**+1.7**
	comp=Z,7.0nm,0.4s						
KBA			Sg		**Sg**	**20 15 58.5**	**-1.7**
	comp=Z,16nm,0.5s						
KBA	**Koelnbreinsper**	**4.81 203**	*i* Pn		**Pn**	**20 14 41.2**	**+1.7**
	comp=Z,7.0nm,0.4s						
KBA			*i* Sg		**Sg**	**20 15 58.5**	**-1.7**
	comp=Z,16nm,0.5s						
OBKA	**Obir**	**5.13 192**	*i* Sg		**Sb**	**20 15 59.8**	**+1.2**
	comp=Z,15nm,0.6s						
WATA	**Walderalm**	**5.13 217**	Pn		**Pn**	**20 14 46.3**	**+2.4**
	comp=Z,8.3nm,0.6s						
WATA	**Walderalm**	**5.13 217**	*i* Pn		**Pn**	**20 14 46.3**	**+2.4**
	comp=Z,8.3nm,0.6s						
WTTA	**Wattenberg**	**5.17 216**	Pn		**Pn**	**20 14 47.0**	**+2.5**
	comp=Z,2.4nm,0.3s						
WTTA			Sg		**Sg**	**20 16 14.1**	**+2.2**
	comp=Z,14nm,0.5s						
WTTA	**Wattenberg**	**5.17 216**	*i* Pn		**Pn**	**20 14 47.0**	**+2.5**
	comp=Z,2.4nm,0.3s						
WTTA			*i* Sg		**Sg**	**20 16 14.1**	**+2.2**
	comp=Z,14nm,0.5s						
MOTA	**Moosalm**	**5.31 220**	Pn		**Pn**	**20 14 47.5**	**+1.1**
	comp=Z,5.5nm,0.5s						
MOTA	**Moosalm**	**5.31 220**	*i* Pn		**Pn**	**20 14 47.5**	**+1.1**
	comp=Z,5.5nm,0.5s						
ABTA	**Abfaltersbach**	**5.34 208**	Pn		**Pn**	**20 14 48.5**	**+1.8**
	comp=Z,3.1nm,0.4s						
ABTA			Sg		**Sg**	**20 16 20.5**	**+3.4**
	comp=Z,20nm,0.6s						
ABTA	**Abfaltersbach**	**5.34 208**	*e*Pn		**Pn**	**20 14 48.5**	**+1.8**
	comp=Z,3.1nm,0.4s						
ABTA			*i* Sg		**Sg**	**20 16 20.5**	**+3.4**
	comp=Z,20nm,0.6s						
GOLS	**Golise**	**5.54 183**	*i* Pn		**Pn**	**20 14 51.3**	**+1.9**
GOLS	**Golise**	**5.54 183**	*i* Pn		**Pn**	**20 14 51.3**	**+1.9**
CRNS	**Crni Vrh**	**5.59 193**	*i* Pn		**Pn**	**20 14 51.5**	**+1.4**
CRNS	**Crni Vrh**	**5.59 193**	*i* Pn		**Pn**	**20 14 51.5**	**+1.4**
FETA	**Feichten**	**5.72 220**	Pn		**Pn**	**20 14 53.6**	**+1.6**
	comp=Z,1.0nm,0.3s						
FETA	**Feichten**	**5.72 220**	*i* Pn		**Pn**	**20 14 53.6**	**+1.6**
	comp=Z,1.0nm,0.3s						
VISS	**Visnje**	**5.80 189**	*i* Pn		**Pn**	**20 14 54.6**	**+1.7**
VISS	**Visnje**	**5.80 189**	*i* Pn		**Pn**	**20 14 54.6**	**+1.7**
DAVA	**Damuels**	**5.88 226**	Pn		**Pn**	**20 14 54.9**	**+0.7**
	comp=Z,2.6nm,0.3s						
DAVA	**Damuels**	**5.88 226**	*i* Pn		**Pn**	**20 14 54.9**	**+0.7**
	comp=Z,2.6nm,0.3s						
BOJS	**Bojanci**	**6.06 186**	*i* Pn		**Pn**	**20 14 58.6**	**+2.1**
BOJS	**Bojanci**	**6.06 186**	*i* Pn		**Pn**	**20 14 58.6**	**+2.1**
DRGR		**6.42 135**	*i* P		**Pn**	**20 15 02.3**	**+0.7**
DRGR		**6.42 135**	*i* P		**Pn**	**20 15 02.3**	**+0.7**
DRGR			S		**Sn**	**20 16 15.3**	**-0.3**
CDF	**Champ du Feu**	**6.49 245**	*e*Pn		**Pn**	**20 15 00.8**	**-1.8**
CDF	**Champ du Feu**	**6.49 245**	*e*P		**Pn**	**20 15 04.0**	**+1.4**
CDF			*e*Sg		**Sg**	**20 16 50.5**	**-3.7**
	comp=Z,34nm,0.8s						
CDF	**Champ du Feu**	**6.49 245**	*e*P		**Pn**	**20 15 04.0**	**+1.4**
HINF	**Hinteralfeld**	**7.06 242**	*e*Pn		**Pn**	**20 15 08.6**	**-1.7**
HINF			*e*Sg		**Sg**	**20 17 05.6**	**-6.7**
	comp=Z,14nm,0.6s						
BURAR	**Bucovina Array**	**7.11 120**	*i* P		**Pn**	**20 15 11.9**	**+0.9**
BURAR	**Bucovina Array**	**7.11 120**	*i* P		**Pn**	**20 15 11.9**	**+0.9**
HAU	**Haudompre**	**7.24 245**	*e*Pn		**Pn**	**20 15 11.0**	**-1.7**
HAU			*e*Sg		**Sg**	**20 17 11.0**	**-7.0**
	comp=Z,16nm,0.6s						
GIVF	**Givet**	**7.29 263**	*e*Sg		**Sg**	**20 17 21.2**	**+1.5**
	comp=Z,14nm,0.6s						
PAGF	**Fort de Pagny**	**7.32 250**	*e*Sg		**Sg**	**20 17 13.9**	**-6.6**
	comp=Z,5.1nm,0.8s						
BAIF	**Baives**	**7.68 264**	*e*Sg		**Sg**	**20 17 26.2**	**-6.1**
	comp=Z,26nm,1.1s						
MEZF	**Maizieres J'vi**	**7.74 251**	*e*Pn		**Pn**	**20 15 17.4**	**-2.1**
AKASG	**Malin Array Be**	**8.30 91**	Pn		**Pn**	**20 15 27.1**	**-0.1**
	comp=Z,2.2nm,0.3s,baz=280,slow=12,SNR=11						
AKASG			Sn		**Sn**	**20 16 53.5**	**-8.1**
	comp=Z,1.0nm,0.3s,baz=276,slow=22,SNR=2.8						
AKASG			Lg	Lg		20 17 50.5	
	baz=277,slow=25,SNR=2.6						
HFS	**Hagfors**	**8.73 352**	Pn		**Pn**	**20 15 33.5**	**+0.5**
	comp=Z,0.2nm,0.3s,baz=157,slow=14,SNR=6.9						
LOR	**Lormes**	**9.05 247**	*e*Pn		**Pn**	**20 15 35.8**	**-1.8**
NOA	**NORSAR Array B**	**9.90 346**	Pn		**Pn**	**20 15 48.5**	**-0.7**
	comp=Z,0.2nm,0.3s,baz=315,slow=26,SNR=4.6						
FINES	**FINESS Array B**	**11.34 25**	Pn		**Pn**	**20 16 08.6**	**-0.3**
	comp=Z,0.3nm,0.3s,baz=203,slow=12,SNR=11						
FINES			Sn		**Sn**	**20 18 07.6**	**-8.5**
	comp=Z,0.2nm,0.3s,baz=214,slow=20,SNR=3.8						
EKA	**Eskdalemuir Ar**	**12.09 296**	Pn		**Pn**	**20 16 16.7**	**-2.4**
	baz=95,slow=14,SNR=4.6						
VAE	**Valguarrena**	**14.11 186**	Pn		**Pn**	**20 16 45.0**	**-1.8**
	comp=Z,0.7nm,0.3s,baz=11,slow=10,SNR=2.3						
ARCES	**ARCESS Array B**	**18.60 10**	Pn		**P**	**20 17 41.6**	**-2.6**
	comp=Z,0.3nm,0.3s,baz=192,slow=11,SNR=7.9						
ARU	**Arti**	**25.13 62**	P		**P**	**20 18 54.2**	**+2.1**
	comp=Z,1.5nm,0.4s,baz=277,slow=17,SNR=3.2						
AKTO	**Aktyubinsk**	**26.15 76**	P		**P**	**20 19 00.5**	**-0.9**
	comp=Z,0.6nm,0.4s,baz=270,slow=7.1,SNR=2.9						
BVAR	**Borovoye Array**	**32.58 66**	P		**P**	**20 20 00.4**	**+2.0**
	comp=Z,0.4nm,0.5s,baz=280,slow=8.6,SNR=4.6						
KURBB	**Kurchatov Arra**	**38.17 66**	P		**P**	**20 20 47.6**	**+1.1**
	comp=Z,0.6nm,0.9s,baz=295,slow=8.8,SNR=3.0						
TORD	**Torodi Ar. Bea**	**40.02 202**	P		**P**	**20 21 03.4**	**+1.1**
	comp=Z,0.3nm,0.6s,baz=11,slow=7.3,SNR=3.1						
YKA	**Yellowknife Ar**	**59.83 336**	P		**P**	**20 23 34.4**	**+2.1**
	comp=Z,0.4nm,0.7s,baz=29,slow=6.5,SNR=4.5						
PDAR	**Pinedale Array**	**74.92 322**	P		**P**	**20 25 10.4**	**+1.9**
	comp=Z,0.2nm,0.5s,baz=52,slow=5.9,SNR=2.9						

IDC ***11*** *20:13:27.0±1.3,2.°02N×93.°79E, h0km, mb4.0/10, mb1 4.1/11, mb1mx3.7/75, mbtmp4.0/11, ML3.7/1, Error ellipse: s-maj=50.5km s-min=21.1km az=54.0*

ISCJB ***11*** *20:13:27.1±1.0,2.°1N±0.°1×93.°9E±0.°2, h10km, mb4.0/10, Error ellipse: s-maj=30.6km s-min=15.7km az=147.9*

DJA ***11*** *20:13:46.8±1.8,0.°N±5.°×9.°6E±1.°0, h31km±33km, M4.4/6, mB5.3/1, mb4.8/1, MLv4.2/6, Mw(mB)4.8/1*

ISC 11 20:13:27.7±1.0,1.°9N±0.°1×93.°85E±0.°10, h10km, n18, σ1§46/15, mb4.1/10, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MLSI	**Meulaboh, Aceh**	**3.46**	**47**	P		Pg	20 14 47.8	+14
TPTI		**3.59**	**68**	P		**Pg**	**20 14 35.2**	**-1.3**
GSI	**Gunungsitoli**	**3.77**	**99**	P		Pn	20 14 16.4	-10
GSI				S		**Pb**	**20 14 36.8**	**+2.3**
LHMI	**Lhok Sumawe**	**4.52**	**43**	P		Pg	20 15 00.9	+6.6
TSI	**Tuntungan**	**4.97**	**71**	P		Pb	20 14 48.8	-6.0
SISI	**Saibi**	**6.15**	**122**	S		**Pb**	**20 15 12.7**	**-2.3**
CMAR	**Chiang Mai Arr**	**17.18**	**17**	P		**Pn**	**20 17 26.7**	**-1.4**
	0.1nm,0.3s,baz=212,slow=12,SNR=9.8							
WRA	**Warramunga Arr**	**45.27**	**121**	P		**P**	**20 21 48.6**	**+2.7**
	0.7nm,1.0s,baz=299,slow=8.7,SNR=2.9							
MKAR	**Makanchi Array**	**45.82**	**349**	P		**P**	**20 21 50.1**	**+0.2**
	3.8nm,0.6s,baz=165,slow=8.6,SNR=31							
ASAR	**Alice Springs**	**46.51**	**126**	P		**P**	**20 21 56.6**	**+0.9**
	0.6nm,0.9s,baz=311,slow=8.4,SNR=3.9							
SONM	**Songino Array**	**47.02**	**12**	P		**P**	**20 21 59.6**	**+0.2**
	1.0nm,0.7s,baz=193,slow=9.3,SNR=4.8							
GEYT	**Alibeck**	**48.56**	**322**	P		**P**	**20 22 12.2**	**+0.8**
	1.4nm,0.5s,baz=183,slow=8.9,SNR=5.7							
KURBB	**Kurchatov Arra**	**50.24**	**347**	P		**P**	**20 22 24.2**	**+0.3**
	2.0nm,0.7s,baz=170,slow=6.8,SNR=19							
ZALV	**Zalesovo Beam**	**52.40**	**353**	P		**P**	**20 22 40.1**	**+0.1**
	2.4nm,0.4s,baz=192,slow=8.1,SNR=12							
BVAR	**Borovoye Array**	**54.53**	**343**	P		**P**	**20 22 55.2**	**-0.6**
	1.1nm,0.6s,baz=132,slow=8.6,SNR=8.5							
FINES	**FINESS Array B**	**77.83**	**333**	P		**P**	**20 25 24.4**	**-0.8**
	2.3nm,0.9s,baz=94,slow=4.2,SNR=3.2							
GERES	**GERESS Array B**	**82.07**	**319**	P		**P**	**20 25 49.0**	**+0.4**
	1.1nm,0.7s,baz=100,slow=5.5,SNR=6.8							
TXAR	**Lajitas Array**	**144.69**	**27**	PKP		**PKPdf**	**20 33 04.6**	**-1.1**
	0.3nm,0.6s,baz=266,slow=1.5,SNR=4.5							

ISCJB ***11*** *20:15:25.0±0.8,0.°8N±0.°1×91.°9E±0.°1, h10km, mb3.9/10, MS3.9/3, Error ellipse: s-maj=21.3km s-min=11.1km az=37.5*

IDC ***11*** *20:15:25.8±1.0,0.°80N×91.°87E, h0km, mb3.8/10, mb1 3.9/12, mb1mx3.6/77, mbtmp3.8/12, ML3.6/2, MS3.9/3, Ms1 3.9/3, ms1mx3.1/47, Error ellipse: s-maj=40.8km s-min=16.5km az=51.0*

NEIC ***11*** *20:15:27.4±0.8,0.°92N×91.°99E, h10km, mb4.1/1, Error ellipse: s-maj=19.2km s-min=10.7km az=209.0*

ISC 11 20:15:27.2±1.0,0.°9N±0.°2×92.°0E±0.°1, h10km, n21, σ1§14/16, mb4.0/10, MS3.8/3, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**9.67**	**63**	*e*P		**Pn**	**20 17 44.0**	**-2.5**
	24nm,1.0s							
PALK	**Pallekele**	**12.91**	**300**	Pn		**Pn**	**20 18 29.1**	**-1.8**
	0.3nm,0.3s,baz=114,slow=19,SNR=1.6							
PALK				Sn		Sn	20 20 44.8	-10
	1.4nm,0.3s,baz=130,slow=0.9,SNR=5.5							
KSM	**Kuching**	**18.32**	**88**	*e*P		**Pn**	**20 19 42.3**	**+0.7**
	17nm,1.1s							
CMAR	**Chiang Mai Arr**	**18.71**	**21**	P		**Pn**	**20 19 47.5**	**+1.1**
	0.1nm,0.3s,baz=219,slow=13,SNR=5.1							
H01W3	**Cape Leeuwin H**	**41.21**	**152**	T		T	21 06 52.7	
	baz=324,slow=75,SNR=6.9							
H01W2	**Cape Leeuwin H**	**41.22**	**152**	T		T	21 06 53.8	
	baz=324,slow=75,SNR=3.6							
H01W1	**Cape Leeuwin H**	**41.23**	**152**	T		T	21 06 53.1	
	baz=324,slow=75,SNR=7.9							
WRA	**Warramunga Arr**	**46.38**	**119**	P		**P**	**20 23 54.9**	**+0.7**
	1.0nm,0.7s,baz=299,slow=8.5,SNR=5.0							
MKAR	**Makanchi Array**	**46.47**	**351**	P		**P**	**20 23 55.2**	**+0.8**
	1.2nm,0.6s,baz=168,slow=8.4,SNR=6.9							
ASAR	**Alice Springs**	**47.48**	**124**	P		**P**	**20 24 03.6**	**+0.9**
	0.4nm,0.8s,baz=300,slow=8.0,SNR=3.5							
GEYT	**Alibeck**	**48.22**	**324**	LR		LR	20 45 26.7	
	comp=Z,55nm,20.2s,baz=215,slow=37							
SONM	**Songino Array**	**48.37**	**13**	P		**P**	**20 24 10.6**	**+1.2**
	0.8nm,0.6s,baz=190,slow=9.7,SNR=4.7							
SONM				LR		LR	20 46 14.8	
	comp=Z,415nm,18.5s,baz=105,slow=38							
KURBB	**Kurchatov Arra**	**50.82**	**349**	P		**P**	**20 24 28.5**	**+0.7**
	1.1nm,0.6s,baz=172,slow=6.7,SNR=9.7							
KURK	**Kurchatov**	**50.89**	**349**	*e*P		**P**	**20 24 28.3**	**0.0**
ZALV	**Zalesovo Beam**	**53.18**	**355**	P		**P**	**20 24 45.8**	**+0.4**
	1.1nm,0.4s,baz=178,slow=8.1,SNR=4.5							
BVAR	**Borovoye Array**	**54.95**	**344**	P		**P**	**20 24 58.6**	**+0.3**
	0.4nm,0.6s,baz=120,slow=8.5,SNR=2.9							
STKA	**Stephens Creek**	**57.12**	**130**	P		**P**	**20 25 13.4**	**-0.8**
	1.4nm,0.9s,baz=312,slow=14,SNR=2.2							
KBZ	**Khabaz**	**60.95**	**321**	P		**P**	**20 25 41.5**	**+1.0**
	1.8nm,0.9s,baz=31,slow=1.5,SNR=3.7							
BRTR	**Keskin Array B**	**65.50**	**314**	P		**P**	**20 26 11.2**	**+0.2**
	2.0nm,0.9s,baz=156,slow=3.9,SNR=2.4							
VRAC	**Vranov**	**79.80**	**320**	LR		LR	21 08 55.3	
	comp=Z,44nm,18.1s,baz=226,slow=40							
TXAR	**Lajitas Array**	**146.39**	**25**	PKPbc		**PKPab**	**20 35 10.0**	**-0.1**
	0.3nm,0.7s,baz=325,slow=1.1,SNR=3.2							

JMA ***11*** *20:18:14.7±0.1,38.°99N×142.°39E, h33km±2km, M3.7*

IDC ***11*** *20:18:18.5±2.8,38.°87N×142.°46E, h61km±25km, mb3.2/8, mb1 3.4/11, mb1mx3.2/73, mbtmp3.5/11, ML3.2/3, MS4.2/1, Ms1 4.2/1, ms1mx3.3/12, Error ellipse: s-maj=24.8km s-min=15.4km az=115.0*

ISC 11 20:18:13.7±2.2,39.°00N±0.°04×142.°37E±0.°07, h14km±12km, n30, σ1§47/35, mb3.5/8, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**0.55**	**279**	P		**Pn**	**20 18 26.3**	**-0.9**
OFUJ				S		**Sb**	**20 18 34.1**	**+1.1**
MIYJ	**Miyakonagasawa**	**0.72**	**324**	P		**Pb**	**20 18 28.4**	**+0.3**
MIYJ				*e*S		**Sb**	**20 18 37.7**	**-0.1**
JMK	**Ichinoseki**	**0.90**	**267**	P		**Pb**	**20 18 31.4**	**+0.3**
JMK				S		**Sg**	**20 18 43.1**	**+0.1**
JOM	**Ohasama**	**0.96**	**300**	P		**Pn**	**20 18 32.7**	**-0.1**
JOM				S		**Sn**	**20 18 45.2**	**-1.1**
JIO	**Ouri**	**0.97**	**236**	P		**Pb**	**20 18 31.6**	**-0.7**
JIO				S		**Sb**	**20 18 43.3**	**-1.6**
JTH	**Tanohata**	**1.02**	**337**	P		**Pb**	**20 18 32.8**	**-0.4**
JTH				*e*S		**Sg**	**20 18 45.9**	**-0.9**
JKZ	**Kuzumaki**	**1.27**	**321**	P		**Pb**	**20 18 37.4**	**-0.1**
JKZ				S		**Sg**	**20 18 54.0**	**-0.9**
JRG	**Rokugo**	**1.41**	**287**	P		**Pb**	**20 18 39.8**	**0.0**
JRG				S		**Sg**	**20 18 58.2**	**-1.0**
JOU	**Okura**	**1.48**	**245**	P		**Pn**	**20 18 40.2**	**+0.3**
JOU				S		**Sn**	**20 18 58.6**	**-0.5**
JANG	**Nango**	**1.52**	**335**	P		**Pb**	**20 18 41.3**	**-0.5**
JYK	**Kaneyama**	**1.57**	**268**	P		**Pn**	**20 18 41.9**	**+0.7**
JYK				S		**Sn**	**20 19 01.7**	**+0.4**
MJAR	**Matsushiro Arr**	**4.11 235**	P		**Pn**	**20 19 18.1**	**+1.9**
	2.4nm,0.3s,baz=32,slow=14,SNR=22							
MJAR			S		**Sn**	**20 20 06.5**	**+2.5**
	0.3nm,0.3s,baz=67,slow=14,SNR=2.7							
MAT	**Matsushiro**	**4.11 235**	P		**Pn**	**20 19 18.5**	**+2.4**
ASAJ	**Asahikawa**	**5.12 2**	P		**Pn**	**20 19 32.8**	**+2.9**
	0.5nm,0.3s,baz=183,slow=15,SNR=6.4							
ASAJ			S		**Sn**	**20 20 27.9**	**-0.9**
	0.4nm,0.3s,baz=209,slow=13,SNR=1.8							
KSRS	**Korea Array**	**11.47 267**	P		**Pn**	**20 21 01.3**	**+4.2**
	0.2nm,0.3s,baz=80,slow=14,SNR=2.6							
SONM	**Songino Array**	**27.38 301**	P		**P**	**20 23 59.5**	**+0.9**
	0.2nm,0.4s,baz=111,slow=7.9,SNR=2.3							
H11N2	**WAKE ISLAND Hy**	**28.58 125**	T		T	20 54 31.6		
	baz=317,slow=76,SNR=110							
H11N1	**WAKE ISLAND Hy**	**28.59 125**	T		T	20 54 29.6		
	baz=317,slow=76,SNR=67							
H11N3	**WAKE ISLAND Hy**	**28.60 125**	T		T	20 54 31.0		
	baz=317,slow=76,SNR=57							
H11S1	**WAKE ISLAND Hy**	**29.36 127**	T		T	20 55 31.0		
	baz=318,slow=76,SNR=14							
H11S3	**WAKE ISLAND Hy**	**29.37 127**	T		T	20 55 31.8		
	baz=318,slow=76,SNR=12							
H11S2	**WAKE ISLAND Hy**	**29.38 127**	T		T	20 55 31.2		
	baz=318,slow=76,SNR=8.3							
MKAR	**Makanchi Array**	**43.75 301**	P		**P**	**20 26 18.4**	**-0.1**
	0.4nm,0.6s,baz=84,slow=12,SNR=5.7							
KURBB	**Kurchatov Arra**	**45.42 307**	P		**P**	**20 26 31.6**	**-0.2**
	0.9nm,0.4s,baz=79,slow=8.4,SNR=8.6							
ILAR	**Eielson Array**	**47.44 33**	P		**P**	**20 26 47.6**	**+0.2**
	0.7nm,0.8s,baz=265,slow=6.1,SNR=9.8							
BVAR	**Borovoye Array**	**49.83 311**	P		**P**	**20 27 05.6**	**-0.5**
	0.2nm,0.4s,baz=23,slow=7.8,SNR=2.6							
BATI	**Baumata**	**51.96 204**	LR		LR	20 50 18.5		
	comp=Z,254nm,20.4s,baz=300,slow=37							
WRA	**Warramunga Arr**	**59.11 189**	P		**P**	**20 28 10.3**	**-3.4**
	0.6nm,0.5s,baz=7.5,slow=7.0,SNR=5.0							
YKA	**Yellowknife Ar**	**61.73 31**	P		**P**	**20 28 31.2**	**0.0**
	0.1nm,0.4s,baz=280,slow=8.7,SNR=3.5							
ASAR	**Alice Springs**	**62.84 189**	P		**P**	**20 28 37.8**	**-1.2**
	0.2nm,0.5s,baz=14,slow=9.7,SNR=5.1							

IDC 11 20:19:49.0±24.0, 15.°55S×168.°55E, h233km±72km, mb3.8/4, mb1 3.9/5, mb1mx3.2/49, mbtmp4.3/5, Error ellipse: s-maj=441.0km s-min=77.3km az=71.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**6.78**	**197**	P		Pn	20 21 26.8	0.0
	0.9nm,0.3s,baz=315,slow=10.0,SNR=8.5							
DZM				S		S	20 22 42.4	-2.6
	0.2nm,0.3s,baz=299,slow=19,SNR=1.8							
STKA	**Stephens Creek**	**29.43**	**232**	P		P	20 25 30.8	-0.2
	1.4nm,0.3s,baz=60,slow=13,SNR=14			

0.6nm,0.6s,baz=176,slow=9.1,SNR=5.0
WRA Warramunga Arr 46.38 119 P **P 20 34 03.8 -0.2**
2.5nm,0.7s,baz=351,slow=32,SNR=6.6
ASAR Alice Springs 47.49 124 P **P 20 34 12.5 -0.2**
0.4nm,0.5s,baz=300,slow=7.7,SNR=5.4
SONM Songino Array 48.21 13 P **P 20 34 19.4 +1.4**
1.1nm,0.7s,baz=191,slow=8.9,SNR=5.3
KURBB Kurchatov Arra 50.70 349 P **P 20 34 37.4 +0.6**
0.5nm,0.6s,baz=168,slow=7.3,SNR=4.9
ZALV Zalesovo Beam 53.04 355 P **P 20 34 55.0 +0.8**
0.5nm,0.3s,baz=185,slow=8.9,SNR=3.7
BVAR Borovoye Array 54.84 344 P **P 20 35 08.2 +0.9**
0.2nm,0.4s,baz=154,slow=7.4,SNR=2.6
BRTR Keskin Array B 65.46 314 P **P 20 36 20.6 0.0**
0.5nm,0.7s,baz=112,slow=7.2,SNR=3.0
GERES GERESS Array B 81.55 319 P **P 20 37 55.4 +0.4**
0.3nm,0.5s,baz=109,slow=7.4,SNR=2.4
TXAR Lajitas Array 146.22 25 PKPbc **PKPdf 20 45 16.7 -0.6**
0.8nm,0.8s,baz=237,slow=2.1,SNR=4.8

NIED ***11*** *20:29:00,39.70N×142.10E,h47km,Mw4.7 Best double couple: M₀1.42000×10¹⁶ NP1:φ₀190.00000°,δ19.00000°, λ75.00000°. NP2:φ₀26.00000°,δ72.00000°,λ95.00000°.*
NEIC ***11*** *20:29:12.8±0.4,39.50N×142.08E,h10km,mb4.9/13, Error ellipse: s-maj=9.3km s-min=6.6km az=132.0*
NEIC Recorded [3 JMA] in Iwate.
MOS ***11*** *20:29:15.2±1.0,39.60N×142.05E,h36km,mb4.9/27, Error ellipse: s-maj=7.6km s-min=4.5km az=102.5*
ISCJB ***11*** *20:29:17.3±0.4,39.68N±0.03×142.18E±0.05,h52km±2km, mb4.6/73,MS4.1/12, Error ellipse: s-maj=6.8km s-min=3.7km az=32.6*
JMA ***11*** *20:29:18.4,39.67N×142.13E,h48km±1km,M4.5*
JMA Felt III J1.
IDC ***11*** *20:29:20.9±1.8,39.64N×142.05E,h71km±14km,mb4.1/30, mb1 4.2/34,mb1mx4.1/70,mbtmp4.4/34,MS4.0/8, Ms1 4.0/8,ms1mx3.5/49, Error ellipse: s-maj=13.5km s-min=9.6km az=122.0*
ISC 11 20:29:17.6±0.8,39.64N±0.04×142.22E±0.05,h46km±6km, n221,σ1§43/230,mb4.6/77,MS4.1/12,23C-4D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
MIYJ	**Miyakonagasawa**	**0.31**	**259**	P	**Pn**	**20 29 27.0**	**+0.5**
MIYJ				S	**Sn**	**20 29 32.8**	**+0.1**
JTH	**Tanohata**	**0.41**	**318**	P	**Pn**	**20 29 27.7**	**+0.2**
JTH				S	**Sn**	**20 29 34.0**	**-0.5**
OFUJ	**Ofunato**	**0.70**	**217**	P	**Pn**	**20 29 31.6**	**+0.4**
JOM	**Ohasama**	**0.73**	**257**	P	**Pn**	**20 29 31.9**	**+0.3**
JOM				S	**Sn**	**20 29 41.6**	**-0.2**
JKZ	**Kuzumaki**	**0.77**	**297**	P	**Pn**	**20 29 32.1**	**0.0**
JKZ				S	**Sn**	**20 29 41.8**	**-0.8**
JANG	**Nango**	**0.91**	**324**	P	**Pn**	**20 29 33.8**	**-0.2**
JANG				S	**Sn**	**20 29 45.0**	**-1.0**
JMK	**Ichinoseki**	**1.03**	**229**	P	**Pn**	**20 29 36.1**	**+0.5**
JRG	**Rokugo**	**1.25**	**259**	P	**Pn**	**20 29 38.7**	**+0.1**
JAH	**Hinai**	**1.33**	**295**	P	**Pn**	**20 29 40.0**	**+0.2**
JIO	**Ouri**	**1.36**	**210**	P	**Pn**	**20 29 40.7**	**+0.6**
JTM	**Tenmabayashi**	**1.45**	**323**	P	**Pn**	**20 29 41.3**	**0.0**
ERM	**Erimo**	**2.48**	**16**	*e*Pn	**Pn**	**20 29 56.8**	**+1.4**
ERM	**Erimo**	**2.48**	**16**	*ce*P	**Pn**	**20 29 57.0**	**+1.6**
ERM				pmax	pmax		
	comp=Z,261nm,1.7s						
MJAR	**Matsushiro Arr**	**4.42**	**227**	P	**Pn**	**20 30 25.1**	**+3.0**
	comp=Z,11nm,0.3s,baz=28,slow=12,SNR=259						
MAJO	**Matsushiro**	**4.42**	**227**	*e*Pn	**Pn**	**20 30 24.8**	**+2.6**
MAJO	**Matsushiro**	**4.42**	**227**	*i* P	**Pn**	**20 30 22.2**	**0.0**
MAT	**Matsushiro**	**4.42**	**227**	P	**Pn**	**20 30 24.5**	**+2.3**
MAT				S	**Sn**	**20 31 16.8**	**+4.4**
ASAJ	**Asahikawa**	**4.48**	**4**	P	**Pn**	**20 30 24.6**	**+1.6**
	comp=Z,5.8nm,0.3s,baz=201,slow=12,SNR=32						
ASAJ				S	**Sn**	**20 31 18.3**	**+4.5**
	comp=Z,7.9nm,0.3s,baz=119,slow=19,SNR=3.9						
ASAJ	**Asahikawa**	**4.48**	**4**	*e*Pn	**Pn**	**20 30 23.9**	**+1.0**
ASAJ				S	**Sn**	**20 31 18.3**	**+4.5**
GLVR	**Golovnino**	**4.79**	**30**	*e*P	**Pn**	**20 30 28.4**	**+1.3**
GLVR				*e*S	**Sn**	**20 31 20.5**	**-0.7**
GLVR				pmax	pmax		
	comp=Z,75nm,0.1s						
GLVR				smax	smax		
	comp=N,771nm,0.4s						
GLVR				smax	smax		
	comp=E,508nm,0.3s						
GRPR	**Tuman**	**5.10**	**30**	*e*P	**Pn**	**20 30 32.0**	**+0.6**
GRPR				*e*S	**Sn**	**20 31 25.9**	**-3.0**
GRPR				pmax	pmax		
	comp=Z,109nm,0.2s						
GRPR				pmax	pmax		
	comp=N,66nm,0.1s						
GRPR				pmax	pmax		
	comp=E,62nm,0.2s						
YUK	**Yuzh-Kuril'sk**	**5.17**	**31**	*e*P	**Pn**	**20 30 33.7**	**+1.4**
YUK				*e*S	**Sn**	**20 31 28.1**	**-2.5**
YUK				pmax	pmax		
	comp=N,41nm,0.2s						
YUK				pmax	pmax		
	comp=Z,150nm,0.2s						
YUK				smax	smax		
	comp=N,659nm,0.3s						
YUK				smax	smax		
	comp=E,396nm,0.3s						
SHO	**Shikotan**	**5.46**	**38**	*c i*P	**Pn**	**20 30 36.1**	**-0.2**
SHO				*e*S	**Sn**	**20 31 32.4**	**-5.3**
SHO				pmax	pmax		
	comp=Z,60nm,0.5s						
SHO				smax	smax		
	comp=N,226nm,0.4s						
SHO				smax	smax		
	comp=E,453nm,0.4s						
JHJ	**Hachijo jima 2**	**6.79**	**198**	P	**Pn**	**20 30 54.2**	**-0.5**
	comp=E,12nm,0.3s,baz=72,slow=20,SNR=3.6						
JHJ				S	**Sn**	**20 32 07.2**	**-3.5**
	comp=E,23nm,0.3s,baz=75,slow=20,SNR=2.9						
TEY	**Ternei**	**6.81**	**324**	*e*P	**Pn**	**20 30 57.0**	**+2.2**
TEY				pmax	pmax		
	comp=N,39nm,1.1s						
TEY				pmax	pmax		
	comp=Z,55nm,1.1s						
KUR	**Kuril'sk**	**6.98**	**35**	P	**Pn**	**20 30 57.1**	**-0.1**
KUR				*e*S	**Sn**	**20 32 10.9**	**-4.2**
KUR				pmax	pmax		
	comp=Z,54nm,0.4s						
YSS	**Yuzh-Sakhalins**	**7.32**	**3**	*e*P	**Pn**	**20 31 03.5**	**+1.7**
	comp=Z,33nm,1.1s						
YSS	**Yuzh-Sakhalins**	**7.32**	**3**	*e*P	**Pn**	**20 31 04.0**	**+2.1**
YSS				*e*S	**Sn**	**20 32 25.7**	**+2.1**
YSS				pmax	pmax		
	comp=Z,10.0nm,1.1s						
YSS				MLR	MLR		
	comp=Z,410nm,14.0s						
YSS				MLR	MLR		
	comp=N,340nm,13.0s						
YSS				MLR	MLR		
	comp=E,480nm,13.0s						
VLA	**Vladivostok**	**8.51**	**297**	*i* P	**Pn**	**20 31 15.0**	**-3.1**
VLA				pmax	pmax		
	comp=Z,16nm,0.8s						
MSHR	**Mys Shultsa**	**8.85**	**293**	*ce*P	**Pn**	**20 31 19.9**	**-2.9**
USRK	**Ussuriysk Ar.**	**8.88**	**304**	P	**Pn**	**20 31 26.0**	**+2.8**
	comp=Z,1.3nm,0.3s,baz=115,slow=12,SNR=39						
USRK				LR	LR	20 34 33.5	
	comp=Z,1μm,21.1s,baz=139,slow=36						
JNU	**Nakatsue**	**11.21**	**238**	P	**Pn**	**20 31 57.3**	**+2.1**
	comp=Z,0.6nm,0.3s,baz=102,slow=2.8,SNR=6.0						
TYV	**Tymovskoe**	**11.23**	**1**	*e*P	**Pn**	**20 31 55.8**	**+0.5**
TYV				*e*S	**Sn**	**20 34 00.8**	**+1.5**
TYV				pmax	pmax		
	comp=Z,5.0nm,2.0s						
TYV				pmax	pmax		
	comp=Z,200nm,5.2s						
TYV				smax	smax		
	comp=E,7.0nm,1.6s						
KSRS	**Korea Array**	**11.40**	**263**	P	Pn	20 32 02.8	+5.0
	comp=E,2.8nm,0.3s,baz=71,slow=14,SNR=37						
KSRS				LR	LR	20 36 07.4	
	comp=E,351nm,18.4s,baz=92,slow=36						
KSAR	**Wonju Array Be**	**11.44**	**263**	P	Pn	20 32 02.8	+4.5
KSAR	**Wonju Array Be**	**11.44**	**263**	P	Pn	20 32 02.8	+4.6
GRNR	**Gornyy**	**11.85**	**342**	*i* P	**Pn**	**20 32 07.8**	**+4.0**
KLR	**Kul'dur**	**12.15**	**326**	P	**Pn**	**20 32 10.4**	**+2.5**
	comp=E,0.0nm,0.3s,baz=133,slow=13,SNR=7.3						
KLR	**Kul'dur**	**12.15**	**326**	*i* P	**Pn**	**20 32 06.6**	**-1.3**
TJN	**Taejon**	**12.16**	**259**	*e*P	**Pn**	**20 32 06.4**	**-1.7**
NKL	**Nikolayevsk**	**13.56**	**356**	*e*P	**Pn**	**20 32 28.0**	**+1.0**
ZEA	**Zeya**	**17.39**	**329**	*e*P	**P**	**20 33 17.8**	**+0.3**
ZEA				pmax	pmax		
	comp=Z,24nm,0.9s						
ZEA				MLR	MLR		
	comp=Z,500nm,15.0s						
TIA	**Tai'an**	**20.07**	**268**	P	**P**	**20 33 46.4**	**-0.6**
TIA				pmax	pmax		
	comp=Z,19nm,1.6s						
MA2	**Magadan**	**20.68**	**12**	P	**P**	**20 33 53.9**	**+0.5**
	comp=Z,13nm,0.8s,baz=218,slow=9.8,SNR=5.1						
CIT	**Chita**	**23.33**	**312**	*e*P	**P**	**20 34 21.8**	**+0.2**
CIT				*e*		20 34 28.6	
CIT				*e*		20 34 38.0	
CIT				*e*		20 34 48.8	
CIT				pmax	pmax		
	comp=Z,82nm,1.3s						
YAK	**Yakutsk**	**23.69**	**345**	P	P	20 34 15.5	-9.3
	comp=Z,6.1nm,0.3s,baz=223,slow=1.4,SNR=2.0						
YAK	**Yakutsk**	**23.69**	**345**	*e*P	**P**	**20 34 23.5**	**-1.3**
YAK	**Yakutsk**	**23.69**	**345**	*e*P	**P**	**20 34 22.7**	**-2.1**
YAK				*e*S	**S**	**20 38 33.3**	**-2.9**
YAK				pmax	pmax		
	comp=Z,38nm,1.0s						
YAK				pmax	pmax		
	comp=E,6.0nm,1.1s						
YAK				pmax	pmax		
	comp=N,22nm,1.1s						
YAK				smax	smax		
	comp=N,171nm,3.2s						
YAK				smax	smax		
	comp=E,66nm,2.6s						
SEY	**Seymchan**	**24.12**	**11**	P	**P**	**20 34 29.9**	**+1.2**
	comp=E,21nm,1.0s,baz=191,slow=7.4,SNR=33						
SEY	**Seymchan**	**24.12**	**11**	*ce*P	**P**	**20 34 30.6**	**+1.9**
BOD	**Bodaibo**	**25.72**	**324**	*i* P	**P**	**20 34 42.6**	**-0.8**
BOD				pmax	pmax		
	comp=Z,22nm,1.0s						
ULN	**Ulaanbaatar**	**26.51**	**300**	*e*P	**P**	**20 34 50.0**	**-0.9**
	comp=Z,10nm,1.0s						
ULN	**Ulaanbaatar**	**26.51**	**300**	*ce*P	**P**	**20 34 49.6**	**-1.2**
ULN				pmax	pmax		
	comp=Z,12nm,1.2s						
SONM	**Songino Array**	**26.95**	**300**	P	**P**	**20 34 54.9**	**+0.1**
	comp=Z,2.8nm,0.5s,baz=96,slow=8.7,SNR=17						
XAN	**Xi'an**	**27.13**	**269**	P	**P**	**20 34 55.7**	**-0.7**
XAN				pP	pP	20 35 00.7	-7.7
XAN				sP	sP	20 35 04.0	-10
XAN				pmax	pmax		
	comp=Z,8.0nm,1.0s						
IRK	**Irkutsk**	**28.89**	**309**	*e*P	P	20 35 07.0	-4.9
IRK				pmax	pmax		
	comp=Z,20nm,1.3s						
H11N2	**WAKE ISLAND Hy**	**29.05**	**126**	T	T	21 05 48.5	
	baz=318,slow=75,SNR=6507						
H11N1	**WAKE ISLAND Hy**	**29.06**	**126**	T	T	21 05 53.0	
	baz=318,slow=75,SNR=2065						
H11N3	**WAKE ISLAND Hy**	**29.07**	**126**	T	T	21 05 49.9	
	baz=318,slow=75,SNR=3251						
TLY	**Talaya**	**29.18**	**307**	*e*P	**P**	**20 35 13.9**	**-0.5**
	comp=Z,26nm,1.4s						
TLY	**Talaya**	**29.18**	**307**	*e*P	**P**	**20 35 14.3**	**-0.1**
TLY				pmax	pmax		
	comp=Z,14nm,0.9s						
TLY				MLR	MLR		
	comp=Z,340nm,19.0s						
ZAK	**Zakamensk**	**29.23**	**305**	*e*P	**P**	**20 35 14.4**	**-0.6**
ZAK				pmax	pmax		
	comp=Z,14nm,1.2s						
H11S1	**WAKE ISLAND Hy**	**29.85**	**128**	T	T	21 06 52.3	
	baz=319,slow=76,SNR=156						
H11S3	**WAKE ISLAND Hy**	**29.85**	**128**	T	T	21 06 51.7	
	baz=319,slow=76,SNR=176						
H11S2	**WAKE ISLAND Hy**	**29.87**	**128**	T	T	21 06 51.7	
	baz=319,slow=76,SNR=168						
LZH	**Lanzhou**	**30.35**	**276**	*e*P	**P**	**20 35 26.5**	**+1.4**
LZH				pP	pP	20 35 29.6	-7.6
LZH				sP	sP	20 35 31.2	-11
LZH				pmax	pmax		
	comp=Z,18nm,1.0s						
MOY	**Mondy**	**30.81**	**307**	*e*P	**P**	**20 35 29.2**	**+0.2**
MOY				pmax	pmax		
	comp=Z,24nm,1.9s						
BILL	**Bilibino**	**31.36**	**17**	*e*P	**P**	**20 35 30.8**	**-2.6**
BILL				*e*		20 36 40.0	
BILL				pmax	pmax		
	comp=Z,2.0nm,1.3s						
BILL				MLR	MLR		
	comp=Z,80nm,18.0s						
GTA	**Gaotai**	**32.49**	**283**	*e*P	**P**	**20 35 43.1**	**-0.7**
GTA				pP	pP	20 35 48.2	-7.8
GTA				sP	sP	20 35 51.2	-10
GTA				PcP	PcP	20 37 56.6	-33
GTA				S	S	20 41 35.6	+40
GTA				sS	ScP	20 41 46.5	-23
GTA				SS	SS	20 44 12.8	+56
GTA				pmax	pmax		
	comp=Z,2.0nm,1.0s						
GTA				pmax	pmax		
	comp=Z,220nm,5.2s						
GTA				LR	LR		
	comp=N,250nm,15.6s						
GTA				LR	LR		
	comp=E,400nm,17.3s						
GTA				LR	LR		
	comp=Z,3μm,19.0s						
TIXI	**Tiksi**	**32.79**	**352**	*ce*P	**P**	**20 35 44.4**	**-1.5**
TIXI				pmax	pmax		
	comp=Z,5.0nm,0.7s						
HVS	**Khovu-Aksy**	**35.34**	**305**	*e*P	**P**	**20 36 07.1**	**-1.3**
HVS				pmax	pmax		
	comp=Z,12nm,1.0s						
KRAR	**Krasnoyarsk**	**36.07**	**314**	*e*P	**P**	**20 36 14.2**	**-0.3**
DGZ	**Jazzator, Alta**	**39.43**	**303**	*i* P	**P**	**20 36 43.9**	**+0.7**
DGZ				pmax	pmax		
	comp=Z,10.0nm,0.9s						
ZALV	**Zalesovo Beam**	**40.67**	**310**	P	**P**	**20 36 53.0**	**-0.2**
	comp=Z,8.0nm,0.5s,baz=87,slow=7.6,SNR=39						
ZALV				PcP	**PcP**	**20 38 54.1**	**0.0**
	comp=Z,2.9nm,0.5s,baz=111,slow=2.8,SNR=5.3						
NVS	**Novosibirsk**	**41.54**	**312**	*e*P	**P**	**20 37 00.1**	**-0.2**
CHTO	**Chiang Mai**	**42.59**	**254**	*e*P	**P**	**20 37 09.1**	**-0.2**
	comp=Z,11nm,1.0s						
CHTO	**Chiang Mai**	**42.59**	**254**	*e*P	**P**	**20 37 09.1**	**-0.2**
CHTO				pmax	pmax		
	comp=Z,11nm,1.0s						
CMAR	**Chiang Mai Arr**	**42.81**	**253**	P	**P**	**20 37 11.2**	**+0.1**
	comp=Z,2.2nm,0.8s,baz=46,slow=6.6,SNR=21						
CMAR				PcP	**PcP**	**20 39 02.5**	**+0.8**
	comp=Z,1.1nm,0.8s,baz=19,slow=3.1,SNR=4.5						
MKAR	**Makanchi Array**	**43.32**	**300**	P	**P**	**20 37 14.6**	**-0.3**
	comp=Z,8.0nm,0.6s,baz=84,slow=9.3,SNR=63						
MKAR				PcP	**PcP**	**20 39 02.9**	**-0.1**
	comp=Z,1.5nm,0.8s,baz=90,slow=1.8,SNR=3.3						
KDAK	**Kodiak Island**	**44.76**	**44**	*i* P	**P**	**20 37 28.6**	**+2.4**
KURK	**Kurchatov**	**44.87**	**306**	*e*P	**P**	**20 37 26.6**	**-0.6**
	comp=Z,201nm,0.9s						
KURK				PcP	**PcP**	**20 39 08.7**	**+0.6**
KURK	**Kurchatov**	**44.87**	**306**	*ce*P	**P**	**20 37 26.7**	**-0.5**
KURK				pmax	pmax		
	comp=Z,140nm,1.2s						
KURBB	**Kurchatov Arra**	**44.94**	**306**	P	**P**	**20 37 27.5**	**-0.3**
	comp=Z,20nm,0.8s,baz=80,slow=8.4,SNR=95						
KURBB				PcP	**PcP**	**20 39 08.7**	**+0.3**
	comp=Z,2.6nm,0.9s,baz=75,slow=3.7,SNR=4.6						
ODAN	**Odare**	**46.93**	**272**	*e*P	**P**	**20 37 44.4**	**+0.4**
	comp=Z,27nm,0.8s						
ILAR	**Eielson Array**	**46.97**	**34**	P	**P**	**20 37 45.0**	**+1.4**
	comp=Z,1.7nm,0.7s,baz=266,slow=6.0,SNR=21						
RAMN	**Ramite**	**47.49**	**272**	*e*P	**P**	**20 37 48.3**	**-0.1**
	comp=Z,100nm,1.0s						
GUN	**Gumba**	**47.57**	**274**	*e*P	**P**	**20 37 49.2**	**0.0**
	comp=Z,82nm,0.8s						
KKN	**Kakani**	**48.09**	**274**	*e*P	**P**	**20 37 53.1**	**+0.1**
	comp=Z,39nm,0.8s						
PKIN	**Phulchoki**	**48.11**	**274**	*e*P	**P**	**20 37 52.8**	**-0.4**
	comp=Z,33nm,1.4s						
DMN	**Daman**	**48.32**	**274**	*e*P	**P**	**20 37 54.9**	**+0.1**
	comp=Z,34nm,1.0s						
GKN	**Gorkha**	**48.48**	**275**	*e*P	**P**	**20 37 55.6**	**-0.4**
	comp=Z,36nm,0.8s						
TKM2	**Tokmak 2** SNR=17	**48.99**	**297**	P	**P**	**20 38 00.0**	**+0.3**
DANN	**Dangsing**	**48.99**	**275**	*e*P	**P**	**20 38 00.4**	**+0.4**
	comp=Z,9.9nm,0.8s						
BVAR	**Borovoye Array**	**49.32**	**311**	P	**P**	**20 38 01.6**	**-0.2**
	comp=Z,4.0nm,0.5s,baz=73,slow=7.7,SNR=28						
BVAR				PcP	**PcP**	**20 39 24.3**	**+0.4**
	comp=Z,2.1nm,0.6s,baz=72,slow=4.7,SNR=4.5						
BVAR				LR	LR	21 00 00.0	
	comp=Z,187nm,19.0s,baz=112,slow=37						
BRVK	**Borovoye**	**49.37**	**311**	*e*P	**P**	**20 38 01.7**	**-0.6**
	comp=Z,18nm,0.9s						
BRVK	**Borovoye**	**49.37**	**311**	*e*P	**P**	**20 38 01.7**	**-0.6**
BRVK				pmax	pmax		
	comp=Z,17nm,0.9s						
KOLN	**Koldanda**	**49.40**	**275**	*e*P	**P**	**20 38 03.1**	**+0.1**
	comp=Z,61nm,1.1s						
KBK	**Karagaybulak** SNR=18	**49.53**	**297**	P	**P**	**20 38 03.8**	**0.0**
USP	**Ospenovka** SNR=5.9	**49.62**	**297**	P	**P**	**20 38 04.7**	**+0.3**
FRU	**Bishkek**	**49.69**	**297**	*e*P	**P**	**20 38 05.0**	**+0.1**
FRU				*e*		20 38 24.0	
PYUN	**Piuthan**	**49.70**	**276**	*e*P	**P**	**20 38 05.6**	**+0.2**
	comp=Z,111nm,1.1s						
AAK	**Ala-Archa**	**49.85**	**297**	P	**P**	**20 38 05.8**	**-0.4**
	comp=Z,1.1nm,0.3s,baz=109,slow=3.3,SNR=13						
AAK	**Ala-Archa**	**49.85**	**297**	*e*P	**P**	**20 38 06.8**	**+0.5**
AAK	**Ala-Archa** SNR=6.9	**49.85**	**297**	*i* P	**P**	**20 38 06.1**	**-0.1**
AAK	**Ala-Archa**	**49.85**	**297**	*i* P	**P**	**20 38 05.7**	**-0.5**
AAK				pmax	pmax		
	comp=Z,4.0nm,1.0s						
EKS2	**Erkin-Say** SNR=8.1	**50.33**	**297**	P	**P**	**20 38 09.7**	**-0.1**
AML	**Almayashu** SNR=12	**50.58**	**296**	P	**P**	**20 38 12.6**	**+0.5**
INK	**Inuvik**	**51.79**	**28**	P	**P**	**20 38 22.1**	**+1.8**
	comp=Z,3.2nm,0.6s,baz=312,slow=6.8,SNR=17						
KKAR	**Karatay Array**	**52.40**	**299**	*e*P	**P**	**20 38 24.7**	**-0.5**
	comp=Z,8.2nm,0.8s						
KKAR	**Karatay Array**	**52.40**	**299**	*e*P	**P**	**20 38 24.7**	**-0.5**
KKAR				pmax	pmax		
	comp=Z,8.0nm,0.8s						
SVE	**Sverdlovsk**	**53.63**	**318**	*i* P	**P**	**20 38 34.4**	**+0.4**
SVE				pmax	pmax		
	comp=Z,37nm,0.9s						
NIL	**Nilore**	**54.43**	**287**	*e*P	**P**	**20 38 40.7**	**+0.4**
	comp=Z,66nm,0.9s						
NIL	**Nilore**	**54.43**	**287**	*e*P	**P**	**20 38 40.7**	**+0.4**
NIL				pmax	pmax		
	comp=Z,66nm,0.9s						
ARU	**Arti**	**54.85**	**318**	*e*P	**P**	**20 38 42.6**	**-0.2**
	comp=Z,27nm,0.8s						
ARU	**Arti**	**54.85**	**318**	*d i*P	**P**	**20 38 42.5**	**-0.4**
ARU						20 39 45.0	
ARU				S	**S**	**20 46 21.0**	**+0.5**
ARU				SS	**SS**	**20 49 58.9**	**-4.7**
ARU				pmax	pmax		
	comp=Z,33nm,1.0s						
ARU				MLR	MLR		
	comp=Z,294nm,17.0s						
LEM	**Lembang**	**56.21**	**223**	P	**P**	**20 38 52.3**	**-1.0**
	comp=Z,26nm,0.7s,baz=40,slow=19,SNR=4.6						
ABKAR	**Akbulak array**	**56.77**	**309**	*e*P	**P**	**20 38 56.2**	**-0.5**
	comp=Z,12nm,0.6s						
AKTO	**Aktyubinsk**	**57.43**	**311**	P	**P**	**20 39 01.9**	**+0.5**
	comp=Z,7.7nm,0.8s,baz=73,slow=13,SNR=22						
WRA	**Warramunga Arr**	**59.73**	**189**	P	**P**	**20 39 17.2**	**-0.4**
	comp=Z,5.2nm,0.9s,baz=7.2,slow=7.2,SNR=22						
RES	**Resolute Bay**	**59.92**	**15**	*e*P	**P**	**20 39 18.8**	**+0.5**
	comp=Z,4.7nm,0.9s						
RES	**Resolute Bay**	**59.92**	**15**	*e*P	**P**	**20 39 18.8**	**+0.5**
RES				pmax	pmax		
	comp=Z,5.0nm,0.9s						
TMCR	**Tamitsa**	**60.77**	**331**	*e*P	**P**	**20 39 24.8**	**+0.5**
TMCR				pmax	pmax		
	comp=Z,18nm,0.9s						
YKA	**Yellowknife Ar**	**61.25**	**31**	P	**P**	**20 39 28.7**	**+1.2**
	comp=Z,0.5nm,0.6s,baz=298,slow=6.8,SNR=13						
ARCES	**ARCESS Array B**	**61.79**	**339**	P	**P**	**20 39 31.4**	**+0.3**
	comp=Z,3.3nm,0.9s,baz=47,slow=8.9,SNR=4.7						
KLMR	**Klimovskoe**	**61.90**	**327**	*e*P	**P**	**20 39 29.2**	**-2.8**
KLMR				AMP		20 39 33.1	
	comp=Z,12nm,0.9s						
KLMR				*e*PP	**PP**	**20 41 44.2**	**-3.9**
KLMR	**Klimovskoe**	**61.90**	**327**	*e*P	**P**	**20 39 29.2**	**-2.8**
KLMR				pmax	pmax		
	comp=Z,12nm,0.9s						
GEYT	**Alibeck**	**63.15**	**298**	P	**P**	**20 39 40.6**	**-0.1**
	comp=Z,4.9nm,0.8s,baz=38,slow=2.6,SNR=13						
ASAR	**Alice Springs**	**63.45**	**189**	P	**P**	**20 39 43.1**	**+0.5**
	comp=Z,2.8nm,0.9s,baz=14,slow=7.0,SNR=19						
VRH	**Novokhopyorsk**	**66.08**	**317**	*e*P	**P**	**20 39 59.2**	**-0.4**
VRH				pmax	pmax		
	comp=Z,10.0nm,0.8s						
OBN	**Obninsk**	**66.40**	**323**	*e*P	**P**	**20 40 00.9**	**-0.6**
OBN				*e*		20 40 29.1	
OBN				*e*		20 42 25.9	
OBN				pmax	pmax		
	comp=Z,56nm,2.5s						
LPSR	**Galich'ya Gora**	**66.72**	**320**	*e*P	**P**	**20 40 02.8**	**-0.8**
LPSR				pmax	pmax		
	comp=Z,10.0nm,0.9s						
FINES	**FINESS Array B**	**66.81**	**332**	P	**P**	**20 40 03.9**	**-0.2**
	comp=Z,6.8nm,0.6s,baz=38,slow=9.2,SNR=28						
VSR	**Storozhevoye**	**67.40**	**318**	*e*P	**P**	**20 40 07.7**	**-0.2**
VSR				pmax	pmax		
	comp=Z,20nm,1.3s						
VSU	**Vasula**	**68.53**	**329**	*ce*P	**P**	**20 40 15.4**	**+0.5**
VSU				pmax	pmax		
	comp=Z,40nm,1.0s						
GOF	**Gofitskoye**	**68.84**	**311**	*e*P	**P**	**20 40 17.7**	**+0.6**
GOF				pmax	pmax		
	comp=Z,38nm,1.0s						
NCK	**Nalchik**	**69.42**	**310**	*e*P	**P**	**20 40 20.6**	**-0.2**
NCK				pmax	pmax		
	comp=Z,11nm,1.2s						
ZEI	**Tsey**	**69.64**	**309**	*e*P	**P**	**20 40 19.3**	**-3.1**
ZEI				pmax	pmax		
	comp=Z,5.0nm,0.8s						
KIV	**Kislovodsk**	**69.69**	**311**	*e*P	**P**	**20 40 23.2**	**+0.7**
	comp=Z,35nm,1.0s						
KIV	**Kislovodsk** SNR=18	**69.69**	**311**	*i* P	**P**	**20 40 23.1**	**+0.6**
KIV	**Kislovodsk**	**69.69**	**311**	*e*P	**P**	**20 40 22.7**	**+0.2**
KIV				pmax	pmax		
	comp=Z,44nm,1.1s						
KIV				MLR	MLR		
	comp=Z,67nm,17.0s						
**KBZ

	comp=Z,80nm,16.7s						
SORM	**Soroca**	**74.78**	**321**	*i*P	**P**	**20 40 53.2**	**+0.5**
PDAR	**Pinedale Array**	**75.40**	**46**	P	**P**	**20 40 58.1**	**+1.4**
	comp=Z,0.6nm,0.6s,baz=238,slow=2.5,SNR=8.1						
KWP	**Kalwaria Pacla**	**76.38**	**324**	*e*P	**P**	**20 41 03.1**	**+1.2**
KWP	**Kalwaria Pacla**	**76.38**	**324**	*e*P	**P**	**20 41 03.1**	**+1.2**
TLCR		**76.56**	**318**	*i*P	**P**	**20 41 04.9**	**+2.0**
BURAR	**Bucovina Array**	**76.66**	**322**	*i*P	**P**	**20 41 04.1**	**+0.5**
TESR	**Tescani**	**76.74**	**320**	*i*P	**P**	**20 41 03.6**	**-0.3**
CFR	**Carcaliu**	**76.92**	**318**	*i*P	**P**	**20 41 05.9**	**+1.0**
ULM	**Lac du Bonnet**	**76.99**	**34**	P	**P**	**20 41 06.0**	**+0.8**
	comp=Z,1.1nm,0.4s,baz=330,slow=8.4,SNR=3.6						
VRI	**Vrincioaia**	**77.15**	**320**	*i*P	**P**	**20 41 08.6**	**+2.3**
STHS	**Stebnicka Huta**	**77.19**	**325**	*e*P	**P**	**20 41 07.7**	**+1.2**
STHS	**Stebnicka Huta**	**77.19**	**325**	*e*P	**P**	**20 41 07.7**	**+1.2**
STHS				pmax	pmax		
	comp=Z,4.0nm,0.9s						
OJC	**Ojcow**	**77.23**	**326**	*e*P	**P**	**20 41 07.6**	**+1.0**
OJC	**Ojcow**	**77.23**	**326**	*e*P	**P**	**20 41 07.6**	**+1.0**
UZH	**Uzhgorod**	**77.30**	**324**	*e*P	**P**	**20 41 08.3**	**+1.3**
CRVS	**Cervenica-Dubn**	**77.47**	**324**	*e*P	**P**	**20 41 07.8**	**-0.2**
CRVS	**Cervenica-Dubn**	**77.47**	**324**	*e*P	**P**	**20 41 07.8**	**-0.2**
BRTR	**Keskin Array B**	**77.60**	**312**	P	**P**	**20 41 09.0**	**-0.1**
	comp=Z,1.0nm,0.6s,baz=77,slow=5.3,SNR=13						
NIE	**Niedzica**	**77.61**	**325**	*e*P	**P**	**20 41 10.2**	**+1.3**
NIE	**Niedzica**	**77.61**	**325**	*e*P	**P**	**20 41 10.1**	**+1.3**
DOPR	**Dopca**	**77.75**	**320**	*i*P	**P**	**20 41 12.2**	**+2.6**
MLR	**Muntele Rosu**	**77.81**	**320**	LR	LR	21 19 03.6	
	comp=Z,34nm,18.2s,baz=44,slow=38						
MLR	**Muntele Rosu**	**77.81**	**320**	*i*P	**P**	**20 41 11.3**	**+1.2**
CJR	**Cluj-Napoca**	**78.08**	**322**	*i*P	**P**	**20 41 13.2**	**+1.7**
LANS	**Liptovska Anna**	**78.17**	**326**	*e*P	**P**	**20 41 13.9**	**+2.0**
LANS	**Liptovska Anna**	**78.17**	**326**	*e*P	**P**	**20 41 13.9**	**+2.0**
KSP	**Ksiaz**	**78.22**	**328**	*e*P	**P**	**20 41 13.2**	**+1.1**
KSP	**Ksiaz**	**78.22**	**328**	*e*P	**P**	**20 41 13.2**	**+1.1**
MORC	**Moravsky Berou**	**78.52**	**327**	*i*P	**P**	**20 41 14.6**	**+0.7**
ARR	**Arges**	**78.54**	**320**	*i*P	**P**	**20 41 16.2**	**+2.1**
DPC	**Dobruska-Polom**	**78.59**	**328**	*e*P	**P**	**20 41 15.0**	**+0.8**
DPC				*ex*	x	20 41 34.2	
DPC	**Dobruska-Polom**	**78.59**	**328**	*e*P	**P**	**20 41 15.0**	**+0.8**
DPC				*e*		20 41 34.2	
VYHS	**Vyhne**	**78.94**	**326**	*e*P	**P**	**20 41 16.7**	**+0.6**
VYHS	**Vyhne**	**78.94**	**326**	*e*P	**P**	**20 41 16.7**	**+0.6**
VYHS				pmax	pmax		
	comp=Z,3.0nm,1.2s						
BRG	**Berggiesshubel**	**79.13**	**330**	*e*P	**P**	**20 41 18.2**	**+1.1**
	comp=Z,5.2nm,1.0s						
BRG	**Berggiesshubel**	**79.13**	**330**	*e*P	**P**	**20 41 18.2**	**+1.1**
BRG				pmax	pmax		
	comp=Z,5.0nm,1.0s						
CLL	**Collm**	**79.15**	**330**	*i* P	**P**	**20 41 17.2**	**0.0**
	comp=Z,22nm,1.5s						
CLL				*i*		20 41 37.5	
CLL	**Collm**	**79.15**	**330**	*i* P	**P**	**20 41 17.2**	**0.0**
CLL				pmax	pmax		
	comp=Z,22nm,1.5s						
VRAC	**Vranov**	**79.28**	**327**	*i*P	**P**	**20 41 18.9**	**+0.9**
PRU	**Pruhonice**	**79.59**	**329**	*e*P	**P**	**20 41 20.7**	**+1.1**
PRU	**Pruhonice**	**79.59**	**329**	*e*P	**P**	**20 41 20.7**	**+1.1**
RAYN	**Ar Rayn**	**80.25**	**292**	*e*P	**P**	**20 41 23.6**	**-0.1**
	comp=Z,7.2nm,1.1s						
KHC	**Kasperske Hory**	**80.65**	**329**	*e*P	**P**	**20 41 26.0**	**+0.6**
KHC				*e*pP	**PcP**	**20 41 31.7**	**-0.4**
KHC				*ex*	x	20 41 43.4	
KHC	**Kasperske Hory**	**80.65**	**329**	*e*P	**P**	**20 41 26.0**	**+0.6**
KHC				*e*		20 41 43.4	
GERES	**GERESS Array B**	**80.83**	**328**	P	**P**	**20 41 26.8**	**+0.4**
	comp=Z,1.4nm,0.7s,baz=35,slow=4.9,SNR=8.7						
EKA	**Eskdalemuir Ar**	**80.89**	**341**	P	**P**	**20 41 26.4**	**-0.1**
	comp=Z,0.8nm,0.5s,baz=28,slow=4.8,SNR=6.1						
GRFO	**Grafenberg**	**81.13**	**330**	*e*P	**P**	**20 41 29.2**	**+1.3**
	comp=Z,8.6nm,1.0s						
GRFO	**Grafenberg**	**81.13**	**330**	*e*P	**P**	**20 41 29.2**	**+1.3**
GRFO				pmax	pmax		
	comp=Z,9.0nm,1.0s						
RAR	**Rarotonga**	**81.19**	**127**	LR	LR	21 12 33.9	
	comp=Z,167nm,20.6s,baz=284,slow=32						
VTS	**Vitosha**	**81.26**	**319**	*i*P	**P**	**20 41 30.8**	**+1.9**
MOA	**Molln**	**81.39**	**328**	*i* PcP	**P**	**20 41 30.9**	**+1.6**
	comp=Z,10nm,1.7s						
MOTA	**Moosalm**	**83.08**	**329**	*i* PcP	**P**	**20 41 39.9**	**+1.5**
	comp=Z,9.2nm,1.1s						
BFO	**Black Forest**	**83.34**	**331**	*i* P	**P**	**20 41 40.8**	**+1.3**
FETA	**Feichten**	**83.49**	**329**	*i* PcP	**P**	**20 41 41.6**	**+1.1**
	comp=Z,6.6nm,1.0s						
DAVA	**Damuels**	**83.61**	**330**	*i* PcP	**P**	**20 41 42.3**	**+1.2**
	comp=Z,11nm,0.8s						
TXAR	**Lajitas Array**	**88.04**	**53**	P	**P**	**20 42 02.9**	**-0.4**
	comp=Z,0.3nm,0.6s,baz=298,slow=3.0,SNR=3.9						
KEST	**Kesra**	**93.33**	**323**	LR	LR	21 29 35.3	
	comp=Z,118nm,18.1s,baz=15,slow=39						
ESDC	**Sonseca Array**	**95.23**	**334**	LR	LR	21 30 50.4	
	comp=Z,59nm,20.6s,baz=135,slow=39						
SNAA	**Sanae**	**143.42**	**198**	PKhKP	PKPpre	20 48 42.7	
	comp=Z,4.3nm,0.9s,baz=146,slow=4.1,SNR=10						
SNAA	**Sanae**	**143.42**	**198**	*e*PKPdf	PKPab	20 48 42.6	+0.5
SNAA				PKPpre	PKPpre	20 48 42.7	
SNAA	**Sanae**	**143.42**	**198**	*e*PKIKP	PKPab	20 48 42.6	+0.5
LPAZ	**La Paz**	**144.79**	**57**	PKP	**PKPab**	**20 48 49.1**	**-0.4**
	comp=Z,0.8nm,0.5s,baz=321,slow=6.5,SNR=3.5						

*ATH **11** 20:31:59.7, 36.80N×26.06E, h113km±5km, ML2.9/7, Error ellipse: s-maj=5.9km s-min=1.4km az=112.0*
*ISCJB **11** 20:32:00.1±0.8, 36.72N±0.05×26.05E±0.04, h125km±12km, Error ellipse: s-maj=8.3km s-min=5.7km az=172.5*
*CSEM **11** 20:32:00.4±0.5, 36.71N×26.10E, h122km±6km, ML2.9, Error ellipse: s-maj=6.7km s-min=5.4km az=164.0*

ISC 11 20:31:59.5±1.6, 36.74N±0.04×26.10E±0.04, h132km±12km, n63, σ1§05/81, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
APE	**Apeiranthos**	**0.56**	**306**	P	**Pn**	**20 32 21.0**	**+1.8**
APE	**Apeiranthos**	**0.56**	**306**	P	**Pn**	**20 32 21.0**	**+1.8**
SANT	**Santorini**	**0.64**	**235**	P	**Pn**	**20 32 18.9**	**-0.8**
SANT	**Santorini**	**0.64**	**235**	P	**Pn**	**20 32 18.6**	**-1.1**
THR6	**Thira Island,**	**0.69**	**236**	P	**Pn**	**20 32 21.8**	**+1.8**
THR6	**Thira Island,**	**0.69**	**236**	P	**Pn**	**20 32 21.8**	**+1.8**
BODT	**Bodrum**	**1.02**	**71**	P	**Pn**	**20 32 23.6**	**+0.8**
BODT	**Bodrum**	**1.02**	**71**	P	**Pn**	**20 32 23.6**	**+0.8**
SMG	**Samos**	**1.13**	**31**	P	**Pn**	**20 32 22.1**	**-1.7**
SMG	**Samos**	**1.13**	**31**	P	**Pn**	**20 32 22.5**	**-1.3**
KARP	**Karpathos**	**1.47**	**144**	P	**Pn**	**20 32 27.4**	**0.0**
KARP				S	**Sn**	**20 32 49.0**	**+0.3**
KARP				AML	AML	20 32 50.5	
	comp=E,606μm,0.1s						
KARP				AML	AML	20 32 50.6	
	comp=N,553μm,0.1s						
KARP	**Karpathos**	**1.47**	**144**	P	**Pn**	**20 32 28.0**	**+0.6**
KARP	**Karpathos**	**1.47**	**144**	P	**Pn**	**20 32 27.7**	**+0.3**
KARP				S	**Sn**	**20 32 48.8**	**+0.1**
NPS	**Neapolis**	**1.53**	**195**	P	**Pn**	**20 32 27.8**	**-0.3**
NPS				S	**Sn**	**20 32 49.1**	**-0.8**
NPS				AML	AML	20 32 50.9	
	comp=N,306μm,0.4s						
NPS				AML	AML	20 32 51.3	
	comp=E,208μm,0.3s						
NPS	**Neapolis**	**1.53**	**195**	P	**Pn**	**20 32 28.2**	**+0.1**
NPS	**Neapolis**	**1.53**	**195**	P	**Pn**	**20 32 28.1**	**0.0**
NPS				S	**Sn**	**20 32 49.3**	**-0.6**
ZKR	**Zakros**	**1.63**	**177**	P	**Pn**	**20 32 30.3**	**+1.1**
ZKR	**Zakros**	**1.63**	**177**	P	**Pn**	**20 32 30.0**	**+0.8**
ZKR	**Zakros**	**1.63**	**177**	P	**Pn**	**20 32 30.0**	**+0.8**
CHOS	**Chios island**	**1.64**	**359**	P	**Pn**	**20 32 30.7**	**+1.3**
CHOS	**Chios island**	**1.64**	**359**	P	**Pn**	**20 32 30.7**	**+1.3**
LAST	**Lasithi**	**1.66**	**198**	P	**Pn**	**20 32 29.7**	**+0.1**
LAST				S	**Sn**	**20 32 52.8**	**+0.2**
LAST				AML	AML	20 32 54.2	
	comp=N,79μm,0.3s						
LAST				AML	AML	20 32 58.6	
	comp=E,87μm,0.4s						
LAST	**Lasithi**	**1.66**	**198**	P	**Pn**	**20 32 29.8**	**+0.1**
LAST	**Lasithi**	**1.66**	**198**	P	**Pn**	**20 32 29.8**	**+0.1**
LAST				S	**Sn**	**20 32 52.5**	**-0.1**
ARG	**Arkhangelos**	**1.71**	**107**	P	**Pn**	**20 32 31.5**	**+1.4**
ARG	**Arkhangelos**	**1.71**	**107**	P	**Pn**	**20 32 31.1**	**+0.9**
SIVA	**Sivas**	**2.02**	**212**	P	**Pn**	**20 32 34.5**	**+0.7**
SIVA				S	**Sn**	**20 33 00.3**	**+0.3**
SIVA	**Sivas**	**2.02**	**212**	P	**Pn**	**20 32 34.6**	**+0.8**
SIVA	**Sivas**	**2.02**	**212**	P	**Pn**	**20 32 34.4**	**+0.7**
SIVA				S	**Sn**	**20 33 00.0**	**0.0**
VAM	**Vamos**	**2.04**	**230**	P	**Pn**	**20 32 33.9**	**-0.1**
VAM				S	**Sn**	**20 33 00.1**	**-0.4**
VAM				AML	AML	20 33 01.4	
	comp=E,439μm,0.2s						
VAM				AML	AML	20 33 03.4	
	comp=N,408μm,0.2s						
VAM	**Vamos**	**2.04**	**230**	P	**Pn**	**20 32 34.3**	**+0.2**
VAM	**Vamos**	**2.04**	**230**	P	**Pn**	**20 32 34.2**	**+0.2**
VAM				S	**Sn**	**20 32 59.9**	**-0.6**
IMMV	**Iera Moni Meta**	**2.14**	**234**	P	**Pn**	**20 32 35.6**	**+0.3**
IMMV				S	**Sn**	**20 33 01.5**	**-1.3**
IMMV				AML	AML	20 33 07.0	
	comp=E,480μm,0.3s						
IMMV				AML	AML	20 33 07.7	
	comp=N,331μm,0.3s						
IMMV	**Iera Moni Meta**	**2.14**	**234**	P	**Pn**	**20 32 35.4**	**+0.1**
IMMV	**Iera Moni Meta**	**2.14**	**234**	P	**Pn**	**20 32 35.6**	**+0.3**
IMMV				S	**Sn**	**20 33 01.8**	**-0.9**
FETY	**Fethiye**	**2.40**	**92**	P	**Pn**	**20 32 38.4**	**-0.1**
FETY	**Fethiye**	**2.40**	**92**	P	**Pn**	**20 32 38.4**	**-0.1**
DID	**Didima**	**2.41**	**289**	P	**Pn**	**20 32 39.5**	**+0.8**
DID	**Didima**	**2.41**	**289**	P	**Pn**	**20 32 39.5**	**+0.8**
ANKY	**Antikythira Is**	**2.42**	**250**	P	**Pn**	**20 32 39.8**	**+1.0**
ANKY				S	**Sn**	**20 33 06.6**	**-2.4**
ANKY	**Antikythira Is**	**2.42**	**250**	P	**Pn**	**20 32 39.3**	**+0.5**
ANKY	**Antikythira Is**	**2.42**	**250**	P	**Pn**	**20 32 39.5**	**+0.7**
ANKY				S	**Sn**	**20 33 07.4**	**-1.6**
KRND	**KRANIDI**	**2.45**	**286**	P	**Pn**	**20 32 40.2**	**+1.1**
KRND	**KRANIDI**	**2.45**	**286**	P	**Pn**	**20 32 40.2**	**+1.1**
GVD	**Gavdhos**	**2.51**	**221**	P	**Pn**	**20 32 40.2**	**+0.3**
GVD	**Gavdhos**	**2.51**	**221**	P	**Pn**	**20 32 40.4**	**+0.6**
GVD	**Gavdhos**	**2.51**	**221**	P	**Pn**	**20 32 40.5**	**+0.6**
KYTH	**Kithira**	**2.51**	**260**	P	**Pn**	**20 32 40.8**	**+0.9**
KYTH				S	**Sn**	**20 33 10.5**	**-0.4**
KYTH				AML	AML	20 33 12.0	
	comp=N,374μm,0.3s						
KYTH				AML	AML	20 33 12.9	
	comp=E,368μm,0.5s						
KYTH	**Kithira**	**2.51**	**260**	P	**Pn**	**20 32 40.6**	**+0.7**
KYTH	**Kithira**	**2.51**	**260**	P	**Pn**	**20 32 40.5**	**+0.7**
KYTH				S	**Sn**	**20 33 10.2**	**-0.7**
VLI	**Veliai**	**2.54**	**270**	P	**Pn**	**20 32 41.0**	**+0.7**
VLI				S	**Sn**	**20 33 09.6**	**-2.0**
VLI				AML	AML	20 33 12.9	
	comp=N,160μm,0.3s						
VLI				AML	AML	20 33 15.8	
	comp=E,90μm,0.3s						
VLI	**Veliai**	**2.54**	**270**	P	**Pn**	**20 32 40.7**	**+0.4**
VLI	**Veliai**	**2.54**	**270**	P	**Pn**	**20 32 40.7**	**+0.4**
VLI				S	**Sn**	**20 33 09.9**	**-1.8**
DYR	**Agios Nikonas**	**3.03**	**272**	P	**Pn**	**20 32 48.4**	**+1.9**
DYR	**Agios Nikonas**	**3.03**	**272**	P	**Pn**	**20 32 48.4**	**+1.9**
GUR	**Goura**	**3.23**	**293**	P	**Pn**	**20 32 51.1**	**+1.9**
GUR	**Goura**	**3.23**	**293**	P	**Pn**	**20 32 51.1**	**+1.9**
ITM	**Ithomi**	**3.37**	**279**	P	**Pn**	**20 32 52.2**	**+1.2**
ITM	**Ithomi**	**3.37**	**279**	P	**Pn**	**20 32 52.2**	**+1.2**
AMT	**Artemida-Makis**	**3.60**	**284**	P	**Pn**	**20 32 55.6**	**+1.6**
AMT	**Artemida-Makis**	**3.60**	**284**	P	**Pn**	**20 32 55.6**	**+1.6**
VLS	**Valsamata**	**4.61**	**290**	P	**Pn**	**20 33 07.1**	**-0.3**
VLS	**Valsamata**	**4.61**	**290**	P	**Pn**	**20 33 07.1**	**-0.3**

IDC 11 20:33:23.4±8.2, 1.74N×92.83E, h0km, mb3.7/6, mb1 3.8/6, mb1mx3.4/67, mbtmp3.7/6, MS3.8/1, Ms1 3.8/1, ms1mx2.8/52, Error ellipse: s-maj=182.7km s-min=78.7km az=144.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AAK	**Ala-Archa**	**43.91**	**340**	LR	LR	20 59 57.1	
	comp=Z,102nm,19.3s,baz=44,slow=36						
MKAR	**Makanchi Array**	**45.81**	**350**	P	P	20 41 47.0	0.0
	1.0nm,0.6s,baz=166,slow=8.1,SNR=7.1						
SONM	**Songino Array**	**47.40**	**12**	P	P	20 41 59.8	+0.2
	0.6nm,0.7s,baz=197,slow=9.3,SNR=3.4						
KURBB	**Kurchatov Arra**	**50.20**	**348**	P	P	20 42 21.1	+0.3
	0.8nm,0.8s,baz=170,slow=6.8,SNR=6.8						
ZALV	**Zalesovo Beam**	**52.46**	**354**	P	P	20 42 36.2	-1.6
	0.5nm,0.4s,baz=189,slow=7.3,SNR=3.0						
BVAR	**Borovoye Array**	**54.41**	**344**	P	P	20 42 52.4	+0.3
	0.3nm,0.5s,baz=146,slow=7.6,SNR=2.8						
GERES	**GERESS Array B**	**81.54**	**319**	P	P	20 45 43.1	0.0
	0.4nm,0.7s,baz=90,slow=4.3,SNR=2.5						

MEX 11 20:33:53.9±0.3, 16.22N×98.49W, h22km±17km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.39**	**63**	*i* P	Pb	20 34 00.8	-1.4
PNIG				*i* S	Sb	20 34 06.6	-1.2
TLIG	**Tlapa**	**1.34**	**357**	*i* P	Pn	20 34 14.6	-2.9
TLIG				*e*S	Sn	20 34 30.5	-4.2
VHO	**Vista Hermosa**	**1.89**	**63**	*e*P	Pn	20 34 22.6	-2.4
VHO				*e*S	Sn	20 34 44.4	-3.8
CAIG	**El Cayaco**	**1.89**	**296**	*e*P	Pn	20 34 22.3	-2.6
CAIG				*e*S	Sn	20 34 44.7	-3.4
PLIG	**Platanillo**	**2.37**	**336**	*e*P	Pn	20 34 30.7	-0.9
PLIG				*e*S	Sn	20 34 57.0	-3.0

*IDC **11** 20:37:31.9±1.3, 2.29N×93.08E, h0km, mb3.8/9, mb1 3.9/11, mb1mx3.5/71, mbtmp3.8/11, ML3.7/2, Error ellipse: s-maj=40.4km s-min=24.1km az=44.0*
*NEIC **11** 20:37:33.0±1.0, 2.29N×93.04E, h10km, mb4.5/1, Error ellipse: s-maj=22.5km s-min=17.3km az=200.0*
*ISCJB **11** 20:37:33.6±1.1, 2.14N±0.2×93.0E±0.1, h21km, mb3.9/10, Error ellipse: s-maj=23.4km s-min=18.1km az=17.8*

ISC 11 20:37:35.2±1.2, 2.14N±0.2×93.0E±0.1, h21km, n17, σ1§18/14, mb4.0/10, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PALK	**Pallekele**	**13.22**	**292**	Pn	**Pn**	**20 40 40.3**	**-1.7**
	0.8nm,0.3s,baz=115,slow=12,SNR=4.4						
PALK				Sn	Sn	20 42 49.7	-19
	0.5nm,0.3s,baz=116,slow=8.0,SNR=2.5						
CMAR	**Chiang Mai Arr**	**17.02**	**19**	Pn	**Pn**	**20 41 30.7**	**-1.4**
	0.1nm,0.3s,baz=219,slow=14,SNR=6.4						
H08S2	**Diego Garcia H**	**22.78**	**244**	T	T	21 05 16.5	
	baz=50						
H08S3	**Diego Garcia H**	**22.78**	**244**	T	T	21 05 17.3	
	baz=50						
H08S1	**Diego Carcia H**	**22.79**	**244**	T	T	21 05 18.0	
	baz=50						
MKAR	**Makanchi Array**	**45.24**	**350**	P	**P**	**20 45 52.0**	**+0.9**
	1.5nm,0.6s,baz=168,slow=8.7,SNR=12						
WRA	**Warramunga Arr**	**46.19**	**121**	P	**P**	**20 45 58.9**	**-0.1**
	0.4nm,0.8s,baz=287,slow=7.6,SNR=2.7						
SONM	**Songino Array**	**46.76**	**12**	P	**P**	**20 46 03.0**	**-0.2**
	1.1nm,0.8s,baz=201,slow=7.5,SNR=6.0						
GEYT	**Alibeck**	**47.72**	**322**	P	**P**	**20 46 12.7**	**+2.0**
	1.9nm,0.6s,baz=169,slow=8.9,SNR=5.9						
KURBB	**Kurchatov Arra**	**49.64**	**348**	P	**P**	**20 46 26.6**	**+1.4**
	1.6nm,0.8s,baz=171,slow=6.8,SNR=12						
KURK	**Kurchatov**	**49.71**	**348**	P	**P**	**20 46 26.6**	**+0.9**
ZALV	**Zalesovo Beam**	**51.87**	**354**	P	**P**	**20 46 41.9**	**-0.1**
	1.1nm,0.6s,baz=190,slow=7.3,SNR=5.6						
BVAR	**Borovoye Array**	**53.88**	**343**	P	**P**	**20 46 57.2**	**+0.4**
	0.2nm,0.3s,baz=154,slow=7.4,SNR=3.4						
BRVK	**Borovoye**	**53.94**	**343**	*e*P	**P**	**20 46 58.2**	**+0.9**
	3.9nm,0.8s						
BRTR	**Keskin Array B**	**65.28**	**313**	P	**P**	**20 48 16.5**	**+0.5**
	0.5nm,0.8s,baz=123,slow=9.0,SNR=3.7						
GERES	**GERESS Array B**	**81.21**	**319**	P	**P**	**20 49 49.7**	**-0.1**
	0.6nm,0.7s,baz=90,slow=4.7,SNR=3.4						
TXAR	**Lajitas Array**	**144.66**	**26**	PKP	**PKPab**	**20 57 08.6**	**-1.3**
	0.1nm,0.5s,baz=342,slow=5.7,SNR=2.3						

*JMA **11** 20:38:13.3±0.2, 39.51N×143.84E, h10km, M4.2*
*ISCJB **11** 20:38:15.4±1.8, 39.55N±0.05×143.71E±0.06, h13km±12km, mb3.7/11, Error ellipse: s-maj=10.2km s-min=6.4km az=146.6*
*IDC **11** 20:38:16.2±1.1, 39.62N×143.50E, h0km, mb3.7/11, mb1 3.8/14, mb1mx3.6/75, mbtmp3.7/14, ML3.1/3, Error ellipse: s-maj=23.8km s-min=19.4km az=118.0*

ISC 11 20:38:20.1±3.4, 39.57N±0.07×143.5E±0.1, h28km±22km, n30, σ1§90/33, mb3.7/11, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MIYJ	**Miyakonagasawa**	**1.31**	**271**	P	**Pn**	**20 38 41.3**	**-1.2**
MIYJ				*e*S	**Sb**	**20 39 01.1**	**+0.6**
JTH	**Tanohata**	**1.33**	**287**	P	**Pn**	**20 38 41.5**	**-1.2**
JTH				*e*S	**Sb**	**20 39 02.3**	**+1.4**
OFUJ	**Ofunato**	**1.51**	**252**	P	**Pn**	**20 38 43.9**	**-1.4**
OFUJ				*e*S	**Sb**	**20 39 05.4**	**-0.8**
JOM	**Ohasama**	**1.72**	**268**	P	**Pn**	**20 38 47.6**	**-0.6**
JOM				*e*S	**Sb**	**20 39 11.4**	**-0.9**
JANG	**Nango**	**1.73**	**298**	P	**Pn**	**20 38 47.2**	**-1.2**
JMK	**Ichinoseki**	**1.89**	**252**	P	**Pn**	**20 38 49.4**	**-1.0**
JIO	**Ouri**	**2.02**	**237**	P	**Pn**	**20 38 50.5**	**-1.8**
JTM	**Tenmabayashi**	**2.23**	**304**	P	**Pn**	**20 38 55.1**	**-0.1**
JRG	**Rokugo**	**2.24**	**267**	P	**Pn**	**20 38 55.2**	**-0.1**
JAH	**Hinai**	**2.30**	**287**	P	**Pn**	**20 38 56.2**	**+0.1**
JOU	**Okura**	**2.53**	**243**	P	**Pn**	**20 38 58.3**	**-1.0**
JOU				*e*S	**Sn**	**20 39 30.9**	**+1.8**
JYK	**Kaneyama**	**2.54**	**256**	P	**Pn**	**20 38 59.3**	**-0.1**
ASAJ	**Asahikawa**	**4.60**	**352**	Pn	**Pn**	**20 39 27.7**	**0.0**
	1.2nm,0.3s,baz=190,slow=11,SNR=15						
ASAJ				Sn	**Sn**	**20 40 19.0**	**-1.1**
	1.5nm,0.3s,baz=172,slow=18,SNR=4.2						
MJAR	**Matsushiro Arr**	**5.16**	**236**	Pn	**Pn**	**20 39 35.6**	**+0.1**
	1.6nm,0.3s,baz=44,slow=11,SNR=26						
MAT	**Matsushiro**	**5.16**	**236**	P	**Pn**	**20 39 35.6**	**+0.1**
USRK	**Ussuriysk Ar.**	**9.76**	**302**	Pn	**Pn**	**20 40 39.3**	**+0.7**
	0.2nm,0.3s,baz=99,slow=13,SNR=6.0						
SEY	**Seymchan**	**24.00**	**10**	P	**P**	**20 43 32.5**	**+0.4**
	0.7nm,0.5s,baz=158,slow=5.4,SNR=3.7						
SONM	**Songino Array**	**27.86**	**300**	P	**P**	**20 44 06.7**	**-0.6**
	0.4nm,0.5s,baz=98,slow=9.6,SNR=4.6						
H11S1	**WAKE ISLAND Hy**	**29.02**	**130**	T	T	21 14 57.3	
	baz=316						
H11S3	**WAKE ISLAND Hy**	**29.02**	**130**	T	T	21 14 56.2	
	baz=316						
H11S2	**WAKE ISLAND Hy**	**29.04**	**130**	T	T	21 14 57.8	
	baz=316						
ZALV	**Zalesovo Beam**	**41.48**	**310**	P	**P**	**20 46 03.9**	**-0.5**
	0.9nm,0.4s,baz=100,slow=7.5,SNR=4.0						
MKAR	**Makanchi Array**	**44.22**	**300**	P	**P**	**20 46 26.7**	**-0.1**
	0.9nm,0.7s,baz=84,slow=9.1,SNR=5.6						
KURBB	**Kurchatov Arra**	**45.79**	**306**	P	**P**	**20 46 39.1**	**0.0**
	2.4nm,0.8s,baz=78,slow=8.4,SNR=12						
ILAR	**Eielson Array**	**46.47**	**34**	P	**P**	**20 46 44.6**	**+0.3**
	0.5nm,1.0s,baz=254,slow=6.5,SNR=2.8						
BVAR	**Borovoye Array**	**50.12**	**311**	P	**P**	**20 47 12.7**	**+0.2**
	0.8nm,0.6s,baz=93,slow=7.2,SNR=4.8						
WRA	**Warramunga Arr**	**59.82**	**190**	P	**P**	**20 48 23.6**	**+0.7**
	0.4nm,0.8s,baz=9.4,slow=7.0,SNR=2.5						
YKA	**Yellowknife Ar**	**60.79**	**31**	P	**P**	**20 48 29.3**	**+0.2**
	0.1nm,0.5s,baz=300,slow=6.3,SNR=3.3						
FINES	**FINESS Array B**	**67.34**	**332**	P	**P**	**20 49 12.1**	**0.0**
	1.4nm,0.8s,baz=58,slow=18,SNR=3.1						
HFS	**Hagfors**	**72.45**	**336**	P	**P**	**20 49 42.6**	**-1.0**
	1.7nm,0.8s,baz=336,slow=3.2,SNR=2.4						

*ISCJB **11** 20:42:31.8±1.3, 1.71N±0.2×90.1E±0.1, h10km, mb3.6/4, Error ellipse: s-maj=30.0km s-min=18.2km az=22.3*
*IDC **11** 20:42:32.6±1.8, 1.12N×90.22E, h0km, mb3.6/4, mb1 3.7/6, mb1mx3.3/72, mbtmp3.6/6, ML3.3/2, Error ellipse: s-maj=48.5km s-min=28.8km az=37.0*

ISC 11 20:42:33.9±1.5, 1.1N±0.2×90.1E±0.1, h10km, n9, σ1§63/7, mb3.6/4, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PALK	**Pallekele**	**11.19**	**303**	Pn	**Pn**	**20 45 15.3**	**+1.

SONM **Songino Array** 48.95 15 P **P** 20 53 05.4 -0.6
1.5nm,0.7s,baz=196,slow=9.2,SNR=3.9
ASAR **Alice Springs** 49.05 123 P **P** 20 53 06.8 -0.3
0.3nm,0.9s,baz=308,slow=9.2,SNR=3.3
KURBB **Kurchatov Arra** 50.59 351 P **P** 20 53 18.3 +0.1
0.6nm,0.7s,baz=173,slow=6.2,SNR=3.7
ZALV **Zalesovo Beam** 53.14 356 P **P** 20 53 37.7 +0.5
0.3nm,0.4s,baz=168,slow=7.4,SNR=2.3
BVAR **Borovoye Array** 54.55 346 P **P** 20 53 47.1 -0.5
0.2nm,0.2s,baz=121,slow=5.5,SNR=2.9
BRTR **Keskin Array B** 64.17 314 P **P** 20 54 55.4 +0.8
0.5nm,0.7s,baz=116,slow=6.8,SNR=3.7
VRI **Vrincioaia** 71.11 319 ǁ *iP* **P** 20 55 37.1 -1.0
PLOR **Plostina** 71.15 319 ǁ *iP* P 20 55 43.7 +5.3
MLR **Muntele Rosu** 71.50 318 ǁ *iP* **P** 20 55 44.0 +3.3
BURAR **Bucovina Array** 72.66 320 ǁ *iP* P 20 55 54.2 +6.7
GERES **GERESS Array B** 80.41 319 P **P** 20 56 30.4 -1.0
0.2nm,0.3s,baz=111,slow=5.4,SNR=2.3
TXAR **Lajitas Array** 147.29 23 PKPbc **PKPab** 21 04 05.3 -0.4
0.8nm,0.9s,baz=17,slow=3.3,SNR=3.6

*ISCJB **11** 20:47:26.2±1.2,3.7′N±0.2′×92.8′E±0.2′,h10km,mb3.8/8, Error ellipse: s-maj=28.6km s-min=21.5km az=151.1*
*IDC **11** 20:47:26.2±1.4,3.67′N×92.74′E,h0km,mb3.7/8,mb1 3.8/9, mb1mx3.6/71,mbtmp3.7/9,ML3.5/1, Error ellipse: s-maj=46.0km s-min=28.4km az=53.0*
ISC 11 20:47:28.0±1.3,**3.7′N**±0.2′×**92.8′E**±0.2′,**h10km,n14,** σ0**°43**/10,**mb3.8/8,Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**15.83**	**22**	Pn	**Pn**	**20 51 10.6**	**-0.6**
	0.1nm,0.3s,baz=218,slow=14,SNR=4.8						
H08S2	**Diego Garcia H**	**23.19**	**241**	T	T	21 16 09.5	
	baz=60						
H08S3	**Diego Garcia H**	**23.19**	**241**	T	T	21 16 09.5	
	baz=60						
H08S1	**Diego Garcia H**	**23.20**	**241**	T	T	21 16 07.8	
	baz=60						
MKAR	**Makanchi Array**	**43.86**	**350**	P	**P**	**20 55 34.8**	**+0.3**
	1.1nm,0.6s,baz=166,slow=8.7,SNR=9.0						
SONM	**Songino Array**	**45.46**	**11**	P	**P**	**20 55 48.4**	**+0.8**
	0.5nm,0.6s,baz=199,slow=7.6,SNR=3.7						
WRA	**Warramunga Arr**	**47.10**	**122**	P	**P**	**20 56 00.6**	**0.0**
	0.4nm,0.7s,baz=300,slow=9.0,SNR=3.0						
KURBB	**Kurchatov Arra**	**48.26**	**348**	P	**P**	**20 56 09.0**	**-0.1**
	1.0nm,0.7s,baz=172,slow=7.0,SNR=8.9						
ZALV	**Zalesovo Beam**	**50.49**	**354**	P	**P**	**20 56 25.8**	**-0.3**
	1.7nm,0.5s,baz=177,slow=7.4,SNR=8.3						
BVAR	**Borovoye Array**	**52.50**	**343**	P	**P**	**20 56 40.9**	**-0.3**
	0.8nm,0.8s,baz=164,slow=7.0,SNR=4.6						
BRTR	**Keskin Array B**	**64.17**	**313**	P	**P**	**20 58 03.1**	**-0.1**
	0.3nm,0.7s,baz=108,slow=4.7,SNR=3.0						
GERES	**GERESS Array B**	**80.03**	**319**	P	**P**	**20 59 38.0**	**0.0**
	1.0nm,0.8s,baz=92,slow=4.9,SNR=5.7						
NVAR	**Mina Array Bea**	**129.14**	**32**	PKP	**PKPdf**	**21 06 37.1**	**-0.2**
	0.4nm,0.6s,baz=316,slow=2.5,SNR=2.9						
TXAR	**Lajitas Array**	**143.53**	**25**	PKP	PKPab	21 07 01.3	+1.0
	0.1nm,0.5s,baz=28,slow=2.1,SNR=2.8						

*IDC **11** 20:48:54.9±0.7,2.60′N×92.56′E,h0km,mb4.3/22, mb1 4.4/25,mb1mx4.1/72,mbtmp4.3/25,ML4.0/2, Error ellipse: s-maj=25.4km s-min=12.0km az=41.0*
*NEIC **11** 20:48:56.5±0.3,2.62′N×92.54′E,h10km,mb4.6/5, Error ellipse: s-maj=9.1km s-min=4.9km az=205.0*
*ISCJB **11** 20:48:58.1±0.5,2.67′N±0.08′×92.62′E±0.06,h33km, mb4.3/27, Error ellipse: s-maj=12.6km s-min=6.6km az=25.0*
ISC 11 20:49:00.2±0.7,**2.6′N**±0.1′×**92.58′E**±0.09,**h35**km,**n47,** σ0**°81**/46,**mb4.5**/27,**2C-4D,Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GSI	**Gunungsitoli**	**5.16**	**105**	*eP*	**Pn**	**20 50 15.0**	**-0.1**
	181nm,0.6s						
PSI	**Prapat**	**6.33**	**88**	Pn	**Pn**	**20 50 31.9**	**+0.6**
KULM	**Kulim**	**8.47**	**72**	*eP*	**Pn**	**20 51 00.4**	**-0.1**
	24nm,0.6s						
IPM	**Ipoh**	**8.62**	**78**	*eP*	**Pn**	**20 51 02.2**	**-0.4**
	31nm,0.6s						
PALK	**Pallekele**	**12.70**	**292**	Pn	**Pn**	**20 51 56.5**	**-2.0**
	1.2nm,0.3s,baz=116,slow=14,SNR=3.2						
PALK				Sn	Sn	20 54 02.0	-17
	2.9nm,0.3s,baz=115,slow=11,SNR=4.7						
CMAR	**Chiang Mai Arr**	**16.91**	**21**	Pn	**Pn**	**20 52 53.5**	**-0.9**
	0.2nm,0.3s,baz=218,slow=14,SNR=14						
CHTO	**Chiang Mai**	**17.24**	**21**	*eP*	**Pn**	**20 52 57.0**	**-1.5**
	12nm,1.1s						
HYB	**Hyderabad**	**20.14**	**318**	*iP*	**P**	**20 53 32.0**	**+0.5**
H08S2	**Diego Garcia H**	**22.50**	**243**	T	T	21 17 26.3	
	baz=67						
H08S3	**Diego Garcia H**	**22.50**	**243**	T	T	21 17 23.5	
	baz=67						
H08S1	**Diego Garcia H**	**22.52**	**243**	T	T	21 17 26.3	
	baz=67						
FITZ	**Fitzroy Crossi**	**38.53**	**124**	P	**P**	**20 56 17.9**	**-1.8**
	5.7nm,0.7s,baz=306,slow=5.0,SNR=10						
AAK	**Ala-Archa**	**42.98**	**340**		**P**	**20 56 55.9**	**-0.4**
	1.3nm,0.7s,baz=165,slow=6.9,SNR=6.9						
KKAR	**Karatay Array**	**44.83**	**337**	*eP*	**P**	**20 57 11.1**	**+0.1**
	5.7nm,0.7s						
MKAR	**Makanchi Array**	**44.88**	**350**	P	**P**	**20 57 11.9**	**+0.6**
	7.3nm,0.6s,baz=167,slow=8.7,SNR=56						
SONM	**Songino Array**	**46.58**	**13**	P	**P**	**20 57 25.7**	**+0.9**
	2.8nm,0.8s,baz=195,slow=8.5,SNR=12						
WRA	**Warramunga Arr**	**46.72**	**121**	P	**P**	**20 57 26.8**	**+0.5**
	5.7nm,0.7s,baz=299,slow=8.6,SNR=33						
WRAB	**Tennant Creek**	**46.73**	**121**	*eP*	**P**	**20 57 26.1**	**-0.2**
GEYT	**Alibeck**	**47.21**	**322**	P	**P**	**20 57 30.8**	**+0.9**
	5.2nm,0.7s,baz=147,slow=8.5,SNR=12						
ASAR	**Alice Springs**	**47.96**	**125**	P	**P**	**20 57 36.1**	**+0.3**
	1.8nm,0.8s,baz=297,slow=7.1,SNR=11						
KURBB	**Kurchatov Arra**	**49.27**	**348**	P	**P**	**20 57 46.0**	**+0.6**
	4.2nm,0.8s,baz=167,slow=7.0,SNR=30						
KURBB				PcP	**PcP**	**20 59 09.2**	**+1.2**
	0.7nm,0.7s,baz=156,slow=2.2,SNR=4.6						
KURK	**Kurchatov**	**49.34**	**348**	P	**P**	**20 57 46.0**	**0.0**
KURK				PcP	**PcP**	**20 59 09.2**	**+1.0**
RAYN	**Ar Rayn**	**50.02**	**299**	*eP*	**P**	**20 57 51.9**	**+0.2**
	4.9nm,0.9s						
ZALV	**Zalesovo Beam**	**51.54**	**354**	P	**P**	**20 58 03.3**	**+0.7**
	9.3nm,0.6s,baz=188,slow=8.6,SNR=34						
BVAR	**Borovoye Array**	**53.48**	**344**	P	**P**	**20 58 16.8**	**-0.1**
	3.1nm,0.7s,baz=144,slow=9.7,SNR=22						
BRVK	**Borovoye**	**53.54**	**343**	*eP*	**P**	**20 58 16.6**	**-0.8**
	9.2nm,0.9s						
ABKAR	**Akbulak array**	**54.15**	**334**	*eP*	**P**	**20 58 21.8**	**-0.1**
	8.6nm,0.9s						
AKTO	**Aktyubinsk**	**55.86**	**334**	P	**P**	**20 58 33.5**	**-0.8**
	2.2nm,0.9s,baz=104,slow=7.5,SNR=5.6						
KLR	**Kul'dur**	**57.16**	**30**	P	**P**	**20 58 43.1**	**-0.4**
	0.1nm,0.7s,baz=298,slow=11,SNR=5.7						
STKA	**Stephens Creek**	**57.76**	**131**	P	**P**	**20 58 47.6**	**-0.5**
	2.3nm,0.8s,baz=328,slow=12,SNR=5.3						
ASF	**Jabal al Asfar**	**59.88**	**306**	P	**P**	**20 59 03.5**	**+0.5**
	3.4nm,0.8s,baz=45,slow=8.6,SNR=5.1						
KBZ	**Khabaz**	**60.00**	**320**	P	**P**	**20 59 03.8**	**+0.4**
	3.2nm,0.8s,baz=130,slow=6.6,SNR=8.5						
ARU	**Arti**	**60.13**	**339**	P	**P**	**20 59 02.5**	**-1.6**
	3.8nm,0.7s,baz=90,slow=1.7,SNR=7.8						
MMAI	**Mount Meron Ar**	**61.33**	**306**	P	**P**	**20 59 14.0**	**+1.2**
	1.8nm,0.7s,baz=112,slow=9.5,SNR=3.9						
BRTR	**Keskin Array B**	**64.75**	**313**	P	**P**	**20 59 35.1**	**-0.4**
	1.4nm,0.7s,baz=133,slow=7.9,SNR=12						
IDI	**Anoyia**	**70.34**	**307**	P	**P**	**21 00 11.4**	**+0.6**
	6.2nm,0.7s,baz=73,slow=9.1,SNR=7.8						
SORM	**Soroca**	**71.04**	**320**	ǁ *iP*	**P**	**21 00 14.3**	**-0.4**
AKASG	**Malin Array Be**	**71.33**	**323**	P	**P**	**21 00 15.7**	**-0.7**
	0.2nm,0.2s,baz=89,slow=4.8,SNR=5.1						
VRI	**Vrincioaia**	**71.44**	**318**	ǁ *iP*	**P**	**21 00 18.4**	**+1.2**
PLOR	**Plostina**	**71.49**	**318**	ǁ *iP*	**P**	**21 00 18.0**	**+0.4**
TESR	**Tescani**	**71.67**	**318**	ǁ *iP*	**P**	**21 00 18.5**	**-0.1**
MLR	**Muntele Rosu**	**71.87**	**317**	P	**P**	**21 00 19.9**	**-0.1**
	1.2nm,0.9s,baz=142,slow=1.9,SNR=9.3						
MLR	**Muntele Rosu**	**71.87**	**317**	ǁ *iP*	**P**	**21 00 21.0**	**+1.0**
BURAR	**Bucovina Array**	**72.92**	**319**	ǁ *iP*	**P**	**21 00 27.2**	**+1.1**
FINES	**FINESS Array B**	**76.62**	**333**	P	**P**	**21 00 46.8**	**-0.3**
	2.3nm,0.8s,baz=114,slow=4.6,SNR=5.8						
GERES	**GERESS Array B**	**80.70**	**319**	P	**P**	**21 01 10.7**	**+0.7**
	3.0nm,0.9s,baz=93,slow=6.7,SNR=12						
TXAR	**Lajitas Array**	**144.60**	**25**	PKP	**PKPdf**	**21 08 33.9**	**-0.1**
	0.7nm,0.5s,baz=114,slow=0.5,SNR=8.7						

*ISCJB **11** 20:53:36.4±0.8,71.84′N±0.05′×1.1′W±0.3,h10km,mb3.3/4, Error ellipse: s-maj=12.7km s-min=7.4km az=176.4*
*IDC **11** 20:53:37.4±1.3,71.74′N×1.13′W,h0km,mb3.4/4, mb1 3.6/10,mb1mx3.3/81,mbtmp3.6/10,ML3.4/6, Error ellipse: s-maj=26.2km s-min=19.3km az=76.0*
*BER **11** 20:53:39.9±2.6,71.80′N×1.70′W,h12km±33km,ML2.5, ML3.1(NAO)*
*NAO **11** 20:53:39.7±424.0,71.79′N×1.23′W,h19km±519km,ML3.1*
ISC 11 20:53:39.0±1.0,**71.76′N**±0.08′×**0.8′W**±0.1′,**h10km,n33,** σ1°**74**/33,**mb3.2**/4,**Jan Mayen Island region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LOF	**Lofoten**	**6.11**	**120**	*eP*	**Pn**	**20 55 12.6**	**+3.4**
STEI	**Steigen**	**6.71**	**117**	*eP*	**Pn**	**20 55 19.7**	**+2.2**
HSPB	**Hornsund (broa**	**6.83**	**32**	*eP*	**Pn**	**20 55 18.8**	**-0.2**
TRO	**Tromso**	**6.85**	**99**	*eP*	**Pn**	**20 55 21.3**	**+2.0**
KONS	**Konsvik**	**7.22**	**130**	*eP*	**Pn**	**20 55 26.6**	**+2.2**
KONS				*eS*	**Sn**	**20 56 43.3**	**-3.1**
KONS				IAML		20 56 46.0	
	comp=Z,6.3nm,0.5s						
STOK	**Stokkvaagen**	**7.33**	**131**	*eP*	**Pn**	**20 55 28.2**	**+2.2**
STOK				*eS*	**Sn**	**20 56 46.0**	**-3.0**
STOK				IAML		20 56 51.3	
	comp=Z,5.8nm,0.6s						
SPA0	**Spitsbergen Ar**	**7.78**	**27**	Pn	**Pn**	**20 55 32.1**	**-0.1**
	baz=234,slow=14						
SPA0	**Spitsbergen Ar**	**7.78**	**27**	Pn	**Pn**	**20 55 32.1**	**-0.1**
	baz=234,slow=14						
SPITS	**Spitsbergen Ar**	**7.78**	**27**	Pn	**Pn**	**20 55 32.6**	**+0.4**
	baz=225,slow=13,SNR=62						
KBS	**Kingsbay**	**7.86**	**18**	Pn	Pn	20 55 31.2	-1.9
KBS	**Kingsbay**	**7.86**	**18**	*eP*	Pn	20 55 31.5	-1.6
KTK1	**Kautokeino**	**8.49**	**97**	*eP*	**Pn**	**20 55 44.1**	**+2.2**
ARA0	**ARCESS Array S**	**8.95**	**92**	Pn	**Pn**	**20 55 49.8**	**+1.6**
	baz=297,slow=10						
ARA0	**ARCESS Array S**	**8.95**	**92**	Pn	**Pn**	**20 55 49.8**	**+1.6**
	baz=297,slow=10						
ARCES	**ARCESS Array B**	**8.95**	**92**	Pn	**Pn**	**20 55 49.5**	**+1.3**
	comp=Z,0.4nm,0.3s,baz=304,slow=11,SNR=12						
AKN	**Aaknes**	**10.08**	**159**	Pn	**Pn**	**20 56 05.6**	**+1.9**
AKN	**Aaknes**	**10.08**	**159**	Pn	**Pn**	**20 56 05.6**	**+1.9**
NB2	**NORSAR Subarra**	**11.75**	**150**	Pn	**Pn**	**20 56 28.0**	**+1.5**
NB2	**NORSAR Subarra**	**11.75**	**150**	Pn	**Pn**	**20 56 28.0**	**+1.5**
NOA	**NORSAR Array B**	**11.75**	**150**	Pn	**Pn**	**20 56 27.0**	**+0.6**
	comp=Z,0.2nm,0.3s,baz=349,slow=15,SNR=3.9						
NRA0	**NORESS Array S**	**12.09**	**150**	Pn	**Pn**	**20 56 31.7**	**+0.6**
	baz=333,slow=12						
NRA0	**NORESS Array S**	**12.09**	**150**	Pn	**Pn**	**20 56 31.7**	**+0.6**
	baz=333,slow=12						
HFS	**Hagfors**	**13.01**	**146**	Pn	**Pn**	**20 56 45.3**	**+1.6**
	baz=338,slow=11						
HFS	**Hagfors**	**13.01**	**146**	Pn	**Pn**	**20 56 45.7**	**+2.0**
	comp=Z,0.8nm,0.3s,baz=343,slow=9.5,SNR=15						
HFS	**Hagfors**	**13.01**	**146**	Pn	**Pn**	**20 56 45.3**	**+1.6**
	baz=338,slow=11						
FIA0	**FINESS Array S**	**14.67**	**121**	Pn	**Pn**	**20 57 07.7**	**+1.4**
	baz=330,slow=12						
FIA0	**FINESS Array S**	**14.67**	**121**	Pn	**Pn**	**20 57 07.7**	**+1.4**
	baz=330,slow=12						
FINES	**FINESS Array B**	**14.67**	**121**	Pn	**Pn**	**20 57 07.6**	**+1.4**
	comp=Z,0.1nm,0.3s,baz=320,slow=11,SNR=4.0						
EKA	**Eskdalemuir Ar**	**16.53**	**185**	Pn	**Pn**	**20 57 30.6**	**0.0**
	baz=359,slow=8.6,SNR=4.0						
KURBB	**Kurchatov Arra**	**39.74**	**78**	P	**P**	**21 01 10.8**	**-0.4**
	comp=Z,0.4nm,0.8s,baz=331,slow=7.9,SNR=3.0						
ILAR	**Eielson Array**	**41.80**	**339**	P	**P**	**21 01 27.4**	**-0.7**
	comp=Z,0.2nm,0.6s,baz=7.0,slow=8.2,SNR=3.9						
MKAR	**Makanchi Array**	**44.29**	**78**	P	**P**	**21 01 49.4**	**+1.0**
	comp=Z,0.4nm,0.9s,baz=335,slow=6.4,SNR=2.7						
TORD	**Torodi Ar. Bea**	**58.60**	**177**	P	**P**	**21 03 35.6**	**-0.2**
	comp=Z,0.6nm,0.5s,baz=355,slow=6.5,SNR=5.2						

*IDC **11** 20:55:16.6±2.6,3.55′N×92.94′E,h0km,mb3.9/6,mb1 4.0/8, mb1mx3.5/71,mbtmp3.9/8,ML3.4/1, Error ellipse: s-maj=60.3km s-min=28.6km az=24.0*
*ISCJB **11** 20:55:20.0±1.8,3.7′N±0.2′×93.0′E±0.1′,h33km,mb3.9/6, Error ellipse: s-maj=36.1km s-min=10.3km az=24.0*
ISC 11 20:55:21.9±1.8,**3.7′N**±0.3′×**92.9′E**±0.1′,**h35**km,**n9,** σ1°**29**/10, **mb3.8**/6,**Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**6.04**	**98**	Pn	**Pn**	**20 56 47.1**	**-1.8**
	baz=324,slow=19						
PSI				Sn	**Sn**	**20 57 59.1**	**+2.1**
	baz=270,slow=13						
CMAR	**Chiang Mai Arr**	**15.85**	**21**	Pn	**Pn**	**20 59 01.8**	**-0.7**
	0.1nm,0.3s,baz=216,slow=13,SNR=4.3						
MKAR	**Makanchi Array**	**43.96**	**349**	P	**P**	**21 03 26.0**	**+0.5**
	1.0nm,0.7s,baz=168,slow=8.9,SNR=5.8						
SONM	**Songino Array**	**45.52**	**13**	P	**P**	**21 03 38.0**	**-0.1**
	1.1nm,0.9s,baz=196,slow=8.5,SNR=4.7						
KURBB	**Kurchatov Arra**	**48.36**	**348**	P	**P**	**21 04 01.2**	**+1.2**
	1.1nm,0.6s,baz=166,slow=6.9,SNR=8.2						
ZALV	**Zalesovo Beam**	**50.58**	**354**	P	**P**	**21 04 18.2**	**+1.3**
	2.6nm,0.5s,baz=180,slow=6.7,SNR=13						
BVAR	**Borovoye Array**	**52.62**	**343**	P	**P**	**21 04 32.2**	**0.0**
	0.7nm,0.6s,baz=143,slow=5.0,SNR=4.7						
GERES	**GERESS Array B**	**80.17**	**319**	P	**P**	**21 07 29.2**	**+0.4**
	0.6nm,0.7s,baz=99,slow=6.9,SNR=4.5						
TXAR	**Lajitas Array**	**143.54**	**25**	PKP	**PKPdf**	**21 14 54.3**	**+0.5**
	0.1nm,0.4s,baz=19,slow=3.1,SNR=2.4						

IDC 11 20:58:06.1±1.6,**3.71′N**×**92.49′E,h0km,mb3.7**/5,**mb1 3.9**/6, **mb1mx3.4**/72,**mbtmp3.7**/6,**ML3.1**/1,**Error ellipse: s-maj=68.8km s-min=22.4km az=55.0,Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**15.96**	**23**	Pn	Pn	21 01 51.6	-0.7
	0.0nm,0.3s,baz=218,slow=12,SNR=3.1						
MKAR	**Makanchi Array**	**43.82**	**350**	P	P	21 06 12.9	-1.0
	0.3nm,0.4s,baz=157,slow=7.8,SNR=5.3						
WRA	**Warramunga Arr**	**47.35**	**121**	P	P	21 06 43.0	+0.7
	1.1nm,0.6s,baz=296,slow=8.5,SNR=8.2						
ASAR	**Alice Springs**	**48.66**	**126**	P	P	21 06 51.3	-1.0
	1.4nm,1.1s,baz=304,slow=6.6,SNR=3.6						
ZALV	**Zalesovo Beam**	**50.48**	**354**	P	P	21 07 06.8	+1.2
	0.9nm,0.5s,baz=170,slow=7.1,SNR=4.2						
GERES	**GERESS Array B**	**79.84**	**319**	P	P	21 10 16.8	0.0
	0.5nm,0.6s,baz=98,slow=5.3,SNR=4.2						

*ISCJB **11** 21:02:38.3±0.4,43.74′N±0.03×105.14′W±0.04,h0km,Error ellipse: s-maj=4.6km s-min=4.1km az=176.8*
*IDC **11** 21:02:39.5±1.6,43.81′N×105.50′W,h0km,mb1 3.5/4, mb1mx3.3/72,mbtmp3.2/4,ML3.2/4, Error ellipse: s-maj=43.1km s-min=8.2km az=148.0*
*NEIC **11** 21:02:40.1±0.4,43.73′N×105.21′W,h0km,MN2.9,Error ellipse: s-maj=5.7km s-min=4.9km az=6.0,Suspected Mining explosion.*
NEIC 66 km [41 miles] SSE of Gillette.
ISC 11 21:02:39.9±0.7,**43.77′N**±0.04×**105.15′W**±0.03,**h0**km,**n26,** σ2°**33**/42,**Wyoming**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RSSD	**Black Hills**	**0.88**	**66**	*e*Pg	**Pb**	**21 02 58.1**	**-0.1**
RSSD				*e*Sg	**Sg**	**21 03 08.0**	**-0.2**
K22A	**Casper**	**1.50**	**222**	*e*Pn	**Pn**	**21 03 06.0**	**-2.2**
K22A				*e*S	**Sg**	**21 03 22.4**	**-5.7**
LAO	**LASA Array**	**3.02**	**346**	*e*Pn	**Pn**	**21 03 28.7**	**-0.2**
LAO				*e*S	**Sn**	**21 04 06.5**	**+0.7**
RLMT	**Red Lodge**	**3.24**	**296**	*e*Pn	**Pn**	**21 03 31.2**	**-1.0**
RLMT				*e*S	**Sn**	**21 04 03.9**	**-7.8**
BW06	**Boulder Array**	**3.37**	**254**	*e*Pn	**Pn**	**21 03 33.6**	**-0.4**
BW06				*e*S	**Sn**	**21 04 17.6**	**+2.8**
PDAR	**Pinedale Array**	**3.37**	**254**	Pn	**Pn**	**21 03 33.6**	**-0.4**
	3.0nm,0.3s,baz=76,slow=15,SNR=43						
PDAR				Pg	**Pb**	**21 03 38.9**	**-1.8**
	14nm,0.3s,baz=76,slow=19,SNR=75						
PDAR				Lg	Lg	21 04 17.9	
	11nm,0.3s,baz=70,slow=34,SNR=9.1						
OGNE	**Ogallala**	**3.65**	**140**	*e*Pn	**Pn**	**21 03 37.5**	**-0.1**
OGNE				*e*Pg	**Pg**	**21 03 48.7**	**-1.1**
OGNE				*e*S	**Sg**	**21 04 10.7**	**+1.1**
GCMT	**Greycliff**	**3.80**	**304**	*e*Pn	**Pn**	**21 03 39.2**	**-0.5**
GCMT				*e*S	**Sn**	**21 04 26.7**	**+1.4**
H17A	**Grant Village**	**3.96**	**281**	*e*Pn	**Pn**	**21 03 42.0**	**-0.1**
H17A				*e*S	**Sn**	**21 04 29.9**	**+0.6**
ISCO	**Idaho Springs**	**3.98**	**185**	*e*Pn	**Pn**	**21 03 41.7**	**-0.8**
ISCO				*e*S	**Sn**	**21 04 31.4**	**+1.5**
YFT	**Old Faithful**	**4.15**	**281**	*e*Pn	**Pn**	**21 03 45.1**	**+0.4**
YFT				*e*Pg	**Pb**	**21 03 55.5**	**+1.6**
YFT				*e*S	**Sn**	**21 04 37.4**	**+3.3**
YMR	**Madison River**	**4.27**	**284**	*e*Pn	**Pn**	**21 03 47.9**	**+1.5**
O20A	**White River Ci**	**4.30**	**213**	*e*Pn	**Pn**	**21 03 46.7**	**-0.1**
BOZ	**Bozeman (W)**	**4.97**	**294**	*e*Pn	**Pn**	**21 03 54.6**	**-1.3**
BOZ				*e*S	**Sb**	**21 05 07.3**	**-0.8**
HWUT	**Hardware Ranch**	**5.20**	**248**	*e*Pn	**Pn**	**21 03 58.3**	**-0.8**
	7.9nm,0.4s						
HWUT				*e*S	**Sb**	**21 05 20.1**	**+5.4**
HRY	**Holter Researc**	**5.56**	**304**	*e*Pn	**Pn**	**21 04 03.9**	**-0.1**
	14nm,0.4s						
HRY				*e*S	**Sb**	**21 05 28.7**	**+3.7**
HVU	**Hansel Valley**	**5.95**	**253**	*e*Pn	**Pn**	**21 04 09.4**	**0.0**
HVU				*e*S	**Sb**	**21 05 41.3**	**+4.9**
SDCO	**Great Sand Dun**	**6.02**	**183**	*e*Pn	**Pn**	**21 04 09.7**	**-0.8**
	5.0nm,1.4s						
SRU	**San Rafael Swe**	**6.16**	**223**	*e*Pn	**Pn**	**21 04 12.0**	**-0.2**
ECSD	**EROS Data Cent**	**6.18**	**87**	*e*Pn	**Pn**	**21 04 14.2**	**+1.7**
	6.2nm,0.4s						
ECSD				*e*S	**Sb**	**21 05 41.0**	**-1.9**
DUG	**Dugway, Tooele**	**6.73**	**241**	*e*Pn	**Pn**	**21 04 19.8**	**-0.3**
	2.5nm,0.6s						
I10CA	**LAC DU BONNET**	**8.96**	**41**	*i*		21 55 30.0	
	baz=224,slow=323,SNR=4.1						
ULM	**Lac du Bonnet**	**9.06**	**41**	Pn	**Pn**	**21 04 51.5**	**-0.4**
	0.9nm,0.3s,baz=228,slow=12,SNR=10						
ULM				Lg	Lg	21 07 21.0	
	0.4nm,0.3s,baz=131,slow=20,SNR=3.4						
NVAR	**Mina Array Bea**	**11.26**	**246**	Pn	**Pn**	**21 05 21.8**	**-0.4**
	baz=51,slow=12,SNR=2.4						
TXAR	**Lajitas Array**	**14.46**	**175**	Pg	Pg	21 07 07.5	
	0.1nm,0.3s,baz=3.9,slow=14,SNR=4.1						
TXAR				Lg	Lg	21 10 09.1	
	0.0nm,0.3s,baz=4.7,slow=26,SNR=2.9						
YKA	**Yellowknife Ar**	**19.56**	**347**	P	**P**	**21 07 07.9**	**-0.9**
	0.1nm,0.3s,baz=153,slow=12,SNR=4.9						

*DJA **11** 21:02:28.1±0.7,0.7°N±9.9°×9.1°E±1.1°,h10km,M5.4/10,mb5.5/10, mB5.8/10,Mw(mB)5.4/10*
*NEIC **11** 21:02:39.4±0.6,0.31′N×91.66′E,h10km,mb5.2/29,Error ellipse: s-maj=14.7km s-min=7.1km az=15.0*
*MOS **11** 21:02:41.4±1.6,0.50′N×91.03′E,h10km,mb5.2/48,Error ellipse: s-maj=11.1km s-min=5.2km az=113.1*
*ISCJB **11** 21:02:48.0±0.7,0.70′N±0.06×92.56′E±0.07,h10km, mb4.5/21,MS4.1/12,Error ellipse: s-maj=11.6km s-min=6.6km az=142.0*
*IDC **11** 21:02:48.6±2.2,0.70′N×92.52′E,h0km,mb4.2/4,mb1 4.4/6, mb1mx3.9/73,mbtmp4.2/6,ML4.0/1,MS4.0/7,Ms1 4.0/7, ms1mx3.5/58,Error ellipse: s-maj=58.4km s-min=21.4km az=70.0*
ISC 11 21:02:49.4±1.0,**0.64′N**±0.08×**92.6′E**±0.1′,**h10**km,**n74,** σ2°**28**/70,**mb4.6**/21,**MS4.2**/12,**2C-1D,Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GSI	**Gunungsitoli**	**5.00**	**82**	P	**Pn**	**21 04 06.9**	**+2.4**
	212nm,0.9s,5μm						
GSI	**Gunungsitoli**	**5.00**	**82**	*e*Pn	**Pn**	**21 04 06.9**	**+2.4**
MLSI	**Meulaboh, Aceh**	**5.22**	**46**	P	**Pn**	**21 04 09.0**	**+1.4**
	292nm,0.5s,11μm						
TPTI		**5.25**	**60**	P	**Pn**	**21 04 08.6**	**+0.7**
	154nm,0.7s,4μm						
BSI	**Banda Aceh**	**5.51**	**29**	P	**Pn**	**21 04 09.3**	**-2.3**
	142nm,0.9s,13μm						
LHMI	**Lhok Sumawe**	**6.28**	**43**	P	**Pn**	**21 04 24.7**	**+2.6**
	198nm,0.7s,7μm						
LHMI	**Lhok Sumawe**	**6.28**	**43**	*e*Pn	**Pn**	**21 04 23.8**	**+1.6**
TSI	**Tuntungan**	**6.58**	**64**	P	**Pn**	**21 04 30.3**	**+4.0**
	568nm,0.9s,14μm						
PSI	**Prapat**	**6.66**	**71**	Pn	**Pn**	**21 04 28.6**

CM01 **Chiang Mai Arr** 18.73 19 *e*Pn **Pn** 21 07 09.0 +0.2
CM31 **Chiang Mai Arr** 18.76 19 *e*Pn **P** 21 07 08.8 +0.1
CMAR **Chiang Mai Arr** 18.76 19 P **P** 21 07 08.0 -0.8
0.2nm,0.3s,baz=216,slow=12,SNR=26
CMAR **Chiang Mai Arr** 18.76 19 P **P** 21 07 08.0 -0.8
CHTO **Chiang Mai** 19.09 19 *e*P **P** 21 07 12.2 -0.2
5.2nm,1.0s
CHTO **Chiang Mai** 19.09 19 *e*P **P** 21 07 12.2 -0.2
CHTO pmax pmax
comp=Z,5.0nm,1.0s
SBUM **Sibu** 19.68 85 *e*P **Pn** 21 07 21.1 +0.9
SHL **Shillong** 24.79 358 *e*P **P** 21 08 07.7 -4.1
comp=Z,46nm,0.8s
SHL **Shillong** 24.79 358 *e*P **P** 21 08 07.7 -4.1
SHL pmax pmax
comp=Z,46nm,0.8s
QIZ **Qiongzhong** 24.89 42 P **P** 21 08 14.9 +2.3
QIZ S **S** 21 12 39.6 +3.7
QIZ LR LR
comp=N,620nm,14.4s
QIZ LR LR
comp=E,780nm,17.0s
KMI **Kunming** 26.23 21 P **P** 21 08 27.7 +2.8
KMI pmax pmax
comp=Z,5.0nm,0.5s
KMI pmax pmax
comp=Z,99nm,4.8s
MYLDM **Lahad Datu** 26.23 80 *e*P **P** 21 08 22.8 -2.1
comp=Z,30nm,1.0s
TGY **Tagaytay City** 31.04 63 LR LR 21 23 01.6
comp=Z,196nm,20.2s,baz=205,slow=39
CD2 **Chengdu** 31.90 18 *e*P **P** 21 09 14.5 -0.7
CD2 pmax pmax
comp=Z,10.0nm,0.5s
DAV **Davao City (W)** 33.48 78 LR LR 21 25 18.4
comp=Z,189nm,19.1s,baz=210,slow=40
XAN **Xi'an** 36.57 23 P **P** 21 09 55.6 0.0
XAN pP sP 21 10 00.4 +0.5
XAN sP pP 21 10 02.5 +3.8
XAN PP **PnPn** 21 11 16.8 -1.8
XAN S **S** 21 15 31.0 -7.3
XAN sS pS 21 15 38.5 -3.4
XAN SS SnSn 21 17 51.2 -17
XAN pmax pmax
comp=Z,5.0nm,0.8s
XAN LR LR
comp=N,290nm,13.0s
XAN LR LR
comp=E,320nm,16.0s
XAN LR LR
comp=Z,420nm,17.4s
FITZ **Fitzroy Crossi** 37.44 122 P **P** 21 10 04.8 +1.6
comp=Z,3.8nm,0.7s,baz=295,slow=9.2,SNR=6.2
NJ2 **Nanjing** 39.87 36 *e*P **P** 21 10 23.8 +0.4
NJ2 pmax pmax
comp=Z,12nm,0.5s
FRU **Bishkek** 45.00 341 *e*P **P** 21 11 07.0 +1.9
FRU *e* 21 12 39.0
WRA **Warramunga Arr** 45.70 119 P **P** 21 11 12.4 +1.4
comp=Z,4.1nm,0.6s,baz=297,slow=8.6,SNR=30
WB2 **Warramunga Arr** 45.72 119 *e*P **P** 21 11 12.7 +1.6
ASAR **Alice Springs** 46.81 124 P **P** 21 11 21.4 +1.7
comp=Z,1.9nm,1.0s,baz=294,slow=7.2,SNR=10.0
MKAR **Makanchi Array** 46.84 350 LR LR 21 34 15.9
comp=Z,153nm,18.7s,baz=168,slow=40
AS01 **Alice Springs** 46.84 124 *e*P **P** 21 11 21.1 +1.1
AS01 *e* 21 11 49.6
SONM **Songino Array** 48.50 12 P **P** 21 11 33.0 +0.5
comp=Z,21nm,0.6s,baz=195,slow=9.3,SNR=66
SONA1 **Songino Array** 48.52 12 *e*P **P** 21 11 32.9 +0.2
ULN **Ulaanbaatar** 48.68 13 *e*P **P** 21 11 33.7 -0.2
comp=Z,5.8nm,0.8s
ULN **Ulaanbaatar** 48.68 13 *i* P **P** 21 11 31.5 -2.4
ULN pmax pmax
comp=Z,6.0nm,0.9s
KSAR **Wonju Array Be** 48.96 38 P **P** 21 11 37.1 +1.0
KSAR **Wonju Array Be** 48.96 38 P **P** 21 11 37.1 +1.0
KSRS **Korea Array** 48.99 38 P **P** 21 11 37.1 +0.8
comp=Z,1.1nm,0.6s,baz=227,slow=7.8,SNR=4.8
DGZ **Jazzator, Alta** 49.07 356 *i* P **P** 21 11 32.8 -4.1
DGZ pmax pmax
comp=Z,2.0nm,0.7s
HVS **Khovu-Aksy** 50.32 1*c i*P **P** 21 11 42.9 -3.4
HVS pmax pmax
comp=Z,54nm,0.8s
ZAK **Zakamensk** 50.38 9 *e*P **P** 21 11 46.1 -0.7
ZAK pmax pmax
comp=Z,5.0nm,1.1s
MOY **Mondy** 51.33 7 *e*P **P** 21 11 54.9 +0.9
TLY **Talaya** 51.70 9 *e*P **P** 21 11 54.6 -2.0
comp=Z,4.9nm,0.9s
TLY **Talaya** 51.70 9 *e*P **P** 21 11 59.2 +2.6
TLY pmax pmax
comp=Z,6.0nm,0.9s
TLY MLR MLR
comp=Z,122nm,17.0s
CN2 **Changchun** 51.97 30 *e*P **P** 21 12 02.2 +3.5
CN2 *e*S **S** 21 19 25.1 +3.1
CN2 pmax pmax
comp=Z,10.0nm,0.5s
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,200nm,16.0s
CN2 LR LR
comp=E,200nm,16.0s
CN2 LR LR
comp=Z,200nm,19.0s
BVAR **Borovoye Array** 55.39 344 LR LR 21 36 04.8
comp=Z,292nm,20.2s,baz=144,slow=36
KLR **Kul'dur** 58.88 29 P **P** 21 12 49.9 +1.5
comp=Z,0.1nm,0.6s,baz=270,slow=6.5,SNR=4.5
KLR **Kul'dur** 58.88 29 *i* P **P** 21 12 49.0 +0.6
YAK **Yakutsk** 67.29 18 *e*P **P** 21 13 42.8 -1.2
YAK *e* 21 14 05.8
YAK *e*S **S** 21 22 39.7 +0.7
YAK *e**SS sS 21 23 03.1 +19
YAK *e* 21 23 39.3
YAK *e*SS **SS** 21 27 00.8 +2.0
YAK pmax pmax
comp=Z,15nm,1.0s
YAK pmax pmax
comp=N,2.0nm,1.0s
YAK pmax pmax
comp=E,4.0nm,1.2s
YAK pmax pmax
comp=Z,119nm,4.3s
YAK pmax pmax
comp=N,76nm,4.6s
YAK pmax pmax
comp=E,64nm,4.4s
YAK smax smax
comp=E,70nm,4.4s
YAK smax smax
comp=N,33nm,3.8s
YAK MLR MLR
comp=Z,155nm,19.0s
YAK MLR MLR
comp=E,68nm,16.0s
YAK MLR MLR
comp=N,138nm,20.0s
HNR **Honiara** 67.76 100 LR LR 21 44 56.6
comp=N,63nm,19.7s,baz=350,slow=37
TIXI **Tiksi** 74.57 11 *e*P **P** 21 14 27.0 -1.1
comp=N,12nm,1.1s
TIXI **Tiksi** 74.57 11*c e*P **P** 21 14 26.5 -1.6
TIXI pmax pmax
comp=Z,10.0nm,0.8s
BILL **Bilibino** 83.33 21 *e*P **P** 21 15 18.9 +2.7
BILL *e*S **SPn** 21 26 26.8 +0.3
BILL pmax pmax
comp=Z,2.0nm,1.8s
BILL MLR MLR
comp=Z,174nm,18.0s
HFS **Hagfors** 83.93 330 LR LR 21 55 58.9
comp=Z,75nm,18.9s,baz=104,slow=38
TIN **Tinemaha, Big** 132.85 34 *e*PKPpre PKPpre 21 21 46.9
TIN **Tinemaha, Big** 132.85 34 *e*PKHKP PKPpre 21 21 46.9
CIAC **Catalina I. Ai** 135.29 38 *e*PKPdf PKPpre 21 22 03.9
TXAR **Lajitas Array** 146.37 26 PKPbc **PKPbc** 21 22 31.4 -0.1
comp=Z,0.8nm,0.6s,baz=175,slow=0.8,SNR=11
JCT **Junction City** 146.87 20 *e*PKPdf PKPpre 21 22 22.7
JCT **Junction City** 146.87 20 *e*PKHKP PKPpre 21 22 22.7
HPIG 147.41 31 *e*PKPdf PKPpre 21 22 23.8

ISCJB ***11*** *21:02:52.4±0.3, 1°.63N±0°.05×89°.65E±0°.06, h10km, mb4.9/90, Error ellipse: s-maj=8.2km s-min=7.1km az=10.8*

IDC ***11*** *21:02:52.8±0.5, 1°.69N×89°.63E, h0km, mb4.7/40, mb1 4.7/41, mb1mx4.6/74, mbtmp4.7/41, ML5.1/1, MS4.0/3, Ms1 4.0/3, ms1mx3.3/55, Error ellipse: s-maj=14.7km s-min=11.0km az=37.0*

ISC 11 21:02:53.9±0.5, 1°.66N±0°.07×89°.68E±0°.08, h10km, n266, σ1§46/256, mb5.0/97, 27C-8D, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PBA	**Port Blair**	**10.39**	**17**	*e*P	Pn	21 05 22.0	-1.0
PBA	**Port Blair**	**10.39**	**17**	*e*Pn	Pn	21 05 23.8	+0.7
PBA				*e*Sn	Sn	21 07 10.2	-9.5
PALK	**Pallekele**	**10.54**	**302**	Pn	**Pn**	**21 05 23.5**	**-1.8**
	16nm,0.3s,baz=116,slow=12,SNR=49						
PALK				Sn	Sn	21 07 10.0	-13
	96nm,0.3s,baz=110,slow=19,SNR=19						
PALK	**Pallekele**	**10.54**	**302**	*e*Pn	**Pn**	**21 05 23.3**	**-2.0**
DGPR	**DIGLIPUR**	**11.89**	**16**	*e*P	**Pn**	**21 05 44.3**	**+0.7**
TRD	**Trivandrum**	**14.37**	**299**	*e*P	P	21 06 34.5	+10
MDRS	**Chennai**	**14.69**	**321**	*e*P	P	21 06 36.3	+8.1
VIS	**Vishakhapatnam**	**17.14**	**339**	IAmb	IAmb	21 06 56.8	
VIS				*e*P	**P**	**21 07 02.3**	**+6.9**
HYB	**Hyderabad**	**19.10**	**326**	*i* P	**P**	**21 07 17.0**	**-0.1**
HYB				*e*		21 10 30.0	
HYB	**Hyderabad**	**19.10**	**326**	IAmb	IAmb	21 07 19.3	
	comp=Z,31nm,0.6s						
HYB				*e*P	Pn	21 07 27.0	+9.1
H08S2	**Diego Garcia H**	**19.48**	**241**	T	T	21 27 23.2	
	baz=60,slow=74						
H08S3	**Diego Garcia H**	**19.48**	**242**	T	T	21 27 46.1	
	baz=60,slow=74						
H08S1	**Diego Carcia H**	**19.49**	**241**	T	T	21 27 23.6	
	baz=60,slow=74						
GOA	**Goa**	**20.82**	**312**	IAmb	IAmb	21 07 42.1	
GOA				*e*P	Pn	21 07 46.7	+8.5
NGP	**Nagpur**	**21.97**	**333**	*e*P	**P**	**21 07 54.5**	**+6.4**
NGP				ex	x	21 11 42.2	
BOK	**Bokaro**	**22.31**	**351**	*e*P	**P**	**21 07 53.5**	**+1.8**
BOK				IAmb	IAmb	21 07 56.9	
	comp=Z,159nm,1.3s						
POO	**Poona**	**22.85**	**318**	*e*P	P	21 08 04.9	+7.3
POO				IAmb	IAmb	21 08 14.6	
	comp=Z,45nm,0.5s						
SHL	**Shillong**	**23.86**	**5**	*e*P	**P**	**21 08 05.5**	**-2.3**
SHL				IAmb	IAmb	21 08 12.5	
	comp=Z,525nm,3.1s						
BHPL	**Bhopal**	**24.53**	**332**	*e*P	**P**	**21 08 15.7**	**+1.8**
BHPL				IAmb	IAmb	21 08 35.3	
	comp=Z,47nm,1.2s						
ODAN	**Odare**	**25.15**	**355**	*e*P	**P**	**21 08 21.3**	**+1.6**
	comp=Z,162nm,0.8s						
RAMN	**Ramite**	**25.32**	**354**	*e*P	**P**	**21 08 23.4**	**+2.2**
	comp=Z,136nm,0.6s						
JIRN	**Jiri**	**26.07**	**353**	*e*P	**P**	**21 08 29.9**	**+1.7**
	comp=Z,354nm,0.9s						
PKIN	**Phulchoki**	**26.09**	**351**	*e*P	**P**	**21 08 29.6**	**+1.3**
	comp=Z,62nm,0.7s						
DMN	**Daman**	**26.17**	**351**	*e*P	**P**	**21 08 30.6**	**+1.6**
	comp=Z,142nm,0.9s						
KKN	**Kakani**	**26.32**	**351**	*e*P	**P**	**21 08 31.8**	**+1.5**
	comp=Z,147nm,0.8s						
GUN	**Gumba**	**26.36**	**352**	*e*P	**P**	**21 08 32.5**	**+1.7**
	comp=Z,270nm,0.8s						
KOLN	**Koldanda**	**26.61**	**348**	*e*P	**P**	**21 08 34.6**	**+1.7**
	comp=Z,62nm,0.7s						
GKN	**Gorkha**	**26.64**	**350**	*e*P	**P**	**21 08 34.6**	**+1.5**
	comp=Z,130nm,1.0s						
PYUN	**Piuthan**	**27.06**	**347**	*e*P	**P**	**21 08 38.5**	**+1.5**
	comp=Z,91nm,0.9s						
DANN	**Dangsing**	**27.14**	**349**	*e*P	**P**	**21 08 39.1**	**+1.4**
LSA	**Lhasa**	**27.92**	**3**	P	**P**	**21 08 46.9**	**+1.9**
LSA				pmax	pmax		
	comp=Z,65nm,1.0s						
SMLA	**Simla**	**31.61**	**339**	*e*P	**P**	**21 09 18.8**	**+1.7**
SMLA				IAmb	IAmb	21 09 19.9	
	comp=Z,36nm,0.7s						
DHRM	**DHARAMSHALA**	**32.94**	**339**	*e*P	**P**	**21 09 29.0**	**0.0**
LZH	**Lanzhou**	**36.69**	**19**	*e*P	**P**	**21 10 01.0**	**-0.3**
LZH				pP	sP	21 10 05.5	-0.1
LZH				sP	pP	21 10 08.1	+3.7
LZH				PP	**PP**	**21 11 27.0**	**+2.1**
LZH				pmax	pmax		
	comp=Z,22nm,1.0s						
LZH				pmax	pmax		
	comp=Z,83nm,4.9s						
LZH				LR	LR		
	comp=N,400nm,13.5s						
LZH				LR	LR		
	comp=E,400nm,14.0s						
LZH				LR	LR		
	comp=Z,440nm,17.2s						
WSAR	**Wadi Sarin**	**36.96**	**308**	P	**P**	**21 10 04.8**	**+1.1**
	comp=Z,6.9nm,0.9s,baz=158,slow=6.9,SNR=3.6						
KBL	**Kabul**	**37.96**	**332**	*e*P	**P**	**21 10 12.3**	**+0.1**
	comp=Z,17nm,0.7s						
KBL	**Kabul**	**37.96**	**332**	*e*P	**P**	**21 10 12.3**	**+0.1**
KBL				pmax	pmax		
	comp=Z,17nm,0.7s						
GTA	**Gaotai**	**38.70**	**13**	P	**P**	**21 10 17.1**	**-1.1**
GTA				pP	pP	21 10 21.7	+0.4
GTA				sP	sP	21 10 24.1	+1.5
GTA				PcP	**PcP**	**21 12 33.0**	**+2.9**
GTA				S	**S**	**21 16 14.3**	**-0.9**
GTA				sS	sS	21 16 22.5	+2.2
GTA				SS	**SnSn**	**21 18 56.3**	**-7.4**
GTA				pmax	pmax		
	comp=Z,3.0nm,1.1s						
GTA				pmax	pmax		
	comp=Z,100nm,4.9s						
GTA				LR	LR		
	comp=N,230nm,18.6s						
GTA				LR	LR		
	comp=E,200nm,15.6s						
GTA				LR	LR		
	comp=Z,1μm,18.0s						
KSH	**Kashi**	**39.70**	**343**	P	**P**	**21 10 25.4**	**-1.2**
KSH				pmax	pmax		
	comp=Z,120nm,0.9s						
FITZ	**Fitzroy Crossi**	**40.48**	**121**	P	**P**	**21 10 34.7**	**+1.5**
	comp=Z,4.0nm,0.8s,baz=265,slow=6.7,SNR=3.9						
TARG	**Taragay, Kyrgy**	**41.30**	**347**	*e*P	**P**	**21 10 41.2**	**+1.1**
	comp=Z,39nm,0.9s						
KDJ	**Kajisay**	**41.83**	**346**	*e*P	**P**	**21 10 45.2**	**+1.0**
	comp=Z,52nm,1.4s						
WMQ	**Urumqi**	**42.02**	**358**	P	P	21 10 51.3	+5.7
ULHL	**Ulahol**	**42.17**	**345**	P	**P**	**21 10 47.9**	**+0.9**
	SNR=28						
KZA	**Kyzart**	**42.28**	**344**	P	**P**	**21 10 49.3**	**+1.1**
	SNR=15						
UCH	**Uchtor**	**42.62**	**343**	P	**P**	**21 10 52.4**	**+1.3**
	SNR=38						
AML	**Almayashu**	**42.77**	**342**	P	**P**	**21 10 53.6**	**+1.4**
	SNR=54						
KBK	**Karagaybulak**	**42.90**	**344**	P	**P**	**21 10 54.5**	**+1.5**
	SNR=22						
TKM2	**Tokmak 2**	**42.97**	**345**	P	**P**	**21 10 54.4**	**+0.9**
	SNR=28						
H01W3	**Cape Leeuwin H**	**42.98**	**150**	T	T	21 56 49.5	
	baz=324,slow=74,SNR=20						
H01W2	**Cape Leeuwin H**	**42.99**	**150**	T	T	21 56 48.1	
	baz=324,slow=74,SNR=12						
H01W1	**Cape Leeuwin H**	**42.99**	**150**	T	T	21 56 44.7	
	baz=324,slow=74,SNR=27						
AAK	**Ala-Archa**	**43.01**	**344**	P	**P**	**21 10 55.1**	**+1.4**
	comp=Z,7.8nm,0.6s,baz=161,slow=6.6,SNR=38						
AAK	**Ala-Archa**	**43.01**	**344**	P	**P**	**21 10 55.1**	**+1.4**
	SNR=10						
AAK	**Ala-Archa**	**43.01**	**344**	*i* P	**P**	**21 10 54.9**	**+1.1**
AAK				pmax	pmax		
	comp=Z,15nm,1.0s						
EKS2	**Erkin-Say**	**43.24**	**343**	P	**P**	**21 10 57.2**	**+1.6**
	SNR=54						
USP	**Ospenovka**	**43.59**	**344**	P	**P**	**21 10 59.1**	**+0.8**
	SNR=31						
HHC	**Hu-ho-hao-te**	**43.75**	**24**	*e*P	**P**	**21 10 56.1**	**-3.7**
HHC				pmax	pmax		
	comp=Z,17nm,1.1s						
HHC				pmax	pmax		
	comp=Z,72nm,6.0s						
KK06	**Karatay Array**	**44.66**	**340**	*e*P	**P**	**21 11 07.5**	**+0.6**
KK07	**Karatay Array**	**44.67**	**340**	*e*P	**P**	**21 11 07.7**	**+0.7**
KK02	**Karatay Array**	**44.67**	**340**	*e*P	**P**	**21 11 07.7**	**+0.6**
KK31	**Karatay Array**	**44.67**	**340**	*e*P	**P**	**21 11 07.8**	**+0.7**
KK31	**Karatay Array**	**44.67**	**340**	*e*P	**P**	**21 11 07.8**	**+0.7**
KK01	**Karatay Array**	**44.68**	**340**	*e*P	**P**	**21 11 07.7**	**+0.6**
KK03	**Karatay Array**	**44.68**	**340**	*e*P	**P**	**21 11 07.7**	**+0.7**
KK04	**Karatay Array**	**44.68**	**340**	*e*P	**P**	**21 11 07.7**	**+0.6**
KK05	**Karatay Array**	**44.68**	**340**	*e*P	**P**	**21 11 07.7**	**+0.6**
KK08	**Karatay Array**	**44.68**	**340**	*e*P	**P**	**21 11 07.8**	**+0.7**
KK09	**Karatay Array**	**44.70**	**340**	*e*P	**P**	**21 11 07.8**	**+0.6**
MK01	**Makanchi Array**	**45.39**	**353**	*e*P	**P**	**21 11 12.4**	**-0.3**
MK31	**Makanchi Array**	**45.41**	**353**	*e*P	**P**	**21 11 12.8**	**0.0**
MK31	**Makanchi Array**	**45.41**	**353**	*e*P	**P**	**21 11 12.9**	**0.0**
MKAR	**Makanchi Array**	**45.41**	**353**	P	**P**	**21 11 12.6**	**-0.2**
	comp=Z,10nm,0.7s,baz=169,slow=9.6,SNR=116						
MKAR	**Makanchi Array**	**45.41**	**353**	P	**P**	**21 11 12.6**	**-0.2**
MKAR				pmax	pmax		
	comp=Z,10.0nm,0.7s						
MAKZ	**Makanchi**	**45.47**	**353**	*e*P	**P**	**21 11 12.7**	**-0.6**
	comp=Z,10nm,0.9s						
MAKZ	**Makanchi**	**45.47**	**353**	*e*P	**P**	**21 11 12.7**	**-0.6**
MAKZ				pmax	pmax		
	comp=Z,10.0nm,0.9s						
GYB1	**ALIBECK ARRAY**	**46.27**	**325**	*e*P	**P**	**21 11 20.6**	**+0.8**
	comp=Z,22nm,0.6s						
GYA1	**ALIBECK ARRAY**	**46.28**	**325**	*e*P	**P**	**21 11 20.8**	**+0.9**
	comp=Z,23nm,0.6s						
GYB5	**ALIBECK ARRAY**	**46.28**	**325**	*e*P	**P**	**21 11 20.8**	**+0.9**
	comp=Z,23nm,0.6s						
GEYT	**Alibeck**	**46.28**	**325**	P	**P**	**21 11 20.7**	**+0.8**
	comp=Z,24nm,0.6s,baz=159,slow=9.5,SNR=54						
GYA0	**ALIBECK ARRAY**	**46.28**	**325**	*e*P	**P**	**21 11 20.9**	**+1.0**
	comp=Z,24nm,0.7s						
GYA0B	**ALIBECK ARRAY**	**46.28**	**325**	*e*P	**P**	**21 11 20.9**	**+1.0**
	comp=Z,25nm,0.7s						
GYB2	**ALIBECK ARRAY**	**46.28**	**325**	*e*P	**P**	**21 11 20.8**	**+0.9**
	comp=Z,27nm,0.8s						
GYA2	**ALIBECK ARRAY**	**46.28**	**325**	*e*P	**P**	**21 11 20.8**	**+0.9**
	comp=Z,24nm,0.8s						
GYB3	**ALIBECK ARRAY**	**46.29**	**325**	*e*P	**P**	**21 11 21.0**	**+1.1**
	comp=Z,23nm,0.8s						
GYB4	**ALIBECK ARRAY**	**46.29**	**325**	*e*P	**P**	**21 11 20.9**	**+0.9**
	comp=Z,20nm,0.8s						
OPO	**Ambohidratompo**	**46.36**	**242**	P	**P**	**21 11 21.4**	**+0.4**
	comp=Z,8.6nm,0.8s,baz=69,slow=6.3,SNR=10						
ATD	**Arta Tunnel**	**47.47**	**284**	P	**P**	**21 11 30.0**	**+0.4**
	comp=Z,11nm,0.9s,baz=104,slow=13,SNR=4.2						
SONM	**Songino Array**	**48.22**	**15**	P	**P**	**21 11 35.9**	**+1.0**
	comp=Z,21nm,0.6s,baz=196,slow=8.7,SNR=90						
WRA	**Warramunga Arr**	**48.77**	**118**	P	**P**	**21 11 40.2**	**+0.8**
	comp=Z,9.6nm,0.6s,baz=295,slow=8.6,SNR=21						
KURBB	**Kurchatov Arra**	**49.69**	**351**	P	**P**	**21 11 46.1**	**+0.1**
	comp=Z,23nm,0.8s,baz=183,slow=7.3,SNR=180						
JNU	**Nakatsue**	**49.70**	**46**	P	**P**	**21 11 48.0**	**+1.6**
	comp=Z,5.4nm,0.7s,baz=221,slow=7.7,SNR=3.9						
JNU				LR	LR	21 34 36.2	
	comp=Z,216nm,18.1s,baz=156,slow=38						
KURK	**Kurchatov**	**49.77**	**351**	*e*P	**P**	**21 11 46.5**	**0.0**
	comp=Z,154nm,0.7s						
KURK	**Kurchatov**	**49.77**	**351**	P	**P**	**21 11 46.1**	**-0.5**
KURK				pmax	pmax		
	comp=Z,22nm,0.8s						
ASAR	**Alice Springs**	**49.81**	**123**	P	**P**	**21 11 48.5**	**+1.1**
	comp=Z,3.4nm,0.7s,baz=294,slow=7.5,SNR=18						
ZALV	**Zalesovo Beam**	**52.27**	**356**	P	**P**	**21 12 05.0**	**-0.3**
	comp=Z,20nm,0.6s,baz=176,slow=7.5,SNR=87						
ZALV	**Zalesovo Beam**	**52.27**	**356**	P	**P**	**21 12 05.1**	**-0.3**
ZALV				pmax	pmax		
	comp=Z,20nm,0.6s						
KMBO	**Kilima Mbogo**	**52.49**	**267**	P	**P**	**21 12 08.0**	**0.0**
	comp=Z,1.8nm,0.6s,baz=58,slow=15,SNR=7.0						
KMBO	**Kilima Mbogo**	**52.49**	**267**	P	**P**	**21 12 08.0**	**0.0**
KMBO				pmax	pmax		
	comp=Z,2.0nm,0.6s						
NVS	**Novosibirsk**	**53.27**	**355**	*e*P	**P**	**21 12 11.7**	**-1.0**
NVS				pmax	pmax		
	comp=Z,17nm,0.9s						
NVS				pmax	pmax		
	comp=N,10.0nm,0.8s						
NVS				pmax	pmax		
	comp=E,6.0nm,0.8s						
BVAR	**Borovoye Array**	**53.64**	**346**	P	**P**	**21 12 14.9**	**-0.6**
	comp=E,8.2nm,0.8s,baz=146,slow=8.2,SNR=53						
BVAR	**Borovoye Array**	**53.64**	**346**	P	**P**	**21 12 14.9**	**-0.6**
BVAR				pmax	pmax		
	comp=Z,8.0nm,0.8s						
BRVK	**Borovoye**	**53.70**	**346**	*ce*P	**P**	**21 12 15.3**	**-0.6**
BRVK				pmax	pmax		
	comp=Z,32nm,1.2s						
AB07	**Akbulak array**	**53.80**	**336**	*e*P	**P**	**21 12 17.1**	**+0.4**
AB08	**Akbulak array**	**53.80**	**336**	*e*P	**P**	**21 12 17.1**	**+0.3**
AB06	**Akbulak array**	**53.81**	**336**	*e*P	**P**	**21 12 17.1**	**+0.4**
AB03	**Akbulak array**	**53.81**	**336**	*e*P	**P**	**21 12 17.2**	**+0.4**
AB01	**Akbulak array**	**53.81**	**336**	*e*P	**P**	**21 12 17.2**	**+0.4**
AB31	**Akbulak array**	**53.81**	**336**	*e*P	**P**	**21 12 17.2**	**+0.5**
AB31				*e*PP	**PP**	**21 14 12.7**	**-5.3**
AB31	**Akbulak array**	**53.81**	**336**	*e*P	**P**	**21 12 17.3**	**+0.5**
ABKAR	**Akbulak array**	**53.81**	**336**	*e*P	**P**	**21 12 17.2**	**+0.4**
ABKAR				*e*PP	**PP**	**21 14 10.8**	**-7.2**
AB02	**Akbulak array**	**53.81**	**336**	*e*P	**P**	**21 12 17.2**	**+0.4**
AB04	**Akbulak array**	**53.82**	**336**	*e*P	**P**	**21 12 17.2**	**+0.4**
AB05	**Akbulak array**	**53.83**	**336**	*e*P	**P**	**21 12 17.3**	**+0.4**
AB09	**Akbulak array**	**53.83**	**336**	*e*P	**P**	**21 12 17.2**	**+0.3**
KRAR	**Krasnoyarsk**	**54.25**	**2**	*i* P	**P**	**21 12 19.0**	**-0.8**
AKT	**Akhty**	**54.72**	**322**	‖ *i* P	**P**	**21 12 24.0**	**+0.3**
AKT				*i*		21 13 20.2	
AKT				*e*		21 14 29.9	
AKT				pmax	pmax		
	comp=Z,50nm,0.9s						
AKTO	**Aktyubinsk**	**55.51**	**336**	P	**P**	**21 12 28.5**	**-0.7**
	comp=Z,3.8nm,0.5s,baz=134,slow=8.2,SNR=13						
AKTO	**Aktyubinsk**	**55.51**	**336**	P	**P**	**21 12 28.5**	**-0.7**
AKTO				pmax	pmax		
	comp=Z,4.0nm,0.5s						
GNI	**Garni**	**55.88**	**319**	P	**P**	**21 12 32.8**	**+0.6**
	comp=Z,11nm,0.7s,baz=172,slow=8.3,SNR=7.9						
GNI				LR	LR	21 35 52.9	
	comp=Z,101nm,21.2s,baz=103,slow=36						
GNI	**Garni**	**55.88**	**319**	*i* P	**P**	**21 12 31.9**	**-0.3**
MJAR	**Matsushiro Arr**	**55.62**	**46**	P	**P**	**21 12 37.6**	**+0.2**
	comp=Z,1.8nm,0.9s,baz=230,slow=7.3,SNR=3.9						
TBLG	**Delisi**	**56.72**	**321**	*e*P	**P**	**21 12 39.1**	**+1.1**
	comp=Z,32nm,0.8s						
TBLG	**Delisi**	**56.72**	**321**	*e*P	**P**	**21 12 39.1**	**+1.1**
TBLG				pmax	pmax		
	comp=Z,32nm,0.8s						
GROC	**Groznyy**	**56.88**	**323**	*e*P	**P**	**21 12 36.8**	**-2.2**
GROC				*e*		21 13 26.3	
GROC				pmax	pmax		
	comp=Z,32nm,0.6s						
AKH	**Akhalkalaki**	**57.35**	**320**	*e*P	**P**	**21 12 44.4**	**+1.8**
	comp=Z,12nm,1.0s						
AKH	**Akhalkalaki**	**57.35**	**320**	*e*P	**P**	**21 12 44.4**	**+1.8**
AKH				pmax	pmax		
	comp=Z,12nm,1.0s						
ZEI	**Tsey**	**57.81**	**321**	*e*P	**P**	**21 12 46.1**	**+0.2**
ZEI				pmax	pmax		
	comp=Z,10.0nm,0.6s						
ASF	**Jabal al Asfar**	**58.13**	**307**	P	**P**	**21 12 48.5**	**+0.3**
	comp=Z,4.4nm,0.7s,baz=57,slow=8.6,SNR=7.3						
ASF	**Jabal al Asfar**	**58.13**	**307**	P	**P**	**21 12 48.5**	**+0.3**
ASF				pmax	pmax		
	comp=Z,4.0nm,0.7s						
NCK	**Nalchik**	**58.38**	**322**	*i* P	**P**	**21 12 50.0**	**+0.3**
NEY	**Neytrino**	**58.79**	**321**	*i* P	**P**	**21 12 53.7**	**+1.0**
KBZ	**Khabaz**	**58.93**	**322**	P	**P**	**21 12 54.0**	**+0.5**
	comp=Z,21nm,0.8s,baz=123,slow=5.6,SNR=60						
KBZ	**Khabaz**	**58.93**	**322**	P	**P**	**21 12 54.0**	**+0.5**
KBZ				pmax	pmax		
	comp=Z,21nm,0.8s						
KIV	**Kislovodsk**	**59.18**	**322**	*e*P	**P**	**21 12 55.3**	**0.0**
KIV				pmax	pmax		
	comp=Z,53nm,1.0s						
BOD	**Bodaibo**	**59.22**	**15**	*e*P	**P**	**21 12 51.9**	**-3.3**
BOD				pmax	pmax		
	comp=Z,9.0nm,1.1s						
STKA	**Stephens Creek**	**59.38**	**129**	P	**P**	**21 12 58.0**	**+1.2

ARU	Arti	60.04 341	P	P	21 13 00.3	-0.5		
	comp=Z,15nm,0.5s,baz=135,slow=2.9,SNR=24							
ARU	Arti	60.04 341	*d* *i*P	P	21 13 00.4	-0.5		
ARU					21 13 44.7			
ARU			S	S	21 21 21.1	+7.5		
ARU			pmax	pmax				
	comp=Z,25nm,0.8s							
ASAJ	Asahikawa	63.00 40	P	P	21 13 21.0	-0.1		
	comp=Z,5.0nm,0.9s,baz=290,slow=1.2,SNR=3.9							
BRTR	Keskin Array B	63.32 314	P	P	21 13 23.1	-0.5		
	comp=Z,9.1nm,0.6s,baz=133,slow=7.1,SNR=74							
BRTR	Keskin Array B	63.32 314	P	P	21 13 23.1	-0.5		
BRTR			pmax	pmax				
	comp=Z,9.0nm,0.6s							
BR131	Keskin Array S	63.32 314	*e*P	P	21 13 23.0	-0.5		
VRH	Novokhopyorsk	63.67 329	*e*P	P	21 13 24.8	-0.6		
VRH			pmax	pmax				
	comp=Z,30nm,0.6s							
ILGA	Ilgaz	63.77 316	*e*P	P	21 13 27.0	+0.4		
	comp=Z,13nm,1.1s							
BR231	Keskin MP Arra	63.98 314	*e*P	P	21 13 28.1	+0.2		
VSR	Storozhevoye	65.03 328	*e*P	P	21 13 32.8	-1.5		
VSR			pmax	pmax				
	comp=Z,10.0nm,0.5s							
SIM	Simferopol'	65.06 320	*de*P	P	21 13 34.5	-0.2		
SIM			pmax	pmax				
	comp=Z,19nm,0.6s							
LPSR	Galich'ya Gora	65.89 329	*e*P	P	21 13 38.9	-0.9		
LPSR			pmax	pmax				
	comp=Z,30nm,0.7s							
KARP	Karpathos	66.87 308	*e*P	P	21 13 45.1	-1.4		
	comp=Z,23nm,0.9s							
OBN	Obninsk	68.39 330	*e*P	P	21 13 54.1	-1.6		
OBN			*e*		21 14 15.8			
OBN			pmax	pmax				
	comp=Z,27nm,1.7s							
BOSA	Boshof	68.55 238	P	P	21 13 57.1	-0.2		
	comp=Z,3.8nm,0.6s,baz=61,slow=3.7,SNR=11							
BOSA	Boshof	68.55 238	P	P	21 13 57.2	-0.2		
BOSA			pmax	pmax				
	comp=Z,4.0nm,0.6s							
IDI	Anoyia	68.60 307	P	P	21 13 57.6	+0.1		
	comp=Z,9.2nm,0.6s,baz=103,slow=12,SNR=15							
IDI	Anoyia	68.60 307	⇑*i*P	P	21 13 58.2	+0.7		
TLCR		68.62 318	⇓*i*P	P	21 13 57.9	+0.6		
TIRR	Tirgusor	68.64 318	⇑*i*P	P	21 13 57.8	+0.3		
TIRR	Tirgusor	68.64 318	*e*P	P	21 13 57.4	-0.1		
	comp=Z,19nm,0.9s							
TIRR	Tirgusor	68.64 318	*e*P	P	21 13 57.4	-0.1		
TIRR			pmax	pmax				
	comp=Z,19nm,0.9s							
TLB	Topalu	68.93 318	⇑*i*P	P	21 13 58.5	-0.8		
HARR	Harsova	69.04 318	⇑*i*P	P	21 13 59.9	-0.1		
CFR	Carcaliu	69.07 318	⇑*i*P	P	21 14 00.5	+0.4		
ALN	Alexandroupoli	69.19 313	*e*P	P	21 14 01.4	+0.4		
	comp=Z,6.0nm,0.9s							
ALN	Alexandroupoli	69.19 313	*e*P	P	21 14 01.4	+0.4		
ALN			pmax	pmax				
	comp=Z,6.0nm,0.9s							
LEOM	Leova	69.44 320	⇑*i*P	P	21 14 02.8	+0.4		
PGOR	Pogoanele	69.75 318	⇑*i*P	P	21 14 06.0	+1.7		
SORM	Soroca	69.96 321	⇑*i*P	P	21 14 05.5	-0.1		
IAS	Iasi	70.13 320	⇑*i*P	P	21 14 06.9	+0.3		
KLMR	Klimovskoe	70.21 336	*e*P	P	21 14 05.8	-1.1		
KLMR			AMP		21 14 07.3			
	comp=Z,15nm,0.9s							
KLMR			*e*PcP	PcP	21 14 23.9	-4.7		
KLMR	Klimovskoe	70.21 336	*e*P	P	21 14 05.7	-1.1		
KLMR			*e*		21 14 23.8			
KLMR			pmax	pmax				
	comp=Z,15nm,0.9s							
VRI	Vrincioaia	70.23 319	⇑*i*P	P	21 14 08.6	+1.3		
PLOR	Plostina	70.28 319	⇑*i*P	P	21 14 08.8	+1.1		
AKASG	Malin Array Be	70.39 324	P	P	21 14 07.5	-0.7		
	comp=Z,3.2nm,0.7s,baz=92,slow=5.0,SNR=37							
AKASG	Malin Array Be	70.39 324	P	P	21 14 07.5	-0.7		
AKASG			pmax	pmax				
	comp=Z,9.0nm,0.7s							
AKBB	Malin Array Si	70.39 324	*e*P	P	21 14 07.5	-0.6		
	comp=Z,8.6nm,0.7s							
AKBB	Malin Array Si	70.39 324	*e*P	P	21 14 07.5	-0.6		
AKBB			pmax	pmax				
	comp=Z,9.0nm,0.7s							
KIEV	Kiev	70.39 324	*e*P	P	21 14 07.5	-0.7		
	comp=Z,8.4nm,0.7s							
KIEV	Kiev	70.39 324	*i* P	P	21 14 07.4	-0.8		
KIEV			pmax	pmax				
	comp=Z,7.0nm,0.9s							
SECR		70.41 318	⇑*i*P	P	21 14 09.6	+1.2		
AK11	Malin Array Si	70.41 324	*e*P	P	21 14 07.7	-0.6		
TESR	Tescani	70.49 319	⇑*i*P	P	21 14 08.9	0.0		
MLR	Muntele Rosu	70.63 318	P	P	21 14 10.6	+0.6		
	comp=Z,12nm,0.8s,baz=189,slow=8.2,SNR=124							
MLR	Muntele Rosu	70.63 318	⇓*i*P	P	21 14 11.1	+1.1		
MLR	Muntele Rosu	70.63 318	P	P	21 14 10.6	+0.6		
MLR			pmax	pmax				
	comp=Z,12nm,0.8s							
HUMR	Humele	70.99 317	⇑*i*P	P	21 14 12.4	+0.4		
PRAR	RASCA	71.04 320	⇑*i*P	P	21 14 12.7	+0.4		
DOPR	Dopca	71.15 318	⇑*i*P	P	21 14 13.6	+0.6		
VOIR		71.22 318	⇑*i*P	P	21 14 13.4	0.0		
ARR	Arges	71.47 318	⇑*i*P	P	21 14 15.1	+0.1		
VTS	Vitosha	71.69 315	⇑*i*P	P	21 14 16.3	-0.2		
BURAR	Bucovina Array	71.78 320	⇑*i*P	P	21 14 18.0	+1.2		
BUR04	Bucovina Ar. S	71.78 320	*e*P	P	21 14 17.4	+0.6		
BUR08	Bucovina Ar. S	71.79 320	*e*P	P	21 14 17.9	+1.0		
MDB	Medias	71.87 318	⇑*i*P	P	21 14 18.0	+0.7		
LOT	Lotru	72.08 318	⇑*i*P	P	21 14 18.3	-0.4		
TMCR	Tamitsa	72.68 339	*e*P	P	21 14 20.9	-0.8		
TMCR			pmax	pmax				
	comp=Z,15nm,0.8s							
HERR	Herculane	72.85 317	⇓*i*P	P	21 14 23.4	+0.3		
DRGR		73.16 319	⇑*i*P	P	21 14 25.3	+0.2		
LVV	L'vov	73.21 322	*e*P	P	21 14 22.5	-2.6		
BZS	Buzias	73.58 317	⇓*i*P	P	21 14 27.5	0.0		
UZH	Uzhgorod	73.95 320	*e*P	P	21 14 27.0	-2.5		
UZH			*e*		21 14 40.4			
KWP	Kalwaria Pacla	73.97 321	*e*P	P	21 14 29.9	+0.2		
	comp=Z,85nm,0.6s							
KWP	Kalwaria Pacla	73.97 321	*e*P	P	21 14 29.9	+0.2		
KWP			pmax	pmax				
	comp=Z,85nm,0.6s							
CRVS	Cervenica-Dubn	74.55 321	*e*P	P	21 14 33.7	+0.6		
CRVS	Cervenica-Dubn	74.55 321	*e*P	P	21 14 33.7	+0.6		
VSU	Vasula	74.72 331	*ce*P	P	21 14 32.6	-1.2		
VSU			pmax	pmax				
	comp=Z,84nm,2.5s							
STHS	Stebnicka Huta	74.83 321	*e*P	P	21 14 35.3	+0.6		
STHS	Stebnicka Huta	74.83 321	*e*P	P	21 14 35.3	+0.6		
STHS			pmax	pmax				
	comp=Z,6.0nm,1.0s							
SUW	Suwalki	75.02 326	*e*P	P	21 14 35.4	-0.2		
	comp=Z,27nm,0.9s							
SUW	Suwalki	75.02 326	*e*P	P	21 14 35.4	-0.2		
SUW			pmax	pmax				
	comp=Z,27nm,0.9s							
LANS	Liptovska Anna	75.88 320	*e*P	P	21 14 41.3	+0.5		
LANS	Liptovska Anna	75.88 320	*e*P	P	21 14 41.3	+0.5		
VYHS	Vyhne	76.13 320	*e*P	P	21 14 42.2	0.0		
VYHS	Vyhne	76.13 320	*e*P	P	21 14 42.2	0.0		
VYHS			pmax	pmax				
	comp=Z,3.0nm,1.1s							
FINES	FINESS Array B	76.19 334	P	P	21 14 42.0	-0.2		
	comp=Z,6.1nm,0.6s,baz=105,slow=5.9,SNR=21							
FINES	FINESS Array B	76.19 334	P	P	21 14 42.0	-0.2		
FINES			pmax	pmax				
	comp=Z,6.0nm,0.6s							
SEY	Seymchan	76.39 25	*i* P	P	21 14 37.5	-5.8		
KLNR	Kaliningrad	76.86 326	*i* P	P	21 14 45.5	-0.6		
KLNR			pmax	pmax				
	comp=Z,26nm,1.1s							
MODS	Modra-Piesok	77.12 319	*e*P	P	21 14 48.5	+0.7		
MODS	Modra-Piesok	77.12 319	*e*P	P	21 14 48.5	+0.7		
KRLC	Kraliky	77.79 321	*e*P	P	21 14 52.3	+0.7		
KRLC			*ex*	x	21 15 00.2			
KRLC	Kraliky	77.79 321	*e*P	P	21 14 52.3	+0.7		
KRLC			*e*		21 15 00.2			
ARSA	Arzberg	78.05 318	*i* pP	P	21 14 53.5	+0.4		
	comp=Z,5.6nm,0.9s,SNR=4.7							
DPC	Dobruska-Polom	78.14 321	*e*P	P	21 14 54.5	+1.0		
DPC			*ex*	x	21 15 02.8			
DPC			*ex*	x	21 15 06.8			
DPC	Dobruska-Polom	78.14 321	*e*P	P	21 14 54.5	+1.0		
DPC			*e*		21 15 02.8			
SYO	Syowa Base	78.21 196	*le*X	P	21 14 50.0	-3.3		
UPC	Upice	78.37 321	*e*P	P	21 14 55.7	+1.0		
UPC	Upice	78.37 321	*e*P	P	21 14 55.7	+1.0		
PRU	Pruhonice	79.19 321	*e*P	P	21 15 00.0	+0.8		
PRU			*ex*	x	21 15 12.1			
PRU	Pruhonice	79.19 321	*e*P	P	21 15 00.0	+0.8		
GEA0	GERESS Array S	79.53 319	*e*P	P	21 15 01.3	+0.1		
GEC2	GERESS Array S	79.54 319	*e*P	P	21 15 01.6	+0.4		
	comp=Z,15nm,0.8s							
GEC2	GERESS Array S	79.54 319	*e*P	P	21 15 01.6	+0.4		
GEC2			pmax	pmax				
	comp=Z,15nm,0.8s							
GERES	GERESS Array B	79.54 319	P	P	21 15 01.6	+0.4		
	comp=Z,9.7nm,0.8s,baz=105,slow=5.6,SNR=60							
GERES	GERESS Array B	79.54 319	P	P	21 15 01.6	+0.4		
GERES			pmax	pmax				
	comp=Z,10.0nm,0.8s							
ARCES	ARCESS Array B	79.62 341	P	P	21 15 01.6	+0.4		
	comp=Z,8.0nm,0.7s,baz=99,slow=5.8,SNR=40							
ARCES	ARCESS Array B	79.62 341	P	P	21 15 01.6	+0.4		
ARCES			pmax	pmax				
	comp=Z,8.0nm,0.7s							
KHC	Kasperske Hory	79.66 320	*e*P	P	21 15 02.2	+0.3		
KHC			*ex*	x	21 15 07.4			
KHC			*ex*	x	21 15 11.0			
KHC	Kasperske Hory	79.66 320	*e*P	P	21 15 02.2	+0.3		
KHC			*e*		21 15 07.4			
CLL	Collm	80.39 322	*i* (P)	P	21 15 05.9	+0.3		
	comp=Z,11nm,1.2s							
CLL	Collm	80.39 322	*i* P	P	21 15 05.9	+0.3		
CLL			pmax	pmax				
	comp=Z,11nm,1.2s							
NKC	Novy Kostel	80.56 321	*e*P	P	21 15 07.4	+0.7		
NKC	Novy Kostel	80.56 321	*e*P	P	21 15 07.4	+0.7		
MOTA	Moosalm	81.04 318	*i* pP	P	21 15 08.9	-0.5		
	comp=Z,7.5nm,1.0s							
KEST	Kesra	81.18 306	P	P	21 15 11.4	+1.0		
	comp=Z,5.3nm,0.8s,baz=142,slow=2.1,SNR=6.3							
HFS	Hagfors	81.60 331	P	P	21 15 11.6	-0.3		
	comp=Z,2.4nm,0.6s,baz=133,slow=6.1,SNR=17							
HFS	Hagfors	81.60 331	P	P	21 15 11.6	-0.3		
HFS			pmax	pmax				
	comp=Z,2.0nm,0.6s							
DAVA	Damuels	81.86 317	*i* pP	P	21 15 14.3	+0.5		
	comp=Z,18nm,0.9s,SNR=8.3							
NOA	NORSAR Array B	82.97 331	P	P	21 15 18.6	-0.6		
	comp=Z,1.3nm,0.8s,baz=101,slow=5.7,SNR=3.3							
NOA	NORSAR Array B	82.97 331	P	P	21 15 18.6	-0.6		
NOA			pmax	pmax				
	comp=Z,1.0nm,0.8s							
SPITS	Spitsbergen Ar	84.99 349	P	P	21 15 29.1	-0.1		
	comp=Z,6.0nm,0.7s,baz=47,slow=3.7,SNR=8.1							
TOA0	Torodi Ar. Sit	87.66 283	*e*P	P	21 15 43.2	-0.3		
TORD	Torodi Ar. Bea	87.66 283	P	P	21 15 43.2	-0.3		
	comp=Z,2.0nm,0.6s,baz=97,slow=5.2,SNR=13							
EKA	Eskdalemuir Ar	90.27 325	P	P	21 15 55.3	+0.4		
	comp=Z,2.0nm,0.7s,baz=95,slow=5.0,SNR=12							
ESDC	Sonseca Array	91.76 310	LR	LR	22 00 06.8			
	comp=Z,49nm,20.3s,baz=35,slow=37							
SNAA	Sanae	92.36 198	P	P	21 16 04.4	0.0		
	comp=Z,2.4nm,0.9s,baz=112,slow=5.3,SNR=3.8							
KOWA	Kowa	93.17 285	P	P	21 16 09.7	+0.5		
	comp=Z,3.6nm,0.7s,baz=74,slow=4.1,SNR=9.7							
ILAR	Eielson Array	102.13 21	PP	PP	21 21 02.0	+2.1		
	comp=Z,1.0nm,1.2s,baz=289,slow=5.4,SNR=4.1							
YKA	Yellowknife Ar	113.43 12	PP	PP	21 22 21.9	-0.4		
	comp=Z,0.4nm,1.1s,baz=336,slow=7.5,SNR=4.8							
NVAR	Mina Array Bea	132.49 30	PKP	PKPdf	21 22 09.2	-0.3		
	comp=Z,0.3nm,0.5s,baz=348,slow=4.0,SNR=2.5							
PDAR	Pinedale Array	132.50 19	PKP	PKPdf	21 22 10.0	+0.6		
	comp=Z,0.4nm,0.5s,baz=327,slow=1.5,SNR=4.2							
TXAR	Lajitas Array	146.64 21	PKPbc	PKPbc	21 22 36.9	+0.1		
	comp=Z,3.7nm,0.7s,baz=294,slow=0.9,SNR=31							
LPIG	La Paz	147.86 36	PKPbc	PKPbc	21 22 39.2	-0.9		
	comp=Z,20nm,0.3s,baz=130,slow=7.9,SNR=6.1							

IDC 11 21:05:31.8±11.0, 1°03N×92°14E, h0km, mb3.9/2, mb1 4.1/3, mb1mx3.4/74, mbtmp3.9/3, ML3.8/1, MS4.1/1, Ms1 4.1/1, ms1mx3.1/53, Error ellipse: s-maj=234.4km s-min=103.8km az=156.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	18.56	21	P	P	21 09 50.1	-0.3
	0.1nm,0.3s,baz=211,slow=12,SNR=4.1						
MKAR	Makanchi Array	46.38	351	P	P	21 13 59.9	-0.1
	1.3nm,0.7s,baz=157,slow=9.1,SNR=2.3						
GEYT	Alibeck	48.22	324	LR	LR	21 33 07.7	
	comp=Z,221nm,21.3s,baz=100,slow=34						
SONM	Songino Array	48.23	13	P	P	21 14 14.3	-0.1
	1.3nm,0.7s,baz=207,slow=8.3,SNR=2.5						

IDC 11 21:05:38.6±2.1, 0°53N×92°05E, h0km, mb4.2/7, mb1 4.2/8, mb1mx3.7/74, mbtmp4.1/8, ML4.2/1, Error ellipse: s-maj=76.9km s-min=20.5km az=58.0
ISCJB 11 21:05:42.7±1.6, 0°7N×0°2×92°3E±0°3, h33km, mb4.2/7, Error ellipse: s-maj=48.3km s-min=17.3km az=151.7

ISC 11 21:05:44.5±1.9, 0°6N±0°2×92°2E±0°4, h35km, n9, σ0°64/9, mb4.2/7, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	18.93	20	P	P	21 10 01.8	-0.7
	0.3nm,0.3s,baz=214,slow=12,SNR=6.6						
WRA	Warramunga Arr	46.07	119	P	P	21 14 05.3	-0.1
	2.7nm,0.8s,baz=296,slow=8.7,SNR=4.4						
MKAR	Makanchi Array	46.80	351	P	P	21 14 11.4	+0.7
	2.0nm,0.6s,baz=172,slow=8.6,SNR=4.2						
ASAR	Alice Springs	47.15	124	P	P	21 14 14.1	+0.3
	2.1nm,1.0s,baz=310,slow=7.2,SNR=4.1						
SONM	Songino Array	48.62	13	P	P	21 14 25.6	+0.7
	3.8nm,0.7s,baz=193,slow=9.2,SNR=4.2						
KURBB	Kurchatov Arra	51.16	349	P	P	21 14 43.8	-0.2
	2.2nm,0.7s,baz=174,slow=7.4,SNR=5.6						
ZALV	Zalesovo Beam	53.50	355	P	P	21 15 01.5	+0.2
	4.5nm,0.7s,baz=185,slow=7.6,SNR=4.8						
BVAR	Borovoye Array	55.29	344	P	P	21 15 13.8	-0.6
	1.0nm,0.6s,baz=138,slow=5.0,SNR=3.8						
TXAR	Lajitas Array	146.58	26	PKPbc	PKPdf	21 25 21.0	-0.7
	0.3nm,0.5s,baz=314,slow=0.3,SNR=4.5						

ISK 11 21:07:22.1, 38°88N×43°60E, h13km, ML2.5/6
CSEM 11 21:07:22.8±0.2, 38°90N×43°56E, h15km, ML2.6, Error ellipse: s-maj=8.0km s-min=4.9km az=100.0
ATA 11 21:07:22.9±1.7, 38°84N×43°54E, h7km±43km, ML2.7, MW2.9
ISCJB 11 21:07:23.5±0.5, 38°88N±0°03×43°58E±0°06, h13km±4km, Error ellipse: s-maj=7.4km s-min=3.9km az=14.5
DDA 11 21:07:23.1, 38°84N×43°56E, h7km, Ml2.6

ISC 11 21:07:23.3±0.8, 38°88N±0°02×43°55E±0°03, h12km±4km, n30, σ1°51/48, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VMUR	Van-Muradiye	0.12	9	*i* P	Pg	21 07 25.7	-0.9
VMUR				*i* S	Sb	21 07 29.9	+0.9
VMUR	Van-Muradiye	0.12	9	P	Pg	21 07 25.7	-0.9
VMUR				S	Sb	21 07 29.9	+0.9
ERCV	ERCIS-VAN	0.22	311	PG	Pg	21 07 27.2	-0.9
ERCV	ERCIS-VAN	0.22	311	*e*Pg	Pg	21 07 27.2	-0.9
VANB	Van	0.31	204	PG	Pb	21 07 30.7	-0.1
VANB				SG	Sb	21 07 36.6	+0.8
VANB	Van	0.31	204	*e*Pg	Pb	21 07 30.7	-0.1
VANB				*e*Sg	Sb	21 07 36.6	+0.8
TVAN	Van	0.36	198	*i* P	Pg	21 07 30.0	-0.7
TVAN				*i* S	Sb	21 07 38.1	+0.6
TVAN	Van	0.36	198	P	Pg	21 07 30.0	-0.7
TVAN				S	Sb	21 07 38.1	+0.6
CLDR	Caldiran	0.39	47	PG	Pg	21 07 29.9	-1.3
CLDR	Caldiran	0.39	47	*i* P	Pg	21 07 29.9	-1.3
CLDR				*i* S	Sb	21 07 37.6	-0.8
CLDR	Caldiran	0.39	47	*e*Pg	Pg	21 07 29.9	-1.3
CLDR				S	Sb	21 07 37.6	-0.8
DYDN	Diyadin	0.68	9	*e*P	Pb	21 07 36.7	-0.4
DYDN				*e*S	Sn	21 07 48.2	-1.3
DYDN				IAML		21 07 51.5	
	comp=Z,24nm,0.4s						
GEVA	Gevas	0.68	214	*e*P	Pg	21 07 35.8	-0.8
GEVA				*e*S	Sb	21 07 46.1	-0.5
GEVA				IAML		21 07 57.8	
	comp=Z,26nm,0.4s						
GEVA	Gevas	0.68	214	*i* P	Pg	21 07 35.8	-0.8
GEVA				*i* S	Sg	21 07 42.3	-3.2
GEVA	Gevas	0.68	214	P	Pg	21 07 35.8	-0.8
GEVA				S	Sg	21 07 42.3	-3.2
AGRB	Hanur-Agry	0.82	328	PG	Pg	21 07 38.6	-0.6
AGRB				SG	Sb	21 07 51.3	+0.6
AGRB	Hanur-Agry	0.82	328	*e*Pg	Pg	21 07 38.6	-0.6
AGRB				*e*Sg	Sb	21 07 51.3	+0.6
IGDI	IGDIR	1.07	22	*e*P	Pg	21 07 43.4	-0.5
IGDI				*e*S	Sn	21 08 01.4	+2.4
EKAR	Karacoban	1.22	289	*e*P	Pg	21 07 47.2	+0.4
GURO	Guroymak-BITLI	1.23	255	PN	Pn	21 07 45.9	-0.5
GURO	Guroymak-BITLI	1.23	255	*e*Pn	Pn	21 07 45.9	-0.5
TASB	TASBURUN-IGDIR	1.23	26	PN	Pn	21 07 45.3	-1.0
TASB	TASBURUN-IGDIR	1.23	26	*e*Pn	Pn	21 07 45.3	-1.0
EATA	Eleskirt	1.28	321	*e*P	Pg	21 07 49.5	+1.5
EATA				*e*S	Sg	21 08 07.0	+2.4
HAKT	HAKKARI	1.32	175	*i* P	Pn	21 07 47.4	-0.4
HAKT	HAKKARI	1.32	175	P	Pn	21 07 47.4	-0.4
YOVA	Hakkari_Y`...kse	1.41	155	*i* P	Pb	21 07 49.4	-0.3
YOVA				*i* S	Sg	21 08 13.4	+4.6
YOVA	Hakkari_Y`...kse	1.41	155	P	Pb	21 07 49.4	-0.3
YOVA				S	Sg	21 08 13.4	+4.6
SENK	Senkaya-Erzuru	1.92	332	PN	Pn	21 07 55.6	-0.4
SENK	Senkaya-Erzuru	1.92	332	*e*Pn	Pn	21 07 55.6	-0.4

ISCJB 11 21:08:38.6±1.0, 38°56N±0°03×40°92E±0°07, h4km±6km, Error ellipse: s-maj=9.0km s-min=4.4km az=179.9
CSEM 11 21:08:38.1±0.5, 38°57N×40°97E, h8km, ML2.6, Error ellipse: s-maj=9.0km s-min=4.0km az=90.0
DDA 11 21:08:38.3, 38°57N×40°87E, h7km, Ml2.6
ISK 11 21:08:38.8, 38°56N×40°89E, h10km, ML1.9/3

ISC 11 21:08:37.3±1.9, 38°62N±0°04×40°97E±0°07, h4km±12km, n17, σ0°51/32, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNGB	Bing¯¶ı	0.43	329	PG	Pb	21 08 48.4	+0.8
BNGB				SG	Sb	21 08 55.1	+0.5
BGOL	Bingol	0.43	328	*i* P	Pb	21 08 47.0	-0.7
BGOL				*i* S	Sb	21 08 54.3	-0.3
BGOL	Bingol	0.43	328	P	Pb	21 08 47.0	-0.7
BGOL				S	Sb	21 08 54.3	-0.3
BINT	Bingol	0.45	305	*e*Pg	Pb	21 08 48.4	+0.4
BINT				*e*Sg	Sb	21 08 55.1	0.0
HANI	Diyarbakir_Han	0.49	245	*i* P	Pg	21 08 46.6	-0.1
HANI				*i* S	Sg	21 08 52.1	-1.0
HANI	Diyarbakir_Han	0.49	245	P	Pg	21 08 46.6	-0.1
HANI				S	Sg	21 08 52.1	-1.0
DIY	Diyarbakir	0.93	219	*e*Pg	Pb	21 08 56.0	0.0
DIY				*e*Sg	Sg	21 09 07.6	+0.5
DYBB	Diyarbakir	0.93	225	PG	Pb	21 08 56.0	-0.1
DYBB				SG	Sg	21 09 07.6	+0.4
DIYA	Diyarbakir	0.96	224	*i* P	Pg	21 08 56.0	+0.2
DIYA				*i* S	Sg	21 09 08.9	+0.7
DIYA	Diyarbakir	0.96	224	P	Pg	21 08 56.0	+0.2
DIYA				S	Sg	21 09 08.9	+0.7
MAZI	Mazidag	1.23	200	PN	Pg	21 09 01.0	+0.2
MAZI	Mazidag	1.23	200	*e*Pn	Pg	21 09 01.0	+0.2
PTK	Pertek	1.26	283	PN	Pn	21 09 02.5	+0.6
PTK				SN	Sn	21 09 19.3	-0.1
PTK	Pertek	1.26	283	*e*Pn	Pn	21 09 02.5	+0.6
PTK				*e*Sn	Sn	21 09 19.3	-0.1
MARD	Mardin	1.31	187	*i* P	Pn	21 09 01.8	-0.7
MARD				*i* S	Sb	21 09 20.1	+0.3
ELZG	Elazig	1.56	266	*i* P	Pb	21 09 06.3	-0.5
ELZG				*i* S	Sg	21 09 27.4	0.0
ELZG	Elazig	1.56	266	P	Pb	21 09 06.3	-0.5
ELZG				S	Sg	21 09 27.4	0.0

ISCJB 11 21:09:34.8±0.4, 40°32N±0°02×25°57E±0°03, h7km±4km, Error ellipse: s-maj=3.8km s-min=3.0km az=170.4
CSEM 11 21:09:34.8±0.1, 40°32N×25°56E, h10km, ML1.7, Error ellipse: s-maj=2.3km s-min=2.0km az=94.0
ATH 11 21:09:34.2, 40°33N×25°56E, h22km±1km, ML1.7/7, Error ellipse: s-maj=1.9km s-min=0.9km az=75.0
ISK 11 21:09:35.9, 40°30N×25°70E, h16km, ML2.2/6
DDA 11 21:09:37.4, 40°30N×25°82E, h7km, Ml2.8

ISC 11 21:09:34.8±0.8, 40°33N±0°02×25°62E±0°02, h12km±6km, n60, σ0°85/92, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMTH	Samothraki Isl	0.16	335	P	Pg	21 09 37.0	-1.5
SMTH				S	Sg	21 09 41.9	+0.8
SMTH				AML	AML	21 09 42.1	
	comp=N,1284μm,0.1s						
SMTH				AML	AML	21 09 42.1	
	comp=E,1363μm,0.1s						
SMTH	Samothraki Isl	0.16	335	P	Pg	21 09 37.9	-0.6
SMTH				S	Sg	21 09 42.0	+0.9
GADA	Gvkgeada	0.26	123	PG	Pb	21 09 41.2	-0.1
GADA	Gvk

KAVA	Kavala	1.07 309	P	Pb	21 09 54.6	-0.6
KAVA			S	Sb	21 10 08.1	-1.1
SIGR	SIGRI	1.13 171	PN	Pn	21 09 57.1	+0.7
SIGR	SIGRI	1.13 171	P	Pb	21 09 56.5	+0.2
SIGR			S	Sb	21 10 11.1	+0.3
SIGR			AML	AML	21 10 13.9	
	comp=E,103μm,0.7s					
SIGR			AML	AML	21 10 15.2	
	comp=N,105μm,0.5s					
SIGR	SIGRI	1.13 171	P	Pb	21 09 56.2	0.0
SIGR	SIGRI	1.13 171	*e*Pn	Pn	21 09 57.1	+0.7
SIGR			S	Sb	21 10 11.4	+0.5
PRK	Paraskevi	1.19 155	P	Pn	21 09 57.5	+0.3
PRK			S	Sn	21 10 13.0	-0.3
PRK			AML	AML	21 10 15.0	
	comp=N,96μm,0.5s					
PRK			AML	AML	21 10 19.8	
	comp=E,105μm,0.6s					
PRK	Paraskevi	1.19 155	P	Pn	21 09 57.4	+0.2
PRK			S	Sg	21 10 13.5	+0.2
RKY	Sarkoy-Tekirda	1.24 73	PN	Pg	21 09 58.5	-0.2
RKY	Sarkoy-Tekirda	1.24 73	*e*Pn	Pg	21 09 58.5	-0.2
KRBG	Karabiga-Canak	1.29 87	PN	Pb	21 09 58.9	+0.1
KRBG	Karabiga-Canak	1.29 87	*e*Pn	Pb	21 09 58.9	+0.1
AYVA	Ayvalik	1.31 141	*i* P	Pn	21 09 56.8	-2.1
AYVA			*i* S	Sg	21 10 17.9	+0.8
AYVA	Ayvalik	1.31 141	P	Pn	21 09 56.8	-2.1
AYVA			S	Sg	21 10 17.9	+0.8
BALY	Balya	1.65 110	*i* P	Pb	21 10 05.0	0.0
BALY	Balya	1.65 110	P	Pb	21 10 05.0	0.0
NVR	Nevrokopi	1.68 308	P	Pn	21 10 02.5	-1.4
NVR			S	Sn	21 10 26.6	+1.2
NVR	Nevrokopi	1.68 308	P	Pn	21 10 03.2	-0.7
NVR			S	Sn	21 10 26.0	+0.7
SRS	Serrai	1.73 298	P	Pn	21 10 04.8	+0.1
SRS	Serrai	1.73 298	P	Pn	21 10 04.7	+0.1
EDRB	Edirne	1.74 29	PN	Pb	21 10 06.3	-0.3
EDRB	Edirne	1.74 29	*e*Pn	Pb	21 10 06.3	-0.3
CHOS	Chios island	1.97 170	PN	Pn	21 10 08.1	+0.1
CHOS	Chios island	1.97 170	P	Pn	21 10 07.7	-0.3
CHOS	Chios island	1.97 170	P	Pn	21 10 08.2	+0.2
KNT	Kendrikon	2.23 293	PN	Pn	21 10 14.5	+3.0
KNT	Kendrikon	2.23 393	*e*Pn	Pn	21 10 14.5	+3.0
DURS	Dursunbey	2.31 107	*i* P	Pg	21 10 17.7	-1.4
DURS			*i* S	Sg	21 10 49.8	+0.7
DURS	Dursunbey	2.31 107	P	Pg	21 10 17.7	-1.4

*ISCJB **11** 21:09:41.6±0.5, 1.°87N×0.°08×89.°71E±0.°05, h10km, mb4.2/25, Error ellipse: s-maj=11.5km s-min=6.6km az=20.1*
*IDC **11** 21:09:41.7±0.8, 1.°79N×89.°62E, h0km, mb4.0/17, mb1 4.1/19, mb1mx3.9/75, mbtmp4.0/19, ML3.9/2, Error ellipse: s-maj=27.2km s-min=15.0km az=44.0*
*NEIC **11** 21:09:43.3±0.3, 1.°83N×89.°65E, h10km, mb4.5/10, Error ellipse: s-maj=7.0km s-min=3.8km az=23.0*
ISC 11 21:09:42.8±0.6, **1.7N**±0.°1×**89.60E**±0.°08, **h10km, n86,**
σ1ᵍ10/82, mb4.3/25, 5C-6D, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSI	**Gunungsitoli**	**7.99**	**93**	*e*Pn	**Pn**	**21 11 38.1**	**-0.9**
LHMI	**Lhok Sumawe**	**8.11**	**65**	*e*Pn	**Pn**	**21 11 40.0**	**-0.8**
PALK	**Pallekele**	**10.43**	**302**	Pn	**Pn**	**21 12 11.5**	**-1.1**
	0.5nm,0.3s,baz=115,slow=15,SNR=2.1						
PALK				Sn	Sn	21 13 59.9	-10
	2.6nm,0.3s,baz=115,slow=6.8,SNR=3.6						
KULM	**Kulim**	**11.58**	**72**	*e*Pn	**Pn**	**21 12 26.8**	**-1.5**
IPM	**Ipoh**	**11.73**	**76**	*e*Pn	**Pn**	**21 12 30.3**	**-0.1**
CM01	**Chiang Mai Arr**	**18.95**	**28**	*e*P	**Pn**	**21 14 04.4**	**-0.5**
CM31	**Chiang Mai Arr**	**18.98**	**28**	*e*P	**Pn**	**21 14 07.9**	**+2.7**
CMAR	**Chiang Mai Arr**	**18.98**	**28**	P	**Pn**	**21 14 04.9**	**-0.3**
	0.2nm,0.3s,baz=219,slow=10,SNR=5.1						
CHTO	**Chiang Mai**	**19.28**	**28**	*e*P	**P**	**21 14 07.1**	**-0.9**
	3.5nm,1.0s						
H08S2	**Diego Garcia H**	**19.44**	**241**	T	T	21 33 59.9	
	baz=60,slow=74,SNR=14						
H08S3	**Diego Garcia H**	**19.44**	**241**	T	T	21 34 05.2	
	baz=60,slow=74,SNR=11						
H08S1	**Diego Carcia H**	**19.46**	**241**	T	T	21 34 01.6	
	baz=60,slow=74,SNR=13						
NIL	**Nilore**	**35.24**	**336**	*e*P	**P**	**21 16 37.4**	**-0.3**
	14nm,0.6s						
FAKI	**Fak Fak**	**42.89**	**96**	*e*P	**P**	**21 17 43.3**	**+1.3**
	10nm,0.8s						
KK06	**Karatay Array**	**44.56**	**340**	*e*P	**P**	**21 17 54.8**	**-0.2**
KK07	**Karatay Array**	**44.56**	**340**	*e*P	**P**	**21 17 55.5**	**+0.5**
KK02	**Karatay Array**	**44.57**	**340**	*e*P	**P**	**21 17 54.4**	**-0.7**
KK31	**Karatay Array**	**44.57**	**340**	*e*P	**P**	**21 17 54.9**	**-0.2**
KKAR	**Karatay Array**	**44.57**	**340**	*e*P	**P**	**21 17 54.5**	**-0.6**
KK01	**Karatay Array**	**44.58**	**340**	*e*P	**P**	**21 17 54.4**	**-0.7**
KK03	**Karatay Array**	**44.58**	**340**	*e*P	**P**	**21 17 54.6**	**-0.5**
KK04	**Karatay Array**	**44.58**	**340**	*e*P	**P**	**21 17 54.7**	**-0.5**
KK05	**Karatay Array**	**44.58**	**340**	*e*P	**P**	**21 17 54.4**	**-0.7**
KK08	**Karatay Array**	**44.58**	**340**	*e*P	**P**	**21 17 54.5**	**-0.7**
MK01	**Makanchi Array**	**45.30**	**353**	*e*P	**P**	**21 17 60.0**	**-0.8**
MK31	**Makanchi Array**	**45.32**	**353**	*e*P	**P**	**21 18 00.7**	**-0.4**
MKAR	**Makanchi Array**	**45.32**	**353**	P	**P**	**21 18 00.8**	**-0.3**
	1.8nm,0.8s,baz=171,slow=8.6,SNR=6.6						
MKAR	**Makanchi Array**	**45.32**	**353**	*e*P	**P**	**21 18 00.7**	**-0.3**
	7.1nm,0.7s						
GEYT	**Alibeck**	**46.17**	**325**	P	**P**	**21 18 07.3**	**-0.6**
	1.8nm,0.5s,baz=145,slow=5.4,SNR=3.6						
RAYN	**Ar Rayn**	**47.86**	**301**	*e*P	**P**	**21 18 21.3**	**0.0**
	3.0nm,1.0s						
SONM	**Songino Array**	**48.16**	**15**	P	**P**	**21 18 23.5**	**+0.1**
	4.2nm,0.7s,baz=197,slow=8.6,SNR=18						
SONA1	**Songino Array**	**48.18**	**15**	*e*P	**P**	**21 18 23.6**	**0.0**
WRA	**Warramunga Arr**	**48.88**	**118**	P	**P**	**21 18 29.5**	**+0.3**
	2.4nm,0.7s,baz=295,slow=8.5,SNR=9.6						
WB2	**Warramunga Arr**	**48.89**	**118**	*e*P	**P**	**21 18 29.6**	**+0.3**
	2.9nm,0.8s						
KURBB	**Kurchatov Arra**	**49.60**	**351**	P	**P**	**21 18 34.5**	**+0.3**
	4.1nm,0.8s,baz=175,slow=7.2,SNR=15						
KURK	**Kurchatov**	**49.68**	**351**	*e*P	**P**	**21 18 34.4**	**-0.4**
	6.5nm,0.9s						
ASAR	**Alice Springs**	**49.92**	**123**	P	**P**	**21 18 37.5**	**+0.2**
	1.0nm,0.6s,baz=299,slow=8.1,SNR=12						
ZAA0	**Zalesovo Array**	**52.19**	**356**	*e*P	**P**	**21 18 54.1**	**+0.5**
	2.7nm,0.9s						
ZALV	**Zalesovo Beam**	**52.19**	**356**	P	**P**	**21 18 53.5**	**-0.1**
	2.9nm,0.8s,baz=179,slow=8.2,SNR=7.8						
ZALV	**Zalesovo Beam**	**52.19**	**356**	*e*P	**P**	**21 18 53.4**	**-0.2**
BVAR	**Borovoye Array**	**53.54**	**346**	P	**P**	**21 19 03.5**	**-0.2**
	1.6nm,0.8s,baz=141,slow=7.6,SNR=5.7						
AB07	**Akbulak array**	**53.69**	**336**	*e*P	**P**	**21 19 04.7**	**-0.1**
AB08	**Akbulak array**	**53.70**	**336**	*e*P	**P**	**21 19 05.1**	**+0.2**
AB06	**Akbulak array**	**53.70**	**336**	*e*P	**P**	**21 19 04.6**	**-0.3**
AB03	**Akbulak array**	**53.70**	**336**	*e*P	**P**	**21 19 05.7**	**+0.8**
AB01	**Akbulak array**	**53.71**	**336**	*e*P	**P**	**21 19 05.2**	**+0.2**
AB31	**Akbulak array**	**53.71**	**336**	*e*P	**P**	**21 19 05.2**	**+0.3**
ABKAR	**Akbulak array**	**53.71**	**336**	*e*P	**P**	**21 19 05.2**	**+0.3**
AB02	**Akbulak array**	**53.71**	**336**	*e*P	**P**	**21 19 05.0**	**0.0**
AB04	**Akbulak array**	**53.71**	**336**	*e*P	**P**	**21 19 05.0**	**0.0**
AB05	**Akbulak array**	**53.72**	**336**	*e*P	**P**	**21 19 06.0**	**+0.9**
AB09	**Akbulak array**	**53.72**	**336**	*e*P	**P**	**21 19 05.9**	**+0.9**
KBZ	**Khabaz**	**58.82**	**322**	P	**P**	**21 19 41.8**	**+0.3**
	1.6nm,0.8s,baz=134,slow=7.4,SNR=5.5						
KLR	**Kul'dur**	**59.43**	**31**	P	**P**	**21 19 45.7**	**0.0**
	0.1nm,0.8s,baz=265,slow=6.5,SNR=2.7						
STKA	**Stephens Creek**	**59.49**	**129**	P	**P**	**21 19 46.7**	**+0.3**
	1.6nm,0.7s,baz=299,slow=4.1,SNR=5.5						
ARU	**Arti**	**59.94**	**341**	P	**P**	**21 19 49.2**	**+0.1**
	1.5nm,0.5s,baz=104,slow=7.6,SNR=3.5						
BR131	**Keskin Array S**	**63.21**	**314**	*e*P	**P**	**21 20 11.4**	**-0.3**
BRTR	**Keskin Array B**	**63.21**	**314**	P	**P**	**21 20 11.6**	**-0.1**
	0.9nm,0.7s,baz=135,slow=7.3,SNR=6.2						
BR231	**Keskin MP Arra**	**63.87**	**314**	*e*P	**P**	**21 20 13.0**	**-3.0**
SORM	**Soroca**	**69.85**	**321**	*ǁi*P	**P**	**21 20 54.3**	**+0.5**
ISR	**Istrita**	**70.00**	**318**	*ǁi*P	P	21 21 03.1	+8.2
SULR		**70.06**	**317**	*ǁi*P	**P**	**21 20 59.6**	**+4.5**
VRI	**Vrincioaia**	**70.12**	**319**	*ǁi*P	**P**	**21 20 57.3**	**+1.8**
PLOR	**Plostina**	**70.17**	**319**	*ǁi*P	**P**	**21 20 58.0**	**+2.1**
AKASG	**Malin Array Be**	**70.28**	**324**	P	**P**	**21 20 56.2**	**-0.1**
	0.2nm,0.2s,baz=90,slow=5.5,SNR=3.5						
TESR	**Tescani**	**70.38**	**319**	*ǁi*P	**P**	**21 20 58.0**	**+0.9**
MLR	**Muntele Rosu**	**70.52**	**318**	P	**P**	**21 20 59.4**	**+1.3**
	0.8nm,0.7s,baz=130,slow=6.2,SNR=8.1						
MLR	**Muntele Rosu**	**70.52**	**318**	*ǁi*P	**P**	**21 20 59.9**	**+1.8**
MLR	**Muntele Rosu**	**70.52**	**318**	P	**P**	**21 20 59.4**	**+1.3**
	8.6nm,0.8s						
ARR	**Arges**	**71.36**	**318**	*ǁi*P	**P**	**21 21 04.0**	**+0.8**
VTS	**Vitosha**	**71.58**	**315**	*ǁi*P	P	21 21 10.6	+5.9
BURAR	**Bucovina Array**	**71.66**	**320**	*ǁi*P	**P**	**21 21 06.5**	**+1.5**
BUR04	**Bucovina Ar. S**	**71.67**	**320**	*e*P	**P**	**21 21 06.4**	**+1.3**
TIXI	**Tiksi**	**74.11**	**12**	*e*P	**P**	**21 21 18.2**	**-0.7**
	3.0nm,0.7s						
FINES	**FINESS Array B**	**76.08**	**334**	P	**P**	**21 21 31.1**	**+0.7**
	3.9nm,1.1s,baz=69,slow=8.2,SNR=3.4						
DPC	**Dobruska-Polom**	**78.03**	**321**	*e*P	**P**	**21 21 43.9**	**+2.2**
DPC				*e*pP	**sP**	**21 21 48.5**	**+2.3**
SYO	**Syowa Base**	**78.27**	**196**	*ǁi*eX	P	**21 21 40.0**	**-2.5**
GEA0	**GERESS Array S**	**79.42**	**319**	*e*P	**P**	**21 21 50.6**	**+1.1**
GERES	**GERESS Array B**	**79.42**	**319**	P	**P**	**21 21 50.1**	**+0.6**
	0.9nm,0.6s,baz=101,slow=6.9,SNR=8.1						
KHC	**Kasperske Hory**	**79.55**	**320**	*e*P	**P**	**21 21 49.6**	**-0.5**
TORD	**Torodi Ar. Bea**	**87.57**	**283**	P	**P**	**21 22 33.6**	**+1.6**
	0.6nm,0.9s,baz=87,slow=3.7,SNR=2.4						
COR	**Corvallis**	**125.35**	**28**	*e*PKPdf	**PKPdf**	**21 28 44.1**	**-0.2**
H04A	**Detroit Lake**	**125.80**	**28**	*e*PKPdf	**PKPdf**	**21 28 44.9**	**-0.4**
TKL	**Tuckaleechee C**	**142.28**	**351**	*e*PKPdf	**PKPdf**	**21 29 16.6**	**+0.3**
TX31	**Lajitas Ar. Si**	**146.59**	**21**	*e*PKPdf	**PKPbc**	**21 29 25.4**	**-0.1**
TXAR	**Lajitas Array**	**146.59**	**21**	PKPbc	**PKPbc**	**21 29 25.7**	**+0.2**
	1.1nm,0.9s,baz=318,slow=1.7,SNR=6.1						

*IDC **11** 21:14:40.5±1.1, 2.°07N×90.°70E, h0km, mb4.1/13, mb1 4.1/14, mb1mx3.8/74, mbtmp4.0/14, ML3.4/1, MS4.0/2, Ms1 4.1/2, ms1mx3.2/61, Error ellipse: s-maj=41.3km s-min=18.1km az=49.0*
*NEIC **11** 21:14:42.7±1.2, 2.°03N×90.°38E, h10km, mb4.4/5, Error ellipse: s-maj=29.4km s-min=14.6km az=25.0*
ISC 11 21:14:42.1±1.1, **1.9N**±0.°2×**90.4E**±0.°1, **h10km, n36,**
σ1ᵍ36/29, mb4.2/17, 1C-4D, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**10.75**	**72**	*e*Pn	**Pn**	**21 17 18.3**	**+2.1**
	16nm,0.6s						
PALK	**Pallekele**	**11.03**	**299**	LR	LR	21 20 54.1	
	comp=Z,828nm,19.5s,baz=114,slow=33						
CMAR	**Chiang Mai Arr**	**18.42**	**26**	P	**Pn**	**21 18 55.4**	**-2.4**
	0.1nm,0.3s,baz=230,slow=14,SNR=3.9						
CMAR				LR	LR	21 26 08.4	
	comp=Z,377nm,18.6s,baz=204,slow=38						
KSM	**Kuching**	**19.89**	**91**	P	**Pn**	**21 19 16.8**	**+1.2**
	18nm,1.2s						
H08S2	**Diego Garcia H**	**20.25**	**242**	T	T	21 40 01.3	
	baz=60,slow=75,SNR=10						
H08S3	**Diego Garcia H**	**20.25**	**242**	T	T	21 40 06.4	
	baz=60,slow=75,SNR=9.0						
H08S1	**Diego Carcia H**	**20.27**	**242**	T	T	21 40 02.9	
	baz=60,slow=75,SNR=12						
NIL	**Nilore**	**35.40**	**335**	*e*P	**P**	**21 21 38.9**	**+0.6**
	16nm,1.0s						
H01W3	**Cape Leeuwin H**	**42.86**	**151**	T	T	22 09 06.8	
	baz=326,slow=74,SNR=8.1						
H01W2	**Cape Leeuwin H**	**42.87**	**151**	T	T	22 09 06.7	
	baz=326,slow=74,SNR=7.6						
H01W1	**Cape Leeuwin H**	**42.88**	**151**	T	T	22 09 11.6	
	baz=326,slow=74,SNR=12						
AAK	**Ala-Archa**	**42.95**	**343**	P	**P**	**21 22 41.5**	**0.0**
	2.5nm,0.9s,baz=173,slow=5.6,SNR=3.7						
AAK	**Ala-Archa**	**42.95**	**343**	*e*P	**P**	**21 22 42.8**	**+1.3**
KKAR	**Karatay Array**	**44.67**	**339**	*e*P	**P**	**21 22 55.6**	**+0.5**
	2.6nm,0.7s						
MKAR	**Makanchi Array**	**45.23**	**352**	P	**P**	**21 22 57.4**	**-2.2**
	1.7nm,0.8s,baz=172,slow=8.7,SNR=11						
GEYT	**Alibeck**	**46.47**	**324**	P	**P**	**21 23 09.2**	**-0.4**
	1.1nm,0.5s,baz=168,slow=7.5,SNR=3.6						
SONM	**Songino Array**	**47.76**	**15**	P	**P**	**21 23 18.3**	**-1.2**
	5.8nm,0.8s,baz=196,slow=9.4,SNR=12						
WRA	**Warramunga Arr**	**48.26**	**119**	P	**P**	**21 23 21.6**	**-2.2**
	2.6nm,0.8s,baz=296,slow=8.5,SNR=13						
WRAB	**Tennant Creek**	**48.27**	**119**	*e*P	**P**	**21 23 22.5**	**-1.3**
	3.5nm,0.8s						
ASAR	**Alice Springs**	**49.36**	**124**	P	**P**	**21 23 30.3**	**-1.8**
	1.2nm,0.8s,baz=296,slow=7.8,SNR=7.1						
KURBB	**Kurchatov Arra**	**49.54**	**350**	P	**P**	**21 23 31.6**	**-1.4**
	0.9nm,0.4s,baz=174,slow=7.2,SNR=7.4						
KURK	**Kurchatov**	**49.61**	**350**	*e*P	**P**	**21 23 34.3**	**+0.8**
ZALV	**Zalesovo Beam**	**52.04**	**356**	P	**P**	**21 23 50.3**	**-1.5**
	0.7nm,0.4s,baz=176,slow=8.9,SNR=4.7						
ABKAR	**Akbulak array**	**53.85**	**336**	*e*P	**P**	**21 24 05.9**	**+0.6**
AKTO	**Aktyubinsk**	**55.56**	**335**	P	**P**	**21 24 17.0**	**-0.7**
	1.6nm,0.9s,baz=182,slow=3.6,SNR=4.4						
ARU	**Arti**	**60.02**	**340**	P	**P**	**21 24 48.9**	**0.0**
	1.1nm,0.5s,baz=109,slow=5.9,SNR=2.8						
BRTR	**Keskin Array B**	**63.65**	**314**	P	**P**	**21 25 14.3**	**+0.4**
	2.4nm,0.8s,baz=127,slow=7.1,SNR=6.5						
VRI	**Vrincioaia**	**70.51**	**318**	*ǁi*P	**P**	**21 25 57.4**	**+0.2**
PLOR	**Plostina**	**70.55**	**318**	*ǁi*P	**P**	**21 25 56.0**	**-1.5**
TESR	**Tescani**	**70.76**	**319**	*ǁi*P	**P**	**21 26 00.2**	**+1.5**
MLR	**Muntele Rosu**	**70.91**	**318**	*ǁi*P	**P**	**21 26 00.1**	**+0.3**
BURAR	**Bucovina Array**	**72.03**	**320**	*ǁi*P	**P**	**21 26 08.1**	**+1.6**
TIXI	**Tiksi**	**73.75**	**12**	*e*P	**P**	**21 26 16.1**	**+0.1**
	3.2nm,0.6s						
FINES	**FINESS Array B**	**76.26**	**334**	P	**P**	**21 26 32.3**	**+1.6**
	2.0nm,0.9s,baz=126,slow=4.3,SNR=2.7						
HFS	**Hagfors**	**81.72**	**331**	P	**P**	**21 27 01.9**	**+1.2**
	3.4nm,0.8s,baz=127,slow=5.1,SNR=3.4						
TXAR	**Lajitas Array**	**146.10**	**22**	PKPbc	**PKPdf**	**21 34 23.4**	**+1.0**
	1.4nm,0.9s,baz=266,slow=1.2,SNR=7.6						

*IDC **11** 21:16:59.7±0.9, 0.°40S×91.°88E, h0km, mb4.1/12, mb1 4.2/13, mb1mx3.8/70, mbtmp4.1/13, ML3.7/1, MS4.0/1, Ms1 4.0/1, ms1mx3.0/59, Error ellipse: s-maj=34.5km s-min=15.5km az=48.0*
*ISCJB **11** 21:17:00.2±0.6, 0.°33S±0.°10×91.°94E±0.°09, h10km, mb4.1/16, MS3.9/1, Error ellipse: s-maj=15.6km s-min=10.3km az=35.7*
*NEIC **11** 21:17:01.0±0.5, 0.°46S×91.°79E, h10km, mb4.3/4, Error ellipse: s-maj=12.5km s-min=8.1km az=47.0*
ISC 11 21:17:01.4±0.9, **0.5S**±0.°1×**91.8E**±0.°1, **h10km, n27,**
σ0ᵍ92/27, mb4.2/16, South Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LHMI	**Lhok Sumawe**	**7.60**	**42**	*e*Pn	**Pn**	**21 18 53.0**	**+0.6**
KSM	**Kuching**	**18.56**	**84**	P	**Pn**	**21 21 19.9**	**+1.0**
	29nm,1.1s						
CMAR	**Chiang Mai Arr**	**20.04**	**20**	P	**P**	**21 21 34.9**	**+0.1**
	0.1nm,0.3s,baz=211,slow=11,SNR=7.5						
CHTO	**Chiang Mai**	**20.37**	**20**	*e*P	**P**	**21 21 37.7**	**-0.7**
	5.2nm,0.8s						
BATI	**Baumata**	**33.10**	**108**	LR	LR	21 37 00.8	
	comp=Z,250nm,21.3s,baz=290,slow=36						
FITZ	**Fitzroy Crossi**	**37.56**	**120**	P	**P**	**21 24 16.4**	**+0.2**
	2.0nm,0.8s,baz=276,slow=9.2,SNR=2.3						
NIL	**Nilore**	**38.16**	**335**	*e*P	**P**	**21 24 21.4**	**+0.3**
	4.4nm,0.4s						
WRA	**Warramunga Arr**	**45.87**	**118**	P	**P**	**21 25 23.8**	**-0.6**
	2.7nm,0.7s,baz=294,slow=8.6,SNR=9.4						
WRAB	**Tennant Creek**	**45.88**	**118**	*e*P	**P**	**21 25 24.5**	**+0.1**
	2.7nm,0.8s						
ASAR	**Alice Springs**	**46.86**	**123**	P	**P**	**21 25 31.6**	**-0.6**
	0.4nm,0.6s,baz=297,slow=7.0,SNR=3.7						
ASAR				PcP	**PcP**	**21 27 05.0**	**-0.1**
	0.6nm,0.7s,baz=290,slow=2.9,SNR=3.9						
MKAR	**Makanchi Array**	**47.79**	**351**	P	**P**	**21 25 38.5**	**-0.5**
	2.3nm,0.7s,baz=168,slow=9.0,SNR=10						
GEYT	**Alibeck**	**49.24**	**325**	P	**P**	**21 25 51.2**	**+1.0**
	1.8nm,0.7s,baz=148,slow=8.6,SNR=4.6						
SONM	**Songino Array**	**49.73**	**13**	P	**P**	**21 25 53.8**	**-0.1**
	3.0nm,0.7s,baz=191,slow=8.7,SNR=6.9						
KURBB	**Kurchatov Arra**	**52.13**	**349**	P	**P**	**21 26 10.7**	**-1.1**
	2.8nm,0.8s,baz=169,slow=6.9,SNR=8.0						
KURK	**Kurchatov**	**52.20**	**349**	P	**P**	**21 26 10.7**	**-1.6**
ZALV	**Zalesovo Beam**	**54.52**	**355**	P	**P**	**21 26 28.2**	**-1.1**
	2.3nm,0.5s,baz=178,slow=5.3,SNR=8.5						
KLR	**Kul'dur**	**60.20**	**29**	P	**P**	**21 27 08.7**	**-0.8**
	0.1nm,0.8s,baz=225,slow=4.3,SNR=3.3						
BRTR	**Keskin Array B**	**66.33**	**314**	P	**P**	**21 27 50.1**	**-0.5**
	1.4nm,0.7s,baz=132,slow=6.2,SNR=9.7						
AKASG	**Malin Array Be**	**73.35**	**324**	P	**P**	**21 28 32.8**	**-0.6**
	0.2nm,0.3s,baz=92,slow=4.3,SNR=6.6						
FINES	**FINESS Array B**	**79.02**	**333**	P	**P**	**21 29 05.4**	**0.0**
	2.3nm,0.9s,baz=138,slow=6.9,SNR=3.2						
KRLC	**Kraliky**	**80.78**	**321**	*e*P	**P**	**21 29 17.2**	**+1.9**
DPC	**Dobruska-Polom**	**81.13**	**321**	*e*P	**P**	**21 29 18.9**	**+1.7**
DPC				*ex*	x	21 29 27.2	
GERES	**GERESS Array B**	**82.53**	**319**	P	**P**	**21 29 25.3**	**+0.6**
	4.0nm,0.8s,baz=107,slow=4.6,SNR=20						
KHC	**Kasperske Hory**	**82.66**	**320**	*e*P	**P**	**21 29 26.0**	**+0.7**
BRG	**Berggiesshubel**	**82.71**	**321**	*e*P	**P**	**21 29 26.4**	**+1.0**
	4.8nm,1.1s						
CLL	**Collm**	**83.37**	**322**	*i* P	**P**	**21 29 29.9**	**+1.1**
TXAR	**Lajitas Array**	**147.69**	**26**	PKPbc	**PKPbc**	**21 36 46.4**	**-0.8**
	1.7nm,0.8s,baz=240,slow=1.3,SNR=7.4						

IDC 11 21:20:32.0±9.6, **3.°25N×92.°53E, h0km, mb3.8/4, mb1 3.9/5, mb1mx3.3/71, mbtmp3.7/5, ML3.7/1, Error ellipse: s-maj=234.2km s-min=62.9km az=132.0, Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**16.36**	**22**	Pn	**Pn**	**21 24 24.1**	**+0.8**
	0.1nm,0.3s,baz=212,slow=12,SNR=3.7						
MKAR	**Makanchi Array**	**44.27**	**350**	P	P	21 28 43.2	-0.3
	0.9nm,0.6s,baz=166,slow=8.8,SNR=8.6						
KURBB	**Kurchatov Arra**	**48.66**	**348**	P	P	21 29 17.7	-0.1
	0.6nm,0.5s,baz=169,slow=7.1,SNR=3.1						
ZALV	**Zalesovo Beam**	**50.93**	**354**	P	P	21 29 34.7	-0.3
	0.8nm,0.4s,baz=174,slow=6.7,SNR=4.4						
GERES	**GERESS Array B**	**80.21**	**319**	P	P	21 32 44.9	+0.2
	0.4nm,0.6s,baz=97,slow=5.1,SNR=3.5						

*IDC **11** 21:22:26.8±1.4, 0.°43N×92.°27E, h0km, mb3.7/7, mb1 3.9/9, mb1mx3.5/70, mbtmp3.8/9, ML3.7/2, Error ellipse: s-maj=47.9km s-min=20.7km az=53.0*
*ISCJB **11** 21:22:28.9±1.1, 0.°4N±0.°2×92.°1E±0.°2, h33km, mb3.7/7, Error ellipse: s-maj=28.5km s-min=15.6km az=43.8*
ISC 11 21:22:31.4±1.2, **0.4N**±0.°2×**92.1E**±0.°2, **h35km, n10,**
σ1ᵍ17/10, mb3.7/7, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**13.29**	**301**	Pn	**Pn**	**21 25 36.4**	**-1.3**
	0.8nm,0.3s,baz=116,slow=5.3,SNR=2.7						
CMAR	**Chiang Mai Arr**	**19.17**	**20**	P	**P**	**21 26 51.0**	**-1.0**
	0.1nm,0.3s,baz=214,slow=12,SNR=9.5						
WRA	**Warramunga Arr**	**46.02**	**119**	P	**P**	**21 30 51.4**	**-0.6**
	2.5nm,0.8s,baz=296,slow=8.6,SNR=8.3						
MKAR	**Makanchi Array**	**47.01**	**351**	P	**P**	**21 30 59.6**	**+0.3**
	0.3nm,0.6s,baz=167,slow=8.8,SNR=3.2						
ASAR	**Alice Springs**	**47.08**	**123**	P	**P**	**21 30 59.5**	**-0.7**
	0.5nm,0.6s,baz=313,slow=8.3,SNR=4.1						
SONM	**Songino Array**	**48.86**	**13**	P	**P**	**21 31 14.2**	**+0.5**
	0.5nm,0.7s,baz=198,slow=10,SNR=4.3						
KURBB	**Kurchatov Arra**	**51.37**	**349**	P	**P**	**21 31 32.7**	**+0.1**
	0.4nm,0.2s,baz=174,slow=7.3,SNR=2.9						
ZALV	**Zalesovo Beam**	**53.72**	**355**	P	**P**	**21 31 49.4**	**-0.5**
	0.3nm,0.3s,baz=179,slow=8.6,SNR=2.6						
GERES	**GERESS Array B**	**82.09**	**319**	P	**P**	**21 34 50.8**	**+2.3**
	0.7nm,0.7s,baz=116,slow=4.6,SNR=5.9

	15nm,0.3s								
JIRN	**Jiri**	**17.10**	**336**	*e*P		**Pn**	**21 36 38.6**	**+3.6**
	12nm,0.3s								
PKIN	**Phulchoki**	**17.36**	**334**	*e*P		**Pn**	**21 36 42.1**	**+4.2**
	13nm,0.3s								
GUN	**Gumba**	**17.45**	**336**	*e*P		**Pn**	**21 36 43.6**	**+4.5**
DMN	**Daman**	**17.51**	**333**	*e*P		**Pn**	**21 36 44.6**	**+4.9**
	11nm,0.3s								
GKN	**Gorkha**	**18.06**	**333**	*e*P		**Pn**	**21 36 51.6**	**+5.5**
	17nm,0.4s								
MKAR	**Makanchi Array**	**35.98**	**346**	P		**P**	**21 39 29.8**	**-1.0**
	0.2nm,0.3s,baz=172,slow=9.3,SNR=6.3								
GEYT	**Alibeck**	**40.98**	**315**	P		**P**	**21 40 12.9**	**+0.2**
	1.5nm,0.3s,baz=111,slow=8.1,SNR=5.4								
ZALV	**Zalesovo Beam**	**42.40**	**352**	P		**P**	**21 40 23.5**	**-0.4**
	1.9nm,0.5s,baz=183,slow=8.6,SNR=10								
ZALV				pP		**pP**	**21 40 53.3**	**-3.8**
	0.8nm,0.5s,baz=179,slow=9.9,SNR=2.0								
FITZ	**Fitzroy Crossi**	**43.38**	**133**	P		**P**	**21 40 33.3**	**+1.1**
	1.9nm,0.4s,baz=330,slow=5.7,SNR=7.4								
FITZ				LR		LR	22 01 27.0		
	comp=Z,203nm,18.1s,baz=311,slow=40								
BVAR	**Borovoye Array**	**44.97**	**340**	P		**P**	**21 40 43.1**	**-1.4**
	0.3nm,0.3s,baz=137,slow=9.1,SNR=7.3								
WRA	**Warramunga Arr**	**50.98**	**128**	P		**P**	**21 41 32.5**	**+1.3**
	1.0nm,0.6s,baz=308,slow=8.2,SNR=9.8								
ASAR	**Alice Springs**	**52.86**	**132**	P		**P**	**21 41 46.2**	**+1.2**
	0.8nm,0.4s,baz=310,slow=6.9,SNR=9.4								
BRTR	**Keskin Array B**	**59.55**	**309**	P		**P**	**21 42 30.1**	**-2.3**
	0.8nm,0.7s,baz=124,slow=6.5,SNR=7.2								
FINES	**FINESS Array B**	**68.91**	**332**	P		**P**	**21 43 31.4**	**-1.4**
	0.9nm,0.5s,baz=105,slow=4.3,SNR=8.6								
ARCES	**ARCESS Array B**	**71.26**	**340**	P		**P**	**21 43 46.6**	**-0.5**
	2.0nm,0.9s,baz=96,slow=8.3,SNR=3.8								
GERES	**GERESS Array B**	**74.56**	**318**	P		**P**	**21 44 05.8**	**-1.1**
	0.8nm,0.5s,baz=88,slow=6.8,SNR=10.0								
HFS	**Hagfors**	**74.73**	**329**	P		**P**	**21 44 06.5**	**-1.1**
	2.7nm,0.9s,baz=102,slow=6.5,SNR=10								
SPITS	**Spitsbergen Ar**	**75.71**	**348**	P		**P**	**21 44 12.9**	**0.0**
	2.4nm,0.5s,baz=56,slow=5.7,SNR=13								
BOSA	**Boshof**	**77.59**	**237**	P		**P**	**21 44 24.5**	**0.0**
	0.9nm,0.4s,baz=156,slow=5.7,SNR=4.1								
KEST	**Kesra**	**78.65**	**304**	P		**P**	**21 44 29.0**	**-1.2**
	2.6nm,0.7s,baz=5.5,slow=0.9,SNR=5.2								
DZM	**Mont Dzumac**	**78.81**	**116**	LR		LR	22 24 59.2		
	comp=Z,85nm,18.6s,baz=154,slow=40								
EKA	**Eskdalemuir Ar**	**84.14**	**325**	P		**P**	**21 44 57.7**	**-0.9**
	0.5nm,0.6s,baz=83,slow=5.8,SNR=4.4								
NVAR	**Mina Array Bea**	**121.46**	**29**	PKP		**PKPdf**	**21 51 21.9**	**+1.1**
	0.4nm,0.5s,baz=248,slow=2.3,SNR=3.9								
TXAR	**Lajitas Array**	**135.51**	**22**	PKP		**PKPdf**	**21 51 49.5**	**+2.0**
	0.2nm,0.5s,baz=192,slow=1.7,SNR=5.9								

IDC 11 21:35:25.0±3.6, 1°.67N×89°.67E, *h*0km, **mb3.5**/2, **mb1 3.5**/3, **mb1mx3.1**/72, **mbtmp3.4**/3, **ML3.6**/1, **MS4.1**/2, **Ms1 4.1**/2, **ms1mx3.5**/30, **Error ellipse: s-maj=95.2km s-min=73.2km az=104.0, North Indian Ocean**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**19.00**	**28**	P	P	21 39 48.2	-0.3
	0.1nm,0.3s,baz=227,slow=11,SNR=4.3						
LEM	**Lembang**	**19.80**	**115**	LR	LR	21 46 56.3	
	comp=Z,70nm,18.2s,baz=288,slow=35						
MKAR	**Makanchi Array**	**45.41**	**353**	P	P	21 43 45.7	+0.3
	0.2nm,0.5s,baz=170,slow=8.0,SNR=2.8						
ZALV	**Zalesovo Beam**	**52.26**	**356**	P	P	21 44 37.4	-0.5
	0.7nm,0.5s,baz=170,slow=6.0,SNR=3.8						
PETK	**Petropavlovsk-**	**75.61**	**35**	LR	LR	22 21 59.9	
	comp=Z,88nm,19.7s,baz=259,slow=37						
TXAR	**Lajitas Array**	**146.63**	**21**	PKPbc	PKPdf	21 55 08.7	+0.7
	0.2nm,0.5s,baz=2.9,slow=1.8,SNR=3.1						

*IDC **11** 21:36:06.7±0.5, 1°.76N×90°.91E, h0km, mb4.4/31, mb1 4.4/33, mb1mx4.3/70, mbtmp4.4/33, ML4.1/2, MS4.4/15, Ms1 4.4/15, ms1mx4.1/40, Error ellipse: s-maj=15.2km s-min=11.7km az=37.0*

*ISCJB **11** 21:36:07.1±0.2, 1°.80N±0°.03×90°.89E±0°.02, h10km, mb4.6/87, MS4.5/28, Error ellipse: s-maj=4.9km s-min=3.2km az=22.6*

*BJI **11** 21:36:07.7, 1°.79N×90°.72E, h13km, mb4.6/55, mB5.0/28, Ms4.7/37, Ms7 4.4/34*

*NEIC **11** 21:36:08.6±0.3, 1°.84N×90°.93E, h10km, mb4.9/23, Error ellipse: s-maj=7.0km s-min=4.4km az=17.0*

*MOS **11** 21:36:10.3±1.3, 1°.84N×90°.97E, h33km, mb5.0/24, MS4.3/4, Error ellipse: s-maj=8.7km s-min=5.7km az=115.3*

*DJA **11** 21:36:11.5±0.2, 2°.N±4°×9°.E±°, h10km, M5.2/24, mb5.0/24, mB5.6/15, MLv5.7/2, Mw(mB)5.1/15*

ISC 11 21:36:09.4±0.3, 1°.86N±0°.05×90°.81E±0°.04, **h10**km, **n262**, σ1s**89**/264, **mb4.8**/91, **MS4.6**/29, **18C-8D, North Indian Ocean**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSI	**Banda Aceh**	**5.76**	**51**	P	**Pn**	**21 37 35.6**	**+0.6**
	395nm,1.0s,5μm4.7nm						
MLSI	**Meulaboh, Aceh**	**6.08**	**67**	P	**Pn**	**21 37 37.0**	**-2.4**
TPTI		**6.52**	**78**	P	**Pn**	**21 37 41.8**	**-3.6**
GSI	**Gunungsitoli**	**6.79**	**95**	P	**Pn**	**21 37 47.4**	**-1.7**
GSI	**Gunungsitoli**	**6.79**	**95**	*e*Pn	**Pn**	**21 37 45.0**	**-4.2**
GSI				*e*Sn	Sn	21 38 52.1	-14
LHMI	**Lhok Sumawe**	**6.98**	**61**	P	**Pn**	**21 37 52.2**	**+0.4**
	330nm,1.2s,6μm2.0nm						
LHMI	**Lhok Sumawe**	**6.98**	**61**	*e*Pn	**Pn**	**21 37 50.2**	**-1.6**
LHMI				*e*S	**Sn**	**21 39 13.1**	**+1.7**
PSI	**Prapat**	**8.16**	**83**	*e*Pn	**Pn**	**21 38 04.9**	**-3.3**
PSI	**Prapat**	**8.16**	**83**	*e*P	**Pn**	**21 38 04.9**	**-3.3**
MNSI	**Mandailing Nat**	**8.83**	**97**	P	**Pn**	**21 38 15.4**	**-1.8**
SISI	**Saibi**	**8.87**	**111**	P	**Pn**	**21 38 15.1**	**-2.6**
PBA	**Port Blair**	**9.92**	**11**	*e*P	Pn	21 38 31.9	-0.2
PDSI	**Padang**	**10.04**	**106**	P	**Pn**	**21 38 31.5**	**-2.3**
BKNI	**Bangkinang**	**10.34**	**98**	P	**Pn**	**21 38 36.4**	**-1.5**
BKNI	**Bangkinang**	**10.34**	**98**	*e*Pn	**Pn**	**21 38 34.5**	**-3.4**
KULM	**Kulim**	**10.40**	**71**	*e*Pn	**Pn**	**21 38 34.9**	**-3.8**
KULM				*e*S	Sn	21 40 18.6	-17
IPM	**Ipoh**	**10.53**	**75**	*e*Pn	**Pn**	**21 38 37.5**	**-3.1**
IPM				*e*S	Sn	21 40 27.6	-11
PALK	**Pallekele**	**11.41**	**298**	Pn	**Pn**	**21 38 51.9**	**-0.8**
	5.3nm,0.3s,baz=116,slow=14,SNR=9.6						
PALK				Sn	Sn	21 40 50.5	-10
	4.5nm,0.3s,baz=18,slow=20,SNR=4.7						
PALK	**Pallekele**	**11.41**	**298**	*e*Pn	**Pn**	**21 38 51.8**	**-0.9**
PALK				*e*S	Sn	21 40 49.3	-11
PALK	**Pallekele**	**11.41**	**298**	*i* P	**Pn**	**21 38 55.2**	**+2.5**
DGPR	**DIGLIPUR**	**11.44**	**10**	*e*P	**Pn**	**21 38 51.8**	**-1.2**
MYKOM	**Kota Tinggi**	**13.04**	**90**	*e*Pn	**Pn**	**21 39 10.5**	**-4.3**
TPRI	**Tanjung Pinang**	**13.75**	**94**	P	**Pn**	**21 39 24.4**	**-0.1**
	25nm,1.0s,4μm						
MDSI	**Maura Dua**	**14.77**	**115**	P	Pn	21 39 28.4	-10
MDRS	**Chennai**	**15.28**	**317**	*e*P	**Pn**	**21 39 44.2**	**-1.0**
MDRS				IAmb	IAmb	21 39 47.0	
	comp=Z,217nm,1.4s						
TRD	**Trivandrum**	**15.29**	**296**	*e*P	**Pn**	**21 39 46.1**	**+0.7**
KASI	**Kota Agung**	**15.52**	**118**	P	**P**	**21 39 56.7**	**+3.8**
SKHT	**Srikalahasti**	**16.12**	**318**	*e*P	**Pn**	**21 39 56.3**	**0.0**
VIS	**Vishakhapatnam**	**17.39**	**335**	*e*P	**Pn**	**21 40 10.3**	**-2.0**
VIS				IAmb	IAmb	21 40 12.9	
	comp=Z,122nm,1.3s						
ADKI	**Addanki**	**17.53**	**323**	*e*P	**Pn**	**21 40 14.6**	**+0.5**
PVM	**Polavaram**	**17.76**	**330**	*e*P	**P**	**21 40 17.8**	**+0.1**
CHLP	**Challavanipeta**	**17.82**	**339**	*e*P	**Pn**	**21 40 17.4**	**-0.2**
CM01	**Chiang Mai Arr**	**18.30**	**25**	*e*Pn	**Pn**	**21 40 21.1**	**-2.4**
CM31	**Chiang Mai Arr**	**18.32**	**25**	*e*Pn	**Pn**	**21 40 22.7**	**-1.2**
CMAR	**Chiang Mai Arr**	**18.32**	**25**	P	**Pn**	**21 40 22.1**	**-1.8**
	comp=Z,0.1nm,0.3s,baz=218,slow=12,SNR=14						
CMAR				LR	LR	21 47 51.4	
	comp=Z,342nm,19.1s,baz=212,slow=38						
SRLM	**Srisailam**	**18.39**	**321**	*e*P	**P**	**21 40 25.6**	**+1.0**
NJS	**Nagarjunasagar**	**18.48**	**323**	*e*P	**P**	**21 40 25.1**	**-0.5**
CHTO	**Chiang Mai**	**18.64**	**25**	*e*P	**P**	**21 40 25.0**	**-2.5**
	comp=Z,16nm,0.9s						
CHTO	**Chiang Mai**	**18.64**	**25**	*e*P	**P**	**21 40 25.0**	**-2.5**
CHTO				pmax	pmax		
	comp=Z,16nm,0.9s						
URV	**Uravakonda**	**18.65**	**315**	*e*P	**Pn**	**21 40 28.3**	**+0.4**
LEM	**Lembang**	**18.87**	**117**	P	**P**	**21 40 30.2**	**+0.1**
	baz=289,slow=14,SNR=3.7						
JCJI	**Jatiwangi**	**19.31**	**116**	P	**Pn**	**21 40 41.4**	**+5.6**
CISI	**Cisompet, Garu**	**19.38**	**119**	P	**Pn**	**21 40 38.5**	**+1.8**
	comp=Z,101nm,0.7s,comp=Z,2μm						
CISI	**Cisompet, Garu**	**19.38**	**119**	*e*P	**P**	**21 40 33.5**	**-2.1**
	comp=Z,85nm,0.9s						
KSM	**Kuching**	**19.50**	**91**	*e*P	**P**	**21 40 36.2**	**-0.6**
	comp=Z,130nm,1.2s						
HYB	**Hyderabad**	**19.60**	**323**	*i* P	**Pn**	**21 40 39.5**	**+0.2**
HYB	**Hyderabad**	**19.60**	**323**	*e*P	**Pn**	**21 40 39.4**	**+0.1**
HYB				IAmb	IAmb	21 40 40.3	
	comp=Z,13nm,0.4s						
HYBB	**Hyderabad (bro**	**19.60**	**323**	*e*P	**Pn**	**21 40 38.7**	**-0.6**
KPJI	**Karang Pucung**	**20.26**	**117**	P	Pn	21 40 54.9	+7.8
RPR	**Rampur**	**20.32**	**327**	*e*P	**P**	**21 40 46.6**	**+0.9**
H08S2	**Diego Garcia H**	**20.56**	**242**	T	T	22 01 55.0	
	baz=63,slow=75,SNR=87						
H08S3	**Diego Garcia H**	**20.56**	**243**	T	T	22 01 55.2	
	baz=63,slow=75,SNR=79						
H08S1	**Diego Garcia H**	**20.58**	**242**	T	T	22 02 05.4	
	baz=63,slow=75,SNR=74						
STKI	**Sintang**	**20.74**	**95**	P	**P**	**21 40 50.9**	**+0.4**
	comp=Z,116nm,0.9s,comp=Z,2μm						
SRSP	**Sriramsagar**	**20.90**	**325**	*e*P	**P**	**21 40 52.4**	**+0.3**
KLRI	**Killari**	**21.31**	**320**	*e*P	**P**	**21 40 57.2**	**+0.7**
PBKI	**Pangkalan Bun**	**21.34**	**102**	P	**P**	**21 40 57.8**	**+0.8**
	comp=Z,240nm,1.2s,comp=Z,3μm						
SBUM	**Sibu**	**21.41**	**88**	*e*P	**P**	**21 40 57.0**	**-0.6**
	comp=Z,72nm,1.2s						
SMRI	**Semarang**	**21.50**	**114**	P	**P**	**21 41 02.2**	**+3.6**
	comp=Z,145nm,1.0s						
SMRI	**Semarang**	**21.50**	**114**	*e*P	**P**	**21 40 58.7**	**+0.1**
GOA	**Goa**	**21.54**	**310**	*e*P	**P**	**21 40 58.8**	**-0.3**
GOA				IAmb	IAmb	21 41 03.2	
	comp=Z,27nm,1.0s						
BOK	**Bokaro**	**22.32**	**348**	*e*P	**P**	**21 41 07.8**	**+0.5**
BOK				IAmb	IAmb	21 41 24.7	
	comp=Z,2μm,4.8s						
NGP	**Nagpur**	**22.34**	**330**	*e*P	**P**	**21 41 06.9**	**-0.7**
PWJI	**Pagerwojo**	**23.13**	**115**	P	P	21 41 25.5	+10
POO	**Poona**	**23.47**	**316**	*e*P	**P**	**21 41 20.1**	**+0.7**
SHL	**Shillong**	**23.59**	**2**	*e*P	**P**	**21 41 20.1**	**-0.6**
SHL				IAmb	IAmb	21 41 34.9	
	comp=Z,454nm,3.0s						
MTKI	**Muara Teweh, K**	**24.25**	**96**	P	**P**	**21 41 27.9**	**+1.0**
	comp=Z,45nm,1.8s,comp=Z,2μm						
BBKI	**Banjar Baru**	**24.60**	**102**	P	**P**	**21 41 35.7**	**+5.6**
BHPL	**Bhopal**	**24.91**	**330**	*e*P	**P**	**21 41 31.9**	**-0.9**
BHPL				IAmb	IAmb	21 41 37.0	
	comp=Z,155nm,2.3s						
ODAN	**Odare**	**25.07**	**353**	*e*P	**P**	**21 41 35.2**	**+0.7**
RAMN	**Ramite**	**25.27**	**351**	*e*P	**P**	**21 41 37.5**	**+1.2**
QIZ	**Qiongzhong**	**25.28**	**46**	P	**P**	**21 41 37.4**	**+1.3**
QIZ				S	**S**	**21 46 02.9**	**+0.8**
QIZ				pmax	pmax		
	comp=Z,15nm,1.2s						
QIZ				LR	LR		
	comp=Z,3μm,14.0s						
QIZ				LR	LR		
	comp=Z,750nm,13.0s						
KKM	**Kota Kinabalu**	**25.68**	**80**	*e*P	**P**	**21 41 38.5**	**-1.5**
	comp=Z,79nm,1.2s						
KMI	**Kunming**	**25.84**	**25**	P	**P**	**21 41 43.0**	**+1.6**
KMI				pmax	pmax		
	comp=Z,14nm,0.9s						
KMI				pmax	pmax		
	comp=Z,130nm,4.7s						
KMI				LR	LR		
	comp=Z,790nm,21.7s						
KMI				LR	LR		
	comp=Z,860nm,22.0s						
KMI				LR	LR		
	comp=Z,590nm,22.4s						
JIRN	**Jiri**	**26.03**	**351**	*e*P	**P**	**21 41 44.6**	**+1.3**
PKIN	**Phulchoki**	**26.09**	**349**	*e*P	**P**	**21 41 45.3**	**+1.5**
DMN	**Daman**	**26.18**	**348**	*e*P	**P**	**21 41 46.2**	**+1.7**
SRBI	**Singaraja**	**26.27**	**112**	P	P	21 41 53.7	+8.5
KKN	**Kakani**	**26.32**	**349**	*e*P	**P**	**21 41 47.1**	**+1.3**
GUN	**Gumba**	**26.33**	**350**	*e*P	**P**	**21 41 46.3**	**+0.3**
GKN	**Gorkha**	**26.66**	**348**	*e*P	**P**	**21 41 49.5**	**+0.8**
KOLN	**Koldanda**	**26.67**	**346**	*e*P	**P**	**21 41 49.5**	**+0.6**
PYUN	**Piuthan**	**27.14**	**345**	*e*P	**P**	**21 41 54.5**	**+1.3**
LSA	**Lhasa**	**27.69**	**1**	P	**P**	**21 41 59.1**	**+0.7**
LSA				pmax	pmax		
	comp=Z,9.0nm,0.7s						
MYLDM	**Lahad Datu**	**27.83**	**82**	*e*P	**P**	**21 41 59.6**	**+0.3**
	comp=Z,67nm,1.1s						
GYA	**Guiyang**	**28.82**	**31**	⇑*i*P	**P**	**21 42 09.8**	**+1.7**
GYA				PP	**PnPn**	**21 43 03.2**	**+4.2**
GYA				PcP	**PcP**	**21 45 18.7**	**+0.8**
GYA				S	**S**	**21 46 58.0**	**-0.2**
GYA				SS	**SnSn**	**21 48 25.6**	**+5.8**
GYA				ScP	**ScP**	**21 48 58.2**	**-1.4**
GYA				pmax	pmax		
	comp=Z,20nm,0.8s						
GYA				pmax	pmax		
	comp=Z,120nm,5.6s						
GYA				LR	LR		
	comp=Z,480nm,18.0s						
GYA				LR	LR		
	comp=Z,410nm,18.4s						
GYA				LR	LR		
	comp=Z,440nm,18.2s						
BNSI	**Bone**	**29.93**	**102**	P	**P**	**21 42 20.5**	**+2.5**
	comp=Z,21nm,1.0s,comp=Z,676nm						
CD2	**Chengdu**	**31.39**	**22**	P	**P**	**21 42 30.0**	**-0.7**
CD2				S	**S**	**21 47 39.1**	**+0.8**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
SMLA	**Simla**	**31.84**	**337**	*e*P	**P**	**21 42 35.2**	**+0.6**
TGY	**Tagaytay City**	**32.16**	**66**	P	**P**	**21 42 38.9**	**+1.2**
	comp=Z,113nm,0.3s,baz=232,slow=8.2,SNR=5.2						
DHRM	**DHARAMSHALA**	**33.17**	**337**	*e*P	**P**	**21 42 45.8**	**-0.8**
DHRM				IAmb	IAmb	21 42 48.8	
	comp=Z,38nm,1.4s						
NIL	**Nilore**	**35.64**	**334**	*e*P	**P**	**21 43 07.5**	**-0.2**
NIL	**Nilore**	**35.64**	**334**	*e*P	**P**	**21 43 07.5**	**-0.2**
LZH	**Lanzhou**	**36.14**	**18**	*e*P	**P**	**21 43 16.2**	**+4.1**
LZH				pP	sP	21 43 20.7	+4.3
LZH				sP	pP	21 43 23.3	+8.1
LZH				*e*S	**S**	**21 48 59.5**	**+7.6**
LZH				sS	sS	21 49 05.9	+8.9
LZH				pmax	pmax		
	comp=Z,35nm,1.2s						
LZH				pmax	pmax		
	comp=Z,180nm,5.7s						
LZH				LR	LR		
	comp=Z,1μm,13.2s						
LZH				LR	LR		
	comp=Z,2μm,13.5s						
LZH				LR	LR		
	comp=Z,2μm,16.7s						
WHN	**Wuhan**	**36.22**	**36**	⇓P	**P**	**21 43 14.4**	**+1.8**
XAN	**Xi'an**	**36.22**	**26**	P	**P**	**21 43 11.0**	**-1.6**
XAN				pP	pP	21 43 15.6	-0.1
XAN				sP	sP	21 43 18.0	+1.0
XAN				PP	**PnPn**	**21 44 32.3**	**-2.0**
XAN				S	**S**	**21 48 47.6**	**-5.4**
XAN				pmax	pmax		
	comp=Z,8.0nm,1.1s						
XAN				pmax	pmax		
	comp=Z,80nm,3.1s						
XAN				LR	LR		
	comp=Z,1μm,13.6s						
XAN				LR	LR		
	comp=Z,850nm,14.1s						
XAN				LR	LR		
	comp=Z,710nm,17.9s						
SSLB	**Suanglung**	**36.42**	**51**	*e*P	**P**	**21 43 16.4**	**+1.8**
	comp=Z,42nm,1.5s						
WSAR	**Wadi Sarin**	**37.74**	**307**	P	**P**	**21 43 25.6**	**-0.1**
	comp=Z,15nm,1.2s,baz=162,slow=11,SNR=3.9						
GTA	**Gaotai**	**38.27**	**11**	⇑P	**P**	**21 43 30.4**	**+0.3**
GTA				pP	sP	21 43 34.5	+0.1
GTA				sP	pP	21 43 37.5	+4.3
GTA				PP	**PnPn**	**21 45 01.7**	**+2.4**
GTA				PcP	**PcP**	**21 45 45.4**	**+1.1**
GTA				S	**S**	**21 49 23.6**	**-0.6**
GTA				sS	ScP	21 49 31.2	-1.2
GTA				SS	**SnSn**	**21 52 03.4**	**-5.5**
GTA				pmax	pmax		
	comp=Z,6.0nm,0.9s						
GTA				pmax	pmax		
	comp=Z,210nm,6.2s						
GTA				LR	LR		
	comp=Z,310nm,17.7s						
GTA				LR	LR		
	comp=Z,500nm,17.7s						
GTA				LR	LR		
	comp=Z,1μm,16.9s						
MEEK	**Meekatharra**	**39.02**	**138**	P	**P**	**21 43 36.3**	**-0.2**
	baz=39						
MORW	**Morawa**	**39.11**	**144**	P	**P**	**21 43 37.5**	**+0.4**
	baz=39						
FITZ	**Fitzroy Crossi**	**39.61**	**122**	P	**P**	**21 43 39.2**	**-2.3**
	comp=Z,4.2nm,0.8s,baz=293,slow=7.7,SNR=3.4						
FITZ	**Fitzroy Crossi**	**39.61**	**122**	P	**P**	**21 43 40.5**	**-1.0**
	baz=40						
KSH	**Kashi**	**39.84**	**342**	P	**P**	**21 43 42.3**	**-1.0**
KSH				pP	pP	21 43 46.3	-0.1
KSH				PP	**PnPn**	**21 45 17.2**	**-0.9**
KSH				S	**S**	**21 49 42.9**	**-5.1**
KSH				pmax	pmax		
	comp=Z,29nm,1.1s						
KSH				LR	LR		
	comp=Z,400nm,8.0s						
KSH				LR	LR		
	comp=Z,450nm,12.5s						
KSH				LR	LR		
	comp=Z,760nm,9.0s						
NJ2	**Nanjing**	**40.00**	**38**	*e*P	**P**	**21 43 43.7**	**-0.8**
NJ2				pmax	pmax		
	comp=Z,12nm,0.5s						
WMQ	**Urumqi**	**41.88**	**357**	P	**P**	**21 44 02.2**	**+2.3**
WMQ				pmax	pmax		
	comp=Z,10.0nm,1.3s						
WMQ				pmax	pmax		
	comp=Z,250nm,3.7s						
WMQ				LR	LR		
	comp=Z,1μm,15.5s						
WMQ				LR	LR		
	comp=Z,1μm,18.9s						
WMQ				LR	LR		
	comp=Z,1μm,31.5s						
H01W3	**Cape Leeuwin H**	**42.59**	**151**	T	T	22 29 15.7	
	baz=325,slow=76,SNR=17						
H01W2	**Cape Leeuwin H**	**42.60**	**151**	T	T	22 29 16.6	
	baz=325,slow=76,SNR=16						
H01W1	**Cape Leeuwin H**	**42.61**	**151**	T	T	22 29 18.0	
	baz=325,slow=76,SNR=13						
HHC	**Hu-ho-hao-te**	**43.12**	**23**	*e*P	**P**	**21 44 09.6**	**-0.5**
HHC				pP	sP	21 44 16.5	+2.0
HHC				sP	pP	21 44 19.7	+6.5
HHC				S	**S**	**21 50 34.2**	**-2.2**
HHC				pmax	pmax		
	comp=Z,19nm,1.0s						
HHC				pmax	pmax		
	comp=Z,81nm,6.1s						
HHC				LR	LR		
	comp=Z,530nm,13.5s						
HHC				LR	LR		
	comp=Z,640nm,13.8s						
HHC				LR	LR		
	comp=Z,690nm,15.1s						
AAK	**Ala-Archa**	**43.15**	**342**	P	**P**	**21 44 10.9**	**+0.5**
	comp=Z,2.2nm,0.6s,baz=73,slow=4.6,SNR=10						
AAK				LR	LR	22 02 11.3	
	comp=Z,862nm,21.8s,baz=185,slow=36						
AAK	**Ala-Archa**	**43.15**	**342**	*e*P	**P**	**21 44 10.9**	**+0.5**
	comp=Z,13nm,1.3s						
AAK	**Ala-Archa**	**43.15**	**342**	*ce*P	**P**	**21 44 11.2**	**+0.8**
AAK				pmax	pmax		
	comp=Z,27nm,1.7s						
FRU	**Bishkek**	**43.29**	**343**	*e*P	**P**	**21 44 14.0**	**+2.6**
BJI	**Beijing**	**44.44**	**28**	⇑*i*P	**P**	**21 44 22.6**	**+2.0**
BJI				pmax	pmax		
	comp=Z,15nm,1.0s						
BJI				LR	LR		
	comp=Z,570nm,15.9s						
BJI				LR	LR		
	comp=Z,830nm,17.8s						
BJI				LR	LR		
	comp=Z,740nm,32.4s						
KK31	**Karatay Array**	**44.89**	**339**	*e*P	**P**	**21 44 24.1**	**-0.1**
KK31	**Karatay Array**	**44.89**	**339**	*e*P	**P**	**21 44 24.1**	**-0.1**
KKAR	**Karatay Array**	**44.89**	**339**	*e*P	**P**	**21 44 23.8**	**-0.4**
KKAR	**Karatay Array**	**44.89**	**339**	*e*P	**P**	**21 44 23.8**	**-0.4**
MK01	**Makanchi Array**	**45.34**	**352**	*e*P	**P**	**21 44 24.4**	**-3.4**
MK31	**Makanchi Array**	**45.37**	**352**	*e*P	**P**	**21 44 27.2**	**-0.8**
MK31	**Makanchi Array**	**45.37**	**352**	*e*P	**P**	**21 44 27.2**	**-0.8**
MKAR	**Makanchi Array**	**45.37**	**352**	P	**P**	**21 44 26.9**	**-1.1**
	comp=Z,3.2nm,0.7s,baz=174,slow=8.8,SNR=23						
MKAR	**Makanchi Array**	**45.37**	**352**	P	**P**	**21 44 26.9**	**-1.1**
	comp=Z,32nm,0.8s						
MKAR	**Makanchi Array**	**45.37**	**352**	P	**P**	**21 44 26.9**	**-1.1**
MKAR				pmax	pmax		
	comp=Z,32nm,0.8s						
MAKZ	**Makanchi**	**45.43**	**351**	*e*P	**P**	**21 44 29.6**	**+1.2**
	comp=Z,6.6nm,0.9s						
MAKZ	**Makanchi**	**45.43**	**351**	*e*P	**P**	**21 44 29.6**	**+1.2**
MAKZ				pmax	pmax		
	comp=Z,7.0nm,0.9s						
GEYT	**Alibeck**	**46.77**	**324**	P	**P**	**21 44 39.7**	**+0.5**
	comp=Z,6.0nm,0.6s,baz=154,slow=8.2,SNR=17						
GYA0B	**ALIBECK ARRAY**	**46.77**	**324**	*e*P	**P**	**21 44 40.3**	**+1.1**
	comp=Z,12nm,0.7s						
OPO	**Ambohidratompo**	**47.45**	**243**	P	**P**	**21 44 45.4**	**+0.4**
	comp=Z,7.2nm,0.9s,baz=42,slow=4.7,SNR=5.5						
OPO				LR	LR	22 01 47.2	
	comp=Z,546

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=Z,400nm,16.0s						
CN2				LR	LR		
	comp=Z,400nm,16.0s						
CN2				LR	LR		
	comp=Z,400nm,16.0s						
ZALV	**Zalesovo Beam**	**52.15**	**356**	P	**P**	**21 45 18.4**	**-1.6**
	comp=Z,4.7nm,0.4s,baz=178,slow=7.3,SNR=25						
ZALV				LR	LR	22 08 44.7	
	comp=Z,595nm,22.0s,baz=150,slow=38						
NVS	**Novosibirsk**	**53.17**	**355**	*e*P	**P**	**21 45 23.2**	**-4.3**
KMBO	**Kilima Mbogo**	**53.63**	**267**	P	**P**	**21 45 32.4**	**+0.5**
	comp=Z,2.8nm,0.9s,baz=34,slow=7.4,SNR=6.4						
BVAR	**Borovoye Array**	**53.74**	**345**	P	**P**	**21 45 30.7**	**-0.9**
	comp=Z,1.7nm,0.8s,baz=151,slow=6.8,SNR=12						
BVAR				LR	LR	22 08 51.1	
	comp=Z,938nm,21.0s,baz=160,slow=36						
BRVK	**Borovoye**	**53.80**	**345**	*e*P	**P**	**21 45 31.4**	**-0.7**
	comp=Z,4.9nm,1.0s						
BRVK	**Borovoye**	**53.80**	**345**	*ce*P	**P**	**21 45 30.9**	**-1.2**
BRVK				pmax	pmax		
	comp=Z,9.0nm,1.0s						
ABKAR	**Akbulak array**	**54.09**	**335**	*e*P	**P**	**21 45 35.2**	**+0.9**
AKT	**Akhty**	**55.26**	**321** ⇓	*i*P	**P**	**21 45 43.8**	**+0.7**
AKT				*e*		21 46 42.8	
AKT				*e*		21 47 48.0	
AKT				pmax	pmax		
	comp=Z,24nm,1.2s						
MJAR	**Matsushiro Arr**	**55.67**	**46**	P	**P**	**21 45 45.9**	**-0.2**
	comp=Z,2.8nm,0.9s,baz=247,slow=7.9,SNR=4.7						
USRK	**Ussuriysk Ar.**	**55.71**	**35**	P	**P**	**21 45 46.3**	**+0.2**
	comp=Z,1.5nm,0.7s,baz=197,slow=2.0,SNR=4.8						
AKTO	**Aktyubinsk**	**55.80**	**335**	P	**P**	**21 45 46.7**	**0.0**
	comp=Z,1.5nm,0.7s,baz=141,slow=11,SNR=6.2						
GNI	**Garni**	**56.48**	**319**	LR	LR	22 11 49.1	
	comp=Z,256nm,21.1s,baz=82,slow=38						
GNI	**Garni**	**56.48**	**319**	*ce*P	**P**	**21 45 54.1**	**+2.2**
GNI				pmax	pmax		
	comp=Z,48nm,1.2s						
PMG	**Port Moresby**	**57.23**	**102**	LR	LR	22 12 34.5	
	comp=Z,73nm,19.9s,baz=242,slow=38						
GROC	**Groznyy**	**57.41**	**322**	*e*P	**P**	**21 45 57.8**	**-0.4**
GROC				*e*		21 46 49.7	
GROC				pmax	pmax		
	comp=Z,33nm,1.5s						
AKH	**Akhalkalaki**	**57.93**	**319**	*e*P	**P**	**21 46 05.9**	**+3.6**
	comp=Z,19nm,1.6s						
ZEI	**Tsey**	**58.37**	**321**	*e*P	**P**	**21 46 04.5**	**-0.8**
ZEI				pmax	pmax		
	comp=Z,6.0nm,0.9s						
STKA	**Stephens Creek**	**58.62**	**129**	P	**P**	**21 46 04.5**	**-2.5**
	comp=Z,7.3nm,1.0s,baz=298,slow=7.5,SNR=8.3						
STKA	**Stephens Creek**	**58.62**	**129**	*e*P	**P**	**21 46 05.2**	**-1.8**
STKA	**Stephens Creek**	**58.62**	**129**	*e*P	**P**	**21 46 05.2**	**-1.8**
KLR	**Kul'dur**	**58.72**	**30**	P	**P**	**21 46 07.4**	**+0.1**
	comp=Z,0.3nm,1.0s,baz=266,slow=5.5,SNR=5.0						
BOD	**Bodaibo**	**58.74**	**14**	*e*P	**P**	**21 46 05.9**	**-1.4**
BOD				pmax	pmax		
	comp=Z,19nm,1.5s						
ASF	**Jabal al Asfar**	**58.91**	**307**	P	**P**	**21 46 09.8**	**+0.7**
	comp=Z,1.4nm,0.4s,baz=96,slow=1.2,SNR=3.7						
NCK	**Nalchik**	**58.92**	**321**	*ce*P	**P**	**21 46 10.0**	**+1.1**
NEY	**Neytrino**	**59.35**	**321**	*i* P	**P**	**21 46 14.8**	**+2.8**
NEY				pmax	pmax		
	comp=Z,1.0nm,0.8s						
KBZ	**Khabaz**	**59.48**	**321**	P	**P**	**21 46 13.1**	**+0.4**
	comp=Z,5.9nm,0.9s,baz=152,slow=5.8,SNR=12						
KBZ				LR	LR	22 14 04.1	
	comp=Z,150nm,20.3s,baz=108,slow=38						
KIV	**Kislovodsk**	**59.73**	**321**	*e*P	**P**	**21 46 13.0**	**-1.5**
	comp=Z,17nm,1.0s						
KIV	**Kislovodsk**	**59.73**	**321**	*e*P	**P**	**21 46 14.9**	**+0.4**
KIV				pmax	pmax		
	comp=Z,18nm,1.0s						
KIV				MLR	MLR		
	comp=Z,150nm,16.0s						
SVE	**Sverdlovsk**	**59.87**	**341**	*e*P	**P**	**21 46 14.4**	**-0.7**
SVE				pmax	pmax		
	comp=Z,19nm,1.5s						
GOF	**Gofitskoye**	**60.07**	**323** ⇑	*e*P	**P**	**21 46 18.9**	**+2.1**
MBAR	**Mbarara**	**60.11**	**268**	*e*P	**P**	**21 46 18.2**	**+0.4**
	comp=Z,15nm,1.3s						
ARU	**Arti**	**60.24**	**340**	P	**P**	**21 46 18.0**	**+0.3**
	comp=Z,1.1nm,0.4s,baz=173,slow=5.1,SNR=3.7						
ARU	**Arti**	**60.24**	**340** *c*	*i*P	**P**	**21 46 18.7**	**+1.0**
ARU						21 47 00.0	
ARU				S	**S**	**21 54 33.3**	**+1.8**
ARU				pmax	pmax		
	comp=Z,11nm,1.7s						
ARU				MLR	MLR		
	comp=Z,330nm,19.0s						
CMSA	**Cobar Meteorol**	**61.70**	**128**	P	**P**	**21 46 26.4**	**-1.7**
	baz=62,SNR=22						
YSS	**Yuzh-Sakhalins**	**63.55**	**37**	*e*P	P	21 46 52.0	+12
BR131	**Keskin Array S**	**64.00**	**314**	*e*P	**P**	**21 46 42.9**	**-0.6**
BRTR	**Keskin Array B**	**64.00**	**314**	P	**P**	**21 46 42.4**	**-1.1**
	comp=Z,1.8nm,0.6s,baz=134,slow=7.0,SNR=13						
VRH	**Novokhopyorsk**	**64.10**	**328**	*e*P	**P**	**21 46 42.3**	**-1.3**
VRH				pmax	pmax		
	comp=Z,30nm,1.5s						
LSZ	**Lusaka**	**64.20**	**252**	*e*P	**P**	**21 46 45.2**	**0.0**
	comp=Z,10nm,1.2s						
LSZ	**Lusaka**	**64.20**	**252**	*e*P	**P**	**21 46 45.2**	**0.0**
LSZ				pmax	pmax		
	comp=Z,11nm,1.2s						
BR231	**Keskin MP Arra**	**64.66**	**314**	*e*P	**P**	**21 46 43.3**	**-4.5**
VSR	**Storozhevoye**	**65.47**	**327**	*e*P	**P**	**21 46 52.5**	**-0.1**
VSR				pmax	pmax		
	comp=Z,10.0nm,1.5s						
NKL	**Nikolayevsk**	**65.56**	**30**	*e*P	**P**	**21 46 51.7**	**-1.5**
LPSR	**Galich'ya Gora**	**66.31**	**328**	*e*P	**P**	**21 46 57.1**	**-0.9**
LPSR				pmax	pmax		
	comp=Z,9.0nm,0.9s						
YAK	**Yakutsk**	**66.72**	**19**	*e*P	**P**	**21 46 58.6**	**-1.8**
YAK				*e**PP	**sP**	**21 47 11.9**	**+7.0**
YAK				*e*		21 47 22.7	
YAK				*e*S	**S**	**21 55 45.8**	**-6.3**
YAK				*e*		21 56 51.7	
YAK				pmax	pmax		
	comp=Z,11nm,1.0s						
YAK				pmax	pmax		
	comp=N,4.0nm,1.4s						
YAK				pmax	pmax		
	comp=E,2.0nm,0.8s						
YAK				smax	smax		
	comp=N,134nm,4.9s						
YAK				smax	smax		
	comp=E,66nm,3.9s						
YAK				MLR	MLR		
	comp=Z,226nm,19.0s						
YAK				MLR	MLR		
	comp=N,179nm,15.0s						
YAK				MLR	MLR		
	comp=E,113nm,19.0s						
LBTB	**Lobatse**	**68.49**	**242**	*e*P	**P**	**21 47 12.0**	**-0.5**
LBTB	**Lobatse**	**68.49**	**242**	*e*P	**P**	**21 47 12.0**	**-0.5**
OBN	**Obninsk**	**68.78**	**330**	*e*P	**P**	**21 47 13.7**	**+0.2**
OBN				*e*		21 47 19.4	
OBN				*e*		21 47 38.6	
OBN				*e*		21 49 47.6	
OBN				*e*PPP	PPP	21 51 29.6	
OBN				pmax	pmax		
	comp=Z,5.0nm,1.0s						
IDI	**Anoyia**	**69.38**	**307**	P	**P**	**21 47 17.5**	**-0.3**
	comp=Z,7.1nm,0.7s,baz=107,slow=10,SNR=12						
BOSA	**Boshof**	**69.61**	**239**	P	**P**	**21 47 18.5**	**-1.0**
	comp=Z,5.3nm,0.6s,baz=86,slow=5.0,SNR=12						
BOSA	**Boshof**	**69.61**	**239**	*e*P	**P**	**21 47 19.1**	**-0.4**
BOSA	**Boshof**	**69.61**	**239**	*e*P	**P**	**21 47 19.1**	**-0.4**
HARR	**Harsova**	**69.66**	**317** ⇓	*i*P	**P**	**21 47 23.3**	**+4.1**
KLMR	**Klimovskoe**	**70.48**	**336**	*e*P	**P**	**21 47 21.9**	**-2.1**
KLMR				AMP		21 47 32.0	
	comp=Z,11nm,1.1s						
KLMR	**Klimovskoe**	**70.48**	**336**	*e*P	**P**	**21 47 21.8**	**-2.2**
KLMR				pmax	pmax		
	comp=Z,11nm,1.1s						
SORM	**Soroca**	**70.52**	**321** ⇑	*i*P	**P**	**21 47 24.2**	**-0.2**
VRI	**Vrincioaia**	**70.83**	**318** ⇓	*i*P	**P**	**21 47 27.5**	**+1.0**
PLOR	**Plostina**	**70.88**	**318** ⇓	*i*P	**P**	**21 47 28.0**	**+1.2**
AKASG	**Malin Array Be**	**70.89**	**324**	P	**P**	**21 47 26.0**	**-0.7**
	comp=Z,0.4nm,0.4s,baz=93,slow=5.0,SNR=7.9						
KIEV	**Kiev**	**70.90**	**324**	*i* P	**P**	**21 47 28.2**	**+1.5**
KIEV				pmax	pmax		
	comp=Z,2.0nm,1.0s						
TESR	**Tescani**	**71.08**	**319** ⇓	*i*P	**P**	**21 47 27.9**	**-0.1**
MLR	**Muntele Rosu**	**71.24**	**318**	P	**P**	**21 47 29.5**	**+0.4**
	comp=Z,2.8nm,1.2s,baz=174,slow=7.8,SNR=12						
MLR	**Muntele Rosu**	**71.24**	**318** ⇑	*i*P	**P**	**21 47 29.8**	**+0.7**
MLR	**Muntele Rosu**	**71.24**	**318**	*e*P	**P**	**21 47 29.0**	**-0.1**
MLR	**Muntele Rosu**	**71.24**	**318**	*e*P	**P**	**21 47 29.0**	**-0.1**
BURAR	**Bucovina Array**	**72.35**	**320** ⇑	*i*P	**P**	**21 47 36.2**	**+0.5**
BUR04	**Bucovina Ar. S**	**72.36**	**320**	*e*P	**P**	**21 47 36.0**	**+0.3**
VTS	**Vitosha**	**72.36**	**314** ⇓	*i*P	**P**	**21 47 35.8**	**-0.1**
BUR08	**Bucovina Ar. S**	**72.37**	**320**	*e*P	**P**	**21 47 36.8**	**+1.0**
TIXI	**Tiksi**	**73.75**	**12**	*e*P	**P**	**21 47 41.3**	**-2.0**
	comp=Z,3.2nm,0.7s						
TIXI	**Tiksi**	**73.75**	**12** *c*	*e*P	**P**	**21 47 41.7**	**-1.6**
DRGR		**73.76**	**318** ⇓	*i*P	**P**	**21 47 44.4**	**+0.4**
BZS	**Buzias**	**74.21**	**317** ⇑	*i*P	**P**	**21 47 45.6**	**-1.0**
STHS	**Stebnicka Huta**	**75.39**	**321**	*e*P	**P**	**21 47 53.6**	**+0.3**
STHS	**Stebnicka Huta**	**75.39**	**321**	*e*P	**P**	**21 47 53.6**	**+0.3**
SEY	**Seymchan**	**75.74**	**25**	*i* P	**P**	**21 47 54.4**	**-0.7**
FINES	**FINESS Array B**	**76.51**	**333**	P	**P**	**21 47 58.5**	**-0.9**
	comp=Z,1.5nm,0.6s,baz=99,slow=8.6,SNR=6.5						
VYHS	**Vyhne**	**76.71**	**319**	*e*P	**P**	**21 48 01.5**	**+0.6**
VYHS	**Vyhne**	**76.71**	**319**	*e*P	**P**	**21 48 01.5**	**+0.6**
DPC	**Dobruska-Polom**	**78.70**	**321**	*e*P	**P**	**21 48 13.7**	**+1.7**
DPC				*e*x	x	21 48 25.0	
DPC				*e*x	x	21 48 37.3	
DPC	**Dobruska-Polom**	**78.70**	**321**	*e*P	**P**	**21 48 13.7**	**+1.7**
DPC				*e*		21 48 25.0	
UPC	**Upice**	**78.92**	**321**	*e*P	**P**	**21 48 14.5**	**+1.3**
UPC	**Upice**	**78.92**	**321**	*e*P	**P**	**21 48 14.5**	**+1.3**
GERES	**GERESS Array B**	**80.12**	**319**	P	**P**	**21 48 19.6**	**-0.3**
	comp=Z,4.0nm,0.8s,baz=104,slow=5.6,SNR=21						
KHC	**Kasperske Hory**	**80.25**	**319**	*e*P	**P**	**21 48 21.1**	**+0.6**
KHC	**Kasperske Hory**	**80.25**	**319**	*e*P	**P**	**21 48 21.1**	**+0.6**
CLL	**Collm**	**80.93**	**322**	*e*P	**P**	**21 48 24.0**	**0.0**
CLL				*e*		21 48 37.0	
MOTA	**Moosalm**	**81.66**	**317**	pP	**P**	**21 48 30.1**	**+1.9**
	comp=Z,4.3nm,0.8s						
RETA	**Reutte**	**81.90**	**318**	*i* P	**P**	**21 48 30.2**	**+0.8**
	comp=Z,16nm,1.9s						
KEST	**Kesra**	**81.98**	**306**	P	**P**	**21 48 29.9**	**-0.1**
	comp=Z,5.0nm,0.9s,baz=329,slow=11,SNR=4.0						
HFS	**Hagfors**	**81.98**	**330**	P	**P**	**21 48 29.1**	**-0.3**
	comp=Z,1.5nm,0.8s,baz=131,slow=5.9,SNR=3.7						
HFS				LR	LR	22 28 32.2	
	comp=Z,245nm,18.1s,baz=92,slow=38						
DAVA	**Damuels**	**82.48**	**317**	*i* P	**P**	**21 48 33.4**	**+0.9**
	comp=Z,14nm,1.0s						
BILL	**Bilibino**	**82.87**	**22** ⇑	*i*P	**P**	**21 48 35.0**	**+1.1**
BILL				*e*		21 51 44.3	
BILL				pmax	pmax		
	comp=Z,2.0nm,1.0s						
NOA	**NORSAR Array B**	**83.34**	**331**	LR	LR	22 29 04.4	
	comp=Z,78nm,19.2s,baz=120,slow=38						
TAM	**Tamanrasset**	**84.94**	**293**	*e*P	**P**	**21 48 46.2**	**+0.6**
	comp=Z,3.7nm,1.0s						
TAM	**Tamanrasset**	**84.94**	**293**	*e*P	**P**	**21 48 46.2**	**+0.6**
TAM				pmax	pmax		
	comp=Z,4.0nm,1.0s						
SPITS	**Spitsbergen Ar**	**85.02**	**348**	LR	LR	22 31 20.3	
	comp=Z,396nm,19.0s,baz=355,slow=39						
VNDA	**Vanda**	**87.75**	**168**	LR	LR	22 24 04.6	
	comp=Z,312nm,18.1s,baz=300,slow=33						
TORD	**Torodi Ar. Bea**	**88.72**	**283**	LR	LR	22 27 12.0	
	comp=Z,250nm,19.3s,baz=70,slow=34						
KOWA	**Kowa**	**94.21**	**285**	P	**P**	**21 49 29.0**	**-0.5**
	comp=Z,3.5nm,0.9s,baz=88,slow=9.0,SNR=7.2						
DBIC	**Dimbokro**	**95.41**	**277**	LR	LR	22 30 56.5	
	comp=Z,118nm,19.6s,baz=74,slow=34						
ANMO	**Albuquerque**	**139.97**	**22** *c*	*i*PKIKP	PKPdf	21 55 48.8	+10
ANMO				pmax	pmax		
	comp=Z,4.0nm,2.5s						
TXAR	**Lajitas Array**	**146.03**	**23**	PKPbc	**PKPdf**	**21 55 49.2**	**-0.5**
	comp=Z,5.1nm,0.9s,baz=270,slow=1.3,SNR=32						

IDC 11 21:41:03.1±2.0**,2.39N**×**90.28E,h0**km**,mb3.6**/3**,mb1 4.0**/4**, mb1mx3.3**/70**,mbtmp3.9**/4**,ML4.5**/1**,Error ellipse: s-maj=63.0km s-min=28.4km az=48.0,Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**10.70**	**297**	Pn	Pn	21 43 37.2	-0.7
	3.6nm,0.3s,baz=111,slow=2.1,SNR=7.3						
MKAR	**Makanchi Array**	**44.77**	**352**	P	P	21 49 18.4	-0.2
	0.6nm,0.7s,baz=173,slow=9.1,SNR=2.6						
SONM	**Songino Array**	**47.37**	**15**	P	P	21 49 38.8	-0.3
	0.9nm,0.6s,baz=195,slow=9.6,SNR=5.5						
WRA	**Warramunga Arr**	**48.59**	**119**	P	P	21 49 48.5	-0.5
	0.9nm,0.9s,baz=296,slow=8.7,SNR=3.4						
TXAR	**Lajitas Array**	**145.75**	**22**	PKPbc	PKPbc	22 00 44.9	-0.1
	0.2nm,0.6s,baz=348,slow=1.6,SNR=2.6						

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*IDC **11** 21:43:11.3±0.9, 2.41N×90.09E, h0km, mb4.0/15, mb1 4.1/16, mb1mx3.8/70, mbtmp4.0/16, ML3.8/1, Error ellipse: s-maj=30.3km s-min=18.8km az=41.0*
*NEIC **11** 21:43:13.5±0.5, 2.56N×90.10E, h10km, mb4.4/4, Error ellipse: s-maj=11.1km s-min=8.0km az=20.0*
*ISCJB **11** 21:43:14.4±0.6, 2.47N±0.09×90.19E±0.06, h33km, mb4.0/19, Error ellipse: s-maj=13.2km s-min=8.9km az=14.9*
ISC 11 21:43:16.9±0.8**,2.5N**±0.1×**90.1E**±0.1**,h35**km**,n40,** σ**1.26**/32**,mb4.0**/19**,Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LHMI	**Lhok Sumawe**	**7.31**	**68**	*e*Pn	**Pn**	**21 45 00.3**	**-1.0**
PBA	**Port Blair**	**9.42**	**16**	*e*Pn	Pn	21 45 27.3	-2.9
KULM	**Kulim**	**10.85**	**75**	*e*Pn	**Pn**	**21 45 48.9**	**-1.0**
IPM	**Ipoh**	**11.05**	**80**	*e*Pn	**Pn**	**21 45 52.7**	**+0.1**
CM01	**Chiang Mai Arr**	**18.00**	**28**	*e*Pn	**P**	**21 47 25.7**	**+1.0**
CM31	**Chiang Mai Arr**	**18.02**	**28**	*e*Pn	**P**	**21 47 27.9**	**+2.9**
CMAR	**Chiang Mai Arr**	**18.02**	**28**	P	**P**	**21 47 26.0**	**+1.0**
	0.1nm,0.3s,baz=219,slow=12,SNR=5.3						
CHTO	**Chiang Mai**	**18.33**	**27**	*e*Pn	**P**	**21 47 27.1**	**-1.3**
	3.1nm,1.3s						
H08S3	**Diego Garcia H**	**20.30**	**240**	T	T	22 08 37.2	
	baz=60,slow=75,SNR=7.1						
H08S2	**Diego Garcia H**	**20.30**	**240**	T	T	22 08 32.6	
	baz=60,slow=75,SNR=3.7						
CISI	**Cisompet, Garu**	**20.30**	**120**	*e*P	**P**	**21 47 50.4**	**+0.3**
	52nm,1.0s						
H08S1	**Diego Carcia H**	**20.31**	**240**	T	T	22 08 39.1	
	baz=60,slow=75,SNR=6.2						
H01W3	**Cape Leeuwin H**	**43.52**	**151**	T	T	22 37 32.2	
	baz=326,slow=74,SNR=6.5						
H01W2	**Cape Leeuwin H**	**43.53**	**151**	T	T	22 37 37.9	
	baz=326,slow=74,SNR=6.2						
H01W1	**Cape Leeuwin H**	**43.53**	**151**	T	T	22 37 38.5	
	baz=326,slow=74,SNR=4.6						
MKAR	**Makanchi Array**	**44.60**	**352**	P	**P**	**21 51 25.8**	**0.0**
	0.7nm,0.7s,baz=172,slow=9.4,SNR=5.1						
GEYT	**Alibeck**	**45.83**	**324**	P	**P**	**21 51 36.6**	**+0.9**
	2.9nm,0.7s,baz=151,slow=9.5,SNR=8.2						
SONM	**Songino Array**	**47.26**	**15**	P	**P**	**21 51 47.4**	**+0.6**
	4.3nm,0.7s,baz=195,slow=9.1,SNR=14						
SONA1	**Songino Array**	**47.27**	**15**	*e*P	**P**	**21 51 47.5**	**+0.5**
RAYN	**Ar Rayn**	**47.92**	**300**	*e*P	**P**	**21 51 52.6**	**+0.2**
	4.0nm,1.0s						
WRA	**Warramunga Arr**	**48.80**	**119**	P	**P**	**21 51 58.1**	**-1.0**
	0.9nm,0.6s,baz=298,slow=8.6,SNR=4.6						
WRAB	**Tennant Creek**	**48.80**	**119**	*e*P	**P**	**21 52 02.0**	**+2.8**
	1.6nm,0.6s						
KURBB	**Kurchatov Arra**	**48.90**	**350**	P	**P**	**21 52 00.0**	**+0.7**
	3.5nm,0.2s,baz=171,slow=6.6,SNR=3.9						
KURK	**Kurchatov**	**48.98**	**350**	P	**P**	**21 52 00.0**	**+0.1**
ZALV	**Zalesovo Beam**	**51.42**	**356**	P	**P**	**21 52 18.3**	**-0.1**
	0.7nm,0.5s,baz=160,slow=5.8,SNR=4.6						
BVAR	**Borovoye Array**	**52.91**	**345**	P	**P**	**21 52 30.0**	**+0.5**
	0.4nm,0.6s,baz=164,slow=5.8,SNR=2.9						
KLR	**Kul'dur**	**58.48**	**31**	P	**P**	**21 53 09.4**	**-0.1**
	0.1nm,0.5s,baz=266,slow=7.1,SNR=3.3						
KBZ	**Khabaz**	**58.52**	**321**	P	**P**	**21 53 10.8**	**+0.9**
	1.2nm,0.9s,baz=173,slow=9.6,SNR=4.0						
STKA	**Stephens Creek**	**59.58**	**129**	P	**P**	**21 53 17.0**	**-0.5**
	2.1nm,0.8s,baz=293,slow=11,SNR=4.3						
BR131	**Keskin Array S**	**63.04**	**314**	*e*P	**P**	**21 53 41.1**	**+0.2**
BRTR	**Keskin Array B**	**63.04**	**314**	P	**P**	**21 53 40.8**	**-0.2**
	1.4nm,0.8s,baz=139,slow=6.9,SNR=9.7						
BR231	**Keskin MP Arra**	**63.70**	**314**	*e*P	**P**	**21 53 41.4**	**-3.8**
IDI	**Anoyia**	**68.43**	**307**	P	**P**	**21 54 15.8**	**+0.1**
	3.9nm,0.8s,baz=123,slow=6.0,SNR=3.8						
MLR	**Muntele Rosu**	**70.28**	**318**	P	**P**	**21 54 27.6**	**+0.5**
	0.4nm,0.7s,baz=169,slow=8.1,SNR=4.8						
TIXI	**Tiksi**	**73.22**	**12**	*e*P	**P**	**21 54 42.5**	**-1.5**
	3.3nm,0.9s						
FINES	**FINESS Array B**	**75.60**	**334**	P	**P**	**21 54 58.4**	**+0.4**
	0.9nm,0.8s,baz=72,slow=4.5,SNR=3.4						
GERES	**GERESS Array B**	**79.17**	**319**	P	**P**	**21 55 17.1**	**-1.3**
	0.5nm,0.6s,baz=92,slow=6.9,SNR=4.3						
HFS	**Hagfors**	**81.06**	**330**	P	**P**	**21 55 28.6**	**+0.3**
	1.1nm,0.7s,baz=107,slow=7.8,SNR=3.6						
MCMT	**McKenzie Canyo**	**128.57**	**21**	*e*PKPpre	PKPpre	22 02 08.7	
TXAR	**Lajitas Array**	**145.66**	**22**	PKPbc	**PKPab**	**22 02 53.2**	**+0.1**
	0.9nm,0.9s,baz=354,slow=2.7,SNR=8.9						

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*IDC **11** 21:46:08.8±1.4, 2.70N×90.64E, h0km, mb3.8/9, mb1 3.9/10, mb1mx3.6/72, mbtmp3.8/10, Error ellipse: s-maj=42.0km s-min=25.8km az=48.0*
*ISCJB **11** 21:46:12.0±1.2, 2.7N±0.2×90.7E±0.2, h33km, mb3.8/9, Error ellipse: s-maj=27.7km s-min=22.5km az=142.9*
ISC 11 21:46:14.2±1.3**,2.7N**±0.2×**90.7E**±0.2**,h35**km**,n14,** σ**0.98**/11**,mb3.9**/9**,Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**17.59**	**27**	P	**Pn**	**21 50 17.0**	**+0.2**
	baz=212,slow=12,SNR=3.1						
H08S3	**Diego Garcia H**	**20.89**	**240**	T	T	22 11 58.6	
	baz=62						
H08S2	**Diego Garcia H**	**20.89**	**240**	T	T	22 11 56.6	
	baz=62						
H08S1	**Diego Carcia H**	**20.91**	**240**	T	T	22 12 03.7	
	baz=62						
MKAR	**Makanchi Array**	**44.50**	**352**	P	**P**	**21 54 21.9**	**-0.4**
	0.6nm,0.6s,baz=172,slow=8.3,SNR=4.1						
SONM	**Songino Array**	**46.94**	**14**	P	**P**	**21 54 41.7**	**+0.1**
	1.2nm,0.5s,baz=193,slow=8.9,SNR=7.8						
WRA	**Warramunga Arr**	**48.38**	**120**	P	**P**	**21 54 53.2**	**+0.1**
	1.0nm,0.8s,baz=297,slow=8.7,SNR=4.7						
KURBB	**Kurchatov Arra**	**48.83**	**350**	P	**P**	**21 54 56.2**	**+0.1**
	0.3nm,0.2s,baz=174,slow=7.1,SNR=4.3						
ZALV	**Zalesovo Beam**	**51.29**	**356**	P	**P**	**21 55 14.4**	**-0.2**
	0.8nm,0.4s,baz=174,slow=6.4,SNR=5.2						
BVAR	**Borovoye Array**	**52.88**	**345**	P	**P**	**21 55 25.4**	**-1.1**
	0.2nm,0.6s,baz=141,slow=9.3,SNR=1.9						
BRTR	**Keskin Array B**	**63.33**	**314**	P	**P**	**21 56 38.9**	**-1.3**
	0.4nm,0.7s,baz=120,slow=7.1,SNR=2.8						
FINES	**FINESS Array B**	**75.70**	**333**	P	**P**	**21 57 56.7**	**+0.9**
	4.9nm,1.2s,baz=108,slow=8.9,SNR=2.4						
GERES	**GERESS Array B**	**79.41**	**319**	P	**P**	**21 58 18.5**	**+1.5**
	0.8nm,0.8s,baz=90,slow=4.4,SNR=4.9						
TXAR	**Lajitas Array**	**145.27**	**22**	PKPbc	**PKPbc**	**22 05 47.7**	**-1.2**
	0.2nm,0.6s,baz=304,slow=0.3,SNR=3.1						

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*IDC **11** 21:46:26.7±5.6, 2.56N×92.30E, h0km, mb4.2/12, mb1 4.3/13, mb1mx3.9/73, mbtmp4.2/13, ML3.3/1, Error ellipse: s-maj=124.7km s-min=36.3km az=145.0*
*NEIC **11** 21:46:26.7±0.8, 2.42N×92.57E, h10km, mb4.0/2, Error ellipse: s-maj=18.3km s-min=9.0km az=151.0*
ISC 11 21:46:30.1±1.5**,2.4N**±0.2×**92.6E**±0.1**,h35**km**,n26,** σ**0.76**/26**,mb4.3**/13**,4C-4D,Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**8.50**	**70**	*e*Pn	**Pn**	**21 48 30.6**	**-0.2**
	27nm,0.7s						
KULM				*e*S	Sn	21 50 18.4	+13
CMAR	**Chiang Mai Arr**	**17.12**	**21**	P	**Pn**	**21 50 27.0**	**+0.2**
	0.0nm,0.3s,baz=212,slow=12,SNR=4.6						
CHTO	**Chiang Mai**	**17.45**	**20**	*e*Pn	**Pn**	**21 50 29.9**	**-1.0**
	5.1nm,0.8s						
DGAR	**Diego Garcia**	**22.37**	**244**	*e*P	**P**	**21 51 25.1**	**-0.4**
KKAR	**Karatay Array**	**45.08**	**337**	*e*P	**P**	**21 54 43.0**	**+0.2**
	2.5nm,0.6s						
MKAR	**Makanchi Array**	**45.13**	**350**	P	**P**	**21 54 43.4**	**+0.2**
	3.4nm,0.7s,baz=165,slow=9.0,SNR=11						
SONM	**Songino Array**	**46.80**	**13**	P	**P**	**21 54 57.1**	**+0.7**
	5.2nm,0.7s,baz=196,slow=9.5,SNR=7.9						
GEYT	**Alibeck**	**47.44**	**323**	P	**P**	**21 55 00.2**	**-1.3**
	4.1nm,0.8s,baz=139,slow=9.2,SNR=7.6						
KURBB	**Kurchatov Arra**	**49.52**	**348**	P	**P**	**21 55 18.3**	**+1.2**
	0.8nm,0.6s,baz=171,slow=7.2,SNR=3.7						
KURK	**Kurchatov**	**49.59**	**348**	P	**P**	**21 55 18.3**	**+0.6**
ZALV	**Zalesovo Beam**	**51.79**	**354**	P	**P**	**21 55 34.1**	**-0.1**
	2.2nm,0.8s,baz=178,slow=8.2,SNR=5.4						
BVAR	**Borovoye Array**	**53.72**	**344**	P	**P**	**21 55 47.9**	**-0.7**
	2.1nm,0.8s,baz=140,slow=7.4,SNR=9.4						
KBZ	**Khabaz**	**60.22**	**320**	P	**P**	**21 56 34.4**	**-0.4**
	3.1nm,0.8s,baz=109,slow=3.0,SNR=8.0						
KVAR	**Kislovodsk Arr**	**60.45**	**321**	P	**P**	**21 56 36.7**	**+0.1**
	7.1nm,1.0s,baz=86,slow=5.9,SNR=6.0						
BRTR	**Keskin Array B**	**64.95**	**313**	P	**P**	**21 57 05.7**	**-1.0**
	1.7nm,0.8s,baz=130,slow=6.9,SNR=9.1						
SORM	**Soroca**	**71.26**	**320** ⇑	*i*P	**P**	**21 57 45.7**	**-0.2**
AKASG	**Malin Array Be**	**71.55**	**323**	P	**P**	**21 57 46.7**	**-0.9**
	1.1nm,0.8s,baz=94,slow=4.8,SNR=4.5						
VRI	**Vrincioaia**	**71.66**	**318** ⇑	*i*P	**P**	**21 57 49.6**	**+1.2**
PLOR	**Plostina**	**71.71**	**318** ⇓	*i*P	**P**	**21 57 49.8**	**+1.1**
TESR	**Tescani**	**71.89**	**318** ⇑	*i*P	**P**	**21 57 49.6**	**-0.2**
MLR	**Muntele Rosu**	**72.08**	**317**	P	**P**	**21 57 51.7**	**+0.6**
	1.4nm,0.9s,baz=122,slow=9.9,SNR=7.9						
MLR	**Muntele Rosu**	**72.08**	**317** ⇑	*i*P	**P**	**21 57 52.0**	**+0.9**
DOPR	**Dopca**	**72.59**	**318** ⇓	*i*P	**P**	**21 57 54.6**	**+0.7**
BURAR	**Bucovina Array**	**73.13**	**319** ⇓	*i*P	**P**	**21 57 57.5**	**+0.2**
TIP	**Timpagrande**	**77.55**	**309** ⇓	*i*P	**P**	**21 58 23.5**	**+0.7**
GERES	**GERESS Array B**	**80.92**	**319**	P	**P**	**21 58 41.7**	**+0.7**
	3.3nm,0.8s,baz=97,slow=5.4,SNR=15						

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*IDC **11** 21:50:19.8±1.6, 2.98N×92.83E, h0km, mb3.9/6, mb1 4.0/7, mb1mx3.5/72, mbtmp3.9/7, ML3.7/1, Error ellipse: s-maj=58.4km s-min=26.1km az=50.0*
*ISCJB **11** 21:50:22.6±1.4, 2.9N±0.2×92.8E±0.2, h33km, mb3.9/6, Error ellipse: s-maj=34.8km s-min=23.0km az=147.5*
ISC 11 21:50:24.9±1.5**,2.9N**±0.2×**92.8E**±0.2**,h35**km**,n7,** σ**1.05**/7**, mb3.9**/6**,Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**16.55**	**21**	Pn	**Pn**	**21 54 14.9**	**+0.5**
	0.1nm,0.3s,baz=218,slow=12,SNR=4.0						
MKAR	**Makanchi Array**	**44.63**	**350**	P	**P**	**21 58 33.4**	**-0.6**
	1.4nm,0.6s,baz=169,slow=9.1,SNR=8.6						
WRA	**Warramunga Arr**	**46.68**	**121**	P	**P**	**21 58 50.4**	**-0.2**
	0.4nm,0.8s,baz=299,slow=8.5,SNR=3.8						
GEYT	**Alibeck**	**47.11**	**322**	P	**P**	**21 58 53.0**	**-0.8**
	1.7nm,0.7s,baz=142,slow=9.5,SNR=3.8						
KURBB	**Kurchatov Arra**	**49.02**	**348**	P	**P**	**21 59 07.3**	**-0.9**
	0.3nm,0.3s,baz=168,slow=7.1,SNR=4.4						
ZALV	**Zalesovo Beam**	**51.26**	**354**	P	**P**	**21 59 24.9**	**-0.3**
	1.2nm,0.5s,baz=179,slow=6.8,SNR=3.5						
GERES	**GERESS Array B**	**80.62**	**319**	P	**P**	**22 02 35.7**	**+1.5**
	0.6nm,0.6s,baz=105,slow=6.2,SNR=4.3						

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*ISCJB **11** 21:54:11.8±1.5, 1.3N±0.2×91.6E±0.3, h10km, mb3.7/5, Error ellipse: s-maj=38.7km s-min=23.8km az=155.8*
*IDC **11** 21:54:12.4±1.8, 1.35N×91.59E, h0km, mb3.7/5, mb1 3.9/6, mb1mx3.4/74, mbtmp3.6/6, ML3.5/1, Error ellipse: s-maj=56.6km s-min=30.0km az=58.0*
ISC 11 21:54:13.7±1.6**,1.3N**±0.2×**91.6E**±0.3**,h10**km**,n10,** σ**1.03**/7**, mb3.8**/5**,North Indian Ocean**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**18.52**	**23**	P	**Pn**	**21 58 31.6**	**+1.0**
	0.1nm,0.3s,baz=216,slow=13,SNR=5.3						
H08S2	**Diego Garcia H**	**21.01**	**245**	T	T	22 20 40.9	
	baz=65,slow=75,SNR=9.8						
H08S3	**Diego Garcia H**	**21.01**	**245**	T	T	22 20 41.6	
	baz=65,slow=75,SNR=9.2						
H08S1	**Diego Carcia H**	**21.02**	**245**	T	T	22 20 45.3	
	baz=65,slow=75,SNR=12						
MKAR	**Makanchi Array**	**46.04**	**351**	P	**P**	**22 02 36.6**	**-0.9**
	0.4nm,0.5s,baz=177,slow=9.9,SNR=6.8						
WRA	**Warramunga Arr**	**46.92**	**119**	P	**P**	**22 02 44.8**	**-0.1**
	0.6nm,0.6s,baz=298,slow=8.6,SNR=4.6						
SONM	**Songino Array**	**48.11**	**13**	P	**P**	**22 02 53.5**	**-0.3**
	0.7nm,0.6s,baz=198,slow=9.1,SNR=6.9						
ZALV	**Zalesovo Beam**	**52.78**	**355**	P	**P**	**22 03 27.7**	**-1.1**
	0.4nm,0.3s,baz=170,slow=7.4,SNR=2.5						
GERES	**GERESS Array B**	**81.05**	**319**	P	**P**	**22 06 30.1**	**+1.0**
	0.6nm,0.8s,baz=103,slow=5.8,SNR=4.7						
TXAR	**Lajitas Array**	**146.23**	**24**	PKPbc	**PKPbc**	**22 13 55.5**	**+0.2**
	0.3nm,0.5s,baz=340,slow=2.7,SNR=2.7						

IDC 11 21:55:10.2±3.2, 2°56'N×91°60'E, h0km, mb3.5/2, mb1 3.7/3, mb1mx3.1/72, mbtmp3.4/3, ML3.6/1, MS3.5/1, Ms1 3.5/1, ms1mx2.8/45, Error ellipse: s-maj=101.3km s-min=31.8km az=62.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	17.36	24	P	P	21 59 15.0	-0.6
	0.1nm,0.3s,baz=213,slow=13,SNR=2.9						
SIJI	Sorong	39.80	94	LR	LR	22 20 10.8	
	comp=Z,75nm,20.6s,slow=38						
MKAR	Makanchi Array	44.80	351	P	P	22 03 25.6	-0.3
	0.5nm,0.8s,baz=167,slow=8.9,SNR=2.9						
WRA	Warramunga Arr	47.53	120	P	P	22 03 47.6	-0.2
	0.6nm,0.7s,baz=301,slow=8.3,SNR=3.6						

IDC 11 21:59:24.2±5.8, 2°67'N×92°20E, h0km, mb3.8/3, mb1 3.9/5, mb1mx3.4/73, mbtmp3.8/5, ML3.9/2, Error ellipse: s-maj=120.7km s-min=48.1km az=153.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	Pallekele	12.33	292	Pn	Pn	22 02 21.4	+0.2
	1.4nm,0.3s,baz=114,slow=12,SNR=4.1						
PALK				Sn	Sn	22 04 26.7	-13
	3.6nm,0.3s,baz=114,slow=6.6,SNR=7.7						
CMAR	Chiang Mai Arr	17.02	22	Pn	Pn	22 03 23.6	-0.2
	0.1nm,0.3s,baz=214,slow=14,SNR=3.6						
MKAR	Makanchi Array	44.78	350	P	P	22 07 39.7	0.0
	0.7nm,0.6s,baz=173,slow=8.9,SNR=8.0						
ZALV	Zalesovo Beam	51.47	354	P	P	22 08 31.1	-0.2
	0.7nm,0.3s,baz=174,slow=7.5,SNR=5.1						
GERES	GERESS Array B	80.42	319	P	P	22 11 37.9	0.0
	0.4nm,0.7s,baz=99,slow=6.1,SNR=3.4						

*IDC **11** 22:02:49.0±6.3, 51°69'N×176°79'W, h33km±47km, mb3.9/18, mb1 4.1/19, mb1mx3.8/81, mbtmp4.1/19, ML4.2/1, Error ellipse: s-maj=23.1km s-min=12.3km az=173.0*
*NEIC **11** 22:02:50.4±0.0, 51°56'N×176°71'W, h39km, mb4.3/13, ML4.2(AEIC), After AEIC.*
NEIC Felt on Adak.

ISC 11 22:02:50.3±0.5, 51°53'N±0°09'×176°77'W±0°04, h47km, n188, σ1°26/188, mb4.2/23, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ETKA	Kagalaska Isla	0.40	34	P	Pn	22 02 59.5	-0.7
KIRH	Kanaga Island	0.42	331	P	Pn	22 03 00.8	+0.4
KIKV	Kanaga Island	0.43	324	P	Pn	22 03 00.9	+0.3
KINC	Kanaga Island	0.46	331	P	Pn	22 03 01.2	+0.3
ADAG	Mount Adagdak	0.46	13	P	Pn	22 03 01.0	+0.1
GSTD	Great Sitkin T	0.65	36	P	Pn	22 03 03.0	-0.4
TAPA	Tanaga Point A	0.71	294	P	Pn	22 03 04.7	+0.6
GALAA	Gareloi Lava P	1.27	281	P	Pn	22 03 13.0	+1.3
KOWE	Korovin West	1.77	61	P	Pn	22 03 18.6	+0.2
KOKL	Mount Kliuchef	1.77	63	P	Pn	22 03 18.7	+0.1
KOFP	Korovin Flat P	1.81	65	P	Pn	22 03 19.1	0.0
OKSP	Okmok Steeple	5.47	68	P	Pn	22 04 11.7	+2.5
OKSP				S	Sn	22 05 15.2	+4.4
OKTU	Okmok Mt. Tuli	5.65	67	P	Pn	22 04 13.4	+1.8
SMY	Shemya	5.75	286	*e*Pn	Pn	22 04 14.6	+1.6
MSOM	Makushin Julie	6.39	65	P	Pn	22 04 23.8	+2.0
MREP	Makushin Rep't	6.51	66	P	Pn	22 04 24.8	+1.3
UNV	Unalaska Valle	6.66	66	*e*Pn	Pn	22 04 26.9	+1.5
UNV				*e*S	Sn	22 05 43.0	+3.1
SPIA	Saint Paul Isl	6.82	31	P	Pn	22 04 28.8	+1.2
AKUT	Akutan	7.15	64	Pn	Pn	22 04 34.2	+2.0
SDPT	Sand Point	10.44	62	*e*Pn	Pn	22 05 17.8	+0.7
GAMB	Gambell	12.57	10	*e*Pn	Pn	22 05 48.5	+2.4
	21nm,1.0s						
KDAK	Kodiak Island	15.28	56	Pn	Pn	22 06 19.5	-3.0
	0.9nm,0.3s,baz=219,slow=2.4,SNR=18						
PPLA	Purkeypile	17.38	40	*e*P	P	22 06 52.8	+2.8
	12nm,0.6s						
KTH	Kantishna Hill	18.20	39	*e*P	Pn	22 06 59.8	+0.5
	30nm,1.0s						
TRF	Thorofare Moun	18.40	39	*e*P	P	22 07 01.6	+0.3
	39nm,1.1s						
BPAW	Bear Paw Mtn.	18.45	37	*e*P	Pn	22 07 02.3	+0.1
	1.8nm,0.7s						
SML	Sawmill	18.54	45	*e*P	P	22 07 03.2	+0.4
	0.3nm,0.4s						
MCK	McKinley	19.07	39	*e*P	P	22 07 08.4	-0.1
	14nm,0.7s						
SEY	Seymchan	19.99	317	P	Pn	22 07 19.9	-0.6
	0.2nm,0.3s,baz=100,slow=12,SNR=6.4						
COLA	College	20.01	37	*e*P	Pn	22 07 20.6	-0.1
	7.6nm,0.8s						
PAX	Paxson	20.20	43	*e*P	P	22 07 22.1	+1.2
	8.0nm,0.6s						
ILAR	Eielson Array	20.33	38	P	P	22 07 20.6	-1.6
	1.2nm,0.6s,baz=238,slow=9.4,SNR=16						
ILAR				PcP	PcP	22 11 32.0	-1.3
	0.4nm,0.6s,baz=279,slow=3.3,SNR=4.3						
COLD	Coldfoot	20.48	30	*e*P	P	22 07 25.0	+1.3
DOT	Dot Lake	21.03	42	*e*P	P	22 07 29.4	-0.3
	63nm,1.0s						
TOLK	Toolik Lake Re	21.54	27	P	P	22 07 35.1	-0.1
	baz=231						
EGAK	Eagle	22.60	40	*e*P	P	22 07 45.4	-1.2
	7.3nm,0.8s						
DAWY	Dawson	23.13	43	*e*P	P	22 07 53.0	+1.0
	13nm,1.1s						
INK	Inuvik	26.61	35	P	P	22 08 23.0	-0.8
	0.5nm,0.3s,baz=224,slow=4.1,SNR=5.1						
INK				PcP	PcP	22 11 46.5	0.0
	2.7nm,0.9s,baz=247,slow=2.1,SNR=9.2						
KLR	Kul'dur	32.36	287	P	P	22 09 15.0	+0.1
	0.1nm,0.5s,baz=60,slow=7.8,SNR=5.5						
YKA	Yellowknife Ar	34.20	47	P	P	22 09 30.0	-0.8
	0.7nm,0.7s,baz=284,slow=8.3,SNR=11						
YKA				PcP	PcP	22 12 06.9	+0.4
	2.2nm,0.8s,baz=287,slow=2.8,SNR=31						
H11N2	WAKE ISLAND Hy	34.24	208	T	T	22 45 58.0	
	baz=18,slow=76,SNR=1326						
H11N3	WAKE ISLAND Hy	34.25	208	T	T	22 45 58.7	
	baz=18,slow=76,SNR=861						
H11N1	WAKE ISLAND Hy	34.26	208	T	T	22 45 59.4	
	baz=18,slow=76,SNR=913						
MJAR	Matsushiro Arr	35.06	263	P	P	22 09 39.1	+0.4
	2.1nm,0.9s,baz=58,slow=7.5,SNR=4.7						
H11S1	WAKE ISLAND Hy	35.45	208	T	T	22 47 29.3	
	baz=18,slow=76,SNR=755						
H11S2	WAKE ISLAND Hy	35.47	208	T	T	22 47 30.5	
	baz=18,slow=76,SNR=379						
H11S3	WAKE ISLAND Hy	35.47	208	T	T	22 47 29.8	
	baz=18,slow=76,SNR=356						
I04A	Tendick Farm,	36.66	80	P	P	22 09 51.7	-0.5
	baz=302						
I05D	Terrebonne, OR	37.04	79	P	P	22 09 55.9	+0.4
	baz=302						
NEW	Newport	37.63	71	P	P	22 09 60.0	-0.5
	baz=298						
NEW	Newport	37.63	71	*e*P	P	22 10 00.6	+0.2
	5.3nm,0.8s						
J05D	Fort Rock, OR	37.66	80	P	P	22 10 01.1	+0.2
	baz=303						
O03D	Paynes Creek	38.98	85	P	P	22 10 12.3	+0.4
	baz=306						
WALA	Waterton Lakes	39.14	68	*e*P	P	22 10 13.4	+0.2
	6.0nm,1.1s						
MSO	Missoula	40.22	71	P	P	22 10 22.1	-0.1
	baz=301						
KSRS	Korea Array	40.91	272	P	P	22 10 28.6	+0.8
	1.9nm,0.8s,baz=63,slow=8.2,SNR=6.4						
KSAR	Wonju Array Be	40.94	272	P	P	22 10 28.6	+0.6
HLID	Hailey	41.67	76	P	P	22 10 33.2	-1.1
	baz=304						
BOZ	Bozeman (W)	42.23	71	P	P	22 10 37.7	-1.0
	baz=303						
NVAR	Mina Array Bea	42.27	84	P	P	22 10 40.2	+1.0
	1.6nm,0.8s,baz=297,slow=8.0,SNR=6.9						
NVAR				PcP	PcP	22 12 33.0	+0.7
	0.2nm,0.3s,baz=292,slow=2.7,SNR=5.3						
RLMT	Red Lodge	43.88	71	P	P	22 10 51.9	-0.2
	baz=304						
SBC	Santa Barbara	43.91	90	P	P	22 10 52.1	-0.1
	baz=311						
MPMC	Manual Prospec	44.26	86	P	P	22 10 54.0	-1.3
	baz=310						
BW06	Boulder Array	45.05	74	P	P	22 11 00.7	-0.8
	baz=306						
PDAR	Pinedale Array	45.05	74	P	P	22 11 01.6	+0.1
	2.4nm,0.5s,baz=307,slow=3.8,SNR=17						
SONM	Songino Array	47.71	298	P	P	22 11 21.7	-0.5
	0.8nm,0.9s,baz=57,slow=5.3,SNR=5.9						
SONM				PcP	PcP	22 12 50.8	0.0
	2.2nm,0.9s,baz=83,slow=2.1,SNR=9.3						
B34A	Aery, Baudette	50.21	59	P	P	22 11 39.6	-1.5
	baz=306						
H31A	Wolsey	50.50	65	P	P	22 11 41.9	-1.5
	baz=308						
OGNE	Ogallala	50.62	71	P	P	22 11 44.4	-0.1
	baz=309						
T25A	Trinidad	51.63	76	P	P	22 11 51.8	-0.4
	baz=311						
F38A	Pierce - Schro	53.25	60	P	P	22 12 02.3	-1.5
	baz=309						
F39A	Loretta	53.79	60	P	P	22 12 07.2	-0.6
	baz=310						
O34A	Beatrice	54.24	68	P	P	22 12 10.1	-1.0
	baz=311						
G40A	Rib Lake	54.59	60	P	P	22 12 12.2	-1.5
	baz=310						
MNTX	Cornudas Mount	54.67	82	P	P	22 12 13.4	-1.0
	baz=314						
MSTX	Muleshoe	54.73	78	P	P	22 12 13.8	-1.1
	baz=313						
N37A	Lee Faris, Mou	55.30	66	P	P	22 12 18.0	-0.8
	baz=311						
L39A	Vinton	55.65	64	P	P	22 12 20.5	-0.8
	baz=311						
O37A	Wolven Farm, M	55.72	67	P	P	22 12 20.8	-1.0
	baz=312						
N38A	Joes South For	55.83	66	P	P	22 12 21.5	-1.1
	baz=312						
N39A	Derby Farms, D	56.19	65	P	P	22 12 23.8	-1.4
	baz=312						
K41A	Shullsburg	56.28	62	P	P	22 12 23.7	-2.0
	baz=312						
P38A	Dawn	56.44	67	P	P	22 12 25.5	-1.4
	baz=312						
Q38A	Cooks Store, C	56.83	68	P	P	22 12 27.9	-1.9
	baz=312						
P39B	Salisbury	56.97	67	P	P	22 12 29.4	-1.3
	baz=312,SNR=8.6						
O40A	La Belle	57.05	66	P	P	22 12 29.7	-1.6
	baz=312						
Q39A	Willow Grove F	57.14	67	P	P	22 12 30.3	-1.7
	baz=312,SNR=8.4						
R38A	Fenwick Farm,	57.18	68	P	P	22 12 30.1	-2.1
	baz=313						
P40A	Paris	57.35	66	P	P	22 12 32.1	-1.3
	baz=312,SNR=7.3						
TXAR	Lajitas Array	57.37	83	P	P	22 12 33.8	0.0
	1.5nm,0.6s,baz=301,slow=5.0,SNR=20						
S38A	Stockton	57.56	69	P	P	22 12 33.1	-1.8
	baz=313,SNR=8.9						
R39A	Chumby, Stover	57.60	68	P	P	22 12 33.8	-1.4
	baz=313						
O41A	Passleys Farm,	57.62	65	P	P	22 12 34.5	-0.8
	baz=313						
Q40A	Laux Farm, Aux	57.70	67	P	P	22 12 34.3	-1.6
	baz=313,SNR=6.2						
T38A	Diamond	57.74	70	P	P	22 12 35.4	-0.8
	baz=313						
S39A	Bolivar	57.86	69	P	P	22 12 34.9	-2.1
	baz=313						
R40A	Maddies Statio	58.06	67	P	P	22 12 36.4	-2.0
	baz=313,SNR=6.6						
Q41A	Truxton	58.20	66	P	P	22 12 37.8	-1.6
	baz=313						
S40A	Lebanon	58.40	68	P	P	22 12 39.4	-1.4
	baz=313						
R41A	Rosebud	58.57	67	P	P	22 12 40.4	-1.6
	baz=313,SNR=6.5						
Q42A	Golden Eagle	58.63	66	P	P	22 12 41.0	-1.4
	baz=313						
U39A	Green Forest	58.66	70	P	P	22 12 40.9	-1.8
	baz=314						
T40A	Mansfield	58.69	69	P	P	22 12 41.1	-1.8
	baz=314						
P43A	Skaggs, Pawnee	58.71	64	P	P	22 12 41.1	-1.8
	baz=313						
CCM	Cathedral Cave	58.81	67	P	P	22 12 41.8	-1.8
	baz=313						
S41A	Jillco Farms,	58.84	68	P	P	22 12 42.0	-1.9
	baz=314						
R42A	Luebbering	58.91	66	P	P	22 12 42.7	-1.7
	baz=313						
V39A	Pettigrew	58.94	70	P	P	22 12 43.2	-1.5
	baz=314						
U40A	Yellville	59.04	69	P	P	22 12 43.7	-1.6
	baz=314,SNR=6.4						
Q43A	New Douglas	59.09	65	P	P	22 12 44.2	-1.3
	baz=314						
T41A	Mountain View	59.20	68	P	P	22 12 44.9	-1.6
	baz=314						
S42A	Caledonia	59.27	67	P	P	22 12 45.2	-1.6
	baz=314,SNR=5.8						
W39A	Magazine	59.30	71	P	P	22 12 46.0	-1.0
	baz=314						
WHTX	Lake Whitney,	59.33	76	P	P	22 12 46.3	-1.0
	baz=315						
P44A	Sand Creek, Wi	59.33	64	P	P	22 12 46.1	-1.2
	baz=314						
R43A	Red Bud	59.41	66	P	P	22 12 46.8	-1.0
	baz=314						
V40A	Witts Springs	59.44	70	P	P	22 12 46.6	-1.5
	baz=314,SNR=5.5						
Q44A	Meyer Farm, Va	59.50	65	P	P	22 12 46.7	-1.7
	baz=314						
SFIN	Lafayette	59.56	62	P	P	22 12 47.0	-1.7
	baz=314						
X39A	Fountain Ranch	59.58	72	P	P	22 12 47.4	-1.6
	baz=314						
U41A	Viola	59.60	69	P	P	22 12 47.6	-1.5
	baz=314						
T42A	Van Buren	59.60	68	P	P	22 12 47.1	-2.1
	baz=314						
W40A	Ferguson Farm,	59.72	71	P	P	22 12 48.9	-1.1
	baz=314						
P45A	Graceland, Par	59.78	63	P	P	22 12 49.3	-1.1
	baz=314						
S43A	Fulton Ridge,	59.81	67	P	P	22 12 49.5	-1.1
	baz=314						
KURK	Kurchatov	59.82	315	P	P	22 12 49.7	-0.8
V41A	Mountainview	59.85	69	P	P	22 12 49.1	-1.8
	baz=314						
MIAR	Mount Ida	59.87	71	P	P	22 12 49.7	-1.3
	baz=314						
R44A	Waltonville	59.91	65	P	P	22 12 49.9	-1.3
	baz=314						
KURBB	Kurchatov Arra	59.93	315	P	P	22 12 49.7	-1.5
	1.4nm,0.6s,baz=43,slow=6.6,SNR=5.2						
U42A	Revenden	59.99	68	P	P	22 12 50.0	-1.8
	baz=314						
P46A	Rosedale	60.02	63	P	P	22 12 50.9	-1.1
	baz=314						
T43A	Greenville	60.03	67	P	P	22 12 50.7	-1.4
	baz=314,SNR=13						
S44A	Carbondale	60.20	66	P	P	22 12 51.7	-1.5
	baz=314						
W41B	Gary Mavity, V	60.22	70	P	P	22 12 52.4	-0.9
	baz=314						
V42A	Cord	60.28	69	P	P	22 12 52.5	-1.3
	baz=314						
R45A	Skylar, Fairfi	60.34	65	P	P	22 12 52.8	-1.3
	baz=314						
X40A	Basin Creek Fa	60.35	71	P	P	22 12 52.4	-1.9
	baz=314						
S45A	Carrier Mills	60.59	66	P	P	22 12 54.9	-1.0
	baz=314						
P47A	Martinsville	60.63	63	P	P	22 12 55.1	-1.1
	baz=314						
R46A	Gibson Southern	60.83	64	P	P	22 12 56.0	-1.5
	baz=314						
Q47A	Bedord North L	60.93	63	P	P	22 12 56.8	-1.4
	baz=314						
R47A	Wooly Knot Far	61.32	64	P	P	22 13 00.4	-0.4
	baz=315						
T46A	Princeton	61.43	66	P	P	22 13 00.3	-1.3
	baz=315						
WCI	Wyandotte Cave	61.50	64	P	P	22 13 01.1	-1.0
	baz=315						
BVAR	Borovoye Array	61.58	321	P	P	22 13 02.6	+0.2
	1.2nm,0.6s,baz=52,slow=7.5,SNR=13						
T47A	Sharon Grove	61.91	65	P	P	22 13 04.0	-0.9
	baz=315						
S48A	Wiedeman Farm,	62.03	64	P	P	22 13 04.7	-1.0
	baz=315						
V46A	Holladay	62.17	67	P	P	22 13 05.9	-0.7
	baz=315						
OXF	Oxford	62.34	69	P	P	22 13 06.7	-1.0
	baz=315						
V47A	Nunnelly	62.50	66	P	P	22 13 07.2	-1.6
	baz=315						
U48A	Cassie Pea, Po	62.57	65	P	P	22 13 08.6	-0.6
	baz=315						
W47A	Westpoint	62.87	67	P	P	22 13 10.3	-1.0
	baz=316						
W48A	Pulaski	63.33	67	P	P	22 13 13.5	-0.8
	baz=316						
Y47A	UCPARC, Winfie	63.68	68	P	P	22 13 15.4	-1.2
	baz=316						
X48A	Hartselle	63.75	67	P	P	22 13 16.0	-1.1
	baz=316						
X49A	Woodville	64.12	67	P	P	22 13 18.4	-1.1
	baz=316						
Z48A	Northport	64.23	68	P	P	22 13 19.2	-1.0
	baz=316						
Y49A	Blount Mountai	64.54	67	P	P	22 13 21.2	-1.1
	baz=316						
LRAL	Lakeview Retre	64.80	68	P	P	22 13 22.4	-1.6
	baz=316						
Z49A	Columbiana	64.95	68	P	P	22 13 23.9	-1.1
	baz=317						
347A	Saraland	65.08	70	P	P	22 13 24.8	-1.0
	baz=317						
149A	Jones	65.23	68	P	P	22 13 25.8	-1.0
	baz=317						
Z50A	Ashland	65.26	67	P	P	22 13 26.2	-0.8
	baz=317						
150A	Eclectic	65.67	68	P	P	22 13 29.0	-0.6
	baz=317						
250A	Grady	65.99	68	P	P	22 13 30.9	-0.8
	baz=317						
251A	Midway	66.40	68	P	P	22 13 33.3	-1.0
	baz=317						
KMSC	Kings Mountain	66.48	63	P	P	22 13 34.4	-0.4
	baz=317						
GOGA	Godfrey	66.55	66	P	P	22 13 34.5	-0.8
	baz=317						
351A	Pinckard	66.89	69	P	P	22 13 36.8	-0.6
	baz=317						
AKTO	Aktyubinsk	68.28	326	P	P	22 13 45.5	-0.5
	2.3nm,0.8s,baz=44,slow=4.4,SNR=8.2						
455A	Stateville	68.77	67	P	P	22 13 48.8	-0.5
	baz=318						
257A	Skidaway Islan	69.00	65	P	P	22 13 50.1	-0.5
	baz=318						
655A	Horseshoe Beac	69.55	68	P	P	22 13 52.9	-1.3
	baz=318						
556A	Lake Butler	69.68	67	P	P	22 13 53.8	-1.1
	baz=318						
658A	Bunnell	70.77	67	P	P	22 14 01.3	-0.3
	baz=319						
758A	Lake Helen	71.15	67	P	P	22 14 03.1	-0.8
	baz=319						
859A	Kempfer Cattle	72.00	68	P	P	22 14 09.2	+0.2
	baz=319						
CMAR	Chiang Mai Arr	72.26	277	P	P	22 14 10.8	+0.1
	1.9nm,0.3s,baz=25,slow=7.1,SNR=11						
CLL	Collm	77.20	354	*e*sP	sP	22 15 00.0	+2.3
WRA	Warramunga Arr	83.02	226	P	P	22 15 10.3	-0.2
	1.3nm,0.8s,baz=32,slow=5.9,SNR=5.4						
BRTR	Keskin Array B	85.32	337	P	P	22 15 21.2	-1.0
	1.2nm,0.8s,baz=51,slow=2.6,SNR=7.9						
FITZ	Fitzroy Crossi	85.57	234	P	P	22 15 24.4	+1.0
	3.9nm,0.8s,baz=139,slow=2.5,SNR=4.4						
ASAR	Alice Springs	86.47	224	P	P	22 15 27.9	+0.1
	2.1nm,0.9s,baz=26,slow=5.0,SNR=13						
STKA	Stephens Creek	90.76	214	P	P	22 15 49.1	+1.3
	1.6nm,0.7s,baz=23,slow=7.7,SNR=3.5						
TORD	Torodi Ar. Bea	115.58	2	PKP	PKPdf	22 21 26.0	-1.3
	0.9nm,0.8s,baz=334,slow=8.9,SNR=4.7						
MAW	Mawson	147.38	218	PKPbc	PKPbc	22 22 28.0	+0.7
	5.1nm,0.8s,baz=136,slow=2.3,SNR=4.2						
BOSA	Boshof	151.78	316	PKPbc	PKPbc	22 22 39.3	-0.3
	6.7nm,0.8s,baz=352,slow=2.3,SNR=11						

MEX 11 22:03:26.5±0.4, 16°28N×98°09W, h22km±4km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.11	341	*i*P	Pb	22 03 30.0	-1.1
PNIG				*i*S	Sb	22 03 32.8	-1.5
TLIG	Tlapa	1.35	340	*e*P	Pn	22 03 47.3	-2.8
TLIG				*e*S	Sn	22 04 03.4	-4.1
VHO	Vista Hermosa	1.52	59	*e*P	Pn	22 03 49.1	-3.4
VHO				*e*S	Sn	22 04 07.8	-3.9
CAIG	El Cayaco	2.22	290	*e*P	Pn	22 04 02.1	+0.1
CAIG				*e*S	Sn	22 04 25.3	-3.5
PLIG	Platanillo	2.49	327	*e*P	Pn	22 04 07.6	+1.8
PLIG				*e*S	Sn	22 04 32.9	-2.7

IDC 11 22:03:55.7±3.1, 2°92N×93°49E, h0km, mb3.5/3, mb1 3.8/4, mb1mx3.3/71, mbtmp3.6/4, ML4.1/1, Error ellipse: s-maj=111.3km s-min=28.5km az=59.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	16.34	19	Pn	Pn	22 07 46.3	-0.4
	0.3nm,0.3s,baz=216,slow=12,SNR=7.5						
MKAR	Makanchi Array	44.77	349	P	P	22 12 11.4	+0.3
	0.7nm,0.7s,baz=169,slow=8.5,SNR=6.6						
WRA	Warramunga Arr	46.09	121	P	P	22 12 21.7	-0.2
	0.6nm,1.1s,baz=298,slow=8.8,SNR=3.9						
ZALV	Zalesovo Beam	51.36	353	P	P	22 13 01.6	-0.3
	0.4nm,0.5s,baz=181,slow=6.5,SNR=2.8						

SJA 11 22:05:55.8±0.4, 31°68S×69°43W, h104km±3km, ML2.9, MW3.6, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AUSP	Uspallata	0.55	177	*e*P	Pn	22 06 13.6	+0.9
AUSP				*e*S	Sn	22 06 27.0	+1.7
RTCV	Cerro Valdivia	0.78	104	*e*P	Pn	22 06 15.2	+0.9
RTCV				*e*P	Sn	22 06 31.4	+3.1
ASAL	Salagasta	1.04	151	*e*P	Pn	22 06 17.9	+0.8
ASAL				*e*S	Sn	22 06 34.5	+1.5
AMOG	MOGNA	1.08	48	*e*P	Pn	22 06 18.4	+0.9
AMOG				*e*S	Sn	22 06 35.0	+1.2
ARCO	CERRO ARCO	1.24	160	*e*P	Pn	22 06 20.2	+0.9
ARCO				*e*S	Sn	22 06 38.6	+1.6
ARCO				IAML		22 06 42.1	
	comp=Z,145nm,0.2s						
AAGR	Agrelo	1.49	160	*e*P	Pn	22 06 23.5	+1.2
AROD	Rodeo	1.50	358	*e*P	Pn	22 06 24.3	+1.6
ACAN	Cantantal	1.99	108	*e*P	Pn	22 06 29.4	+1.0
AGUA	GUANDACOL	2.33	21	*e*P	Pn	22 06 34.2	+1.4

*MDD **11** 22:08:01.4±0.8, 36°96N×14°17W, h40km, mb4.3/17, Error ellipse: s-maj=11.9km s-min=6.7km az=134.0, PRX/IMO*
*IGIL **11** 22:08:02.5, 37°13N×13°86W, h2km, ML2.8*
*INMG **11** 22:08:04.6±1.4, 36°88N×14°13W, h10km, ML2.9, Error ellipse: s-maj=7.1km s-min=3.1km az=130.0*
*CSEM **11** 22:08:07.6±0.3, 37°27N×13°39W, h10km, ML3.4/46, Error ellipse: s-maj=5.2km s-min=4.4km az=54.0*

ISC 11 22:07:57.2±1.4, 36°98N±0°05×14°10W±0°07, h22km, n132, σ3°23/251, 3C, Azores-Cape St. Vincent Ridge

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

25nm,0.2s
PMST Lisbon--Monsan 4.27 64 *e*Pn **Pn 22 09 04.8 +4.0**
PMST *e*Sn **Sn 22 09 49.3 -0.6**
25nm,0.2s
PMAFR Mafra 4.29 61 *e*Pn **Pn 22 09 05.2 +4.1**
PMAFR *e*Sn **Sn 22 09 50.5 +0.1**
PMAFR A A 22 09 53.9
50nm,0.2s
PMAFR Mafra 4.29 61 Pn **Pn 22 09 04.5 +3.5**
6.1nm,0.1s,SNR=11
PMAFR Sn **Sn 22 09 50.4 +0.1**
41nm,0.2s,SNR=12
PMAFR Mafra 4.29 61 *e*Pn **Pn 22 09 05.2 +4.1**
PMAFR Sn **Sn 22 09 50.4 +0.1**
41nm,0.2s,SNR=12
PMPS Porto Santo 4.32 206 *e*Pn **Pn 22 09 02.5 +0.9**
PMPS *e*Sn **Sn 22 09 45.8 -5.5**
PMPS A A 22 09 48.1
24nm,0.2s
PMPS Porto Santo 4.32 206 Pn **Pn 22 09 02.5 +0.9**
PTEO Sao Teotonio 4.32 81 *e*Pn **Pn 22 09 05.3 +3.7**
PTEO *e*Sn **Sn 22 09 49.1 -2.2**
PTEO A A 22 09 56.5
9.9nm,0.7s
PTEO Sao Teotonio 4.32 81 Pn **Pn 22 09 05.3 +3.7**
PTEO Sao Teotonio 4.32 81 *e*Pn **Pn 22 09 05.3 +3.7**
PTEO *e*Sn **Sn 22 09 49.1 -2.2**
9.9nm,0.7s
MORF Marmelete 4.36 84 *e*P **Pn 22 09 05.5 +3.3**
MORF *e*S **Sn 22 09 50.8 -1.5**
MORF AML AML 22 09 55.4
comp=N,21nm,0.1s
MORF Marmelete 4.36 84 *e*Pn **Pn 22 09 05.6 +3.4**
MORF *e*Sn **Sn 22 09 50.9 -1.5**
MORF A A 22 09 58.9
comp=N,11nm,0.1s
MORF Marmelete 4.36 84 Pn **Pn 22 09 05.6 +3.4**
MORF Sn **Sn 22 09 50.9 -1.5**
comp=N,11nm,0.1s
MORF Marmelete 4.36 84 *e*Pn **Pn 22 09 05.6 +3.4**
MORF Sn **Sn 22 09 50.9 -1.5**
comp=N,11nm,0.1s
PNCL Nicolau / Gran 4.57 74 *e*Pn **Pn 22 09 08.0 +3.1**
PNCL *e*Sn **Sn 22 09 55.5 -1.8**
PNCL A A 22 10 02.1
comp=N,14nm,0.4s
PNCL Nicolau / Gran 4.57 74 *e*Pn **Pn 22 09 08.0 +3.1**
PNCL *e*Sn **Sn 22 09 55.5 -1.8**
comp=N,14nm,0.4s
PMAR Madeira 4.84 209 *e*Pn **Pn 22 09 09.7 +0.9**
PMAR *e*Sn **Sn 22 09 58.2 -6.0**
PMAR A A 22 10 02.9
comp=N,29nm,0.2s
PMAR Madeira 4.84 209 Pn **Pn 22 09 09.7 +0.9**
PMOZ Porto Moniz, M 4.87 212 *e*Pn **Pn 22 09 11.0 +1.8**
PMOZ Porto Moniz, M 4.87 212 Pn **Pn 22 09 11.0 +1.8**
PMOZ Sn **Sn 22 10 01.4 -3.5**
comp=N,70nm,0.4s,SNR=7.9
ALMR Almeirim 4.87 62 *e*Pn **Pn 22 09 12.9 +3.9**
ALMR *e*Sn **Sn 22 10 03.7 -1.0**
ALMR A A 22 10 08.9
comp=N,23nm,0.2s
ALMR Almeirim 4.87 62 Pn **Pn 22 09 12.9 +3.9**
ALMR Sn **Sn 22 10 03.7 -1.0**
comp=N,12nm,0.2s
ALMR Almeirim 4.87 62 *e*Pn **Pn 22 09 12.9 +3.9**
ALMR Sn **Sn 22 10 03.7 -1.0**
comp=N,12nm,0.2s
PCVE Castro Verde 4.87 80 *e*Pn **Pn 22 09 12.5 +3.4**
PCVE *e*Sn **Sn 22 10 02.2 -2.7**
PCVE A A 22 10 08.7
comp=N,5.0nm,0.5s
PCVE Castro Verde 4.87 80 Pn **Pn 22 09 12.5 +3.4**
PCVE Castro Verde 4.87 80 *e*Pn **Pn 22 09 12.5 +3.4**
PCVE *e*Sn **Sn 22 10 02.2 -2.7**
comp=N,5.0nm,0.5s
PBDV Barranco-do-Ve 4.94 85 *e*Pn **Pn 22 09 12.9 +2.9**
PBDV *e*Sn **Sn 22 10 02.4 -4.0**
PBDV A A 22 10 10.3
comp=N,5.2nm,0.3s
PBDV Barranco-do-Ve 4.94 85 Pn **Pn 22 09 12.9 +2.9**
PBDV Sn **Sn 22 10 02.4 -4.0**
comp=N,5.2nm,0.3s
PBDV Barranco-do-Ve 4.94 85 *e*Pn **Pn 22 09 12.9 +2.9**
PBDV Sn **Sn 22 10 02.4 -4.0**
comp=N,5.2nm,0.3s
PBEJ Beja 5.06 76 *e*Pn **Pn 22 09 15.6 +3.9**
PBEJ *e*Sn **Sn 22 10 06.6 -2.9**
PBEJ A A 22 10 17.0
comp=N,5.0nm,0.4s
PBEJ Beja 5.06 76 Pn **Pn 22 09 15.6 +3.9**
PBEJ Beja 5.06 76 *e*Pn **Pn 22 09 15.6 +3.9**
PBEJ *e*Sn **Sn 22 10 06.6 -2.9**
comp=N,5.0nm,0.4s
EVO Evora 5.06 70 *e*Pn **Pn 22 09 15.3 +3.6**
EVO *e*Sn **Sn 22 10 07.8 -1.8**
EVO A A 22 10 12.1
comp=N,14nm,0.2s
EVO Evora 5.06 70 Pn **Pn 22 09 15.3 +3.6**
EVO Sn **Sn 22 10 07.8 -1.8**
comp=N,14nm,0.2s
EVO Evora 5.06 70 *e*Pn **Pn 22 09 15.3 +3.6**
EVO Sn **Sn 22 10 07.8 -1.8**
comp=N,14nm,0.2s
PMTG Montargil 5.08 64 *e*Pn **Pn 22 09 15.5 +3.5**
PMTG *e*Sn **Sn 22 10 08.4 -1.6**
PMTG A A 22 10 14.7
comp=N,6.6nm,0.1s
PMTG Montargil 5.08 64 *e*Pn **Pn 22 09 15.5 +3.5**
PMTG *e*Sn **Sn 22 10 08.4 -1.6**
comp=N,6.6nm,0.1s
PVAQ Vaqueiros 5.11 83 *e*Pn **Pn 22 09 15.9 +3.5**
PVAQ *e*Sn **Sn 22 10 08.4 -2.3**
PVAQ A A 22 10 14.7
comp=N,6.4nm,0.2s
PVAQ Vaqueiros 5.11 83 Pn **Pn 22 09 15.9 +3.5**
PVAQ Vaqueiros 5.11 83 *e*Pn **Pn 22 09 15.9 +3.5**
PVAQ *e*Sn **Sn 22 10 08.4 -2.3**
comp=N,6.4nm,0.2s
PTOM Tomar 5.19 58 *e*Pn **Pn 22 09 17.6 +4.1**
PTOM *e*Sn **Sn 22 10 11.8 -0.9**
PTOM A A 22 10 17.5
comp=N,25nm,0.3s
PTOM Tomar 5.19 58 Pn **Pn 22 09 17.6 +4.1**
PTOM Sn **Sn 22 10 11.8 -0.9**
comp=N,13nm,0.3s
PTOM Tomar 5.19 58 *e*Pn **Pn 22 09 17.6 +4.1**
PTOM Sn **Sn 22 10 11.8 -0.9**
comp=N,13nm,0.3s
EGRO El Granado 5.30 82 Pn **Pn 22 09 19.0 +3.9**
comp=N,1.2nm,0.1s
EGRO Sn **Sn 22 10 14.1 -1.4**
comp=N,5.1nm,0.3s,SNR=6.9
EGRO El Granado 5.30 82 Pn **Pn 22 09 19.0 +3.9**
comp=N,1.2nm,0.1s
EGRO Sn **Sn 22 10 14.1 -1.4**
comp=N,5.1nm,0.3s,SNR=6.9
PCAS Casmilo, Conde 5.36 53 *e*Pn **Pn 22 09 19.4 +3.6**
PCAS *e*Sn **Sn 22 10 15.1 -1.7**
PCAS A A 22 10 21.1
comp=N,7.8nm,0.4s
PCAS Casmilo, Conde 5.36 53 *e*Pn **Pn 22 09 19.4 +3.6**
PCAS *e*Sn **Sn 22 10 15.1 -1.7**
comp=N,7.8nm,0.4s
PESTR Estremoz 5.48 68 *e*Pn **Pn 22 09 21.6 +4.1**
PESTR *e*Sn **Sn 22 10 17.9 -1.9**
PESTR A A 22 10 23.3
comp=N,5.9nm,0.2s
PESTR Estremoz 5.48 68 *e*Pn **Pn 22 09 21.6 +4.1**
PESTR *e*Sn **Sn 22 10 17.9 -1.9**
comp=N,5.9nm,0.2s
PBAR Barrancos 5.73 76 *e*Pn **Pn 22 09 24.4 +3.5**
PBAR *e*Sn **Sn 22 10 24.1 -1.9**
PBAR A A 22 10 40.4
comp=N,9.2nm,0.6s
PBAR Barrancos 5.73 76 Pn **Pn 22 09 24.4 +3.5**
PBAR Sn **Sn 22 10 24.1 -1.9**
comp=N,9.2nm,0.6s
PBAR Barrancos 5.73 76 *e*Pn **Pn 22 09 24.4 +3.5**
PBAR Sn **Sn 22 10 24.1 -1.9**
comp=N,9.2nm,0.6s
PMRV Marv??o 5.82 63 *e*Pn **Pn 22 09 25.8 +3.7**
PMRV *e*Sn **Sn 22 10 26.1 -2.1**
PMRV A A 22 10 29.4
comp=N,10nm,0.3s
PMRV Marv??o 5.82 63 Pn **Pn 22 09 25.8 +3.7**
PMRV Sn **Sn 22 10 26.1 -2.1**
comp=N,10nm,0.3s
EBAD Badajoz 5.88 70 Pn **Pn 22 09 26.9 +4.0**
comp=N,1.7nm,0.1s,SNR=18
EBAD Sn **Sn 22 10 28.2 -1.4**
comp=N,2.8nm,0.3s,SNR=8.5
EBAD Badajoz 5.88 70 Pn **Pn 22 09 26.9 +4.0**
comp=N,1.7nm,0.1s,SNR=18
EBAD Sn **Sn 22 10 28.2 -1.4**
comp=N,2.8nm,0.3s,SNR=8.5
PCBR Castelo Branco 5.93 59 *e*Pn **Pn 22 09 27.4 +3.8**
PCBR *e*Sn **Sn 22 10 28.9 -2.0**
PCBR A A 22 10 31.1
comp=N,6.2nm,0.3s
PCBR Castelo Branco 5.93 59 Pn **Pn 22 09 27.4 +3.8**
PCBR Sn **Sn 22 10 28.9 -2.0**
comp=N,3.1nm,0.3s
PCBR Castelo Branco 5.93 59 *e*Pn **Pn 22 09 27.4 +3.8**
PCBR Sn **Sn 22 10 28.9 -2.0**
comp=N,3.1nm,0.3s
PTO Porto 5.96 44 *e*Sn **Sn 22 10 30.1 -1.5**
PTO A A 22 10 32.9
comp=N,19nm,0.1s
PTO Porto 5.96 44 Sn **Sn 22 10 30.1 -1.5**
comp=N,9.5nm,0.1s
PTO Porto 5.96 44 Sn **Sn 22 10 30.1 -1.5**
comp=N,9.5nm,0.1s
EMIN Mina Concepcio 5.96 80 Pn **Pn 22 09 28.1 +4.0**
comp=N,1.1nm,0.1s,SNR=13
EMIN Sn **Sn 22 10 29.8 -1.9**
comp=N,3.6nm,0.3s,SNR=9.5
EMIN Mina Concepcio 5.96 80 Pn **Pn 22 09 28.1 +4.0**
comp=N,1.1nm,0.1s,SNR=13
EMIN Sn **Sn 22 10 29.8 -1.9**
comp=N,3.6nm,0.3s,SNR=9.5
PVIS Viseu 6.11 50 *e*Pn **Pn 22 09 29.8 +3.6**
PVIS *e*Sn **Sn 22 10 32.4 -3.0**
PVIS A A 22 10 37.7
comp=N,7.8nm,0.1s
PVIS Viseu 6.11 50 Pn **Pn 22 09 29.8 +3.6**
PVIS Sn **Sn 22 10 32.4 -3.0**
comp=N,3.9nm,0.1s
PVIS Viseu 6.11 50 *e*Pn **Pn 22 09 29.8 +3.6**
PVIS Sn **Sn 22 10 32.4 -3.0**
comp=N,3.9nm,0.1s
MTE Manteigas 6.16 54 *e*Pn **Pn 22 09 30.9 +4.1**
MTE *e*Sn **Sn 22 10 35.2 -1.4**
MTE A A 22 10 39.0
comp=N,9.7nm,0.4s
MTE Manteigas 6.16 54 Pn **Pn 22 09 30.9 +4.1**
MTE Sn **Sn 22 10 35.2 -1.4**
comp=N,4.8nm,0.4s
MTE Manteigas 6.16 54 *e*Pn **Pn 22 09 30.9 +4.1**
MTE Sn **Sn 22 10 35.2 -1.4**
comp=N,4.8nm,0.4s
PVRL Vila Real 6.56 47 *e*Pn **Pn 22 09 35.6 +3.3**
PVRL *e*Sn **Sn 22 10 44.4 -2.0**
PVRL A A 22 10 47.2
comp=N,7.8nm,0.2s
PVRL Vila Real 6.56 47 Pn **Pn 22 09 35.6 +3.3**
PVRL Sn **Sn 22 10 44.4 -2.0**
comp=N,3.9nm,0.2s
PVRL Vila Real 6.56 47 *e*Pn **Pn 22 09 35.6 +3.3**
PVRL Sn **Sn 22 10 44.4 -2.0**
comp=N,3.9nm,0.2s
POLO Lamas de Olo 6.57 46 *e*Pn **Pn 22 09 36.2 +3.6**
POLO *e*Sn **Sn 22 10 43.7 -3.2**
POLO A A 22 10 50.2
comp=N,1.7nm,0.4s
POLO Lamas de Olo 6.57 46 *e*Pn **Pn 22 09 36.2 +3.6**
POLO *e*Sn **Sn 22 10 43.7 -3.2**
comp=N,1.7nm,0.4s
ESPR Espera 6.60 88 Pn **Pn 22 09 36.5 +3.6**
comp=N,3.5nm,0.2s,SNR=16
ESPR Sn **Sn 22 10 46.0 -1.5**
comp=N,6.2nm,0.9s
ESPR Espera 6.60 88 Pn **Pn 22 09 36.5 +3.6**
comp=N,3.5nm,0.2s,SNR=16
ESPR Sn **Sn 22 10 46.0 -1.5**
comp=N,6.2nm,0.9s
PCAB Cabril 6.67 43 *e*Pn **Pn 22 09 36.8 +3.0**
PCAB *e*Sn **Sn 22 10 46.3 -2.7**
PCAB A A 22 10 49.5
comp=N,7.8nm,0.3s
PCAB Cabril 6.67 43 Pn **Pn 22 09 36.8 +3.0**
PCAB Sn **Sn 22 10 46.3 -2.7**
comp=N,3.9nm,0.3s
PCAB Cabril 6.67 43 *e*Pn **Pn 22 09 36.8 +3.0**
PCAB Sn **Sn 22 10 46.3 -2.7**
comp=N,3.9nm,0.3s
PGAV Gavieira, Arco 6.71 40 *e*Pn **Pn 22 09 38.6 +4.1**
PGAV *e*Sn **Sn 22 10 47.5 -2.9**
PGAV A A 22 10 50.1
comp=N,7.6nm,0.5s
PGAV Gavieira, Arco 6.71 40 *e*Pn **Pn 22 09 38.6 +4.1**
PGAV *e*Sn **Sn 22 10 47.5 -2.9**
comp=N,7.6nm,0.5s
ELOB Lobios 6.75 42 Pn **Pn 22 09 38.2 +3.1**
comp=N,1.3nm,0.2s,SNR=7.1
ELOB Sn **Sn 22 10 48.5 -2.8**
comp=N,8.3nm,0.6s,SNR=6.1
ELOB Lobios 6.75 42 Pn **Pn 22 09 38.2 +3.1**
comp=N,1.3nm,0.2s,SNR=7.1
ELOB Sn **Sn 22 10 48.5 -2.8**
comp=N,8.3nm,0.6s,SNR=6.1
MVO Moncorvo 6.91 51 *e*Pn **Pn 22 09 40.5 +3.4**
MVO *e*Sn **Sn 22 10 52.4 -2.6**
MVO A A 22 10 55.6
comp=N,4.8nm,0.3s
MVO Moncorvo 6.91 51 Pn **Pn 22 09 40.2 +3.1**
comp=N,1.3nm,0.1s,SNR=7.9
MVO Sn **Sn 22 10 52.2 -2.8**
comp=N,4.0nm,0.3s,SNR=7.1
MVO Moncorvo 6.91 51 *e*Pn **Pn 22 09 40.5 +3.4**
MVO *e*Sn **Sn 22 10 52.4 -2.6**
comp=N,4.8nm,0.3s
ECAB El Cabril 6.98 78 Pn **Pn 22 09 41.5 +3.4**
comp=N,1.0nm,0.2s,SNR=16
ECAB Sn **Sn 22 10 54.3 -2.6**
comp=N,6.3nm,0.9s
ECAB El Cabril 6.98 78 Pn **Pn 22 09 41.5 +3.4**
comp=N,1.0nm,0.2s,SNR=16
ECAB Sn **Sn 22 10 54.3 -2.6**
comp=N,6.3nm,0.9s
EPLA Plasencia 7.00 61 Pn **Pn 22 09 42.0 +3.6**
comp=N,1.0nm,0.2s,SNR=10
EPLA Sn **Sn 22 10 54.7 -2.6**
comp=N,2.3nm,0.3s,SNR=6.4
EPLA Plasencia 7.00 61 Pn **Pn 22 09 42.0 +3.6**
comp=N,1.0nm,0.2s,SNR=10
EPLA Sn **Sn 22 10 54.7 -2.6**
comp=N,2.3nm,0.3s,SNR=6.4
EMAZ Mazaricos 7.14 32 Pn **Pn 22 09 43.5 +3.3**
comp=N,1.3nm,0.1s,SNR=7.9
EMAZ Sn **Sn 22 10 57.7 -3.0**
comp=N,6.9nm,0.1s,SNR=7.9
EMAZ Mazaricos 7.14 32 Pn **Pn 22 09 43.5 +3.3**
comp=N,1.3nm,0.1s,SNR=7.9
EAGO Agolada(Pontev 7.42 37 Pn **Pn 22 09 47.7 +3.5**
comp=N,1.1nm,0.1s,SNR=7.9
EAGO Sn **Sn 22 11 03.8 -4.0**
comp=N,0.1nm,0.2s,SNR=7.9
EAGO Agolada(Pontev 7.42 37 Pn **Pn 22 09 47.7 +3.5**
comp=N,1.1nm,0.1s,SNR=7.9
PBRG Braganca 7.46 48 *e*Pn **Pn 22 09 48.2 +3.5**
PBRG *e*Sn **Sn 22 11 06.3 -2.3**
PBRG A A 22 11 10.4
comp=N,3.0nm,0.1s
PBRG Braganca 7.46 48 Pn **Pn 22 09 48.2 +3.5**
PBRG Sn **Sn 22 11 06.3 -2.3**
comp=N,1.5nm,0.1s
PBRG Braganca 7.46 48 *e*Pn **Pn 22 09 48.2 +3.5**
PBRG Sn **Sn 22 11 06.3 -2.3**
comp=N,1.5nm,0.1s
EMIJ Mijas 7.50 90 Pn **Pn 22 09 49.1 +3.9**
comp=N,3.0nm,1.1s,SNR=7.9
EMIJ Sn **Sn 22 11 06.7 -2.8**
comp=N,6.2nm,4.5s,SNR=7.9
EMIJ Mijas 7.50 90 Pn **Pn 22 09 49.1 +3.9**
comp=N,3.0nm,1.1s,SNR=7.9
EMIJ Sn **Sn 22 11 06.7 -2.8**
comp=N,6.2nm,4.5s,SNR=7.9
ECAL Calabor 7.55 47 Pn **Pn 22 09 49.4 +3.5**
comp=N,1.8nm,0.3s,SNR=7.9
ECAL Sn **Sn 22 11 07.8 -3.0**
comp=N,6.6nm,0.3s,SNR=9.0
ECAL Calabor 7.55 47 Pn **Pn 22 09 49.4 +3.5**
comp=N,1.8nm,0.3s,SNR=7.9
ECAL Sn **Sn 22 11 07.8 -3.0**
comp=N,6.6nm,0.3s,SNR=9.0
EADA Adamuz 7.65 78 Pn **Pn 22 09 51.0 +3.7**
comp=N,0.6nm,0.1s,SNR=7.9
EADA Sn **Sn 22 11 10.3 -3.0**
comp=N,0.7nm,0.1s,SNR=7.9
EADA Adamuz 7.65 78 Pn **Pn 22 09 51.0 +3.7**
comp=N,0.6nm,0.1s,SNR=7.9
EADA Sn **Sn 22 11 10.3 -3.0**
comp=N,0.7nm,0.1s,SNR=7.9
PAB San Pablo 8.09 69 Pn **Pn 22 09 56.7 +3.4**
comp=N,0.6nm,0.2s,SNR=7.9
PAB Sn **Sn 22 11 20.7 -3.3**
comp=N,1.0nm,0.2s,SNR=7.9
PAB San Pablo 8.09 69 Pn **Pn 22 09 56.7 +3.4**
comp=N,0.6nm,0.2s,SNR=7.9
PAB Sn **Sn 22 11 20.7 -3.3**
comp=N,1.0nm,0.2s,SNR=7.9
EPON Pontenova 8.27 38 Pn **Pn 22 09 59.2 +3.4**
comp=N,0.8nm,0.2s,SNR=7.0
EPON Sn **Sn 22 11 24.8 -3.8**
comp=N,2.2nm,0.2s,SNR=7.9
EPON Pontenova 8.27 38 Pn **Pn 22 09 59.2 +3.4**
comp=N,0.8nm,0.2s,SNR=7.0
EPON Sn **Sn 22 11 24.8 -3.8**
comp=N,2.2nm,0.2s,SNR=7.9
ESDC Sonseca Array 8.41 68 Pn **Pn 22 10 01.1 +3.4**
comp=N,0.7nm,0.1s,baz=256,slow=13,SNR=17
ESDC Sn **Sn 22 11 28.2 -3.7**
comp=N,0.8nm,0.3s,baz=255,slow=23,SNR=9.1
ESDC Sonseca Array 8.41 68 Pn **Pn 22 10 01.1 +3.4**
comp=N,0.7nm,0.1s,SNR=17
ESDC Sn **Sn 22 11 28.2 -3.7**
comp=N,0.8nm,0.3s,SNR=9.1
EQUE Quentar 8.52 85 Pn **Pn 22 10 02.9 +3.6**
comp=N,0.5nm,0.3s,SNR=7.9
EQUE Sn **Sn 22 11 30.9 -3.9**
comp=N,1.1nm,0.4s,SNR=7.9
EQUE Quentar 8.52 85 Pn **Pn 22 10 02.9 +3.6**
comp=N,0.5nm,0.3s,SNR=7.9
EQUE Sn **Sn 22 11 30.9 -3.9**
comp=N,1.1nm,0.4s,SNR=7.9
GUD Guadarrama 8.58 62 Pn **Pn 22 10 03.5 +3.3**
comp=N,0.6nm,0.2s,SNR=7.9
GUD Sn **Sn 22 11 32.5 -3.8**
comp=N,0.5nm,0.2s,SNR=7.9
GUD Guadarrama 8.58 62 Pn **Pn 22 10 03.5 +3.3**
comp=N,0.6nm,0.2s,SNR=7.9
GUD Sn **Sn 22 11 32.5 -3.8**
comp=N,0.5nm,0.2s,SNR=7.9
EQES Quesada 8.81 81 Pn **Pn 22 10 06.5 +3.2**
comp=N,0.4nm,0.2s,SNR=7.9
EQES Sn **Sn 22 11 38.2 -3.8**
comp=N,0.0nm,0.2s,SNR=7.9
EQES Quesada 8.81 81 Pn **Pn 22 10 06.5 +3.2**
comp=N,0.4nm,0.2s,SNR=7.9
EQES Sn **Sn 22 11 38.2 -3.8**
SNR=7.9
EARI Arriondas 9.28 44 Pn **Pn 22 10 13.0 +3.4**
comp=N,0.4nm,0.2s,SNR=7.9
EARI Sn **Sn 22 11 49.4 -3.9**
comp=N,1.2nm,0.5s,SNR=7.9
EARI Arriondas 9.28 44 Pn **Pn 22 10 13.0 +3.4**
comp=N,0.4nm,0.2s,SNR=7.9
EARI Sn **Sn 22 11 49.4 -3.9**
comp=N,1.2nm,0.5s,SNR=7.9
ETOB Tobarra 10.07 77 Pn **Pn 22 10 23.6 +3.1**
comp=N,1.4nm,2.9s,SNR=7.9
ETOB Sn **Sn 22 12 08.3 -4.5**
comp=N,7.1nm,9.9s,SNR=7.9
ETOB Tobarra 10.07 77 Pn **Pn 22 10 23.6 +3.1**
comp=N,1.4nm,2.9s,SNR=7.9
ETOB Sn **Sn 22 12 08.3 -4.5**
comp=N,7.1nm,9.9s,SNR=7.9
ETOR Torete 10.14 64 Pn **Pn 22 10 25.2 +3.8**
comp=N,2.0nm,0.4s,SNR=7.9
ETOR Sn **Sn 22 12 09.6 -4.9**
comp=N,2.1nm,0.4s,SNR=7.9
ETOR Torete 10.14 64 Pn **Pn 22 10 25.2 +3.8**
comp=N,2.0nm,0.4s,SNR=7.9
ETOR Sn **Sn 22 12 09.6 -4.9**
comp=N,2.1nm,0.4s,SNR=7.9
ELAN Lanestosa 10.28 49 Pn **Pn 22 10 26.8 +3.5**
comp=N,0.1nm,1.1s,SNR=7.9
ELAN Sn **Sn 22 12 12.4 -5.4**
comp=N,2.2nm,5.8s,SNR=7.9
ELAN Lanestosa 10.28 49 Pn **Pn 22 10 26.8 +3.5**
comp=N,0.1nm,1.1s,SNR=7.9
ELAN Sn **Sn 22 12 12.4 -5.4**
comp=N,2.2nm,5.8s,SNR=7.9
IELO Elcoad 11.48 55 Pn **Pn 22 10 43.1 +3.4**
comp=N,4.0nm,3.4s,SNR=7.9
IELO Sn **Sn 22 12 41.5 -5.8**
comp=N,2.0nm,5.6s,SNR=7.9
IELO Elcoad 11.48 55 Pn **Pn 22 10 43.1 +3.4**
comp=N,4.0nm,3.4s,SNR=7.9
IELO Sn **Sn 22 12 41.5 -5.8**
comp=N,2.0nm,5.6s,SNR=7.9
ATE Arette 11.94 55 Pn **Pn 22 10 49.6 +3.6**
comp=N,0.4nm,2.2s,SNR=7.9
ATE Sn **Sn 22 12 52.2 -6.2**
comp=N,4.9nm,6.8s,SNR=7.9
ATE Arette 11.94 55 Pn **Pn 22 10 49.6 +3.6**
comp=N,0.4nm,2.2s,SNR=7.9

DJA ***11*** *22:10:55.5±13.0,2°N±19°×9°1E±11°,1,h10km,M5.2/5, mb5.3/5,mB5.6/5,Mw(mB)5.1/5*
ISCJB ***11*** *22:11:14.5±1.4, 1°.8N±0°.2×92°.4E±0°.1,h10km,mb3.8/6, Error ellipse: s-maj=26.6km s-min=10.6km az=34.7*
IDC ***11*** *22:11:14.9±2.3,1°.80N×92°.35E,h0km,mb3.7/6,mb1 3.9/7, mb1mx3.5/75,mbtmp3.7/7,ML4.2/1, Error ellipse: s-maj=80.6km s-min=26.4km az=57.0*
ISC 11 22:11:16.8±1.5,1°.9N±0°.2×92°.5E±0°.2,h10km,n14, σ0s82/13,mb3.8/6,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
TPTI		**4.92**	**74**	P	**Pn**		**22 12 29.4**	**-1.5**
GSI	**Gunungsitoli**	**5.16**	**96**	P	**Pn**		**22 12 34.3**	**+0.2**
KCSI	**Kotacane, Aceh**	**5.56**	**73**	P	Pb		22 12 47.8	-6.3
PBSI	**Pulau Batu**	**6.14**	**108**	P	**Pn**		**22 12 47.5**	**-0.1**
TSI	**Tuntungan**	**6.32**	**75**	P	**Pn**		**22 12 51.1**	**+1.0**
MNSI	**Mandailing Nat**	**7.21**	**98**	P	**Pn**		**22 13 02.8**	**+0.4**
CMAR	**Chiang Mai Arr**	**17.66**	**21**	P	**Pn**		**22 15 23.1**	**-0.1**
	0.3nm,0.3s,baz=215,slow=14,SNR=6.3							
MKAR	**Makanchi Array**	**45.60**	**350**	P	**P**		**22 19 37.5**	**+0.2**
	0.7nm,0.6s,baz=170,slow=8.6,SNR=4.8							
WRA	**Warramunga Arr**	**46.45**	**120**	P	**P**		**22 19 43.8**	**-0.6**
	0.6nm,0.6s,baz=299,slow=8.7,SNR=4.1							
SONM	**Songino Array**	**47.34**	**13**	P	**P**		**22 19 52.1**	**+1.1**
	0.6nm,0.6s,baz=196,slow=9.0,SNR=3.7							
KURBB	**Kurchatov Arra**	**49.98**	**348**	P	**P**		**22 20 11.1**	**0.0**
	0.4nm,0.6s,baz=172,slow=7.3,SNR=4.8							
ZALV	**Zalesovo Beam**	**52.28**	**354**	P	**P**		**22 20 28.2**	**-0.1**
	1.4nm,0.6s,baz=182,slow=8.2,SNR=7.1							
BVAR	**Borovoye Array**	**54.16**	**344**	P	**P**		**22 20 41.2**	**-1.1**
	0.6nm,0.6s,baz=148,slow=11,SNR=5.2							
TXAR	**Lajitas Array**	**145.34**	**25**	PKPbc	**PKPdf**		**22 30 56.7**	**+0.7**
	0.3nm,0.7s,baz=300,slow=2.7,SNR=4.1							

IDC ***11*** *22:14:11.5±1.0,0°.13N×92°.09E,h0km,mb4.1/13, mb1 4.3/14,mb1mx3.9/74,mbtmp4.1/14,Error ellipse: s-maj=33.1km s-min=18.1km az=45.0*
NEIC ***11*** *22:14:13.3±0.6,0°.15N×92°.18E,h10km,mb4.4/10,Error ellipse: s-maj=12.8km s-min=7.2km az=16.0*
ISCJB ***11*** *22:14:15.2±0.5,0°.26N±0°.08×92°.32E±0°.05,h33km, mb4.2/17,Error ellipse: s-maj=11.8km s-min=6.8km az=15.3*
ISC 11 22:14:16.6±0.9,0°.2N±0°.1×92°.19E±0°.09,h35km,n52, σ1s20/52,mb4.3/17,2C-4D,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
GSI	**Gunungsitoli**	**5.50**	**78**	*e*Pn	**Pn**		**22 15 34.6**	**-1.6**
LHMI	**Lhok Sumawe**	**6.91**	**43**	*e*Pn	**Pn**		**22 15 54.8**	**-0.8**
PSI	**Prapat**	**7.22**	**69**	*e*Pn	**Pn**		**22 15 57.9**	**-2.0**

IPM	Ipoh	9.81	64	*e*Pn		Pn		22 16 33.4	-1.9
KULM	Kulim	9.86	59	*e*Pn		Pn		22 16 33.2	-2.8
MYKOM	Kota Tinggi	11.77	82	*e*Pn		Pn		22 17 00.8	-1.4
PALK	Pallekele	13.45	302	*e*Pn		Pn		22 17 22.7	-2.4
CISI	Cisompet, Garu	17.38	117	*e*Pn		Pn		22 18 16.5	-0.1
	27nm,0.8s								
KSM	Kuching	18.17	86	*e*Pn		P		22 18 28.3	+1.9
	19nm,1.0s								
CM01	Chiang Mai Arr	19.31	20	*e*P		Pn		22 18 41.6	+1.5
CM31	Chiang Mai Arr	19.34	20	*e*P		Pn		22 18 41.2	+0.7
CMAR	Chiang Mai Arr	19.34	20	P		Pn		22 18 41.4	+0.9
	baz=211,slow=11,SNR=18								
CHTO	Chiang Mai	19.68	19	*e*P		Pn		22 18 43.9	-0.5
	13nm,1.0s								
SBUM	Sibu	20.16	83	*e*P		Pn		22 18 49.3	-0.9
	14nm,0.9s								
HYB	Hyderabad	21.76	323	*i* P		P		22 19 06.0	+0.6
WRA	Warramunga Arr	45.86	118	P		P		22 22 36.1	+0.2
	2.9nm,0.7s,baz=296,slow=8.6,SNR=15								
WRAB	Tennant Creek	45.87	118	*e*P		P		22 22 36.1	+0.1
	3.5nm,0.8s								
ASAR	Alice Springs	46.91	123	P		P		22 22 44.2	+0.1
	1.0nm,0.8s,baz=303,slow=7.9,SNR=6.9								
MK01	Makanchi Array	47.20	351	*e*P		P		22 22 45.7	-0.3
MK31	Makanchi Array	47.23	351	*e*P		P		22 22 46.2	0.0
MKAR	Makanchi Array	47.23	351	P		P		22 22 46.2	0.0
	2.7nm,0.7s,baz=167,slow=9.0,SNR=17								
MKAR	Makanchi Array	47.23	351	*e*P		P		22 22 46.2	0.0
	16nm,0.8s								
SONM	Songino Array	49.05	13	P		P		22 23 01.6	+1.2
	2.3nm,0.7s,baz=191,slow=9.0,SNR=10								
SONA1	Songino Array	49.06	13	*e*P		P		22 23 01.6	+1.1
KURBB	Kurchatov Arra	51.59	349	P		P		22 23 19.0	-0.3
	3.0nm,0.8s,baz=170,slow=7.3,SNR=21								
KURK	Kurchatov	51.66	349	*e*P		P		22 23 19.4	-0.5
	4.4nm,0.8s								
ZAA0	Zalesovo Array	53.94	355	*e*P		P		22 23 36.5	-0.1
	3.6nm,0.8s								
ZALV	Zalesovo Beam	53.94	355	P		P		22 23 36.3	-0.3
	4.5nm,0.7s,baz=188,slow=6.1,SNR=18								
ZALV	Zalesovo Beam	53.94	355	*e*P		P		22 23 36.1	-0.5
BVAR	Borovoye Array	55.72	344	P		P		22 23 48.2	-1.4
	1.6nm,0.7s,baz=147,slow=8.2,SNR=13								
KLR	Kul'dur	59.49	29	P		P		22 24 17.1	+0.9
	0.1nm,0.7s,baz=237,slow=8.4,SNR=4.9								
KBZ	Khabaz	61.64	321	P		P		22 24 31.1	+0.2
	1.5nm,0.7s,baz=132,slow=8.3,SNR=4.8								
BRTR	Keskin Array B	66.15	314	P		P		22 25 00.8	-0.1
	1.0nm,0.6s,baz=132,slow=6.6,SNR=8.7								
SORM	Soroca	72.68	321	*i*P		P		22 25 40.8	-0.1
VRI	Vrincioaia	73.00	318	*i*P		P		22 25 43.3	+0.4
AKASG	Malin Array Be	73.06	324	P		P		22 25 42.8	-0.3
	1.5nm,0.7s,baz=91,slow=5.0,SNR=4.8								
TESR	Tescani	73.25	319	*i*P		P		22 25 44.9	+0.5
MLR	Muntele Rosu	73.41	318	P		P		22 25 47.0	+1.5
	1.5nm,1.0s,baz=169,slow=3.1,SNR=10								
MLR	Muntele Rosu	73.41	318	*i*P		P		22 25 46.7	+1.2
MLR	Muntele Rosu	73.41	318	*e*P		P		22 25 46.8	+1.4
	5.6nm,0.9s								
DOPR	Dopca	73.92	318	*i*P		P		22 25 47.9	-0.4
BURAR	Bucovina Array	74.52	320	*i*P		P		22 25 53.8	+1.9
BUR04	Bucovina Ar. S	74.52	320	*e*P		P		22 25 53.3	+1.4
BUR08	Bucovina Ar. S	74.54	320	*e*P		P		22 25 53.8	+1.7
FINES	FINESS Array B	78.62	333	P		P		22 26 14.1	-0.5
	1.6nm,0.8s,baz=139,slow=6.3,SNR=3.4								
KRLC	Kraliky	80.52	321	*e*P		P		22 26 26.9	+1.6
DPC	Dobruska-Polom	80.86	321	*e*P		P		22 26 29.2	+2.1
DPC				*ex*		x		22 26 43.7	
DPC				*ex*		x		22 26 53.5	
GEA0	GERESS Array S	82.29	319	*e*P		P		22 26 35.9	+1.1
GEC2	GERESS Array S	82.29	319	*e*P		P		22 26 36.7	+1.9
	6.2nm,0.9s								
GERES	GERESS Array B	82.29	319	P		P		22 26 36.2	+1.4
	2.8nm,0.8s,baz=105,slow=4.7,SNR=16								
CLL	Collm	83.10	322	*e*P				22 26 39.0	+0.2
TXAR	Lajitas Array	146.98	26	PKPbc		PKPab		22 33 57.4	-0.5
	0.6nm,0.7s,baz=234,slow=0.9,SNR=6.5								

BJI **11** *22:15:19.4,0.08S×92.34E,h14km,mb5.0/58,mB5.0/33, Ms4.6/40,Ms7 4.4/30*
ISCJB **11** *22:15:24.6±0.2,0.67N±0.03×92.52E±0.02,h10km, mb4.9/129,MS4.7/16,Error ellipse: s-maj=5.0km s-min=2.6km az=29.5*
IDC **11** *22:15:24.6±0.4,0.65N×92.51E,h0km,mb4.7/37, mb1 4.8/39,mb1mx4.6/74,mbtmp4.7/39,ML4.6/2,MS4.1/4, Ms1 4.2/4,ms1mx3.6/57,Error ellipse: s-maj=13.9km s-min=9.9km az=37.0*
NEIC **11** *22:15:25.9±2.1,0.62N×92.50E,h9km±13km,mb5.1/42, Error ellipse: s-maj=6.0km s-min=3.7km az=222.0*
MOS **11** *22:15:27.4±1.0,0.74N×92.58E,h29km,mb5.1/30,Error ellipse: s-maj=7.6km s-min=5.0km az=112.6*
DJA **11** *22:15:36.8±0.5,1°N±3°×9°3E±°,h43km±4km,M5.4/48, mb5.4/48,mB5.8/33,MLv5.7/12,Mw(mB)5.3/33,Mwp6.4/1*
ISC 11 22:15:26.8±0.9,0.63N±0.05×92.50E±0.04,h14km±5km, n372,σ1s53/379,mb5.0/137,MS4.4/16,29C-15D,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
GSI	Gunungsitoli	5.12	83	P		Pn	22 16 40.4	-2.8
GSI	Gunungsitoli	5.12	83	*e*Pn		Pn	22 16 42.7	-0.4
GSI				*e*S		Sn	22 17 34.5	-7.6
MLSI	Meulaboh, Aceh	5.32	47	P		Pn	22 16 46.1	+0.3
TPTI		5.36	61	P		Pn	22 16 45.6	-0.8
PBSI	Pulau Batu	5.82	97	P		Pn	22 16 52.7	-0.1
	3μm,0.9s,23μm9.7nm							
KCSI	Kotacane, Aceh	6.00	61	P		Pn	22 16 57.2	+1.9
	1μm,0.8s,4.8nm							
LHMI	Lhok Sumawe	6.37	44	P		Pn	22 17 02.4	+2.1
	1μm,1.1s,12μm3.6nm							
LHMI	Lhok Sumawe	6.37	44	*e*Pn		Pn	22 17 00.7	+0.4
LHMI				*e*S		Sn	22 18 07.0	-5.9
PSI	Prapat	6.78	71	*e*Pn		Pn	22 17 05.3	-0.7
PSI	Prapat	6.78	71	*e*P		Pn	22 17 05.3	-0.7
SISI	Saibi	6.87	106	P		Pn	22 17 06.6	-0.7
	1μm,0.7s,11μm4.1nm							
MNSI	Mandailing Nat	7.08	89	P		Pn	22 17 10.2	+0.1
	3μm,0.7s,29μm11nm							
PDSI	Padang	8.11	101	P		Pn	22 17 23.5	-0.8
	1μm,0.8s,3.3nm							
PPSI	Pulau Pagai	8.23	114	P		Pn	22 17 25.8	-0.1
	1μm,0.8s,9μm3.3nm							
BKNI	Bangkinang	8.55	92	P		Pn	22 17 33.9	+3.6
BKNI	Bangkinang	8.55	92	*e*Pn		Pn	22 17 29.9	-0.4
BKNI				*e*S		Sn	22 19 04.5	-2.1
SDSI	Sungai Dareh	9.07	100	P		Pn	22 17 38.8	+1.4
	0.7nm,0.7s,11nm0.0nm							
IPM	Ipoh	9.34	66	*e*Pn		Pn	22 17 40.4	-0.7
IPM				*e*S		Sn	22 19 16.8	-9.2
KULM	Kulim	9.36	60	*e*Pn		Pn	22 17 40.6	-0.8
KULM				*e*S		Sn	22 19 18.3	-8.3
RGRI	Rengat	9.89	96	P		Pn	22 17 53.5	+4.9
MASI	Maura Aman, Be	10.44	111	P		Pn	22 17 57.6	+1.4
	1μm,1.0s,9μm							
PBA	Port Blair	10.95	1	*e*P		Pn	22 18 02.2	-1.0
MYKOM	Kota Tinggi	11.41	84	*e*Pn		Pn	22 18 08.9	-0.6
MNAI	Manna	11.57	115	P		Pn	22 18 19.0	+7.3
MNAI	Manna	11.57	115	*e*Pn		Pn	22 18 10.0	-1.7
MNAI				*e*S		Sn	22 20 10.6	-10
TPRI	Tanjung Pinang	12.03	89	P		Pn	22 18 18.1	+0.1
	159nm,0.7s,10μm							
DGPR	DIGLIPUR	12.47	2	*e*P		Pn	22 18 23.8	-0.2
MDSI	Maura Dua	12.73	114	P		Pn	22 18 27.2	-0.4
	98nm,0.8s,1μm							
LWLI	Liwa	12.84	116	P		Pn	22 18 30.1	+0.9
	455nm,0.7s,10μm							
KASI	Kota Agung	13.46	117	P		Pn	22 18 39.7	+2.2
	176nm,1.1s,2μm							
PALK	Pallekele	13.48	300	LR		LR	22 23 05.8	
	comp=Z,932nm,18.4s,baz=115,slow=34							
PALK	Pallekele	13.48	300	*e*Pn		Pn	22 18 36.0	-1.9
PALK				*e*S		Sn	22 20 50.1	-18
PALK	Pallekele	13.48	300	*e*P		Pn	22 18 36.0	-1.9
KLI	Kotabumi	13.50	114	P		P	22 18 54.6	+7.3
PPBI	Pangkal Pinang	13.92	102	P		Pn	22 18 44.6	+0.8
	0.5nm,0.8s							
CGJI	Cibinong	15.01	119	P		Pn	22 18 57.4	-1.3
	188nm,0.8s,2μm							
SKJI	Sukabumi	15.95	119	P		P	22 19 16.4	+1.9
LEM	Lembang	16.81	116	Pn		Pn	22 19 22.7	+0.5
	3.2nm,0.3s,baz=17,slow=3.7,SNR=6.6							
LEM				LR		LR	22 24 21.7	
	comp=Z,335nm,21.5s,baz=306,slow=32							
JCJI	Jatiwangi	17.26	114	P		P	22 19 32.8	+3.7
CISI	Cisompet, Garu	17.31	118	P		P	22 19 30.7	+1.0
	507nm,1.2s,4μm							
CISI	Cisompet, Garu	17.31	118	*e*Pn		Pn	22 19 28.1	-0.2
	334nm,0.9s							
MDRS	Chennai	17.32	316	*e*P		Pn	22 19 27.3	-1.0
TRD	Trivandrum	17.34	297	*e*P		Pn	22 19 28.5	-0.1
TRD				IAmb		IAmb	22 19 32.4	
	comp=Z,32nm,0.3s							
KSM	Kuching	17.83	87	*e*Pn		Pn	22 19 34.6	-0.1
	comp=Z,210nm,1.0s							
CMJI	Cimerak	17.97	118	P		P	22 19 39.4	+2.5
	comp=Z,276nm,1.1s,comp=Z,2μm							
KPJI	Karang Pucung	18.20	116	P		P	22 19 41.5	+2.0
	comp=Z,109nm,0.9s,comp=Z,2μm							
CM01	Chiang Mai Arr	18.78	19	*e*P		Pn	22 19 46.8	+0.5
CM31	Chiang Mai Arr	18.81	19	*e*P		P	22 19 46.2	0.0
CMAR	Chiang Mai Arr	18.81	19	P		Pn	22 19 46.3	-0.4
	comp=Z,0.6nm,0.3s,baz=209,slow=11,SNR=6.8							
CMAR				LR		LR	22 27 41.1	
	comp=Z,702nm,18.6s,baz=230,slow=39							
STKI	Sintang	18.99	92	P		Pn	22 19 50.2	+1.3
	comp=Z,326nm,1.1s,comp=Z,10μmcomp=Z,121μm							
CHTO	Chiang Mai	19.14	19	*e*P		Pn	22 19 50.7	0.0
	comp=Z,24nm,1.0s							
CHTO	Chiang Mai	19.14	19	*e*P		Pn	22 19 50.7	0.0
CHTO				pmax		pmax		
	comp=Z,24nm,1.0s							
VIS	Vishakhapatnam	19.23	333	*e*P		Pn	22 19 51.1	-0.6
VIS				IAmb		IAmb	22 19 54.7	
	comp=Z,236nm,1.7s							
PBKI	Pangkalan Bun	19.45	100	P		Pn	22 19 55.4	+0.9
	comp=Z,260nm,0.9s,comp=Z,3μm							
SMRI	Semarang	19.46	113	P		Pn	22 19 56.1	+1.5
	comp=Z,184nm,0.9s							
SMRI	Semarang	19.46	113	*e*P		P	22 19 52.8	-0.5
	comp=Z,145nm,0.9s							
SBUM	Sibu	19.80	85	*e*P		Pn	22 19 58.7	+0.1
	comp=Z,188nm,0.9s							
UGM	Wanagama	19.88	116	P		Pn	22 20 02.2	+2.6
	comp=Z,172nm,1.2s							
UGM	Wanagama	19.88	116	*e*P		P	22 19 57.8	-0.1
	comp=Z,142nm,1.0s							
WOJI	Wonogiri, Jawa	20.21	115	P		Pn	22 20 03.6	+0.2
	comp=Z,56nm,1.0s							
PCJI	Pacitan	20.58	116	P		Pn	22 20 07.1	-0.7
	comp=Z,122nm,1.0s							
PWJI	Pagerwojo	21.08	114	P		P	22 20 14.4	+3.4
	comp=Z,47nm,0.9s							
HYB	Hyderabad	21.59	321	*i* P		P	22 20 19.0	+2.5
HYB	Hyderabad	21.59	321	*e*P		P	22 20 15.4	-1.1
HYB				IAmb		IAmb	22 20 25.8	
	comp=Z,302nm,2.1s							
MTKI	Muara Teweh, K	22.45	94	P		P	22 20 26.4	+0.6
	comp=Z,201nm,0.8s,comp=Z,3μm							
JAGI	Jajag, Banyuwa	23.40	113	P		P	22 20 34.8	-0.8
	comp=Z,23nm,0.8s							
GOA	Goa	23.62	310	*e*P		P	22 20 36.2	-1.4
GOA				IAmb		IAmb	22 20 42.4	
	comp=Z,53nm,1.4s							
BOK	Bokaro	23.90	345	*e*P		P	22 20 39.6	-0.7
BOK				IAmb		IAmb	22 20 43.3	
	comp=Z,43nm,0.3s							
KBKI	Kotaburu	23.98	100	P		P	22 20 44.3	+3.1
SRBI	Singaraja	24.25	111	P		P	22 20 47.7	+4.1
NGP	Nagpur	24.25	328	*e*P		P	22 20 42.6	-1.0
NGP				IAmb		IAmb	22 20 44.2	
	comp=Z,68nm,2.4s							
KKM	Kota Kinabalu	24.27	77	*e*P		P	22 20 44.6	+0.6
	comp=Z,100nm,0.7s							
BKB	Balikpapan	24.47	94	P		P	22 20 48.2	+2.5
	comp=Z,668nm,0.9s,comp=Z,5μm							
SHL	Shillong	24.79	359	*e*P		P	22 20 48.6	-0.1
SGKI	Sangatta, Kali	25.13	93	P		P	22 20 55.4	+3.7
POO	Poona	25.52	315	*e*P		P	22 20 54.4	-0.8
POO				IAmb		IAmb	22 20 59.5	
	comp=Z,19nm,1.0s							
KMI	Kunming	26.28	21	P		P	22 21 05.3	+3.0
KMI				pmax		pmax		
	comp=Z,22nm,0.9s							
KMI				pmax		pmax		
	comp=Z,92nm,4.4s							
KMI				LR		LR		
	comp=Z,490nm,15.2s							
KMI				LR		LR		
	comp=Z,700nm,16.5s							
KMI				LR		LR		
	comp=Z,530nm,19.4s							
MYLDM	Lahad Datu	26.35	80	*e*P		P	22 21 04.5	+1.7
	comp=Z,95nm,0.8s							
BHPL	Bhopal	26.82	328	*e*P		P	22 21 08.1	+1.1
BHPL				IAmb		IAmb	22 21 08.3	
	comp=Z,26nm,1.6s							
PCI	Palu	27.38	93	P		P	22 21 14.8	+2.7
	comp=Z,39nm,0.8s,comp=Z,6μm							
MPSI	Mapaga	27.40	90	P		P	22 21 12.8	+0.6
	comp=Z,33nm,0.8s,comp=Z,866nm							
KAPI	Kappang	27.80	102	*e*P		P	22 21 15.7	-0.1
	comp=Z,30nm,1.1s							
BNSI	Bone	28.04	101	P		P	22 21 21.7	+3.8
	comp=Z,46nm,1.2s							
GYA	Guiyang	29.07	27	*i*P		P	22 21 30.0	+2.9
GYA				PP		PnPn	22 22 25.3	+5.8
GYA				S		S	22 26 22.6	+4.0
GYA				SS		SnSn	22 27 52.1	+9.4
GYA				ScP		ScP	22 28 17.0	+0.3
GYA				pmax		pmax		
	comp=Z,20nm,0.8s							
GYA				pmax		pmax		
	comp=Z,120nm,5.6s							
GYA				LR		LR		
	comp=Z,520nm,18.0s							
GYA				LR		LR		
	comp=Z,460nm,18.4s							
GYA				LR		LR		
	comp=Z,490nm,18.2s							
MRSI	Marisa	29.44	90	P		P	22 21 30.6	+0.1
	comp=Z,29nm,1.0s,comp=Z,424nm							
TGY	Tagaytay City	31.16	63	P		P	22 21 46.9	+1.2
	comp=Z,128nm,0.4s,baz=212,slow=4.4,SNR=5.7							
CD2	Chengdu	31.95	18	P		P	22 21 53.0	+0.6
CD2				S		S	22 27 06.7	+3.2
CD2				pmax		pmax		
	comp=Z,50nm,0.6s							
CD2				LR		LR		
	comp=Z,900nm,15.4s							
CD2				LR		LR		
	comp=Z,2μm,13.9s							
CD2				LR		LR		
	comp=Z,2μm,13.9s							
DDI	Dehra Dun	32.56	336	*e*P		P	22 21 56.0	-1.8
BATI	Baumata	32.83	110	LR		LR	22 36 17.9	
	comp=Z,409nm,20.4s,baz=321,slow=38							
SANI	Sanana	33.59	95	P		P	22 22 06.2	-0.8
	comp=Z,40nm,0.9s,comp=Z,574nm							
SMLA	Simla	33.63	336	*e*P		P	22 22 07.4	+0.3
SMLA				IAmb		IAmb	22 22 08.7	
	comp=Z,33nm,1.1s							
NLAI	Namlea	34.80	97	P		P	22 22 19.3	+1.8
	comp=Z,80nm,1.1s,comp=Z,2μm							
TNTI	Ternate	34.87	90	*e*P		P	22 22 15.9	-2.1
	comp=Z,115nm,1.6s							
DHRM	DHARAMSHALA	34.97	336	*e*P		P	22 22 18.2	-0.7
DHRM				IAmb		IAmb	22 22 20.0	
	comp=Z,28nm,0.3s							
LBMI	Labuha	35.03	92	P		P	22 22 21.0	+1.5
	comp=Z,72nm,1.0s,comp=Z,1μm							
TWG	Pinlang	35.47	50	*e*P		P	22 22 24.0	+0.9
	comp=Z,59nm,0.7s							
SSLB	Suanglung	35.93	48	*e*P		P	22 22 28.4	+1.3
	comp=Z,28nm,1.2s							
WHN	Wuhan	36.27	33	P		P	22 22 31.2	+1.4
WHN				pmax		pmax		
	comp=Z,74nm,0.9s							
XAN	Xi'an	36.62	23	P		P	22 22 32.7	-0.2
XAN				pP		sP	22 22 37.4	-1.5
XAN				sP		pP	22 22 39.8	+2.6
XAN				pmax		pmax		
	comp=Z,57nm,1.3s							
XAN				LR		LR		
	comp=Z,470nm,15.7s							
XAN				LR		LR		
	comp=Z,550nm,16.8s							
XAN				LR		LR		
	comp=Z,480nm,20.6s							
LZH	Lanzhou	36.81	15	*e*P		P	22 22 34.8	+0.1
LZH				pP		sP	22 22 39.3	-1.4
LZH				sP		pP	22 22 41.9	+2.9
LZH				PP		PP	22 24 01.7	+3.1
LZH				pmax		pmax		
	comp=Z,57nm,1.1s							
LZH				pmax		pmax		
	comp=Z,280nm,5.2s							
LZH				LR		LR		
	comp=Z,920nm,15.0s							
LZH				LR		LR		
	comp=Z,1μm,15.0s							
LZH				LR		LR		
	comp=Z,2μm,16.5s							
MEEK	Meekatharra	36.99	139	P		P	22 22 36.1	-0.1
	baz=37,SNR=6.9							
NIL	Nilore	37.48	333	*e*P		P	22 22 39.8	-0.4
	comp=Z,60nm,0.8s							
NIL	Nilore	37.48	333	*e*P		P	22 22 39.8	-0.4
NIL				pmax		pmax		
	comp=Z,59nm,0.8s							
FITZ	Fitzroy Crossi	37.54	121	P		P	22 22 40.6	-0.2
	comp=Z,32nm,0.8s,baz=300,slow=5.4,SNR=34							
FITZ	Fitzroy Crossi	37.54	121	P		P	22 22 40.6	-0.2
	baz=38,SNR=19							
FITZ	Fitzroy Crossi	37.54	121	*e*P		P	22 22 40.6	-0.2
	comp=Z,37nm,0.8s							
SWI	Sorong	38.79	92	P		P	22 22 50.4	-1.1
	comp=Z,56nm,0.8s							
SIJI	Sorong	38.80	92	P		P	22 22 49.8	-1.8
	comp=Z,19nm,0.7s,baz=306,slow=9.1,SNR=11							
GTA	Gaotai	39.17	9	P		P	22 22 54.6	+0.2
GTA				pP		sP	22 22 59.7	-0.8
GTA				sP		pP	22 23 02.6	+3.8
GTA				S		S	22 28 55.9	+1.7
GTA				sS		sS	22 29 05.4	+4.1
GTA				SS		SnSn	22 31 44.4	-2.9
GTA				pmax		pmax		
	comp=Z,13nm,1.0s							
GTA				pmax		pmax		
	comp=Z,89nm,5.8s							
GTA				LR		LR		
	comp=Z,230nm,18.1s							
GTA				LR		LR		
	comp=Z,170nm,16.9s							
GTA				LR		LR		
	comp=Z,300nm,18.1s							
FAKI	Fak Fak	39.90	95	P		P	22 23 06.6	+5.9
FAKI	Fak Fak	39.90	95	*e*P		P	22 22 59.3	-1.4
	comp=Z,30nm,0.8s							
NJ2	Nanjing	39.95	36	*e*P		P	22 23 01.6	+0.7
NJ2				pmax		pmax		
	comp=Z,30nm,0.9s							
MTN	Manton Dam	40.59	111	P		P	22 23 06.5	+0.1
	baz=41,SNR=3.2							
KSH	Kashi	41.54	341	P		P	22 23 12.2	-1.9
KSH				pmax		pmax		
	comp=Z,17nm,0.8s							
TIA	Tai'an	42.13	30	P		P	22 23 19.4	+0.6
TIA				pmax		pmax		
	comp=Z,12nm,0.9s							
WRKA	Warakurna	43.02	129	P		P	22 23 26.5	+0.2
	baz=43,SNR=5.5							
WMQ	Urumqi	43.21	355	P		P	22 23 28.7	+1.1
WMQ				sP		sP	22 23 35.6	+2.0
WMQ				pmax		pmax		
	comp=Z,32nm,0.9s							
WMQ				pmax		pmax		
	comp=Z,240nm,3.9s							
WMQ				LR		LR		
	comp=Z,1μm,26.3s							
WMQ				LR		LR		
	comp=Z,970nm,27.1s							
WMQ				LR		LR		
	comp=Z,1μm,28.1s							
HHC	Hu-ho-hao-te	43.61	21	*e*P		P	22 23 31.7	+0.9
HHC				sP		sP	22 23 40.8	+3.9
HHC				S		S	22 30 00.4	+0.4
HHC				ScS		ScS	22 33 30.0	-0.5
HHC				pmax		pmax		
	comp=Z,31nm,1.2s							
HHC				pmax		pmax		
	comp=Z,78nm,5.9s							
HHC				LR		LR		
	comp=Z,380nm,13.2s							
HHC				LR		LR		
	comp=Z,500nm,13.4s							
HHC				LR		LR		
	comp=Z,540nm,15.0s							
ULHL	Ulahol	43.93	343	P		P	22 23 33.9	+0.3
	SNR=8.8							
UCH	Uchtor	44.46	341	P		P	22 23 37.6	-0.5
	SNR=6.9							
AML	Almayashu	44.65	340	P		P	22 23 40.0	+0.5
	SNR=8.1							
KBK	Karagaybulak	44.70	342	P		P	22 23 40.5	+0.8
	SNR=5.3							
TKM2	Tokmak 2	44.74	342	P		P	22 23 40.5	+0.4
	SNR=9.0							
BJI	Beijing	44.76	26	P		P	22 23 36.2	-3.7
BJI				pmax		pmax		
	comp=Z,14nm,0.4s							
BJI	Beijing	44.76	26	*i*P		P	22 23 41.7	+1.8
BJI				pmax		pmax		
	comp=Z,88nm,0.8s							
BJI				LR		LR		
	comp=Z,400nm,14.9s							
BJI				LR		LR		
	comp=Z,420nm,15.1s							
AAK	Ala-Archa	44.83	341	P		P	22 23 41.3	+0.6
	comp=Z,2.5nm,0.7s,baz=133,slow=7.1,SNR=5.7							
AAK	Ala-Archa	44.83	341	*e*P		P	22 23 41.0	+0.3
	comp=Z,6.2nm,1.1s							
AAK	Ala-Archa	44.83	341	*i* P		P	22 23 40.8	+0.1
AAK				pmax		pmax		
	comp=Z,4.0nm,1.1s							
FRU	Bishkek	44.97	341	*e*P		P	22 23 52.0	+10
EKS2	Erkin-Say	45.09	340	P		P	22 23 43.1	+0.3
	SNR=8.3							
USP	Ospenovka	45.40	342	P		P	22 23 45.4	+0.3
	SNR=10							

GYA0B **ALIBECK ARRAY** 48.75 324 *e*P P 22 24 12.3 +1.0
comp=Z,21nm,0.9s
KS15 **Wonju Array Si** 49.04 38 *e*P P 22 24 13.1 -0.5
KSAR **Wonju Array Be** 49.04 38 P P 22 24 13.9 +0.4
KSAR **Wonju Array Be** 49.04 38 P P 22 24 13.9 +0.4
KS01 **Wonju Array Si** 49.07 38 *e*P P 22 24 13.6 -0.1
DGZ **Jazzator, Alta** 49.07 356 *i* P P 22 24 13.0 -0.7
DGZ pmax pmax
comp=Z,3.0nm,0.7s
KSRS **Korea Array** 49.07 38 P P 22 24 13.9 +0.1
comp=Z,14nm,0.8s,baz=229,slow=8.2,SNR=37
HVS **Khovu-Aksy** 50.33 1 *i* P P 22 24 21.4 -1.8
HVS pmax pmax
comp=Z,47nm,0.9s
ZAK **Zakamensk** 50.41 9 *e*P P 22 24 21.3 -2.5
ZAK pmax pmax
comp=Z,4.0nm,1.1s
ZAK pmax pmax
comp=Z,4.0nm,1.2s
QIS **Mount Isa** 50.66 117 P P 22 24 26.1 0.0
baz=51,SNR=5.0
RAYN **Ar Rayn** 50.92 300 *e*P P 22 24 27.1 -1.0
comp=Z,8.7nm,1.0s
KURBB **Kurchatov Arra** 51.20 349 P P 22 24 29.3 -0.4
comp=Z,10.0nm,0.8s,baz=171,slow=7.2,SNR=18
KURK **Kurchatov** 51.27 349 *e*P P 22 24 29.5 -0.7
comp=Z,14nm,0.9s
KURK **Kurchatov** 51.27 349 *ce*P P 22 24 29.2 -1.0
KURK pmax pmax
comp=Z,46nm,0.8s
TLY **Talaya** 51.73 9 *e*P P 22 24 34.8 +1.2
TLY pmax pmax
comp=Z,8.0nm,0.8s
TLY MLR MLR
comp=Z,229nm,19.0s
CN2 **Changchun** 52.04 30 *e*P P 22 24 36.4 +0.3
CN2 *e*S S 22 32 03.3 +3.9
CN2 pmax pmax
comp=Z,20nm,0.8s
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=Z,200nm,18.0s
CN2 LR LR
comp=Z,300nm,18.0s
CN2 LR LR
comp=Z,200nm,21.0s
ZALV **Zalesovo Beam** 53.51 354 P P 22 24 46.3 -0.5
comp=Z,15nm,0.7s,baz=184,slow=7.1,SNR=20
MTSU **Mount Surprise** 54.24 113 P P 22 24 53.0 +0.2
baz=54,SNR=8.6
NVS **Novosibirsk** 54.56 353 *e*P P 22 24 53.5 -0.9
NVS pmax pmax
comp=Z,18nm,1.0s
NVS pmax pmax
comp=N,12nm,0.9s
NVS pmax pmax
comp=E,5.0nm,0.9s
KRAR **Krasnoyarsk** 55.20 0 *i* P P 22 24 58.9 -0.1
HTT **Hallett** 55.23 132 P P 22 24 59.5 -0.2
baz=55,SNR=3.9
PMG **Port Moresby** 55.33 102 P P 22 25 00.8 +0.1
comp=E,18nm,0.7s,baz=349,slow=19,SNR=4.2
PMG **Port Moresby** 55.33 102 *ce*P P 22 25 00.3 -0.4
PMG pmax pmax
comp=Z,111nm,1.7s
MJAR **Matsushiro Arr** 55.33 45 P P 22 25 00.2 -0.2
comp=Z,4.2nm,0.9s,baz=234,slow=8.9,SNR=8.0
BVAR **Borovoye Array** 55.36 344 P P 22 24 58.9 -1.3
comp=Z,4.6nm,0.8s,baz=146,slow=8.0,SNR=12
BRVK **Borovoye** 55.42 344 *e*P P 22 24 58.8 -1.8
comp=Z,5.5nm,0.8s
BRVK **Borovoye** 55.42 344 *ce*P P 22 24 59.4 -1.3
BRVK pmax pmax
comp=Z,22nm,1.7s
USRK **Ussuriysk Ar.** 55.76 34 P P 22 25 03.2 0.0
comp=Z,10nm,0.9s,baz=236,slow=4.6,SNR=13
ABKAR **Akbulak array** 55.91 335 *e*P P 22 25 03.6 -0.7
comp=Z,7.5nm,0.8s
CTA **Charters Tower** 56.50 115 P P 22 25 09.4 +0.4
comp=Z,21nm,0.8s,baz=283,slow=10,SNR=9.5
CTAO **Charters Tower** 56.50 115 *e*P P 22 25 08.9 -0.2
comp=Z,113nm,0.8s
CTAO **Charters Tower** 56.50 115 *e*P P 22 25 08.9 -0.2
CTAO pmax pmax
comp=Z,113nm,0.8s
STKA **Stephens Creek** 56.55 130 P P 22 25 09.2 +0.1
comp=Z,4.6nm,0.7s,baz=291,slow=4.8,SNR=9.3
STKA **Stephens Creek** 56.55 130 P P 22 25 09.2 +0.1
baz=57,SNR=4.4
STKA **Stephens Creek** 56.55 130 *e*P P 22 25 09.3 +0.1
comp=Z,1.4nm,0.8s
STKA **Stephens Creek** 56.55 130 *e*P P 22 25 09.3 +0.1
STKA pmax pmax
comp=Z,1.0nm,0.8s
AKTO **Aktyubinsk** 57.62 335 P P 22 25 15.9 -0.4
comp=Z,1.4nm,0.6s,baz=76,slow=5.2,SNR=4.1
GNI **Garni** 58.51 318 *e*P P 22 25 23.6 +0.6
comp=Z,42nm,1.0s
GNI **Garni** 58.51 318 *i* P P 22 25 23.9 +0.9
GNI pmax pmax
comp=Z,21nm,1.0s
KLR **Kul'dur** 58.94 29 P P 22 25 26.1 +0.5
comp=Z,1.3nm,0.9s,baz=255,slow=6.8,SNR=20
TBLG **Delisi** 59.31 320 *e*P P 22 25 29.7 +1.3
TBLG **Delisi** 59.31 320 *e*P P 22 25 29.7 +1.3
GROC **Groznyy** 59.41 322 *e*P P 22 25 28.4 -0.6
GROC *e* 22 26 13.7
GROC pmax pmax
comp=Z,34nm,1.0s
BOD **Bodaibo** 59.52 13 *e*P P 22 25 28.5 -1.0
BOD pmax pmax
comp=Z,19nm,1.1s
CMSA **Cobar Meteorol** 59.62 128 P P 22 25 30.9 +0.3
baz=60,SNR=13
ZEI **Tsey** 60.38 321 *e*P P 22 25 36.4 +0.4
ZEI pmax pmax
comp=Z,9.0nm,0.9s
RMQ **Roma** 60.47 121 P P 22 25 35.2 -1.4
baz=61,SNR=4.2
NCK **Nalchik** 60.93 321 *i* P P 22 25 40.0 +0.5
NCK pmax pmax
comp=Z,8.0nm,0.9s
NEY **Neytrino** 61.36 321 *i* P P 22 25 42.4 -0.2
NEY pmax pmax
comp=Z,1.0nm,0.8s
KBZ **Khabaz** 61.48 321 P P 22 25 44.1 +1.0
comp=Z,6.2nm,1.0s,baz=188,slow=5.1,SNR=6.1
SVE **Sverdlovsk** 61.57 341 ⇑ *i* P P 22 25 42.8 -0.7
SVE pmax pmax
comp=Z,25nm,1.2s
KIV **Kislovodsk** 61.73 321 *e*P P 22 25 45.1 +0.1
comp=Z,13nm,1.1s
KIV **Kislovodsk** 61.73 321 *e*P P 22 25 45.8 +0.8
KIV pmax pmax
comp=Z,13nm,1.0s
CLNS **Chul'man** 61.76 20 *e*P P 22 25 45.6 +0.8
CLNS pmax pmax
comp=Z,18nm,1.2s
CLNS pmax pmax
comp=N,8.0nm,1.3s
CLNS pmax pmax
comp=E,6.0nm,1.2s
MBAR **Mbarara** 61.77 269 P P 22 25 47.3 +1.4
comp=E,2.9nm,0.2s,baz=6.9,slow=7.2,SNR=4.4
ARU **Arti** 61.96 339 P P 22 25 45.3 -0.8
comp=E,2.2nm,0.6s,baz=145,slow=4.5,SNR=5.0
ARU **Arti** 61.96 339 *e*P P 22 25 45.0 -1.2
comp=E,9.1nm,1.0s
ARU **Arti** 61.96 339 P P 22 25 44.3 -1.9
ASAJ **Asahikawa** 61.99 39 P P 22 25 47.0 +0.5
comp=E,8.5nm,0.8s,baz=268,slow=11,SNR=8.3
GOF **Gofitskoye** 62.06 322 ⇑ *e*P P 22 25 48.0 +0.9
YSS **Yuzh-Sakhalins** 63.52 36 *e*P P 22 25 57.9 +1.2
YSS pmax pmax
comp=Z,20nm,0.8s
LSZ **Lusaka** 65.45 253 P P 22 26 10.0 -0.1
comp=Z,2.2nm,0.7s,baz=86,slow=4.4,SNR=5.5
LSZ **Lusaka** 65.45 253 P P 22 26 10.0 -0.1
NKL **Nikolayevsk** 65.77 29 *e*P P 22 26 10.8 -0.5
NKL pmax pmax
comp=N,6.0nm,1.0s
NKL pmax pmax
comp=Z,23nm,1.0s
BR131 **Keskin Array S** 66.06 314 *e*P P 22 26 13.5 -0.2
BRTR **Keskin Array B** 66.06 314 P P 22 26 13.3 -0.3
comp=Z,4.3nm,0.7s,baz=131,slow=7.2,SNR=15
ILGA **Ilgaz** 66.47 315 *e*P P 22 26 16.9 +0.5
comp=Z,10nm,1.0s
ANTO **Ankara** 66.72 314 *e*P P 22 26 17.9 +0.1
comp=Z,10nm,0.7s
ANTO **Ankara** 66.72 314 *e*P P 22 26 17.9 +0.1
ANTO pmax pmax
comp=Z,10.0nm,0.7s
BR231 **Keskin MP Arra** 66.72 314 *e*P P 22 26 18.3 +0.5
YAK **Yakutsk** 67.34 18 *e*P P 22 26 20.9 -0.3
comp=Z,69nm,0.9s
YAK **Yakutsk** 67.34 18 *e*P P 22 26 19.3 -1.8
YAK *e**PP sP 22 26 28.2 +0.9
YAK *e* 22 26 41.8
YAK *e* 22 28 44.7
YAK *e*S S 22 35 09.8 -6.2
YAK *e* 22 36 16.7
YAK *e*SSS SSS 22 42 37.8
YAK pmax pmax
comp=Z,61nm,1.0s
YAK pmax pmax
comp=N,11nm,0.9s
YAK pmax pmax
comp=E,15nm,1.3s
YAK pmax pmax
comp=Z,116nm,3.8s
YAK pmax pmax
comp=N,101nm,4.3s
YAK pmax pmax
comp=E,48nm,4.0s
YAK smax smax
comp=E,213nm,5.2s
YAK smax smax
comp=N,76nm,3.3s
YAK MLR MLR
comp=Z,250nm,18.0s
YAK MLR MLR
comp=N,187nm,15.0s
YAK MLR MLR
comp=E,78nm,15.0s
SIM **Simferopol'** 67.67 319 *e*P P 22 26 24.2 +0.6
SIM pmax pmax
comp=Z,7.0nm,0.8s
LBTB **Lobatse** 69.43 243 *e*P P 22 26 35.7 +0.5
comp=Z,22nm,1.0s
LBTB **Lobatse** 69.43 243 *e*P P 22 26 35.7 +0.5
LBTB pmax pmax
comp=Z,22nm,1.0s
BOSA **Boshof** 70.44 239 P P 22 26 41.0 -0.3
comp=Z,4.5nm,0.9s,baz=34,slow=8.2,SNR=3.6
OBN **Obninsk** 70.68 330 *e*P P 22 26 40.3 -1.7
OBN *e* 22 26 46.9
OBN *e* 22 27 00.6
OBN *e* 22 29 17.8
OBN *e*PPP PPP 22 31 01.9
OBN pmax pmax
comp=Z,7.0nm,0.9s
OBN MLR MLR
comp=Z,196nm,18.0s
MAW **Mawson** 71.16 192 P P 22 26 45.5 +0.8
comp=Z,5.6nm,0.8s,baz=74,slow=11,SNR=4.5
IDI **Anoyia** 71.46 307 P P 22 26 47.5 +0.2
comp=Z,7.3nm,0.5s,baz=81,slow=8.5,SNR=9.8
IDI **Anoyia** 71.46 307 ⇑ *i*P P 22 26 48.2 +0.9
TLB **Topalu** 71.59 317 ⇓ *i*P P 22 26 56.1 +8.3
TLB **Topalu** 71.59 317 ⇓ P P 22 26 56.1 +8.3
CFR **Carcaliu** 71.71 318 ⇑ *i*P P 22 26 49.0 +0.5
CFR **Carcaliu** 71.71 318 ⇑ P P 22 26 49.0 +0.5
LEOM **Leova** 72.05 319 ⇑ *i*P P 22 26 50.9 +0.4
LEOM **Leova** 72.05 319 ⇑ P P 22 26 50.9 +0.4
KLMR **Klimovskoe** 72.28 336 *e*P P 22 26 49.4 -2.2
KLMR AMP 22 26 59.9
comp=Z,13nm,0.9s
KLMR *e*PP PP 22 29 28.0 -4.3
KLMR **Klimovskoe** 72.28 336 *e*P P 22 26 49.4 -2.2
KLMR *e* 22 29 28.0
KLMR pmax pmax
comp=Z,13nm,0.9s
SORM **Soroca** 72.53 321 ⇑ *i*P P 22 26 52.3 -1.0
SORM **Soroca** 72.53 321 ⇑ P P 22 26 52.3 -1.0
ISR **Istrita** 72.77 317 ⇑ *i*P P 22 26 56.5 +1.6
ISR **Istrita** 72.77 317 ⇑ P P 22 26 56.5 +1.6
VRI **Vrincioaia** 72.86 318 ⇓ *i*P P 22 26 56.6 +1.1
VRI **Vrincioaia** 72.86 318 ⇓ P P 22 26 56.6 +1.1
AKASG **Malin Array Be** 72.87 324 P P 22 26 54.6 -0.8
comp=Z,0.4nm,0.4s,baz=88,slow=4.7,SNR=6.1
KIEV **Kiev** 72.88 324 *i* P P 22 26 53.3 -2.1
KIEV pmax pmax
comp=Z,2.0nm,0.9s
PLOR **Plostina** 72.91 318 ⇓ *i*P P 22 26 56.9 +1.1
PLOR **Plostina** 72.91 318 ⇓ P P 22 26 56.9 +1.1
TESR **Tescani** 73.11 319 ⇑ *i*P P 22 26 56.2 -0.7
MLR **Muntele Rosu** 73.28 318 P P 22 26 58.6 +0.6
comp=Z,3.4nm,0.9s,baz=180,slow=4.3,SNR=8.2
MLR **Muntele Rosu** 73.28 318 ⇑ *i*P P 22 26 57.5 -0.5
MLR **Muntele Rosu** 73.28 318 ⇑ P P 22 26 57.6 -0.5
PRAR **RASCA** 73.64 320 ⇓ *i*P P 22 27 00.3 +0.3
HUMR **Humele** 73.67 316 ⇑ *i*P P 22 27 00.6 +0.4
ARR **Arges** 74.13 317 ⇓ *i*P P 22 27 02.9 -0.1
BURAR **Bucovina Array** 74.37 320 ⇑ *i*P P 22 27 05.2 +0.8
BURAR **Bucovina Array** 74.37 320 ⇑ P P 22 27 05.2 +0.8
VTS **Vitosha** 74.42 314 ⇓ *i*P P 22 27 04.3 -0.5
VTS **Vitosha** 74.42 314 ⇓ P P 22 27 04.3 -0.5
TIXI **Tiksi** 74.61 11 *e*P P 22 27 03.9 -1.2
comp=Z,28nm,0.7s
TIXI **Tiksi** 74.61 11 *e*P P 22 27 03.9 -1.2
TIXI pmax pmax
comp=Z,28nm,0.7s
TMCR **Tamitsa** 74.66 338 *e*P P 22 27 03.8 -1.7
TMCR pmax pmax
comp=Z,28nm,1.3s
CJR **Cluj-Napoca** 75.19 318 ⇑ *i*P P 22 27 11.1 +2.0
CJR **Cluj-Napoca** 75.19 318 ⇑ P P 22 27 11.1 +2.0
HERR **Herculane** 75.53 316 ⇓ *i*P P 22 27 11.2 +0.2
DRGR 75.80 318 ⇑ *i*P P 22 27 13.2 +0.6
DRGR 75.80 318 ⇑ P P 22 27 13.2 +0.6
SEY **Seymchan** 76.16 24 P P 22 27 13.7 -0.5
comp=Z,3.9nm,0.8s,baz=257,slow=5.7,SNR=9.3
SEY **Seymchan** 76.16 24 *ce*P P 22 27 12.7 -1.5
BZS **Buzias** 76.25 317 ⇓ *i*P P 22 27 15.4 +0.3
BZS **Buzias** 76.25 317 ⇓ P P 22 27 15.4 +0.3
CRVS **Cervenica-Dubn** 77.13 320 *e*P P 22 27 21.0 +1.0
CRVS *e*PCP PcP 22 27 29.0 -1.8
CRVS **Cervenica-Dubn** 77.13 320 *e*P P 22 27 21.0 +1.0
CRVS *e* 22 27 29.0
FINES **FINESS Array B** 78.36 333 P P 22 27 25.8 -0.7
comp=Z,6.2nm,0.7s,baz=103,slow=6.1,SNR=13
VYHS **Vyhne** 78.73 319 *e*P P 22 27 29.1 +0.1
VYHS *e*PCP PcP 22 27 37.8 0.0
VYHS **Vyhne** 78.73 319 *e*P P 22 27 29.1 +0.1
VYHS *e* 22 27 37.8
VYHS pmax pmax
comp=Z,24nm,2.0s
KLNR **Kaliningrad** 79.28 326 *i* P P 22 27 31.1 -0.7
KLNR pmax pmax
comp=Z,25nm,1.0s
MODS **Modra-Piesok** 79.73 319 *e*P P 22 27 35.1 +0.7
MODS *e*PCP PcP 22 27 43.6 +1.5
MODS **Modra-Piesok** 79.73 319 *e*P P 22 27 35.1 +0.7
MODS *e* 22 27 43.6
KRLC **Kraliky** 80.36 321 *e*P P 22 27 38.8 +1.0
KRLC *e*PCP PcP 22 27 47.1 +2.2
KRLC **Kraliky** 80.36 321 *e*P P 22 27 38.8 +1.0
KRLC *e* 22 27 47.1
KRLC MLR MLR
comp=Z,15μm,17.0s
CONA **Conrad Observa** 80.58 318 *i* P P 22 27 39.4 +0.2
comp=Z,5.9nm,1.0s
ARSA **Arzberg** 80.70 318 *i* P P 22 27 40.7 +1.0
comp=Z,12nm,0.9s,SNR=10
DPC **Dobruska-Polom** 80.70 321 *e*P P 22 27 40.6 +0.9
DPC *ex* x 22 27 49.0
DPC **Dobruska-Polom** 80.70 321 *e*P P 22 27 40.6 +0.9
DPC *e* 22 27 49.0
UPC **Upice** 80.93 321 *e*P P 22 27 41.1 +0.3
UPC *ex* x 22 27 50.2
UPC **Upice** 80.93 321 *e*P P 22 27 41.1 +0.3
UPC *e* 22 27 50.2
SOKA **Soboth** 80.94 317 *i* P P 22 27 41.7 +0.6
comp=Z,23nm,1.5s,SNR=12
ARCES **ARCESS Array B** 81.50 341 P P 22 27 43.4 -0.1
comp=Z,10nm,0.8s,baz=116,slow=5.6,SNR=13
PRU **Pruhonice** 81.77 320 *e*P P 22 27 46.4 +1.1
PRU *ex* x 22 27 54.5
PRU **Pruhonice** 81.77 320 *e*P P 22 27 46.4 +1.1
PRU *e* 22 27 54.5
MYKA **Terra Mystica** 81.88 317 *i* P P 22 27 43.8 -2.3
comp=Z,14nm,0.9s
KBA **Koelnbreinsper** 82.15 317 *i* P P 22 27 48.3 +0.8
comp=Z,21nm,1.4s
GERES **GERESS Array B** 82.15 319 P P 22 27 48.1 +0.7
comp=Z,12nm,0.7s,baz=100,slow=5.5,SNR=20
KHC **Kasperske Hory** 82.27 319 *e*P P 22 27 48.2 +0.2
KHC *ex* x 22 27 56.8
KHC **Kasperske Hory** 82.27 319 *e*P P 22 27 48.2 +0.2
comp=Z,3.6nm,1.0s
KHC **Kasperske Hory** 82.27 319 *e*P P 22 27 48.2 +0.2
KHC pmax pmax
comp=Z,4.0nm,1.0s
CLL **Collm** 82.93 322 *i* P P 22 27 51.9 +0.6
CLL *i* 22 28 59.6
comp=Z,8.0nm,1.1s
CLL **Collm** 82.93 322 *i* P P 22 27 51.9 +0.6
NKC **Novy Kostel** 83.14 320 *e*P P 22 27 53.6 +1.1
NKC *ex* x 22 28 01.5
NKC **Novy Kostel** 83.14 320 *e*P P 22 27 53.6 +1.1
NKC *e* 22 28 01.5
WTTA **Wattenberg** 83.33 317 *i* P P 22 27 53.3 -0.3
comp=Z,20nm,1.6s,SNR=4.6
WATA **Walderalm** 83.37 317 *i* P P 22 27 53.6 -0.3
comp=Z,13nm,0.9s,SNR=4.5
BILL **Bilibino** 83.38 21 ⇓ *e*P P 22 27 53.3 0.0
BILL *e* 22 31 05.4
BILL *e*S S 22 38 18.8 +5.0
BILL pmax pmax
comp=Z,4.0nm,1.4s
BILL MLR MLR
comp=Z,11μm,17.0s
MOTA **Moosalm** 83.69 317 *i* P P 22 27 55.5 -0.1
comp=Z,10nm,0.7s
FETA **Feichten** 83.92 317 *i* P P 22 27 57.2 +0.5
comp=Z,9.3nm,0.9s,SNR=6.7
RETA **Reutte** 83.94 318 *i* P P 22 27 56.9 +0.2
comp=Z,14nm,1.0s
KEST **Kesra** 84.06 306 P P 22 27 58.2 +0.6
comp=Z,12nm,0.9s,baz=335,slow=6.3,SNR=6.6
DAVA **Damuels** 84.52 317 *i* P P 22 28 00.2 +0.4
comp=Z,29nm,0.9s
TUE **Stuetta** 84.81 316 *e*P P 22 28 02.5 +1.1
comp=Z,10nm,0.9s
NOA **NORSAR Array B** 85.22 331 P P 22 28 02.0 -0.8
comp=Z,2.6nm,0.9s,baz=96,slow=5.7,SNR=3.8
NOA **NORSAR Array B** 85.22 331 P P 22 28 02.0 -0.8
TAM **Tamanrasset** 86.96 293 *e*P P 22 28 13.9 +1.5
comp=Z,4.6nm,0.9s
TAM **Tamanrasset** 86.96 293 *e*P P 22 28 13.9 +1.5
TAM pmax pmax
comp=Z,5.0nm,0.9s
QSPA **South Pole Qui** 90.59 180 *e*P P 22 28 28.4 -0.1
comp=Z,22nm,1.0s
TORD **Torodi Ar. Bea** 90.64 283 P P 22 28 30.3 +0.6
comp=Z,2.9nm,1.0s,baz=87,slow=4.1,SNR=9.2
GAMB **Gambell** 92.01 26 *e*P P 22 28 34.5 -0.5
comp=Z,1.8nm,0.9s
YKA **Yellowknife Ar** 113.80 13 PKiKP PKiKP 22 34 03.6 -1.3
comp=Z,0.0nm,0.3s,baz=313,slow=2.2,SNR=3.6
ULM **Lac du Bonnet** 128.81 7 PKP PKPdf 22 34 33.1 -1.0
comp=Z,1.6nm,0.7s,baz=307,slow=3.1,SNR=4.6
NVAR **Mina Array Bea** 131.90 33 PKP PKPdf 22 34 40.6 0.0
comp=Z,1.1nm,0.8s,baz=250,slow=1.8,SNR=3.9
PDAR **Pinedale Array** 132.46 22 PKP PKPdf 22 34 41.0 -0.5
comp=Z,0.6nm,0.8s,baz=11,slow=1.5,SNR=4.0
T42A **Van Buren** 142.38 5 P PKPpre 22 34 54.2
baz=354
WMOK **Wichita Mounta** 143.26 16 P PKPab 22 34 57.1 0.0
baz=341
WVT **Waverly** 143.42 0 P PKPab 22 34 57.9 +0.3
baz=360
MNTX **Cornudas Mount** 143.65 26 P PKPab 22 34 57.8 -0.9
baz=329
MNTX **Cornudas Mount** 143.65 26 *e*PKPdf PKPdf 22 35 01.4 -0.7
V48A **Smith Brothers** 143.81 359 P PKPab 22 34 58.4 -0.7
baz=1.1
W47A **Westpoint** 144.30 0 P PKPab 22 35 00.2 -0.8
baz=360
W46A **Michie** 144.41 1 P PKPab 22 35 00.6 -0.7
baz=358
W48A **Pulaski** 144.41 359 P PKPab 22 35 00.7 -0.7
baz=1.0
X39A **Fountain Ranch** 144.49 9 P PKPbc 22 35 01.8 -0.2
baz=349
MIAR **Mount Ida** 144.54 9 P PKPbc 22 35 01.8 -0.3
baz=350
MIAR **Mount Ida** 144.54 9 *e*PKPdf PKPab 22 35 01.4 -0.4
MIAR **Mount Ida** 144.54 9 *e*PKIKP PKPab 22 35 01.5 -0.4
X40A **Basin Creek Fa** 144.71 8 P PKPab 22 35 02.2 -0.3
baz=351
X46A **Booneville** 144.98 2 P PKPab 22 35 02.1 -1.4
baz=358
ABTX **Abilene, Hawle** 144.99 18 P PKPab 22 35 02.6 -1.1
baz=339
ABTX **Abilene, Hawle** 144.99 18 *e*PKPdf PKPab 22 35 02.3 -1.3
OXF **Oxford** 144.99 3 P PKPab 22 35 02.4 -1.1
baz=357
X49A **Woodville** 145.02 358 P PKPbc 22 35 02.8 -0.8
baz=2.0
X47A **Russelville** 145.03 1 P PKPbc 22 35 02.2 -1.5
baz=359
X45A **UM Field Stati** 145.08 3 P PKPbc 22 35 02.7 -1.1
baz=357
X48A **Hartselle** 145.09 359 P PKPbc 22 35 02.4 -1.5
baz=0.8
Y40A **Okolona** 145.11 8 P PKPbc 22 35 03.3 -0.6
baz=350
Y42A **Garnett, Star** 145.47 6 P PKPbc 22 35 04.8 -0.3
baz=352
Y43A **Makayla and Ka** 145.49 5 P PKPbc 22 35 04.9 -0.2
baz=354
Y50A **Piedmont** 145.62 357 P PKPdf 22 35 04.5 -0.9
baz=3.1
Y48A **Jasper** 145.63 360 P PKPdf 22 35 04.1 -1.3
baz=0.6
Y46A **Houston** 145.64 2 P PKPdf 22 35 04.4 -1.1
baz=358
Y47A **UCPARC, Winfie** 145.64 1 P PKPdf 22 35 04.1 -1.3
baz=359
Y49A **Blount Mountai** 145.68 358 P PKPdf 22 35 04.5 -1.1
baz=1.9
GOGA **Godfrey** 145.92 354 P PKPdf 22 35 05.7 -0.2
baz=7.2
GOGA **Godfrey** 145.92 354 *e*PKPdf PKPdf 22 35 06.0 +0.1
GOGA **Godfrey** 145.92 354 *e*PKP2 PKPdf 22 35 06.0 +0.1
Z44A **Pea Ridge, Bel** 146.16 4 P PKPbc 22 35 07.0 -0.3
baz=355
Z48A **Northport** 146.17 0 P PKPdf 22 35 05.9 -0.5
baz=360
Z50A **Ashland** 146.26 358 P PKPdf 22 35 06.5 -0.1
baz=2.8
Z49A **Columbiana** 146.34 359 P PKPdf 22 35 06.7 +0.1
baz=1.8
TXAR **Lajitas Array** 146.43 26 PKPbc PKPbc 22 35 07.9 -0.5
comp=Z,7.3nm,0.7s,baz=260,slow=0.9,SNR=24
LRAL **Lakeview Retre** 146.51 359 P PKPdf 22 35 07.4 +0.4
baz=0.9
150A **Eclectic** 146.91 358 P PKPbc 22 35 08.7 -0.8
baz=2.7
JCT **Junction City** 146.92 20 P PKPdf 22 35 08.0 +0.2
baz=337
JCT **Junction City** 146.92 20 *e*PKPdf PKPdf 22 35 07.7 -0.1
JCT *e*PKPbc PKPbc 22 35 09.0 -0.6
JCT **Junction City** 146.92 20 *e*PKP2 PKPdf 22 35 07.7 -0.1
151A **Opelika** 146.95 357 P PKPbc 22 35 08.6 -1.0
baz=4.0
NATX **Nacogdoches** 147.08 11 *e*PKPbc PKPbc 22 35 09.5 -0.5
251A **Midway** 147.39 357 P PKPdf 22 35 09.2 +0.8
baz=3.9
LPAZ **La Paz** 155.37 230 PKP PKPdf 22 35 22.6 +0.8
comp=Z,1.3nm,0.7s,baz=127,slow=2.6,SNR=3.8

IDC 11 22:22:19.7±3.6, 2.45N×90.18E, h0km, mb3.9/5, mb1 3.9/5, mb1mx3.5/68, mbtmp3.9/5, Error ellipse: s-maj=140.0km s-min=27.9km az=58.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	44.70	352	P	P	22 30 34.5	0.0
	0.6nm,0.6s,baz=173,slow=8.0,SNR=4.6						
SONM	**Songino Array**	47.33	15	P	P	22 30 55.6	+0.2
	1.5nm,0.5s,baz=193,slow=10.0,SNR=5.2						

WRA	**Warramunga Arr**	**48.71**	**119**	P	P	22 31 06.2	-0.2
	0.8nm,0.7s,baz=296,slow=8.5,SNR=3.5							
KURBB	**Kurchatov Arra**	**49.00**	**350**	P	P	22 31 08.1	0.0
	1.2nm,0.8s,baz=177,slow=8.0,SNR=5.0							
ZALV	**Zalesovo Beam**	**51.52**	**356**	P	P	22 31 26.6	-0.5
	0.8nm,0.4s,baz=180,slow=7.6,SNR=3.3							
TXAR	**Lajitas Array**	**145.72**	**22**	PKPbc	PKPdf	22 42 00.5	-0.7
	0.3nm,0.7s,baz=320,slow=2.4,SNR=3.1							

DDA ***11*** *22:24:16.4, 38˚.99N×30˚.05E, h7km, Ml2.7*
ISK ***11*** *22:24:16.1, 38˚.95N×29˚.95E, h5km, ML2.3/7*
CSEM ***11*** *22:24:17.1±0.2, 39˚.02N×30˚.05E, h2km, ML2.7, Error ellipse: s-maj=5.9km s-min=4.4km az=17.0*

ISC 11 22:24:16.4±1.1, 38˚.98N±0˚.03×30˚.03E±0˚.02, h9km±13km, n34, σ1ˢ02/48, Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GDZ	**Gediz**	**0.44**	**285**	*i* P		**Pg**		**22 24 24.8**	**-0.3**
GDZ				*i* S		**Sb**		**22 24 32.4**	**-0.9**
GDZ	**Gediz**	**0.44**	**285**	P		**Pg**		**22 24 24.8**	**-0.3**
GDZ				S		**Sb**		**22 24 32.4**	**-0.9**
SHUT	**Suhut-Afyon**	**0.59**	**136**	PG		**Pb**		**22 24 28.4**	**-0.6**
SHUT				SG		**Sb**		**22 24 37.2**	**-0.3**
SHUT	**Suhut-Afyon**	**0.59**	**136**	*e*Pg		**Pb**		**22 24 28.4**	**-0.6**
TVSB	**Tavsanli**	**0.65**	**317**	PG		**Pg**		**22 24 28.4**	**-0.5**
TVSB				SG		**Sg**		**22 24 37.9**	**+0.5**
TVSB	**Tavsanli**	**0.65**	**317**	*e*Pg		**Pg**		**22 24 28.4**	**-0.5**
TVSB				*e*Sg		**Sg**		**22 24 37.9**	**+0.5**
KZIL	**AFYON_Kizioren**	**0.72**	**173**	*i* P		**Pn**		**22 24 33.6**	**+0.6**
KZIL	**AFYON_Kizioren**	**0.72**	**173**	P		**Pn**		**22 24 33.6**	**+0.6**
BOLV	**Bolvadin**	**0.76**	**110**	*i* P		**Pb**		**22 24 31.5**	**-0.5**
BOLV				*i* S		**Sb**		**22 24 41.8**	**-0.7**
BOLV	**Bolvadin**	**0.76**	**110**	P		**Pb**		**22 24 31.5**	**-0.5**
BOLV				S		**Sb**		**22 24 41.8**	**-0.7**
SIMA	**Simav-Kutahya**	**0.82**	**278**	PG		**Pg**		**22 24 31.6**	**-0.7**
SIMA	**Simav-Kutahya**	**0.82**	**278**	*e*Pg		**Pg**		**22 24 31.6**	**-0.7**
ESKT	**Eskisehir**	**0.83**	**49**	*i* P		**Pg**		**22 24 31.2**	**-1.3**
ESKT				*i* S		**Sg**		**22 24 43.0**	**-0.4**
SEYT	**Eskypehyr**	**0.83**	**49**	P		**Pg**		**22 24 31.2**	**-1.3**
SEYT				S		**Sg**		**22 24 43.0**	**-0.4**
BORA	**Eskisehir**	**0.96**	**20**	*i* P		**Pg**		**22 24 34.9**	**0.0**
BORA				*i* S		**Sg**		**22 24 47.4**	**0.0**
BORA	**Eskisehir**	**0.96**	**20**	P		**Pg**		**22 24 34.9**	**0.0**
BORA				S		**Sg**		**22 24 47.4**	**0.0**
KULA	**Kula-Manisa**	**1.17**	**247**	PN		**Pb**		**22 24 37.4**	**-1.4**
KULA	**Kula-Manisa**	**1.17**	**247**	*e*Pn		**Pb**		**22 24 37.4**	**-1.4**
SVRH	**Sivrihisar-ESK**	**1.25**	**68**	PN		**Pg**		**22 24 41.9**	**+1.5**
SVRH	**Sivrihisar-ESK**	**1.25**	**68**	*e*Pn		**Pg**		**22 24 41.9**	**+1.5**
DURS	**Dursunbey**	**1.36**	**298**	*i* P		**Pg**		**22 24 44.1**	**+1.6**
DURS				*i* S		**Sg**		**22 25 02.5**	**+2.3**
DURS	**Dursunbey**	**1.36**	**298**	P		**Pg**		**22 24 44.1**	**+1.6**
DURS				S		**Sg**		**22 25 02.5**	**+2.3**
AUMIH	**MIHALICIK**	**1.43**	**51**	*i* P		**Pg**		**22 24 43.6**	**-0.3**
AUMIH				*i* S		**Sg**		**22 25 05.1**	**+2.6**
AUMIH	**MIHALICIK**	**1.43**	**51**	P		**Pg**		**22 24 43.6**	**-0.3**
GULT	**Gulveren**	**1.50**	**14**	PN		**Pb**		**22 24 44.6**	**+0.1**
GULT	**Gulveren**	**1.50**	**14**	*e*Pn		**Pb**		**22 24 44.6**	**+0.1**
MDNY	**Mudanya-Bursa**	**1.65**	**328**	PN		**Pb**		**22 24 46.3**	**-0.7**
MDNY	**Mudanya-Bursa**	**1.65**	**328**	*e*Pn		**Pb**		**22 24 46.3**	**-0.7**
YLV	**Yalova**	**1.67**	**342**	PN		**Pb**		**22 24 46.9**	**-0.4**
YLV	**Yalova**	**1.67**	**342**	*e*Pn		**Pb**		**22 24 46.9**	**-0.4**
MDUB	**Mudurnu**	**1.74**	**31**	PN		**Pg**		**22 24 49.1**	**-0.7**
MDUB	**Mudurnu**	**1.74**	**31**	*e*Pn		**Pg**		**22 24 49.1**	**-0.7**
ARMT	**Armutlu**	**1.82**	**331**	PN		**Pb**		**22 24 49.1**	**-0.9**
ARMT	**Armutlu**	**1.82**	**331**	*e*Pn		**Pb**		**22 24 49.1**	**-0.9**

IDC ***11*** *22:30:28.6±1.6, 3˚.59N×93˚.07E, h0km, mb3.8/9, mb1 4.0/10, mb1mx3.7/65, mbtmp3.9/10, ML4.4/1, Error ellipse: s-maj=53.4km s-min=26.4km az=51.0*
ISCJB ***11*** *22:30:32.0±1.2, 3˚.6N±0˚.2×93˚.2E±0˚.2, h33km, mb3.8/9, Error ellipse: s-maj=29.1km s-min=18.1km az=143.2*

ISC 11 22:30:34.1±1.4, 3˚.6N±0˚.2×93˚.2E±0˚.2, h35km, n18, σ0ˢ38/18, mb3.9/9, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**15.78**	**21**	Pn		**Pn**		**22 34 13.5**	**-0.3**
	0.5nm,0.3s,baz=219,slow=13,SNR=10								
RAMN	**Ramite**	**24.01**	**346**	*e*P		**P**		**22 35 46.4**	**+0.4**
	10nm,0.6s								
DMN	**Daman**	**25.04**	**343**	*e*P		**P**		**22 35 56.0**	**+0.6**
	13nm,0.8s								
GUN	**Gumba**	**25.11**	**345**	*e*P		**P**		**22 35 56.1**	**-0.1**
KKN	**Kakani**	**25.16**	**343**	*e*P		**P**		**22 35 56.2**	**-0.3**
GKN	**Gorkha**	**25.55**	**342**	*e*P		**P**		**22 35 59.9**	**0.0**
	14nm,0.6s								
KOLN	**Koldanda**	**25.67**	**340**	*e*P		**P**		**22 36 01.1**	**0.0**
	8.9nm,0.6s								
DANN	**Dangsing**	**26.15**	**341**	*e*P		**P**		**22 36 05.7**	**+0.2**
PYUN	**Piuthan**	**26.18**	**339**	*e*P		**P**		**22 36 05.6**	**-0.1**
AAK	**Ala-Archa**	**42.24**	**339**	P		**P**		**22 38 24.3**	**+0.1**
	0.2nm,0.3s,baz=149,slow=12,SNR=4.4								
MKAR	**Makanchi Array**	**44.01**	**349**	P		**P**		**22 38 38.1**	**-0.1**
	1.4nm,0.5s,baz=171,slow=9.0,SNR=21								
SONM	**Songino Array**	**45.49**	**13**	P		**P**		**22 38 50.5**	**+0.4**
	0.6nm,0.7s,baz=189,slow=8.7,SNR=4.0								
WRA	**Warramunga Arr**	**46.75**	**122**	P		**P**		**22 39 00.4**	**0.0**
	1.9nm,1.0s,baz=297,slow=8.8,SNR=5.4								
GEYT	**Alibeck**	**46.78**	**321**	P		**P**		**22 39 00.6**	**+0.3**
	2.3nm,0.7s,baz=127,slow=9.8,SNR=6.6								
KURBB	**Kurchatov Arra**	**48.42**	**348**	P		**P**		**22 39 12.8**	**0.0**
	0.7nm,0.6s,baz=169,slow=7.0,SNR=9.6								
ZALV	**Zalesovo Beam**	**50.61**	**354**	P		**P**		**22 39 29.6**	**+0.1**
	1.7nm,0.5s,baz=168,slow=7.5,SNR=7.7								
BVAR	**Borovoye Array**	**52.69**	**343**	P		**P**		**22 39 43.9**	**-1.0**
	0.8nm,0.6s,baz=148,slow=9.3,SNR=8.2								
GERES	**GERESS Array B**	**80.32**	**319**	P		**P**		**22 42 41.6**	**-0.2**
	0.4nm,0.7s,baz=103,slow=6.4,SNR=3.6								

ISCJB ***11*** *22:35:32.0±0.2, 2˚.53N±0˚.03×90˚.18E±0˚.03, h10km, mb4.8/103, Error ellipse: s-maj=5.1km s-min=2.9km az=30.2*
IDC ***11*** *22:35:32.0±0.5, 2˚.49N×90˚.16E, h0km, mb4.5/27, mb1 4.5/29, mb1mx4.3/65, mbtmp4.5/29, ML5.0/1, MS4.3/4, Ms1 4.3/4, ms1mx3.9/70, Error ellipse: s-maj=16.2km s-min=11.5km az=44.0*
NEIC ***11*** *22:35:33.7±0.2, 2˚.53N×90˚.20E, h10km, mb4.9/36, Error ellipse: s-maj=5.6km s-min=3.5km az=22.0*
MOS ***11*** *22:35:34.8±1.1, 2˚.54N×90˚.16E, h33km, mb5.0/37, Error ellipse: s-maj=10.6km s-min=6.1km az=109.9*
DJA ***11*** *22:35:36.4±1.4, 3˚N±4˚×9˚E±˚, h14km±10km, M5.2/37, mb5.2/37, mB5.6/24, MLv5.8/7, Mw(mB)5.1/24*

ISC 11 22:35:34.1±0.3, 2˚.56N±0˚.05×90˚.13E±0˚.05, h10km, n269, σ1ˢ32/246, mb4.8/106, 14C-14D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MLSI	**Meulaboh, Aceh**	**6.49**	**75**	P		**Pn**		**22 37 09.4**	**-0.3**
	724nm,0.9s,8μm3.9nm								
TPTI		**7.07**	**84**	P		**Pn**		**22 37 16.7**	**-1.1**
	234nm,0.8s,4μm1.1nm								
LHMI	**Lhok Sumawe**	**7.30**	**68**	P		**Pn**		**22 37 21.5**	**+0.6**
	430nm,1.1s,5μm3.0nm								
LHMI	**Lhok Sumawe**	**7.30**	**68**	*e*Pn		**Pn**		**22 37 20.7**	**-0.2**
LHMI				*e*S		**Sn**		**22 38 39.4**	**-4.5**
GSI	**Gunungsitoli**	**7.54**	**99**	P		**Pn**		**22 37 22.0**	**-2.3**
	590nm,1.1s,5μm1.7nm								
GSI	**Gunungsitoli**	**7.54**	**99**	*e*Pn		Pn		22 37 21.6	-2.7
GSI				*e*S		Sn		22 38 41.4	-8.5
PBSI	**Pulau Batu**	**8.55**	**108**	P		**Pn**		**22 37 37.0**	**-1.1**
	851nm,1.0s,8μm2.6nm								
PSI	**Prapat**	**8.78**	**88**	*e*Pn		**Pn**		**22 37 39.3**	**-2.1**
PBA	**Port Blair**	**9.40**	**16**	*e*P		Pn		22 37 48.9	-0.9
MNSI	**Mandailing Nat**	**9.60**	**100**	P		**Pn**		**22 37 51.1**	**-1.4**
	192nm,1.1s,3μm								
SISI	**Saibi**	**9.75**	**113**	P		**Pn**		**22 37 54.1**	**-0.5**
	230nm,0.9s,2μm								
PALK	**Pallekele**	**10.50**	**297**	LR		LR		22 41 29.3	
	comp=Z,2μm,20.9s,baz=115,slow=34								
PALK	**Pallekele**	**10.50**	**297**	*e*Pn		**Pn**		**22 38 05.0**	**+0.2**
PALK				*e*S		Sn		22 39 49.9	-13
PALK	**Pallekele**	**10.50**	**297**	*i* P		**Pn**		**22 38 05.8**	**+0.9**
KULM	**Kulim**	**10.84**	**75**	*e*Pn		**Pn**		**22 38 07.5**	**-1.9**
KULM				*e*S		Sn		22 40 02.0	-8.9
PDSI	**Padang**	**10.88**	**108**	P		Pn		22 38 07.6	-2.6
	150nm,1.2s								
DGPR	**DIGLIPUR**	**10.91**	**15**	*e*P		**Pn**		**22 38 10.9**	**+0.5**
IPM	**Ipoh**	**11.04**	**80**	*e*Pn		**Pn**		**22 38 10.9**	**-1.3**
IPM				*e*S		Sn		22 40 07.9	-8.0
BKNI	**Bangkinang**	**11.12**	**101**	P		Pn		22 38 21.8	+8.4
PPSI	**Pulau Pagai**	**11.20**	**118**	P		Pn		22 38 20.5	+6.1
MYKOM	**Kota Tinggi**	**13.73**	**93**	*e*Pn		Pn		22 38 46.4	-2.6
MDRS	**Chennai**	**14.31**	**317**	*e*P		Pn		22 38 55.0	-2.0
MDRS				IAmb		IAmb		22 38 57.0	
	comp=Z,160nm,1.5s								
TRD	**Trivandrum**	**14.38**	**295**	*e*P		**Pn**		**22 38 59.7**	**+1.7**
TPRI	**Tanjung Pinang**	**14.48**	**96**	P		Pn		22 39 04.2	+4.9
SKHT	**Srikalahasti**	**15.15**	**318**	*e*P		**Pn**		**22 39 07.1**	**-1.3**
MDSI	**Mara Dua**	**15.68**	**116**	P		**Pn**		**22 39 15.7**	**+0.3**
	comp=Z,49nm,1.2s								
LWLI	**Liwa**	**15.82**	**118**	P		**Pn**		**22 39 21.1**	**+3.9**
	comp=Z,135nm,0.8s								
KASI	**Kota Agung**	**16.44**	**119**	P		**Pn**		**22 39 25.9**	**+0.8**
	comp=Z,152nm,1.2s,comp=Z,1μm								
VIS	**Vishakhapatnam**	**16.48**	**337**	*e*P		**Pn**		**22 39 25.6**	**-0.1**
VIS				IAmb		IAmb		22 39 34.9	
	comp=Z,91nm,0.6s								
ADKI	**Addanki**	**16.57**	**323**	*e*P		**Pn**		**22 39 25.7**	**-1.1**
PPBI	**Pangkal Pinang**	**16.67**	**106**	P		**P**		**22 39 32.6**	**+2.1**
	comp=Z,0.6nm,0.4s,comp=Z,29nm								
PVM	**Polavaram**	**16.82**	**331**	*e*P		**Pn**		**22 39 29.9**	**0.0**
CHLP	**Challavanipeta**	**16.93**	**340**	*e*P		**Pn**		**22 39 32.3**	**+0.9**
SRLM	**Srisailam**	**17.42**	**321**	*e*P		**Pn**		**22 39 36.3**	**-1.3**
NJS	**Nagarjunasagar**	**17.52**	**323**	*e*P		**Pn**		**22 39 37.3**	**-1.4**
URV	**Uravakonda**	**17.69**	**315**	*e*P		**Pn**		**22 39 40.9**	**0.0**
CM01	**Chiang Mai Arr**	**17.98**	**28**	*e*Pn		**Pn**		**22 39 42.9**	**-1.5**
CM31	**Chiang Mai Arr**	**18.01**	**28**	*e*Pn		**Pn**		**22 39 43.6**	**-1.2**
CMAR	**Chiang Mai Arr**	**18.01**	**28**	P		**Pn**		**22 39 43.4**	**-1.3**
	baz=216,slow=12,SNR=12								
CMAR				LR		LR		22 46 47.3	
	comp=Z,847nm,19.8s,baz=206,slow=37								
CGJI	**Cibinong**	**18.01**	**120**	P		**Pn**		**22 39 44.5**	**-0.3**
	comp=Z,122nm,1.2s,comp=Z,1μm								
CHTO	**Chiang Mai**	**18.32**	**27**	*e*Pn		**Pn**		**22 39 48.1**	**-0.4**
	comp=Z,11nm,1.1s								
HYB	**Hyderabad**	**18.64**	**323**	*i* P		**P**		**22 39 51.0**	**-1.2**
HYB	**Hyderabad**	**18.64**	**323**	*e*P		**P**		**22 39 51.6**	**-0.6**
HYB				IAmb		IAmb		22 39 53.4	
	comp=Z,84nm,2.0s								
HYBB	**Hyderabad (bro**	**18.64**	**323**	*e*P		**P**		**22 39 52.5**	**+0.3**
SKJI	**Sukabumi**	**18.95**	**120**	P		**Pn**		**22 40 01.8**	**+5.6**
RPR	**Rampur**	**19.37**	**328**	*e*P		**P**		**22 40 00.4**	**+0.2**
LEM	**Lembang**	**19.79**	**118**	P		**P**		**22 40 05.1**	**+0.1**
	comp=Z,4.0nm,0.3s,baz=191,slow=8.9,SNR=6.8								
LEM				LR		LR		22 46 17.7	
	comp=Z,484nm,21.6s,baz=310,slow=33								
SRSP	**Sriramsagar**	**19.95**	**325**	*e*P		**P**		**22 40 06.3**	**-0.2**
KSM	**Kuching**	**20.19**	**93**	*e*P		**P**		**22 40 09.5**	**+0.3**
	comp=Z,37nm,1.1s								
JCJI	**Jatiwangi**	**20.21**	**116**	P		Pn		22 40 19.0	+7.6
CISI	**Cisompet, Garu**	**20.30**	**120**	P		**P**		**22 40 10.8**	**+0.3**
	comp=Z,141nm,1.1s,comp=Z,4μm								
CISI	**Cisompet, Garu**	**20.30**	**120**	*e*P		**P**		**22 40 08.9**	**-1.6**
	comp=Z,82nm,0.9s								
H08S3	**Diego Garcia H**	**20.31**	**240**	T		T		23 01 05.1	
	baz=60,slow=75,SNR=26								
H08S2	**Diego Garcia H**	**20.31**	**240**	T		T		23 00 51.8	
	baz=60,slow=75,SNR=73								
H08S1	**Diego Garcia H**	**20.33**	**240**	T		T		23 01 06.1	
	baz=60,slow=75,SNR=46								
KLRI	**Killari**	**20.34**	**320**	*e*P		**P**		**22 40 10.8**	**-0.1**
GOA	**Goa**	**20.58**	**310**	*e*P		**P**		**22 40 13.1**	**-0.3**
GOA				IAmb		IAmb		22 40 18.4	
	comp=Z,28nm,0.9s								
KPJI	**Karang Pucung**	**21.18**	**118**	P		**P**		**22 40 20.2**	**+0.3**
	comp=Z,103nm,0.7s								
NGP	**Nagpur**	**21.40**	**331**	*e*P		**P**		**22 40 22.3**	**0.0**
NGP				IAmb		IAmb		22 40 27.1	
	comp=Z,34nm,0.8s								
STKI	**Sintang**	**21.48**	**96**	P		**P**		**22 40 24.0**	**+0.8**
	comp=Z,145nm,1.1s,comp=Z,11μm								
BOK	**Bokaro**	**21.51**	**349**	*e*P		**P**		**22 40 20.4**	**-3.0**
SBUM	**Sibu**	**22.07**	**90**	*e*P		**P**		**22 40 29.7**	**+0.2**
	comp=Z,55nm,1.1s								
PBKI	**Pangkalan Bun**	**22.15**	**103**	P		**P**		**22 40 32.6**	**+2.2**
	comp=Z,195nm,1.5s,comp=Z,3μm								
SMRI	**Semarang**	**22.40**	**115**	P		**P**		**22 40 33.6**	**+0.5**
	comp=Z,151nm,1.2s,comp=Z,2μm								
SMRI	**Semarang**	**22.40**	**115**	*e*P		**P**		**22 40 31.9**	**-1.2**
	comp=Z,160nm,1.1s								
POO	**Poona**	**22.51**	**316**	*e*P		**P**		**22 40 33.4**	**-0.8**
POO				IAmb		IAmb		22 40 51.8	
	comp=Z,1μm,4.4s								
SHL	**Shillong**	**22.94**	**4**	*e*P		**P**		**22 40 39.2**	**+0.3**
SHL				IAmb		IAmb		22 40 41.4	
	comp=Z,24nm,0.9s								
WOJI	**Wonogiri, Jawa**	**23.17**	**117**	P		P		22 40 51.2	+10
BOM	**Bombay**	**23.48**	**315**	*e*P		**P**		**22 40 44.2**	**0.0**
BHPL	**Bhopal**	**23.97**	**330**	*e*P		**P**		**22 40 50.9**	**+2.0**
BHPL				IAmb		IAmb		22 40 55.2	
	comp=Z,732nm,3.7s								
ODAN	**Odare**	**24.31**	**354**	*e*P		**P**		**22 40 53.1**	**+0.8**
	comp=Z,49nm,0.7s								
RAMN	**Ramite**	**24.49**	**352**	*e*P		**P**		**22 40 55.2**	**+1.2**
	comp=Z,105nm,0.7s								
MTKI	**Muara Teweh, K**	**25.00**	**98**	P		**P**		**22 40 59.5**	**+1.0**
	comp=Z,65nm,1.3s								
JIRN	**Jiri**	**25.25**	**352**	*e*P		**P**		**22 41 01.8**	**+0.9**
	comp=Z,261nm,1.1s								
PKIN	**Phulchoki**	**25.29**	**350**	*e*P		**P**		**22 41 01.7**	**+0.5**
	comp=Z,31nm,0.9s								
QIZ	**Qiongzhong**	**25.30**	**48**	P		**P**		**22 41 02.6**	**+1.5**
QIZ				S		**S**		**22 45 28.8**	**+1.5**
QIZ				pmax		pmax			
	comp=Z,24nm,0.8s								
QIZ				LR		LR			
	comp=N,2μm,13.6s								
QIZ				LR		LR			
	comp=E,540nm,13.6s								
QIZ				LR		LR			
	comp=Z,1μm,14.3s								
DMN	**Daman**	**25.37**	**350**	*e*P		**P**		**22 41 02.8**	**+0.9**
	comp=Z,187nm,1.5s								
KMI	**Kunming**	**25.51**	**27**	P		**P**		**22 41 04.9**	**+1.7**
KMI				pmax		pmax			
	comp=Z,15nm,1.0s								
KMI				pmax		pmax			
	comp=Z,220nm,5.1s								
KMI				LR		LR			
	comp=N,790nm,17.4s								
KMI				LR		LR			
	comp=E,790nm,16.5s								
KMI				LR		LR			
	comp=Z,1μm,20.7s								
KKN	**Kakani**	**25.52**	**350**	*e*P		**P**		**22 41 03.9**	**+0.7**
	comp=Z,42nm,0.9s								
GUN	**Gumba**	**25.54**	**351**	*e*P		**P**		**22 41 04.3**	**+0.7**
	comp=Z,52nm,0.8s								
KOLN	**Koldanda**	**25.84**	**347**	*e*P		**P**		**22 41 07.3**	**+1.2**
	comp=Z,45nm,0.7s								
GKN	**Gorkha**	**25.84**	**349**	*e*P		**P**		**22 41 07.0**	**+0.9**
	comp=Z,62nm,0.7s								
KKM	**Kota Kinabalu**	**26.23**	**82**	*e*P		**P**		**22 41 09.8**	**0.0**
	comp=Z,43nm,1.1s								
PYUN	**Piuthan**	**26.30**	**346**	*e*P		**P**		**22 41 11.3**	**+1.0**
	comp=Z,109nm,1.0s								
DANN	**Dangsing**	**26.36**	**347**	*e*P		**P**		**22 41 12.3**	**+1.3**
LSA	**Lhasa**	**27.01**	**2**	P		**P**		**22 41 17.8**	**+0.8**
LSA				pmax		pmax			
	comp=Z,19nm,1.1s								
MYLDM	**Lahad Datu**	**28.42**	**84**	*e*P		**P**		**22 41 29.6**	**+0.3**
	comp=Z,34nm,1.1s								
GYA	**Guiyang**	**28.57**	**32**	*i*P		**P**		**22 41 32.0**	**+1.3**
GYA				PP		**PnPn**		**22 42 25.2**	**+4.7**
GYA				PcP		**PcP**		**22 44 43.0**	**+0.9**
GYA				S		**S**		**22 46 20.8**	**+1.7**
GYA				SS		**SnSn**		**22 47 45.6**	**+7.0**
GYA				ScP		**SS**		**22 48 21.9**	**+1.8**
GYA				pmax		pmax			
	comp=Z,20nm,0.8s								
GYA				pmax		pmax			
	comp=Z,120nm,5.6s								
GYA				LR		LR			
	comp=N,520nm,18.0s								
GYA				LR		LR			
	comp=E,460nm,18.4s								
GYA				LR		LR			
	comp=Z,490nm,18.2s								
BHJ	**Bhuj**	**28.58**	**318**	*e*P		**P**		**22 41 30.5**	**-0.1**
SMLA	**Simla**	**30.95**	**338**	*e*P		**P**		**22 41 52.1**	**+0.7**
CD2	**Chengdu**	**31.00**	**23**	P		**P**		**22 41 52.4**	**+0.3**
CD2				S		**S**		**22 46 58.8**	**+1.8**
CD2				pmax		pmax			
	comp=Z,20nm,0.4s								
CD2				LR		LR			
	comp=N,2μm,12.4s								
CD2				LR		LR			
	comp=E,5μm,12.9s								
CD2				LR		LR			
	comp=Z,2μm,12.4s								
MRSI	**Marisa**	**31.86**	**93**	P		**P**		**22 42 00.1**	**+0.3**
	comp=Z,15nm,1.3s								
DHRM	**DHARAMSHALA**	**32.27**	**338**	*e*P		**P**		**22 42 03.3**	**-0.1**
DHRM				IAmb		IAmb		22 42 08.1	
	comp=Z,68nm,1.9s								
BBSI	**Bau Bau**	**33.37**	**104**	P		**P**		**22 42 13.8**	**+0.8**
	comp=Z,10nm,1.2s,comp=Z,577nm								
NIL	**Nilore**	**34.73**	**335**	*e*P		**P**		**22 42 24.9**	**+0.3**
	comp=Z,38nm,0.8s								
LZH	**Lanzhou**	**35.69**	**19**	*e*P		**P**		**22 42 32.5**	**-0.5**
LZH				pP		pP		22 42 37.0	+0.9
LZH				sP		sP		22 42 39.6	+2.2
LZH				PP		**PnPn**		**22 43 53.8**	**+1.1**
LZH				pmax		pmax			
	comp=Z,29nm,1.1s								
LZH				pmax		pmax			
	comp=Z,98nm,5.4s								
LZH				LR		LR			
	comp=N,1μm,13.7s								
LZH				LR		LR			
	comp=E,1μm,14.0s								
LZH				LR		LR			
	comp=Z,1μm,17.2s								
BATI	**Baumata**	**35.71**	**111**	LR		LR		22 58 06.4	
	comp=Z,555nm,18.3s,baz=306,slow=38								
BATI	**Baumata**	**35.71**	**111**	P		P		22 42 31.0	-2.3
	comp=Z,115nm,0.7s,comp=Z,2μm								
XAN	**Xi'an**	**35.90**	**27**	P		**P**		**22 42 33.4**	**-1.3**
XAN				pP		pP		22 42 37.9	+0.1
XAN				sP		sP		22 42 40.4	+1.4
XAN				PP		**PnPn**		**22 43 47.8**	**-7.3**
XAN				S		S		22 47 56.2	-17
XAN				sS		pS		22 48 04.3	-12
XAN				SS		SnSn		22 50 03.0	-33
XAN				pmax		pmax			
	comp=Z,6.0nm,1.5s								
XAN				pmax		pmax			
	comp=Z,100nm,5.7s								
XAN				LR		LR			
	comp=N,1μm,15.2s								
XAN				LR		LR			
	comp=E,740nm,16.3s								
XAN				LR		LR			
	comp=Z,740nm,18.4s								
SOEI	**Soe**	**36.13**	**110**	P		P		22 42 32.1	-4.9
SANI	**Sanana**	**36.14**	**97**	P		P		22 42 42.0	+5.1
KBL	**Kabul**	**37.40**	**331**	*e*P		**P**		**22 42 48.2**	**+0.6**
	comp=Z,5.5nm,0.8s								
GTA	**Gaotai**	**37.73**	**12**	P		**P**		**22 42 51.1**	**+0.8**
GTA				pP		pP		22 42 56.9	+3.5
GTA				sP		sP		22 42 59.4	+4.8
GTA				PcP		PcP		22 45 01.1	-6.3
GTA				S		**S**		**22 48 42.7**	**+1.9**
GTA				pmax		pmax			
	comp=Z,13nm,1.4s								
GTA				pmax		pmax			
	comp=Z,170nm,4.2s								
GTA				LR		LR			
	comp=N,200nm,13.9s								
GTA				LR		LR			
	comp=E,320nm,19.8s								
GTA				LR		LR			
	comp=Z,290nm,14.8s								
KSH	**Kashi**	**38.98**	**342**	P		P		22 42 59.2	-1.6
KSH				sP		pP		22 43 06.5	+2.6
KSH				**PP**		**PP**		**22 44 32.4**

MAKZ	Makanchi	44.64	352	*e*P		P	22 43 46.7	-0.3	
	comp=Z,8.8nm,0.9s								
GEYT	Alibeck	45.82	324	P		P	22 43 57.3	+0.9	
	comp=Z,8.9nm,0.7s,baz=160,slow=9.5,SNR=18								
GYA0B	ALIBECK ARRAY	45.82	324	*e*P		P	22 43 57.0	+0.6	
	comp=Z,12nm,0.7s								
DGZ	Jazzator, Alta	47.03	358	*i* P		P	22 44 05.6	-0.3	
DGZ				pmax	pmax				
	comp=Z,3.0nm,1.4s								
OPO	Ambohidratompo	47.18	242	P		P	22 44 07.3	-0.4	
	comp=Z,4.1nm,0.9s,baz=11,slow=2.0,SNR=5.8								
SONM	Songino Array	47.24	15	P		P	22 44 08.1	+0.6	
	comp=Z,14nm,0.7s,baz=197,slow=8.9,SNR=55								
SONA1	Songino Array	47.26	15	*e*P		P	22 44 07.6	-0.1	
ABPO	Ambohimpanom	47.32	241	*e*P		P	22 44 08.3	-0.3	
	comp=Z,16nm,1.0s								
ULN	Ulaanbaatar	47.44	15	*e*P		P	22 44 08.5	-0.7	
	comp=Z,5.2nm,0.9s								
ULN	Ulaanbaatar	47.44	15	*ce*P		P	22 44 08.9	-0.3	
ULN				pmax	pmax				
	comp=Z,17nm,1.7s								
ATD	Arta Tunnel	47.70	283	P		P	22 44 12.8	+1.2	
	comp=Z,21nm,1.2s,baz=26,slow=2.9,SNR=3.6								
RAYN	Ar Rayn	47.92	300	*e*P		P	22 44 12.4	-0.7	
	comp=Z,8.2nm,1.0s								
HVS	Khovu-Aksy	48.50	3	*i* P		P	22 44 16.9	-0.3	
HVS				pmax	pmax				
	comp=Z,45nm,1.1s								
WRA	Warramunga Arr	48.80	119	P		P	22 44 18.6	-1.4	
	comp=Z,5.2nm,0.6s,baz=298,slow=8.5,SNR=32								
WRAB	Tennant Creek	48.81	119	*e*P		P	22 44 18.4	-1.6	
	comp=Z,13nm,0.9s								
WB2	Warramunga Arr	48.81	119	*e*P		P	22 44 18.9	-1.1	
KURBB	Kurchatov Arra	48.89	350	P		P	22 44 19.5	-0.6	
	comp=Z,7.0nm,0.8s,baz=173,slow=7.4,SNR=61								
ZAK	Zakamensk	48.94	11	*e*P		P	22 44 19.7	-0.9	
ZAK				pmax	pmax				
	comp=Z,11nm,1.2s								
KURK	Kurchatov	48.96	350	*e*P		P	22 44 20.1	-0.6	
	comp=Z,20nm,1.1s								
KURK	Kurchatov	48.96	350	*ce*P		P	22 44 19.9	-0.7	
KURK				pmax	pmax				
	comp=Z,102nm,1.7s								
FORT	Forrest	49.03	136	*e*P		P	22 44 21.1	-0.4	
KSAR	Wonju Array Be	49.04	40	P		P	22 44 21.9	+0.4	
KSRS	Korea Array	49.07	40	P		P	22 44 21.9	+0.2	
	comp=Z,1.6nm,0.8s,baz=247,slow=10,SNR=6.3								
MOY	Mondy	49.78	9	*e*P		P	22 44 28.1	+1.1	
ASAR	Alice Springs	49.93	124	P		P	22 44 27.1	-1.4	
	comp=Z,2.0nm,0.9s,baz=310,slow=7.3,SNR=9.9								
AS01	Alice Springs	49.97	124	*e*P		P	22 44 27.8	-1.1	
TLY	Talaya	50.25	11	*e*P		P	22 44 31.6	+1.1	
TLY				pmax	pmax				
	comp=Z,6.0nm,1.3s								
ZAA0	Zalesovo Array	51.41	356	*e*P		P	22 44 38.6	-0.5	
	comp=Z,8.2nm,0.6s								
ZALV	Zalesovo Beam	51.41	356	P		P	22 44 38.1	-1.1	
	comp=Z,3.2nm,0.4s,baz=187,slow=8.6,SNR=26								
CN2	Changchun	51.62	32	*e*P		P	22 44 40.6	-0.3	
CN2				pmax	pmax				
	comp=Z,10.0nm,0.5s								
NVS	Novosibirsk	52.42	355	*e*P		P	22 44 45.0	-1.7	
NVS				pmax	pmax				
	comp=N,8.0nm,1.1s								
NVS				pmax	pmax				
	comp=Z,16nm,1.1s								
BVAR	Borovoye Array	52.89	345	P		P	22 44 49.0	-1.2	
	comp=Z,2.6nm,0.8s,baz=148,slow=6.5,SNR=15								
BVAR	Borovoye Array	52.89	345	P		P	22 44 49.0	-1.2	
BVAR				pmax	pmax				
	comp=Z,3.0nm,0.8s								
BRVK	Borovoye	52.95	345	*e*P		P	22 44 49.4	-1.2	
	comp=Z,5.8nm,1.0s								
BRVK	Borovoye	52.95	345	*ce*P		P	22 44 50.3	-0.3	
BRVK				pmax	pmax				
	comp=Z,22nm,1.7s								
KMBO	Kilima Mbogo	52.99	267	P		P	22 44 52.4	+0.5	
	comp=Z,2.9nm,0.8s,baz=49,slow=8.8,SNR=6.2								
ABKAR	Akbulak array	53.18	336	*e*P		P	22 44 52.5	+0.1	
	comp=Z,110nm,0.6s								
GNI	Garni	55.51	319	*i* P		P	22 45 09.6	-0.2	
GNI				pmax	pmax				
	comp=Z,28nm,1.2s								
TBLG	Delisi	56.33	320	*e*P		P	22 45 16.8	+1.4	
	comp=Z,18nm,0.9s								
GROC	Groznyy	56.45	322	*e*P		P	22 45 13.6	-2.6	
GROC				*e*			22 46 08.2		
GROC				*e*S		S	22 53 01.3	-6.0	
GROC				pmax	pmax				
	comp=Z,17nm,0.8s								
NCK	Nalchik	57.96	321	*i* P		P	22 45 26.4	-0.6	
NCK				pmax	pmax				
	comp=Z,10.0nm,1.4s								
BOD	Bodaibo	58.24	15	*e*P		P	22 45 27.6	-1.0	
BOD				pmax	pmax				
	comp=Z,12nm,1.7s								
NEY	Neytrino	58.38	321	*i* P		P	22 45 28.4	-1.7	
NEY				pmax	pmax				
	comp=Z,1.0nm,1.2s								
KLR	Kul'dur	58.46	31	*i* P		P	22 45 27.5	-2.8	
KBZ	Khabaz	58.52	321	P		P	22 45 31.2	+0.5	
	comp=Z,5.9nm,1.0s,baz=124,slow=2.8,SNR=9.2								
KIV	Kislovodsk	58.76	322	*e*P		P	22 45 32.7	0.0	
	comp=Z,17nm,1.1s								
KIV	Kislovodsk	58.76	322	*e*P		P	22 45 32.3	-0.3	
KIV				pmax	pmax				
	comp=Z,17nm,1.1s								
SVE	Sverdlovsk	59.00	342	⫴ *i* P		P	22 45 33.5	-0.4	
SVE				pmax	pmax				
	comp=Z,28nm,1.3s								
ARU	Arti	59.36	340	*e*P		P	22 45 34.0	-2.4	
	comp=Z,10nm,1.1s								
ARU	Arti	59.36	340	*d i* P		P	22 45 35.3	-1.1	
ARU							22 46 19.4		
ARU				S		S	22 53 49.2	+4.2	
ARU				SS		SS	22 57 39.6	-0.3	
ARU				pmax	pmax				
	comp=Z,20nm,1.7s								
ZEA	Zeya	59.41	25	*e*P		P	22 45 37.1	+0.3	
ZEA				pmax	pmax				
	comp=Z,17nm,1.0s								
MBAR	Mbarara	59.46	268	P		P	22 45 36.7	-1.4	
	comp=Z,2.6nm,0.2s,baz=42,slow=0.7,SNR=5.3								
STKA	Stephens Creek	59.59	129	P		P	22 45 37.3	-1.1	
	comp=Z,6.7nm,0.8s,baz=303,slow=8.8,SNR=12								
STKA	Stephens Creek	59.59	129	*e*P		P	22 45 38.9	+0.5	
	comp=Z,1.4nm,0.9s								
BR131	Keskin Array S	63.03	314	*e*P		P	22 46 01.3	-0.6	
BRTR	Keskin Array B	63.03	314	P		P	22 46 01.2	-0.6	
	comp=Z,4.0nm,0.6s,baz=126,slow=6.9,SNR=24								
VRH	Novokhopyorsk	63.15	328	*e*P		P	22 46 01.2	-1.0	
VRH				pmax	pmax				
	comp=Z,20nm,1.5s								
ILGA	Ilgaz	63.45	315	*e*P		P	22 46 05.3	+0.6	
	comp=Z,7.8nm,1.0s								
BR231	Keskin MP Arra	63.69	314	*e*P		P	22 46 01.5	-4.7	
VSR	Storozhevoye	64.52	327	*e*P		P	22 46 09.5	-1.7	
VSR				pmax	pmax				
	comp=Z,10.0nm,1.6s								
NKL	Nikolayevsk	65.31	31	*e*P		P	22 46 15.7	-0.6	
NKL				pmax	pmax				
	comp=N,8.0nm,1.0s								
NKL				pmax	pmax				
	comp=Z,15nm,1.0s								
LPSR	Galich'ya Gora	65.36	328	*e*P		P	22 46 15.1	-1.6	
LPSR				pmax	pmax				
	comp=Z,10.0nm,0.8s								
YAK	Yakutsk	66.28	19	*e*P		P	22 46 20.2	-2.2	
YAK				pmax	pmax				
	comp=Z,19nm,0.9s								
MOS	Moscow	67.64	331	*e*P		P	22 46 27.2	-4.0	
MOS				pmax	pmax				
	comp=Z,45nm,1.0s								
OBN	Obninsk	67.84	330	*e*P		P	22 46 31.4	-1.0	
OBN				*e*			22 47 01.5		
OBN				*e*			22 49 03.3		
OBN				pmax	pmax				
	comp=Z,24nm,1.2s								
LBTB	Lobatse	68.22	242	*e*P		P	22 46 34.5	-1.0	
IDI	Anoyia	68.42	307	⫴ *i* P		P	22 46 37.7	+1.1	
IDI	Anoyia	68.42	307	*e*P		P	22 46 36.7	+0.1	
	comp=Z,17nm,1.1s								
HARR	Harsova	68.69	317	⇑ *i* P		P	22 46 50.3	+12	
CFR	Carcaliu	68.71	318	⫴ *i* P		P	22 46 37.7	-0.4	
BOSA	Boshof	69.40	238	P		P	22 46 41.6	-1.4	
	comp=Z,3.0nm,0.7s,baz=89,slow=9.4,SNR=6.2								
SORM	Soroca	69.55	321	⫴ *i* P		P	22 46 43.2	-0.1	
KLMR	Klimovskoe	69.58	336	*e*P		P	22 46 40.9	-2.3	
KLMR				AMP			22 46 49.9		
	comp=Z,30nm,1.3s								
KLMR				*e*S		S	22 55 49.9	-1.2	
KLMR				*e*S		S	22 55 49.9	-1.2	
KLMR	Klimovskoe	69.58	336	*e*P		P	22 46 40.8	-2.4	
KLMR				*e*S		S	22 55 49.9	-1.2	
KLMR				pmax	pmax				
	comp=Z,30nm,1.3s								
IAS	Iasi	69.74	320	⇑ *i* P		P	22 46 44.6	+0.1	
VRI	Vrincioaia	69.87	318	⫴ *i* P		P	22 46 46.5	+1.2	
PLOR	Plostina	69.91	318	⫴ *i* P		P	22 46 46.6	+0.9	
AKASG	Malin Array Be	69.94	324	P		P	22 46 44.6	-1.0	
	comp=Z,1.4nm,0.6s,baz=88,slow=4.9,SNR=11								
KIEV	Kiev	69.94	324	*i* P		P	22 46 42.8	-2.8	
KIEV				pmax	pmax				
	comp=Z,3.0nm,1.0s								
TESR	Tescani	70.12	319	⫴ *i* P		P	22 46 46.6	-0.2	
MLR	Muntele Rosu	70.28	318	⇑ *i* P		P	22 46 49.2	+1.2	
MLR	Muntele Rosu	70.28	318	*e*P		P	22 46 48.0	0.0	
	comp=Z,14nm,0.8s								
PRAR	RASCA	70.66	320	⇑ *i* P		P	22 46 49.5	-0.6	
HUMR	Humele	70.66	317	⫴ *i* P		P	22 46 50.4	+0.2	
DOPR	Dopca	70.79	318	⇑ *i* P		P	22 46 51.3	+0.3	
VOIR		70.86	317	⫴ *i* P		P	22 46 52.4	+0.9	
ARR	Arges	71.13	317	⫴ *i* P		P	22 46 52.6	-0.5	
BURAR	Bucovina Array	71.39	320	⫴ *i* P		P	22 46 55.9	+1.2	
BUR04	Bucovina Ar. S	71.39	320	*e*P		P	22 46 54.9	+0.2	
VTS	Vitosha	71.40	314	⇑ *i* P		P	22 46 54.7	-0.2	
VTS	Vitosha	71.40	314	*e*P		P	22 46 53.0	-1.9	
	comp=Z,5.8nm,1.0s								
BUR08	Bucovina Ar. S	71.41	320	*e*P		P	22 46 55.6	+0.8	
TMCR	Tamitsa	72.02	339	*e*P		P	22 46 58.4	+0.5	
HERR	Herculane	72.51	316	⫴ *i* P		P	22 47 01.4	0.0	
DRGR		72.80	318	⫴ *i* P		P	22 47 02.9	-0.2	
TIXI	Tiksi	73.21	12	*i* P		P	22 47 02.9	-2.0	
TIXI				pmax	pmax				
	comp=Z,15nm,1.0s								
VSU	Vasula	74.17	331	*ce*P		P	22 47 10.5	-0.3	
VSU				pmax	pmax				
	comp=Z,138nm,2.5s								
SUW	Suwalki	74.54	326	*e*P		P	22 47 13.1	0.0	
	comp=Z,28nm,1.0s								
SEY	Seymchan	75.39	25	*ce*P		P	22 47 16.2	-1.6	
FINES	FINESS Array B	75.59	334	P		P	22 47 19.0	0.0	
	comp=Z,3.2nm,0.6s,baz=103,slow=4.6,SNR=29								
FINES	FINESS Array B	75.59	334	P		P	22 47 19.0	0.0	
FINES				pmax	pmax				
	comp=Z,4.0nm,0.6s								
VYHS	Vyhne	75.75	319	*e*P		P	22 47 21.1	+0.9	
VYHS	Vyhne	75.75	319	*e*P		P	22 47 21.1	+0.9	
KLNR	Kaliningrad	76.38	326	*i* P		P	22 47 21.9	-1.7	
KLNR				pmax	pmax				
	comp=Z,37nm,1.0s								
MODS	Modra-Piesok	76.74	319	*e*P		P	22 47 27.0	+1.1	
MODS	Modra-Piesok	76.74	319	*e*P		P	22 47 27.0	+1.1	
DPC	Dobruska-Polom	77.73	321	*e*P		P	22 47 32.6	+1.2	
DPC				*ex*		x	22 47 47.8		
DPC	Dobruska-Polom	77.73	321	*e*P		P	22 47 32.6	+1.2	
DPC				*e*			22 47 47.8		
ARCES	ARCESS Array B	78.93	341	P		P	22 47 38.0	+0.4	
	comp=Z,10nm,0.8s,baz=98,slow=7.5,SNR=12								
ARCES	ARCESS Array B	78.93	341	P		P	22 47 38.0	+0.4	
ARCES				pmax	pmax				
	comp=Z,10.0nm,0.8s								
GEA0	GERESS Array S	79.16	319	*e*P		P	22 47 39.2	-0.2	
GEC2	GERESS Array S	79.16	319	*e*P		P	22 47 39.9	+0.5	
	comp=Z,12nm,1.2s								
GERES	GERESS Array B	79.16	319	P		P	22 47 39.8	+0.4	
	comp=Z,4.7nm,0.9s,baz=104,slow=5.6,SNR=27								
SYO	Syowa Base	79.20	196	⫴ *e*P		P	22 47 41.2	+2.2	
KHC	Kasperske Hory	79.28	319	*e*P		P	22 47 40.5	+0.5	
KHC	Kasperske Hory	79.28	319	*e*P		P	22 47 39.6	-0.4	
	comp=Z,3.2nm,1.1s								
KHC	Kasperske Hory	79.28	319	*e*P		P	22 47 40.5	+0.5	
CLL	Collm	79.97	322	*i* P		P	22 47 44.1	+0.5	
	comp=Z,10.0nm,1.3s								
CLL				*i*			22 47 48.4		
CLL				*e*			22 47 54.0		
CLL	Collm	79.97	322	*i* P		P	22 47 44.1	+0.5	
CLL				pmax	pmax				
	comp=Z,10.0nm,1.3s								
NKC	Novy Kostel	80.17	320	*e*P		P	22 47 45.6	+0.8	
NKC	Novy Kostel	80.17	320	*e*P		P	22 47 45.6	+0.8	
MOTA	Moosalm	80.69	317	*i* P		P	22 47 47.9	+0.1	
	comp=Z,9.8nm,1.0s								
RETA	Reutte	80.94	318	*i* P		P	22 47 49.1	+0.1	
	comp=Z,5.2nm,0.8s								
KEST	Kesra	81.03	306	P		P	22 47 50.6	+0.8	
	comp=Z,6.5nm,0.9s,baz=339,slow=6.4,SNR=5.4								
DAVA	Damuels	81.51	317	*i* P		P	22 47 52.5	+0.3	
	comp=Z,13nm,1.0s								
NOA	NORSAR Array B	82.41	331	P		P	22 47 56.1	-0.3	
	comp=Z,2.1nm,1.0s,baz=104,slow=5.2,SNR=2.9								
BILL	Bilibino	82.47	22	⇑ *i* P		P	22 47 56.3	-0.3	
BILL				pmax	pmax				
	comp=Z,4.0nm,1.1s								
BILL				MLR	MLR				
	comp=Z,12μm,24.0s								
BFO	Black Forest	82.64	318	*e*P		P	22 47 57.8	-0.1	
	comp=Z,8.7nm,1.1s								
TAM	Tamanrasset	84.05	293	*e*P		P	22 48 05.8	-0.1	
	comp=Z,5.5nm,1.0s								
TORD	Torodi Ar. Bea	87.91	283	P		P	22 48 23.9	-1.1	
	comp=Z,0.9nm,0.9s,baz=82,slow=5.0,SNR=4.7								
ES19	SONSECA Array	91.49	310	*e*P		P	22 48 42.5	+1.2	
ESDC	Sonseca Array	91.54	310	P		P	22 48 41.6	+0.1	
	comp=Z,1.1nm,0.9s,baz=87,slow=3.2,SNR=4.8								
BRYW	Bryant College	132.71	341	*e*PKPpre		PKPpre	22 54 38.2		
P17A	Butcher Ranch,	133.98	23	*e*PKPdf		PKPdf	22 54 54.4	+1.9	
TX31	Lajitas Ar. Si	145.64	22	*e*PKPdf		PKPdf	22 55 14.2	+0.4	
TX31				*e*PKPdf		PKPbc	22 55 14.6	+0.7	
TXAR	Lajitas Array	145.64	22	PKPbc		PKPdf	22 55 14.2	+0.4	
	comp=Z,4.1nm,0.8s,baz=9.9,slow=2.3,SNR=16								

BJI **11** *22:41:41.6, 43.6˙60N×127.6˙60W, h8km, mb5.5/30, mB5.9/46, Ms6.3/49, Ms7 5.9/48*

MOS **11** *22:41:44.8±1.0, 43.56N×127.59W, h14km, mb5.8/99, MS5.9/35, Error ellipse: s-maj=4.4km s-min=3.6km az=114.7*

ISCJB **11** *22:41:44.0±0.6, 43.56N±0.01×127.59W±0.02, h6km±3km, mb5.6/365, MS6.1/391, Error ellipse: s-maj=2.5km s-min=1.6km az=147.5*

IDC **11** *22:41:44.4±0.5, 43.58N×127.58W, h0km, mb5.1/36, mb1 5.2/40, mb1mx5.0/67, mbtmp5.1/40, ML4.7/4, MS5.6/9, Ms1 5.6/9, ms1mx4.9/77, Error ellipse: s-maj=15.1km s-min=8.5km az=36.0*

NEIC **11** *22:41:46.0±0.1, 43.58N×127.64W, h8km, mb5.8/299, MS5.9/288, Error ellipse: s-maj=2.3km s-min=1.5km az=50.0, Moment Tensor Solution. s28 Moment tensor: Scale 10^17Nm; Mrr0.68; Mθθ-3.56; Mφφ2.88; Mrθ0.42; Mrφ-2.99; Mθφ-1.42; Best double couple: M=4.70000×10^17 NP1:φs112.00000°, δ75.00000°, λ166.00000°. NP2: φs205.00000°, δ77.00000°, λ16.00000°. Principal axes: T 4.6100, Plg21.0000°, Azm69.0000°; N 0.1300, Plg69.0000°, Azm244.0000°; P -4.7400, Plg1.0000°, Azm338.0000°; Depth from synthetics of broadband displacement seismograms.*

NEIC Felt at Aurora, Beaverton, Brookings, Coos Bay, Lincoln City, McMinnville, Medford, Neskowin, North Bend, Oregon City, Portland and Salem. Also felt at Arcata, Crescent City, Eureka and Rio Dell, California and at Ocean Park and Vancouver, Washington.

GCMT **11** *22:41:46.0±0.3, 43.40N×127.92W, h20km±1km, MW6.0/113, Moment Tensor Solution. s35,c35; s113,c182; Duration: 24 Moment tensor: Scale 10^18 Nm; Mrr-0.07±.05; Mθθ-0.64±.03; Mφφ0.71±.04; Mrθ-0.56±.10; Mrφ-0.79±.03; Mθφ0.10±.07; Best double couple: M=1.18700×10^18 NP1:φs111.00000°, δ85.00000°, λ-151.00000°. NP2:φs19.00000°, δ62.00000°, λ-5.00000°. Principal axes: T 1.1680, Plg16.0000°, Azm242.0000°; N 0.0370, Plg61.0000°, Azm120.0000°; P -1.2050, Plg23.0000°, Azm339.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 11 22:41:46.8±0.6, 43.55N±0.04×127.63W±0.03, h16km±2km, n1807, σ1.92/1779, mb5.7/386, MS6.0/391, 46C-27D, Off

coast of Oregon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEBM	Edson Butte	2.50	105	*e*Pn	Pn	22 42 23.9	-2.9
KEBM				*e*Sn	Sn	22 42 51.1	-5.9
NEWO	Newport DOGAMI	2.79	66	*e*Pn	Pn	22 42 30.0	-0.7
KBO	Bosley Butte	2.84	117	*e*Pn	Pn	22 42 28.6	-2.8
I03D	Drain, OR	3.11	86	P	Pn	22 42 32.3	-2.8
	baz=269,SNR=1000						
DBO	Dodson Butte	3.23	96	*e*Pn	Pn	22 42 34.2	-2.6
COR	Corvallis	3.29	70	*e*Pn	Pn	22 42 35.9	-1.6
COR	Corvallis	3.29	70	*e*P	Pn	22 42 35.9	-1.6
HSO	Harness Mounta	3.30	89	*e*Pn	Pn	22 42 35.9	-1.9
HSO	Harness Mounta	3.30	89	*e*P	Pn	22 42 35.9	-1.9
KTRM	Thompson Ridge	3.54	116	*e*Pn	Pn	22 42 39.1	-2.0
G03D	McMinnville, O	3.54	61	P	Pn	22 42 38.6	-2.5
	baz=244,SNR=1000						
HUMO	Hull Mountain	3.55	104	*e*Pn	Pn	22 42 39.1	-2.1
HUMO				*e*Sn	Sn	22 43 21.3	-1.5
KMOR	Kings Mountain	3.62	53	*e*Pn	Pn	22 42 39.9	-2.3
I04A	Tendick Farm,	3.79	85	P	Pn	22 42 42.7	-1.8
	baz=269,SNR=1000						
JCC	Jacoby Creek,	3.82	134	*e*Pn	Pn	22 42 42.0	-2.9
IRO	Indian Ridge	3.92	82	*e*Pn	Pn	22 42 44.0	-2.4
KHMM	Horse Mountain	3.94	131	*e*Pn	Pn	22 42 44.1	-2.6
J04D	Umpqua Nationa	4.04	93	P	Pn	22 42 46.5	-1.6
	baz=277,SNR=1000						
G04A	Mulino	4.05	64	*e*Pn	Pn	22 42 47.6	-0.4
FRIS	Frissel Point	4.05	79	*e*Pn	Pn	22 42 48.2	0.0
YBH	Yreka Blue Hor	4.06	115	Pn	Pn	22 42 46.5	-1.7
	48nm,0.3s,baz=286,slow=11,SNR=965						
YBH				Sn	Sn	22 43 34.9	-0.5
	16nm,0.3s,baz=85,slow=19,SNR=3.0						
YBH				LR	LR	22 44 20.5	
	comp=Z,50μm,18.4s,baz=300,slow=39						
H04A	Detroit Lake	4.08	72	*e*Pn	Pn	22 42 47.2	-1.3
B023	Clatskanie	4.13	50	*e*Pn	Pn	22 42 47.9	-1.2
M02C	Callahan	4.14	120	P	Pn	22 42 47.5	-1.8
	baz=303,SNR=66						
F04D	Rainier, OR	4.15	51	P	Pn	22 42 48.1	-1.3
	baz=234,SNR=429						
PRLK	Prince Lake	4.15	79	*e*Pn	Pn	22 42 47.7	-1.8
E03A	Lebam	4.16	42	*e*Pn	Pn	22 42 48.2	-1.2
E03A				*e*Sn	Sn	22 43 34.0	-3.6
B040	Montague	4.21	112	*e*Pn	Pn	22 42 49.1	-1.1
WIFE	Three Sisters-	4.24	81	*e*Pn	Pn	22 42 49.8	-1.0
BMW	Boistfort Moun	4.28	45	*e*Pn	Pn	22 42 48.9	-2.3
BMW	Boistfort Moun	4.28	45	*e*P	Pn	22 42 48.9	-2.3
MOON	Moon Mountain	4.34	81	*e*Pn	Pn	22 42 52.1	0.0
K04D	Chiloquin, OR	4.40	100	P	Pn	22 42 51.8	-1.1
	baz=285,SNR=113						
KMRM	Mail Ridge	4.43	137	*e*Pn	Pn	22 42 51.6	-1.7
N02D	Trinity Center	4.47	124	P	Pn	22 42 51.8	-2.1
	baz=307,SNR=42						
LVP	Lakeview Peak	4.49	54	*e*Pn	Pn	22 42 53.2	-0.9
TDH	Tom, Dick, Har	4.53	65	*e*Pn	Pn	22 42 54.1	-0.7
LMPM	Military Pass	4.54	115	*e*Pn	Pn	22 42 54.4	-0.5
MTMW	Mount Mitchell	4.58	55	*e*Pn	Pn	22 42 54.4	-1.0
I05D	Terrebonne, OR	4.61	78	P	Pn	22 42 54.0	-1.7
	baz=263,SNR=1000						
M04C	Macdoel	4.62	111	P	Pn	22 42 54.8	-1.2
	baz=295,SNR=97						
HOOD	Mount Hood Mea	4.63	65	*e*Pn	Pn	22 42 56.5	+0.3
SHW	Mount Saint He	4.65	54	*e*Pn	Pn	22 42 56.5	+0.1
SHW	Mount Saint He	4.65	54	*e*P	Pn	22 42 56.5	+0.1
ERK	Elk Rock	4.66	52	*e*Pn	Pn	22 42 55.9	-0.6
NLWA	Neilton Lookou	4.66	33	*e*Pn	Pn	22 42 55.6	-0.9
NLWA				*e*Sn	Sn	22 43 49.5	-0.7
J05D	Fort Rock, OR	4.67	91	P	Pn	22 42 55.2	-1.5
	baz=276,SNR=664						
VALT	Mount Saint He	4.69	54	*e*Pn	Pn	22 42 56.4	-0.6
B201	Coldwater, Mou	4.70	52	*e*Pn	Pn	22 42 55.8	-1.2
LGMM	Garner Mountai	4.70	113	*e*Pn	Pn	22 42 57.4	+0.2
TDL	Tradedollar La	4.75	52	*e*Pn	Pn	22 42 56.7	-1.1
WDC	Whiskeytown Da	4.81	126	*e*Pn	Pn	22 42 57.2	-1.3
WDC	Whiskeytown Da	4.81	126	*e*P	Pn	22 42 57.2	-1.3
G05D	Wamic, OR	4.83	67	P	Pn	22 42 58.3	-0.5
	baz=252,SNR=1000						
PINE	Pine Mountain	4.86	85	*e*Pn	Pn	22 42 58.2	-1.1
C03A	Quillayute Air	4.89	25	*e*Pn	Pn	22 42 59.6	+0.1
GULW	Guler Mountain	4.91	59	*e*Pn	Pn	22 43 00.1	+0.2
KCPM	Cahto Peak	4.91	140	*e*Pn	Pn	22 42 59.0	-1.0
K05A	Summer Lake	5.00	97	*e*Pn	Pn	22 43 00.2	-1.0
B941	Kapowsin	5.14	46	*e*Pn	Pn	22 43 02.4	-0.5

J08A	Circle Bar Ran	6.67	89	ePn	Pn	22 43 22.6	-1.5	EDW2	Edwards Air Fo	11.43	136	P
	baz=322											
FHE	Frenchman Hill	6.67	57	ePn	Pn	22 43 24.8	+0.8	SPUT	South Promonto	11.44	96	ePn
CRF	Corfu	6.68	58	ePn	Pn	22 43 24.7	+0.6	DUG	Dugway, Tooele	11.54	102	P
	baz=292											
WVOR	Wild Horse Val	6.69	97	ePn	Pn	22 43 22.8	-1.6	DUG	Dugway, Tooele	11.54	102	ePn
WVOR	Wild Horse Val	6.69	97	eP	Pn	22 43 22.8	-1.6	DUG	Dugway, Tooele	11.54	102	eP
OT3	Othello 3	6.71	59	ePn	Pn	22 43 25.2	+0.6	BLG	Laguna Peak, P	11.55	142	P
	baz=327											
E08A	Dider Farm, El	6.75	61	ePn	Pn	22 43 24.6	-0.4	BOZ	Bozeman (W)	11.60	74	P
	baz=265											
WTV	Waterville	6.79	50	ePn	Pn	22 43 23.6	-2.2	BOZ	Bozeman (W)	11.60	74	ePn
AFDM	Forest Hills D	6.80	130	ePn	Pn	22 43 25.7	-0.2	BOZ	Bozeman (W)	11.60	74	eP
CBSW	Chelan Butte S	6.81	49	ePn	Pn	22 43 26.0	+0.1	HRY	Holter Researc	11.60	69	ePn
NLW	Nelson Butte	6.81	46	ePn	Pn	22 43 25.9	-0.2	SHOC	Shoshone, Teco	11.60	127	P
	baz=315											
IND	Independence	6.87	124	ePn	Pn	22 43 30.1	+3.1	BLKC	Black Mountain	11.67	133	ePn
BKS	Berkeley--Byer	6.99	142	ePn	Pn	22 43 27.1	-1.3	QLMT	Earthquake Lak	11.70	78	ePn
LNOR	Lincton Mounta	7.05	68	ePn	Pn	22 43 28.4	-0.9	WVUT	Wellsville	11.72	94	ePn
LNOR	Lincton Mounta	7.05	68	eP	Pn	22 43 28.4	-0.9	GSC	Goldstone, Bar	11.73	131	P
	baz=318											
D08A	Wollman Farm,	7.07	57	ePn	Pn	22 43 29.5	0.0	GSC	Goldstone, Bar	11.73	131	ePn
SAW	Saint Andrews	7.11	51	ePn	Pn	22 43 29.8	-0.2	GSC	Goldstone, Bar	11.73	131	eP
RUBR	Rubicon Trail	7.20	126	ePn	Pn	22 43 33.4	+1.8	HONU	Honeyville	11.75	94	ePn
PAHR	Pah Rah Range	7.27	119	ePn	Pn	22 43 33.5	+1.1	GZU	Grizzly Peak	11.75	95	ePn
E09A	Wood Farm, Sta	7.34	63	ePn	Pn	22 43 32.2	-1.0	DECC	Green Verdugo	11.77	139	P
	baz=325											
VCNR	Virginia City	7.35	123	ePn	Pn	22 43 35.6	+2.0	HDU	Hyde Park	11.81	93	ePn
CVLM	Vallecito	7.38	141	ePn	Pn	22 43 34.9	+1.2	GRRI	Grays Lake	11.84	87	ePn
WENL	Wente Vineyard	7.42	141	ePn	Pn	22 43 35.9	+1.6	CHFC	Chilao Flat St	11.85	138	ePn
B08A	Colville Reser	7.52	47	ePn	Pn	22 43 34.2	-1.4	ECR	Eagle Creek	11.86	87	ePn
BMO	Blue Mountains	7.53	76	ePn	Pn	22 43 34.8	-1.1	SHPR	Sheep Range	11.86	122	ePn
BMO	Blue Mountains	7.53	76	eP	Pn	22 43 34.8	-1.1	YHB	Horse Butte	11.87	79	ePn
JHUM	Huhtala Lane,	7.58	145	ePn	Pn	22 43 35.3	-1.1	MCID	Moose Creek	11.89	81	ePn
RDG13	Poverty Ridge	7.58	142	ePn	Pn	22 43 35.3	-1.3	PASC	Pasadena Art C	11.90	139	ePn
ARN	Arnold Ranch	7.74	141	ePn	Pn	22 43 39.5	+0.7	PASC				eSn
ARN	Arnold Ranch	7.74	141	eP	Pn	22 43 39.5	+0.7	MWC	Mount Wilson	11.92	138	ePn
CMB	Columbia Colle	7.78	133	ePn	Pn	22 43 40.7	+1.4	MWC	Mount Wilson	11.92	138	eP
CMB	Columbia Colle	7.78	133	eP	Pn	22 43 40.7	+1.4	RRX	Edison Barstow	11.95	133	P
	baz=320											
F10A	Beach Ranch, E	7.79	68	ePn	Pn	22 43 38.0	-1.5	CACC	Caltech Cellar	11.96	139	ePn
YERR	Yerington	7.79	123	ePn	Pn	22 43 41.9	+2.3	HWUT	Hardware Ranch	12.00	94	ePn
C09A	Chrisman Ranch	7.81	54	ePn	Pn	22 43 39.4	-0.3	YMR	Madison River	12.03	79	ePn
DPW	Davenport	7.88	54	ePn	Pn	22 43 41.0	+0.3	FXWY	Fox Creek	12.04	84	ePn
DPW	Davenport	7.88	54	eP	Pn	22 43 41.0	+0.3	RBU	Red Butte Cany	12.06	98	ePn
HSPM	Sheep	7.94	142	ePn	Pn	22 43 41.4	-0.2	MCU	Monte Cristo P	12.08	94	ePn
WAKR	Walker	7.98	126	ePn	Pn	22 43 44.3	+2.1	IMW	Indian Meadow	12.09	83	ePn
PNT	Penticton	7.99	41	ePn	Pn	22 43 42.0	-0.1	SNCC	San Nicolas Is	12.09	146	P
	baz=331											
PNT	Penticton	7.99	41	eP	Pn	22 43 42.0	-0.1	SNCC	San Nicolas Is	12.09	146	ePn
GHS	Gilroy Hot Spr	7.99	142	ePn	Pn	22 43 42.2	-0.1	AHID	Auburn Hatcher	12.10	88	ePn
LLLB	Lillooet	8.07	27	ePn	Pn	22 43 44.3	+1.0	YPM	Purple Mountai	12.10	79	ePn
SCKWR	San Luis Creek	8.09	140	ePn	Pn	22 43 45.4	+1.9	RSUT	Red Spur Mount	12.10	94	ePn
HPCM	Pacheco Lake	8.10	141	ePn	Pn	22 43 43.6	0.0	BFSC	Mount Baldy Ra	12.11	137	P
	baz=323											
SLD	San Luis Dam	8.11	141	ePn	Pn	22 43 44.0	+0.1	SSK	Sunset Peak	12.11	137	ePn
FRP	Fremont Peak	8.26	143	ePn	Pn	22 43 44.5	-1.3	TPAW	Teton Pass	12.11	85	ePn
FRP	Fremont Peak	8.26	143	eP	Pn	22 43 44.5	-1.3	YHH	Holmes Hill	12.12	78	ePn
SAO	San Andreas Ge	8.27	143	ePn	Pn	22 43 44.9	-1.1	YFT	Old Faithful	12.13	80	ePn
SAO	San Andreas Ge	8.27	143	eP	Pn	22 43 44.9	-1.1	TUQ	Turquoise Moun	12.13	128	P
	baz=316											
MBUM	Mount Bullion	8.30	134	ePn	Pn	22 43 49.2	+2.7	CTU	Camp Tracy	12.13	98	ePn
BPCNC	Pine Canyon	8.35	145	ePn	Pn	22 43 45.7	-1.4	NLU	North Lily Min	12.16	102	ePn
BMN	Battle Mountai	8.35	108	ePn	Pn	22 43 47.9	+0.6	BMT	Black Mountain	12.16	92	ePn
BMN	Battle Mountai	8.35	108	eP	Pn	22 43 47.9	+0.6	YPP	Pinkstone Pla	12.16	81	ePn
BPRM	Ponciano Ridge	8.45	146	ePn	Pn	22 43 46.8	-1.7	REDW	Red Top Meadow	12.20	85	ePn
RYN	Ryan	8.45	122	ePn	Pn	22 43 50.4	+1.8	ARUT	Antelope Range	12.21	113	ePn
KVN	Kaiserville	8.46	119	ePn	Pn	22 43 50.5	+1.7	ARUT	Antelope Range	12.21	113	eP
KVN	Kaiserville	8.46	119	eP	Pn	22 43 50.5	+1.7	FMP	Fort Macarthur	12.23	140	P
	baz=326											
JHC	Johnson Canyon	8.47	144	ePn	Pn	22 43 47.5	-1.2	YMV	Mammoth Vault	12.23	77	ePn
JHC	Johnson Canyon	8.47	144	eP	Pn	22 43 47.5	-1.2	MOOW	Moose Ponds	12.24	83	ePn
BRMM	Rolling Bench	8.49	140	ePn	Pn	22 43 50.1	+1.0	TCUT	Toone Canyon	12.25	96	ePn
EMT	Emmet	8.51	142	ePn	Pn	22 43 48.9	-0.4	SNOW	Snow King Moun	12.26	85	ePn
MMIM	Miami Mountain	8.58	133	ePn	Pn	22 43 52.9	+2.5	YML	Mary Lake	12.27	79	ePn
MFID	Camas Ranch	8.58	87	ePn	Pn	22 43 49.0	-1.4	YLT	Little Thumb C	12.31	80	ePn
SBT	San Benito	8.64	142	ePn	Pn	22 43 50.9	-0.2	H17A	Grant Village	12.32	80	P
BBB	Bella Bella	8.64	358	Pn	Pn	22 43 52.3	+1.2		baz=272			
	7.6nm,0.3s,baz=182,slow=9.3,SNR=297							H17A	Grant Village	12.32	80	ePn
BBB				Sn	Sn	22 45 26.5	-1.6	FLU	Fool Peak	12.32	105	ePn
	3.9nm,0.3s,baz=64,slow=14,SNR=5.1							HEC	Hector,Ludlow	12.34	131	P
BBB				LR	LR	22 46 34.9			baz=318			
	comp=Z,28µm,18.4s,baz=178,slow=34							LOHW	Long Hollow	12.35	84	ePn
BBB	Bella Bella	8.64	358	ePn	Pn	22 43 52.2	+1.2	RCJ	Ross Creek	12.37	98	ePn
BBB				eSn	Sn	22 45 25.9	-2.2	JLU	Jordanelle	12.38	98	ePn
NEW	Newport	8.71	54	Pn	Pn	22 43 51.6	-0.4	CCUT	Cedar City	12.39	114	ePn
	8.9nm,0.3s,baz=235,slow=13,SNR=376							KLJ	Keetly	12.40	98	ePn
NEW				LR	LR	22 47 12.6		CIS	Catalina Islan	12.43	142	P
	comp=Z,49µm,20.3s,baz=245,slow=38								baz=328			
NEW	Newport	8.71	54	P	Pn	22 43 51.8	-0.2	CRAG	Craig	12.45	345	ePn
	baz=241							MPU	Maple Canyon	12.45	101	ePn
NV01	Mina Array Sit	8.71	123	ePn	Pn	22 43 53.1	+0.8	BBRC	Big Bear Solar	12.46	135	P
NVAR	Mina Array Bea	8.71	123	Pn	Pn	22 43 53.0	+0.7		baz=322			
	baz=294,slow=12,SNR=141							TCRU	Three Creeks R	12.47	108	ePn
NVAR				LR	LR	22 47 14.4		LEVU	Levan	12.52	103	ePn
	comp=Z,28µm,18.8s,baz=53,slow=38							HTU	Hoyt Peak	12.52	98	ePn
MHDM	Hidden Dam	8.72	135	ePn	Pn	22 43 54.6	+2.4	YTP	The Promontory	12.53	80	ePn
NV11	Mina Array Sit	8.80	122	ePn	Pn	22 43 54.4	+1.0	SZCU	Shurtz Canyon	12.55	113	ePn
MLAC	Mammoth, Mammo	8.93	129	P	Pn	22 43 57.9	+2.7	WCU	Willow Creek	12.55	106	ePn
	baz=314							DAU	Daniels Canyon	12.58	99	ePn
PMPB	Monarch Peak	9.01	142	ePn	Pn	22 43 55.5	-0.7	DAU	Daniels Canyon	12.58	99	eP
HLID	Hailey	9.60	85	P	Pn	22 44 03.3	-1.0	CRMT	Chrome Mountai	12.63	75	ePn
	baz=275							MSU	Marysvale	12.70	108	ePn
HLID	Hailey	9.60	85	ePn	Pn	22 44 03.3	-1.0	MSU	Marysvale	12.70	108	eP
PAGB	Antelope Grade	9.66	141	ePn	Pn	22 44 04.9	-0.2	SCI2	San Clemente I	12.73	143	P
TIN	Tinemaha, Big	9.67	129	P	Pn	22 44 08.1	+2.7		baz=329			
	baz=315							GMRC	Granite Mounta	12.75	129	P
TIN	Tinemaha, Big	9.67	129	ePn	Pn	22 44 01.4	-3.9		baz=317			
TIN	Tinemaha, Big	9.67	129	eP	Pn	22 44 01.4	-3.9	GMRC	Granite Mounta	12.75	129	ePn
RCTC	Rector, Farmer	9.68	136	P	Pn	22 44 06.9	+1.6	LCMT	Little Creek M	12.77	116	ePn
	baz=321							MURC	Murrieta	12.85	137	P
BSMT	Bassoo Peak	9.96	60	ePn	Pn	22 44 09.9	+0.6		baz=324			
SMMC	Simmler	10.12	142	P	Pn	22 44 10.4	-1.0	LDFC	Landfair	12.86	127	ePn
	baz=327							MTPU	Mount Pierson	12.93	110	ePn
VES	Vestal, Richgr	10.13	137	P	Pn	22 44 12.2	+0.8	GCMT	Greycliff	12.98	74	ePn
	baz=322							DANC	Danby, Needles	13.02	129	ePn
DIB	Dawson Inlet,	10.18	343	ePn	Pn	22 44 13.6	+1.6	TMUT	Trail Mountain	13.03	103	ePn
H02S1	DAWSON INLET T	10.18	343	Pn	Pn	22 44 13.8	+1.7	KNB	Kanab	13.04	115	ePn
	SNR=132							KNB	Kanab	13.04	115	eP
H02S1				T	T	22 54 44.3		BELC	Belle Mtn. Jos	13.15	133	P
	SNR=3.1								baz=320			
CWC	Cottonwood Cre	10.20	131	P	Pn	22 44 15.5	+2.9	BELC	Belle Mtn. Jos	13.15	133	ePn
	baz=317							PKCU	Pink Cliffs	13.15	112	ePn
COMI	Craters of Moo	10.20	86	ePn	Pn	22 44 14.1	+1.5	PFO	Pinyon Flats O	13.21	135	P
MSO	Missoula	10.20	67	P	Pn	22 44 11.9	-0.7		baz=322			
	baz=256							PFO	Pinyon Flats O	13.21	135	ePn
MSO	Missoula	10.20	67	ePn	Pn	22 44 11.3	-1.3	PFO	Pinyon Flats O	13.21	135	eP
GRAC	Grapevine Rang	10.21	126	P	Pn	22 44 15.8	+3.2	XPFO	Piæon Flat	13.21	135	ePn
	baz=313							Q16A	Castle Valley	13.22	105	ePn
JTMT	Jette	10.24	61	ePn	Pn	22 44 13.0	-0.1	BW06	Boulder Array	13.22	87	P
R11A	Troy Canyon, C	10.48	116	P	Pn	22 44 16.3	-0.2		baz=280			
	baz=304							BW06	Boulder Array	13.22	87	ePn
R11A	Troy Canyon, C	10.48	116	ePn	Pn	22 44 18.0	+1.5	PD31	Pinedale Array	13.22	87	ePn
PKM	Mcpherson Peak	10.56	142	P	Pn	22 44 16.9	-0.6	PDAR	Pinedale Array	13.22	87	Pn
	baz=328								1.9nm,0.3s,baz=268,slow=10,SNR=330			
ISA	Isabella, Lake	10.57	135	P	Pn	22 44 17.2	-0.5	PDAR				LR
	baz=321								comp=Z,29µm,19.9s,baz=282,slow=39			
ISA	Isabella, Lake	10.57	135	ePn	Pn	22 44 20.2	+2.6	PDAR	Pinedale Array	13.22	87	ePn
ISA	Isabella, Lake	10.57	135	eP	Pn	22 44 20.2	+2.6	EKU	East Kanab	13.23	114	ePn
DAC	Darwin (Calif)	10.59	130	ePn	Pn	22 44 21.1	+3.2	RLMT	Red Lodge	13.24	77	P
DAC	Darwin (Calif)	10.59	130	eP	Pn	22 44 21.1	+3.2		baz=270			
MCMT	McKenzie Canyo	10.69	78	ePn	Pn	22 44 19.6	+0.2	RLMT	Red Lodge	13.24	77	ePn
MPMC	Manual Prospec	10.80	130	P	Pn	22 44 24.3	+3.4	P17A	Butcher Ranch,	13.29	102	ePn
	baz=317							NEE2	Needles Airpor	13.36	127	P
ARVC	Arvin	10.82	138	P	Pn	22 44 22.1	+1.1		baz=315			
	baz=324							MMU	Miners Mountai	13.46	108	ePn
ARVC	Arvin	10.82	138	ePn	Pn	22 44 21.7	+0.8	109C	Camp Elliot, M	13.47	139	P
FURC	Furnace Creek,	10.87	127	P	Pn	22 44 25.3	+3.7		baz=325			
	baz=314							CPE	Camp Elliot	13.47	139	ePn
DLMT	Dillon	10.90	75	ePn	Pn	22 44 21.8	-0.3	IRM	Iron Mountain	13.50	130	P
TPNV	Topopah Spring	10.91	123	P	Pn	22 44 25.7	+3.4		baz=318			
	baz=311							IRM	Iron Mountain	13.50	130	ePn
TPNV	Topopah Spring	10.91	123	ePn	Pn	22 44 23.5	+1.2	EDM	Edmonton	13.53	39	ePn
TPNV	Topopah Spring	10.91	123	eP	Pn	22 44 23.5	+1.2	EDM	Edmonton	13.53	39	eP
WALA	Waterton Lakes	10.97	55	ePn	Pn	22 44 23.2	+0.2	W13A	Hualapai Mount	13.57	124	ePn
SBC	Santa Barbara	10.98	143	P	Pn	22 44 23.5	+0.4	P18A	Preston Nutter	13.59	101	ePn
	baz=328							SRU	San Rafael Swe	13.60	103	ePn
SBC	Santa Barbara	10.98	143	ePn	Pn	22 44 16.5	-6.6	SRU	San Rafael Swe	13.60	103	eP
MOMT	Monida	11.01	79	ePn	Pn	22 44 25.1	+1.3	BC3	Big Chuckawall	13.71	132	P
LRM	Limekiln Ridge	11.04	73	ePn	Pn	22 44 23.9	-0.3		baz=320			
HVU	Hansel Valley	11.08	94	ePn	Pn	22 44 25.9	+1.3	U15A	North Rim	13.73	116	ePn
HVU	Hansel Valley	11.08	94	eP	Pn	22 44 25.9	+1.3	MONP2	Monument Peak	13.80	137	P
LRMC	Laurel Mtn Rad	11.13	133	P	Pn	22 44 27.4	+2.1					
	baz=320											
BGU	Big Grassy Mou	11.14	99	ePn	Pn	22 44 26.5	+1.1					
BGMT	Barton Gulch	11.28	76	ePn	Pn	22 44 28.3	+0.9					
OSI	Osito Audit: C	11.29	139	P	Pn	22 44 28.2	+0.9					
	baz=325											
OSI	Osito Audit: C	11.29	139	ePn	Pn	22 44 28.1	+0.7					
TPO	Tropico Hills	11.31	137	ePn	Pn	22 44 29.9	+2.2					
FSU	Fish Springs	11.32	105	ePn	Pn	22 44 29.3	+1.4					
MTUT	Morton Thiokol	11.33	94	ePn	Pn	22 44 29.6	+1.5					
SCZ2	Santa Cruz Isl	11.39	144	P	Pn	22 44 29.6	+0.8					
	baz=329											

	baz=324						
BAR	Barrett	13.85	138	ePn	Pn	22 45 03.8	+1.4
PDMCI	Parker Dam,Lak	13.97	127	P	Pn	22 45 07.3	+3.4
	baz=316						
SWSC	Sam W. Stewart	14.07	135	P	Pn	22 45 06.1	+0.7
	baz=322						
SWSC	Sam W. Stewart	14.07	135	ePn	Pn	22 45 04.0	-1.4
Y12C	Blythe	14.15	129	P	Pn	22 45 09.0	+2.6
	baz=318						
Y12C	Blythe	14.15	129	ePn	Pn	22 45 08.7	+2.3
IKP	In-Ko-Pah, Jac	14.15	136	P	Pn	22 45 07.8	+1.2
	baz=324						
WESC	Westside Schoo	14.26	135	ePn	Pn	22 45 00.8	-7.1
SIT	Sitka	14.37	343	ePn	Pn	22 45 10.4	+1.1
SIT	Sitka	14.37	343	eP	Pn	22 45 10.4	+1.1
GLA	Glamis	14.50	132	P	Pn	22 45 12.9	+1.5
	baz=320						
GLA	Glamis	14.50	132	ePn	Pn	22 45 12.9	+1.5
GLA	Glamis	14.50	132	eP	Pn	22 45 12.9	+1.5
PV09	Paradox Valley	14.84	104	ePn	Pn	22 45 13.9	-2.2
O20A	White River Ci	14.85	97	P	Pn	22 45 15.7	-0.4
	baz=290						
O20A	White River Ci	14.85	97	ePn	Pn	22 45 15.9	-0.2
WUAZ	Wupatki	14.87	117	P	Pn	22 45 18.6	+2.1
	baz=308						
WUAZ	Wupatki	14.87	117	ePn	Pn	22 45 19.1	+2.7
Y14A	Wickenburg	14.89	125	ePn	Pn	22 45 18.9	+2.3
PV10	Paradox Valley	14.96	104	ePn	Pn	22 45 18.7	+1.0
DLBC	Dease Lake	14.98	355	ePn	P	22 45 20.8	-2.3
	482nm,1.1s						
PV05	Paradox Valley	15.05	105	ePn	Pn	22 45 20.4	+1.5
RWWY	Rawlins	15.15	90	ePn	Pn	22 45 18.3	-1.9
	872nm,1.3s						
113A	Mohawk Valley,	15.30	130	ePn	Pn	22 45 23.3	+1.3
	386nm,1.5s						
PV01	Paradox Valley	15.40	104	ePn	Pn	22 45 23.7	+0.3
LAO	LASA Array	15.43	71	P	Pn	22 45 22.4	-1.3
	baz=266						
LAO	LASA Array	15.43	71	ePn	Pn	22 45 22.9	-0.7
	976nm,1.0s						
K22A	Casper	15.44	86	P	Pn	22 45 22.3	-1.7
	baz=281						
K22A	Casper	15.44	86	ePn	Pn	22 45 22.3	-1.7
	428nm,1.1s						
X16A	Lo Mia Camp, P	15.52	121	ePn	P	22 45 27.6	-1.8
	313nm,1.1s						
BESE	Bessie Mountai	15.70	346	ePn	P	22 45 29.1	-2.0
	1µm,1.2s						
MVCO	Mesa Verde	15.88	107	P	Pn	22 45 30.2	+0.4
	baz=300						
MVCO	Mesa Verde	15.88	107	ePn	Pn	22 45 30.3	+0.6
	1µm,1.9s						
SMCO	Snowmass	16.10	99	ePn	Pn	22 45 31.9	-0.8
	220nm,1.1s						
W18A	Petrified Fore	16.18	115	P	Pn	22 45 35.5	+1.9
	baz=307						
W18A	Petrified Fore	16.18	115	ePn	Pn	22 45 35.5	+1.9
	1µm,1.6s						
N23A	Red Feather La	16.28	92	P	Pn	22 45 33.4	-1.4
	baz=287						
N23A	Red Feather La	16.28	92	ePn	Pn	22 45 33.3	-1.5
	1µm,1.4s						
X18A	Snowflake	16.40	117	ePn	P	22 45 39.1	-0.1
	1µm,1.6s						
214A	Organ Pipe Nat	16.44	130	P	Pn	22 45 38.4	+1.6
	baz=319						
PHWY	Pilot Hill	16.52	90	ePn	Pn	22 45 35.8	-2.2
	258nm,1.0s						
SKAG	Skagway	16.62	346	ePn	P	22 45 40.8	-0.3
	1µm,1.4s						
S22A	4UR Ranch, Cre	16.80	103	P	Pn	22 45 41.6	+0.1
	baz=297						
S22A	4UR Ranch, Cre	16.80	103	ePn	Pn	22 45 42.2	+0.7
	485nm,1.4s						
ISCO	Idaho Springs	16.86	95	P	Pn	22 45 41.1	-1.3
	baz=290						
ISCO	Idaho Springs	16.86	95	ePn	Pn	22 45 41.0	-1.3
	629nm,1.0s						
ISCO	Idaho Springs	16.86	95	eP	Pn	22 45 41.0	-1.3
ISCO				pmax	pmax		
	comp=Z,629nm,1.0s						
RSSD	Black Hills	17.02	80	P	Pn	22 45 42.2	-2.1
	baz=276						
RSSD	Black Hills	17.02	80	ePn	Pn	22 45 42.0	-2.3
	comp=Z,811nm,1.2s						
RSSD	Black Hills	17.02	80	eP	Pn	22 45 42.0	-2.3
RSSD				pmax	pmax		
	comp=Z,811nm,1.2s						
TUC	Tucson	17.36	125	P	P	22 45 50.5	+0.9
	baz=315						
TUC	Tucson	17.36	125	ePn	P	22 45 50.9	+1.2
	comp=Z,258nm,1.3s						
TUC	Tucson	17.36	125	eP	P	22 45 50.9	+1.2
TUC				pmax	pmax		
	comp=Z,258nm,1.3s						
Q24A	Divide	17.50	97	P	Pn	22 45 50.1	-0.2
	baz=293						
Q24A	Divide	17.50	97	ePn	Pn	22 45 50.2	-0.1
	comp=Z,886nm,1.1s						
YKU2	Yakutat	17.60	339	ePn	P	22 45 52.0	0.0
	comp=Z,4µm,1.9s						
WHY	Whitehorse	17.68	348	ePn	P	22 45 54.3	+1.2
	comp=Z,295nm,1.3s						
SDCO	Great Sand Dun	17.74	102	P	P	22 45 54.2	+0.1
	baz=296						
SDCO	Great Sand Dun	17.74	102	ePn	P	22 45 54.1	0.0
	comp=Z,621nm,1.1s						
HYT	Haines Junctio	18.29	344	ePn	P	22 46 00.5	+0.7
	comp=Z,343nm,1.0s						
LAZ	Ladron	18.33	113	eP	P	22 46 02.8	+2.3
ANMO	Albuquerque	18.48	111	Pn	Pn	22 46 03.4	+1.2
	comp=Z,0.9nm,0.3s,baz=131,slow=12,SNR=177						
ANMO	Albuquerque	18.48	111	P	Pn	22 46 03.4	+1.2
	baz=304						
ANMO	Albuquerque	18.48	111	eP	Pn	22 46 03.2	+1.0
	comp=Z,429nm,1.5s						
MHTCO	State Highway	18.60	102	eP	Pn	22 46 04.7	+1.0
	comp=Z,592nm,1.6s						
Y22D	IRIS PASSCAL I	18.67	113	P	Pn	22 46 06.6	+2.1
	baz=307						
Y22D	IRIS PASSCAL I	18.67	113	eP	Pn	22 46 07.6	+3.1
	comp=Z,2µm,1.6s						
Y22E	IRIS PASSCAL I	18.67	113	P	Pn	22 46 06.4	+1.9
	baz=307						
LPM	Los Pinos Moun	18.72	112	eP	Pn	22 46 07.8	+2.6
T25A	Trinidad	18.79	102	P	Pn	22 46 06.8	+0.7
	baz=297						
T25A	Trinidad	18.79	102	eP	Pn	22 46 06.7	+0.7
	comp=Z,375nm,1.3s						
BNM	Barren Site	18.82	113	eP	Pn	22 46 08.6	+2.2
319A	Douglas	18.92	124	eP	Pn	22 46 10.2	+2.6
	comp=Z,1µm,1.6s						
121A	Cookes Peak, D	19.06	119	P	Pn	22 46 11.4	+2.1
	baz=311						
OGNE	Ogallala	19.11	89	P	P	22 46 08.4	-0.4
	baz=286						
OGNE	Ogallala	19.11	89	eP	P	22 46 08.5	-0.4
	comp=Z,351nm,0.8s						
KSCO	Kaye Shedlock'	19.30	95	P	P	22 46 11.8	+0.7
	baz=292						
KSCO	Kaye Shedlock'	19.30	95	eP	P	22 46 11.8	+0.7
	comp=Z,1µm,1.4s						
MID	Middleton Isla	19.59	331	eP	Pn	22 46 15.8	+0.5
	comp=Z,609nm,1.2s						
MID	Middleton Isla	19.59	331	eP	Pn	22 46 15.8	+0.5
MID				pmax	pmax		
	comp=Z,609nm,1.2s						
BALM	Baldy	19.60	338	eP	Pn	22 46 15.8	+0.3
	comp=Z,1µm,1.4s						
BALM	Baldy	19.60	338	eP	Pn	22 46 15.8	+0.3
BALM				pmax	pmax

comp=Z,13µm,19.0s
BMRM Bremner River 20.19 336 *e*P Pn 22 46 22.0 -0.4
comp=Z,706nm,1.2s
BMRM LR LR
comp=Z,14µm,19.0s
EYAK Cordova Ski Ar 20.22 334 *e*P **P** **22 46 21.2 +0.5**
comp=Z,591nm,1.3s
EYAK LR LR
comp=Z,20µm,18.0s
EPT El Paso 20.38 118 *e*P Pn 22 46 25.9 +0.9
comp=Z,466nm,1.1s
EPT LR LR
comp=Z,19µm,19.0s
SRIG Santa Rosalia 20.43 137 *e*P **P** **22 46 24.1 +0.9**
YKA Yellowknife Ar 20.45 17 P **P** **22 46 23.1 -0.1**
comp=Z,76nm,0.9s,baz=207,slow=11,SNR=229
SUSD Miller 20.61 78 P **P** **22 46 25.9 +0.8**
baz=278
DIV Divide 20.67 335 *e*P Pn 22 46 27.5 -0.6
comp=Z,438nm,1.0s
DIV LR LR
comp=Z,17µm,18.0s
H31A Wolsey 20.94 77 P **P** **22 46 29.4 +0.6**
baz=278
J31A Geddes 20.95 81 P **P** **22 46 29.4 +0.6**
baz=281
F31A Hecla 20.96 73 P **P** **22 46 30.0 +1.2**
baz=274
I31A Royce, Wessing 20.97 79 P **P** **22 46 30.1 +1.1**
baz=279
KLU Klutina 21.00 335 *e*P Pn 22 46 31.0 -0.9
comp=Z,793nm,1.2s
KLU LR LR
comp=Z,14µm,20.0s
G31A Conde 21.04 75 P **P** **22 46 30.6 +0.8**
baz=276
K31A O'Neill 21.07 83 P **P** **22 46 31.0 +0.9**
baz=282
KDAK Kodiak Island 21.11 321 P **P** **22 46 31.7 +1.3**
comp=Z,467nm,1.0s,baz=126,slow=6.0,SNR=120
KDAK LR LR 22 52 34.0
comp=Z,20µm,20.9s,baz=124,slow=31
KDAK Kodiak Island 21.11 321 *e*P **P** **22 46 31.7 +1.3**
comp=Z,616nm,1.0s
KDAK Kodiak Island 21.11 321 *e*P **P** **22 46 31.7 +1.3**
KDAK pmax pmax
comp=Z,616nm,1.0s
MNTX Cornudas Mount 21.15 117 P **P** **22 46 33.1 +2.0**
baz=310
MNTX Cornudas Mount 21.15 117 *e*P **P** **22 46 33.2 +2.2**
comp=Z,250nm,1.3s
MNTX LR LR
comp=Z,20µm,18.0s
OHAK Old Harbor 21.16 319 *e*P **P** **22 46 31.9 +1.1**
comp=Z,617nm,1.1s
OHAK LR LR
comp=Z,13µm,19.0s
E31A Nome 21.17 71 P **P** **22 46 32.0 +0.9**
baz=273
C31A Landman Farms, 21.25 68 P **P** **22 46 32.7 +0.7**
baz=270
D31A Mcclaflin, Tow 21.26 70 P **P** **22 46 32.9 +0.7**
baz=272
B31A Greenbush Farm 21.32 66 P **P** **22 46 33.3 +0.6**
baz=268
CBKS Cedar Bluff 21.47 93 P **P** **22 46 35.5 +1.0**
baz=292
CBKS Cedar Bluff 21.47 93 *e*P **P** **22 46 35.9 +1.4**
comp=Z,826nm,1.4s
CBKS LR LR
comp=Z,20µm,21.0s
CBKS Cedar Bluff 21.47 93 *e*P **P** **22 46 35.9 +1.4**
CBKS pmax pmax
comp=Z,826nm,1.4s
CBKS MLR MLR
comp=Z,20µm,21.0s
HARP HAARP 21.50 338 *e*P **P** **22 46 36.9 +2.3**
comp=Z,793nm,1.1s
HARP LR LR
comp=Z,13µm,22.0s
GDL2 Guadalupe Moun 21.50 114 *e*P **P** **22 46 37.3 +2.3**
BRLK Bradley Lake 21.53 327 *e*P **P** **22 46 36.0 +1.1**
comp=Z,804nm,1.0s
BRLK LR LR
comp=Z,21µm,19.0s
G32A Webster 21.54 75 P **P** **22 46 35.7 +0.6**
baz=276
MSTX Muleshoe 21.55 108 P **P** **22 46 36.4 +1.0**
baz=304
MSTX Muleshoe 21.55 108 *e*P **P** **22 46 36.6 +1.1**
MSTX LR LR
comp=Z,6µm,20.0s
MENT Mentasta 21.55 340 *e*P **P** **22 46 37.3 +2.1**
comp=Z,539nm,1.1s
MENT LR LR
comp=Z,14µm,20.0s
J32A Parkston 21.57 80 P **P** **22 46 35.7 +0.2**
baz=281
DAWY Dawson 21.62 346 *e*P **P** **22 46 37.4 +1.5**
comp=Z,722nm,1.3s
DAWY LR LR
comp=Z,21µm,20.0s
K32A Verdigre 21.62 82 P **P** **22 46 36.5 +0.4**
baz=283
A31A Linda, St. Vin 21.64 65 P **P** **22 46 36.8 +0.6**
baz=267
H32A Carlson Farm, 21.68 77 P **P** **22 46 37.5 +0.9**
baz=278
SCM Sheep Creek Mo 21.70 334 *e*P **P** **22 46 38.5 +1.8**
comp=Z,741nm,1.2s
SCM LR LR
comp=Z,15µm,21.0s
SCM Sheep Creek Mo 21.70 334 *e*P **P** **22 46 38.5 +1.8**
SCM pmax pmax
comp=Z,741nm,1.2s
SCM MLR MLR
comp=Z,15µm,21.0s
E32A Braaten, Kindr 21.73 71 P **P** **22 46 37.5 +0.4**
baz=273
I32A Karley and Nic 21.73 78 P **P** **22 46 37.9 +0.8**
baz=279
F32A Veblen 21.74 73 P **P** **22 46 37.6 +0.3**
baz=275
D32A Dogwood Acres, 21.74 70 P **P** **22 46 37.4 +0.1**
baz=272
L32A Elgin 21.75 84 P **P** **22 46 37.9 +0.5**
baz=284
HOM Homer 21.77 326 *e*P **P** **22 46 39.5 +2.1**
comp=Z,2µm,1.1s
HOM LR LR
comp=Z,18µm,19.0s
CLNB Carlsbad 21.79 113 *e*P **P** **22 46 39.9 +1.9**
BGNE Belgrade 21.80 85 P **P** **22 46 38.7 +0.7**
baz=286
BGNE Belgrade 21.80 85 *e*P **P** **22 46 38.7 +0.7**
comp=Z,2µm,1.8s
BGNE LR LR
comp=Z,21µm,20.0s
AMTX Amarillo 21.82 105 P **P** **22 46 39.8 +1.5**
baz=301
AMTX Amarillo 21.82 105 *e*P **P** **22 46 39.6 +1.3**
comp=Z,412nm,0.9s
AMTX LR LR
comp=Z,7µm,18.0s
RC01 Rabbit Creek A 21.97 331 *e*P **P** **22 46 40.8 +1.2**
comp=Z,373nm,1.1s
RC01 LR LR
comp=Z,16µm,20.0s
SML Sawmill 22.00 333 *e*P **P** **22 46 41.3 +1.4**
comp=Z,814nm,1.2s
SML LR LR
comp=Z,15µm,20.0s
SML Sawmill 22.00 333 *e*P **P** **22 46 41.3 +1.4**
SML pmax pmax
comp=Z,814nm,1.2s
SML MLR MLR
comp=Z,15µm,20.0s
PAX Paxson 22.04 338 *e*P **P** **22 46 41.8 +1.4**
comp=Z,356nm,1.4s
PAX LR LR
comp=Z,9µm,18.0s
PAX Paxson 22.04 338 *e*P **P** **22 46 41.8 +1.4**
PAX pmax pmax
comp=Z,356nm,1.4s
PAX MLR MLR
comp=Z,9µm,18.0s
B32A Ashes, Strandq 22.06 66 P **P** **22 46 40.9 +0.3**
baz=269

C32A Crookston 22.06 68 P **P** **22 46 40.7 +0.1**
baz=270
A32A Rocking H Ranc 22.10 65 P **P** **22 46 41.3 +0.2**
baz=268
PMR Palmer 22.11 332 *e*P **P** **22 46 42.0 +1.0**
comp=Z,343nm,1.1s
PMR LR LR
comp=Z,12µm,20.0s
PMR Palmer 22.11 332 *e*P **P** **22 46 42.0 +1.0**
PMR pmax pmax
comp=Z,343nm,1.1s
PMR MLR MLR
comp=Z,12µm,20.0s
H33A Prehn Over Nor 22.14 76 P **P** **22 46 42.1 +0.5**
baz=278
I33A Coleman 22.20 78 P **P** **22 46 42.8 +0.5**
baz=280
J33A Davis 22.21 80 P **P** **22 46 42.6 +0.3**
baz=281
DOT Dot Lake 22.24 341 *e*P **P** **22 46 43.9 +1.4**
comp=Z,2µm,1.8s
DOT LR LR
comp=Z,54µm,21.0s
L33A Hoskins 22.24 83 P **P** **22 46 42.9 +0.1**
baz=284
G33A Ortonville 22.29 75 P **P** **22 46 43.8 +0.6**
baz=277
F33A 5 Mile Ranch, 22.32 73 P **P** **22 46 44.0 +0.5**
baz=276
K33A Hardington 22.34 82 P **P** **22 46 43.8 +0.1**
baz=283
ECSD EROS Data Cent 22.39 79 P **P** **22 46 44.6 +0.4**
baz=280
ECSD EROS Data Cent 22.39 79 *e*P **P** **22 46 44.6 +0.4**
comp=Z,731nm,1.2s
ECSD LR LR
comp=Z,6µm,20.0s
M33A Taylor Creek F 22.45 85 P **P** **22 46 44.9 0.0**
baz=285
E33A Westby DABS, E 22.47 71 P **P** **22 46 45.5 +0.4**
baz=274
N33A J Bar K, Exete 22.49 87 P **P** **22 46 45.4 0.0**
baz=287
SCRK Sand Creek 22.50 341 *e*P **P** **22 46 46.7 +1.4**
comp=Z,277nm,1.2s
SCRK LR LR
comp=Z,20µm,21.0s
AGMN Agassiz Nation 22.51 67 P **P** **22 46 45.2 -0.2**
baz=270
AGMN Agassiz Nation 22.51 67 *e*P **P** **22 46 45.3 -0.2**
comp=Z,2µm,1.4s
AGMN LR LR
comp=Z,22µm,19.0s
RIDG Independ'e Rid 22.51 340 *e*P **P** **22 46 46.7 +1.3**
comp=Z,344nm,1.1s
RIDG LR LR
comp=Z,22µm,21.0s
D33A AnnSam, Waubun 22.54 70 P **P** **22 46 45.9 0.0**
baz=273
C33A Trail 22.57 68 P **P** **22 46 46.0 -0.2**
baz=271
SUA Susitna One 22.58 331 *e*P **P** **22 46 47.3 +1.0**
comp=Z,268nm,1.0s
SUA LR LR
comp=Z,15µm,18.0s
ULM Lac du Bonnet 22.59 62 P **P** **22 46 46.0 -0.3**
comp=Z,230nm,1.0s,baz=270,slow=10,SNR=280
ULM LR LR 22 55 46.9
comp=Z,21µm,20.6s,baz=280,slow=37
ULM Lac du Bonnet 22.59 62 *e*P **P** **22 46 46.0 -0.3**
comp=Z,395nm,1.1s
ULM Lac du Bonnet 22.59 62 *e*P **P** **22 46 46.0 -0.3**
ULM pmax pmax
comp=Z,395nm,1.1s
EGAK Eagle 22.60 345 *e*P **P** **22 46 47.3 +1.0**
comp=Z,252nm,1.1s
EGAK LR LR
comp=Z,15µm,21.0s
O33A Hebron 22.60 88 P **P** **22 46 46.6 +0.1**
baz=289
DHY Denali Highway 22.66 336 *e*P **P** **22 46 48.3 +1.2**
comp=Z,741nm,1.1s
DHY LR LR
comp=Z,9µm,18.0s
B33A Robert and Kas 22.69 67 P **P** **22 46 47.2 -0.2**
baz=270
H34A Spellman Lake, 22.83 76 P **P** **22 46 49.2 +0.3**
baz=279
A33A Warroad 22.83 65 P **P** **22 46 48.1 -0.8**
baz=269
G34A Benson 22.85 75 P **P** **22 46 49.5 +0.5**
baz=277
I34A Hadley 22.87 78 P **P** **22 46 49.6 +0.2**
baz=280
M34A Aspy Farms, Fr 22.91 84 P **P** **22 46 49.4 -0.4**
baz=286
L34A Svendsen Farm, 22.94 83 P **P** **22 46 49.8 -0.3**
baz=285
J34A George 22.94 80 P **P** **22 46 49.9 -0.2**
baz=282
K34A Le Mars 22.97 81 P **P** **22 46 50.5 +0.1**
baz=283
D34A Park Rapids 22.99 70 P **P** **22 46 50.2 -0.3**
baz=273
E34A Wadena 23.04 71 P **P** **22 46 51.0 -0.1**
baz=275
F34A Alexandria 23.05 73 P **P** **22 46 51.4 +0.2**
baz=276
N34A Lincoln 23.15 86 P **P** **22 46 52.5 +0.1**
baz=287
C34A RKJ Ranch, Bem 23.16 68 P **P** **22 46 51.6 -0.7**
baz=272
O34A Beatrice 23.21 88 P **P** **22 46 53.2 +0.2**
baz=289
B34A Aery, Baudette 23.31 66 P **P** **22 46 53.3 -0.5**
baz=270
CHGN Chignik 23.34 314 *e*P **P** **22 46 54.5 +0.6**
comp=Z,272nm,1.0s
CHGN LR LR
comp=Z,11µm,20.0s
J35A Milford 23.46 79 P **P** **22 46 55.4 +0.1**
baz=282
H35A Sunnyside Ranc 23.49 76 P **P** **22 46 55.5 -0.1**
baz=279
L35A Bielow Farm, R 23.50 82 P **P** **22 46 55.8 +0.1**
baz=285
F35A Swanville 23.52 73 P **P** **22 46 56.0 +0.2**
baz=276
I35A Creekview Farm 23.52 78 P **P** **22 46 55.8 -0.2**
baz=281
M35A Neola 23.56 84 P **P** **22 46 56.6 +0.3**
baz=286
E35A Pequot Lakes 23.57 71 P **P** **22 46 56.4 +0.1**
baz=275
K35A Storm Lake 23.58 81 P **P** **22 46 56.4 -0.2**
baz=283
HDA Harding Lake 23.59 339 *e*P **P** **22 46 57.2 +0.8**
comp=Z,1µm,2.0s
HDA LR LR
comp=Z,10µm,20.0s
MCK McKinley 23.61 336 *e*P **P** **22 46 57.7 +1.0**
comp=Z,699nm,1.6s
MCK LR LR
comp=Z,12µm,20.0s
MCK McKinley 23.61 336 *e*P **P** **22 46 57.7 +1.0**
MCK pmax pmax
comp=Z,699nm,1.6s
MCK MLR MLR
comp=Z,12µm,20.0s
KSU1 Kansas State U 23.64 90 P **P** **22 46 57.8 +0.7**
baz=291
KSU1 Kansas State U 23.64 90 *e*P **P** **22 46 58.0 +0.9**
comp=Z,672nm,1.0s
KSU1 LR LR
comp=Z,18µm,19.0s
G35A Watkins 23.66 74 P **P** **22 46 57.4 +0.2**
baz=278
O35A Humboldt 23.76 87 P **P** **22 46 58.7 +0.5**
baz=289
D35A Remer 23.77 70 P **P** **22 46 58.5 +0.2**
baz=274
N35A Tabor 23.77 85 P **P** **22 46 59.2 +0.9**
baz=287
C35A Jirik Farms, M 23.78 68 P **P** **22 46 58.1 -0.3**
baz=273
TRF Thorofare Moun 23.82 335 *e*P **P** **22 46 59.5 +0.7**
comp=Z,1µm,1.8s
TRF LR LR

comp=Z,15µm,20.0s
TX31 Lajitas Ar. Si 23.82 119 *e*P **P** **22 47 00.2 +1.1**
TXAR Lajitas Array 23.83 119 P **P** **22 47 00.4 +1.3**
comp=Z,51nm,1.0s,baz=300,slow=8.1,SNR=193
IL1 Eielson Array 23.87 340 *e*P **P** **22 46 58.7 -0.4**
ILAR Eielson Array 23.87 340 P **P** **22 46 59.8 +0.7**
comp=Z,76nm,0.8s,baz=152,slow=8.7,SNR=560
ILAR PcP **PcP** **22 50 41.0 -0.5**
comp=Z,5.0nm,0.9s,baz=160,slow=2.3,SNR=4.7
ILAR LR LR 22 54 45.0
comp=Z,13µm,21.8s,baz=158,slow=33
ILB Eielson Array 23.87 340 *e*P **P** **22 46 59.8 +0.7**
B35A Bob, Littlefor 23.93 67 P **P** **22 46 59.3 -0.6**
baz=271
WRH Wood River Hil 23.94 338 *e*P **P** **22 47 00.6 +0.8**
comp=Z,860nm,1.6s
WRH LR LR
comp=Z,12µm,22.0s
WMOK Wichita Mounta 23.95 102 P **P** **22 47 01.2 +1.0**
baz=300
WMOK Wichita Mounta 23.95 102 *e*P **P** **22 47 01.0 +0.8**
comp=Z,574nm,1.0s
WMOK LR LR
comp=Z,9µm,18.0s
WMOK Wichita Mounta 23.95 102 *e*P **P** **22 47 01.0 +0.8**
WMOK pmax pmax
comp=Z,574nm,1.0s
WMOK MLR MLR
comp=Z,9µm,18.0s
CCB Clear Creek Bu 24.01 339 *e*P **P** **22 47 01.1 +0.7**
comp=Z,527nm,1.5s
CCB LR LR
comp=Z,9µm,21.0s
PPLA Purkeypile 24.05 332 *e*P **P** **22 47 02.1 +1.2**
comp=Z,724nm,1.3s
PPLA LR LR
comp=Z,13µm,18.0s
LPIG La Paz 24.06 138 P **P** **22 47 00.7 -0.5**
comp=Z,87nm,0.6s,baz=140,slow=5.0,SNR=9.8
J36A Seneca 1, Swea 24.09 79 P **P** **22 47 01.3 0.0**
baz=282
KTH Kantishna Hill 24.09 334 *e*P **P** **22 47 01.5 +0.2**
comp=Z,269nm,1.3s
KTH LR LR
comp=Z,14µm,19.0s
L36A Harm Buss Farm 24.14 82 P **P** **22 47 01.7 -0.1**
baz=285
H36A Jessenland, He 24.14 76 P **P** **22 47 01.8 -0.1**
baz=280
SDPT Sand Point 24.16 311 *e*P **P** **22 47 01.7 -0.1**
comp=Z,558nm,1.4s
SDPT LR LR
comp=Z,8µm,20.0s
K36A Gilmore City 24.16 81 P **P** **22 47 01.9 -0.1**
baz=284
G36A St. Michael 24.17 74 P **P** **22 47 02.0 -0.1**
baz=278
I36A Fitzsimmons Fa 24.18 77 P **P** **22 47 01.9 -0.4**
baz=281
COLA College 24.20 339 *e*P **P** **22 47 03.0 +0.9**
comp=Z,190nm,1.1s
COLA LR LR
comp=Z,10µm,21.0s
COLA College 24.20 339 *e*P **P** **22 47 03.0 +0.9**
COLA pmax pmax
comp=Z,190nm,1.1s
COLA MLR MLR
comp=Z,10µm,21.0s
SVW2 Sparrevohn 24.20 326 *e*P **P** **22 47 02.6 +0.4**
comp=Z,308nm,1.4s
SVW2 LR LR
comp=Z,15µm,20.0s
M36A Felix, Anita 24.21 84 P **P** **22 47 02.1 -0.4**
baz=286
F36A Milaca 24.24 73 P **P** **22 47 02.9 +0.1**
baz=277
N36A Muff Farm, Cla 24.28 85 P **P** **22 47 03.3 +0.2**
baz=288
HPIG 24.31 126 *e*P **P** **22 47 05.1 +1.3**
comp=Z,230nm,1.3s
HPIG LR LR
comp=Z,48µm,21.0s
E36A McGregor 24.36 71 P **P** **22 47 04.0 +0.1**
baz=276
D36A Goodland 24.36 69 P **P** **22 47 04.1 +0.3**
baz=274
MDM Murphy Dome 24.36 339 *e*P **P** **22 47 04.4 +0.7**
comp=Z,227nm,1.2s
MDM LR LR
comp=Z,11µm,21.0s
CAST Castle Rocks 24.37 333 *e*P **P** **22 47 04.1 +0.4**
comp=Z,160nm,1.3s
CAST LR LR
comp=Z,14µm,21.0s
ABTX Abilene, Hawle 24.47 107 P **P** **22 47 05.8 +0.8**
baz=305
ABTX Abilene, Hawle 24.47 107 *e*P **P** **22 47 05.8 +0.8**
comp=Z,1µm,1.9s
ABTX LR LR
comp=Z,14µm,18.0s
BPAW Bear Paw Mtn. 24.50 335 *e*P **P** **22 47 05.4 +0.4**
comp=Z,160nm,1.0s
BPAW LR LR
comp=Z,12µm,20.0s
C36A Pine Crest Far 24.55 68 P **P** **22 47 05.6 +0.1**
baz=273
I37A Lemond, Waseca 24.62 77 P **P** **22 47 06.3 +0.1**
baz=281
J37A Redenius Farm, 24.65 79 P **P** **22 47 06.6 +0.1**
baz=282
K37A Belmond 24.71 80 P **P** **22 47 07.3 +0.2**
baz=284
M37A Trindle Farm, 24.76 83 P **P** **22 47 07.8 +0.3**
baz=286
L37A Phoenix Point, 24.79 82 P **P** **22 47 08.1 +0.4**
baz=285
SPMN Marine on St. 24.83 74 P **P** **22 47 08.5 +0.4**
baz=279
SPMN Marine on St. 24.83 74 *e*P **P** **22 47 08.7 +0.6**
comp=Z,1µm,0.9s
SPMN LR LR
comp=Z,19µm,18.0s
N37A Lee Faris, Mou 24.84 85 P **P** **22 47 08.4 +0.1**
baz=288
H37A Dierke Farm, C 24.86 75 P **P** **22 47 09.3 +0.9**
baz=280
D37A Cotton 24.87 69 P **P** **22 47 08.5 0.0**
baz=275
F37A Hinrichs Farm, 24.88 73 P **P** **22 47 08.9 +0.4**
baz=278
E37A Wrenshall 24.94 71 P **P** **22 47 09.3 +0.2**
baz=276
FYU Fort Yukon 24.98 343 *e*P **P** **22 47 11.0 +1.8**
comp=Z,803nm,1.2s
FYU LR LR
comp=Z,14µm,21.0s
C37A Embarrass 24.99 68 P **P** **22 47 09.7 +0.2**
baz=274
INK Inuvik 25.01 355 P **P** **22 47 09.6 +0.2**
comp=Z,85nm,1.1s,baz=167,slow=11,SNR=93
INK LR LR 22 56 30.7
comp=Z,14µm,19.2s,baz=180,slow=36
INK Inuvik 25.01 355 *e*P **P** **22 47 09.7 +0.2**
comp=Z,248nm,1.3s
INK Inuvik 25.01 355 *e*P **P** **22 47 09.7 +0.3**
INK pmax pmax
comp=Z,248nm,1.3s
O37A Wolven Farm, M 25.07 86 P **P** **22 47 10.7 +0.4**
baz=289
MLY Manley 25.11 337 *e*P **P** **22 47 11.5 +1.0**
comp=Z,382nm,1.1s
MLY LR LR
comp=Z,11µm,22.0s
P37A Lathrop 25.11 88 P **P** **22 47 11.4 +0.7**
baz=290
SCIA State Center 25.23 82 P **P** **22 47 12.7 +0.9**
baz=286
SCIA State Center 25.23 82 *e*P **P** **22 47 12.8 +1.1**
comp=Z,1µm,1.5s
SCIA LR LR
comp=Z,19µm,18.0s
H38A Maiden Rock 25.29 75 P **P** **22 47 12.9 +0.6**
baz=280
Q37A Longview Farm, 25.29 89 P **P** **22 47 12.8 +0.5**
baz=292
L38A Oak Wood Farm, 25.35 81 P **P** **22 47 13.3 +0.4**
baz=285
K38A Parkersburg 25.36 80 P **P** **22 47 13.3 +0.4**

baz=284
I38A Scanlan Farm, 25.37 77 P P 22 47 13.4 +0.4
baz=281
F38A Pierce - Schro 25.37 72 P P 22 47 13.9 +0.9
baz=278
M38A Pleasantville 25.38 83 P P 22 47 13.3 +0.2
baz=287
J38A Wedel Dairy, R 25.42 78 P P 22 47 13.5 +0.1
baz=283
EYMN Ely 25.44 67 P P 22 47 13.8 +0.1
baz=274
EYMN Ely 25.44 67 eP P 22 47 13.7 +0.1
comp=Z,449nm,1.0s
EYMN LR LR
comp=Z,25µm,19.0s
G38A Ridgeland 25.50 74 P P 22 47 14.4 +0.2
baz=279
E38A The Farm, Brul 25.52 70 P P 22 47 14.4 +0.1
baz=276
TUL1 Leonard 25.53 97 P P 22 47 15.0 +0.5
baz=297
TUL1 Leonard 25.53 97 eP P 22 47 15.3 +0.8
comp=Z,806nm,1.6s
TUL1 LR LR
comp=Z,12µm,21.0s
N38A Joes South For 25.53 84 P P 22 47 14.8 +0.3
baz=288
O38A Galt 25.57 86 P P 22 47 15.1 +0.3
baz=289
C38A Sawbill Land. 25.61 68 P P 22 47 15.4 +0.3
baz=274
FCC Fort Churchill 25.61 42 eP P 22 47 15.7 +0.8
comp=Z,644nm,1.2s
FCC LR LR
comp=Z,12µm,22.0s
FCC Fort Churchill 25.61 42 eP P 22 47 15.7 +0.8
FCC pmax pmax
comp=Z,644nm,1.2s
FCC MLR MLR
comp=Z,12µm,22.0s
JCT Junction City 25.63 111 P P 22 47 16.3 +0.8
baz=308
JCT Junction City 25.63 111 eP P 22 47 16.4 +0.8
comp=Z,342nm,1.1s
JCT LR LR
comp=Z,6µm,20.0s
JCT Junction City 25.63 111 eP P 22 47 16.4 +0.8
JCT pmax pmax
comp=Z,342nm,1.1s
JCT MLR MLR
comp=Z,6µm,20.0s
FALS False Pass 25.68 309 eP P 22 47 15.8 +0.1
comp=Z,207nm,1.1s
FALS LR LR
comp=Z,7µm,19.0s
P38A Dawn 25.69 87 P P 22 47 16.4 +0.4
baz=290
Q38A Cooks Store, C 25.86 88 P P 22 47 18.2 +0.7
baz=291
R38A Fenwick Farm, 25.94 90 P P 22 47 18.7 +0.4
baz=293
J39A Decorah 25.96 78 P P 22 47 18.3 -0.1
baz=283
G39A Holcombe 25.96 73 P P 22 47 18.5 +0.2
baz=279
I39A Houston 25.98 77 P P 22 47 18.9 +0.4
baz=282
K39A Oelwein 25.98 79 P P 22 47 18.2 -0.3
baz=284
H39A Augusta 25.99 75 P P 22 47 19.2 +0.6
baz=281
N39A Derby Farms, D 26.04 84 P P 22 47 18.8 -0.2
baz=288
F39A Loretta 26.04 72 P P 22 47 19.7 +0.6
baz=278
L39A Vinton 26.05 81 P P 22 47 19.2 +0.1
baz=285
M39A Webster 26.10 82 P P 22 47 19.7 +0.1
baz=287
T38A Diamond 26.13 93 P P 22 47 20.3 +0.4
baz=295
S38A Stockton 26.16 91 P P 22 47 20.6 +0.4
baz=294
O39A Kirksville 26.20 85 P P 22 47 20.5 -0.1
baz=289
E39A Mellen 26.23 71 P P 22 47 20.9 +0.1
baz=278
Q39A Willow Grove F 26.30 88 P P 22 47 21.7 +0.2
baz=291
P39B Salisbury 26.31 87 P P 22 47 21.7 +0.2
baz=290
WHTX Lake Whitney, 26.35 106 P P 22 47 22.8 +0.8
baz=305
WHTX Lake Whitney, 26.35 106 eP P 22 47 22.9 +0.9
comp=Z,496nm,1.4s
WHTX LR LR
comp=Z,6µm,19.0s
C39A Grand Marais 26.37 67 P P 22 47 21.7 -0.3
baz=275
K40A Colesburg 26.52 79 P P 22 47 23.6 +0.2
baz=284
R39A Chumby, Stover 26.53 89 P P 22 47 23.8 +0.2
baz=293
S39A Bolivar 26.56 91 P P 22 47 24.1 +0.2
baz=294
F40A Park Falls 26.59 72 P P 22 47 24.0 -0.1
baz=279
M40A Post Highland 26.59 82 P P 22 47 24.6 +0.5
baz=287
I40A Norwalk 26.61 76 P P 22 47 24.7 +0.5
baz=282
L40A Anamosa 26.62 81 P P 22 47 24.7 +0.4
baz=286
H40A Chili 26.62 75 P P 22 47 24.9 +0.5
baz=281
J40A Soldiers Grove 26.63 77 P P 22 47 25.0 +0.5
baz=283
G40A Rib Lake 26.64 73 P P 22 47 24.8 +0.3
baz=280
COLD Coldfoot 26.65 341 eP P 22 47 26.0 +1.6
comp=Z,295nm,1.5s
COLD LR LR
comp=Z,13µm,22.0s
IM3 Indian Mountai 26.67 336 eP P 22 47 25.5 +0.9
E40A Wakefield 26.67 71 P P 22 47 25.4 +0.6
baz=278
N40A Mertquake, Sal 26.70 83 P P 22 47 24.9 -0.1
baz=288
HHAR Hobbs 26.71 94 eP P 22 47 25.6 +0.4
comp=Z,167nm,1.2s
HHAR LR LR
comp=Z,91µm,18.0s
O40A La Belle 26.73 85 P P 22 47 25.2 -0.2
baz=289
T39A Clever 26.80 92 P P 22 47 26.5 +0.5
baz=295
P40A Paris 26.80 86 P P 22 47 25.9 -0.2
baz=290
AKUT Akutan 26.93 307 PFAKE 22 47 40.0 +13
AKUT LR LR
comp=Z,7µm,18.0s
435B Jarrell 26.96 108 P P 22 47 28.3 +0.8
baz=307
Q40A Laux Farm, Aux 26.97 87 P P 22 47 27.7 +0.2
baz=291
U39A Green Forest 27.00 94 P P 22 47 28.0 +0.2
baz=296
C40A Isle Royale Na 27.01 67 P P 22 47 27.9 +0.1
baz=275
R40A Maddies Statio 27.09 89 P P 22 47 28.6 0.0
baz=293
JFWS Jewell Farm 27.10 78 P P 22 47 28.9 +0.2
baz=284
JFWS Jewell Farm 27.10 78 eP P 22 47 29.3 +0.7
comp=Z,450nm,1.3s
JFWS LR LR
comp=Z,5µm,22.0s
JFWS Jewell Farm 27.10 78 eP P 22 47 29.3 +0.7
JFWS pmax pmax
comp=Z,450nm,1.3s
JFWS MLR MLR
comp=Z,5µm,22.0s
I41A Arkdale 27.10 76 P P 22 47 28.8 +0.2
baz=282
V39A Pettigrew 27.12 95 P P 22 47 29.3 +0.3
baz=297
K41A Shullsburg 27.13 79 P P 22 47 29.3 +0.3
baz=285
L41A Preston 27.14 80 P P 22 47 29.1 +0.1
baz=286
H41A Junction City 27.14 74 P P 22 47 29.0 0.0
baz=281
H41A Junction City 27.14 74 eP P 22 47 29.4 +0.4
comp=Z,1µm,1.5s
H41A LR LR
comp=Z,21µm,18.0s
J41A Loganville 27.16 77 P P 22 47 29.2 0.0
baz=284
S40A Lebanon 27.20 91 P P 22 47 29.6 +0.1
baz=294
COWI Conover 27.24 71 eP P 22 47 30.4 +0.5
comp=Z,157nm,0.8s
COWI LR LR
comp=Z,22µm,18.0s
N41A Harden Midland 27.28 83 P P 22 47 30.2 -0.1
baz=288
833A Chaparral WMA, 27.28 115 P P 22 47 31.7 +1.3
baz=312
M41A Milan 27.30 82 P P 22 47 30.6 +0.1
baz=287
E41A Kenton 27.31 70 P P 22 47 30.9 +0.4
baz=278
W39A Magazine 27.31 96 P P 22 47 31.5 +0.9
baz=298
UNV Unalaska Valle 27.32 306 eP P 22 47 31.3 +0.8
comp=Z,404nm,1.3s
UNV LR LR
comp=Z,7µm,19.0s
F41A Three Lakes 27.32 72 P P 22 47 31.4 +0.7
baz=280
G41A Antigo 27.36 73 P P 22 47 31.5 +0.5
baz=280
T40A Mansfield 27.37 91 P P 22 47 31.4 +0.3
baz=295
X39A Fountain Ranch 27.40 98 P P 22 47 32.6 +1.1
baz=300
O41A Passleys Farm, 27.45 84 P P 22 47 31.5 -0.3
baz=290
U40A Yellville 27.46 93 P P 22 47 32.4 +0.4
baz=296
P41A Barry, Barry 27.47 85 P P 22 47 31.6 -0.4
baz=290
D41A Chassel 27.50 69 P P 22 47 32.9 +0.7
baz=277
Q41A Truxton 27.60 87 P P 22 47 32.9 -0.3
baz=292
TOLK Toolik Lake Re 27.64 343 P P 22 47 35.3 +2.0
baz=144
TOLK Toolik Lake Re 27.64 343 eP P 22 47 35.4 +2.1
comp=Z,411nm,1.2s
TOLK LR LR
comp=Z,17µm,20.0s
V40A Witts Springs 27.73 94 P P 22 47 34.8 +0.4
baz=297
R41A Rosebud 27.74 88 P P 22 47 34.4 0.0
baz=293
WI04 River Road, Cl 27.74 74 eP P 22 47 34.9 +0.5
comp=Z,256nm,0.8s
WI04 LR LR
comp=Z,8µm,22.0s
L42A Oliver, Polo 27.75 80 P P 22 47 34.8 +0.3
baz=286
S41A Jillco Farms, 27.75 90 P P 22 47 34.8 +0.2
baz=294
WI02 Reinke Road, C 27.76 74 eP P 22 47 35.4 +0.9
comp=Z,304nm,1.0s
WI02 LR LR
comp=Z,2µm,20.0s
WI01 McKinley Avenu 27.77 74 eP P 22 47 35.5 +0.8
comp=Z,2µm,2.0s
K42A Prairie Point, 27.77 78 P P 22 47 34.9 +0.2
baz=285
MIAR Mount Ida 27.77 97 P P 22 47 35.7 +0.9
baz=299
MIAR Mount Ida 27.77 97 eP P 22 47 35.5 +0.8
MIAR LR LR
comp=Z,79µm,20.0s
MIAR Mount Ida 27.77 97 eP P 22 47 35.5 +0.8
MIAR MLR MLR
comp=Z,79µm,20.0s
WI03 Lunz Road, Cli 27.78 74 eP P 22 47 35.4 +0.7
comp=Z,292nm,0.8s
J42A Columbus 27.80 77 P P 22 47 35.1 +0.2
baz=284
I42A Draeger Farm, 27.81 76 P P 22 47 35.4 +0.3
baz=283
I42A Draeger Farm, 27.81 76 eP P 22 47 35.5 +0.4
comp=Z,140nm,1.0s
I42A LR LR
comp=Z,13µm,19.0s
W40A Ferguson Farm, 27.83 96 P P 22 47 36.2 +1.0
baz=298
W40A Ferguson Farm, 27.83 96 eP P 22 47 36.3 +1.0
comp=Z,926nm,1.4s
W40A LR LR
comp=Z,110µm,18.0s
N42A Yates City 27.83 83 P P 22 47 35.7 +0.5
baz=288
M42A Sheffield 27.84 81 P P 22 47 35.7 +0.4
baz=287
G42A Mountain 27.88 73 P P 22 47 36.3 +0.7
baz=281
G42A Mountain 27.88 73 eP P 22 47 36.5 +0.9
comp=Z,500nm,1.2s
G42A LR LR
comp=Z,14µm,18.0s
CCM Cathedral Cave 27.93 89 P P 22 47 35.9 -0.2
baz=293
CCM Cathedral Cave 27.93 89 eP P 22 47 35.9 -0.2
comp=Z,224nm,1.0s
CCM LR LR
comp=Z,47µm,18.0s
CCM Cathedral Cave 27.93 89 eP P 22 47 35.9 -0.2
CCM pmax pmax
comp=Z,224nm,1.0s
CCM MLR MLR
comp=Z,47µm,18.0s
H42A Shiocton 27.95 74 P P 22 47 36.5 +0.3
baz=282
H42A Shiocton 27.95 74 eP P 22 47 36.9 +0.7
comp=Z,338nm,0.9s
H42A LR LR
comp=Z,8µm,22.0s
T41A Mountain View 27.96 91 P P 22 47 36.9 +0.4
baz=295
F42A Maple Grove Fa 27.99 72 P P 22 47 37.1 +0.5
baz=280
O42A Bath 28.00 84 P P 22 47 36.7 -0.1
baz=290
P42A Winchester 28.02 85 P P 22 47 36.6 -0.3
baz=290
E42A Champion 28.03 70 P P 22 47 37.4 +0.5
baz=279
Q42A Golden Eagle 28.12 87 P P 22 47 37.8 0.0
baz=292
U41A Viola 28.14 93 P P 22 47 38.5 +0.4
baz=296
R42A Luebbering 28.17 88 P P 22 47 38.0 -0.3
baz=293
V41A Mountainview 28.22 94 P P 22 47 38.7 -0.1
baz=297
Y40A Okolona 28.25 98 P P 22 47 39.6 +0.6
baz=300
J43A Natural Harves 28.28 77 P P 22 47 39.3 +0.1
baz=284
X40A Basin Creek Fa 28.34 97 P P 22 47 39.9 +0.1
baz=299
WHAR Wooly Hollow 28.35 95 eP P 22 47 40.3 +0.4
comp=Z,345nm,1.4s
WHAR LR LR
comp=Z,99µm,18.0s
I43A Langenfeld Bro 28.36 75 P P 22 47 40.3 +0.4
baz=283
L43A Garden Prairie 28.36 79 P P 22 47 39.7 -0.3
baz=286
S42A Caledonia 28.37 89 P P 22 47 39.5 -0.6
baz=294
G43A Wallace 28.39 73 P P 22 47 40.6 +0.4
baz=281
G43A Wallace 28.39 73 eP P 22 47 40.8 +0.6
comp=Z,456nm,1.0s
G43A LR LR
comp=Z,10µm,22.0s
N43A Stutzman Famil 28.42 82 P P 22 47 41.0 +0.5
baz=288
M43A Waltham Townsh 28.42 81 P P 22 47 40.3 -0.2
baz=288
W41B Gary Mavity, V 28.43 95 P P 22 47 41.1 +0.5
baz=298
SLM Saint Louis 28.44 87 eP P 22 47 41.0 +0.3
comp=Z,412nm,1.1s
SLM LR LR
comp=Z,36µm,20.0s
SLM Saint Louis 28.44 87 eP P 22 47 41.0 +0.3
SLM pmax pmax
comp=Z,412nm,1.1s
SLM MLR MLR
comp=Z,36µm,20.0s
NATX Nacogdoches 28.45 103 P P 22 47 42.4 +1.6
baz=304
NATX Nacogdoches 28.45 103 eP P 22 47 42.8 +2.0
comp=Z,213nm,0.9s
NATX LR LR
comp=Z,69µm,20.0s
T42A Van Buren 28.45 91 P P 22 47 40.6 -0.2
baz=295
H43A Windswept, Lux 28.49 74 P P 22 47 41.5 +0.5
baz=282
H43A Windswept, Lux 28.49 74 eP P 22 47 42.0 +1.0
comp=Z,543nm,1.0s
H43A LR LR
comp=Z,2µm,19.0s
K43A Burlington 28.51 78 P P 22 47 41.1 -0.1
baz=285
O43A Sugar Creek Fa 28.53 83 P P 22 47 41.5 0.0
baz=289
WLAR White Oak Lake 28.53 98 eP P 22 47 42.9 +1.4
comp=Z,458nm,1.0s
WLAR LR LR
comp=Z,107µm,18.0s
Z40A Long Farm, Mag 28.55 99 P P 22 47 42.6 +0.9
baz=301
UALR University of 28.55 96 eP P 22 47 42.4 +0.7
comp=Z,323nm,1.8s
UALR LR LR
comp=Z,109µm,18.0s
X41A Kaden, Bauxite 28.57 96 P P 22 47 42.0 +0.2
baz=299
P43A Skaggs, Pawnee 28.60 85 P P 22 47 42.0 0.0
baz=290
U42A Revenden 28.64 92 P P 22 47 42.8 +0.4
baz=296
F43A Flat Rock, Esc 28.64 71 P P 22 47 43.1 +0.7
baz=280
E43A Lone Tree Farm 28.67 70 P P 22 47 43.0 +0.4
baz=279
HKT Hockley 28.67 108 eP P 22 47 42.9 +0.2
comp=Z,539nm,1.8s
HKT LR LR
comp=Z,3µm,19.0s
HKT Hockley 28.67 108 eP P 22 47 42.9 +0.2
HKT pmax pmax
comp=Z,539nm,1.8s
HKT MLR MLR
comp=Z,3µm,19.0s
Q43A New Douglas 28.72 86 P P 22 47 42.8 -0.3
baz=292
140A Cam and Jess, 28.74 101 P P 22 47 44.8 +1.4
baz=302
V42A Cord 28.77 93 P P 22 47 43.5 -0.1
baz=297
KVTX Kingsville 28.79 114 eP P 22 47 45.1 +1.2
comp=Z,316nm,1.1s
KVTX LR LR
comp=Z,199µm,19.0s
Y41A Eaglette Beard 28.80 98 P P 22 47 44.1 +0.3
baz=300
R43A Red Bud 28.80 88 P P 22 47 42.9 -0.9
baz=293
W42A Bald Knob 28.91 94 P P 22 47 44.8 -0.1
baz=298
240A Hunter Patters 28.93 102 P P 22 47 46.0 +0.9
baz=303
L44A Lake County Fo 28.96 79 P P 22 47 45.3 0.0
baz=286
S43A Fulton Ridge, 28.97 89 P P 22 47 44.8 -0.6
baz=294
Z41A Richland Creek 28.97 99 P P 22 47 46.4 +0.9
baz=301
T43A Greenville 29.02 90 P P 22 47 45.3 -0.5
baz=295
PBMO Poplar Bluff 29.04 91 eP P 22 47 45.8 -0.2
comp=Z,156nm,1.2s
PBMO LR LR
comp=Z,85µm,21.0s
M44A Midewin, Midew 29.09 80 P P 22 47 46.6 +0.1
baz=288
F44A Big Bay de Noc 29.13 71 P P 22 47 47.1 +0.4
baz=280
X42A Stuttgart 29.18 96 P P 22 47 47.8 +0.6
baz=299
O44A Mansfield 29.18 83 P P 22 47 47.3 +0.1
baz=290
N44A Piper City 29.21 82 P P 22 47 47.6 +0.1
baz=289
Q44A Meyer Farm, Va 29.23 86 P P 22 47 47.1 -0.5
baz=292
U43A Rector 29.23 91 P P 22 47 47.8 0.0
baz=296
141A Papa Simpson, 29.24 100 P P 22 47 48.7 +0.9
baz=302
ZAIG Zacatecas 29.30 127 eP P 22 47 49.7 +1.0
P44A Sand Creek, Wi 29.31 84 P P 22 47 48.6 +0.2
baz=291
E44A Grand Marais A 29.36 69 P P 22 47 49.8 +1.1
baz=280
CCAR Cane Creek 29.38 97 eP P 22 47 50.2 +1.2
comp=Z,832nm,1.8s
CCAR LR LR
comp=Z,107µm,18.0s
V43A Jonesboro 29.39 93 P P 22 47 49.4 +0.3
baz=297
Y42A Garnett, Star 29.41 97 P P 22 47 49.7 +0.3
baz=300
R44A Waltonville 29.43 87 P P 22 47 49.0 -0.4
baz=293
S44A Carbondale 29.52 88 P P 22 47 49.7 -0.6
baz=294
T44A Benton 29.52 90 P P 22 47 49.8 -0.5
baz=295
SIUC Southern Illin 29.54 88 eP P 22 47 50.1 -0.3
comp=Z,292nm,1.2s
SIUC LR LR
comp=Z,35µm,20.0s
241A Mo Tay, Goldon 29.54 101 P P 22 47 51.3 +0.8
baz=303
Z42A Norrel Spur, H 29.58 98 P P 22 47 51.4 +0.5
baz=301
LNIG Linares 29.59 120 eP P 22 47 51.9 +0.9
comp=Z,65nm,0.9s
LNIG LR LR
comp=Z,2274µm,19.0s
W43A Forest City 29.59 94 P P 22 47 50.9 0.0
baz=298
N45A Kentland 29.64 81 P P 22 47 51.3 0.0
baz=289
M45A Boilermakers S 29.66 80 P P 22 47 51.6 +0.2
baz=288
O45A Potomac 29.69 82 P P 22 47 51.8 +0.1
baz=290
U44A Portageville 29.70 91 P P 22 47 51.8 0.0
baz=296
PVMO Portageville 29.73 91 PFAKE 22 48 00.0 +7.9
PVMO LR LR
comp=Z,90µm,21.0s
X43A Marvell 29.73 95 P P 22 47 52.9 +0.7
baz=299
341A Kurthwood 29.74 103 P P 22 47 53.4 +1.1
baz=304
F45A CMU Biological 29.81 71 P P 22 47 53.2 +0.5
baz=281
V44A Blytheville 29.84 92 P P 22 47 53.5 +0.4
baz=297
Q45A Warren Harvey, 29.85 85 P P 22 47 53.3 +0.1
baz=292
E45A Wooded Hills, 29.91 70 P P 22 47 54.0 +0.3
baz=280
P45A Graceland, Par 29.92 84 P P 22 47 54.1 +0.3
baz=291
OLIL Olney 29.95 86 eP P 22 47 54.3 +0.2
comp=Z,230nm,1.1s
OLIL LR LR
comp=Z,43µm,21.0s
142A Monroe 29.96 99 P P 22 47 54.5 +0.4

baz=302
R45A Skylar, Fairfi 29.99 86 P P 22 47 54.4 -0.1
baz=293
Y43A Makayla and Ka 30.00 96 P P 22 47 55.3 +0.9
baz=300
U44B Burton Farm, H 30.01 91 P P 22 47 55.0 +0.4
baz=296
S45A Carrier Mills 30.02 88 P P 22 47 54.2 -0.5
baz=294
441A DeRidder 30.06 104 P P 22 47 57.0 +1.9
baz=305
242A Grayson 30.07 100 P P 22 47 55.9 +0.7
baz=303
SFIN Lafayette 30.09 82 P P 22 47 55.8 +0.5
baz=290
SFIN Lafayette 30.09 82 eP P 22 47 55.9 +0.5
comp=Z,110nm,0.8s
SFIN LR LR
comp=Z,17µm,18.0s
MET Memphis--Engin 30.14 93 eP P 22 47 56.6 +0.9
comp=Z,174nm,0.8s
MET LR LR
comp=Z,87µm,19.0s
N46A Monticello 30.19 81 P P 22 47 56.8 +0.7
baz=289
W44A Shelby Farms P 30.21 93 P P 22 47 56.9 +0.5
baz=296
T45A Paducah 30.24 89 P P 22 47 56.4 -0.2
baz=295
143A Socs Landing, 30.27 99 P P 22 47 57.9 +1.0
baz=302
X44A Crenshaw 30.28 95 P P 22 47 57.5 +0.6
baz=299
P46A Rosedale 30.28 83 P P 22 47 57.0 +0.1
baz=291
M46A Old House Fiel 30.30 80 P P 22 47 57.3 +0.2
baz=288
F46A Macinaw City C 30.31 71 P P 22 47 57.7 +0.5
baz=282
342A Flagon Creek P 30.32 102 P P 22 47 58.7 +1.3
baz=304
UTMT University of 30.37 90 eP P 22 47 57.4 -0.4
comp=Z,484nm,1.0s
Q46A CEJHS Indians, 30.38 85 P P 22 47 57.9 0.0
baz=292
U45A Rockin P Farm, 30.44 90 P P 22 47 58.5 +0.1
baz=296
Y44A Strider, Charl 30.49 96 P P 22 47 59.9 +1.0
baz=300
V45A Humboldt 30.56 91 P P 22 47 59.7 +0.2
baz=297
USIN University of 30.57 87 eP P 22 47 59.5 0.0
comp=Z,287nm,0.8s
USIN LR LR
comp=Z,44µm,18.0s
R46A Gibon Southern 30.58 86 P P 22 47 59.6 0.0
baz=293
GLMI Grayling 30.61 72 P P 22 47 59.8 0.0
baz=283
GLMI Grayling 30.61 72 eP P 22 48 00.3 +0.5
comp=Z,186nm,1.0s
GLMI LR LR
comp=Z,19µm,18.0s
442A Mamou 30.62 103 P P 22 48 01.9 +1.9
baz=305
S46A Don Dixon Farm 30.64 87 P P 22 47 59.9 -0.2
baz=294
243A Waterproof 30.65 100 P P 22 48 01.5 +1.3
baz=303
W45A Hickory Valley 30.66 93 P P 22 48 01.2 +0.8
baz=298
Z44A Pea Ridge, Bel 30.67 97 P P 22 48 01.6 +1.2
baz=301
T46A Princeton 30.77 88 P P 22 48 01.1 -0.2
baz=295
OXF Oxford 30.80 94 P P 22 48 02.6 +1.0
baz=299
OXF Oxford 30.80 94 eP P 22 48 02.4 +0.7
comp=Z,893nm,1.1s
OXF LR LR
comp=Z,88µm,20.0s
OXF Oxford 30.80 94 eP P 22 48 02.4 +0.7
OXF pmax pmax
comp=Z,893nm,1.1s
OXF MLR MLR
comp=Z,88µm,20.0s
O47A Sheridan 30.81 82 P P 22 48 01.6 0.0
baz=290
X45A UM Field Stati 30.86 94 P P 22 48 03.0 +0.9
baz=299
U46A Springville 30.86 90 P P 22 48 01.9 -0.2
baz=296
542A Morse 30.87 104 P P 22 48 04.2 +2.0
baz=306
343A Vidalia 30.88 101 P P 22 48 04.0 +1.7
baz=304
BLO Bloomington 30.93 84 eP P 22 48 03.0 +0.3
comp=Z,196nm,1.0s
BLO LR LR
comp=Z,37µm,20.0s
BLO Bloomington 30.93 84 eP P 22 48 03.0 +0.3
BLO pmax pmax
comp=Z,195nm,1.0s
BLO MLR MLR
comp=Z,37µm,20.0s
P47A Martinsville 31.00 83 P P 22 48 03.6 +0.3
baz=291
144A Alexander Plac 31.01 98 P P 22 48 04.5 +1.1
baz=302
Y45A Yeager Farm, C 31.02 95 P P 22 48 04.3 +0.8
baz=300
443A Delano Plantat 31.05 102 P P 22 48 05.8 +2.0
baz=304
Q47A Bedord North L 31.09 84 P P 22 48 04.2 +0.1
baz=292
244A Avery, Jackson 31.13 99 P P 22 48 06.1 +1.6
baz=302
V46A Holladay 31.15 91 P P 22 48 04.8 +0.2
baz=297
VBMS Vicksburg 31.16 99 P P 22 48 06.1 +1.4
baz=302
VBMS Vicksburg 31.16 99 eP P 22 48 05.9 +1.2
comp=Z,260nm,0.9s
VBMS LR LR
comp=Z,77µm,19.0s
Z45A Winona 31.16 96 P P 22 48 05.9 +1.1
baz=300
WVT Waverly 31.21 90 P P 22 48 05.2 +0.1
baz=296
WVT Waverly 31.21 90 eP P 22 48 05.3 +0.1
comp=Z,138nm,1.0s
WVT LR LR
comp=Z,50µm,19.0s
WVT Waverly 31.21 90 eP P 22 48 05.3 +0.1
WVT pmax pmax
comp=Z,138nm,1.0s
WVT MLR MLR
comp=Z,50µm,19.0s
R47A Wooly Knot Far 31.26 85 P P 22 48 05.5 -0.2
baz=293
W46A Michie 31.26 92 P P 22 48 05.7 0.0
baz=298
T47A Sharon Grove 31.37 88 P P 22 48 06.5 -0.1
baz=295
145A Houston Renfro 31.38 98 P P 22 48 07.8 +1.0
baz=302
543A St. Martinvill 31.38 103 P P 22 48 08.8 +2.1
baz=306
X46A Booneville 31.38 93 P P 22 48 07.1 +0.3
baz=299
344A Westbrook Farm 31.41 100 P P 22 48 08.4 +1.4
baz=303
WCI Wyandotte Cave 31.46 85 P P 22 48 07.1 -0.3
baz=293
WCI Wyandotte Cave 31.46 85 eP P 22 48 07.3 -0.1
comp=Z,71nm,0.8s
WCI LR LR
comp=Z,57µm,19.0s
WCI Wyandotte Cave 31.46 85 eP P 22 48 07.3 -0.1
WCI pmax pmax
comp=Z,71nm,0.8s
WCI MLR MLR
comp=Z,57µm,19.0s
U47A Clarksville 31.47 89 P P 22 48 07.4 -0.1
baz=296
Y46A Houston 31.51 95 P P 22 48 08.5 +0.7
baz=300
PLAL Pickwick Lake 31.55 92 eP P 22 48 08.6 +0.3
comp=Z,184nm,1.0s
PLAL LR LR
comp=Z,76µm,20.0s
V47A Nunnelly 31.57 90 P P 22 48 08.2 -0.2
baz=297
R48A Northridge Ran 31.70 85 P P 22 48 09.4 -0.1
baz=293
245A Little AP, Sta 31.70 98 P P 22 48 10.6 +1.0
baz=302
W47A Westpoint 31.78 91 P P 22 48 10.3 +0.1
baz=298
Z46A Louisville 31.79 96 P P 22 48 11.1 +0.8
baz=301
444A Pine Grove 31.81 101 P P 22 48 12.3 +1.7
baz=304
T48A Bowling Green 31.84 87 P P 22 48 11.0 +0.3
baz=295
S48A Wiedeman Farm, 31.86 86 P P 22 48 10.9 +0.1
baz=294
544A White Castle 31.86 103 P P 22 48 13.5 +2.6
baz=305
X47A Russelville 31.93 93 P P 22 48 11.6 +0.1
baz=299
AAM Ann Arbor 31.95 77 P P 22 48 11.7 +0.1
baz=288
AAM Ann Arbor 31.95 77 eP P 22 48 12.2 +0.6
comp=Z,181nm,1.5s
AAM LR LR
comp=Z,24µm,22.0s
AAM Ann Arbor 31.95 77 eP P 22 48 12.2 +0.6
AAM pmax pmax
comp=Z,181nm,1.5s
AAM MLR MLR
comp=Z,24µm,22.0s
U48A Cassie Pea, Po 31.98 89 P P 22 48 12.4 +0.3
baz=296
146A Union 31.99 97 P P 22 48 13.2 +1.1
baz=301
345A Thompson Farm, 32.00 100 P P 22 48 13.5 +1.4
baz=303
445A Amite 32.09 101 P P 22 48 14.9 +1.9
baz=304
GAMB Gambell 32.09 324 eP P 22 48 13.7 +1.0
comp=Z,99nm,1.1s
GAMB LR LR
comp=Z,12µm,20.0s
V48A Smith Brothers 32.12 90 P P 22 48 13.4 +0.2
baz=297
JRQG Juriquilla Cam 32.13 126 eP P 22 48 15.6 +1.9
comp=Z,354nm,1.3s
JRQG ePP PnPn 22 49 23.0 +3.6
JRQG LR LR
comp=Z,5337µm,19.0s
Y47A UCPARC, Winfie 32.23 94 P P 22 48 14.4 +0.2
baz=299
246A Jackson Lee, B 32.27 98 P P 22 48 15.7 +1.2
baz=302
W48A Pulaski 32.31 91 P P 22 48 14.8 -0.1
baz=298
346A Big Creek Wild 32.36 99 P P 22 48 16.5 +1.1
baz=303
545A Edgard 32.37 102 P P 22 48 17.5 +2.0
baz=305
Z47A Carrollton 32.42 95 P P 22 48 16.4 +0.5
baz=300
MOIG Morelia 32.51 129 eP P 22 48 18.5 +1.5
147A Livingston 32.54 96 P P 22 48 17.7 +0.8
baz=301
X48A Hartselle 32.55 92 P P 22 48 16.7 -0.3
baz=299
247A Quitman 32.62 97 P P 22 48 19.1 +1.5
baz=302
645A Chauvin 32.64 103 P P 22 48 20.0 +2.3
baz=306
Z48A Northport 32.70 94 P P 22 48 18.4 +0.1
baz=300
Y48A Jasper 32.72 93 P P 22 48 18.5 0.0
baz=299
446A Poplarville 32.76 100 P P 22 48 20.1 +1.3
baz=304
546A Slidell 32.81 101 P P 22 48 21.0 +1.7
baz=305
HLK Haleakala 32.94 236 PFAKE 22 48 30.0 +9.2
HLK LR LR
comp=Z,10µm,22.0s
KHLH Kahului Airpor 32.94 236 PFAKE 22 48 30.0 +9.5
KHLH LR LR
comp=Z,7µm,20.0s
347A Saraland 33.02 98 P P 22 48 22.4 +1.3
baz=303
X49A Woodville 33.04 92 P P 22 48 21.3 0.0
baz=298
148A Greensboro 33.06 96 P P 22 48 21.8 +0.3
baz=301
ACSO Alum Creek Sta 33.10 80 P P 22 48 21.9 +0.2
baz=291
ACSO Alum Creek Sta 33.10 80 eP P 22 48 21.5 -0.2
comp=Z,109nm,1.0s
ACSO LR LR
comp=Z,25µm,22.0s
646A Port Sulphur 33.11 102 P P 22 48 24.2 +2.2
baz=306
HPAH Hawaii Prepara 33.18 234 PFAKE 22 48 40.0 +17
HPAH LR LR
comp=Z,8µm,21.0s
248A Dixon Mills 33.23 97 P P 22 48 24.1 +1.2
baz=302
HULD Heiheiahulu Di 33.24 232 PFAKE 22 48 40.0 +17
HULD LR LR
comp=Z,10µm,20.0s
447A Lucedale 33.26 99 P P 22 48 24.8 +1.5
baz=304
LRAL Lakeview Retre 33.28 95 P P 22 48 23.4 +0.1
baz=300
LRAL Lakeview Retre 33.28 95 eP P 22 48 23.6 +0.2
comp=Z,163nm,1.2s
LRAL LR LR
comp=Z,134µm,22.0s
POHA Pohakuloa 33.29 233 PFAKE 22 48 40.0 +16
POHA LR LR
comp=Z,8µm,20.0s
Y49A Blount Mountai 33.30 93 P P 22 48 23.5 -0.1
baz=299
OPA Opana 33.32 239 PFAKE 22 48 40.0 +16
OPA LR LR
comp=Z,9µm,20.0s
STCH Steam Cracks 33.35 232 PFAKE 22 48 40.0 +16
STCH LR LR
comp=Z,9µm,20.0s
HMH Humu'ula Sheep 33.38 233 PFAKE 22 48 40.0 +15
HMH LR LR
comp=Z,9µm,20.0s
HATHI Halema'uma'u T 33.40 233 PFAKE 22 48 40.0 +15
HATHI LR LR
comp=Z,9µm,21.0s
SBLHI Steaming Bluff 33.40 233 PFAKE 22 48 40.0 +15
SBLHI LR LR
comp=Z,8µm,19.0s
PUH Pauahi 33.41 233 PFAKE 22 48 40.0 +15
PUH LR LR
comp=Z,8µm,19.0s
MLH Mauna Loa 33.41 233 PFAKE 22 48 40.0 +15
MLH LR LR
comp=Z,8µm,19.0s
OBL Observatory Le 33.41 233 PFAKE 22 48 40.0 +15
OBL LR LR
comp=Z,10µm,18.0s
UWE Uwekahuna 33.42 233 PFAKE 22 48 40.0 +15
UWE LR LR
comp=Z,9µm,20.0s
KKO Keanakako'i 33.42 233 PFAKE 22 48 40.0 +15
KKO LR LR
comp=Z,9µm,19.0s
RIM Rim 33.43 233 PFAKE 22 48 40.0 +15
RIM LR LR
comp=Z,8µm,20.0s
SDHHI Sand Hill 33.44 233 PFAKE 22 48 40.0 +15
SDHHI LR LR
comp=Z,7µm,19.0s
348A Jackson 33.47 98 P P 22 48 26.4 +1.3
baz=303
MLOA Mauna Loa Obse 33.49 233 PFAKE 22 48 40.0 +14
MLOA LR LR
comp=Z,6µm,19.0s
KIP Kipapa 33.52 239 eP P 22 48 25.0 -0.5
comp=Z,293nm,1.4s
KIP LR LR
comp=Z,8µm,19.0s
KIP Kipapa 33.52 239 ceP P 22 48 24.0 -1.5
KIP pmax pmax
comp=Z,1µm,1.7s
HLP Hilina Pali 33.52 233 PFAKE 22 48 40.0 +14
HLP LR LR
comp=Z,10µm,22.0s
HUH Hualalai 33.53 234 PFAKE 22 48 40.0 +14
HUH LR LR
comp=Z,9µm,21.0s
Z49A Columbiana 33.54 94 P P 22 48 25.7 +0.1
baz=300
AIN Ainahou 33.55 233 PFAKE 22 48 40.0 +14
AIN LR LR
comp=Z,10µm,21.0s
HON Honolulu 33.59 238 PFAKE 22 48 40.0 +14
HON LR LR
comp=Z,12µm,18.0s
KHLU Kahalu'u 33.63 234 PFAKE 22 48 40.0 +13
KHLU LR LR
comp=Z,9µm,18.0s
149A Jones 33.65 95 P P 22 48 27.0 +0.4
baz=301
249A Camden 33.73 96 P P 22 48 28.1 +0.8
baz=302
KHU Kahuku 33.74 233 PFAKE 22 48 40.0 +12
KHU LR LR
comp=Z,10µm,19.0s
448A Bay Minette 33.76 98 P P 22 48 28.8 +1.3
baz=303
Y50A Piedmont 33.77 92 P P 22 48 28.0 +0.3
baz=299
Z50A Ashland 33.95 93 P P 22 48 29.5 +0.3
baz=300
349A Repton 34.01 97 P P 22 48 31.0 +1.2
baz=303
TZTN Tazewell 34.14 87 P P 22 48 31.0 +0.1
baz=296
TZTN Tazewell 34.14 87 eP P 22 48 31.2 +0.3
comp=Z,254nm,1.6s
TZTN LR LR
comp=Z,43µm,20.0s
KEKH Kekaha 34.18 241 PFAKE 22 48 40.0 +8.7
KEKH LR LR
comp=Z,11µm,22.0s
150A Eclectic 34.20 94 P P 22 48 32.1 +0.7
baz=301
BRAL Brewton 34.21 97 P P 22 48 32.7 +1.2
baz=303
BRAL Brewton 34.21 97 eP P 22 48 32.5 +1.0
comp=Z,1µm,2.0s
BRAL LR LR
comp=Z,114µm,20.0s
250A Grady 34.35 96 P P 22 48 33.4 +0.7
baz=302
TKL Tuckaleechee C 34.37 88 P P 22 48 32.3 -0.5
comp=Z,34nm,0.8s,baz=276,slow=6.6,SNR=34
TKL Tuckaleechee C 34.37 88 eP P 22 48 32.1 -0.8
comp=Z,56nm,0.9s
TKL LR LR
comp=Z,30µm,18.0s
SADO Sadowa 34.40 71 eP P 22 48 33.0 0.0
comp=Z,93nm,0.9s
SADO ePP PP 22 49 53.1 +2.2
SADO LR LR
comp=Z,18µm,18.0s
RES Resolute Bay 34.47 15 eP P 22 48 33.9 +0.7
comp=Z,49nm,0.9s
RES LR LR
comp=Z,14µm,19.0s
RES Resolute Bay 34.47 15 eP P 22 48 33.9 +0.7
RES pmax pmax
comp=Z,49nm,0.9s
RES MLR MLR
comp=Z,14µm,19.0s
ERPA Erie 34.59 76 P P 22 48 34.8 +0.1
baz=289
ERPA Erie 34.59 76 eP P 22 48 34.7 0.0
comp=Z,63nm,1.0s
ERPA ePP PP 22 49 51.8 -1.2
ERPA LR LR
comp=Z,18µm,20.0s
350A Dozier 34.59 96 P P 22 48 35.7 +0.9
baz=302
ALLY Alegheny Colle 34.63 76 eP P 22 48 35.5 +0.4
comp=Z,180nm,1.0s
ALLY ePP PP 22 49 55.1 +1.6
ALLY LR LR
comp=Z,19µm,22.0s
450A Crestview 34.75 98 P P 22 48 37.4 +1.3
baz=303
151A Opelika 34.75 94 P P 22 48 36.4 +0.3
baz=301
251A Midway 34.91 95 P P 22 48 38.1 +0.5
baz=302
N54A Moraine State 34.98 77 P P 22 48 38.4 +0.3
baz=291
N54A Moraine State 34.98 77 eP P 22 48 38.4 +0.3
comp=Z,131nm,1.0s
N54A ePP PP 22 49 56.6 -0.7
N54A LR LR
comp=Z,19µm,21.0s
M54A Oil Creek Stat 35.02 76 P P 22 48 38.7 +0.3
baz=290
M54A Oil Creek Stat 35.02 76 eP P 22 48 38.1 -0.3
comp=Z,307nm,1.6s
M54A ePP PnPn 22 49 54.6 -0.9
M54A LR LR
comp=Z,15µm,21.0s
351A Pinckard 35.20 96 P P 22 48 40.6 +0.5
baz=303
BG3 Lake Jocassee 35.29 89 eP P 22 48 41.5 +0.7
comp=Z,145nm,0.9s
BG3 LR LR
comp=Z,40µm,18.0s
LVIG Laguna Verde 35.30 122 eP P 22 48 41.8 +0.9
comp=Z,130nm,1.2s
252A Lumpkin 35.45 94 P P 22 48 42.7 +0.5
baz=302
451A Vernon 35.45 97 P P 22 48 43.1 +0.8
baz=303
MCWV Mont Chateau 35.55 79 P P 22 48 43.2 +0.2
baz=292
MCWV Mont Chateau 35.55 79 eP P 22 48 43.5 +0.4
comp=Z,184nm,1.2s
MCWV ePP PP 22 50 06.0 +2.3
MCWV ePcP PcP 22 51 11.0 -0.8
MCWV LR LR
comp=Z,21µm,22.0s
352A Blakely 35.58 95 P P 22 48 43.8 +0.4
baz=302
GOGA Godfrey 35.65 91 P P 22 48 44.3 +0.3
baz=300
GOGA Godfrey 35.65 91 eP P 22 48 43.7 -0.2
comp=Z,232nm,0.8s
GOGA LR LR
comp=Z,50µm,20.0s
GOGA Godfrey 35.65 91 eP P 22 48 43.7 -0.2
GOGA pmax pmax
comp=Z,232nm,0.8s
GOGA MLR MLR
comp=Z,50µm,20.0s
452A Marianna 35.73 96 P P 22 48 45.1 +0.5
baz=303
PLVO Plevna 35.74 70 eP P 22 48 44.3 -0.2
comp=Z,76nm,1.1s
PLVO LR LR
comp=Z,40µm,19.0s
153A Fort Valley 35.77 93 P P 22 48 44.8 -0.2
baz=301
MMNY Mt. Morris Dam 35.85 74 eP P 22 48 45.5 0.0
comp=Z,55nm,1.2s
MMNY LR LR
comp=Z,20µm,21.0s
253A Americus 35.86 94 P P 22 48 46.2 +0.5
baz=302
552A Lynn Haven 36.05 97 P P 22 48 48.1 +0.8
baz=304
BLA Blacksburg 36.12 84 P P 22 48 48.4 +0.4
baz=295
BLA Blacksburg 36.12 84 eP P 22 48 48.1 +0.1
comp=Z,173nm,1.0s
BLA LR LR
comp=Z,27µm,22.0s
BLA Blacksburg 36.12 84 eP P 22 48 48.1 +0.1
BLA pmax pmax
comp=Z,173nm,1.0s

BLA MLR MLR
comp=Z,27µm,22.0s
HODGE Hodges 36.13 89 *e*P **P 22 48 47.8 -0.2**
comp=Z,153nm,1.0s
HODGE *e*PP **PP 22 50 13.3 +3.2**
HODGE LR LR
comp=Z,31µm,20.0s
353A Camilla 36.17 95 P **P 22 48 48.9 +0.5**
baz=302
PAULI Pauline 36.18 88 *e*P **P 22 48 49.1 +0.7**
comp=Z,191nm,1.0s
PAULI LR LR
comp=Z,98µm,19.0s
O56A Blue Knob Stat 36.24 78 P **P 22 48 48.9 -0.1**
baz=292
O56A Blue Knob Stat 36.24 78 *e*P **P 22 48 49.1 +0.1**
comp=Z,202nm,1.5s
O56A *e*PP **PnPn 22 50 10.4 -0.2**
O56A LR LR
comp=Z,13µm,18.0s
154A Montrose 36.31 92 P **P 22 48 49.6 0.0**
baz=301
453A Whigham 36.36 96 P **P 22 48 50.3 +0.4**
baz=303
KMSC Kings Mountain 36.38 87 P **P 22 48 50.0 -0.1**
baz=298
KMSC Kings Mountain 36.38 87 *e*P **P 22 48 50.0 -0.1**
comp=Z,150nm,0.8s
KMSC LR LR
comp=Z,29µm,21.0s
VWCC Virginia Weste 36.43 83 *e*P **P 22 48 51.0 +0.5**
254A Abbeville 36.52 93 P **P 22 48 51.6 +0.2**
baz=302
TIGA Tifton 36.57 94 P **P 22 48 52.1 +0.3**
baz=302
TIGA Tifton 36.57 94 *e*P **P 22 48 52.3 +0.5**
comp=Z,198nm,1.0s
TIGA LR LR
comp=Z,148µm,18.0s
SSPA Standing Stone 36.59 77 P **P 22 48 51.7 -0.1**
baz=292
SSPA Standing Stone 36.59 77 *e*P **P 22 48 51.8 -0.1**
comp=Z,49nm,0.9s
SSPA *e*PP **PnPn 22 50 12.4 -2.3**
SSPA LR LR
comp=Z,13µm,18.0s
553A Crawfordville 36.64 97 P **P 22 48 53.1 +0.7**
baz=304
155A Kite 36.78 92 P **P 22 48 53.3 -0.2**
baz=301
JSC Jenkinsville 36.84 89 *e*P **P 22 48 54.0 0.0**
comp=Z,250nm,0.9s
JSC LR LR
comp=Z,32µm,21.0s
JSC Jenkinsville 36.84 89 *e*P **P 22 48 54.0 0.0**
JSC pmax pmax
comp=Z,250nm,0.9s
JSC MLR MLR
comp=Z,32µm,21.0s
454A Quitman 36.93 95 P **P 22 48 55.5 +0.7**
baz=303
NCAT North Carolina 37.09 85 *e*P **P 22 48 56.5 +0.3**
comp=Z,220nm,0.9s
NCAT LR LR
comp=Z,32µm,22.0s
TRQ Mont Tremblant 37.12 67 *e*P **P 22 48 56.3 -0.1**
TRQ *e*PP **PnPn 22 50 21.4 +0.1**
355A Pearson 37.16 94 P **P 22 48 56.8 0.0**
baz=302
554A Perry 37.23 96 P **P 22 48 58.0 +0.5**
baz=304
455A Stateville 37.35 95 P **P 22 48 59.1 +0.6**
baz=303
BINY Binghamton 37.37 74 P **P 22 48 58.5 0.0**
baz=290
BINY Binghamton 37.37 74 PFAKE 22 49 10.0 +11
BINY LR LR
comp=Z,17µm,18.0s
IP04 Greensprings 37.43 81 *e*P **P 22 49 00.1 +1.1**
comp=Z,141nm,1.2s
IP04 LR LR
comp=Z,23µm,21.0s
IP03 Louisa 37.52 81 *e*P **P 22 49 01.3 +1.5**
comp=Z,240nm,1.4s
IP03 *e*PP **PnPn 22 50 26.2 0.0**
IP03 LR LR
comp=Z,22µm,22.0s
256A Glennville 37.52 92 P **P 22 48 59.8 -0.1**
baz=301
IP07 Quail 37.55 81 *e*P **P 22 49 01.4 +1.3**
comp=Z,231nm,1.5s
IP07 *e*PP **PnPn 22 50 26.9 +0.4**
IP07 LR LR
comp=Z,21µm,21.0s
LONY Lake Ozonia 37.56 69 P **P 22 48 59.8 -0.3**
baz=286
LONY Lake Ozonia 37.56 69 *e*P **P 22 48 59.8 -0.3**
comp=Z,89nm,1.0s
LONY *e*PP **PP 22 50 25.0 -0.7**
LONY LR LR
comp=Z,13µm,19.0s
PAGS Pennsylvania G 37.56 77 *e*P **P 22 49 00.1 0.0**
comp=Z,92nm,1.3s
PAGS LR LR
comp=Z,19µm,21.0s
IP06 Yanceyville 37.58 81 *e*P **P 22 49 01.6 +1.3**
comp=Z,196nm,1.4s
IP06 *e*PP **PnPn 22 50 27.2 +0.3**
IP06 LR LR
comp=Z,14µm,22.0s
SPRD Spring Road, M 37.61 81 *e*P **P 22 49 01.9 +1.3**
comp=Z,183nm,1.2s
SPRD *e*PP **PnPn 22 50 28.0 +0.7**
IP01 Cuckoo 37.62 81 *e*P **P 22 49 00.2 -0.4**
comp=Z,219nm,1.4s
IP01 *e*PP **PnPn 22 50 29.0 +1.6**
IP01 LR LR
comp=Z,21µm,21.0s
CVRD Centerville Ro 37.64 81 *e*P **P 22 49 01.4 +0.6**
comp=Z,156nm,1.2s
CVRD *e*PP **PnPn 22 50 28.7 +1.0**
356A Blackshear 37.69 93 P **P 22 49 01.4 +0.1**
baz=302
555A McAlpin 37.73 96 P **P 22 49 02.2 +0.5**
baz=304
PTRD Partlow Road 37.76 81 *e*P **P 22 49 02.8 +1.0**
comp=Z,132nm,1.0s
PTRD *e*PP **PnPn 22 50 29.2 +0.1**
IP05 Hopewell Churc 37.78 81 *e*P **P 22 49 02.1 +0.1**
comp=Z,124nm,1.2s
IP05 LR LR
comp=Z,22µm,21.0s
SDMD Soldier's Deli 37.79 78 *e*P **P 22 49 02.4 +0.3**
comp=Z,47nm,1.3s
SDMD LR LR
comp=Z,11µm,22.0s
655A Horseshoe Beac 37.86 97 P **P 22 49 03.2 +0.4**
baz=304
CBN Corbin Frederi 37.90 80 P **P 22 49 03.6 +0.6**
baz=295
CBN Corbin Frederi 37.90 80 *e*P **P 22 49 03.9 +0.9**
comp=Z,290nm,1.3s
CBN LR LR
comp=Z,19µm,20.0s
MVL Millersville 37.91 77 *e*P **P 22 49 03.2 +0.1**
comp=Z,99nm,1.2s
MVL LR LR
comp=Z,14µm,18.0s
N59A State Game Lan 37.98 76 P **P 22 49 03.7 +0.1**
baz=292
N59A State Game Lan 37.98 76 *e*P **P 22 49 03.8 +0.1**
comp=Z,255nm,1.6s
N59A LR LR
comp=Z,16µm,22.0s
NCB Newcomb 38.00 70 *e*P **P 22 49 04.2 +0.3**
NCB *e*PP **PP 22 50 24.9 -5.7**
NCB LR LR
comp=Z,20µm,19.0s
456A Hilliard 38.09 94 P **P 22 49 05.4 +0.7**
baz=303
357A Townsend 38.11 93 P **P 22 49 04.7 -0.1**
baz=302
257A Skidaway Islan 38.15 92 P **P 22 49 05.2 0.0**
baz=301
FRNY Flat Rock 38.17 69 *e*P **P 22 49 04.6 -0.6**
comp=Z,360nm,2.0s
FRNY LR LR
comp=Z,22µm,18.0s
NHSC New Hope 38.20 89 P **P 22 49 05.6 0.0**
baz=300
NHSC New Hope 38.20 89 *e*P **P 22 49 05.8 +0.3**
comp=Z,592nm,1.1s
NHSC LR LR
comp=Z,30µm,21.0s
556A Lake Butler 38.20 95 P **P 22 49 06.2 +0.6**
baz=304
RGRS Roger Stewart 38.28 90 *e*P **P 22 49 06.1 -0.1**
comp=Z,1µm,0.6s
CSU Charleston Sou 38.34 90 *e*P **P 22 49 06.5 -0.2**
LUPA Lehigh Univers 38.38 76 *e*P **P 22 49 07.4 +0.4**
comp=Z,16nm,1.4s
LUPA *e*PP **PP 22 50 35.4 +0.6**
LUPA LR LR
comp=Z,1µm,21.0s
656A Willston 38.46 96 P **P 22 49 08.4 +0.6**
baz=304
457A Yulee 38.48 94 P **P 22 49 08.7 +0.7**
baz=303
ACCN Adirondack Com 38.58 71 *e*P **P 22 49 08.6 -0.1**
comp=Z,193nm,1.7s
ACCN LR LR
comp=Z,16µm,19.0s
PSUB Penn St. - Bra 38.58 77 *e*P **P 22 49 08.0 -0.7**
comp=Z,93nm,1.4s
PSUB LR LR
comp=Z,18µm,22.0s
557A Orange Park 38.69 95 P **P 22 49 10.6 +0.9**
baz=304
MYIG MØrida 38.70 113 *e*P **P 22 49 11.0 +1.1**
comp=Z,625nm,1.2s
ODNJ Ogdensburg 38.73 75 *e*P **P 22 49 10.0 0.0**
comp=Z,70nm,0.9s
ODNJ LR LR
comp=Z,9µm,18.0s
TRY Troy 38.80 72 *e*P **P 22 49 10.8 +0.3**
comp=Z,410nm,1.8s
657A Interlachen 38.83 95 P **P 22 49 11.5 +0.6**
baz=304
CNNC Cliffs of the 38.83 85 P **P 22 49 11.5 +0.6**
baz=298
CNNC Cliffs of the 38.83 85 *e*P **P 22 49 11.3 +0.4**
comp=Z,229nm,1.0s
CNNC *e*PP **PnPn 22 50 44.1 +2.0**
CNNC LR LR
comp=Z,26µm,19.0s
VT1 Waterbury 38.89 69 *e*P **P 22 49 11.8 +0.5**
comp=Z,115nm,1.1s
VT1 *e*PP **PnPn 22 50 41.7 -1.0**
BRNJ Basking Ridge 38.91 75 *e*P **P 22 49 11.8 +0.3**
comp=Z,75nm,1.1s
BRNJ *e*PP **PP 22 50 37.9 -2.6**
BRNJ LR LR
comp=Z,16µm,22.0s
757A Oxford 39.04 96 P **P 22 49 13.3 +0.6**
baz=305
PAL Palisades 39.25 75 P **P 22 49 14.0 -0.3**
baz=292
PAL Palisades 39.25 75 *e*P **P 22 49 14.7 +0.4**
comp=Z,177nm,1.8s
PAL *e*PP **PP 22 50 45.1 +0.9**
PAL LR LR
comp=Z,16µm,18.0s
PAL Palisades 39.25 75 *e*P **P 22 49 14.7 +0.4**
PAL *e* 22 50 45.2
PAL pmax pmax
comp=Z,177nm,1.8s
PAL MLR MLR
comp=Z,16µm,18.0s
CPNY Central Park 39.30 75 *e*P **P 22 49 15.4 +0.7**
comp=Z,273nm,1.9s
CPNY *e*PP **PP 22 50 43.1 -1.7**
CPNY LR LR
comp=Z,15µm,18.0s
857A Zephyrhills 39.31 98 P **P 22 49 15.6 +0.6**
baz=305
658A Bunnell 39.36 95 P **P 22 49 16.2 +0.9**
baz=304
HNH Hanover 39.42 70 *e*P **P 22 49 16.4 +0.7**
comp=Z,247nm,1.4s
HNH *e*PP **PnPn 22 50 51.2 +2.4**
LBNH Lisbon 39.48 69 P **P 22 49 17.0 +0.7**
baz=289
LBNH Lisbon 39.48 69 *e*P **P 22 49 16.9 +0.7**
comp=Z,118nm,0.9s
LBNH *e*PP **PP 22 50 45.1 -1.7**
LBNH LR LR
comp=Z,31µm,20.0s
LBNH Lisbon 39.48 69 *e*P **P 22 49 16.9 +0.6**
LBNH *e* 22 50 45.1
LBNH pmax pmax
comp=Z,118nm,0.9s
LBNH MLR MLR
comp=Z,31µm,20.0s
957A Wimauma 39.65 98 P **P 22 49 18.7 +0.9**
baz=306
758A Lake Helen 39.66 96 P **P 22 49 19.0 +1.2**
baz=305
YLE Yale 39.82 74 *e*P **P 22 49 18.5 -0.5**
comp=Z,202nm,1.6s
YLE LR LR
comp=Z,24µm,22.0s
QUA2 Belchertown 39.87 72 *e*P **P 22 49 20.4 +0.9**
comp=Z,198nm,1.4s
QUA2 *e*PP **PP 22 50 49.3 -1.7**
FFD Franklin Falls 39.93 70 *e*P **P 22 49 20.3 +0.4**
comp=Z,182nm,1.1s
FFD *e*PP **PP 22 50 51.2 -0.4**
858A St. Cloud 39.96 97 P **P 22 49 21.1 +0.7**
baz=305
DWPF Disney Wildern 39.97 97 P **P 22 49 21.3 +0.9**
baz=305
DWPF Disney Wildern 39.97 97 *e*P **P 22 49 21.3 +0.9**
comp=Z,274nm,1.0s
DWPF LR LR
comp=Z,67µm,22.0s
958A Wauchula 40.04 98 P **P 22 49 21.7 +0.7**
baz=306
SCHQ Schefferville 40.07 52 P **P 22 49 20.9 -0.1**
comp=Z,70nm,1.0s,baz=283,slow=7.7,SNR=76
SCHQ PP **PP 22 50 50.4 -2.7**
comp=Z,18nm,0.9s,baz=293,slow=10,SNR=8.1
SCHQ Schefferville 40.07 52 *e*P **P 22 49 20.9 -0.1**
comp=Z,172nm,1.2s
SCHQ *e*PP **PP 22 50 50.0 -3.0**
SCHQ LR LR
comp=Z,25µm,22.0s
TEIG Tepich 40.19 113 PFAKE 22 49 30.0 +7.7
TEIG LR LR
comp=Z,159µm,21.0s
058A Arcadia 40.32 99 P **P 22 49 24.0 +0.7**
baz=306
HRV Adam Dziewonsk 40.33 71 P **P 22 49 23.6 +0.3**
baz=291
HRV Adam Dziewonsk 40.33 71 *e*P **P 22 49 23.8 +0.5**
comp=Z,122nm,1.4s
HRV *e*PP **PP 22 50 54.6 -1.5**
HRV LR LR
comp=Z,20µm,18.0s
HRV Adam Dziewonsk 40.33 71 *e*P **P 22 49 23.8 +0.5**
HRV *e* 22 50 54.6
HRV pmax pmax
comp=Z,122nm,1.4s
HRV MLR MLR
comp=Z,20µm,18.0s
859A Kempfer Cattle 40.39 97 P **P 22 49 24.6 +0.7**
baz=305
WES Weston 40.54 72 *e*P **P 22 49 25.2 +0.2**
comp=Z,120nm,1.4s
WES Weston 40.54 72 *e*P **P 22 49 25.2 +0.2**
WES pmax pmax
comp=Z,120nm,1.4s
BCX Boston College 40.66 72 *e*P **P 22 49 26.9 +0.8**
comp=Z,169nm,1.4s
959A Okeechobee 40.71 97 P **P 22 49 27.2 +0.7**
baz=306
059A Moore Haven 40.84 98 P **P 22 49 28.5 +0.9**
baz=306
WVL Waterville 40.91 68 *e*P **P 22 49 28.0 0.0**
comp=Z,155nm,1.4s
TULEG Thule 40.91 18 *e*P **P 22 49 29.0 +1.4**
comp=Z,83nm,1.2s
TULEG LR LR
comp=Z,18µm,21.0s
PKME Peaks-Kenny Pk 40.92 67 P **P 22 49 28.4 +0.2**
baz=289
PKME Peaks-Kenny Pk 40.92 67 *e*P **P 22 49 28.3 +0.2**
comp=Z,125nm,1.6s
PKME *e*PP **PP 22 51 02.3 0.0**
PKME LR LR
comp=Z,30µm,19.0s
059Z Ave Maria 41.00 99 P **P 22 49 30.0 +1.0**
baz=307
PQI Presque Isle 41.31 64 *e*P **P 22 49 31.0 -0.4**
comp=Z,58nm,1.2s
PQI *e*PP **PP 22 51 05.1 -1.5**
060A Indiantown 41.37 98 P **P 22 49 32.9 +0.9**
baz=306
BILL Bilibino 41.67 329 *d i* P **P 22 49 33.7 -0.3**
BILL *e* 22 51 08.5
BILL pmax pmax
comp=Z,83nm,1.1s
BILL MLR MLR
comp=Z,11µm,16.0s
EMMW East Machias 42.33 67 *e*P **P 22 49 40.2 +0.5**
comp=Z,155nm,1.4s
MIDW Midway 42.48 266 PFAKE 22 49 50.0 +9.0
MIDW LR LR
comp=Z,7µm,18.0s
KULLO Kullorsuaq 43.38 22⇑ *i* P **P 22 49 49.1 +1.3**
KULLO Kullorsuaq 43.38 22⇑ *i* P **P 22 49 49.1 +1.3**
SNET Serv Nac Est T 44.34 120 PFAKE 22 50 10.0 +14
SNET LR LR
comp=Z,210µm,19.0s
JOHN Johnston Islan 44.36 246 PFAKE 22 50 10.0 +14
JOHN LR LR
comp=Z,7µm,20.0s
TGUH Tegucigalpa,Un 45.30 118 *e*P **P 22 50 05.3 +1.5**
comp=Z,116nm,1.0s
TGUH LR LR
comp=Z,194µm,21.0s
ILULI Ilulissat 45.43 29 *e*P **P 22 50 05.2 +1.1**
comp=Z,79nm,1.2s
ILULI LR LR
comp=Z,15µm,21.0s
ILULI Ilulissat 45.43 29 *e*P **P 22 50 05.3 +1.1**
ILULI pmax pmax
comp=Z,79nm,1.2s
ILULI MLR MLR
comp=Z,15µm,21.0s
SFJD Kangerlussuaq 45.93 32 P **P 22 50 09.6 +1.4**
comp=Z,39nm,1.1s,baz=298,slow=9.4,SNR=18
SFJD Kangerlussuaq 45.93 32⇑ *i* P **P 22 50 09.6 +1.4**
SFJD *i* 22 50 31.0
SFJD Kangerlussuaq 45.93 32 *e*P **P 22 50 09.7 +1.5**
comp=Z,140nm,1.3s
SFJD LR LR
comp=Z,13µm,18.0s
PET Petropavlovsk 47.91 309 *e*P **P 22 50 22.9 -1.0**
comp=Z,59nm,1.0s
PET Petropavlovsk 47.91 309 *d e*P **P 22 50 23.8 -0.1**
PET *e*S **S 22 57 19.0 -1.3**
PET pmax pmax
comp=Z,66nm,1.2s
PET pmax pmax
comp=Z,500nm,11.1s
PET pmax pmax
comp=Z,800nm,11.6s
SEY Seymchan 48.06 323 *c e*P **P 22 50 24.7 -0.2**
IVI Ivigtut 48.31 40 *e*P **P 22 50 27.4 +0.6**
comp=Z,215nm,1.1s
IVI LR LR
comp=Z,16µm,20.0s
PEA0B Petropavlovsk- 48.42 309 *e*P **P 22 50 27.1 -0.8**
comp=Z,238nm,1.5s
PEA0B LR LR
comp=Z,4µm,21.0s
PETK Petropavlovsk- 48.42 309 P **P 22 50 27.5 -0.4**
comp=Z,19nm,0.9s,baz=76,slow=13,SNR=8.7
PETK Petropavlovsk- 48.42 309 *e*P **P 22 50 27.6 -0.3**
PETK Petropavlovsk- 48.42 309 *e*P **P 22 50 27.6 -0.3**
SUMG Summit 48.87 24⇑ *i* P **P 22 50 32.7 +1.2**
comp=Z,111nm,1.0s
SUMG *i* 22 50 56.4
SUMG Summit 48.87 24 *e*P **P 22 50 32.3 +0.9**
comp=Z,137nm,1.1s
SUMG Summit 48.87 24⇑ *i* P **P 22 50 32.7 +1.2**
SUMG pmax pmax
comp=Z,110nm,1.0s
MTDJ Mount Denham 48.95 105 *e*P **P 22 50 32.5 +0.1**
comp=Z,154nm,1.3s
MTDJ LR LR
comp=Z,105µm,20.0s
XMAS Kiritimati 49.10 221 PFAKE 22 50 50.0 +17
XMAS LR LR
comp=Z,14µm,20.0s
GTBY Guantanamo Bay 49.54 101 *e*P **P 22 50 37.5 +0.7**
comp=Z,159nm,1.3s
GTBY LR LR
comp=Z,134µm,22.0s
NRS Narsarsuaq 49.59 39 *i* P **P 22 50 37.0 +0.3**
comp=Z,88nm,1.1s
NRS Narsarsuaq 49.59 39 *e*P **P 22 50 36.1 -0.5**
comp=Z,76nm,1.0s
NRS LR LR
comp=Z,16µm,20.0s
NRS Narsarsuaq 49.59 39 *i* P **P 22 50 37.0 +0.3**
NRS pmax pmax
comp=Z,88nm,1.1s
BBSR BB Station 49.77 81 *e*P **P 22 50 36.8 -1.6**
comp=Z,100nm,1.0s
MA2 Magadan 49.83 319⇑ *e*P **P 22 50 38.3 -0.3**
HDC Heredia 50.37 118 PFAKE 22 51 00.0 +17
HDC LR LR
comp=Z,96µm,18.0s
ANGG Ammassalik, Gr 51.34 32 *e*P **P 22 50 48.2 -1.6**
comp=Z,60nm,1.1s
ANGG LR LR
comp=Z,16µm,21.0s
GRTK Grand Turk 51.39 96 *e*P **P 22 50 50.6 -0.2**
comp=Z,270nm,1.1s
GRTK LR LR
comp=Z,117µm,20.0s
DAG Danmarks Havn 52.14 16 *i* P **P 22 50 56.2 +0.5**
comp=Z,62nm,0.9s
DAG Danmarks Havn 52.14 16 *i* P **P 22 50 56.2 +0.5**
DAG pmax pmax
comp=Z,62nm,0.9s
SDDR Presa de Saban 52.89 99 *e*P **P 22 51 02.8 +0.7**
comp=Z,106nm,1.1s
SDDR LR LR
comp=Z,63µm,20.0s
TIXI Tiksi 53.31 337 *e*P **P 22 51 03.7 -0.7**
comp=Z,60nm,1.2s
TIXI *e*PcP **PcP 22 52 09.8 -1.9**
TIXI *e*PP **PP 22 52 58.3 -5.9**
TIXI LR LR
comp=Z,10µm,18.0s
TIXI Tiksi 53.31 337 *c e*P **P 22 51 03.6 -0.7**
TIXI pmax pmax
comp=Z,61nm,1.2s
BCIP Isla Barro Col 53.77 115 *e*P **P 22 51 08.2 -0.3**
comp=Z,62nm,1.2s
BCIP LR LR
comp=Z,69µm,20.0s
BCIP Isla Barro Col 53.77 115 *e*P **P 22 51 07.8 -0.7**
SDD Santo Domingo 54.22 98 *e*P **P 22 51 12.4 +0.6**
comp=Z,458nm,1.2s
SDD LR LR
comp=Z,59µm,21.0s
SCO Scoresbysund 54.51 23 *i* P **P 22 51 13.9 +0.8**
comp=Z,106nm,1.5s
SCO Scoresbysund 54.51 23 *e*P **P 22 51 14.4 +1.3**
comp=Z,209nm,1.9s
SCO LR LR
comp=Z,12µm,21.0s
SCO Scoresbysund 54.51 23 *i* P **P 22 51 13.9 +0.8**
SCO pmax pmax
comp=Z,110nm,1.5s
KBS Kingsbay 55.48 9 *e*P **P 22 51 21.6 +1.5**
comp=Z,74nm,1.1s
KBS LR LR
comp=Z,8µm,19.0s
KBS Kingsbay 55.48 9 *e*P **P 22 51 21.6 +1.5**
KBS pmax pmax
comp=Z,74nm,1.1s
KBS MLR MLR
comp=Z,8µm,19.0s
AGP Aguadilla 56.25 96 PFAKE 22 51 40.0 +14
AGP LR LR
comp=Z,82µm,21.0s
MPR Mayaguez 56.38 97 *e*P **P 22 51 27.5 +0.2**

comp=Z,96nm,1.2s
MPR LR LR
comp=Z,57µm,22.0s
CRPR Cabo Rojo, PR 56.53 97 *eP* **P 22 51 28.3 -0.1**
comp=Z,114nm,1.0s
CRPR LR LR
comp=Z,129µm,20.0s
AOPR Arecibo Observ 56.57 96 *eP* **P 22 51 27.3 -1.4**
comp=Z,93nm,0.9s
AOPR LR LR
comp=Z,56µm,21.0s
SPA0 Spitsbergen Ar 56.60 8 *eP* **P 22 51 28.6 +0.5**
SPITS Spitsbergen Ar 56.60 8 P **P 22 51 28.4 +0.3**
comp=Z,61nm,1.0s,baz=335,slow=6.4,SNR=10
MOTC Monteria, Cord 56.84 112 *eP* **P 22 51 27.7 -2.9**
SJG San Juan 57.16 96 *eP* **P 22 51 32.8 0.0**
comp=Z,96nm,1.1s
SJG LR LR
comp=Z,63µm,22.0s
SJG San Juan 57.16 96 *eP* **P 22 51 31.7 -1.1**
SJG San Juan 57.16 96 *eP* **P 22 51 32.8 0.0**
SJG pmax pmax
comp=Z,96nm,1.1s
SJG MLR MLR
comp=Z,63µm,22.0s
CBYP Canovanas 57.27 96 *eP* **P 22 51 33.3 -0.4**
comp=Z,81nm,1.0s
CBYP LR LR
comp=Z,60µm,21.0s
URIC Uribia, Colomb 57.30 106 *eP* **P 22 51 32.3 -1.5**
CODC Agust`n Codaz 57.53 109 *eP* **P 22 51 33.7 -1.8**
SOLC Bahia Solano 57.56 115 *eP* **P 22 51 35.1 -0.6**
NKL Nikolayevsk 57.65 315 *eP* **P 22 51 34.8 -1.0**
NKL pmax pmax
comp=N,15nm,1.4s
NKL pmax pmax
comp=E,10.0nm,1.4s
NKL pmax pmax
comp=Z,110nm,1.4s
NKL pmax pmax
comp=E,500nm,5.0s
NKL pmax pmax
comp=Z,800nm,5.0s
TYV Tymovskoe 57.77 311 *eP* **P 22 51 36.5 -0.2**
TYV pmax pmax
comp=Z,30nm,1.4s
TYV pmax pmax
comp=Z,600nm,4.2s
YAK Yakutsk 57.98 327 *eP* **P 22 51 36.9 -1.1**
comp=Z,124nm,1.2s
YAK LR LR
comp=Z,12µm,21.0s
YAK Yakutsk 57.98 327 *eP* **P 22 51 36.5 -1.5**
YAK *e**PP **sP 22 51 43.4 -1.9**
YAK *e* 22 52 33.4
YAK *e*S S 22 59 26.8 -11
YAK pmax pmax
comp=Z,80nm,1.2s
YAK pmax pmax
comp=N,14nm,1.4s
YAK pmax pmax
comp=E,40nm,1.3s
YAK pmax pmax
comp=Z,106nm,1.9s
YAK pmax pmax
comp=E,125nm,2.3s
YAK pmax pmax
comp=N,20nm,1.5s
YAK smax smax
comp=N,34nm,2.3s
ABVI Anegada Island 58.08 94 *eP* **P 22 51 39.7 +0.4**
comp=N,288nm,1.4s
ABVI LR LR
comp=Z,51µm,22.0s
ZARC Zaragoza, Cauc 58.33 112 *eP* **P 22 51 39.0 -2.1**
CDVI St. Croix 58.39 95 *eP* **P 22 51 41.2 -0.3**
comp=Z,93nm,0.8s
HELC Santa Helena 58.83 114 *eP* **P 22 51 45.5 +0.4**
comp=Z,85nm,0.9s
HELC LR LR
comp=Z,87µm,18.0s
HELC Santa Helena 58.83 114 *eP* **P 22 51 44.5 -0.5**
OCAC Ocana 58.83 110 *eP* **P 22 51 46.3 +1.6**
H11N3 WAKE ISLAND Hy 59.02 268 T T 23 55 41.5
baz=50,slow=75,SNR=4147
H11N2 WAKE ISLAND Hy 59.02 268 T T 23 55 33.3
baz=50,slow=75,SNR=3379
H11N1 WAKE ISLAND Hy 59.04 268 T T 23 55 44.9
baz=50,slow=75,SNR=3920
MALC Bahia Malaga 59.26 117 *eP* **P 22 51 49.3 +1.7**
PLMC San Jos`` del 59.28 115 *eP* **P 22 51 49.0 +1.2**
PTBC PUERTO BERRIO, 59.29 112 *eP* **P 22 51 47.5 -0.3**
BRRC Barranca, Sant 59.38 111 *eP* **P 22 51 46.3 -2.1**
SMRT St. Maarten 59.43 94 *eP* **P 22 51 48.6 -0.2**
comp=Z,95nm,1.1s
SMRT LR LR
comp=Z,55µm,21.0s
GRGC Isla de Gorgon 59.49 118 *eP* P 22 51 43.9 -5.3
SABA Saba 59.58 94 PFAKE 22 52 00.0 +10
SABA LR LR
comp=Z,66µm,20.0s
GUYC Guyana, Colomb 59.63 114 *eP* **P 22 51 48.0 -2.7**
NORC Norcasia 59.73 113 *eP* **P 22 51 50.7 -0.2**
YSS Yuzh-Sakhalins 59.77 308 *eP* **P 22 51 50.6 -0.1**
comp=Z,102nm,1.1s
YSS Yuzh-Sakhalins 59.77 308⇑ *eP* **P 22 51 53.2 +2.5**
YSS *e* 22 52 02.0
YSS *e* 22 54 11.2
YSS *e*S **S 22 59 57.9 -3.0**
YSS pmax pmax
comp=Z,600nm,5.3s
YSS pmax pmax
comp=Z,30nm,0.8s
YSS smax smax
comp=N,750nm,11.0s
SEUS St. Eustatius 59.85 94 PFAKE 22 52 00.0 +8.4
SEUS LR LR
comp=Z,63µm,20.0s
PAMC Pamplona, Colo 59.90 110 *eP* **P 22 51 52.2 -0.3**
RREF El Recreo 59.90 114 *eP* **P 22 51 53.0 +0.2**
YOTC Yotoco, Valle 59.93 116 *eP* **P 22 51 51.6 -0.7**
H11S1 WAKE ISLAND Hy 59.94 267 T T 23 56 36.0
baz=50,slow=75
H11S2 WAKE ISLAND Hy 59.95 267 T T 23 56 36.3
baz=50,slow=75
H11S3 WAKE ISLAND Hy 59.96 267 T T 23 56 37.2
baz=50,slow=75,SNR=9325
TUMC Tumaco 60.04 120 PFAKE 22 52 10.0 +17
TUMC LR LR
comp=Z,54µm,21.0s
TUMC Tumaco 60.04 120 *eP* P 22 51 44.3 -8.6
TUMC Tumaco 60.04 120 *eP* P 22 51 44.3 -8.6
BARC Barichara 60.11 111 *eP* **P 22 51 52.7 -1.0**
TOLC Tolima 60.16 115 *eP* **P 22 51 53.0 -1.2**
ANIL Santa Ana 60.17 115 *eP* **P 22 51 52.1 -2.1**
SDV Santo Domingo 60.22 107 P **P 22 51 54.5 +0.1**
comp=Z,21nm,0.9s,baz=316,slow=5.0,SNR=20
SDV Santo Domingo 60.22 107 *eP* **P 22 51 54.7 +0.3**
comp=Z,52nm,1.0s
SDV LR LR
comp=Z,77µm,22.0s
SDV Santo Domingo 60.22 107 *eP* **P 22 51 53.0 -1.4**
ANWB Willy Bob 60.61 93 PFAKE 22 52 10.0 +13
ANWB LR LR
comp=Z,46µm,22.0s
ROSC El Rosal 60.63 114 P **P 22 51 58.9 +1.5**
comp=Z,5.5nm,0.4s,baz=41,slow=6.7,SNR=18
ROSC El Rosal 60.63 114 *eP* **P 22 51 59.4 +1.9**
comp=Z,79nm,1.4s
ROSC LR LR
comp=Z,19µm,18.0s
ROSC El Rosal 60.63 114 *eP* **P 22 51 59.0 +1.5**
POPC Popayan, Colom 60.80 117 *eP* **P 22 51 56.3 -2.2**
PRAC Prado 61.09 115 *eP* **P 22 52 00.1 -0.1**
comp=Z,135nm,1.3s
PRAC LR LR
comp=Z,33µm,20.0s
PRAC Prado 61.09 115 *eP* **P 22 52 00.1 -0.1**
PCON Cinco Dias 61.15 117 *eP* **P 22 51 59.0 -2.2**
GRNR Gornyy 61.15 314 *eP* **P 22 52 01.0 +0.9**
GRNR pmax pmax
comp=Z,150nm,1.1s
SOTA Rioblanco 61.16 118 *eP* **P 22 52 01.5 +0.4**
CHIC Chingaza 61.18 113 *eP* **P 22 51 59.8 -1.4**
CMBC Cumbal 61.29 119 *eP* **P 22 52 02.7 +0.7**
CRUC La Cruz 61.37 118 *eP* **P 22 52 02.8 +0.3**

GCUF Volcan Galeras 61.38 119 *eP* **P 22 52 03.6 +1.0**
ASAJ Asahikawa 61.42 305 P **P 22 52 03.6 +1.6**
comp=Z,13nm,1.0s,baz=28,slow=5.7,SNR=9.1
ASAJ Asahikawa 61.42 305 *eP* **P 22 52 04.1 +2.1**
comp=Z,30nm,1.0s
OTAV Otavalo 61.44 121 *eP* **P 22 52 05.1 +2.1**
comp=Z,151nm,1.3s
OTAV LR LR
comp=Z,48µm,21.0s
OTAV Otavalo 61.44 121 *eP* **P 22 52 03.6 +0.6**
BETC Betania 61.50 116 *eP* **P 22 52 02.3 -0.7**
GDHS Morne Mazeau, 61.53 94 PFAKE 22 52 20.0 +17
GDHS LR LR
comp=Z,69µm,20.0s
YOPC Yopal, Colombi 61.53 112 *eP* **P 22 52 02.3 -1.0**
VILC Villavicencio, 61.59 114 *eP* **P 22 52 00.9 -2.7**
SJAC San Juan de Ar 62.04 114 *eP* **P 22 52 06.3 -0.4**
FLOC Florencia 62.19 117 *eP* **P 22 52 06.9 -0.7**
FDF Fort de France 62.98 95 PFAKE 22 52 30.0 +17
FDF LR LR
comp=Z,42µm,21.0s
CLNS Chul'man 63.03 324 *eP* **P 22 52 11.7 -0.9**
CLNS *e* 22 52 50.9
CLNS *e* 22 54 31.5
CLNS *e*PPP PPP 22 55 59.4
CLNS *e*S **S 23 00 39.9 -2.3**
CLNS *e*SS **SS 23 04 49.2 +2.2**
CLNS pmax pmax
comp=Z,33nm,1.0s
CLNS pmax pmax
comp=N,11nm,1.0s
CLNS pmax pmax
comp=E,25nm,1.3s
CLNS pmax pmax
comp=E,8.0nm,1.0s
CLNS pmax pmax
comp=N,11nm,1.1s
CLNS pmax pmax
comp=Z,13nm,1.3s
CLNS smax smax
comp=N,477nm,13.2s
CLNS smax smax
comp=E,389nm,11.1s
CLNS MLR MLR
comp=E,3µm,12.0s
CLNS MLR MLR
comp=Z,4µm,15.0s
CLNS MLR MLR
comp=N,3µm,16.0s
GUVC San Jose del G 63.46 114 *eP* **P 22 52 14.2 -1.8**
SVB Belmont 63.88 97 PFAKE 22 52 30.0 +11
SVB LR LR
comp=Z,52µm,21.0s
ZEA Zeya 63.92 320 *eP* **P 22 52 17.8 -0.7**
ZEA *e*S **S 23 00 58.0 +4.7**
ZEA pmax pmax
comp=Z,71nm,1.2s
ZEA pmax pmax
comp=Z,700nm,4.0s
ZEA smax smax
comp=N,2µm,13.0s
ZEA smax smax
comp=E,700nm,13.0s
PPTF Pamatai, Papee 64.08 203 PFAKE 22 52 30.0 +10
PPTF LR LR
comp=Z,34µm,20.0s
GRGR Grenville 64.35 98 PFAKE 22 52 30.0 +8.1
GRGR LR LR
comp=Z,44µm,21.0s
KLR Kul'dur 64.49 314 *i* P **P 22 52 21.4 -1.0**
BBGH Gun Hill 65.19 95 PFAKE 22 52 40.0 +13
BBGH LR LR
comp=Z,73µm,21.0s
KEV Kevo 65.48 9 *eP* **P 22 52 28.4 -0.1**
comp=Z,90nm,1.1s
KEV Kevo 65.48 9 *eP* **P 22 52 28.4 -0.1**
KEV pmax pmax
comp=Z,90nm,1.1s
ARCES ARCESS Array B 65.51 10 P **P 22 52 28.5 -0.1**
comp=Z,11nm,0.9s,baz=341,slow=5.1,SNR=15
ARCES ARCESS Array B 65.51 10 *eP* **P 22 52 28.8 +0.2**
ARCES ARCESS Array B 65.51 10 *eP* **P 22 52 28.8 +0.2**
ARE0 ARCESS Array S 65.51 10 *eP* **P 22 52 29.1 +0.5**
ARE0 LR LR
comp=Z,9µm,22.0s
BOD Bodaibo 66.73 329⇑ *i*P **P 22 52 34.3 -2.3**
BOD pmax pmax
comp=Z,54nm,1.3s
TARA Tarawa 67.32 249 PFAKE 22 52 50.0 +9.0
TARA LR LR
comp=Z,9µm,18.0s
USRK Ussuriysk Ar. 67.50 310 P **P 22 52 41.2 -0.5**
comp=Z,15nm,1.1s,baz=43,slow=3.9,SNR=15
LVZ Lovozero 68.07 7 *eP* **P 22 52 45.0 0.0**
comp=Z,175nm,1.0s
LVZ Lovozero 68.07 7 *ceP* **P 22 52 45.1 0.0**
LVZ pmax pmax
comp=Z,240nm,1.7s
APA Apatity 68.28 8⇑ *i*P **P 22 52 45.4 -0.9**
APA *i* 22 52 54.8
APA *i* 22 55 22.0
APA *i*S **S 23 01 40.0 -5.8**
APA *i* 23 02 07.0
APA *i*SSS SSS 23 09 16.0
APA pmax pmax
comp=Z,24nm,1.1s
APA MLR MLR
comp=Z,11µm,31.0s
PTCN Pitcairn Islan 68.32 182 PFAKE 22 53 00.0 +13
PTCN LR LR
comp=Z,48µm,22.0s
KPL Plockton 68.40 30 *eP* **P 22 52 47.3 +0.1**
KAC Achnashellach 68.41 29 *eP* **P 22 52 47.4 +0.1**
MDJ Mudanjiang 68.55 312 P **P 22 52 48.0 -0.4**
MDJ pP sP 22 52 52.6 -3.1
MDJ sP pP 22 52 54.1 +0.4
MDJ S **S 23 01 48.4 -1.4**
MDJ pmax pmax
comp=Z,600nm,5.3s
MDJ LR LR
comp=Z,2µm,13.9s
MDJ LR LR
comp=Z,2µm,13.5s
MDJ LR LR
comp=Z,4µm,15.5s
MJAR Matsushiro Arr 68.62 300 P **P 22 52 48.1 -0.9**
comp=Z,6.4nm,0.9s,baz=21,slow=4.7,SNR=11
MAJO Matsushiro 68.62 300 *eP* **P 22 52 48.3 -0.7**
comp=Z,32nm,0.9s
MAJO Matsushiro 68.62 300 *eP* **P 22 52 48.3 -0.7**
MAJO pmax pmax
comp=Z,32nm,0.9s
MAT Matsushiro 68.62 300 P **P 22 52 49.7 +0.7**
MJB9 Matsu-Tunnel 68.62 300 *eP* **P 22 52 48.2 -0.8**
comp=Z,34nm,0.9s
MJB9 LR LR
comp=Z,3µm,19.0s
MCD Coleburn Disti 69.06 28 *eP* **P 22 52 51.4 +0.1**
EAB Aberfoyle 69.75 30⇑ *eP* **P 22 52 55.2 -0.4**
DRUM Mains of Drumt 69.85 29 *eP* **P 22 52 55.6 -0.5**
DRUM IAmb IAmb 22 52 57.8
comp=Z,104nm,1.2s
AFI Afiamalu 69.97 226 PFAKE 22 53 10.0 +13
AFI LR LR
comp=Z,7µm,20.0s
PGBU Glenifferbraes 69.98 30 *eP* **P 22 52 57.3 +0.3**
PGBU IAmb IAmb 22 52 58.3
comp=Z,176nm,1.3s
NC204 NORSAR Array S 70.21 20 *eP* **P 22 52 58.0 -0.5**
EDI Edinburgh 70.37 30 *eP* **P 22 52 58.6 -0.7**
EDI IAmb IAmb 22 53 00.7
comp=Z,74nm,1.3s
NC303 NORSAR Array S 70.41 20 *eP* **P 22 53 00.2 +0.6**
NBO00 NORSAR Array S 70.43 20 *eP* **P 22 52 59.5 -0.3**
NBO02 NORSAR Array S 70.43 20 *eP* **P 22 53 00.4 +0.6**
NB2 NORSAR Subarra 70.53 20 P **P 22 53 00.8 +0.4**
comp=Z,59nm,1.1s,baz=331,slow=6.2
NB2 NORSAR Subarra 70.53 20 P **P 22 53 00.8 +0.4**
baz=331,slow=6.2
NOA NORSAR Array B 70.53 20 P **P 22 53 00.9 +0.6**
comp=Z,18nm,0.9s,baz=332,slow=5.9,SNR=24
NB201 NORSAR Array S 70.54 20 *eP* **P 22 53 00.1 -0.3**
ESY Stoneypath 70.57 29 *eP* **P 22 53 00.5 -0.2**
NC405 NORSAR Array S 70.59 20 *eP* **P 22 53 00.6 -0.1**

NAO01 NORSAR Array S 70.62 20 *eP* **P 22 53 01.8 +0.9**
ESK Eskdalemuir 70.83 30 PFAKE 22 53 10.0 +7.8
ESK LR LR
comp=Z,7µm,21.0s
EKA Eskdalemuir Ar 70.83 30 P **P 22 53 01.8 -0.4**
comp=Z,4.7nm,0.9s,baz=330,slow=4.2,SNR=8.1
NC602 NORSAR Array S 70.87 20 *eP* **P 22 53 02.2 -0.2**
RAR Rarotonga 70.89 212 PFAKE 22 53 20.0 +17
RAR LR LR
comp=Z,30µm,20.0s
CIT Chita 71.14 325 *eP* **P 22 53 04.2 -0.1**
CIT *e* 22 53 10.3
CIT *e* 22 53 21.0
CIT pmax pmax
comp=Z,143nm,2.9s
KONO Kongsberg 71.31 21 *eP* **P 22 53 06.1 +1.1**
comp=Z,53nm,1.2s
KONO Kongsberg 71.31 21 *ceP* **P 22 53 05.7 +0.6**
KONO pmax pmax
comp=Z,535nm,2.5s
CN2 Changchun 71.32 313 *eP* **P 22 53 05.0 -0.4**
CN2 *eS* **S 23 02 24.9 +2.6**
CN2 SS **SS 23 06 57.5 +1.8**
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=Z,6µm,18.0s
CN2 LR LR
comp=Z,3µm,18.0s
EDMD Edmundbyers 71.66 30⇑ *eP* **P 22 53 07.7 +0.5**
EDMD IAmb IAmb 22 53 08.8
comp=Z,77nm,1.2s
HFS Hagfors 71.92 19 P **P 22 53 09.0 +0.3**
comp=Z,27nm,0.9s,baz=339,slow=6.2,SNR=14
TMCR Tamitsa 72.03 7 *eP* **P 22 53 09.1 -0.2**
TMCR pmax pmax
comp=Z,100nm,0.9s
NNA Nana 72.06 127 *eP* **P 22 53 10.4 +0.2**
comp=Z,77nm,1.2s
NNA Nana 72.06 127 *eP* **P 22 53 10.4 +0.2**
NNA pmax pmax
comp=Z,77nm,1.2s
RPN Rapa Nui 72.31 163 PFAKE 22 53 20.0 +8.7
RPN LR LR
comp=Z,68µm,21.0s
CMLA Cha da Macela 72.67 54 PFAKE 22 53 30.0 +16
CMLA LR LR
comp=Z,9µm,18.0s
HLM1 Long Mynd 73.13 32⇑ *eP* **P 22 53 16.0 -0.1**
FIA1 FINESS Array S 73.21 13 *eP* **P 22 53 16.7 +0.4**
FINES FINESS Array B 73.21 13 P **P 22 53 16.6 +0.3**
comp=Z,16nm,0.8s,baz=20,slow=6.1,SNR=22
MCH1 Michaelchurch 73.49 32 *eP* **P 22 53 17.8 -0.4**
MCH1 IAmb IAmb 22 53 19.6
comp=Z,40nm,1.1s
CWF Charnwood Fore 73.55 31 *eP* **P 22 53 18.2 -0.3**
CWF IAmb IAmb 22 53 19.8
comp=Z,69nm,1.2s
PATS Pohnpei 73.77 264 PFAKE 22 53 30.0 +10
PATS LR LR
comp=Z,8µm,21.0s
MUD Monsted U'grnd 73.93 23 *i* P **P 22 53 22.5 +1.8**
comp=Z,50nm,1.1s
MUD Monsted U'grnd 73.93 23 *i* P **P 22 53 22.5 +1.8**
MUD pmax pmax
comp=Z,50nm,1.1s
STRD Stroud 73.98 32 *eP* **P 22 53 22.1 +1.0**
KSRS Korea Array 74.25 307 P **P 22 53 24.2 +1.3**
comp=Z,6.9nm,1.0s,baz=53,slow=5.9,SNR=16
KS01 Wonju Array Si 74.25 307 *eP* **P 22 53 23.7 +0.8**
KSAR Wonju Array Be 74.28 307 P **P 22 53 24.2 +1.1**
KSAR Wonju Array Be 74.28 307 P **P 22 53 24.2 +1.1**
PTGA Pitinga 74.48 106 *eP* **P 22 53 24.6 +0.1**
comp=Z,53nm,1.0s
PTGA LR LR
comp=Z,33µm,18.0s
IRK Irkutsk 74.60 330 *eP* **P 22 53 23.8 -0.9**
IRK pmax pmax
comp=Z,159nm,2.8s
KRAR Krasnoyarsk 75.07 338 *i* P **P 22 53 23.6 -3.7**
TLY Talaya 75.28 330 *eP* **P 22 53 28.9 +0.2**
comp=Z,95nm,1.6s
TLY Talaya 75.28 330 *eP* **P 22 53 28.7 0.0**
TLY *eS* **S 23 03 14.5 +7.4**
TLY *e* 23 03 48.2
TLY pmax pmax
comp=Z,66nm,1.5s
TLY MLR MLR
comp=Z,2µm,14.0s
JNU Nakatsue 75.42 302 P **P 22 53 32.6 +2.9**
comp=Z,17nm,1.0s,baz=136,slow=12,SNR=3.7
JNU Nakatsue 75.42 302 *eP* **P 22 53 31.8 +2.0**
comp=Z,82nm,1.3s
KLMR Klimovskoe 75.42 6 *eP* **P 22 53 27.4 -1.9**
KLMR AMP 22 53 39.8
comp=Z,185nm,1.2s
KLMR *eP*P **PP 22 56 15.3 -2.2**
KLMR *eS* **S 23 03 05.2 -3.0**
KLMR *eS* **S 23 03 05.2 -3.0**
KLMR *eS*S **SS 23 07 53.7 -3.5**
KLMR *eS*S **SS 23 07 53.7 -3.5**
KLMR Klimovskoe 75.42 6 *eP* **P 22 53 27.3 -2.0**
KLMR *e* 22 56 15.3
KLMR *eS* **S 23 03 05.1 -3.1**
KLMR *eS*S **SS 23 07 53.7 -3.5**
KLMR pmax pmax
comp=Z,185nm,1.2s
COP Copenhagen 75.51 22 *i* P **P 22 53 29.8 0.0**
COP Copenhagen 75.51 22 *eP* **P 22 53 29.8 0.0**
VSU Vasula 76.14 14 *ceP* **P 22 53 32.4 -1.0**
VSU pmax pmax
comp=Z,138nm,2.5s
MOY Mondy 76.24 331 *eP* **P 22 53 34.9 +0.6**
MOY pmax pmax
comp=Z,112nm,3.0s
ZAK Zakamensk 76.47 329 *eP* **P 22 53 34.9 -0.7**
ZAK pmax pmax
comp=Z,17nm,1.5s
BSD Bornholm Skovb 76.68 21 *i* P **P 22 53 33.5 -3.0**
BSD Bornholm Skovb 76.68 21 *i* P **P 22 53 33.5 -3.0**
RGN Rugen 76.76 22 PFAKE 22 53 50.0 +13
RGN LR LR
comp=Z,4µm,19.0s
DL2 Dalian 76.79 311 P **P 22 53 38.8 +1.4**
DL2 S **S 23 03 26.0 +2.0**
DL2 pmax pmax
comp=Z,47nm,1.2s
DL2 pmax pmax
comp=Z,680nm,5.0s
DL2 LR LR
comp=Z,4µm,14.8s
DL2 LR LR
comp=Z,9µm,13.7s
DL2 LR LR
comp=Z,7µm,14.4s
ULN Ulaanbaatar 77.02 326 *eP* **P 22 53 38.5 -0.4**
comp=Z,51nm,1.5s
ULN Ulaanbaatar 77.02 326 *ceP* **P 22 53 38.2 -0.6**
ULN pmax pmax
comp=Z,47nm,1.7s
WTSB Winterswijk 77.03 27 *i* P **P 22 53 39.3 +0.8**
UCC Uccle 77.18 29 *eP* **P 22 53 39.5 +0.1**
comp=Z,40nm,1.3s
UCC LR LR
comp=Z,7µm,19.0s
UCC Uccle 77.18 29 *eP* **P 22 53 39.5 +0.1**
UCC pmax pmax
comp=Z,40nm,1.3s
UCC MLR MLR
comp=Z,7µm,19.0s
SONA1 Songino Array 77.30 326 *eP* **P 22 53 39.9 -0.5**
SONM Songino Array 77.31 326 P **P 22 53 40.4 -0.1**
comp=Z,22nm,1.0s,baz=48,slow=3.6,SNR=86
HGN Heimansgroeve 77.75 28 *i* P **P 22 53 43.2 +0.6**
SAML Samuel 78.24 114 *eP* **P 22 53 45.0 -0.8**
comp=Z,19nm,1.1s
SAML LR LR
comp=Z,24µm,19.0s
KLNR Kaliningrad 78.44 18 *i* P **P 22 53 47.3 +0.9**
KLNR pmax pmax
comp=Z,36nm,0.9s
NVS Novosibirsk 78.52 342⇑ *i*P **P 22 53 46.9 +0.1**
NVS pmax pmax
comp=N,28nm,1.2s
NVS pmax pmax

comp=Z,126nm,1.2s
NVS pmax pmax
comp=E,48nm,1.3s
MSVF Nonsavu 78.68 232 PFAKE 22 54 00.0 +12
MSVF LR LR
comp=Z,6µm,20.0s
WLF Walferdange 78.76 29 *e*P **P 22 53 49.0 +0.8**
comp=Z,57nm,1.4s
WLF LR LR
comp=Z,8µm,21.0s
WLF Walferdange 78.76 29 *e*P **P 22 53 49.0 +0.8**
WLF pmax pmax
comp=Z,57nm,1.4s
WLF MLR MLR
comp=Z,8µm,21.0s
BJI Beijing 78.84 315 *e*P **P 22 53 50.6 +1.8**
BJI LR LR
comp=Z,5µm,12.8s
BJI LR LR
comp=Z,3µm,13.9s
GKP Gorka Klasztor 78.94 21 *e*P **P 22 53 50.3 +1.2**
GKP Gorka Klasztor 78.94 21 *e*P **P 22 53 50.3 +1.2**
ZAA0 Zalesovo Array 78.98 341 *e*P **P 22 53 49.1 -0.2**
comp=Z,120nm,1.8s
ZAA0 LR LR
comp=Z,9µm,20.0s
ZALV Zalesovo Beam 78.98 341 P **P 22 53 49.1 -0.3**
comp=Z,15nm,0.9s,baz=21,slow=5.1,SNR=51
ZALV PP **PP 22 56 45.1 -2.4**
comp=Z,8.9nm,1.2s,baz=18,slow=6.7,SNR=3.6
ZALV Zalesovo Beam 78.98 341 *e*P **P 22 53 48.6 -0.7**
ZALV PP **PP 22 56 45.1 -2.4**
ZALV Zalesovo Beam 78.98 341 *e*P **P 22 53 48.7 -0.7**
ZALV 22 56 45.1
GUMO Guam 78.98 278 PFAKE 22 54 00.0 +10
GUMO LR LR
comp=Z,4µm,21.0s
IIGN Ignalina 79.00 15 *e*P **P 22 53 50.2 +0.8**
IIGN IAmb IAmb 22 53 59.6
comp=Z,14nm,0.9s
HVS Khovu-Aksy 79.09 335*c i*P **P 22 53 50.3 +0.1**
HVS pmax pmax
comp=Z,44nm,1.0s
IDID Didziasalis 79.13 15 *e*P **P 22 53 50.4 +0.3**
IDID IAmb IAmb 22 53 52.3
comp=Z,13nm,1.1s
NACGM Naroch 79.53 15 *e* **P 22 53 52.0 -0.3**
CLL Collm 79.53 24 *i*P **P 22 53 53.0 +0.6**
comp=Z,58nm,1.2s
CLL *i* 22 54 02.5
CLL *e*S **S 23 03 52.0 -1.1**
CLL L L 23 29 00.0
comp=Z,5µm,19.1s
CLL Collm 79.53 24 *e*P **P 22 53 52.8 +0.4**
comp=Z,49nm,1.1s
CLL LR LR
comp=Z,5µm,19.0s
CLL Collm 79.53 24 *e*P **P 22 53 52.8 +0.4**
CLL pmax pmax
comp=Z,49nm,1.1s
CLL MLR MLR
comp=Z,5µm,19.0s
POLO Lamas de Olo 79.64 42 *e*P **P 22 53 54.4 +1.1**
comp=Z,52nm,1.5s
SUW Suwalki 79.65 17 *e*P **P 22 53 53.1 +0.2**
SUW Suwalki 79.65 17 *e*P **P 22 53 52.6 -0.4**
comp=Z,94nm,1.1s
SUW LR LR
comp=Z,8µm,21.0s
SUW Suwalki 79.65 17 *e*P **P 22 53 53.2 +0.2**
SVE Sverdlovsk 79.75 355*c i*P **P 22 53 53.3 -0.2**
SVE *e*S **S 23 03 55.1 -0.1**
SVE pmax pmax
comp=Z,124nm,1.1s
PVRL Vila Real 79.75 42 *e*P **P 22 53 55.1 +1.2**
PBRG Braganca 79.81 41 *e*P **P 22 53 54.8 +0.6**
PVIS Viseu 80.09 42 *e*P **P 22 53 56.5 +0.7**
comp=Z,80nm,2.0s
MICGM Minsk 80.11 14 *e* **P 22 53 55.0 -0.5**
MNK Minsk 80.11 14 *e*P **P 22 53 55.0 -0.5**
MVO Moncorvo 80.17 41 *e*P **P 22 53 56.8 +0.6**
comp=Z,79nm,1.8s
BRG Berggiesshubel 80.19 24 *i*P **P 22 53 57.1 +1.1**
comp=Z,45nm,1.2s
BRG *i* 22 54 03.9
comp=Z,74nm,1.3s
BRG *i* 22 54 13.8
comp=Z,54nm,1.1s
BRG S **S 23 04 04.0 +3.9**
BRG Berggiesshubel 80.19 24 *i*P **P 22 53 57.1 +1.1**
BRG *i* 22 54 03.9
BRG S **S 23 04 04.0 +3.9**
BRG pmax pmax
comp=Z,45nm,1.2s
BRG pmax pmax
comp=Z,74nm,1.3s
BRG pmax pmax
comp=Z,54nm,1.1s
ARU Arti 80.25 357 *e*P **P 22 53 55.8 -0.5**
comp=Z,87nm,1.0s
ARU Arti 80.25 357*d i*P **P 22 53 55.6 -0.6**
ARU 22 56 57.0
ARU S **S 23 04 02.5 +2.0**
ARU pmax pmax
comp=Z,98nm,1.7s
MOS Moscow 80.30 8 *e*P **P 22 53 55.7 -0.7**
MOS pmax pmax
comp=Z,99nm,1.5s
PCAS Casmilo, Conde 80.31 43 *e*P **P 22 53 57.7 +0.8**
comp=Z,97nm,1.9s
NKC Novy Kostel 80.32 25 *e*P **P 22 53 57.4 +0.7**
NKC *e*pP **sP 22 54 02.2 -1.9**
NKC *e*PCP **PcP 22 54 04.9 +1.0**
NKC *e*S **S 23 04 00.8 -0.7**
NKC Novy Kostel 80.32 25 *e*P **P 22 53 57.4 +0.7**
NKC *e* 22 54 02.2
NKC *e* 22 54 04.9
NKC *e*S **S 23 04 00.8 -0.7**
ECH Echery 80.34 29 *e*P **P 22 53 57.5 +0.6**
comp=Z,35nm,1.2s
ECH *e*PP **PP 22 56 55.3 -3.6**
ECH LR LR
comp=Z,6µm,21.0s
ECH Echery 80.34 29 *e*P **P 22 53 57.5 +0.6**
ECH *e* 22 56 55.3
ECH pmax pmax
comp=Z,35nm,1.2s
ECH MLR MLR
comp=Z,6µm,21.0s
GRFO Grafenberg 80.41 26 *e*P **P 22 53 58.9 +1.6**
comp=Z,72nm,1.3s
GRFO *e*PP PP 22 56 51.4 -8.1
GRFO LR LR
comp=Z,9µm,20.0s
GRFO Grafenberg 80.41 26 *e*P **P 22 53 58.9 +1.6**
GRFO pmax pmax
comp=Z,72nm,1.3s
GRFO MLR MLR
comp=Z,9µm,20.0s
MTE Manteigas 80.51 42 *e*P **P 22 53 59.0 +1.0**
comp=Z,75nm,1.7s
MTE Manteigas 80.51 42 PFAKE 22 54 10.0 +12
MTE LR LR
comp=Z,7µm,22.0s
HHC Hu-ho-hao-te 80.51 319 *e*P **P 22 53 57.6 -0.5**
HHC pP PcP 22 54 06.2 +1.2
HHC sP sP 22 54 10.1 +4.7
HHC PP **PP 22 57 04.1 +3.4**
HHC S **S 23 04 06.5 +2.5**
HHC LR LR
comp=Z,7µm,17.9s
HHC LR LR
comp=Z,8µm,17.7s
HHC LR LR
comp=Z,7µm,17.1s
STU Stuttgart 80.56 27 *e*P **P 22 53 58.8 +0.8**
comp=Z,29nm,1.1s
STU LR LR
comp=Z,9µm,22.0s
STU Stuttgart 80.56 27 *e*P **P 22 53 58.8 +0.8**
STU pmax pmax
comp=Z,29nm,1.1s
STU MLR MLR
comp=Z,9µm,22.0s
LPAZ La Paz 80.62 123 P **P 22 53 59.6 +0.2**
comp=Z,16nm,0.9s,baz=327,slow=4.9,SNR=23
LPAZ La Paz 80.62 123 *e*P **P 22 53 59.0 -0.4**
comp=Z,36nm,0.9s
BFO Black Forest 80.64 28 *e*P **P 22 53 58.9 +0.4**
comp=Z,57nm,1.3s
BFO LR LR
comp=Z,6µm,22.0s
BFO Black Forest 80.64 28 *i*P **P 22 53 59.7 +1.2**
PTOM Tomar 80.68 43 *e*P **P 22 53 59.6 +0.7**
comp=Z,112nm,1.7s
PVCC Panska Ves 80.68 23 *e*P **P 22 53 59.9 +1.2**
PVCC *e*pP **PcP 22 54 05.1 -0.3**
PVCC *e*PCP **sP 22 54 07.6 +1.6**
PVCC Panska Ves 80.68 23 *e*P **P 22 53 59.9 +1.2**
PVCC *e* 22 54 05.1
PVCC *e* 22 54 07.6
OBN Obninsk 80.79 9 *e*P **P 22 53 59.2 +0.1**
comp=Z,120nm,1.1s
OBN Obninsk 80.79 9*c e*P **P 22 53 58.8 -0.3**
OBN *e* 22 54 04.3
OBN *e* 22 57 00.5
OBN *e*PPP PPP 22 58 54.0
OBN *e*S **S 23 04 08.2 +2.1**
OBN *e*SS **SS 23 09 24.1 +6.1**
OBN pmax pmax
comp=Z,140nm,1.7s
OBN MLR MLR
comp=Z,4µm,25.0s
KSP Ksiaz 80.89 22 *e*P **P 22 54 01.0 +1.2**
KSP Ksiaz 80.89 22 *e*P **P 22 54 01.0 +1.2**
ALMR Almeirim 80.95 43 *e*P **P 22 54 01.2 +0.8**
ALMR AMb AMB 22 54 03.3
comp=Z,88nm,1.4s
ALMR Almeirim 80.95 43 *e*P **P 22 54 01.1 +0.8**
comp=Z,97nm,1.9s
ALMR Almeirim 80.95 43 *e*P **P 22 54 01.1 +0.8**
ALMR pmax pmax
comp=Z,88nm,1.4s
PCBR Castelo Branco 80.97 42 *e*P **P 22 54 00.7 +0.3**
comp=Z,56nm,1.7s
PRA Prague 81.05 24 *e*P **P 22 54 01.5 +0.9**
PRA *e*pP **PcP 22 54 06.9 -0.1**
PRA *e*PCP **sP 22 54 09.5 +1.5**
PRA *e*S **S 23 04 10.5 +1.4**
PRA Prague 81.05 24 *e*P **P 22 54 01.5 +0.9**
PRA *e* 22 54 06.9
PRA *e* 22 54 09.5
PRA *e*S **S 23 04 10.5 +1.4**
UPC Upice 81.11 23 *e*P **P 22 54 01.4 +0.4**
UPC *e*S **S 23 04 12.5 +2.8**
UPC Upice 81.11 23 *e*P **P 22 54 01.4 +0.4**
UPC *e*S **S 23 04 12.5 +2.8**
PRU Pruhonice 81.16 24 *e*P **P 22 54 02.0 +0.8**
PRU *e*PCP **PcP 22 54 09.5 +2.0**
PRU *e*x x 22 54 16.1
PRU *e*S **S 23 04 10.5 +0.3**
PRU Pruhonice 81.16 24 *e*P **P 22 54 02.0 +0.8**
PRU *e* 22 54 09.5
PRU *e*S **S 23 04 10.5 +0.3**
PMTG Montargil 81.19 43 *e*P **P 22 54 01.7 +0.1**
comp=Z,57nm,1.7s
TIA Tai'an 81.20 312 P **P 22 54 03.2 +1.5**
PMAR Madeira 81.22 53 *e*P **P 22 54 03.7 +1.6**
comp=Z,228nm,1.5s
GOPC GO Pecny, Ondr 81.30 24 *e*P **P 22 54 02.6 +0.6**
GOPC *e*PCP **PcP 22 54 11.2 +3.1**
GOPC *e*x x 22 54 19.4
GOPC *e*S **S 23 04 15.8 +4.1**
GOPC GO Pecny, Ondr 81.30 24 *e*P **P 22 54 02.6 +0.6**
GOPC *e* 22 54 11.2
GOPC *e*S **S 23 04 15.8 +4.1**
PMRV Marv??o 81.33 43 *e*P **P 22 54 02.7 +0.3**
comp=Z,52nm,1.5s
DPC Dobruska-Polom 81.34 22 *e*P **P 22 54 03.3 +1.1**
DPC *e*PCP **PcP 22 54 11.5 +3.1**
DPC Dobruska-Polom 81.34 22 *e*P **P 22 54 03.3 +1.1**
DPC *e* 22 54 11.5
JOW Kunigami 81.37 299 *e*P **P 22 54 01.9 -0.8**
comp=Z,65nm,1.1s
BTO Baotou 81.44 319 *e*P **P 22 54 00.9 -2.1**
KHC Kasperske Hory 81.64 25 *e*P **P 22 54 04.7 +0.9**
KHC *e*PCP **PcP 22 54 12.1 +2.4**
KHC *e*S **S 23 04 13.6 -1.7**
KHC Kasperske Hory 81.64 25 *e*P **P 22 54 04.8 +0.9**
comp=Z,16nm,1.4s
KHC Kasperske Hory 81.64 25 *e*P **P 22 54 04.7 +0.9**
KHC *e* 22 54 12.1
PESTR Estremoz 81.67 43 *e*P **P 22 54 04.4 +0.3**
comp=Z,58nm,1.5s
PESTR Estremoz 81.67 43 *e*P **P 22 54 03.9 -0.2**
comp=Z,31nm,1.1s
PESTR LR LR
comp=Z,5µm,19.0s
EVO Evora 81.71 44 *e*P **P 22 54 04.8 +0.4**
comp=Z,56nm,1.8s
PNCL Nicolau / Gran 81.78 44 *e*P **P 22 54 05.3 +0.6**
comp=Z,67nm,1.4s
SSB Saint Sauveur 81.86 32 *e*P **P 22 54 04.7 -0.4**
comp=Z,22nm,1.2s
SSB LR LR
comp=Z,10µm,20.0s
SSB Saint Sauveur 81.86 32 *e*P **P 22 54 04.7 -0.4**
SSB pmax pmax
comp=Z,22nm,1.2s
SSB MLR MLR
comp=Z,10µm,20.0s
GEC2 GERESS Array S 81.93 25 *e*P **P 22 54 05.8 +0.4**
comp=Z,36nm,1.5s
GEC2 LR LR
comp=Z,8µm,20.0s
GEC2 GERESS Array S 81.93 25 *e*P **P 22 54 05.8 +0.4**
GEC2 pmax pmax
comp=Z,36nm,1.5s
GEC2 MLR MLR
comp=Z,8µm,20.0s
GERES GERESS Array B 81.93 25 P **P 22 54 05.6 +0.2**
comp=Z,6.6nm,1.0s,baz=343,slow=4.2,SNR=22
GERES PP **PP 22 57 14.0 +1.9**
comp=Z,0.3nm,0.5s,baz=306,slow=3.5,SNR=3.2
GEA0 GERESS Array S 81.93 25 *e*P **P 22 54 05.2 -0.2**
MNMC Minye Minye 81.94 126 *e*P **P 22 54 06.6 +0.6**
comp=Z,131nm,1.3s
TREC Trest 82.05 23 *e*P **P 22 54 06.7 +0.7**
TREC *e*S **S 23 04 22.7 +3.2**
TREC Trest 82.05 23 *e*P **P 22 54 06.7 +0.7**
TREC *e*S **S 23 04 22.7 +3.2**
DAVA Damuels 82.07 28 *i*pP **P 22 54 07.4 +1.1**
comp=Z,24nm,1.1s,SNR=5.3
PBEJ Beja 82.17 44 *e*P **P 22 54 07.8 +1.0**
comp=Z,46nm,1.5s
MORC Moravsky Berou 82.19 22⇓*i*P **P 22 54 08.2 +1.5**
MORC Moravsky Berou 82.19 22 *e*P **P 22 54 06.6 -0.2**
comp=Z,229nm,1.8s
MORC LR LR
comp=Z,29µm,21.0s
MORC Moravsky Berou 82.19 22⇓P **P 22 54 08.2 +1.5**
RETA Reutte 82.19 27 *i*pP **P 22 54 08.3 +1.5**
comp=Z,24nm,1.3s
DGZ Jazzator, Alta 82.20 338 *i*P **P 22 54 07.2 +0.3**
DGZ pmax pmax
comp=Z,33nm,1.2s
OKC Ostrava-Krasne 82.30 22 *e*P **P 22 54 08.1 +0.9**
OKC *e*PCP **PcP 22 54 16.0 +3.5**
OKC Ostrava-Krasne 82.30 22 *e*P **P 22 54 08.1 +0.9**
OKC *e* 22 54 16.0
MORF Marmelete 82.33 45 *e*P **P 22 54 08.5 +0.8**
MORF AMb AMB 22 54 12.0
comp=Z,88nm,1.8s
MORF Marmelete 82.33 45 *e*P **P 22 54 08.5 +0.8**
comp=Z,86nm,1.3s
MORF Marmelete 82.33 45 *e*P **P 22 54 08.4 +0.8**
MORF pmax pmax
comp=Z,88nm,1.8s
VRAC Vranov 82.36 23⇑*i*P **P 22 54 08.9 +1.3**
VRAC Vranov 82.36 23⇑P **P 22 54 08.9 +1.3**
PFVI Vila Bisbo 82.37 45 *e*P **P 22 54 08.6 +0.8**
comp=Z,127nm,1.5s
PFVI Vila Bisbo 82.37 45 *e*P **P 22 54 07.7 -0.2**
comp=Z,94nm,1.3s
PFVI LR LR
comp=Z,7µm,20.0s
OJC Ojcow 82.38 20 *e*P **P 22 54 08.5 +0.8**
OJC Ojcow 82.38 20 *e*P **P 22 54 08.1 +0.4**
comp=Z,43nm,1.2s
OJC Ojcow 82.38 20 *e*P **P 22 54 08.5 +0.8**
PCVE Castro Verde 82.39 44 *e*P **P 22 54 08.7 +0.8**
comp=Z,48nm,1.7s
PB11 IPOC Station P 82.39 126 *e*P **P 22 54 07.8 -0.4**
comp=Z,291nm,1.3s
MOTA Moosalm 82.43 27 *i*pP **P 22 54 09.4 +1.2**
comp=Z,34nm,1.5s
PBAR Barrancos 82.47 43 *e*P **P 22 54 08.9 +0.5**
comp=Z,131nm,1.8s
TIY Taiyuan 82.50 316 *e*P **P 22 54 09.9 +1.3**
TIY S **S 23 04 25.2 +0.5**
TIY pmax pmax
comp=Z,46nm,1.3s
TIY pmax pmax
comp=Z,360nm,4.1s
TIY LR LR
comp=Z,2µm,12.8s
TIY LR LR
comp=Z,2µm,11.6s
TIY LR LR
comp=Z,3µm,14.1s
BRVK Borovoye 82.54 349 *e*P **P 22 54 08.7 +0.2**
comp=Z,69nm,1.0s
BRVK LR LR
comp=Z,7µm,18.0s
BRVK Borovoye 82.54 349*c e*P **P 22 54 08.5 +0.1**
BRVK pmax pmax
comp=Z,307nm,1.7s
BVAR Borovoye Array 82.56 349 P **P 22 54 08.6 0.0**
comp=Z,30nm,0.9s,baz=28,slow=3.4,SNR=103
FETA Feichten 82.59 27 *i*pP **P 22 54 09.5 +0.4**
comp=Z,27nm,1.3s,SNR=7.5
WATA Walderalm 82.59 27 *i*pP **P 22 54 10.4 +1.4**
comp=Z,26nm,1.2s,SNR=9.7
TUE Stuetta 82.60 28 *e*P **P 22 54 09.3 +0.2**
comp=Z,45nm,1.3s
TUE LR LR
comp=Z,8µm,22.0s
WTTA Wattenberg 82.67 27 *i*pP **P 22 54 11.1 +1.7**
comp=Z,27nm,1.5s,SNR=5.4
PAB San Pablo 82.71 41 *e*P **P 22 54 10.1 +0.4**
comp=Z,35nm,1.4s
PAB LR LR
comp=Z,14µm,18.0s
PAB San Pablo 82.71 41 *e*P **P 22 54 10.1 +0.4**
PAB pmax pmax
comp=Z,35nm,1.4s
PAB MLR MLR
comp=Z,14µm,18.0s
PVAQ Vaqueiros 82.73 44 *e*P **P 22 54 10.5 +0.8**
comp=Z,65nm,2.0s
PBDV Barranco-do-Ve 82.75 44 *e*P **P 22 54 10.9 +1.1**
comp=Z,69nm,1.9s
ESDC Sonseca Array 82.79 40 P **P 22 54 10.3 +0.2**
comp=Z,8.5nm,1.0s,baz=314,slow=4.5,SNR=31
ESLA Sonseca Array 82.79 40 *e*P **P 22 54 09.7 -0.3**
comp=Z,18nm,1.0s
ESLA LR LR
comp=Z,15µm,18.0s
ES19 SONSECA Array 82.80 40 *e*P **P 22 54 10.3 +0.2**
BNI Bardonecchia 82.86 31 *e*P **P 22 54 11.8 +1.4**
comp=Z,101nm,1.8s
BNI LR LR
comp=Z,6µm,21.0s
BNI Bardonecchia 82.86 31 *e*P **P 22 54 11.8 +1.4**
BNI pmax pmax
comp=Z,101nm,1.8s
BNI MLR MLR
comp=Z,6µm,21.0s
MOA Molln 82.98 25 *i*pP **P 22 54 12.1 +1.2**
comp=Z,18nm,1.6s
NIE Niedzica 83.25 20 *e*P **P 22 54 13.4 +1.2**
NIE Niedzica 83.25 20 *e*P **P 22 54 13.4 +1.2**
SMOL Smolenice 83.31 23 *e* P 22 54 22.1 +10
SMOL Smolenice 83.31 23 *e*P P 22 54 22.1 +10
SEM Semipalatinsk 83.31 342 *e*P **P 22 54 11.0 -1.8**
comp=Z,266nm,1.3s
SEM *e*S **S 23 04 31.7 -1.1**
NJ2 Nanjing 83.33 308 *e*P **P 22 54 14.8 +1.9**
NJ2 PP **PP 22 57 25.6 +1.6**
NJ2 S **S 23 04 31.9 -1.1**
NJ2 pmax pmax
comp=Z,31nm,1.0s
NJ2 pmax pmax
comp=Z,430nm,4.1s
NJ2 LR LR
comp=Z,6µm,14.0s
NJ2 LR LR
comp=Z,4µm,12.7s
NJ2 LR LR
comp=Z,4µm,10.8s
KURK Kurchatov 83.37 344 *e*P **P 22 54 12.1 -0.6**
comp=Z,60nm,1.1s
KURK LR LR
comp=Z,6µm,22.0s
KURK Kurchatov 83.37 344*c e*P **P 22 54 12.4 -0.4**
KURK pmax pmax
comp=Z,318nm,1.7s
KBA Koelnbreinsper 83.39 26 *i*pP **P 22 54 14.6 +1.4**
comp=Z,34nm,1.4s,SNR=7.7
CONA Conrad Observa 83.39 24 *i*pP **P 22 54 14.3 +1.2**
comp=Z,28nm,1.3s,SNR=12
MODS Modra-Piesok 83.39 23 *e*P **P 22 54 14.4 +1.4**
MODS Modra-Piesok 83.39 23 *e*P **P 22 54 14.4 +1.4**
ABTA Abfaltersbach 83.41 26 *i*pP **P 22 54 14.3 +1.1**
comp=Z,61nm,1.4s,SNR=7.9
KURBB Kurchatov Arra 83.48 344 P **P 22 54 13.0 -0.3**
comp=Z,35nm,0.9s,baz=17,slow=4.9,SNR=158
PB01 IPOC Station P 83.49 127 *e*P **P 22 54 13.0 -0.7**
comp=Z,94nm,1.1s
LPSR Galich'ya Gora 83.53 8 *e*P **P 22 54 13.3 -0.2**
LPSR pmax pmax
comp=Z,70nm,1.4s
KWP Kalwaria Pacla 83.64 19 *e*P **P 22 54 15.0 +0.8**
KWP Kalwaria Pacla 83.64 19 *e*P **P 22 54 14.6 +0.4**
comp=Z,679nm,1.3s
KWP LR LR
comp=Z,38µm,22.0s
KWP Kalwaria Pacla 83.64 19 *e*P **P 22 54 15.0 +0.8**
VYHS Vyhne 83.71 22 *e*P **P 22 54 15.3 +0.7**
VYHS Vyhne 83.71 22 *e*P **P 22 54 15.3 +0.7**
VYHS pmax pmax
comp=Z,66nm,2.4s
LVV L'vov 83.77 18 *e*P **P 22 54 15.6 +0.8**
SOP Sopron 83.81 23⇓*e*P **P 22 54 17.1 +2.0**
MYKA Terra Mystica 83.88 26 *i*pP **P 22 54 16.2 +0.7**
comp=Z,30nm,1.3s
ARSA Arzberg 83.90 24 *i*pP **P 22 54 16.8 +1.2**
comp=Z,29nm,1.2s,SNR=9.0
HNR Honiara 83.98 251 PFAKE 22 54 30.0 +14
HNR LR LR
comp=Z,4µm,22.0s
AKASG Malin Array Be 83.99 15 P **P 22 54 15.5 -0.4**
comp=Z,5.2nm,0.7s,baz=346,slow=4.6,SNR=60
AKBB Malin Array Si 83.99 15 *e*P **P 22 54 15.2 -0.7**
comp=Z,55nm,1.3s
AKBB Malin Array Si 83.99 15 *e*P **P 22 54 15.2 -0.7**
AKBB pmax pmax
comp=Z,55nm,1.3s
KIEV Kiev 83.99 15 *e*P **P 22 54 15.5 -0.5**
comp=Z,59nm,1.3s
KIEV LR LR
comp=Z,11µm,21.0s
KIEV Kiev 83.99 15*c i*P **P 22 54 15.9 0.0**
KIEV pmax pmax
comp=Z,26nm,1.3s
AK11 Malin Array Si 84.00 15 *e*P **P 22 54 15.5 -0.5**
PB04 IPOC Station P 84.12 128 *e*P **P 22 54 16.2 -0.8**
comp=Z,98nm,1.1s
PB04 LR LR
comp=Z,21µm,22.0s
SOKA Soboth 84.27 25 *i*P **P 22 54 15.4 -2.2**
comp=Z,66nm,1.4s,SNR=8.9
OBKA Obir 84.27 25 *i*pP **P 22 54 18.4 +0.8**
comp=Z,42nm,1.2s,SNR=7.0
UZH Uzhgorod 84.47 20 *e*P **P 22 54 16.3 -2.1**
UZH *i* 22 54 19.5
UZH *i* 22 54 21.7
UZH *i*S **S 23 04 37.2 -6.8**
UZH *i*SP **SPn 23 05 35.4 -0.1**
VORR Voronezh 84.47 8 *e*P **P 22 54 18.0 -0.4**
PSZ Piszkesteto 84.52 21⇓*i*P **P 22 54 20.9 +2.1**
PSZ Piszkesteto 84.52 21⇓*e*P **P 22 54 20.8 +2.0**
PSZ Piszkesteto 84.52 21 *e*P **P 22 54 20.2 +1.4**
comp=Z,99nm,1.4s
PSZ LR LR

comp=Z,7µm,21.0s
PSZ Piszkesteto 84.52 21 ⇓P P 22 54 20.9 +2.1
CSKK Cs˙ˇtkako 84.59 23⇓ eP P 22 54 20.6 +1.5
TRI Trieste 84.74 26 PFAKE 22 54 30.0 +10
TRI LR LR
comp=Z,7µm,20.0s
PB10 IPOC Station P 84.81 129 PFAKE 22 54 30.0 +10
PB10 LR LR
comp=Z,30µm,21.0s
VSR Storozhevoye 84.92 8 *eP* **P 22 54 19.9 -0.7**
VSR pmax pmax
comp=Z,70nm,1.4s
ZSN Zaisan 84.95 339 *eP* **P 22 54 19.8 -1.1**
comp=Z,75nm,1.3s
ZSN LR LR 23 34 41.0
comp=Z,374nm,12.1s
VLC Villacollemand 84.97 29 PFAKE 22 54 30.0 +8.9
VLC LR LR
comp=Z,6µm,19.0s
BRZS Berezniki 85.17 347 *eP* **P 22 54 20.5 -1.5**
comp=Z,36nm,1.6s
VRH Novokhopyorsk 85.17 7 *eP* **P 22 54 21.8 -0.1**
VRH pmax pmax
comp=Z,20nm,1.0s
RABL Rabaul 85.78 260 PFAKE 22 54 40.0 +14
RABL LR LR
comp=Z,5µm,20.0s
BUR08 Bucovina Ar. S 86.08 18 *eP* **P 22 54 27.0 +0.3**
BUR04 Bucovina Ar. S 86.10 18 *eP* **P 22 54 27.4 +0.6**
BURAR Bucovina Array 86.11 18 ⇓*iP* P 22 54 32.2 +5.4
BURAR Bucovina Array 86.11 18 ⇓P P 22 54 32.2 +5.4
MK31 Makanchi Array 86.22 340 *eP* **P 22 54 26.3 -1.0**
MK31 Makanchi Array 86.22 340 *eP* **P 22 54 26.3 -1.0**
MKAR Makanchi Array 86.22 340 P **P 22 54 26.3 -0.9**
comp=Z,12nm,1.1s,baz=35,slow=4.4,SNR=30
MKAR Makanchi Array 86.22 340 *eP* **P 22 54 26.4 -0.9**
comp=Z,84nm,1.1s
MKAR LR LR
comp=Z,2µm,18.0s
MKAR Makanchi Array 86.22 340 *eP* **P 22 54 26.4 -0.9**
MKAR pmax pmax
comp=Z,84nm,1.1s
MKAR MLR MLR
comp=Z,2µm,18.0s
MK01 Makanchi Array 86.24 340 *eP* **P 22 54 26.4 -1.0**
SORM Soroca 86.28 16 ⇓*iP* **P 22 54 27.0 -0.4**
SORM Soroca 86.28 16 ⇓P **P 22 54 27.0 -0.4**
MAKZ Makanchi 86.29 340 *eP* **P 22 54 26.7 -0.9**
comp=Z,44nm,1.1s
MAKZ LR LR
comp=Z,9µm,21.0s
MAKZ Makanchi 86.29 340 *eP* **P 22 54 26.7 -0.9**
MAKZ pmax pmax
comp=Z,44nm,1.1s
MAKZ MLR MLR
comp=Z,9µm,21.0s
DRGR 86.29 20 ⇓*iP* **P 22 54 29.6 +2.0**
DRGR 86.29 20 ⇓P **P 22 54 29.6 +2.0**
ARCR ARCALIA 86.41 19 ⇓*iP* **P 22 54 31.4 +3.3**
PRAR RASCA 86.57 17 ⇑*iP* P 22 54 37.7 +8.8
YJA Yavi 86.70 125 *eP* **P 22 54 29.4 -0.9**
GTA Gaotai 86.95 325 ⇓P **P 22 54 30.4 -0.7**
GTA pP sP 22 54 39.6 +1.1
GTA PP **PP 22 57 57.2 +3.9**
GTA SKS **SKSac 23 04 52.8 -4.9**
GTA S **SKKSac 23 05 05.2 -1.1**
GTA sS ScS 23 05 22.1 +5.4
GTA SS **SS 23 10 50.8 +0.7**
GTA pmax pmax
comp=Z,510nm,5.9s
GTA LR LR
comp=Z,6µm,23.2s
WHN Wuhan 86.99 310 ⇓P **P 22 54 32.4 +1.1**
WHN pmax pmax
comp=Z,72nm,1.0s
BZS Buzias 87.10 21 ⇑*iP* **P 22 54 31.3 -0.2**
BZS Buzias 87.10 21 ⇑P **P 22 54 31.3 -0.2**
XAN Xi'an 87.15 316 P **P 22 54 31.5 -0.6**
XAN pP sP 22 54 36.3 -3.2
XAN sP pP 22 54 38.6 +1.1
XAN pmax pmax
comp=Z,530nm,4.3s
XAN LR LR
comp=Z,6µm,15.7s
XAN LR LR
comp=Z,3µm,16.3s
XAN LR LR
comp=Z,5µm,17.9s
ABKAR Akbulak array 87.34 355 *eP* **P 22 54 32.7 +0.1**
comp=Z,182nm,0.8s
ABKAR LR LR
comp=Z,3µm,20.0s
WMQ Urumqi 87.46 335 P **P 22 54 33.6 +0.2**
WMQ pP sP 22 54 40.5 -0.3
WMQ sP pP 22 54 43.4 +4.5
WMQ S **S 23 05 13.1 -0.5**
WMQ pmax pmax
comp=Z,58nm,1.7s
WMQ pmax pmax
comp=Z,360nm,3.7s
WMQ LR LR
comp=Z,15µm,25.5s
KIS Kishinev 87.46 16 *eP* **P 22 54 30.0 -3.2**
KIS Kishinev 87.46 16 *eP* **P 22 54 30.0 -3.2**
TESR Tescani 87.47 17 ⇑*iP* **P 22 54 33.4 +0.1**
HJA Humahuaca 87.55 125 *eP* **P 22 54 33.5 -0.9**
AQU L'Aquila 87.60 28 PFAKE 22 54 50.0 +16
AQU LR LR
comp=Z,5µm,21.0s
DOPR Dopca 87.70 18 ⇓*iP* P 22 54 40.3 +5.8
LEOM Leova 87.84 16 ⇓*iP* **P 22 54 31.2 -3.9**
LEOM Leova 87.84 16 ⇓P **P 22 54 31.2 -3.9**
LZH Lanzhou 87.95 321 ⇓P **P 22 54 36.2 +0.2**
LZH pP pP 22 54 39.5 -2.0
LZH sP sP 22 54 41.0 -2.4
LZH PP **PP 22 58 04.7 +3.2**
LZH SKS **SKSac 23 05 01.4 -2.5**
LZH *eS* **S 23 05 19.2 +0.4**
LZH sS sS 23 05 24.9 -2.9
LZH SS **SS 23 11 05.2 +0.2**
LZH pmax pmax
comp=Z,98nm,1.3s
LZH pmax pmax
comp=Z,780nm,7.2s
LZH LR LR
comp=Z,21µm,19.2s
HERR Herculane 88.00 21 ⇑*iP* **P 22 54 36.6 +0.8**
ARR Arges 88.09 19 ⇑*iP* **P 22 54 38.9 +2.5**
PLOR Plostina 88.10 18 ⇑*iP* **P 22 54 37.7 +1.3**
PLOR Plostina 88.10 18 ⇑P **P 22 54 37.7 +1.3**
VRI Vrincioaia 88.10 18 ⇑*iP* **P 22 54 38.5 +2.1**
VRI Vrincioaia 88.10 18 ⇑P **P 22 54 38.5 +2.1**
VOIR 88.12 19 ⇑*iP* **P 22 54 38.4 +1.8**
VOIR 88.12 19 ⇑P **P 22 54 38.4 +1.8**
SSLB Suanglung 88.16 301 PFAKE 22 54 50.0 +13
SSLB LR LR
comp=Z,2µm,21.0s
MLR Muntele Rosu 88.28 18 ⇓*iP* P 22 54 44.5 +7.1
MLR Muntele Rosu 88.28 18 PFAKE 22 54 50.0 +13
MLR LR LR
comp=Z,7µm,19.0s
MLR Muntele Rosu 88.28 18 ⇓P P 22 54 44.5 +7.1
AZAP Zapla 88.53 126 *eP* **P 22 54 38.4 -0.4**
SLA San Lorenzo 88.65 126 *eP* **P 22 54 38.1 -1.2**
ASTB Santa Barbara 88.68 125 *eP* **P 22 54 38.1 -1.4**
QZH Quanzhou 88.75 304 P **P 22 54 40.2 +0.5**
QZH S **S 23 05 26.0 -0.3**
QZH LR LR
comp=Z,12µm,12.8s
ALOL LOMAS DE OLMED 88.86 125 *eP* **P 22 54 38.5 -1.6**
DZM Mont Dzumac 88.93 238 *eP* **P 22 54 39.0 -1.5**
comp=Z,93nm,1.5s
DZM LR LR
comp=Z,38µm,21.0s
CFR Carcaliu 89.06 17 ⇓*iP* **P 22 54 41.6 +0.8**
CFR Carcaliu 89.06 17 ⇓P **P 22 54 41.6 +0.8**
LCO Las Campanas 89.07 133 *eP* **P 22 54 40.6 -0.7**
comp=Z,35nm,1.1s
LCO LR LR
comp=Z,37µm,20.0s
FSA Cafayete 89.43 128 *eP* **P 22 54 41.9 -1.0**
TLB Topalu 89.60 17 ⇑*iP* **P 22 54 43.5 +0.1**
TLB Topalu 89.60 17 ⇑P **P 22 54 43.5 +0.1**
SACV Santiago Islan 89.66 70 PFAKE 22 55 00.0 +16
SACV LR LR
comp=Z,14µm,22.0s
TIRR Tirgusor 89.80 17 PFAKE 22 55 00.0 +16
TIRR LR LR
comp=Z,6µm,20.0s
KPKS Kokpek 90.22 341 *eP* **P 22 54 44.6 -1.8**
comp=Z,170nm,1.5s
KPKS *ePP* **PP 22 58 18.2 -1.0**
AHML Horco Molle 90.32 128 *eP* **P 22 54 45.6 -1.3**
VTS Vitosha 90.34 21 ⇑*iP* **P 22 54 47.4 +0.3**
VTS Vitosha 90.34 21 *eP* **P 22 54 46.4 -0.7**
comp=Z,30nm,1.8s
VTS Vitosha 90.34 21 ⇑P **P 22 54 47.4 +0.3**
KUU Kurty 90.34 343 *eP* **P 22 54 45.0 -1.9**
comp=Z,77nm,1.5s
SIM Simferopol' 90.39 13 *eP* **P 22 54 47.4 +0.3**
SIM *eS* **S 23 05 48.0 +7.0**
SIM pmax pmax
comp=Z,12nm,1.1s
TIR Tirane 90.56 24 PFAKE 22 55 00.0 +12
TIR LR LR
comp=Z,6µm,21.0s
SATY Saty 90.67 341 *eP* **P 22 54 47.3 -1.4**
comp=Z,532nm,1.3s
AAA Alma-Ata 90.87 342 *eP* **P 22 54 47.7 -1.8**
comp=Z,185nm,1.1s
AAA Alma-Ata 90.87 342 *eP* **P 22 54 49.3 -0.2**
AAA *eS* **S 23 05 49.1 +3.5**
AAA pmax pmax
comp=Z,200nm,4.1s
AAA smax smax
comp=E,2µm,11.1s
MDOK Medeo 90.88 342 *eP* **P 22 54 47.6 -2.0**
comp=E,166nm,1.2s
MDOK *eS* **SKSac 23 05 19.0 -2.0**
ANN Anapa 91.03 11 *eP* P 22 54 57.2 +7.2
ANN pmax pmax
comp=Z,32nm,1.3s
BMNS Besmoynak 91.23 343 *eP* **P 22 54 49.2 -2.1**
comp=Z,205nm,1.3s
USP Ospenovka 91.32 344 P **P 22 54 51.2 -0.3**
SNR=9.3
GOF Gofitskoye 91.39 7 ⇑*eP* **P 22 54 51.5 -0.2**
GOF pmax pmax
comp=Z,44nm,1.4s
TKM2 Tokmak 2 91.43 343 P **P 22 54 52.2 0.0**
SNR=31
CHMS Chumysh 91.53 344 P **P 22 54 52.6 +0.1**
SNR=11
TIP Timpagrande 91.57 27 PFAKE 22 55 00.0 +7.2
TIP LR LR
comp=Z,4µm,20.0s
FRU Bishkek 91.72 344 *eP* **P 22 54 53.0 -0.4**
FRU pmax pmax
comp=Z,60nm,2.0s
KBK Karagaybulak 91.82 344 P **P 22 54 54.4 +0.4**
SNR=8.3
KDJ Kajisay 91.84 342 *eP* **P 22 54 53.7 -0.4**
comp=Z,14nm,1.0s
KDJ LR LR
comp=Z,4µm,19.0s
AAK Ala-Archa 91.93 344 P **P 22 54 54.4 0.0**
comp=Z,8.1nm,1.0s,baz=0.0,slow=6.1,SNR=16
AAK Ala-Archa 91.93 344 P **P 22 54 54.5 0.0**
SNR=9.0
AAK Ala-Archa 91.93 344 *eP* **P 22 54 54.7 +0.2**
comp=Z,15nm,1.1s
AAK LR LR
comp=Z,5µm,21.0s
AAK Ala-Archa 91.93 344 *i* P **P 22 54 51.9 -2.6**
AAK pmax pmax
comp=Z,10.0nm,1.1s
ULHL Ulahol 91.94 343 P **P 22 54 54.9 +0.2**
SNR=9.9
ROC1 El Roble 92.04 135 *eP* **P 22 54 54.9 -0.1**
comp=Z,22nm,1.0s
EKS2 Erkin-Say 92.05 344 P **P 22 54 55.7 +0.7**
SNR=13
TARG Taragay, Kyrgy 92.07 341 *eP* **P 22 54 55.0 -0.6**
comp=Z,21nm,1.2s
KK31 Karatay Array 92.21 347 *eP* **P 22 54 54.9 -0.7**
KK31 Karatay Array 92.21 347 *eP* **P 22 54 54.9 -0.7**
KKAR Karatay Array 92.21 347 *eP* **P 22 54 54.9 -0.7**
KKAR Karatay Array 92.21 347 *eP* **P 22 54 54.9 -0.7**
CD2 Chengdu 92.24 318 P **P 22 54 56.6 +0.6**
CD2 S **S 23 05 58.5 +0.2**
CD2 pmax pmax
comp=Z,20nm,0.5s
CD2 LR LR
comp=Z,10µm,32.8s
DZA Taraz 92.28 346 *eP* **P 22 54 54.2 -1.7**
comp=Z,135nm,1.7s
DZA *ePP* **PP 22 58 34.7 -0.6**
KZA Kyzart 92.31 343 P **P 22 54 57.0 +0.5**
SNR=12
KIV Kislovodsk 92.45 7 *eP* **P 22 54 55.8 -1.0**
comp=Z,14nm,1.1s
KIV LR LR
comp=Z,11µm,20.0s
KIV Kislovodsk 92.45 7 *eP* **P 22 54 56.5 -0.3**
KIV pmax pmax
comp=Z,13nm,1.1s
SOC Sochi 92.51 9 *eP* **P 22 54 58.7 +1.8**
SOC *eS* **SKSac 23 05 31.5 +1.8**
SOC pmax pmax
comp=Z,35nm,1.3s
AML Almayashu 92.58 344 P **P 22 54 58.0 +0.2**
SNR=8.2
KBZ Khabaz 92.69 7 P **P 22 54 57.9 +0.1**
comp=Z,3.0nm,1.0s,baz=341,slow=2.4,SNR=6.7
ASAL Salagasta 92.87 134 *eP* **P 22 54 57.2 -1.5**
PMG Port Moresby 92.96 260 PFAKE 22 55 10.0 +11
PMG LR LR
comp=Z,8µm,22.0s
CHM Chimkent 93.12 347 *eP* **P 22 54 58.7 -1.1**
NEY Neytrino 93.15 7 *iP* **P 22 55 00.2 0.0**
NEY pmax pmax
comp=Z,2.0nm,1.1s
IUG Iuzhnay 93.22 347 *eP* **P 22 54 58.7 -1.7**
comp=Z,204nm,1.5s
AGG Agios Georgios 93.43 23 PFAKE 22 55 10.0 +8.7
AGG LR LR
comp=Z,16µm,21.0s
GROC Groznyy 93.43 5 *eP* **P 22 55 00.8 -0.4**
GROC *e* 22 58 46.8
GROC pmax pmax
comp=Z,23nm,1.4s
ILGA Ilgaz 94.12 14 *eP* **P 22 55 05.2 +0.5**
comp=Z,34nm,1.5s
ILGA LR LR
comp=Z,7µm,21.0s
GYA Guiyang 94.37 313 P **P 22 55 07.2 +1.2**
GYA PP **PP 22 58 54.2 +1.7**
GYA SKS **SKSac 23 05 40.6 -0.2**
GYA S **S 23 06 15.8 -1.6**
GYA SS **SS 23 12 39.0 +1.1**
GYA pmax pmax
comp=Z,50nm,1.0s
GYA pmax pmax
comp=Z,190nm,7.9s
GYA LR LR
comp=Z,620nm,21.6s
GYA LR LR
comp=Z,560nm,22.4s
KSH Kashi 94.60 342 P **P 22 55 08.7 +1.9**
TBLG Delisi 94.82 6 *eP* **P 22 55 07.6 -0.1**
comp=Z,14nm,0.9s
TBLG Delisi 94.82 6 *eP* **P 22 55 07.6 -0.1**
TBLG pmax pmax
comp=Z,14nm,0.9s
OUZ Omahuta 94.91 225 PFAKE 22 55 20.0 +12
OUZ LR LR
comp=Z,21µm,19.0s
AKH Akhalkalaki 95.05 7 *eP* **P 22 55 09.1 +0.2**
comp=Z,13nm,1.4s
AKH LR LR
comp=Z,8µm,21.0s
AKH Akhalkalaki 95.05 7 *eP* **P 22 55 09.1 +0.2**
AKH pmax pmax
comp=Z,13nm,1.4s
AKH MLR MLR
comp=Z,8µm,21.0s
ANTO Ankara 95.10 15 *eP* **P 22 55 09.1 +0.1**
comp=Z,22nm,1.1s
ANTO LR LR
comp=Z,10µm,18.0s
ANTO Ankara 95.10 15 *eP* **P 22 55 09.1 +0.1**
ANTO pmax pmax
comp=Z,22nm,1.1s
ANTO MLR MLR
comp=Z,10µm,18.0s
BR231 Keskin MP Arra 95.12 15 *eP* **P 22 55 10.0 +0.8**
RCBR Riachuelo 95.22 93 PFAKE 22 55 20.0 +10
RCBR LR LR
comp=Z,126µm,22.0s
AKT Akhty 95.25 4 *eP* **P 22 55 09.0 -0.7**
AKT *e* 22 58 58.9
AKT pmax pmax
comp=Z,18nm,1.0s
BR131 Keskin Array S 95.39 14 *eP* **P 22 55 10.6 +0.2**
BRTR Keskin Array B 95.39 14 P **P 22 55 10.4 -0.1**
comp=Z,0.9nm,0.8s,baz=349,slow=2.5,SNR=7.1
BRTR PP **PP 22 58 57.4 -2.5**
comp=Z,2.1nm,1.0s,baz=4.3,slow=5.0,SNR=3.8
MANT Manisa 95.53 19 *eP* **P 22 55 10.3 -1.0**
comp=Z,31nm,1.0s
GNI Garni 96.40 6 *i* P **P 22 55 14.8 -0.2**
GNI pmax pmax
comp=Z,18nm,1.1s
BKZ Black Stump Fm 96.59 220 PFAKE 22 55 30.0 +15
BKZ LR LR
comp=Z,34µm,21.0s
HIZ Hauiti 96.86 222 PFAKE 22 55 30.0 +13
HIZ LR LR
comp=Z,27µm,22.0s
DAV Davao City (W) 97.15 287 PFAKE 22 55 30.0 +11
DAV LR LR
comp=Z,4µm,21.0s
KMI Kunming 97.50 315 P Pdif 22 55 21.0 +0.6
KMI pP pP 22 55 24.3 -1.5
KMI sP sP 22 55 25.6 -2.2
KMI PP **PP 22 59 15.7 -1.1**
KMI S **S 23 06 39.9 -4.9**
KMI sS ScS 23 06 46.7 +1.7
KMI SS **SS 23 13 19.1 -3.3**
KMI pmax pmax
comp=Z,7.0nm,0.8s
KMI pmax pmax
comp=Z,450nm,11.9s
KMI LR LR
comp=Z,5µm,17.4s
KMI LR LR
comp=Z,5µm,16.1s
KMI LR LR
comp=Z,3µm,17.7s
BFZ Birch Farm 97.91 220 PFAKE 22 55 30.0 +8.6
BFZ LR LR
comp=Z,32µm,19.0s
GEYT Alibeck 98.73 355 P **P 22 55 25.6 +0.2**
comp=Z,0.9nm,0.6s,baz=243,slow=1.7,SNR=5.3
GYA0B ALIBECK ARRAY 98.73 355 *eP* **P 22 55 24.3 -1.2**
comp=Z,17nm,1.7s
GYA0B LR LR
comp=Z,9µm,21.0s
SNZO South Karori 99.12 220 PFAKE 22 55 40.0 +13
SNZO LR LR
comp=Z,31µm,18.0s
SPB Sao Paulo 99.19 114 PFAKE 22 55 40.0 +13
SPB LR LR
comp=Z,27µm,20.0s
TNTI Ternate 100.31 281 PFAKE 22 55 40.0 +7.2
TNTI LR LR
comp=Z,2µm,22.0s
THZ Tophouse 100.33 221 PFAKE 22 55 40.0 +7.9
THZ LR LR
comp=Z,32µm,20.0s
KHZ Kahutara 100.53 220 PFAKE 22 55 50.0 +17
KHZ LR LR
comp=Z,29µm,20.0s
TRQA Tornquist 100.65 133 PFAKE 22 55 50.0 +16
TRQA LR LR
comp=Z,24µm,20.0s
TAM Tamanrasset 101.21 43 PFAKE 22 55 50.0 +13
TAM LR LR
comp=Z,20µm,21.0s
LTZ Lake Taylor 101.41 221 PFAKE 22 55 50.0 +13
LTZ LR LR
comp=Z,25µm,19.0s
CRLZ Canterbury Las 101.85 220 PFAKE 22 55 50.0 +11
CRLZ LR LR
comp=Z,18µm,19.0s
OXZ Oxford 101.94 220 PFAKE 22 55 50.0 +11
OXZ LR LR
comp=Z,24µm,18.0s
MQZ McQueen's Vall 101.94 220 PFAKE 22 55 50.0 +11
MQZ LR LR
comp=Z,18µm,20.0s
CHRN Cochrane 102.64 145 PFAKE 22 55 50.0 +7.8
CHRN LR LR
comp=Z,100nm,19.0s
KOWA Kowa 102.65 56 PFAKE 22 56 00.0 +17
KOWA LR LR
comp=Z,38µm,21.0s
RPZ Rata Peaks 102.69 221 PFAKE 22 55 50.0 +7.4
RPZ LR LR
comp=Z,23µm,21.0s
FOZ Fox Glacier 103.15 222 PFAKE 22 56 00.0 +15
FOZ LR LR
comp=Z,17µm,20.0s
LBZ Lake Benmore 103.61 221 PFAKE 22 56 00.0 +13
LBZ LR LR
comp=Z,29µm,19.0s
ODZ Otahua Downs 103.89 220 PFAKE 22 56 00.0 +12
ODZ LR LR
comp=Z,25µm,19.0s
ARMA Armidale 104.17 242 PFAKE 22 56 00.0 +10
ARMA LR LR
comp=Z,16µm,21.0s
WKZ Wanaka 104.50 221 PFAKE 22 56 00.0 +9.4
WKZ LR LR
comp=Z,20µm,19.0s
MLZ Mavora Lakes 105.33 221 PFAKE 23 00 20.0
MLZ LR LR
comp=Z,31µm,18.0s
WHZ Wether Hill Ro 105.79 221 PFAKE 23 00 20.0
WHZ LR LR
comp=Z,29µm,20.0s
DCZ Deep Cove 105.86 222 PFAKE 23 00 20.0
DCZ LR LR
comp=Z,16µm,20.0s
PYZ Puysegur Point 106.60 221 PFAKE 23 00 20.0
PYZ LR LR
comp=Z,25µm,19.0s
TOC7 Torodi Ar. Sit 107.05 52 PFAKE 23 00 20.0
TOC7 LR LR
comp=Z,25µm,20.0s
TOC6 Torodi Ar. Sit 107.06 52 PFAKE 23 00 20.0
TOC6 LR LR
comp=Z,25µm,20.0s
TOC1 Torodi Ar. Sit 107.06 52 PFAKE 23 00 20.0
TOC1 LR LR
comp=Z,28µm,20.0s
TOB5 Torodi Ar. Sit 107.06 52 PFAKE 23 00 20.0
TOB5 LR LR
comp=Z,26µm,20.0s
TOA1 Torodi Ar. Sit 107.07 52 PFAKE 23 00 20.0
TOA1 LR LR
comp=Z,25µm,20.0s
TOA0 Torodi Ar. Sit 107.08 52 PFAKE 23 00 20.0
TOA0 LR LR
comp=Z,26µm,20.0s
TOB4 Torodi Ar. Sit 107.08 52 PFAKE 23 00 20.0
TOB4 LR LR
comp=Z,26µm,20.0s
TOA2 Torodi Ar. Sit 107.08 52 PFAKE 23 00 20.0
TOA2 LR LR
comp=Z,26µm,20.0s
TOB2 Torodi Ar. Sit 107.08 52 PFAKE 23 00 20.0
TOB2 LR LR
comp=Z,25µm,20.0s
TOA3 Torodi Ar. Sit 107.08 52 PFAKE 23 00 20.0
TOA3 LR LR
comp=Z,25µm,20.0s
TOC5 Torodi Ar. Sit 107.08 52 PFAKE 23 00 20.0
TOC5 LR LR
comp=Z,30µm,20.0s
TOC2 Torodi Ar. Sit 107.08 52 PFAKE 23 00 20.0
TOC2 LR LR
comp=Z,25µm,20.0s
TOB3 Torodi Ar. Sit 107.09 52 PFAKE 23 00 20.0
TOB3 LR LR

	comp=Z,26μm,20.0s									
TOC3	**Torodi Ar. Sit**	**107.10**	**52**	PFAKE				23 00 20.0		
TOC3				LR	LR					
	comp=Z,26μm,20.0s									
TOC4	**Torodi Ar. Sit**	**107.10**	**52**	PFAKE				23 00 20.0		
TOC4				LR	LR					
	comp=Z,27μm,20.0s									
CAN	**Canberra**	**109.06**	**239**	PFAKE				23 00 30.0		
CAN				LR	LR					
	comp=Z,14μm,20.0s									
WRAB	**Tennant Creek**	**109.16**	**260**	PFAKE				23 00 30.0		
WRAB				LR	LR					
	comp=Z,5μm,18.0s									
WRA	**Warramunga Arr**	**109.17**	**260**	PKiKP		**PKiKP**		**23 00 17.2**	**+1.2**	
	comp=Z,1.0nm,0.8s,baz=22,slow=1.4,SNR=5.0									
KAPI	**Kappang**	**109.77**	**282**	PFAKE				23 00 30.0		
KAPI				LR	LR					
	comp=Z,700nm,19.0s									
STKA	**Stephens Creek**	**111.67**	**246**	PFAKE				23 00 30.0		
STKA				LR	LR					
	comp=Z,4μm,22.0s									
ASAR	**Alice Springs**	**111.85**	**258**	PKiKP		**PKiKP**		**23 00 23.9**	**+2.9**	
	comp=Z,1.3nm,0.8s,baz=64,slow=3.2,SNR=6.4									
ASAR				PKKPbc		**PKKPbc**		**23 11 13.4**	**+1.0**	
	comp=Z,0.6nm,0.7s,baz=228,slow=2.4,SNR=3.3									
ASCN	**Ascension**	**112.25**	**79**	PFAKE				23 00 30.0		
ASCN				LR	LR					
	comp=Z,10μm,21.0s									
EFI	**East Falkland**	**112.28**	**141**	PFAKE				23 00 30.0		
EFI				LR	LR					
	comp=Z,29μm,19.0s									
KULM	**Kulim**	**114.77**	**305**	PFAKE				23 00 40.0	+13	
KULM				LR	LR					
	comp=Z,2μm,19.0s									
TAU	**Tasmania Unive**	**114.81**	**234**	PFAKE				23 00 40.0	+14	
TAU				LR	LR					
	comp=Z,16μm,22.0s									
MCQ	**Macquarie Isla**	**115.89**	**218**	PFAKE				23 00 40.0	+12	
MCQ				LR	LR					
	comp=Z,18μm,20.0s									
BBOO	**Buckleboo**	**115.95**	**249**	PFAKE				23 00 40.0	+11	
BBOO				LR	LR					
	comp=Z,15μm,22.0s									
LHMI	**Lhok Sumawe**	**116.98**	**308**	PFAKE				23 00 40.0	+8.9	
LHMI				LR	LR					
	comp=Z,33μm,20.0s									
PMSA	**Palmer Station**	**118.80**	**154**	PFAKE				23 00 50.0	+17	
PMSA				LR	LR					
	comp=Z,22μm,22.0s									
CMJI	**Cimerak**	**119.63**	**289**	P		**Pdif**		**22 56 54.6**	**-4.0**	
	comp=Z,203nm,1.2s,comp=Z,4μm									
GSI	**Gunungsitoli**	**119.78**	**305**	PFAKE				23 00 50.0	+13	
GSI				LR	LR					
	comp=Z,31μm,19.0s									
FORT	**Forrest**	**120.28**	**255**	PFAKE				23 00 50.0	+13	
FORT				LR	LR					
	comp=Z,449μm,21.0s									
PALK	**Pallekele**	**123.27**	**326**	PFAKE				23 01 00.0	+17	
PALK				LR	LR					
	comp=Z,16μm,18.0s									
SHEL	**Horse Pasture**	**123.85**	**80**	PFAKE				23 01 00.0	+16	
SHEL				LR	LR					
	comp=Z,10μm,20.0s									
HOPE	**Hope Point**	**124.38**	**135**	PFAKE				23 01 00.0	+16	
HOPE				LR	LR					
	comp=Z,14μm,19.0s									
VNDA	**Vanda**	**128.12**	**195**	*e*PKPdf		**PKPdf**		**23 00 50.9**	**+0.3**	
VNDA	**Vanda**	**128.12**	**195**	*e*PKIKP		**PKPdf**		**23 00 50.9**	**+0.3**	
NWAO	**Narrogin (SRO)**	**129.14**	**259**	PFAKE				23 01 10.0	+16	
NWAO				LR	LR					
	comp=Z,17μm,22.0s									
COCO	**West Island**	**130.65**	**295**	PFAKE				23 01 10.0	+13	
COCO				LR	LR					
	comp=Z,18μm,19.0s									
QSPA	**South Pole Qui**	**133.36**	**180**	*e*PKPpre		PKPpre		23 00 59.2		
QSPA				*e*PKPdf		**PKPdf**		**23 00 59.4**	**-1.4**	
QSPA				LR	LR					
	comp=Z,19μm,21.0s									
KMBO	**Kilima Mbogo**	**135.66**	**22**	PFAKE				23 01 20.0	+13	
KMBO				LR	LR					
	comp=Z,19μm,22.0s									
VNA3	**Neumayer Olymp**	**139.46**	**154**	P		**PKPdf**		**23 01 11.7**	**-0.3**	
VNA2	**Neumayer--Watz**	**140.24**	**154**	P		**PKPdf**		**23 01 10.0**	**-3.3**	
	baz=298,slow=4.9									
SNAA	**Sanae**	**141.50**	**155**	P		**PKPdf**		**23 01 13.5**	**-2.2**	
SNAA	**Sanae**	**141.50**	**155**	PFAKE				23 01 30.0	+14	
SNAA				LR	LR					
	comp=Z,8μm,22.0s									
CASY	**Casey**	**141.54**	**214**	PFAKE				23 01 30.0	+14	
CASY				LR	LR					
	comp=Z,12μm,22.0s									
TSUM	**Tsumeb**	**142.07**	**61**	PKhKP		PKPpre		23 01 13.4		
	comp=Z,7.0nm,1.0s,baz=353,slow=2.7,SNR=8.7									
TSUM	**Tsumeb**	**142.07**	**61**	*e*PKPpre		PKPpre		23 01 14.5		
TSUM				LR	LR					
	comp=Z,10μm,20.0s									
LSZ	**Lusaka**	**145.07**	**44**	PKPbc		**PKPab**		**23 01 23.7**	**+0.5**	
	comp=Z,59nm,1.1s,baz=344,slow=2.6,SNR=47									
LSZ	**Lusaka**	**145.07**	**44**	*e*PKPbc		**PKPab**		**23 01 23.7**	**+0.5**	
LSZ				LR	LR					
	comp=Z,9μm,21.0s									
LSZ	**Lusaka**	**145.07**	**44**	*e*PKIKP		**PKPab**		**23 01 23.7**	**+0.5**	
LSZ				MLR	MLR					
	comp=Z,9μm,21.0s									
NVL	**N'lazarevskaya**	**146.19**	**157**	*e*PKIKP		**PKPdf**		**23 01 22.9**	**-0.9**	
NVL				*e*				23 04 47.6		
NVL				eSS	SS			23 24 26.9	+44	
MIR	**Mirnyy**	**148.21**	**210**	*e*PKP2		**PKPab**		**23 01 36.0**	**+2.3**	
MIR				pmax	pmax					
	comp=Z,81nm,1.5s									
LBTB	**Lobatse**	**151.36**	**59**	PKPbc		**PKPbc**		**23 01 39.6**	**-0.2**	
	comp=Z,6.9nm,0.9s,baz=120,slow=1.6,SNR=5.6									
LBTB	**Lobatse**	**151.36**	**59**	*e*PKPdf		**PKPdf**		**23 01 34.4**	**+0.7**	
LBTB				*e*PKPbc		**PKPbc**		**23 01 34.9**	**-4.9**	
LBTB	**Lobatse**	**151.36**	**59**	*e*PKIKP		**PKPdf**		**23 01 34.4**	**+0.7**	
LBTB				*e*				23 01 34.9		
SUR	**Sutherland**	**152.89**	**76**	*e*PKPdf		**PKPdf**		**23 01 34.5**	**-1.5**	
SUR				*e*PKPbc		**PKPbc**		**23 01 42.6**	**-0.5**	
SUR				LR	LR					
	comp=Z,15μm,22.0s									
SYO	**Syowa Base**	**153.63**	**170⇑**	*e*P		PKPab		23 02 10.0	+14	
BOSA	**Boshof**	**153.65**	**65**	PKPbc		**PKPbc**		**23 01 44.9**	**0.0**	
	comp=Z,9.8nm,1.0s,baz=221,slow=1.7,SNR=6.4									
BOSA	**Boshof**	**153.65**	**65**	*e*PKPdf		**PKPdf**		**23 01 37.3**	**+0.2**	
BOSA				*e*PKPbc		**PKPbc**		**23 01 44.0**	**-0.8**	
BOSA	**Boshof**	**153.65**	**65**	*e*PKIKP		**PKPdf**		**23 01 37.3**	**+0.2**	
BOSA				*e*				23 01 44.0		
ABPO	**Ambohimpanom**	**155.16**	**12**	PFAKE				23 01 50.0	+11	
ABPO				LR	LR					
	comp=Z,12μm,20.0s									
MAW	**Mawson**	**155.25**	**190**	PKPab		**PKPab**		**23 02 04.1**	**+1.1**	
	comp=Z,22nm,1.2s,baz=294,slow=5.2,SNR=5.3									
MAW	**Mawson**	**155.25**	**190**	*e*PKPbc		PKPdf		23 01 46.5	+8.7	
MAW				PKPab		**PKPab**		**23 02 04.1**	**+1.1**	
MAW	**Mawson**	**155.25**	**190**	*e*PKIKP		PKPdf		23 01 46.5	+8.7	
MAW								23 02 04.1		

*IDC **11** 22:45:46.5±1.4,3.°63N×92.°92E,h0km,mb4.0/7,mb1 4.2/8, mb1mx3.8/67,mbtmp4.0/8,ML4.3/1,Error ellipse: s-maj=50.5km s-min=25.3km az=48.0*
*ISCJB **11** 22:45:49.8±1.2,3.°7N±0.°2×93.°0E±0.°2,h33km,mb4.0/7, Error ellipse: s-maj=29.5km s-min=22.2km az=143.6*
ISC 11 22:45:51.8±1.3,3.°7N±0.°2×93.°0E±0.°2,h35km,n8,σ0559/8, mb4.1/7,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**15.77**	**21**	Pn		**Pn**	**22 49 31.3**	**-0.2**
	0.4nm,0.3s,baz=207,slow=14,SNR=4.5							
AAK	**Ala-Archa**	**42.13**	**340**	P		**P**	**22 53 40.3**	**-0.6**
	0.4nm,0.4s,baz=152,slow=9.9,SNR=3.7							
MKAR	**Makanchi Array**	**43.92**	**349**	P		**P**	**22 53 55.3**	**+0.1**
	3.0nm,0.6s,baz=166,slow=8.4,SNR=24							
GEYT	**Alibeck**	**46.64**	**322**	P		**P**	**22 54 16.8**	**-0.1**
	1.3nm,0.6s,baz=171,slow=10,SNR=5.0							
WRA	**Warramunga Arr**	**46.91**	**122**	P		**P**	**22 54 19.2**	**-0.1**
	0.6nm,0.8s,baz=298,slow=8.7,SNR=4.0							
ZALV	**Zalesovo Beam**	**50.53**	**354**	P		**P**	**22 54 47.2**	**+0.7**
	5.1nm,0.5s,baz=173,slow=6.8,SNR=21							
BRTR	**Keskin Array B**	**64.34**	**313**	P		**P**	**22 56 23.9**	**-0.5**
	0.8nm,0.7s,baz=136,slow=8.9,SNR=2.8							
GERES	**GERESS Array B**	**80.18**	**319**	P		**P**	**22 57 59.5**	**+0.8**
	1.9nm,0.8s,baz=99,slow=4.2,SNR=8.3							

IDC 11 22:49:41.2±1.8,1.°17N×91.°87E,h0km,mb3.9/4,mb1 4.1/5, mb1mx3.5/72,mbtmp3.8/5,ML3.6/1,Error ellipse: s-maj=53.4km s-min=31.3km az=57.0,North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**18.54**	**22**	P		P	22 53 58.5	-1.1
	0.1nm,0.3s,baz=218,slow=14,SNR=4.6							
WRA	**Warramunga Arr**	**46.62**	**119**	P		P	22 58 11.3	-0.4
	1.0nm,0.6s,baz=296,slow=8.6,SNR=5.1							
SONM	**Songino Array**	**48.16**	**13**	P		P	22 58 23.6	+0.1
	1.0nm,0.5s,baz=194,slow=9.2,SNR=6.2							
ZALV	**Zalesovo Beam**	**52.93**	**355**	P		P	22 59 00.5	+1.3
	0.7nm,0.5s,baz=169,slow=4.8,SNR=3.4							
GERES	**GERESS Array B**	**81.33**	**319**	P		P	23 01 58.9	-1.0
	1.2nm,0.8s,baz=102,slow=4.5,SNR=8.3							

*BJI **11** 22:51:55.7,2.°75N×89.°32E,h15km,mb5.0/66,mB5.4/47, Ms5.8/59,Ms7 5.4/52*
*IDC **11** 22:51:55.8±0.4,2.°82N×89.°54E,h0km,mb4.7/38, mb1 4.7/39,mb1mx4.6/69,mbtmp4.7/39,ML4.5/1,MS5.0/6, Ms1 5.0/6,ms1mx4.6/64,Error ellipse: s-maj=13.3km s-min=9.8km az=32.0*
*MOS **11** 22:51:55.8±0.9,2.°86N×89.°54E,h11km,mb5.3/58,Error ellipse: s-maj=8.5km s-min=6.1km az=109.8*
*ISCJB **11** 22:51:56.5±0.2,2.°90N±0.°03×89.°53E±0.°02,h10km, mb5.2/167,MS5.0/1,Error ellipse: s-maj=4.0km s-min=2.5km az=27.6*
*GCMT **11** 22:51:57.3±0.4,2.°83N×89.°55E,h12km,MW5.8/85, Moment Tensor Solution. s11,c11; s85,c132; Duration: 1ȣ9 Moment tensor: Scale 10¹⁷Nm; Mrr1.07±.24; Mθθ-4.96±.17; Mϕϕ3.89±.19; Mrθ-0.56±.59; Mθϕ0.59±.17; Mϕr-4.24±.69; Best double couple: M₀6.01100×10¹⁷ NP1:ϕ234.00000°,δ69.00000°,λ30.00000°. NP2: ϕ132.00000°,δ63.00000°,λ156.00000°. Principal axes: T 7.0030, Plg36.0000°, Azm95.0000°; N -1.9840, Plg54.0000°, Azm267.0000°; P -5.0190, Plg4.0000°, Azm2.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **11** 22:51:57.3±2.5,2.°87N×89.°56E,h7km±15km,mb5.4/67 Error ellipse: s-maj=6.3km s-min=3.7km az=217.0*
ISC 11 22:51:59.3±0.9,2.°90N±0.°04×89.°51E±0.°04,h18km±4km, n486,σ1ȣ56/505,mb5.2/172,35C-16D,North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BSI	**Banda Aceh**	**6.32**	**66**	P		Pn	22 53 37.0	+5.3
	1μm,0.8s							
MLSI	**Meulaboh, Aceh**	**7.01**	**79**	P		Pn	22 53 47.7	+6.4
	1μm,0.8s,12μm4.7nm							
TPTI		**7.67**	**87**	P		Pn	22 53 58.8	+8.5
	732nm,1.0s,11μm2.9nm							
LHMI	**Lhok Sumawe**	**7.77**	**72**	P		Pb	22 54 08.2	-5.4
LHMI	**Lhok Sumawe**	**7.77**	**72**	*e*Pn		**Pn**	**22 53 52.0**	**+0.3**
LHMI				*e*S		**Sn**	**22 55 22.0**	**+2.7**
GSI	**Gunungsitoli**	**8.22**	**101**	P		**Pn**	**22 53 58.5**	**+0.7**
	2μm,1.1s,16μm5.8nm							
GSI	**Gunungsitoli**	**8.22**	**101**	*e*Pn		**Pn**	**22 53 55.0**	**-2.7**
GSI				*e*S		**Sn**	**22 55 27.0**	**-3.3**
KCSI	**Kotacane, Aceh**	**8.27**	**86**	P		Pb	22 54 11.7	-11
PBSI	**Pulau Batu**	**9.25**	**108**	P		**Pn**	**22 54 11.4**	**-0.5**
	1μm,0.7s,15μm							
PBA	**Port Blair**	**9.27**	**20**	*e*P		Pn	22 54 10.3	-1.9
PSI	**Prapat**	**9.40**	**90**	*e*Pn		**Pn**	**22 54 13.6**	**-0.6**
PSI	**Prapat**	**9.40**	**90**	*e*P		**Pn**	**22 54 13.6**	**-0.6**
PALK	**Pallekele**	**9.79**	**297**	LR		LR	22 57 54.1	
	comp=Z,15μm,18.6s,baz=115,slow=36							
PALK	**Pallekele**	**9.79**	**297**	*e*Pn		**Pn**	**22 54 18.5**	**-0.9**
PALK				*e*S		Sn	22 55 54.9	-14
PALK	**Pallekele**	**9.79**	**297**	*i* P		**Pn**	**22 54 22.0**	**+2.6**
	SNR=6.7							
PALK	**Pallekele**	**9.79**	**297**	*c*eP		**Pn**	**22 54 19.0**	**-0.4**
MNSI	**Mandailing Nat**	**10.28**	**102**	P		Pn	22 54 34.1	+8.0
	575nm,1.0s,6μm							
SISI	**Saibi**	**10.46**	**114**	P		**Pn**	**22 54 31.3**	**+2.8**
	192nm,0.7s							
DGPR	**DIGLIPUR**	**10.75**	**18**	*e*P		**Pn**	**22 54 32.8**	**+0.2**
KULM	**Kulim**	**11.36**	**78**	*e*Pn		**Pn**	**22 54 38.2**	**-2.7**
KULM				*e*S		**Sn**	**22 56 46.5**	**-1.0**
PDSI	**Padang**	**11.59**	**109**	P		Pn	22 54 48.7	+4.7
	166nm,1.5s,4μm							
IPM	**Ipoh**	**11.60**	**82**	*e*Pn		**Pn**	**22 54 42.7**	**-1.5**
BKNI	**Bangkinang**	**11.81**	**102**	*e*Pn		**Pn**	**22 54 47.7**	**+0.7**
MDRS	**Chennai**	**13.63**	**318**	*e*P		**Pn**	**22 55 09.7**	**-2.3**
MDRS				IAmb		IAmb	22 55 16.8	
	comp=Z,357nm,1.2s							
TRD	**Trivandrum**	**13.67**	**295**	*e*P		**Pn**	**22 55 12.6**	**+0.1**
MASI	**Maura Aman, Be**	**14.07**	**115**	P		P	22 55 32.4	+6.7
MYKOM	**Kota Tinggi**	**14.37**	**94**	*e*Pn		**Pn**	**22 55 20.2**	**-1.9**
SKHT	**Srikalahasti**	**14.48**	**319**	*e*P		**Pn**	**22 55 20.4**	**-3.1**
ADKI	**Addanki**	**15.92**	**324**	*e*P		**Pn**	**22 55 39.3**	**-3.4**
VIS	**Vishakhapatnam**	**15.92**	**338**	*e*P		**Pn**	**22 55 40.5**	**-2.2**
PVM	**Polavaram**	**16.22**	**332**	*e*P		**Pn**	**22 55 41.6**	**-4.9**
MDSI	**Maura Dua**	**16.39**	**117**	P		**Pn**	**22 55 49.2**	**+0.5**
	comp=Z,176nm,1.9s,comp=Z,3μm							
CHLP	**Challavanipeta**	**16.40**	**341**	*e*P		**Pn**	**22 55 46.7**	**-2.1**
LWLI	**Liwa**	**16.53**	**118**	P		**P**	**22 55 53.5**	**+0.4**
	comp=Z,343nm,0.9s							
SRLM	**Srisailam**	**16.77**	**322**	*e*P		**Pn**	**22 55 51.1**	**-2.4**
NJS	**Nagarjunasagar**	**16.87**	**324**	*e*P		**Pn**	**22 55 52.0**	**-2.8**
URV	**Uravakonda**	**17.00**	**315**	*e*P		**Pn**	**22 55 54.3**	**-2.2**
KASI	**Kota Agung**	**17.15**	**119**	P		**Pn**	**22 55 58.0**	**-0.3**
	comp=Z,493nm,2.1s,comp=Z,8μm							
KLI	**Kotabumi**	**17.17**	**117**	P		**P**	**22 56 06.5**	**+6.5**
MNCY	**Minicoy**	**17.23**	**289**	*e*P		**Pn**	**22 55 58.2**	**-1.1**
PPBI	**Pangkal Pinang**	**17.37**	**107**	P		**P**	**22 56 04.6**	**+2.3**
CM01	**Chiang Mai Arr**	**17.99**	**30**	*e*Pn		**P**	**22 56 09.1**	**0.0**
HYB	**Hyderabad**	**17.99**	**324**	*i* P		**Pn**	**22 56 06.0**	**-2.7**
HYB	**Hyderabad**	**17.99**	**324**	*e*P		**Pn**	**22 56 08.2**	**-0.5**
HYB				IAmb		IAmb	22 56 20.7	
	comp=Z,52nm,0.7s							
HYBB	**Hyderabad (bro**	**17.99**	**324**	*e*P		**Pn**	**22 56 06.3**	**-2.4**
CM31	**Chiang Mai Arr**	**18.01**	**30**	*e*Pn		**Pn**	**22 56 08.7**	**-0.3**
CMAR	**Chiang Mai Arr**	**18.01**	**30**	P		**Pn**	**22 56 06.7**	**-2.2**
	comp=Z,0.7nm,0.3s,baz=226,slow=12,SNR=12							
CMAR				LR		LR	23 02 51.2	
	comp=Z,2μm,21.7s,baz=212,slow=36							
CHTO	**Chiang Mai**	**18.31**	**30**	*e*Pn		**P**	**22 56 13.0**	**+0.3**
	comp=Z,72nm,1.3s							
CHTO				*e*S		**S**	**22 59 43.2**	**+1.6**
CHTO	**Chiang Mai**	**18.31**	**30**	*e*P		**P**	**22 56 13.0**	**+0.3**
CHTO				*e*S		**S**	**22 59 43.2**	**+1.6**
CHTO				pmax		pmax		
	comp=Z,72nm,1.3s							
CGJI	**Cibinong**	**18.72**	**120**	P		**P**	**22 56 16.9**	**-0.3**
	comp=Z,408nm,1.5s,comp=Z,6μm							
RPR	**Rampur**	**18.74**	**328**	*e*P		**P**	**22 56 15.2**	**-2.2**
SRSP	**Sriramsagar**	**19.31**	**326**	*e*P		**P**	**22 56 23.3**	**-0.3**
SKJI	**Sukabumi**	**19.66**	**120**	P		**Pn**	**22 56 30.1**	**+1.2**
	comp=Z,396nm,2.1s,comp=Z,10μm							
KLRI	**Killari**	**19.68**	**321**	*e*P		**P**	**22 56 27.3**	**-0.4**
DGAR	**Diego Garcia**	**19.87**	**239**	P		**Pn**	**22 56 33.7**	**+2.3**
	comp=Z,582nm,1.3s							
DGAR	**Diego Garcia**	**19.87**	**239**	P		**Pn**	**22 56 33.7**	**+2.3**
DGAR				pmax		pmax		
	comp=Z,583nm,1.3s							
GOA	**Goa**	**19.88**	**310**	*e*P		**Pn**	**22 56 31.3**	**-0.2**
H08S3	**Diego Garcia H**	**19.95**	**238**	T		T	23 16 52.4	
	baz=58,slow=74,SNR=188							
H08S2	**Diego Garcia H**	**19.95**	**238**	T		T	23 16 38.0	
	baz=58,slow=74,SNR=193							
H08S1	**Diego Garcia H**	**19.97**	**238**	T		T	23 16 56.7	
	baz=58,slow=74,SNR=169							
LEM	**Lembang**	**20.50**	**118**	P		**P**	**22 56 36.3**	**-0.5**
	comp=Z,68nm,1.0s,baz=250,slow=5.9,SNR=9.3							
LEM				LR		LR	23 03 31.8	
	comp=Z,4μm,18.8s,baz=288,slow=34							
H08N1	**Diego Garcia H**	**20.62**	**244**	P		**P**	**22 56 33.7**	**-3.9**
	baz=73,slow=6.6,SNR=29							
H08N2	**Diego Garcia H**	**20.63**	**244**	P		**P**	**22 56 33.6**	**-4.2**
	baz=73,slow=6.6,SNR=24							
H08N3	**Diego Garcia H**	**20.65**	**244**	P		**P**	**22 56 34.0**	**-3.9**
	baz=73,slow=6.6,SNR=30							
NGP	**Nagpur**	**20.80**	**331**	*e*P		**P**	**22 56 40.7**	**+0.8**
NGP				IAmb		IAmb	22 56 41.0	
	comp=Z,444nm,2.2s							
KSM	**Kuching**	**20.83**	**93**	*e*P		**P**	**22 56 39.8**	**-0.5**
	comp=Z,311nm,1.6s							

XMIS	**Christmas Isla**	**20.86**	**130**	*e*P		**P**		**22 56 41.5**	**+0.9**	
	comp=Z,126nm,1.1s									
JCJI	**Jatiwangi**	**20.93**	**117**	P		Pn		22 56 46.2	+2.3	
	comp=Z,856nm,1.9s,comp=Z,16μm									
CISI	**Cisompet, Garu**	**21.02**	**120**	*e*P		**P**		**22 56 42.3**	**0.0**	
	comp=Z,310nm,1.3s,comp=Z,5μm									
CISI	**Cisompet, Garu**	**21.02**	**120**	*e*P		**P**		**22 56 41.5**	**-0.8**	
	comp=Z,274nm,0.9s									
BOK	**Bokaro**	**21.06**	**351**	*e*P		**P**		**22 56 44.0**	**+1.3**	
BOK				IAmb		IAmb		22 56 48.8		
	comp=Z,10μm,4.6s									
POO	**Poona**	**21.82**	**316**	*e*P		**P**		**22 56 51.2**	**+0.3**	
POO				IAmb		IAmb		22 57 02.3		
KPJI	**Karang Pucung**	**21.89**	**118**	P		**P**		**22 56 52.3**	**+0.7**	
	comp=Z,234nm,1.1s,comp=Z,4μm									
STKI	**Sintang**	**22.14**	**97**	P		**P**		**22 56 55.5**	**+1.1**	
	comp=Z,316nm,1.6s									
SHL	**Shillong**	**22.65**	**6**	*e*P		**P**		**22 56 58.4**	**-1.5**	
SHL				IAmb		IAmb		22 57 01.0		
	comp=Z,588nm,1.9s									
SHL				*ex*		x		23 01 04.5		
SBUM	**Sibu**	**22.69**	**91**	*e*P		**P**		**22 56 59.8**	**-0.5**	
	comp=Z,396nm,1.8s									
PBKI	**Pangkalan Bun**	**22.84**	**104**	P		**P**		**22 57 02.5**	**+0.6**	
	comp=Z,453nm,1.1s,comp=Z,5μm									
SMRI	**Semarang**	**23.11**	**115**	P		**P**		**22 57 04.5**	**-0.2**	
	comp=Z,300nm,2.0s,comp=Z,8μm									
SMRI	**Semarang**	**23.11**	**115**	*e*P		**P**		**22 57 03.5**	**-1.1**	
	comp=Z,1μm,1.7s									
BHPL	**Bhopal**	**23.36**	**331**	*e*P		**P**		**22 57 07.1**	**0.0**	
BHPL				IAmb		IAmb		22 57 09.6		
	comp=Z,65nm,0.3s									
WOJI	**Wonogiri, Jawa**	**23.88**	**117**	P		**P**		**22 57 14.1**	**+1.9**	
	comp=Z,74nm,1.0s,comp=Z,2μm									
ODAN	**Odare**	**23.91**	**355**	*e*P		**P**		**22 57 13.4**	**+0.8**	
RAMN	**Ramite**	**24.07**	**354**	*e*P		**P**		**22 57 15.3**	**+1.2**	
PCJI	**Pacitan**	**24.26**	**117**	P		**P**		**22 57 19.2**	**+3.5**	
	comp=Z,136nm,1.5s,comp=Z,2μm									
JIRN	**Jiri**	**24.82**	**353**	*e*P		**P**		**22 57 22.1**	**+1.0**	
	comp=Z,732nm,1.2s									
DMN	**Daman**	**24.92**	**351**	*e*P		**P**		**22 57 22.8**	**+0.9**	
	comp=Z,201nm,1.1s									
KKN	**Kakani**	**25.07**	**351**	*e*P		**P**		**22 57 23.8**	**+0.6**	
	comp=Z,215nm,1.2s									
GUN	**Gumba**	**25.11**	**352**	*e*P		**P**		**22 57 24.4**	**+0.7**	
	comp=Z,872nm,1.6s									
KOLN	**Koldanda**	**25.36**	**348**	*e*P		**P**		**22 57 26.7**	**+0.9**	
	comp=Z,270nm,1.4s									
GKN	**Gorkha**	**25.39**	**350**	*e*P		**P**		**22 57 26.8**	**+0.8**	
	comp=Z,966nm,1.8s									
KMI	**Kunming**	**25.50**	**29**	P		**P**		**22 57 28.9**	**+1.7**	
KMI				pmax		pmax				
	comp=Z,29nm,1.0s									
KMI				pmax		pmax				
	comp=Z,550nm,4.2s									
KMI				LR		LR				
	comp=Z,2μm,11.7s									
KMI				LR		LR				
	comp=Z,3μm,11.0s									
KMI				LR		LR				
	comp=Z,4μm,23.3s									
QIZ	**Qiongzhong**	**25.54**	**50**	P		**P**		**22 57 27.7**	**+0.4**	
QIZ				S		**S**		**23 01 56.3**	**+1.9**	
QIZ				pmax		pmax				
	comp=Z,33nm,1.4s									
QIZ				LR		LR				
	comp=Z,18μm,11.7s									
QIZ				LR		LR				
	comp=Z,9μm,12.1s									
QIZ				LR		LR				
	comp=Z,8μm,12.2s									
MTKI	**Muara Teweh, K**	**25.66**	**98**	P		**P**		**22 57 29.7**	**+1.2**	
	comp=Z,107nm,1.3s,comp=Z,5μm									
PYUN	**Piuthan**	**25.82**	**347**	*e*P		**P**		**22 57 31.1**

comp=Z,11µm,17.0s
XAN Xi'an 35.88 28 P **P** **22 58 57.7 -0.8**
XAN pP pP 22 59 02.3 -1.7
XAN sP sP 22 59 04.7 -1.6
XAN PP **PnPn** **23 00 19.0 -0.1**
XAN S **S** **23 04 33.7 -2.1**
XAN SS **SnSn** **23 06 55.1 -4.5**
XAN pmax pmax
comp=Z,19nm,0.8s
XAN LR LR
comp=Z,7µm,11.7s
XAN LR LR
comp=Z,6µm,12.7s
XAN LR LR
comp=Z,9µm,12.7s
WSAR Wadi Sarin 36.08 307 P **P** **22 59 03.7 +3.4**
DAV Davao City (W) 36.16 82 P **P** **22 59 02.6 +1.4**
comp=Z,166nm,0.4s,baz=338,slow=8.9,SNR=4.3
DAV LR LR 23 17 20.8
comp=Z,2µm,18.1s,baz=247,slow=42
WHN Wuhan 36.16 38 ⇑P **P** **22 59 02.6 +1.7**
WHN S **S** **23 04 41.2 +1.1**
WHN LR LR
comp=Z,15µm,10.6s
WHN LR LR
comp=Z,8µm,10.6s
WHN LR LR
comp=Z,15µm,16.3s
BATI Baumata 36.42 111 LR LR 23 15 05.1
comp=Z,3µm,20.4s,baz=284,slow=38
TWG Pinlang 36.43 54 *eP* **P** **22 59 04.1 +0.7**
comp=Z,166nm,1.1s
BIDO Bidbid 36.62 307 P **P** **22 59 07.3 +2.4**
KBL Kabul 36.79 331 *eP* **P** **22 59 06.7 +0.2**
comp=Z,28nm,1.3s
KBL Kabul 36.79 331 *eP* **P** **22 59 06.7 +0.2**
KBL pmax pmax
comp=Z,28nm,1.3s
SANI Sanana 36.80 97 P **P** **22 59 05.1 -1.5**
comp=Z,56nm,1.7s,comp=Z,1µm
SSLB Suanglung 36.80 53 *eP* **P** **22 59 07.0 +0.5**
comp=Z,166nm,2.0s
YULB Yu-li 36.89 54 *eP* **P** **22 59 08.3 +1.1**
comp=Z,46nm,1.2s
GTA Gaotai 37.53 13 ⇓P **P** **22 59 12.9 +0.3**
GTA pP pP 22 59 17.0 -1.1
GTA sP sP 22 59 19.9 -0.4
GTA PP **PnPn** **23 00 41.5 +2.3**
GTA PcP **PcP** **23 01 31.5 +0.9**
GTA S **S** **23 05 04.5 +3.5**
GTA sS sS 23 05 11.2 +1.1
GTA PcS **PcS** **23 05 17.0 -2.2**
GTA ScS **ScS** **23 09 24.8 -0.9**
GTA pmax pmax
comp=Z,47nm,1.2s
GTA pmax pmax
comp=Z,480nm,5.8s
GTA LR LR
comp=Z,3µm,16.4s
GTA LR LR
comp=Z,1µm,17.7s
GTA LR LR
comp=Z,8µm,16.5s
NLAI Namlea 38.07 99 P **P** **22 59 20.4 +3.1**
comp=Z,48nm,1.0s
LBMI Labuha 38.14 95 P **P** **22 59 22.0 +4.0**
comp=Z,219nm,2.1s,comp=Z,5µm
SOHO SOHO 38.19 306 *i* P **P** **22 59 19.1 +0.8**
SNR=11
KSH Kashi 38.47 343 P **P** **22 59 19.1 -1.4**
KSH sP sP 22 59 27.2 -1.0
KSH PP **PnPn** **23 00 53.9 +3.3**
KSH PcP **PcP** **23 01 33.2 -0.3**
KSH S **S** **23 05 13.0 -2.2**
KSH pmax pmax
comp=Z,170nm,1.3s
KSH pmax pmax
comp=Z,500nm,2.8s
KSH LR LR
comp=Z,1µm,9.2s
KSH LR LR
comp=Z,1µm,9.2s
KSH LR LR
comp=Z,3µm,12.9s
ALNE Al Ain 38.79 306 P **P** **22 59 25.2 +1.9**
ASHO Ashiyiah 38.84 307 P **P** **22 59 25.6 +1.9**
HATD Hatta, Dubai 38.84 307 P **P** **22 59 25.8 +2.0**
HATD Hatta, Dubai 38.84 307 P **P** **22 59 25.8 +2.0**
HATD Hatta, Dubai 38.84 307 P **P** **22 59 26.1 +2.4**
UOSS Minazif 38.84 307 P P 22 59 30.0 +6.2
UOSS Minazif 38.84 307 pP pP 22 59 30.0 +0.7
NJ2 Nanjing 40.02 40 *eP* **P** **22 59 33.9 +0.5**
NJ2 pmax pmax
comp=Z,15nm,0.5s
TIY Taiyuan 40.52 28 *eP* **P** **22 59 38.7 +1.1**
TIY PP **PnPn** **23 01 15.6 +0.6**
TIY S **S** **23 05 48.1 +2.1**
TIY SS **SS** **23 08 40.1 -5.9**
TIY pmax pmax
comp=Z,390nm,9.5s
TIY LR LR
comp=Z,4µm,12.6s
TIY LR LR
comp=Z,6µm,11.8s
TIY LR LR
comp=Z,5µm,13.3s
WMQ Urumqi 40.78 358 P **P** **22 59 41.4 +1.8**
WMQ sP sP 22 59 48.5 +1.1
WMQ PP **PnPn** **23 01 19.1 +1.2**
WMQ S **S** **23 05 51.8 +2.2**
WMQ SS **SS** **23 08 47.8 -3.1**
WMQ pmax pmax
comp=Z,82nm,1.3s
WMQ pmax pmax
comp=Z,430nm,3.7s
WMQ LR LR
comp=Z,5µm,12.9s
WMQ LR LR
comp=Z,910nm,8.1s
WMQ LR LR
comp=Z,12µm,23.9s
ULHL Ulahol 40.93 345 P **P** **22 59 41.6 +0.5**
SNR=7.3
KZA Kyzart 41.04 344 P **P** **22 59 43.6 +1.4**
SNR=13
SATY Saty 41.19 348 *eP* **P** **22 59 44.0 +0.9**
comp=Z,668nm,1.2s
SATY *eS* **S** **23 05 57.4 +1.4**
SATY LR LR 23 17 33.3
comp=Z,1µm,13.5s
FITZ Fitzroy Crossi 41.26 122 P **P** **22 59 41.0 -2.9**
comp=Z,11nm,1.0s,baz=327,slow=5.9,SNR=6.1
UCH Uchtor 41.39 343 P **P** **22 59 46.0 +0.8**
SNR=9.6
KPKS Kokpek 41.52 348 *eP* **P** **22 59 45.9 +0.1**
comp=Z,374nm,1.3s
KPKS *eS* **S** **23 06 00.7 -0.1**
KPKS LR LR 23 17 04.3
comp=Z,1µm,13.5s
AML Almayashu 41.55 342 P **P** **22 59 47.1 +0.8**
SNR=12
MDOK Medeo 41.59 346 *eP* **P** **22 59 47.1 +0.6**
comp=Z,494nm,1.7s
MDOK *eS* **S** **23 06 02.6 +0.6**
KBK Karagaybulak 41.66 344 P **P** **22 59 48.2 +1.1**
SNR=14
AAA Alma-Ata 41.67 346 *eP* **P** **22 59 47.8 +0.9**
comp=Z,164nm,1.7s
AAA *eS* **S** **23 06 04.1 +1.2**
TKM2 Tokmak 2 41.73 345 P **P** **22 59 48.1 +0.4**
SNR=14
AAK Ala-Archa 41.77 343 P **P** **22 59 48.9 +1.0**
comp=Z,12nm,1.1s,baz=141,slow=6.3,SNR=9.9
AAK Ala-Archa 41.77 343 P **P** **22 59 48.7 +0.8**
SNR=8.2
AAK Ala-Archa 41.77 343 *eP* **P** **22 59 48.9 +1.0**
comp=Z,46nm,1.4s
AAK Ala-Archa 41.77 343 *i* P **P** **22 59 49.4 +1.5**
SNR=8.2
AAK Ala-Archa 41.77 343 *ceP* **P** **22 59 48.7 +0.8**
AAK pmax pmax
comp=Z,146nm,2.5s
TIA Tai'an 41.82 34 P **P** **22 59 48.4 +0.2**
TIA pmax pmax
comp=Z,7.0nm,0.8s
BMNS Besmoynak 41.89 345 *eP* **P** **22 59 49.4 +0.5**
comp=Z,481nm,1.3s
BMNS *eS* **S** **23 06 07.4 +1.1**
SIJI Sorong 41.91 95 P **P** **22 59 46.4 -3.0**
comp=Z,5.3nm,0.6s,baz=293,slow=10.0,SNR=7.2
FRU Bishkek 41.92 344⇑ *eP* **P** **22 59 50.0 +1.0**
FRU pmax pmax
comp=Z,80nm,2.0s
EKS2 Erkin-Say 42.01 343 P **P** **22 59 51.5 +1.7**
SNR=12
USP Ospenovka 42.35 344 P **P** **22 59 53.4 +0.8**
SNR=9.2
KUU Kurty 42.45 346 *eP* **P** **22 59 53.1 -0.2**
comp=Z,264nm,1.5s
KUU *eS* **S** **23 06 14.5 +0.1**
KUU LR LR 23 18 26.6
HHC Hu-ho-hao-te 42.69 25 *eP* **P** **22 59 56.1 +0.7**
HHC pP sP 23 00 02.8 -0.4
HHC sP pP 23 00 05.6 +4.6
HHC S **S** **23 06 18.0 -0.2**
HHC ScS **ScS** **23 09 55.3 -0.9**
HHC pmax pmax
comp=Z,40nm,1.0s
HHC pmax pmax
comp=Z,98nm,6.2s
HHC LR LR
comp=Z,4µm,13.4s
HHC LR LR
comp=Z,5µm,12.9s
HHC LR LR
comp=Z,4µm,13.8s
IUG Iuzhnay 42.79 339 *eP* **P** **22 59 57.0 +0.9**
comp=Z,519nm,1.1s
IUG LR LR 23 17 30.6
DZA Taraz 42.99 340 *eP* **P** **22 59 58.3 +0.6**
comp=Z,134nm,1.5s
CHM Chimkent 43.09 338 *eP* **P** **22 59 60.0 +1.4**
comp=Z,327nm,1.8s
CHM *eS* **S** **23 06 25.7 +1.8**
FAKI Fak Fak 43.11 97 P **P** **22 59 58.2 -0.9**
comp=Z,54nm,2.0s,comp=Z,930nm
FAKI Fak Fak 43.11 97 *eP* **P** **22 59 56.6 -2.5**
comp=Z,231nm,1.9s
KK31 Karatay Array 43.46 340 *eP* **P** **23 00 01.9 +0.5**
KK31 Karatay Array 43.46 340 *eP* **P** **23 00 02.0 +0.5**
KKAR Karatay Array 43.46 340 *eP* **P** **23 00 01.9 +0.5**
KKAR Karatay Array 43.46 340 *eP* **P** **23 00 02.0 +0.5**
H01W3 Cape Leeuwin H 44.13 151 T T 23 47 04.5
baz=325,slow=75,SNR=223
MK01 Makanchi Array 44.14 353 *eP* **P** **23 00 06.3 -0.6**
H01W2 Cape Leeuwin H 44.14 151 T T 23 47 25.7
baz=325,slow=75,SNR=181
H01W1 Cape Leeuwin H 44.15 151 T T 23 47 11.9
baz=325,slow=75,SNR=291
BJI Beijing 44.16 30⇓ *iP* **P** **23 00 08.0 +0.9**
BJI S **S** **23 06 44.1 +4.7**
BJI pmax pmax
comp=Z,28nm,1.2s
BJI LR LR
comp=Z,7µm,12.6s
BJI LR LR
comp=Z,8µm,15.1s
MK31 Makanchi Array 44.17 353 *eP* **P** **23 00 06.9 -0.2**
MK31 Makanchi Array 44.17 353 *eP* **P** **23 00 06.9 -0.2**
MKAR Makanchi Array 44.17 353 P **P** **23 00 06.5 -0.6**
comp=Z,14nm,0.7s,baz=168,slow=8.0,SNR=29
MKAR Makanchi Array 44.17 353 *eP* **P** **23 00 06.9 -0.2**
comp=Z,90nm,0.8s
MTN Manton Dam 44.19 112 *eP* **P** **23 00 06.7 -1.0**
comp=Z,169nm,1.5s
MAKZ Makanchi 44.22 353 *eP* **P** **23 00 07.4 -0.1**
comp=Z,53nm,1.4s
MAKZ Makanchi 44.22 353 *eP* **P** **23 00 07.4 -0.1**
MAKZ pmax pmax
comp=Z,53nm,1.4s
NWAO Narrogin (SRO) 44.25 146 P **P** **23 00 07.0 -1.0**
comp=Z,16nm,1.0s,baz=205,slow=10,SNR=5.4
NWAO Narrogin (SRO) 44.25 146 *eP* **P** **23 00 07.4 -0.6**
comp=Z,93nm,1.2s
NWAO Narrogin (SRO) 44.25 146 P **P** **23 00 07.0 -1.0**
NWAO pmax pmax
comp=Z,16nm,1.0s
ZSN Zaisan 44.55 356 *eP* **P** **23 00 10.8 +0.6**
comp=Z,94nm,1.2s
GEYT Alibeck 45.17 324 P **P** **23 00 15.7 +0.4**
comp=Z,14nm,0.7s,baz=148,slow=7.0,SNR=24
GYA0B ALIBECK ARRAY 45.17 324 *eP* **P** **23 00 15.9 +0.6**
comp=Z,22nm,0.8s
DAMY Dhamar 45.98 287 *eP* **P** **23 00 23.6 +1.3**
comp=Z,79nm,1.4s
OPO Ambohidratompo 46.80 241 P **P** **23 00 28.0 -0.6**
comp=Z,8.7nm,0.7s,baz=28,slow=3.7,SNR=12
OPO LR LR 23 16 44.0
comp=Z,2µm,18.0s,baz=64,slow=32
ABPO Ambohimpanom 46.94 241 *eP* **P** **23 00 29.9 +0.2**
comp=Z,31nm,1.2s
ABPO Ambohimpanom 46.94 241 *eP* **P** **23 00 29.9 +0.2**
ABPO pmax pmax
comp=Z,31nm,1.2s
ATD Arta Tunnel 47.02 283 P **P** **23 00 30.4 +0.2**
comp=Z,13nm,0.8s,baz=100,slow=3.2,SNR=4.4
SONM Songino Array 47.07 16 P **P** **23 00 30.6 +0.3**
comp=Z,31nm,0.6s,baz=198,slow=8.9,SNR=69
SONA1 Songino Array 47.09 16 *eP* **P** **23 00 30.1 -0.2**
RAYN Ar Rayn 47.21 300 *eP* **P** **23 00 31.0 -0.6**
comp=Z,17nm,0.9s
RAYN Ar Rayn 47.21 300⇑ *eP* **P** **23 00 32.3 +0.7**
RAYN pmax pmax
comp=Z,19nm,1.0s
ULN Ulaanbaatar 47.28 16 *eP* **P** **23 00 31.6 -0.2**
comp=Z,77nm,1.4s
ULN Ulaanbaatar 47.28 16 P **P** **23 00 32.0 +0.2**
ULN Ulaanbaatar 47.28 16 P **P** **23 00 32.0 +0.2**
ULN Ulaanbaatar 47.28 16 *ceP* **P** **23 00 31.2 -0.7**
ULN pmax pmax
comp=Z,61nm,1.7s
SEM Semipalatinsk 47.98 352 *eP* **P** **23 00 37.1 -0.2**
comp=Z,264nm,1.6s
HVS Khovu-Aksy 48.19 4⇓ *iP* **P** **23 00 39.0 +0.2**
HVS pmax pmax
comp=Z,64nm,0.8s
KURBB Kurchatov Arra 48.45 351 P **P** **23 00 40.2 -0.4**
comp=Z,7.7nm,0.7s,baz=173,slow=7.3,SNR=31
KURK Kurchatov 48.52 351 *eP* **P** **23 00 40.8 -0.4**
comp=Z,66nm,1.3s
KURK Kurchatov 48.52 351 *ceP* **P** **23 00 40.7 -0.5**
KURK pmax pmax
comp=Z,493nm,1.7s
ZAK Zakamensk 48.73 12 *eP* **P** **23 00 41.6 -1.3**
ZAK pmax pmax
comp=Z,26nm,1.3s
BRZS Berezniki 49.04 346 *eP* **P** **23 00 46.2 +0.9**
comp=Z,42nm,1.5s
BRZS *eS* **S** **23 07 50.3 +1.3**
KSAR Wonju Array Be 49.18 41 P **P** **23 00 46.7 +0.2**
KSAR Wonju Array Be 49.18 41 P **P** **23 00 46.7 +0.2**
KS01 Wonju Array Si 49.21 41 *eP* **P** **23 00 45.8 -0.9**
KSRS Korea Array 49.21 41 P **P** **23 00 46.7 -0.1**
comp=Z,1.9nm,0.8s,baz=211,slow=8.5,SNR=6.4
WRA Warramunga Arr 49.51 119 P **P** **23 00 48.2 -1.2**
comp=Z,13nm,0.8s,baz=294,slow=8.3,SNR=5.6
WRAB Tennant Creek 49.52 119 *eP* **P** **23 00 48.5 -0.9**
comp=Z,179nm,1.8s
WRAB Tennant Creek 49.52 119 *eP* **P** **23 00 48.5 -0.9**
WRAB pmax pmax
comp=Z,179nm,1.8s
WB2 Warramunga Arr 49.52 119 *eP* **P** **23 00 48.8 -0.6**
MOY Mondy 49.54 9 *eP* **P** **23 00 49.9 +0.7**
MOY pmax pmax
comp=Z,40nm,1.8s
TLY Talaya 50.03 11 *eP* **P** **23 00 53.8 +1.0**
comp=Z,41nm,1.4s
TLY Talaya 50.03 11 P **P** **23 00 54.2 +1.5**
TLY Talaya 50.03 11 P **P** **23 00 54.2 +1.5**
TLY Talaya 50.03 11 *eP* **P** **23 00 54.3 +1.5**
TLY pmax pmax
comp=Z,24nm,1.4s
AS31 Alice Springs 50.64 124 *eP* **P** **23 00 57.2 -0.7**
comp=Z,9.1nm,1.5s
ASAR Alice Springs 50.64 124 P **P** **23 00 56.8 -1.1**
comp=Z,4.9nm,0.9s,baz=297,slow=7.2,SNR=22
AS01 Alice Springs 50.68 124 *eP* **P** **23 00 56.4 -1.8**
IRK Irkutsk 50.69 12 *eP* **P** **23 00 57.7 -0.1**
IRK pmax pmax
comp=Z,70nm,2.0s
ZAA0 Zalesovo Array 51.03 356 *eP* **P** **23 00 59.4 -0.8**
comp=Z,130nm,2.0s
ZALV Zalesovo Beam 51.03 356 P **P** **23 00 59.4 -0.9**
comp=Z,8.4nm,0.5s,baz=175,slow=7.5,SNR=19
CN2 Changchun 51.67 33 *eP* **P** **23 01 05.3 +0.1**
CN2 *eS* **S** **23 08 25.1 -0.7**
CN2 SS **SS** **23 12 01.4 -1.0**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 pmax pmax
comp=Z,200nm,5.0s
CN2 LR LR
comp=Z,8µm,21.0s
CN2 LR LR
comp=Z,7µm,21.0s
CN2 LR LR
comp=Z,3µm,14.0s
NVS Novosibirsk 52.03 355 *eP* **P** **23 01 06.4 -1.3**
NVS *e* 23 08 25.9
NVS pmax pmax
comp=Z,120nm,2.2s
KMBO Kilima Mbogo 52.39 266 P **P** **23 01 10.3 -1.1**
comp=Z,5.2nm,0.7s,baz=58,slow=11,SNR=14
KMBO Kilima Mbogo 52.39 266 *eP* **P** **23 01 12.0 +0.5**
comp=Z,69nm,1.9s
KMBO Kilima Mbogo 52.39 266 *i* P **P** **23 01 11.8 +0.4**
SNR=6.4
BVAR Borovoye Array 52.40 346 P **P** **23 01 09.4 -1.1**
comp=Z,3.0nm,0.7s,baz=161,slow=6.1,SNR=8.1
BRVK Borovoye 52.46 345 *ceP* **P** **23 01 10.3 -0.7**
BRVK pmax pmax
comp=Z,28nm,1.2s
ABKAR Akbulak array 52.61 336 *eP* **P** **23 01 12.2 0.0**
KRAR Krasnoyarsk 53.02 2 *i* P **P** **23 01 15.3 +0.3**
MDJ Mudanjiang 54.48 34 P **P** **23 01 26.5 +0.5**
MDJ pP pP 23 01 30.6 -1.1
MDJ sP sP 23 01 33.2 -0.7
MDJ ScP **ScP** **23 06 23.7 -3.4**
MDJ S **S** **23 09 03.1 -1.0**
MDJ pmax pmax
comp=Z,12nm,1.5s
MDJ pmax pmax
comp=Z,270nm,5.2s
MDJ LR LR
comp=Z,5µm,17.5s
MDJ LR LR
comp=Z,6µm,18.3s
MDJ LR LR
comp=Z,5µm,23.1s
GNI Garni 54.84 319 P **P** **23 01 29.8 +1.0**
comp=Z,4.8nm,0.6s,baz=127,slow=12,SNR=4.6
GNI Garni 54.84 319 *eP* **P** **23 01 29.6 +0.7**
comp=Z,30nm,1.1s
GNI Garni 54.84 319 *ceP* **P** **23 01 29.9 +1.0**
GNI pmax pmax
comp=Z,56nm,1.2s
USRK Ussuriysk Ar. 55.62 36 P **P** **23 01 36.2 +2.0**
comp=Z,3.8nm,0.8s,baz=262,slow=3.9,SNR=5.1
TBLG Delisi 55.66 320 *eP* **P** **23 01 35.3 +0.7**
comp=Z,52nm,1.2s
TBLG Delisi 55.66 320 *eP* **P** **23 01 35.3 +0.7**
TBLG pmax pmax
comp=Z,52nm,1.2s
GROC Groznyy 55.79 322 *eP* **P** **23 01 35.5 0.0**
GROC *e* 23 02 32.7
GROC *e* 23 03 39.2
GROC pmax pmax
comp=Z,51nm,1.0s
MJAR Matsushiro Arr 55.90 47 P **P** **23 01 36.0 -0.3**
comp=Z,1.7nm,0.4s,baz=243,slow=8.1,SNR=7.0
AKH Akhalkalaki 56.30 319 *eP* **P** **23 01 40.9 +1.5**
comp=Z,17nm,1.1s
AKH Akhalkalaki 56.30 319 *eP* **P** **23 01 40.9 +1.5**
AKH pmax pmax
comp=Z,17nm,1.1s
ZEI Tsey 56.74 321 *eP* **P** **23 01 41.9 -0.6**
ZEI pmax pmax
comp=Z,10.0nm,0.8s
NCK Nalchik 57.30 322 *ceP* **P** **23 01 46.6 +0.3**
NEY Neytrino 57.72 321⇑ *iP* **P** **23 01 51.0 +1.6**
NEY pmax pmax
comp=Z,2.0nm,0.8s
KBZ Khabaz 57.86 322 P **P** **23 01 49.9 -0.2**
comp=Z,6.2nm,0.7s,baz=114,slow=9.8,SNR=13
MANU Manus Island 58.05 94 *eP* **P** **23 01 52.3 +0.3**
comp=Z,156nm,1.6s
BOD Bodaibo 58.07 15 *eP* **P** **23 01 50.4 -0.9**
BOD pmax pmax
comp=Z,43nm,1.6s
KIV Kislovodsk 58.10 322 *eP* **P** **23 01 52.0 -0.1**
comp=Z,30nm,0.9s
KIV Kislovodsk 58.10 322 P **P** **23 01 51.5 -0.5**
KIV Kislovodsk 58.10 322 P **P** **23 01 51.5 -0.5**
KIV Kislovodsk 58.10 322 *i* P **P** **23 01 51.9 -0.1**
SNR=13
KIV Kislovodsk 58.10 322 *eP* **P** **23 01 51.7 -0.3**
KIV *eS* **S** **23 09 53.1 +0.6**
KIV pmax pmax
comp=Z,40nm,1.1s
KIV pmax pmax
comp=Z,31nm,3.2s
GOF Gofitskoye 58.46 323⇑ *eP* **P** **23 01 53.7 -0.6**
GOF pmax pmax
comp=Z,23nm,1.3s
SVE Sverdlovsk 58.48 342 *eP* **P** **23 01 53.5 -0.7**
SVE pmax pmax
comp=Z,46nm,1.3s
KLR Kul'dur 58.49 31 *ceP* **P** **23 01 54.0 -0.4**
ARU Arti 58.82 340 *eP* **P** **23 01 55.3 -1.3**
comp=Z,67nm,1.8s
ARU Arti 58.82 340 *c iP* **P** **23 01 55.1 -1.5**
ARU 23 02 44.6
ARU 23 04 03.8
ARU S **S** **23 10 00.4 -0.8**
ARU pmax pmax
comp=Z,35nm,1.7s
MBAR Mbarara 58.85 268 P **P** **23 01 57.0 -0.8**
comp=Z,2.2nm,0.2s,baz=64,slow=9.0,SNR=7.1
MBAR Mbarara 58.85 268 *eP* **P** **23 01 57.8 0.0**
comp=Z,32nm,1.3s
ZEA Zeya 59.36 25 *eP* P 23 02 07.8 +7.4
ZEA pmax pmax
comp=Z,46nm,1.4s
CTAO Charters Tower 60.16 115 *eP* **P** **23 02 06.3 -0.2**
comp=Z,153nm,1.7s
CTAO Charters Tower 60.16 115 *eP* **P** **23 02 06.3 -0.2**
CTAO pmax pmax
comp=Z,153nm,1.7s
STKA Stephens Creek 60.29 129 P **P** **23 02 06.5 -0.7**
comp=Z,7.0nm,0.8s,baz=316,slow=9.2,SNR=7.8
STKA Stephens Creek 60.29 129 *eP* **P** **23 02 06.4 -0.8**
comp=Z,4.8nm,1.0s
GRNR Gornyy 61.83 32 *i* P **P** **23 02 16.0 -1.3**
BR131 Keskin Array S 62.34 314 *eP* **P** **23 02 20.7 -0.4**
BRTR Keskin Array B 62.34 314 P **P** **23 02 20.4 -0.7**
comp=Z,5.9nm,0.8s,baz=134,slow=6.9,SNR=26
VRH Novokhopyorsk 62.53 328 *eP* **P** **23 02 20.8 -1.2**
VRH pmax pmax
comp=Z,20nm,1.1s
ILGA Ilgaz 62.77 315 *eP* **P** **23 02 24.8 +0.7**
comp=Z,46nm,1.2s
ANTO Ankara 63.00 314 *eP* **P** **23 02 24.9 -0.6**
comp=Z,26nm,0.9s
ANTO Ankara 63.00 314 *eP* **P** **23 02 24.9 -0.6**
ANTO pmax pmax
comp=Z,26nm,0.9s
BR231 Keskin MP Arra 63.00 314 *eP* **P** **23 02 26.6 +1.0**
YSS Yuzh-Sakhalins 63.51 38 *i* P **P** **23 02 30.4 +1.8**
YSS pmax pmax
comp=Z,8.0nm,1.1s
VSR Storozhevoye 63.90 327 *eP* **P** **23 02 29.4 -1.6**
VSR pmax pmax
comp=Z,40nm,1.7s
SIM Simferopol' 64.01 319 *eP* **P** **23 02 31.9 0.0**
SIM *eS* **S** **23 11 06.0 -1.5**
SIM pmax pmax
comp=Z,17nm,1.2s
LPSR Galich'ya Gora 64.74 329 *eP* **P** **23 02 35.8 -0.8**
LPSR pmax pmax
comp=Z,20nm,1.0s
NKL Nikolayevsk 65.33 31 *eP* **P** **23 02 36.0 -4.4**
NKL pmax pmax
comp=Z,500nm,6.0s
NKL pmax pmax
comp=Z,21nm,1.0s
MANT Manisa 65.69 311 *eP* **P** **23 02 45.0 +1.8**
comp=Z,199nm,2.0s
EIDS Eidsvold 65.88 119 *eP* **P** **23 02 44.4 -0.1**

comp=Z,68nm,1.4s
KARP Karpathos 65.98 308 *e*P **P 23 02 45.7 +0.7**
comp=Z,30nm,0.9s
YAK Yakutsk 66.16 19 *e*P **P 23 02 42.3 -3.2**
YAK pmax pmax
comp=Z,19nm,1.0s
YAK pmax pmax
comp=N,6.0nm,1.0s
YAK pmax pmax
comp=E,8.0nm,1.3s
MOS Moscow 67.03 331 *e*P **P 23 02 48.2 -3.1**
MOS *e* 23 03 22.8
MOS pmax pmax
comp=Z,69nm,1.3s
NPS Neapolis 67.14 307 P **P 23 02 53.6 +1.2**
NPS Neapolis 67.14 307 P **P 23 02 53.6 +1.2**
NPS Neapolis 67.14 307 P **P 23 02 53.6 +1.2**
LAST Lasithi 67.22 307 P **P 23 02 54.3 +1.3**
LAST Lasithi 67.22 307 P **P 23 02 54.3 +1.3**
OBN Obninsk 67.23 330 *e*P **P 23 02 51.3 -1.2**
comp=Z,36nm,0.5s
OBN Obninsk 67.23 330 *e*P **P 23 02 52.1 -0.4**
OBN pmax pmax
comp=Z,20nm,1.0s
PRK Paraskevi 67.61 311 P P 23 03 03.8 +8.6
TIRR Tirgusor 67.61 317 ⇓*i*P **P 23 02 56.2 +1.0**
IDI Anoyia 67.72 307 P **P 23 02 55.4 -0.7**
comp=Z,12nm,0.7s,baz=80,slow=7.9,SNR=8.9
IDI Anoyia 67.72 307 ⇑*i*P **P 23 02 56.3 +0.2**
IDI Anoyia 67.72 307 *e*P **P 23 02 56.0 -0.2**
comp=Z,11nm,0.7s
SIVA Sivas 67.72 307 P **P 23 02 59.9 +3.8**
SIVA Sivas 67.72 307 P **P 23 02 59.9 +3.8**
EZN Ezine 67.72 312 P **P 23 02 54.9 -1.1**
EZN Ezine 67.72 312 P **P 23 02 54.9 -1.1**
EZN Ezine 67.72 312 P **P 23 02 54.9 -1.1**
LBTB Lobatse 67.83 242 P **P 23 02 56.2 -0.8**
comp=Z,15nm,0.9s,baz=88,slow=4.0,SNR=4.1
TLB Topalu 67.91 317 ⇓*i*P **P 23 02 58.0 +1.0**
SIGR SIGRI 67.91 311 P **P 23 02 57.2 0.0**
SIGR SIGRI 67.91 311 P **P 23 02 57.2 0.0**
CFR Carcaliu 68.04 318 ⇓*i*P **P 23 02 58.7 +0.9**
GADA Gvkgeada 68.14 312 P P 23 03 05.0 +6.4
KIS Kishinev 68.20 320 *e*P **P 23 02 56.0 -2.8**
KIS Kishinev 68.20 320 *e*P **P 23 02 56.0 -2.8**
ALN Alexandroupoli 68.22 313 P **P 23 03 00.4 +1.3**
ALN Alexandroupoli 68.22 313 P **P 23 03 00.4 +1.3**
ALN Alexandroupoli 68.22 313 P **P 23 03 00.4 +1.3**
VAM Vamos 68.30 307 P **P 23 03 01.1 +1.4**
VAM Vamos 68.30 307 P **P 23 03 01.1 +1.4**
VAM Vamos 68.30 307 P **P 23 03 01.1 +1.4**
LEOM Leova 68.39 319 ⇑*i*P **P 23 03 01.0 +1.0**
IMMV Iera Moni Meta 68.48 307 P **P 23 03 01.0 +0.2**
SMTH Samothraki Isl 68.48 313 P P 23 03 09.7 +8.9
LIA Limnos Island 68.59 312 P **P 23 03 01.7 +0.3**
LIA Limnos Island 68.59 312 P **P 23 03 01.7 +0.3**
SORM Soroca 68.89 321 ⇓*i*P **P 23 03 03.2 +0.1**
KLMR Klimovskoe 69.01 336 *e*P **P 23 03 01.4 -2.2**
KLMR AMP 23 03 16.9
comp=Z,43nm,1.5s
KLMR *e*PcP **PcP 23 03 26.4 -1.3**
KLMR *e*S **S 23 12 06.3 -1.2**
KLMR *e*S **S 23 12 06.3 -1.2**
KLMR Klimovskoe 69.01 336 *e*P **P 23 03 01.3 -2.3**
KLMR *e* 23 03 26.3
KLMR *e*S **S 23 12 06.2 -1.2**
KLMR pmax pmax
comp=Z,43nm,1.5s
BOSA Boshof 69.06 238 P **P 23 03 04.0 -0.7**
comp=Z,4.9nm,0.8s,baz=107,slow=5.3,SNR=4.0
BOSA Boshof 69.06 238 P **P 23 03 04.0 -0.7**
BOSA Boshof 69.06 238 P **P 23 03 04.0 -0.7**
ISR Istrita 69.09 318 ⇑*i*P **P 23 03 04.3 -0.2**
ATHU Athens Univers 69.18 310 P P 23 03 10.4 +5.2
VRI Vrincioaia 69.19 318 ⇑*i*P **P 23 03 06.7 +1.6**
PLOR Plostina 69.24 318 ⇑*i*P **P 23 03 06.3 +0.9**
AKASG Malin Array Be 69.29 324 P **P 23 03 04.2 -1.3**
comp=Z,0.7nm,0.5s,baz=93,slow=5.0,SNR=14
KIEV Kiev 69.30 324 *e*P **P 23 03 04.6 -1.0**
comp=Z,36nm,1.6s
KIEV Kiev 69.30 324 *ce*P **P 23 03 05.4 -0.2**
KIEV pmax pmax
comp=Z,9.0nm,1.7s
SECR 69.38 317 ⇓*i*P **P 23 03 07.9 +1.6**
TESR Tescani 69.45 319 ⇑*i*P **P 23 03 06.3 -0.3**
DID Didima 69.50 309 P P 23 02 59.0 -8.2
DID Didima 69.50 309 P P 23 02 59.0 -8.2
MLR Muntele Rosu 69.60 318 P **P 23 03 07.9 +0.1**
comp=Z,9.7nm,1.1s,baz=61,slow=7.6
MLR Muntele Rosu 69.60 318 ⇑*i*P **P 23 03 08.7 +0.9**
MLR Muntele Rosu 69.60 318 *e*P **P 23 03 08.5 +0.7**
comp=Z,184nm,1.5s
PAIG Paliouri 69.72 312 P **P 23 03 10.7 +2.3**
PAIG Paliouri 69.72 312 P **P 23 03 10.7 +2.3**
PAIG Paliouri 69.72 312 P **P 23 03 10.7 +2.3**
LKR Lokris 69.94 310 P P 23 03 20.2 +10
HUMR Humele 69.98 317 ⇑*i*P **P 23 03 10.7 +0.8**
PRAR RASCA 69.99 320 ⇓*i*P **P 23 03 11.4 +1.4**
DYR Agios Nikonas 70.06 308 P **P 23 03 11.4 +0.8**
DOPR Dopca 70.12 318 ⇓*i*P **P 23 03 11.8 +1.0**
VOIR 70.19 318 ⇑*i*P **P 23 03 13.7 +2.4**
AXAR Agios Charalam 70.22 310 P **P 23 03 12.4 +0.8**
AXAR Agios Charalam 70.22 310 P **P 23 03 12.4 +0.8**
DSF Desfina 70.25 310 P **P 23 03 12.7 +0.9**
DSF Desfina 70.25 310 P **P 23 03 12.7 +0.9**
GUR Goura 70.29 309 P **P 23 03 11.2 -0.9**
GUR Goura 70.29 309 P **P 23 03 11.2 -0.9**
ARR Arges 70.45 317 ⇑*i*P **P 23 03 13.7 +0.8**
ITM Ithomi 70.46 308 P **P 23 03 12.5 -0.6**
ITM Ithomi 70.46 308 P **P 23 03 12.5 -0.6**
KLV Kalavryta, Ach 70.46 309 P P 23 03 23.8 +11
PYL PYLOS 70.55 308 P P 23 03 05.7 -7.9
PYL PYLOS 70.55 308 P P 23 03 05.7 -7.9
KNT Kendrikon 70.59 313 P **P 23 03 13.8 0.0**
KNT Kendrikon 70.59 313 P **P 23 03 13.8 0.0**
KNT Kendrikon 70.59 313 P **P 23 03 13.8 0.0**
AMT Artemida-Makis 70.70 309 P **P 23 03 19.1 +4.6**
VTS Vitosha 70.71 314 ⇓*i*P **P 23 03 14.3 -0.3**
VTS Vitosha 70.71 314 *e*P **P 23 03 13.8 -0.8**
comp=Z,36nm,1.2s
VTS Vitosha 70.71 314 *e*P **P 23 03 13.8 -0.8**
VTS pmax pmax
comp=Z,37nm,1.2s
BURAR Bucovina Array 70.72 320 ⇓*i*P **P 23 03 15.2 +0.7**
BUR04 Bucovina Ar. S 70.72 320 *e*P **P 23 03 14.8 +0.2**
BUR08 Bucovina Ar. S 70.74 320 *e*P **P 23 03 15.3 +0.7**
ANX Ano Chora 70.75 310 P **P 23 03 15.1 +0.2**
VAY Valandovo 70.87 313 *i* P **P 23 03 15.1 -0.3**
EVR Evrytania 70.91 310 P P 23 03 26.4 +11
GRG Griva 70.91 312 P **P 23 03 12.3 -3.4**
GRG Griva 70.91 312 P **P 23 03 12.3 -3.4**
GRG Griva 70.91 312 P **P 23 03 12.3 -3.4**
RLS Riolos of Patr 70.99 309 P P 23 03 22.1 +5.9
RLS Riolos of Patr 70.99 309 P P 23 03 22.1 +5.9
LOT Lotru 71.06 317 ⇓*i*P **P 23 03 17.1 +0.4**
HNR Honiara 71.23 101 P **P 23 03 17.1 -1.0**
comp=Z,32nm,0.3s,baz=152,slow=8.0,SNR=8.1
TMCR Tamitsa 71.47 339 *e*P **P 23 03 16.2 -2.4**
TMCR pmax pmax
comp=Z,32nm,1.4s
MICGM Minsk 71.47 327 *e* **PcP 23 03 35.0 -3.3**
DEV Deva 71.76 318 ⇓*i*P P 23 03 15.2 -5.5
HERR Herculane 71.83 316 ⇓*i*P **P 23 03 22.1 +0.9**
KRUS Krusevo 71.85 313 *i* P **P 23 03 19.6 -1.9**
DRGR 72.13 318 ⇓*i*P **P 23 03 24.3 +1.3**
NACGM Naroch 72.22 327 *e* **P 23 03 24.0 +0.7**
BZS Buzias 72.56 317 ⇑*i*P **P 23 03 26.5 +1.0**
UZH Uzhgorod 72.89 320 *e*P **P 23 03 28.7 +0.9**
UZH *e* 23 03 43.7
TIXI Tiksi 73.00 12 *e*P **P 23 03 25.7 -1.9**
comp=Z,26nm,0.8s
TIXI Tiksi 73.00 12 *ce*P **P 23 03 25.9 -1.7**
DIVS Divibare 73.34 315 *e*P **P 23 03 30.8 +0.5**
comp=Z,74nm,1.6s
CRVS Cervenica-Dubn 73.49 320 *e*P **P 23 03 33.6 +2.6**
CRVS Cervenica-Dubn 73.49 320 *e*P **P 23 03 33.6 +2.6**
VSU Vasula 73.56 331 *i* P **P 23 03 32.3 +1.2**
VSU pmax pmax
comp=Z,29nm,1.1s
STHS Stebnicka Huta 73.76 321 *e*P **P 23 03 32.8 +0.2**
STHS Stebnicka Huta 73.76 321 *e*P **P 23 03 32.8 +0.2**
STHS pmax pmax
comp=Z,13nm,1.3s
SUW Suwalki 73.90 326 *e*P **P 23 03 33.2 0.0**
comp=Z,45nm,1.1s
SUW Suwalki 73.90 326 *e*P **P 23 03 33.3 0.0**
SUW pmax pmax
comp=Z,45nm,1.1s
APA Apatity 74.92 341 ⇑*i*P **P 23 03 37.7 -1.2**
APA pmax pmax
comp=Z,9.0nm,1.1s
APA MLR MLR
comp=Z,14μm,28.0s
FINES FINESS Array B 75.00 334 P **P 23 03 40.8 +1.3**
comp=Z,4.1nm,0.8s,baz=115,slow=8.6,SNR=11
VYHS Vyhne 75.08 319 *e*P **P 23 03 40.4 +0.1**
VYHS Vyhne 75.08 319 *e*P **P 23 03 40.4 +0.1**
VYHS pmax pmax
comp=Z,13nm,1.4s
SEY Seymchan 75.34 25 *i* P **P 23 03 41.1 -0.3**
KLNR Kaliningrad 75.74 326 *i* P **P 23 03 45.4 +1.5**
MODS Modra-Piesok 76.07 319 *e*P **P 23 03 47.2 +1.2**
MODS Modra-Piesok 76.07 319 *e*P **P 23 03 47.2 +1.2**
VRAC Vranov 76.70 320 ⇑*i*P **P 23 03 50.9 +1.4**
CONA Conrad Observa 76.92 319 *i* PcP **PcP 23 04 03.4 +1.5**
comp=Z,8.7nm,1.5s
ARSA Arzberg 77.02 318 *i* P **P 23 03 52.4 +1.0**
comp=Z,20nm,1.4s
DPC Dobruska-Polom 77.07 321 *e*P **P 23 03 53.2 +1.6**
DPC Dobruska-Polom 77.07 321 *e*P **P 23 03 53.2 +1.6**
TREC Trest 77.41 320 *e*P **P 23 03 54.8 +1.3**
TREC Trest 77.41 320 *e*P **P 23 03 54.8 +1.3**
PRU Pruhonice 78.13 320 *e*P **P 23 03 59.1 +1.6**
PRU Pruhonice 78.13 320 *e*P **P 23 03 59.1 +1.6**
PVCC Panska Ves 78.21 321 *e*P **P 23 03 59.9 +2.0**
PVCC Panska Ves 78.21 321 *e*P **P 23 03 59.9 +2.0**
ARCES ARCESS Array B 78.40 341 P **P 23 03 59.0 +0.4**
comp=Z,6.8nm,0.7s,baz=100,slow=6.5,SNR=14
ARCES ARCESS Array B 78.40 341 *e*P **P 23 03 59.1 +0.5**
ARCES ARCESS Array B 78.40 341 *e*P **P 23 03 59.1 +0.5**
GEA0 GERESS Array S 78.49 319 *e*P **P 23 03 59.4 -0.2**
GEC2 GERESS Array S 78.49 319 *e*P **P 23 03 59.5 -0.1**
comp=Z,41nm,1.3s
GEC2 GERESS Array S 78.49 319 *e*P **P 23 03 59.6 -0.1**
GEC2 pmax pmax
comp=Z,41nm,1.3s
GERES GERESS Array B 78.49 319 P **P 23 03 59.2 -0.4**
comp=Z,7.2nm,0.9s,baz=101,slow=5.6,SNR=22
KHC Kasperske Hory 78.61 319 *e*P **P 23 04 01.1 +0.9**
KHC *ep*P **pP 23 04 05.9 -0.2**
KHC *ex* x 23 04 12.3
KHC Kasperske Hory 78.61 319 *e*P **P 23 04 00.8 +0.6**
comp=Z,11nm,1.3s
KHC Kasperske Hory 78.61 319 *e*P **P 23 04 00.8 +0.6**
KHC pmax pmax
comp=Z,11nm,1.3s
BRG Berggiesshubel 78.66 321 *i* P **P 23 04 01.3 +0.9**
comp=Z,8.7nm,1.1s
BRG Berggiesshubel 78.66 321 *i* P **P 23 04 01.3 +0.9**
BRG pmax pmax
comp=Z,9.0nm,1.1s
CLL Collm 79.31 322 *e*P **P 23 04 03.0 -0.9**
comp=Z,35nm,1.6s
CLL Collm 79.31 322 *e*P **P 23 04 04.3 +0.4**
comp=Z,28nm,1.4s
CLL Collm 79.31 322 *e*P **P 23 04 03.0 -0.9**
CLL pmax pmax
comp=Z,35nm,1.6s
CLL Collm 79.31 322 *e*SKSac **P 23 04 04.0 +0.1**
SYO Syowa Base 79.35 196 ⇑*e*PcP **PcP 23 04 14.9 +3.1**
NKC Novy Kostel 79.50 320 *e*P **P 23 04 06.4 +1.3**
NKC Novy Kostel 79.50 320 *e*P **P 23 04 06.4 +1.3**
WTTA Wattenberg 79.64 317 P **P 23 04 07.1 +1.0**
comp=Z,19nm,1.3s
MOTA Moosalm 80.01 317 *i* P **P 23 04 06.6 -1.4**
comp=Z,10.0nm,1.0s
KEST Kesra 80.32 306 P **P 23 04 10.7 +0.8**
comp=Z,12nm,1.1s,baz=298,slow=4.9,SNR=6.5
HFS Hagfors 80.44 331 P **P 23 04 10.2 +0.4**
comp=Z,5.1nm,0.8s,baz=106,slow=11,SNR=6.0
DAVA Damuels 80.83 317 *i* P **P 23 04 13.6 +1.1**
comp=Z,22nm,0.9s
NB2 NORSAR Subarra 81.80 331 P **P 23 04 16.9 -0.3**
comp=Z,18nm,1.2s,baz=98,slow=6.5
NOA NORSAR Array B 81.80 331 P **P 23 04 16.1 -1.0**
comp=Z,2.5nm,0.9s,baz=96,slow=6.2,SNR=3.0
BFO Black Forest 81.97 318 *e*P **P 23 04 18.2 -0.1**
comp=Z,98nm,2.0s
BFO Black Forest 81.97 318 *i* P **P 23 04 19.6 +1.3**
BILL Bilibino 82.38 22 ⇑*i*P **P 23 04 20.4 +0.4**
BILL pmax pmax
comp=Z,5.0nm,1.3s
BILL MLR MLR
comp=Z,110μm,16.0s
ECH Echery 82.74 318 *e*P **P 23 04 23.6 +1.3**
comp=Z,13nm,1.0s
ECH Echery 82.74 318 *e*P **P 23 04 23.6 +1.3**
ECH pmax pmax
comp=Z,13nm,1.0s
BNI Bardonecchia 82.89 315 *e*P **P 23 04 22.8 -0.5**
comp=Z,26nm,1.3s
BNI Bardonecchia 82.89 315 *e*P **P 23 04 22.8 -0.5**
BNI pmax pmax
comp=Z,26nm,1.3s
TAM Tamanrasset 83.34 292 *e*P **P 23 04 27.0 +0.8**
comp=Z,18nm,1.2s
TAM Tamanrasset 83.34 292 *e*P **P 23 04 27.0 +0.8**
TAM pmax pmax
comp=Z,18nm,1.2s
SSB Saint Sauveur 84.40 315 *e*P **P 23 04 32.4 +1.4**
comp=Z,33nm,1.3s
SSB Saint Sauveur 84.40 315 *e*P **P 23 04 32.4 +1.4**
SSB pmax pmax
comp=Z,33nm,1.3s
TOA0 Torodi Ar. Sit 87.22 283 *e*P **P 23 04 45.1 -0.4**
TORD Torodi Ar. Bea 87.22 283 P **P 23 04 45.2 -0.3**
comp=Z,6.1nm,1.1s,baz=82,slow=4.2,SNR=9.3
NVL N'lazarevskaya 88.67 199 *e*P **P 23 04 52.7 +1.5**
NVL pmax pmax
comp=Z,37nm,0.9s
VNDA Vanda 89.04 168 *e*P **P 23 04 55.0 +2.2**
comp=Z,18nm,1.5s
VNDA Vanda 89.04 168 *e*P **P 23 04 55.1 +2.2**
VNDA pmax pmax
comp=Z,18nm,1.5s
EKA Eskdalemuir Ar 89.16 325 P **P 23 04 54.4 +0.5**
comp=Z,2.2nm,0.8s,baz=96,slow=6.5,SNR=5.8
MSVF Nonsavu 89.48 108 *e*P **P 23 04 57.4 +1.1**
comp=Z,36nm,1.5s
MSVF Nonsavu 89.48 108 *ce*P **P 23 04 58.1 +1.8**
MSVF pmax pmax
comp=Z,20nm,2.5s
ES19 SONSECA Array 90.79 310 *e*P **P 23 05 02.9 +0.9**
ESDC Sonseca Array 90.84 310 P **P 23 05 02.7 +0.6**
comp=Z,1.9nm,0.8s,baz=65,slow=4.6,SNR=8.3
KOWA Kowa 92.69 285 P **P 23 05 11.1 0.0**
comp=Z,5.4nm,0.9s,baz=62,slow=4.3,SNR=8.9
KOWA Kowa 92.69 285 *e*P **P 23 05 12.1 +0.9**
comp=Z,29nm,1.3s
NVAR Mina Array Bea 131.50 29 PKP **PKPdf 23 11 11.4 -0.3**
comp=Z,1.1nm,0.7s,baz=300,slow=2.0,SNR=3.4
TXAR Lajitas Array 145.55 21 PKPbc **PKPdf 23 11 37.0 -0.4**
comp=Z,2.0nm,0.5s,baz=19,slow=1.5,SNR=28
LCO Las Campanas 147.93 214 *e*PKPbc **PKPbc 23 11 43.6 -1.1**
LPAZ La Paz 154.30 237 PKPbc **PKPbc 23 11 58.8 -1.7**
comp=Z,2.6nm,0.9s,baz=86,slow=5.3,SNR=3.8

*IDC **11** 22:55:07.0±0.4, 18°.27N×102°.74W, h0km, mb5.5/38, mb1 5.5/38, mb1mx5.5/52, mbtmp5.5/38, MS6.6/42, Ms1 6.6/42, ms1mx6.5/47, Error ellipse: s-maj=15.2km s-min=10.2km az=61.0*
*BJI **11** 22:55:08.5, 18°.25N×102°.95W, h22km, mb5.7/9, mB6.8/15, Ms6.8/32, Ms7 6.8/37*
*MOS **11** 22:55:09.9±0.8, 18°.22N×102°.66W, h33km, mb6.0/99, MS6.7/101, Error ellipse: s-maj=8.0km s-min=3.9km az=98.7 Broadband fault plane solution: P waves. NP1: ϕ=115.00000°, δ71.00000°, λ85.00000°. NP2: ϕ=310.00000°, δ20.00000°, λ104.00000°. Principal axes: T Plg64.0000°, Azm17.0000°; N Plg5.0000°, Azm117.0000°; P Plg26.0000°, Azm209.0000°;*
*MEX **11** 22:55:10.2±1.0, 17°.92N×103°.07W, h20km±11km, MD6.4*
*GCMT **11** 22:55:10.2±0.1, 18°.10N×102°.97W, h20km, MW6.7/145, Moment Tensor Solution. s145,c337; s139,c349; Duration: 5±2 Moment tensor: Scale 10¹⁹Nm;*
Mrr0.86±.01; Mϕϕ-0.82±.01; Mθθ-0.04±.01; Mrϕ0.70±.02; Mϕθ0.31±.01; Mrθ-0.39±.01; Best double couple: M₀1.19900×10¹⁹ NP1:ϕ₁116.00000°, δ66.00000°, λ96.00000°. NP2:ϕ₂282.00000°, δ25.00000°, λ77.00000°. Principal axes: T 1.1720, Plg69.0000°, Azm37.0000°; N 0.0530, Plg5.0000°, Azm294.0000°; P -1.2260, Plg21.0000°, Azm202.0000°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to surface/mantle waves, cutoff=50s.
*NEIC **11** 22:55:10.2±0.1, 18°.23N×102°.69W, h20km, mb5.8/298, ME6.2, MS6.7/295, MW6.5, MD6.4(MEX) Error ellipse: s-maj=3.0km s-min=1.9km az=34.0, Moment Tensor Solution. s65 Moment tensor: Scale 10¹⁸Nm; Mrr2.28; Mθθ-2.30; Mϕϕ0.02; Mrθ5.06; Mθϕ0.85; Mϕr-2.01; Best double couple: M₀6.00000×10¹⁸ NP1:ϕ₁111.00000°, δ78.00000°, λ92.00000°. NP2:ϕ₂284.00000°, δ12.00000°, λ82.00000°. Principal axes: T 5.8200, Plg57.0000°, Azm24.0000°; N 0.2900, Plg2.0000°, Azm291.0000°; P -6.1000, Plg33.0000°, Azm200.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from CMT mechanism.*
NEIC Felt [VII] at La Mira, [VI] at Acatzingo and [IV] at Aguascalientes, Arteaga, Colima, Guadalajara, Ixtapa, Jocotepec, Mexico, Morelia, Nezahualcoyotl, Patzcuaro, Tlajomulco, Tlaquepaque, Villa de Alvarez and Zamora. Felt as far as Acapulco, Durango, Monterrey and the Jalapa area.
*ISCJB **11** 22:55:10.3±0.1, 18°.35N±0°.01×102°.69W±0°.01, h28km, mb5.8/475, MS6.7/618 Error ellipse: s-maj=2.2km s-min=1.4km az=36.8*
*UCR **11** 22:56:28.7±1.9, 17°.06N×98°.12W, h518km±205km, mb5.8(NEIC)*

ISC 11 22:55:10.8±0.5, 18°.20N±0°.03×102°.88W±0°.02, h28km±2km, n2169, σ1°87/2131, mb5.9/497, MS6.7/660, 187C-23D, Michoacan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MMIG	**Aquila**	**0.45**	**281**	*e*P	**Pb**	**22 55 17.6**	**-2.8**
MMIG				*e*S	**Sb**	**22 55 23.6**	**-3.3**
MMIG	**Aquila**	**0.45**	**281**	*e*P	**Pb**	**22 55 17.6**	**-2.8**
MMIG				*e*S	**Sb**	**22 55 23.6**	**-3.3**
EZ5V		**1.44**	**332**	*e*P	**Pn**	**22 55 36.1**	**+0.7**
EZ5V				*i* S	**Sb**	**22 55 54.4**	**-0.9**
ZIIG	**Zihuatanejo**	**1.47**	**114**	*e*P	**Pn**	**22 55 33.6**	**-1.9**
ZIIG				*e*S	**Sn**	**22 55 51.5**	**-2.3**
ZIIG	**Zihuatanejo**	**1.47**	**114**	*e*P	**Pn**	**22 55 33.6**	**-1.9**
ZIIG				*e*S	**Sn**	**22 55 51.5**	**-2.3**
MOIG	**Morelia**	**2.17**	**47**	*e*P	**Pb**	**22 55 47.5**	**-2.0**
MOIG	**Morelia**	**2.17**	**47**	*e*Pn	**Pn**	**22 55 47.0**	**+1.7**
ARIG	**Puente Sto Nin**	**2.41**	**88**	*e*P	**Pn**	**22 55 48.9**	**+0.5**
ARIG				*i* S	**Sn**	**22 56 18.5**	**+1.5**
CJM	**Chamela**	**2.42**	**302**	*e*P	**Pn**	**22 55 46.9**	**-1.8**
CJM				*i* S	**Sb**	**22 56 24.0**	**+0.8**
CJM	**Chamela**	**2.42**	**302**	*e*P	**Pn**	**22 55 46.9**	**-1.8**
CJM				*i* S	**Sb**	**22 56 24.0**	**+0.8**
CAIG	**El Cayaco**	**2.74**	**114**	*e*P	**Pn**	**22 55 51.6**	**-1.4**
CAIG				*i* S	**Sn**	**22 56 23.4**	**-1.8**
CAIG	**El Cayaco**	**2.74**	**114**	*e*P	**Pn**	**22 55 51.6**	**-1.4**
CAIG				*i* S	**Sn**	**22 56 23.4**	**-1.8**
IGIG	**Irapuato, Guan**	**2.93**	**30**	*e*P	**Pn**	**22 55 58.4**	**+2.7**
IGIG				*i* S	**Sb**	**22 56 36.2**	**-1.7**
MEIG	**Mezcala**	**3.11**	**95**	*e*P	**Pb**	**22 56 06.2**	**+0.7**
ACP2	**Acapulco**	**3.14**	**114**	*e*P	**Pb**	**22 56 05.3**	**-0.8**
PLIG	**Platanillo**	**3.21**	**86**	*e*P	**Pn**	**22 56 00.5**	**+1.0**
TOVM	**TOLUCA**	**3.21**	**70**	*e*P	**Pn**	**22 56 02.0**	**+2.2**
PUVA	**Puert Vallarta**	**3.27**	**318**	*e*P	**Pb**	**22 56 07.6**	**-0.6**
JRQG	**Juriquilla Cam**	**3.38**	**42**	*e*P	**Pn**	**22 56 05.0**	**+3.0**
JRQG	**Juriquilla Cam**	**3.38**	**42**	*e*Pg	**Pn**	**22 56 04.7**	**+2.7**
YAIG	**Yautepec**	**3.67**	**79**	*e*P	**Pn**	**22 56 07.5**	**+1.5**
UNM	**Universidad Na**	**3.68**	**72**	*e*Pn	**Pn**	**22 56 08.9**	**+2.7**
UNM	**Universidad Na**	**3.68**	**72**	*e*P	**Pn**	**22 56 08.9**	**+2.7**
PPM	**Popocatepetl**	**4.12**	**77**	*e*P	**Pb**	**22 56 25.5**	**+2.5**
TLIG	**Tlapa**	**4.15**	**98**	*e*P	**Pn**	**22 56 13.3**	**+0.7**
TLIG				*i* S	**Sn**	**22 57 00.6**	**+0.2**
TLIG	**Tlapa**	**4.15**	**98**	*e*P	**Pn**	**22 56 13.3**	**+0.7**
TLIG				*i* S	**Sn**	**22 57 00.6**	**+0.2**
ZAIG	**Zacatecas**	**4.55**	**4**	*e*Pn	**Pn**	**22 56 20.7**	**+2.5**
PNIG	**Pinotepa**	**4.88**	**111**	*e*P	**Pn**	**22 56 22.2**	**-0.3**
PNIG				*e*P	**Pn**	**22 56 22.3**	**-0.2**
PNIG	**Pinotepa**	**4.88**	**111**	*e*P	**Pn**	**22 56 22.3**	**-0.2**
VHO	**Vista Hermosa**	**5.96**	**100**	*e*P	**Pn**	**22 56 39.4**	**+1.9**
VHO	**Vista Hermosa**	**5.96**	**100**	*e*P	**Pn**	**22 56 39.4**	**+1.9**
LVIG	**Laguna Verde**	**6.30**	**75**	*e*Pn	**Pn**	**22 56 43.0**	**+1.1**
LVIG				*e*Sn	Sn	22 57 43.8	-9.2
HUIG	**Huatulco**	**6.91**	**110**	*e*P	**Pn**	**22 56 51.2**	**+0.8**
HUIG	**Huatulco**	**6.91**	**110**	*e*P	**Pn**	**22 56 51.2**	**+0.8**
LNIG	**Linares**	**7.38**	**25**	*e*Pn	**Pn**	**22 57 00.2**	**+3.4**
H06E1	**SOCORRO T-PHAS** SNR=48	**7.66**	**276**	Pn	**Pn**	**22 57 01.5**	**+0.8**
H06E1				T	T	23 04 30.2	
	SNR=7635						
H06S1	**SOCORRO T**	**7.69**	**275**	Pn	**Pn**	**22 57 01.5**	**+0.4**
H06S1				T	T	23 04 34.1	
	SNR=3001						
H06S		**7.69**	**275**	*e*P	**Pn**	**22 57 00.9**	**-0.1**
CMIG	**Matias Romero** 10nm,0.3s,baz=265,slow=13,SNR=50	**7.70**	**97**	Pn	**Pn**	**22 57 02.4**	**+1.2**
CMIG				Lg	Lg	22 58 52.1	
	34nm,0.3s,baz=301,slow=18,SNR=3.1						
CMIG				LR	LR	23 00 30.6	
	comp=Z,589μm,18.2s,baz=270,slow=43						
H06N1	**SOCORRO T-PHAS**	**7.72**	**276**	Pn	**Pn**	**22 57 01.9**	**+0.4**
H06N1				T	T	23 04 39.4	
	SNR=255						
H06N	**Isla Socorro**	**7.72**	**276**	*e*P	**Pn**	**22 57 00.7**	**-0.9**
HPIG		**9.06**	**344**	*i* P	**Pn**	**22 57 23.8**	**+3.7**
HPIG		**9.06**	**344**	*e*Pn	**Pn**	**22 57 23.9**	**+3.7**
LPIG	**La Paz** 7.7nm,0.3s,baz=68,slow=2.6,SNR=26	**9.08**	**312**	Pn	**Pn**	**22 57 22.9**	**+2.7**
LPIG				LR	LR	23 00 19.5	
	comp=Z,775μm,18.7s,baz=128,slow=34						
KVTX	**Kingsville**	**10.37**	**25**	*e*Pn	**Pn**	**22 57 35.4**	**-2.4**
833A	**Chaparral WMA,** baz=197,SNR=38	**10.57**	**17**	P	**Pn**	**22 57 44.8**	**+4.3**
TX31	**Lajitas Ar. Si**	**11.10**	**356**	*e*Pn	**Pn**	**22 57 51.4**	**+3.5**
TXAR	**Lajitas Array** 2.8nm,0.3s,baz=180,slow=11,SNR=60	**11.10**	**356**	Pn	**Pn**	**22 57 51.5**	**+3.6**
TXAR				Lg	Lg	23 00 48.2	
	2.1nm,0.3s,baz=186,slow=11,SNR=3.5						
APG	**El Apazote** 2.0nm,0.3s,baz=321,slow=14,SNR=48	**12.31**	**103**	Pn	**Pn**	**22 58 04.8**	**+0.1**
APG				LR	LR	23 02 34.9	
	comp=Z,332μm,20.9s,baz=288,slow=37						
SRIG	**Santa Rosalia**	**12.52**	**318**	*e*Pn	**Pn**	**22 58 09.9**	**+2.7**
JCT	**Junction City** baz=193,SNR=120	**12.54**	**12**	P	**Pn**	**22 58 11.2**	**+3.7**
JCT	**Junction City**	**12.54**	**12**	*e*Pn	**Pn**	**22 58 11.5**	**+4.0**
JCT	**Junction City**	**12.54**	**12**	*e*P	**Pn**	**22 58 11.5**	**+4.0**
MYIG	**MØrida**	**12.68**	**75**	*e*Pn	**Pn**	**22 58 09.0**	**-0.4**
HSIG		**13.06**	**327**	*e*Pn	**Pn**	**22 58 15.4**	**+0.8**
HKT	**Hockley**	**13.34**	**27**	*e*Pn	**Pn**	**22 58 19.7**	**+1.4**
HKT	**Hockley**	**13.34**	**27**	*e*P	**Pn**	**22 58 19.7**	**+1.4**
435B	**Jarrell** baz=201,SNR=13	**13.41**	**20**	P	**Pn**	**22 58 21.9**	**+2.5**
MNTX	**Cornudas Mount** baz=169,SNR=67	**13.63**	**351**	P	**Pn**	**22 58 25.8**	**+3.5**
MNTX	**Cornudas Mount**	**13.63**	**351**	*e*Pn	**Pn**	**22 58 23.4**	**+1.1**
SNET	**Serv Nac Est T**	**13.87**	**107**	*e*Pn	**Pn**	**22 58 27.4**	**+1.6**
EPT	**El Paso**	**13.90**	**347**	*e*Pn	**Pn**	**22 58 29.4**	**+3.2**
TEIG	**Tepich**	**13.94**	**79**	*e*Pn	**Pn**	**22 58 24.8**	**-1.9**
GDL2	**Guadalupe Moun**	**14.00**	**355**	*e*Pn	**Pn**	**22 58 30.4**	**+2.8**
CLNB	**Carlsbad**	**14.03**	**356**	*e*Pn	**Pn**	**22 58 30.4**	**+2.5**
319A	**Douglas**	**14.34**	**337**	*e*Pn	**Pn**	**22 58 34.2**	**+2.1**
WHTX	**Lake Whitney,** baz=200,SNR=48	**14.57**	**19**	P	**Pn**	**22 58 37.0**	**+1.7**
WHTX	**Lake Whitney,**	**14.57**	**19**	*e*Pn	**Pn**	**22 58 37.0**	**+1.7**
**ABT

2µm,1.1s
543A St. Martinvill 15.51 38 P Pn 22 58 47.7 -0.1
baz=222,SNR=8.3
TGUH Tegucigalpa,Un 15.55 103 *e*Pn Pn 22 58 49.8 +1.6
842nm,1.0s
442A Mamou 15.65 35 P Pn 22 58 49.4 -0.1
baz=219,SNR=24
MSTX Muleshoe 15.70 0 P Pn 22 58 51.7 +1.4
baz=180,SNR=88
MSTX S S 23 02 00.1 +2.1
baz=180
MSTX Muleshoe 15.70 0 *e*Pn Pn 22 58 50.1 -0.2
1µm,1.3s
TUC Tucson 15.75 335 P P 22 58 53.4 -1.2
baz=151
TUC Tucson 15.75 335 *e*Pn P 22 58 53.2 -1.4
463nm,1.1s
TUC Tucson 15.75 335 *e*P P 22 58 53.2 -1.4
TUC pmax pmax
comp=Z,463nm,1.1s
341A Kurthwood 15.75 32 P Pn 22 58 50.5 -0.4
baz=216,SNR=8.2
645A Chauvin 15.85 43 P Pn 22 58 51.8 -0.3
baz=227
544A White Castle 15.95 40 P Pn 22 58 53.2 -0.2
baz=224
240A Hunter Patters 16.05 29 P Pn 22 58 53.9 -0.6
baz=212
443A Delano Plantat 16.06 37 P Pn 22 58 54.4 -0.3
baz=221
Y22D IRIS PASSCAL I 16.21 348 P P 22 58 59.3 -0.5
baz=166
Y22E IRIS PASSCAL I 16.21 348 P P 22 58 59.3 -0.5
baz=166
342A Flagon Creek P 16.22 34 P Pn 22 58 56.4 -0.4
baz=218,SNR=52
BNM Barren Site 16.23 349 *e*Pn P 22 58 60.0 -0.1
LENM Lemitar 16.31 348 *e*Pn Pn 22 58 58.4 +0.2
545A Edgard 16.32 41 P Pn 22 58 58.2 +0.2
baz=226
214A Organ Pipe Nat 16.37 329 P P 22 59 01.3 -0.1
baz=144,SNR=36
LPM Los Pinos Moun 16.39 349 *e*Pn Pn 22 58 59.2 0.0
241A Mo Tay, Goldon 16.43 31 P Pn 22 58 59.3 -0.3
baz=215
646A Port Sulphur 16.44 44 P Pn 22 58 59.9 +0.3
baz=229
343A Vidalia 16.54 36 P Pn 22 59 00.8 -0.1
baz=220
LAZ Ladron 16.57 348 *e*Pn P 22 59 04.4 +0.5
444A Pine Grove 16.63 39 P Pn 22 59 02.0 0.0
baz=224,SNR=20
140A Cam and Jess, 16.64 28 P Pn 22 59 02.1 +0.1
baz=212,SNR=27
AMTX Amarillo 16.65 3 P Pn 22 59 02.9 +0.6
baz=183
AMTX Amarillo 16.65 3 *e*Pn Pn 22 59 01.5 -0.8
comp=Z,1µm,1.4s
242A Grayson 16.85 33 P Pn 22 59 03.6 -1.3
baz=217,SNR=12
WMOK Wichita Mounta 16.87 12 P Pn 22 59 05.2 +0.2
baz=193,SNR=206
WMOK Wichita Mounta 16.87 12 *e*Pn Pn 22 59 05.0 0.0
comp=Z,826nm,1.4s
WMOK Wichita Mounta 16.87 12 *e*P Pn 22 59 05.0 0.0
WMOK pmax pmax
comp=Z,826nm,1.4s
445A Amite 16.89 40 P Pn 22 59 05.2 -0.1
baz=225,SNR=71
141A Papa Simpson, 16.92 30 P Pn 22 59 05.3 -0.4
baz=214
546A Slidell 16.93 43 P Pn 22 59 05.5 -0.4
baz=227,SNR=9.7
ANMO Albuquerque 16.98 350 Pn P 22 59 09.7 +1.3
comp=Z,0.4nm,0.3s,baz=350,slow=14,SNR=27
ANMO LR LR 23 06 32.8
comp=Z,566µm,18.6s,baz=353,slow=40
ANMO Albuquerque 16.98 350 P P 22 59 09.3 +1.0
baz=168
ANMO Albuquerque 16.98 350 *e*Pn P 22 59 08.3 0.0
comp=Z,271nm,1.0s
ANMO Albuquerque 16.98 350 *ce*P P 22 59 09.5 +1.2
ANMO pmax pmax
comp=Z,429nm,2.5s
ANMO MLR MLR
comp=Z,841µm,16.0s
243A Waterproof 17.07 35 P Pn 22 59 07.1 -0.5
baz=219,SNR=17
344A Westbrook Farm 17.17 38 P Pn 22 59 08.8 0.0
baz=222,SNR=104
Z40A Long Farm, Mag 17.24 28 P Pn 22 59 09.5 -0.1
baz=211,SNR=23
142A Monroe 17.35 32 P Pn 22 59 10.6 -0.4
baz=217,SNR=24
X18A Snowflake 17.44 340 *e*Pn P 22 59 14.4 +1.0
comp=Z,2µm,1.9s
345A Thompson Farm, 17.48 39 P Pn 22 59 13.0 +0.3
baz=224,SNR=13
113A Mohawk Valley, 17.50 328 *e*Pn P 22 59 14.4 +0.5
comp=Z,710nm,1.5s
Z41A Richland Creek 17.50 29 P Pn 22 59 12.7 -0.2
baz=213,SNR=34
446A Poplarville 17.54 42 P Pn 22 59 13.4 +0.1
baz=227,SNR=132
244A Avery, Jackson 17.63 36 P Pn 22 59 14.2 -0.3
baz=221,SNR=54
WLAR White Oak Lake 17.73 28 *e*P Pn 22 59 15.8 +0.2
comp=Z,3µm,1.3s
143A Socs Landing, 17.75 33 P Pn 22 59 15.2 -0.7
baz=218
VBMS Vicksburg 17.86 36 P Pn 22 59 17.1 -0.3
baz=221,SNR=19
VBMS Vicksburg 17.86 36 *e*P Pn 22 59 16.6 -0.7
comp=Z,5µm,2.0s
VBMS *e*PcP PcP 23 03 47.8 -5.5
X16A Lo Mia Camp, P 17.86 336 *e*Pn P 22 59 18.1 0.0
comp=Z,436nm,1.2s
346A Big Creek Wild 17.88 40 P Pn 22 59 17.5 -0.1
baz=225
W18A Petrified Fore 17.92 341 P P 22 59 20.9 +2.2
baz=158,SNR=24
W18A Petrified Fore 17.92 341 *e*Pn Pn 22 59 16.7 -1.5
comp=Z,1µm,1.5s
Z42A Norrel Spur, H 17.93 31 P Pn 22 59 17.9 -0.2
baz=215,SNR=15
Y40A Okolona 17.93 27 P Pn 22 59 17.9 -0.2
baz=210,SNR=40
447A Lucedale 17.99 43 P P 22 59 19.2 -0.2
baz=229,SNR=82
X39A Fountain Ranch 18.02 24 P Pn 22 59 19.3 -0.1
baz=207,SNR=37
245A Little AP, Sta 18.08 38 P Pn 22 59 19.8 -0.2
baz=223,SNR=52
Y14A Wickenburg 18.10 332 *e*Pn Pn 22 59 20.0 -0.3
comp=Z,374nm,1.4s
Y41A Eaglette Beard 18.11 28 P Pn 22 59 20.1 -0.3
baz=212,SNR=21
CRZ1 La Cruz 18.12 111⇑ *i*P P 22 59 22.9 +2.1
144A Alexander Plac 18.22 36 P P 22 59 21.6 -0.2
baz=220
Z43A Armstrong Fami 18.23 33 P P 22 59 22.1 +0.2
baz=217
MIAR Mount Ida 18.27 25 P Pn 22 59 21.7 -0.6
baz=209,SNR=31
MIAR Mount Ida 18.27 25 *e*Pn Pn 22 59 21.4 -0.9
comp=Z,1µm,1.4s
MIAR Mount Ida 18.27 25 *e*P Pn 22 59 21.4 -0.9
MIAR pmax pmax
comp=Z,1µm,1.4s
GLA Glamis 18.27 326 P P 22 59 24.8 +2.3
baz=141,SNR=12
GLA Glamis 18.27 326 *e*P P 22 59 24.4 +1.9
comp=Z,380nm,1.2s
GLA Glamis 18.27 326 *e*P P 22 59 24.4 +1.9
GLA pmax pmax
comp=Z,380nm,1.2s
NY14 Universidad de 18.39 112⇑ *e*P Pn 22 59 25.9 +1.9
GBS3 Finca Las Im¯¡ 18.40 111 *e*P Pn 22 59 25.4 +1.2
LAPC Finca la Perla 18.43 111 *e*P Pn 22 59 26.2 +1.8
GB1A Borinquen Arri 18.43 111 *e*P Pn 22 59 26.5 +1.9
BUEV Buena Vista 18.44 111 *e*P Pn 22 59 26.5 +1.9
Y42A Garnett, Star 18.46 30 P P 22 59 24.3 -0.2
baz=215
347A Saraland 18.47 42 P P 22 59 24.4 -0.1
baz=228,SNR=7.3
BUAI Buenos Aires 18.47 111 *e*P Pn 22 59 26.9 +2.0
145A Houston Renfro 18.48 37 P P 22 59 24.5 -0.1
baz=222,SNR=12

GPS3 Bodega del ICE 18.49 111 *e*P Pn 22 59 27.2 +2.0
GPS1 Guardaparques 18.50 111 *e*P Pn 22 59 28.0 +2.6
246A Jackson Lee, B 18.52 39 P Pn 22 59 25.2 -0.3
baz=225,SNR=8.5
X40A Basin Creek Fa 18.53 27 P P 22 59 24.8 -0.4
baz=211,SNR=57
CCAR Cane Creek 18.53 30 *e*P P 22 59 25.1 -0.2
comp=Z,3µm,1.7s
448A Bay Minette 18.60 44 P P 22 59 26.0 0.0
baz=230
LIM1 Limonal 18.62 111 *e*P Pn 22 59 28.9 +2.1
GUAB Guayabo de Bag 18.63 111 *e*P Pn 22 59 29.1 +2.1
MESS Mesas 18.65 111⇑ *e*P Pn 22 59 28.6 +1.4
Y12C Blythe 18.66 328 P Pn 22 59 28.8 +1.6
baz=143,SNR=35
Y12C Blythe 18.66 328 *e*P Pn 22 59 28.8 +1.6
comp=Z,631nm,1.5s
X41A Kaden, Bauxite 18.67 28 P P 22 59 26.5 -0.2
baz=212,SNR=24
COLC Colonia 18.67 111 *e*P Pn 22 59 29.1 +1.6
IKP In-Ko-Pah, Jac 18.67 323 P Pn 22 59 29.6 +2.2
baz=137,SNR=26
HORNC Hornillas 18.68 111 *e*P Pn 22 59 29.4 +1.9
Z44A Pea Ridge, Bel 18.71 34 P Pn 22 59 27.6 -0.1
baz=219,SNR=19
CUI Cuipilapa 18.71 111⇑ *e*P Pn 22 59 29.1 +1.1
SWSC Sam W. Stewart 18.72 324 P Pn 22 59 29.6 +1.8
baz=138,SNR=23
TUL1 Leonard 18.72 18 P Pn 22 59 27.8 0.0
baz=201,SNR=279
TUL1 Leonard 18.72 18 *e*P P 22 59 26.8 -0.6
comp=Z,1µm,0.9s
W39A Magazine 18.75 24 P Pn 22 59 28.4 +0.1
baz=207,SNR=153
WUAZ Wupatki 18.82 338 P Pn 22 59 31.2 +2.0
baz=154,SNR=78
WUAZ Wupatki 18.82 338 *e*P Pn 22 59 31.1 +1.8
comp=Z,944nm,1.4s
ACAL Aguas Claras 18.84 111⇑ *e*P Pn 22 59 31.4 +1.9
PTEN Parque Tenorio 18.84 111⇑ *e*P Pn 22 59 31.4 +1.8
247A Quitman 18.86 40 P P 22 59 28.8 -0.1
baz=226,SNR=42
AMAS Alto Masis 18.88 111 *e*P Pn 22 59 31.4 +1.3
348A Jackson 18.88 43 P P 22 59 29.1 0.0
baz=229,SNR=21
T25A Trinidad 18.91 356 P Pn 22 59 31.3 +0.9
baz=175,SNR=52
T25A Trinidad 18.91 356 *e*P Pn 22 59 30.9 +0.5
comp=Z,649nm,1.4s
MHTCO State Highway 18.92 356 *e*P P 22 59 29.1 -0.6
comp=Z,1µm,1.6s
PDMCI Parker Dam,Lak 18.93 330 P Pn 22 59 31.7 +1.4
baz=145,SNR=69
449A Pace 18.93 46 P P 22 59 29.2 -0.4
baz=232
Y43A Makayla and Ka 18.95 32 P Pn 22 59 30.4 -0.1
baz=217
UALR University of 18.98 28 *e*P P 22 59 29.8 -0.5
comp=Z,660nm,1.0s
146A Union 19.00 38 P P 22 59 30.6 +0.1
baz=224,SNR=34
BAR Barrett 19.02 322 *e*P Pn 22 59 32.3 +0.8
comp=Z,1µm,1.9s
MONP2 Monument Peak 19.03 323 P Pn 22 59 33.2 +1.4
baz=137,SNR=82
W40A Ferguson Farm, 19.03 25 P Pn 22 59 31.3 -0.3
baz=209,SNR=141
W40A Ferguson Farm, 19.03 25 *e*P P 22 59 29.2 -1.6
comp=Z,3µm,1.3s
JTS JuntasAbangare 19.06 112 Pn Pn 22 59 33.2 +1.1
comp=Z,1.3nm,0.3s,baz=2.3,slow=10,SNR=16
BC3 Big Chuckawall 19.07 326 P Pn 22 59 33.2 +1.0
baz=140,SNR=28
JCR Jicaral 19.12 113 *e*P Pn 22 59 33.6 +0.7
X42A Stuttgart 19.12 29 P P 22 59 31.9 +0.2
baz=214
Z45A Winona 19.18 36 P Pn 22 59 32.7 -0.7
baz=221,SNR=66
CASO Castillo 19.19 111 *e*P Pn 22 59 36.4 +2.7
CEDE Laguna Cede¯–o 19.19 111⇑ *i*P Pn 22 59 34.3 +0.5
BRAL Brewton 19.29 45 P P 22 59 33.3 -0.3
baz=231
BRAL Brewton 19.29 45 *e*P P 22 59 33.3 -0.3
comp=Z,2µm,1.7s
IRM Iron Mountain 19.30 328 P Pn 22 59 36.2 +1.3
baz=142,SNR=29
349A Repton 19.31 44 P P 22 59 33.5 -0.3
baz=230,SNR=55
Y44A Strider, Charl 19.35 33 P Pn 22 59 34.9 -0.6
baz=218,SNR=28
W41B Gary Mavity, V 19.36 27 P P 22 59 33.9 -0.5
baz=211,SNR=71
V39A Pettigrew 19.38 23 P P 22 59 34.7 +0.2
baz=207,SNR=318
450A Crestview 19.39 47 P P 22 59 34.0 -0.7
baz=233,SNR=13
109C Camp Elliot, M 19.43 322 P Pn 22 59 37.4 +1.1
baz=135,SNR=12
CPE Camp Elliot 19.43 322 *e*P Pn 22 59 36.4 0.0
comp=Z,373nm,1.3s
248A Dixon Mills 19.44 42 P P 22 59 35.3 +0.1
baz=228,SNR=50
WHAR Wooly Hollow 19.44 27 *e*P P 22 59 34.1 -1.2
comp=Z,776nm,1.0s
X43A Marvell 19.45 31 P Pn 22 59 35.9 -0.7
baz=216
W13A Hualapai Mount 19.47 332 *e*P P 22 59 35.6 -0.2
comp=Z,398nm,1.6s
W13A *e*PcP PcP 23 03 58.9 +2.6
Z46A Louisville 19.47 37 P Pn 22 59 36.1 -0.8
baz=223,SNR=32
147A Livingston 19.50 40 P P 22 59 36.1 +0.3
baz=225,SNR=95
NEE2 Needles Airpor 19.53 330 P Pn 22 59 38.8 +1.1
baz=144,SNR=19
SRA1 San Ram‡n 19.57 112 *e*P Pn 22 59 38.1 -0.2
MVCO Mesa Verde 19.57 346 P Pn 22 59 38.9 +0.6
baz=163,SNR=62
MVCO Mesa Verde 19.57 346 *e*P Pn 22 59 38.3 0.0
comp=Z,952nm,1.4s
XPFO Piæon Flat 19.58 324 *e*P Pn 22 59 38.1 -0.3
comp=Z,884nm,1.4s
PFO Pinyon Flats O 19.58 324 P Pn 22 59 39.3 +0.9
baz=138,SNR=49
PFO Pinyon Flats O 19.58 324 *e*P Pn 22 59 38.2 -0.1
comp=Z,828nm,1.4s
PFO *e*S S 23 03 09.3 -7.3
PFO Pinyon Flats O 19.58 324 *e*P Pn 22 59 38.2 -0.1
PFO *e*S S 23 03 09.3 -7.3
PFO pmax pmax
comp=Z,828nm,1.4s
SDCO Great Sand Dun 19.61 354 P Pn 22 59 39.0 +0.2
baz=172,SNR=220
SDCO Great Sand Dun 19.61 354 *e*P Pn 22 59 38.1 -0.7
comp=Z,878nm,1.5s
CGA2 Cerro Gallo 2 19.61 112 *e*P Pn 22 59 42.1 +3.2
BELC Belle Mtn. Jos 19.62 326 P Pn 22 59 39.7 +0.8
baz=140,SNR=55
Y45A Yeager Farm, C 19.63 35 P P 22 59 37.6 +0.3
baz=220,SNR=44
HHAR Hobbs 19.66 22 *e*P P 22 59 37.3 -0.3
comp=Z,1µm,1.2s
V40A Witts Springs 19.66 25 P P 22 59 37.8 +0.1
baz=209,SNR=96
249A Camden 19.75 43 P P 22 59 38.2 -0.4
baz=229,SNR=162
W42A Bald Knob 19.77 28 P P 22 59 38.6 -0.1
baz=213
S22A 4UR Ranch, Cre 19.78 351 P Pn 22 59 41.5 +0.7
baz=168,SNR=116
S22A 4UR Ranch, Cre 19.78 351 *e*P P 22 59 39.5 +0.3
comp=Z,513nm,1.1s
X44A Crenshaw 19.80 32 P P 22 59 39.1 -0.1
baz=218
451A Vernon 19.87 48 P P 22 59 38.7 -1.2
baz=235,SNR=11
148A Greensboro 19.91 41 P P 22 59 40.2 -0.2
baz=227,SNR=32
U39A Green Forest 19.92 23 P P 22 59 40.3 -0.1
baz=206,SNR=32
V41A Mountainview 19.92 26 P P 22 59 40.4 -0.1
baz=211,SNR=188
HDC Heredia 19.93 112 *e*P Pn 22 59 42.8 +0.2
comp=Z,2µm,1.8s
552A Lynn Haven 19.93 50 P P 22 59 40.3 -0.2
baz=237,SNR=5.9
350A Dozier 19.93 46 P P 22 59 39.6 -1.0

baz=232,SNR=8.0
U15A North Rim 19.97 337 *e*P Pn 22 59 43.4 +0.3
comp=Z,288nm,1.1s
Z47A Carrollton 19.99 39 P P 22 59 41.0 -0.2
baz=225,SNR=88
MURC Murrieta 19.99 323 P Pn 22 59 43.3 +0.2
baz=136,SNR=51
W43A Forest City 20.00 30 P P 22 59 40.8 -0.4
baz=215
SJS Escuela Geolog 20.01 112 *e*P Pn 22 59 42.6 -0.9
LDFC Landfair 20.02 329 *e*P Pn 22 59 44.6 +1.1
comp=Z,951nm,1.2s
LDFC LR LR
comp=Z,140µm,22.0s
Y46A Houston 20.02 36 P P 22 59 41.9 +0.4
baz=222,SNR=137
GMRC Granite Mounta 20.06 328 P Pn 22 59 44.2 +0.2
baz=142,SNR=81
U40A Yellville 20.13 24 P P 22 59 42.6 -0.2
baz=208,SNR=341
LCR2 La Lucha 2 20.14 112⇑ *e*P Pn 22 59 44.2 -0.9
X45A UM Field Stati 20.14 34 P P 22 59 42.4 -0.4
baz=220,SNR=112
OXF Oxford 20.20 34 P P 22 59 42.7 -0.8
baz=219,SNR=96
OXF Oxford 20.20 34 *e*P P 22 59 42.8 -0.7
comp=Z,1µm,1.0s
OXF Oxford 20.20 34 *e*P P 22 59 42.8 -0.7
OXF pmax pmax
comp=Z,1µm,1.0s
T38A Diamond 20.22 20 P P 22 59 43.7 0.0
baz=204,SNR=288
CVTR Volcan Turrial 20.23 111⇑ *e*P Pn 22 59 45.5 -0.9
V42A Cord 20.27 28 P P 22 59 43.9 -0.3
baz=213,SNR=134
URSC Urasca 20.30 112 *e*P Pn 22 59 46.5 -0.5
250A Grady 20.32 44 P P 22 59 44.0 -0.8
baz=231,SNR=40
BBRC Big Bear Solar 20.32 325 P Pn 22 59 47.2 0.0
baz=138,SNR=6.1
351A Pinckard 20.35 47 P P 22 59 43.8 -1.3
baz=234,SNR=54
SCI2 San Clemente I 20.36 319 P Pn 22 59 47.6 +0.2
baz=132,SNR=15
WBCY West Bay, Gran 20.37 83 *e*P P 22 59 46.1 +0.6
comp=Z,3µm,1.2s
149A Jones 20.37 42 P P 22 59 44.6 -0.7
baz=229,SNR=100
452A Marianna 20.40 49 P P 22 59 44.6 -1.1
baz=236,SNR=24
MET Memphis--Engin 20.40 32 *e*P P 22 59 45.4 -0.2
comp=Z,3µm,1.5s
Z48A Northport 20.42 39 P P 22 59 45.3 -0.6
baz=226,SNR=140
BUS Buena Vista 20.44 112 *e*P P 22 59 47.8 +1.1
HEC Hector Ludlow 20.44 327 P Pn 22 59 48.1 -0.3
baz=140,SNR=86
PV01 Paradox Valley 20.47 347 *e*P P 22 59 45.2 -1.4
W44A Shelby Farms P 20.48 32 P P 22 59 46.0 -0.5
baz=217
U41A Viola 20.50 26 P P 22 59 46.7 -0.1
baz=210,SNR=99
T39A Clever 20.53 22 P P 22 59 47.0 -0.1
baz=206,SNR=508
LRAL Lakeview Retre 20.53 41 P P 22 59 46.5 -0.6
baz=227,SNR=105
LRAL Lakeview Retre 20.53 41 *e*P P 22 59 46.4 -0.7
comp=Z,307nm,0.8s
PV05 Paradox Valley 20.54 346 *e*P Pn 22 59 49.0 -0.7
CIS Catalina Islan 20.57 320 P Pn 22 59 49.4 -0.5
baz=133,SNR=28
FSCY Frank Sound, G 20.57 83 *e*P Pn 22 59 49.5 -0.5
comp=Z,2µm,1.1s
FSCY *e*S S 23 03 26.5 -10
553A Crawfordville 20.59 51 P P 22 59 46.7 -1.1
baz=238
Y47A UCPARC, Winfie 20.61 38 P P 22 59 47.8 -0.2
baz=224,SNR=313
V43A Jonesboro 20.64 30 P P 22 59 47.8 -0.5
baz=215
PV15 Paradox Valley 20.65 347 *e*P P 22 59 48.6 -0.1
X46A Booneville 20.68 35 P P 22 59 48.2 -0.4
baz=221,SNR=113
KNB Kanab 20.68 337 *e*P Pn 22 59 50.8 -0.5
comp=Z,600nm,1.5s
KNB LR LR
comp=Z,255µm,20.0s
KNB Kanab 20.68 337 *e*P Pn 22 59 50.8 -0.6
KNB pmax pmax
comp=Z,600nm,1.5s
KNB MLR MLR
comp=Z,255µm,20.0s
PSRC Puddingstone R 20.70 323 *e*P Pn 22 59 50.9 -0.4
TUQ Turquoise Moun 20.70 329 P Pn 22 59 51.3 -0.3
baz=142
FMP Fort Macarthur 20.71 321 P Pn 22 59 51.0 -0.5
baz=134
BFSC Mount Baldy Ra 20.72 323 P Pn 22 59 51.4 -0.4
baz=136,SNR=107
SSK Sunset Peak 20.72 323 *e*P Pn 22 59 51.2 -0.5
CBKS Cedar Bluff 20.72 7 P P 22 59 49.4 +0.3
baz=188,SNR=72
CBKS Cedar Bluff 20.72 7 *e*P P 22 59 49.5 +0.3
comp=Z,888nm,1.0s
CBKS LR LR
comp=Z,28µm,21.0s
CBKS Cedar Bluff 20.72 7 *e*P P 22 59 49.5 +0.4
CBKS pmax pmax
comp=Z,888nm,1.0s
KSCO Kaye Shedlock' 20.73 1 P P 22 59 50.5 +1.1
baz=180,SNR=34
KSCO Kaye Shedlock' 20.73 1 *e*P Pn 22 59 50.5 -1.3
comp=Z,1µm,1.0s
KSCO LR LR
comp=Z,466µm,20.0s
Q24A Divide 20.78 355 P P 22 59 51.2 +1.0
baz=173,SNR=53
Q24A Divide 20.78 355 *e*P P 22 59 51.1 +1.0
comp=Z,506nm,1.4s
Q24A LR LR
comp=Z,890µm,18.0s
U42A Revenden 20.79 27 P P 22 59 49.7 -0.2
baz=212,SNR=82
PV10 Paradox Valley 20.81 346 *e*P P 22 59 50.1 -0.3
W45A Hickory Valley 20.81 33 P P 22 59 49.6 -0.5
baz=219,SNR=23
RRX Edison Barstow 20.82 326 P Pn 22 59 52.3 -0.6
baz=139,SNR=15
LCMT Little Creek M 20.84 336 *e*P Pn 22 59 52.4 -0.8
comp=Z,397nm,1.4s
LCMT LR LR
comp=Z,233µm,18.0s
150A Eclectic 20.87 43 P P 22 59 50.0 -0.9
baz=230,SNR=45
PKCU Pink Cliffs 20.88 339 *e*P Pn 22 59 53.9 +0.1
comp=Z,2µm,1.8s
PKCU LR LR
comp=Z,236µm,20.0s
S38A Stockton 20.89 20 P P 22 59 50.6 -0.3
baz=204,SNR=469
Z49A Columbiana 20.93 41 P P 22 59 50.3 -1.1
baz=228,SNR=64
MWC Mount Wilson 20.93 323 *e*P P 22 59 52.4 +0.7
comp=Z,570nm,1.0s
MWC LR LR
comp=Z,179µm,18.0s
MWC Mount Wilson 20.93 323 *e*P P 22 59 52.4 +0.7
MWC pmax pmax
comp=Z,570nm,1.0s
MWC MLR MLR
comp=Z,179µm,18.0s
352A Blakely 20.94 47 P P 22 59 50.0 -1.5
baz=235,SNR=16
PV09 Paradox Valley 20.95 346 *e*P Pn 22 59 53.2 -1.3
T40A Mansfield 20.96 24 P P 22 59 51.1 -0.6
baz=208,SNR=42
251A Midway 20.96 45 P P 22 59 50.0 -1.8
baz=232,SNR=78
PASC Pasadena Art C 20.97 322 *e*P Pn 22 59 53.2 -1.3
comp=Z,385nm,1.1s
PASC LR LR
comp=Z,165µm,18.0s
HOLC Holcomb Ridge 20.98 323 *e*P Pn 22 59 54.4 -0.4
V44A Blytheville 20.98 31 P P 22 59 51.4 -0.5
baz=216
453A Whigham 21.02 50 P P 22 59 51.1 -1.3
baz=237,SNR=27

Y48A	**Jasper**	**21.02**	**39**	P		**P**	**22 59 51.7**	**-0.7**
	baz=225,SNR=104							
JNH	**Juniper Hills**	**21.04**	**323**	*e*P		**P**	**22 59 54.9**	**+2.2**
GSC	**Goldstone, Bar**	**21.05**	**327**	P		**P**	**22 59 54.7**	**+2.0**
	baz=140,SNR=103							
GSC	**Goldstone, Bar**	**21.05**	**327**	*e*P		**P**	**22 59 54.8**	**+2.0**
	comp=Z,221nm,0.8s							
GSC				LR		LR		
	comp=Z,157µm,21.0s							
GSC	**Goldstone, Bar**	**21.05**	**327**	*e*P		**P**	**22 59 54.8**	**+2.0**
GSC				pmax		pmax		
	comp=Z,221nm,0.8s							
GSC				MLR		MLR		
	comp=Z,157µm,21.0s							
X47A	**Russelville**	**21.05**	**37**	P		**P**	**22 59 52.0**	**-0.7**
	baz=223,SNR=156							
554A	**Perry**	**21.10**	**52**	P		**P**	**22 59 51.4**	**-1.8**
	baz=240							
BLKC	**Black Mountain**	**21.10**	**326**	*e*P		**P**	**22 59 55.8**	**+2.4**
DECC	**Green Verdugo**	**21.11**	**322**	P		**P**	**22 59 55.5**	**+2.1**
	baz=135,SNR=28							
S39A	**Bolivar**	**21.14**	**21**	P		**P**	**22 59 53.2**	**-0.4**
	baz=205,SNR=181							
655A	**Horseshoe Beac**	**21.15**	**54**	P		**P**	**22 59 52.2**	**-1.6**
	baz=242,SNR=6.5							
SNCC	**San Nicolas Is**	**21.15**	**318**	P		**P**	**22 59 55.6**	**+1.7**
	baz=131							
SNCC	**San Nicolas Is**	**21.15**	**318**	*e*P		**P**	**22 59 54.5**	**+0.7**
	comp=Z,807nm,1.4s							
SNCC				LR		LR		
	comp=Z,219µm,18.0s							
T41A	**Mountain View**	**21.16**	**25**	P		**P**	**22 59 53.8**	**-0.1**
	baz=210,SNR=217							
U43A	**Rector**	**21.18**	**29**	P		**P**	**22 59 53.1**	**-1.0**
	baz=214,SNR=24							
957A	**Wimauma**	**21.19**	**60**	P		**P**	**22 59 52.6**	**-1.6**
	baz=248,SNR=13							
SMCO	**Snowmass**	**21.20**	**351**	*e*P		**P**	**22 59 55.6**	**+0.9**
	comp=Z,741nm,1.4s							
SMCO				LR		LR		
	comp=Z,662µm,18.0s							
SHPR	**Sheep Range**	**21.21**	**332**	*e*P		**P**	**22 59 56.2**	**+1.6**
	comp=Z,192nm,1.2s							
SHPR				LR		LR		
	comp=Z,142µm,18.0s							
W46A	**Michie**	**21.22**	**35**	P		**P**	**22 59 53.5**	**-1.0**
	baz=221,SNR=77							
MMU	**Miners Mountai**	**21.24**	**341**	*e*P		**P**	**22 59 56.5**	**+1.6**
SHOC	**Shoshone, Teco**	**21.25**	**329**	P		**P**	**22 59 56.9**	**+2.1**
	baz=142,SNR=9.5							
PLAL	**Pickwick Lake**	**21.27**	**35**	*e*P		**P**	**22 59 54.1**	**-1.0**
	comp=Z,717nm,0.9s							
151A	**Opelika**	**21.28**	**45**	P		**P**	**22 59 53.8**	**-1.5**
	baz=232,SNR=98							
SZCU	**Shurtz Canyon**	**21.29**	**337**	*e*P		**P**	**22 59 57.5**	**+2.0**
	comp=Z,544nm,1.5s							
SZCU				LR		LR		
	comp=Z,302µm,18.0s							
PTJ1	**Puerto Jim˜ne**	**21.31**	**114**	*e*P		**P**	**22 59 57.2**	**+1.5**
058A	**Arcadia**	**21.33**	**62**	P		**P**	**22 59 54.0**	**-1.7**
	baz=250,SNR=17							
Z50A	**Ashland**	**21.35**	**42**	P		**P**	**22 59 54.9**	**-1.1**
	baz=229,SNR=177							
CCUT	**Cedar City**	**21.36**	**337**	*e*P		**P**	**22 59 58.2**	**+1.9**
	comp=Z,469nm,1.7s							
CCUT				LR		LR		
	comp=Z,290µm,18.0s							
S40A	**Lebanon**	**21.36**	**23**	P		**P**	**22 59 55.3**	**-0.7**
	baz=208,SNR=14							
353A	**Camilla**	**21.36**	**49**	P		**P**	**22 59 54.4**	**-1.7**
	baz=236,SNR=46							
252A	**Lumpkin**	**21.37**	**47**	P		**P**	**22 59 53.9**	**-2.2**
	baz=234,SNR=106							
EDW2	**Edwards Air Fo**	**21.37**	**324**	P		**P**	**22 59 57.6**	**+1.3**
	baz=137,SNR=105							
MTPU	**Mount Pierson**	**21.38**	**339**	*e*P		**P**	**22 59 58.6**	**+2.0**
	comp=Z,554nm,1.0s							
MTPU				LR		LR		
	comp=Z,673µm,18.0s							
V45A	**Humboldt**	**21.38**	**32**	P		**P**	**22 59 54.7**	**-1.6**
	baz=218,SNR=8.0							
R38A	**Fenwick Farm,**	**21.40**	**20**	P		**P**	**22 59 55.8**	**-0.6**
	baz=203,SNR=146							
059Z	**Ave Maria**	**21.40**	**64**	P		**P**	**22 59 54.9**	**-1.6**
	baz=252,SNR=13							
857A	**Zephyrhills**	**21.42**	**58**	P		**P**	**22 59 54.8**	**-2.0**
	baz=246,SNR=26							
T42A	**Van Buren**	**21.43**	**27**	P		**P**	**22 59 56.6**	**-0.1**
	baz=212,SNR=78							
Y49A	**Blount Mountai**	**21.44**	**40**	P		**P**	**22 59 55.7**	**-1.3**
	baz=227,SNR=114							
BLG	**Laguna Peak, P**	**21.45**	**321**	P		**P**	**22 59 59.1**	**+2.1**
	baz=133,SNR=35							
454A	**Quitman**	**21.45**	**51**	P		**P**	**22 59 55.3**	**-1.8**
	baz=239,SNR=11							
X48A	**Hartselle**	**21.47**	**38**	P		**P**	**22 59 56.2**	**-1.1**
	baz=225,SNR=113							
TPO	**Tropico Hills**	**21.50**	**324**	*e*P		**P**	**22 59 58.5**	**+0.9**
PBMO	**Poplar Bluff**	**21.51**	**28**	*e*P		**P**	**22 59 56.3**	**-1.3**
	comp=Z,477nm,1.1s							
PBMO				LR		LR		
	comp=Z,146µm,22.0s							
KSU1	**Kansas State U**	**21.52**	**13**	P		**P**	**22 59 57.4**	**-0.4**
	baz=196,SNR=27							
KSU1	**Kansas State U**	**21.52**	**13**	*e*P		**P**	**22 59 57.6**	**-0.1**
	comp=Z,730nm,1.0s							
KSU1				LR		LR		
	comp=Z,709µm,18.0s							
PVMO	**Portageville**	**21.55**	**30**	*e*P		**P**	**22 59 57.5**	**-0.5**
	comp=Z,989nm,1.1s							
PVMO				LR		LR		
	comp=Z,222µm,21.0s							
958A	**Wauchula**	**21.55**	**61**	P		**P**	**22 59 56.3**	**-1.9**
	baz=248,SNR=21							
STTC	**Scott Ranch**	**21.57**	**323**	*e*P		**P**	**23 00 00.2**	**+1.8**
OSI	**Osito Audit: C**	**21.60**	**322**	P		**P**	**23 00 00.6**	**+1.9**
	baz=135,SNR=24							
OSI	**Osito Audit: C**	**21.60**	**322**	*e*P		**P**	**23 00 00.3**	**+1.6**
	comp=Z,336nm,0.9s							
OSI				LR		LR		
	comp=Z,186µm,18.0s							
LCCY	**Blossom Villag**	**21.61**	**82**	*e*P		**P**	**22 59 59.9**	**+1.1**
	comp=Z,4µm,1.0s							
U44A	**Portageville**	**21.63**	**30**	P		**P**	**22 59 58.0**	**-0.8**
	baz=216							
S41A	**Jillco Farms,**	**21.64**	**25**	P		**P**	**22 59 58.7**	**-0.3**
	baz=209,SNR=156							
656A	**Willston**	**21.64**	**55**	P		**P**	**22 59 57.1**	**-2.0**
	baz=243,SNR=10							
LRMC	**Laurel Mtn Rad**	**21.65**	**326**	P		**P**	**23 00 01.0**	**+1.7**
	baz=138,SNR=39							
ISCO	**Idaho Springs**	**21.65**	**354**	P		**P**	**23 00 00.4**	**+1.0**
	baz=172,SNR=84							
ISCO	**Idaho Springs**	**21.65**	**354**	*e*P		**P**	**22 59 60.0**	**+0.5**
	comp=Z,267nm,1.3s							
ISCO				LR		LR		
	comp=Z,842µm,19.0s							
ISCO	**Idaho Springs**	**21.65**	**354**	*e*P		**P**	**23 00 00.0**	**+0.5**
ISCO				pmax		pmax		
	comp=Z,267nm,1.3s							
ISCO				MLR		MLR		
	comp=Z,842µm,19.0s							
U44B	**Burton Farm, H**	**21.66**	**31**	P		**P**	**22 59 58.4**	**-0.8**
	baz=216							
555A	**McAlpin**	**21.66**	**53**	P		**P**	**22 59 57.3**	**-1.9**
	baz=241,SNR=9.9							
DWU	**Dry Willow Pea**	**21.71**	**338**	*e*P		**P**	**23 00 01.9**	**+1.8**
SCZ2	**Santa Cruz Isl**	**21.72**	**320**	P		**P**	**23 00 01.2**	**+1.2**
	baz=132,SNR=8.9							
BRU2	**Volcan**	**21.72**	**113**	*e*P		**P**	**23 00 01.4**	**+1.1**
W47A	**Westpoint**	**21.74**	**36**	P		**P**	**22 59 59.1**	**-1.0**
	baz=222,SNR=161							
MSU	**Marysvale**	**21.80**	**340**	*e*P		**P**	**23 00 02.0**	**+1.0**
MSU	**Marysvale**	**21.80**	**340**	*e*P		**P**	**23 00 02.0**	**+1.0**
R39A	**Chumby, Stover**	**21.80**	**21**	P		**P**	**22 59 59.9**	**-0.8**
	baz=205,SNR=169							
T43A	**Greenville**	**21.82**	**28**	P		**P**	**23 00 00.1**	**-0.9**
	baz=213,SNR=76							
253A	**Americus**	**21.82**	**47**	P		**P**	**22 59 58.9**	**-2.2**
	baz=235,SNR=9.2							
757A	**Oxford**	**21.83**	**57**	P		**P**	**22 59 58.9**	**-2.2**
	baz=245							
059A	**Moore Haven**	**21.85**	**63**	P		**P**	**22 59 59.3**	**-2.0**
	baz=251,SNR=16							
V46A	**Holladay**	**21.86**	**34**	P		**P**	**22 59 60.0**	**-1.5**
	baz=220,SNR=152							
TIGA	**Tifton**	**21.86**	**49**	P		**P**	**22 59 59.3**	**-2.2**
	baz=237,SNR=18							
TIGA	**Tifton**	**21.86**	**49**	*e*P		**P**	**22 59 59.4**	**-2.1**
	comp=Z,1µm,1.5s							
Q37A	**Longview Farm,**	**21.86**	**18**	P		**P**	**23 00 00.4**	**-1.0**
	baz=201,SNR=22							
Q16A	**Castle Valley**	**21.87**	**342**	*e*P		**P**	**23 00 03.1**	**+1.5**
	comp=Z,403nm,1.2s							
Q16A				LR		LR		
	comp=Z,446µm,22.0s							
SRU	**San Rafael Swe**	**21.87**	**344**	*e*P		**P**	**23 00 01.8**	**+0.1**
	comp=Z,901nm,1.9s							
SRU				LR		LR		
	comp=Z,322µm,20.0s							
SRU	**San Rafael Swe**	**21.87**	**344**	*e*P		**P**	**23 00 01.8**	**+0.1**
SRU				pmax		pmax		
	comp=Z,901nm,1.9s							
SRU				MLR		MLR		
	comp=Z,322µm,20.0s							
Y50A	**Piedmont**	**21.89**	**41**	P		**P**	**22 59 60.0**	**-1.7**
	baz=228							
UTMT	**University of**	**21.90**	**32**	*e*P		**P**	**23 00 01.0**	**-0.8**
	comp=Z,1µm,1.2s							
CBCY	**The Bluff, Cay**	**21.91**	**82**	*e*P		**P**	**23 00 00.9**	**-1.2**
	comp=Z,2µm,1.3s							
455A	**Stateville**	**21.92**	**52**	P		**P**	**22 59 59.6**	**-2.4**
	baz=240,SNR=23							
X49A	**Woodville**	**21.94**	**39**	P		**P**	**23 00 00.9**	**-1.4**
	baz=226,SNR=101							
U45A	**Rockin P Farm,**	**21.95**	**32**	P		**P**	**23 00 01.1**	**-1.3**
	baz=218							
TCRU	**Three Creeks R**	**21.98**	**340**	*e*P		**P**	**23 00 04.0**	**+1.0**
	comp=Z,258nm,1.0s							
TCRU				LR		LR		
	comp=Z,582µm,18.0s							
MPMC	**Manual Prospec**	**21.98**	**327**	P		**P**	**23 00 04.6**	**+1.7**
	baz=140,SNR=236							
FURC	**Furnace Creek,**	**21.98**	**329**	P		**P**	**23 00 04.3**	**+1.7**
	baz=142,SNR=10							
DWPF	**Disney Wildern**	**22.01**	**59**	P		**P**	**23 00 00.9**	**-2.2**
	baz=248							
DWPF	**Disney Wildern**	**22.01**	**59**	*e*P		**P**	**23 00 02.4**	**-0.7**
	comp=Z,572nm,1.1s							
ARVC	**Arvin**	**22.02**	**323**	P		**P**	**23 00 05.0**	**+1.8**
	baz=136,SNR=25							
W48A	**Pulaski**	**22.03**	**37**	P		**P**	**23 00 01.9**	**-1.3**
	baz=224,SNR=22							
556A	**Lake Butler**	**22.03**	**54**	P		**P**	**23 00 00.8**	**-2.5**
	baz=242,SNR=16							
R40A	**Maddies Statio**	**22.05**	**23**	P		**P**	**23 00 02.9**	**-0.6**
	baz=207,SNR=347							
SBC	**Santa Barbara**	**22.07**	**320**	P		**P**	**23 00 05.0**	**+1.4**
	baz=133							
TPNV	**Topopah Spring**	**22.07**	**330**	P		**P**	**23 00 05.9**	**+2.1**
	baz=144,SNR=73							
TPNV	**Topopah Spring**	**22.07**	**330**	*e*P		**P**	**23 00 05.0**	**+1.1**
	comp=Z,616nm,1.3s							
TPNV				LR		LR		
	comp=Z,92µm,20.0s							
TPNV	**Topopah Spring**	**22.07**	**330**	*e*P		**P**	**23 00 05.0**	**+1.1**
TPNV				pmax		pmax		
	comp=Z,617nm,1.3s							
TPNV				MLR		MLR		
	comp=Z,92µm,20.0s							
858A	**St. Cloud**	**22.11**	**59**	P		**P**	**23 00 01.6**	**-2.5**
	baz=248,SNR=8.5							
T44A	**Benton**	**22.14**	**29**	P		**P**	**23 00 03.3**	**-1.2**
	baz=215,SNR=50							
S42A	**Caledonia**	**22.18**	**26**	P		**P**	**23 00 03.6**	**-1.2**
	baz=211,SNR=64							
WCU	**Willow Creek**	**22.19**	**341**	*e*P		**P**	**23 00 06.4**	**+1.2**
Q38A	**Cooks Store, C**	**22.20**	**19**	P		**P**	**23 00 04.0**	**-1.0**
	baz=203,SNR=168							
V47A	**Nunnelly**	**22.20**	**35**	P		**P**	**23 00 03.5**	**-1.6**
	baz=221,SNR=233							
DAC	**Darwin (Calif)**	**22.20**	**327**	*e*P		**P**	**23 00 06.5**	**+1.2**
	comp=Z,328nm,1.3s							
DAC				LR		LR		
	comp=Z,250µm,18.0s							
DAC	**Darwin (Calif)**	**22.20**	**327**	*e*P		**P**	**23 00 06.5**	**+1.2**
DAC				pmax		pmax		
	comp=Z,328nm,1.3s							
DAC				MLR		MLR		
	comp=Z,250µm,18.0s							
ISA	**Isabella, Lake**	**22.21**	**325**	P		**P**	**23 00 07.2**	**+1.9**
	baz=137,SNR=348							
ISA	**Isabella, Lake**	**22.21**	**325**	*e*P		**P**	**23 00 06.5**	**+1.3**
	comp=Z,439nm,1.0s							
ISA				LR		LR		
	comp=Z,108µm,20.0s							
ISA	**Isabella, Lake**	**22.21**	**325**	*e*P		**P**	**23 00 06.6**	**+1.3**
ISA				pmax		pmax		
	comp=Z,439nm,1.0s							
ISA				MLR		MLR		
	comp=Z,108µm,20.0s							
TMUT	**Trail Mountain**	**22.23**	**343**	*e*P		**P**	**23 00 06.2**	**+0.6**
	comp=Z,796nm,1.5s							
TMUT				LR		LR		
	comp=Z,257µm,19.0s							
CCM	**Cathedral Cave**	**22.24**	**25**	P		**P**	**23 00 04.6**	**-0.9**
	baz=210							
CCM	**Cathedral Cave**	**22.24**	**25**	*e*P		**P**	**23 00 03.8**	**-1.7**
	comp=Z,516nm,1.0s							
CCM				LR		LR		
	comp=Z,358µm,21.0s							
CCM	**Cathedral Cave**	**22.24**	**25**	*e*P		**P**	**23 00 03.8**	**-1.7**
CCM				pmax		pmax		
	comp=Z,516nm,1.0s							
CCM				MLR		MLR		
	comp=Z,358µm,21.0s							
U46A	**Springville**	**22.26**	**33**	P		**P**	**23 00 04.2**	**-1.5**
	baz=219,SNR=21							
657A	**Interlachen**	**22.26**	**56**	P		**P**	**23 00 03.5**	**-2.3**
	baz=244,SNR=11							
959A	**Okechobee**	**22.26**	**61**	P		**P**	**23 00 03.8**	**-1.9**
	baz=250							
WVT	**Waverly**	**22.26**	**34**	P		**P**	**23 00 04.2**	**-1.6**
	baz=220							
WVT	**Waverly**	**22.26**	**34**	*e*P		**P**	**23 00 03.6**	**-2.1**
	comp=Z,357nm,1.1s							
WVT	**Waverly**	**22.26**	**34**	*e*P		**P**	**23 00 03.6**	**-2.1**
WVT				pmax		pmax		
	comp=Z,357nm,1.1s							
P17A	**Butcher Ranch,**	**22.27**	**344**	*e*P		**P**	**23 00 06.7**	**+0.8**
	comp=Z,2µm,2.0s							
P17A				LR		LR		
	comp=Z,608µm,19.0s							
O33A	**Hebron**	**22.27**	**11**	P		**P**	**23 00 05.3**	**-0.5**
	baz=193,SNR=63							
P18A	**Preston Nutter**	**22.28**	**345**	*e*P		**P**	**23 00 07.3**	**+1.0**
	comp=Z,945nm,1.4s							
P18A				LR		LR		
	comp=Z,1122µm,22.0s							
S43A	**Fulton Ridge,**	**22.32**	**28**	P		**P**	**23 00 04.7**	**-1.6**
	baz=213,SNR=46							
SNO	**Snow College**	**22.34**	**342**	*e*P		**P**	**23 00 08.4**	**+1.5**
O20A	**White River Ci**	**22.34**	**349**	P		**P**	**23 00 07.9**	**+1.1**
	baz=166,SNR=16							
O20A	**White River Ci**	**22.34**	**349**	*e*P		**P**	**23 00 07.8**	**+1.0**
	comp=Z,2µm,1.9s							
O20A				LR		LR		
	comp=Z,909µm,19.0s							
355A	**Pearson**	**22.35**	**50**	P		**P**	**23 00 03.9**	**-2.8**
	baz=238							
254A	**Abbeville**	**22.35**	**49**	P		**P**	**23 00 03.7**	**-3.0**
	baz=236,SNR=33							
153A	**Fort Valley**	**22.37**	**46**	P		**P**	**23 00 04.2**	**-2.7**
	baz=234							
R41A	**Rosebud**	**22.40**	**24**	P		**P**	**23 00 06.0**	**-1.1**
	baz=209,SNR=369							
PKM	**Mcpherson Peak**	**22.43**	**321**	P		**P**	**23 00 09.1**	**+1.3**
	baz=133,SNR=19							
859A	**Kempfer Cattle**	**22.43**	**60**	P		**P**	**23 00 05.7**	**-1.9**
	baz=248,SNR=9.1							
DCM	**Dugout Coal Mi**	**22.43**	**344**	*e*P		**P**	**23 00 07.2**	**-0.6**
Q39A	**Willow Grove F**	**22.48**	**20**	P		**P**	**23 00 07.1**	**-0.9**
	baz=205,SNR=134							
V48A	**Smith Brothers**	**22.52**	**36**	P		**P**	**23 00 06.7**	**-1.8**
	baz=223,SNR=40							
758A	**Lake Helen**	**22.53**	**58**	P		**P**	**23 00 06.0**	**-2.7**
	baz=246							
060A	**Indiantown**	**22.54**	**63**	P		**P**	**23 00 07.3**	**-1.4**
	baz=252,SNR=11							
T45A	**Paducah**	**22.54**	**31**	P		**P**	**23 00 07.6**	**-1.1**
	baz=217							
ARGU	**Argyle Ridge**	**22.54**	**344**	*e*P		**P**	**23 00 10.0**	**+1.0**
O34A	**Beatrice**	**22.55**	**12**	P		**P**	**23 00 08.2**	**-0.5**
	baz=195,SNR=132							
P37A	**Lathrop**	**22.55**	**17**	P		**P**	**23 00 07.6**	**-1.2**
	baz=201,SNR=34							
557A	**Orange Park**	**22.56**	**55**	P		**P**	**23 00 07.0**	**-2.0**
	baz=243,SNR=10							
CWC	**Cottonwood Cre**	**22.58**	**327**	P		**P**	**23 00 10.8**	**+1.5**
	baz=139							
LEVU	**Levan**	**22.60**	**342**	*e*P		**P**	**23 00 10.9**	**+1.4**
R42A	**Luebbering**	**22.62**	**25**	P		**P**	**23 00 08.2**	**-1.3**
	baz=211,SNR=118							
GRAC	**Grapevine Rang**	**22.65**	**329**	P		**P**	**23 00 11.7**	**+1.8**
	baz=142,SNR=13							
456A	**Hilliard**	**22.66**	**53**	P		**P**	**23 00 07.5**	**-2.5**
	baz=241							
658A	**Bunnell**	**22.67**	**57**	P		**P**	**23 00 07.5**	**-2.6**
	baz=245							
OGNE	**Ogallala**	**22.68**	**2**	P		**P**	**23 00 10.7**	**+0.5**
	baz=182,SNR=32							
OGNE	**Ogallala**	**22.68**	**2**	*e*P		**P**	**23 00 10.5**	**+0.3**
	comp=Z,2µm,1.7s							
OGNE				LR		LR		
	comp=Z,164µm,21.0s							
VES	**Vestal, Richgr**	**22.68**	**324**	P		**P**	**23 00 12.1**	**+1.9**
	baz=136,SNR=145							
Q40A	**Laux Farm, Aux**	**22.75**	**22**	P		**P**	**23 00 09.8**	**-1.0**
	baz=207,SNR=174							
N23A	**Red Feather La**	**22.77**	**354**	P		**P**	**23 00 11.5**	**+0.1**
	baz=172,SNR=25							
N23A	**Red Feather La**	**22.77**	**354**	*e*P		**P**	**23 00 12.5**	**+1.1**
	comp=Z,265nm,1.1s							
N23A				LR		LR		
	comp=Z,882µm,19.0s							
U47A	**Clarksville**	**22.79**	**34**	P		**P**	**23 00 09.4**	**-1.9**
	baz=221,SNR=63							
S44A	**Carbondale**	**22.79**	**29**	P		**P**	**23 00 09.7**	**-1.7**
	baz=215,SNR=73							
O35A	**Humboldt**	**22.79**	**14**	P		**P**	**23 00 10.6**	**-0.8**
	baz=197,SNR=44							
SIUC	**Southern Illin**	**22.83**	**29**	*e*P		**P**	**23 00 10.0**	**-1.7**
	comp=Z,468nm,0.9s							
SIUC				LR		LR		
	comp=Z,212µm,21.0s							
P38A	**Dawn**	**22.83**	**19**	P		**P**	**23 00 10.4**	**-1.3**
	baz=203,SNR=93							
SMMC	**Simmler**	**22.83**	**322**	P		**P**	**23 00 13.6**	**+1.8**
	baz=134,SNR=49							
154A	**Montrose**	**22.85**	**47**	P		**P**	**23 00 09.0**	**-3.0**
	baz=236,SNR=23							
356A	**Blackshear**	**22.87**	**51**	P		**P**	**23 00 09.6**	**-2.6**
	baz=240							
T46A	**Princeton**	**22.93**	**32**	P		**P**	**23 00 11.8**	**-1.0**
	baz=219,SNR=59							
R11A	**Troy Canyon, C**	**22.93**	**334**	P		**P**	**23 00 14.3**	**+1.3**
	baz=147,SNR=92							
R11A	**Troy Canyon, C**	**22.93**	**334**	*e*P		**P**	**23 00 14.0**	**+0.9**
	comp=Z,234nm,1.4s							
N33A	**J Bar K, Exete**	**22.94**	**11**	P		**P**	**23 00 12.3**	**-0.6**
	baz=193,SNR=39							
P39B	**Salisbury**	**22.95**	**20**	P		**P**	**23 00 11.8**	**-1.2**
	baz=205,SNR=90							
457A	**Yulee**	**22.97**	**53**	P		**P**	**23 00 11.4**	**-1.8**
	baz=242							
R43A	**Red Bud**	**22.97**	**27**	P		**P**	**23 00 12.0**	**-1.2**
	baz=213,SNR=45							
MPU	**Maple Canyon**	**23.02**	**343**	*e*P		**P**	**23 00 14.6**	**+0.7**
	comp=Z,573nm,1.6s							
MPU				LR		LR		
	comp=Z,328µm,18.0s							
Q41A	**Truxton**	**23.02**	**24**	P		**P**	**23 00 12.4**	**-1.3**
	baz=209,SNR=253							
GOGA	**Godfrey**	**23.06**	**45**	P		**P**	**23 00 12.3**	**-1.9**
	baz=233,SNR=60							
GOGA	**Godfrey**	**23.06**	**45**	*e*P		**P**	**23 00 12.2**	**-1.9**
	comp=Z,551nm,1.3s							
GOGA	**Godfrey**	**23.06**	**45**	*e*P		**P**	**23 00 12.2**	**-1.9**
GOGA				pmax		pmax		
	comp=Z,551nm,1.3s							
NLU	**North Lily Min**	**23.09**	**342**	*e*P		**P**	**23 00 15.9**	**+1.3**
	comp=Z,365nm,1.4s							
NLU				LR		LR		
	comp=Z,490µm,19.0s							
S45A	**Carrier Mills**	**23.09**	**30**	P		**P**	**23 00 13.4**	**-1.1**
	baz=216,SNR=205							
RCTC	**Rector, Farmer**	**23.11**	**325**	P		**P**	**23 00 16.2**	**+1.6**
	baz=137,SNR=17							
PHWY	**Pilot Hill**	**23.13**	**355**	*e*P		**P**	**23 00 16.2**	**+1.1**
	comp=Z,356nm,1.2s							
PHWY				LR		LR		
	comp=Z,581µm,19.0s							
TIN	**Tinemaha, Big**	**23.13**	**327**	P		**P**	**23 00 17.1**	**+2.1**
	baz=140,SNR=57							
SLM	**Saint Louis**	**23.15**	**26**	*e*P		**P**	**23 00 13.7**	**-1.3**
	comp=Z,838nm,1.0s							
SLM				LR		LR		
	comp=Z,21µm,20.0s							
SLM	**Saint Louis**	**23.15**	**26**	*e*P		**P**	**23 00 13.7**	**-1.3**
SLM				pmax		pmax		
	comp=Z,838nm,1.0s							
O37A	**Wolven Farm, M**	**23.15**	**17**	P		**P**	**23 00 13.7**	**-1.3**
	baz=201,SNR=80							
N34A	**Lincoln**	**23.21**	**12**	P		**P**	**23 00 15.0**	**-0.6**
	baz=195,SNR=79							
P40A	**Paris**	**23.23**	**22**	P		**P**	**23 00 14.6**	**-1.3**
	baz=206,SNR=372							
U48A	**Cassie Pea, Po**	**23.24**	**35**	P		**P**	**23 00 14.1**	**-1.9**
	baz=222,SNR=116							
Q42A	**Golden Eagle**	**23.26**	**25**	P		**P**	**23 00 14.9**	**-1.2**
	baz=210,SNR=91							
PAGB	**Antelope Grade**	**23.27**	**322**	*e*P		**P**	**23 00 16.7**	**+0.4**
	comp=Z,2µm,2.0s							
PAGB				LR		LR		
	comp=Z,175µm,20.0s							
DAU	**Daniels Canyon**	**23.28**	**344**	*e*P		**P**	**23 00 17.6**	**+0.9**
DAU	**Daniels Canyon**	**23.28**	**344**	*e*P		**P**	**23 00 17.6**	**+0.9**
T47A	**Sharon Grove**	**23.29**	**33**	P		**P**	**23 00 14.9**	**-1.6**
	baz=220,SNR=175							
FSU	**Fish Springs**	**23.30**	**339**	*e*P		**P**	**23 00 18.1**	**+1.5**
O38A	**Galt**	**23.30**	**18**	P		**P**	**23 00 15.5**	**-1.1**
	baz=203,SNR=46							
155A	**Kite**	**23.30**	**48**	P		**P**	**23 00 14.1**	**-2.5**
	baz=236,SNR=42							
R44A	**Waltonville**	**23.32**	**28**	P		**P**	**23 00 15

baz=205,SNR=24
P41A Barry, Barry 23.72 23 P P 23 00 19.3 -1.3
baz=208,SNR=190
R45A Skylar, Fairfi 23.73 30 P P 23 00 19.7 -0.9
baz=216,SNR=268
MBJ Montego Bay 23.75 86⇓*i*P P 23 00 23.1 +2.0
T48A Bowling Green 23.76 34 P P 23 00 19.7 -1.3
baz=222,SNR=161
USIN University of 23.76 31 *e*P P 23 00 20.2 -0.8
comp=Z,2µm,1.3s
USIN LR LR
comp=Z,194µm,22.0s
M33A Taylor Creek F 23.79 11 P P 23 00 21.1 -0.2
baz=193,SNR=27
O40A La Belle 23.82 21 P P 23 00 20.5 -1.0
baz=206,SNR=164
M34A Aspy Farms, Fr 23.84 12 P P 23 00 21.5 -0.2
baz=194
MLAC Mammoth, Mammo 23.88 327 P P 23 00 24.5 +2.1
baz=140,SNR=17
Q44A Meyer Farm, Va 23.89 27 P P 23 00 21.4 -0.8
baz=214,SNR=141
P42A Winchester 23.91 24 P P 23 00 20.9 -1.5
baz=210,SNR=95
PMPB Monarch Peak 23.93 322 *e*P P 23 00 23.6 +0.9
comp=Z,2µm,1.9s
PMPB LR LR
comp=Z,202µm,21.0s
MCJ Malvern 23.95 87⇑*i*P P 23 00 24.5 +1.4
TCUT Toone Canyon 23.98 344 *e*P P 23 00 24.3 +0.9
comp=Z,379nm,1.2s
TCUT LR LR
comp=Z,737µm,20.0s
M35A Neola 23.99 13 P P 23 00 22.9 -0.2
baz=196,SNR=36
N38A Joes South For 23.99 18 P P 23 00 22.7 -0.5
baz=203,SNR=202
257A Skidaway Islan 24.01 51 P P 23 00 21.3 -2.1
baz=240
FPU Francis Peak 24.01 343 *e*P P 23 00 24.5 +0.8
R46A Gibon Southern 24.03 31 P P 23 00 22.5 -1.1
baz=218,SNR=61
MTDJ Mount Denham 24.07 86 *e*P P 23 00 25.4 +1.2
comp=Z,1µm,1.1s
MTDJ LR LR
comp=Z,105µm,20.0s
L32A Elgin 24.08 9 P P 23 00 24.1 0.0
baz=191,SNR=12
BCIP Isla Barro Col 24.09 109 *e*P P 23 00 24.6 +0.3
comp=Z,260nm,1.3s
BCIP LR LR
comp=Z,69µm,20.0s
BCIP Isla Barro Col 24.09 109 *e*P P 23 00 24.1 -0.3
NV11 Mina Array Sit 24.16 330 *e*P P 23 00 26.7 +1.7
comp=Z,66nm,1.5s
NV11 LR LR
comp=Z,15µm,18.0s
OLIL Olney 24.17 29 *e*P P 23 00 23.6 -1.1
comp=Z,863nm,1.0s
OLIL LR LR
comp=Z,271µm,18.0s
O41A Passleys Farm, 24.17 23 P P 23 00 23.7 -1.1
baz=208,SNR=204
M36A Felix, Anita 24.18 15 P P 23 00 24.3 -0.6
baz=199
NV01 Mina Array Sit 24.23 329 *e*P P 23 00 27.5 +1.8
NVAR Mina Array Bea 24.23 329 P P 23 00 27.5 +1.8
comp=Z,99nm,0.7s,baz=150,slow=8.4,SNR=313
NVAR Lg Lg 23 07 60.0
comp=Z,0.5nm,0.9s,baz=151,slow=32,SNR=3.4
NVAR LR LR 23 10 50.6
comp=Z,167µm,19.0s,baz=216,slow=39
TKL Tuckaleechee C 24.26 40 P P 23 00 23.9 -1.7
comp=Z,103nm,0.7s,baz=188,slow=9.7,SNR=134
TKL LR LR 23 12 46.5
comp=Z,164µm,18.9s,baz=232,slow=44
TKL Tuckaleechee C 24.26 40 *e*P P 23 00 24.0 -1.7
comp=Z,298nm,0.9s
TKL Tuckaleechee C 24.26 40 *e*P P 23 00 24.0 -1.7
TKL pmax pmax
comp=Z,298nm,0.9s
BGU Big Grassy Mou 24.27 341 *e*P P 23 00 26.8 +0.9
BGU LR LR
comp=Z,158µm,19.0s
Q45A Warren Harvey, 24.27 29 P P 23 00 24.9 -0.9
baz=216,SNR=88
P43A Skaggs, Pawnee 24.29 26 P P 23 00 24.8 -1.1
baz=212,SNR=160
N39A Derby Farms, D 24.29 19 P P 23 00 25.1 -0.9
baz=204,SNR=400
BBJ Bamboo Saint A 24.31 86 *i*P P 23 00 27.8 +1.4
M37A Trindle Farm, 24.33 16 P P 23 00 25.9 -0.3
baz=200,SNR=72
L34A Svendsen Farm, 24.33 12 P P 23 00 25.6 -0.6
baz=195,SNR=14
MCU Monte Cristo P 24.33 344 *e*P P 23 00 27.1 +0.5
S48A Wiedeman Farm, 24.35 34 P P 23 00 25.3 -1.2
baz=221,SNR=194
HODGE Hodges 24.36 45 *e*P P 23 00 23.9 -2.7
comp=Z,545nm,1.5s
L33A Hoskins 24.36 10 P P 23 00 26.0 -0.6
baz=193,SNR=10
BG3 Lake Jocassee 24.37 43 *e*P P 23 00 25.7 -1.0
comp=Z,459nm,1.0s
GZU Grizzly Peak 24.42 343 *e*P P 23 00 28.0 +0.5
SPUT South Promonto 24.45 342 *e*P P 23 00 27.6 +0.1
comp=Z,407nm,1.5s
SPUT LR LR
comp=Z,214µm,18.0s
PCJ Portland Cotta 24.46 87⇑*i*P P 23 00 28.4 +0.7
HWUT Hardware Ranch 24.48 344 *e*P P 23 00 28.1 +0.3
comp=Z,631nm,1.6s
HWUT LR LR
comp=Z,303µm,20.0s
RYN Ryan 24.50 329 *e*P P 23 00 29.8 +1.8
comp=Z,144nm,0.8s
RYN LR LR
comp=Z,209µm,18.0s
P44A Sand Creek, Wi 24.53 27 P P 23 00 27.0 -1.1
baz=214,SNR=153
O42A Bath 24.54 24 P P 23 00 26.8 -1.3
baz=210,SNR=7.4
K22A Casper 24.57 354 P P 23 00 28.9 +0.3
baz=171,SNR=71
K22A Casper 24.57 354 *e*P P 23 00 28.5 -0.1
comp=Z,858nm,1.6s
K22A LR LR
comp=Z,793µm,19.0s
M38A Pleasantville 24.58 18 P P 23 00 27.7 -0.8
baz=202,SNR=580
R47A Wooly Knot Far 24.59 32 P P 23 00 27.6 -1.0
baz=220,SNR=148
K31A O'Neill 24.59 7 P P 23 00 28.9 +0.3
baz=189,SNR=40
N40A Mertquake, Sal 24.60 21 P P 23 00 27.5 -1.2
baz=206,SNR=59
BPRM Ponciano Ridge 24.61 321 *e*P P 23 00 30.5 +1.6
BNJ Bonny Gate 24.61 86 *i*P P 23 00 31.2 +2.0
KVN Kaiserville 24.63 331 *e*P P 23 00 31.1 +1.8
comp=Z,446nm,1.2s
KVN LR LR
comp=Z,135µm,20.0s
KVN Kaiserville 24.63 331 *e*P P 23 00 31.1 +1.8
KVN pmax pmax
comp=Z,446nm,1.2s
KVN MLR MLR
comp=Z,135µm,20.0s
L35A Bielow Farm, R 24.64 13 P P 23 00 28.7 -0.3
baz=196,SNR=18
LTU Little Mountai 24.65 343 *e*P P 23 00 30.1 +0.8
WCI Wyandotte Cave 24.65 33 P P 23 00 28.2 -1.0
baz=220
WCI Wyandotte Cave 24.65 33 *e*P P 23 00 28.2 -1.0
comp=Z,601nm,1.0s
WCI Wyandotte Cave 24.65 33 *e*P P 23 00 28.2 -1.0
WCI pmax pmax
comp=Z,601nm,1.0s
SAO San Andreas Ge 24.68 322 *e*P P 23 00 30.6 +1.1
comp=Z,128nm,0.9s
SAO LR LR
comp=Z,170µm,21.0s
SAO San Andreas Ge 24.68 322 *e*P P 23 00 30.6 +1.1
SAO pmax pmax
comp=Z,128nm,0.9s
SAO MLR MLR
comp=Z,170µm,21.0s
N41A Harden Midland 24.70 22 P P 23 00 28.4 -1.2
baz=208,SNR=83
FRP Fremont Peak 24.70 322 *e*P P 23 00 30.6 +0.9
FRP Fremont Peak 24.70 322 *e*P P 23 00 30.7 +0.9
HDU Hyde Park 24.72 344 *e*P P 23 00 32.1 +2.1
K32A Verdigre 24.73 9 P P 23 00 29.7 -0.2
baz=191,SNR=31
Q46A CEJHS Indians, 24.75 30 P P 23 00 29.1 -1.0
baz=217,SNR=26
STH Stony Hill 24.77 86⇑*i*P P 23 00 31.9 +1.4
L36A Harm Buss Farm 24.83 15 P P 23 00 30.2 -0.5
baz=198,SNR=36
HOJ Hope 24.83 86 *i*P P 23 00 35.0 +4.0
K33A Hardington 24.83 10 P P 23 00 30.6 -0.2
baz=193,SNR=7.3
GWJ Greenwich 24.84 86⇑*i*P P 23 00 32.5 +1.2
WAKR Walker 24.85 328 *e*P P 23 00 33.4 +2.1
comp=Z,546nm,1.5s
WAKR LR LR
comp=Z,116µm,21.0s
ELK Elko 24.86 337 LR LR 23 10 45.6
comp=Z,170µm,20.6s,baz=204,slow=38
O43A Sugar Creek Fa 24.92 25 P P 23 00 30.5 -1.1
baz=212,SNR=22
M39A Webster 24.94 19 P P 23 00 30.7 -1.1
baz=204,SNR=157
P45A Graceland, Par 24.97 29 P P 23 00 31.2 -0.9
baz=216,SNR=102
HVU Hansel Valley 24.98 342 *e*P P 23 00 31.7 -0.6
comp=Z,262nm,1.4s
HVU LR LR
comp=Z,384µm,19.0s
HVU Hansel Valley 24.98 342 *e*P P 23 00 31.7 -0.6
HVU pmax pmax
comp=Z,262nm,1.4s
HVU MLR MLR
comp=Z,384µm,19.0s
TZTN Tazewell 24.98 39 P P 23 00 30.8 -1.4
baz=228,SNR=37
TZTN Tazewell 24.98 39 *e*P P 23 00 31.2 -1.1
comp=Z,352nm,1.0s
CMB Columbia Colle 24.99 326 *e*P P 23 00 32.4 0.0
comp=Z,125nm,0.9s
CMB LR LR
comp=Z,64µm,20.0s
CMB Columbia Colle 24.99 326 *e*P P 23 00 32.4 0.0
CMB pmax pmax
comp=Z,125nm,0.9s
CMB MLR MLR
comp=Z,64µm,20.0s
PAULI Pauline 25.00 44 *e*P P 23 00 31.7 -0.6
comp=Z,313nm,1.6s
R48A Northridge Ran 25.00 33 P P 23 00 31.2 -1.1
baz=221,SNR=52
SCIA State Center 25.02 17 P P 23 00 31.9 -0.7
baz=202,SNR=64
SCIA State Center 25.02 17 *e*P P 23 00 31.9 -0.7
comp=Z,1µm,1.2s
SCIA LR LR
comp=Z,586µm,20.0s
JSC Jenkinsville 25.06 46 *e*P P 23 00 31.8 -1.1
comp=Z,118nm,0.9s
JSC Jenkinsville 25.06 46 *e*P P 23 00 31.8 -1.1
JSC pmax pmax
comp=Z,119nm,0.9s
K34A Le Mars 25.08 12 P P 23 00 32.6 -0.4
baz=195,SNR=44
MCUB Copperopolis B 25.08 325 *e*P P 23 00 34.5 +1.4
L37A Phoenix Point, 25.08 16 P P 23 00 32.5 -0.6
baz=200,SNR=214
RGRS Roger Stewart 25.09 50 *e*P P 23 00 31.6 -1.5
comp=Z,2µm,0.7s
M40A Post Highland 25.09 20 P P 23 00 32.0 -1.2
baz=206,SNR=104
N42A Yates City 25.11 23 P P 23 00 32.1 -1.2
baz=209,SNR=25
YERR Yerington 25.12 329 *e*P P 23 00 33.2 -0.6
comp=Z,172nm,1.0s
YERR LR LR
comp=Z,169µm,19.0s
Q47A Bedord North L 25.13 31 P P 23 00 32.6 -0.9
baz=219,SNR=186
BW06 Boulder Array 25.13 348 P P 23 00 33.6 -0.2
baz=164,SNR=25
BW06 Boulder Array 25.13 348 *e*P P 23 00 32.2 -1.6
comp=Z,137nm,1.1s
BW06 LR LR
comp=Z,642µm,21.0s
PD31 Pinedale Array 25.13 348 *e*P P 23 00 33.7 -0.2
PDAR Pinedale Array 25.13 348 P P 23 00 33.6 -0.2
comp=Z,34nm,1.0s,baz=167,slow=7.0,SNR=56
PDAR PcP PcP 23 04 08.6 +1.0
comp=Z,14nm,0.9s,baz=134,slow=3.9,SNR=5.1
PDAR Lg Lg 23 08 20.0
comp=Z,4.3nm,1.1s,baz=77,slow=13,SNR=2.8
PDAR LR LR 23 11 59.3
comp=Z,480µm,18.4s,baz=188,slow=40
PDAR Pinedale Array 25.13 348 *e*P P 23 00 33.3 -0.5
PDAR *e*PcP PcP 23 04 07.8 +0.2
PDAR Lg Lg 23 08 20.0
MAPC Malpelo 25.15 122 *e*P P 23 00 34.0 +0.1
HDIL Hopedale 25.16 25 *e*P P 23 00 32.8 -1.0
comp=Z,1µm,0.9s
HDIL LR LR
comp=Z,406µm,20.0s
O44A Mansfield 25.16 27 P P 23 00 32.5 -1.3
baz=213,SNR=26
NHSC New Hope 25.20 50 P P 23 00 33.0 -1.2
baz=239,SNR=12
NHSC New Hope 25.20 50 *e*P P 23 00 32.1 -2.1
comp=Z,1µm,1.3s
CSU Charleston Sou 25.21 50 *e*P P 23 00 33.7 -0.7
J31A Geddes 25.25 7 P P 23 00 34.4 -0.2
baz=189,SNR=10
BLO Bloomington 25.26 31 *e*P P 23 00 33.9 -0.8
comp=Z,406nm,0.8s
BLO Bloomington 25.26 31 *e*P P 23 00 33.9 -0.8
BLO pmax pmax
comp=Z,406nm,0.8s
K35A Storm Lake 25.29 13 P P 23 00 34.5 -0.4
baz=197,SNR=48
P46A Rosedale 25.29 29 P P 23 00 34.0 -0.9
baz=216,SNR=46
RDG13 Poverty Ridge 25.31 323 *e*P P 23 00 36.9 +1.6
comp=Z,239nm,1.0s
RDG13 LR LR
comp=Z,177µm,21.0s
L38A Oak Wood Farm, 25.31 17 P P 23 00 34.2 -0.9
baz=202,SNR=48
BMN Battle Mountai 25.37 334 *e*P P 23 00 37.4 +1.5
comp=Z,324nm,1.2s
BMN LR LR
comp=Z,100µm,18.0s
BMN Battle Mountai 25.37 334 *e*P P 23 00 37.4 +1.5
BMN pmax pmax
comp=Z,324nm,1.2s
BMN MLR MLR
comp=Z,100µm,18.0s
K36A Gilmore City 25.39 15 P P 23 00 35.5 -0.3
baz=198,SNR=229
M41A Milan 25.40 22 P P 23 00 34.7 -1.2
baz=208,SNR=79
J32A Parkston 25.45 9 P P 23 00 36.0 -0.4
baz=191,SNR=29
AHID Auburn Hatcher 25.46 346 *e*P P 23 00 36.6 -0.1
comp=Z,224nm,1.4s
AHID LR LR
comp=Z,285µm,21.0s
KMSC Kings Mountain 25.51 44 P P 23 00 35.4 -1.6
baz=234,SNR=52
KMSC Kings Mountain 25.51 44 *e*P P 23 00 35.6 -1.4
comp=Z,313nm,0.9s
J33A Davis 25.53 10 P P 23 00 36.5 -0.6
baz=193,SNR=51
N43A Stutzman Famil 25.54 25 P P 23 00 36.1 -1.1
baz=211,SNR=65
O45A Potomac 25.57 28 P P 23 00 36.4 -1.1
baz=215,SNR=58
VCNR Virginia City 25.57 329 *e*P P 23 00 39.6 +1.9
comp=Z,214nm,1.0s
VCNR LR LR
comp=Z,134µm,18.0s
L39A Vinton 25.58 19 P P 23 00 36.5 -1.1
baz=204,SNR=146
P47A Martinsville 25.63 31 P P 23 00 36.9 -1.1
baz=218,SNR=41
RUBR Rubicon Trail 25.63 328 *e*P P 23 00 40.9 +2.5
comp=Z,655nm,1.1s
RUBR LR LR
comp=Z,125µm,19.0s
J34A George 25.68 12 P P 23 00 38.1 -0.4
baz=195,SNR=70
K37A Belmond 25.71 16 P P 23 00 37.5 -1.3
baz=200,SNR=187
M42A Sheffield 25.75 23 P P 23 00 37.8 -1.4
baz=209
PAHR Pah Rah Range 25.76 330 *e*P P 23 00 41.3 +1.9
comp=Z,393nm,1.6s
PAHR LR LR
comp=Z,165µm,18.0s
L40A Anamosa 25.78 20 P P 23 00 38.0 -1.3
baz=206,SNR=68
K38A Parkersburg 25.84 17 P P 23 00 38.6 -1.2
baz=202,SNR=16
N44A Piper City 25.84 26 P P 23 00 38.6 -1.3
baz=213,SNR=73
RSSD Black Hills 25.86 358 P P 23 00 40.6 +0.3
baz=177
RSSD Black Hills 25.86 358 *e*P P 23 00 40.0 -0.3
comp=Z,166nm,1.3s
RSSD LR LR
comp=Z,165µm,22.0s
RSSD Black Hills 25.86 358 *e*P P 23 00 40.0 -0.3
RSSD pmax pmax
comp=Z,166nm,1.3s
RSSD MLR MLR
comp=Z,165µm,22.0s
J35A Milford 25.91 13 P P 23 00 39.5 -1.0
baz=196,SNR=19
SFIN Lafayette 25.95 28 P P 23 00 39.9 -1.0
baz=216,SNR=39
SFIN Lafayette 25.95 28 *e*P P 23 00 39.2 -1.7
comp=Z,484nm,0.8s
SFIN LR LR
comp=Z,103µm,21.0s
REDW Red Top Meadow 25.97 347 *e*P P 23 00 41.5 +0.1
comp=Z,467nm,1.4s
REDW LR LR
comp=Z,275µm,19.0s
AFDM Forest Hills D 25.98 326 *e*P P 23 00 42.9 +1.6
comp=Z,284nm,1.6s
AFDM LR LR
comp=Z,50µm,18.0s
ECSD EROS Data Cent 25.99 10 P P 23 00 40.6 -0.8
baz=193,SNR=100
ECSD EROS Data Cent 25.99 10 *e*P P 23 00 40.3 -1.0
comp=Z,382nm,1.4s
ECSD LR LR
comp=Z,661µm,22.0s
I31A Royce, Wessing 26.00 7 P P 23 00 41.1 -0.3
baz=189,SNR=6.6
L41A Preston 26.03 21 P P 23 00 40.1 -1.5
baz=207,SNR=61
M43A Waltham Townsh 26.04 24 P P 23 00 40.3 -1.5
baz=211,SNR=28
SNOW Snow King Moun 26.05 347 *e*P P 23 00 42.6 +0.5
comp=Z,779nm,1.6s
SNOW LR LR
comp=Z,224µm,22.0s
J36A Seneca 1, Swea 26.07 14 P P 23 00 41.0 -1.0
baz=198,SNR=5.3
TPAW Teton Pass 26.11 347 *e*P P 23 00 43.0 +0.2
comp=Z,379nm,1.2s
TPAW LR LR
comp=Z,196µm,22.0s
I32A Karley and Nic 26.14 9 P P 23 00 42.0 -0.7
baz=191
K39A Oelwein 26.15 19 P P 23 00 40.9 -1.8
baz=204,SNR=41
N45A Kentland 26.15 27 P P 23 00 41.6 -1.2
baz=214,SNR=47
LOHW Long Hollow 26.16 347 *e*P P 23 00 43.3 +0.2
comp=Z,388nm,1.4s
LOHW LR LR
comp=Z,941µm,22.0s
J37A Redenius Farm, 26.24 16 P P 23 00 42.5 -1.1
baz=200,SNR=56
O47A Sheridan 26.26 30 P P 23 00 42.4 -1.4
baz=218,SNR=82
L42A Oliver, Polo 26.27 23 P P 23 00 42.2 -1.6
baz=209,SNR=107
I33A Coleman 26.27 10 P P 23 00 42.9 -0.9
baz=193
FXWY Fox Creek 26.27 347 *e*P P 23 00 44.1 0.0
comp=Z,247nm,1.4s
GTBY Guantanamo Bay 26.29 82 *e*P P 23 00 44.8 +0.6
comp=Z,437nm,1.0s
GTBY LR LR
comp=Z,134µm,22.0s
MOOW Moose Ponds 26.32 347 *e*P P 23 00 43.9 -0.6
comp=Z,160nm,1.3s
MOOW LR LR
comp=Z,138µm,20.0s
BEKR Beckworth 26.36 329 *e*P P 23 00 46.6 +1.8
comp=Z,189nm,0.9s
BEKR LR LR
comp=Z,130µm,19.0s
SUSD Miller 26.37 6 P P 23 00 44.1 -0.6
baz=188
M44A Midewin, Midew 26.37 26 P P 23 00 43.2 -1.5
baz=213,SNR=25
K40A Colesburg 26.38 20 P P 23 00 43.4 -1.4
baz=205,SNR=103
I34A Hadley 26.43 11 P P 23 00 44.5 -0.7
baz=195,SNR=29
I35A Creekview Farm 26.43 13 P P 23 00 44.5 -0.7
baz=197,SNR=37
H31A Wolsey 26.46 7 P P 23 00 44.9 -0.6
baz=189
MCCM Marconi Confer 26.46 323 *e*P P 23 00 47.7 +2.2
comp=Z,427nm,1.4s
MCCM LR LR
comp=Z,195µm,18.0s
IMW Indian Meadow 26.50 347 *e*P P 23 00 46.4 +0.1
comp=Z,125nm,1.2s
IMW *e*PcP PcP 23 04 14.1 +3.3
IMW LR LR
comp=Z,297µm,22.0s
N46A Monticello 26.53 28 P P 23 00 44.5 -1.7
baz=216,SNR=24
J38A Wedel Dairy, R 26.54 17 P P 23 00 44.6 -1.7
baz=202,SNR=72
CAPC Capurgana 26.55 108 *e*P P 23 00 47.5 +0.9
K41A Shullsburg 26.57 21 P P 23 00 45.0 -1.5
baz=207,SNR=83
H32A Carlson Farm, 26.62 9 P P 23 00 46.6 -0.4
baz=191,SNR=40
ORV Oroville 26.70 327 *e*P P 23 00 49.8 +2.0
comp=Z,464nm,1.6s
ORV LR LR
comp=Z,58µm,19.0s
ORV Oroville 26.70 327 *e*P P 23 00 49.8 +2.0
ORV pmax pmax
comp=Z,464nm,1.6s
ORV MLR MLR
comp=Z,58µm,19.0s
M45A Boilermakers S 26.70 27 P P 23 00 46.7 -1.1
baz=214,SNR=30
L43A Garden Prairie 26.77 24 P P 23 00 46.4 -1.9
baz=211,SNR=24
J39A Decorah 26.78 18 P P 23 00 46.5 -1.9
baz=204,SNR=33
I36A Fitzsimmons Fa 26.80 14 P P 23 00 47.5 -1.1
baz=198,SNR=52
YPP Pitchstone Pla 26.83 347 *e*P P 23 00 49.8 +0.6
comp=Z,167nm,1.5s
YPP LR LR
comp=Z,292µm,18.0s
MCID Moose Creek 26.83 347 *e*P P 23 00 49.8 +0.7
JFWS Jewell Farm 26.86 21 P P 23 00 47.8 -1.4
baz=207,SNR=76
JFWS Jewell Farm 26.86 21 *e*P P 23 00 47.7 -1.4
comp=Z,300nm,0.8s
JFWS LR LR
comp=Z,166µm,18.0s
JFWS Jewell Farm 26.86 21 *e*P P 23 00 47.7 -1.4
JFWS pmax pmax
comp=Z,300nm,0.8s
JFWS MLR MLR
comp=Z,166µm,18.0s
GDXM Geysers 26.87 324 *e*P P 23 00 51.0 +1.6
comp=Z,141nm,1.2s
H33A Prehn Over Nor 26.89 10 P P 23 00 48.5 -0.9
baz=193,SNR=15
H17A Grant Village 26.90 348 P P 23 00 50.5 +0.7
baz=163,SNR=12

H17A **Grant Village** 26.90 348 *eP* P 23 00 50.6 +0.7
comp=Z,145nm,1.3s
H17A LR LR
comp=Z,1602µm,21.0s
I37A **Lemond, Waseca** 26.94 15 P P 23 00 48.8 -1.1
baz=200,SNR=120
YFT **Old Faithful** 27.01 347 *eP* P 23 00 52.4 +1.6
comp=Z,85nm,1.0s
YFT LR LR
comp=Z,510µm,18.0s
LKWY **Lake** 27.03 348 *eP* P 23 00 50.4 -0.6
comp=Z,92nm,0.6s
LKWY LR LR
comp=Z,195µm,21.0s
LKWY **Lake** 27.03 348 *eP* P 23 00 50.4 -0.6
LKWY pmax pmax
comp=Z,92nm,0.6s
LKWY MLR MLR
comp=Z,195µm,21.0s
H34A **Spellman Lake,** 27.05 11 P P 23 00 50.0 -0.8
baz=195,SNR=14
K42A **Prairie Point,** 27.06 22 P P 23 00 49.0 -1.9
baz=209,SNR=30
NCAT **North Carolina** 27.09 44 *eP* P 23 00 49.9 -1.4
comp=Z,157nm,1.0s
L44A **Lake County Fo** 27.09 25 P P 23 00 49.7 -1.5
baz=212
HLID **Hailey** 27.09 341 P P 23 00 52.5 +1.0
baz=155,SNR=50
HLID **Hailey** 27.09 341 *eP* P 23 00 52.2 +0.7
comp=Z,96nm,1.3s
HLID LR LR
comp=Z,346µm,18.0s
M46A **Old House Fiel** 27.11 28 P P 23 00 50.3 -1.1
baz=216,SNR=25
J40A **Soldiers Grove** 27.13 20 P P 23 00 50.1 -1.5
baz=206,SNR=55
HOPS **Hopland Field** 27.15 324 *eP* P 23 00 52.4 +0.5
comp=Z,396nm,1.5s
HOPS LR LR
comp=Z,160µm,20.0s
YPM **Purple Mountai** 27.21 347 *eP* P 23 00 53.9 +1.3
G31A **Conde** 27.22 7 P P 23 00 51.3 -1.1
baz=189,SNR=8.5
YMR **Madison River** 27.24 347 *eP* P 23 00 53.4 +0.5
comp=Z,394nm,1.7s
YMR LR LR
comp=Z,637µm,18.0s
I38A **Scanlan Farm,** 27.25 17 P P 23 00 51.3 -1.3
baz=202,SNR=87
H35A **Sunnyside Ranc** 27.26 13 P P 23 00 51.6 -1.2
baz=196,SNR=8.3
I39A **Houston** 27.30 18 P P 23 00 51.7 -1.4
baz=204,SNR=70
YHH **Holmes Hill** 27.33 348 *eP* P 23 00 54.3 +0.6
comp=Z,91nm,1.4s
YHH LR LR
comp=Z,298µm,19.0s
BLA **Blacksburg** 27.34 42 P P 23 00 52.0 -1.5
baz=232,SNR=18
BLA **Blacksburg** 27.34 42 *eP* P 23 00 52.0 -1.5
comp=Z,184nm,0.9s
BLA **Blacksburg** 27.34 42 *eP* P 23 00 52.0 -1.5
BLA pmax pmax
comp=Z,184nm,0.9s
J41A **Loganville** 27.34 21 P P 23 00 52.0 -1.5
baz=207,SNR=46
G32A **Webster** 27.34 8 P P 23 00 52.5 -1.0
baz=191,SNR=18
H36A **Jessenland, He** 27.34 14 P P 23 00 52.7 -0.8
baz=198,SNR=76
RLMT **Red Lodge** 27.36 350 P P 23 00 53.7 -0.2
baz=166,SNR=35
RLMT **Red Lodge** 27.36 350 *eP* P 23 00 53.8 -0.2
comp=Z,127nm,1.2s
RLMT LR LR
comp=Z,1124µm,18.0s
K43A **Burlington** 27.37 24 P P 23 00 52.0 -1.7
baz=211,SNR=18
YHB **Horse Butte** 27.37 347 *eP* P 23 00 54.2 +0.3
comp=Z,91nm,1.2s
YHB LR LR
comp=Z,411µm,22.0s
O03D **Paynes Creek** 27.40 327 P P 23 00 55.2 +1.0
baz=138,SNR=54
MFID **Camas Ranch** 27.41 339 *eP* P 23 00 55.2 +0.9
comp=Z,194nm,1.4s
MFID LR LR
comp=Z,177µm,19.0s
G33A **Ortonville** 27.44 10 P P 23 00 53.0 -1.4
baz=193,SNR=37
QLMT **Earthquake Lak** 27.50 347 *eP* P 23 00 56.2 +1.1
QLMT *ePcP* PcP 23 04 15.2 +2.2
SOLC **Bahia Solano** 27.54 112 *eP* P 23 00 55.8 +0.2
H37A **Dierke Farm, C** 27.59 15 P P 23 00 54.7 -1.0
baz=200,SNR=32
J42A **Columbus** 27.61 22 P P 23 00 54.6 -1.3
baz=209,SNR=42
I40A **Norwalk** 27.61 19 P P 23 00 54.5 -1.4
baz=205,SNR=27
WVOR **Wild Horse Val** 27.62 334 *eP* P 23 00 57.3 +1.1
comp=Z,247nm,1.1s
WVOR LR LR
comp=Z,44µm,20.0s
WVOR **Wild Horse Val** 27.62 334 *eP* P 23 00 57.3 +1.1
WVOR pmax pmax
comp=Z,247nm,1.1s
WVOR MLR MLR
comp=Z,44µm,20.0s
G34A **Benson** 27.63 11 P P 23 00 55.1 -0.9
baz=195,SNR=12
MCMT **McKenzie Canyo** 27.83 345 *eP* P 23 00 56.0 -2.1
G35A **Watkins** 27.83 13 P P 23 00 56.6 -1.3
baz=197,SNR=10
F31A **Hecla** 27.84 7 P P 23 00 56.7 -1.2
baz=189
H38A **Maiden Rock** 27.85 16 P P 23 00 57.0 -1.0
baz=202,SNR=95
ACSO **Alum Creek Sta** 27.86 34 P P 23 00 56.3 -1.9
baz=223,SNR=16
ACSO **Alum Creek Sta** 27.86 34 *eP* P 23 00 56.4 -1.8
comp=Z,474nm,1.3s
ACSO LR LR
comp=Z,146µm,21.0s
CNNC **Cliffs of the** 27.91 48 P P 23 00 57.3 -1.4
baz=239
CNNC **Cliffs of the** 27.91 48 *eP* P 23 00 57.0 -1.7
comp=Z,252nm,1.2s
MOD **Modoc Plateau** 27.91 331 *eP* P 23 01 00.4 +1.5
comp=Z,226nm,1.1s
MOD LR LR
comp=Z,136µm,20.0s
J43A **Natural Harves** 27.92 23 P P 23 00 57.0 -1.6
baz=210,SNR=27
KCPM **Cahto Peak** 27.92 324 *eP* P 23 01 00.0 +1.2
comp=Z,405nm,1.5s
KCPM LR LR
comp=Z,158µm,20.0s
WDC **Whiskeytown Da** 28.00 327 *eP* P 23 00 59.1 -0.3
comp=Z,63nm,1.2s
WDC LR LR
comp=Z,75µm,18.0s
WDC **Whiskeytown Da** 28.00 327 *eP* P 23 00 59.1 -0.3
WDC pmax pmax
comp=Z,63nm,1.2s
WDC MLR MLR
comp=Z,75µm,18.0s
F32A **Veblen** 28.00 9 P P 23 00 58.7 -0.6
baz=191
I41A **Arkdale** 28.00 20 P P 23 00 57.9 -1.5
baz=207,SNR=21
G36A **St. Michael** 28.01 14 P P 23 00 58.4 -1.0
baz=198,SNR=33
MOTC **Monteria, Cord** 28.03 106 *eP* P 23 01 00.5 +0.5
GCMT **Greycliff** 28.08 350 *eP* P 23 01 00.3 +0.1
F33A **5 Mile Ranch,** 28.09 10 P P 23 00 58.6 -1.5
baz=193,SNR=25
H39A **Augusta** 28.13 18 P P 23 00 59.6 -0.9
baz=204,SNR=28
I42A **Draeger Farm,** 28.18 22 P P 23 00 59.8 -1.2
baz=209,SNR=59
I42A **Draeger Farm,** 28.18 22 *eP* P 23 00 59.7 -1.3
comp=Z,190nm,0.9s
I42A LR LR
comp=Z,221µm,20.0s
SPMN **Marine on St.** 28.22 15 P P 23 00 59.8 -1.5
baz=200,SNR=41
SPMN **Marine on St.** 28.22 15 *eP* P 23 01 00.0 -1.3
comp=Z,126nm,0.8s
SPMN LR LR
comp=Z,37µm,19.0s
F34A **Alexandria** 28.23 11 P P 23 01 00.1 -1.3
baz=195,SNR=21
DBBC **Dabeiba** 28.25 110 *eP* P 23 00 59.3 -2.7
DLMT **Dillon** 28.27 345 *eP* P 23 01 03.0 +1.1
comp=Z,81nm,1.0s
DLMT LR LR
comp=Z,207µm,19.0s
BOZ **Bozeman (W)** 28.27 347 P P 23 01 02.6 +0.7
baz=162,SNR=41
BOZ **Bozeman (W)** 28.27 347 *eP* P 23 01 02.5 +0.6
comp=Z,36nm,0.8s
BOZ LR LR
comp=Z,315µm,22.0s
BOZ **Bozeman (W)** 28.27 347 *eP* P 23 01 02.5 +0.6
BOZ pmax pmax
comp=Z,37nm,0.8s
BOZ MLR MLR
comp=Z,315µm,22.0s
J08A **Circle Bar Ran** 28.33 336 *eP* P 23 01 03.9 +1.4
comp=Z,729nm,1.2s
J08A LR LR
comp=Z,184µm,19.0s
H40A **Chili** 28.34 19 P P 23 01 01.2 -1.2
baz=205,SNR=29
KMRM **Mail Ridge** 28.36 325 *eP* P 23 01 04.0 +1.2
comp=Z,452nm,1.4s
KMRM LR LR
comp=Z,192µm,19.0s
N02D **Trinity Center** 28.37 327 P P 23 01 02.5 -0.2
baz=137,SNR=5.8
G38A **Ridgeland** 28.42 17 P P 23 01 01.8 -1.2
baz=202,SNR=52
F35A **Swanville** 28.43 12 P P 23 01 02.1 -1.1
baz=196
I43A **Langenfeld Bro** 28.45 23 P P 23 01 02.5 -0.9
baz=210,SNR=58
GRGC **Isla de Gorgon** 28.54 119 *eP* P 23 01 04.0 -0.4
LAO **LASA Array** 28.54 355 P P 23 01 03.7 -0.5
baz=173
LAO **LASA Array** 28.54 355 *eP* P 23 01 04.2 0.0
comp=Z,137nm,1.2s
LAO LR LR
comp=Z,204µm,20.0s
M04C **Macdoel** 28.54 329 P P 23 01 05.6 +1.2
baz=140,SNR=27
H41A **Junction City** 28.57 20 P P 23 01 02.9 -1.5
baz=207,SNR=18
H41A **Junction City** 28.57 20 *eP* P 23 01 03.0 -1.5
H41A *ePP* PP 23 02 03.1 -6.1
H41A LR LR
comp=Z,30µm,20.0s
E31A **Nome** 28.57 7 P P 23 01 03.7 -0.7
baz=190,SNR=16
F36A **Milaca** 28.65 14 P P 23 01 03.9 -1.2
baz=198,SNR=122
LRM **Limekiln Ridge** 28.67 346 *eP* P 23 01 06.2 +0.6
MALC **Bahia Malaga** 28.70 116 *eP* P 23 01 06.3 +0.5
E32A **Braaten, Kindr** 28.71 8 P P 23 01 04.6 -1.1
baz=191
G39A **Holcombe** 28.71 17 P P 23 01 04.5 -1.3
baz=203,SNR=39
F37A **Hinrichs Farm,** 28.73 15 P P 23 01 04.6 -1.2
baz=200,SNR=16
TUMC **Tumaco** 28.75 122 PFAKE 23 01 20.0 +14
TUMC LR LR
comp=Z,54µm,21.0s
TUMC **Tumaco** 28.75 122 *eP* P 23 01 05.8 -0.5
M02C **Callahan** 28.75 328 P P 23 01 06.3 +0.1
baz=137,SNR=21
E33A **Westby DABS, E** 28.79 10 P P 23 01 04.9 -1.5
baz=193,SNR=10
KHMM **Horse Mountain** 28.83 326 *eP* P 23 01 07.5 +0.5
comp=Z,259nm,1.1s
KHMM *ePP* PnPn 23 02 01.4 +2.8
KHMM LR LR
comp=Z,222µm,20.0s
K05A **Summer Lake** 28.83 332 *eP* P 23 01 08.4 +1.3
comp=Z,445nm,1.4s
K05A LR LR
comp=Z,144µm,20.0s
WI02 **Reinke Road, C** 28.85 21 *eP* P 23 01 05.6 -1.3
comp=Z,246nm,0.9s
WI02 LR LR
comp=Z,332µm,18.0s
H42A **Shiocton** 28.85 22 P P 23 01 05.9 -1.1
baz=209,SNR=22
H42A **Shiocton** 28.85 22 *eP* P 23 01 05.9 -1.1
comp=Z,162nm,0.9s
H42A LR LR
comp=Z,279µm,19.0s
WI04 **River Road, Cl** 28.88 21 *eP* P 23 01 06.1 -1.0
comp=Z,286nm,0.9s
WI04 LR LR
comp=Z,376µm,18.0s
WI01 **McKinley Avenu** 28.89 21 *eP* P 23 01 06.1 -1.1
comp=Z,308nm,1.0s
WI01 LR LR
comp=Z,342µm,18.0s
WI03 **Lunz Road, Cli** 28.91 21 *eP* P 23 01 06.3 -1.1
comp=Z,261nm,0.7s
WI03 LR LR
comp=Z,372µm,18.0s
YBH **Yreka Blue Hor** 28.93 328 P P 23 01 07.6 -0.2
comp=Z,16nm,0.7s,baz=135,slow=6.5,SNR=26
YBH LR LR 23 12 10.7
comp=Z,63µm,19.6s,baz=170,slow=35
YBH **Yreka Blue Hor** 28.93 328 *eP* P 23 01 06.6 -1.2
comp=Z,26nm,0.9s
E34A **Wadena** 28.94 11 P P 23 01 06.6 -1.1
baz=195,SNR=11
JCC **Jacoby Creek,** 28.95 326 *eP* P 23 01 09.7 +1.8
comp=Z,292nm,1.3s
JCC LR LR
comp=Z,197µm,18.0s
G40A **Rib Lake** 28.98 19 P P 23 01 06.7 -1.4
baz=205,SNR=39
AAM **Ann Arbor** 29.06 30 P P 23 01 07.8 -0.9
baz=220,SNR=25
AAM **Ann Arbor** 29.06 30 *eP* P 23 01 07.9 -0.9
comp=Z,371nm,0.9s
AAM LR LR
comp=Z,80µm,21.0s
AAM **Ann Arbor** 29.06 30 *eP* P 23 01 07.9 -0.9
AAM pmax pmax
comp=Z,371nm,0.9s
AAM MLR MLR
comp=Z,80µm,21.0s
D31A **Mcclaflin, Tow** 29.08 7 P P 23 01 08.3 -0.6
baz=190,SNR=20
H43A **Windswept, Lux** 29.09 23 P P 23 01 07.8 -1.2
baz=210,SNR=54
H43A **Windswept, Lux** 29.09 23 *eP* P 23 01 07.8 -1.2
comp=Z,250nm,0.8s
H43A LR LR
comp=Z,116µm,21.0s
E35A **Pequot Lakes** 29.13 12 P P 23 01 08.6 -0.7
baz=196,SNR=78
F38A **Pierce - Schro** 29.14 16 P P 23 01 08.2 -1.3
baz=202,SNR=55
K04D **Chiloquin, OR** 29.15 331 P P 23 01 11.1 +1.3
baz=141,SNR=22
PLMC **San Jos¨ del** 29.16 114 *eP* P 23 01 09.9 -0.2
BMO **Blue Mountains** 29.18 339 *eP* P 23 01 10.2 +0.3
comp=Z,106nm,1.0s
BMO LR LR
comp=Z,177µm,21.0s
BMO **Blue Mountains** 29.18 339 *eP* P 23 01 10.3 +0.3
BMO pmax pmax
comp=Z,106nm,1.0s
BMO MLR MLR
comp=Z,177µm,21.0s
HELC **Santa Helena** 29.22 111 *eP* P 23 01 13.2 +2.2
comp=Z,691nm,1.6s
HELC LR LR
comp=Z,81µm,21.0s
HELC **Santa Helena** 29.22 111 *eP* P 23 01 12.2 +1.3
MCWV **Mont Chateau** 29.23 38 P P 23 01 08.4 -2.0
baz=229,SNR=13
MCWV **Mont Chateau** 29.23 38 *eP* P 23 01 08.8 -1.5
comp=Z,359nm,1.5s
MCWV LR LR
comp=Z,77µm,20.0s
D32A **Dogwood Acres,** 29.25 8 P P 23 01 09.5 -1.0
baz=191
G41A **Antigo** 29.25 20 P P 23 01 09.0 -1.5
baz=207
ZARC **Zaragoza, Cauc** 29.27 108 *eP* P 23 01 11.0 0.0
IP07 **Quail** 29.28 43 *eP* P 23 01 09.0 -1.8
comp=Z,382nm,1.6s
IP06 **Yanceyville** 29.32 43 *eP* P 23 01 10.5 -0.7
comp=Z,168nm,1.5s
IP06 LR LR
comp=Z,68µm,22.0s
E36A **McGregor** 29.33 14 P P 23 01 10.1 -1.1
baz=198,SNR=85
IP04 **Greensprings** 29.34 42 *eP* P 23 01 10.4 -0.9
comp=Z,498nm,1.7s
I07A **Izee** 29.35 335 *eP* P 23 01 12.3 +0.8
comp=Z,42nm,0.9s
I07A LR LR
comp=Z,176µm,21.0s
IP03 **Louisa** 29.35 43 *eP* P 23 01 09.9 -1.5
comp=Z,307nm,1.5s
F39A **Loretta** 29.36 17 P P 23 01 09.8 -1.7
baz=203,SNR=24
HRY **Holter Researc** 29.37 347 *eP* P 23 01 12.0 +0.3
IP01 **Cuckoo** 29.38 43 *eP* P 23 01 10.1 -1.6
comp=Z,179nm,1.3s
IP05 **Hopewell Churc** 29.41 43 *eP* P 23 01 09.9 -2.1
comp=Z,140nm,1.2s
J05D **Fort Rock, OR** 29.43 332 P P 23 01 13.0 +0.8
baz=142,SNR=71
D33A **AnnSam, Waubun** 29.43 10 P P 23 01 10.5 -1.6
baz=193
SPRD **Spring Road, M** 29.44 43 *eP* P 23 01 10.9 -1.3
comp=Z,264nm,1.5s
D34A **Park Rapids** 29.49 11 P P 23 01 11.1 -1.4
baz=195,SNR=31
CVRD **Centerville Ro** 29.51 43 *eP* P 23 01 12.2 -0.6
comp=Z,415nm,1.8s
G42A **Mountain** 29.53 21 P P 23 01 11.5 -1.5
baz=208,SNR=30
G42A **Mountain** 29.53 21 *eP* P 23 01 11.5 -1.5
comp=Z,144nm,1.1s
G42A LR LR
comp=Z,187µm,20.0s
YOTC **Yotoco, Valle** 29.56 115 *eP* P 23 01 13.4 -0.3
E37A **Wrenshall** 29.58 15 P P 23 01 12.4 -1.0
baz=200,SNR=27
F40A **Park Falls** 29.59 18 P P 23 01 12.4 -1.1
baz=205,SNR=89
PTRD **Partlow Road** 29.66 43 *eP* P 23 01 12.1 -2.1
comp=Z,197nm,1.4s
CODC **Agust¨n Codaz** 29.67 102 *eP* P 23 01 14.6 0.0
MDND **Maddock** 29.69 4 P P 23 01 13.8 -0.6
baz=186,SNR=7.6
MDND **Maddock** 29.69 4 *eP* P 23 01 13.9 -0.4
comp=Z,391nm,1.3s
MDND LR LR
comp=Z,355µm,18.0s
D35A **Remer** 29.70 12 P P 23 01 13.2 -1.2
baz=197,SNR=95
PINE **Pine Mountain** 29.71 333 *eP* P 23 01 15.6 +0.9
comp=Z,324nm,1.8s
PINE LR LR
comp=Z,242µm,21.0s
HUMO **Hull Mountain** 29.71 329 *eP* P 23 01 15.1 +0.5
comp=Z,252nm,1.9s
HUMO *ePcP* PcP 23 04 19.4 +1.2
HUMO LR LR
comp=Z,117µm,18.0s
F41A **Three Lakes** 29.75 20 P P 23 01 13.6 -1.3
baz=207,SNR=21
GUYC **Guyana, Colomb** 29.79 112 *eP* P 23 01 18.4 +2.3
J04D **Umpqua Nationa** 29.79 331 P P 23 01 17.0 +1.4
baz=141,SNR=106
G43A **Wallace** 29.80 22 P P 23 01 13.9 -1.4
baz=210,SNR=59
G43A **Wallace** 29.80 22 *eP* P 23 01 13.9 -1.4
comp=Z,210nm,0.8s
G43A LR LR
comp=Z,316µm,18.0s
C31A **Landman Farms,** 29.81 7 P P 23 01 14.7 -0.6
baz=190,SNR=70
E38A **The Farm, Brul** 29.83 16 P P 23 01 14.3 -1.3
baz=202,SNR=54
CBN **Corbin Frederi** 29.87 43 P P 23 01 13.8 -2.2
baz=235
CBN **Corbin Frederi** 29.87 43 *eP* P 23 01 15.1 -0.9
comp=Z,198nm,1.2s
E39A **Mellen** 29.89 17 P P 23 01 15.1 -1.0
baz=204,SNR=55
OTAV **Otavalo** 29.91 124 *eP* P 23 01 19.3 +2.1
comp=Z,164nm,1.4s
OTAV LR LR
comp=Z,48µm,21.0s
OTAV **Otavalo** 29.91 124 *eP* P 23 01 18.7 +1.5
SDDR **Presa de Saban** 29.93 83 *eP* P 23 01 18.2 +1.4
comp=Z,183nm,1.1s
SDDR LR LR
comp=Z,63µm,20.0s
MSO **Missoula** 29.97 345 P P 23 01 17.2 +0.2
baz=158,SNR=27
MSO **Missoula** 29.97 345 *eP* P 23 01 17.1 +0.2
comp=Z,73nm,1.1s
MSO LR LR
comp=Z,231µm,19.0s
RREF **El Recreo** 29.97 113 *eP* P 23 01 22.4 +4.5
D36A **Goodland** 29.98 13 P P 23 01 15.5 -1.4
baz=198,SNR=26
CMBC **Cumbal** 29.99 122 *eP* P 23 01 09.9 -8.0
C32A **Crookston** 30.00 9 P P 23 01 16.0 -1.0
baz=192
N54A **Moraine State** 30.00 36 P P 23 01 15.3 -1.9
baz=227,SNR=30
N54A **Moraine State** 30.00 36 *eP* P 23 01 15.4 -1.9
comp=Z,306nm,1.4s
N54A LR LR
comp=Z,312µm,20.0s
GRTK **Grand Turk** 30.01 78 *eP* P 23 01 16.7 -0.7
comp=Z,339nm,1.3s
GRTK LR LR
comp=Z,117µm,20.0s
PTBC **PUERTO BERRIO,** 30.03 109 *eP* P 23 01 18.7 +1.0
POPC **Popayan, Colom** 30.03 118 *eP* P 23 01 19.3 +1.3
C33A **Trail** 30.05 10 P P 23 01 16.2 -1.3
baz=193
KBO **Bosley Butte** 30.05 327 *eP* P 23 01 19.9 +2.2
comp=Z,740nm,1.5s
KBO LR LR
comp=Z,91µm,20.0s
COWI **Conover** 30.06 19 *eP* P 23 01 16.2 -1.5
comp=Z,417nm,1.8s
COWI LR LR
comp=Z,299µm,18.0s
F42A **Maple Grove Fa** 30.08 21 P P 23 01 16.4 -1.5
baz=208
C34A **RKJ Ranch, Bem** 30.09 11 P P 23 01 16.6 -1.3
baz=195,SNR=27
NORC **Norcasia** 30.09 111 *eP* P 23 01 19.3 +1.0
ANIL **Santa Ana** 30.12 114 *eP* P 23 01 19.3 +0.4
D37A **Cotton** 30.13 14 P P 23 01 17.2 -1.0
baz=200,SNR=321
E40A **Wakefield** 30.14 18 P P 23 01 17.1 -1.2
baz=205,SNR=86
F10A **Beach Ranch, E** 30.14 340 *eP* P 23 01 18.6 +0.1
comp=Z,871nm,1.9s
F10A LR LR
comp=Z,192µm,21.0s
TOLC **Tolima** 30.15 113 *eP* P 23 01 21.0 +1.9
G08A **Pilot Rock** 30.15 337 *eP* P 23 01 19.3 +0.7
comp=Z,244nm,1.0s
G08A LR LR
comp=Z,157µm,18.0s
GCUF **Volcan Galeras** 30.21 121 *eP* P 23 01 20.4 +0.5
C35A **Jirik Farms, M** 30.31 12 P P 23 01 18.2 -1.6
baz=197,SNR=99
SOTA **Rioblanco** 30.31 119 *eP* P 23 01 21.0 +0.3
I05D **Terrebonne, OR** 30.32 333 P P 23 01 21.5 +1.5
baz=143,SNR=88
CRUC **La Cruz** 30.34 120 *eP* P 23 01 19.8 -1.0
I04A **Tendick Farm,** 30.36 331 P P 23 01 21.2 +0.8
baz=141
O56A **Blue Knob Stat** 30.37 39 P P 23 01 18.9 -1.6
baz=230
O56A **Blue Knob Stat** 30.37 39 *eP* P 23 01 19.1 -1.4
comp=Z,182nm,1.4s
O56A LR LR
comp=Z,80µm,20.0s
PCON **Cinco Dias** 30.38 118 *eP* P 23 01 22.8 +1.3
OCAC **Ocana** 30.38 105 *eP* P 23 01 21.0 0.0
ALLY **Alegheny Colle** 30.39 35 *eP* P 23 01 18.5 -2.0

comp=Z,576nm,1.5s
ALLY LR LR
comp=Z,221µm,22.0s
E41A Kenton 30.44 19 P **P 23 01 19.5 -1.5**
baz=206,SNR=30
B31A Greenbush Farm 30.44 7 P **P 23 01 20.5 -0.5**
baz=190,SNR=9.0
IRO Indian Ridge 30.45 332 eP **P 23 01 22.2 +0.8**
BRRC Barranca, Sant 30.47 107 eP **P 23 01 22.2 +0.6**
MARP Paez Belalcaza 30.48 117 eP **P 23 01 23.4 +1.4**
F43A Flat Rock, Esc 30.48 22 P **P 23 01 19.9 -1.4**
baz=210,SNR=33
URIC Uribia, Colomb 30.50 98 eP **P 23 01 22.2 +0.3**
B32A Ashes, Strandq 30.55 8 P **P 23 01 21.2 -0.8**
baz=192
M54A Oil Creek Stat 30.55 36 P **P 23 01 20.1 -1.9**
baz=227,SNR=23
M54A Oil Creek Stat 30.55 36 eP **P 23 01 20.0 -2.1**
comp=Z,107nm,0.8s
M54A LR LR
comp=Z,272µm,18.0s
AGMN Agassiz Nation 30.56 9 P **P 23 01 21.5 -0.5**
baz=193,SNR=154
AGMN Agassiz Nation 30.56 9 eP **P 23 01 21.4 -0.5**
comp=Z,289nm,0.8s
AGMN LR LR
comp=Z,144µm,19.0s
B33A Robert and Kas 30.57 10 P **P 23 01 21.5 -0.7**
baz=193,SNR=46
KEBM Edson Butte 30.59 328 eP **P 23 01 23.7 +1.3**
comp=Z,509nm,1.3s
KEBM LR LR
comp=Z,84µm,18.0s
C36A Pine Crest Far 30.60 13 P **P 23 01 21.4 -1.0**
baz=199,SNR=399
GLMI Grayling 30.62 26 P **P 23 01 21.4 -1.3**
baz=215,SNR=32
GLMI Grayling 30.62 26 eP **P 23 01 21.6 -1.0**
comp=Z,569nm,0.9s
GLMI LR LR
comp=Z,310µm,22.0s
I03D Drain, OR 30.72 330 P **P 23 01 24.8 +1.3**
baz=139,SNR=54
C37A Embarrass 30.72 14 P **P 23 01 22.0 -1.4**
baz=200,SNR=48
E42A Champion 30.75 20 P **P 23 01 22.3 -1.4**
baz=208,SNR=33
G06A Carlson Farm, 30.75 335 eP **P 23 01 24.8 +0.9**
comp=Z,136nm,1.4s
G06A LR LR
comp=Z,178µm,18.0s
ERPA Erie 30.79 34 P **P 23 01 22.0 -2.1**
baz=226,SNR=6.5
ERPA Erie 30.79 34 eP **P 23 01 22.4 -1.7**
comp=Z,105nm,0.8s
ERPA LR LR
comp=Z,177µm,20.0s
F44A Big Bay de Noc 30.87 23 P **P 23 01 23.4 -1.4**
baz=211,SNR=150
SDMD Soldier's Deli 30.90 41 eP **P 23 01 23.3 -1.9**
comp=Z,30nm,0.9s
ROSC El Rosal 30.91 112 P **P 23 01 28.9 +3.0**
comp=Z,32nm,0.9s,baz=315,slow=8.1,SNR=24
ROSC El Rosal 30.91 112 eP **P 23 01 29.0 +3.2**
comp=Z,131nm,1.3s
JTMT Jette 30.91 345 eP **P 23 01 25.2 -0.1**
comp=Z,25nm,0.8s
JTMT LR LR
comp=Z,184µm,20.0s
E09A Wood Farm, Sta 30.92 339 eP **P 23 01 24.9 -0.3**
comp=Z,70nm,1.1s
E09A LR LR
comp=Z,234µm,19.0s
C38A Sawbill Land. 30.93 15 P **P 23 01 23.5 -1.9**
baz=202,SNR=44
B34A Aery, Baudette 30.94 11 P **P 23 01 24.5 -0.9**
baz=195,SNR=319
PRAC Prado 30.95 114 eP **P 23 01 27.6 +1.7**
comp=Z,210nm,1.3s
PRAC LR LR
comp=Z,33µm,20.0s
PRAC Prado 30.95 114 eP **P 23 01 26.9 +1.0**
H04A Detroit Lake 30.96 333 eP **P 23 01 26.5 +0.9**
comp=Z,417nm,1.4s
H04A LR LR
comp=Z,165µm,19.0s
F45A CMU Biological 30.97 24 P **P 23 01 24.0 -1.6**
baz=213,SNR=34
B35A Bob, Littlefor 30.99 12 P **P 23 01 24.5 -1.3**
baz=197,SNR=196
A31A Linda, St. Vin 31.00 7 P **P 23 01 25.1 -0.7**
baz=190
BETC Betania 31.00 117 eP **P 23 01 26.3 0.0**
SSPA Standing Stone 31.00 39 P **P 23 01 23.7 -2.3**
baz=231
SSPA Standing Stone 31.00 39 eP **P 23 01 24.4 -1.6**
comp=Z,308nm,1.4s
SSPA LR LR
comp=Z,97µm,20.0s
E43A Lone Tree Farm 31.01 22 P **P 23 01 24.5 -1.5**
baz=210,SNR=38
F07A Phinny Hill Vi 31.03 337 eP **P 23 01 27.4 +1.3**
comp=Z,143nm,1.1s
F07A LR LR
comp=Z,121µm,21.0s
G05D Wamic, OR 31.04 334 P **P 23 01 27.4 +1.1**
baz=144,SNR=21
A32A Rocking H Ranc 31.07 8 P **P 23 01 25.5 -1.0**
baz=191,SNR=51
EYMN Ely 31.09 15 P **P 23 01 25.4 -1.3**
baz=201,SNR=172
EYMN Ely 31.09 15 eP **P 23 01 25.4 -1.3**
comp=Z,375nm,0.8s
EYMN LR LR
comp=Z,495µm,18.0s
D41A Chassel 31.09 19 P **P 23 01 25.9 -0.8**
baz=207,SNR=65
BARC Barichara 31.16 108 eP **P 23 01 29.2 +1.3**
E08A Dider Farm, El 31.22 338 eP **P 23 01 27.5 -0.3**
comp=Z,62nm,1.1s
E08A LR LR
comp=Z,138µm,19.0s
A33A Warroad 31.25 10 P **P 23 01 27.4 -0.7**
baz=193,SNR=142
TDH Tom, Dick, Har 31.27 334 eP **P 23 01 29.8 +1.3**
PAMC Pamplona, Colo 31.29 106 eP **P 23 01 30.4 +1.0**
HAWA Hanford 31.30 338 eP **P 23 01 28.7 +0.1**
comp=Z,55nm,0.9s
HAWA LR LR
comp=Z,194µm,18.0s
C39A Grand Marais 31.32 17 P **P 23 01 27.3 -1.5**
baz=203,SNR=16
F46A Macinaw City C 31.34 25 P **P 23 01 27.6 -1.4**
baz=214,SNR=38
COR Corvallis 31.38 331 eP **P 23 01 30.9 +1.7**
comp=Z,246nm,1.0s
COR LR LR
comp=Z,118µm,20.0s
COR Corvallis 31.38 331 eP **P 23 01 30.9 +1.7**
COR pmax pmax
comp=Z,246nm,1.0s
COR MLR MLR
comp=Z,118µm,20.0s
FLOC Florencia 31.41 119 eP **P 23 01 29.8 -0.1**
PAGS Pennsylvania G 31.46 40 eP **P 23 01 28.0 -2.0**
comp=Z,148nm,1.3s
PAGS LR LR
comp=Z,22µm,19.0s
CHIC Chingaza 31.52 112 eP **P 23 01 33.4 +2.0**
MVL Millersville 31.55 41 eP **P 23 01 29.6 -1.3**
comp=Z,124nm,1.6s
MVL LR LR
comp=Z,62µm,21.0s
E44A Grand Marais A 31.60 23 P **P 23 01 30.2 -1.1**
baz=212
D08A Wollman Farm, 31.66 339 eP **P 23 01 31.2 -0.5**
comp=Z,84nm,1.4s
D08A LR LR
comp=Z,148µm,21.0s
E45A Wooded Hills, 31.66 24 P **P 23 01 30.6 -1.1**
baz=213,SNR=17
C40A Isle Royale Na 31.68 18 P **P 23 01 30.6 -1.4**
baz=205
VILC Villavicencio, 31.80 113 eP **P 23 01 34.5 +1.1**
G03D McMinnville, O 31.84 332 P **P 23 01 34.5 +1.1**
baz=141,SNR=30
SJAC San Juan de Ar 31.98 114 eP **P 23 01 38.7 +3.7**
WALA Waterton Lakes 32.05 346 eP **P 23 01 35.6 +0.3**

comp=Z,70nm,1.0s
WALA LR LR
comp=Z,232µm,21.0s
PSUB Penn St. - Bra 32.08 42 eP **P 23 01 33.3 -2.2**
comp=Z,75nm,1.1s
PSUB LR LR
comp=Z,52µm,20.0s
C09A Chrisman Ranch 32.09 340 eP **P 23 01 35.2 -0.4**
comp=Z,221nm,1.8s
C09A LR LR
comp=Z,223µm,21.0s
NEW Newport 32.15 342 Lg Lg 23 12 02.5
comp=Z,8.0nm,1.3s,baz=79,slow=22,SNR=4.8
NEW LR LR 23 15 43.3
comp=Z,231µm,19.5s,baz=164,slow=38
NEW Newport 32.15 342 P **P 23 01 36.4 +0.3**
baz=154,SNR=19
NEW Newport 32.15 342 eP **P 23 01 34.9 -1.2**
comp=Z,41nm,1.0s
NEW ePcP **PcP 23 04 26.1 +1.4**
NEW Lg Lg 23 12 02.5
NEW Newport 32.15 342 eP **P 23 01 34.9 -1.2**
NEW e 23 04 26.1
NEW 23 12 02.5
NEW pmax pmax
comp=Z,41nm,1.0s
KMOR Kings Mountain 32.27 332 eP **P 23 01 39.1 +1.8**
TDL Tradedollar La 32.30 335 eP **P 23 01 39.1 +1.5**
WPW White Pass 32.32 336 eP **P 23 01 39.4 +1.7**
MMNY Mt. Morris Dam 32.34 36 eP **P 23 01 35.7 -2.1**
comp=Z,146nm,0.9s
MMNY LR LR
comp=Z,230µm,22.0s
YOPC Yopal, Colombi 32.36 109 eP **P 23 01 36.9 -1.5**
F04D Rainier, OR 32.42 333 P **P 23 01 39.8 +1.4**
baz=142
LTY Liberty 32.45 337 eP **P 23 01 39.9 +1.1**
comp=Z,287nm,1.1s
LTY LR LR
comp=Z,167µm,19.0s
N59A State Game Lan 32.45 40 P **P 23 01 37.3 -1.5**
baz=234,SNR=11
N59A State Game Lan 32.45 40 eP **P 23 01 36.9 -1.9**
comp=Z,163nm,1.5s
N59A LR LR
comp=Z,17µm,21.0s
ULM Lac du Bonnet 32.46 8 P **P 23 01 37.3 -1.4**
comp=Z,82nm,0.9s,baz=195,slow=9.4,SNR=97
ULM Lg Lg 23 12 06.5
comp=Z,8.8nm,1.1s,baz=300,slow=16,SNR=4.9
ULM LR LR 23 15 30.3
comp=Z,246µm,18.1s,baz=186,slow=38
ULM Lac du Bonnet 32.46 8 eP **P 23 01 37.3 -1.4**
comp=Z,148nm,0.9s
ULM Lg Lg 23 12 06.5
ULM Lac du Bonnet 32.46 8 eP **P 23 01 37.3 -1.4**
ULM 23 12 06.5
ULM pmax pmax
comp=Z,148nm,0.9s
LON Longmire 32.47 335 eP **P 23 01 40.2 +1.3**
comp=Z,285nm,1.2s
LON LR LR
comp=Z,187µm,21.0s
LON Longmire 32.47 335 eP **P 23 01 40.2 +1.3**
LON pmax pmax
comp=Z,285nm,1.2s
LON MLR MLR
comp=Z,187µm,21.0s
LUPA Lehigh Univers 32.51 41 eP **P 23 01 38.0 -1.3**
comp=Z,6.1nm,1.0s
LUPA LR LR
comp=Z,4µm,19.0s
WTV Waterville 32.57 338 eP **P 23 01 40.8 +1.1**
OBSR Observation Ro 32.59 336 eP **P 23 01 42.0 +1.8**
SDV Santo Domingo 32.64 102 LR LR 23 15 51.8
comp=Z,68µm,20.2s,baz=310,slow=38
SDV Santo Domingo 32.64 102 eP **P 23 01 42.0 +1.1**
comp=Z,779nm,1.9s
SDV Santo Domingo 32.64 102 eP **P 23 01 40.4 -0.5**
BMW Boistfort Moun 32.82 334 eP **P 23 01 43.6 +1.6**
BMW Boistfort Moun 32.82 334 eP **P 23 01 43.6 +1.6**
D05A Enumclaw 32.89 336 eP **P 23 01 44.0 +1.5**
comp=Z,494nm,1.5s
D05A LR LR
comp=Z,178µm,21.0s
B08A Colville Reser 32.92 340 eP **P 23 01 42.8 0.0**
comp=Z,278nm,1.5s
B08A LR LR
comp=Z,143µm,22.0s
E03A Lebam 33.02 333 eP **P 23 01 45.6 +2.0**
comp=Z,863nm,1.1s
E03A LR LR
comp=Z,192µm,19.0s
BRNJ Basking Ridge 33.06 41 eP **P 23 01 43.0 -1.1**
comp=Z,187nm,1.4s
BRNJ LR LR
comp=Z,62µm,22.0s
SADO Sadowa 33.09 32 P **P 23 01 42.2 -2.1**
comp=Z,130nm,0.8s,baz=244,slow=9.2,SNR=96
SADO LR LR 23 15 53.1
comp=Z,27µm,19.4s,baz=215,slow=38
SADO Sadowa 33.09 32 eP **P 23 01 42.3 -2.1**
comp=Z,216nm,1.0s
BINY Binghamton 33.10 38 P **P 23 01 42.8 -1.7**
baz=232,SNR=13
BINY Binghamton 33.10 38 eP **P 23 01 42.0 -2.4**
comp=Z,133nm,1.1s
BINY LR LR
comp=Z,152µm,22.0s
ODNJ Ogdensburg 33.27 41 eP **P 23 01 44.8 -1.1**
comp=Z,59nm,1.3s
ODNJ LR LR
comp=Z,56µm,19.0s
GUVC San Jose del G 33.48 114 eP **P 23 01 49.2 +1.1**
CPNY Central Park 33.51 42 eP **P 23 01 46.0 -2.0**
comp=Z,155nm,1.5s
CPNY LR LR
comp=Z,54µm,21.0s
PAL Palisades 33.66 41 P **P 23 01 47.7 -1.6**
baz=236
PAL Palisades 33.66 41 eP **P 23 01 48.1 -1.2**
comp=Z,356nm,1.9s
PAL LR LR
comp=Z,64µm,22.0s
PAL Palisades 33.66 41 eP **P 23 01 48.1 -1.2**
PAL pmax pmax
comp=Z,356nm,1.9s
PAL MLR MLR
comp=Z,64µm,22.0s
JCW Jim Creek 33.70 337 eP **P 23 01 50.2 +0.5**
SWID South Whidbey 33.73 336 eP **P 23 01 51.2 +1.4**
B06A Marblemount 33.81 338 eP **P 23 01 51.1 +0.7**
comp=Z,177nm,0.8s
B06A LR LR
comp=Z,159µm,20.0s
NLWA Neilton Lookou 33.82 334 eP **P 23 01 52.5 +1.8**
comp=Z,420nm,1.3s
NLWA LR LR
comp=Z,227µm,18.0s
B05A Bryant 33.82 337 P **P 23 01 51.3 +0.7**
baz=146,SNR=100
AGP Aguadilla 33.89 84 eP **P 23 01 52.1 +0.5**
comp=Z,331nm,1.3s
AGP LR LR
comp=Z,82µm,21.0s
MPR Mayaguez 33.91 84 eP **P 23 01 49.8 -2.0**
comp=Z,47nm,0.9s
MPR LR LR
comp=Z,57µm,22.0s
CRPR Cabo Rojo, PR 33.96 85 eP **P 23 01 51.0 -1.2**
comp=Z,188nm,1.4s
AOPR Arecibo Observ 34.27 84 eP **P 23 01 54.8 -0.1**
comp=Z,73nm,0.8s
AOPR LR LR
comp=Z,56µm,21.0s
PLVO Plevna 34.34 33 eP **P 23 01 53.3 -1.8**
comp=Z,166nm,1.1s
PLVO ePP **PnPn 23 03 10.8 +0.8**
PLVO LR LR
comp=Z,122µm,18.0s
A04D Lummi Island 34.43 337 P **P 23 01 57.2 +1.4**
baz=145,SNR=166
YLE Yale 34.44 42 eP **P 23 01 54.7 -1.3**
comp=Z,368nm,1.8s
YLE LR LR
comp=Z,87µm,20.0s
PGC Sidney 34.66 336 eP **P 23 01 59.1 +1.3**

comp=Z,246nm,1.1s
PGC LR LR
comp=Z,88µm,20.0s
TRY Troy 34.79 39 eP **P 23 01 57.6 -1.5**
comp=Z,152nm,1.5s
SJG San Juan 34.86 84 P **P 23 01 59.5 -0.5**
comp=Z,178nm,1.0s,baz=269,slow=6.7,SNR=48
SJG San Juan 34.86 84 eP **P 23 02 00.0 0.0**
comp=Z,154nm,0.9s
SJG ePcP **PcP 23 04 31.8 -1.0**
SJG LR LR
comp=Z,63µm,22.0s
SJG San Juan 34.86 84 eP **P 23 01 59.2 -0.8**
SJG San Juan 34.86 84 eP **P 23 02 00.0 0.0**
SJG e 23 04 31.8
SJG pmax pmax
comp=Z,154nm,0.9s
SJG MLR MLR
comp=Z,63µm,22.0s
CBYP Canovanas 35.12 84 eP **P 23 02 02.0 -0.4**
comp=Z,141nm,1.0s
ACCN Adirondack Com 35.17 38 eP **P 23 02 00.8 -1.6**
comp=Z,47nm,0.8s
ACCN LR LR
comp=Z,176µm,18.0s
NCB Newcomb 35.20 37 eP **P 23 02 00.9 -1.8**
comp=Z,34nm,0.9s
NCB LR LR
comp=Z,125µm,18.0s
QUA2 Belchertown 35.33 41 eP **P 23 02 02.5 -1.3**
comp=Z,240nm,1.8s
LONY Lake Ozonia 35.40 36 P **P 23 02 02.2 -2.1**
baz=231,SNR=9.6
LONY Lake Ozonia 35.40 36 eP **P 23 02 01.6 -2.8**
comp=Z,50nm,0.8s
LONY LR LR
comp=Z,222µm,18.0s
BRYW Bryant College 35.65 42 eP **P 23 02 04.1 -2.4**
comp=Z,76nm,1.2s
LLLB Lillooet 35.71 339 eP **P 23 02 07.7 +0.7**
comp=Z,430nm,1.8s
LLLB LR LR
comp=Z,154µm,21.0s
EDM Edmonton 35.89 349 eP **P 23 02 08.1 -0.4**
comp=Z,244nm,1.2s
EDM LR LR
comp=Z,592µm,19.0s
EDM Edmonton 35.89 349 eP **P 23 02 08.1 -0.4**
EDM pmax pmax
comp=Z,244nm,1.2s
EDM MLR MLR
comp=Z,592µm,19.0s
HRV Adam Dziewonsk 35.95 41 eP **P 23 02 06.7 -2.4**
comp=Z,164nm,1.6s
HRV LR LR
comp=Z,52µm,20.0s
HRV Adam Dziewonsk 35.95 41 eP **P 23 02 06.7 -2.4**
HRV pmax pmax
comp=Z,164nm,1.6s
HRV MLR MLR
comp=Z,52µm,20.0s
STVI Saint Thomas 35.97 84 eP **P 23 02 08.8 -0.6**
comp=Z,1.0nm,0.8s
WES Weston 36.03 41 eP **P 23 02 08.3 -1.5**
comp=Z,270nm,1.9s
WES Weston 36.03 41 eP **P 23 02 08.3 -1.5**
WES pmax pmax
comp=Z,270nm,1.9s
FRNY Flat Rock 36.09 36 eP **P 23 02 08.6 -1.7**
comp=Z,87nm,1.4s
FRNY LR LR
comp=Z,228µm,18.0s
BCX Boston College 36.10 41 eP **P 23 02 08.6 -1.7**
comp=Z,149nm,1.6s
HNH Hanover 36.17 39 eP **P 23 02 10.1 -0.9**
comp=Z,54nm,0.9s
CDVI St. Croix 36.21 85 eP **P 23 02 11.0 -0.5**
comp=Z,227nm,0.9s
VT1 Waterbury 36.27 38 eP **P 23 02 10.4 -1.3**
comp=Z,117nm,1.4s
FFD Franklin Falls 36.42 39 eP **P 23 02 12.2 -0.9**
comp=Z,248nm,1.9s
TRQ Mont Tremblant 36.44 34 eP **P 23 02 11.8 -1.6**
FFC Flin Flon 36.46 1 eP **P 23 02 12.6 -0.7**
comp=Z,298nm,1.3s
FFC LR LR
comp=Z,411µm,18.0s
FFC Flin Flon 36.46 1 eP **P 23 02 12.6 -0.7**
FFC pmax pmax
comp=Z,298nm,1.3s
FFC MLR MLR
comp=Z,411µm,18.0s
ABVI Anegada Island 36.52 83 PFAKE 23 02 20.0 +5.8
ABVI LR LR
comp=Z,51µm,22.0s
LBNH Lisbon 36.69 38 P **P 23 02 14.2 -1.3**
baz=235,SNR=13
LBNH Lisbon 36.69 38 eP **P 23 02 14.5 -0.9**
comp=Z,218nm,1.6s
LBNH LR LR
comp=Z,165µm,18.0s
LBNH Lisbon 36.69 38 eP **P 23 02 14.5 -0.9**
LBNH pmax pmax
comp=Z,218nm,1.6s
LBNH MLR MLR
comp=Z,165µm,18.0s
BBSR BB Station 37.08 60 eP **P 23 02 17.2 -1.7**
comp=Z,158nm,1.5s
BBSR LR LR
comp=Z,49µm,20.0s
SABA Saba 37.67 85 eP **P 23 02 23.1 -0.9**
comp=Z,801nm,1.9s
SABA LR LR
comp=Z,60µm,20.0s
SABA Saba 37.67 85 eP **P 23 02 22.0 -2.0**
SMRT St. Maarten 37.77 84 eP **P 23 02 23.8 -1.1**
comp=Z,129nm,1.0s
SMRT LR LR
comp=Z,55µm,21.0s
SMRT St. Maarten 37.77 84 eP **P 23 02 22.0 -2.9**
PCRV Puerto La Cruz 37.86 97 P **P 23 02 26.6 +0.9**
comp=Z,25nm,0.7s,baz=339,slow=13,SNR=7.2
SEUS St. Eustatius 37.93 85 eP **P 23 02 23.6 -2.6**
comp=Z,516nm,1.3s
SEUS LR LR
comp=Z,63µm,20.0s
SEUS St. Eustatius 37.93 85 eP **P 23 02 22.5 -3.7**
WVL Waterville 38.23 39 eP **P 23 02 27.9 -0.4**
comp=Z,42nm,0.9s
NEV Hard Times 38.37 85 eP **P 23 02 28.8 -1.1**
MLYT Lee's Yard 38.78 86 eP **P 23 02 32.9 -0.6**
PKME Peaks-Kenny Pk 38.82 39 P **P 23 02 32.2 -1.2**
baz=237,SNR=18
PKME Peaks-Kenny Pk 38.82 39 eP **P 23 02 32.7 -0.6**
comp=Z,78nm,0.9s
PKME LR LR
comp=Z,184µm,19.0s
ANWB Willy Bob 39.04 84 eP **P 23 02 34.5 -1.0**
comp=Z,161nm,1.1s
ANWB LR LR
comp=Z,46µm,22.0s
ANWB Willy Bob 39.04 84 eP **P 23 02 31.1 -4.4**
BPA Boggy Peak 39.05 85 eP **P 23 02 35.4 -0.4**
GDHS Morne Mazeau, 39.26 86 eP **P 23 02 34.5 -3.0**
comp=Z,247nm,1.1s
GDHS LR LR
comp=Z,69µm,20.0s
BBB Bella Bella 39.28 336 P **P 23 02 38.5 +1.5**
comp=Z,64nm,0.8s,baz=154,slow=8.2,SNR=36
BBB LR LR 23 19 35.4
comp=Z,91µm,19.2s,baz=156,slow=37
BBB Bella Bella 39.28 336 eP **P 23 02 38.6 +1.5**
comp=Z,174nm,1.2s
EMMW East Machias 39.64 40 eP **P 23 02 38.9 -1.2**
comp=Z,123nm,1.0s
DLPL La Plaine 39.90 88 eP **P 23 02 41.5 -1.3**
DEG La Desirade 39.92 86 eP **P 23 02 40.3 -2.6**
FDF Fort de France 40.10 89 PFAKE 23 03 00.0 +16
FDF LR LR
comp=Z,42µm,21.0s
FDF Fort de France 40.10 89 eP **P** 23 02 38.1 -6.3
GRGR Grenville 40.18 93 eP **P 23 02 42.5 -2.5**
comp=Z,583nm,1.2s
GRGR LR LR
comp=Z,44µm,21.0s
GRGR Grenville 40.18 93 eP **P 23 02 44.8 -0.3**
SVB Belmont 40.30 91 eP **P 23 02 44.6 -1.5**

comp=Z,134nm,0.9s
SVB Belmont 40.30 91 *e*P **P 23 02 44.9 -1.2**
PQI Presque Isle 40.33 37 *e*P **P 23 02 44.9 -1.1**
comp=Z,94nm,1.1s
FCC Fort Churchill 41.01 7 *e*P **P 23 02 50.6 -0.7**
comp=Z,87nm,0.8s
FCC LR LR
comp=Z,247µm,19.0s
FCC Fort Churchill 41.01 7 *e*P **P 23 02 50.6 -0.7**
FCC pmax pmax
comp=Z,87nm,0.8s
FCC MLR MLR
comp=Z,247µm,19.0s
TOSP Speyside 41.44 93 *e*P P 23 02 48.4 -7.1
DIB Dawson Inlet, 41.82 334 *e*P **P 23 02 59.9 +1.8**
comp=Z,270nm,1.1s
DIB LR LR
comp=Z,76µm,18.0s
H02S1 DAWSON INLET T 41.82 334 P **P 23 02 60.0 +1.9**
SNR=42
BBGH Gun Hill 41.94 90 PFAKE 23 03 10.0 +10
BBGH LR LR
comp=Z,73µm,21.0s
BBGH Gun Hill 41.94 90 *e*P **P 23 03 03.2 +3.6**
CRAG Craig 43.71 335 *e*P **P 23 03 15.2 +1.8**
comp=Z,548nm,1.2s
WRAK Wrangell Islan 44.11 337 PFAKE 23 03 30.0 +13
WRAK LR LR
comp=Z,126µm,19.0s
DLBC Dease Lake 44.85 340 *e*P **P 23 03 24.4 +1.9**
comp=Z,341nm,1.4s
DLBC LR LR
comp=Z,152µm,19.0s
YKA Yellowknife Ar 45.00 352 P **P 23 03 22.6 -0.9**
comp=Z,66nm,0.9s,baz=162,slow=7.5,SNR=236
YKA Lg Lg 23 18 31.1
comp=Z,0.2nm,1.0s,baz=155,slow=24,SNR=2.5
RPN Rapa Nui 45.49 188 P **P 23 03 28.2 +0.4**
comp=Z,65nm,0.8s,baz=351,slow=4.5,SNR=6.7
RPN Rapa Nui 45.49 188 *e*P **P 23 03 28.3 +0.4**
comp=Z,233nm,0.9s
RPN LR LR
comp=Z,68µm,21.0s
TAOE Nuku Hiva Isla 45.57 237 *e*P **P 23 03 31.5 +2.7**
comp=Z,244nm,1.4s
SIT Sitka 45.70 336 *e*P **P 23 03 29.5 +0.3**
comp=Z,222nm,1.6s
SIT LR LR
comp=Z,77µm,21.0s
SIT Sitka 45.70 336 *e*P **P 23 03 29.5 +0.3**
SIT pmax pmax
comp=Z,222nm,1.6s
SIT MLR MLR
comp=Z,77µm,21.0s
SCHQ Schefferville 45.74 28 P **P 23 03 28.5 -1.1**
comp=Z,213nm,0.8s,baz=235,slow=6.8,SNR=54
SCHQ LR LR 23 23 32.4
comp=Z,80µm,18.2s,baz=229,slow=37
SCHQ Schefferville 45.74 28 *e*P **P 23 03 28.6 -1.1**
comp=Z,330nm,0.9s
PTGA Pitinga 46.19 109 P **P 23 03 33.7 -0.1**
comp=Z,60nm,0.8s,baz=300,slow=8.7,SNR=96
PTGA Pitinga 46.19 109 *e*P **P 23 03 33.7 -0.1**
comp=Z,130nm,0.9s
PTGA LR LR
comp=Z,33µm,18.0s
BESE Bessie Mountai 46.62 338 *e*P **P 23 03 38.0 +1.5**
comp=Z,202nm,1.6s
BESE LR LR
comp=Z,186µm,22.0s
SKAG Skagway 47.42 338 *e*P **P 23 03 43.6 +0.9**
comp=Z,175nm,1.5s
SKAG LR LR
comp=Z,214µm,18.0s
SAML Samuel 47.57 121 *e*P **P 23 03 42.9 -1.5**
comp=Z,112nm,1.2s
SAML LR LR
comp=Z,22µm,18.0s
WHY Whitehorse 48.15 339 *e*P **P 23 03 49.6 +1.2**
comp=Z,282nm,1.8s
WHY LR LR
comp=Z,123µm,22.0s
LPAZ La Paz 48.43 133 P **P 23 03 51.2 -0.5**
comp=Z,10nm,0.8s,baz=335,slow=8.6,SNR=29
LPAZ LR LR 23 22 10.5
comp=Z,20µm,21.6s,baz=316,slow=34
LPAZ La Paz 48.43 133 *e*P **P 23 03 51.8 0.0**
comp=Z,67nm,1.0s
LPAZ La Paz 48.43 133 *e*P **P 23 03 51.8 0.0**
LPAZ pmax pmax
comp=Z,67nm,1.0s
YKU2 Yakutat 49.06 336 PFAKE 23 04 10.0 +15
YKU2 LR LR
comp=Z,116µm,20.0s
HYT Haines Junctio 49.16 338 *e*P **P 23 03 57.3 +1.1**
comp=Z,250nm,1.3s
HYT LR LR
comp=Z,158µm,18.0s
HULD Heiheiahulu Di 49.18 280 PFAKE 23 04 10.0 +13
HULD LR LR
comp=Z,27µm,20.0s
JCUZ Jacuzzi 49.30 280 PFAKE 23 04 10.0 +12
JCUZ LR LR
comp=Z,23µm,20.0s
NPOC North of Pu'u 49.30 280 PFAKE 23 04 10.0 +12
NPOC LR LR
comp=Z,26µm,22.0s
STCH Steam Cracks 49.32 280 PFAKE 23 04 10.0 +12
STCH LR LR
comp=Z,23µm,20.0s
PUH Pauahi 49.41 280 PFAKE 23 04 10.0 +11
PUH LR LR
comp=Z,27µm,21.0s
HATHI Halema'uma'u T 49.44 280 PFAKE 23 04 10.0 +11
HATHI LR LR
comp=Z,26µm,21.0s
BYL Byron's Ledge 49.44 280 PFAKE 23 04 10.0 +11
BYL LR LR
comp=Z,18µm,19.0s
MNMC Minye Minye 49.45 137 *e*P **P 23 03 55.6 -3.5**
comp=Z,117nm,1.0s
SBLHI Steaming Bluff 49.45 280 PFAKE 23 04 10.0 +11
SBLHI LR LR
comp=Z,21µm,20.0s
KKO Keanakako'i 49.45 280 PFAKE 23 04 10.0 +11
KKO LR LR
comp=Z,26µm,21.0s
RIM Rim 49.46 280 PFAKE 23 04 10.0 +11
RIM LR LR
comp=Z,22µm,20.0s
UWB Uwekahuna B 49.46 280 PFAKE 23 04 10.0 +11
UWB LR LR
comp=Z,24µm,20.0s
NPH North Pit 49.46 280 PFAKE 23 04 10.0 +11
NPH LR LR
comp=Z,27µm,21.0s
OBL Observatory Le 49.47 280 PFAKE 23 04 10.0 +11
OBL LR LR
comp=Z,25µm,20.0s
UWE Uwekahuna 49.47 280 PFAKE 23 04 10.0 +11
UWE LR LR
comp=Z,22µm,19.0s
SDHHI Sand Hill 49.48 280 PFAKE 23 04 10.0 +11
SDHHI LR LR
comp=Z,26µm,20.0s
WRMHI West Rim 49.48 280 PFAKE 23 04 10.0 +11
WRMHI LR LR
comp=Z,23µm,20.0s
HLP Hilina Pali 49.50 280 *e*P **P 23 03 59.1 -0.3**
comp=Z,412nm,1.1s
HLP LR LR
comp=Z,29µm,20.0s
MLH Mauna Loa 49.55 280 PFAKE 23 04 10.0 +10
MLH LR LR
comp=Z,24µm,20.0s
HMH Humu'ula Sheep 49.63 281 *e*P **P 23 04 01.8 +1.2**
comp=Z,420nm,1.3s
HMH LR LR
comp=Z,27µm,19.0s
AIN Ainahou 49.63 280 *e*P **P 23 04 02.2 +1.6**
comp=Z,370nm,0.9s
AIN LR LR
comp=Z,24µm,21.0s
POHA Pohakuloa 49.65 281 PFAKE 23 04 10.0 +9.2
POHA LR LR
comp=Z,26µm,20.0s
MLOA Mauna Loa Obse 49.72 280 *e*P **P 23 04 02.5 +1.0**
comp=Z,443nm,1.3s
MLOA LR LR
comp=Z,25µm,20.0s
MWH Moku'aweowe 49.75 280 PFAKE 23 04 20.0 +18
MWH LR LR
comp=Z,23µm,19.0s
HPAH Hawaii Prepara 49.77 281 PFAKE 23 04 20.0 +19
HPAH LR LR
comp=Z,24µm,20.0s
KHU Kahuku 49.80 280 PFAKE 23 04 20.0 +18
KHU LR LR
comp=Z,26µm,20.0s
PB11 IPOC Station P 49.87 138 *e*P **P 23 04 02.4 +0.2**
comp=Z,204nm,1.1s
HUH Hualalai 49.95 281 PFAKE 23 04 20.0 +17
HUH LR LR
comp=Z,37µm,19.0s
KHLU Kahalu'u 50.01 281 PFAKE 23 04 20.0 +17
KHLU LR LR
comp=Z,36µm,19.0s
HLK Haleakala 50.20 282 PFAKE 23 04 20.0 +15
HLK LR LR
comp=Z,34µm,19.0s
KHLH Kahului Airpor 50.34 282 PFAKE 23 04 20.0 +14
KHLH LR LR
comp=Z,34µm,20.0s
PTCN Pitcairn Islan 50.53 213 PFAKE 23 04 20.0 +13
PTCN LR LR
comp=Z,48µm,22.0s
PB01 IPOC Station P 50.91 139 *e*P **P 23 04 10.8 +0.8**
comp=Z,163nm,1.2s
PB01 LR LR
comp=Z,16µm,18.0s
BALM Baldy 51.07 337 *e*P **P 23 04 12.4 +1.7**
comp=Z,248nm,1.3s
BALM LR LR
comp=Z,125µm,19.0s
BALM Baldy 51.07 337 *e*P **P 23 04 12.4 +1.7**
BALM pmax pmax
comp=Z,248nm,1.3s
BALM MLR MLR
comp=Z,125µm,19.0s
FRB Frobisher Bay 51.15 19 P **P 23 04 10.3 -0.8**
comp=Z,23nm,0.5s,baz=221,slow=10,SNR=76
PB04 IPOC Station P 51.46 140 *e*P **P 23 04 14.7 +0.5**
comp=Z,158nm,1.2s
PB04 LR LR
comp=Z,21µm,22.0s
RAGM Ragged Mountai 51.58 335 *e*P **P 23 04 16.6 +2.1**
comp=Z,269nm,1.4s
RAGM *e*PcP **PcP 23 05 24.1 -4.0**
RKT Rikitea 51.67 219 *e*S **S 23 11 34.0 -1.4**
comp=Z,47µm,27.8s
RKT *e*SS **SS 23 15 13.8 +1.5**
RKT comp=Z,15µm,28.2s *e*LR LR 23 19 12.8
comp=Z,111µm,28.0s,baz=34
RKT Rikitea 51.67 219 *e*T T 23 59 23.4
comp=Z,176nm,0.3s
MID Middleton Isla 51.72 333 *e*P **P 23 04 16.2 +0.8**
comp=Z,515nm,1.6s
MID Middleton Isla 51.72 333 *e*P **P 23 04 16.2 +0.8**
MID pmax pmax
comp=Z,515nm,1.6s
OPA Opana 51.72 284 PFAKE 23 04 30.0 +14
OPA LR LR
comp=Z,30µm,19.0s
HON Honolulu 51.76 283 *e*P **P 23 04 17.1 +0.8**
comp=Z,572nm,1.2s
HON LR LR
comp=Z,28µm,20.0s
HON Honolulu 51.76 283 *e*P **P 23 04 17.1 +0.8**
HON pmax pmax
comp=Z,572nm,1.2s
HON MLR MLR
comp=Z,28µm,20.0s
KIP Kipapa 51.76 283 *e*P **P 23 04 17.5 +1.2**
comp=Z,260nm,1.3s
KIP LR LR
comp=Z,30µm,22.0s
KIP Kipapa 51.76 283 *ce*P **P 23 04 17.2 +0.9**
KIP pmax pmax
comp=Z,1µm,1.7s
BMRM Bremner River 51.89 336 *e*P **P 23 04 18.8 +2.0**
comp=Z,454nm,1.4s
BMRM LR LR
comp=Z,71µm,20.0s
DAWY Dawson 52.06 341 *e*P **P 23 04 18.9 +0.9**
comp=Z,89nm,0.9s
DAWY LR LR
comp=Z,100µm,18.0s
EYAK Cordova Ski Ar 52.10 335 *e*P **P 23 04 20.5 +2.2**
comp=Z,233nm,1.1s
EYAK LR LR
comp=Z,83µm,18.0s
PB10 IPOC Station P 52.11 142 *e*P **P 23 04 19.7 +0.9**
comp=Z,108nm,1.1s
PB10 LR LR
comp=Z,30µm,21.0s
DIV Divide 52.45 335 *e*P **P 23 04 22.8 +1.8**
comp=Z,217nm,1.2s
DIV LR LR
comp=Z,64µm,20.0s
KLU Klutina 52.72 336 *e*P **P 23 04 24.8 +1.9**
comp=Z,206nm,1.0s
KLU LR LR
comp=Z,76µm,21.0s
MENT Mentasta 52.77 338 *e*P **P 23 04 24.8 +1.5**
comp=Z,230nm,1.4s
MENT LR LR
comp=Z,89µm,19.0s
HARP HAARP 52.97 337 *e*P **P 23 04 26.5 +1.8**
comp=Z,409nm,1.2s
HARP LR LR
comp=Z,175µm,18.0s
EGAK Eagle 53.11 341 *e*P **P 23 04 26.5 +0.9**
comp=Z,300nm,1.3s
EGAK LR LR
comp=Z,66µm,19.0s
KEKH Kekaha 53.26 284 *e*P **P 23 04 28.0 +0.6**
comp=Z,594nm,1.7s
DOT Dot Lake 53.34 339 *e*P **P 23 04 28.6 +1.2**
comp=Z,939nm,1.4s
DOT LR LR
comp=Z,239µm,20.0s
PAX Paxson 53.42 337 *e*P **P 23 04 29.0 +0.9**
comp=Z,148nm,1.0s
PAX LR LR
comp=Z,74µm,20.0s
PAX Paxson 53.42 337 *e*P **P 23 04 29.0 +0.9**
PAX pmax pmax
comp=Z,148nm,1.0s
PAX MLR MLR
comp=Z,74µm,20.0s
SCM Sheep Creek Mo 53.47 336 *e*P **P 23 04 29.6 +1.2**
comp=Z,488nm,1.7s
SCM LR LR
comp=Z,82µm,18.0s
SCM Sheep Creek Mo 53.47 336 *e*P **P 23 04 29.6 +1.2**
SCM pmax pmax
comp=Z,488nm,1.7s
SCM MLR MLR
comp=Z,82µm,18.0s
SCRK Sand Creek 53.52 339 *e*P **P 23 04 30.3 +1.5**
comp=Z,309nm,1.4s
SCRK LR LR
comp=Z,116µm,19.0s
RIDG Independ'e Rid 53.66 338 *e*P **P 23 04 31.5 +1.7**
comp=Z,1µm,1.6s
RIDG LR LR
comp=Z,91µm,19.0s
INK Inuvik 53.68 346 LR LR 23 28 29.9
comp=Z,86µm,18.8s,baz=137,slow=37
INK Inuvik 53.68 346 *e*P **P 23 04 30.3 +0.5**
comp=Z,221nm,0.9s
INK Inuvik 53.68 346 *e*P **P 23 04 30.3 +0.5**
INK pmax pmax
comp=Z,221nm,0.9s
KDAK Kodiak Island 53.74 330 P **P 23 04 31.9 +1.6**
comp=Z,83nm,1.1s,baz=103,slow=5.2,SNR=18
KDAK LR LR 23 25 02.4
comp=Z,45µm,19.0s,baz=120,slow=33
KDAK Kodiak Island 53.74 330 *e*P **P 23 04 31.9 +1.6**
comp=Z,280nm,1.3s
KDAK Kodiak Island 53.74 330 *e*P **P 23 04 31.9 +1.6**
KDAK pmax pmax
comp=Z,280nm,1.3s
OHAK Old Harbor 53.84 329 *e*P **P 23 04 32.7 +1.6**
comp=Z,226nm,0.9s
OHAK LR LR
comp=Z,39µm,20.0s
SML Sawmill 53.85 335 *e*P **P 23 04 32.2 +1.0**
comp=Z,351nm,1.2s
SML LR LR
comp=Z,62µm,21.0s
SML Sawmill 53.85 335 *e*P **P 23 04 32.2 +1.0**
SML pmax pmax
comp=Z,351nm,1.2s
SML MLR MLR
comp=Z,62µm,21.0s
BRLK Bradley Lake 53.87 332 *e*P **P 23 04 32.7 +1.4**
comp=Z,185nm,0.8s
BRLK LR LR
comp=Z,43µm,19.0s
RC01 Rabbit Creek A 54.04 334 *e*P **P 23 04 33.6 +1.1**
comp=Z,162nm,1.2s
RC01 LR LR
comp=Z,50µm,18.0s
PMR Palmer 54.05 335 *e*P **P 23 04 33.3 +0.7**
comp=Z,646nm,1.8s
PMR LR LR
comp=Z,62µm,21.0s
PMR Palmer 54.05 335 *e*P **P 23 04 33.3 +0.7**
PMR pmax pmax
comp=Z,646nm,1.8s
PMR MLR MLR
comp=Z,62µm,21.0s
HOM Homer 54.15 332 *e*P **P 23 04 35.0 +1.6**
comp=Z,618nm,1.4s
HOM LR LR
comp=Z,36µm,18.0s
DHY Denali Highway 54.19 337 *e*P **P 23 04 34.5 +0.7**
comp=Z,177nm,1.4s
DHY LR LR
comp=Z,77µm,19.0s
YJA Yavi 54.28 136 *e*P **P 23 04 35.7 +0.4**
SUA Susitna One 54.65 334 *e*P **P 23 04 38.0 +0.9**
comp=Z,316nm,1.1s
SUA LR LR
comp=Z,38µm,21.0s
HDA Harding Lake 54.81 338 *e*P **P 23 04 38.8 +0.7**
comp=Z,251nm,1.3s
HDA LR LR
comp=Z,86µm,20.0s
RND Reindeer 54.93 337 *e*P **P 23 04 40.3 +1.2**
comp=Z,385nm,1.2s
RND *e*PcP **PcP 23 05 42.4 +1.6**
RND LR LR
comp=Z,135µm,18.0s
RND Reindeer 54.93 337 *e*P **P 23 04 40.3 +1.2**
RND *e* 23 05 42.4
RND pmax pmax
comp=Z,385nm,1.2s
RND MLR MLR
comp=Z,135µm,18.0s
IL1 Eielson Array 55.00 339 *e*P **P 23 04 40.2 +0.7**
ILAR Eielson Array 55.00 339 P **P 23 04 40.1 +0.7**
comp=Z,143nm,1.1s,baz=145,slow=5.4,SNR=308
ILAR LR LR 23 27 31.4
comp=Z,36µm,19.9s,baz=128,slow=35
ILB Eielson Array 55.00 339 *e*P **P 23 04 40.2 +0.7**
RSO Redoubt South 55.02 332 *e*P **P 23 04 40.8 +0.8**
SPU Mount Spurr 55.06 333 *e*P **P 23 04 40.6 +0.6**
HJA Humahuaca 55.08 137 *e*P **P 23 04 41.2 +0.1**
MCK McKinley 55.14 337 *e*P **P 23 04 41.6 +1.1**
comp=Z,204nm,1.1s
MCK LR LR
comp=Z,121µm,18.0s
MCK McKinley 55.14 337 *e*P **P 23 04 41.7 +1.1**
MCK pmax pmax
comp=Z,204nm,1.1s
MCK MLR MLR
comp=Z,121µm,18.0s
VAH Vaihoa 55.21 236 *e*P **P 23 04 44.8 +3.2**
comp=Z,346nm,1.3s
VAH Vaihoa 55.21 236 *e*T T 00 03 51.4
comp=Z,79nm,0.3s
WRH Wood River Hil 55.25 338 *e*P **P 23 04 41.7 +0.4**
comp=Z,105nm,1.0s
WRH LR LR
comp=Z,114µm,18.0s
CCB Clear Creek Bu 55.25 338 *e*P **P 23 04 41.6 +0.3**
comp=Z,114nm,1.2s
CCB LR LR
comp=Z,80µm,19.0s
PMOR Pomariorio Ree 55.29 236 *e*P **P 23 04 45.5 +3.3**
comp=Z,319nm,1.5s
PMOR Pomariorio Ree 55.29 236 *e*T T 00 03 51.8
comp=Z,61nm,0.4s
COLA College 55.40 338 *e*P **P 23 04 42.9 +0.6**
comp=Z,199nm,1.1s
COLA LR LR
comp=Z,51µm,19.0s
COLA College 55.40 338 *e*P **P 23 04 42.9 +0.6**
COLA pmax pmax
comp=Z,199nm,1.1s
COLA MLR MLR
comp=Z,51µm,19.0s
TRF Thorofare Moun 55.50 336 *e*P **P 23 04 44.3 +1.0**
comp=Z,381nm,1.0s
TRF LR LR
comp=Z,128µm,19.0s
FYU Fort Yukon 55.56 341 *e*P **P 23 04 44.7 +1.3**
comp=Z,336nm,0.9s
FYU LR LR
comp=Z,78µm,18.0s
MDM Murphy Dome 55.58 338 *e*P **P 23 04 44.1 +0.4**
comp=Z,201nm,1.4s
MDM LR LR
comp=Z,62µm,19.0s
KTH Kantishna Hill 55.79 336 *e*P **P 23 04 45.8 +0.5**
comp=Z,352nm,1.4s
KTH LR LR
comp=Z,114µm,18.0s
XMAS Kiritimati 55.83 260 PFAKE 23 05 00.0 +14
XMAS LR LR
comp=Z,53µm,19.0s
PPLA Purkeypile 55.95 335 *e*P **P 23 04 47.4 +0.9**
comp=Z,759nm,1.5s
PPLA LR LR
comp=Z,170µm,18.0s
AZAP Zapla 56.02 138 *e*P **P 23 04 47.8 +0.1**
BPAW Bear Paw Mtn. 56.10 337 *e*P **P 23 04 47.9 +0.5**
comp=Z,291nm,1.4s
BPAW LR LR
comp=Z,114µm,19.0s
CHGN Chignik 56.11 326 *e*P **P 23 04 47.9 +0.4**
comp=Z,245nm,1.6s
CHGN LR LR
comp=Z,29µm,20.0s
CAST Castle Rocks 56.17 336 *e*P **P 23 04 48.2 +0.2**
comp=Z,318nm,1.2s
CAST LR LR
comp=Z,150µm,19.0s
ASTB Santa Barbara 56.22 137 *e*P **P 23 04 49.0 0.0**
LCO Las Campanas 56.30 146 *e*P **P 23 04 49.6 0.0**
comp=Z,129nm,1.1s
LCO LR LR
comp=Z,37µm,20.0s
ALOL LOMAS DE OLMED 56.43 136 *e*P **P 23 04 50.3 0.0**
MLY Manley 56.51 338 *e*P **P 23 04 51.1 +0.8**
comp=Z,295nm,1.3s
MLY LR LR
comp=Z,87µm,19.0s
SVW2 Sparrevohn 56.55 332 *e*P **P 23 04 51.0 +0.4**
comp=Z,322nm,1.2s
SVW2 LR LR
comp=Z,45µm,18.0s
RES Resolute Bay 56.67 3 P **P 23 04 50.2 -1.0**
comp=Z,26nm,0.7s,baz=189,slow=9.7,SNR=30
RES LR LR 23 29 08.6
comp=Z,55µm,20.8s,baz=192,slow=36
RES Resolute Bay 56.67 3 *e*P **P 23 04 50.3 -1.0**
comp=Z,94nm,1.3s
FSA Cafayete 56.80 140 *e*P **P 23 04 53.3 +0.2**
SDPT Sand Point 56.92 325 *e*P **P 23 04 54.0 +0.6**
comp=Z,231nm,1.1s
SDPT LR LR
comp=Z,22µm,20.0s
VCA Vinchina 57.45 144 *e*P **P 23 04 57.7 +0.1**
IVI Ivigtut 57.48 28 *e*P **P 23 04 57.2 +0.1**
comp=Z,166nm,1.3s
IVI LR LR
comp=Z,118µm,18.0s

COLD Coldfoot 57.53 340 *e*P P 23 04 59.0 +1.5
comp=Z,233nm,1.2s
COLD LR LR
comp=Z,88µm,22.0s
AHML Horco Mollie 57.69 140 *e*P P 23 04 59.1 0.0
TIAR Tiarei 57.90 235 *e*P P 23 05 03.7 +2.9
comp=Z,48nm,1.1s
TVO Taravao 57.95 234 *e*P P 23 05 04.0 +2.8
comp=Z,32nm,1.0s
IM3 Indian Mountai 58.07 338 *e*P P 23 05 01.1 -0.2
PPT Papeete 58.08 235 LR LR 23 22 57.2
comp=Z,42µm,21.8s,baz=58,slow=29
PPTF Pamatai, Papee 58.08 235 PFAKE 23 05 20.0 +18
PPTF LR LR
comp=Z,37µm,21.0s
PPT2 Papeete2 58.09 235 *e*P P 23 05 05.0 +2.8
comp=Z,85nm,1.4s
PPT2 *e*S S 23 13 00.6 -1.3
comp=Z,75µm,26.5s
PPT2 *e*SS SS 23 16 53.5 -0.4
comp=Z,24µm,25.2s
PPT2 *e*LQ LQ 23 19 41.8
comp=Z,35µm,25.8s
PPT2 *e*LR LR 23 22 03.4
comp=Z,122µm,25.8s,baz=46
PAE Paea 58.14 235 *e*P P 23 05 05.8 +3.4
comp=Z,40nm,1.5s
TOLK Toolik Lake Re 58.15 342 P P 23 05 02.8 +1.0
baz=125
TOLK Toolik Lake Re 58.15 342 *e*P P 23 05 02.9 +1.0
comp=Z,154nm,1.0s
TOLK LR LR
comp=Z,114µm,20.0s
FALS False Pass 58.42 324 *e*P P 23 05 04.4 +0.5
comp=Z,298nm,0.8s
FALS LR LR
comp=Z,27µm,20.0s
NRS Narsarsuaq 58.70 29 *i*P P 23 05 04.9 -0.8
NRS *i* 23 08 47.9
NRS Narsarsuaq 58.70 29 *e*P P 23 05 05.2 -0.6
comp=Z,82nm,0.9s
NRS LR LR
comp=Z,123µm,18.0s
NRS Narsarsuaq 58.70 29 *e*P P 23 05 04.9 -0.8
NRS *i* 23 08 47.9
AMOG MOGNA 58.99 146 *e*P P 23 05 08.4 +0.2
SFJD Kangerlussuaq 59.05 21 P P 23 05 07.2 -0.9
comp=Z,40nm,0.9s,baz=232,slow=5.4,SNR=13
SFJD LR LR 23 33 01.2
comp=Z,72µm,18.3s,baz=247,slow=39
SFJD Kangerlussuaq 59.05 21⇑*i*P P 23 05 07.1 -1.0
SFJD Kangerlussuaq 59.05 21 *e*P P 23 05 07.2 -0.9
comp=Z,75nm,1.1s
SFJD Kangerlussuaq 59.05 21⇑*i*P P 23 05 07.1 -1.0
RTLS Leoncito 59.24 147 *e*P P 23 05 10.9 +0.7
ROC1 El Roble 59.31 149 *e*P P 23 05 10.8 +0.1
comp=Z,63nm,0.9s
ROC1 LR LR
comp=Z,100nm,18.0s
AUSP Uspallata 59.52 147 *e*P P 23 05 12.7 +0.5
PEL Peldehue 59.61 149 *e*P P 23 05 13.1 +0.7
comp=Z,548nm,1.8s
PEL Peldehue 59.61 149 *e*P P 23 05 13.1 +0.7
PEL pmax pmax
comp=Z,548nm,1.8s
AKUT Akutan 59.61 323 PFAKE 23 05 30.0 +18
AKUT LR LR
comp=Z,18µm,20.0s
RTCV Cerro Valdivia 59.68 146 *e*P P 23 05 13.5 +0.5
UNV Unalaska Valle 59.98 322 *e*P P 23 05 14.9 +0.2
comp=Z,761nm,1.9s
UNV LR LR
comp=Z,19µm,19.0s
ILULI Ilulissat 60.00 19 *i*P P 23 05 13.9 -0.6
ILULI Ilulissat 60.00 19 *e*P P 23 05 13.9 -0.6
comp=Z,90nm,1.0s
ILULI LR LR
comp=Z,136µm,18.0s
ILULI Ilulissat 60.00 19 *i*P P 23 05 13.9 -0.6
ASAL Salagasta 60.10 147 *e*P P 23 05 16.4 +0.5
ARCO CERRO ARCO 60.25 147 *e*P P 23 05 17.2 +0.2
AAGR Agrelo 60.49 147 *e*P P 23 05 18.9 +0.3
ACAN Cantantal 60.72 145 *e*P P 23 05 20.4 +0.3
TULEG Thule 60.90 9 *e*P P 23 05 20.3 -0.3
comp=Z,77nm,0.9s
TULEG *e*PcP PcP 23 06 00.1 -3.8
TULEG *e*PP PP 23 07 29.7 -5.0
TULEG LR LR
comp=Z,168µm,18.0s
AVIZ Vizcacheras 60.96 147 *e*P P 23 05 22.1 +0.3
TCA Tanti 61.46 143 *e*P P 23 05 25.3 +0.1
KULLO Kullorsuaq 61.51 13⇑*i*P P 23 05 24.7 -0.1
KULLO Kullorsuaq 61.51 13⇑*i*P P 23 05 24.7 -0.1
CPUP Villa Florida 62.59 134 P P 23 05 32.3 -0.4
comp=Z,23nm,0.7s,baz=323,slow=7.6,SNR=59
CPUP LR LR 23 32 44.2
comp=Z,18µm,19.1s,baz=338,slow=36
CPUP Villa Florida 62.59 134 *e*P P 23 05 32.4 -0.3
comp=Z,145nm,1.4s
JOHN Johnston Islan 63.27 280 PFAKE 23 05 50.0 +13
JOHN LR LR
comp=Z,24µm,20.0s
ANGG Ammassalik, Gr 63.40 25 *e*P P 23 05 36.9 -0.6
comp=Z,174nm,0.9s
ANGG LR LR
comp=Z,147µm,18.0s
GAMB Gambell 64.49 333 *e*P P 23 05 45.7 +1.0
comp=Z,166nm,1.4s
GAMB LR LR
comp=Z,68µm,20.0s
H07S1 FLORES T-PHASE 64.67 54 P P 23 05 46.3 -0.1
H07S1 FLORES T-PHASE 64.67 54 *e*P P 23 05 46.7 +0.3
H07S1 *e*S S 23 14 27.4 +2.5
SUMG Summit 65.18 17⇑*i*P P 23 05 49.7 +0.1
comp=Z,287nm,16.0s
SUMG Summit 65.18 17 *e*P P 23 05 49.0 -0.6
comp=Z,147nm,0.9s
SUMG LR LR
comp=Z,247µm,18.0s
SUMG Summit 65.18 17⇑*i*P P 23 05 49.7 +0.1
SUMG MLR MLR
comp=Z,290µm,16.0s
PLCA Paso Flores 65.89 154 P P 23 05 54.9 +0.7
comp=Z,26nm,0.9s,baz=344,slow=8.4,SNR=48
PLCA LR LR 23 28 43.4
comp=Z,38µm,18.9s,baz=2.0,slow=31
PLCA Paso Flores 65.89 154 *e*P P 23 05 55.3 +1.1
comp=Z,368nm,1.6s
PLCA Paso Flores 65.89 154 *e*P P 23 05 55.3 +1.1
PLCA pmax pmax
comp=Z,368nm,1.6s
PCED Cedros 66.67 55 *e*P P 23 05 53.7 -5.6
comp=Z,226nm,1.1s
CALA Caldeira 66.67 55 *e*P P 23 05 54.7 -4.7
HOR Horta 66.73 55 *e*P P 23 06 00.8 +1.1
PICO Pico 66.89 55 *e*P P 23 06 02.0 +1.1
comp=Z,442nm,1.2s
PMAN Manadas 67.14 55 *e*P P 23 06 02.8 +0.5
comp=Z,262nm,1.4s
PGRA Graciosa 67.19 55 *e*P P 23 06 03.0 +0.4
comp=Z,402nm,1.3s
PGRA *e*S S 23 14 53.1 -2.6
ADH Angra Heroismo 67.81 55 *e*P P 23 06 07.5 +1.0
comp=Z,266nm,1.1s
TRQA Tornquist 67.88 146 *e*P P 23 06 07.0 +0.1
comp=Z,442nm,1.9s
TRQA LR LR
comp=Z,24µm,20.0s
RAR Rarotonga 68.12 237 LR LR 23 28 21.9
comp=Z,32µm,19.5s,baz=60,slow=29
SPB Sao Paulo 68.22 126 *e*P P 23 06 08.6 -0.7
comp=Z,88nm,1.2s
SPB LR LR
comp=Z,27µm,20.0s
MIDW Midway 68.27 294 PFAKE 23 06 20.0 +10
MIDW LR LR
comp=Z,24µm,18.0s
PSET Sete Cidades 69.09 56 *e*P P 23 06 14.6 0.0
comp=Z,668nm,1.3s
PSET *e*S S 23 15 15.6 -2.8
PDA Ponta Delgada 69.14 56 *e*P P 23 06 16.2 +1.3
comp=Z,504nm,1.2s
GRON Grota Negra 69.24 56 *e*P P 23 06 18.0 +2.4
comp=Z,65nm,0.7s
CMLA Cha da Macela 69.25 56 *e*P P 23 06 16.3 +0.7
comp=Z,448nm,1.3s
CMLA *e*S S 23 15 16.9 -3.4
CMLA *e*LQ LQ 23 24 14.2
CMLA Cha da Macela 69.25 56 *e*P P 23 06 15.0 -0.6
comp=Z,526nm,1.4s
CMLA Cha da Macela 69.25 56 *e*P P 23 06 15.0 -0.6
CMLA pmax pmax
comp=Z,526nm,1.4s
PCALD Caldeiras da R 69.27 56 *e*P P 23 06 16.6 +0.9
comp=Z,575nm,1.1s
BART Pico Bartolome 69.53 56 *e*P P 23 06 18.1 +0.7
comp=Z,1µm,1.4s
PSMA Santa Maria 69.66 57 *e*P P 23 06 18.4 +0.3
comp=Z,334nm,1.1s
PSMN Pico do Norte, 69.71 57 *e*P P 23 06 18.1 -0.4
comp=Z,269nm,1.4s
PSMN *e*S S 23 15 19.7 -6.1
PSMN *e*LQ LQ 23 24 23.9
SCO Scoresbysund 69.95 21⇑*i*P P 23 06 19.3 +0.1
comp=Z,79µm,17.0s
SCO Scoresbysund 69.95 21 *e*P P 23 06 19.3 +0.1
comp=Z,205nm,2.0s
SCO LR LR
comp=Z,38µm,20.0s
SCO Scoresbysund 69.95 21⇑*i*P P 23 06 19.3 +0.1
SCO MLR MLR
comp=Z,79µm,17.0s
BORG Borgarnes 70.10 27 LR LR 23 38 09.0
comp=Z,89µm,18.1s,baz=296,slow=37
BORG Borgarnes 70.10 27 *e*P P 23 06 20.9 +0.7
comp=Z,215nm,1.4s
BORG Borgarnes 70.10 27 *e*P P 23 06 20.9 +0.7
BORG pmax pmax
comp=Z,215nm,1.4s
RCBR Riachuelo 70.21 103 PFAKE 23 06 30.0 +8.1
RCBR LR LR
comp=Z,49µm,20.0s
KNTN Kanton 70.87 260 *e*P P 23 06 29.1 +3.2
comp=Z,208nm,1.1s
KNTN LR LR
comp=Z,28µm,20.0s
DAG Danmarks Havn 71.08 14⇑*i*P P 23 06 25.8 -0.3
comp=Z,92µm,13.0s
DAG Danmarks Havn 71.08 14⇑*i*P P 23 06 25.8 -0.3
DAG MLR MLR
comp=Z,92µm,13.0s
SMY Shemya 71.54 320 PFAKE 23 06 40.0 +11
SMY LR LR
comp=Z,19µm,20.0s
BILL Bilibino 73.60 337⇑*i*P P 23 06 41.7 +0.5
BILL *e* 23 06 54.8
BILL *e* 23 09 25.2
BILL *e*PPP PPP 23 11 09.9
BILL *i*S S 23 16 06.2 -3.3
BILL *i*SS SS 23 20 51.9 -0.3
BILL pmax pmax
comp=Z,62nm,1.2s
BILL MLR MLR
comp=Z,110µm,16.0s
JMIC Jan Mayen 74.36 20⇑*i*P P 23 06 46.9 +1.3
AFI Afiamalu 75.04 250 LR LR 23 33 03.0
comp=Z,37µm,18.1s,baz=66,slow=30
SACV Santiago Islan 75.48 79 PFAKE 23 07 00.0 +6.9
SACV LR LR
comp=Z,14µm,22.0s
PMOZ Porto Moniz, M 76.83 60⇑*i*P P 23 07 01.9 +1.2
comp=Z,277nm,1.1s
PMOZ *e*S S 23 16 51.8 +4.9
PMOZ Porto Moniz, M 76.83 60 *e*LR LR 23 31 08.7
comp=Z,25µm,22.0s
KBS Kingsbay 76.85 10 *e*P P 23 07 02.2 +2.4
comp=Z,103nm,0.8s
KBS LR LR
comp=Z,112µm,18.0s
KBS Kingsbay 76.85 10⇑*i*P P 23 07 02.0 +2.2
KBS Kingsbay 76.85 10 *e*P P 23 07 02.2 +2.4
KBS pmax pmax
comp=Z,103nm,0.8s
KBS MLR MLR
comp=Z,112µm,18.0s
PMAR Madeira 77.09 60⇓*i*P P 23 07 04.2 +2.0
comp=Z,170nm,1.7s
FUL Funchal 77.12 60⇓*i*P P 23 07 04.2 +2.0
PMPS Porto Santo 77.48 59⇑*e*P P 23 07 05.1 +0.9
comp=Z,376nm,1.6s
SPA0 Spitsbergen Ar 77.99 11 *e*P P 23 07 07.1 +0.9
SPA0 Spitsbergen Ar 77.99 11⇑*i*P P 23 07 06.9 +0.7
SPITS Spitsbergen Ar 77.99 11 P P 23 07 07.2 +0.9
comp=Z,52nm,0.7s,baz=330,slow=4.8,SNR=72
IDGL Inch Island, C 78.29 36⇑*e*P P 23 07 08.5 +0.3
HSPB Hornsund (broa 78.46 12⇑*i*P P 23 07 10.6 +1.8
HSPB Hornsund (broa 78.46 12 *e*P P 23 07 10.3 +1.5
HSPB *e*S S 23 17 16.9 +14
HSPB *e* 23 18 01.4
HSPB MLR MLR
comp=Z,77µm,20.2s
KPL Plockton 78.69 33⇑*e*P P 23 07 11.1 +0.7
KPL IAMs_20 IAMs_20 23 44 46.2
comp=Z,44µm,16.7s
CLGH Cloghs, Cushen 79.07 36⇑*e*P P 23 07 13.0 +0.5
CLGH IAMs_20 IAMs_20 23 40 54.1
comp=Z,49µm,21.8s
BIGH Upper Bighouse 79.25 32 *e*P P 23 07 13.7 +0.3
BIGH IAMs_20 IAMs_20 23 44 28.2
comp=Z,80µm,15.7s
GMK Mull of Kintyr 79.28 35⇑*e*P P 23 07 14.3 +0.6
MDO Dochfour 79.33 33⇑*e*P P 23 07 14.2 +0.3
GMM Mts of Mourne 79.39 36⇑*e*P P 23 07 14.5 +0.2
DSB Dublin 79.42 37 *e*P P 23 07 14.9 +0.4
comp=Z,120nm,1.1s
DSB LR LR
comp=Z,48µm,20.0s
IWEX Carrickbyrne, 79.43 38⇑*e*P P 23 07 15.2 +0.6
EAB Aberfoyle 79.71 34⇑*e*P P 23 07 16.7 +0.7
PGBU Glenifferbraes 79.75 35⇑*e*P P 23 07 16.9 +0.7
PGBU IAMs_20 IAMs_20 23 41 26.6
comp=Z,46µm,22.2s
EFI East Falkland 79.81 154 PFAKE 23 07 30.0 +14
EFI LR LR
comp=Z,27µm,19.0s
MCD Coleburn Disti 79.86 33⇑*e*P P 23 07 16.9 +0.1
GAL1 Galloway 79.90 36⇑*e*P P 23 07 17.8 +0.7
GAL1 IAMs_20 IAMs_20 23 45 55.7
comp=Z,23µm,18.1s
LRW Lerwick 80.07 30⇑*e*P P 23 07 17.5 -0.4
LRW IAMs_20 IAMs_20 23 45 37.1
comp=Z,47µm,15.5s
IOMK Kirk Michael 80.16 36⇑*e*P P 23 07 19.4 +0.9
IOMK IAMs_20 IAMs_20 23 43 48.6
comp=Z,61µm,16.3s
EDU Dundee 80.31 34⇑*e*P P 23 07 20.1 +0.9
EDI Edinburgh 80.41 34⇑*e*P P 23 07 20.7 +0.9
EDI IAMs_20 IAMs_20 23 47 36.6
comp=Z,43µm,16.0s
WPS Cemaes, Angles 80.46 37⇑*e*P P 23 07 20.4 +0.3
WPS IAMs_20 IAMs_20 23 44 05.1
comp=Z,46µm,17.2s
DRUM Mains of Drumt 80.47 33⇑*e*P P 23 07 19.9 -0.2
DRUM IAMs_20 IAMs_20 23 47 52.4
comp=Z,47µm,16.5s
SEY Seymchan 80.48 333 P P 23 07 21.1 +1.1
comp=Z,75nm,0.9s,baz=86,slow=5.3,SNR=49
SEY Seymchan 80.48 333 *e*P P 23 07 21.3 +1.3
HOPEN Hopen 80.51 11⇑*i*P P 23 07 21.1 +1.1
WLF1 Llynfaes 80.55 37⇑*e*P P 23 07 21.2 +0.7
WLF1 IAMs_20 IAMs_20 23 41 54.3
comp=Z,95µm,21.7s
ESK Eskdalemuir 80.59 35 *e*P P 23 07 21.6 +0.8
comp=Z,136nm,1.0s
ESK LR LR
comp=Z,52µm,21.0s
ESK Eskdalemuir 80.59 35⇑*e*P P 23 07 20.2 -0.5
ESK IAMs_20 IAMs_20 23 42 00.5
comp=Z,56µm,21.7s
ESK Eskdalemuir 80.59 35 *e*P P 23 07 21.6 +0.8
ESK pmax pmax
comp=Z,136nm,1.0s
ESK MLR MLR
comp=Z,52µm,21.0s
BJO Bjornoya 80.59 13⇑*i*P P 23 07 21.6 +1.1
EKA Eskdalemuir Ar 80.61 35 P P 23 07 21.3 +0.5
comp=Z,51nm,0.8s,baz=298,slow=4.6,SNR=50
EKA LR LR 23 42 53.8
comp=Z,34µm,21.8s,baz=295,slow=36
PET Petropavlovsk 80.63 323 *e*P P 23 07 22.3 +1.3
comp=Z,226nm,1.3s
PET LR LR
comp=Z,26µm,18.0s
PET Petropavlovsk 80.63 323⇑*i*P P 23 07 21.9 +0.9
PET *e* 23 10 30.0
PET *i*S S 23 17 27.2 +0.8
PET *e*PS PnS 23 18 16.3 +2.1
PET *e*SS SS 23 22 44.8 +6.1
PET pmax pmax
comp=Z,12µm,13.1s
PET pmax pmax
comp=Z,11µm,12.9s
PET pmax pmax
comp=Z,149nm,1.3s
PET smax smax
comp=N,27µm,19.5s
PET smax smax
comp=N,21µm,12.4s
PET MLR MLR
comp=Z,24µm,20.0s
BHH Howats Hill 80.65 35⇑*e*P P 23 07 22.1 +1.0
ECK Cauldkaine Hil 80.67 35⇑*e*P P 23 07 21.9 +0.7
ESY Stoneypath 80.72 34⇑*e*P P 23 07 22.4 +1.0
KESW Keswick, Cumbr 80.87 36⇑*e*P P 23 07 23.0 +0.7
KESW IAMs_20 IAMs_20 23 46 23.1
comp=Z,42µm,18.2s
CCA1 Carnmenellis 80.99 40⇑*e*P P 23 07 23.9 +0.9
CCA1 IAMs_20 IAMs_20 23 44 42.8
comp=Z,74µm,16.2s
LPW Lampeter 81.10 38⇑*e*P P 23 07 23.1 -0.5
LPW IAMs_20 IAMs_20 23 44 32.3
comp=Z,63µm,15.4s
LLW Llanuwchllyn 81.11 37⇑*e*P P 23 07 23.9 +0.4
LLW IAMs_20 IAMs_20 23 43 43.3
comp=Z,539µm,18.0s
PEA0B Petropavlovsk- 81.15 323 *e*P P 23 07 25.5 +1.7
comp=Z,204nm,1.1s
PEA0B LR LR
comp=Z,22µm,21.0s
PETK Petropavlovsk- 81.15 323 P P 23 07 24.6 +0.8
comp=Z,64nm,0.9s,baz=81,slow=8.5,SNR=20
PETK Petropavlovsk- 81.15 323 *e*P P 23 07 24.9 +1.1
PETK Petropavlovsk- 81.15 323 *e*P P 23 07 24.9 +1.1
HTL Hartland 81.20 39⇑*e*P P 23 07 25.1 +1.0
HTL IAMs_20 IAMs_20 23 45 09.6
comp=Z,28µm,15.6s
FUNA Funafuti 81.32 258 PFAKE 23 07 40.0 +15
FUNA LR LR
comp=Z,26µm,20.0s
FOEL Foel Wylfa 81.36 37 *e*P P 23 07 24.4 -0.5
FOEL IAMs_20 IAMs_20 23 43 56.0
comp=Z,50µm,17.6s
PTO Porto 81.37 50 *e*P P 23 07 26.9 +1.7
comp=Z,333nm,1.7s
PGAV Gavieira, Arco 81.38 49⇑*i*P P 23 07 26.0 +0.6
comp=Z,343nm,1.7s
PGAV Gavieira, Arco 81.38 49 *e*SKS SKSac 23 17 43.3 0.0
EDMD Edmundbyers 81.42 35⇑*e*P P 23 07 26.3 +1.1
EDMD IAMs_20 IAMs_20 23 42 03.1
comp=Z,45µm,21.3s
PMAFR Mafra 81.49 52⇑*i*P P 23 07 26.5 +0.6
comp=Z,230nm,1.3s
PMAFR Mafra 81.49 52 *e*SKS SKSac 23 17 47.7 +3.7
PCAB Cabril 81.62 49⇑*i*P P 23 07 27.2 +0.6
comp=Z,401nm,1.6s
PMST Lisbon--Monsan 81.63 52⇑*i*P P 23 07 27.7 +1.1
comp=Z,305nm,1.6s
LIS Lisbon 81.66 52 *e*P P 23 07 27.1 +0.2
LIS *e*S S 23 17 38.2 +0.5
LIS AMS AMS 23 45 39.2
comp=Z,33µm,12.2s
LIS Lisbon 81.66 52 *e*P P 23 07 27.0 +0.2
LIS *e*S S 23 17 38.2 +0.5
HLM1 Long Mynd 81.66 37⇑*e*P P 23 07 26.9 +0.3
HLM1 IAMs_20 IAMs_20 23 44 15.4
comp=Z,47µm,17.1s
DYA Yadsworthy 81.71 40⇑*e*P P 23 07 26.7 -0.1
DYA IAMs_20 IAMs_20 23 44 27.9
comp=Z,58µm,17.9s
PCAS Casmilo, Conde 81.76 51⇑*i*P P 23 07 28.5 +1.2
comp=Z,399nm,1.5s
PCAS Casmilo, Conde 81.76 51 *e*SKS SKSac 23 17 47.4 +1.7
PCAS *e*SS SS 23 23 19.4 +23
MCH1 Michaelchurch 81.77 38⇑*e*P P 23 07 27.9 +0.8
MCH1 IAMs_20 IAMs_20 23 44 29.4
comp=Z,72µm,16.1s
POLO Lamas de Olo 81.89 49⇑*i*P P 23 07 28.9 +0.8
comp=Z,180nm,1.7s
POLO Lamas de Olo 81.89 49 *e*SKS SKSac 23 17 50.2 +3.4
POLO *e*SS SS 23 23 06.3 +7.8
HPK Haverah Park 81.90 36⇑*e*P P 23 07 28.0 +0.3
HPK IAMs_20 IAMs_20 23 44 50.6
comp=Z,52µm,16.4s
MONM Monmouth 81.93 38⇑*e*P P 23 07 28.4 +0.4
MONM IAMs_20 IAMs_20 23 44 35.5
comp=Z,73µm,16.2s
PTOM Tomar 81.95 51⇑*i*P P 23 07 29.0 +0.7
comp=Z,338nm,1.7s
ALMR Almeirim 81.96 52 *e*P P 23 07 28.6 +0.2
ALMR *e*S S 23 17 41.2 +0.4
ALMR AMS AMS 23 43 48.0
comp=Z,27µm,21.3s
ALMR Almeirim 81.96 52⇑*i*P P 23 07 29.3 +0.9
comp=Z,345nm,0.9s
ALMR Almeirim 81.96 52 *e*P P 23 07 28.6 +0.2
ALMR *e*S S 23 17 41.2 +0.4
HGH Gray Hill 81.99 38⇑*e*P P 23 07 29.2 +0.9
PVIS Viseu 82.01 50⇑*i*P P 23 07 29.3 +0.6
comp=Z,302nm,1.7s
LBWR Ladybower, Pea 82.03 36⇑*e*P P 23 07 29.7 +1.3
LBWR IAMs_20 IAMs_20 23 45 03.4
comp=Z,63µm,16.8s
OLDB Oldbury-Upon-S 82.14 38⇑*e*P P 23 07 29.0 0.0
OLDB IAMs_20 IAMs_20 23 45 05.1
comp=Z,70µm,15.4s
BBTS Babate 82.14 77 LR LR 23 38 51.5
comp=Z,48µm,21.8s,baz=291,slow=32
PMTG Montargil 82.25 52⇑*i*P P 23 07 30.4 +0.5
comp=Z,190nm,1.6s
PMTG Montargil 82.25 52 *e*SKS SKSac 23 17 52.5 +3.5
PMTG *e*SS SS 23 23 30.4 +27
PNCL Nicolau / Gran 82.30 53⇑*i*P P 23 07 30.9 +0.7
comp=Z,105nm,2.3s
PNCL Nicolau / Gran 82.30 53 *e*SKS SKSac 23 17 52.4 +3.0
PNCL *e*SS SS 23 23 10.2 +5.7
PTEO Sao Teotonio 82.31 53⇑*i*P P 23 07 31.1 +0.8
comp=Z,202nm,2.4s
STRD Stroud 82.33 38⇑*e*P P 23 07 31.1 +1.1
STRD IAMs_20 IAMs_20 23 44 47.2
comp=Z,74µm,16.2s
BATH Bath 82.34 38⇑*e*P P 23 07 30.9 +0.8
BATH IAMs_20 IAMs_20 23 44 05.6
comp=Z,58µm,19.2s
MTE Manteigas 82.36 50⇑*i*P P 23 07 30.7 +0.2
comp=Z,251nm,1.2s
MTE Manteigas 82.36 50 *e*SKS SKSac 23 17 52.8 +2.9
MTE *e*SS SS 23 23 37.0 +32
MTE Manteigas 82.36 50 *e*P P 23 07 31.1 +0.5
comp=Z,121nm,0.9s
MTE LR LR
comp=Z,40µm,20.0s
PFVI Vila Bisbo 82.36 54⇑*i*P P 23 07 31.5 +1.0
comp=Z,173nm,1.7s
PFVI Vila Bisbo 82.36 54 *e*SKS SKSac 23 17 55.3 +5.5
PFVI *e*SS SS 23 23 30.4 +25
PFVI Vila Bisbo 82.36 54 *e*P P 23 07 31.3 +0.8
comp=Z,134nm,1.0s
PFVI LR LR
comp=Z,34µm,20.0s
FOO Floro 82.36 27⇑*i*P P 23 07 31.5 +1.5
FOO IAmb IAmb 23 07 33.0
comp=Z,5µm,3.3s
MORF Marmelete 82.44 53 *e*P P 23 07 31.1 0.0
MORF *e*S S 23 17 46.4 +0.4
MORF AMS AMS 23 45 49.2
comp=Z,33µm,20.5s
MORF Marmelete 82.44 53⇑*i*P P 23 07 31.9 +0.9
comp=Z,103nm,2.2s
MORF Marmelete 82.44 53 *e*PP PP 23 10 37.6 -2.4
MORF *e*SKS SKSac 23 17 54.8 +4.3
MORF *e*SS SS 23 23 17.7 +11
MORF Marmelete 82.44 53 *e*P P 23 07 31.0 0.0
MORF *e*S S 23 17 46.3 +0.4
SUE Sulen 82.46 28⇑*i*P P 23 07 32.3 +1.8
MA2 Magadan 82.47 330 P P 23 07 32.0 +1.4
comp=Z,58nm,0.8s,baz=87,slow=1.7,SNR=7.6

CWF **Charnwood Fore** 82.50 37⇑ *eP* **P** **23 07 30.7 -0.1**
CWF IAMs_20 IAMs_20 23 45 26.9
comp=Z,50µm,17.5s
MVO **Moncorvo** 82.50 49⇑ *iP* **P** **23 07 31.9 +0.6**
comp=Z,312nm,1.5s
MVO **Moncorvo** 82.50 49 *e*SKS **SKSac** **23 17 56.0 +5.2**
PBRG **Braganca** 82.52 49⇑ *iP* **P** **23 07 32.4 +1.1**
comp=Z,104nm,1.5s
PBRG **Braganca** 82.52 49 *e*SKS **SKSac** **23 17 53.7 +2.9**
PBRG *e*SS **SS** **23 23 10.3 +2.7**
LOF **Lofoten** 82.56 20⇑ *iP* **P** **23 07 32.5 +1.5**
LOF IAmb IAmb 23 07 36.0
comp=Z,285nm,1.1s
EVO **Evora** 82.56 52⇑ *iP* **P** **23 07 32.5 +0.9**
comp=Z,153nm,1.5s
PCBR **Castelo Branco** 82.57 51⇑ *iP* **P** **23 07 32.2 +0.6**
comp=Z,216nm,1.8s
PMRV **Marv??o** 82.76 51⇑ *iP* **P** **23 07 33.3 +0.7**
comp=Z,224nm,1.2s
PMRV **Marv??o** 82.76 51 *e*SKS **SKSac** **23 17 59.0 +6.5**
PMRV *e*SS SS 23 23 38.2 +27
PMRV *e*LR LR 23 33 27.9
comp=Z,33µm,20.0s
PESTR **Estremoz** 82.78 52⇑ *iP* **P** **23 07 33.3 +0.6**
comp=Z,131nm,1.3s
PESTR **Estremoz** 82.78 52 *e*SKS **SKSac** **23 18 01.8 +9.2**
PESTR *e*SS SS 23 23 24.9 +13
PESTR **Estremoz** 82.78 52 *eP* **P** **23 07 33.3 +0.6**
comp=Z,50nm,1.0s
PESTR LR LR
comp=Z,19µm,20.0s
LMK **Market Rasen** 82.80 36⇑ *eP* **P** **23 07 32.9 +0.5**
LMK IAMs_20 IAMs_20 23 45 26.7
comp=Z,62µm,16.8s
PCVE **Castro Verde** 82.81 53⇑ *iP* **P** **23 07 33.9 +1.0**
comp=Z,129nm,2.4s
PCVE **Castro Verde** 82.81 53 *e*SKS **S** **23 17 55.9 +6.3**
PBEJ **Beja** 82.82 52⇑ *iP* **P** **23 07 33.8 +0.9**
comp=Z,101nm,1.5s
SKR **Severo-Kuril's** 82.87 321 *eP* **P** **23 07 30.8 -2.1**
SKR *i* S **S** **23 17 51.9 +2.3**
SKR *e* 23 18 43.7
SKR *e*SS **SS** **23 23 14.7 +2.5**
SKR pmax pmax
comp=Z,163nm,1.4s
SKR pmax pmax
comp=Z,9µm,10.2s
SKR pmax pmax
comp=Z,10µm,13.0s
SKR smax smax
comp=N,25µm,16.7s
SKR smax smax
comp=N,23µm,14.0s
ASK **Askoy** 82.89 28 *eP* **P** **23 07 34.1 +1.3**
ASK IAmb IAmb 23 07 36.3
comp=Z,3µm,3.2s
AKN **Aaknes** 82.96 26 *eP* **P** **23 07 34.5 +1.4**
AKN IAmb IAmb 23 07 38.6
comp=Z,317nm,1.2s
BER **Bergen** 83.00 28⇑ *iP* **P** **23 07 34.4 +1.1**
BER IAmb IAmb 23 07 38.9
comp=Z,622nm,1.8s
PBDV **Barranco-do-Ve** 83.01 53⇑ *iP* **P** **23 07 35.4 +1.5**
comp=Z,225nm,2.3s
PBDV **Barranco-do-Ve** 83.01 53 *e*SKS **SKSac** **23 17 57.5 +3.3**
PBDV *e*SS SS 23 23 46.3 +31
MOL **Molde** 83.02 26⇑ *iP* **P** **23 07 33.2 -0.1**
MOL IAmb IAmb 23 07 38.1
comp=Z,645nm,1.7s
WOL **Wolverton** 83.04 38⇑ *eP* **P** **23 07 33.7 0.0**
WOL IAMs_20 IAMs_20 23 45 50.7
comp=Z,62µm,15.2s
HYA **Hoyanger** 83.05 27 *eP* **P** **23 07 35.3 +1.7**
HYA IAmb IAmb 23 07 40.6
comp=Z,178nm,0.9s
PVAQ **Vaqueiros** 83.12 53⇑ *iP* **P** **23 07 35.5 +1.0**
comp=Z,128nm,2.4s
PVAQ **Vaqueiros** 83.12 53 *e*SKS **SKSac** **23 18 00.9 +6.0**
PVAQ *e*SS **SS** **23 23 24.9 +8.1**
PVAQ *e*LR LR 23 34 18.4
comp=Z,31µm,18.0s
STEI **Steigen** 83.21 20⇑ *iP* **P** **23 07 35.9 +1.6**
STEI IAmb IAmb 23 07 39.6
comp=Z,361nm,1.1s
KONS **Konsvik** 83.26 21⇑ *iP* **P** **23 07 35.7 +1.1**
KONS IAmb IAmb 23 07 41.6
comp=Z,236nm,1.1s
JQE **Queens East** 83.27 40 *eP* **P** **23 07 36.1 +1.1**
STOK **Stokkvaagen** 83.31 21⇑ *iP* **P** **23 07 36.0 +1.2**
STOK IAmb IAmb 23 07 40.4
comp=Z,423nm,1.1s
TRO **Tromso** 83.37 17⇑ *iP* **P** **23 07 36.2 +1.2**
TRO IAmb IAmb 23 07 40.2
comp=Z,238nm,1.1s
PBAR **Barrancos** 83.40 52⇑ *iP* **P** **23 07 37.0 +1.1**
comp=Z,208nm,2.1s
PBAR **Barrancos** 83.40 52 *e*SKS **SKSac** **23 18 01.0 +4.3**
KMY **Karmoy** 83.44 29 *eP* **P** **23 07 35.3 -0.4**
KMY IAmb IAmb 23 07 40.8
comp=Z,283nm,1.1s
WACR **West Acre** 83.60 37⇑ *eP* **P** **23 07 37.3 +0.7**
WACR IAMs_20 IAMs_20 23 46 02.2
comp=Z,57µm,17.2s
STAV **Stavanger** 83.77 30⇑ *iP* **P** **23 07 38.6 +1.3**
STAV IAmb IAmb 23 07 42.3
comp=Z,219nm,1.1s
ODD1 **Odda** 83.78 29⇑ *iP* **P** **23 07 39.2 +1.7**
ODD1 IAmb IAmb 23 07 43.2
comp=Z,170nm,1.1s
TIXI **Tiksi** 83.80 346 *eP* **P** **23 07 37.3 +0.1**
comp=Z,234nm,1.3s
TIXI LR LR
comp=Z,64µm,22.0s
TIXI **Tiksi** 83.80 346 *eP* **P** **23 07 37.3 +0.1**
TIXI pmax pmax
comp=Z,234nm,1.3s
TIXI MLR MLR
comp=Z,64µm,22.0s
TBLU **Trondheim** 83.81 25⇑ *iP* **P** **23 07 37.9 +0.5**
TBLU IAmb IAmb 23 07 42.0
comp=Z,291nm,1.0s
NSS **Namsos** 83.84 23⇑ *iP* **P** **23 07 39.3 +1.7**
MOR8 **Moi Rana** 83.89 21⇑ *iP* **P** **23 07 39.1 +1.3**
DOMB **Dombas** 83.89 26⇑ *iP* **P** **23 07 39.7 +1.8**
DOMB IAmb IAmb 23 07 43.4
comp=Z,175nm,0.9s
BLS5 **Blasjo** 83.92 29⇑ *iP* **P** **23 07 40.3 +2.1**
HAMF **Hammerfest** 84.03 16⇑ *iP* **P** **23 07 39.1 +0.6**
HAMF IAmb IAmb 23 07 42.9
comp=Z,211nm,1.4s
TARA **Tarawa** 84.07 269 PFAKE 23 07 50.0 +10
TARA LR LR
comp=Z,15µm,20.0s
HMNX **Herstmonceux** 84.11 38⇑ *eP* **P** **23 07 39.3 0.0**
HMNX IAMs_20 IAMs_20 23 46 03.4
comp=Z,74µm,16.1s
H11N3 **WAKE ISLAND Hy** 84.22 289 T T 00 41 06.5
baz=61
H11N2 **WAKE ISLAND Hy** 84.22 289 T T 00 40 33.0
baz=61
H11N1 **WAKE ISLAND Hy** 84.23 289 T T 00 41 06.6
baz=61
ELSH **Elham, Standar** 84.48 38 *eP* **P** **23 07 41.9 +0.8**
ELSH IAMs_20 IAMs_20 23 46 05.2
comp=Z,49µm,16.9s
SFS **San Fernando** 84.56 54 PFAKE 23 07 50.0 +8.2
SFS LR LR
comp=Z,17µm,20.0s
WAKE **Wake Island** 84.57 288 PFAKE 23 07 50.0 +7.8
WAKE LR LR
comp=Z,14µm,21.0s
SNART **Snartemo** 84.74 30⇑ *iP* **P** **23 07 43.9 +1.6**
SNART IAmb IAmb 23 07 47.9
comp=Z,145nm,1.3s
H11S1 **WAKE ISLAND Hy** 84.76 288 T T 00 41 32.6
baz=77,slow=74,SNR=34
H11S2 **WAKE ISLAND Hy** 84.76 288 T T 00 41 45.8
baz=77,slow=74,SNR=22
H11S3 **WAKE ISLAND Hy** 84.78 288 T T 00 42 00.2
baz=77,slow=74,SNR=11
RTC **Rabat Centre** 84.84 56 *eP* **P** **23 07 44.1 +0.8**
comp=Z,759nm,1.0s
RTC LR LR
comp=Z,128µm,20.0s
PAB **San Pablo** 84.96 50 *eP* **P** **23 07 45.0 +1.1**
comp=Z,306nm,1.4s

PAB LR LR
comp=Z,37µm,18.0s
PAB **San Pablo** 84.96 50 *eP* **P** **23 07 45.0 +1.1**
PAB pmax pmax
comp=Z,306nm,1.4s
PAB MLR MLR
comp=Z,37µm,18.0s
KTK1 **Kautokeino** 84.96 17⇓ *iP* **P** **23 07 44.5 +1.3**
NC204 **NORSAR Array S** 84.97 26 *eP* **P** **23 07 43.7 +0.3**
NBO00 **NORSAR Array S** 85.09 27 *eP* **P** **23 07 44.1 0.0**
NBO02 **NORSAR Array S** 85.12 27 *eP* **P** **23 07 44.8 +0.6**
ESDC **Sonseca Array** 85.19 50 P **P** **23 07 45.9 +0.8**
comp=Z,39nm,0.8s,baz=306,slow=5.1,SNR=84
ESLA **Sonseca Array** 85.19 50 *eP* **P** **23 07 45.9 +0.8**
comp=Z,159nm,1.4s
ESLA LR LR
comp=Z,28µm,20.0s
NAO01 **NORSAR Array S** 85.23 27 *eP* **P** **23 07 45.0 +0.3**
ES19 **SONSECA Array** 85.23 50 *eP* **P** **23 07 45.8 +0.6**
ARCES **ARCESS Array B** 85.23 16 P **P** **23 07 44.5 0.0**
comp=Z,56nm,1.0s,baz=324,slow=2.3,SNR=37
ARCES LR LR 23 46 33.1
comp=Z,51µm,20.2s,baz=320,slow=36
ARCES **ARCESS Array B** 85.23 16 *eP* **P** **23 07 44.3 -0.3**
ARCES **ARCESS Array B** 85.23 16 *eP* **P** **23 07 44.3 -0.3**
ARE0 **ARCESS Array S** 85.23 16 *eP* **P** **23 07 45.3 +0.7**
comp=Z,70nm,0.9s
ARE0 LR LR
comp=Z,59µm,22.0s
ARE0 **ARCESS Array S** 85.23 16⇑ *iP* **P** **23 07 44.4 -0.2**
KONO **Kongsberg** 85.24 28 *eP* **P** **23 07 45.9 +1.2**
comp=Z,95nm,0.8s
KONO LR LR
comp=Z,45µm,18.0s
KONO **Kongsberg** 85.24 28⇑ *iP* **P** **23 07 44.6 -0.2**
KONO **Kongsberg** 85.24 28 *ceP* **P** **23 07 46.1 +1.3**
KONO pmax pmax
comp=Z,534nm,0.8s
KONO MLR MLR
comp=Z,44µm,17.0s
NC303 **NORSAR Array S** 85.25 26 *eP* **P** **23 07 45.9 +1.1**
NB2 **NORSAR Subarra** 85.27 26 P **P** **23 07 45.8 +0.8**
comp=Z,70nm,1.1s,baz=297,slow=4.8
NB2 **NORSAR Subarra** 85.27 26 P **P** **23 07 45.8 +0.8**
baz=297,slow=4.8
NOA **NORSAR Array B** 85.27 26 P **P** **23 07 45.5 +0.6**
comp=Z,21nm,0.8s,baz=301,slow=4.8,SNR=40
NOA PP **PP** **23 10 58.8 -3.5**
comp=Z,4.2nm,0.9s,baz=299,slow=7.1,SNR=3.1
NOA LR LR 23 47 45.9
comp=Z,25µm,18.3s,baz=295,slow=37
NB201 **NORSAR Array S** 85.30 26 *eP* **P** **23 07 44.4 -0.7**
HOMB **Homborsund** 85.38 30⇑ *iP* **P** **23 07 47.1 +1.6**
NC405 **NORSAR Array S** 85.45 26 *eP* **P** **23 07 45.1 -0.7**
KEV **Kevo** 85.47 16 *eP* **P** **23 07 46.3 +0.6**
comp=Z,59nm,0.8s
KEV LR LR
comp=Z,76µm,20.0s
KEV **Kevo** 85.47 16 *eP* **P** **23 07 46.3 +0.6**
KEV pmax pmax
comp=Z,59nm,0.8s
KEV MLR MLR
comp=Z,76µm,20.0s
MSVF **Nonsavu** 85.54 250 *eP* **P** **23 07 50.0 +2.9**
comp=Z,155nm,1.3s
MSVF LR LR
comp=Z,39µm,19.0s
MSVF **Nonsavu** 85.54 250 *i* P **P** **23 07 48.4 +1.3**
MSVF pmax pmax
comp=Z,46nm,1.0s
NC602 **NORSAR Array S** 85.56 27 *eP* **P** **23 07 47.1 +0.7**
NC602 **NORSAR Array S** 85.56 27⇑ *iP* **P** **23 07 47.0 +0.7**
OSL **Oslo** 85.60 28 *eP* **P** **23 07 48.0 +1.5**
OSL IAmb IAmb 23 07 52.6
comp=Z,80nm,1.0s
RAO **Raoul Island** 86.36 238 PFAKE 23 08 00.0 +9.2
RAO LR LR
comp=Z,16µm,22.0s
UCC **Uccle** 86.49 37 *eP* **P** **23 07 51.1 0.0**
comp=Z,120nm,0.2s
UCC LR LR
comp=Z,38µm,19.0s
UCC **Uccle** 86.49 37 *eP* **P** **23 07 51.1 0.0**
UCC pmax pmax
comp=Z,120nm,0.2s
UCC MLR MLR
comp=Z,38µm,19.0s
MUD **Monsted U'grnd** 86.55 31⇑ *iP* **P** **23 07 52.1 +0.8**
MUD **Monsted U'grnd** 86.55 31⇑ *iP* **P** **23 07 52.1 +0.8**
SNF **Seneffe** 86.56 38 ⇑P **P** **23 07 51.5 0.0**
comp=Z,38nm,1.7s
HFS **Hagfors** 86.79 27 P **P** **23 07 51.8 -0.6**
comp=Z,14nm,0.8s,baz=348,slow=2.1,SNR=13
HFS LR LR 23 46 42.4
comp=Z,16µm,21.9s,baz=294,slow=36
DOU **Dourbes** 86.92 38 ⇑P **P** **23 07 52.5 -0.8**
BCLA **Clavier** 87.19 37 ⇑P **P** **23 07 54.8 +0.2**
BEBN **Eben Emael** 87.25 37 ⇑P **P** **23 07 55.0 +0.2**
WTSB **Winterswijk** 87.37 36 *i* P **P** **23 07 55.9 +0.6**
HGN **Heimansgroeve** 87.41 37 *i* P **P** **23 07 55.9 +0.3**
HGN *e*PP **PP** **23 11 26.5 +6.6**
HGN *e*S **S** **23 18 26.4 -8.1**
MEM **Membach** 87.52 37 ⇑P **P** **23 07 56.4 +0.2**
PMSA **Palmer Station** 87.89 164 PFAKE 23 08 10.0 +13
PMSA LR LR
comp=Z,22µm,22.0s
WLF **Walferdange** 88.02 38 ⇓P **P** **23 07 59.1 +0.6**
comp=Z,35nm,1.1s
WLF **Walferdange** 88.02 38 *eP* **P** **23 07 59.2 +0.6**
comp=Z,51nm,1.1s
WLF LR LR
comp=Z,47µm,21.0s
WLF **Walferdange** 88.02 38 *eP* **P** **23 07 59.2 +0.6**
WLF pmax pmax
comp=Z,51nm,1.1s
WLF MLR MLR
comp=Z,47µm,21.0s
CART **Cartagena** 88.10 51 PFAKE 23 08 10.0 +11
CART LR LR
comp=Z,37µm,21.0s
COP **Copenhagen** 88.52 31⇑ *iP* **P** **23 08 02.2 +1.4**
comp=Z,22µm,17.0s
COP **Copenhagen** 88.52 31⇑ *iP* **P** **23 08 02.2 +1.4**
COP MLR MLR
comp=Z,22µm,17.0s
LLD **Lille Linde** 88.60 31 *i* P **P** **23 08 01.5 +0.4**
LLD **Lille Linde** 88.60 31 *i* P **P** **23 08 01.5 +0.4**
APA **Apatity** 88.68 15⇑ *iP* **P** **23 08 00.4 -0.9**
APA *i* 23 11 28.0
APA *i* PPP PPP 23 13 29.0
APA *i* 23 18 24.0
APA *i* S **S** **23 18 40.0 -6.0**
APA *i* PS **PS** **23 19 53.0 +0.2**
APA *i* SS **SS** **23 24 30.0 -6.4**
APA pmax pmax
comp=Z,10.0nm,0.9s
LVZ **Lovozero** 88.73 15 *eP* **P** **23 08 01.3 -0.3**
comp=Z,54nm,0.9s
LVZ LR LR
comp=Z,57µm,18.0s
LVZ **Lovozero** 88.73 15 *ceP* **P** **23 08 00.4 -1.3**
LVZ pmax pmax
comp=Z,137nm,1.7s
SSB **Saint Sauveur** 88.91 42 *eP* **P** **23 08 01.9 -1.1**
comp=Z,38nm,1.2s
SSB LR LR
comp=Z,42µm,19.0s
SSB **Saint Sauveur** 88.91 42 *eP* **P** **23 08 01.9 -1.1**
SSB pmax pmax
comp=Z,38nm,1.2s
SSB MLR MLR
comp=Z,42µm,19.0s
ECH **Echery** 89.25 39 *eP* **P** **23 08 04.4 -0.1**
comp=Z,25nm,1.0s
ECH LR LR
comp=Z,64µm,19.0s
ECH **Echery** 89.25 39 *eP* **P** **23 08 04.4 -0.1**
ECH pmax pmax
comp=Z,25nm,1.0s
ECH MLR MLR
comp=Z,64µm,19.0s
RGN **Rugen** 89.55 32 PFAKE 23 08 20.0 +14
RGN LR LR
comp=Z,33µm,19.0s
BFO **Black Forest** 89.90 38 *eP* **P** **23 08 07.3 -0.2**
comp=Z,17nm,1.1s

BFO LR LR
comp=Z,41µm,20.0s
BFO **Black Forest** 89.90 38 *i* P **P** **23 08 07.8 +0.3**
YAK **Yakutsk** 89.92 338 *eP* **P** **23 08 08.3 +1.0**
comp=Z,169nm,1.0s
YAK LR LR
comp=Z,57µm,20.0s
YAK **Yakutsk** 89.92 338⇑ *iP* **P** **23 08 08.1 +0.9**
YAK *e* 23 08 15.6
YAK *e* 23 11 42.1
YAK *e*S **SKSac** **23 18 28.5 -7.5**
YAK pmax pmax
comp=Z,91nm,1.0s
YAK pmax pmax
comp=N,3.0nm,0.9s
YAK pmax pmax
comp=E,13nm,1.0s
YAK pmax pmax
comp=E,588nm,3.2s
YAK pmax pmax
comp=Z,3µm,9.6s
YAK smax smax
comp=E,2µm,10.9s
YAK smax smax
comp=N,7µm,11.1s
BSD **Bornholm Skovb** 90.03 31 *i* P **P** **23 08 07.6 -0.3**
comp=Z,36µm,19.0s
BSD **Bornholm Skovb** 90.03 31 *i* P **P** **23 08 07.6 -0.3**
BSD MLR MLR
comp=Z,36µm,19.0s
KUR **Kuril'sk** 90.10 318 *di* P **P** **23 08 09.3 +0.9**
KUR *i* 23 11 43.7
KUR *i* PPP PPP 23 13 42.3
KUR *i* S **SKSac** **23 18 48.4 +11**
KUR *i* SS **SS** **23 25 08.8 +10**
KUR pmax pmax
comp=Z,4µm,12.7s
STU **Stuttgart** 90.20 38 *eP* **P** **23 08 09.4 +0.5**
comp=Z,46nm,1.1s
STU LR LR
comp=Z,33µm,22.0s
STU **Stuttgart** 90.20 38 *eP* **P** **23 08 09.4 +0.5**
STU pmax pmax
comp=Z,46nm,1.1s
STU MLR MLR
comp=Z,33µm,22.0s
BNI **Bardonecchia** 90.37 42 *eP* **P** **23 08 10.5 +0.6**
comp=Z,50nm,1.3s
BNI LR LR
comp=Z,60µm,22.0s
BNI **Bardonecchia** 90.37 42 *eP* **P** **23 08 10.5 +0.6**
BNI pmax pmax
comp=Z,50nm,1.3s
BNI MLR MLR
comp=Z,60µm,22.0s
NKL **Nikolayevsk** 90.41 327 *i* P **P** **23 08 10.0 +0.3**
NKL *e*S **S** **23 18 56.0 -6.6**
NKL *e* 23 25 16.0
NKL pmax pmax
comp=Z,65nm,1.0s
NKL pmax pmax
comp=E,3µm,14.0s
NKL pmax pmax
comp=Z,10µm,11.0s
NKL smax smax
comp=E,17µm,15.0s
TYV **Tymovskoe** 90.53 325 *eP* **P** **23 08 10.4 +0.1**
TYV *e*S **S** **23 18 56.5 -7.4**
TYV pmax pmax
comp=Z,64nm,1.3s
TYV pmax pmax
comp=Z,5µm,9.5s
TYV smax smax
comp=N,6µm,12.2s
FIA1 **FINESS Array S** 90.85 22 *eP* **P** **23 08 11.5 -0.1**
FINES **FINESS Array B** 90.85 22 P **P** **23 08 10.7 -0.9**
comp=N,22nm,0.9s,baz=329,slow=2.2,SNR=18
FINES PP **PP** **23 11 43.2 -3.7**
comp=N,13nm,0.8s,baz=339,slow=4.9,SNR=7.5
FINES LR LR 23 49 25.4
comp=N,59µm,19.9s,baz=321,slow=36
GRFO **Grafenberg** 90.91 36 *eP* **P** **23 08 13.2 +1.0**
comp=N,74nm,1.1s
GRFO LR LR
comp=Z,40µm,19.0s
GRFO **Grafenberg** 90.91 36 *eP* **P** **23 08 13.2 +1.0**
GRFO pmax pmax
comp=Z,74nm,1.1s
GRFO MLR MLR
comp=Z,40µm,19.0s
ASCN **Ascension** 91.04 98 PFAKE 23 08 20.0 +6.6
ASCN LR LR
comp=Z,10µm,21.0s
CLL **Collm** 91.07 34⇑ *iP* **P** **23 08 13.0 +0.2**
comp=Z,50nm,1.2s
CLL *e*Pmax 23 08 18.0
CLL *e*PP **PP** **23 11 49.0 0.0**
comp=N,2µm,19.5s
CLL *e*PP **PP** **23 11 49.0 0.0**
comp=E,2µm,16.8s
CLL *e*PP **PP** **23 11 49.0 0.0**
comp=Z,5µm,17.2s
CLL *e*SKSac **SKSac** **23 18 48.0 +4.9**
CLL *e*PS **PS** **23 20 18.0 -2.0**
CLL *e*PPS PPS 23 20 42.0
CLL *e*SS SS 23 25 24.0 +12
CLL *e*(SSS) 23 29 30.0
CLL L L 23 51 00.0
comp=Z,40µm,18.2s
CLL Lmax 23 55 00.0
CLL **Collm** 91.07 34 *eP* **P** **23 08 11.7 -1.1**
comp=Z,42nm,1.2s
CLL LR LR
comp=Z,40µm,19.0s
CLL **Collm** 91.07 34⇑ *iP* **P** **23 08 13.0 +0.2**
CLL pmax pmax
comp=Z,50nm,1.2s
CLL MLR MLR
comp=Z,40µm,18.2s
DAVA **Damuels** 91.31 39 *i* PcP **PcP** **23 08 15.0 -0.2**
comp=Z,52nm,1.0s
DAVA **Damuels** 91.31 39 *i* PP PP 23 11 47.2 -4.1
NKC **Novy Kostel** 91.32 35 *eP* **P** **23 08 14.7 +0.6**
NKC *e*pP **pP** **23 08 23.9 +0.9**
NKC *e*PP **PP** **23 11 50.5 -0.6**
NKC *e*SKS **SKSac** **23 18 47.1 +2.4**
NKC *e*SP **SPn** **23 20 20.2 +0.7**
NKC AMS AMS 23 52 10.0
comp=Z,40µm,17.6s
NKC **Novy Kostel** 91.32 35 *eP* **P** **23 08 14.7 +0.6**
NKC *e* 23 08 23.9
NKC *e* 23 11 50.5
NKC *e* 23 18 47.1
NKC *e* 23 20 20.2
NKC MLR MLR
comp=Z,40µm,17.6s
TUE **Stuetta** 91.38 40 *eP* **P** **23 08 15.0 +0.3**
comp=Z,33nm,1.1s
TUE LR LR
comp=Z,86µm,18.0s
HOPE **Hope Point** 91.62 147 PFAKE 23 08 30.0 +15
HOPE LR LR
comp=Z,14µm,19.0s
RETA **Reutte** 91.74 38 *i* PcP **PcP** **23 08 16.7 -0.3**
comp=Z,19nm,1.1s,SNR=5.6
BRG **Berggiesshubel** 91.81 34 *i* P **P** **23 08 16.7 +0.5**
comp=Z,173nm,1.9s
BRG PP **PP** **23 11 52.0 -2.8**
BRG SKS **SKSac** **23 18 50.0 +2.7**
BRG S **S** **23 19 16.0 +0.5**
BRG SS **SS** **23 25 18.0 -4.5**
comp=N,28µm,18.1s
comp=E,28µm,16.8s
comp=Z,45µm,17.5s
BRG **Berggiesshubel** 91.81 34 *i* P **P** **23 08 16.7 +0.5**
BRG 23 11 52.0
BRG 23 18 50.0
BRG S **S** **23 19 16.0 +0.5**
BRG SS **SS** **23 25 18.0 -4.5**
BRG pmax pmax
comp=Z,173nm,1.9s
BRG MLR MLR
comp=N,28µm,18.1s
BRG MLR MLR
comp=E,28µm,16.8s
BRG MLR MLR

comp=Z,45µm,17.5s
YUK Yuzh-Kuril'sk 91.92 318*c iP P 23 08 08.4 -8.5*
YUK *i* PPP PPP 23 14 05.0
YUK *e*PS **PS** **23 20 23.5 -6.1**
YUK *i* SS SS 23 25 27.3 +2.7
YUK *e*SSS SSS 23 29 05.9
YUK pmax pmax
comp=Z,650nm,1.9s
FETA Feichten 91.95 39 *i* PcP **P** **23 08 17.4 +0.2**
comp=Z,25nm,1.2s,SNR=6.3
MOTA Moosalm 92.01 38 *i* PcP **PcP** **23 08 18.4 +0.1**
comp=Z,25nm,0.9s,SNR=15
GKP Gorka Klasztor 92.19 31 *e*P **P** **23 08 17.1 -0.8**
GKP *e*PP **PP** **23 11 59.1 +1.4**
GKP *e*SKSac **SKSac** **23 18 51.7 +2.4**
GKP *e*PS PnS 23 20 38.7 +5.5
GKP LMZ LR 23 50 55.1
comp=Z,40µm,21.3s
GKP Gorka Klasztor 92.19 31 *e*P **P** **23 08 17.1 -0.8**
GKP *e* 23 11 59.1
GKP *e* 23 18 51.7
GKP *e*PS PnS 23 20 38.7 +5.5
GKP MLR MLR
comp=Z,40µm,21.3s
WATA Walderalm 92.29 38 *i* PcP **P** **23 08 19.1 +0.3**
comp=Z,19nm,1.1s
PVCC Panska Ves 92.33 35 *e*P **P** **23 08 19.2 +0.5**
PVCC *e*PP **PP** **23 11 57.8 -1.1**
PVCC *e*SKS **SKSac** **23 18 55.5 +5.2**
PVCC *e*SP **SP** **23 20 30.4 +0.5**
PVCC AMS AMS 23 51 50.0
comp=Z,43µm,17.3s
PVCC Panska Ves 92.33 35 *e*P **P** **23 08 19.2 +0.5**
PVCC *e* 23 11 57.8
PVCC *e* 23 20 30.4
PVCC MLR MLR
comp=Z,43µm,17.3s
WTTA Wattenberg 92.36 38 *i* PcP **P** **23 08 18.4 -0.8**
comp=Z,10nm,1.3s
NRIK Noril'sk 92.38 356 LR LR 23 52 26.8
comp=Z,20µm,19.6s,baz=242,slow=37
MXZ Matakaoa Point 92.41 231 PFAKE 23 08 30.0 +11
MXZ LR LR
comp=Z,23µm,22.0s
YSS Yuzh-Sakhalins 92.43 321 *e*P **P** **23 08 19.6 +0.4**
comp=Z,114nm,1.2s
YSS LR LR
comp=Z,10µm,18.0s
YSS Yuzh-Sakhalins 92.43 321⇑ *i*P **P** **23 08 19.5 +0.3**
YSS *e* 23 08 25.8
YSS *e* 23 11 57.3
YSS *e*S **S** **23 19 20.6 -0.7**
YSS *e*PS PnS 23 20 39.0 +2.7
YSS *e*SS **SS** **23 25 41.0 +9.2**
YSS pmax pmax
comp=Z,60nm,1.0s
YSS pmax pmax
comp=E,40nm,0.9s
YSS pmax pmax
comp=Z,4µm,13.0s
YSS pmax pmax
comp=N,2µm,15.0s
YSS pmax pmax
comp=E,2µm,15.0s
YSS smax smax
comp=N,11µm,13.0s
PRA Prague 92.50 35 *e*P **P** **23 08 20.0 +0.5**
PRA *e*PP **PP** **23 11 59.6 -0.7**
PRA *e*SKS **SKSac** **23 18 57.2 +6.0**
PRA *e*SP SPn 23 20 32.4 -0.6
PRA AMS AMS 23 49 00.0
comp=N,37µm,22.6s
PRA Prague 92.50 35 *e*P **P** **23 08 20.0 +0.5**
PRA *e* 23 11 59.6
PRA *e* 23 20 32.4
PRA MLR MLR
comp=Z,37µm,22.6s
KHC Kasperske Hory 92.52 36 *e*P **P** **23 08 20.2 +0.5**
KHC *ex* x 23 08 34.0
KHC *e*PP **PP** **23 11 59.8 -0.8**
KHC *e*SKS **SKSac** **23 18 56.7 +5.2**
KHC *e*SP **SP** **23 20 31.0 -1.3**
KHC *e*SS **SS** **23 25 33.0 0.0**
KHC AMS AMS 23 51 50.0
comp=Z,49µm,17.7s
KHC Kasperske Hory 92.52 36 *e*P **P** **23 08 20.2 +0.5**
comp=Z,27nm,1.4s
KHC Kasperske Hory 92.52 36 *e*P **P** **23 08 20.2 +0.5**
KHC *e* 23 08 34.0
KHC *e* 23 11 59.8
KHC *e* 23 20 31.0
KHC *e*SS SS 23 25 33.0 0.0
KHC MLR MLR
comp=Z,49µm,17.7s
TMCR Tamitsa 92.53 16 *e*P **P** **23 08 17.6 -1.7**
TMCR *e*S **SKSac** **23 18 47.6 -3.2**
TMCR pmax pmax
comp=Z,85nm,1.0s
PRU Pruhonice 92.60 35 *e*P **P** **23 08 20.2 +0.2**
PRU *e*pP **pP** **23 08 30.0 +1.1**
PRU *e*PP **PP** **23 12 00.3 -0.8**
PRU *e*SKS **SKSac** **23 18 57.4 +5.6**
PRU *e*SP **SP** **23 20 32.1 -0.9**
PRU *e*SS **SS** **23 25 36.4 +2.4**
PRU AMS AMS 23 54 40.0
comp=Z,32µm,16.8s
PRU Pruhonice 92.60 35 *e*P **P** **23 08 20.2 +0.2**
PRU *e* 23 08 30.0
PRU *e* 23 12 00.3
PRU *e* 23 20 32.1
PRU *e*SS SS 23 25 36.4 +2.4
PRU MLR MLR
comp=Z,32µm,16.8s
GEC2 GERESS Array S 92.74 36 *e*P **P** **23 08 20.8 0.0**
comp=Z,51nm,1.2s
GEC2 LR LR
comp=Z,36µm,18.0s
GEC2 GERESS Array S 92.74 36 *e*P **P** **23 08 20.8 0.0**
GEC2 pmax pmax
comp=Z,51nm,1.2s
GEC2 MLR MLR
comp=Z,36µm,18.0s
GERES GERESS Array B 92.74 36 P **P** **23 08 20.9 +0.1**
comp=Z,14nm,0.9s,baz=318,slow=3.6,SNR=20
GERES PP **PP** **23 11 59.8 -2.6**
comp=Z,1.9nm,0.9s,baz=328,slow=9.2,SNR=3.5
GERES LR LR 23 52 31.0
comp=Z,28µm,18.0s,baz=306,slow=37
GEA0 GERESS Array S 92.75 36 *e*P **P** **23 08 20.5 -0.3**
GOPC GO Pecny, Ondr 92.77 35 *e*P **P** **23 08 21.4 +0.6**
GOPC *e*PP **PP** **23 12 02.0 -0.5**
GOPC *e*SKS **SKSac** **23 18 58.6 +5.8**
GOPC *e*SS **SS** **23 25 37.3 +0.7**
GOPC AMS AMS 23 54 50.0
comp=Z,30µm,17.3s
GOPC GO Pecny, Ondr 92.77 35 *e*P **P** **23 08 21.4 +0.6**
GOPC *e* 23 12 02.0
GOPC *e*SS SS 23 25 37.3 +0.7
GOPC MLR MLR
comp=Z,30µm,17.3s
KLNR Kaliningrad 92.83 29*c iP* **P** **23 08 20.5 -0.4**
KLNR pmax pmax
comp=Z,43nm,0.9s
KLNR MLR MLR
comp=Z,35µm,18.0s
KSP Ksiaz 93.07 34 *e*P **P** **23 08 22.3 +0.2**
KSP *e*PP **PP** **23 12 02.7 -2.1**
KSP *e*SKSac **SKSac** **23 18 56.8 +2.4**
KSP *e*PS **PS** **23 20 51.8 +10**
KSP LMZ LR 23 43 10.3
comp=Z,40µm,31.8s
KSP Ksiaz 93.07 34 *e*P **P** **23 08 22.3 +0.2**
KSP *e* 23 12 02.7
KSP *e* 23 18 56.8
UPC Upice 93.11 34 *e*P **P** **23 08 22.8 +0.5**
UPC *e*PP **PP** **23 12 02.9 -2.2**
UPC *e*SKS **SKSac** **23 19 01.1 +6.5**
UPC *e*SP **SP** **23 20 38.2 -0.4**
UPC AMS AMS 23 52 30.0
comp=Z,46µm,18.1s
UPC Upice 93.11 34 *e*P **P** **23 08 22.8 +0.5**
UPC *e* 23 12 02.9
UPC *e* 23 20 38.2
UPC MLR MLR
comp=Z,46µm,18.1s
VSU Vasula 93.12 24*c iP* **P** **23 08 21.3 -0.8**
VSU pmax pmax
comp=Z,97nm,1.0s
VSU MLR MLR
comp=Z,128µm,19.0s
VLC Villacollemand 93.13 41 PFAKE 23 08 30.0 +7.4
VLC LR LR
comp=Z,39µm,19.0s
ABTA Abfaltersbach 93.14 38 *i* PcP **PcP** **23 08 23.1 -0.2**
comp=Z,28nm,1.0s,SNR=9.1
DPC Dobruska-Polom 93.36 34 *e*P **P** **23 08 24.0 +0.5**
DPC *e*SKS **SKSac** **23 19 02.3 +6.2**
DPC *e*SP **SP** **23 20 45.9 +4.4**
DPC AMS AMS 23 52 40.0
comp=Z,49µm,18.3s
DPC Dobruska-Polom 93.36 34 *e*P **P** **23 08 24.0 +0.5**
DPC *e* 23 20 45.9
DPC MLR MLR
comp=Z,49µm,18.3s
KBA Koelnbreinsper 93.46 38 *i* PcP **PcP** **23 08 24.8 +0.1**
comp=Z,34nm,1.3s,SNR=6.6
TREC Trest 93.49 35 *e*P **P** **23 08 24.5 +0.4**
TREC *e*SP **sP** **23 08 35.8 -0.5**
TREC *e*PP **PP** **23 12 07.1 -1.0**
TREC *e*SKS **SKSac** **23 19 02.9 +6.1**
TREC *e*SP **SP** **23 20 43.3 +0.4**
TREC AMS AMS 23 52 40.0
comp=Z,55µm,18.0s
TREC Trest 93.49 35 *e*P **P** **23 08 24.5 +0.4**
TREC *e* 23 08 35.8
TREC *e* 23 12 07.1
TREC *e* 23 20 43.3
TREC MLR MLR
comp=Z,55µm,18.0s
URZ Urewera 93.54 231 PFAKE 23 08 40.0 +16
URZ LR LR
comp=Z,25µm,22.0s
MOA Molln 93.59 37 *i* PcP **PcP** **23 08 25.1 0.0**
comp=Z,38nm,1.3s,SNR=14
MOA Molln 93.59 37 *i* PP PP 23 12 08.6 -0.3
comp=Z,22nm,1.3s
KOWA Kowa 93.70 74 P **P** **23 08 25.5 -0.2**
comp=Z,22nm,1.0s,baz=284,slow=3.4,SNR=18
KOWA Kowa 93.70 74 *e*P **P** **23 08 25.8 +0.1**
comp=Z,61nm,1.3s
KOWA LR LR
comp=Z,44µm,19.0s
KRLC Kraliky 93.76 34 *e*SKS **SKSac** **23 19 04.9 +6.6**
KRLC *e*SP **SP** **23 20 50.5 +4.6**
KRLC AMS AMS 23 53 00.0
comp=Z,15µm,17.0s
MYKA Terra Mystica 93.87 38 *i* PcP **P** **23 08 25.9 -0.1**
comp=Z,16nm,1.3s
GRNR Gornyy 93.92 327 *e*P **P** **23 08 26.0 0.0**
GRNR pmax pmax
comp=Z,60nm,1.1s
ASAJ Asahikawa 93.95 319 P **P** **23 08 26.8 +0.5**
comp=Z,19nm,0.9s,baz=4.0,slow=3.6,SNR=11
ASAJ Asahikawa 93.95 319 *e*P **P** **23 08 27.3 +1.1**
comp=Z,38nm,1.2s
VRAC Vranov 94.09 35⇑ *i*P **P** **23 08 27.8 +0.9**
VRAC Vranov 94.09 35⇑P **P** **23 08 27.8 +0.9**
CADS Cadrg 94.14 38 *e*P **P** **23 08 27.0 -0.2**
BKZ Black Stump Fm 94.30 230 PFAKE 23 08 40.0 +12
BKZ LR LR
comp=Z,34µm,21.0s
MORC Moravsky Berou 94.33 34⇑ *i*P **P** **23 08 28.9 +0.9**
MORC Moravsky Berou 94.33 34 *e*P **P** **23 08 27.7 -0.3**
comp=Z,424nm,1.5s
MORC LR LR
comp=Z,166µm,20.0s
MORC Moravsky Berou 94.33 34⇑P **P** **23 08 28.9 +0.9**
TRI Trieste 94.42 39 PFAKE 23 08 40.0 +12
TRI LR LR
comp=Z,30µm,19.0s
CONA Conrad Observa 94.45 36 *i* PcP **PcP** **23 08 29.5 +0.5**
comp=Z,59nm,1.2s,SNR=18
CONA Conrad Observa 94.45 36 *i* PP PP 23 12 16.9 +1.2
comp=Z,16nm,1.3s
OBKA Obir 94.46 38 *i* P **P** **23 08 27.2 -1.6**
comp=Z,27nm,1.1s
RAC Raciborz 94.50 34 *e*P **P** **23 08 29.6 +0.9**
RAC *e* 23 12 15.1
RAC *e* 23 19 03.1
RAC MLR MLR
comp=Z,48µm,17.7s
SUW Suwalki 94.56 29 *e*P **P** **23 08 27.8 -1.1**
SUW *e*PP **PP** **23 12 16.9 +0.6**
SUW *e*SKSac **SKSac** **23 19 04.5 +2.1**
SUW *e*SP **SP** **23 21 09.0 +15**
SUW LMZ LR 23 51 34.7
comp=Z,29µm,22.9s
SUW Suwalki 94.56 29 *e*P **P** **23 08 28.1 -0.8**
comp=Z,68nm,1.1s
SUW LR LR
comp=Z,39µm,18.0s
SUW Suwalki 94.56 29 *e*P **P** **23 08 27.8 -1.1**
SUW *e* 23 12 16.9
SUW *e* 23 19 04.5
SUW MLR MLR
comp=Z,29µm,22.9s
OKC Ostrava-Krasne 94.62 34 *e*P **P** **23 08 29.7 +0.4**
OKC *e*pP **sP** **23 08 39.7 -1.7**
OKC *e*PP **PP** **23 12 13.4 -3.5**
OKC *ex* x 23 21 06.6
OKC AMS AMS 23 54 20.0
comp=Z,42µm,17.5s
OKC Ostrava-Krasne 94.62 34 *e*P **P** **23 08 29.7 +0.4**
OKC *e* 23 08 39.7
OKC *e* 23 12 13.4
OKC *e* 23 21 06.6
OKC MLR MLR
comp=Z,42µm,17.5s
ERM Erimo 94.63 317 *e*P **P** **23 08 29.8 +0.3**
comp=Z,420nm,1.6s
ERM LR LR
comp=Z,18µm,22.0s
ERM Erimo 94.63 317*d iP* **P** **23 08 30.4 +1.0**
ERM pmax pmax
comp=Z,101nm,1.0s
ARSA Arzberg 94.63 37 *i* PcP **P** **23 08 29.5 +0.1**
comp=Z,13nm,1.1s
ARSA Arzberg 94.63 37 *i* PP PP 23 12 19.4 +2.4
comp=Z,16nm,1.2s
SOKA Soboth 94.66 38 *i* PcP **P** **23 08 29.4 -0.2**
comp=Z,32nm,1.1s,SNR=7.5
VSL Villasalto 94.69 46 *e*P **P** **23 08 28.6 -1.2**
comp=Z,61nm,1.1s
VSL LR LR
comp=Z,25µm,20.0s
LJU Ljubljana 94.70 38 *e*P **P** **23 08 30.0 +0.3**
LJU *e*PP **PP** **23 12 20.4 +2.8**
LJU *e*SKSac **SKSac** **23 19 06.9 +3.4**
LJU *e* 23 21 07.8
PERS Pernice 94.73 38 *i* P **P** **23 08 29.6 -0.3**
PERS *e*SKSac **SKSac** **23 19 06.5 +2.8**
BEL Belsk 94.79 31 *e*P **P** **23 08 29.8 -0.1**
BEL *e*PP **PP** **23 12 22.2 +4.1**
BEL *e*SKSac **SKSac** **23 19 06.2 +2.6**
BEL *e*PS **PS** **23 21 12.1 +11**
BEL LMZ LR 23 52 06.4
comp=Z,29µm,23.1s
BEL Belsk 94.79 31 *e*P **P** **23 08 29.8 -0.1**
BEL *e* 23 12 22.2
BEL *e* 23 19 06.2
BEL MLR MLR
comp=Z,29µm,23.1s
SOP Sopron 94.98 36⇑ *e*P **P** **23 08 31.4 +0.5**
MODS Modra-Piesok 94.99 35 *e*P **P** **23 08 32.3 +1.3**
MODS Modra-Piesok 94.99 35 *e*P **P** **23 08 32.3 +1.3**
BFZ Birch Farm 94.99 229 PFAKE 23 08 40.0 +9.0
BFZ LR LR
comp=Z,32µm,19.0s
SMOL Smolenice 94.99 35 *e*P **P** **23 08 32.9 +1.9**
SMOL Smolenice 94.99 35 *e*P **P** **23 08 32.9 +1.9**
ZST Bratislava 94.99 36 *e*P **P** **23 08 31.6 +0.6**
ZST Bratislava 94.99 36 *e*P **P** **23 08 31.6 +0.6**
ZST pmax pmax
comp=Z,99nm,1.1s
IIGN Ignalina 95.02 26 *e*P **P** **23 08 29.7 -1.3**
IIGN IAmb IAmb 23 08 35.0
comp=Z,15nm,1.0s
OUZ Omahuta 95.19 235 PFAKE 23 08 40.0 +8.0
OUZ LR LR
comp=Z,21µm,19.0s
OJC Ojcow 95.26 33 *e*P **P** **23 08 31.8 -0.4**
OJC *e*PP **PP** **23 12 23.1 +1.2**
OJC *e*SKSac **SKSac** **23 19 08.3 +2.0**
OJC *e*PS **PS** **23 21 14.9 +8.7**
OJC LMZ LR 23 44 46.5
comp=Z,30µm,31.1s
OJC Ojcow 95.26 33 *e*P **P** **23 08 32.5 +0.3**
comp=Z,42nm,1.3s
OJC Ojcow 95.26 33 *e*P **P** **23 08 31.8 -0.4**
OJC *e* 23 12 23.0
OJC *e* 23 19 08.3
IDID Didziasalis 95.26 26 *e*P **P** **23 08 30.8 -1.3**
IDID IAmb IAmb 23 08 34.1
comp=Z,9.7nm,0.9s
HIZ Hauiti 95.29 231 PFAKE 23 08 40.0 +7.6
HIZ LR LR
comp=Z,27µm,22.0s
TIC Toumodi 95.36 81 *e*P **P** **23 08 31.8 -1.6**
BOJS Bojanci 95.42 39 *e*P **P** **23 08 33.6 +0.6**
BOJS *e*PP **PP** **23 12 23.4 +0.2**
KOGS Kog 95.48 37 *i* P **P** **23 08 32.8 -0.5**
LIC Lamto 95.49 82 *e*P **P** **23 08 32.0 -1.9**
comp=Z,113nm,1.0s
DBIC Dimbokro 95.50 81 P **P** **23 08 33.6 -0.4**
comp=Z,18nm,0.9s,baz=277,slow=4.3,SNR=15
DBIC Dimbokro 95.50 81 *e*P **P** **23 08 34.1 +0.1**
comp=Z,23nm,0.9s
DBIC Dimbokro 95.50 81 *e*P **P** **23 08 34.1 +0.1**
DBIC pmax pmax
comp=Z,23nm,0.9s
NACGM Naroch 95.56 27 *e*P **P** **23 08 31.0 -2.4**
NACGM *e*PP **PP** **23 12 26.0 +2.1**
NACGM *e*PPP PPP 23 14 56.0
NACGM *e*SKS **SKSac** **23 19 08.0 +0.4**
NACGM *e*SKKS **SKKSac** **23 19 34.0 +2.8**
NACGM *e*SKKKS 23 20 00.0
NACGM *e*SS SS 23 26 36.0 +20
NACGM *e*SSS SSS 23 30 56.0
NACGM *e*LQ LQ 23 37 40.0
NACGM *e*LR LR 23 47 14.0
NACGM LRM MLR 23 53 38.0
comp=Z,78nm,18.0s
KLMR Klimovskoe 95.62 17 *e*P **P** **23 08 30.8 -2.8**
KLMR AMP 23 08 38.5
comp=Z,86nm,1.2s
KLMR *e*PP **PP** **23 12 21.8 -2.3**
KLMR *e*S **SKSac** **23 19 03.8 -3.9**
KLMR *e*S **SKSac** **23 19 03.8 -3.9**
KLMR LQ LQ 23 45 48.7
KLMR LQ LQ 23 45 48.7
KLMR LR LR 23 49 39.6
KLMR AMP 23 56 40.1
comp=Z,6µm,14.4s
KLMR Klimovskoe 95.62 17 *e*P **P** **23 08 30.7 -2.8**
KLMR *e* 23 12 21.8
KLMR *e*S **SKSac** **23 19 03.7 -3.9**
KLMR pmax pmax
comp=Z,86nm,1.2s
KIC Kosan Boka 95.71 81 *e*P **P** **23 08 34.6 -0.4**
comp=Z,62nm,0.9s
LANS Liptovska Anna 95.72 34 *e*P **P** **23 08 36.0 +1.6**
LANS Liptovska Anna 95.72 34 *e*P **P** **23 08 36.0 +1.6**
VYHS Vyhne 95.77 35 *e*P **P** **23 08 35.2 +0.7**
VYHS Vyhne 95.77 35 *e*P **P** **23 08 35.3 +0.7**
VYHS pmax pmax
comp=Z,53nm,1.4s
BEHE Becsehely 95.78 37⇑ *e*P **P** **23 08 33.6 -1.0**
AQU L'Aquila 95.94 42 PFAKE 23 08 50.0 +14
AQU LR LR
comp=Z,53µm,22.0s
NIE Niedzica 96.00 33 *e*P **P** **23 08 36.3 +0.7**
NIE *e*PP **PP** **23 12 28.1 +0.5**
NIE *e*SKSac **SKSac** **23 19 15.1 +4.8**
NIE *e*S **S** **23 19 48.3 -4.3**
NIE *e*PS **PS** **23 21 24.2 +10**
NIE *e*SS **SS** **23 26 20.1 -2.4**
NIE LMZ LR 23 44 56.1
comp=Z,20µm,31.5s
NIE Niedzica 96.00 33 *e*P **P** **23 08 36.3 +0.7**
NIE *e* 23 12 28.1
NIE *e*S **S** **23 19 48.3 -4.3**
CSKK Cs˘ťkako 96.11 36⇑ *e*P **P** **23 08 36.6 +0.5**
PATS Pohnpei 96.19 279 PFAKE 23 08 50.0 +13
PATS LR LR
comp=Z,10µm,19.0s
SNZO South Karori 96.30 229 PFAKE 23 08 50.0 +13
SNZO LR LR
comp=Z,31µm,18.0s
MICGM Minsk 96.30 26 *e*P **P** **23 08 36.0 -0.8**
MICGM *e*PP **PP** **23 12 28.0 -1.6**
MICGM *e*SKS **SKSac** **23 19 14.0 +2.4**
MICGM *e*S **S** **23 19 52.0 -2.8**
MICGM *e*PS **PS** **23 21 08.0 -9.3**
MICGM *e*SS SS 23 26 06.0 -20
MICGM *e*SSS SSS 23 30 12.0
MICGM *e*LR LR 23 46 55.0
MICGM LRM MLR 23 54 11.0
comp=Z,78nm,18.0s
MICGM LRM MLR 23 54 20.0
comp=N,38nm,18.0s
MICGM LRM MLR 23 54 22.0
comp=E,46nm,17.0s
MNK Minsk 96.30 26 *e*P **P** **23 08 36.0 -0.8**
MNK *e* 23 12 28.0
MNK *e* 23 19 14.0
MNK *e*S **S** **23 19 52.0 -2.8**
MNK *e*PS **PS** **23 21 08.0 -9.3**
MNK *e*SSS SSS 23 30 12.0
KEST Kesra 96.43 49 P **P** **23 08 38.7 +0.8**
comp=E,30nm,0.9s,baz=282,slow=4.7,SNR=8.6
KEST LR LR 23 52 16.8
comp=E,15µm,19.9s,baz=264,slow=36
KEST Kesra 96.43 49 *e*P **P** **23 08 38.7 +0.8**
comp=E,49nm,1.1s
ZEA Zeya 96.44 333 *e*P **P** **23 08 37.9 +0.4**
ZEA pmax pmax
comp=Z,39nm,1.2s
BUD Budapest 96.46 35⇑ *e*P **P** **23 08 38.3 +0.6**
STHS Stebnicka Huta 96.49 33 *e*P **P** **23 08 39.0 +1.2**
STHS Stebnicka Huta 96.49 33 *e*P **P** **23 08 39.0 +1.2**
STHS pmax pmax
comp=Z,16nm,1.0s
PSZ Piszkesteto 96.68 35⇑ *i*P **P** **23 08 40.5 +1.7**
PSZ Piszkesteto 96.68 35⇑ *e*P **P** **23 08 39.0 +0.2**
PSZ Piszkesteto 96.68 35 *e*P **P** **23 08 40.0 +1.2**
comp=Z,123nm,1.1s
PSZ LR LR
comp=Z,57µm,18.0s
PSZ Piszkesteto 96.68 35 ⇑P **P** **23 08 40.5 +1.7**
BLY Banja Luka 96.97 38⇑ *i*P **P** **23 08 41.8 +1.7**
BLY Banja Luka 96.97 38 PFAKE 23 08 50.0 +10
BLY LR LR
comp=Z,44µm,18.0s
MORH M˘ťr˙igy, Hung 96.98 37⇑ *e*P **P** **23 08 38.9 -1.2**
KWP Kalwaria Pacla 97.11 32 *e*P Pdif 23 08 41.0 +0.3
KWP *e*PP **PP** **23 12 37.7 +1.6**
KWP *e*SKSac **SKSac** **23 19 17.9 +1.9**
KWP *e*PS **PS** **23 21 30.1 +3.7**
KWP LMZ LR 23 52 21.8
comp=Z,26µm,22.7s
KWP Kalwaria Pacla 97.11 32 PFAKE 23 08 50.0 +9.3
KWP LR LR
comp=Z,185µm,19.0s
KWP Kalwaria Pacla 97.11 32 *e*P Pdif 23 08 41.0 +0.3
KWP *e* 23 12 37.7
KWP *e* 23 19 17.9
KWP *e*PS **PS** **23 21 30.1 +3.7**
KWP MLR MLR
comp=Z,26µm,22.7s
KLR Kul'dur 97.25 327 P Pdif 23 08 41.5 +0.1
comp=Z,0.3nm,1.0s,baz=94,slow=3.2,SNR=4.0
KLR PP **PP** **23 12 35.8 -1.4**
comp=Z,0.3nm,0.9s,baz=44,slow=7.4,SNR=6.7
DZM Mont Dzumac 97.27 249 LR LR 23 44 32.0
comp=Z,41µm,18.6s,baz=82,slow=30
DZM Mont Dzumac 97.27 249 *e*SKSac **SKSac** **23 19 17.0 -0.8**
comp=Z,14µm,27.4s
DZM Mont Dzumac 97.27 249 *e*PS PS 23 21 29.8 0.0
comp=Z,8µm,26.1s
DZM *e*SS SS 23 26 43.1 0.0
comp=Z,37µm,26.4s

DZM eLQ LQ 23 36 05.9
comp=Z,20µm,25.6s
DZM eLR LR 23 40 17.0
comp=Z,80µm,22.9s
KHZ Kahutara 97.47 228 PFAKE 23 08 50.0 +7.7
KHZ LR LR
comp=Z,27µm,20.0s
UZH Uzhgorod 97.52 33 *d iP* **P 23 08 41.4 -1.0**
UZH *e*PPP PPP 23 14 47.0
UZH *i* 23 19 11.4
UZH *i* PS **PS 23 21 34.4 +3.5**
LVV L'vov 97.65 32 *eP* **P 23 08 38.3 -4.7**
LVV *e* 23 21 25.5
THZ Tophouse 97.72 229 PFAKE 23 09 00.0 +16
THZ LR LR
comp=Z,32µm,20.0s
TRPA Tarpa 97.96 33⇑ *eP* Pdif 23 08 44.8 +0.3
BOD Bodaibo 98.31 341 *eP* **P 23 08 43.8 -2.0**
BOD pmax pmax
comp=Z,24nm,2.2s
CRLZ Canterbury Las 98.46 227 PFAKE 23 09 00.0 +13
CRLZ LR LR
comp=Z,18µm,19.0s
LTZ Lake Taylor 98.47 228 PFAKE 23 09 00.0 +13
LTZ LR LR
comp=Z,25µm,19.0s
MQZ McQueen's Vall 98.47 227 PFAKE 23 09 00.0 +13
MQZ LR LR
comp=Z,18µm,20.0s
CUC Castrocucco 98.73 43 PFAKE 23 09 00.0 +12
CUC LR LR
comp=Z,27µm,18.0s
BMR Baia Mare 98.75 33⇑ *iP* **P 23 08 47.5 -0.5**
BMR Baia Mare 98.75 33 ⇑P **P 23 08 47.5 -0.5**
OXZ Oxford 98.79 227 PFAKE 23 09 00.0 +12
OXZ LR LR
comp=Z,24µm,18.0s
BANR Banloc 98.88 36⇓ *iP* **P 23 08 44.0 -4.6**
DRGR 98.89 34⇓ *iP* Pdif 23 08 49.3 +0.5
DRGR 98.89 34 ⇑P Pdif 23 08 49.3 +0.5
DIVS Divibare 99.00 38 PFAKE 23 09 00.0 +11
DIVS LR LR
comp=Z,26µm,18.0s
BZS Buzias 99.01 36⇑ *iP* Pdif 23 08 50.6 +1.4
BZS Buzias 99.01 36 ⇑P Pdif 23 08 50.6 +1.4
TAM Tamanrasset 99.05 62 PFAKE 23 09 00.0 +10
TAM LR LR
comp=Z,20µm,21.0s
VAE Valguarnera 99.12 46 LR LR 23 56 39.6
comp=Z,27µm,18.1s,baz=203,slow=37
MOS Moscow 99.13 21 *eP* **Pdif 23 08 46.9 -2.6**
MOS *e* 23 12 47.9
MOS *e* 23 19 26.8
MOS *e*PS **PS 23 21 43.0 -4.9**
MOS pmax pmax
comp=Z,61nm,1.6s
MOS MLR MLR
comp=N,41µm,17.0s
MOS MLR MLR
comp=E,18µm,17.0s
MOS MLR MLR
comp=Z,52µm,17.0s
OBN Obninsk 99.25 22 *eP* **Pdif 23 08 48.9 -1.2**
comp=Z,157nm,1.7s
OBN LR LR
comp=Z,58µm,19.0s
OBN Obninsk 99.25 22 *c iP* **Pdif 23 08 44.9 -5.1**
OBN *e* 23 12 49.4
OBN *e*PPP PPP 23 14 58.5
OBN *e*S **SKSac 23 19 19.7 -6.8**
OBN pmax pmax
comp=Z,26nm,0.9s
OBN MLR MLR
comp=Z,58µm,20.0s
TOC6 Torodi Ar. Sit 99.34 73 PFAKE 23 09 00.0 +8.7
TOC6 LR LR
comp=Z,43µm,19.0s
TOC7 Torodi Ar. Sit 99.35 73 PFAKE 23 09 00.0 +8.7
TOC7 LR LR
comp=Z,44µm,18.0s
TOB5 Torodi Ar. Sit 99.35 73 PFAKE 23 09 00.0 +8.7
TOB5 LR LR
comp=Z,45µm,18.0s
TOC5 Torodi Ar. Sit 99.36 73 PFAKE 23 09 00.0 +8.6
TOC5 LR LR
comp=Z,49µm,18.0s
TOB4 Torodi Ar. Sit 99.36 73 PFAKE 23 09 00.0 +8.6
TOB4 LR LR
comp=Z,43µm,18.0s
TOA1 Torodi Ar. Sit 99.36 73 PFAKE 23 09 00.0 +8.6
TOA1 LR LR
comp=Z,44µm,18.0s
TOC1 Torodi Ar. Sit 99.36 73 PFAKE 23 09 00.0 +8.6
TOC1 LR LR
comp=Z,51µm,18.0s
TOA0 Torodi Ar. Sit 99.37 73 *eP* **Pdif 23 08 49.6 -1.8**
TOA0 LR LR
comp=Z,44µm,19.0s
TORD Torodi Ar. Bea 99.37 73 P **Pdif 23 08 50.2 -1.2**
comp=Z,3.3nm,0.9s,baz=286,slow=3.5,SNR=8.9
TORD PP **PP 23 12 52.9 -1.8**
comp=Z,8.5nm,1.0s,baz=297,slow=7.4,SNR=9.0
TORD LR LR 23 51 41.7
comp=Z,19µm,20.8s,baz=295,slow=34
TOA3 Torodi Ar. Sit 99.37 73 PFAKE 23 09 00.0 +8.6
TOA3 LR LR
comp=Z,44µm,19.0s
TOA2 Torodi Ar. Sit 99.37 73 PFAKE 23 09 00.0 +8.6
TOA2 LR LR
comp=Z,45µm,19.0s
TOB2 Torodi Ar. Sit 99.38 73 PFAKE 23 09 00.0 +8.5
TOB2 LR LR
comp=Z,45µm,19.0s
TOB3 Torodi Ar. Sit 99.38 73 PFAKE 23 09 00.0 +8.5
TOB3 LR LR
comp=Z,43µm,18.0s
TOC4 Torodi Ar. Sit 99.38 73 PFAKE 23 09 00.0 +8.5
TOC4 LR LR
comp=Z,44µm,18.0s
TOC2 Torodi Ar. Sit 99.39 73 PFAKE 23 09 00.0 +8.5
TOC2 LR LR
comp=Z,45µm,18.0s
TOC3 Torodi Ar. Sit 99.39 73 PFAKE 23 09 00.0 +8.5
TOC3 LR LR
comp=Z,45µm,18.0s
CJR Cluj-Napoca 99.41 34⇑ *iP* **Pdif 23 08 47.1 -4.0**
CJR Cluj-Napoca 99.41 34 ⇑P **Pdif 23 08 47.1 -4.0**
AK11 Malin Array Si 99.52 29 *eP* **Pdif 23 08 50.0 -1.3**
KIEV Kiev 99.53 29 *eP* **Pdif 23 08 49.5 -1.9**
comp=Z,24nm,1.0s
KIEV LR LR
comp=Z,32µm,18.0s
KIEV Kiev 99.53 29 *i* P **Pdif 23 08 50.7 -0.7**
SNR=9.1
KIEV Kiev 99.53 29 *c iP* **Pdif 23 08 50.9 -0.5**
KIEV pmax pmax
comp=Z,18nm,0.9s
KIEV MLR MLR
comp=Z,31µm,17.0s
AKASG Malin Array Be 99.53 29 P **Pdif 23 08 50.4 -1.0**
comp=Z,14nm,0.8s,baz=298,slow=3.5,SNR=35
AKASG PP **PP 23 12 54.5 0.0**
comp=Z,5.6nm,0.9s,baz=312,slow=6.8,SNR=5.9
AKASG LR LR 23 57 05.0
comp=Z,23µm,18.6s,baz=315,slow=37
AKBB Malin Array Si 99.53 29 *eP* **Pdif 23 08 49.7 -1.7**
comp=Z,21nm,0.9s
AKBB Malin Array Si 99.53 29 *eP* **Pdif 23 08 49.7 -1.7**
AKBB pmax pmax
comp=Z,21nm,0.9s
DEV Deva 99.56 35⇓ *iP* **Pdif 23 08 57.4 +5.8**
DEV Deva 99.56 35 ⇓P **Pdif 23 08 57.4 +5.8**
ARCR ARCALIA 99.57 33⇓ *iP* **Pdif 23 08 52.8 +1.1**
RPZ Rata Peaks 99.59 227 LR LR 23 44 27.4
comp=Z,24µm,21.5s,baz=50,slow=30
BUR08 Bucovina Ar. S 99.65 33 *eP* **Pdif 23 08 51.6 -0.6**
HNR Honiara 99.66 263 LR LR 23 45 43.3
comp=Z,18µm,19.8s,baz=60,slow=30
BUR04 Bucovina Ar. S 99.67 33 *eP* **Pdif 23 08 52.0 -0.3**
BURAR Bucovina Array 99.68 33⇑ *iP* **Pdif 23 08 53.3 +1.0**
BURAR Bucovina Array 99.68 33 ⇑P **Pdif 23 08 53.3 +1.0**
CEL Celeste 99.71 44 PFAKE 23 09 00.0 +7.4
CEL LR LR
comp=Z,17µm,20.0s
TIP Timpagrande 99.78 43 PFAKE 23 09 00.0 +7.1
TIP LR LR
comp=Z,49µm,18.0s
HERR Herculane 99.91 36⇑ *iP* **Pdif 23 08 54.1 +0.9**
WDD Wied Dalam 100.05 47 PFAKE 23 09 10.0 +16
WDD LR LR
comp=Z,22µm,20.0s
BCI Bajram Curri 100.06 39 *i* P PP 23 13 14.1 +15
ODZ Otahua Downs 100.23 226 PFAKE 23 09 10.0 +15
ODZ LR LR
comp=Z,25µm,19.0s
USRK Ussuriysk Ar. 100.24 323 P **Pdif 23 08 54.8 +0.1**
comp=Z,4.3nm,1.0s,baz=197,slow=4.5,SNR=3.4
PRAR RASCA 100.36 32⇓ *iP* **Pdif 23 08 55.8 +0.6**
LBZ Lake Benmore 100.37 227 PFAKE 23 09 10.0 +15
LBZ LR LR
comp=Z,29µm,19.0s
FOZ Fox Glacier 100.41 228 PFAKE 23 09 10.0 +15
FOZ LR LR
comp=Z,17µm,20.0s
TIR Tirane 100.53 40 PFAKE 23 09 10.0 +14
TIR LR LR
comp=Z,37µm,22.0s
PHP Peshkopia 100.68 40 *i* P **PP 23 12 58.2 -5.4**
MAJO Matsushiro 100.72 314 PFAKE 23 09 10.0 +13
MAJO LR LR
comp=Z,10µm,20.0s
MJAR Matsushiro Arr 100.72 314 P **Pdif 23 08 57.0 -0.1**
comp=Z,1.9nm,0.3s,baz=44,slow=3.1,SNR=8.2
MJB9 Matsu-Tunnel 100.72 314 PFAKE 23 09 10.0 +13
MJB9 LR LR
comp=Z,11µm,20.0s
ARR Arges 100.82 35⇑ *iP* **Pdif 23 08 58.8 +1.4**
DOPR Dopca 100.84 34⇓ *iP* **Pdif 23 08 58.2 +0.8**
SORM Soroca 100.90 31⇑ *iP* **Pdif 23 08 57.0 -0.5**
SORM Soroca 100.90 31 ⇑P **Pdif 23 08 57.0 -0.5**
IAS Iasi 101.15 32⇓ *iP* **Pdif 23 08 59.1 +0.4**
IAS Iasi 101.15 32 ⇓P **Pdif 23 08 59.1 +0.4**
WKZ Wanaka 101.29 226 PFAKE 23 09 10.0 +11
WKZ LR LR
comp=Z,20µm,19.0s
MDJ Mudanjiang 101.32 325 P **Pdif 23 08 59.1 -0.4**
MDJ pmax pmax
comp=Z,7.0nm,0.4s
MDJ pmax pmax
comp=Z,3µm,13.1s
MDJ LR LR
comp=Z,17µm,15.9s
MDJ LR LR
comp=Z,36µm,15.1s
SHEL Horse Pasture 101.44 103 PFAKE 23 09 10.0 +9.4
SHEL LR LR
comp=Z,10µm,20.0s
MLR Muntele Rosu 101.45 34⇓ *iP* **Pdif 23 09 01.7 +1.4**
MLR Muntele Rosu 101.45 34 *e*Pdif **Pdif 23 09 00.8 +0.6**
MLR LR LR
comp=Z,37µm,19.0s
MLR Muntele Rosu 101.45 34 ⇓P **Pdif 23 09 01.7 +1.4**
VTS Vitosha 101.77 38 PFAKE 23 09 10.0 +8.2
VTS LR LR
comp=Z,28µm,19.0s
KIS Kishinev 101.91 31⇓ *iP* **Pdif 23 09 02.0 -0.1**
comp=Z,500nm,16.0s
KIS Kishinev 101.91 31 *i* PsP 23 12 48.0
KIS Kishinev 101.91 31 *i* PP PP 23 13 08.0 -4.6
comp=Z,7µm,16.0s
KIS *i* SKS 23 19 40.0
KIS Kishinev 101.91 31 *i* PS PS 23 22 20.0 +2.0
KIS LRM MLR 00 01 22.0
comp=Z,27µm,17.0s
KIS Kishinev 101.91 31 *d iP* **Pdif 23 09 02.0 -0.1**
KIS *i* 23 13 08.0
KIS *i* 23 19 40.0
KIS *i* PS **PS 23 22 20.0 +2.0**
KIS pmax pmax
comp=Z,500nm,16.0s
KIS pmax pmax
comp=Z,7µm,16.0s
LEOM Leova 101.98 32⇓ *iP* **Pdif 23 09 02.9 +0.5**
LEOM Leova 101.98 32 ⇓P **Pdif 23 09 02.9 +0.5**
MLZ Mavora Lakes 102.04 226 PFAKE 23 09 20.0 +17
MLZ LR LR
comp=Z,33µm,18.0s
LPSR Galich'ya Gora 102.10 23 *eP* **Pdif 23 09 02.1 -0.7**
LPSR *e* 23 13 10.5
LPSR *e* 23 19 40.7
LPSR *e*PS **PS 23 22 18.0 -1.7**
LPSR pmax pmax
comp=Z,40nm,1.0s
LPSR MLR MLR
comp=Z,33µm,15.0s
INU Inuyama 102.18 314 PFAKE 23 09 20.0 +16
INU LR LR
comp=Z,8µm,22.0s
WHZ Wether Hill Ro 102.28 226 PFAKE 23 09 20.0 +16
WHZ LR LR
comp=Z,29µm,20.0s
DCZ Deep Cove 102.72 226 PFAKE 23 09 20.0 +14
DCZ LR LR
comp=Z,16µm,20.0s
CFR Carcaliu 102.81 33⇑ *iP* **Pdif 23 09 06.6 +0.5**
CFR Carcaliu 102.81 33 ⇑P **Pdif 23 09 06.6 +0.5**
PYZ Puysegur Point 103.20 226 PFAKE 23 09 20.0 +12
PYZ LR LR
comp=Z,25µm,19.0s
VSR Storozhevoye 103.30 23 *eP* **Pdif 23 09 07.5 -0.6**
VSR *e* 23 19 45.4
VSR *e*PS **PS 23 22 28.3 -4.1**
VSR pmax pmax
comp=Z,30nm,1.0s
VSR MLR MLR
comp=Z,51µm,18.0s
AGG Agios Georgios 103.42 41 PFAKE 23 09 20.0 +11
AGG LR LR
comp=Z,51µm,20.0s
TIRR Tirgusor 103.44 34 PFAKE 23 09 20.0 +11
TIRR LR LR
comp=Z,34µm,19.0s
ARU Arti 104.03 11 PFAKE 23 09 20.0 +8.7
ARU LR LR
comp=Z,49µm,18.0s
ARU Arti 104.03 11 P **Pdif 23 09 10.6 -0.7**
ARU 23 13 24.9
ARU S **SKSac 23 19 47.7 -1.7**
ARU PS **PS 23 22 38.5 -1.3**
ARU SS **SS 23 28 21.0 +7.6**
VRH Novokhopyorsk 104.25 22 *eP* **Pdif 23 09 12.2 -0.2**
VRH *e* 23 13 27.3
VRH *e* 23 19 50.9
VRH *e*PS **PS 23 22 36.3 -6.0**
VRH pmax pmax
comp=Z,20nm,1.4s
VRH MLR MLR
comp=Z,41µm,20.0s
RABL Rabaul 105.50 271 PFAKE 23 13 40.0
RABL LR LR
comp=Z,19µm,18.0s
SIM Simferopol' 105.96 30 *eP* **Pdif 23 09 19.3 -0.9**
SIM *e*PS **PS 23 23 03.0 +2.5**
SIM pmax pmax
comp=Z,872µm,12.4s
LHI Lord Howe Isla 105.98 242 PFAKE 23 13 50.0
LHI LR LR
comp=Z,18µm,18.0s
GUMO Guam 106.11 290 PFAKE 23 13 50.0
GUMO LR LR
comp=Z,7µm,21.0s
SNY Shenyang 106.45 326 Pdif **Pdif 23 09 25.3 +2.9**
SNY PP **PP 23 13 47.2 +0.8**
SNY SS SS 23 28 52.9 +5.4
SNY AMB AMB
comp=Z,5µm,12.0s
SNY LR LR
comp=Z,14µm,16.9s
SNY LR LR
comp=Z,34µm,16.2s
TLY Talaya 106.65 343 PFAKE 23 13 50.0
TLY LR LR
comp=Z,20µm,20.0s
KSRS Korea Array 106.86 320 PP PP 23 13 48.6 -1.1
comp=Z,0.8nm,0.5s,baz=65,slow=1.8,SNR=5.1
KSAR Wonju Array Be 106.89 320 PP PP 23 13 48.6 -1.4
SANT Santorini 107.01 41 PFAKE 23 13 50.0
SANT LR LR
comp=Z,24µm,19.0s
IDI Anoyia 107.32 43 PFAKE 23 13 50.0
IDI LR LR
comp=Z,11µm,21.0s
ANN Anapa 107.62 28 *eP* **Pdif 23 09 25.8 -1.7**
ANN *e* 23 13 52.3
ANN *e*PPP PPP 23 16 12.4
ANN *e* 23 19 58.3
ANN *e*SP SP 23 23 13.8 +0.2
ANN *e*SSS SSS 23 33 03.0
ANN pmax pmax
comp=Z,24nm,1.0s
JNU Nakatsue 107.62 315 PFAKE 23 13 50.0
JNU LR LR
comp=Z,14µm,18.0s
INCN Inchon 107.63 321 PFAKE 23 13 50.0
INCN LR LR
comp=Z,30µm,19.0s
SBA Scott Base 107.74 193 PFAKE 23 13 50.0
SBA LR LR
comp=Z,5µm,20.0s
ZAA0 Zalesovo Array 107.84 355 PFAKE 23 13 50.0
ZAA0 LR LR
comp=Z,46µm,20.0s
ZALV Zalesovo Beam 107.84 355 Pdiff **Pdif 23 09 31.3 +3.0**
baz=7.7,slow=2.8,SNR=7.7
ZALV PP **PP 23 13 53.9 -2.2**
comp=Z,6.9nm,0.9s,baz=344,slow=3.2,SNR=5.8
QSPA South Pole Qui 108.12 180 PFAKE 23 13 50.0
QSPA LR LR
comp=Z,19µm,21.0s
KARP Karpathos 108.60 41 PFAKE 23 13 50.0
KARP LR LR
comp=Z,8µm,22.0s
ILGA Ilgaz 108.61 33 PFAKE 23 13 50.0
ILGA LR LR
comp=Z,24µm,19.0s
BRVK Borovoye 108.79 4 PFAKE 23 13 50.0
BRVK LR LR
comp=Z,80µm,19.0s
BVAR Borovoye Array 108.83 4 Pdiff **Pdif 23 09 35.3 +2.5**
comp=Z,0.8nm,0.6s,baz=357,slow=6.2,SNR=4.4
BVAR PP **PP 23 14 02.4 -0.8**
comp=Z,3.1nm,0.7s,baz=350,slow=7.3,SNR=5.0
ANTO Ankara 108.97 35 PFAKE 23 13 50.0
ANTO LR LR
comp=Z,20µm,18.0s
ULN Ulaanbaatar 108.97 339 PFAKE 23 13 50.0
ULN LR LR
comp=Z,56µm,20.0s
ISP Isparta 109.12 38 PFAKE 23 13 50.0
ISP LR LR
comp=Z,25µm,18.0s
SONM Songino Array 109.22 340 PKiKP **PKiKP 23 13 38.9 +0.3**
comp=Z,2.3nm,0.8s,baz=29,slow=0.4,SNR=6.2
SONM PP **PP 23 14 04.5 -2.0**
comp=Z,4.6nm,1.1s,baz=32,slow=4.5,SNR=5.7
MCQ Macquarie Isla 109.33 218 PFAKE 23 13 50.0
MCQ LR LR
comp=Z,18µm,20.0s
MANU Manus Island 109.40 274 PFAKE 23 13 50.0
MANU LR LR
comp=Z,11µm,21.0s
BRTR Keskin Array B 109.53 34 PKiKP **PKiKP 23 13 39.4 0.0**
comp=Z,4.5nm,0.8s,baz=188,slow=0.6,SNR=14
BRTR PP **PP 23 14 10.2 +1.0**
comp=Z,3.8nm,0.9s,baz=308,slow=4.7,SNR=3.8
DL2 Dalian 109.56 325 ⇑Pdif **Pdif 23 09 36.7 +0.4**
DL2 PP **PP 23 14 09.7 +0.5**
DL2 SS SS 23 29 27.4 -2.2
DL2 AMB AMB
comp=Z,3µm,11.7s
DL2 LR LR
comp=Z,24µm,17.8s
DL2 LR LR
comp=Z,26µm,15.4s
SOC Sochi 109.60 28 *d iP* **Pdif 23 09 34.4 -1.9**
SOC *e* 23 14 07.8
SOC *e*PPP PPP 23 16 28.9
SOC *e* 23 20 12.1
SOC *e*PS **PS 23 23 36.8 -0.9**
SOC *e*SS SS 23 29 36.6 +6.9
SOC *e*SSS SSS 23 33 37.0
SOC pmax pmax
comp=Z,23nm,0.7s
SNAA Sanae 110.30 161 PFAKE 23 13 50.0
SNAA LR LR
comp=Z,8µm,22.0s
KIV Kislovodsk 110.57 26 PFAKE 23 13 50.0
KIV LR LR
comp=Z,32µm,18.0s
KIV Kislovodsk 110.57 26 *eP* **Pdif 23 09 39.4 -1.4**
KIV *i* 23 13 39.8
KIV *e* 23 14 16.1
KIV *e* 23 20 17.9
KIV *e*PS **PS 23 23 48.1 +0.8**
KIV *e*SS SS 23 29 43.0 +0.1
KIV *e*SSS SSS 23 33 52.9
KIV pmax pmax
comp=Z,7.0nm,1.1s
KBZ Khabaz 110.85 26 PP PP 23 14 16.5 -1.7
comp=Z,6.0nm,0.9s,baz=8,slow=3.7,SNR=5.3
ABKAR Akbulak array 111.13 12 PFAKE 23 13 50.0
ABKAR LR LR
comp=Z,16µm,20.0s
NEY Neytrino 111.17 26 *i* PKiKP **PKiKP 23 13 42.9 +0.5**
KURK Kurchatov 111.37 359 PKiKP **PKiKP 23 13 42.5 +0.2**
KURK PP **PP 23 14 21.0 -0.5**
KURK LR LR
comp=Z,70µm,21.0s
KURK Kurchatov 111.37 359 PKiKP **PKiKP 23 13 42.5 +0.2**
KURK 23 14 21.0
KURK MLR MLR
comp=Z,70µm,21.0s
KURBB Kurchatov Arra 111.47 359 PKiKP **PKiKP 23 13 42.5 0.0**
comp=Z,2.6nm,0.8s,baz=358,slow=2.1,SNR=11
KURBB PP **PP 23 14 21.0 -1.2**
comp=Z,6.3nm,1.0s,baz=356,slow=6.8,SNR=7.3
BJI Beijing 111.58 329 Pdif **Pdif 23 09 44.2 -1.0**
BJI PP **PP 23 14 26.1 +2.5**
BJI LR LR
comp=Z,8µm,24.5s
SEM Semipalatinsk 111.64 358 *e*PKiKP **PKiKP 23 13 42.9 -0.2**
SEM *e*PS **PS 23 23 57.5 +0.6**
SEM LR LR 00 03 05.7
comp=Z,16µm,20.1s
EIDS Eidsvold 111.71 249 PFAKE 23 14 00.0
EIDS LR LR
comp=Z,16µm,20.0s
PMG Port Moresby 111.76 267 PFAKE 23 14 00.0
PMG LR LR
comp=Z,16µm,20.0s
DGZ Jazzator, Alta 111.78 353 *i* PKiKP **PKiKP 23 13 42.2 -1.2**
BRZS Berezniki 112.00 3 *eP*S PS 23 24 01.1 +1.2
BRZS LR LR 00 05 35.9
comp=Z,745nm,16.7s
ARMA Armidale 112.07 244 PFAKE 23 14 00.0
ARMA LR LR
comp=Z,16µm,21.0s
CSS Mathiatis 112.73 38 PFAKE 23 14 00.0
CSS LR LR
comp=Z,4µm,21.0s
AKH Akhalkalaki 113.00 27 PFAKE 23 14 00.0
AKH LR LR
comp=Z,24µm,19.0s
HHC Hu-ho-hao-te 113.10 332 *e*PKP **PKiKP 23 13 43.4 -2.7**
HHC PP **PP 23 14 37.0 +2.4**
HHC SKKS 23 21 30.2
HHC SS **SS 23 30 19.7 +3.0**
HHC AMB AMB
comp=Z,6µm,10.3s
HHC LR LR
comp=Z,30µm,17.6s
JOW Kunigami 113.17 311 PFAKE 23 14 00.0
JOW LR LR
comp=Z,23µm,20.0s
MAK Makhachkala 113.31 23 *i* P **Pdif 23 09 50.3 -2.6**
MAK *i* 23 13 45.9
MAK *e* 23 14 36.9
MAK *e* 23 20 24.2
MAK *e*SS SS 23 30 37.6 +19
MAK *e*SSS SSS 23 34 29.7
MAK pmax pmax
comp=Z,15nm,0.4s
MAK MLR MLR
comp=N,86µm,20.0s

MAK MLR MLR
comp=Z,40µm,20.0s
MAK MLR MLR
comp=E,27µm,18.0s
TIA Tai'an 113.97 325 Pdif **Pdif 23 10 06.5 +11**
TIA PKP **PP 23 14 41.1 +0.3**
TIA PP **PP 23 14 41.1 +0.3**
TIA Tai'an 113.97 325 SS SS 23 30 43.4 +15
TIA AMB AMB
comp=Z,2µm,17.2s
TIA LR LR
comp=N,22µm,17.2s
TIA LR LR
comp=E,24µm,17.7s
TIA LR LR
comp=Z,46µm,17.0s
ZSN Zaisan 114.28 354 *e*PKP PKPdf 23 13 48.2 +0.2
ZSN *i* PP **PP 23 14 44.4 +2.0**
ZSN *i* PS **PS 23 24 22.6 +1.7**
ZSN LR LR 00 04 24.9
comp=Z,6µm,18.4s
GNI Garni 114.57 27 PFAKE 23 14 00.0 +11
GNI LR LR
comp=Z,33µm,18.0s
GNI Garni 114.57 27 *i* PKIKP PKPdf 23 13 48.7 -0.3
AKT Akhty 114.67 24 *e*PKIKP PKPdf 23 13 47.9 -1.2
AKT *e* 23 14 45.2
AKT pmax pmax
comp=Z,9.0nm,1.3s
CAN Canberra 114.87 239 PFAKE 23 14 00.0 +11
CAN LR LR
comp=Z,14µm,20.0s
CTAO Charters Tower 115.11 256 PFAKE 23 14 00.0 +10
CTAO LR LR
comp=Z,11µm,18.0s
MKAR Makanchi Array 115.14 356 PKP **PKPdf 23 13 48.9 -0.8**
comp=Z,6.4nm,0.9s,baz=17,slow=2.6,SNR=18
MKAR PP **PP 23 14 47.7 -0.8**
comp=Z,2.9nm,0.9s,baz=1.9,slow=3.6,SNR=2.4
MKAR PKKPbc **PKKPbc 23 24 26.2 -0.2**
comp=Z,1.2nm,0.9s,baz=180,slow=3.0,SNR=4.6
MKAR Makanchi Array 115.14 356 PKP **PKPdf 23 13 48.9 -0.8**
MKAR PP **PP 23 14 47.7 -0.8**
MKAR PKKPbc **PKKPbc 23 24 26.2 -0.2**
MKAR LR LR
comp=Z,9µm,18.0s
MKAR Makanchi Array 115.14 356 PKIKP **PKPdf 23 13 48.9 -0.8**
MKAR 23 14 47.7
MKAR 23 24 26.2
MKAR MLR MLR
comp=Z,9µm,18.0s
MAKZ Makanchi 115.14 356 PFAKE 23 14 00.0 +10
MAKZ LR LR
comp=Z,48µm,20.0s
TIY Taiyuan 115.22 330 *e*PKP **PKPdf 23 13 53.5 +3.3**
TIY SS SS 23 30 46.9 +2.2
SSE Sheshan 115.24 319 PKP **PKPdf 23 13 55.5 +5.2**
SSE PP PP 23 14 58.5 +8.5
SSE Sheshan 115.24 319 SS SS 23 30 51.6 +6.1
SSE AMB AMB
comp=Z,1µm,17.7s
SSE LR LR
comp=N,7µm,20.1s
SSE LR LR
comp=E,3µm,20.1s
NJ2 Nanjing 116.00 321 *e*Pdif **Pdif 23 10 04.3 -0.8**
NJ2 PP **PP 23 14 54.3 -1.0**
NJ2 SS SS 23 30 56.3 +1.0
NJ2 AMB AMB
comp=E,2µm,11.7s
NJ2 LR LR
comp=E,8µm,23.9s
NJ2 LR LR
comp=E,12µm,24.9s
NJ2 LR LR
comp=E,7µm,23.9s
TAU Tasmania Unive 116.57 231 PFAKE 23 14 00.0 +7.6
TAU LR LR
comp=Z,15µm,20.0s
COEN Coen 116.68 263 PFAKE 23 14 10.0 +17
COEN LR LR
comp=Z,14µm,21.0s
WMQ Urumqi 117.52 351 PKP **PKPdf 23 13 55.0 +0.5**
WMQ PP **PP 23 15 09.3 +4.1**
WMQ SKS **SKSdf 23 21 04.3 -0.6**
WMQ SKKS **SKKSac 23 22 02.5 -3.1**
WMQ LR LR
comp=Z,78µm,24.5s
KUU Kurty 118.20 1 *i* PKP **PKPdf 23 13 55.4 -0.3**
KUU *i* PP **PP 23 15 10.7 +0.8**
KUU LR LR 00 07 50.0
comp=Z,16µm,19.0s
YOJ Yonaguni jima 118.37 312 PFAKE 23 14 10.0 +14
YOJ LR LR
comp=Z,11µm,20.0s
KPKS Kokpek 118.62 359 *i* PKP **PKPdf 23 13 57.0 +0.4**
KPKS *i* PP **PP 23 15 14.7 +1.9**
KPKS LR LR 00 08 53.5
comp=Z,15µm,16.3s
KK31 Karatay Array 118.69 6 *e*PKPdf **PKPdf 23 13 57.2 +0.5**
KK31 Karatay Array 118.69 6 *e*PKIKP **PKPdf 23 13 57.2 +0.5**
KKAR Karatay Array 118.69 6 *e*PKPdf **PKPdf 23 13 57.2 +0.5**
KKAR Karatay Array 118.69 6 *e*PKIKP **PKPdf 23 13 57.2 +0.5**
USP Ospenovka 118.79 2 P **PKPdf 23 13 57.9 +1.0**
SNR=16
GTA Gaotai 118.89 340 PKP **PKPdf 23 13 57.2 -0.1**
GTA PP **PP 23 15 17.9 +2.9**
GTA SKKS 23 22 09.1
GTA SS **SS 23 31 34.4 +2.3**
AAA Alma-Ata 118.89 0 *e*PKP **PKPdf 23 13 57.8 +0.6**
AAA *i* PP **PP 23 15 16.4 +1.8**
AAA LR LR 00 07 35.4
comp=Z,9µm,21.2s
MDOK Medeo 118.94 0 *e*PKP **PKPdf 23 13 57.5 +0.2**
MDOK *i* PP **PP 23 15 16.8 +1.7**
MDOK *i* PS **PS 23 25 05.1 +1.6**
MDOK LR LR 00 07 24.5
comp=Z,20µm,21.7s
DZA Taraz 118.98 5 *e*PKP **PKPdf 23 13 58.0 +0.8**
BMNS Besmoynak 118.98 1 *i* PKP **PKPdf 23 13 57.5 +0.1**
BMNS *i* PP **PP 23 15 16.8 +1.4**
BMNS LR LR 00 08 16.6
comp=Z,9µm,16.3s
SATY Saty 119.03 359 *e*PKP **PKPdf 23 13 57.0 -0.4**
SATY *i* PP **PP 23 15 16.9 +1.2**
SATY *i* PS **PS 23 25 05.0 +0.7**
SATY LR LR 00 09 29.9
comp=Z,13µm,18.4s
CHMS Chumysh 119.06 2 P **PKPdf 23 13 58.2 +0.8**
SNR=7.1
TATO Taipei 119.10 313 PFAKE 23 14 10.0 +12
TATO LR LR
comp=Z,24µm,18.0s
TKM2 Tokmak 2 119.16 1 P **PKPdf 23 13 58.5 +0.7**
SNR=13
EKS2 Erkin-Say 119.36 3 P **PKPdf 23 13 58.6 +0.5**
SNR=18
YHNB Yeheng 119.38 313 PFAKE 23 14 10.0 +11
YHNB LR LR
comp=Z,18µm,18.0s
CHM Chimkent 119.38 6 *e*PKP **PKPdf 23 13 58.1 0.0**
CHM *i* PP **PP 23 15 19.0 +0.9**
CHM LR LR 00 09 12.5
comp=Z,25µm,17.4s
KBK Karagaybulak 119.41 2 P **PKPdf 23 13 59.1 +0.8**
SNR=8.4
AAK Ala-Archa 119.42 2 PKP **PKPdf 23 13 58.9 +0.6**
comp=Z,7.2nm,0.8s,baz=182,slow=1.7,SNR=20
AAK Ala-Archa 119.42 2 P **PKPdf 23 13 59.2 +0.9**
SNR=7.4
AAK Ala-Archa 119.42 2 *e*PKPdf **PKPdf 23 13 59.0 +0.8**
AAK LR LR
comp=Z,91µm,19.0s
AAK Ala-Archa 119.42 2 *i* P **PKPdf 23 13 58.5 +0.3**
SNR=8.5
AAK Ala-Archa 119.42 2⇑ *i* PKIKP **PKPdf 23 13 58.6 +0.3**
IUG luzhnay 119.60 6 *e*PKP **PKPdf 23 13 58.9 +0.3**
IUG LR LR 00 09 11.4
comp=Z,33µm,19.0s
WHN Wuhan 119.73 323 PKP **PKPdf 23 13 58.2 -0.7**
WHN PP **PP 23 15 23.5 +2.3**
WHN LR LR
comp=Z,33µm,18.7s
UCH Uchtor 119.83 2 P **PKPdf 23 14 00.8 +1.3**
SNR=18

ULHL Ulahol 119.85 1 P **PKPdf 23 13 59.9 +0.7**
SNR=26
XAN Xi'an 119.86 330 PKP **PKPdf 23 13 58.7 -0.5**
XAN PP **PP 23 15 22.4 +0.5**
XAN SKS **SKSdf 23 21 09.9 +0.2**
XAN SKKS **SKKSac 23 22 14.4 -6.9**
AML Almayashu 119.89 3 P **PKPdf 23 14 00.7 +1.2**
SNR=19
KZA Kyzart 120.00 2 P **PKPdf 23 14 00.4 +0.7**
SNR=8.2
SSLB Suanglung 120.24 313 *e*PKPdf **PKPdf 23 13 59.6 -0.6**
SSLB *e*PP **PP 23 15 19.3 -5.8**
SSLB LR LR
comp=Z,18µm,18.0s
YULB Yu-li 120.25 312 PFAKE 23 14 10.0 +10
YULB LR LR
comp=Z,12µm,20.0s
LZH Lanzhou 120.37 335 ⇑PKP **PKPdf 23 14 00.8 +0.5**
LZH sPKP 23 14 09.6
LZH PP **PP 23 15 30.2 +4.8**
LZH SKS **SKSdf 23 21 02.7 -8.2**
LZH SKKS **SKKSac 23 22 16.8 -8.1**
LZH SS **SS 23 31 51.5 -0.1**
TWG Pinlang 120.78 312 PFAKE 23 14 10.0 +8.8
TWG LR LR
comp=Z,63µm,19.0s
STKA Stephens Creek 120.78 243 PKP **PKPdf 23 14 01.1 +0.3**
comp=Z,12nm,0.8s,baz=47,slow=2.2,SNR=25
STKA Stephens Creek 120.78 243 *e*PKPdf **PKPdf 23 14 01.2 +0.3**
STKA LR LR
comp=Z,4µm,22.0s
STKA Stephens Creek 120.78 243 *e*PKIKP **PKPdf 23 14 01.2 +0.3**
STKA MLR MLR
comp=Z,4µm,22.0s
TPUB Ta-pu 120.78 313 PFAKE 23 14 10.0 +8.8
TPUB LR LR
comp=Z,15µm,20.0s
GEYT Alibeck 121.37 18 PKP **PKPdf 23 14 02.1 +0.1**
comp=Z,20nm,0.8s,baz=298,slow=3.2,SNR=39
GYA0B ALIBECK ARRAY 121.37 18 *e*PKPdf **PKPdf 23 14 02.4 +0.4**
GYA0B LR LR
comp=Z,40µm,18.0s
KSH Kashi 122.57 1 PKP **PKPdf 23 14 01.3 -3.1**
KSH sPKP 23 14 15.6
KSH LR LR
comp=Z,5µm,9.3s
KSH LR LR
comp=Z,6µm,9.6s
TSUM Tsumeb 123.84 101 PKP **PKPdf 23 14 07.7 +0.5**
comp=Z,5.1nm,0.8s,baz=319,slow=4.7,SNR=9.8
TSUM Tsumeb 123.84 101 *e*PKPdf **PKPdf 23 14 08.0 +0.8**
TSUM LR LR
comp=Z,10µm,21.0s
FAKI Fak Fak 123.95 279 PFAKE 23 14 20.0 +13
FAKI LR LR
comp=Z,16µm,21.0s
SYO Syowa Base 124.14 165⇑ *i*X **PKPdf 23 14 03.4 -2.7**
SYO Syowa Base 124.14 165⇑ *e*X PKPdf 23 14 17.6 +11
CD2 Chengdu 124.86 332 PKP **PKPdf 23 14 08.5 -0.4**
CD2 PP **PP 23 15 55.8 +0.1**
CD2 SKS **SKSdf 23 21 14.4 -4.9**
CD2 SKKS **SKKSac 23 22 46.6 -7.2**
CD2 SS **SS 23 32 45.4 -3.2**
BBOO Buckleboo 125.49 242 *e*PKPdf **PKPdf 23 14 09.8 0.0**
BBOO LR LR
comp=Z,15µm,22.0s
WR0 Warramunga Arr 125.94 258 PFAKE 23 14 20.0 +8.9
WR0 LR LR
comp=Z,14µm,18.0s
WR9 Warramunga Arr 125.96 258 PFAKE 23 14 20.0 +8.9
WR9 LR LR
comp=Z,14µm,18.0s
WR8 Warramunga Arr 125.97 258 PFAKE 23 14 20.0 +8.8
WR8 LR LR
comp=Z,15µm,18.0s
DAV Davao City (W) 126.00 293 PFAKE 23 14 20.0 +8.6
DAV LR LR
comp=Z,8µm,21.0s
WR7 Warramunga Arr 126.00 258 PFAKE 23 14 20.0 +8.8
WR7 LR LR
comp=Z,15µm,18.0s
WR6 Warramunga Arr 126.02 258 PFAKE 23 14 20.0 +8.8
WR6 LR LR
comp=Z,16µm,18.0s
WR5 Warramunga Arr 126.04 258 PFAKE 23 14 20.0 +8.7
WR5 LR LR
comp=Z,15µm,18.0s
WB0 Warramunga Arr 126.05 258 PFAKE 23 14 20.0 +8.7
WB0 LR LR
comp=Z,12µm,18.0s
WB9 Warramunga Arr 126.06 258 PFAKE 23 14 20.0 +8.7
WB9 LR LR
comp=Z,26µm,18.0s
WR4 Warramunga Arr 126.06 258 PFAKE 23 14 20.0 +8.7
WR4 LR LR
comp=Z,14µm,19.0s
WB8 Warramunga Arr 126.06 258 PFAKE 23 14 20.0 +8.7
WB8 LR LR
comp=Z,13µm,19.0s
WR3 Warramunga Arr 126.08 258 PFAKE 23 14 20.0 +8.6
WR3 LR LR
comp=Z,15µm,18.0s
WB6 Warramunga Arr 126.08 258 PFAKE 23 14 20.0 +8.6
WB6 LR LR
comp=Z,13µm,18.0s
WB5 Warramunga Arr 126.09 258 PFAKE 23 14 20.0 +8.6
WB5 LR LR
comp=Z,14µm,18.0s
WC3 Warramunga Arr 126.09 258 PFAKE 23 14 20.0 +8.6
WC3 LR LR
comp=Z,16µm,18.0s
WC2 Warramunga Arr 126.09 258 PFAKE 23 14 20.0 +8.6
WC2 LR LR
comp=Z,16µm,18.0s
WB4 Warramunga Arr 126.10 258 PFAKE 23 14 20.0 +8.6
WB4 LR LR
comp=Z,14µm,19.0s
WR2 Warramunga Arr 126.10 258 PFAKE 23 14 20.0 +8.6
WR2 LR LR
comp=Z,15µm,18.0s
WB3 Warramunga Arr 126.10 258 PFAKE 23 14 20.0 +8.6
WB3 LR LR
comp=Z,14µm,19.0s
WB2 Warramunga Arr 126.11 258 *e*PKPdf **PKPdf 23 14 11.8 +0.3**
WB2 LR LR
comp=Z,17µm,18.0s
WRAB Tennant Creek 126.11 258 *e*PKPdf **PKPdf 23 14 11.7 +0.3**
WRAB LR LR
comp=Z,16µm,18.0s
WRAB Tennant Creek 126.11 258 *e*PKIKP **PKPdf 23 14 11.7 +0.3**
WRAB MLR MLR
comp=Z,16µm,18.0s
WC1 Warramunga Arr 126.12 258 PFAKE 23 14 20.0 +8.6
WC1 LR LR
comp=Z,12µm,18.0s
WR1 Warramunga Arr 126.12 258 PFAKE 23 14 20.0 +8.6
WR1 LR LR
comp=Z,16µm,18.0s
WRA Warramunga Arr 126.12 258 PKP **PKPdf 23 14 11.2 -0.2**
comp=Z,16nm,0.8s,baz=77,slow=2.0,SNR=45
WC4 Warramunga Arr 126.12 258 PFAKE 23 14 20.0 +8.6
WC4 LR LR
comp=Z,16µm,18.0s
SAUI Saumlaki 126.43 273 PFAKE 23 14 20.0 +7.8
SAUI LR LR
comp=Z,16µm,20.0s
AS01 Alice Springs 126.93 254 *e*PKPdf **PKPdf 23 14 12.2 -0.7**
AS31 Alice Springs 126.97 254 PFAKE 23 14 30.0 +17
AS31 LR LR
comp=Z,200nm,19.0s
ASAR Alice Springs 126.97 254 PKP **PKPdf 23 14 12.5 -0.5**
comp=Z,12nm,0.8s,baz=94,slow=2.1,SNR=31
KBL Kabul 126.99 8 *e*PKPdf **PKPdf 23 14 13.4 +0.4**
KBL LR LR
comp=Z,61µm,19.0s
KBL Kabul 126.99 8 *e*PKIKP **PKPdf 23 14 13.5 +0.4**
KBL MLR MLR
comp=Z,61µm,19.0s
TNTI Ternate 127.14 285 PFAKE 23 14 30.0 +16
TNTI LR LR
comp=Z,4µm,20.0s
GYA Guiyang 127.14 326 Pdif **Pdif 23 10 54.2 -0.7**
GYA PKP **PKPdf 23 14 12.6 -0.9**
GYA PP **PP 23 16 16.1 +4.9**
GYA PKS **PKSdf 23 17 49.8 -0.5**

GYA SKKS 23 23 05.4
GYA SS **SS 23 33 19.8 +2.2**
GYA LR LR
comp=Z,26µm,23.9s
GYA LR LR
comp=Z,20µm,18.3s
GYA LR LR
comp=Z,26µm,22.7s
CASY Casey 127.23 196 PFAKE 23 14 20.0 +7.9
CASY LR LR
comp=Z,9µm,21.0s
SUR Sutherland 127.71 117 PFAKE 23 14 30.0 +16
SUR LR LR
comp=Z,15µm,22.0s
MTN Manton Dam 127.84 268 PFAKE 23 14 30.0 +15
MTN LR LR
comp=Z,31µm,21.0s
RAYN Ar Rayn 128.30 38 *e*PKPdf **PKPdf 23 14 15.0 -0.6**
RAYN LR LR
comp=Z,12µm,19.0s
NIL Nilore 128.31 4 *e*PKPdf **PKPdf 23 14 15.1 -0.3**
NIL *e*PP **PP 23 16 20.5 +2.4**
NIL LR LR
comp=Z,81µm,18.0s
NIL Nilore 128.31 4 *e*PKIKP **PKPdf 23 14 15.1 -0.3**
NIL *e* 23 16 20.5
NIL MLR MLR
comp=Z,81µm,18.0s
MAW Mawson 129.78 173 PKP **PKPdf 23 14 17.8 +0.9**
comp=Z,14nm,0.9s,baz=253,slow=3.6,SNR=12
MAW Mawson 129.78 173 *e*PKPdf **PKPdf 23 14 18.2 +1.2**
MAW Mawson 129.78 173 *e*PKIKP **PKPdf 23 14 18.2 +1.2**
DHRM DHARAMSHALA 129.83 1 *e*P **PKPdf 23 14 18.1 -0.4**
KMI Kunming 130.23 329 PKP **PKPdf 23 14 19.7 +0.2**
KMI sPKP 23 14 28.7
KMI PP **PP 23 16 35.9 +4.4**
KMI SKKS 23 23 25.1
KMI SS **SS 23 33 51.3 -4.6**
LSA Lhasa 130.49 344 PKP **PKPdf 23 14 20.8 +0.6**
SMLA Simla 130.95 360 *e*P **PKPdf 23 14 20.7 +0.3**
QIZ Qiongzhong 130.99 317 PKP **PKPdf 23 14 20.1 -0.7**
QIZ PP **PP 23 16 37.9 +1.3**
QIZ SS SS 23 34 04.4 -1.2
QIZ LR LR
comp=Z,3µm,26.9s
QIZ LR LR
comp=Z,3µm,22.9s
QIZ LR LR
comp=Z,6µm,25.7s
MBAR Mbarara 131.22 74 *e*PKPdf **PKPdf 23 14 20.6 -1.0**
MBAR LR LR
comp=Z,300nm,18.0s
MBAR Mbarara 131.22 74 *e*PKIKP **PKPdf 23 14 20.6 -1.0**
SHME Shamm 131.51 25 *i* P **PKPdf 23 14 21.8 +0.1**
SNR=7.0
BOSA Boshof 131.60 112 PKP **PKPdf 23 14 22.6 +0.8**
comp=Z,14nm,0.8s,baz=297,slow=3.1,SNR=15
BOSA Boshof 131.60 112 *e*PKPdf **PKPdf 23 14 21.9 +0.1**
BOSA Boshof 131.60 112 *e*PKIKP **PKPdf 23 14 21.9 +0.1**
BANOM Banah 131.69 25 P **PKPdf 23 14 22.1 +0.1**
DDI Dehra Dun 131.75 359 *e*P **PKPdf 23 14 22.4 +0.4**
LBTB Lobatse 131.85 108 PKP **PKPdf 23 14 22.9 +0.6**
comp=Z,6.2nm,1.1s,baz=237,slow=3.1,SNR=4.3
LBTB Lobatse 131.85 108 PKIKP **PKPdf 23 14 23.0 +0.6**
LUWI Luwuk 132.07 286 PFAKE 23 14 40.0 +17
LUWI LR LR
comp=Z,6µm,21.0s
MSFE Esma-Masafi 132.13 26 *i* P **PKPdf 23 14 22.7 -0.2**
SNR=13
MDH Madha 132.24 26 *i* P **PKPdf 23 14 22.6 -0.4**
SNR=13
NAZ Nazwa, Dubai 132.25 27 PKiKP **PKiKP 23 14 24.0 -0.1**
SNR=16
NAZ Nazwa, Dubai 132.25 27 P **PKiKP 23 14 24.0 -0.1**
SNR=16
NAZ Nazwa, Dubai 132.25 27 *i* P **PKPdf 23 14 23.0 0.0**
SNR=14
AJN Ajban 132.33 28 *i* P **PKPdf 23 14 23.3 +0.1**
SNR=12
FORT Forrest 132.35 245 PFAKE 23 14 40.0 +17
FORT LR LR
comp=Z,450µm,21.0s
UOSS Minazif 132.52 26 *e*PKPdf **PKPdf 23 14 22.6 -1.0**
UOSS LR LR
comp=Z,18µm,20.0s
UOSS Minazif 132.52 26 *i* P **PKPdf 23 14 22.7 -0.8**
SNR=10
HATD Hatta, Dubai 132.59 26 PKiKP **PKPdf 23 14 24.0 +0.3**
SNR=14
HATD Hatta, Dubai 132.59 26 P **PKPdf 23 14 24.0 +0.3**
SNR=14
HATD Hatta, Dubai 132.59 26 *i* P **PKPdf 23 14 23.5 -0.3**
SNR=14
ASHO Ashiyiah 132.69 26 PKiKP **PKiKP 23 14 24.7 -0.4**
SNR=17
ASHO Ashiyiah 132.69 26 P **PKiKP 23 14 24.7 -0.4**
SNR=17
ASHO Ashiyiah 132.69 26 *i* P **PKPdf 23 14 23.5 -0.4**
SNR=9.1
MYLDM Lahad Datu 133.04 296 *e*PKPdf **PKPdf 23 14 21.8 -3.0**
MYLDM LR LR
comp=Z,16µm,20.0s
ALNE Al Ain 133.10 27 *i* P **PKPdf 23 14 24.6 -0.1**
SNR=7.5
LSZ Lusaka 133.15 94 PKP **PKPdf 23 14 25.7 +0.7**
comp=Z,5.1nm,0.8s,baz=55,slow=2.1,SNR=9.2
LSZ Lusaka 133.15 94 *e*PKPdf **PKPdf 23 14 21.3 -3.8**
LSZ LR LR
comp=Z,9µm,21.0s
SOHO SOHO 133.37 26 *i* P **PKPdf 23 14 25.4 +0.3**
SNR=12
GUN Gumba 133.38 349 *e*P **PKPdf 23 14 24.5 -1.1**
comp=Z,200nm,1.2s
GKN Gorkha 133.49 351 *e*P **PKPdf 23 14 24.8 -0.7**
comp=Z,219nm,1.7s
JIRN Jiri 133.57 349 *e*P **PKPdf 23 14 25.0 -1.0**
comp=Z,68nm,1.0s
SOEI Soe 133.60 274 PFAKE 23 14 40.0 +14
SOEI LR LR
comp=Z,19µm,20.0s
KKN Kakani 133.60 350 *e*P **PKPdf 23 14 24.6 -1.2**
comp=Z,52nm,0.8s
PYUN Piuthan 133.62 353 *e*P **PKPdf 23 14 24.4 -1.4**
comp=Z,58nm,0.9s
PKIN Phulchoki 133.79 350 *e*P **PKPdf 23 14 25.6 -0.6**
comp=Z,41nm,1.0s
DMN Daman 133.81 350 *e*P **PKPdf 23 14 25.1 -1.2**
comp=Z,125nm,1.5s
KOLN Koldanda 133.87 352 *e*P **PKPdf 23 14 24.1 -2.2**
comp=Z,29nm,0.8s
ODAN Odare 134.11 347 *e*P **PKPdf 23 14 25.5 -1.3**
comp=Z,109nm,1.2s
DAMY Dhamar 134.15 47 PFAKE 23 14 40.0 +13
DAMY LR LR
comp=Z,14µm,19.0s
RAMN Ramite 134.18 348 *e*P **PKPdf 23 14 26.0 -1.0**
comp=Z,77nm,0.8s
RAMN Ramite 134.18 348 *e*P **PKKPdf 23 24 11.6 -1.6**
SHL Shillong 134.18 341 *ex* **PKPdf 23 14 27.4 +0.5**
KKM Kota Kinabalu 134.53 298 PFAKE 23 14 40.0 +12
KKM LR LR
comp=Z,11µm,19.0s
BIDO Bidbid 134.57 25 PKiKP **PKiKP 23 14 29.0 +0.2**
SNR=7.1
BIDO Bidbid 134.57 25 P **PKiKP 23 14 29.0 +0.2**
SNR=7.1
BSY Bisya 134.88 26 pPKPdf **PKPdf 23 14 34.0 +5.9**
SNR=8.3
WSAR Wadi Sarin 135.02 24 PKP **PKPdf 23 14 29.6 +1.3**
comp=Z,24nm,0.8s,baz=249,slow=2.6,SNR=16
ATD Arta Tunnel 135.09 51 PKP **PKPdf 23 14 29.9 +1.2**
comp=Z,9.8nm,0.8s,baz=236,slow=19,SNR=4.4
MMRI Maumere 135.21 276 PFAKE 23 14 40.0 +11
MMRI LR LR
comp=Z,6µm,21.0s
KAPI Kappang 136.36 282 PFAKE 23 14 40.0 +9.0
KAPI LR LR
comp=Z,9µm,20.0s
KMBO Kilima Mbogo 137.35 71 PKP **PKPdf 23 14 33.1 0.0**
comp=Z,2.3nm,0.7s,baz=2.8,slow=1.6,SNR=3.9
KMBO Kilima Mbogo 137.35 71 PKP **PKPdf 23 14 33.1 0.0**
KMBO LR LR
comp=Z,21µm,21.0s
KMBO Kilima Mbogo 137.35 71 PKIKP **PKPdf 23 14 33.1 0.0**
KMBO MLR MLR
comp=Z,21µm,21.0s

BOK	**Bokaro**	**137.39**	**348**	*e*P	**PKPdf**	**23 14 34.9**	**+2.2**
BOK				IAMs_20	IAMs_20	23 20 43.8	
	comp=Z,4µm,13.3s						
CHTO	**Chiang Mai**	**137.42**	**329**	*e*PKPdf	**PKPdf**	**23 14 31.1**	**-1.8**
CHTO				LR	LR		
	comp=Z,21µm,21.0s						
CHTO	**Chiang Mai**	**137.42**	**329**	PKiKP	**PKiKP**	**23 14 35.4**	**+0.6**
	SNR=8.3						
CHTO	**Chiang Mai**	**137.42**	**329**	P	**PKiKP**	**23 14 35.4**	**+0.6**
	SNR=8.3						
CHTO	**Chiang Mai**	**137.42**	**329**	*e*PKiKP	**PKPdf**	**23 14 31.1**	**-1.8**
CHTO				MLR	MLR		
	comp=Z,21µm,21.0s						
CMAR	**Chiang Mai Arr**	**137.72**	**328**	PKP	**PKPdf**	**23 14 33.9**	**+0.5**
	comp=Z,9.5nm,1.0s,baz=8.0,slow=1.6,SNR=20						
CMAR				PP	**PP**	**23 17 25.7**	**+6.8**
	comp=Z,4.1nm,1.1s,baz=27,slow=4.2,SNR=4.5						
CM01	**Chiang Mai Arr**	**137.75**	**328**	*e*PKPdf	**PKPdf**	**23 14 33.7**	**+0.3**
BHJ	**Bhuj**	**138.15**	**10**	*e*P	**PKPdf**	**23 14 34.0**	**-0.1**
BHPL	**Bhopal**	**138.81**	**360**	*e*P	**PKPdf**	**23 14 35.3**	**-0.1**
SBUM	**Sibu**	**139.81**	**297**	PFAKE		23 14 50.0	+13
SBUM				LR	LR		
	comp=Z,9µm,18.0s						
MBWA	**Marble Bar**	**139.86**	**259**	PFAKE		23 14 50.0	+13
MBWA				LR	LR		
	comp=Z,17µm,20.0s						
NGP	**Nagpur**	**140.84**	**357**	*e*P	**PKPdf**	**23 14 39.0**	**-0.1**
NGP				IAMs_20	IAMs_20	00 01 51.7	
	comp=Z,3µm,8.7s						
NWAO	**Narrogin (SRO)**	**141.21**	**240**	PFAKE		23 14 50.0	+11
NWAO				LR	LR		
	comp=Z,17µm,22.0s						
AKL	**Akola**	**141.33**	**0**	*e*P	**PKPdf**	**23 14 39.7**	**-0.2**
KSM	**Kuching**	**141.94**	**297**	*e*PKPpre	PKPpre	23 14 36.0	
KSM				LR	LR		
	comp=Z,9µm,18.0s						
JAGI	**Jajag, Banyuwa**	**142.76**	**280**	P	PKPdf	23 14 51.5	+8.9
JAGI	**Jajag, Banyuwa**	**142.76**	**280**	*e*PKPpre	PKPpre	23 14 35.0	
JAGI				LR	LR		
	comp=Z,8µm,18.0s						
BOM	**Bombay**	**142.89**	**7**	*e*P	**PKPdf**	**23 14 40.8**	**-1.9**
BOM				IAMs_20	IAMs_20	00 04 28.6	
	comp=Z,4µm,20.7s						
BLJI	**Banyuglugur**	**143.04**	**282**	P	**PKPdf**	**23 14 43.8**	**+0.7**
SRSP	**Sriramsagar**	**143.08**	**358**	*e*PKPdf	PKPbc	23 14 41.5	+1.6
RPR	**Rampur**	**143.11**	**357**	*e*PKPdf	**PKPdf**	**23 14 43.7**	**+0.6**
POO	**Poona**	**143.35**	**5**	*e*P	PKPbc	23 14 42.0	+1.4
GMJI	**Gumukmas**	**143.36**	**281**	P	**PKPdf**	**23 14 42.5**	**-1.1**
	comp=Z,55nm,1.0s,comp=Z,3µm						
VIS	**Vishakhapatnam**	**143.78**	**350**	*e*P	**PKPdf**	**23 14 43.6**	**-0.7**
KLRI	**Killari**	**143.95**	**1**	*e*PKPdf	PKPbc	23 14 43.2	+0.8
PVM	**Polavaram**	**144.49**	**353**	*e*PKPdf	PKPbc	23 14 44.1	0.0
HYBB	**Hyderabad (bro**	**144.57**	**358**	*e*PKPbc	**PKPab**	**23 14 43.4**	**-0.7**
HYB	**Hyderabad**	**144.57**	**358**	*i* PKP	**PKPab**	**23 14 43.0**	**-1.2**
HYB	**Hyderabad**	**144.57**	**358**	*e*P	**PKPab**	**23 14 43.7**	**-0.4**
DGPR	**DIGLIPUR**	**145.14**	**332**	*e*P	**PKPab**	**23 14 46.5**	**+0.2**
NJS	**Nagarjunasagar**	**145.39**	**356**	*e*PKPdf	**PKPbc**	**23 14 46.0**	**-1.0**
PCJI	**Pacitan**	**145.45**	**282**	P	**PKPbc**	**23 14 47.1**	**-0.2**
	comp=Z,375nm,1.4s,comp=Z,14µm						
WOJI	**Wonogiri, Jawa**	**145.56**	**283**	P	**PKPdf**	**23 14 47.2**	**-0.3**
	comp=Z,198nm,1.3s,comp=Z,8µm						
SMRI	**Semarang**	**145.72**	**285**	P	**PKPab**	**23 14 48.7**	**+0.2**
SMRI	**Semarang**	**145.72**	**285**	*e*PKPdf	**PKPdf**	**23 14 47.7**	**-0.1**
SMRI				LR	LR		
	comp=Z,10µm,19.0s						
SRLM	**Srisailam**	**145.87**	**357**	*e*PKPab	**PKPab**	**23 14 48.9**	**0.0**
UGM	**Wanagama**	**145.96**	**283**	P	**PKPab**	**23 14 49.5**	**+0.1**
	comp=Z,322nm,2.1s,comp=Z,14µm						
UGM	**Wanagama**	**145.96**	**283**	*e*PKPdf	**PKPdf**	**23 14 48.1**	**-0.1**
UGM				LR	LR		
	comp=Z,9µm,20.0s						
ADKI	**Addanki**	**146.05**	**355**	*e*PKPab	**PKPbc**	**23 14 48.8**	**-0.2**
GOA	**Goa**	**146.36**	**6**	*e*P	**PKPbc**	**23 14 49.8**	**-0.2**
PBA	**Port Blair**	**146.56**	**331**	*e*P	PKPdf	23 14 48.5	-0.6
MYKOM	**Kota Tinggi**	**147.03**	**304**	*e*PKPdf	**PKPdf**	**23 14 50.9**	**+0.9**
MYKOM				LR	LR		
	comp=Z,15µm,18.0s						
URV	**Uravakonda**	**147.06**	**360**	*e*PKPdf	**PKPdf**	**23 14 49.0**	**-1.1**
KULM	**Kulim**	**147.08**	**313**	*e*PKPdf	**PKPbc**	**23 14 52.1**	**-0.1**
KULM				LR	LR		
	comp=Z,37µm,20.0s						
KPJI	**Karang Pucung**	**147.21**	**285**	P	**PKPbc**	**23 14 52.1**	**-0.4**
	comp=Z,179nm,1.0s,comp=Z,10µm						
IPM	**Ipoh**	**147.39**	**311**	*e*PKPdf	**PKPdf**	**23 14 51.5**	**+0.9**
IPM				LR	LR		
	comp=Z,20µm,20.0s						
CMJI	**Cimerak**	**147.82**	**285**	P	**PKPbc**	**23 14 54.0**	**-0.2**
	comp=Z,345nm,1.2s,comp=Z,9µm						
SKHT	**Srikalahasti**	**148.16**	**355**	*e*PKPbc	**PKPbc**	**23 14 54.3**	**-0.8**
LEM	**Lembang**	**148.21**	**287**	PKP	**PKPdf**	**23 14 52.5**	**+0.3**
	comp=Z,97nm,0.9s,baz=51,slow=5.9,SNR=9.4						
LEM				PKPbc	**PKPbc**	**23 14 55.5**	**0.0**
	comp=Z,97nm,0.9s,baz=62,slow=6.5,SNR=13						
CISI	**Cisompet, Garu**	**148.32**	**286**	P	**PKPdf**	**23 14 52.7**	**+0.5**
	comp=Z,574nm,0.9s,comp=Z,16µm						
CISI	**Cisompet, Garu**	**148.32**	**286**	*e*PKPdf	**PKPdf**	**23 14 51.6**	**-0.6**
CISI				LR	LR		
	comp=Z,11µm,20.0s						
PAF	**Port-aux-Franc**	**148.43**	**171**	PFAKE		23 15 00.0	+2.0
PAF				LR	LR		
	comp=Z,12µm,20.0s						
MDRS	**Chennai**	**148.77**	**354**	*e*P	**PKPdf**	**23 14 50.9**	**-1.9**
MNGI	**Mangalore**	**148.97**	**4**	*ex*	**PKPbc**	**23 15 00.4**	**+3.2**
MNGI				IAMs_20	IAMs_20	00 02 06.8	
	comp=Z,6µm,8.8s						
SKJI	**Sukabumi**	**149.25**	**287**	P	**PKPbc**	**23 14 58.3**	**+0.4**
	comp=Z,407nm,1.5s,comp=Z,7µm						
LHMI	**Lhok Sumawe**	**149.59**	**318**	P	**PKPab**	**23 15 07.5**	**+3.8**
LHMI	**Lhok Sumawe**	**149.59**	**318**	*e*PKPdf	**PKPdf**	**23 14 51.4**	**-2.8**
LHMI				*e*PKPbc	**PKPbc**	**23 14 57.9**	**-0.8**
CGJI	**Cibinong**	**149.87**	**289**	P	**PKPdf**	**23 14 54.4**	**-0.2**
PSI	**Prapat**	**150.05**	**312**	*e*PKPdf	**PKPdf**	**23 14 54.8**	**-0.3**
PSI				*e*PKPbc	**PKPbc**	**23 15 00.4**	**+0.3**
PSI				LR	LR		
	comp=Z,36µm,20.0s						
PSI	**Prapat**	**150.05**	**312**	*e*PKIKP	**PKPdf**	**23 14 54.8**	**-0.3**
PSI				*e*		23 15 00.4	
PSI				MLR	MLR		
	comp=Z,36µm,20.0s						
BKNI	**Bangkinang**	**150.13**	**306**	P	**PKPbc**	**23 15 00.6**	**+0.5**
BKNI	**Bangkinang**	**150.13**	**306**	*e*PKPdf	**PKPdf**	**23 14 53.3**	**-1.7**
BKNI				*e*PKPbc	**PKPbc**	**23 14 59.3**	**-0.8**
BKNI				LR	LR		
	comp=Z,21µm,20.0s						
MDSI	**Maura Dua**	**150.24**	**294**	P	**PKPdf**	**23 14 54.4**	**-0.8**
	comp=Z,96nm,1.4s,comp=Z,4µm						
KASI	**Kota Agung**	**150.45**	**292**	P	**PKPbc**	**23 14 59.5**	**-1.4**
	comp=Z,318nm,1.0s						
LWLI	**Liwa**	**150.60**	**293**	P	**PKPdf**	**23 14 56.6**	**+0.7**
	comp=Z,476nm,0.8s						
TPTI		**150.92**	**315**	P	**PKPbc**	**23 15 01.7**	**-0.3**
	comp=Z,191nm,0.9s,comp=Z,8µm						
MNSI	**Mandailing Nat**	**150.94**	**308**	P	**PKPbc**	**23 15 01.1**	**-0.9**
	comp=Z,177nm,0.8s						
MASI	**Maura Aman, Be**	**151.20**	**298**	P	**PKPbc**	**23 15 02.6**	**-0.1**
	comp=Z,425nm,1.4s,comp=Z,7µm						
MNAI	**Manna**	**151.23**	**295**	*e*PKPbc	**PKPbc**	**23 15 01.2**	**-1.5**
MNAI				*e*PKPab	**PKPab**	**23 15 08.0**	**-2.6**
MNAI				LR	LR		
	comp=Z,10µm,19.0s						
XMIS	**Christmas Isla**	**151.34**	**282**	*e*PKPdf	**PKPdf**	**23 14 56.0**	**-0.9**
XMIS				*e*PKPbc	**PKPbc**	**23 15 03.2**	**+0.2**
XMIS				LR	LR		
	comp=Z,10µm,22.0s						
PDSI	**Padang**	**151.35**	**304**	P	**PKPdf**	**23 14 57.0**	**0.0**
	comp=Z,84nm,0.9s						
OPO	**Ambohidratompo**	**151.60**	**96**	PKP	**PKPdf**	**23 14 59.8**	**+2.4**
	comp=Z,17nm,1.2s,baz=117,slow=1.8,SNR=7.5						
ABPO	**Ambohimpanom**	**151.67**	**96**	PFAKE		23 15 10.0	-2.5
ABPO				LR	LR		
	comp=Z,13µm,18.0s						
GSI	**Gunungsitoli**	**152.06**	**312**	P	**PKPbc**	**23 15 05.6**	**+1.0**
	comp=Z,231nm,0.8s						
GSI	**Gunungsitoli**	**152.06**	**312**	*e*PKPdf	**PKPdf**	**23 14 57.9**	**-0.2**
GSI				*e*PKPbc	**PKiKP**	**23 15 04.8**	**-0.1**
SISI	**Saibi**	**152.68**	**305**	P	**PKPbc**	**23 15 07.5**	**+1.5**
MNCY	**Minicoy**	**153.39**	**9**	*e*P	**PKPdf**	**23 14 58.3**	**-1.7**
TRD	**Trivandrum**	**153.46**	**0**	*e*P	**PKPdf**	**23 14 59.1**	**-0.9**
HMDM	**Hanimaadhoo**	**154.88**	**9**	PFAKE		23 15 10.0	-0.7
HMDM				LR	LR		
	comp=Z,4µm,21.0s						
RER	**Riviere de l'E**	**159.66**	**102**	PFAKE		23 15 20.0	+12
RER				LR	LR		
	comp=Z,17µm,21.0s						

*IDC **11** 22:57:05.0±1.9, 1.°33N×92.°88E, h0km, **mb4.0**/5, **mb1 4.2**/5, **mb1mx3.6**/74, **mbtmp4.0**/5, Error ellipse: s-maj=71.7km s-min=28.0km az=53.0,* **Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**45.33**	**119**	P	P	23 05 25.1	-0.2
	1.1nm,0.9s,baz=296,slow=8.4,SNR=3.2						
MKAR	**Makanchi Array**	**47.20**	**350**	P	P	23 05 40.0	+0.4
	1.4nm,0.7s,baz=164,slow=9.1,SNR=3.8						
SONM	**Songino Array**	**48.76**	**12**	P	P	23 05 50.7	-1.1
	1.1nm,0.6s,baz=200,slow=7.8,SNR=3.5						
ZALV	**Zalesovo Beam**	**53.86**	**354**	P	P	23 06 30.2	+0.4
	1.6nm,0.7s,baz=158,slow=8.2,SNR=3.0						
GERES	**GERESS Array B**	**82.63**	**319**	P	P	23 09 29.9	-0.6
	1.8nm,0.7s,baz=110,slow=4.3,SNR=3.7						
TXAR	**Lajitas Array**	**146.54**	**27**	PKPbc	PKPbc	23 16 49.1	-0.2
	0.2nm,0.5s,baz=307,slow=0.5,SNR=3.7						

*ISCJB **11** 23:01:40.2±0.9, 1.°3N×0.°1×92.°6E±0.°2, h10km, mb3.9/11, Error ellipse: s-maj=26.7km s-min=16.0km az=142.3*

*IDC **11** 23:01:40.5±1.1, 1.°28N×92.°63E, h0km, mb3.9/11, mb1 4.0/12, mb1mx3.7/72, mbtmp3.8/12, ML3.8/1, Error ellipse: s-maj=41.0km s-min=19.5km az=46.0*

ISC 11 23:01:42.0±1.1, 1.°3N±0.°2×92.°6E±0.°2, h10km, n13, σ0s46/13, mb4.0/11, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**18.17**	**20**	P	**Pn**	**23 05 54.9**	**+0.3**
	0.1nm,0.3s,baz=211,slow=13,SNR=3.2						
WRA	**Warramunga Arr**	**46.00**	**120**	P	**P**	**23 10 05.6**	**-0.5**
	1.3nm,0.8s,baz=299,slow=8.6,SNR=7.1						
MKAR	**Makanchi Array**	**46.23**	**350**	P	**P**	**23 10 06.9**	**-0.5**
	1.0nm,0.7s,baz=148,slow=5.7,SNR=5.2						
ASAR	**Alice Springs**	**47.15**	**124**	P	**P**	**23 10 15.5**	**+0.5**
	0.4nm,0.6s,baz=300,slow=7.4,SNR=4.2						
SONM	**Songino Array**	**47.90**	**12**	P	**P**	**23 10 20.6**	**+0.1**
	1.2nm,0.8s,baz=200,slow=7.7,SNR=3.5						
GEYT	**Alibek**	**48.32**	**323**	P	**P**	**23 10 23.6**	**-0.2**
	0.8nm,0.7s,baz=140,slow=7.6,SNR=2.2						
KURBB	**Kurchatov Arra**	**50.61**	**348**	P	**P**	**23 10 40.6**	**-0.4**
	0.8nm,0.2s,baz=172,slow=6.6,SNR=3.6						
ZALV	**Zalesovo Beam**	**52.90**	**354**	P	**P**	**23 10 58.2**	**+0.2**
	0.7nm,0.4s,baz=182,slow=9.8,SNR=3.7						
KBZ	**Khabaz**	**61.07**	**321**	P	**P**	**23 11 56.3**	**+0.1**
	1.8nm,0.9s,baz=85,slow=6.1,SNR=2.1						
BRTR	**Keskin Array B**	**65.71**	**314**	P	**P**	**23 12 27.7**	**+0.4**
	0.8nm,0.9s,baz=117,slow=5.7,SNR=2.2						
FINES	**FINESS Array B**	**77.85**	**333**	P	**P**	**23 13 39.1**	**-0.5**
	2.2nm,0.9s,baz=96,slow=7.0,SNR=2.5						
GERES	**GERESS Array B**	**81.75**	**319**	P	**P**	**23 14 01.9**	**+0.7**
	0.7nm,0.7s,baz=118,slow=5.7,SNR=2.5						
TXAR	**Lajitas Array**	**145.81**	**26**	PKPbc	**PKPdf**	**23 21 21.5**	**-0.4**
	0.4nm,0.8s,baz=296,slow=0.7,SNR=4.9						

*NEIC **11** 23:04:45.4±0.0, 17.°62N×103.°25W, h18km, MD4.1(MEX), After MEX.*

MEX 11 23:04:45.4±3.9, 17.°62N×103.°25W, h18km±700km, MD4.1, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MMIG	**Aquila**	**0.67**	**353**	*e*P	Pb	23 04 57.2	-1.4
MMIG				*e*S	Sb	23 05 02.9	-4.8
MMIG	**Aquila**	**0.67**	**353**	*e*P	Pb	23 04 57.2	-1.4
MMIG				*e*S	Sb	23 05 02.9	-4.8
ZIIG	**Zihuatanejo**	**1.71**	**90**	*e*S	Sn	23 05 35.7	+0.1
ZIIG	**Zihuatanejo**	**1.71**	**90**	*e*S	Sn	23 05 35.7	+0.1
MOIG	**Morelia**	**2.83**	**43**	Pn	Pn	23 05 28.9	-1.1
MOIG				Sn	Sn	23 05 59.7	-4.1
ARIG	**Puente Sto Nin**	**2.84**	**76**	*e*P	Pn	23 05 31.0	+1.0
JRQG	**Juriquilla Cam**	**4.06**	**40**	Pn	Pn	23 05 45.3	-1.5
LNIG	**Linares**	**8.06**	**25**	Pn	Pn	23 06 38.4	-3.3

*ISCJB **11** 23:10:40.3±1.5, 1.°6N±0.°3×90.°9E±0.°3, h10km, mb3.8/5, Error ellipse: s-maj=53.0km s-min=25.2km az=137.1*

*IDC **11** 23:10:40.3±1.5, 1.°62N×90.°81E, h0km, mb3.7/5, mb1 4.0/5, mb1mx3.5/69, mbtmp3.7/5, Error ellipse: s-maj=58.0km s-min=28.2km az=45.0*

ISC 11 23:10:41.7±1.6, 1.°6N±0.°3×90.°8E±0.°4, h10km, n9, σ0s72/6, mb3.7/5, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H08S2	**Diego Garcia H**	**20.43**	**243**	T	T	23 36 26.1	
	baz=60,slow=74,SNR=3.8						
H08S3	**Diego Garcia H**	**20.43**	**243**	T	T	23 36 20.9	
	baz=60,slow=74,SNR=4.1						
H08S1	**Diego Garcia H**	**20.45**	**243**	T	T	23 36 15.4	
	baz=60,slow=74,SNR=3.5						
MKAR	**Makanchi Array**	**45.63**	**352**	P	**P**	**23 19 01.6**	**-0.8**
	0.4nm,0.4s,baz=164,slow=8.0,SNR=7.7						
WRA	**Warramunga Arr**	**47.76**	**119**	P	**P**	**23 19 19.5**	**0.0**
	1.0nm,1.5s,baz=297,slow=8.6,SNR=2.2						
SONM	**Songino Array**	**48.01**	**14**	P	**P**	**23 19 21.7**	**+0.6**
	1.6nm,0.6s,baz=200,slow=9.0,SNR=7.5						
MLR	**Muntele Rosu**	**71.43**	**318**	P	**P**	**23 22 03.2**	**+0.6**
	0.4nm,0.6s,baz=156,slow=9.9,SNR=5.5						
GERES	**GERESS Array B**	**80.32**	**319**	P	**P**	**23 22 53.4**	**+0.1**
	0.5nm,0.6s,baz=102,slow=4.5,SNR=5.6						
TXAR	**Lajitas Array**	**146.28**	**23**	PKPbc	**PKPdf**	**23 30 21.9**	**-0.5**
	0.3nm,0.6s,baz=326,slow=0.3,SNR=4.5						

*CSEM **11** 23:10:53.0, 39.°21N×29.°08E, h5km, ML2.0*

ISK 11 23:10:53.0, 39.°21N×29.°08E, h5km, ML2.0/4, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIMA	**Simav-Kutahya**	**0.15**	**210**	PG	Pg	23 10 56.8	+0.8
SIMA				SG	Sg	23 10 59.2	+1.1
SIMA	**Simav-Kutahya**	**0.15**	**210**	*i* Pg	Pg	23 10 56.8	+0.8
SIMA				*i* Sg	Sg	23 10 59.2	+1.1
TVSB	**Tavsanli**	**0.38**	**51**	PG	Pg	23 11 00.8	+0.4
TVSB				SG	Sg	23 11 06.7	+1.3
TVSB	**Tavsanli**	**0.38**	**51**	*e*Pg	Pg	23 11 00.8	+0.4
TVSB				*e*Sg	Sg	23 11 06.7	+1.3
KULA	**Kula-Manisa**	**0.77**	**205**	PG	Pg	23 11 07.8	0.0
KULA	**Kula-Manisa**	**0.77**	**205**	*e*Pg	Pg	23 11 07.8	0.0
MDNY	**Mudanya-Bursa**	**1.17**	**353**	PN	Pb	23 11 15.7	+0.1
MDNY	**Mudanya-Bursa**	**1.17**	**353**	*e*Pn	Pb	23 11 15.7	+0.1
ARMT	**Armutlu**	**1.36**	**353**	PN	Pg	23 11 19.3	+0.2
ARMT	**Armutlu**	**1.36**	**353**	*e*Pn	Pg	23 11 19.3	+0.2
YLV	**Yalova**	**1.37**	**9**	PN	Pg	23 11 19.7	+0.4
YLV	**Yalova**	**1.37**	**9**	*e*Pn	Pg	23 11 19.7	+0.4

MEX 11 23:14:00.1±1.3, 17.°93N×103.°07W, h10km±29km, MD3.8, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MMIG	**Aquila**	**0.44**	**323**	*i* P	Pg	23 14 07.5	-1.3
MMIG				*i* S	Sg	23 14 14.7	+0.1
ZIIG	**Zihuatanejo**	**1.56**	**102**	*e*P	Pn	23 14 24.3	-3.6
EZ5V		**1.62**	**342**	*e*P	Pn	23 14 26.1	-2.8
EZ5V				*e*S	Sn	23 14 45.1	-5.0
CJM	**Chamela**	**2.44**	**310**	*e*P	Pn	23 14 38.8	-1.2

*IDC **11** 23:17:46.0±0.7, 0.°34S×125.°06E, h0km, mb4.1/10, mb1 4.2/11, mb1mx3.9/61, mbtmp4.1/11, ML3.2/1, Error ellipse: s-maj=35.9km s-min=15.3km az=64.0*

*ISCJB **11** 23:17:51.8±0.4, 0.°32S±0.°06×125.°26E±0.°04, h57km, mb4.0/13, Error ellipse: s-maj=8.1km s-min=6.2km az=177.1*

*DJA **11** 23:17:51.1±0.4, 0.°S±6.°×12.°5E±.°, h10km, M4.4/7, mb4.4/1, MLv4.4/7*

*NEIC **11** 23:17:53.4±1.0, 0.°31S×125.°34E, h54km±10km, mb4.0/1, Error ellipse: s-maj=9.9km s-min=9.0km az=72.0*

ISC 11 23:17:53.5±0.6, 0.°32S±0.°07×125.°28E±0.°05, h57km, n27, σ1s11/27, mb4.2/13, 1D, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMSI	**Cibinong**	**1.58**	**304**	P	**Pn**	**23 18 17.3**	**-1.9**
SANI	**Sanana**	**1.85**	**158**	P	**Pn**	**23 18 21.1**	**-1.9**
LBMI	**Labuha**	**2.24**	**98**	P	**Pn**	**23 18 27.9**	**-0.3**
TNTI	**Ternate**	**2.35**	**62**	*e*Pn	**Pn**	**23 18 29.0**	**-0.8**
TNTI				*e*S	**Sn**	**23 18 58.9**	**+1.4**
LUWI	**Luwuk**	**2.61**	**254**	P	Pn	23 18 37.9	+4.6
LUWI	**Luwuk**	**2.61**	**254**	*e*Pn	**Pn**	**23 18 33.6**	**+0.3**
LUWI				*e*S	Sn	23 19 12.0	+8.2
MRSI	**Marisa**	**3.43**	**283**	P	**Pn**	**23 18 43.6**	**-0.9**
APSI	**Ampana**	**3.68**	**261**	P	**Pn**	**23 18 49.3**	**+1.4**
SIJI	**Sorong**	**6.01**	**95**	Pn	**Pn**	**23 19 20.7**	**+0.8**
	0.6nm,0.3s,baz=229,slow=19,SNR=2.6						
BNSI	**Bone**	**6.57**	**232**	P	**Pn**	**23 19 28.8**	**+1.3**
LEM	**Lembang**	**18.77**	**249**	P	**Pn**	**23 22 09.8**	**+0.5**
	3.9nm,0.3s,baz=180,slow=20,SNR=3.6						
WRAB	**Tennant Creek**	**21.42**	**156**	*e*P	**P**	**23 22 37.2**	**+0.3**
	5.5nm,0.8s						
WRA	**Warramunga Arr**	**21.42**	**156**	P	**P**	**23 22 36.3**	**-0.6**
	2.0nm,0.6s,baz=333,slow=12,SNR=15						
ASAR	**Alice Springs**	**24.67**	**161**	P	**P**	**23 23 09.9**	**+0.7**
	0.8nm,0.6s,baz=338,slow=8.6,SNR=9.1						
STKA	**Stephens Creek**	**34.97**	**155**	P	**P**	**23 24 40.0**	**-0.3**
	2.9nm,0.8s,baz=320,slow=7.6,SNR=2.4						
KLR	**Kul'dur**	**49.67**	**6**	P	**P**	**23 26 39.7**	**+0.2**
	0.1nm,0.4s,baz=286,slow=8.4,SNR=4.8						
SONM	**Songino Array**	**50.70**	**344**	P	**P**	**23 26 47.2**	**-0.3**
	1.8nm,0.7s,baz=152,slow=7.0,SNR=5.7						
PETK	**Petropavlovsk-**	**59.70**	**22**	P	**P**	**23 27 53.1**	**+1.0**
	6.7nm,0.8s,baz=205,slow=2.5,SNR=3.7						
MKAR	**Makanchi Array**	**60.10**	**327**	P	**P**	**23 27 54.1**	**-0.9**
	2.1nm,0.6s,baz=122,slow=7.9,SNR=16						
AAK	**Ala-Archa**	**62.44**	**320**	P	**P**	**23 28 13.5**	**+2.5**
	2.1nm,0.7s,baz=114,slow=7.1,SNR=5.2						
KURBB	**Kurchatov Arra**	**64.40**	**329**	P	**P**	**23 28 23.1**	**-0.5**
	1.6nm,0.6s,baz=128,slow=5.6,SNR=8.5						
KURK	**Kurchatov**	**64.41**	**329**	P	**P**	**23 28 23.1**	**-0.6**
BVAR	**Borovoye Array**	**69.94**	**328**	P	**P**	**23 28 59.0**	**+0.3**
	0.5nm,0.4s,baz=141,slow=7.1,SNR=3.4						
AKTO	**Aktyubinsk**	**75.94**	**323**	P	**P**	**23 29 34.5**	**+0.2**
	4.0nm,0.8s,baz=105,slow=8.1,SNR=8.5						
SYO	**Syowa Base**	**88.15**	**201**	*e*X	**P**	**23 30 35.6**	**-2.2**
ILAR	**Eielson Array**	**89.36**	**25**	P	**P**	**23 30 43.4**	**-0.2**
	0.3nm,0.4s,baz=252,slow=4.9,SNR=4.7						
TORD	**Torodi Ar. Bea**	**122.69**	**285**	PKP	**PKPdf**	**23 36 44.4**	**+0.5**
	0.5nm,0.7s,baz=56,slow=0.9,SNR=3.8						

*IDC **11** 23:18:48.9±0.6, 3.°11N×92.°91E, h0km, mb4.2/21, mb1 4.3/22, mb1mx4.1/73, mbtmp4.2/22, ML4.0/1, MS4.6/2, Ms1 4.6/2, ms1mx4.1/66, Error ellipse: s-maj=20.9km s-min=13.7km az=40.0*

*DJA **11** 23:18:49.7±2.2, 3.°N±5.°×9.°2E±.°, h15km±19km, M5.1/7, mB5.8/1, mb5.3/7, MLv5.0/6, Mw(mB)5.4/1*

*NEIC **11** 23:18:50.3±0.3, 3.°09N×92.°89E, h10km, mb4.6/13, Error ellipse: s-maj=7.3km s-min=4.2km az=29.0*

*ISCJB **11** 23:18:52.2±0.3, 3.°06N±0.°04×93.°03E±0.°03, h33km, mb4.3/38, MS4.8/4, Error ellipse: s-maj=6.8km s-min=4.0km az=32.5*

ISC 11 23:18:54.0±0.5, 3.°11N±0.°07×92.°99E±0.°06, h35km, n101, σ1s79/97, mb4.5/38, MS4.9/4, 5C-3D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSI	**Banda Aceh**	**3.30**	**44**	P	**Pn**	**23 19 42.6**	**-0.7**
MLSI	**Meulaboh, Aceh**	**3.59**	**71**	P	**Pn**	**23 19 47.4**	**+0.1**
TPTI		**4.19**	**88**	P	**Pn**	**23 19 55.4**	**0.0**
LHMI	**Lhok Sumawe**	**4.47**	**62**	P	**Pn**	**23 19 59.3**	**-0.1**
LHMI	**Lhok Sumawe**	**4.47**	**62**	*e*Pn	**Pn**	**23 20 00.3**	**+0.9**
LHMI				*e*S	**Sn**	**23 20 50.6**	**+0.3**
GSI	**Gunungsitoli**	**4.92**	**111**	P	**Pn**	**23 20 05.1**	**-0.4**

MKAR Makanchi Array 44.50 350 P **P** 23 27 02.0 0.0
comp=Z,4.5nm,0.6s,baz=170,slow=7.6,SNR=21
MKAR Makanchi Array 44.50 350 *eP* **P** 23 27 02.5 +0.4
comp=Z,28nm,0.8s
SONM Songino Array 46.03 13 P **P** 23 27 14.6 +0.3
comp=Z,2.3nm,0.7s,baz=195,slow=8.9,SNR=6.2
SONA1 Songino Array 46.05 13 *eP* **P** 23 27 16.2 +1.7
WRA Warramunga Arr 46.61 121 P **P** 23 27 19.4 +0.2
comp=Z,4.8nm,0.9s,baz=298,slow=8.7,SNR=12
WRAB Tennant Creek 46.62 121 *eP* **P** 23 27 19.5 +0.2
comp=Z,4.6nm,0.8s
WB2 Warramunga Arr 46.62 121 *eP* **P** 23 27 20.0 +0.7
comp=Z,12nm,1.0s
KSAR Wonju Array Be 46.80 39 P **P** 23 27 20.6 +0.2
KSRS Korea Array 46.84 39 P **P** 23 27 20.6 0.0
comp=Z,1.3nm,0.7s,baz=218,slow=8.9,SNR=5.6
GEYT Alibeck 47.09 322 P **P** 23 27 23.2 +0.4
comp=Z,4.1nm,0.8s,baz=169,slow=8.9,SNR=7.0
GYA0B ALIBECK ARRAY 47.09 322 *eP* **P** 23 27 21.3 -1.5
comp=Z,5.4nm,0.8s
AS31 Alice Springs 47.90 126 *eP* **P** 23 27 29.2 -0.1
comp=Z,2.0nm,0.9s
ASAR Alice Springs 47.90 126 P **P** 23 27 29.6 +0.3
comp=Z,3.5nm,0.9s,baz=302,slow=6.6,SNR=9.4
AS01 Alice Springs 47.94 126 *eP* **P** 23 27 28.9 -0.7
KURBB Kurchatov Arra 48.90 348 P **P** 23 27 36.4 0.0
comp=Z,4.8nm,1.0s,baz=170,slow=6.8,SNR=16
KURK Kurchatov 48.97 348 *eP* **P** 23 27 37.5 +0.6
comp=Z,5.4nm,1.0s
RAYN Ar Rayn 50.15 298 *eP* P 23 27 41.5 -5.1
comp=Z,7.7nm,1.0s
ZAA0 Zalesovo Array 51.12 354 *eP* **P** 23 27 53.9 +0.7
comp=Z,4.3nm,0.8s
ZALV Zalesovo Beam 51.12 354 P **P** 23 27 53.4 +0.2
comp=Z,2.8nm,0.5s,baz=183,slow=7.9,SNR=12
ZALV Zalesovo Beam 51.12 354 *eP* **P** 23 27 53.8 +0.5
GUMO Guam 52.27 75 LR LR 23 52 06.1
comp=Z,4µm,19.3s,baz=63,slow=38
BVAR Borovoye Array 53.15 343 P **P** 23 28 08.3 0.0
comp=Z,1.2nm,0.7s,baz=132,slow=8.6,SNR=5.4
KLR Kul'dur 56.56 29 P **P** 23 28 33.9 +0.8
comp=Z,0.2nm,0.8s,baz=258,slow=9.0,SNR=4.9
STKA Stephens Creek 57.76 131 P **P** 23 28 42.5 +0.5
comp=Z,2.0nm,0.8s,baz=311,slow=9.3,SNR=2.3
ASAJ Asahikawa 59.77 39 LR LR 23 55 24.3
comp=Z,54nm,18.5s,baz=45,slow=37
KBZ Khabaz 59.90 320 P **P** 23 28 56.9 +0.3
comp=Z,3.8nm,1.0s,baz=169,slow=8.7,SNR=4.3
ASF Jabal al Asfar 59.94 306 P **P** 23 28 55.4 -1.8
comp=Z,1.6nm,0.8s,baz=166,slow=4.2,SNR=2.3
MMAI Mount Meron Ar 61.39 306 P **P** 23 29 06.7 -0.3
comp=Z,2.0nm,0.8s,baz=91,slow=7.2,SNR=3.5
BR131 Keskin Array S 64.73 313 *eP* **P** 23 29 29.3 +0.1
BRTR Keskin Array B 64.73 313 P **P** 23 29 28.3 -0.9
comp=Z,1.1nm,0.8s,baz=126,slow=6.5,SNR=7.3
BR231 Keskin MP Arra 65.40 313 *eP* **P** 23 29 30.8 -2.7
IDI Anoyia 70.39 306 P **P** 23 30 05.2 +0.3
comp=Z,5.8nm,0.7s,baz=87,slow=9.7,SNR=6.3
IDI Anoyia 70.39 306 ⇑*iP* **P** 23 30 08.7 +3.8
SORM Soroca 70.94 320 ⇓*iP* **P** 23 30 09.8 +1.9
AKASG Malin Array Be 71.20 323 P **P** 23 30 09.5 +0.1
comp=Z,0.3nm,0.3s,baz=90,slow=4.7,SNR=2.5
VRI Vrincioaia 71.37 318 ⇓*iP* **P** 23 30 13.7 +3.1
PLOR Plostina 71.42 318 ⇓*iP* **P** 23 30 14.5 +3.5
TESR Tescani 71.60 318 ⇑*iP* **P** 23 30 14.0 +2.1
MLR Muntele Rosu 71.81 317 P **P** 23 30 13.7 +0.3
comp=Z,1.4nm,0.9s,baz=112,slow=4.5,SNR=9.1
MLR Muntele Rosu 71.81 317 ⇑*iP* **P** 23 30 16.7 +3.3
TIXI Tiksi 72.10 11 *eP* **P** 23 30 14.3 -0.1
comp=Z,6.8nm,0.8s
PRAR RASCA 72.10 319 ⇑*iP* P 23 30 23.3 +8.3
BOSA Boshof 72.12 239 P **P** 23 30 16.4 +0.8
comp=Z,3.0nm,1.0s,baz=9.8,slow=11,SNR=3.1
BURAR Bucovina Array 72.83 319 ⇑*iP* **P** 23 30 22.7 +3.3
BUR04 Bucovina Ar. S 72.83 319 *eP* **P** 23 30 19.4 0.0
FINES FINESS Array B 76.39 333 P **P** 23 30 38.9 -0.7
comp=Z,0.7nm,0.6s,baz=90,slow=5.6,SNR=3.1
GEA0 GERESS Array S 80.62 319 *eP* **P** 23 31 03.9 +0.6
GEC2 GERESS Array S 80.62 319 *eP* **P** 23 31 06.5 +3.2
comp=Z,8.5nm,1.0s
GERES GERESS Array B 80.62 319 P **P** 23 31 03.9 +0.6
comp=Z,2.4nm,0.9s,baz=93,slow=5.3,SNR=14
CLL Collm 81.32 321 *e*(pP) **P** 23 31 10.0 +3.1
EKA Eskdalemuir Ar 90.97 325 P **P** 23 31 54.6 +0.1
comp=Z,1.6nm,0.9s,baz=108,slow=4.6,SNR=3.0
TXAR Lajitas Array 144.00 25 PKP **PKPdf** 23 38 26.8 0.0
comp=Z,0.3nm,0.7s,baz=300,slow=0.7,SNR=3.1

NEIC ***11*** *23:19:49.2±0.0, 17°.88N×103°.13W, h16km, MD4.0(MEX), After MEX.*

MEX 11 23:19:49.2±1.1, 17°.88N×103°.13W, h16km±39km, MD4.0, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MMIG	**Aquila**	**0.46**	**334**	*eP*	Pg	23 19 57.1	-1.3
MMIG				*eS*	Sg	23 20 02.5	-2.2
MMIG	**Aquila**	**0.46**	**334**	*eP*	Pg	23 19 57.1	-1.3
MMIG				*eS*	Sg	23 20 02.5	-2.2
ZIIG	**Zihuatanejo**	**1.61**	**99**	*eP*	Pn	23 20 13.9	-3.1
ZIIG	**Zihuatanejo**	**1.61**	**99**	*eP*	Pn	23 20 13.9	-3.1
EZ5V		**1.66**	**344**	*eP*	Pn	23 20 15.3	-2.6
EZ5V				*eS*	Sn	23 20 35.6	-3.4
CJM	**Chamela**	**2.43**	**312**	*eP*	Pn	23 20 30.0	+1.8
CJM	**Chamela**	**2.43**	**312**	*eP*	Pn	23 20 30.0	+1.8
MOIG	**Morelia**	**2.57**	**45**	*e*Pn	Pn	23 20 24.5	-6.0
MOIG				*eS*	Sn	23 20 49.5	-12
ARIG	**Puente Sto Nin**	**2.68**	**81**	*eP*	Pn	23 20 28.4	-3.4

IDC 11 23:25:08.1±27.0, 17°.72S×174°.74W, h0km, mb4.3/4, mb1 4.5/4, mb1mx3.8/45, mbtmp4.3/4, Error ellipse: s-maj=543.0km s-min=149.3km az=87.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**41.80**	**242**	P	P	23 33 00.4	+0.7
	1.8nm,0.3s,baz=82,slow=10.0,SNR=6.9						
WRA	**Warramunga Arr**	**48.10**	**259**	P	P	23 33 49.4	-0.6
	0.7nm,0.5s,baz=99,slow=7.0,SNR=11						
ASAR	**Alice Springs**	**48.21**	**254**	P	P	23 33 50.4	-0.5
	7.0nm,0.4s,baz=90,slow=8.4,SNR=94						
FITZ	**Fitzroy Crossi**	**56.51**	**260**	P	P	23 34 52.6	+0.1
	3.7nm,1.0s,baz=83,slow=8.1,SNR=4.6						

IDC 11 23:26:26.8±1.8, 2°.50N×91°.91E, h0km, mb3.7/5, mb1 3.9/6, mb1mx3.5/71, mbtmp3.7/6, ML4.2/1, Error ellipse: s-maj=63.6km s-min=31.2km az=56.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**17.29**	**23**	P	P	23 30 30.7	-0.7
	0.3nm,0.3s,baz=211,slow=14,SNR=3.7						
MKAR	**Makanchi Array**	**44.91**	**351**	P	P	23 34 43.7	+0.5
	0.7nm,0.6s,baz=170,slow=9.4,SNR=6.7						
WRA	**Warramunga Arr**	**47.23**	**120**	P	P	23 35 02.4	+0.4
	0.5nm,0.8s,baz=299,slow=8.7,SNR=3.0						
KURBB	**Kurchatov Arra**	**49.27**	**349**	P	P	23 35 16.8	-0.5
	0.5nm,0.5s,baz=176,slow=7.2,SNR=3.3						
ZALV	**Zalesovo Beam**	**51.61**	**355**	P	P	23 35 34.8	-0.1
	0.8nm,0.3s,baz=175,slow=7.1,SNR=5.0						
GERES	**GERESS Array B**	**80.36**	**319**	P	P	23 38 40.6	+0.3
	0.2nm,0.6s,baz=108,slow=6.3,SNR=4.8						
TXAR	**Lajitas Array**	**145.00**	**24**	PKPbc	PKPab	23 46 03.6	-2.6
	0.6nm,1.0s,baz=246,slow=0.9,SNR=3.9						

ISCJB ***11*** *23:28:43.8±0.1, 20°.31S±0°.03×177°.89W±0°.05, h550km, mb4.5/96, Error ellipse: s-maj=6.4km s-min=3.1km az=22.2*

NEIC ***11*** *23:28:45.9±0.6, 20°.35S×177°.86W, h567km±7km, mb4.6/72, Error ellipse: s-maj=7.0km s-min=4.8km az=124.0*

IDC ***11*** *23:28:46.7±1.8, 20°.25S×177°.85W, h573km±20km, mb3.9/23, mb1 4.1/24, mb1mx3.9/43, mbtmp4.8/24, Error ellipse: s-maj=12.9km s-min=9.0km az=148.0*

WEL ***11*** *23:28:47.2±1.6, 21°.S±13°×17°.9W±7°.6, h522km±24km*

ISC 11 23:28:44.2±0.3, 20°.31S±0°.05×177°.63W±0°.07, h550km, n220, σ1°.41/234, mb4.5/96, 16C-3D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**4.83**	**301**	*eP*	**P**	**23 30 14.6**	**+1.9**
AFI	**Afiamalu**	**8.48**	**42**	P	**P**	**23 30 45.5**	**-1.4**
	15nm,0.3s,baz=56,slow=6.1,SNR=20						
AFI				S	**S**	23 32 23.3	-4.1
	8.2nm,0.3s,baz=14,slow=7.2,SNR=4.5						
AFI	**Afiamalu**	**8.48**	**42**	*eP*	**P**	**23 30 45.3**	**-1.6**
AFI				*eS*	**S**	23 32 25.6	-1.9
RIZ	**Raoul Island**	**8.90**	**182**	S	**S**	23 32 34.3	-0.4
RIZ	**Raoul Island**	**8.90**	**182**	P	**P**	23 30 50.7	-0.1
RAO	**Raoul Island**	**8.90**	**182**	P	**P**	23 30 50.5	-0.3
GLKZ	**Green Lake**	**8.91**	**182**	P	**P**	23 30 49.2	-1.7
GLKZ	**Green Lake**	**8.91**	**182**	S	**S**	23 32 34.5	-0.5
DZM	**Mont Dzumac**	**14.96**	**260**	P	**P**	23 31 53.2	-0.1
	5.4nm,0.3s,baz=83,slow=16,SNR=40						
DZM	**Mont Dzumac**	**14.96**	**260**	*eP*	**P**	23 31 54.6	+1.3
OUZ	**Omahuta**	**16.74**	**206**	*eP*	**P**	23 32 11.7	+1.3
	101nm,1.1s						
KUZ	**Kuaotunu**	**17.37**	**198**	P	**P**	23 32 16.9	+0.8
MTAZ	**Motutapu**	**17.66**	**200**	P	**P**	23 32 19.3	+0.6
WMGZ	**Waiomatatini S**	**17.78**	**190**	P	**P**	23 32 22.6	+2.8
HAZ	**Te Kaha**	**17.83**	**192**	P	**P**	23 32 20.0	-0.3
HAZ	**Te Kaha**	**17.83**	**192**	S	**S**	23 35 12.5	-3.8
MKAZ	**Moumakai**	**17.87**	**199**	P	**P**	23 32 18.9	-1.8
PKGZ	**Pakihiroa**	**17.91**	**191**	S	**S**	23 35 24.3	+6.7
PKGZ	**Pakihiroa**	**17.91**	**191**	P	**P**	23 32 19.9	-1.2
PUZ	**Puketiti**	**18.05**	**191**	P	**P**	23 32 23.0	+0.7
PUZ	**Puketiti**	**18.05**	**191**	S	**S**	23 35 22.2	+2.2
RUGZ	**Raukumara Rang**	**18.05**	**192**	P	**P**	23 32 22.6	+0.1
TWGZ	**Tauwhareparae**	**18.20**	**191**	P	**P**	23 32 25.0	+1.2
TWGZ	**Tauwhareparae**	**18.20**	**191**	S	**S**	23 35 20.3	-2.2
MWZ	**Matawai**	**18.44**	**192**	P	**P**	23 32 25.9	-0.1
URZ	**Urewera**	**18.45**	**193**	P	**P**	23 32 24.2	-1.8
	16nm,0.3s,baz=288,slow=3.5,SNR=46						
URZ	**Urewera**	**18.45**	**193**	*eP*	**P**	23 32 25.1	-0.9
	46nm,0.9s						
URZ	**Urewera**	**18.45**	**193**	P	**P**	23 32 24.2	-1.8
URZ	**Urewera**	**18.45**	**193**	S	**S**	23 35 20.0	-6.4
TARZ	**Mount Tarawera**	**18.57**	**195**	P	**P**	23 32 28.0	+0.8
RAGZ	**Rawiri**	**18.62**	**192**	P	**P**	23 32 27.8	+0.2
HIZ	**Hauiti**	**19.27**	**198**	*eP*	**P**	23 32 34.8	+1.3
	66nm,1.9s						
BKZ	**Black Stump Fm**	**19.46**	**194**	*eP*	**P**	23 32 34.2	-1.0
	123nm,1.9s						
BFZ	**Birch Farm**	**20.96**	**193**	*eP*	**P**	23 32 47.6	-1.2
	399nm,1.9s						
SNZO	**South Karori**	**21.92**	**196**	*eP*	**P**	23 32 56.8	-0.5
	47nm,0.4s						
THZ	**Tophouse**	**22.84**	**198**	*eP*	**P**	23 33 05.8	+0.2
	106nm,1.1s						
LTZ	**Lake Taylor**	**23.96**	**199**	*eP*	**P**	23 33 14.2	-1.3
	69nm,0.6s						
OXZ	**Oxford**	**24.52**	**198**	*eP*	**P**	23 33 19.1	-1.4
	235nm,0.5s						
MQZ	**McQueen's Vall**	**24.70**	**197**	*eP*	**P**	23 33 21.0	-1.0
	64nm,0.3s						
RPZ	**Rata Peaks**	**25.18**	**200**	P	**P**	23 33 26.6	+0.3
	17nm,0.5s,baz=356,slow=2.2,SNR=16						
RPZ	**Rata Peaks**	**25.18**	**200**	*eP*	**P**	23 33 27.5	+1.2
	44nm,1.2s						
FOZ	**Fox Glacier**	**25.42**	**202**	*eP*	**P**	23 33 27.1	-1.3
	99nm,1.4s						
LBZ	**Lake Benmore**	**26.06**	**200**	*eP*	**P**	23 33 32.3	-1.7
	184nm,2.0s						
WKZ	**Wanaka**	**26.84**	**201**	*eP*	**P**	23 33 39.4	-1.5
	134nm,1.8s						
MLZ	**Mavora Lakes**	**27.62**	**202**	*eP*	**P**	23 33 48.2	+0.4
	152nm,1.9s						
DCZ	**Deep Cove**	**28.05**	**203**	*eP*	**P**	23 33 51.5	0.0
	66nm,1.3s						
WHZ	**Wether Hill Ro**	**28.13**	**202**	*eP*	**P**	23 33 53.6	+1.4
	85nm,0.5s						
EIDS	**Eidsvold**	**29.23**	**254**	*eP*	**P**	23 34 01.4	-0.7
	12nm,0.8s						
CTA	**Charters Tower**	**33.85**	**264**	P	**P**	23 34 41.2	-0.4
	30nm,0.7s,baz=98,slow=11,SNR=25						
CTAO	**Charters Tower**	**33.85**	**264**	*eP*	**P**	23 34 40.9	-0.7
	147nm,0.6s						
PMG	**Port Moresby**	**35.64**	**282**	P	**P**	23 34 55.9	-0.7
	28nm,0.8s,baz=114,slow=11,SNR=4.7						
PMG	**Port Moresby**	**35.64**	**282**	*eP*	**P**	23 34 55.2	-1.4
	21nm,0.8s						
STKA	**Stephens Creek**	**38.18**	**244**	P	**P**	23 35 17.2	0.0
	21nm,0.7s,baz=88,slow=9.1,SNR=38						
STKA	**Stephens Creek**	**38.18**	**244**	*eP*	**P**	23 35 17.2	0.0
	6.2nm,1.0s						
BBOO	**Bucklebo**	**42.94**	**243**	*eP*	**P**	23 35 54.5	-0.6
	34nm,0.8s						
AS01	**Alice Springs**	**44.85**	**257**	*eP*	**P**	23 36 08.2	-1.9
AS31	**Alice Springs**	**44.90**	**256**	*eP*	**P**	23 36 09.8	-0.5
	10nm,0.7s						
ASAR	**Alice Springs**	**44.90**	**256**	P	**P**	23 36 09.8	-0.6
	32nm,0.6s,baz=96,slow=7.7,SNR=200						
ASAR				ScP	**ScP**	23 40 41.2	+0.8
	1.6nm,1.0s,baz=102,slow=4.8,SNR=4.5						
ASAR				S	**S**	23 42 05.9	-2.8
	6.0nm,0.9s,baz=94,slow=15,SNR=18						
WB2	**Warramunga Arr**	**44.96**	**262**	*eP*	**P**	23 36 09.8	-1.0
WRAB	**Tennant Creek**	**44.96**	**262**	*eP*	**P**	23 36 09.4	-1.4
	29nm,1.0s						
WRA	**Warramunga Arr**	**44.97**	**262**	P	**P**	23 36 09.7	-1.2
	11nm,0.4s,baz=98,slow=8.0,SNR=199						
WRA				S	**S**	23 42 07.1	-2.6
	0.7nm,0.6s,baz=97,slow=12,SNR=4.2						
FORT	**Forrest**	**49.68**	**246**	*eP*	**P**	23 36 45.5	-0.7
	729nm,0.7s						
FITZ	**Fitzroy Crossi**	**53.39**	**262**	P	**P**	23 37 12.6	-0.5
	3.6nm,0.6s,baz=159,slow=6.9,SNR=14						
VNDA	**Vanda**	**58.12**	**185**	P	**P**	23 37 46.1	+1.3
	2.8nm,0.7s,baz=349,slow=8.7,SNR=19						
VNDA	**Vanda**	**58.12**	**185**	*eP*	**P**	23 37 47.2	+2.4
	3.7nm,0.8s						
MBWA	**Marble Bar**	**58.23**	**257**	*eP*	**P**	23 37 45.4	-1.1
	41nm,0.7s						
NWAO	**Narrogin (SRO)**	**58.76**	**243**	P	**P**	23 37 49.6	-0.4
	15nm,1.0s,baz=35,slow=6.8,SNR=3.4						
DAV	**Davao City (W)**	**62.09**	**290**	P	**P**	23 38 13.0	+0.8
	392nm,0.5s,baz=114,slow=4.3,SNR=4.0						
CASY	**Casey**	**64.28**	**205**	*eP*	**P**	23 38 25.4	+0.1
	7.2nm,0.7s						
QSPA	**South Pole Qui**	**69.75**	**180**	*eP*	**P**	23 39 00.3	+1.2
	46nm,0.9s						
MJAR	**Matsushiro Arr**	**70.27**	**323**	P	**P**	23 39 01.5	-1.0
	5.5nm,0.7s,baz=166,slow=6.0,SNR=14						
ASAJ	**Asahikawa**	**73.73**	**331**	P	**P**	23 39 22.1	-0.3
	13nm,0.8s,baz=278,slow=7.1,SNR=13						
ASAJ	**Asahikawa**	**73.73**	**331**	*eP*	**P**	23 39 23.4	+1.1
	13nm,0.8s						
PETK	**Petropavlovsk-**	**76.18**	**345**	P	**P**	23 39 35.2	-0.6
	9.4nm,0.6s,baz=134,slow=8.4,SNR=4.8						
KSRS	**Korea Array**	**76.98**	**318**	P	**P**	23 39 40.1	-0.4
	1.0nm,0.5s,baz=141,slow=6.3,SNR=4.0						
KSAR	**Wonju Array Be**	**77.00**	**318**	P	**P**	23 39 40.1	-0.5
ISA	**Isabella, Lake**	**78.96**	**45**	*eP*	**P**	23 39 53.3	+1.9
	5.7nm,0.9s						
USRK	**Ussuriysk Ar.**	**79.01**	**326**	P	**P**	23 39 51.5	+0.2
	6.7nm,0.8s,baz=133,slow=2.5,SNR=13						
CMB	**Columbia Colle**	**79.09**	**43**	*eP*	**P**	23 39 53.3	+1.3
	8.3nm,0.9s						
AFDM	**Forest Hills D**	**79.27**	**42**	*eP*	**P**	23 39 54.4	+1.5
	8.2nm,1.0s						
WDC	**Whiskeytown Da**	**79.31**	**39**	*eP*	**P**	23 39 55.0	+2.0
	9.9nm,1.0s						
YBH	**Yreka Blue Hor**	**79.93**	**38**	P	**P**	23 39 57.9	+1.6
	12nm,0.7s,baz=234,slow=1.9,SNR=26						
YBH	**Yreka Blue Hor**	**79.93**	**38**	*eP*	**P**	23 39 58.5	+2.1
	12nm,0.8s						
NJ2	**Nanjing**	**80.03**	**309**	*eP*	**P**	23 39 57.0	+0.1
NJ2				pmax	pmax		
	comp=Z,23nm,0.6s						
HUMO	**Hull Mountain**	**80.34**	**38**	*eP*	**P**	23 40 00.6	+2.3
	comp=Z,13nm,1.2s						
RYN	**Ryan**	**80.63**	**43**	*eP*	**P**	23 40 01.9	+1.8
	comp=Z,6.1nm,1.0s						
NV01	**Mina Array Sit**	**80.65**	**43**	*eP*	**P**	23 40 01.4	+1.1
NVAR	**Mina Array Bea**	**80.65**	**43**	P	**P**	23 40 01.9	+1.6
	comp=Z,7.7nm,0.8s,baz=226,slow=9.3,SNR=41						
PAHR	**Pah Rah Range**	**80.71**	**42**	*eP*	**P**	23 40 02.2	+1.7
	comp=Z,9.3nm,0.9s						
NV11	**Mina Array Sit**	**80.75**	**43**	*eP*	**P**	23 40 02.5	+1.8
	comp=Z,0.8nm,0.9s						
MOD	**Modoc Plateau**	**81.45**	**39**	*eP*	**P**	23 40 05.7	+1.4
	comp=Z,1.1nm,0.8s						
K05A	**Summer Lake**	**81.61**	**39**	*eP*	**P**	23 40 06.9	+1.8
	comp=Z,26nm,0.9s						
SHPR	**Sheep Range**	**81.66**	**46**	*eP*	**P**	23 40 07.6	+2.1
	comp=Z,3.6nm,0.9s						
MAW	**Mawson**	**81.85**	**200**	P	**P**	23 40 06.1	+0.4
	comp=Z,1.7nm,0.5s,baz=114,slow=8.3,SNR=4.5						
H04A	**Detroit Lake**	**82.08**	**36**	*eP*	**P**	**23 40 08.2**	**+0.9**
	comp=Z,16nm,1.1s						
PINE	**Pine Mountain**	**82.23**	**38**	*eP*	**P**	**23 40 10.1**	**+1.8**
	comp=Z,24nm,0.8s						
BMN	**Battle Mountai**	**82.48**	**42**	*eP*	**P**	**23 40 10.5**	**+0.9**
	comp=Z,12nm,0.9s						
E03A	**Lebam**	**82.51**	**34**	*eP*	**P**	**23 40 11.1**	**+1.8**
	comp=Z,18nm,0.8s						
TUC	**Tucson**	**82.59**	**52**	*eP*	**P**	**23 40 12.1**	**+1.9**
	comp=Z,30nm,1.4s						
WVOR	**Wild Horse Val**	**82.77**	**40**	*eP*	**P**	**23 40 12.0**	**+1.1**
	comp=Z,15nm,1.1s						
NLWA	**Neilton Lookou**	**82.89**	**34**	*eP*	**P**	**23 40 12.5**	**+1.2**
	comp=Z,16nm,1.1s						
I07A	**Izee**	**83.23**	**38**	*eP*	**P**	**23 40 15.1**	**+1.9**
	comp=Z,7.1nm,0.9s						
LCMT	**Little Creek M**	**83.23**	**47**	*eP*	**P**	**23 40 15.3**	**+1.9**
	comp=Z,8.6nm,0.6s						
G06A	**Carlson Farm,**	**83.28**	**37**	*eP*	**P**	**23 40 14.7**	**+1.4**
	comp=Z,9.2nm,1.0s						
J08A	**Circle Bar Ran**	**83.41**	**39**	*eP*	**P**	**23 40 15.8**	**+1.7**
	comp=Z,14nm,1.1s						
CCUT	**Cedar City**	**83.43**	**46**	*eP*	**P**	**23 40 15.8**	**+1.3**
	comp=Z,9.9nm,1.0s						
D05A	**Enumclaw**	**83.75**	**35**	*eP*	**P**	**23 40 17.6**	**+2.0**
	comp=Z,23nm,1.1s						
GAMB	**Gambell**	**83.94**	**3**	*eP*	**P**	**23 40 16.2**	**+0.2**
	comp=Z,13nm,0.7s						
G08A	**Pilot Rock**	**84.26**	**37**	*eP*	**P**	**23 40 19.9**	**+1.6**
	comp=Z,9.2nm,0.9s						
SUA	**Susitna One**	**84.31**	**13**	*eP*	**P**	**23 40 17.8**	**-0.2**
LTY	**Liberty**	**84.50**	**35**	*eP*	**P**	**23 40 20.4**	**+1.1**
	comp=Z,4.5nm,0.9s						
HAWA	**Hanford**	**84.59**	**36**	*eP*	**P**	**23 40 21.1**	**+1.4**
	comp=Z,16nm,1.1s						
PMR	**Palmer**	**84.76**	**13**	*eP*	**P**	**23 40 19.9**	**-0.3**
	comp=Z,5.2nm,0.5s						
121A	**Cookes Peak, D**	**84.93**	**53**	*eP*	**P**	**23 40 23.9**	**+2.0**
	comp=Z,6.8nm,0.9s						
MFID	**Camas Ranch**	**85.02**	**40**	*eP*	**P**	**23 40 23.6**	**+1.5**
	comp=Z,9.4nm,1.7s						
DIV	**Divide**	**85.12**	**15**	*eP*	**P**	**23 40 21.5**	**-0.4**
	comp=Z,9.0nm,0.6s						
SCM	**Sheep Creek Mo**	**85.37**	**14**	*eP*	**P**	**23 40 23.5**	**+0.3**
KLU	**Klutina**	**85.40**	**15**	*eP*	**P**	**23 40 23.5**	**+0.2**
F10A	**Beach Ranch, E**	**85.65**	**37**	*eP*	**P**	**23 40 25.6**	**+0.7**
	comp=Z,25nm,0.8s						
CAST	**Castle Rocks**	**85.83**	**11**	*eP*	**P**	**23 40 23.8**	**-1.5**
BALM	**Baldy**	**85.90**	**16**	*eP*	**P**	**23 40 26.0**	**+0.2**
LLLB	**Lillooet**	**85.95**	**32**	*eP*	**P**	**23 40 27.4**	**+1.2**
HLID	**Hailey**	**85.96**	**41**	*eP*	**P**	**23 40 27.7**	**+1.1**
	comp=Z,3.6nm,0.8s						
C09A	**Chrisman Ranch**	**86.12**	**36**	*eP*	**P**	**23 40 27.8**	**+0.7**
	comp=Z,17nm,1.1s						
BESE	**Bessie Mountai**	**86.16**	**21**	*eP*	**P**	**23 40 28.1**	**+1.1**
TRF	**Thorofare Moun**	**86.20**	**12**	*eP*	**P**	**23 40 26.3**	**-0.9**
	comp=Z,19nm,0.8s						
MNTX	**Cornudas Mount**	**86.36**	**54**	*eP*	**P**	**23 40 30.0**	**+1.4**
	comp=Z,11nm,1.1s						
DHY	**Denali Highway**	**86.46**	**13**	*eP*	**P**	**23 40 28.4**	**-0.1**
BPAW	**Bear Paw Mtn.**	**86.66**	**11**	*eP*	**P**	**23 40 28.6**	**-0.6**
	comp=Z,1.1nm,1.2s						
TX31	**Lajitas Ar. Si**	**86.67**	**57**	*eP*	**P**	**23 40 31.7**	**+1.5**
TXAR	**Lajitas Array**	**86.67**	**57**	P	**P**	**23 40 32.2**	**+2.0**
	comp=Z,5.0nm,0.8s,baz=218,slow=6.8,SNR=37						
MCK	**McKinley**	**86.72**	**12**	*eP*	**P**	**23 40 29.3**	**-0.2**
GYA	**Guiyang**	**86.86**	**300**	*eP*	**P**	**23 40 32.0**	**+0.8**
GYA				pP	pP	23 42 31.0	0.0
GYA				sP	sP	23 43 24.2	-2.3
GYA				PP	**PP**	**23 44 07.6**	**+3.1**
GYA				SKS	**SKSac**	**23 50 07.4**	**+1.2**
GYA				S	**ScS**	**23 50 25.3**	**-3.6**
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
ANMO	**Albuquerque**	**87.02**	**51**	*eP*	**P**	**23 40 32.6**	**+0.8**
	comp=Z,4.7nm,0.9s						
HYT	**Haines Junctio**	**87.09**	**18**	*eP*	**P**	**23 40 31.4**	**0.0**
MLY	**Manley**	**87.55**	**11**	*eP*	**P**	**23 40 32.7**	**-0.7**
WRH	**Wood River Hil**	**87.55**	**12**	*eP*	**P**	**23 40 32.6**	**-0.8**
MCMT	**McKenz

NB2	**NORSAR Subarra**	**138.84**	**353**	PKP		**PKPpre**	23 46 56.8	
	comp=Z,0.9nm,0.8s,baz=15,slow=2.7							
NOA	**NORSAR Array B**	**138.84**	**353**	PKhKP		PKPpre	23 46 58.0	
	comp=Z,1.1nm,0.8s,baz=14,slow=4.5,SNR=3.7							
HFS	**Hagfors**	**139.41**	**351**	PKhKP		PKPpre	23 47 01.0	
	comp=Z,2.1nm,0.5s,baz=48,slow=2.1,SNR=18							
AKASG	**Malin Array Be**	**143.02**	**331**	PKhKP		PKPpre	23 47 12.1	
	comp=Z,9.8nm,0.5s,baz=43,slow=4.5,SNR=45							
EKA	**Eskdalemuir Ar**	**144.79**	**5**	PKP		**PKPab**	**23 47 18.2**	**-1.4**
	comp=Z,3.7nm,0.5s,baz=346,slow=2.9,SNR=22							
BRTR	**Keskin Array B**	**146.97**	**313**	PKPbc		**PKPbc**	**23 47 24.9**	**-0.8**
	comp=Z,3.2nm,0.6s,baz=140,slow=4.7,SNR=24							
STHS	**Stebnicka Huta**	**147.28**	**337**	*e*PKP		**PKPbc**	**23 47 26.4**	**+0.4**
CLL	**Collm**	**147.96**	**347**	||*i* PKPbc	**PKPbc**	**23 47 27.6**	**-0.1**
	comp=Z,26nm,0.8s							
OKC	**Ostrava-Krasne**	**147.97**	**341**	↑*e*PKP		**PKPbc**	**23 47 27.9**	**+0.1**
UPC	**Upice**	**147.99**	**343**	↑*e*PKP		**PKPbc**	**23 47 28.2**	**+0.4**
MMAI	**Mount Meron Ar**	**148.02**	**300**	PKPbc		**PKPbc**	**23 47 28.8**	**+0.2**
	comp=Z,3.3nm,0.5s,baz=68,slow=5.3,SNR=17							
DPC	**Dobruska-Polom**	**148.05**	**343**	↑*e*PKP		**PKPbc**	**23 47 28.5**	**+0.5**
DPC				*e*PKPAB		**PKPab**	23 47 33.4	+0.6
LANS	**Liptovska Anna**	**148.14**	**339**	*e*PKP		**PKPbc**	**23 47 29.1**	**+0.8**
BRG	**Berggiesshubel**	**148.17**	**346**	*i* PKP		**PKPbc**	**23 47 28.3**	**+0.1**
	comp=Z,12nm,0.7s							
BRG				*i*			23 47 32.9	
	comp=Z,8.2nm,0.8s							
KRLC	**Kraliky**	**148.17**	**342**	↑*e*PKP		**PKPbc**	**23 47 28.6**	**+0.3**
MLR	**Muntele Rosu**	**148.25**	**328**	PKPbc		**PKPbc**	**23 47 28.0**	**-0.8**
	comp=Z,1.3nm,0.8s,baz=342,slow=3.2,SNR=12							
PVCC	**Panska Ves**	**148.34**	**345**	↑*e*PKP		**PKPbc**	**23 47 29.3**	**+0.6**
PVCC				*e*PKPAB		**PKPab**	**23 47 32.0**	**-1.9**
PRA	**Prague**	**148.80**	**345**	↑*e*PKP		**PKPbc**	**23 47 30.2**	**+0.4**
PRU	**Pruhonice**	**148.85**	**345**	↑*e*PKP		**PKPbc**	**23 47 30.0**	**+0.1**
PRU				*e*PKPAB		**PKPab**	**23 47 36.1**	**+0.1**
GOPC	**GO Pecny, Ondr**	**148.85**	**344**	↑*e*PKP		**PKPbc**	**23 47 30.2**	**+0.2**
GOPC				*e*PKPAB		**PKPab**	**23 47 36.9**	**+0.8**
VYHS	**Vyhne**	**148.91**	**339**	*e*PKP		**PKPbc**	**23 47 30.0**	**-0.2**
VYHS				*e*			23 47 35.9	
NKC	**Novy Kostel**	**149.09**	**347**	↑*e*PKP		**PKPbc**	**23 47 30.7**	**+0.2**
NKC				*e*PKPAB		**PKPab**	**23 47 36.9**	**-0.2**
TREC	**Trest**	**149.24**	**343**	↑*e*PKP		**PKPbc**	**23 47 31.0**	**+0.1**
TREC				*ex*		x	23 47 33.9	
TREC				*e*PKPAB		**PKPab**	**23 47 37.2**	**-0.5**
MODS	**Modra-Piesok**	**149.53**	**340**	*e*PKP		**PKPbc**	**23 47 32.4**	**+0.7**
MEM	**Membach**	**149.63**	**355**	||PKPbc	**PKPbc**	**23 47 31.6**	**-0.1**
SNF	**Seneffe**	**149.83**	**358**	↑||PKPbc	**PKPbc**	**23 47 32.4**	**+0.2**
BCLA	**Clavier**	**149.87**	**356**	↑||PKPbc	**PKPbc**	**23 47 32.2**	**-0.1**
BCLA				↑||PKPab		**PKPab**	**23 47 39.7**	**-0.5**
KHC	**Kasperske Hory**	**149.88**	**345**	↑*e*PKP		**PKPbc**	**23 47 32.6**	**+0.1**
KHC				*e*PKPAB		**PKPab**	**23 47 40.7**	**+0.3**
GERES	**GERESS Array B**	**150.11**	**345**	PKPbc		**PKPbc**	**23 47 32.7**	**-0.4**
	comp=Z,3.8nm,0.8s,baz=45,slow=2.1,SNR=29							
DOU	**Dourbes**	**150.23**	**357**	||PKPbc	**PKPbc**	**23 47 32.9**	**-0.3**
CONA	**Conrad Observa**	**150.37**	**341**	*i* PKiKP		**PKiKP**	**23 47 33.7**	**-0.5**
	comp=Z,12nm,1.3s							
WLF	**Walferdange**	**150.56**	**355**	↑||PKPbc		**PKPbc**	**23 47 34.5**	**+0.5**
ABTA	**Abfaltersbach**	**152.36**	**345**	*i* PKPbc		**PKPbc**	**23 47 37.5**	**-0.7**
	comp=Z,7.1nm,0.6s							
ESDC	**Sonseca Array**	**159.95**	**14**	PKPab		**PKPab**	**23 48 23.5**	**-0.4**
	comp=Z,0.8nm,0.8s,baz=330,slow=5.1,SNR=5.4							
TORD	**Torodi Ar. Bea**	**172.84**	**175**	PKP		**PKPdf**	**23 47 50.3**	**-0.9**
	comp=Z,1.5nm,1.0s,baz=157,slow=0.7,SNR=5.0							
TORD				PKPab		**PKPab**	**23 49 22.3**	**+1.0**
	comp=Z,0.3nm,0.5s,baz=166,slow=4.0,SNR=4.6							

IDC 11 23:31:39.9±3.6, 2°.27N×92°.72E, h0km, mb3.8/4, mb1 3.9/5, mb1mx3.5/64, mbtmp3.8/5, ML3.7/1, Error ellipse: s-maj=95.8km s-min=57.0km az=127.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**17.20**	**20**	P	Pn	23 35 41.7	-0.1
	0.1nm,0.3s,baz=219,slow=12,SNR=3.7						
MKAR	**Makanchi Array**	**45.27**	**350**	P	P	23 39 59.0	-0.3
	0.7nm,0.5s,baz=170,slow=8.4,SNR=9.9						
SONM	**Songino Array**	**46.90**	**13**	P	P	23 40 12.2	0.0
	0.5nm,0.4s,baz=189,slow=10,SNR=3.7						
ZALV	**Zalesovo Beam**	**51.92**	**354**	P	P	23 40 50.1	-0.2
	0.4nm,0.2s,baz=179,slow=8.0,SNR=3.5						
GERES	**GERESS Array B**	**81.07**	**319**	P	P	23 43 57.5	+0.3
	0.8nm,0.9s,baz=130,slow=5.3,SNR=4.3						
TXAR	**Lajitas Array**	**144.87**	**25**	PKP	PKPab	23 51 18.9	0.0
	0.2nm,0.5s,baz=222,slow=1.2,SNR=3.6						

*ISCJB **11** 23:32:07.9±1.2, 0°.2S±0°.2×92°.0E±0°.2, h10km, mb3.9/9, Error ellipse: s-maj=30.3km s-min=22.4km az=140.5*
*IDC **11** 23:32:08.0±1.3, 0°.28S×91°.92E, h0km, mb3.9/9, mb1 4.0/10, mb1mx3.7/64, mbtmp3.8/10, ML3.4/1, Error ellipse: s-maj=40.8km s-min=25.6km az=46.0*
ISC 11 23:32:09.7±1.4, 0°.3S±0°.2×91°.9E±0°.2, h10km, n14, σ1§11/11, mb4.0/9, South Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**19.88**	**20**	P	**P**	**23 36 41.7**	**+0.4**
	0.1nm,0.3s,baz=212,slow=10.0,SNR=6.3						
H01W3	**Cape Leeuwin H**	**40.20**	**151**	T	T	00 22 07.2	
	baz=330,slow=76,SNR=3.6						
H01W2	**Cape Leeuwin H**	**40.21**	**151**	T	T	00 22 06.2	
	baz=330,slow=76,SNR=5.3						
H01W1	**Cape Leeuwin H**	**40.21**	**151**	T	T	00 22 07.2	
	baz=330,slow=76,SNR=4.5						
WRA	**Warramunga Arr**	**45.90**	**118**	P	**P**	**23 40 32.2**	**-0.7**
	0.7nm,0.8s,baz=295,slow=8.2,SNR=3.3						
MKAR	**Makanchi Array**	**47.64**	**351**	P	**P**	**23 40 45.9**	**-0.2**
	1.4nm,0.7s,baz=173,slow=9.6,SNR=10						
SONM	**Songino Array**	**49.57**	**13**	P	**P**	**23 41 01.4**	**+0.4**
	1.2nm,0.5s,baz=189,slow=8.8,SNR=5.2						
KURBB	**Kurchatov Arra**	**51.99**	**349**	P	**P**	**23 41 17.6**	**-1.5**
	1.7nm,0.2s,baz=169,slow=7.5,SNR=5.8						
ZALV	**Zalesovo Beam**	**54.37**	**355**	P	**P**	**23 41 36.2**	**-0.4**
	0.9nm,0.6s,baz=212,slow=5.1,SNR=4.3						
BVAR	**Borovoye Array**	**56.09**	**345**	P	**P**	**23 41 47.7**	**-1.3**
	0.4nm,0.7s,baz=124,slow=7.2,SNR=3.0						
BRTR	**Keskin Array B**	**66.27**	**314**	P	**P**	**23 42 58.6**	**+0.1**
	0.7nm,0.7s,baz=132,slow=6.1,SNR=5.9						
MLR	**Muntele Rosu**	**73.56**	**318**	P	**P**	**23 43 43.9**	**+0.6**
	0.4nm,0.7s,baz=56,slow=3.6,SNR=2.2						
GERES	**GERESS Array B**	**82.45**	**319**	P	**P**	**23 44 32.7**	**+0.1**
	1.4nm,0.7s,baz=104,slow=5.6,SNR=11						
TXAR	**Lajitas Array**	**147.52**	**26**	PKPbc	**PKPdf**	**23 51 54.7**	**+2.2**
	0.4nm,0.5s,baz=59,slow=1.0,SNR=6.1						

MEX 11 23:39:54.2±0.8, 17°.73N×103°.12W, h16km±999km, MD3.8, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMIG	**Aquila**	**0.60**	**339**	*e*P	Pg	23 40 03.8	-2.2
MMIG				*i* S	Sg	23 40 11.3	-2.7
ZIIG	**Zihuatanejo**	**1.58**	**94**	*e*P	Pn	23 40 18.2	-3.4
EZ5V		**1.80**	**345**	*e*P	Pn	23 40 22.1	-2.7
EZ5V				*e*S	Sn	23 40 43.2	-4.3
CJM	**Chamela**	**2.54**	**314**	*e*P	Pb	23 40 37.4	-1.9
ARIG	**Puente Sto Nin**	**2.69**	**78**	*e*P	Pn	23 40 33.7	-3.2

MEX 11 23:41:35.1±0.6, 17°.75N×103°.26W, h16km, MD3.8, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMIG	**Aquila**	**0.54**	**351**	*e*P	Pg	23 41 43.9	-2.0
MMIG				*i* S	Sg	23 41 51.1	-2.0
ZIIG	**Zihuatanejo**	**1.72**	**94**	*e*P	Pn	23 42 00.5	-3.8
EZ5V		**1.75**	**349**	*e*P	Pn	23 42 02.6	-2.5
CJM	**Chamela**	**2.43**	**316**	*e*P	Pn	23 42 14.0	-0.1
ARIG	**Puente Sto Nin**	**2.82**	**79**	*e*P	Pn	23 42 17.5	-2.1

*IDC **11** 23:48:12.8±1.3, 3°.89N×92°.53E, h0km, mb3.8/10, mb1 3.9/12, mb1mx3.7/66, mbtmp3.8/12, ML3.6/1, Error ellipse: s-maj=34.6km s-min=24.9km az=39.0*
*ISCJB **11** 23:48:15.9±1.1, 3°.9N±0°.2×92°.4E±0°.1, h33km, mb3.8/10, Error ellipse: s-maj=22.8km s-min=17.1km az=0.9*
ISC 11 23:48:18.1±1.2, 3°.9N±0°.2×92°.4E±0°.1, h35km, n12, σ1§33/13, mb3.8/10, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**12.09**	**286**	Pn	**Pn**	**23 51 07.7**	**-0.3**
	0.3nm,0.3s,baz=113,slow=13,SNR=3.3						
PALK				Sn	**Sn**	**23 53 19.8**	**-2.1**
	0.7nm,0.3s,baz=116,slow=5.0,SNR=3.0						
CMAR	**Chiang Mai Arr**	**15.79**	**23**	Pn	**Pn**	**23 51 55.9**	**-1.9**
	baz=214,slow=15,SNR=4.9						
MKAR	**Makanchi Array**	**43.53**	**350**	P	**P**	**23 56 19.5**	**+0.8**
	1.1nm,0.6s,baz=170,slow=8.5,SNR=12						
SONM	**Songino Array**	**45.36**	**13**	P	**P**	**23 56 33.2**	**+0.1**
	0.2nm,0.4s,baz=199,slow=12,SNR=2.2						
WRA	**Warramunga Arr**	**47.55**	**122**	P	**P**	**23 56 49.3**	**-1.3**
	0.5nm,0.9s,baz=305,slow=9.1,SNR=2.7						
KURBB	**Kurchatov Arra**	**47.96**	**348**	P	**P**	**23 56 53.9**	**+0.6**
	1.0nm,0.7s,baz=174,slow=7.8,SNR=7.3						
ZALV	**Zalesovo Beam**	**50.23**	**354**	P	**P**	**23 57 11.1**	**+0.5**
	2.2nm,0.5s,baz=183,slow=6.9,SNR=9.2						
BVAR	**Borovoye Array**	**52.18**	**343**	P	**P**	**23 57 25.7**	**+0.5**
	0.5nm,0.7s,baz=160,slow=8.8,SNR=4.6						
BRTR	**Keskin Array B**	**63.73**	**313**	P	**P**	**23 58 47.7**	**+1.1**
	0.3nm,0.7s,baz=126,slow=12,SNR=3.7						
IDI	**Anoyia**	**69.42**	**306**	P	**P**	**23 59 24.9**	**+1.9**
	1.5nm,0.6s,baz=72,slow=9.6,SNR=3.0						
GERES	**GERESS Array B**	**79.60**	**319**	P	**P**	**00 00 23.1**	**+1.2**
	0.7nm,0.7s,baz=106,slow=4.7,SNR=6.3						
HFS	**Hagfors**	**80.97**	**330**	P	**P**	**00 00 28.5**	**-0.4**
	1.8nm,0.8s,baz=57,slow=9.0,SNR=3.0						

*IDC **11** 23:50:59.8±2.0, 32°.95N×87°.08E, h0km, mb3.4/4, mb1 3.6/7, mb1mx3.3/66, mbtmp3.4/7, ML2.8/2, Error ellipse: s-maj=69.9km s-min=22.0km az=69.0*
*ISCJB **11** 23:51:03.9±0.6, 33°.18N±0°.05×87°.3E±0°.1, h33km, mb3.2/2, Error ellipse: s-maj=15.8km s-min=6.5km az=9.7*
ISC 11 23:51:05.9±0.8, 33°.15N±0°.08×87°.2E±0°.1, h35km, n18, σ1§03/18, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUN	**Gumba**	**5.35**	**193**	*e*P	**Pn**	**23 52 24.6**	**+1.0**
	21nm,0.4s						
JIRN	**Jiri**	**5.55**	**190**	*e*P	**Pn**	**23 52 27.4**	**+1.1**
	18nm,0.4s						
GKN	**Gorkha**	**5.60**	**204**	*e*P	**Pn**	**23 52 27.2**	**+0.4**
	31nm,0.4s						
KKN	**Kakani**	**5.60**	**198**	*e*P	**Pn**	**23 52 28.1**	**+1.2**
	17nm,0.5s						
DANN	**Dangsing**	**5.64**	**213**	*e*P	**Pn**	**23 52 28.1**	**+0.5**
	0.5nm,0.4s						
PKIN	**Phulchoki**	**5.78**	**196**	*e*P	**Pn**	**23 52 30.6**	**+1.2**
	17nm,0.5s						
DMN	**Daman**	**5.82**	**199**	*e*P	**Pn**	**23 52 31.1**	**+1.1**
	32nm,0.4s						
RAMN	**Ramite**	**6.20**	**185**	*e*P	**Pn**	**23 52 36.3**	**+1.1**
	14nm,0.5s						
KOLN	**Koldanda**	**6.21**	**211**	*e*P	**Pn**	**23 52 35.9**	**+0.6**
	9.7nm,0.4s						
PYUN	**Piuthan**	**6.22**	**217**	*e*P	**Pn**	**23 52 35.3**	**-0.2**
	21nm,0.5s						
ODAN	**Odare**	**6.27**	**179**	*e*P	**Pn**	**23 52 36.9**	**+0.8**
	18nm,0.4s						
MKAR	**Makanchi Array**	**14.14**	**346**	Pn	**Pn**	**23 54 23.2**	**-0.4**
	0.0nm,0.3s,baz=156,slow=12,SNR=4.1						
CMAR	**Chiang Mai Arr**	**18.01**	**141**	P	**Pn**	**23 55 11.5**	**-1.9**
	baz=318,slow=12,SNR=4.5						
KURBB	**Kurchatov Arra**	**18.60**	**342**	P	**Pn**	**23 55 19.8**	**-0.6**
	0.0nm,0.3s,baz=159,slow=12,SNR=6.4						
SONM	**Songino Array**	**20.59**	**39**	P	**P**	**23 55 43.0**	**+1.2**
	1.3nm,0.8s,baz=232,slow=12,SNR=9.5						
ZALV	**Zalesovo Beam**	**20.86**	**356**	P	**P**	**23 55 44.9**	**+0.3**
	1.6nm,0.8s,baz=185,slow=10,SNR=9.5						
WRA	**Warramunga Arr**	**69.34**	**133**	P	**P**	**00 02 09.1**	**-1.0**
	0.4nm,0.5s,baz=325,slow=6.8,SNR=8.5						
YKA	**Yellowknife Ar**	**83.08**	**10**	P	**P**	**00 03 28.1**	**+0.6**
	0.1nm,0.8s,baz=337,slow=6.1,SNR=3.2						

*NEIC **11** 23:52:45.2±0.0, 17°.74N×103°.21W, h20km, MD4.2(MEX), After MEX.*
MEX 11 23:52:45.2±0.8, 17°.74N×103°.21W, h20km±93km, MD4.2, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMIG	**Aquila**	**0.56**	**347**	*e*P	Pb	23 52 54.0	-2.3
MMIG				*e*S	Sb	23 53 01.1	-2.8
MMIG	**Aquila**	**0.56**	**347**	*e*P	Pb	23 52 54.0	-2.3
MMIG				*e*S	Sb	23 53 01.1	-2.8
ZIIG	**Zihuatanejo**	**1.67**	**94**	*e*P	Pn	23 53 09.8	-3.5
ZIIG	**Zihuatanejo**	**1.67**	**94**	*e*P	Pn	23 53 09.8	-3.5
EZ5V		**1.77**	**348**	*e*P	Pn	23 53 12.6	-2.3
EZ5V				*e*S	Sn	23 53 33.0	-3.9
CJM	**Chamela**	**2.46**	**315**	*e*P	Pb	23 53 27.7	-1.1
CJM	**Chamela**	**2.46**	**315**	*e*P	Pb	23 53 27.7	-1.1
MOIG	**Morelia**	**2.72**	**45**	*e*P	Pn	23 53 25.9	-2.1
MOIG	**Morelia**	**2.72**	**45**	*e*Pn	Pn	23 53 25.8	-2.2
MOIG				*e*S	Sn	23 53 54.2	-6.2
ARIG	**Puente Sto Nin**	**2.78**	**78**	*e*P	Pn	23 53 26.6	-2.0
ZAIG	**Zacatecas**	**5.04**	**7**	*e*Pn	Pn	23 54 00.0	+0.1
ZAIG				*e*S	Sb	23 55 07.6	-5.5

IDC 11 23:53:23.8±4.0, 1°.88N×90°.55E, h0km, mb3.7/5, mb1 3.7/5, mb1mx3.4/65, mbtmp3.7/5, Error ellipse: s-maj=92.7km s-min=64.0km az=154.0, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**45.31**	**352**	P	P	00 01 43.6	+0.1
	0.2nm,0.5s,baz=168,slow=9.4,SNR=3.6						
SONM	**Songino Array**	**47.79**	**14**	P	P	00 02 03.2	+0.1
	0.8nm,0.4s,baz=194,slow=9.4,SNR=5.1						
ZALV	**Zalesovo Beam**	**52.11**	**356**	P	P	00 02 35.1	-0.5
	0.3nm,0.3s,baz=175,slow=6.0,SNR=3.0						
BRTR	**Keskin Array B**	**63.80**	**314**	P	P	00 03 58.2	+0.1
	0.3nm,0.5s,baz=134,slow=8.4,SNR=3.1						
FINES	**FINESS Array B**	**76.38**	**334**	P	P	00 05 14.8	+0.1
	1.1nm,0.8s,baz=101,slow=7.2,SNR=3.5						
TXAR	**Lajitas Array**	**146.11**	**23**	PKPbc	PKPdf	00 13 05.8	-0.1
	0.4nm,0.7s,baz=345,slow=2.8,SNR=2.3						

*ISCJB **11** 23:54:04.0±0.7, 3°.47N±0°.09×92°.80E±0°.06, h10km, mb4.1/18, MS5.0/1, Error ellipse: s-maj=13.3km s-min=8.3km az=19.5*
*IDC **11** 23:54:04.5±1.2, 3°.48N×92°.84E, h0km, mb4.1/13, mb1 4.2/14, mb1mx3.9/65, mbtmp4.1/14, ML4.1/1, MS5.0/1, Ms1 5.0/1, ms1mx4.1/61, Error ellipse: s-maj=33.5km s-min=23.8km az=36.0*
*NEIC **11** 23:54:05.9±0.5, 3°.49N×92°.81E, h10km, mb4.2/6, Error ellipse: s-maj=9.6km s-min=6.2km az=20.0*
ISC 11 23:54:06.0±0.9, 3°.5N±0°.1×92°.81E±0°.09, h10km, n36, σ0§77/34, mb4.2/18, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LHMI	**Lhok Sumawe**	**4.48**	**67**	*e*Pn	**Pn**	**23 55 13.9**	**0.0**
GSI	**Gunungsitoli**	**5.23**	**114**	*e*Pn	**Pn**	**23 55 24.2**	**0.0**
	42nm,0.6s						
PSI	**Prapat**	**6.14**	**96**	*e*Pn	**Pn**	**23 55 37.3**	**+0.3**
KULM	**Kulim**	**8.02**	**77**	*e*Pn	Pn	23 55 56.4	-6.3
PALK	**Pallekele**	**12.63**	**288**	Pn	**Pn**	**23 57 05.2**	**-0.7**
	baz=198,slow=20						
CM01	**Chiang Mai Arr**	**16.03**	**22**	*e*Pn	**Pn**	**23 57 51.5**	**-0.1**
CM31	**Chiang Mai Arr**	**16.06**	**22**	*e*Pn	**Pn**	**23 57 50.0**	**-0.2**
CMAR	**Chiang Mai Arr**	**16.06**	**22**	Pn	**Pn**	**23 57 51.1**	**-0.9**
	0.3nm,0.3s,baz=215,slow=13,SNR=14						
CHTO	**Chiang Mai**	**16.38**	**21**	*e*Pn	**Pn**	**23 57 57.4**	**+1.2**
	6.1nm,1.1s						
SHL	**Shillong**	**21.98**	**358**	*e*P	**P**	**23 59 02.8**	**+2.3**
	30nm,1.0s						
NIL	**Nilore**	**35.14**	**331**	*e*P	**P**	**00 01 00.0**	**+0.1**
PRZ	**Przheval'sk**	**40.92**	**344**	*e*P	**P**	**00 01 48.9**	**+0.1**
	6.6nm,0.9s						
KDJ	**Kajisay**	**40.95**	**342**	*e*P	**P**	**00 01 49.2**	**+0.1**
	5.9nm,1.1s						
AAK	**Ala-Archa**	**42.28**	**340**	P	**P**	**00 02 00.4**	**+0.5**
	1.0nm,0.8s,baz=146,slow=21,SNR=3.6						
MK01	**Makanchi Array**	**44.08**	**350**	*e*P	**P**	**00 02 14.5**	**+0.2**
MK31	**Makanchi Array**	**44.11**	**350**	*e*P	**P**	**00 02 14.3**	**-0.2**
MKAR	**Makanchi Array**	**44.11**	**350**	P	**P**	**00 02 14.8**	**+0.3**
	4.0nm,0.8s,baz=168,slow=8.5,SNR=29						
KK31	**Karatay Array**	**44.16**	**336**	*e*P	**P**	**00 02 14.6**	**-0.4**
KKAR	**Karatay Array**	**44.16**	**336**	*e*P	**P**	**00 02 14.3**	**-0.7**
MAKZ	**Makanchi**	**44.18**	**349**	*e*P	**P**	**00 02 14.6**	**-0.5**
	2.6nm,0.8s						
SONM	**Songino Array**	**45.72**	**13**	P	**P**	**00 02 27.2**	**-0.2**
	2.3nm,1.1s,baz=196,slow=8.8,SNR=5.5						
SONA1	**Songino Array**	**45.73**	**13**	*e*P	**P**	**00 02 26.1**	**-1.4**
GEYT	**Alibeck**	**46.70**	**322**	P	**P**	**00 02 36.2**	**+1.0**
	4.2nm,0.7s,baz=147,slow=8.8,SNR=13						
WRA	**Warramunga Arr**	**46.95**	**121**	P	**P**	**00 02 37.3**	**-0.2**
	0.9nm,0.8s,baz=303,slow=8.2,SNR=3.9						
KURBB	**Kurchatov Arra**	**48.50**	**348**	P	**P**	**00 02 49.0**	**0.0**
	1.7nm,0.2s,baz=170,slow=6.5,SNR=6.3						
KURK	**Kurchatov**	**48.57**	**348**	P	**P**	**00 02 49.0**	**-0.5**
ZAA0	**Zalesovo Array**	**50.74**	**354**	*e*P	**P**	**00 03 05.7**	**-0.2**
	2.6nm,0.8s						
ZALV	**Zalesovo Beam**	**50.74**	**354**	P	**P**	**00 03 05.7**	**-0.2**
	1.6nm,0.6s,baz=187,slow=7.8,SNR=8.4						
JCJ	**Chichijima**	**52.65**	**58**	LR	LR	00 25 46.5	
	comp=Z,1µm,18.7s,baz=298,slow=36						
BVAR	**Borovoye Array**	**52.75**	**343**	P	**P**	**00 03 20.6**	**-0.4**
	1.4nm,0.7s,baz=153,slow=8.1,SNR=10.0						
ABKAR	**Akbulak array**	**53.50**	**334**	*e*P	**P**	**00 03 25.9**	**-0.7**
KBZ	**Khabaz**	**59.51**	**320**	P	**P**	**00 04 09.5**	**+0.1**
	1.7nm,0.9s,baz=112,slow=7.4,SNR=4.2						
BRTR	**Keskin Array B**	**64.35**	**313**	P	**P**	**00 04 42.0**	**-0.4**
	0.7nm,0.8s,baz=132,slow=6.5,SNR=5.2						
IDI	**Anoyia**	**70.03**	**306**	P	**P**	**00 05 19.2**	**+0.7**
	3.9nm,0.8s,baz=96,slow=10,SNR=3.8						
MLR	**Muntele Rosu**	**71.42**	**317**	P	**P**	**00 05 26.9**	**+0.2**
	0.6nm,0.7s,baz=338,slow=5.4,SNR=6.7						
GERES	**GERESS Array B**	**80.22**	**319**	P	**P**	**00 06 17.3**	**+0.3**
	1.5nm,0.7s,baz=98,slow=5.5,SNR=15						

*BJI **11** 23:56:27.0, 1°.24N×89°.63E, h14km, mb5.2/46, mB5.6/4, Ms6.0/28, Ms7 5.9/23*
*MOS **11** 23:56:30.9±0.9, 1°.87N±89°.70E, h10km, mb5.7/80, MS5.6/5, Error ellipse: s-maj=6.8km s-min=4.0km az=115.8*
*ISCJB **11** 23:56:30.3±1.0, 1°.84N±0°.02×89°.69E±0°.02, h4km±6km, mb5.3/211, MS5.6/40, Error ellipse: s-maj=4.2km s-min=2.9km az=33.5*
*IDC **11** 23:56:31.6±0.3, 1°.83N×89°.70E, h0km, mb5.0/53, mb1 5.0/54, mb1mx5.0/62, mbtmp5.0/54, ML4.5/1, MS5.5/23, Ms1 5.5/23, ms1mx5.2/59, Error ellipse: s-maj=10.6km s-min=8.4km az=36.0*
*GCMT **11** 23:56:32.9±0.3, 1°.75N×89°.68E, h14km±2km, MW5.8/102, Moment Tensor Solution. s40,c48; s102,c173; Duration: 2s0 Moment tensor: Scale 10^17Nm; Mrr0.28±.24; Mθθ-1.92±.21; Mϕϕ1.64±.22; Mrθ0.15±.52; Mθϕ-5.75±.24; Mϕr-3.70±.84; Best double couple: M6.7 06100×10^17 NP1ϕs189.00000°, δ86.00000°, λ31.00000°. NP2ϕs97.00000°, δ59.00000°, λ175.00000°. Principal axes: T 7.2850, Plg25.0000°, Azm58.0000°; N -0.4470, Plg59.0000°, Azm197.0000°; P -6.8360, Plg18.0000°, Azm319.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **11** 23:56:32.9±0.1, 1°.84N×89°.69E, h10km, mb5.5/86 Error ellipse: s-maj=4.4km s-min=2.8km az=202.0*
ISC 11 23:56:33.4±0.6, 1°.83N±0°.04×89°.66E±0°.04, h12km±3km, h13km; pP-P, n761, σ1§46/773, mb5.4/216, MS5.7/40, 45C-23D, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLSI	**Meulaboh, Aceh**	**7.16**	**70**	P	**Pn**	**23 58 17.9**	**-0.1**
	2µm,0.6s,20µm7.4nm						
TPTI		**7.65**	**79**	P	**Pn**	**23 58 24.7**	**0.0**
	681nm,0.9s,11µm3.2nm						
GSI	**Gunungsitoli**	**7.93**	**94**	P	**Pn**	**23 58 31.8**	**+3.1**
	881nm,0.8s,9µm3.6nm						
GSI	**Gunungsitoli**	**7.93**	**94**	*e*Pn	**Pn**	**23

H08N3 **Diego Garcia H** 20.33 246 P P 00 01 07.6 -1.8
baz=70,slow=7.9,SNR=107
CISI **Cisompet, Garu** 20.37 117 eP P 00 01 10.7 +0.5
comp=Z,1µm,1.4s
CISI LR LR
comp=Z,9µm,22.0s
KLRI **Killari** 20.61 322 eP P 00 01 13.0 +0.2
KSM **Kuching** 20.64 91 eP P 00 01 13.9 +0.7
comp=Z,220nm,1.3s
GOA **Goa** 20.69 312 eP P 00 01 14.6 +1.0
GOA IAmb IAmb 00 01 24.0
comp=Z,321nm,0.8s
BELO **BELONIA** 21.36 5 eP P 00 01 20.6 -0.2
NGP **Nagpur** 21.81 332 eP P 00 01 26.7 +1.0
BOK **Bokaro** 22.14 351 eP P 00 01 29.6 +0.4
SMRI **Semarang** 22.54 113 eP P 00 01 34.8 +1.3
comp=Z,583nm,1.3s
SMRI LR LR
comp=Z,10µm,19.0s
SBUM **Sibu** 22.55 88 eP P 00 01 33.4 -0.3
comp=Z,99nm,1.0s
POO **Poona** 22.71 318 eP P 00 01 36.4 +1.0
POO IAmb IAmb 00 01 40.9
comp=Z,324nm,1.4s
UGM **Wanagama** 22.95 115 eP P 00 01 35.6 -2.3
comp=Z,772nm,1.5s
UGM LR LR
comp=Z,10µm,18.0s
IMP **Imphal** 23.24 10 eP P 00 01 40.7 -0.2
SHL **Shillong** 23.70 5 eP P 00 01 45.3 -0.2
GUWA **GUWAHATI** 24.30 4 eP P 00 01 51.5 +0.6
BHPL **Bhopal** 24.37 332 eP P 00 01 52.5 +0.9
ODAN **Odare** 24.98 355 eP P 00 01 58.4 +1.0
comp=Z,918nm,1.4s
RAMN **Ramite** 25.15 354 eP P 00 02 00.5 +1.6
comp=Z,1µm,1.4s
JIRN **Jiri** 25.90 353 eP P 00 02 06.9 +1.0
comp=Z,612nm,1.1s
PKIN **Phulchoki** 25.93 351 eP P 00 02 07.4 +1.4
DMN **Daman** 26.00 351 eP P 00 02 07.8 +1.1
comp=Z,394nm,0.9s
KKN **Kakani** 26.15 351 eP P 00 02 08.8 +0.8
comp=Z,336nm,1.0s
GUN **Gumba** 26.19 352 eP P 00 02 09.4 +1.0
comp=Z,347nm,0.8s
KMI **Kunming** 26.38 28 P P 00 02 11.2 +1.2
KMI pP sP 00 02 19.4 +4.1
KMI sP pP 00 02 22.9 +9.2
KMI PP PnPn 00 02 56.5 +6.9
KMI pmax pmax
comp=Z,40nm,0.9s
KMI LR LR
comp=Z,25µm,19.1s
KMI LR LR
comp=Z,25µm,18.6s
KMI LR LR
comp=Z,25µm,19.1s
KOLN **Koldanda** 26.44 348 eP P 00 02 11.8 +1.2
comp=Z,199nm,0.9s
GKN **Gorkha** 26.47 350 eP P 00 02 11.8 +1.0
comp=Z,436nm,1.1s
JAGI **Jajag, Banyuwa** 26.48 113 eP P 00 02 08.9 -1.9
comp=Z,84nm,1.0s
KKM **Kota Kinabalu** 26.82 80 eP P 00 02 14.1 +0.1
comp=Z,147nm,1.2s
PYUN **Piuthan** 26.89 347 eP P 00 02 15.7 +1.1
comp=Z,766nm,1.3s
DANN **Dangsing** 26.97 348 eP P 00 02 16.5 +1.1
LSA **Lhasa** 27.75 3 P P 00 02 24.0 +1.3
LSA S S 00 07 14.5 +9.0
LSA pmax pmax
comp=Z,44nm,1.2s
LSA LR LR
comp=Z,8µm,23.0s
LSA LR LR
comp=Z,8µm,17.6s
LSA LR LR
comp=Z,30µm,19.4s
BHJ **Bhuj** 28.81 319 eP P 00 02 31.8 +0.2
MYLDM **Lahad Datu** 28.98 83 eP P 00 02 30.1 -3.2
comp=Z,130nm,1.2s
GYA **Guiyang** 29.44 32⇑iP P 00 02 36.9 -0.4
GYA PP PnPn 00 03 36.2 +4.8
GYA S S 00 07 33.8 +2.3
GYA SS SnSn 00 09 07.9 +9.3
GYA pmax pmax
comp=Z,70nm,1.0s
GYA LR LR
comp=Z,3µm,18.0s
GYA LR LR
comp=Z,1µm,18.3s
DDI **Dehra Dun** 30.40 340 eP P 00 02 44.7 -1.0
SMLA **Simla** 31.45 339 eP P 00 02 56.1 +1.2
SMLA IAmb IAmb 00 02 57.3
comp=Z,91nm,1.0s
CD2 **Chengdu** 31.86 23 ⇓P P 00 02 58.3 -0.2
CD2 sP sP 00 03 04.4 +0.6
CD2 S S 00 08 10.5 +1.4
CD2 pmax pmax
comp=Z,50nm,0.5s
CD2 LR LR
comp=Z,21µm,17.9s
CD2 LR LR
comp=Z,15µm,16.9s
CD2 LR LR
comp=Z,35µm,15.5s
DHRM **DHARAMSHALA** 32.77 339 eP P 00 03 06.3 -0.5
DHRM IAmb IAmb 00 03 07.7
comp=Z,57nm,0.9s
SJMP **San Jose** 32.91 70 eP P 00 03 08.4 +0.5
TGY **Tagaytay City** 33.23 67 P P 00 03 12.2 +1.4
comp=Z,118nm,0.3s,baz=178,slow=6.1,SNR=9.8
MMRI **Maumere** 34.10 108 eP P 00 03 14.4 -3.9
comp=Z,60nm,1.1s
RCP **Roxas** 34.21 72⇑eP P 00 03 21.5 +2.2
BALP **Baler** 34.36 64 eP P 00 03 25.2 +4.6
APYP **Conner** 34.86 61 eP P 00 03 27.4 +2.5
NIL **Nilore** 35.19 336 eP P 00 03 27.9 +0.4
comp=Z,297nm,0.8s
NIL **Nilore** 35.19 336 eP P 00 03 27.9 +0.4
NIL pmax pmax
comp=Z,297nm,0.8s
BUKP **Musuan** 35.77 79 eP P 00 03 33.4 +0.6
BATI **Baumata** 35.90 110 P P 00 03 30.6 -3.2
comp=Z,44nm,0.5s,baz=186,slow=2.8,SNR=10
QZH **Quanzhou** 36.16 48⇑P P 00 03 43.8 +7.9
DAV **Davao City (W)** 36.17 81 P P 00 03 38.4 +2.2
comp=Z,130nm,0.3s,baz=322,slow=3.0,SNR=5.4
CNP **Catarman** 36.26 71 eP P 00 03 37.8 +0.9
LZH **Lanzhou** 36.53 19 ⇑P P 00 03 38.6 -0.6
LZH pP pP 00 03 42.9 -0.1
LZH sP sP 00 03 44.2 -0.3
LZH PP PP 00 05 04.3 +1.8
LZH SS SS 00 11 48.2 -13
LZH pmax pmax
comp=Z,97nm,1.3s
LZH pmax pmax
comp=Z,500nm,6.4s
LZH LR LR
comp=Z,8µm,17.1s
LZH LR LR
comp=Z,8µm,16.4s
LZH LR LR
comp=Z,10µm,18.5s
XAN **Xi'an** 36.76 27 P P 00 03 39.3 -1.7
XAN pP pP 00 03 43.5 -1.3
XAN sP sP 00 03 46.2 -0.1
XAN PP PnPn 00 05 04.6 -0.1
XAN S S 00 09 22.5 -2.3
XAN LR LR
comp=Z,13µm,17.4s
XAN LR LR
comp=Z,21µm,18.4s
XAN LR LR
comp=Z,15µm,17.9s
TPUB **Ta-pu** 36.83 52 eP P 00 03 42.3 +0.6
comp=Z,67nm,1.0s
WSAR **Wadi Sarin** 36.85 308 P P 00 03 42.8 +0.9
comp=Z,9.7nm,0.9s,baz=143,slow=6.2,SNR=6.2
WSAR LR LR 00 17 13.3
comp=Z,13µm,18.4s,baz=26,slow=34
WHN **Wuhan** 36.92 37 ⇓P P 00 03 42.7 +0.4
WHN pmax pmax
comp=Z,52nm,0.8s
TWG **Pinlang** 36.94 53 eP P 00 03 43.9 +1.2
comp=Z,557nm,1.1s
MBWA **Marble Bar** 37.25 129 eP P 00 03 45.2 -0.1
comp=Z,172nm,1.0s
SSLB **Suanglung** 37.34 52 eP P 00 03 46.3 +0.2
comp=Z,180nm,1.3s
BIDO **Bidbid** 37.39 308 P P 00 03 50.1 +3.6
SNR=12
BIDO **Bidbid** 37.39 308 pP P 00 03 50.1 +3.6
SNR=12
YULB **Yu-li** 37.41 53 eP P 00 03 47.9 +1.2
comp=Z,102nm,0.9s
KBL **Kabul** 37.80 332 eP P 00 03 50.6 +0.5
comp=Z,35nm,0.9s
KBL **Kabul** 37.80 332 eP P 00 03 50.6 +0.5
KBL pmax pmax
comp=Z,35nm,0.9s
NACB **Ninganchiao** 38.04 52 eP P 00 03 56.0 +4.1
comp=Z,55nm,1.0s
MRIV **Mauritius Mete** 38.44 233 eP P 00 03 55.2 -0.1
comp=Z,175nm,1.4s
WHFO **Wadi Hawf** 38.68 297 pP P 00 04 06.0 +8.5
SNR=5.6
SOHO **SOHO** 38.96 307 iP P 00 03 59.9 +0.2
SNR=16
KSH **Kashi** 39.53 343 P P 00 04 03.7 -0.7
KSH sP sP 00 04 11.5 +1.8
KSH PP PP 00 05 36.1 +0.8
KSH PcP PcP 00 06 10.6 -1.3
KSH S S 00 09 59.6 -7.2
KSH SS SS 00 12 51.8 -10
KSH pmax pmax
comp=Z,210nm,0.9s
KSH LR LR
comp=Z,5µm,11.9s
KSH LR LR
comp=Z,5µm,10.1s
KSH LR LR
comp=Z,21µm,13.7s
ALNE **Al Ain** 39.54 307 iP P 00 04 05.0 +0.4
SNR=15
ASHO **Ashiyiah** 39.60 308 pP P 00 04 13.7 +8.5
SNR=5.5
HATD **Hatta, Dubai** 39.62 308 P P 00 04 11.0 +5.8
SNR=10.0
HATD **Hatta, Dubai** 39.62 308 pP P 00 04 11.0 +5.8
SNR=10.0
HATD **Hatta, Dubai** 39.62 308 iP P 00 04 05.5 +0.3
SNR=12
UOSS **Minazif** 39.62 308 eP P 00 04 03.3 -1.9
comp=Z,12nm,0.9s
MEEK **Meekatharra** 39.77 137 P P 00 04 06.2 -0.3
baz=40,SNR=30
MORW **Morawa** 39.78 143 P P 00 04 06.8 +0.4
baz=40,SNR=16
MSFE **Esma-Masafi** 39.86 309 iP P 00 04 07.7 +0.4
SNR=14
NAZ **Nazwa, Dubai** 40.07 308 iP P 00 04 09.3 +0.3
SNR=8.4
RER **Riviere de l'E** 40.28 234 eP P 00 04 11.8 +0.9
AJN **Ajban** 40.40 307 iP P 00 04 12.0 +0.4
SNR=9.4
FITZ **Fitzroy Crossi** 40.58 121 P P 00 04 13.0 -0.3
comp=Z,32nm,1.1s,baz=300,slow=7.1,SNR=22
NJ2 **Nanjing** 40.74 39 eP P 00 04 14.5 +0.1
NJ2 pmax pmax
comp=Z,18nm,0.6s
SFK **Sufi-Kurgan** 40.75 341 P P 00 04 15.1 +0.5
SFK pmax pmax
comp=Z,81nm,0.7s
BLDU **Ballidu** 41.29 144 P P 00 04 19.8 +0.9
baz=42,SNR=7.5
TIY **Taiyuan** 41.40 28 eP P 00 04 22.0 +2.2
SIJI **Sorong** 41.69 93 P P 00 04 21.7 -0.8
comp=Z,4.8nm,0.3s,baz=313,slow=9.2,SNR=6.9
WMQ **Urumqi** 41.85 358 P P 00 04 23.7 +0.3
WMQ pP sP 00 04 29.9 +1.2
WMQ sP pP 00 04 37.0 +10
WMQ pmax pmax
comp=Z,82nm,1.5s
WMQ LR LR
comp=Z,28µm,17.3s
WMQ LR LR
comp=Z,12µm,24.5s
WMQ LR LR
comp=Z,23µm,20.3s
MUN **Mundaring** 42.00 145 P P 00 04 25.7 +1.0
baz=42,SNR=4.7
ULHL **Ulahol** 42.00 345 P P 00 04 25.3 +0.4
SNR=39
KZA **Kyzart** 42.11 344 P P 00 04 26.8 +0.8
SNR=26
SATY **Saty** 42.27 348⇑iP P 00 04 27.6 +0.7
comp=Z,2µm,1.0s
SATY LR LR 00 22 19.6
comp=Z,4µm,14.5s
PDGK **Podgornoye** 42.31 349 P P 00 04 27.4 +0.2
PDGK pmax pmax
comp=Z,94nm,1.2s
UCH **Uchtor** 42.46 343 P P 00 04 29.7 +0.9
SNR=66
KPKS **Kokpek** 42.60 348⇑iP P 00 04 29.9 +0.3
comp=Z,721nm,1.0s
KPKS eS S 00 10 50.3 -1.9
AML **Almayashu** 42.61 342 P P 00 04 31.1 +1.0
SNR=72
KLBR **Kellerberrin** 42.62 144 P P 00 04 29.6 -0.2
baz=43,SNR=16
TIA **Tai'an** 42.62 33 P P 00 04 29.4 -0.4
TIA pmax pmax
comp=Z,12nm,0.9s
MDOK **Medeo** 42.67 346 iP P 00 04 30.9 +0.6
comp=Z,486nm,1.3s
MDOK eS S 00 10 51.9 -1.6
MDOK LR LR 00 23 29.6
comp=Z,5µm,16.4s
KBK **Karagaybulak** 42.73 344 P P 00 04 31.8 +1.0
SNR=42
AAA **Alma-Ata** 42.74 346 eP P 00 04 31.8 +1.1
comp=Z,270nm,0.8s
AAA LR LR 00 23 41.6
comp=Z,3µm,16.7s
BTO **Baotou** 42.78 23 eP P 00 04 30.6 -0.5
TKM2 **Tokmak 2** 42.80 345 P P 00 04 31.9 +0.5
SNR=48
TKM2 **Tokmak 2** 42.80 345 P P 00 04 31.6 +0.2
TKM2 pmax pmax
comp=Z,49nm,1.1s
FAKI **Fak Fak** 42.84 96 eP P 00 04 29.8 -2.1
comp=Z,69nm,0.9s
AAK **Ala-Archa** 42.84 344 P P 00 04 32.2 +0.6
comp=Z,32nm,1.0s,baz=161,slow=5.6,SNR=51
AAK **Ala-Archa** 42.84 344 P P 00 04 32.8 +1.2
SNR=43
AAK **Ala-Archa** 42.84 344 eP P 00 04 32.4 +0.8
comp=Z,43nm,0.9s
AAK **Ala-Archa** 42.84 344 P P 00 04 33.2 +1.6
SNR=39
AAK **Ala-Archa** 42.84 344 P P 00 04 33.2 +1.6
SNR=39
AAK **Ala-Archa** 42.84 344 iP P 00 04 32.6 +1.0
SNR=53
AAK **Ala-Archa** 42.84 344 iP P 00 04 29.9 -1.7
AAK pmax pmax
comp=Z,38nm,1.0s
BMNS **Besmoynak** 42.96 345⇑iP P 00 04 33.1 +0.5
comp=Z,920nm,1.0s
BMNS LR LR 00 23 07.3
comp=Z,4µm,16.1s
FRU **Bishkek** 42.99 344 eP P 00 04 33.0 +0.3
FRU i 00 06 12.0
FRU pmax pmax
comp=Z,120nm,2.2s
EKS2 **Erkin-Say** 43.07 343 P P 00 04 34.6 +1.2
SNR=105
CHMS **Chumysh** 43.10 344 P P 00 04 34.5 +0.9
SNR=5.9
H01W3 **Cape Leeuwin H** 43.13 150 T T 00 50 25.1
baz=324,slow=74,SNR=332
H01W2 **Cape Leeuwin H** 43.14 150 T T 00 50 25.9
baz=324,slow=74,SNR=309
H01W1 **Cape Leeuwin H** 43.15 150 T T 00 50 26.7
baz=324,slow=74,SNR=336
NWAO **Narrogin (SRO)** 43.28 145 P P 00 04 34.2 -0.9
comp=Z,36nm,0.9s,baz=186,slow=8.7,SNR=14
NWAO **Narrogin (SRO)** 43.28 145 P P 00 04 34.5 -0.6
baz=44,SNR=8.0
NWAO P P 00 04 34.5 -0.6
baz=44,SNR=8.0
MNAS **Manas** 43.30 341 P P 00 04 35.8 +0.4
MNAS pmax pmax
comp=Z,30nm,1.5s
USP **Ospenovka** 43.42 344 P P 00 04 36.5 +0.4
SNR=50
KUU **Kurty** 43.53 346⇑iP P 00 04 36.9 -0.1
comp=Z,464nm,1.0s
KUU LR LR 00 23 08.7
comp=Z,3µm,16.1s
HHC **Hu-ho-hao-te** 43.60 24 eP P 00 04 37.7 -0.1
HHC pP pP 00 04 41.0 -0.6
HHC sP sP 00 04 44.0 +0.9
HHC pmax pmax
comp=Z,32nm,1.1s
HHC LR LR
comp=Z,5µm,16.9s
HHC LR LR
comp=Z,6µm,15.3s
HHC LR LR
comp=Z,7µm,14.1s
IUG **Iuzhnay** 43.84 339⇑iP P 00 04 40.6 +1.0
comp=Z,1µm,1.0s
IUG LR LR 00 23 22.6
comp=Z,2µm,14.5s
DZA **Taraz** 44.05 341 iP P 00 04 41.8 +0.6
comp=Z,337nm,1.0s
CHM **Chimkent** 44.15 339 iP P 00 04 43.2 +1.2
comp=Z,470nm,1.1s
CHM eS S 00 11 14.3 -0.5
CHM LR LR 00 24 33.9
comp=Z,4µm,15.6s
KK31 **Karatay Array** 44.51 340 eP P 00 04 45.4 +0.5
KK31 **Karatay Array** 44.51 340 eP P 00 04 45.4 +0.5
KKAR **Karatay Array** 44.51 340 eP P 00 04 45.4 +0.5
KKAR **Karatay Array** 44.51 340 eP P 00 04 45.4 +0.5
JOW **Kunigami** 44.60 53 P P 00 04 46.0 +0.2
comp=Z,23nm,0.7s,baz=245,slow=3.0,SNR=9.1
JOW **Kunigami** 44.60 53 eP P 00 04 45.5 -0.3
comp=Z,96nm,1.2s
BJI **Beijing** 45.02 29 P P 00 04 49.3 +0.4
BJI pmax pmax
comp=Z,31nm,0.9s
KMBL **Kambalda** 45.02 140 P P 00 04 49.1 -0.1
baz=45,SNR=9.7
MK01 **Makanchi Array** 45.22 353 eP P 00 04 49.8 -0.7
MK31 **Makanchi Array** 45.24 353 eP P 00 04 50.1 -0.6
MK31 **Makanchi Array** 45.24 353 eP P 00 04 50.1 -0.6
MKAR **Makanchi Array** 45.24 353 P P 00 04 50.4 -0.3
comp=Z,18nm,0.7s,baz=168,slow=8.8,SNR=50
MKAR **Makanchi Array** 45.24 353 eP P 00 04 50.1 -0.6
MKAR **Makanchi Array** 45.24 353 eP P 00 04 50.1 -0.6
MAKZ **Makanchi** 45.30 353 eP P 00 04 50.8 -0.3
MAKZ **Makanchi** 45.30 353 eP P 00 04 50.8 -0.3
ZSN **Zaisan** 45.63 355⇑iP P 00 04 54.2 +0.4
comp=Z,150nm,0.9s
ZSN LR LR 00 25 11.1
comp=Z,971nm,15.6s
WRKA **Warakurna** 45.98 128 P P 00 04 56.6 -0.4
baz=46,SNR=9.5
GEYT **Alibeck** 46.13 325 P P 00 04 58.4 +0.5
comp=Z,29nm,0.9s,baz=147,slow=8.3,SNR=48
GYA0B **ALIBECK ARRAY** 46.13 325 eP P 00 04 58.7 +0.8
comp=Z,82nm,1.1s
OPO **Ambohidratompo** 46.42 242 P P 00 05 01.0 +0.4
comp=Z,14nm,0.8s,baz=56,slow=6.1,SNR=15
DAMY **Dhamar** 46.45 288 eP P 00 05 02.9 +1.9
comp=Z,161nm,1.6s
ABPO **Ambohimpanom** 46.55 242 eP P 00 05 02.5 +0.9
comp=Z,185nm,1.3s
ABPO **Ambohimpanom** 46.55 242 eP P 00 05 02.5 +0.9
ABPO pmax pmax
comp=Z,185nm,1.3s
ATD **Arta Tunnel** 47.41 284 P P 00 05 09.6 +1.3
comp=Z,21nm,0.8s,baz=103,slow=5.9,SNR=8.2
DGZ **Jazzator, Alta** 47.73 358 iP P 00 05 10.1 -0.2
DGZ pmax pmax
comp=Z,3.0nm,0.9s
RAYN **Ar Rayn** 47.87 300 eP P 00 05 11.4 -0.4
comp=Z,34nm,0.9s
SONM **Songino Array** 48.06 15 P P 00 05 12.9 0.0
comp=Z,66nm,0.6s,baz=194,slow=9.3,SNR=116
SONM LR LR 00 27 10.1
comp=Z,12µm,21.1s,baz=258,slow=38
SONA1 **Songino Array** 48.08 15 eP P 00 05 12.2 -0.8
ULN **Ulaanbaatar** 48.27 16 eP P 00 05 14.2 -0.3
comp=Z,72nm,1.2s
ULN **Ulaanbaatar** 48.27 16 P P 00 05 14.7 +0.2
SNR=36
ULN **Ulaanbaatar** 48.27 16 P P 00 05 14.7 +0.2
SNR=36
ULN **Ulaanbaatar** 48.27 16 ceP P 00 05 14.3 -0.2
ULN pmax pmax
comp=Z,16nm,0.6s
OTUK **Ortayu** 48.59 345 P P 00 05 16.8 -0.1
OTUK pmax pmax
comp=Z,78nm,1.0s
FORT **Forrest** 48.85 135 P P 00 05 19.1 0.0
baz=49,SNR=33
FORT **Forrest** 48.85 135 eP P 00 05 19.2 +0.1
WRA **Warramunga Arr** 48.86 119 P P 00 05 18.6 -0.8
comp=Z,42nm,0.7s,baz=295,slow=8.6,SNR=110
WRAB **Tennant Creek** 48.87 119 eP P 00 05 18.8 -0.6
comp=Z,48nm,0.7s
WRAB **Tennant Creek** 48.87 119 eP P 00 05 18.8 -0.6
WRAB pmax pmax
comp=Z,48nm,0.7s
WB2 **Warramunga Arr** 48.88 119 eP P 00 05 18.7 -0.8
TJN **Taejon** 48.94 41 iP P 00 05 18.1 -1.6
SEM **Semipalatinsk** 49.06 352 iP P 00 05 19.9 -0.7
comp=Z,259nm,1.3s
SEM eS S 00 12 22.5 -2.8
SEM LR LR 00 26 47.9
comp=Z,3µm,16.7s
HVS **Khovu-Aksy** 49.25 3c iP P 00 05 21.7 -0.2
HVS pmax pmax
comp=Z,107nm,0.9s
KURBB **Kurchatov Arra** 49.53 351 P P 00 05 23.5 -0.4
comp=Z,50nm,1.0s,baz=174,slow=7.1,SNR=80
JNU **Nakatsue** 49.60 47 P P 00 05 25.3 +0.4
comp=Z,6.1nm,0.5s,baz=210,slow=6.4,SNR=11
JNU LR LR 00 28 21.9
comp=Z,9µm,18.4s,baz=280,slow=38
JNU **Nakatsue** 49.60 47 eP P 00 05 25.1 +0.3
KURK **Kurchatov** 49.60 351 eP P 00 05 24.2 -0.3
KURK **Kurchatov** 49.60 351 P P 00 05 24.4 -0.1
SNR=57
KURK **Kurchatov** 49.60 351 P P 00 05 24.4 -0.1
SNR=57
KURK **Kurchatov** 49.60 351 ceP P 00 05 24.3 -0.2
KURK pmax pmax
comp=Z,292nm,1.0s
ZAK **Zakamensk** 49.74 11 eP P 00 05 24.5 -1.2
ZAK pmax pmax
comp=Z,29nm,1.2s
KSAR **Wonju Array Be** 49.90 40 P P 00 05 26.8 -0.2
KSAR **Wonju Array Be** 49.90 40 P P 00 05 26.8 -0.2
ASAR **Alice Springs** 49.92 123 P P 00 05 27.2 -0.2
comp=Z,30nm,1.0s,baz=296,slow=7.6,SNR=107
ASAR LR LR 00 25 59.2
comp=Z,5µm,20.2s,baz=336,slow=35
AS31 **Alice Springs** 49.92 123 eP P 00 05 27.1 -0.4
comp=Z,11nm,1.1s
KSRS **Korea Array** 49.93 40 P P 00 05 26.8 -0.4
comp=Z,5.0nm,0.3s,baz=229,slow=9.0,SNR=14
KSRS LR LR 00 27 22.8
comp=Z,7µm,20.0s,baz=296,slow=37
AS01 **Alice Springs** 49.96 123 eP P 00 05 26.8 -1.0
BRZS **Berezniki** 50.11 346 iP P 00 05 28.2 -0.2
SNY **Shenyang** 50.14 33 ⇑P P 00 05 34.9 +6.2
SNY pmax pmax
comp=Z,76nm,1.1s
MOY **Mondy** 50.57 9 eP P 00 05 32.5 +0.5
MOY pmax pmax
comp=Z,80nm,2.6s
TLY **Talaya** 51.05 11 eP P 00 05 35.8 +0.3
comp=Z,53nm,1.4s
TLY **Talaya** 51.05 11 P P 00 05 36.3 +0.8
SNR=22
TLY **Talaya** 51.05 11 P P 00 05 36.3 +0.8
SNR=22
TLY **Talaya** 51.05 11 eP P 00 05 36.3 +0.8
TLY pmax pmax
comp=Z,30nm,1.0s
IRK **Irkutsk** 51.71 11 eP P 00 05 40.0 -0.4
IRK e 00 05 49.0
IRK pmax pmax

comp=Z,139nm,2.8s
ZAA0 Zalesovo Array 52.10 356 *e*P **P 00 05 42.5 -0.8**
comp=Z,64nm,0.9s
ZALV Zalesovo Beam 52.10 356 P **P 00 05 42.6 -0.7**
comp=Z,45nm,0.9s,baz=187,slow=7.1,SNR=51
ZALV Zalesovo Beam 52.10 356 *e*P **P 00 05 42.3 -1.0**
ZALV Zalesovo Beam 52.10 356 *e*P **P 00 05 42.3 -1.0**
KMBO Kilima Mbogo 52.48 267 P **P 00 05 47.6 +0.5**
comp=Z,2.9nm,0.6s,baz=72,slow=5.5,SNR=8.4
CN2 Changchun 52.49 32 *e*P **P 00 05 45.5 -0.9**
NVS Novosibirsk 53.10 355 *e*P **P 00 05 49.2 -1.5**
NVS *e*S **S 00 13 16.3 -4.4**
NVS pmax pmax
comp=Z,93nm,1.0s
NVS pmax pmax
comp=N,68nm,1.2s
NVS pmax pmax
comp=E,35nm,1.2s
NVS smax smax
comp=E,49nm,1.8s
BVA0 Borovoye Array 53.48 346 *i*P **P 00 05 52.0 -1.5**
BVA0 pmax pmax
comp=Z,41nm,0.9s
BVAR Borovoye Array 53.48 346 P **P 00 05 53.0 -0.5**
comp=Z,26nm,1.0s,baz=166,slow=8.7,SNR=59
BVAR LR LR 00 29 01.6
comp=Z,10μm,20.1s,baz=168,slow=36
BRVK Borovoye 53.53 346 *e*P **P 00 05 52.4 -1.5**
comp=Z,45nm,1.1s
BRVK Borovoye 53.53 346 P **P 00 05 53.5 -0.4**
SNR=21
BRVK Borovoye 53.53 346 P **P 00 05 53.5 -0.4**
SNR=21
BRVK Borovoye 53.53 346*ce*P **P 00 05 53.0 -0.9**
BRVK pmax pmax
comp=Z,71nm,1.0s
AB31 Akbulak array 53.65 336 *e*P **P 00 05 54.5 -0.3**
AB31 pmax pmax
comp=Z,86nm,1.2s
ABKAR Akbulak array 53.65 336 *e*P **P 00 05 54.9 +0.1**
comp=Z,348nm,0.8s
QIS Mount Isa 53.73 117 P **P 00 05 56.5 +0.6**
baz=54,SNR=8.8
CIT Chita 53.87 18 *e*P P 00 06 02.4 +5.9
CIT *e* 00 07 03.4
KRAR Krasnoyarsk 54.08 2 *i*P **P 00 05 57.9 +0.1**
AKTO Aktyubinsk 55.35 336 P **P 00 06 07.0 -0.2**
comp=Z,18nm,1.0s,baz=134,slow=6.5,SNR=24
AKTO Aktyubinsk 55.35 336 P **P 00 06 07.0 -0.2**
BBOO Buckleboo 55.71 132 P **P 00 06 09.3 -0.8**
baz=56,SNR=22
GNI Garni 55.75 319 P **P 00 06 10.9 +0.4**
comp=Z,27nm,1.1s,baz=180,slow=7.1,SNR=13
GNI Garni 55.75 319 *e*P **P 00 06 11.4 +0.9**
comp=Z,76nm,1.3s
GNI Garni 55.75 319 P **P 00 06 11.7 +1.3**
SNR=19
GNI Garni 55.75 319 P **P 00 06 11.7 +1.3**
SNR=19
GNI Garni 55.75 319 *i*P **P 00 06 11.3 +0.9**
SNR=10
GNI Garni 55.75 319*ce*P **P 00 06 08.9 -1.5**
GNI pmax pmax
comp=Z,337nm,2.5s
GUMO Guam 55.81 75 LR LR 00 29 07.2
comp=Z,2μm,20.7s,baz=319,slow=35
IGDI IGDIR 56.04 318 *i*P **P 00 06 13.1 +0.7**
JHJ Hachijo jima 2 56.29 51 LR LR 00 33 05.3
comp=Z,4μm,18.1s,baz=314,slow=39
USRK Ussuriysk Ar. 56.40 36 P **P 00 06 14.2 -0.6**
comp=Z,4.8nm,0.8s,baz=246,slow=4.3,SNR=7.3
USRK LR LR 00 31 25.1
comp=Z,5μm,19.7s,baz=289,slow=37
MJB9 Matsu-Tunnel 56.52 46 *e*P **P 00 06 20.2 +4.3**
MAJO Matsushiro 56.52 46 *e*P **P 00 06 15.9 +0.1**
comp=Z,8.4nm,0.6s
MAJO Matsushiro 56.52 46 *e*P **P 00 06 15.9 +0.1**
MAJO pmax pmax
comp=Z,8.0nm,0.6s
MAT Matsushiro 56.52 46 P **P 00 06 14.9 -1.0**
MJAR Matsushiro Arr 56.52 46 P **P 00 06 15.4 -0.5**
comp=Z,4.5nm,0.7s,baz=236,slow=7.6,SNR=11
MJAR LR LR 00 30 43.6
comp=Z,7μm,21.5s,baz=290,slow=36
TBLG Delisi 56.58 321 *e*P **P 00 06 16.9 +0.8**
comp=Z,79nm,1.1s
TBLG Delisi 56.58 321 *e*P **P 00 06 17.0 +0.8**
TBLG pmax pmax
comp=Z,79nm,1.1s
AKH Akhalkalaki 57.21 320 *e*P **P 00 06 22.1 +1.2**
comp=Z,47nm,1.4s
AKH Akhalkalaki 57.21 320 *e*P **P 00 06 22.1 +1.2**
AKH pmax pmax
comp=Z,47nm,1.4s
ZEI Tsey 57.67 321 *e*P **P 00 06 23.9 -0.2**
ZEI pmax pmax
comp=Z,17nm,0.8s
HANI Diyarbakir_Han 57.86 315 *i*P **P 00 06 25.7 +0.3**
ASF Jabal al Asfar 58.01 307 P **P 00 06 27.2 +0.6**
comp=Z,6.9nm,0.8s,baz=56,slow=7.4,SNR=15
DDEM Demirkent 58.09 318 *i*P **P 00 06 27.7 +0.7**
HTT Hallett 58.12 132 P **P 00 06 26.7 -0.6**
baz=58,SNR=10.0
DBAD Bademkaya 58.19 319 *i*P **P 00 06 28.1 +0.5**
NCK Nalchik 58.24 322 *i*P **P 00 06 28.1 +0.3**
NCK pmax pmax
comp=Z,30nm,0.8s
PMG Port Moresby 58.35 102 P **P 00 06 29.4 +0.4**
comp=Z,25nm,1.0s,baz=253,slow=11,SNR=4.7
PMG Port Moresby 58.35 102 *e*P **P 00 06 30.0 +1.0**
PMG Port Moresby 58.35 102*ce*P **P 00 06 29.6 +0.5**
PMG pmax pmax
comp=Z,166nm,1.7s
NEY Neytrino 58.65 321 *i*P **P 00 06 29.6 -1.3**
NEY pmax pmax
comp=Z,5.0nm,0.8s
KBZ Khabaz 58.79 322 P **P 00 06 32.0 +0.4**
comp=Z,39nm,0.8s,baz=123,slow=6.6,SNR=63
BAYB BAYBURT 58.79 317 *i*P **P 00 06 33.1 +1.1**
ELZG Elazig 58.89 315 *i*P **P 00 06 34.7 +2.0**
MBAR Mbarara 58.96 268 *e*P **P 00 06 33.5 -0.1**
MBAR Mbarara 58.96 268 *e*P **P 00 06 33.5 -0.1**
KIV Kislovodsk 59.04 322 *e*P **P 00 06 33.6 +0.1**
comp=Z,69nm,0.8s
KIV Kislovodsk 59.04 322 P **P 00 06 33.8 +0.3**
SNR=33
KIV Kislovodsk 59.04 322 P **P 00 06 33.8 +0.3**
SNR=33
KIV Kislovodsk 59.04 322 *i*P **P 00 06 33.1 -0.4**
SNR=42
KIV Kislovodsk 59.04 322 *e*P **P 00 06 33.7 +0.2**
KIV *e*S **S 00 14 38.4 -1.8**
KIV pmax pmax
comp=Z,111nm,1.0s
KIV pmax pmax
comp=Z,2μm,6.1s
BOD Bodaibo 59.06 15 ⇓*i*P **P 00 06 32.1 -1.2**
BOD pmax pmax
comp=Z,80nm,1.0s
KLR Kul'dur 59.33 31 LR LR 00 35 34.2
comp=Z,452nm,18.4s,baz=247,slow=40
KLR Kul'dur 59.33 31 *i*P **P 00 06 34.2 -1.1**
KELT Kelkit 59.42 317 *i*P **P 00 06 36.8 +0.4**
MMAI Mount Meron Ar 59.49 308 P **P 00 06 37.5 +0.7**
comp=Z,5.9nm,0.8s,baz=110,slow=8.0,SNR=6.7
STKA Stephens Creek 59.49 129 P **P 00 06 36.1 -0.7**
comp=Z,19nm,0.7s,baz=297,slow=5.8,SNR=50
STKA LR LR 00 30 02.4
comp=Z,4μm,20.6s,baz=306,slow=34
STKA Stephens Creek 59.49 129 P **P 00 06 36.0 -0.7**
baz=60,SNR=33
STKA Stephens Creek 59.49 129 *e*P **P 00 06 36.0 -0.8**
comp=Z,7.5nm,1.0s
STKA Stephens Creek 59.49 129 *e*P **P 00 06 36.0 -0.8**
STKA pmax pmax
comp=Z,8.0nm,1.0s
SVE Sverdlovsk 59.54 342 ⇑*i*P **P 00 06 36.6 0.0**
SVE pmax pmax
comp=Z,106nm,0.9s
CTA Charters Tower 59.58 115 P **P 00 06 37.6 +0.1**
comp=Z,18nm,0.9s,baz=284,slow=12,SNR=7.0
CTAO Charters Tower 59.58 115 *e*P **P 00 06 37.7 +0.1**
comp=Z,90nm,1.1s
CTAO Charters Tower 59.58 115 *e*P **P 00 06 37.7 +0.1**
CTAO pmax pmax
comp=Z,90nm,1.1s

TEY Ternei 59.59 37 *e*P **P 00 06 41.0 +3.8**
TEY pmax pmax
comp=Z,39nm,1.1s
ARU Arti 59.88 341 LR LR 00 33 18.7
comp=Z,4μm,20.8s,baz=118,slow=37
ARU Arti 59.88 341 *e*P **P 00 06 38.0 -0.9**
comp=Z,47nm,0.8s
ARU Arti 59.88 341*d i*P **P 00 06 38.3 -0.6**
ARU 00 07 23.6
ARU 00 08 47.5
ARU S **S 00 14 50.3 -0.2**
ARU pmax pmax
comp=Z,52nm,1.0s
ZEA Zeya 60.27 25 *e*P **P 00 06 41.0 -0.6**
ZEA pmax pmax
comp=N,41nm,1.0s
ZEA pmax pmax
comp=Z,41nm,1.0s
CUZAR Zara_SIVAS 60.34 316 *i*P **P 00 06 44.4 +1.8**
GRSN GIRESUNGRSN 60.44 317 *i*P **P 00 06 42.3 -0.9**
SOC Sochi 60.71 320 *e*P **P 00 06 44.5 -0.4**
SOC pmax pmax
comp=Z,42nm,0.8s
CLNS Chul'man 61.63 21 *e*P **P 00 06 50.1 -0.8**
CLNS *e* 00 07 29.9
CLNS *e* 00 09 07.1
CLNS *e*S **S 00 15 12.0 -0.9**
CLNS *e*SS **SS 00 19 18.4 +4.0**
CLNS pmax pmax
comp=Z,20nm,0.9s
CLNS pmax pmax
comp=E,16nm,1.0s
CLNS pmax pmax
comp=N,11nm,0.8s
CLNS pmax pmax
comp=N,11nm,1.0s
CLNS pmax pmax
comp=Z,6.0nm,1.2s
CLNS pmax pmax
comp=E,8.0nm,1.2s
CLNS smax smax
comp=N,2μm,14.7s
CLNS smax smax
comp=E,5μm,15.3s
CLNS MLR MLR
comp=Z,2μm,18.0s
CLNS MLR MLR
comp=N,4μm,17.0s
CLNS MLR MLR
comp=E,3μm,16.0s
ARPS Mount Arapiles 61.76 134 P **P 00 06 51.9 -0.2**
baz=62,SNR=16
CSS Mathiatis 61.76 309 *e*P **P 00 06 54.9 +2.7**
comp=E,9.9nm,1.1s
CMSA Cobar Meteorol 62.59 127 P **P 00 06 57.7 -0.1**
baz=63,SNR=25
GRNR Gornyy 62.66 31 *e*P **P 00 06 57.0 -0.9**
GRNR pmax pmax
comp=Z,25nm,1.0s
ASAJ Asahikawa 62.88 40 P **P 00 06 59.3 -0.2**
comp=Z,3.7nm,0.5s,baz=262,slow=7.1,SNR=6.3
LSZ Lusaka 63.10 252 *e*P **P 00 07 01.5 -0.1**
comp=Z,44nm,1.6s
LSZ Lusaka 63.10 252 P **P 00 07 02.2 +0.6**
SNR=12
LSZ Lusaka 63.10 252 P **P 00 07 02.2 +0.6**
SNR=12
LSZ Lusaka 63.10 252 *e*P **P 00 07 01.5 -0.1**
LSZ pmax pmax
comp=Z,44nm,1.6s
BR131 Keskin Array S 63.19 314 *e*P **P 00 07 01.3 -0.6**
BRTR Keskin Array B 63.19 314 P **P 00 07 01.5 -0.4**
comp=Z,16nm,0.7s,baz=130,slow=6.9,SNR=55
BRTR LR LR 00 34 55.9
comp=Z,4μm,21.6s,baz=104,slow=36
RMQ Roma 63.51 121 P **P 00 07 03.3 -0.8**
baz=64,SNR=5.9
VRH Novokhopyorsk 63.52 329 *e*P **P 00 07 03.1 -0.5**
VRH pmax pmax
comp=Z,50nm,0.8s
ILGA Ilgaz 63.64 316 *e*P **P 00 07 04.8 -0.1**
ANTO Ankara 63.85 314 *e*P **P 00 07 05.6 -0.5**
comp=Z,23nm,0.8s
ANTO Ankara 63.85 314 P **P 00 07 06.3 +0.1**
SNR=11
ANTO Ankara 63.85 314 P **P 00 07 06.3 +0.1**
SNR=11
ANTO Ankara 63.85 314 *e*P **P 00 07 05.6 -0.5**
ANTO pmax pmax
comp=Z,23nm,0.8s
BR231 Keskin MP Arra 63.85 314 *e*P **P 00 07 06.0 -0.2**
YSS Yuzh-Sakhalins 64.26 37 ⇓*e*P **P 00 07 05.5 -3.1**
YSS *e* 00 07 08.1
YSS pmax pmax
comp=Z,60nm,0.8s
YSS MLR MLR
comp=Z,4μm,17.0s
YSS MLR MLR
comp=N,4μm,19.0s
YSS MLR MLR
comp=E,4μm,18.0s
TOO Toolangi 64.74 133 P **P 00 07 11.1 -0.8**
baz=65,SNR=13
VSR Storozhevoye 64.88 328 *e*P **P 00 07 10.9 -1.6**
VSR pmax pmax
comp=Z,50nm,1.1s
VORR Voronezh 65.09 328 P **P 00 07 14.0 +0.1**
EIDS Eidsvold 65.23 119 P **P 00 07 15.3 0.0**
baz=65,SNR=10
EIDS Eidsvold 65.23 119 *e*P **P 00 07 15.2 0.0**
comp=Z,42nm,0.9s
LPSR Galich'ya Gora 65.73 329 *e*P **P 00 07 17.2 -0.8**
LPSR pmax pmax
comp=Z,60nm,0.8s
NKL Nikolayevsk 66.17 31 *e*P **P 00 07 20.0 -0.8**
NKL pmax pmax
comp=Z,21nm,1.0s
MANT Manisa 66.50 311 *e*P **P 00 07 24.5 +1.0**
comp=Z,152nm,1.6s
CAN Canberra 66.51 130 *e*P **P 00 07 23.1 -0.3**
comp=Z,39nm,0.9s
CAN Canberra 66.51 130 *e*P **P 00 07 23.2 -0.3**
CAN pmax pmax
comp=Z,39nm,0.9s
KARP Karpathos 66.75 308 *e*P **P 00 07 25.3 +0.4**
comp=Z,56nm,0.8s
ARMA Armidale 67.06 124 P **P 00 07 26.7 -0.5**
baz=67,SNR=6.5
YAK Yakutsk 67.12 19 *e*P **P 00 07 24.5 -2.2**
comp=Z,96nm,0.8s
YAK Yakutsk 67.12 19 *e*P **P 00 07 23.7 -3.0**
YAK pmax pmax
comp=Z,34nm,0.9s
YAK pmax pmax
comp=N,8.0nm,1.0s
YAK pmax pmax
comp=E,14nm,1.2s
LBTB Lobatse 67.46 242 *e*P **P 00 07 29.2 -0.6**
LBTB Lobatse 67.46 242 *e*P **P 00 07 29.2 -0.6**
NPS Neapolis 67.90 307 P **P 00 07 33.8 +1.5**
NPS Neapolis 67.90 307 P **P 00 07 33.8 +1.5**
NPS Neapolis 67.90 307 P **P 00 07 33.8 +1.5**
LAST Lasithi 67.98 307 P **P 00 07 33.2 +0.3**
LAST Lasithi 67.98 307 P **P 00 07 33.2 +0.3**
MOS Moscow 68.05 331 *e*P **P 00 07 30.4 -2.3**
MOS *e* 00 07 52.6
MOS pmax pmax
comp=Z,86nm,0.9s
TAU Tasmania Unive 68.20 138 *e*P **P 00 07 33.6 -0.3**
comp=Z,61nm,1.0s
TAU Tasmania Unive 68.20 138 *e*P **P 00 07 33.6 -0.3**
TAU pmax pmax
comp=Z,61nm,1.0s
OBN Obninsk 68.23 330 *e*P **P 00 07 33.3 -0.6**
comp=Z,59nm,1.2s
OBN Obninsk 68.23 330 ⇓*e*P **P 00 07 32.6 -1.3**
OBN *e* 00 07 59.9
OBN *e*S **S 00 16 36.3 +2.2**
OBN pmax pmax
comp=Z,106nm,2.5s
OBN MLR MLR
comp=Z,5μm,22.0s
SANT Santorini 68.30 309 *e*P **P 00 07 34.0 -0.7**
comp=Z,104nm,1.1s
CHOS Chios island 68.36 311 P **P 00 07 35.7 +0.6**
CHOS Chios island 68.36 311 P **P 00 07 35.7 +0.6**

IDI Anoyia 68.48 307 P **P 00 07 36.2 +0.2**
comp=Z,21nm,0.7s,baz=100,slow=9.0,SNR=28
IDI Anoyia 68.48 307 *e*P **P 00 07 35.9 -0.1**
comp=Z,42nm,0.9s
TLCR 68.48 318 ⇑*i*P **P 00 07 35.5 -0.1**
TIRR Tirgusor 68.50 318 ⇑*i*P **P 00 07 35.0 -0.8**
TIRR Tirgusor 68.50 318 *e*P **P 00 07 34.7 -1.1**
comp=Z,36nm,0.9s
TIRR Tirgusor 68.50 318 *e*P **P 00 07 34.7 -1.1**
TIRR pmax pmax
comp=Z,36nm,0.9s
BOSA Boshof 68.62 238 P **P 00 07 36.6 -0.4**
comp=Z,21nm,1.0s,baz=74,slow=6.4,SNR=17
BOSA LR LR 00 31 48.0
comp=Z,4μm,21.7s,baz=38,slow=31
BOSA Boshof 68.62 238 *e*P **P 00 07 36.8 -0.2**
comp=Z,223nm,2.0s
TLB Topalu 68.80 318 ⇓*i*P **P 00 07 37.0 -0.6**
HARR Harsova 68.91 318 ⇑*i*P **P 00 07 38.5 +0.2**
CFR Carcaliu 68.93 318 ⇑*i*P **P 00 07 38.3 -0.1**
ALN Alexandroupoli 69.06 313 P **P 00 07 39.0 -0.3**
ALN Alexandroupoli 69.06 313 P **P 00 07 39.0 -0.3**
ALN Alexandroupoli 69.06 313 P **P 00 07 39.0 -0.3**
VAM Vamos 69.06 307 P **P 00 07 39.7 +0.2**
VAM Vamos 69.06 307 P **P 00 07 39.7 +0.2**
VAM Vamos 69.06 307 P **P 00 07 39.7 +0.2**
KIS Kishinev 69.12 320 *e*P **P 00 07 37.0 -2.6**
KIS Kishinev 69.12 320 ⇓*i*P **P 00 07 40.7 +1.1**
KIS Kishinev 69.12 320 *e*P **P 00 07 37.0 -2.6**
IMMV Iera Moni Meta 69.25 307 P **P 00 07 41.7 +1.1**
LEOM Leova 69.30 320 ⇓*i*P **P 00 07 40.7 0.0**
SMTH Samothraki Isl 69.32 313 P **P 00 07 40.3 -0.7**
SMTH Samothraki Isl 69.32 313 P **P 00 07 40.3 -0.7**
PETR Petresti 69.71 319 ⇓*i*P **P 00 07 45.5 +2.2**
SORM Soroca 69.82 321 ⇑*i*P **P 00 07 43.1 -0.8**
ODBI Odobesti 69.84 319 ⇓*i*P **P 00 07 45.0 +0.9**
ANKY Antikythira Is 69.88 308 P **P 00 07 44.4 -0.1**
ANKY Antikythira Is 69.88 308 P **P 00 07 44.4 -0.1**
ISR Istrita 69.98 318 ⇓*i*P **P 00 07 45.2 +0.2**
SULR 70.03 317 ⇑*i*P **P 00 07 47.1 +1.8**
KLMR Klimovskoe 70.05 336 *e*P **P 00 07 43.8 -1.3**
KLMR AMP 00 07 51.3
comp=Z,47nm,0.8s
KLMR *e*PP **PP 00 10 17.3 -2.8**
KLMR Klimovskoe 70.05 336 *e*P **P 00 07 43.7 -1.3**
KLMR *e* 00 10 17.2
KLMR pmax pmax
comp=Z,47nm,0.8s
VRI Vrincioaia 70.09 319 ⇑*i*P **P 00 07 46.2 +0.5**
PLOR Plostina 70.14 319 ⇑*i*P **P 00 07 46.6 +0.6**
KYTH Kithira 70.17 308 P **P 00 07 46.0 -0.3**
KYTH Kithira 70.17 308 P **P 00 07 46.0 -0.3**
AKASG Malin Array Be 70.24 324 P **P 00 07 45.5 -0.9**
comp=Z,16nm,0.7s,baz=91,slow=5.5,SNR=28
AKBB Malin Array Si 70.24 324 *e*P **P 00 07 45.4 -1.0**
comp=Z,16nm,0.8s
AKBB Malin Array Si 70.24 324 *e*P **P 00 07 45.4 -1.0**
AKBB pmax pmax
comp=Z,17nm,0.8s
KIEV Kiev 70.25 324 *e*P **P 00 07 45.4 -1.1**
comp=Z,15nm,0.8s
KIEV Kiev 70.25 324 *i*P **P 00 07 45.5 -0.9**
SNR=12
KIEV Kiev 70.25 324 *i*P **P 00 07 45.2 -1.3**
KIEV pmax pmax
comp=Z,13nm,0.8s
AK11 Malin Array Si 70.27 324 *e*P **P 00 07 45.6 -1.0**
SECR 70.27 318 ⇑*i*P **P 00 07 48.1 +1.3**
KRND KRANIDI 70.33 309 P **P 00 07 45.9 -1.4**
ZIMR 70.34 316 ⇑*i*P **P 00 07 47.1 -0.1**
VLI Veliai 70.35 308 P **P 00 07 46.6 -0.8**
VLI Veliai 70.35 308 P **P 00 07 46.6 -0.8**
TESR Tescani 70.36 319 ⇑*i*P **P 00 07 46.4 -0.8**
MLR Muntele Rosu 70.50 318 P **P 00 07 48.8 +0.6**
comp=Z,20nm,0.8s,baz=140,slow=4.7,SNR=80
MLR LR LR 00 42 00.0
comp=Z,693nm,20.4s,baz=83,slow=39
MLR Muntele Rosu 70.50 318 ⇓*i*P **P 00 07 49.0 +0.7**
MLR Muntele Rosu 70.50 318 *e*P **P 00 07 48.6 +0.3**
comp=Z,133nm,0.7s
LTK Loutraki 70.62 310 P **P 00 07 47.1 -2.0**
LTK Loutraki 70.62 310 P **P 00 07 47.1 -2.0**
NVR Nevrokopi 70.77 313 P **P 00 07 48.5 -1.4**
NVR Nevrokopi 70.77 313 P **P 00 07 48.5 -1.4**
DYR Agios Nikonas 70.83 308 P **P 00 07 49.8 -0.6**
HUMR Humele 70.86 317 ⇑*i*P **P 00 07 50.2 -0.1**
PRAR RASCA 70.90 320 ⇑*i*P **P 00 07 50.3 -0.3**
SRS Serrai 70.91 313 P **P 00 07 50.6 -0.1**
SRS Serrai 70.91 313 P **P 00 07 50.6 -0.1**
SRS Serrai 70.91 313 P **P 00 07 50.6 -0.1**
VLX Vlachokerasia 70.93 309 P **P 00 07 51.5 +0.4**
VLX Vlachokerasia 70.93 309 P **P 00 07 51.5 +0.4**
DOPR Dopca 71.01 318 ⇑*i*P **P 00 07 51.5 +0.2**
AXAR Agios Charalam 71.03 310 P **P 00 07 52.1 +0.6**
AXAR Agios Charalam 71.03 310 P **P 00 07 52.1 +0.6**
VOIR 71.08 318 ⇓*i*P **P 00 07 51.5 -0.3**
GUR Goura 71.08 310 P **P 00 07 50.8 -1.2**
GUR Goura 71.08 310 P **P 00 07 50.8 -1.2**
ITM Ithomi 71.24 309 P **P 00 07 51.9 -1.0**
ITM Ithomi 71.24 309 P **P 00 07 51.9 -1.0**
KLV Kalavryta, Ach 71.26 310 P **P 00 07 52.2 -0.8**
KLV Kalavryta, Ach 71.26 310 P **P 00 07 52.2 -0.8**
PYL PYLOS 71.33 308 P **P 00 07 51.9 -1.4**
PYL PYLOS 71.33 308 P **P 00 07 51.9 -1.4**
AGG Agios Georgios 71.34 311 *e*P **P 00 07 52.7 -0.7**
comp=Z,56nm,1.1s
AGG Agios Georgios 71.34 311 P **P 00 07 51.3 -2.1**
AGG Agios Georgios 71.34 311 *e*P **P 00 07 52.7 -0.7**
AGG pmax pmax
comp=Z,56nm,1.1s
ARR Arges 71.34 318 ⇓*i*P **P 00 07 52.8 -0.5**
KNT Kendrikon 71.42 313 P **P 00 07 53.1 -0.8**
KNT Kendrikon 71.42 313 P **P 00 07 53.1 -0.8**
KNT Kendrikon 71.42 313 P **P 00 07 53.1 -0.8**
LAKA Lakka 71.43 310 P **P 00 07 53.3 -0.7**
LAKA Lakka 71.43 310 P **P 00 07 53.3 -0.7**
AMT Artemida-Makis 71.49 309 P **P 00 07 55.4 +1.1**
ANX Ano Chora 71.55 310 P **P 00 07 53.6 -1.2**
VTS Vitosha 71.56 314 ⇓*i*P **P 00 07 54.2 -0.7**
VTS Vitosha 71.56 314 *e*P **P 00 07 54.0 -0.9**
comp=Z,20nm,0.7s
VTS Vitosha 71.56 314 P **P 00 07 53.9 -0.9**
VTS Vitosha 71.56 314 *e*P **P 00 07 54.0 -0.9**
VTS pmax pmax
comp=Z,20nm,0.7s
DRO Drossia 71.58 309 P **P 00 07 54.9 0.0**
BURAR Bucovina Array 71.63 320 ⇓*i*P **P 00 07 55.8 +0.7**
BUR04 Bucovina Ar. S 71.64 320 *e*P **P 00 07 55.2 +0.1**
BUR08 Bucovina Ar. S 71.65 320 *e*P **P 00 07 55.5 +0.2**
THL Klokotos Trika 71.70 311 P P 00 07 50.3 -5.2
VAY Valandovo 71.70 313 *i*P **P 00 07 54.4 -1.1**
EVR Evrytania 71.71 310 P **P 00 07 54.2 -1.6**
EVR Evrytania 71.71 310 P **P 00 07 54.2 -1.6**
GRG Griva 71.74 313 P **P 00 07 54.5 -1.3**
GRG Griva 71.74 313 P **P 00 07 54.5 -1.3**
GRG Griva 71.74 313 P **P 00 07 54.5 -1.3**
MAW Mawson 71.78 190 P **P 00 07 55.1 -0.3**
comp=Z,12nm,1.0s,baz=19,slow=7.5,SNR=8.9
MAW Mawson 71.78 190 P **P 00 07 53.8 -1.6**
baz=72,SNR=6.2
MAW Mawson 71.78 190 *e*P **P 00 07 56.7 +1.3**
comp=Z,25nm,2.0s
MAW Mawson 71.78 190 *e*P **P 00 07 56.7 +1.3**
MAW pmax pmax
comp=Z,25nm,2.0s
RLS Riolos of Patr 71.79 310 P **P 00 07 56.7 +0.6**
RLS Riolos of Patr 71.79 310 P **P 00 07 56.7 +0.6**
LOT Lotru 71.94 317 ⇓*i*P **P 00 07 55.9 -1.2**
ARCR ARCALIA 72.03 319 ⇓*i*P **P 00 07 58.1 +0.7**
DSL Palaion Diasel 72.30 311 P **P 00 07 59.0 -0.2**
DSL Palaion Diasel 72.30 311 P **P 00 07 59.0 -0.2**
MICGM Minsk 72.46 327 *e* **P 00 08 01.0 +1.3**
MNK Minsk 72.46 327 *e*P **P 00 08 01.0 +1.3**
VLS Valsamata 72.49 309 P **P 00 07 58.3 -2.0**
VLS Valsamata 72.49 309 P **P 00 07 58.3 -2.0**
VLS Valsamata 72.49 309 P **P 00 07 58.3 -2.0**
TMCR Tamitsa 72.52 339 *e*P **P 00 07 59.9 0.0**
TMCR pmax pmax
comp=Z,97nm,1.0s
KRUS Krusevo 72.68 313 *i*P **P 00 07 59.9 -1.6**
HERR Herculane 72.71 317 ⇑*i*P **P 00 08 01.1 -0.4**
IGT Igoumenitsa 72.96 311 P **P 00 08 00.8 -2.3**

IGT Igoumenitsa 72.96 311 P P 00 08 00.8 -2.3
IGT Igoumenitsa 72.96 311 P P 00 08 00.8 -2.3
DRGR 73.03 319⇑ iP P 00 08 03.0 -0.4
LVV L'vov 73.06 322 eP P 00 08 03.3 -0.2
NACGM Naroch 73.20 328 e P 00 08 03.0 -1.1
IDID Didziasalis 73.38 328 eP P 00 08 04.6 -0.6
IDID IAmb IAmb 00 08 12.1
comp=Z,16nm,0.8s
PUL Pulkovo 73.43 333 ceP P 00 08 05.4 0.0
PUL pmax pmax
comp=Z,81nm,0.6s
BZS Buzias 73.45 317⇑ iP P 00 08 05.3 -0.5
IIGN Ignalina 73.66 328 eP P 00 08 06.4 -0.5
IIGN IAmb IAmb 00 08 17.5
comp=Z,20nm,0.9s
TSUM Tsumeb 73.72 250 eP P 00 08 08.5 +0.4
comp=Z,45nm,1.5s
UZH Uzhgorod 73.81 320 eP P 00 08 07.6 -0.2
UZH e 00 08 10.2
UZH i 00 08 13.6
UZH i 00 08 20.4
KWP Kalwaria Pacla 73.83 321 eP P 00 08 08.0 0.0
KWP Kalwaria Pacla 73.83 321 eP P 00 08 08.0 0.0
TIXI Tiksi 74.02 12 c iP P 00 08 06.5 -2.1
TIXI pmax pmax
comp=Z,31nm,0.8s
DIVS Divibare 74.20 315 eP P 00 08 09.9 -0.5
comp=Z,49nm,1.3s
VSU Vasula 74.57 331 ceP P 00 08 10.9 -1.2
VSU pmax pmax
comp=Z,236nm,2.5s
SUW Suwalki 74.87 326 eP P 00 08 12.9 -1.0
SUW Suwalki 74.87 326 eP P 00 08 13.0 -1.0
comp=Z,105nm,1.0s
SUW Suwalki 74.87 326 eP P 00 08 13.0 -1.0
SUW pmax pmax
comp=Z,105nm,1.0s
PSZ Piszkesteto 75.17 319 eP P 00 08 16.6 +0.7
comp=Z,65nm,2.0s
PSZ Piszkesteto 75.17 319 eP P 00 08 16.6 +0.7
PSZ pmax pmax
comp=Z,65nm,2.0s
NIE Niedzica 75.28 321 eP P 00 08 17.4 +0.9
NIE Niedzica 75.28 321 eP P 00 08 17.4 +0.9
PETK Petropavlovsk- 75.49 35 P P 00 08 17.4 -0.1
comp=Z,5.9nm,0.9s,baz=195,slow=2.3,SNR=2.8
PETK LR LR 00 41 32.1
comp=Z,2μm,21.8s,baz=268,slow=36
BEL Belsk 75.62 323 eP P 00 08 18.9 +0.6
BEL Belsk 75.62 323 eP P 00 08 18.9 +0.6
TIP Timpagrande 75.62 310 P P 00 08 18.2 -0.5
TIP Timpagrande 75.62 310 P P 00 08 18.2 -0.5
LANS Liptovska Anna 75.74 320 eP P 00 08 19.5 +0.4
LVZ Lovozero 75.75 341 eP P 00 08 18.1 -0.7
comp=Z,44nm,0.7s
LVZ Lovozero 75.75 341 iP P 00 08 19.3 +0.5
LVZ pmax pmax
comp=Z,22nm,0.8s
OJC Ojcow 75.80 322 eP P 00 08 19.2 -0.2
OJC Ojcow 75.80 322 eP P 00 08 19.1 -0.3
comp=Z,36nm,1.0s
OJC Ojcow 75.80 322 eP P 00 08 19.2 -0.2
APA Apatity 75.97 341⇑ iP P 00 08 17.4 -2.6
APA pmax pmax
comp=Z,26nm,0.9s
APA MLR MLR
comp=Z,4μm,19.0s
VYHS Vyhne 75.99 320 eP P 00 08 19.9 -0.7
VYHS pmax pmax
comp=Z,12nm,1.1s
PET Petropavlovsk 76.02 36 eP P 00 08 24.7 +4.2
PET pmax pmax
comp=Z,44nm,1.1s
FIA1 FINESS Array S 76.03 334 eP P 00 08 20.1 -0.3
FINES FINESS Array B 76.03 334 P P 00 08 20.0 -0.4
comp=Z,23nm,0.8s,baz=110,slow=5.1,SNR=36
FINES LR LR 00 44 11.9
comp=Z,3μm,21.0s,baz=108,slow=38
CEL Celeste 76.14 309 eP P 00 08 23.6 +1.9
comp=Z,33nm,0.8s
SEY Seymchan 76.25 25 P P 00 08 20.3 -1.4
baz=255,slow=11
SEY Seymchan 76.25 25 ceP P 00 08 22.7 +1.0
KLNR Kaliningrad 76.71 326 iP P 00 08 23.3 -1.1
KLNR pmax pmax
comp=Z,83nm,0.8s
OKC Ostrava-Krasne 76.74 321 eP P 00 08 25.2 +0.5
OKC Ostrava-Krasne 76.74 321 eP P 00 08 25.2 +0.5
MODS Modra-Piesok 76.98 319 eP P 00 08 26.1 -0.1
MORC Moravsky Berou 77.11 321 eP P 00 08 26.3 -0.6
comp=Z,60nm,1.1s
MORC Moravsky Berou 77.11 321 eP P 00 08 26.3 -0.6
MORC pmax pmax
comp=Z,60nm,1.1s
VAE Valguarnera 77.19 308 P P 00 08 30.6 +3.0
comp=Z,8.2nm,0.7s,baz=70,slow=15,SNR=2.7
KRLC Kraliky 77.65 321 eP P 00 08 30.2 +0.3
KRLC Kraliky 77.65 321 eP P 00 08 30.2 +0.3
BOJS Bojanci 77.79 316 iP P 00 08 31.6 +0.9
CONA Conrad Observa 77.82 319 iP P 00 08 31.8 +0.9
comp=Z,18nm,1.8s
ARSA Arzberg 77.92 318 iP P 00 08 31.6 +0.2
comp=Z,12nm,0.8s,SNR=7.1
DPC Dobruska-Polom 78.00 321 eP P 00 08 32.3 +0.4
DPC epP sP 00 08 37.1 -0.2
DPC Dobruska-Polom 78.00 321 eP P 00 08 32.3 +0.4
DPC e 00 08 37.1
GKP Gorka Klasztor 78.08 324 eP P 00 08 31.9 -0.2
GKP Gorka Klasztor 78.08 324 eP P 00 08 31.9 -0.2
PERS Pernice 78.08 317 iP P 00 08 31.9 -0.5
KSP Ksiaz 78.12 322 eP P 00 08 33.4 +1.0
KSP Ksiaz 78.12 322 eP P 00 08 33.4 +1.0
VISS Visnje 78.13 316 iP P 00 08 31.4 -1.3
SOKA Soboth 78.14 317 iP P 00 08 33.6 +0.8
comp=Z,11nm,1.0s
UPC Upice 78.22 321 epP pP 00 08 39.9 +2.8
UPC Upice 78.22 321 eP P 00 08 39.9 +6.8
TREC Trest 78.32 320 eP P 00 08 33.7 +0.1
TREC epP sP 00 08 39.4 +0.3
TREC Trest 78.32 320 eP P 00 08 33.7 +0.1
TREC e 00 08 39.4
SYO Syowa Base 78.37 196⇓ eP P 00 08 34.4 +1.0
SYO Syowa Base 78.37 196⇓ epP pP 00 08 38.2 +0.8
SYO Syowa Base 78.37 196⇓ ePcP PcP 00 08 46.6 +4.0
OBKA Obir 78.44 317 iP P 00 08 35.5 +1.0
comp=Z,20nm,1.1s
DZM Mont Dzumac 78.46 113 P P 00 08 35.3 +0.3
comp=Z,11nm,0.9s,baz=223,slow=18,SNR=2.6
AQU L'Aquila 78.62 313 eP P 00 08 36.2 +0.7
comp=Z,65nm,1.1s
AQU L'Aquila 78.62 313 eP P 00 08 36.2 +0.7
AQU pmax pmax
comp=Z,65nm,1.1s
MOA Molln 78.86 318 iP P 00 08 36.0 -0.6
comp=Z,6.2nm,1.4s
GOPC GO Pecny, Ondr 78.88 321 eP P 00 08 37.0 +0.3
GOPC epP sP 00 08 42.3 +0.1
GOPC GO Pecny, Ondr 78.88 321 eP P 00 08 37.0 +0.3
GOPC e 00 08 42.3
PRU Pruhonice 79.05 321 eP P 00 08 37.9 +0.3
PRU epP sP 00 08 43.9 +0.8
PRU Pruhonice 79.05 321 eP P 00 08 37.9 +0.3
PRU e 00 08 43.9
MYKA Terra Mystica 79.08 317 iP P 00 08 39.0 +1.0
comp=Z,24nm,0.9s
PVCC Panska Ves 79.13 321 eP P 00 08 38.7 +0.7
PVCC Panska Ves 79.13 321 eP P 00 08 38.7 +0.7
KBA Koelnbreinsper 79.35 317 iP P 00 08 38.9 -0.6
comp=Z,24nm,1.2s
GEA0 GERESS Array S 79.40 319 eP P 00 08 39.3 -0.4
GEC2 GERESS Array S 79.40 319 eP P 00 08 39.9 +0.3
comp=Z,118nm,1.5s
GEC2 GERESS Array S 79.40 319 eP P 00 08 39.9 +0.3
GEC2 pmax pmax
comp=Z,118nm,1.5s
GERES GERESS Array B 79.40 319 P P 00 08 39.6 -0.1
comp=Z,22nm,0.8s,baz=108,slow=5.9,SNR=76
ARCES ARCESS Array B 79.46 341 P P 00 08 39.2 -0.2
comp=Z,21nm,0.8s,baz=94,slow=4.9,SNR=24
ARCES LR LR 00 45 22.5
comp=Z,5μm,18.8s,baz=110,slow=37
ARCES ARCESS Array B 79.46 341 eP P 00 08 39.4 -0.1
ARCES ARCESS Array B 79.46 341 eP P 00 08 39.4 -0.1
KHC Kasperske Hory 79.52 320 eP P 00 08 39.7 -0.6

KHC epP sP 00 08 46.5 +0.8
KHC ex x 00 08 56.0
KHC Kasperske Hory 79.52 320 eP P 00 08 39.7 -0.6
KHC e 00 08 46.5
BRG Berggiesshubel 79.59 321 iP P 00 08 40.8 +0.3
comp=Z,17nm,0.9s
BRG i 00 08 53.5
comp=Z,28nm,1.1s
BRG Berggiesshubel 79.59 321 iP P 00 08 40.8 +0.3
BRG i 00 08 53.5
BRG pmax pmax
comp=Z,17nm,0.9s
BRG pmax pmax
comp=Z,28nm,1.1s
BSD Bornholm Skovb 79.80 326 iP P 00 08 42.0 +0.5
comp=Z,23nm,0.9s
BSD Bornholm Skovb 79.80 326 iP P 00 08 42.0 +0.5
BSD pmax pmax
comp=Z,23nm,0.9s
ABTA Abfaltersbach 79.87 317 iP P 00 08 42.7 +0.5
comp=Z,16nm,1.3s
CLL Collm 80.24 322 iP P 00 08 43.9 -0.1
comp=Z,35nm,1.2s
CLL iP sP 00 08 50.1 +0.6
CLL iSP PcP 00 08 53.5 +2.3
CLL LmV 00 47 00.0
comp=Z,4μm,20.3s
CLL Collm 80.24 322 eP P 00 08 44.0 -0.1
comp=Z,26nm,1.0s
CLL Collm 80.24 322 iP P 00 08 43.9 -0.1
CLL pmax pmax
comp=Z,35nm,1.2s
NKC Novy Kostel 80.42 321 eP P 00 08 45.5 +0.4
NKC Novy Kostel 80.42 321 eP P 00 08 45.5 +0.4
WTTA Wattenberg 80.53 318 iP P 00 08 46.7 +0.8
comp=Z,25nm,1.6s
WATA Walderalm 80.58 318 iP P 00 08 46.3 +0.1
comp=Z,8.1nm,0.7s
MOTA Moosalm 80.90 318 iP P 00 08 47.0 -0.9
comp=Z,11nm,0.7s,SNR=10
KEST Kesra 81.07 306 P P 00 08 49.3 +0.4
comp=Z,13nm,0.8s,baz=188,slow=0.5,SNR=20
KEST Kesra 81.07 306 eP P 00 08 49.8 +0.8
comp=Z,55nm,1.1s
FETA Feichten 81.12 317 iP P 00 08 48.7 -0.4
comp=Z,19nm,1.0s
GRFO Grafenberg 81.13 320 eP P 00 08 49.4 +0.5
comp=Z,155nm,1.7s
GRFO Grafenberg 81.13 320 eP P 00 08 49.4 +0.5
GRFO pmax pmax
comp=Z,155nm,1.7s
RETA Reutte 81.15 318 iP P 00 08 49.9 +0.8
comp=Z,12nm,0.7s
LLD Lille Linde 81.36 326 iP P 00 08 52.3 +2.4
LLD Lille Linde 81.36 326 eP P 00 08 52.3 +2.4
HFS Hagfors 81.44 331 P P 00 08 50.4 +0.1
comp=Z,13nm,0.9s,baz=114,slow=6.5,SNR=16
DAVA Damuels 81.72 317 iP P 00 08 52.4 +0.1
comp=Z,48nm,0.7s,SNR=18
TUE Stuetta 82.00 317 eP P 00 08 53.9 +0.1
comp=Z,17nm,0.8s
NB2 NORSAR Subarra 82.81 331 P P 00 08 56.4 -1.1
comp=Z,21nm,1.2s,baz=99,slow=5.3
NB2 NORSAR Subarra 82.81 331 P P 00 08 56.4 -1.1
baz=99,slow=5.3
NOA NORSAR Array B 82.81 331 P P 00 08 57.1 -0.4
comp=Z,5.2nm,0.9s,baz=99,slow=5.7,SNR=8.3
BFO Black Forest 82.87 318 eP P 00 08 57.4 -0.7
BFO Black Forest 82.87 318 iP P 00 08 58.3 +0.2
MUD Monsted U'grnd 83.22 327 iP P 00 09 00.0 +0.4
comp=Z,18nm,1.0s
MUD Monsted U'grnd 83.22 327 eP P 00 09 00.0 +0.4
MUD pmax pmax
comp=Z,18nm,1.0s
BILL Bilibino 83.31 22⇑ iP P 00 08 58.9 -1.0
BILL e 00 12 09.6
BILL eS S 00 19 26.8 +6.5
BILL pmax pmax
comp=Z,2.0nm,1.0s
KONO Kongsberg 83.40 330 ceP P 00 08 58.9 -1.6
KONO pmax pmax
comp=Z,154nm,1.7s
ECH Echery 83.64 318 eP P 00 09 01.4 -0.6
comp=Z,29nm,1.0s
ECH Echery 83.64 318 eP P 00 09 01.4 -0.6
ECH pmax pmax
comp=Z,29nm,1.0s
BNI Bardonecchia 83.75 315 eP P 00 09 02.2 -0.6
comp=Z,27nm,0.9s
BNI Bardonecchia 83.75 315 eP P 00 09 02.2 -0.6
BNI pmax pmax
comp=Z,27nm,0.9s
TAM Tamanrasset 83.89 293 eP P 00 09 04.8 +0.8
comp=Z,39nm,0.9s
TAM Tamanrasset 83.89 293 eP P 00 09 04.8 +0.8
TAM pmax pmax
comp=Z,39nm,0.9s
WLF Walferdange 84.40 320 ⇑P P 00 09 07.5 +1.6
WLF Walferdange 84.40 320 eP P 00 09 07.7 +1.8
comp=Z,51nm,1.5s
WLF Walferdange 84.40 320 eP P 00 09 07.7 +1.8
WLF pmax pmax
comp=Z,51nm,1.5s
MEM Membach 84.56 320 ⇑P P 00 09 07.5 +0.8
comp=Z,12nm,1.1s
SPITS Spitsbergen Ar 84.82 349 P P 00 09 07.3 -0.2
comp=Z,13nm,0.9s,baz=134,slow=3.6,SNR=8.6
SPITS LR LR 00 51 12.4
comp=Z,4μm,18.4s,baz=320,slow=39
SPITS Spitsbergen Ar 84.82 349 P P 00 09 07.3 -0.2
BCLA Clavier 85.00 320 ⇓P P 00 09 10.6 +1.8
SSB Saint Sauveur 85.27 315 eP P 00 09 09.4 -1.0
comp=Z,23nm,1.0s
SSB Saint Sauveur 85.27 315 eP P 00 09 09.4 -1.0
SSB pmax pmax
comp=Z,23nm,1.0s
DOU Dourbes 85.43 320 P P 00 09 12.6 +1.6
SNF Seneffe 85.65 320 ⇑P P 00 09 13.6 +1.6
comp=Z,20nm,1.2s
TOA0 Torodi Ar. Sit 87.61 283 eP P 00 09 22.6 +0.2
TORD Torodi Ar. Bea 87.61 283 P P 00 09 22.6 +0.2
comp=Z,4.5nm,0.8s,baz=89,slow=3.7,SNR=34
NVL N'lazarevskaya 87.71 199 eP P 00 09 21.0 -0.7
NVL MLR MLR
comp=Z,4μm,17.0s
VNDA Vanda 87.96 168 P P 00 09 22.1 -0.7
comp=Z,1.7nm,0.7s,baz=297,slow=5.7,SNR=8.6
VNDA LR LR 00 42 48.7
comp=Z,4μm,20.8s,baz=298,slow=32
VNDA Vanda 87.96 168 P P 00 09 22.1 -0.7
URZ Urewera 89.11 128 LR LR 00 45 55.8
comp=Z,4μm,21.4s,baz=283,slow=33
EKA Eskdalemuir Ar 90.12 325 P P 00 09 33.8 +0.4
comp=Z,3.1nm,0.6s,baz=98,slow=5.1,SNR=16
EKA Eskdalemuir Ar 90.12 325 P P 00 09 33.8 +0.4
ES19 SONSECA Array 91.59 310 eP P 00 09 40.9 +0.2
ESDC Sonseca Array 91.64 310 P P 00 09 40.9 0.0
comp=Z,2.6nm,0.7s,baz=54,slow=4.5,SNR=10
QSPA South Pole Qui 91.77 180 P P 00 09 42.1 +1.1
comp=Z,4.9nm,0.8s,baz=316,slow=3.3,SNR=3.5
SNAA Sanae 92.51 198 P P 00 09 41.2 -3.1
SNAA Sanae 92.51 198 P P 00 09 43.8 -0.5
comp=Z,7.0nm,0.8s,baz=86,slow=7.3,SNR=16
SNAA Sanae 92.51 198 eP P 00 09 43.3 -1.0
comp=Z,8.3nm,0.8s
SNAA Sanae 92.51 198 P P 00 09 43.8 -0.5
SNAA pmax pmax
comp=Z,7.0nm,0.8s
KOWA Kowa 93.11 285 P P 00 09 48.4 +0.2
comp=Z,16nm,0.8s,baz=95,slow=5.0,SNR=20
KOWA Kowa 93.11 285 eP P 00 09 48.5 +0.3
comp=Z,46nm,0.9s
VNA2 Neumayer--Watz 94.03 199 P P 00 09 50.4 -0.8
baz=354,slow=30
KIC Kosan Boka 94.17 276 eP P 00 09 53.5 +0.4
comp=Z,115nm,1.3s
DBIC Dimbokro 94.27 277 P P 00 09 53.9 +0.4
comp=Z,14nm,1.1s,baz=65,slow=3.7,SNR=4.2
DBIC Dimbokro 94.27 277 P P 00 09 53.9 +0.4
TIC Toumodi 94.44 277 eP P 00 09 57.1 +2.8
LIC Lamto 94.46 276 eP P 00 09 55.7 +1.3
comp=Z,116nm,1.7s
VNA3 Neumayer Olymp 94.73 199 P P 00 09 55.9 +1.5
ILAR Eielson Array 101.98 21 P Pdif 00 10 27.9 +0.8
comp=Z,0.3nm,0.8s,baz=284,slow=3.6,SNR=3.2
ILAR PP PP 00 14 30.5 -7.5
comp=Z,1.4nm,1.0s,baz=289,slow=8.5,SNR=6.2
ILAR PKKPbc PKKPbc 00 26 30.3 -3.9
comp=Z,0.5nm,0.7s,baz=147,slow=1.8,SNR=5.7
ILAR Eielson Array 101.98 21 P Pdif 00 10 27.9 +0.8
RES Resolute Bay 103.55 1 Pdiff Pdif 00 10 33.6 -0.3
comp=Z,0.5nm,0.9s,baz=85,slow=6.9,SNR=3.7
RES Resolute Bay 103.55 1 P Pdif 00 10 33.6 -0.3
INK Inuvik 103.98 15 PP PP 00 14 54.0 +1.2
comp=Z,1.3nm,1.0s,baz=336,slow=9.3,SNR=2.9
YKA Yellowknife Ar 113.27 12 PKiKP PKiKP 00 15 10.9 +0.1
comp=Z,0.4nm,0.9s,baz=324,slow=2.6,SNR=5.3
YKA PP PP 00 15 59.2 -1.1
comp=Z,1.0nm,0.8s,baz=331,slow=7.3,SNR=7.4
YKA PKKPbc PKKPbc 00 25 56.4 -2.2
comp=Z,0.2nm,0.6s,baz=154,slow=3.2,SNR=5.7
YKA Yellowknife Ar 113.27 12 PKiKP PKiKP 00 15 10.9 +0.1
YKA 00 15 59.2
NEW Newport 124.93 22 PKP PKPdf 00 15 33.9 +0.1
comp=Z,1.8nm,0.6s,baz=90,slow=1.0,SNR=2.5
NEW Newport 124.93 22 PKIKP PKPdf 00 15 33.9 +0.1
ULM Lac du Bonnet 127.91 4 PKP PKPdf 00 15 39.8 +0.5
comp=Z,1.3nm,0.7s,baz=320,slow=2.8,SNR=4.5
ULM PP PP 00 17 41.3 +0.8
comp=Z,2.9nm,0.8s,baz=359,slow=6.4,SNR=3.0
ULM Lac du Bonnet 127.91 4 PKIKP PKPdf 00 15 39.8 +0.5
ULM 00 17 41.3
PDAR Pinedale Array 132.34 19 PKP PKPdf 00 15 48.2 -0.1
comp=Z,0.7nm,0.5s,baz=143,slow=0.7,SNR=7.7
NVAR Mina Array Bea 132.36 30 PKP PKPdf 00 15 48.4 0.0
comp=Z,1.3nm,0.7s,baz=290,slow=2.6,SNR=9.3
PLCA Paso Flores 137.33 202 PKP PKPdf 00 15 57.8 +0.3
comp=Z,1.3nm,0.8s,baz=239,slow=4.5,SNR=2.9
PLCA Paso Flores 137.33 202 PKIKP PKPdf 00 15 57.8 +0.3
CPUP Villa Florida 140.01 230 PKP PKPdf 00 16 02.3 -0.4
comp=Z,1.2nm,0.8s,baz=104,slow=4.2,SNR=2.8
CPUP Villa Florida 140.01 230 PKIKP PKPdf 00 16 02.3 -0.4
ANMO Albuquerque 140.42 21 PKP PKPdf 00 16 04.5 +1.1
comp=Z,1.4nm,0.6s,baz=143,slow=1.6,SNR=6.2
ANMO Albuquerque 140.42 21 PKIKP PKPdf 00 16 04.6 +1.1
MNTX Cornudas Mount 143.73 22 P PKPdf 00 16 08.2 -1.0
baz=334
RTCV Cerro Valdivia 143.74 212 eP PKPdf 00 16 08.5 -0.8
AUSP Uspallata 143.90 211 eP PKPdf 00 16 09.2 -0.7
ZON Zonda 144.06 212 eP PKPdf 00 16 09.4 -0.4
ROC1 El Roble 144.09 208 eP PKPdf 00 16 09.7 -0.4
RTLS Leoncito 144.19 212 eP PKPdf 00 16 10.3 0.0
Y47A UCPARC, Winfie 144.38 356 P PKPab 00 16 07.8 -0.5
baz=4.2
AMOG MOGNA 144.42 213 eP PKPbc 00 16 09.6 +0.7
ABTX Abilene, Hawle 144.62 14 P PKPab 00 16 08.5 -0.8
baz=344
ABTX Abilene, Hawle 144.62 14 ePKPdf PKPab 00 16 08.4 -0.9
Z48A Northport 144.89 356 P PKPab 00 16 08.2 -1.9
baz=4.8
Z49A Columbiana 144.98 354 P PKPbc 00 16 10.7 +0.2
baz=6.6
Z42A Norrel Spur, H 145.05 2 P PKPbc 00 16 10.2 -0.5
baz=357
Z47A Carrollton 145.09 357 P PKPbc 00 16 10.4 -0.4
baz=3.9
LRAL Lakeview Retre 145.18 355 P PKPdf 00 16 12.0 +0.3
baz=5.8
LRAL Lakeview Retre 145.18 355 ePKPdf PKPdf 00 16 11.8 +0.1
151A Opelika 145.50 353 P PKPab 00 16 13.6 +1.2
baz=8.8
150A Eclectic 145.51 354 P PKPab 00 16 13.8 +1.4
baz=7.5
AGUA GUANDACOL 145.52 215 eP PKPab 00 16 12.7 -0.1
AROD Rodeo 145.55 213 eP PKPab 00 16 13.5 +0.4
149A Jones 145.60 355 P PKPab 00 16 13.6 +0.8
baz=6.2
148A Greensboro 145.61 356 P PKPab 00 16 14.0 +1.2
baz=4.8
143A Socs Landing, 145.64 2 P PKPab 00 16 14.6 +1.7
baz=358
141A Papa Simpson, 145.67 4 P PKPab 00 16 13.6 +0.6
baz=355
WHTX Lake Whitney, 145.69 11 P PKPab 00 16 13.5 +0.4
baz=347
WHTX Lake Whitney, 145.69 11 ePKPdf PKPdf 00 16 11.7 -0.9
146A Union 145.70 358 P PKPab 00 16 13.0 -0.1
baz=2.2
254A Abbeville 145.75 349 P PKPab 00 16 14.4 +1.0
baz=12
VCA Vinchina 145.92 216 eP PKPdf 00 16 12.7 -0.6
251A Midway 145.94 353 P PKPab 00 16 13.8 -0.2
baz=8.7
252A Lumpkin 145.94 351 P PKPbc 00 16 13.6 0.0
baz=9.9
248A Dixon Mills 146.17 356 P PKPab 00 16 16.1 +1.2
baz=4.6
249A Camden 146.24 355 P PKPab 00 16 16.0 +0.8
baz=5.7
247A Quitman 146.26 357 P PKPab 00 16 17.7 +2.5
baz=3.0
TIGA Tifton 146.30 350 P PKPab 00 16 17.3 +1.9
baz=12
NATX Nacogdoches 146.35 7 P PKPab 00 16 17.4 +1.8
baz=352
NATX Nacogdoches 146.35 7 ePKPbc PKPbc 00 16 14.8 -0.1
FSA Cafayete 146.36 222 eP PKPdf 00 16 14.0 -0.1
TXAR Lajitas Array 146.49 21 PKPbc PKPbc 00 16 14.9 -0.6
comp=Z,3.9nm,0.6s,baz=254,slow=1.5,SNR=52
TXAR Lajitas Array 146.49 21 PKP2 PKPbc 00 16 14.9 -0.6
JCT Junction City 146.63 15 ePKPbc PKPdf 00 16 14.9 +0.6
JCT Junction City 146.63 15 ePKP2 PKPdf 00 16 14.9 +0.6
ASTB Santa Barbara 146.67 227 eP PKPdf 00 16 13.8 -0.8
435B Jarrell 146.84 11 P PKPab 00 16 17.4 -0.2
baz=347
349A Repton 146.87 355 P PKPab 00 16 18.5 +1.0
baz=5.7
347A Saraland 146.91 357 P PKPab 00 16 18.4 +0.6
baz=3.2
SLA San Lorenzo 146.94 224 eP PKPdf 00 16 15.2 +0.1
AZAP Zapla 146.94 226 eP PKPdf 00 16 14.8 -0.5
BRAL Brewton 147.04 355 ePKPbc PKPbc 00 16 17.0 +0.1
LCO Las Campanas 147.12 213 ePKPbc PKPdf 00 16 16.0 +0.6
HJA Humahuaca 147.81 227 eP PKPdf 00 16 16.1 -0.7
833A Chaparral WMA, 148.79 16 P PKPbc 00 16 21.5 -0.2
baz=342
SJG San Juan 149.02 311 PKPbc PKPbc 00 16 23.1 +0.6
comp=Z,16nm,0.8s,baz=108,slow=3.2,SNR=5.7
SJG San Juan 149.02 311 PKP2 PKPbc 00 16 23.1 +0.6
PTGA Pitinga 149.61 272 PKPbc PKPbc 00 16 24.2 +0.1
comp=Z,11nm,0.7s,baz=338,slow=6.6
PTGA PKPab PKPab 00 16 29.3 +0.1
comp=Z,11nm,0.7s,baz=69,slow=4.7,SNR=13
PCRV Puerto La Cruz 151.77 295 PKPbc PKPbc 00 16 29.4 +0.1
comp=Z,12nm,0.8s,baz=18,slow=6.4,SNR=2.2
SAML Samuel 152.07 254 ePKPbc PKPbc 00 16 29.8 -0.1
SDDR Presa de Saban 152.10 319 ePKPbc PKPbc 00 16 29.5 -0.4
LPAZ La Paz 153.83 235 PKPbc PKPbc 00 16 35.0 +0.5
comp=Z,4.2nm,0.9s,baz=81,slow=5.7,SNR=7.1
LPAZ La Paz 153.83 235 PKIKP 00 16 35.0
SDV Santo Domingo 157.66 299 PKP PKPdf 00 16 32.5 +1.3
comp=Z,1.0nm,0.3s,baz=31,slow=3.4,SNR=4.9
SDV Santo Domingo 157.66 299 ePKPdf PKPpre 00 16 26.2
ROSC El Rosal 162.68 293 PKP PKPdf 00 16 38.5 +1.4
comp=Z,5.3nm,0.7s,baz=126,slow=7.6,SNR=4.0
HELC Santa Helena 163.20 298 eP PKPab 00 17 33.9 +6.1
APG El Apazote 163.28 0 PKPab PKPab 00 17 28.0 +0.5
comp=Z,15nm,0.9s,baz=12,slow=9.3,SNR=12
RREF El Recreo 163.60 294 eP PKPab 00 17 35.8 +5.9
SOTA Rioblanco 165.72 286 eP PKPab 00 17 39.9 +0.8
MALC Bahia Malaga 165.77 294 eP PKPab 00 17 36.5 -2.2
OTAV Otavalo 167.94 280 ePKPdf PKPdf 00 16 40.5 -1.2

NEIC ***11*** *23:57:37.1±0.0, 17°.86N×103°.18W, h15km, MD4.1(MEX), After MEX.*

MEX 11 23:57:37.1±0.6, 17°.86N×103°.18W, h15km, MD4.1, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MMIG	Aquila	0.46	339	eP		Pg	23 57 44.8	-1.4
MMIG				eS		Sg	23 57 51.1	-1.3
MMIG	Aquila	0.46	339	eP		Pg	23 57 44.8	-1.4
MMIG				eS		Sg	23 57 51.1	-1.3
ZIIG	Zihuatanejo	1.65	99	eP		Pn	23 58 01.6	-3.9
ZIIG	Zihuatanejo	1.65	99	eP		Pn	23 58 01.6	-3.9
EZ5V		1.66	346	eP		Pn	23 58 03.5	-2.5
CJM	Chamela	2.41	313	eP		Pb	23 58 19.0	-1.2
CJM	Chamela	2.41	313	eP		Pb	23 58 19.0	-1.2
MOIG	Morelia	2.61	46	eP		Pn	23 58 15.8	-3.2

MOIG	Morelia	2.61	46	*e*Pn	Pn	23 58 16.0	-3.0
MOIG				*e*S	Sn	23 58 44.9	-5.7
ARIG	Puente Sto Nin	2.72	81	*e*P	Pn	23 58 17.7	-2.7
ZAIG	Zacatecas	4.92	7	*e*Pn	Pn	23 58 52.9	+2.1

ISCJB ***12*** *00:00:50.7±0.3,43.˚52S±0.˙03×172.˚86E±0.˙04, h22km±3km, mb4.2/4, Error ellipse: s-maj=5.8km s-min=2.9km az=137.5*
WEL ***12*** *00:00:50.8,44.˚S±2.˚×17.˚7E±.˚, h11km±1km, ML4.7/9*
IDC ***12*** *00:00:50.1±1.0, 43.˚36S×172.˚78E, h0km, mb4.2/2, mb1 4.4/3, mb1mx4.0/39, mbtmp4.2/3, ML3.9/1, Error ellipse: s-maj=44.2km s-min=23.4km az=161.0*
NEIC ***12*** *00:00:51.7±0.0, 43.˚49S×172.˚79E, h10km, mb4.3/2, ML4.6(WEL), After WEL.*
NEIC Felt at Christchurch and in much of Canterbury.

ISC 12 00:00:51.4±0.9, 43.˚49S±0.˙03×172.˚81E±0.˙03, h13km±5km, n152, σ1§01/154, mb4.2/4, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CRLZ	**Canterbury Las**	**0.16**	**238**	Pg		**Pg**	**00 00 55.6**	**+0.4**
CRLZ	**Canterbury Las**	**0.16**	**238**	P		**Pg**	**00 00 55.8**	**+0.5**
CRLZ	**Canterbury Las**	**0.16**	**238**	S		**Sg**	**00 00 57.9**	**+0.1**
MQZ	**McQueen's Vall**	**0.24**	**207**	Pg		**Pg**	**00 00 56.6**	**0.0**
MQZ	**McQueen's Vall**	**0.24**	**207**	P		**Pg**	**00 00 56.7**	**0.0**
MQZ	**McQueen's Vall**	**0.24**	**207**	S		**Sg**	**00 01 00.0**	**-0.1**
OKCZ	**Okains Bay**	**0.30**	**142**	P		**Pb**	**00 00 58.5**	**-0.1**
EYCZ	**Eyrewell**	**0.34**	**282**	P		**Pb**	**00 00 58.4**	**-0.9**
EYCZ	**Eyrewell**	**0.34**	**282**	S		**Sb**	**00 01 03.0**	**-1.6**
AKCZ	**Akaroa Harbour**	**0.39**	**169**	P		**Pb**	**00 01 00.0**	**-0.2**
AKCZ	**Akaroa Harbour**	**0.39**	**169**	S		**Sb**	**00 01 06.0**	**-0.1**
OXZ	**Oxford**	**0.58**	**286**	P		**Pb**	**00 01 02.9**	**-0.6**
LTZ	**Lake Taylor**	**0.81**	**331**	P*		**Pn**	**00 01 07.6**	**-1.0**
LTZ	**Lake Taylor**	**0.81**	**331**	P		**Pn**	**00 01 07.6**	**-1.0**
KHZ	**Kahutara**	**1.20**	**27**	P*		**Pb**	**00 01 13.3**	**-0.7**
KHZ	**Kahutara**	**1.20**	**27**	P		**Pb**	**00 01 13.3**	**-0.7**
INZ	**Inchbonnie**	**1.26**	**307**	P		**Pn**	**00 01 14.2**	**-0.5**
RPZ	**Rata Peaks**	**1.29**	**259**	Pn		**Pn**	**00 01 14.6**	**-0.6**
	265nm,0.3s,baz=144,slow=2.6,SNR=514							
RPZ				Sn		**Sn**	**00 01 31.9**	**-0.5**
	1um,0.3s,baz=24,slow=17,SNR=25							
RPZ	**Rata Peaks**	**1.29**	**259**	P		**Pn**	**00 01 14.6**	**-0.6**
WVZ	**Waitaha Valley**	**1.57**	**285**	Pn		**Pn**	**00 01 18.9**	**-0.1**
WVZ	**Waitaha Valley**	**1.57**	**285**	P		**Pn**	**00 01 18.9**	**-0.1**
THZ	**Tophouse**	**1.73**	**2**	Pn		**Pn**	**00 01 20.8**	**-0.5**
THZ	**Tophouse**	**1.73**	**2**	P		**Pn**	**00 01 21.1**	**-0.1**
DSZ	**Denniston Nort**	**1.90**	**337**	Pn		**Pn**	**00 01 23.5**	**0.0**
DSZ	**Denniston Nort**	**1.90**	**337**	P		**Pn**	**00 01 23.7**	**+0.2**
BSWZ	**Blackbirch Sta**	**1.94**	**24**	Pn		**Pn**	**00 01 24.2**	**+0.1**
BSWZ	**Blackbirch Sta**	**1.94**	**24**	P		**Pn**	**00 01 24.3**	**+0.1**
CMWZ	**Cape Campbell**	**2.03**	**31**	P		**Pn**	**00 01 26.3**	**+1.0**
LBZ	**Lake Benmore**	**2.10**	**244**	Pn		**Pn**	**00 01 25.9**	**-0.4**
LBZ	**Lake Benmore**	**2.10**	**244**	P		**Pn**	**00 01 26.1**	**-0.2**
FOZ	**Fox Glacier**	**2.18**	**268**	Pn		**Pb**	**00 01 28.2**	**+0.9**
FOZ	**Fox Glacier**	**2.18**	**268**	P		**Pb**	**00 01 28.4**	**-2.2**
ODZ	**Otahua Downs**	**2.20**	**224**	Pn		**Pn**	**00 01 26.9**	**-0.7**
ODZ	**Otahua Downs**	**2.20**	**224**	P		**Pn**	**00 01 27.2**	**-0.4**
TUWZ	**Tuamarina**	**2.23**	**23**	Pn		**Pn**	**00 01 27.7**	**-0.3**
TUWZ	**Tuamarina**	**2.23**	**23**	P		**Pn**	**00 01 27.7**	**-0.3**
NNZ	**Nelson**	**2.31**	**11**	Pn		**Pn**	**00 01 29.4**	**+0.2**
NNZ	**Nelson**	**2.31**	**11**	P		**Pn**	**00 01 29.4**	**+0.2**
TCW	**Tory Channel**	**2.53**	**26**	Pn		**Pn**	**00 01 31.6**	**-0.5**
TCW	**Tory Channel**	**2.53**	**26**	P		**Pn**	**00 01 31.4**	**-0.7**
BHW	**Baring Head**	**2.58**	**37**	Pn		**Pn**	**00 01 32.2**	**-0.7**
BHW	**Baring Head**	**2.58**	**37**	P		**Pn**	**00 01 32.4**	**-0.5**
SNZO	**South Karori**	**2.59**	**33**	*e*Pn		**Pn**	**00 01 32.2**	**-0.9**
PLWZ	**Palliser**	**2.64**	**44**	Pn		**Pn**	**00 01 32.9**	**-0.8**
PLWZ	**Palliser**	**2.64**	**44**	P		**Pn**	**00 01 32.9**	**-0.8**
WEL	**Wellington**	**2.64**	**34**	Pn		**Pn**	**00 01 33.2**	**-0.5**
QRZ	**Quartz Range**	**2.67**	**355**	P		**Pn**	**00 01 34.1**	**-0.1**
MSWZ	**Moikau Station**	**2.75**	**42**	Pn		**Pn**	**00 01 34.2**	**-1.0**
MSWZ	**Moikau Station**	**2.75**	**42**	P		**Pn**	**00 01 34.3**	**-1.0**
DUWZ	**D'Urville Isla**	**2.81**	**18**	Pn		**Pn**	**00 01 36.5**	**+0.4**
DUWZ	**D'Urville Isla**	**2.81**	**18**	P		**Pn**	**00 01 36.8**	**+0.7**
PAWZ	**Paruwai Farm**	**2.86**	**44**	P		**Pn**	**00 01 35.8**	**-1.0**
HHSZ	**Highcliff Hill**	**2.87**	**213**	Pn		**Pn**	**00 01 36.2**	**-0.6**
HHSZ	**Highcliff Hill**	**2.87**	**213**	P		**Pn**	**00 01 36.4**	**-0.5**
CAW	**Cannon Point**	**2.91**	**36**	Pn		**Pn**	**00 01 36.6**	**-0.8**
CAW	**Cannon Point**	**2.91**	**36**	P		**Pn**	**00 01 36.6**	**-0.8**
JCZ	**Jackson Bay**	**2.97**	**257**	Pn		**Pn**	**00 01 38.1**	**-0.3**
JCZ	**Jackson Bay**	**2.97**	**257**	P		**Pn**	**00 01 38.1**	**-0.3**
TRWZ	**Traveller**	**2.99**	**47**	P		**Pn**	**00 01 37.5**	**-0.9**
WKZ	**Wanaka**	**3.04**	**243**	Pn		**Pn**	**00 01 38.8**	**-0.4**
WKZ	**Wanaka**	**3.04**	**243**	P		**Pn**	**00 01 38.8**	**-0.4**
EAZ	**Earnscleugh**	**3.05**	**234**	Pn		**Pn**	**00 01 39.0**	**-0.4**
EAZ	**Earnscleugh**	**3.05**	**234**	P		**Pn**	**00 01 39.1**	**-0.3**
KIW	**Kapiti Island**	**3.06**	**31**	Pn		**Pn**	**00 01 39.0**	**-0.4**
KIW	**Kapiti Island**	**3.06**	**31**	P		**Pn**	**00 01 39.1**	**-0.4**
MTW	**Mount Morrison**	**3.07**	**42**	Pn		**Pn**	**00 01 38.0**	**-1.2**
MTW	**Mount Morrison**	**3.07**	**42**	P		**Pn**	**00 01 38.4**	**-1.2**
OGWZ	**Otaki Gorge**	**3.20**	**34**	P		**Pn**	**00 01 40.6**	**-0.7**
HOWZ	**Holdsworth Sta**	**3.28**	**39**	Pn		**Pn**	**00 01 41.2**	**-1.3**
HOWZ	**Holdsworth Sta**	**3.28**	**39**	P		**Pn**	**00 01 41.4**	**-1.2**
TMWZ	**Te Maipa**	**3.30**	**45**	P		**Pn**	**00 01 41.6**	**-1.3**
TUZ	**Tuapeka**	**3.34**	**221**	Pn		**Pn**	**00 01 42.9**	**-0.5**
TUZ	**Tuapeka**	**3.34**	**221**	P		**Pn**	**00 01 42.9**	**-0.5**
MRZ	**Mangatainoka R**	**3.50**	**37**	Pn		**Pn**	**00 01 44.1**	**-1.4**
MRZ	**Mangatainoka R**	**3.50**	**37**	P		**Pn**	**00 01 44.3**	**-1.3**
TIWZ	**Tintock**	**3.55**	**41**	P		**Pn**	**00 01 46.7**	**+0.4**
MSZ	**Milford Sound**	**3.71**	**250**	P		**Pn**	**00 01 48.2**	**-0.2**
PRWZ	**Pori Road**	**3.76**	**40**	P		**Pn**	**00 01 48.1**	**-1.1**
BFZ	**Birch Farm**	**3.80**	**44**	P		**Pn**	**00 01 48.1**	**-1.6**
POWZ	**Post Office Ro**	**3.80**	**36**	Pn		**Pn**	**00 01 49.9**	**+0.2**
POWZ	**Post Office Ro**	**3.80**	**36**	P		**Pn**	**00 01 49.9**	**+0.2**
MLZ	**Mavora Lakes**	**3.85**	**239**	P		**Pn**	**00 01 49.5**	**-0.9**
SYZ	**Scrubby Hill**	**4.00**	**219**	Pn		**Pn**	**00 01 52.2**	**-0.2**
SYZ	**Scrubby Hill**	**4.00**	**219**	P		**Pn**	**00 01 52.2**	**-0.2**
DVHZ	**Dannevirke**	**4.06**	**39**	Pn		**Pn**	**00 01 51.0**	**-2.2**
DVHZ	**Dannevirke**	**4.06**	**39**	P		**Pn**	**00 01 51.2**	**-2.0**
WAZ	**Wanganui**	**4.08**	**24**	Pn		**Pn**	**00 01 54.9**	**+1.4**
WAZ	**Wanganui**	**4.08**	**24**	P		**Pn**	**00 01 55.3**	**+1.8**
ANWZ	**Angora Road**	**4.08**	**43**	P		**Pn**	**00 01 52.3**	**-1.2**
NMEZ	**Namu Road**	**4.15**	**12**	Pn		**Pn**	**00 01 56.6**	**+2.2**
NMEZ	**Namu Road**	**4.15**	**12**	P		**Pn**	**00 01 56.7**	**+2.2**
TSZ	**Takapari Road**	**4.16**	**36**	P		**Pn**	**00 01 53.0**	**-1.6**
WHZ	**Wether Hill Ro**	**4.22**	**234**	Pn		**Pn**	**00 01 53.9**	**-1.4**
WHZ	**Wether Hill Ro**	**4.22**	**234**	P		**Pn**	**00 01 54.0**	**-1.4**
PRHZ	**Porangahau**	**4.31**	**43**	Pn		**Pn**	**00 01 56.0**	**-0.7**
PRHZ	**Porangahau**	**4.31**	**43**	P		**Pn**	**00 01 54.9**	**-1.8**
NEZ	**North Egmont**	**4.33**	**13**	Pn		**Pn**	**00 01 59.2**	**+2.2**
PKE	**Pukeiti**	**4.38**	**12**	Pn		**Pn**	**00 01 59.3**	**+1.6**
PKE	**Pukeiti**	**4.38**	**12**	P		**Pn**	**00 01 59.4**	**+1.6**
DREZ	**Durham Road**	**4.42**	**14**	P		**Pn**	**00 02 00.4**	**+2.2**
DCZ	**Deep Cove**	**4.50**	**242**	Pn		**Pn**	**00 01 58.3**	**-1.1**
DCZ	**Deep Cove**	**4.50**	**242**	P		**Pn**	**00 01 58.4**	**-0.9**
MTVZ	**Mangateitei**	**4.56**	**27**	Pn		**Pn**	**00 02 01.5**	**+1.2**
MTVZ	**Mangateitei**	**4.56**	**27**	P		**Pn**	**00 02 01.4**	**+1.2**
PXZ	**Pawanui**	**4.60**	**43**	Pn		**Pn**	**00 01 59.5**	**-1.1**
PXZ	**Pawanui**	**4.60**	**43**	P		**Pn**	**00 01 59.9**	**-0.7**
VRZ	**Vera Road**	**4.60**	**19**	Pn		**Pn**	**00 02 01.5**	**+0.8**
VRZ	**Vera Road**	**4.60**	**19**	P		**Pn**	**00 02 01.7**	**+1.0**
PKVZ	**Pokaka**	**4.61**	**25**	Pn		**Pn**	**00 02 01.4**	**+0.5**
MOVZ	**Moawhango**	**4.64**	**29**	Pn		**Pn**	**00 02 01.0**	**-0.3**
WNVZ	**Wahianoa**	**4.66**	**28**	Pn		**Pn**	**00 02 01.7**	**+0.1**
TRVZ	**Turoa**	**4.67**	**27**	Pn		**Pn**	**00 02 01.5**	**-0.3**
TRVZ	**Turoa**	**4.67**	**27**	P		**Pn**	**00 02 01.7**	**-0.1**
KRHZ	**Kereru**	**4.68**	**36**	P		**Pn**	**00 02 00.2**	**-1.6**
BHHZ	**Black Hill Sta**	**4.69**	**33**	Pn		**Pn**	**00 02 01.4**	**-0.5**
DRZ	**Dome Shelter**	**4.69**	**27**	Pn		**Pn**	**00 02 03.4**	**+1.2**
WHVZ	**Whangaehu Hut**	**4.70**	**27**	Pn		**Pn**	**00 02 02.1**	**-0.1**
WHVZ	**Whangaehu Hut**	**4.70**	**27**	P		**Pn**	**00 02 03.4**	**+1.2**
FWVZ	**Far West T-bar**	**4.71**	**27**	Pn		**Pn**	**00 02 02.0**	**-0.4**
FWVZ	**Far West T-bar**	**4.71**	**27**	P		**Pn**	**00 02 02.1**	**-0.3**
TUVZ	**Tukino**	**4.73**	**28**	Pn		**Pn**	**00 02 01.5**	**-1.1**
APZ	**The Paps**	**4.77**	**224**	Pn		**Pn**	**00 02 02.1**	**-0.9**
APZ	**The Paps**	**4.77**	**224**	P		**Pn**	**00 02 02.2**	**-0.8**
KAHZ	**Kahuranaki**	**4.79**	**41**	Pn		**Pn**	**00 02 02.2**	**-1.1**
KAHZ	**Kahuranaki**	**4.79**	**41**	P		**Pn**	**00 02 02.1**	**-1.2**
NGZ	**Ngauruhoe**	**4.80**	**27**	Pn		**Pn**	**00 02 03.9**	**+0.4**
OTVZ	**Oturere**	**4.83**	**27**	Pn		**Pn**	**00 02 03.8**	**-0.2**
TWVZ	**Taurewa**	**4.84**	**25**	Pn		**Pn**	**00 02 03.8**	**-0.3**
WTVZ	**West Tongariro**	**4.85**	**27**	Pn		**Pn**	**00 02 03.9**	**-0.3**
KRVZ	**Karewarewa**	**4.88**	**27**	Pn		**Pn**	**00 02 05.0**	**+0.3**
PYZ	**Puysegur Point**	**5.11**	**236**	Pn		**Pn**	**00 02 06.8**	**-0.9**
HIZ	**Hauiti**	**5.21**	**18**	Pn		**Pn**	**00 02 09.4**	**+0.4**
TLZ	**Tolley Road**	**5.56**	**23**	Pn		**Pn**	**00 02 13.7**	**-0.2**
URZ	**Urewera**	**6.16**	**33**	Pn		**Pn**	**00 02 20.3**	**-1.8**
	3.2nm,0.3s,baz=234,slow=7.8,SNR=12							
URZ				Sn		**Sn**	**00 03 27.7**	**-4.6**
	7.2nm,0.3s,baz=116,slow=23,SNR=8.9							
MWZ	**Matawai**	**6.27**	**36**	Pn		**Pn**	**00 02 21.5**	**-2.2**
MKAZ	**Moumakai**	**6.63**	**17**	Pn		**Pn**	**00 02 28.4**	**-0.2**
CTZ	**Chatham Island**	**7.68**	**95**	Pn		**Pn**	**00 02 43.0**	**0.0**
ASAR	**Alice Springs**	**37.53**	**289**	P		**P**	**00 08 05.8**	**+0.6**
	1.9nm,0.7s,baz=125,slow=7.0,SNR=5.1							
WRAB	**Tennant Creek**	**39.77**	**294**	*e*P		**P**	**00 08 24.8**	**+0.7**
	2.2nm,0.4s							
WRA	**Warramunga Arr**	**39.77**	**294**	P		**P**	**00 08 24.1**	**0.0**
	2.6nm,0.5s,baz=134,slow=8.0,SNR=12							
QSPA	**South Pole Qui**	**46.64**	**180**	*e*P		**P**	**00 09 20.1**	**+0.9**
FITZ	**Fitzroy Crossi**	**46.97**	**287**	*e*P		**P**	**00 09 22.6**	**+0.4**
	3.5nm,0.7s							
INK	**Inuvik**	**118.45**	**20**	PKP		**PKPdf**	**00 19 37.5**	**+0.1**
	0.6nm,0.5s,baz=55,slow=1.0,SNR=3.5							
MKAR	**Makanchi Array**	**120.19**	**307**	PKP		**PKPdf**	**00 19 41.2**	**-0.2**
	0.3nm,0.5s,baz=92,slow=1.2,SNR=5.5							
YKA	**Yellowknife Ar**	**120.42**	**31**	PKP		**PKPdf**	**00 19 41.6**	**+0.3**
	0.8nm,0.9s,baz=251,slow=1.7,SNR=6.9							
KURK	**Kurchatov**	**124.28**	**310**	PKP		**PKPdf**	**00 19 49.3**	**+0.2**
KURBB	**Kurchatov Arra**	**124.28**	**310**	PKP		**PKPdf**	**00 19 49.3**	**+0.2**
	0.5nm,0.7s,baz=140,slow=3.4,SNR=4.1							
MMAI	**Mount Meron Ar**	**145.29**	**267**	PKPbc		**PKPdf**	**00 20 30.7**	**+1.9**
	2.4nm,0.6s,baz=101,slow=4.7,SNR=7.5							
TORD	**Torodi Ar. Bea**	**148.81**	**197**	PKPbc		**PKPbc**	**00 20 39.5**	**+0.6**
	2.9nm,0.9s,baz=155,slow=1.8,SNR=10							
ARCES	**ARCESS Array B**	**149.03**	**338**	PKPbc		**PKPbc**	**00 20 38.4**	**+0.5**
	6.5nm,1.0s,baz=64,slow=2.8,SNR=8.4							
BRTR	**Keskin Array B**	**149.46**	**277**	PKPbc		**PKPbc**	**00 20 40.6**	**+0.5**
	1.4nm,0.6s,baz=154,slow=5.1,SNR=10							
FINES	**FINESS Array B**	**153.36**	**324**	PKPbc		**PKPbc**	**00 20 48.6**	**+0.4**
	1.9nm,0.6s,baz=71,slow=3.7,SNR=10							

IDC ***12*** *00:01:14.0±0.4, 0.˚26N×92.˚17E, h0km, mb4.6/33, mb1 4.7/34, mb1mx4.5/68, mbtmp4.6/34, ML4.4/1, Error ellipse: s-maj=14.9km s-min=12.1km az=49.0*
NEIC ***12*** *00:01:15.3±0.2, 0.˚25N×92.˚16E, h10km, mb5.1/12, Error ellipse: s-maj=6.4km s-min=4.9km az=193.0*
ISCJB ***12*** *00:01:17.5±0.3, 0.˚29N±0.˚05×92.˚29E±0.˙04, h33km, mb4.8/59, Error ellipse: s-maj=7.9km s-min=5.7km az=10.7*

ISC 12 00:01:18.3±1.0, 0.˚27N±0.˚08×92.˚27E±0.˚06, h30km±6km, n206, σ1§12/214, mb4.8/63, 10C-8D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
GSI	**Gunungsitoli**	**5.40**	**79**	*e*Pn		**Pn**	**00 02 37.8**	**+0.8**
GSI				*e*Sn		**Sn**	**00 03 32.5**	**-5.7**
LHMI	**Lhok Sumawe**	**6.79**	**43**	*e*Pn		**Pn**	**00 02 54.4**	**-1.5**
PSI	**Prapat**	**7.11**	**69**	*e*Pn		**Pn**	**00 03 01.8**	**+1.3**
KULM	**Kulim**	**9.74**	**59**	*e*Pn		**Pn**	**00 03 37.4**	**+0.9**
MNAI	**Manna**	**11.62**	**113**	*e*Pn		**Pn**	**00 04 02.0**	**-0.4**
CMAR	**Chiang Mai Arr**	**19.23**	**20**	P		**P**	**00 05 40.9**	**+0.7**
	0.5nm,0.3s,baz=210,slow=11,SNR=7.1							
CMAR				PcP		**PcP**	**00 10 04.4**	**+1.4**
	0.7nm,0.3s,baz=222,slow=2.7,SNR=4.7							
XAN	**Xi'an**	**37.04**	**23**	P		**P**	**00 08 26.7**	**+1.0**
XAN				sP		pP	00 08 35.0	+0.3
XAN				pmax		pmax		
	comp=Z,43nm,0.9s							
FITZ	**Fitzroy Crossi**	**37.55**	**121**	P		**P**	**00 08 31.3**	**+1.1**
	comp=Z,9.3nm,0.9s,baz=0.0,slow=20,SNR=104							
WSAR	**Wadi Sarin**	**39.86**	**307**	P		**P**	**00 08 49.1**	**-0.4**
	comp=Z,17nm,1.2s,baz=159,slow=8.6,SNR=3.2							
WR1	**Warramunga Arr**	**45.83**	**119**	*e*P		**P**	**00 09 39.1**	**+1.1**
	comp=Z,18nm,0.8s							
WR1				*e*PcP		**PcP**	**00 11 15.8**	**+0.5**
WRA	**Warramunga Arr**	**45.83**	**119**	P		**P**	**00 09 39.1**	**+1.1**
	comp=Z,15nm,0.7s,baz=296,slow=8.6,SNR=18							
WRA				PcP		**PcP**	**00 11 15.8**	**+0.5**
	comp=Z,1.9nm,0.6s,baz=301,slow=3.3,SNR=1.6							
WRAB	**Tennant Creek**	**45.84**	**118**	P		**P**	**00 09 39.5**	**+1.5**
	comp=Z,20nm,0.7s							
WB2	**Warramunga Arr**	**45.84**	**119**	*e*P		**P**	**00 09 39.5**	**+1.4**
	comp=Z,21nm,0.8s							
ASAR	**Alice Springs**	**46.89**	**123**	P		**P**	**00 09 47.5**	**+1.1**
	comp=Z,3.0nm,0.7s,baz=296,slow=7.6,SNR=5.8							
ASAR				PcP		**PcP**	**00 11 19.6**	**+0.6**
	comp=Z,0.7nm,0.5s,baz=312,slow=3.5,SNR=5.1							
AS31	**Alice Springs**	**46.89**	**123**	*e*P		**P**	**00 09 45.3**	**-1.1**
	comp=Z,1.0nm,0.8s							
AS31				*e*PcP		**PcP**	**00 11 19.6**	**+0.6**
MK01	**Makanchi Array**	**47.13**	**351**	*e*P		**P**	**00 09 47.6**	**-0.2**
MK32	**Makanchi Array**	**47.15**	**351**	*e*P		**P**	**00 09 48.1**	**+0.2**
MKAR	**Makanchi Array**	**47.15**	**351**	P		**P**	**00 09 48.1**	**+0.2**
	comp=Z,6.9nm,0.8s,baz=160,slow=8.5,SNR=7.2							
OPO	**Ambohidratompo**	**48.06**	**245**	P		**P**	**00 09 55.1**	**-0.6**
	comp=Z,6.8nm,0.8s,baz=40,slow=4.9,SNR=6.1							
ABPO	**Ambohimpanom**	**48.17**	**244**	*e*P		**P**	**00 09 55.7**	**-0.7**
GEYT	**Aile 91 Zad**	**48.91**	**324**	P		**P**	**00 10 02.1**	**+0.4**
	comp=Z,5.4nm,0.8s,baz=170,slow=9.0,SNR=5.0							
SONA0	**Songino Array**	**48.94**	**13**	*e*P		**P**	**00 10 03.7**	**+1.7**
SONM	**Songino Array**	**48.94**	**13**	P		**P**	**00 10 03.7**	**+1.7**
	comp=Z,12nm,0.8s,baz=191,slow=9.0,SNR=8.3							
SONA1	**Songino Array**	**48.95**	**13**	*e*P		**P**	**00 10 03.3**	**+1.3**
KS15	**Wonju Array Si**	**49.47**	**38**	*e*P		**P**	**00 10 06.8**	**+0.9**
KSAR	**Wonju Array Be**	**49.47**	**38**	P		**P**	**00 10 07.6**	**+1.7**
KSRS	**Korea Array**	**49.50**	**38**	P		**P**	**00 10 07.6**	**+1.4**
	comp=Z,4.9nm,0.3s,baz=226,slow=8.3,SNR=8.1							
SNY	**Shenyang**	**50.08**	**30**	||P	**P**	**00 10 09.6**	**-0.9**
SNY				pmax		pmax		
	comp=Z,12nm,0.5s							
KURBB	**Kurchatov Arra**	**51.51**	**349**	P		**P**	**00 10 21.2**	**+0.1**
	comp=Z,9.4nm,0.9s,baz=171,slow=7.0,SNR=8.8							
KURK	**Kurchatov**	**51.58**	**349**	P		**P**	**00 10 21.2**	**-0.4**
ZAA0	**Zalesovo Array**	**53.85**	**355**	*e*P		**P**	**00 10 38.2**	**-0.2**
	comp=Z,17nm,0.9s							
ZALV	**Zalesovo Beam**	**53.85**	**355**	P		**P**	**00 10 38.2**	**-0.2**
	comp=Z,15nm,0.8s,baz=190,slow=7.1,SNR=12							
ZAA1	**Zalesovo Array**	**53.85**	**355**	*e*P		**P**	**00 10 38.2**	**-0.2**
KMBO	**Kilima Mbogo**	**55.05**	**265**	P		**P**	**00 10 47.9**	**-0.1**
	comp=Z,3.0nm,0.8s,baz=64,slow=7.7,SNR=5.0							
BVAR	**Borovoye Array**	**55.65**	**344**	P		**P**	**00 10 50.7**	**-0.8**
	comp=Z,3.5nm,0.8s,baz=148,slow=8.6,SNR=7.0							
ASF	**Jabal al Asfar**	**61.03**	**307**	P		**P**	**00 11 30.6**	**+1.0**
	comp=Z,4.6nm,0.9s,baz=93,slow=2.0,SNR=5.9							
KBZ	**Khabaz**	**61.62**	**321**	P		**P**	**00 11 33.9**	**+0.6**
	comp=Z,5.3nm,0.9s,baz=144,slow=6.4,SNR=5.6							
ARU	**Arti**	**62.22**	**340**	P		**P**	**00 11 36.2**	**-0.8**
	comp=Z,3.6nm,0.7s,baz=233,slow=5.1,SNR=3.5							
ASAJ	**Asahikawa**	**62.41**	**39**	P		**P**	**00 11 38.9**	**+0.3**
	comp=Z,6.5nm,0.9s,baz=252,slow=3.2,SNR=3.0							
BR101	**Keskin Array S**	**66.14**	**314**	*e*P		**P**	**00 12 02.9**	**-0.4**
BR131	**Keskin Array S**	**66.14**	**314**	*e*P		**P**	**00 12 03.0**	**-0.3**
BRTR	**Keskin Array B**	**66.14**	**314**	P		**P**	**00 12 02.9**	**-0.3**
	comp=Z,4.2nm,0.8s,baz=132,slow=7.2,SNR=11							
BR231	**Keskin MP Arra**	**66.81**	**314**	*e*P		**P**	**00 12 03.7**	**-3.8**
YAK	**Yakutsk**	**67.75**	**18**	P		**P**	**00 12 13.0**	**+0.2**
	comp=Z,26nm,0.3s,baz=316,slow=5.4,SNR=4.7							
LBTB	**Lobatse**	**69.07**	**243**	*e*P		**P**	**00 12 19.8**	**-2.2**
KARP	**Karpathos**	**69.76**	**308**	*e*P		**P**	**00 12 23.2**	**-2.8**
	comp=Z,17nm,0.9s							
BOSA	**Boshof**	**70.06**	**239**	P		**P**	**00 12 27.4**	**-0.6**
	comp=Z,9.0nm,1.0s,baz=69,slow=8.0,SNR=6.0							
MAW	**Mawson**	**70.76**	**191**	P		**P**	**00 12 32.0**	**+0.7**
	comp=Z,5.1nm,1.0s,baz=341,slow=8.9,SNR=6.1							
IDI	**Anoyia**	**71.50**	**307**	P		**P**	**00 12 37.3**	**+0.6**
	comp=Z,10nm,0.6s,baz=95,slow=6.8,SNR=14							
IDI	**Anoyia**	**71.50**	**307**	||P	**P**	**00 12 36.8**	**+0.2**
CFR	**Carcaliu**	**71.83**	**318**	||P	**P**	**00 12 38.5**	**+0.2**
LEOM	**Leova**	**72.17**	**319**	||P	**P**	**00 12 40.8**	**+0.5**
SORM	**Soroca**	**72.66**	**321**	||P	**P**	**00 12 43.1**	**-0.1**
VRI	**Vrancioaia**	**72.98**	**318**	⇑P		**P**	**00 12 46.2**	**+1.0**
AKASG	**Malin Array Be**	**73.03**	**324**	P		**P**	**00 12 44.5**	**-0.8**
	comp=Z,5.2nm,0.7s,baz=87,slow=5.6,SNR=8.6							
AKBB	**Malin Array Si**	**73.03**	**324**	*e*P		**P**	**00 12 43.4**	**-1.9**
	comp=Z,8.2nm,0.9s							
PLOR	**Plostina**	**73.03**	**318**	⇑P		**P**	**00 12 46.6**	**+1.1**
KIEV	**Kiev**	**73.04**	**324**	*e*P		**P**	**00 12 43.4**	**-2.0**
	comp=Z,7.2nm,0.9s							
AK11	**Malin Array Si**	**73.06**	**324**	*e*P		**P**	**00 12 44.4**	**-1.1**
TESR	**Tescani**	**73.23**	**319**	||P	**P**	**00 12 46.5**	**-0.2**
MLR	**Muntele Rosu**	**73.39**	**318**	P		**P**	**00 12 48.4**	**+0.6**
	comp=Z,5.3nm,0.8s,baz=221,slow=9.3,SNR=19							
MLR	**Muntele Rosu**	**73.39**	**318**	||P	**P**	**00 12 48.7**	**+0.9**
PRAR	**RASCA**	**73.77**	**320**	⇑P		**P**	**00 12 50.2**	**+0.4**
HUMR	**Humele**	**73.77**	**317**	⇑P		**P**	**00 12 49.8**	**-0.1**
DOPR	**Dopca**	**73.91**	**318**	⇑P		**P**	**00 12 51.3**	**+0.6**
VOIR		**73.98**	**318**	⇑P		**P**	**00 12 52.4**	**+1.2**
BURAR	**Bucovina Array**	**74.50**	**320**	⇑P		**P**	**00 12 55.2**	**+1.0**
BUR04	**Bucovina Ar. S**	**74.50**	**320**	*e*P		**P**	**00 12 54.8**	**+0.5**
VTS	**Vitosha**	**74.

	baz=353							
Y43A	**Makayla and Ka**	**145.86**	**5**	P		**PKPdf**	**00 20 55.1**	**+0.4**
	baz=354							
Y50A	**Piedmont**	**145.97**	**357**	P		**PKPdf**	**00 20 54.2**	**-0.7**
	baz=3.8,SNR=5.8							
Y48A	**Jasper**	**145.99**	**359**	P		**PKPdf**	**00 20 54.6**	**-0.4**
	baz=1.2,SNR=6.4							
Y45A	**Yeager Farm, C**	**146.00**	**3**	P		**PKPdf**	**00 20 55.3**	**+0.3**
	baz=357							
Y47A	**UCPARC, Winfie**	**146.01**	**0**	P		**PKPdf**	**00 20 54.9**	**-0.1**
	baz=360,SNR=11							
Y49A	**Blount Mountai**	**146.03**	**358**	P		**PKPdf**	**00 20 55.0**	**-0.1**
	baz=2.5,SNR=7.3							
NHSC	**New Hope**	**146.05**	**349**	P		**PKPab**	**00 20 56.8**	**+0.4**
	baz=14							
GOGA	**Godfrey**	**146.26**	**354**	P		**PKPbc**	**00 20 56.4**	**-0.1**
	baz=7.9,SNR=5.8							
GOGA	**Godfrey**	**146.26**	**354**	*e*PKPdf		**PKPdf**	**00 20 54.9**	**-0.5**
Z42A	**Norrel Spur, H**	**146.40**	**6**	P		**PKPdf**	**00 20 56.3**	**+0.6**
	baz=353							
Z48A	**Northport**	**146.53**	**360**	P		**PKPdf**	**00 20 56.1**	**+0.2**
	baz=0.5							
Z44A	**Pea Ridge, Bel**	**146.53**	**4**	P		**PKPbc**	**00 20 57.5**	**+0.2**
	baz=355							
Z50A	**Ashland**	**146.61**	**357**	P		**PKPdf**	**00 20 56.7**	**+0.6**
	baz=3.5							
Z49A	**Columbiana**	**146.69**	**358**	P		**PKPbc**	**00 20 57.6**	**-0.2**
	baz=2.4							
Z47A	**Carrollton**	**146.71**	**1**	P		**PKPdf**	**00 20 56.8**	**+0.6**
	baz=360							
LTX	**Lajitas**	**146.86**	**26**	*e*PKPdf		**PKPbc**	**00 20 58.0**	**-0.6**
TX31	**Lajitas Ar. Si**	**146.86**	**26**	*e*PKPdf		**PKPdf**	**00 20 55.8**	**-1.0**
TX31				*e*PKPbc		**PKPbc**	**00 20 59.6**	**+1.0**
TXAR	**Lajitas Array**	**146.86**	**26**	PKPbc		**PKPbc**	**00 20 58.0**	**-0.6**
	comp=Z,5.4nm,0.8s,baz=238,slow=1.4,SNR=9.7							
155A	**Kite**	**146.91**	**352**	P		**PKPbc**	**00 20 58.7**	**+0.3**
	baz=9.8							
154A	**Montrose**	**147.00**	**353**	P		**PKPdf**	**00 20 57.2**	**+0.4**
	baz=8.7							
147A	**Livingston**	**147.23**	**1**	P		**PKPbc**	**00 20 59.5**	**+0.1**
	baz=359							
146A	**Union**	**147.25**	**2**	P		**PKPdf**	**00 20 52.2**	**-4.9**
	baz=358							
148A	**Greensboro**	**147.26**	**360**	P		**PKPbc**	**00 20 59.8**	**+0.4**
	baz=0.5							
150A	**Eclectic**	**147.26**	**357**	P		**PKPdf**	**00 20 58.0**	**+0.8**
	baz=3.4							
149A	**Jones**	**147.29**	**359**	P		**PKPbc**	**00 20 60.0**	**+0.4**
	baz=1.9							
151A	**Opelika**	**147.30**	**356**	P		**PKPbc**	**00 20 59.5**	**0.0**
	baz=4.6							
254A	**Abbeville**	**147.68**	**353**	P		**PKPbc**	**00 20 59.6**	**-1.0**
	baz=8.5							
251A	**Midway**	**147.74**	**356**	P		**PKPbc**	**00 21 00.9**	**+0.1**
	baz=4.5							
252A	**Lumpkin**	**147.78**	**355**	P		**PKPbc**	**00 21 00.1**	**-0.8**
	baz=5.8							
HPIG		**147.91**	**31**	*e*PKPbc		**PKPbc**	**00 21 02.5**	**+0.8**
249A	**Camden**	**147.92**	**359**	P		**PKPbc**	**00 21 01.3**	**0.0**
	baz=1.4							
355A	**Pearson**	**148.22**	**352**	P		**PKPdf**	**00 21 00.4**	**+1.6**
	baz=9.5							
352A	**Blakely**	**148.31**	**355**	P		**PKPbc**	**00 21 01.9**	**-0.4**
	baz=5.5							
344A	**Westbrook Farm**	**148.32**	**5**	P		**PKPbc**	**00 21 03.1**	**+0.8**
	baz=354							
353A	**Camilla**	**148.38**	**354**	P		**PKPbc**	**00 21 03.1**	**+0.6**
	baz=6.9							
347A	**Saraland**	**148.49**	**1**	P		**PKPbc**	**00 21 01.9**	**-0.9**
	baz=359							
SJG	**San Juan**	**152.00**	**312**	PKPbc		**PKPbc**	**00 21 09.6**	**-2.0**
	comp=Z,6.6nm,0.6s,baz=352,slow=14,SNR=2.3							
PTGA	**Pitinga**	**152.23**	**269**	PKPbc		**PKPbc**	**00 21 12.4**	**+0.1**
	comp=Z,8.1nm,0.8s,baz=97,slow=2.7,SNR=10							
LPAZ	**La Paz**	**154.96**	**230**	PKP		**PKPdf**	**00 21 08.5**	**-1.6**
	comp=Z,2.0nm,0.8s,baz=45,slow=2.9,SNR=3.5							
LPAZ				PKPbc		**PKiKP**	**00 21 19.2**	**+0.3**
	comp=Z,4.9nm,0.8s,baz=116,slow=2.0,SNR=6.9							

IDC 12 00:03:41.7±4.3,1°.37N×90°.83E,h0km,mb4.0/4,mb1 4.0/4, mb1mx3.5/71,mbtmp4.0/4,Error ellipse: s-maj=141.5km s-min=75.0km az=65.0,North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**45.86**	**352**	P	P	00 12 04.8	-0.8
	1.1nm,0.8s,baz=168,slow=7.8,SNR=2.4						
SONM	**Songino Array**	**48.22**	**14**	P	P	00 12 24.3	+0.1
	1.9nm,0.5s,baz=194,slow=9.2,SNR=5.5						
KURBB	**Kurchatov Arra**	**50.18**	**350**	P	P	00 12 39.8	+0.8
	1.1nm,0.8s,baz=173,slow=6.9,SNR=2.8						
ZALV	**Zalesovo Beam**	**52.61**	**356**	P	P	00 12 57.0	-0.4
	1.0nm,0.4s,baz=175,slow=7.9,SNR=4.2						
TXAR	**Lajitas Array**	**146.47**	**23**	PKPbc	PKPdf	00 23 24.8	+0.4
	0.2nm,0.4s,baz=353,slow=1.4,SNR=2.2						

*ISCJB **12** 00:05:09.4±1.1,1°.9N×0°.2×89°.8E×0°.3,h10km,mb4.0/9, Error ellipse: s-maj=46.7km s-min=15.8km az=143.9*
*IDC **12** 00:05:09.9±1.2,1°.86N×89°.72E,h0km,mb3.9/9,mb1 4.1/9, mb1mx3.7/71,mbtmp3.9/9,Error ellipse: s-maj=49.7km s-min=18.6km az=52.0*

ISC 12 00:05:11.4±1.2,1°.8N×0°.2×89°.7E×0°.3,h10km,n10, σ0s92/10,mb4.0/9,North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**45.24**	**353**	P	**P**	**00 13 27.7**	**-1.3**
	1.0nm,0.8s,baz=177,slow=11,SNR=3.2						
SONM	**Songino Array**	**48.03**	**15**	P	**P**	**00 13 51.7**	**+0.7**
	1.7nm,0.7s,baz=189,slow=7.7,SNR=3.0						
WRA	**Warramunga Arr**	**48.81**	**119**	P	**P**	**00 13 57.0**	**-0.3**
	2.5nm,0.6s,baz=297,slow=8.6,SNR=6.6						
KURBB	**Kurchatov Arra**	**49.52**	**351**	P	**P**	**00 14 02.7**	**+0.5**
	0.9nm,0.7s,baz=179,slow=6.6,SNR=4.1						
ASAR	**Alice Springs**	**49.87**	**123**	P	**P**	**00 14 05.3**	**0.0**
	1.0nm,0.5s,baz=295,slow=7.9,SNR=5.0						
ZALV	**Zalesovo Beam**	**52.09**	**356**	P	**P**	**00 14 20.3**	**-1.2**
	1.3nm,0.5s,baz=176,slow=7.8,SNR=4.1						
STKA	**Stephens Creek**	**59.45**	**129**	P	**P**	**00 15 14.7**	**-0.1**
	1.5nm,0.7s,baz=317,slow=8.9,SNR=3.2						
BRTR	**Keskin Array B**	**63.24**	**314**	P	**P**	**00 15 39.8**	**-0.7**
	0.3nm,0.6s,baz=126,slow=8.6,SNR=2.3						
GERES	**GERESS Array B**	**79.44**	**319**	P	**P**	**00 17 19.1**	**+0.9**
	1.2nm,0.7s,baz=85,slow=12,SNR=3.8						
TXAR	**Lajitas Array**	**146.45**	**21**	PKPbc	**PKPab**	**00 24 55.4**	**+0.8**
	0.9nm,0.8s,baz=266,slow=1.9,SNR=3.5						

*IDC **12** 00:05:53.9±1.4,2°.04N×90°.42E,h0km,mb4.0/8,mb1 4.1/9, mb1mx3.7/72,mbtmp4.0/9,ML4.3/1,Error ellipse: s-maj=43.8km s-min=26.2km az=47.0*
*ISCJB **12** 00:05:57.1±1.2,2°.1N×0°.2×90°.5E×0°.2,h33km,mb4.0/8, Error ellipse: s-maj=27.8km s-min=23.4km az=145.3*

ISC 12 00:05:59.2±1.4,2°.1N×0°.2×90°.5E×0°.2,h35km,n10, σ0s56/10,mb4.1/8,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**18.25**	**26**	Pn	**P**	**00 10 09.7**	**0.0**
	0.4nm,0.3s,baz=217,slow=14,SNR=4.8						
MKAR	**Makanchi Array**	**45.09**	**352**	P	**P**	**00 14 13.0**	**+1.0**
	0.6nm,0.6s,baz=170,slow=9.8,SNR=2.7						
SONM	**Songino Array**	**47.59**	**14**	P	**P**	**00 14 31.4**	**-0.3**
	2.8nm,0.6s,baz=193,slow=9.4,SNR=4.3						
WRA	**Warramunga Arr**	**48.25**	**119**	P	**P**	**00 14 37.3**	**+0.2**
	2.1nm,0.9s,baz=298,slow=8.4,SNR=2.8						
KURBB	**Kurchatov Arra**	**49.41**	**350**	P	**P**	**00 14 45.8**	**+0.3**
	0.8nm,0.7s,baz=172,slow=7.2,SNR=2.8						
ZALV	**Zalesovo Beam**	**51.90**	**356**	P	**P**	**00 15 03.7**	**-0.5**
	1.1nm,0.4s,baz=182,slow=7.6,SNR=3.4						
BRTR	**Keskin Array B**	**63.61**	**314**	P	**P**	**00 16 27.2**	**+0.2**
	0.8nm,0.9s,baz=138,slow=5.2,SNR=3.4						
FINES	**FINESS Array B**	**76.16**	**333**	P	**P**	**00 17 43.8**	**+0.3**
	2.6nm,0.9s,baz=111,slow=3.6,SNR=3.1						
GERES	**GERESS Array B**	**79.75**	**319**	P	**P**	**00 18 03.1**	**-0.7**
	2.1nm,1.2s,baz=90,slow=4.9,SNR=2.4						
TXAR	**Lajitas Array**	**145.93**	**22**	PKPbc	**PKPab**	**00 25 36.3**	**-0.1**
	0.7nm,0.9s,baz=240,slow=3.0,SNR=2.7						

IDC 12 00:10:33.7±1.3,2°.93N×92°.34E,h0km,mb3.8/6,mb1 4.1/8, mb1mx3.7/69,mbtmp3.9/8,ML3.9/2,Error ellipse: s-maj=50.8km s-min=21.2km az=45.0,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**12.37**	**291**	Pn	Pn	00 13 29.5	-1.8
	1.7nm,0.3s,baz=115,slow=17,SNR=2.1						
PALK				Sn	Sn	00 15 35.1	-15
	1.3nm,0.3s,baz=115,slow=18,SNR=2.3						
CMAR	**Chiang Mai Arr**	**16.73**	**22**	Pn	Pn	00 14 28.6	-1.1
	0.1nm,0.3s,baz=217,slow=14,SNR=3.8						
MKAR	**Makanchi Array**	**44.56**	**350**	P		00 18 48.0	+0.6
	0.9nm,0.7s,baz=162,slow=9.7,SNR=5.2						
GEYT	**Alibeck**	**46.84**	**322**	P	P	00 19 06.5	+0.9
	2.7nm,0.8s,baz=145,slow=8.3,SNR=6.5						
WRA	**Warramunga Arr**	**47.07**	**121**	P	P	00 19 07.3	-0.3
	1.3nm,0.8s,baz=298,slow=8.6,SNR=4.6						
ASAR	**Alice Springs**	**48.32**	**125**	P	P	00 19 17.4	+0.1
	0.8nm,1.0s,baz=316,slow=7.0,SNR=4.1						
BVAR	**Borovoye Array**	**53.13**	**344**	P	P	00 19 52.2	-0.9
	0.6nm,0.8s,baz=131,slow=6.5,SNR=3.2						
GERES	**GERESS Array B**	**80.33**	**319**	P	P	00 22 47.0	0.0
	0.6nm,0.7s,baz=101,slow=5.6,SNR=5.0						

*ATA **12** 00:16:55.8±1.8,41°.35N×43°.90E,h15km±9km,ML4.0, MW3.5*
*DDA **12** 00:16:56.3,41°.31N×43°.91E,h4km,Ml3.4*
*NSSP **12** 00:16:56.1,41°.30N×43°.93E,h4km,Ms3.2*
*TIF **12** 00:16:56.8,41°.35N×43°.96E,h14km±1km*
*CSEM **12** 00:16:57.8±0.1,41°.32N×43°.94E,h2km,mb4.2,Error ellipse: s-maj=2.6km s-min=2.4km az=168.0*
*MOS **12** 00:16:57.7±1.1,41°.26N×43°.90E,h10km,mb4.2/1,Error ellipse: s-maj=9.0km s-min=4.9km az=77.6*
*ISK **12** 00:16:57.2,41°.33N×43°.98E,h5km,ML3.2/7*

ISC 12 00:16:57.0±1.1,41°.32N±0°.01×43°.93E±0°.01,h1km±9km, n142,σ1s27/241,37C-27D,Turkey-Georgia-Armenia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKH	**Akhalkalaki**	**0.34**	**286**	PG	**Pb**	**00 17 05.4**	**-0.6**
AKH				SG	**Sb**	**00 17 10.3**	**-1.7**
AKH	**Akhalkalaki**	**0.34**	**286**	P	**Pg**	**00 17 04.5**	**+0.9**
AKH				S	**Sg**	**00 17 09.2**	**+1.1**
AKH	**Akhalkalaki**	**0.34**	**286**	P	**Pg**	**00 17 04.4**	**+0.9**
AKH				S	**Sg**	**00 17 09.1**	**+1.1**
AKH				eSg	**Sb**	**00 17 10.3**	**-1.7**
AKH	**Akhalkalaki**	**0.34**	**286**	*i*PG	**Pg**	**00 17 04.4**	**+0.9**
AKH				*i* S	**Sg**	**00 17 09.1**	**+1.1**
KZR	**Kazreti**	**0.37**	**80**	P	**Pg**	**00 17 04.7**	**+0.5**
KZR				S	**Sg**	**00 17 09.5**	**+0.5**
KZR	**Kazreti**	**0.37**	**80**	P	**Pg**	**00 17 04.7**	**+0.5**
KZR				S	**Sg**	**00 17 09.5**	**+0.5**
STE	**Stepanavan**	**0.46**	**134**	⇑P	**Pg**	**00 17 05.0**	**-0.9**
STE				S	**Sg**	**00 17 11.4**	**-0.4**
STEZ	**Stepenevan**	**0.48**	**132**	⇑*i*P	**Pg**	**00 17 05.0**	**-1.2**
STEZ				⇑*i*S	**Sg**	**00 17 11.4**	**-0.9**
EAK	**Akyaka**	**0.68**	**201**	*i* P	**Pg**	**00 17 09.8**	**-0.2**
EAK				*e*S	**Sg**	**00 17 19.3**	**+0.6**
EAK				IAML		00 17 23.9	
	comp=Z,388nm,0.3s						
EAK	**Akyaka**	**0.68**	**201**	*i* P	**Pg**	**00 17 09.5**	**-0.5**
EAK	**Akyaka**	**0.68**	**201**	P	**Pg**	**00 17 09.5**	**-0.5**
TBLG	**Delisi**	**0.73**	**56**	PG	**Pg**	**00 17 10.9**	**-0.2**
TBLG				SG	**Sg**	**00 17 21.3**	**+0.6**
TBLG	**Delisi**	**0.73**	**56**	*i* P	**Pg**	**00 17 11.0**	**-0.2**
TBLG				*e*S	**Sg**	**00 17 21.2**	**+0.6**
TBLG				IAML		00 17 22.0	
	comp=Z,835nm,0.4s						
TBLG	**Delisi**	**0.73**	**56**	P	**Pg**	**00 17 11.0**	**-0.2**
TBLG				S	**Sg**	**00 17 21.2**	**+0.6**
TBLG	**Delisi**	**0.73**	**56**	P	**Pg**	**00 17 11.0**	**-0.2**
TBLG				eSg	**Sg**	**00 17 21.3**	**+0.6**
TBLG	**Delisi**	**0.73**	**56**	⇑*i*PG	**Pg**	**00 17 10.9**	**-0.2**
TBLG				*e*S	**Sg**	**00 17 21.2**	**+0.6**
BTNK	**Botanikuri**	**0.75**	**61**	P	**Pg**	**00 17 11.2**	**-0.2**
BTNK				S	**Sg**	**00 17 21.4**	**+0.3**
BTNK	**Botanikuri**	**0.75**	**61**	P	**Pg**	**00 17 11.3**	**-0.1**
BTNK				S	**Sg**	**00 17 21.5**	**+0.4**
SEAG	**Tbilisi Sea**	**0.79**	**56**	P	**Pg**	**00 17 12.6**	**+0.4**
SEAG				S	**Sb**	**00 17 23.8**	**-1.1**
SEAG	**Tbilisi Sea**	**0.79**	**56**	P	**Pg**	**00 17 12.6**	**+0.4**
SEAG				S	**Sb**	**00 17 23.8**	**-1.1**
EPOS	**Posof**	**0.92**	**282**	*e*P	**Pg**	**00 17 14.0**	**-0.7**
KARS	**Kars**	**0.94**	**223**	PG	**Pn**	**00 17 16.2**	**-1.4**
KARS				SG	**Sn**	**00 17 29.9**	**-1.9**
KARS	**Kars**	**0.94**	**223**	Pg	**Pb**	**00 17 16.1**	**-0.2**
KARS				eSg	**Sn**	**00 17 29.9**	**-1.9**
KARS	**Kars**	**0.94**	**223**	PG	**Pb**	**00 17 16.1**	**-0.2**
DUS	**Dusheti**	**0.96**	**37**	P	**Pb**	**00 17 16.0**	**-0.7**
DUS				S	**Sb**	**00 17 29.6**	**-0.4**
DUS	**Dusheti**	**0.96**	**37**	P	**Pb**	**00 17 16.0**	**-0.7**
DUS				eSg	**Sb**	**00 17 29.5**	**-0.4**
DUS	**Dusheti**	**0.96**	**37**	⇓*i*PG	**Pb**	**00 17 15.9**	**-0.7**
DUS				*e*S	**Sb**	**00 17 29.5**	**-0.4**
DIGO	**Kars**	**1.00**	**205**	*i* P	**Pg**	**00 17 15.7**	**-0.4**
DIGO	**Kars**	**1.00**	**205**	*i* P	**Pg**	**00 17 15.8**	**-0.4**
DIGO				*i* S	**Sg**	**00 17 29.4**	**+0.4**
DIGO	**Kars**	**1.00**	**205**	P	**Pg**	**00 17 15.8**	**-0.3**
DIGO				S	**Sg**	**00 17 29.4**	**+0.4**
DGRG	**David-gareji**	**1.09**	**83**	*i* P	**Pg**	**00 17 17.1**	**-1.0**
DGRG				*e*S	**Sn**	**00 17 33.2**	**-2.2**
DGRG				IAML		00 17 36.7	
	comp=Z,208nm,0.3s						
DGRG	**David-gareji**	**1.09**	**83**	P	**Pg**	**00 17 17.0**	**-1.0**
DGRG				S	**Sn**	**00 17 33.4**	**-2.1**
DGRG	**David-gareji**	**1.09**	**83**	P	**Pg**	**00 17 17.3**	**-0.7**
DGRG				eSg	**Sn**	**00 17 33.3**	**-2.1**
DGRG	**David-gareji**	**1.09**	**83**	⇓*i*PG	**Pg**	**00 17 17.0**	**-1.0**
DGRG				*e*S	**Sn**	**00 17 33.3**	**-2.1**
QZX	**Qazax, Azerbai**	**1.12**	**103**	⇑P	**Pb**	**00 17 17.8**	**-1.4**
	SNR=721						
QZX				⇑S	**Sg**	**00 17 32.9**	**-0.1**
GUDG	**Gudauri**	**1.22**	**20**	P	**Pb**	**00 17 19.7**	**-1.3**
GUDG				S	**Sb**	**00 17 36.1**	**-1.2**
GUDG	**Gudauri**	**1.22**	**20**	P	**Pb**	**00 17 19.7**	**-1.3**
GUDG				S	**Sb**	**00 17 36.1**	**-1.2**
ONI	**Oni**	**1.32**	**345**	P	**Pn**	**00 17 21.3**	**-1.4**
ONI				S	**Sg**	**00 17 39.5**	**+0.1**
ONI	**Oni**	**1.32**	**345**	P	**Pn**	**00 17 21.3**	**-1.4**
ONI				S	**Sb**	**00 17 38.8**	**-1.3**
ONI				eSg	**Sg**	**00 17 39.5**	**+0.1**
ONI	**Oni**	**1.32**	**345**	⇓*i*PG	**Pn**	**00 17 21.3**	**-1.4**
ONI				*e*S	**Sg**	**00 17 39.5**	**+0.1**
GNI	**Garni**	**1.32**	**152**	⇓*i*P	**Pg**	**00 17 22.8**	**+0.5**
GNI				⇑*i*S	**Sg**	**00 17 41.3**	**+1.8**
GNI	**Garni**	**1.32**	**152**	⇓P	**Pg**	**00 17 22.8**	**+0.5**
GNI				S	**Sg**	**00 17 41.3**	**+1.8**
GNI	**Garni**	**1.32**	**152**	*ce*PG	**Pg**	**00 17 22.6**	**+0.3**
GNI				pmax	pmax		
	comp=Z,1μm,0.8s						
TASB	**TASBURUN-IGDIR**	**1.35**	**170**	PN	**Pg**	**00 17 23.0**	**0.0**
TASB				SN	**Sg**	**00 17 42.6**	**+2.1**
TASB	**TASBURUN-IGDIR**	**1.35**	**170**	*e*Pn	**Pg**	**00 17 23.0**	**0.0**
TASB				*e*Sn	**Sg**	**00 17 42.6**	**+2.1**
SENK	**Senkaya-Erzuru**	**1.42**	**238**	PN	**Pg**	**00 17 24.4**	**+0.3**
SENK				SN	**Sg**	**00 17 44.9**	**+2.4**
SENK	**Senkaya-Erzuru**	**1.42**	**238**	*e*Pn	**Pg**	**00 17 24.4**	**+0.3**
SENK				*e*Sn	**Sg**	**00 17 44.9**	**+2.4**
IGDI	**IGDIR**	**1.45**	**175**	*e*P	**Pb**	**00 17 24.1**	**-0.8**
IGDI				*e*S	**Sg**	**00 17 44.6**	**+0.9**
IGDI				IAML		00 17 50.9	
	comp=Z,55nm,0.6s						
IGDI	**IGDIR**	**1.45**	**175**	*i* P	**Pb**	**00 17 24.1**	**-0.8**
IGDI				*i* S	**Sg**	**00 17 44.0**	**+0.3**
ZEI	**Tsey**	**1.47**	**359**	*e*PG	**Pb**	**00 17 24.4**	**-0.9**
ZEI				*e*S	**Sg**	**00 17 44.6**	**+0.4**
GDB	**GEDABAY**	**1.50**	**113**	P	**Pn**	**00 17 24.0**	**-1.3**
	SNR=213						
GDB				⇓S	**Sn**	**00 17 43.7**	**-2.0**
ARTV	**Artvin**	**1.51**	**266**	*e*P	**Pn**	**00 17 24.4**	**-1.1**
ARTV				*e*S	**Sb**	**00 17 44.7**	**-1.1**
ARTV				IAML		00 17 45.7	
	comp=Z,62nm,0.5s						
ARTV	**Artvin**	**1.51**	**266**	*i* P	**Pn**	**00 17 24.7**	**-0.8**
ARTV				*i* S	**Sn**	**00 17 44.5**	**-1.5**
ARTV	**Artvin**	**1.51**	**266**	P	**Pn**	**00 17 24.7**	**-0.8**
ARTV				S	**Sn**	**00 17 44.5**	**-1.5**
LACR	**Lac**	**1.53**	**10**	*i* Pg	**Pb**	**00 17 25.4**	**-0.9**
LACR				eSg	**Sg**	**00 17 46.8**	**+0.5**
LACR	**Lac**	**1.53**	**10**	*i* PG	**Pb**	**00 17 25.4**	**-0.9**
LACR				*e*S	**Sg**	**00 17 46.8**	**+0.5**
DIGR	**Digorskoe uzhe**	**1.60**	**351**	*i* Pn	**Pb**	**00 17 26.7**	**-0.8**
DIGR				eSg	**Sg**	**00 17 48.6**	**+0.1**
DIGR	**Digorskoe uzhe**	**1.60**	**351**	⇑*i*PN	**Pb**	**00 17 26.7**	**-0.8**
DIGR				*e*S	**Sg**	**00 17 48.6**	**+0.1**
DDFL	**Dedoflistskaro**	**1.65**	**85**	P	**Pg**	**00 17 28.6**	**-0.1**
DDFL				S	**Sg**	**00 17 50.6**	**+0.5**
DDFL	**Dedoflistskaro**	**1.65**	**85**	P	**Pg**	**00 17 28.6**	**-0.1**
DDFL				S	**Sg**	**00 17 50.6**	**+0.5**
DDEM	**Demirkent**	**1.70**	**256**	*i* P	**Pb**	**00 17 28.4**	**-0.8**
DDEM				*i* S	**Sb**	**00 17 50.9**	**-0.2**
DDEM	**Demirkent**	**1.70**	**256**	P	**Pb**	**00 17 28.4**	**-0.8**
DDEM				S	**Sb**	**00 17 50.9**	**-0.2**
DBOC	**Borcka**	**1.70**	**272**	*i* P	**Pb**	**00 17 28.2**	**-1.0**
DBOC				*i* S	**Sg**	**00 17 51.0**	**-0.7**
DBOC	**Borcka**	**1.70**	**272**	P	**Pb**	**00 17 28.2**	**-1.0**
DBOC				S	**Sg**	**00 17 51.0**	**-0.7**
DBAD	**Bademkaya**	**1.71**	**261**	*i* P	**Pb**	**00 17 28.6**	**-0.9**
DBAD				*i* S	**Sb**	**00 17 51.0**	**-0.5**
DBAD	**Bademkaya**	**1.71**	**261**	P	**Pb**	**00 17 28.5**	**-0.9**
DBAD				S	**Sb**	**00 17 51.0**	**-0.5**
HYR	**Heyderabad**	**1.75**	**156**	⇑P	**Pg**	**00 17 29.9**	**-0.6**
	SNR=75						
HYR				⇓S	**Sg**	**00 17 54.9**	**+1.8**
DYDN	**Diyadin**	**1.78**	**186**	*e*P	**Pb**	**00 17 30.4**	**-0.2**
VADZ	**Vardenis**	**1.79**	**129**	*e*P	**Pg**	**00 17 32.0**	**+0.6**
VADZ				*e*S	**Sg**	**00 18 00.0**	**+5.4**
VADZ	**Vardenis**	**1.79**	**129**	P	**Pg**	**00 17 32.0**	**+0.6**
EATA	**Eleskirt**	**1.82**	**217**	*e*P	**Pg**	**00 17 31.8**	**-0.1**
EATA				*e*S	**Sg**	**00 17 56.8**	**+1.3**
EATA	**Eleskirt**	**1.82**	**217**	*i* P	**Pg**	**00 17 31.7**	**-0.1**
EATA				*i* S	**Sg**	**00 17 56.4**	**+0.9**
EATA	**Eleskirt**	**1.82**	**217**	P	**Pg**	**00 17 31.7**	**-0.2**
EATA				S	**Sg**	**00 17 56.4**	**+0.9**
KMGR	**Komgaron**	**1.87**	**22**	*i* Pn	**Pg**	**00 17 32.3**	**-0.6**
KMGR				*e*Sg	**Sg**	**00 17 58.7**	**+1.5**
KMGR	**Komgaron**	**1.87**	**22**	⇓*i*PN	**Pg**	**00 17 32.3**	**-0.6**
KMGR				*e*S	**Sg**	**00 17 58.7**	**+1.5**
ARNR	**Ardon**	**1.88**	**8**	*e*Pn	**Pg**	**00 17 32.6**	**-0.4**
ARNR				*e*Sg	**Sg**	**00 17 59.0**	**+1.6**
ARNR	**Ardon**	**1.88**	**8**	*e*PN	**Pg**	**00 17 32.6**	**-0.4**
ARNR				*e*S	**Sg**	**00 17 59.0**	**+1.6**
AGRB	**Hanur-Agry**	**1.88**	**203**	PN	**Pb**	**00 17 31.9**	**-0.4**
AGRB	**Hanur-Agry**	**1.88**	**203**	*e*Pn	**Pb**	**00 17 31.9**	**-0.4**
GANJ	**Ganja**	**1.93**	**110**	⇓P	**Pb**	**00 17 31.5**	**-1.6**
	SNR=105						
GANJ				⇑S	**Sb**	**00 17 56.2**	**-1.5**
LSNR	**Lesken**	**1.96**	**358**	*e*Pn	**Pb**	**00 17 33.7**	**+0.1**
LSNR				*e*Sg	**Sg**	**00 18 00.4**	**+0.4**
LSNR	**Lesken**	**1.96**	**358**	*e*PN	**Pb**	**00 17 33.7**	**+0.1**
LSNR				*e*S	**Sg**	**00 18 00.4**	**+0.4**
HOMI	**Horasan**	**2.00**	**231**	*e*P	**Pb**	**00 17 34.3**	**0.0**
STDR	**Stavd-Durt**	**2.05**	**3**	*e*Sb	**Sg**	**00 18 04.4**	**+1.5**
STDR	**Stavd-Durt**	**2.05**	**3**	⇑*i*PN	**Pg**	**00 17 36.6**	**+0.3**
STDR				*e*S	**Sg**	**00 18 04.4**	**+1.5**
BTKR	**Batakoyurt**	**2.10**	**12**	*e*Sb	**Sg**	**00 18 07.5**	**+2.9**
BTKR	**Batakoyurt**	**2.10**	**12**	⇓*i*PN	**Pg**	**00 17 37.0**	**-0.3**
BTKR				*e*S	**Sg**	**00 18 07.5**	**+2.9**
NEY	**Neytrino**	**2.13**	**336**	*e*Pn	**Pb**	**00 17 36.0**	**-0.5**
NEY				*e*Sn	**Sb**	**00 18 03.6**	**+0.1**
NEY	**Neytrino**	**2.13**	**336**	*e*PN	**Pb**	**00 17 36.0**	**-0.5**
NEY				*e*S	**Sb**	**00 18 03.6**	**+0.1**
CLDR	**Caldiran**	**2.17**	**180**	PN	**Pb**	**00 17 36.0**	**-1.3**
CLDR	**

SNR=4.7
KDMR Kurdemir 3.36 105 ⇑S Sn 00 18 33.3 +2.1
DRN Derbent 3.37 76⇑ePN Pb 00 17 54.2 -3.4
DRN e 00 18 40.3
DRN pmax pmax
comp=Z,18nm,1.2s
DRN smax smax
comp=N,34nm,17.1s
QUBA Quba, Azerbaij 3.44 88 ⇓P Pn 00 17 51.8 0.0
SNR=3.0
PQL Pirkuli 3.57 97 ⇓P Pn 00 17 53.1 -0.6
SNR=13
SIZA Siyzn 3.76 92 ⇑S Sn 00 18 43.6 +2.4
GOF Gofitskoye 3.79 350 eSb Sg 00 18 58.2 -0.7
comp=N,67nm,1.2s
GOF Gofitskoye 3.79 350⇑ePN Pg 00 18 12.0 +2.3
GOF eS Sg 00 18 58.2 -0.7
GOF pmax pmax
comp=Z,13nm,0.8s
GOF smax smax
comp=E,28nm,0.7s
GOF smax smax
comp=N,67nm,1.2s
ATGJ Altiaghaj 3.81 95 ⇓P Pn 00 17 57.0 0.0
SNR=2.9
ATGJ ⇑S Sn 00 18 44.8 +2.2
GBS Qobustan 3.88 100 ⇑P Pn 00 17 58.1 +0.2
SNR=3.2
GBS ⇑S Sn 00 18 46.7 +2.6
ESPY Espiye-Giresun 3.95 266 PN Pn 00 18 01.6 +2.8
ESPY Espiye-Giresun 3.95 266 ePn Pn 00 18 01.6 +2.8
LRK Lerik 4.32 127 ⇑P Pn 00 18 04.8 +0.8
SNR=9.1
LRK ⇑S Sn 00 18 58.1 +3.1
LKRN Lenkeran, Azer 4.54 123 ⇑P Pn 00 18 07.8 +0.9
SNR=2.9
LKRN ⇑S Sn 00 19 02.1 +1.7
ASTR Astara 4.64 125 ⇑P Pn 00 18 09.3 +1.0
SNR=6.0
ASTR ⇓S Sn 00 19 03.4 +0.6
KIEV Kiev 13.85 318 / P Pn 00 20 16.1 +1.7
KIEV pmax pmax
comp=Z,2.0nm,1.3s
BRVK Borovoye 21.28 48 eP P 00 21 45.7 +0.9

*ISCJB **12** 00:23:20.3±1.0,2°.0N±0°.2×89°.9E±0°.2, h10km, mb3.6/8, Error ellipse: s-maj=33.7km s-min=15.1km az=39.9*
*IDC **12** 00:23:20.5±1.4,1°.99N×89°.91E, h0km, mb3.5/8, mb1 3.7/9, mb1mx3.5/66, mbtmp3.6/9, ML3.6/1, Error ellipse: s-maj=52.4km s-min=20.5km az=49.0*
ISC 12 00:23:22.4±1.2,2°.0N±0°.2×90°.0E±0°.2, h10km, n10, σ0§62/10, mb3.7/8, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**10.63**	**300**	Pn	**Pn**	**00 25 55.5**	**+0.6**
	0.5nm,0.3s,baz=116,slow=15,SNR=1.8						
PALK				Sn	Sn	00 27 35.8	-18
	0.8nm,0.3s,baz=293,slow=6.7,SNR=2.3						
MKAR	**Makanchi Array**	**45.09**	**353**	P	**P**	**00 31 38.5**	**-0.3**
	0.3nm,0.6s,baz=165,slow=9.3,SNR=3.5						
SONM	**Songino Array**	**47.79**	**15**	P	**P**	**00 32 00.8**	**+0.8**
	0.9nm,0.5s,baz=300,slow=1.2,SNR=6.0						
WRA	**Warramunga Arr**	**48.66**	**119**	P	**P**	**00 32 07.4**	**+0.3**
	0.6nm,0.6s,baz=296,slow=8.7,SNR=3.3						
KURBB	**Kurchatov Arra**	**49.39**	**350**	P	**P**	**00 32 11.6**	**-0.5**
	0.6nm,0.7s,baz=176,slow=7.0,SNR=5.4						
ASAR	**Alice Springs**	**49.75**	**124**	P	**P**	**00 32 15.4**	**0.0**
	0.4nm,0.5s,baz=297,slow=8.7,SNR=4.2						
ZALV	**Zalesovo Beam**	**51.93**	**356**	P	**P**	**00 32 30.8**	**-0.5**
	0.4nm,0.3s,baz=173,slow=5.7,SNR=3.3						
BVAR	**Borovoye Array**	**53.37**	**345**	P	**P**	**00 32 41.6**	**-0.4**
	0.1nm,0.3s,baz=158,slow=4.7,SNR=2.1						
GERES	**GERESS Array B**	**79.47**	**319**	P	**P**	**00 35 28.4**	**-0.9**
	0.1nm,0.3s,baz=113,slow=4.6,SNR=3.0						
TXAR	**Lajitas Array**	**146.18**	**22**	PKPbc	**PKPdf**	**00 43 03.1**	**+0.2**
	0.3nm,0.8s,baz=345,slow=6.5,SNR=2.6						

*ISCJB **12** 00:25:31.5±0.4,37°.77N±0°.03×112°.40W±0°.04, h10km, mb3.1/1, Error ellipse: s-maj=5.1km s-min=4.3km az=24.1*
*NEIC **12** 00:25:31.0±0.0,37°.77N×112°.32W, h3km, ML2.7(SLC), After SLC.*
*IDC **12** 00:25:35.4±1.4,38°.03N×111°.64W, h0km, mb3.2/1, mb1 3.4/4, mb1mx3.2/67, mbtmp3.0/4, ML3.2/3, Error ellipse: s-maj=17.7km s-min=12.0km az=158.0*
ISC 12 00:25:32.1±0.7,37.80N±0°.03×112.30W±0°.03, h10km, n23, σ1§89/45, Utah

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSU	**Marysvale**	**0.72**	**8**	ePg	**Pg**	**00 25 45.5**	**-0.6**
MSU				eSg	**Sg**	**00 25 52.8**	**-2.9**
CCUT	**Cedar City**	**0.88**	**254**	ePg	**Pg**	**00 25 47.0**	**-2.2**
CCUT				eSg	**Sg**	**00 25 58.2**	**-2.3**
TMUT	**Trail Mountain**	**1.73**	**29**	ePn	**Pb**	**00 26 03.0**	**-1.2**
TMUT				eS	**Sg**	**00 26 26.5**	**-1.1**
SRU	**San Rafael Swe**	**1.91**	**46**	ePn	**Pb**	**00 26 06.9**	**-0.4**
SRU				eS	**Sn**	**00 26 29.4**	**+0.1**
NLU	**North Lily Min**	**2.16**	**5**	ePn	**Pn**	**00 26 08.8**	**+0.3**
NLU				ePg	**Pg**	**00 26 12.1**	**-1.6**
NLU				eS	**Sb**	**00 26 39.4**	**+1.0**
MPU	**Maple Canyon**	**2.28**	**13**	ePn	**Pn**	**00 26 10.7**	**+0.7**
MPU				eS	**Sg**	**00 26 43.8**	**-1.5**
WUAZ	**Wupatki**	**2.39**	**162**	ePn	**Pn**	**00 26 11.2**	**-0.3**
WUAZ				eS	**Sn**	**00 26 40.7**	**-0.3**
DUG	**Dugway, Tooele**	**2.43**	**351**	ePn	**Pn**	**00 26 12.9**	**+0.8**
DUG				eS	**Sg**	**00 26 49.8**	**-0.4**
R11A	**Troy Canyon, C**	**2.65**	**283**	ePn	**Pn**	**00 26 14.2**	**-0.9**
R11A				eS	**Sb**	**00 26 53.1**	**+0.6**
PV04	**Paradox Valley**	**2.74**	**76**	ePn	**Pn**	**00 26 17.4**	**+1.0**
PV04				eS	**Sb**	**00 26 56.4**	**+1.3**
JLU	**Jordanelle**	**2.88**	**13**	ePn	**Pn**	**00 26 19.6**	**+1.3**
JLU				ePg	**Pg**	**00 26 25.4**	**-1.9**
CTU	**Camp Tracy**	**2.92**	**8**	ePn	**Pn**	**00 26 19.7**	**+0.9**
CTU				eS	**Sn**	**00 26 54.4**	**+0.2**
PV01	**Paradox Valley**	**2.97**	**82**	ePn	**Pn**	**00 26 20.3**	**+0.8**
PV01				eS	**Sb**	**00 27 01.8**	**+0.1**
MVCO	**Mesa Verde**	**3.08**	**100**	ePn	**Pb**	**00 26 23.7**	**-3.4**
MVCO				eS	**Sb**	**00 27 07.1**	**+2.2**
W18A	**Petrified Fore**	**3.38**	**142**	ePn	**Pn**	**00 26 25.9**	**+0.8**
W18A				eS	**Sb**	**00 27 13.0**	**-0.4**
HWUT	**Hardware Ranch**	**3.85**	**8**	ePn	**Pn**	**00 26 32.2**	**+0.7**
O20A	**White River Ci**	**3.93**	**52**	ePn	**Pn**	**00 26 34.2**	**+1.5**
O20A				ePg	**Pg**	**00 26 44.6**	**-2.8**
O20A				eS	**Sb**	**00 27 33.1**	**+3.8**
NVAR	**Mina Array Bea**	**4.78**	**279**	Pn	**Pb**	**00 26 56.6**	**+0.6**
	baz=104,slow=15,SNR=31						
NVAR				Sn	**Sb**	**00 27 57.4**	**+3.7**
	baz=99,slow=22,SNR=1.9						
LAZ	**Ladron**	**5.38**	**127**	ePn	**Pn**	**00 26 53.7**	**+1.1**
	1.3nm,0.6s						
LAZ				eS	**Sb**	**00 28 16.4**	**+5.4**
PDAR	**Pinedale Array**	**5.39**	**22**	Pn	**Pn**	**00 26 53.8**	**+1.0**
	0.1nm,0.3s,baz=178,slow=11,SNR=3.5						
PDAR				Pg	**Pg**	**00 27 13.6**	**-1.8**
	0.2nm,0.3s,baz=193,slow=15,SNR=10						
PDAR				Lg	Lg	00 28 14.6	
	0.2nm,0.3s,baz=189,slow=32,SNR=2.8						
ANMO	**Albuquerque**	**5.50**	**119**	Pn	**Pn**	**00 26 56.0**	**+1.6**
	0.5nm,0.3s,baz=130,slow=14,SNR=11						
ANMO				Lg	Lg	00 28 20.5	
	0.3nm,0.3s,baz=60,slow=20,SNR=2.3						
ANMO	**Albuquerque**	**5.50**	**119**	ePn	**Pn**	**00 26 55.6**	**+1.3**
	4.0nm,0.6s						
ANMO				eS	**Sb**	**00 28 18.3**	**+3.7**
ANMO				Lg	Lg	00 28 20.5	
YKA	**Yellowknife Ar**	**24.77**	**357**	P	**P**	**00 30 55.4**	**+1.7**
	0.6nm,1.0s,baz=172,slow=9.2,SNR=8.1						

*IDC **12** 00:29:58.4±0.8, 4°.37N×92°.75E, h0km, mb4.3/21, mb1 4.4/23, mb1mx4.1/71, mbtmp4.3/23, ML4.3/2, MS5.1/4, Ms1 5.1/4, ms1mx4.4/67, Error ellipse: s-maj=31.4km s-min=16.0km az=46.0*
*ISCJB **12** 00:30:00.7±0.3, 4°.49N±0°.05×92°.85E±0°.03, h22km, mb4.4/44, Error ellipse: s-maj=7.4km s-min=3.9km az=20.2*
*NEIC **12** 00:30:00.3±3.1, 4°.46N×92°.86E, h12km±19km, mb4.7/15, Error ellipse: s-maj=10.7km s-min=5.8km az=224.0*
*DJA **12** 00:30:12.8±0.5,5°N±5°×9°4E±°, h10km, M4.8/8, mb4.7/8, MLv4.8/6*
ISC 12 00:30:02.2±0.5, 4°.45N±0°.08×92°.85E±0°.05, h22km, n149, σ1§21/144, mb4.5/47, 4C-6D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSI	**Banda Aceh**	**2.65**	**67**	P	**Pn**	**00 30 42.4**	**-1.3**
MLSI	**Meulaboh, Aceh**	**3.55**	**93**	P	**Pn**	**00 30 54.9**	**-1.2**
LHMI	**Lhok Sumawe**	**4.16**	**79**	P	**Pn**	**00 31 05.3**	**+0.9**
LHMI	**Lhok Sumawe**	**4.16**	**79**	ePn	**Pn**	**00 31 04.0**	**-0.4**
LHMI				eS	**Sn**	**00 31 53.0**	**+0.6**
TPTI		**4.48**	**105**	P	**Pb**	**00 31 18.4**	**-1.9**
GSI	**Gunungsitoli**	**5.67**	**123**	P	Pb	00 31 33.9	-6.5
	80nm,0.7s,0.4nm						
GSI	**Gunungsitoli**	**5.67**	**123**	ePn	**Pn**	**00 31 23.8**	**-1.4**
PSI	**Prapat**	**6.28**	**105**	ePn	**Pn**	**00 31 33.7**	**-0.1**
PBA	**Port Blair**	**7.16**	**359**	eP	Pn	00 31 44.2	-1.4
PBA				IAmb	IAmb	00 33 05.8	
	comp=Z,221nm,0.4s						
MNSI	**Mandailing Nat**	**7.64**	**118**	P	Pn	00 32 00.3	+8.0
	comp=Z,62nm,0.5s,comp=Z,0.6nm						
KULM	**Kulim**	**7.82**	**84**	ePn	**Pn**	**00 31 53.3**	**-1.5**
IPM	**Ipoh**	**8.15**	**89**	ePn	**Pn**	**00 31 57.7**	**-1.7**
IPM				eS	Sn	00 33 19.9	-11
SISI	**Saibi**	**8.48**	**132**	P	**Pn**	**00 32 07.2**	**+3.4**
	comp=Z,66nm,1.1s,comp=Z,0.5nm						
DGPR	**DIGLIPUR**	**8.67**	**1**	eP	**Pn**	**00 32 06.4**	**0.0**
DGPR				IAmb	IAmb	00 33 45.2	
	comp=Z,99nm,0.6s						
BKNI	**Bangkinang**	**9.15**	**116**	ePn	**Pn**	**00 32 12.6**	**-0.5**
MYKOM	**Kota Tinggi**	**11.30**	**103**	ePn	**Pn**	**00 32 40.1**	**-2.3**
PALK	**Pallekele**	**12.40**	**284**	Pn	**Pn**	**00 32 56.6**	**-1.0**
	comp=Z,5.6nm,0.3s,baz=116,slow=14,SNR=20						
PALK				Sn	Sn	00 35 01.0	-14
	comp=Z,7.6nm,0.3s,baz=296,slow=0.4,SNR=17						
PALK	**Pallekele**	**12.40**	**284**	ePn	**Pn**	**00 32 57.2**	**-0.4**
PALK				eS	Sn	00 35 03.8	-11
MDSI	**Maura Dua**	**14.39**	**128**	P	P	00 33 36.8	+5.3
MDRS	**Chennai**	**15.10**	**305**	eP	**Pn**	**00 33 33.7**	**-0.6**
MDRS				IAmb	IAmb	00 33 44.3	
CM01	**Chiang Mai Arr**	**15.11**	**23**	ePn	**Pn**	**00 33 33.5**	**-1.0**
CM31	**Chiang Mai Arr**	**15.14**	**23**	ePn	**Pn**	**00 33 34.8**	**-0.1**
CMAR	**Chiang Mai Arr**	**15.14**	**23**	Pn	**Pn**	**00 33 34.0**	**-0.9**
	comp=Z,0.2nm,0.3s,baz=217,slow=13,SNR=29						
CHTO	**Chiang Mai**	**15.47**	**22**	ePn	**Pn**	**00 33 38.4**	**-0.8**
	comp=Z,9.2nm,0.9s						
SKHT	**Srikalahasti**	**15.91**	**306**	eP	**Pn**	**00 33 43.8**	**-1.1**
VIS	**Vishakhapatnam**	**16.15**	**325**	eP	**Pn**	**00 33 46.5**	**-1.4**
VIS				IAmb	IAmb	00 33 47.6	
	comp=Z,43nm,0.7s						
CHLP	**Challavanipeta**	**16.40**	**329**	eP	**Pn**	**00 33 50.0**	**-1.1**
PVM	**Polavaram**	**16.81**	**320**	eP	**Pn**	**00 33 55.9**	**-0.5**
ADKI	**Addanki**	**16.98**	**313**	eP	**Pn**	**00 33 58.2**	**-0.3**
KSM	**Kuching**	**17.69**	**99**	ePn	**P**	**00 34 09.3**	**+1.1**
	comp=Z,25nm,1.2s						
NJS	**Nagarjunasagar**	**17.92**	**313**	eP	**Pn**	**00 34 09.6**	**-0.6**
SRLM	**Srisailam**	**17.94**	**311**	eP	**P**	**00 34 10.9**	**-0.1**
URV	**Uravakonda**	**18.55**	**305**	eP	**P**	**00 34 17.0**	**-0.7**
HYB	**Hyderabad**	**19.03**	**314**	/ P	**P**	**00 34 23.0**	**+0.1**
HYB	**Hyderabad**	**19.03**	**314**	eP	**P**	**00 34 23.1**	**+0.1**
HYB				IAmb	IAmb	00 34 23.8	
	comp=Z,45nm,1.3s						
HYBB	**Hyderabad (bro**	**19.03**	**314**	eP	**P**	**00 34 22.1**	**-0.9**
SBUM	**Sibu**	**19.44**	**95**	eP	**P**	**00 34 24.7**	**-2.7**
	comp=Z,2.1nm,0.6s						
RPR	**Rampur**	**19.50**	**318**	eP	**Pn**	**00 34 28.7**	**-0.6**
SRSP	**Sriramsagar**	**20.19**	**317**	eP	**P**	**00 34 36.0**	**+0.5**
BOK	**Bokaro**	**20.37**	**341**	eP	**P**	**00 34 38.1**	**+0.7**
BOK				IAmb	IAmb	00 34 42.0	
	comp=Z,31nm,0.6s						
KLRI	**Killari**	**20.88**	**312**	eP	**P**	**00 34 44.1**	**+1.0**
SHL	**Shillong**	**21.01**	**358**	eP	**P**	**00 34 46.5**	**+1.9**
NGP	**Nagpur**	**21.33**	**322**	eP	**P**	**00 34 48.6**	**+0.7**
NGP				IAmb	IAmb	00 34 50.3	
	comp=Z,88nm,1.4s						
QIZ	**Qiongzhong**	**22.03**	**48**	P	**P**	**00 34 56.7**	**+1.3**
QIZ				S	**S**	**00 39 00.2**	**+2.6**
KMI	**Kunming**	**22.64**	**24**	P	**P**	**00 35 03.7**	**+1.5**
KMI				pP	sP	00 35 10.5	-0.7
KMI				sP	pP	00 35 13.9	+5.5
KMI				pmax	pmax		
	comp=Z,21nm,0.9s						
MTKI	**Muara Teweh, K**	**22.67**	**103**	P	P	00 34 54.7	-7.7
POO	**Poona**	**23.25**	**309**	eP	**P**	**00 35 09.5**	**+1.2**
H08S3	**Diego Garcia H**	**23.60**	**240**	T	T	01 00 21.5	
	baz=60,slow=75,SNR=94						
H08S2	**Diego Garcia H**	**23.60**	**239**	T	T	01 00 20.1	
	baz=60,slow=75,SNR=32						
H08S1	**Diego Garcia H**	**23.61**	**239**	T	T	01 00 13.7	
	baz=60,slow=75,SNR=60						
BHPL	**Bhopal**	**23.89**	**323**	eP	**P**	**00 35 14.4**	**-0.1**
BHPL				IAmb	IAmb	00 35 45.2	
	comp=Z,48nm,1.8s						
LSA	**Lhasa**	**25.16**	**357**	P	**P**	**00 35 28.1**	**+1.5**
LSA				pmax	pmax		
	comp=Z,11nm,0.7s						
MYLDM	**Lahad Datu**	**25.57**	**87**	eP	**P**	**00 35 33.3**	**+3.3**
	comp=Z,22nm,0.9s						
CD2	**Chengdu**	**28.25**	**20**	eP	**P**	**00 35 54.0**	**+0.1**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
DDI	**Dehra Dun**	**29.28**	**333**	eP	**P**	**00 36 02.5**	**-0.6**
SMLA	**Simla**	**30.36**	**333**	eP	**P**	**00 36 12.5**	**-0.1**
SMLA				IAmb	IAmb	00 36 14.5	
	comp=Z,23nm,1.1s						
DHRM	**DHARAMSHALA**	**31.70**	**333**	eP	**P**	**00 36 24.1**	**-0.5**
DHRM				IAmb	IAmb	00 36 25.4	
WHN	**Wuhan**	**32.94**	**36**	⇓P	**P**	**00 36 30.6**	**-4.6**
XAN	**Xi'an**	**33.02**	**25**	P	**P**	**00 36 35.3**	**-0.7**
XAN				sP	sP	00 36 45.3	-0.1
XAN				pmax	pmax		
	comp=Z,9.0nm,0.8s						
LZH	**Lanzhou**	**33.07**	**16**	eP	**P**	**00 36 40.2**	**+3.6**
LZH				pP	sP	00 36 47.5	+1.5
LZH				sP	pP	00 36 50.5	+7.3
LZH				ePP	**PP**	**00 37 51.9**	**+0.3**
LZH				pmax	pmax		
	comp=Z,29nm,0.9s						
LZH				pmax	pmax		
	comp=Z,8μm,8.6s						
LZH				LR	LR		
	comp=N,160nm,10.7s						
LZH				LR	LR		
	comp=E,120nm,10.7s						
LZH				LR	LR		
	comp=Z,160nm,15.0s						
NIL	**Nilore**	**34.31**	**330**	eP	**P**	**00 36 47.5**	**+0.3**
NJ2	**Nanjing**	**36.71**	**39**	eP	**P**	**00 37 07.3**	**-0.5**
NJ2				pmax	pmax		
	comp=Z,14nm,0.5s						
KBL	**Kabul**	**37.20**	**327**	eP	**P**	**00 37 11.9**	**-0.3**
	comp=Z,3.3nm,0.8s						
WMQ	**Urumqi**	**39.47**	**354**	P	**P**	**00 37 30.8**	**-0.2**
WMQ				LR	LR		
	comp=N,5μm,17.7s						
WMQ				LR	LR		
	comp=E,3μm,22.1s						
WMQ				LR	LR		
	comp=Z,3μm,22.1s						
HHC	**Hu-ho-hao-te**	**39.95**	**22**	eP	**P**	**00 37 37.1**	**+2.0**
HHC				pmax	pmax		
	comp=Z,16nm,1.0s						
HHC				pmax	pmax		
	comp=Z,75nm,5.8s						
ULHL	**Ulahol**	**40.44**	**341**	P	**P**	**00 37 40.2**	**+0.9**
	SNR=6.1						
KZA	**Kyzart**	**40.62**	**340**	P	**P**	**00 37 42.2**	**+1.2**
	SNR=5.1						
UCH	**Uchtor**	**41.01**	**339**	P	**P**	**00 37 45.2**	**+0.9**
	SNR=10						
AML	**Almayashu**	**41.23**	**338**	P	**P**	**00 37 47.0**	**+1.0**
	SNR=15						
KBK	**Karagaybulak**	**41.24**	**340**	P	**P**	**00 37 47.2**	**+1.4**
	SNR=8.2						
TKM2	**Tokmak 2**	**41.26**	**341**	P	**P**	**00 37 47.0**	**+1.0**
	SNR=5.6						
AAK	**Ala-Archa**	**41.38**	**339**	P	**P**	**00 37 48.1**	**+1.1**
	comp=Z,1.9nm,0.6s,baz=144,slow=6.8,SNR=6.6						
AAK	**Ala-Archa**	**41.38**	**339**	eP	**P**	**00 37 46.7**	**-0.3**
	comp=Z,4.9nm,1.1s						
EKS2	**Erkin-Say**	**41.66**	**339**	P	**P**	**00 37 50.4**	**+1.2**
	SNR=8.6						
USP	**Ospenovka**	**41.93**	**340**	P	**P**	**00 37 52.2**	**+0.9**
	SNR=7.3						
MK01	**Makanchi Array**	**43.13**	**349**	eP	**P**	**00 38 01.1**	**+0.1**
MK31	**Makanchi Array**	**43.16**	**349**	eP	**P**	**00 37 58.8**	**-2.5**
MKAR	**Makanchi Array**	**43.16**	**349**	P	**P**	**00 38 01.4**	**+0.1**
	comp=Z,2.7nm,0.7s,baz=167,slow=8.5,SNR=24						
MKAR	**Makanchi Array**	**43.16**	**349**	eP	**P**	**00 37 58.8**	**-2.5**
	comp=Z,17nm,0.8s						
KK31	**Karatay Array**	**43.28**	**336**	eP	**P**	**00 38 03.2**	**+0.9**
KKAR	**Karatay Array**	**43.28**	**336**	eP	**P**	**00 38 02.2**	**-0.1**
H01W3	**Cape Leeuwin H**	**43.96**	**155**	T	T	01 25 06.2	
	baz=330,slow=76,SNR=10						
H01W2	**Cape Leeuwin H**	**43.97**	**155**	T	T	01 25 07.7	
	baz=330,slow=76,SNR=9.0						
H01W1	**Cape Leeuwin H**	**43.98**	**155**	T	T	01 25 07.4	
	baz=330,slow=76,SNR=10						
SONM	**Songino Array**	**44.76**	**13**	P	**P**	**00 38 14.6**	**+0.4**
	comp=Z,0.5nm,0.4s,baz=195,slow=8.6,SNR=4.8						
SONM				PcP	**PcP**	**00 39 57.1**	**+0.9**
	comp=Z,1.1nm,0.7s,baz=188,slow=5.1,SNR=3.2						
SONA1	**Songino Array**	**44.77**	**13**	eP	**P**	**00 38 15.3**	**+1.0**
GEYT	**Alibeck**	**45.96**	**321**	P	**P**	**00 38 24.7**	**+0.9**
	comp=Z,9.8nm,0.8s,baz=145,slow=8.1,SNR=20						
GEYT				LR	LR	00 59 01.9	
	comp=Z,2μm,18.7s,baz=90,slow=38						
GYA0B	**ALIBECK ARRAY**	**45.96**	**321**	eP	**P**	**00 38 23.1**	**-0.7**
	comp=Z,12nm,0.8s						
WRA	**Warramunga Arr**	**47.44**	**122**	P	**P**	**00 38 35.0**	**-0.6**
	comp=Z,1.9nm,0.8s,baz=298,slow=8.9,SNR=4.6						
WRAB	**Tennant Creek**	**47.44**	**122**	eP	**P**	**00 38 34.9**	**-0.7**
	comp=Z,5.0nm,1.1s						
WB2	**Warramunga Arr**	**47.45**	**122**	eP	**P**	**00 38 37.8**	**+2.1**
KURBB	**Kurchatov Arra**	**47.56**	**348**	P	**P**	**00 38 36.5**	**+0.5**
	comp=Z,4.1nm,0.7s,baz=170,slow=7.0,SNR=46						
KURBB				PcP	**PcP**	**00 40 05.5**	**-0.2**
	comp=Z,1.3nm,0.9s,baz=173,slow=3.9,SNR=3.0						
KURK	**Kurchatov**	**47.63**	**348**	eP	**P**	**00 38 36.7**	**+0.2**
	comp=Z,6.7nm,0.9s						
KURK				PcP	**PcP**	**00 40 05.5**	**-0.4**
CN2	**Changchun**	**48.60**	**31**	eP	**P**	**00 38 47.3**	**+3.1**
ASAR	**Alice Springs**	**48.81**	**127**	P	**P**	**00 38 46.5**	**+0.3**
	comp=Z,0.5nm,0.7s,baz=310,slow=7.2,SNR=3.7						
ASAR				PcP	**PcP**	**00 40 11.0**	**+0.1**
	comp=Z,0.6nm,0.7s,baz=300,slow=3.7,SNR=2.8						
RAYN	**Ar Rayn**	**49.40**	**297**	eP	**P**	**00 38 51.1**	**+0.3**
	comp=Z,4.6nm,1.1s						
ZAA0	**Zalesovo Array**	**49.78**	**354**	eP	**P**	**00 38 53.6**	**+0.6**
	comp=Z,5.5nm,0.6s						
ZALV	**Zalesovo Beam**	**49.78**	**354**	P	**P**	**00 38 53.6**	**+0.6**
	comp=Z,4.5nm,0.5s,baz=180,slow=8.3,SNR=25						
ZALV	**Zalesovo Beam**	**49.78**	**354**	eP	**P**	**00 38 53.4**	**+0.4**
BVAR	**Borovoye Array**	**51.83**	**343**	P	**P**	**00 39 08.5**	**0.0**
	comp=Z,2.5nm,0.7s,baz=143,slow=8.7,SNR=20						
ABKAR	**Akbulak array**	**52.65**	**333**	eP	**P**	**00 39 14.5**	**-0.1**
	comp=Z,32nm,0.8s						
AKTO	**Aktyubinsk**	**54.36**	**333**	P	**P**	**00 39 26.4**	**-0.8**
	comp=Z,2.4nm,0.9s,baz=125,slow=7.2,SNR=4.1						
AKTO				LR	LR	01 03 21.5	
	comp=Z,1μm,21.9s,baz=146,slow=37						
KBZ	**Khabaz**	**56.79**	**320**	P	**P**	**00 39 57.5**	**-1.3**
	comp=Z,1.7nm,1.0s,baz=131,slow=3.6,SNR=6.4						
BR131	**Keskin Array S**	**63.72**	**312**	eP	**P**	**00 40 32.6**	**0.0**
BRTR	**Keskin Array B**	**63.72**	**312**	P	**P**	**00 40 32.4**	**-0.1**
	comp=Z,2.9nm,0.8s,baz=116,slow=6.6,SNR=24						
BR231	**Keskin MP Arra**	**64.39**	**312**	eP	**P**	**00 40 32.9**	**-4.0**
LEOM	**Leova**	**69.43**	**318**	⇑P	**P**	**00 41 09.0**	**+0.3**
SORM	**Soroca**	**69.83**	**320**	⇓P	**P**	**00 41 10.6**	**-0.5**
AKASG	**Malin Array Be**	**70.05**	**323**	P	**P**	**00 41 11.1**	**-1.4**
	comp=Z,0.2nm,0.2s,baz=86,slow=5.5,SNR=7.6						
VRI	**Vrincioaia**	**70.29**	**317**	⇑P	**P**	**00 41 15.1**	**+1.0**
PLOR	**Plostina**	**70.34**	**317**	⇓P	**P**	**00 41 15.5**	**+1.1**
TESR	**Tescani**	**70.51**	**318**	⇑P	**P**	**00 41 15.2**	**-0.2**
MLR	**Muntele Rosu**	**70.73**	**317**	P	**P**	**00 41 16.7**	**-0.2**
	comp=Z,2.1nm,0.9s,baz=160,slow=4.8,SNR=14						
MLR	**Muntele Rosu**	**70.73**	**317**	⇓P	**P**	**00 41 17.7**	**+0.8**
MLR	**Muntele Rosu**	**70.73**	**317**	eP	**P**	**00 41 15.5**	**-1.4**
	comp=Z,13nm,1.0s						
TIXI	**Tiksi**	**70.82**	**11**	eP	**P**	**00 41 16.3**	**-0.4**
	comp=Z,11nm,1.0s						
ARR	**Arges**	**71.60**	**316**	⇓P	**P**	**00 41 22.5**	**+0.4**
BURAR	**Bucovina Array**	**71.73**	**319**	⇑P	**P**	**00 41 23.8**	**+0.9**
BUR04	**Bucovina Ar. S**	**71.73**	**319**	eP	**P**	**00 41 23.3**	**+0.4**
BUR08	**Bucovina Ar. S**	**71.75**	**319**	eP	**P**	**00 41 23.8**	**+0.8**
VTS	**Vitosha**	**72.05**	**313**	⇓P	**P**	**00 41 24.7**	**-0.3**
CRVS	**Cervena-Dubn**	**74.46**	**320**	eP	**P**	**00 41 39.6**	**+0.7**
STHS	**Stebnicka Huta**	**74.70**	**320**	eP	**P**	**00 41 40.8**	**+0.5**
FINES	**FINESS Array B**	**75.13**	**333**	P	**P**	**00 41 41.8**	**-0.7**
	comp=Z,2.3nm,0.8s,baz=96,slow=6.2,SNR=6.7						
NIE	**Niedzica**	**75.30**	**320**	eP	**P**	**00 41 43.9**	**+0.1**
OJC	**Ojcow**	**75.77**	**321**	eP	**P**	**00 41 46.6**	**+0.2**
VYHS	**Vyhne**	**76.10**	**319**	eP	**P**	**00 41 48.8**	**+0.5**
CONA	**Conrad Observa**	**77.99**	**318**	/ P	**P**	**00 41 59.3**	**+0.2**
	comp=Z,0.9nm,0.5s						
DPC	**Dobruska-Polom**	**77.99**	**320**	e

MLR	Muntele Rosu	0.48 245	⇑	*i*P	Pn	00 33 45.3	-0.2	
MLR	Muntele Rosu	0.48 245	⇑	*i*P	Pn	00 33 45.3	-0.2	
MLR				*i*S	Sn	00 34 01.1	-0.9	
MLR	Muntele Rosu	0.48 245		P	Pn	00 33 45.3	-0.2	
MLR				*i*S	Sn	00 34 01.1	-0.9	
ISR	Istrita	0.57 181	⇑	*i*P	Pn	00 33 46.2	+0.3	
ISR	Istrita	0.57 181	⇑	*i*P	Pn	00 33 46.2	+0.3	
ISR	Istrita	0.57 181	⇑	*i*P	Pn	00 33 46.2	+0.3	
SECR		0.74 208	⇑	*i*P	Pn	00 33 47.2	+0.3	
SECR		0.74 208	⇑	*i*P	Pn	00 33 47.2	+0.3	
SECR				*i*S	Sn	00 34 04.2	-0.3	
SECR		0.74 208	⇑	*i*P	Pn	00 33 47.2	+0.3	
SECR				*i*S	Sn	00 34 04.2	-0.3	
TESR	Tescani	0.82 4	⇓	*i*P	Pn	00 33 46.2	-1.2	
TESR	Tescani	0.82 4	⇓	*i*P	Pn	00 33 46.2	-1.2	
TESR	Tescani	0.82 4		P	Pn	00 33 46.2	-1.2	
TESR				S	Sn	00 34 02.5	-3.1	
PGOR	Pogoanele	0.84 159	⇑	*i*P	Pn	00 33 47.7	+0.2	
PGOR	Pogoanele	0.84 159	⇑	*i*P	Pn	00 33 47.7	+0.2	
PGOR				*i*S	Sn	00 34 05.2	-0.4	
PGOR	Pogoanele	0.84 159	⇑	*i*P	Pn	00 33 47.7	+0.2	
PGOR				*i*S	Sn	00 34 05.2	-0.4	
PLAR	PLOIESTI	0.86 206		S	Sn	00 34 06.2	+0.2	
PLAR	PLOIESTI	0.86 206	*i*	S	Sn	00 34 06.2	+0.2	
PLAR	PLOIESTI	0.86 206	*i*	S	Sn	00 34 06.2	+0.2	
DOPR	Dopca	0.86 289	⇓	*i*P	Pn	00 33 47.7	0.0	
DOPR	Dopca	0.86 289	⇓	*i*P	Pn	00 33 47.7	0.0	
DOPR				*i*S	Sn	00 34 05.3	-0.8	
DOPR	Dopca	0.86 289	⇓	*i*P	Pn	00 33 47.7	0.0	
DOPR				*i*S	Sn	00 34 05.3	-0.8	
SULR		1.03 192	⇑	*i*P	Pn	00 33 49.0	-0.1	
SULR		1.03 192	⇑	*i*P	Pn	00 33 49.0	-0.1	
SULR				*i*S	Sn	00 34 08.2	-0.2	
SULR		1.03 192	⇑	*i*P	Pn	00 33 49.0	-0.1	
SULR				*i*S	Sn	00 34 08.2	-0.2	
VOIR		1.09 257	⇑	*i*P	Pn	00 33 49.4	-0.3	
VOIR		1.09 257	⇑	*i*P	Pn	00 33 49.4	-0.3	
VOIR				*i*S	Sn	00 34 07.9	-1.6	
VOIR		1.09 257	⇑	*i*P	Pn	00 33 49.4	-0.3	
VOIR				*i*S	Sn	00 34 07.9	-1.6	
MTUR	Matau	1.15 247	⇑	*i*P	Pn	00 33 50.4	+0.2	
MTUR	Matau	1.15 247	⇑	*i*P	Pn	00 33 50.4	+0.2	
MTUR	Matau	1.15 247	⇑	*i*P	Pn	00 33 50.4	+0.2	
GIUM	Giurgiulesti	1.18 100	⇑	*i*P	Pn	00 33 50.6	+0.3	
GIUM	Giurgiulesti	1.18 100	⇑	*i*P	Pn	00 33 50.6	+0.3	
GIUM				*i*S	Sn	00 34 09.6	-1.0	
GIUM	Giurgiulesti	1.18 100		P	Pn	00 33 50.5	+0.2	
GIUM				*i*S	Sn	00 34 09.6	-1.0	
AMRR	Amara	1.21 153	⇑	*i*P	Pn	00 33 50.8	+0.2	
AMRR	Amara	1.21 153	⇑	*i*P	Pn	00 33 50.8	+0.2	
AMRR				*i*S	Sn	00 34 10.7	-0.5	
AMRR	Amara	1.21 153	⇑	*i*P	Pn	00 33 50.8	+0.2	
AMRR				*i*S	Sn	00 34 10.7	-0.5	
CFR	Carcaliu	1.22 114	⇓	*i*P	Pn	00 33 50.3	-0.4	
CFR	Carcaliu	1.22 114	⇓	*i*P	Pn	00 33 50.3	-0.4	
CFR				*i*S	Sn	00 34 09.5	-1.9	
CFR	Carcaliu	1.22 114	⇓	*i*P	Pn	00 33 50.3	-0.4	
CFR				*i*S	Sn	00 34 09.5	-1.9	
GIRR	Girov	1.27 358	⇑	*i*P	Pn	00 33 51.4	+0.3	
GIRR	Girov	1.27 358	⇑	*i*P	Pn	00 33 51.4	+0.3	
GIRR	Girov	1.27 358	⇑	*i*P	Pn	00 33 51.4	+0.3	
BUC	Bucharest	1.32 195		S	Sn	00 34 12.8	-0.3	
BUC	Bucharest	1.32 195	*i*	S	Sn	00 34 12.8	-0.3	
CIOR	Ciorogarla	1.33 201		S	Sn	00 34 12.4	-0.9	
CIOR	Ciorogarla	1.33 201	*i*	S	Sn	00 34 12.4	-0.9	
CIOR	Ciorogarla	1.33 201	*i*	S	Sn	00 34 12.4	-0.9	
ARR	Arges	1.39 257	⇓	*i*P	Pn	00 33 52.8	+0.3	
ARR	Arges	1.39 257	⇓	*i*P	Pn	00 33 52.8	+0.3	
ARR				*i*S	Sn	00 34 14.0	-0.5	
ARR	Arges	1.39 257	⇓	*i*P	Pn	00 33 52.8	+0.3	
ARR				*i*S	Sn	00 34 14.0	-0.5	
HARR	Harsova	1.39 135	⇑	*i*P	Pn	00 33 52.3	-0.1	
HARR	Harsova	1.39 135	⇑	*i*P	Pn	00 33 52.3	-0.1	
HARR	Harsova	1.39 135	⇑	*i*P	Pn	00 33 52.3	-0.1	
BUC1	Bucharest	1.40 196	⇑	*i*P	Pn	00 33 52.6	+0.2	
BUC1	Bucharest	1.40 196	⇑	*i*P	Pn	00 33 52.6	+0.2	
BUC1				*i*S	Sn	00 34 13.5	-0.9	
BUC1	Bucharest	1.40 196		P	Pn	00 33 52.5	+0.1	
BUC1				*i*S	Sn	00 34 13.5	-0.9	
LEOM	Leova	1.41 56	⇓	*i*P	Pn	00 33 52.6	+0.1	
LEOM	Leova	1.41 56	⇓	*i*P	Pn	00 33 52.6	+0.1	
LEOM				*i*S	Sn	00 34 13.5	-1.2	
LEOM	Leova	1.41 56	⇓	*i*P	Pn	00 33 52.6	+0.1	
LEOM				*i*S	Sn	00 34 13.5	-1.2	
TLB	Topalu	1.52 136	⇑	*i*P	Pn	00 33 53.6	-0.1	
TLB	Topalu	1.52 136	⇑	*i*P	Pn	00 33 53.6	-0.1	
TLB				*i*S	Sn	00 34 15.4	-1.3	
TLB	Topalu	1.52 136	⇑	*i*P	Pn	00 33 53.6	-0.1	
TLB				*i*S	Sn	00 34 15.4	-1.3	
SGRR	Singureni	1.53 196	⇓	*i*P	Pn	00 33 53.7	-0.1	
SGRR	Singureni	1.53 196	⇓	*i*P	Pn	00 33 53.7	-0.1	
SGRR				*i*S	Sn	00 34 15.5	-1.3	
SGRR	Singureni	1.53 196	⇓	*i*P	Pn	00 33 53.7	-0.1	
SGRR				*i*S	Sn	00 34 15.5	-1.3	
HUMR	Humele	1.61 224	⇑	*i*P	Pn	00 33 54.6	-0.1	
HUMR	Humele	1.61 224	⇑	*i*P	Pn	00 33 54.6	-0.1	
HUMR				*i*S	Sn	00 34 17.1	-1.4	
HUMR	Humele	1.61 224	⇑	*i*P	Pn	00 33 54.6	-0.1	
HUMR				*i*S	Sn	00 34 17.1	-1.4	
IAS	Iasi	1.65 24	⇑	*i*P	Pn	00 33 55.0	-0.1	
IAS	Iasi	1.65 24	⇑	*i*P	Pn	00 33 55.0	-0.1	
IAS				*i*S	Sn	00 34 17.1	-2.2	
IAS	Iasi	1.65 24		P	Pn	00 33 55.0	-0.1	
IAS				*i*S	Sn	00 34 17.2	-2.1	
TLCR		1.67 107	⇓	*i*P	Pn	00 33 55.4	+0.2	
TLCR		1.67 107	⇓	*i*P	Pn	00 33 55.4	+0.2	
TLCR				*i*S	Sn	00 34 18.3	-1.1	
TLCR		1.67 107		P	Pn	00 33 55.4	+0.2	
TLCR				*i*S	Sn	00 34 18.3	-1.1	
PRAR	RASCA	1.69 352	⇓	*i*P	Pn	00 33 55.9	+0.4	
PRAR	RASCA	1.69 352	⇓	*i*P	Pn	00 33 55.9	+0.4	
PRAR	RASCA	1.69 352	⇓	*i*P	Pn	00 33 55.9	+0.4	
CVDA	Cernavoda	1.71 142	⇑	*i*P	Pn	00 33 56.0	+0.2	
CVDA	Cernavoda	1.71 142	⇑	*i*P	Pn	00 33 56.0	+0.2	
CVDA				*i*S	Sn	00 34 18.4	-2.0	
CVDA	Cernavoda	1.71 142	⇑	*i*P	Pn	00 33 56.0	+0.2	
CVDA				*i*S	Sn	00 34 18.4	-2.0	
TIRR	Tirgusor	1.80 133	⇑	*i*P	Pn	00 33 56.6	-0.1	
TIRR	Tirgusor	1.80 133	⇑	*i*P	Pn	00 33 56.6	-0.1	
TIRR				*i*S	Sn	00 34 20.7	-1.4	
TIRR	Tirgusor	1.80 133	⇑	*i*P	Pn	00 33 56.6	-0.1	
TIRR				*i*S	Sn	00 34 20.7	-1.4	
LOT	Lotru	1.98 264	⇑	*i*P	Pn	00 33 59.1	+0.3	
LOT	Lotru	1.98 264	⇑	*i*P	Pn	00 33 59.1	+0.3	
LOT	Lotru	1.98 264	⇑	*i*P	Pn	00 33 59.1	+0.3	
MILM	Milestii Mici	1.99 51	⇓	*i*P	Pn	00 33 58.8	0.0	
MILM	Milestii Mici	1.99 51	⇓	*i*P	Pn	00 33 58.8	0.0	
MILM				*i*S	Sn	00 34 23.9	-1.9	
MILM	Milestii Mici	1.99 51		P	Pn	00 33 58.9	+0.1	
MILM				*i*S	Sn	00 34 23.9	-1.9	
KIS	Kishinev	2.04 49	*e*P		Pn	00 33 59.0	-0.4	
KIS				*i*S	Sn	00 34 26.0	-0.9	
	250nm,0.5s							
KIS	Kishinev	2.04 49	⇓	*i*P	Pn	00 33 59.5	+0.1	
KIS	Kishinev	2.04 49	⇓	*i*P	Pn	00 33 59.5	+0.1	
KIS				*i*S	Sn	00 34 25.0	-1.9	
KIS	Kishinev	2.04 49		P	Pn	00 33 59.5	+0.1	
KIS				S	Sn	00 34 26.0	-0.9	
BURAR	Bucovina Array	2.14 335		S	Sn	00 34 28.5	-0.7	
BURAR	Bucovina Array	2.14 335	*i*	S	Sn	00 34 28.5	-0.7	
BURAR	Bucovina Array	2.14 335	*i*	S	Sn	00 34 28.5	-0.7	
ZIMR		2.21 203	⇓	*i*P	Pn	00 34 01.5	+0.1	
ZIMR		2.21 203	⇓	*i*P	Pn	00 34 01.5	+0.1	
ZIMR				*i*S	Sn	00 34 28.4	-2.0	
SRE	Strehaia	2.59 248	⇑	*i*P	Pn	00 34 06.0	0.0	
SRE	Strehaia	2.59 248	⇑	*i*P	Pn	00 34 06.0	0.0	
SRE				*i*S	Sn	00 34 38.5	-0.2	
SRE	Strehaia	2.59 248	⇑	*i*P	Pn	00 34 06.0	0.0	
SORM	Soroca	2.74 26	⇑	*i*P	Pn	00 34 07.6	-0.2	
SORM	Soroca	2.74 26	⇑	*i*P	Pn	00 34 07.6	-0.2	
SORM	Soroca	2.74 26	⇑	*i*P	Pn	00 34 07.6	-0.2	

IDC 12 00:33:27.8±1.7, 2°23.2′N × 89°55.2′E, h0km, mb3.6/7, mb1 3.7/7, mb1mx3.5/68, mbtmp3.6/7, Error ellipse: s-maj=59.9km s-min=26.3km az=51.0, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MKAR	Makanchi Array	44.86	353	P	P	00 41 43.8	-0.1
	1.0nm,0.7s,baz=170,slow=8.5,SNR=4.6						
SONM	Songino Array	47.66	15	P	P	00 42 06.2	+0.2
	2.0nm,0.9s,baz=201,slow=9.2,SNR=5.4						
WRA	Warramunga Arr	48.98	119	P	P	00 42 15.9	-0.7
	0.4nm,0.6s,baz=299,slow=8.6,SNR=3.4						
KURBB	Kurchatov Arra	49.15	351	P	P	00 42 16.9	-0.4
	0.6nm,0.7s,baz=177,slow=7.2,SNR=4.6						
ZALV	Zalesovo Beam	51.71	356	P	P	00 42 36.2	-0.5
	0.5nm,0.4s,baz=187,slow=9.4,SNR=4.2						
BVAR	Borovoye Array	53.11	346	P	P	00 42 46.6	-0.5
	0.4nm,0.6s,baz=156,slow=7.6,SNR=2.8						
BRTR	Keskin Array B	62.98	314	P	P	00 43 56.7	-0.1
	0.4nm,0.7s,baz=131,slow=6.9,SNR=2.8						
TXAR	Lajitas Array	146.09	21	PKPbc	PKPab	00 53 11.6	+0.3
	0.2nm,0.8s,baz=343,slow=2.8,SNR=2.4						

ISCJB 12 00:35:20.2±0.9, 1°.8N±0°.1 × 89°.6E±0°.2, h10km, mb3.9/11, Error ellipse: s-maj=26.1km s-min=16.8km az=140.0
IDC 12 00:35:20.5±1.1, 1°.79N × 89°.56E, h0km, mb3.9/11, mb1 4.0/12, mb1mx3.7/68, mbtmp3.8/12, ML3.9/1, Error ellipse: s-maj=36.5km s-min=20.2km az=46.0

ISC 12 00:35:22.0±1.3, 1°.8N±0°.2 × 89°.6E±0°.2, h10km, n13, σ0§55/13, mb4.0/11, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	Chiang Mai Arr	18.89	28	P	Pn	00 39 43.3	-0.2
	0.1nm,0.3s,baz=223,slow=10,SNR=2.4						
MKAR	Makanchi Array	45.25	353	P	P	00 43 39.5	-0.2
	0.7nm,0.8s,baz=168,slow=9.7,SNR=4.0						
SONM	Songino Array	48.08	15	P	P	00 44 02.9	+0.9
	2.8nm,0.7s,baz=195,slow=8.7,SNR=8.4						
WRA	Warramunga Arr	48.89	119	P	P	00 44 08.6	0.0
	1.1nm,0.6s,baz=295,slow=8.5,SNR=5.7						
KURBB	Kurchatov Arra	49.53	351	P	P	00 44 12.8	-0.1
	1.3nm,0.8s,baz=177,slow=6.9,SNR=8.6						
ASAR	Alice Springs	49.94	123	P	P	00 44 16.6	0.0
	0.5nm,0.5s,baz=294,slow=8.1,SNR=5.2						
ZALV	Zalesovo Beam	52.11	356	P	P	00 44 31.8	-0.5
	0.9nm,0.5s,baz=175,slow=7.4,SNR=4.1						
BVAR	Borovoye Array	53.48	346	P	P	00 44 42.1	-0.4
	0.6nm,0.7s,baz=134,slow=6.4,SNR=3.8						
BRTR	Keskin Array B	63.18	314	P	P	00 45 50.5	-0.2
	0.8nm,0.6s,baz=128,slow=7.2,SNR=8.0						
AKASG	Malin Array Be	70.23	324	P	P	00 46 34.5	-0.8
	0.3nm,0.3s,baz=95,slow=5.3,SNR=3.1						
MLR	Muntele Rosu	70.48	318	P	P	00 46 37.8	+0.6
	1.2nm,0.7s,baz=168,slow=8.3,SNR=13						
GERES	GERESS Array B	79.39	119	P	P	00 47 28.9	+0.4
	1.9nm,0.9s,baz=104,slow=5.6,SNR=6.8						
TXAR	Lajitas Array	146.51	21	PKPbc	PKPab	00 55 04.7	-0.7
	0.8nm,0.8s,baz=299,slow=1.8,SNR=6.9						

IDC 12 00:41:00.5±1.7, 2°.48N × 92°.85E, h0km, mb3.6/5, mb1 3.8/6, mb1mx3.4/65, mbtmp3.6/6, ML4.2/1, Error ellipse: s-maj=56.5km s-min=28.4km az=58.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	Chiang Mai Arr	16.96	20	Pn	P	00 45 01.0	-0.4
	0.3nm,0.3s,baz=216,slow=12,SNR=4.4						
MKAR	Makanchi Array	45.08	350	P	P	00 49 18.2	-0.2
	0.7nm,0.6s,baz=169,slow=9.0,SNR=8.6						
WRA	Warramunga Arr	46.41	121	P	P	00 49 29.2	0.0
	0.5nm,0.7s,baz=298,slow=8.5,SNR=5.9						
SONM	Songino Array	46.67	13	P	P	00 49 31.0	0.0
	0.3nm,0.3s,baz=193,slow=8.2,SNR=3.1						
ZALV	Zalesovo Beam	51.72	354	P	P	00 50 08.4	-1.0
	0.3nm,0.4s,baz=182,slow=5.0,SNR=3.0						
GERES	GERESS Array B	80.99	319	P	P	00 53 18.0	+0.7
	0.2nm,0.3s,baz=104,slow=4.1,SNR=2.8						
TXAR	Lajitas Array	144.63	25	PKP	PKPab	01 00 38.6	+0.1
	0.5nm,0.7s,baz=204,slow=10,SNR=7.6						

IDC 12 00:46:52.8±3.2, 1°.94N × 92°.08E, h0km, mb3.5/6, mb1 3.7/7, mb1mx3.4/66, mbtmp3.6/7, Error ellipse: s-maj=74.9km s-min=33.8km az=2.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PSI	Prapat	6.89	83	Pn	Pn	00 48 34.6	-0.7
H08S2	Diego Garcia H	21.73	244	T	T	01 13 18.7	
	baz=66,slow=75,SNR=6.2						
H08S3	Diego Garcia H	21.73	244	T	T	01 13 21.1	
	baz=66,slow=75,SNR=8.0						
H08S1	Diego Garcia H	21.75	244	T	T	01 13 21.1	
	baz=66,slow=75,SNR=5.2						
MKAR	Makanchi Array	45.49	351	P	P	00 55 12.6	-1.3
	0.4nm,0.7s,baz=166,slow=8.3,SNR=3.4						
SONM	Songino Array	47.37	13	P	P	00 55 29.8	+1.0
	0.3nm,0.3s,baz=188,slow=7.1,SNR=3.9						
GEYT	Alibeck	47.46	323	P	P	00 55 30.3	+0.7
	1.2nm,0.8s,baz=118,slow=5.2,SNR=3.1						
KURBB	Kurchatov Arra	49.85	349	P	P	00 55 47.3	-0.4
	0.4nm,0.6s,baz=171,slow=7.2,SNR=3.1						
BRTR	Keskin Array B	64.86	313	P	P	00 57 33.6	-0.6
	0.2nm,0.6s,baz=101,slow=2.9,SNR=2.9						
GERES	GERESS Array B	80.89	319	P	P	00 59 09.7	+0.6
	0.5nm,0.7s,baz=100,slow=5.1,SNR=4.8						

IDC 12 00:50:35.0±1.2, 2°.46N × 91°.74E, h0km, mb4.0/12, mb1 4.2/14, mb1mx3.8/67, mbtmp4.1/14, ML4.2/2, Error ellipse: s-maj=35.4km s-min=23.0km az=35.0
NEIC 12 00:50:36.8±0.5, 2°.77N × 92°.33E, h10km, mb4.6/5, Error ellipse: s-maj=13.0km s-min=7.0km az=24.0
DJA 12 00:50:49.6±0.5, 3°N±7°′ × 9°2E±°, h62km±9km, M5.5/13, mb4.9/13, mB6.5/4, MLv5.5/4, Mw(mB)6.3/4

ISC 12 00:50:37.5±0.7, 2°.74N±0°.09 × 92°.32E±0°.06, h10km, n71, σ1§66/64, mb4.4/20, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MLSI	Meulaboh, Aceh	4.34	70	P	Pb	00 51 52.6	-1.3
TPTI		4.88	84	P	Pg	00 52 10.4	-0.5
	64nm,0.6s,6µm1.4nm						
LHMI	Lhok Sumawe	5.23	62	*e*Pn	Pn	00 51 54.4	-1.4
GSI	Gunungsitoli	5.44	105	P	Pn	00 51 58.5	-0.2
GSI	Gunungsitoli	5.44	105	*e*Pn	Pn	00 51 57.8	-0.9
GSI				*e*S	Sn	00 53 06.3	+4.9
KCSI	Kotacane, Aceh	5.49	82	P	Pg	00 52 20.9	-1.9
	2µm,0.6s,55µm13nm						
PBSI	Pulau Batu	6.57	115	P	Pb	00 52 30.2	-1.7
	586nm,0.9s,1.7nm						
PSI	Prapat	6.59	89	Pn	Pn	00 52 13.6	-1.0
	baz=313,slow=10						
PSI				Sn	Sb	00 53 50.3	-1.0
	baz=4.1,slow=14						
MNSI	Mandailing Nat	7.51	105	P	Pn	00 52 26.8	-0.3
SISI	Saibi	7.88	121	P	Pb	00 52 47.3	-6.9
	63nm,0.7s,0.5nm						
KULM	Kulim	8.68	73	*e*Pn	Pn	00 52 40.7	-2.5
IPM	Ipoh	8.85	79	*e*Pn	Pn	00 52 43.8	-1.8
IPM				*e*S	Sn	00 54 34.6	+9.0
PDSI	Padang	8.91	114	P	Pn	00 53 00.9	+15
	38nm,1.1s						
PALK	Pallekele	12.42	292	Pn	Pn	00 53 25.5	-9.0
	1.8nm,0.3s,baz=116,slow=14,SNR=5.0						
PALK				Sn	Sn	00 55 29.1	-24
	5.1nm,0.3s,baz=294,slow=2.9,SNR=6.5						
PALK	Pallekele	12.42	292	*e*Pn	Pn	00 53 25.2	-9.3
PALK				*e*S	Sn	00 55 28.7	-24
MNAI	Manna	12.75	124	*e*Pn	Pn	00 53 39.3	+0.2
MDSI	Maura Dua	13.85	121	P	P	00 54 11.5	+9.1
	8.8nm,0.8s						
CM01	Chiang Mai Arr	16.88	22	*e*Pn	Pn	00 54 33.8	-0.2
CM31	Chiang Mai Arr	16.91	22	*e*Pn	P	00 54 35.0	-1.4
CMAR	Chiang Mai Arr	16.91	22	P	P	00 54 38.8	+2.4
	0.3nm,0.3s,baz=218,slow=12,SNR=4.6						
CHTO	Chiang Mai	17.23	22	*e*Pn	P	00 54 42.0	+2.0
	7.7nm,0.9s						
STKI	Sintang	19.33	98	P	Pn	00 55 17.5	+13
H08S2	Diego Garcia H	22.32	242	T	T	01 17 45.6	
	baz=59,slow=76						
H08S3	Diego Garcia H	22.32	242	T	T	01 17 42.2	
	baz=59,slow=76						
H08S1	Diego Garcia H	22.33	242	T	T	01 17 42.5	
	baz=59,slow=76						
RAMN	Ramite	24.69	348	*e*P	P	00 56 00.2	+1.1
	204nm,1.3s						
JIRN	Jiri	25.46	347	*e*P	P	00 56 07.2	+1.0
PKIN	Phulchoki	25.57	346	*e*P	P	00 56 09.2	+2.2
	34nm,0.6s						
GUN	Gumba	25.77	347	*e*P	P	00 56 08.8	-0.2
	37nm,0.6s						
KOLN	Koldanda	26.25	342	*e*P	P	00 56 17.4	+4.3
	27nm,0.6s						
PYUN	Piuthan	26.74	341	*e*P	P	00 56 21.1	+3.5
CD2	Chengdu	30.03	20	*e*P	P	00 56 48.0	+1.3
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
XAN	Xi'an	34.78	25	P	P	00 57 36.7	+8.4
XAN				pP	sP	00 57 42.8	+10
XAN				pmax	pmax		
	comp=Z,6.0nm,1.0s						
LZH	Lanzhou	34.85	16	*e*P	P	00 57 31.5	+2.5
LZH				pP	sP	00 57 35.7	+2.3
LZH				sP	pP	00 57 38.4	+6.3
LZH				PP	PP	00 58 49.0	+0.9
LZH				pmax	pmax		
	comp=Z,20nm,0.9s						
LZH				pmax	pmax		
	comp=Z,460nm,7.8s						
LZH				LR	LR		
	comp=N,170nm,12.8s						
LZH				LR	LR		
	comp=E,170nm,10.0s						
LZH				LR	LR		
	comp=Z,240nm,14.2s						
NIL	Nilore	35.54	332	*e*Pn	P	00 57 35.3	+0.4
NJ2	Nanjing	38.37	38	*e*P	P	00 57 57.1	-1.9
NJ2				pmax	pmax		
	comp=Z,16nm,0.5s						
WMQ	Urumqi	41.11	355	P	P	00 58 22.3	+0.6
WMQ				pmax	pmax		
	comp=Z,25nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,3µm,11.5s						
WMQ				LR	LR		
	comp=N,2µm,17.9s						
WMQ				LR	LR		
	comp=E,3µm,17.9s						
WMQ				LR	LR		
	comp=Z,2µm,20.5s						
HHC	Hu-ho-hao-te	41.72	22	*e*P	P	00 58 28.1	+1.3
HHC				pmax	pmax		
	comp=Z,12nm,1.1s						
HHC				pmax	pmax		
	comp=Z,24nm,6.1s						
MK01	Makanchi Array	44.71	350	*e*P	P	00 58 50.9	+0.1
MK31	Makanchi Array	44.74	350	*e*P	P	00 58 51.1	+0.1
MKAR	Makanchi Array	44.74	350	P	P	00 58 51.2	+0.2
	comp=Z,1.3nm,0.6s,baz=154,slow=8.8,SNR=14						
MKAR	Makanchi Array	44.74	350	*e*P	P	00 58 51.1	+0.1
	comp=Z,18nm,0.7s						
SONM	Songino Array	46.53	13	P	P	00 59 08.5	+3.2
	comp=Z,1.6nm,0.8s,baz=194,slow=9.5,SNR=7.9						
SONA1	Songino Array	46.55	13	*e*P	P	00 59 07.9	+2.4
GEYT	Alibeck	46.97	323	P	P	00 59 08.0	-0.9
	comp=Z,1.0nm,0.5s,baz=172,slow=12,SNR=6.2						
WRA	Warramunga Arr	47.00	121	P	P	00 59 10.4	+1.2
	comp=Z,2.3nm,0.8s,baz=297,slow=8.6,SNR=8.5						
KURBB	Kurchatov Arra	49.11	348	P	P	00 59 24.9	-0.3
	comp=Z,1.5nm,0.9s,baz=171,slow=7.3,SNR=8.6						
KURK	Kurchatov	49.18	349	P	P	00 59 24.9	-0.8
CN2	Changchun	50.32	31	*e*P	P	00 59 36.3	+1.9
ZAA0	Zalesovo Array	51.41	354	*e*P	P	00 59 42.6	+0.2
	comp=Z,4.1nm,0.9s						
ZALV	Zalesovo Beam	51.41	354	P	P	00 59 42.7	+0.3
	comp=Z,1.3nm,0.4s,baz=183,slow=6.8,SNR=8.6						
ZALV	Zalesovo Beam	51.41	354	*e*P	P	00 59 39.6	-2.9
BVAR	Borovoye Array	53.30	344	P	P	00 59 55.3	-1.3
	comp=Z,1.0nm,0.7s,baz=138,slow=8.8,SNR=6.9						
ABKAR	Akbulak array	53.94	334	*e*P	P	01 00 00.1	-1.2
	comp=Z,10nm,0.8s						
KBZ	Khabaz	59.75	320	P	P	01 00 41.3	-1.3
	comp=Z,2.3nm,0.8s,baz=88,slow=3.8,SNR=7.2						
BRTR	Keskin Array B	64.

2.5nm,0.7s,baz=304,slow=8.9,SNR=20
ASAR Alice Springs 51.57 131 P **P 01 06 45.0 +0.4**
2.1nm,0.8s,baz=310,slow=7.2,SNR=15
BRTR Keskin Array B 60.79 310 P **P 01 07 49.5 -1.0**
1.3nm,0.8s,baz=124,slow=7.3,SNR=13
STKA Stephens Creek 61.87 135 P **P 01 07 58.0 +0.4**
2.6nm,1.0s,baz=276,slow=9.2,SNR=3.7
FINES FINESS Array B 70.50 332 P **P 01 08 52.1 -0.4**
1.7nm,0.9s,baz=84,slow=4.3,SNR=2.9
GERES GERESS Array B 75.95 318 P **P 01 09 25.1 0.0**
0.9nm,0.9s,baz=94,slow=5.4,SNR=5.7
TORD Torodi Ar. Bea 89.98 283 P **P 01 10 38.9 +0.6**
0.5nm,0.8s,baz=104,slow=4.8,SNR=3.5
ILAR Eielson Array 92.45 22 P **P 01 10 46.3 -2.4**
0.3nm,0.6s,baz=308,slow=4.4,SNR=1.8

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*ISCJB **12** 00:58:24.4±1.2,4˚.2N±0˚.2×92˚.5E±0˚.1, h10km, mb4.0/7, Error ellipse: s-maj=23.1km s-min=18.3km az=3.6*
*IDC **12** 00:58:24.9±1.5,4˚.14N×92˚.54E, h0km, mb4.1/7, mb1 4.2/9, mb1mx3.7/67, mbtmp4.1/9, ML4.0/2, Error ellipse: s-maj=41.5km s-min=25.5km az=48.0*
ISC 12 00:58:26.3±1.3, 4˚.2N±0˚.2×92˚.4E±0˚.1, h10km, n9, σ1s81/10, mb4.0/7, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**12.02**	**285**	Pn		**Pn**		**01 01 20.2**	**+2.3**
	1.1nm,0.3s,baz=115,slow=15,SNR=5.1								
PALK				Sn		**Sn**		01 03 28.5	-3.6
	1.4nm,0.3s,baz=115,slow=9.7,SNR=4.0								
CMAR	**Chiang Mai Arr**	**15.59**	**24**	Pn		**Pn**		**01 02 05.1**	**-1.2**
	0.2nm,0.3s,baz=217,slow=14,SNR=13								
MKAR	**Makanchi Array**	**43.35**	**350**	P		**P**		**01 06 29.5**	**+0.7**
	1.8nm,0.7s,baz=170,slow=8.1,SNR=7.0								
SONM	**Songino Array**	**45.14**	**13**	P		**P**		**01 06 43.3**	**+0.1**
	1.3nm,0.7s,baz=194,slow=8.4,SNR=8.1								
WRA	**Warramunga Arr**	**47.68**	**122**	P		**P**		**01 07 02.3**	**-1.2**
	0.6nm,0.7s,baz=303,slow=8.7,SNR=4.0								
KURBB	**Kurchatov Arra**	**47.74**	**348**	P		**P**		**01 07 03.6**	**+0.2**
	2.1nm,0.7s,baz=174,slow=6.9,SNR=10.0								
ZALV	**Zalesovo Beam**	**50.01**	**354**	P		**P**		**01 07 21.4**	**+0.6**
	5.0nm,0.4s,baz=174,slow=6.8,SNR=21								
BVAR	**Borovoye Array**	**51.96**	**343**	P		**P**		**01 07 35.5**	**0.0**
	0.9nm,0.8s,baz=163,slow=6.0,SNR=4.1								
GERES	**GERESS Array B**	**79.42**	**319**	P		**P**		**01 10 33.9**	**+0.9**
	0.2nm,0.3s,baz=69,slow=6.4,SNR=2.5								

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*ISCJB **12** 01:05:13.6±0.8,2˚.4N±0˚.1×90˚.02E±0˚.09, h10km, mb4.1/9, MS4.4/1, Error ellipse: s-maj=17.3km s-min=12.7km az=20.0*
*IDC **12** 01:05:14.7±1.4,2˚.58N×90˚.26E, h0km, mb3.6/7, mb1 3.8/9, mb1mx3.5/69, mbtmp3.6/9, ML3.7/1, MS4.4/1, Ms1 4.4/1, ms1mx3.7/58, Error ellipse: s-maj=41.6km s-min=22.0km az=33.0*
*NEIC **12** 01:05:15.6±0.7,2˚.35N×90˚.11E, h10km, mb4.6/2, Error ellipse: s-maj=16.4km s-min=11.1km az=13.0*
ISC 12 01:05:15.8±1.1, 2˚.3N±0˚.2×90˚.2E±0˚.1, h10km, n37, σ1s82/30, mb3.8/9, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**8.77**	**86**	Pn		**Pn**		**01 07 20.0**	**-2.9**
PALK	**Pallekele**	**10.65**	**298**	Pn		**Pn**		**01 07 48.3**	**-0.3**
	0.6nm,0.3s,baz=116,slow=12,SNR=3.0								
PALK				Sn		Sn		01 09 31.5	-17
	2.0nm,0.3s,baz=117,slow=2.3,SNR=5.8								
PALK	**Pallekele**	**10.65**	**298**	*e*Pn		**Pn**		**01 07 46.7**	**-1.8**
PALK				*e*Sn		Sn		01 09 34.6	-13
KULM	**Kulim**	**10.88**	**74**	*e*Pn		**Pn**		**01 07 50.5**	**-1.2**
CM31	**Chiang Mai Arr**	**18.23**	**28**	*e*Pn		**P**		**01 09 30.2**	**+0.8**
CMAR	**Chiang Mai Arr**	**18.23**	**28**	P		**P**		**01 09 30.2**	**+0.8**
	0.2nm,0.3s,baz=214,slow=13,SNR=7.2								
H08S3	**Diego Garcia H**	**20.20**	**241**	T		T		01 30 34.5	
	baz=60,slow=75,SNR=7.4								
H08S2	**Diego Garcia H**	**20.20**	**241**	T		T		01 30 36.6	
	baz=60,slow=75,SNR=4.6								
H08S1	**Diego Garcia H**	**20.21**	**241**	T		T		01 30 35.3	
	baz=60,slow=75,SNR=3.4								
H01W3	**Cape Leeuwin H**	**43.28**	**151**	T		T		01 59 36.6	
	baz=326,slow=74,SNR=5.4								
H01W2	**Cape Leeuwin H**	**43.29**	**151**	T		T		01 59 37.5	
	baz=326,slow=74,SNR=16								
H01W1	**Cape Leeuwin H**	**43.29**	**151**	T		T		01 59 38.7	
	baz=326,slow=74,SNR=15								
MK01	**Makanchi Array**	**44.84**	**352**	*e*P		**P**		**01 13 31.9**	**+1.8**
MK31	**Makanchi Array**	**44.86**	**352**	*e*P		**P**		**01 13 33.8**	**+3.5**
MK32	**Makanchi Array**	**44.86**	**352**	*e*P		**P**		**01 13 28.8**	**-1.5**
MKAR	**Makanchi Array**	**44.86**	**352**	P		**P**		**01 13 28.8**	**-1.5**
	0.6nm,0.8s,baz=164,slow=8.3,SNR=4.4								
OPO	**Ambohidratompo**	**47.08**	**242**	LR		LR		01 28 18.7	
	comp=Z,441nm,20.4s,baz=178,slow=29								
SONA0	**Songino Array**	**47.50**	**15**	*e*P		**P**		**01 13 50.1**	**-1.1**
SONM	**Songino Array**	**47.50**	**15**	P		**P**		**01 13 50.1**	**-1.1**
	4.6nm,0.7s,baz=193,slow=10.0,SNR=14								
SONA1	**Songino Array**	**47.51**	**15**	*e*P		**P**		**01 13 50.2**	**-1.1**
WR1	**Warramunga Arr**	**48.64**	**119**	*e*P		**P**		**01 14 01.2**	**+0.9**
WRA	**Warramunga Arr**	**48.64**	**119**	P		**P**		**01 14 01.2**	**+0.9**
	1.1nm,1.1s,baz=297,slow=8.6,SNR=2.9								
KURBB	**Kurchatov Arra**	**49.16**	**350**	P		**P**		**01 14 01.3**	**-2.5**
	0.1nm,0.3s,baz=172,slow=7.4,SNR=3.2								
KURK	**Kurchatov**	**49.24**	**350**	*e*P		**P**		**01 14 01.3**	**-3.1**
ZALV	**Zalesovo Beam**	**51.68**	**356**	P		**P**		**01 14 20.7**	**-2.1**
	0.3nm,0.3s,baz=181,slow=5.8,SNR=2.3								
ZALV	**Zalesovo Beam**	**51.68**	**356**	*e*P		**P**		**01 14 24.4**	**+1.6**
ZAA1	**Zalesovo Array**	**51.69**	**356**	*e*P		**P**		**01 14 20.7**	**-2.1**
ABKAR	**Akbulak array**	**53.44**	**336**	*e*P		**P**		**01 14 36.0**	**0.0**
BR101	**Keskin Array S**	**63.24**	**314**	*e*P		**P**		**01 15 43.3**	**-1.6**
BRTR	**Keskin Array B**	**63.24**	**314**	P		**P**		**01 15 43.3**	**-1.6**
	0.3nm,0.7s,baz=134,slow=4.2,SNR=3.2								
BR231	**Keskin MP Arra**	**63.90**	**314**	*e*P		**P**		**01 15 49.5**	**+0.4**
TIXI	**Tiksi**	**73.47**	**12**	*e*P		**P**		**01 16 51.2**	**+3.1**
	4.0nm,0.9s								
GEC2	**GERESS Array S**	**79.38**	**319**	*e*P		**P**		**01 17 23.4**	**+1.1**
	16nm,1.8s								
GERES	**GERESS Array B**	**79.38**	**319**	P		**P**		**01 17 23.4**	**+1.1**
	0.4nm,0.5s,baz=90,slow=6.9,SNR=3.7								
SMY	**Shemya**	**84.52**	**37**	*e*P		**P**		**01 17 51.1**	**+2.1**
	76nm,0.4s								
LTX	**Lajitas**	**145.88**	**22**	*e*PKPdf		**PKPdf**		**01 24 55.4**	**-0.4**
TXAR	**Lajitas Array**	**145.88**	**22**	PKPbc		**PKPdf**		**01 24 55.4**	**-0.4**
	0.9nm,1.1s,baz=357,slow=3.6,SNR=3.1								

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*ISCJB **12** 01:07:05.8±0.7,52˚.44S±0˚.10×12˚.9E±0˚.3, h10km, mb4.1/6, Error ellipse: s-maj=25.4km s-min=13.7km az=11.2*
*IDC **12** 01:07:06.5±0.9,52˚.42S×12˚.99E, h0km, mb4.1/7, mb1 4.3/7, mb1mx3.9/39, mbtmp4.1/7, Error ellipse: s-maj=30.0km s-min=21.0km az=95.0*
ISC 12 01:07:07.9±0.8, 52˚.4S±0˚.1×13˚.0E±0˚.2, h10km, n17, σ0s74/15, mb4.1/6, Southwest of Africa

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SNAA	**Sanae**	**20.55**	**194**	P		**P**		**01 11 46.8**	**+0.6**
SNAA	**Sanae**	**20.55**	**194**	P		**P**		**01 11 46.7**	**+0.6**
	5.7nm,0.8s,baz=29,slow=14,SNR=15								
VNA1	**Neumayer--Stat**	**20.67**	**200**	P		Pn		01 11 52.4	+2.6
VNA2	**Neumayer--Watz**	**20.71**	**199**	P		**P**		**01 11 46.6**	**-1.3**
	baz=31,slow=11								
SUR	**Sutherland**	**20.83**	**19**	P		**P**		**01 11 49.0**	**-0.7**
	0.5nm,0.8s,baz=162,slow=16,SNR=3.6								
VNA3	**Neumayer Olymp**	**21.42**	**200**	P		**P**		**01 11 55.3**	**-0.3**
H10S2	**ASCENSION HYDR**	**48.83**	**323**	T		T		02 08 41.0	
	baz=158,slow=75,SNR=19								
H10S3	**ASCENSION HYDR**	**48.84**	**323**	T		T		02 08 42.0	
	baz=158,slow=75,SNR=19								
H10S1	**ASCENSION HYDR**	**48.84**	**323**	T		T		02 08 42.4	
	baz=158,slow=75,SNR=16								
VNDA	**Vanda**	**48.88**	**171**	P		**P**		**01 15 53.8**	**+0.8**
	0.9nm,0.8s,baz=207,slow=7.8,SNR=3.4								
PLCA	**Paso Flores**	**55.50**	**246**	P		**P**		**01 16 41.8**	**-1.0**
	1.9nm,0.9s,baz=154,slow=9.1,SNR=4.1								
CPUP	**Villa Florida**	**57.72**	**268**	P		**P**		**01 16 58.6**	**-0.1**
	2.4nm,0.7s,baz=129,slow=6.6,SNR=5.2								
TORD	**Torodi Ar. Bea**	**66.03**	**348**	P		**P**		**01 17 55.3**	**+0.8**
	0.9nm,1.0s,baz=191,slow=6.8,SNR=3.1								
LPAZ	**La Paz**	**71.86**	**267**	P		**P**		**01 18 32.5**	**+0.8**
	7.4nm,0.8s,baz=140,slow=4.6,SNR=16								
ASAR	**Alice Springs**	**88.45**	**128**	P		**P**		**01 19 59.8**	**-0.6**
	0.9nm,0.7s,baz=210,slow=4.9,SNR=6.1								
YKA	**Yellowknife Ar**	**150.88**	**311**	PKP		**PKPdf**		**01 26 53.7**	**+0.2**
	0.6nm,0.6s,baz=99,slow=1.9,SNR=6.9								
YKA				PKPbc		**PKPbc**		**01 26 58.8**	**-0.4**
	0.9nm,0.7s,baz=88,slow=2.4,SNR=3.6								
YKA				PKPab		**PKPab**		**01 27 06.7**	**+0.1**
	0.6nm,0.8s,baz=94,slow=2.7,SNR=4.1								
INK	**Inuvik**	**157.48**	**328**	PKPab		**PKPab**		**01 27 34.7**	**+0.2**
	1.3nm,1.0s,baz=61,slow=6.1,SNR=4.0								

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*IDC **12** 01:13:36.1±1.1,3˚.68N×92˚.55E, h0km, mb3.7/8, mb1 3.8/10, mb1mx3.6/66, mbtmp3.7/10, ML3.6/1, MS4.5/1, Ms1 4.5/1, ms1mx3.5/72, Error ellipse: s-maj=42.5km s-min=18.0km az=55.0*
*ISCJB **12** 01:13:37.6±0.6,3˚.70N±0˚.06×92˚.60E±0˚.06, h24km, mb4.1/12, MS4.5/1, Error ellipse: s-maj=10.1km s-min=6.8km az=37.8*
*NEIC **12** 01:13:37.3±0.6,3˚.71N×92˚.55E, h10km, mb4.7/6, Error ellipse: s-maj=13.2km s-min=7.4km az=43.0*
*DJA **12** 01:13:47.4±3.8,4˚.N±8˚×9˚.3E±3˚.4, h10km, M4.7/4, mb4.8/4, MLv4.6/1*
ISC 12 01:13:39.3±0.7, 3˚.68N±0˚.09×92˚.60E±0˚.08, h24km, n36, σ1s52/36, mb3.9/12, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BSI	**Banda Aceh**	**3.24**	**56**	P		**Pn**		**01 14 29.3**	**+0.6**
MLSI	**Meulaboh, Aceh**	**3.84**	**81**	P		**Pn**		**01 14 38.9**	**+1.9**
TPTI		**4.59**	**95**	P		**Pn**		**01 14 49.8**	**+2.5**
LHMI	**Lhok Sumawe**	**4.60**	**70**	P		Pn		01 14 38.3	-9.1
LHMI	**Lhok Sumawe**	**4.60**	**70**	*e*Pn		**Pn**		**01 14 47.8**	**+0.4**
LHMI				*e*Sn		**Sn**		**01 15 39.5**	**-0.6**
GSI	**Gunungsitoli**	**5.51**	**115**	P		**Pn**		**01 15 00.9**	**+1.0**
GSI	**Gunungsitoli**	**5.51**	**115**	*e*Pn		**Pn**		**01 15 00.3**	**+0.4**
GSI				*e*Sn		**Sn**		**01 15 58.9**	**-3.6**
PSI	**Prapat**	**6.38**	**98**	*e*Pn		**Pn**		**01 15 13.4**	**+1.4**
PSI				*e*Sn		**Sn**		**01 16 21.5**	**-2.6**
MNSI	**Mandailing Nat**	**7.54**	**112**	P		**Pn**		**01 15 28.5**	**+0.6**
SISI	**Saibi**	**8.18**	**127**	P		Pn		01 15 43.6	+7.0
KULM	**Kulim**	**8.18**	**78**	*e*Pn		**Pn**		**01 15 37.5**	**+0.8**
PALK	**Pallekele**	**12.37**	**287**	Pn		**Pn**		**01 16 32.0**	**-2.1**
	0.3nm,0.3s,baz=114,slow=17,SNR=2.3								
PALK				Sn		Sn		01 18 35.9	-15
	0.9nm,0.3s,baz=115,slow=7.8,SNR=2.7								
MNAI	**Manna**	**13.07**	**128**	*e*Pn		**Pn**		**01 16 43.0**	**-0.8**
CM31	**Chiang Mai Arr**	**15.94**	**22**	*e*Pn		**Pn**		**01 17 20.6**	**-1.7**
CMAR	**Chiang Mai Arr**	**15.94**	**22**	Pn		**Pn**		**01 17 20.6**	**-1.7**
	baz=213,slow=13,SNR=4.0								
UGM	**Wanagama**	**21.27**	**123**	*e*P		**P**		**01 18 24.5**	**+0.3**
	378nm,1.7s								
MK01	**Makanchi Array**	**43.84**	**350**	*e*P		**P**		**01 21 43.9**	**+0.3**
MK32	**Makanchi Array**	**43.87**	**350**	*e*P		**P**		**01 21 44.3**	**+0.5**
MKAR	**Makanchi Array**	**43.87**	**350**	P		**P**		**01 21 44.3**	**+0.5**
	0.5nm,0.7s,baz=163,slow=8.9,SNR=4.1								
SONA0	**Songino Array**	**45.56**	**13**	*e*P		**P**		**01 21 59.1**	**+1.6**
SONM	**Songino Array**	**45.56**	**13**	P		**P**		**01 21 59.1**	**+1.6**
	0.3nm,0.4s,baz=185,slow=10.0,SNR=3.7								
WR1	**Warramunga Arr**	**47.24**	**121**	*e*P		**P**		**01 22 10.8**	**-0.1**
	15nm,1.4s								
WRA	**Warramunga Arr**	**47.24**	**121**	P		**P**		**01 22 10.8**	**-0.1**
	1.1nm,1.0s,baz=299,slow=9.1,SNR=4.3								
KURBB	**Kurchatov Arra**	**48.26**	**348**	P		**P**		**01 22 16.8**	**-1.5**
	0.2nm,0.2s,baz=165,slow=7.8,SNR=3.9								
KURK	**Kurchatov**	**48.33**	**348**	*e*P		**P**		**01 22 16.8**	**-2.0**
AS31	**Alice Springs**	**48.56**	**126**	*e*P		**P**		**01 22 21.9**	**+0.8**
	1.6nm,1.3s								
ASAR	**Alice Springs**	**48.56**	**126**	P		**P**		**01 22 21.9**	**+0.8**
	0.5nm,0.8s,baz=303,slow=8.8,SNR=3.9								
ATD	**Arta Tunnel**	**49.86**	**282**	LR		LR		01 42 14.7	
	comp=Z,424nm,18.7s,baz=211,slow=34								
ZALV	**Zalesovo Beam**	**50.51**	**354**	P		**P**		**01 22 36.6**	**+1.1**
	0.4nm,0.3s,baz=165,slow=7.2,SNR=4.2								
ZALV	**Zalesovo Beam**	**50.51**	**354**	*e*P		**P**		**01 22 32.5**	**-2.9**
ZAA1	**Zalesovo Array**	**50.51**	**354**	*e*P		**P**		**01 22 36.6**	**+1.1**
STKA	**Stephens Creek**	**58.43**	**131**	P		**P**		**01 23 34.7**	**+1.2**
	1.4nm,0.6s,baz=305,slow=4.8,SNR=4.5								
STKA	**Stephens Creek**	**58.43**	**131**	*e*P		**P**		**01 23 34.7**	**+1.2**
	5.3nm,1.9s								
EIDS	**Eidsvold**	**63.59**	**121**	*e*P		**P**		**01 24 08.3**	**-0.3**
	58nm,1.8s								
GEC2	**GERESS Array S**	**79.93**	**319**	*e*P		**P**		**01 25 47.9**	**+1.3**
	5.6nm,1.2s								
GERES	**GERESS Array B**	**79.93**	**319**	P		**P**		**01 25 47.9**	**+1.3**
	0.6nm,0.6s,baz=115,slow=6.0,SNR=5.4								

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*ISCJB **12** 01:14:01.4±1.8,28˚.88S±0˚.05×71˚.42W±0˚.09, h21km±11km, Error ellipse: s-maj=13.9km s-min=7.6km az=18.8*
*GUC **12** 01:14:03.1±0.4,28˚.97S×70˚.88W, h59km±2km, ML3.6*
*SJA **12** 01:14:05.7±0.4,29˚.10S×70˚.96W, h183km±12km, ML4.0, MW3.9*
ISC 12 01:14:00.1±3.6, 28˚.84S±0˚.06×71˚.4W±0˚.1, h13km±26km, n13, σ1s72/18, 1C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LCO	**Las Campanas**	**0.61**	**106**	⇓*i*P		**Pb**		**01 14 13.8**	**+1.0**
LCO				*i* S		**Sb**		**01 14 21.5**	**+0.1**
LCO				IAML				01 14 22.1	
	comp=E,5μm,0.4s								
TLL	**Tololo Astrono**	**1.41**	**160**	⇓*i*P		**Pn**		**01 14 25.4**	**-0.3**
TLL				*i* S		**Sn**		**01 14 42.7**	**-1.6**
TLL				IAML				01 14 44.2	
	comp=E,2μm,0.3s								
GO04	**Tololo Observa**	**1.42**	**160**	⇑*i*P		**Pn**		**01 14 25.4**	**-0.4**
GO04				*i* S		**Sn**		**01 14 42.8**	**-1.6**
GO04				IAML				01 14 49.3	
	comp=N,4μm,0.4s								
GO03	**Copiap**	**1.60**	**39**	⇓*i*P		**Pb**		**01 14 29.2**	**-0.4**
GO03				*i* S		**Sn**		**01 14 48.8**	**+0.2**
GO03				IAML				01 14 50.6	
	comp=N,622nm,0.4s								
ACDV	**Cuesta del Vie**	**2.37**	**125**	IAML				01 15 11.3	
	comp=Z,2μm,0.5s								
AGUA	**GUANDACOL**	**2.60**	**105**	*e*P		**Pb**		**01 14 45.8**	**-0.8**
AGUA				*e*S		**Sn**		**01 15 15.3**	**+1.8**
VCA	**Vinchina**	**2.78**	**89**	*e*P		**Pb**		**01 14 48.6**	**-1.1**
VCA				*e*P		**Pb**		**01 14 48.7**	**-1.1**
VCA				*e*S		**Sb**		**01 15 20.9**	**-2.8**
VCA				IAML				01 15 28.1	
	comp=Z,201nm,0.3s								
VCA	**Vinchina**	**2.78**	**89**	IAML				01 15 29.1	
	comp=N,923nm,0.3s								
AMOG	**MOGNA**	**3.25**	**131**	*e*P		**Pn**		**01 14 53.0**	**+2.0**
RTLS	**Leoncito**	**3.45**	**149**	*e*P		**Pn**		**01 14 56.7**	**+2.9**
AUSP	**Uspallata**	**3.78**	**154**	*e*P		**Pn**		**01 15 00.7**	**+2.4**
RTCV	**Cerro Valdivia**	**3.88**	**142**	*e*P		**Pn**		**01 15 00.9**	**+1.4**
APLL	**PUNTA DE LOS L**	**4.49**	**111**	*e*P		**Pn**		**01 15 08.5**	**+0.6**

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*ISCJB **12** 01:22:04.5±0.8,3˚.8N±0˚.1×92˚.73E±0˚.07, h10km, mb3.9/8, Error ellipse: s-maj=15.9km s-min=9.2km az=170.6*
*IDC **12** 01:22:04.9±1.2,3˚.76N×92˚.69E, h0km, mb3.9/8, mb1 4.0/10, mb1mx3.7/67, mbtmp3.9/10, ML3.6/2, Error ellipse: s-maj=41.3km s-min=19.6km az=49.0*
*DJA **12** 01:22:09.3±2.4,3˚.N±5˚×9˚.4E±2˚.1, h10km, M4.1/5, mB5.3/1, mb4.0/1, MLv4.1/5, Mw(mB)4.7/1*
ISC 12 01:22:06.2±1.1, 3˚.8N±0˚.2×92˚.75E±0˚.09, h10km, n15, σ0s80/13, mb4.0/8, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BSI	**Banda Aceh**	**3.03**	**57**	P		**Pn**		**01 22 54.5**	**+0.2**
BSI				S		**Sn**		**01 23 30.0**	**-0.7**
MLSI	**Meulaboh, Aceh**	**3.67**	**83**	P		Pn		01 22 57.4	-5.6
LHMI	**Lhok Sumawe**	**4.41**	**71**	P		**Pn**		**01 23 12.5**	**-0.7**
TPTI		**4.45**	**97**	P		Pn		01 23 07.2	-6.6
GSI	**Gunungsitoli**	**5.43**	**117**	P		Pn		01 23 13.7	-14
PALK	**Pallekele**	**12.47**	**286**	Pn		**Pn**		**01 25 03.1**	**-0.9**
	0.6nm,0.3s,baz=116,slow=16,SNR=2.9								
CMAR	**Chiang Mai Arr**	**15.76**	**22**	Pn		**Pn**		**01 25 48.3**	**-0.1**
	0.1nm,0.3s,baz=216,slow=13,SNR=6.9								
MKAR	**Makanchi Array**	**43.76**	**350**	P		**P**		**01 30 13.2**	**+1.2**
	2.2nm,0.6s,baz=168,slow=8.7,SNR=22								
SONM	**Songino Array**	**45.39**	**13**	P		**P**		**01 30 25.2**	**+0.1**
	1.0nm,0.8s,baz=190,slow=8.4,SNR=4.5								
GEYT	**Alibeck**	**46.39**	**322**	P		**P**		**01 30 34.0**	**+0.9**
	2.6nm,0.5s,baz=157,slow=8.0,SNR=8.0								
WRA	**Warramunga Arr**	**47.18**	**122**	P		**P**		**01 30 40.1**	**+0.6**
	0.3nm,0.5s,baz=298,slow=8.8,SNR=5.2								
KURBB	**Kurchatov Arra**	**48.16**	**348**	P		**P**		**01 30 47.3**	**+0.8**
	1.4nm,0.6s,baz=172,slow=7.1,SNR=11								
ASAR	**Alice Springs**	**48.51**	**126**	P		**P**		**01 30 50.1**	**+0.3**
	0.4nm,0.7s,baz=307,slow=7.7,SNR=3.2								
ZALV	**Zalesovo Beam**	**50.39**	**354**	P		**P**		**01 31 03.7**	**+0.2**
	1.5nm,0.4s,baz=172,slow=9.3,SNR=4.6								
GERES	**GERESS Array B**	**79.93**	**319**	P		**P**		**01 34 14.7**	**-1.0**
	0.5nm,0.7s,baz=116,slow=2.3,SNR=5.1								

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*ISCJB **12** 01:24:07.1±0.5, 1˚.35N±0˚.09×91˚.60E±0˚.07, h10km, mb4.4/20, Error ellipse: s-maj=13.4km s-min=8.9km az=31.1*
*IDC **12** 01:24:07.8±1.2, 1˚.39N×91˚.54E, h0km, mb4.2/14, mb1 4.3/16, mb1mx4.0/66, mbtmp4.1/16, ML4.5/1, Error ellipse: s-maj=34.6km s-min=22.5km az=36.0*
*NEIC **12** 01:24:08.8±0.4, 1˚.33N×91˚.56E, h10km, mb4.9/10, Error ellipse: s-maj=10.6km s-min=6.7km az=34.0*
ISC 12 01:24:08.8±0.8, 1˚.3N±0˚.1×91˚.56E±0˚.10, h10km, n62, σ0s83/56, mb4.4/20, 3C-3D, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LHMI	**Lhok Sumawe**	**6.63**	**54**	*e*Pn		**Pn**		**01 25 46.9**	**+0.5**
PALK	**Pallekele**	**12.32**	**299**	Pn		**Pn**		**01 27 03.3**	**-1.2**
	2.8nm,0.3s,baz=115,slow=10,SNR=6.2								
PALK				Sn		Sn		01 29 08.4	-14
	4.8nm,0.3s,baz=115,slow=2.2,SNR=7.2								
PALK	**Pallekele**	**12.32**	**299**	*e*Pn		**Pn**		**01 27 03.3**	**-1.2**
PALK				*e*Sn		Sn		01 29 09.3	-13
CM31	**Chiang Mai Arr**	**18.50**	**23**	*e*P		**P**		**01 28 24.6**	**-0.7**
CMAR	**Chiang Mai Arr**	**18.50**	**23**	P		**P**		**01 28 24.6**	**-0.7**
	baz=210,slow=12,SNR=2.6								
H08S2	**Diego Garcia H**	**21.00**	**245**	T		T		01 50 38.4	
	baz=65,slow=75,SNR=23								
H08S3	**Diego Garcia H**	**21.00**	**245**	T		T		01 50 40.4	
	baz=65,slow=75,SNR=27								
H08S1	**Diego Garcia H**	**21.02**	**245**	T		T		01 50 41.5	
	baz=65,slow=75,SNR=25								
LUWI	**Luwuk**	**31.30**	**94**	*e*P		**P**		**01 30 28.3**	**-1.2**
	11nm,1.1s								
NIL	**Nilore**	**36.44**	**334**	*e*P		**P**		**01 31 12.9**	**-1.1**
	11nm,1.0s								
H01W3	**Cape Leeuwin H**	**41.78**	**152**	T		T		02 16 20.1	
	baz=326,slow=76,SNR=5.1								
H01W2	**Cape Leeuwin H**	**41.79**	**152**	T		T		02 16 20.8	
	baz=326,slow=76,SNR=5.5								
H01W1	**Cape Leeuwin H**	**41.80**	**152**	T		T		02 16 20.2	
	baz=326,slow=76,SNR=6.3								
AAK	**Ala-Archa**	**43.88**	**342**	P		**P**		**01 32 15.8**	**+0.1**
	1.4nm,0.7s,baz=187,slow=8.7,SNR=5.0								
AAK	**Ala-Archa**	**43.88**	**342**	*e*P		**P**		**01 32 15.1**	**-0.6**
	3.3nm,1.2s								
KK31	**Karatay Array**	**45.64**	**338**	*e*P		**P**		**01 32 30.1**	**+0.5**
KKAR	**Karatay Array**	**45.64**	**338**	*e*P		**P**		**01 32 30.1**	**+0.4**
MK01	**Makanchi Array**	**45.97**	**351**	*e*P		**P**		**01 32 32.0**	**-0.1**
MK31	**Makanchi Array**	**45.99**	**351**	*e*P		**P**		**01 32 32.6**	**+0.3**
MK32	**Makanchi Array**	**45.99**	**351**	*e*P		**P**		**01 32 32.5**	**+0.2**
MKAR	**Makanchi Array**	**45.99**	**351**	P		**P**		**01 32 32.5**	**+0.2**
	3.0nm,0.6s,baz=168,slow=9.1,SNR=16							

mb1mx3.4/66,**mbtmp3.6**/6,**Error ellipse: s-maj=72.2km s-min=27.1km az=53.0,Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**45.52**	**120**	P	P	01 48 33.5	+0.1
	0.7nm,0.8s,baz=290,slow=9.4,SNR=3.1						
MKAR	**Makanchi Array**	**46.18**	**350**	P	P	01 48 38.1	-0.1
	0.5nm,0.8s,baz=167,slow=9.5,SNR=3.4						
SONM	**Songino Array**	**47.59**	**12**	P	P	01 48 47.6	-1.8
	0.7nm,0.6s,baz=196,slow=8.9,SNR=5.7						
KURBB	**Kurchatov Arra**	**50.58**	**348**	P	P	01 49 12.7	+0.7
	0.5nm,0.7s,baz=173,slow=7.6,SNR=5.3						
ZALV	**Zalesovo Beam**	**52.80**	**354**	P	P	01 49 29.7	+1.1
	0.6nm,0.4s,baz=160,slow=8.9,SNR=2.1						
GERES	**GERESS Array B**	**82.06**	**319**	P	P	01 52 33.4	-0.7
	0.5nm,0.8s,baz=116,slow=4.6,SNR=3.0						

IDC ***12*** *01:45:37.7±6.3, 17.49N×102.18W, h0km, mb3.4/4, mb1 3.8/5, mb1mx3.5/51, mbtmp3.4/5, ML3.2/1, Error ellipse: s-maj=133.6km s-min=100.6km az=106.0*

ISCJB ***12*** *01:45:44.2±1.2, 18.0N±0.1×102.94W±0.07, h10km, mb3.4/4, Error ellipse: s-maj=20.0km s-min=4.8km az=27.2*

MEX ***12*** *01:45:46.0±0.3, 17.83N×103.11W, h12km±7km, MD4.0*

ISC 12 01:45:44.7±1.4,**17.9N**±0.1×**102.95W**±0.08,**h10**km,**n12,** σ2°**19**/15,**mb3.5**/4,**Near coast of Michoacan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMIG	**Aquila**	**0.51**	**313**	*i* P	**Pg**	**01 45 54.8**	**+0.1**
MMIG				*i* S	**Sg**	**01 46 02.1**	**+0.7**
ZIIG	**Zihuatanejo**	**1.46**	**103**	*e*P	**Pn**	**01 46 10.5**	**-0.6**
ZIIG				*e*S	**Sn**	**01 46 29.3**	**-1.0**
EZ5V		**1.65**	**338**	*i* P	**Pn**	**01 46 13.3**	**-0.8**
EZ5V				*e*S	**Sn**	**01 46 32.8**	**-2.7**
ARIG	**Puente Sto Nin**	**2.50**	**82**	*e*P	**Pn**	**01 46 24.5**	**-1.0**
ARIG				*e*S	**Sn**	**01 46 57.3**	**+1.2**
CJM	**Chamela**	**2.52**	**308**	*e*P	**Pn**	**01 46 28.2**	**+2.4**
CJM				*e*S	**Sn**	**01 46 52.0**	**-4.5**
H06E1	**SOCORRO T-PHAS**	**7.62**	**278**	T	T	01 55 29.1	
	SNR=3.7						
CMIG	**Matias Romero**	**7.74**	**95**	Lg	Lg	01 49 28.3	
	0.3nm,0.3s,baz=286,slow=16,SNR=3.2						
TXAR	**Lajitas Array**	**11.36**	**357**	Pn	**Pn**	**01 48 30.8**	**+3.6**
	0.0nm,0.3s,baz=176,slow=16,SNR=5.4						
TXAR				Lg	Lg	01 51 39.6	
	0.1nm,0.3s,baz=174,slow=29,SNR=3.5						
NVAR	**Mina Array Bea**	**24.42**	**330**	P	**P**	**01 51 04.9**	**+1.1**
	0.3nm,0.7s,baz=150,slow=11,SNR=4.2						
YKA	**Yellowknife Ar**	**45.25**	**352**	P	**P**	**01 53 59.8**	**-2.2**
	0.2nm,0.6s,baz=165,slow=6.9,SNR=6.8						
INK	**Inuvik**	**53.92**	**346**	P	**P**	**01 55 07.1**	**-0.9**
	0.9nm,0.7s,baz=139,slow=5.9,SNR=5.4						
ILAR	**Eielson Array**	**55.22**	**339**	P	**P**	**01 55 17.8**	**+0.2**
	0.8nm,1.0s,baz=143,slow=6.2,SNR=6.1						

ISCJB ***12*** *01:46:07.6±1.1, 29.44S±0.05×69.46W±0.05, h119km±11km, Error ellipse: s-maj=8.2km s-min=7.0km az=172.8*

GUC ***12*** *01:46:08.0±0.5, 29.41S×69.53W, h108km±6km, ML3.8*

SJA ***12*** *01:46:08.8±0.6, 29.56S×69.37W, h109km±4km, ML4.4, MW4.6*

ISC 12 01:46:08.1±2.0,**29.46S**±0.05×**69.47W**±0.05, **h117km**±16km,**n12,** σ0°**64**/20,**4C-1D,Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AROD	**Rodeo**	**0.71**	**180**	*e*P	**Pn**	**01 46 27.7**	**+0.1**
AROD				*e*S	**Sn**	**01 46 41.8**	**-0.6**
ACDV	**Cuesta del Vie**	**0.77**	**157**	*e*P	**Pn**	**01 46 27.8**	**-0.2**
AGUA	**GUANDACOL**	**0.86**	**92**	*e*P	**Pn**	**01 46 28.5**	**-0.1**
AGUA				*e*S	**Sn**	**01 46 43.2**	**-0.9**
LCO	**Las Campanas**	**1.16**	**292**	↑*i* P	**Pn**	**01 46 31.8**	**-0.1**
LCO				*i* S	**Sn**	**01 46 49.5**	**-0.4**
LCO				IAML		01 46 50.2	
	comp=N,2μm,0.3s						
VCA	**Vinchina**	**1.32**	**57**	*e*P	**Pn**	**01 46 34.4**	**+0.9**
VCA				*e*S	**Sn**	**01 46 53.2**	**+0.5**
VCA				IAML		01 46 54.7	
	comp=Z,4μm,0.3s						
VCA	**Vinchina**	**1.32**	**57**	↑*i* P	**Pn**	**01 46 34.0**	**+0.5**
VCA				*i* S	**Sn**	**01 46 53.6**	**+0.9**
VCA				IAML		01 46 54.2	
	comp=E,4μm,0.3s						
GO04	**Tololo Observa**	**1.36**	**238**	↑*i* P	**Pn**	**01 46 34.2**	**+0.3**
GO04				*i* S	**Sn**	**01 46 54.4**	**+0.9**
GO04				IAML		01 46 56.5	
	comp=N,4μm,0.3s						
TLL	**Tololo Astrono**	**1.36**	**238**	↑*i* P	**Pn**	**01 46 34.3**	**+0.3**
TLL				*i* S	**Sn**	**01 46 54.2**	**+0.6**
TLL				IAML		01 46 55.5	
	comp=N,1μm,0.4s						
AMOG	**MOGNA**	**1.70**	**150**	*e*P	**Pn**	**01 46 37.5**	**-0.3**
GO03	**Copiap**	**1.98**	**340**	↓*i* P	**Pn**	**01 46 41.0**	**-0.3**
GO03				*i* S	**Sn**	**01 47 05.4**	**-1.1**
GO03				IAML		01 47 12.2	
	comp=N,330nm,0.2s						
RTCV	**Cerro Valdivia**	**2.53**	**162**	*e*P	**Pn**	**01 46 48.4**	**+0.2**
APLL	**PUNTA DE LOS L**	**2.72**	**111**	*e*P	**Pn**	**01 46 50.3**	**-0.5**

IDC ***12*** *01:51:53.4±0.8, 2.31N×92.89E, h0km, mb4.1/21, mb1 4.2/23, mb1mx4.0/70, mbtmp4.1/23, ML4.1/2, MS3.8/1, Ms1 3.8/1, ms1mx3.2/74, Error ellipse: s-maj=28.1km s-min=15.7km az=44.0*

ISCJB ***12*** *01:51:55.3±0.4, 2.39N±0.06×93.00E±0.04, h21km, mb4.2/31, MS3.7/1, Error ellipse: s-maj=9.0km s-min=4.8km az=27.6*

NEIC ***12*** *01:51:55.2±0.3, 2.36N×92.90E, h10km, mb4.6/15, Error ellipse: s-maj=8.2km s-min=4.9km az=208.0*

DJA ***12*** *01:52:04.3±2.1, 3.1N×94.4E±2.0, h10km, M4.6/5, mB6.0/2, mb5.0/4, MLv4.4/5, Mw(mB)5.6/2*

ISC 12 01:51:57.1±0.6,**2.46N**±0.07×**93.00E**±0.07,**h21**km,**n85,** σ1°**27**/85,**mb4.3**/31,**1C-5D,Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSI	**Banda Aceh**	**3.79**	**37**	P	**Pn**	**01 52 53.8**	**-0.5**
BSI				S	**Sn**	**01 53 33.3**	**-5.0**
MLSI	**Meulaboh, Aceh**	**3.84**	**62**	P	**Pn**	**01 52 54.6**	**-0.4**
TPTI		**4.25**	**79**	P	**Pn**	**01 52 59.5**	**-1.1**
GSI	**Gunungsitoli**	**4.72**	**104**	P	**Pn**	**01 53 06.3**	**-0.7**
GSI	**Gunungsitoli**	**4.72**	**104**	*e*Pn	**Pn**	**01 53 06.9**	**-0.1**
GSI				*e*Sn	**Sn**	**01 53 58.7**	**-2.5**
LHMI	**Lhok Sumawe**	**4.80**	**55**	P	**Pn**	**01 53 10.5**	**+2.3**
LHMI	**Lhok Sumawe**	**4.80**	**55**	*e*Pn	**Pn**	**01 53 08.3**	**0.0**
PBSI	**Pulau Batu**	**5.84**	**115**	P	Pb	01 53 32.5	-5.8
PSI	**Prapat**	**5.93**	**87**	*e*Pn	**Pn**	**01 53 24.4**	**+0.6**
MNSI	**Mandailing Nat**	**6.78**	**104**	P	**Pn**	**01 53 37.5**	**+2.1**
	123nm,0.5s,3μm						
SISI	**Saibi**	**7.16**	**122**	P	**Pn**	**01 53 42.6**	**+2.0**
	67nm,1.0s						
KULM	**Kulim**	**8.13**	**70**	*e*Pn	**Pn**	**01 53 54.8**	**+0.8**
IPM	**Ipoh**	**8.26**	**76**	*e*Pn	**Pn**	**01 53 58.9**	**+3.1**
MNAI	**Manna**	**12.04**	**124**	*e*Pn	**Pn**	**01 54 48.5**	**+0.9**
PALK	**Pallekele**	**13.15**	**292**	Pn	**Pn**	**01 54 59.8**	**-2.9**
	0.7nm,0.3s,baz=114,slow=13,SNR=3.7						
PALK				Sn	Sn	01 57 17.1	-11
	1.6nm,0.3s,baz=122,slow=1.3,SNR=6.6						
CM31	**Chiang Mai Arr**	**16.93**	**20**	*e*Pn	**Pn**	**01 55 52.1**	**-0.7**
CMAR	**Chiang Mai Arr**	**16.93**	**20**	Pn	**Pn**	**01 55 52.1**	**-0.7**
	0.3nm,0.3s,baz=215,slow=13,SNR=13						
CHTO	**Chiang Mai**	**17.27**	**19**	*e*Pn	**P**	**01 55 59.7**	**+1.3**
	5.3nm,0.8s						
ODAN	**Odare**	**24.85**	**348**	*e*P	**P**	**01 57 19.9**	**+1.4**
RAMN	**Ramite**	**25.11**	**346**	*e*P	**P**	**01 57 22.6**	**+1.7**
	24nm,0.7s						
JIRN	**Jiri**	**25.89**	**346**	*e*P	**P**	**01 57 29.3**	**+1.2**
	23nm,0.8s						
GUN	**Gumba**	**26.21**	**346**	*e*P	**P**	**01 57 32.0**	**+1.1**
	22nm,0.8s						
GKN	**Gorkha**	**26.63**	**343**	*e*P	**P**	**01 57 35.7**	**+1.2**
	30nm,0.8s						
KOLN	**Koldanda**	**26.73**	**341**	*e*P	**P**	**01 57 36.6**	**+1.2**
	11nm,0.7s						
DANN	**Dangsing**	**27.21**	**342**	*e*P	**P**	**01 57 41.2**	**+1.3**
TGY	**Tagaytay City**	**29.92**	**66**	LR	LR	02 08 59.3	
	comp=Z,177nm,21.2s,baz=180,slow=34						
NIL	**Nilore**	**36.11**	**331**	*e*P	**P**	**01 58 57.7**	**0.0**
	14nm,0.7s						
KDJ	**Kajisay**	**41.97**	**342**	*e*P	**P**	**01 59 48.1**	**+1.3**
	3.4nm,0.8s						
AAK	**Ala-Archa**	**43.29**	**340**	P	**P**	**01 59 59.1**	**+1.6**
	0.5nm,0.3s,baz=154,slow=7.3,SNR=4.0						
MK01	**Makanchi Array**	**45.11**	**350**	*e*P	**P**	**02 00 12.4**	**+0.6**
MK31	**Makanchi Array**	**45.13**	**350**	*e*P	**P**	**02 00 12.4**	**+0.4**
MK32	**Makanchi Array**	**45.13**	**350**	*e*P	**P**	**02 00 12.8**	**+0.8**
MKAR	**Makanchi Array**	**45.13**	**350**	P	**P**	**02 00 12.8**	**+0.8**
	5.3nm,0.7s,baz=168,slow=8.7,SNR=55						
MKAR	**Makanchi Array**	**45.13**	**350**	*e*P	**P**	**02 00 12.4**	**+0.4**
	30nm,0.6s						
KK31	**Karatay Array**	**45.16**	**337**	*e*P	**P**	**02 00 12.9**	**+0.6**
KKAR	**Karatay Array**	**45.16**	**337**	*e*P	**P**	**02 00 12.9**	**+0.6**
MAKZ	**Makanchi**	**45.20**	**349**	*e*P	**P**	**02 00 13.5**	**+0.9**
	3.0nm,0.8s						
WR1	**Warramunga Arr**	**46.27**	**121**	*e*P	**P**	**02 00 21.5**	**0.0**
	32nm,1.6s						
WRA	**Warramunga Arr**	**46.27**	**121**	P	**P**	**02 00 21.5**	**0.0**
	0.9nm,0.6s,baz=300,slow=8.9,SNR=9.4						
SONA0	**Songino Array**	**46.66**	**12**	*e*P	**P**	**02 00 25.6**	**+1.4**
SONM	**Songino Array**	**46.66**	**12**	P	**P**	**02 00 25.6**	**+1.4**
	2.5nm,0.6s,baz=191,slow=9.1,SNR=21						
SONA1	**Songino Array**	**46.67**	**12**	*e*P	**P**	**02 00 25.7**	**+1.3**
AS31	**Alice Springs**	**47.52**	**126**	*e*P	**P**	**02 00 31.0**	**-0.2**
	1.6nm,1.1s						
ASAR	**Alice Springs**	**47.52**	**126**	P	**P**	**02 00 31.0**	**-0.2**
	0.3nm,0.5s,baz=294,slow=7.9,SNR=4.0						
GEYT	**Alibeck**	**47.61**	**322**	P	**P**	**02 00 32.7**	**+1.0**
	4.2nm,0.7s,baz=152,slow=6.7,SNR=9.4						
KURBB	**Kurchatov Arra**	**49.53**	**348**	P	**P**	**02 00 46.5**	**+0.3**
	3.4nm,0.7s,baz=170,slow=7.1,SNR=31						
KURK	**Kurchatov**	**49.60**	**348**	*e*P	**P**	**02 00 47.6**	**+0.9**
	6.4nm,1.1s						
ZAA0	**Zalesovo Array**	**51.76**	**354**	*e*P	**P**	**02 01 03.0**	**+0.1**
	5.2nm,0.6s						
ZALV	**Zalesovo Beam**	**51.76**	**354**	P	**P**	**02 01 03.8**	**+0.8**
	4.7nm,0.5s,baz=188,slow=8.9,SNR=18						
ZAA1	**Zalesovo Array**	**51.77**	**354**	*e*P	**P**	**02 01 03.8**	**+0.8**
BVAR	**Borovoye Array**	**53.77**	**343**	P	**P**	**02 01 17.5**	**-0.3**
	1.6nm,0.7s,baz=138,slow=9.0,SNR=13						
ABKAR	**Akbulak array**	**54.49**	**334**	*e*P	**P**	**02 01 23.2**	**+0.1**
	33nm,0.6s						
AKTO	**Aktyubinsk**	**56.20**	**334**	P	**P**	**02 01 34.7**	**-0.8**
	1.4nm,0.7s,baz=146,slow=7.3,SNR=4.6						
KLR	**Kul'dur**	**57.12**	**29**	P	**P**	**02 01 43.4**	**+1.3**
	0.1nm,0.6s,baz=280,slow=5.5,SNR=4.4						
STKA	**Stephens Creek**	**57.33**	**131**	P	**P**	**02 01 43.1**	**-0.8**
	0.9nm,0.5s,baz=293,slow=9.5,SNR=2.9						
STKA	**Stephens Creek**	**57.33**	**131**	*e*P	**P**	**02 01 43.1**	**-0.8**
	2.3nm,1.5s						
KBZ	**Khabaz**	**60.40**	**320**	P	**P**	**02 02 05.7**	**+0.7**
	1.7nm,0.7s,baz=122,slow=6.5,SNR=5.2						
BR101	**Keskin Array S**	**65.18**	**313**	*e*P	**P**	**02 02 37.0**	**-0.1**
BRTR	**Keskin Array B**	**65.18**	**313**	P	**P**	**02 02 37.0**	**-0.1**
	0.8nm,0.7s,baz=131,slow=7.3,SNR=8.6						
BR231	**Keskin MP Arra**	**65.84**	**313**	*e*P	**P**	**02 02 37.8**	**-3.6**
IDI	**Anoyia**	**70.78**	**306**	P	**P**	**02 03 13.1**	**+0.8**
	4.9nm,0.8s,baz=60,slow=8.1,SNR=4.4						
IDI	**Anoyia**	**70.78**	**306**	*e*P	**P**	**02 03 13.1**	**+0.8**
	18nm,1.3s						
SORM	**Soroca**	**71.44**	**320**	↓*i* P	**P**	**02 03 15.8**	**-0.2**
AKASG	**Malin Array Be**	**71.72**	**323**	P	**P**	**02 03 16.8**	**-0.8**
	0.1nm,0.3s,baz=89,slow=5.6,SNR=3.2						
AKBB	**Malin Array Si**	**71.72**	**323**	*e*P	**P**	**02 03 16.8**	**-0.8**
	1.8nm,0.8s						
VRI	**Vrincioaia**	**71.86**	**318**	↑*i* P	**P**	**02 03 19.7**	**+1.1**
PLOR	**Plostina**	**71.90**	**318**	↓*i* P	**P**	**02 03 20.1**	**+1.2**
MLR	**Muntele Rosu**	**72.28**	**317**	P	**P**	**02 03 22.0**	**+0.7**
	0.9nm,0.8s,baz=122,slow=15,SNR=9.7						
MLR	**Muntele Rosu**	**72.28**	**317**	↓*i* P	**P**	**02 03 22.2**	**+0.9**
MLR	**Muntele Rosu**	**72.28**	**317**	*e*P	**P**	**02 03 22.0**	**+0.7**
	3.6nm,0.7s						
BURAR	**Bucovina Array**	**73.32**	**319**	↓*i* P	**P**	**02 03 28.0**	**+0.6**
BUR04	**Bucovina Ar. S**	**73.33**	**319**	*e*P	**P**	**02 03 28.2**	**+0.8**
BUR08	**Bucovina Ar. S**	**73.34**	**319**	*e*P	**P**	**02 03 28.6**	**+1.1**
VTS	**Vitosha**	**73.52**	**314**	↓*i* P	**P**	**02 03 28.6**	**-0.1**
FIA0	**FINESS Array S**	**76.96**	**333**	*e*P	**P**	**02 03 47.6**	**-0.3**
FINES	**FINESS Array B**	**76.96**	**333**	P	**P**	**02 03 47.6**	**-0.3**
	1.3nm,0.7s,baz=71,slow=8.9,SNR=3.8						
ARA0	**ARCESS Array S**	**79.95**	**341**	*e*P	**P**	**02 04 04.0**	**-0.3**
ARCES	**ARCESS Array B**	**79.95**	**341**	P	**P**	**02 04 04.0**	**-0.3**
	2.5nm,0.8s,baz=110,slow=7.8,SNR=3.1						
GEA0	**GERESS Array S**	**81.11**	**319**	*e*P	**P**	**02 04 11.6**	**+0.6**
GEC2	**GERESS Array S**	**81.11**	**319**	*e*P	**P**	**02 04 12.4**	**+1.4**
	4.9nm,0.8s						
GERES	**GERESS Array B**	**81.11**	**319**	P	**P**	**02 04 11.7**	**+0.6**
	2.3nm,0.8s,baz=100,slow=5.8,SNR=18						
HFS	**Hagfors**	**82.55**	**330**	P	**P**	**02 04 17.5**	**-0.7**
	1.5nm,0.7s,baz=118,slow=8.5,SNR=4.8						
KEST	**Kesra**	**83.42**	**306**	P	**P**	**02 04 22.1**	**-1.2**
	3.0nm,0.8s,baz=68,slow=4.7,SNR=3.8						
LTX	**Lajitas**	**144.58**	**26**	*e*PKPdf	**PKPdf**	**02 11 31.9**	**-1.1**
TXAR	**Lajitas Array**	**144.58**	**26**	PKP	**PKPdf**	**02 11 31.9**	**-1.1**
	0.3nm,0.4s,baz=47,slow=0.5,SNR=8.6						

ISCJB ***12*** *01:54:41.2±0.4, 1.19N±0.07×92.06E±0.04, h10km, mb4.4/29, Error ellipse: s-maj=10.4km s-min=5.6km az=11.7*

IDC ***12*** *01:54:41.3±0.9, 1.11N×91.93E, h0km, mb4.0/15, mb1 4.2/15, mb1mx3.9/67, mbtmp4.0/15, Error ellipse: s-maj=33.6km s-min=16.3km az=44.0*

NEIC ***12*** *01:54:42.8±0.3, 1.15N×91.97E, h10km, mb4.9/17, Error ellipse: s-maj=8.5km s-min=5.1km az=195.0*

ISC 12 01:54:43.0±0.6,**1.2N**±0.1×**92.03E**±0.07,**h10**km,**n70,** σ1°**14**/68,**mb4.4**/29,**5C-3D,Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSI	**Gunungsitoli**	**5.54**	**89**	*e*Pn	**Pn**	**01 56 05.5**	**-0.1**
GSI				*e*Sn	**Sn**	**01 57 08.9**	**-0.6**
LHMI	**Lhok Sumawe**	**6.32**	**51**	*e*Pn	**Pn**	**01 56 17.1**	**+0.8**
PSI	**Prapat**	**7.07**	**77**	*e*Pn	**Pn**	**01 56 27.1**	**+0.3**
KULM	**Kulim**	**9.51**	**65**	*e*Pn	**Pn**	**01 57 01.1**	**+1.0**
IPM	**Ipoh**	**9.55**	**70**	*e*Pn	**Pn**	**01 57 02.1**	**+1.4**
PALK	**Pallekele**	**12.79**	**298**	Sn	Sn	01 59 52.0	-16
	2.0nm,0.3s,baz=345,slow=0.6,SNR=4.5						
H08S2	**Diego Garcia H**	**21.38**	**245**	T	T	02 21 17.5	
	baz=65,slow=75,SNR=9.5						
H08S3	**Diego Garcia H**	**21.39**	**245**	T	T	02 21 17.7	
	baz=65,slow=75,SNR=10						
H08S1	**Diego Garcia H**	**21.40**	**245**	T	T	02 21 20.1	
	baz=65,slow=75,SNR=8.4						
KKM	**Kota Kinabalu**	**24.60**	**78**	*e*P	**P**	**02 00 01.0**	**-2.8**
	97nm,1.7s						
YULB	**Yu-li**	**35.94**	**50**	*e*P	**P**	**02 01 42.0**	**-2.0**
	22nm,1.3s						
MK01	**Makanchi Array**	**46.16**	**351**	*e*P	**P**	**02 03 08.0**	**+0.2**
MK32	**Makanchi Array**	**46.18**	**351**	*e*P	**P**	**02 03 08.2**	**+0.1**
MKAR	**Makanchi Array**	**46.18**	**351**	P	**P**	**02 03 08.2**	**+0.2**
	0.4nm,0.6s,baz=174,slow=8.3,SNR=2.8						
WRA	**Warramunga Arr**	**46.49**	**119**	P	**P**	**02 03 10.7**	**-0.2**
	3.4nm,0.7s,baz=296,slow=8.6,SNR=13						
WR1	**Warramunga Arr**	**46.50**	**119**	*e*P	**P**	**02 03 10.7**	**-0.2**
	61nm,2.0s						
WB2	**Warramunga Arr**	**46.51**	**119**	*e*P	**P**	**02 03 11.0**	**0.0**
	34nm,1.6s						
ASAR	**Alice Springs**	**47.61**	**124**	P	**P**	**02 03 19.3**	**-0.3**
	0.4nm,0.8s,baz=302,slow=8.5,SNR=3.7						
AS31	**Alice Springs**	**47.61**	**124**	*e*P	**P**	**02 03 19.3**	**-0.3**
	3.2nm,1.6s						
SONA0	**Songino Array**	**48.08**	**13**	*e*P	**P**	**02 03 24.3**	**+1.3**
SONM	**Songino Array**	**48.08**	**13**	P	**P**	**02 03 24.3**	**+1.3**
	2.1nm,0.7s,baz=191,slow=9.2,SNR=5.8						
SONA1	**Songino Array**	**48.09**	**13**	*e*P	**P**	**02 03 24.2**	**+1.2**
KS15	**Wonju Array Si**	**48.87**	**38**	*e*P	**P**	**02 03 30.1**	**+1.1**
KSAR	**Wonju Array Be**	**48.87**	**38**	P	**P**	**02 03 30.1**	**+1.1**
KSRS	**Korea Array**	**48.90**	**38**	P	**P**	**02 03 30.1**	**+0.8**
	0.7nm,0.4s,baz=213,slow=8.7,SNR=3.8						
RAYN	**Ar Rayn**	**50.23**	**300**	*e*P	**P**	**02 03 38.0**	**-1.7**
	3.0nm,1.2s						
KURBB	**Kurchatov Arra**	**50.54**	**349**	P	**P**	**02 03 41.9**	**+0.4**
	0.6nm,0.6s,baz=172,slow=6.8,SNR=3.4						
KURK	**Kurchatov**	**50.61**	**349**	*e*P	**P**	**02 03 41.1**	**-1.0**
	7.1nm,1.5s						
ZALV	**Zalesovo Beam**	**52.89**	**355**	P	**P**	**02 03 59.3**	**+0.3**
	1.4nm,0.3s,baz=178,slow=6.1,SNR=5.3						
ZALV	**Zalesovo Beam**	**52.89**	**355**	*e*P	**P**	**02 03 58.9**	**-0.1**
ZAA1	**Zalesovo Array**	**52.90**	**355**	*e*P	**P**	**02 03 59.3**	**+0.2**
INU	**Inuyama**	**53.83**	**46**	*e*P	**P**	**02 04 07.0**	**+0.7**
	65nm,1.7s						
STKA	**Stephens Creek**	**57.28**	**130**	P	**P**	**02 04 31.5**	**+0.3**
	1.2nm,0.6s,baz=294,slow=10.0,SNR=3.1						
STKA	**Stephens Creek**	**57.28**	**130**	*e*P	**P**	**02 04 31.5**	**+0.3**
	5.7nm,1.8s						
TBLG	**Delisi**	**58.56**	**320**	*e*P	**P**	**02 04 38.8**	**-1.3**
	5.2nm,0.6s						
KLR	**Kul'dur**	**58.66**	**29**	P	**P**	**02 04 41.2**	**+0.6**
	0.0nm,0.4s,baz=258,slow=9.3,SNR=3.7						
KBZ	**Khabaz**	**60.74**	**321**	P	**P**	**02 04 55.0**	**0.0**
	1.5nm,0.9s,baz=148,slow=12,SNR=3.4						
BR101	**Keskin Array S**	**65.32**	**314**	*e*P	**P**	**02 05 25.3**	**-0.5**
BRTR	**Keskin Array B**	**65.32**	**314**	P	**P**	**02 05 25.3**	**-0.5**
	0.5nm,0.6s,baz=152,slow=6.8,SNR=5.5						
BR231	**Keskin MP Arra**	**65.98**	**314**	*e*P	**P**	**02 05 26.2**	**-3.8**
LBTB	**Lobatse**	**69.28**	**243**	*e*P	**P**	**02 05 50.7**	**-0.4**
	21nm,1.5s						
IDI	**Anoyia**	**70.74**	**307**	*e*P	**P**	**02 05 59.8**	**0.0**
	30nm,1.5s						
VRI	**Vrincioaia**	**72.12**	**318**	↑*i* P	**P**	**02 06 08.9**	**+1.0**
AKASG	**Malin Array Be**	**72.13**	**324**	P	**P**	**02 06 07.0**	**-0.8**
	0.6nm,0.3s,baz=87,slow=6.2,SNR=3.6						
AKBB	**Malin Array Si**	**72.13**	**324**	*e*P	**P**	**02 06 07.0**	**-0.8**
	18nm,1.8s						
PLOR	**Plostina**	**72.17**	**318**	↓*i* P	**P**	**02 06 09.7**	**+1.5**
TESR	**Tescani**	**72.37**	**319**	↑*i* P	**P**	**02 06 09.7**	**+0.3**
MLR	**Muntele Rosu**	**72.54**	**318**	P	**P**	**02 06 11.7**	**+1.1**
	1.1nm,0.7s,baz=172,slow=11						
MLR	**Muntele Rosu**	**72.54**	**318**	↑*i* P	**P**	**02 06 12.0**	**+1.4**
MLR	**Muntele Rosu**	**72.54**	**318**	*e*P	**P**	**02 06 11.7**	**+1.1**
	7.8nm,0.8s						
ITM	**Ithomi**	**73.47**	**308**	*e*P	**P**	**02 06 14.3**	**-1.8**
	20nm,1.4s						
BURAR	**Bucovina Array**	**73.63**	**320**	↓*i* P	**P**	**02 06 18.1**	**+1.2**
BUR04	**Bucovina Ar. S**	**73.63**	**320**	*e*P	**P**	**02 06 17.4**	**+0.5**
BUR08	**Bucovina Ar. S**	**73.65**	**320**	*e*P	**P**	**02 06 18.0**	**+0.9**
VTS	**Vitosha**	**73.68**	**314**	↑*i* P	**P**	**02 06 17.7**	**+0.3**
VTS	**Vitosha**	**73.68**	**314**	*e*P	**P**	**02 06 15.8**	**-1.6**
	21nm,1.9s						
FIA1	**FINESS Array S**	**77.63**	**333**	*e*P	**P**	**02 06 39.1**	**-0.3**
FIA0	**FINESS Array S**	**77.63**	**333**	*e*P	**P**	**02 06 38.9**	**-0.5**
FINES	**FINESS Array B**	**77.63**	**333**	P	**P**	**02 06 38.9**	**-0.5**
	2.1nm,0.7s,baz=114,slow=6.2,SNR=4.5						
SYO	**Syowa Base**	**78.47**	**197**	↓*i* P	**P**	**02 06 44.6**	**+0.7**
SYO	**Syowa Base**	**78.47**	**197**	↑*e*PcP	**PcP**	**02 06 56.2**	**+3.2**
DPC	**Dobruska-Polom**	**79.96**	**321**	*e*P	**P**	**02 06 54.2**	**+1.6**
DPC				*e*PCP	**PcP**	**02 07 01.1**	**+1.0**
ARA0	**ARCESS Array S**	**80.80**	**341**	*e*P	**P**	**02 06 56.7**	**+0.1**
ARCES	**ARCESS Array B**	**80.80**	**341**	P	**P**	**02 06 56.7**	**+0.1**
	6.7nm,1.0s,baz=90,slow=5.0,SNR=5.5						
GEA0	**GERESS Array S**	**81.40**	**319**	*e*P	**P**	**02 07 00.9**	**+0.5**
GEC2	**GERESS Array S**	**81.41**	**319**	*e*P	**P**	**02 07 01.4**	**+1.0**
	4.9nm,0.8s						
GERES	**GERESS Array B**	**81.41**	**319**	P	**P**	**02 07 01.3**	**+0.9**
	2.5nm,0.8s,baz=104,slow=4.8,SNR=12						
KHC	**Kasperske Hory**	**81.53**	**319**	*e*P	**P**	**02 07 02.6**	**+1.6**
KHC				*ex*	x	02 07 11.2	
LTX	**Lajitas**	**146.11**	**25**	*e*PKPdf	**PKPbc**	**02 14 24.2**	**-0.1**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**15.92**	**22**	Pn	**Pn**	**02 07 12.1**	**-1.2**
	0.7nm,0.3s,baz=217,slow=14,SNR=11						
H01W3	**Cape Leeuwin H**	**43.33**	**154**	T	T	02 56 25.1	
	baz=326,slow=74,SNR=3.5						
H01W2	**Cape Leeuwin H**	**43.34**	**154**	T	T	02 56 26.1	
	baz=326,slow=74,SNR=3.5						
H01W1	**Cape Leeuwin H**	**43.34**	**154**	T	T	02 56 34.4	
	baz=326,slow=74,SNR=3.2						
MKAR	**Makanchi Array**	**43.90**	**350**	P	**P**	**02 11 35.9**	**+0.5**
	2.6nm,0.7s,baz=167,slow=8.6,SNR=21						
SONM	**Songino Array**	**45.55**	**13**	P	**P**	**02 11 49.5**	**+0.8**
	1.0nm,0.8s,baz=195,slow=9.2,SNR=5.0						
WRA	**Warramunga Arr**	**47.16**	**121**	P	**P**	**02 12 01.5**	**-0.1**
	0.5nm,0.8s,baz=303,slow=8.5,SNR=2.6						
KURBB	**Kurchatov Arra**	**48.29**	**348**	P	**P**	**02 12 09.8**	**0.0**
	2.2nm,0.8s,baz=172,slow=8.2,SNR=14						
ZALV	**Zalesovo Beam**	**50.53**	**354**	P	**P**	**02 12 27.9**	**+0.9**
	2.3nm,0.6s,baz=190,slow=8.9,SNR=9.0						
BVAR	**Borovoye Array**	**52.53**	**343**	P	**P**	**02 12 42.0**	**+0.1**
	1.6nm,0.8s,baz=141,slow=7.3,SNR=9.0						
KLR	**Kul'dur**	**56.22**	**30**	P	**P**	**02 13 09.1**	**+0.3**
	0.1nm,0.7s,baz=258,slow=11,SNR=3.5						
BRTR	**Keskin Array B**	**64.13**	**313**	P	**P**	**02 14 03.7**	**+0.2**
	0.7nm,0.7s,baz=120,slow=7.3,SNR=5.7						
GERES	**GERESS Array B**	**80.00**	**310**	P	**P**	**02 15 37.2**	**-1.1**
	2.1nm,0.9s,baz=69,slow=4.6,SNR=9.4						

ISCJB ***12*** *02:06:10.3±0.7,21°.99N×0°.08×143°.1E±0°.2,h200km, mb3.3/10,Error ellipse: s-maj=26.9km s-min=10.6km az=175.7*

IDC ***12*** *02:06:10.1±2.2,21°.97N×143°.18E,h182km±19km, mb3.2/10,mb1 3.4/11,mb1mx3.1/73,mbtmp3.8/11,Error ellipse: s-maj=22.6km s-min=14.7km az=90.0*

ISC 12 02:06:11.9±0.9,22°.0N±0°.1×143°.1E±0°.2,h200km,n11, σ1°92/12,mb3.5/10,Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**5.11**	**351**	P	**Pn**	**02 07 27.1**	**-0.5**
	baz=270,slow=20						
JCJ				S	**Sn**	**02 08 26.7**	**-0.8**
	4.5nm,0.3s,baz=287,slow=19,SNR=2.4						
WRA	**Warramunga Arr**	**42.59**	**192**	P	**P**	**02 13 47.3**	**-1.2**
	0.2nm,0.5s,baz=14,slow=9.8,SNR=5.6						
ASAR	**Alice Springs**	**46.30**	**192**	P	**P**	**02 14 17.4**	**-0.4**
	0.2nm,0.5s,baz=15,slow=8.8,SNR=3.0						
ZALV	**Zalesovo Beam**	**53.89**	**322**	P	**P**	**02 15 13.9**	**-0.6**
	1.4nm,0.6s,baz=94,slow=12,SNR=3.6						
MKAR	**Makanchi Array**	**54.40**	**312**	P	**P**	**02 15 20.2**	**+1.8**
	0.2nm,0.5s,baz=104,slow=6.1,SNR=2.5						
KURBB	**Kurchatov Arra**	**57.22**	**317**	P	**P**	**02 15 39.4**	**+1.2**
	1.0nm,0.6s,baz=92,slow=7.8,SNR=8.9						
ILAR	**Eielson Array**	**61.78**	**27**	P	**P**	**02 16 08.8**	**-0.4**
	0.5nm,0.7s,baz=264,slow=5.4,SNR=5.5						
BVAR	**Borovoye Array**	**62.36**	**319**	P	**P**	**02 16 14.1**	**+0.9**
	0.9nm,0.4s,baz=105,slow=7.6,SNR=9.1						
YKA	**Yellowknife Ar**	**76.20**	**28**	P	**P**	**02 17 38.2**	**+0.3**
	0.7nm,0.5s,baz=292,slow=5.9,SNR=12						
FINES	**FINESS Array B**	**82.84**	**334**	P	**P**	**02 18 13.5**	**-0.1**
	2.6nm,1.0s,baz=76,slow=12,SNR=2.9						
NVAR	**Mina Array Bea**	**83.00**	**51**	P	**P**	**02 18 16.1**	**+0.8**
	0.3nm,0.5s,baz=297,slow=6.0,SNR=3.5						

IDC 12 02:12:10.7±2.5,1°.70N×92°.27E,h0km,mb3.3/4,mb1 3.6/5, mb1mx3.3/75,mbtmp3.4/5,ML4.1/1,Error ellipse: s-maj=83.8km s-min=27.8km az=60.0,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**17.90**	**21**	P	Pn	02 16 19.9	-1.4
	0.2nm,0.3s,baz=218,slow=12,SNR=7.2						
MKAR	**Makanchi Array**	**45.75**	**350**	P	P	02 20 32.8	-1.0
	0.2nm,0.7s,baz=168,slow=7.7,SNR=2.7						
WRA	**Warramunga Arr**	**46.53**	**120**	P	P	02 20 39.6	-0.8
	0.4nm,0.8s,baz=311,slow=9.0,SNR=3.5						
SONM	**Songino Array**	**47.56**	**13**	P	P	02 20 49.1	+0.9
	0.3nm,0.4s,baz=189,slow=7.6,SNR=2.2						
KURBB	**Kurchatov Arra**	**50.12**	**349**	P	P	02 21 07.1	-0.5
	0.1nm,0.4s,baz=152,slow=6.2,SNR=3.2						
TXAR	**Lajitas Array**	**145.58**	**25**	PKPbc	PKPab	02 31 52.8	+0.6
	0.3nm,0.8s,baz=219,slow=1.6,SNR=4.2						

IDC 12 02:13:01.7±2.4,2°.82N×89°.17E,h0km,mb3.6/5,mb1 3.7/6, mb1mx3.4/74,mbtmp3.6/6,ML3.6/1,Error ellipse: s-maj=76.4km s-min=27.9km az=60.0,North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**18.25**	**31**	P	Pn	02 17 16.5	-0.2
	0.1nm,0.3s,baz=225,slow=10,SNR=2.4						
MKAR	**Makanchi Array**	**44.21**	**353**	P	P	02 21 12.7	0.0
	0.5nm,0.7s,baz=165,slow=9.9,SNR=5.9						
SONM	**Songino Array**	**47.25**	**16**	P	P	02 21 36.9	+0.2
	0.9nm,0.5s,baz=196,slow=8.8,SNR=6.3						
KURBB	**Kurchatov Arra**	**48.48**	**351**	P	P	02 21 44.6	-1.5
	0.6nm,0.9s,baz=168,slow=7.7,SNR=3.5						
WRA	**Warramunga Arr**	**49.76**	**119**	P	P	02 21 55.9	-0.5
	0.3nm,0.6s,baz=295,slow=8.7,SNR=3.2						
ZALV	**Zalesovo Beam**	**51.09**	**357**	P	P	02 22 06.2	+0.3
	0.6nm,0.3s,baz=176,slow=7.7,SNR=2.1						
TXAR	**Lajitas Array**	**145.74**	**20**	PKPbc	PKPab	02 32 44.0	+0.2
	0.3nm,0.7s,baz=338,slow=0.7,SNR=3.7						

IDC 12 02:14:32.9±20.0,4°.17N×91°.99E,h0km,mb3.7/4, mb1 3.9/4,mb1mx3.4/73,mbtmp3.7/4,Error ellipse: s-maj=566.5km s-min=82.3km az=124.0,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**43.28**	**350**	P	P	02 22 35.8	-0.5
	0.6nm,0.6s,baz=167,slow=8.1,SNR=4.9						
KURBB	**Kurchatov Arra**	**47.66**	**348**	P	P	02 23 11.2	+0.3
	0.6nm,0.8s,baz=170,slow=8.9,SNR=5.7						
ZALV	**Zalesovo Beam**	**49.96**	**354**	P	P	02 23 28.4	-0.2
	0.8nm,0.4s,baz=186,slow=7.1,SNR=2.3						
GERES	**GERESS Array B**	**79.16**	**319**	P	P	02 26 39.8	0.0
	0.3nm,0.5s,baz=90,slow=6.2,SNR=3.3						

ISCJB ***12*** *02:15:41.1±0.6,2°.47N±0°.10×90°.1E±0°.1,h10km,mb4.3/15, Error ellipse: s-maj=17.0km s-min=13.0km az=153.9*

IDC ***12*** *02:15:41.8±1.4,2°.51N×90°.16E,h0km,mb4.1/11, mb1 4.1/11,mb1mx3.7/71,mbtmp4.1/11,Error ellipse: s-maj=46.9km s-min=25.3km az=45.0*

NEIC ***12*** *02:15:42.7±0.4,2°.47N×90°.17E,h10km,mb4.8/6,Error ellipse: s-maj=11.8km s-min=8.6km az=206.0*

ISC 12 02:15:43.2±0.8,2°.5N±0°.2×90°.3E±0°.1,h10km,n40, σ0°60/31,mb4.4/15,1C,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**10.72**	**75**	*e*Pn	**Pn**	**02 18 16.1**	**-0.7**
H08S2	**Diego Garcia H**	**20.41**	**240**	T	T	02 41 22.3	
	baz=60,slow=75,SNR=5.8						
H08S3	**Diego Garcia H**	**20.41**	**240**	T	T	02 41 29.1	
	baz=60,slow=75,SNR=9.6						
H08S1	**Diego Garcia H**	**20.42**	**240**	T	T	02 41 34.3	
	baz=60,slow=75,SNR=5.2						
H01W3	**Cape Leeuwin H**	**43.42**	**151**	T	T	03 10 07.7	
	baz=326,slow=75,SNR=4.4						
H01W2	**Cape Leeuwin H**	**43.44**	**151**	T	T	03 10 03.5	
	baz=326,slow=75,SNR=5.0						
H01W1	**Cape Leeuwin H**	**43.44**	**151**	T	T	03 10 08.1	
	baz=326,slow=75,SNR=3.9						
MK01	**Makanchi Array**	**44.62**	**352**	*e*P	**P**	**02 23 55.5**	**-0.3**
MK31	**Makanchi Array**	**44.65**	**352**	*e*P	**P**	**02 23 56.4**	**+0.4**
MK32	**Makanchi Array**	**44.65**	**352**	*e*P	**P**	**02 23 56.1**	**+0.1**
MKAR	**Makanchi Array**	**44.65**	**352**	P	**P**	**02 23 56.1**	**+0.1**
	1.6nm,0.7s,baz=173,slow=9.3,SNR=12						
MKAR	**Makanchi Array**	**44.65**	**352**	*e*P	**P**	**02 23 56.2**	**+0.1**
	11nm,0.8s						
GEYT	**Alibeck**	**45.93**	**324**	P	**P**	**02 24 07.7**	**+1.4**
	2.1nm,0.7s,baz=156,slow=7.8,SNR=5.0						
SONA0	**Songino Array**	**47.25**	**15**	*e*P	**P**	**02 24 17.3**	**+0.7**
SONM	**Songino Array**	**47.25**	**15**	P	**P**	**02 24 17.3**	**+0.7**
	3.9nm,0.7s,baz=196,slow=9.4,SNR=13						
SONA1	**Songino Array**	**47.26**	**15**	*e*P	**P**	**02 24 17.1**	**+0.3**
WRA	**Warramunga Arr**	**48.66**	**119**	P	**P**	**02 24 29.0**	**+1.1**
	0.5nm,0.8s,baz=301,slow=8.8,SNR=2.7						
WR1	**Warramunga Arr**	**48.66**	**119**	*e*P	**P**	**02 24 29.0**	**+1.1**
	12nm,1.4s						
KURBB	**Kurchatov Arra**	**48.95**	**350**	P	**P**	**02 24 29.6**	**-0.1**
	1.7nm,0.7s,baz=175,slow=7.3,SNR=15						
KURK	**Kurchatov**	**49.03**	**350**	*e*P	**P**	**02 24 30.3**	**+0.2**
ZALV	**Zalesovo Beam**	**51.46**	**356**	P	**P**	**02 24 48.2**	**-0.3**
	2.3nm,0.4s,baz=184,slow=8.1,SNR=6.4						
ZALV	**Zalesovo Beam**	**51.46**	**356**	*e*P	**P**	**02 24 48.1**	**-0.4**
ZAA1	**Zalesovo Array**	**51.47**	**356**	*e*P	**P**	**02 24 48.2**	**-0.4**
BR101	**Keskin Array S**	**63.16**	**314**	*e*P	**P**	**02 26 11.9**	**+0.2**
BRTR	**Keskin Array B**	**63.16**	**314**	P	**P**	**02 26 11.9**	**+0.2**
	0.3nm,0.6s,baz=128,slow=6.0,SNR=3.3						
BOSA	**Boshof**	**69.50**	**238**	*e*P	P	02 26 50.1	-2.4
	11nm,1.4s						
MLR	**Muntele Rosu**	**70.40**	**318**	*e*P	P	02 26 55.9	-1.9
	22nm,2.0s						
BUR04	**Bucovina Ar. S**	**71.51**	**320**	*e*P	P	02 27 03.0	-1.5
PET	**Petropavlovsk**	**75.10**	**36**	*e*P	**P**	**02 27 25.4**	**0.0**
	97nm,1.8s						
FIA1	**FINESS Array S**	**75.69**	**333**	*e*P	**P**	**02 27 27.9**	**-0.6**
FIA0	**FINESS Array S**	**75.69**	**333**	*e*P	**P**	**02 27 27.9**	**-0.6**
FINES	**FINESS Array B**	**75.69**	**333**	P	**P**	**02 27 27.9**	**-0.6**
	4.3nm,1.0s,baz=101,slow=9.9,SNR=4.4						
ARA0	**ARCESS Array S**	**79.01**	**341**	*e*P	**P**	**02 27 46.5**	**-0.6**
ARCES	**ARCESS Array B**	**79.01**	**341**	P	**P**	**02 27 46.5**	**-0.6**
	2.2nm,0.9s,baz=96,slow=6.4,SNR=3.5						
SYO	**Syowa Base**	**79.20**	**196**	*e*P	**P**	**02 27 47.4**	**-0.6**
GEC2	**GERESS Array S**	**79.28**	**319**	*e*P	**P**	**02 27 48.5**	**-0.6**
	2.6nm,1.0s						
GERES	**GERESS Array B**	**79.28**	**319**	P	**P**	**02 27 48.5**	**-0.6**
	0.4nm,0.6s,baz=123,slow=4.9,SNR=4.0						
HFS	**Hagfors**	**81.15**	**330**	P	**P**	**02 27 58.1**	**-0.7**
	3.2nm,1.0s,baz=121,slow=12,SNR=4.0						
LTX	**Lajitas**	**145.63**	**22**	*e*PKPdf	**PKPdf**	**02 35 22.8**	**0.0**
TXAR	**Lajitas Array**	**145.63**	**22**	PKPbc	**PKPdf**	**02 35 22.8**	**0.0**
	0.8nm,0.9s,baz=22,slow=0.5,SNR=6.9						

ISCJB ***12*** *02:18:05.7±1.5,2°.6N±0°.2×89°.3E±0°.2,h10km,mb3.6/5, Error ellipse: s-maj=33.1km s-min=25.1km az=146.9*

IDC ***12*** *02:18:06.5±1.6,2°.57N×89°.31E,h0km,mb3.5/5,mb1 3.6/6, mb1mx3.4/72,mbtmp3.4/6,ML3.9/1,Error ellipse: s-maj=46.9km s-min=27.5km az=50.0*

ISC 12 02:18:07.9±1.6,2°.6N±0°.2×89°.3E±0°.2,h10km,n7,σ0°56/7, mb3.6/5,North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**18.38**	**30**	P	**Pn**	**02 22 22.7**	**-0.3**
	0.1nm,0.3s,baz=210,slow=12,SNR=2.0						
MKAR	**Makanchi Array**	**44.47**	**353**	P	**P**	**02 26 19.3**	**0.0**
	0.2nm,0.4s,baz=162,slow=6.9,SNR=3.1						
SONM	**Songino Array**	**47.44**	**16**	P	**P**	**02 26 43.2**	**+0.4**
	1.1nm,0.9s,baz=197,slow=9.4,SNR=3.7						
KURBB	**Kurchatov Arra**	**48.74**	**351**	P	**P**	**02 26 52.1**	**-0.5**
	0.2nm,0.4s,baz=176,slow=6.8,SNR=3.2						
WRA	**Warramunga Arr**	**49.50**	**119**	P	**P**	**02 26 58.8**	**-0.2**
	0.6nm,0.8s,baz=297,slow=8.6,SNR=2.9						
BRTR	**Keskin Array B**	**62.45**	**314**	P	**P**	**02 28 31.5**	**-0.1**
	0.2nm,0.4s,baz=130,slow=6.6,SNR=4.1						
TXAR	**Lajitas Array**	**145.91**	**21**	PKPbc	**PKPab**	**02 37 49.8**	**+0.8**
	1.3nm,0.9s,baz=216,slow=1.0,SNR=5.2						

IDC 12 02:22:55.0±2.0,1°.37N×91°.58E,h0km,mb3.7/4,mb1 3.9/4, mb1mx3.4/70,mbtmp3.7/4,Error ellipse: s-maj=73.5km s-min=31.0km az=53.0,North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**45.97**	**351**	P	P	02 31 18.9	-0.9
	0.5nm,0.8s,baz=180,slow=8.5,SNR=3.9						
WRA	**Warramunga Arr**	**46.97**	**119**	P	P	02 31 27.7	-0.5
	0.4nm,0.7s,baz=296,slow=8.6,SNR=5.7						
SONM	**Songino Array**	**48.04**	**13**	P	P	02 31 36.7	+0.5
	1.2nm,0.5s,baz=190,slow=8.9,SNR=6.8						
GERES	**GERESS Array B**	**81.00**	**319**	P	P	02 35 12.0	+0.2
	0.6nm,0.9s,baz=114,slow=6.6,SNR=5.0						
TXAR	**Lajitas Array**	**146.17**	**24**	PKPbc	PKPbc	02 42 37.8	-0.3
	0.2nm,0.6s,baz=338,slow=0.7,SNR=3.6						

MEX 12 02:29:11.3±0.3,17°.97N×102°.98W,h4km±6km,MD3.9, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMIG	**Aquila**	**0.47**	**312**	*e*P	Pg	02 29 20.1	-0.3
MMIG				*e*S	Sg	02 29 26.6	+0.1
ZIIG	**Zihuatanejo**	**1.48**	**104**	*e*P	Pn	02 29 36.3	-2.5
ZIIG				*e*S	Sn	02 29 53.6	-5.1
EZ5V		**1.61**	**339**	*i* P	Pn	02 29 38.5	-2.3
EZ5V				*e*S	Sn	02 29 57.7	-4.6
CJM	**Chamela**	**2.48**	**308**	*e*P	Pn	02 29 53.2	+0.7
CJM				*e*S	Sn	02 30 19.2	-4.1
ARIG	**Puente Sto Nin**	**2.52**	**83**	*e*P	Pn	02 29 50.0	-3.1
ARIG				*e*S	Sn	02 30 19.7	-4.6

IDC ***12*** *02:29:36.0±0.5,41°.81N×65°.73W,h0km,mb4.1/31, mb1 4.2/34,mb1mx4.1/74,mbtmp4.1/34,ML3.4/3,Error ellipse: s-maj=14.0km s-min=10.3km az=173.0*

NEIC ***12*** *02:29:39.3±0.0,41°.93N×65°.76W,h18km,mb4.5/97, ML4.4(OTT),After OTT.*

NEIC Felt [II] at Shelburne and Yarmouth, Nova Scotia. Also felt at Liverpool. Felt at North Haven, Connecticut; Augusta and Belfast, Maine; Falmouth, Fitchburg, Jamaica Plain, Lynn, Milford, Norton, Provincetown, Revere, Salem and Wilmington, Massachusetts; Jaffrey, New Hampshire; Brooklyn, East Hampton, West Babylon and Woodhaven, New York.

OTT ***12*** *02:29:39.3±0.6,41°.93N×65°.76W,h18km,ML4.4/13*

OTT Atlantic Ocean, south of Nova Scotia. Felt 210 south from Shelburne, Ns Felt in the Shelburne and Yarmouth regions, southern Nova Scotia.

ISC 12 02:29:40.4±1.2,41°.91N±0°.05×65°.88W±0°.04,h27km±8km, n520,σ1°72/530,mb4.5/113,North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMMW	**East Machias**	**3.02**	**338**	PN	**Pn**	**02 30 25.4**	**-1.0**
EMMW				SN	**Sn**	**02 30 59.2**	**-2.5**
EMMW	**East Machias**	**3.02**	**338**	*e*Pn	**Pn**	**02 30 25.7**	**-0.7**
EMMW				*e*Sn	**Sn**	**02 30 59.8**	**-1.9**
HAL	**Halifax**	**3.20**	**31**	PN	**Pn**	**02 30 27.6**	**-1.2**
HAL				SN	**Sn**	**02 31 03.0**	**-3.0**
HAL				Trac		02 31 05.7	
	comp=Z,108nm,0.1s						
HAL	**Halifax**	**3.20**	**31**	Pn	**Pn**	**02 30 27.6**	**-1.2**
GGN	**Saint George**	**3.28**	**348**	PN	**Pn**	**02 30 29.6**	**-0.4**
GGN				SN	**Sn**	**02 31 05.9**	**-2.2**
GGN				Trac		02 31 09.4	
	comp=Z,250nm,0.2s						
GGN	**Saint George**	**3.28**	**348**	Pn	**Pn**	**02 30 29.6**	**-0.4**
MCA2	**McAdam 2**	**3.82**	**345**	PN	**Pn**	**02 30 36.6**	**-0.9**
MCA2				SN	**Sn**	**02 31 19.0**	**-2.4**
MCA2				Trac		02 31 24.1	
	comp=Z,50nm,0.0s						
WVL	**Waterville**	**3.83**	**315**	PN	**Pn**	**02 30 37.7**	**+0.2**
WVL				SN	**Sn**	**02 31 20.1**	**-1.3**
WVL	**Waterville**	**3.83**	**315**	*e*Pn	**Pn**	**02 30 37.4**	**-0.1**
WVL				*e*Sn	**Sn**	**02 31 20.7**	**-0.8**
BCX	**Boston College**	**3.96**	**278**	*e*Pn	**Pn**	**02 30 38.6**	**-0.6**
BCX				*e*Sn	**Sn**	**02 31 21.6**	**-3.1**
LMN	**Caledonia Moun**	**4.02**	**11**	PN	**Pn**	**02 30 39.7**	**-0.4**
LMN				SN	**Sn**	**02 31 24.8**	**-1.4**
LMN				Trac		02 31 39.0	
	comp=Z,292nm,0.2s						
LMN	**Caledonia Moun**	**4.02**	**11**	Pn	**Pn**	**02 30 39.7**	**-0.4**
WES	**Weston**	**4.07**	**278**	*e*Pn	**Pn**	**02 30 40.4**	**-0.5**
WES				*e*Sn	**Sn**	**02 31 25.7**	**-1.8**
PKME	**Peaks-Kenny Pk**	**4.17**	**325**	P	**Pn**	**02 30 41.8**	**-0.3**
	baz=141,SNR=19						
PKME	**Peaks-Kenny Pk**	**4.17**	**325**	PN	**Pn**	**02 30 41.7**	**-0.4**
PKME				SN	**Sn**	**02 31 27.9**	**-1.9**
PKME	**Peaks-Kenny Pk**	**4.17**	**325**	*e*Pn	**Pn**	**02 30 42.0**	**-0.1**
PKME				*e*Sn	**Sn**	**02 31 26.1**	**-3.8**
BRYW	**Bryant College**	**4.22**	**272**	*e*Pn	**Pn**	**02 30 42.1**	**-0.8**
BRYW				*e*Sn	**Sn**	**02 31 28.8**	**-2.5**
HRV	**Adam Dziewonsk**	**4.26**	**280**	P	**Pn**	**02 30 42.6**	**-0.8**
	baz=96						
HRV	**Adam Dziewonsk**	**4.26**	**280**	*e*Pn	**Pn**	**02 30 42.9**	**-0.5**
HRV				*e*Sn	**Sn**	**02 31 28.8**	**-3.4**
FFD	**Franklin Falls**	**4.53**	**292**	*e*Pn	**Pn**	**02 30 47.4**	**+0.3**
FFD				*e*Sn	**Sn**	**02 31 38.3**	**-0.6**
GBN	**Guysborough**	**4.72**	**41**	PN	**Pn**	**02 30 47.0**	**-2.6**
GBN				SN	**Sn**	**02 31 37.9**	**-5.6**
GBN				Trac		02 31 40.1	
	comp=Z,261nm,0.2s						
GBN	**Guysborough**	**4.72**	**41**	Pn	**Pn**	**02 30 47.0**	**-2.6**
QUA2	**Belchertown**	**4.83**	**277**	*e*Pn	**Pn**	**02 30 50.7**	**-0.5**
QUA2				*e*Sn	**Sn**	**02 31 43.6**	**-2.6**
PQI	**Presque Isle**	**5.00**	**343**	*e*Pn	**Pn**	**02 30 53.9**	**+0.3**
PQI				*e*Sn	**Sn**	**02 31 46.4**	**-4.0**
LBNH	**Lisbon**	**5.00**	**300**	P	**Pn**	**02 30 53.4**	**-0.2**
	baz=115,SNR=6.5						
LBNH	**Lisbon**	**5.00**	**300**	PN	**Pn**	**02 30 53.5**	**-0.1**
LBNH	**Lisbon**	**5.00**	**300**	*e*Pn	**Pn**	**02 30 53.9**	**+0.3**
LBNH				*e*Sn	**Sn**	**02 31 47.6**	**-2.9**
HNH	**Hanover**	**5.04**	**293**	*e*Pn	**Pn**	**02 30 54.3**	**+0.2**
HNH				*e*Sn	**Sn**	**02 31 49.1**	**-2.3**
YLE	**Yale**	**5.32**	**266**	*e*Pn	**Pn**	**02 30 57.1**	**-0.8**
BATG	**Bathurst New B**	**5.37**	**359**	PN	**Pn**	**02 30 58.2**	**-0.4**
BATG				SN	**Sn**	**02 31 56.0**	**-3.5**
BATG				Trac		02 31 58.3	
	comp=Z,114nm,0.1s						
BATG	**Bathurst New B**	**5.37**	**359**	Pn	**Pn**	**02 30 58.2**	**-0.4**
VT1	**Waterbury**	**5.58**	**298**	*e*Pn	**Pn**	**02 31 02.2**	**+0.7**
MOQ	**Mont Orford**	**5.74**	**308**	PN	**Pn**	**02 31 04.3**	**+0.5**
MOQ				mb		02 31 06.6	
	comp=Z,16nm,0.2s						
MOQ	**Mont Orford**	**5.74**	**308**	Pn	**Pn**	**02 31 04.3**	**+0.5**
TRY	**Troy**	**5.83**	**281**	*e*Pn	**Pn**	**02 31 05.3**	**+0.4**
ACCN	**Adirondack Com**	**5.93**	**287**	*e*Pn	**Pn**	**02 31 06.4**	**+0.1**
PAL	**Palisades**	**6.10**	**264**	P	**Pn**	**02 31 07.0**	**-1.6**
	baz=79,SNR=6.3						
PAL	**Palisades**	**6.10**	**264**	*e*Pn	**Pn**	**02 31 07.3**	**-1.4**
A11	**Saint Roch-des**	**6.16**	**331**	mb		02 31 11.2	
	comp=Z,209nm,0.4s						
CPNY	**Central Park**	**6.18**	**262**	*e*Pn	**Pn**	**02 31 08.2**	**-1.6**
FRNY	**Flat Rock**	**6.33**	**300**	*e*Pn	**Pn**	**02 31 12.8**	**+0.9**
A21	**Saint Andre**	**6.39**	**336**	PN	**Pn**	**02 31 12.7**	**+0.1**
A21				SN	**Sn**	**02 32 21.4**	**-3.3**
A21				Trac		02 32 28.9	
	comp=Z,93nm,0.3s						
A21	**Saint Andre**	**6.39**	**336**	Pn	**Pn**	**02 31 12.7**	**+0.1**
A54	**Misere**	**6.42**	**331**	mb		02 31 15.3	
	comp=Z,86nm,0.5s						
NCB	**Newcomb**	**6.46**	**291**	*e*Pn	**Pn**	**02 31 13.1**	**-0.6**
ODNJ	**Ogdensburg**	**6.60**	**266**	*e*Pn	**Pn**	**02 31 14.6**	**-1.0**
BRNJ	**Basking Ridge**	**6.65**	**262**	*e*Pn	**Pn**	**02 31 15.2**	**-1.1**
DPQ	**Saint Jean**	**6.87**	**316**	PN	**Pn**	**02 31 18.9**	**-0.3**
DPQ				SN	**Sn**	**02 32 31.4**	**-5.0**
DPQ				Trac		02 32 40.2	
	comp=Z,30nm,0.2s						
DPQ	**Saint Jean**	**6.87**	**316**	Pn	**Pn**	**02 31 18.9**	**-0.3**
LONY	**Lake Ozonia**	**6.90**	**296**	P	**Pn**	**02 31 18.8**	**-1.0**
	baz=110						
LONY	**Lake Ozonia**	**6.90**	**296**	*e*Pn	**Pn**	**02 31 19.8**	**+0.1**
GSQ	**Grosses Roches**	**7.05**	**353**	PN	**Pn**	**02 31 21.9**	**+0.1**
GSQ				SN	**Sn**	**02 32 36.5**	**-4.5**
GSQ				Trac		02 32 45.4	
	comp=Z,49nm,0.3s						
GSQ	**Grosses Roches**	**7.05**	**353**	Pn	**Pn**	**02 31 21.9**	**+0.1**
DAQ	**Lac Daran**	**7.15**	**330**	mb		02 31 24.1	
	comp=Z,18nm,0.3s						
LUPA	**Lehigh Univers**	**7.27**	**263**	*e*Pn	**Pn**	**02 31 24.0**	**-0.8**
ALFO	**Alfred**	**7.50**	**303**	P	**Pn**	**02 31 26.9**	**-0.9**
	baz=116,SNR=6.4						
N59A	**State Game Lan**	**7.50**	**266**	P	**Pn**	**02 31 26.6**	**-1.4**
	baz=79,SNR=11						
N59A	**State Game Lan**	**7.50**	**266**	*e*Pn	**Pn**	**02 31 26.7**	**-1.2**
PSUB	**Penn St. - Bra**	**7.51**	**258**	*e*Pn	**Pn**	**02 31 26.7**	**-1.3**
BINY	**Binghamton**	**7.53**	**276**	P	**Pn**	**02 31 28.1**	**-0.2**
	baz=89						
BINY	**Binghamton**	**7.53**	**276**	*e*Pn	**Pn**	**02 31 28.7**	**+0.4**
CNQ	**Baie Comeau**	**7.55**	**349**	PN	**Pn**	**02 31 27.7**	**-0.9**
CNQ				SN	Sn	02 32 47.1	-6.1
CNQ				Trac		02 32 55.

ACSO	Alum Creek Sta	13.02 268	ePn	Pn	02 32 40.8	-2.6	
AAM	Ann Arbor	13.21 278	ePn	P	02 32 52.5	-3.2	
KMSC	Kings Mountain	13.85 246	ePn	Pn	02 32 51.0	-3.8	
KMSC			eSn	Sn	02 35 16.5	-11	
JSC	Jenkinsville	14.29 243	ePn	Pn	02 32 57.6	-3.3	
JSC			eSn	Sn	02 35 27.3	-11	
PAULI	Pauline	14.35 246	ePn	Pn	02 32 58.4	-3.3	
PAULI			eSn	Sn	02 35 27.6	-12	
RGRS	Roger Stewart	14.48 236	eSn	Sn	02 35 31.7	-11	
BG3	Lake Jocassee	15.03 248	ePn	Pn	02 33 07.9	-2.9	
BG3			eSn	Sn	02 35 46.9	-9.4	
TKL	Tuckaleechee C	15.28 252	Pn	Pn	02 33 12.8	-1.3	
	0.3nm,0.3s,baz=192,slow=23,SNR=1.6						
TKL			Sn	Sn	02 35 55.9	-6.5	
	1.2nm,0.3s,baz=169,slow=3.2,SNR=5.9						
TKL	Tuckaleechee C	15.28 252	ePn	Pn	02 33 09.8	-4.3	
	28nm,1.5s						
TKL			eSn	Sn	02 35 55.2	-7.2	
M46A	Old House Fiel	15.31 275	P	Pn	02 33 13.4	-1.1	
	baz=81						
O47A	Sheridan	15.40 271	P	Pn	02 33 12.7	-2.9	
	baz=77						
P47A	Martinsville	15.65 268	P	Pn	02 33 16.1	-2.8	
	baz=74						
R48A	Northridge Ran	15.68 264	P	Pn	02 33 17.5	-1.8	
	baz=71						
Q47A	Bedord North L	15.92 266	P	Pn	02 33 19.8	-2.6	
	baz=73						
BLO	Bloomington	15.93 267	ePn	Pn	02 33 24.1	+1.6	
	40nm,0.8s						
BLO			eSn	S	02 36 27.2	-4.4	
WCI	Wyandotte Cave	16.05 264	P	Pn	02 33 21.9	-2.1	
	baz=70						
WCI	Wyandotte Cave	16.05 264	ePn	Pn	02 33 25.5	+1.4	
	18nm,0.8s						
SFIN	Lafayette	16.05 272	P	Pn	02 33 21.2	-2.9	
	baz=78						
SFIN	Lafayette	16.05 272	ePn	Pn	02 33 21.7	-2.4	
	16nm,0.8s						
S48A	Wiedeman Farm,	16.07 261	P	Pn	02 33 22.1	-2.3	
	baz=68						
G43A	Wallace	16.14 289	P	Pn	02 33 22.9	-2.3	
	baz=94						
H43A	Windswept, Lux	16.16 286	P	Pn	02 33 22.3	-3.1	
	baz=91						
R47A	Wooly Knot Far	16.20 264	P	Pn	02 33 23.3	-2.7	
	baz=70						
N45A	Kentland	16.27 273	P	Pn	02 33 24.9	-2.0	
	baz=79						
GOGA	Godfrey	16.28 244	P	Pn	02 33 25.3	-1.7	
	baz=54						
GOGA	Godfrey	16.28 244	ePn	Pn	02 33 23.9	-3.2	
	15nm,1.3s						
P46A	Rosedale	16.32 269	P	Pn	02 33 24.7	-2.8	
	baz=75						
I43A	Langenfeld Bro	16.43 284	P	Pn	02 33 28.7	-0.2	
	baz=89						
T48A	Bowling Green	16.53 260	P	Pn	02 33 27.9	-2.3	
	baz=67						
O45A	Potomac	16.55 272	P	Pn	02 33 27.0	-3.5	
	baz=77						
M44A	Midewin, Midew	16.57 276	P	Pn	02 33 29.6	-1.1	
	baz=81						
K43A	Burlington	16.62 280	P	Pn	02 33 30.8	-0.5	
	baz=85						
J43A	Natural Harves	16.64 283	P	Pn	02 33 31.3	-0.2	
	baz=87						
G42A	Mountain	16.66 289	P	Pn	02 33 33.1	+1.2	
	baz=93						
H42A	Shiocton	16.71 287	P	Pn	02 33 32.3	-0.1	
	baz=91						
P45A	Graceland, Par	16.74 269	P	Pn	02 33 31.5	-1.4	
	baz=75						
N44A	Piper City	16.74 274	P	Pn	02 33 31.6	-1.3	
	baz=79						
U48A	Cassie Pea, Po	16.88 258	P	Pn	02 33 34.1	-0.6	
	baz=65						
R46A	Gibon Southern	16.96 265	P	Pn	02 33 35.8	+0.2	
	baz=70						
D41A	Chassel	16.96 295	P	Pn	02 33 35.5	-0.1	
	baz=99						
L43A	Garden Prairie	16.98 279	P	Pn	02 33 35.5	-0.4	
	baz=83						
I42A	Draeger Farm,	16.98 284	P	Pn	02 33 37.2	+1.3	
	baz=89						
I42A	Draeger Farm,	16.98 284	ePn	Pn	02 33 36.6	+0.8	
	9.0nm,0.8s						
SWET	Sewanee	17.03 253	ePn	Pn	02 33 35.0	-1.5	
254A	Abbeville	17.08 240	P	Pn	02 33 37.9	+0.8	
	baz=50						
T47A	Sharon Grove	17.10 260	P	Pn	02 33 36.7	-0.6	
	baz=67						
O44A	Mansfield	17.13 272	P	Pn	02 33 36.5	-1.2	
	baz=77						
J42A	Columbus	17.16 283	P	Pn	02 33 38.5	+0.4	
	baz=87						
F41A	Three Lakes	17.17 291	P	Pn	02 33 37.9	-0.3	
	baz=94						
Q45A	Warren Harvey,	17.22 267	P	Pn	02 33 37.1	-1.8	
	baz=73						
COWI	Conover	17.23 292	ePn	Pn	02 33 39.0	+0.1	
	11nm,1.0s						
OLIL	Olney	17.23 267	ePn	Pn	02 33 37.1	-1.9	
	23nm,0.7s						
K42A	Prairie Point,	17.36 281	P	Pn	02 33 38.9	-1.7	
	baz=85						
P44A	Sand Creek, Wi	17.41 270	P	Pn	02 33 39.9	-1.4	
	baz=74						
V48A	Smith Brothers	17.42 256	P	Pn	02 33 41.9	+0.5	
	baz=63						
U47A	Clarksville	17.46 259	P	Pn	02 33 41.3	-0.5	
	baz=65						
R45A	Skylar, Fairfi	17.50 266	P	Pn	02 33 41.3	-1.0	
	baz=71						
253A	Americus	17.55 242	P	P	02 33 44.5	+0.6	
	baz=51						
Y50A	Piedmont	17.57 249	P	Pn	02 33 43.5	+0.2	
	baz=57						
HDIL	Hopedale	17.66 273	P	Pn	02 33 44.2	0.0	
	baz=78						
HDIL	Hopedale	17.66 273	ePn	Pn	02 33 44.5	+0.2	
	20nm,0.7s						
T46A	Princeton	17.66 261	P	Pn	02 33 43.3	-1.1	
	baz=67,SNR=5.1						
L42A	Oliver, Polo	17.68 278	P	Pn	02 33 43.3	-1.3	
	baz=82						
O43A	Sugar Creek Fa	17.73 273	P	Pn	02 33 43.6	-1.5	
	baz=77						
W48A	Pulaski	17.78 255	P	Pn	02 33 46.4	+0.5	
	baz=61						
E40A	Wakefield	17.79 293	P	Pn	02 33 45.5	-0.3	
	baz=96						
J41A	Loganville	17.80 283	P	P	02 33 47.4	+0.7	
	baz=86						
657A	Interlachen	17.84 232	P	Pn	02 33 44.2	-2.4	
	baz=42						
Q44A	Meyer Farm, Va	17.86 268	P	Pn	02 33 46.0	-0.8	
	baz=73						
V47A	Nunnelly	17.89 257	P	Pn	02 33 46.1	-1.1	
	baz=64						
F40A	Park Falls	17.89 291	P	Pn	02 33 46.9	-0.3	
	baz=94						
G40A	Rib Lake	17.91 289	P	Pn	02 33 47.4	0.0	
	baz=92						
WVT	Waverly	17.98 259	P	P	02 33 49.7	+1.0	
	baz=64						
WVT	Waverly	17.98 259	ePn	Pn	02 33 48.5	+0.1	
	6.7nm,0.7s						
252A	Lumpkin	17.99 243	P	P	02 33 50.4	+1.6	
	baz=51						
JFWS	Jewell Farm	18.01 281	P	Pn	02 33 46.6	-2.0	
	baz=85						
JFWS	Jewell Farm	18.01 281	ePn	P	02 33 49.7	+0.8	
	10nm,0.6s						
H40A	Chili	18.04 287	P	Pn	02 33 48.1	-0.9	
	baz=90						
P43A	Skaggs, Pawnee	18.04 271	P	Pn	02 33 45.7	-3.3	
	baz=75						
Z50A	Ashland	18.05 248	P	Pn	02 33 49.0	-0.2	
	baz=56						
151A	Opelika	18.07 245	P	Pn	02 33 48.1	-1.2	
	baz=53						
K41A	Shullsburg	18.08 280	P	Pn	02 33 48.7	-0.8	
	baz=84						
U46A	Springville	18.14 260	P	Pn	02 33 49.1	-1.1	
	baz=65						
N42A	Yates City	18.15 275	P	Pn	02 33 49.3	-1.0	
	baz=78						
X48A	Hartselle	18.20 253	P	Pn	02 33 48.0	-3.0	
	baz=60						
W47A	Westpoint	18.21 256	P	Pn	02 33 49.7	-1.4	
	baz=62						
E39A	Mellen	18.23 293	P	Pn	02 33 52.0	+0.6	
	baz=95						
L41A	Preston	18.29 279	P	P	02 33 47.6	-4.3	
	baz=82						
O42A	Bath	18.32 273	P	P	02 33 50.1	-2.3	
	baz=77						
J40A	Soldiers Grove	18.33 283	P	P	02 33 50.9	-1.5	
	baz=86						
V46A	Holladay	18.34 258	P	P	02 33 50.7	-1.8	
	baz=64						
Q43A	New Douglas	18.36 269	P	P	02 33 48.8	-4.0	
	baz=73						
251A	Midway	18.38 244	P	P	02 33 51.8	-1.3	
	baz=52						
F39A	Loretta	18.45 291	P	P	02 33 48.9	-4.9	
	baz=93						
G39A	Holcombe	18.60 289	P	P	02 33 53.3	-2.1	
	baz=91						
P42A	Winchester	18.67 271	P	P	02 33 56.9	+0.8	
	baz=75						
H39A	Augusta	18.67 287	P	P	02 33 56.7	+0.5	
	baz=90						
PLAL	Pickwick Lake	18.68 256	eP	Pn	02 34 02.6	+5.8	
	19nm,1.3s						
K40A	Colesburg	18.68 281	P	P	02 33 56.4	+0.1	
	baz=84						
DWPF	Disney Wildern	18.71 228	P	P	02 33 56.6	-0.1	
	baz=39						
R43A	Red Bud	18.74 267	P	P	02 33 56.9	-0.1	
	baz=71						
X47A	Russelville	18.75 254	P	Pn	02 33 58.3	+0.7	
	baz=60						
N41A	Harden Midland	18.79 275	P	Pn	02 33 58.6	+0.6	
	baz=78						
L40A	Anamosa	18.82 279	P	Pn	02 33 59.4	+0.9	
	baz=82						
I39A	Houston	18.87 285	P	P	02 33 58.0	-0.4	
	baz=87						
LRAL	Lakeview Retre	18.92 249	P	P	02 33 58.1	-0.8	
	baz=56						
O41A	Passleys Farm,	18.94 273	P	P	02 33 57.0	-2.1	
	baz=76						
E38A	The Farm, Brul	18.94 293	P	P	02 33 59.7	+0.6	
	baz=95						
553A	Crawfordville	18.98 238	P	P	02 34 00.5	+0.9	
	baz=47						
Q42A	Golden Eagle	18.99 269	P	P	02 33 58.6	-1.2	
	baz=73						
149A	Jones	19.02 248	P	P	02 34 00.7	+0.5	
	baz=55						
J39A	Decorah	19.04 283	P	P	02 34 01.2	+1.0	
	baz=85						
EYMN	Ely	19.07 297	P	P	02 34 00.5	0.0	
	baz=99						
G38A	Ridgeland	19.08 289	P	P	02 34 00.2	-0.5	
	baz=90						
S43A	Fulton Ridge,	19.08 265	P	P	02 34 01.3	+0.6	
	baz=69,SNR=7.7						
F38A	Pierce - Schro	19.12 291	P	P	02 34 00.2	-0.9	
	baz=93						
M40A	Post Highland	19.14 277	P	P	02 34 02.5	+1.1	
	baz=80						
P41A	Barry, Barry	19.18 272	P	P	02 34 02.5	+0.7	
	baz=75						
K39A	Oelwein	19.23 281	P	Pn	02 34 04.3	+0.9	
	baz=83						
X46A	Booneville	19.25 255	P	Pn	02 34 03.8	+0.1	
	baz=61						
R42A	Luebbering	19.38 267	P	P	02 34 03.8	-0.2	
	baz=71						
H38A	Maiden Rock	19.39 287	P	P	02 34 05.0	+1.0	
	baz=89						
L39A	Vinton	19.39 279	P	P	02 34 04.7	+0.6	
	baz=82						
I38A	Scanlan Farm,	19.44 285	P	P	02 34 04.7	0.0	
	baz=87						
Q41A	Truxton	19.50 270	P	P	02 34 05.6	+0.3	
	baz=73						
148A	Greensboro	19.54 249	P	P	02 34 06.4	+0.7	
	baz=56						
S42A	Caledonia	19.55 266	P	P	02 34 06.7	+0.9	
	baz=70						
Z47A	Carrollton	19.58 251	P	P	02 34 07.1	+0.9	
	baz=57						
D37A	Cotton	19.59 295	P	P	02 34 07.1	+0.9	
	baz=96						
J38A	Wedel Dairy, R	19.60 283	P	P	02 34 05.9	-0.4	
	baz=85						
F37A	Hinrichs Farm,	19.64 290	P	P	02 34 07.3	+0.6	
	baz=92						
O40A	La Belle	19.67 273	P	Pn	02 34 08.8	+0.1	
	baz=76						
SPMN	Marine on St.	19.75 289	P	P	02 34 08.0	0.0	
	baz=90						
SPMN	Marine on St.	19.75 289	ePn	P	02 34 09.1	+1.1	
	7.8nm,0.8s						
Y46A	Houston	19.78 254	P	P	02 34 09.5	+1.1	
	baz=59						
CCM	Cathedral Cave	19.79 267	eP	P	02 34 09.0	+0.6	
	34nm,1.5s						
R41A	Rosebud	19.81 268	P	P	02 34 07.5	-1.1	
	baz=71						
P40A	Paris	19.95 272	P	P	02 34 11.0	+0.7	
	baz=75						
N39A	Derby Farms, D	19.98 276	P	P	02 34 11.1	+0.7	
	baz=78						
147A	Livingston	20.01 250	P	Pn	02 34 14.2	+1.4	
	baz=56						
T42A	Van Buren	20.03 264	P	P	02 34 12.0	+0.9	
	baz=68,SNR=7.7						
349A	Repton	20.04 245	P	Pn	02 34 13.2	+0.2	
	baz=52						
L38A	Oak Wood Farm,	20.09 280	P	P	02 34 13.2	+1.5	
	baz=81						
D36A	Goodland	20.09 294	P	Pn	02 34 13.6	-0.1	
	baz=95						
E36A	McGregor	20.11 293	P	Pn	02 34 14.7	+0.9	
	baz=93						
Q40A	Laux Farm, Aux	20.12 270	P	P	02 34 12.0	0.0	
	baz=73,SNR=5.4						
O39A	Kirksville	20.14 274	P	P	02 34 13.0	+0.7	
	baz=76						
I37A	Lemond, Waseca	20.21 285	P	P	02 34 12.6	-0.4	
	baz=86						
F36A	Milaca	20.27 291	P	P	02 34 14.1	+0.5	
	baz=91						
Y45A	Yeager Farm, C	20.28 254	P	P	02 34 15.4	+1.5	
	baz=60						
S41A	Jillco Farms,	20.32 266	P	P	02 34 15.2	+1.0	
	baz=70,SNR=12						
J37A	Redenius Farm,	20.38 283	P	Pn	02 34 16.8	-0.2	
	baz=84						
M38A	Pleasantville	20.39 278	P	P	02 34 15.5	+0.6	
	baz=79,SNR=5.4						
U42A	Revenden	20.40 263	P	Pn	02 34 17.5	+0.2	
	baz=66						
R40A	Maddies Statio	20.48 269	P	P	02 34 17.5	+1.6	
	baz=71,SNR=6.4						
P39B	Salisbury	20.49 272	P	P	02 34 17.7	+1.7	
	baz=74						
K37A	Belmond	20.50 282	P	Pn	02 34 18.6	+0.1	
	baz=83						
T41A	Mountain View	20.53 265	P	P	02 34 17.6	+1.1	
	baz=68,SNR=7.5						
N38A	Joes South For	20.54 276	P	P	02 34 18.1	+1.6	
	baz=78						
247A	Quitman	20.60 249	P	Pn	02 34 19.7	0.0	
	baz=55						
B35A	Bob, Littlefor	20.60 298	P	P	02 34 17.5	+0.2	
	baz=98						
Z45A	Winona	20.64 253	P	Pn	02 34 20.8	+0.7	
	baz=59						
D35A	Remer	20.69 294	P	P	02 34 20.0	+1.8	
	baz=94						
C35A	Jirik Farms, M	20.69 296	P	P	02 34 18.9	+0.7	
	baz=96						
Y44A	Strider, Charl	20.72 255	P	Pn	02 34 21.2	+0.2	
	baz=60						
V42A	Cord	20.74 261	P	P	02 34 20.1	+1.4	
	baz=65,SNR=10						
Q39A	Willow Grove F	20.78 271	P	P	02 34 19.9	+0.7	
	baz=73						
O38A	Galt	20.86 274	P	P	02 34 19.9	-0.3	
	baz=76						
S40A	Lebanon	20.88 267	P	P	02 34 21.7	+1.4	
	baz=70,SNR=14						
E35A	Pequot Lakes	20.90 293	P	P	02 34 21.4	+0.9	
	baz=92						
U41A	Viola	20.91 263	P	P	02 34 21.7	+1.0	
	baz=66,SNR=8.5						
347A	Saraland	20.93 247	P	Pn	02 34 22.8	-0.7	
	baz=54						
X43A	Marvell	20.94 258	P	Pn	02 34 23.0	-0.6	
	baz=62						
J36A	Seneca 1, Swea	20.95 283	P	P	02 34 21.1	0.0	
	baz=84						
F35A	Swanville	21.00 291	P	P	02 34 23.1	+1.6	
	baz=90						
M37A	Trindle Farm,	21.02 278	P	P	02 34 24.1	+2.2	
	baz=79						
P38A	Dawn	21.03 273	P	P	02 34 23.1	+1.2	
	baz=75						
R39A	Chumby, Stover	21.04 269	P	P	02 34 23.2	+1.1	
	baz=72,SNR=13						
T40A	Mansfield	21.05 266	P	P	02 34 23.4	+1.2	
	baz=69,SNR=13						
H35A	Sunnyside Ranc	21.20 287	P	P	02 34 24.4	+0.7	
	baz=87,SNR=6.8						
145A	Houston Renfro	21.22 252	P	P	02 34 26.2	+2.3	
	baz=57						
Z44A	Pea Ridge, Bel	21.22 254	P	P	02 34 25.3	+1.3	
	baz=59						
B34A	Aery, Baudette	21.23 298	P	P	02 34 24.4	+0.4	
	baz=97,SNR=12						
Y43A	Makayla and Ka	21.26 256	P	P	02 34 27.5	+3.1	
	baz=60						
N37A	Lee Faris, Mou	21.27 276	P	P	02 34 26.0	+1.6	
	baz=77						
Q38A	Cooks Store, C	21.28 271	P	P	02 34 25.3	+0.7	
	baz=73						
V41A	Mountainview	21.31 262	P	P	02 34 25.8	+0.8	
	baz=65,SNR=8.2						
C34A	RKJ Ranch, Bem	21.32 296	P	P	02 34 27.7	+2.8	
	baz=95						
L36A	Harm Buss Farm	21.35 280	P	P	02 34 26.9	+1.5	
	baz=81						
O37A	Wolven Farm, M	21.35 275	P	P	02 34 26.5	+1.1	
	baz=76,SNR=5.2						
447A	Lucedale	21.37 246	P	P	02 34 25.2	-0.4	
	baz=52						
E34A	Wadena	21.43 292	P	P	02 34 28.0	+1.9	
	baz=92						
S39A	Bolivar	21.46 268	P	P	02 34 27.3	+0.8	
	baz=70,SNR=14						
D34A	Park Rapids	21.47 294	P	P	02 34 27.0	+0.4	
	baz=93						
U40A	Yellville	21.60 264	P	P	02 34 28.9	+0.8	
	baz=67,SNR=6.9						
WHAR	Wooly Hollow	21.62 261	eP	P	02 34 29.3	+1.0	
	24nm,1.2s						
W41B	Gary Mavity, V	21.64 261	P	P	02 34 29.4	+0.9	
	baz=64,SNR=15						
P37A	Lathrop	21.65 273	P	P	02 34 29.2	+0.6	
	baz=74,SNR=7.4						
K35A	Storm Lake	21.68 282	P	P	02 34 29.4	+0.5	
	baz=82						
R38A	Fenwick Farm,	21.73 269	P	P	02 34 30.6	+1.2	
	baz=71,SNR=9.4						
T39A	Clever	21.74 266	P	P	02 34 30.3	+0.8	
	baz=68,SNR=5.7						
G34A	Benson	21.75 289	P	P	02 34 31.1	+1.4	
	baz=88						
A33A	Warroad	21.77 299	P	P	02 34 30.3	+0.4	
	baz=98						
V40A	Witts Springs	21.80 263	P	P	02 34 30.9	+0.6	
	baz=66,SNR=15						
VBMS	Vicksburg	21.84 252	eP	P	02 34 32.0	+1.3	
	26nm,0.8s						
446A	Poplarville	21.86 247	P	P	02 34 30.9	+0.1	
	baz=53						
CCAR	Cane Creek	21.87 257	eP	P	02 34 34.2	+3.3	
	44nm,0.9s						
C33A	Trail	21.90 296	P	P	02 34 30.2	-1.0	
	baz=94						
D33A	AnnSam, Waubun	21.91 294	P	P	02 34 31.6	+0.3	
	baz=93,SNR=7.2						
S38A	Stockton	21.92 268	P	P	02 34 32.4	+1.0	
	baz=70,SNR=5.6						
Y42A	Garnett, Star	21.92 257	P	P	02 34 32.7	+1.2	
	baz=61						
FRB	Frobisher Bay	21.93 357	P	P	02 34 31.5	+0.2	
	7.7nm,0.7s,baz=172,slow=12,SNR=23						
FRB			S	S	02 38 26.7	-5.1	
	2.6nm,0.6s,baz=268,slow=18,SNR=5.1						
I34A	Hadley	21.98 286	P	P	02 34 34.0	+1.9	
	baz=85						
L35A	Bielow Farm, R	22.00 281	P	P	02 34 32.8	+0.5	
	baz=80						
E33A	Westby DABS, E	22.00 292	P	P	02 34 33.5	+1.2	
	baz=91						
AGMN	Agassiz Nation	22.01 297	P	P	02 34 32.7	+0.3	
	baz=96,SNR=8.7						
AGMN	Agassiz Nation	22.01 297	eP	P	02 34 33.2	+0.8	
	12nm,0.8s						
U39A	Green Forest	22.05 265	P	P	02 34 33.5	+0.5	
	baz=67,SNR=8.9						
244A	Avery, Jackson	22.06 252	P	P	02 34 33.9	+0.9	
	baz=56						
F33A	5 Mile Ranch,	22.20 291	P	P	02 34 33.9	-0.6	
	baz=89						
W40A	Ferguson Farm,	22.24 261	P	P	02 34 34.2	-0.7	
	baz=64,SNR=5.4						
W40A	Ferguson Farm,	22.24 261	eP	P	02 34 37.9	+3.0	
	18nm,0.8s						
ULM	Lac du Bonnet	22.29 302	P	P	02 34 34.9	-0.5	
	4.7nm,0.8s,baz=96,slow=10,SNR=14						
ULM	Lac du Bonnet	22.29 302	eP	P	02 34 35.4	+0.1	
	5.3nm,0.8s						
Z42A	Norrel Spur, H	22.32 256	P	P	02 34 36.0	+0.2	
	baz=60						
G33A	Ortonville	22.32 289	P	P	02 34 36.1	+0.4	
	baz=88						
X40A	Basin Creek Fa	22.38 260	P	P	02 34 37.9	+1.5	
	baz=63						
V39A	Pettigrew	22.39 263	P	P	02 34 36.9	+0.3	
	baz=66,SNR=5.2						
T38A	Diamond	22.41 267	P	P	02 34 37.9	+1.1	
	baz=68,SNR=5.0						
HHAR	Hobbs	22.43 265	eP	P	02 34 39.1	+2.1	
	15nm,1.0s						
B32A	Ashes, Strandq	22.47 297	P	P	02 34 37.8	+0.5	
	baz=95						
ECSD	EROS Data Cent	22.55 285	P	P	02 34 40.1	+1.8	
	baz=84						
ECSD	EROS Data Cent	22.55 285	eP	P	02 34 40.2	+1.9	
	17nm,1.4s						
H33A	Prehn Over Nor	22.57 288	P	P	02 34 39.4	+1.0	
	baz=86,SNR=7.6						
L34A	Svendsen Farm,	22.63 280	P	P	02 34 40.5	+1.4	
	baz=80						
W39A	Magazine	22.77 262	P	P	02 34 41.1	+0.6	
	baz=64,SNR=8.5						
J33A	Davis	22.86 284	P	P	02 34 41.4	0.0	
	baz=83						
MIAR	Mount Ida	22.90 260	P	P	02 34 40.8	-1.1	
	baz=63						
MIAR	Mount Ida	22.90 260	eP	P	02 34 43.0	+1.1	
	10nm,1.0s						
NRS	Narsarsuaq	22.91 26	eP	P	02 34 44.6	+2.8	
	94nm,1.6s						
Z41A	Richland Creek	22.94 257	P	P	02 34 42.8	+0.4	
	baz=60,SNR=6.6						
N34A	Lincoln	22.95 278	P	P	02 34 43.1	+0.7	
	baz=77						
WLAR	White Oak Lake	22.96 258	eP	P	02 34 44.5	+2.0	
	23nm,0.9s						
H32A	Carlson Farm,	23.07 287	P	P	02 34 44.1	+0.5	
	baz=85						
B31A	Greenbush Farm	23.21 297	P	P	02 34 47.4	+2.4	
	baz=94						
C31A	Landman Farms,	23.23 296	P	P	02 34 46.6	+1.5	
	baz=93						
X39A	Fountain Ranch	23.31 261	P	P	02 34 46.9	+0.8	
	baz=63,SNR=12						
KSU1	Kansas State U	23.47 273	P	P	02 34 48.6	+0.9	
	baz=73						
KSU1	Kansas State U	23.47 273	eP	P	02 34 48.7	+1.1	
	18nm,0.8s						
J32A	Parkston	23.49 284	P	P	02 34 49.9	+2.2	
	baz=82						
F31A	Hecla	23.57 291	P	P	02 34 50.3	+1.7	
	baz=88						

TUL1	Leonard	23.96	265	P	P	02 34 52.8	+0.5
	baz=66						
TUL1	Leonard	23.96	265	*e*P	P	02 34 51.4	-1.0
	13nm,0.8s						
BGNE	Belgrade	24.04	280	P	P	02 34 53.9	+0.8
	baz=78						
341A	Kurthwood	24.22	253	P	P	02 34 55.9	+1.2
	baz=56,SNR=7.0						
FCC	Fort Churchill	24.39	323	*e*P	P	02 34 57.4	+1.4
	5.9nm,0.6s						
MDND	Maddock	24.49	296	P	P	02 34 58.3	+1.2
	baz=91						
MDND	Maddock	24.49	296	*e*P	P	02 34 59.4	+2.3
	28nm,0.6s						
NATX	Nacogdoches	25.06	256	P	P	02 35 03.3	+1.0
	baz=58						
NATX	Nacogdoches	25.06	256	*e*P	P	02 35 03.9	+1.5
	32nm,0.8s						
H05N1	Guadeloupe/Mar	25.84	169	T	T	03 01 36.6	
	SNR=108						
H07S1	FLORES T-PHASE	26.33	84	T	T	03 02 37.8	
	SNR=58						
WMOK	Wichita Mounta	26.67	265	*e*P	P	02 35 17.8	+0.8
	3.9nm,0.8s						
FFC	Flin Flon	26.88	311	*e*P	P	02 35 20.8	+2.1
	5.5nm,0.8s						
HKT	Hockley	26.89	253	*e*P	P	02 35 20.4	+1.5
	4.7nm,0.9s						
WHTX	Lake Whitney,	26.97	259	P	P	02 35 20.0	+0.3
	baz=59						
OGNE	Ogallala	27.00	280	P	P	02 35 20.7	+0.7
	baz=76						
ABTX	Abilene, Hawle	28.27	262	P	P	02 35 32.5	+1.2
	baz=61						
ABTX	Abilene, Hawle	28.27	262	*e*P	P	02 35 32.4	+1.0
	10nm,1.0s						
N23A	Red Feather La	29.88	282	P	P	02 35 47.2	+1.4
	baz=74						
N23A	Red Feather La	29.88	282	*e*P	P	02 35 48.1	+2.2
	8.8nm,1.4s						
T25A	Trinidad	29.92	274	P	P	02 35 47.8	+1.6
	baz=69						
T25A	Trinidad	29.92	274	*e*P	P	02 35 48.8	+2.6
	7.5nm,1.4s						
ISCO	Idaho Springs	29.94	279	P	P	02 35 47.8	+1.4
	baz=73						
SDCO	Great Sand Dun	30.52	275	P	P	02 35 53.2	+1.6
	baz=70						
RWWY	Rawlins	30.60	284	*e*P	P	02 35 54.1	+1.9
	19nm,1.8s						
RLMT	Red Lodge	31.35	291	P	P	02 35 58.7	0.0
	baz=80,SNR=6.4						
RLMT	Red Lodge	31.35	291	*e*P	P	02 36 00.0	+1.3
	6.1nm,1.0s						
GCMT	Greycliff	31.52	292	*e*P	P	02 36 02.2	+2.1
BW06	Boulder Array	32.03	286	P	P	02 36 05.3	+0.5
	baz=76						
BW06	Boulder Array	32.03	286	*e*P	P	02 36 06.2	+1.5
	4.1nm,0.9s						
PD31	Pinedale Array	32.03	286	*e*P	P	02 36 05.9	+1.2
PDAR	Pinedale Array	32.03	286	P	P	02 36 05.3	+0.6
	3.4nm,0.8s,baz=64,slow=10,SNR=21						
PDAR				PcP	PcP	02 38 53.6	-0.4
	0.7nm,0.6s,baz=66,slow=3.6,SNR=4.0						
PDAR	Pinedale Array	32.03	286	*e*P	P	02 36 05.7	+1.0
PDAR				PcP	PcP	02 38 53.6	-0.4
ANMO	Albuquerque	32.30	271	P	P	02 36 08.4	+1.2
	1.2nm,0.8s,baz=258,slow=4.7,SNR=5.2						
ANMO	Albuquerque	32.30	271	P	P	02 36 09.3	+2.1
	baz=65						
ANMO	Albuquerque	32.30	271	*e*P	P	02 36 09.9	+2.7
	5.1nm,1.4s						
H17A	Grant Village	32.40	290	P	P	02 36 06.8	-1.2
	baz=78						
H17A	Grant Village	32.40	290	*e*P	P	02 36 09.6	+1.6
	5.4nm,0.8s						
LOHW	Long Hollow	32.58	288	*e*P	P	02 36 11.3	+1.7
	6.8nm,0.6s						
MOOW	Moose Ponds	32.65	289	*e*P	P	02 36 12.1	+2.0
	3.6nm,0.8s						
SNOW	Snow King Moun	32.72	288	*e*P	P	02 36 12.7	+1.9
	12nm,0.7s						
IMW	Indian Meadow	32.76	289	*e*P	P	02 36 13.4	+2.2
	12nm,0.7s						
REDW	Red Top Meadow	32.81	288	*e*P	P	02 36 13.5	+1.9
	6.3nm,0.9s						
TPAW	Teton Pass	32.85	288	*e*P	P	02 36 14.4	+2.4
	3.9nm,0.7s						
HRY	Holter Researc	32.86	294	*e*P	P	02 36 14.0	+2.1
FXWY	Fox Creek	32.88	289	*e*P	P	02 36 13.9	+1.8
	4.7nm,0.7s						
BOZ	Bozeman (W)	32.90	292	P	P	02 36 10.3	-2.0
	baz=80						
BOZ	Bozeman (W)	32.90	292	*e*P	P	02 36 14.4	+2.1
	4.9nm,1.3s						
TX31	Lajitas Ar. Si	32.92	260	*e*P	P	02 36 13.0	+0.5
TXAR	Lajitas Array	32.92	260	P	P	02 36 13.4	+0.9
	5.4nm,0.9s,baz=71,slow=7.3,SNR=38						
TXAR				PcP	PcP	02 38 56.8	+0.3
	0.9nm,0.6s,baz=86,slow=3.6,SNR=11						
PV05	Paradox Valley	33.07	278	*e*P	P	02 36 20.3	+6.4
SDV	Santo Domingo	33.16	189	P	P	02 36 14.8	+0.1
	4.3nm,0.7s,baz=15,slow=5.9,SNR=3.7						
SDV				PcP	PcP	02 38 56.5	-0.9
	3.7nm,0.7s,baz=320,slow=7.9,SNR=6.4						
SDV	Santo Domingo	33.16	189	*e*P	P	02 36 14.6	-0.1
	4.9nm,0.8s						
SDV				PcP	PcP	02 38 56.5	-0.9
HWUT	Hardware Ranch	33.77	285	*e*P	P	02 36 21.7	+1.8
	6.8nm,0.7s						
P17A	Butcher Ranch,	33.81	281	*e*P	P	02 36 23.0	+2.7
WALA	Waterton Lakes	33.94	299	*e*P	P	02 36 23.0	+1.8
	5.5nm,0.9s						
MSO	Missoula	34.27	295	P	P	02 36 23.2	-0.9
	baz=80,SNR=6.4						
MSO	Missoula	34.27	295	*e*P	P	02 36 26.1	+2.0
	10.0nm,0.6s						
JTMT	Jette	34.36	297	*e*P	P	02 36 26.6	+1.7
	8.4nm,1.0s						
121A	Cookes Peak, D	34.37	268	P	P	02 36 26.4	+1.2
	baz=62						
NLU	North Lily Min	34.63	283	*e*P	P	02 36 29.4	+1.9
	4.1nm,1.0s						
YKA	Yellowknife Ar	35.11	323	P	P	02 36 32.2	+1.2
	3.1nm,0.7s,baz=95,slow=8.4,SNR=52						
YKA				PcP	PcP	02 39 01.6	-0.4
	1.2nm,0.5s,baz=106,slow=2.9,SNR=26						
HLID	Hailey	35.28	289	P	P	02 36 33.8	+0.8
	baz=75,SNR=5.2						
HLID	Hailey	35.28	289	*e*P	P	02 36 35.3	+2.3
	2.6nm,0.8s						
HLID				*e*PcP	PcP	02 39 04.4	+1.3
RES	Resolute Bay	35.41	347	P	P	02 36 34.7	+1.2
	1.5nm,0.8s,baz=164,slow=8.3,SNR=8.4						
RES	Resolute Bay	35.41	347	*e*P	P	02 36 35.2	+1.8
	3.7nm,1.1s						
WUAZ	Wupatki	35.73	275	P	P	02 36 38.9	+2.0
	baz=66						
U15A	North Rim	36.05	277	*e*P	P	02 36 42.9	+3.2
	7.3nm,0.8s						
NEW	Newport	36.16	298	P	P	02 36 40.9	+0.6
	2.3nm,0.7s,baz=101,slow=12,SNR=3.6						
MFID	Camas Ranch	36.32	290	*e*P	P	02 36 43.8	+2.0
	2.9nm,0.7s						
F10A	Beach Ranch, E	36.67	294	*e*P	P	02 36 46.6	+1.9
	4.1nm,0.8s						
R11A	Troy Canyon, C	37.74	282	P	P	02 36 52.8	-1.2
	baz=68,SNR=9.2						
R11A	Troy Canyon, C	37.74	282	*e*P	P	02 36 56.3	+2.3
	4.4nm,0.8s						
G08A	Pilot Rock	38.01	294	*e*P	P	02 36 57.9	+1.7
	13nm,0.8s						
J08A	Circle Bar Ran	38.19	290	*e*P	P	02 36 58.5	+0.9
	5.3nm,0.7s						
TPNV	Topopah Spring	38.77	280	P	P	02 37 05.4	+2.8
	baz=66						
LLLB	Lillooet	38.84	303	*e*P	P	02 37 04.7	+1.8
	8.2nm,0.9s						
G06A	Carlson Farm,	39.17	294	*e*P	P	02 37 08.1	+2.3
	9.9nm,1.0s						
NV11	Mina Array Sit	39.59	283	*e*P	P	02 37 11.3	+1.9
	0.3nm,0.8s						
NV01	Mina Array Sit	39.70	283	*e*P	P	02 37 11.4	+0.9
NVAR	Mina Array Bea	39.70	283	P	P	02 37 11.7	+1.3
	2.2nm,0.6s,baz=65,slow=7.1,SNR=25						
NVAR				PcP	PcP	02 39 17.8	+1.0
	0.7nm,0.7s,baz=97,slow=1.3,SNR=4.3						
MPMC	Manual Prospec	40.04	279	P	P	02 37 14.6	+1.3
	baz=65						
WBSM	Bird Springs	40.74	279	*e*P	P	02 37 18.3	-0.8
J04D	Umpqua Nationa	40.76	291	P	P	02 37 21.6	+2.5
	baz=72						
BFSC	Mount Baldy Ra	40.95	277	P	P	02 37 23.1	+2.4
	baz=63						
M04C	Macdoel	41.04	289	P	P	02 37 23.1	+1.7
	baz=70						
YBH	Yreka Blue Hor	41.67	290	P	P	02 37 26.9	+0.4
	2.8nm,0.8s,baz=124,slow=5.3,SNR=6.4						
DLBC	Dease Lake	42.51	316	*e*P	P	02 37 35.9	+2.7
	4.4nm,0.8s						
INK	Inuvik	43.67	330	P	P	02 37 42.8	+0.6
	4.9nm,0.6s,baz=81,slow=9.1,SNR=9.5						
DIB	Dawson Inlet,	44.77	308	*e*P	P	02 37 54.3	+3.1
	8.3nm,1.0s						
HYT	Haines Junctio	45.94	320	*e*P	P	02 38 02.0	+1.4
	3.8nm,0.9s						
ESDC	Sonseca Array	46.03	71	P	P	02 38 00.0	-1.5
	0.6nm,0.5s,baz=296,slow=7.6,SNR=5.8						
DAWY	Dawson	46.30	324	*e*P	P	02 38 05.3	+2.0
	6.6nm,1.0s						
EGAK	Eagle	46.95	325	*e*P	P	02 38 10.1	+1.8
	4.9nm,0.8s						
BALM	Baldy	48.21	321	*e*P	P	02 38 20.3	+2.0
	7.6nm,0.7s						
SCRK	Sand Creek	48.31	325	*e*P	P	02 38 21.2	+2.2
	5.2nm,1.2s						
DOT	Dot Lake	48.41	324	*e*P	P	02 38 22.1	+2.4
	14nm,0.8s						
NOA	NORSAR Array B	48.51	39	P	P	02 38 20.5	0.0
	0.5nm,0.6s,baz=289,slow=8.0,SNR=3.2						
RIDG	Independ'e Rid	48.73	324	*e*P	P	02 38 24.3	+2.1
	19nm,0.9s						
HARP	HAARP	49.18	323	*e*P	P	02 38 28.7	+3.0
	3.6nm,1.5s						
BMRM	Bremner River	49.30	321	*e*P	P	02 38 28.6	+2.1
	13nm,0.8s						
IL1	Eielson Array	49.36	326	*e*P	P	02 38 27.9	+0.9
IL1				*e*PcP	PcP	02 39 49.5	+0.5
ILAR	Eielson Array	49.36	326	P	P	02 38 28.1	+1.2
	1.9nm,0.5s,baz=84,slow=5.6,SNR=40						
ILAR				PcP	PcP	02 39 49.0	0.0
	1.3nm,0.6s,baz=68,slow=2.3,SNR=15						
ILB	Eielson Array	49.36	326	*e*P	P	02 38 28.4	+1.5
ILB				*e*PcP	PcP	02 39 49.8	+0.7
TOLK	Toolik Lake Re	49.51	331	P	P	02 38 29.9	+1.7
	baz=77						
TOLK	Toolik Lake Re	49.51	331	*e*P	P	02 38 30.1	+2.0
	3.9nm,0.9s						
COLA	College	49.74	326	*e*P	P	02 38 31.6	+1.9
	9.3nm,0.6s						
KLU	Klutina	49.77	322	*e*P	P	02 38 32.1	+1.9
	7.0nm,1.0s						
CCB	Clear Creek Bu	49.77	326	*e*P	P	02 38 31.3	+1.2
	13nm,0.7s						
MDM	Murphy Dome	49.87	327	*e*P	P	02 38 32.3	+1.4
	8.0nm,0.5s						
WRH	Wood River Hil	49.94	326	*e*P	P	02 38 32.4	+1.1
	7.8nm,0.9s						
DHY	Denali Highway	50.00	324	*e*P	P	02 38 37.3	+5.3
	5.0nm,1.2s						
COLD	Coldfoot	50.08	330	P	P	02 38 33.4	+1.1
	4.3nm,0.6s						
SCM	Sheep Creek Mo	50.32	322	*e*P	P	02 38 36.0	+1.6
	5.5nm,0.9s						
MCK	McKinley	50.49	325	*e*P	P	02 38 36.9	+1.3
	4.9nm,1.0s						
SML	Sawmill	50.78	323	*e*P	P	02 38 39.3	+1.5
	6.4nm,1.0s						
MLY	Manley	50.88	327	*e*P	P	02 38 40.2	+1.7
	8.7nm,0.7s						
TRF	Thorofare Moun	51.16	325	*e*P	P	02 38 42.3	+1.6
	8.4nm,0.7s						
PMR	Palmer	51.21	322	*e*P	P	02 38 42.6	+1.6
	4.0nm,0.9s						
BPAW	Bear Paw Mtn.	51.25	326	*e*P	P	02 38 42.4	+1.1
	9.4nm,0.8s						
KTH	Kantishna Hill	51.40	325	*e*P	P	02 38 43.0	+0.6
	11nm,1.0s						
RC01	Rabbit Creek A	51.65	322	*e*P	P	02 38 46.0	+1.7
	9.3nm,1.0s						
IM3	Indian Mountai	51.79	329	*e*P	P	02 38 46.8	+1.6
ARCES	ARCES Array B	51.93	27	P	P	02 38 45.9	-0.3
	3.2nm,0.8s,baz=292,slow=6.4,SNR=6.0						
CAST	Castle Rocks	51.93	325	*e*P	P	02 38 47.3	+0.9
	13nm,1.4s						
SUA	Susitna One	51.99	323	*e*P	P	02 38 48.7	+1.8
	6.5nm,0.9s						
PPLA	Purkeypile	52.15	325	*e*P	P	02 38 49.6	+1.5
	23nm,1.4s						
GERES	GERESS Array B	53.93	53	P	P	02 39 00.5	-1.0
	0.2nm,0.4s,baz=302,slow=9.2,SNR=2.4						
KDAK	Kodiak Island	54.20	319	P	P	02 39 03.3	+0.2
	5.6nm,0.6s,baz=42,slow=3.2,SNR=9.3						
FINES	FINESS Array B	55.16	36	P	P	02 39 10.2	+0.2
	1.1nm,0.8s,baz=292,slow=12,SNR=2.8						
VYHS	Vyhne	57.14	52	*e*P	P	02 39 24.1	-0.3
VYHS				*es*P	pP	02 39 33.8	+1.0
KOWA	Kowa	59.57	98	P	P	02 39 41.0	-0.8
	1.5nm,0.7s,baz=295,slow=9.4,SNR=3.3						
AKASG	Malin Array Be	61.88	46	P	P	02 39 56.5	-0.5
	1.0nm,0.4s,baz=299,slow=6.3,SNR=5.7						
TORD	Torodi Ar. Bea	64.67	95	P	P	02 40 13.5	-2.5
	1.2nm,0.9s,baz=306,slow=8.7,SNR=6.3						
H10N2	ASCENSION HYDR	68.20	123	T	T	03 54 32.2	
	baz=321,slow=75,SNR=195						
H10N3	ASCENSION HYDR	68.20	124	T	T	03 54 29.8	
	baz=321,slow=75,SNR=222						
H10N1	ASCENSION HYDR	68.22	124	T	T	03 54 31.0	
	baz=321,slow=75,SNR=274						
H10S1	ASCENSION HYDR	68.96	124	T	T	03 55 29.7	
	baz=322,slow=74,SNR=108						
H10S3	ASCENSION HYDR	68.96	124	T	T	03 55 29.7	
	baz=322,slow=74,SNR=120						
H10S2	ASCENSION HYDR	68.98	124	T	T	03 55 30.9	
	baz=322,slow=74,SNR=107						
BRTR	Keskin Array B	70.83	54	P	P	02 40 55.4	+0.7
	0.5nm,0.9s,baz=287,slow=5.3,SNR=3.7						
AKTO	Aktyubinsk	75.79	33	P	P	02 41 24.9	+1.3
	1.4nm,0.5s,baz=272,slow=1.8,SNR=3.1						
MMAI	Mount Meron Ar	76.22	58	P	P	02 41 26.8	+0.3
	1.1nm,0.6s,baz=302,slow=8.3,SNR=3.2						
ABKAR	Akbulak array	77.50	33	*e*P	P	02 41 34.8	+1.6
	12nm,0.6s						
PETK	Petropavlovsk-	78.17	335	P	P	02 41 37.6	+0.7
	2.6nm,0.5s,baz=60,slow=6.6,SNR=5.4						
BVAR	Borovoye Array	78.20	25	P	P	02 41 38.7	+1.7
	1.1nm,0.5s,baz=319,slow=6.2,SNR=7.3						
ZALV	Zalesovo Beam	81.26	17	P	P	02 41 52.7	-0.9
	0.5nm,0.3s,baz=298,slow=3.2,SNR=3.6						
PLCA	Paso Flores	82.37	184	P	P	02 41 59.5	0.0
	1.9nm,0.7s,baz=60,slow=3.5,SNR=6.1						
KURK	Kurchatov	82.68	22	P	P	02 42 02.0	+0.9
KURBB	Kurchatov Arra	82.74	22	P	P	02 42 02.0	+0.6
	2.5nm,0.7s,baz=338,slow=5.2,SNR=6.0						
MKAR	Makanchi Array	87.26	21	P	P	02 42 25.1	+0.8
	0.3nm,0.7s,baz=308,slow=5.1,SNR=2.6						
WMQ	Urumqi	91.41	19	P	P	02 42 47.2	+3.3
WMQ				pmax	pmax		
	comp=Z,18nm,1.1s						
WMQ				pmax	pmax		
	comp=Z,370nm,9.1s						
WMQ				LR	LR		
	comp=N,720nm,20.3s						
WMQ				LR	LR		
	comp=E,770nm,17.3s						
WMQ				LR	LR		
	comp=Z,600nm,31.7s						
HHC	Hu-ho-hao-te	97.59	2	*e*P	Pdif	02 43 14.1	+1.8
HHC				pmax	pmax		
	comp=Z,3.0nm,1.5s						
HHC				pmax	pmax		
	comp=Z,8.0nm,8.3s						
CTA	Charters Tower	145.21	299	PKPbc	PKPbc	02 49 15.7	+0.4
	comp=Z,8.7nm,0.7s,baz=84,slow=5.7,SNR=8.7						
WRA	Warramunga Arr	152.20	316	PKPbc	PKPbc	02 49 33.5	-0.2
	comp=Z,6.1nm,0.5s,baz=27,slow=2.5,SNR=84						
AS01	Alice Springs	155.42	312	*e*PKPdf	PKPdf	02 49 30.9	-0.5
AS01				*e*PKPab	PKPab	02 49 57.1	+0.1
ASAR	Alice Springs	155.45	312	PKP	PKPdf	02 49 31.2	-0.4
	comp=Z,1.1nm,0.9s,baz=136,slow=0.4,SNR=7.5						
ASAR				PKPbc	PKPbc	02 49 40.1	
	comp=Z,1.8nm,1.1s,baz=72,slow=3.0,SNR=5.6						
ASAR				PKPab	PKPab	02 49 57.3	+0.2
	comp=Z,3.2nm,0.9s,baz=47,slow=4.2,SNR=14						
STKA	Stephens Creek	155.94	286	PKPab	PKPab	02 49 59.4	+0.4
	comp=Z,3.7nm,0.7s,baz=8.3,slow=3.1,SNR=9.9						
STKA	Stephens Creek	155.94	286	*e*PKPab	PKPab	02 50 00.0	+0.9

IDC 12 02:32:48.1±4.6, 3°40N×89°76E, h0km, mb3.5/3, mb1 3.5/3, mb1mx3.2/69, mbtmp3.5/3, Error ellipse: s-maj=144.5km s-min=81.3km az=65.0, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	Makanchi Array	43.71	353	P	P	02 40 53.0	-1.9
	0.3nm,0.6s,baz=187,slow=11,SNR=3.3						
SONM	Songino Array	46.53	15	P	P	02 41 16.9	-0.6
	0.7nm,0.7s,baz=211,slow=9.1,SNR=5.5						
KURBB	Kurchatov Arra	48.01	350	P	P	02 41 30.5	+1.7
	0.2nm,0.3s,baz=168,slow=6.8,SNR=5.5						
TXAR	Lajitas Array	145.00	21	PKPbc	PKPab	02 52 27.4	-0.1
	0.1nm,0.6s,baz=352,slow=1.8,SNR=2.4						

IDC 12 02:33:13.1±1.6, 0°33S×132°31E, h0km, mb3.7/2, mb1 3.9/4, mb1mx3.4/57, mbtmp3.7/4, ML3.4/2, Error ellipse: s-maj=24.9km s-min=16.5km az=152.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	Sorong	1.17	243	Pg	Pg	02 33 35.3	-0.3
	28nm,0.3s,baz=232,slow=22,SNR=34						
SIJI				Lg	Lg	02 33 51.7	
	27nm,0.3s,baz=141,slow=23,SNR=12						
FITZ	Fitzroy Crossi	18.83	200	P	P	02 37 33.5	-1.2
	0.1nm,0.3s,baz=31,slow=12,SNR=3.3						
WRA	Warramunga Arr	19.59	174	P	P	02 37 43.3	+0.3
	0.2nm,0.3s,baz=353,slow=11,SNR=7.6						
ASAR	Alice Springs	23.25	176	P	P	02 38 22.6	+0.3
	3.3nm,0.8s,baz=351,slow=8.9,SNR=21						
MKAR	Makanchi Array	64.07	324	P	P	02 43 49.1	+0.1
	0.3nm,0.7s,baz=118,slow=7.5,SNR=3.3						

*SJA **12** 02:35:04.9±0.4, 32°06S×68°11W, h15km±2km, ML3.3, MW3.4*
*GUC **12** 02:35:07.4±0.4, 32°07S×67°86W, h162km±33km, ML3.5*
ISC 12 02:35:03.1±1.4, 32°02S±0°04×67°96W±0°04, h1km±13km, n17, σ1°33/24, 2D, Mendoza Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RTCV	Cerro Valdivia	0.52	287	*e*P	Pg	02 35 13.6	+0.6
ACAN	Cantantal	0.70	111	*e*P	Pn	02 35 20.6	+0.3
RTLS	Leoncito	1.16	281	*e*P	Pg	02 35 25.4	+0.2
RTLS				*e*S	Sg	02 35 40.7	+0.4
AMOG	MOGNA	1.17	337	*e*P	Pn	02 35 26.9	+0.2
AMOG				*e*S	Sn	02 35 43.7	+0.4
AUSP	Uspallata	1.23	260	*e*P	Pg	02 35 26.4	-0.3
APLL	PUNTA DE LOS L	2.03	38	*e*P	Pg	02 35 42.5	+0.5
APLL				*e*S	Sg	02 36 10.4	+2.0
ACDV	Cuesta del Vie	2.09	331	*e*P	Pb	02 35 42.1	+0.2
ACDV				*e*S	Sb	02 36 09.0	+0.4
FCH	Farellones	2.36	236	*e*P	Pb	02 35 45.9	-0.8
FCH				*i* S	Sb	02 36 16.9	+0.5
FCH				IAML		02 36 19.9	
	comp=N,116nm,0.2s						
PEL	Peldehue	2.56	243	*e*P	Pb	02 35 49.0	-0.8
PEL				*i* S	Sb	02 36 22.4	+0.5
AGUA	GUANDACOL	2.56	350	*e*P	Pb	02 35 48.7	-1.3
LMEL	Las Melosas	2.62	225	*e*P	Pb	02 35 51.0	-0.1
LMEL				*i* S	Sg	02 36 25.8	-1.6
LMEL				IAML		02 36 29.3	
	comp=N,88nm,0.3s						
ROCH	El Roble	2.75	249	*e*P	Pn	02 35 50.4	+1.9
ROCH				*i* S	Sb	02 36 25.4	-2.1
ROCH				IAML		02 36 41.7	
	comp=E,124nm,0.5s						
TCA	Tanti	2.95	78	IAML		02 36 45.0	
	comp=E,94nm,0.5s						
GO04	Tololo Observa	3.05	306	⇓*i*P	Pb	02 35 58.0	-0.3
GO04				*i* S	Sb	02 36 35.7	-0.5
TLL	Tololo Astrono	3.06	306	IAML		02 36 41.3	
	comp=N,211nm,0.7s						
VCA	Vinchina	3.28	356	*e*P	Pb	02 35 59.5	-2.7
VCA				IAML		02 36 50.1	
	comp=Z,72nm,0.3s						
VCA	Vinchina	3.28	356	⇓*i*P	Pb	02 35 59.3	-2.9

IDC 12 02:38:04.3±11.0, 2°14N×93°61E, h0km, mb3.5/2, mb1 3.7/3, mb1mx3.3/68, mbtmp3.5/3, Error ellipse: s-maj=229.3km s-min=113.6km az=152.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	Chiang Mai Arr	17.04	18	P	Pn	02 42 04.4	+0.2
	baz=214,slow=11,SNR=5.5						
MKAR	Makanchi Array	45.56	349	P	P	02 46 26.1	+0.2
	0.3nm,0.5s,baz=172,slow=8.6,SNR=5.3						
SONM	Songino Array	46.84	12	P	P	02 46 35.7	-0.4
	0.4nm,0.5s,baz=188,slow=8.7,SNR=2.5						

*NNC **12** 02:38:08.2±3.9, 34°77N×71°44E, h0km, mb4.3, mpv4.0, Error ellipse: s-maj=49.5km s-min=29.3km az=104.0*
ISC 12 02:38:08.7±3.0, 34°7N±0°2×71°4E±0°3, h10km, n5, σ1°07/8, 3C-2D, Pakistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SFK	Sufi-Kurgan	5.58	17	⇑Pn	Pn	02 39 31.6	-0.4
	7.8nm,0.4s						
SFK				⇓Sn	Sn	02 40 37.2	+0.8
	5.4nm,0.4s						
MNAS	Manas	7.84	6	⇑Pn	Pn	02 40 01.5	-1.5
	4.3nm,0.7s						
MNAS				⇑Sn	Sn	02 41 31.2	-0.7
	3.1nm,1.0s						
KK31	Karatay Array	8.44	356	Pn	Pn	02 40 11.4	+0.4
	4.2nm,0.5s,baz=173,slow=12,SNR=38						
KK31				⇓Sn	Sn	02 41 47.1	+0.8
	0.5nm,0.3s,baz=185,slow=31						
GTA	Gaotai	23.13

0.3nm,0.3s,baz=294,slow=7.5,SNR=3.8
KURBB Kurchatov Arra 49.89 348 P P 02 49 00.8 -0.8
0.4nm,0.4s,baz=172,slow=7.3,SNR=5.0

DJA ***12*** *02:42:36.6±3.6,4°N±7°×9°2E±3°,1,h10km,M5.0/6,mb5.0/6, mB5.2/3,MLv5.0/6,Mw(mB)4.6/3*
IDC ***12*** *02:42:39.5±0.7,3°.64N×92°.68E,h0km,mb4.3/20, mb1 4.4/23,mb1mx4.1/73,mbtmp4.3/23,ML4.0/3,Error ellipse: s-maj=29.2km s-min=12.7km az=43.0*
ISCJB ***12*** *02:42:41.1±0.3,3°.57N±0°.05×92°.73E±0°.03,h24km, mb4.6/50,MS4.2/2,Error ellipse: s-maj=7.2km s-min=3.8km az=21.3*
NEIC ***12*** *02:42:41.1±0.3,3°.70N×92°.73E,h10km,mb4.8/23,Error ellipse: s-maj=8.1km s-min=4.9km az=209.0*

ISC 12 02:42:42.6±0.5,3°.52N±0°.06×92°.72E±0.05,h24km,n133, σ1§74/141,mb4.6/53,6C-4D,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSI	**Banda Aceh**	**3.24**	**52**	P	**Pn**	**02 43 30.4**	**-1.5**
MLSI	**Meulaboh, Aceh**	**3.75**	**78**	P	**Pn**	**02 43 38.7**	**-0.3**
TPTI		**4.46**	**93**	P	**Pn**	**02 43 48.8**	**0.0**
LHMI	**Lhok Sumawe**	**4.55**	**68**	*e*Pn	**Pn**	**02 43 50.6**	**+0.7**
LHMI	**Lhok Sumawe**	**4.55**	**68**	*e*Pn	**Pn**	**02 43 50.3**	**+0.4**
LHMI				*e*Sn	**Sn**	**02 44 42.3**	**+0.3**
KCSI	**Kotacane, Aceh**	**5.04**	**90**	P	**Pn**	**02 43 57.4**	**+0.6**
GSI	**Gunungsitoli**	**5.33**	**114**	P	**Pn**	**02 44 00.3**	**-0.4**
	91nm,0.7s						
GSI	**Gunungsitoli**	**5.33**	**114**	*e*Pn	**Pn**	**02 44 00.4**	**-0.3**
GSI				*e*Sn	**Sn**	**02 44 56.2**	**-5.2**
PSI	**Prapat**	**6.24**	**96**	Pn	**Pn**	**02 44 14.4**	**+1.1**
	13nm,0.3s,baz=298,slow=8.7,SNR=27						
PSI				Sn	**Sn**	**02 45 21.2**	**-2.7**
	5.7nm,0.3s,baz=17,slow=22,SNR=2.5						
PSI	**Prapat**	**6.24**	**96**	*e*Pn	**Pn**	**02 44 14.3**	**+1.0**
PSI				*e*Sn	**Sn**	**02 45 23.3**	**-0.7**
MNSI	**Mandailing Nat**	**7.37**	**111**	P	**Pn**	**02 44 29.5**	**+0.8**
SISI	**Saibi**	**7.98**	**127**	P	**Pn**	**02 44 37.6**	**+0.5**
	80nm,0.7s,1μm						
PBA	**Port Blair**	**8.09**	**0**	*e*P	Pn	02 44 35.5	-3.1
KULM	**Kulim**	**8.10**	**77**	*e*Pn	**Pn**	**02 44 38.9**	**+0.1**
KULM				*e*Sn	**Sn**	**02 46 01.3**	**-8.4**
IPM	**Ipoh**	**8.34**	**83**	*e*Pn	**Pn**	**02 44 42.0**	**-0.1**
DGPR	**DIGLIPUR**	**9.60**	**1**	*e*P	**Pn**	**02 44 59.6**	**+0.3**
PALK	**Pallekele**	**12.53**	**288**	Pn	**Pn**	**02 45 38.6**	**-0.9**
	2.6nm,0.3s,baz=116,slow=16,SNR=10						
PALK				Sn	Sn	02 47 48.3	-10
	5.4nm,0.3s,baz=293,slow=1.1,SNR=6.4						
PALK	**Pallekele**	**12.53**	**288**	*e*Pn	**Pn**	**02 45 39.0**	**-0.5**
PALK				*e*Sn	Sn	02 47 47.6	-11
MDRS	**Chennai**	**15.56**	**308**	*e*P	**Pn**	**02 46 18.4**	**-2.1**
MDRS				IAmb	IAmb	02 46 24.3	
CM01	**Chiang Mai Arr**	**16.02**	**22**	*e*Pn	**P**	**02 46 28.3**	**-1.5**
CM31	**Chiang Mai Arr**	**16.05**	**22**	*e*Pn	**Pn**	**02 46 23.4**	**-3.5**
CMAR	**Chiang Mai Arr**	**16.05**	**22**	Pn	**Pn**	**02 46 23.4**	**-3.5**
	0.0nm,0.3s,baz=217,slow=14,SNR=14						
CHTO	**Chiang Mai**	**16.38**	**21**	*e*Pn	**Pn**	**02 46 27.1**	**-4.0**
	11nm,1.0s						
VIS	**Vishakhapatnam**	**16.85**	**328**	*e*P	**Pn**	**02 46 34.5**	**-2.5**
HYB	**Hyderabad**	**19.59**	**316**	*e*P	**P**	**02 47 09.0**	**-0.2**
HYB				IAmb	IAmb	02 47 09.9	
	comp=Z,18nm,0.1s						
BOK	**Bokaro**	**21.21**	**342**	*e*P	**P**	**02 47 26.2**	**-0.5**
BOK				IAmb	IAmb	02 47 27.6	
	comp=Z,36nm,1.1s						
SHL	**Shillong**	**21.94**	**358**	*e*P	**P**	**02 47 33.3**	**-1.4**
SHL				IAmb	IAmb	02 47 35.4	
	comp=Z,95nm,1.9s						
SHL	**Shillong**	**21.94**	**358**	*e*P	**P**	**02 47 33.4**	**-1.4**
	comp=Z,33nm,1.1s						
NGP	**Nagpur**	**22.00**	**324**	*e*P	**P**	**02 47 32.9**	**-2.3**
NGP				IAmb	IAmb	02 47 36.9	
GOA	**Goa**	**22.08**	**304**	*e*P	**P**	**02 47 32.9**	**-3.2**
GOA				IAmb	IAmb	02 47 38.6	
	comp=Z,136nm,1.9s						
RAMN	**Ramite**	**24.03**	**346**	*e*P	**P**	**02 47 56.3**	**+0.2**
JIRN	**Jiri**	**24.80**	**346**	*e*P	**P**	**02 48 03.2**	**-0.1**
	comp=Z,70nm,1.2s						
DMN	**Daman**	**25.04**	**344**	*e*P	**P**	**02 48 06.2**	**+0.9**
GUN	**Gumba**	**25.12**	**346**	*e*P	**P**	**02 48 06.8**	**+0.6**
KKN	**Kakani**	**25.16**	**344**	*e*P	**P**	**02 48 07.2**	**+0.8**
GKN	**Gorkha**	**25.54**	**343**	*e*P	**P**	**02 48 11.3**	**+1.5**
KOLN	**Koldanda**	**25.64**	**341**	*e*P	**P**	**02 48 12.6**	**+1.9**
	comp=Z,20nm,0.7s						
DANN	**Dangsing**	**26.13**	**342**	*e*P	**P**	**02 48 17.7**	**+2.4**
PYUN	**Piuthan**	**26.15**	**340**	*e*P	**P**	**02 48 18.0**	**+2.7**
GYA	**Guiyang**	**26.44**	**29**	*e*P	**P**	**02 48 20.2**	**+2.3**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
CD2	**Chengdu**	**29.17**	**20**	*e*P	**P**	**02 48 43.0**	**+0.8**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
SMLA	**Simla**	**31.14**	**334**	*e*P	**P**	**02 48 58.7**	**-0.8**
DHRM	**DHARAMSHALA**	**32.47**	**334**	*e*P	**P**	**02 49 10.2**	**-1.4**
DHRM				IAmb	IAmb	02 49 11.7	
	comp=Z,7.5nm,0.3s						
XAN	**Xi'an**	**33.91**	**25**	P	**P**	**02 49 21.4**	**-2.5**
XAN				pP	pP	02 49 28.8	-2.3
XAN				sP	sP	02 49 31.8	-2.3
XAN				PP	**PP**	**02 50 43.5**	**+2.6**
XAN				S	S	02 54 58.5	+11
XAN				sS	sS	02 55 10.8	+12
XAN				SS	**SS**	**02 57 22.0**	**+7.5**
XAN				pmax	pmax		
	comp=Z,11nm,0.8s						
XAN				pmax	pmax		
	comp=Z,110nm,6.0s						
XAN				LR	LR		
	comp=N,160nm,17.9s						
XAN				LR	LR		
	comp=E,220nm,19.0s						
XAN				LR	LR		
	comp=Z,190nm,18.2s						
LZH	**Lanzhou**	**34.00**	**16**	*e*P	**P**	**02 49 27.0**	**+2.3**
LZH				pP	sP	02 49 34.1	-0.8
LZH				sP	pP	02 49 37.5	+5.5
LZH				PP	**PP**	**02 50 44.8**	**+2.8**
LZH				pmax	pmax		
	comp=Z,24nm,1.1s						
LZH				pmax	pmax		
	comp=Z,310nm,5.7s						
GTA	**Gaotai**	**36.31**	**9**	*e*P	**P**	**02 49 44.6**	**+0.1**
GTA				pP	pP	02 49 51.7	-0.1
GTA				sP	sP	02 49 55.2	+0.5
GTA				pmax	pmax		
	comp=Z,4.0nm,0.9s						
NJ2	**Nanjing**	**37.52**	**38**	*e*P	**P**	**02 49 55.5**	**+0.7**
NJ2				pmax	pmax		
	comp=Z,20nm,0.5s						
FITZ	**Fitzroy Crossi**	**38.91**	**125**	P	**P**	**02 50 07.0**	**+0.3**
	comp=Z,3.2nm,0.8s,baz=285,slow=4.5,SNR=3.2						
WMQ	**Urumqi**	**40.38**	**354**	P	**P**	**02 50 19.6**	**+0.9**
WMQ				pmax	pmax		
	comp=Z,22nm,0.9s						
WMQ				pmax	pmax		
	comp=Z,250nm,6.5s						
WMQ				LR	LR		
	comp=N,510nm,22.9s						
WMQ				LR	LR		
	comp=E,280nm,19.9s						
WMQ				LR	LR		
	comp=Z,610nm,31.3s						
HHC	**Hu-ho-hao-te**	**40.86**	**22**	*e*P	**P**	**02 50 24.2**	**+1.4**
HHC				pmax	pmax		
	comp=Z,15nm,1.0s						
HHC				pmax	pmax		
	comp=Z,66nm,6.2s						
MK01	**Makanchi Array**	**44.02**	**350**	*e*P	**P**	**02 50 47.9**	**-0.4**
MK31	**Makanchi Array**	**44.05**	**350**	*e*P	**P**	**02 50 48.2**	**-0.3**
MK32	**Makanchi Array**	**44.05**	**350**	*e*P	**P**	**02 50 48.2**	**-0.3**
MKAR	**Makanchi Array**	**44.05**	**350**	P	**P**	**02 50 48.2**	**-0.3**
	comp=Z,6.5nm,0.7s,baz=167,slow=8.7,SNR=55						
MKAR	**Makanchi Array**	**44.05**	**350**	*e*P	**P**	**02 50 48.2**	**-0.3**
	comp=Z,40nm,0.6s						
KK31	**Karatay Array**	**44.09**	**337**	*e*P	**P**	**02 50 49.1**	**+0.2**
KKAR	**Karatay Array**	**44.09**	**337**	*e*P	**P**	**02 50 49.1**	**+0.2**
MAKZ	**Makanchi**	**44.12**	**349**	*e*P	**P**	**02 50 49.0**	**-0.1**
	comp=Z,4.3nm,0.8s						
SONA0	**Songino Array**	**45.70**	**13**	*e*P	**P**	**02 51 01.9**	**+0.2**
SONM	**Songino Array**	**45.70**	**13**	P	**P**	**02 51 01.9**	**+0.2**
	comp=Z,2.1nm,0.7s,baz=196,slow=9.1,SNR=13						
SONA1	**Songino Array**	**45.71**	**13**	*e*P	**P**	**02 51 01.6**	**-0.2**
SONA1				*e*PcP	**PcP**	**02 52 40.2**	**+0.7**
ULN	**Ulaanbaatar**	**45.88**	**13**	*e*P	**P**	**02 51 02.5**	**-0.6**
	comp=Z,13nm,2.0s						
GEYT	**Alibeck**	**46.61**	**322**	P	**P**	**02 51 09.8**	**+0.8**
	comp=Z,4.4nm,0.9s,baz=159,slow=8.7,SNR=6.9						
WR1	**Warramunga Arr**	**47.05**	**121**	*e*P	**P**	**02 51 14.2**	**+1.5**
	comp=Z,8.1nm,1.0s						
WRA	**Warramunga Arr**	**47.05**	**121**	P	**P**	**02 51 14.2**	**+1.5**
	comp=Z,5.1nm,0.8s,baz=299,slow=8.8,SNR=6.3						
WB2	**Warramunga Arr**	**47.06**	**121**	*e*P	**P**	**02 51 13.3**	**+0.6**
	comp=Z,6.4nm,0.9s						
AS31	**Alice Springs**	**48.36**	**126**	*e*P	**P**	**02 51 24.2**	**+1.4**
	comp=Z,3.2nm,1.5s						
AS31				*e*PcP	**PcP**	**02 52 50.8**	**+1.4**
ASAR	**Alice Springs**	**48.36**	**126**	P	**P**	**02 51 24.2**	**+1.4**
	comp=Z,0.5nm,0.5s,baz=297,slow=6.9,SNR=4.2						
ASAR				PcP	**PcP**	**02 52 50.8**	**+1.4**
	comp=Z,0.7nm,0.7s,baz=311,slow=3.4,SNR=3.4						
KURBB	**Kurchatov Arra**	**48.44**	**348**	P	**P**	**02 51 22.9**	**-0.1**
	comp=Z,5.3nm,0.8s,baz=172,slow=7.2,SNR=45						
KURK	**Kurchatov**	**48.51**	**348**	*e*P	**P**	**02 51 22.9**	**-0.6**
CN2	**Changchun**	**49.46**	**31**	*e*P	**P**	**02 51 34.2**	**+3.3**
RAYN	**Ar Rayn**	**49.72**	**298**	*e*P	**P**	**02 51 34.6**	**+1.3**
	comp=Z,5.8nm,1.1s						
ZAA0	**Zalesovo Array**	**50.69**	**354**	*e*P	**P**	**02 51 40.1**	**+0.2**
	comp=Z,8.8nm,0.6s						
ZALV	**Zalesovo Beam**	**50.69**	**354**	P	**P**	**02 51 40.1**	**+0.1**
	comp=Z,9.5nm,0.5s,baz=185,slow=9.1,SNR=36						
ZAA1	**Zalesovo Array**	**50.69**	**354**	*e*P	**P**	**02 51 40.1**	**+0.1**
BVAR	**Borovoye Array**	**52.68**	**343**	P	**P**	**02 51 54.4**	**-0.6**
	comp=Z,4.1nm,0.8s,baz=134,slow=8.5,SNR=16						
ABKAR	**Akbulak array**	**53.42**	**334**	*e*P	**P**	**02 51 59.9**	**-0.6**
	comp=Z,47nm,1.0s						
STKA	**Stephens Creek**	**58.23**	**131**	P	**P**	**02 52 37.4**	**+2.1**
	comp=Z,1.4nm,0.5s,baz=319,slow=6.5,SNR=4.2						
KBZ	**Khabaz**	**59.41**	**320**	P	**P**	**02 52 42.5**	**-0.7**
	comp=Z,2.4nm,0.9s,baz=118,slow=7.3,SNR=5.5						
BR101	**Keskin Array S**	**64.26**	**313**	*e*P	**P**	**02 53 15.8**	**-0.3**
BR131	**Keskin Array S**	**64.26**	**313**	*e*P	**P**	**02 53 14.1**	**-2.1**
BRTR	**Keskin Array B**	**64.26**	**313**	P	**P**	**02 53 15.8**	**-0.3**
	comp=Z,2.5nm,0.8s,baz=129,slow=7.6,SNR=19						
ILGA	**Ilgaz**	**64.62**	**314**	*e*P	**P**	**02 53 19.2**	**+0.6**
	comp=Z,12nm,1.1s						
BR231	**Keskin MP Arra**	**64.92**	**313**	*e*P	**P**	**02 53 16.6**	**-3.9**
KARP	**Karpathos**	**68.16**	**307**	*e*P	**P**	**02 53 41.9**	**+0.7**
	comp=Z,7.7nm,0.8s						
TIRR	**Tirgusor**	**69.36**	**316**	*e*P	**P**	**02 53 48.4**	**0.0**
	comp=Z,10nm,0.9s						
IDI	**Anoyia**	**69.93**	**306**	P	**P**	**02 53 53.0**	**+0.8**
	comp=Z,7.5nm,0.6s,baz=86,slow=7.6,SNR=10						
SORM	**Soroca**	**70.46**	**320**	*i*P	**P**	**02 53 53.9**	**-1.2**
AKASG	**Malin Array Be**	**70.71**	**323**	P	**P**	**02 53 55.4**	**-1.2**
	comp=Z,2.8nm,0.7s,baz=87,slow=5.1,SNR=9.9						
AKBB	**Malin Array Si**	**70.71**	**323**	*e*P	**P**	**02 53 55.4**	**-1.2**
	comp=Z,7.1nm,1.3s						
VRI	**Vrincioaia**	**70.89**	**318**	*i*P	**P**	**02 53 58.9**	**+1.1**
PLOR	**Plostina**	**70.94**	**317**	*i*P	**P**	**02 53 59.2**	**+1.1**
TESR	**Tescani**	**71.11**	**318**	*i*P	**P**	**02 53 59.1**	**0.0**
MLR	**Muntele Rosu**	**71.33**	**317**	P	**P**	**02 54 01.0**	**+0.4**
	comp=Z,2.1nm,0.7s,baz=300,slow=2.6,SNR=24						
MLR	**Muntele Rosu**	**71.33**	**317**	*i*P	**P**	**02 54 01.5**	**+0.9**
TIXI	**Tiksi**	**71.75**	**11**	*e*P	**P**	**02 54 01.8**	**-0.7**
	comp=Z,11nm,0.8s						
ARR	**Arges**	**72.19**	**317**	*i*P	**P**	**02 54 05.8**	**+0.1**
BURAR	**Bucovina Array**	**72.34**	**319**	*i*P	**P**	**02 54 07.7**	**+1.1**
BUR04	**Bucovina Ar. S**	**72.35**	**319**	*e*P	**P**	**02 54 07.3**	**+0.7**
BUR08	**Bucovina Ar. S**	**72.36**	**319**	*e*P	**P**	**02 54 07.7**	**+1.0**
AGG	**Agios Georgios**	**72.59**	**310**	*e*P	**P**	**02 54 06.5**	**-1.7**
	comp=Z,29nm,1.3s						
VTS	**Vitosha**	**72.60**	**314**	*i*P	**P**	**02 54 08.1**	**-0.2**
ITM	**Ithomi**	**72.61**	**308**	*e*P	**P**	**02 54 07.8**	**-0.5**
	comp=Z,10nm,1.0s						
HERR	**Herculane**	**73.62**	**316**	*i*P	**P**	**02 54 13.5**	**-0.6**
DRGR		**73.81**	**318**	*i*P	**P**	**02 54 15.7**	**+0.4**
STHS	**Stebnicka Huta**	**75.33**	**320**	*e*P	**P**	**02 54 25.8**	**+1.8**
FIA1	**FINESS Array S**	**75.90**	**333**	*e*P	**P**	**02 54 26.0**	**-1.0**
	comp=Z,15nm,1.4s						
FIA0	**FINESS Array S**	**75.90**	**333**	*e*P	**P**	**02 54 25.6**	**-1.3**
FINES	**FINESS Array B**	**75.90**	**333**	P	**P**	**02 54 25.6**	**-1.3**
	comp=Z,2.9nm,0.7s,baz=145,slow=7.0,SNR=7.7						
SUR	**Sutherland**	**76.71**	**236**	*e*P	**P**	**02 54 28.1**	**-4.3**
	comp=Z,69nm,1.8s						
VYHS	**Vyhne**	**76.71**	**319**	*e*P	**P**	**02 54 32.6**	**+0.7**
KRLC	**Kraliky**	**78.30**	**320**	*e*P	**P**	**02 54 41.6**	**+0.9**
CONA	**Conrad Observa**	**78.59**	**318**	*i*P	**P**	**02 54 42.9**	**+0.4**
DPC	**Dobruska-Polom**	**78.63**	**321**	*e*P	**P**	**02 54 43.4**	**+0.8**
ARSA	**Arzberg**	**78.74**	**317**	*i*P	**P**	**02 54 44.4**	**+1.1**
	comp=Z,4.5nm,0.7s						
ARA0	**ARCESS Array S**	**78.87**	**341**	*e*P	**P**	**02 54 43.5**	**0.0**
ARCES	**ARCESS Array B**	**78.87**	**341**	P	**P**	**02 54 43.5**	**0.0**
	comp=Z,2.2nm,0.8s,baz=66,slow=5.9,SNR=4.7						
ARCES	**ARCESS Array B**	**78.87**	**341**	*e*P	**P**	**02 54 43.2**	**-0.3**
SOKA	**Soboth**	**79.00**	**317**	*i*P	**P**	**02 54 45.6**	**+0.8**
	comp=Z,4.3nm,0.9s						
GEA0	**GERESS Array S**	**80.13**	**319**	*e*P	**P**	**02 54 51.3**	**+0.5**
GEC2	**GERESS Array S**	**80.13**	**319**	*e*P	**P**	**02 54 52.0**	**+1.1**
	comp=Z,9.0nm,1.0s						
GERES	**GERESS Array B**	**80.13**	**319**	P	**P**	**02 54 51.8**	**+0.9**
	comp=Z,4.3nm,0.8s,baz=96,slow=5.4,SNR=35						
KHC	**Kasperske Hory**	**80.24**	**319**	*e*P	**P**	**02 54 50.8**	**-0.6**
HFS	**Hagfors**	**81.50**	**330**	P	**P**	**02 54 57.4**	**-0.4**
	comp=Z,4.8nm,1.0s,baz=104,slow=13,SNR=4.8						
MOTA	**Moosalm**	**81.74**	**317**	*i*P	**P**	**02 54 59.5**	**0.0**
	comp=Z,3.5nm,0.8s						
RETA	**Reutte**	**81.98**	**317**	*i*P	**P**	**02 55 01.0**	**+0.3**
	comp=Z,2.6nm,0.4s						
EKA	**Eskdalemuir Ar**	**90.48**	**325**	P	**P**	**02 55 42.9**	**+0.6**
	comp=Z,2.6nm,1.0s,baz=43,slow=15,SNR=4.2						
MOOW	**Moose Ponds**	**128.43**	**22**	*e*PKPdf	**PKPdf**	**03 01 49.4**	**+1.4**
HWUT	**Hardware Ranch**	**129.94**	**24**	*e*PKPdf	**PKPdf**	**03 01 53.6**	**+2.8**
X18A	**Snowflake**	**136.56**	**28**	*e*PKPdf	**PKPdf**	**03 02 05.8**	**+2.2**
LTX	**Lajitas**	**143.75**	**25**	*e*PKPdf	PKPbc	03 02 15.5	+1.4
TXAR	**Lajitas Array**	**143.75**	**25**	PKP	PKPbc	03 02 15.5	+1.4
	comp=Z,0.2nm,0.6s,baz=28,slow=2.8,SNR=6.4						
HPIG		**144.90**	**29**	*e*PKPdf	**PKPdf**	**03 02 19.7**	**+0.9**

ISCJB ***12*** *02:46:47.6±0.5,1°.37N±0°.07×91°.88E±0°.05,h10km, mb4.3/17,Error ellipse: s-maj=10.5km s-min=7.0km az=27.1*
IDC ***12*** *02:46:47.6±0.8,1°.31N×91°.66E,h0km,mb4.0/11, mb1 4.1/13,mb1mx3.8/74,mbtmp4.0/13,ML3.9/1,Error ellipse: s-maj=30.6km s-min=15.9km az=46.0*
NEIC ***12*** *02:46:49.0±0.4,1°.30N×91°.75E,h10km,mb5.0/7,Error ellipse: s-maj=11.4km s-min=7.2km az=220.0*

ISC 12 02:46:48.9±0.7,1°.3N±0°.1×91°.80E±0°.09,h10km,n47, σ1§06/43,mb4.4/17,North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**7.28**	**78**	Pn	**Pn**	**02 48 36.2**	**+0.8**
	baz=318,slow=14						
PSI	**Prapat**	**7.28**	**78**	*e*Pn	**Pn**	**02 48 36.2**	**+0.8**
PSI				*e*Sn	**Sn**	**02 49 56.6**	**-1.6**
KULM	**Kulim**	**9.68**	**66**	*e*Pn	**Pn**	**02 49 09.3**	**+0.9**
MYKOM	**Kota Tinggi**	**12.06**	**88**	*e*Pn	**Pn**	**02 49 40.9**	**-0.1**
CM31	**Chiang Mai Arr**	**18.43**	**22**	*e*P	**P**	**02 51 02.6**	**-2.0**
CMAR	**Chiang Mai Arr**	**18.43**	**22**	P	**Pn**	**02 51 05.0**	**+0.4**
	0.1nm,0.3s,baz=214,slow=14,SNR=4.3						
CMAR	**Chiang Mai Arr**	**18.43**	**22**	P	**Pn**	**02 51 05.0**	**+0.4**
HYB	**Hyderabad**	**20.64**	**322**	*i*P	Pn	02 51 33.0	+2.0
H08S2	**Diego Garcia H**	**21.21**	**245**	T	T	03 13 16.8	
	baz=65,slow=75,SNR=30						
H08S3	**Diego Garcia H**	**21.21**	**245**	T	T	03 13 15.6	
	baz=65,slow=75,SNR=31						
H08S1	**Diego Garcia H**	**21.23**	**245**	T	T	03 13 17.2	
	baz=65,slow=75,SNR=30						
FITZ	**Fitzroy Crossi**	**38.48**	**122**	P	**P**	**02 54 12.3**	**+0.8**
	2.8nm,0.9s,baz=286,slow=15,SNR=2.5						
H01W3	**Cape Leeuwin H**	**41.64**	**152**	T	T	03 38 53.0	
	baz=326,slow=75,SNR=6.8						
H01W2	**Cape Leeuwin H**	**41.66**	**152**	T	T	03 38 54.7	
	baz=326,slow=75,SNR=8.6						
H01W1	**Cape Leeuwin H**	**41.66**	**152**	T	T	03 38 54.9	
	baz=326,slow=75,SNR=7.4						
NWAO	**Narrogin (SRO)**	**41.67**	**147**	*e*P	**P**	**02 54 36.3**	**-1.5**
	67nm,1.8s						
MK01	**Makanchi Array**	**46.03**	**351**	*e*P	**P**	**02 55 12.8**	**+0.1**
MK31	**Makanchi Array**	**46.06**	**351**	*e*P	**P**	**02 55 13.4**	**+0.5**
MK32	**Makanchi Array**	**46.06**	**351**	*e*P	**P**	**02 55 12.8**	**-0.1**
MKAR	**Makanchi Array**	**46.06**	**351**	P	**P**	**02 55 12.8**	**-0.1**
	1.6nm,0.7s,baz=169,slow=8.4,SNR=11						
MKAR	**Makanchi Array**	**46.06**	**351**	*e*P	**P**	**02 55 13.3**	**+0.5**
	11nm,0.7s						
WR1	**Warramunga Arr**	**46.74**	**119**	*e*P	**P**	**02 55 18.9**	**+0.2**
	27nm,1.8s						
WRA	**Warramunga Arr**	**46.74**	**119**	P	**P**	**02 55 18.9**	**+0.2**
	2.9nm,0.7s,baz=297,slow=8.6,SNR=11						
WRAB	**Tennant Creek**	**46.75**	**119**	*e*P	**P**	**02 55 18.2**	**-0.6**
	71nm,2.0s						
WB2	**Warramunga Arr**	**46.76**	**119**	*e*P	**P**	**02 55 19.6**	**+0.8**
	36nm,1.9s						
ASAR	**Alice Springs**	**47.86**	**124**	P	**P**	**02 55 28.6**	**+1.3**
	1.1nm,0.9s,baz=307,slow=6.6,SNR=4.3						
ASAR				PcP	**PcP**	**02 56 57.9**	**+1.7**
	0.9nm,0.6s,baz=299,slow=3.3,SNR=7.0						
AS31	**Alice Springs**	**47.86**	**124**	*e*P	**P**	**02 55 28.6**	**+1.3**
	0.8nm,0.9s						
AS31				*e*PcP	**PcP**	**02 56 57.9**	**+1.7**
SONA0	**Songino Array**	**48.04**	**13**	*e*P	**P**	**02 55 29.8**	**+1.3**
SONM	**Songino Array**	**48.04**	**13**	P	**P**	**02 55 29.8**	**+1.3**
	3.7nm,0.7s,baz=192,slow=9.5,SNR=18						
SONA1	**Songino Array**	**48.05**	**13**	*e*P	**P**	**02 55 30.0**	**+1.4**
KURBB	**Kurchatov Arra**	**50.41**	**349**	P	**P**	**02 55 45.9**	**-0.5**
	1.2nm,0.7s,baz=171,slow=6.9,SNR=8.6						
KURK	**Kurchatov**	**50.48**	**349**	*e*P	**P**	**02 55 47.9**	**+1.0**
ZALV	**Zalesovo Beam**	**52.78**	**355**	P	**P**	**02 56 03.8**	**-0.3**
	1.6nm,0.5s,baz=192,slow=7.5,SNR=6.9						
ZALV	**Zalesovo Beam**	**52.78**	**355**	*e*P	**P**	**02 56 04.2**	**+0.1**
ZAA1	**Zalesovo Array**	**52.78**	**355**	*e*P	**P**	**02 56 03.8**	**-0.3**
BR101	**Keskin Array S**	**65.09**	**314**	*e*P	**P**	**02 57 28.0**	**-2.1**
BRTR	**Keskin Array B**	**65.09**	**314**	P	**P**	**02 57 28.0**	**-2.1**
	0.4nm,0.7s,baz=114,slow=5.7,SNR=3.4						
TIXI	**Tiksi**	**74.09**	**11**	*e*P	**P**	**02 58 24.4**	**-0.4**
	2.0nm,0.4s						
FIA0	**FINESS Array S**	**77.44**	**333**	*e*P	**P**	**02 58 43.4**	**-0.8**
FINES	**FINESS Array B**	**77.44**	**333**	P	**P**	**02 58 43.4**	**-0.8**
	2.1nm,0.9s,baz=101,slow=14,SNR=2.9						
GEA0	**GERESS Array S**	**81.18**	**319**	*e*P	**P**	**02 59 06.3**	**+1.3**
GEC2	**GERESS Array S**	**81.18**	**319**	*e*P	**P**	**02 59 06.3**	**+1.3**
	4.4nm,0.9s						
GERES	**GERESS Array B**	**81.18**	**319**	P	**P**	**02 59 06.3**	**+1.3**
	2.1nm,0.8s,baz=104,slow=5.6,SNR=14						
TORD	**Torodi Ar. Bea**	**89.81**	**283**	P	**P**	**02 59 48.8**	**+0.2**
	0.5nm,0.9s,baz=80,slow=6.1,SNR=2.8						
TOA1	**Torodi Ar. Sit**	**89.81**	**283**	*e*P	**P**	**02 59 48.8**	**+0.2**
LTX	**Lajitas**	**146.13**	**25**	*e*PKPdf	**PKPab**	**03 06 30.8**	**+0.1**
TXAR	**Lajitas Array**	**146.13**	**25**	PKPbc	**PKPab**	**03 06 30.8**	**+0.1**
	1.0nm,0.7s,baz=264,slow=2.1,SNR=14						

ISCJB ***12*** *02:50:15.1±0.5,2°.13N±0°.08×89°.90E±0°.05,h10km, mb4.2/17,Error ellipse: s-maj=12.3km s-min=6.4km az=25.7*
IDC ***12*** *02:50:15.7±1.0,2°.14N×89°.80E,h0km,mb3.9/10, mb1 4.0/12,mb1mx3.8/75,mbtmp3.9/12,ML4.0/2,Error ellipse: s-maj=32.2km s-min=17.4km az=50.0*
NEIC ***12*** *02:50:17.7±4.4,2°.12N×89°.86E,h14km,27km,mb4.4/9, Error ellipse: s-maj=14.0km s-min=7.8km az=217.0*

ISC 12 02:50:16.8±0.7,2°.2N±0°.1×89°.78E±0°.07,h10km,n46, σ1§71/42,mb4.3/17,North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSI	**Gunungsitoli**	**7.84**	**96**	*e*Pn	**Pn**	**

mb3.8/4,MS4.2/3,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**6.33**	**99**	Pn	**Pn**	**02 55 54.3**	**-1.1**
	2.2nm,0.3s,baz=246,slow=10.0,SNR=4.7						
PALK	**Pallekele**	**12.38**	**286**	Pn	**Pn**	**02 57 17.5**	**-0.8**
	1.3nm,0.3s,baz=115,slow=14,SNR=4.8						
CMAR	**Chiang Mai Arr**	**15.76**	**22**	Pn	**Pn**	**02 58 03.3**	**-0.5**
	0.2nm,0.3s,baz=220,slow=15,SNR=4.7						
BATI	**Baumata**	**33.88**	**115**	LR	LR	03 16 46.0	
	comp=Z,495nm,19.9s,baz=330,slow=40						
MKAR	**Makanchi Array**	**43.72**	**350**	P	**P**	**03 02 26.7**	**+0.6**
	0.9nm,0.6s,baz=170,slow=8.5,SNR=6.8						
WRA	**Warramunga Arr**	**47.27**	**122**	P	**P**	**03 02 55.7**	**+1.0**
	0.4nm,0.8s,baz=302,slow=8.4,SNR=2.8						
KURBB	**Kurchatov Arra**	**48.11**	**348**	P	**P**	**03 03 01.3**	**+0.7**
	0.6nm,0.5s,baz=165,slow=7.7,SNR=3.9						
ZALV	**Zalesovo Beam**	**50.35**	**354**	P	**P**	**03 03 18.9**	**+1.1**
	0.7nm,0.3s,baz=177,slow=7.7,SNR=2.0						
MMAI	**Mount Meron Ar**	**60.69**	**306**	LR	LR	03 32 49.7	
	comp=Z,342nm,18.4s,baz=100,slow=38						
IDI	**Anoyia**	**69.69**	**306**	LR	LR	03 41 08.3	
	comp=Z,113nm,18.5s,baz=74,slow=40						

BJI **12** *02:54:38.9, 0.˚66N×91.˚40E, h15km, mb4.7/48, mB5.1/29, Ms4.8/38, Ms7 4.4/33*
IDC **12** *02:54:42.2± 0.4, 1.˚15N×91.˚70E, h0km, mb4.5/40, mb1 4.6/43, mb1mx4.5/79, mbtmp4.5/43, ML4.7/3, MS4.0/5, Ms1 4.0/5, ms1mx3.7/36, Error ellipse: s-maj=13.8km s-min=9.9km az=56.0*
ISCJB **12** *02:54:42.1± 0.2, 1.˚14N± 0.˚03× 91.˚74E± 0.˚02, h10km, mb4.7/113, Error ellipse: s-maj=4.9km s-min=3.0km az=31.2*
MOS **12** *02:54:42.2± 1.1, 1.˚23N× 91.˚73E, h10km, mb5.0/35, Error ellipse: s-maj=9.5km s-min=5.2km az=114.4*
NEIC **12** *02:54:43.9± 0.2, 1.˚17N× 91.˚72E, h10km, mb5.0/45, Error ellipse: s-maj=4.8km s-min=3.2km az=211.0*
DJA **12** *02:54:44.3± 0.3, 1.˚N± 4.˚× 9.˚2E± ˚, h10km, M5.4/26, mb5.4/26, mB5.7/18, MLv5.8/8, Mw(mB)5.3/18*

ISC 12 02:54:43.9± 0.3, 1.˚20N± 0.˚04× 91.˚76E± 0.˚04, h10km, n339, σ 1§47/347, mb4.8/120, 19C-6D, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLSI	**Meulaboh, Aceh**	**5.55**	**57**	P	**Pn**	**02 56 09.0**	**+2.4**
	418nm,0.4s,11μm6.5nm						
TPTI		**5.79**	**69**	P	**Pn**	**02 56 10.1**	**+0.2**
GSI	**Gunungsitoli**	**5.81**	**89**	P	**Pn**	**02 56 11.0**	**+0.7**
GSI	**Gunungsitoli**	**5.81**	**89**	*e*Pn	**Pn**	**02 56 11.2**	**+0.9**
GSI				*e*Sn	**Sn**	**02 57 10.6**	**-6.5**
LHMI	**Lhok Sumawe**	**6.55**	**52**	P	**Pn**	**02 56 23.7**	**+3.4**
LHMI	**Lhok Sumawe**	**6.55**	**52**	*e*Pn	**Pn**	**02 56 21.6**	**+1.3**
LHMI				*e*Sn	**Sn**	**02 57 30.4**	**-4.6**
TSI	**Tuntungan**	**7.17**	**71**	P	Pn	02 56 34.1	+5.2
PSI	**Prapat**	**7.33**	**77**	Pn	**Pn**	**02 56 31.7**	**+0.4**
	11nm,0.3s,baz=318,slow=9.4,SNR=13						
PSI				Sn	**Sn**	**02 57 47.6**	**-7.1**
	8.6nm,0.3s,baz=285,slow=20,SNR=3.4						
PSI				LR	LR	02 59 36.0	
	comp=Z,4μm,18.8s,baz=244,slow=40						
PSI	**Prapat**	**7.33**	**77**	*e*Pn	**Pn**	**02 56 31.8**	**+0.6**
PSI				*e*Sn	Sn	02 57 45.1	-10
PSI	**Prapat**	**7.33**	**77**	*e*P	**Pn**	**02 56 31.8**	**+0.6**
SISI	**Saibi**	**7.74**	**109**	P	**Pn**	**02 56 37.0**	**+0.2**
MNSI	**Mandailing Nat**	**7.83**	**93**	P	**Pn**	**02 56 39.2**	**+1.3**
PDSI	**Padang**	**8.95**	**103**	P	**Pn**	**02 56 53.4**	**+0.1**
PPSI	**Pulau Pagai**	**9.14**	**116**	P	**Pn**	**02 56 56.6**	**+0.7**
	555nm,0.6s,6μm						
BKNI	**Bangkinang**	**9.32**	**95**	P	Pn	02 57 10.2	+12
KULM	**Kulim**	**9.76**	**65**	*e*Pn	**Pn**	**02 57 04.3**	**-0.1**
KULM				*e*Sn	Sn	02 58 43.9	-10
IPM	**Ipoh**	**9.81**	**70**	*e*Pn	**Pn**	**02 57 06.0**	**+0.8**
IPM				*e*Sn	Sn	02 58 40.8	-15
SDSI	**Sungai Dareh**	**9.89**	**102**	P	**Pn**	**02 57 09.0**	**+2.7**
PBA	**Port Blair**	**10.44**	**5**	*e*P	Pn	02 57 11.5	-2.2
PBA	**Port Blair**	**10.44**	**5**	*e*Pn	Pn	02 57 12.3	-1.5
PBA				*e*Sn	Sn	02 58 58.0	-13
MASI	**Maura Aman, Be**	**11.33**	**112**	P	**Pn**	**02 57 27.0**	**+1.0**
DGPR	**DIGLIPUR**	**11.96**	**6**	*e*P	**Pn**	**02 57 35.3**	**+0.7**
MYKOM	**Kota Tinggi**	**12.10**	**87**	*e*Pn	**Pn**	**02 57 37.3**	**+0.8**
MNAI	**Manna**	**12.47**	**116**	*e*Pn	**Pn**	**02 57 40.7**	**-0.9**
MNAI				*e*Sn	Sn	02 59 48.8	-12
PALK	**Pallekele**	**12.57**	**299**	Pn	**Pn**	**02 57 40.2**	**-2.8**
	13nm,0.3s,baz=116,slow=15,SNR=24						
PALK				Sn	Sn	02 59 49.6	-14
	18nm,0.3s,baz=115,slow=1.3,SNR=6.6						
PALK	**Pallekele**	**12.57**	**299**	*e*Pn	**Pn**	**02 57 40.2**	**-2.8**
PALK				*e*Sn	Sn	02 59 47.3	-16
PALK	**Pallekele**	**12.57**	**299**	*i* P	**Pn**	**02 57 43.5**	**+0.5**
MDSI	**Maura Dua**	**13.63**	**115**	P	**Pn**	**02 57 57.0**	**-0.4**
LWLI	**Liwa**	**13.75**	**117**	P	**Pn**	**02 58 00.0**	**+0.8**
	181nm,0.7s						
KASI	**Kota Agung**	**14.37**	**118**	P	**Pn**	**02 58 07.2**	**-0.3**
	93nm,0.8s,1μm						
CGJI	**Cibinong**	**15.92**	**119**	P	**Pn**	**02 58 26.0**	**-2.2**
MDRS	**Chennai**	**16.41**	**316**	*e*P	**Pn**	**02 58 32.9**	**-1.6**
MDRS				IAmb	IAmb	02 58 34.1	
	comp=Z,51nm,0.6s						
TRD	**Trivandrum**	**16.43**	**297**	*e*P	**Pn**	**02 58 33.2**	**-1.6**
JCJI	**Jatiwangi**	**18.16**	**115**	P	**P**	**02 59 01.1**	**+4.4**
CISI	**Cisompet, Garu**	**18.22**	**119**	P	**P**	**02 58 58.2**	**+0.8**
CISI	**Cisompet, Garu**	**18.22**	**119**	*e*Pn	**Pn**	**02 58 57.2**	**0.0**
	comp=Z,83nm,0.6s						
VIS	**Vishakhapatnam**	**18.39**	**334**	*e*P	**P**	**02 58 59.5**	**+0.3**
VIS				IAmb	IAmb	02 59 00.4	
	comp=Z,104nm,0.7s						
CM01	**Chiang Mai Arr**	**18.52**	**22**	*e*P	**P**	**02 58 59.7**	**-0.9**
KSM	**Kuching**	**18.54**	**89**	*e*P	**Pn**	**02 59 03.5**	**+2.4**
	comp=Z,32nm,0.7s						
CM31	**Chiang Mai Arr**	**18.55**	**22**	*e*P	**Pn**	**02 59 01.3**	**+0.2**
CMAR	**Chiang Mai Arr**	**18.55**	**22**	P	**P**	**02 59 00.8**	**-0.2**
	comp=Z,0.4nm,0.3s,baz=217,slow=13,SNR=17						
CMAR				LR	LR	03 06 27.0	
	comp=Z,354nm,19.2s,baz=215,slow=38						
CHTO	**Chiang Mai**	**18.87**	**21**	*e*P	**Pn**	**02 59 05.8**	**+0.7**
	comp=Z,10nm,0.8s						
CHTO	**Chiang Mai**	**18.87**	**21**	*e*P	**Pn**	**02 59 05.8**	**+0.7**
CHTO				pmax	pmax		
	comp=Z,10.0nm,0.8s						
KPJI	**Karang Pucung**	**19.11**	**117**	P	**Pn**	**02 59 08.4**	**+0.4**
MNCY	**Minicoy**	**19.93**	**291**	*e*P	**P**	**02 59 15.4**	**-0.8**
SMRI	**Semarang**	**20.36**	**114**	P	Pn	02 59 27.6	+4.7
SMRI	**Semarang**	**20.36**	**114**	*e*P	Pn	02 59 25.8	+2.9
	comp=Z,106nm,0.9s						
SBUM	**Sibu**	**20.49**	**86**	*e*P	**P**	**02 59 18.4**	**-3.8**
	comp=Z,21nm,0.8s						
HYB	**Hyderabad**	**20.70**	**322**	*i* P	**P**	**02 59 24.5**	**0.0**
HYB	**Hyderabad**	**20.70**	**322**	*e*P	**P**	**02 59 24.9**	**+0.4**
UGM	**Wanagama**	**20.78**	**116**	*e*P	Pn	02 59 26.7	-1.1
	comp=Z,116nm,1.1s						
H08S2	**Diego Garcia H**	**21.13**	**245**	T	T	03 21 22.2	
	baz=65,slow=75,SNR=51						
H08S3	**Diego Garcia H**	**21.13**	**245**	T	T	03 21 21.3	
	baz=65,slow=75,SNR=29						
H08S1	**Diego Garcia H**	**21.15**	**245**	T	T	03 21 18.2	
	baz=65,slow=75,SNR=33						
GOA	**Goa**	**22.69**	**310**	*e*P	**P**	**02 59 45.4**	**-0.5**
GOA				IAmb	IAmb	02 59 47.9	
	comp=Z,21nm,0.7s						
BOK	**Bokaro**	**23.18**	**346**	*e*P	**P**	**02 59 52.6**	**+1.8**
BOK				IAmb	IAmb	02 59 55.0	
	comp=Z,140nm,1.7s						
NGP	**Nagpur**	**23.39**	**329**	*e*P	**P**	**02 59 53.3**	**+0.2**
NGP				IAmb	IAmb	02 59 57.2	
	comp=Z,728nm,3.5s						
SHL	**Shillong**	**24.23**	**0**	*e*P	**P**	**03 00 00.4**	**-0.9**
SHL				IAmb	IAmb	03 00 23.0	
	comp=Z,84nm,0.2s						
POO	**Poona**	**24.61**	**316**	*e*P	**P**	**03 00 04.6**	**-0.1**
POO				IAmb	IAmb	03 00 06.0	
	comp=Z,24nm,1.2s						
QIZ	**Qiongzhong**	**25.07**	**44**	P	**P**	**03 00 09.0**	**+0.3**
QIZ				S	**S**	**03 04 37.6**	**+4.3**
QIZ				pmax	pmax		
	comp=Z,16nm,1.3s						
QIZ				LR	LR		
	comp=Z,1μm,15.5s						
QIZ				LR	LR		
	comp=Z,600nm,16.2s						
QIZ				LR	LR		
	comp=Z,770nm,15.6s						
BHPL	**Bhopal**	**25.96**	**329**	*e*P	**P**	**03 00 17.1**	**+0.3**
BHPL				IAmb	IAmb	03 00 20.4	
	comp=Z,39nm,1.2s						
KMI	**Kunming**	**26.04**	**23**	P	**P**	**03 00 22.4**	**+4.6**
KMI				pP	sP	03 00 30.0	+7.9
KMI				sP	pP	03 00 34.1	+13
KMI				S	**S**	**03 04 52.8**	**+3.7**
KMI				sS	sS	03 05 09.0	+15
KMI				pmax	pmax		
	comp=Z,32nm,0.9s						
KMI				pmax	pmax		
	comp=Z,130nm,3.1s						
KMI				LR	LR		
	comp=Z,870nm,15.7s						
KMI				LR	LR		
	comp=Z,490nm,14.8s						
KMI				LR	LR		
	comp=Z,720nm,13.4s						
DMN	**Daman**	**27.03**	**347**	*e*P	**P**	**03 00 27.7**	**+1.0**
	comp=Z,56nm,1.1s						
GUN	**Gumba**	**27.15**	**349**	*e*P	**P**	**03 00 28.9**	**+1.0**
	comp=Z,138nm,1.3s						
KKN	**Kakani**	**27.16**	**347**	*e*P	**P**	**03 00 28.7**	**+0.8**
GKN	**Gorkha**	**27.51**	**346**	*e*P	**P**	**03 00 31.7**	**+0.7**
KOLN	**Koldanda**	**27.56**	**344**	*e*P	**P**	**03 00 32.4**	**+1.0**
	comp=Z,11nm,0.5s						
PYUN	**Piuthan**	**28.04**	**343**	*e*P	**P**	**03 00 36.4**	**+0.7**
	comp=Z,120nm,1.4s						
DANN	**Dangsing**	**28.07**	**345**	*e*P	**P**	**03 00 36.7**	**+0.7**
MPSI	**Mapaga**	**28.15**	**92**	P	P	03 00 42.3	+5.7
LSA	**Lhasa**	**28.35**	**359**	P	**P**	**03 00 40.1**	**+1.3**
LSA				pmax	pmax		
	comp=Z,26nm,1.3s						
GYA	**Guiyang**	**28.92**	**28**	*i* P	**P**	**03 00 46.2**	**+2.7**
GYA				PP	**PnPn**	**03 01 40.4**	**+5.5**
GYA				PcP	**PcP**	**03 03 52.6**	**-0.1**
GYA				S	**S**	**03 05 35.8**	**+1.5**
GYA				pmax	pmax		
	comp=Z,20nm,0.9s						
GYA				pmax	pmax		
	comp=Z,120nm,5.6s						
GYA				LR	LR		
	comp=Z,590nm,15.9s						
GYA				LR	LR		
	comp=Z,560nm,15.8s						
GYA				LR	LR		
	comp=Z,580nm,15.4s						
CD2	**Chengdu**	**31.66**	**20**	P	**P**	**03 01 08.2**	**+0.6**
CD2				pP	sP	03 01 12.7	+0.8
CD2				PP	**PP**	**03 02 20.0**	**+0.8**
CD2				S	**S**	**03 06 18.7**	**+1.6**
CD2				pmax	pmax		
	comp=Z,20nm,0.5s						
CD2				pmax	pmax		
	comp=Z,450nm,4.4s						
CD2				LR	LR		
	comp=Z,740nm,11.9s						
CD2				LR	LR		
	comp=Z,1μm,14.4s						
CD2				LR	LR		
	comp=Z,900nm,12.9s						
SMLA	**Simla**	**32.82**	**337**	*e*P	**P**	**03 01 17.3**	**-0.4**
SMLA				IAmb	IAmb	03 01 20.2	
	comp=Z,46nm,1.3s						
DHRM	**DHARAMSHALA**	**34.16**	**336**	*e*P	**P**	**03 01 29.1**	**-0.6**
DHRM				IAmb	IAmb	03 01 30.2	
	comp=Z,16nm,0.6s						
WHN	**Wuhan**	**36.21**	**34**	⇓P	**P**	**03 01 51.1**	**+4.1**
WHN				LR	LR		
	comp=Z,2μm,16.1s						
WHN				LR	LR		
	comp=Z,3μm,15.9s						
WHN				LR	LR		
	comp=Z,1μm,13.6s						
XAN	**Xi'an**	**36.41**	**24**	P	**P**	**03 01 48.6**	**-0.2**
XAN				pP	pP	03 01 52.4	+0.5
XAN				sP	sP	03 01 55.0	+1.9
XAN				pmax	pmax		
	comp=Z,15nm,0.9s						
XAN				LR	LR		
	comp=Z,820nm,14.6s						
XAN				LR	LR		
	comp=Z,910nm,14.9s						
XAN				LR	LR		
	comp=Z,740nm,14.6s						
LZH	**Lanzhou**	**36.48**	**17**	*e*P	**P**	**03 01 52.9**	**+3.4**
LZH				pP	sP	03 01 57.2	+3.4
LZH				sP	pP	03 01 59.8	+7.2
LZH				*e*PP	**PP**	**03 03 17.2**	**+4.6**
LZH				*e*S	**S**	**03 07 33.4**	**+1.7**
LZH				SS	**SnSn**	**03 10 00.0**	**-0.3**
LZH				pmax	pmax		
	comp=Z,34nm,1.0s						
LZH				pmax	pmax		
	comp=Z,190nm,5.6s						
LZH				LR	LR		
	comp=Z,860nm,15.4s						
LZH				LR	LR		
	comp=Z,2μm,16.4s						
LZH				LR	LR		
	comp=Z,980nm,16.4s						
NIL	**Nilore**	**36.65**	**334**	*e*P	**P**	**03 01 51.2**	**+0.4**
	comp=Z,18nm,0.8s						
NIL	**Nilore**	**36.65**	**334**	*e*P	**P**		
NIL				pmax	pmax	**03 01 51.2**	**+0.4**
	comp=Z,18nm,0.8s						
FITZ	**Fitzroy Crossi**	**38.46**	**122**	P	**P**	**03 02 06.1**	**-0.2**
	comp=Z,5.8nm,0.7s,baz=266,slow=4.2,SNR=14						
GTA	**Gaotai**	**38.74**	**10**	*e*P	**P**	**03 02 09.4**	**+0.9**
GTA				pP	sP	03 02 14.0	+1.1
GTA				sP	pP	03 02 17.2	+5.6
GTA				S	**S**	**03 08 07.4**	**+1.6**
GTA				sS	sS	03 08 16.9	+5.9
GTA				pmax	pmax		
	comp=Z,12nm,0.9s						
GTA				pmax	pmax		
	comp=Z,180nm,5.7s						
GTA				LR	LR		
	comp=Z,240nm,18.5s						
GTA				LR	LR		
	comp=Z,490nm,15.2s						
WSAR	**Wadi Sarin**	**38.90**	**307**	P	**P**	**03 02 10.7**	**+0.7**
	comp=Z,4.9nm,0.7s,baz=182,slow=3.5,SNR=5.0						
NJ2	**Nanjing**	**39.94**	**37**	*e*P	**P**	**03 02 19.4**	**+0.9**
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.5s						
NJ2				LR	LR		
	comp=Z,1μm,15.7s						
NJ2				LR	LR		
	comp=Z,1μm,15.2s						
NJ2				LR	LR		
	comp=Z,640nm,12.5s						
KSH	**Kashi**	**40.77**	**341**	P	**P**	**03 02 24.0**	**-1.5**
KSH				sP	sP	03 02 30.4	+0.6
KSH				S	**S**	**03 08 32.3**	**-4.0**
KSH				SS	**SS**	**03 11 30.0**	**-7.3**
KSH				pmax	pmax		
	comp=Z,16nm,0.4s						
KSH				pmax	pmax		
	comp=Z,240nm,4.5s						
KSH				LR	LR		
	comp=Z,200nm,5.1s						
KSH				LR	LR		
	comp=Z,220nm,5.2s						
KSH				LR	LR		
	comp=Z,720nm,11.5s						
MTN	**Manton Dam**	**41.48**	**111**	*e*P	**P**	**03 02 29.9**	**-1.5**
	comp=Z,79nm,1.7s						
H01W3	**Cape Leeuwin H**	**41.56**	**152**	T	T	03 46 55.2	
	baz=327,slow=75,SNR=42						
H01W2	**Cape Leeuwin H**	**41.57**	**152**	T	T	03 46 56.1	
	baz=327,slow=75,SNR=30						
H01W1	**Cape Leeuwin H**	**41.58**	**152**	T	T	03 46 52.9	
	baz=327,slow=75,SNR=30						
NWAO	**Narrogin (SRO)**	**41.59**	**147**	P	**P**	**03 02 30.1**	**-2.1**
	comp=Z,7.4nm,0.7s,baz=170,slow=8.9,SNR=5.3						
NWAO	**Narrogin (SRO)**	**41.59**	**147**	*e*P	**P**	**03 02 31.6**	**-0.6**
NWAO	**Narrogin (SRO)**	**41.59**	**147**	*e*P	**P**	**03 02 31.6**	**-0.6**
TARG	**Taragay, Kyrgy**	**42.27**	**344**	*e*P	**P**	**03 02 38.6**	**+0.5**
	comp=Z,21nm,1.6s						
NRN	**Naryn**	**42.51**	**342**	*e*P	**P**	**03 02 40.2**	**+0.4**
	comp=Z,11nm,1.2s						
NRN	**Naryn**	**42.51**	**342**	*e*P	**P**	**03 02 40.3**	**+0.4**
NRN				pmax	pmax		
	comp=Z,11nm,1.2s						
WMQ	**Urumqi**	**42.59**	**356**	P	**P**	**03 02 41.3**	**+1.0**
WMQ				sP	sP	03 02 49.4	+4.8
WMQ				pmax	pmax		
	comp=Z,27nm,1.1s						
WMQ				pmax	pmax		
	comp=Z,390nm,3.6s						
WMQ				LR	LR		
	comp=Z,730nm,20.3s						
WMQ				LR	LR		
	comp=Z,480nm,20.3s						
WMQ				LR	LR		
	comp=Z,690nm,32.3s						
KDJ	**Kajisay**	**42.81**	**344**	*e*P	**P**	**03 02 42.2**	**0.0**
	comp=Z,25nm,1.5s						
ULHL	**Ulahol**	**43.18**	**343**	P	**P**	**03 02 45.6**	**+0.4**
	SNR=8.0						
KZA	**Kyzart**	**43.33**	**342**	P	**P**	**03 02 47.1**	**+0.5**
	SNR=5.5						
HHC	**Hu-ho-hao-te**	**43.36**	**22**	*e*P	**P**	**03 02 47.9**	**+1.4**
HHC				PP	**PcP**	**03 04 31.7**	**-3.5**
HHC				S	**S**	**03 09 16.6**	**+2.1**
HHC				SS	**SS**	**03 12 22.8**	**-5.6**
HHC				pmax	pmax		
	comp=Z,27nm,1.0s						
HHC				pmax	pmax		
	comp=Z,87nm,5.8s						
HHC				LR	LR		
	comp=Z,560nm,16.0s						
HHC				LR	LR		
	comp=Z,780nm,16.0s						
HHC				LR	LR		
	comp=Z,680nm,15.3s						
UCH	**Uchtor**	**43.69**	**341**	P	**P**	**03 02 50.3**	**+0.6**
	SNR=11						
AML	**Almayashu**	**43.87**	**341**	P	**P**	**03 02 51.5**	**+0.5**
	SNR=14						
TKM2	**Tokmak 2**	**43.99**	**343**	P	**P**	**03 02 52.1**	**+0.4**
	SNR=9.7						
AAK	**Ala-Archa**	**44.07**	**342**	P	**P**	**03 02 52.3**	**0.0**
	comp=Z,1.4nm,0.5s,baz=144,slow=12,SNR=7.0						
AAK	**Ala-Archa**	**44.07**	**342**	*e*P	**P**	**03 02 53.1**	**+0.7**
AAK	**Ala-Archa**	**44.07**	**342**	*i* P	**P**	**03 02 52.6**	**+0.3**
FRU	**Bishkek**	**44.21**	**342**	*e*P	**P**	**03 02 52.0**	**-1.3**
FRU				*e*		03 04 34.0	
EKS2	**Erkin-Say**	**44.32**	**341**	P	**P**	**03 02 55.2**	**+0.9**
	SNR=6.4						
BJI	**Beijing**	**44.59**	**27**	P	**P**	**03 02 58.4**	**+2.1**
BJI				S	**S**	**03 09 30.0**	**-2.2**
BJI				pmax	pmax		
	comp=Z,19nm,0.9s						
BJI				LR	LR		
	comp=Z,590nm,19.8s						
BJI				LR	LR		
	comp=Z,840nm,17.6s						
BJI				LR	LR		
	comp=Z,2μm,86.8s						
USP	**Ospenovka**	**44.64**	**342**	P	**P**	**03 02 56.8**	**+0.1**
	SNR=5.6						
KK31	**Karatay Array**	**45.85**	**338**	*e*P	**P**	**03 03 06.6**	**+0.3**
KK31	**Karatay Array**	**45.85**	**338**	*e*P	**P**	**03 03 06.6**	**+0.3**
KKAR	**Karatay Array**	**45.85**	**338**	*e*P	**P**	**03 03 06.6**	**+0.3**
KKAR	**Karatay Array**	**45.85**	**338**	*e*P	**P**	**03 03 06.6**	**+0.3**
MK01	**Makanchi Array**	**46.14**	**351**	*e*P	**P**	**03 03 08.0**	**-0.6**
MK31	**Makanchi Array**	**46.16**	**351**	*e*P	**P**	**03 03 08.7**	**-0.1**
MK31	**Makanchi Array**	**46.16**	**351**	*e*P	**P**	**03 03 08.7**	**-0.1**
MK32	**Makanchi Array**	**46.16**	**351**	*e*P	**P**	**03 03 08.6**	**-0.1**
MKAR	**Makanchi Array**	**46.16**	**351**	P	**P**	**03 03 08.6**	**-0.1**
	comp=Z,4.5nm,0.6s,baz=170,slow=8.9,SNR=29						
MKAR	**Makanchi Array**	**46.16**	**351**	*e*P	**P**	**03 03 08.7**	**-0.1**
	comp=Z,28nm,0.7s						
MKAR	**Makanchi Array**	**46.16**	**351**	*e*P	**P**	**03 03 08.7**	**-0.1**
MKAR				pmax	pmax		
	comp=Z,28nm,0.7s						
MAKZ	**Makanchi**	**46.23**	**351**	*e*P	**P**	**03 03 09.6**	**+0.4**
	comp=Z,8.5nm,1.2s						
MAKZ	**Makanchi**	**46.23**	**351**	*e*P	**P**	**03 03 09.6**	**+0.4**
MAKZ				pmax	pmax		
	comp=Z,9.0nm,1.2s						
WRA	**Warramunga Arr**	**46.72**	**119**	P	**P**	**03 03 13.4**	**-0.1**
	comp=Z,20nm,0.7s,baz=296,slow=8.6,SNR=111						
WR1	**Warramunga Arr**	**46.72**	**119**	*e*P	**P**	**03 03 13.4**	**-0.1**
	comp=Z,17nm,0.6s						
WRAB	**Tennant Creek**	**46.73**	**119**	*e*P	**P**	**03 03 13.3**	**-0.3**
	comp=Z,23nm,0.8s						
WRAB	**Tennant Creek**	**46.73**	**119**	*e*P	**P**	**03 03 13.3**	**-0.3**
WRAB				pmax	pmax		
	comp=Z,23nm,0.8s						
WB2	**Warramunga Arr**	**46.73**	**119**	*e*P	**P**	**03 03 13.6**	**-0.1**
	comp=Z,22nm,0.8s						
FORT	**Forrest**	**46.93**	**136**	*e*P	**P**	**03 03 14.2**	**-0.8**
	comp=Z,379nm,0.8s						
ASAR	**Alice Springs**	**47.82**	**124**	P	**P**	**03 03 22.0**	**-0.1**
	comp=Z,2.9nm,0.7s,baz=294,slow=7.6,SNR=22						
ASAR				PcP	**PcP**	**03 04 51.2**	**+0.2**
	comp=Z,1.3nm,0.6s,baz=295,slow=3.5,SNR=4.9						
ASAR				LR	LR	03 24 10.2	
	comp=Z,219nm,20.1s,baz=306,slow=37						
AS31	**Alice Springs**	**47.82**	**124**	*e*P	**P**	**03 03 22.3**	**+0.2**
	comp=Z,5.9nm,1.6s						
AS31				*e*PcP	**PcP**	**03 04 51.2**	**+0.2**
AS01	**Alice Springs**	**47.86**	**124**	*e*P	**P**	**03 03 22.1**	**-0.3**
GEYT	**Alibeck**	**47.87**	**324**	P	**P**	**03 03 23.0**	**+0.7**
	comp=Z,9.8nm,0.8s,baz=148,slow=8.7,SNR=18						
GYA0B	**ALIBECK ARRAY**	**47.87**	**324**	*e*P	**P**	**03 03 23.3**	**+1.1**
	comp=Z,12nm,0.8s						
OPO	**Ambohidratompo**	**48.01**	**244**	P	**P**	**03 03 23.5**	**-0.3**
	comp=Z,5.6nm,0.7s,baz=64,slow=4.2,SNR=9.7						
SONA0	**Songino Array**	**48.16**	**13**	*e*P	**P**	**03 03 25.4**	**+0.9**
SONM	**Songino Array**	**48.16**	**13**	P	**P**	**03 03 25.4**	**+0.9**
	comp=Z,10nm,0.7s,baz=192,slow=8.7,SNR=35						
SONA1	**Songino Array**	**48.17**	**13**	*e*P	**P**	**03 03 25.2**	**+0.7**
ULN	**Ulaanbaatar**	**48.34**	**14**	*e*P	**P**	**03 03 26.8**	**+0.9**
	comp=Z,4.2nm,0.7s						
ULN	**Ulaanbaatar**	**48.34**	**14**	*ce*P	**P**	**03 03 26.4**	**+0.5**
ULN				pmax	pmax		
	comp=Z,17nm,2.5s						
DGZ	**Jazzator, Alta**	**48.46**	**356**	*i* P	**P**	**03 03 27.7**	**+0.9**
DGZ				pmax	pmax		
	comp=Z,1.0nm,0.8s						
DAMY	**Dhamar**	**48.64**	**288**	*e*P	**P**	**03 03 30.1**	**+1.2**
	comp=Z,58nm,1.4s						
KS15	**Wonju Array Si**	**49.05**	**38**	*e*P	**P**	**03 03 33.0**	**+1.7**
**K

GNI	**Garni**	**57.60**	**318**	P		**P**	**03 04 34.6**	**+0.1**	
	comp=Z,3.9nm,0.6s,baz=163,slow=3.1,SNR=5.9								
GNI	**Garni**	**57.60**	**318**	*ce*P		**P**	**03 04 35.0**	**+0.6**	
GNI				pmax	pmax				
	comp=Z,89nm,2.5s								
TBLG	**Delisi**	**58.41**	**320**	*e*P		**P**	**03 04 40.9**	**+1.0**	
	comp=Z,14nm,0.9s								
TBLG	**Delisi**	**58.41**	**320**	*e*P		**P**	**03 04 40.9**	**+1.0**	
TBLG				pmax	pmax				
	comp=Z,14nm,0.9s								
GROC	**Groznyy**	**58.51**	**322**	*e*P		**P**	**03 04 40.0**	**-0.5**	
GROC				*e*			03 05 32.2		
GROC				*e*S		**S**	**03 12 41.1**	**-3.1**	
GROC				pmax	pmax				
	comp=Z,24nm,0.8s								
KLR	**Kul'dur**	**58.81**	**30**	P		**P**	**03 04 44.7**	**+2.2**	
	comp=Z,0.2nm,0.7s,baz=268,slow=6.4,SNR=9.2								
KLR				LR		LR	03 33 41.9		
	comp=Z,30nm,19.0s,baz=169,slow=40								
KLR	**Kul'dur**	**58.81**	**30**	*i* P		**P**	**03 04 41.8**	**-0.7**	
BOD	**Bodaibo**	**59.15**	**14**	*e*P		**P**	**03 04 44.7**	**0.0**	
BOD				pmax	pmax				
	comp=Z,15nm,1.4s								
ZEI	**Tsey**	**59.48**	**321**	*e*P		**P**	**03 04 46.3**	**-1.2**	
ZEI				pmax	pmax				
	comp=Z,5.0nm,0.8s								
NEY	**Neytrino**	**60.46**	**321**	*i* P		**P**	**03 04 55.3**	**+1.1**	
NEY				pmax	pmax				
	comp=Z,2.0nm,0.8s								
KBZ	**Khabaz**	**60.59**	**321**	P		**P**	**03 04 55.2**	**+0.4**	
	comp=Z,6.6nm,0.8s,baz=130,slow=7.6,SNR=20								
KIV	**Kislovodsk**	**60.83**	**321**	*e*P		**P**	**03 04 56.5**	**-0.1**	
	comp=Z,17nm,1.0s								
KIV	**Kislovodsk**	**60.83**	**321**	*e*P		**P**	**03 04 57.1**	**+0.5**	
KIV				pmax	pmax				
	comp=Z,16nm,1.0s								
GOF	**Gofitskoye**	**61.17**	**323**	*e*P		P	03 04 51.9	-6.9	
ARU	**Arti**	**61.18**	**340**	*d i*P		**P**	**03 04 57.1**	**-1.5**	
ARU							03 05 34.6		
ARU				S		**S**	**03 13 16.2**	**-1.9**	
ARU				pmax	pmax				
	comp=Z,10.0nm,1.2s								
CAN	**Canberra**	**64.50**	**130**	*e*P		**P**	**03 05 22.1**	**+0.9**	
	comp=Z,16nm,0.7s								
CAN	**Canberra**	**64.50**	**130**	*e*P		**P**	**03 05 22.2**	**+0.9**	
CAN				pmax	pmax				
	comp=Z,16nm,0.7s								
LSZ	**Lusaka**	**64.91**	**253**	P		**P**	**03 05 24.0**	**-0.3**	
	comp=Z,3.5nm,0.7s,baz=81,slow=4.3,SNR=9.4								
LSZ	**Lusaka**	**64.91**	**253**	*e*P		**P**	**03 05 24.0**	**-0.3**	
LSZ				pmax	pmax				
	comp=Z,4.0nm,0.8s								
BR101	**Keskin Array S**	**65.14**	**314**	*e*P		**P**	**03 05 24.9**	**-0.5**	
BR131	**Keskin Array S**	**65.14**	**314**	*e*P		**P**	**03 05 25.0**	**-0.5**	
BRTR	**Keskin Array B**	**65.14**	**314**	P		**P**	**03 05 24.9**	**-0.5**	
	comp=Z,4.0nm,0.8s,baz=135,slow=7.4,SNR=27								
BRTR	**Keskin Array B**	**65.14**	**314**	P		**P**	**03 05 25.0**	**-0.5**	
VRH	**Novokhopyorsk**	**65.16**	**328**	*e*P		**P**	**03 05 23.8**	**-1.3**	
VRH				pmax	pmax				
	comp=Z,10.0nm,0.8s								
ILGA	**Ilgaz**	**65.56**	**315**	*e*P		**P**	**03 05 28.6**	**+0.4**	
	comp=Z,13nm,1.1s								
ANTO	**Ankara**	**65.80**	**314**	*e*P		**P**	**03 05 29.0**	**-0.6**	
	comp=Z,72nm,1.2s								
ANTO	**Ankara**	**65.80**	**314**	*e*P		**P**	**03 05 29.0**	**-0.6**	
ANTO				pmax	pmax				
	comp=Z,73nm,1.2s								
BR231	**Keskin MP Arra**	**65.80**	**314**	*e*P		**P**	**03 05 25.6**	**-4.1**	
VSR	**Storozhevoye**	**66.54**	**327**	*e*P		**P**	**03 05 32.4**	**-1.6**	
VSR				pmax	pmax				
	comp=Z,10.0nm,0.8s								
LPSR	**Galich'ya Gora**	**67.37**	**328**	*e*P		**P**	**03 05 37.8**	**-1.4**	
LPSR				pmax	pmax				
	comp=Z,10.0nm,0.7s								
KARP	**Karpathos**	**68.79**	**308**	*e*P		**P**	**03 05 49.4**	**+0.8**	
	comp=Z,13nm,1.0s								
MOS	**Moscow**	**69.61**	**331**	*e*P		**P**	**03 05 51.7**	**-1.5**	
OBN	**Obninsk**	**69.83**	**330**	*e*P		**P**	**03 05 54.7**	**+0.2**	
OBN				*e*			03 06 17.8		
OBN				*e*			03 08 29.9		
OBN				*e*S		**S**	**03 15 04.5**	**+0.5**	
OBN				pmax	pmax				
	comp=Z,13nm,0.7s								
OBN				MLR	MLR				
	comp=Z,207nm,18.0s								
BOSA	**Boshof**	**70.09**	**239**	P		**P**	**03 05 56.0**	**-0.9**	
	comp=Z,4.9nm,0.7s,baz=77,slow=5.3,SNR=13								
IDI	**Anoyia**	**70.54**	**307**	P		**P**	**03 05 59.9**	**+0.5**	
	comp=Z,12nm,0.6s,baz=89,slow=8.1,SNR=15								
IDI	**Anoyia**	**70.54**	**307**	*i* P		**P**	**03 05 59.7**	**+0.2**	
IDI	**Anoyia**	**70.54**	**307**	*e*P		**P**	**03 05 60.0**	**+0.5**	
	comp=Z,15nm,0.7s								
KLMR	**Klimovskoe**	**71.47**	**336**	*e*P		**P**	**03 06 02.6**	**-1.9**	
KLMR				AMP			03 06 05.9		
	comp=Z,10.0nm,1.3s								
KLMR	**Klimovskoe**	**71.47**	**336**	*e*P		**P**	**03 06 02.5**	**-1.9**	
KLMR				pmax	pmax				
	comp=Z,10.0nm,1.3s								
MAW	**Mawson**	**71.56**	**191**	P		**P**	**03 06 05.2**	**+0.4**	
	comp=Z,3.4nm,0.7s,baz=25,slow=4.9,SNR=4.1								
MAW	**Mawson**	**71.56**	**191**	*e*P		**P**	**03 06 05.2**	**+0.4**	
	comp=Z,1.4nm,1.0s								
MAW	**Mawson**	**71.56**	**191**	*e*P		**P**	**03 06 05.2**	**+0.4**	
MAW				pmax	pmax				
	comp=Z,1.0nm,1.0s								
SORM	**Soroca**	**71.63**	**321**	*i* P		**P**	**03 06 05.2**	**-0.5**	
VRI	**Vrincioaia**	**71.96**	**318**	*i* P		**P**	**03 06 08.5**	**+0.7**	
AKASG	**Malin Array Be**	**71.99**	**324**	P		**P**	**03 06 07.0**	**-0.8**	
	comp=Z,2.9nm,0.6s,baz=88,slow=5.1,SNR=14								
AKASG	**Malin Array Be**	**71.99**	**324**	P		**P**	**03 06 07.0**	**-0.8**	
AKBB	**Malin Array Si**	**71.99**	**324**	*e*P		**P**	**03 06 07.4**	**-0.4**	
	comp=Z,33nm,1.8s								
AKBB	**Malin Array Si**	**71.99**	**324**	*e*P		**P**	**03 06 07.4**	**-0.4**	
AKBB				pmax	pmax				
	comp=Z,33nm,1.8s								
KIEV	**Kiev**	**72.00**	**324**	*e*P		**P**	**03 06 06.4**	**-1.4**	
	comp=Z,20nm,1.5s								
KIEV	**Kiev**	**72.00**	**324**	*i* P		**P**	**03 06 06.7**	**-1.1**	
KIEV				pmax	pmax				
	comp=Z,5.0nm,0.9s								
PLOR	**Plostina**	**72.01**	**318**	*i* P		**P**	**03 06 08.7**	**+0.6**	
AK11	**Malin Array Si**	**72.01**	**324**	*e*P		**P**	**03 06 07.3**	**-0.7**	
TESR	**Tescani**	**72.21**	**319**	*i* P		**P**	**03 06 08.6**	**-0.6**	
MLR	**Muntele Rosu**	**72.37**	**318**	P		**P**	**03 06 11.0**	**+0.6**	
	comp=Z,3.9nm,0.8s								
MLR	**Muntele Rosu**	**72.37**	**318**	*i* P		**P**	**03 06 11.6**	**+1.2**	
MLR	**Muntele Rosu**	**72.37**	**318**	*e*P		**P**	**03 06 10.6**	**+0.2**	
	comp=Z,20nm,0.8s								
PRAR	**RASCA**	**72.74**	**320**	*i* P		**P**	**03 06 12.6**	**+0.2**	
DOPR	**Dopca**	**72.88**	**318**	*i* P		**P**	**03 06 13.4**	**+0.1**	
VOIR		**72.96**	**317**	*i* P		**P**	**03 06 13.5**	**-0.4**	
ARR	**Arges**	**73.22**	**317**	*i* P		**P**	**03 06 14.9**	**-0.5**	
BURAR	**Bucovina Array**	**73.47**	**320**	*i* P		**P**	**03 06 17.9**	**+1.1**	
BUR04	**Bucovina Ar. S**	**73.47**	**320**	*e*P		**P**	**03 06 17.1**	**+0.3**	
BUR08	**Bucovina Ar. S**	**73.49**	**320**	*e*P		**P**	**03 06 17.9**	**+0.9**	
VTS	**Vitosha**	**73.50**	**314**	*i* P		**P**	**03 06 16.8**	**-0.4**	
TMCR	**Tamitsa**	**73.87**	**338**	*e*P		**P**	**03 06 16.9**	**-1.8**	
TMCR				pmax	pmax				
	comp=Z,17nm,1.1s								
TIXI	**Tiksi**	**74.20**	**11**	*e*P		**P**	**03 06 19.4**	**-1.1**	
	comp=Z,7.7nm,0.8s								
TIXI	**Tiksi**	**74.20**	**11**	*ce*P		**P**	**03 06 19.5**	**-1.0**	
TIXI				pmax	pmax				
	comp=Z,8.0nm,0.8s								
DRGR		**74.89**	**318**	*i* P		**P**	**03 06 25.3**	**+0.2**	
BZS	**Buzias**	**75.34**	**317**	*i* P		**P**	**03 06 27.6**	**0.0**	
KWP	**Kalwaria Pacla**	**75.63**	**321**	*e*P		**P**	**03 06 29.7**	**+0.5**	
KWP	**Kalwaria Pacla**	**75.63**	**321**	*e*P		**P**	**03 06 29.7**	**+0.5**	
CRVS	**Cervenica-Dubn**	**76.23**	**320**	*e*		**P**	**03 06 36.0**	**+3.3**	
CRVS	**Cervenica-Dubn**	**76.23**	**320**	*e*P		**P**	**03 06 36.0**	**+3.3**	
STHS	**Stebnicka Huta**	**76.50**	**321**	*e*P		**P**	**03 06 35.4**	**+1.2**	
STHS	**Stebnicka Huta**	**76.50**	**321**	*e*P		**P**	**03 06 35.4**	**+1.2**	
STHS				pmax	pmax				
	comp=Z,6.0nm,1.0s								
SUW	**Suwalki**	**76.57**	**326**	*e*P		**P**	**03 06 33.9**	**-0.6**	
SUW	**Suwalki**	**76.57**	**326**	*e*P		**P**	**03 06 34.1**	**-0.4**	
	comp=Z,60nm,1.1s								
SUW	**Suwalki**	**76.57**	**326**	*e*P		**P**	**03 06 33.9**	**-0.6**	
FIA0	**FINESS Array S**	**77.53**	**333**	*e*P		**P**	**03 06 39.4**	**-0.3**	
FIA0	**FINESS Array S**	**77.53**	**333**	*e*P		**P**	**03 06 39.4**	**-0.3**	
FINES	**FINESS Array B**	**77.53**	**333**	P		**P**	**03 06 39.4**	**-0.3**	
	comp=Z,2.8nm,0.7s,baz=110,slow=4.5,SNR=7.6								
VYHS	**Vyhne**	**77.83**	**319**	*e*P		**P**	**03 06 41.8**	**+0.1**	
VYHS	**Vyhne**	**77.83**	**319**	*e*P		**P**	**03 06 41.8**	**+0.1**	
VYHS				pmax	pmax				
	comp=Z,10.0nm,1.5s								
MODS	**Modra-Piesok**	**78.83**	**319**	*e*P		**P**	**03 06 47.7**	**+0.5**	
MODS	**Modra-Piesok**	**78.83**	**319**	*e*P		**P**	**03 06 47.7**	**+0.5**	
MORC	**Moravsky Berou**	**78.93**	**321**	*i* P		**P**	**03 06 48.3**	**+0.5**	
MORC	**Moravsky Berou**	**78.93**	**321**	*e*P		**P**	**03 06 47.0**	**-0.8**	
MORC	**Moravsky Berou**	**78.93**	**321**	*e*P		**P**	**03 06 47.0**	**-0.8**	
VRAC	**Vranov**	**79.44**	**320**	P		**P**	**03 06 50.7**	**+0.1**	
	comp=Z,1.7nm,0.5s,baz=281,slow=5.4,SNR=4.7								
KRLC	**Kraliky**	**79.47**	**321**	*e*P		**P**	**03 06 51.4**	**+0.7**	
KRLC	**Kraliky**	**79.47**	**321**	*e*P		**P**	**03 06 51.4**	**+0.7**	
CONA	**Conrad Observa**	**79.68**	**318**	*i* P		**P**	**03 06 52.3**	**+0.3**	
	comp=Z,0.7nm,0.5s								
ARSA	**Arzberg**	**79.79**	**318**	*i* P		**P**	**03 06 53.4**	**+0.9**	
	comp=Z,4.9nm,0.8s								
DPC	**Dobruska-Polom**	**79.81**	**321**	*e*P		**P**	**03 06 53.7**	**+1.1**	
DPC				*ex*		x	03 07 05.9		
DPC	**Dobruska-Polom**	**79.81**	**321**	*e*P		**P**	**03 06 53.7**	**+1.1**	
DPC				*e*			03 07 05.9		
KSP	**Ksiaz**	**79.92**	**321**	*e*P		**P**	**03 06 54.1**	**+1.0**	
KSP	**Ksiaz**	**79.92**	**321**	*e*P		**P**	**03 06 54.1**	**+1.0**	
UPC	**Upice**	**80.03**	**321**	*e*P		**P**	**03 06 54.8**	**+1.1**	
UPC	**Upice**	**80.03**	**321**	*e*P		**P**	**03 06 54.8**	**+1.1**	
SOKA	**Soboth**	**80.03**	**317**	*i* P		**P**	**03 06 54.3**	**+0.4**	
	comp=Z,3.0nm,0.6s								
GOPC	**GO Pecny, Ondr**	**80.71**	**320**	*e*P		**P**	**03 06 58.2**	**+0.8**	
GOPC	**GO Pecny, Ondr**	**80.71**	**320**	*e*P		**P**	**03 06 58.2**	**+0.8**	
ARA0	**ARCESS Array S**	**80.73**	**341**	*e*P		**P**	**03 06 56.8**	**-0.4**	
ARCES	**ARCESS Array B**	**80.73**	**341**	P		**P**	**03 06 56.8**	**-0.4**	
	comp=Z,3.8nm,1.0s,baz=111,slow=3.5,SNR=9.6								
PRU	**Pruhonice**	**80.87**	**320**	*e*P		**P**	**03 06 59.1**	**+0.8**	
PRU	**Pruhonice**	**80.87**	**320**	*e*P		**P**	**03 06 59.1**	**+0.8**	
GEA0	**GERESS Array S**	**81.24**	**319**	*e*P		**P**	**03 07 00.7**	**+0.3**	
GEC2	**GERESS Array S**	**81.25**	**319**	*e*P		**P**	**03 07 01.1**	**+0.8**	
	comp=Z,26nm,1.0s								
GEC2	**GERESS Array S**	**81.25**	**319**	*e*P		**P**	**03 07 01.2**	**+0.8**	
GEC2				pmax	pmax				
	comp=Z,26nm,1.0s								
GERES	**GERESS Array B**	**81.25**	**319**	P		**P**	**03 07 01.0**	**+0.6**	
	comp=Z,12nm,0.8s,baz=104,slow=5.2,SNR=72								
KHC	**Kasperske Hory**	**81.37**	**319**	*e*P		**P**	**03 07 01.3**	**+0.3**	
KHC	**Kasperske Hory**	**81.37**	**319**	*e*P		**P**	**03 07 01.5**	**+0.5**	
	comp=Z,2.6nm,0.9s								
KHC	**Kasperske Hory**	**81.37**	**319**	*e*P		**P**	**03 07 01.3**	**+0.3**	
BRG	**Berggiesshubel**	**81.39**	**321**	*e*P		**P**	**03 07 01.8**	**+0.8**	
	comp=Z,9.5nm,1.2s								
BRG	**Berggiesshubel**	**81.39**	**321**	*e*P		**P**	**03 07 01.8**	**+0.8**	
BRG				pmax	pmax				
	comp=Z,10.0nm,1.2s								
CLL	**Collm**	**82.04**	**322**	*i* P		**P**	**03 07 04.5**	**+0.1**	
	comp=Z,7.0nm,1.0s								
CLL	**Collm**	**82.04**	**322**	*e*P		**P**	**03 07 04.5**	**+0.1**	
	comp=Z,7.1nm,1.1s								
CLL	**Collm**	**82.04**	**322**	*i* P		**P**	**03 07 04.5**	**+0.1**	
CLL				pmax	pmax				
	comp=Z,7.0nm,1.0s								
MOTA	**Moosalm**	**82.79**	**317**	*i* P		**P**	**03 07 08.6**	**0.0**	
	comp=Z,4.5nm,0.6s,SNR=5.8								
FETA	**Feichten**	**83.01**	**317**	*i* P		**P**	**03 07 10.4**	**+0.6**	
	comp=Z,1.7nm,0.6s								
HFS	**Hagfors**	**83.03**	**330**	P		**P**	**03 07 08.5**	**-0.8**	
	comp=Z,6.3nm,1.1s,baz=118,slow=8.3,SNR=3.4								
RETA	**Reutte**	**83.03**	**318**	*i* P		**P**	**03 07 10.0**	**+0.2**	
	comp=Z,3.4nm,0.5s								
BILL	**Bilibino**	**83.13**	**21**	*i* P		**P**	**03 07 09.1**	**-0.6**	
BILL				*i*			03 07 17.6		
BILL				pmax	pmax				
	comp=Z,2.0nm,0.8s								
BILL				MLR	MLR				
	comp=Z,254nm,17.0s								
KEST	**Kesra**	**83.14**	**306**	P		**P**	**03 07 11.4**	**+0.8**	
	comp=Z,7.9nm,1.0s,baz=285,slow=0.3,SNR=5.6								
KEST	**Kesra**	**83.14**	**306**	*e*P		**P**	**03 07 11.4**	**+0.8**	
	comp=Z,20nm,1.3s								
DAVA	**Damuels**	**83.61**	**317**	*i* P		**P**	**03 07 13.6**	**+0.7**	
	comp=Z,12nm,0.7s,SNR=6.1								
TUE	**Stuetta**	**83.90**	**316**	*e*P		**P**	**03 07 14.4**	**0.0**	
	comp=Z,18nm,1.4s								
NB200	**NORSAR Array S**	**84.37**	**331**	*e*P		**P**	**03 07 15.1**	**-1.2**	
NOA	**NORSAR Array B**	**84.37**	**331**	P		**P**	**03 07 15.1**	**-1.2**	
	comp=Z,1.2nm,0.8s,baz=76,slow=7.7,SNR=2.6								
SPA0	**Spitsbergen Ar**	**85.86**	**348**	*e*P		**P**	**03 07 23.4**	**-0.1**	
SPITS	**Spitsbergen Ar**	**85.86**	**348**	P		**P**	**03 07 23.3**	**-0.1**	
	comp=Z,13nm,1.0s,baz=115,slow=9.7,SNR=3.9								
TAM	**Tamanrasset**	**86.07**	**293**	*e*P		**P**	**03 07 27.1**	**+1.3**	
	comp=Z,11nm,1.1s								
TAM	**Tamanrasset**	**86.07**	**293**	*e*P		**P**	**03 07 27.1**	**+1.3**	
TAM				pmax	pmax				
	comp=Z,11nm,1.1s								
VNDA	**Vanda**	**86.92**	**168**	P		**P**	**03 07 27.9**	**-0.7**	
	comp=Z,1.0nm,0.9s,baz=126,slow=3.2,SNR=5.2								
TORD	**Torodi Ar. Bea**	**89.80**	**283**	P		**P**	**03 07 42.9**	**-0.7**	
	comp=Z,0.7nm,0.7s,baz=80,slow=3.7,SNR=8.7								
TOA1	**Torodi Ar. Sit**	**89.80**	**283**	*e*P		**P**	**03 07 42.9**	**-0.7**	
QSPA	**South Pole Qui**	**91.14**	**180**	P		**P**	**03 07 49.4**	**+0.5**	
	comp=Z,1.7nm,0.5s,baz=269,slow=0.9,SNR=5.8								
EKA	**Eskdalemuir Ar**	**91.83**	**325**	P		**P**	**03 07 52.3**	**+0.1**	
	comp=Z,0.4nm,0.6s,baz=67,slow=5.5,SNR=3.1								
SNAA	**Sanae**	**92.58**	**198**	P		**P**	**03 07 56.3**	**+0.9**	
	comp=Z,2.3nm,1.1s,baz=163,slow=11,SNR=3.0								
SNAA	**Sanae**	**92.58**	**198**	*e*P		**P**	**03 07 56.3**	**+0.9**	
	comp=Z,8.5nm,1.3s								
SNAA	**Sanae**	**92.58**	**198**	*e*P		**P**	**03 07 56.3**	**+0.9**	
SNAA				pmax	pmax				
	comp=Z,9.0nm,1.3s								
ES19	**SONSECA Array**	**93.61**	**310**	*e*P		**P**	**03 08 01.6**	**+0.8**	
ESDC	**Sonseca Array**	**93.66**	**310**	P		**P**	**03 08 01.0**	**-0.1**	
	comp=Z,0.9nm,0.7s,baz=54,slow=4.2,SNR=5.1								
KOWA	**Kowa**	**95.30**	**285**	P		**P**	**03 08 08.9**	**0.0**	
	comp=Z,4.7nm,1.0s,baz=135,slow=6.7,SNR=8.0								
ILAR	**Eielson Array**	**101.78**	**22**	P		**Pdif**	**03 08 36.8**	**-0.3**	
	comp=Z,0.1nm,0.6s,baz=304,slow=4.6,SNR=2.5								
ILB	**Eielson Array**	**101.78**	**22**	*e*Pdif		**Pdif**	**03 08 36.8**	**-0.3**	
YKA	**Yellowknife Ar**	**113.42**	**13**	*e*PP		PP	03 14 14.5	+2.2	
	comp=Z,0.2nm,0.8s,baz=326,slow=6.4,SNR=4.6								
YKB5	**Yellowknife Ar**	**113.42**	**13**	*e*PP		PP	03 14 14.5	+2.2	
GGUM	**Gualala**	**128.64**	**35**	*e*PKPpre		PKPpre	03 13 43.0		
GDXM	**Geysers**	**129.08**	**35**	*e*PKPpre		PKPpre	03 13 45.5		
PD31	**Pinedale Array**	**132.21**	**21**	*e*PKPdf		**PKPdf**	**03 13 57.9**	**-0.9**	
PDAR	**Pinedale Array**	**132.21**	**21**	PKP		**PKPdf**	**03 13 57.9**	**-0.9**	
	comp=Z,0.1nm,0.5s,baz=336,slow=2.0,SNR=2.4								
WMOK	**Wichita Mounta**	**142.91**	**14**	*e*PKPdf		**PKPdf**	**03 14 19.5**	**+1.0**	
WMOK	**Wichita Mounta**	**142.91**	**14**	*e*PKIKP		**PKPdf**	**03 14 19.5**	**+1.0**	
WLAR	**White Oak Lake**	**145.00**	**7**	*e*PKPbc		**PKPdf**	**03 14 22.1**	**0.0**	
Y47A	**UCPARC, Winfie**	**145.09**	**359**	P		**PKPbc**	**03 14 20.0**	**-1.6**	
	baz=0.8								
Y49A	**Blount Mountai**	**145.09**	**357**	P		**PKPbc**	**03 14 20.8**	**-0.9**	
	baz=3.3								
Z48A	**Northport**	**145.61**	**359**	P		**PKPdf**	**03 14 22.3**	**-0.9**	
	baz=1.3								
Z50A	**Ashland**	**145.66**	**357**	P		**PKPdf**	**03 14 22.7**	**-0.6**	
	baz=4.2								
Z49A	**Columbiana**	**145.76**	**357**	P		**PKPdf**	**03 14 22.7**	**-0.8**	
	baz=3.1								
Z47A	**Carrollton**	**145.79**	**360**	P		**PKPdf**	**03 14 22.6**	**-0.9**	
	baz=0.4								
155A	**Kite**	**145.92**	**351**	P		**PKPbc**	**03 14 24.4**	**+0.1**	
	baz=10								
TX31	**Lajitas Ar. Si**	**146.25**	**25**	*e*PKPdf		**PKPbc**	**03 14 25.4**	**-0.2**	
TX31				*e*PKPdf		**PKPab**	**03 14 25.7**	**-0.6**	
LTX	**Lajitas**	**146.25**	**25**	*e*PKPdf		**PKPbc**	**03 14 25.4**	**-0.2**	
LTX	**Lajitas**	**146.25**	**25**	*e*PKP2		**PKPbc**	**03 14 25.4**	**-0.2**	
TXAR	**Lajitas Array**	**146.25**	**25**	PKPbc		**PKPbc**	**03 14 25.4**	**-0.2**	
	comp=Z,1.1nm,0.5s,baz=280,slow=1.2,SNR=9.6								
150A	**Eclectic**	**146.31**	**357**	P		**PKPbc**	**03 14 25.1**	**-0.5**	
	baz=4.1								
151A	**Opelika**	**146.35**	**356**	P		**PKPbc**	**03 14 25.6**	**0.0**	
	baz=5.3								
JCT	**Junction City**	**146.63**	**18**	*e*PKPdf		**PKPbc**	**03 14 26.6**	**0.0**	
JCT	**Junction City**	**146.63**	**18**	*e*PKP2		**PKPbc**	**03 14 26.6**	**0.0**	
251A	**Midway**	**146.78**	**356**	P		**PKPbc**	**03 14 26.1**	**-0.8**	
	baz=5.2								
252A	**Lumpkin**	**146.82**	**355**	P		**PKPdf**	**03 14 25.2**	**-0.1**	
	baz=6.5								
249A	**Camden**	**146.99**	**358**	P		**PKPbc**	**03 14 26.5**	**-0.9**	
	baz=2.1								
PTGA	**Pitinga**	**151.73**	**271**	*e*PKPbc		**PKPbc**	**03 14 40.0**	**0.0**	
PTGA				*e*PKPab		**PKPab**	**03 14 49.4**	**+0.6**	

IDC 12 02:55:50.9±2.0, 1°.14N×91°.52E, h0km, mb4.4/5, mb1 4.6/5, mb1mx3.7/76, mbtmp4.4/5, MS4.1/2, Ms1 4.1/2, ms1mx3.4/40, Error ellipse: s-maj=75.8km s-min=28.4km az=54.0, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**46.18**	**351**	P		P	03 04 17.1	-0.3
	3.8nm,0.8s,baz=167,slow=8.0,SNR=2.6							
WRA	**Warramunga Arr**	**46.90**	**119**	P		P	03 04 23.7	+0.2
	2.7nm,0.6s,baz=297,slow=8.9,SNR=3.2							
SONM	**Songino Array**	**48.26**	**13**	P		P	03 04 34.3	+0.5
	4.6nm,0.7s,baz=192,slow=8.9,SNR=2.4							
KURBB	**Kurchatov Arra**	**50.52**	**349**	P		P	03 04 51.0	+0.2
	3.7nm,0.8s,baz=170,slow=6.3,SNR=4.4							
AKTO	**Aktyubinsk**	**56.74**	**335**	LR		LR	03 31 00.0	
	comp=Z,226nm,19.2s,baz=91,slow=37							
GERES	**GERESS Array B**	**81.13**	**319**	P		P	03 08 08.7	+0.3
	3.7nm,0.8s,baz=101,slow=5.7,SNR=3.5							
DBIC	**Dimbokro**	**96.20**	**277**	LR		LR	03 49 03.6	
	comp=Z,64nm,21.9s,baz=76,slow=33							
TXAR	**Lajitas Array**	**146.39**	**24**	PKPbc		PKPdf	03 15 32.5	-1.0
	0.8nm,0.5s,baz=256,slow=0.7,SNR=2.5							

ISCJB ***12*** *02:56:48.5±0.7, 30°.16N±0°.04×51°.78E±0°.06, h8km, Error ellipse: s-maj=8.2km s-min=5.9km az=18.7*
TEH ***12*** *02:56:51.2, 30°.15N×51°.83E, h5km, ML2.8*

ISC 12 02:56:50.2±1.0, 30°.13N±0°.05×51°.81E±0°.06, h8km, n10, σ1§13/12, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
IKAZ	**Kazeroun**	**0.35**	**175**	*e*AMB		AMB	02 57 06.0	
	comp=Z,29µm,0.1s							
IKAZ				*e*Sg		**Sg**	**02 57 03.3**	**+1.6**
IPAR	**Pars**	**1.11**	**104**	*e*Pg		**Pg**	**02 57 10.9**	**-0.7**
IPAR				*e*AMB		AMB	02 57 36.5	
	comp=Z,2µm,0.3s							
ISRV	**Sarvestan**	**1.36**	**123**	*e*Pg		**Pn**	**02 57 16.1**	**+0.4**
ISRV				*e*AMB		AMB	02 57 47.4	
	comp=Z,5µm,0.3s							
IRAM	**Ramesheh**	**1.75**	**16**	*e*Pg		**Pn**	**02 57 21.7**	**+0.7**
IRAM				*e*AMB		AMB	02 57 28.0	
	comp=Z,966nm,0.1s							
ISAD	**Sadrabad**	**2.40**	**42**	*e*Pg		**Pb**	**02 57 33.4**	**-0.5**
ISAD				*e*AMB		AMB	02 58 14.7	
	comp=Z,544nm,0.3s							
IZEF	**Zefreh**	**2.80**	**9**	*e*Pn		**Pn**

VYHS				*e*Sn	**Sn**	**03 01 56.8**	**+0.2**
VYHS	**Vyhne**	**1.58**	**186**	*e*PN	**Pn**	**03 01 35.7**	**+0.3**
VYHS				*e*SN	**Sn**	**03 01 56.8**	**+0.2**
VYHS				*e*LG	Lg	03 01 58.6	
VRAC	**Vranov**	**1.80**	**246**	*e*Pn	**Pb**	**03 01 39.5**	**-0.4**
VRAC	7.2nm,0.4s			*e*Sg	**Sg**	**03 02 04.7**	**+0.9**
DPC	**Dobruska-Polom**	**1.81**	**280**	*e*PG	**Pn**	**03 01 38.6**	**+0.1**
DPC	comp=Z,9.6nm,0.4s			*e*SG	**Sb**	**03 02 03.5**	**+0.2**
DPC	**Dobruska-Polom**	**1.81**	**280**	Pg	**Pn**	**03 01 38.6**	**+0.1**
DPC	9.6nm,0.4s			Sg	**Sb**	**03 02 03.5**	**+0.2**
CRVS	**Cervenica-Dubn**	**1.93**	**126**	*e*Pn	**Pg**	**03 01 42.7**	**-0.3**
CRVS				*e*Sn	**Sg**	**03 02 09.1**	**+1.1**
CRVS	**Cervenica-Dubn**	**1.93**	**126**	*e*PN	**Pg**	**03 01 42.7**	**-0.3**
CRVS				*e*SN	**Sg**	**03 02 09.1**	**+1.1**
KSP	**Ksiaz**	**1.96**	**294**	*e*Pg	**Pg**	**03 01 43.9**	**+0.3**
KSP				*e*Sg	**Sg**	**03 02 09.9**	**+1.0**
KSP	**Ksiaz**	**1.96**	**294**	*e*Pg	**Pg**	**03 01 43.9**	**+0.3**
KSP				*e*Sg	**Sg**	**03 02 09.9**	**+1.0**
KRUC	**Moravsky**	**2.03**	**241**	*e*Pn	**Pn**	**03 01 42.7**	**+1.2**
KRUC	5.2nm,0.4s			*e*Sg	**Sg**	**03 02 11.8**	**+0.6**
UPC	**Upice**	**2.03**	**284**	*e*SG	**Sb**	**03 02 10.1**	**+0.4**
UPC	comp=Z,7.5nm,0.7s **Upice**	**2.03**	**284**	Sg	**Sb**	**03 02 10.1**	**+0.4**
PRU	7.5nm,0.7s **Pruhonice**	**2.94**	**270**	*e*SG	**Sg**	**03 02 38.8**	**-1.8**
PRU	comp=Z,22nm,1.7s **Pruhonice**	**2.94**	**270**	Sg	**Sg**	**03 02 38.8**	**-1.8**
BRG	22nm,1.7s **Berggiesshubel**	**3.40**	**286**	SG	**Sg**	**03 02 55.0**	**-0.1**
KHC	3.2nm,0.7s **Kasperske Hory**	**3.71**	**258**	*e*PN	**Pn**	**03 02 05.0**	**+0.3**
KHC				*e*SN	**Sn**	**03 02 46.0**	**-3.2**
KHC				*e*SG	**Sg**	**03 03 04.3**	**-1.0**
KHC	**Kasperske Hory**	**3.71**	**258**	Pn	**Pn**	**03 02 05.0**	**+0.3**
KHC				Sg	**Sg**	**03 03 04.3**	**-1.0**
CLL	**Collm**	**4.07**	**290**	*e*(P)	Pg	03 02 30.0	+5.9
CLL	**Collm**	**4.07**	**290**	*e*Sg	**Sb**	**03 03 08.0**	**-0.4**

MEX 12 03:03:59.7±0.3, 16°34N×98°42W, h10km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.28**	**80**	*i* P	Pg	03 04 05.0	-0.4
PNIG				*e*S	Sg	03 04 09.4	+0.1
TLIG	**Tlapa**	**1.22**	**353**	*e*P	Pn	03 04 19.3	-3.7
TLIG				*e*S	Sb	03 04 34.4	-4.5
CAIG	**El Cayaco**	**1.91**	**292**	*e*P	Pn	03 04 27.6	-4.7
CAIG				*e*S	Sn	03 04 51.9	-4.5
PLIG	**Platanillo**	**2.29**	**333**	*e*P	Pn	03 04 36.1	-1.6
PLIG				*i* S	Sn	03 05 01.6	-4.3

*IDC **12** 03:07:13.5±3.5, 23°.69N×109°.87W, h0km, mb3.4/1, mb1 3.8/5, mb1mx3.5/58, mbtmp3.4/5, ML4.1/3, Error ellipse: s-maj=54.1km s-min=13.9km az=27.0*
*MEX **12** 03:07:14.6±7.1, 24°.15N×109°.71W, h10km, MD3.8*
*NEIC **12** 03:07:16.8±1.9, 23°.76N×109°.94W, h10km, mb4.2/11, MD3.8(MEX), Error ellipse: s-maj=29.9km s-min=11.3km az=197.0*
ISC 12 03:07:16.0±1.5, 23°.7N±0°.1×109°.87W±0°.08, h10km, n52, σ2$19/53, mb4.4/8, Baja California

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LPIG	**La Paz**	**0.55**	**313**	Pg	**Pg**	**03 07 24.4**	**-2.3**
LPIG	506nm,0.3s,baz=148,slow=6.0,SNR=107			Lg	Lg	03 07 32.8	
LPIG	1µm,0.3s,baz=9.5,slow=12,SNR=61 **La Paz**	**0.55**	**313**	*i* P	**Pg**	**03 07 24.4**	**-2.3**
LPIG	baz=129,slow=3.6			*e*S	**Sg**	**03 07 31.8**	**-2.1**
LPIG	**La Paz**	**0.55**	**313**	*e*Pg	**Pg**	**03 07 24.4**	**-2.3**
LPIG				*e*Sg	**Sg**	**03 07 31.8**	**-2.1**
SRIG	**Santa Rosalia**	**4.17**	**330**	*e*Pn	**Pn**	**03 08 19.4**	**-0.3**
SRIG				*e*Sn	Sn	03 08 54.9	-14
HPIG		**4.96**	**49**	*e*Pn	**Pn**	**03 08 31.6**	**+0.8**
HSIG		**5.36**	**350**	*e*Pn	**Pn**	**03 08 39.0**	**+2.9**
319A	**Douglas**	**7.64**	**4**	*e*Pn	**Pn**	**03 09 08.2**	**+0.8**
LTX	**Lajitas**	**7.87**	**44**	*e*Pn	**Pn**	**03 09 09.3**	**-1.3**
TX31	**Lajitas Ar. Si**	**7.87**	**44**	*e*Pn	**Pn**	**03 09 09.8**	**-0.8**
TXAR	**Lajitas Array**	**7.87**	**44**	Pn	**Pn**	**03 09 09.3**	**-1.3**
TUC	0.2nm,0.3s,baz=218,slow=14,SNR=13 **Tucson**	**8.59**	**355**	*e*Pn	**Pn**	**03 09 22.4**	**+2.0**
214A	**Organ Pipe Nat**	**8.60**	**343**	*e*Pn	Pn	03 09 11.2	-9.4
X16A	174nm,0.6s **Lo Mia Camp, P**	**10.74**	**353**	*e*Pn	**Pn**	**03 09 49.0**	**-1.0**
BAR	**Barrett**	**10.74**	**328**	*e*Pn	**Pn**	**03 09 50.6**	**+0.6**
X18A	**Snowflake**	**10.76**	**360**	*e*Sn	**Sn**	**03 11 51.0**	**0.0**
BNM	**Barren Site**	**10.76**	**15**	*e*Pn	**Pn**	**03 09 52.7**	**+2.3**
LAZ	**Ladron**	**10.90**	**12**	*e*Pn	**Pn**	**03 09 51.3**	**-0.9**
BORC	**Borrego Spring**	**11.11**	**330**	*e*Pn	**Pn**	**03 09 56.5**	**+1.6**
PFO	**Pinyon Flats O**	**11.42**	**331**	*e*Sn	**Sn**	**03 12 10.2**	**+3.2**
DNR	**Dunn Ranch,Anz**	**11.46**	**330**	*e*Pn	**Pn**	**03 10 02.5**	**+2.7**
DNR				*e*Sn	**Sn**	**03 12 15.7**	**+7.7**
ANMO	**Albuquerque**	**11.57**	**14**	Pn	**Pn**	**03 10 02.1**	**+0.7**
ANMO	0.1nm,0.3s,baz=143,slow=13,SNR=2.1 **Albuquerque**	**11.57**	**14**	*e*Pn	Pn	03 10 06.7	+5.3
DANC	**Danby, Needles**	**11.89**	**337**	*e*Pn	**Pn**	**03 10 06.5**	**+0.9**
DANC				*e*Sn	Sn	03 12 28.4	+10
MSTX	**Muleshoe**	**11.95**	**30**	*e*Pn	Pn	03 10 12.5	+6.0
VTV	**Victorville**	**12.60**	**331**	*e*Sn	Sn	03 12 46.5	+10
U15A	**North Rim**	**12.83**	**351**	*e*Pn	**Pn**	**03 10 15.9**	**-2.8**
KNB	**Kanab**	**13.49**	**350**	*e*Pn	**Pn**	**03 10 24.7**	**-2.9**
BAKC	**Calstate**	**14.08**	**327**	*e*Pn	**Pn**	**03 10 35.8**	**+0.2**
BAKC				*e*Sn	**Sn**	**03 13 14.1**	**+2.1**
DBD	**Des Bee Dove**	**15.57**	**356**	*e*Pn	**P**	**03 10 58.1**	**-2.1**
MGPM	**Gravel Pit**	**15.87**	**333**	*e*Pn	**Pn**	**03 10 55.8**	**-4.0**
MLHM	**Little Hot Cre**	**15.88**	**333**	*e*Pn	**Pn**	**03 10 55.8**	**-4.0**
MDPB	**Devils Postpil**	**15.95**	**332**	*e*Pn	**Pn**	**03 11 01.5**	**+0.7**
MDPB				*e*S	**S**	**03 14 15.1**	**+3.1**
NV01	**Mina Array Sit**	**16.33**	**336**	*e*Pn	**Pn**	**03 11 05.8**	**+0.2**
NVAR	**Mina Array Bea**	**16.33**	**336**	Pn	**Pn**	**03 11 05.8**	**+0.2**
TCUT	baz=171,slow=13,SNR=2.8 **Toone Canyon**	**17.39**	**356**	*e*Pn	**Pn**	**03 11 16.1**	**-2.9**
NLHM	21nm,0.8s **Lake Herman**	**17.77**	**327**	*e*Pn	**P**	**03 11 24.3**	**0.0**
HWUT	**Hardware Ranch**	**17.89**	**356**	*e*Pn	**P**	**03 11 26.9**	**+1.2**
VPK	14nm,1.4s **Verdi Peak**	**17.91**	**334**	*e*Pn	**P**	**03 11 26.2**	**+0.1**
GDXM	**Geysers**	**18.62**	**327**	*e*P	**P**	**03 11 30.1**	**-3.6**
GDXM	14nm,1.0s			*e*Sn	**Sn**	**03 15 03.5**	**+1.1**
PD31	**Pinedale Array**	**18.99**	**1**	*e*P	**P**	**03 11 36.5**	**-1.4**
PDAR	**Pinedale Array**	**18.99**	**1**	P	**Pn**	**03 11 38.7**	**+0.1**
FXWY	0.4nm,0.3s,baz=168,slow=12,SNR=13 **Fox Creek**	**19.88**	**358**	*e*P	**Pn**	**03 11 49.8**	**+0.5**
RLMT	8.7nm,1.6s **Red Lodge**	**21.35**	**1**	*e*P	**P**	**03 12 05.5**	**+2.0**
TKL	7.8nm,1.5s **Tuckaleechee C**	**25.51**	**56**	*e*P	**P**	**03 12 45.7**	**+1.0**
EYMN	22nm,1.5s **Ely**	**28.24**	**27**	*e*P	**P**	**03 13 09.7**	**+0.6**
FCC	23nm,1.8s **Fort Churchill**	**36.76**	**14**	*e*P	**P**	**03 14 22.1**	**-1.3**
DLBC	18nm,2.0s **Dease Lake**	**37.55**	**343**	*e*P	**P**	**03 14 32.5**	**+2.3**
BESE	2.9nm,1.2s **Bessie Mountai**	**39.10**	**339**	*e*P	**P**	**03 14 44.2**	**+0.9**
CRPR	13nm,1.8s **Cabo Rojo, PR**	**40.25**	**90**	*e*P	P	03 14 48.3	-5.0
RIDG	29nm,1.0s **Independ'e Rid**	**46.18**	**339**	*e*PcP	**PcP**	**03 17 18.1**	**+1.7**
ILAR	**Eielson Array**	**47.54**	**340**	P	**P**	**03 15 50.9**	**-0.3**
ILB	0.5nm,0.9s,baz=159,slow=6.5,SNR=7.5 **Eielson Array**	**47.54**	**340**	*e*P	**P**	**03 15 50.9**	**-0.3**

IDC 12 03:08:27.8±1.8, 0°.65N×91°.91E, h0km, mb3.8/6, mb1 3.9/6, mb1mx3.5/71, mbtmp3.8/6, Error ellipse: s-maj=69.2km s-min=27.1km az=53.0, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**46.33**	**119**	P	P	03 16 56.0	0.0
MKAR	0.3nm,0.8s,baz=278,slow=7.5,SNR=2.6 **Makanchi Array**	**46.72**	**351**	P	P	03 16 58.4	-0.2
	0.8nm,0.7s,baz=170,slow=8.4,SNR=8.8						
SONM	**Songino Array**	**48.66**	**13**	P	P	03 17 14.2	+0.5
KURBB	1.1nm,0.6s,baz=195,slow=9.6,SNR=8.2 **Kurchatov Arra**	**51.07**	**349**	P	P	03 17 32.1	+0.2
ZALV	0.4nm,0.4s,baz=174,slow=7.4,SNR=8.2 **Zalesovo Beam**	**53.44**	**355**	P	P	03 17 48.7	-0.8
GERES	0.5nm,0.3s,baz=197,slow=4.4,SNR=2.0 **GERESS Array B**	**81.75**	**319**	P	P	03 20 49.0	+0.3
TXAR	1.0nm,0.8s,baz=97,slow=5.4,SNR=8.4 **Lajitas Array**	**146.68**	**25**	PKPbc	PKPdf	03 28 10.9	+0.1
	0.3nm,0.5s,baz=37,slow=1.3,SNR=6.3						

*ISCJB **12** 03:13:26.0±1.3, 1°.4N±0°.2×91°.7E±0°.2, h10km, mb3.9/8, Error ellipse: s-maj=31.7km s-min=23.0km az=147.2*
*IDC **12** 03:13:26.1±1.5, 1°.28N×91°.59E, h0km, mb3.9/8, mb1 4.0/9, mb1mx3.6/65, mbtmp3.8/9, ML4.2/1, Error ellipse: s-maj=44.2km s-min=26.1km az=49.0*
ISC 12 03:13:28.0±1.4, 1°.3N±0°.2×91°.7E±0°.2, h10km, n9, σ1$42/9, mb3.8/8, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**18.48**	**22**	P	**P**	**03 17 43.4**	**-0.9**
MKAR	0.3nm,0.3s,baz=212,slow=14,SNR=2.8 **Makanchi Array**	**46.05**	**351**	P	**P**	**03 21 51.3**	**-0.6**
WRA	0.6nm,0.7s,baz=165,slow=8.9,SNR=3.9 **Warramunga Arr**	**46.84**	**119**	P	**P**	**03 21 58.4**	**-0.2**
SONM	1.3nm,0.7s,baz=297,slow=8.5,SNR=8.7 **Songino Array**	**48.08**	**13**	P	**P**	**03 22 09.5**	**+1.6**
KURBB	0.9nm,0.4s,baz=205,slow=8.9,SNR=6.2 **Kurchatov Arra**	**50.40**	**349**	P	**P**	**03 22 23.5**	**-1.9**
ZALV	0.4nm,0.3s,baz=172,slow=7.5,SNR=2.8 **Zalesovo Beam**	**52.78**	**355**	P	**P**	**03 22 42.3**	**-0.9**
BVAR	3.1nm,0.3s,baz=197,slow=8.9,SNR=12 **Borovoye Array**	**54.50**	**344**	P	**P**	**03 22 56.2**	**+0.3**
BRTR	0.5nm,0.6s,baz=150,slow=9.8,SNR=2.9 **Keskin Array B**	**65.01**	**314**	P	**P**	**03 24 07.3**	**-1.4**
GERES	0.2nm,0.4s,baz=128,slow=8.2,SNR=3.4 **GERESS Array B**	**81.11**	**319**	P	**P**	**03 25 45.1**	**+1.3**
	0.6nm,0.8s,baz=121,slow=5.1,SNR=4.0						

IDC 12 03:14:45.4±2.9, 0°.46S×91°.92E, h0km, mb3.7/5, mb1 3.9/5, mb1mx3.5/63, mbtmp3.8/5, MS3.8/1, Ms1 3.8/1, ms1mx2.9/71, Error ellipse: s-maj=89.3km s-min=29.9km az=58.0, South Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**7.71**	**65**	LR	LR	03 19 44.7	
CMAR	comp=Z,712nm,19.5s,baz=256,slow=39 **Chiang Mai Arr**	**20.02**	**22**	P	P	03 19 20.4	+0.3
WRA	1.3nm,0.7s,baz=212,slow=11,SNR=5.0 **Warramunga Arr**	**45.80**	**118**	P	P	03 23 08.9	-0.4
MKAR	1.1nm,0.7s,baz=297,slow=8.6,SNR=5.3 **Makanchi Array**	**47.81**	**351**	P	P	03 23 23.4	-1.3
SONM	0.4nm,0.6s,baz=161,slow=9.2,SNR=3.7 **Songino Array**	**49.72**	**13**	P	P	03 23 40.3	+0.8
KURBB	0.6nm,0.4s,baz=200,slow=8.3,SNR=3.9 **Kurchatov Arra**	**52.16**	**349**	P	P	03 23 57.9	+0.3
	1.0nm,0.2s,baz=171,slow=8.0,SNR=4.2						

*IDC **12** 03:17:36.7±2.4, 23°.64N×109°.89W, h0km, mb3.1/2, mb1 3.6/5, mb1mx3.4/56, mbtmp3.3/5, ML4.1/2, MS3.7/1, Ms1 3.7/1, ms1mx2.9/14, Error ellipse: s-maj=29.5km s-min=12.6km az=28.0*
*MEX **12** 03:17:38.3±0.3, 24°.15N×109°.72W, h10km, MD3.8*
ISC 12 03:17:38.4±3.0, 23°.7N±0°.3×110°.0W±0°.2, h10km, n8, σ0$74/8, Baja California

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LPIG	**La Paz**	**0.52**	**324**	Pg	**Pg**	**03 17 48.0**	**-0.6**
LPIG	292nm,0.3s,baz=147,slow=6.9,SNR=13			Lg	Lg	03 17 56.8	
LPIG	625nm,0.3s,baz=227,slow=22,SNR=37 **La Paz**	**0.52**	**324**	*i* P	**Pg**	**03 17 48.0**	**-0.6**
LPIG	baz=85,slow=18			*e*S	**Sg**	**03 17 55.5**	**0.0**
TXAR	**Lajitas Array**	**7.97**	**44**	Pn	**Pn**	**03 19 34.1**	**-0.4**
TXAR	0.2nm,0.3s,baz=222,slow=14,SNR=10			Lg	Lg	03 21 46.6	
ANMO	0.0nm,0.3s,baz=225,slow=28,SNR=2.6 **Albuquerque**	**11.64**	**14**	Pn	**Pn**	**03 20 25.7**	**+1.0**
PDAR	0.1nm,0.3s,baz=21,slow=15,SNR=2.2 **Pinedale Array**	**19.04**	**1**	P	**Pn**	**03 22 02.0**	**+0.4**
YKA	0.2nm,0.3s,baz=163,slow=10,SNR=15 **Yellowknife Ar**	**38.92**	**357**	P	**P**	**03 25 03.7**	**-0.4**
ROSC	0.1nm,0.7s,baz=179,slow=8.9,SNR=2.8 **El Rosal**	**39.12**	**113**	LR	LR	03 42 45.4	
ILAR	comp=Z,100nm,19.7s,baz=216,slow=39 **Eielson Array**	**47.55**	**340**	P	**P**	**03 26 14.6**	**+0.8**
	0.5nm,0.8s,baz=152,slow=6.7,SNR=6.4						

*IDC **12** 03:18:15.6±4.0, 17°.88N×102°.97W, h0km, mb3.5/5, mb1 3.8/7, mb1mx3.6/51, mbtmp3.5/7, ML3.2/2, MS4.2/1, Ms1 4.2/1, ms1mx3.0/32, Error ellipse: s-maj=91.4km s-min=35.6km az=30.0*
*ISCJB **12** 03:18:18.0±1.5, 17°.8N±0°.1×103°.04W±0°.07, h30km±8km, mb3.3/5, MS4.0/1, Error ellipse: s-maj=21.1km s-min=6.1km az=27.4*
*MEX **12** 03:18:19.9±0.4, 17°.90N×103°.02W, h2km±3km, MD3.8*
ISC 12 03:18:18.5±1.7, 17°.8N±0°.2×103°.04W±0°.10, h20km±7km, n12, σ1$04/17, mb3.4/5, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MMIG	**Aquila**	**0.53**	**327**	*i* P	**Pb**	**03 18 28.9**	**-0.3**
MMIG				*i* S	**Sb**	**03 18 36.5**	**0.0**
ZIIG	**Zihuatanejo**	**1.52**	**99**	*e*P	**Pn**	**03 18 44.5**	**0.0**
ZIIG				*e*S	**Sn**	**03 19 03.0**	**-0.7**
EZ5V		**1.71**	**342**	*e*P	**Pn**	**03 18 47.0**	**-0.5**
EZ5V				*e*S	**Sn**	**03 19 07.7**	**-1.3**
CJM	**Chamela**	**2.52**	**311**	*e*P	**Pn**	**03 18 58.4**	**+0.1**
CJM				*e*S	**Sn**	**03 19 28.1**	**-0.2**
ARIG	**Puente Sto Nin**	**2.60**	**80**	*e*P	**Pn**	**03 18 59.4**	**0.0**
ARIG				*e*S	**Sn**	**03 19 30.0**	**-0.3**
CMIG	**Matias Romero**	**7.82**	**94**	Pn	**Pn**	**03 20 10.9**	**-0.3**
CMIG	0.2nm,0.3s,baz=304,slow=11,SNR=5.2			Lg	Lg	03 22 14.3	
TXAR	0.4nm,0.3s,baz=27,slow=12,SNR=5.0 **Lajitas Array**	**11.45**	**357**	Pn	**Pn**	**03 21 03.3**	**+2.2**
NVAR	0.1nm,0.3s,baz=174,slow=15,SNR=6.5 **Mina Array Bea**	**24.47**	**330**	P	**P**	**03 23 38.0**	**+1.6**
NVAR	0.6nm,0.7s,baz=156,slow=10,SNR=5.0			LR	LR	03 32 51.2	
PDAR	comp=Z,519nm,18.6s,baz=276,slow=36 **Pinedale Array**	**25.46**	**349**	P	**P**	**03 23 45.8**	**+0.4**
YKA	0.2nm,0.5s,baz=157,slow=12,SNR=2.4 **Yellowknife Ar**	**45.33**	**352**	P	**P**	**03 26 32.9**	**-1.9**
INK	0.4nm,0.8s,baz=162,slow=7.9,SNR=5.7 **Inuvik**	**53.99**	**347**	P	**P**	**03 27 40.6**	**-0.1**
ILAR	0.3nm,0.5s,baz=128,slow=5.7,SNR=9.2 **Eielson Array**	**55.28**	**339**	P	**P**	**03 27 50.3**	**+0.1**
	0.8nm,0.9s,baz=156,slow=6.8,SNR=9.7						

*SOME **12** 03:18:38.8, 44°.52N×82°.20E, h25km*
*ISCJB **12** 03:18:39.1±1.6, 44°.54N±0°.07×82°.5E±0°.1, h10km, Error ellipse: s-maj=17.0km s-min=5.0km az=33.0*
*NNC **12** 03:18:40.3±1.0, 44°.66N×82°.11E, h0km, mb3.4, mpv3.0, Error ellipse: s-maj=14.2km s-min=2.2km az=117.0*
ISC 12 03:18:35.8±2.0, 44°.56N±0°.07×82°.24E±0°.10, h10km, n13, σ1$89/26, 4C-2D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DJR	**Jarkent**	**1.77**	**264**	*e*P	**Pg**	**03 19 10.3**	**+0.6**
DJR	16nm,0.2s			*e*S	**Sg**	**03 19 33.1**	**+0.5**
KAPS	21nm,0.3s **Kapalarasan**	**2.17**	**291**	*e*P	**Pg**	**03 19 16.3**	**-1.2**
KAPS	4.9nm,0.1s			*e*S	**Sg**	**03 19 43.8**	**-1.9**
MK31	14nm,0.2s **Makanchi Array**	**2.24**	**1**	⇑Pn	**Pb**	**03 19 17.4**	**+1.0**
MK31	3.3nm,0.3s,baz=185,slow=13,SNR=304			⇑Sn	**Sb**	**03 19 45.5**	**+1.3**
MAKZ	5.5nm,0.5s,baz=187,slow=28,SNR=19 **Makanchi**	**2.26**	**355**	⇑Pn	**Pb**	**03 19 17.4**	**+0.7**
MAKZ	5.3nm,0.5s			⇓Sn	**Sb**	**03 19 45.6**	**+0.9**
PDGK	7.1nm,0.6s **Podgornoye**	**2.33**	**239**	⇑Pn	**Pb**	**03 19 19.3**	**+1.2**
PDGK	4.2nm,0.5s			⇓Sn	**Sg**	**03 19 50.3**	**-0.5**
UZB	22nm,0.6s **Uzynbulak**	**2.72**	**240**	*e*P	**Pb**	**03 19 25.4**	**+0.8**
UZB	5.7nm,0.6s			*e*S	**Sb**	**03 19 59.2**	**+1.1**
KPKS	8.9nm,0.3s **Kokpek**	**2.79**	**248**	*e*P	**Pb**	**03 19 26.2**	**+0.5**
KPKS	14nm,0.2s			*e*S	**Sb**	**03 20 00.2**	**+0.3**
KURS	14nm,0.1s **Kuram**	**3.12**	**251**	*e*P	**Pb**	**03 19 32.7**	**+1.3**
KURS	1.3nm,0.4s			*e*S	**Sb**	**03 20 11.3**	**+1.7**
ARXS	3.4nm,0.4s **Arharly**	**3.18**	**265**	*e*P	**Pb**	**03 19 34.1**	**+1.6**
ARXS	3.1nm,0.3s			*e*S	**Sb**	**03 20 13.4**	**+2.1**
CHKK	12nm,0.3s **Chushkaly**	**3.84**	**261**	*e*P	**Pb**	**03 19 45.1**	**+1.5**
CHKK	0.6nm,0.1s			*e*S	**Sb**	**03 20 32.6**	**+2.4**
KTBS	5.9nm,0.3s **Karatobe**	**4.09**	**260**	*e*P	**Pg**	**03 19 51.2**	**-2.9**
KTBS	0.5nm,0.2s			*e*S	**Sg**	**03 20 42.8**	**-4.2**
TNSS	12nm,0.7s **Tian-Shan**	**4.12**	**250**	*e*P	**Pg**	**03 19 52.7**	**-2.0**
TNSS	2.6nm,0.4s			*e*S	**Sg**	**03 20 45.6**	**-2.5**
DGS	2.6nm,0.6s **Degeres**	**4.85**	**257**	*e*P	**Pb**	**03 20 02.6**	**+1.6**
DGS	0.8nm,0.4s			*e*S	**Sb**	**03 21 02.6**	**+3.2**
	4.1nm,0.5s						

MAN 12 03:22:10, 10°.22N×123°.53E, h29km, mb3.9, ML2.6, MS2.2, 1C-1D, Cebu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LLP	**Lapu-Lapu**	**0.44**	**78**	⇓*e*P	Pn	03 22 21.2	+0.8
LLP				*i* S	Sn	03 22 29.9	+2.5
TBP	**Tagbilaran**	**0.62**	**148**	*e*P	Pn	03 22 24.6	+1.7
SNPH	**Sibulan**	**0.92**	**198**	*e*P	Pb	03 22 27.4	0.0
SNPH				*e*S	Sb	03 22 40.3	+1.0
GUIM	**Jordan**	**1.01**	**294**	*e*P	Pn	03 22 25.5	-2.7
GUIM				*e*S	Sn	03 22 37.9	-3.5
MSLP	**Maasin**	**1.31**	**94**	*e*P	Pb	03 22 37.1	+3.0
MSLP				*e*S	Sb	03 22 57.1	+6.5
RCP	**Roxas**	**1.54**	**330**	⇑*e*P	Pn	03 22 36.3	+0.9
RCP				*e*S	Sb	03 22 56.0	-0.9

MEX 12 03:23:30.4±11.0, 24°.15N×109°.71W, h10km, MD3.9, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LPIG	**La Paz**	**0.54**	**266**	*i* P	Pg	03 23 39.9	-1.1
LPIG	baz=157,slow=5.9			*e*S	Sg	03 23 48.1	-0.1

*IDC **12** 03:23:47.0±2.2, 2°.37N×92°.67E, h0km, mb3.6/5, mb1 3.7/7, mb1mx3.4/75, mbtmp3.6/7, ML3.9/2, MS3.6/1, Ms1 3.6/1, ms1mx2.8/64, Error ellipse: s-maj=59.9km s-min=25.6km az=51.0*
*ISCJB **12** 03:23:49.2±1.5, 2°.5N±0°.2×92°.9E±0°.1, h21km, mb3.6/5, MS3.6/1, Error ellipse: s-maj=27.5km s-min=11.3km az=21.2*
ISC 12 03:23:51.2±1.7, 2°.5N±0°.2×92°.9E±0°.1, h21km, n9, σ0$57/9, mb3.7/5, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**6.08**	**87**	Pn	**Pn**	**03 25 20.5**	**+0.5**
PSI	1.2nm,0.3s,baz=295,slow=17,SNR=3.1			Sn	**Sn**	**03 26 28.3**	**-0.7**
CMAR	0.4nm,0.3s,baz=303,slow=18,SNR=2.0 **Chiang Mai Arr**	**16.97**	**20**	Pn	**Pn**	**03 27 47.8**	**+0.3**
MKAR	0.3nm,0.3s,baz=199,slow=13,SNR=3.4 **Makanchi Array**	**45.09**	**350**	P	**P**	**03 32 05.7**	**-0.1**
WRA	0.8nm,0.9s,baz=165,slow=8.6,SNR=5.8 **Warramunga Arr**	**46.41**	**121**	P	**P**	**03 32 16.6**	**0.0**
SONM	0.5nm,0.8s,baz=301,slow=8.5,SNR=5.2 **Songino Array**	**46.68**	**13**	P	**P**	**03 32 18.8**	**+0.3**
KURBB	0.6nm,0.8s,baz=194,slow=9.8,SNR=3.1 **Kurchatov Arra**	**49.48**	**348**	P	**P**	**03 32 39.1**	**-0.8**
OPO	0.4nm,0.7s,baz=191,slow=40,SNR=4.6 **Ambohidratompo**	**49.55**	**243**	LR	LR	03 47 46.9	
ZALV	comp=Z,65nm,21.6s,baz=3.0,slow=29 **Zalesovo Beam**	**51.73**	**354**	P	**P**	**03 32 56.3**	**-0.5**
TXAR	0.8nm,0.4s,baz=193,slow=8.0,SNR=3.2 **Lajitas Array**	**144.64**	**25**	PKP	**PKPab**	**03 43 25.8**	**+0.1**
	0.1nm,0.5s,baz=79,slow=1.9,SNR=2.6						

*IDC **12** 03:25:46.7±1.4, 2°.60N×92°.61E, h0km, mb3.8/7, mb1 4.0/9, mb1mx3.6/78, mbtmp3.8/9, ML4.0/2, Error ellipse: s-maj=41.3km s-min=23.9km az=39.0*
*ISCJB **12** 03:25:50.1±1.2, 2°.7N±0°.2×92°.82E±0°.09, h33km, mb3.8/7, Error ellipse: s-maj=25.3km s-min=10.2km az=17.0*
ISC 12 03:25:52.4±1.3, 2°.7N±0°.2×92°.8E±0°.1, h35km, n10, σ0$54/11, mb3.7/7, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**6.12**	**89**	Pn	**Pn**	**03 27 21.1**	**+0.5**
PSI	1.0nm,0.3s,baz=252,slow=16,SNR=3.4			Sn	**Sn**	**03 28 28.6**	**-0.9**
CMAR	1.5nm,0.3s,baz=8.1,slow=14,SNR=2.8 **Chiang Mai Arr**	**16.75**	**21**	Pn	**P**	**03 29 46.2**	**-0.2**
**MKA

0.3nm,0.5s,baz=300,slow=8.5,SNR=4.6
ZALV Zalesovo Beam 51.19 356 P P 03 36 44.8 +0.1
0.4nm,0.3s,baz=191,slow=7.0,SNR=2.1
BRTR Keskin Array B 62.53 314 P P 03 38 06.2 +0.5
0.7nm,0.7s,baz=136,slow=5.9,SNR=6.2
FINES FINESS Array B 75.19 334 P P 03 39 23.5 -0.4
2.3nm,1.0s,baz=199,slow=34,SNR=2.7
TXAR Lajitas Array 145.66 21 PKPbc PKPbc 03 47 21.3 0.0
0.2nm,0.6s,baz=288,slow=0.9,SNR=4.9

*ISCJB **12** 03:28:16.5±0.3, 1.°45N±0.°05×90.°95E±0.°04, h10km, mb4.4/37, MS3.9/2, Error ellipse: s-maj=8.3km s-min=5.0km az=25.6*
*IDC **12** 03:28:16.9±0.6, 1.°47N×90.°84E, h0km, mb4.2/19, mb1 4.3/22, mb1mx4.0/80, mbtmp4.2/22, ML4.1/3, MS3.8/3, Ms1 3.8/3, ms1mx3.1/58, Error ellipse: s-maj=22.9km s-min=12.3km az=48.0*
*NEIC **12** 03:28:18.4±0.4, 1.°44N×90.°87E, h10km, mb4.6/22, Error ellipse: s-maj=9.9km s-min=6.0km az=207.0*
ISC 12 03:28:17.9±0.4, 1.°31N±0.°07×90.°90E±0.°06, h10km, n105, σ2s 04/97, mb4.5/37, 1C, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op		h m s	ISC
BSI	**Banda Aceh**	**6.04**	**46**	P	**Pn**	**03 29 44.7**	**-2.7**
	131nm,0.7s,4μm						
MLSI	**Meulaboh, Aceh**	**6.23**	**62**	P	**Pn**	**03 29 49.2**	**-0.8**
TPTI		**6.56**	**73**	P	**Pn**	**03 29 54.0**	**-0.6**
GSI	**Gunungsitoli**	**6.67**	**90**	P	**Pn**	**03 29 55.7**	**-0.3**
	92nm,0.7s						
GSI	**Gunungsitoli**	**6.67**	**90**	*e*Pn	**Pn**	**03 29 54.2**	**-1.8**
LHMI	**Lhok Sumawe**	**7.18**	**57**	*e*Pn	**Pn**	**03 30 01.7**	**-1.3**
TSI	**Tuntungan**	**7.96**	**74**	P	Pn	03 30 07.6	-6.1
PSI	**Prapat**	**8.15**	**79**	Pn	**Pn**	**03 30 16.7**	**+0.2**
	1.9nm,0.3s,baz=288,slow=9.6,SNR=4.2						
PSI				Sn	**Sn**	**03 31 42.3**	**-6.5**
	0.9nm,0.3s,baz=344,slow=19,SNR=2.2						
SISI	**Saibi**	**8.59**	**108**	P	**Pn**	**03 30 22.5**	**0.0**
MNSI	**Mandailing Nat**	**8.69**	**93**	P	**Pn**	**03 30 24.6**	**+0.8**
PKDT	**Phuket**	**9.88**	**48**	P	Pn	03 30 47.7	+7.6
	23nm,0.8s						
KULM	**Kulim**	**10.50**	**68**	*e*Pn	**Pn**	**03 30 50.7**	**+2.1**
IPM	**Ipoh**	**10.59**	**72**	*e*Pn	Pn	03 30 58.2	+8.4
TRTT	**Trang**	**10.89**	**53**	P	Pn	03 31 00.0	+6.0
	18nm,0.6s						
SURT	**Suratani**	**10.93**	**46**	P	Pn	03 30 59.2	+4.7
	26nm,0.8s,242nm						
PALK	**Pallekele**	**11.77**	**301**	Pn	**Pn**	**03 31 02.5**	**-3.5**
	2.7nm,0.3s,baz=116,slow=14,SNR=10						
PALK				LR	LR	03 34 50.3	
	comp=Z,316nm,20.8s,baz=115,slow=34						
MDSI	**Maura Dua**	**14.46**	**114**	P	**Pn**	**03 31 42.5**	**-0.3**
	11nm,1.4s						
COCO	**West Island**	**14.65**	**156**	*e*Pn	**Pn**	**03 31 42.8**	**-2.6**
KASI	**Kota Agung**	**15.18**	**117**	P	**Pn**	**03 31 49.2**	**-3.3**
	26nm,0.9s						
SRDT	**SRDT**	**15.29**	**32**	P	P	03 32 07.4	+8.5
CGJI	**Cibinong**	**16.73**	**118**	P	**Pn**	**03 32 07.9**	**-4.7**
PBKT	**Sadao Pong**	**18.12**	**33**	P	**P**	**03 32 36.4**	**+6.2**
	18nm,0.9s						
HMDM	**Hanimaadhoo**	**18.48**	**288**	*e*Sn	**S**	**03 36 09.6**	**+4.1**
CM01	**Chiang Mai Arr**	**18.75**	**24**	*e*P	**Pn**	**03 32 42.0**	**+4.4**
CM31	**Chiang Mai Arr**	**18.78**	**24**	*e*P	**P**	**03 32 36.9**	**-0.6**
CMAR	**Chiang Mai Arr**	**18.78**	**24**	P	**P**	**03 32 36.9**	**-0.6**
	0.2nm,0.3s,baz=220,slow=13,SNR=8.2						
MNCI	**Minicoy**	**19.07**	**292**	*e*P	**P**	**03 32 38.8**	**-1.9**
	50nm,1.2s						
CHTO	**Chiang Mai**	**19.10**	**24**	P	**Pn**	**03 32 46.8**	**+5.0**
	51nm,1.0s,3μm						
CHTO	**Chiang Mai**	**19.10**	**24**	*e*P	**P**	**03 32 37.8**	**-3.2**
	14nm,1.1s						
CMMT	**Chiang Mai**	**19.10**	**24**	P	**Pn**	**03 32 45.7**	**+3.9**
	11nm,1.0s						
HYB	**Hyderabad**	**20.09**	**324**	*i* P	**P**	**03 32 51.0**	**-0.9**
SKNT	**Sakolnakorn**	**20.20**	**39**	P	Pn	03 32 59.9	+5.0
	5.5nm,0.7s						
H08S2	**Diego Garcia H**	**20.41**	**244**	T	T	03 53 52.7	
	baz=64,slow=75,SNR=15						
H08S3	**Diego Garcia H**	**20.41**	**244**	T	T	03 53 49.6	
	baz=64,slow=75,SNR=16						
H08S1	**Diego Garcia H**	**20.42**	**244**	T	T	03 53 50.7	
	baz=64,slow=75,SNR=20						
SBUM	**Sibu**	**21.33**	**87**	*e*P	**P**	**03 33 06.0**	**+0.6**
	9.1nm,0.9s						
SHL	**Shillong**	**24.13**	**2**	*e*P	**P**	**03 33 40.0**	**+5.6**
MYLDM	**Lahad Datu**	**27.81**	**81**	*e*P	**P**	**03 34 08.7**	**+1.1**
	28nm,1.2s						
NIL	**Nilore**	**36.18**	**335**	*e*P	**P**	**03 35 22.1**	**+1.3**
	19nm,0.8s						
KBL	**Kabul**	**38.85**	**331**	*e*P	**P**	**03 35 40.6**	**-3.1**
	6.2nm,0.5s						
FITZ	**Fitzroy Crossi**	**39.25**	**121**	P	**P**	**03 35 48.7**	**+1.7**
	4.3nm,0.8s,baz=331,slow=5.2,SNR=3.7						
NWAO	**Narrogin (SRO)**	**42.16**	**146**	P	**P**	**03 36 13.2**	**+2.4**
	8.9nm,0.7s,baz=158,slow=8.6,SNR=4.5						
KDJ	**Kajisay**	**42.47**	**345**	*e*P	**P**	**03 36 14.7**	**+1.3**
	8.0nm,1.1s						
KK31	**Karatay Array**	**45.43**	**339**	*e*P	**P**	**03 36 38.0**	**+1.0**
KKAR	**Karatay Array**	**45.43**	**339**	*e*P	**P**	**03 36 38.0**	**+1.0**
MK01	**Makanchi Array**	**45.90**	**352**	*e*P	**P**	**03 36 40.6**	**0.0**
MK31	**Makanchi Array**	**45.90**	**352**	*e*P	**P**	**03 36 41.3**	**+0.5**
MK32	**Makanchi Array**	**45.92**	**352**	*e*P	**P**	**03 36 40.0**	**-0.9**
MKAR	**Makanchi Array**	**45.92**	**352**	P	**P**	**03 36 40.0**	**-0.9**
	1.7nm,0.8s,baz=171,slow=8.5,SNR=8.2						
MKAR	**Makanchi Array**	**45.92**	**352**	*e*P	**P**	**03 36 41.2**	**+0.4**
	29nm,1.0s						
MAKZ	**Makanchi**	**45.98**	**351**	*e*P	**P**	**03 36 38.8**	**-2.5**
	4.3nm,1.0s						
GEYT	**Alibeck**	**47.27**	**324**	P	**P**	**03 36 51.2**	**-0.4**
	5.4nm,0.8s,baz=170,slow=9.0,SNR=6.3						
GEYT				LR	LR	03 56 57.8	
	comp=Z,73nm,19.7s,baz=180,slow=36						
GYA0B	**ALIBECK ARRAY**	**47.27**	**324**	*e*P	**P**	**03 36 49.6**	**-2.0**
	7.4nm,0.8s						
WR1	**Warramunga Arr**	**47.53**	**119**	*e*P	**P**	**03 36 54.0**	**+0.2**
	9.0nm,0.9s						
WRA	**Warramunga Arr**	**47.53**	**119**	P	**P**	**03 36 54.0**	**+0.2**
	6.1nm,0.9s,baz=297,slow=8.5,SNR=15						
WB2	**Warramunga Arr**	**47.54**	**119**	*e*P	**P**	**03 36 55.2**	**+1.2**
SONA0	**Songino Array**	**48.25**	**14**	*e*P	**P**	**03 36 59.0**	**-0.2**
SONM	**Songino Array**	**48.25**	**14**	P	**P**	**03 36 59.0**	**-0.2**
	8.3nm,0.6s,baz=194,slow=9.4,SNR=19						
SONA1	**Songino Array**	**48.26**	**14**	*e*P	**P**	**03 36 59.0**	**-0.2**
ULN	**Ulaanbaatar**	**48.44**	**14**	*e*P	**P**	**03 37 00.5**	**-0.1**
	8.7nm,1.1s						
ASAR	**Alice Springs**	**48.60**	**124**	P	**P**	**03 37 03.3**	**+1.2**
	0.5nm,0.6s,baz=301,slow=8.2,SNR=4.6						
ASAR				PcP	**PcP**	**03 38 28.6**	**+0.8**
	1.5nm,0.8s,baz=298,slow=4.2,SNR=7.2						
AS31	**Alice Springs**	**48.60**	**124**	*e*P	**P**	**03 37 03.3**	**+1.2**
	4.3nm,1.8s						
AS31				*e*PcP	**PcP**	**03 38 28.6**	**+0.8**
RAYN	**Ar Rayn**	**49.21**	**300**	*e*P	**P**	**03 37 06.4**	**-0.4**
	7.8nm,1.2s						
KURBB	**Kurchatov Arra**	**50.24**	**350**	P	**P**	**03 37 12.9**	**-1.3**
	1.4nm,0.8s,baz=174,slow=7.5,SNR=8.5						
KURK	**Kurchatov**	**50.32**	**350**	*e*P	**P**	**03 37 15.8**	**+1.1**
	8.4nm,1.0s						
ZAA0	**Zalesovo Array**	**52.70**	**355**	*e*P	**P**	**03 37 32.9**	**+0.4**
	7.7nm,1.0s						
ZALV	**Zalesovo Beam**	**52.70**	**355**	P	**P**	**03 37 31.9**	**-0.7**
	1.7nm,0.5s,baz=192,slow=7.5,SNR=7.9						
ZALV	**Zalesovo Beam**	**52.70**	**355**	*e*P	**P**	**03 37 32.5**	**0.0**
ZAA1	**Zalesovo Array**	**52.71**	**355**	*e*P	**P**	**03 37 31.9**	**-0.7**
BVAR	**Borovoye Array**	**54.29**	**345**	P	**P**	**03 37 42.6**	**-1.6**
	1.1nm,0.7s,baz=160,slow=9.0,SNR=5.5						
ABKAR	**Akbulak array**	**54.63**	**336**	*e*P	**P**	**03 37 46.3**	**-0.4**
	5.9nm,1.0s						
STKA	**Stephens Creek**	**58.20**	**129**	P	**P**	**03 38 15.0**	**+2.4**
	5.8nm,0.9s,baz=282,slow=9.5,SNR=8.8						
STKA	**Stephens Creek**	**58.20**	**129**	*e*P	**P**	**03 38 15.1**	**+2.5**
	1.8nm,1.0s						
KBZ	**Khabaz**	**59.96**	**322**	P	**P**	**03 38 23.7**	**-0.8**
	1.6nm,0.7s,baz=142,slow=8.7,SNR=5.4						
BR101	**Keskin Array S**	**64.44**	**314**	*e*P	**P**	**03 38 53.4**	**-1.5**
BR131	**Keskin Array S**	**64.44**	**314**	*e*P	**P**	**03 38 54.3**	**-0.6**
BRTR	**Keskin Array B**	**64.44**	**314**	P	**P**	**03 38 53.4**	**-1.5**
	0.8nm,0.8s,baz=120,slow=7.3,SNR=5.4						
BR231	**Keskin MP Arra**	**65.11**	**314**	*e*P	**P**	**03 38 54.9**	**-4.3**
BOSA	**Boshof**	**69.41**	**239**	P	**P**	**03 39 27.6**	**+0.9**
	2.7nm,0.7s,baz=73,slow=3.1,SNR=7.3						
AKASG	**Malin Array Be**	**71.39**	**324**	P	**P**	**03 39 38.4**	**+0.2**
	0.2nm,0.3s,baz=91,slow=5.0,SNR=2.7						
AKBB	**Malin Array Si**	**71.39**	**324**	*e*P	**P**	**03 39 38.4**	**+0.2**
	4.9nm,0.9s						
MLR	**Muntele Rosu**	**71.71**	**318**	P	**P**	**03 39 40.6**	**+0.2**
	1.0nm,0.8s,baz=164,slow=6.4,SNR=8.7						
BUR04	**Bucovina Ar. S**	**72.83**	**320**	*e*P	**P**	**03 39 47.6**	**+0.5**
BUR08	**Bucovina Ar. S**	**72.85**	**320**	*e*P	**P**	**03 39 49.4**	**+2.2**
TIXI	**Tiksi**	**74.26**	**12**	*e*P	**P**	**03 39 52.9**	**-2.0**
	6.3nm,0.8s						
FIA0	**FINESS Array S**	**77.04**	**333**	*e*P	**P**	**03 40 10.7**	**-0.3**
FINES	**FINESS Array B**	**77.04**	**333**	P	**P**	**03 40 10.7**	**-0.3**
	1.7nm,0.7s,baz=104,slow=6.1,SNR=4.5						
SYO	**Syowa Base**	**78.23**	**197**	*e*P	**P**	**03 40 17.8**	**+0.4**
DPC	**Dobruska-Polom**	**79.18**	**321**	*e*P	**P**	**03 40 23.9**	**+0.7**
DPC				*e*PCP	**PcP**	**03 40 31.2**	**-0.3**
GEA0	**GERESS Array S**	**80.60**	**319**	*e*P	**P**	**03 40 31.4**	**+0.5**
GEC2	**GERESS Array S**	**80.60**	**319**	*e*P	**P**	**03 40 34.5**	**+3.5**
	12nm,1.1s						
GERES	**GERESS Array B**	**80.60**	**319**	P	**P**	**03 40 31.1**	**+0.2**
	1.5nm,0.8s,baz=101,slow=5.7,SNR=8.7						
KHC	**Kasperske Hory**	**80.72**	**320**	*e*P	**P**	**03 40 29.7**	**-1.9**
KHC				*e*PCP	**PcP**	**03 40 38.7**	**+0.4**
BRG	**Berggiesshubel**	**80.76**	**321**	*e*P	P	03 40 39.1	+7.4
	5.4nm,1.2s						
CLL	**Collm**	**81.42**	**322**	*e*P	**P**	**03 40 36.0**	**+0.9**
CLL				*i*		03 40 42.1	
HFS	**Hagfors**	**82.50**	**331**	P	**P**	**03 40 41.2**	**+0.6**
	2.1nm,0.8s,baz=72,slow=4.7,SNR=2.9						
TAM	**Tamanrasset**	**85.24**	**293**	*e*P	**P**	**03 40 55.9**	**+0.3**
	4.4nm,1.2s						
SPITS	**Spitsbergen Ar**	**85.57**	**349**	LR	LR	04 23 26.7	
	comp=Z,83nm,19.4s,baz=325,slow=39						
F10A	**Beach Ranch, E**	**126.77**	**24**	*e*PKPpre	PKPpre	03 47 14.2	
FTR	**Fort Ross**	**129.46**	**35**	*e*PKPpre	PKPpre	03 47 18.5	
TX31	**Lajitas Ar. Si**	**146.49**	**23**	*e*PKPdf	**PKPbc**	**03 48 00.2**	**-0.1**
TX31				*e*PKPdf	**PKPab**	**03 48 00.7**	**-0.5**
LTX	**Lajitas**	**146.49**	**23**	*e*PKPdf	**PKPbc**	**03 48 00.6**	**+0.3**
TXAR	**Lajitas Array**	**146.49**	**23**	PKPbc	**PKPbc**	**03 48 00.6**	**+0.3**
	0.9nm,0.5s,baz=268,slow=1.5,SNR=14						
HPIG		**147.69**	**28**	*e*PKPbc	**PKPbc**	**03 48 04.8**	**+0.9**
PTGA	**Pitinga**	**150.87**	**271**	*e*PKPab	**PKPab**	**03 48 20.7**	**+1.5**

*IDC **12** 03:29:20.5±0.6, 37.°75N×112.°06W, h0km, mb4.2/10, mb1 4.1/18, mb1mx3.9/78, mbtmp4.0/18, ML3.6/6, MS3.1/2, Ms1 3.1/2, ms1mx2.7/64, Error ellipse: s-maj=11.1km s-min=7.5km az=36.0*
*NEIC **12** 03:29:22.4±0.0, 37.°81N×112.°09W, h11km, mb4.2/16, MW4.1, ML4.2(SLC), Moment Tensor Solution. s88 Moment tensor: Scale 10^15^Nm; Mrr=1.46; Mθθ=0.40; Mϕϕ=1.86; Mrθ=0.83; Mrϕ=0.15; Mθϕ=0.28; Best double couple: Mo=1.90000×10^15^ NP1:ϕs=158.00000°, δ56.00000°, λ-126.00000°. NP2:ϕs=30.00000°, δ48.00000°, λ-50.00000°. Principal axes: T 1.8900, Plg4.0000°, Azm272.0000°; N 0.0500, Plg29.0000°, Azm180.0000°; P -1.9400, Plg61.0000°, Azm10.0000°; After SLC.*
NEIC Felt [III] at Bryce Canyon, Draper, Escalante, Hurricane, Kanab, Panguitch, Riverton and Torrey; [II] at Cedar City and Teasdale. Also felt at Alton, Antimony, Boulder, Brian Head, Delta, Ferron, Hite, Kingston, Layton, Lehi, Provo, Salt Lake City, Saratoga Springs and Washington. Felt [III] at Fredonia, Page and Supai, Arizona. Also felt at Kaibito, Marble Canyon and Sedona.
ISC 12 03:29:21.7±1.0, 37.°83N±0.°02×112.°10W±0.°02, h2km±7km, n361, σ1s67/391, mb4.3/21, Utah

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op		h m s	ISC
MTPU	**Mount Pierson**	**0.22**	**343**	*e*Sg	**Sg**	**03 29 29.7**	**+0.9**
PKCU	**Pink Cliffs**	**0.42**	**203**	*e*Pg	**Pg**	**03 29 30.9**	**+1.1**
PKCU				*e*Sg	**Sg**	**03 29 36.7**	**+1.3**
BHU	**Blowhard Mount**	**0.65**	**248**	*e*Pg	**Pg**	**03 29 35.2**	**+1.2**
MSU	**Marysvale**	**0.68**	**355**	*e*Pg	**Pg**	**03 29 35.7**	**+1.0**
MSU				*e*Sg	**Sg**	**03 29 43.0**	**-0.6**
MMU	**Miners Mountai**	**0.73**	**60**	*e*Pg	**Pg**	**03 29 36.5**	**+0.8**
DWU	**Dry Willow Pea**	**0.76**	**291**	*e*Pg	**Pg**	**03 29 37.3**	**+1.1**
SZCU	**Shurtz Canyon**	**0.82**	**253**	*e*Pg	**Pg**	**03 29 37.7**	**+0.4**
SZCU				*e*Sg	**Sg**	**03 29 46.7**	**-1.2**
TCRU	**Three Creeks R**	**0.82**	**341**	*e*Pg	**Pg**	**03 29 38.8**	**+1.4**
TCRU				*e*Sg	**Sg**	**03 29 47.7**	**-0.3**
EKU	**East Kanab**	**0.82**	**203**	*e*Pg	**Pg**	**03 29 37.7**	**+0.3**
KNB	**Kanab**	**1.00**	**215**	*e*Pg	**Pg**	**03 29 40.7**	**-0.1**
KNB				*e*Sg	**Sg**	**03 29 52.5**	**-1.2**
CCUT	**Cedar City**	**1.04**	**255**	*e*Pg	**Pg**	**03 29 41.8**	**+0.2**
CCUT				*e*Sg	**Sg**	**03 29 53.4**	**-1.7**
ARUT	**Antelope Range**	**1.06**	**268**	*e*Pg	**Pg**	**03 29 42.5**	**+0.5**
OWUT	**Old Woman Plat**	**1.08**	**29**	*e*Pg	**Pg**	**03 29 42.9**	**+0.4**
WCU	**Willow Creek**	**1.13**	**0**	*e*Pg	**Pg**	**03 29 44.0**	**+0.7**
IMU	**Iron Mountain**	**1.15**	**314**	*e*Pg	**Pb**	**03 29 44.5**	**+0.1**
LCMT	**Little Creek M**	**1.22**	**228**	*e*Pg	**Pb**	**03 29 44.7**	**-0.9**
LCMT				*e*Sg	**Sb**	**03 29 59.3**	**-2.6**
Q16A	**Castle Valley**	**1.31**	**34**	*e*Pg	**Pn**	**03 29 46.7**	**-0.4**
Q16A				*e*Sg	**Sb**	**03 30 03.9**	**-0.5**
SGU	**Sterling**	**1.39**	**15**	*e*Pn	**Pn**	**03 29 48.5**	**+0.1**
U15A	**North Rim**	**1.41**	**186**	*e*Pn	**Pn**	**03 29 47.8**	**-0.9**
U15A				*e*Sg	**Sb**	**03 30 05.0**	**-2.5**
FLU	**Fool Peak**	**1.54**	**358**	*e*Pn	**Pn**	**03 29 50.1**	**-0.3**
SNO	**Snow College**	**1.54**	**17**	*e*Pn	**Pn**	**03 29 51.0**	**+0.5**
ICU	**Indian Springs**	**1.60**	**245**	*e*Pn	**Pn**	**03 29 51.4**	**+0.2**
TMUT	**Trail Mountain**	**1.62**	**25**	*e*Pn	**Pb**	**03 29 52.3**	**-0.2**
TMUT				*e*Sn	**Sn**	**03 30 12.7**	**-0.5**
LEVU	**Levan**	**1.69**	**8**	*e*Pn	**Pn**	**03 29 52.6**	**+0.2**
SRU	**San Rafael Swe**	**1.78**	**44**	*e*Pn	**Pb**	**03 29 54.5**	**-0.6**
SRU				*e*Sn	**Sb**	**03 30 17.9**	**-0.1**
ELU	**Electric Lake**	**1.94**	**21**	*e*Pn	**Pn**	**03 29 57.0**	**+1.0**
P17A	**Butcher Ranch,**	**1.95**	**33**	*e*Pn	**Pn**	**03 29 56.9**	**+0.9**
P17A				*e*Sn	**Sb**	**03 30 22.3**	**-0.7**
NLU	**North Lily Min**	**2.12**	**1**	*e*Pn	**Pn**	**03 29 58.2**	**-0.1**
NLU				*e*Sn	**Sn**	**03 30 25.8**	**+0.4**
FSU	**Fish Springs**	**2.14**	**332**	*e*Pn	**Pn**	**03 29 57.7**	**-0.8**
DCM	**Dugout Coal Mi**	**2.21**	**32**	*e*Pn	**Pn**	**03 30 01.0**	**+1.4**
MPU	**Maple Canyon**	**2.21**	**9**	*e*Pn	**Pn**	**03 30 00.4**	**+0.4**
MPU				*e*Sn	**Sn**	**03 30 25.5**	**-2.0**
BCE	**Book Cliffs Ea**	**2.22**	**36**	*e*Pn	**Pb**	**03 30 01.6**	**-1.0**
ROA	**Roan Cliffs**	**2.27**	**36**	*e*Pn	**Pb**	**03 30 02.6**	**-1.1**
R19A	**Curley Farm, L**	**2.29**	**78**	*e*Pn	**Pb**	**03 30 02.2**	**-1.7**
P18A	**Preston Nutter**	**2.31**	**38**	*e*Pn	**Pb**	**03 30 02.8**	**-1.4**
ARGU	**Argyle Ridge**	**2.33**	**31**	*e*Pn	**Pb**	**03 30 03.2**	**-1.4**
WUAZ	**Wupatki**	**2.39**	**166**	P	**Pn**	**03 30 02.4**	**+0.5**
	baz=346						
WUAZ	**Wupatki**	**2.39**	**166**	*e*Pn	**Pn**	**03 30 03.0**	**+1.0**
PV05	**Paradox Valley**	**2.39**	**83**	*e*Pn	**Pb**	**03 30 05.0**	**-0.5**
O16A	**Springville**	**2.42**	**11**	*e*Pn	**Pn**	**03 30 03.1**	**+0.7**
DUG	**Dugway, Tooele**	**2.42**	**347**	P	**Pn**	**03 30 01.8**	**-0.7**
	baz=166						
DUG				Sb	**Sg**	**03 30 39.2**	**-0.3**
	baz=166						
DUG	**Dugway, Tooele**	**2.42**	**347**	*e*Pn	**Pn**	**03 30 01.9**	**-0.5**
PV09	**Paradox Valley**	**2.43**	**73**	*e*Pn	**Pb**	**03 30 04.6**	**-1.7**
PV10	**Paradox Valley**	**2.48**	**76**	*e*Pn	**Pn**	**03 30 04.6**	**+1.3**
PV04	**Paradox Valley**	**2.58**	**77**	*e*Pn	**Pn**	**03 30 06.2**	**+1.5**
PV04				Sn	**Sn**	**03 30 35.3**	**-1.5**
CWU	**Camp Williams**	**2.61**	**0**	*e*Pn	**Pn**	**03 30 05.3**	**+0.3**
DCU	**Deer Creek Res**	**2.61**	**10**	*e*Pn	**Pn**	**03 30 05.7**	**+0.6**
GMU	**Granite Mounta**	**2.75**	**5**	*e*Pn	**Pn**	**03 30 07.1**	**+0.1**
SHPR	**Sheep Range**	**2.78**	**242**	*e*Pn	**Pn**	**03 30 07.7**	**+0.3**
R11A	**Troy Canyon, C**	**2.79**	**282**	P	**Pn**	**03 30 06.9**	**-0.7**
	baz=100						
R11A				Sb	**Sb**	**03 30 48.8**	**+1.5**
	baz=100						
R11A	**Troy Canyon, C**	**2.79**	**282**	*e*Pn	**Pn**	**03 30 06.8**	**-0.8**
LDJ	**Lady**	**2.80**	**11**	*e*Pn	**Pn**	**03 30 08.7**	**+1.0**
PV01	**Paradox Valley**	**2.81**	**83**	*e*Pn	**Pn**	**03 30 09.2**	**+1.4**
JLU	**Jordanelle**	**2.81**	**10**	*e*Pn	**Pn**	**03 30 08.5**	**+0.6**
HLJ	**Hailstone**	**2.83**	**11**	*e*Pn	**Pn**	**03 30 08.9**	**+0.8**
KLJ	**Keetly**	**2.84**	**11**	*e*Pn	**Pn**	**03 30 09.2**	**+0.8**
CTU	**Camp Tracy**	**2.87**	**5**	*e*Pn	**Pn**	**03 30 09.1**	**+0.4**
HTU	**Hoyt Peak**	**2.92**	**13**	*e*Pn	**Pn**	**03 30 10.4**	**+1.0**
MVCO	**Mesa Verde**	**2.93**	**101**	P	**Pn**	**03 30 10.6**	**+1.0**
	baz=283						
MVCO	**Mesa Verde**	**2.93**	**101**	*e*Pn	**Pn**	**03 30 10.7**	**+1.0**
RBU	**Red Butte Cany**	**2.95**	**4**	*e*Pn	**Pn**	**03 30 10.2**	**+0.4**
SAIU	**Southern Antel**	**3.02**	**359**	*e*Pn	**Pn**	**03 30 09.4**	**-1.2**
SNUT	**Stansbury Nort**	**3.06**	**354**	*e*Pn	**Pn**	**03 30 11.5**	**+0.2**
W13A	**Hualapai Mount**	**3.08**	**208**	*e*Pn	**Pn**	**03 30 12.0**	**+0.3**
N16A	**Rees Ranch, Co**	**3.09**	**9**	*e*Pn	**Pn**	**03 30 12.9**	**+1.1**
BGU	**Big Grassy Mou**	**3.17**	**347**	*e*Pn	**Pn**	**03 30 12.2**	**-0.5**
NAIU	**Northern Antel**	**3.18**	**358**	*e*Pn	**Pn**	**03 30 13.1**	**+0.2**
W18A	**Petrified Fore**	**3.31**	**144**	P	**Pn**	**03 30 15.3**	**+0.6**
	baz=326						
W18A				Sb	**Sb**	**03 31 03.9**	**+1.7**
	baz=326						
W18A	**Petrified Fore**	**3.31**	**144**	*e*Pn	**Pn**	**03 30 15.5**	**+0.7**
TCUT	**Toone Canyon**	**3.32**	**9**	*e*Pn	**Pn**	**03 30 15.4**	**+0.5**
TCUT				*e*Sg	**Sg**	**03 31 10.7**	**+2.3**
TPNV	**Topopah Spring**	**3.42**	**256**	P	**Pn**	**03 30 16.3**	**+0.2**
	baz=74						
TPNV				Sb	**Sb**	**03 31 07.2**	**+2.0**
	baz=74						
TPNV	**Topopah Spring**	**3.42**	**256**	*e*Pn	**Pn**	**03 30 16.4**	**+0.2**
X16A	**Lo Mia Camp, P**	**3.45**	**171**	*e*Pn	**Pn**	**03 30 18.4**	**+1.8**
SPUT	**South Promonto**	**3.48**	**356**	*e*Pn	**Pn**	**03 30 17.5**	**+0.5**
EPU	**East Promontor**	**3.56**	**356**	*e*Pn	**Pn**	**03 30 18.2**	**+0.1**
GZU	**Grizzly Peak**	**3.59**	**2**	*e*Pn	**Pn**	**03 30 19.3**	**+0.6**
MCU	**Monte Cristo P**	**3.65**	**7**	*e*Pn	**Pn**	**03 30 20.3**	**+0.8**
LDFC	**Landfair**	**3.67**	**222**	*e*Pn	**Pn**	**03 30 20.3**	**+0.8**
NEE2	**Needles Airpor**	**3.67**	**214**	Sb	**Sb**	**03 31 14.7**	**+2.3**
	baz=33						
X18A	**Snowflake**	**3.73**	**152**	*e*Pn	**Pn**	**03 30 21.1**	**+0.6**
LTU	**Little Mountai**	**3.75**	**358**	*e*Pn	**Pn**	**03 30 21.6**	**+0.8**
WVUT	**Wellsville**	**3.77**	**2**	*e*Pn	**Pn**	**03 30 21.6**	**+0.6**
O20A	**White River Ci**	**3.79**	**51**	P	**Pn**	**03 30 22.9**	**+1.7**
	baz=233						
O20A				Sb	**Sb**	**03 31 19.2**	**+3.4**
	baz=233						
O20A	**White River Ci**	**3.79**	**51**	*e*Pn	**Pn**	**03 30 23.8**	**+2.6**
ELK	**Elko**	**3.79**	**321**	Pn	**Pn**	**03 30 22.8**	**+1.4**
	0.6nm,0.3s,baz=200,slow=11,SNR=14						
ELK				Lg	Lg	03 31 23.4	
	4.1nm,0.3s,baz=267,slow=22,SNR=4.1						
HWUT	**Hardware Ranch**	**3.79**	**6**	*e*Pn	**Pn**	**03 30 22.1**	**+0.8**
SHOC	**Shoshone, Teco**	**3.86**	**241**	Sb	**Sb**	**03 31 18.9**	**+1.1**
	baz=59						
PDMCI	**Parker Dam,Lak**	**3.89**	**206**	Sb	**Sb**	**03 31 20.5**	**+2.0**
	baz=25						
TUQ	**Turquoise Moun**	**3.90**	**233**	Sb	**Sb**	**03 31 19.2**	**+0.4**
	baz=51						
Y14A	**Wickenburg**	**3.96**	**191**	*e*Pn	**Pn**	**03 30 23.8**	**+0.4**
HVU	**Hansel Valley**	**3.97**	**353**	*e*Pn	**Pn**	**03 30 24.2**	**+0.4**
FURC	**Furnace Creek,**	**4.04**	**252**	P	**Pn**	**03 30 24.9**	**+0.4**
	baz=69						
FURC				Sb	**Sb**	**03 31 25.8**	**+3.0**
	baz=69						
DANC	**Danby,

	322nm,0.7s								
214A					Sg	Sg	03 32 23.3	-7.7	
MURC	Murrieta baz=43	5.92	226	P		Pn	03 30 51.0	+0.6	
MHTCO	State Highway	5.94	95	*e*Pn		Pn	03 30 52.8	+2.0	
VES	Vestal, Richgr baz=68	5.94	253	P		Pn	03 30 51.3	+0.6	
HLID	Hailey baz=182	5.99	344	P		Pn	03 30 51.3	-0.1	
HLID	Hailey	5.99	344	*e*Pn		Pn	03 30 55.5	+4.1	
PAHR	Pah Rah Range	5.99	290	*e*Pn		Pn	03 30 53.1	+1.6	
MOOW	Moose Ponds	6.00	9	*e*Pn		Pn	03 30 52.5	+0.9	
MWC	Mount Wilson	6.02	235	*e*Pn		Pn	03 30 54.6	+2.7	
ARVC	Arvin baz=62	6.06	246	P		Pn	03 30 53.4	+1.2	
MONP2	Monument Peak baz=34	6.06	217	P		Pn	03 30 53.1	+0.6	
VCNR	Virginia City	6.09	286	*e*Pn		Pn	03 30 54.9	+2.0	
IMW	Indian Meadow	6.12	8	*e*Pn		Pn	03 30 54.7	+1.3	
IKP	In-Ko-Pah, Jac baz=31	6.12	214	P		Pn	03 30 53.8	+0.5	
PASC	Pasadena Art C	6.14	235	Pn		Pn	03 30 53.7	+0.4	
T25A	Trinidad baz=279	6.16	94	P		Pn	03 30 55.5	+1.7	
T25A	Trinidad	6.16	94	*e*Pn		Pn	03 30 55.8	+1.9	
PHWY	Pilot Hill	6.19	54	*e*Pg		Pb	03 31 14.2	+3.8	
MFID	Camas Ranch	6.25	334	*e*Pn		Pn	03 30 59.4	+4.4	
OAT	Oat Mountain	6.32	238	*e*Pg		Pg	03 31 22.6	-0.2	
BAR	Barrett	6.36	217	*e*Pn		Pn	03 30 57.5	+1.1	
121A	Cookes Peak, D baz=328	6.36	145	P		Pn	03 30 57.1	+0.5	
121A	Cookes Peak, D 172nm,0.7s	6.36	145	*e*Pn		Pn	03 30 55.8	-0.9	
K22A	Casper baz=223	6.43	40	P		Pn	03 30 58.0	+0.4	
K22A	Casper	6.43	40	*e*Pn		Pn	03 30 58.3	+0.8	
YPP	Pitchstone Pla	6.50	8	*e*Pn		Pn	03 31 03.1	+4.4	
H17A	Grant Village	6.66	9	*e*Pn		Pn	03 31 04.9	+4.2	
YFT	Old Faithful 47nm,0.9s	6.68	8	*e*Pn		Pn	03 30 59.8	-1.2	
PAGB	Antelope Grade	6.87	255	*e*Pg		Pg	03 31 30.7	-2.5	
YMR	Madison River	6.88	7	*e*Pn		Pn	03 31 08.1	+4.3	
YHB	Horse Butte	6.94	5	*e*Pn		Pn	03 31 08.0	+3.3	
QLMT	Earthquake Lak	7.01	4	*e*Pn		Pn	03 31 09.9	+4.4	
MCMT	McKenzie Canyo 17nm,1.0s	7.01	356	*e*Pn		Pn	03 31 05.2	-0.3	
YHH	Holmes Hill	7.01	7	*e*Pn		Pn	03 31 08.4	+2.8	
YHH				*e*Lg		Lg	03 33 05.7		
AFDM	Forest Hills D	7.05	282	*e*Pn		Pn	03 31 08.3	+2.3	
YMV	Mammoth Vault	7.21	8	*e*Sg		Sg	03 33 05.7	-7.5	
MOD	Modoc Plateau 11nm,0.6s	7.50	305	*e*Pn		Pn	03 31 11.4	-0.8	
DLMT	Dillon	7.53	357	*e*Pg		Pg	03 31 43.7	-2.2	
KSCO	Kaye Shedlock' baz=264	7.53	78	P		Pn	03 31 15.3	+2.6	
KSCO	Kaye Shedlock'	7.53	78	*e*Pg		Pb	03 31 38.6	+5.5	
ORV	Oroville	7.55	286	*e*Sg		Sg	03 33 17.9	-6.1	
RLMT	Red Lodge baz=197	7.59	15	P		Pn	03 31 15.6	+2.2	
RLMT	Red Lodge	7.59	15	*e*Pn		Pn	03 31 15.9	+2.4	
EPT	El Paso	7.60	141	*e*Pg		Pg	03 31 45.8	-1.4	
BOZ	Bozeman (W) baz=183	7.76	2	P		Pn	03 31 18.8	+2.9	
BOZ	Bozeman (W)	7.76	2	*e*Pn		Pn	03 31 20.4	+4.5	
O03D	Paynes Creek baz=105	7.94	291	P		Pn	03 31 18.7	+0.6	
GCMT	Greycliff	8.15	12	*e*Pn		Pn	03 31 24.2	+3.0	
MNTX	Cornudas Mount baz=320	8.25	136	P		Pn	03 31 24.9	+2.5	
MNTX	Cornudas Mount 48nm,1.0s	8.25	136	*e*Pn		Pn	03 31 21.3	-1.1	
MSTX	Muleshoe baz=300	8.49	114	P		Pn	03 31 27.9	+2.0	
RSSD	Black Hills baz=227	8.75	42	P		Pn	03 31 28.9	-0.5	
RSSD	Black Hills	8.75	42	*e*Pn		Pn	03 31 28.8	-0.7	
J05D	Fort Rock, OR baz=125	8.82	311	P		Pn	03 31 32.9	+2.5	
HRY	Holter Researc	8.87	1	*e*Pn		Pn	03 31 35.2	+4.1	
YBH	Yreka Blue Hor 0.2nm,0.3s,baz=263,slow=18,SNR=2.0	9.04	299	Pn		Pn	03 31 36.5	+3.1	
YBH					Lg	Lg	03 34 03.9		
	0.1nm,0.3s,baz=274,slow=20,SNR=2.2								
MSO	Missoula baz=171	9.09	352	P		Pn	03 31 36.6	+2.6	
I05D	Terrebonne, OR baz=130	9.53	316	P		Pn	03 31 39.6	-0.3	
CBKS	Cedar Bluff baz=268	9.77	80	P		Pn	03 31 44.0	+0.8	
TXAR	Lajitas Array 0.1nm,0.3s,baz=316,slow=14,SNR=11	11.01	138	Pn		Pn	03 32 02.5	+2.1	
TXAR					Lg	Lg	03 35 03.3		
	0.2nm,0.3s,baz=296,slow=32,SNR=3.1								
TXAR					LR	LR	03 36 40.2		
	comp=Z,291nm,18.5s,baz=0.0,slow=40								
NEW	Newport 0.1nm,0.3s,baz=175,slow=15,SNR=2.2	11.05	342	Pn		Pn	03 32 04.2	+3.4	
NEW					Lg	Lg	03 35 11.0		
	0.1nm,0.3s,baz=82,slow=20,SNR=1.6								
WMOK	Wichita Mounta	11.19	102	P		Pn	03 32 01.7	-0.9	
WMOK	Wichita Mounta	11.19	102	*e*Pn		Pn	03 32 03.0	+0.3	
TBM	Table Mountain	11.23	329	*e*Sn		Sn	03 34 05.9	-3.5	
BGNE	Belgrade baz=256	11.34	67	P		Pn	03 32 06.4	+1.7	
N33A	J Bar K, Exete baz=260	11.72	71	P		Pn	03 32 11.8	+1.9	
K32A	Verdigre baz=250	11.82	62	P		Pn	03 32 14.5	+3.2	
SUSD	Miller baz=241	11.90	52	P		Pn	03 32 17.3	+4.9	
H32A	Carlson Farm, baz=244	12.89	54	P		Pn	03 32 26.8	+0.9	
ECSD	EROS Data Cent baz=248	13.13	58	P		Pn	03 32 32.9	+3.7	
ECSD	EROS Data Cent	13.13	58	*e*Pn		P	03 32 34.4	-5.1	
K34A	Le Mars baz=254	13.15	63	P		Pn	03 32 32.0	+2.6	
TUL1	Leonard 6.0nm,0.8s	13.20	93	Pn		Pn	03 32 30.8	+0.6	
A04D	Lummi Island baz=141	13.33	328	P		Pn	03 32 33.9	+2.1	
WHTX	Lake Whitney, 34nm,0.8s	13.35	112	Pn		Pn	03 32 31.0	-1.2	
H33A	Prehn Over Nor baz=244	13.42	55	P		Pn	03 32 34.5	+1.4	
T38A	Diamond baz=279	14.18	88	P		Pn	03 32 42.8	-0.7	
F33A	5 Mile Ranch, baz=241	14.23	51	P		Pn	03 32 45.5	+1.4	
R38A	Fenwick Farm, baz=274	14.36	83	P		Pn	03 32 45.0	-0.9	
M37A	Trindle Farm, baz=261	14.36	70	P		Pn	03 32 44.8	-1.1	
G34A	Benson baz=245	14.37	54	P		Pn	03 32 46.1	0.0	
S38A	Stockton baz=276	14.40	85	P		Pn	03 32 47.2	+0.6	
HHAR	Hobbs	14.59	91	*e*Pn		Pn	03 32 50.6	+1.5	
H35A	Sunnyside Ranc baz=248	14.67	57	P		Pn	03 32 52.0	+1.8	
S39A	Bolivar baz=276	14.86	85	P		Pn	03 32 51.7	-1.1	
X39A	Fountain Ranch baz=288	14.90	97	P		Pn	03 32 53.0	-0.5	
T39A	Clever baz=279	14.90	87	P		Pn	03 32 52.7	-0.7	
V39A	Pettigrew baz=283	14.92	92	P		Pn	03 32 54.2	+0.6	
K37A	Belmond baz=257	14.92	65	P		Pn	03 32 53.6	0.0	
U39A	Green Forest baz=281	14.93	90	P		Pn	03 32 53.5	-0.3	
W39A	Magazine baz=286	14.97	95	P		Pn	03 32 54.4	+0.1	
R39A	Chumby, Stover baz=274	15.03	82	P		Pn	03 32 54.9	-0.1	
Q39A	Willow Grove F baz=271	15.04	79	P		Pn	03 32 55.3	+0.1	
SCIA	State Center baz=260	15.06	68	P		P	03 33 00.3	-0.7	
SCIA	State Center 13nm,0.8s	15.06	68	*e*P		P	03 33 02.8	+1.8	
G35A	Watkins baz=247	15.10	55	P		P	03 33 01.4	0.0	
J37A	Redenius Farm, baz=255	15.11	63	P		P	03 33 01.6	0.0	
P39B	Salisbury baz=270	15.21	78	P		Pn	03 32 58.5	+1.0	
H36A	Jessenland, He baz=250	15.23	58	P		Pn	03 32 57.8	0.0	
MIAR	Mount Ida baz=288	15.31	97	P		Pn	03 32 59.4	+0.5	
MIAR	Mount Ida 8.9nm,0.9s	15.31	97	*e*Pn		P	03 33 05.3	+1.4	
EDM	Edmonton 12nm,1.0s	15.41	357	*e*Pn		P	03 33 06.2	+1.3	
U40A	Yellville baz=281	15.44	90	P		Pn	03 33 01.5	+1.0	
S40A	Lebanon baz=277	15.52	85	P		Pn	03 33 01.4	-0.2	
W40A	Ferguson Farm, baz=285	15.53	94	P		Pn	03 33 01.0	-0.7	
T40A	Mansfield baz=278	15.56	87	P		Pn	03 33 02.8	+0.6	
V40A	Witts Springs baz=283	15.57	92	P		Pn	03 33 03.1	+0.8	
R40A	Maddies Statio baz=274	15.63	82	P		Pn	03 33 03.2	+0.2	
Q40A	Laux Farm, Aux baz=272	15.74	80	P		Pn	03 33 04.3	-0.2	
J38A	Wedel Dairy, R baz=256	15.88	64	P		P	03 33 09.8	-0.2	
WLAR	White Oak Lake 17nm,1.0s	15.96	99	*e*Pn		P	03 33 12.0	+1.0	
L39A	Vinton baz=261	15.99	68	P		P	03 33 10.7	-0.6	
V41A	Mountainview baz=283	16.11	91	P		Pn	03 33 10.0	+0.8	
S41A	Jillco Farms, baz=277	16.11	85	P		Pn	03 33 09.9	+0.5	
I38A	Scanlan Farm, baz=254	16.16	61	P		Pn	03 33 10.6	+0.7	
K39A	Oelwein baz=259	16.17	66	P		P	03 33 11.4	-1.8	
U41A	Viola baz=281	16.18	89	P		Pn	03 33 09.3	-0.8	
T41A	Mountain View baz=279	16.18	87	P		Pn	03 33 10.3	+0.2	
R41A	Rosebud baz=275	16.33	82	P		Pn	03 33 12.2	+0.2	
A33A	Warroad baz=234	16.41	42	P		Pn	03 33 13.8	+0.8	
J39A	Decorah baz=257	16.43	64	P		P	03 33 14.9	-1.2	
F37A	Hinrichs Farm, baz=248	16.50	55	P		P	03 33 15.9	-1.1	
P41A	Barry, Barry baz=270	16.52	77	P		Pn	03 33 14.4	-0.1	
B34A	Lary, Baudette baz=236	16.56	44	P		Pn	03 33 15.8	+0.9	
T42A	Van Buren baz=279	16.71	86	P		Pn	03 33 15.3	-1.6	
V42A	Cord baz=283	16.71	91	P		P	03 33 18.6	-0.7	
K40A	Colesburg baz=260	16.71	67	P		P	03 33 19.5	+0.2	
U42A	Revenden baz=281	16.71	89	P		Pn	03 33 16.4	-0.6	
G38A	Ridgeland baz=251	16.82	58	P		P	03 33 20.5	0.0	
S42A	Caledonia baz=277	16.84	84	P		P	03 33 20.3	-0.5	
ULM	Lac du Bonnet 0.1nm,0.3s,baz=269,slow=17,SNR=2.1	16.99	38	Pn		Pn	03 33 19.0	-1.3	
ULM	Lac du Bonnet 6.2nm,1.1s	16.99	38	*e*Pn		P	03 33 27.1	+4.9	
B35A	Bob, Littlefor baz=238	17.01	46	P		P	03 33 23.4	+0.9	
F38A	Pierce - Schro baz=249	17.07	55	P		Pn	03 33 21.6	+0.1	
J40A	Soldiers Grove baz=258	17.13	64	P		P	03 33 23.4	-0.5	
G39A	Holcombe baz=252	17.32	58	P		Pn	03 33 24.4	-0.1	
T43A	Greenville baz=224	17.34	86	P		Pn	03 33 24.1	-0.7	
JFWS	Jewell Farm baz=260	17.39	66	P		Pn	03 33 25.1	-0.3	
JFWS	Jewell Farm 13nm,0.8s	17.39	66	*e*Pn		P	03 33 30.1	+3.3	
S43A	Fulton Ridge, baz=278	17.43	84	P		Pn	03 33 25.1	-0.9	
J41A	Loganville baz=259	17.64	65	P		Pn	03 33 28.4	-0.1	
H40A	Chili baz=255	17.66	61	P		P	03 33 29.6	-0.2	
F39A	Loretta baz=250	17.69	56	P		Pn	03 33 28.8	-0.3	
K42A	Prairie Point, baz=262	18.03	67	P		Pn	03 33 32.8	-0.5	
E39A	Mellen baz=249	18.08	55	P		P	03 33 34.8	+0.4	
C38A	Sawbill Land. baz=244	18.15	50	P		Pn	03 33 33.9	-0.9	
FFC	Flin Flon 3.3nm,0.9s	18.25	19	*e*Pn		P	03 33 37.9	+1.6	
P44A	Sand Creek, Wi baz=272	18.41	78	P		P	03 33 36.9	-1.2	
I42A	Draeger Farm, baz=259	18.53	64	P		Pn	03 33 39.3	-0.1	
E40A	Wakefield baz=250	18.53	55	P		Pn	03 33 39.6	+0.1	
Q45A	Warren Harvey, baz=274	18.80	79	P		Pn	03 33 42.7	-0.1	
F41A	Three Lakes baz=253	18.84	58	P		Pn	03 33 43.7	+0.4	
COWI	Conover 7.1nm,0.8s	18.92	57	*e*P		Pn	03 33 46.7	+2.5	
Y46A	Houston baz=288	19.24	95	P		P	03 33 44.9	-2.3	
V46A	Holladay baz=283	19.30	89	P		Pn	03 33 48.7	-0.2	
WVT	Waverly baz=282	19.46	88	P		Pn	03 33 49.8	-1.0	
V47A	Nunnelly baz=283	19.77	88	P		Pn	03 33 53.7	-0.7	
U47A	Clarksville baz=282	19.82	86	P		Pn	03 33 54.5	-0.6	
W47A	Westpoint baz=285	19.85	90	P		P	03 33 52.7	-1.2	
T47A	Sharon Grove baz=280	19.86	85	P		Pn	03 33 54.4	-1.2	
Z48A	Northport baz=290	20.43	95	P		Pn	03 34 00.8	-1.5	
LRAL	Lakeview Retre baz=290	20.98	96	P		P	03 34 06.4	+0.2	
X49A	Woodville baz=287	21.05	91	P		P	03 34 06.9	0.0	
SWET	Sewanee	21.17	89	*e*P		P	03 34 07.4	-0.9	
249A	Camden baz=293	21.27	98	P		P	03 34 10.0	+0.6	
Z49A	Columbiana baz=290	21.30	95	P		P	03 34 10.2	+0.6	
150A	Eclectic baz=291	21.90	96	P		P	03 34 17.1	+0.9	
250A	Grady baz=293	21.94	98	P		P	03 34 17.3	+0.8	
350A	Dozier baz=294	22.11	99	P		P	03 34 19.5	+1.2	
151A	Opelika baz=291	22.48	96	P		P	03 34 20.9	-1.4	
251A	Midway baz=292	22.57	97	P		P	03 34 23.1	-0.2	
DLBC	Dease Lake 5.5nm,1.1s	23.69	336	*e*P		P	03 34 37.9	+3.3	
FCC	Fort Churchill 9.0nm,1.0s	23.98	23	*e*P		P	03 34 37.4	+0.1	
YKA	Yellowknife Ar 10.0nm,0.8s,baz=176,slow=9.8,SNR=170	24.73	357	P		P	03 34 44.7	+0.5	
YKA					PcP	PcP	03 38 19.8	-1.0	
	0.1nm,0.5s,baz=169,slow=2.3,SNR=5.4								
INK	Inuvik 7.7nm,1.3s	32.75	345	*e*P		P	03 35 56.4	+0.9	
IL1	Eielson Array	33.84	334	*e*P		P	03 36 06.4	+1.3	
ILAR	Eielson Array 1.4nm,0.9s,baz=126,slow=8.3,SNR=17	33.84	334	P		P	03 36 06.9	+1.8	
ILAR					PcP	PcP	03 38 43.5	-0.4	
	0.4nm,0.8s,baz=138,slow=1.7,SNR=4.4								
ILB	Eielson Array	33.84	334	*e*P		P	03 36 07.3	+2.2	
WRH	Wood River Hil 5.0nm,1.0s	34.10	333	*e*P		P	03 36 08.7	+1.4	
BPAW	Bear Paw Mtn. 3.7nm,0.9s	34.97	331	*e*P		P	03 36 16.5	+1.5	
IM3	Indian Mountai	36.92	333	*e*P		P	03 36 32.7	+1.1	
RES	Resolute Bay 5.4nm,1.3s	37.83	7	*e*P		P	03 36 39.2	+0.1	
EKA	Eskdalemuir Ar 0.3nm,0.4s,baz=289,slow=6.1,SNR=4.1	69.24	35	P		P	03 40 27.9	-1.9	
NOA	NORSAR Array B 0.8nm,0.8s,baz=312,slow=6.3,SNR=3.1	71.22	25	P		P	03 40 39.9	-2.0	
ESDC	Sonseca Array 1.1nm,0.5s,baz=308,slow=5.8,SNR=13	78.57	48	P		P	03 41 23.6	-1.3	
AKASG	Malin Array Be 3.2nm,0.7s,baz=328,slow=4.2,SNR=13	85.51	23	P		P	03 42 00.0	-1.0	
ARU	Arti 10.0nm,0.9s	85.77	5	*e*P		P	03 42 02.2	+0.1	
ZALV	Zalesovo Beam 1.4nm,0.6s,baz=34,slow=5.8,SNR=6.6	87.42	350	P		P	03 42 09.6	-0.8	
SONA1	Songino Array	88.05	335	*e*P		P	03 42 14.4	+0.7	
SONM	Songino Array 1.4nm,0.8s,baz=32,slow=2.7,SNR=6.3	88.06	335	P		P	03 42 14.3	+0.5	
BRVK	Borovoye 4.9nm,0.8s	89.45	359	*e*P		P	03 42 20.7	+0.7	
BVAR	Borovoye Array 4.2nm,0.7s,baz=356,slow=4.5,SNR=14	89.49	358	P		P	03 42 20.5	+0.3	
KURBB	Kurchatov Arra 0.9nm,0.8s,baz=0.3,slow=2.9,SNR=6.0	91.42	353	P		P	03 42 28.4	-0.7	
HHC	Hu-ho-hao-te	92.09	328	*e*P		P	03 42 33.5	+0.8	
HHC					pmax	pmax			
	comp=Z,1.0nm,1.5s								
HHC					pmax	pmax			
	comp=Z,4.0nm,8.3s								
WMQ	Urumqi	96.76	346	P		P	03 42 53.6	-0.4	
WMQ					pmax	pmax			
	comp=Z,14nm,0.7s								
WMQ					pmax	pmax			
	comp=Z,440nm,5.9s								
LZH	Lanzhou	99.27	331	*e*P		Pdif	03 43 03.1	-2.4	
LZH				pP		pP	03 43 08.2	+2.1	
LZH				sP		sP	03 43 10.4	+4.1	
LZH				*e*PP		PP	03 47 07.2	0.0	
LZH				pmax		pmax			
	comp=Z,32nm,1.0s								
LZH				pmax		pmax			
	comp=Z,400nm,5.0s								
WRA	Warramunga Arr	120.32	267	PKP		PKPdf	03 48 13.9	-1.0	
	comp=Z,1.0nm,0.9s,baz=36,slow=13,SNR=5.2								
ASAR	Alice Springs	122.62	264	PKP		PKPdf	03 48 18.1	-1.1	
	comp=Z,0.8nm,0.8s,baz=80,slow=2.3,SNR=5.9								

IDC ***12*** *03:34:45.9±1.4,2.35N×92.75E, h0km, mb4.0/6, mb1 4.2/8, mb1mx3.7/76, mbtmp4.0/8, ML4.2/2, Error ellipse: s-maj=39.8km s-min=24.4km az=37.0*

ISCJB ***12*** *03:34:47.8±1.2, 2.5N±0.2×92.98E±0.08, h21km, mb4.0/6, Error ellipse: s-maj=24.5km s-min=10.4km az=15.0*

ISC 12 03:34:49.7±1.3, 2.5N±0.2×92.9E±0.1, h21km, n12, σ1s02/10, mb4.1/6, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PSI	Prapat 4.6nm,0.3s,baz=325,slow=7.6,SNR=12	5.99	87	Pn		Pn	03 36 17.9	+0.7
PSI				Sn		Sn	03 37 24.2	-1.0
	2.6nm,0.3s,baz=3.2,slow=18,SNR=2.7							
CMAR	Chiang Mai Arr 0.3nm,0.3s,baz=210,slow=12,SNR=5.9	16.91	20	P		P	03 38 45.8	-1.3
H08S2	Diego Garcia H baz=61,slow=75,SNR=5.5	22.75	244	T		T	04 03 17.7	
H08S3	Diego Garcia H baz=61,slow=75,SNR=6.6	22.75	244	T		T	04 03 20.0	
H08S1	Diego Garcia H baz=61,slow=75,SNR=4.9	22.77	244	T		T	04 03 15.2	
MKAR	Makanchi Array 2.2nm,0.6s,baz=170,slow=8.4,SNR=7.9	45.08	350	P		P	03 43 04.3	+0.1
WRA	Warramunga Arr 0.4nm,0.5s,baz=302,slow=8.3,SNR=5.3	46.35	121	P		P	03 43 14.8	+0.1
SONM	Songino Array 2.3nm,0.7s,baz=192,slow=12,SNR=14	46.63	12	P		P	03 43 18.0	+1.4
ZALV	Zalesovo Beam 3.2nm,0.5s,baz=189,slow=8.7,SNR=9.3	51.71	354	P		P	03 43 55.8	+0.7
BRTR	Keskin Array B 0.4nm,0.8s,baz=152,slow=7.1,SNR=3.5	65.10	313	P		P	03 45 28.1	-1.1
GERES	GERESS Array B 1.3nm,0.8s,baz=93,slow=5.3,SNR=7.8	81.03	319	P		P	03 47 03.4	+0.2
TXAR	Lajitas Array 0.6nm,0.7s,baz=98,slow=0.4,SNR=11	144.57	25	PKP		PKPdf	03 54 25.1	-0.5

IDC 12 03:36:29.3±1.8, 1.00N×92.16E, h0km, mb3.7/5, mb1 3.8/5, mb1mx3.4/71, mbtmp3.7/5, Error ellipse: s-maj=63.6km s-min=29.3km az=48.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
WRA	Warramunga Arr 1.1nm,0.6s,baz=297,slow=8.6,SNR=4.5	46.28	119	P		P	03 44 56.7	-0.3
MKAR	Makanchi Array 0.5nm,0.6s,baz=162,slow=6.8,SNR=3.1	46.42	351	P		P	03 44 58.1	+0.4
SONM	Songino Array 0.7nm,0.7s,baz=186,slow=11,SNR=3.6	48.26	13	P		P	03 45 11.3	-0.9
ZALV	Zalesovo Beam 0.6nm,0.4s,baz=195,slow=6.5,SNR=2.6	53.12	355	P		P	03 45 48.4	-0.2
BRTR	Keskin Array B 0.2nm,0.4s,baz=127,slow=8.0,SNR=2.8	65.56	314	P		P	03 47 14.9	-0.3
TXAR	Lajitas Array 0.4nm,0.7s,baz=150,slow=1.2,SNR=5.7	146.26	25	PKPbc		PKPbc	03 56 12.7	0.0

MEX 12 03:37:09.5±7.1, 24.16N×109.71W, h10km, MD3.9, Gulf of California

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
LPIG	La Paz baz=129,slow=5.3	0.55	264	*i* P		Pg	03 37 19.3	-0.9
LPIG				*e*S		Sg	03 37 26.7	-0.7

SOME ***12*** *03:37:56.0, 41.03N×74.90E, h10km*

KRNET ***12*** *03:37:57.1±0.1, 41.13N×74.86E, h14km, mb3.5*

KNET ***12*** *03:37:58.9±1.1, 41.24N×74.88E, h15km±6km, ml2.8, Error ellipse: s-maj=8.5km s-min=3.4km az=163.0*

NNC ***12*** *03:37:59.4±1.5, 41.13N×74.90E, h0km, mb3.9, mpv3.6, Error ellipse: s-maj=19.8km s-min=8.0km az=117.0*

ISC 12 03:37:57.9±1.3, 41.16N±0.03×74.87E±0.02, h1km±12km, n51, σ1s39/89, 30C-25D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
NRN	Naryn baz=70	0.89	72	⇓*i* P		Pg	03 38 14.3	-0.7
NRN				⇓*i* S		Sg	03 38 26.8	+0.2
	baz=70							
KZA	Kyzart 16nm,0.2s,SNR=22	0.96	17	P		Pg	03 38 16.3	-0.1
KZA				⇑S		Sb	03 38 30.4	-0.5
	47nm,0.2s							
KZA	Kyzart baz=17	0.96	17	⇓*i* P		Pg	03 38 16.2	-0.1
KZA				⇓*i* S		Sb	03 38 30.3	-0.7
	baz=17							
UCH	Uchtor 15nm,0.2s,SNR=72	1.10	346	P		Pg	03 38 18.8	-0.2
UCH	Uchtor baz=47	1.10	346	⇑*i* P		Pg	03 38 18.9	-0.1
UCH				⇑*i* S		Sb	03 38 34.8	-0.2
	baz=47							
AML	Almayashu 57nm,0.4s,SNR=57	1.31	318	P		Pg	03 38 22.1	-1.0
AML	Almayashu baz=19	1.31	318	⇓*i* P		Pg	03 38 22.1	-1.0
AML				⇓*i* S		Sb	03 38 41.2	+0.1
	baz=19							
ARSB	Arslanbob baz=79	1.44	277	⇓*i* P		Pn	03 38 24.2	-1.0
ARSB				⇓*i* S		Sb	03 38 44.1	-0.3
	baz=79							
ULHL	Ulahol 14nm,0.2s,SNR=76	1.49	43	⇓P		Pn	03 38 25.9	-0.2
ULHL				⇑S		Sb	03 38 46.0	-0.1
	46nm,0.2s							
KBK	Karagaybulak 23nm,0.1s,SNR=27	1.50	2	⇓P		Pn	03 38 26.2	+0.1
KBK	Karagaybulak baz=2.0	1.50	2	⇓*i* P		Pn	03 38

AAK	**Ala-Archa**	**1.50**	**349**	⇑Pn	**Pn**	**03**	**38**	**26.0**	**-0.2**
	10nm,0.3s								
AAK				Sn	**Sg**	**03**	**38**	**50.7**	**+4.5**
	63nm,0.5s								
AAK	**Ala-Archa**	**1.50**	**349**	⇓P	**Pn**	**03**	**38**	**26.0**	**-0.2**
	41nm,0.3s,SNR=52								
AAK	**Ala-Archa**	**1.50**	**349**	⇑*iP*	**Pb**	**03**	**38**	**26.4**	**-0.3**
	baz=50								
AAK				⇑*iS*	**Sg**	**03**	**38**	**47.4**	**+1.2**
	baz=50								
SFK	**Sufi-Kurgan**	**1.55**	**223**	⇑Pn	**Pn**	**03**	**38**	**26.0**	**-0.9**
	37nm,0.5s								
SFK				⇓Sn	**Sg**	**03**	**38**	**51.8**	**+4.1**
	91nm,0.6s								
SFK	**Sufi-Kurgan**	**1.55**	**223**	⇑*iP*	**Pn**	**03**	**38**	**26.0**	**-0.9**
	baz=24								
SFK				⇑*iS*	**Sn**	**03**	**38**	**46.9**	**-0.8**
	baz=24								
FRU1	**Bishkek**	**1.66**	**354**	⇑*iP*	**Pb**	**03**	**38**	**29.1**	**-0.2**
	baz=54								
FRU1				⇑*iS*	**Sg**	**03**	**38**	**52.2**	**+1.0**
	baz=54								
EKS2	**Erkin-Say**	**1.71**	**332**	⇑P	**Pb**	**03**	**38**	**29.9**	**-0.3**
	41nm,0.4s,SNR=34								
EKS2	**Erkin-Say**	**1.71**	**332**	⇓*iP*	**Pb**	**03**	**38**	**30.0**	**-0.2**
	baz=33								
EKS2				⇓*iS*	**Sg**	**03**	**38**	**53.4**	**+0.6**
	baz=33								
CHMS	**Chumysh**	**1.84**	**357**	⇑P	**Pb**	**03**	**38**	**32.3**	**-0.1**
	33nm,0.2s,SNR=33								
CHMS	**Chumysh**	**1.84**	**357**	⇑*iP*	**Pb**	**03**	**38**	**32.2**	**-0.1**
	baz=58								
CHMS				⇑*iS*	**Sg**	**03**	**38**	**57.3**	**+0.3**
	baz=58								
TKM2	**Tokmak 2**	**1.84**	**17**	⇑Pn	**Pb**	**03**	**38**	**32.5**	**0.0**
	16nm,0.3s								
TKM2				⇓Sn	**Sg**	**03**	**38**	**59.7**	**+2.6**
	85nm,0.5s								
TKM2	**Tokmak 2**	**1.84**	**17**	P	**Pb**	**03**	**38**	**32.8**	**+0.3**
	32nm,0.2s,SNR=85								
TKM2	**Tokmak 2**	**1.84**	**17**	⇑*iP*	**Pb**	**03**	**38**	**32.4**	**0.0**
	baz=17								
TKM2				⇑*iS*	**Sg**	**03**	**38**	**57.9**	**+0.9**
	baz=17								
KDJ	**Kajisay**	**1.98**	**60**	⇓*iP*	**Pn**	**03**	**38**	**33.8**	**+1.0**
	baz=59								
KDJ				⇓*iS*	**Sb**	**03**	**39**	**00.8**	**+0.7**
	baz=59								
MRKS	**Merke**	**2.00**	**323**	*eP*	**Pb**	**03**	**38**	**35.1**	**-0.1**
	103nm,0.5s								
MRKS				*eS*	**Sg**	**03**	**39**	**02.9**	**+0.6**
	110nm,0.6s								
BMNS	**Besmoynak**	**2.04**	**17**	*eP*	**Pg**	**03**	**38**	**36.5**	**-0.4**
	112nm,0.3s								
BMNS				*eS*	**Sg**	**03**	**39**	**05.2**	**+1.9**
	567nm,0.6s								
USP	**Ospenovka**	**2.12**	**353**	⇓P	**Pb**	**03**	**38**	**37.3**	**+0.1**
	49nm,0.2s,SNR=68								
DGS	**Degeres**	**2.19**	**17**	*eP*	**Pb**	**03**	**38**	**39.0**	**+0.7**
	127nm,0.5s								
DGS				*eS*	**Sg**	**03**	**39**	**09.7**	**+1.6**
	234nm,0.9s								
MNAS	**Manas**	**2.21**	**308**	⇓Pn	**Pb**	**03**	**38**	**38.0**	**-0.8**
	20nm,0.4s								
MNAS				⇓Lg	Lg	03	39	07.7	
	137nm,1.1s								
MNAS	**Manas**	**2.21**	**308**	⇓*iP*	**Pb**	**03**	**38**	**37.8**	**-1.0**
	baz=9.0								
MNAS				⇓*iS*	**Sb**	**03**	**39**	**06.5**	**-0.2**
	baz=9.0								
TARG	**Taragay, Kyrgy**	**2.28**	**75**	⇑*iP*	**Pb**	**03**	**38**	**39.0**	**-1.0**
	baz=74								
TARG				⇑*iS*	**Sb**	**03**	**39**	**08.7**	**-0.1**
	baz=74								
IZV	**Izvestkoviy**	**2.28**	**34**	*eP*	**Pb**	**03**	**38**	**40.7**	**+0.8**
	22nm,0.5s								
IZV				*eS*	**Sg**	**03**	**39**	**13.1**	**+2.0**
	151nm,0.7s								
MTBS	**Maitube**	**2.28**	**30**	*eP*	**Pb**	**03**	**38**	**40.9**	**+1.0**
	27nm,0.3s								
MTBS				*eS*	**Sg**	**03**	**39**	**12.7**	**+1.4**
	97nm,0.3s								
TNSS	**Tian-Shan**	**2.43**	**39**	*eP*	**Pb**	**03**	**38**	**42.2**	**-0.4**
	36nm,0.4s								
TNSS				*eS*	**Sg**	**03**	**39**	**15.7**	**-0.3**
	88nm,0.5s								
MDOK	**Medeo**	**2.57**	**38**	Pn	**Pb**	**03**	**38**	**45.4**	**+0.5**
	19nm,0.6s								
MDOK				⇑Lg	Lg	03	39	18.5	
	68nm,0.6s								
MDOK	**Medeo**	**2.57**	**38**	*eP*	**Pb**	**03**	**38**	**45.2**	**+0.3**
	25nm,0.4s								
MDOK				*eS*	**Sg**	**03**	**39**	**20.3**	**-0.3**
	85nm,0.6s								
KNDC	**Almaty**	**2.58**	**36**	⇑Pg	**Pb**	**03**	**38**	**45.9**	**+1.0**
	35nm,0.5s								
KNDC				⇓Lg	Lg	03	39	20.4	
	73nm,0.6s								
KTBS	**Karatobe**	**2.88**	**27**	*eP*	**Pb**	**03**	**38**	**50.4**	**+0.3**
	30nm,0.5s								
KTBS				*eS*	**Sg**	**03**	**39**	**29.1**	**-1.4**
	92nm,0.5s								
KUU	**Kurty**	**2.94**	**21**	*eP*	**Pb**	**03**	**38**	**51.7**	**+0.6**
	21nm,0.5s								
KUU				*eS*	**Sg**	**03**	**39**	**31.4**	**-0.9**
	62nm,0.5s								
CHKK	**Chushkaly**	**3.11**	**29**	*eP*	**Pb**	**03**	**38**	**54.8**	**+0.7**
	14nm,0.4s								
CHKK				*eS*	**Sg**	**03**	**39**	**37.0**	**-0.9**
	109nm,0.5s								
BTK	**Batken**	**3.28**	**252**	⇑*iP*	**Pn**	**03**	**38**	**51.1**	**+0.6**
	baz=52								
BTK				⇑*iS*	**Sn**	**03**	**39**	**30.8**	**+0.7**
	baz=52								
KURS	**Kuram**	**3.38**	**45**	*eP*	**Pb**	**03**	**38**	**58.9**	**+0.4**
	3.0nm,0.4s								
KURS				*eS*	**Sg**	**03**	**39**	**44.5**	**-1.8**
	24nm,0.9s								
KPKS	**Kokpek**	**3.65**	**50**	*eP*	**Pb**	**03**	**39**	**03.8**	**+0.6**
	8.6nm,0.4s								
KPKS				*eS*	**Sg**	**03**	**39**	**52.3**	**-2.8**
	69nm,0.5s								
UZB	**Uzynbulak**	**3.67**	**56**	*eP*	**Pb**	**03**	**39**	**03.0**	**-0.6**
	4.8nm,0.6s								
UZB				⇑*iS*	**Sb**	**03**	**39**	**52.0**	**+3.4**
	18nm,0.8s								
ARXS	**Arharly**	**3.75**	**35**	*eP*	**Pb**	**03**	**39**	**05.3**	**+0.4**
	11nm,0.6s								
ARXS				*eS*	**Sg**	**03**	**39**	**55.5**	**-2.8**
	72nm,0.5s								
KK31	**Karatay Array**	**3.78**	**302**	⇑Pg	**Pb**	**03**	**39**	**06.0**	**+0.5**
	5.4nm,0.5s,baz=121,slow=17								
KK31				⇑Lg	Lg	03	39	57.1	
	4.6nm,0.3s,baz=127,slow=28,SNR=5.8								
PDGK	**Podgornoye**	**4.05**	**56**	⇑Pg	**Pb**	**03**	**39**	**10.9**	**+0.7**
	5.9nm,0.6s								
PDGK				⇑Lg	Lg	03	40	02.9	
	43nm,1.0s								
BRLS	**Borolday**	**4.19**	**298**	*eP*	**Pb**	**03**	**39**	**13.4**	**+1.0**
	0.5nm,0.4s								
BRLS				*eS*	**Sg**	**03**	**40**	**09.4**	**-3.0**
	14nm,0.6s								
DJR	**Jarkent**	**4.81**	**47**	*eP*	**Pb**	**03**	**39**	**25.9**	**+2.8**
	7.8nm,0.5s								
DJR				*eS*	**Sg**	**03**	**40**	**30.8**	**-1.6**
	17nm,0.5s								
KAPS	**Kapalarasan**	**5.27**	**37**	*eP*	**Pb**	**03**	**39**	**32.6**	**+1.8**
	6.5nm,0.6s								
KAPS				*eS*	**Sg**	**03**	**40**	**41.8**	**-5.2**
	7.3nm,0.6s								

IDC 12 03:38:59.0±1.7, 1.80N×93.85E, h0km, mb3.8/6, mb1 4.0/7, mb1mx3.5/71, mbtmp3.8/7, ML4.1/1, Error ellipse: s-maj=60.5km s-min=26.7km az=58.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
CMAR	**Chiang Mai Arr**	**17.29**	**16**	P	Pn	03	43	02.2	+0.2
	0.3nm,0.3s,baz=218,slow=11,SNR=4.2								
WRA	**Warramunga Arr**	**45.20**	**121**	P	P	03	47	18.3	+0.1
	0.7nm,0.8s,baz=301,slow=8.7,SNR=3.0								
MKAR	**Makanchi Array**	**45.94**	**349**	P	P	03	47	23.4	-0.2
	1.5nm,0.7s,baz=163,slow=8.9,SNR=3.9								
SONM	**Songino Array**	**47.13**	**12**	P	P	03	47	32.2	-0.9
	0.4nm,0.4s,baz=194,slow=10,SNR=2.7								
KURBB	**Kurchatov Arra**	**50.35**	**347**	P	P	03	47	58.0	+0.3
	0.8nm,0.7s,baz=170,slow=7.4,SNR=6.0								
ZALV	**Zalesovo Beam**	**52.51**	**353**	P	P	03	48	14.6	+0.8
	0.7nm,0.3s,baz=191,slow=4.4,SNR=3.8								
GERES	**GERESS Array B**	**82.16**	**319**	P	P	03	51	21.7	-0.3
	0.8nm,0.8s,baz=103,slow=5.8,SNR=4.5								
TXAR	**Lajitas Array**	**144.79**	**27**	PKP	PKPab	03	58	37.6	-0.1
	0.5nm,1.0s,baz=302,slow=1.7,SNR=3.3								

SJA 12 03:39:40.1±0.5, 21.85S×68.76W, h243km±30km, ML3.4, MW3.6
ISCJB 12 03:39:45.8±0.8, 22.14S±0.04×68.76W±0.07, h127km±10km, Error ellipse: s-maj=10.2km s-min=6.1km az=165.7
GUC 12 03:39:47.3±0.5, 22.08S×68.75W, h110km±4km, ML4.0

ISC 12 03:39:46.4±1.7, 22.13S±0.05×68.76W±0.07, h123km±17km, n19, σ0.79/27, 6C-3D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
PB09	**IPOC Station P**	**0.56**	**306**	⇑*iP*	**Pn**	**03**	**40**	**05.1**	**-0.2**
PB09				*i* S	**Sn**	**03**	**40**	**18.6**	**-0.9**
PB06	**IPOC Station P**	**0.95**	**233**	⇑*iP*	**Pn**	**03**	**40**	**08.8**	**+0.4**
PB06				*i* S	**Sn**	**03**	**40**	**25.2**	**+0.2**
PB06				IAML		03	40	25.8	
	comp=E,4μm,0.3s								
PB07	**IPOC Station P**	**1.12**	**291**	⇑*iP*	**Pn**	**03**	**40**	**10.5**	**+0.4**
PB07				*i* S	**Sn**	**03**	**40**	**28.0**	**0.0**
PB07				IAML		03	40	29.2	
	comp=N,4μm,0.2s								
PB01	**IPOC Station P**	**1.28**	**328**	⇑*iP*	**Pn**	**03**	**40**	**11.6**	**-0.1**
PB01				*i* S	**Sn**	**03**	**40**	**30.1**	**-0.8**
PB01				IAML		03	40	31.9	
	comp=E,2μm,0.4s								
PB04	**IPOC Station P**	**1.30**	**261**	⇑*iP*	**Pn**	**03**	**40**	**12.5**	**+0.5**
PB04				*i* S	**Sn**	**03**	**40**	**32.6**	**+1.1**
PB04				IAML		03	40	34.6	
	comp=N,2μm,0.4s								
PB02	**IPOC Station P**	**1.33**	**307**	⇑*iP*	**Pn**	**03**	**40**	**12.6**	**+0.3**
PB02				*i* S	**Sn**	**03**	**40**	**31.5**	**-0.4**
PB02				IAML		03	40	32.4	
	comp=E,4μm,0.5s								
PB08	**IPOC Station P**	**2.01**	**349**	⇓*iP*	**Pn**	**03**	**40**	**21.5**	**+0.8**
PB08				*i* S	**Sn**	**03**	**40**	**47.2**	**+0.6**
PB08				IAML		03	40	49.9	
	comp=N,517nm,0.7s								
PB10	**IPOC Station P**	**2.15**	**230**	IAML		03	41	07.0	
	comp=N,2μm,0.5s								
GO01	**Chusmiza**	**2.48**	**350**	⇓*iP*	**Pn**	**03**	**40**	**27.5**	**+0.8**
GO01				*i* S	**Sn**	**03**	**40**	**57.1**	**-0.2**
GO01				IAML		03	40	60.0	
	comp=N,960nm,0.3s								
PB11	**IPOC Station P**	**2.50**	**340**	⇓*iP*	**Pn**	**03**	**40**	**26.1**	**-0.5**
PB11				*i* S	**Sn**	**03**	**40**	**56.4**	**-0.9**
PSGC	**Pisagua**	**2.83**	**333**	IAML		03	41	13.5	
	comp=N,449nm,0.4s								
YJA	**Yavi**	**3.01**	**91**	*eP*	**Pn**	**03**	**40**	**34.1**	**+0.8**
HJA	**Humahuaca**	**3.27**	**110**	*eP*	**Pn**	**03**	**40**	**37.7**	**+0.9**
AZAP	**Zapla**	**3.98**	**122**	*eP*	**Pn**	**03**	**40**	**46.3**	**+0.2**
AZAP				IAML		03	40	47.2	
	comp=Z,33nm,0.5s								
ASTB	**Santa Barbara**	**4.36**	**115**	*eP*	**Pn**	**03**	**40**	**50.7**	**-0.3**
ASTB				*eS*	**Sn**	**03**	**41**	**42.2**	**+1.2**
FSA	**Cafayete**	**4.71**	**148**	*eP*	**Pn**	**03**	**40**	**55.8**	**+0.1**
ALOL	**LOMAS DE OLMED**	**4.71**	**112**	*eP*	**Pn**	**03**	**40**	**53.6**	**-1.9**
AHML	**Horco Molle**	**5.58**	**147**	*eP*	**Pn**	**03**	**41**	**06.7**	**-0.7**
VCA	**Vinchina**	**6.60**	**176**	*eP*	**Pn**	**03**	**41**	**19.9**	**-1.1**

NNC 12 03:44:35.8±4.1, 44.29N×83.21E, h0km, mb2.6, mpv2.2, Error ellipse: s-maj=39.5km s-min=13.6km az=119.0
SOME 12 03:44:37.3, 44.03N×82.80E, h15km

ISC 12 03:44:29.8±3.1, 44.21N±0.08×83.1E±0.1, h0km±20km, n7, σ0.81/14, 6C, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
DJR	**Jarkent**	**2.38**	**274**	*eP*	**Pg**	**03**	**45**	**16.8**	**+1.5**
	7.1nm,0.5s								
DJR				*eS*	**Sg**	**03**	**45**	**46.6**	**+0.5**
	9.4nm,0.4s								
MK31	**Makanchi Array**	**2.65**	**348**	⇑Pn	**Pg**	**03**	**45**	**19.9**	**-0.6**
	0.2nm,0.3s,baz=163,slow=18								
MK31				⇑Sn	**Sb**	**03**	**45**	**51.5**	**+0.4**
	0.8nm,0.3s,baz=161,slow=26								
MAKZ	**Makanchi**	**2.72**	**344**	⇑Pn	**Pg**	**03**	**45**	**21.9**	**+0.1**
	0.6nm,0.4s								
MAKZ				⇑Sn	**Sb**	**03**	**45**	**53.8**	**+0.6**
	1.4nm,0.6s								
PDGK	**Podgornoye**	**2.76**	**253**	⇑Pn	**Pg**	**03**	**45**	**22.4**	**-0.2**
	0.8nm,0.4s								
PDGK				⇑Sn	**Sg**	**03**	**45**	**58.3**	**+0.1**
	2.3nm,0.5s								
KAPS	**Kapalarasan**	**2.88**	**293**	*eP*	**Pg**	**03**	**45**	**25.0**	**+0.1**
	1.1nm,0.2s								
KAPS				*eS*	**Sg**	**03**	**46**	**01.2**	**-0.9**
	2.3nm,0.2s								
KPKS	**Kokpek**	**3.28**	**258**	*eP*	**Pb**	**03**	**45**	**29.1**	**+0.3**
	9.5nm,0.2s								
KPKS				*eS*	**Sb**	**03**	**46**	**08.0**	**-1.3**
	8.8nm,0.3s								
ARXS	**Arharly**	**3.79**	**272**	*eP*	**Pg**	**03**	**45**	**42.1**	**-0.3**
	0.9nm,0.2s								
ARXS				*eS*	**Sg**	**03**	**46**	**30.9**	**-0.6**
	2.7nm,0.6s								

IDC 12 03:46:23.1±1.0, 2.32N×91.77E, h0km, mb4.0/11, mb1 4.1/13, mb1mx3.8/71, mbtmp4.0/13, ML3.6/2, Error ellipse: s-maj=35.5km s-min=16.7km az=47.0
NEIC 12 03:46:24.6±0.3, 2.34N×91.87E, h10km, mb4.9/7, Error ellipse: s-maj=9.0km s-min=4.8km az=207.0
ISCJB 12 03:46:26.0±0.5, 2.37N±0.08×91.91E±0.06, h33km, mb4.2/16, Error ellipse: s-maj=13.3km s-min=6.4km az=34.5

ISC 12 03:46:28.1±0.8, 2.4N±0.1×91.89E±0.08, h35km, n37, σ0.92/40, mb4.3/16, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
GSI	**Gunungsitoli**	**5.78**	**100**	*ePn*	**Pn**	**03**	**47**	**52.0**	**+0.5**
GSI				*eSn*	**Sn**	**03**	**48**	**56.9**	**+0.3**
PSI	**Prapat**	**7.04**	**86**	Pn	**Pn**	**03**	**48**	**10.0**	**+1.1**
	2.2nm,0.3s,baz=265,slow=4.5,SNR=4.2								
KULM	**Kulim**	**9.21**	**71**	*ePn*	**Pn**	**03**	**48**	**38.3**	**-0.3**
CM31	**Chiang Mai Arr**	**17.42**	**23**	*ePn*	**Pn**	**03**	**50**	**27.8**	**-0.7**
CMAR	**Chiang Mai Arr**	**17.42**	**23**	P	**Pn**	**03**	**50**	**27.8**	**-0.7**
	0.1nm,0.3s,baz=218,slow=14,SNR=9.0								
HMDM	**Hanimaadhoo**	**19.15**	**284**	*eSn*	**S**	**03**	**54**	**24.9**	**+0.9**
MK01	**Makanchi Array**	**45.01**	**351**	*eP*	**P**	**03**	**54**	**40.3**	**+0.1**
MK31	**Makanchi Array**	**45.03**	**351**	*eP*	**P**	**03**	**54**	**40.8**	**+0.4**
MK32	**Makanchi Array**	**45.03**	**351**	*eP*	**P**	**03**	**54**	**40.7**	**+0.3**
MKAR	**Makanchi Array**	**45.03**	**351**	P	**P**	**03**	**54**	**40.7**	**+0.4**
	1.2nm,0.7s,baz=164,slow=9.0,SNR=12								
MKAR	**Makanchi Array**	**45.03**	**351**	*eP*	**P**	**03**	**54**	**40.8**	**+0.4**
	7.9nm,0.6s								
SONA0	**Songino Array**	**47.00**	**13**	*eP*	**P**	**03**	**54**	**56.9**	**+0.9**
SONM	**Songino Array**	**47.00**	**13**	P	**P**	**03**	**54**	**56.9**	**+0.9**
	2.3nm,0.7s,baz=196,slow=9.2,SNR=14								
WRA	**Warramunga Arr**	**47.18**	**120**	P	**P**	**03**	**54**	**58.6**	**+0.9**
	2.4nm,0.6s,baz=298,slow=8.7,SNR=17								
WR1	**Warramunga Arr**	**47.18**	**120**	*eP*	**P**	**03**	**54**	**58.6**	**+0.9**
	33nm,1.8s								
WRAB	**Tennant Creek**	**47.19**	**120**	*eP*	**P**	**03**	**54**	**58.5**	**+0.7**
	1.9nm,0.5s								
WB2	**Warramunga Arr**	**47.19**	**120**	*eP*	**P**	**03**	**54**	**56.9**	**-1.0**
	51nm,2.0s								
AS31	**Alice Springs**	**48.38**	**125**	*eP*	**P**	**03**	**55**	**06.7**	**-0.3**
	1.8nm,1.3s								
AS31				*ePcP*	**PcP**	**03**	**56**	**34.0**	**+0.7**
ASAR	**Alice Springs**	**48.38**	**125**	P	**P**	**03**	**55**	**06.7**	**-0.2**
	0.3nm,0.7s,baz=309,slow=8.3,SNR=3.3								
ASAR				PcP	**PcP**	**03**	**56**	**34.0**	**+0.7**
	0.2nm,0.5s,baz=309,slow=3.5,SNR=4.4								
AS01	**Alice Springs**	**48.41**	**125**	*eP*	**P**	**03**	**55**	**06.1**	**-1.2**
KURBB	**Kurchatov Arra**	**49.40**	**349**	P	**P**	**03**	**55**	**14.4**	**+0.1**
	1.3nm,0.8s,baz=171,slow=7.4,SNR=13								
KURK	**Kurchatov**	**49.47**	**349**	*eP*	**P**	**03**	**55**	**14.4**	**-0.4**
ZALV	**Zalesovo Beam**	**51.74**	**355**	P	**P**	**03**	**55**	**32.2**	**+0.3**
	1.5nm,0.5s,baz=192,slow=7.8,SNR=7.7								
ZAA1	**Zalesovo Array**	**51.75**	**355**	*eP*	**P**	**03**	**55**	**32.2**	**+0.3**
COEN	**Coen**	**53.36**	**109**	*eP*	**P**	**03**	**55**	**42.9**	**-1.7**
	50nm,1.6s								
BVAR	**Borovoye Array**	**53.54**	**344**	P	**P**	**03**	**55**	**45.3**	**0.0**
	0.4nm,0.4s,baz=160,slow=6.1,SNR=6.2								
KBZ	**Khabaz**	**59.77**	**321**	P	**P**	**03**	**56**	**29.9**	**+0.2**
	1.8nm,0.8s,baz=110,slow=8.2,SNR=4.9								
BR101	**Keskin Array S**	**64.43**	**313**	*eP*	**P**	**03**	**57**	**01.0**	**-0.3**
BRTR	**Keskin Array B**	**64.43**	**313**	P	**P**	**03**	**57**	**01.0**	**-0.3**
	0.7nm,0.6s,baz=131,slow=7.4,SNR=6.0								
BR231	**Keskin MP Arra**	**65.10**	**313**	*eP*	**P**	**03**	**57**	**01.8**	**-3.7**
FIA0	**FINESS Array S**	**76.54**	**333**	*eP*	**P**	**03**	**58**	**14.2**	**-0.3**
FINES	**FINESS Array B**	**76.54**	**333**	P	**P**	**03**	**58**	**14.2**	**-0.3**
	1.4nm,0.8s,baz=66,slow=4.7,SNR=3.0								
GEA0	**GERESS Array S**	**80.45**	**319**	*eP*	**P**	**03**	**58**	**36.9**	**+0.4**
GEC2	**GERESS Array S**	**80.45**	**319**	*eP*	**P**	**03**	**58**	**37.4**	**+0.9**
	13nm,1.5s								
GERES	**GERESS Array B**	**80.45**	**319**	P	**P**	**03**	**58**	**37.4**	**+0.9**
	1.7nm,0.7s,baz=101,slow=5.4,SNR=15								
LTX	**Lajitas**	**145.13**	**24**	*e*PKPbc	**PKPdf**	**04**	**06**	**03.2**	**+0.4**
TXAR	**Lajitas Array**	**145.13**	**24**	PKPbc	**PKPdf**	**04**	**06**	**03.2**	**+0.4**
	2.1nm,0.9s,baz=162,slow=1.2,SNR=10								

ISCJB 12 03:48:39.2±1.7, 1.8N±0.2×92.3E±0.2, h10km, mb3.6/5, Error ellipse: s-maj=34.1km s-min=18.3km az=39.8
IDC 12 03:48:39.2±2.1, 1.75N×92.17E, h0km, mb3.6/5, mb1 3.7/7, mb1mx3.4/73, mbtmp3.6/7, ML3.3/1, Error ellipse: s-maj=58.1km s-min=26.0km az=50.0

ISC 12 03:48:40.9±1.9, 1.8N±0.2×92.2E±0.2, h10km, n8, σ0.91/8, mb3.8/5, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
PSI	**Prapat**	**6.75**	**81**	Pn	**Pn**	**03**	**50**	**20.5**	**+0.1**
	0.6nm,0.3s,baz=277,slow=15,SNR=2.5								
CMAR	**Chiang Mai Arr**	**17.82**	**21**	P	**Pn**	**03**	**52**	**48.2**	**-1.0**
	baz=212,slow=12,SNR=2.7								
MKAR	**Makanchi Array**	**45.65**	**350**	P	**P**	**03**	**57**	**01.4**	**-0.4**
	0.3nm,0.6s,baz=182,slow=8.9,SNR=3.2								
WRA	**Warramunga Arr**	**46.60**	**120**	P	**P**	**03**	**57**	**09.5**	**-0.1**
	0.6nm,0.7s,baz=297,slow=8.5,SNR=5.1								
SONM	**Songino Array**	**47.47**	**13**	P	**P**	**03**	**57**	**17.6**	**+1.5**
	0.6nm,0.7s,baz=152,slow=9.5,SNR=3.7								
KURBB	**Kurchatov Arra**	**50.02**	**349**	P	**P**	**03**	**57**	**35.7**	**+0.2**
	0.2nm,0.5s,baz=155,slow=4.6,SNR=3.3								
ZALV	**Zalesovo Beam**	**52.34**	**354**	P	**P**	**03**	**57**	**52.3**	**-0.6**
	0.4nm,0.3s,baz=181,slow=8.3,SNR=2.7								
TXAR	**Lajitas Array**	**145.50**	**25**	PKPbc	**PKPbc**	**04**	**08**	**19.7**	**-0.7**
	0.5nm,1.0s,baz=333,slow=1.4,SNR=1.9								

IDC 12 03:49:45.9±1.6, 1.71N×91.87E, h0km, mb3.7/7, mb1 3.9/8, mb1mx3.5/72, mbtmp3.8/8, Error ellipse: s-maj=51.5km s-min=24.3km az=43.0
ISCJB 12 03:49:46.4±1.5, 1.8N±0.2×92.0E±0.2, h10km, mb3.8/7, Error ellipse: s-maj=37.5km s-min=17.1km az=28.7

ISC 12 03:49:47.5±1.5, 1.7N±0.3×91.9E±0.2, h10km, n9, σ0.85/9, mb3.8/7, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
PSI	**Prapat**	**7.07**	**81**	Pn	**Pn**	**03**	**51**	**31.0**	**-0.3**
	baz=234,slow=8.7,SNR=2.9								
MKAR	**Makanchi Array**	**45.67**	**351**	P	**P**	**03**	**58**	**08.5**	**0.0**
	0.4nm,0.7s,baz=170,slow=7.4,SNR=3.0								
WRA	**Warramunga Arr**	**46.84**	**120**	P	**P**	**03**	**58**	**18.7**	**+0.7**
	0.8nm,0.7s,baz=300,slow=8.5,SNR=3.1								
SONM	**Songino Array**	**47.61**	**13**	P	**P**	**03**	**58**	**24.2**	**+0.4**
	0.5nm,0.6s,baz=198,slow=7.0,SNR=2.9								
KURBB	**Kurchatov Arra**	**50.02**	**349**	P	**P**	**03**	**58**	**42.4**	**+0.3**
	0.4nm,0.5s,baz=174,slow=7.0,SNR=3.7								
ZALV	**Zalesovo Beam**	**52.38**	**355**	P	**P**	**03**	**58**	**59.9**	**+0.2**
	1.0nm,0.5s,baz=174,slow=7.0,SNR=3.3								
FINES	**FINESS Array B**	**77.13**	**333**	P	**P**	**04**	**01**	**40.8**	**-0.2**
	1.3nm,0.7s,baz=101,slow=1.4,SNR=6.1								
GERES	**GERESS Array B**	**80.95**	**319**	P	**P**	**04**

BDI Sg Sb 04 04 39.9 +0.5
2µm,0.3s
ZCCA Zocca 0.29 88 *i*Pg Pb 04 04 35.7 +0.4
2µm,0.4s
ZCCA Zocca 0.29 88 *i*Pg Pb 04 04 35.7 +0.4
2µm,0.4s
POPM Popiglio 0.33 156 P Pg 04 04 35.6 -0.1
POPM S Sg 04 04 41.0 +0.6
GRAM Graiana 0.39 293 P Pg 04 04 36.8 0.0
GRAM S Sb 04 04 43.3 +0.4
MAIM Mastiano 0.43 187 P Pg 04 04 37.9 +0.4
MAIM Sg Sb 04 04 44.5 +0.6
961nm,0.5s
MAIM Mastiano 0.43 187 Pg Pg 04 04 38.0 +0.4
MAIM Sg Sb 04 04 44.5 +0.6
961nm,0.5s
FNVD Fontana Vidola 0.43 114 Pg Pg 04 04 37.1 -0.5
FNVD Sg Sb 04 04 44.3 +0.2
2µm,0.6s
FNVD Fontana Vidola 0.43 114 Pg Pg 04 04 37.1 -0.5
FNVD Sg Sb 04 04 44.3 +0.2
2µm,0.6s
PRMA PARMA 0.46 337 Pg Pb 04 04 38.7 +0.5
PRMA PARMA 0.46 337 Pg Pb 04 04 38.7 +0.5
PRMA Sg Sn 04 04 47.8 -0.2
1µm,0.4s
NOVE Novellara 0.47 13 Pg Pb 04 04 39.3 +1.0
5µm,0.5s
NOVE Novellara 0.47 13 Pg Pb 04 04 39.3 +1.0
5µm,0.5s
CODM Codolo 0.52 276 P Pg 04 04 39.2 +0.1
CODM S Sg 04 04 46.5 +0.4
PTF Prato 0.53 137 Pg Pg 04 04 38.9 -0.3
PTF Sg Sb 04 04 47.2 +0.7
PTF Prato 0.53 137 Pg Pg 04 04 38.9 -0.3
PTF Sg Sb 04 04 47.2 +0.7
RAVA Ravarino 0.57 43 Pg Pn 04 04 41.5 -0.3
2µm,0.4s
RAVA Ravarino 0.57 43 Pg Pn 04 04 41.5 -0.3
2µm,0.4s
PLMA Palmaria, Port 0.59 241 Pg Pb 04 04 40.7 +0.3
PLMA Sg Sg 04 04 48.9 +0.5
1µm,0.3s
PLMA Palmaria, Port 0.59 241 Pg Pb 04 04 40.7 +0.3
PLMA Sg Sg 04 04 48.9 +0.5
1µm,0.3s
CRMI Carmignano 0.62 152 Pg Pb 04 04 40.5 -0.4
CRMI Sg Sb 04 04 49.6 +0.3
475nm,0.4s
CRMI Carmignano 0.62 152 Pg Pb 04 04 40.5 -0.4
CRMI Sg Sb 04 04 49.6 +0.3
475nm,0.4s
SEI Scarperia 0.64 117 Pg Pb 04 04 40.9 -0.3
SEI Scarperia 0.64 117 Pg Pb 04 04 40.9 -0.3
MTRZ Monterenzio 0.64 87 Pg Pg 04 04 41.8 +0.4
1µm,0.5s
MTRZ Monterenzio 0.64 87 Pg Pg 04 04 41.8 +0.4
1µm,0.5s
FIU Minerbio Fiu 0.72 65 Pg Pn 04 04 43.9 0.0
3µm,0.6s
FIU Minerbio Fiu 0.72 65 Pg Pn 04 04 43.9 0.0
3µm,0.6s
MSSA Maissana 0.76 268 Pg Pb 04 04 43.7 +0.4
MSSA Sg Sn 04 04 55.3 -0.2
478nm,0.4s
MSSA Maissana 0.76 268 Pg Pb 04 04 43.7 +0.4
MSSA Sg Sn 04 04 55.3 -0.2
478nm,0.4s
BOB Bobbio (Coli) 0.91 298 Pg Pn 04 04 47.0 +0.5
703nm,0.8s
BOB Bobbio (Coli) 0.91 298 Pg Pn 04 04 47.0 +0.5
703nm,0.8s
CSNT Castellina Chi 1.01 149 Pg Pb 04 04 47.5 -0.2
228nm,0.6s
CSNT Castellina Chi 1.01 149 Pg Pb 04 04 47.5 -0.2
228nm,0.6s
SFI Santa Sofia 1.02 115 Pg Pn 04 04 48.4 +0.4
779nm,1.0s
SFI Santa Sofia 1.02 115 Pg Pn 04 04 48.4 +0.4
779nm,1.0s
ASQU Asqua 1.03 121 Pg Pb 04 04 47.9 -0.1
122nm,0.5s
ASQU Asqua 1.03 121 Pg Pb 04 04 47.9 -0.1
122nm,0.5s
FROS Frosini 1.21 159 Pg Pn 04 04 50.0 -0.6
309nm,0.5s
FROS Frosini 1.21 159 Pg Pn 04 04 50.0 -0.6
309nm,0.5s
TRIF Trifonti 1.25 169 Pg Pn 04 04 51.2 0.0
130nm,0.7s
TRIF Trifonti 1.25 169 Pg Pn 04 04 51.2 0.0
130nm,0.7s
SALO Salr 1.28 359 Pg Pb 04 04 52.4 +0.3
SALO Sg Sg 04 05 11.2 +1.2
1µm,0.9s
SALO Salr 1.28 359 Pg Pb 04 04 52.4 +0.3
SALO Sg Sg 04 05 11.2 +1.2
1µm,0.9s
TEOL Teolo 1.28 37 Pg Pn 04 04 51.1 -0.6
2µm,0.7s
TEOL Teolo 1.28 37 Pg Pn 04 04 51.1 -0.6
2µm,0.7s
ROVR Rover˙π Verone 1.35 15 Pg Pn 04 04 52.4 -0.3
592nm,0.3s
PARC Parchiule 1.39 119 Pg Pn 04 04 53.8 +0.7
138nm,0.5s
PARC Parchiule 1.39 119 Pg Pn 04 04 53.8 +0.7
138nm,0.5s
CAFI Castiglion Fio 1.43 135 Pg Pn 04 04 53.4 -0.3
127nm,0.5s
MAGA Magasa 1.43 2 Pg Pn 04 04 53.9 +0.1
MAGA Sg Sg 04 05 14.6 -0.4
846nm,0.4s
PCP Piancastagn 1.46 278 Pg Pn 04 04 54.6 +0.4
149nm,0.5s
ATMC Monte Cedrone 1.48 127 Pg Pn 04 04 54.8 +0.5
334nm,0.4s
ATMC Monte Cedrone 1.48 127 Pg Pn 04 04 54.8 +0.5
334nm,0.4s
ATPC Poggio Castell 1.61 122 Pg Pn 04 04 56.7 +0.5
207nm,0.5s
PIEI Pieia 1.63 119 Pg Pn 04 04 57.3 +0.8
99nm,0.4s
ATVO AVT- Monte Val 1.64 125 Pg Pn 04 04 56.8 +0.2
184nm,0.6s
MURB Monte Urbino 1.78 127 Pg Pn 04 04 58.0 -0.5
327nm,0.4s
MUGIO Muggio 1.91 326 Pg Pn 04 05 01.2 +0.8
79nm,0.6s
PGF Pioggiola 2.13 213 *e*Pn Pn 04 05 03.1 -0.2
PGF *e*Sn Sn 04 05 27.6 -1.7
48nm,0.4s
PGF Pioggiola 2.13 213 *e*Pn Pn 04 05 03.1 -0.2
PGF *e*Sn Sn 04 05 27.6 -1.7
24nm,0.4s
CESI CESI - Serrava 2.16 127 Pg Pn 04 05 04.1 +0.4
24nm,0.6s
SBF Sospel 2.31 259 *e*Pn Pn 04 05 06.1 +0.3
SBF *e*Sn Sn 04 05 34.9 +1.2
139nm,0.4s
SBF Sospel 2.31 259 *e*Pn Pn 04 05 06.1 +0.3
SBF *e*Sn Sn 04 05 34.9 +1.2
70nm,0.4s
STV Sant Anna di V 2.33 269 Pg Pn 04 05 06.6 +0.5
FETA Feichten 2.68 2 Pn Pn 04 05 13.5 +2.5
5.8nm,0.3s
FETA Feichten 2.68 2 Pn Pn 04 05 13.5 +2.5
5.8nm,0.3s
MBDF Montbardon 2.74 279 *e*Pn Pn 04 05 13.1 +1.2
MBDF Montbardon 2.74 279 *e*P Pb 04 05 15.8 -1.4
MBDF Montbardon 2.74 279 *e*Pn Pn 04 05 13.1 +1.2
MBDF Montbardon 2.74 279 *e*P Pb 04 05 15.8 -1.4
ABTA Abfaltersbach 2.77 29 Pn Pn 04 05 12.9 +0.8
ABTA Abfaltersbach 2.77 29 Pg Pg 04 05 21.4 -0.2
31nm,0.4s
ABTA Sn Sn 04 05 45.6 +0.5
19nm,0.3s
ABTA Sg Sg 04 06 00.9 +3.4
34nm,0.5s
ABTA Abfaltersbach 2.77 29 Pn Pn 04 05 12.9 +0.8
ABTA *i*Pg Pg 04 05 21.4 -0.2
31nm,0.4s
ABTA *i*Sn Sn 04 05 45.6 +0.5
19nm,0.3s
ABTA *i*Sg Sg 04 06 00.9 +3.4
34nm,0.5s

VOJS Vojsko 2.89 53 *i*Pn Pn 04 05 13.0 -0.8
VOJS Vojsko 2.89 53 *i*Pn Pn 04 05 13.0 -0.8
CADS Cadrg 2.92 49 *e*Pn Pn 04 05 13.4 -0.8
CADS Cadrg 2.92 49 *e*Pn Pn 04 05 13.4 -0.8
FRF La Foret Royal 2.94 256 *e*Pn Pn 04 05 14.7 +0.3
FRF *e*Sn Sn 04 05 49.2 0.0
54nm,0.4s
FRF La Foret Royal 2.94 256 *e*Pn Pn 04 05 14.7 +0.3
FRF *e*Sn Sn 04 05 49.2 0.0
27nm,0.4s
LPG La Plagne 2.95 294 *e*Pn Pn 04 05 15.6 +0.8
LPG La Plagne 2.95 294 *e*P Pb 04 05 18.2 -2.6
LPG La Plagne 2.95 294 *e*Pn Pn 04 05 15.6 +0.8
LPG La Plagne 2.95 294 *e*P Pb 04 05 18.2 -2.6
LPL La Plagne 2.97 295 *e*Pn Pn 04 05 16.1 +1.1
LPL La Plagne 2.97 295 *e*P Pb 04 05 19.6 -1.5
LPL La Plagne 2.97 295 *e*Pn Pn 04 05 16.1 +1.1
LPL La Plagne 2.97 295 *e*P Pb 04 05 19.6 -1.5
DAVA Damuels 2.98 351 Pn Pn 04 05 17.8 +2.6
8.5nm,0.2s,SNR=6.7
DAVA Sn Sb 04 05 55.4 -2.0
67nm,0.4s
DAVA Damuels 2.98 351 *e*Pn Pn 04 05 17.8 +2.6
8.5nm,0.2s,SNR=6.7
DAVA *i*Sn Sb 04 05 55.4 -2.0
67nm,0.4s
WTTA Wattenberg 3.02 14 Pn Pn 04 05 17.8 +2.2
WTTA Sn Sb 04 05 56.4 -2.0
37nm,0.4s
WTTA Wattenberg 3.02 14 *i*Pn Pn 04 05 18.7 +3.1
29nm,0.3s,SNR=17
WTTA *i*Sn Sb 04 05 56.4 -2.0
37nm,0.4s
MOTA Moosalm 3.03 7 Pn Pn 04 05 18.3 +2.6
23nm,0.4s,SNR=25
MOTA Moosalm 3.03 7 *i*Pn Pn 04 05 18.3 +2.6
23nm,0.4s,SNR=25
WATA Walderalm 3.08 13 Pn Pn 04 05 18.9 +2.5
14nm,0.2s,SNR=19
WATA Walderalm 3.08 13 *i*Pn Pn 04 05 18.9 +2.5
14nm,0.2s,SNR=19
NVLJ Novalja 3.09 84 *e*Pn Pn 04 05 17.1 +0.7
NVLJ Sn Sn 04 05 50.5 -2.3
NVLJ Novalja 3.09 84 *e*Pn Pn 04 05 17.1 +0.7
NVLJ Sn Sn 04 05 50.5 -2.3
LMR La Mourre 3.11 252 *e*Pn Pn 04 05 16.6 -0.1
LMR *e*Sn Sn 04 05 52.8 -0.5
35nm,0.3s
LMR La Mourre 3.11 252 *e*Pn Pn 04 05 16.6 -0.1
LMR *e*Sn Sn 04 05 52.8 -0.5
17nm,0.3s
MYKA Terra Mystica 3.15 42 Pn Pn 04 05 19.0 +1.7
2.3nm,0.4s
MYKA Sn Sn 04 05 55.8 +1.4
13nm,0.4s
MYKA Terra Mystica 3.15 42 *e*Pn Pn 04 05 19.0 +1.7
2.3nm,0.4s
MYKA *i*Sn Sn 04 05 55.8 +1.4
13nm,0.4s
RETA Reutte 3.15 2 Pn Pn 04 05 19.4 +2.0
7.9nm,0.3s,SNR=7.9
RETA Sn Sn 04 05 57.9 +3.4
16nm,0.4s
RETA Reutte 3.15 2 *i*Pn Pn 04 05 19.4 +2.0
7.9nm,0.3s,SNR=7.9
RETA *i*Sn Sn 04 05 57.9 +3.4
16nm,0.4s
LJU Ljubljana 3.27 57 *e*Pn Pn 04 05 19.3 +0.3
KBA Koelnbreinsper 3.36 34 Pn Pn 04 05 21.9 +1.6
3.5nm,0.3s
KBA Koelnbreinsper 3.36 34 Pg Pg 04 05 32.4 -0.6
18nm,0.5s
KBA Sn Sn 04 06 02.1 +2.4
21nm,0.5s
KBA Koelnbreinsper 3.36 34 *e*Pn Pn 04 05 21.9 +1.6
3.5nm,0.3s
KBA *e*Pg Pg 04 05 32.4 -0.6
18nm,0.5s
KBA *e*Sn Sn 04 06 02.1 +2.4
21nm,0.5s
ORIF Oris-en-Rattie 3.40 281 *e*P Pn 04 05 24.0 +3.2
ORIF *e*Sn Sn 04 06 02.5 +1.9
45nm,0.6s
ORIF Oris-en-Rattie 3.40 281 *e*P Pn 04 05 24.0 +3.2
ORIF *e*Sn Sn 04 06 02.5 +1.9
23nm,0.6s
OBKA Obir 3.54 51 Pn Pn 04 05 23.3 +0.5
3.0nm,0.2s
OBKA Obir 3.54 51 *i*Pn Pn 04 05 23.3 +0.5
3.0nm,0.2s
SMRF Simiane la Rot 3.61 266 *e*Pn Pn 04 05 25.7 +2.0
SMRF *e*Sn Sn 04 06 07.6 +1.7
22nm,0.5s
SMRF Simiane la Rot 3.61 266 *e*Pn Pn 04 05 25.7 +2.0
SMRF *e*Sn Sn 04 06 07.6 +1.7
11nm,0.5s
OZLJ Ozalj 3.70 68 *e*Pn Pn 04 05 24.4 -0.4
OZLJ Ozalj 3.70 68 *e*Pn Pn 04 05 24.4 -0.4
UDBI Udbina 3.73 85 *e*Pn Pn 04 05 26.8 +1.5
UDBI Sn Sn 04 06 09.5 +0.8
UDBI Udbina 3.73 85 *e*Pn Pn 04 05 26.7 +1.5
UDBI Sn Sn 04 06 09.4 +0.8
CABF La Chapelle 3.88 307 *e*Pn Pn 04 05 29.5 +2.0
CABF *e*Sn Sn 04 06 14.3 +1.7
16nm,0.5s
CABF La Chapelle 3.88 307 *e*Pn Pn 04 05 29.5 +2.0
CABF *e*Sn Sn 04 06 14.3 +1.7
8.1nm,0.5s
FELD Feldberg im Sc 3.96 334 P Pn 04 05 28.8 +0.3
FELD Feldberg im Sc 3.96 334 P Pn 04 05 28.8 +0.3
LOMF Lomont 3.98 320 P Pn 04 05 29.9 +1.1
LOMF Lomont 3.98 320 P Pn 04 05 29.9 +1.1
VIVF Saint-Julien-l 4.24 279 *e*Pn Pn 04 05 34.4 +2.0
VIVF Saint-Julien-l 4.24 279 *e*Pn Pn 04 05 34.4 +2.0
MOF Molkenrain 4.25 327 P Pn 04 05 32.7 +0.3
MOF S Sn 04 06 21.7 +0.1
MOF Molkenrain 4.25 327 P Pn 04 05 32.8 +0.3
HINF Hinteralfeld 4.33 325 *e*Pn Pn 04 05 34.1 +0.5
HINF *e*Sn Sn 04 06 22.6 -1.0
36nm,0.4s
HINF Hinteralfeld 4.33 325 *e*Pn Pn 04 05 34.1 +0.5
HINF *e*Sn Sn 04 06 22.6 -1.0
18nm,0.4s
MOA Molln 4.35 35 Pn Pn 04 05 34.8 +1.0
4.7nm,0.2s
MOA Sn Sn 04 06 24.9 +0.9
9.6nm,0.4s
MOA Molln 4.35 35 *i*Pn Pn 04 05 34.8 +1.0
4.7nm,0.2s
MOA *i*Sn Sn 04 06 24.9 +0.9
9.6nm,0.4s
ARSA Arzberg 4.52 48 *e*Pn Pn 04 05 36.0 -0.2
ARSA Arzberg 4.52 48 *i*Pn Pn 04 05 36.0 -0.2
3.6nm,0.2s
ECH Echery 4.54 330 P Pn 04 05 37.0 +0.6
ECH S Sn 04 06 29.3 +0.6
ECH Echery 4.54 330 P Pn 04 05 37.0 +0.6
CDF Champ du Feu 4.67 332 *e*Pn Pn 04 05 38.4 +0.2
CDF *e*Sn Sn 04 06 31.3 -0.6
13nm,0.4s
CDF Champ du Feu 4.67 332 *e*Pn Pn 04 05 38.4 +0.2
CDF *e*Sn Sn 04 06 31.3 -0.6
6.6nm,0.4s
HAU Haudompre 4.69 323 *e*Pn Pn 04 05 39.4 +0.9
HAU *e*Sn Sn 04 06 31.3 -1.2
67nm,0.5s
HAU Haudompre 4.69 323 *e*Pn Pn 04 05 39.4 +0.9
HAU *e*Sn Sn 04 06 31.3 -1.2
34nm,0.5s
BLY Banja Luka 4.75 83 *e*Pn Pn 04 05 40.5 +1.3
LASF Ste Croix 4.83 269 *e*Pn Pn 04 05 41.2 +0.7
LASF Ste Croix 4.83 269 *e*Pn Pn 04 05 41.2 +0.7
GERES GERESS Array B 4.99 24 Pn Pn 04 05 42.4 -0.3
1.4nm,0.3s,baz=202,slow=14,SNR=38
GERES Sn Sn 04 06 37.0 -3.0
2.0nm,0.3s,baz=206,slow=22,SNR=7.5
GERES Lg Lg 04 07 09.6
1.2nm,0.3s,baz=204,slow=33,SNR=4.4
LANF Langenberg 5.01 339 P Pn 04 05 43.6 +0.7
LANF Langenberg 5.01 339 P Pn 04 05 43.6 +0.7
THEF They Montfort 5.02 322 P Pn 04 05 43.8 +0.8
THEF They Montfort 5.02 322 P Pn 04 05 43.8 +0.8
CONA Conrad Observa 5.14 44 Pn Pn 04 05 45.7 +1.0
1.7nm,0.3s
CONA Sn Sn 04 06 44.2 +0.7
5.2nm,0.4s
CONA Conrad Observa 5.14 44 *i*Pn Pn 04 05 45.7 +1.0
1.7nm,0.3s
CONA *i*Sn Sn 04 06 44.2 +0.7
5.2nm,0.4s
KHC Kasperske Hory 5.22 22 *e*PN Pn 04 05 45.6 -0.1
KHC *e*PG Pg 04 06 08.9 +0.4
KHC *e*SN Sn 04 06 41.8 -3.6
KHC *e*SG Sg 04 07 19.0 +3.0
KHC Kasperske Hory 5.22 22 Pn Pn 04 05 45.6 -0.1
KHC Sn Sn 04 06 41.8 -3.6
SMF Signal de Mont 5.26 298 *e*Pn Pn 04 05 47.6 +1.3
SMF Signal de Mont 5.26 298 *e*P Pn 04 05 51.0 +4.7
SMF *e*Sn Sn 04 06 45.5 -1.0
16nm,0.5s
SMF Signal de Mont 5.26 298 *e*Pn Pn 04 05 47.6 +1.3
SMF Signal de Mont 5.26 298 *e*P Pn 04 05 51.0 +4.7
SMF *e*Sn Sn 04 06 45.5 -1.0
8.1nm,0.5s
LBL Lubilhac 5.29 282 P Pn 04 05 48.6 +1.9
LBL Lubilhac 5.29 282 P Pn 04 05 48.7 +1.9
PAGF Fort de Pagny 5.38 323 *e*Pn Pn 04 05 49.6 +1.7
baz=141
PAGF Fort de Pagny 5.38 323 *e*Pn Pn 04 05 49.6 +1.7
STON Ston 5.38 103 *e*Pn Pn 04 05 47.3 -0.6
STON Sn Sn 04 06 46.8 -2.6
STON Ston 5.38 103 *e*Pn Pn 04 05 47.3 -0.6
STON Sn Sn 04 06 46.7 -2.6
SFTF Sexfontaines 5.44 317 *e*Pn Pn 04 05 50.4 +1.6
baz=129
SFTF *e*Sn Sn 04 06 50.7 -0.2
10nm,0.4s
SFTF Sexfontaines 5.44 317 *e*Pn Pn 04 05 50.4 +1.6
SFTF *e*Sn Sn 04 06 50.7 -0.2
5.1nm,0.4s
AGO Saint Agoulin 5.53 291 P Pn 04 05 52.4 +2.4
AGO S Sn 04 06 54.7 +1.7
AGO Saint Agoulin 5.53 291 P Pn 04 05 52.4 +2.4
LOR Lormes 5.53 304 *e*Pn Pn 04 05 51.6 +1.6
baz=125
LOR *e*Sn Sn 04 06 52.7 -0.4
21nm,0.4s
LOR Lormes 5.53 304 *e*Pn Pn 04 05 51.6 +1.6
LOR *e*Sn Sn 04 06 52.7 -0.4
11nm,0.4s
PYM Petit Puy Mans 5.54 287 P Pn 04 05 52.4 +2.2
PYM S Sn 04 06 55.7 +2.3
PYM Petit Puy Mans 5.54 287 P Pn 04 05 52.4 +2.2
AVF Avril sur Loir 5.63 298 *e*Pn Pn 04 05 53.1 +1.8
AVF *e*Sn Sn 04 06 55.8 +0.4
5.6nm,0.4s
AVF Avril sur Loir 5.63 298 *e*Pn Pn 04 05 53.1 +1.8
AVF *e*Sn Sn 04 06 55.8 +0.4
2.8nm,0.4s
MEZF Maizieres J'vi 5.64 319 *e*Pn Pn 04 05 52.8 +1.3
baz=140
MEZF Maizieres J'vi 5.64 319 *e*Pn Pn 04 05 52.8 +1.3
SSF Saint Saulge 5.64 301 *e*Pn Pn 04 05 53.0 +1.4
SSF *e*Sn Sn 04 06 55.3 -0.6
12nm,0.6s
SSF Saint Saulge 5.64 301 *e*Pn Pn 04 05 53.0 +1.4
SSF *e*Sn Sn 04 06 55.3 -0.6
5.8nm,0.6s
BGF Bois d'Agland 5.87 295 *e*Pn Pn 04 05 56.3 +1.7
BGF *e*Sn Sn 04 06 59.9 -1.5
22nm,0.5s
BGF Bois d'Agland 5.87 295 *e*Pn Pn 04 05 56.3 +1.7
HAPS Han Pijesak,Bl 6.03 90 *e*Pn Pn 04 05 56.1 -0.9
CAF Calviac 6.10 278 *e*Pn Pn 04 05 59.6 +1.8
CAF Calviac 6.10 278 *e*Pn Pn 04 05 59.6 +1.8
MTLF Montolieu 6.12 263 *e*Pn Pn 04 05 59.3 +1.1
MTLF *e*Sn Sn 04 07 06.4 -1.3
3.8nm,0.4s
MTLF Montolieu 6.12 263 *e*Pn Pn 04 05 59.3 +1.1
MODS Modra-Piesok 6.15 47 *e*Pn Pn 04 05 57.9 -0.6
MODS Modra-Piesok 6.15 47 *e*PN Pn 04 05 57.9 -0.6
MODS *e*SN Sn 04 07 03.9 -4.4
TCF Toulx Ste Croi 6.21 291 *e*Pn Pn 04 06 00.9 +1.6
TCF *e*Sn Sn 04 07 09.5 -0.3
7.7nm,0.5s
TCF Toulx Ste Croi 6.21 291 *e*Pn Pn 04 06 00.9 +1.6
TCF *e*Sn Sn 04 07 09.5 -0.3
3.8nm,0.5s
PRU Pruhonice 6.26 24 *e*SN Sn 04 07 06.7 -4.4
HYF Humbligny 6.27 301 *e*Pn Pn 04 06 02.5 +2.4
HYF Humbligny 6.27 301 *e*Pn Pn 04 06 02.5 +2.4
BBLS Lazići 6.38 91 *e*Pn Pn 04 06 02.5 +0.8
TEKS Tekeris 6.42 85 *e*Pn Pn 04 06 02.6 +0.4
DIVS Divibare 6.78 89 *e*Pn Pn 04 06 06.9 -0.3
BRG Berggiesshubel 6.92 18 PG Pg 04 06 58.0 +17
BRG *e* 04 07 23.5
BRG Berggiesshubel 6.92 18 SG Sg 04 08 09.9 -0.6
9.2nm,1.0s
IVAS Ivanjica 6.96 93 *e*Pn Pn 04 06 10.0 +0.3
VYHS Vyhne 7.06 51 *e*Pn Pn 04 06 09.8 -1.2
VYHS Vyhne 7.06 51 *e*PN Pn 04 06 09.8 -1.2
VYHS *e*SN Sn 04 07 20.6 -10
CLL Collm 7.16 12 *e*Sg Sg 04 08 13.0 -5.1
GRUS Gruza 7.32 90 *e*Pn Pn 04 06 14.6 +0.1
BOVS Bovan 8.06 91 *e*Pn Pn 04 06 22.9 -1.9
ZAGS Zajecar 8.42 90 *e*Pn Pn 04 06 29.6 0.0
KEST Kesra 8.65 187 Pn Pn 04 06 35.4 +2.5
0.2nm,0.3s,baz=4.8,slow=14,SNR=2.2
ESDC Sonseca Array 11.77 252 Pn Pn 04 07 16.3 +0.7
0.1nm,0.3s,baz=54,slow=14,SNR=4.2
TORD Torodi Ar. Bea 32.00 196 P P 04 10 53.8 -0.1
0.5nm,0.6s,baz=6.9,slow=9.0,SNR=5.9
TORD PcP PcP 04 13 41.5 -2.0
0.4nm,0.9s,baz=29,slow=3.0,SNR=2.9
MKAR Makanchi Array 48.65 60 P P 04 13 12.7 +1.4
0.2nm,0.6s,baz=282,slow=6.9,SNR=2.8
YKA Yellowknife Ar 64.85 335 P P 04 15 04.6 -1.3
0.1nm,0.5s,baz=42,slow=6.6,SNR=3.0

*IDC **12** 04:14:03.1±2.2,0.˚51N×91.˚72E,h0km,mb3.6/3,mb1 4.0/4, mb1mx3.5/63,mbtmp3.9/4,ML4.4/1,Error ellipse: s-maj=76.2km s-min=29.8km az=49.0*
ISC 12 04:14:03.6±1.0,0.˚4N±0.˚1×91.˚7E±0.˚1,h10km,n17, σ1s81/17,mb4.0/5,North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLSI	**Meulaboh, Aceh**	**6.06**	**50**	P	**Pn**	**04 15 31.8**	**-1.6**
TPTI		**6.15**	**62**	P	**Pn**	**04 15 31.7**	**-3.0**
	105nm,0.7s,1µm0.4nm						
SISI	**Saibi**	**7.55**	**103**	P	**Pn**	**04 15 51.7**	**-2.2**
	75nm,0.6s,0.3nm						
PPSI	**Pulau Pagai**	**8.85**	**111**	P	**Pn**	**04 16 09.2**	**-2.4**
	64nm,0.6s						
PKDT	**Phuket**	**9.95**	**41**	P	**Pn**	**04 16 27.6**	**+0.8**
	15nm,0.9s,0.1nm						
KRJI	**Kerinci**	**10.04**	**104**	P	**Pn**	**04 16 26.1**	**-2.0**
TRTT	**Trang**	**10.86**	**47**	P	**Pn**	**04 16 41.0**	**+1.8**
	12nm,0.5s,318nm0.0nm						
SURT	**Suratani**	**11.05**	**39**	P	**Pn**	**04 16 42.9**	**+1.0**
	9.6nm,0.9s,0.0nm						
PALK	**Pallekele**	**12.95**	**302**	Pn	**Pn**	**04 17 06.8**	**-1.2**
	2.2nm,0.3s,baz=115,slow=13,SNR=7.9						
PALK	**Pallekele**	**12.95**	**302**	*e*Pn	**Pn**	**04 17 06.9**	**-1.0**
MDSI	**Maura Dua**	**13.34**	**111**	P	**Pn**	**04 17 11.4**	**-1.8**
	8.1nm,0.8s,495nm						
COCO	**West Island**	**13.48**	**158**	*e*Pn	**P**	**04 17 25.2**	**+0.8**
WRA	**Warramunga Arr**	**46.36**	**118**	P	**P**	**04 22 31.5**	**+1.1**
	1.3nm,0.8s,baz=296,slow=8.5,SNR=6.2						
WR1	**Warramunga Arr**	**46.36**	**118**	*e*P	**P**	**04 22 31.5**	**+1.1**
	18nm,1.4s						
AS31	**Alice Springs**	**47.40**	**123**	*e*P	**P**	**04 22 40.4**	**+1.8**
	2.7nm,1.4s						
ASAR	**Alice Springs**	**47.40**	**123**	P	**P**	**04 22 40.4**	**+1.8**
	0.4nm,0.7s,baz=304,slow=8.1,SNR=4.2						
SONM	**Songino Array**	**48.96**	**13**	P	**P**	**04 22 50.7**	**+0.4**
	0.5nm,0.6s,baz=199,slow=7.6,SNR=3.7						

*DJA **12** 04:14:10.0±3.2,1.˚1N±7.˚×9.˚2E±2.˚8,h10km,M4.8/13, mb5.0/13,mB5.0/6,MLv5.0/6,Mw(mB)4.3/6*
*IDC **12** 04:14:10.7±1.1,1.˚88N×92.˚26E,h0km,mb3.9/11, mb1 4.1/13,mb1mx3.8/64,mbtmp3.9/13,ML4.0/2,MS3.4/1, Ms1 3.4/1,ms1mx2.6/62,Error ellipse: s-maj=39.6km s-min=18.5km az=42.0*
*NEIC **12** 04:14:11.0±0.9,1.˚72N×92.˚31E,h10km,mb4.7/8,Error ellipse: s-maj=23.4km s-min=7.1km az=198.0*

ISC 12 04:14:11.2±0.8, 1°.6N±0°.1×92°.38E±0°.08, h10km, n40, σ1°90/38, mb4.1/13, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSI	**Gunungsitoli**	**5.20**	**93**	P	**Pn**	**04 15 28.7**	**-0.5**
	171nm,0.5s,2µm0.7nm						
GSI	**Gunungsitoli**	**5.20**	**93**	*e*Pn	**Pn**	**04 15 28.9**	**-0.3**
GSI				*e*Sn	**Sn**	**04 16 24.9**	**-4.4**
KCSI	**Kotacane, Aceh**	**5.73**	**70**	P	**Pn**	**04 15 41.1**	**+4.7**
PSI	**Prapat**	**6.66**	**79**	Pn	**Pn**	**04 15 50.2**	**+0.9**
	1.9nm,0.3s,baz=307,slow=5.1,SNR=3.3						
PSI				Sn	**Sn**	**04 17 03.5**	**-1.9**
	0.7nm,0.3s,baz=329,slow=12,SNR=2.5						
MNSI	**Mandailing Nat**	**7.24**	**96**	P	**Pn**	**04 15 55.5**	**-1.7**
KULM	**Kulim**	**9.05**	**66**	*e*Pn	**Pn**	**04 16 22.4**	**+0.4**
SDSI	**Sungai Dareh**	**9.39**	**105**	P	Pn	04 16 22.4	-4.3
KSM	**Kuching**	**17.93**	**90**	Pn	**Pn**	**04 18 21.8**	**+0.9**
	60nm,1.1s						
CM31	**Chiang Mai Arr**	**17.98**	**21**	*e*Pn	**Pn**	**04 18 19.6**	**-1.9**
CMAR	**Chiang Mai Arr**	**17.98**	**21**	P	**Pn**	**04 18 19.6**	**-1.9**
	0.3nm,0.3s,baz=215,slow=13,SNR=4.4						
SBUM	**Sibu**	**19.85**	**87**	*e*P	**P**	**04 18 43.6**	**+0.9**
	7.8nm,0.8s						
KK31	**Karatay Array**	**45.73**	**338**	*e*P	P	04 22 30.6	-2.1
MK01	**Makanchi Array**	**45.87**	**350**	*e*P	**P**	**04 22 32.3**	**-1.5**
MK31	**Makanchi Array**	**45.90**	**350**	*e*P	**P**	**04 22 32.6**	**-1.4**
MK32	**Makanchi Array**	**45.90**	**350**	*e*P	**P**	**04 22 32.7**	**-1.3**
MK32				*e*PcP	**PcP**	**04 24 09.5**	**-1.6**
MKAR	**Makanchi Array**	**45.90**	**350**	P	**P**	**04 22 32.7**	**-1.3**
	0.6nm,0.5s,baz=176,slow=8.8,SNR=8.1						
MKAR				PcP	**PcP**	**04 24 09.5**	**-1.6**
	0.4nm,0.7s,baz=159,slow=4.8,SNR=2.2						
MKAR	**Makanchi Array**	**45.90**	**350**	*e*P	**P**	**04 22 32.6**	**-1.4**
	14nm,1.0s						
MKAR				PcP	**PcP**	**04 24 09.5**	**-1.6**
WRA	**Warramunga Arr**	**46.37**	**120**	P	**P**	**04 22 41.5**	**+3.3**
	1.6nm,0.6s,baz=297,slow=8.5,SNR=6.3						
WR1	**Warramunga Arr**	**46.37**	**120**	*e*pP	**P**	**04 22 41.5**	**+3.3**
ASAR	**Alice Springs**	**47.52**	**124**	P	**P**	**04 22 49.5**	**+2.4**
	0.5nm,0.7s,baz=299,slow=7.6,SNR=6.1						
SONA0	**Songino Array**	**47.66**	**13**	*e*P	**P**	**04 22 50.7**	**+2.8**
KURBB	**Kurchatov Arra**	**50.27**	**349**	P	**P**	**04 23 06.0**	**-1.7**
	0.6nm,0.5s,baz=168,slow=7.3,SNR=4.2						
KURK	**Kurchatov**	**50.34**	**349**	*e*P	P	04 23 05.9	-2.3
	47nm,1.1s						
RAYN	**Ar Rayn**	**50.35**	**300**	*e*P	**P**	**04 23 07.9**	**-1.0**
	2.9nm,0.8s						
ZALV	**Zalesovo Beam**	**52.58**	**354**	P	**P**	**04 23 23.7**	**-1.2**
	1.0nm,0.4s,baz=179,slow=9.0,SNR=5.3						
ZAA1	**Zalesovo Array**	**52.58**	**354**	*e*P	**P**	**04 23 23.7**	**-1.2**
BVAR	**Borovoye Array**	**54.44**	**344**	P	P	04 23 35.9	-2.7
	0.6nm,0.6s,baz=144,slow=5.5,SNR=3.9						
MJAR	**Matsushiro Arr**	**54.76**	**45**	LR	LR	04 49 27.8	
	comp=Z,31nm,18.5s,baz=210,slow=39						
KBZ	**Khabaz**	**60.69**	**321**	P	P	04 24 20.6	-2.2
	1.3nm,0.6s,baz=96,slow=8.8,SNR=3.9						
BR101	**Keskin Array S**	**65.33**	**313**	*e*P	**P**	**04 24 52.6**	**-1.4**
BRTR	**Keskin Array B**	**65.33**	**313**	P	**P**	**04 24 52.6**	**-1.4**
	0.9nm,0.6s,baz=134,slow=7.1,SNR=6.4						
BR231	**Keskin MP Arra**	**65.99**	**313**	*e*P	P	04 24 53.4	-4.8
MLR	**Muntele Rosu**	**72.51**	**317**	P	**P**	**04 25 38.2**	**-0.4**
	0.3nm,0.4s,baz=344,slow=15,SNR=3.4						
FIA0	**FINESS Array S**	**77.47**	**333**	*e*P	**P**	**04 26 06.5**	**-0.3**
FINES	**FINESS Array B**	**77.47**	**333**	P	**P**	**04 26 06.5**	**-0.3**
	1.2nm,0.9s,baz=72,slow=8.9,SNR=3.1						
GEA0	**GERESS Array S**	**81.36**	**319**	*e*P	**P**	**04 26 29.0**	**+0.6**
GEC2	**GERESS Array S**	**81.37**	**319**	*e*P	**P**	**04 26 29.4**	**+0.9**
	26nm,2.0s						
GERES	**GERESS Array B**	**81.37**	**319**	P	**P**	**04 26 29.4**	**+0.9**
	1.4nm,0.7s,baz=98,slow=5.5,SNR=11						
LTX	**Lajitas**	**145.65**	**25**	*e*PKPdf	**PKPdf**	**04 33 52.0**	**+1.1**
TXAR	**Lajitas Array**	**145.65**	**25**	PKPbc	**PKPdf**	**04 33 52.0**	**+1.1**
	1.0nm,0.9s,baz=263,slow=2.2,SNR=6.6						

IDC 12 04:15:54.0±2.2, 1°.59N×92°.57E, h0km, mb3.9/6, mb1 4.0/6, mb1mx3.6/62, mbtmp3.9/6, Error ellipse: s-maj=96.2km s-min=22.0km az=55.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**45.91**	**350**	P	P	04 24 17.2	-1.2
	1.1nm,0.7s,baz=169,slow=8.9,SNR=4.3						
WRA	**Warramunga Arr**	**46.21**	**120**	P	P	04 24 21.1	-0.1
	0.6nm,0.6s,baz=298,slow=8.9,SNR=3.4						
ASAR	**Alice Springs**	**47.38**	**125**	P	P	04 24 29.7	-0.7
	0.3nm,0.5s,baz=294,slow=7.0,SNR=2.7						
SONM	**Songino Array**	**47.60**	**13**	P	P	04 24 32.2	+0.4
	1.9nm,0.5s,baz=194,slow=9.0,SNR=5.7						
KURBB	**Kurchatov Arra**	**50.29**	**348**	P	P	04 24 51.4	-0.8
	1.6nm,0.9s,baz=176,slow=7.5,SNR=5.7						
FINES	**FINESS Array B**	**77.54**	**333**	P	P	04 27 52.0	+0.4
	2.0nm,0.8s,baz=95,slow=8.2,SNR=4.8						
TXAR	**Lajitas Array**	**145.55**	**26**	PKPbc	PKPab	04 35 35.7	+0.2
	0.3nm,0.6s,baz=303,slow=4.0,SNR=2.7						

SJA 12 04:21:18.9±0.4, 31°.46S×69°.38W, h103km±4km, ML2.8, MW3.8, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTLS	**Leoncito**	**0.34**	**168**	*e*P	Pn	04 21 35.5	+1.0
RTLS				*e*S	Sn	04 21 47.8	+1.7
RTLS				IAML		04 21 48.8	
	comp=Z,253nm,0.2s						
AUSP	**Uspallata**	**0.76**	**181**	*e*P	Pn	04 21 38.4	+1.0
RTCV	**Cerro Valdivia**	**0.82**	**119**	*e*P	Pn	04 21 38.8	+1.0
RTCV				*e*S	Sn	04 21 52.8	+0.9
AMOG	**MOGNA**	**0.92**	**56**	*e*P	Pn	04 21 39.7	+0.8
AROD	**Rodeo**	**1.29**	**356**	*e*P	Pn	04 21 44.5	+1.3
ACDV	**Cuesta del Vie**	**1.31**	**10**	*e*P	Pn	04 21 44.3	+1.1
AGUA	**GUANDACOL**	**2.11**	**21**	*e*P	Pn	04 21 54.3	+1.1

*ISCJB **12** 04:21:20.8±0.6, 2°.00N±0°.09×89°.66E±0°.07, h10km, mb4.1/14, Error ellipse: s-maj=13.9km s-min=7.7km az=29.6*

*IDC **12** 04:21:21.0±1.1, 1°.90N×89°.51E, h0km, mb3.7/9, mb1 3.9/12, mb1mx3.6/72, mbtmp3.8/12, ML4.0/3, Error ellipse: s-maj=36.2km s-min=18.5km az=40.0*

*NEIC **12** 04:21:22.7±0.5, 1°.96N×89°.62E, h10km, mb4.5/6, Error ellipse: s-maj=11.1km s-min=6.1km az=209.0*

ISC 12 04:21:22.2±0.8, 2°.0N±0°.1×89°.48E±0°.08, h10km, n36, σ1°70/37, mb4.1/14, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSI	**Gunungsitoli**	**8.12**	**95**	*e*Pn	**Pn**	**04 23 18.2**	**-2.0**
GSI				*e*Sn	Sn	04 24 38.5	-14
LHMI	**Lhok Sumawe**	**8.12**	**66**	*e*Pn	**Pn**	**04 23 19.6**	**-0.7**
PSI	**Prapat**	**9.47**	**85**	Pn	**Pn**	**04 23 37.4**	**-1.5**
	1.0nm,0.3s,baz=282,slow=8.0,SNR=3.5						
PALK	**Pallekele**	**10.21**	**301**	Pn	**Pn**	**04 23 47.9**	**-1.1**
	0.9nm,0.3s,baz=292,slow=0.4,SNR=3.4						
PALK				Sn	Sn	04 25 37.0	-6.7
	11nm,0.3s,baz=116,slow=2.3,SNR=13						
PALK	**Pallekele**	**10.21**	**301**	*e*Pn	**Pn**	**04 23 47.9**	**-1.1**
PALK				*e*Sn	**Sn**	**04 25 37.6**	**-6.1**
KULM	**Kulim**	**11.62**	**73**	*e*Pn	**Pn**	**04 24 06.6**	**-1.7**
KULM				*e*Sn	Sn	04 26 27.3	+9.0
IPM	**Ipoh**	**11.79**	**78**	*e*Pn	**Pn**	**04 24 09.3**	**-1.4**
HMDM	**Hanimaadhoo**	**16.93**	**287**	*e*Pn	**P**	**04 25 25.4**	**+4.0**
	13nm,0.6s						
CM31	**Chiang Mai Arr**	**18.83**	**29**	*e*P	**P**	**04 25 42.1**	**-0.3**
CMAR	**Chiang Mai Arr**	**18.83**	**29**	P	**Pn**	**04 25 44.2**	**+1.4**
	0.3nm,0.3s,baz=220,slow=13,SNR=3.0						
UGM	**Wanagama**	**23.17**	**115**	*e*P	**P**	**04 26 29.5**	**+0.2**
	314nm,1.6s						
JAGI	**Jajag, Banyuwa**	**26.70**	**113**	*e*P	**P**	**04 26 59.7**	**-2.2**
	27nm,1.2s						
MK32	**Makanchi Array**	**45.08**	**353**	*e*P	**P**	**04 29 38.6**	**+0.1**
MKAR	**Makanchi Array**	**45.08**	**353**	P	**P**	**04 29 38.6**	**+0.1**
	0.4nm,0.6s,baz=171,slow=9.5,SNR=4.3						
GYA0B	**ALIBECK ARRAY**	**45.91**	**325**	*e*P	**P**	**04 29 45.1**	**-0.2**
	5.0nm,0.8s						
SONA0	**Songino Array**	**47.97**	**15**	*e*P	**P**	**04 30 02.4**	**+1.1**
SONM	**Songino Array**	**47.97**	**15**	P	**P**	**04 30 02.4**	**+1.1**
	0.8nm,0.5s,baz=202,slow=9.3,SNR=5.4						
SONA1	**Songino Array**	**47.98**	**15**	*e*P	**P**	**04 30 01.0**	**-0.4**
ULN	**Ulaanbaatar**	**48.17**	**16**	*e*P	**P**	**04 30 01.4**	**-1.6**
	2.3nm,0.5s						
WR1	**Warramunga Arr**	**49.09**	**119**	*e*P	**P**	**04 30 09.6**	**-0.7**
WRA	**Warramunga Arr**	**49.09**	**119**	P	**P**	**04 30 09.6**	**-0.7**
	1.7nm,0.9s,baz=297,slow=8.6,SNR=5.8						
KURBB	**Kurchatov Arra**	**49.35**	**351**	P	**P**	**04 30 12.1**	**+0.3**
	0.5nm,0.4s,baz=176,slow=7.1,SNR=5.7						
KURK	**Kurchatov**	**49.43**	**351**	*e*P	**P**	**04 30 12.1**	**-0.2**
ASAR	**Alice Springs**	**50.15**	**123**	P	**P**	**04 30 18.3**	**-0.1**
	0.3nm,0.7s,baz=4.7,slow=27,SNR=2.8						
AS31	**Alice Springs**	**50.15**	**123**	*e*P	**P**	**04 30 18.2**	**-0.1**
	2.2nm,1.5s						
BVAR	**Borovoye Array**	**53.29**	**346**	P	P	04 30 41.5	+0.2
	0.4nm,0.5s,baz=236,slow=39,SNR=3.6						
ABKAR	**Akbulak array**	**53.45**	**336**	*e*P	**P**	**04 30 44.3**	**+1.9**
BR101	**Keskin Array S**	**62.97**	**314**	*e*P	**P**	**04 31 50.9**	**+1.4**
BRTR	**Keskin Array B**	**62.97**	**314**	P	**P**	**04 31 50.9**	**+1.4**
	0.9nm,0.6s,baz=124,slow=6.9,SNR=7.0						
BR231	**Keskin MP Arra**	**63.63**	**314**	*e*P	**P**	**04 31 51.8**	**-2.0**
FIA0	**FINESS Array S**	**75.82**	**334**	*e*P	**P**	**04 33 10.0**	**+1.7**
FINES	**FINESS Array B**	**75.82**	**334**	P	**P**	**04 33 10.0**	**+1.7**
	1.2nm,0.7s,baz=120,slow=9.8,SNR=2.7						
GEC2	**GERESS Array S**	**79.17**	**319**	*e*P	**P**	**04 33 28.5**	**+0.9**
	14nm,1.8s						
GERES	**GERESS Array B**	**79.17**	**319**	P	**P**	**04 33 28.5**	**+0.9**
	0.6nm,0.6s,baz=103,slow=4.8,SNR=6.0						
LTX	**Lajitas**	**146.42**	**21**	*e*PKPdf	**PKPbc**	**04 41 04.7**	**+0.3**
TXAR	**Lajitas Array**	**146.42**	**21**	PKPbc	**PKPbc**	**04 41 04.7**	**+0.3**
	0.1nm,0.6s,baz=336,slow=2.0,SNR=3.5						

*IDC **12** 04:24:17.9±1.9, 2°.17N×92°.19E, h0km, mb3.6/3, mb1 4.0/6, mb1mx3.5/69, mbtmp3.9/6, ML4.0/3, MS3.6/1, Ms1 3.6/1, ms1mx2.7/53, Error ellipse: s-maj=46.3km s-min=27.5km az=41.0*

*DJA **12** 04:24:19.4±4.0, 3°.N±11°.×9°.2E±3°.4, h10km, M4.8/7, mb4.8/6, mB5.3/4, MLv4.9/7, Mw(mB)4.7/4*

*ISCJB **12** 04:24:20.3±1.1, 2°.5N±0°.1×92°.29E±0°.08, h33km, mb3.7/3, MS3.6/1, Error ellipse: s-maj=21.6km s-min=10.6km az=13.1*

ISC 12 04:24:25.5±1.5, 2°.6N±0°.1×92°.5E±0°.1, h35km, n14, σ1°26/13, mb3.7/3, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSI	**Banda Aceh**	**4.03**	**44**	P	**Pn**	**04 25 23.2**	**-1.6**
MLSI	**Meulaboh, Aceh**	**4.25**	**67**	P	**Pn**	**04 25 27.6**	**-0.2**
TPTI		**4.73**	**82**	P	**Pn**	**04 25 34.0**	**-0.4**
	55nm,0.6s,3µm0.5nm						
GSI	**Gunungsitoli**	**5.23**	**104**	P	**Pn**	**04 25 41.6**	**+0.3**
	111nm,0.6s,0.5nm						
KCSI	**Kotacane, Aceh**	**5.35**	**80**	P	**Pn**	**04 25 43.3**	**+0.3**
PSI	**Prapat**	**6.43**	**88**	Pn	**Pn**	**04 25 58.0**	**+0.1**
	2.8nm,0.3s,baz=284,slow=5.7,SNR=7.9						
PSI				Sn	**Sn**	**04 27 10.1**	**0.0**
	1.1nm,0.3s,baz=18,slow=20,SNR=2.0						
MNSI	**Mandailing Nat**	**7.30**	**104**	P	**Pn**	**04 26 10.5**	**+0.8**
PALK	**Pallekele**	**12.64**	**292**	Pn	Pn	04 27 16.7	-6.3
	1.0nm,0.3s,baz=115,slow=12,SNR=2.6						
PALK				Sn	Sn	04 29 24.7	-18
	1.7nm,0.3s,baz=116,slow=15,SNR=3.3						
CMAR	**Chiang Mai Arr**	**17.00**	**21**	P	**P**	**04 28 24.5**	**+2.1**
	0.2nm,0.3s,baz=216,slow=13,SNR=12						
SIJI	**Sorong**	**38.91**	**95**	LR	LR	04 50 00.8	
	comp=Z,81nm,19.4s,baz=27,slow=39						
SONM	**Songino Array**	**46.66**	**13**	P	**P**	**04 32 52.3**	**+1.5**
	0.3nm,0.5s,baz=199,slow=8.5,SNR=2.4						
WRA	**Warramunga Arr**	**46.76**	**121**	P	**P**	**04 32 49.6**	**-2.3**
	0.6nm,0.6s,baz=299,slow=8.7,SNR=5.4						
ZALV	**Zalesovo Beam**	**51.60**	**354**	P	**P**	**04 33 28.2**	**-0.1**
	0.6nm,0.4s,baz=186,slow=7.1,SNR=2.8						
TXAR	**Lajitas Array**	**144.70**	**25**	PKPbc	**PKPab**	**04 43 57.7**	**-0.5**
	0.3nm,0.9s,baz=261,slow=1.7,SNR=3.2						

*ATA **12** 04:25:42.0±0.9, 38°.60N×43°.51E, h7km±215km, ML2.8, MW2.7*

*ISCJB **12** 04:25:44.8±0.7, 38°.60N±0°.05×43°.26E±0°.06, h29km±7km, Error ellipse: s-maj=8.8km s-min=7.5km az=165.7*

*CSEM **12** 04:25:44.3, 38°.65N×43°.17E, h12km, ML2.3*

*ISK **12** 04:25:44.3, 38°.65N×43°.17E, h12km, ML2.3/2*

ISC 12 04:25:45.3±1.0, 38°.64N±0°.05×43°.17E±0°.04, h17km±8km, n11, σ0°94/18, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.18**	**104**	PG	**Pb**	**04 25 49.7**	**-0.4**
VANB				SG	**Sg**	**04 25 53.6**	**+0.6**
VANB	**Van**	**0.18**	**104**	*e*Pg	**Pb**	**04 25 49.7**	**-0.4**
VANB				*e*Sg	**Sg**	**04 25 53.6**	**+0.6**
GEVA	**Gevas**	**0.34**	**195**	P	**Pg**	**04 25 51.6**	**-0.8**
GEVA				*e*S	**Sb**	**04 25 58.6**	**+0.6**
GEVA				IAML		04 26 00.9	
	comp=Z,61nm,0.5s						
CLDR	**Caldiran**	**0.77**	**49**	PG	**Pb**	**04 25 59.5**	**-0.9**
CLDR	**Caldiran**	**0.77**	**49**	*e*Pg	**Pb**	**04 25 59.5**	**-0.9**
TUTA	**Tutak**	**0.81**	**340**	*e*P	**Pb**	**04 26 00.5**	**-0.5**
TUTA				IAML		04 26 20.2	
	comp=Z,24nm,0.4s						
GURO	**Guroymak-BITLI**	**0.90**	**265**	PG	**Pb**	**04 26 01.8**	**-0.6**
GURO				SG	**Sn**	**04 26 14.9**	**-0.9**
GURO	**Guroymak-BITLI**	**0.90**	**265**	*e*Pg	**Pb**	**04 26 01.8**	**-0.6**
GURO				*e*Sg	**Sn**	**04 26 14.9**	**-0.9**
AGRB	**Hanur-Agry**	**0.95**	**352**	PG	**Pb**	**04 26 02.9**	**-0.4**
AGRB				SG	**Sn**	**04 26 16.3**	**-0.9**
AGRB	**Hanur-Agry**	**0.95**	**352**	*e*Pg	**Pb**	**04 26 02.9**	**-0.4**
AGRB				*e*Sg	**Sn**	**04 26 16.3**	**-0.9**
EKAR	**Karacoban**	**1.06**	**306**	*e*P	**Pn**	**04 26 07.6**	**+2.0**
EKAR				IAML		04 26 31.4	
	comp=Z,5.1nm,0.4s						

*NEIC **12** 04:29:55.0±0.6, 41°.71N×65°.63W, h10km, mb4.2/1, ML4.1(OTT), Error ellipse: s-maj=8.1km s-min=3.8km az=134.0*

*IDC **12** 04:29:55.8±0.9, 41°.85N×65°.60W, h0km, mb3.6/11, mb1 3.8/12, mb1mx3.6/66, mbtmp3.6/12, ML3.0/1, Error ellipse: s-maj=22.5km s-min=18.9km az=1.0*

*ISCJB **12** 04:29:56.3±0.5, 42°.00N±0°.03×65°.96W±0°.04, h10km, mb3.6/12, Error ellipse: s-maj=5.0km s-min=3.1km az=138.3*

*OTT **12** 04:29:60.0±0.5, 41°.99N×65°.76W, h18km, ML4.1/11, Atlantic Ocean, south of Nova Scotia. 200km south from Shelburne, Ns*

ISC 12 04:29:56.1±0.6, 41°.86N±0°.05×65°.78W±0°.04, h10km, n108, σ2°92/151, mb3.6/12, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMMW	**East Machias**	**3.10**	**337**	PN	**Pn**	**04 30 45.5**	**+0.4**
EMMW				SN	**Sn**	**04 31 19.2**	**-3.0**
EMMW	**East Machias**	**3.10**	**337**	*e*Pn	**Pn**	**04 30 45.7**	**+0.6**
EMMW				*e*Sn	**Sn**	**04 31 19.2**	**-3.0**
HAL	**Halifax**	**3.21**	**29**	PN	**Pn**	**04 30 47.5**	**+1.0**
HAL				SN	**Sn**	**04 31 23.3**	**-1.5**
HAL				Trac		04 31 27.4	
	comp=Z,94nm,0.1s						
HAL	**Halifax**	**3.21**	**29**	Pn	**Pn**	**04 30 47.5**	**+1.0**
HAL				Sn	**Sn**	**04 31 23.3**	**-1.5**
GGN	**Saint George**	**3.35**	**347**	PN	**Pn**	**04 30 49.4**	**+0.9**
GGN				SN	**Sn**	**04 31 25.0**	**-3.3**
GGN				Trac		04 31 33.3	
	comp=Z,89nm,0.2s						
GGN	**Saint George**	**3.35**	**347**	Pn	**Pn**	**04 30 49.4**	**+0.9**
GGN				Sn	**Sn**	**04 31 25.0**	**-3.3**
MCA2	**McAdam 2**	**3.89**	**344**	PN	**Pn**	**04 30 56.4**	**+0.3**
MCA2				SN	**Sn**	**04 31 38.2**	**-3.6**
MCA2				Trac		04 31 43.0	
	comp=Z,35nm,0.0s						
WVL	**Waterville**	**3.92**	**315**	PN	**Pn**	**04 30 57.8**	**+1.5**
WVL				SN	**Sn**	**04 31 39.7**	**-2.6**
WVL	**Waterville**	**3.92**	**315**	*e*Pn	**Pn**	**04 30 57.8**	**+1.5**
WVL				Sn	**Sn**	**04 31 39.7**	**-2.6**
BCX	**Boston College**	**4.04**	**279**	*e*Pn	**Pn**	**04 30 59.0**	**+1.0**
BCX				*e*Sn	**Sn**	**04 31 41.6**	**-3.7**
LMN	**Caledonia Moun**	**4.05**	**10**	PN	**Pn**	**04 30 59.5**	**+1.3**
LMN				mb		04 31 03.4	
	comp=Z,18nm,0.1s						
LMN				SN	**Sn**	**04 31 44.4**	**-1.3**
LMN				Trac		04 32 01.4	
	comp=Z,129nm,0.3s						
LMN	**Caledonia Moun**	**4.05**	**10**	Pn	**Pn**	**04 30 59.5**	**+1.3**
LMN				Sn	**Sn**	**04 31 44.4**	**-1.3**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WES	**Weston**	**4.15**	**279**	*e*Pn	**Pn**	**04 31 00.3**	**+0.8**
PKME	**Peaks-Kenny Pk**	**4.25**	**324**	P	**Pn**	**04 31 01.7**	**+0.8**
	baz=142						
PKME				S	**Sn**	**04 31 47.6**	**-2.9**
	baz=142						
PKME	**Peaks-Kenny Pk**	**4.25**	**324**	PN	**Pn**	**04 31 01.8**	**+0.8**
PKME				SN	**Sn**	**04 31 47.7**	**-2.9**
PKME	**Peaks-Kenny Pk**	**4.25**	**324**	*e*Pn	**Pn**	**04 31 01.9**	**+0.9**
PKME				*e*Sn	**Sn**	**04 31 47.6**	**-2.9**
BRYW	**Bryant College**	**4.30**	**273**	*e*Pn	**Pn**	**04 31 01.9**	**+0.3**
HRV	**Adam Dziewonsk**	**4.34**	**281**	P	**Pn**	**04 31 02.7**	**+0.6**
	baz=98						
HRV				S	**Sn**	**04 31 47.7**	**-5.0**
	baz=98						
HRV	**Adam Dziewonsk**	**4.34**	**281**	*e*Pn	**Pn**	**04 31 02.8**	**+0.7**
FFD	**Franklin Falls**	**4.62**	**292**	*e*Pn	**Pn**	**04 31 07.5**	**+1.6**
FFD				*e*Sn	**Sn**	**04 31 58.6**	**-1.0**
GBN	**Guysborough**	**4.71**	**40**	PN	**Pn**	**04 31 07.1**	**-0.1**
GBN				SN	**Sn**	**04 31 57.8**	**-4.0**
GBN				Trac		04 32 02.9	
	comp=Z,173nm,0.2s						
GBN	**Guysborough**	**4.71**	**40**	Pn	**Pn**	**04 31 07.1**	**-0.1**
GBN				Sn	**Sn**	**04 31 57.8**	**-4.0**
QUA2	**Belchertown**	**4.91**	**277**	*e*Pn	**Pn**	**04 31 10.9**	**+1.0**
PQI	**Presque Isle**	**5.07**	**342**	PN	**Pn**	**04 31 12.7**	**+0.5**
PQI				SN	**Sn**	**04 32 06.8**	**-3.9**
PQI	**Presque Isle**	**5.07**	**342**	*e*Pn	**Pn**	**04 31 13.9**	**+1.7**
PQI				*e*Sn	**Sn**	**04 32 06.1**	**-4.7**
LBNH	**Lisbon**	**5.09**	**300**	P	**Pn**	**04 31 13.7**	**+1.2**
	baz=117						
LBNH	**Lisbon**	**5.09**	**300**	PN	**Pn**	**04 31 13.8**	**+1.3**
LBNH				SN	**Sn**	**04 32 09.2**	**-2.0**
LBNH	**Lisbon**	**5.09**	**300**	Pn	**Pn**	**04 31 13.8**	**+1.3**
LBNH				Sn	**Sn**	**04 32 09.2**	**-2.0**
HNH	**Hanover**	**5.13**	**293**	*e*Pn	**Pn**	**04 31 14.1**	**+1.1**
YLE	**Yale**	**5.39**	**267**	*e*Pn	**Pn**	**04 31 19.0**	**+2.5**
YLE				*e*Sb	**Sb**	**04 32 32.9**	**-2.2**
BATG	**Bathurst New B**	**5.42**	**358**	PN	**Pn**	**04 31 18.1**	**+1.1**
BATG				mb		04 31 19.1	
	comp=Z,15nm,0.1s						
BATG				SN	**Sn**	**04 32 15.8**	**-3.5**
BATG	**Bathurst New B**	**5.42**	**358**	Pn	**Pn**	**04 31 18.1**	**+1.1**
BATG				Sn	**Sn**	**04 32 15.8**	**-3.5**
MOQ	**Mont Orford**	**5.83**	**308**	PN	**Pn**	**04 31 24.1**	**+1.5**
MOQ	**Mont Orford**	**5.83**	**308**	Pn	**Pn**	**04 31 24.1**	**+1.5**
TRY	**Troy**	**5.91**	**281**	*e*Pn	**Pn**	**04 31 26.0**	**+2.3**
ACCN	**Adirondack Com**	**6.01**	**287**	*e*Pn	**Pn**	**04 31 26.1**	**+1.0**
PAL	**Palisades**	**6.17**	**265**	P	**Pn**	**04 31 27.0**	**-0.2**
	baz=81						
PAL	**Palisades**	**6.17**	**265**	*e*Pn	**Pn**	**04 31 25.9**	**-1.3**
PAL				*e*Pg	Pg	04 32 02.6	+8.4
CPNY	**Central Park**	**6.25**	**263**	*e*Pn	**Pn**	**04 31 28.5**	**+0.2**
CPNY				*e*Sn	**Sn**	**04 32 38.9**	**-0.9**
FRNY	**Flat Rock**	**6.42**	**300**	*e*Pn	**Pn**	**04 31 31.5**	**+0.8**
FRNY				*e*Sn	**Sn**	**04 32 45.2**	**+1.2**
A21	**Saint Andre**	**6.47**	**336**	PN	**Pn**	**04 31 32.3**	**+0.9**
A21				SN	**Sn**	**04 32 41.2**	**-4.0**
A21				Trac		04 32 51.4	
	comp=Z,44nm,0.4s						
A21	**Saint Andre**	**6.47**	**336**	Pn	**Pn**	**04 31 32.3**	**+0.9**
A21				Sn	**Sn**	**04 32 41.2**	**-4.0**
NCB	**Newcomb**	**6.55**	**292**	*e*Pn	**Pn**	**04 31 32.4**	**-0.1**
ODNJ	**Ogdensburg**	**6.67**	**266**	*e*Pn	**Pn**	**04 31 34.7**	**+0.6**
BRNJ	**Basking Ridge**	**6.72**	**263**	*e*Pn	**Pn**	**04 31 34.8**	**0.0**
DPQ	**Saint Jean**	**6.96**	**316**	PN	**Pn**	**04 31 40.8**	**+2.8**
DPQ				SN	**Sn**	**04 32 53.9**	**-3.3**
DPQ				Trac		04 33 01.1	
	comp=Z,7.3nm,0.2s						
DPQ	**Saint Jean**	**6.96**	**316**	Pn	**Pn**

H07S1 FLORES T-PHASE 26.26 84 T T 05 03 01.8
SNR=8.9
PDAR Pinedale Array 32.11 287 P **P** **04 36 25.7 +2.0**
0.8nm,0.9s,baz=79,slow=11,SNR=5.5
IMW Indian Meadow 32.84 289 *eP* **P** **04 36 33.6 +3.4**
2.1nm,0.7s
TXAR Lajitas Array 32.98 260 P **P** **04 36 33.9 +2.6**
0.7nm,0.8s,baz=77,slow=6.8,SNR=5.6
TXAR PcP **PcP** **04 39 16.9 +1.7**
0.2nm,0.5s,baz=86,slow=4.2,SNR=4.8
YKA Yellowknife Ar 35.20 323 P **P** **04 36 52.1 +2.1**
0.4nm,0.6s,baz=95,slow=8.4,SNR=12
YKA PcP **PcP** **04 39 21.4 +0.6**
0.3nm,0.6s,baz=106,slow=2.9,SNR=9.6
NVAR Mina Array Bea 39.78 283 P **P** **04 37 31.9 +2.5**
0.5nm,0.6s,baz=78,slow=7.5,SNR=5.0
INK Inuvik 43.75 330 P **P** **04 38 01.4 +0.3**
1.2nm,0.9s,baz=78,slow=7.8,SNR=6.1
ILAR Eielson Array 49.45 326 P **P** **04 38 48.0 +2.1**
0.3nm,0.4s,baz=83,slow=5.6,SNR=10
ILAR PcP **PcP** **04 40 10.2 +2.3**
0.3nm,0.6s,baz=87,slow=2.6,SNR=5.6
AKASG Malin Array Be 61.86 46 P **P** **04 40 16.3 +1.1**
0.3nm,0.4s,baz=300,slow=6.0,SNR=3.0
TORD Torodi Ar. Bea 64.60 95 P **P** **04 40 34.2 +0.3**
0.3nm,0.7s,baz=304,slow=9.3,SNR=3.5
H10N2 ASCENSION HYDR 68.11 124 T T 05 54 54.3
baz=321,slow=75,SNR=115
H10N3 ASCENSION HYDR 68.11 124 T T 05 54 52.0
baz=321,slow=75,SNR=180
H10N1 ASCENSION HYDR 68.13 124 T T 05 54 55.0
baz=321,slow=75,SNR=233
H10S1 ASCENSION HYDR 68.87 124 T T 05 55 52.1
baz=322,slow=75,SNR=35
H10S3 ASCENSION HYDR 68.87 124 T T 05 55 53.3
baz=322,slow=75,SNR=35
H10S2 ASCENSION HYDR 68.89 124 T T 05 55 54.5
baz=322,slow=75,SNR=44
KURBB Kurchatov Arra 82.76 22 P **P** **04 42 20.9 +0.8**
0.8nm,0.8s,baz=335,slow=5.2,SNR=3.0
WRA Warramunga Arr 152.28 316 PKPbc **PKPbc** **04 49 53.0 +0.5**
1.1nm,0.5s,baz=27,slow=2.5,SNR=16
ASAR Alice Springs 155.54 312 PKPab **PKPab** **04 50 18.9 +2.9**
0.6nm,0.5s,baz=301,slow=6.9,SNR=4.2

*IDC **12** 04:31:58.7±2.2, 41°.88N×65°.38W, h0km, mb3.2/5, mb1 3.7/6, mb1mx3.3/66, mbtmp3.3/6, ML3.7/1, Error ellipse: s-maj=48.4km s-min=35.2km az=178.0*
*NEIC **12** 04:32:03.1±0.0, 41°.94N×65°.77W, h18km, ML3.8(OTT), After OTT.*
*OTT **12** 04:32:03.1±0.8, 41°.94N×65°.77W, h18km, ML3.8/11, Atlantic Ocean, south of Nova Scotia. 205km south from Shelburne, Ns*

ISC 12 04:31:59.5±1.0, 41°.85N±0°.08×65°.68W±0°.05, h10km, n48, σ3$17/53, mb3.2/5, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMMW	**East Machias**	**3.14**	**336**	PN	**Pn**	**04 32 49.7**	**+0.8**
EMMW				SN	**Sn**	**04 33 23.4**	**-3.0**
EMMW	**East Machias**	**3.14**	**336**	*e*Pn	**Pn**	**04 32 49.8**	**+0.8**
EMMW				*e*Sn	**Sn**	**04 33 24.0**	**-2.5**
HAL	**Halifax**	**3.17**	**28**	PN	**Pn**	**04 32 51.7**	**+2.3**
HAL				SN	**Sn**	**04 33 26.2**	**-1.1**
HAL				Trac		04 33 28.9	
	comp=Z,26nm,0.0s						
GGN	**Saint George**	**3.37**	**346**	PN	**Pn**	**04 32 53.9**	**+1.7**
GGN				SN	**Sn**	**04 33 30.2**	**-2.0**
GGN				Trac		04 33 34.9	
	comp=Z,17nm,0.1s						
GGN	**Saint George**	**3.37**	**346**	*e*Pn	**Pn**	**04 32 53.9**	**+1.7**
GGN				*e*Sn	**Sn**	**04 33 30.2**	**-2.0**
MCA2	**McAdam 2**	**3.92**	**343**	PN	**Pn**	**04 32 59.4**	**-0.4**
MCA2				SN	**Sn**	**04 33 42.2**	**-3.7**
MCA2				Trac		04 33 47.3	
	comp=Z,16nm,0.0s						
WVL	**Waterville**	**3.98**	**314**	PN	**Pn**	**04 33 02.2**	**+1.7**
WVL				SN	**Sn**	**04 33 44.6**	**-2.5**
WVL	**Waterville**	**3.98**	**314**	*e*Pn	**Pn**	**04 33 02.2**	**+1.7**
LMN	**Caledonia Moun**	**4.05**	**9**	PN	**Pn**	**04 33 06.2**	**+4.8**
LMN				SN	**Sn**	**04 33 48.6**	**-0.3**
LMN				Trac		04 34 03.1	
	comp=Z,81nm,0.3s						
LMN	**Caledonia Moun**	**4.05**	**9**	*e*Pn	**Pn**	**04 33 06.2**	**+4.8**
LMN				*e*Sn	**Sn**	**04 33 48.6**	**-0.3**
BCX	**Boston College**	**4.12**	**279**	*e*Pn	**Pn**	**04 33 02.5**	**0.0**
BCX				*e*Sn	**Sn**	**04 33 45.7**	**-4.9**
WES	**Weston**	**4.23**	**279**	*e*Sn	**Sn**	**04 33 49.6**	**-3.8**
PKME	**Peaks-Kenny Pk**	**4.30**	**324**	SN	**Sn**	**04 33 51.7**	**-3.5**
PKME	**Peaks-Kenny Pk**	**4.30**	**324**	*e*Sn	**Sn**	**04 33 52.6**	**-2.6**
BRYW	**Bryant College**	**4.38**	**273**	*e*Pn	**Pn**	**04 33 05.9**	**-0.1**
HRV	**Adam Dziewonsk**	**4.42**	**280**	*e*Pn	**Pn**	**04 33 06.8**	**+0.2**
GBN	**Guysborough**	**4.66**	**39**	PN	**Pn**	**04 33 11.3**	**+1.4**
GBN				SN	**Sn**	**04 34 01.8**	**-2.2**
GBN				Trac		04 34 03.6	
	comp=Z,142nm,0.2s						
GBN	**Guysborough**	**4.66**	**39**	*e*Pn	**Pn**	**04 33 11.3**	**+1.4**
GBN				*e*Sn	**Sn**	**04 34 01.8**	**-2.2**
PQI	**Presque Isle**	**5.10**	**342**	SN	**Sn**	**04 34 10.8**	**-4.0**
LBNH	**Lisbon**	**5.16**	**300**	SN	**Sn**	**04 34 12.6**	**-3.9**
LBNH	**Lisbon**	**5.16**	**300**	*e*Sn	**Sn**	**04 34 14.5**	**-1.9**
BATG	**Bathurst New B**	**5.43**	**357**	PN	**Pn**	**04 33 22.3**	**+1.9**
BATG				SN	**Sn**	**04 34 19.5**	**-3.5**
BATG				Trac		04 34 22.6	
	comp=Z,25nm,0.1s						
BATG	**Bathurst New B**	**5.43**	**357**	*e*Pn	**Pn**	**04 33 22.3**	**+1.9**
BATG				*e*Sn	**Sn**	**04 34 19.5**	**-3.5**
YLE	**Yale**	**5.47**	**267**	*e*Sg	**Sg**	**04 34 51.7**	**-3.4**
MOQ	**Mont Orford**	**5.90**	**308**	SN	**Sn**	**04 34 29.8**	**-4.8**
MOQ				Trac		04 34 35.8	
	comp=Z,7.5nm,0.2s						
CPNY	**Central Park**	**6.33**	**263**	*e*Sn	**Sn**	**04 34 38.5**	**-6.6**
CNQ	**Baie Comeau**	**7.64**	**348**	Trac		04 35 15.0	
	comp=Z,5.6nm,0.2s						
NATG	**Natashquan Que**	**8.67**	**12**	SN	**Sn**	**04 35 37.8**	**-4.8**
NATG				Trac		04 35 38.8	
	comp=Z,14nm,0.2s						
DRLN	**Deer Lake**	**9.36**	**35**	PN	**Pn**	**04 34 14.0**	**-0.3**
DRLN				mb		04 34 17.6	
	comp=Z,5.7nm,0.1s						
DRLN				SN	**Sn**	**04 35 53.0**	**-6.5**
DRLN				Trac		04 35 57.9	
	comp=Z,21nm,0.3s						
DRLN	**Deer Lake**	**9.36**	**35**	*e*Pn	**Pn**	**04 34 14.0**	**-0.3**
DRLN				*e*Sn	**Sn**	**04 35 53.0**	**-6.5**
IP06	**Yanceyville**	**10.23**	**252**	*e*Sn	Sn	04 36 12.2	-8.9
SADO	**Sadowa**	**10.24**	**291**	Pn	**Pn**	**04 34 29.2**	**+2.8**
	0.6nm,0.3s,baz=196,slow=20,SNR=2.5						
IP07	**Quail**	**10.27**	**252**	*e*Sn	Sn	04 36 13.6	-8.5
SJNN	**Saint John's**	**10.88**	**54**	SN	**Sn**	**04 36 30.4**	**-6.4**
SJNN				Trac		04 36 33.3	
	comp=Z,20nm,0.3s						
SCHQ	**Schefferville**	**13.01**	**357**	Sn	Sn	04 37 19.5	-9.5
	0.1nm,0.3s,baz=292,slow=19,SNR=1.9						
H05N1	**Guadeloupe/Mar**	**25.76**	**170**	T	T	05 04 00.3	
	SNR=25						
PDAR	**Pinedale Array**	**32.19**	**287**	P	**P**	**04 38 30.0**	**+2.2**
	0.2nm,0.6s,baz=71,slow=14,SNR=3.1						
TXAR	**Lajitas Array**	**33.06**	**260**	P	**P**	**04 38 37.7**	**+2.4**
	0.3nm,0.9s,baz=83,slow=7.7,SNR=3.3						
YKA	**Yellowknife Ar**	**35.25**	**323**	P	**P**	**04 38 54.4**	**+0.5**
	0.2nm,0.5s,baz=94,slow=8.4,SNR=5.7						
NVAR	**Mina Array Bea**	**39.86**	**283**	P	**P**	**04 39 35.8**	**+2.3**
	0.2nm,0.6s,baz=87,slow=7.3,SNR=2.9						
ILAR	**Eielson Array**	**49.49**	**326**	P	**P**	**04 40 51.8**	**+2.1**
	0.2nm,0.4s,baz=80,slow=5.9,SNR=4.7						
H10N2	**ASCENSION HYDR**	**68.04**	**124**	T	T	05 56 54.9	
	baz=321,slow=75,SNR=22						
H10N3	**ASCENSION HYDR**	**68.04**	**124**	T	T	05 56 54.5	
	baz=321,slow=75,SNR=24						
H10N1	**ASCENSION HYDR**	**68.06**	**124**	T	T	05 56 56.3	
	baz=321,slow=75,SNR=24						
H10S1	**ASCENSION HYDR**	**68.80**	**125**	T	T	05 57 52.2	
	baz=322,slow=75,SNR=8.8						
H10S3	**ASCENSION HYDR**	**68.80**	**125**	T	T	05 57 52.2	
	baz=322,slow=75,SNR=8.0						
H10S2	**ASCENSION HYDR**	**68.82**	**125**	T	T	05 57 53.8	
	baz=322,slow=75,SNR=8.3						
WRA	**Warramunga Arr**	**152.35**	**316**	PKPbc	**PKPbc**	**04 51 57.3**	**+1.4**
	0.5nm,0.4s,baz=27,slow=2.4,SNR=8.5						

IDC 12 04:36:42.1±5.5, 3°.22N×92°.37E, h0km, mb3.6/3, mb1 3.6/5, mb1mx3.4/74, mbtmp3.6/5, ML3.6/2, Error ellipse: s-maj=114.7km s-min=30.7km az=25.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**6.56**	**93**	Pn	Pn	04 38 21.3	+1.2
	0.8nm,0.3s,baz=324,slow=19,SNR=2.7						
PSI				Sn	Sn	04 39 35.5	-0.2
	0.5nm,0.3s,baz=133,slow=19,SNR=2.1						
CMAR	**Chiang Mai Arr**	**16.46**	**23**	Pn	Pn	04 40 35.3	+0.7
	0.1nm,0.3s,baz=204,slow=14,SNR=2.8						
MKAR	**Makanchi Array**	**44.28**	**350**	P	P	04 44 54.2	+0.6
	0.2nm,0.5s,baz=161,slow=8.0,SNR=2.3						
KURBB	**Kurchatov Arra**	**48.66**	**348**	P	P	04 45 28.3	+0.5
	0.5nm,0.6s,baz=171,slow=7.1,SNR=6.1						
ZALV	**Zalesovo Beam**	**50.95**	**354**	P	P	04 45 43.2	-2.0
	0.8nm,0.4s,baz=172,slow=7.2,SNR=4.5						

*IDC **12** 04:40:52.1±0.8, 2°.74N×92°.13E, h0km, mb4.0/14, mb1 4.1/17, mb1mx3.9/73, mbtmp4.0/17, ML4.0/3, MS3.6/13, Ms1 3.6/13, ms1mx3.2/62, Error ellipse: s-maj=25.4km s-min=16.7km az=42.0*
*NEIC **12** 04:40:53.6±0.3, 2°.74N×92°.09E, h10km, mb4.8/15, Error ellipse: s-maj=7.7km s-min=4.8km az=198.0*
*DJA **12** 04:40:54.4±0.4, 3°.N×6°.×9°.2E±°, h10km, M4.7/12, mb5.0/12, mB5.2/9, MLv4.9/6, Mw(mB)4.5/9*
*ISCJB **12** 04:40:55.4±0.4, 2°.77N±0°.05×92°.26E±0°.03, h33km, mb4.3/24, MS3.6/11, Error ellipse: s-maj=7.4km s-min=4.0km az=18.5*

ISC 12 04:40:57.2±0.6, 2°.77N±0°.07×92°.20E±0°.06, h35km, n93, σ1$03/82, mb4.4/24, MS3.6/11, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSI	**Banda Aceh**	**4.11**	**49**	P	**Pn**	**04 41 56.8**	**-0.8**
MLSI	**Meulaboh, Aceh**	**4.46**	**70**	P	**Pn**	**04 42 02.3**	**0.0**
TPTI		**5.00**	**84**	P	**Pn**	**04 42 10.1**	**+0.3**
	101nm,0.5s,2μm0.7nm						
LHMI	**Lhok Sumawe**	**5.33**	**63**	P	**Pn**	**04 42 14.0**	**-0.4**
LHMI	**Lhok Sumawe**	**5.33**	**63**	*e*Pn	**Pn**	**04 42 14.7**	**+0.3**
LHMI				*e*Sn	**Sn**	**04 43 12.6**	**-2.0**
GSI	**Gunungsitoli**	**5.57**	**105**	P	**Pn**	**04 42 17.5**	**-0.1**
	116nm,0.6s,0.6nm						
GSI				S	**Sn**	**04 43 17.7**	**-2.7**
	116nm,0.6s,0.6nm						
GSI	**Gunungsitoli**	**5.57**	**105**	*e*Pn	**Pn**	**04 42 17.9**	**+0.3**
GSI				*e*Sn	**Sn**	**04 43 18.3**	**-2.1**
KCSI	**Kotacane, Aceh**	**5.62**	**82**	P	**Pn**	**04 42 19.5**	**+1.2**
PSI	**Prapat**	**6.72**	**90**	Pn	**Pn**	**04 42 32.8**	**-0.7**
	1.0nm,0.3s,baz=300,slow=9.3,SNR=23						
PSI				Sn	**Sn**	**04 43 46.6**	**-2.4**
	1.4nm,0.3s,baz=295,slow=19,SNR=1.8						
PSI	**Prapat**	**6.72**	**90**	*e*Pn	**Pn**	**04 42 34.6**	**+1.0**
PSI				*e*Sn	**Sn**	**04 43 46.6**	**-2.4**
MNSI	**Mandailing Nat**	**7.63**	**105**	P	**Pn**	**04 42 47.9**	**+1.9**
PKDT	**Phuket**	**7.95**	**50**	P	**Pn**	**04 42 50.0**	**-0.4**
	38nm,0.7s,622nm0.2nm						
SISI	**Saibi**	**8.00**	**120**	P	Pn	04 42 58.8	+7.8
KULM	**Kulim**	**8.80**	**73**	*e*Pn	**Pn**	**04 43 02.5**	**+0.5**
IPM	**Ipoh**	**8.97**	**79**	*e*Pn	**Pn**	**04 43 04.2**	**-0.2**
SURT	**Suratani**	**8.99**	**47**	P	**Pn**	**04 43 04.4**	**-0.3**
	50nm,0.7s,495nm0.2nm						
TRTT	**Trang**	**9.00**	**56**	P	**Pn**	**04 43 03.8**	**-1.0**
	40nm,0.5s,467nm0.2nm						
SKLT	**Songkhla**	**9.46**	**62**	P	**Pn**	**04 43 11.1**	**0.0**
	77nm,0.6s,966nm						
PPSI	**Pulau Pagai**	**9.55**	**125**	P	**Pn**	**04 43 14.2**	**+1.9**
	106nm,0.7s						
PALK	**Pallekele**	**12.29**	**292**	Pn	**Pn**	**04 43 46.7**	**-3.3**
	1.6nm,0.3s,baz=117,slow=9.8,SNR=4.4						
PALK				Sn	Sn	04 45 52.9	-13
	8.2nm,0.3s,baz=296,slow=1.6,SNR=9.2						
PALK	**Pallekele**	**12.29**	**292**	*e*Pn	Pn	04 43 45.5	-4.4
PALK				*e*Sn	Sn	04 45 52.2	-14
PBKT	**Sadao Pong**	**16.21**	**32**	P	**P**	**04 44 46.2**	**+1.1**
	22nm,1.2s						
CM01	**Chiang Mai Arr**	**16.91**	**23**	*e*Pn	**Pn**	**04 44 50.5**	**-0.8**
CM31	**Chiang Mai Arr**	**16.94**	**23**	*e*Pn	**Pn**	**04 44 50.9**	**-0.7**
CMAR	**Chiang Mai Arr**	**16.94**	**23**	Pn	**Pn**	**04 44 50.9**	**-0.7**
	0.3nm,0.3s,baz=216,slow=12,SNR=13						
CMAR				LR	LR	04 51 09.5	
	comp=Z,117nm,20.8s,baz=220,slow=36						
CHTO	**Chiang Mai**	**17.26**	**22**	P	**P**	**04 44 58.9**	**+2.0**
	47nm,0.9s						
CHTO	**Chiang Mai**	**17.26**	**22**	*e*Pn	**P**	**04 44 58.0**	**+1.1**
	6.6nm,0.8s						
CMMT	**Chiang Mai**	**17.26**	**22**	P	**P**	**04 44 57.9**	**+1.0**
	10nm,0.8s						
LEM	**Lembang**	**18.10**	**122**	LR	LR	04 52 01.8	
	comp=Z,115nm,18.4s,baz=328,slow=37						
SKNT	**Sakolnakorn**	**18.26**	**39**	P	**Pn**	**04 45 08.6**	**+0.6**
SBUM	**Sibu**	**20.00**	**90**	*e*P	**Pn**	**04 45 29.5**	**+0.5**
	12nm,0.8s						
H08S2	**Diego Garcia H**	**22.21**	**242**	T	T	05 07 25.2	
	baz=59,slow=75,SNR=8.9						
H08S3	**Diego Garcia H**	**22.21**	**242**	T	T	05 07 23.0	
	baz=59,slow=75,SNR=9.2						
H08S1	**Diego Garcia H**	**22.23**	**242**	T	T	05 07 26.9	
	baz=59,slow=75,SNR=9.9						
RAMN	**Ramite**	**24.64**	**348**	*e*P	**P**	**04 46 16.2**	**+1.3**
	55nm,0.9s						
JIRN	**Jiri**	**25.41**	**348**	*e*P	**P**	**04 46 22.9**	**+0.9**
	37nm,0.7s						
GUN	**Gumba**	**25.72**	**347**	*e*P	**P**	**04 46 25.4**	**+0.6**
	26nm,0.7s						
GKN	**Gorkha**	**26.11**	**345**	*e*P	**P**	**04 46 29.1**	**+0.9**
	18nm,0.7s						
KOLN	**Koldanda**	**26.19**	**343**	*e*P	**P**	**04 46 29.8**	**+0.9**
	9.0nm,0.7s						
PYUN	**Piuthan**	**26.68**	**342**	*e*P	**P**	**04 46 34.1**	**+0.7**
DANN	**Dangsing**	**26.68**	**343**	*e*P	**P**	**04 46 34.4**	**+0.9**
XAN	**Xi'an**	**34.81**	**25**	P	**P**	**04 47 45.9**	**+1.1**
XAN				pP	pP	04 47 52.9	-2.1
XAN				sP	sP	04 47 56.7	-2.5
XAN				pmax	pmax		
	comp=Z,12nm,0.8s						
XAN				pmax	pmax		
	comp=Z,77nm,4.6s						
NIL	**Nilore**	**35.46**	**332**	*e*P	**P**	**04 47 50.9**	**+0.5**
	comp=Z,9.3nm,0.7s						
WSAR	**Wadi Sarin**	**38.34**	**305**	LR	LR	05 01 58.5	
	comp=Z,52nm,20.2s,baz=170,slow=33						
NWAO	**Narrogin (SRO)**	**42.68**	**148**	LR	LR	05 05 29.7	
	comp=Z,79nm,18.5s,slow=35						
AAK	**Ala-Archa**	**42.73**	**341**	LR	LR	05 06 52.3	
	comp=Z,90nm,20.2s,baz=150,slow=36						
KK31	**Karatay Array**	**44.57**	**337**	*e*P	**P**	**04 49 06.2**	**+0.3**
KKAR	**Karatay Array**	**44.57**	**337**	*e*P	**P**	**04 49 06.2**	**+0.3**
MK01	**Makanchi Array**	**44.67**	**350**	*e*P	**P**	**04 49 06.7**	**0.0**
MK31	**Makanchi Array**	**44.70**	**350**	*e*P	**P**	**04 49 07.3**	**+0.5**
MK32	**Makanchi Array**	**44.70**	**350**	*e*P	**P**	**04 49 06.7**	**-0.1**
MKAR	**Makanchi Array**	**44.70**	**350**	P	**P**	**04 49 06.7**	**-0.1**
	comp=Z,1.8nm,0.6s,baz=170,slow=8.6,SNR=20						
MKAR				LR	LR	05 09 59.3	
	comp=Z,42nm,20.4s,baz=286,slow=39						
MKAR	**Makanchi Array**	**44.70**	**350**	*e*P	**P**	**04 49 07.3**	**+0.5**
	comp=Z,13nm,0.8s						
SONA0	**Songino Array**	**46.54**	**13**	*e*P	**P**	**04 49 22.3**	**+0.8**
SONM	**Songino Array**	**46.54**	**13**	P	**P**	**04 49 22.3**	**+0.8**
	comp=Z,0.8nm,0.6s,baz=195,slow=8.2,SNR=6.0						
SONM				LR	LR	05 11 38.7	
	comp=Z,50nm,19.4s,baz=190,slow=40						
SONA1	**Songino Array**	**46.55**	**13**	*e*P	**P**	**04 49 21.7**	**+0.1**
GEYT	**Alibeck**	**46.88**	**323**	P	**P**	**04 49 24.8**	**+0.6**
	comp=Z,5.6nm,0.8s,baz=148,slow=8.7,SNR=7.0						
GEYT				LR	LR	05 10 50.3	
	comp=Z,51nm,18.3s,baz=310,slow=38						
WR1	**Warramunga Arr**	**47.12**	**121**	*e*P	**P**	**04 49 27.1**	**+0.7**
	comp=Z,9.7nm,1.1s						
WRA	**Warramunga Arr**	**47.12**	**121**	P	**P**	**04 49 27.1**	**+0.7**
	comp=Z,1.0nm,0.6s,baz=307,slow=8.6,SNR=9.8						
KSRS	**Korea Array**	**47.60**	**39**	LR	LR	05 10 04.1	
	comp=Z,63nm,18.9s,baz=160,slow=37						
AS31	**Alice Springs**	**48.35**	**125**	*e*P	**P**	**04 49 35.8**	**-0.1**
	comp=Z,1.9nm,1.4s						
ASAR	**Alice Springs**	**48.35**	**125**	P	**P**	**04 49 35.8**	**-0.1**
	comp=Z,0.4nm,0.7s,baz=307,slow=8.0,SNR=3.2						
KURBB	**Kurchatov Arra**	**49.07**	**349**	P	**P**	**04 49 40.6**	**-0.3**
	comp=Z,0.7nm,0.6s,baz=171,slow=7.0,SNR=8.5						
KURK	**Kurchatov**	**49.14**	**349**	*e*P	**P**	**04 49 40.6**	**-0.8**
ZALV	**Zalesovo Beam**	**51.38**	**354**	P	**P**	**04 49 58.7**	**+0.4**
	comp=Z,1.6nm,0.4s,baz=185,slow=7.4,SNR=8.1						
ZALV	**Zalesovo Beam**	**51.38**	**354**	*e*P	**P**	**04 49 58.6**	**+0.3**
ZAA1	**Zalesovo Array**	**51.38**	**354**	*e*P	**P**	**04 49 58.7**	**+0.4**
INU	**Inuyama**	**52.64**	**46**	*e*P	**P**	**04 50 07.5**	**-0.5**
	comp=Z,35nm,1.0s						
BVAR	**Borovoye Array**	**53.25**	**344**	P	**P**	**04 50 12.1**	**-0.1**
	comp=Z,1.4nm,0.6s,baz=264,slow=38,SNR=3.1						
BVAR				LR	LR	05 13 11.7	
	comp=Z,65nm,20.9s,baz=148,slow=36						
ABKAR	**Akbulak array**	**53.87**	**334**	*e*P	**P**	**04 50 16.9**	**+0.1**
MJAR	**Matsushiro Arr**	**54.05**	**46**	LR	LR	05 15 17.0	
	comp=Z,49nm,18.9s,baz=265,slow=38						
BR101	**Keskin Array S**	**64.38**	**313**	*e*P	**P**	**04 51 30.3**	**+0.2**
BRTR	**Keskin Array B**	**64.38**	**313**	P	**P**	**04 51 30.3**	**+0.2**
	comp=Z,0.4nm,0.5s,baz=144,slow=7.4,SNR=3.6						
KARP	**Karpathos**	**68.19**	**307**	*e*P	**P**	**04 51 55.2**	**+0.8**
	comp=Z,6.9nm,1.0s						
IDI	**Anoyia**	**69.95**	**307**	P	**P**	**04 52 05.8**	**+0.4**
	comp=Z,7.6nm,1.0s,baz=166,slow=4.2,SNR=4.7						
IDI	**Anoyia**	**69.95**	**307**	*e*P	**P**	**04 52 05.8**	**+0.4**
	comp=Z,28nm,1.5s						
LBTB	**Lobatse**	**70.14**	**242**	*e*P	**P**	**04 52 04.2**	**-2.6**
	comp=Z,12nm,1.2s						
AK11	**Malin Array Ste**	**71.02**	**323**	*e*P	**P**	**04 52 11.0**	**-0.5**
BOSA	**Boshof**	**71.27**	**239**	P	**P**	**04 52 13.4**	**-0.2**
	comp=Z,2.8nm,0.9s,baz=85,slow=9.2,SNR=4.1						
BOSA	**Boshof**	**71.27**	**239**	*e*P	**P**	**04 52 13.4**	**-0.2**
	comp=Z,31nm,1.8s						
MLR	**Muntele Rosu**	**71.52**	**317**	P	**P**	**04 52 15.3**	**+0.5**
	comp=Z,0.3nm,0.5s,baz=164,slow=18						
TIXI	**Tiksi**	**72.59**	**11**	*e*P	**P**	**04 52 20.8**	**+0.2**
	comp=Z,3.9nm,1.1s						
ITM	**Ithomi**	**72.65**	**308**	*e*P	**P**	**04 52 21.4**	**-0.3**
	comp=Z,18nm,1.3s						
AGG	**Agios Georgios**	**72.67**	**310**	*e*P	**P**	**04 52 20.3**	**-1.4**
	comp=Z,33nm,1.3s						
PETK	**Petropavlovsk-**	**73.27**	**35**	LR	LR	05 27 58.9	
	comp=Z,38nm,18.1s,baz=149,slow=39						
FIA0	**FINESS Array S**	**76.33**	**333**	*e*P	**P**	**04 52 42.0**	**-0.5**
FINES	**FINESS Array B**	**76.33**	**333**	P	**P**	**04 52 42.0**	**-0.5**
	comp=Z,1.8nm,0.9s,baz=202,slow=33,SNR=2.9						
GEC2	**GERESS Array S**	**80.35**	**319**	*e*P	**P**	**04 53 05.8**	**+0.7**
	comp=Z,10nm,1.4s						
GERES	**GERESS Array B**	**80.35**	**319**	P	**P**	**04 53 05.8**	**+0.7**
	comp=Z,0.6nm,0.6s,baz=99,slow=4.3,SNR=5.6						
SPITS	**Spitsbergen Ar**	**84.42**	**348**	LR	LR	05 38 46.1	
	comp=Z,73nm,18.9s,baz=170,slow=41						
DLMT	**Dillon**	**127.25**	**22**	*e*PKPpre	PKPpre	04 59 48.7	
MSU	**Marysvale**	**133.16**	**26**	*e*PKPpre	PKPpre	04 59 58.5	
MWC	**Mount Wilson**	**133.48**	**35**	*e*PKPpre	PKPpre	04 59 56.7	

*NIED **12** 04:49:00, 35°.70N×141°.10E, h8km, Mw3.5 Best double couple: M0 2.29000×10^14 NP1:φ=210.00000°, δ=35.00000°, λ=-43.00000°. NP2:φ=337.00000°, δ=67.00000°, λ=-117.00000°.*

JMA 12 04:49:18.0±0.2, 35°.70N×140°.97E, h12km±1km, M3.7, 2C-1D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.09**	**272**	↑P	Pg	04 49 20.6	-0.1
CHOJ				S	Sg	04 49 22.8	+0.1
JCN	**Nagara**	**0.69**	**246**	↑P	Pb	04 49 32.1	+0.2
JYT	**Yasato**	**0.82**	**310**	P	Pg	04 49 33.1	-0.8
JYT				S	Sg	04 49 44.0	-0.6
BSO4	**Boso 4**	**0.88**	**216**	↓P	Pb	04 49 35.2	+0.1
JHO	**Hitachi**	**0.96**	**340**	S	Sg	04 49 49.0	-0.2
BSO3	**Boso 3**	**0.97**	**203**	P	Pb	04 49 36.0	-0.6
MAT	**Matsushiro**	**2.39**	**291**	P	Pn	04 49 56.8	-0.2
MAT				*e*S	Sn	04 50 27.9	+1.7

*ISCJB **12** 04:56:16.2±0.7, 28°.83N±0°.05×113°.01W±0°.06, h10km, mb3.7/4, MS3.5/3, Error ellipse: s-maj=9.1km s-min=4.2km az=141.8*
*NEIC **12** 04:56:16.5±0.0, 28°.90N×113°.26W, h10km, mb3.9/10, MD4.0(MEX), After MEX.*
*MEX **12** 04:56:16.5±0.3, 28°.90N×113°.26W, h10km, MD4.0*
*IDC **12** 04:56:22.8±1.3, 29°.50N×112°.53W, h0km, mb3.6/3, mb1 3.9/8, mb1mx3.6/61, mbtmp3.6/8, ML4.1/4, MS3.4/7, Ms1 3.4/7, ms1mx3.1/34, Error ellipse: s-maj=20.7km s-min=11.7km az=42.0*

ISC 12 04:56:18.4±0.8, 28°.81N±0°.05×113°.05W±0°.06, h10km, n53, σ2$37/52, mb3.8/4, MS3.3/3, Baja California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRIG	**Santa Rosalia**	**1

NEW	**Newport**	**19.68**	**352**	P		**Pn**	**05 00 47.5**	**-1.6**
	0.1nm,0.3s,baz=204,slow=8.2,SNR=4.6							
NEW				LR		LR	05 09 04.6	
	comp=Z,122nm,20.3s,baz=272,slow=40							
NEW	**Newport**	**19.68**	**352**	*eP*		**Pn**	**05 00 48.0**	**-1.1**
	10nm,1.5s							
JFWS	**Jewell Farm**	**23.14**	**46**	*eP*		**P**	**05 01 30.4**	**+5.6**
	29nm,1.6s							
ULM	**Lac du Bonnet**	**25.06**	**27**	P		**P**	**05 01 41.0**	**-1.8**
	2.0nm,0.8s,baz=222,slow=8.9,SNR=6.3							
TKL	**Tuckaleechee C**	**25.63**	**67**	LR		LR	05 12 23.1	
	comp=Z,96nm,19.7s,baz=278,slow=38							
YKA	**Yellowknife Ar**	**33.70**	**359**	P		**P**	**05 02 57.8**	**-1.7**
	0.2nm,0.7s,baz=182,slow=8.6,SNR=6.2							
YKB5	**Yellowknife Ar**	**33.70**	**359**	*eP*		**P**	**05 02 57.8**	**-1.7**
ILAR	**Eielson Array**	**41.79**	**339**	P		**P**	**05 04 08.0**	**+0.2**
	1.4nm,1.1s,baz=158,slow=6.5,SNR=9.1							
AFI	**Afiamalu**	**70.86**	**241**	LR		LR	05 31 03.3	
	comp=Z,40nm,20.2s,baz=128,slow=29							
NOA	**NORSAR Array B**	**79.73**	**24**	LR		LR	05 42 29.6	
	comp=Z,14nm,18.2s,baz=355,slow=35							

IDC 12 04:57:11.7±2.0, 7°27S×120°19E, h550km±22km, mb2.6/3, mb1 2.9/6, mb1mx2.7/58, mbtmp3.7/6, Error ellipse: s-maj=91.3km s-min=19.3km az=62.0, Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**4.50**	**131**	P	P	04 58 38.1	+0.6
	7.3nm,0.3s,baz=288,slow=3.7,SNR=8.9						
BATI				S	S	04 59 47.6	+0.1
	2.1nm,0.3s,baz=308,slow=18,SNR=2.4						
FITZ	**Fitzroy Crossi**	**12.00**	**154**	P	P	04 59 49.9	-0.3
	0.1nm,0.3s,baz=349,slow=5.2,SNR=5.6						
WRA	**Warramunga Arr**	**18.62**	**134**	P	P	05 00 55.4	+0.1
	0.2nm,0.3s,baz=315,slow=10,SNR=8.7						
ASAR	**Alice Springs**	**20.95**	**143**	P	P	05 01 16.4	-0.1
	0.3nm,0.3s,baz=319,slow=8.4,SNR=5.8						
SONM	**Songino Array**	**56.21**	**349**	P	P	05 05 59.8	-0.1
	0.4nm,0.5s,baz=181,slow=7.2,SNR=3.2						
MKAR	**Makanchi Array**	**63.48**	**332**	P	P	05 06 48.0	-0.1
	0.6nm,0.6s,baz=154,slow=8.2,SNR=7.4						

SJA 12 04:58:46.0±0.3, 28°77S×67°51W, h137km±3km, ML3.5, MW3.7
ISCJB 12 04:58:47.3±1.1, 28°79S±0°08×67°55W±0°08, h129km, Error ellipse: s-maj=12.3km s-min=8.0km az=40.5
GUC 12 04:58:48.3±0.5, 28°81S×67°67W, h126km±3km, ML3.8
ISC 12 04:58:47.6±1.8, 28°78S±0°08×67°53W±0°09, h129km, n12, σ0§48/18, 4C, La Rioja Province

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VCA	**Vinchina**	**0.60**	**274**	*eP*	**Pn**	**04 59 07.4**	**0.0**
VCA				*eS*	**Sn**	**04 59 23.1**	**+0.8**
VCA				IAML		04 59 25.5	
	comp=Z,945nm,0.3s						
VCA	**Vinchina**	**0.60**	**274**	⇑*iP*	**Pn**	**04 59 07.7**	**+0.3**
VCA				*i* S	**Sn**	**04 59 22.5**	**+0.2**
VCA				IAML		04 59 25.1	
	comp=E,2µm,0.6s						
AGUA	**GUANDACOL**	**1.10**	**230**	*eP*	**Pn**	**04 59 11.6**	**+0.1**
AGUA				*eS*	**Sn**	**04 59 30.3**	**+0.7**
APLL	**PUNTA DE LOS L**	**1.82**	**152**	*eP*	**Pn**	**04 59 19.2**	**-0.3**
AMOG	**MOGNA**	**2.31**	**201**	*eP*	**Pn**	**04 59 25.4**	**0.0**
GO03	**Copiap**	**2.67**	**296**	⇑*iP*	**Pn**	**04 59 30.3**	**+0.3**
GO03				*i* S	**Sn**	**05 00 01.4**	**-1.2**
GO03				IAML		05 00 02.2	
	comp=E,216nm,0.3s						
GO04	**Tololo Observa**	**3.17**	**243**	⇑*iP*	**Pn**	**04 59 36.6**	**0.0**
GO04				*i* S	**Sn**	**05 00 13.8**	**-0.8**
GO04				IAML		05 00 17.3	
	comp=E,563nm,0.4s						
TLL	**Tololo Astrono**	**3.17**	**243**	⇑*iP*	**Pn**	**04 59 36.7**	**0.0**
TLL				*eS*	**Sn**	**05 00 14.5**	**-0.1**
TLL				IAML		05 00 16.9	
	comp=N,244nm,0.3s						
RTCV	**Cerro Valdivia**	**3.19**	**196**	*eP*	**Pn**	**04 59 36.6**	**-0.1**
RTLS	**Leoncito**	**3.37**	**207**	*eP*	**Pn**	**04 59 39.7**	**+0.3**
RTLS				IAML		04 59 40.7	
	comp=Z,69nm,0.2s						
ACAN	**Cantantal**	**3.49**	**175**	*eP*	**Pn**	**04 59 40.5**	**-0.1**
AUSP	**Uspallata**	**3.79**	**205**	*eP*	**Pn**	**04 59 45.0**	**+0.2**

IDC 12 05:05:55.3±1.4, 2°32N×90°05E, h0km, mb3.9/8, mb1 3.9/10, mb1mx3.6/64, mbtmp3.8/10, ML3.7/2, MS2.8/1, Ms1 3.0/1, ms1mx2.5/59, Error ellipse: s-maj=40.5km s-min=22.8km az=41.0
ISCJB 12 05:05:58.7±1.2, 2°4N±0°2×90°25E±0°09, h33km, mb4.0/8, Error ellipse: s-maj=24.7km s-min=10.9km az=16.6
ISC 12 05:06:00.8±1.3, 2°4N±0°2×90°2E±0°1, h35km, n11, σ1§03/12, mb4.0/8, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**8.74**	**87**	Pn	**Pn**	**05 08 05.8**	**+0.9**
	0.2nm,0.3s,baz=308,slow=19,SNR=2.3						
PSI				Sn	**Sn**	**05 09 40.7**	**-1.6**
	0.4nm,0.3s,baz=126,slow=17,SNR=2.6						
CMAR	**Chiang Mai Arr**	**18.16**	**29**	P	**Pn**	**05 10 11.4**	**+1.0**
	0.3nm,0.3s,baz=235,slow=14,SNR=3.3						
CMAR				LR	LR	05 16 49.7	
	comp=Z,31nm,19.4s,baz=295,slow=36						
MKAR	**Makanchi Array**	**44.80**	**352**	P	**P**	**05 14 10.6**	**-0.7**
	1.6nm,0.7s,baz=171,slow=9.6,SNR=13						
GEYT	**Alibeck**	**46.02**	**324**	P	**P**	**05 14 21.2**	**+0.2**
	1.7nm,0.5s,baz=130,slow=16,SNR=3.7						
SONM	**Songino Array**	**47.43**	**15**	P	**P**	**05 14 32.7**	**+0.7**
	0.9nm,0.5s,baz=190,slow=10,SNR=4.8						
KURBB	**Kurchatov Arra**	**49.10**	**350**	P	**P**	**05 14 44.1**	**-0.6**
	0.6nm,0.4s,baz=176,slow=7.6,SNR=8.7						
ASAR	**Alice Springs**	**49.77**	**124**	P	**P**	**05 14 50.9**	**+0.5**
	0.6nm,1.0s,baz=301,slow=11,SNR=3.6						
ZALV	**Zalesovo Beam**	**51.62**	**356**	P	**P**	**05 15 02.4**	**-1.3**
	1.0nm,0.5s,baz=180,slow=5.6,SNR=5.4						
BRTR	**Keskin Array B**	**63.21**	**314**	P	**P**	**05 16 25.6**	**-0.4**
	0.8nm,0.7s,baz=125,slow=6.4,SNR=6.2						
FINES	**FINESS Array B**	**75.80**	**334**	P	**P**	**05 17 43.5**	**+0.5**
	1.9nm,1.1s,baz=193,slow=3.3,SNR=3.3						
TXAR	**Lajitas Array**	**145.81**	**22**	PKPbc	**PKPdf**	**05 25 35.5**	**-1.2**
	0.3nm,1.0s,baz=107,slow=0.9,SNR=2.4						

IDC 12 05:20:08.1±2.4, 2°04N×89°31E, h0km, mb3.5/4, mb1 3.7/5, mb1mx3.4/63, mbtmp3.5/5, ML4.3/1, MS3.4/1, Ms1 3.3/1, ms1mx2.6/48, Error ellipse: s-maj=74.6km s-min=29.1km az=62.0, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**18.85**	**29**	P	Pn	05 24 31.4	+1.0
	0.3nm,0.3s,baz=209,slow=11,SNR=3.2						
MKAR	**Makanchi Array**	**44.99**	**353**	P	P	05 28 24.5	-0.8
	0.3nm,0.5s,baz=170,slow=7.4,SNR=4.8						
SONM	**Songino Array**	**47.95**	**15**	P	P	05 28 47.6	-1.1
	0.9nm,0.6s,baz=195,slow=10,SNR=5.4						
KURBB	**Kurchatov Arra**	**49.26**	**351**	P	P	05 28 58.6	+0.1
	0.2nm,0.7s,baz=179,slow=8.3,SNR=2.9						
WRA	**Warramunga Arr**	**49.17**	**19**	P	P	05 28 58.7	-0.4
	0.4nm,0.6s,baz=297,slow=8.5,SNR=3.1						
KBZ	**Khabaz**	**58.41**	**322**	LR	LR	05 57 10.1	
	comp=Z,35nm,19.8s,baz=2.0,slow=38						
TXAR	**Lajitas Array**	**146.42**	**21**	PKPbc	PKPbc	05 39 52.1	+0.1
	0.5nm,1.0s,baz=315,slow=0.4,SNR=3.3						

MEX 12 05:20:46.2±0.5, 16°31N×98°16W, h18km±7km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.09**	**20**	*i* P	Pg	05 20 48.7	-1.1
PNIG				*eS*	Sg	05 20 51.5	-0.7
TLIG	**Tlapa**	**1.30**	**343**	*eP*	Pn	05 21 06.6	-3.1
TLIG				*eS*	Sn	05 21 21.6	-5.1
VHO	**Vista Hermosa**	**1.56**	**61**	*eP*	Pn	05 21 11.6	-1.7
VHO				*i* S	Sn	05 21 28.6	-4.6
CAIG	**El Cayaco**	**2.15**	**290**	*eP*	Pn	05 21 14.1	-7.1
CAIG				*eS*	Sn	05 21 43.4	-4.1
PLIG	**Platanillo**	**2.44**	**328**	*eP*	Pn	05 21 25.0	-0.2
PLIG				*eS*	Sn	05 21 50.2	-4.4

IDC 12 05:23:45.5±1.0, 3°81N×92°49E, h0km, mb3.9/10, mb1 4.0/13, mb1mx3.8/72, mbtmp3.9/13, ML4.2/3, MS3.3/3, Ms1 3.3/3, ms1mx2.8/59, Error ellipse: s-maj=36.1km s-min=16.2km az=45.0
NEIC 12 05:23:47.2±0.5, 3°86N×92°48E, h10km, mb4.2/5, Error ellipse: s-maj=11.6km s-min=6.4km az=209.0
ISCJB 12 05:23:48.7±0.7, 3°9N±0°1×92°55E±0°09, h33km, mb4.0/14, MS3.5/2, Error ellipse: s-maj=17.4km s-min=8.9km az=35.2
ISC 12 05:23:50.6±0.8, 3°9N±0°1×92°58E±0°08, h35km, n24, σ1§52/23, mb3.9/14, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**6.42**	**99**	Pn	**Pn**	**05 25 23.5**	**+0.7**
	5.8nm,0.3s,baz=322,slow=10,SNR=12						
PSI				Sn	**Sn**	**05 26 30.2**	**-4.9**
	1.1nm,0.3s,baz=252,slow=12,SNR=2.2						
IPM	**Ipoh**	**8.45**	**85**	*e*Pn	**Pn**	**05 25 51.8**	**+1.2**
PALK	**Pallekele**	**12.30**	**287**	Pn	**Pn**	**05 26 40.4**	**-3.0**
	1.5nm,0.3s,baz=116,slow=12,SNR=7.2						
PALK				Sn	Sn	05 28 44.9	-14
	1.2nm,0.3s,baz=94,slow=0.4,SNR=3.3						
PALK				LR	LR	05 30 47.3	
	comp=Z,50nm,20.1s,baz=115,slow=34						
CMAR	**Chiang Mai Arr**	**15.80**	**23**	Pn	**Pn**	**05 27 28.6**	**-1.9**
	0.3nm,0.3s,baz=217,slow=14,SNR=11						
CHTO	**Chiang Mai**	**16.12**	**22**	*e*Pn	**Pn**	**05 27 34.0**	**-0.7**
	2.0nm,0.6s						
KSM	**Kuching**	**17.87**	**97**	P	**P**	**05 27 58.5**	**+1.5**
	5.0nm,0.8s						
NIL	**Nilore**	**34.70**	**331**	*eP*	**P**	**05 30 38.1**	**+0.9**
	24nm,0.8s						
AAK	**Ala-Archa**	**41.85**	**340**	LR	LR	05 49 21.1	
	comp=Z,50nm,21.5s,baz=142,slow=37						
MKAR	**Makanchi Array**	**43.70**	**350**	P	**P**	**05 31 52.1**	**-0.1**
	0.8nm,0.7s,baz=168,slow=8.1,SNR=8.6						
KKAR	**Karatay Array**	**43.72**	**337**	*eP*	**P**	**05 31 53.2**	**+0.7**
	2.3nm,0.9s						
SONM	**Songino Array**	**45.41**	**13**	P	**P**	**05 32 06.8**	**+0.9**
	0.9nm,0.6s,baz=194,slow=7.6,SNR=4.9						
WRA	**Warramunga Arr**	**47.35**	**122**	P	**P**	**05 32 21.6**	**+0.1**
	0.6nm,0.8s,baz=300,slow=9.0,SNR=4.3						
KURBB	**Kurchatov Arra**	**48.09**	**348**	P	**P**	**05 32 27.6**	**+0.8**
	0.6nm,0.6s,baz=170,slow=7.1,SNR=9.0						
KURK	**Kurchatov**	**48.16**	**348**	P	**P**	**05 32 27.6**	**+0.3**
ZALV	**Zalesovo Beam**	**50.34**	**354**	P	**P**	**05 32 44.4**	**+0.5**
	2.7nm,0.6s,baz=181,slow=8.7,SNR=3.6						
BVAR	**Borovoye Array**	**52.32**	**343**	P	**P**	**05 32 58.4**	**-0.4**
	0.8nm,0.7s,baz=290,slow=39,SNR=3.1						
ABKAR	**Akbulak array**	**53.06**	**334**	*eP*	**P**	**05 33 03.6**	**-0.7**
	1.8nm,1.0s						
CTA	**Charters Tower**	**57.81**	**117**	P	**P**	**05 33 39.6**	**+0.6**
	6.8nm,0.8s,baz=345,slow=5.1						
STKA	**Stephens Creek**	**58.56**	**131**	P	**P**	**05 33 44.5**	**+0.5**
	1.6nm,0.8s,baz=244,slow=4.4,SNR=2.9						
MBAR	**Mbarara**	**61.95**	**267**	LR	LR	05 57 51.2	
	comp=Z,58nm,20.1s,baz=188,slow=33						
BRTR	**Keskin Array B**	**63.93**	**313**	P	**P**	**05 34 20.6**	**+0.1**
	0.5nm,0.6s,baz=328,slow=7.5,SNR=3.1						
TIXI	**Tiksi**	**71.46**	**11**	*eP*	**P**	**05 35 07.3**	**+0.2**
	4.9nm,0.8s						
GERES	**GERESS Array B**	**79.79**	**319**	P	**P**	**05 35 56.1**	**+0.7**
	0.3nm,0.3s,baz=87,slow=5.5,SNR=4.4						
TXAR	**Lajitas Array**	**143.51**	**24**	PKP	**PKPdf**	**05 43 22.8**	**+0.3**
	0.1nm,0.4s,baz=239,slow=10,SNR=2.4						

IDC 12 05:28:04.2±1.4, 1°94N×93°22E, h0km, mb3.9/6, mb1 4.0/8, mb1mx3.5/75, mbtmp3.8/8, ML3.7/2, Error ellipse: s-maj=46.6km s-min=19.9km az=53.0
ISCJB 12 05:28:07.5±1.2, 2°0N±0°2×93°4E±0°2, h33km, mb3.9/6, Error ellipse: s-maj=26.5km s-min=15.9km az=136.4
ISC 12 05:28:09.7±1.4, 2°0N±0°2×93°4E±0°2, h35km, n9, σ0§54/9, mb3.9/6, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**5.60**	**82**	Pn	**Pn**	**05 29 30.4**	**-0.3**
	0.7nm,0.3s,baz=343,slow=22,SNR=7.1						
CMAR	**Chiang Mai Arr**	**17.23**	**18**	P	**P**	**05 32 09.5**	**+0.5**
	0.2nm,0.3s,baz=208,slow=13,SNR=3.7						
MKAR	**Makanchi Array**	**45.64**	**349**	P	**P**	**05 36 26.6**	**-0.2**
	1.8nm,0.5s,baz=173,slow=9.0,SNR=17						
WRA	**Warramunga Arr**	**45.73**	**121**	P	**P**	**05 36 28.9**	**+1.0**
	1.2nm,0.7s,baz=302,slow=8.6,SNR=16						
ASAR	**Alice Springs**	**46.96**	**125**	P	**P**	**05 36 37.0**	**-0.5**
	0.3nm,0.7s,baz=309,slow=8.2,SNR=3.0						
SONM	**Songino Array**	**47.01**	**12**	P	**P**	**05 36 37.5**	**-0.1**
	0.9nm,0.6s,baz=191,slow=9.7,SNR=5.3						
KURBB	**Kurchatov Arra**	**50.04**	**348**	P	**P**	**05 37 00.8**	**+0.1**
	1.2nm,0.7s,baz=170,slow=6.8,SNR=11						
GERES	**GERESS Array B**	**81.69**	**319**	P	**P**	**05 40 24.5**	**-0.2**
	0.3nm,0.2s,baz=111,slow=7.3,SNR=3.5						
TXAR	**Lajitas Array**	**144.82**	**26**	PKP	**PKPdf**	**05 47 43.9**	**0.0**
	0.3nm,0.5s,baz=100,slow=0.7,SNR=9.8						

ISCJB 12 05:29:17.5±1.2, 3°5N±0°2×92°79E±0°08, h10km, mb3.9/10, Error ellipse: s-maj=28.2km s-min=7.9km az=17.6
IDC 12 05:29:17.6±2.1, 3°44N×92°79E, h0km, mb3.9/9, mb1 4.0/11, mb1mx3.7/74, mbtmp3.9/11, ML4.0/2, Error ellipse: s-maj=49.5km s-min=26.9km az=10.0
NEIC 12 05:29:18.7±1.1, 3°41N×92°70E, h10km, mb4.1/1, Error ellipse: s-maj=26.8km s-min=9.9km az=190.0
ISC 12 05:29:18.8±1.3, 3°5N±0°2×92°76E±0°08, h10km, n16, σ1§81/18, mb3.9/10, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**6.19**	**96**	Pn	**Pn**	**05 30 50.0**	**-0.4**
	0.6nm,0.3s,baz=352,slow=19,SNR=1.9						
PSI				Sn	**Sn**	**05 32 02.3**	**+0.9**
	1.9nm,0.3s,baz=31,slow=1.7,SNR=4.7						
KULM	**Kulim**	**8.07**	**77**	*e*Pn	**Pn**	**05 31 18.3**	**+2.2**
	343nm,3.0s						
KULM				*e*Sn	**Sn**	**05 32 42.5**	**-5.1**
IPM	**Ipoh**	**8.30**	**83**	*e*Pn	**Pn**	**05 31 19.7**	**+0.3**
PALK	**Pallekele**	**12.58**	**288**	*e*Pn	**Pn**	**05 32 15.1**	**-3.0**
CMAR	**Chiang Mai Arr**	**16.07**	**22**	Pn	**Pn**	**05 33 04.5**	**-0.5**
	0.6nm,0.3s,baz=213,slow=13,SNR=5.3						
MKAR	**Makanchi Array**	**44.10**	**350**	P	**P**	**05 37 28.1**	**+0.9**
	1.8nm,0.7s,baz=173,slow=8.0,SNR=8.2						
SONM	**Songino Array**	**45.73**	**13**	P	**P**	**05 37 41.2**	**+0.9**
	1.1nm,1.0s,baz=202,slow=7.3,SNR=3.2						
KURBB	**Kurchatov Arra**	**48.49**	**348**	P	**P**	**05 38 02.6**	**+1.0**
	1.9nm,1.0s,baz=170,slow=7.2,SNR=7.4						
KURK	**Kurchatov**	**48.56**	**348**	P	**P**	**05 38 02.6**	**+0.5**
ZALV	**Zalesovo Beam**	**50.73**	**354**	P	**P**	**05 38 19.4**	**+0.7**
	3.8nm,0.3s,baz=178,slow=6.9,SNR=12						
BVAR	**Borovoye Array**	**52.73**	**343**	P	**P**	**05 38 33.2**	**-0.5**
	0.8nm,0.6s,baz=130,slow=8.0,SNR=5.0						
ABKAR	**Akbulak array**	**53.48**	**334**	*eP*	**P**	**05 38 39.8**	**+0.5**
	2.5nm,1.0s						
BRTR	**Keskin Array B**	**64.31**	**313**	P	**P**	**05 39 55.6**	**+0.7**
	0.4nm,0.4s,baz=126,slow=6.3,SNR=3.5						
AKASG	**Malin Array Be**	**70.77**	**323**	P	**P**	**05 40 34.7**	**-0.6**
	0.2nm,0.3s,baz=92,slow=4.8,SNR=4.6						
MLR	**Muntele Rosu**	**71.38**	**317**	P	**P**	**05 40 40.7**	**+1.3**
	0.4nm,0.5s,baz=284,slow=23,SNR=3.4						
GERES	**GERESS Array B**	**80.19**	**319**	P	**P**	**05 41 31.1**	**+1.5**
	0.8nm,0.6s,baz=91,slow=6.7,SNR=5.3						

CSEM 12 05:30:02.6, 37°03N×7°33E, h0km, ML3.7
CRAAG 12 05:30:02.6, 37°03N×7°33E, MI3.7, Western Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAH	**Djebel Manchou**	**0.41**	**170**	P	Pb	05 30 12.9	+0.1
CMAH	**Djebel Manchou**	**0.41**	**170**	P	Pb	05 30 12.9	+0.1
CAEH	**ʿAin El Ouahch**	**0.46**	**237**	P	Pb	05 30 13.1	-0.5
CAEH	**ʿAin El Ouahch**	**0.46**	**237**	P	Pb	05 30 13.1	-0.5
ABSA	**Djebel Ababsia**	**0.76**	**171**	P	Pg	05 30 17.9	+0.7
ABSA	**Djebel Ababsia**	**0.76**	**171**	P	Pg	05 30 17.9	+0.7
CKFL	**Kef-Lekhel**	**0.80**	**218**	P	Pb	05 30 18.7	-0.7
CKFL	**Kef-Lekhel**	**0.80**	**218**	P	Pb	05 30 18.7	-0.7
CASM	**Ain Smara**	**1.02**	**222**	P	Pg	05 30 21.7	-0.5
CASM	**Ain Smara**	**1.02**	**222**	P	Pg	05 30 21.7	-0.5
CTEI	**Djebel Teioual**	**1.22**	**218**	P	Pg	05 30 25.0	-1.0
CTEI	**Djebel Teioual**	**1.22**	**218**	P	Pg	05 30 25.0	-1.0
DFRA	**Djebel Bou Aff**	**1.26**	**248**	P	Pg	05 30 25.2	-1.6
DFRA	**Djebel Bou Aff**	**1.26**	**248**	P	Pg	05 30 25.2	-1.6

SOME 12 05:33:54.2, 41°28N×77°85E, h15km
NNC 12 05:33:56.1±1.8, 45°05N×77°02E, h0km, mb3.0, mpv2.7, Error ellipse: s-maj=14.4km s-min=7.1km az=171.0
KRNET 12 05:33:56.0±0.1, 41°37N×77°71E, h13km, mb2.4, 16C-11D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TARG	**Taragay, Kyrgy**	**0.36**	**11**	⇓*iP*	Pg	05 34 02.4	-1.1
	baz=11						
TARG				⇓*iS*	Sg	05 34 07.9	-0.7
	baz=11						
KDJ	**Kajisay**	**0.85**	**333**	⇓*iP*	Pg	05 34 12.1	-0.5
	baz=33						
KDJ				⇓*iS*	Sb	05 34 24.1	-0.1
	baz=33						
PRZ	**Przheval'sk**	**1.22**	**25**	⇑*iP*	Pg	05 34 19.4	-0.2
	baz=25						
PRZ				⇑*iS*	Sg	05 34 36.3	+0.8
	baz=25						
NRN	**Naryn**	**1.29**	**273**	⇑*iP*	Pg	05 34 20.9	+0.1
	baz=73						
NRN				⇑*iS*	Sg	05 34 39.4	+1.8
	baz=73						
ULHL	**Ulahol**	**1.40**	**309**	⇑*iP*	Pb	05 34 22.1	-0.1
	baz=9.0						
ULHL				⇑*iS*	Sg	05 34 42.1	+0.9
	baz=9.0						
TNSS	**Tian-Shan**	**1.76**	**341**	*eP*	Pb	05 34 28.5	+0.2
	4.9nm,0.5s						
TNSS				⇓*iS*	Sg	05 34 53.2	+0.6
	13nm,0.4s						
IZV	**Izvestkoviy**	**1.85**	**334**	*eP*	Pb	05 34 29.1	-0.7
	10nm,0.5s						
IZV				*eS*	Sg	05 34 54.7	-0.8
	26nm,0.3s						
MDOK	**Medeo**	**1.85**	**345**	Pn	Pb	05 34 29.1	-0.8
	2.4nm,0.4s						
MDOK				Sn	Sg	05 34 55.1	-0.6
	10nm,0.5s						
MDOK	**Medeo**	**1.85**	**345**	*eP*	Pb	05 34 29.8	0.0
	3.5nm,0.2s						
MDOK				*eS*	Sg	05 34 55.4	-0.3
	17nm,0.3s						
KZA	**Kyzart**	**1.97**	**292**	⇑*iP*	Pb	05 34 31.9	-0.1
	baz=92						
KZA				⇑*iS*	Sg	05 34 58.5	-0.9
	baz=92						
MTBS	**Maitube**	**2.00**	**332**	*eP*	Pb	05 34 32.1	-0.1
	3.2nm,0.2s						
MTBS				*eS*	Sg	05 34 59.3	-0.9
	9.7nm,0.2s						
UZB	**Uzynbulak**	**2.02**	**28**	*eP*	Pb	05 34 31.9	-0.8
	3.4nm,0.5s						
UZB				⇓*iS*	Sb	05 34 59.1	+1.3
	17nm,0.8s						
KURS	**Kuram**	**2.14**	**9**	*eP*	Pb	05 34 34.6	-0.1
	1.9nm,0.5s						
KURS				*eS*	Sg	05 35 04.0	-0.8
	8.1nm,0.7s						
TKM2	**Tokmak 2**	**2.20**	**315**	⇑Pn	Pb	05 34 36.2	+0.4
	1.8nm,0.4s						
TKM2				⇓Sn	Sg	05 35 07.1	+0.2
	11nm,0.5s						
TKM2	**Tokmak 2**	**2.20**	**315**	⇑*iP*	Pb	05 34 34.9	-1.0
	baz=15						
TKM2				⇑*iS*	Sb	05 35 03.5	+0.4
	baz=15						
KPKS	**Kokpek**	**2.21**	**19**	*eP*	Pb	05 34 36.0	+0.1
	9.4nm,0.2s						
KPKS				*eS*	Sg	05 35 06.0	-1.1
	24nm,0.3s						
DGS	**Degeres**	**2.36**	**323**	*eP*	Pb	05 34 39.2	+0.9
	2.4nm,0.4s						
DGS				*eS*	Sg	05 35 11.5	-0.3
	38nm,0.5s						
PDGK	**Podgornoye**	**2.36**	**33**	⇓Pn	Pb	05 34 37.9	-0.5
	2.2nm,0.5s						
PDGK				⇑Sn	Sg	05 35 10.0	-1.8
	13nm,0.5s						
PDGK	**Podgornoye**	**2.36**	**33**	⇓*iP*	Pb	05 34 37.9	-0.5
	baz=33						
PDGK				⇓*iS*	Sb	05 35 08.7	+1.2
	baz=33						
KTBS	**Karatobe**	**2.46**	**342**	*eP*	Pb	05 34 40.4	+0.3
	1.5nm,0.5s						
KTBS				*eS*	Sg	05 35 13.4	-1.6
	22nm,0.6s						
CHKK	**Chushkaly**	**2.54**	**348**	⇑*iP*	Pb	05 34 41.8	+0.4
	4.6nm,0.3s						
CHKK				*eS*	Sg	05 35 16.2	-1.2
	46nm,0.3s						
UCH	**Uchtor**	**2.54**	**291**	⇑*iP*	Pb	05 34 39.9	-1.8
	baz=91						
UCH				⇑*iS*	Sb	05 35 12.2	-0.8
	baz=91						
AAK	**Ala-Archa**	**2.71**	**299**	⇑Pn	Pb	05 34 45.2	+0.8

OBIP					*e*S		**Sb**	05 35 15.4	-0.4
CELP	**Cerrillos**	**0.75**	**95**	ǁ	*i*P		**Pn**	05 35 05.7	-1.1
CELP	**Cerrillos**	**0.75**	**95**	ǁ	*i*P		**Pn**	05 35 05.7	-1.1
ICMP	**Isla Caja de M**	**0.83**	**108**		*e*S		**Sb**	05 35 19.5	+0.5
ICMP	**Isla Caja de M**	**0.83**	**108**	ǁ	*e*P		**Pn**	05 35 08.0	0.0
ICMP	**Isla Caja de M**	**0.83**	**108**	ǁ	*e*P		**Pn**	05 35 08.0	0.0
ICMP					*e*S		**Sb**	05 35 19.5	+0.5
EMPR	**Esperanza - Ma**	**0.85**	**67**		*e*S		**Sn**	05 35 18.8	-1.1
EMPR	**Esperanza - Ma**	**0.85**	**67**	ǁ	*i*P		**Pn**	05 35 07.8	-0.5
EMPR	**Esperanza - Ma**	**0.85**	**67**	ǁ	*i*P		**Pn**	05 35 07.8	-0.5
EMPR					*e*S		**Sn**	05 35 18.8	-1.1
SJG	**San Juan**	**1.15**	**92**	ǁ	*e*P		**Pn**	05 35 11.9	-0.4
SJG	**San Juan**	**1.15**	**92**		*e*S		**Sb**	05 35 28.3	+0.3
SJG	**San Juan**	**1.15**	**92**		Pg		**Pn**	05 35 12.1	-0.3
	119nm,0.3s,baz=278,slow=15,SNR=128								
SJG					Lg		Lg	05 35 28.3	
	478nm,0.3s,baz=86,slow=19,SNR=40								
CBYP	**Canovanas**	**1.44**	**85**	ǁ	*e*P		**Pn**	05 35 16.8	+0.4
CBYP	**Canovanas**	**1.44**	**85**	ǁ	*e*P		**Pb**	05 35 17.4	-0.9
CBYP	**Canovanas**	**1.44**	**85**		*e*S		**Sn**	05 35 34.3	0.0
CBYP	**Canovanas**	**1.44**	**85**	ǁ	*e*P		**Pb**	05 35 17.4	-0.9
CBYP					*e*S		**Sn**	05 35 34.3	0.0
CUPR	**Culebra, Puert**	**1.98**	**85**	ǁ	*e*P		**Pn**	05 35 24.1	+0.3
CUPR	**Culebra, Puert**	**1.98**	**85**	ǁ	*e*P		**Pn**	05 35 24.1	+0.3
STVI	**Saint Thomas**	**2.30**	**85**	ǁ	*e*P		**Pn**	05 35 28.9	+0.8
STVI	**Saint Thomas**	**2.30**	**85**	ǁ	*e*P		**Pn**	05 35 29.5	+1.4
STVI	**Saint Thomas**	**2.30**	**85**	ǁ	*e*P		**Pn**	05 35 28.9	+0.8
CDVI	**St. Croix**	**2.50**	**99**	ǁ	*e*P		**Pn**	05 35 31.6	+0.6
CDVI	**St. Croix**	**2.50**	**99**	ǁ	*e*P		**Pn**	05 35 31.6	+0.6
TBVI	**Tortola**	**2.62**	**84**	ǁ	*e*P		**Pn**	05 35 33.0	+0.4
TBVI	**Tortola**	**2.62**	**84**	ǁ	*e*P		**Pn**	05 35 33.0	+0.4
SDDR	**Presa de Saban**	**3.82**	**283**		*e*Pn		**Pb**	05 35 54.9	-4.0
SDDR					*e*Sn		**Sb**	05 36 44.6	-0.1
GRTK	**Grand Turk**	**4.88**	**314**		*e*Pn		**Pn**	05 36 04.5	+0.8
GRTK					*e*Sn		**Sn**	05 37 00.3	+1.1
URIC	**Uribia, Colomb**	**7.81**	**216**		*e*P		Sn	05 38 01.1	-10
PCRV	**Puerto La Cruz**	**8.35**	**161**		Pn		**Pn**	05 36 53.7	+2.2
	1.0nm,0.3s,baz=253,slow=3.8,SNR=7.3								
PCRV					Sn		**Sn**	05 38 23.5	-1.4
	0.5nm,0.3s,baz=68,slow=5.4,SNR=3.3								
SDV	**Santo Domingo**	**9.74**	**199**		Pn		**Pn**	05 37 11.7	+1.1
	1.8nm,0.3s,baz=3.9,slow=12,SNR=8.0								
SDV					Sn		**Sn**	05 38 56.4	-2.8
	0.6nm,0.3s,baz=308,slow=19,SNR=2.1								
PAMC	**Pamplona, Colo**	**11.94**	**207**		*e*P		**Pn**	05 37 40.5	-0.5
BRRC	**Barranca, Sant**	**12.60**	**210**		*e*P		**Pn**	05 37 47.8	-1.8
ZARC	**Zaragoza, Cauc**	**12.86**	**216**		*e*P		**Pn**	05 37 51.8	-1.4
TXAR	**Lajitas Array**	**34.92**	**295**		P		**P**	05 41 42.9	+1.2
	0.5nm,0.5s,baz=113,slow=10,SNR=11								
ULM	**Lac du Bonnet**	**39.31**	**331**		P		**P**	05 42 19.0	+0.5
	0.8nm,0.5s,baz=131,slow=13,SNR=3.0								
PDAR	**Pinedale Array**	**43.27**	**314**		P		**P**	05 42 52.5	+1.0
	0.3nm,0.6s,baz=107,slow=12,SNR=2.5								
NVAR	**Mina Array Bea**	**48.53**	**306**		P		**P**	05 43 35.9	+2.8
	0.3nm,0.7s,baz=96,slow=4.9,SNR=2.8								
YKA	**Yellowknife Ar**	**54.98**	**335**		P		**P**	05 44 21.0	+0.5
	0.6nm,0.6s,baz=112,slow=7.5,SNR=14								
ESDC	**Sonseca Array**	**58.30**	**54**		P		**P**	05 44 44.5	-0.2
	0.8nm,0.7s,baz=279,slow=7.4,SNR=4.0								
TORD	**Torodi Ar. Bea**	**66.36**	**83**		P		**P**	05 45 38.7	-0.2
	0.4nm,0.8s,baz=281,slow=6.4,SNR=2.9								
ILAR	**Eielson Array**	**69.28**	**333**		P		**P**	05 45 56.8	+0.3
	0.3nm,0.4s,baz=106,slow=5.0,SNR=11								

IDC ***12*** *05:34:44.3±1.5,6.°99S×129.°81E,h0km,mb3.8/4, mb1 4.2/8,mb1mx3.7/54,mbtmp4.0/8,ML4.3/4,Error ellipse: s-maj=49.5km s-min=22.9km az=83.0*
ISCJB ***12*** *05:34:57.9±0.4,7.°71S±0.°04×129.°48E±0.°04,h100km, mb4.6/14,Error ellipse: s-maj=7.1km s-min=5.2km az=138.2*
NEIC ***12*** *05:34:57.3±0.8,7.°60S×129.°50E,h65km±11km,mb4.7/6, Error ellipse: s-maj=8.2km s-min=6.5km az=58.0*
ISC 12 05:34:58.2±0.5,7.°74S±0.°05×129.°55E±0.°06,h100km,n33,
σ2ᵖ56/40,mb4.9/14,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID		ISC	Time h m s	Res ISC
					Op				
FAKI	**Fak Fak**	**5.49**	**29**	*e*Pn			**Pn**	**05 36 15.4**	**-2.2**
FAKI				*e*Sn			**Sn**	**05 37 17.5**	**-2.1**
SOEI	**Soe**	**5.59**	**249**	*e*Pn			**Pn**	**05 36 19.0**	**0.0**
SOEI				*e*Sn			**Sn**	**05 37 21.1**	**-1.0**
BATI	**Baumata**	**6.31**	**247**	Pn			**Pn**	**05 36 27.0**	**-1.8**
	12nm,0.3s,baz=133,slow=5.4,SNR=4.6								
BATI				Sn			**Sn**	05 37 34.4	-5.1
	9.4nm,0.3s,baz=65,slow=19,SNR=6.7								
FITZ	**Fitzroy Crossi**	**10.98**	**200**	Pn			**Pn**	05 37 32.1	-0.1
	1.9nm,0.3s,baz=34,slow=10,SNR=30								
FITZ				Sn			**Sn**	05 39 30.6	-2.4
	2.2nm,0.3s,baz=121,slow=21,SNR=6.0								
WRAB	**Tennant Creek**	**12.98**	**159**	*e*Pn			**Pn**	**05 38 00.7**	**+1.7**
WRA	**Warramunga Arr**	**12.99**	**160**	Pn			**Pn**	**05 38 00.1**	**+1.1**
	1.5nm,0.3s,baz=338,slow=10,SNR=42								
WRA				Sn			**Sn**	05 40 19.9	-2.0
	2.8nm,0.3s,baz=336,slow=21,SNR=11								
WB2	**Warramunga Arr**	**12.99**	**159**	*e*Pn			**Pn**	**05 38 01.4**	**+2.3**
WB2				*e*Sn			**Sn**	**05 40 18.9**	**-3.2**
WB2				*e*Sn			**Sn**	**05 40 21.4**	**-0.7**
COEN	**Coen**	**14.74**	**116**	*e*Pn			**P**	**05 38 24.0**	**-1.1**
COEN				*e*Sn			**Sn**	**05 41 04.0**	**-0.3**
MBWA	**Marble Bar**	**16.37**	**214**	*e*Pn			**P**	**05 38 44.8**	**+1.6**
	44nm,1.5s								
MBWA				*e*Sn			Sn	05 41 30.3	-13
AS31	**Alice Springs**	**16.38**	**166**	*e*P			**P**	**05 38 46.2**	**+2.9**
	1.6nm,0.6s								
AS31				*e*Sn			**S**	**05 41 49.0**	**-0.7**
ASAR	**Alice Springs**	**16.38**	**166**	P			**P**	**05 38 45.8**	**+2.5**
	0.7nm,0.3s,baz=339,slow=8.7,SNR=22								
ASAR				S			**Sn**	05 41 46.1	+2.2
	0.7nm,0.3s,baz=347,slow=26,SNR=6.8								
AS01	**Alice Springs**	**16.39**	**166**	*e*Pn			**P**	**05 38 44.5**	**+1.0**
MYLDM	**Lahad Datu**	**16.92**	**319**	*e*P			**P**	**05 38 49.3**	**0.0**
	68nm,0.4s								
SMRI	**Semarang**	**18.96**	**271**	*e*P			**P**	**05 39 11.7**	**-0.1**
	68nm,1.2s								
KKM	**Kota Kinabalu**	**19.09**	**315**	*e*P			**Pn**	**05 39 14.5**	**-0.6**
	27nm,1.1s								
CISI	**Cisompet, Garu**	**21.54**	**269**	*e*P			**P**	**05 39 41.3**	**+1.6**
	98nm,1.7s								
IPM	**Ipoh**	**30.94**	**292**	*e*P			**P**	**05 41 08.4**	**+2.4**
	23nm,1.0s								
KULM	**Kulim**	**31.60**	**293**	*e*P			**P**	**05 41 12.7**	**+0.9**
	8.7nm,0.8s								
YULB	**Yu-li**	**31.98**	**346**	*e*P			**P**	**05 41 15.0**	**+0.1**
	53nm,1.9s								
TATO	**Taipei**	**33.45**	**347**	*e*P			**P**	**05 41 28.0**	**+0.3**
	210nm,1.6s								
LHMI	**Lhok Sumawe**	**34.98**	**291**	*e*P			**P**	**05 41 43.7**	**+2.5**
	51nm,1.0s								
CMAR	**Chiang Mai Arr**	**39.87**	**311**	P			**P**	**05 42 18.3**	**-4.1**
	0.5nm,0.6s,baz=137,slow=7.3,SNR=3.5								
NJ2	**Nanjing**	**40.87**	**346**	*e*P			**P**	**05 42 30.1**	**-0.3**
NJ2				pmax		pmax			
	comp=Z,17nm,0.5s								
CD2	**Chengdu**	**45.69**	**328**	*e*P			**P**	**05 43 11.5**	**+2.2**
CD2				pmax		pmax			
	comp=Z,10.0nm,0.5s								
LZH	**Lanzhou**	**49.85**	**333**	*e*P			P	05 43 46.4	+4.9
LZH				pP			pP	05 44 05.8	+0.4
LZH				sP			sP	05 44 14.4	-2.2
LZH				*e*PP			**PP**	**05 45 44.8**	**+7.5**
LZH				pmax		pmax			
	comp=Z,23nm,1.0s								
LZH				pmax		pmax			
	comp=Z,370nm,5.7s								
LZH				LR		LR			
	comp=N,190nm,13.5s								
LZH				LR		LR			
	comp=E,220nm,13.7s								
LZH				LR		LR			
	comp=Z,270nm,16.8s								
HHC	**Hu-ho-hao-te**	**51.11**	**342**	*e*P			**P**	**05 43 54.3**	**+3.5**
HHC				pmax		pmax			
	comp=Z,10.0nm,1.1s								
HHC				pmax		pmax			
	comp=Z,22nm,6.3s								
CN2	**Changchun**	**51.43**	**356**	*e*P			P	05 43 48.0	-5.0
CN2	**Changchun**	**51.43**	**356**	*e*P			P	05 43 58.0	+5.0
SONM	**Songino Array**	**59.00**	**342**	P			P	05 44 41.6	-5.9
	comp=Z,0.7nm,0.6s,baz=178,slow=4.3,SNR=4.7								
WMQ	**Urumqi**	**63.77**	**327**	P			**P**	**05 45 21.4**	**+1.7**
MKAR	**Makanchi Array**	**68.60**	**327**	P			**P**	**05 45 46.3**	**-4.1**
	comp=Z,0.6nm,0.5s,baz=115,slow=8.9,SNR=4.8								
KURBB	**Kurchatov Arra**	**72.91**	**329**	P			**P**	**05 46 12.2**	**-4.2**
	comp=Z,0.8nm,0.7s,baz=133,slow=5.6,SNR=7.3								
TORD	**Torodi Ar. Bea**	**128.51**	**281**	PKP			**PKPdf**	**05 53 52.6**	**-1.9**
	comp=Z,0.4nm,1.1s,baz=58,slow=3.6,SNR=3.1								

IDC 12 05:43:03.1±19.0,6.°71S×129.°56E,h105km±198km, mb3.6/2,mb1 3.7/5,mb1mx3.3/52,mbtmp4.0/5,ML3.7/3, MS3.1/1,Ms1 3.1/1,ms1mx2.5/36,Error ellipse: s-maj=169.3km s-min=60.6km az=41.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID		ISC	Time h m s	Res ISC
					Op				
BATI	**Baumata**	**6.79**	**239**	LR			LR	05 47 42.1	
	comp=Z,146nm,20.1s,baz=144,slow=41								
FITZ	**Fitzroy Crossi**	**11.94**	**198**	P			Pn	05 45 50.4	+0.3
	0.2nm,0.3s,baz=36,slow=12,SNR=26								
FITZ				S			Sn	05 47 54.9	-6.6
	0.3nm,0.3s,baz=34,slow=3.6,SNR=3.4								
WRA	**Warramunga Arr**	**13.95**	**161**	P			Pn	05 46 15.4	-0.9
	0.3nm,0.3s,baz=334,slow=14,SNR=9.3								
WRA				S			Sn	05 48 39.7	-10
	0.9nm,0.3s,baz=338,slow=23,SNR=6.1								
ASAR	**Alice Springs**	**17.37**	**167**	P			Pn	05 46 59.0	0.0
	0.6nm,0.3s,baz=345,slow=9.5,SNR=30								
MKAR	**Makanchi Array**	**67.75**	**327**	P			P	05 53 49.4	-0.1
	0.7nm,0.4s,baz=116,slow=8.1,SNR=11								
KURBB	**Kurchatov Arra**	**72.04**	**329**	P			P	05 54 15.8	+0.2
	0.4nm,0.5s,baz=133,slow=4.7,SNR=5.4								

IDC ***12*** *05:44:51.3±1.2,1.°13N×92.°05E,h0km,mb3.6/8, mb1 3.8/11,mb1mx3.5/69,mbtmp3.7/11,ML3.8/3,Error ellipse: s-maj=38.8km s-min=18.8km az=47.0*
NEIC ***12*** *05:44:52.6±0.6,1.°10N×92.°03E,h10km,mb4.4/2,Error ellipse: s-maj=14.2km s-min=7.0km az=204.0*
ISCJB ***12*** *05:44:54.1±0.8,1.°2N±0.°1×92.°09E±0.°08,h33km,mb3.8/9, Error ellipse: s-maj=18.7km s-min=9.4km az=25.3*
ISC 12 05:44:56.6±1.1,1.°2N±0.°2×92.°17E±0.°08,h35km,n18,
σ1ᵖ61/19,mb3.7/9,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		ISC	Time h m s	Res ISC
					Op				
GSI	**Gunungsitoli**	**5.40**	**89**	*e*Pn			**Pn**	**05 46 15.3**	**+0.5**
	36nm,0.4s								
PSI	**Prapat**	**6.92**	**77**	Pn			**Pn**	**05 46 36.3**	**+0.6**
	1.4nm,0.3s,baz=252,slow=16,SNR=3.0								
PSI				Sn			**Sn**	**05 47 48.9**	**-4.6**
	1.4nm,0.3s,baz=186,slow=9.2,SNR=2.3								
IPM	**Ipoh**	**9.41**	**70**	*e*Pn			**Pn**	**05 47 10.8**	**+1.0**
PALK	**Pallekele**	**12.91**	**298**	Pn			**Pn**	**05 47 56.0**	**-1.8**
	0.4nm,0.3s,baz=116,slow=14,SNR=2.5								
PALK	**Pallekele**	**12.91**	**298**	*e*Pn			**Pn**	**05 47 55.2**	**-2.6**
KSM	**Kuching**	**18.13**	**89**	P			**P**	**05 49 06.7**	**+0.8**
	13nm,1.4s								
CMAR	**Chiang Mai Arr**	**18.36**	**21**	P			**Pn**	**05 49 10.7**	**+2.1**
	0.2nm,0.3s,baz=216,slow=12,SNR=6.1								
MKAR	**Makanchi Array**	**46.19**	**351**	P			**P**	**05 53 19.4**	**+1.4**
	0.3nm,0.5s,baz=170,slow=9.4,SNR=4.9								
WRA	**Warramunga Arr**	**46.38**	**119**	P			**P**	**05 53 19.8**	**-0.2**
	0.7nm,0.7s,baz=296,slow=8.9,SNR=3.2								
WRAB	**Tennant Creek**	**46.39**	**119**	P			**P**	**05 53 20.3**	**+0.3**
	18nm,1.7s								
ASAR	**Alice Springs**	**47.51**	**124**	P			**P**	**05 53 29.0**	**+0.3**
	0.2nm,0.3s,baz=306,slow=7.9,SNR=3.8								
SONM	**Songino Array**	**48.03**	**13**	P			**P**	**05 53 33.1**	**+0.6**
	0.5nm,0.5s,baz=196,slow=7.1,SNR=3.0								
KURBB	**Kurchatov Arra**	**50.55**	**349**	P			**P**	**05 53 51.3**	**-0.2**
	0.3nm,0.5s,baz=166,slow=6.5,SNR=4.9								
KURK	**Kurchatov**	**50.62**	**349**	P			**P**	**05 53 51.3**	**-0.7**
ZALV	**Zalesovo Beam**	**52.89**	**355**	P			**P**	**05 54 08.8**	**-0.1**
	0.5nm,0.3s,baz=183,slow=7.0,SNR=2.3								
BVAR	**Borovoye Array**	**54.70**	**344**	P			**P**	**05 54 21.9**	**-0.3**
	1.7nm,0.7s,baz=238,slow=39,SNR=3.6								
GERES	**GERESS Array B**	**81.48**	**319**	P			**P**	**05 57 11.4**	**+0.9**
	0.3nm,0.4s,baz=148,slow=39,SNR=2.2								
TXAR	**Lajitas Array**	**146.03**	**25**	PKPbc			**PKPbc**	**06 04 34.0**	**+0.3**
	0.1nm,0.5s,baz=48,slow=1.3,SNR=2.5								

ISCJB ***12*** *05:48:21.9±0.4,1.°71N±0.°06×89.°53E±0.°04,h10km, mb4.5/39,MS3.8/2,Error ellipse: s-maj=8.7km s-min=5.0km az=17.6*
IDC ***12*** *05:48:21.5±0.8,1.°69N×89.°50E,h0km,mb4.2/19, mb1 4.3/22,mb1mx4.1/66,mbtmp4.2/22,ML3.7/3,MS3.6/3, Ms1 3.6/3,ms1mx3.0/60,Error ellipse: s-maj=27.6km s-min=14.4km az=42.0*
NEIC ***12*** *05:48:23.5±0.3,1.°75N×89.°45E,h10km,mb4.7/11,Error ellipse: s-maj=9.1km s-min=4.7km az=206.0*
DJA ***12*** *05:48:35.8±0.6,2.°N±7.°×9.°0E±.°,h10km,M4.9/9,mb4.7/9, mB5.2/7,MLv5.2/5,Mw(mB)4.6/7*
ISC 12 05:48:23.3±0.6,1.°70N±0.°09×89.°48E±0.°06,h10km,n112,
σ1ᵖ99/108,mb4.6/39,8C-1D,North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase	ID		ISC	Time h m s	Res ISC
					Op				
BSI	**Banda Aceh**	**6.92**	**57**	P			**Pn**	**05 50 01.7**	**-3.2**
MLSI	**Meulaboh, Aceh**	**7.37**	**70**	P			**Pn**	**05 50 08.4**	**-2.6**
TPTI		**7.85**	**78**	P			**Pn**	**05 50 18.9**	**+1.3**
GSI	**Gunungsitoli**	**8.10**	**93**	P			**Pn**	**05 50 23.9**	**+2.8**
GSI	**Gunungsitoli**	**8.10**	**93**	*e*Pn			**Pn**	**05 50 23.5**	**+2.4**
GSI				*e*Sn			**Sn**	**05 51 44.4**	**-8.5**
LHMI	**Lhok Sumawe**	**8.24**	**65**	P			**Pn**	**05 50 22.8**	**-0.1**
LHMI	**Lhok Sumawe**	**8.24**	**65**	*e*Pn			**Pn**	**05 50 23.5**	**+0.6**
KCSI	**Kotacane, Aceh**	**8.48**	**78**	P			**Pn**	**05 50 28.2**	**+1.9**
PSI	**Prapat**	**9.50**	**83**	Pn			**Pn**	**05 50 39.3**	**-1.1**
	0.6nm,0.3s,baz=336,slow=20,SNR=2.9								
PSI				Sn			Sn	05 52 16.6	-11
	0.6nm,0.3s,baz=312,slow=12,SNR=2.6								
PSI	**Prapat**	**9.50**	**83**	*e*Pn			**Pn**	**05 50 42.1**	**+1.8**
PSI				*e*Sn			Sn	05 52 16.6	-11
PALK	**Pallekele**	**10.35**	**303**	Pn			**Pn**	**05 50 51.1**	**-0.8**
	1.3nm,0.3s,baz=116,slow=16,SNR=3.8								
PALK				Sn			**Sn**	**05 52 41.6**	**-6.5**
	8.3nm,0.3s,baz=113,slow=1.3,SNR=11								
PALK	**Pallekele**	**10.35**	**303**	*e*Pn			**Pn**	**05 50 52.0**	**+0.1**
PALK				*e*Sn			**Sn**	**05 52 45.0**	**-3.2**
PKDT	**Phuket**	**10.75**	**55**	P			**Pn**	**05 51 00.9**	**+3.5**
	21nm,0.7s								
KULM	**Kulim**	**11.71**	**72**	*e*Pn			**Pn**	**05 51 10.2**	**-0.3**
SURT	**Suratani**	**11.74**	**52**	P			**Pn**	**05 51 11.2**	**+0.2**
	16nm,0.7s								
IPM	**Ipoh**	**11.85**	**76**	*e*Pn			**Pn**	**05 51 14.6**	**+2.0**
TRTT	**Trang**	**11.86**	**59**	P			**Pn**	**05 51 15.2**	**+2.6**
	13nm,1.2s								
MNAI	**Manna**	**14.75**	**114**	*e*Pn			**Pn**	**05 51 54.4**	**+2.2**
MDSI	**Maura Dua**	**15.92**	**113**	P			**P**	**05 52 13.1**	**+1.8**
PBKT	**Sadao Pong**	**18.61**	**37**	P			**P**	**05 52 40.1**	**-0.8**
	12nm,1.1s,5μm								
CM01	**Chiang Mai Arr**	**19.04**	**29**	*e*P			**P**	**05 52 43.1**	**-2.6**
CM31	**Chiang Mai Arr**	**19.06**	**29**	*e*P			**P**	**05 52 45.0**	**-1.0**
CMAR	**Chiang Mai Arr**	**19.06**	**29**	P			**P**	**05 52 44.7**	**-1.3**
	0.1nm,0.3s,baz=221,slow=12,SNR=9.2								
CMAR				LR			LR	06 00 34.7	
	comp=Z,75nm,18.0s,baz=200,slow=38								
H08S2	**Diego Garcia H**	**19.32**	**241**	T			T	06 13 47.3	
	baz=59,slow=75,SNR=16								
H08S3	**Diego Garcia H**	**19.32**	**241**	T			T	06 14 00.1	
	baz=59,slow=75,SNR=21								
H08S1	**Diego Garcia H**	**19.34**	**241**	T			T	06 13 37.5	
	baz=59,slow=75,SNR=15								
CHTO	**Chiang Mai**	**19.37**	**28**	P			**Pn**	**05 52 53.5**	**+3.0**
	76nm,1.6s,3μm								
CHTO	**Chiang Mai**	**19.37**	**28**	*e*P			**P**	**05 52 48.1**	**-1.3**
	4.5nm,0.9s								
CMMT	**Chiang Mai**	**19.37**	**28**	P			**Pn**	**05 52 52.4**	**+1.9**
	6.0nm,1.2s								
KSM	**Kuching**	**20.82**	**90**	*e*P			**P**	**05 53 00.8**	**-4.4**
	21nm,1.5s								
SKNT	**Sakolnakorn**	**20.83**	**42**	P			Pn	05 53 10.9	+3.2
	5.3nm,0.8s								
RAMN	**Ramite**	**25.26**	**354**	*e*P			**P**	**05 53 51.9**	**+1.9**
	100nm,1.2s								
JIRN	**Jiri**	**26.00**	**353**	*e*P			**P**	**05 53 58.2**	**+1.3**
	57nm,0.9s								
DMN	**Daman**	**26.10**	**351**	*e*P			**P**	**05 53 59.0**	**+1.3**
	34nm,1.0s								
KKN	**Kakani**	**26.25**	**352**	*e*P			**P**	**05 54 00.0**	**+1.0**
	44nm,0.9s								
GUN	**Gumba**	**26.29**	**353**	*e*P			**P**	**05 54 00.6**	**+1.1**
	52nm,1.0s								
KOLN	**Koldanda**	**26.52**	**348**	*e*P			**P**	**05 54 03.0**	**+1.5**
	20nm,0.8s								
GKN	**Gorkha**	**26.56**	**350**	*e*P			**P**	**05 54 03.1**	**+1.4**
	68nm,1.1s								
KMI	**Kunming**	**26.57**	**28**	P			**P**	**05 54 06.4**	**+4.5**
KMI				pmax		pmax			
	comp=Z,16nm,0.9s								
JAGI	**Jagag, Banyuwa**	**26.59**	**113**	*e*P			**P**	**05 54 02.1**	**+0.1**
	comp=Z,76nm,1.6s								
PYUN	**Piuthan**	**26.97**	**347**	*e*P			**P**	**05 54 07.1**	**+1.6**
	comp=Z,53nm,1.1s								
CD2	**Chengdu**	**32.04**	**24**	*e*P			**P**	**05 54 51.5**	**+1.2**
CD2				pmax		pmax			
	comp=Z,10.0nm,0.5s								
NIL	**Nilore**	**35.23**	**336**	*e*P			**P**	**05 55 18.1**	**+0.1**
	comp=Z,10nm,0.6s								
LZH	**Lanzhou**	**36.71**	**20**	*e*P			**P**	**05 55 34.8**	**+3.9**
LZH				pP			sP	05 55 38.6	+3.4
LZH				sP			pP	05 55 41.2	+7.2
LZH				*e*PP			**PP**	**05 56 59.9**	**+5.4**
LZH				pmax		pmax			
	comp=Z,60nm,0.8s								
LZH				pmax		pmax			
	comp=Z,210nm,5.7s								
WSAR	**Wadi Sarin**	**36.78**	**308**	LR			LR	06 08 54.7	
	comp=Z,112nm,20.4s,baz=153,slow=34								
KSH	**Kashi**	**39.60**	**344**	P			**P**	**05 55 54.2**	**-0.9**
KSH				pmax		pmax			
	comp=Z,11nm,0.6s								
NJ2	**Nanjing**	**40.95**	**39**	*e*P			**P**	**05 56 06.3**	**0.0**
NJ2				pmax		pmax			
	comp=Z,14nm,0.5s								
WMQ	**Urumqi**	**41.97**	**358**	P			**P**	**05 56 14.2**	**-0.3**
WMQ				pP			sP	05 56 20.8	+1.9
WMQ				pmax		pmax			
	comp=Z,19nm,0.9s								
WMQ				pmax		pmax			
	comp=Z,140nm,4.9s								
AAK	**Ala-Archa**	**42.91**	**344**	*e*P			**P**	**05 56 22.6**	**+0.2**
	comp=Z,4.9nm,0.9s								
H01W3	**Cape Leeuwin H**	**43.11**	**150**	T			T	06 43 26.1	
	baz=325,slow=76,SNR=24								
H01W2	**Cape Leeuwin H**	**43.12**	**150**	T			T	06 43 19.3	
	baz=325,slow=76,SNR=9.9								
H01W1	**Cape Leeuwin H**	**43.13**	**150**	T			T	06 43 20.0	
	baz=325,slow=76,SNR=23								
HHC	**Hu-ho-hao-te**	**43.79**	**24**	*e*P			**P**	**05 56 31.5**	**+2.1**
HHC				pmax		pmax			
	comp=Z,25nm,1.1s								
HHC				pmax		pmax			
	comp=Z,76nm,6.1s								
KK31	**Karatay Array**	**44.57**	**340**	*e*P			**P**	**05 56 36.4**	**+0.9**
KKAR	**Karatay Array**	**44.57**	**340**	*e*P			**P**	**05 56 36.5**	**+0.9**
MK01	**Makanchi Array**	**45.32**	**353**	*e*P			**P**	**05 56 41.3**	**-0.2**
MK31	**Makanchi Array**	**45.35**	**353**	*e*P			**P**	**05 56 41.6**	**-0.1**
MKAR	**Makanchi Array**	**45.35**	**353**	P			**P**	**05 56 41.5**	**-0.2**
	comp=Z,1.6nm,0.7s,baz=169,slow=9.0,SNR=14								
**MKA

TEH ***12*** *05:56:15.2, 38.°12N × 45.°28E, h6km, ML2.9*
NSSP ***12*** *05:56:15.6, 38.°18N × 45.°42E, h6km, Ms3.0*
ISCJB ***12*** *05:56:16.7±1.8, 38.°14N±0.°07 × 45.°5E±0.°1, h10km, Error ellipse: s-maj=14.1km s-min=8.6km az=144.5*

ISC 12 05:56:15.2±2.2, 38.°1N±0.°1 × 45.°33E±0.°09, h10km, n6, σ0s66/9, 2C, Iran-Armenia-Azerbaijan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ISHB	**Shabestar**	**0.28**	**53**	*e*Pg	**Pg**	**05 56 21.0**	**0.0**
ISHB				*e*AMB	AMB	05 56 27.7	
	comp=Z,38μm,0.2s						
ITBZ	**Tabriz**	**0.65**	**79**	*e*Pg	**Pg**	**05 56 27.8**	**-0.1**
ITBZ				*e*Sg	**Sg**	**05 56 36.8**	**+0.3**
ITBZ				*e*AMB	AMB	05 56 37.4	
	comp=Z,6μm,0.1s						
IMRD	**Marand**	**0.67**	**26**	*e*Pg	**Pg**	**05 56 27.5**	**-0.7**
IMRD				*e*Sg	**Sg**	**05 56 36.6**	**-0.3**
IMRD				*e*AMB	AMB	05 56 38.0	
	comp=Z,16μm,0.1s						
IBST	**Bostanabad**	**1.30**	**108**	*e*Pg	**Pn**	**05 56 39.2**	**-0.5**
IBST				*e*AMB	AMB	05 56 58.0	
	comp=Z,2μm,0.1s						
IHRS	**Heris**	**1.36**	**81**	*e*Pn	**Pb**	**05 56 41.4**	**+0.5**
IHRS				*e*AMB	AMB	05 56 43.6	
	comp=Z,3μm,0.1s						
GNI	**Garni**	**2.08**	**347**	⇑*i*P	**Pg**	**05 56 54.9**	**-0.3**
GNI				⇑*i*S	**Sg**	**05 57 23.5**	**+1.2**

IDC 12 05:56:56.2±60.0, 21.°19S × 179.°90W, h0km, mb4.6/3, mb1 4.8/3, mb1mx3.9/39, mbtmp4.6/3, Error ellipse: s-maj=1083.0km s-min=142.1km az=83.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**35.89**	**245**	P	P	06 03 56.4	-1.8
	2.7nm,0.5s,baz=97,slow=11,SNR=13						
ASAR	**Alice Springs**	**42.64**	**258**	P	P	06 04 54.8	0.0
	5.2nm,0.5s,baz=97,slow=7.8,SNR=51						
WRA	**Warramunga Arr**	**42.75**	**263**	P	P	06 04 56.9	+1.2
	6.8nm,0.5s,baz=90,slow=8.4,SNR=251						

SOME ***12*** *06:06:55.2, 44.°60N × 82.°32E, h10km*
ISCJB ***12*** *06:06:59.3±1.5, 44.°68N±0.°07 × 82.°2E±0.°1, h10km, Error ellipse: s-maj=16.3km s-min=5.4km az=33.4*
NNC ***12*** *06:06:59.3±1.2, 44.°75N × 82.°06E, h0km, mb2.8, mpv2.3, Error ellipse: s-maj=16.2km s-min=4.6km az=118.0*

ISC 12 06:06:58.7±1.9, 44.°80N±0.°08 × 82.°2E±0.°1, h10km, n7, σ1§29/14, 3C-3D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DJR	**Jarkent**	**1.76**	**255**	*e*P	**Pn**	**06 07 29.0**	**-0.3**
	4.2nm,0.2s						
DJR				*e*S	**Sb**	**06 07 52.2**	**-1.0**
	5.3nm,0.2s						
MK31	**Makanchi Array**	**2.00**	**3**	⇓Pn	**Pb**	**06 07 35.2**	**+0.1**
	2.3nm,0.3s,baz=189,slow=16,SNR=8.5						
MK31				⇓Sn	**Sg**	**06 08 02.5**	**-0.4**
	1.6nm,0.3s,baz=183,slow=27						
MAKZ	**Makanchi**	**2.01**	**356**	⇑Pn	**Pb**	**06 07 34.7**	**-0.7**
	0.6nm,0.4s						
MAKZ				⇓Sn	**Sg**	**06 08 02.4**	**-0.9**
	2.1nm,0.5s						
KAPS	**Kapalarasan**	**2.04**	**285**	*e*P	**Pb**	**06 07 35.1**	**-0.8**
	2.9nm,0.1s						
KAPS				*e*S	**Sb**	**06 08 02.2**	**+0.7**
	4.4nm,0.2s						
PDGK	**Podgornoye**	**2.42**	**234**	⇑Pn	**Pn**	**06 07 39.3**	**+0.9**
	0.6nm,0.5s						
PDGK				⇑Sn	**Sb**	**06 08 09.6**	**-2.7**
	6.7nm,0.8s						
KPKS	**Kokpek**	**2.83**	**243**	*e*P	**Pn**	**06 07 45.7**	**+1.6**
	5.5nm,0.2s						
KPKS				*e*S	**Sn**	**06 08 20.0**	**+1.7**
	9.0nm,0.3s						
ARXS	**Arharly**	**3.15**	**261**	*e*P	**Pb**	**06 07 54.2**	**-0.6**
	0.7nm,0.2s						
ARXS				*e*S	**Sb**	**06 08 34.1**	**+0.8**
	4.3nm,0.3s						

KRNET ***12*** *06:07:41.7±0.1, 39.°79N × 75.°26E, mb3.5*
SOME ***12*** *06:07:43.9, 39.°92N × 75.°18E, h10km*
NNC ***12*** *06:07:45.5±3.1, 39.°81N × 75.°07E, h0km, mb3.8, mpv3.6, Error ellipse: s-maj=28.0km s-min=8.5km az=158.0*

ISC 12 06:07:41.8±1.3, 39.°92N±0.°06 × 75.°24E±0.°03, h10km, n47, σ1§64/83, 35C-13D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SFK	**Sufi-Kurgan**	**1.34**	**275**	⇓P	**Pg**	**06 08 08.0**	**+0.4**
	12nm,0.3s						
SFK				⇓S	**Sg**	**06 08 26.1**	**+1.1**
	83nm,0.3s						
SFK	**Sufi-Kurgan**	**1.34**	**275**	⇑*i*P	**Pg**	**06 08 07.9**	**+0.4**
	baz=80						
SFK				⇑*i*S	**Sg**	**06 08 26.7**	**+1.7**
	baz=80						
NRN	**Naryn**	**1.62**	**21**	⇓*i*P	**Pg**	**06 08 13.6**	**+0.6**
	baz=18						
NRN				⇓*i*S	**Sg**	**06 08 36.9**	**+2.8**
	baz=18						
KZA	**Kyzart**	**2.16**	**0**	P	**Pg**	**06 08 22.6**	**-0.7**
	SNR=43						
KZA	**Kyzart**	**2.16**	**0**	⇑*i*P	**Pg**	**06 08 22.6**	**-0.7**
	baz=60						
KZA				⇑*i*S	**Sg**	**06 08 53.2**	**+1.9**
	baz=60						
ARSB	**Arslanbob**	**2.22**	**310**	⇑*i*P	**Pg**	**06 08 22.7**	**-1.7**
	baz=12						
ARSB				⇑*i*S	**Sg**	**06 08 52.9**	**-0.3**
	baz=12						
UCH	**Uchtor**	**2.38**	**347**	P	**Pg**	**06 08 26.1**	**-1.3**
	SNR=90						
UCH	**Uchtor**	**2.38**	**347**	⇑*i*P	**Pg**	**06 08 26.2**	**-1.2**
	baz=47						
UCH				⇑*i*S	**Sg**	**06 08 58.0**	**-0.2**
	baz=47						
ULHL	**Ulahol**	**2.45**	**18**	P	**Pb**	**06 08 26.2**	**+0.2**
	SNR=16						
ULHL	**Ulahol**	**2.45**	**18**	⇑*e*P	**Pb**	**06 08 26.3**	**+0.2**
	baz=17						
ULHL				⇑*i*S	**Sg**	**06 08 58.9**	**-1.6**
	baz=17						
AML	**Almayashu**	**2.50**	**333**	P	**Pg**	**06 08 28.0**	**-1.8**
	SNR=68						
AML	**Almayashu**	**2.50**	**333**	⇑*i*P	**Pg**	**06 08 28.0**	**-1.8**
	baz=34						
AML				⇑*i*S	**Sg**	**06 09 01.5**	**-0.8**
	baz=34						
BOOM	**Boomskoye usch**	**2.63**	**11**	⇑*i*P	**Pb**	**06 08 28.9**	**-0.2**
	baz=11						
BOOM				⇑*i*S	**Sb**	**06 09 03.8**	**+2.3**
	baz=11						
KDJ	**Kajisay**	**2.66**	**33**	⇑*i*P	**Pb**	**06 08 28.8**	**-0.8**
	baz=31						
KDJ				⇑*i*S	**Sb**	**06 09 04.6**	**+2.3**
	baz=31						
TARG	**Taragay, Kyrgy**	**2.66**	**46**	⇑*i*P	**Pb**	**06 08 28.7**	**-1.1**
	baz=44						
TARG				⇑*i*S	**Sb**	**06 09 03.3**	**+0.7**
	baz=44						
KBK	**Karagaybulak**	**2.75**	**355**	P	**Pb**	**06 08 32.0**	**+0.8**
	SNR=29						
KBK	**Karagaybulak**	**2.75**	**355**	⇑*i*P	**Pb**	**06 08 31.2**	**0.0**
	baz=55						
KBK				⇑*i*S	**Sb**	**06 09 06.6**	**+1.6**
	baz=55						
AAK	**Ala-Archa**	**2.78**	**349**	⇑Pn	**Pb**	**06 08 31.9**	**+0.2**
	36nm,0.6s						
AAK				⇑Lg	Lg	06 09 12.8	
	40nm,0.8s						
AAK	**Ala-Archa**	**2.78**	**349**	P	**Pb**	**06 08 32.0**	**+0.4**
	SNR=67						
AAK	**Ala-Archa**	**2.78**	**349**	⇑*i*P	**Pb**	**06 08 31.6**	**-0.1**
	baz=49						
AAK				⇑*i*S	**Sb**	**06 09 07.8**	**+2.0**
	baz=49						
EKS2	**Erkin-Say**	**2.96**	**339**	P	**Pb**	**06 08 34.5**	**-0.2**
	SNR=14						
EKS2	**Erkin-Say**	**2.96**	**339**	⇓*i*P	**Pb**	**06 08 33.8**	**-0.9**
	baz=39						
EKS2				⇓*i*S	**Sb**	**06 09 11.7**	**+0.8**
	baz=39						
TKM2	**Tokmak 2**	**3.02**	**5**	⇑Pn	**Pb**	**06 08 34.7**	**-1.0**
	24nm,0.4s						
TKM2				⇓Sn	**Sb**	**06 09 14.8**	**+2.2**
	46nm,0.7s						
TKM2	**Tokmak 2**	**3.02**	**5**	P	**Pb**	**06 08 35.1**	**-0.7**
	SNR=102						
TKM2	**Tokmak 2**	**3.02**	**5**	⇑*i*P	**Pb**	**06 08 34.8**	**-0.9**
	baz=5.0						
TKM2				⇑*i*S	**Sb**	**06 09 13.2**	**+0.5**
	baz=5.0						
CHMS	**Chumysh**	**3.10**	**353**	P	**Pb**	**06 08 36.3**	**-0.8**
	SNR=23						
CHMS	**Chumysh**	**3.10**	**353**	⇓*i*P	**Pb**	**06 08 36.0**	**-1.1**
	baz=53						
CHMS				⇓*i*S	**Sb**	**06 09 15.1**	**+0.1**
	baz=53						
BMNS	**Besmoynak**	**3.21**	**6**	*e*P	**Pb**	**06 08 40.0**	**+1.0**
	33nm,0.3s						
BMNS				*e*S	**Sb**	**06 09 21.8**	**+3.6**
	127nm,0.5s						
MRKS	**Merke**	**3.21**	**332**	*e*P	**Pg**	**06 08 41.1**	**-2.2**
	19nm,0.3s						
MRKS				*e*S	**Sg**	**06 09 23.7**	**-1.2**
	20nm,0.4s						
IZV	**Izvestkoviy**	**3.29**	**18**	*e*P	**Pg**	**06 08 44.2**	**-0.5**
	24nm,0.5s						
IZV				*e*S	**Sg**	**06 09 29.4**	**+2.0**
	121nm,0.8s						
MNAS	**Manas**	**3.30**	**322**	⇓Pn	**Pb**	**06 08 38.0**	**-2.5**
MNAS				⇓Pg	**Pg**	**06 08 44.7**	**-0.3**
MNAS				⇑Lg	Lg	06 09 30.5	
MNAS	**Manas**	**3.30**	**322**	⇑*i*P	**Pb**	**06 08 37.7**	**-2.8**
	baz=23						
MNAS				⇑*i*S	**Sb**	**06 09 18.3**	**-2.4**
	baz=23						
MTBS	**Maitube**	**3.33**	**15**	*e*P	**Pg**	**06 08 45.2**	**-0.5**
	8.4nm,0.6s						
MTBS				⇓*i*S	**Sg**	**06 09 31.2**	**+2.4**
	40nm,0.7s						
DGS	**Degeres**	**3.35**	**7**	*e*P	**Pg**	**06 08 45.1**	**-0.9**
	14nm,0.5s						
DGS				*e*S	**Sg**	**06 09 31.4**	**+2.1**
	41nm,0.6s						
TNSS	**Tian-Shan**	**3.37**	**22**	*e*P	**Pg**	**06 08 45.2**	**-1.2**
	21nm,0.4s						
TNSS				*e*S	**Sg**	**06 09 31.3**	**+1.1**
	44nm,0.6s						
USP	**Ospenovka**	**3.40**	**351**	P	**Pb**	**06 08 40.1**	**-2.0**
	SNR=14						
USP	**Ospenovka**	**3.40**	**351**	⇑*i*P	**Pb**	**06 08 39.7**	**-2.4**
	baz=51						
USP				⇑*i*S	**Sb**	**06 09 22.0**	**-1.5**
	baz=51						
MDOK	**Medeo**	**3.52**	**22**	*e*P	**Pg**	**06 08 47.1**	**-2.2**
	8.7nm,0.2s						
MDOK				*e*S	**Sg**	**06 09 34.0**	**-0.8**
	66nm,0.9s						
KTBS	**Karatobe**	**3.94**	**15**	*e*P	**Pg**	**06 08 55.9**	**-1.5**
	6.4nm,0.4s						
KTBS				*e*S	**Sg**	**06 09 49.4**	**+1.0**
	53nm,0.7s						
KUU	**Kurty**	**4.06**	**11**	*e*P	**Pg**	**06 08 57.3**	**-2.3**
	4.9nm,0.8s						
KUU				⇑*i*S	**Sg**	**06 09 52.4**	**+0.3**
	55nm,0.7s						
CHKK	**Chushkaly**	**4.15**	**18**	*e*P	**Pg**	**06 08 58.9**	**-2.4**
	12nm,0.5s						
CHKK				*e*S	**Sg**	**06 09 55.5**	**+0.5**
	43nm,0.7s						
UZB	**Uzynbulak**	**4.30**	**40**	*e*P	**Pg**	**06 09 00.9**	**-3.2**
	3.3nm,0.7s						
UZB				*e*S	**Sg**	**06 09 58.9**	**-1.0**
	10nm,0.5s						
IUG	**Iuzhnay**	**4.53**	**301**	*e*P	**Pg**	**06 09 06.5**	**-2.0**
	18nm,0.3s						
IUG				*e*S	**Sg**	**06 10 08.3**	**+1.1**
	46nm,0.7s						
PDGK	**Podgornoye**	**4.67**	**42**	⇑Pn	**Pb**	**06 09 01.1**	**-2.8**
	5.9nm,0.7s						
PDGK				⇓Sn	**Sb**	**06 10 00.7**	**+0.6**
	22nm,1.0s						
ARXS	**Arharly**	**4.71**	**23**	*e*P	**Pg**	**06 09 08.4**	**-3.6**
	5.2nm,0.4s						
ARXS				*e*S	**Sg**	**06 10 11.7**	**-1.2**
	19nm,0.8s						
KK31	**Karatay Array**	**4.77**	**313**	Pn	**Pn**	**06 08 56.4**	**+2.7**
	1.1nm,0.2s,baz=202,slow=48,SNR=14						
KK31				Pg	**Pg**	**06 09 13.2**	**+0.1**
	2.9nm,0.9s,baz=141,slow=16,SNR=8.9						
KK31				⇑Lg	Lg	06 10 18.4	
	6.4nm,0.5s,baz=140,slow=29,SNR=3.0						
BRLS	**Borolday**	**5.12**	**309**	*e*P	**Pg**	**06 09 16.0**	**-3.8**
	0.5nm,0.2s						
BRLS				*e*S	**Sg**	**06 10 25.6**	**-0.4**
	9.5nm,0.8s						

CSEM ***12*** *06:17:08.9±0.2, 36.°95N × 3.°26E, h10km, ML3.2, Error ellipse: s-maj=6.7km s-min=4.5km az=81.0*
CRAAG ***12*** *06:17:08.5, 36.°84N × 3.°32E, Ml3.2*
ISCJB ***12*** *06:17:09.1±0.8, 37.°02N±0.°04 × 3.°20E±0.°06, h19km±11km, Error ellipse: s-maj=8.7km s-min=5.3km az=34.0*
MDD ***12*** *06:17:09.2±0.8, 36.°96N × 3.°32E, h2km±9km, mb3.8/8, Error ellipse: s-maj=7.7km s-min=6.3km az=176.0, PRXIMO*

ISC 12 06:17:08.3±1.3, 36.°91N±0.°03 × 3.°31E±0.°03, h18km±4km, n65, σ1§43/91, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ABMS	**Boumerdes**	**0.21**	**139**	P	**Pb**	**06 17 13.2**	**+0.1**
ABMS	**Boumerdes**	**0.21**	**139**	P	**Pb**	**06 17 13.2**	**+0.1**
ABMS	**Boumerdes**	**0.21**	**139**	P	**Pb**	**06 17 13.2**	**+0.1**
ABA	**Alger-Bouzarea**	**0.24**	**244**	P	**Pg**	**06 17 14.4**	**+0.5**
ABA	**Alger-Bouzarea**	**0.24**	**244**	P	**Pg**	**06 17 14.4**	**+0.5**
ABA	**Alger-Bouzarea**	**0.24**	**244**	P	**Pg**	**06 17 14.4**	**+0.5**
ADJB	**Djebel Djouab**	**0.76**	**172**	P	**Pn**	**06 17 23.9**	**-0.2**
ADJB	**Djebel Djouab**	**0.76**	**172**	P	**Pn**	**06 17 23.9**	**-0.2**
ADJB	**Djebel Djouab**	**0.76**	**172**	P	**Pn**	**06 17 23.9**	**-0.2**
EMHD	**Djebel Mahouad**	**0.76**	**202**	P	**Pn**	**06 17 24.2**	**0.0**
EMHD	**Djebel Mahouad**	**0.76**	**202**	P	**Pn**	**06 17 24.2**	**0.0**
EMHD	**Djebel Mahouad**	**0.76**	**202**	P	**Pn**	**06 17 24.2**	**0.0**
ATAF	**Djebel Tarf**	**1.29**	**143**	P	**Pg**	**06 17 34.2**	**+0.9**
ATAF	**Djebel Tarf**	**1.29**	**143**	P	**Pg**	**06 17 34.2**	**+0.9**
ATAF	**Djebel Tarf**	**1.29**	**143**	P	**Pg**	**06 17 34.2**	**+0.9**
EBNR	**Beni Rached**	**1.56**	**247**	P	**Pb**	**06 17 35.5**	**-1.1**
EBNR	**Beni Rached**	**1.56**	**247**	P	**Pb**	**06 17 35.5**	**-1.1**
ECHA	**Ech Chlef**	**1.74**	**245**	P	**Pb**	**06 17 38.0**	**-1.6**
ECHA	**Ech Chlef**	**1.74**	**245**	P	**Pb**	**06 17 38.0**	**-1.6**
ECHF	**Ech Chlef**	**1.75**	**245**	P	**Pn**	**06 17 38.0**	**+0.3**
ECHF	**Ech Chlef**	**1.75**	**245**	P	**Pn**	**06 17 38.0**	**+0.3**
EANR	**'Ain N'Sour**	**2.02**	**242**	P	**Pb**	**06 17 44.5**	**0.0**
EANR	**'Ain N'Sour**	**2.02**	**242**	P	**Pb**	**06 17 44.5**	**0.0**
EANR	**'Ain N'Sour**	**2.02**	**242**	P	**Pb**	**06 17 44.5**	**0.0**
ETRT	**Tiaret**	**2.22**	**228**	P	**Pb**	**06 17 47.0**	**-1.0**
ETRT	**Tiaret**	**2.22**	**228**	P	**Pb**	**06 17 47.0**	**-1.0**
ETRT	**Tiaret**	**2.22**	**228**	P	**Pb**	**06 17 47.0**	**-1.0**
EIBI	**Ibiza**	**2.62**	**324**	P	**Pn**	**06 17 50.5**	**+0.7**
	3.2nm,0.1s,SNR=7.9						
EIBI				S	**Sn**	**06 18 20.8**	**-0.3**
	4.4nm,0.1s,SNR=7.9						
EIBI	**Ibiza**	**2.62**	**324**	P	**Pn**	**06 17 50.5**	**+0.7**
	3.2nm,0.1s,SNR=7.9						
EIBI				S	**Sn**	**06 18 20.8**	**-0.3**
	4.4nm,0.1s,SNR=7.9						
ETOS	**Mallorca**	**2.88**	**352**	P	**Pn**	**06 17 54.2**	**+0.9**
	2.1nm,0.1s,SNR=23						
ETOS				S	**Sn**	**06 18 26.3**	**-1.2**
	2.1nm,0.1s,SNR=4.5						
ETOS	**Mallorca**	**2.88**	**352**	P	**Pn**	**06 17 54.2**	**+0.9**
	2.1nm,0.1s,SNR=23						
ETOS				S	**Sn**	**06 18 26.3**	**-1.2**
	2.1nm,0.1s,SNR=4.5						
AFON	**Font Roja**	**3.52**	**301**	P	**Pn**	**06 18 03.7**	**+1.6**
	0.9nm,0.1s,SNR=7.9						
AFON				S	**Sn**	**06 18 44.2**	**+0.9**
	20nm,4.7s,SNR=7.9						
AFON	**Font Roja**	**3.52**	**301**	P	**Pn**	**06 18 03.7**	**+1.6**
	0.9nm,0.1s,SNR=7.9						
AFON				S	**Sn**	**06 18 44.2**	**+0.9**
	20nm,4.7s,SNR=7.9						
EMUR	**La Murta**	**3.74**	**286**	P	**Pn**	**06 18 06.8**	**+1.7**
	4.6nm,2.6s,SNR=7.9						
EMUR				S	**Sn**	**06 18 48.4**	**-0.3**
	0.6nm,0.2s,SNR=7.9						
ETOB	**Tobarra**	**4.22**	**296**	P	**Pn**	**06 18 13.7**	**+2.0**
	2.6nm,0.1s,SNR=15						
ETOB				S	**Sn**	**06 19 00.0**	**-0.6**
	0.3nm,0.1s,SNR=7.9						
ENIJ	**Nijar**	**4.42**	**272**	S	**Sn**	**06 19 04.3**	**-1.1**
	4.1nm,0.2s,SNR=7.9						
EMOS	**Mosqueruela**	**4.55**	**321**	P	**Pn**	**06 18 17.2**	**+0.9**
	0.9nm,0.1s,SNR=9.4						
EMOS				S	**Sn**	**06 19 06.8**	**-1.9**
	0.2nm,0.1s,SNR=7.1						
ERTA	**Horta de San J**	**4.66**	**331**	S	**Sn**	**06 19 08.1**	**-3.2**
	1.5nm,0.1s,SNR=7.9						
EPOB	**Poblet**	**4.76**	**339**	P	**Pn**	**06 18 20.0**	**+0.8**
	0.5nm,0.1s,SNR=7.9						
EPOB				S	**Sn**	**06 19 12.1**	**-1.9**
	0.3nm,0.2s,SNR=7.9						
SESP	**Santiago Espad**	**4.81**	**286**	P	**Pn**	**06 18 22.2**	**+2.3**
	0.9nm,0.2s,SNR=7.9						
SESP				S	**Sn**	**06 19 14.1**	**-1.1**
	0.6nm,0.1s,SNR=7.9						
CFON	**Fontmartina**	**4.89**	**352**	P	**Pn**	**06 18 21.6**	**+0.6**
	3.1nm,0.2s,SNR=6.4						
CFON				S	**Sn**	**06 19 15.6**	**-1.6**
	2.1nm,2.0s,SNR=7.9						
EBER	**Berja**	**4.97**	**272**	P	**Pn**	**06 18 22.9**	**+0.8**
	0.9nm,0.2s,SNR=7.9						
EBER				S	**Sn**	**06 19 18.5**	**-0.7**
	1.2nm,0.2s,SNR=7.9						
EQES	**Quesada**	**5.16**	**282**	P	**Pn**	**06 18 26.6**	**+1.9**
	0.6nm,0.1s,SNR=7.9						
EQES				S	**Sn**	**06 19 23.2**	**-0.6**
	0.5nm,0.1s,SNR=7.9						
EMIR	**Miracle**	**5.19**	**345**	P	**Pn**	**06 18 26.6**	**+1.6**
	1.9nm,0.1s,SNR=7.8						
EMIR				S	**Sn**	**06 19 22.4**	**-2.0**
	0.3nm,0.1s,SNR=7.9						
CSOR	**Sort**	**5.71**	**344**	P	**Pn**	**06 18 34.2**	**+1.9**
	0.2nm,0.1s,SNR=5.7						
CSOR				S	**Sn**	**06 19 34.4**	**-3.0**
	1.4nm,0.2s,SNR=7.9						
ETOR	**Torete**	**5.72**	**315**	P	**Pn**	**06 18 34.5**	**+2.1**
	0.1nm,2.0s,SNR=7.9						
ETOR	**Torete**	**5.72**	**315**	P	**Pn**	**06 18 34.5**	**+2.1**
	0.1nm,2.0s,SNR=7.9						

IDC 12 06:20:44.5±1.2, 3.°14N × 127.°23E, h51km±6km, mb3.6/8, mb1 3.7/8, mb1mx3.4/62, mbtmp3.9/8, MS3.7/2, Ms1 3.7/2, ms1mx2.9/55, Error ellipse: s-maj=160.4km s-min=12.2km az=68.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**23.45**	**122**	LR	LR	06 37 28.9	
	comp=Z,123nm,20.5s,baz=266,slow=43						
WRA	**Warramunga Arr**	**23.98**	**163**	P	P	06 25 54.4	0.0
	1.3nm,0.5s,baz=337,slow=10,SNR=22						
WRA				pP	pP	06 26 06.7	-0.7
	5.0nm,0.6s,baz=342,slow=10,SNR=17						
ASAR	**Alice Springs**	**27.42**	**167**	P	P	06 26 25.9	+0.2
	0.7nm,0.5s,baz=349,slow=7.6,SNR=11						
ASAR				pP	pP	06 26 38.3	-0.3
	1.3nm,0.6s,baz=354,slow=7.5,SNR=7.1						
STKA	**Stephens Creek**	**37.40**	**160**	P	P	06 27 53.3	+0.6
	2.1nm,0.8s,baz=330,slow=13,SNR=4.8						
STKA				pP	pP	06 28 05.7	-0.3
	5.1nm,0.7s,baz=329,slow=9.9,SNR=7.7						
SONM	**Songino Array**	**48.02**	**341**	P	P	06 29 17.9	-0.7
	0.7nm,0.7s,baz=161,slow=9.2,SNR=3.4						
MKAR	**Makanchi Array**	**58.32**	**325**	P	P	06 30 34.4	0.0
	0.6nm,0.4s,baz=122,slow=8.5,SNR=8.2						
ZALV	**Zalesovo Beam**	**61.34**	**333**	P	P	06 30 54.6	-0.2
	0.6nm,0.4s,baz=134,slow=8.3,SNR=3.5						
ZALV				pP	pP	06 31 10.9	+1.9
	0.7nm,0.4s,baz=106,slow=7.7,SNR=2.6						
URZ	**Urewera**	**61.77**	**137**	LR	LR	06 58 35.6	
	comp=Z,74nm,20.0s,baz=262,slow=37						
KURBB	**Kurchatov Arra**	**62.50**	**327**	P	P	06 31 02.8	+0.1
	1.0nm,0.6s,baz=128,slow=6.4,SNR=9.5						
KURBB				pP	pP	06 31 16.2	-0.7
	1.2nm,0.9s,baz=127,slow=6.3,SNR=4.7						
BVAR	**Borovoye Array**	**68.08**	**327**	P	P	06 31 38.6	-0.2
	0.5nm,0.5s,baz=120,slow=8.5,SNR=3.5						

MEX 12 06:28:31.9±0.4, 16.°49N × 98.°50W, h13km±7km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.37**	**105**	*i*P	Pg	06 28 38.8	-0.6
PNIG				*i*S	Sg	06 28 44.2	-0.3
TLIG	**Tlapa**	**1.07**	**357**	*i*P	Pb	06 28 48.9	-3.5
TLIG				*i*S	Sb	06 29 01.9	-4.5
CAIG	**El Cayaco**	**1.78**	**289**	*e*P	Pn	06 28 59.5	-2.9
CAIG				*i*S	Sn	06 29 20.0	-4.8
VHO	**Vista Hermosa**	**1.79**	**71**	*e*P	Pn	06 28 59.4	-3.4
VHO				*i*S	Sn	06 29 21.4	-4.1
PLIG	**Platanillo**	**2.12**	**333**	*e*P	Pn	06 29 05.4	-1.8
PLIG				*e*S	Sn	06 29 29.3	-4.1

ISCJB ***12*** *06:35:49.3±0.9, 31.°03S±0.°04 × 69.°23W±0.°06, h119km±8km, Error ellipse: s-maj=8.6km s-min=5.3km az=160.0*
GUC ***12*** *06:35:49.4±0.5, 31.°00S × 69.°32W, h119km±8km, ML3.6*
SJA ***12*** *06:35:49.2±0.5, 31.°06S × 69.°26W, h111km±3km, ML3.7, MW4.0*

ISC 12 06:35:50.1±1.7, 31.°04S±0.°04 × 69.°25W±0.°06, h113km±13km, n14, σ0s47/24, 5C-1D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMOG	**MOGNA**	**0.66**	**81**	*i* P	**Pn**	**06 36 08.2**	**-0.3**
AMOG				*i* S	**Sn**	**06 36 22.4**	**+0.1**
RTLS	**Leoncito**	**0.76**	**183**	*i* P	**Pn**	**06 36 09.6**	**0.0**
RTLS				*i* S	**Sn**	**06 36 24.8**	**+0.5**
RTLS				IAML		06 36 25.8	
	comp=Z,1μm,0.2s						
SJA	**San Juan**	**0.77**	**130**	*i* P	**Pn**	**06 36 09.1**	**-0.3**
SJA				*i* S	**Sn**	**06 36 23.3**	**-0.6**
SJA				IAML		06 36 25.0	
	comp=Z,2μm,0.3s						
ACDV	**Cuesta del Vie**	**0.87**	**7**	*i* P	**Pn**	**06 36 10.8**	**+0.3**
ACDV				*i* S	**Sn**	**06 36 26.1**	**+0.2**
RTCV	**Cerro Valdivia**	**1.02**	**144**	*i* P	**Pn**	**06 36 11.6**	**-0.2**
RTCV				*i* S	**Sn**	**06 36 27.9**	**-0.3**
AUSP	**Uspallata**	**1.19**	**186**	*i* P	**Pn**	**06 36 13.7**	**-0.1**
AUSP				*i* S	**Sn**	**06 36 32.0**	**+0.2**
GO04	**Tololo Observa**	**1.59**	**302⇑**	*i* P	**Pn**	**06 36 18.3**	**-0.1**
GO04				*i* S	**Sn**	**06 36 40.3**	**+0.4**
GO04				IAML		06 36 41.8	
	comp=N,2μm,0.5s						
TLL	**Tololo Astrono**	**1.60**	**303⇑**	*i* P	**Pn**	**06 36 18.4**	**-0.1**
TLL				*i* S	**Sn**	**06 36 40.4**	**+0.3**
TLL				IAML		06 36 42.2	
	comp=N,668nm,0.5s						
ACAN	**Cantantal**	**2.15**	**126**	*i* P	**Pn**	**06 36 25.2**	**+0.1**
LCO	**Las Campanas**	**2.38**	**328⇑**	*i* P	**Pn**	**06 36 28.1**	**-0.2**
LCO				*i* S	**Sn**	**06 36 57.6**	**0.0**
LCO				IAML		06 37 02.1	
	comp=E,182nm,0.2s						
ROCH	**El Roble**	**2.44**	**217**	IAML		06 36 59.6	
	comp=N,264nm,0.4s						
VCA	**Vinchina**	**2.47**	**22⇑**	*e*P	**Pn**	**06 36 30.1**	**+0.8**
VCA				*i* S	**Sn**	**06 37 00.2**	**+0.7**
VCA				IAML		06 37 05.3	
	comp=N,462nm,0.3s						
LMEL	**Las Melosas**	**2.91**	**196⇓**	*i* P	**Pn**	**06 36 35.5**	**+0.3**
LMEL				IAML		06 37 18.2	
	comp=N,125nm,0.1s						
GO03	**Copiap**	**3.54**	**346⇑**	*i* P	**Pn**	**06 36 42.9**	**-0.5**
GO03				*i* S	**Sn**	**06 37 23.4**	**-1.2**
GO03				IAML		06 37 27.0	
	comp=N,74nm,0.2s						

ISCJB ***12*** *06:43:44.7±1.3, 0.6S±0.2, 91.3E±0.1, h10km, mb4.0/6, Error ellipse: s-maj=30.4km s-min=15.8km az=18.4*
IDC ***12*** *06:43:45.4±1.6, 0.60S, 91.27E, h0km, mb3.9/6, mb1 4.0/8, mb1mx3.6/79, mbtmp4.0/8, ML4.1/2, Error ellipse: s-maj=45.0km s-min=25.9km az=42.0*

ISC 12 06:43:46.9±1.4, 0.6S±0.2, 91.3E±0.1, h10km, n8, σ0≤45/8, mb4.1/6, South Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**8.32**	**66**	Pn	**Pn**	**06 45 47.5**	**-0.3**
	1.7nm,0.3s,baz=254,slow=15,SNR=7.3						
PALK	**Pallekele**	**13.12**	**307**	Pn	**Pn**	**06 46 53.1**	**-0.5**
	1.3nm,0.3s,baz=115,slow=12,SNR=5.8						
MKAR	**Makanchi Array**	**47.81**	**352**	P	**P**	**06 52 24.9**	**+0.2**
	1.1nm,0.8s,baz=166,slow=9.2,SNR=7.8						
SONM	**Songino Array**	**49.96**	**13**	P	**P**	**06 52 41.5**	**+0.2**
	2.0nm,0.7s,baz=207,slow=8.0,SNR=4.3						
KURBB	**Kurchatov Arra**	**52.14**	**350**	P	**P**	**06 52 58.1**	**+0.7**
	1.0nm,0.8s,baz=173,slow=7.4,SNR=8.5						
ZALV	**Zalesovo Beam**	**54.58**	**355**	P	**P**	**06 53 15.2**	**-0.1**
	0.7nm,0.3s,baz=186,slow=5.5,SNR=4.2						
STKA	**Stephens Creek**	**56.73**	**128**	P	**P**	**06 53 31.2**	**0.0**
	0.8nm,0.3s,baz=314,slow=14,SNR=4.6						
BRTR	**Keskin Array B**	**66.02**	**315**	P	**P**	**06 54 34.3**	**+0.2**
	0.3nm,0.3s,baz=121,slow=6.9,SNR=3.6						

ISCJB ***12*** *06:43:46.9±1.3, 1.2N±0.2, 91.5E±0.1, h10km, mb3.8/5, Error ellipse: s-maj=27.5km s-min=14.4km az=16.8*
IDC ***12*** *06:43:47.7±1.7, 1.24N, 91.48E, h0km, mb3.7/5, mb1 3.9/8, mb1mx3.5/80, mbtmp3.8/8, ML3.8/3, Error ellipse: s-maj=44.6km s-min=24.8km az=37.0*

ISC 12 06:43:49.0±1.4, 1.2N±0.2, 91.5E±0.1, h10km, n8, σ0≤99/8, mb3.8/5, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**7.61**	**78**	Pn	**Pn**	**06 45 39.9**	**-0.4**
	0.8nm,0.3s,baz=265,slow=16,SNR=3.2						
PSI				Sn	Sn	06 46 54.2	-12
	0.7nm,0.3s,baz=295,slow=18,SNR=1.8						
PALK	**Pallekele**	**12.33**	**300**	Pn	**Pn**	**06 46 44.6**	**-0.2**
	1.6nm,0.3s,baz=116,slow=12,SNR=8.9						
PALK				Sn	Sn	06 48 52.0	-10
	3.4nm,0.3s,baz=114,slow=20,SNR=9.2						
CMAR	**Chiang Mai Arr**	**18.66**	**23**	Pn	**Pn**	**06 48 08.8**	**+1.2**
	0.1nm,0.3s,baz=214,slow=13,SNR=7.7						
MKAR	**Makanchi Array**	**46.12**	**351**	P	**P**	**06 52 12.4**	**-1.2**
	0.5nm,0.8s,baz=174,slow=9.6,SNR=4.9						
WRA	**Warramunga Arr**	**46.96**	**119**	P	**P**	**06 52 20.7**	**+0.1**
	1.3nm,0.8s,baz=297,slow=8.5,SNR=6.8						
SONM	**Songino Array**	**48.23**	**13**	P	**P**	**06 52 30.1**	**0.0**
	0.8nm,0.6s,baz=198,slow=9.1,SNR=4.4						
ZALV	**Zalesovo Beam**	**52.87**	**355**	P	**P**	**06 53 04.0**	**-0.9**
	0.3nm,0.3s,baz=186,slow=8.3,SNR=2.5						
GERES	**GERESS Array B**	**81.06**	**319**	P	**P**	**06 56 05.6**	**+1.0**
	0.3nm,0.3s,baz=101,slow=5.1,SNR=3.4						

SOME ***12*** *06:44:46.4, 44.53N, 82.17E, h10km*
ISCJB ***12*** *06:44:49.7±1.3, 44.71N±0.06, 82.3E±0.1, h10km, Error ellipse: s-maj=14.3km s-min=5.0km az=32.6*
NNC ***12*** *06:44:49.0±0.9, 44.73N, 82.14E, h0km, mb3.0, mpv2.6, Error ellipse: s-maj=12.9km s-min=2.0km az=116.0*

ISC 12 06:44:45.2±2.0, 44.70N±0.07, 82.3E±0.1, h10km, n9, σ0≤82/18, 5C, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DJR	**Jarkent**	**1.82**	**259**	*e*P	**Pg**	**06 45 19.2**	**-0.9**
	6.5nm,0.3s						
DJR				*e*S	**Sg**	**06 45 43.1**	**-0.6**
	8.9nm,0.2s						
MK31	**Makanchi Array**	**2.09**	**0**	⇑Pn	**Pg**	**06 45 25.2**	**-0.1**
	2.6nm,0.3s,baz=183,slow=13,SNR=129						
MK31				Sn	**Sg**	**06 45 52.7**	**+0.3**
	5.5nm,0.5s,baz=187,slow=29,SNR=25						
MAKZ	**Makanchi**	**2.12**	**354**	⇑Pn	**Pg**	**06 45 25.1**	**-0.7**
	2.5nm,0.5s						
MAKZ				⇑Sn	**Sg**	**06 45 52.8**	**-0.4**
	4.5nm,0.5s						
KAPS	**Kapalarasan**	**2.15**	**287**	*e*P	**Pb**	**06 45 24.4**	**+0.1**
	2.1nm,0.1s						
KAPS				*e*S	**Sb**	**06 45 51.8**	**+0.7**
	6.2nm,0.3s						
PDGK	**Podgornoye**	**2.44**	**237**	⇑Pn	**Pb**	**06 45 29.0**	**-0.2**
	0.8nm,0.4s						
PDGK				⇑Sn	**Sb**	**06 46 00.3**	**+1.0**
	10nm,0.6s						
UZB	**Uzynbulak**	**2.82**	**238**	*e*P	**Pb**	**06 45 35.7**	**0.0**
	1.1nm,0.2s						
UZB				*e*S	**Sb**	**06 46 11.4**	**+0.9**
	4.1nm,0.3s						
KPKS	**Kokpek**	**2.87**	**246**	*e*P	**Pb**	**06 45 36.4**	**-0.2**
	4.7nm,0.1s						
KPKS				*e*S	**Sb**	**06 46 12.6**	**+0.8**
	21nm,0.8s						
ARXS	**Arharly**	**3.22**	**263**	*e*P	**Pb**	**06 45 42.0**	**-0.6**
	1.2nm,0.4s						
ARXS				*e*S	**Sb**	**06 46 21.7**	**-0.3**
	9.1nm,0.3s						
CHKK	**Chushkaly**	**3.89**	**259**	*e*P	**Pb**	**06 45 54.5**	**+0.5**
	0.9nm,0.3s						
CHKK				*e*S	**Sb**	**06 46 43.2**	**+2.1**
	5.2nm,0.3s						

GUC 12 06:47:15.6±0.4, 19.15S, 69.86W, h77km±2km, ML3.8, 1C-6D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNMC	**Minye Minye**	**0.25**	**86**	*i* P	Pn	06 47 27.8	+0.1
MNMC				*i* S	Sn	06 47 36.9	+0.4
MNMC				IAML		06 47 37.4	
	comp=E,8μm,0.3s						
PSGC	**Pisagua**	**0.51**	**210**	*i* P	Pn	06 47 29.5	+0.2
PSGC				*i* S	Sn	06 47 40.0	+0.5
PSGC				IAML		06 47 42.0	
	comp=E,4μm,0.3s						
PB11	**IPOC Station P**	**0.64**	**163**	*i* P	Pn	06 47 30.6	0.0
PB11				*i* S	Sn	06 47 42.6	+1.0
PB12	**IPOC Station P**	**0.70**	**320**	*i* P	Pn	06 47 31.3	+0.2
PB12				*i* S	Sn	06 47 43.2	+0.6
GO01	**Chusmiza**	**0.81**	**130**	*i* P	Pn	06 47 33.4	+0.6
GO01				*i* S	Sn	06 47 46.4	+0.9
GO01				IAML		06 47 47.3	
	comp=N,3μm,0.2s						
PB08	**IPOC Station P**	**1.19**	**146**	*i* P	Pn	06 47 38.0	+0.8
PB08				*i* S	Sn	06 47 54.6	+1.3
PB08				IAML		06 47 54.8	
	comp=E,4μm,0.1s						
PB01	**IPOC Station P**	**1.92**	**170**	*i* P	Pn	06 47 47.2	+0.8
PB01				IAML		06 48 18.1	
	comp=N,1μm,0.2s						
PB02	**IPOC Station P**	**2.16**	**181**	*e*P	Pn	06 47 50.5	+0.8
PB02				IAML		06 48 22.6	
	comp=E,773nm,0.2s						
PB07	**IPOC Station P**	**2.56**	**181**	*e*P	Pn	06 47 56.7	+1.5
PB07				IAML		06 48 31.3	
	comp=E,383nm,0.3s						
PB09	**IPOC Station P**	**2.69**	**168**	*e*P	Pn	06 47 58.5	+1.5
PB09				*e*S	Sn	06 48 30.6	+2.0
PB09				IAML		06 48 41.1	
	comp=E,1μm,0.5s						

ISCJB ***12*** *06:47:33.9±0.5, 2.79N±0.07, 89.44E±0.05, h10km, mb4.5/31, MS3.8/2, Error ellipse: s-maj=10.9km s-min=5.3km az=25.7*
IDC ***12*** *06:47:34.6±1.1, 2.89N, 89.40E, h0km, mb4.2/15, mb1 4.3/18, mb1mx4.0/78, mbtmp4.2/18, ML4.1/3, MS3.4/4, Ms1 3.5/4, ms1mx3.0/71, Error ellipse: s-maj=29.9km s-min=19.7km az=23.0*
NEIC ***12*** *06:47:35.7±0.3, 2.85N, 89.44E, h10km, mb4.5/6, Error ellipse: s-maj=8.1km s-min=3.7km az=23.0*

ISC 12 06:47:35.9±0.6, 2.81N±0.10, 89.43E±0.06, h10km, n81, σ1≤92/73, mb4.6/31, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSI	**Banda Aceh**	**6.43**	**65**	P	**Pn**	**06 49 09.6**	**-1.2**
MLSI	**Meulaboh, Aceh**	**7.11**	**78**	P	**Pn**	**06 49 19.9**	**-0.3**
GSI	**Gunungsitoli**	**8.28**	**100**	P	**Pn**	**06 49 38.0**	**+1.8**
GSI	**Gunungsitoli**	**8.28**	**100**	*e*Pn	**Pn**	**06 49 35.3**	**-0.9**
GSI				*e*Sn	**Sn**	**06 51 04.7**	**-5.2**
KCSI	**Kotacane, Aceh**	**8.36**	**85**	P	**Pn**	**06 49 38.5**	**+1.1**
PSI	**Prapat**	**9.49**	**90**	Pn	**Pn**	**06 49 52.4**	**-0.5**
	1.9nm,0.3s,baz=292,slow=11,SNR=7.0						
PSI				Sn	**Sn**	**06 51 35.4**	**-4.4**
	1.2nm,0.3s,baz=114,slow=20,SNR=2.5						
PSI				LR	LR	06 53 42.9	
	comp=Z,249nm,19.3s,baz=247,slow=39						
PSI	**Prapat**	**9.49**	**90**	*e*Pn	**Pn**	**06 49 52.2**	**-0.7**
PSI				*e*Sn	**Sn**	**06 51 37.6**	**-2.2**
PALK	**Pallekele**	**9.75**	**297**	Pn	**Pn**	**06 49 55.1**	**-1.3**
	3.4nm,0.3s,baz=116,slow=12,SNR=6.2						
PALK				Sn	Sn	06 51 36.0	-10
	11nm,0.3s,baz=116,slow=3.9,SNR=7.6						
PALK				LR	LR	06 53 14.5	
	comp=Z,371nm,21.4s,baz=116,slow=35						
PALK	**Pallekele**	**9.75**	**297**	*e*Pn	**Pn**	**06 49 55.3**	**-1.1**
PALK				*e*Sn	Sn	06 51 34.5	-12
MNSI	**Mandailing Nat**	**10.35**	**101**	P	Pn	06 50 18.9	+14
KULM	**Kulim**	**11.46**	**77**	*e*Pn	**Pn**	**06 50 19.4**	**-0.4**
IPM	**Ipoh**	**11.69**	**82**	*e*Pn	**Pn**	**06 50 22.8**	**-0.3**
MDSI	**Maura Dua**	**16.43**	**116**	P	**Pn**	**06 51 28.0**	**+1.2**
KASI	**Kota Agung**	**17.18**	**119**	P	**P**	**06 51 45.1**	**+7.2**
CMAR	**Chiang Mai Arr**	**18.13**	**30**	P	**P**	**06 51 48.5**	**+0.2**
	0.2nm,0.3s,baz=225,slow=12,SNR=6.8						
CMAR				LR	LR	06 58 17.6	
	comp=Z,43nm,20.1s,baz=214,slow=36						
CHTO	**Chiang Mai**	**18.43**	**30**	*e*P	**P**	**06 51 50.7**	**-1.0**
	4.3nm,1.2s						
CHTO				*e*Pn	**Pn**	**06 51 51.4**	**-0.4**
H08S3	**Diego Garcia H**	**19.83**	**238**	T	T	07 12 36.1	
	baz=58						
H08S2	**Diego Garcia H**	**19.83**	**238**	T	T	07 12 36.9	
	baz=58,slow=74						
H08S1	**Diego Carcia H**	**19.85**	**238**	T	T	07 12 41.3	
	baz=58,slow=74						
LEM	**Lembang**	**20.53**	**118**	LR	LR	06 59 30.4	
	comp=Z,186nm,18.2s,baz=144,slow=35						
XMIS	**Christmas Isla**	**20.87**	**130**	*e*P	**P**	**06 52 18.6**	**+0.3**
	135nm,1.2s						
KSM	**Kuching**	**20.91**	**93**	*e*P	**P**	**06 52 17.7**	**-1.1**
	8.2nm,0.5s						
POO	**Poona**	**21.83**	**317**	*e*P	P	06 52 36.0	+7.2
	2.0nm,1.0s						
POO				*e*S	S	06 56 15.0	-15
KPJI	**Karang Pucung**	**21.92**	**117**	P	**P**	**06 52 30.4**	**+0.7**
STKI	**Sintang**	**22.21**	**97**	P	P	06 52 44.0	+11
SHL	**Shillong**	**22.75**	**6**	*e*P	**P**	**06 52 38.0**	**-0.6**
RAMN	**Ramite**	**24.15**	**354**	*e*P	**P**	**06 52 54.1**	**+1.4**
JIRN	**Jiri**	**24.90**	**353**	*e*P	**P**	**06 52 59.5**	**-0.1**
	40nm,0.9s						
PKIN	**Phulchoki**	**24.92**	**351**	*e*P	**P**	**06 53 01.3**	**+1.6**
GUN	**Gumba**	**25.19**	**353**	*e*P	**P**	**06 53 01.8**	**-0.4**
	33nm,0.9s						
KOLN	**Koldanda**	**25.43**	**348**	*e*P	**P**	**06 53 05.0**	**+0.7**
	16nm,0.5s						
PYUN	**Piuthan**	**25.89**	**347**	*e*P	**P**	**06 53 09.5**	**+1.1**
	35nm,0.8s						
CD2	**Chengdu**	**31.05**	**24**	*e*P	**P**	**06 53 54.5**	**+0.2**
KAPI	**Kappang**	**31.28**	**104**	*e*P	**P**	**06 53 56.8**	**+0.4**
	260nm,0.7s						
MRSI	**Marisa**	**32.58**	**93**	P	P	06 54 16.6	+8.7
LUWI	**Luwuk**	**33.55**	**96**	*e*P	**P**	**06 54 15.9**	**-0.5**
	121nm,1.2s						
NIL	**Nilore**	**34.20**	**336**	*e*P	**P**	**06 54 22.0**	**+0.2**
	38nm,0.8s						
LZH	**Lanzhou**	**35.69**	**20**	*e*P	P	06 54 43.1	+8.3
LZH				pP	sP	06 54 48.8	+10
LZH				sP	pP	06 54 51.6	+14
LZH				*e*PP	**PP**	**06 56 05.4**	**+9.4**
LZH				pmax	pmax		
	comp=Z,36nm,1.0s						
LZH				pmax	pmax		
	comp=Z,270nm,9.3s						
LZH				LR	LR		
	comp=N,190nm,13.5s						
LZH				LR	LR		
	comp=E,220nm,13.7s						
LZH				LR	LR		
	comp=Z,270nm,16.8s						
XAN	**Xi'an**	**36.00**	**28**	P	P	06 54 29.6	-7.7
XAN				pP	pP	06 54 35.4	-5.0
XAN				pmax	pmax		
	comp=Z,4.0nm,0.8s						
GTA	**Gaotai**	**37.63**	**13**	*e*P	**P**	**06 54 53.0**	**+1.7**
GTA				pP	sP	06 54 57.9	+2.3
GTA				sP	pP	06 55 01.0	+6.6
GTA				pmax	pmax		
	comp=Z,3.0nm,1.0s						
KSH	**Kashi**	**38.53**	**343**	P	**P**	**06 54 57.4**	**-1.4**
KSH				pmax	pmax		
	comp=Z,11nm,0.4s						
NJ2	**Nanjing**	**40.14**	**40**	*e*P	**P**	**06 55 13.0**	**+0.8**
NJ2				pmax	pmax		
	comp=Z,13nm,0.5s						
WMQ	**Urumqi**	**40.86**	**358**	P	**P**	**06 55 17.8**	**-0.3**
WMQ				sP	sP	06 55 26.0	+3.5
WMQ				pmax	pmax		
	comp=Z,11nm,0.8s						
HHC	**Hu-ho-hao-te**	**42.81**	**25**	*e*P	**P**	**06 55 36.2**	**+2.0**
HHC				pmax	pmax		
	comp=Z,16nm,1.0s						
HHC				pmax	pmax		
	comp=Z,41nm,5.4s						
KK31	**Karatay Array**	**43.51**	**340**	*e*P	**P**	**06 55 39.7**	**0.0**
KKAR	**Karatay Array**	**43.51**	**340**	*e*P	**P**	**06 55 39.4**	**-0.3**
H01W3	**Cape Leeuwin H**	**44.09**	**150**	T	T	07 42 40.4	
	baz=325,slow=74,SNR=18						
H01W2	**Cape Leeuwin H**	**44.11**	**150**	T	T	07 42 20.5	
	baz=325,slow=74,SNR=7.4						
H01W1	**Cape Leeuwin H**	**44.11**	**150**	T	T	07 42 47.3	
	baz=325,slow=74,SNR=18						
MK01	**Makanchi Array**	**44.22**	**353**	*e*P	**P**	**06 55 44.5**	**-0.9**
MK31	**Makanchi Array**	**44.24**	**353**	*e*P	**P**	**06 55 44.9**	**-0.7**
MKAR	**Makanchi Array**	**44.24**	**353**	P	**P**	**06 55 44.4**	**-1.2**
	comp=Z,0.9nm,0.4s,baz=174,slow=9.1,SNR=16						
MKAR	**Makanchi Array**	**44.24**	**353**	*e*P	**P**	**06 55 44.6**	**-0.9**
	comp=Z,18nm,0.7s						
GEYT	**Alibeck**	**45.20**	**325**	P	**P**	**06 55 53.2**	**-0.1**
	comp=Z,4.4nm,0.6s,baz=159,slow=9.5,SNR=7.0						
RAYN	**Ar Rayn**	**47.18**	**300**	*e*P	**P**	**06 56 08.7**	**-0.6**
	comp=Z,6.3nm,0.6s						
SONM	**Songino Array**	**47.18**	**16**	P	**P**	**06 56 08.9**	**0.0**
	comp=Z,3.4nm,0.4s,baz=195,slow=9.4,SNR=21						
SONA1	**Songino Array**	**47.20**	**16**	*e*P	**P**	**06 56 09.0**	**0.0**
KURBB	**Kurchatov Arra**	**48.52**	**351**	P	**P**	**06 56 18.5**	**-0.6**
	comp=Z,1.5nm,0.8s,baz=172,slow=7.2,SNR=14						
KURK	**Kurchatov**	**48.60**	**351**	*e*P	**P**	**06 56 18.8**	**-0.8**
	comp=Z,4.9nm,0.9s						
WRA	**Warramunga Arr**	**49.54**	**119**	P	**P**	**06 56 27.9**	**+0.4**
	comp=Z,0.7nm,0.4s,baz=296,slow=8.4,SNR=2.5						
ZALV	**Zalesovo Beam**	**51.11**	**357**	P	**P**	**06 56 37.6**	**-1.1**
	comp=Z,2.0nm,0.4s,baz=176,slow=7.3,SNR=8.6						
CN2	**Changchun**	**51.79**	**33**	*e*P	**P**	**06 56 46.4**	**+2.4**
BRVK	**Borovoye**	**52.53**	**346**	*e*P	**P**	**06 56 48.1**	**-1.2**
	comp=Z,4.3nm,0.6s						
ABKAR	**Akbulak array**	**52.66**	**336**	*e*P	**P**	**06 56 50.5**	**+0.1**
	comp=Z,3.5nm,0.6s						
AKTO	**Aktyubinsk**	**54.36**	**336**	P	**P**	**06 57 02.1**	**-0.8**
	comp=Z,0.8nm,0.3s,baz=150,slow=7.0,SNR=5.1						
KBZ	**Khabaz**	**57.88**	**322**	P	**P**	**06 57 27.6**	**-0.4**
	comp=Z,1.7nm,0.6s,baz=131,slow=8.7,SNR=5.1						
BR131	**Keskin Array S**	**62.34**	**314**	*e*P	**P**	**06 57 58.9**	**-0.2**
BRTR	**Keskin Array B**	**62.34**	**314**	P	**P**	**06 57 58.5**	**-0.5**
	comp=Z,2.7nm,0.6s,baz=129,slow=7.1,SNR=17						
BR231	**Keskin MP Arra**	**63.01**	**314**	*e*P	**P**	**06 57 59.6**	**-3.8**
IDI	**Anoyia**	**67.71**	**307**	P	**P**	**06 58 33.7**	**-0.2**
	comp=Z,6.0nm,0.9s,baz=357,slow=3.3,SNR=3.1						
MLR	**Muntele Rosu**	**69.61**	**318**	P	**P**	**06 58 46.6**	**+0.9**
	comp=Z,1.1nm,0.5s,baz=119,slow=6.7,SNR=10						
MLR	**Muntele Rosu**	**69.61**	**318**	*e*P	**P**	**06 58 46.0**	**+0.2**
	comp=Z,9.7nm,0.9s						
BUR04	**Bucovina Ar. S**	**70.74**	**320**	*e*P	**P**	**06 58 52.7**	**+0.2**
TIXI	**Tiksi**	**73.11**	**12**	*e*P	**P**	**06 59 04.2**	**-1.9**
	comp=Z,2.9nm,0.5s						
FINES	**FINESS Array B**	**75.05**	**334**	P	**P**	**06 59 17.2**	**-0.5**
	comp=Z,1.8nm,0.7s,baz=108,slow=6.2,SNR=3.9						
ARCES	**ARCESS Array B**	**78.46**	**341**	P	**P**	**06 59 36.5**	**-0.4**
	comp=Z,2.7nm,0.8s,baz=106,slow=5.7,SNR=4.1						
GEA0	**GERESS Array S**	**78.50**	**319**	*e*P	**P**	**06 59 37.4**	**-0.2**
GERES	**GERESS Array B**	**78.50**	**319**	P	**P**	**06 59 38.0**	**+0.3**
	comp=Z,1.4nm,0.6s,baz=115,slow=5.1,SNR=7.8						
TORD	**Torodi Ar. Bea**	**87.16**	**283**	P	**P**	**07 00 22.8**	**-0.3**
	comp=Z,1.0nm,1.1s,baz=90,slow=4.2,SNR=3.0						
FFC	**Flin Flon**	**121.89**	**8**	*e*PKPdf	**PKPdf**	**07 06 29.7**	**-0.8**
TXAR	**Lajitas Array**	**145.66**	**21**	PKPbc	**PKPdf**	**07 07 15.6**	**0.0**
	comp=Z,1.3nm,0.8s,baz=250,slow=0.4,SNR=12						

ISCJB ***12*** *06:48:36.5±0.2, 28.78N±0.02, 113.03W±0.02, h10km, mb4.7/84, Error ellipse: s-maj=3.6km s-min=1.7km az=29.0*
IDC ***12*** *06:48:36.3±0.8, 28.80N, 113.04W, h0km, mb4.5/16, mb1 4.5/23, mb1mx4.3/64, mbtmp4.4/23, ML3.6/6, MS4.3/6, Ms1 4.3/6, ms1mx3.9/67, Error ellipse: s-maj=18.9km s-min=10.2km az=41.0*
NEIC ***12*** *06:48:37.8±0.3, 28.68N, 113.08W, h10km, mb4.7/123, MD4.1(MEX), Error ellipse: s-maj=5.3km s-min=3.3km az=209.0*
MEX ***12*** *06:48:37.3±0.3, 28.90N, 113.20W, h16km±999km, MD4.1*

ISC 12 06:48:40.7±1.3, 28.74N±0.04, 112.98W±0.04, h28km±9km, n665, σ1≤49/665, mb4.8/84, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRIG	**Santa Rosalia**	**1.56**	**155**	*e*P	**Pn**	**06 49 04.1**	**-2.3**
SRIG				*e*S	**Sn**	**06 49 25.1**	**-0.5**
SRIG	**Santa Rosalia**	**1.56**	**155**	*e*Pn	**Pn**	**06 49 04.2**	**-2.3**
SRIG				*e*Sn	**Sb**	**06 49 28.4**	**+0.3**
HSIG		**1.81**	**80**	*i* P	**Pn**	**06 49 07.1**	**-3.0**
HSIG				*e*S	**Sn**	**06 49 30.1**	**-1.9**
HSIG		**1.81**	**80**	*e*Pn	**Pn**	**06 49 07.1**	**-2.9**
HSIG				*e*S	**Sn**	**06 49 30.1**	**-1.9**
HSIG				*e*Sg	**Sb**	**06 49 38.4**	**+3.0**
GUYB	**Guaymas**	**2.04**	**114**	*i* P	**Pn**	**06 49 11.1**	**-2.0**
GUYB				*i* S	**Sb**	**06 49 40.5**	**-1.4**
214A	**Organ Pipe Nat**	**3.21**	**3**	P	Pn	06 49 24.3	-5.1
	baz=184,SNR=83						
214A	**Organ Pipe Nat**	**3.21**	**3**	*e*Pn	Pn	06 49 24.4	-4.9
214A				*e*Sg	**Sb**	**06 50 21.7**	**+5.9**
TUC	**Tucson**	**4.04**	**27**	P	**Pn**	**06 49 37.8**	**-2.9**
	baz=209						
TUC				Sb	**Sb**	**06 50 41.7**	**+2.2**
	baz=209						
TUC	**Tucson**	**4.04**	**27**	*e*Pn	**Pn**	**06 49 38.0**	**-2.6**
TUC				*e*Sn	**Sn**	**06 50 27.6**	**+0.6**
113A	**Mohawk Valley,**	**4.08**	**351**	*e*Pn	Pn	06 49 36.2	-5.0
319A	**Douglas**	**4.15**	**50**	*e*Pn	**Pn**	**06 49 39.8**	**-2.5**
GLA	**Glamis**	**4.58**	**340**	P	Pn	06 49 43.2	-4.9
	baz=161,SNR=13						
GLA	**Glamis**	**4.58**	**340**	*e*Pn	**Pn**	**06 49 44.0**	**-4.2**
IKP	**In-Ko-Pah, Jac**	**4.74**	**326**	P	**Pn**	**06 49 46.7**	**-3.7**
	baz=146						
SWSC	**Sam W. Stewart**	**4.84**

MNTX Cornudas Mount 7.21 64 P Pn 06 50 23.0 -1.2
baz=248,SNR=29
MNTX Cornudas Mount 7.21 64 ePn Pn 06 50 23.2 -1.0
GSC Goldstone, Bar 7.31 335 P Pn 06 50 23.6 -2.0
baz=154
GSC Goldstone, Bar 7.31 335 ePn Pn 06 50 23.6 -2.0
Y22E IRIS PASSCAL I 7.43 43 P Pn 06 50 26.7 -0.6
baz=226
EDW2 Edwards Air Fo 7.46 326 P Pn 06 50 25.6 -2.1
baz=145
LAZ Ladron 7.53 40 ePn Pn 06 50 28.5 -0.3
OSI Osito Audit: C 7.63 322 P Pn 06 50 28.9 -1.2
baz=140
OSI Osito Audit: C 7.63 322 ePn Pn 06 50 27.4 -2.6
BNM Barren Site 7.66 44 ePn Pn 06 50 31.1 +0.6
SHOC Shoshone, Teco 7.67 340 P Pn 06 50 29.2 -1.3
baz=159
U15A North Rim 7.69 4 ePn Pn 06 50 29.4 -1.6
LPM Los Pinos Moun 7.76 43 Pn Pn 06 50 34.0 +2.1
6.3nm,1.1s
LRMC Laurel Mtn Rad 7.82 331 P Pn 06 50 31.2 -1.4
baz=149
SHPR Sheep Range 7.96 347 ePn Pn 06 50 32.5 -2.2
ARVC Arvin 8.08 324 P Pn 06 50 33.4 -2.7
baz=141,SNR=9.3
TX31 Lajitas Ar. Si 8.18 84 ePn Pn 06 50 37.9 +0.3
TXAR Lajitas Array 8.18 84 Pn Pn 06 50 37.3 -0.3
7.1nm,0.3s,baz=259,slow=13,SNR=382
TXAR Lg Lg 06 53 01.4
2.0nm,0.3s,baz=249,slow=30,SNR=7.3
GDL2 Guadalupe Moun 8.20 63 ePn Pn 06 50 39.7 +1.8
MPMC Manual Prospec 8.23 334 P Pn 06 50 36.2 -2.3
baz=152
LCMT Little Creek M 8.26 359 ePn Pn 06 50 37.1 -1.6
KNB Kanab 8.26 1 ePn Pn 06 50 37.3 -1.4
ANMO Albuquerque 8.31 40 Pn Pn 06 50 38.1 -1.4
0.7nm,0.3s,baz=46,slow=16,SNR=16
ANMO Lg Lg 06 52 59.5
1.7nm,0.3s,baz=134,slow=20,SNR=5.6
ANMO Albuquerque 8.31 40 P Pn 06 50 38.0 -1.5
baz=224
ANMO Albuquerque 8.31 40 ePn Pn 06 50 39.7 +0.2
ANMO Lg Lg 06 52 59.5
ISA Isabella, Lake 8.33 327 P Pn 06 50 37.2 -2.4
baz=145
ISA Isabella, Lake 8.33 327 ePn Pn 06 50 41.0 +1.4
ISA ePg Pb 06 50 55.4 -8.7
FURC Furnace Creek, 8.38 338 P Pn 06 50 39.6 -0.5
baz=157
PKM Mcpherson Peak 8.45 318 P Pn 06 50 39.7 -1.7
baz=136
DAC Darwin (Calif) 8.47 334 ePn Pn 06 50 42.6 +1.0
TPNV Topopah Spring 8.64 342 P Pn 06 50 42.0 -2.0
baz=161
TPNV Topopah Spring 8.64 342 ePn Pn 06 50 45.7 +1.8
PKCU Pink Cliffs 8.70 4 ePn Pn 06 50 47.8 +2.8
VES Vestal, Richgr 8.77 325 P Pn 06 50 43.7 -1.9
baz=143,SNR=16
CCUT Cedar City 8.80 358 ePn Pn 06 50 45.2 -1.0
CWC Cottonwood Cre 8.80 332 P Pn 06 50 45.1 -1.1
baz=150
SZCU Shurtz Canyon 8.84 359 ePn Pn 06 50 46.0 -0.7
SMMC Simmler 8.86 320 P Pn 06 50 45.8 -1.0
baz=137,SNR=7.7
GRAC Grapevine Rang 9.02 337 P Pn 06 50 47.8 -1.3
baz=155
RCTC Rector, Farmer 9.21 327 P Pn 06 50 50.9 -0.7
baz=144,SNR=5.1
MVCO Mesa Verde 9.25 23 P Pn 06 50 51.6 -0.8
baz=206,SNR=6.3
MVCO Mesa Verde 9.25 23 ePn Pn 06 50 52.2 -0.2
PAGB Antelope Grade 9.30 320 ePn Pn 06 50 52.6 -0.3
MTPU Mount Pierson 9.31 4 ePn Pn 06 50 53.1 -0.2
MSU Marysvale 9.78 ePn Pn 06 51 00.3 +0.8
R11A Troy Canyon, C 9.83 348 P Pn 06 50 58.0 -2.3
baz=167,SNR=27
R11A Troy Canyon, C 9.83 348 ePn Pn 06 50 58.1 -2.2
PV01 Paradox Valley 10.07 20 ePn Pn 06 51 04.5 +0.9
PV10 Paradox Valley 10.16 18 ePn Pn 06 51 06.9 +2.0
MSTX Muleshoe 10.17 57 P Pn 06 51 04.5 -0.4
baz=242,SNR=18
MSTX Muleshoe 10.17 57 ePn Pn 06 51 07.5 +2.7
PV04 Paradox Valley 10.21 18 ePn Pn 06 51 02.6 -2.9
MDPB Devils Postpil 10.23 332 ePn Pn 06 51 06.7 +0.8
PV09 Paradox Valley 10.25 17 ePn Pn 06 51 07.3 +1.1
Q16A Castle Valley 10.27 8 ePn Pn 06 51 07.2 +0.9
S22A 4UR Ranch, Cre 10.36 28 P Pn 06 51 06.3 -1.3
baz=212,SNR=9.8
S22A 4UR Ranch, Cre 10.36 28 ePn Pn 06 51 08.6 +1.0
SRU San Rafael Swe 10.55 11 ePn Pn 06 51 11.2 +1.1
NV11 Mina Array Sit 10.59 337 ePn Pn 06 51 11.7 +1.1
NV01 Mina Array Sit 10.63 337 ePn Pn 06 51 11.8 +0.4
NVAR Mina Array Bea 10.63 337 Pn Pn 06 51 11.4 +0.1
baz=162,slow=14,SNR=18
TMUT Trail Mountain 10.64 7 ePn Pn 06 51 12.1 +0.6
P17A Butcher Ranch, 10.87 9 ePn Pn 06 51 15.4 +0.9
MHTCO State Highway 10.88 38 ePn Pn 06 51 17.2 +2.4
SDCO Great Sand Dun 10.95 33 P Pn 06 51 15.1 -0.6
baz=217,SNR=35
SDCO Great Sand Dun 10.95 33 ePn Pn 06 51 18.5 +2.8
T25A Trinidad 11.04 38 P Pn 06 51 17.3 +0.3
baz=223,SNR=7.2
T25A Trinidad 11.04 38 ePn Pn 06 51 20.1 +3.1
P18A Preston Nutter 11.10 11 ePn Pn 06 51 18.6 +0.8
ZAIG Zacatecas 11.11 120 ePn Pn 06 51 22.6 +4.7
WAKR Walker 11.13 333 ePn Pn 06 51 19.7 +1.7
CMB Columbia Colle 11.14 328 ePn Pn 06 51 18.1 -0.1
NLU North Lily Min 11.22 4 ePn Pn 06 51 20.7 +1.4
MPU Maple Canyon 11.31 5 ePn Pn 06 51 22.9 +2.4
AMTX Amarillo 11.40 55 P Pn 06 51 22.4 +0.7
baz=240
AMTX Amarillo 11.40 55 ePn Pn 06 51 21.4 -0.3
DUG Dugway, Tooele 11.43 1 P Pn 06 51 20.9 -1.2
baz=181,SNR=14
DUG Dugway, Tooele 11.43 1 ePn Pn 06 51 24.5 +2.3
YERR Yerington 11.47 335 ePn Pn 06 51 24.2 +1.5
SMCO Snowmass 11.54 24 ePn Pn 06 51 26.3 +2.4
JCT Junction City 11.60 78 P Pn 06 51 24.5 +0.1
baz=264,SNR=15
JCT Junction City 11.60 78 ePn Pn 06 51 26.4 +2.0
VCNR Virginia City 11.89 334 ePn Pn 06 51 29.9 +1.4
JLU Jordanelle 11.91 6 ePn Pn 06 51 30.2 +1.5
833A Chaparral WMA, 11.96 89 P Pn 06 51 28.5 -0.8
baz=275,SNR=9.7
CTU Camp Tracy 11.97 5 ePn Pn 06 51 31.2 +1.7
O20A White River Ci 12.02 18 P Pn 06 51 30.0 -0.3
baz=201
O20A White River Ci 12.02 18 ePn Pn 06 51 32.1 +1.8
ABTX Abilene, Hawle 12.12 68 P Pn 06 51 30.5 -1.0
baz=255,SNR=24
ABTX Abilene, Hawle 12.12 68 ePn Pn 06 51 33.0 +1.5
ELK Elko 12.12 352 Pn Pn 06 51 31.7 0.0
0.1nm,0.3s,baz=221,slow=11,SNR=21
ELK LR LR 06 56 10.1
comp=Z,752nm,18.3s,baz=224,slow=38
AFDM Forest Hills D 12.15 329 ePn Pn 06 51 31.5 -0.5
PAHR Pah Rah Range 12.15 336 ePn Pn 06 51 33.3 +1.3
BGU Big Grassy Mou 12.16 360 ePn Pn 06 51 34.5 +2.3
BMN Battle Mountai 12.18 344 ePn Pn 06 51 32.9 +0.5
TCUT Toone Canyon 12.42 6 ePn Pn 06 51 38.0 +2.2
ISCO Idaho Springs 12.60 27 P Pn 06 51 37.5 -0.8
baz=211
ISCO Idaho Springs 12.60 27 ePn Pn 06 51 40.5 +2.2
LNIG Linares 12.66 104 ePn Pn 06 51 43.9 +5.0
ORV Oroville 12.88 329 ePn Pn 06 51 42.9 +1.1
HWUT Hardware Ranch 12.89 5 ePn Pn 06 51 44.0 +1.8
HVU Hansel Valley 13.02 1 ePn Pn 06 51 45.4 +1.6
KSCO Kaye Shedlock' 13.37 37 P Pn 06 51 49.9 +1.3
baz=223
KSCO Kaye Shedlock' 13.37 37 ePn P 06 51 54.2 -3.6
N23A Red Feather La 13.43 24 P Pn 06 51 50.3 +0.7
baz=208
WMOK Wichita Mounta 13.48 60 P Pn 06 51 50.5 +0.4
baz=247
WMOK Wichita Mounta 13.48 60 ePn Pn 06 51 51.0 +0.9
435B Jarrell 13.53 78 P Pn 06 51 51.7 +0.9
baz=265
O03D Paynes Creek 13.62 330 P Pn 06 51 51.7 -0.3
baz=146
RWWY Rawlins 13.75 18 ePn Pn 06 51 51.4 -2.5
WHTX Lake Whitney, 13.79 73 P Pn 06 51 54.9 +0.6
baz=260
WHTX Lake Whitney, 13.79 73 ePn Pn 06 51 54.8 +0.5
PHWY Pilot Hill 13.96 24 ePn Pn 06 51 58.7 +1.8

AHID Auburn Hatcher 14.08 6 ePn Pn 06 51 59.8 +1.3
WDC Whiskeytown Da 14.18 329 eP P 06 52 12.1 +5.4
BW06 Boulder Array 14.27 10 P Pn 06 51 59.4 -1.7
baz=193,SNR=6.0
BW06 Boulder Array 14.27 10 ePn Pn 06 52 00.5 -0.6
PD31 Pinedale Array 14.27 10 ePn Pn 06 52 00.7 -0.4
PDAR Pinedale Array 14.27 10 Pn Pn 06 52 00.1 -1.0
0.1nm,0.3s,baz=184,slow=11,SNR=10
PDAR LR LR 06 57 43.7
comp=Z,2µm,18.3s,baz=198,slow=38
PDAR Pinedale Array 14.27 10 ePn Pn 06 51 59.8 -1.3
WVOR Wild Horse Val 14.42 343 ePn Pn 06 52 03.3 +0.4
MOD Modoc Plateau 14.42 338 ePn Pn 06 52 03.8 +0.8
REDW Red Top Meadow 14.70 6 ePn Pn 06 52 08.3 +1.5
SNOW Snow King Moun 14.81 6 ePn Pn 06 52 08.0 -0.3
TPAW Teton Pass 14.82 6 ePn Pn 06 52 09.0 +0.5
MFID Camas Ranch 14.83 352 ePn Pn 06 52 09.7 +1.2
K22A Casper 14.84 19 P Pn 06 52 08.1 -0.5
baz=203,SNR=28
K22A Casper 14.84 19 ePn Pn 06 52 09.0 +0.4
HLID Hailey 14.84 356 P Pn 06 52 07.3 -1.5
baz=176,SNR=24
HLID Hailey 14.84 356 ePn Pn 06 52 09.4 +0.6
M04C Macdoel 14.88 333 P Pn 06 52 09.5 +0.3
baz=149
CBKS Cedar Bluff 14.90 44 P Pn 06 52 09.9 +0.6
baz=232
CBKS Cedar Bluff 14.90 44 ePn P 06 52 17.0 +2.2
FXWY Fox Creek 14.96 6 ePn Pn 06 52 10.2 -0.1
LOHW Long Hollow 14.97 7 ePn Pn 06 52 09.9 -0.6
M02C Callahan 14.98 330 P Pn 06 52 10.6 +0.2
baz=145
HKT Hockley 15.01 81 ePn Pn 06 52 11.1 +0.4
111nm,1.6s
MOOW Moose Ponds 15.09 6 ePn Pn 06 52 11.6 -0.5
67nm,1.4s
OGNE Ogallala 15.12 33 ePn P 06 52 18.8 +1.5
30nm,1.1s
YBH Yreka Blue Hor 15.19 331 Pn Pn 06 52 13.2 -0.1
0.1nm,0.3s,baz=142,slow=8.0,SNR=3.8
YBH LR LR 06 57 57.4
comp=Z,2µm,19.0s,baz=214,slow=37
IMW Indian Meadow 15.22 6 ePn Pn 06 52 13.9 0.0
63nm,1.3s
J08A Circle Bar Ran 15.25 345 ePn Pn 06 52 14.9 +0.9
22nm,1.2s
K05A Summer Lake 15.36 337 ePn Pn 06 52 17.7 +2.1
114nm,1.3s
K04D Chiloquin, OR 15.57 335 P Pn 06 52 17.1 -1.2
baz=151
YPP Pitchstone Pla 15.60 6 ePn Pn 06 52 20.4 +1.5
31nm,1.4s
H17A Grant Village 15.75 6 P Pn 06 52 19.0 -1.7
baz=188,SNR=6.6
H17A Grant Village 15.75 6 ePn P 06 52 24.8 +0.4
43nm,1.5s
YFT Old Faithful 15.78 6 ePn P 06 52 24.8 +0.1
60nm,1.6s
J05D Fort Rock, OR 15.97 338 P Pn 06 52 21.6 -1.8
baz=153,SNR=13
YMR Madison River 15.98 5 ePn Pn 06 52 25.0 +1.3
108nm,1.9s
YHB Horse Butte 16.05 5 ePn P 06 52 26.9 -0.8
51nm,1.7s
MCMT McKenzie Canyo 16.06 0 ePn P 06 52 26.5 -1.4
QLMT Earthquake Lak 16.11 4 ePn P 06 52 27.0 -1.4
YHH Holmes Hill 16.11 5 ePn Pn 06 52 26.2 +0.8
50nm,1.7s
I07A Izee 16.18 343 ePn P 06 52 28.0 -1.1
28nm,1.4s
TUL1 Leonard 16.19 59 P Pn 06 52 25.1 -1.0
baz=248,SNR=14
TUL1 Leonard 16.19 59 ePn Pn 06 52 25.8 -0.3
95nm,1.4s
PINE Pine Mountain 16.33 339 ePn P 06 52 30.3 -0.5
91nm,1.4s
BMO Blue Mountains 16.45 349 ePn Pn 06 52 30.2 +0.7
36nm,1.4s
DLMT Dillon 16.60 1 ePn Pn 06 52 31.7 +0.2
16nm,0.5s
RLMT Red Lodge 16.62 9 P Pn 06 52 31.5 -0.3
baz=192,SNR=35
RLMT Red Lodge 16.62 9 ePn Pn 06 52 32.3 +0.5
59nm,1.4s
BOZ Bozeman (W) 16.87 3 P Pn 06 52 34.9 +0.1
baz=184,SNR=13
BOZ Bozeman (W) 16.87 3 ePn P 06 52 36.5 -0.2
51nm,1.7s
RSSD Black Hills 16.94 23 P Pn 06 52 35.1 -0.7
baz=233
RSSD Black Hills 16.94 23 ePn P 06 52 37.4 -0.2
20nm,1.1s
I05D Terrebonne, OR 16.94 339 P Pn 06 52 35.7 0.0
baz=154,SNR=6.1
O33A Hebron 16.99 44 P Pn 06 52 36.2 0.0
baz=233
KSU1 Kansas State U 17.05 48 P Pn 06 52 36.6 -0.4
baz=238,SNR=9.3
KSU1 Kansas State U 17.05 48 ePn Pn 06 52 37.8 +0.7
118nm,1.4s
LRM Limekiln Ridge 17.06 1 ePn P 06 52 38.9 0.0
X39A Fountain Ranch 17.06 66 P Pn 06 52 36.3 -0.9
baz=255,SNR=6.8
140A Cam and Jess, 17.14 72 P Pn 06 52 38.2 +0.1
baz=262,SNR=5.1
G08A Pilot Rock 17.19 346 ePn P 06 52 39.6 -0.6
91nm,2.0s
GCMT Greycliff 17.23 8 ePn Pn 06 52 33.3 -6.0
341A Kurthwood 17.35 77 P Pn 06 52 40.7 -0.2
baz=255,SNR=6.1
Z40A Long Farm, Mag 17.38 70 P Pn 06 52 40.8 -0.3
baz=260
BGNE Belgrade 17.50 40 P P 06 52 43.4 -0.1
baz=228
BGNE Belgrade 17.50 40 ePn P 06 52 49.4 +5.9
39nm,1.0s
MIAR Mount Ida 17.50 66 P Pn 06 52 42.8 +0.1
baz=256
MIAR Mount Ida 17.50 66 ePn P 06 52 43.6 -0.1
23nm,1.1s
W39A Magazine 17.51 64 P Pn 06 52 41.4 -1.3
baz=254
H04A Detroit Lake 17.52 338 ePn Pn 06 52 42.6 -0.2
42nm,1.4s
F10A Beach Ranch, E 17.53 350 ePn P 06 52 44.7 +0.8
47nm,1.6s
G06A Carlson Farm, 17.55 342 ePn P 06 52 44.0 -0.2
50nm,1.4s
O34A Beatrice 17.60 45 P Pn 06 52 43.3 -0.5
baz=234
241A Mo Tay, Goldon 17.62 74 P P 06 52 45.4 +0.5
baz=264,SNR=7.1
Y40A Okolona 17.62 68 P Pn 06 52 43.2 -1.0
baz=258
WLAR White Oak Lake 17.70 69 ePn Pn 06 52 45.2 +0.2
105nm,1.3s
141A Papa Simpson, 17.70 72 P P 06 52 45.6 -0.1
baz=263
HHAR Hobbs 17.72 60 ePn Pn 06 52 44.5 -0.9
26nm,1.3s
T38A Diamond 17.73 57 P Pn 06 52 45.1 -0.4
baz=248,SNR=20
G05D Wamic, OR 17.75 340 P Pn 06 52 45.0 -0.7
baz=156,SNR=5.7
V39A Pettigrew 17.80 62 P Pn 06 52 45.5 -1.0
baz=252
Z41A Richland Creek 17.88 70 P Pn 06 52 46.7 -0.5
baz=261,SNR=8.0
442A Mamou 17.96 79 P Pn 06 52 48.2 -0.1
baz=269
HRY Holter Researc 17.97 3 ePn P 06 52 49.6 +0.7
F07A Phinny Hill Vi 17.98 344 ePn P 06 52 49.5 +0.6
245nm,2.0s
W40A Ferguson Farm, 18.07 64 P P 06 52 50.0 +0.1
baz=255,SNR=15
W40A Ferguson Farm, 18.07 64 ePn Pn 06 52 49.4 -0.2
75nm,1.2s
342A Flagon Creek P 18.08 77 P Pn 06 52 48.7 -1.0
baz=267
MSO Missoula 18.08 358 P Pn 06 52 47.8 -2.0
baz=178,SNR=18
MSO Missoula 18.08 358 ePn Pn 06 52 49.8 0.0
44nm,1.4s
X40A Basin Creek Fa 18.09 66 P Pn 06 52 48.2 -1.6
baz=257
U39A Green Forest 18.10 60 P Pn 06 52 49.7 -0.4
baz=251,SNR=13

N34A Lincoln 18.11 44 P Pn 06 52 49.8 -0.2
baz=233
O35A Humboldt 18.14 46 P Pn 06 52 50.5 0.0
baz=236
Y41A Eaglette Beard 18.14 68 P Pn 06 52 49.8 -0.7
baz=259,SNR=15
S38A Stockton 18.24 56 P Pn 06 52 50.9 -0.8
baz=246
242A Grayson 18.27 74 P P 06 52 51.6 -0.5
baz=265
HAWA Hanford 18.36 345 ePn Pn 06 52 53.6 +0.5
94nm,1.4s
Q37A Longview Farm, 18.39 52 P Pn 06 52 53.8 +0.2
baz=242
T39A Clever 18.40 58 P P 06 52 53.1 -0.5
baz=249,SNR=9.2
V40A Witts Springs 18.43 62 P P 06 52 53.4 -0.5
baz=253
R38A Fenwick Farm, 18.47 54 P P 06 52 54.1 -0.2
baz=245,SNR=20
UALR University of 18.55 66 eP Pn 06 52 57.2 +1.7
18nm,0.8s
U40A Yellville 18.57 61 P P 06 52 54.1 -1.4
baz=252,SNR=15
Z42A Norrel Spur, H 18.59 71 P P 06 52 55.2 -0.4
baz=261,SNR=5.1
N35A Tabor 18.65 45 P P 06 52 56.1 -0.1
baz=235
LAO LASA Array 18.69 15 P P 06 52 55.1 -1.6
baz=199,SNR=6.9
LAO LASA Array 18.69 15 eP Pn 06 52 57.0 -0.2
118nm,1.4s
S39A Bolivar 18.69 56 P P 06 52 55.9 -0.8
baz=247,SNR=8.5
WHAR Wooly Hollow 18.71 64 eP P 06 52 57.0 0.0
85nm,1.1s
W41B Gary Mavity, V 18.71 65 P P 06 52 56.8 -0.1
baz=256,SNR=29
P37A Lathrop 18.80 50 P P 06 52 57.4 -0.5
baz=240
Y42A Garnett, Star 18.81 69 P P 06 52 57.5 -0.4
baz=260
CCAR Cane Creek 18.83 69 eP Pn 06 52 59.2 +0.3
67nm,1.2s
D08A Wollman Farm, 18.87 347 eP P 06 52 58.7 +0.1
52nm,1.4s
V41A Mountainview 18.95 63 P P 06 52 59.4 -0.2
baz=254,SNR=15
JTMT Jette 19.01 357 eP P 06 53 00.5 +0.3
59nm,1.3s
Q38A Cooks Store, C 19.01 53 P P 06 53 00.0 -0.2
baz=243,SNR=12
T40A Mansfield 19.09 59 P P 06 53 00.6 -0.5
baz=250,SNR=7.9
R39A Chumby, Stover 19.14 55 P P 06 53 01.5 -0.2
baz=246
O37A Wolven Farm, M 19.23 49 P Pn 06 53 03.8 +0.1
baz=239
S40A Lebanon 19.26 57 P P 06 53 03.1 +0.1
baz=249
LON Longmire 19.27 341 eP P 06 53 02.6 -0.4
24nm,1.1s
U41A Viola 19.29 61 P P 06 53 02.6 -0.6
baz=253
P38A Dawn 19.38 51 P P 06 53 04.3 +0.1
baz=242,SNR=5.7
344A Westbrook Farm 19.44 76 P Pn 06 53 05.7 -0.6
baz=268
LTY Liberty 19.44 344 eP Pn 06 53 07.2 +1.0
33nm,1.5s
C09A Chrisman Ranch 19.48 349 eP P 06 53 03.9 -1.3
79nm,1.4s
K34A Le Mars 19.49 40 P Pn 06 53 06.6 -0.2
baz=230
N37A Lee Faris, Mou 19.50 47 P P 06 53 05.7 +0.2
baz=238
Q39A Willow Grove F 19.50 53 P Pn 06 53 06.3 -0.5
baz=244
244A Avery, Jackson 19.51 75 P Pn 06 53 06.7 -0.4
baz=266
Y43A Makayla and Ka 19.52 69 P P 06 53 06.3 +0.4
baz=261
V42A Cord 19.55 63 P P 06 53 05.5 -0.6
baz=255
E03A Lebam 19.62 338 eP P 06 53 06.3 -0.5
79nm,1.1s
T41A Mountain View 19.62 60 P P 06 53 06.7 -0.2
baz=251,SNR=12
VBMS Vicksburg 19.67 74 eP Pn 06 53 10.7 +1.7
69nm,1.0s
R40A Maddox Statio 19.69 56 P P 06 53 07.2 -0.4
baz=247,SNR=5.9
D05A Enumclaw 19.72 342 ePn P 06 53 08.9 -0.5
122nm,1.7s
NEW Newport 19.76 352 P P 06 53 07.2 -1.2
0.2nm,0.3s,baz=170,slow=12,SNR=20
NEW Newport 19.76 352 P P 06 53 06.6 -1.8
baz=170,SNR=18
NEW Newport 19.76 352 eP P 06 53 07.7 -0.7
41nm,1.4s
U42A Revenden 19.82 62 P Pn 06 53 10.1 -0.6
baz=254,SNR=7.3
S41A Jillco Farms, 19.82 58 P P 06 53 08.3 -0.8
baz=250
Z44A Pea Ridge, Bel 19.84 71 P P 06 53 09.4 +0.1
baz=263
P39B Salisbury 19.85 52 P P 06 53 08.8 -0.5
baz=243
ECSD EROS Data Cent 19.91 37 P P 06 53 08.9 -1.1
baz=227,SNR=11
ECSD EROS Data Cent 19.91 37 eP P 06 53 10.4 +0.5
23nm,1.3s
M37A Trindle Farm, 19.94 46 P P 06 53 10.8 +0.4
baz=237
H32A Carlson Farm, 20.03 34 P P 06 53 11.4 0.0
baz=223,SNR=5.9
Q40A Laux Farm, Aux 20.11 54 P P 06 53 12.5 +0.3
baz=246
Y44A Strider, Charl 20.12 69 P P 06 53 13.0 +0.7
baz=261
T42A Van Buren 20.13 60 P P 06 53 11.7 -0.8
baz=252
245A Little AP, Sta 20.18 75 P P 06 53 13.7 +0.7
baz=267
B08A Colville Reser 20.20 348 eP P 06 53 12.2 -1.0
28nm,1.2s
CMIG Matias Romero 20.27 121 P Pn 06 53 15.9 -0.3
24nm,1.2s,baz=320,slow=11,SNR=8.4
CMIG LR LR 07 01 27.4
comp=Z,2µm,18.3s,baz=284,slow=38
WALA Waterton Lakes 20.31 358 eP P 06 53 13.8 -0.6
81nm,1.8s
O39A Kirksville 20.34 50 P P 06 53 15.4 +0.7
baz=242
R41A Rosebud 20.34 56 P P 06 53 15.4 +0.7
baz=248,SNR=8.4
CCM Cathedral Cave 20.35 57 P P 06 53 14.7 -0.2
baz=249
CCM Cathedral Cave 20.35 57 eP Pn 06 53 16.3 -0.8
35nm,1.4s
P40A Paris 20.36 53 P P 06 53 14.9 +0.1
baz=244
K36A Gilmore City 20.41 42 P Pn 06 53 17.1 -0.5
baz=233
NLWA Neilton Lookou 20.47 338 eP P 06 53 16.1 +0.1
63nm,1.4s
Z45A Winona 20.47 71 P P 06 53 16.8 +0.7
baz=263
M38A Pleasantville 20.49 47 P P 06 53 16.4 +0.1
baz=238,SNR=5.2
H33A Prehn Over Nor 20.50 35 P P 06 53 16.1 -0.4
baz=225
I34A Hadley 20.51 37 P P 06 53 16.8 +0.3
baz=228
L37A Phoenix Point, 20.53 44 P P 06 53 17.7 +1.0
baz=236,SNR=6.3
PBMO Poplar Bluff 20.56 61 eP P 06 53 18.0 +0.9
36nm,1.5s
S42A Caledonia 20.59 58 P P 06 53 17.5 +0.1
baz=250
Y45A Yeager Farm, C 20.66 70 P P 06 53 18.2 0.0
baz=262
N39A Derby Farms, D 20.67 49 P P 06 53 17.9 -0.3
baz=240
Q41A Truxton 20.70 55 P P 06 53 19.0 +0.5
baz=247
B05A Bryant 20.73 343 P P 06 53 17.6 -1.2
baz=157

O40A	La Belle baz=243,SNR=12	20.74	51	P	P	06 53 17.9	-1.1
SCIA	State Center baz=237	20.74	45	P	P	06 53 19.4	+0.3
SCIA	State Center 211nm,1.9s	20.74	45	eP	Pn	06 53 20.6	-1.0
T43A	Greenville baz=253,SNR=6.4	20.76	61	P	P	06 53 19.1	-0.1
R42A	Luebbering baz=249	20.77	57	P	P	06 53 19.6	+0.3
B06A	Marblemount 21nm,1.3s	20.82	344	eP	Pn	06 53 22.6	+0.3
X45A	UM Field Stati baz=261,SNR=13	20.86	68	P	P	06 53 20.0	-0.4
OXF	Oxford baz=260,SNR=12	20.86	68	P	P	06 53 20.3	-0.1
OXF	Oxford 69nm,1.0s	20.86	68	eP	P	06 53 21.3	+0.9
J36A	Seneca 1, Swea baz=232	20.89	41	P	P	06 53 21.1	+0.4
146A	Union baz=266	20.93	73	P	P	06 53 21.2	+0.1
K37A	Belmond baz=234	20.97	43	P	P	06 53 22.0	+0.6
H34A	Spellman Lake, baz=226	20.98	36	P	P	06 53 21.8	+0.2
G33A	Ortonville baz=224	21.02	34	P	P	06 53 21.7	-0.3
L38A	Oak Wood Farm, baz=237,SNR=9.5	21.03	45	P	P	06 53 22.8	+0.7
S43A	Fulton Ridge, baz=252	21.07	59	P	P	06 53 23.7	+1.1
Z46A	Louisville baz=264	21.08	72	P	P	06 53 23.7	+1.0
P41A	Barry, Barry baz=246,SNR=15	21.11	53	P	P	06 53 24.0	+1.0
M39A	Webster baz=240,SNR=17	21.18	48	P	P	06 53 23.9	+0.1
Q42A	Golden Eagle baz=248	21.18	56	P	P	06 53 23.5	-0.3
Y46A	Houston baz=262,SNR=23	21.22	70	P	P	06 53 24.8	+0.5
247A	Quitman baz=267,SNR=8.3	21.27	75	P	P	06 53 25.3	+0.5
N40A	Mertquake, Sal baz=242	21.28	50	P	P	06 53 24.7	-0.2
T44A	Benton baz=254	21.30	61	P	P	06 53 25.5	+0.5
347A	Saraland baz=269,SNR=11	21.31	77	P	P	06 53 25.5	+0.3
A04D	Lummi Island baz=156	21.32	342	P	P	06 53 24.3	-0.8
J37A	Redenius Farm, baz=233,SNR=13	21.34	42	P	P	06 53 25.9	+0.4
E31A	Nome baz=219	21.37	30	P	P	06 53 25.3	-0.4
R43A	Red Bud baz=250	21.40	58	P	P	06 53 26.0	-0.2
O41A	Passleys Farm, baz=245,SNR=12	21.42	52	P	P	06 53 25.5	-0.8
K38A	Parkersburg baz=236,SNR=13	21.43	44	P	P	06 53 26.5	+0.1
V45A	Humboldt baz=258	21.46	65	P	P	06 53 27.5	+0.8
PGC	Sidney 31nm,1.1s	21.46	341	eP	P	06 53 25.9	-0.7
H35A	Sunnyside Ranc baz=228	21.50	37	P	P	06 53 26.8	-0.4
I36A	Fitzsimmons Fa baz=231	21.51	40	P	P	06 53 26.7	-0.5
F33A	5 Mile Ranch, baz=223	21.56	33	P	P	06 53 27.0	-0.8
P42A	Winchester baz=247,SNR=7.3	21.58	54	P	P	06 53 27.9	-0.2
M40A	Post Highland baz=241	21.58	48	P	P	06 53 28.6	+0.6
147A	Livingston baz=266	21.59	73	P	P	06 53 28.5	+0.2
L39A	Vinton baz=238,SNR=9.0	21.62	46	P	P	06 53 28.0	-0.5
N41A	Harden Midland baz=243	21.69	51	P	P	06 53 28.6	-0.7
MDND	Maddock 166nm,1.5s	21.72	25	eP	P	06 53 31.9	+2.4
S44A	Carbondale baz=253	21.73	60	P	P	06 53 29.6	0.0
U45A	Rockin P Farm, baz=256	21.75	63	P	P	06 53 30.8	+0.9
SIUC	Southern Illin 27nm,1.1s	21.76	60	eP	P	06 53 30.4	+0.4
Z47A	Carrollton baz=265,SNR=11	21.80	72	P	P	06 53 31.0	+0.5
W46A	Michie baz=260	21.81	67	P	P	06 53 31.2	+0.6
I37A	Lemond, Waseca baz=232	21.85	41	P	P	06 53 30.8	-0.2
348A	Jackson baz=269	21.86	77	P	P	06 53 32.4	+1.3
H36A	Jessenland, He baz=230	21.91	39	P	P	06 53 31.9	+0.3
J38A	Wedel Dairy, R baz=235,SNR=14	21.98	43	P	P	06 53 32.5	+0.1
K39A	Oelwein baz=238,SNR=6.1	22.00	45	P	P	06 53 32.5	-0.1
O42A	Bath baz=246	22.01	53	P	P	06 53 32.7	+0.1
248A	Dixon Mills baz=268	22.01	75	P	P	06 53 34.1	+1.3
PLAL	Pickwick Lake 22nm,0.9s	22.02	67	eP	P	06 53 33.5	+0.6
R44A	Waltonville baz=252	22.03	58	P	P	06 53 32.8	0.0
F34A	Alexandria baz=226	22.03	35	P	P	06 53 32.3	-0.6
Y47A	UCPARC, Winfie baz=263	22.06	70	P	P	06 53 33.1	-0.1
L40A	Anamosa baz=240,SNR=13	22.09	47	P	P	06 53 33.3	-0.2
X47A	Russelville baz=262,SNR=13	22.13	69	P	P	06 53 34.2	+0.1
V46A	Holladay baz=258,SNR=14	22.14	65	P	P	06 53 33.9	-0.2
E33A	Westby DABS, E baz=223	22.18	32	P	P	06 53 32.3	-2.1
148A	Greensboro baz=266	22.18	74	P	P	06 53 34.1	-0.5
P43A	Skaggs, Pawnee baz=248	22.19	55	P	P	06 53 34.6	+0.1
M41A	Milan baz=242,SNR=6.4	22.21	49	P	P	06 53 34.3	-0.5
U46A	Springville baz=257	22.21	64	P	P	06 53 35.6	+0.7
S45A	Carrier Mills baz=254	22.23	60	P	P	06 53 35.7	+0.6
Z48A	Northport baz=265,SNR=11	22.25	72	P	P	06 53 35.4	+0.2
C31A	Landman Farms, baz=217,SNR=14	22.41	28	P	P	06 53 35.8	-1.1
F35A	Swanville baz=227	22.42	35	P	P	06 53 37.0	0.0
G36A	St. Michael baz=229	22.43	38	P	P	06 53 37.5	+0.4
WVT	Waverly baz=258	22.44	64	P	P	06 53 38.0	+0.7
WVT	Waverly 24nm,0.9s	22.44	64	eP	P	06 53 38.0	+0.7
J39A	Decorah baz=236,SNR=9.3	22.46	44	P	P	06 53 38.4	+0.9
W47A	Westpoint baz=260	22.46	67	P	P	06 53 38.0	+0.4
349A	Repton baz=270	22.46	77	P	P	06 53 38.4	+0.8
K40A	Colesburg baz=239,SNR=16	22.47	46	P	P	06 53 37.3	-0.3
H37A	Dierke Farm, C baz=232,SNR=12	22.48	40	P	P	06 53 38.9	+1.2
I38A	Scanlan Farm, baz=234,SNR=16	22.49	42	P	P	06 53 37.2	-0.6
249A	Camden baz=268	22.53	75	P	P	06 53 38.5	+0.1
L41A	Preston baz=241	22.57	48	P	P	06 53 38.8	+0.1
E34A	Wadena baz=224	22.58	33	P	P	06 53 38.8	0.0
T46A	Princeton baz=256	22.59	62	P	P	06 53 38.9	-0.1
V47A	Nunnelly baz=259	22.62	65	P	P	06 53 39.4	+0.2
Y48A	Jasper baz=264,SNR=7.4	22.62	70	P	P	06 53 40.3	+1.0
LRAL	Lakeview Retre baz=266	22.69	73	P	P	06 53 40.6	+0.6
LRAL	Lakeview Retre 22nm,1.1s	22.69	73	eP	P	06 53 44.0	+4.0
HDIL	Hopedale baz=246	22.70	52	P	P	06 53 39.2	-0.9
D33A	AnnSam, Waubun baz=222	22.72	31	P	P	06 53 40.4	+0.1
P44A	Sand Creek, Wi baz=249	22.77	56	P	P	06 53 41.1	+0.3
X48A	Hartselle baz=263	22.79	69	P	P	06 53 41.5	+0.5
149A	Jones baz=267	22.84	74	P	P	06 53 41.3	-0.2
I39A	Houston baz=236	22.86	43	P	P	06 53 41.5	-0.2
LLLB	Lillooet 31nm,1.4s	22.86	345	eP	P	06 53 40.6	-1.1
H38A	Maiden Rock baz=233	22.89	40	P	P	06 53 41.8	-0.2
S46A	Don Dixon Farm baz=254	22.89	61	P	P	06 53 42.3	+0.2
OLIL	Olney 55nm,1.3s	22.91	58	eP	P	06 53 48.3	+6.1
Q45A	Warren Harvey, baz=251	22.92	57	P	P	06 53 42.5	+0.2
U47A	Clarksville baz=258	22.93	64	P	P	06 53 41.4	-1.0
SPMN	Marine on St. baz=231,SNR=5.4	22.94	39	P	P	06 53 42.9	+0.4
SPMN	Marine on St. 62nm,1.5s	22.94	39	eP	P	06 53 42.4	-0.1
B31A	Greenbush Farm baz=217,SNR=6.0	22.95	27	P	P	06 53 41.8	-0.7
K41A	Shullsburg baz=240	22.95	47	P	P	06 53 42.6	-0.1
F36A	Milaca baz=229,SNR=9.6	22.96	37	P	P	06 53 42.2	-0.6
W48A	Pulaski baz=261	22.98	67	P	P	06 53 42.1	-0.9
D34A	Park Rapids baz=223	22.98	32	P	P	06 53 43.3	+0.3
E35A	Pequot Lakes baz=226	22.99	34	P	P	06 53 43.7	+0.7
J40A	Soldiers Grove baz=238,SNR=9.3	23.08	45	P	P	06 53 44.0	0.0
Z49A	Columbiana baz=266	23.09	72	P	P	06 53 43.6	-0.6
O44A	Mansfield baz=248	23.13	54	P	P	06 53 44.9	+0.4
JFWS	Jewell Farm baz=240,SNR=13	23.14	46	P	P	06 53 44.7	+0.1
JFWS	Jewell Farm 32nm,0.9s	23.14	46	eP	P	06 53 45.9	+1.3
V48A	Smith Brothers baz=260	23.16	66	P	P	06 53 44.2	-0.7
R46A	Gibon Southern baz=254	23.19	59	P	P	06 53 45.6	+0.4
350A	Dozier baz=270	23.20	77	P	P	06 53 45.4	+0.1
C33A	Trail baz=221	23.22	30	P	P	06 53 45.0	-0.3
Y49A	Blount Mountai baz=264	23.24	71	P	P	06 53 45.4	-0.3
250A	Grady baz=269	23.26	75	P	P	06 53 45.2	-0.7
M43A	Waltham Townsh baz=245	23.30	51	P	P	06 53 46.4	+0.2
F37A	Hinrichs Farm, baz=230	23.35	38	P	P	06 53 46.5	-0.1
B32A	Ashes, Strandq baz=219,SNR=16	23.38	28	P	P	06 53 46.1	-0.7
X49A	Woodville baz=263	23.38	69	P	P	06 53 46.5	-0.6
I40A	Norwalk baz=237	23.42	44	P	P	06 53 47.9	+0.5
P45A	Graceland, Par baz=250	23.43	56	P	P	06 53 47.0	-0.5
G38A	Ridgeland baz=233	23.43	40	P	P	06 53 47.0	-0.5
H39A	Augusta baz=235	23.47	41	P	P	06 53 47.4	-0.4
150A	Eclectic baz=268,SNR=8.9	23.48	74	P	P	06 53 49.4	+1.3
J41A	Loganville baz=239	23.52	45	P	P	06 53 48.4	+0.1
C34A	RKJ Ranch, Bem baz=223	23.53	32	P	P	06 53 47.9	-0.5
D35A	Remer baz=226	23.53	34	P	P	06 53 47.6	-0.8
U48A	Cassie Pea, Po baz=258	23.53	64	P	P	06 53 47.9	-0.6
A31A	Linda, St. Vin baz=217	23.54	27	P	P	06 53 47.8	-0.6
E36A	McGregor baz=228	23.54	36	P	P	06 53 48.1	-0.4
AGMN	Agassiz Nation baz=220,SNR=12	23.59	29	P	P	06 53 47.8	-1.1
AGMN	Agassiz Nation 54nm,1.4s	23.59	29	eP	P	06 53 48.3	-0.6
Z50A	Ashland baz=266	23.60	72	P	P	06 53 49.5	+0.3
N44A	Piper City baz=247,SNR=11	23.61	53	P	P	06 53 47.5	-1.7
K42A	Prairie Point, baz=241	23.65	47	P	P	06 53 49.0	-0.7
B33A	Robert and Kas baz=221,SNR=6.1	23.69	30	P	P	06 53 49.3	-0.5
O45A	Potomac baz=249	23.69	54	P	P	06 53 50.4	+0.3
L43A	Garden Prairie baz=243	23.77	49	P	P	06 53 50.4	-0.3
T48A	Bowling Green baz=257	23.77	63	P	P	06 53 51.1	+0.3
SWET	Sewanee 45nm,1.8s	23.80	67	eP	P	06 53 51.6	+0.5
A32A	Rocking H Ranc baz=218,SNR=9.0	23.80	28	P	P	06 53 49.9	-1.1
Y50A	Piedmont baz=265	23.81	71	P	P	06 53 51.6	+0.4
351A	Pinckard baz=271,SNR=9.1	23.82	77	P	P	06 53 51.7	+0.4
P46A	Rosedale baz=251	23.85	56	P	P	06 53 50.9	-0.6
G39A	Holcombe baz=234	23.89	40	P	P	06 53 51.7	-0.1
F38A	Pierce - Schro baz=231	23.91	38	P	P	06 53 51.9	-0.1
M44A	Midewin, Midew baz=246	23.91	52	P	P	06 53 51.5	-0.5
H40A	Chili baz=236	23.96	42	P	P	06 53 52.3	-0.3
R47A	Wooly Knot Far baz=254	23.96	60	P	P	06 53 52.2	-0.4
I41A	Arkdale baz=238	23.97	44	P	P	06 53 52.5	-0.1
251A	Midway baz=269,SNR=10.0	23.99	75	P	P	06 53 52.7	-0.2
C35A	Jirik Farms, M baz=225,SNR=9.4	24.00	33	P	P	06 53 52.5	-0.4
E37A	Wrenshall baz=229	24.02	37	P	P	06 53 53.0	0.0
D36A	Goodland baz=227	24.03	35	P	P	06 53 53.1	0.0
J42A	Columbus baz=241	24.06	46	P	P	06 53 52.9	-0.5
N45A	Kentland baz=248	24.07	53	P	P	06 53 53.7	+0.2
151A	Opelika baz=268	24.07	74	P	P	06 53 53.7	0.0
WCI	Wyandotte Cave baz=255	24.12	60	P	P	06 53 54.2	+0.1
WCI	Wyandotte Cave 41nm,1.5s	24.12	60	eP	P	06 53 56.5	+2.4
S48A	Wiedeman Farm, baz=256	24.16	61	P	P	06 53 55.4	+0.9
SFIN	Lafayette baz=249	24.19	54	P	P	06 53 55.1	+0.5
SFIN	Lafayette 22nm,0.8s	24.19	54	eP	P	06 53 59.3	+4.7
452A	Marianna baz=272	24.20	78	P	P	06 53 54.9	+0.1
BLO	Bloomington 25nm,1.0s	24.21	58	eP	P	06 54 00.9	+6.0
Q47A	Bedord North L baz=253	24.22	58	P	P	06 53 54.6	-0.3
B34A	Aery, Baudette baz=222,SNR=8.6	24.26	31	P	P	06 53 54.2	-1.0
A33A	Warroad baz=220,SNR=7.1	24.28	29	P	P	06 53 54.4	-1.0
K43A	Burlington baz=243	24.28	48	P	P	06 53 54.9	-0.6
D37A	Cotton baz=228	24.39	35	P	P	06 53 55.9	-0.6
H41A	Junction City baz=237	24.40	43	P	P	06 53 56.0	-0.6
H41A	Junction City 12nm,1.0s	24.40	43	eP	P	06 53 56.6	0.0
352A	Blakely baz=271	24.40	77	P	P	06 53 57.1	+0.4
F39A	Loretta baz=233,SNR=8.6	24.41	39	P	P	06 53 56.3	-0.3
G40A	Rib Lake baz=235,SNR=12	24.44	41	P	P	06 53 55.9	-1.0
EDM	Edmonton 28nm,1.1s	24.47	359	eP	P	06 53 55.6	-1.5
I42A	Draeger Farm, baz=240,SNR=5.1	24.48	45	P	P	06 53 59.0	+1.7
I42A	Draeger Farm, 26nm,1.1s	24.48	45	eP	P	06 53 59.4	+2.1
E38A	The Farm, Brul baz=231	24.49	37	P	P	06 53 56.7	-0.7
R48A	Northridge Ran baz=255	24.49	60	P	P	06 53 58.0	+0.6
P47A	Martinsville baz=252	24.50	57	P	P	06 53 57.7	+0.2
J43A	Natural Harves baz=242	24.54	47	P	P	06 53 59.3	+1.4
B35A	Bob, Littlefor baz=224	24.59	32	P	P	06 53 57.6	-0.7
C36A	Pine Crest Far baz=227	24.59	34	P	P	06 53 57.8	-0.4
N46A	Monticello baz=249	24.63	54	P	P	06 53 58.0	-0.7
O47A	Sheridan baz=251	24.80	55	P	P	06 53 59.6	-0.7
F40A	Park Falls baz=234,SNR=8.3	24.86	40	P	P	06 54 00.0	-0.7
E39A	Mellen baz=233	24.89	39	P	P	06 54 00.4	-0.5
APG	El Apazote 4.8nm,0.9s,baz=291,slow=10,SNR=5.2	24.91	119	P	P	06 54 02.8	+1.1
WI04	River Road, Cl 44nm,1.5s	24.93	44	eP	P	06 54 05.8	+4.5
I43A	Langenfeld Bro baz=241	24.95	46	P	P	06 54 01.8	+0.2
CPCT	Cooper Cave	24.97	67	eP	P	06 54 02.1	+0.3
G41A	Antigo baz=237	25.00	42	P	P	06 54 01.7	-0.3
353A	Camilla baz=271	25.01	77	P	P	06 54 02.8	+0.6
H42A	Shiocton baz=239	25.02	44	P	P	06 54 01.9	-0.3
H42A	Shiocton 17nm,1.1s	25.02	44	eP	P	06 54 03.7	+1.5
ULM	Lac du Bonnet 9.0nm,0.9s,baz=217,slow=8.9,SNR=25	25.10	26	P	P	06 54 01.4	-1.4
ULM	Lac du Bonnet 16nm,1.0s	25.10	26	eP	P	06 54 01.7	-1.1
E40A	Wakefield baz=234,SNR=18	25.29	39	P	P	06 54 04.1	-0.5
F41A	Three Lakes baz=236	25.34	41	P	P	06 54 04.6	-0.4
C38A	Sawbill Land. baz=229	25.35	36	P	P	06 54 04.5	-0.7
EYMN	Ely baz=229	25.39	35	P	P	06 54 04.8	-0.7
EYMN	Ely 52nm,1.7s	25.39	35	eP	P	06 54 06.2	+0.8
G42A	Mountain baz=238	25.47	43	P	P	06 54 06.0	-0.3
G42A	Mountain 69nm,1.6s	25.47	43	eP	P	06 54 05.8	-0.5
H43A	Windswept, Lux baz=240	25.48	45	P	P	06 54 06.5	+0.2
H43A	Windswept, Lux 57nm,1.5s	25.48	45	eP	P	06 54 06.5	+0.2
COWI	Conover 34nm,1.4s	25.52	41	eP	P	06 54 06.6	-0.1
TIGA	Tifton baz=272	25.54	77	P	P	06 54 07.2	+0.2
TKL	Tuckaleechee C 19nm,1.1s,baz=257,slow=2.9,SNR=7.8	25.60	67	P	P	06 54 09.0	+1.4
TKL	Tuckaleechee C 54nm,1.5s	25.60	67	eP	P	06 54 10.2	+2.6
GOGA	Godfrey baz=267	25.66	72	P	P	06 54 08.3	+0.1
GOGA	Godfrey 37nm,1.4s	25.66	72	eP	P	06 54 09.6	+1.5
E41A	Kenton baz=235	25.83	40	P	P	06 54 09.1	-0.4
TZTN	Tazewell baz=261	25.91	65	P	P	06 54 10.3	-0.1
G43A	Wallace baz=239	25.92	44	P	P	06 54 09.9	-0.4
G43A	Wallace 98nm,2.0s	25.92	44	eP	P	06 54 10.1	-0.2
BBB	Bella Bella 8.4nm,1.0s,baz=163,slow=7.9,SNR=7.9	25.99	338	P	P	06 54 11.4	+0.5
BBB	Bella Bella 39nm,1.4s	25.99	338	eP	P	06 54 11.9	+1.0
C39A	Grand Marais baz=231,SNR=5.1	26.01	37	P	P	06 54 09.9	-1.2
BG3	Lake Jocassee 24nm,1.0s	26.21	69	eP	P	06 54 14.9	+1.7
D41A	Chassel baz=235	26.40	39	P	P	06 54 14.3	-0.3
155A	Kite baz=270	26.48	74	P	P	06 54 16.2	+0.6
F43A	Flat Rock, Esc baz=239	26.53	43	P	P	06 54 15.2	-0.7
C40A	Isle Royale Na baz=232	26.58	37	P	P	06 54 15.3	-1.0
E43A	Lone Tree Farm baz=238	26.92	42	P	P	06 54 18.8	-0.6
F44A	Big Bay de Noc baz=240	27.05	43	P	P	06 54 19.9	-0.7
ACSO	Alum Creek Sta baz=254	27.13	57	P	P	06 54 22.1	+0.8
ACSO	Alum Creek Sta 38nm,1.2s	27.13	57	eP	P	06 54 22.8	+1.4
FFC	Flin Flon 8.9nm,1.3s	27.17	14	eP	P	06 54 20.3	-1.2
KMSC	Kings Mountain baz=265	27.53	68	P	P	06 54 25.0	+0.1
KMSC	Kings Mountain 55nm,1.4s	27.53	68	eP	P	06 54 25.3	+0.3
F46A	Macinaw City C baz=242	27.97	45	P	P	06 54 28.7	-0.1
MCWV	Mont Chateau baz=258	29.34	59	P	P	06 54 40.8	-0.2
M54A	Oil Creek Stat baz=255	29.89	56	P	P	06 54 46.2	+0.2
SSPA	Standing Stone baz=258	31.01	58	P	P	06 54 55.2	-0.5
SSPA	Standing Stone 20nm,1.3s	31.01	58	eP	P	06 54 59.6	+3.8
SADO	Sadowa comp=Z,481nm,19.2s,baz=288,slow=37	31.21	50	LR	LR	07 08 02.6	
SADO	Sadowa 13nm,1.0s	31.21	50	eP	P	06 55 01.0	+3.5
DLBC	Dease Lake 9.3nm,1.1s	31.96	343	eP	P	06 55 04.3	+0.3
PLVO	Plevna 23nm,1.0s	32.69	50	eP	P	06 55 11.7	+1.2
BINY	Binghamton baz=258	32.73	56	P	P	06 55 10.8	-0.1
BINY	Binghamton 47nm,1.4s	32.73	56	eP	P	06 55 15.4	+4.5
FCC	Fort Churchill 9.5nm,1.0s	32.73	18	eP	P	06 55 09.4	-1.2
BESE	Bessie Mountai 41nm,1.8s	33.45	339	eP	P	06 55 16.8	-0.3
YKA	Yellowknife Ar 1.2nm,0.8s,baz=180,slow=8.2,SNR=26	33.78	359	P	P	06 55 17.7	-2.0
YKA				PcP	PcP	06 57 57.3	-1.1
LONY	1.0nm,0.9s,baz=162,slow=2.8,SNR=8.1 Lake Ozonia baz=256	34.28	52	P	P	06 55 24.7	+0.3
LONY	Lake Ozonia 21nm,1.4s	34.28	52	eP	P	06 55 29.2	+4.9
SKAG	Skagway 23nm,1.7s	34.31	340	eP	P	06 55 24.4	+0.1
WHY	Whitehorse	35.16	341	eP	P	06 55 31.7	-0.2

25nm,1.7s
HYT Haines Junctio 36.06 340 *e*P **P 06 55 39.2 -0.4**
15nm,1.5s
BALM Baldy 37.78 337 *e*P **P 06 55 54.3 +0.1**
25nm,1.4s
BMRM Bremner River 38.53 336 *e*P **P 06 56 01.9 +1.5**
36nm,1.7s
EYAK Cordova Ski Ar 38.67 335 *e*P **P 06 56 02.5 +1.0**
27nm,1.3s
DAWY Dawson 39.16 342 *e*P **P 06 56 05.8 +0.1**
30nm,1.5s
KLU Klutina 39.35 336 *e*P **P 06 56 08.1 +0.8**
31nm,1.7s
MENT Mentasta 39.59 338 *e*P **P 06 56 09.0 -0.3**
17nm,1.4s
HARP HAARP 39.70 337 *e*P **P 06 56 11.1 +0.9**
34nm,1.2s
KDAK Kodiak Island 39.97 328 P **P 06 56 12.9 +0.5**
9.4nm,0.8s,baz=127,slow=6.5,SNR=10
KDAK Kodiak Island 39.97 328 *e*P **P 06 56 13.1 +0.7**
94nm,1.7s
SCM Sheep Creek Mo 40.09 335 *e*P **P 06 56 13.8 +0.3**
48nm,1.5s
PAX Paxson 40.19 338 *e*P **P 06 56 14.5 +0.1**
EGAK Eagle 40.20 342 *e*P **P 06 56 13.9 -0.4**
15nm,1.5s
DOT Dot Lake 40.21 339 *e*P **P 06 56 14.5 +0.1**
26nm,1.2s
BRLK Bradley Lake 40.25 331 *e*P **P 06 56 15.3 +0.5**
32nm,1.1s
SCRK Sand Creek 40.42 339 *e*P **P 06 56 16.6 +0.3**
SML Sawmill 40.44 335 *e*P **P 06 56 16.0 -0.4**
28nm,1.4s
RIDG Independ'e Rid 40.52 339 *e*P **P 06 56 17.8 +0.8**
RC01 Rabbit Creek A 40.54 333 *e*P **P 06 56 17.3 +0.2**
32nm,1.4s
PMR Palmer 40.61 334 *e*P **P 06 56 17.8 +0.1**
36nm,1.3s
DHY Denali Highway 40.91 337 *e*P **P 06 56 20.3 -0.1**
12nm,1.2s
SUA Susitna One 41.16 333 *e*P **P 06 56 22.2 -0.2**
INK Inuvik 41.43 349 *e*P **P 06 56 24.0 -0.4**
RND Reindeer 41.63 337 *e*P **P 06 56 26.2 0.0**
48nm,2.0s
HDA Harding Lake 41.66 339 *e*P **P 06 56 26.8 +0.5**
MCK McKinley 41.87 337 *e*P **P 06 56 28.1 0.0**
IL1 Eielson Array 41.88 339 *e*P **P 06 56 27.3 -0.8**
ILAR Eielson Array 41.88 339 P **P 06 56 27.6 -0.5**
6.3nm,1.0s,baz=149,slow=6.8,SNR=49
ILAR PcP **PcP 06 58 23.1 -0.3**
1.7nm,1.1s,baz=151,slow=3.9,SNR=4.1
ILB Eielson Array 41.88 339 *e*P **P 06 56 27.9 -0.3**
WRH Wood River Hil 42.07 338 *e*P **P 06 56 29.8 +0.2**
6.9nm,1.0s
CCB Clear Creek Bu 42.09 338 *e*P **P 06 56 29.1 -0.7**
TRF Thorofare Moun 42.17 336 *e*P **P 06 56 30.5 -0.2**
COLA College 42.26 339 *e*P **P 06 56 29.6 -1.5**
4.6nm,0.8s
MDM Murphy Dome 42.44 339 *e*P **P 06 56 32.1 -0.6**
KTH Kantishna Hill 42.46 336 *e*P **P 06 56 31.9 -1.0**
41nm,1.5s
PPLA Purkeypile 42.54 335 *e*P **P 06 56 33.3 -0.3**
PTBC PUERTO BERRIO, 42.55 114 *e*P **P 06 56 38.7 +4.5**
CAST Castle Rocks 42.80 335 *e*P **P 06 56 34.6 -1.0**
BPAW Bear Paw Mtn. 42.81 337 *e*P **P 06 56 35.4 -0.4**
SVW2 Sparrevohn 42.94 331 *e*P **P 06 56 35.4 -1.3**
40nm,1.3s
POPC Popayan, Colom 43.27 120 *e*P P 06 56 45.3 +5.0
MLY Manley 43.30 338 *e*P **P 06 56 39.3 -0.4**
OTAV Otavalo 43.49 125 *e*P **P 06 56 43.7 +1.4**
21nm,1.1s
OTAV Otavalo 43.49 125 *e*P P 06 56 48.0 +5.6
SOTA Rioblanco 43.59 121 *e*P P 06 56 49.4 +6.2
PCON Cinco Dias 43.62 120 *e*P P 06 56 50.0 +6.5
SDV Santo Domingo 44.38 108 *e*P **P 06 56 53.7 +4.5**
16nm,1.0s
SDV Santo Domingo 44.38 108 *e*P **P 06 56 50.6 +1.5**
COLD Coldfoot 44.54 340 *e*P **P 06 56 49.6 +0.1**
IM3 Indian Mountai 44.88 338 *e*P **P 06 56 51.2 -1.1**
TOLK Toolik Lake Re 45.30 342 P **P 06 56 54.6 -1.1**
baz=133,SNR=8.2
TOLK Toolik Lake Re 45.30 342 *e*P **P 06 56 56.0 +0.4**
RES Resolute Bay 46.93 6 *e*P **P 06 57 08.1 -0.2**
ATAH Atahualpa 49.82 132 P **P 06 57 26.4 +2.2**
31nm,1.2s,baz=289,slow=6.8,SNR=3.7
GAMB Gambell 50.87 331 *e*P **P 06 57 37.9 -0.7**
SFJD Kangerlussuaq 53.14 26 *i*P **P 06 57 54.8 -0.7**
21nm,1.0s
SFJD Kangerlussuaq 53.14 26 *e*P **P 06 57 55.6 +0.1**
SUMG Summit 58.22 20 *i*P **P 06 58 30.9 -1.5**
15nm,1.0s
SUMG Summit 58.22 20 *e*P **P 06 58 31.5 -0.9**
13nm,1.1s
DAG Danmarks Havn 63.25 15 *i*P **P 06 59 04.2 -1.8**
5.8nm,0.8s
SEY Seymchan 66.87 330 P **P 06 59 28.6 -1.2**
3.5nm,1.0s,baz=81,slow=9.5,SNR=7.1
CPUP Villa Florida 76.49 130 P **P 07 00 32.1 +4.0**
12nm,1.0s,baz=330,slow=7.5,SNR=18
ARCES ARCESS Array B 77.50 14 P **P 07 00 32.6 -0.7**
6.1nm,0.9s,baz=352,slow=5.5,SNR=3.8
PLCA Paso Flores 79.53 149 P **P 07 00 49.3 +4.5**
6.0nm,0.9s,baz=352,slow=6.5,SNR=12
NOA NORSAR Array B 79.77 24 P **P 07 00 45.8 -0.1**
1.6nm,0.8s,baz=313,slow=5.2,SNR=2.8
FINES FINESS Array B 84.22 18 P **P 07 01 08.1 -1.1**
3.7nm,0.9s,baz=84,slow=5.9,SNR=5.5
MJAR Matsushiro Arr 86.82 310 P **P 07 01 21.3 -1.4**
0.8nm,0.3s,baz=48,slow=4.2,SNR=5.3
KLMR Klimovskoe 87.95 13 *e*P **P 07 01 24.4 -3.2**
KLMR AMP 07 01 28.0
comp=Z,14nm,1.5s
CN2 Changchun 90.17 322 *e*P **P 07 01 37.4 -1.0**
KSRS Korea Array 92.88 316 P **P 07 01 51.5 +0.4**
comp=Z,1.2nm,0.6s,baz=47,slow=4.1,SNR=5.5
KSAR Wonju Array Be 92.91 316 P **P 07 01 51.5 +0.2**
SONM Songino Array 95.97 335 P **P 07 02 05.1 -0.1**
comp=Z,1.0nm,0.9s,baz=11,slow=8.3,SNR=5.8
HHC Hu-ho-hao-te 99.39 327 *e*P **Pdif 07 02 18.7 -2.1**
HHC pmax pmax
comp=Z,8.0nm,1.5s
HHC pmax pmax
comp=Z,11nm,7.7s
LZH Lanzhou 106.79 330 *e*Pdif **Pdif 07 02 49.1 -4.8**
LZH LR LR
comp=N,79nm,17.7s
LZH LR LR
comp=E,85nm,18.0s
LZH LR LR
comp=Z,110nm,19.2s
CD2 Chengdu 111.12 327 Pdif **Pdif 07 03 10.5 -2.6**
WRA Warramunga Arr 118.73 262 PKP **PKPdf 07 07 25.4 -1.3**
comp=Z,0.9nm,0.9s,baz=68,slow=2.3,SNR=5.4
ASAR Alice Springs 120.46 259 PKP **PKPdf 07 07 28.6 -1.4**
comp=Z,0.6nm,0.7s,baz=80,slow=2.2,SNR=4.8

ISCJB ***12*** *06:50:54.1±0.5,25°.92S×0°.04×132°.79E±0°.06,h10km, Error ellipse: s-maj=8.5km s-min=5.0km az=20.0*
IDC ***12*** *06:50:56.3±2.0,25°.94S×132°.84E,h0km,mb1 4.0/4, mb1mx3.6/49,mbtmp3.8/4,ML3.8/4,Error ellipse: s-maj=22.2km s-min=18.9km az=84.0*
AUST ***12*** *06:50:58.5±0.1,25°.94S×132°.92E,h10km,Error ellipse: s-maj=0.5km s-min=0.2km az=330.0*

ISC 12 06:50:56.5±0.8,26°.00S±0°.05×132°.81E±0°.06,h10km,n17, σ2§10/26,Northern Territory

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASPA	**Alice Springs**	**2.52**	**23**	P	**Pn**	**06 51 39.1**	**+1.5**
	baz=2.4						
ASPA				S	**Sn**	**06 52 10.4**	**+2.0**
	baz=2.4						
ASAR	**Alice Springs**	**2.52**	**23**	Pn	**Pn**	**06 51 38.9**	**+1.2**
	3.6nm,0.3s,baz=200,slow=14,SNR=78						
ASAR				Pg	**Pb**	**06 51 42.2**	**+0.3**
	5.5nm,0.3s,baz=205,slow=17,SNR=63						
ASAR				Sn	**Sn**	**06 52 09.8**	**+1.3**
	14nm,0.3s,baz=202,slow=25,SNR=19						
ASAR				Lg	Lg	06 52 13.3	
	40nm,0.3s,baz=204,slow=26,SNR=36						
WRKA	**Warakurna**	**4.19**	**282**	P	**Pn**	**06 52 03.8**	**+3.3**
	baz=4.3						
WRA	**Warramunga Arr**	**6.19**	**13**	Pn	**Pn**	**06 52 28.5**	**+0.5**
	3.6nm,0.3s,baz=196,slow=14,SNR=266						
WRA				Pg	**Pb**	**06 52 46.2**	**+1.8**
	1.9nm,0.3s,baz=192,slow=14,SNR=11						
WRA				Sn	**Sn**	**06 53 36.5**	**-2.4**
	4.7nm,0.3s,baz=192,slow=24,SNR=14						
WRA				Lg	Lg	06 54 04.8	
	2.8nm,0.3s,baz=193,slow=30,SNR=11						
WB2	**Warramunga Arr**	**6.19**	**14**	P	**Pn**	**06 52 28.5**	**+0.5**
	baz=6.1						
WB2				S	**Sn**	**06 53 37.0**	**-1.9**
	baz=6.1						
FORT	**Forrest**	**6.34**	**220**	P	**Pn**	**06 52 31.6**	**+1.6**
	baz=6.5,SNR=15						
FORT				S	**Sn**	**06 53 44.3**	**+1.8**
	baz=6.5						
BBOO	**Buckleboo**	**7.36**	**158**	P	**Pn**	**06 52 45.6**	**+1.6**
	baz=7.4,SNR=8.2						
QIS	**Mount Isa**	**8.26**	**50**	P	**Pn**	**06 52 56.9**	**+0.4**
	baz=8.2,SNR=6.2						
HTT	**Hallett**	**9.11**	**146**	P	**Pn**	**06 53 09.8**	**+1.7**
	baz=9.1,SNR=5.3						
STKA	**Stephens Creek**	**9.67**	**129**	Pn	**Pn**	**06 53 17.1**	**+1.4**
	0.5nm,0.3s,baz=304,slow=14,SNR=8.2						
STKA				Sn	**Sn**	**06 54 59.9**	**-4.5**
	0.5nm,0.3s,baz=242,slow=17,SNR=4.6						
STKA	**Stephens Creek**	**9.67**	**129**	P	**Pn**	**06 53 17.9**	**+2.2**
	baz=9.6,SNR=6.7						
FITZ	**Fitzroy Crossi**	**10.29**	**318**	Pn	**Pn**	**06 53 25.4**	**+1.1**
	0.7nm,0.3s,baz=140,slow=11,SNR=12						
FITZ				Sn	**Sn**	**06 55 14.9**	**-4.9**
	0.5nm,0.3s,baz=299,slow=13,SNR=3.6						
FITZ	**Fitzroy Crossi**	**10.29**	**318**	P	**Pn**	**06 53 24.7**	**+0.4**
	baz=10,SNR=8.5						
CMSA	**Cobar Meteorol**	**12.57**	**119**	P	**Pn**	**06 53 55.1**	**-0.3**
	baz=12,SNR=6.3						
MEEK	**Meekatharra**	**12.75**	**264**	P	**Pn**	**06 53 56.8**	**-1.2**
	baz=13,SNR=14						
KLBR	**Kellerberrin**	**14.33**	**244**	P	**Pn**	**06 54 17.9**	**-1.6**
	baz=14,SNR=14						
YKA	**Yellowknife Ar**	**123.13**	**31**	PKP	**PKPdf**	**07 09 53.2**	**+0.5**
	0.1nm,0.4s,baz=279,slow=1.6,SNR=4.7						

JMA 12 06:54:26.7±0.2,36°.93N×143°.77E,h53km,M3.6,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**2.35**	**282**	P	Pn	06 55 04.1	+1.2
JFK				*e*S	Sn	06 55 31.9	+1.2
ONAJ	**Iwakimizuishiy**	**2.38**	**275**	P	Pn	06 55 04.4	+1.0
ONAJ				*e*S	Sn	06 55 32.7	+1.3
JIO	**Ouri**	**2.45**	**309**	P	Pn	06 55 05.3	+1.1
JIO				S	Sn	06 55 34.1	+1.2
JMM	**Marumori**	**2.55**	**292**	P	Pn	06 55 07.0	+1.5
JMM				*e*S	Sn	06 55 37.1	+1.8
JFT	**Otama**	**2.80**	**283**	P	Pn	06 55 11.1	+2.0
JFT				*e*S	Sn	06 55 44.4	+2.8
JMK	**Ichinoseki**	**2.85**	**316**	P	Pn	06 55 10.7	+1.0
JMK				*e*S	Sn	06 55 44.2	+1.4
JOM	**Ohasama**	**3.20**	**323**	P	Pn	06 55 15.8	+1.3
JOM				S	Sn	06 55 51.9	+0.5
BSO1	**Boso 1**	**3.21**	**226**	*e*S	Sn	06 55 53.5	+2.6
JAG	**Ashikaga**	**3.51**	**263**	P	Pn	06 55 20.2	+1.5
JAG				*e*S	Sn	06 56 00.0	+1.1
JRY	**Ryogami san**	**4.03**	**258**	P	Pn	06 55 26.4	+0.5
JRY				*e*S	Sn	06 56 11.3	-0.5
JOD2	**Odawara 2**	**4.14**	**248**	*e*S	Sn	06 56 12.5	-2.0

MEX ***12*** *06:57:23.8±0.4,28°.88N×113°.21W,h16km±999km,MD3.9*
IDC ***12*** *06:57:24.0±1.3,29°.03N×113°.01W,h0km,mb4.0/7, mb1 4.0/13,mb1mx3.8/64,mbtmp3.8/13,ML3.9/4,MS3.5/3, Ms1 3.5/3,ms1mx3.1/70,Error ellipse: s-maj=22.4km s-min=11.7km az=43.0*

ISC 12 06:57:22.9±1.0,28°.74N±0°.09×113°.2W±0°.1,h17km,n23, σ1§98/24,mb4.1/7,Baja California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SRIG	**Santa Rosalia**	**1.66**	**148**	*e*P	**Pn**	**06 57 50.7**	**-0.6**
SRIG				*e*S	**Sn**	**06 58 11.1**	**-1.1**
HSIG		**2.02**	**81**	*e*P	**Pn**	**06 57 53.4**	**-2.8**
HSIG				*i*S	Sn	06 58 08.1	-13
GUYB	**Guaymas**	**2.24**	**111**	*e*P	**Pb**	**06 58 00.9**	**-2.0**
214A	**Organ Pipe Nat**	**3.23**	**6**	P	**Pn**	**06 58 11.2**	**-1.7**
	baz=186						
TUC	**Tucson**	**4.14**	**30**	P	**Pn**	**06 58 23.9**	**-1.6**
	baz=212						
IKP	**In-Ko-Pah, Jac**	**4.62**	**328**	Pg	**Pg**	**06 58 49.0**	**-2.5**
	baz=146						
IKP				Sg	**Sg**	**06 59 52.4**	**+1.0**
	baz=146						
MONP2	**Monument Peak**	**4.97**	**327**	Pg	**Pg**	**06 58 54.3**	**-3.9**
	baz=145						
LPIG	**La Paz**	**5.31**	**150**	Pn	Pn	06 58 46.2	+4.8
	3.3nm,0.3s,baz=308,slow=6.9,SNR=3.9						
LPIG				Lg	Lg	07 00 16.1	
	3.0nm,0.3s,baz=120,slow=20,SNR=5						
LPIG				LR	LR	07 00 23.6	
	comp=Z,340nm,18.4s,baz=336,slow=33						
TPFO	**Pinon Flats**	**5.59**	**331**	Pg	**Pg**	**06 59 06.5**	**-3.4**
	baz=149						
TPFO				Sg	**Sg**	**07 00 20.8**	**-1.4**
	baz=149						
121A	**Cookes Peak, D**	**6.03**	**50**	P	**Pn**	**06 58 51.2**	**-0.3**
	baz=233						
WUAZ	**Wupatki**	**6.94**	**13**	P	**Pn**	**06 59 04.5**	**+0.4**
	baz=194						
TXAR	**Lajitas Array**	**8.39**	**84**	Pn	**Pn**	**06 59 24.6**	**+0.7**
	1.3nm,0.3s,baz=254,slow=13,SNR=29						
TXAR				Lg	Lg	07 01 42.2	
	0.3nm,0.3s,baz=272,slow=28,SNR=3.3						
TXAR				LR	LR	07 02 40.8	
	comp=Z,746nm,21.8s,baz=0.0,slow=39						
ANMO	**Albuquerque**	**8.45**	**41**	Pn	**Pn**	**06 59 24.4**	**-0.4**
	0.4nm,0.3s,baz=51,slow=17,SNR=6.6						
ANMO				Lg	Lg	07 01 45.5	
	0.4nm,0.3s,baz=144,slow=19,SNR=4.5						
ANMO				LR	LR	07 01 48.4	
	comp=Z,148nm,19.4s,baz=45,slow=33						
NVAR	**Mina Array Bea**	**10.55**	**338**	Pn	**Pn**	**06 59 54.8**	**+1.2**
	baz=144,slow=11,SNR=2.4						
PDAR	**Pinedale Array**	**14.31**	**11**	Pn	**Pn**	**07 00 46.7**	**+1.7**
	baz=189,slow=9.6,SNR=3.3						
NEW	**Newport**	**19.73**	**352**	P	**Pn**	**07 01 53.1**	**-0.1**
	0.1nm,0.3s,baz=159,slow=7.8,SNR=3.8						
ULM	**Lac du Bonnet**	**25.20**	**27**	P	**P**	**07 02 48.2**	**+0.7**
	4.8nm,0.9s,baz=223,slow=13,SNR=4.7						
BBB	**Bella Bella**	**25.91**	**339**	P	**P**	**07 02 57.3**	**+3.4**
	3.8nm,0.9s,baz=145,slow=3.4,SNR=3.2						
SADO	**Sadowa**	**31.37**	**50**	P	**P**	**07 03 45.3**	**+2.5**
	5.1nm,0.9s,baz=267,slow=6.2,SNR=3.6						
YKA	**Yellowknife Ar**	**33.77**	**359**	P	**P**	**07 04 03.5**	**0.0**
	0.2nm,0.8s,baz=189,slow=8.5,SNR=5.7						
ILAR	**Eielson Array**	**41.80**	**339**	P	**P**	**07 05 13.3**	**+2.0**
	1.1nm,1.0s,baz=146,slow=6.3,SNR=8.0						
SCHQ	**Schefferville**	**42.22**	**39**	P	**P**	**07 05 15.4**	**+0.5**
	4.0nm,0.9s,baz=253,slow=11,SNR=3.2						
CPUP	**Villa Florida**	**76.65**	**130**	P	P	07 09 17.7	+4.7
	2.0nm,0.9s,baz=256,slow=4.2,SNR=3.6						

TRN 12 06:58:37.8,15°.64N×61°.47W,h7km,MD0.8,Leeward Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MDVC	**Dominica, Viel**	**0.06**	**113**	*e*P	Pg	06 58 40.5	+1.0
MDVC				*e*S	Sg	06 58 41.5	+0.9
MDPO	**Dominica; Chan**	**0.06**	**168**	*e*P	Pg	06 58 40.4	+0.9
MDPO				*e*S	Sg	06 58 41.6	+0.9
MDMP	**Dominica, Moor**	**0.07**	**130**	*e*P	Pg	06 58 40.2	+0.7
MDMP				*e*S	Sg	06 58 41.6	+0.8
BBL	**Barber's Block**	**0.11**	**182**	*e*P	Pg	06 58 41.3	+1.0
BBL				*e*S	Sg	06 58 43.4	+1.4
TBG	**Guadaloupe-3**	**0.27**	**321**	*e*P	Pg	06 58 41.6	-1.6
TBG				*e*S	Sg	06 58 43.4	-3.4

IDC 12 07:00:13.8±9.8,1°.16S×91°.49E,h0km,mb3.4/3,mb1 3.8/4, mb1mx3.4/70,mbtmp3.7/4,ML4.4/1,Error ellipse: s-maj=174.9km s-min=55.1km az=3.0,South Indian Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**8.41**	**62**	Pn	Pn	07 02 17.4	+0.4
	4.5nm,0.3s,baz=324,slow=7.7,SNR=13						
CMAR	**Chiang Mai Arr**	**20.83**	**20**	P	P	07 04 57.6	+0.5
	1.3nm,0.5s,baz=216,slow=13,SNR=7.6						
MKAR	**Makanchi Array**	**48.44**	**352**	P	P	07 08 59.5	+1.6
	0.4nm,0.7s,baz=175,slow=9.4,SNR=3.9						
SONM	**Songino Array**	**50.50**	**13**	P	P	07 09 11.8	-2.0
	0.3nm,0.5s,baz=190,slow=7.2,SNR=2.1						

DDA ***12*** *07:01:24.0,36°.47N×29°.05E,h7km,Ml2.2*
CSEM ***12*** *07:01:26.0±0.5,36°.48N×29°.20E,h10km,ML2.2,Error ellipse: s-maj=15.0km s-min=6.9km az=40.0*

ISK 12 07:01:21.9,36°.27N×28°.93E,h25km,ML2.2/5, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FETY	**Fethiye**	**0.39**	**19**	PG	Pb	07 01 30.9	+0.6
FETY				SG	Sn	07 01 37.3	-1.2
FETY	**Fethiye**	**0.39**	**19**	*e*Pg	Pb	07 01 30.9	+0.6
FETY				S	Sn	07 01 37.5	-1.0
AKAS	**Kas**	**0.55**	**94**	PG	Pb	07 01 33.2	+0.2
AKAS				SG	Sn	07 01 42.3	-0.4
AKAS	**Kas**	**0.55**	**94**	*i*P	Pb	07 01 33.5	+0.5
AKAS				*i*S	Sn	07 01 42.0	-0.6
AKAS	**Kas**	**0.55**	**94**	*e*Pg	Pb	07 01 33.2	+0.2
AKAS	**Kas**	**0.55**	**94**	P	Pb	07 01 33.5	+0.5
AKAS				S	Sn	07 01 42.0	-0.7
TURN	**Turunc**	**0.66**	**337**	PG	Pn	07 01 37.4	+1.8
TURN				SG	Sn	07 01 48.4	+3.2
TURN	**Turunc**	**0.66**	**337**	*i*P	Pn	07 01 38.1	+2.5
TURN				*i*S	Sn	07 01 48.2	+3.1
TURN	**Turunc**	**0.66**	**337**	*e*Pg	Pn	07 01 37.4	+1.8
TURN	**Turunc**	**0.66**	**337**	P	Pn	07 01 38.1	+2.5
TURN				S	Sn	07 01 48.2	+3.0
ELL	**Elmali**	**0.92**	**59**	PG	Pb	07 01 39.3	0.0
ELL	**Elmali**	**0.92**	**59**	*e*Pg	Pb	07 01 39.3	0.0
YER	**Yerkesik**	**1.01**	**329**	PG	Pn	07 01 40.5	0.0
YER	**Yerkesik**	**1.01**	**329**	*e*Pg	Pn	07 01 40.5	0.0
GOLH	**Golhisar**	**1.09**	**28**	*i*P	Pn	07 01 40.4	-1.3
GOLH				*i*S	Sb	07 01 53.3	-2.8
GOLH	**Golhisar**	**1.09**	**28**	P	Pn	07 01 40.4	-1.3
GOLH				S	Sb	07 01 53.3	-2.8

IDC ***12*** *07:01:42.2±0.4,1°.96N×93°.93E,h0km,mb4.6/35, mb1 4.7/38,mb1mx4.5/71,mbtmp4.6/38,ML4.5/3,Error ellipse: s-maj=15.2km s-min=10.2km az=37.0*
ISCJB ***12*** *07:01:42.1±0.2,1°.92N±0°.03×93°.90E±0°.02,h10km, mb4.7/96,Error ellipse: s-maj=4.5km s-min=2.6km az=30.1*
NEIC ***12*** *07:01:44.0±0.2,1°.98N×93°.90E,h10km,mb5.0/39,Error ellipse: s-maj=4.6km s-min=2.8km az=211.0*
MOS ***12*** *07:01:44.4±0.9,1°.97N×93°.90E,h26km,mb4.9/25,Error ellipse: s-maj=9.0km s-min=5.2km az=117.2*
BJI ***12*** *07:01:44.7,1°.91N×93°.78E,h15km,mb4.7/46,mB4.9/26, Ms4.4/23,Ms7 4.3/22*
DJA ***12*** *07:01:45.1±0.2,2°.N±2°.×9°.4E±°,h10km,M5.2/40,mb5.2/40, mB5.6/29,MLv5.5/12,Mw(mB)5.1/29*

ISC 12 07:01:44.3±0.3,1°.91N±0°.04×93°.92E±0°.04,h10km,n290, σ1§46/266,mb4.8/100,17C-18D,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MLSI	**Meulaboh, Aceh**	**3.41**	**47**	P	Pn	07 02 35.9	-1.7
TPTI		**3.52**	**68**	P	**Pn**	**07 02 37.7**	**-1.5**
GSI	**Gunungsitoli**	**3.71**	**99**	P	**Pn**	**07 02 41.8**	**+0.1**
GSI	**Gunungsitoli**	**3.71**	**99**	*e*Pn	**Pn**	**07 02 42.0**	**+0.3**
GSI				*e*Sn	**Sn**	**07 03 19.6**	**-5.9**
KCSI	**Kotacane, Aceh**	**4.17**	**67**	P	**Pn**	**07 02 49.6**	**+1.5**
LHMI	**Lhok Sumawe**	**4.47**	**42**	P	**Pn**	**07 02 51.9**	**-0.3**
LHMI	**Lhok Sumawe**	**4.47**	**42**	*e*Pn	**Pn**	**07 02 51.6**	**-0.6**
LHMI				*e*Sn	**Sn**	**07 03 40.5**	**-3.8**
TSI	**Tuntungan**	**4.90**	**71**	P	**Pn**	**07 02 58.9**	**+0.7**
PSI	**Prapat**	**5.08**	**80**	Pn	**Pn**	**07 03 00.4**	**-0.4**
	14nm,0.3s,baz=310,slow=9.1,SNR=19						
PSI				Sn	**Sn**	**07 03 56.4**	**-3.2**
	47nm,0.3s,baz=5.2,slow=18,SNR=5.2						
PSI	**Prapat**	**5.08**	**80**	*e*Pn	**Pn**	**07 03 00.9**	**+0.2**
PSI				*e*Sn	**Sn**	**07 03 54.5**	**-5.1**
PSI	**Prapat**	**5.08**	**80**	*e*P	**Pn**	**07 03 00.9**	**+0.2**
PSI				*e*		07 03 54.5	
MNSI	**Mandailing Nat**	**5.77**	**101**	P	**Pn**	**07 03 10.2**	**+0.1**
SISI	**Saibi**	**6.09**	**122**	P	**Pn**	**07 03 14.7**	**+0.2**
BKNI	**Bangkinang**	**7.29**	**102**	P	**Pn**	**07 03 32.0**	**+1.0**
BKNI	**Bangkinang**	**7.29**	**102**	*e*Pn	**Pn**	**07 03 31.5**	**+0.5**
BKNI				*e*Sn	Sn	07 04 47.6	-6.3
PKDT	**Phuket**	**7.39**	**36**	P	Pn	07 03 29.5	-2.9
	84nm,0.8s,930nm0.3nm						
KULM	**Kulim**	**7.51**	**63**	*e*Pn	**Pn**	**07 03 33.3**	**-0.7**
KULM				*e*Sn	Sn	07 04 52.0	-7.3
IPM	**Ipoh**	**7.54**	**70**	*e*Pn	**Pn**	**07 03 33.0**	**-1.5**
IPM				*e*Sn	Sn	07 04 53.1	-7.1
PPSI	**Pulau Pagai**	**7.66**	**127**	P	**Pn**	**07 03 36.2**	**+0.1**
SDSI	**Sungai Dareh**	**8.03**	**111**	P	**Pn**	**07 03 41.7**	**+0.6**
TRTT	**Trang**	**8.23**	**44**	P	Pn	07 03 41.3	-2.6
	48nm,0.6s,550nm0.2nm						
SKLT	**Songkhla**	**8.48**	**52**	P	Pn	07 03 45.2	-2.1
	148nm,0.8s,1μm0.5nm						
SURT	**Suratani**	**8.52**	**35**	P	Pn	07 03 44.4	-3.4
	45nm,0.6s,527nm0.2nm						
MASI	**Maura Aman, Be**	**9.72**	**121**	P	**Pn**	**07 04 05.0**	**+0.6**
PBA	**Port Blair**	**9.75**	**353**	*e*P	Pn	07 04 01.8	-2.9
MYKOM	**Kota Tinggi**	**9.93**	**91**	*e*Pn	**Pn**	**07 04 07.5**	**+0.2**
TPRI	**Tanjung Pinang**	**10.65**	**95**	P	**Pn**	**07 04 18.3**	**+1.2**
DSRI	**Dabo**	**10.92**	**102**	P	**Pn**	**07 04 21.8**	**+1.0**
MNAI	**Manna**	**10.97**	**125**	P	**Pn**	**07 04 21.8**	**+0.2**
MNAI	**Manna**	**10.97**	**125**	*e*Pn	**Pn**	**07 04 21.8**	**+0.2**
DGPR	**DIGLIPUR**	**11.23**	**355**	*e*P	Pn	07 04 21.4	-3.7
MDSI	**Maura Dua**	**12.06**	**122**	P	**Pn**	**07 04 36.5**	**0.0**
LWLI	**Liwa**	**12.25**	**124**	P	**Pn**	**07 04 39.7**	**+0.6**
KLI	**Kotabumi**	**12.84**	**122**	P	**Pn**	**07 04 46.5**	**-0.5**
KASI	**Kota Agung**	**12.89**	**125**	P	**Pn**	**07 04 47.2**	**-0.6**
SRDT	**SRDT**	**13.38**	**22**	P	**P**	**07 05 03.2**	**-0.9**
PALK	**Pallekele**	**14.20**	**292**	Pn	**Pn**	**07 05 04.6**	**-1.2**
	4.3nm,0.3s,baz=116,slow=16,SNR=7.0						
PALK				Sn	Sn	07 07 28.1	-16
	20nm,0.3s,baz=115,slow=0.3,SNR=19						
PALK	**Pallekele**	**14.20**	**292**	*e*Pn	**Pn**	**07 05 05.0**	**-0.8**
PALK	**Pallekele**	**14.20**	**292**	*e*P	**Pn**	**07 05 05.0**	**-0.8

HYB Hyderabad 21.57 317 eP P 07 06 34.8 +0.5
HYB IAmb IAmb 07 06 38.5
comp=Z,257nm,2.4s
MNCI Minicoy 21.71 288 eP P 07 06 36.3 +0.5
comp=Z,78nm,1.2s
MNCY Minicoy 21.73 288 eP P 07 06 35.5 -0.5
KKM Kota Kinabalu 22.61 79 eP P 07 06 44.5 -1.2
comp=Z,72nm,0.8s
JAGI Jajag, Banyuwa 22.66 117 eP P 07 06 48.3 +2.2
comp=Z,54nm,1.2s
KBKI Kotabaru 22.84 103 P P 07 06 47.5 -0.4
QIZ Qiongzhong 23.08 41 P P 07 06 51.0 +0.6
QIZ S S 07 11 01.7 0.0
QIZ LR LR
comp=Z,330nm,16.5s
QIZ LR LR
comp=Z,390nm,19.8s
QIZ LR LR
comp=Z,250nm,14.2s
BOK Bokaro 23.10 341 eP P 07 06 50.5 -0.1
SHL Shillong 23.60 355 eP P 07 06 55.0 -0.7
SHL Shillong 23.60 355 eP P 07 06 54.2 -1.5
comp=Z,79nm,0.8s
SHL Shillong 23.60 355 eP P 07 06 54.2 -1.5
SHL pmax pmax
comp=Z,79nm,0.8s
GOA Goa 23.97 305 eP P 07 06 60.0 +0.8
GOA IAmb IAmb 07 07 07.4
comp=Z,308nm,2.6s
NGP Nagpur 23.99 324 eP P 07 06 56.5 -2.9
KMI Kunming 24.60 20 P P 07 07 09.3 +4.2
KMI pP sP 07 07 14.6 +5.2
KMI sP pP 07 07 18.3 +10
KMI S S 07 11 26.9 +0.4
KMI sS sS 07 11 38.8 +7.3
KMI pmax pmax
comp=Z,19nm,0.9s
KMI pmax pmax
comp=Z,120nm,4.2s
KMI LR LR
comp=Z,280nm,17.0s
KMI LR LR
comp=Z,550nm,18.7s
KMI LR LR
comp=Z,160nm,19.8s
MYLDM Lahad Datu 24.75 82 eP P 07 07 06.4 +0.1
comp=Z,124nm,1.0s
ODAN Odare 25.58 346 eP P 07 07 14.5 +0.4
POO Poona 25.69 311 eP P 07 07 12.9 -1.9
RAMN Ramite 25.87 345 eP P 07 07 17.0 +0.4
comp=Z,62nm,0.6s
MPSI Mapaga 26.02 93 P P 07 07 18.2 +0.3
BHPL Bhopal 26.56 324 eP P 07 07 21.6 -1.1
BHPL IAmb IAmb 07 07 28.7
JIRN Jiri 26.65 345 eP P 07 07 25.2 +1.3
comp=Z,98nm,0.7s
KAPI Kappang 26.71 105 eP P 07 07 24.3 +0.2
comp=Z,31nm,0.9s
DMN Daman 26.91 343 eP P 07 07 28.0 +1.9
comp=Z,29nm,0.8s
BNSI Bone 26.91 104 P P 07 07 27.0 +1.0
GUN Gumba 26.97 344 eP P 07 07 28.4 +1.7
comp=Z,56nm,0.7s
GYA Guiyang 27.31 26⇑ *i*P P 07 07 32.0 +2.5
GYA PP **PnPn** 07 08 18.9 +5.5
GYA PcP **PcP** 07 10 51.2 +2.0
GYA S **S** 07 12 08.4 -0.9
GYA SS **SnSn** 07 13 26.0 +8.1
GYA ScP **ScP** 07 14 28.7 -1.2
GYA pmax pmax
comp=Z,20nm,0.9s
GYA pmax pmax
comp=Z,120nm,5.6s
GYA LR LR
comp=Z,590nm,15.9s
GYA LR LR
comp=Z,560nm,15.8s
GYA LR LR
comp=Z,580nm,15.4s
GKN Gorkha 27.42 342 eP P 07 07 31.8 +1.2
comp=Z,59nm,0.7s
KOLN Koldanda 27.54 340 eP P 07 07 32.9 +1.2
comp=Z,43nm,0.7s
LUWI Luwuk 29.00 96 eP P 07 07 44.7 0.0
comp=Z,181nm,1.5s
CD2 Chengdu 30.31 17 P P 07 07 56.0 -0.1
CD2 S **S** 07 12 55.9 -0.4
CD2 pmax pmax
comp=Z,20nm,0.5s
CD2 LR LR
comp=Z,270nm,11.4s
CD2 LR LR
comp=Z,630nm,14.4s
CD2 LR LR
comp=Z,680nm,10.9s
BHJ Bhuj 31.68 314 eP P 07 08 05.7 -2.5
DDI Dehra Dun 32.01 334 eP P 07 08 09.6 -1.5
SMLA Simla 33.10 333 eP P 07 08 19.6 -0.9
SMLA IAmb IAmb 07 08 25.3
comp=Z,32nm,1.4s
MBWA Marble Bar 34.12 134 eP P 07 08 29.6 0.0
comp=Z,16nm,0.8s
DHRM DHARAMSHALA 34.44 333 eP P 07 08 29.8 -2.7
DHRM IAmb IAmb 07 08 37.5
comp=Z,7.4nm,0.6s
XAN Xi'an 34.91 22 P P 07 08 34.6 -1.7
XAN pP pP 07 08 42.1 +2.7
XAN sP sP 07 08 45.6 +5.0
XAN PP **PnPn 07 09 50.7 -2.3**
XAN S S 07 14 01.2 -6.6
XAN pmax pmax
comp=Z,8.0nm,1.0s
XAN pmax pmax
comp=Z,130nm,5.6s
XAN LR LR
comp=Z,290nm,21.7s
XAN LR LR
comp=Z,490nm,22.8s
XAN LR LR
comp=Z,280nm,13.6s
LZH Lanzhou 35.23 14 eP P 07 08 43.1 +3.9
LZH pP sP 07 08 50.2 +6.7
LZH sP pP 07 08 56.0 +14
LZH *e*PP **PP 07 10 04.1 +4.9**
LZH pmax pmax
comp=Z,20nm,0.8s
LZH pmax pmax
comp=Z,190nm,4.3s
LZH LR LR
comp=Z,170nm,12.8s
LZH LR LR
comp=Z,170nm,10.0s
LZH LR LR
comp=Z,240nm,14.2s
FITZ Fitzroy Crossi 37.03 124 P P 07 08 53.8 -0.9
comp=Z,8.0nm,0.6s,baz=305,slow=7.4,SNR=24
NIL Nilore 37.03 331 eP P 07 08 53.2 -1.3
comp=Z,20nm,0.8s
NIL Nilore 37.03 331 eP P 07 08 53.2 -1.3
NIL pmax pmax
comp=Z,20nm,0.8s
SIJI Sorong 37.45 94 P P 07 08 57.2 -1.1
comp=Z,18nm,0.7s,baz=333,slow=3.1,SNR=6.5
GTA Gaotai 37.71 7 eP P 07 09 02.3 +2.0
GTA pP pP 07 09 06.8 +3.4
GTA sP sP 07 09 09.6 +5.0
GTA S S **07 14 52.8 +2.1**
GTA sS ScP 07 15 05.2 0.0
GTA SS **SnSn 07 17 27.7 -2.6**
GTA pmax pmax
comp=Z,5.0nm,0.9s
GTA pmax pmax
comp=Z,95nm,4.8s
GTA LR LR
comp=Z,230nm,12.4s
GTA LR LR
comp=Z,160nm,12.4s
GTA LR LR
comp=Z,380nm,12.4s
NJ2 Nanjing 38.09 35 eP P 07 09 03.2 -0.2
NJ2 pmax pmax
comp=Z,9.0nm,0.5s
FAKI Fak Fak 38.62 97 eP P 07 09 07.0 -1.2
comp=Z,31nm,0.8s
WSAR Wadi Sarin 40.23 305 P P 07 09 21.7 +0.1
comp=Z,3.0nm,0.7s,baz=136,slow=7.0,SNR=4.4

KSH Kashi 40.84 339 P P 07 09 25.2 -1.3
KSH pP pP 07 09 33.0 +3.4
KSH PcP **PcP 07 11 25.9 -1.5**
KSH S **S 07 15 33.2 -4.7**
KSH SS SS 07 18 31.2 -8.0
KSH pmax pmax
comp=Z,21nm,0.7s
KSH pmax pmax
comp=Z,170nm,3.4s
NWAO Narrogin (SRO) 41.06 150 P P 07 09 28.2 -0.1
comp=Z,10nm,0.7s,baz=183,slow=7.9,SNR=5.8
HHC Hu-ho-hao-te 41.92 20 eP P 07 09 35.8 +0.5
HHC sP sP 07 09 47.1 +7.4
HHC S **S 07 15 53.2 -0.6**
HHC pmax pmax
comp=Z,14nm,1.0s
HHC pmax pmax
comp=Z,84nm,5.9s
HHC LR LR
comp=Z,790nm,16.5s
HHC LR LR
comp=Z,630nm,15.3s
HHC LR LR
comp=Z,830nm,15.4s
WMQ Urumqi 42.09 353 P P 07 09 36.6 0.0
WMQ pmax pmax
comp=Z,25nm,0.9s
WMQ pmax pmax
comp=Z,160nm,4.3s
WMQ LR LR
comp=Z,4μm,25.3s
TARG Taragay, Kyrgy 42.21 342 *e*P **P 07 09 37.3 -0.8**
comp=Z,12nm,0.8s
SFK Sufi-Kurgan 42.22 337 P P 07 09 37.3 -0.6
SFK pmax pmax
comp=Z,11nm,1.0s
NRN Naryn 42.53 340 *e*P **P 07 09 39.5 -1.1**
comp=Z,9.9nm,1.0s
NRN Naryn 42.53 340 *e*P **P 07 09 39.5 -1.1**
NRN pmax pmax
comp=Z,10.0nm,1.0s
KDJ Kajisay 42.77 342 *e*P **P 07 09 41.9 -0.4**
comp=Z,17nm,0.8s
BJI Beijing 43.00 25 P P 07 09 47.7 +3.7
BJI pmax pmax
comp=Z,24nm,1.0s
AAK Ala-Archa 44.12 339⇑ *e*P **P 07 09 53.7 +0.5**
AAK pmax pmax
comp=Z,1.0nm,0.7s
WR1 Warramunga Arr 45.21 121 *e*P **P 07 10 01.4 -0.6**
comp=Z,26nm,1.1s
WRA Warramunga Arr 45.21 121 P P 07 10 01.4 -0.6
comp=Z,15nm,0.8s,baz=300,slow=8.8,SNR=55
WRAB Tennant Creek 45.21 121 *e*P **P 07 10 01.3 -0.8**
comp=Z,23nm,1.0s
WRAB Tennant Creek 45.21 121 *e*P **P 07 10 01.3 -0.8**
WRAB pmax pmax
comp=Z,23nm,1.0s
WB2 Warramunga Arr 45.22 121 *e*P **P 07 10 01.8 -0.3**
MK01 Makanchi Array 45.81 349 *e*P **P 07 10 05.8 -0.7**
MK31 Makanchi Array 45.84 349 *e*P **P 07 10 06.1 -0.5**
MK31 Makanchi Array 45.84 349 *e*P **P 07 10 06.1 -0.5**
MK32 Makanchi Array 45.84 349 *e*P **P 07 10 06.1 -0.5**
MKAR Makanchi Array 45.84 349 P P 07 10 06.1 -0.5
comp=Z,5.6nm,0.6s,baz=166,slow=8.5,SNR=49
MKAR Makanchi Array 45.84 349 *e*P **P 07 10 06.2 -0.5**
comp=Z,98nm,0.6s
MAKZ Makanchi 45.91 349 *e*P **P 07 10 06.4 -0.8**
comp=Z,8.2nm,0.7s
MAKZ Makanchi 45.91 349 *e*P **P 07 10 06.4 -0.8**
MAKZ pmax pmax
comp=Z,8.0nm,0.7s
KK31 Karatay Array 46.02 336 *e*P **P 07 10 07.1 -1.1**
KK31 Karatay Array 46.02 336 *e*P **P 07 10 07.1 -1.1**
KKAR Karatay Array 46.02 336 *e*P **P 07 10 07.1 -1.1**
KKAR Karatay Array 46.02 336 *e*P **P 07 10 07.1 -1.1**
ASAR Alice Springs 46.46 126 P P 07 10 11.4 -0.5
comp=Z,11nm,0.8s,baz=296,slow=7.3,SNR=64
AS31 Alice Springs 46.46 126 *e*P **P 07 10 11.7 -0.2**
comp=Z,5.8nm,0.4s
AS01 Alice Springs 46.50 126 *e*P **P 07 10 11.4 -0.8**
SONA0 Songino Array 47.00 11 *e*P **P 07 10 15.2 -0.7**
SONM Songino Array 47.00 11 P P 07 10 15.2 -0.7
comp=Z,1.8nm,0.6s,baz=185,slow=8.7,SNR=9.7
SONA1 Songino Array 47.02 11 *e*P **P 07 10 16.4 +0.3**
KS15 Wonju Array Si 47.17 37 *e*P **P 07 10 18.0 +0.8**
KSAR Wonju Array Be 47.17 37 P P 07 10 17.8 +0.6
KSAR Wonju Array Be 47.17 37 P P 07 10 17.8 +0.6
KS01 Wonju Array Si 47.20 37 *e*P P 07 10 15.6 -1.8
KSRS Korea Array 47.20 37 P P 07 10 17.8 +0.4
comp=Z,3.7nm,0.8s,baz=225,slow=8.8,SNR=10
GEYT Alibeck 48.60 322 P P 07 10 28.1 -0.2
comp=Z,13nm,0.6s,baz=151,slow=9.5,SNR=18
GYA0B ALIBECK ARRAY 48.60 322 *e*P **P 07 10 28.2 -0.2**
comp=Z,14nm,0.7s
ZAK Zakamensk 48.94 8 *e*P **P 07 10 33.1 +2.2**
ZAK pmax pmax
comp=Z,4.0nm,1.2s
CN2 Changchun 50.23 30 *e*P **P 07 10 42.2 +1.5**
CN2 *ep*P sP 07 10 50.0 +4.9
CN2 pmax pmax
comp=Z,10.0nm,0.8s
KURBB Kurchatov Arra 50.26 347 P P 07 10 39.9 -0.8
comp=Z,3.7nm,0.7s,baz=170,slow=6.8,SNR=23
OPO Ambohidratompo 50.26 244 P P 07 10 42.3 +0.8
comp=Z,9.7nm,0.7s,baz=73,slow=4.8,SNR=12
TLY Talaya 50.26 8 *e*P **P 07 10 40.6 -0.2**
comp=Z,2.4nm,0.7s
TLY Talaya 50.26 8 *e*P **P 07 10 40.6 -0.2**
TLY pmax pmax
comp=Z,2.0nm,0.7s
KURK Kurchatov 50.32 347 *e*P **P 07 10 40.4 -0.8**
KURK Kurchatov 50.32 347 *e*P **P 07 10 40.4 -0.8**
ABPO Ambohimpanom 50.37 243 *i*P **P 07 10 43.6 +1.3**
ATD Arta Tunnel 51.53 283 P P 07 10 51.7 +0.7
comp=Z,7.1nm,0.6s,baz=340,slow=4.2,SNR=4.1
RAYN Ar Rayn 51.53 299 *e*P **P 07 10 50.7 -0.1**
comp=Z,7.7nm,0.8s
ZAA0 Zalesovo Array 52.40 353 *e*P **P 07 10 55.9 -0.8**
comp=Z,10nm,0.8s
ZALV Zalesovo Beam 52.40 353 P P 07 10 55.7 -1.0
comp=Z,6.2nm,0.4s,baz=185,slow=8.3,SNR=18
ZALV Zalesovo Beam 52.40 353 *e*P **P 07 10 55.9 -0.8**
ZALV Zalesovo Beam 52.40 353 *e*P **P 07 10 55.9 -0.8**
ZAA1 Zalesovo Array 52.41 353 *e*P **P 07 10 55.7 -1.1**
MAJO Matsushiro 53.43 44⇓ *e*P **P 07 11 03.7 -1.0**
MAJO pmax pmax
comp=Z,7.0nm,1.2s
NVS Novosibirsk 53.48 352 *e*P **P 07 11 03.4 -1.2**
BVAR Borovoye Array 54.55 343 P P 07 11 10.9 -1.7
comp=Z,3.1nm,0.7s,baz=142,slow=8.6,SNR=12
BRVK Borovoye 54.61 343⇑ *i*P P 07 11 11.0 -2.0
BRVK pmax pmax
comp=Z,2.0nm,0.6s
ABKAR Akbulak array 55.38 334 *e*P P 07 11 17.1 -1.6
STKA Stephens Creek 56.28 131 P P 07 11 25.0 -0.4
comp=Z,5.0nm,0.6s,baz=294,slow=9.1,SNR=19
STKA Stephens Creek 56.28 131 *e*P **P 07 11 24.8 -0.6**
comp=Z,1.0nm,0.6s
KMBO Kilima Mbogo 56.74 267 P P 07 11 28.3 -1.0
comp=Z,4.0nm,0.9s,baz=57,slow=9.8,SNR=8.1
KMBO Kilima Mbogo 56.74 267 *e*P **P 07 11 29.7 +0.4**
KMBO Kilima Mbogo 56.74 267 *e*P **P 07 11 29.7 +0.4**
AKTO Aktyubinsk 57.10 333 P P 07 11 30.1 -0.7
comp=Z,0.7nm,0.3s,baz=124,slow=7.3,SNR=4.1
KLR Kul'dur 57.15 29⇑ *e*P **P 07 11 31.3 0.0**
GNI Garni 58.53 317⇑ *e*P **P 07 11 40.0 -1.3**
GNI pmax pmax
comp=Z,24nm,1.0s
GROC Groznyy 59.30 321 *e*P P 07 11 45.0 -1.5
GROC *e* 07 12 32.7
GROC *e* 07 13 58.3
GROC pmax pmax
comp=Z,21nm,0.6s
ZEI Tsey 60.32 320 *e*P **P 07 11 52.5 -1.2**
ZEI pmax pmax
comp=Z,8.0nm,0.7s
ARU Arti 61.29 338 *d i*P **P 07 12 01.5 +1.7**
ARU 07 14 14.7
ARU S **S 07 20 23.8 +3.9**
ARU pmax pmax
comp=Z,10.0nm,1.7s
NEY Neytrino 61.30 320⇑ *e*P **P 07 12 00.2 -0.2**
NEY pmax pmax
comp=Z,1.0nm,0.7s

ASF Jabal al Asfar 61.38 306 P P 07 12 01.6 +0.5
comp=Z,1.7nm,0.4s,baz=63,slow=8.7,SNR=7.0
KBZ Khabaz 61.41 320 P P 07 12 00.1 -0.7
comp=Z,6.2nm,0.8s,baz=137,slow=5.5,SNR=14
KIV Kislovodsk 61.65 320 *e*P **P 07 12 02.0 -0.6**
KIV pmax pmax
comp=Z,15nm,1.1s
YSS Yuzh-Sakhalins 61.66 36 *e*P **P 07 12 06.0 +3.6**
YSS *e* 07 12 13.6
YSS pmax pmax
comp=Z,20nm,0.6s
YSS MLR MLR
comp=Z,1μm,11.0s
MMAI Mount Meron Ar 62.83 306 P P 07 12 11.5 +0.8
comp=Z,6.3nm,0.6s,baz=106,slow=9.3,SNR=7.6
MBAR Mbarara 63.22 268 P P 07 12 12.4 -1.4
comp=Z,3.5nm,0.2s,baz=175,slow=7.2,SNR=4.2
YAK Yakutsk 65.70 18⇑ *e*P **P 07 12 28.2 -0.6**
YAK pmax pmax
comp=Z,8.0nm,0.5s
BR101 Keskin Array S 66.22 313 *e*P P 07 12 31.3 -1.6
BR131 Keskin Array S 66.22 313 *e*P **P 07 12 31.7 -1.2**
BRTR Keskin Array B 66.22 313 P P 07 12 31.3 -1.6
comp=Z,3.3nm,0.7s,baz=129,slow=6.8,SNR=21
ILGA Ilgaz 66.59 314 *e*P **P 07 12 34.7 -0.6**
comp=Z,18nm,1.4s
BR231 Keskin MP Arra 66.89 313 *e*P P 07 12 32.1 -5.0
VSR Storozhevoye 67.14 326 *e*P P 07 12 35.2 -3.1
VSR pmax pmax
comp=Z,7.0nm,0.6s
LSZ Lusaka 67.18 253 *e*P **P 07 12 38.5 -0.9**
comp=Z,5.8nm,0.8s
LSZ Lusaka 67.18 253 *e*P **P 07 12 38.5 -0.9**
LSZ pmax pmax
comp=Z,6.0nm,0.8s
KARP Karpathos 70.07 307 *e*P **P 07 12 56.9 -0.1**
comp=Z,16nm,0.9s
OBN Obninsk 70.31 329⇑ *e*P **P 07 12 56.8 -1.2**
OBN *e* 07 15 34.5
OBN *e*S **SKiKP 07 22 48.0 +4.6**
OBN pmax pmax
comp=Z,5.0nm,0.6s
LBTB Lobatse 71.27 243 *e*P **P 07 13 04.6 0.0**
LBTB Lobatse 71.27 243 *e*P **P 07 13 04.6 0.0**
IDI Anoyia 71.84 306 P P 07 13 07.3 -0.6
comp=Z,13nm,0.5s,baz=61,slow=10,SNR=17
IDI Anoyia 71.84 306⇓ *i*P **P 07 13 07.2 -0.6**
IDI Anoyia 71.84 306 *e*P **P 07 13 07.2 -0.6**
comp=Z,14nm,0.7s
BOSA Boshof 72.30 239 P P 07 13 10.3 -0.5
comp=Z,7.3nm,0.8s,baz=101,slow=4.8,SNR=12
BOSA Boshof 72.30 239 *e*P **P 07 13 10.4 -0.4**
BOSA Boshof 72.30 239 *e*P **P 07 13 10.4 -0.4**
SORM Soroca 72.45 320⇑ *i*P P 07 13 09.5 -1.6
SORM Soroca 72.45 320⇑ P P 07 13 09.5 -1.6
AKASG Malin Array Be 72.71 323 P P 07 13 10.3 -2.3
comp=Z,1.8nm,0.8s,baz=92,slow=4.8,SNR=8.9
AKBB Malin Array Si 72.71 323 *e*P P 07 13 10.4 -2.1
comp=Z,6.6nm,1.2s
AKBB Malin Array Si 72.71 323 *e*P P 07 13 10.4 -2.1
AKBB pmax pmax
comp=Z,7.0nm,1.2s
KIEV Kiev 72.71 323⇑ *e*P P 07 13 10.4 -2.2
KIEV pmax pmax
comp=Z,3.0nm,0.7s
VRI Vrincioaia 72.88 318⇑ *i*P **P 07 13 13.6 -0.1**
VRI Vrincioaia 72.88 318 ⇑P **P 07 13 13.6 -0.1**
PLOR Plostina 72.92 318⇓ *i*P **P 07 13 13.4 -0.6**
PLOR Plostina 72.92 318 ⇓P **P 07 13 13.4 -0.6**
TIXI Tiksi 73.09 11 *e*P **P 07 13 13.0 -1.4**
comp=Z,6.5nm,0.7s
TIXI Tiksi 73.09 11⇑ *i*P P 07 13 12.5 -1.9
TIXI pmax pmax
comp=Z,5.0nm,0.9s
TESR Tescani 73.10 318⇓ *i*P P 07 13 13.6 -1.4
MLR Muntele Rosu 73.31 317 P P 07 13 15.8 -0.6
comp=Z,2.7nm,0.9s,baz=137,slow=2.0,SNR=14
MLR Muntele Rosu 73.31 317⇓ *i*P **P 07 13 16.1 -0.3**
MLR Muntele Rosu 73.31 317 *e*P **P 07 13 15.8 -0.6**
comp=Z,11nm,0.8s
MLR Muntele Rosu 73.31 317 ⇓P **P 07 13 16.1 -0.3**
VOIR 73.90 317⇓ *i*P **P 07 13 18.6 -1.3**
VOIR 73.90 317 ⇓P **P 07 13 18.6 -1.3**
ARR Arges 74.17 317⇓ *i*P **P 07 13 20.1 -1.3**
BURAR Bucovina Array 74.33 319⇓ *i*P **P 07 13 22.2 -0.2**
BURAR Bucovina Array 74.33 319 ⇓P **P 07 13 22.2 -0.2**
BUR04 Bucovina Ar. S 74.34 319 *e*P **P 07 13 21.8 -0.6**
BUR08 Bucovina Ar. S 74.35 319 *e*P **P 07 13 21.8 -0.7**
VTS Vitosha 74.56 314⇓ *i*P P 07 13 22.1 -1.8
VTS Vitosha 74.56 314 ⇓P P 07 13 22.1 -1.8
DRGR 75.80 318⇑ *i*P **P 07 13 30.0 -0.8**
DRGR 75.80 318 ⇑P **P 07 13 30.0 -0.8**
TRPA Tarpa 76.21 319⇓ *i*P **P 07 13 32.6 -0.4**
KWP Kalwaria Pacla 76.44 321 *e*P **P 07 13 33.4 -0.9**
KWP Kalwaria Pacla 76.44 321 *e*P **P 07 13 33.4 -0.9**
VSU Vasula 76.59 330⇓ *e*P **P 07 13 35.4 +0.5**
VSU pmax pmax
comp=Z,21nm,0.7s
CRVS Cervenica-Dubn 77.07 320 *e*P **P 07 13 37.0 -0.9**
CRVS Cervenica-Dubn 77.07 320 *e*P **P 07 13 37.0 -0.9**
STHS Stebnicka Huta 77.32 320 *e*P **P 07 13 39.5 +0.2**
STHS *e* 07 19 16.2
STHS *e* 07 29 04.5
STHS Stebnicka Huta 77.32 320 *e*P **P 07 13 39.5 +0.2**
STHS pmax pmax
comp=Z,7.0nm,0.8s
FIA0 FINESS Array S 77.86 333 *e*P P 07 13 40.0 -2.0
FIA0 FINESS Array S 77.86 333 *e*P P 07 13 40.0 -2.0
FINES FINESS Array B 77.86 333 P P 07 13 40.0 -2.0
comp=Z,2.5nm,0.6s,baz=89,slow=5.3,SNR=8.7
FINES FINESS Array B 77.86 333 P P 07 13 40.0 -2.0
FINES FINESS Array B 77.86 333 P P 07 13 40.0 -2.0
NIE Niedzica 77.92 320 *e*P **P 07 13 42.6 -0.1**
NIE Niedzica 77.92 320 *e*P **P 07 13 42.6 -0.1**
OJC Ojcow 78.40 321 *e*P **P 07 13 44.8 -0.5**
OJC Ojcow 78.40 321 *e*P **P 07 13 44.8 -0.5**
VYHS Vyhne 78.70 319 *e*PG P 07 13 45.4 -1.6
VYHS Vyhne 78.70 319 *e*P P 07 13 45.4 -1.6
KLNR Kaliningrad 79.04 325⇓ *e*P **P 07 13 49.8 +1.2**
SYO Syowa Base 79.68 197⇑ *e*P **P 07 13 50.6 -1.2**
MODS Modra-Piesok 79.71 319 *e*P **P 07 13 51.8 -0.7**
MODS Modra-Piesok 79.71 319 *e*P **P 07 13 51.8 -0.7**
KRLC Kraliky 80.29 320 *e*P **P 07 13 55.4 -0.2**
KRLC *ex* x 07 14 01.4
KRLC *ex* x 07 14 12.8
KRLC Kraliky 80.29 320 *e*P **P 07 13 55.4 -0.2**
KRLC *e* 07 14 01.4
DPC Dobruska-Polom 80.62 321 *e*P **P 07 13 57.2 -0.2**
DPC *ex* x 07 14 08.3
DPC Dobruska-Polom 80.62 321 *e*P **P 07 13 57.2 -0.2**
DPC *e* 07 14 08.3
BOJS Bojanci 80.69 316 *i*P **P 07 13 57.0 -0.9**
ARSA Arzberg 80.72 317 *i*P **P 07 13 58.1 +0.1**
comp=Z,7.8nm,1.1s
ARA0 ARCESS Array S 80.77 341 *e*P P 07 13 56.2 -1.6
ARCES ARCESS Array B 80.77 341 P P 07 13 56.2 -1.6
comp=Z,3.5nm,0.8s,baz=76,slow=5.1,SNR=8.5
PERS Pernice 80.92 317 *e*P **P 07 13 58.6 -0.5**
SOKA Soboth 80.98 317 *i*P **P 07 13 59.2 -0.3**
comp=Z,13nm,0.9s
VISS Visnje 81.02 316 *i*P **P 07 13 58.8 -0.8**
GEA0 GERESS Array S 82.12 319 *e*P **P 07 14 04.7 -0.8**
GEC2 GERESS Array S 82.12 319 *e*P **P 07 14 04.8 -0.7**
comp=Z,12nm,0.8s
GEC2 GERESS Array S 82.12 319 *e*P **P 07 14 04.8 -0.7**
GEC2 pmax pmax
comp=Z,13nm,0.8s
GERES GERESS Array B 82.12 319 P P 07 14 05.0 -0.5
comp=Z,8.9nm,0.7s,baz=100,slow=5.5,SNR=48
BRG Berggiesshubel 82.19 321 *e*P **P 07 14 05.0 -0.7**
comp=Z,21nm,1.7s
BRG Berggiesshubel 82.19 321 *e*P **P 07 14 05.0 -0.7**
BRG pmax pmax
comp=Z,21nm,1.7s
KHC Kasperske Hory 82.23 319 *e*P **P 07 14 05.1 -0.9**
KHC *ex* x 07 14 18.0
KHC Kasperske Hory 82.23 319 *e*P **P 07 14 05.1 -0.9**
KHC *e* 07 14 18.0
CLL Collm 82.83 321 *e*P P 07 14 07.0 -2.0
WTTA Wattenberg 83.36 317 *i*P **P 07 14 10.9 -1.1**
comp=Z,7.0nm,0.7s
HFS Hagfors 83.47 330 P P 07 14 10.5 -1.6
comp=Z,2.0nm,0.6s,baz=104,slow=6.1,SNR=12

MOTA	**Moosalm**	**83.72**	**317**	*i* P		**P**	**07 14 12.8**	**-1.1**
	comp=Z,6.6nm,0.6s							
RETA	**Reutte**	**83.96**	**317**	*i* P		**P**	**07 14 13.9**	**-1.2**
	comp=Z,7.4nm,0.7s							
KEST	**Kesra**	**84.48**	**306**	P		**P**	**07 14 18.3**	**+0.3**
	comp=Z,8.1nm,0.8s,baz=76,slow=1.7,SNR=7.7							
KEST	**Kesra**	**84.48**	**306**	*e*P		**P**	**07 14 18.2**	**+0.3**
	comp=Z,11nm,0.9s							
NB200	**NORSAR Array S**	**84.79**	**331**	*e*P		P	07 14 17.0	-1.9
NOA	**NORSAR Array B**	**84.79**	**331**	P		P	07 14 17.0	-1.9
	comp=Z,1.3nm,0.7s,baz=99,slow=5.6,SNR=3.8							
NOA	**NORSAR Array B**	**84.79**	**331**	P		P	07 14 17.0	-1.9
TOA0	**Torodi Ar. Sit**	**91.73**	**283**	*e*P		**P**	**07 14 52.7**	**-0.3**
TORD	**Torodi Ar. Bea**	**91.73**	**283**	P		**P**	**07 14 52.9**	**-0.2**
	comp=Z,3.1nm,0.6s,baz=95,slow=5.4,SNR=17							
TOA1	**Torodi Ar. Sit**	**91.74**	**283**	*e*P		**P**	**07 14 52.9**	**-0.2**
EKA	**Eskdalemuir Ar**	**92.47**	**325**	P		**P**	**07 14 54.2**	**-1.4**
	comp=Z,1.9nm,0.8s,baz=95,slow=3.8,SNR=3.6							

IDC ***12*** *07:01:53.8±0.8, 1°.95N×93°.93E, h0km, mb4.5/22, mb1 4.7/24, mb1mx4.4/68, mbtmp4.5/24, ML4.8/2, MS4.2/1, Ms1 4.2/1, ms1mx3.3/70, Error ellipse: s-maj=24.6km s-min=16.0km az=28.0*

ISCJB ***12*** *07:01:57.1±0.7, 2°.0N±0°.1×93°.94E±0°.1, h33km, mb4.5/22, Error ellipse: s-maj=17.5km s-min=13.4km az=22.8*

ISC 12 07:01:59.1±0.9, 2°.0N±0°.2×93°.9E±0°.1, h35km, n25, σ0s89/24, mb4.6/22, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**5.13**	**80**	LR	LR	07 05 18.4	
	comp=Z,3µm,20.7s,baz=241,slow=40						
PALK	**Pallekele**	**14.13**	**292**	Pn	**Pn**	**07 05 14.7**	**-2.3**
	4.0nm,0.3s,baz=116,slow=9.4,SNR=6.8						
CMAR	**Chiang Mai Arr**	**17.14**	**17**	P	**Pn**	**07 05 56.1**	**0.0**
	1.1nm,0.3s,baz=211,slow=12,SNR=18						
WRA	**Warramunga Arr**	**45.28**	**121**	P	**P**	**07 10 12.9**	**-0.8**
	5.3nm,0.7s,baz=301,slow=8.8,SNR=13						
MKAR	**Makanchi Array**	**45.78**	**349**	P	**P**	**07 10 17.6**	**+0.2**
	13nm,0.5s,baz=168,slow=8.8,SNR=28						
ASAR	**Alice Springs**	**46.53**	**126**	P	**P**	**07 10 23.0**	**-0.6**
	6.1nm,0.4s,baz=298,slow=7.7,SNR=22						
SONM	**Songino Array**	**46.97**	**12**	P	**P**	**07 10 26.5**	**-0.3**
	5.3nm,0.8s,baz=192,slow=8.6,SNR=13						
KSRS	**Korea Array**	**47.20**	**37**	P	**P**	**07 10 27.8**	**-0.8**
	5.6nm,0.8s,baz=226,slow=8.3,SNR=4.1						
GEYT	**Alibeck**	**48.53**	**222**	P	**P**	**07 10 39.8**	**+0.8**
	13nm,0.7s,baz=146,slow=8.2,SNR=8.9						
KURBB	**Kurchatov Arra**	**50.20**	**347**	P	**P**	**07 10 51.4**	**0.0**
	9.2nm,0.8s,baz=170,slow=7.3,SNR=15						
ZALV	**Zalesovo Beam**	**52.35**	**353**	P	**P**	**07 11 07.5**	**0.0**
	8.4nm,0.6s,baz=184,slow=7.0,SNR=13						
MJAR	**Matsushiro Arr**	**53.44**	**44**	P	**P**	**07 11 15.8**	**0.0**
	1.5nm,0.5s,baz=228,slow=7.1,SNR=5.1						
USRK	**Ussuriysk Ar.**	**53.91**	**33**	P	**P**	**07 11 19.1**	**0.0**
	4.2nm,0.9s,baz=245,slow=3.4,SNR=4.4						
AKTO	**Aktyubinsk**	**57.03**	**333**	P	**P**	**07 11 40.8**	**-0.7**
	1.0nm,0.4s,baz=121,slow=5.9,SNR=4.6						
ASF	**Jabal al Asfar**	**61.31**	**306**	P	**P**	**07 12 12.9**	**+1.3**
	2.6nm,0.6s,baz=68,slow=5.4,SNR=5.5						
KBZ	**Khabaz**	**61.34**	**320**	P	**P**	**07 12 12.1**	**+0.7**
	6.5nm,0.8s,baz=113,slow=7.7,SNR=8.0						
MMAI	**Mount Meron Ar**	**62.16**	**306**	P	**P**	**07 12 22.3**	**+1.0**
	3.9nm,0.6s,baz=80,slow=8.9,SNR=4.8						
BRTR	**Keskin Array B**	**66.15**	**313**	P	**P**	**07 12 42.9**	**-0.6**
	2.1nm,0.8s,baz=115,slow=5.6,SNR=5.5						
IDI	**Anoyia**	**71.77**	**306**	P	**P**	**07 13 19.2**	**+0.9**
	7.4nm,0.5s,baz=70,slow=9.9,SNR=6.0						
AKASG	**Malin Array Be**	**72.64**	**323**	P	**P**	**07 13 22.4**	**-0.7**
	0.6nm,0.5s,baz=89,slow=5.1,SNR=5.8						
MLR	**Muntele Rosu**	**73.24**	**317**	P	**P**	**07 13 27.8**	**+0.8**
	1.5nm,0.6s,baz=138,slow=6.3,SNR=6.6						
FINES	**FINESS Array B**	**77.80**	**333**	P	**P**	**07 13 51.9**	**-0.7**
	1.0nm,0.5s,baz=95,slow=6.1,SNR=6.5						
ARCES	**ARCESS Array B**	**80.71**	**341**	P	**P**	**07 14 08.8**	**+0.5**
	2.2nm,0.9s,baz=95,slow=5.4,SNR=5.6						
GERES	**GERESS Array B**	**82.05**	**319**	P	**P**	**07 14 16.9**	**+0.9**
	3.9nm,0.6s,baz=101,slow=5.1,SNR=8.5						
TORD	**Torodi Ar. Bea**	**91.67**	**283**	P	**P**	**07 15 04.8**	**+1.2**
	0.6nm,0.5s,baz=85,slow=4.2,SNR=4.0						

IDC ***12*** *07:05:59.2±0.5, 28°.93N×112°.98W, h0km, mb4.9/36, mb1 4.9/44, mb1mx4.8/65, mbtmp4.8/44, ML4.1/7, MS5.8/3, Ms1 5.8/3, ms1mx4.5/58, Error ellipse: s-maj=12.3km s-min=7.5km az=40.0*

MOS ***12*** *07:05:59.5±1.2, 28°.94N×113°.01W, h10km, mb5.5/62, MS6.0/30, Error ellipse: s-maj=6.0km s-min=3.7km az=90.9*

MEX ***12*** *07:05:59.5±0.3, 28°.80N×113°.41W, h15km, MD6.0*

BJI ***12*** *07:06:00.5, 28°.83N×113°.08W, h22km, mb5.4/12, mB5.9/18, Ms6.2/8, Ms7 6.2/13*

GCMT ***12*** *07:06:00.6±0.2, 28°.90N×113°.09W, h16km±1km, MW6.1/105, Moment Tensor Solution. s105,c166; s63,c111; Duration: 2s7 Moment tensor: Scale 10¹⁸Nm; Mrr=0.28±.03; Mθθ=1.30±.03; Mϕϕ 1.58±.03; Mrθ=0.47±.10; Mθϕ=0.04±.03; Mϕr=0.66±.11; Best double couple: M₀1.65100×10¹⁸ NP1:ϕs42.00000°, δ86.00000°, λ=30.00000°. NP2:ϕs134.00000°, δ60.00000°, λ=176.00000°. Principal axes: T 1.7910, Plg18.0000°, Azm92.0000°; N =0.2800, Plg60.0000°, Azm216.0000°; P =1.5120, Plg24.0000°, Azm354.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***12*** *07:06:00.6±0.2, 28°.84N×113°.03W, h9km, mb5.3/229, ME5.8, MS6.0/278, MW6.0, MD6.0(MEX) Error ellipse: s-maj=3.5km s-min=2.2km az=215.0, Moment Tensor Solution. s23 Moment tensor: Scale 10¹⁸Nm; Mrr=0.06; Mθθ=1.20; Mϕϕ 1.26; Mrθ=0.12; Mθϕ=0.02; Mϕr=0.30; Best double couple: M₀1.30000×10¹⁸ NP1:ϕs134.00000°, δ77.00000°, λ176.00000°. NP2:ϕs225.00000°, δ86.00000°, λ13.00000°. Principal axes: T 1.3300, Plg12.0000°, Azm90.0000°; N -0.1100, Plg76.0000°, Azm241.0000°; P -1.2100, Plg7.0000°, Azm359.0000°; Broadband fault plane solution: P waves. NP1:ϕs135.00000°, δ85.00000°, λ175.00000°. NP2:ϕs225.00000°, δ85.00000°, λ5.00000°. Principal axes: T Plg7.0000°, Azm90.0000°; N Plg0.0000°, Azm0.0000°; P Plg0.0000°, Azm180.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*

NEIC Felt [IV] at Guaymas and Hermosillo, Sonora. Also felt at Guerrero Negro, Baja California Sur and at San Luis, Baja California.

ISCJB ***12*** *07:06:00.1±0.2, 28°.91N±0°.02×112°.97W±0°.01, h17km, mb5.3/217, MS6.4/501 Error ellipse: s-maj=2.7km s-min=1.4km az=28.8*

ISC 12 07:06:01.4±0.3, 28°.86N±0°.04×113°.06W±0°.04, h17km, n1499, σ1s34/1190, mb5.3/217, MS6.3/503, 6C-15D, Baja California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SRIG	**Santa Rosalia**	**1.69**	**155**	*i* P	**Pn**	**07 06 26.7**	**-3.5**
SRIG				*e*S	**Sn**	**07 06 47.6**	**-3.8**
SRIG	**Santa Rosalia**	**1.69**	**155**	*e*Pn	**Pn**	**07 06 26.6**	**-3.5**
SRIG				*e*Sn	**Sn**	**07 06 47.6**	**-3.8**
HSIG		**1.86**	**85**	*e*P	**Pn**	**07 06 28.7**	**-3.7**
HSIG				*i* S	**Sb**	**07 06 57.8**	**-0.1**
HSIG		**1.86**	**85**	*e*Pn	**Pn**	**07 06 29.4**	**-3.0**
GUYB	**Guaymas**	**2.15**	**116**	*i* P	**Pn**	**07 06 33.0**	**-3.4**
GUYB				*e*S	Sn	07 06 43.4	-19
214A	**Organ Pipe Nat**	**3.10**	**4**	P	Pn	07 06 44.3	-5.2
	baz=184,SNR=248						
113A	**Mohawk Valley,**	**3.94**	**351**	*e*Pn	**Pn**	**07 06 56.8**	**-4.4**
TUC	**Tucson**	**3.96**	**29**	P	**Pn**	**07 06 58.1**	**-3.4**
	baz=210						
TUC	**Tucson**	**3.96**	**29**	*e*Pn	**Pn**	**07 06 58.5**	**-2.9**
TUC	**Tucson**	**3.96**	**29**	*e*P	**Pn**	**07 06 58.6**	**-2.9**
319A	**Douglas**	**4.12**	**52**	*e*Pn	**Pn**	**07 06 60.0**	**-3.8**
GLA	**Glamis**	**4.45**	**340**	P	**Pn**	**07 07 04.8**	**-3.3**
	baz=159,SNR=23						
GLA	**Glamis**	**4.45**	**340**	*e*Pn	**Pn**	**07 07 04.4**	**-3.7**
GLA	**Glamis**	**4.45**	**340**	*e*P	**Pn**	**07 07 04.4**	**-3.7**
IKP	**In-Ko-Pah, Jac**	**4.60**	**326**	P	**Pn**	**07 07 06.5**	**-3.8**
	baz=144,SNR=11						
SWSC	**Sam W. Stewart**	**4.71**	**331**	P	**Pn**	**07 07 08.3**	**-3.3**
	baz=149						
BAR	**Barrett**	**4.92**	**322**	*e*Pn	**Pn**	**07 07 15.9**	**+1.4**
MONP2	**Monument Peak**	**4.95**	**325**	P	**Pn**	**07 07 11.7**	**-3.5**
	baz=143,SNR=18						
Y12C	**Blythe**	**5.04**	**346**	P	**Pn**	**07 07 12.8**	**-3.3**
	baz=165,SNR=25						
Y12C	**Blythe**	**5.04**	**346**	*e*Pn	**Pn**	**07 07 13.4**	**-2.7**
Y14A	**Wickenburg**	**5.07**	**1**	*e*Pn	**Pn**	**07 07 13.6**	**-3.1**
BC3	**Big Chuckawall**	**5.20**	**337**	P	**Pn**	**07 07 15.3**	**-3.2**
	baz=156,SNR=42						
109C	**Camp Elliot, M**	**5.31**	**320**	P	**Pn**	**07 07 16.8**	**-3.2**
	baz=138,SNR=17						
CPE	**Camp Elliot**	**5.31**	**320**	*e*Pn	**Pn**	**07 07 21.6**	**+1.7**
LPIG	**La Paz**	**5.34**	**152**	Pn	**Pn**	**07 07 20.5**	**+0.1**
	22nm,0.3s,baz=304,slow=2.4,SNR=15						
LPIG				Lg	Lg	07 08 54.2	
	43nm,0.3s,baz=270,slow=20,SNR=3.1						
LPIG				LR	LR	07 09 24.8	
	comp=Z,59µm,18.8s,baz=336,slow=38						
PDMCI	**Parker Dam,Lak**	**5.51**	**351**	P	**Pn**	**07 07 19.9**	**-2.7**
	baz=170,SNR=77						
XPFO	**Piæon Flat**	**5.56**	**329**	*e*Pn	**Pn**	**07 07 19.8**	**-3.6**
PFO	**Pinyon Flats O**	**5.56**	**329**	P	**Pn**	**07 07 20.0**	**-3.5**
	baz=148,SNR=16						
PFO	**Pinyon Flats O**	**5.56**	**329**	*e*Pn	**Pn**	**07 07 19.7**	**-3.8**
PFO	**Pinyon Flats O**	**5.56**	**329**	*e*P	**Pn**	**07 07 19.7**	**-3.8**
IRM	**Iron Mountain**	**5.58**	**342**	P	**Pn**	**07 07 20.8**	**-2.8**
	baz=161,SNR=48						
BELC	**Belle Mtn. Jos**	**5.71**	**335**	P	**Pn**	**07 07 23.3**	**-2.2**
	baz=153						
X16A	**Mina Camp, P**	**5.71**	**14**	*e*Pn	**Pn**	**07 07 23.5**	**-2.1**
121A	**Cookes Peak, D**	**5.83**	**50**	P	**Pn**	**07 07 25.1**	**-2.2**
	baz=232,SNR=36						
SLBS	**Sierra La Lagu**	**5.86**	**151**	*e*Pn	**Pn**	**07 07 27.2**	**-0.4**
MURC	**Murrieta**	**5.91**	**324**	P	**Pn**	**07 07 25.1**	**-3.0**
	baz=142,SNR=11						
NEE2	**Needles Airpor**	**6.04**	**348**	P	**Pn**	**07 07 27.0**	**-3.0**
	baz=167,SNR=20						
X18A	**Snowflake**	**6.24**	**24**	*e*Pn	**Pn**	**07 07 31.5**	**-1.4**
SCI2	**San Clemente I**	**6.25**	**312**	P	**Pn**	**07 07 30.3**	**-2.6**
	baz=130						
W13A	**Hualapai Mount**	**6.26**	**354**	*e*Pn	**Pn**	**07 07 30.9**	**-2.3**
GMRC	**Granite Mounta**	**6.31**	**340**	P	**Pn**	**07 07 32.3**	**-1.4**
	baz=159						
BBRC	**Big Bear Solar**	**6.32**	**330**	P	**Pn**	**07 07 32.7**	**-1.3**
	baz=148						
EPT	**El Paso**	**6.37**	**61**	*e*Pn	**Pn**	**07 07 32.0**	**-2.5**
LDFC	**Landfair**	**6.44**	**345**	*e*Pn	**Pn**	**07 07 37.2**	**+1.6**
CIS	**Catalina Islan**	**6.45**	**316**	P	**Pn**	**07 07 32.3**	**-3.2**
	baz=133						
HEC	**Hector,Ludlow**	**6.57**	**336**	P	**Pn**	**07 07 35.8**	**-1.5**
	baz=154						
FMP	**Fort Macarthur**	**6.59**	**319**	P	**Pn**	**07 07 33.3**	**-4.2**
	baz=136						
BFSC	**Mount Baldy Ra**	**6.65**	**325**	P	**Pn**	**07 07 36.5**	**-1.9**
	baz=143,SNR=10						
WUAZ	**Wupatki**	**6.79**	**12**	P	**Pn**	**07 07 39.5**	**-1.0**
	baz=192,SNR=70						
WUAZ	**Wupatki**	**6.79**	**12**	*e*Pn	**Pn**	**07 07 39.2**	**-1.2**
HPIG		**6.82**	**105**	*e*P	**Pn**	**07 07 41.4**	**+0.5**
HPIG		**6.82**	**105**	*e*Pn	**Pn**	**07 07 41.4**	**+0.5**
MWC	**Mount Wilson**	**6.84**	**323**	*e*Pn	**Pn**	**07 07 42.6**	**+1.5**
MWC	**Mount Wilson**	**6.84**	**323**	*e*P	**Pn**	**07 07 42.6**	**+1.5**
W18A	**Petrified Fore**	**6.85**	**23**	P	**Pn**	**07 07 40.5**	**-0.7**
	baz=205,SNR=30						
W18A	**Petrified Fore**	**6.85**	**23**	*e*Pn	**Pn**	**07 07 40.5**	**-0.7**
PASC	**Pasadena Art C**	**6.87**	**322**	*e*Pn	**Pn**	**07 07 42.5**	**+1.2**
RRX	**Edison Barstow**	**6.87**	**332**	P	**Pn**	**07 07 40.7**	**-0.6**
	baz=150						
TUQ	**Turquoise Moun**	**6.99**	**340**	P	**Pn**	**07 07 42.7**	**-0.5**
	baz=159						
DECC	**Green Verdugo**	**7.01**	**321**	P	**Pn**	**07 07 42.5**	**-0.9**
	baz=139						
SNCC	**San Nicolas Is**	**7.06**	**310**	P	**Pn**	**07 07 41.3**	**-2.8**
	baz=127						
SNCC	**San Nicolas Is**	**7.06**	**310**	*e*Pn	**Pn**	**07 07 45.4**	**+1.4**
GSC	**Goldstone, Bar**	**7.17**	**335**	P	**Pn**	**07 07 44.8**	**-0.7**
	baz=153,SNR=14						
GSC	**Goldstone, Bar**	**7.17**	**335**	*e*Pn	**Pn**	**07 07 46.0**	**+0.5**
GSC	**Goldstone, Bar**	**7.17**	**335**	*e*P	**Pn**	**07 07 46.0**	**+0.5**
MNTX	**Cornudas Mount**	**7.22**	**65**	P	**Pn**	**07 07 45.3**	**-0.9**
	baz=248,SNR=69						
MNTX	**Cornudas Mount**	**7.22**	**65**	*e*Pn	**Pn**	**07 07 43.8**	**-2.4**
EDW2	**Edwards Air Fo**	**7.33**	**326**	P	**Pn**	**07 07 47.1**	**-0.5**
	baz=153						
BLG	**Laguna Peak, P**	**7.33**	**317**	P	**Pn**	**07 07 45.8**	**-1.9**
	baz=134						
Y22D	**IRIS PASSCAL I**	**7.38**	**44**	P	**Pn**	**07 07 47.4**	**-1.1**
	baz=226,SNR=12						
Y22D	**IRIS PASSCAL I**	**7.38**	**44**	*e*Pn	**Pn**	**07 07 48.4**	**-0.2**
Y22E	**IRIS PASSCAL I**	**7.38**	**44**	P	**Pn**	**07 07 47.8**	**-0.7**
	baz=226						
LENM	**Lemitar**	**7.41**	**43**	*e*Pn	**Pn**	**07 07 49.2**	**+0.2**
LENM				*e*Lg	Lg	07 09 58.8	
LAZ	**Ladron**	**7.48**	**41**	*e*Pn	**Pn**	**07 07 49.3**	**-0.6**
OSI	**Osito Audit: C**	**7.50**	**321**	P	**Pn**	**07 07 47.5**	**-2.5**
	baz=138						
SHOC	**Shoshone, Teco**	**7.53**	**340**	P	**Pn**	**07 07 48.1**	**-2.3**
	baz=158,SNR=7.6						
U15A	**North Rim**	**7.58**	**5**	*e*Pn	**Pn**	**07 07 50.4**	**-1.0**
SCZ2	**Santa Cruz Isl**	**7.60**	**314**	P	**Pn**	**07 07 49.5**	**-1.9**
	baz=131						
BNM	**Barren Site**	**7.61**	**45**	*e*Pn	**Pn**	**07 07 50.3**	**-1.5**
LRMC	**Laurel Mtn Rad**	**7.68**	**330**	P	**Pn**	**07 07 51.8**	**-0.8**
	baz=148,SNR=9.6						
LPM	**Los Pinos Moun**	**7.72**	**44**	*e*Pn	**Pn**	**07 07 54.2**	**+1.0**
SHPR	**Sheep Range**	**7.83**	**347**	*e*Pn	**Pn**	**07 07 52.9**	**-1.7**
ARVC	**Arvin**	**7.94**	**323**	P	**Pn**	**07 07 55.3**	**-0.7**
	baz=140,SNR=31						
SBC	**Santa Barbara**	**7.95**	**316**	P	**Pn**	**07 07 53.9**	**-2.2**
	baz=133						
MPMC	**Manual Prospec**	**8.10**	**334**	P	**Pn**	**07 07 57.6**	**-0.8**
	baz=151,SNR=33						
LCMT	**Little Creek M**	**8.13**	**359**	*e*Pn	**Pn**	**07 07 56.9**	**-1.9**
KNB	**Kanab**	**8.14**	**1**	*e*Pn	**Pn**	**07 07 58.0**	**-0.8**
KNB	**Kanab**	**8.14**	**1**	*e*P	**Pn**	**07 07 58.1**	**-0.8**
ISA	**Isabella, Lake**	**8.19**	**327**	P	**Pn**	**07 07 59.1**	**-0.4**
	baz=144,SNR=18						
ISA	**Isabella, Lake**	**8.19**	**327**	*e*Pn	**Pn**	**07 08 00.3**	**+0.8**
ISA	**Isabella, Lake**	**8.19**	**327**	*e*P	**Pn**	**07 08 00.3**	**+0.8**
GDL2	**Guadalupe Moun**	**8.21**	**64**	*e*Pn	**Pn**	**07 08 00.3**	**+0.5**
TX31	**Lajitas Ar. Si**	**8.23**	**84**	*e*Pn	**Pn**	**07 07 58.8**	**-1.3**
LTX	**Lajitas**	**8.23**	**84**	*e*Pn	**Pn**	**07 07 58.1**	**-2.0**
LTX				*e*Sn	**Sn**	**07 09 31.6**	**-1.2**
LTX				*e*Lg	Lg	07 10 21.9	
LTX	**Lajitas**	**8.23**	**84**	*e*P	**Pn**	**07 07 58.1**	**-2.0**
LTX				*e*		07 09 31.6	
TXAR	**Lajitas Array**	**8.23**	**84**	Pn	**Pn**	**07 07 58.1**	**-2.0**
	15nm,0.3s,baz=254,slow=13,SNR=151						
TXAR				Sn	**Sn**	**07 09 31.6**	**-1.2**
	baz=296,slow=15,SNR=2.1						
TXAR				Lg	Lg	07 10 21.9	
	6.4nm,0.3s,baz=270,slow=31,SNR=3.1						
FURC	**Furnace Creek,**	**8.24**	**338**	P	**Pn**	**07 08 00.2**	**+0.2**
	baz=156						
ANMO	**Albuquerque**	**8.27**	**41**	Pn	**Pn**	**07 07 58.8**	**-1.9**
	2.1nm,0.3s,baz=46,slow=13,SNR=32						
ANMO				Sn	**Sn**	**07 09 32.9**	**-0.9**
	3.5nm,0.3s,baz=39,slow=14,SNR=3.6						
ANMO				Lg	Lg	07 10 24.6	
	16nm,0.3s,baz=151,slow=19,SNR=6.8						
ANMO	**Albuquerque**	**8.27**	**41**	P	**Pn**	**07 08 00.9**	**+0.3**
	baz=224						
ANMO	**Albuquerque**	**8.27**	**41**	*e*Pn	**Pn**	**07 07 59.0**	**-1.7**
ANMO	**Albuquerque**	**8.27**	**41**	*e*P	**Pn**	**07 07 59.8**	**-0.9**
PKM	**Mcpherson Peak**	**8.31**	**318**	P	**Pn**	**07 07 59.7**	**-1.7**
	baz=135,SNR=13						
DAC	**Darwin (Calif)**	**8.33**	**334**	*e*Pn	**Pn**	**07 08 03.4**	**+1.9**
DAC	**Darwin (Calif)**	**8.33**	**334**	*e*P	**Pn**	**07 08 03.4**	**+1.9**
TPNV	**Topopah Spring**	**8.50**	**342**	P	**Pn**	**07 08 03.9**	**0.0**
	baz=161						
TPNV	**Topopah Spring**	**8.50**	**342**	*e*Pn	**Pn**	**07 08 02.8**	**-1.1**
TPNV	**Topopah Spring**	**8.50**	**342**	*e*P	**Pn**	**07 08 02.8**	**-1.1**
PKCU	**Pink Cliffs**	**8.59**	**4**	*e*Pn	**Pn**	**07 08 06.2**	**+1.0**
VES	**Vestal, Richgr**	**8.63**	**325**	P	**Pn**	**07 08 04.1**	**-1.4**
	baz=142,SNR=14						
CWC	**Cottonwood Cre**	**8.66**	**332**	P	**Pn**	**07 08 04.3**	**-1.8**
	baz=149						
CCUT	**Cedar City**	**8.67**	**358**	*e*Pn	**Pn**	**07 08 06.3**	**0.0**
SZCU	**Shurtz Canyon**	**8.71**	**360**	*e*Pn	**Pn**	**07 08 07.8**	**+0.9**
SMMC	**Simmler**	**8.72**	**319**	P	**Pn**	**07 08 06.3**	**-0.5**
	baz=136,SNR=28						
GRAC	**Grapevine Rang**	**8.88**	**337**	P	**Pn**	**07 08 08.4**	**-0.6**
	baz=155,SNR=7.6						
RCTC	**Rector, Farmer**	**9.07**	**327**	P	**Pn**	**07 08 11.2**	**-0.3**
	baz=143,SNR=29						
PAGB	**Antelope Grade**	**9.16**	**320**	*e*Pn	**Pn**	**07 08 13.1**	**+0.3**
MVCO	**Mesa Verde**	**9.16**	**23**	P	**Pn**	**07 08 12.4**	**-0.6**
	baz=206,SNR=37						
MVCO	**Mesa Verde**	**9.16**	**23**	*e*Pn	**Pn**	**07 08 13.5**	**+0.4**
MTPU	**Mount Pierson**	**9.19**	**4**	*e*Pn	**Pn**	**07 08 14.0**	**+0.5**
TIN	**Tinemaha, Big**	**9.25**	**333**	P	**Pn**	**07 08 13.8**	**-0.3**
	baz=151						
MSU	**Marysvale**	**9.66**	**4**	*e*Pn	**Pn**	**07 08 21.1**	**+1.4**
MSU	**Marysvale**	**9.66**	**4**	*e*P	**Pn**	**07 08 21.2**	**+1.4**
R11A	**Troy Canyon, C**	**9.70**	**348**	P	**Pn**	**07 08 21.1**	**+0.8**
	baz=167,SNR=50						
R11A	**Troy Canyon, C**	**9.70**	**348**	*e*Pn	**Pn**	**07 08 18.8**	**-1.5**
TCRU	**Three Creeks R**	**9.74**	**3**	*e*Pn	**Pn**	**07 08 21.5**	**+0.5**
PMPB	**Monarch Peak**	**9.82**	**320**	*e*Pn	**Pn**	**07 08 24.4**	**+2.5**
PV01	**Paradox Valley**	**9.98**	**21**	*e*Pn	**Pn**	**07 08 25.6**	**+1.4**
MLAC	**Mammoth, Mammo**	**9.99**	**333**	P	**Pn**	**07 08 25.7**	**+1.3**
	baz=149						
PV10	**Paradox Valley**	**10.07**	**18**	*e*Pn	**Pn**	**07 08 23.2**	**-2.2**
MDPB	**Devils Postpil**	**10.10**	**332**	*e*Pn	**Pn**	**07 08 26.3**	**+0.5**
PV04	**Paradox Valley**	**10.12**	**19**	*e*Pn	**Pn**	**07 08 25.4**	**-0.7**
PV09	**Paradox Valley**	**10.15**	**18**	*e*Pn	**Pn**	**07 08 27.1**	**+0.4**
Q16A	**Castle Valley**	**10.15**	**8**	*e*Pn	**Pn**	**07 08 27.8**	**+1.2**
MSTX	**Muleshoe**	**10.16**	**57**	P	**Pn**	**07 08 27.0**	**+0.5**
	baz=242,SNR=36						
MSTX	**Muleshoe**	**10.16**	**57**	*e*Pn	**Pn**	**07 08 27.9**	**+1.4**
PV15	**Paradox Valley**	**10.20**	**21**	*e*Pn	**Pn**	**07 08 28.3**	**+1.1**
PV07	**Paradox Valley**	**10.24**	**20**	*e*Pn	**Pn**	**07 08 28.1**	**+0.4**
S22A	**4UR Ranch, Cre**	**10.28**	**29**	P	**Pn**	**07 08 29.0**	**+0.6**
	baz=212,SNR=39						
S22A	**4UR Ranch, Cre**	**10.28**	**29**	*e*Pn	**Pn**	**07 08 28.9**	**+0.6**
SRU	**San Rafael Swe**	**10.44**	**11**	*e*Pn	**Pn**	**07 08 31.7**	**+1.2**
SRU	**San Rafael Swe**	**10.44**	**11**	*e*P	**Pn**	**07 08 31.7**	**+1.2**
NV11	**Mina Array Sit**	**10.45**	**337**	*e*Pn	**Pn**	**07 08 30.9**	**+0.4**
NV01	**Mina Array Sit**	**10.50**	**337**	*e*Pn	**Pn**	**07 08 31.2**	**-0.1**
NVAR	**Mina Array Bea**	**10.50**	**337**	Pn	**Pn**	**07 08 33.6**	**+2.3**
	baz=160,slow=15,SNR=23						
TMUT	**Trail Mountain**	**10.52**	**8**	*e*Pn	**Pn**	**07 08 32.0**	**+0.3**
P17A	**Butcher Ranch,**	**10.76**	**10**	*e*Pn	**Pn**	**07 08 37.2**	**+2.3**
MHTCO	**State Highway**	**10.83**	**38**	*e*Pn	**Pn**	**07 08 37.0**	**+1.2**
SDCO	**Great Sand Dun**	**10.88**	**34**	P	**Pn**	**07 08 39.3**	**+2.7**
	baz=217						
SDCO	**Great Sand Dun**	**10.88**	**34**	*e*Pn	**Pn**	**07 08 38.5**	**+1.8**
WAKR	**Walker**	**10.99**	**333**	*e*Pn	**Pn**	**07 08 39.1**	**+1.1**
T25A	**Trinidad**	**10.99**	**39**	P	**Pn**	**07 08 39.3**	**+1.3**
	baz=224						
T25A	**Trinidad**	**10.99**	**39**	*e*Pn	**Pn**	**07 08 39.0**	**+1.0**
KVN	**Kaiserville**	**10.99**	**339**	*e*Pn	**Pn**	**07 08 38.9**	**+0.9**
KVN	**Kaiserville**	**10.99**	**339**	*e*P	**Pn**	**07 08 38.9**	**+0.9**
P18A	**Preston Nutter**	**10.99**	**11**	*e*Pn	**Pn**	**07 08 39.3**	**+1.2**
CMB	**Columbia Colle**	**11.00**	**328**	*e*Pn	**Pn**	**07 08 38.7**	**+0.6**
CMB	**Columbia Colle**	**11.00**	**328**	*e*P	**Pn**	**07 08 38.7**	**+0.6**
NLU	**North Lily Min**	**11.10**	**4**	*e*Pn	**Pn**	**07 08 39.1**	**-0.4**
MPU	**Maple Canyon**	**11.19**	**6**	*e*Pn	**Pn**	**07 08 40.7**	**-0.1**
RDG13	**Poverty Ridge**	**11.22**	**322**	*e*Pn	**Pn**	**07 08 41.1**	**0.0**
ZAIG	**Zacatecas**	**11.23**	**120**	*e*Pn	Pn	07 08 47.4	+6.0
DUG	**Dugway, Tooele**	**11.31**	**1**	P	**Pn**	**07 08 44.3**	**+2.0**
	baz=181,SNR=35						
DUG	**Dugway, Tooele**	**11.31**	**1**	*e*Pn	**Pn**	**07 08 42.6**	**+0.2**
DUG

comp=Z,86nm,1.4s
HKT **Hockley** 15.06 82 *e*Pn Pn 07 09 31.9 -1.4
comp=Z,314nm,1.5s
HKT **Hockley** 15.06 82 *e*P Pn 07 09 31.9 -1.4
HKT pmax pmax
comp=Z,314nm,1.5s
OGNE **Ogallala** 15.06 34 P Pn 07 09 33.6 +0.2
baz=220,SNR=11
OGNE **Ogallala** 15.06 34 *e*Pn Pn 07 09 34.3 +0.9
comp=Z,279nm,1.1s
IMW **Indian Meadow** 15.11 6 *e*Pn Pn 07 09 36.3 +2.0
comp=Z,113nm,1.0s
J08A **Circle Bar Ran** 15.11 345 *e*Pn Pn 07 09 33.7 -0.4
comp=Z,413nm,1.9s
K05A **Summer Lake** 15.22 338 *e*Pn Pn 07 09 37.5 +1.8
comp=Z,594nm,1.4s
K04D **Chiloquin, OR** 15.43 335 P Pn 07 09 39.1 +0.7
baz=150
YPP **Pitchstone Pla** 15.49 6 *e*Pn Pn 07 09 39.2 -0.1
comp=Z,184nm,1.5s
H17A **Grant Village** 15.63 7 P Pn 07 09 42.7 +1.5
baz=188,SNR=29
H17A **Grant Village** 15.63 7 *e*Pn Pn 07 09 41.3 +0.2
comp=Z,214nm,1.6s
YFT **Old Faithful** 15.66 6 *e*Pn Pn 07 09 41.1 -0.4
comp=Z,119nm,1.2s
L02D **Cave Junction,** 15.79 330 P Pn 07 09 43.0 +0.1
baz=144
UNM **Universidad Na** 15.82 124 *e*Pn Pn 07 09 45.0 +1.4
comp=Z,738nm,1.9s
UNM **Universidad Na** 15.82 124 *e*P Pn 07 09 45.1 +1.4
UNM pmax pmax
comp=Z,738nm,1.9s
J05D **Fort Rock, OR** 15.83 338 P Pn 07 09 43.3 -0.3
baz=153,SNR=39
YMR **Madison River** 15.87 5 *e*Pn Pn 07 09 45.9 +1.7
comp=Z,233nm,1.5s
HUMO **Hull Mountain** 15.88 332 *e*Pn Pn 07 09 44.5 +0.3
comp=Z,140nm,1.8s
YHB **Horse Butte** 15.93 5 *e*Pn P 07 09 46.8 -1.7
comp=Z,131nm,1.3s
MCMT **McKenzie Canyo** 15.94 1 *e*Pn Pn 07 09 46.2 +1.1
QLMT **Earthquake Lak** 15.99 4 *e*Pn Pn 07 09 47.0 +1.3
YHH **Holmes Hill** 16.00 6 *e*Pn Pn 07 09 46.2 +0.4
comp=Z,150nm,1.4s
I07A **Izee** 16.04 343 *e*Pn Pn 07 09 46.9 +0.6
comp=Z,196nm,1.5s
J04D **Umpqua Nationa** 16.09 336 P Pn 07 09 47.0 0.0
baz=150
NATX **Nacogdoches** 16.15 75 P Pn 07 09 46.8 -0.8
baz=264,SNR=8.1
NATX **Nacogdoches** 16.15 75 *e*Pn P 07 09 49.2 -1.5
comp=Z,407nm,1.4s
TUL1 **Leonard** 16.18 60 P Pn 07 09 46.1 -1.9
baz=249,SNR=49
TUL1 **Leonard** 16.18 60 *e*Pn Pn 07 09 46.3 -1.7
comp=Z,221nm,1.0s
PINE **Pine Mountain** 16.19 339 *e*Pn P 07 09 50.8 -0.6
comp=Z,318nm,1.5s
BMO **Blue Mountains** 16.32 349 *e*Pn Pn 07 09 49.7 -0.1
comp=Z,344nm,1.8s
BMO **Blue Mountains** 16.32 349 *e*P Pn 07 09 49.7 -0.1
BMO pmax pmax
comp=Z,344nm,1.8s
DLMT **Dillon** 16.48 1 *e*Pn Pn 07 09 49.7 -2.1
comp=Z,228nm,1.5s
RLMT **Red Lodge** 16.51 9 P Pn 07 09 53.3 +0.9
baz=192,SNR=42
RLMT **Red Lodge** 16.51 9 *e*Pn Pn 07 09 53.0 +0.6
comp=Z,253nm,1.4s
KEBM **Edson Butte** 16.68 330 *e*Pn P 07 09 56.0 -0.7
comp=Z,215nm,1.1s
I04A **Tendick Farm,** 16.68 336 P Pn 07 09 55.2 +0.9
baz=150
BOZ **Bozeman (W)** 16.75 3 P P 07 09 57.2 -0.2
baz=184,SNR=28
BOZ **Bozeman (W)** 16.75 3 *e*Pn P 07 09 56.8 -0.7
comp=Z,156nm,1.4s
BOZ **Bozeman (W)** 16.75 3 *e*P P 07 09 56.8 -0.7
BOZ pmax pmax
comp=Z,156nm,1.4s
I05D **Terrebonne, OR** 16.80 339 P P 07 09 57.8 -0.2
baz=154,SNR=18
RSSD **Black Hills** 16.85 23 P Pn 07 09 57.2 +0.5
baz=208
RSSD **Black Hills** 16.85 23 *e*Pn P 07 09 57.9 -0.8
comp=Z,127nm,1.3s
RSSD **Black Hills** 16.85 23 *e*P P 07 09 57.9 -0.8
RSSD pmax pmax
comp=Z,127nm,1.3s
240A **Hunter Patters** 16.94 74 P Pn 07 09 56.9 -0.7
baz=264
LRM **Limekiln Ridge** 16.94 1 *e*Pn Pn 07 09 57.3 -0.5
O33A **Hebron** 16.95 45 P Pn 07 09 56.7 -1.0
baz=233,SNR=16
I03D **Drain, OR** 16.95 334 P Pn 07 09 57.2 -0.5
baz=148
KSU1 **Kansas State U** 17.02 49 P Pn 07 09 57.9 -0.7
baz=238,SNR=34
KSU1 **Kansas State U** 17.02 49 *e*Pn Pn 07 09 57.3 -1.3
comp=Z,478nm,0.9s
G08A **Pilot Rock** 17.05 346 *e*Pn Pn 07 09 58.4 -0.7
comp=Z,208nm,1.6s
X39A **Fountain Ranch** 17.07 66 P Pn 07 09 58.7 -0.6
baz=256,SNR=30
GCMT **Greycliff** 17.11 8 *e*Pn Pn 07 10 00.4 +0.5
140A **Cam and Jess,** 17.17 72 P Pn 07 10 00.1 -0.3
baz=262,SNR=11
441A **DeRidder** 17.35 79 P Pn 07 10 02.4 -0.4
baz=269,SNR=12
541A **Lake Charles** 17.35 81 P Pn 07 10 02.8 +0.1
baz=271
H04A **Detroit Lake** 17.39 338 *e*Pn P 07 10 03.9 -0.6
comp=Z,150nm,1.3s
341A **Kurthwood** 17.39 77 P Pn 07 10 02.2 -1.1
baz=267,SNR=34
F10A **Beach Ranch, E** 17.40 350 *e*P P 07 10 05.2 +0.6
comp=Z,180nm,1.5s
Z40A **Long Farm, Mag** 17.40 70 P Pn 07 10 02.5 -0.9
baz=260
G06A **Carlson Farm,** 17.41 342 *e*Pn P 07 10 04.5 -0.2
comp=Z,202nm,1.4s
N33A **J Bar K, Exete** 17.43 43 P Pn 07 10 03.4 -0.3
baz=232
BGNE **Belgrade** 17.45 40 P P 07 10 05.0 -0.1
baz=229
BGNE **Belgrade** 17.45 40 *e*Pn Pn 07 10 03.2 -0.7
comp=Z,404nm,1.4s
MIAR **Mount Ida** 17.51 66 P Pn 07 10 05.1 +0.4
baz=256,SNR=22
MIAR **Mount Ida** 17.51 66 *e*Pn Pn 07 10 04.0 -0.8
comp=Z,84nm,1.0s
MIAR **Mount Ida** 17.51 66 *e*P Pn 07 10 04.0 -0.8
MIAR pmax pmax
comp=Z,84nm,1.0s
W39A **Magazine** 17.51 64 P Pn 07 10 04.2 -0.6
baz=254,SNR=10
O34A **Beatrice** 17.56 46 P P 07 10 06.0 -0.3
baz=235,SNR=12
G05D **Wamic, OR** 17.61 340 P Pn 07 10 05.9 -0.1
baz=155,SNR=15
Y40A **Okolona** 17.64 68 P Pn 07 10 04.6 -1.7
baz=258
241A **Mo Tay, Goldon** 17.65 75 P Pn 07 10 05.4 -1.0
baz=265,SNR=26
LVIG **Laguna Verde** 17.67 117 *e*P P 07 10 08.7 +1.0
comp=Z,61nm,1.0s
COR **Corvallis** 17.69 335 *e*Pn P 07 10 08.1 +0.4
comp=Z,277nm,1.5s
COR **Corvallis** 17.69 335 *e*P P 07 10 08.1 +0.4
COR pmax pmax
comp=Z,277nm,1.5s
WLAR **White Oak Lake** 17.71 69 *e*Pn P 07 10 08.3 +0.3
comp=Z,258nm,1.0s
T38A **Diamond** 17.72 58 P Pn 07 10 06.4 -0.9
baz=248,SNR=64
HHAR **Hobbs** 17.72 60 *e*Pn Pn 07 10 05.2 -2.1
comp=Z,106nm,1.1s
141A **Papa Simpson,** 17.72 73 P Pn 07 10 07.0 -0.3
baz=263,SNR=17
V39A **Pettigrew** 17.80 62 P Pn 07 10 08.1 -0.3
baz=252,SNR=37
F07A **Phinny Hill Vi** 17.85 344 *e*Pn P 07 10 09.5 0.0
comp=Z,530nm,1.8s
HRY **Holter Researc** 17.85 3 *e*P P 07 10 10.7 +1.1
Z41A **Richland Creek** 17.90 71 P Pn 07 10 09.2 -0.4
baz=261,SNR=19
542A **Morse** 17.90 81 P Pn 07 10 09.2 -0.4
baz=271
L32A **Elgin** 17.92 39 P P 07 10 10.9 +0.6
baz=228
K31A **O'Neill** 17.95 36 P P 07 10 11.0 +0.3
baz=224
MSO **Missoula** 17.95 358 P P 07 10 10.9 +0.2
baz=177,SNR=40
MSO **Missoula** 17.95 358 *e*P P 07 10 11.6 +0.8
comp=Z,246nm,1.5s
442A **Mamou** 18.00 79 P Pn 07 10 10.8 0.0
baz=269
N34A **Lincoln** 18.06 44 P P 07 10 12.2 +0.4
baz=234,SNR=7.3
E09A **Wood Farm, Sta** 18.07 349 *e*Pn P 07 10 11.9 0.0
comp=Z,124nm,1.3s
W40A **Ferguson Farm,** 18.08 64 P Pn 07 10 11.8 +0.1
baz=255,SNR=129
W40A **Ferguson Farm,** 18.08 64 *e*Pn Pn 07 10 10.8 -0.9
comp=Z,447nm,1.0s
X40A **Basin Creek Fa** 18.10 67 P Pn 07 10 11.3 -0.6
baz=257,SNR=11
M33A **Taylor Creek F** 18.10 41 P Pn 07 10 12.1 +0.1
baz=230
U39A **Green Forest** 18.10 61 P Pn 07 10 11.5 -0.6
baz=251,SNR=43
O35A **Humboldt** 18.10 47 P Pn 07 10 11.6 -0.4
baz=236,SNR=14
342A **Flagon Creek P** 18.11 77 P Pn 07 10 11.3 -0.9
baz=267,SNR=15
Y41A **Eaglette Beard** 18.16 69 P Pn 07 10 11.4 -1.3
baz=259,SNR=18
G03D **McMinnville, O** 18.22 336 P Pn 07 10 12.6 -0.8
baz=150
E08A **Dider Farm, El** 18.22 347 *e*Pn P 07 10 15.2 +1.6
comp=Z,118nm,1.4s
HAWA **Hanford** 18.23 346 *e*Pn P 07 10 14.8 +1.2
comp=Z,471nm,1.7s
S38A **Stockton** 18.23 56 P Pn 07 10 13.3 -0.2
baz=247,SNR=48
242A **Grayson** 18.30 75 P Pn 07 10 13.6 -0.9
baz=265,SNR=28
X41A **Kaden, Bauxite** 18.36 67 P P 07 10 13.9 -1.2
baz=258,SNR=9.5
Q37A **Longview Farm,** 18.37 52 P P 07 10 14.2 -1.1
baz=242,SNR=19
K32A **Verdigre** 18.39 37 P P 07 10 14.1 -1.4
baz=226
T39A **Clever** 18.40 59 P P 07 10 14.5 -1.1
baz=249,SNR=44
M34A **Aspy Farms, Fr** 18.41 42 P Pn 07 10 16.0 +0.1
baz=232,SNR=10.0
V40A **Witts Springs** 18.43 63 P P 07 10 15.5 -0.6
baz=254,SNR=34
J31A **Geddes** 18.44 35 P P 07 10 15.9 -0.2
baz=223
L33A **Hoskins** 18.44 40 P P 07 10 15.1 -0.9
baz=229
R38A **Fenwick Farm,** 18.45 55 P P 07 10 15.1 -1.1
baz=245,SNR=22
E07A **Sunnyside** 18.46 345 *e*P Pn 07 10 16.8 +0.5
comp=Z,751nm,1.8s
543A **St. Martinvill** 18.50 81 P P 07 10 16.4 -0.4
baz=271
142A **Monroe** 18.52 73 P P 07 10 16.0 -1.0
baz=264
UALR **University of** 18.56 66 *e*P Pn 07 10 17.8 +0.2
comp=Z,122nm,1.1s
443A **Delano Plantat** 18.56 79 P P 07 10 16.8 -0.7
baz=269
U40A **Yellville** 18.57 61 P P 07 10 16.3 -1.2
baz=252,SNR=40
LAO **LA Array** 18.59 15 P Pn 07 10 18.0 +0.1
baz=199,SNR=9.1
LAO **LASA Array** 18.59 15 *e*P Pn 07 10 17.9 -0.1
comp=Z,384nm,1.1s
N35A **Tabor** 18.61 45 P P 07 10 17.6 -0.3
baz=235,SNR=17
Z42A **Norrel Spur, H** 18.61 71 P P 07 10 16.6 -1.3
baz=262,SNR=12
S39A **Bolivar** 18.68 57 P P 07 10 17.9 -0.8
baz=248,SNR=29
343A **Vidalia** 18.71 77 P P 07 10 18.4 -0.7
baz=268
WHAR **Wooly Hollow** 18.72 65 *e*P Pn 07 10 20.3 +0.8
comp=Z,280nm,1.0s
W41B **Gary Mavity, V** 18.72 65 P P 07 10 19.0 -0.2
baz=256,SNR=39
D08A **Wollman Farm,** 18.74 347 *e*P Pn 07 10 19.5 -0.2
comp=Z,188nm,1.5s
P37A **Lathrop** 18.78 50 P P 07 10 19.4 -0.4
baz=241,SNR=49
L34A **Svendsen Farm,** 18.82 42 P Pn 07 10 21.1 +0.3
baz=231
Y42A **Garnett, Star** 18.83 69 P P 07 10 20.0 -0.3
baz=260,SNR=11
CCAR **Cane Creek** 18.85 69 *e*P Pn 07 10 21.3 +0.1
comp=Z,478nm,1.2s
243A **Waterproof** 18.86 75 P P 07 10 20.5 -0.1
baz=266
K33A **Hainington** 18.88 39 P Pn 07 10 21.7 +0.2
baz=228
JTMT **Jette** 18.88 357 *e*P Pn 07 10 21.3 -0.3
comp=Z,250nm,1.7s
F04D **Rainier, OR** 18.89 338 P P 07 10 20.9 0.0
baz=152
M35A **Neola** 18.93 44 P Pn 07 10 21.8 -0.3
baz=234,SNR=8.7
J32A **Parkston** 18.95 36 P Pn 07 10 22.1 -0.2
baz=225,SNR=12
V41A **Mountainview** 18.95 63 P P 07 10 21.5 -0.2
baz=254,SNR=57
Q38A **Cooks Store, C** 18.99 53 P P 07 10 22.0 -0.1
baz=244,SNR=44
143A **Socs Landing,** 18.99 73 P P 07 10 21.8 -0.3
baz=264
N36A **Muff Farm, Cla** 19.01 46 P P 07 10 22.7 +0.4
baz=237
I31A **Royce, Wessing** 19.08 34 P P 07 10 23.0 0.0
baz=222
T40A **Mansfield** 19.08 59 P P 07 10 23.0 -0.2
baz=250,SNR=47
X42A **Stuttgart** 19.09 67 P P 07 10 22.6 -0.6
baz=258
544A **White Castle** 19.11 81 P P 07 10 23.4 0.0
baz=272
R39A **Chumby, Stover** 19.13 55 P P 07 10 23.3 -0.3
baz=246,SNR=36
LON **Longmire** 19.13 341 *e*P P 07 10 23.3 -0.3
comp=Z,58nm,0.9s
LON **Longmire** 19.13 341 *e*P P 07 10 23.3 -0.3
LON pmax pmax
comp=Z,58nm,0.9s
SUSD **Miller** 19.19 32 P P 07 10 23.8 -0.5
baz=220
O37A **Wolven Farm, M** 19.20 49 P P 07 10 24.2 -0.2
baz=240,SNR=17
S40A **Lebanon** 19.25 58 P P 07 10 24.7 -0.2
baz=249,SNR=24
U41A **Viola** 19.29 62 P P 07 10 24.5 -0.9
baz=253,SNR=24
LTY **Liberty** 19.30 344 *e*P Pn 07 10 26.1 -0.5
comp=Z,107nm,1.5s
EGMT **Eagleton** 19.31 7 *e*P P 07 10 26.0 +0.5
comp=Z,250nm,1.4s
W42A **Bald Knob** 19.32 65 P P 07 10 25.2 -0.5
baz=256
C09A **Chrisman Ranch** 19.34 349 *e*P Pn 07 10 26.7 -0.3
comp=Z,138nm,1.2s
P38A **Dawn** 19.35 51 P P 07 10 26.0 0.0
baz=242,SNR=17
J33A **Davis** 19.38 38 P P 07 10 26.4 +0.2
baz=227,SNR=17
L35A **Bielow Farm, R** 19.40 42 P P 07 10 26.6 0.0
baz=232,SNR=13
K34A **Le Mars** 19.44 40 P Pn 07 10 27.8 -0.4
baz=230,SNR=14
H31A **Wolsey** 19.44 33 P P 07 10 27.6 +0.6
baz=221
444A **Pine Grove** 19.45 79 P P 07 10 26.9 -0.3
baz=270
N37A **Lee Faris, Mou** 19.46 47 P Pn 07 10 27.9 -0.6
baz=238,SNR=10
M36A **Felix, Anita** 19.46 45 P P 07 10 27.7 +0.4
baz=235
344A **Westbrook Farm** 19.48 77 P P 07 10 27.5 0.0
baz=268,SNR=31
Q39A **Willow Grove F** 19.48 53 P P 07 10 28.0 +0.6
baz=244,SNR=26
E03A **Lebam** 19.48 338 *e*P P 07 10 26.8 -0.6
comp=Z,190nm,0.9s
Y43A **Makayla and Ka** 19.54 69 P P 07 10 28.2 +0.1
baz=261,SNR=11
244A **Avery, Jackson** 19.54 75 P P 07 10 28.4 +0.2
baz=266,SNR=23
V42A **Cord** 19.56 64 P P 07 10 27.7 -0.6
baz=255,SNR=20
D05A **Enumclaw** 19.58 342 *e*P Pn 07 10 29.2 -0.6
comp=Z,157nm,1.1s
I32A **Karley and Nic** 19.61 35 P P 07 10 29.0 +0.2
baz=224
T41A **Mountain View** 19.62 60 P P 07 10 28.5 -0.5
baz=251,SNR=42
O38A **Galt** 19.62 50 P P 07 10 29.3 +0.3
baz=241,SNR=35
645A **Chauvin** 19.63 83 P P 07 10 28.4 -0.7
baz=274
NEW **Newport** 19.63 352 P Pn 07 10 30.4 0.0
comp=Z,0.5nm,0.3s,baz=168,slow=12,SNR=41
NEW **Newport** 19.63 352 P P 07 10 29.1 0.0
baz=169,SNR=35
NEW **Newport** 19.63 352 *e*P P 07 10 28.0 -1.0
comp=Z,113nm,1.1s
NEW **Newport** 19.63 352 *e*P P 07 10 28.0 -1.0
NEW pmax pmax
comp=Z,113nm,1.1s
R40A **Maddies Statio** 19.68 56 P P 07 10 28.8 -0.8
baz=247,SNR=7.2
X43A **Marvell** 19.68 68 P P 07 10 29.8 +0.1
baz=259,SNR=7.1
545A **Edgard** 19.69 81 P P 07 10 30.3 +0.5
baz=272
VBMS **Vicksburg** 19.70 75 P P 07 10 29.2 -0.7
baz=266,SNR=14
VBMS **Vicksburg** 19.70 75 *e*P Pn 07 10 31.0 -0.4
comp=Z,413nm,1.0s
445A **Amite** 19.80 79 P P 07 10 31.0 0.0
baz=270
144A **Alexander Plac** 19.81 73 P P 07 10 31.1 0.0
baz=265,SNR=5.8
S41A **Jillco Farms,** 19.81 58 P Pn 07 10 31.9 -0.7
baz=250,SNR=70
U42A **Revenden** 19.82 62 P P 07 10 30.3 -0.9
baz=254,SNR=48
P39B **Salisbury** 19.82 52 P P 07 10 31.0 -0.1
baz=244,SNR=41
ECSD **EROS Data Cent** 19.85 37 P P 07 10 31.3 -0.2
baz=227,SNR=35
ECSD **EROS Data Cent** 19.85 37 *e*P Pn 07 10 32.4 -0.7
comp=Z,168nm,1.0s
Z44A **Pea Ridge, Bel** 19.87 72 P P 07 10 31.3 -0.4
baz=263
J34A **George** 19.90 39 P P 07 10 32.8 +0.8
baz=229
M37A **Trindle Farm,** 19.90 46 P P 07 10 31.7 -0.4
baz=237,SNR=11
L36A **Harm Buss Farm** 19.92 44 P P 07 10 33.0 +0.7
baz=234,SNR=19
W43A **Forest City** 19.94 66 P P 07 10 32.9 +0.4
baz=258
K35A **Storm Lake** 19.96 41 P P 07 10 32.6 0.0
baz=232
I33A **Coleman** 19.96 36 P P 07 10 33.2 +0.5
baz=226
H32A **Carlson Farm,** 19.97 34 P Pn 07 10 33.6 -0.9
baz=224,SNR=30
B08A **Colville Reser** 20.07 348 *e*P P 07 10 33.1 -0.7
comp=Z,124nm,1.0s
B08A LR LR
comp=Z,29µm,18.0s
345A **Thompson Farm,** 20.07 77 P P 07 10 33.6 -0.4
baz=269
Q40A **Laux Farm, Aux** 20.09 54 P P 07 10 34.7 +0.6
baz=246,SNR=26
N38A **Joes South For** 20.11 48 P P 07 10 35.0 +0.7
baz=240,SNR=27
T42A **Van Buren** 20.13 60 P P 07 10 35.0 +0.5
baz=252,SNR=17
G31A **Conde** 20.13 32 P P 07 10 34.7 +0.2
baz=221
Y44A **Strider, Charl** 20.14 70 P P 07 10 34.1 -0.5
baz=262
WALA **Waterton Lakes** 20.18 358 *e*P P 07 10 35.5 +0.4
comp=Z,315nm,1.6s
WALA LR LR
comp=Z,28µm,19.0s
245A **Little AP, Sta** 20.21 75 P P 07 10 35.5 0.0
baz=267,SNR=20
V43A **Jonesboro** 20.22 64 P P 07 10 34.6 -0.9
baz=256
145A **Houston Renfro** 20.22 74 P P 07 10 34.9 -0.7
baz=265
X44A **Crenshaw** 20.28 68 P P 07 10 34.9 -1.3
baz=260
646A **Port Sulphur** 20.29 82 P P 07 10 33.9 -2.4
baz=274
O39A **Kirksville** 20.32 51 P P 07 10 36.1 -0.4
baz=242,SNR=6.9
NLWA **Neilton Lookou** 20.33 338 *e*P P 07 10 35.6 -1.0
comp=Z,160nm,1.4s
NLWA LR LR
comp=Z,79µm,19.0s
R41A **Rosebud** 20.33 57 P P 07 10 36.2 -0.5
baz=249,SNR=35
P40A **Paris** 20.33 53 P P 07 10 37.0 +0.3
baz=245,SNR=47
CCM **Cathedral Cave** 20.34 58 P P 07 10 37.1 +0.2
baz=250
CCM **Cathedral Cave** 20.34 58 *e*P P 07 10 37.0 +0.2
comp=Z,167nm,1.0s
CCM LR LR
comp=Z,51µm,18.0s
CCM **Cathedral Cave** 20.34 58 *e*P P 07 10 37.0 +0.2
CCM pmax pmax
comp=Z,167nm,1.0s
CCM MLR MLR
comp=Z,51µm,18.0s
546A **Slidell** 20.35 80 P P 07 10 35.9 -1.1
baz=272
K36A **Gilmore City** 20.36 43 P P 07 10 36.8 -0.3
baz=233,SNR=15
J35A **Milford** 20.37 40 P P 07 10 36.6 -0.6
baz=230
CMIG **Matias Romero** 20.39 121 P P 07 10 38.3 +0.8
comp=Z,28nm,1.1s,baz=312,slow=8.1,SNR=18
H33A **Prehn Over Nor** 20.44 35 P P 07 10 37.4 -0.5
baz=225,SNR=14
I34A **Hadley** 20.45 38 P P 07 10 37.8 -0.2
baz=228,SNR=7.5
M38A **Pleasantville** 20.46 47 P P 07 10 37.4 -0.7
baz=238,SNR=29
U43A **Rector** 20.47 63 P P 07 10 37.4 -0.9
baz=255
G32A **Webster** 20.48 33 P P 07 10 38.2 -0.1
baz=222,SNR=6.2
L37A **Phoenix Point,** 20.49 45 P P 07 10 38.8 +0.4
baz=236,SNR=14
Z45A **Winona** 20.49 71 P P 07 10 37.9 -0.7
baz=264,SNR=33
346A **Big Creek Wild** 20.56 77 P P 07 10 38.9 -0.4
baz=269
PBMO **Poplar Bluff** 20.56 62 *e*P P 07 10 38.0 -1.3
comp=Z,66nm,1.0s
PBMO LR LR
comp=Z,42µm,20.0s
MET **Memphis--Engin** 20.56 66 PFAKE 07 10 50.0 +8.5
MET LR LR
comp=Z,36µm,18.0s
S42A **Caledonia** 20.58 59 P P 07 10 38.6 -0.9
baz=251,SNR=24
F31A **Hecla** 20.59 31 P P 07 10 38.8 -0.8
baz=219,SNR=18
B05A **Bryant** 20.60 343 P P 07 10 39.3 -0.2
baz=157,SNR=13
N39A **Derby Farms, D** 20.64 49 P P 07 10 40.4 +0.3
baz=241,SNR=20
446A **Poplarville** 20.64 79 P P 07 10 38.8 -1.4
baz=271
W44A **Shelby Farms P** 20.66 66 P P 07 10 39.7 -0.6
baz=259
Y45A **Yeager Farm, C** 20.68 70 P P 07 10 39.9 -0.7
baz=262,SNR=16
B06A **Marblemount** 20.68 344 *e*P P 07 10 41.1 +0.8
comp=Z,104nm,1.3s
B06A LR LR
comp=Z,47µm,19.0s
Q41A **Truxton** 20.68 55 P P 07 10 39.7 -0.8

baz=247,SNR=66
SCIA **State Center** 20.71 46 P P 07 10 40.1 -0.7
baz=237,SNR=12
SCIA **State Center** 20.71 46 eP P 07 10 40.5 -0.2
comp=Z,386nm,1.1s
SCIA LR LR
comp=Z,32µm,18.0s
O40A **La Belle** 20.71 52 P P 07 10 40.0 -0.8
baz=244,SNR=64
DGMT **Dagmar** 20.74 17 PFAKE 07 10 50.0 +6.4
DGMT LR LR
comp=Z,28µm,18.0s
V44A **Blytheville** 20.74 65 P P 07 10 40.3 -0.9
baz=257
R42A **Luebbering** 20.75 57 P P 07 10 40.3 -1.0
baz=250,SNR=24
T43A **Greenville** 20.76 61 P P 07 10 40.5 -0.9
baz=253,SNR=32
I35A **Creekview Farm** 20.81 39 P P 07 10 42.1 +0.2
baz=230,SNR=14
J36A **Seneca 1, Swea** 20.85 41 P P 07 10 41.3 -0.9
baz=232,SNR=24
246A **Jackson Lee, B** 20.86 75 P P 07 10 42.0 -0.5
baz=268
OXF **Oxford** 20.88 68 P P 07 10 41.7 -1.0
baz=261,SNR=51
OXF **Oxford** 20.88 68 eP P 07 10 41.4 -1.3
comp=Z,444nm,1.2s
OXF LR LR
comp=Z,18µm,18.0s
OXF **Oxford** 20.88 68 eP P 07 10 41.4 -1.3
OXF pmax pmax
comp=Z,444nm,1.2s
OXF MLR MLR
comp=Z,18µm,18.0s
X45A **UM Field Stati** 20.88 69 P P 07 10 41.4 -1.3
baz=261,SNR=27
H34A **Spellman Lake,** 20.92 36 P P 07 10 42.9 -0.2
baz=227,SNR=13
K37A **Belmond** 20.93 43 P P 07 10 42.2 -1.0
baz=235,SNR=32
G33A **Ortonville** 20.96 34 P P 07 10 43.6 +0.2
baz=224,SNR=31
146A **Union** 20.96 74 P P 07 10 43.6 0.0
baz=266,SNR=9.7
L38A **Oak Wood Farm,** 20.99 46 P P 07 10 44.0 +0.1
baz=237,SNR=63
PVMO **Portageville** 21.03 63 PFAKE 07 11 00.0 +16
PVMO LR LR
comp=Z,34µm,22.0s
S43A **Fulton Ridge,** 21.06 60 P P 07 10 43.4 -1.3
baz=252,SNR=16
U44A **Portageville** 21.07 63 P P 07 10 43.4 -1.3
baz=255
P41A **Barry, Barry** 21.09 53 P P 07 10 44.4 -0.5
baz=246,SNR=48
Z46A **Louisville** 21.10 72 P P 07 10 44.4 -0.7
baz=264,SNR=37
F32A **Veblen** 21.12 32 P P 07 10 44.2 -1.0
baz=222
M39A **Webster** 21.15 48 P P 07 10 44.2 -1.4
baz=240,SNR=39
Q42A **Golden Eagle** 21.17 56 P P 07 10 44.3 -1.5
baz=248,SNR=36
W45A **Hickory Valley** 21.17 67 P P 07 10 44.2 -1.7
baz=259
A04D **Lummi Island** 21.18 342 P P 07 10 44.4 -1.3
baz=156,SNR=8.4
HALT **Halls** 21.20 65 eP P 07 10 47.7 +1.5
Y46A **Houston** 21.25 70 P P 07 10 45.3 -1.3
baz=263,SNR=56
447A **Lucedale** 21.25 79 P P 07 10 45.3 -1.4
baz=271
N40A **Mertquake, Sal** 21.25 50 P P 07 10 45.6 -1.1
baz=242,SNR=37
SLM **Saint Louis** 21.29 57 eP P 07 10 49.0 +1.9
comp=Z,209nm,0.9s
SLM LR LR
comp=Z,56µm,18.0s
SLM **Saint Louis** 21.29 57 eP P 07 10 49.0 +1.9
SLM pmax pmax
comp=Z,209nm,0.9s
SLM MLR MLR
comp=Z,56µm,18.0s
U44B **Burton Farm, H** 21.29 63 P P 07 10 45.8 -1.3
baz=256,SNR=5.6
J37A **Redenius Farm,** 21.29 42 P P 07 10 47.5 +0.4
baz=234,SNR=38
T44A **Benton** 21.29 61 P P 07 10 46.2 -0.9
baz=254,SNR=20
E31A **Nome** 21.30 30 P P 07 10 47.4 +0.3
baz=219,SNR=21
247A **Quitman** 21.30 75 P P 07 10 45.9 -1.4
baz=268,SNR=28
PGC **Sidney** 21.32 341 eP P 07 10 46.4 -0.8
comp=Z,66nm,0.9s
PGC LR LR
comp=Z,52µm,21.0s
GLAT **Glass** 21.32 64 eP P 07 10 45.7 -1.7
347A **Saraland** 21.35 77 P P 07 10 47.1 -0.7
baz=269,SNR=42
K38A **Parkersburg** 21.39 45 P P 07 10 48.1 0.0
baz=236,SNR=19
G34A **Benson** 21.39 35 P P 07 10 49.2 +1.1
baz=226,SNR=22
R43A **Red Bud** 21.39 58 P P 07 10 47.3 -0.9
baz=251,SNR=17
O41A **Passleys Farm,** 21.39 53 P P 07 10 47.8 -0.4
baz=245,SNR=37
H35A **Sunnyside Ranc** 21.44 38 P P 07 10 48.9 +0.2
baz=228,SNR=31
I36A **Fitzsimmons Fa** 21.46 40 P P 07 10 49.6 +0.8
baz=231,SNR=19
V45A **Humboldt** 21.47 65 P P 07 10 48.4 -0.6
baz=258,SNR=20
F33A **5 Mile Ranch,** 21.49 33 P P 07 10 49.4 +0.2
baz=224
M40A **Post Highland** 21.55 49 P P 07 10 50.2 +0.3
baz=241,SNR=38
P42A **Winchester** 21.56 54 P P 07 10 49.9 -0.1
baz=247,SNR=62
X46A **Booneville** 21.56 69 P P 07 10 49.0 -1.0
baz=261
L39A **Vinton** 21.59 47 P P 07 10 50.6 +0.4
baz=239,SNR=18
147A **Livingston** 21.62 74 P P 07 10 50.2 -0.5
baz=266,SNR=13
MDND **Maddock** 21.64 25 P P 07 10 51.1 +0.4
baz=213,SNR=23
MDND **Maddock** 21.64 25 eP P 07 10 52.3 +1.5
comp=Z,325nm,1.0s
MDND LR LR
comp=Z,6µm,20.0s
N41A **Harden Midland** 21.67 51 P P 07 10 50.5 -0.6
baz=244
UTMT **University of** 21.67 64 eP P 07 10 51.1 -0.1
comp=Z,684nm,1.1s
E32A **Braaten, Kindr** 21.68 31 P P 07 10 50.5 -0.8
baz=221
S44A **Carbondale** 21.72 60 P P 07 10 50.8 -0.9
baz=253,SNR=29
D31A **Mcclaflin, Tow** 21.75 29 P P 07 10 51.9 -0.1
baz=219
U45A **Rockin P Farm,** 21.75 64 P P 07 10 51.2 -0.9
baz=257,SNR=38
SIUC **Southern Illin** 21.75 60 eP P 07 10 51.4 -0.7
comp=Z,176nm,1.0s
SIUC LR LR
comp=Z,3µm,19.0s
Q43A **New Douglas** 21.79 56 P P 07 10 51.9 -0.6
baz=249,SNR=16
I37A **Lemond, Waseca** 21.80 41 P P 07 10 53.0 +0.4
baz=232,SNR=19
W46A **Michie** 21.82 67 P P 07 10 51.1 -1.7
baz=260,SNR=26
Z47A **Carrollton** 21.83 72 P P 07 10 51.5 -1.4
baz=265,SNR=35
H36A **Jessenland, He** 21.86 39 P P 07 10 53.2 +0.1
baz=230,SNR=31
348A **Jackson** 21.89 77 P P 07 10 53.4 -0.2
baz=270,SNR=13
448A **Bay Minette** 21.93 78 P P 07 10 53.6 -0.5
baz=271
J38A **Wedel Dairy, R** 21.94 43 P P 07 10 53.7 -0.3
baz=235,SNR=87
K39A **Oelwein** 21.96 45 P P 07 10 54.0 -0.3
baz=238,SNR=23
F34A **Alexandria** 21.97 35 P P 07 10 54.8 +0.5
baz=226
G35A **Watkins** 21.97 37 P P 07 10 54.2 -0.2
baz=228,SNR=14
O42A **Bath** 21.99 53 P P 07 10 54.1 -0.4
baz=246,SNR=18
T45A **Paducah** 22.01 62 P P 07 10 54.9 +0.1
baz=255
R44A **Waltonville** 22.02 59 P P 07 10 55.1 +0.1
baz=252,SNR=20
PLAL **Pickwick Lake** 22.04 68 eP P 07 10 53.5 -1.7
comp=Z,171nm,1.0s
PLAL LR LR
comp=Z,32µm,18.0s
248A **Dixon Mills** 22.05 75 P P 07 10 55.1 -0.1
baz=268
L40A **Anamosa** 22.06 48 P P 07 10 52.9 -2.4
baz=240,SNR=44
Y47A **UCPARC, Winfie** 22.08 70 P P 07 10 54.2 -1.4
baz=264,SNR=26
E33A **Westby DABS, E** 22.11 33 P P 07 10 54.3 -1.5
baz=223,SNR=15
D32A **Dogwood Acres,** 22.12 30 P P 07 10 54.8 -1.1
baz=220
V46A **Holladay** 22.15 65 P P 07 10 55.3 -1.1
baz=259,SNR=47
X47A **Russellville** 22.15 69 P P 07 10 54.6 -1.7
baz=262,SNR=36
P43A **Skaggs, Pawnee** 22.17 55 P P 07 10 55.7 -0.8
baz=248,SNR=24
M41A **Milan** 22.18 50 P P 07 10 55.8 -0.8
baz=243,SNR=39
148A **Greensboro** 22.21 74 P P 07 10 55.9 -1.1
baz=267,SNR=12
U46A **Springville** 22.22 64 P P 07 10 55.7 -1.3
baz=257,SNR=16
S45A **Carrier Mills** 22.23 60 P P 07 10 56.6 -0.6
baz=254
Z48A **Northport** 22.27 72 P P 07 10 57.0 -0.7
baz=265,SNR=35
Q44A **Meyer Farm, Va** 22.28 57 P P 07 10 57.1 -0.5
baz=250
N42A **Yates City** 22.28 52 P P 07 10 57.6 -0.1
baz=245,SNR=17
C31A **Landman Farms,** 22.33 28 P P 07 10 58.1 -0.1
baz=217,SNR=49
F35A **Swanville** 22.36 36 P P 07 10 58.3 -0.2
baz=227,SNR=20
G36A **St. Michael** 22.38 38 P P 07 10 57.9 -0.8
baz=229,SNR=19
J39A **Decorah** 22.42 44 P P 07 10 59.1 0.0
baz=237,SNR=27
H37A **Dierke Farm, C** 22.42 40 P P 07 10 59.6 +0.4
baz=232,SNR=20
K40A **Cosburg** 22.43 46 P P 07 10 58.6 -0.7
baz=239,SNR=38
I38A **Scanlan Farm,** 22.44 42 P P 07 11 00.1 +0.7
baz=234,SNR=36
WVT **Waverly** 22.44 65 P P 07 10 59.5 0.0
baz=258
WVT **Waverly** 22.44 65 eP P 07 10 58.7 -0.8
comp=Z,128nm,0.9s
WVT LR LR
comp=Z,31µm,18.0s
WVT **Waverly** 22.44 65 eP P 07 10 58.7 -0.8
WVT pmax pmax
comp=Z,128nm,0.9s
WVT MLR MLR
comp=Z,31µm,18.0s
W47A **Westpoint** 22.47 67 P P 07 10 59.4 -0.4
baz=260,SNR=20
449A **Pace** 22.49 79 P P 07 10 59.6 -0.4
baz=272
349A **Repton** 22.50 77 P P 07 10 59.7 -0.4
baz=270,SNR=7.7
E34A **Wadena** 22.52 34 P P 07 10 59.7 -0.5
baz=224,SNR=12
L41A **Preston** 22.54 48 P P 07 10 60.0 -0.4
baz=241,SNR=38
MYIG **MØrida** 22.54 105 PFAKE 07 11 10.0 +9.4
MYIG LR LR
comp=Z,102µm,20.0s
O43A **Sugar Creek Fa** 22.56 53 P P 07 10 59.5 -1.2
baz=247,SNR=7.6
249A **Camden** 22.57 76 P P 07 11 00.1 -0.8
baz=269,SNR=12
T46A **Princeton** 22.59 62 P P 07 10 59.8 -1.3
baz=256,SNR=30
BRAL **Brewton** 22.62 78 P P 07 11 00.3 -1.1
baz=271
BRAL **Brewton** 22.62 78 PFAKE 07 11 10.0 +8.5
BRAL LR LR
comp=Z,34µm,20.0s
V47A **Nunnelly** 22.63 66 P P 07 11 00.8 -0.7
baz=259,SNR=15
R45A **Skylar, Fairfi** 22.63 59 P P 07 11 00.5 -0.9
baz=253,SNR=15
Y48A **Jasper** 22.64 71 P P 07 10 59.9 -1.8
baz=264,SNR=32
D33A **AnnSam, Waubun** 22.65 32 P P 07 11 01.5 -0.2
baz=222
HDIL **Hopedale** 22.68 53 P P 07 11 01.2 -0.9
baz=246
HDIL **Hopedale** 22.68 53 eP P 07 11 00.8 -1.2
comp=Z,428nm,1.1s
HDIL LR LR
comp=Z,26µm,18.0s
LRAL **Lakeview Retre** 22.71 73 P P 07 11 01.7 -0.7
baz=266,SNR=22
LRAL **Lakeview Retre** 22.71 73 eP P 07 10 59.6 -2.8
comp=Z,93nm,0.9s
LRAL LR LR
comp=Z,110µm,19.0s
LLLB **Lillooet** 22.73 345 eP P 07 11 01.7 -0.7
comp=Z,131nm,1.3s
LLLB LR LR
comp=Z,45µm,22.0s
M42A **Sheffield** 22.74 50 P P 07 11 02.8 +0.2
baz=244,SNR=18
P44A **Sand Creek, Wi** 22.76 56 P P 07 11 03.6 +0.8
baz=250,SNR=24
X48A **Hartselle** 22.81 69 P P 07 11 03.3 0.0
baz=263,SNR=47
I39A **Houston** 22.81 43 P P 07 11 03.4 0.0
baz=236,SNR=51
H38A **Maiden Rock** 22.84 41 P P 07 11 04.0 +0.4
baz=233,SNR=14
C32A **Crookston** 22.86 30 P P 07 11 03.0 -0.8
baz=220
149A **Jones** 22.86 74 P P 07 11 03.6 -0.4
baz=268,SNR=51
B31A **Greenbush Farm** 22.86 27 P P 07 11 03.1 -0.8
baz=217,SNR=27
SPMN **Marine on St.** 22.89 39 P P 07 11 03.8 -0.3
baz=231,SNR=20
SPMN **Marine on St.** 22.89 39 eP P 07 11 04.5 +0.5
comp=Z,141nm,1.0s
SPMN LR LR
comp=Z,23µm,20.0s
S46A **Don Dixon Farm** 22.89 61 P P 07 11 04.4 +0.2
baz=255,SNR=10
OLIL **Olney** 22.90 58 eP P 07 11 05.0 +0.7
comp=Z,196nm,1.1s
OLIL LR LR
comp=Z,64µm,18.0s
F36A **Milaca** 22.91 37 P P 07 11 04.1 -0.2
baz=229,SNR=23
Q45A **Warren Harvey,** 22.91 58 P P 07 11 04.9 +0.5
baz=251,SNR=25
D34A **Park Rapids** 22.91 33 P P 07 11 04.1 -0.3
baz=224,SNR=5.6
K41A **Shullsburg** 22.92 47 P P 07 11 03.7 -0.7
baz=240,SNR=44
N43A **Stutzman Famil** 22.92 52 P P 07 11 05.1 +0.6
baz=246,SNR=33
E35A **Pequot Lakes** 22.92 35 P P 07 11 04.3 -0.2
baz=226,SNR=13
U47A **Clarksville** 22.93 64 P P 07 11 05.1 +0.4
baz=258,SNR=14
W48A **Pulaski** 22.99 68 P P 07 11 05.3 0.0
baz=261
USIN **University of** 23.00 60 eP P 07 11 05.6 +0.2
comp=Z,213nm,1.3s
USIN LR LR
comp=Z,46µm,21.0s
450A **Crestview** 23.03 79 P P 07 11 05.7 -0.1
baz=272
J40A **Soldiers Grove** 23.04 45 P P 07 11 06.1 +0.3
baz=238,SNR=66
L42A **Oliver, Polo** 23.05 49 P P 07 11 05.1 -0.7
baz=243,SNR=39
JFWS **Jewell Farm** 23.11 47 P P 07 11 06.2 -0.2
baz=240,SNR=45
JFWS **Jewell Farm** 23.11 47 eP P 07 11 06.3 -0.1
comp=Z,310nm,1.2s
JFWS LR LR
comp=Z,35µm,19.0s
JFWS **Jewell Farm** 23.11 47 eP P 07 11 06.3 -0.1
JFWS pmax pmax
comp=Z,310nm,1.2s
JFWS MLR MLR
comp=Z,35µm,19.0s
O44A **Mansfield** 23.11 54 P P 07 11 05.6 -0.9
baz=248,SNR=14
Z49A **Columbiana** 23.11 73 P P 07 11 05.5 -1.0
baz=266,SNR=9.7
C33A **Trail** 23.14 31 P P 07 11 06.0 -0.8
baz=221,SNR=7.8
V48A **Smith Brothers** 23.17 66 P P 07 11 06.5 -0.6
baz=260,SNR=17
R46A **Gibon Southern** 23.19 60 P P 07 11 06.8 -0.5
baz=254
T47A **Sharon Grove** 23.20 63 P P 07 11 07.1 -0.2
baz=257,SNR=16
350A **Dozier** 23.23 77 P P 07 11 07.8 0.0
baz=270,SNR=7.7
Y49A **Blount Mountai** 23.27 71 P P 07 11 07.8 -0.3
baz=265,SNR=18
M43A **Waltham Townsh** 23.28 51 P P 07 11 08.1 0.0
baz=245,SNR=23
250A **Grady** 23.29 76 P P 07 11 07.7 -0.6
baz=269,SNR=15
F37A **Hinrichs Farm,** 23.30 38 P P 07 11 07.8 -0.5
baz=231,SNR=14
B32A **Ashes, Strandq** 23.30 29 P P 07 11 08.3 0.0
baz=219,SNR=70
G38A **Ridgeland** 23.38 40 P P 07 11 09.0 -0.1
baz=233,SNR=13
I40A **Norwalk** 23.38 44 P P 07 11 08.7 -0.5
baz=237,SNR=12
X49A **Woodville** 23.40 69 P P 07 11 08.6 -0.9
baz=263,SNR=16
P45A **Graceland, Par** 23.42 56 P P 07 11 08.8 -0.7
baz=251,SNR=13
H39A **Augusta** 23.42 42 P P 07 11 09.8 +0.2
baz=235,SNR=12
A31A **Linda, St. Vin** 23.46 27 P P 07 11 09.3 -0.5
baz=217
C34A **RKJ Ranch, Bem** 23.46 32 P P 07 11 09.3 -0.6
baz=223,SNR=14
D35A **Remer** 23.46 34 P P 07 11 08.9 -1.0
baz=226,SNR=12
E36A **McGregor** 23.48 36 P P 07 11 09.1 -1.0
baz=228,SNR=17
J41A **Loganville** 23.48 46 P P 07 11 09.7 -0.5
baz=239,SNR=12
AGMN **Agassiz Nation** 23.51 30 P P 07 11 10.2 -0.2
baz=220,SNR=54
AGMN **Agassiz Nation** 23.51 30 eP P 07 11 10.4 0.0
comp=Z,257nm,1.4s
AGMN LR LR
comp=Z,29µm,19.0s
150A **Eclectic** 23.52 74 P P 07 11 10.2 -0.4
baz=268,SNR=20
U48A **Cassie Pea, Po** 23.54 64 P P 07 11 10.7 -0.1
baz=259,SNR=29
Q46A **CEJHS Indians,** 23.54 58 P P 07 11 10.8 0.0
baz=252
N44A **Piper City** 23.59 53 P P 07 11 10.6 -0.6
baz=247,SNR=21
B33A **Robert and Kas** 23.61 30 P P 07 11 10.4 -1.0
baz=221,SNR=14
K42A **Prairie Point,** 23.62 48 P P 07 11 11.0 -0.5
baz=242,SNR=16
Z50A **Ashland** 23.63 72 P P 07 11 10.5 -1.2
baz=266,SNR=26
O45A **Potomac** 23.68 55 P P 07 11 11.4 -0.7
baz=249,SNR=15
A32A **Rocking H Ranc** 23.73 28 P P 07 11 11.5 -1.0
baz=218,SNR=43
L43A **Garden Prairie** 23.74 49 P P 07 11 12.6 -0.2
baz=244,SNR=16
451A **Vernon** 23.76 79 P P 07 11 13.1 +0.1
baz=273
T48A **Bowling Green** 23.78 63 P P 07 11 11.9 -1.2
baz=257,SNR=6.6
SWET **Sewanee** 23.81 68 eP P 07 11 12.0 -1.5
comp=Z,165nm,1.2s
Y50A **Piedmont** 23.83 71 P P 07 11 12.7 -1.0
baz=265
P46A **Rosedale** 23.84 56 P P 07 11 13.9 +0.3
baz=251,SNR=13
G39A **Holcombe** 23.84 41 P P 07 11 13.4 -0.2
baz=234,SNR=37
F38A **Pierce - Schro** 23.85 39 P P 07 11 13.9 +0.2
baz=231,SNR=17
351A **Pinckard** 23.86 77 P P 07 11 13.0 -1.0
baz=271,SNR=30
M44A **Midewin, Midew** 23.88 52 P P 07 11 14.0 0.0
baz=246,SNR=16
H40A **Chili** 23.92 43 P P 07 11 15.1 +0.8
baz=236,SNR=27
I41A **Arkdale** 23.93 44 P P 07 11 14.9 +0.4
baz=238,SNR=32
C35A **Jirik Farms, M** 23.93 33 P P 07 11 14.0 -0.5
baz=225,SNR=49
E37A **Wrenshall** 23.96 37 P P 07 11 14.9 +0.2
baz=230
R47A **Wooly Knot Far** 23.96 60 P P 07 11 14.6 -0.2
baz=255,SNR=8.9
D36A **Goodland** 23.97 35 P P 07 11 15.3 +0.5
baz=227
251A **Midway** 24.02 75 P P 07 11 14.5 -0.9
baz=270,SNR=25
J42A **Columbus** 24.02 47 P P 07 11 15.3 0.0
baz=241,SNR=29
N45A **Kentland** 24.05 53 P P 07 11 15.8 +0.2
baz=248
TEIG **Tepich** 24.09 105 PFAKE 07 11 30.0 +14
TEIG LR LR
comp=Z,55µm,19.0s
151A **Opelika** 24.10 74 P P 07 11 16.1 0.0
baz=268,SNR=14
WCI **Wyandotte Cave** 24.12 60 P P 07 11 16.7 +0.4
baz=255
WCI **Wyandotte Cave** 24.12 60 eP P 07 11 17.2 +0.9
comp=Z,107nm,1.0s
WCI LR LR
comp=Z,37µm,18.0s
WCI **Wyandotte Cave** 24.12 60 eP P 07 11 17.2 +0.9
WCI pmax pmax
comp=Z,107nm,1.0s
WCI MLR MLR
comp=Z,37µm,18.0s
S48A **Wiedeman Farm,** 24.16 62 P P 07 11 15.8 -0.9
baz=256,SNR=21
SFIN **Lafayette** 24.17 55 P P 07 11 17.0 +0.2
baz=250,SNR=25
SFIN **Lafayette** 24.17 55 eP P 07 11 15.5 -1.3
comp=Z,247nm,1.2s
SFIN LR LR
comp=Z,41µm,22.0s
552A **Lynn Haven** 24.18 80 P P 07 11 16.1 -0.8
baz=274
B34A **Aery, Baudette** 24.19 31 P P 07 11 16.0 -0.8
baz=222,SNR=34
A33A **Warroad** 24.20 29 P P 07 11 15.8 -1.1
baz=220,SNR=26
BLO **Bloomington** 24.20 58 eP P 07 11 15.7 -1.4
comp=Z,109nm,1.0s
BLO LR LR
comp=Z,55µm,18.0s
BLO **Bloomington** 24.20 58 eP P 07 11 15.7 -1.4
BLO pmax pmax
comp=Z,109nm,1.0s
BLO MLR MLR
comp=Z,55µm,18.0s
Q47A **Bedord North L** 24.21 58 P P 07 11 17.3 +0.1
baz=253,SNR=10
452A **Marianna** 24.24 78 P P 07 11 17.1 -0.4
baz=272
K43A **Burlington** 24.25 49 P P 07 11 16.9 -0.6
baz=243,SNR=22
L44A **Lake County Fo** 24.30 50 P P 07 11 18.2 +0.3
baz=245
D37A **Cotton** 24.33 36 P P 07 11 18.6 +0.5
baz=228

EDM **Edmonton** 24.34 360 *eP* **P** 07 11 16.9 -1.3
comp=Z,204nm,1.4s
EDM LR LR
comp=Z,45µm,20.0s
EDM **Edmonton** 24.34 360 *eP* **P** 07 11 16.9 -1.3
EDM pmax pmax
comp=Z,204nm,1.4s
EDM MLR MLR
comp=Z,45µm,20.0s
F39A **Loretta** 24.36 40 P **P** 07 11 19.5 +1.1
baz=233,SNR=27
H41A **Junction City** 24.36 43 P **P** 07 11 18.8 +0.3
baz=238
H41A **Junction City** 24.36 43 *eP* **P** 07 11 17.3 -1.1
comp=Z,54nm,0.9s
H41A LR LR
comp=Z,21µm,18.0s
G40A **Rib Lake** 24.39 42 P **P** 07 11 18.4 -0.3
baz=235,SNR=30
E38A **The Farm, Brul** 24.43 38 P **P** 07 11 19.2 +0.1
baz=231,SNR=17
M45A **Boilermakers S** 24.43 52 P **P** 07 11 18.7 -0.5
baz=247,SNR=7.7
352A **Blakely** 24.44 77 P **P** 07 11 18.9 -0.4
baz=271,SNR=20
I42A **Draeger Farm,** 24.44 46 P **P** 07 11 19.8 +0.7
baz=240,SNR=19
I42A **Draeger Farm,** 24.44 46 *eP* **P** 07 11 20.7 +1.5
comp=Z,129nm,1.1s
I42A LR LR
comp=Z,27µm,21.0s
R48A **Northridge Ran** 24.48 60 P **P** 07 11 19.4 -0.2
baz=255,SNR=25
P47A **Martinsville** 24.49 57 P **P** 07 11 18.1 -1.6
baz=252,SNR=8.4
J43A **Natural Harves** 24.50 47 P **P** 07 11 19.4 -0.4
baz=242
B35A **Bob, Littlefor** 24.52 32 P **P** 07 11 19.0 -0.9
baz=224,SNR=20
C36A **Pine Crest Far** 24.53 34 P **P** 07 11 19.4 -0.6
baz=227,SNR=6.4
252A **Lumpkin** 24.59 76 P **P** 07 11 19.1 -1.6
baz=270,SNR=24
N46A **Monticello** 24.61 54 P **P** 07 11 19.6 -1.2
baz=249,SNR=38
O47A **Sheridan** 24.79 56 P **P** 07 11 21.5 -0.9
baz=251,SNR=12
F40A **Park Falls** 24.81 40 P **P** 07 11 21.2 -1.3
baz=234,SNR=38
C37A **Embarrass** 24.83 35 P **P** 07 11 21.8 -0.9
baz=228
E39A **Mellen** 24.83 39 P **P** 07 11 22.1 -0.6
baz=233,SNR=37
WI02 **Reinke Road, C** 24.88 44 *eP* **P** 07 11 24.9 +1.8
comp=Z,151nm,1.4s
WI02 LR LR
comp=Z,10µm,19.0s
WI04 **River Road, Cl** 24.89 44 *eP* **P** 07 11 25.0 +1.8
comp=Z,122nm,1.1s
WI04 LR LR
comp=Z,10µm,21.0s
WI01 **McKinley Avenu** 24.91 44 PFAKE 07 11 40.0 +17
WI01 LR LR
comp=Z,11µm,20.0s
I43A **Langenfeld Bro** 24.92 46 P **P** 07 11 23.5 0.0
baz=241,SNR=22
553A **Crawfordville** 24.92 80 P **P** 07 11 22.6 -1.1
baz=274
WI03 **Lunz Road, Cli** 24.93 44 PFAKE 07 11 40.0 +16
WI03 LR LR
comp=Z,24µm,18.0s
G41A **Antigo** 24.96 43 P **P** 07 11 23.6 -0.3
baz=237,SNR=12
453A **Whigham** 24.98 78 P **P** 07 11 23.7 -0.5
baz=273,SNR=9.4
H42A **Shiocton** 24.98 45 P **P** 07 11 24.5 +0.4
baz=239
H42A **Shiocton** 24.98 45 *eP* **P** 07 11 25.5 +1.4
comp=Z,83nm,1.0s
H42A LR LR
comp=Z,12µm,19.0s
CPCT **Cooper Cave** 24.99 67 *eP* **P** 07 11 22.9 -1.3
ULM **Lac du Bonnet** 25.02 27 P **P** 07 11 24.0 -0.4
comp=Z,44nm,0.9s,baz=217,slow=9.8,SNR=16
ULM **Lac du Bonnet** 25.02 27 *eP* **P** 07 11 23.5 -0.9
comp=Z,62nm,0.8s
ULM LR LR
comp=Z,26µm,21.0s
ULM **Lac du Bonnet** 25.02 27 *eP* **P** 07 11 23.5 -0.9
ULM pmax pmax
comp=Z,62nm,0.8s
ULM MLR MLR
comp=Z,26µm,21.0s
APG **El Apazote** 25.02 119 P **P** 07 11 25.8 +0.9
comp=Z,8.6nm,1.0s,baz=298,slow=14,SNR=8.3
353A **Camilla** 25.05 77 P **P** 07 11 24.4 -0.4
baz=272,SNR=9.3
M46A **Old House Fiel** 25.07 53 P **P** 07 11 23.9 -1.0
baz=248
253A **Americus** 25.11 75 P **P** 07 11 24.5 -0.9
baz=270
E40A **Wakefield** 25.24 40 P **P** 07 11 25.8 -0.6
baz=234,SNR=38
C38A **Sawbill Land.** 25.29 36 P **P** 07 11 26.7 -0.1
baz=230,SNR=13
F41A **Three Lakes** 25.29 42 P **P** 07 11 26.8 -0.1
baz=236,SNR=16
EYMN **Ely** 25.32 35 P **P** 07 11 26.9 -0.2
baz=229,SNR=17
EYMN **Ely** 25.32 35 *eP* **P** 07 11 27.8 +0.7
comp=Z,88nm,0.9s
EYMN LR LR
comp=Z,13µm,18.0s
153A **Fort Valley** 25.36 74 P **P** 07 11 27.6 0.0
baz=269,SNR=7.3
G42A **Mountain** 25.43 43 P **P** 07 11 28.1 0.0
baz=238,SNR=14
G42A **Mountain** 25.43 43 *eP* **P** 07 11 28.3 +0.2
comp=Z,133nm,1.2s
G42A LR LR
comp=Z,14µm,20.0s
H43A **Windswept, Lux** 25.44 45 P **P** 07 11 27.9 -0.3
baz=241,SNR=22
H43A **Windswept, Lux** 25.44 45 *eP* **P** 07 11 29.1 +0.9
comp=Z,270nm,1.3s
H43A LR LR
comp=Z,13µm,20.0s
COWI **Conover** 25.47 41 *eP* **P** 07 11 29.8 +1.3
comp=Z,86nm,0.9s
COWI LR LR
comp=Z,24µm,18.0s
554A **Perry** 25.58 80 P **P** 07 11 29.2 -0.4
baz=275
454A **Quitman** 25.58 79 P **P** 07 11 28.2 -1.4
baz=273
TIGA **Tifton** 25.58 77 P **P** 07 11 28.7 -0.9
baz=272
TIGA **Tifton** 25.58 77 *eP* **P** 07 11 29.6 0.0
comp=Z,146nm,1.1s
TIGA LR LR
comp=Z,55µm,20.0s
TKL **Tuckaleechee C** 25.62 67 P **P** 07 11 30.2 +0.2
comp=Z,43nm,0.9s,baz=244,slow=6.0,SNR=15
TKL **Tuckaleechee C** 25.62 67 *eP* **P** 07 11 30.1 +0.2
comp=Z,246nm,1.0s
TKL LR LR
comp=Z,42µm,18.0s
TKL **Tuckaleechee C** 25.62 67 *eP* **P** 07 11 30.2 +0.2
TKL pmax pmax
comp=Z,246nm,1.0s
TKL MLR MLR
comp=Z,42µm,18.0s
GOGA **Godfrey** 25.69 72 P **P** 07 11 29.6 -1.0
baz=268,SNR=18
GOGA **Godfrey** 25.69 72 *eP* **P** 07 11 30.9 +0.3
comp=Z,101nm,1.3s
GOGA LR LR
comp=Z,58µm,22.0s
GOGA **Godfrey** 25.69 72 *eP* **P** 07 11 30.9 +0.3
GOGA pmax pmax
comp=Z,101nm,1.3s
GOGA MLR MLR
comp=Z,58µm,22.0s
E41A **Kenton** 25.78 40 P **P** 07 11 30.7 -0.6
baz=235,SNR=21
254A **Abbeville** 25.82 76 P **P** 07 11 30.8 -1.1
baz=271
BBB **Bella Bella** 25.86 338 P **P** 07 11 31.5 -0.3
comp=Z,11nm,0.9s,baz=162,slow=8.0,SNR=12
BBB **Bella Bella** 25.86 338 *eP* **P** 07 11 31.5 -0.3
BBB LR LR
comp=Z,29µm,21.0s
F42A **Maple Grove Fa** 25.87 43 P **P** 07 11 31.8 -0.3
baz=238
G43A **Wallace** 25.88 44 P **P** 07 11 31.4 -0.9
baz=239,SNR=26
G43A **Wallace** 25.88 44 *eP* **P** 07 11 32.8 +0.6
comp=Z,140nm,1.0s
G43A LR LR
comp=Z,8µm,19.0s
TZTN **Tazewell** 25.92 65 P **P** 07 11 31.5 -1.2
baz=261,SNR=10.0
TZTN **Tazewell** 25.92 65 *eP* **P** 07 11 31.8 -0.8
comp=Z,124nm,1.0s
TZTN LR LR
comp=Z,40µm,19.0s
C39A **Grand Marais** 25.95 37 P **P** 07 11 32.6 -0.2
baz=231,SNR=46
154A **Montrose** 25.98 74 P **P** 07 11 32.5 -0.7
baz=270,SNR=10
655A **Horseshoe Beac** 26.00 81 P **P** 07 11 32.0 -1.4
baz=276
455A **Stateville** 26.10 78 P **P** 07 11 33.9 -0.4
baz=274
555A **McAlpin** 26.19 80 P **P** 07 11 33.8 -1.4
baz=275
355A **Pearson** 26.21 77 P **P** 07 11 34.0 -1.4
baz=272
BG3 **Lake Jocassee** 26.23 69 *eP* **P** 07 11 36.0 +0.5
comp=Z,270nm,1.2s
BG3 LR LR
comp=Z,22µm,18.0s
D41A **Chassel** 26.34 40 P **P** 07 11 35.5 -0.9
baz=235,SNR=14
E42A **Champion** 26.36 41 P **P** 07 11 35.3 -1.4
baz=237
F43A **Flat Rock, Esc** 26.49 43 P **P** 07 11 37.4 -0.3
baz=239,SNR=14
155A **Kite** 26.52 74 P **P** 07 11 37.4 -0.7
baz=270
C40A **Isle Royale Na** 26.53 38 P **P** 07 11 37.8 -0.2
baz=233,SNR=11
656A **Williston** 26.64 81 P **P** 07 11 38.5 -0.7
baz=276
556A **Lake Butler** 26.69 80 P **P** 07 11 38.2 -1.4
baz=275
HODGE **Hodges** 26.73 71 *eP* **P** 07 11 40.0 0.0
comp=Z,192nm,1.3s
HODGE LR LR
comp=Z,42µm,21.0s
SNET **Serv Nac Est T** 26.77 119 PFAKE 07 11 50.0 +9.4
SNET LR LR
comp=Z,30µm,18.0s
356A **Blackshear** 26.83 77 P **P** 07 11 40.2 -0.7
baz=273
E43A **Lone Tree Farm** 26.87 42 P **P** 07 11 40.9 -0.3
baz=238,SNR=8.1
456A **Hilliard** 26.96 78 P **P** 07 11 41.7 -0.4
baz=274
F44A **Big Bay de Noc** 27.01 44 P **P** 07 11 42.1 -0.3
baz=240,SNR=23
256A **Glenville** 27.01 76 P **P** 07 11 42.2 -0.4
baz=272
857A **Zephyrhills** 27.05 84 P **P** 07 11 42.2 -0.8
baz=279
FFC **Flin Flon** 27.07 14 *eP* **P** 07 11 43.2 +0.4
comp=Z,43nm,1.3s
FFC LR LR
comp=Z,8µm,22.0s
FFC **Flin Flon** 27.07 14 *eP* **P** 07 11 43.2 +0.4
FFC pmax pmax
comp=Z,43nm,1.3s
FFC MLR MLR
comp=Z,8µm,22.0s
757A **Oxford** 27.10 82 P **P** 07 11 42.3 -1.1
baz=277
ACSO **Alum Creek Sta** 27.12 57 P **P** 07 11 42.9 -0.6
baz=254,SNR=22
ACSO **Alum Creek Sta** 27.12 57 *eP* **P** 07 11 42.5 -1.0
comp=Z,136nm,0.9s
ACSO LR LR
comp=Z,44µm,21.0s
PAULI **Pauline** 27.13 69 PFAKE 07 12 00.0 +16
PAULI LR LR
comp=Z,36µm,19.0s
957A **Wimauma** 27.14 85 P **P** 07 11 42.7 -1.1
baz=280
657A **Interlachen** 27.20 81 P **P** 07 11 43.5 -0.8
baz=276
AAM **Ann Arbor** 27.27 53 P **P** 07 11 44.8 +0.1
baz=250
AAM **Ann Arbor** 27.27 53 *eP* **P** 07 11 44.0 -0.7
comp=Z,94nm,1.0s
AAM LR LR
comp=Z,32µm,20.0s
AAM **Ann Arbor** 27.27 53 *eP* **P** 07 11 44.0 -0.7
AAM pmax pmax
comp=Z,94nm,1.0s
AAM MLR MLR
comp=Z,32µm,20.0s
557A **Orange Park** 27.27 80 P **P** 07 11 44.8 -0.1
baz=275
457A **Yulee** 27.37 78 P **P** 07 11 45.7 -0.1
baz=274
357A **Townsend** 27.38 77 P **P** 07 11 45.8 0.0
baz=273
F45A **CMU Biological** 27.42 45 P **P** 07 11 45.7 -0.4
baz=242
KMSC **Kings Mountain** 27.55 69 P **P** 07 11 46.6 -0.8
baz=266,SNR=30
KMSC **Kings Mountain** 27.55 69 *eP* **P** 07 11 45.5 -1.9
comp=Z,228nm,1.3s
KMSC LR LR
comp=Z,26µm,20.0s
JSC **Jenkinsville** 27.56 71 *eP* **P** 07 11 48.8 +1.3
comp=Z,186nm,1.9s
JSC LR LR
comp=Z,33µm,20.0s
JSC **Jenkinsville** 27.56 71 *eP* **P** 07 11 48.8 +1.3
JSC pmax pmax
comp=Z,187nm,1.9s
JSC MLR MLR
comp=Z,33µm,20.0s
958A **Wauchula** 27.57 85 P **P** 07 11 46.2 -1.4
baz=280
GLMI **Grayling** 27.60 47 P **P** 07 11 46.6 -1.1
baz=244
GLMI **Grayling** 27.60 47 *eP* **P** 07 11 48.2 +0.5
comp=Z,105nm,0.9s
GLMI LR LR
comp=Z,36µm,19.0s
058A **Arcadia** 27.63 86 P **P** 07 11 47.0 -1.2
baz=281
E44A **Grand Marais A** 27.63 43 P **P** 07 11 47.3 -0.7
baz=240
658A **Bunnell** 27.74 81 P **P** 07 11 48.0 -1.2
baz=277
257A **Skidaway Islan** 27.75 76 P **P** 07 11 48.1 -1.1
baz=272
DWPF **Disney Wildern** 27.77 84 P **P** 07 11 48.4 -1.0
baz=279
DWPF **Disney Wildern** 27.77 84 PFAKE 07 12 00.0 +11
DWPF LR LR
comp=Z,15µm,21.0s
858A **St. Cloud** 27.82 84 P **P** 07 11 48.0 -1.8
baz=279
758A **Lake Helen** 27.85 82 P **P** 07 11 48.9 -1.2
baz=278
F46A **Macinaw City C** 27.93 45 P **P** 07 11 50.0 -0.7
baz=242
E45A **Wooded Hills,** 27.95 44 P **P** 07 11 50.2 -0.7
baz=241
TGUH **Tegucigalpa,Un** 28.07 116 PFAKE 07 12 00.0 +7.8
TGUH LR LR
comp=Z,48µm,18.0s
059Z **Ave Maria** 28.09 88 P **P** 07 11 51.2 -1.1
baz=282
DIB **Dawson Inlet,** 28.21 335 *eP* **P** 07 11 53.4 +0.3
comp=Z,46nm,1.5s
DIB LR LR
comp=Z,25µm,18.0s
059A **Moore Haven** 28.22 86 P **P** 07 11 52.0 -1.4
baz=281
859A **Kempfer Cattle** 28.24 84 P **P** 07 11 52.0 -1.6
baz=279
959A **Okeechobee** 28.35 85 P **P** 07 11 52.8 -1.8
baz=280
NHSC **New Hope** 28.44 73 P **P** 07 11 53.8 -1.5
baz=270
NHSC **New Hope** 28.44 73 PFAKE 07 12 10.0 +15
NHSC LR LR
comp=Z,37µm,19.0s
BLA **Blacksburg** 28.50 64 P **P** 07 11 54.8 -1.1
baz=262
BLA **Blacksburg** 28.50 64 *eP* **P** 07 11 56.5 +0.6
comp=Z,270nm,1.8s
BLA LR LR
comp=Z,38µm,19.0s
BLA **Blacksburg** 28.50 64 *eP* **P** 07 11 56.5 +0.6
BLA pmax pmax
comp=Z,269nm,1.8s
BLA MLR MLR
comp=Z,38µm,19.0s
NCAT **North Carolina** 28.89 67 *eP* **P** 07 12 00.5 +1.1
comp=Z,94nm,1.6s
NCAT LR LR
comp=Z,20µm,19.0s
060A **Indiantown** 28.89 86 P **P** 07 11 57.7 -1.7
baz=281
MCWV **Mont Chateau** 29.34 60 P **P** 07 12 01.4 -1.9
baz=259
MCWV **Mont Chateau** 29.34 60 *eP* **P** 07 12 03.9 +0.6
comp=Z,22nm,0.8s
MCWV LR LR
comp=Z,47µm,18.0s
N54A **Moraine State** 29.51 57 P **P** 07 12 03.3 -1.6
baz=256
N54A **Moraine State** 29.51 57 *eP* **P** 07 12 05.5 +0.7
comp=Z,332nm,1.9s
N54A LR LR
comp=Z,43µm,18.0s
ALLY **Alegheny Colle** 29.57 56 PFAKE 07 12 20.0 +15
ALLY LR LR
comp=Z,33µm,19.0s
ERPA **Erie** 29.80 55 P **P** 07 12 06.8 -0.6
baz=254
ERPA **Erie** 29.80 55 PFAKE 07 12 20.0 +13
ERPA LR LR
comp=Z,42µm,20.0s
M54A **Oil Creek Stat** 29.88 56 P **P** 07 12 07.1 -1.0
baz=256,SNR=6.4
M54A **Oil Creek Stat** 29.88 56 *eP* **P** 07 12 09.8 +1.7
comp=Z,117nm,1.3s
M54A LR LR
comp=Z,58µm,18.0s
CRAG **Craig** 30.24 337 *eP* **P** 07 12 13.3 +2.2
comp=Z,62nm,1.5s
CRAG LR LR
comp=Z,17µm,22.0s
CNNC **Cliffs of the** 30.37 69 P **P** 07 12 11.2 -1.3
baz=268
CNNC **Cliffs of the** 30.37 69 PFAKE 07 12 20.0 +7.6
CNNC LR LR
comp=Z,28µm,20.0s
O56A **Blue Knob Stat** 30.42 59 P **P** 07 12 11.3 -1.7
baz=259
O56A **Blue Knob Stat** 30.42 59 *eP* **P** 07 12 13.9 +1.0
comp=Z,39nm,0.8s
O56A LR LR
comp=Z,42µm,19.0s
IP04 **Greensprings** 30.44 63 *eP* **P** 07 12 14.9 +1.9
comp=Z,24nm,1.1s
IP04 LR LR
comp=Z,32µm,18.0s
IP07 **Quail** 30.47 64 PFAKE 07 12 30.0 +17
IP07 LR LR
comp=Z,24µm,19.0s
IP03 **Louisa** 30.49 63 PFAKE 07 12 30.0 +17
IP03 LR LR
comp=Z,25µm,18.0s
IP06 **Yanceyville** 30.51 64 PFAKE 07 12 30.0 +16
IP06 LR LR
comp=Z,44µm,20.0s
JSRW **J. Sargeant Re** 30.56 64 *eP* **P** 07 12 14.7 +0.6
IP01 **Cuckoo** 30.57 63 PFAKE 07 12 30.0 +16
IP01 LR LR
comp=Z,21µm,20.0s
SPRD **Spring Road, M** 30.60 63 *eP* **P** 07 12 16.2 +1.8
comp=Z,71nm,1.6s
IP05 **Hopewell Churc** 30.67 64 *eP* **P** 07 12 16.6 +1.5
comp=Z,15nm,0.8s
IP05 LR LR
comp=Z,23µm,22.0s
WRAK **Wrangell Islan** 30.76 339 PFAKE 07 12 30.0 +14
WRAK LR LR
comp=Z,22µm,18.0s
PTRD **Partlow Road** 30.81 63 *eP* **P** 07 12 17.1 +0.8
comp=Z,66nm,1.5s
SSPA **Standing Stone** 31.00 58 P **P** 07 12 16.4 -1.6
baz=259
SSPA **Standing Stone** 31.00 58 *eP* **P** 07 12 19.6 +1.6
comp=Z,76nm,1.2s
SSPA LR LR
comp=Z,28µm,18.0s
CBN **Corbin Frederi** 31.02 63 P **P** 07 12 16.0 -2.1
baz=263
CBN **Corbin Frederi** 31.02 63 PFAKE 07 12 30.0 +12
CBN LR LR
comp=Z,26µm,18.0s
SADO **Sadowa** 31.18 50 P **P** 07 12 20.1 +0.6
comp=Z,19nm,0.6s,baz=271,slow=10,SNR=13
SADO **Sadowa** 31.18 50 *eP* **P** 07 12 20.6 +1.1
comp=Z,55nm,0.8s
SADO LR LR
comp=Z,12µm,18.0s
MMNY **Mt. Morris Dam** 31.45 54 *eP* **P** 07 12 23.6 +1.7
comp=Z,49nm,1.0s
MMNY LR LR
comp=Z,37µm,21.0s
SDMD **Soldier's Deli** 31.59 61 *eP* **P** 07 12 24.4 +1.3
comp=Z,57nm,1.5s
SDMD LR LR
comp=Z,18µm,19.0s
PAGS **Pennsylvania G** 31.80 59 *eP* **P** 07 12 26.2 +1.2
comp=Z,39nm,1.1s
PAGS LR LR
comp=Z,44µm,20.0s
DLBC **Dease Lake** 31.82 343 *eP* **P** 07 12 25.1 0.0
comp=Z,21nm,1.0s
DLBC LR LR
comp=Z,40µm,19.0s
MVL **Millersville** 32.05 60 *eP* **P** 07 12 28.6 +1.4
comp=Z,66nm,1.8s
MVL LR LR
comp=Z,42µm,20.0s
SIT **Sitka** 32.26 337 PFAKE 07 12 40.0 +11
SIT LR LR
comp=Z,17µm,18.0s
N59A **State Game Lan** 32.63 58 P **P** 07 12 30.5 -1.8
baz=260
N59A **State Game Lan** 32.63 58 *eP* **P** 07 12 33.4 +1.0
comp=Z,67nm,1.3s
N59A LR LR
comp=Z,34µm,19.0s
FCC **Fort Churchill** 32.64 18 *eP* **P** 07 12 31.3 -0.8
comp=Z,21nm,0.8s
FCC LR LR
comp=Z,22µm,18.0s
FCC **Fort Churchill** 32.64 18 *eP* **P** 07 12 31.3 -0.8
FCC pmax pmax
comp=Z,21nm,0.8s
FCC MLR MLR
comp=Z,22µm,18.0s
PLVO **Plevna** 32.66 51 *eP* **P** 07 12 31.3 -1.3
comp=Z,196nm,1.3s
BINY **Binghamton** 32.71 56 P **P** 07 12 31.6 -1.5
baz=258,SNR=11
BINY **Binghamton** 32.71 56 *eP* **P** 07 12 34.5 +1.4
comp=Z,118nm,1.1s
BINY LR LR
comp=Z,32µm,19.0s
PSUB **Penn St. - Bra** 32.72 60 PFAKE 07 12 50.0 +17
PSUB LR LR
comp=Z,36µm,22.0s
LUPA **Lehigh Univers** 32.88 59 *eP* **P** 07 12 35.1 +0.7
comp=Z,18nm,1.9s
LUPA LR LR
comp=Z,3µm,20.0s
HDC **Heredia** 32.97 119 PFAKE 07 12 50.0 +14
HDC LR LR
comp=Z,20µm,21.0s
BESE **Bessie Mountai** 33.31 339 *eP* **P** 07 12 40.3 +2.2
comp=Z,80nm,1.8s
BESE LR LR

comp=Z,21µm,21.0s
BRNJ Basking Ridge 33.50 59 *e*P **P 07 12 39.8 0.0**
comp=Z,82nm,1.4s
BRNJ LR LR
comp=Z,27µm,21.0s
ODNJ Ogdensburg 33.53 58 *e*P **P 07 12 41.4 +1.3**
comp=Z,29nm,0.8s
ODNJ LR LR
comp=Z,36µm,18.0s
YKA Yellowknife Ar 33.66 359 P **P 07 12 38.9 -2.0**
comp=Z,8.5nm,1.1s,baz=180,slow=8.2,SNR=33
YKA PcP **PcP 07 15 19.8 -0.8**
comp=Z,1.6nm,0.9s,baz=173,slow=2.3,SNR=4.0
CPNY Central Park 33.97 59 PFAKE 07 13 00.0 +16
CPNY LR LR
comp=Z,51µm,20.0s
PAL Palisades 34.04 59 P **P 07 12 43.3 -1.3**
baz=262
PAL Palisades 34.04 59 PFAKE 07 13 00.0 +15
PAL LR LR
comp=Z,37µm,18.0s
MTDJ Mount Denham 34.13 100 PFAKE 07 13 00.0 +14
MTDJ LR LR
comp=Z,40µm,21.0s
SKAG Skagway 34.17 340 *e*P **P 07 12 45.2 -0.3**
comp=Z,58nm,1.7s
SKAG LR LR
comp=Z,22µm,21.0s
LONY Lake Ozonia 34.26 52 P **P 07 12 45.7 -0.7**
baz=256,SNR=23
LONY Lake Ozonia 34.26 52 *e*P **P 07 12 48.0 +1.6**
comp=Z,117nm,1.4s
LONY LR LR
comp=Z,15µm,19.0s
NCB Newcomb 34.36 53 *e*P **P 07 12 49.1 +1.8**
comp=Z,46nm,1.1s
NCB LR LR
comp=Z,34µm,20.0s
TRY Troy 34.50 56 *e*P **P 07 12 49.1 +0.6**
comp=Z,40nm,1.0s
ACCN Adirondack Com 34.63 55 *e*P **P 07 12 51.3 +1.6**
comp=Z,77nm,1.5s
ACCN LR LR
comp=Z,19µm,19.0s
TRQ Mont Tremblant 34.70 49 *e*P **P 07 12 52.4 +2.1**
YLE Yale 34.81 58 PFAKE 07 13 00.0 +8.8
YLE LR LR
comp=Z,33µm,18.0s
FRNY Flat Rock 35.00 52 *e*P **P 07 12 54.3 +1.5**
comp=Z,36nm,0.9s
FRNY LR LR
comp=Z,32µm,22.0s
WHY Whitehorse 35.02 341 *e*P **P 07 12 54.2 +1.2**
comp=Z,61nm,1.8s
WHY LR LR
comp=Z,40µm,21.0s
QUA2 Belchertown 35.38 57 *e*P **P 07 12 57.9 +1.7**
comp=Z,48nm,0.9s
VT1 Waterbury 35.47 53 *e*P **P 07 12 58.0 +1.1**
comp=Z,90nm,1.4s
GTBY Guantanamo Bay 35.56 96 *e*P **P 07 13 00.3 +2.3**
comp=Z,112nm,1.6s
GTBY LR LR
comp=Z,46µm,21.0s
YKU2 Yakutat 35.62 337 PFAKE 07 13 10.0 +12
YKU2 LR LR
comp=Z,43µm,21.0s
HYT Haines Junctio 35.92 340 *e*P **P 07 13 01.9 +1.2**
comp=Z,28nm,1.4s
HYT LR LR
comp=Z,33µm,22.0s
BRYW Bryant College 35.93 57 *e*P **P 07 13 02.5 +1.6**
comp=Z,48nm,1.0s
HRV Adam Dziewonsk 36.00 56 P **P 07 13 00.6 -0.8**
baz=261
HRV Adam Dziewonsk 36.00 56 *e*P **P 07 13 03.9 +2.4**
comp=Z,48nm,0.9s
HRV LR LR
comp=Z,20µm,21.0s
HRV Adam Dziewonsk 36.00 56 *e*P **P 07 13 03.9 +2.4**
HRV pmax pmax
comp=Z,49nm,0.9s
HRV MLR MLR
comp=Z,20µm,21.0s
LBNH Lisbon 36.03 53 P **P 07 13 01.1 -0.6**
baz=259
LBNH Lisbon 36.03 53 *e*P **P 07 13 04.0 +2.3**
comp=Z,89nm,1.3s
LBNH LR LR
comp=Z,37µm,19.0s
LBNH Lisbon 36.03 53 *e*P **P 07 13 04.1 +2.3**
LBNH pmax pmax
comp=Z,89nm,1.3s
LBNH MLR MLR
comp=Z,37µm,19.0s
BCIP Isla Barro Col 36.82 115 PFAKE 07 13 20.0 +11
BCIP LR LR
comp=Z,31µm,19.0s
BALM Baldy 37.64 337 *e*P **P 07 13 14.7 -0.6**
comp=Z,72nm,1.5s
BALM LR LR
comp=Z,30µm,19.0s
BALM Baldy 37.64 337 *e*P **P 07 13 14.7 -0.6**
BALM pmax pmax
comp=Z,72nm,1.5s
BALM MLR MLR
comp=Z,30µm,19.0s
WVL Waterville 37.69 53 *e*P **P 07 13 16.2 +0.4**
comp=Z,73nm,1.0s
RAGM Ragged Mountai 38.02 335 *e*P **P 07 13 19.2 +0.8**
comp=Z,65nm,1.3s
RAGM LR LR
comp=Z,20µm,18.0s
MID Middleton Isla 38.04 333 PFAKE 07 13 30.0 +11
MID LR LR
comp=Z,25µm,18.0s
PKME Peaks-Kenny Pk 38.07 52 P **P 07 13 18.2 -0.7**
baz=260
PKME Peaks-Kenny Pk 38.07 52 *e*P **P 07 13 19.6 +0.7**
comp=Z,27nm,0.9s
PKME LR LR
comp=Z,48µm,20.0s
BMRM Bremner River 38.39 336 *e*P **P 07 13 23.3 +1.7**
comp=Z,126nm,1.8s
BMRM LR LR
comp=Z,11µm,19.0s
GRTK Grand Turk 38.49 91 PFAKE 07 13 30.0 +7.2
GRTK LR LR
comp=Z,46µm,21.0s
EYAK Cordova Ski Ar 38.53 335 *e*P **P 07 13 23.4 +0.7**
comp=Z,68nm,1.2s
EYAK LR LR
comp=Z,19µm,20.0s
DIV Divide 38.92 335 *e*P **P 07 13 28.6 +2.5**
comp=Z,60nm,1.4s
DIV LR LR
comp=Z,18µm,21.0s
DAWY Dawson 39.02 342 *e*P **P 07 13 26.8 0.0**
comp=Z,56nm,1.4s
DAWY LR LR
comp=Z,32µm,18.0s
PQI Presque Isle 39.20 50 *e*P **P 07 13 28.3 -0.2**
comp=Z,93nm,1.3s
KLU Klutina 39.22 336 *e*P **P 07 13 29.1 +0.6**
comp=Z,63nm,1.6s
KLU LR LR
comp=Z,19µm,19.0s
HULD Heiheiahulu Di 39.22 266 PFAKE 07 13 40.0 +11
HULD LR LR
comp=Z,23µm,19.0s
SDDR Presa de Saban 39.26 95 *e*P **P 07 13 30.8 +1.4**
comp=Z,42nm,1.1s
SDDR LR LR
comp=Z,76µm,22.0s
EMMW East Machias 39.26 54 *e*P **P 07 13 31.7 +2.7**
comp=Z,86nm,1.0s
JCUZ Jacuzzi 39.34 266 PFAKE 07 13 40.0 +10
JCUZ LR LR
comp=Z,21µm,19.0s
NPOC North of Pu'u 39.34 266 PFAKE 07 13 40.0 +10
NPOC LR LR
comp=Z,20µm,18.0s
STCH Steam Cracks 39.36 266 PFAKE 07 13 40.0 +10
STCH LR LR
comp=Z,20µm,18.0s
PUH Pauahi 39.45 266 PFAKE 07 13 40.0 +9.0
PUH LR LR
comp=Z,22µm,19.0s

MENT Mentasta 39.46 338 *e*P **P 07 13 31.9 +1.4**
comp=Z,29nm,1.0s
MENT LR LR
comp=Z,22µm,21.0s
HATHI Halema'uma'u T 39.47 266 PFAKE 07 13 40.0 +8.8
HATHI LR LR
comp=Z,20µm,19.0s
BYL Byron's Ledge 39.47 266 PFAKE 07 13 40.0 +8.8
BYL LR LR
comp=Z,19µm,19.0s
SBLHI Steaming Bluff 39.47 266 PFAKE 07 13 40.0 +8.8
SBLHI LR LR
comp=Z,19µm,19.0s
KKO Keanakako'i 39.48 266 PFAKE 07 13 40.0 +8.7
KKO LR LR
comp=Z,21µm,19.0s
UWB Uwekahuna B 39.48 266 PFAKE 07 13 40.0 +8.7
UWB LR LR
comp=Z,22µm,19.0s
NPH North Pit 39.49 266 PFAKE 07 13 40.0 +8.6
NPH LR LR
comp=Z,19µm,18.0s
RIM Rim 39.49 266 PFAKE 07 13 40.0 +8.6
RIM LR LR
comp=Z,20µm,18.0s
OBL Observatory Le 39.49 266 PFAKE 07 13 40.0 +8.6
OBL LR LR
comp=Z,19µm,18.0s
UWE Uwekahuna 39.49 266 PFAKE 07 13 40.0 +8.6
UWE LR LR
comp=Z,21µm,19.0s
WRMHI West Rim 39.51 266 PFAKE 07 13 40.0 +8.5
WRMHI LR LR
comp=Z,20µm,19.0s
SDHHI Sand Hill 39.51 266 PFAKE 07 13 40.0 +8.5
SDHHI LR LR
comp=Z,20µm,18.0s
MLH Mauna Loa 39.55 266 PFAKE 07 13 40.0 +8.0
MLH LR LR
comp=Z,22µm,19.0s
HLP Hilina Pali 39.55 266 PFAKE 07 13 40.0 +8.1
HLP LR LR
comp=Z,22µm,18.0s
HARP HAARP 39.56 337 *e*P **P 07 13 32.8 +1.5**
comp=Z,125nm,1.2s
HARP LR LR
comp=Z,10µm,20.0s
POHA Pohakuloa 39.58 267 PFAKE 07 13 40.0 +7.7
POHA LR LR
comp=Z,16µm,20.0s
HMH Humu'ula Sheep 39.59 266 PFAKE 07 13 40.0 +7.5
HMH LR LR
comp=Z,22µm,18.0s
HPAH Hawaii Prepara 39.62 267 PFAKE 07 13 40.0 +7.6
HPAH LR LR
comp=Z,18µm,18.0s
AIN Ainahou 39.66 266 PFAKE 07 13 50.0 +17
AIN LR LR
comp=Z,22µm,18.0s
MLOA Mauna Loa Obse 39.70 266 *e*P **P 07 13 34.4 +1.0**
comp=Z,813nm,1.7s
MLOA LR LR
comp=Z,29µm,18.0s
MWH Moku'aweowe 39.74 266 PFAKE 07 13 50.0 +16
MWH LR LR
comp=Z,14µm,19.0s
KDAK Kodiak Island 39.83 328 P **P 07 13 33.4 -0.1**
comp=Z,33nm,0.8s,baz=116,slow=5.3,SNR=20
KDAK LR LR 07 27 40.3
comp=Z,15µm,19.0s,baz=148,slow=33
KDAK Kodiak Island 39.83 328 *e*P **P 07 13 35.7 +2.1**
comp=Z,535nm,0.3s
KDAK LR LR
comp=Z,15µm,20.0s
KDAK Kodiak Island 39.83 328 *i* P **P 07 13 34.5 +0.9**
KHU Kahuku 39.84 266 PFAKE 07 13 50.0 +16
KHU LR LR
comp=Z,36µm,22.0s
HLK Haleakala 39.85 268 PFAKE 07 13 50.0 +15
HLK LR LR
comp=Z,24µm,18.0s
HUH Hualalai 39.87 267 PFAKE 07 13 50.0 +15
HUH LR LR
comp=Z,32µm,22.0s
OHAK Old Harbor 39.90 327 *e*P **P 07 13 35.1 +1.0**
comp=Z,56nm,1.0s
OHAK LR LR
comp=Z,19µm,20.0s
SCM Sheep Creek Mo 39.95 335 *e*P **P 07 13 36.9 +2.3**
comp=Z,196nm,1.9s
SCM LR LR
comp=Z,14µm,20.0s
SCM Sheep Creek Mo 39.95 335 *e*P **P 07 13 36.9 +2.3**
SCM pmax pmax
comp=Z,196nm,1.9s
SCM MLR MLR
comp=Z,14µm,20.0s
KHLU Kahalu'u 39.96 266 PFAKE 07 13 50.0 +15
KHLU LR LR
comp=Z,14µm,19.0s
KHLH Kahului Airpor 39.96 269 PFAKE 07 13 50.0 +15
KHLH LR LR
comp=Z,33µm,19.0s
PAX Paxson 40.05 338 *e*P **P 07 13 37.6 +2.1**
comp=Z,16nm,1.0s
PAX LR LR
comp=Z,23µm,20.0s
PAX Paxson 40.05 338 *e*P **P 07 13 37.6 +2.1**
PAX pmax pmax
comp=Z,16nm,1.0s
PAX MLR MLR
comp=Z,23µm,20.0s
EGAK Eagle 40.06 342 *e*P **P 07 13 36.8 +1.5**
comp=Z,41nm,1.2s
EGAK LR LR
comp=Z,29µm,22.0s
DOT Dot Lake 40.07 339 *e*P **P 07 13 36.0 +0.5**
comp=Z,78nm,1.2s
DOT LR LR
comp=Z,65µm,22.0s
BRLK Bradley Lake 40.11 331 *e*P **P 07 13 35.4 -0.5**
comp=Z,7µm,0.4s
BRLK LR LR
comp=Z,12µm,20.0s
SCRK Sand Creek 40.28 339 *e*P **P 07 13 37.0 -0.5**
comp=Z,30nm,1.0s
SCRK LR LR
comp=Z,18µm,22.0s
SML Sawmill 40.30 335 *e*P **P 07 13 37.5 0.0**
comp=Z,74nm,1.3s
SML LR LR
comp=Z,15µm,21.0s
SML Sawmill 40.30 335 *e*P **P 07 13 37.5 0.0**
SML pmax pmax
comp=Z,74nm,1.3s
SML MLR MLR
comp=Z,15µm,21.0s
HOM Homer 40.38 331 *e*P **P 07 13 41.0 +2.9**
comp=Z,26µm,0.2s
HOM LR LR
comp=Z,13µm,19.0s
RIDG Independ'e Rid 40.38 339 *e*P **P 07 13 39.3 +1.1**
comp=Z,36nm,1.2s
RIDG LR LR
comp=Z,25µm,18.0s
MOTC Monteria, Cord 40.39 112 *e*P **P 07 13 42.6 +3.8**
RC01 Rabbit Creek A 40.40 333 *e*P **P 07 13 38.3 0.0**
comp=Z,472nm,0.4s
RC01 LR LR
comp=Z,12µm,18.0s
PMR Palmer 40.47 334 *e*P **P 07 13 39.1 +0.3**
comp=Z,216nm,0.6s
PMR LR LR
comp=Z,10µm,18.0s
PMR Palmer 40.47 334 *e*P **P 07 13 39.1 +0.3**
PMR pmax pmax
comp=Z,216nm,0.6s
PMR MLR MLR
comp=Z,10µm,18.0s
GHO Glory Hole Cre 40.50 335 *e*P **P 07 13 39.3 +0.1**
comp=Z,58nm,0.8s
GHO LR LR
comp=Z,10µm,18.0s
SDD Santo Domingo 40.66 95 PFAKE 07 13 50.0 +9.1
SDD LR LR
comp=Z,74µm,19.0s
DHY Denali Highway 40.77 337 *e*P **P 07 13 41.4 -0.1**
comp=Z,37nm,1.2s
DHY LR LR
comp=Z,16µm,18.0s
SUA Susitna One 41.02 333 *e*P **P 07 13 43.3 -0.2**
comp=Z,1µm,0.5s
SUA LR LR
comp=Z,11µm,20.0s
OPA Opana 41.08 271 PFAKE 07 14 00.0 +16
OPA LR LR
comp=Z,28µm,22.0s
KIP Kipapa 41.17 270 PFAKE 07 14 00.0 +15
KIP LR LR
comp=Z,13µm,19.0s
HON Honolulu 41.19 270 PFAKE 07 14 00.0 +15
HON LR LR
comp=Z,13µm,20.0s
INK Inuvik 41.30 349 P **P 07 13 44.7 -0.9**
comp=Z,28nm,1.2s,baz=151,slow=11,SNR=25
INK Inuvik 41.30 349 *e*P **P 07 13 45.0 -0.5**
comp=Z,53nm,1.4s
INK LR LR
comp=Z,52µm,21.0s
INK Inuvik 41.30 349 *e*P **P 07 13 45.0 -0.5**
INK pmax pmax
comp=Z,53nm,1.4s
INK MLR MLR
comp=Z,52µm,21.0s
BBSR BB Station 41.49 73 PFAKE 07 14 00.0 +12
BBSR LR LR
comp=Z,24µm,20.0s
RND Reindeer 41.50 337 *e*P **P 07 13 48.9 +1.5**
comp=Z,32nm,1.2s
RND LR LR
comp=Z,19µm,19.0s
RND Reindeer 41.50 337 *e*P **P 07 13 48.9 +1.5**
RND pmax pmax
comp=Z,32nm,1.2s
RND MLR MLR
comp=Z,19µm,19.0s
HDA Harding Lake 41.52 339 *e*P **P 07 13 49.1 +1.6**
comp=Z,33nm,1.2s
HDA LR LR
comp=Z,18µm,20.0s
SKT Skwentna 41.62 334 *e*P **P 07 13 49.7 +1.4**
comp=Z,384nm,0.6s
SKT LR LR
comp=Z,23µm,22.0s
MCK McKinley 41.73 337 *e*P **P 07 13 48.9 -0.4**
comp=Z,40nm,1.0s
MCK LR LR
comp=Z,27µm,19.0s
MCK McKinley 41.73 337 *e*P **P 07 13 48.9 -0.4**
MCK pmax pmax
comp=Z,40nm,1.0s
MCK MLR MLR
comp=Z,27µm,19.0s
IL1 Eielson Array 41.74 339 *e*P **P 07 13 47.8 -1.5**
ILAR Eielson Array 41.74 339 P **P 07 13 48.5 -0.8**
comp=Z,23nm,1.1s,baz=153,slow=7.0,SNR=58
ILB Eielson Array 41.74 339 *e*P **P 07 13 48.4 -0.9**
ZARC Zaragoza, Cauc 41.78 113 *e*P **P 07 13 52.6 +2.4**
URIC Uribia, Colomb 41.88 105 *e*P **P 07 13 51.7 +0.7**
WRH Wood River Hil 41.93 338 *e*P **P 07 13 50.7 -0.1**
comp=Z,20nm,0.9s
WRH LR LR
comp=Z,30µm,18.0s
CCB Clear Creek Bu 41.95 338 *e*P **P 07 13 51.6 +0.6**
comp=Z,14nm,0.9s
CCB LR LR
comp=Z,30µm,18.0s
HELC Santa Helena 42.01 115 *e*P **P 07 13 51.3 -1.2**
comp=Z,90nm,1.3s
HELC LR LR
comp=Z,95µm,21.0s
TRF Thorofare Moun 42.03 336 *e*P **P 07 13 51.0 -0.8**
comp=Z,121nm,1.3s
TRF LR LR
comp=Z,16µm,19.0s
SCHQ Schefferville 42.03 39 P **P 07 13 53.0 +1.1**
comp=Z,27nm,0.9s,baz=274,slow=6.4,SNR=20
SCHQ Schefferville 42.03 39 *e*P **P 07 13 52.9 +1.1**
comp=Z,47nm,0.8s
SCHQ LR LR
comp=Z,29µm,22.0s
CHGN Chignik 42.08 324 *e*P **P 07 13 53.0 +0.9**
comp=Z,90nm,1.2s
CHGN LR LR
comp=Z,9µm,18.0s
COLA College 42.12 339 *e*P **P 07 13 53.5 +1.2**
comp=Z,32nm,1.0s
COLA LR LR
comp=Z,24µm,21.0s
COLA College 42.12 339 *e*P **P 07 13 53.5 +1.2**
COLA pmax pmax
comp=Z,32nm,1.0s
COLA MLR MLR
comp=Z,24µm,21.0s
MDM Murphy Dome 42.30 339 *e*P **P 07 13 55.2 +1.3**
comp=Z,20nm,1.1s
MDM LR LR
comp=Z,22µm,20.0s
KTH Kantishna Hill 42.32 336 *e*P **P 07 13 55.1 +1.0**
comp=Z,184nm,0.6s
KTH LR LR
comp=Z,15µm,20.0s
TUMC Tumaco 42.34 123 PFAKE 07 14 10.0 +15
TUMC LR LR
comp=Z,51µm,20.0s
PPLA Purkeypile 42.40 335 *e*P **P 07 13 54.7 -0.1**
comp=Z,217nm,0.7s
PPLA LR LR
comp=Z,12µm,18.0s
KEKH Kekaha 42.48 272 PFAKE 07 14 10.0 +14
KEKH LR LR
comp=Z,15µm,21.0s
FYU Fort Yukon 42.52 342 *e*P **P 07 13 56.4 +0.8**
comp=Z,87nm,1.3s
FYU LR LR
comp=Z,18µm,20.0s
OCAC Ocana 42.61 111 *e*P **P 07 14 01.9 +4.7**
PTBC PUERTO BERRIO, 42.66 114 *e*P **P 07 13 56.5 -0.8**
CAST Castle Rocks 42.66 335 *e*P **P 07 13 55.4 -1.4**
comp=Z,116nm,0.4s
CAST LR LR
comp=Z,15µm,21.0s
BPAW Bear Paw Mtn. 42.67 337 *e*P **P 07 13 56.0 -0.9**
comp=Z,76nm,1.1s
BPAW LR LR
comp=Z,27µm,20.0s
GUYC Guyana, Colomb 42.70 116 *e*P **P 07 13 59.2 +1.0**
YOTC Yotoco, Valle 42.72 118 *e*P **P 07 13 57.2 -0.8**
SVW2 Sparrevohn 42.80 331 *e*P **P 07 13 56.8 -1.2**
comp=Z,320nm,0.5s
SVW2 LR LR
comp=Z,12µm,18.0s
SDPT Sand Point 42.85 322 PFAKE 07 14 10.0 +12
SDPT LR LR
comp=Z,10µm,20.0s
RREF El Recreo 42.93 117 *e*P **P 07 14 03.2 +2.9**
AGP Aguadilla 43.10 94 PFAKE 07 14 10.0 +9.0
AGP LR LR
comp=Z,53µm,18.0s
MLY Manley 43.16 338 *e*P **P 07 14 00.2 -0.6**
comp=Z,57nm,1.2s
MLY LR LR
comp=Z,26µm,21.0s
MPR Mayaguez 43.18 94 PFAKE 07 14 10.0 +8.5
MPR LR LR
comp=Z,29µm,20.0s
CRPR Cabo Rojo, PR 43.29 94 PFAKE 07 14 10.0 +7.6
CRPR LR LR
comp=Z,78µm,20.0s
POPC Popayan, Colom 43.39 120 *e*P **P 07 14 03.9 +0.3**
AOPR Arecibo Observ 43.47 93 PFAKE 07 14 20.0 +16
AOPR LR LR
comp=Z,45µm,18.0s
OTAV Otavalo 43.62 125 *e*P **P 07 14 05.9 +0.2**
comp=Z,93nm,1.3s
OTAV LR LR
comp=Z,28µm,18.0s
OTAV Otavalo 43.62 125 *e*P **P 07 14 05.8 +0.2**
PAMC Pamplona, Colo 43.62 111 *e*P **P 07 14 05.8 +0.2**
SOTA Rioblanco 43.71 121 *e*P **P 07 14 06.5 +0.1**
OBIP Obispado Ponce 43.71 94 PFAKE 07 14 20.0 +14
OBIP LR LR
comp=Z,43µm,22.0s
PCON Cinco Dias 43.74 120 *e*P **P 07 14 07.8 +1.1**

ROSC **El Rosal** 43.78 116 P **P** 07 14 08.2 +1.4
comp=Z,3.8nm,0.5s,baz=347,slow=5.5,SNR=5.6
ROSC **El Rosal** 43.78 116 PFAKE 07 14 20.0 +13
ROSC LR LR
comp=Z,60µm,20.0s
PRAC **Prado** 44.02 117 PFAKE 07 14 20.0 +12
PRAC LR LR
comp=Z,45µm,22.0s
SJG **San Juan** 44.09 93 PFAKE 07 14 20.0 +11
SJG LR LR
comp=Z,48µm,21.0s
SJG **San Juan** 44.09 93 *e*P **P** **07 14 05.2 -3.6**
CBYP **Canovanas** 44.28 93 PFAKE 07 14 20.0 +9.5
CBYP LR LR
comp=Z,59µm,21.0s
FALS **False Pass** 44.33 320 *e*P **P** **07 14 12.0 +1.7**
comp=Z,151nm,1.2s
FALS LR LR
comp=Z,10µm,19.0s
COLD **Coldfoot** 44.40 340 *e*P **P** **07 14 11.5 +0.8**
comp=Z,36nm,1.2s
COLD LR LR
comp=Z,11µm,19.0s
SDV **Santo Domingo** 44.48 108 P **P** **07 14 12.9 +0.6**
comp=Z,32nm,0.9s,baz=308,slow=5.9,SNR=13
SDV **Santo Domingo** 44.48 108 *e*P **P** **07 14 13.8 +1.6**
comp=Z,60nm,0.8s
SDV LR LR
comp=Z,66µm,18.0s
SDV **Santo Domingo** 44.48 108 *e*P **P** **07 14 11.2 -1.1**
IM3 **Indian Mountai** 44.74 338 *e*P **P** **07 14 12.0 -1.4**
TOLK **Toolik Lake Re** 45.17 342 P **P** **07 14 16.6 -0.3**
baz=133,SNR=25
TOLK **Toolik Lake Re** 45.17 342 *e*P **P** **07 14 16.6 -0.3**
comp=Z,38nm,1.1s
TOLK LR LR
comp=Z,26µm,18.0s
CDVI **St. Croix** 45.44 93 *e*P **P** **07 14 20.6 +1.0**
comp=Z,144nm,0.8s
ABVI **Anegada Island** 45.44 92 PFAKE 07 14 30.0 +10
ABVI LR LR
comp=Z,26µm,20.0s
AKUT **Akutan** 45.50 319 PFAKE 07 14 30.0 +10
AKUT LR LR
comp=Z,10µm,21.0s
TAOE **Nuku Hiva Isla** 45.71 219 PFAKE 07 14 30.0 +8.2
TAOE LR LR
comp=Z,14µm,20.0s
UNV **Unalaska Valle** 45.86 318 PFAKE 07 14 30.0 +7.5
UNV LR LR
comp=Z,11µm,19.0s
SMRT **St. Maarten** 46.80 92 PFAKE 07 14 40.0 +10
SMRT LR LR
comp=Z,55µm,19.0s
RES **Resolute Bay** 46.81 7 P **P** **07 14 29.4 -0.3**
comp=Z,5.4nm,1.1s,baz=187,slow=8.1,SNR=3.3
RES **Resolute Bay** 46.81 7 *e*P **P** **07 14 30.3 +0.6**
comp=Z,37nm,1.4s
RES LR LR
comp=Z,31µm,21.0s
RES **Resolute Bay** 46.81 7 *e*P **P** **07 14 30.3 +0.6**
RES pmax pmax
comp=Z,37nm,1.4s
RES MLR MLR
comp=Z,31µm,21.0s
SABA **Saba** 46.83 92 PFAKE 07 14 40.0 +9.4
SABA LR LR
comp=Z,68µm,21.0s
SEUS **St. Eustatius** 47.10 93 PFAKE 07 14 40.0 +7.3
SEUS LR LR
comp=Z,33µm,18.0s
ANWB **Willy Bob** 48.08 92 PFAKE 07 14 50.0 +10
ANWB LR LR
comp=Z,23µm,20.0s
GDHS **Morne Mazeau,** 48.66 93 PFAKE 07 15 00.0 +15
GDHS LR LR
comp=Z,62µm,22.0s
PCRV **Puerto La Cruz** 48.90 102 P **P** **07 14 46.5 -0.3**
comp=Z,15nm,1.1s,baz=295,slow=12,SNR=3.5
ATAH **Atahualpa** 48.95 132 P **P** **07 14 49.3 +1.8**
comp=Z,24nm,0.9s,baz=329,slow=4.8,SNR=15
FDF **Fort de France** 49.84 95 *e*P **P** **07 14 52.6 -1.4**
comp=Z,86nm,1.0s
FDF LR LR
comp=Z,77µm,19.0s
FDF **Fort de France** 49.84 95 *e*P **P** **07 14 52.6 -1.4**
FDF pmax pmax
comp=Z,86nm,1.0s
FDF MLR MLR
comp=Z,77µm,19.0s
XMAS **Kiritimati** 49.95 246 PFAKE 07 15 10.0 +15
XMAS LR LR
comp=Z,65µm,18.0s
SVB **Belmont** 50.39 97 PFAKE 07 15 10.0 +12
SVB LR LR
comp=Z,53µm,22.0s
GRGR **Grenville** 50.55 98 PFAKE 07 15 10.0 +11
GRGR LR LR
comp=Z,50µm,22.0s
GAMB **Gambell** 50.73 331 *e*P **P** **07 14 58.8 -1.1**
comp=Z,39nm,1.1s
GAMB LR LR
comp=Z,13µm,21.0s
BBGH **Gun Hill** 51.92 96 PFAKE 07 15 20.0 +10
BBGH LR LR
comp=Z,95µm,22.0s
TULEG **Thule** 52.12 12 *e*P **P** **07 15 10.6 +0.5**
comp=Z,85nm,1.7s
TULEG LR LR
comp=Z,30µm,20.0s
JOHN **Johnston Islan** 53.01 270 *e*P **P** **07 15 17.3 -0.3**
comp=Z,266nm,1.1s
JOHN LR LR
comp=Z,60µm,22.0s
SFJD **Kangerlussuaq** 53.06 26 P **P** **07 15 18.6 +1.3**
comp=Z,34nm,0.9s,baz=247,slow=7.2,SNR=8.7
SFJD **Kangerlussuaq** 53.06 26 *i* P **P** **07 15 18.9 +1.7**
comp=Z,54nm,1.1s
SFJD **Kangerlussuaq** 53.06 26 *e*P **P** **07 15 18.5 +1.3**
comp=Z,81nm,1.0s
SFJD LR LR
comp=Z,38µm,20.0s
SFJD **Kangerlussuaq** 53.06 26 *e*P **P** **07 15 18.5 +1.3**
SFJD pmax pmax
comp=Z,81nm,1.0s
SFJD MLR MLR
comp=Z,38µm,20.0s
IVI **Ivigtut** 53.10 33 PFAKE 07 15 30.0 +12
IVI LR LR
comp=Z,26µm,20.0s
ILULI **Ilulissat** 53.43 23 *e*P **P** **07 15 21.4 +1.4**
comp=Z,50nm,1.3s
ILULI LR LR
comp=Z,27µm,21.0s
ILULI **Ilulissat** 53.43 23 *e*P **P** **07 15 21.4 +1.4**
ILULI pmax pmax
comp=Z,50nm,1.3s
ILULI MLR MLR
comp=Z,27µm,21.0s
KULLO **Kullorsuaq** 53.53 16 *i* P **P** **07 15 21.2 +0.6**
KULLO **Kullorsuaq** 53.53 16 *i* P **P** **07 15 21.2 +0.6**
NNA **Nana** 53.60 134 *e*P **P** **07 15 22.8 +0.8**
comp=Z,98nm,1.5s
NNA LR LR
comp=Z,29µm,19.0s
NNA **Nana** 53.60 134 *e*P **P** **07 15 22.8 +0.8**
NNA pmax pmax
comp=Z,98nm,1.5s
NNA MLR MLR
comp=Z,29µm,19.0s
NRS **Narsarsuaq** 54.43 33 PFAKE 07 15 40.0 +13
NRS LR LR
comp=Z,22µm,20.0s
RPN **Rapa Nui** 55.78 176 PFAKE 07 15 50.0 +13
RPN LR LR
comp=Z,190µm,21.0s
MIDW **Midway** 55.85 286 PFAKE 07 15 50.0 +12
MIDW LR LR
comp=Z,46µm,20.0s
PTCN **Pitcairn Islan** 56.07 199 PFAKE 07 15 50.0 +10
PTCN LR LR
comp=Z,108µm,22.0s
SMY **Shemya** 57.42 316 PFAKE 07 16 00.0 +11
SMY LR LR
comp=Z,15µm,22.0s
ANGG **Ammassalik, Gr** 58.10 28 PFAKE 07 16 10.0 +17
ANGG LR LR
comp=Z,18µm,19.0s
PPTF **Pamatai, Papee** 58.11 222 PFAKE 07 16 10.0 +16
PPTF LR LR
comp=Z,54µm,19.0s
SUMG **Summit** 58.13 20 *i* P **P** **07 15 54.6 +0.5**
comp=Z,44nm,0.9s
SUMG **Summit** 58.13 20 *e*P **P** **07 15 53.5 -0.6**
comp=Z,53nm,1.0s
SUMG LR LR
comp=Z,26µm,21.0s
SUMG **Summit** 58.13 20 *i* P **P** **07 15 54.6 +0.5**
SUMG pmax pmax
comp=Z,44nm,0.9s
PTGA **Pitinga** 58.62 111 *e*P **P** **07 15 58.7 +0.7**
comp=Z,25nm,0.9s
PTGA LR LR
comp=Z,80µm,22.0s
BILL **Bilibino** 60.11 335 *d* iP **P** **07 16 07.5 +0.1**
BILL *i* 07 16 56.3
BILL *i* S S 07 24 32.2 +13
BILL pmax pmax
comp=Z,40nm,1.0s
SAML **Samuel** 61.03 120 *e*P **P** **07 16 13.0 -1.4**
comp=Z,22nm,1.4s
SAML LR LR
comp=Z,37µm,20.0s
DAG **Danmarks Havn** 63.15 15⇓ *i*P **P** **07 16 27.4 -0.3**
comp=Z,26nm,0.9s
DAG **Danmarks Havn** 63.15 15⇓ *i*P **P** **07 16 27.4 -0.3**
DAG pmax pmax
comp=Z,26nm,0.9s
SCO **Scoresbysund** 63.48 22 *i* P **P** **07 16 30.8 +0.8**
comp=Z,19nm,1.0s
SCO **Scoresbysund** 63.48 22 *e*P **P** **07 16 30.2 +0.2**
comp=Z,15nm,0.9s
SCO LR LR
comp=Z,21µm,18.0s
SCO **Scoresbysund** 63.48 22 *i* P **P** **07 16 30.8 +0.8**
SCO pmax pmax
comp=Z,19nm,1.0s
MNMC **Minye Minye** 63.54 133 *e*P **P** **07 16 32.0 +0.5**
comp=Z,87nm,1.2s
MNMC LR LR
comp=Z,61µm,20.0s
PB11 **IPOC Station P** 63.97 134 *e*P **P** **07 16 34.5 +0.4**
comp=Z,81nm,1.1s
PB11 LR LR
comp=Z,31µm,20.0s
KNTN **Kanton** 64.36 251 PFAKE 07 16 50.0 +13
KNTN LR LR
comp=Z,33µm,19.0s
BORG **Borgarnes** 65.02 28 PFAKE 07 16 50.0 +10
BORG LR LR
comp=Z,32µm,21.0s
PB01 **IPOC Station P** 65.02 135 *e*P **P** **07 16 41.5 +0.6**
comp=Z,65nm,1.1s
PB01 LR LR
comp=Z,62µm,22.0s
PB04 **IPOC Station P** 65.58 136 PFAKE 07 17 00.0 +15
PB04 LR LR
comp=Z,67µm,21.0s
PB10 **IPOC Station P** 66.23 137 PFAKE 07 17 00.0 +11
PB10 LR LR
comp=Z,96µm,21.0s
PET **Petropavlovsk** 66.52 319 *e*P **P** **07 16 50.8 +0.8**
comp=Z,41nm,1.1s
PET LR LR
comp=Z,9µm,19.0s
PET **Petropavlovsk** 66.52 319 *de*P **P** **07 16 50.2 +0.1**
PET *e*S **S** **07 25 38.7 -1.2**
PET pmax pmax
comp=Z,500nm,16.9s
PET pmax pmax
comp=Z,700nm,17.0s
PET pmax pmax
comp=Z,40nm,1.0s
SEY **Seymchan** 66.73 330 P **P** **07 16 51.0 -0.3**
comp=Z,19nm,1.0s,baz=108,slow=7.5,SNR=17
SEY **Seymchan** 66.73 330⇑ *e*P **P** **07 16 52.5 +1.2**
PEA1 **Petropavlovsk-** 67.04 319 *e*P **P** **07 16 53.8 +0.4**
PEA0B **Petropavlovsk-** 67.04 319 *e*P **P** **07 16 54.2 +0.8**
comp=Z,72nm,1.1s
PEA0B LR LR
comp=Z,11µm,21.0s
PETK **Petropavlovsk-** 67.04 319 P **P** **07 16 53.8 +0.4**
comp=Z,24nm,0.8s,baz=85,slow=10,SNR=11
PETK **Petropavlovsk-** 67.04 319 *e*P **P** **07 16 53.7 +0.2**
PETK **Petropavlovsk-** 67.04 319 *e*P **P** **07 16 53.7 +0.2**
RAR **Rarotonga** 67.14 227 PFAKE 07 17 10.0 +16
RAR LR LR
comp=Z,45µm,20.0s
KBS **Kingsbay** 68.05 10 PFAKE 07 17 10.0 +11
KBS LR LR
comp=Z,20µm,19.0s
MA2 **Magadan** 68.57 327 P **P** **07 17 03.6 +0.6**
comp=Z,19nm,0.9s,baz=134,slow=18,SNR=4.3
SPA0 **Spitsbergen Ar** 69.21 10 *e*P **P** **07 17 07.6 +0.9**
SPITS **Spitsbergen Ar** 69.21 10 P **P** **07 17 07.6 +0.9**
comp=Z,27nm,1.2s,baz=348,slow=5.0,SNR=3.2
LCO **Las Campanas** 70.36 141 PFAKE 07 17 30.0 +15
LCO LR LR
comp=Z,93nm,20.0s
AFI **Afiamalu** 70.88 241 PFAKE 07 17 30.0 +12
AFI LR LR
comp=Z,36µm,20.0s
TIXI **Tiksi** 71.05 343 *e*P **P** **07 17 17.6 -0.4**
comp=Z,21nm,1.0s
TIXI LR LR
comp=Z,7µm,20.0s
TIXI **Tiksi** 71.05 343 *d* iP **P** **07 17 17.0 -1.0**
TIXI pmax pmax
comp=Z,30nm,1.3s
CMLA **Cha da Macela** 71.17 57 PFAKE 07 17 30.0 +11
CMLA LR LR
comp=Z,144µm,22.0s
WAKE **Wake Island** 72.70 283 PFAKE 07 17 40.0 +11
WAKE LR LR
comp=Z,22µm,21.0s
PEL **Peldehue** 73.60 144 PFAKE 07 17 50.0 +16
PEL LR LR
comp=Z,102µm,22.0s
FUNA **Funafuti** 75.06 251 PFAKE 07 17 50.0 +7.4
FUNA LR LR
comp=Z,20µm,21.0s
TARA **Tarawa** 75.36 263 PFAKE 07 18 00.0 +16
TARA LR LR
comp=Z,41µm,19.0s
NKL **Nikolayevsk** 76.39 323 *e*P **P** **07 17 49.0 -0.6**
NKL pmax pmax
comp=Z,25nm,1.3s
TYV **Tymovskoe** 76.45 321 *e*P **P** **07 17 50.4 +0.4**
TYV pmax pmax
comp=Z,21nm,1.1s
TYV pmax pmax
comp=Z,800nm,10.8s
YAK **Yakutsk** 76.47 334 PFAKE 07 18 00.0 +10
YAK LR LR
comp=Z,9µm,19.0s
YAK **Yakutsk** 76.47 334 *e*P **P** **07 17 49.2 -0.7**
YAK pmax pmax
comp=Z,34nm,1.1s
YAK pmax pmax
comp=N,6.0nm,1.4s
YAK pmax pmax
comp=E,13nm,1.3s
DSB **Dublin** 76.56 36 PFAKE 07 18 00.0 +9.4
DSB LR LR
comp=Z,97µm,20.0s
CPUP **Villa Florida** 76.62 130 P **P** **07 17 50.9 -0.3**
comp=Z,11nm,1.0s,baz=319,slow=6.7,SNR=14
CPUP **Villa Florida** 76.62 130 *e*P **P** **07 17 51.3 +0.1**
comp=Z,39nm,1.2s
CPUP **Villa Florida** 76.62 130 *e*P **P** **07 17 51.3 +0.1**
CPUP pmax pmax
comp=Z,39nm,1.2s
ESK **Eskdalemuir** 77.08 33 PFAKE 07 18 10.0 +17
ESK LR LR
comp=Z,96µm,18.0s
EKA **Eskdalemuir Ar** 77.09 33 P **P** **07 17 57.3 +3.8**
comp=Z,2.3nm,0.9s,baz=306,slow=4.3,SNR=3.8
ARA0 **ARCESS Array S** 77.40 14 *e*P **P** **07 17 53.5 -1.6**
ARCES **ARCESS Array B** 77.40 14 P **P** **07 17 53.5 -1.6**
comp=Z,14nm,0.8s,baz=348,slow=9.2,SNR=7.3
ARE0 **ARCESS Array S** 77.40 14 PFAKE 07 18 10.0 +15
ARE0 LR LR
comp=Z,8µm,21.0s
KEV **Kevo** 77.53 13 PFAKE 07 18 10.0 +14
KEV LR LR
comp=Z,10µm,22.0s
YUK **Yuzh-Kuril'sk** 77.82 314 *e*P P 07 17 46.9 -11
YUK *e*S S 07 27 40.5 -9.3
YSS **Yuzh-Sakhalins** 78.31 317 *e*P P 07 18 07.1 +6.5
YSS *e* 07 18 16.1
YSS pmax pmax
comp=Z,20nm,0.9s
YSS pmax pmax
comp=Z,600nm,6.6s
NBO02 **NORSAR Array S** 79.55 24 *e*P **P** **07 18 08.3 +1.2**
PLCA **Paso Flores** 79.67 149 P **P** **07 18 09.5 +1.5**
comp=Z,6.8nm,1.0s,baz=348,slow=7.1,SNR=10
NB2 **NORSAR Subarra** 79.69 24 P **P** **07 18 09.2 +1.3**
comp=Z,19nm,1.1s,baz=311,slow=5.3
NB2 **NORSAR Subarra** 79.69 24 P **P** **07 18 09.2 +1.3**
baz=311,slow=5.3
NB200 **NORSAR Array S** 79.69 24 *e*P **P** **07 18 08.6 +0.7**
NOA **NORSAR Array B** 79.69 24 P **P** **07 18 08.6 +0.7**
comp=Z,8.5nm,0.9s,baz=313,slow=5.3,SNR=9.6
ASAJ **Asahikawa** 79.83 315 P **P** **07 18 10.9 +1.9**
comp=Z,9.0nm,0.9s,baz=263,slow=4.8,SNR=6.4
ASAJ **Asahikawa** 79.83 315 *e*P **P** **07 18 09.8 +0.9**
comp=Z,11nm,0.9s
GRNR **Gornyy** 79.88 323 *e*P **P** **07 18 09.0 -0.1**
GRNR pmax pmax
comp=Z,42nm,1.0s
KONO **Kongsberg** 80.02 26 PFAKE 07 18 20.0 +10
KONO LR LR
comp=Z,99µm,21.0s
LVZ **Lovozero** 80.57 12 *e*P **P** **07 18 14.1 +1.6**
comp=Z,55nm,1.0s
LVZ LR LR
comp=Z,18µm,18.0s
LVZ **Lovozero** 80.57 12⇓ *e*P **P** **07 18 14.4 +1.9**
LVZ pmax pmax
comp=Z,46nm,1.2s
APA **Apatity** 80.63 12⇓ *i*P **P** **07 18 12.9 +0.1**
APA *i* 07 18 18.5
APA *i* S **S** **07 28 15.0 -4.0**
APA *i* PS **PnS** **07 29 03.0 -2.0**
APA pmax pmax
comp=Z,10.0nm,1.0s
APA MLR MLR
comp=Z,11µm,18.0s
MSVF **Nonsavu** 81.04 244 PFAKE 07 18 30.0 +14
MSVF LR LR
comp=Z,47µm,20.0s
HFS **Hagfors** 81.20 24 P **P** **07 18 17.0 +1.0**
comp=Z,7.4nm,0.8s,baz=318,slow=1.9,SNR=8.8
RCBR **Riachuelo** 81.63 101 PFAKE 07 18 30.0 +11
RCBR LR LR
comp=Z,173µm,20.0s
SPB **Sao Paulo** 81.89 122 PFAKE 07 18 30.0 +10
SPB LR LR
comp=Z,26µm,20.0s
TRQA **Tornquist** 81.94 142 *e*P **P** **07 18 20.9 +0.8**
comp=Z,17nm,0.9s
TRQA LR LR
comp=Z,112µm,21.0s
MVO **Moncorvo** 82.42 47 *e*P **P** **07 18 24.4 +1.5**
SACV **Santiago Islan** 82.45 77 PFAKE 07 18 40.0 +17
SACV LR LR
comp=Z,65µm,20.0s
MTE **Manteigas** 82.48 48 PFAKE 07 18 30.0 +6.8
MTE LR LR
comp=Z,160µm,21.0s
ZEA **Zeya** 82.64 329 *e*P **P** **07 18 23.6 -0.1**
ZEA pmax pmax
comp=Z,37nm,1.4s
ZEA pmax pmax
comp=Z,600nm,11.0s
PCBR **Castelo Branco** 82.82 48 *e*PcP **PcP** **07 18 31.4 +1.7**
PNCL **Nicolau / Gran** 83.02 50 *e*PcP **PcP** **07 18 31.0 +0.4**
PMRV **Marv??o** 83.09 49 *e*P **P** **07 18 27.5 +1.1**
PTEO **Sao Teotonio** 83.18 51 *e*P **P** **07 18 27.4 +0.6**
KLR **Kul'dur** 83.23 323 *d* iP **P** **07 18 26.7 -0.1**
PESTR **Estremoz** 83.26 49 *e*PcP **PcP** **07 18 32.6 +0.9**
PESTR **Estremoz** 83.26 49 PFAKE 07 18 40.0 +13
PESTR LR LR
comp=Z,77µm,22.0s
PFVI **Vila Bisbo** 83.32 51 PFAKE 07 18 40.0 +12
PFVI LR LR
comp=Z,107µm,19.0s
UCC **Uccle** 83.41 35 PFAKE 07 18 40.0 +12
UCC LR LR
comp=Z,108µm,22.0s
PCVE **Castro Verde** 83.60 50 *e*P **P** **07 18 30.3 +1.3**
PBDV **Barranco-do-Ve** 83.88 51 *e*PcP **PcP** **07 18 35.0 +0.5**
DOU **Dourbes** 83.97 35 ⇑P **P** **07 18 31.7 +1.1**
CHRN **Cochrane** 84.08 154 PFAKE 07 18 40.0 +9.1
CHRN LR LR
comp=Z,200nm,18.0s
FIA1 **FINESS Array S** 84.13 18 *e*P **P** **07 18 31.5 +0.4**
FIA0 **FINESS Array S** 84.13 18 *e*P **P** **07 18 31.7 +0.5**
FIA0 **FINESS Array S** 84.13 18 *e*P **P** **07 18 31.7 +0.5**
FINES **FINESS Array B** 84.13 18 P **P** **07 18 31.7 +0.5**
comp=Z,21nm,0.9s,baz=26,slow=4.9,SNR=20
TMCR **Tamitsa** 84.54 12 *e*P **P** **07 18 33.8 +0.6**
TMCR pmax pmax
comp=Z,33nm,0.9s
RAO **Raoul Island** 84.71 233 PFAKE 07 18 50.0 +15
RAO LR LR
comp=Z,27µm,22.0s
RGN **Rugen** 85.00 28 PFAKE 07 18 50.0 +14
RGN LR LR
comp=Z,93µm,22.0s
PAB **San Pablo** 85.01 47 PFAKE 07 18 50.0 +14
PAB LR LR
comp=Z,103µm,22.0s
WLF **Walferdange** 85.02 35 PFAKE 07 18 50.0 +14
WLF LR LR
comp=Z,52µm,18.0s
ESDC **Sonseca Array** 85.19 47 P **P** **07 18 36.8 -0.2**
comp=Z,0.2nm,0.4s,baz=313,slow=5.2,SNR=3.5
ESLA **Sonseca Array** 85.19 47 PFAKE 07 18 50.0 +13
ESLA LR LR
comp=Z,95µm,21.0s
SFS **San Fernando** 85.46 51 PFAKE 07 18 50.0 +12
SFS LR LR
comp=Z,70µm,19.0s
PATS **Pohnpei** 85.55 275 PFAKE 07 18 50.0 +11
PATS LR LR
comp=Z,39µm,22.0s
USRK **Ussuriysk Ar.** 86.13 319 P **P** **07 18 41.3 -0.3**
comp=Z,11nm,1.1s,baz=56,slow=7.7,SNR=7.2
RTC **Rabat Centre** 86.34 53 PFAKE 07 18 50.0 +7.2
RTC LR LR
comp=Z,548µm,21.0s
ECH **Echery** 86.46 35 PFAKE 07 18 50.0 +6.8
ECH LR LR
comp=Z,72µm,20.0s
MJAR **Matsushiro Arr** 86.69 310 P **P** **07 18 45.0 +0.6**
comp=Z,4.2nm,0.6s,baz=33,slow=2.3,SNR=13
MAJO **Matsushiro** 86.69 310 *e*P **P** **07 18 45.0 +0.6**
comp=Z,18nm,0.8s
MAJO LR LR
comp=Z,12µm,20.0s
MAJO **Matsushiro** 86.69 310⇓ *i*P **P** **07 18 45.2 +0.7**
MAJO pmax pmax
comp=Z,14nm,0.8s
MAT **Matsushiro** 86.69 310 P **P** **07 18 44.8 +0.3**
MJB9 **Matsu-Tunnel** 86.69 310 *e*P **P** **07 18 45.1 +0.6**
comp=Z,17nm,0.8s
MJB9 LR LR
comp=Z,14µm,21.0s
VSU **Vasula** 86.77 20⇓ *e*P **P** **07 18 42.6 -1.8**
VSU pmax pmax
comp=Z,64nm,1.7s
SSB **Saint Sauveur** 86.96 39 PFAKE 07 19 00.0 +14
SSB LR LR
comp=Z,89µm,22.0s
BFO **Black Forest** 86.98 35 PFAKE 07 19 00.0 +14
BFO LR LR
comp=Z,72µm,20.0s
STU **Stuttgart** 87.11 34 PFAKE 07 19 00.0 +14
STU LR LR
comp=Z,67µm,22.0s
CLL **Collm** 87.15 31 *e*P **P** **07 18 47.0 +0.6**
CLL *i* Pmax 07 18 50.1
comp=Z,9.0nm,1.3s
CLL *i* 07 18 58.6
comp=Z,10.0nm,1.0s

CLL eSKSac **SKSac 07 29 11.0 -2.0**
CLL eS **ScS 07 29 32.0 -0.6**
CLL eSS **SS 07 35 12.0 +4.5**
CLL Collm 87.15 31 PFAKE 07 19 00.0 +14
CLL LR LR
comp=Z,102µm,19.0s
CLL Collm 87.15 31 *i* P **P 07 18 50.1 +3.7**
CLL eS **S 07 29 25.0 -0.1**
CLL pmax pmax
comp=Z,10.0nm,1.0s
JHJ2 Mitsune 87.46 307 PFAKE 07 19 00.0 +12
JHJ2 LR LR
comp=Z,21µm,19.0s
GRFO Grafenberg 87.46 32 PFAKE 07 19 00.0 +12
GRFO LR LR
comp=Z,65µm,22.0s
KLMR Klimovskoe 87.85 13 eP **P 07 18 47.9 -1.7**
KLMR AMP 07 18 56.3
comp=Z,17nm,1.0s
KLMR ePP **PP 07 22 13.6 -1.1**
KLMR eS **SKSac 07 29 15.5 -1.4**
KLMR eS **SKSac 07 29 15.5 -1.4**
KLMR Klimovskoe 87.85 13 eP **P 07 18 47.8 -1.8**
KLMR e 07 22 13.6
KLMR eS **SKSac 07 29 15.5 -1.4**
KLMR pmax pmax
comp=Z,17nm,1.0s
BRG Berggiesshubel 87.88 30 eP **P 07 18 51.2 +1.3**
comp=Z,4.6nm,0.9s
BRG Berggiesshubel 87.88 30 eP **P 07 18 51.2 +1.3**
BRG pmax pmax
comp=Z,5.0nm,0.9s
INU Inuyama 88.16 310 PFAKE 07 19 00.0 +8.4
INU LR LR
comp=Z,8µm,20.0s
BNI Bardonecchia 88.27 38 PFAKE 07 19 00.0 +7.9
BNI LR LR
comp=Z,146µm,21.0s
CART Cartagena 88.28 47 PFAKE 07 19 00.0 +7.9
CART LR LR
comp=Z,80µm,21.0s
TUE Stuetta 88.73 36 PFAKE 07 19 10.0 +16
TUE LR LR
comp=Z,145µm,22.0s
PRU Pruhonice 88.78 31 eP **P 07 18 58.6 +4.4**
PRU Pruhonice 88.78 31 eP **P 07 18 58.6 +4.4**
CBIJ Chichi jima 88.95 300 PFAKE 07 19 10.0 +15
CBIJ LR LR
comp=Z,17µm,22.0s
KHC Kasperske Hory 88.96 32 eP **P 07 18 56.8 +1.7**
KHC Kasperske Hory 88.96 32 PFAKE 07 19 10.0 +15
KHC LR LR
comp=Z,42µm,22.0s
KHC Kasperske Hory 88.96 32 eP **P 07 18 56.8 +1.7**
SUW Suwalki 89.22 24 PFAKE 07 19 10.0 +14
SUW LR LR
comp=Z,120µm,20.0s
GEC2 GERESS Array S 89.22 32 PFAKE 07 19 10.0 +14
GEC2 LR LR
comp=Z,71µm,20.0s
GERES GERESS Array B 89.22 32 P **P 07 18 58.1 +1.6**
comp=Z,1.0nm,0.7s,baz=330,slow=4.6,SNR=6.1
DPC Dobruska-Polom 89.31 30 eP P 07 19 01.6 +4.9
DPC Dobruska-Polom 89.31 30 eP P 07 19 01.6 +4.9
CN2 Changchun 90.03 322 eP **P 07 19 00.4 +0.2**
MORC Moravsky Berou 90.26 29 PFAKE 07 19 10.0 +8.8
MORC LR LR
comp=Z,405µm,19.0s
VLC Villacollemand 90.84 37 PFAKE 07 19 20.0 +16
VLC LR LR
comp=Z,92µm,20.0s
CONA Conrad Observa 90.88 32 PKKPbc **P 07 19 05.8 +1.7**
comp=Z,7.3nm,1.4s
TRI Trieste 91.48 34 PFAKE 07 19 20.0 +13
TRI LR LR
comp=Z,79µm,19.0s
NIE Niedzica 91.70 28 eP **P 07 19 08.7 +0.8**
NIE Niedzica 91.70 28 eP **P 07 19 08.7 +0.8**
VYHS Vyhne 91.78 30 eP **P 07 19 10.4 +2.1**
VYHS Vyhne 91.78 30 eP **P 07 19 10.4 +2.1**
HNR Honiara 91.88 260 PFAKE 07 19 20.0 +11
HNR LR LR
comp=Z,41µm,20.0s
MXZ Matakaoa Point 92.15 228 PFAKE 07 19 20.0 +10
MXZ LR LR
comp=Z,28µm,19.0s
OBN Obninsk 92.40 17 PFAKE 07 19 20.0 +9.1
OBN LR LR
comp=Z,34µm,21.0s
OBN Obninsk 92.40 17⇑ eP **P 07 19 12.6 +1.7**
OBN e 07 22 52.1
OBN *i* SS SS 07 36 29.1 +6.2
OBN pmax pmax
comp=Z,5.0nm,0.4s
KWP Kalwaria Pacla 92.52 27 eP **P 07 19 12.6 +1.0**
KWP Kalwaria Pacla 92.52 27 PFAKE 07 19 20.0 +8.4
KWP LR LR
comp=Z,666µm,21.0s
KWP Kalwaria Pacla 92.52 27 eP **P 07 19 12.6 +1.0**
DZM Mont Dzumac 92.58 246 PFAKE 07 19 20.0 +7.6
DZM LR LR
comp=Z,39µm,18.0s
CRVS Cervenica-Dubn 92.58 28 eP **P 07 19 13.5 +1.5**
CRVS Cervenica-Dubn 92.58 28 eP **P 07 19 13.5 +1.5**
PSZ Piszkesteto 92.68 30 eP **P 07 19 12.6 +0.1**
comp=Z,18nm,1.2s
PSZ LR LR
comp=Z,102µm,20.0s
PSZ Piszkesteto 92.68 30 eP **P 07 19 12.6 +0.1**
PSZ pmax pmax
comp=Z,18nm,1.2s
PSZ MLR MLR
comp=Z,102µm,20.0s
KSRS Korea Array 92.74 316 P **P 07 19 14.1 +1.2**
comp=Z,6.2nm,1.0s,baz=60,slow=4.8,SNR=13
KS01 Wonju Array Si 92.75 316 eP **P 07 19 13.3 +0.4**
KS15 Wonju Array Si 92.77 316 eP **P 07 19 14.3 +1.3**
IRK Irkutsk 92.88 338 eP **P 07 19 13.9 +0.6**
IRK pmax pmax
comp=Z,41nm,2.9s
URZ Urewera 93.32 228 PFAKE 07 19 30.0 +15
URZ LR LR
comp=Z,29µm,20.0s
VSL Villasalto 93.43 41 PFAKE 07 19 30.0 +14
VSL LR LR
comp=Z,93µm,20.0s
INCN Inchon 93.51 317 PFAKE 07 19 30.0 +14
INCN LR LR
comp=Z,8µm,22.0s
TLY Talaya 93.56 338 eP **P 07 19 17.6 +1.1**
comp=Z,19nm,1.4s
TLY LR LR
comp=Z,6µm,19.0s
TLY Talaya 93.56 338 eP **P 07 19 16.4 0.0**
TLY pmax pmax
comp=Z,9.0nm,1.0s
JNU Nakatsue 93.57 311 PFAKE 07 19 30.0 +13
JNU LR LR
comp=Z,8µm,21.0s
EFI East Falkland 93.58 149 PFAKE 07 19 30.0 +14
EFI LR LR
comp=Z,107µm,19.0s
AQU L'Aquila 93.68 37 PFAKE 07 19 30.0 +13
AQU LR LR
comp=Z,82µm,21.0s
GUMO Guam 93.80 288 PFAKE 07 19 30.0 +12
GUMO LR LR
comp=Z,40µm,22.0s
BLY Banja Luka 93.84 33 PFAKE 07 19 30.0 +12
BLY LR LR
comp=Z,66µm,22.0s
OUZ Omahuta 94.00 232 PFAKE 07 19 30.0 +11
OUZ LR LR
comp=Z,24µm,18.0s
AK11 Malin Array Si 94.05 23 eP **P 07 19 18.3 -0.3**
AKASG Malin Array Be 94.05 23 P **P 07 19 18.1 -0.5**
comp=Z,2.0nm,0.8s,baz=326,slow=3.9,SNR=7.7
AKBB Malin Array Si 94.05 23 eP **P 07 19 18.6 0.0**
comp=Z,11nm,1.4s
AKBB LR LR
comp=Z,101µm,18.0s
AKBB Malin Array Si 94.05 23 eP **P 07 19 18.7 0.0**
AKBB pmax pmax
comp=Z,11nm,1.4s
AKBB MLR MLR
comp=Z,101µm,18.0s
KIEV Kiev 94.05 23 PFAKE 07 19 30.0 +11
KIEV LR LR
comp=Z,98µm,18.0s
KIEV Kiev 94.05 23⇓ *i* P **P 07 19 18.5 -0.1**
KIEV pmax pmax
comp=Z,12nm,2.1s
BKZ Black Stump Fm 94.23 227 PFAKE 07 19 30.0 +10
BKZ LR LR
comp=Z,36µm,19.0s
ARU Arti 94.75 5 PFAKE 07 19 30.0 +8.2
ARU LR LR
comp=Z,10µm,18.0s
ARU Arti 94.75 5*d i* P **P 07 19 22.8 +1.0**
ARU 07 23 11.9
ARU S **SKSac 07 29 58.3 +1.9**
ARU SS **SS 07 36 58.8 +2.4**
ARU pmax pmax
comp=Z,14nm,1.2s
ZAK Zakamensk 94.79 338 eP **P 07 19 19.6 -2.6**
ZAK pmax pmax
comp=Z,8.0nm,1.4s
HIZ Hauiti 94.94 229 PFAKE 07 19 30.0 +7.2
HIZ LR LR
comp=Z,14µm,19.0s
BUR04 Bucovina Ar. S 95.12 27 eP **P 07 19 24.1 +0.4**
BFZ Birch Farm 95.23 226 PFAKE 07 19 40.0 +16
BFZ LR LR
comp=Z,44µm,19.0s
DL2 Dalian 95.47 320 P **P 07 19 21.8 -3.6**
DL2 pmax pmax
comp=Z,350nm,3.5s
NVS Novosibirsk 95.47 351 eP **P 07 19 22.9 -2.1**
ULN Ulaanbaatar 95.55 334 eP **P 07 19 26.1 +0.3**
comp=Z,12nm,1.3s
ULN LR LR
comp=Z,4µm,20.0s
ULN Ulaanbaatar 95.55 334⇑ *i* P **P 07 19 27.1 +1.3**
ULN pmax pmax
comp=Z,9.0nm,1.2s
DIVS Divibare 95.65 32 PFAKE 07 19 40.0 +14
DIVS LR LR
comp=Z,64µm,22.0s
SONA1 Songino Array 95.81 335 eP **P 07 19 27.6 +0.6**
SONA0 Songino Array 95.83 335 eP **P 07 19 28.2 +1.2**
SONM Songino Array 95.83 335 P **P 07 19 28.2 +1.2**
comp=Z,3.9nm,1.0s,baz=37,slow=3.3,SNR=15
KEST Kesra 95.93 44 PFAKE 07 19 40.0 +12
KEST LR LR
comp=Z,169µm,21.0s
ZAA1 Zalesovo Array 96.09 349 eP **P 07 19 28.3 +0.4**
ZAA0 Zalesovo Array 96.09 349 PFAKE 07 19 40.0 +12
ZAA0 LR LR
comp=Z,10µm,22.0s
ZALV Zalesovo Beam 96.09 349 P **P 07 19 28.3 +0.4**
comp=Z,0.4nm,0.4s,baz=291,slow=4.1,SNR=4.4
RABL Rabaul 96.18 269 PFAKE 07 19 40.0 +11
RABL LR LR
comp=Z,44µm,22.0s
SNZO South Karori 96.55 226 PFAKE 07 19 40.0 +10
SNZO LR LR
comp=Z,47µm,22.0s
TTG Podgorica 96.57 33 PFAKE 07 19 40.0 +10
TTG LR LR
comp=Z,102µm,21.0s
CUC Castrocucco 96.64 37 PFAKE 07 19 40.0 +9.2
CUC LR LR
comp=Z,24µm,19.0s
MLR Muntele Rosu 97.15 28 PFAKE 07 19 40.0 +6.8
MLR LR LR
comp=Z,101µm,22.0s
TIR Tirane 97.69 34 PFAKE 07 19 50.0 +15
TIR LR LR
comp=Z,75µm,21.0s
TIP Timpagrande 97.73 37 PFAKE 07 19 50.0 +14
TIP LR LR
comp=Z,69µm,21.0s
KHZ Kahutara 97.88 226 PFAKE 07 19 50.0 +14
KHZ LR LR
comp=Z,39µm,19.0s
CEL Celeste 97.94 38 PFAKE 07 19 50.0 +13
CEL LR LR
comp=Z,54µm,22.0s
THZ Tophouse 97.94 227 PFAKE 07 19 50.0 +14
THZ LR LR
comp=Z,46µm,22.0s
VTS Vitosha 98.30 31 PFAKE 07 19 50.0 +12
VTS LR LR
comp=Z,79µm,22.0s
BRVK Borovoye 98.38 358 PFAKE 07 19 50.0 +12
BRVK LR LR
comp=Z,14µm,21.0s
BRVK Borovoye 98.38 358⇓ eP Pdif 07 19 39.0 +0.7
BRVK pmax pmax
comp=Z,3.0nm,0.9s
BVAR Borovoye Array 98.41 358 P Pdif 07 19 38.8 +0.4
comp=Z,1.4nm,0.7s,baz=17,slow=2.0,SNR=5.5
FNA Florina 98.85 33 PFAKE 07 19 50.0 +9.3
FNA LR LR
comp=Z,73µm,22.0s
LTZ Lake Taylor 98.87 226 PFAKE 07 19 50.0 +9.5
LTZ LR LR
comp=Z,24µm,20.0s
WDD Wied Dalam 98.91 41 PFAKE 07 19 50.0 +9.0
WDD LR LR
comp=Z,87µm,21.0s
TIRR Tirgusor 98.99 27 PFAKE 07 19 50.0 +8.8
TIRR LR LR
comp=Z,46µm,21.0s
CRLZ Canterbury Las 99.06 225 PFAKE 07 19 50.0 +8.8
CRLZ LR LR
comp=Z,31µm,20.0s
KOWA Kowa 99.08 68 PFAKE 07 19 50.0 +7.9
KOWA LR LR
comp=Z,216µm,20.0s
MQZ McQueen's Vall 99.11 225 PFAKE 07 19 50.0 +8.5
MQZ LR LR
comp=Z,30µm,20.0s
JOW Kunigami 99.23 307 PFAKE 07 19 50.0 +7.4
JOW LR LR
comp=Z,9µm,20.0s
HHC Hu-ho-hao-te 99.25 327 eP **Pdif 07 19 41.9 -0.7**
HHC SKS **SKSac 07 30 18.3 -2.3**
HHC S **S 07 31 06.4 -7.4**
HHC SS **SS 07 38 00.1 -1.0**
HHC pmax pmax
comp=Z,18nm,1.5s
HHC pmax pmax
comp=Z,180nm,8.3s
HHC LR LR
comp=Z,10µm,18.1s
OXZ Oxford 99.30 226 PFAKE 07 19 50.0 +7.7
OXZ LR LR
comp=Z,26µm,21.0s
MANU Manus Island 99.37 273 PFAKE 07 20 00.0 +17
MANU LR LR
comp=Z,23µm,22.0s
DGZ Jazzator, Alta 99.69 347⇓ eP **Pdif 07 19 43.9 -0.5**
DGZ pmax pmax
comp=Z,2.0nm,1.5s
KURK Kurchatov 100.11 352 ePdif **Pdif 07 19 45.8 -0.2**
KURK LR LR
comp=Z,8µm,21.0s
KURK Kurchatov 100.11 352 eP **Pdif 07 19 45.8 -0.2**
KURK MLR MLR
comp=Z,8µm,21.0s
RPZ Rata Peaks 100.11 226 PFAKE 07 20 00.0 +14
RPZ LR LR
comp=Z,28µm,20.0s
KURBB Kurchatov Arra 100.21 353 P **Pdif 07 19 45.7 -0.7**
comp=Z,0.8nm,1.0s,baz=19,slow=5.0,SNR=3.3
AGG Agios Georgios 100.68 34 PFAKE 07 20 00.0 +11
AGG LR LR
comp=Z,145µm,22.0s
PMSA Palmer Station 100.79 161 PFAKE 07 20 00.0 +12
PMSA LR LR
comp=Z,100nm,19.0s
FOZ Fox Glacier 100.80 226 PFAKE 07 20 00.0 +11
FOZ LR LR
comp=Z,32µm,21.0s
ALN Alexandroupoli 100.92 30 PFAKE 07 20 00.0 +10
ALN LR LR
comp=Z,42µm,21.0s
LBZ Lake Benmore 100.99 225 PFAKE 07 20 00.0 +10
LBZ LR LR
comp=Z,39µm,22.0s
ODZ Otahua Downs 101.03 225 PFAKE 07 20 00.0 +10
ODZ LR LR
comp=Z,24µm,20.0s
ASCN Ascension 101.38 93 PFAKE 07 20 00.0 +7.7
ASCN LR LR
comp=Z,54µm,20.0s
TAM Tamanrasset 101.67 56 PFAKE 07 20 10.0 +16
TAM LR LR
comp=Z,123µm,21.0s
NJ2 Nanjing 101.88 317 eP **Pdif 07 19 57.6 +3.3**
NJ2 pmax pmax
comp=Z,18nm,0.5s
NJ2 LR LR
comp=Z,4µm,22.8s
NJ2 LR LR
comp=Z,7µm,30.4s
ITM Ithomi 101.91 35 PFAKE 07 20 10.0 +16
ITM LR LR
comp=Z,33µm,22.0s
WKZ Wanaka 101.93 225 PFAKE 07 20 10.0 +16
WKZ LR LR
comp=Z,29µm,20.0s
ABKAR Akbulak array 101.99 5 PFAKE 07 20 10.0 +16
ABKAR LR LR
comp=Z,15µm,22.0s
MLZ Mavora Lakes 102.75 225 PFAKE 07 20 10.0 +12
MLZ LR LR
comp=Z,30µm,21.0s
LHI Lord Howe Isla 102.83 241 PFAKE 07 20 10.0 +12
LHI LR LR
comp=Z,21µm,21.0s
PMG Port Moresby 103.00 266 PFAKE 07 20 10.0 +10
PMG LR LR
comp=Z,27µm,19.0s
WHZ Wether Hill Ro 103.10 225 PFAKE 07 20 10.0 +11
WHZ LR LR
comp=Z,27µm,21.0s
DCZ Deep Cove 103.40 225 PFAKE 07 20 10.0 +10
DCZ LR LR
comp=Z,18µm,20.0s
MK32 Makanchi Array 103.43 349 ePdif **Pdif 07 20 01.7 +0.7**
MKAR Makanchi Array 103.43 349 Pdiff **Pdif 07 20 01.7 +0.7**
comp=Z,0.5nm,1.0s,baz=20,slow=4.6,SNR=3.2
MKAR Makanchi Array 103.43 349 PFAKE 07 20 10.0 +9.0
MKAR LR LR
comp=Z,2µm,22.0s
MAKZ Makanchi 103.47 349 PFAKE 07 20 10.0 +8.9
MAKZ LR LR
comp=Z,13µm,22.0s
ILGA Ilgaz 103.94 25 PFAKE 07 20 20.0 +16
ILGA LR LR
comp=Z,39µm,22.0s
PYZ Puysegur Point 104.01 225 PFAKE 07 20 20.0 +17
PYZ LR LR
comp=Z,23µm,20.0s
KIV Kislovodsk 104.21 18 PFAKE 07 20 20.0 +15
KIV LR LR
comp=Z,104µm,20.0s
SANT Santorini 104.29 33 PFAKE 07 20 20.0 +15
SANT LR LR
comp=Z,51µm,21.0s
YOJ Yonaguni jima 104.39 309 PFAKE 07 20 20.0 +14
YOJ LR LR
comp=Z,6µm,21.0s
TOC6 Torodi Ar. Sit 104.41 66 PFAKE 07 20 20.0 +14
TOC6 LR LR
comp=Z,139µm,21.0s
TOC7 Torodi Ar. Sit 104.41 66 PFAKE 07 20 20.0 +14
TOC7 LR LR
comp=Z,144µm,21.0s
TOB5 Torodi Ar. Sit 104.42 66 PFAKE 07 20 20.0 +14
TOB5 LR LR
comp=Z,151µm,21.0s
TOC1 Torodi Ar. Sit 104.43 66 PFAKE 07 20 20.0 +14
TOC1 LR LR
comp=Z,174µm,22.0s
TOA1 Torodi Ar. Sit 104.43 66 PFAKE 07 20 20.0 +14
TOA1 LR LR
comp=Z,142µm,21.0s
TOC5 Torodi Ar. Sit 104.43 66 PFAKE 07 20 20.0 +14
TOC5 LR LR
comp=Z,159µm,21.0s
TOB4 Torodi Ar. Sit 104.43 66 PFAKE 07 20 20.0 +14
TOB4 LR LR
comp=Z,145µm,22.0s
TOA0 Torodi Ar. Sit 104.43 66 PFAKE 07 20 20.0 +14
TOA0 LR LR
comp=Z,144µm,21.0s
TOA3 Torodi Ar. Sit 104.44 66 PFAKE 07 20 20.0 +14
TOA3 LR LR
comp=Z,142µm,21.0s
TOA2 Torodi Ar. Sit 104.44 66 PFAKE 07 20 20.0 +14
TOA2 LR LR
comp=Z,146µm,21.0s
TOB2 Torodi Ar. Sit 104.44 66 PFAKE 07 20 20.0 +14
TOB2 LR LR
comp=Z,146µm,21.0s
TOB3 Torodi Ar. Sit 104.45 66 PFAKE 07 20 20.0 +14
TOB3 LR LR
comp=Z,144µm,21.0s
TOC2 Torodi Ar. Sit 104.45 66 PFAKE 07 20 20.0 +14
TOC2 LR LR
comp=Z,150µm,21.0s
TOC4 Torodi Ar. Sit 104.45 66 PFAKE 07 20 20.0 +14
TOC4 LR LR
comp=Z,145µm,21.0s
TOC3 Torodi Ar. Sit 104.46 66 PFAKE 07 20 20.0 +14
TOC3 LR LR
comp=Z,151µm,22.0s
ANTO Ankara 104.60 27 PFAKE 07 20 20.0 +14
ANTO LR LR
comp=Z,72µm,22.0s
IDI Anoyia 104.88 35 PFAKE 07 20 20.0 +12
IDI LR LR
comp=Z,38µm,22.0s
TATO Taipei 105.08 310 PFAKE 07 24 40.0
TATO LR LR
comp=Z,12µm,22.0s
WMQ Urumqi 105.21 345 Pdif **Pdif 07 20 07.5 -1.5**
WMQ PP **PP 07 24 33.9 +5.0**
WMQ S **Sdif 07 32 08.4 +5.0**
YHNB Yeheng 105.36 310 PFAKE 07 24 40.0
YHNB LR LR
comp=Z,10µm,21.0s
ISP Isparta 105.41 29 PFAKE 07 24 40.0
ISP LR LR
comp=Z,59µm,21.0s
NACB Ninganchiao 105.54 309 PFAKE 07 24 40.0
NACB LR LR
comp=Z,9µm,22.0s
HOPE Hope Point 105.64 144 PFAKE 07 24 40.0
HOPE LR LR
comp=Z,80µm,20.0s
KARP Karpathos 105.77 33 PFAKE 07 24 40.0
KARP LR LR
comp=Z,23µm,21.0s
XAN Xi'an 105.90 325 Pdif Pdif 07 20 30.9 +19
XAN PP PP 07 24 54.2 +20
XAN Xi'an 105.90 325 SKS SKSdf 07 31 50.9 +15
XAN Xi'an 105.90 325 SS SS 07 39 42.7 +10
XAN pmax pmax
comp=Z,170nm,4.9s
XAN LR LR
comp=N,4µm,23.9s
XAN LR LR
comp=E,3µm,24.9s
XAN LR LR
comp=Z,5µm,24.5s
SSLB Suanglung 106.23 309 PFAKE 07 24 40.0
SSLB LR LR
comp=Z,8µm,21.0s
YULB Yu-li 106.27 309 PFAKE 07 24 40.0
YULB LR LR
comp=Z,5µm,22.0s
EIDS Eidsvold 106.59 250 PFAKE 07 24 40.0
EIDS LR LR
comp=Z,15µm,19.0s
LZH Lanzhou 106.65 329 ePdif **Pdif 07 20 13.5 -2.2**
LZH PP **PP 07 24 40.0 0.0**
TPUB Ta-pu 106.78 309 PFAKE 07 24 40.0
TPUB LR LR
comp=Z,8µm,21.0s
AKH Akhalkalaki 106.79 18 PFAKE 07 24 40.0
AKH LR LR

comp=Z,25µm,22.0s
TWG Pinlang 106.80 309 PFAKE 07 24 40.0
TWG LR LR

comp=Z,24µm,21.0s
ARMA Armidale 108.18 245 PFAKE 07 24 40.0
ARMA LR LR

comp=Z,35µm,19.0s
PRZ Przheval'sk 108.23 351 PFAKE 07 24 40.0
PRZ LR LR

comp=Z,5µm,19.0s
GNI Garni 108.31 18 PFAKE 07 24 40.0
GNI LR LR

comp=Z,63µm,22.0s
CTAO Charters Tower 108.47 257 PFAKE 07 24 40.0
CTAO LR LR

comp=Z,23µm,19.0s
AAK Ala-Archa 108.52 354 PFAKE 07 24 40.0
AAK LR LR

comp=Z,7µm,19.0s
COEN Coen 108.53 264 PFAKE 07 24 40.0
COEN LR LR

comp=Z,40µm,20.0s
KDJ Kajisay 108.74 352 PFAKE 07 24 40.0
KDJ LR LR

comp=Z,4µm,19.0s
CSS Mathiatis 109.03 29 PFAKE 07 24 40.0
CSS LR LR

comp=Z,8µm,20.0s
TARG Taragay, Kyrgy 109.05 351 PFAKE 07 24 40.0
TARG LR LR

comp=Z,3µm,20.0s
CD2 Chengdu 110.98 327 PKP **PKiKP 07 24 34.0 -0.3**
CD2 sPKP 07 24 44.6
CD2 PP **PP 07 25 15.5 +4.0**
CD2 SKS **SKSdf 07 31 44.0 -1.9**
CD2 SKKS **SKKSac 07 32 08.3 -6.6**
CD2 SS **SS 07 40 41.9 +0.3**
CD2 AMB AMB

comp=Z,450nm,8.2s
KSH Kashi 111.46 353 PKP **PKiKP 07 24 34.4 -0.6**
KSH PP PP 07 25 23.7 +9.3
KSH PKS **PKSdf 07 28 08.1 -3.7**
KSH AMB AMB

comp=Z,450nm,9.6s
KSH LR LR

comp=Z,3µm,10.5s
KSH LR LR

comp=Z,2µm,8.7s
MCQ Macquarie Isla 111.84 219 PFAKE 07 24 50.0
MCQ LR LR

comp=Z,50µm,22.0s
CAN Canberra 112.05 241 PFAKE 07 24 50.0
CAN LR LR

comp=Z,15µm,20.0s
SHEL Horse Pasture 112.48 96 PFAKE 07 24 50.0
SHEL LR LR

comp=Z,76µm,22.0s
FAKI Fak Fak 112.97 280 PFAKE 07 24 50.0
FAKI LR LR

comp=Z,28µm,21.0s
GYA0B ALIBECK ARRAY 113.05 8 PFAKE 07 24 50.0
GYA0B LR LR

comp=Z,85µm,22.0s
GYA Guiyang 113.08 321 Pdif **Pdif 07 20 44.0 -0.4**
GYA PKP **PKiKP 07 24 38.4 0.0**
GYA PP **PP 07 25 30.8 +4.1**
GYA PKS **PKSdf 07 28 13.2 -2.2**
GYA SKKS 07 32 23.0
GYA SS **SS 07 41 09.8 -0.1**
GYA AMB AMB

comp=Z,160nm,8.2s
DAV Davao City (W) 113.23 293↑ *i*P **PKKPab 07 35 31.8 -0.9**
DAV Davao City (W) 113.23 293 PFAKE 07 24 50.0
DAV LR LR

comp=Z,19µm,21.0s
TNTI Ternate 115.24 286 PFAKE 07 24 50.0 +7.3
TNTI LR LR

comp=Z,17µm,22.0s
TAU Tasmania Unive 115.69 233 PFAKE 07 24 50.0 +7.4
TAU LR LR

comp=Z,24µm,19.0s
SBA Scott Base 115.95 193 PFAKE 07 24 50.0 +7.8
SBA LR LR

comp=Z,43µm,21.0s
KMI Kunming 116.24 324 SKKS SKKSdf 07 42 33.4 -16
KMI Kunming 116.24 324 PKP **PKPdf 07 24 47.9 +3.2**
SAUI Saumlaki 116.24 275 PFAKE 07 25 00.0 +15
SAUI LR LR

comp=Z,31µm,19.0s
STKA Stephens Creek 116.73 247 PFAKE 07 25 00.0 +15
STKA LR LR

comp=Z,5µm,20.0s
QIZ Qiongzhong 116.89 314 PKP **PKPdf 07 24 45.6 -0.2**
QIZ PP **PP 07 25 53.6 -0.1**
QIZ SS SS 07 42 01.6 +1.3
KBL Kabul 116.91 358 PFAKE 07 25 00.0 +14
KBL LR LR

comp=Z,4µm,22.0s
NIL Nilore 117.55 354 PFAKE 07 25 00.0 +13
NIL LR LR

comp=Z,4µm,20.0s
WR0 Warramunga Arr 118.51 262 PFAKE 07 25 00.0 +11
WR0 LR LR

comp=Z,30µm,20.0s
WR9 Warramunga Arr 118.53 262 PFAKE 07 25 00.0 +11
WR9 LR LR

comp=Z,30µm,18.0s
WR8 Warramunga Arr 118.55 262 PFAKE 07 25 00.0 +11
WR8 LR LR

comp=Z,31µm,18.0s
WB0 Warramunga Arr 118.57 262 PFAKE 07 25 00.0 +11
WB0 LR LR

comp=Z,22µm,20.0s
WR7 Warramunga Arr 118.57 262 PFAKE 07 25 00.0 +11
WR7 LR LR

comp=Z,29µm,18.0s
WB9 Warramunga Arr 118.58 262 PFAKE 07 25 00.0 +11
WB9 LR LR

comp=Z,44µm,20.0s
WR6 Warramunga Arr 118.59 262 PFAKE 07 25 00.0 +11
WR6 LR LR

comp=Z,29µm,19.0s
MTN Manton Dam 118.59 271 PFAKE 07 25 00.0 +11
MTN LR LR

comp=Z,21µm,21.0s
WB8 Warramunga Arr 118.60 262 PFAKE 07 25 00.0 +11
WB8 LR LR

comp=Z,22µm,21.0s
WR5 Warramunga Arr 118.61 262 PFAKE 07 25 00.0 +11
WR5 LR LR

comp=Z,28µm,18.0s
WB6 Warramunga Arr 118.62 262 PFAKE 07 25 00.0 +11
WB6 LR LR

comp=Z,22µm,21.0s
WR4 Warramunga Arr 118.63 262 PFAKE 07 25 00.0 +11
WR4 LR LR

comp=Z,26µm,19.0s
WB5 Warramunga Arr 118.63 262 PFAKE 07 25 00.0 +11
WB5 LR LR

comp=Z,21µm,19.0s
WR3 Warramunga Arr 118.64 262 PFAKE 07 25 00.0 +11
WR3 LR LR

comp=Z,25µm,19.0s
WB4 Warramunga Arr 118.65 262 PFAKE 07 25 00.0 +11
WB4 LR LR

comp=Z,21µm,20.0s
WC2 Warramunga Arr 118.65 262 PFAKE 07 25 00.0 +11
WC2 LR LR

comp=Z,26µm,19.0s
WB3 Warramunga Arr 118.66 262 PFAKE 07 25 00.0 +11
WB3 LR LR

comp=Z,24µm,19.0s
WC3 Warramunga Arr 118.66 262 PFAKE 07 25 00.0 +11
WC3 LR LR

comp=Z,27µm,19.0s
WR2 Warramunga Arr 118.66 262 PFAKE 07 25 00.0 +11
WR2 LR LR

comp=Z,24µm,19.0s
WRAB Tennant Creek 118.67 262 PFAKE 07 25 00.0 +11
WRAB LR LR

comp=Z,26µm,18.0s
WB2 Warramunga Arr 118.67 262 *e*PKPdf **PKPdf 07 24 48.9 -0.2**
WB2 LR LR

comp=Z,28µm,19.0s
WC1 Warramunga Arr 118.67 262 PFAKE 07 25 00.0 +11
WC1 LR LR

comp=Z,18µm,19.0s
WR1 Warramunga Arr 118.68 262 *e*PKPdf **PKPdf 07 24 48.1 -1.0**
WR1 LR LR

comp=Z,25µm,19.0s
WRA Warramunga Arr 118.68 262 PKP **PKPdf 07 24 48.2 -1.0**
comp=Z,3.1nm,0.7s,baz=65,slow=2.1,SNR=13
WC4 Warramunga Arr 118.69 262 PFAKE 07 25 00.0 +11
WC4 LR LR

comp=Z,26µm,19.0s
QSPA South Pole Qui 118.71 180 PFAKE 07 25 00.0 +12
QSPA LR LR

comp=Z,74µm,21.0s
LUWI Luwuk 120.08 287 PFAKE 07 25 00.0 +8.0
LUWI LR LR

comp=Z,10µm,21.0s
AS01 Alice Springs 120.38 258 *e*PKPdf **PKPdf 07 24 51.9 -0.4**
AS31 Alice Springs 120.42 258 PFAKE 07 25 00.0 +7.6
AS31 LR LR

comp=Z,400nm,22.0s
ASAR Alice Springs 120.42 258 PKP **PKPdf 07 24 51.6 -0.8**
comp=Z,2.0nm,0.7s,baz=86,slow=2.2,SNR=13
KKM Kota Kinabalu 121.26 298 PFAKE 07 25 10.0 +16
KKM LR LR

comp=Z,13µm,22.0s
BBOO Buckleboo 121.48 247 PFAKE 07 25 10.0 +16
BBOO LR LR

comp=Z,27µm,21.0s
SOEI Soe 123.20 277 PFAKE 07 25 10.0 +12
SOEI LR LR

comp=Z,26µm,22.0s
CHTO Chiang Mai 123.42 323 *e*PKPdf **PKPdf 07 24 58.5 +0.2**
CHTO Chiang Mai 123.42 323 *e*PKIKP **PKPdf 07 24 58.5 +0.2**
SNAA Sanae 123.46 159 P **PKKPab 07 34 47.4 +3.7**
SNAA Sanae 123.46 159 PFAKE 07 25 10.0 +13
SNAA LR LR

comp=Z,59µm,22.0s
CMAR Chiang Mai Arr 123.71 323 PKP **PKPdf 07 24 59.6 +0.7**
comp=Z,4.5nm,0.8s,baz=343,slow=2.3,SNR=19
CM01 Chiang Mai Arr 123.73 323 *e*PKPdf **PKPdf 07 24 59.8 +0.8**
RAYN Ar Rayn 123.98 24 PFAKE 07 25 10.0 +11
RAYN LR LR

comp=Z,35µm,20.0s
MMRI Maumere 124.43 280 PFAKE 07 25 10.0 +10
MMRI LR LR

comp=Z,11µm,22.0s
KAPI Kappang 124.74 285 PFAKE 07 25 10.0 +9.1
KAPI LR LR

comp=Z,500nm,21.0s
UOSS Minazif 125.52 12 PFAKE 07 25 10.0 +7.8
UOSS LR LR

comp=Z,11µm,21.0s
SBUM Sibu 126.60 298 PFAKE 07 25 20.0 +15
SBUM LR LR

comp=Z,12µm,22.0s
FORT Forrest 127.53 252 PFAKE 07 25 20.0 +14
FORT LR LR

comp=Z,26µm,21.0s
KSM Kuching 128.70 298 PFAKE 07 25 20.0 +11
KSM LR LR

comp=Z,8µm,21.0s
JAGI Jajag, Banyuwa 131.28 285 PFAKE 07 25 30.0 +17
JAGI LR LR

comp=Z,8µm,21.0s
DAMY Dhamar 131.63 30 PFAKE 07 25 30.0 +16
DAMY LR LR

comp=Z,40µm,21.0s
MBWA Marble Bar 131.87 267 PFAKE 07 25 30.0 +16
MBWA LR LR

comp=Z,31µm,19.0s
KULM Kulim 133.05 311 PFAKE 07 25 30.0 +13
KULM LR LR

comp=Z,11µm,22.0s
IPM Ipoh 133.40 310 PFAKE 07 25 30.0 +13
IPM LR LR

comp=Z,11µm,22.0s
SMRI Semarang 133.64 289 PFAKE 07 25 30.0 +12
SMRI LR LR

comp=Z,9µm,21.0s
CASY Casey 134.12 203 PFAKE 07 25 30.0 +13
CASY LR LR

comp=Z,44µm,22.0s
TSUM Tsumeb 134.18 89 PFAKE 07 25 30.0 +11
TSUM LR LR

comp=Z,90µm,19.0s
MBAR Mbarara 135.46 57 PFAKE 07 25 30.0 +8.5
MBAR LR LR

comp=Z,128µm,20.0s
PSI Prapat 136.04 310 PFAKE 07 25 30.0 +7.5
PSI LR LR

comp=Z,8µm,21.0s
CISI Cisompet, Garu 136.08 291 PFAKE 07 25 30.0 +7.5
CISI LR LR

comp=Z,12µm,22.0s
BKNI Bangkinang 136.36 306 PFAKE 07 25 40.0 +17
BKNI LR LR

comp=Z,8µm,20.0s
SYO Syowa Base 136.77 166↑ *e*X **Pdif 07 22 19.0 -9.4**
NWAO Narrogin (SRO) 136.98 251 PFAKE 07 25 40.0 +16
NWAO LR LR

comp=Z,33µm,22.0s
MNAI Manna 138.05 299 PFAKE 07 25 40.0 +14
MNAI LR LR

comp=Z,12µm,22.0s
XMIS Christmas Isla 139.46 289 PFAKE 07 25 40.0 +11
XMIS LR LR

comp=Z,7µm,21.0s
SUR Sutherland 140.38 107 PFAKE 07 25 40.0 +10
SUR LR LR

comp=Z,48µm,20.0s
KMBO Kilima Mbogo 140.47 51 PFAKE 07 25 40.0 +9.2
KMBO LR LR

comp=Z,128µm,20.0s
MAW Mawson 141.15 178 PKP **PKPdf 07 25 31.9 +1.9**
comp=Z,5.8nm,0.9s,baz=285,slow=8.2,SNR=4.1
MAW Mawson 141.15 178 PFAKE 07 25 40.0 +10
MAW LR LR

comp=Z,14µm,20.0s
PALK Pallekele 141.71 338 *e*PKPpre PKPpre 07 25 24.4
PALK Pallekele 141.71 338 *e*PKHKP PKPpre 07 25 24.4
LSZ Lusaka 141.81 78 *e*PKPdf **PKPdf 07 25 34.5 +1.5**
LSZ LR LR

comp=Z,62µm,19.0s
LSZ Lusaka 141.81 78 *e*PKIKP **PKPdf 07 25 34.5 +1.5**
LSZ MLR MLR

comp=Z,62µm,19.0s
LBTB Lobatse 143.07 94 *e*PKPdf **PKPdf 07 25 35.2 +0.2**
LBTB Lobatse 143.07 94 *e*PKIKP **PKPdf 07 25 35.2 +0.2**
BOSA Boshof 143.58 100 PKP **PKPdf 07 25 36.8 +1.0**
comp=Z,6.5nm,1.0s,baz=270,slow=8.5,SNR=4.4
HMDM Hanimaadhoo 144.07 349 PFAKE 07 25 50.0 +13
HMDM LR LR

comp=Z,200nm,19.0s
COCO West Island 147.59 295 PFAKE 07 25 50.0 +2.4
COCO LR LR

comp=Z,10µm,22.0s
DGAR Diego Garcia 158.04 345 PFAKE 07 26 10.0 +12
DGAR LR LR

comp=Z,43µm,22.0s
PAF Port-aux-Franc 159.38 186 PFAKE 07 26 10.0 +11
PAF LR LR

comp=Z,56µm,19.0s
ABPO Ambohimpanom 159.52 66 PFAKE 07 26 10.0 +10
ABPO LR LR

comp=Z,96µm,20.0s

IDC ***12*** *07:12:41.8±0.8,28.˚84N×113.˚14W,h0km,mb4.4/13, mb1 4.5/17,mb1mx4.1/65,mbtmp4.4/17,ML3.8/4, Error ellipse: s-maj=18.6km s-min=13.4km az=69.0*
ISCJB ***12*** *07:12:43.7±0.4,28.˚77N±0.˚05×113.˚08W±0.˚05,h17km, mb4.7/59, Error ellipse: s-maj=8.0km s-min=4.9km az=42.7*
NEIC ***12*** *07:12:43.4±0.5,28.˚72N×113.˚15W,h10km,mb4.9/52, Error ellipse: s-maj=9.1km s-min=7.0km az=218.0*
ISC 12 07:12:45.1±0.5**,28.˚76N**±0.˚06×**113.˚08W**±0.˚06**,h17**km**,n97,**
σ2**s08/97,mb4.8/59,Baja California**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SRIG	**Santa Rosalia**	**1.62**	**152**	*e*Pn	**Pn**		**Pn**	**07 13 10.1**	**-2.8**
HSIG		**1.89**	**82**	*e*Pn	**Pn**		**Pn**	**07 13 13.1**	**-3.5**
TUC	**Tucson**	**4.05**	**29**	*e*Pn	**Pn**		**Pn**	**07 13 44.5**	**-2.0**
319A	**Douglas**	**4.20**	**51**	*e*Pn	**Pn**		**Pn**	**07 13 51.2**	**+2.7**

WESC Westside Schoo 4.59 331 *e*Pn **Pn 07 13 54.4 +0.7**
LPIG La Paz 5.27 151 Pn **Pn 07 14 04.7 +1.6**
12nm,0.3s,baz=311,slow=6.3,SNR=9.7
LPIG Lg Lg 07 15 33.3
4.3nm,0.3s,baz=330,slow=20,SNR=3.6
DEVC Devers 5.96 331 *e*Pn Pn 07 14 18.4 +5.8
BBSC Beaumont Base 6.13 328 *e*Pn Pn 07 14 08.2 -6.7
OAT Oat Mountain 7.29 321 *e*Pn Pn 07 14 22.9 -8.1
OAT *e*Sn **Sn 07 15 48.8 -4.6**
TX31 Lajitas Ar. Si 8.26 84 *e*Pn **Pn 07 14 44.1 -0.2**
LTX Lajitas 8.26 84 *e*Pn **Pn 07 14 44.0 -0.3**
LTX *e*Sn **Sn 07 16 12.7 -4.6**
LTX *e*Lg Lg 07 17 06.3
TXAR Lajitas Array 8.26 84 Pn **Pn 07 14 44.0 -0.3**
1.8nm,0.3s,baz=256,slow=13,SNR=9.0
TXAR Sn **Sn 07 16 12.7 -4.6**
baz=252,slow=12,SNR=2.4
TXAR Lg Lg 07 17 06.3
1.3nm,0.3s,baz=264,slow=28,SNR=5.3
ANMO Albuquerque 8.35 41 Pn **Pn 07 14 44.2 -1.3**
0.3nm,0.3s,baz=101,slow=23,SNR=2.4
ANMO Lg Lg 07 17 07.7
1.2nm,0.3s,baz=132,slow=19,SNR=3.9
ANMO Albuquerque 8.35 41 *e*Pn **Pn 07 14 46.4 +0.9**
ANMO Lg Lg 07 17 07.7
FRI Friant 9.91 328 *e*Pn Pn 07 15 00.8 -6.0
FRI *e*Sn **Sn 07 17 00.2 +2.5**
GNAM Navarro Ridge 13.59 323 *e*Pn **Pn 07 15 56.8 -0.2**
PDAR Pinedale Array 14.26 11 Pn **Pn 07 16 08.5 +2.0**
0.0nm,0.3s,baz=180,slow=9.9,SNR=1.9
YMS Mount Sheridan 15.60 7 *e*Pn **Pn 07 16 24.3 -0.2**
BVW Beverly 18.79 345 *e*P **Pn 07 17 04.2 +0.1**
NEW Newport 19.72 352 P **Pn 07 17 15.2 0.0**
0.1nm,0.3s,baz=167,slow=14,SNR=4.3
CMIG Matias Romero 20.36 121 P Pn 07 17 23.6 +0.5
3.7nm,0.9s,baz=318,slow=12,SNR=3.6
PVMO Portageville 21.09 63 *e*P **P 07 17 28.2 -0.5**
163nm,0.7s
PARMO **Parma 21.12 62** *e*P **P 07 17 26.2 -2.7**
SLM Saint Louis 21.36 57 *e*P **P 07 17 29.6 -2.0**
291nm,1.5s
GLAT Glass 21.38 63 *e*P **P 07 17 31.6 -0.2**
PGC Sidney 21.40 341 *e*P **P 07 17 30.4 -1.5**
12nm,1.1s
UTMT University of 21.73 63 *e*P **P 07 17 32.6 -3.0**
242nm,1.3s
LRAL Lakeview Retre 22.76 73 P **P 07 17 48.6 +2.0**
42nm,1.4s
LLLB Lillooet 22.81 345 *e*P **P 07 17 47.6 +0.5**
15nm,1.3s
SPMN Marine on St. 22.97 39 *e*P **P 07 17 50.1 +1.4**
72nm,1.5s
JFWS Jewell Farm 23.19 46 *e*P **P 07 17 51.6 +0.7**
62nm,1.3s
AGMN Agassiz Nation 23.61 30 *e*P **P 07 17 54.7 -0.3**
24nm,1.1s
SWET Sewanee 23.87 67 *e*P **P 07 17 57.5 -0.3**
32nm,1.3s
SFIN Lafayette 24.24 55 *e*P **P 07 17 60.0 -1.2**
43nm,1.1s
EDM Edmonton 24.44 360 *e*P **P 07 18 00.0 -2.8**
16nm,1.0s
H41A Junction City 24.44 43 *e*P **P 07 18 04.2 +1.3**
40nm,1.4s
I42A Draeger Farm, 24.52 46 *e*P **P 07 18 03.6 0.0**
60nm,1.3s
WI02 Reinke Road, C 24.96 44 *e*P **P 07 18 10.8 +3.1**
44nm,1.4s
WI04 River Road, Cl 24.97 44 *e*P **P 07 18 09.4 +1.7**
47nm,1.3s
CPCT Cooper Cave 25.04 67 *e*P **P 07 18 09.3 +0.9**
ULM Lac du Bonnet 25.12 27 P **P 07 18 07.2 -1.7**
12nm,0.9s,baz=217,slow=9.9,SNR=5.5
ULM Lac du Bonnet 25.12 27 *e*P **P 07 18 07.5 -1.5**
14nm,0.9s
EYMN Ely 25.41 35 *e*P **P 07 18 13.5 +1.8**
22nm,1.1s
G42A Mountain 25.51 43 *e*P **P 07 18 13.3 +0.8**
52nm,1.3s
H43A Windswept, Lux 25.52 45 *e*P **P 07 18 13.9 +1.2**
58nm,1.2s
COWI Conover 25.56 41 *e*P **P 07 18 14.7 +1.6**
24nm,1.0s
TIGA Tifton 25.62 77 *e*P **P 07 18 17.1 +3.4**
79nm,1.4s
TKL Tuckaleechee C 25.67 67 P **P 07 18 13.5 -0.7**
11nm,0.8s,baz=243,slow=9.7,SNR=8.1
TKL Tuckaleechee C 25.67 67 *e*P **P 07 18 15.2 +1.0**
71nm,1.1s
GOGA Godfrey 25.74 72 *e*P **P 07 18 13.2 -1.5**
22nm,1.2s
BG3 Lake Jocassee 26.29 69 *e*P **P 07 18 20.2 +0.5**
55nm,1.2s
HODGE **Hodges 26.78 70** *e*P **P 07 18 23.2 -1.1**
20nm,1.3s
ACSO Alum Creek Sta 27.19 57 *e*P **P 07 18 27.9 +0.1**
50nm,1.2s
KMSC Kings Mountain 27.60 69 *e*P **P 07 18 31.3 -0.3**
52nm,1.1s
DWPF Disney Wildern 27.80 84 *e*P **P 07 18 33.8 +0.4**
14nm,0.8s
NHSC New Hope 28.49 73 *e*P **P 07 18 41.5 +2.0**
62nm,1.4s
BLA Blacksburg 28.55 64 *e*P **P 07 18 42.7 +2.5**
23nm,1.3s
IP03 Louisa 30.55 63 *e*P **P 07 19 00.9 +3.1**
12nm,1.2s
FCC Fort Churchill 32.73 18 *e*P **P 07 19 14.1 -2.5**
14nm,1.1s
YKA Yellowknife Ar 33.75 359 P **P 07 19 24.4 -1.1**
0.9nm,0.9s,baz=181,slow=8.0,SNR=5.9
YKA PcP **PcP 07 22 03.1 -1.5**
0.7nm,0.9s,baz=159,slow=3.0,SNR=3.7
HYT Haines Junctio 36.00 340 *e*P **P 07 19 48.4 +3.3**
9.4nm,1.1s
WVL Waterville 37.76 53 *e*P **P 07 20 03.6 +3.4**
36nm,1.3s
GHO Glory Hole Cre 40.58 335 *e*P **P 07 20 27.0 +3.5**
18nm,1.3s
OPA Opana 41.06 271 *e*P **P 07 20 26.5 -1.4**
101nm,1.2s
KIP Kipapa 41.15 270 *e*P **P 07 20 26.0 -2.7**
135nm,1.4s
IL1 Eielson Array 41.82 339 *e*P **P 07 20 33.5 -0.1**
ILAR Eielson Array 41.82 339 P **P 07 20 33.6 -0.1**
4.8nm,1.2s,baz=151,slow=6.3,SNR=3.5
TRF Thorofare Moun 42.11 336 *e*P **P 07 20 39.6 +3.4**
24nm,1.2s
SCHQ Schefferville 42.12 39 P **P 07 20 34.8 -1.4**
10nm,0.9s,baz=250,slow=11,SNR=3.5
SCHQ Schefferville 42.12 39 *e*P **P 07 20 35.3 -0.9**
15nm,0.9s
PPLA Purkeypile 42.47 335 *e*P **P 07 20 43.3 +4.1**
56nm,1.4s
CAST Castle Rocks 42.74 335 *e*P **P 07 20 44.9 +3.7**
10nm,1.2s
BPAW Bear Paw Mtn. 42.75 337 *e*P **P 07 20 44.2 +2.9**
26nm,1.4s
SVW2 Sparrevohn 42.87 331 *e*P **P 07 20 45.6 +3.4**
29nm,1.4s
MLY Manley 43.24 338 *e*P **P 07 20 48.9 +3.6**
4.9nm,1.1s
OTAV Otavalo 43.58 124 *e*P **P 07 20 50.6 +1.5**
20nm,1.4s
OBIP Obispado Ponce 43.73 94 *e*P **P 07 20 53.8 +4.1**
13nm,1.2s
SDV Santo Domingo 44.47 108 P **P 07 20 55.9 -0.1**
4.8nm,0.4s,baz=312,slow=6.8,SNR=3.3
IM3 Indian Mountai 44.82 338 *e*P **P 07 20 57.3 -0.6**
RES Resolute Bay 46.91 7 P **P 07 21 14.4 +0.3**
1.8nm,0.9s,baz=213,slow=5.9,SNR=4.2
RES Resolute Bay 46.91 7 *e*P **P 07 21 14.0 -0.1**
12nm,1.4s
ATAH Atahualpa 48.90 131 P **P 07 21 32.5 +1.6**
7.3nm,0.9s,baz=336,slow=9.1,SNR=4.1
TULEG Thule 52.21 12 *e*P **P 07 21 57.6 +3.0**
16nm,1.3s
TIXI Tiksi 71.14 343 *e*P **P 07 24 03.6 +1.4**
10nm,1.4s
CPUP Villa Florida 76.57 130 P **P 07 24 33.5 -1.2**
3.2nm,0.8s,baz=301,slow=6.8,SNR=5.3
CPUP Villa Florida 76.57 130 *e*P **P 07 24 34.3 -0.4**
6.6nm,1.0s
ARA0 ARCESS Array S 77.49 14 *e*P **P 07 24 37.9 -1.5**
ARCES ARCESS Array B 77.49 14 P **P 07 24 37.9 -1.5**
4.0nm,0.8s,baz=330,slow=6.6,SNR=4.6
PLCA Paso Flores 79.60 149 P **P 07 24 51.7 +0.4**

3.7nm,1.0s,baz=320,slow=5.7,SNR=5.1

PLCA	**Paso Flores**	**79.60**	**149**	*e*P	**P**	**07 24 51.6**	**+0.2**
	14nm,1.4s							
NB200	**NORSAR Array S**	**79.78**	**24**	*e*P	**P**	**07 24 50.9**	**-1.3**
NOA	**NORSAR Array B**	**79.78**	**24**	P	**P**	**07 24 50.8**	**-1.3**
	1.1nm,0.9s,baz=318,slow=5.3,SNR=2.6							
HFS	**Hagfors**	**81.30**	**24**	P	**P**	**07 25 00.3**	**+0.1**
	4.1nm,1.0s,baz=28,slow=6.5,SNR=3.3							
WR1	**Warramunga Arr**	**118.65**	**262**	*e*PKPdf	**PKPdf**	**07 31 31.5**	**-1.3**
WRA	**Warramunga Arr**	**118.65**	**262**	PKP	**PKPdf**	**07 31 31.5**	**-1.3**
	1.4nm,1.0s,baz=294,slow=1.8,SNR=5.1							
AS31	**Alice Springs**	**120.38**	**258**	*e*PKPdf	**PKPdf**	**07 31 33.7**	**-2.4**
ASAR	**Alice Springs**	**120.38**	**258**	PKP	**PKPdf**	**07 31 33.7**	**-2.4**
	0.8nm,0.8s,baz=56,slow=3.2,SNR=4.2							

IDC ***12*** *07:14:23.3±0.8, 60.12N×152.52W, h0km, mb4.1/15, mb1 4.2/17, mb1mx3.9/83, mbtmp4.1/17, ML4.0/2, Error ellipse: s-maj=20.4km s-min=13.6km az=111.0*

ISCJB ***12*** *07:14:29.8±0.2, 59.76N±0.03×152.14W±0.04, h87km±2km, mb4.1/18, Error ellipse: s-maj=4.3km s-min=3.3km az=157.5*

NEIC ***12*** *07:14:32.2±0.0, 59.78N×152.25W, h68km, ML4.0(AEIC), After AEIC.*

NEIC Felt [III] at Anchor Point and Homer. Also felt at Anchorage, Chugiak, Cooper Landing, Kasilof, Seward and Soldotna.

ISC 12 07:14:31.2±0.7, 59.79N±0.04×152.18W±0.04, h76km±6km, n109, σ0.90/122, mb4.2/18, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOM	**Homer**	**0.30**	**116**	P	**Pn**	**07 14 43.1**	**0.0**
HOM				S	**Sn**	**07 14 52.2**	**+0.4**
ILIM	**Iliamna**	**0.49**	**307**	P	**Pn**	**07 14 44.0**	**-0.6**
ILW	**Iliamna West**	**0.55**	**300**	P	**Pn**	**07 14 44.8**	**-0.5**
BRLK	**Bradley Lake**	**0.65**	**92**	P	**Pn**	**07 14 46.2**	**+0.1**
BRLK				S	**Sn**	**07 14 57.3**	**+0.1**
RSO	**Redoubt South**	**0.73**	**337**	*e*Pn	**Pn**	**07 14 47.0**	**-0.2**
RSO				*e*Sn	**Sn**	**07 14 59.4**	**+0.5**
REF	**Redoubt East F**	**0.75**	**340**	P	**Pn**	**07 14 47.1**	**-0.2**
REF				S	**Sn**	**07 14 57.9**	**-1.3**
AUNW	**Augustine NWes**	**0.78**	**238**	P	**Pn**	**07 14 47.2**	**-0.3**
AUW	**Augustine West**	**0.78**	**238**	P	**Pn**	**07 14 47.2**	**-0.2**
AUI	**Augustine Isla**	**0.78**	**235**	P	**Pn**	**07 14 47.1**	**-0.4**
DFR	**Drift River**	**0.84**	**343**	P	**Pn**	**07 14 48.0**	**-0.3**
NCT	**North Crescent**	**0.86**	**334**	P	**Pn**	**07 14 48.2**	**-0.3**
NCT				S	**Sn**	**07 15 00.8**	**-0.5**
CDD	**Cape Douglas**	**1.15**	**222**	P	**Pn**	**07 14 51.4**	**-0.4**
SLKM	**Skilak Lake**	**1.21**	**53**	P	**Pn**	**07 14 53.1**	**+0.4**
FOSS	**Fourpeaked Sta**	**1.26**	**219**	P	**Pn**	**07 14 53.0**	**-0.4**
FONW	**Fourpeaked Sta**	**1.31**	**224**	P	**Pn**	**07 14 53.5**	**-0.5**
CKL	**Chakachamna La**	**1.41**	**357**	P	**Pn**	**07 14 56.0**	**+0.6**
SPCP	**Crater Peak Br**	**1.48**	**0**	P	**Pn**	**07 14 57.1**	**+0.9**
SPWE	**Spurr West**	**1.50**	**353**	P	**Pn**	**07 14 57.1**	**+0.7**
FIB	**Fire Island**	**1.70**	**35**	P	**Pn**	**07 15 00.5**	**+1.6**
STLK	**Strandline Lak**	**1.72**	**6**	P	**Pn**	**07 15 00.3**	**+1.0**
RC01	**Rabbit Creek A**	**1.78**	**42**	P	**Pn**	**07 15 00.5**	**+0.5**
SUA	**Susitna One**	**1.82**	**22**	P	**Pn**	**07 15 01.6**	**+0.9**
KARR	**Katmai Rainbow**	**1.84**	**226**	P	**Pn**	**07 15 00.6**	**-0.2**
KAHC	**Katmai Hardscr**	**1.85**	**233**	P	**Pn**	**07 15 00.4**	**-0.8**
KDAK	**Kodiak Island**	**2.03**	**186**	Pn	**Pn**	**07 15 02.5**	**-0.8**
	132nm,0.3s,baz=47,slow=12,SNR=5666							
KDAK				Sn	**Sn**	**07 15 32.7**	**+4.9**
	158nm,0.3s,baz=208,slow=21,SNR=10							
SVW2	**Sparrevohn**	**2.14**	**309**	P	**Pn**	**07 15 04.2**	**-0.6**
SKT	**Skwentna**	**2.22**	**8**	P	**Pn**	**07 15 06.6**	**+0.7**
KELA	**Mount Kelaz**	**2.28**	**235**	P	**Pn**	**07 15 06.2**	**-0.6**
PMR	**Palmer**	**2.35**	**38**	P	**Pn**	**07 15 07.8**	**+0.3**
CAHL	**Cahill**	**2.38**	**224**	P	**Pn**	**07 15 08.3**	**+0.2**
KNK	**Knik Glacier**	**2.45**	**47**	P	**Pn**	**07 15 09.3**	**+0.2**
KNK				S	**Sn**	**07 15 38.4**	**+0.4**
GHO	**Glory Hole Cre**	**2.55**	**37**	P	**Pn**	**07 15 10.8**	**+0.4**
GHO				S	**Sn**	**07 15 41.0**	**+0.5**
OHAK	**Old Harbor**	**2.64**	**193**	P	**Pn**	**07 15 10.4**	**-1.2**
SML	**Sawmill**	**2.76**	**41**	P	**Pn**	**07 15 13.6**	**+0.3**
JPK	**Jack Peak**	**3.04**	**63**	P	**Pn**	**07 15 16.5**	**-0.6**
PPLA	**Purkeypile**	**3.12**	**360**	P	**Pn**	**07 15 19.5**	**+1.4**
SCM	**Sheep Creek Mo**	**3.14**	**47**	P	**Pn**	**07 15 18.7**	**+0.3**
VLZ	**Valdez**	**3.19**	**63**	P	**Pn**	**07 15 18.9**	**-0.1**
EYAK	**Cordova Ski Ar**	**3.30**	**74**	P	**Pn**	**07 15 19.4**	**-1.1**
DIV	**Divide**	**3.44**	**64**	*e*Pn	**Pn**	**07 15 22.6**	**+0.1**
DIV				*e*Sn	**Sn**	**07 16 01.5**	**-0.7**
KLU	**Klutina**	**3.52**	**58**	P	**Pn**	**07 15 23.6**	**0.0**
CAST	**Castle Rocks**	**3.64**	**1**	P	**Pn**	**07 15 25.9**	**+0.7**
RAGM	**Ragged Mountai**	**3.81**	**78**	P	**Pn**	**07 15 26.4**	**-1.0**
BMRM	**Bremner River**	**3.94**	**69**	P	**Pn**	**07 15 28.3**	**-0.9**
RND	**Reindeer**	**3.96**	**22**	P	**Pn**	**07 15 30.3**	**+0.8**
PS11	**TAPS Pump St11**	**4.00**	**52**	P	**Pn**	**07 15 30.9**	**+1.0**
DHY	**Denali Highway**	**4.02**	**33**	P	**Pn**	**07 15 31.3**	**+0.9**
NICHA	**Nichawak Mount**	**4.14**	**80**	P	**Pn**	**07 15 31.1**	**-0.9**
SUCK	**Suckling Hills**	**4.24**	**83**	P	**Pn**	**07 15 33.3**	**0.0**
MCK	**McKinley**	**4.24**	**20**	P	**Pn**	**07 15 34.4**	**+1.0**
HARP	**HAARP**	**4.30**	**49**	P	**Pn**	**07 15 34.5**	**+0.4**
BPAW	**Bear Paw Mtn.**	**4.36**	**7**	P	**Pn**	**07 15 34.9**	**0.0**
PAX	**Paxson**	**4.54**	**42**	P	**Pn**	**07 15 37.9**	**+0.5**
VRDI	**Verde Repeater**	**4.55**	**68**	P	**Pn**	**07 15 36.9**	**-0.7**
PS10	**TAPS Pump St10**	**4.76**	**37**	P	**Pn**	**07 15 41.6**	**+1.3**
KULT	**Kultieth River**	**4.77**	**86**	P	**Pn**	**07 15 40.0**	**-0.5**
ISLE	**Juniper Island**	**4.98**	**76**	P	**Pn**	**07 15 42.5**	**-1.0**
KIAG	**Kiagna River**	**5.01**	**73**	P	**Pn**	**07 15 43.5**	**-0.4**
BALM	**Baldy**	**5.03**	**71**	P	**Pn**	**07 15 43.6**	**-0.6**
WRH	**Wood River Hil**	**5.07**	**20**	P	**Pn**	**07 15 44.7**	**+0.1**
HDA	**Harding Lake**	**5.24**	**26**	P	**Pn**	**07 15 47.5**	**+0.6**
CCB	**Clear Creek Bu**	**5.28**	**21**	P	**Pn**	**07 15 47.4**	**0.0**
BARN	**Barnard Glacie**	**5.36**	**72**	P	**Pn**	**07 15 48.7**	**-0.1**
PS08	**TAPS Pump Stn8**	**5.39**	**25**	P	**Pn**	**07 15 48.0**	**-0.9**
DOT	**Dot Lake**	**5.46**	**41**	P	**Pn**	**07 15 50.8**	**+0.8**
COLA	**College**	**5.48**	**20**	*e*Pn	**Pn**	**07 15 51.0**	**+0.8**
COLA				*e*Sn	**Sn**	**07 16 51.8**	**0.0**
CHX	**Chaix Hills**	**5.57**	**82**	P	**Pn**	**07 15 51.9**	**+0.4**
ILAR	**Eielson Array**	**5.57**	**24**	Pg	**Pn**	**07 15 51.8**	**+0.4**
	12nm,0.3s,baz=208,slow=14,SNR=265							
ILAR				Sn	**Sn**	**07 16 52.8**	**-1.2**
	9.9nm,0.3s,baz=207,slow=26,SNR=9.8							
ILB	**Eielson Array**	**5.57**	**24**	P	**Pn**	**07 15 51.9**	**+0.4**
PS06	**TAPS Pump Stn6**	**6.19**	**9**	P	**Pn**	**07 16 01.1**	**+1.3**
BCPM	**Bancas Point**	**6.32**	**83**	P	**Pn**	**07 16 02.5**	**+0.8**
PNL	**Peninsula**	**6.47**	**86**	P	**Pn**	**07 16 03.8**	**+0.1**
PRP	**Porcupine Dome**	**6.51**	**25**	P	**Pn**	**07 16 05.1**	**+0.7**
YUK7	**Dusty Glacier**	**7.04**	**78**	P	**Pn**	**07 16 11.8**	**0.0**
EGAK	**Eagle**	**7.16**	**41**	P	**Pn**	**07 16 13.7**	**+0.5**
YUK5	**Granite Creek**	**7.21**	**73**	P	**Pn**	**07 16 14.0**	**+0.1**
HYT	**Haines Junctio**	**7.36**	**76**	P	**Pn**	**07 16 15.9**	**-0.1**
PLBC	**Pleasant Camp**	**8.02**	**86**	P	**Pn**	**07 16 25.2**	**+0.3**
BM3	**Burnt Mountain**	**8.36**	**20**	P	**Pn**	**07 16 29.3**	**-0.1**
SKAG	**Skagway**	**8.54**	**85**	*e*Pn	**Pn**	**07 16 32.3**	**+0.3**
SKAG				*e*Sn	**Sn**	**07 18 07.7**	**+1.1**
WHY	**Whitehorse**	**8.65**	**77**	P	**Pn**	**07 16 33.8**	**+0.3**
BESE	**Bessie Mountai**	**8.97**	**90**	P	**Pn**	**07 16 38.3**	**+0.4**
JIS	**Juneau Island**	**9.30**	**92**	P	**Pn**	**07 16 42.2**	**0.0**
WRAK	**Wrangell Islan**	**11.01**	**99**	*e*Pn	**Pn**	**07 17 05.5**	**0.0**
WRAK				*e*Sn	**Sn**	**07 19 04.4**	**-2.4**
DLBC	**Dease Lake**	**11.45**	**87**	*e*Pn	**Pn**	**07 17 13.1**	**+1.5**
INK	**Inuvik**	**11.76**	**36**	Pn	**Pn**	**07 17 16.4**	**+0.8**
	0.4nm,0.3s,baz=244,slow=16,SNR=12							
YKA	**Yellowknife Ar**	**18.16**	**65**	P	**Pn**	**07 18 38.6**	**+0.8**
	0.4nm,0.3s,baz=276,slow=9.9,SNR=47							
PETK	**Petropavlovsk-**	**27.90**	**279**	P	**P**	**07 20 13.1**	**-0.5**
	3.4nm,0.7s,baz=70,slow=9.7,SNR=4.1							
KLR	**Kul'dur**	**43.01**	**291**	P	**P**	**07 22 21.6**	**-1.0**
	0.1nm,0.6s,baz=27,slow=9.5							
ARCES	**ARCESS Array B**	**50.96**	**1**	P	**P**	**07 23 23.2**	**-1.0**
	2.1nm,0.7s,baz=346,slow=6.8,SNR=5.2							
KSRS	**Korea Array**	**53.63**	**283**	P	**P**	**07 23 42.9**	**-1.5**
	0.4nm,0.3s,baz=45,slow=6.5,SNR=4.7							
KSAR	**Wonju Array Be**	**53.66**	**283**	P	**P**	**07 23 42.9**	**-1.8**
SONM	**Songino Array**	**55.25**	**307**	P	**P**	**07 23 57.3**	**+1.1**
	1.0nm,0.5s,baz=34,slow=8.3,SNR=4.5							
ZALV	**Zalesovo Beam**	**57.79**	**324**	P	**P**	**07 24 13.7**	**-0.3**
	2.5nm,0.6s,baz=16,slow=5.9,SNR=5.8							
NOA	**NORSAR Array B**	**58.81**	**9**	P	**P**	**07 24 20.6**	**-0.4**
	0.4nm,0.6s,baz=352,slow=6.4,SNR=2.4							
FINES	**FINESS Array B**	**59.09**	**1**	P	**P**	**07 24 22.1**	**-0.7**
	1.2nm,0.5s,baz=353,slow=9.8,SNR=6.6							
FINES				PcP	**PcP**	**07 25 09.9**	**-0.8**
	2.1nm,0.8s,baz=0.0,slow=3.2,SNR=3.6							
HFS	**Hagfors**	**59.90**	**8**	P	**P**	**07 24 27.8**	**-0.6**
	1.2nm,0.6s,baz=23,slow=7.8,SNR=4.6							
ARU	**Arti**	**61.58**	**341**	P	**P**	**07 24 39.8**	**-0.2**
	3.5nm,0.2s,baz=294,slow=6.1,SNR=4.3							

KURK	**Kurchatov**	**62.43**	**326**	P	**P**	**07 24 46.2**	**+0.5**
BVAR	**Borovoye Array**	**62.45**	**333**	P	**P**	**07 24 45.4**	**-0.4**
	3.5nm,0.6s,baz=30,slow=6.8,SNR=15							
KURBB	**Kurchatov Arra**	**62.54**	**326**	P	**P**	**07 24 46.2**	**-0.2**
	2.5nm,0.7s,baz=29,slow=6.8,SNR=8.7							
EKA	**Eskdalemuir Ar**	**62.59**	**19**	P	**P**	**07 24 46.8**	**+0.1**
	1.5nm,0.5s,baz=328,slow=4.7,SNR=7.8							
MKAR	**Makanchi Array**	**64.85**	**322**	P	**P**	**07 25 01.2**	**-0.6**
	0.6nm,0.8s,baz=35,slow=6.4,SNR=5.5							
WMQ	**Urumqi**	**65.70**	**317**	P	P	07 25 13.9	+6.6
WMQ				pP	pP	07 25 27.3	+0.2
WMQ				pmax	pmax			
	comp=Z,9.0nm,0.9s							
WMQ				pmax	pmax			
	comp=Z,170nm,6.9s							
WMQ				LR	LR			
	comp=N,18μm,31.1s							
WMQ				LR	LR			
	comp=E,10μm,28.5s							
WMQ				LR	LR			
	comp=Z,13μm,36.3s							
LZH	**Lanzhou**	**65.98**	**301**	*e*P	**P**	**07 25 12.5**	**+3.1**
LZH				pP	pP	07 25 29.6	+0.4
LZH				sP	sP	07 25 35.3	-2.3
LZH				pmax	pmax			
	comp=Z,27nm,1.0s							
LZH				pmax	pmax			
	comp=Z,140nm,5.3s							
AKASG	**Malin Array Be**	**69.86**	**359**	P	**P**	**07 25 32.4**	**-0.8**
	comp=Z,0.7nm,0.5s,baz=2,3,slow=6.3,SNR=6.2							
GERES	**GERESS Array B**	**71.11**	**10**	P	**P**	**07 25 41.8**	**+0.8**
	comp=Z,0.5nm,0.4s,baz=8.9,slow=7.0,SNR=3.3							
LBTB	**Lobatse**	**145.21**	**4**	PKP	**PKPdf**	**07 33 59.9**	**+0.2**
	comp=Z,5.2nm,0.6s,baz=323,slow=2.9,SNR=10.0							
BOSA	**Boshof**	**148.78**	**4**	PKPbc	**PKPbc**	**07 34 09.2**	**-0.3**
	comp=Z,2.1nm,0.7s,baz=30,slow=3.3,SNR=4.0							

JMA 12 07:14:38.2±0.2, 36.23N×144.62E, h49km, M3.8, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ONAJ	**Iwakimizuishiy**	**3.19**	**287**	P	Pn	07 15 27.5	+1.6
ONAJ				S	Sn	07 16 05.0	+2.2
JFK	**Kawauchi**	**3.21**	**292**	P	Pn	07 15 27.8	+1.6
JFK				S	Sn	07 16 04.9	+1.7
BS01	**Boso 1**	**3.36**	**243**	*e*S	Sn	07 16 07.7	+1.6
JMK	**Ichinoseki**	**3.83**	**316**	P	Pn	07 15 36.1	+1.5
JMK				*e*S	Sn	07 16 19.3	+1.0
JAG	**Ashikaga**	**4.18**	**274**	P	Pn	07 15 41.0	+1.6
JAG				*e*S	Sn	07 16 27.9	+1.0
JRY	**Ryogami san**	**4.63**	**269**	P	Pn	07 15 48.0	+2.3

ISK ***12*** *07:14:50.7, 38.70N×43.09E, h5km, ML2.4/3*

ATA ***12*** *07:14:50.9±1.1, 38.69N×43.21E, h6km±999km, ML2.6, MW2.6*

CSEM ***12*** *07:14:51.8±0.2, 38.69N×43.09E, h5km, ML2.4, Error ellipse: s-maj=5.2km s-min=4.6km az=172.0*

DDA ***12*** *07:14:51.6, 38.67N×43.08E, h7km, ML2.7*

ISCJB ***12*** *07:14:52.1±0.5, 38.68N±0.04×43.11E±0.03, h13km±7km, Error ellipse: s-maj=7.4km s-min=4.3km az=179.9*

ISC 12 07:14:51.6±0.9, 38.69N±0.03×43.11E±0.02, h15km±9km, n19, σ0.61/37, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VANB	**Van**	**0.24**	**114**	PG	**Pb**	**07 14 57.5**	**-0.2**
VANB				SG	**Sb**	**07 15 02.3**	**+0.5**
VANB	**Van**	**0.24**	**114**	*i* Pg	**Pb**	**07 14 57.5**	**-0.2**
VANB				*i* Sg	**Sb**	**07 15 02.3**	**+0.5**
TVAN	**Van**	**0.28**	**125**	*i* P	**Pg**	**07 14 57.4**	**-0.4**
TVAN				*i* S	**Sg**	**07 15 02.0**	**0.0**
TVAN	**Van**	**0.28**	**125**	P	**Pg**	**07 14 57.4**	**-0.4**
TVAN				S	**Sg**	**07 15 02.0**	**0.0**
ADCV	**BITLIS_Adilcev**	**0.32**	**291**	*i* P	**Pb**	**07 14 59.1**	**-0.1**
ADCV				*i* S	**Sb**	**07 15 05.5**	**+1.1**
ADCV	**BITLIS_Adilcev**	**0.32**	**291**	P	**Pb**	**07 14 59.1**	**-0.1**
ADCV				S	**Sb**	**07 15 05.5**	**+1.1**
GEVA	**Gevas**	**0.38**	**186**	*e*P	**Pg**	**07 14 59.4**	**0.0**
GEVA				*e*S	**Sg**	**07 15 05.6**	**+0.8**
GEVA				IAML		07 15 11.5	
	comp=Z,39nm,0.6s						
GEVA	**Gevas**	**0.38**	**186**	*i* P	**Pg**	**07 14 59.2**	**-0.3**
GEVA				*i* S	**Sb**	**07 15 06.1**	**+0.1**
GEVA	**Gevas**	**0.38**	**186**	P	**Pg**	**07 14 59.2**	**-0.3**
GEVA				S	**Sb**	**07 15 06.1**	**+0.1**
VMUR	**Van-Muradiye**	**0.47**	**50**	*i* P	**Pb**	**07 15 01.3**	**-0.4**
VMUR				*i* S	**Sb**	**07 15 09.2**	**+0.7**
VMUR	**Van-Muradiye**	**0.47**	**50**	P	**Pb**	**07 15 01.3**	**-0.4**
VMUR				S	**Sb**	**07 15 09.2**	**+0.7**
TUTA	**Tutak**	**0.75**	**342**	*e*P	**Pb**	**07 15 06.6**	**+0.1**
TUTA				*e*S	**Sn**	**07 15 17.7**	**-1.4**
TUTA				IAML		07 15 20.6	
	comp=Z,32nm,0.2s						
TUTA	**Tutak**	**0.75**	**342**	*i* P	**Pb**	**07 15 06.4**	**-0.1**
TUTA				*i* S	**Sb**	**07 15 17.3**	**+0.7**
TUTA	**Tutak**	**0.75**	**342**	P	**Pb**	**07 15 06.4**	**-0.1**
TUTA				S	**Sb**	**07 15 17.3**	**+0.7**
CLDR	**Caldiran**	**0.77**	**54**	PG	**Pg**	**07 15 06.2**	**-0.6**
CLDR				SG	**Sb**	**07 15 17.7**	**+0.4**
CLDR	**Caldiran**	**0.77**	**54**	*e*Pg	**Pg**	**07 15 06.2**	**-0.6**
CLDR				*e*Sg	**Sb**	**07 15 17.7**	**+0.4**
GURO	**Guroymak-BITLI**	**0.86**	**261**	PG	**Pg**	**07 15 07.3**	**-1.0**
GURO				SG	**Sb**	**07 15 19.6**	**0.0**
GURO	**Guroymak-BITLI**	**0.86**	**261**	*e*Pg	**Pg**	**07 15 07.3**	**-1.0**
GURO				*e*Sg	**Sb**	**07 15 19.6**	**0.0**
EKAR	**Karacoban**	**0.99**	**305**	*e*P	**Pn**	**07 15 12.1**	**+0.9**
EKAR				IAML		07 15 25.4	
	comp=Z,4.9nm,0.3s						

MAN 12 07:15:03, 10.13N×123.25E, h5km, mb4.3, ML3.1, MS2.9, 3C, Cebu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LLP	**Lapu-Lapu**	**0.73**	**75**	*e*P	Pg	07 15 17.2	0.0
LLP				*i* S	Sg	07 15 27.2	+0.5
TBP	**Tagbilaran**	**0.74**	**125**	*e*P	Pb	07 15 18.3	-0.2
SNPH	**Sibulan**	**0.78**	**181**	*e*P	Pb	07 15 19.4	+0.4
SNPH				*e*S	Sb	07 15 31.3	+1.4
GUIM	**Jordan**	**0.81**	**308**	*e*P	Pb	07 15 19.9	+0.2
GUIM				*e*S	Sn	07 15 32.7	-0.9
RCP	**Roxas**	**1.51**	**341**	*e*P	Pb	07 15 31.3	-0.2
RCP				*e*S	Sg	07 15 55.0	+3.4
DCPH	**Dipolog City**	**1.54**	**176**	*e*P	Pn	07 15 31.1	0.0
DCPH				*e*S	Sb	07 15 52.0	+0.3
MSLP	**Maasin**	**1.59**	**90**	*e*P	Pn	07 15 32.3	+0.5
MSLP				*e*S	Sg	07 15 54.3	+0.2

IDC ***12*** *07:15:46.9±0.4, 28.90N×113.07W, h0km, mb5.1/44, mb1 5.1/50, mb1mx5.1/68, mbtmp5.1/50, ML4.6/5, MS6.9/47, Ms1 6.9/47, ms1mx6.7/55, Error ellipse: s-maj=13.5km s-min=8.1km az=43.0*

MEX ***12*** *07:15:46.8±2.0, 28.83N×113.16W, h5km, MD6.8*

MOS ***12*** *07:15:46.4±1.0, 28.75N×113.05W, h10km, mb6.3/69, MS6.9/72, Error ellipse: s-maj=5.8km s-min=3.8km az=93.6*

BJI ***12*** *07:15:47.5, 29.05N×113.05W, h10km, mb6.0/8, mB6.5/31, Ms6.9/43, Ms7 6.7/41*

ISCJB ***12*** *07:15:47.0±0.1, 28.79N±0.01×113.06W±0.01, h10km, mb5.9/336, MS7.0/514, Error ellipse: s-maj=2.1km s-min=1.3km az=34.1*

GCMT ***12*** *07:15:48.5±0.1, 28.57N×112.76W, h16km, MW7.0/143, Moment Tensor Solution. s143,c361; s138,c529; Duration: 81 Moment tensor: Scale 1019Nm; Mrr-0.21±.03; Mθθ-4.22±.03; Mϕϕ4.43±.03; Mrθ-0.94±.10; Mθϕ-0.64±.02; Mϕr-0.84±.10; Best double couple: M04.55200×1019 NP1:ϕs40.00000°, δ87.00000°, λ-16.00000°. NP2:ϕs131.00000°, δ74.00000°, λ-177.00000°. Principal axes: T 4.6030, Plg9.0000°, Azm87.0000°; N -0.1020, Plg74.0000°, Azm211.0000°; P -4.5020, Plg13.0000°, Azm355.0000°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to surface/mantle waves, cutoff=50s.*

NEIC ***12*** *07:15:48.0±0.0, 28.69N×113.26W, h11km, Moment Tensor Solution. s10 Moment tensor: Scale 1019Nm; Mrr-0.24; Mθθ-3.59; Mϕϕ3.83; Mrθ-0.71; Mθϕ0.16; Mϕr-1.48; Best double couple: M04.10000×1019 NP1:ϕs227.00000°, δ86.00000°, λ22.00000°. NP2:ϕs135.00000°, δ68.00000°, λ175.00000°. Principal axes: T 4.3300, Plg18.0000°, Azm92.0000°; N -0.5900, Plg67.0000°, Azm237.0000°; P -3.7400, Plg11.0000°, Azm358.0000°;*

NEIC ***12*** *07:15:48.5±0.2, 28.70N×113.10W, h13km, mb6.2/300, ME7.1, MS6.9/298, MW6.9, MW7.0, MD6.8(MEX) Error ellipse: s-maj=3.4km s-min=2.0km az=35.0, Moment Tensor Solution. s36 Moment tensor: Scale 1019Nm; Mrr-0.26; Mθθ-1.72; Mϕϕ1.98; Mrθ0.50; Mθϕ1.39; Mϕr0.51; Best double couple: M02.40000×1019 NP1:ϕs64.00000°, δ88.00000°, λ16.00000°. NP2:ϕs333.00000°, δ74.00000°, λ177.00000°. Principal axes: T 2.5900, Plg13.0000°, Azm289.0000°; N -0.3500, Plg74.0000°, Azm72.0000°; P -2.2400, Plg9.0000°, Azm197.0000°; Broadband fault plane solution: P waves. NP1:ϕs305.00000°, δ85.00000°, λ-3.00000°. NP2:ϕs35.00000°, δ87.00000°, λ-175.00000°. Principal axes: T Plg1.0000°, Azm170.0000°; N Plg0.0000°, Azm0.0000°; P Plg6.0000°, Azm260.0000°; Complex earthquake observed on broadband displacement seismograms, with at least one larger event occurring after a small onset. Depth from synthetics of broadband displacement seismograms based on larger event. Energy computed from BB mechanism.*

NEIC Felt [VI] at San Luis and [V] at Santa Isabel, Baja California and [V] at Guerrero Negro, Baja California Sur. Felt [V] at Bahia de Kino and [IV] at Hermosillo and Providencia, Sonora. Also felt in parts of Chihuahua, Durango and Sinaloa. Felt [II] at Benson, Hereford and Tucson, Arizona. Also felt [II] at San Diego, California and at El Paso, Texas. Felt in parts of Arizona, southern California, southern Nevada and central New Mexico.

ISC 12 07:15:49.2±0.2, 28.84N±0.03×113.13W±0.03, h10km, n1902, σ2.915/1658, mb6.1/348, MS7.0/527, 30C-35D, Baja California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SRIG	**Santa Rosalia**	**1.70**	**152**	*e*P	Pn	07 16 14.2	-4.7
SRIG				*e*S	**Sn**	**07 16 35.3**	**-5.5**
SRIG	**Santa Rosalia**	**1.70**	**152**	*e*Pn	**Pn**	**07 16 17.8**	**-1.1**
SRIG				*e*Sn	**Sn**	**07 16 35.3**	**-5.5**
HSIG		**1.92**	**84**	*e*P	Pn	07 16 16.7	-5.2
HSIG				*i* S	**Sn**	**07 16 40.8**	**-5.4**
HSIG		**1.92**	**84**	*e*Pn	Pn	07 16 16.8	-5.1
HSIG				*e*Sn	**Sn**	**07 16 40.8**	**-5.4**
GUYB	**Guaymas**	**2.20**	**115**	*e*P	**Pn**	**07 16 21.7**	**-4.0**
SPX	**San Pedro Mart**	**2.99**	**318**	*e*Pn	**Pn**	**07 16 40.7**	**+3.7**
SPIG	**San Pedro Mart**	**2.99**	**318**	*e*P	Pn	07 16 32.0	-5.0
SPIG				*i* S	**Sn**	**07 17 08.5**	**-4.7**
214A	**Organ Pipe Nat**	**3.12**	**5**	P	Pn	07 16 34.3	-4.2
	baz=184						
214A	**Organ Pipe Nat**	**3.12**	**5**	*e*P	**Pn**	**07 16 34.7**	**-3.8**
214A				*e*S	**Sn**	**07 17 12.5**	**-3.4**
113A	**Mohawk Valley,**	**3.96**	**352**	*e*Pn	**Pn**	**07 16 46.7**	**-3.2**
MBIG	**Mexicali**	**3.98**	**334**	*e*P	Pn	07 16 39.9	-10
TUC	**Tucson**	**4.01**	**30**	P	**Pn**	**07 16 47.7**	**-3.1**
	baz=210						
TUC	**Tucson**	**4.01**	**30**	*e*Pn	**Pn**	**07 16 48.4**	**-2.3**
TUC	**Tucson**	**4.01**	**30**	*e*P	**Pn**	**07 16 48.4**	**-2.3**
319A	**Douglas**	**4.18**	**52**	*e*Pn	**Pn**	**07 16 50.5**	**-2.7**
GLA	**Glamis**	**4.45**	**341**	P	**Pn**	**07 16 53.7**	**-3.0**
	baz=161						
GLA	**Glamis**	**4.45**	**341**	*e*Pn	**Pn**	**07 16 54.9**	**-1.8**
GLA	**Glamis**	**4.45**	**341**	*e*P	**Pn**	**07 16 54.9**	**-1.8**
IKP	**In-Ko-Pah, Jac**	**4.58**	**327**	P	**Pn**	**07 16 56.6**	**-2.1**
	baz=146						
CBX	**Cerro Bola**	**4.61**	**320**	*e*P	**Pb**	**07 17 06.8**	**-3.5**
CBX	**Cerro Bola**	**4.61**	**320**	*e*Pg	**P

Y22E IRIS PASSCAL I 7.44 44 P Pn 07 17 37.0 -0.9
baz=226
LENM Lemitar 7.47 43 ePn Pn 07 17 37.5 -0.8
OSI Osito Audit: C 7.47 322 P Pn 07 17 37.2 -1.1
baz=140,SNR=6.2
OSI Osito Audit: C 7.47 322 ePn Pn 07 17 31.3 -7.1
SHOC Shoshone, Teco 7.53 340 P Pn 07 17 36.7 -2.3
baz=159
LAZ Ladron 7.54 41 ePn Pn 07 17 38.5 -0.8
SCZ2 Santa Cruz Isl 7.57 314 P Pn 07 17 39.2 -0.5
baz=132
U15A North Rim 7.60 5 ePn Pn 07 17 40.1 -0.1
LRMC Laurel Mtn Rad 7.66 331 P Pn 07 17 38.9 -2.1
baz=149,SNR=9.7
BNM Barren Site 7.67 45 ePn Pn 07 17 42.1 +1.0
LPM Los Pinos Moun 7.78 44 ePn Pn 07 17 42.6 0.0
SHPR Sheep Range 7.83 348 ePn Pn 07 17 42.7 -0.7
SBC Santa Barbara 7.92 317 P Pn 07 17 44.2 -0.2
baz=134
ARVC Arvin 7.92 324 P Pn 07 17 45.7 +1.3
baz=141,SNR=17
MPMC Manual Prospec 8.09 334 P Pn 07 17 46.8 -0.1
baz=152
LCMT Little Creek M 8.15 359 ePn Pn 07 17 47.8 0.0
KNB Kanab 8.16 2 ePn Pn 07 17 48.2 +0.4
KNB Kanab 8.16 2 eP Pn 07 17 48.3 +0.4
ISA Isabella, Lake 8.17 328 P Pn 07 17 48.8 +0.9
baz=145
ISA Isabella, Lake 8.17 328 ePn Pn 07 17 49.7 +1.8
ISA Isabella, Lake 8.17 328 eP Pn 07 17 49.7 +1.8
MAIG Mazatlaan 8.24 132 ePn Pn 07 17 40.9 -7.9
MAIG eS Sn 07 19 21.1 -1.0
MAIG Mazatlaan 8.24 132 ePn Pn 07 17 40.9 -7.9
MAIG eSn Sn 07 19 21.1 -1.0
GDL2 Guadalupe Moun 8.27 64 ePn Pn 07 17 50.3 +1.0
PKM Mcpherson Peak 8.29 318 P Pn 07 17 50.4 +0.8
baz=136
LTX Lajitas 8.29 84 ePn Pn 07 17 47.8 -1.8
LTX eSn Sn 07 19 24.6 +1.1
LTX eLg Lg 07 20 13.2
LTX Lajitas 8.29 84 eP Pn 07 17 47.8 -1.8
LTX e 07 19 24.6
TX31 Lajitas Ar. Si 8.29 84 ePn Pn 07 17 49.0 -0.6
TXAR Lajitas Array 8.29 84 Pn Pn 07 17 47.8 -1.9
33nm,0.3s,baz=254,slow=13,SNR=82
TXAR Sn Sn 07 19 24.6 +1.1
8.1nm,0.3s,baz=312,slow=18,SNR=2.6
TXAR Lg Lg 07 20 13.2
83nm,0.3s,baz=257,slow=28,SNR=6.4
ANMO Albuquerque 8.32 41 Pn Pn 07 17 49.5 -0.5
8.7nm,0.3s,baz=43,slow=15,SNR=19
ANMO Lg Lg 07 20 22.4
60nm,0.3s,baz=164,slow=20,SNR=5.5
ANMO Albuquerque 8.32 41 P Pn 07 17 49.7 -0.3
baz=224
ANMO Albuquerque 8.32 41 eP Pn 07 17 57.8 +7.7
ANMO eS Sn 07 19 23.4 -0.8
ANMO Albuquerque 8.32 41 ePn Pn 07 17 51.1 +1.0
ANMO Albuquerque 8.32 41⇓eP Pn 07 17 50.0 -0.1
DAC Darwin (Calif) 8.32 334 ePn Pn 07 17 53.6 +3.5
DAC Darwin (Calif) 8.32 334 eP Pn 07 17 53.6 +3.5
TPNV Topopah Spring 8.50 343 P Pn 07 17 52.4 -0.1
baz=161
TPNV Topopah Spring 8.50 343 ePn Pn 07 17 53.1 +0.6
TPNV Topopah Spring 8.50 343 eP Pn 07 17 53.1 +0.6
PKCU Pink Cliffs 8.61 4 ePn Pn 07 17 56.6 +2.5
VES Vestal, Richgr 8.61 326 P Pn 07 17 54.8 +1.0
baz=143,SNR=11
CWC Cottonwood Cre 8.65 332 P Pn 07 17 56.3 +1.7
baz=150
CLNB Carlsbad 8.67 65 ePn Pn 07 17 57.5 +2.6
CCUT Cedar City 8.69 359 ePn Pn 07 17 56.1 +0.9
SMMC Simmler 8.70 320 P Pn 07 17 56.3 +1.3
baz=137,SNR=27
SZCU Shurtz Canyon 8.73 0 ePn Pn 07 17 56.8 +1.1
GRAC Grapevine Rang 8.88 337 P Pn 07 18 00.9 +3.3
baz=156,SNR=5.9
RCTC Rector, Farmer 9.06 327 P Pn 07 18 03.1 +3.1
baz=144,SNR=24
PAGB Antelope Grade 9.14 321 ePn Pn 07 18 02.3 +1.2
MVCO Mesa Verde 9.21 24 P Pn 07 18 04.9 +2.6
baz=206
MTPU Mount Pierson 9.21 5 ePn Pn 07 18 04.4 +1.9
TIN Tinemaha, Big 9.24 334 P Pn 07 18 03.9 +1.2
baz=151
MSU Marysvale 9.68 4 ePn Pn 07 18 11.4 +2.7
MSU Marysvale 9.68 4 eP Pn 07 18 11.4 +2.7
R11A Troy Canyon, C 9.70 348 P Pn 07 18 09.2 +0.2
baz=167,SNR=24
R11A Troy Canyon, C 9.70 348 ePn Pn 07 18 08.7 -0.4
TCRU Three Creeks R 9.76 3 ePn Pn 07 18 06.6 -3.3
PMPB Monarch Peak 9.80 321 ePn Pn 07 18 11.3 +1.1
MLAC Mammoth, Mammo 9.98 333 P Pn 07 18 15.5 +2.6
baz=150
OMMB Old Mammoth Mi 10.03 332 ePn Pn 07 18 17.0 +3.3
MDPB Devils Postpil 10.08 332 ePn Pn 07 18 08.0 -6.3
PV10 Paradox Valley 10.10 19 ePn Pn 07 18 08.2 -6.3
Q16A Castle Valley 10.18 9 ePn Pn 07 18 17.8 +2.2
PV09 Paradox Valley 10.19 18 ePn Pn 07 18 09.7 -6.1
MSTX Muleshoe 10.22 57 P Pn 07 18 16.9 +0.9
baz=242,SNR=14
MSTX Muleshoe 10.22 57 ePn Pn 07 18 17.6 +1.5
PV15 Paradox Valley 10.24 21 ePn Pn 07 18 08.9 -7.5
S22A 4UR Ranch, Cre 10.32 29 P Pn 07 18 18.3 +0.7
baz=212
S22A 4UR Ranch, Cre 10.32 29 ePn Pn 07 18 12.8 -4.8
NV11 Mina Array Sit 10.44 338 ePn Pn 07 18 16.3 -2.8
SRU San Rafael Swe 10.47 11 ePn Pn 07 18 17.0 -2.6
SRU San Rafael Swe 10.47 11 eP Pn 07 18 17.0 -2.6
NV01 Mina Array Sit 10.49 337 ePn Pn 07 18 20.8 +0.9
NVAR Mina Array Bea 10.49 337 Pn Pn 07 18 23.0 +3.2
baz=156,slow=12,SNR=23
TMUT Trail Mountain 10.55 8 ePn Pn 07 18 22.5 +1.8
SAO San Andreas Ge 10.55 321 ePn Pn 07 18 20.7 +0.2
SAO San Andreas Ge 10.55 321 eP Pn 07 18 20.7 +0.2
RYN Ryan 10.74 337 ePn Pn 07 18 24.9 +1.7
P17A Butcher Ranch, 10.79 10 ePn Pn 07 18 21.7 -2.2
MHTCO State Highway 10.88 38 ePn Pn 07 18 26.8 +1.6
SDCO Great Sand Dun 10.93 34 P Pn 07 18 28.6 +2.7
baz=217,SNR=34
SDCO Great Sand Dun 10.93 34 ePn Pn 07 18 29.4 +3.5
WAKR Walker 10.98 333 ePn Pn 07 18 29.5 +3.0
KVN Kaiserville 10.99 339 ePn Pn 07 18 29.7 +3.1
KVN Kaiserville 10.99 339 eP Pn 07 18 29.7 +3.1
CMB Columbia Colle 10.99 328 ePn Pn 07 18 27.9 +1.4
CMB Columbia Colle 10.99 328 eP Pn 07 18 27.9 +1.4
P18A Preston Nutter 11.02 12 ePn Pn 07 18 29.6 +2.4
T25A Trinidad 11.04 39 P Pn 07 18 28.8 +1.4
baz=223,SNR=14
T25A Trinidad 11.04 39 ePn Pn 07 18 27.6 +0.2
NLU North Lily Mtn 11.12 4 ePn Pn 07 18 31.9 +3.4
RDG13 Poverty Ridge 11.20 322 ePn Pn 07 18 30.3 +0.9
MPU Maple Canyon 11.22 6 ePn Pn 07 18 33.2 +3.4
ZAIG Zacatecas 11.27 120 eP Pn 07 18 32.7 +2.1
ZAIG Zacatecas 11.27 120 ePn Pn 07 18 33.4 +2.8
YERR Yerington 11.32 335 ePn Pn 07 18 34.4 +3.3
DUG Dugway, Tooele 11.33 1 P Pn 07 18 35.2 +4.0
baz=181,SNR=33
DUG Dugway, Tooele 11.33 1 ePn Pn 07 18 35.7 +4.4
DUG Dugway, Tooele 11.33 1 eP Pn 07 18 35.7 +4.4
AMTX Amarillo 11.44 55 P Pn 07 18 33.4 +0.7
baz=241
AMTX Amarillo 11.44 55 ePn Pn 07 18 34.2 +1.4
SMCO Snowmass 11.50 25 ePn Pn 07 18 36.8 +2.9
JCT Junction City 11.71 79 P Pn 07 18 37.1 +0.7
baz=265,SNR=14
JCT Junction City 11.71 79 ePn Pn 07 18 37.6 +1.2
JCT Junction City 11.71 79 eP Pn 07 18 37.6 +1.2
RUBR Rubicon Trail 11.73 332 ePn Pn 07 18 40.5 +3.7
VCNR Virginia City 11.74 334 ePn Pn 07 18 39.7 +2.8
JLU Jordanelle 11.82 6 ePn Pn 07 18 40.5 +2.5
CJM Chamela 11.86 140 eP Pn 07 18 43.5 +5.0
CTU Camp Tracy 11.88 5 ePn Pn 07 18 41.5 +2.7
O20A White River Ci 11.96 18 P Pn 07 18 43.0 +3.1
baz=201,SNR=7.2
O20A White River Ci 11.96 18 ePn Pn 07 18 42.3 +2.3
AFDM Forest Hills D 12.00 329 ePn Pn 07 18 42.2 +1.9
PAHR Pah Rah Range 12.01 336 ePn Pn 07 18 43.5 +3.0
BMN Battle Mountai 12.04 345 ePn Pn 07 18 43.9 +2.9
BMN Battle Mountai 12.04 345 eP Pn 07 18 43.9 +2.9
BGU Big Grassy Mou 12.06 0 ePn Pn 07 18 40.6 -0.7
Q24A Divide 12.07 31 P Pn 07 18 43.7 +2.1
baz=215,SNR=5.6

Q24A Divide 12.07 31 ePn Pn 07 18 44.3 +2.8
833A Chaparral WMA, 12.08 89 P Pn 07 18 40.1 -1.3
baz=275,SNR=11
ABTX Abilene, Hawle 12.20 69 P Pn 07 18 42.7 -0.4
baz=255,SNR=26
ABTX Abilene, Hawle 12.20 69 ePn Pn 07 18 43.0 0.0
TCUT Toone Canyon 12.33 6 ePn Pn 07 18 46.9 +1.8
SPUT South Promonto 12.45 2 ePn Pn 07 18 47.6 +1.0
BEKR Beckworth 12.51 333 ePn Pn 07 18 49.8 +2.4
ISCO Idaho Springs 12.57 28 P Pn 07 18 50.5 +2.2
baz=211,SNR=5.9
ORV Oroville 12.73 329 ePn Pn 07 18 51.8 +1.5
ORV Oroville 12.73 329 eP Pn 07 18 51.8 +1.5
GDXM Geysers 12.78 324 ePn Pn 07 18 50.9 -0.1
HWUT Hardware Ranch 12.80 5 ePn Pn 07 18 53.6 +2.2
LNIG Linares 12.81 105 eP Pn 07 18 51.3 -0.1
LNIG eP Pn 07 18 55.2 +3.8
LNIG Linares 12.81 105 ePn Pn 07 18 51.3 -0.1
HVU Hansel Valley 12.91 1 ePn Pn 07 18 55.4 +2.5
HVU Hansel Valley 12.91 1 eP Pn 07 18 55.4 +2.5
HOPS Hopland Field 13.06 323 ePn Pn 07 18 54.8 0.0
KSCO Kaye Shedlock' 13.37 38 P Pn 07 19 01.8 +2.7
baz=223
KSCO Kaye Shedlock' 13.37 38 ePn Pn 07 19 00.4 +1.3
N23A Red Feather La 13.39 24 P Pn 07 19 03.6 +4.1
baz=208
N23A Red Feather La 13.39 24 ePn Pn 07 19 00.3 +0.8
IGIG Irapuato, Guan 13.39 124 eP P 07 19 06.2 -3.0
O03D Paynes Creek 13.47 330 P Pn 07 19 02.6 +2.1
baz=146,SNR=13
KVTX Kingsville 13.50 92 ePn Pn 07 19 01.9 +1.1
WMOK Wichita Mounta 13.54 61 P Pn 07 19 00.8 -0.6
baz=248,SNR=22
WMOK Wichita Mounta 13.54 61 ePn Pn 07 19 01.4 0.0
WMOK Wichita Mounta 13.54 61 eP Pn 07 19 01.4 0.0
435B Jarrell 13.63 78 P Pn 07 19 03.1 +0.4
baz=265,SNR=12
435B Jarrell 13.63 78 ePn Pn 07 19 03.2 +0.5
RWWY Rawlins 13.70 19 ePn Pn 07 19 05.7 +2.0
MMIG Aquila 13.80 137 eP P 07 19 08.6 -4.9
WHTX Lake Whitney, 13.88 73 P Pn 07 19 04.1 -1.9
baz=260,SNR=10
WHTX Lake Whitney, 13.88 73 ePn Pn 07 19 02.4 -3.6
PHWY Pilot Hill 13.92 25 ePn Pn 07 19 09.5 +2.7
AHID Auburn Hatcher 13.99 6 ePn Pn 07 19 08.5 +0.8
WDC Whiskeytown Da 14.03 329 ePn Pn 07 19 09.5 +1.5
WDC Whiskeytown Da 14.03 329 eP Pn 07 19 09.5 +1.5
JRQG Juriquilla Cam 14.07 122 ePn Pn 07 19 09.3 +0.4
MOIG Morelia 14.19 127 ePn Pn 07 19 08.6 -2.0
BW06 Boulder Array 14.19 11 P Pn 07 19 10.7 +0.2
baz=193,SNR=23
BW06 Boulder Array 14.19 11 ePn Pn 07 19 10.5 0.0
PD31 Pinedale Array 14.19 11 ePn Pn 07 19 11.5 +1.0
PDAR Pinedale Array 14.19 11 Pn Pn 07 19 11.3 +0.9
0.3nm,0.3s,baz=186,slow=12,SNR=17
PDAR Lg Lg 07 23 21.1
1.0nm,0.3s,baz=201,slow=8.2,SNR=3.1
PDAR LR LR 07 25 10.8
comp=Z,512µm,19.4s,baz=198,slow=40
PDAR Pinedale Array 14.19 11 ePn Pn 07 19 10.8 +0.3
MOD Modoc Plateau 14.28 338 ePn Pn 07 19 13.3 +1.8
WVOR Wild Horse Val 14.28 343 ePn Pn 07 19 08.9 -2.7
WVOR Wild Horse Val 14.28 343 eP Pn 07 19 08.9 -2.7
KMRM Mail Ridge 14.30 325 ePn Pn 07 19 11.9 0.0
N02D Trinity Center 14.42 330 P Pn 07 19 14.6 +1.2
baz=144,SNR=20
REDW Red Top Meadow 14.61 7 ePn Pn 07 19 17.4 +1.2
MFID Camas Ranch 14.71 352 ePn Pn 07 19 19.4 +2.1
SNOW Snow King Moun 14.72 7 ePn Pn 07 19 19.1 +1.5
TPAW Teton Pass 14.73 6 ePn Pn 07 19 19.0 +1.2
HLID Hailey 14.73 356 P Pn 07 19 19.7 +1.9
baz=176,SNR=23
HLID Hailey 14.73 356 ePn Pn 07 19 20.7 +3.0
M04C Macdoel 14.73 334 P Pn 07 19 20.4 +2.6
baz=149,SNR=36
K22A Casper 14.78 19 P Pn 07 19 19.7 +1.3
baz=203,SNR=25
K22A Casper 14.78 19 ePn Pn 07 19 20.0 +1.6
KHMM Horse Mountain 14.81 327 ePn Pn 07 19 20.4 +1.6
M02C Callahan 14.82 330 P Pn 07 19 20.2 +1.2
baz=145,SNR=25
FXWY Fox Creek 14.87 6 ePn Pn 07 19 20.9 +1.3
LOHW Long Hollow 14.88 7 ePn Pn 07 19 20.4 +0.6
CBKS Cedar Bluff 14.91 45 P Pn 07 19 23.3 +3.2
baz=232,SNR=15
CBKS Cedar Bluff 14.91 45 ePn P 07 19 24.2 -1.6
CBKS Cedar Bluff 14.91 45 eP P 07 19 24.2 -1.6
JCC Jacoby Creek, 14.91 326 ePn Pn 07 19 20.1 0.0
MOOW Moose Ponds 15.00 7 ePn Pn 07 19 22.3 +0.9
4µm,1.8s
YBH Yreka Blue Hor 15.04 331 Pn Pn 07 19 23.8 +2.0
0.3nm,0.3s,baz=148,slow=6.3,SNR=18
YBH Yreka Blue Hor 15.04 331 ePn Pn 07 19 22.2 +0.3
352nm,1.3s
OGNE Ogallala 15.11 34 P P 07 19 27.1 -0.9
baz=220
OGNE Ogallala 15.11 34 ePn P 07 19 27.3 -0.7
3µm,1.8s
J08A Circle Bar Ran 15.11 345 ePn Pn 07 19 24.6 +1.7
3µm,1.8s
HKT Hockley 15.12 82 ePn Pn 07 19 21.5 -1.3
3µm,1.4s
HKT Hockley 15.12 82 eP Pn 07 19 21.5 -1.3
HKT pmax pmax
comp=Z,3µm,1.4s
IMW Indian Meadow 15.13 6 ePn Pn 07 19 24.2 +1.0
comp=Z,3µm,1.4s
K05A Summer Lake 15.21 338 ePn Pn 07 19 26.5 +2.2
comp=Z,10µm,1.8s
K04D Chiloquin, OR 15.42 335 P Pn 07 19 29.0 +2.1
baz=151,SNR=18
ZIIG Zihuatanejo 15.47 134 eP P 07 19 34.5 +2.4
YPP Pitchstone Pla 15.51 6 ePn Pn 07 19 27.8 -0.5
comp=Z,2µm,1.6s
H17A Grant Village 15.66 7 P Pn 07 19 31.6 +1.4
baz=188,SNR=10
H17A Grant Village 15.66 7 ePn Pn 07 19 30.9 +0.7
comp=Z,2µm,1.5s
YFT Old Faithful 15.69 6 ePn Pn 07 19 33.3 +2.8
comp=Z,4µm,1.7s
ARIG Puente Sto Nin 15.72 129 eP P 07 19 31.9 +1.0
L02D Cave Junction, 15.77 330 P Pn 07 19 32.4 +1.0
baz=144
J05D Fort Rock, OR 15.82 338 P Pn 07 19 34.5 +2.3
baz=153,SNR=86
UNM Universidad Na 15.86 124 eP P 07 19 40.4 +3.8
UNM Universidad Na 15.86 124 ePn P 07 19 34.2 -2.4
comp=Z,7µm,1.7s
UNM Universidad Na 15.86 124 eP P 07 19 34.2 -2.4
UNM pmax pmax
comp=Z,7µm,1.7s
HUMO Hull Mountain 15.87 333 ePn Pn 07 19 33.3 +0.6
comp=Z,278nm,1.3s
YMR Madison River 15.89 6 ePn Pn 07 19 35.0 +1.9
comp=Z,3µm,1.7s
YHB Horse Butte 15.96 5 ePn Pn 07 19 35.1 +1.1
comp=Z,1µm,1.4s
MCMT McKenzie Canyo 15.96 1 ePn Pn 07 19 36.0 +2.0
QLMT Earthquake Lak 16.02 4 ePn Pn 07 19 36.9 +2.1
YHH Holmes Hill 16.02 6 ePn Pn 07 19 36.3 +1.4
comp=Z,3µm,1.7s
I07A Izee 16.05 343 ePn Pn 07 19 37.3 +2.3
comp=Z,1µm,1.5s
J04D Umpqua Nationa 16.09 336 P Pn 07 19 37.9 +2.3
baz=151,SNR=12
KBO Bosley Butte 16.09 329 ePn Pn 07 19 34.5 -1.1
comp=Z,1µm,1.4s
PINE Pine Mountain 16.18 339 ePn Pn 07 19 38.0 +1.1
comp=Z,5µm,1.8s
NATX Nacogdoches 16.21 75 P Pn 07 19 34.6 -2.5
baz=264
NATX Nacogdoches 16.21 75 ePn Pn 07 19 35.3 -1.8
comp=Z,7µm,1.6s
PLIG Platanillo 16.23 127 eP P 07 19 43.5 +2.9
YAIG Yautepec 16.23 125 eP P 07 19 44.4 +3.7
TUL1 Leonard 16.24 60 P Pn 07 19 35.4 -2.0
baz=249,SNR=38
TUL1 Leonard 16.24 60 ePn Pn 07 19 34.8 -2.7
comp=Z,4µm,1.5s
BMO Blue Mountains 16.32 349 ePn Pn 07 19 38.9 +0.3
comp=Z,3µm,1.9s
BMO Blue Mountains 16.32 349 eP Pn 07 19 38.9 +0.3
BMO pmax pmax
comp=Z,3µm,1.9s
PPM Popocatepetl 16.43 123 eP P 07 19 41.4 -1.8

MEIG Mezcala 16.47 128 eP Pn 07 19 37.6 -2.9
DLMT Dillon 16.50 1 ePn P 07 19 43.2 -0.3
comp=Z,1µm,1.4s
RLMT Red Lodge 16.54 10 P Pn 07 19 42.9 +1.4
baz=192,SNR=34
RLMT Red Lodge 16.54 10 ePn Pn 07 19 42.8 +1.4
comp=Z,3µm,1.6s
KEBM Edson Butte 16.67 330 ePn Pn 07 19 44.6 +1.7
comp=Z,1µm,1.3s
I04A Tendick Farm, 16.68 336 P P 07 19 45.1 -0.2
baz=151,SNR=13
BOZ Bozeman (W) 16.77 4 P P 07 19 46.8 +0.3
baz=184,SNR=30
BOZ Bozeman (W) 16.77 4 ePn P 07 19 46.4 -0.1
comp=Z,2µm,1.8s
BOZ Bozeman (W) 16.77 4 eP P 07 19 46.4 -0.1
BOZ pmax pmax
comp=Z,2µm,1.8s
I05D Terrebonne, OR 16.80 339 P P 07 19 46.7 -0.1
baz=154,SNR=21
RSSD Black Hills 16.89 23 P Pn 07 19 47.1 +1.2
baz=208
RSSD Black Hills 16.89 23 ePn Pn 07 19 47.5 +1.6
comp=Z,855nm,1.4s
RSSD Black Hills 16.89 23 eP Pn 07 19 47.5 +1.6
RSSD pmax pmax
comp=Z,855nm,1.4s
I03D Drain, OR 16.94 334 P Pn 07 19 47.6 +1.3
baz=148
LRM Limekiln Ridge 16.96 2 ePn Pn 07 19 45.8 -1.0
O33A Hebron 17.00 45 P Pn 07 19 47.7 +0.6
baz=233,SNR=14
240A Hunter Patters 17.00 74 P P 07 19 48.1 -0.8
baz=264,SNR=6.7
G08A Pilot Rock 17.06 346 ePn Pn 07 19 49.1 +1.3
comp=Z,2µm,1.8s
KSU1 Kansas State U 17.08 49 P Pn 07 19 47.7 -0.4
baz=238,SNR=13
KSU1 Kansas State U 17.08 49 ePn Pn 07 19 47.2 -0.8
comp=Z,1µm,1.1s
X39A Fountain Ranch 17.14 66 P Pn 07 19 46.7 -2.2
baz=255,SNR=16
GCMT Greycliff 17.14 8 ePn Pn 07 19 46.0 -3.0
140A Cam and Jess, 17.23 72 P Pn 07 19 50.1 +0.2
baz=262,SNR=15
H04A Detroit Lake 17.38 338 ePn Pn 07 19 51.8 0.0
comp=Z,1µm,1.4s
F10A Beach Ranch, E 17.41 350 ePn P 07 19 54.0 +0.5
comp=Z,1µm,1.6s
441A DeRidder 17.41 79 P Pn 07 19 52.4 +0.1
baz=268,SNR=12
541A Lake Charles 17.41 81 P Pn 07 19 51.2 -1.1
baz=270,SNR=6.3
G06A Carlson Farm, 17.41 342 ePn Pn 07 19 53.5 +1.3
comp=Z,7µm,2.0s
341A Kurthwood 17.45 77 P Pn 07 19 52.9 +0.1
baz=266
Z40A Long Farm, Mag 17.46 70 P Pn 07 19 51.6 -1.3
baz=260,SNR=9.4
N33A J Bar K, Exete 17.48 43 P Pn 07 19 53.7 +0.6
baz=232
BGNE Belgrade 17.50 40 P P 07 19 55.2 +0.7
baz=228
BGNE Belgrade 17.50 40 ePn P 07 19 55.6 +1.1
comp=Z,2µm,1.3s
W39A Magazine 17.57 64 P Pn 07 19 52.1 -2.1
baz=254,SNR=5.7
W39A Magazine 17.57 64 ePn Pn 07 19 52.9 -1.3
comp=Z,2µm,1.6s
MIAR Mount Ida 17.57 66 P Pn 07 19 54.5 +0.2
baz=256
MIAR Mount Ida 17.57 66 ePn Pn 07 19 53.6 -0.7
comp=Z,646nm,1.1s
MIAR Mount Ida 17.57 66 eP Pn 07 19 53.6 -0.7
MIAR pmax pmax
comp=Z,646nm,1.1s
G05D Wamic, OR 17.61 341 P Pn 07 19 55.1 +0.4
baz=156,SNR=24
O34A Beatrice 17.62 46 P Pn 07 19 54.8 0.0
baz=235,SNR=18
COR Corvallis 17.68 335 ePn P 07 19 57.2 +0.8
comp=Z,998nm,1.4s
COR Corvallis 17.68 335 eP P 07 19 57.2 +0.8
COR pmax pmax
comp=Z,998nm,1.4s
Y40A Okolona 17.70 68 P Pn 07 19 53.0 -2.8
baz=258
241A Mo Tay, Goldon 17.71 75 P Pn 07 19 54.3 -1.6
baz=264,SNR=17
LVIG Laguna Verde 17.71 117 eP P 07 20 01.2 +4.3
LVIG Laguna Verde 17.71 117 ePn P 07 19 56.8 -0.1
comp=Z,2µm,1.7s
TPIG Tehuac#an 17.76 122 eP P 07 19 58.5 +0.8
WLAR White Oak Lake 17.77 69 ePn Pn 07 19 55.3 -1.4
comp=Z,3µm,1.3s
T38A Diamond 17.78 58 P Pn 07 19 55.3 -1.4
baz=248,SNR=31
HHAR Hobbs 17.78 60 ePn Pn 07 19 54.0 -2.8
comp=Z,3µm,1.8s
141A Papa Simpson, 17.79 73 P Pn 07 19 55.8 -1.0
baz=263,SNR=20
F07A Phinny Hill Vi 17.85 344 ePn Pn 07 19 58.9 +0.6
comp=Z,7µm,1.8s
V39A Pettigrew 17.87 62 P Pn 07 19 55.5 -2.5
baz=252,SNR=15
HRY Holter Researc 17.87 3 ePn P 07 19 59.6 +1.0
Z41A Richland Creek 17.96 71 P Pn 07 19 57.1 -1.9
baz=261,SNR=15
Z41A Richland Creek 17.96 71 ePn P 07 19 59.3 -0.2
comp=Z,4µm,1.1s
542A Morse 17.96 81 P Pn 07 19 57.1 -2.0
baz=271
MSO Missoula 17.97 358 P Pn 07 20 00.0 +0.8
baz=178,SNR=53
MSO Missoula 17.97 358 ePn P 07 20 00.4 +0.7
comp=Z,1µm,1.5s
K31A O'Neill 18.00 36 P P 07 20 00.6 +0.6
baz=224,SNR=12
442A Mamou 18.06 79 P P 07 20 00.7 0.0
baz=269,SNR=20
E09A Wood Farm, Sta 18.08 349 ePn P 07 20 00.7 +0.3
comp=Z,3µm,1.6s
N34A Lincoln 18.12 44 P P 07 20 01.0 0.0
baz=233,SNR=21
W40A Ferguson Farm, 18.14 64 P Pn 07 19 59.7 -1.5
baz=255,SNR=16
W40A Ferguson Farm, 18.14 64 ePn Pn 07 20 00.1 -1.1
comp=Z,3µm,1.4s
M33A Taylor Creek F 18.15 41 P P 07 20 01.8 +0.4
baz=230
X40A Basin Creek Fa 18.16 67 P Pn 07 19 58.4 -3.0
baz=257,SNR=8.2
X40A Basin Creek Fa 18.16 67 ePn Pn 07 19 59.1 -2.4
comp=Z,2µm,1.5s
O35A Humboldt 18.16 47 P P 07 20 00.3 -1.2
baz=236,SNR=23
U39A Green Forest 18.16 61 P Pn 07 19 59.1 -2.4
baz=251,SNR=17
342A Flagon Creek P 18.18 77 P P 07 20 00.3 -1.4
baz=267,SNR=27
G03D McMinnville, O 18.21 337 P P 07 20 02.1 +0.1
baz=151,SNR=9.9
Y41A Eaglette Beard 18.22 69 P Pn 07 19 59.7 -2.5
baz=259,SNR=11
E08A Dider Farm, El 18.23 347 ePn P 07 20 02.5 +0.4
comp=Z,2µm,1.8s
HAWA Hanford 18.23 346 eP P 07 20 02.0 -0.3
comp=Z,4µm,1.8s
S38A Stockton 18.29 56 P P 07 20 01.3 -1.7
baz=246,SNR=17
242A Grayson 18.36 75 P P 07 20 01.8 -2.2
baz=265,SNR=9.5
X41A Kaden, Bauxite 18.42 67 P P 07 20 01.6 -3.0
baz=257,SNR=13
Q37A Longview Farm, 18.43 52 P P 07 20 03.1 -1.6
baz=242,SNR=11
K32A Verdigre 18.44 38 P P 07 20 04.1 -0.7
baz=226,SNR=13
T39A Clever 18.46 59 P P 07 20 02.5 -2.6
baz=249,SNR=14
E07A Sunnyside 18.46 345 eP P 07 20 05.8 +0.8
comp=Z,4µm,1.8s
M34A Aspy Farms, Fr 18.47 42 P P 07 20 05.5 +0.4
baz=232,SNR=8.8
J31A Geddes 18.49 35 P P 07 20 06.1 +0.7
baz=223
L33A Hoskins 18.49 40 P P 07 20 05.8 +0.4
baz=229

V40A	**Witts Springs**	18.50	63	P		P	07 20 03.7	-1.8
	baz=253,SNR=20							
V40A	**Witts Springs**	18.50	63	*e*P		P	07 20 03.7	-1.8
	comp=Z,2µm,1.4s							
R38A	**Fenwick Farm,**	18.51	55	P		P	07 20 04.6	-1.0
	baz=245,SNR=22							
PNIG	**Pinotepa**	18.55	129	*e*P		P	07 19 58.3	-7.9
543A	**St. Martinvill**	18.57	81	P		P	07 20 06.2	-0.1
	baz=271,SNR=7.9							
142A	**Monroe**	18.58	73	P		P	07 20 04.6	-1.8
	baz=264,SNR=10							
UALR	**University of**	18.62	66	*e*P		P	07 20 05.1	-1.7
	comp=Z,2µm,1.5s							
LAO	**LASA Array**	18.62	15	P		P	07 20 06.9	0.0
	baz=199,SNR=33							
LAO	**LASA Array**	18.62	15	*e*P		P	07 20 05.3	-1.6
	comp=Z,3µm,1.4s							
443A	**Delano Plantat**	18.62	79	P		P	07 20 06.5	-0.4
	baz=269							
U40A	**Yellville**	18.63	61	P		P	07 20 04.7	-2.3
	baz=252,SNR=16							
N35A	**Tabor**	18.66	45	P		P	07 20 07.6	+0.3
	baz=235,SNR=25							
Z42A	**Norrel Spur, H**	18.67	71	P		P	07 20 05.9	-1.5
	baz=262,SNR=16							
S39A	**Bolivar**	18.74	57	P		P	07 20 06.8	-1.4
	baz=247,SNR=9.2							
D08A	**Wollman Farm,**	18.74	348	*e*P		P	07 20 07.9	-0.2
	comp=Z,2µm,1.6s							
343A	**Vidalia**	18.78	77	P		P	07 20 07.5	-1.1
	baz=268							
WHAR	**Wooly Hollow**	18.78	65	*e*P		P	07 20 08.0	-0.7
	comp=Z,4µm,1.4s							
W41B	**Gary Mavity, V**	18.79	65	P		P	07 20 07.5	-1.2
	baz=256,SNR=20							
W41B	**Gary Mavity, V**	18.79	65	*e*P		P	07 20 08.2	-0.5
	comp=Z,3µm,1.4s							
P37A	**Lathrop**	18.84	50	P		P	07 20 08.2	-0.9
	baz=240,SNR=17							
L34A	**Svendsen Farm,**	18.88	42	P		P	07 20 09.7	+0.1
	baz=231,SNR=6.9							
Y42A	**Garnett, Star**	18.89	69	P		P	07 20 09.4	-0.3
	baz=260							
F04D	**Rainier, OR**	18.89	338	P		P	07 20 10.7	+1.0
	baz=152							
JTMT	**Jette**	18.90	358	*e*P		P	07 20 10.6	+0.6
	comp=Z,2µm,1.8s							
CCAR	**Cane Creek**	18.91	69	*e*P		P	07 20 10.0	-0.1
	comp=Z,12µm,1.9s							
243A	**Waterproof**	18.92	75	P		P	07 20 09.8	-0.4
	baz=266,SNR=23							
K33A	**Hardington**	18.93	39	P		Pn	07 20 11.6	+0.7
	baz=228							
M35A	**Neola**	18.98	44	P		P	07 20 10.8	+0.1
	baz=234,SNR=7.1							
J32A	**Parkston**	19.00	36	P		Pn	07 20 12.4	+0.7
	baz=225,SNR=22							
V41A	**Mountainview**	19.01	63	P		P	07 20 09.7	-1.5
	baz=254,SNR=16							
Q38A	**Cooks Store, C**	19.05	53	P		P	07 20 10.8	-0.7
	baz=243,SNR=13							
143A	**Socs Landing,**	19.05	73	P		P	07 20 11.2	-0.4
	baz=264,SNR=18							
N36A	**Muff Farm, Cla**	19.07	46	P		P	07 20 10.8	-0.9
	baz=236							
VHO	**Vista Hermosa**	19.08	124	*e*P		P	07 20 02.8	-9.4
VHO				*e*S		**Sn**	**07 23 40.5**	**-6.4**
VHO	**Vista Hermosa**	19.08	124	*e*P		P	07 20 02.8	-9.4
VHO				*e*Sn		**Sn**	**07 23 40.5**	**-6.4**
I31A	**Royce, Wessing**	19.13	34	P		P	07 20 13.3	+0.9
	baz=222							
LON	**Longmire**	19.13	342	*e*P		P	07 20 12.7	+0.3
	comp=Z,754nm,1.5s							
LON	**Longmire**	19.13	342	*e*P		P	07 20 12.7	+0.3
LON				pmax		pmax		
	comp=Z,754nm,1.5s							
T40A	**Mansfield**	19.14	59	P		P	07 20 11.2	-1.4
	baz=250,SNR=22							
X42A	**Stuttgart**	19.15	67	P		P	07 20 11.4	-1.2
	baz=258,SNR=7.8							
544A	**White Castle**	19.17	81	P		P	07 20 12.4	-0.4
	baz=271,SNR=11							
R39A	**Chumby, Stover**	19.19	55	P		P	07 20 12.9	-0.2
	baz=246,SNR=12							
SUSD	**Miller**	19.24	32	P		P	07 20 13.3	-0.3
	baz=220							
O37A	**Wolven Farm, M**	19.25	49	P		P	07 20 12.9	-0.9
	baz=239,SNR=22							
LTY	**Liberty**	19.31	344	*e*P		P	07 20 14.7	+0.3
	comp=Z,1µm,1.8s							
S40A	**Lebanon**	19.31	58	P		P	07 20 14.2	-0.2
	baz=249							
EGMT	**Eagleton**	19.33	7	*e*P		P	07 20 15.9	+1.2
	comp=Z,3µm,1.6s							
C09A	**Chrisman Ranch**	19.35	349	*e*P		P	07 20 14.7	-0.1
	comp=Z,900nm,1.4s							
U41A	**Viola**	19.35	62	P		P	07 20 14.0	-0.9
	baz=253,SNR=8.6							
W42A	**Bald Knob**	19.39	65	P		P	07 20 13.7	-1.5
	baz=256							
P38A	**Dawn**	19.41	51	P		P	07 20 15.1	-0.4
	baz=242,SNR=6.6							
J33A	**Davis**	19.43	38	P		P	07 20 15.5	-0.1
	baz=227,SNR=17							
L35A	**Bielow Farm, R**	19.45	42	P		Pn	07 20 17.2	+0.1
	baz=232							
E03A	**Lebam**	19.48	338	*e*P		P	07 20 16.7	+0.6
	comp=Z,1µm,1.0s							
H31A	**Wolsey**	19.49	33	P		P	07 20 16.6	+0.3
	baz=221,SNR=8.8							
K34A	**Le Mars**	19.49	40	P		Pn	07 20 17.7	+0.1
	baz=230,SNR=14							
444A	**Pine Grove**	19.52	79	P		P	07 20 16.8	+0.2
	baz=270,SNR=30							
N37A	**Lee Faris, Mou**	19.52	47	P		P	07 20 16.3	-0.3
	baz=238,SNR=14							
M36A	**Felix, Anita**	19.52	45	P		P	07 20 17.6	+0.9
	baz=235,SNR=8.3							
Q39A	**Willow Grove F**	19.54	53	P		P	07 20 17.0	+0.2
	baz=244,SNR=21							
344A	**Westbrook Farm**	19.54	77	P		Pn	07 20 17.7	-0.5
	baz=268,SNR=21							
D05A	**Enumclaw**	19.58	342	*e*P		P	07 20 18.0	+0.7
	comp=Z,5µm,1.8s							
Y43A	**Makayla and Ka**	19.61	69	P		P	07 20 16.1	-1.5
	baz=261,SNR=9.0							
244A	**Avery, Jackson**	19.61	75	P		P	07 20 16.7	-1.0
	baz=266							
V42A	**Cord**	19.62	64	P		P	07 20 16.0	-1.8
	baz=255,SNR=8.6							
NEW	**Newport**	19.64	352	P		P	07 20 17.9	-0.1
	comp=Z,1.3nm,0.3s,baz=169,slow=11,SNR=53							
NEW				LR		LR	07 27 59.0	
	comp=Z,112µm,21.9s,baz=187,slow=37							
NEW	**Newport**	19.64	352	P		P	07 20 18.3	+0.3
	baz=170,SNR=68							
NEW	**Newport**	19.64	352	*e*P		P	07 20 17.6	-0.4
	comp=Z,1µm,1.5s							
NEW	**Newport**	19.64	352	*e*P		P	07 20 17.6	-0.4
NEW				pmax		pmax		
	comp=Z,1µm,1.5s							
I32A	**Karley and Nic**	19.66	35	P		P	07 20 19.3	+1.1
	baz=224							
T41A	**Mountain View**	19.68	60	P		P	07 20 17.3	-1.1
	baz=251,SNR=15							
O38A	**Galt**	19.68	50	P		P	07 20 17.8	-0.6
	baz=241,SNR=15							
645A	**Chauvin**	19.69	83	P		P	07 20 18.4	-0.1
	baz=273,SNR=17							
R40A	**Maddies Statio**	19.74	56	P		P	07 20 18.9	-0.2
	baz=247							
X43A	**Marvell**	19.75	68	P		Pn	07 20 20.3	-0.3
	baz=259							
X43A	**Marvell**	19.75	68	*e*P		P	07 20 19.9	+0.8
	comp=Z,4µm,1.3s							
VBMS	**Vicksburg**	19.76	75	P		P	07 20 19.5	+0.2
	baz=266,SNR=17							
VBMS	**Vicksburg**	19.76	75	*e*P		Pn	07 20 20.9	+0.1
	comp=Z,5µm,1.3s							
445A	**Amite**	19.87	79	P		P	07 20 20.7	+0.2
	baz=270							
144A	**Alexander Plac**	19.87	73	P		P	07 20 21.0	+0.5
	baz=265							
S41A	**Jillco Farms,**	19.87	58	P		Pn	07 20 22.1	-0.1
	baz=250,SNR=15							
U42A	**Revenden**	19.88	62	P		P	07 20 20.1	-0.6
	baz=254,SNR=11							
P39B	**Salisbury**	19.88	52	P		P	07 20 20.5	-0.1
	baz=243,SNR=17							
ECSD	**EROS Data Cent**	19.90	37	P		Pn	07 20 22.5	0.0
	baz=227,SNR=26							
ECSD	**EROS Data Cent**	19.90	37	*e*P		Pn	07 20 22.7	+0.3
	comp=Z,491nm,1.0s							
Z44A	**Pea Ridge, Bel**	19.93	71	P		Pn	07 20 22.0	-0.8
	baz=263							
J34A	**George**	19.95	39	P		P	07 20 22.4	+1.0
	baz=229							
M37A	**Trindle Farm,**	19.96	46	P		Pn	07 20 23.2	+0.1
	baz=237,SNR=12							
L36A	**Harm Buss Farm**	19.97	44	P		Pn	07 20 24.6	+1.3
	baz=234,SNR=5.2							
W43A	**Forest City**	20.00	66	P		P	07 20 21.6	-0.3
	baz=258							
K35A	**Storm Lake**	20.01	41	P		Pn	07 20 25.7	+1.9
	baz=232,SNR=12							
H32A	**Carlson Farm,**	20.02	34	P		Pn	07 20 23.8	0.0
	baz=224,SNR=23							
I33A	**Coleman**	20.02	36	P		Pn	07 20 24.9	+1.1
	baz=226,SNR=13							
B08A	**Colville Reser**	20.07	348	*e*P		P	07 20 22.9	+0.2
	comp=Z,906nm,1.4s							
B08A				LR		LR		
	comp=Z,142µm,19.0s							
345A	**Thompson Farm,**	20.13	77	P		Pn	07 20 25.1	-0.2
	baz=268							
HBAR	**Harrisburg**	20.14	65	*e*P		P	07 20 22.8	-0.7
Q40A	**Laux Farm, Aux**	20.15	54	P		P	07 20 22.8	-0.7
	baz=246,SNR=14							
N38A	**Joes South For**	20.17	49	P		P	07 20 24.6	+0.8
	baz=240,SNR=19							
G31A	**Conde**	20.18	32	P		P	07 20 24.7	+0.9
	baz=221							
T42A	**Van Buren**	20.19	60	P		P	07 20 22.5	-1.4
	baz=252,SNR=7.4							
WALA	**Waterton Lakes**	20.20	359	*e*P		P	07 20 23.3	-0.8
	comp=Z,2µm,1.6s							
WALA				LR		LR		
	comp=Z,132µm,20.0s							
Y44A	**Strider, Charl**	20.20	70	P		P	07 20 22.9	-1.2
	baz=261							
TUIG	**Tuzandepetl**	20.23	118	*e*P		Pn	07 20 33.1	+6.7
245A	**Little AP, Sta**	20.27	75	P		P	07 20 24.5	-0.4
	baz=267,SNR=10							
V43A	**Jonesboro**	20.28	64	P		P	07 20 24.7	-0.3
	baz=256							
145A	**Houston Renfro**	20.29	74	P		P	07 20 24.9	-0.1
	baz=265,SNR=15							
NLWA	**Neilton Lookou**	20.32	339	*e*P		P	07 20 25.9	+0.5
	comp=Z,1µm,1.5s							
NLWA				LR		LR		
	comp=Z,276µm,18.0s							
X44A	**Crenshaw**	20.34	68	P		P	07 20 24.4	-1.2
	baz=260							
O39A	**Kirksville**	20.37	51	P		P	07 20 25.3	-0.7
	baz=242,SNR=15							
HUIG	**Huatulco**	20.39	126	*e*P		P	07 20 26.2	0.0
R41A	**Rosebud**	20.39	57	P		P	07 20 26.0	-0.2
	baz=248,SNR=17							
P40A	**Paris**	20.39	53	P		P	07 20 25.5	-0.7
	baz=244,SNR=23							
CCM	**Cathedral Cave**	20.40	58	P		P	07 20 26.4	+0.1
	baz=249							
CCM	**Cathedral Cave**	20.40	58	*e*P		P	07 20 27.1	+0.8
	comp=Z,1µm,1.3s							
CCM				LR		LR		
	comp=Z,1631µm,18.0s							
CCM	**Cathedral Cave**	20.40	58	*e*P		P	07 20 27.1	+0.8
CCM				pmax		pmax		
	comp=Z,1µm,1.3s							
CCM				MLR		MLR		
	comp=Z,1631µm,18.0s							
546A	**Slidell**	20.41	80	P		P	07 20 23.1	-3.4
	baz=272,SNR=6.0							
K36A	**Gilmore City**	20.42	43	P		P	07 20 27.4	+1.0
	baz=233							
J35A	**Milford**	20.43	40	P		P	07 20 27.9	+1.3
	baz=230,SNR=9.4							
CMIG	**Matias Romero**	20.43	121	P		P	07 20 26.8	0.0
	comp=Z,78nm,0.9s,baz=316,slow=9.3,SNR=26							
CMIG				Lg		Lg	07 26 43.6	
	comp=Z,2.0nm,0.7s,baz=172,slow=21,SNR=2.5							
CMIG				LR		LR	07 27 29.6	
	comp=Z,1603µm,18.3s,baz=283,slow=34							
H33A	**Prehn Over Nor**	20.49	35	P		P	07 20 28.3	+1.1
	baz=225							
I34A	**Hadley**	20.51	38	P		P	07 20 28.5	+1.1
	baz=228,SNR=24							
M38A	**Pleasantville**	20.51	47	P		P	07 20 27.5	0.0
	baz=238,SNR=15							
G32A	**Webster**	20.53	33	P		P	07 20 27.4	-0.3
	baz=222							
U43A	**Rector**	20.53	63	P		Pn	07 20 29.5	-0.4
	baz=255							
L37A	**Phoenix Point,**	20.55	45	P		P	07 20 28.7	+0.9
	baz=236,SNR=25							
Z45A	**Winona**	20.56	71	P		P	07 20 27.3	-0.7
	baz=263,SNR=19							
B05A	**Bryant**	20.60	343	P		P	07 20 26.9	-1.4
	baz=157,SNR=25							
346A	**Big Creek Wild**	20.62	77	P		P	07 20 28.6	-0.1
	baz=269,SNR=8.3							
PBMO	**Poplar Bluff**	20.62	62	*e*P		P	07 20 28.1	-0.6
	comp=Z,1µm,1.4s							
PBMO				LR		LR		
	comp=Z,1223µm,18.0s							
MET	**Memphis--Engin**	20.62	66	*e*P		P	07 20 28.5	-0.3
	comp=Z,4µm,1.6s							
MET				LR		LR		
	comp=Z,1173µm,18.0s							
F31A	**Hecla**	20.64	31	P		P	07 20 28.9	+0.1
	baz=219,SNR=6.8							
S42A	**Caledonia**	20.64	59	P		P	07 20 27.8	-1.1
	baz=251,SNR=9.1							
B06A	**Marblemount**	20.68	344	*e*P		P	07 20 29.6	+0.4
	comp=Z,1µm,1.8s							
B06A				LR		LR		
	comp=Z,207µm,20.0s							
N39A	**Derby Farms, D**	20.70	49	P		P	07 20 28.5	-0.9
	baz=241,SNR=16							
446A	**Poplarville**	20.70	79	P		P	07 20 29.8	+0.2
	baz=270,SNR=13							
W44A	**Shelby Farms P**	20.72	66	P		P	07 20 28.9	-0.9
	baz=258							
GNAR	**Gosnell**	20.74	64	*e*P		P	07 20 29.8	-0.1
	comp=Z,3µm,1.6s							
Y45A	**Yeager Farm, C**	20.74	70	P		P	07 20 29.9	-0.1
	baz=262,SNR=9.1							
Q41A	**Truxton**	20.74	55	P		P	07 20 28.9	-1.1
	baz=247,SNR=13							
SCIA	**State Center**	20.76	46	P		P	07 20 31.1	+0.9
	baz=237,SNR=27							
SCIA	**State Center**	20.76	46	*e*P		P	07 20 30.8	+0.7
	comp=Z,4µm,1.5s							
SCIA				LR		LR		
	comp=Z,320µm,19.0s							
O40A	**La Belle**	20.77	52	P		P	07 20 29.3	-1.0
	baz=243,SNR=40							
DGMT	**Dagmar**	20.78	17	PFAKE			07 20 40.0	+7.3
DGMT				LR		LR		
	comp=Z,263µm,22.0s							
V44A	**Blytheville**	20.80	64	P		P	07 20 29.8	-0.9
	baz=257							
R42A	**Luebbering**	20.82	57	P		P	07 20 29.4	-1.4
	baz=249,SNR=12							
T43A	**Greenville**	20.82	61	P		P	07 20 29.1	-1.7
	baz=253,SNR=13							
I35A	**Creekview Farm**	20.86	39	P		P	07 20 31.7	+0.4
	baz=230,SNR=18							
J36A	**Seneca 1, Swea**	20.90	41	P		P	07 20 32.7	+1.0
	baz=232,SNR=15							
246A	**Jackson Lee, B**	20.93	75	P		P	07 20 31.6	-0.4
	baz=267,SNR=5.5							
X45A	**UM Field Stati**	20.94	69	P		P	07 20 31.5	-0.7
	baz=261,SNR=26							
OXF	**Oxford**	20.94	68	P		P	07 20 31.5	-0.7
	baz=260,SNR=20							
OXF	**Oxford**	20.94	68	*e*P		P	07 20 31.1	-1.1
	comp=Z,4µm,1.3s							
OXF				LR		LR		
	comp=Z,924µm,18.0s							
OXF	**Oxford**	20.94	68	*e*P		P	07 20 31.1	-1.1
OXF				pmax		pmax		
	comp=Z,4µm,1.3s							
OXF				MLR		MLR		
	comp=Z,924µm,18.0s							
H34A	**Spellman Lake,**	20.97	36	P		P	07 20 33.0	+0.5
	baz=227,SNR=25							
K37A	**Belmond**	20.98	43	P		P	07 20 32.6	+0.1
	baz=234,SNR=36							
G33A	**Ortonville**	21.00	35	P		P	07 20 32.4	-0.3
	baz=224,SNR=16							
146A	**Union**	21.02	74	P		P	07 20 32.0	-1.0
	baz=266,SNR=12							
L38A	**Oak Wood Farm,**	21.05	46	P		P	07 20 32.1	-1.2
	baz=237,SNR=26							
PVMO	**Portageville**	21.09	63	*e*P		P	07 20 33.7	-0.1
	comp=Z,2µm,1.4s							
PVMO				LR		LR		
	comp=Z,1408µm,20.0s							
PARMO	**Parma**	21.12	62	*e*P		P	07 20 31.7	-2.4
S43A	**Fulton Ridge,**	21.12	60	P		P	07 20 32.4	-1.7
	baz=252							
U44A	**Portageville**	21.13	63	P		P	07 20 33.0	-1.2
	baz=255							
P41A	**Barry, Barry**	21.15	53	P		P	07 20 33.0	-1.3
	baz=246,SNR=16							
Z46A	**Louisville**	21.16	72	P		P	07 20 33.3	-1.3
	baz=264,SNR=15							
A04D	**Lummi Island**	21.18	342	P		P	07 20 34.6	+0.1
	baz=156,SNR=23							
M39A	**Webster**	21.21	48	P		P	07 20 34.1	-0.9
	baz=240,SNR=21							
Q42A	**Golden Eagle**	21.23	56	P		P	07 20 34.2	-1.1
	baz=248,SNR=13							
W45A	**Hickory Valley**	21.23	67	P		P	07 20 33.5	-1.8
	baz=259,SNR=9.5							
HALT	**Halls**	21.26	65	*e*P		P	07 20 35.2	-0.4
Y46A	**Houston**	21.31	70	P		P	07 20 35.4	-0.7
	baz=262,SNR=48							
N40A	**Mertquake, Sal**	21.31	50	P		P	07 20 35.5	-0.7
	baz=242,SNR=12							
447A	**Lucedale**	21.32	79	P		P	07 20 35.8	-0.4
	baz=271,SNR=14							
PGC	**Sidney**	21.32	341	*e*P		P	07 20 36.0	-0.1
	comp=Z,2µm,1.6s							
PGC				LR		LR		
	comp=Z,182µm,22.0s							
E31A	**Nome**	21.34	30	P		P	07 20 35.6	-0.8
	baz=219,SNR=16							
J37A	**Redenius Farm,**	21.35	42	P		P	07 20 36.9	+0.4
	baz=233,SNR=13							
SLM	**Saint Louis**	21.35	57	*e*P		P	07 20 35.5	-1.0
	comp=Z,1µm,1.1s							
SLM				LR		LR		
	comp=Z,1873µm,18.0s							
SLM	**Saint Louis**	21.35	57	*e*P		P	07 20 35.5	-1.0
SLM				pmax		pmax		
	comp=Z,1µm,1.1s							
SLM				MLR		MLR		
	comp=Z,1873µm,18.0s							
U44B	**Burton Farm, H**	21.35	63	P		P	07 20 35.7	-0.9
	baz=256,SNR=11							
T44A	**Benton**	21.36	61	P		P	07 20 35.7	-0.9
	baz=254							
247A	**Quitman**	21.37	75	P		P	07 20 36.6	-0.1
	baz=267,SNR=49							
GLAT	**Glass**	21.38	64	*e*P		P	07 20 37.4	+0.4
347A	**Saraland**	21.41	77	P		P	07 20 36.5	-0.7
	baz=269,SNR=34							
G34A	**Benson**	21.44	36	P		P	07 20 38.0	+0.6
	baz=226,SNR=16							
K38A	**Parkersburg**	21.44	45	P		P	07 20 37.2	-0.2
	baz=236,SNR=22							
R43A	**Red Bud**	21.45	58	P		P	07 20 36.5	-1.1
	baz=250							
O41A	**Passleys Farm,**	21.45	53	P		P	07 20 36.0	-1.6
	baz=245,SNR=9.9							
H35A	**Sunnyside Ranc**	21.50	38	P		P	07 20 38.5	+0.5
	baz=228,SNR=19							
I36A	**Fitzsimmons Fa**	21.51	40	P		P	07 20 39.2	+1.0
	baz=231,SNR=31							
V45A	**Humboldt**	21.53	65	P		P	07 20 37.9	-0.6
	baz=258,SNR=22							
F33A	**5 Mile Ranch,**	21.54	33	P		P	07 20 38.2	-0.3
	baz=223							
M40A	**Post Highland**	21.61	49	P		P	07 20 38.3	-0.9
	baz=241,SNR=24							
P42A	**Winchester**	21.62	54	P		P	07 20 38.7	-0.7
	baz=247,SNR=19							
X46A	**Booneville**	21.62	68	P		P	07 20 38.2	-1.3
	baz=261,SNR=18							
L39A	**Vinton**	21.64	47	P		P	07 20 38.8	-0.9
	baz=239,SNR=17							
MDND	**Maddock**	21.68	25	P		P	07 20 39.6	-0.4
	baz=213,SNR=10							
MDND	**Maddock**	21.68	25	*e*P		P	07 20 40.1	+0.1
	comp=Z,7µm,1.6s							
MDND				LR		LR		
	comp=Z,328µm,20.0s							
147A	**Livingston**	21.68	74	P		P	07 20 38.6	-1.6
	baz=266,SNR=20							
N41A	**Harden Midland**	21.73	51	P		P	07 20 39.6	-1.0
	baz=244,SNR=17							
E32A	**Braaten, Kindr**	21.73	31	P		P	07 20 40.3	-0.2
	baz=221							
UTMT	**University of**	21.73	64	*e*P		P	07 20 41.0	+0.4
	comp=Z,4µm,1.4s							
S44A	**Carbonate**	21.78	60	P		P	07 20 40.3	-0.8
	baz=253,SNR=11							
D31A	**Mcclaflin, Tow**	21.79	29	P		P	07 20 41.0	-0.2
	baz=219							
U45A	**Rockin P Farm,**	21.81	64	P		P	07 20 40.9	-0.6
	baz=256,SNR=18							
SIUC	**Southern Illin**	21.82	60	*e*P		P	07 20 41.0	-0.6
	comp=Z,655nm,1.0s							
SIUC				LR		LR		
	comp=Z,720µm,18.0s							
Q43A	**New Douglas**	21.85	56	P		P	07 20 41.1	-0.8
	baz=249,SNR=8.4							
I37A	**Lemond, Waseca**	21.86	41	P		P	07 20 41.8	-0.2
	baz=232							
W46A	**Michie**	21.88	67	P		P	07 20 41.0	-1.2
	baz=260,SNR=22							
Z47A	**Carrollton**	21.89	72	P		P	07 20 41.1	-1.3
	baz=265,SNR=31							
H36A	**Jessenland, He**	21.91	39	P		P	07 20 44.1	+1.6
	baz=230,SNR=18							
348A	**Jackson**	21.96	77	P		P	07 20 42.7	-0.4
	baz=269,SNR=23							
TGIG		21.96	119	*e*P		P	07 20 44.6	+1.2
448A	**Bay Minette**	22.00	78	P		P	07 20 42.5	-1.0
	baz=271,SNR=12							
J38A	**Wedel Dairy, R**	22.00	43	P		P	07 20 44.1	+0.6
	baz=235,SNR=20							
F34A	**Alexandria**	22.02	35	P		P	07 20 43.3	-0.4
	baz=226,SNR=11							
K39A	**Oelwein**	22.02	45	P		P	07 20 43.7	0.0
	baz=238,SNR=14							
G35A	**Watkins**	22.02	37	P		P	07 20 44.5	+0.8
	baz=228							
O42A	**Bath**	22.05	53	P		P	07 20 43.3	-0.7
	baz=246,SNR=15							
T45A	**Paducah**	22.07	62	P		P	07 20 43.9	-0.3
	baz=255							
R44A	**Waltonville**	22.08	59

baz=265,SNR=29
Q44A Meyer Farm, Va 22.34 57 P P 07 20 46.3 -0.8
baz=250
N42A Yates City 22.34 52 P P 07 20 45.0 -2.2
baz=244,SNR=18
C31A Landman Farms, 22.37 28 P P 07 20 47.2 -0.2
baz=217,SNR=49
F35A Swanville 22.41 36 P P 07 20 47.7 -0.1
baz=227,SNR=14
G36A St. Michael 22.43 38 P P 07 20 47.9 -0.1
baz=229,SNR=14
J39A Decorah 22.47 44 P P 07 20 47.7 -0.9
baz=237,SNR=11
H37A Dierke Farm, C 22.48 40 P P 07 20 49.3 +0.7
baz=232,SNR=10
K40A Colesburg 22.49 46 P P 07 20 47.2 -1.5
baz=239,SNR=15
I38A Scanlan Farm, 22.49 42 P P 07 20 48.5 -0.3
baz=234,SNR=32
WVT Waverly 22.50 65 P P 07 20 48.0 -1.0
baz=258
WVT Waverly 22.50 65 eP P 07 20 48.3 -0.6
comp=Z,3µm,1.4s
WVT LR LR
comp=Z,1523µm,19.0s
WVT Waverly 22.50 65 eP P 07 20 48.3 -0.6
WVT pmax pmax
comp=Z,3µm,1.4s
WVT MLR MLR
comp=Z,1523µm,19.0s
W47A Westpoint 22.53 67 P P 07 20 47.1 -2.2
baz=260,SNR=11
PCIG 22.54 121 eP P 07 20 49.7 +0.2
449A Pace 22.55 79 P P 07 20 48.7 -0.8
baz=271,SNR=14
349A Repton 22.56 77 P P 07 20 49.1 -0.5
baz=270,SNR=23
E34A Wadena 22.57 34 P P 07 20 48.6 -1.0
baz=224,SNR=13
MYIG MØrida 22.59 105 eP P 07 20 50.0 0.0
comp=Z,5µm,1.3s
MYIG LR LR
comp=Z,822µm,19.0s
L41A Preston 22.59 48 P P 07 20 49.4 -0.4
baz=241
O43A Sugar Creek Fa 22.62 53 P P 07 20 49.4 -0.8
baz=247,SNR=14
249A Camden 22.63 76 P P 07 20 49.2 -1.1
baz=268,SNR=9.5
T46A Princeton 22.66 62 P P 07 20 50.2 -0.4
baz=256,SNR=9.1
BRAL Brewton 22.69 78 P P 07 20 50.7 -0.2
baz=270,SNR=7.4
BRAL Brewton 22.69 78 eP P 07 20 51.7 +0.8
comp=Z,4µm,1.3s
BRAL LR LR
comp=Z,904µm,20.0s
R45A Skylar, Fairfi 22.69 59 P P 07 20 50.6 -0.3
baz=252,SNR=6.0
V47A Nunnelly 22.69 66 P P 07 20 50.0 -1.0
baz=259,SNR=14
D33A AnnSam, Waubun 22.70 32 P P 07 20 51.2 +0.3
baz=222
Y48A Jasper 22.70 71 P P 07 20 50.4 -0.8
baz=264,SNR=33
LLLB Lillooet 22.73 345 eP P 07 20 51.4 +0.1
comp=Z,468nm,1.3s
LLLB LR LR
comp=Z,98µm,21.0s
HDIL Hopedale 22.74 53 P P 07 20 51.0 -0.5
baz=246
HDIL Hopedale 22.74 53 eP P 07 20 50.4 -1.0
comp=Z,2µm,1.2s
HDIL LR LR
comp=Z,1340µm,20.0s
LRAL Lakeview Retre 22.78 73 P P 07 20 50.8 -1.1
baz=266,SNR=7.7
LRAL Lakeview Retre 22.78 73 eP P 07 20 51.0 -0.8
comp=Z,891nm,1.0s
LRAL LR LR
comp=Z,2593µm,18.0s
M42A Sheffield 22.80 50 P P 07 20 51.3 -0.7
baz=244,SNR=6.9
P44A Sand Creek, Wi 22.82 56 P P 07 20 50.8 -1.4
baz=249
I39A Houston 22.87 43 P P 07 20 53.1 +0.3
baz=236,SNR=21
X48A Hartselle 22.87 69 P P 07 20 52.1 -0.7
baz=263,SNR=10
H38A Maiden Rock 22.89 41 P P 07 20 53.1 +0.1
baz=233
C32A Crookston 22.91 30 P P 07 20 52.9 -0.2
baz=220
B31A Greenbush Farm 22.91 27 P P 07 20 52.6 -0.5
baz=217,SNR=27
149A Jones 22.93 74 P P 07 20 53.0 -0.5
baz=267,SNR=20
SPMN Marine on St. 22.94 39 P P 07 20 53.6 +0.1
baz=231
SPMN Marine on St. 22.94 39 eP P 07 20 53.4 0.0
comp=Z,936nm,1.3s
SPMN LR LR
comp=Z,321µm,18.0s
S46A Don Dixon Farm 22.95 61 P P 07 20 53.7 0.0
baz=254,SNR=13
F36A Milaca 22.96 37 P P 07 20 53.2 -0.4
baz=229,SNR=18
OLIL Olney 22.96 58 eP P 07 20 53.7 0.0
comp=Z,599nm,1.0s
OLIL LR LR
comp=Z,955µm,18.0s
D34A Park Rapids 22.96 33 P P 07 20 53.4 -0.3
baz=224,SNR=15
Q45A Warren Harvey, 22.97 58 P P 07 20 53.0 -0.8
baz=251
E35A Pequot Lakes 22.97 35 P P 07 20 54.0 +0.2
baz=226,SNR=8.3
K41A Shullsburg 22.98 47 P P 07 20 52.6 -1.2
baz=240,SNR=21
N43A Stutzman Famil 22.98 52 P P 07 20 53.5 -0.4
baz=245
U47A Clarksville 23.00 64 P P 07 20 53.2 -0.9
baz=258,SNR=8.1
CCIG Comitan 23.02 118 eP P 07 20 54.5 -0.1
W48A Pulaski 23.05 68 P P 07 20 52.6 -2.2
baz=261,SNR=9.1
USIN University of 23.07 60 eP P 07 20 57.0 +2.1
comp=Z,1µm,1.1s
USIN LR LR
comp=Z,1151µm,20.0s
450A Crestview 23.09 79 P P 07 20 54.4 -0.7
baz=272,SNR=12
J40A Soldiers Grove 23.10 45 P P 07 20 54.0 -1.2
baz=238,SNR=19
L42A Oliver, Polo 23.11 49 P P 07 20 53.7 -1.5
baz=242,SNR=7.9
JFWS Jewell Farm 23.16 47 P P 07 20 54.3 -1.5
baz=240,SNR=22
JFWS Jewell Farm 23.16 47 eP P 07 20 55.2 -0.6
comp=Z,814nm,1.1s
JFWS LR LR
comp=Z,633µm,18.0s
JFWS Jewell Farm 23.16 47 eP P 07 20 55.2 -0.6
JFWS pmax pmax
comp=Z,814nm,1.1s
JFWS MLR MLR
comp=Z,633µm,18.0s
O44A Mansfield 23.17 54 P P 07 20 54.3 -1.6
baz=248
Z49A Columbiana 23.18 73 P P 07 20 54.4 -1.6
baz=266,SNR=8.1
C33A Trail 23.19 31 P P 07 20 55.8 -0.2
baz=221
V48A Smith Brothers 23.24 66 P P 07 20 56.6 0.0
baz=260,SNR=5.7
R46A Gibon Southern 23.25 60 P P 07 20 56.8 +0.1
baz=254
T47A Sharon Grove 23.26 63 P P 07 20 57.4 +0.6
baz=257
350A Dozier 23.30 77 P P 07 20 57.2 -0.1
baz=270,SNR=26
Y49A Blount Mountai 23.33 71 P P 07 20 56.6 -0.9
baz=264,SNR=10
M43A Waltham Townsh 23.33 51 P P 07 20 55.8 -1.8
baz=245
B32A Ashes, Strandq 23.34 29 P P 07 20 57.2 -0.4
baz=219,SNR=21
F37A Hinrichs Farm, 23.35 38 P P 07 20 57.3 -0.3
baz=230
250A Grady 23.35 76 P P 07 20 56.3 -1.5
baz=269,SNR=12
G38A Ridgeland 23.43 40 P P 07 20 57.6 -0.9
baz=233
I40A Norwalk 23.44 44 P P 07 20 58.7 +0.2
baz=237,SNR=15
X49A Woodville 23.46 69 P P 07 20 58.7 -0.2
baz=263,SNR=13
H39A Augusta 23.48 42 P P 07 20 58.3 -0.6
baz=235,SNR=10
P45A Graceland, Par 23.48 56 P P 07 20 57.7 -1.2
baz=250
A31A Linda, St. Vin 23.50 27 P P 07 20 58.3 -0.8
baz=217,SNR=11
C34A RKJ Ranch, Bem 23.51 32 P P 07 20 57.3 -1.9
baz=223
D35A Remer 23.51 34 P P 07 20 58.2 -1.0
baz=226,SNR=7.6
E36A McGregor 23.53 36 P P 07 20 59.6 +0.1
baz=228,SNR=8.5
J41A Loganville 23.54 46 P P 07 20 58.9 -0.7
baz=239,SNR=8.4
AGMN Agassiz Nation 23.56 30 P P 07 20 58.8 -0.9
baz=220,SNR=20
AGMN Agassiz Nation 23.56 30 eP P 07 20 59.2 -0.5
comp=Z,4µm,1.8s
AGMN LR LR
comp=Z,382µm,21.0s
150A Eclectic 23.58 74 P P 07 20 59.5 -0.5
baz=268,SNR=22
Q46A CEJHS Indians, 23.60 58 P P 07 20 59.3 -0.9
baz=252
U48A Cassie Pea, Po 23.60 64 P P 07 20 59.2 -1.0
baz=258,SNR=9.4
N44A Piper City 23.65 53 P P 07 20 59.5 -1.1
baz=247,SNR=24
B33A Robert and Kas 23.66 30 P P 07 20 59.7 -1.0
baz=221,SNR=20
K42A Prairie Point, 23.68 48 P P 07 21 00.2 -0.7
baz=241,SNR=16
Z50A Ashland 23.69 72 P P 07 21 00.0 -1.1
baz=266,SNR=16
O45A Potomac 23.74 55 P P 07 21 00.6 -0.9
baz=249,SNR=6.7
A32A Rocking H Ranc 23.77 28 P P 07 21 01.4 -0.4
baz=218,SNR=15
L43A Garden Prairie 23.80 49 P P 07 21 01.6 -0.5
baz=243,SNR=7.0
451A Vernon 23.82 79 P P 07 21 01.5 -0.9
baz=272,SNR=16
T48A Bowling Green 23.84 63 P P 07 21 02.6 +0.1
baz=257
SWET Sewanee 23.87 68 eP P 07 21 00.2 -2.8
comp=Z,2µm,1.2s
Y50A Piedmont 23.89 71 P P 07 21 02.2 -0.9
baz=265,SNR=14
G39A Holcombe 23.89 41 P P 07 21 03.2 +0.2
baz=234
P46A Rosedale 23.90 56 P P 07 21 03.0 -0.1
baz=251
F38A Pierce - Schro 23.90 39 P P 07 21 03.3 +0.2
baz=231,SNR=9.5
351A Pinckard 23.92 77 P P 07 21 03.0 -0.3
baz=271,SNR=64
M44A Midewin, Midew 23.94 52 P P 07 21 02.8 -0.6
baz=246,SNR=5.9
H40A Chili 23.97 43 P P 07 21 02.6 -1.1
baz=236
C35A Jirik Farms, M 23.98 33 P P 07 21 03.5 -0.3
baz=225,SNR=20
I41A Arkdale 23.98 44 P P 07 21 03.0 -0.8
baz=238
E37A Wrenshall 24.01 37 P P 07 21 04.6 +0.5
baz=229
D36A Goodland 24.02 35 P P 07 21 05.0 +0.8
baz=227
R47A Wooly Knot Far 24.02 60 P P 07 21 03.4 -0.8
baz=254
J42A Columbus 24.08 47 P P 07 21 04.4 -0.3
baz=241
251A Midway 24.09 75 P P 07 21 03.6 -1.3
baz=269,SNR=25
N45A Kentland 24.10 53 P P 07 21 04.9 -0.1
baz=248
TEIG Tepich 24.14 105 PFAKE 07 21 10.0 +4.5
TEIG LR LR
comp=Z,906µm,21.0s
151A Opelika 24.16 74 P P 07 21 04.6 -1.0
baz=268,SNR=7.8
WCI Wyandotte Cave 24.18 60 P P 07 21 04.3 -1.4
baz=255
WCI Wyandotte Cave 24.18 60 eP P 07 21 05.5 -0.2
comp=Z,4µm,1.8s
WCI LR LR
comp=Z,944µm,20.0s
WCI Wyandotte Cave 24.18 60 eP P 07 21 05.5 -0.2
WCI pmax pmax
comp=Z,4µm,1.8s
WCI MLR MLR
comp=Z,944µm,20.0s
S48A Wiedeman Farm, 24.22 62 P P 07 21 05.6 -0.6
baz=256,SNR=12
SFIN Lafayette 24.23 55 P P 07 21 04.8 -1.3
baz=249,SNR=8.6
SFIN Lafayette 24.23 55 eP P 07 21 04.4 -1.8
comp=Z,4µm,1.8s
SFIN LR LR
comp=Z,1210µm,19.0s
B34A Aery, Baudette 24.24 31 P P 07 21 06.2 0.0
baz=222,SNR=6.5
552A Lynn Haven 24.24 80 P P 07 21 05.1 -1.3
baz=274
A33A Warroad 24.25 29 P P 07 21 05.7 -0.5
baz=220,SNR=14
BLO Bloomington 24.27 58 eP P 07 21 06.0 -0.5
comp=Z,1µm,1.4s
BLO LR LR
comp=Z,957µm,18.0s
BLO Bloomington 24.27 58 eP P 07 21 06.0 -0.5
BLO pmax pmax
comp=Z,1µm,1.4s
BLO MLR MLR
comp=Z,957µm,18.0s
Q47A Bedord North L 24.27 58 P P 07 21 05.8 -0.7
baz=253
452A Marianna 24.30 78 P P 07 21 05.9 -1.0
baz=272,SNR=21
K43A Burlington 24.30 49 P P 07 21 06.2 -0.7
baz=243,SNR=6.7
L44A Lake County Fo 24.36 50 P P 07 21 07.5 +0.2
baz=245
EDM Edmonton 24.36 360 eP P 07 21 06.0 -1.3
comp=Z,1µm,1.5s
EDM LR LR
comp=Z,258µm,19.0s
EDM Edmonton 24.36 360 eP P 07 21 06.0 -1.3
EDM pmax pmax
comp=Z,1µm,1.5s
EDM MLR MLR
comp=Z,258µm,19.0s
D37A Cotton 24.38 36 P P 07 21 08.3 +0.8
baz=228
F39A Loretta 24.41 40 P P 07 21 06.4 -1.4
baz=233
H41A Junction City 24.41 44 P P 07 21 07.5 -0.3
baz=237
H41A Junction City 24.41 44 eP P 07 21 08.3 +0.6
comp=Z,1µm,1.8s
H41A LR LR
comp=Z,460µm,18.0s
G40A Rib Lake 24.44 42 P P 07 21 07.0 -1.1
baz=235,SNR=14
E38A The Farm, Brul 24.48 38 P P 07 21 07.4 -1.0
baz=231,SNR=8.8
M45A Boilermakers S 24.49 52 P P 07 21 07.5 -1.0
baz=247
I42A Draeger Farm, 24.49 46 P P 07 21 08.2 -0.3
baz=240,SNR=9.5
I42A Draeger Farm, 24.49 46 eP P 07 21 09.4 +0.9
comp=Z,745nm,1.2s
I42A LR LR
comp=Z,371µm,19.0s
352A Blakely 24.50 77 P P 07 21 07.7 -1.0
baz=271,SNR=17
R48A Northridge Ran 24.54 60 P P 07 21 08.8 -0.3
baz=255,SNR=8.0
P47A Martinsville 24.55 57 P P 07 21 07.7 -1.4
baz=252
J43A Natural Harves 24.56 47 P P 07 21 07.6 -1.5
baz=242
B35A Bob, Littlefor 24.57 32 P P 07 21 08.3 -0.9
baz=224
C36A Pine Crest Far 24.58 34 P P 07 21 07.7 -1.5
baz=227
252A Lumpkin 24.66 76 P P 07 21 08.2 -1.9
baz=270,SNR=11
N46A Monticello 24.67 54 P P 07 21 09.4 -0.7
baz=249,SNR=5.6
O47A Sheridan 24.85 56 P P 07 21 10.1 -1.7
baz=251
F40A Park Falls 24.86 40 P P 07 21 11.1 -0.8
baz=234,SNR=13
C37A Embarrass 24.88 35 P P 07 21 11.1 -1.0
baz=228,SNR=18
E39A Mellen 24.89 39 P P 07 21 10.7 -1.3
baz=233,SNR=11
WI02 Reinke Road, C 24.94 44 eP P 07 21 13.2 +0.7
comp=Z,623nm,1.4s
WI02 LR LR
comp=Z,480µm,20.0s
WI04 River Road, Cl 24.95 44 eP P 07 21 12.9 +0.3
comp=Z,860nm,1.5s
WI04 LR LR
comp=Z,472µm,20.0s
WI01 McKinley Avenu 24.97 44 PFAKE 07 21 20.0 +7.2
WI01 LR LR
comp=Z,458µm,20.0s
I43A Langenfeld Bro 24.97 46 P P 07 21 11.4 -1.5
baz=241
553A Crawfordville 24.98 80 P P 07 21 10.9 -2.2
baz=274
WI03 Lunz Road, Cli 24.99 44 PFAKE 07 21 20.0 +7.0
WI03 LR LR
comp=Z,458µm,20.0s
G41A Antigo 25.01 43 P P 07 21 13.0 -0.2
baz=237
H42A Shiocton 25.04 45 P P 07 21 13.5 +0.1
baz=239
H42A Shiocton 25.04 45 eP P 07 21 12.7 -0.7
comp=Z,400nm,1.2s
H42A LR LR
comp=Z,592µm,18.0s
453A Whigham 25.04 78 P P 07 21 12.9 -0.7
baz=272,SNR=25
CPCT Cooper Cave 25.05 67 eP P 07 21 13.0 -0.6
ULM Lac du Bonnet 25.07 27 P P 07 21 12.2 -1.4
comp=Z,78nm,0.9s,baz=217,slow=9.6,SNR=33
ULM Lg Lg 07 29 05.2
comp=Z,14nm,1.1s,baz=256,slow=13,SNR=2.2
ULM LR LR 07 31 37.0
comp=Z,391µm,18.8s,baz=213,slow=38
ULM Lac du Bonnet 25.07 27 eP P 07 21 12.6 -1.1
comp=Z,1µm,1.4s
ULM LR LR
comp=Z,419µm,18.0s
ULM Lac du Bonnet 25.07 27 eP P 07 21 12.6 -1.1
ULM pmax pmax
comp=Z,1µm,1.4s
ULM MLR MLR
comp=Z,419µm,18.0s
APG El Apazote 25.07 119 P P 07 21 13.4 -0.8
comp=Z,42nm,1.0s,baz=310,slow=12,SNR=22
353A Camilla 25.11 77 P P 07 21 13.5 -0.7
baz=271,SNR=18
M46A Old House Fiel 25.12 53 P P 07 21 13.0 -1.3
baz=248,SNR=10
253A Americus 25.17 75 P P 07 21 14.4 -0.4
baz=270,SNR=11
E40A Wakefield 25.29 40 P P 07 21 14.7 -1.0
baz=234
C38A Sawbill Land. 25.34 36 P P 07 21 14.9 -1.3
baz=229
F41A Three Lakes 25.34 42 P P 07 21 14.9 -1.4
baz=236
EYMN Ely 25.37 35 P P 07 21 15.5 -0.9
baz=229,SNR=7.4
EYMN Ely 25.37 35 eP P 07 21 14.3 -2.1
comp=Z,1µm,1.4s
EYMN LR LR
comp=Z,136µm,18.0s
153A Fort Valley 25.43 74 P P 07 21 15.8 -1.3
baz=269,SNR=15
G42A Mountain 25.48 43 P P 07 21 16.9 -0.5
baz=238
G42A Mountain 25.48 43 eP P 07 21 16.9 -0.5
comp=Z,967nm,1.3s
G42A LR LR
comp=Z,369µm,21.0s
H43A Windswept, Lux 25.49 45 P P 07 21 16.4 -1.1
baz=240
H43A Windswept, Lux 25.49 45 eP P 07 21 17.3 -0.2
comp=Z,620nm,1.0s
H43A LR LR
comp=Z,607µm,19.0s
COWI Conover 25.53 41 eP P 07 21 17.2 -0.7
comp=Z,577nm,1.3s
COWI LR LR
comp=Z,170µm,18.0s
554A Perry 25.64 80 P P 07 21 17.1 -1.9
baz=274
454A Quitman 25.64 79 P P 07 21 17.8 -1.3
baz=273,SNR=9.2
TIGA Tifton 25.64 77 P P 07 21 17.8 -1.3
baz=272,SNR=10
TIGA Tifton 25.64 77 eP P 07 21 18.0 -1.1
comp=Z,2µm,1.4s
TIGA LR LR
comp=Z,751µm,19.0s
TKL Tuckaleechee C 25.68 67 P P 07 21 18.4 -1.0
comp=Z,124nm,0.9s,baz=211,slow=4.9,SNR=21
TKL LR LR 07 31 26.6
comp=Z,724µm,21.1s,baz=253,slow=37
TKL Tuckaleechee C 25.68 67 eP P 07 21 18.0 -1.4
comp=Z,2µm,1.1s
TKL Tuckaleechee C 25.68 67 eP P 07 21 18.0 -1.4
TKL pmax pmax
comp=Z,2µm,1.1s
GOGA Godfrey 25.75 72 P P 07 21 18.8 -1.3
baz=268,SNR=6.7
GOGA Godfrey 25.75 72 eP P 07 21 19.1 -0.9
comp=Z,1µm,1.1s
GOGA LR LR
comp=Z,1954µm,18.0s
GOGA Godfrey 25.75 72 eP P 07 21 19.2 -0.9
GOGA pmax pmax
comp=Z,1µm,1.1s
GOGA MLR MLR
comp=Z,1954µm,18.0s
E41A Kenton 25.83 40 P P 07 21 20.2 -0.5
baz=235
BBB Bella Bella 25.85 339 P P 07 21 21.2 +0.5
comp=Z,37nm,0.9s,baz=160,slow=8.3,SNR=22
BBB LR LR 07 31 43.5
comp=Z,215µm,21.9s,baz=169,slow=37
BBB Bella Bella 25.85 339 eP P 07 21 21.2 +0.5
comp=Z,263nm,1.1s
BBB LR LR
comp=Z,160µm,20.0s
254A Abbeville 25.89 76 P P 07 21 19.7 -1.6
baz=271,SNR=11
F42A Maple Grove Fa 25.93 43 P P 07 21 18.4 -3.1
baz=238
G43A Wallace 25.94 44 P P 07 21 19.3 -2.3
baz=239
G43A Wallace 25.94 44 eP P 07 21 21.9 +0.4
comp=Z,2µm,1.7s
G43A LR LR
comp=Z,384µm,20.0s
TZTN Tazewell 25.98 65 P P 07 21 20.3 -1.8
baz=261
TZTN Tazewell 25.98 65 eP P 07 21 21.4 -0.7
comp=Z,792nm,1.0s
TZTN LR LR
comp=Z,1181µm,20.0s
C39A Grand Marais 26.00 37 P P 07 21 20.9 -1.3
baz=231,SNR=11
154A Montrose 26.04 74 P P 07 21 20.8 -1.9
baz=269,SNR=7.9
655A Horseshoe Beac 26.06 81 P P 07 21 21.3 -1.6
baz=276
455A Stateville 26.16 78 P P 07 21 21.9 -1.9
baz=273,SNR=10
555A McAlpin 26.25 80 P P 07 21 22.7 -1.9
baz=274,SNR=6.7
355A Pearson 26.28 77 P P 07 21 22.9 -1.9

baz=272
BG3 Lake Jocassee 26.29 69 *eP* P 07 21 24.4 -0.6
comp=Z,772nm,1.1s
BG3 LR LR
comp=Z,1178µm,20.0s
D41A Chassel 26.40 40 P P 07 21 23.8 -1.9
baz=235
E42A Champion 26.42 41 P P 07 21 23.4 -2.6
baz=237
F43A Flat Rock, Esc 26.54 43 P P 07 21 26.5 -0.5
baz=239
155A Kite 26.58 74 P P 07 21 25.6 -1.9
baz=270,SNR=11
C40A Isle Royale Na 26.58 38 P P 07 21 26.4 -1.0
baz=232
656A Willston 26.70 81 P P 07 21 27.6 -1.0
baz=276
556A Lake Butler 26.75 80 P P 07 21 26.6 -2.5
baz=275
HODGE Hodges 26.79 71 *eP* P 07 21 29.0 -0.5
comp=Z,494nm,1.0s
HODGE LR LR
comp=Z,1235µm,19.0s
SNET Serv Nac Est T 26.81 119 PFAKE 07 21 40.0 +10
SNET LR LR
comp=Z,1293µm,20.0s
356A Blackshear 26.90 77 P P 07 21 29.1 -1.3
baz=272,SNR=6.8
E43A Lone Tree Farm 26.93 42 P P 07 21 29.4 -1.1
baz=238
456A Hilliard 27.02 78 P P 07 21 29.6 -1.9
baz=274
F44A Big Bay de Noc 27.06 44 P P 07 21 30.0 -1.7
baz=240
256A Glennville 27.08 76 P P 07 21 31.3 -0.7
baz=271,SNR=9.2
FFC Flin Flon 27.10 14 *eP* P 07 21 31.1 -0.9
comp=Z,705nm,1.6s
FFC LR LR
comp=Z,264µm,18.0s
FFC Flin Flon 27.10 14 *eP* P 07 21 31.1 -0.9
FFC pmax pmax
comp=Z,705nm,1.6s
FFC MLR MLR
comp=Z,264µm,18.0s
857A Zephyrhills 27.11 84 P P 07 21 30.5 -1.9
baz=278,SNR=10
757A Oxford 27.16 82 P P 07 21 29.7 -3.1
baz=277,SNR=9.8
ACSO Alum Creek Sta 27.18 57 P P 07 21 30.6 -2.3
baz=254
ACSO Alum Creek Sta 27.18 57 *eP* P 07 21 31.9 -1.0
comp=Z,1µm,1.4s
ACSO LR LR
comp=Z,948µm,18.0s
PAULI Pauline 27.20 69 PFAKE 07 21 40.0 +6.9
PAULI LR LR
comp=Z,1013µm,19.0s
957A Wimauma 27.20 85 P P 07 21 31.0 -2.2
baz=280
657A Interlachen 27.26 81 P P 07 21 31.5 -2.2
baz=276,SNR=7.9
AAM Ann Arbor 27.32 53 P P 07 21 32.2 -1.9
baz=250
AAM Ann Arbor 27.32 53 *eP* P 07 21 32.7 -1.4
comp=Z,831nm,1.4s
AAM LR LR
comp=Z,136µm,21.0s
AAM Ann Arbor 27.32 53 *eP* P 07 21 32.7 -1.4
AAM pmax pmax
comp=Z,831nm,1.4s
AAM MLR MLR
comp=Z,136µm,21.0s
457A Yulee 27.43 78 P P 07 21 33.6 -1.6
baz=274,SNR=5.8
357A Townsend 27.44 77 P P 07 21 34.0 -1.3
baz=272,SNR=5.2
F45A CMU Biological 27.48 45 P P 07 21 34.6 -0.9
baz=242
KMSC Kings Mountain 27.61 69 P P 07 21 35.8 -1.0
baz=266,SNR=14
JSC Jenkinsville 27.62 71 *eP* P 07 21 33.4 -3.5
comp=Z,341nm,1.0s
JSC LR LR
comp=Z,1237µm,18.0s
JSC Jenkinsville 27.62 71 *eP* P 07 21 33.4 -3.5
JSC pmax pmax
comp=Z,341nm,1.0s
JSC MLR MLR
comp=Z,1237µm,18.0s
958A Wauchula 27.64 85 P P 07 21 35.2 -1.9
baz=280,SNR=9.9
GLMI Grayling 27.65 47 P P 07 21 36.6 -0.5
baz=244
GLMI Grayling 27.65 47 *eP* P 07 21 38.9 +1.8
comp=Z,1µm,1.8s
GLMI LR LR
comp=Z,153µm,19.0s
058A Arcadia 27.69 86 P P 07 21 35.9 -1.6
baz=281,SNR=6.6
E44A Grand Marais A 27.69 43 P P 07 21 37.4 +0.1
baz=239
658A Bunnell 27.80 81 P P 07 21 36.9 -1.6
baz=276,SNR=5.2
DWPF Disney Wildern 27.83 84 P P 07 21 37.2 -1.6
baz=279
DWPF Disney Wildern 27.83 84 *eP* P 07 21 37.6 -1.2
comp=Z,1µm,1.6s
DWPF LR LR
comp=Z,642µm,21.0s
858A St. Cloud 27.88 84 P P 07 21 37.6 -1.6
baz=279
758A Lake Helen 27.91 82 P P 07 21 37.3 -2.2
baz=277,SNR=7.2
F46A Macinaw City C 27.99 45 P P 07 21 38.0 -2.1
baz=242
E45A Wooded Hills, 28.00 44 P P 07 21 37.9 -2.3
baz=241
TGUH Tegucigalpa,Un 28.11 116 *eP* P 07 21 42.0 +0.6
comp=Z,1µm,1.1s
TGUH LR LR
comp=Z,968µm,21.0s
059Z Ave Maria 28.15 87 P P 07 21 40.0 -1.6
baz=282
DIB Dawson Inlet, 28.20 335 *eP* P 07 21 42.2 +0.4
comp=Z,394nm,1.7s
DIB LR LR
comp=Z,63µm,20.0s
059A Moore Haven 28.28 86 P P 07 21 41.3 -1.6
baz=281,SNR=6.4
859A Kempfer Cattle 28.30 84 P P 07 21 41.7 -1.3
baz=279,SNR=7.7
959A Okeechobee 28.41 85 P P 07 21 42.7 -1.3
baz=280
NHSC New Hope 28.50 73 P P 07 21 44.0 -0.7
baz=270,SNR=14
NHSC New Hope 28.50 73 *eP* P 07 21 43.8 -0.9
comp=Z,3µm,1.4s
NHSC LR LR
comp=Z,1392µm,19.0s
BLA Blacksburg 28.56 64 P P 07 21 45.6 +0.3
baz=262
BLA Blacksburg 28.56 64 *eP* P 07 21 43.1 -2.1
comp=Z,576nm,1.2s
BLA LR LR
comp=Z,925µm,18.0s
BLA Blacksburg 28.56 64 *eP* P 07 21 43.2 -2.1
BLA pmax pmax
comp=Z,576nm,1.2s
BLA MLR MLR
comp=Z,925µm,18.0s
060A Indiantown 28.95 86 P P 07 21 46.3 -2.5
baz=281
NCAT North Carolina 28.95 67 PFAKE 07 22 00.0 +11
NCAT LR LR
comp=Z,922µm,20.0s
MCWV Mont Chateau 29.40 60 PFAKE 07 22 00.0 +7.3
MCWV LR LR
comp=Z,715µm,21.0s
N54A Moraine State 29.57 57 P P 07 21 53.1 -1.1
baz=256
N54A Moraine State 29.57 57 PFAKE 07 22 10.0 +16
N54A LR LR
comp=Z,765µm,19.0s
ALLY Alegheny Colle 29.63 56 PFAKE 07 22 10.0 +15
ALLY LR LR
comp=Z,1166µm,19.0s
ERPA Erie 29.86 55 P P 07 21 54.8 -1.9
baz=254
ERPA Erie 29.86 55 *eP* P 07 21 55.9 -0.9
comp=Z,2µm,1.9s
ERPA LR LR
comp=Z,930µm,21.0s
M54A Oil Creek Stat 29.94 56 P P 07 21 57.0 -0.5
baz=255
M54A Oil Creek Stat 29.94 56 PFAKE 07 22 10.0 +13
M54A LR LR
comp=Z,982µm,20.0s
CRAG Craig 30.24 337 *eP* P 07 22 00.3 +0.4
comp=Z,290nm,1.4s
CRAG LR LR
comp=Z,99µm,19.0s
CNNC Cliffs of the 30.43 69 P P 07 22 00.0 -1.8
baz=268
CNNC Cliffs of the 30.43 69 *eP* P 07 22 01.2 -0.7
comp=Z,366nm,1.1s
CNNC LR LR
comp=Z,1213µm,19.0s
O56A Blue Knob Stat 30.48 59 P P 07 22 00.5 -1.8
baz=259
O56A Blue Knob Stat 30.48 59 *eP* P 07 22 01.1 -1.2
comp=Z,938nm,1.5s
O56A LR LR
comp=Z,627µm,20.0s
IP04 Greensprings 30.50 63 *eP* P 07 22 01.2 -1.2
comp=Z,860nm,2.0s
IP04 LR LR
comp=Z,1055µm,19.0s
IP07 Quail 30.53 64 *eP* P 07 22 01.8 -0.9
comp=Z,439nm,1.5s
IP07 LR LR
comp=Z,988µm,18.0s
IP03 Louisa 30.55 63 *eP* P 07 22 02.0 -0.9
comp=Z,404nm,1.5s
IP03 LR LR
comp=Z,1035µm,19.0s
IP06 Yanceyville 30.57 64 *eP* P 07 22 01.5 -1.6
comp=Z,526nm,1.9s
IP06 LR LR
comp=Z,759µm,20.0s
JSRW J. Sargeant Re 30.62 64 *eP* P 07 22 01.9 -1.6
IP01 Cuckoo 30.63 63 *eP* P 07 22 03.1 -0.4
comp=Z,186nm,1.1s
IP01 LR LR
comp=Z,984µm,18.0s
SPRD Spring Road, M 30.66 63 *eP* P 07 22 03.1 -0.7
comp=Z,849nm,2.0s
IP05 Hopewell Churc 30.73 64 *eP* P 07 22 03.0 -1.5
comp=Z,571nm,1.6s
IP05 LR LR
comp=Z,908µm,20.0s
WRAK Wrangell Islan 30.76 339 PFAKE 07 22 20.0 +16
WRAK LR LR
comp=Z,156µm,22.0s
PTRD Partlow Road 30.87 63 *eP* P 07 22 03.6 -2.1
comp=Z,258nm,1.1s
SSPA Standing Stone 31.06 58 P P 07 22 04.7 -2.7
baz=259
SSPA Standing Stone 31.06 58 *eP* P 07 22 05.8 -1.6
comp=Z,646nm,1.5s
SSPA LR LR
comp=Z,792nm,20.0s
CBN Corbin Frederi 31.08 63 PFAKE 07 22 20.0 +12
CBN LR LR
comp=Z,1004µm,18.0s
SADO Sadowa 31.24 50 *eP* P 07 22 07.6 -1.3
comp=Z,181nm,1.0s
SADO LR LR
comp=Z,226µm,18.0s
MMNY Mt. Morris Dam 31.51 54 *eP* P 07 22 08.6 -2.7
comp=Z,514nm,1.4s
MMNY LR LR
comp=Z,1160µm,19.0s
SDMD Soldier's Deli 31.65 61 *eP* P 07 22 10.8 -1.7
comp=Z,247nm,1.3s
SDMD LR LR
comp=Z,549µm,18.0s
DLBC Dease Lake 31.82 343 *eP* P 07 22 14.2 +0.3
comp=Z,346nm,1.4s
DLBC LR LR
comp=Z,311µm,21.0s
PAGS Pennsylvania G 31.86 59 *eP* P 07 22 13.0 -1.4
comp=Z,1µm,1.9s
PAGS LR LR
comp=Z,724µm,21.0s
MVL Millersville 32.11 60 *eP* P 07 22 14.7 -1.8
comp=Z,665nm,1.9s
MVL LR LR
comp=Z,701µm,18.0s
JTS JuntasAbangare 32.19 119 P P 07 22 17.0 -0.6
comp=Z,16nm,0.9s,baz=22,slow=11,SNR=12
JTS LR LR 07 36 37.9
comp=Z,402µm,18.3s,baz=14,slow=39
JTS JuntasAbangare 32.19 119 P P 07 22 17.0 -0.6
JTS MLR MLR
comp=Z,402µm,18.3s
SIT Sitka 32.25 337 *eP* P 07 22 18.4 +0.8
comp=Z,265nm,1.6s
SIT LR LR
comp=Z,62µm,20.0s
SIT Sitka 32.25 337 *eP* P 07 22 18.4 +0.8
SIT pmax pmax
comp=Z,265nm,1.6s
SIT MLR MLR
comp=Z,62µm,20.0s
FCC Fort Churchill 32.67 18 *eP* P 07 22 20.1 -1.1
comp=Z,415nm,1.4s
FCC LR LR
comp=Z,289µm,18.0s
FCC Fort Churchill 32.67 18 *eP* P 07 22 20.2 -1.1
FCC pmax pmax
comp=Z,415nm,1.4s
FCC MLR MLR
comp=Z,289µm,18.0s
N59A State Game Lan 32.69 58 P P 07 22 20.1 -1.6
baz=260,SNR=10
N59A State Game Lan 32.69 58 *eP* P 07 22 20.8 -1.0
comp=Z,550nm,1.6s
N59A LR LR
comp=Z,814µm,18.0s
PLVO Plevna 32.72 51 *eP* P 07 22 21.3 -0.6
comp=Z,380nm,1.1s
PLVO LR LR
comp=Z,52µm,19.0s
BINY Binghamton 32.77 56 P P 07 22 20.9 -1.6
baz=258,SNR=18
BINY Binghamton 32.77 56 *eP* P 07 22 21.8 -0.7
comp=Z,1µm,1.6s
BINY LR LR
comp=Z,695µm,20.0s
PSUB Penn St. - Bra 32.78 60 *eP* P 07 22 21.0 -1.5
comp=Z,526nm,1.6s
PSUB LR LR
comp=Z,937µm,18.0s
LUPA Lehigh Univers 32.94 59 *eP* P 07 22 22.7 -1.2
comp=Z,63nm,1.6s
LUPA LR LR
comp=Z,66µm,19.0s
HDC Heredia 33.01 119 PFAKE 07 22 40.0 +15
HDC LR LR
comp=Z,511µm,18.0s
BESE Bessie Mountai 33.31 339 *eP* P 07 22 27.0 0.0
comp=Z,268nm,1.4s
BESE LR LR
comp=Z,81µm,22.0s
BRNJ Basking Ridge 33.56 59 *eP* P 07 22 28.4 -0.8
comp=Z,491nm,1.4s
BRNJ LR LR
comp=Z,833µm,20.0s
ODNJ Ogdensburg 33.59 58 *eP* P 07 22 28.0 -1.5
comp=Z,506nm,1.6s
ODNJ LR LR
comp=Z,774µm,18.0s
YKA Yellowknife Ar 33.67 359 P P 07 22 28.7 -1.2
comp=Z,9.6nm,0.9s,baz=179,slow=8.3,SNR=68
PcP PcP 07 25 07.7 -1.9
comp=Z,3.3nm,0.9s,baz=168,slow=2.1,SNR=2.4
CPNY Central Park 34.03 59 *eP* P 07 22 32.3 -1.0
comp=Z,752nm,1.7s
CPNY LR LR
comp=Z,1001µm,21.0s
PAL Palisades 34.10 59 P P 07 22 31.8 -2.2
baz=261
PAL Palisades 34.10 59 *eP* P 07 22 33.0 -1.0
comp=Z,988nm,1.8s
PAL LR LR
comp=Z,850µm,18.0s
PAL Palisades 34.10 59 *eP* P 07 22 33.0 -1.0
PAL pmax pmax
comp=Z,988nm,1.8s
PAL MLR MLR
comp=Z,850µm,18.0s
SKAG Skagway 34.17 340 *eP* P 07 22 34.3 0.0
comp=Z,415nm,1.8s
SKAG LR LR
comp=Z,107µm,19.0s
MTDJ Mount Denham 34.18 100 *eP* P 07 22 33.4 -1.6
comp=Z,326nm,1.4s
MTDJ LR LR
comp=Z,347µm,21.0s
LONY Lake Ozonia 34.32 52 P P 07 22 35.2 -0.7
baz=256,SNR=16
LONY Lake Ozonia 34.32 52 *eP* P 07 22 33.0 -2.8
comp=Z,530nm,1.4s
LONY LR LR
comp=Z,348µm,22.0s
NCB Newcomb 34.41 53 *eP* P 07 22 34.9 -1.8
comp=Z,328nm,1.2s
NCB LR LR
comp=Z,635µm,21.0s
TRY Troy 34.56 56 *eP* P 07 22 36.6 -1.3
comp=Z,274nm,1.2s
ACCN Adirondack Com 34.69 55 *eP* P 07 22 38.0 -1.1
comp=Z,1µm,1.9s
ACCN LR LR
comp=Z,1072µm,18.0s
TRQ Mont Tremblant 34.76 49 *eP* P 07 22 39.2 -0.4
YLE Yale 34.87 58 *eP* P 07 22 39.7 -0.9
comp=Z,1µm,1.6s
YLE LR LR
comp=Z,860µm,19.0s
WHY Whitehorse 35.02 341 *eP* P 07 22 41.1 -0.8
comp=Z,223nm,1.5s
WHY LR LR
comp=Z,134µm,18.0s
FRNY Flat Rock 35.06 52 *eP* P 07 22 40.8 -1.4
comp=Z,853nm,1.8s
FRNY LR LR
comp=Z,589µm,22.0s
QUA2 Belchertown 35.44 57 *eP* P 07 22 44.3 -1.2
comp=Z,176nm,0.9s
VT1 Waterbury 35.53 53 *eP* P 07 22 46.1 -0.2
comp=Z,668nm,1.5s
YKU2 Yakutat 35.61 337 PFAKE 07 23 00.0 +13
YKU2 LR LR
comp=Z,74µm,18.0s
GTBY Guantanamo Bay 35.62 96 *eP* P 07 22 46.7 -0.6
comp=Z,510nm,1.4s
GTBY LR LR
comp=Z,218µm,21.0s
HYT Haines Junctio 35.92 340 *eP* P 07 22 49.3 -0.3
comp=Z,180nm,1.5s
HYT LR LR
comp=Z,89µm,22.0s
BRYW Bryant College 35.99 57 *eP* P 07 22 49.0 -1.3
comp=Z,232nm,1.3s
HRV Adam Dziewonsk 36.06 56 P P 07 22 48.6 -2.2
baz=261
HRV Adam Dziewonsk 36.06 56 *eP* P 07 22 50.0 -0.8
comp=Z,525nm,1.4s
HRV LR LR
comp=Z,959µm,18.0s
HRV Adam Dziewonsk 36.06 56 *eP* P 07 22 50.0 -0.8
HRV pmax pmax
comp=Z,525nm,1.4s
HRV MLR MLR
comp=Z,959µm,18.0s
LBNH Lisbon 36.09 53 P P 07 22 49.5 -1.6
baz=259
LBNH Lisbon 36.09 53 *eP* P 07 22 51.0 -0.1
comp=Z,1µm,1.8s
LBNH LR LR
comp=Z,1329µm,18.0s
LBNH Lisbon 36.09 53 *eP* P 07 22 51.0 -0.1
LBNH pmax pmax
comp=Z,1µm,1.8s
LBNH MLR MLR
comp=Z,1329µm,18.0s
FFD Franklin Falls 36.14 55 *eP* P 07 22 51.5 0.0
comp=Z,1µm,2.0s
WES Weston 36.21 57 *eP* P 07 22 51.2 -0.9
comp=Z,885nm,1.9s
WES Weston 36.21 57 *eP* P 07 22 51.2 -0.9
WES pmax pmax
comp=Z,885nm,1.9s
BCX Boston College 36.32 57 *eP* P 07 22 53.1 +0.1
comp=Z,267nm,1.4s
BCIP Isla Barro Col 36.86 115 PFAKE 07 23 10.0 +12
BCIP LR LR
comp=Z,377µm,21.0s
BCIP Isla Barro Col 36.86 115 *eP* P 07 22 57.9 -0.1
BALM Baldy 37.64 337 *eP* P 07 23 04.6 +0.4
comp=Z,337nm,1.4s
BALM LR LR
comp=Z,56µm,21.0s
BALM Baldy 37.64 337 *eP* P 07 23 04.6 +0.4
BALM pmax pmax
comp=Z,337nm,1.4s
BALM MLR MLR
comp=Z,56µm,21.0s
WVL Waterville 37.75 53 *eP* P 07 23 05.2 0.0
comp=Z,1µm,1.8s
RAGM Ragged Mountai 38.02 335 *eP* P 07 23 08.2 +0.8
comp=Z,388nm,1.3s
RAGM LR LR
comp=Z,59µm,19.0s
MID Middleton Isla 38.03 333 *eP* P 07 23 08.2 +0.9
comp=Z,447nm,1.4s
MID LR LR
comp=Z,28µm,18.0s
MID Middleton Isla 38.03 333 *eP* P 07 23 08.3 +0.9
MID pmax pmax
comp=Z,447nm,1.4s
MID MLR MLR
comp=Z,28µm,18.0s
PKME Peaks-Kenny Pk 38.12 52 P P 07 23 06.7 -1.6
baz=260,SNR=9.2
PKME Peaks-Kenny Pk 38.12 52 *eP* P 07 23 08.6 +0.2
comp=Z,803nm,1.8s
PKME LR LR
comp=Z,602µm,22.0s
LGNH LØogne 38.35 96 *eP* P 07 23 10.7 +0.1
comp=Z,1µm,1.5s
BMRM Bremner River 38.38 336 *eP* P 07 23 11.3 +0.9
comp=Z,482nm,1.5s
BMRM LR LR
comp=Z,44µm,19.0s
EYAK Cordova Ski Ar 38.52 335 *eP* P 07 23 12.4 +0.9
comp=Z,463nm,1.3s
EYAK LR LR
comp=Z,62µm,18.0s
GRTK Grand Turk 38.55 91 PFAKE 07 23 20.0 +7.8
GRTK LR LR
comp=Z,179µm,20.0s
MAPC Malpelo 38.80 124 *eP* P 07 23 10.8 -3.5
DIV Divide 38.91 335 *eP* P 07 23 15.5 +0.6
comp=Z,347nm,1.6s
DIV LR LR
comp=Z,49µm,19.0s
DAWY Dawson 39.02 342 *eP* P 07 23 15.8 +0.1
comp=Z,296nm,1.3s
DAWY LR LR
comp=Z,132µm,22.0s
CAPC Capurgana 39.16 114 *eP* P 07 23 17.3 -0.1
HULD Heiheiahulu Di 39.16 266 PFAKE 07 23 30.0 +13
HULD LR LR
comp=Z,85µm,19.0s
KLU Klutina 39.21 336 *eP* P 07 23 18.0 +0.7
comp=Z,344nm,1.5s
KLU LR LR
comp=Z,44µm,19.0s
PQI Presque Isle 39.26 50 *eP* P 07 23 19.9 +2.1
comp=Z,2µm,1.9s
JCUZ Jacuzzi 39.28 266 PFAKE 07 23 30.0 +12
JCUZ LR LR
comp=Z,76µm,21.0s
NPOC North of Pu'u 39.28 266 PFAKE 07 23 30.0 +12
NPOC LR LR
comp=Z,71µm,20.0s
STCH Steam Cracks 39.30 266 PFAKE 07 23 30.0 +11
STCH LR LR
comp=Z,73µm,21.0s
SDDR Presa de Saban 39.31 95 *eP* P 07 23 17.9 -0.8
comp=Z,367nm,1.3s

SDDR LR LR
comp=Z,411µm,18.0s
EMMW East Machias 39.32 54 *eP* **P 07 23 18.5 +0.1**
comp=Z,996nm,1.6s
PUH Pauahi 39.38 266 PFAKE 07 23 30.0 +11
PUH LR LR
comp=Z,77µm,21.0s
HATHI Halema'uma'u T 39.41 266 PFAKE 07 23 30.0 +10
HATHI LR LR
comp=Z,77µm,20.0s
BYL Byron's Ledge 39.41 266 PFAKE 07 23 30.0 +10
BYL LR LR
comp=Z,78µm,21.0s
SBLHI Steaming Bluff 39.41 266 PFAKE 07 23 30.0 +10
SBLHI LR LR
comp=Z,77µm,21.0s
KKO Keanakako'i 39.42 266 PFAKE 07 23 30.0 +10
KKO LR LR
comp=Z,76µm,21.0s
UWB Uwekahuna B 39.42 266 PFAKE 07 23 30.0 +10
UWB LR LR
comp=Z,74µm,20.0s
NPH North Pit 39.43 266 PFAKE 07 23 30.0 +10
NPH LR LR
comp=Z,75µm,20.0s
OBL Observatory Le 39.43 266 PFAKE 07 23 30.0 +10
OBL LR LR
comp=Z,76µm,20.0s
RIM Rim 39.43 266 PFAKE 07 23 30.0 +10
RIM LR LR
comp=Z,76µm,21.0s
UWE Uwekahuna 39.44 266 PFAKE 07 23 30.0 +10
UWE LR LR
comp=Z,82µm,22.0s
WRMHI West Rim 39.45 266 PFAKE 07 23 30.0 +10
WRMHI LR LR
comp=Z,74µm,20.0s
SDHHI Sand Hill 39.45 266 PFAKE 07 23 30.0 +10
SDHHI LR LR
comp=Z,72µm,20.0s
MENT Mentasta 39.45 339 *eP* **P 07 23 19.6 +0.2**
comp=Z,287nm,1.4s
MENT LR LR
comp=Z,84µm,19.0s
MLH Mauna Loa 39.49 266 PFAKE 07 23 30.0 +10
MLH LR LR
comp=Z,68µm,21.0s
HLP Hilina Pali 39.49 266 PFAKE 07 23 30.0 +10
HLP LR LR
comp=Z,80µm,20.0s
POHA Pohakuloa 39.52 266 PFAKE 07 23 30.0 +9.4
POHA LR LR
comp=Z,71µm,21.0s
HMH Humu'ula Sheep 39.53 266 PFAKE 07 23 30.0 +9.2
HMH LR LR
comp=Z,73µm,21.0s
HARP HAARP 39.56 337 *eP* **P 07 23 20.9 +0.7**
comp=Z,757nm,1.3s
HARP LR LR
comp=Z,62µm,19.0s
HPAH Hawaii Prepara 39.56 267 PFAKE 07 23 30.0 +9.2
HPAH LR LR
comp=Z,65µm,20.0s
AIN Ainahou 39.60 266 PFAKE 07 23 30.0 +8.8
AIN LR LR
comp=Z,76µm,21.0s
MLOA Mauna Loa Obse 39.64 266 *eP* **P 07 23 20.8 -1.1**
comp=Z,755nm,1.0s
MLOA LR LR
comp=Z,68µm,20.0s
MWH Moku'aweowe 39.68 266 *eP* **P 07 23 21.8 -0.5**
comp=Z,702nm,1.3s
MWH LR LR
comp=Z,73µm,21.0s
KHU Kahuku 39.78 266 PFAKE 07 23 30.0 +7.2
KHU LR LR
comp=Z,80µm,21.0s
HLK Haleakala 39.79 268 PFAKE 07 23 30.0 +7.1
HLK LR LR
comp=Z,94µm,21.0s
HUH Hualalai 39.81 267 PFAKE 07 23 30.0 +6.9
HUH LR LR
comp=Z,86µm,20.0s
KDAK Kodiak Island 39.82 328 P **P 07 23 22.9 +0.6**
comp=Z,51nm,0.9s,baz=109,slow=5.0,SNR=32
KDAK Kodiak Island 39.82 328 *eP* **P 07 23 22.9 +0.6**
comp=Z,658nm,1.7s
KDAK LR LR
comp=Z,71µm,21.0s
KDAK Kodiak Island 39.82 328 *i* P **P 07 23 23.4 +1.1**
OHAK Old Harbor 39.88 327 *eP* **P 07 23 23.6 +0.8**
comp=Z,441nm,1.4s
OHAK LR LR
comp=Z,68µm,20.0s
KHLU Kahalu'u 39.90 266 PFAKE 07 23 30.0 +6.4
KHLU LR LR
comp=Z,78µm,20.0s
KHLH Kahului Airpor 39.90 269 PFAKE 07 23 30.0 +6.5
KHLH LR LR
comp=Z,106µm,22.0s
SCM Sheep Creek Mo 39.94 335 *eP* **P 07 23 24.0 +0.5**
comp=Z,448nm,1.5s
SCM LR LR
comp=Z,38µm,18.0s
SCM Sheep Creek Mo 39.94 335 *eP* **P 07 23 24.0 +0.5**
SCM pmax pmax
comp=Z,448nm,1.5s
SCM MLR MLR
comp=Z,38µm,18.0s
PAX Paxson 40.05 338 *eP* **P 07 23 24.2 -0.1**
comp=Z,206nm,1.5s
PAX LR LR
comp=Z,19µm,20.0s
PAX Paxson 40.05 338 *eP* **P 07 23 24.2 -0.1**
PAX pmax pmax
comp=Z,206nm,1.5s
PAX MLR MLR
comp=Z,19µm,20.0s
EGAK Eagle 40.06 342 *eP* **P 07 23 24.0 -0.3**
comp=Z,564nm,1.9s
EGAK LR LR
comp=Z,112µm,18.0s
DOT Dot Lake 40.07 339 *eP* **P 07 23 24.4 0.0**
comp=Z,548nm,1.3s
DOT LR LR
comp=Z,239µm,18.0s
BRLK Bradley Lake 40.10 331 *eP* **P 07 23 25.5 +0.8**
comp=Z,338nm,1.2s
BRLK LR LR
comp=Z,41µm,20.0s
SCRK Sand Creek 40.28 340 *eP* **P 07 23 26.3 0.0**
comp=Z,206nm,1.2s
SCRK LR LR
comp=Z,89µm,19.0s
SML Sawmill 40.29 335 *eP* **P 07 23 26.3 0.0**
comp=Z,512nm,1.3s
SML LR LR
comp=Z,34µm,19.0s
SML Sawmill 40.29 335 *eP* **P 07 23 26.3 0.0**
SML pmax pmax
comp=Z,512nm,1.3s
SML MLR MLR
comp=Z,34µm,19.0s
HOM Homer 40.37 331 *eP* **P 07 23 27.4 +0.6**
comp=Z,664nm,1.2s
HOM LR LR
comp=Z,52µm,19.0s
RIDG Independ'e Rid 40.38 339 *eP* **P 07 23 26.8 -0.2**
comp=Z,284nm,1.4s
RIDG LR LR
comp=Z,141µm,20.0s
RC01 Rabbit Creek A 40.39 333 *eP* **P 07 23 27.0 -0.1**
comp=Z,1µm,2.0s
RC01 LR LR
comp=Z,30µm,18.0s
MOTC Monteria, Cord 40.44 112 *eP* P 07 23 23.1 -4.9
PMR Palmer 40.46 334 *eP* **P 07 23 28.2 +0.6**
comp=Z,1µm,1.6s
PMR LR LR
comp=Z,43µm,20.0s
PMR Palmer 40.46 334 *eP* **P 07 23 28.2 +0.6**
PMR pmax pmax
comp=Z,1µm,1.6s
PMR MLR MLR
comp=Z,43µm,20.0s
GHO Glory Hole Cre 40.49 335 *eP* **P 07 23 27.8 -0.3**
comp=Z,350nm,1.2s

GHO LR LR
comp=Z,32µm,21.0s
SDD Santo Domingo 40.72 95 *eP* **P 07 23 30.1 -0.2**
comp=Z,971nm,1.4s
SDD LR LR
comp=Z,370µm,20.0s
DHY Denali Highway 40.76 337 *eP* **P 07 23 30.2 -0.2**
comp=Z,331nm,1.5s
DHY LR LR
comp=Z,51µm,19.0s
SUA Susitna One 41.01 333 *eP* **P 07 23 32.4 +0.1**
comp=Z,291nm,1.1s
SUA LR LR
comp=Z,37µm,19.0s
OPA Opana 41.02 271 PFAKE 07 23 40.0 +7.2
OPA LR LR
comp=Z,93µm,22.0s
KIP Kipapa 41.11 270 *eP* **P 07 23 36.2 +2.7**
comp=Z,567nm,1.4s
KIP LR LR
comp=Z,75µm,22.0s
KIP Kipapa 41.11 270 *eP* **P 07 23 36.2 +2.7**
KIP pmax pmax
comp=Z,567nm,1.4s
KIP MLR MLR
comp=Z,75µm,22.0s
HON Honolulu 41.13 270 PFAKE 07 23 40.0 +6.3
HON LR LR
comp=Z,82µm,22.0s
INK Inuvik 41.30 349 P **P 07 23 34.0 -0.5**
comp=Z,69nm,1.2s,baz=146,slow=7.1,SNR=50
INK LR LR 07 42 23.3
comp=Z,141µm,19.6s,baz=162,slow=39
INK Inuvik 41.30 349 *eP* **P 07 23 33.8 -0.7**
comp=Z,325nm,1.2s
INK LR LR
comp=Z,221µm,20.0s
INK Inuvik 41.30 349 *eP* **P 07 23 33.8 -0.7**
INK pmax pmax
comp=Z,325nm,1.2s
INK MLR MLR
comp=Z,221µm,20.0s
RND Reindeer 41.49 337 *eP* **P 07 23 36.2 0.0**
comp=Z,176nm,1.2s
RND LR LR
comp=Z,95µm,18.0s
RND Reindeer 41.49 337 *eP* **P 07 23 36.2 0.0**
RND pmax pmax
comp=Z,176nm,1.2s
RND MLR MLR
comp=Z,95µm,18.0s
HDA Harding Lake 41.51 339 *eP* **P 07 23 36.1 -0.2**
comp=Z,164nm,1.3s
HDA LR LR
comp=Z,71µm,18.0s
BBSR BB Station 41.56 73 *eP* **P 07 23 36.5 -0.6**
comp=Z,274nm,1.4s
BBSR LR LR
comp=Z,311µm,19.0s
SKT Skwentna 41.61 334 *eP* **P 07 23 36.6 -0.6**
comp=Z,191nm,1.1s
SKT LR LR
comp=Z,56µm,18.0s
CODC Agust´›n Codaz 41.63 109 *eP* **P 07 23 33.7 -4.1**
MCK McKinley 41.73 337 *eP* **P 07 23 38.1 0.0**
comp=Z,310nm,1.2s
MCK LR LR
comp=Z,50µm,19.0s
MCK McKinley 41.73 337 *eP* **P 07 23 38.1 0.0**
MCK pmax pmax
comp=Z,310nm,1.2s
MCK MLR MLR
comp=Z,50µm,19.0s
IL1 Eielson Array 41.74 339 *eP* **P 07 23 37.8 -0.3**
ILAR Eielson Array 41.74 339 P **P 07 23 38.4 +0.2**
comp=Z,44nm,1.0s,baz=151,slow=6.8,SNR=162
ILAR LR LR 07 41 51.3
comp=Z,70µm,18.5s,baz=142,slow=38
ILB Eielson Array 41.74 339 *eP* **P 07 23 38.4 +0.2**
WRH Wood River Hil 41.92 338 *eP* **P 07 23 39.1 -0.5**
comp=Z,147nm,1.2s
WRH LR LR
comp=Z,98µm,19.0s
CCB Clear Creek Bu 41.95 339 *eP* **P 07 23 39.0 -0.8**
comp=Z,66nm,1.1s
CCB LR LR
comp=Z,85µm,20.0s
MALC Bahia Malaga 41.99 119 *eP* **P 07 23 41.2 +0.4**
GRGC Isla de Gorgon 42.01 121 *eP* **P 07 23 40.2 -0.7**
TRF Thorofare Moun 42.02 336 *eP* **P 07 23 40.4 -0.3**
comp=Z,1µm,1.6s
TRF LR LR
comp=Z,92µm,18.0s
HELC Santa Helena 42.05 115 *eP* **P 07 23 40.5 -1.2**
comp=Z,2µm,1.9s
HELC LR LR
comp=Z,699µm,20.0s
HELC Santa Helena 42.05 115 *eP* **P 07 23 37.8 -3.9**
CHGN Chignik 42.06 324 *eP* **P 07 23 40.7 -0.1**
comp=Z,358nm,1.4s
CHGN LR LR
comp=Z,41µm,18.0s
SCHQ Schefferville 42.09 39 P **P 07 23 40.6 -0.5**
comp=Z,32nm,1.0s,baz=250,slow=9.0,SNR=12
SCHQ LR LR 07 39 21.0
comp=Z,133µm,20.7s,baz=254,slow=34
SCHQ Schefferville 42.09 39 *eP* **P 07 23 40.4 -0.8**
comp=Z,657nm,1.3s
SCHQ LR LR
comp=Z,164µm,18.0s
COLA College 42.12 339 *eP* **P 07 23 41.2 0.0**
comp=Z,139nm,1.0s
COLA LR LR
comp=Z,90µm,19.0s
COLA College 42.12 339 *eP* **P 07 23 41.2 0.0**
COLA pmax pmax
comp=Z,139nm,1.0s
COLA MLR MLR
comp=Z,90µm,19.0s
PLMC San Jos˜ del 42.24 117 *eP* **P 07 23 40.2 -2.8**
MDM Murphy Dome 42.29 339 *eP* **P 07 23 41.7 -1.0**
comp=Z,116nm,1.2s
MDM LR LR
comp=Z,91µm,18.0s
KTH Kantishna Hill 42.31 336 *eP* **P 07 23 42.4 -0.5**
comp=Z,801nm,1.6s
KTH LR LR
comp=Z,78µm,18.0s
TUMC Tumaco 42.38 123 PFAKE 07 23 50.0 +6.1
TUMC LR LR
comp=Z,264µm,20.0s
PPLA Purkeypile 42.39 335 *eP* **P 07 23 43.5 -0.1**
comp=Z,1µm,1.4s
KEKH Kekaha 42.42 272 PFAKE 07 23 50.0 +5.8
KEKH LR LR
comp=Z,70µm,19.0s
FYU Fort Yukon 42.52 342 *eP* **P 07 23 44.8 +0.4**
comp=Z,720nm,1.4s
FYU LR LR
comp=Z,78µm,19.0s
CAST Castle Rocks 42.65 335 *eP* **P 07 23 44.6 -1.1**
comp=Z,403nm,1.3s
CAST LR LR
comp=Z,42µm,20.0s
OCAC Ocana 42.66 111 *eP* **P 07 23 44.7 -1.7**
BPAW Bear Paw Mtn. 42.67 337 *eP* **P 07 23 45.1 -0.6**
comp=Z,342nm,1.2s
BPAW LR LR
comp=Z,106µm,18.0s
PTBC PUERTO BERRIO, 42.70 114 *eP* P 07 23 41.3 -5.3
GUYC Guyana, Colomb 42.74 116 *eP* **P 07 23 47.7 +0.2**
SVW2 Sparrevohn 42.78 331 *eP* **P 07 23 45.9 -0.9**
comp=Z,525nm,1.4s
SVW2 LR LR
comp=Z,51µm,18.0s
SDPT Sand Point 42.83 322 *eP* **P 07 23 47.0 -0.1**
comp=Z,386nm,1.2s
SDPT LR LR
comp=Z,36µm,18.0s
NORC Norcasia 42.95 115 *eP* **P 07 23 46.6 -2.1**
BRRC Barranca, Sant 42.98 112 *eP* **P 07 23 45.4 -3.4**
RREF El Recreo 42.98 116 *eP* **P 07 23 49.0 -0.6**
MLY Manley 43.16 338 *eP* **P 07 23 49.3 -0.5**
comp=Z,266nm,1.4s
MLY LR LR
comp=Z,32µm,19.0s
AGP Aguadilla 43.16 93 PFAKE 07 24 00.0 +10

AGP LR LR
comp=Z,235µm,19.0s
ANIL Santa Ana 43.18 117 *eP* **P 07 23 49.5 -1.3**
MPR Mayaguez 43.24 94 *eP* **P 07 23 50.0 -0.9**
comp=Z,540nm,1.8s
MPR LR LR
comp=Z,179µm,20.0s
CRPR Cabo Rojo, PR 43.34 94 *eP* **P 07 23 49.6 -2.1**
comp=Z,759nm,1.4s
CRPR LR LR
comp=Z,767µm,22.0s
POPC Popayan, Colom 43.44 120 *eP* **P 07 23 52.1 -0.8**
AOPR Arecibo Observ 43.52 93 *eP* **P 07 23 50.5 -2.7**
comp=Z,577nm,1.8s
AOPR LR LR
comp=Z,197µm,20.0s
CMBC Cumbal 43.63 123 *eP* **P 07 23 54.6 -0.1**
OTAV Otavalo 43.66 124 *eP* **P 07 23 55.4 +0.6**
comp=Z,2µm,1.4s
OTAV LR LR
comp=Z,171µm,20.0s
OTAV Otavalo 43.66 124 *eP* **P 07 23 53.7 -1.2**
PAMC Pamplona, Colo 43.67 111 *eP* **P 07 23 53.4 -1.6**
BARC Barichara 43.70 113 *eP* **P 07 23 53.0 -2.0**
OBIP Obispado Ponce 43.77 94 *eP* **P 07 23 53.6 -1.6**
comp=Z,210nm,1.2s
OBIP LR LR
comp=Z,309µm,21.0s
PCON Cinco Dias 43.78 120 *eP* **P 07 23 56.1 +0.1**
GCUF Volcan Galeras 43.80 122 *eP* **P 07 23 56.0 0.0**
ROSC El Rosal 43.82 116 P **P 07 23 56.9 +0.8**
comp=Z,9.6nm,0.9s,baz=133,slow=2.1,SNR=9.7
ROSC LR LR 07 44 31.7
comp=Z,312µm,18.2s,baz=324,slow=39
ROSC El Rosal 43.82 116 *eP* **P 07 23 56.2 +0.1**
comp=Z,682nm,1.5s
ROSC LR LR
comp=Z,275µm,19.0s
ROSC El Rosal 43.82 116 *eP* **P 07 23 55.4 -0.7**
CRUC La Cruz 43.87 122 *eP* **P 07 23 56.7 +0.3**
ICMP Isla Caja de M 43.90 94 *eP* **P 07 23 54.0 -2.3**
PRAC Prado 44.07 117 *eP* **P 07 23 56.9 -0.8**
comp=Z,1µm,1.6s
PRAC LR LR
comp=Z,174µm,20.0s
PRAC Prado 44.07 117 *eP* **P 07 23 56.0 -1.7**
SJG San Juan 44.15 93 P **P 07 23 56.4 -1.7**
comp=Z,86nm,1.0s,baz=294,slow=5.3,SNR=21
SJG San Juan 44.15 93 *eP* **P 07 23 56.5 -1.7**
SJG LR LR
comp=Z,348µm,22.0s
SJG San Juan 44.15 93 *eP* **P 07 23 56.5 -1.7**
SJG MLR MLR
comp=Z,348µm,22.0s
BETC Betania 44.29 119 *eP* **P 07 24 00.5 +1.0**
FALS False Pass 44.30 320 *eP* **P 07 23 59.1 +0.1**
comp=Z,265nm,1.1s
FALS LR LR
comp=Z,31µm,21.0s
CBYP Canovanas 44.34 93 *eP* **P 07 23 56.4 -3.4**
comp=Z,216nm,1.3s
CBYP LR LR
comp=Z,343µm,20.0s
COLD Coldfoot 44.40 340 *eP* **P 07 23 59.3 -0.3**
comp=Z,225nm,1.4s
COLD LR LR
comp=Z,74µm,18.0s
CHIC Chingaza 44.41 115 *eP* **P 07 24 00.1 -0.8**
SDV Santo Domingo 44.53 108 P **P 07 24 00.1 -1.4**
comp=Z,73nm,0.9s,baz=310,slow=3.8,SNR=22
SDV LR LR 07 44 25.3
comp=Z,281µm,19.5s,baz=296,slow=39
SDV Santo Domingo 44.53 108 *eP* **P 07 24 00.3 -1.3**
comp=Z,364nm,1.0s
SDV LR LR
comp=Z,286µm,19.0s
IM3 Indian Mountai 44.73 338 *eP* **P 07 24 01.8 -0.6**
FLOC Florencia 44.83 120 *eP* **P 07 24 03.1 -0.7**
TOLK Toolik Lake Re 45.17 342 P **P 07 24 05.5 -0.4**
baz=133,SNR=54
TOLK Toolik Lake Re 45.17 342 *eP* **P 07 24 05.8 0.0**
comp=Z,147nm,1.0s
TOLK LR LR
comp=Z,99µm,20.0s
AKUT Akutan 45.47 319 PFAKE 07 24 20.0 +12
AKUT LR LR
comp=Z,27µm,19.0s
CDVI St. Croix 45.50 93 *eP* **P 07 24 06.8 -2.2**
comp=Z,415nm,1.0s
ABVI Anegada Island 45.50 92 PFAKE 07 24 20.0 +11
ABVI LR LR
comp=Z,242µm,22.0s
TAOE Nuku Hiva Isla 45.65 219 *eS* **S 07 30 57.2 +3.8**
comp=Z,17µm,24.3s
TAOE *e*LR LR 07 36 55.7
comp=Z,166µm,26.2s
TAOE Nuku Hiva Isla 45.65 219 PFAKE 07 24 20.0 +10
TAOE LR LR
comp=Z,99µm,19.0s
UNV Unalaska Valle 45.84 318 *eP* **P 07 24 11.1 -0.2**
comp=Z,376nm,1.4s
UNV LR LR
comp=Z,28µm,18.0s
RES Resolute Bay 46.84 7 P **P 07 24 17.3 -1.5**
comp=Z,25nm,1.3s,baz=201,slow=7.2,SNR=19
RES Resolute Bay 46.84 7 *eP* **P 07 24 17.1 -1.6**
comp=Z,681nm,1.6s
RES LR LR
comp=Z,317µm,19.0s
SMRT St. Maarten 46.86 92 *eP* **P 07 24 18.1 -1.7**
comp=Z,578nm,1.4s
SMRT LR LR
comp=Z,165µm,22.0s
SMRT St. Maarten 46.86 92 *eP* **P 07 24 21.7 +1.9**
SABA Saba 46.88 92 PFAKE 07 24 30.0 +10
SABA LR LR
comp=Z,316µm,21.0s
SABA Saba 46.88 92 *eP* **P 07 24 21.7 +1.7**
SEUS St. Eustatius 47.16 92 PFAKE 07 24 30.0 +7.9
SEUS LR LR
comp=Z,326µm,22.0s
SEUS St. Eustatius 47.16 92 *eP* **P 07 24 20.0 -2.1**
ANWB Willy Bob 48.14 92 *eP* **P 07 24 27.5 -2.2**
comp=Z,1µm,1.9s
ANWB LR LR
comp=Z,126µm,21.0s
ANWB Willy Bob 48.14 92 *eP* **P 07 24 27.6 -2.2**
MLYT Lee's Yard 48.16 93 *eP* P 07 24 24.4 -5.5
GDHS Morne Mazeau, 48.72 93 *eP* **P 07 24 32.2 -2.1**
comp=Z,661nm,1.3s
GDHS LR LR
comp=Z,274µm,21.0s
PCRV Puerto La Cruz 48.95 102 LR LR 07 48 27.3
comp=Z,247µm,19.2s,baz=280,slow=40
ATAH Atahualpa 48.98 131 P **P 07 24 37.5 +0.9**
comp=Z,87nm,1.0s,baz=331,slow=5.4,SNR=27
TBG Guadaloupe-3 48.99 94 *eP* **P 07 24 33.4 -2.9**
MGG Marie-Galante 49.26 94 *eP* **P 07 24 40.8 +2.5**
MDPO Dominica; Chan 49.28 94 *eP* **P 07 24 38.6 +0.2**
BBL Barber's Block 49.28 94 *eP* **P 07 24 36.7 -1.8**
MDVC Dominica, Viel 49.30 94 *eP* **P 07 24 40.7 +2.1**
MDMP Dominica, Moor 49.31 94 *eP* **P 07 24 41.2 +2.5**
DEG La Desirade 49.32 93 *eP* **P 07 24 34.6 -4.3**
DLPL La Plaine 49.56 94 *eP* **P 07 24 41.6 +0.9**
XMAS Kiritimati 49.88 246 PFAKE 07 24 50.0 +6.9
XMAS LR LR
comp=Z,88µm,21.0s
FDF Fort de France 49.90 95 *eP* **P 07 24 40.5 -2.8**
comp=Z,434nm,1.2s
FDF LR LR
comp=Z,151µm,20.0s
FDF Fort de France 49.90 95 *eP* **P 07 24 46.5 +3.2**
FDF Fort de France 49.90 95 *eP* **P 07 24 40.5 -2.8**
FDF pmax pmax
comp=Z,434nm,1.2s
FDF MLR MLR
comp=Z,151µm,20.0s
SVB Belmont 50.44 97 PFAKE 07 25 00.0 +13
SVB LR LR
comp=Z,249µm,20.0s
SVB Belmont 50.44 97 *eP* **P 07 24 47.6 +0.2**
MCLT Moule a Chique 50.52 96 *eP* **P 07 24 51.0 +3.1**
SVCV St. Vincent, C 50.54 97 *eP* P 07 24 43.1 -5.0
GRHS Sauteurs 50.58 98 *eP* **P 07 24 47.0 -1.4**
GRGR Grenville 50.61 98 *eP* **P 07 24 46.2 -2.4**
comp=Z,2µm,1.3s

GRGR LR LR
comp=Z,262µm,22.0s
GRGR Grenville 50.61 98 *e*P **P 07 24 45.0 -3.6**
GAMB Gambell 50.72 331 *e*P **P 07 24 47.8 -1.0**
comp=Z,423nm,1.8s
GAMB LR LR
comp=Z,42µm,19.0s
TOSP Speyside 51.96 98 *e*P **P 07 25 03.0 +4.2**
TOSP Speyside 51.96 98 *e*S S 07 32 32.1 +10
BBGH Gun Hill 51.98 96 PFAKE 07 25 10.0 +11
BBGH LR LR
comp=Z,429µm,22.0s
BBGH Gun Hill 51.98 96 *e*P P 07 24 52.9 -6.0
TULEG Thule 52.15 12 *e*P **P 07 24 56.8 -2.5**
comp=Z,209nm,1.3s
TULEG LR LR
comp=Z,162µm,18.0s
JOHN Johnston Islan 52.95 270 PFAKE 07 25 20.0 +14
JOHN LR LR
comp=Z,60µm,22.0s
SFJD Kangerlussuaq 53.10 26 P **P 07 25 06.1 -0.3**
comp=Z,76nm,0.9s,baz=248,slow=5.6,SNR=30
SFJD LR LR 07 46 38.9
comp=Z,186µm,19.5s,baz=252,slow=35
SFJD Kangerlussuaq 53.10 26 *i* P **P 07 25 06.4 0.0**
SFJD Kangerlussuaq 53.10 26 *e*P **P 07 25 05.8 -0.7**
comp=Z,2µm,1.8s
SFJD LR LR
comp=Z,177µm,19.0s
SFJD Kangerlussuaq 53.10 26 *i* P **P 07 25 06.4 0.0**
IVI Ivigtut 53.15 33 PFAKE 07 25 20.0 +13
IVI LR LR
comp=Z,198µm,20.0s
ILULI Ilulissat 53.48 23 *e*P **P 07 25 07.3 -1.9**
comp=Z,472nm,1.4s
ILULI LR LR
comp=Z,229µm,19.0s
ILULI Ilulissat 53.48 23 *e*P **P 07 25 07.3 -1.9**
ILULI pmax pmax
comp=Z,472nm,1.4s
ILULI MLR MLR
comp=Z,229µm,19.0s
KULLO Kullorsuaq 53.56 16 *i* P **P 07 25 08.6 -1.2**
KULLO Kullorsuaq 53.56 16 *i* P **P 07 25 08.6 -1.2**
NNA Nana 53.63 134 *e*P **P 07 25 10.4 -0.7**
comp=Z,595nm,1.3s
NNA LR LR
comp=Z,118µm,20.0s
NNA Nana 53.63 134 *e*P **P 07 25 10.4 -0.7**
NNA pmax pmax
comp=Z,595nm,1.3s
NNA MLR MLR
comp=Z,118µm,20.0s
NRS Narsarsuaq 54.48 33 *i* P **P 07 25 19.8 +3.2**
NRS Narsarsuaq 54.48 33 PFAKE 07 25 30.0 +13
NRS LR LR
comp=Z,194µm,19.0s
NRS Narsarsuaq 54.48 33 *e*P **P 07 25 19.8 +3.2**
PMOR Pomariorio Ree 55.04 222 *e*P **P 07 25 22.7 +1.5**
comp=Z,193nm,1.2s
VAH Vaihoa 55.07 222 *e*P **P 07 25 22.8 +1.4**
comp=Z,231nm,1.2s
RPN Rapa Nui 55.77 176 LR LR 07 43 58.3
comp=Z,162µm,18.8s,baz=2.0,slow=30
RPN Rapa Nui 55.77 176 PFAKE 07 25 40.0 +14
RPN LR LR
comp=Z,190µm,21.0s
RKT Rikitea 55.78 204 *e*P **P 07 25 28.0 +1.6**
comp=Z,433nm,1.5s
RKT *e*S **S 07 33 16.6 +3.2**
comp=Z,98µm,31.8s
RKT *e*LQ LQ 07 39 26.1
comp=Z,231µm,34.2s
RKT *e*LR LR 07 41 42.2
comp=Z,196µm,30.0s,baz=21
MIDW Midway 55.80 286 PFAKE 07 25 40.0 +13
MIDW LR LR
comp=Z,46µm,20.0s
PTCN Pitcairn Islan 56.03 199 PFAKE 07 25 40.0 +12
PTCN LR LR
comp=Z,108µm,22.0s
SMY Shemya 57.39 316 PFAKE 07 25 50.0 +12
SMY LR LR
comp=Z,16µm,19.0s
TIAR Tiarei 57.90 222 *e*P **P 07 25 43.2 +1.6**
comp=Z,69nm,1.1s
TVO Taravao 58.02 221 *e*P **P 07 25 44.0 +1.5**
comp=Z,61nm,1.3s
PPT Papeete 58.05 222 LR LR 07 44 41.1
comp=Z,47µm,18.4s,baz=38,slow=30
PPTF Pamatai, Papee 58.05 222 PFAKE 07 25 50.0 +7.2
PPTF LR LR
comp=Z,54µm,19.0s
PPT2 Papeete2 58.06 222 *e*P **P 07 25 44.4 +1.6**
comp=Z,143nm,1.3s
PPT2 *e*S **S 07 33 47.0 +3.1**
comp=Z,109µm,29.2s
PPT2 *e*LQ LQ 07 40 24.8
comp=Z,182µm,27.5s
PPT2 *e*LR LR 07 42 52.9
comp=Z,208µm,27.0s,baz=26
PAE Paea 58.12 222 *e*P **P 07 25 44.6 +1.5**
comp=Z,32nm,1.3s
ANGG Ammassalik, Gr 58.14 28 *e*P **P 07 25 41.0 -1.7**
comp=Z,382nm,1.8s
ANGG LR LR
comp=Z,146µm,19.0s
SUMG Summit 58.17 20 *i* P **P 07 25 42.2 -1.1**
SUMG Summit 58.17 20 *e*P **P 07 25 41.7 -1.6**
comp=Z,252nm,1.2s
SUMG LR LR
comp=Z,200µm,21.0s
SUMG Summit 58.17 20 *e*P **P 07 25 42.2 -1.1**
PTGA Pitinga 58.67 110 *e*P **P 07 25 45.1 -2.1**
comp=Z,305nm,1.2s
PTGA LR LR
comp=Z,208µm,20.0s
BILL Bilibino 60.10 335 *d* iP **P 07 25 55.5 -0.8**
BILL *i* 07 26 44.2
BILL *i* S S 07 34 21.7 +13
BILL pmax pmax
comp=Z,125nm,1.2s
BILL MLR MLR
comp=Z,48µm,19.0s
SAML Samuel 61.08 120 *e*P **P 07 25 59.9 -3.7**
comp=Z,458nm,1.3s
SAML LR LR
comp=Z,116µm,18.0s
LPAZ La Paz 62.48 130 LR LR 07 51 29.3
comp=Z,117µm,21.7s,baz=326,slow=34
PB12 IPOC Station P 62.73 134 *e*P **P 07 26 16.4 +1.6**
DAG Danmarks Havn 63.18 15 *i* P **P 07 26 15.0 -1.9**
comp=Z,120µm,15.0s
DAG Danmarks Havn 63.18 15 *i* P **P 07 26 15.0 -1.9**
DAG MLR MLR
comp=Z,120µm,15.0s
SCO Scoresbysund 63.52 22 *i* P **P 07 26 17.8 -1.4**
SCO *i* 07 26 29.6
comp=Z,145µm,21.0s
SCO Scoresbysund 63.52 22 *e*P **P 07 26 17.8 -1.4**
comp=Z,653nm,1.9s
SCO LR LR
comp=Z,130µm,20.0s
SCO Scoresbysund 63.52 22 *e*P **P 07 26 17.8 -1.4**
SCO MLR MLR
comp=Z,150µm,21.0s
MNMC Minye Minye 63.57 133 *e*P **P 07 26 19.7 -0.9**
comp=Z,541nm,1.2s
MNMC LR LR
comp=Z,98µm,22.0s
MNMC Minye Minye 63.57 133 *e*P **P 07 26 19.9 -0.7**
PSGC Pisagua 63.58 134 *e*P **P 07 26 20.1 -0.3**
PB11 IPOC Station P 64.00 134 *e*P **P 07 26 21.2 -2.1**
comp=Z,1µm,1.3s
PB11 LR LR
comp=Z,63µm,21.0s
PB11 IPOC Station P 64.00 134 *e*P **P 07 26 21.7 -1.6**
GO01 Chusmiza 64.22 133 *e*P **P 07 26 24.2 -0.9**
KNTN Kanton 64.30 251 PFAKE 07 26 40.0 +15
KNTN LR LR
comp=Z,33µm,19.0s
PB08 IPOC Station P 64.60 134 *e*P **P 07 26 26.2 -1.3**
PB02 IPOC Station P 65.00 135 *e*P **P 07 26 28.6 -1.2**
PB01 IPOC Station P 65.05 135 *e*P P 07 26 24.5 -5.6
comp=Z,712nm,1.3s
PB01 LR LR
comp=Z,86µm,20.0s
PB01 IPOC Station P 65.05 135 *e*P **P 07 26 29.1 -0.9**
BORG Borgarnes 65.06 28 PFAKE 07 26 40.0 +11
BORG LR LR
comp=Z,119µm,21.0s
PB07 IPOC Station P 65.31 135 *e*P **P 07 26 29.4 -2.4**
PB04 IPOC Station P 65.61 136 *e*P P 07 26 27.2 -6.5
comp=Z,600nm,1.2s
PB04 LR LR
comp=Z,91µm,21.0s
PB04 IPOC Station P 65.61 136 *e*P **P 07 26 32.3 -1.4**
PB09 IPOC Station P 65.76 135 *e*P **P 07 26 34.0 -0.8**
PB06 IPOC Station P 66.24 136 *e*P **P 07 26 36.7 -1.1**
PB10 IPOC Station P 66.25 137 *e*P **P 07 26 37.3 -0.3**
comp=Z,556nm,1.3s
PB10 LR LR
comp=Z,96µm,21.0s
PB10 IPOC Station P 66.25 137 *e*P **P 07 26 39.8 +2.1**
PET Petropavlovsk 66.49 319 *e*P **P 07 26 38.5 -0.3**
comp=Z,150nm,1.1s
PET LR LR
comp=Z,18µm,19.0s
PET Petropavlovsk 66.49 319 *de*P **P 07 26 38.0 -0.8**
PET *e*S **S 07 35 31.8 +2.5**
PET *e*SS **SS 07 39 54.1 +8.5**
PET pmax pmax
comp=Z,4µm,7.3s
PET pmax pmax
comp=Z,4µm,20.7s
PET pmax pmax
comp=Z,131nm,1.2s
PET MLR MLR
comp=Z,14µm,16.0s
PET MLR MLR
comp=Z,19µm,18.0s
H07S1 FLORES T-PHASE 66.50 57 *e*P **P 07 26 40.1 +0.9**
H07S1 *e*S **S 07 35 33.4 +3.4**
H07S1 *e*LQ LQ 07 43 08.2
H07S1 *e*LR LR 07 47 30.9
SEY Seymchan 66.72 330 P **P 07 26 39.5 -0.7**
comp=Z,30nm,1.1s,baz=89,slow=6.9,SNR=35
PEA1 Petropavlovsk- 67.02 319 *e*P **P 07 26 41.1 -1.1**
PEA0B Petropavlovsk- 67.02 319 *e*P **P 07 26 41.5 -0.7**
comp=Z,456nm,1.4s
PEA0B LR LR
comp=Z,14µm,20.0s
PETK Petropavlovsk- 67.02 319 P **P 07 26 41.1 -1.1**
comp=Z,47nm,1.0s,baz=70,slow=14,SNR=12
PETK LR LR 07 51 18.1
comp=Z,11µm,21.6s,baz=79,slow=32
PETK Petropavlovsk- 67.02 319 P **P 07 26 41.1 -1.1**
PETK pmax pmax
comp=Z,41nm,1.0s
RAR Rarotonga 67.08 227 LR LR 07 49 16.7
comp=Z,39µm,19.7s,baz=40,slow=30
RAR Rarotonga 67.08 227 PFAKE 07 26 50.0 +7.0
RAR LR LR
comp=Z,45µm,20.0s
JMIC Jan Mayen 67.62 20 LR LR 07 55 44.6
comp=Z,151µm,19.4s,baz=290,slow=36
JMIC Jan Mayen 67.62 20 *e*P P 07 27 01.8 +16
JMIC IVMs_BB IVMs_BB 07 55 32.6
comp=Z,47µm,15.4s
KBS Kingsbay 68.08 10 PFAKE 07 27 00.0 +11
KBS LR LR
comp=Z,119µm,22.0s
KBS Kingsbay 68.08 10 *e*P **P 07 26 48.8 +0.3**
KBS *e*S **S 07 35 50.4 +2.7**
KBS IVMs_BB IVMs_BB 07 56 36.4
comp=Z,33µm,19.0s
KBS Kingsbay 68.08 10 *e*P **P 07 26 48.5 0.0**
KBS pmax pmax
comp=Z,487nm,1.7s
MA2 Magadan 68.56 327 P **P 07 26 50.8 -1.0**
comp=Z,22nm,0.9s,baz=72,slow=10,SNR=5.4
MA2 Magadan 68.56 327 P **P 07 26 50.8 -1.0**
MA2 pmax pmax
comp=Z,23nm,0.9s
PCED Cedros 68.59 57 *e*P P 07 27 02.5 +10
comp=Z,163nm,1.1s
HOR Horta 68.67 57 *e*P P 07 26 59.2 +6.3
SKR Severo-Kuril's 68.72 317 *e*P P 07 27 01.5 +8.5
SKR *e*S S 07 36 16.8 +21
SKR pmax pmax
comp=Z,156nm,1.4s
SKR pmax pmax
comp=Z,4µm,6.1s
SKR pmax pmax
comp=Z,2µm,6.6s
PICO Pico 68.83 57 *e*P P 07 27 03.5 +9.5
comp=Z,221nm,2.0s
PGRA Graciosa 68.97 56 *e*P P 07 27 02.9 +8.1
comp=Z,346nm,1.9s
PGRA *e*S **S 07 35 56.8 -2.8**
PGRA *e*LQ LQ 07 44 10.5
PGRA *e*LR LR 07 48 02.5
comp=Z,10µm,16.6s
PMAN Manadas 69.03 57 *e*P **P 07 26 58.7 +3.5**
comp=Z,154nm,1.4s
HJA Humahuaca 69.20 133 *e*P **P 07 26 55.3 -1.5**
SPA0 Spitsbergen Ar 69.24 10 *e*P **P 07 26 54.5 -1.3**
SPA0 Spitsbergen Ar 69.24 10 *e*P **P 07 26 55.9 +0.1**
SPITS Spitsbergen Ar 69.24 10 P **P 07 26 54.5 -1.3**
comp=Z,47nm,1.2s,baz=10,slow=5.1,SNR=8.4
SPITS LR LR 07 57 52.9
comp=Z,117µm,21.6s,baz=285,slow=36
SPITS Spitsbergen Ar 69.24 10 P **P 07 26 54.5 -1.3**
SPITS pmax pmax
comp=Z,46nm,1.2s
SPITS MLR MLR
comp=Z,117µm,21.6s
ADH Angra Heroismo 69.65 56 *e*P P 07 27 05.5 +6.5
comp=Z,61nm,0.7s
HSPB Hornsund (broa 69.92 11 *e*P **P 07 27 02.1 +2.2**
AZAP Zapla 70.15 134 *e*P **P 07 27 01.2 -1.2**
SLA San Lorenzo 70.23 134 *e*P **P 07 27 01.2 -1.6**
ASTB Santa Barbara 70.34 133 *e*P **P 07 27 02.3 -1.2**
LCO Las Campanas 70.38 141 *e*P **P 07 27 02.8 -0.9**
comp=Z,296nm,1.2s
LCO LR LR
comp=Z,93µm,20.0s
ALOL LOMAS DE OLMED 70.55 133 *e*P **P 07 27 03.0 -1.6**
AFI Afiamalu 70.81 241 LR LR 07 51 35.3
comp=Z,37µm,19.9s,baz=50,slow=30
AFI Afiamalu 70.81 241 PFAKE 07 27 20.0 +14
AFI LR LR
comp=Z,36µm,20.0s
FSA Cafayete 70.95 136 *e*P **P 07 27 05.6 -1.6**
TIXI Tiksi 71.06 343 *e*P **P 07 27 04.3 -2.6**
comp=Z,487nm,1.5s
TIXI LR LR
comp=Z,26µm,20.0s
TIXI Tiksi 71.06 343 *d* iP **P 07 27 04.5 -2.5**
TIXI pmax pmax
comp=Z,132nm,2.5s
TIXI MLR MLR
comp=Z,18µm,20.0s
PSET Sete Cidades 71.07 57 *e*P **P 07 27 09.9 +2.2**
comp=Z,393nm,1.8s
PSET *e*S **S 07 36 32.6 +8.4**
PSET *e*LQ LQ 07 45 00.6
PSET *e*LR LR 07 48 59.8
comp=Z,6µm,17.8s
PDA Ponta Delgada 71.14 57 *e*P **P 07 27 11.1 +3.0**
comp=Z,143nm,1.5s
CMLA Cha da Macela 71.23 57 *e*P **P 07 27 12.3 +3.6**
comp=Z,175nm,1.2s
CMLA *e*S **S 07 36 31.6 +5.5**
CMLA *e*LQ LQ 07 44 29.9
CMLA *e*LR LR 07 48 39.3
comp=Z,3µm,20.1s
CMLA Cha da Macela 71.23 57 PFAKE 07 27 20.0 +11
CMLA LR LR
comp=Z,165µm,19.0s
PCALD Caldeiras da R 71.25 57 *e*P **P 07 27 10.4 +1.6**
comp=Z,154nm,0.6s
BART Pico Bartolome 71.49 57 *e*P **P 07 27 11.9 +1.6**
comp=Z,113nm,1.4s
VCA Vinchina 71.58 139 *e*P **P 07 27 09.3 -1.6**
HOPEN Hopen 71.76 9 *e*P **P 07 27 13.4 +2.3**
HOPEN IVMs_BB IVMs_BB 07 57 50.2
comp=Z,41µm,20.6s
PSMA Santa Maria 71.82 57 *e*P **P 07 27 13.0 +0.8**
comp=Z,233nm,1.6s
AHML Horco Molle 71.83 136 *e*P **P 07 27 10.8 -1.6**
PSMN Pico do Norte, 71.86 57 *e*P **P 07 27 15.3 +2.8**
comp=Z,111nm,1.3s
PSMN *e*S **S 07 36 38.6 +5.2**
PSMN *e*LQ LQ 07 44 31.0
PSMN *e*LR LR 07 49 03.9
comp=Z,8µm,20.0s
AROD Rodeo 71.95 141 *e*P **P 07 27 13.0 -0.4**
AGUA GUANDACOL 71.98 140 *e*P **P 07 27 11.9 -1.3**
ACDV Cuesta del Vie 72.15 141 *e*P **P 07 27 13.0 -1.4**
BJO Bjornoya 72.34 12 *e*P **P 07 27 19.2 +4.5**
BJO *e*S **S 07 36 40.8 +3.2**
BJO IVMs_BB IVMs_BB 07 59 37.6
comp=Z,42µm,17.8s
WAKE Wake Island 72.64 283 PFAKE 07 27 30.0 +13
WAKE LR LR
comp=Z,22µm,21.0s
AMOG MOGNA 73.08 141 *e*P **P 07 27 17.7 -2.0**
RTLS Leoncito 73.31 142 *e*P **P 07 27 19.9 -1.4**
ROC1 El Roble 73.31 144 *e*P **P 07 27 20.2 -1.1**
comp=Z,237nm,1.0s
PEL Peldehue 73.62 144 *e*P **P 07 27 22.2 -0.6**
comp=Z,237nm,1.1s
PEL LR LR
comp=Z,102µm,22.0s
PEL Peldehue 73.62 144 *e*P **P 07 27 22.2 -0.6**
PEL pmax pmax
comp=Z,237nm,1.1s
PEL MLR MLR
comp=Z,102µm,22.0s
RTCV Cerro Valdivia 73.76 142 *e*P **P 07 27 22.5 -1.2**
APLL PUNTA DE LOS L 73.78 139 *e*P **P 07 27 21.8 -2.1**
ACAN Cantantal 74.82 141 *e*P **P 07 27 28.4 -1.4**
FUNA Funafuti 74.99 251 PFAKE 07 27 40.0 +8.8
FUNA LR LR
comp=Z,19µm,19.0s
VAL Valentia 75.18 39 *e*P **P 07 27 33.1 +1.4**
VAL *e*S **S 07 37 10.3 0.0**
TARA Tarawa 75.30 263 PFAKE 07 27 40.0 +7.0
TARA LR LR
comp=Z,41µm,19.0s
TCA Tanti 75.59 139 *e*P **P 07 27 32.8 -1.6**
LOF Lofoten 75.60 18 *e*P **P 07 27 34.5 +0.7**
LOF IVMs_BB IVMs_BB 08 01 21.1
comp=Z,41µm,15.8s
TRO Tromso 75.89 16 *e*P **P 07 27 35.3 -0.1**
TRO IVMs_BB IVMs_BB 08 04 34.3
comp=Z,29µm,15.6s
KUR Kuril'sk 75.97 314 *d* iP **P 07 27 37.0 +0.7**
KUR *i* 07 27 48.9
KUR *e* 07 30 23.6
KUR *i* S **S 07 37 21.9 +2.6**
KUR *i* 07 37 50.8
KUR pmax pmax
comp=Z,324nm,1.9s
KUR pmax pmax
comp=Z,1µm,7.0s
HAMF Hammerfest 76.17 14 *e*P **P 07 27 39.5 +2.5**
HAMF IVMs_BB IVMs_BB 08 02 31.6
comp=Z,26µm,28.5s
NKL Nikolayevsk 76.37 323 *e*P **P 07 27 37.2 -1.3**
NKL *e*S **S 07 37 30.0 +6.6**
NKL *e* 07 38 04.0
NKL pmax pmax
comp=Z,170nm,1.8s
NKL pmax pmax
comp=E,4µm,7.0s
NKL pmax pmax
comp=Z,4µm,7.0s
TYV Tymovskoe 76.43 321 *e*P **P 07 27 37.8 -1.1**
TYV *e*S **S 07 37 24.4 +0.2**
TYV pmax pmax
comp=Z,64nm,1.6s
TYV pmax pmax
comp=Z,3µm,7.1s
TYV smax smax
comp=E,7µm,11.0s
YAK Yakutsk 76.46 334 P **P 07 27 37.7 -1.1**
comp=E,16nm,0.4s,baz=120,slow=3.4,SNR=9.0
YAK Yakutsk 76.46 334 *e*P **P 07 27 38.1 -0.7**
comp=E,1µm,2.0s
YAK LR LR
comp=Z,32µm,20.0s
YAK Yakutsk 76.46 334 *e*P **P 07 27 37.2 -1.6**
YAK *e**PP **pP 07 27 41.2 -0.9**
YAK *e* 07 27 44.5
YAK *e*S **S 07 37 21.4 -2.7**
YAK *e**SS **SKSac 07 37 43.5 -6.6**
YAK *e* 07 38 22.1
YAK pmax pmax
comp=Z,53nm,1.0s
YAK pmax pmax
comp=N,7.0nm,1.3s
YAK pmax pmax
comp=E,19nm,1.3s
YAK smax smax
comp=E,496nm,4.4s
YAK smax smax
comp=N,1µm,7.9s
YAK MLR MLR
comp=Z,39µm,24.0s
YAK MLR MLR
comp=N,55µm,22.0s
YAK MLR MLR
comp=E,16µm,19.0s
DSB Dublin 76.61 36 PFAKE 07 27 50.0 +10
DSB LR LR
comp=Z,147µm,19.0s
CPUP Villa Florida 76.65 130 P **P 07 27 39.0 -1.4**
comp=Z,47nm,1.0s,baz=319,slow=7.3,SNR=42
CPUP Villa Florida 76.65 130 P **P 07 27 39.0 -1.4**
CPUP pmax pmax
comp=Z,47nm,1.0s
STOK Stokkvaagen 76.70 20 *e*P P 07 27 56.0 +16
FOO Floro 77.09 26 *e*P P 07 28 02.1 +20
FOO IVMs_BB IVMs_BB 07 59 13.1
comp=Z,104µm,16.4s
ESK Eskdalemuir 77.12 33 PFAKE 07 27 50.0 +7.3
ESK LR LR
comp=Z,140µm,19.0s
EKA Eskdalemuir Ar 77.14 33 P **P 07 27 40.4 -2.4**
comp=Z,2.4nm,0.8s,baz=299,slow=5.5,SNR=4.2
EKA LR LR 08 01 14.1
comp=Z,101µm,18.7s,baz=285,slow=35
MOR8 Moi Rana 77.22 19 *e*P **P 07 27 42.8 -0.3**
MOR8 IVMs_BB IVMs_BB 08 00 31.0
comp=Z,51µm,19.3s
SUE Sulen 77.31 26 *e*P P 07 28 02.1 +19
SUE IVMs_BB IVMs_BB 08 00 58.4
comp=Z,56µm,16.1s
KTK1 Kautokeino 77.36 15 *e*P **P 07 27 43.7 -0.1**
KTK1 IVMs_BB IVMs_BB 08 02 53.0
comp=Z,25µm,19.5s
MOL Molde 77.41 24 *e*P P 07 27 52.8 +8.7
MOL IVMs_BB IVMs_BB 07 58 29.2
comp=Z,47µm,23.0s
ARA0 ARCESS Array S 77.43 14 *e*P **P 07 27 42.9 -1.3**
ARCES ARCESS Array B 77.43 14 P **P 07 27 42.9 -1.3**
comp=Z,16nm,0.8s,baz=316,slow=5.1,SNR=15
ARCES LR LR 08 03 42.4
comp=Z,66µm,20.6s,baz=317,slow=37
ARCES ARCESS Array B 77.43 14 *e*P **P 07 27 43.0 -1.3**
ARE0 ARCESS Array S 77.43 14 *e*P **P 07 27 42.6 -1.6**
comp=Z,99nm,1.2s
ARE0 LR LR
comp=Z,91µm,22.0s
ARE0 ARCESS Array S 77.43 14 *e*P **P 07 27 43.5 -0.8**
ARE0 IVMs_BB IVMs_BB 08 01 27.0
comp=Z,29µm,22.8s
AKN Aaknes 77.46 25 *e*P **P 07 27 44.9 +0.3**
AKN *e*SS SS 07 42 35.9 +3.0
AKN IVMs_BB IVMs_BB 07 58 28.5
comp=Z,44µm,17.5s
KEV Kevo 77.56 13 PFAKE 07 28 00.0 +15
KEV LR LR
comp=Z,123µm,21.0s
NSS Namsos 77.61 21 *e*pP **P 07 27 49.5 +4.2**
YUK Yuzh-Kuril'sk 77.79 314 *d* iP **P 07 27 47.1 +0.5**
YUK *e*S S 07 37 50.5 +11
YUK pmax pmax
comp=Z,639nm,1.4s
YUK pmax pmax
comp=N,136nm,1.5s
YUK pmax pmax
comp=E,581nm,1.2s
YUK pmax pmax
comp=Z,956nm,1.6s

HYA **Hoyanger** **77.79** **26** *e*P P 07 27 53.1 +6.8
HYA IVMs_BB IVMs_BB 07 59 33.2
comp=Z,60µm,17.7s
ASK **Askoy** **77.83** **26** *e*P P 07 28 00.4 +14
ASK IVMs_BB IVMs_BB 07 59 42.9
comp=Z,47µm,16.9s
TBLU **Trondheim** **77.91** **23** *e*P **P** **07 27 46.6 -0.4**
TBLU IVMs_BB IVMs_BB 08 01 52.8
comp=Z,48µm,17.7s
BER **Bergen** **77.95** **27** *e*P P 07 27 54.9 +7.7
BER *e*S **S** **07 37 40.3 0.0**
BER IVMs_BB IVMs_BB 07 59 46.0
comp=Z,53µm,16.9s
YSS **Yuzh-Sakhalins** **78.29** **317** *e*P **P** **07 27 47.5 -1.9**
comp=Z,564nm,2.0s
YSS **Yuzh-Sakhalins** **78.29** **317**⇓ *e*P **P** **07 27 47.9 -1.5**
YSS *e* 07 28 02.9
YSS *e* 07 30 45.9
YSS *e*PPP PPP 07 32 44.7
YSS *e*S **S** **07 37 39.4 -5.1**
YSS *e*PPS PPS 07 38 28.0
YSS *e*SS **SS** **07 42 56.0 +10**
YSS pmax pmax
comp=Z,30nm,1.0s
YSS pmax pmax
comp=E,30nm,1.4s
YSS pmax pmax
comp=Z,1µm,8.7s
YSS MLR MLR
comp=N,10µm,16.0s
YSS MLR MLR
comp=Z,11µm,16.0s
DOMB **Dombas** **78.29** **24** *e*P **P** **07 27 48.9 -0.2**
DOMB *e*S **S** **07 37 46.2 +2.1**
DOMB IVMs_BB IVMs_BB 07 59 49.7
comp=Z,47µm,18.5s
KMY **Karmoy** **78.64** **27** *e*P P 07 28 02.6 +12
KMY IVMs_BB IVMs_BB 08 00 45.4
comp=Z,51µm,17.4s
ODD1 **Odda** **78.75** **26** *e*P P 07 28 05.5 +14
ODD1 *e*S **S** **07 37 52.1 +3.0**
BLS5 **Blasjo** **78.99** **27** *e*P **P** **07 27 53.1 +0.1**
BLS5 IVMs_BB IVMs_BB 08 01 54.0
comp=Z,63µm,16.7s
STAV **Stavanger** **78.99** **28** *e*P P 07 28 03.3 +10
STAV IVMs_BB IVMs_BB 08 00 56.4
comp=Z,37µm,16.3s
NC204 **NORSAR Array S** **79.41** **24** *e*P **P** **07 27 54.4 -1.0**
PMOZ **Porto Moniz, M** **79.48** **58** *e*SKS **SKSac** **07 38 22.1 +8.8**
NBO00 **NORSAR Array S** **79.58** **24** *e*P **P** **07 27 55.5 -0.7**
NBO02 **NORSAR Array S** **79.59** **24** *e*P **P** **07 27 55.6 -0.7**
NC303 **NORSAR Array S** **79.66** **24** *e*P **P** **07 27 56.0 -0.6**
PLCA **Paso Flores** **79.69** **148** P **P** **07 27 57.2 +0.2**
comp=Z,24nm,1.0s,baz=1.0,slow=7.0,SNR=24
PLCA LR LR 07 55 39.8
comp=Z,275µm,21.9s,baz=352,slow=30
PLCA **Paso Flores** **79.69** **148** *e*P **P** **07 27 56.8 -0.2**
comp=Z,345nm,1.1s
PLCA **Paso Flores** **79.69** **148** *e*P **P** **07 27 56.8 -0.2**
PLCA pmax pmax
comp=Z,345nm,1.1s
NB2 **NORSAR Subarra** **79.73** **24** P **P** **07 27 56.2 -0.9**
comp=Z,279nm,1.7s,baz=314,slow=5.6
NB2 **NORSAR Subarra** **79.73** **24** P **P** **07 27 56.2 -0.9**
baz=314,slow=5.6
NB200 **NORSAR Array S** **79.73** **24** *e*P **P** **07 27 56.2 -0.9**
NOA **NORSAR Array B** **79.73** **24** P **P** **07 27 56.2 -0.9**
comp=Z,7.0nm,0.9s,baz=313,slow=5.2,SNR=10
NOA LR LR 08 03 59.8
comp=Z,80µm,19.6s,baz=315,slow=36
PMAR **Madeira** **79.74** **58** *e*P **P** **07 28 01.5 +3.6**
comp=Z,1µm,1.5s
NAO01 **NORSAR Array S** **79.74** **24** *e*P **P** **07 27 57.3 +0.2**
NB201 **NORSAR Array S** **79.75** **24** *e*P **P** **07 27 55.5 -1.7**
FUL **Funchal** **79.79** **58** *e*P **P** **07 27 59.1 +1.2**
comp=Z,401nm,2.1s
ASAJ **Asahikawa** **79.80** **315** P **P** **07 27 56.5 -1.2**
comp=Z,11nm,0.9s,baz=258,slow=15,SNR=6.3
ASAJ **Asahikawa** **79.80** **315** *e*P **P** **07 27 56.7 -1.0**
comp=Z,46nm,1.0s
ASAJ **Asahikawa** **79.80** **315** P **P** **07 27 56.5 -1.2**
ASAJ pmax pmax
comp=Z,16nm,1.0s
SNART **Snartemo** **79.98** **28** *e*P P 07 28 12.3 +14
PMPS **Porto Santo** **80.02** **58** *e*P **P** **07 28 02.0 +2.9**
comp=Z,322nm,1.4s
NC602 **NORSAR Array S** **80.05** **24** *e*P P 07 28 04.3 +5.5
KONO **Kongsberg** **80.07** **26** *e*P **P** **07 27 58.4 -0.4**
comp=Z,379nm,1.6s
KONO LR LR
comp=Z,132µm,21.0s
KONO **Kongsberg** **80.07** **26** *e*P **P** **07 27 58.9 0.0**
KONO *e*S **S** **07 38 04.5 +1.5**
KONO IVMs_BB IVMs_BB 08 00 44.5
comp=Z,36µm,20.5s
KONO **Kongsberg** **80.07** **26**⇑ *e*P **P** **07 27 58.6 -0.2**
KONO pmax pmax
comp=Z,266nm,1.7s
KONO MLR MLR
comp=Z,115µm,18.0s
OSL **Oslo** **80.30** **25** *e*P P 07 28 14.3 +14
OSL IVMs_BB IVMs_BB 08 00 35.1
comp=Z,61µm,18.4s
ERM **Erimo** **80.50** **313** *e*P **P** **07 28 01.2 -0.4**
comp=Z,190nm,1.1s
ERM LR LR
comp=Z,18µm,21.0s
ERM **Erimo** **80.50** **313***c i*P **P** **07 28 00.6 -0.9**
ERM pmax pmax
comp=Z,166nm,1.7s
ERM MLR MLR
comp=Z,12µm,21.0s
HOMB **Homborsund** **80.55** **27** *e*P P 07 28 07.3 +5.8
HOMB IVMs_BB IVMs_BB 08 01 08.1
comp=Z,55µm,16.9s
LVZ **Lovozero** **80.60** **12** *e*P **P** **07 28 00.8 -0.8**
comp=Z,148nm,1.1s
LVZ LR LR
comp=Z,72µm,18.0s
LVZ **Lovozero** **80.60** **12***de*P **P** **07 28 00.7 -1.0**
LVZ pmax pmax
comp=Z,114nm,1.7s
LVZ MLR MLR
comp=Z,69µm,18.0s
APA **Apatity** **80.66** **12**⇑ *i*P **P** **07 28 00.8 -1.1**
APA *i* 07 28 06.0
APA *i* 07 31 05.0
APA *i* PPP PPP 07 33 01.0
APA *i* S **S** **07 38 02.0 -7.0**
APA *i* PS **PnS** **07 39 00.0 +5.8**
APA pmax pmax
comp=Z,17nm,1.1s
NRIK **Noril'sk** **80.95** **353** LR LR 08 04 45.4
comp=Z,7µm,21.4s,baz=62,slow=36
MSVF **Nonsavu** **80.98** **244** PFAKE 07 28 10.0 +5.5
MSVF LR LR
comp=Z,47µm,20.0s
MSVF **Nonsavu** **80.98** **244**⇓ *e*P **P** **07 28 04.5 0.0**
HFS **Hagfors** **81.24** **24** P **P** **07 28 04.4 -0.7**
comp=Z,14nm,0.9s,baz=273,slow=2.5,SNR=15
HFS LR LR 08 04 12.8
comp=Z,98µm,20.9s,baz=305,slow=36
PGAV **Gavieira, Arco** **81.26** **47** *e*P **P** **07 28 10.0 +4.2**
comp=Z,207nm,1.9s
PGAV **Gavieira, Arco** **81.26** **47** *e*SKS SKSac 07 38 37.6 +12
PCAB **Cabril** **81.55** **47** *e*P **P** **07 28 08.7 +1.5**
comp=Z,315nm,1.6s
CLNS **Chul'man** **81.63** **332** *e*P **P** **07 28 06.0 -1.4**
CLNS *e* 07 28 13.5
CLNS *e* 07 31 09.9
CLNS *e*PPP PPP 07 33 04.1
CLNS *e*S **S** **07 38 16.0 -3.6**
CLNS pmax pmax
comp=Z,17nm,1.0s
CLNS pmax pmax
comp=N,8.0nm,1.2s
CLNS pmax pmax
comp=E,12nm,1.1s
CLNS pmax pmax
comp=N,17nm,1.2s
CLNS pmax pmax
comp=E,17nm,1.3s
CLNS pmax pmax
comp=Z,14nm,1.1s
CLNS smax smax
comp=N,2µm,13.4s
CLNS smax smax
comp=E,3µm,14.1s
CLNS MLR MLR
comp=N,12µm,18.0s
CLNS MLR MLR
comp=E,12µm,16.0s
CLNS MLR MLR
comp=Z,9µm,15.0s
RCBR **Riachuelo** **81.69** **101** PFAKE 07 28 20.0 +12
RCBR LR LR
comp=Z,213µm,19.0s
POLO **Lamas de Olo** **81.87** **47** *e*P **P** **07 28 04.7 -4.3**
comp=Z,206nm,1.8s
POLO **Lamas de Olo** **81.87** **47** *e*SKS SKSac 07 38 44.3 +15
SPB **Sao Paulo** **81.93** **122** *e*P **P** **07 28 08.7 -0.6**
comp=Z,329nm,1.4s
SPB LR LR
comp=Z,150µm,20.0s
TRQA **Tornquist** **81.96** **142** *e*P **P** **07 28 07.0 -2.1**
comp=Z,125nm,1.0s
TRQA LR LR
comp=Z,112µm,21.0s
PVRL **Vila Real** **81.97** **47** *e*P **P** **07 28 11.9 +2.4**
comp=Z,475nm,1.6s
MUD **Monsted U'grnd** **82.02** **28** *i*P **P** **07 28 11.4 +2.1**
comp=Z,163µm,19.0s
MUD **Monsted U'grnd** **82.02** **28** *e*P **P** **07 28 11.4 +2.1**
MUD MLR MLR
comp=Z,160µm,19.0s
PCAS **Casmilo, Conde** **82.10** **49** *e*P **P** **07 28 14.6 +4.5**
comp=Z,494nm,2.1s
PCAS **Casmilo, Conde** **82.10** **49** *e*SKS **SKSac** **07 38 40.7 +10**
PMAFR **Mafra** **82.14** **50** *e*P P 07 28 15.5 +5.2
comp=Z,421nm,1.4s
PMAFR **Mafra** **82.14** **50** *e*SKS SKSac 07 38 44.0 +13
PVIS **Viseu** **82.15** **48** *e*P **P** **07 28 14.3 +3.9**
comp=Z,381nm,2.0s
PMST **Lisbon--Monsan** **82.32** **50** *e*P **P** **07 28 15.1 +3.9**
comp=Z,426nm,2.2s
PBRG **Braganca** **82.32** **46** *e*P **P** **07 28 15.1 +3.8**
comp=Z,474nm,1.9s
PBRG **Braganca** **82.32** **46** *e*SKS SKSac 07 38 44.3 +12
LIS **Lisbon** **82.35** **50** *e*P **P** **07 28 11.6 +0.2**
LIS AMb AMB 07 28 35.0
comp=Z,668nm,1.5s
LIS *e*S **S** **07 38 28.6 +1.0**
LIS **Lisbon** **82.35** **50** *e*P **P** **07 28 11.6 +0.2**
LIS *e*S **S** **07 38 28.5 +1.0**
LIS pmax pmax
comp=Z,668nm,1.5s
PTOM **Tomar** **82.38** **49** *e*P **P** **07 28 13.8 +2.2**
comp=Z,726nm,1.9s
MVO **Moncorvo** **82.47** **47** *e*P **P** **07 28 13.9 +1.8**
comp=Z,831nm,2.0s
MVO **Moncorvo** **82.47** **47** *e*SKS SKSac 07 38 45.1 +12
ALMR **Almeirim** **82.51** **49** *e*P **P** **07 28 12.7 +0.5**
ALMR AMb AMB 07 28 35.0
comp=Z,753nm,1.9s
ALMR *e*S **S** **07 38 30.0 +0.9**
ALMR **Almeirim** **82.51** **49** *e*P **P** **07 28 14.5 +2.3**
comp=Z,753nm,2.0s
ALMR **Almeirim** **82.51** **49** *e*P **P** **07 28 12.7 +0.5**
ALMR *e*S **S** **07 38 30.0 +0.9**
ALMR pmax pmax
comp=Z,753nm,2.0s
SACV **Santiago Islan** **82.51** **77** PFAKE 07 28 20.0 +7.3
SACV LR LR
comp=Z,65µm,20.0s
MTE **Manteigas** **82.54** **48** *e*P **P** **07 28 14.3 +1.8**
comp=Z,525nm,2.2s
MTE **Manteigas** **82.54** **48** *e*SKS SKSac 07 38 48.1 +14
MTE **Manteigas** **82.54** **48** *e*P **P** **07 28 11.1 -1.4**
comp=Z,900nm,1.9s
MTE LR LR
comp=Z,188µm,20.0s
ZEA **Zeya** **82.62** **329** *e*P **P** **07 28 11.8 -0.7**
ZEA *e* 07 39 34.0
ZEA pmax pmax
comp=E,1µm,6.0s
ZEA pmax pmax
comp=Z,3µm,6.0s
ZEA pmax pmax
comp=E,93nm,1.4s
ZEA pmax pmax
comp=Z,410nm,1.8s
ZEA pmax pmax
comp=Z,3µm,10.0s
PMTG **Montargil** **82.79** **49** *e*P **P** **07 28 15.3 +1.6**
comp=Z,646nm,2.1s
PMTG **Montargil** **82.79** **49** *e*SKS SKSac 07 38 48.2 +13
PCBR **Castelo Branco** **82.88** **48** *e*P **P** **07 28 14.7 +0.6**
comp=Z,527nm,1.9s
TEY **Ternei** **82.94** **318** *e*P **P** **07 28 12.0 -2.4**
PNCL **Nicolau / Gran** **83.08** **50** *e*P **P** **07 28 16.7 +1.5**
comp=Z,500nm,2.1s
PNCL **Nicolau / Gran** **83.08** **50** *e*SKS SKSac 07 38 53.7 +16
PNCL *e*SS SS 07 44 12.5 +14
PMRV **Marv??o** **83.15** **49** *e*P **P** **07 28 17.4 +1.8**
comp=Z,835nm,1.9s
PMRV **Marv??o** **83.15** **49** *e*SKS SKSac 07 38 53.7 +16
EVO **Evora** **83.21** **50** *e*P **P** **07 28 14.5 -1.4**
comp=Z,553nm,2.0s
KLR **Kul'dur** **83.21** **323** P **P** **07 28 14.5 -1.2**
comp=Z,0.7nm,0.9s,baz=24,slow=4.2,SNR=18
KLR **Kul'dur** **83.21** **323***d i*P **P** **07 28 13.8 -1.9**
PTEO **Sao Teotonio** **83.24** **51** *e*P **P** **07 28 16.9 +0.8**
comp=Z,708nm,2.2s
PESTR **Estremoz** **83.31** **49** *e*P **P** **07 28 18.0 +1.5**
comp=Z,599nm,2.0s
PESTR **Estremoz** **83.31** **49** *e*S S 07 38 55.3 +18
PESTR *e*SS **SS** **07 44 11.2 +10**
PESTR **Estremoz** **83.31** **49** *e*P **P** **07 28 15.0 -1.5**
comp=Z,546nm,1.8s
PESTR LR LR
comp=Z,121µm,19.0s
PFVI **Vila Bisbo** **83.38** **51** *e*P **P** **07 28 18.9 +2.1**
comp=Z,541nm,2.0s
PFVI **Vila Bisbo** **83.38** **51** *e*S S 07 38 59.8 +22
PFVI **Vila Bisbo** **83.38** **51** PFAKE 07 28 30.0 +13
PFVI LR LR
comp=Z,187µm,19.0s
MORF **Marmelete** **83.41** **51** *e*P **P** **07 28 17.1 +0.1**
MORF AMb AMB 07 28 39.2
comp=Z,493nm,2.6s
MORF *e*S **S** **07 38 38.6 0.0**
MORF **Marmelete** **83.41** **51** *e*P **P** **07 28 19.9 +2.9**
comp=Z,492nm,2.1s
MORF **Marmelete** **83.41** **51** *e*S S 07 38 56.9 +18
MORF **Marmelete** **83.41** **51** *e*P **P** **07 28 17.1 +0.1**
MORF *e*S **S** **07 38 38.5 0.0**
MORF pmax pmax
comp=Z,493nm,2.6s
UCC **Uccle** **83.46** **35** ⇑P **P** **07 28 18.4 +1.4**
UCC **Uccle** **83.46** **35** PFAKE 07 28 30.0 +13
UCC LR LR
comp=Z,216µm,18.0s
PBEJ **Beja** **83.57** **50** *e*P **P** **07 28 19.6 +1.8**
comp=Z,262nm,2.0s
SNF **Seneffe** **83.60** **35** ⇑P **P** **07 28 18.9 +1.2**
comp=Z,206nm,2.2s
PCVE **Castro Verde** **83.66** **50** *e*P **P** **07 28 21.7 +3.5**
comp=Z,556nm,2.0s
PCVE **Castro Verde** **83.66** **50** *e*S S 07 39 02.7 +22
COP **Copenhagen** **83.88** **28**⇑ *i*P P 07 28 24.6 +5.6
comp=Z,79µm,20.0s
COP **Copenhagen** **83.88** **28**⇑ *i*P P 07 28 24.6 +5.6
COP MLR MLR
comp=Z,79µm,20.0s
PBDV **Barranco-do-Ve** **83.94** **51** *e*P **P** **07 28 22.7 +3.0**
comp=Z,521nm,2.1s
PBDV **Barranco-do-Ve** **83.94** **51** *e*S S 07 39 03.6 +20
PVAQ **Vaqueiros** **84.00** **51** *e*P **P** **07 28 24.2 +4.2**
comp=Z,379nm,2.1s
PVAQ **Vaqueiros** **84.00** **51** *e*S S 07 39 00.5 +16
PVAQ *e*SS SS 07 44 23.9 +12
PVAQ *e*LR LR 07 56 23.2
comp=Z,137µm,22.0s
DOU **Dourbes** **84.02** **35** ⇑P **P** **07 28 19.2 -0.6**
comp=Z,164nm,2.3s
LLD **Lille Linde** **84.04** **28** *i*P **P** **07 28 20.8 +1.0**
LLD **Lille Linde** **84.04** **28** *e*P **P** **07 28 20.8 +1.0**
PBAR **Barrancos** **84.05** **50** *e*P **P** **07 28 22.9 +2.7**
comp=Z,958nm,2.0s
PBAR **Barrancos** **84.05** **50** *e*S S 07 39 00.0 +15
PBAR *e*SS **SS** **07 44 21.1 +8.7**
BEBN **Eben Emael** **84.11** **34** ⇑P **P** **07 28 22.1 +1.9**
FIA0 **FINESS Array S** **84.16** **18** *e*P **P** **07 28 19.2 -1.1**
FIA0 **FINESS Array S** **84.16** **18** *e*P **P** **07 28 19.2 -1.1**
FIA1 **FINESS Array S** **84.16** **18** *e*P **P** **07 28 19.5 -0.8**
FINES **FINESS Array B** **84.16** **18** P **P** **07 28 19.2 -1.1**
comp=Z,14nm,0.8s,baz=29,slow=4.4,SNR=29
FINES LR LR 08 06 46.6
comp=Z,97µm,19.1s,baz=314,slow=36
BCLA **Clavier** **84.17** **34** ⇑P **P** **07 28 19.9 -0.6**
comp=Z,182nm,2.0s
MEM **Membach** **84.39** **34** ⇑P **P** **07 28 21.8 +0.1**
comp=Z,112nm,2.2s
TMCR **Tamitsa** **84.57** **12** *e*P **P** **07 28 20.6 -1.7**
TMCR pmax pmax
comp=Z,50nm,1.0s
RAO **Raoul Island** **84.65** **233** PFAKE 07 28 30.0 +6.8
RAO LR LR
comp=Z,28µm,18.0s
RGN **Rugen** **85.05** **28** PFAKE 07 28 40.0 +15
RGN LR LR
comp=Z,102µm,18.0s
BOD **Bodaibo** **85.07** **337** *e*P **P** **07 28 22.9 -2.1**
BOD pmax pmax
comp=Z,185nm,1.9s
WLF **Walferdange** **85.07** **35** ⇓P **P** **07 28 26.4 +1.2**
WLF **Walferdange** **85.07** **35** PFAKE 07 28 40.0 +15
WLF LR LR
comp=Z,194µm,20.0s
PAB **San Pablo** **85.07** **47** PFAKE 07 28 40.0 +15
PAB LR LR
comp=Z,180µm,20.0s
ESDC **Sonseca Array** **85.25** **47** P **P** **07 28 25.2 -1.1**
comp=Z,8.0nm,1.0s,baz=310,slow=5.7,SNR=12
ESDC LR LR 08 06 28.3
comp=Z,163µm,18.3s,baz=290,slow=36
ESLA **Sonseca Array** **85.25** **47** PFAKE 07 28 40.0 +14
ESLA LR LR
comp=Z,202µm,18.0s
ES19 **SONSECA Array** **85.27** **47** *e*P **P** **07 28 25.1 -1.3**
BSD **Bornholm Skovb** **85.29** **27** *i*P P 07 28 31.2 +5.1
BSD *e* 07 29 00.9
comp=Z,127µm,19.0s
BSD **Bornholm Skovb** **85.29** **27** *e*P P 07 28 31.2 +5.1
BSD MLR MLR
comp=Z,130µm,19.0s
PATS **Pohnpei** **85.49** **275** PFAKE 07 28 40.0 +12
PATS LR LR
comp=Z,39µm,22.0s
SFS **San Fernando** **85.52** **51** PFAKE 07 28 40.0 +12
SFS LR LR
comp=Z,98µm,19.0s
USRK **Ussuriysk Ar.** **86.11** **319** P **P** **07 28 28.7 -1.7**
comp=Z,13nm,1.0s,baz=64,slow=4.4,SNR=11
RTC **Rabat Centre** **86.40** **53** PFAKE 07 28 40.0 +8.0
RTC LR LR
comp=Z,548µm,21.0s
ECH **Echery** **86.51** **35** *e*P **P** **07 28 30.9 -1.5**
comp=Z,64nm,1.3s
ECH LR LR
comp=Z,247µm,18.0s
ECH **Echery** **86.51** **35** *e*P **P** **07 28 30.9 -1.5**
ECH pmax pmax
comp=Z,64nm,1.3s
ECH MLR MLR
comp=Z,247µm,18.0s
MJAR **Matsushiro Arr** **86.65** **310** P **P** **07 28 31.6 -1.7**
comp=Z,11nm,0.9s,baz=44,slow=3.1,SNR=23
MJAR LR LR 08 02 35.4
comp=Z,7µm,20.1s,baz=75,slow=32
MAJO **Matsushiro** **86.66** **310** *e*P **P** **07 28 32.1 -1.2**
comp=Z,133nm,1.2s
MAJO **Matsushiro** **86.66** **310***d i*P **P** **07 28 31.3 -2.0**
MAJO pmax pmax
comp=Z,40nm,1.1s
MAT **Matsushiro** **86.66** **310** P **P** **07 28 32.0 -1.3**
MAT S **S** **07 39 11.0 +0.4**
MJB9 **Matsu-Tunnel** **86.66** **310** *e*P **P** **07 28 32.0 -1.3**
comp=Z,130nm,1.2s
PUL **Pulkovo** **86.72** **18**⇑ *e*P **P** **07 28 34.5 +1.4**
PUL MLR MLR
comp=Z,95µm,21.0s
VSU **Vasula** **86.81** **20**⇑ *e*P **P** **07 28 32.2 -1.3**
VSU pmax pmax
comp=Z,41nm,1.0s
VSU MLR MLR
comp=Z,279µm,20.0s
SSB **Saint Sauveur** **87.01** **39** *e*pP **pP** **07 28 42.8 +4.6**
SSB LR LR
comp=Z,199µm,19.0s
SSB **Saint Sauveur** **87.01** **39** *e*P P 07 28 42.8 +7.9
SSB MLR MLR
comp=Z,199µm,19.0s
BFO **Black Forest** **87.03** **35** *e*P **P** **07 28 33.2 -1.7**
comp=Z,88nm,1.3s
BFO LR LR
comp=Z,210µm,19.0s
BFO **Black Forest** **87.03** **35** *i*P **P** **07 28 37.1 +2.2**
STU **Stuttgart** **87.16** **34** PFAKE 07 28 50.0 +14
STU LR LR
comp=Z,204µm,19.0s
CLL **Collm** **87.20** **31** *e*P **P** **07 28 36.0 +0.4**
CLL *e* 07 28 44.0
CLL *i* Pmax 07 28 54.9
comp=Z,102nm,1.5s
CLL *i* PP PP 07 32 08.6 +10
comp=Z,553nm,3.0s
CLL *e*PPlp 07 32 28.0
comp=Z,2µm,10.7s
CLL *e*S **S** **07 39 21.0 +5.7**
comp=N,12µm,15.1s
CLL *e*S **S** **07 39 21.0 +5.7**
comp=E,10µm,18.6s
CLL *e*S **S** **07 39 21.0 +5.7**
comp=Z,4µm,15.0s
CLL *e*SP **SPn** **07 40 24.0 +11**
CLL *e*SS **SS** **07 45 06.0 +8.2**
CLL *e*SSSS 07 51 42.0
CLL LmV 08 10 00.0
comp=Z,156µm,18.4s
CLL **Collm** **87.20** **31** PFAKE 07 28 50.0 +14
CLL LR LR
comp=Z,156µm,19.0s
CLL **Collm** **87.20** **31** *e*P **P** **07 28 36.0 +0.4**
CLL pmax pmax
comp=Z,102nm,1.5s
CLL MLR MLR
comp=Z,156µm,18.4s
MDJ **Mudanjiang** **87.21** **321** P **P** **07 28 36.3 +0.5**
MDJ pP sP 07 28 47.6 +7.3
MDJ sP pP 07 28 49.3 +10
MDJ PP **PP** **07 31 57.6 -1.4**
MDJ S **S** **07 39 11.6 -4.0**
MDJ sS pS 07 39 19.8 -0.1
MDJ SS **SS** **07 44 55.6 -2.8**
MDJ pmax pmax
comp=Z,2µm,5.3s
MDJ LR LR
comp=Z,10µm,23.9s
MDJ LR LR
comp=Z,9µm,23.9s
MDJ LR LR
comp=Z,25µm,33.4s
JHJ **Hachijo jima 2** **87.44** **307** LR LR 08 00 21.1
comp=Z,6µm,22.0s,baz=68,slow=31
GRFO **Grafenberg** **87.51** **32** PFAKE 07 28 50.0 +13
GRFO LR LR
comp=Z,162µm,20.0s
GKP **Gorka Klasztor** **87.57** **27** *e*P P 07 28 47.4 +10
GKP LMZ LR 08 05 56.2
comp=Z,148µm,21.5s
GKP **Gorka Klasztor** **87.57** **27** *e*P P 07 28 47.4 +10
NKC **Novy Kostel** **87.70** **32** *e*S **S** **07 39 26.1 +5.8**
NKC *ex* x 07 45 24.5
NKC AMS AMS 08 10 30.0
comp=Z,147µm,17.9s
NKC **Novy Kostel** **87.70** **32** *e*P P 07 28 47.3 +9.2
NKC *e*S **S** **07 39 26.1 +5.8**
NKC MLR MLR
comp=Z,147µm,17.9s
KLNR **Kaliningrad** **87.71** **25**⇑ *e*P **P** **07 28 37.2 -0.8**
KLNR pmax pmax
comp=Z,17nm,0.6s
KLNR MLR MLR
comp=Z,93µm,20.0s
KLMR **Klimovskoe** **87.88** **13** *e*P **P** **07 28 36.5 -2.2**

KLMR AMP 07 28 52.8
comp=Z,53nm,1.5s
KLMR ePP **07 32 02.9 -0.9**
KLMR eS **SKSac 07 39 04.7 -2.2**
KLMR eS **SKSac 07 39 04.7 -2.2**
KLMR eSSS SSS 07 48 46.7
KLMR eSSS SSS 07 48 46.7
KLMR LQ LQ 08 01 04.9
KLMR LQ LQ 08 01 04.9
KLMR LR LR 08 06 12.7
KLMR AMP 08 07 18.4
comp=Z,9μm,17.7s
KLMR Klimovskoe 87.88 13 eP **P 07 28 36.4 -2.2**
KLMR e 07 32 02.9
KLMR eS **SKSac 07 39 04.6 -2.3**
KLMR eSSS SSS 07 48 46.6
KLMR pmax pmax
comp=Z,53nm,1.5s
KLMR MLR MLR
comp=Z,9μm,18.0s
BRG Berggiesshubel 87.93 30 *i* P **P 07 28 39.8 +0.7**
comp=Z,11nm,1.1s
BRG *i* 07 28 48.3
comp=Z,72nm,1.6s
BRG *i* 07 28 59.4
comp=Z,138nm,1.6s
BRG ePP **PP 07 32 11.4 +6.9**
comp=Z,179nm,2.1s
BRG S **S 07 39 28.0 +5.7**
BRG SS **SS 07 45 12.0 +3.6**
comp=N,114μm,19.8s
comp=E,118μm,17.6s
comp=Z,117μm,18.6s
BRG Berggiesshubel 87.93 30 *i* P **P 07 28 39.8 +0.7**
BRG *i* 07 28 48.3
BRG *e* 07 32 11.4
BRG S **S 07 39 28.0 +5.7**
BRG SS **SS 07 45 12.0 +3.6**
BRG pmax pmax
comp=Z,179nm,2.1s
BRG MLR MLR
comp=N,114μm,19.8s
BRG MLR MLR
comp=E,118μm,17.6s
BRG MLR MLR
comp=Z,117μm,18.6s
BNI Bardonecchia 88.32 38 PFAKE 07 28 50.0 +8.7
BNI LR LR
comp=Z,161μm,21.0s
CART Cartagena 88.34 47 PFAKE 07 28 50.0 +8.7
CART LR LR
comp=Z,113μm,19.0s
PVCC Panska Ves 88.45 30 eS **S 07 39 30.0 +2.7**
PVCC AMS AMS 08 11 10.0
comp=Z,119μm,17.9s
DAVA Damuels 88.50 35 pP P 07 28 50.0 +7.9
comp=Z,36nm,1.2s
BBTS Babate 88.67 74 LR LR 08 04 11.4
comp=Z,203μm,21.9s,baz=288,slow=33
PRA Prague 88.72 31 eP P 07 28 48.5 +5.6
PRA ex x 07 29 21.0
PRA eS **S 07 39 32.7 +2.9**
PRA ex x 07 45 33.9
PRA AMS AMS 08 09 30.0
comp=Z,132μm,16.9s
PRA Prague 88.72 31 eP P 07 28 48.5 +5.6
PRA eS **S 07 39 32.7 +2.9**
PRA MLR MLR
comp=Z,132μm,16.9s
TUE Stuetta 88.78 36 PFAKE 07 28 50.0 +6.4
TUE LR LR
comp=Z,334μm,20.0s
RETA Reutte 88.81 34 *i* pP **P 07 28 48.0 +4.5**
comp=Z,73nm,1.7s
PRU Pruhonice 88.83 31 eP **P 07 28 48.2 +4.8**
PRU ex x 07 29 21.8
PRU eS **S 07 39 32.8 +1.9**
PRU ex x 07 45 35.5
PRU AMS AMS 08 09 40.0
comp=Z,123μm,16.8s
PRU Pruhonice 88.83 31 eP **P 07 28 48.2 +4.8**
PRU eS **S 07 39 32.8 +1.9**
PRU MLR MLR
comp=Z,123μm,16.8s
CBIJ Chichi jima 88.91 300 PFAKE 07 28 50.0 +5.8
CBIJ LR LR
comp=Z,17μm,22.0s
JCJ Chichijima 88.91 300 LR LR 08 00 06.4
comp=Z,14μm,21.9s,baz=66,slow=30
KSP Ksiaz 88.97 29 eP **P 07 28 45.6 +1.5**
KSP eS **S 07 39 25.7 -6.5**
KSP LMZ LR 08 07 03.0
comp=Z,136μm,18.7s
KSP Ksiaz 88.97 29 eP **P 07 28 45.6 +1.5**
GOPC GO Pecny, Ondr 88.99 31 eP P 07 28 50.0 +5.8
GOPC ex x 07 29 20.3
GOPC eS **S 07 39 32.5 0.0**
GOPC ex x 07 45 39.1
GOPC AMS AMS 08 09 30.0
comp=Z,119μm,17.5s
GOPC GO Pecny, Ondr 88.99 31 eP P 07 28 50.0 +5.8
GOPC eS **S 07 39 32.5 0.0**
GOPC MLR MLR
comp=Z,119μm,17.5s
KHC Kasperske Hory 89.00 32 ex P 07 28 52.9 +8.6
KHC ex x 07 29 03.5
KHC ex x 07 29 20.7
KHC eS **S 07 39 37.2 +4.5**
KHC ex x 07 45 39.9
KHC AMS AMS 08 09 50.0
comp=Z,176μm,18.1s
KHC Kasperske Hory 89.00 32 PFAKE 07 28 50.0 +5.7
KHC LR LR
comp=Z,72μm,20.0s
KHC Kasperske Hory 89.00 32 eP P 07 28 52.9 +8.6
KHC eS **S 07 39 37.2 +4.5**
KHC MLR MLR
comp=Z,176μm,18.1s
MOTA Moosalm 89.07 34 *i* pP P 07 28 50.3 +5.4
comp=Z,134nm,1.6s
UPC Upice 89.10 30 eP **P 07 28 45.8 +1.1**
UPC ex x 07 29 22.1
UPC eS **S 07 39 35.2 +1.8**
UPC ex x 07 45 42.1
UPC AMS AMS 08 08 50.0
comp=Z,118μm,16.0s
UPC Upice 89.10 30 eP **P 07 28 45.8 +1.1**
UPC eS **S 07 39 35.2 +1.8**
UPC MLR MLR
comp=Z,118μm,16.0s
FETA Feichten 89.11 35 *i* pP **P 07 28 49.8 +4.8**
comp=Z,14nm,1.1s
IIGN Ignalina 89.21 22 eP **P 07 28 41.0 -4.1**
IIGN IAmb IAmb 07 29 08.7
comp=Z,35nm,1.0s
SUW Suwalki 89.26 24 eP P 07 28 52.4 +7.0
SUW LMZ LR 08 04 38.1
comp=Z,157μm,24.5s
SUW Suwalki 89.26 24 PFAKE 07 29 00.0 +15
SUW LR LR
comp=Z,127μm,19.0s
SUW Suwalki 89.26 24 eP P 07 28 52.4 +7.1
GEC2 GERESS Array S 89.26 32 eP **P 07 28 43.5 -2.2**
comp=Z,80nm,1.5s
GEC2 LR LR
comp=Z,148μm,20.0s
GEC2 GERESS Array S 89.26 32 eP **P 07 28 43.5 -2.2**
GEC2 pmax pmax
comp=Z,80nm,1.5s
GEC2 MLR MLR
comp=Z,148μm,20.0s
GERES GERESS Array B 89.26 32 P **P 07 28 43.5 -2.2**
comp=Z,0.3nm,0.2s,baz=328,slow=4.7,SNR=6.8
GERES LR LR 08 09 35.5
comp=Z,122μm,18.8s,baz=298,slow=36
GEA0 GERESS Array S 89.27 32 eP **P 07 28 42.8 -2.8**
DPC Dobruska-Polom 89.35 30 eP **P 07 28 47.6 +1.7**
DPC ex x 07 29 23.0
DPC eS **S 07 39 36.2 +0.3**
DPC ex x 07 45 42.8
DPC AMS AMS 08 08 00.0
comp=Z,104μm,18.4s
DPC Dobruska-Polom 89.35 30 eP **P 07 28 47.6 +1.7**
DPC eS **S 07 39 36.2 +0.3**
DPC MLR MLR
comp=Z,104μm,18.4s
IDID Didziasalis 89.41 22 eP **P 07 28 41.8 -4.2**
IDID IAmb IAmb 07 29 07.4
comp=Z,14nm,0.5s
KRLC Kraliky 89.75 30 eP **P 07 28 47.7 -0.1**
KRLC ex x 07 45 53.9
KRLC AMS AMS 08 09 20.0
comp=Z,34μm,16.8s
KRLC Kraliky 89.75 30 eP **P 07 28 47.7 -0.1**
KRLC MLR MLR
comp=Z,34μm,16.8s
TREC Trest 89.75 31 AMS AMS 08 11 40.0
comp=Z,143μm,17.4s
NACGM Naroch 89.77 22 eP **P 07 28 51.0 +3.3**
NACGM ePP **PP 07 32 20.0 +1.0**
NACGM ePPP PPP 07 34 26.0
NACGM eS **S 07 39 38.0 -1.4**
NACGM ePS **PnS 07 40 34.0 -11**
NACGM eSS SS 07 45 50.0 +15
NACGM eSSS SSS 07 49 22.0
NACGM eLQ LQ 07 58 38.0
NACGM eLR LR 08 02 38.0
CN2 Changchun 90.01 322 eP **P 07 28 48.4 -0.7**
CN2 esP sP 07 28 55.6 +2.0
CN2 eS **S 07 39 37.7 -4.5**
CN2 LR LR
comp=Z,15μm,18.0s
CN2 LR LR
comp=Z,27μm,18.0s
CN2 LR LR
comp=Z,22μm,17.0s
BEL Belsk 90.07 27 eP P 07 28 56.9 +7.7
BEL LMZ LR 08 07 24.3
comp=Z,144μm,23.2s
BEL Belsk 90.07 27 eP P 07 28 56.9 +7.7
BEL MLR MLR
comp=Z,144μm,23.2s
ABTA Abfaltersbach 90.18 34 *i* pP **P 07 28 54.2 +4.2**
comp=Z,40nm,2.2s
VRAC Vranov 90.24 30⇓ *i* P P 07 28 56.1 +6.0
VRAC Vranov 90.24 30 ⇓P P 07 28 56.1 +6.0
MOA Molln 90.24 32 *i* pP P 07 28 57.0 +6.8
comp=Z,58nm,1.5s
MORC Moravsky Berou 90.30 29⇓ *i* P **P 07 28 48.5 -1.9**
MORC Moravsky Berou 90.30 29 eP **P 07 28 48.6 -1.9**
comp=Z,893nm,1.8s
MORC LR LR
comp=Z,493μm,18.0s
MORC Moravsky Berou 90.30 29 ⇓P **P 07 28 48.5 -1.9**
KBA Koelnbreinsper 90.35 33 *i* pP P 07 28 58.7 +7.9
comp=Z,27nm,1.4s
RAC Raciborz 90.35 29 eP **P 07 28 49.3 -1.2**
RAC *e* 07 39 20.0
RAC MLR MLR
comp=Z,140μm,19.0s
MICGM Minsk 90.46 22 eP **P 07 28 50.0 -0.9**
MICGM ePP PP 07 32 38.0 +13
MICGM ePPP PPP 07 34 35.0
MICGM eSKS **SKSac 07 39 18.0 -4.3**
MICGM eS **S 07 39 44.0 -1.8**
MICGM ePS **PnS 07 40 48.0 -5.0**
MICGM eSS **SS 07 45 44.0 -0.7**
MICGM eSSS SSS 07 49 32.0
MICGM eLQ LQ 07 53 00.0
MICGM LQM 07 54 30.0
comp=N,97nm,24.0s
MICGM LQM 07 54 32.0
comp=E,123nm,22.0s
MICGM eLR LR 07 58 20.0
MICGM LRM MLR 08 09 40.0
comp=N,187nm,22.0s
MICGM LRM MLR 08 09 50.0
comp=E,179nm,24.0s
MICGM LRM MLR 08 09 52.0
comp=Z,230nm,24.0s
MNK Minsk 90.46 22 eP **P 07 28 50.0 -0.9**
MNK *e* 07 39 18.0
MNK eS **S 07 39 44.0 -1.8**
MNK ePS **PnS 07 40 48.0 -5.0**
MNK eSS **SS 07 45 44.0 -0.7**
MNK MLR MLR
comp=E,179μm,24.0s
MNK MLR MLR
comp=N,187μm,22.0s
MNK MLR MLR
comp=Z,230μm,24.0s
OKC Ostrava-Krasne 90.52 29 eP **P 07 28 54.7 +3.4**
OKC ex x 07 29 29.1
OKC eS **S 07 39 40.6 -6.0**
OKC ex x 07 46 03.5
OKC AMS AMS 08 11 00.0
comp=Z,117μm,17.0s
OKC Ostrava-Krasne 90.52 29 eP **P 07 28 54.7 +3.4**
OKC eS **S 07 39 40.6 -6.0**
OKC MLR MLR
comp=Z,117μm,17.0s
VLC Villacollemand 90.89 37 PFAKE 07 29 00.0 +6.8
VLC LR LR
comp=Z,105μm,18.0s
OJC Ojcow 90.92 28 eP **P 07 28 52.4 -0.8**
OJC eS **S 07 39 49.4 -0.9**
OJC LMZ LR 08 06 22.3
comp=Z,67μm,22.7s
OJC Ojcow 90.92 28 eP **P 07 28 52.4 -0.8**
OJC eS **S 07 39 49.4 -0.9**
CONA Conrad Observa 90.92 32 *i* pP **P 07 28 54.2 +0.8**
comp=Z,38nm,1.9s
MODS Modra-Piesok 91.23 31 eP **P 07 28 54.4 -0.3**
MODS Modra-Piesok 91.23 31 eP **P 07 28 54.4 -0.3**
ARSA Arzberg 91.26 32 *i* pP P 07 29 01.2 +6.4
comp=Z,13nm,1.1s
OBKA Obir 91.34 33 *i* pP **P 07 28 58.0 +2.7**
comp=Z,20nm,1.1s
SOKA Soboth 91.45 33 *i* pP **P 07 28 56.5 +0.6**
comp=Z,38nm,1.5s
TRI Trieste 91.53 34 PFAKE 07 29 10.0 +14
TRI LR LR
comp=Z,257μm,19.0s
NIE Niedzica 91.75 28 eP **P 07 28 56.1 -1.0**
NIE LMZ LR 08 05 17.0
comp=Z,32μm,26.0s
NIE Niedzica 91.75 28 eP **P 07 28 56.1 -1.0**
HNR Honiara 91.82 260 LR LR 08 05 50.6
comp=Z,32μm,18.4s,baz=68,slow=33
HNR Honiara 91.82 260 PFAKE 07 29 10.0 +12
HNR LR LR
comp=Z,41μm,20.0s
VYHS Vyhne 91.83 30 eP **P 07 28 57.8 +0.3**
VYHS *e* 07 29 04.2
VYHS Vyhne 91.83 30 eP **P 07 28 57.8 +0.3**
VYHS *e* 07 29 04.2
MOS Moscow 92.13 16 eP P 07 29 08.1 +9.5
MOS eSS SS 07 46 21.1 +12
MOS pmax pmax
comp=Z,700nm,2.0s
MOS pmax pmax
comp=Z,286nm,2.0s
SNY Shenyang 92.36 321 ⇑P **P 07 29 00.2 +0.2**
SNY PP **PP 07 32 45.3 +5.3**
SNY S S 07 39 51.9 -12
SNY pmax pmax
comp=Z,2μm,5.3s
SNY LR LR
comp=Z,15μm,16.5s
SNY LR LR
comp=Z,10μm,23.5s
SNY LR LR
comp=Z,27μm,17.2s
OBN Obninsk 92.43 17 PFAKE 07 29 10.0 +10
OBN LR LR
comp=Z,81μm,18.0s
OBN Obninsk 92.43 17⇓ eP **P 07 28 58.8 -1.2**
OBN *i* 07 32 42.2
OBN pmax pmax
comp=Z,17nm,0.5s
OBN MLR MLR
comp=Z,58μm,17.0s
DZM Mont Dzumac 92.52 246 LR LR 08 05 20.2
comp=Z,30μm,18.4s,baz=69,slow=32
DZM Mont Dzumac 92.52 246 eS **S 07 40 03.7 -2.0**
comp=Z,22μm,30.6s
DZM Mont Dzumac 92.52 246 ePS PS 07 41 20.0 +2.1
comp=Z,23μm,31.6s
DZM Mont Dzumac 92.52 246 eLQ LQ 07 54 29.7
comp=Z,50μm,35.7s
DZM eLR LR 07 58 46.6
comp=Z,64μm,23.4s
DZM Mont Dzumac 92.52 246 PFAKE 07 29 10.0 +8.9
DZM LR LR
comp=Z,39μm,18.0s
KWP Kalwaria Pacla 92.56 27 eP P 07 29 08.0 +7.2
KWP LMZ LR 08 07 39.4
comp=Z,122μm,24.1s
KWP Kalwaria Pacla 92.56 27 eP **P 07 28 59.6 -1.3**
comp=Z,621nm,1.1s
KWP LR LR
comp=Z,666μm,21.0s
KWP Kalwaria Pacla 92.56 27 eP P 07 29 08.0 +7.2
KRAR Krasnoyarsk 92.63 346⇓ eP **P 07 29 02.1 +1.2**
CRVS Cervenica-Dubn 92.63 28 eP **P 07 29 01.5 +0.4**
CRVS *e* 07 29 10.6
CRVS Cervenica-Dubn 92.63 28 eP **P 07 29 01.5 +0.4**
CRVS *e* 07 29 10.6
KSRS Korea Array 92.72 316 P **P 07 29 01.3 -0.4**
comp=Z,13nm,1.0s,baz=59,slow=4.3,SNR=22
KSRS LR LR 08 06 31.2
comp=Z,5μm,21.8s,baz=55,slow=33
KS01 Wonju Array Si 92.72 316 eP **P 07 29 00.9 -0.9**
PSZ Piszkesteto 92.73 29⇓ *i* P P 07 29 06.7 +5.0
PSZ Piszkesteto 92.73 29 eP **P 07 29 00.6 -1.2**
comp=Z,265nm,1.7s
PSZ LR LR
comp=Z,172μm,18.0s
PSZ Piszkesteto 92.73 29 ⇓P P 07 29 06.7 +5.0
IRK Irkutsk 92.87 338 eP **P 07 29 01.4 -0.8**
IRK pmax pmax
comp=Z,366nm,2.6s
LVV L'vov 92.93 26 eP **P 07 29 03.5 +1.0**
LVV eS **S 07 40 13.0 +4.6**
LVV MLR MLR
comp=Z,62μm,19.0s
UZH Uzhgorod 93.18 28 eP **P 07 29 00.0 -3.7**
UZH eS S 07 40 00.0 -11
UZH ePS PS 07 41 55.0 +31
UZH MLR MLR
comp=N,40μm,16.0s
URZ Urewera 93.27 228 PFAKE 07 29 10.0 +6.0
URZ LR LR
comp=Z,29μm,20.0s
INCN Inchon 93.48 316 PFAKE 07 29 20.0 +15
INCN LR LR
comp=Z,11μm,20.0s
VSL Villasalto 93.49 41 PFAKE 07 29 20.0 +15
VSL LR LR
comp=Z,93μm,20.0s
JNU Nakatsue 93.54 311 P **P 07 29 06.4 +0.7**
comp=Z,13nm,0.9s,baz=53,slow=5.6,SNR=4.0
JNU Nakatsue 93.54 311 eP **P 07 29 04.3 -1.4**
comp=Z,54nm,1.1s
TLY Talaya 93.56 338 eP **P 07 29 05.1 -0.3**
comp=Z,161nm,1.6s
TLY LR LR
comp=Z,21μm,20.0s
TLY Talaya 93.56 338 pP **P 07 29 05.9 +0.5**
SNR=23
TLY Talaya 93.56 338 P **P 07 29 05.9 +0.5**
SNR=23
TLY Talaya 93.56 338 eP **P 07 29 04.5 -0.9**
TLY pmax pmax
comp=Z,57nm,1.5s
EFI East Falkland 93.59 149 PFAKE 07 29 10.0 +4.8
EFI LR LR
comp=Z,107μm,19.0s
AQU L'Aquila 93.73 37 PFAKE 07 29 20.0 +14
AQU LR LR
comp=Z,139μm,19.0s
TJN Taejon 93.75 315⇑ eP **P 07 29 05.8 -0.7**
GUMO Guam 93.75 288 LR LR 08 03 04.4
comp=Z,33μm,21.8s,baz=62,slow=30
GUMO Guam 93.75 288 PFAKE 07 29 20.0 +13
GUMO LR LR
comp=Z,40μm,22.0s
BLY Banja Luka 93.89 33 PFAKE 07 29 20.0 +13
BLY LR LR
comp=Z,203μm,20.0s
OUZ Omahuta 93.94 232 PFAKE 07 29 20.0 +13
OUZ LR LR
comp=Z,24μm,18.0s
AK11 Malin Array Si 94.09 23 eP **P 07 29 05.2 -2.6**
AKASG Malin Array Be 94.09 23 P **P 07 29 05.2 -2.6**
comp=Z,0.7nm,0.4s,baz=329,slow=3.8,SNR=11
AKASG LR LR 08 13 11.6
comp=Z,84μm,18.1s,baz=305,slow=37
AKBB Malin Array Si 94.09 23 eP **P 07 29 06.1 -1.7**
comp=Z,256nm,1.9s
AKBB Malin Array Si 94.09 23 eP **P 07 29 06.1 -1.7**
AKBB pmax pmax
comp=Z,255nm,1.9s
KIEV Kiev 94.09 23 eP **P 07 29 05.7 -2.2**
comp=Z,214nm,1.8s
KIEV LR LR
comp=Z,116μm,19.0s
KIEV Kiev 94.09 23⇓ eP **P 07 29 06.1 -1.7**
KIEV pmax pmax
comp=Z,13nm,1.5s
KIEV MLR MLR
comp=Z,97μm,17.0s
BKZ Black Stump Fm 94.18 227 PFAKE 07 29 20.0 +12
BKZ LR LR
comp=Z,36μm,19.0s
MOY Mondy 94.41 339 eP **P 07 29 08.2 -1.2**
MOY pmax pmax
comp=Z,85nm,2.2s
SVE Sverdlovsk 94.51 3 eP **P 07 29 06.7 -2.9**
SVE *e* 07 32 59.5
SVE eS **SKSac 07 39 38.8 -6.1**
SVE eSS **SS 07 46 40.2 -2.3**
SVE eSSS SSS 07 50 29.1
SVE pmax pmax
comp=Z,133nm,2.2s
SVE MLR MLR
comp=Z,61μm,20.0s
SVE MLR MLR
comp=N,41μm,22.0s
SVE MLR MLR
comp=E,42μm,23.0s
SIRR Siria 94.77 30⇓ *i* P **P 07 29 07.0 -4.1**
ARU Arti 94.78 5 P **P 07 29 10.2 -0.7**
comp=E,4.8nm,0.2s,baz=346,slow=2.9,SNR=13
ARU LR LR 08 15 19.2
comp=E,48μm,20.6s,baz=121,slow=38
ARU Arti 94.78 5 eP **P 07 29 10.1 -0.7**
comp=E,338nm,1.8s
ARU LR LR
comp=Z,64μm,21.0s
ARU Arti 94.78 5*d i* P **P 07 29 09.4 -1.4**
ARU 07 32 58.3
ARU S **SKSac 07 39 44.9 -1.4**
ARU PS **PS 07 41 48.4 +7.7**
ARU SS **SS 07 46 48.7 +2.3**
ARU pmax pmax
comp=Z,28nm,1.2s
ARU pmax pmax
comp=Z,403nm,7.2s
ARU MLR MLR
comp=Z,82μm,25.0s
ZAK Zakamensk 94.78 338 eP **P 07 29 08.3 -2.9**
ZAK pmax pmax
comp=Z,42nm,1.6s
DRGR 94.81 29⇑ *i* P **P 07 29 15.9 +4.6**
DRGR 94.81 29 ⇑P **P 07 29 15.9 +4.6**
BUR08 Bucovina Ar. S 95.14 27 eP **P 07 29 11.2 -1.7**
BUR04 Bucovina Ar. S 95.17 27 eP **P 07 29 11.0 -1.9**
BURAR Bucovina Array 95.17 27⇑ *i* P **P 07 29 14.0 +1.0**
BURAR Bucovina Array 95.17 27 ⇑P **P 07 29 14.0 +1.0**
BFZ Birch Farm 95.18 226 PFAKE 07 29 20.0 +7.2
BFZ LR LR
comp=Z,44nm,19.0s
ARCR ARCALIA 95.25 28⇓ *i* P P 07 29 20.0 +6.8
BZS Buzias 95.26 30⇓ *i* P **P 07 29 17.0 +3.7**
BZS Buzias 95.26 30 ⇓P **P 07 29 17.0 +3.7**
LPSR Galich'ya Gora 95.31 17 eP **P 07 29 11.8 -1.5**
LPSR pmax pmax
comp=Z,8.0nm,0.6s
LPSR MLR MLR
comp=Z,106μm,19.0s
DL2 Dalian 95.44 320 P P 07 29 27.2 +13
DL2 Dalian 95.44 320 SKS SKSac 07 40 01.8 +11

NVS Novosibirsk 95.48 351 eP P 07 29 12.6 -1.5
NVS e 07 39 50.2
NVS pmax pmax
comp=Z,226nm,2.3s
NVS pmax pmax
comp=N,53nm,2.0s
NVS pmax pmax
comp=E,64nm,2.0s
ULN Ulaanbaatar 95.54 334 eP P 07 29 14.7 -0.1
comp=E,141nm,1.7s
ULN LR LR
comp=Z,24μm,20.0s
ULN Ulaanbaatar 95.54 334 pP P 07 29 15.1 +0.4
SNR=20
ULN Ulaanbaatar 95.54 334 P P 07 29 15.1 +0.4
SNR=20
ULN Ulaanbaatar 95.54 334 deP P 07 29 13.9 -0.8
ULN pmax pmax
comp=Z,16nm,1.1s
ULN MLR MLR
comp=Z,29μm,23.0s
DIVS Divibare 95.70 32 PFAKE 07 29 30.0 +15
DIVS LR LR
comp=Z,178μm,19.0s
SONA1 Songino Array 95.81 334 eP P 07 29 15.4 -0.5
SONA0 Songino Array 95.82 334 eP P 07 29 15.7 -0.2
SONM Songino Array 95.82 334 P P 07 29 15.7 -0.2
comp=Z,6.4nm,0.9s,baz=32,slow=3.6,SNR=26
SONM LR LR 08 14 31.0
comp=Z,25μm,21.9s,baz=22,slow=37
KEST Kesra 95.98 44 P P 07 29 16.2 -0.7
comp=Z,4.9nm,1.1s,baz=281,slow=5.7,SNR=2.5
KEST LR LR 08 09 57.6
comp=Z,160μm,21.7s,baz=267,slow=34
KEST Kesra 95.98 44 eP P 07 29 16.2 -0.7
comp=Z,260nm,1.8s
KEST LR LR
comp=Z,169μm,21.0s
ZAA1 Zalesovo Array 96.10 349 eP P 07 29 15.6 -1.4
ZAA0 Zalesovo Array 96.10 349 eP P 07 29 15.6 -1.3
comp=Z,130nm,1.8s
ZAA0 LR LR
comp=Z,42μm,22.0s
ZALV Zalesovo Beam 96.10 349 P P 07 29 15.6 -1.4
comp=Z,1.6nm,0.8s,baz=2.9,slow=5.9,SNR=6.7
ZALV LR LR 08 15 57.3
comp=Z,31μm,21.9s,baz=320,slow=38
ZALV Zalesovo Beam 96.10 349 eP P 07 29 15.2 -1.7
ZALV Zalesovo Beam 96.10 349 eP P 07 29 15.3 -1.7
RABL Rabaul 96.12 269 PFAKE 07 29 30.0 +12
RABL LR LR
comp=Z,44μm,22.0s
SNZO South Karori 96.50 226 PFAKE 07 29 30.0 +11
SNZO LR LR
comp=Z,47μm,22.0s
TTG Podgorica 96.62 33 PFAKE 07 29 30.0 +10
TTG LR LR
comp=Z,101μm,19.0s
VSR Storozhevoye 96.63 17 eP P 07 29 16.4 -3.0
VSR pmax pmax
comp=Z,6.0nm,0.9s
VSR MLR MLR
comp=Z,97μm,19.0s
CUC Castrocucco 96.69 37 PFAKE 07 29 30.0 +10
CUC LR LR
comp=Z,57μm,19.0s
ARR Arges 96.75 29⇑ iP P 07 29 29.1 +8.9
VOIR 96.87 28⇑ iP P 07 29 25.9 +5.2
VOIR 96.87 28 ⇑P P 07 29 25.9 +5.2
KIS Kishinev 97.07 25 eP Pdif 07 29 28.0 +6.5
KIS Kishinev 97.07 25 ePP PP 07 33 50.0 +34
KIS Kishinev 97.07 25 ePPP PPP 07 35 06.0
KIS i SKS S 07 40 24.0 -20
KIS i S **ScS 07 40 46.0 +1.2**
KIS Kishinev 97.07 25 i PS PS 07 42 10.0 +3.9
KIS LRM MLR 08 16 18.0
comp=Z,69μm,18.0s
KIS Kishinev 97.07 25 eP Pdif 07 29 28.0 +6.5
KIS i S **ScS 07 40 46.0 +1.2**
KIS i PS **PS 07 42 10.0 +3.9**
PLOR Plostina 97.18 27⇓ iP Pdif 07 29 31.8 +10
PLOR Plostina 97.18 27 ⇓P Pdif 07 29 31.8 +10
MLR Muntele Rosu 97.19 28 P P 07 29 21.0 -1.2
comp=Z,1.7nm,1.2s,baz=305,slow=6.4,SNR=3.7
MLR LR LR 08 14 08.9
comp=Z,33μm,21.2s,baz=308,slow=36
MLR Muntele Rosu 97.19 28⇑ iP P 07 29 21.5 -0.7
MLR Muntele Rosu 97.19 28 eP P 07 29 21.3 -1.0
MLR LR LR
comp=Z,184μm,22.0s
MLR Muntele Rosu 97.19 28 ⇑P P 07 29 21.5 -0.7
VRI Vrincioaia 97.20 27⇓ iP Pdif 07 29 34.2 +12
VRI Vrincioaia 97.20 27 ⇓P Pdif 07 29 34.2 +12
VRH Novokhopyorsk 97.28 16 eP P 07 29 20.4 -1.9
VRH pmax pmax
comp=Z,8.0nm,0.5s
VRH MLR MLR
comp=Z,95μm,19.0s
VAE Valguarnera 97.73 40 LR LR 08 12 47.9
comp=Z,45μm,18.9s,baz=328,slow=35
TIR Tirane 97.74 34 PFAKE 07 29 40.0 +15
TIR LR LR
comp=Z,109μm,18.0s
TIP Timpagrande 97.78 37 PFAKE 07 29 40.0 +15
TIP LR LR
comp=Z,134μm,21.0s
CEL Celeste 97.99 38 PFAKE 07 29 40.0 +14
CEL LR LR
comp=Z,78μm,19.0s
CFR Carcaliu 98.33 27⇓ iP P 07 29 24.8 -2.3
CFR Carcaliu 98.33 27 ⇓P P 07 29 24.8 -2.3
VTS Vitosha 98.34 31 PFAKE 07 29 40.0 +12
VTS LR LR
comp=Z,157μm,20.0s
BRVK Borovoye 98.40 358 eP P 07 29 26.9 -0.4
comp=Z,45nm,1.3s
BRVK LR LR
comp=Z,52μm,19.0s
BRVK Borovoye 98.40 358⇑ eP P 07 29 26.9 -0.4
BRVK pmax pmax
comp=Z,6.0nm,0.9s
BRVK MLR MLR
comp=Z,41μm,22.0s
BVAR Borovoye Array 98.43 358 P P 07 29 26.6 -0.8
comp=Z,2.2nm,0.8s,baz=336,slow=3.2,SNR=8.4
BVAR LR LR 08 19 50.6
comp=Z,35μm,18.1s,baz=346,slow=39
FNA Florina 98.90 33 PFAKE 07 29 40.0 +10
FNA LR LR
comp=Z,102μm,19.0s
WDD Wied Dalam 98.96 41 PFAKE 07 29 40.0 +10
WDD LR LR
comp=Z,87μm,21.0s
TIRR Tirgusor 99.03 27 PFAKE 07 29 40.0 +10
TIRR LR LR
comp=Z,122μm,19.0s
KOWA Kowa 99.14 68 P Pdif 07 29 32.1 +0.7
comp=Z,2.2nm,0.7s,baz=300,slow=8.9,SNR=4.0
KOWA LR LR 08 13 30.2
comp=Z,141μm,19.2s,baz=301,slow=35
KOWA Kowa 99.14 68 eP Pdif 07 29 32.1 +0.7
KOWA LR LR
comp=Z,216μm,20.0s
JOW Kunigami 99.20 307 LR LR 08 07 43.1
comp=Z,7μm,22.0s,baz=62,slow=31
JOW Kunigami 99.20 307 PFAKE 07 29 40.0 +8.6
JOW LR LR
comp=Z,15μm,19.0s
HHC Hu-ho-hao-te 99.23 327 eP Pdif 07 29 27.4 -4.1
HHC PP **PP 07 33 33.8 +0.5**
HHC SKS **SKSac 07 40 06.0 -4.3**
HHC S S 07 40 54.1 -9.3
HHC pmax pmax
comp=Z,12nm,1.4s
HHC pmax pmax
comp=Z,100nm,8.7s
MANU Manus Island 99.31 273 PFAKE 07 29 40.0 +7.8
MANU LR LR
comp=Z,23μm,22.0s
DGZ Jazzator, Alta 99.70 347⇓ eP P Pdif 07 29 32.4 -1.0
TIA Tai'an 99.87 321 P Pdif 07 29 34.1 -0.2
TIA LR LR
comp=Z,20μm,17.2s
TIA LR LR
comp=Z,21μm,18.6s
TIA LR LR
comp=Z,18μm,19.6s
KURK Kurchatov 100.12 352 ePdif Pdif 07 29 33.9 -1.2
KURK LR LR
comp=Z,46μm,18.0s
KURK Kurchatov 100.12 352⇑ eP Pdif 07 29 34.2 -0.8
KURK pmax pmax
comp=Z,6.0nm,1.3s
KURK MLR MLR
comp=Z,56μm,22.0s
BTO Baotou 100.15 328 eP Pdif 07 29 37.6 +2.0
SEM Semipalatinsk 100.22 351 eP Pdif 07 29 43.5 +7.7
SEM ePP PP 07 33 48.4 +7.9
SEM LR LR 08 15 28.3
comp=Z,15μm,22.9s
KURBB Kurchatov Arra 100.22 352 P Pdif 07 29 33.9 -1.6
comp=Z,1.1nm,0.9s,baz=14,slow=4.2,SNR=4.9
AKTO Aktyubinsk 100.69 6 P Pdif 07 29 34.5 -3.1
comp=Z,0.8nm,0.3s,baz=18,slow=6.2,SNR=4.8
AGG Agios Georgios 100.73 34 PFAKE 07 29 50.0 +12
AGG LR LR
comp=Z,156μm,20.0s
PMSA Palmer Station 100.80 161 PFAKE 07 29 50.0 +13
PMSA LR LR
comp=Z,47μm,20.0s
ALN Alexandroupoli 100.97 30 PFAKE 07 29 50.0 +11
ALN LR LR
comp=Z,84μm,20.0s
SSE Sheshan 101.09 315 P Pdif 07 29 38.5 -1.3
SSE S **Sdif 07 41 14.8 -4.2**
SSE pmax pmax
comp=Z,29nm,0.7s
SSE pmax pmax
comp=Z,360nm,5.2s
SSE LR LR
comp=Z,8μm,16.5s
SSE LR LR
comp=Z,9μm,16.5s
TIY Taiyuan 101.24 325 eP Pdif 07 29 39.9 -0.5
TIY PP **PP 07 33 48.3 -0.2**
TIY S **Sdif 07 41 16.1 -4.1**
TIY SS **SS 07 48 13.4 -5.0**
TIY pmax pmax
comp=Z,410nm,5.5s
TIY LR LR
comp=Z,15μm,14.0s
TIY LR LR
comp=Z,5μm,11.9s
TIY LR LR
comp=Z,27μm,17.0s
BRZS Berezniki 101.36 356 eP Pdif 07 29 48.4 +7.8
BRZS ePP **PKiKP 07 33 58.5 -6.4**
ASCN Ascension 101.43 93 PFAKE 07 29 50.0 +8.4
ASCN LR LR
comp=Z,54μm,20.0s
TAM Tamanrasset 101.73 56 PFAKE 07 29 50.0 +7.0
TAM LR LR
comp=Z,136μm,20.0s
NJ2 Nanjing 101.86 317 eP Pdif 07 29 43.4 +0.3
NJ2 PP **PP 07 33 55.4 +2.1**
NJ2 SKS **SKSac 07 40 24.7 +1.6**
NJ2 S **Sdif 07 41 23.1 -2.3**
NJ2 pmax pmax
comp=Z,19nm,0.6s
NJ2 pmax pmax
comp=Z,640nm,7.6s
NJ2 LR LR
comp=Z,16μm,18.4s
NJ2 LR LR
comp=Z,13μm,18.4s
NJ2 LR LR
comp=Z,18μm,16.8s
ANN Anapa 101.94 21 eP Pdif 07 29 38.8 -4.5
ANN e 07 33 49.3
ANN eS **SKSac 07 40 18.3 -4.7**
ANN pmax pmax
comp=Z,74nm,1.4s
ANN smax smax
comp=N,1μm,8.9s
ANN smax smax
comp=E,890nm,8.9s
ANN MLR MLR
comp=Z,155μm,23.0s
ANN MLR MLR
comp=N,79μm,23.0s
ANN MLR MLR
comp=E,75μm,23.0s
ITM Ithomi 101.96 35 PFAKE 07 29 50.0 +6.4
ITM LR LR
comp=Z,106μm,20.0s
ZSN Zaisan 102.35 348 eP Pdif 07 30 04.5 +19
ZSN ePP PKiKP 07 34 17.3 +11
ZSN LR LR 08 18 16.2
comp=Z,3μm,18.0s
TIC Toumodi 102.46 75 eP PKiKP 07 34 06.8 -1.0
LIC Lamto 102.67 76 eP PKiKP 07 34 08.9 +0.8
comp=Z,241nm,2.0s
LHI Lord Howe Isla 102.77 241 PFAKE 07 30 00.0 +13
LHI LR LR
comp=Z,21μm,21.0s
KIC Kosan Boka 102.84 75 eP PKiKP 07 34 10.2 +1.7
comp=Z,375nm,1.9s
PMG Port Moresby 102.94 266 PFAKE 07 30 00.0 +12
PMG LR LR
comp=Z,27μm,19.0s
GOF Gofitskoye 103.31 17⇑ eP Pdif 07 30 02.3 +13
MK32 Makanchi Array 103.44 349 ePdif Pdif 07 29 48.7 -1.3
MKAR Makanchi Array 103.44 349 Pdiff Pdif 07 29 48.7 -1.3
comp=Z,1.2nm,1.1s,baz=36,slow=7.5,SNR=2.7
MKAR PKKPbc **PKKPbc 07 45 45.4 +1.4**
comp=Z,1.5nm,1.0s,baz=198,slow=3.8,SNR=3.1
MKAR Makanchi Array 103.44 349 PFAKE 07 30 00.0 +10
MKAR LR LR
comp=Z,9μm,18.0s
MAKZ Makanchi 103.48 349 PFAKE 07 30 00.0 +10
MAKZ LR LR
comp=Z,40μm,22.0s
SOC Sochi 103.75 20 i P Pdif 07 30 03.7 +12
ILGA Ilgaz 103.98 25 PFAKE 07 30 00.0 +7.3
ILGA LR LR
comp=Z,94μm,21.0s
KIV Kislovodsk 104.25 18 PFAKE 07 30 00.0 +6.3
KIV LR LR
comp=Z,104μm,20.0s
KIV Kislovodsk 104.25 18 i P Pdif 07 29 51.1 -2.6
KIV i 07 34 08.0
KIV e 07 40 31.2
KIV ePS **PS 07 43 21.8 -1.2**
KIV eSS SS 07 48 59.9 +0.6
KIV eSSS SSS 07 52 58.3
KIV pmax pmax
comp=Z,17nm,1.1s
KIV MLR MLR
comp=Z,94μm,20.0s
SANT Santorini 104.34 33 PFAKE 07 30 00.0 +5.8
SANT LR LR
comp=Z,124μm,18.0s
TOC6 Torodi Ar. Sit 104.47 66 PFAKE 07 30 10.0 +15
TOC6 LR LR
comp=Z,139μm,21.0s
TOC7 Torodi Ar. Sit 104.47 66 PFAKE 07 30 10.0 +15
TOC7 LR LR
comp=Z,144μm,21.0s
TOB5 Torodi Ar. Sit 104.48 66 PFAKE 07 30 10.0 +15
TOB5 LR LR
comp=Z,151μm,21.0s
TOC1 Torodi Ar. Sit 104.49 66 PFAKE 07 30 10.0 +15
TOC1 LR LR
comp=Z,174μm,22.0s
TOA1 Torodi Ar. Sit 104.49 66 PFAKE 07 30 10.0 +15
TOA1 LR LR
comp=Z,142μm,21.0s
TOC5 Torodi Ar. Sit 104.49 66 PFAKE 07 30 10.0 +15
TOC5 LR LR
comp=Z,159μm,21.0s
TOB4 Torodi Ar. Sit 104.49 66 PFAKE 07 30 10.0 +15
TOB4 LR LR
comp=Z,145μm,22.0s
TOA0 Torodi Ar. Sit 104.50 66 PFAKE 07 30 10.0 +15
TOA0 LR LR
comp=Z,144μm,21.0s
TORD Torodi Ar. Bea 104.50 66 PKKP PKKPdf 07 45 44.7 -4.5
comp=Z,1.9nm,1.0s,baz=104,slow=0.6,SNR=4.7
TOA3 Torodi Ar. Sit 104.50 66 PFAKE 07 30 10.0 +15
TOA3 LR LR
comp=Z,142μm,21.0s
TOA2 Torodi Ar. Sit 104.50 66 PFAKE 07 30 10.0 +15
TOA2 LR LR
comp=Z,146μm,21.0s
TOB2 Torodi Ar. Sit 104.50 66 PFAKE 07 30 10.0 +15
TOB2 LR LR
comp=Z,146μm,21.0s
TOB3 Torodi Ar. Sit 104.51 66 PFAKE 07 30 10.0 +15
TOB3 LR LR
comp=Z,144μm,21.0s
TOC2 Torodi Ar. Sit 104.51 66 PFAKE 07 30 10.0 +15
TOC2 LR LR
comp=Z,150μm,21.0s
TOC4 Torodi Ar. Sit 104.52 66 PFAKE 07 30 10.0 +15
TOC4 LR LR
comp=Z,145μm,21.0s
TOC3 Torodi Ar. Sit 104.52 66 PFAKE 07 30 10.0 +15
TOC3 LR LR
comp=Z,151μm,22.0s
ANTO Ankara 104.65 26 PFAKE 07 30 10.0 +14
ANTO LR LR
comp=Z,90μm,20.0s
IDI Anoyia 104.92 34 PFAKE 07 34 20.0
IDI LR LR
comp=Z,68μm,19.0s
TATO Taipei 105.05 310 PFAKE 07 34 20.0
TATO LR LR
comp=Z,13μm,18.0s
WMQ Urumqi 105.22 345 Pdif Pdif 07 29 57.6 -0.4
WMQ PP **PP 07 34 19.4 +1.6**
WMQ S **Sdif 07 41 44.9 -8.3**
WMQ SS **SS 07 49 14.4 +1.9**
WMQ AMB AMB
comp=Z,4μm,11.9s
WMQ LR LR
comp=Z,65μm,20.1s
WMQ LR LR
comp=Z,37μm,17.9s
WMQ LR LR
comp=Z,87μm,35.9s
YHNB Yeheng 105.33 310 PFAKE 07 34 20.0
YHNB LR LR
comp=Z,9μm,20.0s
ISP Isparta 105.46 29 PFAKE 07 34 20.0
ISP LR LR
comp=Z,146μm,20.0s
NACB Ninganchiao 105.51 309 PFAKE 07 34 20.0
NACB LR LR
comp=Z,9μm,22.0s
WHN Wuhan 105.60 319 Pdif Pdif 07 30 10.9 +11
WHN PP 07 34 29.1 +7.9
WHN Wuhan 105.60 319 SKS SKSac 07 40 57.9 +17
WHN Wuhan 105.60 319 S Sdif 07 41 59.1 +2.4
WHN Wuhan 105.60 319 SS SS 07 49 27.7 +9.0
WHN LR LR
comp=N,14μm,15.1s
WHN LR LR
comp=E,37μm,14.8s
WHN LR LR
comp=Z,45μm,18.8s
HOPE Hope Point 105.65 144 PFAKE 07 34 20.0
HOPE LR LR
comp=Z,80μm,20.0s
KARP Karpathos 105.82 33 PFAKE 07 34 20.0
KARP LR LR
comp=Z,29μm,20.0s
XAN Xi'an 105.88 325 Pdif Pdif 07 29 35.8 -25
XAN PP PKiKP 07 34 01.4 -12
XAN Xi'an 105.88 325 SKS SKSdf 07 40 54.2 -32
XAN Xi'an 105.88 325 SS SS 07 48 56.4 -26
XAN pmax pmax
comp=Z,490nm,11.8s
XAN LR LR
comp=N,30μm,17.4s
XAN LR LR
comp=E,32μm,18.2s
XAN LR LR
comp=Z,40μm,17.6s
MAK Makhachkala 106.36 15 i P Pdif 07 30 00.1 -2.9
MAK e 07 34 24.9
MAK ePPP PPP 07 36 39.5
MAK e 07 40 40.4
MAK e 07 41 26.8
MAK pmax pmax
comp=Z,30nm,0.4s
EIDS Eidsvold 106.53 250 PFAKE 07 34 30.0
EIDS LR LR
comp=Z,15μm,19.0s
LZH Lanzhou 106.64 329 ePdif Pdif 07 30 01.7 -2.9
LZH PP **PP 07 34 28.4 -0.4**
LZH SS SS 07 49 29.9 -2.8
LZH AMB AMB
comp=Z,3μm,5.7s
LZH LR LR
comp=Z,44μm,15.7s
LZH LR LR
comp=Z,36μm,15.5s
LZH LR LR
comp=Z,67μm,17.0s
AKH Akhalkalaki 106.83 18 PFAKE 07 34 30.0
AKH LR LR
comp=Z,110μm,22.0s
KUU Kurty 107.10 353 ePP PP 07 34 40.2 +8.6
KUU LR LR 08 22 06.7
comp=Z,5μm,15.6s
UZB Uzynbulak 107.50 351 ePP PP 07 34 43.6 +8.9
UZB LR LR 08 23 03.0
comp=Z,10μm,20.8s
ZHN Zhinishke 107.56 351 ePP PP 07 34 45.5 +10
ZHN LR LR 08 20 06.8
comp=Z,12μm,21.1s
SATY Saty 107.67 351 ePP PP 07 34 44.0 +8.1
SATY LR LR 08 19 52.2
comp=Z,15μm,21.2s
AAA Alma-Ata 107.72 352 ePP PP 07 34 45.3 +9.2
MDOK Medeo 107.74 352 ePdif Pdif 07 30 16.3 +7.0
MDOK ePP PP 07 34 44.7 +8.3
BMNS Besmoynak 107.95 353 ePP PP 07 34 45.8 +7.8
ARMA Armidale 108.12 245 PFAKE 07 34 30.0
ARMA LR LR
comp=Z,35μm,19.0s
PRZ Przheval'sk 108.24 351 PFAKE 07 34 30.0
PRZ LR LR
comp=Z,41μm,21.0s
FRU Bishkek 108.33 354 eP Pdif 07 30 22.0 +10
FRU ePPP PPP 07 37 08.0
FRU eSS SS 07 50 13.0 +19
FRU eSSS SSS 07 54 03.0
FRU pmax pmax
comp=Z,200nm,3.0s
GNI Garni 108.34 18 PFAKE 07 34 30.0
GNI LR LR
comp=Z,105μm,22.0s
CTAO Charters Tower 108.41 257 PFAKE 07 34 30.0
CTAO LR LR
comp=Z,23μm,19.0s
COEN Coen 108.47 264 PFAKE 07 34 30.0
COEN LR LR
comp=Z,40μm,20.0s
DZA Taraz 108.51 357 ePP PP 07 34 50.9 +9.0
DZA LR LR 08 22 24.4
comp=Z,9μm,15.2s
AAK Ala-Archa 108.53 354 PFAKE 07 34 30.0
AAK LR LR
comp=Z,41μm,19.0s
KDJ Kajisay 108.75 352 PFAKE 07 34 30.0
KDJ LR LR
comp=Z,50μm,18.0s
TARG Taragay, Kyrgy 109.06 351 PFAKE 07 34 30.0
TARG LR LR
comp=Z,30μm,18.0s
CSS Mathiatis 109.08 29 PFAKE 07 34 30.0
CSS LR LR
comp=Z,12μm,22.0s
CHM Chimkent 109.15 358 ePP PP 07 34 56.4 +10
IUG Iuzhnay 109.31 358 ePP PP 07 34 55.6 +7.8
CD2 Chengdu 110.97 326 PKP PKiKP 07 34 22.0 -1.2
CD2 PP **PP 07 35 03.9 +3.6**
CD2 SKS **SKSdf 07 41 33.2 -2.5**
CD2 SKKS **SKKSac 07 41 56.7 -7.9**
CD2 SS **SS 07 50 29.3 -1.7**
CD2 LR LR
comp=Z,43μm,15.9s
CD2 LR LR
comp=Z,39μm,18.9s

CD2					LR	LR		
	comp=Z,42µm,18.4s							
KSH	**Kashi**	**111.47**	**352**		PKP	**PKiKP**	**07 34 30.7**	**+6.6**
KSH					PP	PP	07 35 15.5	+12
KSH					SKS	**SKSdf**	**07 41 41.6**	**+5.1**
KSH					AMB	AMB		
	comp=Z,3µm,5.5s							
KSH					LR	LR		
	comp=N,11µm,13.3s							
KSH					LR	LR		
	comp=E,9µm,11.5s							
KSH					LR	LR		
	comp=Z,24µm,15.8s							
MCQ	**Macquarie Isla**	**111.79**	**219**		PFAKE		07 34 30.0	
MCQ					LR	LR		
	comp=Z,50µm,22.0s							
CAN	**Canberra**	**111.99**	**241**		PFAKE		07 34 40.0	
CAN					LR	LR		
	comp=Z,15µm,20.0s							
SHEL	**Horse Pasture**	**112.53**	**96**		PFAKE		07 34 40.0	
SHEL					LR	LR		
	comp=Z,76µm,22.0s							
FAKI	**Fak Fak**	**112.92**	**280**		PFAKE		07 34 40.0	
FAKI					LR	LR		
	comp=Z,28µm,21.0s							
GYA	**Guiyang**	**113.06**	**321**		Pdif	**Pdif**	**07 30 32.0**	**-1.3**
GYA					PKP	**PKiKP**	**07 34 26.4**	**-1.0**
GYA					PP	**PP**	**07 35 18.2**	**+2.7**
GYA					PKS	**PKSdf**	**07 38 01.0**	**-3.4**
GYA					SKKS		07 42 11.8	
GYA					SS	**SS**	**07 50 57.5**	**-1.8**
GYA					AMB	AMB		
	comp=Z,360nm,8.2s							
GYA0B	**ALIBECK ARRAY**	**113.08**	**8**		PFAKE		07 34 40.0	
GYA0B					LR	LR		
	comp=Z,113µm,21.0s							
DAV	**Davao City (W)**	**113.18**	**293**		PFAKE		07 34 40.0	
DAV					LR	LR		
	comp=Z,19µm,21.0s							
TNTI	**Ternate**	**115.19**	**286**		PFAKE		07 34 40.0	+8.4
TNTI					LR	LR		
	comp=Z,17µm,22.0s							
TAU	**Tasmania Unive**	**115.63**	**233**		PFAKE		07 34 40.0	+8.5
TAU					LR	LR		
	comp=Z,24µm,19.0s							
SBA	**Scott Base**	**115.92**	**193**		PFAKE		07 34 40.0	+8.9
SBA					LR	LR		
	comp=Z,43µm,21.0s							
SAUI	**Saumlaki**	**116.19**	**275**		PFAKE		07 34 40.0	+6.5
SAUI					LR	LR		
	comp=Z,31µm,19.0s							
KMI	**Kunming**	**116.22**	**324**		Pdif	**Pdif**	**07 30 53.3**	**+5.8**
KMI					PKP	**PKPdf**	**07 34 31.6**	**-2.1**
KMI					PP	**PP**	**07 35 45.0**	**+7.1**
KMI	**Kunming**	**116.22**	**324**		SKS	SKSdf	07 41 33.9	-12
KMI	**Kunming**	**116.22**	**324**		SS	SS	07 51 41.6	+0.5
KMI					AMB	AMB		
	comp=Z,1µm,15.8s							
KMI					LR	LR		
	comp=N,18µm,19.7s							
KMI					LR	LR		
	comp=E,13µm,19.7s							
KMI					LR	LR		
	comp=Z,24µm,20.4s							
STKA	**Stephens Creek**	**116.67**	**247**		PKP	**PKPdf**	**07 34 37.2**	**+3.3**
	comp=Z,2.8nm,0.7s,baz=46,slow=3.3,SNR=6.9							
STKA	**Stephens Creek**	**116.67**	**247**	*e*	PKPdf	**PKPdf**	**07 34 31.8**	**-2.1**
STKA					LR	LR		
	comp=Z,5µm,20.0s							
QIZ	**Qiongzhong**	**116.86**	**314**		PKP	**PKPdf**	**07 34 34.6**	**-0.1**
QIZ					PP	**PP**	**07 35 40.9**	**-1.6**
QIZ					SS	SS	07 51 48.7	-0.8
QIZ					LR	LR		
	comp=Z,2µm,20.5s							
QIZ					LR	LR		
	comp=Z,12µm,14.2s							
QIZ					LR	LR		
	comp=Z,13µm,18.9s							
VNDA	**Vanda**	**116.86**	**194**		PKP	**PKPdf**	**07 34 36.9**	**+4.0**
	comp=Z,1.1nm,0.8s,baz=316,slow=2.7,SNR=5.2							
KBL	**Kabul**	**116.93**	**358**		PFAKE		07 34 50.0	+15
KBL					LR	LR		
	comp=Z,55µm,21.0s							
NIL	**Nilore**	**117.56**	**354**		PFAKE		07 34 50.0	+14
NIL					LR	LR		
	comp=Z,46µm,19.0s							
MTN	**Manton Dam**	**118.53**	**271**		PFAKE		07 34 50.0	+12
MTN					LR	LR		
	comp=Z,21µm,21.0s							
DHRM	**DHARAMSHALA**	**118.59**	**351**	*e*	P	**PKPdf**	**07 34 38.1**	**+0.1**
WRAB	**Tennant Creek**	**118.61**	**262**		PFAKE		07 34 50.0	+12
WRAB					LR	LR		
	comp=Z,26µm,18.0s							
WB2	**Warramunga Arr**	**118.61**	**262**	*e*	PKPdf	**PKPdf**	**07 34 35.2**	**-2.7**
WR1	**Warramunga Arr**	**118.62**	**262**	*e*	PKPdf	**PKPdf**	**07 34 36.4**	**-1.6**
WRA	**Warramunga Arr**	**118.62**	**262**		PKP	**PKPdf**	**07 34 36.4**	**-1.6**
	comp=Z,2.9nm,0.7s,baz=64,slow=2.2,SNR=12							
QSPA	**South Pole Qui**	**118.69**	**180**		PFAKE		07 34 50.0	+13
QSPA					LR	LR		
	comp=Z,74µm,21.0s							
SMLA	**Simla**	**119.56**	**350**	*e*	P	**PKPdf**	**07 34 38.1**	**-1.5**
SMLA					IAMs_20	IAMs_20	08 32 22.7	
	comp=Z,40µm,18.2s							
LUWI	**Luwuk**	**120.03**	**287**		PFAKE		07 34 50.0	+9.1
LUWI					LR	LR		
	comp=Z,10µm,21.0s							
DDI	**Dehra Dun**	**120.21**	**349**	*e*	P	**PKPdf**	**07 34 38.3**	**-2.7**
AS01	**Alice Springs**	**120.32**	**258**	*e*	PKPdf	**PKPdf**	**07 34 38.0**	**-3.2**
AS31	**Alice Springs**	**120.36**	**258**		PFAKE		07 34 50.0	+8.7
AS31					LR	LR		
	comp=Z,400nm,22.0s							
ASAR	**Alice Springs**	**120.36**	**258**		PKP	**PKPdf**	**07 34 39.1**	**-2.2**
	comp=Z,2.5nm,0.9s,baz=81,slow=2.4,SNR=13							
ASAR					PKKP	**PKKPdf**	**07 45 24.6**	**+4.1**
	comp=Z,3.5nm,1.0s,baz=261,slow=2.8,SNR=4.1							
SHL	**Shillong**	**120.81**	**334**	*e*	P	**PKPdf**	**07 34 42.6**	**+0.2**
SHL	**Shillong**	**120.81**	**334**	*e*	P	**PKPdf**	**07 34 45.0**	**+2.6**
VNA3	**Neumayer Olymp**	**121.34**	**158**		P	**PKPdf**	**07 34 43.4**	**+1.7**
BBOO	**Buckleboo**	**121.42**	**247**		PFAKE		07 34 50.0	+7.0
BBOO					LR	LR		
	comp=Z,27µm,21.0s							
VNA1	**Neumayer--Stat**	**121.83**	**158**		P	**PKPdf**	**07 34 44.2**	**+1.6**
SKNT	**Sakolnakorn**	**122.03**	**317**		P	**PKPdf**	**07 34 42.8**	**-1.9**
VNA2	**Neumayer--Watz**	**122.10**	**158**		P	**PKPdf**	**07 34 45.1**	**+1.9**
	baz=315,slow=2.8							
SOEI	**Soe**	**123.15**	**277**		PFAKE		07 35 00.0	+13
SOEI					LR	LR		
	comp=Z,26µm,22.0s							
CMMT	**Chiang Mai**	**123.39**	**323**		P	**PKPdf**	**07 34 45.1**	**-2.2**
	comp=Z,26nm,1.2s							
CHTO	**Chiang Mai**	**123.39**	**323**		P	**PKPdf**	**07 34 46.1**	**-1.2**
	comp=Z,54nm,1.1s,comp=Z,3µm							
CHTO	**Chiang Mai**	**123.39**	**323**	*e*	PKPdf	**PKPdf**	**07 34 45.6**	**-1.7**
CHTO					LR	LR		
	comp=Z,22µm,22.0s							
CHTO	**Chiang Mai**	**123.39**	**323**	*e*	PKIKP	**PKPdf**	**07 34 45.6**	**-1.7**
CHTO					MLR	MLR		
	comp=Z,22µm,22.0s							
SNAA	**Sanae**	**123.47**	**159**		PFAKE		07 35 00.0	+14
SNAA					LR	LR		
	comp=Z,59µm,22.0s							
SNAA	**Sanae**	**123.47**	**159**	↑ *i*	PKIKP	**PKPdf**	**07 34 45.4**	**-0.5**
CMAR	**Chiang Mai Arr**	**123.69**	**323**		PKP	**PKPdf**	**07 34 46.9**	**-1.0**
	comp=Z,6.7nm,0.9s,baz=340,slow=2.5,SNR=29							
CM01	**Chiang Mai Arr**	**123.71**	**323**	*e*	PKPdf	**PKPdf**	**07 34 47.0**	**-0.9**
RAYN	**Ar Rayn**	**124.02**	**24**		PFAKE		07 35 00.0	+12
RAYN					LR	LR		
	comp=Z,48µm,22.0s							
PBKT	**Sadao Pong**	**124.11**	**320**		P	**PKPdf**	**07 34 46.8**	**-1.8**
PBKT	**Sadao Pong**	**124.11**	**320**	*e*	PKPdf	**PKPdf**	**07 34 46.9**	**-1.7**
MMRI	**Maumere**	**124.38**	**280**		PFAKE		07 35 00.0	+11
MMRI					LR	LR		
	comp=Z,11µm,22.0s							
BOK	**Bokaro**	**124.56**	**339**	*e*	P	**PKPdf**	**07 34 47.1**	**-2.3**
BOK					IAMs_20	IAMs_20	08 27 47.2	
	comp=Z,29µm,40.5s							
KAPI	**Kappang**	**124.69**	**285**		PFAKE		07 35 00.0	+10
KAPI					LR	LR		
	comp=Z,12µm,22.0s							
NAZ	**Nazwa, Dubai**	**125.41**	**13**		pPKiKP	PKPdf	07 34 60.0	+9.0
	SNR=6.0							
NAZ	**Nazwa, Dubai**	**125.41**	**13**		P	PKPdf	07 34 60.0	+9.0
	SNR=6.0							
UOSS	**Minazif**	**125.55**	**12**		PFAKE		07 35 00.0	+8.7
UOSS					LR	LR		
	comp=Z,26µm,20.0s							
HATD	**Hatta, Dubai**	**125.65**	**12**		pPKiKP	**PKPdf**	**07 34 57.0**	**+5.5**
	SNR=9.5							
HATD	**Hatta, Dubai**	**125.65**	**12**		P	**PKPdf**	**07 34 57.0**	**+5.5**
	SNR=9.5							
ASHO	**Ashiyiah**	**125.78**	**12**		pPKiKP	PKPdf	07 35 06.8	+15
	SNR=6.1							
ASHO	**Ashiyiah**	**125.78**	**12**		P	PKPdf	07 35 06.8	+15
	SNR=6.1							
BHPL	**Bhopal**	**127.23**	**348**	*e*	P	**PKPdf**	**07 34 51.7**	**-2.9**
BHPL					IAMs_20	IAMs_20	08 28 30.5	
	comp=Z,42µm,33.9s							
FORT	**Forrest**	**127.47**	**252**		PFAKE		07 35 10.0	+15
FORT					LR	LR		
	comp=Z,26µm,21.0s							
BHJ	**Bhuj**	**128.14**	**357**	*e*	P	**PKPdf**	**07 34 55.2**	**-1.1**
BHJ					IAMs_20	IAMs_20	08 26 15.3	
	comp=Z,30µm,31.2s							
NVL	**N'lazarevskaya**	**128.27**	**160**	*e*	PKIKP	**PKPdf**	**07 34 57.4**	**+2.5**
NVL				*i*			07 34 57.9	
NVL				*e*			07 37 02.1	
NVL				*e*			07 42 06.5	
NVL				*e*	SS	SS	07 54 33.6	+20
NVL					MLR	MLR		
	comp=Z,52µm,16.0s							
NGP	**Nagpur**	**128.93**	**345**	*e*	P	**PKPdf**	**07 34 55.4**	**-2.5**
VIS	**Vishakhapatnam**	**131.06**	**339**	*e*	P	**PKPdf**	**07 35 00.6**	**-1.3**
DGPR	**DIGLIPUR**	**131.22**	**325**	*e*	P	**PKPdf**	**07 35 02.1**	**-0.1**
DGPR					IAMs_20	IAMs_20	08 12 14.4	
	comp=Z,8µm,41.3s							
JAGI	**Jajag, Banyuwa**	**131.23**	**285**		PFAKE		07 35 10.0	+7.7
JAGI					LR	LR		
	comp=Z,8µm,21.0s							
DAMY	**Dhamar**	**131.68**	**30**		PFAKE		07 35 10.0	+6.5
DAMY					LR	LR		
	comp=Z,56µm,20.0s							
MBWA	**Marble Bar**	**131.81**	**267**		PFAKE		07 35 10.0	+6.8
MBWA					LR	LR		
	comp=Z,31µm,19.0s							
POO	**Poona**	**132.43**	**351**	*ex*		PKPpre	07 34 59.7	
POO	**Poona**	**132.43**	**351**	*eP*		**PKPdf**	**07 35 05.0**	**+0.4**
PBA	**Port Blair**	**132.61**	**324**	*eP*		PKPdf	07 35 02.4	-2.5
PBA					IAMs_20	IAMs_20	08 26 26.4	
	comp=Z,15µm,34.5s							
HYB	**Hyderabad**	**132.65**	**345**	*i*	PKP	**PKPdf**	**07 35 07.0**	**+2.0**
HYB				*e*	PP	**PP**	**07 37 35.0**	**+7.6**
HYB				*e*			07 38 44.0	
HYB	**Hyderabad**	**132.65**	**345**	*eP*		**PKPdf**	**07 35 01.6**	**-3.4**
HYB					IAMs_20	IAMs_20	08 37 06.2	
	comp=Z,24µm,23.7s							
KULM	**Kulim**	**133.02**	**311**		PFAKE		07 35 20.0	+14
KULM					LR	LR		
	comp=Z,11µm,22.0s							
IPM	**Ipoh**	**133.36**	**310**		PFAKE		07 35 20.0	+14
IPM					LR	LR		
	comp=Z,13µm,22.0s							
CASY	**Casey**	**134.07**	**203**		PFAKE		07 35 20.0	+14
CASY					LR	LR		
	comp=Z,44µm,22.0s							
TSUM	**Tsumeb**	**134.24**	**89**		PKP	**PKPdf**	**07 35 06.7**	**-1.3**
	comp=Z,3.8nm,0.9s,baz=317,slow=2.6,SNR=5.7							
TSUM	**Tsumeb**	**134.24**	**89**	*e*	PKPdf	**PKPdf**	**07 35 06.7**	**-1.3**
TSUM					LR	LR		
	comp=Z,90µm,19.0s							
GOA	**Goa**	**135.42**	**350**	*eP*		**PKPdf**	**07 35 09.6**	**-0.6**
PSI	**Prapat**	**136.01**	**310**		PKP	**PKPdf**	**07 35 11.1**	**-0.4**
	comp=Z,7.0nm,0.7s,baz=302,slow=8.2,SNR=6.5							
PSI	**Prapat**	**136.01**	**310**	*e*	PKPdf	**PKPdf**	**07 35 11.5**	**0.0**
PSI					LR	LR		
	comp=Z,12µm,22.0s							
PSI	**Prapat**	**136.01**	**310**	*e*	PKIKP	**PKPdf**	**07 35 11.5**	**0.0**
PSI					MLR	MLR		
	comp=Z,12µm,22.0s							
BKNI	**Bangkinang**	**136.32**	**306**		PFAKE		07 35 20.0	+8.1
BKNI					LR	LR		
	comp=Z,17µm,20.0s							
MDRS	**Chennai**	**136.38**	**341**	*eP**		PKPpre	07 35 07.6	
MDRS						IAmb	IAmb	07 35 29.1	
SYO	**Syowa Base**	**136.77**	**166**	⇓ *i*	X	**Pdif**	**07 32 25.0**	**+7.7**
SYO	**Syowa Base**	**136.77**	**166**	⇓ *i*	X	PKPpre	07 35 06.0	
NWAO	**Narrogin (SRO)**	**136.91**	**251**		PFAKE		07 35 20.0	+7.6
NWAO					LR	LR		
	comp=Z,33µm,22.0s							
MNAI	**Manna**	**138.01**	**299**		PFAKE		07 35 30.0	+15
MNAI					LR	LR		
	comp=Z,12µm,22.0s							
GSI	**Gunungsitoli**	**138.02**	**310**		PFAKE		07 35 30.0	+15
GSI					LR	LR		
	comp=Z,13µm,22.0s							
MIR	**Mirnyy**	**139.02**	**196**	*e*	PKIKP	**PKPdf**	**07 35 22.0**	**+6.8**
MIR				*e*			07 35 22.0	
SUR	**Sutherland**	**140.43**	**107**		PKP	**PKPdf**	**07 35 17.6**	**-1.6**
	comp=Z,0.5nm,0.9s,baz=211,slow=5.9,SNR=2.8							
SUR	**Sutherland**	**140.43**	**107**		PFAKE		07 35 30.0	+11
SUR					LR	LR		
	comp=Z,48µm,20.0s							
KMBO	**Kilima Mbogo**	**140.53**	**51**		PFAKE		07 35 30.0	+10
KMBO					LR	LR		
	comp=Z,128µm,20.0s							
KMBO	**Kilima Mbogo**	**140.53**	**51**		pPKiKP	PKPdf	07 35 31.7	+12
	SNR=14							
KMBO	**Kilima Mbogo**	**140.53**	**51**		P	PKPdf	07 35 31.7	+12
	SNR=14							
MAW	**Mawson**	**141.13**	**178**		PKP	**PKPdf**	**07 35 17.0**	**-2.0**
	comp=Z,4.9nm,0.8s,baz=300,slow=5.2,SNR=4.0							
MAW	**Mawson**	**141.13**	**178**		PFAKE		07 35 30.0	+11
MAW					LR	LR		
	comp=Z,14µm,20.0s							
MAW	**Mawson**	**141.13**	**178**		PKIKP	**PKPdf**	**07 35 17.0**	**-2.0**
MAW					pmax	pmax		
	comp=Z,9.0nm,0.9s							
TRD	**Trivandrum**	**141.62**	**344**	*eP**		**PKPdf**	**07 35 19.6**	**-1.9**
PALK	**Pallekele**	**141.70**	**338**		PFAKE		07 35 30.0	+8.2
PALK					LR	LR		
	comp=Z,21µm,22.0s							
LSZ	**Lusaka**	**141.87**	**78**		PKP	**PKPdf**	**07 35 21.8**	**-0.2**
	comp=Z,10nm,0.9s,baz=241,slow=1.7,SNR=12							
LSZ	**Lusaka**	**141.87**	**78**		PFAKE		07 35 30.0	+7.9
LSZ					LR	LR		
	comp=Z,62µm,19.0s							
LSZ	**Lusaka**	**141.87**	**78**		pPKiKP	**PKPdf**	**07 35 28.9**	**+6.9**
	SNR=7.5							
LSZ	**Lusaka**	**141.87**	**78**		P	**PKPdf**	**07 35 28.9**	**+6.9**
	SNR=7.5							
MNCY	**Minicoy**	**142.64**	**350**	*eP**		**PKPdf**	**07 35 21.7**	**-1.7**
LBTB	**Lobatse**	**143.13**	**94**		PKP	PKPbc	07 35 21.6	+0.6
	comp=Z,20nm,1.1s,baz=252,slow=3.0,SNR=8.6							
BOSA	**Boshof**	**143.64**	**100**	*i*	P	**PKPdf**	**07 35 25.0**	**+0.1**
BOSA				*i*			07 35 25.4	
	baz=172,slow=2.6							
BOSA	**Boshof**	**143.64**	**100**		PKP	PKPbc	07 35 22.1	-0.3
	comp=Z,6.2nm,0.8s,baz=297,slow=3.5,SNR=5.3							
BOSA	**Boshof**	**143.64**	**100**	*i*	P	**PKPdf**	**07 35 25.0**	**+0.1**
BOSA				*i*			07 35 25.4	
	baz=172,slow=2.6							
BLWY	**Bulawayo**	**144.24**	**85**	*i*	P	**PKPdf**	**07 35 29.9**	**+3.7**
BLWY	**Bulawayo**	**144.24**	**85**	*i*	P	**PKPdf**	**07 35 29.9**	**+3.7**
DGAR	**Diego Garcia**	**158.05**	**345**		PFAKE		07 36 00.0	+13
DGAR					LR	LR		
	comp=Z,52µm,18.0s							
OPO	**Ambohidratompo**	**159.31**	**65**		PKP	**PKPdf**	**07 35 49.2**	**+0.5**
	comp=Z,3.1nm,1.0s,baz=301,slow=4.2,SNR=3.4							
PAF	**Port-aux-Franc**	**159.36**	**186**		PFAKE		07 36 00.0	+12
PAF					LR	LR		
	comp=Z,55µm,19.0s							
ABPO	**Ambohimpanom**	**159.58**	**66**		PFAKE		07 36 00.0	+11
ABPO					LR	LR		
	comp=Z,96µm,20.0s							

MAN 12 07:16:17, 9.78N×126.16E, h25km, mb4.6, ML3.5, MS3.4, 1C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.66**	**271**	↓ *eP**		Pn	07 16 30.6	-0.2
SCPH				*eS*		Sn	07 16 42.1	+1.8
BUTP	**Butuan**	**0.96**	**213**	*eP**		Pb	07 16 35.6	+0.6
BUTP				*eS*		Sn	07 16 52.7	+5.0
MSLP	**Maasin**	**1.33**	**286**	*eP**		Pb	07 16 41.5	+0.2
MSLP				*eS*		Sb	07 17 03.4	+5.6
PLP	**Palo**	**1.80**	**320**	⇓ *eP**		Pn	07 16 46.0	-0.5
PLP				*i S*		Sb	07 17 12.1	+0.5
BESP	**Borongan**	**1.95**	**339**	*eP**		Pn	07 16 49.5	+1.0
BESP				*eS*		Sn	07 17 13.6	+1.4
BUKP	**Musuan**	**2.17**	**210**	*eP**		Pn	07 16 52.5	+0.9
BUKP				*eS*		Sb	07 17 24.3	+2.1
TBP	**Tagbilaran**	**2.26**	**268**	*eP**		Pn	07 16 53.9	+1.1
CNP	**Catarman**	**3.09**	**332**	*eP**		Pn	07 17 03.0	-1.2
RCP	**Roxas**	**3.79**	**298**	↑ *eP**		Pn	07 17 17.0	+3.1

NEIC ***12*** *07:18:45.2±0.0, 41.64S×171.56E, h5km, ML4.0(WEL), After WEL.*
NEIC Felt along the west coast of the South Island.

WEL 12 07:18:44.9, 42.°S±1.°×17.°2E±.°, h6km±1km, ML4.0/12, South Island

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
DSZ	**Denniston Nort**	**0.16**	**128**		Pg	Pg	07 18 49.2	+1.0
DSZ	**Denniston Nort**	**0.16**	**128**		P	Pg	07 18 49.2	+1.0
DSZ	**Denniston Nort**	**0.16**	**128**		S	Sg	07 18 52.2	+1.7
THZ	**Tophouse**	**0.96**	**98**		P*	Pb	07 19 03.8	-0.1
THZ	**Tophouse**	**0.96**	**98**		P	Pb	07 19 03.9	0.0
THZ	**Tophouse**	**0.96**	**98**		S	Sb	07 19 17.6	+0.7
QRZ	**Quartz Range**	**1.06**	**40**		P	Pg	07 19 04.9	-0.3
QRZ	**Quartz Range**	**1.06**	**40**		S	Sg	07 19 19.2	+0.2
INZ	**Inchbonnie**	**1.09**	**187**		P	Pg	07 19 05.7	-0.1
INZ	**Inchbonnie**	**1.09**	**187**		S	Sb	07 19 20.3	-0.3
LTZ	**Lake Taylor**	**1.23**	**158**		P*	Pn	07 19 09.0	+0.4
LTZ	**Lake Taylor**	**1.23**	**158**		P	Pn	07 19 09.1	+0.4
LTZ	**Lake Taylor**	**1.23**	**158**		S	Sn	07 19 26.0	+0.4
NNZ	**Nelson**	**1.38**	**73**		Pn	Pn	07 19 10.3	-0.3
NNZ	**Nelson**	**1.38**	**73**		P	Pn	07 19 10.3	-0.3
WVZ	**Waitaha Valley**	**1.58**	**205**		Pn	Pn	07 19 12.2	-1.1
WVZ	**Waitaha Valley**	**1.58**	**205**		P	Pn	07 19 12.5	-0.8
KHZ	**Kahutara**	**1.62**	**119**		Pn	Pb	07 19 15.0	-0.1
KHZ	**Kahutara**	**1.62**	**119**		P	Pb	07 19 15.0	-0.1
BSWZ	**Blackbirch Sta**	**1.68**	**93**		Pn	Pg	07 19 17.1	0.0
BSWZ	**Blackbirch Sta**	**1.68**	**93**		P	Pb	07 19 16.6	+0.4
OXZ	**Oxford**	**1.71**	**170**		Pn	Pn	07 19 15.2	0.0
OXZ	**Oxford**	**1.71**	**170**		P	Pn	07 19 15.4	+0.3
TUWZ	**Tuamarina**	**1.75**	**84**		Pn	Pb	07 19 16.5	-0.8
TUWZ	**Tuamarina**	**1.75**	**84**		P	Pb	07 19 16.6	-0.7
EYCZ	**Eyrewell**	**1.85**	**163**		P	Pn	07 19 17.5	+0.4
DUWZ	**D'Urville Isla**	**1.92**	**65**		Pn	Pn	07 19 18.8	+0.7
DUWZ	**D'Urville Isla**	**1.92**	**65**		P	Pn	07 19 18.8	+0.7
CMWZ	**Cape Campbell**	**1.94**	**94**		P	Pb	07 19 20.8	+0.3
TCW	**Tory Channel**	**2.04**	**79**		Pn	Pn	07 19 20.8	+1.2
TCW	**Tory Channel**	**2.04**	**79**		P	Pb	07 19 21.1	-1.1
CRLZ	**Canterbury Las**	**2.06**	**160**		Pn	Pn	07 19 20.3	+0.3
CRLZ	**Canterbury Las**	**2.06**	**160**		P	Pn	07 19 20.4	+0.4
RPZ	**Rata Peaks**	**2.11**	**191**		Pn	Pn	07 19 20.8	0.0
RPZ	**Rata Peaks**	**2.11**	**191**		P	Pn	07 19 20.8	+0.1
MQZ	**McQueen's Vall**	**2.19**	**160**		Pn	Pn	07 19 21.1	-0.7
MQZ	**McQueen's Vall**	**2.19**	**160**		P	Pn	07 19 21.1	-0.7
FOZ	**Fox Glacier**	**2.31**	**215**		Pn	Pn	07 19 22.1	-1.4
FOZ	**Fox Glacier**	**2.31**	**215**		P	Pn	07 19 22.2	-1.2
OKCZ	**Okains Bay**	**2.33**	**154**		P	Pn	07 19 24.0	+0.3
SNZO	**South Karori**	**2.33**	**83**	*ePn*		Pn	07 19 25.1	+1.4
SNZO				*eSn*		Sn	07 19 53.3	+0.7
AKCZ	**Akaroa Harbour**	**2.42**	**158**		P	Pn	07 19 24.8	-0.1
BHW	**Baring Head**	**2.44**	**86**		P	Pn	07 19 26.1	+0.8
KIW	**Kapiti Island**	**2.59**	**74**		Pn	Pn	07 19 28.9	+1.5
KIW	**Kapiti Island**	**2.59**	**74**		P	Pn	07 19 28.6	+1.3
CAW	**Cannon Point**	**2.64**	**79**		Pn	Pn	07 19 28.7	+0.8
CAW	**Cannon Point**	**2.64**	**79**		P	Pn	07 19 28.7	+0.8
PLWZ	**Palliser**	**2.72**	**90**		P	Pn	07 19 29.3	+0.2
MSWZ	**Moikau Station**	**2.73**	**86**		P	Pn	07 19 29.2	0.0
OGWZ	**Otaki Gorge**	**2.79**	**74**		P	Pn	07 19 31.2	+1.2
NMEZ	**Namu Road**	**2.81**	**38**		Pn	Pn	07 19 31.2	+1.0
NMEZ	**Namu Road**	**2.81**	**38**		P	Pn	07 19 31.2	+1.0
PAWZ	**Paruwai Farm**	**2.86**	**86**		P	Pn	07 19 30.8	-0.2
NWEZ	**Newall Road**	**2.92**	**37**		Pn	Pn	07 19 32.3	+0.5
LBZ	**Lake Benmore**	**2.94**	**201**		Pn	Pn	07 19 31.8	-0.2
LBZ	**Lake Benmore**	**2.94**	**201**		P	Pn	07 19 31.9	-0.2
MTW	**Mount Morrison**	**2.95**	**82**		Pn	Pn	07 19 32.0	-0.2
MTW	**Mount Morrison**	**2.95**	**82**		P	Pn	07 19 32.0	-0.2
KHEZ	**Kahui Hut**	**2.97**	**39**		Pn	Pn	07 19 33.2	+0.7
PREZ	**Palmer Road**	**3.00**	**41**		Pn	Pn	07 19 33.9	+1.0
PREZ	**Palmer Road**	**3.00**	**41**		P	Pn	07 19 34.1	+1.2
HOWZ	**Holdsworth Sta**	**3.02**	**77**		Pn	Pn	07 19 33.2	0.0
HOWZ	**Holdsworth Sta**	**3.02**	**77**		P	Pn	07 19 33.6	+0.4
NEZ	**North Egmont**	**3.02**	**39**	

ISK ***12*** *07:33:17.2, 39˙09N×29˙20E, h12km, ML2.2/4*
ISCJB ***12*** *07:33:18.3±0.5, 39˙11N±0˙04×29˙13E±0˙05, h10km±5km, Error ellipse: s-maj=8.5km s-min=4.6km az=145.8*
CSEM ***12*** *07:33:18.1±0.2, 39˙10N×29˙15E, h10km, ML2.2, Error ellipse: s-maj=6.9km s-min=4.3km az=137.0*
DDA ***12*** *07:33:18.7, 39˙09N×29˙15E, h7km, Ml2.3*

ISC 12 07:33:18.2±0.9, 39˙10N±0˙04×29˙15E±0˙04, h14km±6km, n20, σ0967/30, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIMA	**Simav-Kutahya**	**0.13**	**264**	PG	**Pg**	**07 33 21.9**	**+0.2**
SIMA				SG	**Sg**	**07 33 24.2**	**+0.1**
SIMA	**Simav-Kutahya**	**0.13**	**264**	*i* Pg	**Pg**	**07 33 21.9**	**+0.2**
SIMA				*e*Sg	**Sg**	**07 33 24.2**	**+0.1**
GDZ	**Gediz**	**0.26**	**92**	*i* P	**Pb**	**07 33 23.8**	**0.0**
GDZ				*i* S	**Sb**	**07 33 28.2**	**-1.0**
GDZ	**Gediz**	**0.26**	**92**	P	**Pg**	**07 33 23.8**	**0.0**
GDZ				S	**Sb**	**07 33 28.2**	**-1.0**
TVSB	**Tavsanli**	**0.43**	**35**	PG	**Pg**	**07 33 25.9**	**-0.9**
TVSB				SG	**Sg**	**07 33 31.8**	**-0.8**
TVSB	**Tavsanli**	**0.43**	**35**	*e*Pg	**Pg**	**07 33 25.9**	**-0.9**
TVSB				*e*Sg	**Sg**	**07 33 31.8**	**-0.8**
KULA	**Kula-Manisa**	**0.69**	**213**	PG	**Pg**	**07 33 30.9**	**-0.8**
KULA	**Kula-Manisa**	**0.69**	**213**	*e*Pg	**Pg**	**07 33 30.9**	**-0.8**
DURS	**Dursunbey**	**0.73**	**314**	*i* P	**Pb**	**07 33 32.8**	**+0.1**
DURS	**Dursunbey**	**0.73**	**314**	P	**Pb**	**07 33 32.8**	**+0.1**
MANT	**Manisa**	**0.76**	**217**	*i* P	**Pb**	**07 33 33.5**	**+0.2**
MANT				*i* S	**Sg**	**07 33 43.0**	**0.0**
MANT	**Manisa**	**0.76**	**217**	P	**Pb**	**07 33 33.5**	**+0.2**
MANT				S	**Sg**	**07 33 43.0**	**0.0**
BORA	**Eskisehir**	**1.28**	**52**	*i* P	**Pg**	**07 33 43.4**	**+0.5**
BORA				*i* S	**Sn**	**07 34 00.3**	**+1.5**
BORA	**Eskisehir**	**1.28**	**52**	P	**Pg**	**07 33 43.3**	**+0.5**
BORA				S	**Sn**	**07 34 00.3**	**+1.5**
KCTX	**Karacabey (Bur**	**1.32**	**333**	PN	**Pn**	**07 33 42.2**	**0.0**
KCTX	**Karacabey (Bur**	**1.32**	**333**	*e*Pn	**Pn**	**07 33 42.2**	**0.0**
ARMT	**Armutlu**	**1.48**	**352**	PN	**Pn**	**07 33 44.2**	**-0.3**
ARMT	**Armutlu**	**1.48**	**352**	*e*Pn	**Pn**	**07 33 44.2**	**-0.3**
GULT	**Gulveren**	**1.70**	**38**	PN	**Pn**	**07 33 47.7**	**+0.2**
GULT	**Gulveren**	**1.70**	**38**	*e*Pn	**Pn**	**07 33 47.7**	**+0.2**

ISCJB ***12*** *07:33:19.0±0.3, 51˚23N±0˙02×19˚11E±0˙02, h0km, mb3.6/4, Error ellipse: s-maj=2.5km s-min=1.6km az=0.8*
SIGU ***12*** *07:33:19.8±0.6, 51˚N±2˚×19˚2E±0˚9, h10km, mb3.4/4*
IPEC ***12*** *07:33:20.7±0.2, 51˚20N×19˚15E, h1km±1km, ML3.9/3, Error ellipse: s-maj=2.0km s-min=1.0km az=130.0*
CSEM ***12*** *07:33:21.0±0.1, 51˚21N×19˚10E, h1km, ML4.1/9, Error ellipse: s-maj=2.9km s-min=2.4km az=176.0*
IDC ***12*** *07:33:21.4±0.7, 51˚27N×19˚05E, h0km, mb3.4/3, mb1 3.8/9, mb1mx3.5/72, mbtmp3.6/9, ML3.8/6, Error ellipse: s-maj=12.6km s-min=6.5km az=118.0*
BGR ***12*** *07:33:23.0±0.6, 51˚13N×19˚12E, h1km, ML4.0/11, Error ellipse: s-maj=8.9km s-min=5.6km az=25.0*

ISC 12 07:33:20.2±0.5, 51˚20N±0˙02×19˚13E±0˙02, h0km, n134, σ1974/225, mb3.6/4, 7C-5D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHZP	**Chorzow**	**0.92**	**185**	*e*Pg	**Pn**	**07 33 40.2**	**-0.1**
CHZP				*e*Sg	**Sn**	**07 33 53.7**	**+0.5**
OJC	**Ojcow**	**1.07**	**156**	*e*Pg	**Pb**	**07 33 41.5**	**-0.1**
OJC				*e*Sg	**Sb**	**07 33 56.7**	**+0.6**
OJC				LME		07 34 28.1	
OJC	**Ojcow**	**1.07**	**156**	*e*Pb	**Pg**	**07 33 41.0**	**+0.2**
OJC				*e*Pg	**Pb**	**07 33 41.5**	**-0.1**
OJC				*e*Sg	**Sb**	**07 33 56.7**	**+0.6**
OJC	**Ojcow**	**1.07**	**156**	*e*Pg	**Pg**	**07 33 40.9**	**+0.2**
OJC				*e*Sg	**Sb**	**07 33 56.8**	**+0.6**
OJC	**Ojcow**	**1.07**	**156**	Pg	**Pg**	**07 33 40.9**	**+0.2**
OJC				Sg	**Sb**	**07 33 56.8**	**+0.6**
BEL	**Belsk**	**1.22**	**58**	*e*Pg	**Pb**	**07 33 43.9**	**-0.2**
BEL				*e*Sg	**Sn**	**07 34 01.9**	**+0.3**
BEL	**Belsk**	**1.22**	**58**	*e*Pg	**Pb**	**07 33 43.9**	**-0.2**
BEL				*e*Sg	**Sn**	**07 34 01.9**	**+0.3**
RAC	**Raciborz**	**1.27**	**208**	*e*Pg	**Pn**	**07 33 46.0**	**+0.8**
RAC				*e*Sg	**Sn**	**07 34 04.7**	**+1.8**
OKC	**Ostrava-Krasne**	**1.50**	**205**	*e*Pg	**Pn**	**07 33 48.8**	**+0.4**
OKC				*e*Sg	**Sn**	**07 34 08.9**	**+0.2**
OKC	**Ostrava-Krasne**	**1.50**	**205**	*e*PG	**Pn**	**07 33 48.8**	**+0.4**
OKC				*e*SG	**Sg**	**07 34 08.7**	**+0.3**
	comp=Z,803nm,0.9s						
OKC	**Ostrava-Krasne**	**1.50**	**205**	Pg	**Pn**	**07 33 48.8**	**+0.4**
OKC				Sg	**Sn**	**07 34 08.9**	**+0.2**
ANAC	**Anensky vrch**	**1.59**	**225**	*e*Pn	**Pn**	**07 33 49.9**	**+0.3**
MORC	**Moravsky Berou**	**1.75**	**216**	*e*Pn	**Pn**	**07 33 52.2**	**+0.3**
MORC				*e*Sg	**Sg**	**07 34 16.5**	**+0.1**
MORC	**Moravsky Berou**	**1.75**	**216**	ǁ *i*P	**Pn**	**07 33 52.4**	**+0.6**
MORC	**Moravsky Berou**	**1.75**	**216**	ǁ *i*P	**Pn**	**07 33 52.4**	**+0.6**
MORC				S	**Sn**	**07 34 15.2**	**+0.3**
MORC				Sg	**Sg**	**07 34 16.5**	**+0.1**
KSP	**Ksiaz**	**1.83**	**260**	*e*Pn	**Pn**	**07 33 52.7**	**-0.1**
KSP				*e*Pg	**Pg**	**07 33 56.3**	**+1.1**
KSP				*e*Sn	**Sg**	**07 34 20.3**	**+1.5**
KSP				*e*Sg	**Sb**	**07 34 23.8**	**+6.0

CD2	**Chengdu**	**31.20**	**24**	P	**P**	07 41 09.5	+0.7
CD2				S	**S**	07 46 11.1	-4.0
CD2				pmax	pmax		
	comp=Z,20nm,0.5s						
NIL	**Nilore**	**34.61**	**335**	*e*P	**P**	07 41 37.5	-1.1
	12nm,0.7s						
LZH	**Lanzhou**	**35.87**	**20**	*e*P	**P**	07 41 52.0	+2.5
LZH				pP	sP	07 41 55.9	+2.0
LZH				sP	pP	07 41 59.6	+7.0
LZH				PP	**PP**	07 43 12.2	+1.1
LZH				pmax	pmax		
	comp=Z,24nm,1.0s						
LZH				pmax	pmax		
	comp=Z,130nm,5.6s						
LZH				LR	LR		
	comp=N,400nm,13.5s						
LZH				LR	LR		
	comp=E,420nm,13.7s						
LZH				LR	LR		
	comp=Z,470nm,16.8s						
XAN	**Xi'an**	**36.11**	**28**	P	P	07 42 00.0	+8.5
XAN				pP	sP	07 42 04.3	+8.4
XAN				sP	pP	07 42 07.0	+12
XAN				PP	**PP**	07 43 22.0	+8.3
XAN				S	**S**	07 47 33.9	+2.7
XAN				sS	sS	07 47 41.5	+5.2
XAN				SS	**SnSn**	07 49 52.6	-4.0
XAN				pmax	pmax		
	comp=Z,7.0nm,0.9s						
XAN				LR	LR		
	comp=N,3µm,13.8s						
XAN				LR	LR		
	comp=E,3µm,12.2s						
XAN				LR	LR		
	comp=Z,5µm,17.9s						
SOEI	**Soe**	**36.47**	**110**	*e*P	P	07 42 00.2	+5.2
	comp=Z,55nm,1.5s						
SSLB	**Suanglung**	**36.84**	**52**	*e*P	**P**	07 42 00.1	+2.2
	comp=Z,11nm,1.1s						
YULB	**Yu-li**	**36.92**	**53**	*e*P	**P**	07 41 59.3	+0.7
	comp=Z,26nm,1.4s						
NACB	**Ninganchiao**	**37.55**	**52**	*e*P	**P**	07 42 03.0	-0.8
	comp=Z,32nm,1.2s						
MBWA	**Marble Bar**	**37.61**	**130**	*e*P	P	07 42 13.6	+9.2
	comp=Z,12nm,1.1s						
GTA	**Gaotai**	**37.85**	**13**	*e*P	**P**	07 42 07.7	+1.3
GTA				pP	sP	07 42 11.8	+1.1
GTA				sP	pP	07 42 14.9	+5.4
GTA				S	**S**	07 47 52.9	-4.9
GTA				sS	pS	07 48 00.8	-0.6
GTA				SS	SnSn	07 50 22.1	-17
GTA				LR	LR		
	comp=Z,4µm,16.9s						
GTA				LR	LR		
	comp=Z,3µm,18.3s						
GTA				LR	LR		
	comp=Z,3µm,19.0s						
KSH	**Kashi**	**38.91**	**343**	P	**P**	07 42 15.2	-0.1
KSH				pmax	pmax		
	comp=Z,16nm,0.7s						
NJ2	**Nanjing**	**40.16**	**40**	*e*P	**P**	07 42 27.2	+1.6
NJ2				pmax	pmax		
	comp=Z,14nm,0.5s						
TARG	**Taragay, Kyrgy**	**40.50**	**346**	*e*P	**P**	07 42 28.3	-0.5
	comp=Z,4.7nm,0.8s						
NRN	**Naryn**	**40.68**	**344**	*e*P	**P**	07 42 30.2	0.0
	comp=Z,4.1nm,0.9s						
FITZ	**Fitzroy Crossi**	**40.85**	**122**	P	**P**	07 42 28.3	-3.2
	comp=Z,3.7nm,0.9s,baz=322,slow=4.0,SNR=3.7						
KDJ	**Kajisay**	**41.03**	**346**	*e*P	**P**	07 42 32.6	-0.3
	comp=Z,3.3nm,1.0s						
WMQ	**Urumqi**	**41.18**	**358**	P	**P**	07 42 37.1	+3.1
WMQ				pP	sP	07 42 39.5	+1.2
WMQ				sP	pP	07 42 42.7	+5.6
WMQ				PP	**PP**	07 44 06.6	-2.5
WMQ				pmax	pmax		
	comp=Z,19nm,0.7s						
AAK	**Ala-Archa**	**42.22**	**343**	P	**P**	07 42 44.7	+2.1
	comp=Z,1.5nm,0.7s,baz=122,slow=9.5,SNR=3.1						
HHC	**Hu-ho-hao-te**	**42.95**	**24**	*e*P	**P**	07 42 51.8	+3.3
HHC				pmax	pmax		
	comp=Z,29nm,1.0s						
HHC				pmax	pmax		
	comp=Z,87nm,5.8s						
KK31	**Karatay Array**	**43.91**	**340**	*e*P	**P**	07 42 54.1	-2.1
KKAR	**Karatay Array**	**43.91**	**340**	*e*P	**P**	07 42 54.3	-1.9
MK01	**Makanchi Array**	**44.56**	**353**	*e*P	**P**	07 43 01.6	+0.3
MK31	**Makanchi Array**	**44.59**	**353**	*e*P	**P**	07 42 60.0	-1.5
MK32	**Makanchi Array**	**44.59**	**353**	*e*P	**P**	07 43 02.0	+0.5
MKAR	**Makanchi Array**	**44.59**	**353**	P	**P**	07 43 02.0	+0.5
	comp=Z,2.6nm,0.7s,baz=148,slow=7.1,SNR=13						
MKAR	**Makanchi Array**	**44.59**	**353**	*e*P	**P**	07 43 02.3	+0.8
	comp=Z,47nm,0.8s						
GEYT	**Alibeck**	**45.64**	**325**	P	**P**	07 43 11.1	+1.1
	comp=Z,1.5nm,0.4s,baz=134,slow=6.2,SNR=3.3						
GYA0B	**ALIBECK ARRAY**	**45.64**	**325**	*e*P	**P**	07 43 09.9	-0.1
	comp=Z,3.9nm,0.6s						
ABPO	**Ambohimpanom**	**46.96**	**241**	*e*P	P	07 43 27.1	+6.2
	comp=Z,17nm,1.4s						
SONA0	**Songino Array**	**47.39**	**15**	*e*P	**P**	07 43 24.7	+1.0
SONM	**Songino Array**	**47.39**	**15**	P	**P**	07 43 24.7	+1.0
	comp=Z,4.4nm,0.5s,baz=194,slow=9.7,SNR=22						
SONA1	**Songino Array**	**47.40**	**15**	*e*P	**P**	07 43 24.5	+0.7
ULN	**Ulaanbaatar**	**47.59**	**16**	*e*P	**P**	07 43 22.4	-2.9
	comp=Z,9.8nm,1.4s						
RAYN	**Ar Rayn**	**47.62**	**300**	*e*P	**P**	07 43 26.2	+0.4
	comp=Z,6.5nm,1.0s						
INCN	**Inchon**	**48.54**	**40**	*e*P	**P**	07 43 30.4	-2.3
	comp=Z,18nm,0.7s						
KURBB	**Kurchatov Arra**	**48.88**	**351**	P	**P**	07 43 35.9	+0.9
	comp=Z,1.8nm,0.8s,baz=176,slow=7.0,SNR=11						
KURK	**Kurchatov**	**48.95**	**351**	*e*P	**P**	07 43 35.1	-0.4
	comp=Z,4.0nm,0.9s						
WRA	**Warramunga Arr**	**49.11**	**119**	P	**P**	07 43 34.7	-2.6
	comp=Z,3.8nm,0.7s,baz=296,slow=8.6,SNR=28						
WB2	**Warramunga Arr**	**49.12**	**119**	*e*P	P	07 43 43.5	+6.1
	comp=Z,8.8nm,0.8s						
ASAR	**Alice Springs**	**50.21**	**124**	P	**P**	07 43 43.2	-2.5
	comp=Z,0.8nm,0.4s,baz=296,slow=7.3,SNR=17						
ASAR				PcP	**PcP**	07 45 01.3	-3.7
	comp=Z,6.3nm,1.0s,baz=250,slow=3.7,SNR=11						
ZAA0	**Zalesovo Array**	**51.43**	**356**	*e*P	**P**	07 43 53.3	-1.0
	comp=Z,3.3nm,0.6s						
ZALV	**Zalesovo Beam**	**51.43**	**356**	P	**P**	07 43 54.5	+0.2
	comp=Z,1.9nm,0.7s,baz=198,slow=8.2,SNR=6.2						
ZAA1	**Zalesovo Array**	**51.44**	**356**	*e*P	**P**	07 43 54.5	+0.2
CN2	**Changchun**	**51.87**	**32**	*e*P	**P**	07 44 01.9	+4.1
BVAR	**Borovoye Array**	**52.84**	**345**	P	**P**	07 44 04.2	-0.7
	comp=Z,1.1nm,0.8s,baz=134,slow=8.5,SNR=6.2						
BRVK	**Borovoye**	**52.90**	**345**	*e*P	**P**	07 44 04.4	-0.9
	comp=Z,0.7nm,0.6s						
ABKAR	**Akbulak array**	**53.07**	**336**	*e*P	**P**	07 44 06.5	-0.1
INU	**Inuyama**	**54.60**	**47**	*e*P	**P**	07 44 16.7	-1.4
	comp=Z,21nm,1.4s						
GUMO	**Guam**	**55.54**	**75**	*e*P	**P**	07 44 25.2	0.0
	comp=Z,467nm,1.5s						
JHJ2	**Mitsune**	**55.81**	**51**	*e*P	**P**	07 44 26.9	0.0
	comp=Z,957nm,1.4s						
STKA	**Stephens Creek**	**59.85**	**129**	P	**P**	07 44 52.5	-2.7
	comp=Z,5.1nm,1.0s,baz=292,slow=10.0,SNR=7.2						
BRTR	**Keskin Array B**	**62.79**	**314**	P	**P**	07 45 15.1	-0.2
	comp=Z,0.9nm,0.5s,baz=130,slow=7.1,SNR=6.9						
BR101	**Keskin Array S**	**62.79**	**314**	*e*P	**P**	07 45 15.1	-0.2
BR131	**Keskin Array S**	**62.79**	**314**	*e*P	**P**	07 45 15.1	-0.2
ILGA	**Ilgaz**	**63.22**	**315**	*e*P	**P**	07 45 15.5	-2.7
	comp=Z,3.7nm,1.4s						
BR231	**Keskin MP Arra**	**63.45**	**314**	*e*P	**P**	07 45 15.8	-3.8
LBTB	**Lobatse**	**67.86**	**242**	P	**P**	07 45 46.6	-1.7
	comp=Z,2.0nm,0.6s,baz=82,slow=4.6,SNR=3.5						
BOSA	**Boshof**	**69.06**	**238**	P	**P**	07 45 52.6	-3.1
	comp=Z,2.0nm,0.8s,baz=44,slow=3.0,SNR=3.8						
KLMR	**Klimovskoe**	**69.47**	**336**	*e*P	P	07 45 51.6	-5.9
KLMR				AMP		07 46 07.1	
	comp=Z,13nm,1.2s						
MLR	**Muntele Rosu**	**70.06**	**318**	P	**P**	07 46 02.6	+1.0
	comp=Z,0.7nm,0.6s,baz=179,slow=8.4,SNR=3.8						
MLR	**Muntele Rosu**	**70.06**	**318**	*e*P	**P**	07 46 02.6	+1.0
	comp=Z,14nm,1.5s						
BUR04	**Bucovina Ar. S**	**71.18**	**320**	*e*P	**P**	07 46 08.1	-0.3
BUR08	**Bucovina Ar. S**	**71.20**	**320**	*e*P	**P**	07 46 07.2	-1.4
TIXI	**Tiksi**	**73.33**	**12**	*e*P	**P**	07 46 18.9	-1.8
	comp=Z,7.3nm,0.8s						
STHS	**Stebnicka Huta**	**74.22**	**321**	*e*P	**P**	07 46 28.0	+1.6
STHS				*e*		07 55 34.3	
LANS	**Liptovska Anna**	**75.28**	**320**	*e*P	**P**	07 46 34.6	+2.0
FIA0	**FINESS Array S**	**75.46**	**334**	*e*P	**P**	07 46 32.9	-0.4
FINES	**FINESS Array B**	**75.46**	**334**	P	**P**	07 46 32.9	-0.4
	comp=Z,2.4nm,0.6s,baz=108,slow=6.2,SNR=6.7						
ARA0	**ARCESS Array S**	**78.85**	**341**	*e*P	**P**	07 46 52.0	-0.2
ARCES	**ARCESS Array B**	**78.85**	**341**	P	**P**	07 46 52.0	-0.2
	comp=Z,2.4nm,0.7s,baz=82,slow=8.7,SNR=7.8						
GEC2	**GERESS Array S**	**78.95**	**319**	*e*P	**P**	07 46 52.9	-0.4
	comp=Z,8.2nm,1.3s						
GERES	**GERESS Array B**	**78.95**	**319**	P	**P**	07 46 53.3	+0.1
	comp=Z,1.6nm,0.7s,baz=113,slow=6.1,SNR=5.1						
KHC	**Kasperske Hory**	**79.07**	**319**	*e*PCP	**PcP**	07 47 03.0	+0.7
HFS	**Hagfors**	**80.90**	**331**	P	**P**	07 47 02.3	-1.2
	comp=Z,1.1nm,0.8s,baz=94,slow=4.8,SNR=4.0						
TORD	**Torodi Ar. Bea**	**87.55**	**283**	P	**P**	07 47 36.5	-1.7
	comp=Z,0.9nm,1.0s,baz=94,slow=4.3,SNR=4.1						
TCUT	**Toone Canyon**	**132.49**	**22**	*e*PKPpre	PKPpre	07 53 59.4	
PKCU	**Pink Cliffs**	**135.28**	**25**	*e*PKPpre	PKPpre	07 54 01.4	

ISCJB ***12*** *07:41:11.4±0.5, 39.09N±0.04×29.18E±0.04, h10km±4km, Error ellipse: s-maj=7.2km s-min=4.6km az=149.6*
CSEM ***12*** *07:41:11.2±0.1, 39.09N×29.18E, h10km, ML2.3, Error ellipse: s-maj=3.7km s-min=2.4km az=137.0*
ISK ***12*** *07:41:11.1, 39.15N×29.15E, h8km, ML2.3/7*
DDA ***12*** *07:41:11.6, 39.08N×29.14E, h7km, Ml2.5*
ISC 12 07:41:11.7±0.9, 39.12N±0.03×29.15E±0.03, h11km±6km, n30, σ0°50/42, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIMA	**Simav-Kutahya**	**0.13**	**256**	PG	**Pg**	07 41 15.0	+0.1
SIMA				SG	**Sg**	07 41 17.1	-0.1
SIMA	**Simav-Kutahya**	**0.13**	**256**	*i* Pg	**Pg**	07 41 15.0	+0.1
SIMA				*e*Sg	**Sg**	07 41 17.1	-0.1
GDZ	**Gediz**	**0.26**	**96**	*i* P	**Pg**	07 41 16.7	-0.4
GDZ				*i* S	**Sg**	07 41 21.5	+0.8
GDZ	**Gediz**	**0.26**	**96**	P	**Pg**	07 41 16.7	-0.4
GDZ				S	**Sg**	07 41 21.5	+0.8
TVSB	**Tavsanli**	**0.41**	**36**	PG	**Pg**	07 41 19.3	-0.6
TVSB				SG	**Sg**	07 41 24.9	-0.5
TVSB	**Tavsanli**	**0.41**	**36**	*e*Pg	**Pg**	07 41 19.3	-0.6
TVSB				*e*Sg	**Sg**	07 41 24.9	-0.5
KULA	**Kula-Manisa**	**0.71**	**213**	PG	**Pg**	07 41 25.2	-0.3
KULA	**Kula-Manisa**	**0.71**	**213**	*e*Pg	**Pg**	07 41 25.2	-0.3
DURS	**Dursunbey**	**0.71**	**313**	*i* P	**Pg**	07 41 25.1	-0.4
DURS				*i* S	**Sb**	07 41 37.4	+1.3
DURS	**Dursunbey**	**0.71**	**313**	P	**Pg**	07 41 25.1	-0.4
DURS				S	**Sb**	07 41 37.4	+1.3
MANT	**Manisa**	**0.78**	**217**	*i* P	**Pg**	07 41 26.4	-0.3
MANT				*i* S	**Sg**	07 41 36.1	-0.8
MANT	**Manisa**	**0.78**	**217**	P	**Pg**	07 41 26.4	-0.3
MANT				S	**Sg**	07 41 36.1	-0.8
BALB	**Balikesir**	**1.11**	**298**	PN	**Pb**	07 41 32.5	-0.5
BALB	**Balikesir**	**1.11**	**298**	*e*Pn	**Pb**	07 41 32.5	-0.5
STEP	**BALIKESIR_Sava**	**1.14**	**284**	*i* P	**Pg**	07 41 33.6	0.0
STEP				*i* S	**Sn**	07 41 49.5	+0.1
STEP	**BALIKESIR_Sava**	**1.14**	**284**	P	**Pg**	07 41 33.6	0.0
STEP				S	**Sn**	07 41 49.5	+0.1
CAVI	**Cavuskoy**	**1.21**	**26**	PN	**Pb**	07 41 34.5	-0.2
CAVI	**Cavuskoy**	**1.21**	**26**	*e*Pn	**Pb**	07 41 34.5	-0.2
MDNY	**Mudanya-Bursa**	**1.27**	**351**	PN	**Pn**	07 41 35.1	-0.3
MDNY	**Mudanya-Bursa**	**1.27**	**351**	*e*Pn	**Pn**	07 41 35.1	-0.3
KCTX	**Karacabey (Bur**	**1.30**	**332**	PN	**Pb**	07 41 36.1	-0.1
KCTX	**Karacabey (Bur**	**1.30**	**332**	*e*Pn	**Pb**	07 41 36.1	-0.1
ADVT	**Abdulvahap**	**1.39**	**19**	PN	**Pn**	07 41 36.9	-0.2
ADVT	**Abdulvahap**	**1.39**	**19**	*e*Pn	**Pn**	07 41 36.9	-0.2
YLV	**Yalova**	**1.46**	**7**	PN	**Pn**	07 41 37.9	-0.2
YLV	**Yalova**	**1.46**	**7**	*e*Pn	**Pn**	07 41 37.9	-0.2
ARMT	**Armutlu**	**1.47**	**351**	PN	**Pn**	07 41 38.2	+0.1
ARMT	**Armutlu**	**1.47**	**351**	*e*Pn	**Pn**	07 41 38.2	+0.1
GULT	**Gulveren**	**1.69**	**38**	PN	**Pn**	07 41 41.6	+0.4
GULT	**Gulveren**	**1.69**	**38**	*e*Pn	**Pn**	07 41 41.6	+0.4

ISCJB ***12*** *07:43:44.9±0.3, 3.07N±0.05×92.69E±0.04, h10km, mb4.6/40, MS5.1/2, Error ellipse: s-maj=7.2km s-min=4.3km az=28.1*
BJI ***12*** *07:43:45.0, 2.65N×92.48E, h29km, mb4.7/20, mB5.2/4, Ms5.4/5, Ms7 5.3/7*
IDC ***12*** *07:43:45.7±0.9, 3.13N×92.62E, h0km, mb4.2/16, mb1 4.4/19, mb1mx4.1/75, mbtmp4.2/19, ML4.3/3, Error ellipse: s-maj=32.2km s-min=16.5km az=38.0*
NEIC ***12*** *07:43:46.6±0.4, 3.09N×92.71E, h10km, mb4.7/21, Error ellipse: s-maj=9.0km s-min=5.2km az=213.0*
DJA ***12*** *07:43:56.8±0.9, 3.1±4.4°×9.3±5.1°, h77km±18km, M4.7/9, mb4.6/9, MLv4.8/6*
ISC 12 07:43:46.4±0.5, 3.08N±0.05×92.65E±0.04, h10km, n91, σ2°46/105, mb4.6/40, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSI	**Banda Aceh**	**3.56**	**48**	P	**Pn**	07 44 41.2	-0.6
BSI				S	**Sn**	07 45 17.7	-6.3
MLSI	**Meulaboh, Aceh**	**3.92**	**72**	P	**Pn**	07 44 46.8	0.0
MLSI				S	**Sn**	07 45 27.1	-5.8
TPTI		**4.52**	**88**	*e*Pn	**Pn**	07 44 55.0	0.0
TPTI				S	**Sn**	07 45 42.4	-5.3
LHMI	**Lhok Sumawe**	**4.78**	**63**	*e*Pn	**Pn**	07 44 58.7	+0.1
LHMI				*e*Sn	**Sn**	07 45 48.7	-5.4
KCSI	**Kotacane, Aceh**	**5.13**	**85**	P	**Pg**	07 45 27.7	+2.9
KCSI				S	**Sn**	07 45 58.6	-4.1
GSI	**Gunungsitoli**	**5.23**	**110**	*e*Pn	**Pn**	07 45 05.3	+0.6
GSI				*e*Sn	**Sn**	07 45 60.0	-5.2
PSI	**Prapat**	**6.27**	**92**	Pn	**Pn**	07 45 20.4	+1.2
	6.1nm,0.3s,baz=297,slow=14,SNR=24						
PSI				Sn	**Sn**	07 46 29.6	-1.4
	14nm,0.3s,baz=134,slow=8.1,SNR=9.9						
PSI	**Prapat**	**6.27**	**92**	*e*Pn	**Pn**	07 45 19.7	+0.6
PSI				*e*Sn	**Sn**	07 46 29.3	-1.7
MNSI	**Mandailing Nat**	**7.29**	**108**	P	**Pn**	07 45 33.4	+0.4
	100nm,0.5s,1.0nm						
KULM	**Kulim**	**8.27**	**74**	*e*Pn	**Pn**	07 45 46.3	-0.3
KULM				*e*Sn	**Sn**	07 47 11.5	-8.7
IPM	**Ipoh**	**8.47**	**80**	*e*Pn	**Pn**	07 45 48.9	-0.4
RGRI	**Rengat**	**10.26**	**109**	P	Pn	07 46 29.5	+16
MYKOM	**Kota Tinggi**	**11.26**	**96**	*e*Pn	**Pn**	07 46 28.0	+0.4
PALK	**Pallekele**	**12.61**	**290**	Pn	**Pn**	07 46 46.5	+0.5
	1.9nm,0.3s,baz=116,slow=14,SNR=3.8						
PALK				Sn	**Sn**	07 49 02.9	-3.7
	1.7nm,0.3s,baz=115,slow=19,SNR=4.3						
PALK	**Pallekele**	**12.61**	**290**	*e*Pn	**Pn**	07 46 47.2	+1.2
PSI				*e*Sn	**Sn**	07 49 02.9	-3.7
MDSI	**Maura Dua**	**13.75**	**123**	P	**Pn**	07 47 03.7	+2.1
	15nm,0.9s						
COCO	**West Island**	**15.73**	**165**	*e*Pn	**Pn**	07 47 27.3	-1.0
	369nm,1.4s						
CM01	**Chiang Mai Arr**	**16.45**	**22**	*e*Pn	**Pn**	07 47 35.0	-2.4
CM31	**Chiang Mai Arr**	**16.48**	**22**	*e*Pn	**Pn**	07 47 35.8	-2.1
CMAR	**Chiang Mai Arr**	**16.48**	**22**	Pn	**Pn**	07 47 36.5	-1.3
	0.4nm,0.3s,baz=216,slow=14,SNR=22						
CHTO	**Chiang Mai**	**16.80**	**21**	*e*Pn	**Pn**	07 47 40.7	-1.3
	11nm,1.3s						
CISI	**Cisompet, Garu**	**18.46**	**125**	*e*Pn	**P**	07 48 01.0	-1.6
	31nm,1.0s						
H08S2	**Diego Garcia H**	**22.76**	**242**	T	T	08 12 36.5	
	baz=68,slow=76,SNR=25						
H08S3	**Diego Garcia H**	**22.76**	**242**	T	T	08 12 36.0	
	baz=68,slow=76,SNR=28						
H08S1	**Diego Garcia H**	**22.78**	**242**	T	T	08 12 37.1	
	baz=68,slow=76,SNR=24						
KMI	**Kunming**	**23.97**	**23**	P	**P**	07 49 03.4	+2.0
KMI				pmax	pmax		
	comp=Z,21nm,1.1s						
GYA	**Guiyang**	**26.85**	**29**	P	**P**	07 49 30.0	+2.5
GYA				PP	**PnPn**	07 50 16.2	+7.0
GYA				PcP	**PcP**	07 52 51.4	+1.2
GYA				S	**S**	07 54 04.0	-0.2
GYA				SS	**SnSn**	07 55 18.8	+10
GYA				ScP	**ScP**	07 56 28.2	-2.4
GYA				pmax	pmax		
	comp=Z,120nm,5.6s						
CD2	**Chengdu**	**29.60**	**20**	P	**P**	07 49 52.5	+0.6
CD2				S	**S**	07 54 48.1	+0.8
CD2				pmax	pmax		
	comp=Z,20nm,0.5s						
XAN	**Xi'an**	**34.33**	**24**	P	**P**	07 50 32.7	-0.8
XAN				pP	sP	07 50 42.0	+4.2
XAN				sP	pP	07 50 46.3	+10
XAN				LR	LR		
	comp=N,6µm,21.1s						
XAN				LR	LR		
	comp=E,4µm,23.3s						
XAN				LR	LR		
	comp=Z,5µm,24.9s						
LZH	**Lanzhou**	**34.43**	**16**	*e*P	**P**	07 50 37.3	+2.9
LZH				pP	sP	07 50 47.1	+8.4
LZH				sP	pP	07 50 51.8	+14
LZH				pmax	pmax		
	comp=Z,29nm,1.0s						
LZH				pmax	pmax		
	comp=Z,170nm,6.0s						
NIL	**Nilore**	**35.40**	**331**	*e*P	**P**	07 50 43.1	+0.4
	14nm,0.6s						
MBWA	**Marble Bar**	**35.83**	**133**	*e*P	**P**	07 50 46.2	-0.3
	13nm,1.3s						
GTA	**Gaotai**	**36.74**	**9**	*e*P	**P**	07 50 54.9	+0.7
GTA				pP	sP	07 51 05.3	+6.8
GTA				sP	pP	07 51 09.4	+12
GTA				S	**S**	07 56 38.1	0.0
GTA				sS	sS	07 56 52.4	+9.2
GTA				SS	**SnSn**	07 59 07.7	-1.3
GTA				pmax	pmax		
	comp=Z,8.0nm,0.9s						
NJ2	**Nanjing**	**37.90**	**38**	*e*P	**P**	07 51 03.9	-0.1
NJ2				pmax	pmax		
	comp=Z,17nm,0.5s						
KSH	**Kashi**	**39.30**	**339**	P	**P**	07 51 14.2	-1.6
KSH				S	**S**	07 57 11.8	-5.1
SAUI	**Saumlaki**	**40.09**	**106**	*e*P	**P**	07 51 23.4	+0.8
	613nm,1.0s						
TARG	**Taragay, Kyrgy**	**40.72**	**343**	*e*P	**P**	07 51 29.2	+1.3
	9.7nm,1.3s						
WMQ	**Urumqi**	**40.80**	**355**	P	**P**	07 51 29.5	+1.4
WMQ				pP	sP	07 51 38.5	+6.0
WMQ				pmax	pmax		
	comp=Z,21nm,0.7s						
KDJ	**Kajisay**	**41.27**	**342**	*e*P	**P**	07 51 33.1	+0.9
	9.9nm,1.3s						
HHC	**Hu-ho-hao-te**	**41.28**	**22**	*e*P	**P**	07 51 33.4	+1.2
HHC				SS	SS	08 00 48.2	-1.8
HHC				pmax	pmax		
	comp=Z,19nm,1.0s						
HHC				LR	LR		
	comp=N,910nm,14.0s						
HHC				LR	LR		
	comp=E,1µm,15.3s						
HHC				LR	LR		
	comp=Z,1µm,14.0s						
AAK	**Ala-Archa**	**42.59**	**340**	*e*P	**P**	07 51 44.4	+1.5
	5.2nm,1.4s						
MK01	**Makanchi Array**	**44.44**	**350**	*e*P	**P**	07 51 58.0	+0.5
KK31	**Karatay Array**	**44.45**	**337**	*e*P	**P**	07 51 58.4	+0.6
KKAR	**Karatay Array**	**44.45**	**337**	*e*P	**P**	07 51 58.4	+0.6
MK31	**Makanchi Array**	**44.46**	**350**	*e*P	**P**	07 51 58.4	+0.6
MK32	**Makanchi Array**	**44.46**	**350**	*e*P	**P**	07 51 58.4	+0.6
MKAR	**Makanchi Array**	**44.46**	**350**	P	**P**	07 51 58.4	+0.6
	5.4nm,0.6s,baz=171,slow=9.0,SNR=49						
MKAR	**Makanchi Array**	**44.46**	**350**	*e*P	**P**	07 51 58.3	+0.6
	34nm,0.6s						
MAKZ	**Makanchi**	**44.53**	**350**	*e*P	**P**	07 51 58.9	+0.5
	2.4nm,0.6s						
SONA0	**Songino Array**	**46.13**	**13**	*e*P	**P**	07 52 12.1	+0.9
SONM	**Songino Array**	**46.13**	**13**	P	**P**	07 52 12.1	+0.9
	2.2nm,0.6s,baz=194,slow=8.4,SNR=11						
SONA1	**Songino Array**	**46.15**	**13**	*e*P	**P**	07 52 11.7	+0.5
WRA	**Warramunga Arr**	**46.89**	**121**	P	**P**	07 52 18.4	+1.0
	1.7nm,0.8s,baz=298,slow=8.9,SNR=6.1						
WR1	**Warramunga Arr**	**46.89**	**121**	*e*P	**P**	07 52 18.4	+1.0
	5.5nm,1.1s						
GEYT	**Alibeck**	**46.91**	**322**	P	**P**	07 52 18.2	+1.0
	4.7nm,0.6s,baz=165,slow=7.7,SNR=6.8						
GYA0B	**ALIBECK ARRAY**	**46.91**	**322**	*e*P	**P**	07 52 18.7	+1.4
	6.0nm,0.6s						
ASAR	**Alice Springs**	**48.16**	**126**	P	**P**	07 52 28.4	+1.2
	0.4nm,0.6s,baz=303,slow=7.6,SNR=4.1						
KURBB	**Kurchatov Arra**	**48.85**	**348**	P	**P**	07 52 32.6	+0.6
	3.1nm,0.6s,baz=170,slow=7.0,SNR=22						
KURK	**Kurchatov**	**48.92**	**348**	*e*P	**P**	07 52 33.2	+0.6
CN2	**Changchun**	**49.86**	**31**	*e*P	**P**	07 52 42.1	+2.2
RAYN	**Ar Rayn**	**49.87**	**298**	*e*P	**P**	07 52 42.2	+1.8
	3.0nm,1.0s						
ZAA0	**Zalesovo Array**	**51.11**	**354**	*e*P	**P**	07 52 49.6	+0.4
	24nm,1.4s						
ZALV	**Zalesovo Beam**	**51.11**	**354**	P	**P**	07 52 49.6	+0.4
	5.4nm,0.4s,baz=179,slow=7.1,SNR=23						
**Z

X16A	Lo Mia Camp, P	5.64	12	ePn		Pn	07 50 25.2	-1.6
121A	Cookes Peak, D	5.67	49	ePn		Pn	07 50 27.3	0.0
	27nm,1.5s							
SLBS	Sierra La Lagu	5.81	153	ePn		Pn	07 50 29.6	+0.6
X18A	Snowflake	6.14	23	ePn		Pn	07 50 32.8	-0.9
W13A	Hualapai Mount	6.25	352	ePn		Pn	07 50 31.0	-4.2
WUAZ	Wupatki	6.72	10	ePn		Pn	07 50 41.3	-0.3
W18A	Petrified Fore	6.75	22	ePn		Pn	07 50 42.4	+0.4
PASC	Pasadena Art C	6.96	320	ePn		Pn	07 50 40.8	-3.9
MNTX	Cornudas Mount	7.04	65	ePn		Pn	07 50 47.2	+1.4
OAT	Oat Mountain	7.32	319	ePn		Pn	07 50 57.3	+7.5
LAZ	Ladron	7.34	40	ePn		Pn	07 50 51.5	+1.3
BNM	Barren Site	7.46	44	ePn		Pn	07 50 52.3	+0.4
U15A	North Rim	7.53	3	ePn		Pn	07 50 52.5	-0.3
WBSM	Bird Springs	7.99	327	ePn		Pn	07 50 53.8	-5.3
TX31	Lajitas Ar. Si	8.05	85	ePn		Pn	07 50 59.4	-0.4
LTX	Lajitas	8.05	85	ePn		Pn	07 50 59.3	-0.5
TXAR	Lajitas Array	8.05	85	Pn		Pn	07 50 59.3	-0.5
	1.5nm,0.3s,baz=259,slow=13,SNR=37							
TXAR				Lg		Lg	07 53 26.2	
	0.9nm,0.3s,baz=283,slow=28,SNR=5.9							
KNB	Kanab	8.10	0	ePn		Pn	07 50 59.9	-0.6
LCMT	Little Creek M	8.10	358	ePn		Pn	07 50 59.8	-0.7
ANMO	Albuquerque	8.12	40	Pn		Pn	07 51 01.9	+1.1
	0.4nm,0.3s,baz=47,slow=15,SNR=7.4							
ANMO				Lg		Lg	07 53 18.3	
	0.4nm,0.3s,baz=13,slow=15,SNR=2.4							
CCUT	Cedar City	8.64	357	ePn		Pn	07 51 08.9	+0.8
MVCO	Mesa Verde	9.06	23	ePn		Pn	07 51 14.7	+0.9
MTPU	Mount Pierson	9.14	3	ePn		Pn	07 51 16.3	+1.3
PAGB	Antelope Grade	9.25	319	ePn		Pn	07 51 17.2	+1.0
MSU	Marysvale	9.61	3	ePn		Pn	07 51 22.4	+1.0
PV05	Paradox Valley	9.68	18	ePn		Pn	07 51 24.8	+2.5
R11A	Troy Canyon, C	9.70	347	ePn		Pn	07 51 21.4	-1.1
MSTX	Muleshoe	9.99	57	ePn		Pn	07 51 23.2	-3.1
NV01	Mina Array Sit	10.54	336	ePn		Pn	07 51 31.6	-2.4
NVAR	Mina Array Bea	10.54	336	Pn		Pn	07 51 36.2	+2.2
	baz=148,slow=14,SNR=4.1							
WAKR	Walker	11.04	332	ePn		Pn	07 51 43.3	+2.4
DUG	Dugway, Tooele	11.27	0	ePn		Pn	07 51 45.0	+0.9
YERR	Yerington	11.37	334	ePn		Pn	07 51 48.3	+2.9
JLU	Jordanelle	11.74	5	ePn		Pn	07 51 55.0	+4.6
VCNR	Virginia City	11.80	333	ePn		Pn	07 51 53.5	+2.2
O20A	White River Ci	11.84	17	ePn		Pn	07 51 52.5	+0.7
Q24A	Divide	11.90	30	ePn		Pn	07 51 55.4	+2.7
ABTX	Abilene, Hawle	11.95	69	ePn		Pn	07 51 52.8	-0.5
BGU	Big Grassy Mou	12.00	359	ePn		Pn	07 51 57.1	+3.1
AFDM	Forest Hills D	12.08	328	ePn		Pn	07 51 54.8	-0.1
TCUT	Toone Canyon	12.25	5	ePn		Pn	07 51 55.0	-2.5
LOY	Loyalton	12.35	332	ePn		Pn	07 52 04.3	+5.7
GDXM	Geysers	12.88	323	ePn		Pn	07 52 06.5	+0.7
KVTX	Kingsville	13.26	92	ePn		Pn	07 52 13.0	+1.9
RWWY	Rawlins	13.57	18	ePn		Pn	07 52 16.0	+0.6
PD31	Pinedale Array	14.10	10	ePn		Pn	07 52 19.9	-2.8
PDAR	Pinedale Array	14.10	10	Pn		P	07 52 27.5	-2.9
	0.2nm,0.3s,baz=188,slow=11,SNR=3.6							
PDAR	Pinedale Array	14.10	10	ePn		Pn	07 52 18.6	-4.1
WVOR	Wild Horse Val	14.30	342	ePn		Pn	07 52 28.2	+2.9
MOD	Modoc Plateau	14.32	337	ePn		Pn	07 52 26.5	+0.9
KMRM	Mail Ridge	14.40	325	eP		P	07 52 33.5	+0.1
HLID	Hailey	14.69	356	ePn		Pn	07 52 30.0	-0.7
YMS	Mount Sheridan	15.45	6	ePn		Pn	07 52 33.0	-8.1
YMR	Madison River	15.82	5	ePn		Pn	07 52 45.1	-0.5
TUL1	Leonard	16.01	60	ePn		Pn	07 52 48.8	+0.9
	20nm,1.2s							
PINE	Pine Mountain	16.22	339	ePn		Pn	07 52 50.3	-0.4
KSU1	Kansas State U	16.86	49	ePn		P	07 53 02.1	+1.3
	4.1nm,0.4s							
G08A	Pilot Rock	17.07	345	ePn		Pn	07 53 00.4	-1.1
	2.1nm,0.9s							
ULM	Lac du Bonnet	24.91	26	P		P	07 54 24.0	-1.5
	3.8nm,0.8s,baz=169,slow=19,SNR=5.6							
TKL	Tuckaleechee C	25.44	67	P		P	07 54 33.1	+2.6
	6.3nm,0.9s,baz=235,slow=9.7,SNR=4.9							
PAX	Paxson	40.09	338	eP		P	07 56 37.0	-0.9
	12nm,1.1s							
ILAR	Eielson Array	41.77	339	P		P	07 56 50.6	-1.1
	2.1nm,1.1s,baz=148,slow=6.3,SNR=10							
ILB	Eielson Array	41.77	339	eP		P	07 56 50.6	-1.1
PPLA	Purkeypile	42.44	335	eP		P	07 56 56.5	-0.9
	6.8nm,1.1s							
SJG	San Juan	43.91	94	eP		P	07 57 02.2	-7.3
	25nm,0.3s							
BUR04	Bucovina Ar. S	95.01	27	eP		P	08 02 29.9	+4.5
FAKI	Fak Fak	113.14	280	ePKPdf		PKiKP	08 07 41.2	+0.3

*ISCJB **12** 07:49:20.1±0.5,27.°87N±0.°05×113.°50W±0.°05,h10km, mb5.3/13, Error ellipse: s-maj=7.3km s-min=5.9km az=24.2*

*NEIC **12** 07:49:21.9±0.6,27.°88N×113.°51W,h10km,mb4.4/19, Error ellipse: s-maj=8.7km s-min=6.7km az=209.0*

*IDC **12** 07:49:24.3±2.3,28.°24N×113.°17W,h0km, mb4.1/3, mb1 4.4/7,mb1mx3.9/60,mbtmp4.1/7,ML3.2/2,Error ellipse: s-maj=37.8km s-min=16.3km az=37.0*

ISC 12 07:49:23.1±0.8,**27.°95N**±0.°07×**113.°38W**±0.°08,**h10**km,**n70,** σ2**s16/62,mb5.7**/13,**Baja California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRIG	Santa Rosalia	1.19	122	ePn	Pn	07 49 46.7	+0.9
HSIG		2.39	63	ePn	Pn	07 50 01.2	-1.1
LPIG	La Paz	4.73	144	Pn	Pn	07 50 37.4	+2.9
	4.1nm,0.3s,baz=354,slow=10,SNR=4.5						
113A	Mohawk Valley,	4.81	356	ePn	Pn	07 50 29.3	-6.3
GLA	Glamis	5.23	347	ePn	Pn	07 50 40.8	-0.7
SLBS	Sierra La Lagu	5.26	143	ePn	Pn	07 50 39.5	-2.4
SWSC	Sam W. Stewart	5.40	338	ePn	Pn	07 50 46.9	+3.2
SWSC				eSn	Sn	07 51 50.0	+4.2
BAR	Barrett	5.50	330	ePn	Pn	07 50 41.5	-3.8
Y12C	Blythe	5.86	351	ePn	Pn	07 50 43.1	-7.0
X16A	Lo Mia Camp, P	6.65	14	ePn	Pn	07 50 55.3	-5.8
EPT	El Paso	7.08	56	ePn	Pn	07 51 01.3	-5.6
W13A	Hualapai Mount	7.14	357	ePn	Pn	07 51 04.7	-3.1
X18A	Snowflake	7.18	23	ePn	Pn	07 51 03.1	-5.3
LDFC	Landfair	7.25	349	ePn	Pn	07 51 07.7	-1.7
MWC	Mount Wilson	7.43	328	ePn	Pn	07 51 10.5	-1.2
WUAZ	Wupatki	7.73	12	ePn	Pn	07 51 17.6	+1.7
WUAZ				eSn	Sn	07 52 51.0	+7.4
LTX	Lajitas	8.64	79	ePn	Pn	07 51 28.8	+0.4
TXAR	Lajitas Array	8.64	79	Pn	Pn	07 51 28.8	+0.4
	4.2nm,0.3s,baz=261,slow=13,SNR=15						
FRI	Friant	10.47	331	ePn	Pn	07 51 43.1	-10
NVAR	Mina Array Bea	11.23	340	Pn	Pn	07 52 04.8	+0.9
	baz=167,slow=14,SNR=4.0						
DUG	Dugway, Tooele	12.22	2	ePn	Pn	07 52 18.0	+0.6
CTU	Camp Tracy	12.78	6	ePn	Pn	07 52 24.3	-0.8
WVOR	Wild Horse Val	15.07	345	ePn	Pn	07 52 55.2	-1.0
	22nm,1.4s						
BW06	Boulder Array	15.10	11	ePn	Pn	07 52 56.0	-0.7
	4.7nm,1.1s						
PD31	Pinedale Array	15.10	11	ePn	P	07 52 59.3	-2.8
PDAR	Pinedale Array	15.10	11	Pn	P	07 52 59.3	-2.8
	baz=186,slow=9.7,SNR=8.4						
HKT	Hockley	15.49	78	ePn	P	07 53 04.3	-1.8
SNOW	Snow King Moun	15.62	7	ePn	P	07 53 07.2	-0.7
K22A	Casper	15.69	19	ePn	P	07 53 05.7	-2.8
	72nm,1.5s						
YHH	Holmes Hill	16.92	6	ePn	Pn	07 53 19.7	-0.6
	21nm,1.4s						
BMO	Blue Mountains	17.15	350	ePn	Pn	07 53 22.7	-0.3
	7.6nm,1.1s						
DLMT	Dillon	17.39	2	ePn	P	07 53 26.6	-0.7
RLMT	Red Lodge	17.45	10	ePn	Pn	07 53 23.9	-2.8
	40nm,1.4s						
RSSD	Black Hills	17.79	22	ePn	Pn	07 53 29.4	-1.7
H04A	Detroit Lake	18.12	339	ePn	Pn	07 53 34.2	-0.7
	30nm,1.4s						
G06A	Carlson Farm,	18.19	343	ePn	Pn	07 53 35.2	-0.6
	22nm,1.5s						
F10A	Beach Ranch, E	18.24	351	ePn	Pn	07 53 35.8	-0.7
WLAR	White Oak Lake	18.31	67	eP	P	07 53 38.3	+0.9
HHAR	Hobbs	18.42	58	eP	P	07 53 40.4	+1.8
	11nm,1.2s						
Z41A	Richland Creek	18.48	68	eP	Pn	07 53 39.9	+0.7
F07A	Phinny Hill Vi	18.64	346	eP	Pn	07 53 41.7	+0.5
HAWA	Hanford	19.04	347	eP	Pn	07 53 45.2	-0.8
	33nm,1.3s						
CCAR	Cane Creek	19.45	67	eP	P	07 53 45.1	-4.8
	58nm,1.4s						
LAO	LASA Array	19.53	15	eP	P	07 53 48.4	-2.4
	115nm,1.4s						
D08A	Wollman Farm,	19.56	349	eP	P	07 53 50.4	-0.6
	19nm,1.1s						
JTMT	Jette	19.77	358	eP	P	07 53 52.7	-0.8
LON	Longmire	19.90	343	eP	P	07 53 54.2	-0.6
	4.4nm,0.8s						
C09A	Chrisman Ranch	20.18	350	eP	Pn	07 53 58.7	-1.0
	1.8nm,0.6s						
E03A	Lebam	20.22	339	eP	Pn	07 53 59.3	-0.8
	59nm,1.2s						
D05A	Enumclaw	20.35	343	eP	Pn	07 54 01.9	+0.3
NEW	Newport	20.48	353	P	P	07 53 59.5	-1.6
	9.6nm,1.1s,baz=157,slow=9.1,SNR=5.2						
OXF	Oxford	21.49	66	eP	P	07 54 09.6	-2.4
	85nm,1.4s						
SCIA	State Center	21.54	44	eP	P	07 54 14.7	+2.2
	39nm,1.2s						
LLLB	Lillooet	23.53	346	eP	P	07 54 33.0	-0.4
ULM	Lac du Bonnet	25.95	26	P	P	07 54 54.7	-1.0
	4.3nm,0.8s,baz=229,slow=12,SNR=4.3						
G43A	Wallace	26.73	43	eP	P	07 55 08.1	+5.3
	32nm,1.4s						
PKME	Peaks-Kenny Pk	38.84	52	eP	P	07 56 47.5	-0.8
BYL	Byron's Ledge	39.13	267	eP	P	07 56 52.7	+1.5
	184nm,0.9s						
SBLHI	Steaming Bluff	39.13	267	eP	P	07 56 50.1	-1.1
	130nm,0.7s						
UWB	Uwekahuna B	39.14	267	eP	P	07 56 48.9	-2.4
	434nm,1.3s						
NPH	North Pit	39.15	267	eP	P	07 56 48.7	-2.7
	698nm,1.4s						
OBL	Observatory Le	39.15	267	eP	P	07 56 48.8	-2.6
	598nm,1.2s						
UWE	Uwekahuna	39.16	267	eP	P	07 56 47.6	-3.9
	606nm,1.3s						
WRMHI	West Rim	39.17	267	eP	P	07 56 48.0	-3.5
	392nm,1.3s						
DIV	Divide	39.62	336	eP	P	07 56 57.2	+2.5
	6.9nm,1.0s						
IL1	Eielson Array	42.49	339	eP	P	07 57 18.8	+0.5
ILAR	Eielson Array	42.49	339	P	P	07 57 20.1	+1.8
	3.0nm,1.0s,baz=145,slow=7.4,SNR=8.3						
ILB	Eielson Array	42.49	339	eP	P	07 57 19.7	+1.5
IM3	Indian Mountai	45.47	338	eP	P	07 57 42.6	+0.5
SONA1	Songino Array	96.50	334	eP	P	08 02 57.0	+3.9

*IDC **12** 07:55:06.8±1.4,3.°70N×92.°68E,h0km,mb3.8/7, mb1 4.0/10,mb1mx3.7/68,mbtmp3.9/10,ML4.1/3, Error ellipse: s-maj=41.8km s-min=22.5km az=35.0*

*ISCJB **12** 07:55:08.1±1.0,3.°7N±0.°2×92.°6E±0.°1,h24km, mb3.8/7, Error ellipse: s-maj=22.9km s-min=12.7km az=21.3*

ISC 12 07:55:10.1±1.1,**3.°7N**±0.°2×**92.°71E**±0.°10,**h24**km,**n10,** σ1**s28/11,mb3.8/7,Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	Prapat	6.27	98	Pn	Pn	07 56 43.2	+1.8
	5.2nm,0.3s,baz=280,slow=14,SNR=9.5						
PSI				Sn	Sn	07 57 50.1	-2.3
	4.4nm,0.3s,baz=15,slow=20,SNR=5.3						
PALK	Pallekele	12.46	287	Pn	Pn	07 58 05.0	-1.2
	1.4nm,0.3s,baz=115,slow=13,SNR=6.2						
PALK				Sn	Sn	08 00 11.6	-13
	8.4nm,0.3s,baz=117,slow=1.9,SNR=13						
CMAR	Chiang Mai Arr	15.88	22	Pn	Pn	07 58 51.9	-0.3
	0.2nm,0.3s,baz=216,slow=14,SNR=6.6						
MKAR	Makanchi Array	43.86	350	P	P	08 03 14.0	-0.6
	1.0nm,0.7s,baz=168,slow=7.8,SNR=9.2						
WRA	Warramunga Arr	47.16	122	P	P	08 03 40.6	-0.6
	0.5nm,0.9s,baz=301,slow=8.8,SNR=4.6						
KURBB	Kurchatov Arra	48.25	348	P	P	08 03 49.7	+0.6
	1.0nm,0.8s,baz=167,slow=7.7,SNR=8.5						
ZALV	Zalesovo Beam	50.49	354	P	P	08 04 06.2	0.0
	1.6nm,0.6s,baz=179,slow=9.1,SNR=6.6						
BVAR	Borovoye Array	52.49	343	P	P	08 04 21.3	+0.2
	0.8nm,0.6s,baz=160,slow=9.3,SNR=5.1						
BRTR	Keskin Array B	64.12	313	P	P	08 05 43.2	+0.3
	0.3nm,0.4s,baz=76,slow=9.1,SNR=2.6						
GERES	GERESS Array B	79.98	319	P	P	08 07 18.9	+1.3
	2.5nm,1.0s,baz=102,slow=5.6,SNR=7.6						

*DDA **12** 07:57:19.9,37.°22N×28.°23E,h7km,Ml2.5,Suspected Mining explosion.*

*ISK **12** 07:57:19.8,37.°22N×28.°21E,h5km,ML2.3/4*

*ISCJB **12** 07:57:20.0±0.6,37.°24N±0.°04×28.°23E±0.°03,h0km, Error ellipse: s-maj=5.7km s-min=3.7km az=17.4*

*CSEM **12** 07:57:20.3±0.1,37.°22N×28.°22E,h2km,ML2.3, Error ellipse: s-maj=4.0km s-min=2.4km az=23.0,Suspected Mining explosion.*

ISC 12 07:57:18.3±0.9,**37.°34N**±0.°05×**28.°18E**±0.°03,**h0**km,**n21,** σ0**s97/33,Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YER	Yerkesik	0.22	158	PG	Pg	07 57 22.6	+0.1
YER				SG	Sg	07 57 24.7	-0.6
YER	Yerkesik	0.22	158	*i* Pg	Pg	07 57 22.6	+0.1
YER				*e*Sg	Sg	07 57 24.7	-0.6
MLSB	Milas	0.33	262	PG	Pb	07 57 27.1	+0.1
MLSB				SG	Sb	07 57 33.1	+0.3
MLSB	Milas	0.33	262	*e*Pg	Pb	07 57 27.1	+0.1
MLSB				*e*Sg	Sb	07 57 33.1	+0.3
TURN	Turunc	0.58	144	PG	Pg	07 57 28.8	-0.5
TURN				SG	Sg	07 57 35.5	-1.3
TURN	Turunc	0.58	144	*i* P	Pg	07 57 28.9	-0.5
TURN				*i* S	Sg	07 57 35.4	-1.3
TURN	Turunc	0.58	144	P	Pg	07 57 28.9	-0.4
TURN				S	Sg	07 57 35.4	-1.3
TAVA	DENIZLI_Tavas	0.60	78	*i* P	Pb	07 57 32.2	+0.5
TAVA				*i* S	Sb	07 57 39.8	-0.9
TAVA	DENIZLI_Tavas	0.60	78	P	Pb	07 57 32.2	+0.5
TAVA				S	Sb	07 57 39.8	-0.9
AYDB	Zeytinkoy-Aydi	0.65	339	PG	Pn	07 57 34.9	0.0
AYDB	Zeytinkoy-Aydi	0.65	339	*e*Pg	Pn	07 57 34.9	0.0
BDRM	Kayabasi	0.65	245	*i* P	Pb	07 57 31.9	-0.5
BDRM				*i* S	Sb	07 57 42.0	-0.1
BDRM	Kayabasi	0.65	245	P	Pb	07 57 32.0	-0.5
BDRM				S	Sb	07 57 42.0	-0.1
BODT	Bodrum	0.75	248	PG	Pb	07 57 34.1	-0.1
BODT	Bodrum	0.75	248	*e*Pg	Pb	07 57 34.1	-0.1
GCAM	G?zelcaml?	0.83	296	PG	Pn	07 57 38.7	+1.4
GCAM	G?zelcaml?	0.83	296	*e*Pg	Pn	07 57 38.7	+1.4
AKAS	Kas	1.59	134	PN	Pg	07 57 48.5	-0.2
AKAS	Kas	1.59	134	*i* P	Pn	07 57 48.0	+0.2
AKAS				*i* S	Sb	07 58 13.1	+3.8
AKAS	Kas	1.59	134	P	Pn	07 57 48.0	+0.2
AKAS	Kas	1.59	134	*e*Pn	Pg	07 57 48.5	-0.2

*ISCJB **12** 07:57:30.2±0.3,28.°56N±0.°03×113.°02W±0.°03,h8km, mb4.7/25, Error ellipse: s-maj=4.6km s-min=2.9km az=139.6*

*NEIC **12** 07:57:32.4±0.4,28.°54N×113.°04W,h10km,mb4.3/33, MD3.7(MEX),Error ellipse: s-maj=6.2km s-min=4.0km az=217.0*

*IDC **12** 07:57:32.2±1.1,28.°71N×112.°84W,h0km,mb3.9/7, mb1 4.1/14,mb1mx3.9/62,mbtmp3.9/14,ML3.8/5, Error ellipse: s-maj=22.8km s-min=10.8km az=49.0*

*MEX **12** 07:57:33.6±0.3,28.°70N×112.°94W,h16km,MD3.7*

ISC 12 07:57:31.4±0.5,**28.°56N**±0.°04×**112.°95W**±0.°04,**h8**km,**n159,** σ2**s92/164,mb4.6/25,Gulf of California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRIG	Santa Rosalia	1.39	153	eP	Pn	07 57 56.5	-0.5
SRIG				eS	Sb	07 58 14.1	-1.3
SRIG	Santa Rosalia	1.39	153	ePn	Pn	07 57 56.0	-1.0
SRIG				eSn	Sb	07 58 15.4	0.0
HSIG		1.82	75	eP	Pn	07 57 59.0	-2.3
HSIG				eS	Sn	07 58 20.8	-5.4
HSIG		1.82	75	ePn	Pn	07 58 00.8	-2.3
HSIG				eSn	Sb	07 58 28.1	+0.2
TUC	Tucson	4.18	26	ePn	Pn	07 58 34.6	-1.1
TUC				eSn	Sn	07 59 29.0	+4.3
319A	Douglas	4.25	48	ePn	Pn	07 58 37.0	+0.4
113A	Mohawk Valley,	4.25	351	ePn	Pn	07 58 35.1	-1.5
113A				eSn	Sn	07 59 26.9	+0.5
GLA	Glamis	4.76	341	ePn	Pn	07 58 42.8	-0.7
SWSC	Sam W. Stewart	5.01	331	ePn	Pn	07 58 42.1	-4.9
SWSC				*e*Pg	Pg	07 59 06.5	-0.9
SWSC				*e*Sn	Sn	07 59 41.2	-3.9
LPIG	La Paz	5.03	151	Pn	Pn	07 58 51.7	+4.5
	4.6nm,0.3s,baz=296,slow=4.5,SNR=6.6						
LPIG				Lg	Lg	08 00 14.4	
	1.1nm,0.3s,baz=27,slow=23,SNR=6.9						
BAR	Barrett	5.21	323	ePn	Pn	07 58 48.9	-0.8
Y12C	Blythe	5.35	346	ePn	Pn	07 58 50.3	-1.2
Y14A	Wickenburg	5.36	360	ePn	Pn	07 58 51.2	-0.6
SLBS	Sierra La Lagu	5.55	150	ePn	Pn	07 58 57.5	+3.0
CPE	Camp Elliot	5.61	321	ePn	Pn	07 58 54.9	-0.2
CPE				eSg	Sg	08 00 27.2	-4.2
XPFO	Piæon Flat	5.86	330	ePn	Pn	07 58 58.9	+0.1
PFO	Pinyon Flats O	5.87	330	ePn	Pn	07 58 58.8	0.0
X16A	Lo Mia Camp, P	5.98	12	ePn	Pn	07 58 59.8	-0.7
EPT	El Paso	6.43	59	ePn	Pn	07 59 07.6	+1.0
EPT				eSg	Sg	08 00 55.8	-2.3
X18A	Snowflake	6.48	23	ePn	Pn	07 59 07.5	+0.2
W13A	Hualapai Mount	6.57	353	ePn	Pn	07 59 08.2	-0.3
HPIG		6.66	102	ePn	Pn	07 59 11.2	+1.4
HPIG				eLg	Lg	08 01 04.8	
WUAZ	Wupatki	7.07	11	ePn	Pn	07 59 15.9	+0.6
W18A	Petrified Fore	7.09	22	ePn	Pn	07 59 16.6	+0.9
PASC	Pasadena Art C	7.16	323	ePn	Pn	07 59 15.5	-1.1
MNTX	Cornudas Mount	7.26	63	ePn	Pn	07 59 18.8	+0.8
OAT	Oat Mountain	7.53	321	ePg	Pg	07 59 55.7	+0.1
OAT				eSg	Sb	08 01 18.9	+6.6
LAZ	Ladron	7.65	39	ePn	Pn	07 59 24.8	+1.4
BNM	Barren Site	7.76	43	ePn	Pn	07 59 26.8	+1.8
BNM				eSg	Sg	08 01 35.9	-4.8
U15A	North Rim	7.87	4	ePn	Pn	07 59 27.9	+1.5
LPM	Los Pinos Moun	7.88	42	ePn	Pn	07 59 28.2	+1.8
LPM				eSg	Sg	08 01 41.0	-3.3
SHPR	Sheep Range	8.14	347	ePn	Pn	07 59 30.5	+0.5
TX31	Lajitas Ar. Si	8.17	82	ePn	Pn	07 59 31.2	+0.7
LTX	Lajitas	8.17	82	ePn	Pn	07 59 31.2	+0.7
LTX				eLg	Lg	08 01 49.0	
TXAR	Lajitas Array	8.17	82	Pn	Pn	07 59 31.2	+0.7
	1.1nm,0.3s,baz=258,slow=13,SNR=41						
TXAR				Lg	Lg	08 01 49.0	
	1.2nm,0.3s,baz=258,slow=30,SNR=6.9						
GDL2	Guadalupe Moun	8.26	62	ePn	Pn	07 59 34.1	+2.5
ANMO	Albuquerque	8.39	39	Pn	Pn	07 59 34.6	+0.5
	0.5nm,0.3s,baz=36,slow=12,SNR=8.8						
ANMO				Lg	Lg	08 01 58.7	
	1.8nm,0.3s,baz=285,slow=18,SNR=10						
ANMO	Albuquerque	8.43	39	ePn	Pn	07 59 34.6	+0.5
ANMO				eLg	Lg	08 01 59.3	
LCMT	Little Creek M	8.43	358	ePn	Pn	07 59 35.6	+1.5
KNB	Kanab	8.44	1	ePn	Pn	07 59 35.7	+1.6
EKU	East Kanab	8.50	2	ePn	Pn	07 59 36.6	+1.6
WLHM	Little Horse	8.82	330	eSn	Sn	08 01 13.2	-6.1
PKCU	Pink Cliffs	8.88	3	ePn	Pn	07 59 42.5	+2.2
CCUT	Cedar City	8.97	358	ePn	Pn	07 59 43.8	+2.2
SZCU	Shurtz Canyon	9.01	359	ePn	Pn	07 59 44.2	+2.1
MTPU	Mount Pierson	9.48	4	ePn	Pn	07 59 51.3	+2.7
MSU	Marysvale	9.95	4	ePn	Pn	07 59 58.3	+3.4
R11A	Troy Canyon, C	10.01	348	ePn	Pn	07 59 56.6	+0.9
PV05	Paradox Valley	10.03	18	ePn	Pn	07 59 56.0	0.0
TCRU	Three Creeks R	10.03	2	ePn	Pn	07 59 57.2	+1.1
PV01	Paradox Valley	10.23	20	ePn	Pn	08 00 00.5	+1.7
MSTX	Muleshoe	10.24	56	ePn	Pn	08 00 02.0	+3.1
SRU	San Rafael Swe	10.72	10	ePn	Pn	08 00 06.8	+1.4
NV01	Mina Array Sit	10.81	337	ePn	Pn	08 00 08.2	+1.5
NVAR	Mina Array Bea	10.81	337	Pn	Pn	08 00 09.2	+2.5
	baz=162,slow=15,SNR=9.9						
SDCO	Great Sand Dun	11.08	32	ePn	Pn	08 00 13.8	+3.3
BCE	Book Cliffs Ea	11.23	10	ePn	Pn	08 00 19.5	+7.1
WAKR	Walker	11.29	333	ePn	Pn	08 00 12.0	-1.3
KVN	Kaiserville	11.30	339	ePn	Pn	08 00 12.3	-1.1
CMB	Columbia Colle	11.31	329	ePn	Pn	08 00 12.5	-0.9
NLU	North Lily Min	11.39	3	ePn	Pn	08 00 13.7	-1.0
AMTX	Amarillo	11.48	54	ePn	Pn	08 00 18.4	+2.7
MPU	Maple Canyon	11.48	5	ePn	Pn	08 00 15.3	-0.6
PDG13	Poverty Ridge	11.51	322	ePn	Pn	08 00 14.1	-2.1
JCT

	7.9nm,0.9s							
TKL	**Tuckaleechee C**	**25.65**	**67**	P	**P**	**08 03 04.0**	**+2.4**
	5.8nm,0.9s,baz=263,slow=5.6,SNR=4.3							
BRNJ	**Basking Ridge**	**33.57**	**59**	*e*P	**P**	**08 04 12.7**	**+0.7**
	13nm,1.2s							
YKA	**Yellowknife Ar**	**33.96**	**359**	P	**P**	**08 04 14.9**	**-0.1**
	0.2nm,0.7s,baz=178,slow=8.1,SNR=5.7							
YKA				PcP	**PcP**	**08 06 53.1**	**+0.1**
	0.2nm,0.8s,baz=165,slow=2.9,SNR=3.7							
PAL	**Palisades**	**34.12**	**58**	*e*P	**P**	**08 04 17.6**	**+0.9**
	15nm,0.9s							
LONY	**Lake Ozonia**	**34.37**	**52**	*e*P	**P**	**08 04 21.8**	**+3.0**
NCB	**Newcomb**	**34.46**	**53**	*e*P	**P**	**08 04 21.3**	**+1.6**
FRNY	**Flat Rock**	**35.11**	**52**	*e*P	**P**	**08 04 22.7**	**-2.5**
	17nm,1.4s							
BCX	**Boston College**	**36.34**	**56**	*e*P	**P**	**08 04 38.0**	**+2.2**
	41nm,1.5s							
BALM	**Baldy**	**37.95**	**337**	*e*P	**P**	**08 04 51.8**	**+2.3**
RAGM	**Ragged Mountai**	**38.34**	**335**	*e*P	**P**	**08 04 50.9**	**-1.7**
	1.6nm,0.7s							
MID	**Middleton Isla**	**38.35**	**333**	*e*P	**P**	**08 04 54.2**	**+1.5**
	80nm,0.8s							
STCH	**Steam Cracks**	**39.44**	**266**	*e*P	**P**	**08 05 01.9**	**-0.5**
	71nm,0.7s							
NPH	**North Pit**	**39.56**	**266**	*e*P	**P**	**08 05 01.5**	**-2.0**
	218nm,1.0s							
OBL	**Observatory Le**	**39.56**	**266**	*e*P	**P**	**08 05 01.7**	**-1.8**
	788nm,1.1s							
HPAH	**Hawaii Prepara**	**39.70**	**267**	*e*P	**P**	**08 05 01.9**	**-2.7**
	119nm,1.3s							
HARP	**HAARP**	**39.87**	**337**	*e*P	**P**	**08 05 07.5**	**+2.1**
	20nm,1.5s							
IL1	**Eielson Array**	**42.06**	**339**	*e*P	**P**	**08 05 24.7**	**+1.4**
ILAR	**Eielson Array**	**42.06**	**339**	P	**P**	**08 05 25.0**	**+1.7**
	1.4nm,0.8s,baz=152,slow=7.4,SNR=24							
ILB	**Eielson Array**	**42.06**	**339**	*e*P	**P**	**08 05 25.2**	**+1.9**
TRF	**Thorofare Moun**	**42.34**	**336**	*e*P	**P**	**08 05 27.8**	**+2.0**
	12nm,1.8s							
PPLA	**Purkeypile**	**42.71**	**335**	*e*P	**P**	**08 05 30.8**	**+1.9**
	12nm,1.0s							
FYU	**Fort Yukon**	**42.83**	**342**	*e*P	**P**	**08 05 31.1**	**+1.5**
BPAW	**Bear Paw Mtn.**	**42.98**	**337**	*e*P	**P**	**08 05 32.6**	**+1.7**
AGP	**Aguadilla**	**42.99**	**93**	*e*P	**P**	**08 05 33.0**	**+1.4**
	85nm,1.2s							
OTAV	**Otavalo**	**43.37**	**124**	*e*P	**P**	**08 05 32.9**	**-2.2**
	7.8nm,1.3s							
MLY	**Manley**	**43.47**	**338**	*e*P	**P**	**08 05 36.8**	**+1.9**
IM3	**Indian Mountai**	**45.05**	**338**	*e*P	**P**	**08 05 48.7**	**+1.2**
SVB	**Belmont**	**50.26**	**96**	*e*P	**P**	**08 06 29.1**	**+0.5**
	39nm,1.0s							
GAMB	**Gambell**	**51.04**	**331**	*e*P	**P**	**08 06 33.9**	**+0.2**
	2.6nm,1.0s							
CPUP	**Villa Florida**	**76.35**	**130**	P	**P**	**08 09 21.8**	**+0.5**
	2.2nm,1.0s,baz=329,slow=7.2,SNR=4.4							
HHC	**Hu-ho-hao-te**	**99.55**	**327**	*e*P	**Pdif**	**08 11 14.3**	**-1.2**
HHC				pmax	pmax			
	comp=Z,10.0nm,1.4s							
HHC				pmax	pmax			
	comp=Z,10.0nm,7.8s							
LZH	**Lanzhou**	**106.96**	**330**	*e*Pdif	**Pdif**	**08 11 45.7**	**-2.9**	

*IDC **12** 08:03:24.4±1.7,3˚.54N×92˚.50E,h0km,mb3.7/6,mb1 3.8/8, mb1mx3.5/71,mbtmp3.6/8,ML3.6/2,Error ellipse: s-maj=56.0km s-min=23.2km az=46.0*
*ISCJB **12** 08:03:27.3±1.5,3˚.8N±0˚.3×92˚.8E±0˚.1,h24km,mb3.7/6, Error ellipse: s-maj=39.8km s-min=10.2km az=25.8*
ISC 12 08:03:28.8±1.6,3˚.7N±0˚.2×92˚.7E±0˚.1,h24km,n8,σ0°90/9, mb3.6/6,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**6.26**	**98**	Pn	**Pn**	**08 05 01.2**	**+1.3**
	1.5nm,0.3s,baz=283,slow=13,SNR=4.4						
PSI				Sn	**Sn**	**08 06 09.3**	**-1.5**
	1.0nm,0.3s,baz=276,slow=18,SNR=3.5						
CMAR	**Chiang Mai Arr**	**15.86**	**22**	Pn	**P**	**08 07 14.5**	**+0.2**
	0.1nm,0.3s,baz=217,slow=12,SNR=3.7						
MKAR	**Makanchi Array**	**43.85**	**350**	P	**P**	**08 11 33.0**	**-0.1**
	0.5nm,0.6s,baz=169,slow=7.3,SNR=4.5						
WRA	**Warramunga Arr**	**47.16**	**122**	P	**P**	**08 11 59.4**	**-0.3**
	0.5nm,1.0s,baz=303,slow=8.7,SNR=2.9						
KURBB	**Kurchatov Arra**	**48.25**	**348**	P	**P**	**08 12 07.5**	**-0.2**
	0.7nm,0.8s,baz=176,slow=7.0,SNR=6.2						
ZALV	**Zalesovo Beam**	**50.49**	**354**	P	**P**	**08 12 25.3**	**+0.6**
	1.2nm,0.4s,baz=177,slow=8.0,SNR=4.6						
BVAR	**Borovoye Array**	**52.49**	**343**	P	**P**	**08 12 39.2**	**-0.6**
	0.3nm,0.4s,baz=152,slow=4.1,SNR=2.0						
GERES	**GERESS Array B**	**79.98**	**319**	P	**P**	**08 15 36.4**	**+0.1**
	0.3nm,0.3s,baz=83,slow=5.5,SNR=5.7						

*IDC **12** 08:04:05.0±1.2,3˚.38N×90˚.03E,h0km,mb3.9/12, mb1 4.0/13,mb1mx3.7/70,mbtmp3.9/13,ML4.3/1,Error ellipse: s-maj=40.8km s-min=20.5km az=45.0*
*ISCJB **12** 08:04:07.8±0.9,3˚.3N±0˚.2×89˚.9E±0˚.1,h33km,mb3.9/12, Error ellipse: s-maj=28.1km s-min=14.1km az=36.1*
ISC 12 08:04:09.9±1.1,3˚.4N±0˚.2×90˚.1E±0˚.1,h35km,n21, σ1°13/15,mb3.9/12,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**8.82**	**93**	Sn	**Sn**	**08 07 51.2**	**-2.2**
	0.8nm,0.3s,baz=208,slow=12,SNR=1.9						
PALK	**Pallekele**	**10.13**	**293**	Pn	**Pn**	**08 06 31.0**	**-2.1**
	2.4nm,0.3s,baz=116,slow=13,SNR=12						
PALK				Sn	Sn	08 08 12.6	-13
	4.9nm,0.3s,baz=288,slow=1.6,SNR=6.3						
H08S3	**Diego Garcia H**	**20.71**	**238**	T	T	08 30 10.0	
	baz=58,slow=75,SNR=19						
H08S2	**Diego Garcia H**	**20.71**	**238**	T	T	08 30 07.4	
	baz=58,slow=75,SNR=18						
H08S1	**Diego Garcia H**	**20.73**	**238**	T	T	08 30 08.5	
	baz=58,slow=75,SNR=18						
MKAR	**Makanchi Array**	**43.78**	**352**	P	**P**	**08 12 11.5**	**-0.6**
	1.0nm,0.8s,baz=170,slow=8.8,SNR=5.1						
H01W3	**Cape Leeuwin H**	**44.25**	**151**	T	T	08 59 30.1	
	baz=326,slow=75,SNR=8.1						
H01W2	**Cape Leeuwin H**	**44.26**	**151**	T	T	08 59 28.2	
	baz=326,slow=75,SNR=6.5						
H01W1	**Cape Leeuwin H**	**44.27**	**151**	T	T	08 59 36.7	
	baz=326,slow=75,SNR=7.7						
GEYT	**Alibeck**	**45.15**	**324**	P	**P**	**08 12 24.6**	**+1.4**
	2.7nm,0.8s,baz=132,slow=8.6,SNR=4.4						
SONM	**Songino Array**	**46.46**	**15**	P	**P**	**08 12 34.4**	**+0.8**
	3.7nm,0.6s,baz=196,slow=9.5,SNR=21						
KURBB	**Kurchatov Arra**	**48.08**	**350**	P	**P**	**08 12 45.9**	**-0.1**
	1.5nm,0.8s,baz=173,slow=7.6,SNR=12						
WRA	**Warramunga Arr**	**49.22**	**120**	P	**P**	**08 12 56.3**	**+1.0**
	0.6nm,0.9s,baz=298,slow=8.8,SNR=4.5						
ASAR	**Alice Springs**	**50.41**	**125**	P	**P**	**08 13 04.9**	**+0.6**
	0.2nm,0.8s,baz=297,slow=8.2,SNR=3.1						
ZALV	**Zalesovo Beam**	**50.60**	**356**	P	**P**	**08 13 05.1**	**0.0**
	2.1nm,0.5s,baz=177,slow=6.8,SNR=6.8						
BVAR	**Borovoye Array**	**52.10**	**345**	P	**P**	**08 13 16.0**	**-0.4**
	0.6nm,0.6s,baz=141,slow=7.3,SNR=4.5						
BRTR	**Keskin Array B**	**62.45**	**314**	P	**P**	**08 14 29.8**	**-0.2**
	0.5nm,0.6s,baz=123,slow=5.3,SNR=3.3						
FINES	**FINESS Array B**	**74.85**	**333**	P	**P**	**08 15 47.1**	**+0.4**
	1.4nm,0.6s,baz=116,slow=4.4,SNR=5.2						
GERES	**GERESS Array B**	**78.53**	**319**	P	**P**	**08 16 07.3**	**-0.5**
	0.6nm,0.5s,baz=99,slow=6.1,SNR=5.6						
HFS	**Hagfors**	**80.33**	**330**	P	**P**	**08 16 18.2**	**+1.0**
	0.6nm,0.5s,baz=103,slow=6.5,SNR=3.1						
TXAR	**Lajitas Array**	**144.89**	**21**	PKP	**PKPdf**	**08 23 44.5**	**+0.3**
	0.2nm,0.5s,baz=24,slow=0.4,SNR=3.6						

*CSEM **12** 08:10:46.2,43˚.14N×13˚.46E,h18km,MD2.3/9*
*ROM **12** 08:10:46.2±0.2,43˚.14N×13˚.46E,h18km±4km,Md2.3/9, Ml2.5/4,Error ellipse: s-maj=5.3km s-min=1.9km az=57.0*
ISC 12 08:10:44.0±1.0,43°20N±0°.03×13°.63E±0°.03,h12km±10km, n21,σ0°47/34,2C,Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMA	**Gualdo di Mace**	**0.26**	**122⇑**	*i*Pg	**Pb**	**08 10 50.0**	**-0.7**
GUMA				Sg	**Sg**	**08 10 53.2**	**0.0**
GUMA	**Gualdo di Mace**	**0.26**	**122⇑**	*i*Pg	**Pb**	**08 10 50.0**	**-0.7**
GUMA				Sg	**Sg**	**08 10 53.2**	**0.0**
OFFI	**Offida**	**0.27**	**171**	Pg	**Pn**	**08 10 53.4**	**-0.3**
OFFI	**Offida**	**0.27**	**171**	Pg	**Pn**	**08 10 53.4**	**-0.3**
CING	**Cingoli**	**0.36**	**299**	Pg	**Pb**	**08 10 52.6**	**+0.3**
CING				Sg	**Sb**	**08 10 57.8**	**-0.2**
	43μm,9.0s						
TERO	**Teramo**	**0.58**	**182**	Pg	**Pb**	**08 10 56.2**	**+0.2**
TERO				Sg	**Sb**	**08 11 04.8**	**+0.6**
	16μm,12.0s						
TERO	**Teramo**	**0.58**	**182**	Pg	**Pb**	**08 10 56.2**	**+0.2**
TERO				Sg	**Sb**	**08 11 04.8**	**+0.6**
	16μm,12.0s						
SMA1	**SAN MARTINO**	**0.61**	**201**	Pg	**Pg**	**08 10 56.0**	**+0.1**
SMA1				Sg	**Sg**	**08 11 04.4**	**+0.4**
SMA1	**SAN MARTINO**	**0.61**	**201**	Pg	**Pg**	**08 10 56.0**	**+0.1**
SMA1				Sg	**Sg**	**08 11 04.4**	**+0.4**
ATCC	**AVT- Casa Cast**	**0.72**	**269**	Pg	**Pg**	**08 10 57.6**	**-0.4**
ATCC				Sg	**Sg**	**08 11 07.2**	**-0.3**
ATCC	**AVT- Casa Cast**	**0.72**	**269**	Pg	**Pg**	**08 10 57.6**	**-0.4**
ATCC				Sg	**Sg**	**08 11 07.2**	**-0.3**
FRON	**Frontone**	**0.73**	**296**	Pg	**Pb**	**08 10 58.9**	**+0.3**
FRON				Sg	**Sb**	**08 11 09.2**	**+0.6**
	192μm,23.0s						
FRON	**Frontone**	**0.73**	**296**	Pg	**Pb**	**08 10 58.9**	**+0.3**
FRON				Sg	**Sb**	**08 11 09.2**	**+0.6**
	192μm,23.0s						
MPAG	**Monte Paganucc**	**0.76**	**304**	Pg	**Pn**	**08 10 59.9**	**-0.7**
	151μm,19.0s						
MPAG	**Monte Paganucc**	**0.76**	**304**	Pg	**Pn**	**08 10 59.9**	**-0.7**
	151μm,19.0s						
VCEL	**Villa Celiera**	**0.82**	**169**	Pg	**Pn**	**08 11 01.2**	**-0.2**
VCEL	**Villa Celiera**	**0.82**	**169**	Pg	**Pn**	**08 11 01.2**	**-0.2**
BADI	**Badiali**	**1.06**	**287**	Pg	**Pb**	**08 11 04.2**	**0.0**
BADI	**Badiali**	**1.06**	**287**	Pg	**Pb**	**08 11 04.2**	**0.0**
NVLJ	**Novalja**	**1.63**	**33**	*e*Pn	**Pg**	**08 11 15.4**	**+0.2**
NVLJ				Sn	**Sg**	**08 11 37.7**	**+1.2**

*ISK **12** 08:21:01.2,38˚.74N×43˚.03E,h5km,ML2.4/3*
*ISCJB **12** 08:21:02.6±0.5,38˚.72N±0˚.03×43˚.05E±0˚.03,h12km±5km, Error ellipse: s-maj=5.7km s-min=3.7km az=161.4*
*CSEM **12** 08:21:02.3±0.2,38˚.72N×43˚.04E,h10km,ML2.9,Error ellipse: s-maj=6.2km s-min=4.0km az=165.0*
*DDA **12** 08:21:02.8,38˚.68N×43˚.07E,h7km,Ml2.9*
ISC 12 08:21:02.5±1.0,38°.71N±0°.03×43°.04E±0°.02,h10km±9km, n23,σ0°80/42,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADCV	**BITLIS_Adilcev**	**0.26**	**293**	*i* P	**Pb**	**08 21 08.9**	**-0.6**
ADCV				*i* S	**Sb**	**08 21 14.3**	**+0.2**
ADCV	**BITLIS_Adilcev**	**0.26**	**293**	P	**Pb**	**08 21 08.9**	**-0.6**
ADCV				S	**Sb**	**08 21 14.3**	**+0.2**
VANB	**Van**	**0.30**	**112**	PG	**Pg**	**08 21 09.1**	**+0.5**
VANB				SG	**Sb**	**08 21 14.7**	**-0.4**
VANB	**Van**	**0.30**	**112**	*e*Pg	**Pg**	**08 21 09.1**	**+0.5**
VANB				*e*Sg	**Sb**	**08 21 14.7**	**-0.4**
TVAN	**Van**	**0.34**	**121**	*i* P	**Pg**	**08 21 08.9**	**-0.5**
TVAN				*i* S	**Sg**	**08 21 14.8**	**+0.9**
TVAN	**Van**	**0.34**	**121**	P	**Pg**	**08 21 08.9**	**-0.5**
TVAN				S	**Sg**	**08 21 14.8**	**+0.9**
GEVA	**Gevas**	**0.40**	**177**	*i* P	**Pg**	**08 21 09.5**	**-0.9**
GEVA				*i* S	**Sb**	**08 21 17.1**	**-0.8**
GEVA	**Gevas**	**0.40**	**177**	P	**Pg**	**08 21 09.5**	**-0.9**
GEVA				S	**Sb**	**08 21 17.1**	**-0.8**
VMUR	**Van-Muradiye**	**0.51**	**56**	*i* P	**Pg**	**08 21 12.4**	**0.0**
VMUR				*i* S	**Sb**	**08 21 21.1**	**0.0**
VMUR	**Van-Muradiye**	**0.51**	**56**	P	**Pg**	**08 21 12.4**	**0.0**
VMUR				S	**Sb**	**08 21 21.1**	**0.0**
GURO	**Guroymak-BITLI**	**0.80**	**259**	PG	**Pg**	**08 21 17.2**	**-0.8**
GURO				SG	**Sg**	**08 21 28.8**	**+0.4**
GURO	**Guroymak-BITLI**	**0.80**	**259**	*e*Pg	**Pg**	**08 21 17.2**	**-0.8**
GURO				*e*Sg	**Sg**	**08 21 28.8**	**+0.4**
CLDR	**Caldiran**	**0.81**	**57**	PG	**Pg**	**08 21 16.8**	**-1.4**
CLDR				SG	**Sg**	**08 21 28.9**	**0.0**
CLDR	**Caldiran**	**0.81**	**57**	*i* P	**Pg**	**08 21 16.0**	**-2.2**
CLDR				*i* S	**Sg**	**08 21 29.1**	**+0.2**
CLDR	**Caldiran**	**0.81**	**57**	*e*Pg	**Pg**	**08 21 16.8**	**-1.4**
CLDR				*e*Sg	**Sg**	**08 21 28.9**	**0.0**
CLDR				S	**Sg**	**08 21 29.1**	**+0.2**
EKAR	**Karacoban**	**0.93**	**306**	*i* P	**Pg**	**08 21 20.4**	**-0.1**
EKAR				*i* S	**Sn**	**08 21 37.1**	**+1.6**
EKAR	**Karacoban**	**0.93**	**306**	P	**Pg**	**08 21 20.4**	**-0.1**
SRTM	**Siirt_Merkez**	**1.13**	**231**	*i* P	**Pg**	**08 21 22.9**	**-1.3**
SRTM				*i* S	**Sn**	**08 21 40.0**	**-0.1**
SRTM	**Siirt_Merkez**	**1.13**	**231**	P	**Pg**	**08 21 22.9**	**-1.3**
SRTM				S	**Sn**	**08 21 40.0**	**-0.1**
SIRT	**Sirnak**	**1.29**	**202**	PN	**Pg**	**08 21 27.8**	**+0.5**
SIRT	**Sirnak**	**1.29**	**202**	*e*Pn	**Pg**	**08 21 27.8**	**+0.5**
MAZI	**Mazidag**	**2.39**	**239**	PN	**Pn**	**08 21 42.6**	**+0.7**
MAZI	**Mazidag**	**2.39**	**239**	*e*Pn	**Pn**	**08 21 42.6**	**+0.7**

*DDA **12** 08:22:49.8,38˚.25N×38˚.12E,h7km,Ml2.8,Suspected Mining explosion.*
*ISCJB **12** 08:22:50.4±0.5,38˚.28N±0˚.03×38˚.11E±0˚.03,h0km,Error ellipse: s-maj=4.4km s-min=3.1km az=21.7*
*CSEM **12** 08:22:50.3±0.2,38˚.31N×38˚.10E,h1km,ML2.8,Error ellipse: s-maj=4.4km s-min=3.5km az=30.0,Suspected Mining explosion.*
*ISK **12** 08:22:50.1,38˚.34N×38˚.11E,h10km,ML2.4/5*
ISC 12 08:22:50.2±0.8,38°.30N±0°.03×38°.12E±0°.02,h0km,n27, σ0°66/41,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKCD	**Akcadag**	**0.15**	**267**	*i* P	**Pg**	**08 22 53.6**	**+0.4**
AKCD				*i* S	**Sg**	**08 22 56.4**	**+1.2**
AKCD	**Akcadag**	**0.15**	**267**	P	**Pg**	**08 22 53.6**	**+0.4**
AKCD				S	**Sg**	**08 22 56.4**	**+1.2**
MALT	**Malatya**	**0.24**	**88**	PG	**Pg**	**08 22 55.6**	**+0.7**
MALT				SG	**Sg**	**08 22 59.9**	**+1.9**
MALT	**Malatya**	**0.24**	**88**	*e*Pg	**Pg**	**08 22 55.6**	**+0.7**
DARE	**Darende-Malaty**	**0.57**	**298**	PG	**Pg**	**08 23 00.8**	**-0.3**
DARE				SG	**Sg**	**08 23 09.4**	**+1.0**
DARE	**Darende-Malaty**	**0.57**	**298**	*e*Pg	**Pg**	**08 23 00.8**	**-0.3**
DARE				*e*Sg	**Sg**	**08 23 09.4**	**+1.0**
HEKM	**Malatya_Hekimh**	**0.59**	**348**	*i* P	**Pg**	**08 23 02.0**	**+0.5**
HEKM				*i* S	**Sb**	**08 23 12.4**	**-0.1**
HEKM	**Malatya_Hekimh**	**0.59**	**348**	P	**Pg**	**08 23 02.0**	**+0.5**
ELZG	**Elazig**	**0.71**	**74**	*i* P	**Pg**	**08 23 03.8**	**0.0**
ELZG				*i* S	**Sb**	**08 23 15.4**	**-0.5**
ELZG	**Elazig**	**0.71**	**74**	P	**Pg**	**08 23 03.8**	**0.0**
ELZG				S	**Sb**	**08 23 15.4**	**-0.5**
CUGUR	**Gurin_S¨VAS**	**0.79**	**303**	*i* P	**Pg**	**08 23 05.4**	**+0.1**
CUGUR				*i* S	**Sb**	**08 23 19.2**	**+1.1**
CUGUR	**Gurin_S¨VAS**	**0.79**	**303**	P	**Pg**	**08 23 05.4**	**+0.1**
KEMA	**Kemaliye**	**1.01**	**17**	*i* P	**Pg**	**08 23 09.2**	**-0.4**
KEMA				*i* S	**Sb**	**08 23 24.8**	**+0.3**
KEMA	**Kemaliye**	**1.01**	**17**	P	**Pg**	**08 23 09.1**	**-0.4**
KEMA				S	**Sb**	**08 23 24.8**	**+0.3**
URFA	**Urfa**	**1.02**	**147**	PG	**Pb**	**08 23 10.8**	**-0.1**
URFA				SG	**Sn**	**08 23 26.1**	**-0.9**
URFA	**Urfa**	**1.02**	**147**	*e*Pg	**Pb**	**08 23 10.8**	**-0.1**
URFA				*e*Sg	**Sn**	**08 23 26.1**	**-0.9**
CUKAN	**kangal_SIVAS**	**1.13**	**333**	*i* P	**Pb**	**08 23 12.4**	**-0.3**
CUKAN				*i* S	**Sn**	**08 23 29.6**	**-0.2**
CUKAN	**kangal_SIVAS**	**1.13**	**333**	P	**Pb**	**08 23 12.4**	**-0.3**
PTK	**Pertek**	**1.16**	**59**	PN	**Pg**	**08 23 12.5**	**+0.1**
KMRS	**Kahramanmaras**	**1.25**	**231**	PN	**Pb**	**08 23 14.5**	**-0.2**
KMRS	**Kahramanmaras**	**1.25**	**231**	*e*Pn	**Pb**	**08 23 14.5**	**-0.2**
GAZ	**Gaziantep**	**1.34**	**213**	PN	**Pg**	**08 23 15.8**	**-0.1**
GAZ	**Gaziantep**	**1.34**	**213**	*e*Pn	**Pg**	**08 23 15.8**	**-0.1**
SVSK	**Karacayir**	**1.83**	**332**	PN	**Pn**	**08 23 22.2**	**-0.7**
SVSK	**Karacayir**	**1.83**	**332**	*e*Pn	**Pn**	**08 23 22.2**	**-0.7**
MAZI	**Mazidag**	**2.03**	**114**	PN	**Pn**	**08 23 25.3**	**-0.4**
MAZI	**Mazidag**	**2.03**	**114**	*e*Pn	**Pn**	**08 23 25.3**	**-0.4**

DJA 12 08:30:00.7±0.7,6°S±6°×107°E±°,h14km±7km,M3.6/6, MLv3.6/6,Sunda Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CGJI	**Cibinong**	**0.79**	**108**	P	Pg	08 30 15.3	-0.7
CGJI				S	Sg	08 30 25.8	-0.5
KASI	**Kota Agung**	**0.95**	**332**	P	Pb	08 30 17.2	-1.8
KASI				S	Sb	08 30 29.5	-1.9
KLI	**Kotabumi**	**1.50**	**357**	P	Pn	08 30 27.3	+0.1
KLI				S	Sb	08 30 47.1	-0.1
LWLI	**Liwa**	**1.60**	**327**	P	Pn	08 30 28.3	-0.5
MDSI	**Maura Dua**	**2.02**	**338**	P	Pn	08 30 35.0	+0.6
MNAI	**Manna**	**2.81**	**315**	P	Pn	08 30 45.3	+0.1
CISI	**Cisompet, Garu**	**3.09**	**113**	P	Pn	08 30 49.0	-0.1
CISI				S	Sn	08 31 26.5	+0.6

*CSEM **12** 08:34:12.3±0.2,40˚.65N×41˚.15E,h2km,ML2.7,Error ellipse: s-maj=22.6km s-min=3.2km az=147.0,Suspected Mining explosion.*
DDA 12 08:34:12.1,40°.60N×41°.22E,h7km,Ml2.7,Suspected Mining explosion.,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DDEM	**Demirkent**	**0.49**	**54**	*i* P	Pg	08 34 22.1	+0.4
DDEM				*i* S	Sb	08 34 30.4	-0.3
DDEM	**Demirkent**	**0.49**	**54**	P	Pg	08 34 22.0	+0.3
DDEM				S	Sb	08 34 30.4	-0.3
DBAD	**Bademkaya**	**0.55**	**40**	*i* P	Pg	08 34 22.9	+0.2
DBAD				*i* S	Sg	08 34 30.1	+0.1
DBAD	**Bademkaya**	**0.55**	**40**	P	Pg	08 34 22.9	+0.2
DBAD				S	Sg	08 34 30.1	+0.2
BAYB	**BAYBURT**	**0.81**	**246**	*i* P	Pg	08 34 28.1	+0.4
BAYB				*i* S	Sg	08 34 37.4	-0.9
BAYB	**BAYBURT**	**0.81**	**246**	P	Pg	08 34 28.1	+0.4
BAYB				S	Sg	08 34 37.4	-0.9
KELT	**Kelkit**	**1.57**	**254**	*i* P	Pn	08 34 41.0	+0.4
KELT				*i* S	Sb	08 35 01.6	-0.1
KELT	**Kelkit**	**1.57**	**254**	P	Pn	08 34 41.0	+0.4
KELT				S	Sb	08 35 01.6	-0.1

ISK 12 08:35:42.9,38°.48N×38°.17E,h5km,ML1.9/3,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MALT	**Malatya**	**0.26**	**129**	PG	Pg	08 35 49.4	-0.8
MALT				SG	Sb	08 35 54.2	-0.8
DARE	**Darende-Malaty**	**0.55**	**280**	PG	Pb	08 35 54.6	-0.4
DARE				SG	Sb	08 36 03.5	+0.3
PTK	**Pertek**	**1.04**	**66**	PG	Pn	08 36 04.1	-0.3

*IDC **12** 08:42:28.9±1.2,2˚.48N×92˚.97E,h0km,mb3.9/8, mb1 4.0/10,mb1mx3.6/76,mbtmp3.9/10,ML4.2/2,Error ellipse: s-maj=39.0km s-min=17.8km az=44.0*
*ISCJB **12** 08:42:30.6±0.8,2˚.9N±0˚.1×93˚.18E±0˚.05,h10km,mb4.1/9, Error ellipse: s-maj=16.6km s-min=5.4km az=20.4*
*NEIC **12** 08:42:30.7±0.7,2˚.54N×93˚.02E,h10km,mb4.5/3,Error ellipse: s-maj=18.1km s-min=8.5km az=217.0*
*DJA **12** 08:42:35.4±0.9,3˚N±4˚×93˚3E±˚,h10km,M4.4/7,mb4.2/3, MLv4.5/7*
ISC 12 08:42:32.2±0.9,2°.9N±0°.1×93°.14E±0°.08,h10km,n32, σ1°56/37,mb4.2/9,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSI	**Banda Aceh**	**3.39**	**39**	P	Pn	08 43 19.5	-5.8
BSI				S	Sn	08 43 56.8	-8.8
MLSI	**Meulaboh, Aceh**	**3.55**	**67**	P	**Pn**	**08 43 25.3**	**-2.1**
TPTI		**4.06**	**84**	P	**Pn**	**08 43 33.5**	**-0.9**
TPTI				S	**Sn**	**08 44 20.4**	**-1.6**
KCSI	**Kotacane, Aceh**	**4.67**	**82**	P	**Pn**	**08 43 44.0**	**+1.1**
KCSI				S	**Sn**	**08 44 35.6**	**-1.7**
GSI	**Gunungsitoli**	**4.70**	**109**	P	**Pn**	**08 43 43.8**	**+0.6**
GSI				S	**Sn**	**08 44 38.5**	**+0.7**
GSI	**Gunungsitoli**	**4.70**	**109**	*e*Pn	**Pn**	**08 43 43.9**	**+0.7**
GSI				*e*Sn	**Sn**	**08 44 34.8**	**-3.0**
PSI	**Prapat**	**5.78**	**90**	Pn	**Pn**	**08 43 59.0**	**+0.8**
	2.5nm,0.3s,baz=302,slow=13,SNR=8.4						
PSI				Sn	**Sn**	**08 45 08.5**	**+3.8**
	4.9nm,0.3s,baz=169,slow=22,SNR=9.2						
PSI	**Prapat**	**5.78**	**90**	*e*Pn	**Pn**	**08 43 58.9**	**+0.7**
PSI				*e*Sn	**Sn**	**08 45 07.6**	**+2.9**
MNSI	**Mandailing Nat**	**6.76**	**108**	P	**Pn**	**08 44 13.3**	**+1.8**
KULM	**Kulim**	**7.87**	**72**	*e*Pn	**Pn**	**08 44 25.7**	**-1.1**
CMAR	**Chiang Mai Arr**	**16.52**	**20**	Pn	**P**	**08 46 28.9**	**+2.1**
	0.6nm,0.3s,baz=214,slow=13,SNR=5.8						
MK01	**Makanchi Array**	**44.75**	**349**	*e*P	**P**	**08 50 46.1**	**+0.3**
MK31	**Makanchi Array**	**44.77**	**349**	*e*P	**P**	**08 50 46.5**	**+0.5**
MK32	**Makanchi Array**	**44.77**	**349**	*e*P	**P**	**08 50 46.3**	**+0.3**
MKAR	**Makanchi Array**	**44.77**	**349**	P	**P**	**08 50 46.3**	**+0.3**
	1.5nm,0.7s,baz=169,slow=8.6,SNR=12						
MKAR	**Makanchi Array**	**44.77**	**349**	*e*P	**P**	**08 50 46.5**	**+0.5**
	9.7nm,0.8s						
KK31	**Karatay Array**	**44.85**	**336**	*e*P	**P**	**08 50 47.1**	**+0.3**
KKAR	**Karatay Array**	**44.85**	**336**	*e*P	**P**	**08 50 47.1**

baz=317
H01W2 **Cape Leeuwin H** 43.17 149 T T 09 43 05.2
baz=317
H01W1 **Cape Leeuwin H** 43.18 149 T T 09 43 02.6
baz=317
MKAR **Makanchi Array** 45.58 354 P P 08 57 52.0 +0.6
0.3nm,0.7s,baz=160,slow=9.0,SNR=2.8
SONM **Songino Array** 48.70 16 P P 08 58 14.8 -1.1
1.3nm,0.9s,baz=205,slow=6.4,SNR=2.8
WRA **Warramunga Arr** 49.37 118 P P 08 58 21.4 +0.1
1.1nm,0.7s,baz=297,slow=8.6,SNR=6.0
KURBB **Kurchatov Arra** 49.83 351 P P 08 58 24.8 +0.6
0.2nm,0.3s,baz=175,slow=7.8,SNR=3.1
ASAR **Alice Springs** 50.37 123 P P 08 58 28.3 -0.6
0.4nm,0.6s,baz=295,slow=8.0,SNR=6.2
TXAR **Lajitas Array** 147.19 20 PKPbc PKPab 09 09 17.7 +0.6
0.3nm,0.3s,baz=251,slow=13,SNR=10

SJA 12 08:51:39.2±0.5, 31°25S×68°50W, h102km±4km, ML2.8, MW3.6, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJA	**San Juan**	0.28	190	eP	Pn	08 51 54.6	+0.6
SJA				IAML		08 51 55.3	
	comp=Z,258nm,0.1s						
AMOG	**MOGNA**	0.31	1	eP	Pn	08 51 54.9	+0.7
RTCV	**Cerro Valdivia**	0.61	183	eP	Pn	08 51 56.8	+0.7
RTCV				eS	Sn	08 52 09.8	+1.0
RTLS	**Leoncito**	0.88	231	eP	Pn	08 52 00.2	+1.4
ACDV	**Cuesta del Vie**	1.20	333	eP	Pn	08 52 03.2	+1.0
AUSP	**Uspallata**	1.23	218	eP	Pn	08 52 03.9	+1.2
AUSP				eS	Sn	08 52 22.3	+1.9
AROD	**Rodeo**	1.36	322	eP	Pn	08 52 06.0	+1.7
AROD				eS	Sn	08 52 25.0	+1.9
AGUA	**GUANDACOL**	1.75	0	eP	Pn	08 52 10.1	+1.3
APLL	**PUNTA DE LOS L**	1.90	64	eP	Pn	08 52 11.5	+0.9

NEIC ***12*** *08:54:42.4±0.0, 28°.78N×113°.43W, h16km, mb4.4/118, MD4.4(MEX), After MEX.*
ISCJB ***12*** *08:54:43.3±0.3, 28°.79N±0°.03×113°.22W±0°.02, h8km, mb4.4/77, MS5.0/2, Error ellipse: s-maj=4.1km s-min=1.9km az=30.0*
MEX ***12*** *08:54:45.0±0.5, 28°.87N×113°.30W, h14km, MD4.3*
IDC ***12*** *08:54:48.2±2.5, 28°.85N×113°.10W, h33km±18km, mb4.0/20, mb1 4.1/25, mb1mx3.9/62, mbtmp4.2/25, ML4.2/4, MS4.9/2, Ms1 4.9/2, ms1mx4.0/58, Error ellipse: s-maj=17.7km s-min=9.4km az=50.0*
ISC 12 08:54:44.1±0.5, 28°.75N±0°.04×113°.19W±0°.04, h8km, n572, σ1§47/563, mb4.5/77, Baja California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRIG	**Santa Rosalia**	1.65	149	eP	Pn	08 55 12.0	-1.4
SRIG				eS	Sg	08 55 35.5	-1.7
SRIG	**Santa Rosalia**	1.65	149	ePn	Pn	08 55 12.1	-1.3
SRIG				eSn	Sg	08 55 36.7	-0.6
HSIG		1.99	82	eP	Pn	08 55 15.8	-2.1
HSIG				i S	Sn	08 55 41.6	-1.5
HSIG		1.99	82	ePn	Pn	08 55 15.9	-2.1
HSIG				eSn	Sg	08 55 46.9	-1.0
GUYB	**Guaymas**	2.21	112	eP	Pn	08 55 20.4	-0.7
214A	**Organ Pipe Nat**	3.21	6	P	Pn	08 55 31.5	-3.4
	baz=190,SNR=20						
113A	**Mohawk Valley,**	4.04	353	ePn	Pn	08 55 43.1	-3.1
TUC	**Tucson**	4.11	30	P	Pn	08 55 45.1	-2.2
	baz=214						
TUC	**Tucson**	4.11	30	ePn	Pn	08 55 45.7	-1.6
319A	**Douglas**	4.28	51	ePn	Pn	08 55 47.8	-1.9
GLA	**Glamis**	4.51	342	P	Pn	08 55 50.6	-2.2
	baz=164						
GLA	**Glamis**	4.51	342	ePn	Pn	08 55 50.5	-2.3
IKP	**In-Ko-Pah, Jac**	4.63	328	P	Pn	08 55 52.3	-2.0
	baz=149						
SWSC	**Sam W. Stewart**	4.75	332	P	Pn	08 55 55.0	-0.9
	baz=153						
BAR	**Barrett**	4.93	323	ePn	Pn	08 55 56.7	-1.8
MONP2	**Monument Peak**	4.98	327	P	Pn	08 55 57.7	-1.6
	baz=147						
Y12C	**Blythe**	5.11	347	P	Pn	08 55 58.8	-2.2
	baz=169						
Y12C	**Blythe**	5.11	347	ePn	Pn	08 56 02.6	+1.6
Y14A	**Wickenburg**	5.18	2	ePn	Pn	08 55 59.4	-2.5
BC3	**Big Chuckawall**	5.26	339	P	Pn	08 56 01.0	-2.1
	baz=160						
LPIG	**La Paz**	5.30	150	P	Pn	08 56 07.4	+3.9
	11nm,0.3s,baz=322,slow=5.7,SNR=9.4						
LPIG				Lg	Lg	08 57 40.1	
	3.3nm,0.3s,baz=90,slow=20,SNR=2.5						
CPE	**Camp Elliot**	5.32	322	ePn	Pn	08 56 02.9	-1.0
XPFO	**Pæon Flat**	5.59	331	ePn	Pn	08 56 08.3	+0.6
PDMCI	**Parker Dam,Lak**	5.60	352	P	Pn	08 56 05.2	-2.4
	baz=174,SNR=13						
PFO	**Pinyon Flats O**	5.60	331	ePn	Pn	08 56 08.2	+0.5
IRM	**Iron Mountain**	5.64	343	P	Pn	08 56 06.6	-1.7
	baz=164						
BELC	**Belle Mtn. Jos**	5.76	336	P	Pn	08 56 08.8	-1.2
	baz=157						
SLBS	**Sierra La Lagu**	5.83	149	ePn	Pn	08 56 09.9	-1.0
X16A	**Lo Mia Camp, P**	5.85	14	ePn	Pn	08 56 08.7	-2.6
MURC	**Murrieta**	5.93	326	P	Pn	08 56 10.2	-2.0
	baz=145						
121A	**Cookes Peak, D**	5.99	50	P	Pn	08 56 11.8	-1.5
	baz=234,SNR=12						
NEE2	**Needles Airpor**	6.12	349	P	Pn	08 56 12.7	-2.1
	baz=170,SNR=11						
DANC	**Danby, Needles**	6.16	343	ePn	Pn	08 56 20.0	+4.6
W13A	**Hualapai Mount**	6.36	355	ePn	Pn	08 56 17.0	-1.3
GMRC	**Granite Mounta**	6.37	341	P	Pn	08 56 16.5	-1.9
	baz=162						
X18A	**Snowflake**	6.39	25	ePn	Pn	08 56 18.4	-0.3
LDFC	**Landfair**	6.52	346	ePn	Pn	08 56 21.5	+1.1
EPT	**El Paso**	6.52	61	ePn	Pn	08 56 21.4	+0.9
EPT				eSn	Sn	08 57 35.6	+0.5
MWC	**Mount Wilson**	6.86	324	ePn	Pn	08 56 24.1	-1.0
MWC				eSg	Sg	08 58 22.3	-2.0
PASC	**Pasadena Art C**	6.88	323	ePn	Pn	08 56 24.9	-0.4
PASC				eSn	Sn	08 57 43.4	-0.5
HPIG		6.91	103	ePn	Pn	08 56 26.7	+0.9
WUAZ	**Wupatki**	6.92	12	P	Pn	08 56 24.7	-1.2
	baz=195,SNR=21						
WUAZ	**Wupatki**	6.92	12	ePn	Pn	08 56 24.4	-1.6
SNCC	**San Nicolas Is**	7.04	311	ePn	Pn	08 56 27.8	+0.3
EDW2	**Edwards Air Fo**	7.35	327	P	Pn	08 56 31.7	-0.1
	baz=146						
MNTX	**Cornudas Mount**	7.37	65	P	Pn	08 56 31.3	-0.7
	baz=249,SNR=19						
MNTX	**Cornudas Mount**	7.37	65	ePn	Pn	08 56 31.8	-0.2
OSI	**Osito Audit: C**	7.51	323	P	Pn	08 56 33.0	-1.0
	baz=141						
OSI	**Osito Audit: C**	7.51	323	ePn	Pn	08 56 31.6	-2.3
Y22D	**IRIS PASSCAL I**	7.54	44	P	Pn	08 56 33.2	-1.3
	baz=228						
Y22D	**IRIS PASSCAL I**	7.54	44	ePn	Pn	08 56 33.6	-0.8
Y22E	**IRIS PASSCAL I**	7.54	44	P	Pn	08 56 33.4	-1.1
	baz=228						
LENM	**Lemitar**	7.57	43	ePn	Pn	08 56 36.9	+2.0
CCCA	**Chr Cany lake**	7.62	333	ePn	Pn	08 56 41.5	+6.0
LAZ	**Ladron**	7.64	41	ePn	Pn	08 56 35.8	-0.2
U15A	**North Rim**	7.70	5	ePn	Pn	08 56 36.6	-0.1
LRMC	**Laurel Mtn Rad**	7.71	332	P	Pn	08 56 35.6	-1.2
	baz=151						
BNM	**Barren Site**	7.77	45	ePn	Pn	08 56 38.3	+0.6
LPM	**Los Pinos Moun**	7.88	44	ePn	Pn	08 56 38.3	-0.9
SHPR	**Sheep Range**	7.91	348	ePn	Pn	08 56 40.3	+0.8
WBSM	**Bird Springs**	7.96	329	ePn	Pn	08 56 43.8	+3.5
ISA	**Isabella, Lake**	8.22	328	ePn	Pn	08 56 47.6	+4.0
LCMT	**Little Creek M**	8.24	360	ePn	Pn	08 56 43.8	-0.2
KNB	**Kanab**	8.25	2	ePn	Pn	08 56 43.9	-0.3
GDL2	**Guadalupe Moun**	8.36	64	ePn	Pn	08 56 43.4	-2.3
TX31	**Lajitas Ar. Si**	8.36	84	ePn	Pn	08 56 46.1	+0.5
LTX	**Lajitas**	8.36	84	ePn	Pn	08 56 46.2	+0.5
LTX				eLg	Lg	08 59 08.4	
TXAR	**Lajitas Array**	8.36	84	Pn	Pn	08 56 46.2	+0.6
	2.9nm,0.3s,baz=263,slow=13,SNR=85						
TXAR				Lg	Lg	08 59 08.4	
	1.2nm,0.3s,baz=265,slow=27,SNR=4.3						
DAC	**Darwin (Calif)**	8.37	335	ePn	Pn	08 56 45.7	-0.2
ANMO	**Albuquerque**	8.42	41	Pn	Pn	08 56 46.2	-0.3
	1.2nm,0.3s,baz=54,slow=16,SNR=29						
ANMO				Lg	Lg	08 59 09.6	
	1.6nm,0.3s,baz=157,slow=13,SNR=8.2						
ANMO	**Albuquerque**	8.42	41	P	Pn	08 56 46.3	-0.3
	baz=226						
TPNV	**Topopah Spring**	8.57	343	P	Pn	08 56 47.8	-0.8
	baz=163						
VES	**Vestal, Richgr**	8.65	326	P	Pn	08 56 49.2	-0.3
	baz=144,SNR=6.7						
PKCU	**Pink Cliffs**	8.70	5	ePn	Pn	08 56 51.5	+0.9
CWC	**Cottonwood Cre**	8.70	333	P	Pn	08 56 50.9	+0.5
	baz=152						
SMMC	**Simmler**	8.72	320	P	Pn	08 56 52.4	+1.8
	baz=138						
CCUT	**Cedar City**	8.78	359	ePn	Pn	08 56 51.9	+0.4
SZCU	**Shurtz Canyon**	8.82	1	ePn	Pn	08 56 52.6	+0.5
RCTC	**Rector, Farmer**	9.10	327	P	Pn	08 56 56.8	+1.1
	baz=145						
MTPU	**Mount Pierson**	9.31	5	ePn	Pn	08 56 59.9	+1.1
MVCO	**Mesa Verde**	9.31	24	P	Pn	08 56 58.9	+0.1
	baz=208						
MVCO	**Mesa Verde**	9.31	24	ePn	Pn	08 57 00.1	+1.3
MSU	**Marysvale**	9.77	5	ePn	Pn	08 57 07.1	+1.9
R11A	**Troy Canyon, C**	9.78	349	P	Pn	08 57 04.4	-0.8
	baz=169,SNR=17						
R11A	**Troy Canyon, C**	9.78	349	ePn	Pn	08 57 04.8	-0.4
TCRU	**Three Creeks R**	9.85	3	ePn	Pn	08 57 07.0	+0.7
PV05	**Paradox Valley**	9.91	19	ePn	Pn	08 57 09.0	+1.9
OMMB	**Old Mammoth Mi**	10.09	333	ePn	Pn	08 57 09.9	+0.4
PV01	**Paradox Valley**	10.12	21	ePn	Pn	08 57 13.0	+3.1
MDPB	**Devils Postpil**	10.13	332	ePn	Pn	08 57 06.5	-3.6
PV10	**Paradox Valley**	10.21	19	ePn	Pn	08 57 08.2	-2.9
Q16A	**Castle Valley**	10.28	9	ePn	Pn	08 57 11.1	-1.0
PV09	**Paradox Valley**	10.29	18	ePn	Pn	08 57 13.1	+0.7
MSTX	**Muleshoe**	10.31	57	P	Pn	08 57 15.2	+2.7
	baz=243,SNR=15						
MSTX	**Muleshoe**	10.31	57	ePn	Pn	08 57 15.6	+3.1
PV15	**Paradox Valley**	10.34	21	ePn	Pn	08 57 11.8	-1.1
S22A	**4UR Ranch, Cre**	10.43	29	P	Pn	08 57 15.5	+1.3
	baz=214						
S22A	**4UR Ranch, Cre**	10.43	29	ePn	Pn	08 57 16.2	+2.0
NV11	**Mina Array Sit**	10.50	338	ePn	Pn	08 57 15.6	+0.5
NV01	**Mina Array Sit**	10.55	338	ePn	Pn	08 57 15.2	-0.5
NVAR	**Mina Array Bea**	10.55	338	Pn	Pn	08 57 18.0	+2.3
	baz=158,slow=15,SNR=8.9						
NVAR				Lg	Lg	09 00 21.6	
	baz=165,slow=31,SNR=2.2						
SRU	**San Rafael Swe**	10.57	11	ePn	Pn	08 57 17.4	+1.4
TMUT	**Trail Mountain**	10.65	8	ePn	Pn	08 57 18.3	+1.1
RYN	**Ryan**	10.80	337	ePn	Pn	08 57 20.3	+1.1
P17A	**Butcher Ranch,**	10.89	10	ePn	Pn	08 57 22.7	+2.4
MHTCO	**State Highway**	10.99	38	ePn	Pn	08 57 25.9	+4.1
WAKR	**Walker**	11.03	334	ePn	Pn	08 57 23.4	+1.1
CMB	**Columbia Colle**	11.04	329	ePn	Pn	08 57 23.0	+0.7
SDCO	**Great Sand Dun**	11.04	34	P	Pn	08 57 25.5	+3.0
	baz=219,SNR=10						
SDCO	**Great Sand Dun**	11.04	34	ePn	Pn	08 57 25.9	+3.3
KVN	**Kaiserville**	11.05	340	ePn	Pn	08 57 24.8	+2.2
P18A	**Preston Nutter**	11.12	12	ePn	Pn	08 57 25.3	+1.6
T25A	**Trinidad**	11.15	39	P	Pn	08 57 25.3	+1.3
	baz=225						
T25A	**Trinidad**	11.15	39	ePn	Pn	08 57 26.4	+2.4
NLU	**North Lily Min**	11.22	4	ePn	Pn	08 57 24.4	-0.5
RDG13	**Poverty Ridge**	11.23	323	ePn	Pn	08 57 27.5	+2.5
MPU	**Maple Canyon**	11.31	6	ePn	Pn	08 57 29.9	+3.8
YERR	**Yerington**	11.38	335	ePn	Pn	08 57 30.3	+3.2
DUG	**Dugway, Tooele**	11.42	1	P	Pn	08 57 30.0	+2.3
	baz=183,SNR=15						
DUG	**Dugway, Tooele**	11.42	1	ePn	Pn	08 57 31.5	+3.8
AMTX	**Amarillo**	11.54	55	P	Pn	08 57 30.6	+1.3
	baz=242						
AMTX	**Amarillo**	11.54	55	ePn	Pn	08 57 31.9	+2.7
SMCO	**Snowmass**	11.61	25	ePn	Pn	08 57 33.5	+3.1
JCT	**Junction City**	11.78	78	P	Pn	08 57 34.9	+2.4
	baz=265						
JCT	**Junction City**	11.78	78	ePn	Pn	08 57 35.0	+2.6
JLU	**Jordanelle**	11.91	6	ePn	Pn	08 57 34.7	+0.3
CTU	**Camp Tracy**	11.97	5	ePn	Pn	08 57 37.4	+2.2
AFDM	**Forest Hills D**	12.05	330	ePn	Pn	08 57 39.3	+3.2
PAHR	**Pah Rah Range**	12.07	337	ePn	Pn	08 57 37.0	+0.6
O20A	**White River Ci**	12.07	18	ePn	Pn	08 57 38.5	+2.0
BMN	**Battle Mountai**	12.12	345	ePn	Pn	08 57 37.5	+0.4
833A	**Chaparral WMA,**	12.14	89	P	Pn	08 57 38.7	+1.3
	baz=276						
BGU	**Big Grassy Mou**	12.15	1	ePn	Pn	08 57 41.0	+3.4
Q24A	**Divide**	12.18	31	ePn	Pn	08 57 39.4	+1.2
ABTX	**Abilene, Hawle**	12.29	68	P	Pn	08 57 41.3	+1.9
	baz=256,SNR=7.3						
ABTX	**Abilene, Hawle**	12.29	68	ePn	Pn	08 57 41.4	+1.9
BEKR	**Beckworth**	12.57	334	ePn	Pn	08 57 46.6	+3.3
ISCO	**Idaho Springs**	12.67	28	P	Pn	08 57 46.4	+1.5
	baz=213						
ISCO	**Idaho Springs**	12.67	28	ePn	Pn	08 57 47.4	+2.5
ORV	**Oroville**	12.78	330	ePn	Pn	08 57 47.7	+1.6
HWUT	**Hardware Ranch**	12.90	5	ePn	Pn	08 57 49.4	+1.6
HVU	**Hansel Valley**	13.01	1	ePn	Pn	08 57 52.0	+2.7
N23A	**Red Feather La**	13.49	24	ePn	Pn	08 57 57.3	+1.2
KVTX	**Kingsville**	13.55	91	ePn	Pn	08 57 57.2	+0.5
WMOK	**Wichita Mounta**	13.63	60	ePn	Pn	08 57 59.6	+1.9
WHTX	**Lake Whitney,**	13.97	73	P	Pn	08 58 03.4	+1.2
	baz=261						
WHTX	**Lake Whitney,**	13.97	73	ePn	Pn	08 58 03.0	+0.7
PHWY	**Pilot Hill**	14.03	25	ePn	Pn	08 58 05.2	+1.8
JRQG	**Juriquilla Cam**	14.07	122	ePn	Pn	08 58 00.9	-3.2
AHID	**Auburn Hatcher**	14.09	6	ePn	Pn	08 58 06.3	+2.2
BW06	**Boulder Array**	14.29	11	ePn	P	08 58 12.2	-2.1
PDAR	**Pinedale Array**	14.29	11	Pn	Pn	08 58 07.9	+0.9
	0.1nm,0.3s,baz=179,slow=13,SNR=6.6						
PDAR				Lg	Lg	09 02 20.9	
	0.0nm,0.3s,baz=186,slow=24,SNR=4.5						
PDAR	**Pinedale Array**	14.29	11	ePn	Pn	08 58 10.7	+3.7
MOD	**Modoc Plateau**	14.34	338	ePn	Pn	08 58 08.2	+0.7
WVOR	**Wild Horse Val**	14.35	344	ePn	Pn	08 58 09.7	+2.0
REDW	**Red Top Meadow**	14.70	7	ePn	Pn	08 58 15.3	+2.7
M04C	**Macdoel**	14.79	334	P	Pn	08 58 14.3	+0.7
	baz=150						
MFID	**Camas Ranch**	14.79	352	ePn	P	08 58 18.1	-1.6
SNOW	**Snow King Moun**	14.81	7	ePn	Pn	08 58 15.0	+0.9
HLID	**Hailey**	14.82	357	P	Pn	08 58 15.6	+1.5
	baz=177,SNR=7.8						
HLID	**Hailey**	14.82	357	ePn	Pn	08 58 16.4	+2.4
TPAW	**Teton Pass**	14.82	6	ePn	P	08 58 19.3	-0.9
KHMM	**Horse Mountain**	14.86	327	ePn	Pn	08 58 16.1	+1.5
M02C	**Callahan**	14.87	331	P	Pn	08 58 16.0	+1.3
	baz=146						
K22A	**Casper**	14.88	19	P	Pn	08 58 16.1	+1.2
	baz=204						
K22A	**Casper**	14.88	19	ePn	Pn	08 58 16.2	+1.2
FXWY	**Fox Creek**	14.96	6	ePn	Pn	08 58 17.1	+1.1
	7.2nm,1.0s						
LOHW	**Long Hollow**	14.98	7	ePn	Pn	08 58 18.3	+2.1
	16nm,1.1s						
MOOW	**Moose Ponds**	15.10	7	ePn	P	08 58 21.2	-2.0
J08A	**Circle Bar Ran**	15.19	345	ePn	Pn	08 58 20.9	+2.0
	16nm,1.2s						
HKT	**Hockley**	15.19	81	ePn	Pn	08 58 20.9	+2.1
	18nm,1.4s						
OGNE	**Ogallala**	15.21	34	ePn	P	08 58 24.6	+0.2
	22nm,0.9s						
IMW	**Indian Meadow**	15.22	6	ePn	Pn	08 58 21.6	+1.9
	48nm,1.4s						
K05A	**Summer Lake**	15.27	338	ePn	Pn	08 58 23.3	+3.1
	25nm,1.1s						
YPP	**Pitchstone Pla**	15.61	6	ePn	P	08 58 27.4	-1.5
	11nm,1.1s						
H17A	**Grant Village**	15.76	7	P	Pn	08 58 28.4	+1.9
	baz=189						
H17A	**Grant Village**	15.76	7	ePn	Pn	08 58 27.6	+1.1
	12nm,1.4s						
UNM	**Universidad Na**	15.86	123	ePn	Pn	08 58 29.2	+1.2
	176nm,1.3s						
J05D	**Fort Rock, OR**	15.88	338	P	Pn	08 58 29.4	+1.4
	baz=154,SNR=5.3						
YMR	**Madison River**	15.99	6	ePn	P	08 58 32.8	-0.3
	26nm,1.3s						
MCMT	**McKenzie Canyo**	16.05	1	ePn	P	08 58 33.1	-0.7
YHB	**Horse Butte**	16.05	5	ePn	P	08 58 33.1	-0.6
	16nm,1.2s						
QLMT	**Earthquake Lak**	16.11	5	ePn	P	08 58 37.6	+3.2
YHH	**Holmes Hill**	16.12	6	ePn	Pn	08 58 33.5	+2.2
	22nm,1.4s						
PINE	**Pine Mountain**	16.25	340	ePn	P	08 58 36.6	+0.7
	30nm,1.4s						
NATX	**Nacogdoches**	16.29	75	P	Pn	08 58 34.3	+1.1
	baz=264						
NATX	**Nacogdoches**	16.29	75	ePn	Pn	08 58 33.6	+0.3
	17nm,1.0s						
TUL1	**Leonard**	16.34	60	P	Pn	08 58 33.8	0.0
	baz=249,SNR=11						
TUL1	**Leonard**	16.34	60	ePn	Pn	08 58 33.9	0.0
	39nm,1.1s						
BMO	**Blue Mountains**	16.40	350	ePn	Pn	08 58 36.5	+1.8
	16nm,1.3s						
DLMT	**Dillon**	16.59	1	ePn	P	08 58 42.0	+2.4
	23nm,1.4s						
RLMT	**Red Lodge**	16.64	10	P	Pn	08 58 39.2	+1.5
	baz=193						
RLMT	**Red Lodge**	16.64	10	ePn	P	08 58 39.9	-0.3
	22nm,1.3s						
BOZ	**Bozeman (W)**	16.86	4	P	P	08 58 43.4	+0.7
	baz=185						
BOZ	**Bozeman (W)**	16.86	4	ePn	P	08 58 45.8	+3.1
	13nm,1.1s						
RSSD	**Black Hills**	17.00	23	P	P	08 58 44.2	-0.1
	baz=209						
RSSD	**Black Hills**	17.00	23	ePn	P	08 58 46.2	+1.9
	14nm,1.3s						
LRM	**Limekiln Ridge**	17.05	2	ePn	P	08 58 45.5	+0.6
O33A	**Hebron**	17.11	45	P	P	08 58 45.8	+0.5
	baz=234						
G08A	**Pilot Rock**	17.13	346	ePn	P	08 58 47.3	+1.7
	21nm,1.5s						
KSU1	**Kansas State U**	17.18	49	P	Pn	08 58 45.0	+0.6
	baz=238,SNR=6.8						
KSU1	**Kansas State U**	17.18	49	ePn	Pn	08 58 45.2	+0.7
	60nm,0.9s						
X39A	**Fountain Ranch**	17.23	66	P	Pn	08 58 45.5	+0.4
	baz=256,SNR=13						
GCMT	**Greycliff**	17.24	8	ePn	Pn	08 58 44.7	-0.6
H04A	**Detroit Lake**	17.44	338	ePn	Pn	08 58 49.0	+1.3
	11nm,1.1s						
G06A	**Carlson Farm,**	17.48	342	ePn	Pn	08 58 46.0	-2.3
	11nm,1.3s						
F10A	**Beach Ranch, E**	17.48	351	eP	P	08 58 51.1	+1.6
	13nm,1.3s						
341A	**Kurthwood**	17.53	77	P	P	08 58 50.6	+0.6
	baz=267						
MIAR	**Mount Ida**	17.66	66	P	Pn	08 58 50.9	+0.3
	baz=257						
MIAR	**Mount Ida**	17.66	66	ePn	P	08 58 52.3	+0.8
	8.4nm,0.9s						
W39A	**Magazine**	17.67	64	P	Pn	08 58 50.6	+0.1
	baz=254						
W39A	**Magazine**	17.67	64	ePn	Pn	08 58 50.5	0.0
	22nm,1.3s						
G05D	**Wamic, OR**	17.68	341	P	Pn	08 58 51.6	+0.9
	baz=157						
O34A	**Beatrice**	17.72	46	P	Pn	08 58 50.8	-0.4
	baz=235						
Y40A	**Okolona**	17.79	68	P	Pn	08 58 51.9	-0.1
	baz=258						
241A	**Mo Tay, Goldon**	17.79	74	P	P	08 58 52.7	-0.2
	baz=265						
WLAR	**White Oak Lake**	17.86	69	ePn	P	08 58 55.7	+2.1
	38nm,1.2s						
141A	**Papa Simpson,**	17.87	73	P	P	08 58 53.8	+0.1
	baz=263						
HHAR	**Hobbs**	17.87	60	ePn	P	08 58 54.0	+0.2
	16nm,1.0s						
T38A	**Diamond**	17.87	58	P	Pn	08 58 53.2	+0.1
	baz=248,SNR=16						
F07A	**Phinny Hill Vi**	17.92	345	ePn	P	08 58 55.2	+1.0
	19nm,1.1s						
V39A	**Pettigrew**	17.96	62	P	Pn	08 58 54.5	+0.3
	baz=253,SNR=7.7						
Z41A	**Richland Creek**	18.04	70	P	P	08 58 56.6	+0.9
	baz=261						
Z41A	**Richland Creek**	18.04	70	ePn	Pn	08 58 55.3	+0.1
	24nm,1.0s						
MSO	**Missoula**	18.06	358	P	P	08 58 56.3	+0.4
	baz=179,SNR=10						
MSO	**Missoula**	18.06	358	eP	P	08 58 57.0	+1.2
	18nm,1.4s						
W40A	**Ferguson Farm,**	18.23	64	P	P	08 58 57.9	+0.3
	baz=255,SNR=15						
W40A	**Ferguson Farm,**	18.23	64	eP	P	08 58 58.7	+1.0
	51nm,1.0s						
X40A	**Basin Creek Fa**	18.25	67	P	Pn	08 58 56.8	-0.9
	baz=259						
X40A	**Basin Creek Fa**	18.25	67	ePn	Pn	08 58 56.8	-0.9
	4.4nm,0.8s						
342A	**Flagon Creek P**	18.25	77	P	P	08 58 58.7	+0.8
	baz=267						
U39A	**Green Forest**	18.26	60	P	Pn	08 58 57.6	-0.2
	baz=251,SNR=9.4						
O35A	**Humboldt**	18.26	47	P	Pn	08 58 57.7	-0.2
	baz=237						
HAWA	**Hanford**	18.30	346	ePn	P	08 59 00.4	+2.0
	24nm,1.3s						
Y41A	**Eaglette Beard**	18.31	69	P	P	08 58

D05A	**Enumclaw** 11nm,1.1s	19.65	342	eP	Pn	08 59 15.4	+0.9
244A	**Avery, Jackson** baz=266	19.69	75	P	Pn	08 59 15.3	+0.2
V42A	**Cord** baz=256	19.71	64	P	Pn	08 59 14.8	-0.5
NEW	**Newport** 0.1nm,0.3s,baz=168,slow=10,SNR=7.4	19.72	352	P	P	08 59 13.7	-0.3
NEW	**Newport** baz=170	19.72	352	P	P	08 59 14.6	+0.6
NEW	**Newport** 11nm,1.1s	19.72	352	eP	P	08 59 14.6	+0.6
T41A	**Mountain View** baz=252	19.78	60	P	Pn	08 59 15.6	-0.6
O38A	**Galt** baz=241,SNR=5.4	19.79	50	P	Pn	08 59 16.1	-0.1
X43A	**Marvell** 60nm,1.4s	19.83	68	eP	Pn	08 59 16.8	0.0
R40A	**Maddies Statio** baz=248	19.84	56	P	Pn	08 59 16.7	-0.2
VBMS	**Vicksburg** baz=266	19.84	74	P	Pn	08 59 16.9	-0.1
VBMS	**Vicksburg** 33nm,0.9s	19.84	74	eP	Pn	08 59 17.3	+0.4
S41A	**Jillco Farms,** baz=250	19.97	58	P	Pn	08 59 18.6	+0.1
U42A	**Revenden** baz=254	19.97	62	P	P	08 59 17.6	+0.8
P39B	**Salisbury** baz=244,SNR=8.2	19.98	52	P	Pn	08 59 18.2	-0.4
ECSD	**EROS Data Cent** baz=228,SNR=8.2	20.00	37	P	Pn	08 59 18.3	-0.5
ECSD	**EROS Data Cent** 6.8nm,0.9s	20.00	37	eP	Pn	08 59 19.3	+0.5
H32A	**Carlson Farm,** baz=224,SNR=8.3	20.12	34	P	P	08 59 19.6	+1.2
B08A	**Colville Reser** 5.5nm,1.0s	20.15	348	eP	P	08 59 19.6	+0.9
Q40A	**Laux Farm, Aux** baz=246,SNR=8.1	20.25	54	P	Pn	08 59 21.0	-0.7
T42A	**Van Buren** baz=253	20.28	60	P	P	08 59 20.7	+0.5
WALA	**Waterton Lakes** 26nm,1.5s	20.29	359	eP	P	08 59 21.3	+1.0
NLWA	**Neilton Lookou** 21nm,1.3s	20.39	339	eP	P	08 59 23.0	+1.8
CMIG	**Matias Romero** 29nm,1.0s,baz=202,slow=17,SNR=7.2	20.44	121	P	P	08 59 20.8	-1.2
O39A	**Kirksville** baz=243	20.48	50	P	P	08 59 23.1	+0.9
R41A	**Rosebud** baz=249,SNR=7.0	20.49	57	P	P	08 59 23.3	+0.9
P40A	**Paris** baz=245,SNR=19	20.49	53	P	P	08 59 23.6	+1.2
CCM	**Cathedral Cave** baz=250	20.50	57	P	Pn	08 59 23.8	-0.9
CCM	**Cathedral Cave** 24nm,1.1s	20.50	57	eP	Pn	08 59 24.6	-0.1
K36A	**Gilmore City** baz=234	20.52	43	P	Pn	08 59 24.4	-0.5
H33A	**Prehn Over Nor** baz=225	20.59	35	P	Pn	08 59 25.3	-0.5
M38A	**Pleasantville** baz=239,SNR=11	20.62	47	P	Pn	08 59 25.2	-0.8
Z45A	**Winona** baz=264	20.64	71	P	Pn	08 59 26.6	+0.2
L37A	**Phoenix Point,** baz=236	20.65	45	P	Pn	08 59 26.2	-0.2
B05A	**Bryant** baz=158	20.66	343	P	Pn	08 59 26.3	-0.2
PBMO	**Poplar Bluff** 6.9nm,0.8s	20.72	61	eP	Pn	08 59 26.6	-0.6
S42A	**Caledonia** baz=251	20.74	59	P	P	08 59 26.3	+1.1
N39A	**Derby Farms, D** baz=241,SNR=7.2	20.80	49	P	P	08 59 27.1	+1.4
Q41A	**Truxton** baz=248,SNR=11	20.84	55	P	P	08 59 27.5	+1.4
SCIA	**State Center** 51nm,1.1s	20.87	46	eP	Pn	08 59 28.9	0.0
O40A	**La Belle** baz=244,SNR=41	20.87	51	P	Pn	08 59 28.0	-1.0
R42A	**Luebbering** baz=250	20.91	57	P	P	08 59 27.4	+0.4
T43A	**Greenville** baz=254	20.91	61	P	P	08 59 27.6	+0.6
X45A	**UM Field Stati** baz=261	21.03	68	P	P	08 59 28.7	+0.4
OXF	**Oxford** baz=261,SNR=8.6	21.03	68	P	P	08 59 30.0	+1.6
OXF	**Oxford** 47nm,1.1s	21.03	68	eP	P	08 59 29.9	+1.6
H34A	**Spellman Lake,** baz=227	21.08	36	P	P	08 59 29.3	+0.6
K37A	**Belmond** baz=235,SNR=5.5	21.09	43	P	P	08 59 30.6	+1.8
G33A	**Ortonville** baz=225	21.11	34	P	P	08 59 30.3	+1.2
L38A	**Oak Wood Farm,** baz=238	21.15	45	P	P	08 59 31.0	+1.4
S43A	**Fulton Ridge,** baz=253	21.22	60	P	P	08 59 32.0	+1.7
Z46A	**Louisville** baz=265	21.25	72	P	P	08 59 32.2	+1.5
P41A	**Barry, Barry** baz=246,SNR=7.2	21.25	53	P	P	08 59 31.6	+1.0
M39A	**Webster** baz=240,SNR=8.3	21.31	48	P	P	08 59 32.6	+1.4
Q42A	**Golden Eagle** baz=249	21.33	56	P	P	08 59 32.9	+1.5
PGC	**Sidney** 6.3nm,0.8s	21.39	341	eP	P	08 59 32.7	+0.8
Y46A	**Houston** baz=263,SNR=20	21.39	70	P	P	08 59 33.7	+1.5
N40A	**Mertquake, Sal** baz=243	21.41	50	P	P	08 59 34.1	+1.8
247A	**Quitman** baz=268	21.45	75	P	P	08 59 34.5	+1.7
E31A	**Nome** baz=220	21.45	30	P	P	08 59 33.5	+0.8
J37A	**Redenius Farm,** baz=234,SNR=8.0	21.45	42	P	P	08 59 34.1	+1.3
GLAT	**Glass** 42nm,0.6s	21.48	63	eP	P	08 59 35.5	+2.5
347A	**Saraland** baz=270,SNR=5.5	21.49	77	P	P	08 59 35.2	+2.0
K38A	**Parkersburg** baz=237	21.55	45	P	P	08 59 35.2	+1.4
G34A	**Benson** baz=227	21.55	35	P	P	08 59 34.9	+1.1
R43A	**Red Bud** baz=251	21.55	58	P	P	08 59 35.1	+1.3
O41A	**Passleys Farm,** baz=246,SNR=10	21.55	52	P	P	08 59 35.5	+1.6
H35A	**Sunnyside Ranc** baz=229	21.60	38	P	P	08 59 35.9	+1.5
I36A	**Fitzsimmons Fa** baz=232	21.62	40	P	P	08 59 36.4	+1.9
V45A	**Humboldt** baz=258	21.62	65	P	P	08 59 36.5	+1.9
F33A	**5 Mile Ranch,** baz=224	21.64	33	P	P	08 59 35.0	+0.2
M40A	**Post Highland** baz=242,SNR=8.5	21.71	49	P	P	08 59 37.1	+1.6
P42A	**Winchester** baz=247,SNR=12	21.72	54	P	P	08 59 37.0	+1.3
L39A	**Vinton** baz=239,SNR=11	21.75	47	P	P	08 59 37.4	+1.5
147A	**Livingston** baz=266	21.77	73	P	P	08 59 37.6	+1.3
N41A	**Harden Midland** baz=244,SNR=8.6	21.83	51	P	P	08 59 38.4	+1.6
S44A	**Carbondale** baz=253	21.88	60	P	P	08 59 39.4	+2.0
U45A	**Rockin P Farm,** baz=257	21.91	64	P	P	08 59 38.7	+1.0
SIUC	**Southern Illin** 16nm,0.8s	21.91	60	eP	P	08 59 39.5	+1.8
Q43A	**New Douglas** baz=250	21.95	56	P	P	08 59 39.5	+1.3
I37A	**Lemond, Waseca** baz=233	21.96	41	P	P	08 59 39.6	+1.3
W46A	**Michie** baz=260	21.97	67	P	P	08 59 39.3	+0.9
Z47A	**Carrollton** baz=265,SNR=6.2	21.98	72	P	P	08 59 39.5	+1.0
H36A	**Jessenland, He** baz=231,SNR=6.2	22.02	39	P	P	08 59 40.3	+1.5
J38A	**Wedel Dairy, R** baz=236	22.10	43	P	P	08 59 41.6	+1.8
K39A	**Oelwein** baz=238	22.12	45	P	P	08 59 41.6	+1.6
O42A	**Bath** baz=246	22.15	53	P	P	08 59 41.9	+1.6
R44A	**Waltonville** baz=252	22.18	58	P	P	08 59 41.7	+1.1
PLAL	**Pickwick Lake** 18nm,1.0s	22.19	67	eP	P	08 59 41.4	+0.7
L40A	**Anamosa** baz=241,SNR=9.2	22.22	47	P	P	08 59 41.9	+0.9
Y47A	**UCPARC, Winfie** baz=264	22.23	70	P	P	08 59 43.4	+2.2
E33A	**Westby DABS, E** baz=224	22.26	33	P	P	08 59 42.3	+0.9
X47A	**Russelville** baz=262,SNR=14	22.30	69	P	P	08 59 42.9	+1.0
V46A	**Holladay** baz=259	22.30	65	P	P	08 59 42.6	+0.6
P43A	**Skaggs, Pawnee** baz=248	22.33	55	P	P	08 59 43.8	+1.6
M41A	**Milan** baz=243,SNR=8.8	22.34	50	P	P	08 59 43.0	+0.7
U46A	**Springville** baz=258	22.37	64	P	P	08 59 44.4	+1.7
Z48A	**Northport** baz=265	22.42	72	P	P	08 59 43.6	+0.4
C31A	**Landman Farms,** baz=218,SNR=10	22.48	28	P	P	08 59 44.4	+0.7
F35A	**Swanville** baz=228	22.52	36	P	P	08 59 44.9	+0.8
J39A	**Decorah** baz=237	22.58	44	P	P	08 59 45.3	+0.5
H37A	**Dierke Farm, C** baz=233	22.58	40	P	P	08 59 46.3	+1.4
K40A	**Colesburg** baz=240	22.59	46	P	P	08 59 46.5	+1.5
WVT	**Waverly** baz=258	22.60	64	P	P	08 59 45.8	+0.7
WVT	**Waverly** 18nm,1.0s	22.60	64	eP	P	08 59 47.2	+2.1
I38A	**Scanlan Farm,** baz=235,SNR=6.4	22.60	42	P	P	08 59 45.8	+0.7
W47A	**Westpoint** baz=261	22.62	67	P	P	08 59 46.3	+0.9
449A	**Pace** baz=272	22.63	79	P	P	08 59 47.1	+1.6
349A	**Repton** baz=270	22.64	77	P	P	08 59 46.9	+1.3
E34A	**Wadena** baz=225	22.67	34	P	P	08 59 46.3	+0.4
L41A	**Preston** baz=242	22.70	48	P	P	08 59 47.5	+1.4
249A	**Camden** baz=269	22.71	75	P	P	08 59 47.1	+0.8
O43A	**Sugar Creek Fa** baz=247	22.72	53	P	P	08 59 47.6	+1.2
T46A	**Princeton** baz=256	22.75	62	P	P	08 59 47.5	+0.8
V47A	**Nunnelly** baz=260	22.78	65	P	P	08 59 48.2	+1.1
R45A	**Skylar, Fairfi** baz=253	22.79	59	P	P	08 59 48.3	+1.2
Y48A	**Jasper** baz=264	22.79	70	P	P	08 59 47.6	+0.5
HDIL	**Hopedale** baz=247	22.84	53	P	P	08 59 48.6	+1.0
HDIL	**Hopedale** 31nm,0.9s	22.84	53	eP	P	08 59 48.9	+1.2
LRAL	**Lakeview Retre** baz=266	22.86	73	P	P	08 59 49.2	+1.3
LRAL	**Lakeview Retre** 6.0nm,0.8s	22.86	73	eP	P	08 59 49.3	+1.4
M42A	**Sheffield** baz=244	22.90	50	P	P	08 59 49.7	+1.4
P44A	**Sand Creek, Wi** baz=250	22.91	56	P	P	08 59 49.6	+1.2
X48A	**Hartselle** baz=263	22.95	69	P	P	08 59 50.7	+1.9
I39A	**Houston** baz=236	22.97	43	P	P	08 59 50.3	+1.3
H38A	**Maiden Rock** baz=234	23.00	41	P	P	08 59 51.0	+1.7
149A	**Jones** baz=268	23.01	74	P	P	08 59 50.3	+0.9
B31A	**Greenbush Farm** baz=217	23.02	27	P	P	08 59 49.6	+0.2
SPMN	**Marine on St.** baz=232	23.04	39	P	P	08 59 50.7	+1.0
SPMN	**Marine on St.** 17nm,1.0s	23.04	39	eP	P	08 59 51.5	+1.8
OLIL	**Olney** 32nm,1.4s	23.06	58	eP	P	08 59 56.0	+6.1
F36A	**Milaca** baz=229,SNR=6.0	23.06	37	P	P	08 59 50.2	+0.3
Q45A	**Warren Harvey,** baz=252	23.07	57	P	P	08 59 51.3	+1.4
K41A	**Shullsburg** baz=241	23.08	47	P	P	08 59 51.6	+1.5
U47A	**Clarksville** baz=258	23.09	64	P	P	08 59 50.0	-0.2
W48A	**Pulaski** baz=262	23.14	67	P	P	08 59 51.6	+0.8
J40A	**Soldiers Grove** baz=239,SNR=7.5	23.20	45	P	P	08 59 51.9	+0.5
L42A	**Oliver, Polo** baz=243	23.21	49	P	P	08 59 53.0	+1.6
Z49A	**Columbiana** baz=266	23.26	72	P	P	08 59 53.6	+1.6
JFWS	**Jewell Farm** baz=240	23.27	46	P	P	08 59 53.7	+1.7
JFWS	**Jewell Farm** 37nm,0.9s	23.27	46	eP	P	08 59 55.6	+3.6
O44A	**Mansfield** baz=249	23.27	54	P	P	08 59 53.3	+1.2
T47A	**Sharon Grove** baz=257	23.35	63	P	P	08 59 54.5	+1.6
Y49A	**Blount Mountai** baz=265	23.41	71	P	P	08 59 54.1	+0.5
M43A	**Waltham Townsh** baz=245	23.44	51	P	P	08 59 55.4	+1.7
B32A	**Ashes, Strandq** baz=220,SNR=17	23.45	29	P	P	08 59 53.9	+0.1
G38A	**Ridgeland** baz=234	23.54	40	P	P	08 59 54.9	+0.1
I40A	**Norwalk** baz=238	23.54	44	P	P	08 59 55.3	+0.5
X49A	**Woodville** baz=264	23.55	69	P	P	08 59 56.2	+1.2
P45A	**Graceland, Par** baz=251,SNR=6.7	23.57	56	P	P	08 59 56.6	+1.5
D35A	**Remer** baz=226	23.62	34	P	P	08 59 56.3	+0.8
E36A	**McGregor** baz=229	23.64	36	P	P	08 59 56.4	+0.7
J41A	**Loganville** baz=240	23.64	46	P	P	08 59 56.6	+0.8
150A	**Eclectic** baz=268	23.66	74	P	P	08 59 57.2	+1.2
AGMN	**Agassiz Nation** baz=221	23.66	30	P	P	08 59 56.5	+0.6
AGMN	**Agassiz Nation** 14nm,1.1s	23.66	30	eP	P	08 59 56.1	+0.2
U48A	**Cassie Pea, Po** baz=259	23.69	64	P	P	08 59 57.6	+1.3
N44A	**Piper City** baz=248,SNR=5.9	23.75	53	P	P	08 59 57.4	+0.6
B33A	**Robert and Kas** baz=222	23.77	30	P	P	08 59 57.5	+0.6
Z50A	**Ashland** baz=267	23.77	72	P	P	08 59 58.1	+1.0
K42A	**Prairie Point,** baz=242,SNR=5.9	23.78	48	P	P	08 59 57.8	+0.7
O45A	**Potomac** baz=249	23.84	55	P	P	08 59 58.9	+1.3
A32A	**Rocking H Ranc** baz=219,SNR=6.5	23.88	28	P	P	08 59 58.1	+0.2
L43A	**Garden Prairie** baz=244	23.90	49	P	P	08 59 59.2	+0.9
Y50A	**Piedmont** baz=265	23.98	71	P	P	08 59 60.0	+0.9
G39A	**Holcombe** baz=234,SNR=5.7	24.00	41	P	P	08 59 59.9	+0.7
351A	**Pinckard** baz=271,SNR=5.7	24.00	77	P	P	09 00 00.3	+1.0
F38A	**Pierce - Schro** baz=232	24.01	39	P	P	09 00 00.2	+1.0
H40A	**Chili** baz=237	24.08	43	P	P	09 00 00.5	+0.6
I41A	**Arkdale** baz=239	24.09	44	P	P	09 00 00.9	+0.9
C35A	**Jirik Farms, M** baz=226	24.09	33	P	P	09 00 00.1	+0.1
D36A	**Goodland** baz=228	24.12	35	P	P	09 00 00.0	-0.3
251A	**Midway** baz=270	24.16	75	P	P	09 00 01.6	+0.8
J42A	**Columbus** baz=241	24.18	47	P	P	09 00 01.3	+0.4
N45A	**Kentland** baz=248	24.20	53	P	P	09 00 02.0	+0.9
151A	**Opelika** baz=269	24.24	74	P	P	09 00 01.8	+0.3
WCI	**Wyandotte Cave** baz=255	24.27	60	P	P	09 00 01.8	0.0
WCI	**Wyandotte Cave** 7.6nm,0.8s	24.27	60	eP	P	09 00 03.4	+1.6
S48A	**Wiedeman Farm,** baz=257,SNR=5.9	24.32	62	P	P	09 00 03.2	+1.0
SFIN	**Lafayette** baz=250,SNR=10	24.33	55	P	P	09 00 03.5	+1.2
SFIN	**Lafayette** 29nm,1.1s	24.33	55	eP	P	09 00 03.8	+1.5
B34A	**Aery, Baudette** baz=223	24.34	31	P	P	09 00 02.9	+0.6
A33A	**Warroad** baz=221	24.36	29	P	P	09 00 03.4	+1.0
Q47A	**Bedord North L** baz=254	24.37	58	P	P	09 00 04.1	+1.5
K43A	**Burlington** baz=244	24.41	49	P	P	09 00 04.7	+1.7
EDM	**Edmonton** 34nm,1.5s	24.45	360	eP	P	09 00 02.7	-0.6
F39A	**Loretta** baz=234	24.51	40	P	P	09 00 04.4	+0.5
G40A	**Rib Lake** baz=236,SNR=7.0	24.55	42	P	P	09 00 05.0	+0.7
352A	**Blakely** baz=271,SNR=5.7	24.58	77	P	P	09 00 05.9	+1.3
E38A	**The Farm, Brul** baz=231	24.59	38	P	P	09 00 05.1	+0.5
I42A	**Draeger Farm,** baz=240	24.60	46	P	P	09 00 05.1	+0.4
R48A	**Northridge Ran** baz=255	24.64	60	P	P	09 00 06.0	+0.9
P47A	**Martinsville** baz=253	24.64	57	P	P	09 00 06.0	+0.9
B35A	**Bob, Littlefor** baz=225	24.68	32	P	P	09 00 05.4	0.0
C36A	**Pine Crest Far** baz=227	24.68	34	P	P	09 00 05.7	+0.3
N46A	**Monticello** baz=249	24.77	54	P	P	09 00 06.8	+0.5
O47A	**Sheridan** baz=251	24.95	56	P	P	09 00 08.2	+0.3
F40A	**Park Falls** baz=235	24.97	40	P	P	09 00 08.4	+0.4
E39A	**Mellen** baz=234	24.99	39	P	P	09 00 08.7	+0.4
WI04	**River Road, Cl** 12nm,1.0s	25.05	44	eP	P	09 00 11.9	+3.2
APG	**El Apazote** 3.4nm,0.9s,baz=299,slow=13,SNR=2.0	25.08	118	P	P	09 00 10.5	+1.1
I43A	**Langenfeld Bro** baz=242	25.08	46	P	P	09 00 09.9	+0.9
CPCT	**Cooper Cave** 25nm,1.0s	25.14	67	eP	P	09 00 11.2	+1.6
ULM	**Lac du Bonnet** 1.1nm,0.8s,baz=214,slow=10,SNR=18	25.17	27	P	P	09 00 09.1	-0.7
ULM	**Lac du Bonnet** 13nm,0.8s	25.17	27	eP	P	09 00 09.3	-0.5
E40A	**Wakefield** baz=234	25.40	40	P	P	09 00 12.2	+0.3
C38A	**Sawbill Land.** baz=230	25.45	36	P	P	09 00 13.0	+0.7
F41A	**Three Lakes** baz=237	25.45	42	P	P	09 00 12.7	+0.3
EYMN	**Ely** baz=229	25.48	35	P	P	09 00 12.9	+0.2
EYMN	**Ely** 7.2nm,0.9s	25.48	35	eP	P	09 00 16.4	+3.7
G42A	**Mountain** baz=239	25.59	43	P	P	09 00 13.8	+0.2
G42A	**Mountain** 9.5nm,0.8s	25.59	43	eP	P	09 00 15.3	+1.7
H43A	**Windswept, Lux** baz=241	25.60	45	P	P	09 00 13.9	+0.2
H43A	**Windswept, Lux** 9.7nm,0.9s	25.60	45	eP	P	09 00 13.9	+0.2
COWI	**Conover** 9.1nm,0.8s	25.63	41	eP	P	09 00 14.4	+0.4
TKL	**Tuckaleechee C** 7.9nm,1.0s,baz=269,slow=10,SNR=4.5	25.77	67	P	P	09 00 15.5	+0.1
TKL	**Tuckaleechee C** 27nm,0.9s	25.77	67	eP	P	09 00 17.8	+2.4
BBB	**Bella Bella** 2.3nm,0.9s,baz=158,slow=5.4,SNR=2.7	25.91	339	P	P	09 00 17.0	+0.6
E41A	**Kenton** baz=236	25.94	40	P	P	09 00 16.6	-0.2
254A	**Abbeville** baz=271	25.96	75	P	P	09 00 18.7	+1.6
G43A	**Wallace** baz=240	26.04	44	P	P	09 00 18.3	+0.6
G43A	**Wallace** 8.7nm,1.0s	26.04	44	eP	P	09 00 18.6	+0.9
TZTN	**Tazewell** 23nm,1.3s	26.07	65	eP	P	09 00 23.0	+4.9
C39A	**Grand Marais** baz=232	26.11	37	P	P	09 00 18.3	0.0
BG3	**Lake Jocassee** 24nm,1.0s	26.38	69	eP	P	09 00 26.1	+5.1
HODGE	**Hodges** 10nm,1.0s	26.88	70	eP	P	09 00 26.7	+1.3
FFC	**Flin Flon** 7.7nm,1.4s	27.20	14	eP	P	09 00 27.5	-0.6
ACSO	**Alum Creek Sta** baz=255	27.28	57	P	P	09 00 30.5	+1.5
ACSO	**Alum Creek Sta** 16nm,0.8s	27.28	57	eP	P	09 00 30.9	+1.9
KMSC	**Kings Mountain** baz=266	27.70	69	P	P	09 00 33.7	+0.9
ELFO	**Elginfield** baz=251,SNR=5.6	29.35	52	P	P	09 00 48.6	+1.3
O56A	**Blue Knob Stat** baz=259	30.58	59	P	P	09 00 58.5	+0.2
SSPA	**Standing Stone** baz=259	31.16	58	P	P	09 01 04.2	+0.8
SADO	**Sadowa** 9.4nm,0.8s	31.34	50	eP	P	09 01 05.4	+0.4
SDMD	**Soldier's Deli** 8.6nm,1.5s	31.74	61	eP	P	09 01 09.4	+0.8
PAGS	**Pennsylvania G** 22nm,1.5s	31.96	59	eP	P	09 01 11.9	+1.4
MVL	**Millersville** 6.1nm,1.0s	32.20	60	eP	P	09 01 11.3	-1.3
FCC	**Fort Churchill** 3.9nm,0.8s	32.78	18	eP	P	09 01 16.8	-0.5
PLVO	**Plevna** 18nm,0.8s	32.82	50	eP	P	09 01 20.5	+2.5
BINY	**Binghamton** baz=258	32.87	56	P	P	09 01 19.8	+1.3
BINY	**Binghamton** 22nm,1.3s	32.87	56	eP	P	09 01 20.8	+2.3
BESE	**Bessie Mountai** 15nm,1.4s	33.37	339	eP	P	09 01 22.1	-0.6
ODNJ	**Ogdensburg** 9.9nm,1.1s	33.69	58	eP	P	09 01 25.2	-0.3
YKA	**Yellowknife Ar** 0.7nm,0.8s,baz=179,slow=8.4,SNR=19	33.76	359	P	P	09 01 24.6	-1.3
YKA	0.2nm,0.6s,baz=171,slow=3.2,SNR=4.1			PcP	PcP	09 04 05.3	+0.2
LONY	**Lake Ozonia** baz=256	34.42	52	P	P	09 01 32.7	+0.8
LONY	**Lake Ozonia** 13nm,1.1s	34.42	52	eP	P	09 01 34.1	+2.2
TRY	**Troy** 17nm,1.1s	34.66	56	eP	P	09 01 33.7	-0.2
DAWY	**Dawson** 3.9nm,1.1s	39.09	342	eP	P	09 02 12.7	+1.2
HPAH	**Hawaii Prepara** 72nm,1.1s	39.50	267	eP	P	09 02 16.3	+0.8
KDAK	**Kodiak Island** 3.7nm,1.0s,baz=127,slow=10,SNR=3.1	39.86	328	P	P	09 02 18.0	+0.1
RC01	**Rabbit Creek A** 11nm,1.2s	40.45	334	eP	P	09 02 23.8	+1.1

PMR	Palmer	40.52	334	*e*P		P		09 02 24.7	+1.5
	15nm,1.3s								
GHO	Glory Hole Cre	40.55	335	*e*P		P		09 02 25.1	+1.4
	12nm,1.2s								
SUA	Susitna One	41.06	334	*e*P		P		09 02 28.4	+0.4
	9.9nm,1.2s								
INK	Inuvik	41.38	349	P		P		09 02 30.0	-0.3
	2.6nm,1.1s,baz=145,slow=8.8,SNR=6.7								
INK	Inuvik	41.38	349	*e*P		P		09 02 29.7	-0.6
	6.0nm,1.3s								
SKT	Skwentna	41.66	334	*e*P		P		09 02 34.0	+1.2
	6.3nm,1.2s								
MCK	McKinley	41.78	337	*e*P		P		09 02 34.8	+1.1
	6.8nm,1.0s								
IL1	Eielson Array	41.80	339	*e*P		P		09 02 33.6	-0.3
ILAR	Eielson Array	41.80	339	P		P		09 02 33.6	-0.2
	1.1nm,0.7s,baz=154,slow=6.4,SNR=12								
ILB	Eielson Array	41.80	339	*e*P		P		09 02 34.7	+0.9
CCB	Clear Creek Bu	42.01	339	*e*P		P		09 02 35.0	-0.5
	0.9nm,1.0s								
TRF	Thorofare Moun	42.08	336	*e*P		P		09 02 37.4	+1.0
	16nm,1.4s								
SCHQ	Schefferville	42.19	39	P		P		09 02 37.5	+0.3
	6.4nm,0.8s,baz=254,slow=7.8,SNR=6.7								
SCHQ	Schefferville	42.19	39	*e*P		P		09 02 37.9	+0.7
	11nm,1.0s								
KTH	Kantishna Hill	42.37	336	*e*P		P		09 02 39.1	+0.5
	8.3nm,1.3s								
PPLA	Purkeypile	42.44	335	*e*P		P		09 02 40.5	+1.2
	38nm,1.3s								
FYU	Fort Yukon	42.59	342	*e*P		P		09 02 41.7	+1.5
	17nm,1.4s								
CAST	Castle Rocks	42.71	335	*e*P		P		09 02 41.6	+0.3
	12nm,1.4s								
BPAW	Bear Paw Mtn.	42.72	337	*e*P		P		09 02 41.6	+0.2
	9.3nm,1.4s								
SVW2	Sparrevohn	42.84	331	*e*P		P		09 02 43.0	+0.7
	12nm,1.1s								
AGP	Aguadilla	43.22	93	*e*P		P		09 02 43.8	-2.1
	114nm,1.3s								
MLY	Manley	43.22	338	*e*P		P		09 02 46.6	+1.2
	2.9nm,0.8s								
COLD	Coldfoot	44.46	340	*e*P		P		09 02 56.5	+1.2
	5.5nm,1.4s								
IM3	Indian Mountai	44.79	338	*e*P		P		09 02 58.3	+0.3
TOLK	Toolik Lake Re	45.23	342	P		P		09 03 01.3	-0.2
	baz=133								
RES	Resolute Bay	46.93	7	P		P		09 03 13.9	-0.8
	0.6nm,0.9s,baz=200,slow=10,SNR=2.7								
RES	Resolute Bay	46.93	7	*e*P		P		09 03 14.6	-0.2
	3.7nm,1.4s								
PCRV	Puerto La Cruz	48.99	102	LR		LR		09 27 23.7	
	comp=Z,2µm,18.8s,baz=115,slow=40								
SFJD	Kangerlussuaq	53.20	26	P		P		09 04 03.0	+0.6
	5.9nm,0.7s,baz=218,slow=2.8,SNR=2.7								
SEY	Seymchan	66.77	330	P		P		09 05 35.4	-0.2
	2.7nm,0.7s,baz=68,slow=13,SNR=6.5								
PEA1	Petropavlovsk-	67.04	319	*e*P		P		09 05 37.2	-0.4
PETK	Petropavlovsk-	67.05	319	P		P		09 05 37.2	-0.5
	4.4nm,0.9s,baz=64,slow=6.6,SNR=3.8								
CPUP	Villa Florida	76.64	130	P		P		09 06 37.5	+1.9
	2.0nm,0.8s,baz=335,slow=6.3,SNR=4.9								
EKA	Eskdalemuir Ar	77.24	33	P		P		09 06 40.1	+1.5
	1.1nm,0.7s,baz=319,slow=7.1,SNR=3.1								
PLCA	Paso Flores	79.64	148	P		P		09 06 52.0	0.0
	2.2nm,0.9s,baz=339,slow=3.7,SNR=5.8								
HFS	Hagfors	81.35	24	P		P		09 06 59.9	-1.0
	2.6nm,0.9s,baz=297,slow=6.3,SNR=2.6								
KLR	Kul'dur	83.25	323	LR		LR		09 41 05.0	
	comp=Z,467nm,20.8s,slow=33								
FIA0	FINESS Array S	84.27	18	*e*P		P		09 07 14.4	-1.7
FINES	FINESS Array B	84.27	18	P		P		09 07 14.4	-1.7
	2.0nm,0.8s,baz=305,slow=4.9,SNR=3.6								
VYHS	Vyhne	91.94	30	*e*P		P		09 07 51.1	-2.1
KECS	Kecovo	92.65	29	*e*P		P		09 07 54.5	-2.0
SONA0	Songino Array	95.87	334	*e*P		P		09 08 11.7	+0.3
SONM	Songino Array	95.87	334	P		P		09 08 11.7	+0.3
	0.8nm,0.8s,baz=20,slow=4.6,SNR=3.8								
HHC	Hu-ho-hao-te	99.28	327	*e*P		Pdif		09 08 26.5	-0.4
HHC				pmax		pmax			
	comp=Z,10.0nm,1.5s								
HHC				pmax		pmax			
	comp=Z,12nm,8.7s								
LZH	Lanzhou	106.69	329	*e*Pdif		Pdif		09 09 00.2	+0.2
WR1	Warramunga Arr	118.55	262	*e*PKPdf		PKPdf		09 13 32.2	-0.9
WRA	Warramunga Arr	118.55	262	PKP		PKPdf		09 13 32.2	-0.9
	comp=Z,0.8nm,0.7s,baz=70,slow=2.2,SNR=5.7								
ASAR	Alice Springs	120.28	258	PKP		PKPdf		09 13 35.4	-0.9
	comp=Z,0.5nm,0.8s,baz=113,slow=1.6,SNR=5.3								
CMAR	Chiang Mai Arr	123.72	323	PKP		PKPdf		09 13 42.6	-0.5
	comp=Z,0.6nm,0.3s,baz=316,slow=2.5,SNR=4.2								

ISCJB ***12*** *08:55:14.8±1.2, 17°.75N±0°.10×103°.05W±0°.06, h10km, mb3.7/4, Error ellipse: s-maj=16.1km s-min=4.9km az=28.6*

IDC ***12*** *08:55:14.6±4.3, 18°.25N×101°.31W, h0km, mb3.7/4, mb1 4.0/5, mb1mx3.6/48, mbtmp3.7/5, ML3.2/1, Error ellipse: s-maj=128.5km s-min=34.7km az=31.0*

MEX ***12*** *08:55:19.3±0.9, 17°.77N×103°.06W, h15km±29km, MD3.8*

ISC 12 08:55:16.6±1.4, 17°.8N±0°.1×103°.01W±0°.08, h10km, n10, σ1§46/15, mb3.7/4, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MMIG	Aquila	0.57	327	*i* P		Pg	08 55 29.0	+1.2
MMIG				*i* S		Sg	08 55 36.4	+1.0
ZIIG	Zihuatanejo	1.49	97	*e*P		Pn	08 55 42.4	-1.0
ZIIG				*e*S		Sn	08 56 01.9	-1.0
EZ5V		1.75	341	*e*P		Pn	08 55 47.3	0.0
EZ5V				*e*S		Sn	08 56 07.2	-2.7
CJM	Chamela	2.56	311	*e*P		Pn	08 55 57.9	-0.3
CJM				*e*S		Sn	08 56 27.0	-2.4
ARIG	Puente Sto Nin	2.58	79	*e*P		Pn	08 55 58.4	-0.1
ARIG				*i* S		Sn	08 56 30.1	+0.2
CMIG	Matias Romero	7.79	94	Pn		Pn	08 56 46.8	-23
	0.5nm,0.3s,baz=220,slow=13,SNR=8.5							
CMIG				Lg		Lg	08 58 39.0	
	0.2nm,0.3s,baz=324,slow=6.7,SNR=2.2							
NVAR	Mina Array Bea	24.51	330	P		P	09 00 38.3	+1.8
	1.2nm,0.8s,baz=157,slow=12,SNR=3.6							
YKA	Yellowknife Ar	45.37	352	P		P	09 03 33.3	-1.6
	0.6nm,0.9s,baz=162,slow=7.4,SNR=5.0							
INK	Inuvik	54.03	347	P		P	09 04 40.4	-0.4
	1.1nm,0.6s,baz=133,slow=6.0,SNR=10							
ILAR	Eielson Array	55.32	339	P		P	09 04 50.7	+0.5
	1.1nm,1.0s,baz=134,slow=4.9,SNR=5.5							
ILAR				PcP		PcP	09 05 52.1	+1.3
	0.2nm,0.6s,baz=143,slow=2.4,SNR=4.6							

IDC ***12*** *08:56:26.8±2.7, 37°.25N×72°.08E, h126km±23km, mb3.7/20, mb1 3.8/25, mb1mx3.5/76, mbtmp4.2/25, Error ellipse: s-maj=18.4km s-min=11.8km az=2.0*

MOS ***12*** *08:56:27.9±1.0, 37°.43N×72°.04E, h144km, mb3.9/17, Error ellipse: s-maj=9.6km s-min=4.8km az=79.4*

ISCJB ***12*** *08:56:27.3±0.2, 37°.35N±0°.02×72°.08E±0°.03, h150km, mb4.1/41, Error ellipse: s-maj=3.7km s-min=3.1km az=0.9*

BJI ***12*** *08:56:28.7, 37°.50N×72°.13E, h156km, mb4.5/10, mB4.6/2*

NEIC ***12*** *08:56:29.4±0.6, 37°.46N×72°.08E, h170km±8km, mb4.4/15, Error ellipse: s-maj=10.9km s-min=6.9km az=132.0*

NEIC Felt at Dushanbe. Also felt at Chitral, Pakistan.

NNC ***12*** *08:56:31.8±2.4, 37°.76N×71°.84E, h160km±22km, mb3.8, mpv4.7, Error ellipse: s-maj=24.5km s-min=9.6km az=159.0*

ISC 12 08:56:28.2±0.4, 37°.40N±0°.04×72°.07E±0°.04, h150km, n141, σ1§98/157, mb4.1/41, 12C-12D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SFK	Sufi-Kurgan	2.84	23	⇓P		Pn	08 57 15.3	+1.6
	146nm,0.3s							
SFK				⇓S		Sn	08 57 47.9	-1.1
	485nm,0.3s							
SFK	Sufi-Kurgan	2.84	23	PN		Pn	08 57 15.5	+1.8
DZET	Dzherino	2.92	300	⇓P		Pn	08 57 14.8	+0.2
	156nm,0.5s							
DZET				⇑S		Sn	08 57 48.4	-2.1
	2µm,0.6s							
DZET	Dzherino	2.92	300	PN		Pn	08 57 14.9	+0.3
CEP	Cherat	3.57	182	P		Pn	08 57 26.8	+3.8
KBL	Kabul	3.76	222	*e*Pn		Pn	08 57 28.2	+2.7
KBL				*e*Sn		Sn	08 58 08.5	-1.5
KBL	Kabul	3.76	222	*e*PN		Pn	08 57 28.2	+2.7
CHCP	Chirah Chowk	3.85	165	⇑P		Pn	08 57 30.0	+3.4
NIL	Nilore	3.86	165	*e*Pn		Pn	08 57 29.8	+3.2
NIL				*e*Sn		Sn	08 58 11.2	-0.9
NIL	Nilore	3.86	165	*e*PN		Pn	08 57 29.8	+3.1
THW	Thamme Wali	4.60	183	P		Pn	08 57 38.9	+2.6
AML	Almayashu	4.89	14	P		Pn	08 57 41.4	+0.9
	SNR=270							
NRN	Naryn	5.05	36	*e*Pn		Pn	08 57 42.3	-0.2
NRN				*e*Sn		Sn	08 58 37.5	-2.9
NRN	Naryn	5.05	36	*e*PN		Pn	08 57 42.3	-0.2
MNAS	Manas	5.09	4	⇓P		Pn	08 57 44.0	+1.1
	108nm,0.3s							
MNAS				⇑S		Sn	08 58 37.8	-3.4
	215nm,0.5s							
MNAS	Manas	5.09	4	PN		Pn	08 57 43.7	+0.8
UCH	Uchtor	5.18	21	P		Pn	08 57 45.3	+1.0
	SNR=210							
KZA	Kyzart	5.28	27	P		Pn	08 57 46.0	+0.4
	SNR=46							
EKS2	Erkin-Say	5.42	13	P		Pn	08 57 48.2	+1.1
	SNR=34							
AAK	Ala-Archa	5.55	19	P		Pn	08 57 50.0	+1.0
	31nm,0.3s,baz=188,slow=6.6,SNR=111							
AAK				S		Sn	08 58 49.4	-2.8
	20nm,0.3s,baz=320,slow=21,SNR=25							
AAK	Ala-Archa	5.55	19	⇓P		Pn	08 57 50.2	+1.2
	52nm,0.4s							
AAK				⇑S		Sn	08 58 49.2	-3.0
	284nm,0.9s							
AAK	Ala-Archa	5.55	19	P		Pn	08 57 50.5	+1.4
	SNR=91							
AAK	Ala-Archa	5.55	19	*e*Pn		Pn	08 57 50.4	+1.4
AAK				*e*Sn		Sn	08 58 50.8	-1.4
AAK	Ala-Archa	5.55	19	*ce*PN		Pn	08 57 50.4	+1.4
KBK	Karagaybulak	5.70	22	P		Pn	08 57 52.2	+1.3
	SNR=26							
FRU	Bishkek	5.77	19	PN		Pn	08 57 53.6	+1.9
ULHL	Ulahol	5.81	32	P		Pn	08 57 53.0	+0.5
	SNR=21							
KK31	Karatay Array	5.82	349	P		Pn	08 57 53.2	+0.8
	19nm,0.3s,baz=164,slow=12,SNR=405							
KK31				S		Sn	08 58 54.0	-4.3
	91nm,0.5s,baz=170,slow=22,SNR=16							
KK31	Karatay Array	5.82	349	*e*Pn		Pn	08 57 53.2	+0.8
KK31				*e*Sn		Sn	08 58 54.0	-4.3
KK31	Karatay Array	5.82	349	*e*PN		Pn	08 57 53.2	+0.8
KKAR	Karatay Array	5.82	349	*e*Pn		Pn	08 57 53.3	+0.8
KKAR				*e*Sn		Sn	08 58 54.0	-4.4
KKAR	Karatay Array	5.82	349	*e*PN		Pn	08 57 53.3	+0.8
CHMS	Chumysh	5.96	19	P		Pn	08 57 55.4	+1.2
	SNR=43							
TKM2	Tokmak 2	6.14	25	⇓P		Pn	08 57 57.6	+0.7
	26nm,0.6s							
TKM2	Tokmak 2	6.14	25	P		Pn	08 57 57.8	+0.9
	SNR=39							
KDJ	Kajisay	6.15	38	*e*Pn		Pn	08 57 57.1	+0.1
KDJ				*e*Sn		Sn	08 59 04.5	-1.9
KDJ	Kajisay	6.15	38	PN		Pn	08 57 57.2	+0.2
USP	Ospenovka	6.15	17	P		Pn	08 57 57.3	+0.5
	SNR=11							
TARG	Taragay, Kyrgy	6.19	44	*e*Pn		Pn	08 57 58.6	+0.9
DHRM	DHARAMSHALA	6.20	145	*e*P		Pn	08 57 58.3	+0.5
DHRM				*e*S		Sn	08 59 04.8	-3.1
DHRM				IAML			08 59 10.8	
	comp=E,936nm,0.7s							
DHRM				IAML			08 59 13.4	
	comp=N,682nm,0.4s							
PRZ	Przheval'sk	7.03	42	*e*Pn		Pn	08 58 10.3	+1.6
PRZ	Przheval'sk	7.03	42	*e*PN		Pn	08 58 10.3	+1.6
SMLA	Simla	7.54	145	*ex*		Pn	08 58 16.3	+0.9
SMLA				*ex*		Sn	08 59 35.7	-3.9
PDGK	Podgornoye	8.19	41	⇑P		Pn	08 58 23.9	-0.3
	comp=N,25nm,1.1s							
PDGK	Podgornoye	8.19	41	PN		Pn	08 58 24.3	+0.1
DDI	Dehra Dun	8.63	143	*ex*		Pn	08 58 30.4	+0.4
DDI				*ex*		Sn	09 00 02.3	-3.7
OTUK	Ortayu	10.84	1	P		Pn	08 58 58.2	-1.0
GEYT	Alibeck	11.08	277	P		Pn	08 59 00.8	-1.5
	comp=N,5.8nm,0.3s,baz=104,slow=9.6,SNR=21							
GEYT				S		Sn	09 00 58.8	-5.9
	comp=N,3.7nm,0.3s,baz=93,slow=18,SNR=5.9							
GYA0B	ALIBECK ARRAY	11.08	277	*e*Pn		Pn	08 59 00.7	-1.6
MAKZ	Makanchi	11.93	35	*e*Pn		Pn	08 59 13.1	-0.3
MAKZ	Makanchi	11.93	35	*e*P		Pn	08 59 13.1	-0.3
MK01	Makanchi Array	12.05	36	*e*Pn		Pn	08 59 15.0	0.0
MK31	Makanchi Array	12.06	36	P		Pn	08 59 14.9	-0.2
	comp=N,4.4nm,0.7s,baz=196,slow=9.0,SNR=24							
MK31	Makanchi Array	12.06	36	*e*Pn		Pn	08 59 15.2	+0.1
MK31				*e*Sn		Sn	09 01 28.6	+0.2
MK31	Makanchi Array	12.06	36	*e*P		Pn	08 59 15.2	+0.1
MK31				*e*			09 01 28.6	
MKAR	Makanchi Array	12.06	36	P		Pn	08 59 14.7	-0.4
	comp=N,0.4nm,0.3s,baz=217,slow=10.0,SNR=19							
MKAR	Makanchi Array	12.06	36	*e*Pn		Pn	08 59 15.2	+0.1
MKAR				*e*Sn		Sn	09 01 28.6	+0.2
PYUN	Piuthan	13.04	132	*e*P		Pn	08 59 26.4	-1.7
	comp=N,74nm,0.3s							
DANN	Dangsing	13.33	129	*e*P		Pn	08 59 30.5	-1.3
WMQ	Urumqi	13.48	57	P		Pn	08 59 33.4	-0.1
WMQ				sP		sP	09 00 14.9	
KOLN	Koldanda	13.65	131	*e*P		Pn	08 59 35.1	-0.7
	comp=N,44nm,0.4s							
KURBB	Kurchatov Arra	14.01	17	P		Pn	08 59 37.8	-2.1
	comp=N,0.1nm,0.3s,baz=204,slow=11,SNR=4.6							
KURK	Kurchatov	14.11	17	*e*Pn		Pn	08 59 40.0	-1.3
KURK	Kurchatov	14.11	17	⇓*e*P		P	08 59 44.3	0.0
GKN	Gorkha	14.12	128	*e*P		Pn	08 59 40.7	-1.0
	comp=N,67nm,0.3s							
KKN	Kakani	14.67	127	*e*P		Pn	08 59 46.9	-1.8
	comp=N,49nm,0.5s							
DMN	Daman	14.69	128	*e*P		Pn	08 59 48.0	-1.0
	comp=N,32nm,0.3s							
AB31	Akbulak array	14.75	327	⇑P		P	08 59 50.0	-1.4
	comp=N,11nm,0.5s,baz=136,slow=14,SNR=202							
AB31				⇑S		Sn	09 02 19.1	-14
	comp=N,40nm,1.1s,baz=149,slow=23,SNR=21							
ABKAR	Akbulak array	14.75	327	*e*Pn		P	08 59 50.1	-1.3
PKIN	Phulchoki	14.89	127	*e*P		P	08 59 51.4	-2.1
	comp=N,52nm,0.5s							
GUN	Gumba	14.98	125	*e*P		Pn	08 59 51.0	-1.6
	comp=N,38nm,0.4s							
JIRN	Jiri	15.35	125	*e*P		Pn	08 59 56.1	-1.2
	comp=N,126nm,0.3s							
BVAR	Borovoye Array	15.67	356	P		Pn	08 59 59.9	-0.7
	comp=N,1.3nm,0.3s,baz=158,slow=13,SNR=14							
BRVK	Borovoye	15.71	356	*e*Pn		Pn	09 00 00.4	-0.7
	comp=N,5.2nm,1.1s							
BRVK	Borovoye	15.71	356	⇑*i* P		P	09 00 02.1	+0.1
RAMN	Ramite	16.10	126	*e*P		P	09 00 05.5	-1.3
	comp=N,56nm,0.5s							
AKTO	Aktyubinsk	16.47	327	P		Pn	09 00 11.9	+1.6
	comp=N,1.7nm,0.3s,baz=134,slow=15,SNR=24							
AKTO				S		S	09 03 04.2	-9.0
	comp=N,0.6nm,0.3s,baz=169,slow=22,SNR=7.3							
AKTO	Aktyubinsk	16.47	327	⇑P		Pn	09 00 13.4	+3.1
	comp=N,6.9nm,0.6s							
DGZ	Jazzator, Alta	16.55	37	*i* P		Pn	09 00 12.0	+0.5
DGZ				pmax		pmax		
	comp=Z,5.0nm,0.5s							
ODAN	Odare	16.67	125	*e*P		Pn	09 00 13.2	-0.1
	comp=Z,48nm,0.5s							
UOSS	Minazif	18.36	232	*e*P		Pn	09 00 32.5	-0.8
	comp=Z,5.1nm,1.0s							
ZAA0	Zalesovo Array	18.75	24	*e*P		Pn	09 00 35.8	-1.6
	comp=Z,4.9nm,0.8s							
ZALV	Zalesovo Beam	18.75	24	P		Pn	09 00 36.8	-0.7
	comp=Z,1.7nm,0.3s,baz=214,slow=12,SNR=15							
ZALV	Zalesovo Beam	18.75	24	*e*P		Pn	09 00 35.6	-1.8
ZALV	Zalesovo Beam	18.75	24	*e*P		Pn	09 00 35.6	-1.8
NVS	Novosibirsk	19.04	20	*e*P		Pn	09 00 38.8	-2.1
ARU	Arti	21.09	339	P		P	09 01 02.0	+1.6
	comp=Z,3.8nm,0.2s,baz=133,slow=2.7,SNR=3.7							
ARU	Arti	21.09	339	*d* iP		P	09 01 01.6	+1.2
ARU							09 01 33.8	
ARU				S		S	09 04 50.0	+3.7
ARU				pmax		pmax		
	comp=Z,5.0nm,1.0s							
NEY	Neytrino	23.06	294	⇓*e*P		P	09 01 20.2	-0.3
KIV	Kislovodsk	23.15	296	*e*P		P	09 01 20.6	-0.6
KIV				*e*S		S	09 05 23.3	+2.0
KIV				pmax		pmax		
	comp=Z,6.0nm,1.0s							
MOY	Mondy	24.87	46	*e*P		P	09 01 40.2	+3.4
LZH	Lanzhou	25.44	83	*e*P		P	09 01 43.8	+1.6
LZH				pP		pP	09 02 15.8	+2.3
LZH				*e*PP		sP	09 02 31.0	+0.2
LZH				sP		PP	09 02 33.7	-8.9
LZH				pmax		pmax		
	comp=Z,16nm,1.1s							
LZH				LR		LR		
	comp=Z,290nm,13.5s							
LZH				LR		LR		
	comp=Z,320nm,13.7s							
LZH				LR		LR		
	comp=Z,370nm,16.8s							
ZAK	Zakamensk	25.76	50	*e*P		P	09 01 47.0	+2.2
ZAK				pmax		pmax		
	comp=Z,2.0nm,1.1s							
TLY	Talaya	26.40	47	⇑*e*P		P	09 01 52.1	+1.6
TLY				pmax		pmax		
	comp=Z,3.0nm,1.0s							
RAYN	Ar Rayn	26.64	246	*e*P		P	09 01 54.9	+1.9
	comp=Z,3.7nm,1.3s							
RAYN	Ar Rayn	26.64	246	P		P	09 01 54.9	+1.9
SONM	Songino Array	27.12	56	P		P	09 01 59.3	+2.2
	comp=Z,0.5nm,0.5s,baz=254,slow=8.9,SNR=3.5							
BRTR	Keskin Array B	29.99	286	P		P	09 02 25.6	+2.9
	comp=Z,0.7nm,0.5s,baz=108,slow=8.8,SNR=4.1							
HHC	Hu-ho-hao-te	30.65	71	*e*P		P	09 02 29.6	+1.2
HHC				pmax		pmax		
	comp=Z,16nm,0.8s							
HHC				pmax		pmax		
	comp=Z,22nm,4.6s							
CSS	Mathiatis	31.22	277	*e*P		P	09 02 30.8	-2.6
	comp=Z,19nm,0.6s							
AKASG	Malin Array Be	33.07	308	P		P	09 02 50.8	+1.6
	comp=Z,0.9nm,0.3s,baz=108,slow=8.0,SNR=6.0							
AKBB	Malin Array Si	33.07	308	*e*P		P	09 02 46.3	-2.9
	comp=Z,21nm,1.5s							
AKBB	Malin Array Si	33.07	308	*e*P		P	09 02 46.3	-2.9
AKBB				pmax		pmax		
	comp=Z,21nm,1.5s							
KIEV	Kiev	33.08	308	*e*P		P	09 02 44.2	-5.1
	comp=Z,20nm,1.5s							
KIEV	Kiev	33.08	308	⇓*e*P		P	09 02 46.4	-2.9
KIEV				pmax		pmax		
	comp=Z,17nm,1.6s							
FIA1	FINESS Array S	37.23	325	*e*P		P	09 03 27.4	+2.7
	comp=Z,9.9nm,1.3s							
FINES	FINESS Array B	37.23	325	P		P	09 03 27.0	+2.3
	comp=Z,1.3nm,0.3s,baz=117,slow=10,SNR=20							
FINES	FINESS Array B	37.23	325	P		P	09 03 27.0	+2.3
FINES				pmax		pmax		
	comp=Z,1.0nm,0.3s							
TIR	Tirane	40.05	292	*e*P		P	09 03 46.9	-1.6
	comp=Z,106nm,1.5s							
TIR	Tirane	40.05	292	*e*P		P	09 03 46.9	-1.6
TIR				pmax		pmax		
	comp=Z,106nm,1.5s							
TTG	Podgorica	40.28	294	*e*P		P	09 03 50.3	-0.1
	comp=Z,20nm,1.2s							
TTG	Podgorica	40.28	294	*e*P		P	09 03 50.3	-0.1
TTG				pmax		pmax		
	comp=Z,20nm,1.2s							
ARCES	ARCESS Array B	40.65	337	P		P	09 03 54.2	+1.1
	comp=Z,1.9nm,0.8s,baz=110,slow=7.8,SNR=4.6							
HFS	Hagfors	42.90	321	P		P	09 04 13.5	+2.1
	comp=Z,3.0nm,0.5s,baz=98,slow=10,SNR=16							
NB2	NORSAR Subarra	44.19	322	P		P	09 04 23.6	+1.8
	comp=Z,1.0nm,0.5s,baz=91,slow=7.9							
NOA	NORSAR Array B	44.19	322	P		P	09 04 23.9	+2.1
	comp=Z,1.4nm,0.6s,baz=94,slow=7.7,SNR=5.5							
TIXI	Tiksi	44.62	22	⇓*e*P		P	09 04 26.2	+1.2
TIXI				pmax		pmax		
	comp=Z,2.0nm,1.2s							
SPITS	Spitsbergen Ar	46.82	346	P		P	09 04 45.6	+3.4
	comp=Z,4.1nm,0.9s,baz=108,slow=9.4,SNR=4.0							
JOW	Kunigami	48.14	86	P		P	09 04 54.8	+1.7
	comp=Z,2.1nm,0.4s,baz=311,slow=9.3,SNR=3.0							
INU	Inuyama	51.39	71	*e*P		P	09 05 15.9	-1.6
	comp=Z,13nm,1.1s							
EKA	Eskdalemuir Ar	52.24	316	P		P	09 05 25.1	+1.6
	comp=Z,0.6nm,0.5s,baz=80,slow=8.0,SNR=4.2							
ESDC	Sonseca Array	57.80	298	P		P	09 06 05.4	+1.7
	comp=Z,0.8nm,0.5s,baz=56,slow=7.4,SNR=5.7							
JAGI	Jajag, Banyuwa	60.25	130	*e*P		P	09 06 18.3	-2.5
	comp=Z,60nm,1.5s							
TOA0	Torodi Ar. Sit	66.59	269	*e*P		P	09 07 03.5

s-maj=21.8km s-min=13.7km az=32.0

ISC 12 09:10:06.2±1.2, 28°28N±0°06×112°3W±0°1, h10km, n7, σ2s83/11, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRIG	**Santa Rosalia**	**0.96**	**177**	*e*P	**Pg**	**09 10 25.3**	**+0.7**
SRIG				*i* S	**Sn**	**09 10 41.8**	**+2.5**
HSIG		**1.39**	**58**	*i* P	**Pn**	**09 10 29.7**	**-1.9**
HSIG				*e*S	**Sn**	**09 10 49.0**	**-1.1**
LPIG	**La Paz**	**4.53**	**156**	Pn	**Pb**	**09 11 22.0**	**-3.8**
	1.0nm,0.3s,baz=181,slow=10,SNR=2.0						
LPIG				Pg	**Pg**	**09 11 33.8**	**+0.8**
	4.5nm,0.3s,baz=334,slow=7.8,SNR=6.1						
LPIG				Lg	Lg	09 12 44.7	
	0.9nm,0.3s,baz=180,slow=5.4,SNR=2.0						
TXAR	**Lajitas Array**	**7.64**	**80**	Pn	**Pn**	**09 11 59.9**	**+2.2**
	0.3nm,0.3s,baz=254,slow=13,SNR=17						
TXAR				Sn	**Sn**	**09 13 28.7**	**+4.3**
	baz=50,slow=44,SNR=2.5						
TXAR				Lg	Lg	09 14 11.3	
	0.1nm,0.3s,baz=299,slow=22,SNR=3.5						
ANMO	**Albuquerque**	**8.30**	**35**	Pn	**Pn**	**09 12 04.5**	**-2.2**
	0.2nm,0.3s,baz=41,slow=17,SNR=5.4						
ANMO				Lg	Lg	09 14 26.2	
	0.5nm,0.3s,baz=153,slow=18,SNR=6.6						
NVAR	**Mina Array Bea**	**11.30**	**335**	Pn	**Pn**	**09 12 48.0**	**+0.2**
	baz=162,slow=18,SNR=4.6						
PDAR	**Pinedale Array**	**14.62**	**8**	Pn	**Pn**	**09 13 36.3**	**+3.0**
	0.1nm,0.3s,baz=185,slow=9.6,SNR=8.5						

*IDC **12** 09:10:50.1±1.0, 11°.63S×116°.38E, h0km, mb4.1/6, mb1 4.0/7, mb1mx3.7/49, mbtmp4.0/7, ML3.4/1, Error ellipse: s-maj=40.0km s-min=22.6km az=53.0*

*ISCJB **12** 09:10:51.8±0.7, 11°.5S±0°.1×117°.0E±0°.1, h26km, mb4.1/7, Error ellipse: s-maj=23.4km s-min=9.2km az=135.1*

ISC 12 09:10:54.0±0.9, 11°.6S±0°.1×117°.0E±0°.1, h26km, n11, σ2s77/13, mb4.1/7, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**10.55**	**129**	Pn	**Pn**	**09 13 26.0**	**+2.3**
	0.3nm,0.3s,baz=313,slow=11,SNR=15						
FITZ				Sn	**Sn**	**09 15 19.9**	**-1.2**
	0.5nm,0.3s,baz=156,slow=20,SNR=3.7						
WRA	**Warramunga Arr**	**18.61**	**119**	P	**Pn**	**09 15 14.1**	**+4.1**
	0.1nm,0.3s,baz=292,slow=13,SNR=9.8						
WRA				S	**Sn**	**09 18 32.5**	**-5.0**
	0.1nm,0.3s,baz=288,slow=25,SNR=4.8						
ASAR	**Alice Springs**	**20.06**	**129**	P	Pn	09 15 30.9	+3.5
	0.5nm,0.7s,baz=298,slow=10,SNR=7.1						
ASAR				S	**S**	**09 19 07.8**	**-2.0**
	0.4nm,0.7s,baz=305,slow=22,SNR=3.6						
NWAO	**Narrogin (SRO)**	**21.26**	**180**	P	**P**	**09 15 40.9**	**+2.5**
	5.0nm,0.6s,baz=222,slow=15,SNR=5.0						
USRK	**Ussuriysk Ar.**	**57.14**	**13**	P	**P**	**09 20 39.7**	**+1.3**
	1.6nm,0.7s,baz=199,slow=8.0,SNR=6.4						
SONM	**Songino Array**	**59.89**	**352**	P	**P**	**09 20 57.4**	**-0.3**
	0.4nm,0.5s,baz=174,slow=11,SNR=5.5						
MKAR	**Makanchi Array**	**65.89**	**335**	P	**P**	**09 21 36.2**	**-1.3**
	0.7nm,0.6s,baz=146,slow=7.3,SNR=8.0						
KURBB	**Kurchatov Arra**	**70.43**	**335**	P	**P**	**09 22 05.2**	**-0.7**
	1.4nm,0.2s,baz=153,slow=5.2,SNR=8.2						
ZALV	**Zalesovo Beam**	**70.77**	**341**	P	**P**	**09 22 06.8**	**-1.0**
	0.5nm,0.3s,baz=108,slow=4.7,SNR=2.9						
BOSA	**Boshof**	**86.09**	**242**	P	**P**	**09 23 30.3**	**-3.0**
	2.0nm,0.7s,baz=97,slow=8.1,SNR=3.6						
YKA	**Yellowknife Ar**	**117.31**	**24**	PKP	**PKPdf**	**09 29 38.6**	**+1.8**
	0.1nm,0.4s,baz=310,slow=2.9,SNR=3.4						

MEX 12 09:15:08.0±0.3, 29°.10N×113°.21W, h20km±59km, MD3.8, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRIG	**Santa Rosalia**	**1.96**	**154**	*e*P	Pn	09 15 37.3	-2.8
SRIG				*i* S	Sn	09 16 00.4	-3.8
HSIG		**1.98**	**92**	*e*P	Pn	09 15 39.0	-1.3
HSIG				*e*S	Sn	09 16 00.7	-3.9

*ISCJB **12** 09:15:16.0±0.4, 1°.26N±0°.05×92°.06E±0°.04, h10km, mb4.5/36, MS5.1/2, Error ellipse: s-maj=7.9km s-min=4.8km az=21.9*

*IDC **12** 09:15:16.1±0.7, 1°.26N×92°.00E, h0km, mb4.2/20, mb1 4.3/22, mb1mx4.1/66, mbtmp4.2/22, ML4.3/2, Error ellipse: s-maj=24.6km s-min=14.2km az=40.0*

*DJA **12** 09:15:17.0±0.4, 1°.N±6°×9°.2E±°, h10km, M5.1/12, mb5.1/12, MLv5.2/8*

*NEIC **12** 09:15:17.2±0.3, 1°.22N×91°.99E, h10km, mb4.8/15, Error ellipse: s-maj=8.2km s-min=5.0km az=16.0*

ISC 12 09:15:18.3±0.5, 1°.30N±0°.08×92°.18E±0°.06, h10km, n119, σ1s57/110, mb4.6/36, 1C-4D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLSI	**Meulaboh, Aceh**	**5.15**	**55**	P	**Pn**	**09 16 36.8**	**+1.3**
BSI	**Banda Aceh**	**5.20**	**37**	P	**Pn**	**09 16 36.5**	**+0.2**
TPTI		**5.36**	**69**	P	**Pn**	**09 16 39.3**	**+0.9**
GSI	**Gunungsitoli**	**5.39**	**90**	P	**Pn**	**09 16 40.0**	**+1.1**
	169nm,0.5s,0.7nm						
GSI	**Gunungsitoli**	**5.39**	**90**	*e*Pn	**Pn**	**09 16 40.2**	**+1.3**
KCSI	**Kotacane, Aceh**	**6.01**	**68**	P	**Pn**	**09 16 49.7**	**+2.4**
LHMI	**Lhok Sumawe**	**6.16**	**50**	P	**Pn**	**09 16 50.9**	**+1.6**
LHMI	**Lhok Sumawe**	**6.16**	**50**	*e*Pn	**Pn**	**09 16 52.0**	**+2.7**
PSI	**Prapat**	**6.90**	**77**	Pn	**Pn**	**09 17 01.4**	**+1.7**
	3.9nm,0.3s,baz=311,slow=9.3,SNR=8.4						
PSI				Sn	**Sn**	**09 18 14.3**	**-4.1**
	6.1nm,0.3s,baz=35,slow=2.4,SNR=4.2						
PSI	**Prapat**	**6.90**	**77**	*e*Pn	**Pn**	**09 17 01.1**	**+1.3**
PSI				*e*Sn	**Sn**	**09 18 14.3**	**-4.1**
SISI	**Saibi**	**7.38**	**111**	P	**Pn**	**09 17 08.2**	**+2.0**
MNSI	**Mandailing Nat**	**7.41**	**94**	P	**Pn**	**09 17 09.3**	**+2.7**
PPSI	**Pulau Pagai**	**8.80**	**117**	P	**Pn**	**09 17 28.0**	**+2.3**
KULM	**Kulim**	**9.34**	**65**	*e*Pn	**Pn**	**09 17 34.4**	**+1.3**
IPM	**Ipoh**	**9.38**	**70**	*e*Pn	**Pn**	**09 17 36.3**	**+2.6**
DGPR	**DIGLIPUR**	**11.83**	**4**	*ex*	**Pn**	**09 18 06.8**	**-0.4**
MNAI	**Manna**	**12.14**	**118**	P	**Pn**	**09 18 13.7**	**+2.2**
PALK	**Pallekele**	**12.89**	**298**	Pn	Pn	09 18 15.9	-5.8
	0.9nm,0.3s,baz=114,slow=13,SNR=5.3						
PALK				Sn	Sn	09 20 26.4	-19
	3.5nm,0.3s,baz=295,slow=5.5,SNR=8.0						
PALK	**Pallekele**	**12.89**	**298**	*e*Pn	Pn	09 18 16.5	-5.2
PALK				*e*Sn	Sn	09 20 26.6	-19
MDRS	**Chennai**	**16.63**	**315**	*ex*	Pn	09 19 04.7	-7.0
KSM	**Kuching**	**18.12**	**89**	*e*P	**Pn**	**09 19 29.8**	**-0.5**
	8.8nm,0.7s						
CM01	**Chiang Mai Arr**	**18.27**	**21**	*e*P	**Pn**	**09 19 33.2**	**+1.1**
CM31	**Chiang Mai Arr**	**18.30**	**21**	*e*P	**Pn**	**09 19 31.9**	**-0.5**
CMAR	**Chiang Mai Arr**	**18.30**	**21**	P	**Pn**	**09 19 31.9**	**-0.5**
	0.5nm,0.3s,baz=216,slow=13,SNR=7.1						
CHTO	**Chiang Mai**	**18.63**	**20**	*e*P	**P**	**09 19 37.2**	**+1.0**
	5.2nm,0.8s						
SBUM	**Sibu**	**20.06**	**86**	*e*P	**P**	**09 19 51.9**	**-0.1**
	13nm,0.8s						
SHL	**Shillong**	**24.13**	**359**	*e*P	**P**	**09 20 33.4**	**-1.4**
	18nm,1.0s						
KMI	**Kunming**	**25.79**	**22**	P	P	09 20 57.4	+7.5
KMI				pmax	pmax		
	comp=Z,22nm,1.1s						
RAMN	**Ramite**	**26.07**	**349**	*e*P	**P**	**09 20 52.9**	**+0.5**
	comp=Z,108nm,1.0s						
JIRN	**Jiri**	**26.84**	**348**	*e*P	**P**	**09 20 59.4**	**-0.1**
	comp=Z,165nm,1.1s						
DMN	**Daman**	**27.03**	**346**	*e*P	**P**	**09 21 01.2**	**+0.1**
	comp=Z,52nm,1.1s						
GUN	**Gumba**	**27.14**	**348**	*e*P	**P**	**09 21 02.0**	**-0.2**
	comp=Z,65nm,0.9s						
GKN	**Gorkha**	**27.52**	**345**	*e*P	**P**	**09 21 04.9**	**-0.5**
PYUN	**Piuthan**	**28.07**	**343**	*e*P	**P**	**09 21 09.9**	**-0.5**
	comp=Z,39nm,0.9s						
CD2	**Chengdu**	**31.43**	**19**	*e*P	**P**	**09 21 40.5**	**+0.6**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
SMLA	**Simla**	**32.90**	**336**	*ex*	P	09 21 48.9	-3.8
XAN	**Xi'an**	**36.15**	**24**	P	**P**	**09 22 20.8**	**-0.1**
XAN				pP	pP	09 22 26.0	+2.0
XAN				pmax	pmax		
	comp=Z,7.0nm,1.0s						
LZH	**Lanzhou**	**36.27**	**16**	*e*P	**P**	**09 22 25.1**	**+3.0**
LZH				pP	sP	09 22 32.8	+6.4
LZH				sP	pP	09 22 37.0	+12
LZH				*e*PP	**PP**	**09 23 51.4**	**+6.7**
LZH				pmax	pmax		
	comp=Z,40nm,1.0s						
LZH				pmax	pmax		
	comp=Z,290nm,7.7s						
LZH				LR	LR		
	comp=N,280nm,13.0s						
LZH				LR	LR		
	comp=E,340nm,13.3s						
LZH				LR	LR		
	comp=Z,460nm,15.0s						
GTA	**Gaotai**	**38.57**	**10**	*e*P	**P**	**09 22 42.3**	**+0.8**
GTA				pP	pP	09 22 46.5	+1.9
GTA				sP	sP	09 22 49.3	+3.4
GTA				pmax	pmax		
	comp=Z,4.0nm,0.7s						
NJ2	**Nanjing**	**39.60**	**37**	*e*P	**P**	**09 22 51.1**	**+1.0**
NJ2				pmax	pmax		
	comp=Z,14nm,0.5s						
H01W3	**Cape Leeuwin H**	**41.45**	**152**	T	T	10 07 26.3	
	baz=327,slow=74,SNR=10						
H01W2	**Cape Leeuwin H**	**41.46**	**152**	T	T	10 07 27.5	
	baz=327,slow=74,SNR=8.6						
H01W1	**Cape Leeuwin H**	**41.47**	**152**	T	T	10 07 27.5	
	baz=327,slow=74,SNR=11						
WMQ	**Urumqi**	**42.53**	**355**	P	**P**	**09 23 13.0**	**-1.1**
WMQ				pmax	pmax		
	comp=Z,24nm,0.7s						
WMQ				LR	LR		
	comp=N,8μm,19.5s						
WMQ				LR	LR		
	comp=E,8μm,17.1s						
WMQ				LR	LR		
	comp=Z,8μm,19.5s						
PRZ	**Przheval'sk**	**42.83**	**345**	*e*pP	pP	09 23 24.8	+4.9
KDJ	**Kajisay**	**42.83**	**344**	*e*P	**P**	**09 23 16.7**	**-0.1**
	comp=Z,16nm,1.1s						
HHC	**Hu-ho-hao-te**	**43.11**	**22**	*e*P	**P**	**09 23 20.5**	**+1.6**
HHC				pmax	pmax		
	comp=Z,18nm,1.1s						
HHC				pmax	pmax		
	comp=Z,65nm,6.4s						
AAK	**Ala-Archa**	**44.11**	**341**	*e*pP	pP	09 23 34.2	+4.0
KK31	**Karatay Array**	**45.91**	**338**	*e*P	**P**	**09 23 40.5**	**-0.7**
KKAR	**Karatay Array**	**45.91**	**338**	*e*P	**P**	**09 23 40.5**	**-0.7**
MK01	**Makanchi Array**	**46.11**	**351**	*e*P	**P**	**09 23 41.5**	**-1.2**
MK31	**Makanchi Array**	**46.13**	**351**	*e*P	**P**	**09 23 42.1**	**-0.8**
MK32	**Makanchi Array**	**46.13**	**351**	*e*P	**P**	**09 23 42.0**	**-0.9**
MKAR	**Makanchi Array**	**46.13**	**351**	P	**P**	**09 23 42.0**	**-0.9**
	comp=Z,1.4nm,0.5s,baz=172,slow=8.7,SNR=15						
MKAR	**Makanchi Array**	**46.13**	**351**	*e*P	**P**	**09 23 42.1**	**-0.8**
	comp=Z,37nm,0.7s						
WRA	**Warramunga Arr**	**46.40**	**119**	P	**P**	**09 23 45.6**	**+0.1**
	comp=Z,2.5nm,0.7s,baz=296,slow=8.6,SNR=29						
WR1	**Warramunga Arr**	**46.40**	**119**	*e*P	**P**	**09 23 45.6**	**+0.1**
	comp=Z,36nm,1.8s						
ASAR	**Alice Springs**	**47.53**	**124**	P	**P**	**09 23 54.2**	**0.0**
	comp=Z,0.3nm,0.4s,baz=301,slow=7.6,SNR=8.3						
ASAR				PcP	**PcP**	**09 25 24.1**	**-0.3**
	comp=Z,0.6nm,0.7s,baz=294,slow=3.2,SNR=6.7						
AS31	**Alice Springs**	**47.53**	**124**	*e*P	**P**	**09 23 54.2**	**0.0**
	comp=Z,1.1nm,1.0s						
AS31				*e*PcP	**PcP**	**09 25 24.1**	**-0.3**
SONA0	**Songino Array**	**47.97**	**13**	*e*P	**P**	**09 23 58.0**	**+0.6**
SONM	**Songino Array**	**47.97**	**13**	P	**P**	**09 23 58.0**	**+0.6**
	comp=Z,2.7nm,0.5s,baz=192,slow=9.6,SNR=19						
SONA1	**Songino Array**	**47.98**	**13**	*e*P	**P**	**09 23 58.1**	**+0.6**
GEYT	**Alibeck**	**48.04**	**323**	P	**P**	**09 23 57.7**	**-0.2**
	comp=Z,4.3nm,0.9s,baz=141,slow=9.6,SNR=5.6						
KS15	**Wonju Array Si**	**48.72**	**38**	*e*P	**P**	**09 24 04.5**	**+1.4**
KSAR	**Wonju Array Be**	**48.72**	**38**	P	**P**	**09 24 04.5**	**+1.4**
KSRS	**Korea Array**	**48.75**	**38**	P	**P**	**09 24 04.5**	**+1.2**
	comp=Z,0.5nm,0.4s,baz=211,slow=7.0,SNR=3.2						
KURBB	**Kurchatov Arra**	**50.50**	**349**	P	**P**	**09 24 15.6**	**-0.8**
	comp=Z,1.3nm,0.5s,baz=171,slow=7.3,SNR=11						
KURK	**Kurchatov**	**50.57**	**349**	*e*P	**P**	**09 24 15.6**	**-1.4**
KURK				*e*P	**P**	**09 24 16.2**	**-0.8**
CN2	**Changchun**	**51.63**	**30**	*e*P	**P**	**09 24 27.2**	**+2.1**
ZAA0	**Zalesovo Array**	**52.83**	**355**	*e*P	**P**	**09 24 32.9**	**-1.0**
	comp=Z,17nm,1.2s						
ZALV	**Zalesovo Beam**	**52.83**	**355**	P	**P**	**09 24 32.5**	**-1.3**
	comp=Z,2.5nm,0.5s,baz=194,slow=8.4,SNR=7.8						
ZALV	**Zalesovo Beam**	**52.83**	**355**	*e*P	**P**	**09 24 32.8**	**-1.0**
ZAA1	**Zalesovo Array**	**52.83**	**355**	*e*P	**P**	**09 24 32.5**	**-1.4**
BVAR	**Borovoye Array**	**54.65**	**344**	P	**P**	**09 24 45.8**	**-1.4**
	comp=Z,0.7nm,0.5s,baz=141,slow=9.6,SNR=6.0						
STKA	**Stephens Creek**	**57.21**	**130**	P	**P**	**09 25 05.6**	**-0.4**
	comp=Z,1.3nm,0.8s,baz=284,slow=7.6,SNR=4.1						
STKA	**Stephens Creek**	**57.21**	**130**	*e*P	**P**	**09 25 05.6**	**-0.4**
	comp=Z,5.6nm,1.8s						
KBZ	**Khabaz**	**60.77**	**321**	P	**P**	**09 25 29.2**	**-1.3**
	comp=Z,2.9nm,0.8s,baz=113,slow=3.3,SNR=5.9						
BR101	**Keskin Array S**	**65.38**	**314**	*e*P	P	09 25 59.0	-2.3
BRTR	**Keskin Array B**	**65.38**	**314**	P	P	09 25 59.0	-2.3
	comp=Z,1.0nm,0.6s,baz=137,slow=7.7,SNR=8.4						
BR131	**Keskin Array S**	**65.38**	**314**	*e*P	P	09 25 58.8	-2.6
BR231	**Keskin MP Arra**	**66.04**	**314**	*e*P	P	09 26 00.1	-5.5
IDI	**Anoyia**	**70.81**	**307**	P	**P**	**09 26 34.5**	**-1.0**
	comp=Z,7.4nm,0.8s,baz=76,slow=6.3,SNR=3.2						
IDI	**Anoyia**	**70.81**	**307**	*e*P	**P**	**09 26 34.5**	**-1.0**
	comp=Z,49nm,1.6s						
AKASG	**Malin Array Be**	**72.16**	**323**	P	**P**	**09 26 41.4**	**-1.8**
	comp=Z,1.0nm,0.5s,baz=93,slow=5.1,SNR=3.7						
AKBB	**Malin Array Si**	**72.16**	**323**	*e*P	**P**	**09 26 41.4**	**-1.8**
	comp=Z,14nm,1.4s						
VRI	**Vrincioaia**	**72.17**	**318**	⇓*i*P	**P**	**09 26 43.2**	**-0.2**
PLOR	**Plostina**	**72.21**	**318**	⇓*i*P	**P**	**09 26 43.6**	**-0.1**
TESR	**Tescani**	**72.41**	**319**	⇓*i*P	P	09 26 38.4	-6.5
MLR	**Muntele Rosu**	**72.58**	**318**	P	**P**	**09 26 45.2**	**-0.9**
	comp=Z,1.4nm,0.8s,baz=188,slow=8.1,SNR=8.9						
MLR	**Muntele Rosu**	**72.58**	**318**	⇓*i*P	**P**	**09 26 45.4**	**-0.7**
MLR	**Muntele Rosu**	**72.58**	**318**	*e*P	**P**	**09 26 44.7**	**-1.4**
	comp=Z,37nm,1.2s						
BURAR	**Bucovina Array**	**73.67**	**320**	⇑*i*P	**P**	**09 26 52.1**	**-0.3**
BUR04	**Bucovina Ar. S**	**73.67**	**320**	*e*P	**P**	**09 26 51.8**	**-0.6**
BUR08	**Bucovina Ar. S**	**73.69**	**320**	*e*P	**P**	**09 26 51.9**	**-0.6**
TIXI	**Tiksi**	**74.02**	**11**	*e*P	**P**	**09 26 52.1**	**-1.7**
	comp=Z,7.7nm,0.6s						
FIA0	**FINESS Array S**	**77.63**	**333**	*e*P	**P**	**09 27 13.2**	**-1.4**
FINES	**FINESS Array B**	**77.63**	**333**	P	**P**	**09 27 13.2**	**-1.4**
	comp=Z,0.9nm,0.6s,baz=83,slow=12,SNR=3.3						
MORC	**Moravsky Berou**	**79.12**	**320**	*e*pP	pP	09 27 31.0	+4.5
KRLC	**Kraliky**	**79.66**	**321**	*e*P	**P**	**09 27 25.9**	**-0.3**
KRLC				*e*PCP	**sP**	**09 27 33.6**	**+2.9**
DPC	**Dobruska-Polom**	**80.00**	**321**	*e*P	**P**	**09 27 28.0**	**0.0**
DPC				*e*PCP	**sP**	**09 27 35.8**	**+3.3**
ARA0	**ARCESS Array S**	**80.78**	**341**	*e*P	**P**	**09 27 30.8**	**-1.0**
ARCES	**ARCESS Array B**	**80.78**	**341**	P	**P**	**09 27 30.8**	**-1.0**
	comp=Z,1.6nm,0.7s,baz=64,slow=4.2,SNR=5.2						
GEA0	**GERESS Array S**	**81.44**	**319**	*e*P	**P**	**09 27 34.9**	**-1.0**
GEC2	**GERESS Array S**	**81.44**	**319**	*e*P	**P**	**09 27 35.3**	**-0.6**
	comp=Z,16nm,0.8s						
GERES	**GERESS Array B**	**81.44**	**319**	P	**P**	**09 27 35.2**	**-0.6**
	comp=Z,2.6nm,0.7s,baz=105,slow=4.7,SNR=13						
KHC	**Kasperske Hory**	**81.56**	**319**	*e*P	**P**	**09 27 36.4**	**0.0**
KHC				*ex*	x	09 27 43.7	
BRG	**Berggiesshubel**	**81.58**	**321**	*e*P	P	09 27 43.6	+7.2
	comp=Z,14nm,1.6s						
KEST	**Kesra**	**83.42**	**306**	P	**P**	**09 27 46.9**	**+0.4**
	comp=Z,2.2nm,0.6s,baz=202,slow=3.1,SNR=3.3						
KEST	**Kesra**	**83.42**	**306**	*e*P	**P**	**09 27 46.9**	**+0.4**
KEST				*e*pP	**sP**	**09 27 54.7**	**+3.7**
TORD	**Torodi Ar. Bea**	**90.18**	**283**	P	**P**	**09 28 18.8**	**-1.0**
	comp=Z,0.6nm,1.0s,baz=108,slow=3.6,SNR=2.5						
TOA1	**Torodi Ar. Sit**	**90.19**	**283**	*e*P	**P**	**09 28 18.8**	**-1.0**
KMRM	**Mail Ridge**	**127.28**	**34**	*e*PKPpre	PKPpre	09 34 14.3	
RCCR	**Rock Creek Can**	**131.97**	**33**	*e*PKPdf	**PKPdf**	**09 34 32.1**	**-1.0**
P17A	**Butcher Ranch,**	**134.31**	**25**	*e*PKPdf	**PKPdf**	**09 34 36.7**	**-0.5**
MHTCO	**State Highway**	**138.69**	**21**	*e*PKPdf	**PKPdf**	**09 34 42.5**	**-3.0**
TUC	**Tucson**	**140.13**	**31**	*e*PKPdf	**PKPdf**	**09 34 46.2**	**-1.8**
TX31	**Lajitas Ar. Si**	**145.98**	**25**	*e*PKPdf	**PKPdf**	**09 34 55.8**	**-2.7**
LTX	**Lajitas**	**145.98**	**25**	*e*PKPdf	**PKPdf**	**09 34 59.2**	**+0.8**
TXAR	**Lajitas Array**	**145.98**	**25**	PKPbc	**PKPdf**	**09 34 59.2**	**+0.8**
	comp=Z,0.8nm,0.9s,baz=334,slow=1.7,SNR=6.1						

*IDC **12** 09:21:51.5±2.5, 3°.53N×92°.85E, h0km, mb3.6/4, mb1 3.8/6, mb1mx3.5/69, mbtmp3.6/6, ML4.1/2, Error ellipse: s-maj=70.5km s-min=23.9km az=59.0*

*ISCJB **12** 09:21:55.9±1.4, 3°.7N±0°.1×93°.2E±0°.1, h33km, mb3.6/4, Error ellipse: s-maj=24.2km s-min=11.6km az=35.0*

ISC 12 09:21:57.8±1.8, 3°.7N±0°.2×93°.1E±0°.2, h35km, n12, σ1s13/7, mb3.7/4, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**5.90**	**98**	Pn	**Pn**	**09 23 24.4**	**+1.5**
	1.9nm,0.3s,baz=304,slow=6.7,SNR=7.1						
PSI				Sn	**Sn**	**09 24 28.0**	**-1.4**
	1.6nm,0.3s,baz=129,slow=15,SNR=3.9						
CMAR	**Chiang Mai Arr**	**15.79**	**21**	Pn	**Pn**	**09 25 37.4**	**-0.2**
	0.5nm,0.3s,baz=222,slow=12,SNR=6.3						
H08S2	**Diego Garcia H**	**23.41**	**241**	T	T	09 51 46.3	
	baz=58,slow=75,SNR=21						
H08S3	**Diego Garcia H**	**23.41**	**241**	T	T	09 51 57.4	
	baz=58,slow=75,SNR=23						
H08S1	**Diego Carcia H**	**23.43**	**241**	T	T	09 51 52.7	
	baz=58,slow=75,SNR=24						
H01W3	**Cape Leeuwin H**	**43.15**	**154**	T	T	10 16 07.0	
	baz=330						
H01W2	**Cape Leeuwin H**	**43.16**	**154**	T	T	10 16 12.7	
	baz=330						
H01W1	**Cape Leeuwin H**	**43.16**	**154**	T	T	10 16 25.2	
	baz=330						
MKAR	**Makanchi Array**	**43.98**	**349**	P	**P**	**09 30 01.1**	**-0.5**
	1.0nm,0.7s,baz=172,slow=8.1,SNR=7.0						
SONM	**Songino Array**	**45.48**	**13**	P	**P**	**09 30 14.2**	**+0.5**
	0.6nm,0.6s,baz=198,slow=10,SNR=3.7						
WRA	**Warramunga Arr**	**46.82**	**122**	P	**P**	**09 30 24.2**	**-0.4**
	0.5nm,0.6s,baz=300,slow=9.0,SNR=4.3						
ASAR	**Alice Springs**	**48.16**	**126**	P	**P**	**09 30 34.5**	**-0.5**
	0.3nm,0.7s,baz=310,slow=7.9,SNR=4.3						

*CSEM **12** 09:23:01.0, 62°.72N×27°.54E, h0km, ML1.5, Mining explosion.*

HEL 12 09:23:01.0±0.1, 62°.72N×27°.54E, h0km, ML1.5, Explosion, Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAF	**Kangasniemi**	**0.84**	**224**	Pg	Pg	09 23 15.9	-1.1
KAF	**Kangasniemi**	**0.84**	**224**	PG	Pg	09 23 15.9	-1.1
	baz=42						
KEF	**Keuruu**	**1.36**	**247**	Pg	Pg	09 23 25.3	-1.7
KEF				Sb	Sg	09 23 43.4	-1.2
KEF	**Keuruu**	**1.36**	**247**	PG	Pg	09 23 25.3	-1.7
KEF				MSG		09 23 42.0	
	comp=Z,3.8nm,0.2s						
KEF				SB	Sg	09 23 43.4	-1.2
FIA0	**FINESS Array S**	**1.46**	**209**	Pg	Pn	09 23 27.0	-1.5
FIA0				Sb	Sg	09 23 46.3	-1.3
FIA0	**FINESS Array S**	**1.46**	**209**	PG	Pn	09 23 27.0	-1.5
	baz=27						
FIA0				SB	Sg	09 23 46.3	-1.3
JOF	**Joensuu**	**1.75**	**82**	Pg	Pn	09 23 32.2	-0.3
JOF				Sn	Sn	09 23 54.7	-0.7
JOF	**Joensuu**	**1.75**	**82**	PG	Pn	09 23 32.2	-0.2
JOF				SN	Sn	09 23 54.6	-0.7
OUF	**Merijarvi**	**2.08**	**324**	MSG		09 24 02.7	
	comp=Z,1.9nm,0.2s						
OUF				SG	Sn	09 24 04.5	+1.0
VJF	**Virojoki**	**2.19**	**180**	Sg	Sb	09 24 08.7	-0.3
	comp=Z,1.4nm,0.2s						
VJF	**Virojoki**	**2.19**	**180**	MSG		09 24 05.8	
	comp=Z,1.4nm,0.2s						
VJF				SG	Sb	09 24 08.7	-0.3
VAF	**Ylistaro**	**2.25**	**280**	Pg	Pb	09 23 41.4	-1.1
VAF				Sg	Sb	09 24 10.1	-0.7
	comp=Z,1.9nm,0.2s						
VAF	**Ylistaro**	**2.25**	**280**	PG	Pb	09 23 41.4	-1.1
VAF				MSG		09 24 07.9	
	comp=Z,1.9nm,0.2s						
VAF				SG	Sb	09 24 10.2	-0.7
OUL	**Oulu**	**2.48**	**344**	Sg	Sn	09 24 15.4	+1.9
OUL	**Oulu**	**2.48**	**344**	SG	Sn	09 24 15.4	+1.9

*CSEM **12** 09:23:51.1, 63°.83N×20°.43E, h0km, ML1.0, Mining explosion.*

**UPP 12 09:23:51.1, 63°.

baz=137
ALS Alishan 0.40 63 ⇓*i*P Pb 09 31 39.0 -0.1
baz=64
ALS *e*S Sb 09 31 45.5 +0.3
baz=64
TWM1 Shoushan 0.51 179 *e*P Pn 09 31 42.7 -0.2
baz=178
WTCT Ta-ch'eng 0.55 347 *e*P Pg 09 31 40.8 0.0
baz=349
WTCT *e*S Sb 09 31 49.7 +0.6
baz=349
RLNB Erlin 0.56 355 *e*P Pb 09 31 41.5 -0.2
baz=346
RLNB S Sb 09 31 50.4 +0.9
baz=346
WJS Zhushan 0.57 30 *e*P Pg 09 31 39.9 -1.3
baz=31
ELDTW Lidau 0.57 104 ⇓*i*P Pb 09 31 41.9 0.0
baz=96
WNT Mingjian 0.60 24 *e*P Pb 09 31 42.5 +0.1
baz=26
WNT *e*S Sb 09 31 52.1 +1.5
baz=26
SSD Sandimen 0.62 161 ⇑P Pb 09 31 43.5 +0.8
baz=149
SSD *e*S Sn 09 31 53.1 -1.0
baz=149
SSLB Suanglung 0.67 47 ⇓P Pb 09 31 43.6 0.0
baz=48
SSLB S Sb 09 31 53.4 +0.6
baz=48
WDGT Dungji 0.70 264 ⇓P Pg 09 31 43.5 -0.2
baz=264
WDGT S Sb 09 31 53.3 -0.1
baz=264
TYC Yuchr 0.70 35 ⇓*i*P Pb 09 31 44.5 +0.4
baz=37
TYC *e*S Sn 09 31 55.0 -1.1
baz=37
WSSB Gushan 0.70 192 *i* P Pn 09 31 45.6 0.0
baz=204
SMLT Sun Moon Lake 0.71 39 ⇓P Pb 09 31 44.4 +0.2
baz=40
SMLT S Sn 09 31 55.4 -1.1
baz=40
MASBT Mashibuluo 0.74 164 *e*P Pn 09 31 45.5 -0.6
baz=154
MASBT *e*S Sn 09 31 56.6 -0.7
baz=154
WCHH Zhanghua 0.76 10 *e*P Pg 09 31 44.8 0.0
baz=25
TWG Pinlang 0.79 130 *e*P Pn 09 31 46.3 -0.5
baz=130
TWG *e*S Sb 09 31 57.0 +0.9
baz=130
PHUB P'eng-hu 0.80 283 ⇓*e*P Pg 09 31 44.8 -0.7
baz=283
TWGBT Beinan 0.80 130 *e*P Pb 09 31 46.1 +0.4
baz=130
TWGBT *e*S Sb 09 31 56.8 +0.4
baz=130
TWF1 Yuli 0.81 88 ⇓P Pb 09 31 46.1 +0.2
baz=89
TWF1 *e*S Sb 09 31 57.2 +0.5
baz=89
YULB Yu-li 0.81 86 ⇓P Pb 09 31 46.1 +0.1
baz=93
YULB *e*S Sb 09 31 57.0 +0.1
baz=93
FULB Fuli 0.82 99 ⇓*i*P Pn 09 31 47.0 -0.2
baz=92
FULB *e*S Sn 09 31 59.7 +0.6
baz=92
PNG Penghu 0.82 287 ⇓*e*P Pg 09 31 45.5 -0.6
baz=287
PNG *e*S Sg 09 31 56.9 0.0
baz=287
DPDB Guoxing 0.84 34 *e*P Pb 09 31 46.6 +0.1
baz=34
TCU Taichung 0.85 16 *e*P Pb 09 31 46.9 +0.4
baz=17
EHY Hungye 0.85 78 ⇓P Pb 09 31 46.9 +0.3
baz=88
SSPT Xinbi 0.85 170 *e*P Pn 09 31 47.9 +0.2
baz=171
ECL Taimali 0.88 146 *e*P Pn 09 31 48.1 +0.1
baz=145
ECL *e*S Sn 09 32 01.0 +0.3
baz=145
TTN Taitung 0.89 130 *e*P Pn 09 31 48.8 +0.7
baz=130
CHKT Chengkung 0.90 105 *e*P Pn 09 31 48.6 +0.2
baz=104
OWD Renai 0.93 48 *e*P Pn 09 31 48.6 -0.3
baz=37
HGSD Ruisui 0.94 80 ⇓P Pn 09 31 49.1 +0.2
baz=87
HGSD *e*S Sn 09 32 02.8 +0.7
baz=87
WLCH Liuqiu 0.98 182 *e*P Pn 09 31 50.8 +1.4
baz=203
TWP Hsiaoliuchiu 0.98 183 *e*P Pn 09 31 50.0 +0.6
baz=203
CHGB Renai 1.00 44 *e*P Pb 09 31 49.2 -0.2
baz=44
CHGB *e*S Sn 09 32 03.5 -0.5
baz=44
EAST Anshuo 1.02 157 *e*P Pn 09 31 50.2 +0.2
baz=149
EAST *e*S Sn 09 32 06.2 +1.9
baz=149
ESL Shilin 1.05 63 *e*P Pb 09 31 49.9 -0.2
baz=64
ESL *e*S Sn 09 32 05.0 +0.2
baz=64
TWQ1 Liyutan 1.06 18 *e*P Pb 09 31 50.4 +0.1
baz=18
WHF Hehuan Shan 1.12 44 *e*P Pg 09 31 51.9 0.0
baz=44
NSY Sanyi 1.13 16 *e*P Pb 09 31 51.2 -0.1
baz=17
TDCB Techi 1.14 36 *e*P Pn 09 31 51.8 0.0
baz=46
TWT Tachien 1.15 37 *e*P Pg 09 31 52.3 0.0
baz=46
NMLH Miaoli 1.25 16 *e*P Pn 09 31 53.1 0.0
baz=15
TWD Chiawan 1.31 55 *e*P Pb 09 31 54.9 +0.4
baz=55
NACB Ninganchiao 1.37 52 *e*P Pb 09 31 55.4 -0.1
baz=53
NACB *e*S Sg 09 32 14.1 -0.1
baz=53
NSTT Nanjuang 1.40 22 *e*P Pn 09 31 55.1 -0.1
baz=23
NSTT *e*S Sb 09 32 13.7 -0.1
baz=23
NNSB Datong 1.41 39 *e*P Pb 09 31 55.9 -0.3
baz=48
NNS Nan Shan 1.41 38 *e*P Pb 09 31 56.3 0.0
baz=47
LIOB Emei 1.42 23 *e*P Pn 09 31 55.4 -0.1
baz=23
TWK1 Hengchun 1.43 165 *e*P Pn 09 31 55.4 -0.2
baz=166
TWKBT Hengchun 1.43 165 *e*P Pn 09 31 55.0 -0.6
baz=166
YHNB Yeheng 1.60 33 *e*P Pn 09 31 58.4 +0.4
baz=18
ENA Nanau 1.63 48 *e*P Pb 09 31 59.4 -0.6
baz=48
LAY Lan-yu 1.66 141 *e*P Pb 09 31 59.7 -0.7
baz=141
ENTT Nioudou 1.68 39 *e*P Pb 09 32 00.3 -0.4
baz=30
ENAH Nanao 1.69 49 *e*P Pn 09 32 00.1 +0.9
baz=67
NWLT Wulai 1.75 34 *e*P Pn 09 32 00.4 +0.3
baz=34
TWE Neicheng 1.80 39 *e*P Pn 09 32 01.6 +1.0
baz=24
TWC Suao 1.83 46 *e*P Pn 09 32 02.0 +1.0
baz=32
EOS1 EOS1 1.98 52 *e*P Pb 09 32 05.9 0.0
baz=52
EGS 2.05 42 *e*P Pb 09 32 05.7 -1.4
baz=29
TIPB Shuangxi 2.08 38 *e*P Pn 09 32 04.8 +0.2
baz=23
YM10 YM10 2.10 30 *e*P Pn 09 32 05.2 +0.3
baz=15
YM05 YM05 2.10 30 *e*P Pn 09 32 04.5 -0.5
baz=14
YM07 YM07 2.14 31 *e*P Pn 09 32 05.4 0.0
baz=31
KNMB Chin-men Tao 2.17 302 *e*P Pn 09 32 05.1 -0.7
baz=303
TWB1 Santiao Chiao 2.20 40 *e*P Pn 09 32 07.5 +1.3
baz=23
YOJ Yonaguni jima 2.63 64 *e*P Pn 09 32 12.9 +0.8
baz=65
MATB Ma-tsu 2.84 351 *e*P Pn 09 32 14.5 -0.5
baz=351

ISN ***12*** *09:32:35.5±0.5,38°.52N×43°.12E,h0km±2km,ML4.0*
IDC ***12*** *09:32:41.7±0.8,38°.60N×42°.99E,h0km,mb3.9/14, mb1 3.9/18,mb1mx3.7/63,mbtmp3.9/18,ML3.0/3,Error ellipse: s-maj=18.4km s-min=9.1km az=154.0*
ISK ***12*** *09:32:42.3,38°.69N×43°.07E,h5km,ML4.1/12*
NEIC ***12*** *09:32:42.3±0.0,38°.69N×43°.05E,h2km,mb4.1/5, ML4.1(ISK),After ISK.*
ATA ***12*** *09:32:42.2±1.5,38°.68N×43°.04E,h20km±8km,ML4.5, MW4.4*
CSEM ***12*** *09:32:43.1±0.1,38°.67N×43°.06E,h2km,ML4.1,Error ellipse: s-maj=3.9km s-min=3.4km az=151.0*
DDA ***12*** *09:32:43.2,38°.68N×43°.07E,h16km,Ml4.0*
ISCJB ***12*** *09:32:43.5±0.4,38°.67N±0°.02×43°.11E±0°.02,h7km±3km, mb3.9/16,Error ellipse: s-maj=3.0km s-min=2.6km az=144.2*

ISC 12 09:32:44.0±0.9,**38°.68N**±0°.01×**43°.07E**±0°.01,**h10**km±6km, **n174,σ1°16/232,mb4.0**/16,**2C-21D,Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
VANB	**Van**	**0.26**	**109**	PG	**Pg**	**09 32 49.8**	**+0.4**
VANB				SG	**Sb**	**09 32 55.5**	**0.0**
VANB	**Van**	**0.26**	**109**	*i* Pg	**Pg**	**09 32 49.8**	**+0.4**
VANB				*i* Sg	**Sb**	**09 32 55.5**	**0.0**
ADCV	**BITLIS_Adilcev**	**0.30**	**295**	⇓*i*P	**Pg**	**09 32 49.7**	**-0.4**
ADCV				*i* S	**Sg**	**09 32 55.1**	**+0.9**
ADCV	**BITLIS_Adilcev**	**0.30**	**295**	P	**Pg**	**09 32 49.7**	**-0.4**
ADCV				S	**Sg**	**09 32 55.1**	**+0.9**
TVAN	**Van**	**0.30**	**120**	⇓*i*P	**Pg**	**09 32 49.8**	**-0.4**
TVAN				*i* S	**Sg**	**09 32 55.4**	**+1.1**
TVAN	**Van**	**0.30**	**120**	P	**Pg**	**09 32 49.8**	**-0.4**
TVAN				S	**Sg**	**09 32 55.4**	**+1.1**
GEVA	**Gevas**	**0.37**	**182**	⇓*i*P	**Pg**	**09 32 50.2**	**-1.0**
GEVA				*e*S	**Sg**	**09 32 56.9**	**+0.7**
GEVA				IAML		09 33 01.4	
	comp=Z,8μm,0.4s						
GEVA	**Gevas**	**0.37**	**182**	⇓*i*P	**Pg**	**09 32 50.3**	**-1.0**
GEVA				*i* S	**Sb**	**09 32 57.6**	**-0.9**
GEVA	**Gevas**	**0.37**	**182**	P	**Pg**	**09 32 50.3**	**-1.0**
GEVA				S	**Sb**	**09 32 57.6**	**-0.9**
ERCV	**ERCIS-VAN**	**0.40**	**31**	PG	**Pg**	**09 32 50.7**	**-1.2**
ERCV	**ERCIS-VAN**	**0.40**	**31**	*e*Pg	**Pg**	**09 32 50.7**	**-1.2**
VMUR	**Van-Muradiye**	**0.50**	**52**	⇓*i*P	**Pg**	**09 32 53.2**	**-0.5**
VMUR				*i* S	**Sb**	**09 33 01.5**	**-0.8**
VMUR	**Van-Muradiye**	**0.50**	**52**	P	**Pg**	**09 32 53.2**	**-0.5**
TUTA	**Tutak**	**0.75**	**345**	⇓*i*P	**Pg**	**09 32 57.3**	**-1.2**
TUTA				*e*S	**Sg**	**09 33 08.0**	**-0.3**
TUTA				IAML		09 33 09.5	
	comp=Z,3μm,0.2s						
TUTA	**Tutak**	**0.75**	**345**	⇓*i*P	**Pg**	**09 32 57.3**	**-1.2**
TUTA				*i* S	**Sg**	**09 33 08.1**	**-0.2**
TUTA	**Tutak**	**0.75**	**345**	P	**Pg**	**09 32 57.3**	**-1.2**
TUTA				S	**Sg**	**09 33 08.1**	**-0.2**
CLDR	**Caldiran**	**0.81**	**55**	PG	**Pg**	**09 32 58.7**	**-0.9**
CLDR				SG	**Sb**	**09 33 10.8**	**-0.4**
CLDR	**Caldiran**	**0.81**	**55**	⇓*i*P	**Pg**	**09 32 57.1**	**-2.4**
CLDR				*i* S	**Sb**	**09 33 10.8**	**-0.4**
CLDR	**Caldiran**	**0.81**	**55**	P	**Pg**	**09 32 57.1**	**-2.4**
CLDR	**Caldiran**	**0.81**	**55**	*e*Pg	**Pg**	**09 32 58.7**	**-0.9**
CLDR				S	**Sb**	**09 33 10.8**	**-0.4**
GURO	**Guroymak-BITLI**	**0.82**	**261**	PG	**Pg**	**09 32 58.6**	**-1.3**
GURO	**Guroymak-BITLI**	**0.82**	**261**	*e*Pg	**Pg**	**09 32 58.6**	**-1.3**
AGRB	**Hanur-Agry**	**0.90**	**356**	PG	**Pg**	**09 33 00.1**	**-1.2**
AGRB				SG	**Sb**	**09 33 13.4**	**-0.4**
AGRB	**Hanur-Agry**	**0.90**	**356**	*e*Pg	**Pg**	**09 33 00.1**	**-1.2**
AGRB				*e*Sg	**Sb**	**09 33 13.4**	**-0.4**
EKAR	**Karacoban**	**0.97**	**307**	*e*P	**Pg**	**09 33 01.2**	**-1.5**
EKAR				*e*S	**Sb**	**09 33 16.9**	**+0.8**
EKAR				IAML		09 33 38.2	
	comp=Z,878nm,0.5s						
EKAR	**Karacoban**	**0.97**	**307**	⇑*i*P	**Pg**	**09 33 01.2**	**-1.5**
EKAR				*i* S	**Sn**	**09 33 17.2**	**-0.7**
EKAR	**Karacoban**	**0.97**	**307**	P	**Pg**	**09 33 01.2**	**-1.5**
EKAR				S	**Sn**	**09 33 17.2**	**-0.7**
DYDN	**Diyadin**	**0.99**	**29**	⇓*e*P	**Pg**	**09 33 01.0**	**-2.0**
DYDN				IAML		09 33 20.9	
	comp=Z,373nm,0.5s						
DYDN	**Diyadin**	**0.99**	**29**	*i* P	**Pg**	**09 33 01.7**	**-1.3**
DYDN				*i* S	**Sn**	**09 33 19.7**	**+1.5**
DYDN	**Diyadin**	**0.99**	**29**	P	**Pg**	**09 33 01.7**	**-1.3**
DYDN				S	**Sn**	**09 33 19.7**	**+1.5**
SRTM	**Siirt_Merkez**	**1.14**	**233**	⇓*i*P	**Pb**	**09 33 04.3**	**-1.4**
SRTM				*i* S	**Sb**	**09 33 20.6**	**-0.1**
SRTM	**Siirt_Merkez**	**1.14**	**233**	P	**Pb**	**09 33 04.3**	**-1.4**
SRTM				S	**Sb**	**09 33 20.5**	**-0.1**
HAKT	**HAKKARI**	**1.23**	**156**	*i* P	**Pb**	**09 33 05.5**	**-1.9**
HAKT				*i* S	**Sn**	**09 33 25.1**	**+1.0**
HAKT	**HAKKARI**	**1.23**	**156**	P	**Pb**	**09 33 05.5**	**-1.9**
EATA	**Eleskirt**	**1.26**	**339**	⇓*e*P	**Pn**	**09 33 06.5**	**-1.4**
EATA				⇓*e*S	**Sg**	**09 33 24.7**	**0.0**
EATA				IAML		09 33 27.2	
	comp=Z,245nm,0.4s						
EATA	**Eleskirt**	**1.26**	**339**	⇓*i*P	**Pn**	**09 33 06.6**	**-1.4**
EATA				*i* S	**Sn**	**09 33 26.5**	**+1.3**
EATA	**Eleskirt**	**1.26**	**339**	P	**Pn**	**09 33 06.6**	**-1.4**
EATA				S	**Sn**	**09 33 26.5**	**+1.3**
SIRT	**Sirnak**	**1.28**	**203**	PN	**Pn**	**09 33 07.9**	**-0.1**
SIRT	**Sirnak**	**1.28**	**203**	*e*Pn	**Pn**	**09 33 07.9**	**-0.1**
SIRN	**S¨–rnak**	**1.29**	**204**	⇑*i*P	**Pn**	**09 33 07.1**	**-1.0**
SIRN				*i* S	**Sn**	**09 33 28.5**	**+3.0**
SIRN	**S¨–rnak**	**1.29**	**204**	P	**Pn**	**09 33 07.1**	**-1.0**
VRTB	**Varto-Mus**	**1.35**	**291**	PN	**Pb**	**09 33 09.2**	**-0.2**
VRTB	**Varto-Mus**	**1.35**	**291**	*i* P	**Pn**	**09 33 08.7**	**-0.3**
VRTB				*i* S	**Sg**	**09 33 28.1**	**+0.7**
VRTB	**Varto-Mus**	**1.35**	**291**	P	**Pn**	**09 33 08.6**	**-0.3**
VRTB	**Varto-Mus**	**1.35**	**291**	*e*Pn	**Pb**	**09 33 09.2**	**-0.2**
VRTB				S	**Sg**	**09 33 28.1**	**+0.7**
IGDI	**IGDIR**	**1.42**	**33**	⇓*e*P	**Pn**	**09 33 09.2**	**-0.7**
IGDI				*i* Pg	**Pb**	**09 33 10.3**	**-0.3**
IGDI				*e*S	**Sg**	**09 33 31.3**	**+1.6**
IGDI				IAML		09 33 37.5	
	comp=Z,268nm,0.6s						
IGDI	**IGDIR**	**1.42**	**33**	⇓*i*P	**Pn**	**09 33 09.4**	**-0.5**
IGDI				*i* S	**Sg**	**09 33 30.3**	**+0.6**
YOVA	**Hakkari_Y¨…kse**	**1.45**	**138**	*i* P	**Pn**	**09 33 10.2**	**-0.3**
YOVA				*i* S	**Sg**	**09 33 32.4**	**+1.7**
YOVA	**Hakkari_Y¨…kse**	**1.45**	**138**	P	**Pn**	**09 33 10.2**	**-0.3**
YOVA				S	**Sg**	**09 33 32.4**	**+1.7**
SVAN	**Silvan-Diyarba**	**1.56**	**251**	PN	**Pn**	**09 33 12.2**	**+0.4**
SVAN	**Silvan-Diyarba**	**1.56**	**251**	⇓*i*P	**Pb**	**09 33 12.5**	**-0.5**
SVAN				*i* S	**Sg**	**09 33 33.4**	**-0.8**
SVAN	**Silvan-Diyarba**	**1.56**	**251**	*e*Pn	**Pn**	**09 33 12.2**	**+0.4**
SVAN	**Silvan-Diyarba**	**1.56**	**251**	P	**Pb**	**09 33 12.5**	**-0.5**
SVAN				S	**Sg**	**09 33 33.4**	**-0.8**
TASB	**TASBURUN-IGDIR**	**1.58**	**34**	PN	**Pn**	**09 33 12.7**	**+0.5**
TASB	**TASBURUN-IGDIR**	**1.58**	**34**	*e*Pn	**Pn**	**09 33 12.7**	**+0.5**
BTMN	**Batman**	**1.62**	**241**	⇓*i*P	**Pb**	**09 33 13.8**	**-0.2**
BTMN				*i* S	**Sb**	**09 33 35.1**	**+0.5**
BTMN	**Batman**	**1.62**	**241**	P	**Pb**	**09 33 13.8**	**-0.2**
BTMN				S	**Sb**	**09 33 35.1**	**+0.5**
HOMI	**Horasan**	**1.64**	**327**	⇓*e*P	**Pn**	**09 33 12.5**	**-0.5**
HOMI				*e*S	**Sg**	**09 33 37.0**	**+0.3**
HOMI				IAML		09 33 42.0	
	comp=Z,496nm,0.6s						
HOMI	**Horasan**	**1.64**	**327**	*i* P	**Pn**	**09 33 12.4**	**-0.5**
HOMI				*i* S	**Sg**	**09 33 36.4**	**-0.2**
DIGO	**Kars**	**1.75**	**8**	*e*P	**Pn**	**09 33 14.3**	**-0.3**
DIGO				IAML		09 33 36.5	
	comp=Z,100nm,0.5s						
ERZM	**Erzurum**	**1.80**	**313**	*e*P	**Pn**	**09 33 15.3**	**0.0**
ERZM				*e*S	**Sb**	**09 33 40.0**	**+0.1**
ERZM	**Erzurum**	**1.80**	**313**	*i* P	**Pn**	**09 33 15.8**	**+0.5**
ERZM				*i* S	**Sg**	**09 33 42.0**	**0.0**
ERZM	**Erzurum**	**1.80**	**313**	P	**Pn**	**09 33 15.8**	**+0.5**
ERZM				S	**Sg**	**09 33 42.0**	**0.0**
ECAT	**Cat-ERZURUM**	**1.88**	**300**	*e*P	**Pb**	**09 33 17.3**	**-1.1**
ECAT				*e*S	**Sb**	**09 33 42.5**	**+0.5**
ECAT				IAML		09 33 54.6	
	comp=Z,185nm,0.6s						
ECAT	**Cat-ERZURUM**	**1.88**	**300**	*i* P	**Pb**	**09 33 18.1**	**-0.3**
ECAT				*i* S	**Sg**	**09 33 44.4**	**+0.1**
ECAT	**Cat-ERZURUM**	**1.88**	**300**	P	**Pb**	**09 33 18.1**	**-0.3**
BNGB	**Bing¨ll**	**1.89**	**280**	PN	**Pn**	**09 33 16.9**	**+0.5**
KARS	**Kars**	**1.94**	**0**	PN	**Pn**	**09 33 17.8**	**+0.6**
KARS	**Kars**	**1.94**	**0**	*e*Pn	**Pn**	**09 33 17.8**	**+0.6**
GNI	**Garni**	**1.96**	**41**	Pn	**Pb**	**09 33 18.8**	**-1.0**
	comp=Z,12nm,0.3s,baz=214,slow=0.2,SNR=27						
GNI				Sn	**Sg**	**09 33 48.2**	**+1.3**
	comp=Z,17nm,0.3s,baz=163,slow=21,SNR=5.9						
GNI	**Garni**	**1.96**	**41**	*e*Pn	**Pn**	**09 33 18.5**	**+1.2**
GNI				*e*Pn	**Pb**	**09 33 18.8**	**-1.0**
GNI				*e*Sn	**Sg**	**09 33 48.2**	**+1.3**
GNI	**Garni**	**1.96**	**41**	*e*Pn	**Pn**	**09 33 18.5**	**+1.2**
SENK	**Senkaya-Erzuru**	**1.96**	**344**	PN	**Pn**	**09 33 17.8**	**+0.4**
SENK	**Senkaya-Erzuru**	**1.96**	**344**	*e*Pn	**Pn**	**09 33 17.8**	**+0.4**
BINT	**Bingol**	**2.03**	**276**	*e*Pn	**Pn**	**09 33 16.9**	**-1.4**
EAK	**Akyaka**	**2.05**	**11**	⇓*e*P	**Pb**	**09 33 20.7**	**-0.6**
EAK				IAML		09 33 48.0	
	comp=Z,251nm,0.7s						
EAK				*e*S	**Sg**	**09 33 50.2**	**+0.4**
EAK	**Akyaka**	**2.05**	**11**	⇓*i*P	**Pb**	**09 33 21.0**	**-0.3**
EAK				*i* S	**Sg**	**09 33 50.8**	**+1.1**
EAK	**Akyaka**	**2.05**	**11**	P	**Pb**	**09 33 21.0**	**-0.3**
HANI	**Diyarbakir_Han**	**2.11**	**264**	*i* P	**Pb**	**09 33 21.1**	**-1.2**
HANI				*i* S	**Sb**	**09 33 49.3**	**+0.6**
HANI	**Diyarbakir_Han**	**2.11**	**264**	P	**Pb**	**09 33 21.1**	**-1.2**
MARD	**Mardin**	**2.27**	**234**	⇓*i*P	**Pn**	**09 33 20.8**	**-0.8**
MARD				*i* S	**Sn**	**09 33 49.4**	**-0.2**
KOPT	**Kop Dagi**	**2.40**	**305**	*e*P	**Pb**	**09 33 28.0**	**+0.5**
KOPT				*i* Pg	**Pg**	**09 33 31.6**	**+1.6**
KOPT				*e*S	**Sg**	**09 34 03.1**	**+1.9**
KOPT				IAML		09 34 10.3	
	comp=Z,122nm,0.7s						
KOPT	**Kop Dagi**	**2.40**	**305**	*e*P	**Pb**	**09 33 27.4**	**0.0**
KOPT				*i* S	**Sg**	**09 34 04.5**	**+3.3**
KOPT	**Kop Dagi**	**2.40**	**305**	P	**Pb**	**09 33 27.4**	**0.0**
MAZI	**Mazidag**	**2.40**	**240**	PN	**Pn**	**09 33 23.4**	**0.0**
MAZI	**Mazidag**	**2.40**	**240**	*e*Pn	**Pn**	**09 33 23.4**	**0.0**
DYBB	**Diyarbakir**	**2.42**	**253**	PN	**Pn**	**09 33 24.5**	**+0.9**
DDEM	**Demirkent**	**2.43**	**336**	*i* P	**Pb**	**09 33 26.2**	**-1.6**
DDEM				*i* S	**Sg**	**09 34 02.8**	**+0.7**
DDEM	**Demirkent**	**2.43**	**336**	P	**Pb**	**09 33 26.2**	**-1.6**
DIYA	**Diyarbakir**	**2.44**	**253**	*i* P	**Pn**	**09 33 25.5**	**+1.6**
DIYA				*i* S	**Sb**	**09 33 57.5**	**-0.6**
DIYA	**Diyarbakir**	**2.44**	**253**	P	**Pn**	**09 33 25.5**	**+1.6**
DBAD	**Bademkaya**	**2.56**	**336**	*i* P	**Pb**	**09 33 29.9**	**-0.2**
DBAD				*i* S	**Sg**	**09 34 07.3**	**+1.0**
DBAD	**Bademkaya**	**2.56**	**336**	P	**Pb**	**09 33 29.9**	**-0.2**
ARTV	**Artvin**	**2.65**	**341**	*e*P	**Pb**	**09 33 30.8**	**-0.9**
BAYB	**BAYBURT**	**2.69**	**307**	*e*P	**Pb**	**09 33 33.0**	**+0.7**
AKH	**Akhalkalaki**	**2.75**	**7**	PN	**Pn**	**09 33 29.1**	**+0.9**
AKH	**Akhalkalaki**	**2.75**	**7**	*e*Pn	**Pn**	**09 33 33.2**	**0.0**
AKH	**Akhalkalaki**	**2.75**	**7**	*e*Pn	**Pn**	**09 33 29.1**	**+0.9**
ERZN	**Erzincan**	**2.76**	**290**	PN	**Pn**	**09 33 29.6**	**+1.3**
TNCL	**Tunceli-Merkez**	**2.79**	**280**	*e*P	**Pn**	**09 33 30.7**	**+2.0**
TNCL				*e*S	**Sb**	**09 34 09.6**	**+1.4**
EUZM	**Uzumlu**	**2.81**	**292**	*e*P	**Pn**	**09 33 30.2**	**+1.1**
EPOS	**Posof**	**2.83**	**355**	*e*P	**Pn**	**09 33 30.8**	**+1.4**
EPOS				IAML		09 34 01.4	
	comp=Z,14nm,0.7s						
BAYT	**Ayd¨–ntepe-Bay**	**2.84**	**308**	PN	**Pn**	**09 33 30.9**	**+1.4**
BAYT	**Ayd¨–ntepe-Bay**	**2.84**	**308**	*e*Pn	**Pn**	**09 33 30.9**	**+1.4**
PTK	**Pertek**	**2.88**	**275**	PN	**Pn**	**09 33 31.1**	**+1.0**
PTK	**Pertek**	**2.88**	**275**	*e*Pn	**Pn**	**09 33 31.1**	**+1.0**
CHOM	**Cayeli-Rize**	**3.00**	**324**	*e*Pn	**Pn**	**09 33 32.9**	**+1.4**
DGRG	**David-gareji**	**3.28**	**32**	*e*P	**Pn**	**09 33 36.8**	**+1.3**
KELT	**Kelkit**	**3.30**	**298**	*e*P	**Pb**	**09 33 41.5**	**-1.2**
TBLG	**Delisi**	**3.30**	**22**	*e*P	**Pn**	**09 33 38.2**	**+2.5**
TBLG	**Delisi**	**3.30**	**22**	*e*Pn	**Pb**	**09 33 40.9**	**-1.7**
REFA	**Refahiye_ERZ¨**	**3.43**	**283**	*e*P	**Pb**	**09 33 45.8**	**+0.9**
URFA	**Urfa**	**3.58**	**251**	PN	**Pn**	**09 33 41.0**	**+1.5**
URFA	**Urfa**	**3.58**	**251**	*e*Pn	**Pn**	**09 33 41.0**	**+1.5**
ILIC	**ilic-Erzincan**	**3.59**	**284**	PN	**Pn**	**09 33 41.3**	**+1.5**
ILIC	**ilic-Erzincan**	**3.59**	**284**	*e*Pn	**Pn**	**09 33 41.3**	**+1.5**
KEMA	**Kemaliye**	**3.62**	**281**	*e*P	**Pb**	**09 33 47.2**	**-0.8**
MALT	**Malatya**	**3.66**	**266**	PN	**Pn**	**09 33 42.6**	**+1.9**
ESPY	**Espiye-Giresun**	**4.02**	**305**	PN	**Pn**	**09 33 47.5**	**+1.9**
ESPY	**Espiye-Giresun**	**4.02**	**305**	*e*Pn	**Pn**	**09 33 47.5**	**+1.9**
KBZ	**Khabaz**	**5.04**	**359**	Pn	Pn	09 34 05.7	+6.1
	baz=150,slow=8.1,SNR=2.3						
KIV	**Kislovodsk**	**5.28**	**357**	*e*Pn	**Pn**	**09 34 06.2**	**+3.3**
KIV	**Kislovodsk**	**5.28**	**357**	*e*Pn	**Pn**	**09 34 06.2**	**+3.3**
KVAR	**Kislovodsk Arr**	**5.28**	**357**	Pn	**Pg**	**09 34 23.0**	**-2.0**
	baz=206,slow=3.8,SNR=3.2						
BR101	**Keskin Array S**	**7.40**	**281**	*e*Pn	**Pn**	**09 34 31.6**	**-0.6**
BR101	**Keskin Array S**	**7.40**	**281**	*e*Pn	**Pn**	**09 34 31.5**	**-0.6**
BR131	**Keskin Array S**	**7.40**	**281**	*e*Pn	**Pn**	**09 34 31.4**	**-0.7**
BR131	**Keskin Array S**	**7.40**	**281**	*e*Pn	**Pn**	**09 34 31.4**	**-0.7**
BRTR	**Keskin Array B**	**7.40**	**281**	Pn	**Pn**	**09 34 31.6**	**-0.6**
	comp=Z,0.0nm,0.3s,baz=108,slow=14,SNR=2.3						
ASF	**Jabal al Asfar**	**8.22**	**220**	Pn	Pb	09 34 57.1	-9.3
	comp=Z,0.3nm,0.3s,baz=160,slow=12,SNR=4.4						
ASF				Lg	Lg	09 37 02.4	
	comp=Z,0.6nm,0.3s,baz=18,slow=20,SNR=2.5						
MMAI	**Mount Meron Ar**	**8.41**	**230**	Pn	**Pn**	**09 34 44.5**	**-1.3**
	comp=Z,0.6nm,0.3s,baz=59,slow=14,SNR=2.2						
MMAI				Lg	Lg	09 37 07.3	
	comp=Z,3.1nm,0.3s,baz=27,slow=16,SNR=5.3						
AKASG	**Malin Array Be**	**15.50**	**325**	Pn	**Pn**	**09 36 21.8**	**-0.8**
	comp=Z,1.2nm,0.3s,baz=122,slow=13,SNR=3.6						
AKBB	**Malin Array Si**	**15.50**	**325**	*e*Pn	**Pn**	**09 36 22.6**	**+0.1**
	comp=Z,9.0nm,1.0s						
AKBB	**Malin Array Si**	**15.50**	**325**	*e*Pn	**Pn**	**09 36 22.6**	**+0.1**
	comp=Z,9.0nm,1.0s						
KIEV	**Kiev**	**15.51**	**325**	*e*Pn	**P**	**09 36 25.1**	**-1.8**
	comp=Z,8.7nm,1.0s						
AK11	**Malin Array Si**	**15.51**	**325**	*e*Pn	**P**	**09 36 25.4**	**-1.7**
BUR04	**Bucovina Ar. S**	**15.77**	**310**	*e*Pn	**Pn**	**09 36 25.5**	**-0.6**
BUR04	**Bucovina Ar. S**	**15.77**	**310**	*e*Pn	**Pn**	**09 36 25.5**	**-0.6**
AKTO	**Aktyubinsk**	**15.82**	**37**	Pn	**Pn**	**09 36 26.0**	**-0.7**
	comp=Z,0.2nm,0.3s,baz=225,slow=16,SNR=2.6						
ABKAR	**Akbulak array**	**16.07**	**43**	*e*Pn	**P**	**09 36 32.1**	**-1.1**
CRVS	**Cervenica-Dubn**	**18.59**	**310**	*e*P	**Pn**	**09 37 06.1**	**+4.8**
STHS	**Stebnicka Huta**	**18.94**	**312**	*e*PN	**P**	**09 37 04.7**	**-0.3**
VYHS	**Vyhne**	**20.03**	**307**	*e*P	Pn	09 37 22.0	+3.3
ARU	**Arti**	**20.52**	**25**	P	**P**	**09 37 21.0**	**-1.0**
	comp=Z,2.5nm,0.3s,baz=232,slow=7.1,SNR=4

comp=Z,0.9nm,0.5s,baz=302,slow=8.2,SNR=7.8
DBIC Dimbokro 53.65 246 P **P** 09 42 04.8 **-1.0**
comp=Z,2.9nm,0.9s,baz=56,slow=3.6,SNR=2.3
KS15 Wonju Array Si 64.33 62 *e*P **P** 09 43 19.5 **-0.3**
KSAR Wonju Array Be 64.33 62 P **P** 09 43 19.5 **-0.3**
KSRS Korea Array 64.36 62 P **P** 09 43 19.5 **-0.4**
comp=Z,1.1nm,0.7s,baz=283,slow=5.9,SNR=4.0
YKA Yellowknife Ar 77.58 350 P **P** 09 44 39.8 **+0.1**
comp=Z,0.4nm,0.8s,baz=12,slow=5.7,SNR=3.4

MEX 12 09:34:46.8±0.3, 15°94'N×98°39'W, h1km±2km, MD3.7, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.52**	**29**	*i* P	Pg	09 34 56.5	-0.2
PNIG				*i* S	Sg	09 35 03.9	+0.5
TLIG	**Tlapa**	**1.62**	**354**	*e*P	Pn	09 35 12.9	-3.7
TLIG				*e*S	Sn	09 35 33.5	-4.8
VHO	**Vista Hermosa**	**1.95**	**54**	*e*P	Pn	09 35 20.2	-1.0
VHO				*e*S	Sn	09 35 41.9	-4.5
PLIG	**Platanillo**	**2.66**	**337**	*e*P	Pb	09 35 35.2	-0.1
PLIG				*e*S	Sn	09 36 00.0	-3.8

IDC ***12*** *09:44:18.0±1.4, 0°.53N×92°.39E, h0km, mb3.8/8, mb1 3.9/10, mb1mx3.6/65, mbtmp3.8/10, ML3.9/2, Error ellipse: s-maj=39.2km s-min=20.6km az=52.0*
ISCJB ***12*** *09:44:22.3±0.8, 0°.67N±0°.07×92°.77E±0°.06, h33km, mb3.8/8, Error ellipse: s-maj=10.6km s-min=8.3km az=27.1*
DJA ***12*** *09:44:25.8±5.0, 0°.N±12°×9°.3E±4°.3, h10km, M4.8/6, mB6.6/1, mb4.8/5, MLv4.8/6, Mw(mB)6.4/1*
ISC 12 09:44:24.3±1.0, 0°.62N±0°.09×92°.75E±0°.09, h35km, n18, σ2°31/22, mb3.9/8, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSI	**Gunungsitoli**	**4.88**	**82**	P	**Pn**	**09 45 38.8**	**+3.5**
GSI				S	**Sn**	**09 46 26.3**	**-4.3**
MLSI	**Meulaboh, Aceh**	**5.15**	**45**	P	Pn	09 45 44.9	+5.9
MLSI				S	**Sn**	**09 46 36.7**	**-0.5**
TPTI		**5.15**	**59**	P	**Pn**	**09 45 41.3**	**+2.3**
TPTI				S	Sn	09 46 23.2	-14
BSI	**Banda Aceh**	**5.47**	**28**	P	**Pn**	**09 45 46.3**	**+2.8**
PSI	**Prapat**	**6.54**	**71**	Pn	**Pn**	**09 46 00.9**	**+2.6**
	1.2nm,0.3s,baz=348,slow=14,SNR=3.6						
PSI				Sn	**Sn**	**09 47 10.5**	**-1.3**
	0.7nm,0.3s,baz=307,slow=10,SNR=2.3						
MNSI	**Mandailing Nat**	**6.84**	**89**	P	**Pn**	**09 46 05.9**	**+3.7**
MNSI				S	**Sn**	**09 47 14.7**	**-4.2**
PDSI	**Padang**	**7.87**	**101**	P	**Pn**	**09 46 18.6**	**+2.2**
PPSI	**Pulau Pagai**	**8.00**	**115**	P	**Pn**	**09 46 19.8**	**+1.6**
PPSI				S	**Sn**	**09 47 46.9**	**-0.7**
CMAR	**Chiang Mai Arr**	**18.74**	**19**	P	**Pn**	**09 48 40.9**	**-0.1**
	0.2nm,0.3s,baz=213,slow=13,SNR=4.1						
WRA	**Warramunga Arr**	**45.58**	**119**	P	**P**	**09 52 42.2**	**+0.7**
	1.6nm,0.7s,baz=295,slow=8.5,SNR=11						
ASAR	**Alice Springs**	**46.69**	**124**	P	**P**	**09 52 50.4**	**+0.3**
	0.3nm,0.6s,baz=300,slow=8.1,SNR=5.1						
MKAR	**Makanchi Array**	**46.89**	**350**	P	**P**	**09 52 50.0**	**-1.2**
	0.8nm,0.7s,baz=171,slow=8.6,SNR=6.0						
SONM	**Songino Array**	**48.50**	**12**	P	**P**	**09 53 04.7**	**+0.9**
	1.1nm,0.7s,baz=192,slow=8.6,SNR=5.0						
KSRS	**Korea Array**	**48.93**	**37**	P	**P**	**09 53 07.5**	**+0.3**
	0.4nm,0.4s,baz=229,slow=11,SNR=3.0						
KURBB	**Kurchatov Arra**	**51.26**	**348**	P	**P**	**09 53 23.2**	**-1.4**
	0.5nm,0.6s,baz=177,slow=7.7,SNR=3.5						
ZALV	**Zalesovo Beam**	**53.55**	**354**	P	**P**	**09 53 40.2**	**-1.3**
	0.9nm,0.4s,baz=180,slow=6.2,SNR=3.8						
GERES	**GERESS Array B**	**82.32**	**319**	P	**P**	**09 56 41.0**	**-1.6**
	0.7nm,0.4s,baz=110,slow=5.4,SNR=7.6						
TXAR	**Lajitas Array**	**146.34**	**26**	PKPbc	**PKPab**	**10 04 02.9**	**-0.2**
	0.1nm,0.5s,baz=350,slow=1.0,SNR=2.8						

IDC ***12*** *09:47:10.5±1.2, 0°.64N×92°.54E, h0km, mb3.9/9, mb1 4.0/11, mb1mx3.7/67, mbtmp3.9/11, ML4.2/2, Error ellipse: s-maj=42.1km s-min=20.0km az=47.0*
ISCJB ***12*** *09:47:13.4±0.9, 0°.6N±0°.2×92°.4E±0°.2, h33km, mb4.0/9, Error ellipse: s-maj=33.3km s-min=14.5km az=38.3*
ISC 12 09:47:15.7±1.1, 0.7N±0°.2×92.5E±0°.2, h35km, n15, σ1°14/12, mb4.1/9, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**13.48**	**299**	Pn	**Pn**	**09 50 23.4**	**-1.3**
	1.3nm,0.3s,baz=118,slow=12,SNR=3.0						
PALK				Sn	Sn	09 52 40.8	-12
	1.8nm,0.3s,baz=114,slow=12,SNR=6.0						
CMAR	**Chiang Mai Arr**	**18.76**	**19**	P	**P**	**09 51 29.6**	**-2.3**
	0.3nm,0.3s,baz=207,slow=14,SNR=3.0						
H08S2	**Diego Garcia H**	**21.61**	**247**	T	T	10 12 39.8	
	baz=65,slow=75,SNR=11						
H08S3	**Diego Garcia H**	**21.61**	**247**	T	T	10 12 33.1	
	baz=65,slow=75,SNR=13						
H08S1	**Diego Garcia H**	**21.63**	**247**	T	T	10 12 39.6	
	baz=65,slow=75,SNR=13						
WRA	**Warramunga Arr**	**45.81**	**119**	P	**P**	**09 55 34.3**	**-0.3**
	0.8nm,0.6s,baz=298,slow=8.4,SNR=5.5						
MKAR	**Makanchi Array**	**46.79**	**350**	P	**P**	**09 55 42.4**	**+0.6**
	1.0nm,0.6s,baz=171,slow=9.1,SNR=7.6						
ASAR	**Alice Springs**	**46.91**	**124**	P	**P**	**09 55 43.0**	**-0.3**
	0.3nm,0.5s,baz=295,slow=7.8,SNR=5.6						
SONM	**Songino Array**	**48.49**	**12**	P	**P**	**09 55 56.5**	**+1.4**
	1.1nm,0.6s,baz=193,slow=8.5,SNR=5.8						
GEYT	**Alibeck**	**48.73**	**324**	P	**P**	**09 55 58.3**	**+1.2**
	1.3nm,0.4s,baz=134,slow=6.2,SNR=2.7						
KURBB	**Kurchatov Arra**	**51.16**	**349**	P	**P**	**09 56 15.8**	**+0.5**
	0.7nm,0.3s,baz=170,slow=6.2,SNR=3.9						
ZALV	**Zalesovo Beam**	**53.47**	**354**	P	**P**	**09 56 32.2**	**-0.1**
	1.8nm,0.7s,baz=191,slow=7.1,SNR=4.6						
BRTR	**Keskin Array B**	**66.04**	**314**	P	**P**	**09 57 59.2**	**-0.1**
	0.5nm,0.5s,baz=144,slow=9.3,SNR=4.8						
GERES	**GERESS Array B**	**82.13**	**319**	P	**P**	**09 59 33.8**	**+0.7**
	0.6nm,0.3s,baz=91,slow=5.3,SNR=5.9						
TXAR	**Lajitas Array**	**146.38**	**26**	PKPbc	**PKPdf**	**10 06 52.0**	**-0.6**
	0.3nm,0.5s,baz=322,slow=0.9,SNR=5.3						

IDC 12 09:47:34.1±3.1, 53°.47N×87°.79E, h0km, mb1 2.9/2, mb1mx2.8/65, mbtmp2.9/2, ML2.7/2, Error ellipse: s-maj=29.3km s-min=17.5km az=53.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.83**	**286**	*i*		10 00 02.8	
	baz=106,slow=350,SNR=6.7						
ZALV	**Zalesovo Beam**	**1.83**	**286**	Pn	Pn	09 48 06.1	-0.8
	1.8nm,0.3s,baz=106,slow=14,SNR=12						
ZALV				Lg	Lg	09 48 32.2	
	5.2nm,0.3s,baz=102,slow=22,SNR=20						
KURBB	**Kurchatov Arra**	**6.39**	**247**	Pn	Pn	09 49 10.1	+0.7
	0.1nm,0.3s,baz=61,slow=13,SNR=2.6						
KURBB				Lg	Lg	09 50 57.2	
	0.1nm,0.3s,baz=52,slow=15,SNR=2.6						
MKAR	**Makanchi Array**	**7.56**	**210**	Pn	Pn	09 49 26.9	+1.3
	0.1nm,0.3s,baz=28,slow=10,SNR=5.7						
MKAR				Lg	Lg	09 51 27.6	
	0.1nm,0.3s,baz=28,slow=15,SNR=3.9						

NEIC ***12*** *09:49:03.4±0.0, 41°.64S×171°.58E, h4km, ML3.8(WEL), After WEL.*
NEIC Felt along the west coast of the South Island.
WEL 12 09:49:03.1, 42°S±2°×17°2E±°, h5km±1km, ML3.7/10, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DSZ	**Denniston Nort**	**0.17**	**129**	Pg	Pg	09 49 07.4	+1.0
DSZ	**Denniston Nort**	**0.17**	**129**	P	Pg	09 49 07.5	+1.0
DSZ	**Denniston Nort**	**0.17**	**129**	S	Sg	09 49 10.4	+1.7
THZ	**Tophouse**	**0.96**	**98**	P*	Pg	09 49 22.0	-0.2
THZ				S*	Sb	09 49 35.5	+0.2
THZ	**Tophouse**	**0.96**	**98**	P	Pb	09 49 22.1	-0.2
THZ	**Tophouse**	**0.96**	**98**	S	Sb	09 49 35.7	+0.4
QRZ	**Quartz Range**	**1.06**	**40**	P*	Pg	09 49 23.0	-0.3
QRZ	**Quartz Range**	**1.06**	**40**	P	Pg	09 49 23.1	-0.3
QRZ	**Quartz Range**	**1.06**	**40**	S	Sg	09 49 37.3	+0.2
INZ	**Inchbonnie**	**1.09**	**187**	P	Pg	09 49 23.9	-0.1
INZ	**Inchbonnie**	**1.09**	**187**	S	Sb	09 49 38.8	-0.2
LTZ	**Lake Taylor**	**1.24**	**158**	P*	Pn	09 49 27.3	+0.2
LTZ				S*	Sn	09 49 43.9	-0.2
LTZ	**Lake Taylor**	**1.24**	**158**	P	Pn	09 49 27.3	+0.3
LTZ	**Lake Taylor**	**1.24**	**158**	S	Sn	09 49 44.2	+0.1
NNZ	**Nelson**	**1.38**	**73**	P	Pn	09 49 28.6	-0.3
NNZ	**Nelson**	**1.38**	**73**	S	Sn	09 49 47.9	+0.4
WVZ	**Waitaha Valley**	**1.58**	**205**	Pn	Pn	09 49 30.7	-1.0
WVZ	**Waitaha Valley**	**1.58**	**205**	P	Pn	09 49 30.7	-0.9
WVZ	**Waitaha Valley**	**1.58**	**205**	S	Sn	09 49 51.0	-1.5
KHZ	**Kahutara**	**1.62**	**119**	Pn	Pb	09 49 33.2	-0.2
KHZ	**Kahutara**	**1.62**	**119**	P	Pb	09 49 33.3	-0.1
BSWZ	**Blackbirch Sta**	**1.68**	**93**	Pn	Pg	09 49 35.3	0.0
BSWZ	**Blackbirch Sta**	**1.68**	**93**	P	Pg	09 49 35.4	+0.1
BSWZ	**Blackbirch Sta**	**1.68**	**93**	S	Sg	09 49 58.9	+1.7
OXZ	**Oxford**	**1.71**	**170**	Pn	Pn	09 49 33.4	-0.2
OXZ	**Oxford**	**1.71**	**170**	P	Pn	09 49 33.5	-0.1
TUWZ	**Tuamarina**	**1.75**	**84**	Pn	Pb	09 49 34.8	-0.8
TUWZ	**Tuamarina**	**1.75**	**84**	P	Pb	09 49 34.9	-0.7
TUWZ	**Tuamarina**	**1.75**	**84**	S	Sg	09 49 59.9	+0.7
DUWZ	**D'Urville Isla**	**1.92**	**65**	Pn	Pn	09 49 37.2	+0.8
DUWZ	**D'Urville Isla**	**1.92**	**65**	P	Pn	09 49 37.3	+0.9
CMWZ	**Cape Campbell**	**1.94**	**94**	P	Pg	09 49 41.7	+1.5
TCW	**Tory Channel**	**2.04**	**79**	Pn	Pb	09 49 39.8	-0.7
TCW	**Tory Channel**	**2.04**	**79**	P	Pb	09 49 39.8	-0.7
CRLZ	**Canterbury Las**	**2.07**	**160**	Pn	Pn	09 49 38.5	+0.1
CRLZ	**Canterbury Las**	**2.07**	**160**	P	Pn	09 49 38.6	+0.2
RPZ	**Rata Peaks**	**2.12**	**191**	Pn	Pn	09 49 39.0	-0.1
RPZ	**Rata Peaks**	**2.12**	**191**	P	Pn	09 49 39.1	0.0
MQZ	**McQueen's Vall**	**2.20**	**160**	Pn	Pn	09 49 39.3	-0.9
MQZ	**McQueen's Vall**	**2.20**	**160**	P	Pn	09 49 39.4	-0.8
FOZ	**Fox Glacier**	**2.32**	**215**	Pn	Pn	09 49 40.4	-1.5
FOZ	**Fox Glacier**	**2.32**	**215**	P	Pn	09 49 40.5	-1.3
OKCZ	**Okains Bay**	**2.33**	**154**	P	Pn	09 49 42.8	+0.7
AKCZ	**Akaroa Harbour**	**2.42**	**158**	P	Pn	09 49 43.0	-0.3
KIW	**Kapiti Island**	**2.59**	**74**	P	Pn	09 49 47.1	+1.5
CAW	**Cannon Point**	**2.64**	**80**	Pn	Pn	09 49 47.0	+0.7
CAW	**Cannon Point**	**2.64**	**80**	P	Pn	09 49 47.1	+0.8
MSWZ	**Moikau Station**	**2.73**	**86**	P	Pn	09 49 47.8	+0.3
MSWZ	**Moikau Station**	**2.73**	**86**	P	Pn	09 49 47.8	+0.3
OGWZ	**Otaki Gorge**	**2.79**	**74**	Pn	Pb	09 49 51.0	-2.4
OGWZ	**Otaki Gorge**	**2.79**	**74**	P	Pb	09 49 51.0	-2.4
NMEZ	**Namu Road**	**2.81**	**38**	P	Pn	09 49 50.0	+1.5
LBZ	**Lake Benmore**	**2.94**	**201**	Pn	Pn	09 49 50.1	-0.3
LBZ	**Lake Benmore**	**2.94**	**201**	P	Pn	09 49 50.4	-0.1
MTW	**Mount Morrison**	**2.95**	**82**	P	Pn	09 49 50.2	-0.3
KHEZ	**Kahui Hut**	**2.96**	**39**	Pn	Pn	09 49 51.5	+0.7
PREZ	**Palmer Road**	**3.00**	**41**	P	Pn	09 49 52.1	+0.9
HOWZ	**Holdsworth Sta**	**3.02**	**77**	P	Pn	09 49 54.2	+2.6
NEZ	**North Egmont**	**3.02**	**39**	Pn	Pn	09 49 52.3	+0.7
LREZ	**Lake Rotokare**	**3.03**	**45**	P	Pb	09 49 54.6	-2.9
PKE	**Pukeiti**	**3.03**	**37**	P	Pn	09 49 52.6	+0.9
DREZ	**Durham Road**	**3.14**	**40**	P	Pn	09 49 54.1	+1.0
MRZ	**Mangatainoka R**	**3.14**	**73**	P	Pn	09 49 54.6	+1.5
WAZ	**Wanganui**	**3.17**	**55**	P	Pn	09 49 56.0	+2.4
JCZ	**Jackson Bay**	**3.21**	**220**	Pn	Pn	09 49 52.6	-1.5
JCZ	**Jackson Bay**	**3.21**	**220**	P	Pn	09 49 52.7	-1.5
JCZ	**Jackson Bay**	**3.21**	**220**	P	Pn	09 49 52.7	-1.5
PRWZ	**Pori Road**	**3.45**	**73**	P	Pb	09 50 04.7	0.0
VRZ	**Vera Road**	**3.47**	**45**	P	Pn	09 49 59.4	+1.8
ODZ	**Otahua Downs**	**3.48**	**192**	Pn	Pn	09 49 56.6	-1.2
ODZ	**Otahua Downs**	**3.48**	**192**	P	Pn	09 49 56.8	-1.0
BFZ	**Birch Farm**	**3.61**	**76**	P	Pn	09 50 01.1	+1.5
TSZ	**Takapari Road**	**3.64**	**66**	P	Pn	09 50 02.4	+2.3
PKVZ	**Pokaka**	**3.68**	**52**	P	Pn	09 50 02.1	+1.5
DVHZ	**Dannevirke**	**3.69**	**70**	P	Pb	09 50 07.0	-1.6
MTVZ	**Mangateitei**	**3.69**	**54**	P	Pn	09 50 03.4	+2.6
WKZ	**Wanaka**	**3.71**	**210**	Pn	Pn	09 49 59.9	-1.2
WKZ	**Wanaka**	**3.71**	**210**	P	Pn	09 49 59.9	-1.2
TRVZ	**Turoa**	**3.79**	**53**	P	Pn	09 50 04.3	+2.0
WNVZ	**Wahianoa**	**3.81**	**54**	Pn	Pn	09 50 04.8	+2.4
FWVZ	**Far West T-bar**	**3.83**	**53**	Pn	Pn	09 50 04.3	+1.6
FWVZ	**Far West T-bar**	**3.83**	**53**	P	Pn	09 50 04.4	+1.7
MOVZ	**Moawhango**	**3.85**	**56**	P	Pn	09 50 04.5	+1.5
COVZ	**Chateau Observ**	**3.85**	**52**	P	Pn	09 50 06.7	+3.7
PNHZ	**Pukenui**	**3.87**	**65**	P	Pn	09 50 05.7	+2.4
TWVZ	**Taurewa**	**3.88**	**50**	P	Pn	09 50 04.9	+1.5
NGZ	**Ngauruhoe**	**3.90**	**52**	P	Pn	09 50 05.9	+2.1
WTVZ	**West Tongariro**	**3.94**	**51**	P	Pn	09 50 06.8	+2.6
WTVZ	**West Tongariro**	**3.94**	**51**	P	Pn	09 50 07.8	+3.6
KRVZ	**Karewarewa**	**3.98**	**52**	P	Pn	09 50 07.5	+2.7
HIZ	**Hauiti**	**3.98**	**39**	Pn	Pn	09 50 04.4	-0.3
HIZ	**Hauiti**	**3.98**	**39**	P	Pn	09 50 04.6	-0.2
BHHZ	**Black Hill Sta**	**4.00**	**59**	P	Pn	09 50 05.7	+0.6
KATZ	**Kakaramea**	**4.09**	**51**	P	Pn	09 50 09.4	+3.1
BKZ	**Black Stump Fm**	**4.46**	**58**	P	Pn	09 50 12.9	+1.5
MLZ	**Mavora Lakes**	**4.52**	**213**	Pn	Pn	09 50 11.2	-0.9
MLZ	**Mavora Lakes**	**4.52**	**213**	P	Pn	09 50 11.3	-0.8
TUZ	**Tuapeka**	**4.55**	**198**	Pn	Pn	09 50 11.3	-1.1
TUZ	**Tuapeka**	**4.55**	**198**	P	Pn	09 50 11.4	-1.1
WHZ	**Wether Hill Ro**	**5.02**	**211**	P	Pn	09 50 17.3	-1.6
SYZ	**Scrubby Hill**	**5.21**	**199**	P	Pn	09 50 20.2	-1.4
OUZ	**Omahuta**	**6.59**	**14**	Pn	Pn	09 50 41.0	+0.4
EGRO	**El Granado**	**4.06**	**80**	Pn	**Pn**	**09 50 33.3**	**+1.3**
	0.8nm,0.1s,SNR=5.0						
EGRO				Sn	**Sn**	**09 51 18.4**	**-1.2**
	1.3nm,0.1s,SNR=7.9						
EGRO	**El Granado**	**4.06**	**80**	Pn	**Pn**	**09 50 33.3**	**+1.3**
	0.8nm,0.1s,SNR=5.0						
EGRO				Sn	**Sn**	**09 51 18.4**	**-1.2**
	1.3nm,0.1s,SNR=7.9						
PESTR	**Estremoz**	**4.36**	**62**	*e*Pn	**Pn**	**09 50 37.5**	**+1.4**
PESTR				*e*Sn	**Sn**	**09 51 26.8**	**-0.1**
PESTR	**Estremoz**	**4.36**	**62**	*e*Pn	**Pn**	**09 50 37.5**	**+1.4**
PESTR				*e*Sn	**Sn**	**09 51 26.8**	**-0.1**
PBAR	**Barrancos**	**4.53**	**72**	*e*Pn	**Pn**	**09 50 39.9**	**+1.5**
PBAR				*e*Sn	**Sn**	**09 51 29.5**	**-1.6**
PBAR				A	A	09 51 37.0	
	4.1nm,1.0s						
PBAR	**Barrancos**	**4.53**	**72**	Pn	**Pn**	**09 50 39.9**	**+1.5**
PBAR				Sn	**Sn**	**09 51 29.5**	**-1.6**
	4.1nm,1.0s						
PBAR	**Barrancos**	**4.53**	**72**	Pn	**Pn**	**09 50 39.9**	**+1.5**
PBAR				*e*Sn	**Sn**	**09 51 29.5**	**-1.6**
	4.1nm,1.0s						
EBAD	**Badajoz**	**4.73**	**65**	Pn	**Pn**	**09 50 42.1**	**+1.0**
	1.2nm,0.1s,SNR=18						
EBAD				Sn	**Sn**	**09 51 34.9**	**-1.1**
	0.6nm,0.1s,SNR=7.9						
EBAD	**Badajoz**	**4.73**	**65**	Pn	**Pn**	**09 50 42.1**	**+1.0**
	1.2nm,0.1s,SNR=18						
EBAD				Sn	**Sn**	**09 51 34.9**	**-1.1**
	0.6nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**4.73**	**78**	Pn	**Pn**	**09 50 41.8**	**+0.6**
	0.4nm,0.1s,SNR=4.0						
EMIN				Sn	**Sn**	**09 51 34.2**	**-2.0**
	0.5nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**4.73**	**78**	Pn	**Pn**	**09 50 41.8**	**+0.6**
	0.4nm,0.1s,SNR=4.0						
EMIN				Sn	**Sn**	**09 51 34.2**	**-2.0**
	0.5nm,0.1s,SNR=7.9						
PMRV	**Marv??o**	**4.75**	**57**	*e*Pn	**Pn**	**09 50 42.7**	**+1.2**
PMRV				*e*Sn	**Sn**	**09 51 36.1**	**-0.6**
PMRV				A	A	09 51 38.4	
	2.4nm,0.7s						
PMRV	**Marv??o**	**4.75**	**57**	Pn	**Pn**	**09 50 42.7**	**+1.2**
PMRV				Sn	**Sn**	**09 51 36.1**	**-0.6**
	2.4nm,0.7s						
PMRV	**Marv??o**	**4.75**	**57**	Pn	**Pn**	**09 50 42.7**	**+1.2**
PMRV				*e*Sn	**Sn**	**09 51 36.1**	**-0.6**
	2.4nm,0.7s						
ECAB	**El Cabril**	**5.76**	**76**	Pn	**Pn**	**09 50 56.4**	**+1.0**
	0.8nm,0.2s,SNR=7.9						
ECAB				Sn	**Sn**	**09 51 59.1**	**-2.4**
	0.1nm,0.1s,SNR=7.9						
ECAB	**El Cabril**	**5.76**	**76**	Pn	**Pn**	**09 50 56.4**	**+1.0**
	0.8nm,0.2s,SNR=7.9						
ECAB				Sn	**Sn**	**09 51 59.1**	**-2.4**
	0.1nm,0.1s,SNR=7.9						
ELOB	**Lobios**	**6.03**	**34**	Pn	**Pn**	**09 51 00.8**	**+1.7**
	0.4nm,0.1s,SNR=4.0						
ELOB				Sn	**Sn**	**09 52 04.9**	**-3.4**
	0.7nm,0.1s,SNR=7.9						
ELOB	**Lobios**	**6.03**	**34**	Pn	**Pn**	**09 51 00.8**	**+1.7**
	0.4nm,0.1s,SNR=4.0						
EADA	**Adamuz**	**6.43**	**76**	Pn	**Pn**	**09 51 05.2**	**+0.6**
	0.5nm,0.2s,SNR=4.0						
EADA				Sn	**Sn**	**09 52 14.8**	**-3.3**
	1.1nm,0.2s,SNR=4.0						
EADA	**Adamuz**	**6.43**	**76**	Pn	**Pn**	**09 51 05.2**	**+0.6**
	0.5nm,0.2s,SNR=4.0						
EADA				Sn	**Sn**	**09 52 14.8**	**-3.3**
	1.1nm,0.2s,SNR=4.0						
EMAZ	**Mazaricos**	**6.61**	**23**	Sn	**Sn**	**09 52 18.5**	**-4.0**
	6.3nm,0.2s,SNR=7.9						
EAGO	**Agolada(Pontev**	**6.79**	**29**	Sn	**Sn**	**09 52 22.9**	**-4.1**
	0.9nm,0.1s,SNR=7.9						

MDD ***12*** *09:49:31.6±2.7, 36°.79N×12°.71W, h80km, mb3.7/1, Error ellipse: s-maj=24.2km s-min=20.3km az=20.0, PRXIMO*
INMG ***12*** *09:49:32.0±1.1, 36°.61N×12°.87W, h10km, ML2.3, Error ellipse: s-maj=7.3km s-min=6.4km az=144.0*
CSEM ***12*** *09:49:33.1±0.4, 36°.89N×12°.29W, h10km, ML2.9/12, Error ellipse: s-maj=8.8km s-min=6.3km az=178.0*
ISC 12 09:49:29.8±3.7, 36°.9N±0°.1×12°.5W±0°.2, h10km, n45, σ1°50/78, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFVI	**Vila Bisbo**	**2.96**	**85**	*e*Pn	**Pn**	**09 50 17.4**	**+0.6**
PFVI				*e*Sn	**Sn**	**09 50 51.7**	**-0.7**
PFVI	**Vila Bisbo**	**2.96**	**85**	*e*Pn	**Pn**	**09 50 17.4**	**+0.6**
PFVI				*e*Sn	**Sn**	**09 50 51.7**	**-0.7**
PTEO	**Sao Teotonio**	**3.09**	**77**	*e*Sn	**Sn**	**09 50 55.3**	**-0.3**
PTEO				A	A	09 51 00.8	
	11nm,0.8s						
PTEO	**Sao Teotonio**	**3.09**	**77**	Sn	**Sn**	**09 50 55.3**	**-0.3**
	5.4nm,0.8s						
PTEO	**Sao Teotonio**	**3.09**	**77**	*e*Sn	**Sn**	**09 50 55.3**	**-0.3**
	11nm,0.8s						
MORF	**Marmelete**	**3.11**	**82**	*e*Sn	**Sn**	**09 50 55.9**	**-0.4**
MORF				A	A	09 50 57.5	
	6.3nm,0.3s						
MORF	**Marmelete**	**3.11**	**82**	Sn	**Sn**	**09 50 55.9**	**-0.4**
	6.3nm,0.3s						
MORF	**Marmelete**	**3.11**	**82**	*e*Sn	**Sn**	**09 50 55.9**	**-0.4**
	6.3nm,0.3s						
PMAFR	**Mafra**	**3.27**	**50**	*e*Pn	**Pn**	**09 50 23.1**	**+2.0**
PMAFR				*e*Sn	**Sn**	**09 51 01.9**	**+1.8**
PMAFR	**Mafra**	**3.27**	**50**	*e*Pn	**Pn**	**09 50 23.1**	**+2.0**
PMAFR				*e*Sn	**Sn**	**09 51 01.9**	**+1.8**
PNCL	**Nicolau / Gran**	**3.39**	**68**	*e*Pn	**Pn**	**09 50 24.0**	**+1.3**
PNCL				*e*Sn	**Sn**	**09 51 03.4**	**+0.5**
PNCL				A	A	09 51 06.3	
	4.7nm,0.7s						
PNCL	**Nicolau / Gran**	**3.39**	**68**	*e*Pn	**Pn**	**09 50 24.0**	**+1.3**
PNCL				*e*Sn	**Sn**	**09 51 03.4**	**+0.5**
	4.7nm,0.7s						
PCVE	**Castro Verde**	**3.64**	**77**	*e*Pn	**Pn**	**09 50 27.8**	**+1.6**
PCVE				*e*Sn	**Sn**	**09 51 08.2**	**-1.0**
PCVE	**Castro Verde**	**3.64**	**77**	Pn	**Pn**	**09 50 27.8**	**+1.6**
PCVE				Sn	**Sn**	**09 51 08.2**	**-1.0**
PCVE	**Castro Verde**	**3.64**	**77**	Pn	**Pn**	**09 50 27.8**	**+1.6**
PCVE				Sn	**Sn**	**09 51 08.2**	**-1.0**
PBEJ	**Beja**	**3.86**	**72**	*e*Sn	**Sn**	**09 51 14.8**	**+0.1**
PBEJ	**Beja**	**3.86**	**72**	Sn	**Sn**	**09 51 14.8**	**+0.1**
PBEJ	**Beja**	**3.86**	**72**	Sn	**Sn**	**09 51 14.8**	**+0.1**
PVAQ	**Vaqueiros**	**3.86**	**81**	*e*Pn	**Pn**	**09 50 30.4**	**+1.1**
PVAQ				*e*Sn	**Sn**	**09 51 14.2**	**-0.5**
PVAQ				A	A	09 51 17.6	
	3.3nm,0.2s						
PVAQ	**Vaqueiros**	**3.86**	**81**	Pn	**Pn**	**09 50 30.4**	**+1.

ILAR	**Eielson Array**	**84.90**	**23**	P		P		10 13 27.9	0.0
	0.6nm,0.9s,baz=258,slow=5.0,SNR=5.1								

*ISCJB **12** 10:01:01.2±0.6, 1°37'N±0°07'×91°98'E±0°06, h10km, mb4.2/12, Error ellipse: s-maj=11.3km s-min=7.7km az=25.3*
*IDC **12** 10:01:01.9±0.9, 1°38'N×91°99'E, h0km, mb3.8/9, mb1 3.9/11, mb1mx3.7/74, mbtmp3.8/11, ML3.7/2, Error ellipse: s-maj=25.9km s-min=19.3km az=48.0*
*NEIC **12** 10:01:03.2±0.4, 1°37'N×91°97'E, h10km, mb4.2/7, Error ellipse: s-maj=8.6km s-min=5.7km az=206.0*
*DJA **12** 10:01:03.0±6.2, 1°N±22'×9°2'E±4'9, h10km, M4.7/5, mb4.9/5, mB5.3/3, MLv4.7/3, Mw(mB)4.8/3*
ISC 12 10:01:02.8±0.8, **1°4N**±0°1×**91°99E**±0°07, **h10**km, **n48, s17/43, mb4.1**/12, **North Indian Ocean**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
BSI	**Banda Aceh**	**5.26**	**39**	P		**Pn**	**10 02 21.8**	**+0.2**
MLSI	**Meulaboh, Aceh**	**5.27**	**57**	P		**Pn**	**10 02 24.0**	**+2.4**
TPTI		**5.52**	**70**	P		**Pn**	**10 02 24.6**	**-0.5**
GSI	**Gunungsitoli**	**5.59**	**91**	P		**Pn**	**10 02 25.9**	**-0.1**
GSI	**Gunungsitoli**	**5.59**	**91**	*e*Pn		**Pn**	**10 02 25.9**	**-0.1**
PSI	**Prapat**	**7.08**	**78**	Pn		**Pn**	**10 02 46.4**	**-0.2**
	1.0nm,0.3s,baz=248,slow=11,SNR=3.7							
PSI				Sn		Sn	10 03 57.4	-10
	1.1nm,0.3s,baz=248,slow=19,SNR=2.0							
PSI	**Prapat**	**7.08**	**78**	*e*Pn		**Pn**	**10 02 46.4**	**-0.2**
PSI				Sn		Sn	10 03 57.4	-10
PSI				*e*Sn		**Sn**	**10 04 03.8**	**-3.4**
MNSI	**Mandailing Nat**	**7.61**	**94**	P		**Pn**	**10 02 55.1**	**+1.2**
KULM	**Kulim**	**9.48**	**66**	*e*Pn		**Pn**	**10 03 19.9**	**+0.3**
PALK	**Pallekele**	**12.68**	**298**	Pn		**Pn**	**10 04 00.7**	**-2.7**
	0.6nm,0.3s,baz=112,slow=12,SNR=3.3							
PALK				Sn		Sn	10 06 10.1	-15
	2.1nm,0.3s,baz=296,slow=4.2,SNR=6.8							
PALK	**Pallekele**	**12.68**	**298**	*e*Pn		**Pn**	**10 04 02.5**	**-0.9**
PALK				*e*Sn		Sn	10 06 14.0	-11
CM01	**Chiang Mai Arr**	**18.27**	**22**	*e*Pn		**Pn**	**10 05 17.1**	**+0.5**
CMAR	**Chiang Mai Arr**	**18.30**	**21**	P		**Pn**	**10 05 16.7**	**-0.3**
	0.1nm,0.3s,baz=218,slow=13,SNR=9.0							
CHTO	**Chiang Mai**	**18.63**	**21**	*e*P		**Pn**	**10 05 21.6**	**+0.6**
	4.7nm,1.1s							
SBUM	**Sibu**	**20.25**	**87**	*e*P		Pn	10 05 40.2	-0.2
	14nm,0.9s							
H08S2	**Diego Garcia H**	**21.41**	**245**	T		T	10 27 42.1	
	baz=65,slow=75,SNR=16							
H08S3	**Diego Garcia H**	**21.41**	**245**	T		T	10 27 40.3	
	baz=65,slow=75,SNR=22							
H08S1	**Diego Garcia H**	**21.42**	**245**	T		T	10 27 41.5	
	baz=65,slow=75,SNR=23							
H01W3	**Cape Leeuwin H**	**41.61**	**152**	T		T	10 53 18.1	
	baz=327,slow=74,SNR=5.5							
H01W2	**Cape Leeuwin H**	**41.62**	**152**	T		T	10 53 19.1	
	baz=327,slow=74,SNR=5.8							
H01W1	**Cape Leeuwin H**	**41.62**	**152**	T		T	10 53 19.0	
	baz=327,slow=74,SNR=4.5							
MK01	**Makanchi Array**	**46.00**	**351**	*e*P		**P**	**10 09 26.3**	**0.0**
MK31	**Makanchi Array**	**46.03**	**351**	*e*P		**P**	**10 09 27.0**	**+0.5**
MK32	**Makanchi Array**	**46.03**	**351**	*e*P		**P**	**10 09 27.0**	**+0.5**
MKAR	**Makanchi Array**	**46.03**	**351**	P		**P**	**10 09 27.0**	**+0.5**
	1.7nm,0.9s,baz=161,slow=8.6,SNR=13							
MKAR	**Makanchi Array**	**46.03**	**351**	*e*P		**P**	**10 09 27.0**	**+0.5**
	10nm,0.6s							
WR1	**Warramunga Arr**	**46.61**	**119**	*e*P		**P**	**10 09 31.5**	**0.0**
	5.5nm,1.1s							
WRA	**Warramunga Arr**	**46.61**	**119**	P		**P**	**10 09 31.5**	**0.0**
	0.8nm,0.7s,baz=298,slow=8.6,SNR=6.4							
AS31	**Alice Springs**	**47.73**	**124**	*e*P		**P**	**10 09 41.0**	**+0.7**
	0.4nm,1.0s							
ASAR	**Alice Springs**	**47.73**	**124**	P		**P**	**10 09 41.0**	**+0.7**
	0.2nm,0.8s,baz=294,slow=7.3,SNR=3.1							
ASAR				PcP		**PcP**	**10 11 10.6**	**+1.0**
	0.4nm,0.8s,baz=297,slow=3.0,SNR=4.2							
SONA0	**Songino Array**	**47.94**	**13**	*e*P		**P**	**10 09 43.0**	**+1.4**
SONM	**Songino Array**	**47.94**	**13**	P		**P**	**10 09 43.0**	**+1.4**
	2.2nm,0.7s,baz=194,slow=8.6,SNR=12							
SONA1	**Songino Array**	**47.95**	**13**	*e*P		**P**	**10 09 42.8**	**+1.1**
KS15	**Wonju Array Si**	**48.78**	**38**	*e*P		**P**	**10 09 48.4**	**+0.3**
KSAR	**Wonju Array Be**	**48.78**	**38**	P		**P**	**10 09 48.7**	**+0.6**
KSRS	**Korea Array**	**48.81**	**38**	P		**P**	**10 09 48.7**	**+0.4**
	0.5nm,0.4s,baz=262,slow=8.4,SNR=3.0							
KURBB	**Kurchatov Arra**	**50.38**	**349**	P		**P**	**10 10 00.5**	**+0.4**
	0.9nm,0.8s,baz=171,slow=7.6,SNR=8.8							
KURK	**Kurchatov**	**50.46**	**349**	*e*P		**P**	**10 10 00.5**	**-0.1**
ZALV	**Zalesovo Beam**	**52.74**	**355**	P		**P**	**10 10 17.1**	**-0.6**
	1.0nm,0.4s,baz=180,slow=9.5,SNR=4.8							
ZALV	**Zalesovo Beam**	**52.74**	**355**	*e*P		**P**	**10 10 17.9**	**+0.3**
ZAA1	**Zalesovo Array**	**52.74**	**355**	*e*P		**P**	**10 10 17.1**	**-0.6**
KMBO	**Kilima Mbogo**	**54.78**	**268**	P		**P**	**10 10 34.1**	**+0.4**
	0.9nm,0.4s,baz=61,slow=19,SNR=3.7							
KMBO	**Kilima Mbogo**	**54.78**	**268**	*e*P		**P**	**10 10 33.8**	**+0.1**
	1.4nm,0.6s							
KWP	**Kalwaria Pacla**	**75.64**	**321**	*e*P		**P**	**10 12 44.6**	**-3.5**
	270nm,0.6s							
GEC2	**GERESS Array S**	**81.26**	**319**	*e*P		**P**	**10 13 20.8**	**+1.5**
	2.1nm,0.6s							
GERES	**GERESS Array B**	**81.26**	**319**	P		**P**	**10 13 20.8**	**+1.5**
	0.6nm,0.7s,baz=104,slow=2.8,SNR=4.3							
LTX	**Lajitas**	**145.99**	**25**	*e*PKPdf		**PKPab**	**10 20 44.1**	**0.0**
TXAR	**Lajitas Array**	**145.99**	**25**	PKPbc		**PKPab**	**10 20 44.1**	**0.0**
	0.3nm,0.8s,baz=316,slow=2.5,SNR=3.2							

*ATA **12** 10:07:43.5±1.1, 38°98N×43°61'E, h24km±6km, ML2.8, MW3.0*
*ISK **12** 10:07:44.1, 38°97N×43°56'E, h15km, ML2.5/5*
*CSEM **12** 10:07:44.7±0.3, 39°01N×43°54'E, h10km, ML2.6, Error ellipse: s-maj=6.9km s-min=5.3km az=78.0*
*DDA **12** 10:07:44.2, 38°98N×43°57'E, h14km, Ml2.6*
*ISCJB **12** 10:07:45.1±0.5, 39°00N±0°02×43°59'E±0°04, h11km±4km, Error ellipse: s-maj=5.5km s-min=3.9km az=17.4*
ISC 12 10:07:44.3±0.8, **38°99N**±0°02×**43°57E**±0°03, **h13**km±4km, **n37**, σ0**96**/54, **1D, Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
VMUR	**Van-Muradiye**	**0.00**	**333**	*i* P		**Pg**	**10 07 46.7**	**-0.2**
VMUR				*i* S		**Sg**	**10 07 49.0**	**+0.4**
VMUR	**Van-Muradiye**	**0.00**	**333**	P		**Pg**	**10 07 46.7**	**-0.2**
VMUR				S		**Sg**	**10 07 49.0**	**+0.4**
ERCV	**ERCIS-VAN**	**0.19**	**280**	PG		**Pg**	**10 07 48.2**	**-0.5**
ERCV				SG		**Sg**	**10 07 52.5**	**+0.8**
ERCV	**ERCIS-VAN**	**0.19**	**280**	*e*Pg		**Pg**	**10 07 48.2**	**-0.5**
ERCV				*e*Sg		**Sg**	**10 07 52.5**	**+0.8**
CLDR	**Caldiran**	**0.31**	**60**	PG		**Pg**	**10 07 50.9**	**+0.1**
CLDR				SG		**Sb**	**10 07 56.7**	**-0.3**
CLDR	**Caldiran**	**0.31**	**60**	*i* P		**Pg**	**10 07 50.9**	**+0.1**
CLDR	**Caldiran**	**0.31**	**60**	P		**Pg**	**10 07 50.9**	**+0.1**
CLDR				*e*Sg		**Sb**	**10 07 56.7**	**-0.3**
VANB	**Van**	**0.42**	**200**	PG		**Pb**	**10 07 53.8**	**+0.2**
VANB				*e*Sg		**Sn**	**10 08 01.6**	**-2.2**
VANB	**Van**	**0.42**	**200**	*e*Pg		**Pb**	**10 07 53.8**	**+0.2**
VANB				*e*Sg		**Sn**	**10 08 01.6**	**-2.2**
TVAN	**Van**	**0.48**	**196**	*i* P		**Pg**	**10 07 54.0**	**+0.2**
TVAN				*i* S		**Sb**	**10 08 02.4**	**+0.7**
TVAN	**Van**	**0.48**	**196**	P		**Pg**	**10 07 54.0**	**+0.2**
TVAN				S		**Sb**	**10 08 02.4**	**+0.7**
DYDN	**Diyadin**	**0.56**	**9**	*e*P		**Pg**	**10 07 55.2**	**-0.2**
DYDN				⇓*e*S		**Sb**	**10 08 05.6**	**+1.3**
DYDN				IAML			10 08 06.9	
	comp=Z,46nm,0.3s							
ADCV	**BITLIS_Adilcev**	**0.69**	**255**	*i* P		**Pg**	**10 07 57.6**	**-0.1**
ADCV	**BITLIS_Adilcev**	**0.69**	**255**	P		**Pg**	**10 07 57.6**	**-0.1**
TUTA	**Tutak**	**0.72**	**305**	*i* P		**Pg**	**10 07 58.2**	**-0.1**
TUTA				*e*S		**Sn**	**10 08 10.0**	**-1.5**
TUTA				IAML			10 08 10.8	
	comp=Z,64nm,0.4s							
TUTA	**Tutak**	**0.72**	**305**	*i* P		**Pg**	**10 07 58.3**	**-0.1**
TUTA	**Tutak**	**0.72**	**305**	P		**Pg**	**10 07 58.3**	**-0.1**
AGRB	**Hanur-Agry**	**0.74**	**323**	PG		**Pg**	**10 07 58.9**	**+0.1**
AGRB				SG		**Sn**	**10 08 10.7**	**-1.2**
AGRB	**Hanur-Agry**	**0.74**	**323**	*e*Pg		**Pg**	**10 07 58.9**	**+0.1**
AGRB				*e*Sg		**Sn**	**10 08 10.7**	**-1.2**
GEVA	**Gevas**	**0.79**	**211**	*e*P		**Pg**	**10 07 58.9**	**-0.6**
GEVA				*e*S		**Sn**	**10 08 12.1**	**-0.9**
GEVA				IAML			10 08 13.1	
	comp=Z,25nm,0.4s							
GEVA	**Gevas**	**0.79**	**211**	*i* P		**Pg**	**10 07 59.1**	**-0.5**
GEVA	**Gevas**	**0.79**	**211**	P		**Pg**	**10 07 59.1**	**-0.5**
IGDI	**IGDIR**	**0.96**	**24**	*e*P		**Pb**	**10 08 02.4**	**-0.6**
IGDI				IAML			10 08 23.1	
	comp=Z,5.6nm,0.6s							
EKAR	**Karacoban**	**1.20**	**283**	*e*P		**Pb**	**10 08 07.1**	**0.0**
EKAR				*e*S		**Sg**	**10 08 26.7**	**+3.4**
EKAR				IAML			10 08 39.6	
	comp=Z,12nm,0.6s							
EKAR	**Karacoban**	**1.20**	**283**	*i* P		**Pn**	**10 08 06.8**	**-0.3**
EKAR	**Karacoban**	**1.20**	**283**	P		**Pn**	**10 08 06.8**	**-0.3**
EATA	**Eleskirt**	**1.21**	**317**	*e*P		**Pg**	**10 08 07.5**	**-0.2**
EATA				*e*S		**Sg**	**10 08 26.3**	**+2.8**
EATA				IAML			10 08 30.6	
	comp=Z,3.5nm,0.5s							
EATA	**Eleskirt**	**1.21**	**317**	*i* P		**Pg**	**10 08 07.7**	**0.0**
EATA	**Eleskirt**	**1.21**	**317**	P		**Pg**	**10 08 07.7**	**0.0**
GURO	**Guroymak-BITLI**	**1.28**	**251**	PN		**Pn**	**10 08 07.5**	**-0.6**
GURO	**Guroymak-BITLI**	**1.28**	**251**	*e*Pn		**Pn**	**10 08 07.5**	**-0.6**
HAKT	**HAKKARI**	**1.43**	**176**	*i* P		**Pg**	**10 08 12.9**	**+1.1**
HAKT	**HAKKARI**	**1.43**	**176**	P		**Pg**	**10 08 12.9**	**+1.1**
SRTM	**Siirt_Merkez**	**1.63**	**233**	*i* P		**Pg**	**10 08 15.1**	**-0.6**
SRTM	**Siirt_Merkez**	**1.63**	**233**	P		**Pg**	**10 08 15.1**	**-0.6**
SIRT	**Sirnak**	**1.73**	**211**	PN		**Pn**	**10 08 14.4**	**+0.2**
SIRT	**Sirnak**	**1.73**	**211**	*e*Pn		**Pn**	**10 08 14.4**	**+0.2**

IDC 12 10:08:41.4±10.0, **4°63S×153°62E, h150**km±68km, **mb3.1**/3, **mb1 3.4**/4, **mb1mx3.1**/49, **mbtmp3.7**/4, **Error ellipse: s-maj=111.2km s-min=31.4km az=101.0, New Ireland region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.98**	**233**	P		Pn	10 10 34.3	-0.3
	4.1nm,0.3s,baz=49,slow=7.1,SNR=8.6							
PMG				S		Sn	10 12 05.2	+1.6
	2.5nm,0.3s,baz=288,slow=20,SNR=2.4							
WRA	**Warramunga Arr**	**24.18**	**229**	P		P	10 13 44.3	+0.2
	2.0nm,0.7s,baz=53,slow=10.0,SNR=15							
ASAR	**Alice Springs**	**26.83**	**223**	P		P	10 14 07.5	-0.6
	0.3nm,0.6s,baz=51,slow=8.6,SNR=4.8							
SONM	**Songino Array**	**66.62**	**327**	P		P	10 19 15.9	+0.1
	0.3nm,0.6s,baz=126,slow=7.3,SNR=2.8							
TORD	**Torodi Ar. Bea**	**151.03**	**289**	PKPbc		PKPbc	10 28 17.6	-0.1
	0.4nm,0.8s,baz=98,slow=4.4,SNR=2.6							

*IDC **12** 10:12:17.9±0.8, 2°38N×93°12E, h0km, mb3.8/13, mb1 4.0/16, mb1mx3.8/66, mbtmp3.8/16, ML3.8/3, Error ellipse: s-maj=27.9km s-min=14.8km az=41.0*
*DJA **12** 10:12:23.1±2.5, 2°N±6°×9°3E±1°2, h30km±30km, M4.6/6, mb5.0/6, mB5.3/4, MLv4.4/1, Mw(mB)4.8/4*
ISC 12 10:12:20.9±0.7, **2°37N**±0°09×**93°22E**±0°08, **h21**km, **n23, s47/24, mb3.9**/13, **Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MLSI	**Meulaboh, Aceh**	**3.69**	**59**	P		**Pn**	**10 13 20.2**	**+3.4**
BSI	**Banda Aceh**	**3.73**	**34**	P		**Pn**	**10 13 20.5**	**+3.2**
TPTI		**4.05**	**77**	P		**Pn**	**10 13 24.5**	**+2.8**
GSI	**Gunungsitoli**	**4.48**	**104**	P		**Pn**	**10 13 30.4**	**+2.8**
PBSI	**Pulau Batu**	**5.60**	**115**	P		**Pn**	**10 13 44.6**	**+1.6**
	619nm,0.7s,8μm							
PSI	**Prapat**	**5.71**	**86**	Pn		**Pn**	**10 13 47.8**	**+3.1**
	4.0nm,0.3s,baz=287,slow=6.0,SNR=14							
PSI				Sn		**Sn**	**10 14 42.6**	**-7.1**
	baz=222,slow=15,SNR=1.5							
MNSI	**Mandailing Nat**	**6.55**	**104**	P		**Pn**	**10 13 59.6**	**+3.6**
	119nm,0.6s,3μm							
PPSI	**Pulau Pagai**	**8.49**	**127**	P		**Pn**	**10 14 24.3**	**+1.6**
PALK	**Pallekele**	**13.39**	**292**	Pn		**Pn**	**10 15 27.7**	**-2.2**
	0.7nm,0.3s,baz=114,slow=15,SNR=3.7							
PALK				Sn		Sn	10 17 40.4	-18
	2.2nm,0.3s,baz=290,slow=0.8,SNR=6.7							
CMAR	**Chiang Mai Arr**	**16.94**	**19**	Pn		**P**	**10 16 18.2**	**-0.4**
	0.1nm,0.3s,baz=214,slow=15,SNR=9.0							
FITZ	**Fitzroy Crossi**	**37.86**	**124**	P		**P**	**10 19 37.1**	**+0.6**
	2.7nm,0.7s,baz=291,slow=8.6,SNR=4.9							
MKAR	**Makanchi Array**	**45.26**	**349**	P		**P**	**10 20 36.6**	**-0.3**
	1.0nm,0.6s,baz=163,slow=6.0,SNR=9.5							
WRA	**Warramunga Arr**	**46.04**	**121**	P		**P**	**10 20 44.6**	**+1.2**
	1.8nm,0.8s,baz=300,slow=8.7,SNR=12							
SONM	**Songino Array**	**46.70**	**12**	P		**P**	**10 20 47.8**	**-0.6**
	0.3nm,0.4s,baz=197,slow=7.5,SNR=2.8							
ASAR	**Alice Springs**	**47.29**	**126**	P		**P**	**10 20 53.6**	**+0.3**
	0.4nm,0.8s,baz=300,slow=7.5,SNR=4.4							
GEYT	**Alibeck**	**47.81**	**322**	P		**P**	**10 20 57.7**	**+0.5**
	1.5nm,0.4s,baz=132,slow=11,SNR=3.6							
KURBB	**Kurchatov Arra**	**49.66**	**348**	P		**P**	**10 21 09.4**	**-1.6**
	0.5nm,0.6s,baz=170,slow=6.9,SNR=3.2							
ZALV	**Zalesovo Beam**	**51.87**	**354**	P		**P**	**10 21 29.0**	**+1.4**
	0.9nm,0.3s,baz=191,slow=5.9,SNR=3.2							
BVAR	**Borovoye Array**	**53.91**	**343**	P		**P**	**10 21 43.1**	**+0.4**
	0.4nm,0.5s,baz=240,slow=35,SNR=3.3							
KMBO	**Kilima Mbogo**	**56.06**	**267**	P		**P**	**10 21 59.7**	**+0.4**
	0.7nm,0.3s,baz=120,slow=8.1,SNR=3.9							
KBZ	**Khabaz**	**60.61**	**320**	P		**P**	**10 22 29.6**	**-0.6**
	1.1nm,0.6s,baz=131,slow=11,SNR=3.1							
BRTR	**Keskin Array B**	**65.40**	**313**	P		**P**	**10 23 02.3**	**0.0**
	0.5nm,0.8s,baz=107,slow=6.6,SNR=4.0							
GERES	**GERESS Array B**	**81.32**	**319**	P		**P**	**10 24 36.0**	**0.0**
	0.2nm,0.3s,baz=80,slow=8.1,SNR=5.6							

IDC 12 10:17:19.8±2.9, 1°**99N×89°52E, h0**km, **mb3.4**/4, **mb1 3.7**/5, **mb1mx3.3**/66, **mbtmp3.5**/5, **ML3.6**/1, **Error ellipse: s-maj=80.4km s-min=28.9km az=58.0, North Indian Ocean**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PSI	**Prapat**	**9.43**	**85**	Pn		Pn	10 19 38.1	+1.1
	0.6nm,0.3s,baz=160,slow=12,SNR=1.7							
MKAR	**Makanchi Array**	**45.07**	**353**	P		P	10 25 38.0	+0.5
	0.3nm,0.7s,baz=186,slow=12,SNR=2.2							
SONM	**Songino Array**	**47.94**	**15**	P		P	10 25 59.5	-0.7
	1.1nm,0.7s,baz=192,slow=9.9,SNR=5.7							
WRA	**Warramunga Arr**	**49.06**	**119**	P		P	10 26 09.3	+0.2
	0.5nm,0.5s,baz=296,slow=8.7,SNR=2.8							
ASAR	**Alice Springs**	**50.12**	**123**	P		P	10 26 16.5	-0.7
	0.3nm,0.8s,baz=301,slow=7.5,SNR=1.6							

*ISCJB **12** 10:18:54.7±0.3, 2°68N±0°05×92°47E±0°04, h10km, mb4.4/36, MS4.3/1, Error ellipse: s-maj=7.6km s-min=4.4km az=34.0*
*IDC **12** 10:18:55.0±0.6, 2°70N×92°43E, h0km, mb4.2/18, mb1 4.3/21, mb1mx4.1/67, mbtmp4.2/21, ML4.3/3, Error ellipse: s-maj=23.9km s-min=12.4km az=47.0*
*NEIC **12** 10:18:56.5±0.2, 2°71N×92°46E, h10km, mb4.7/16, Error ellipse: s-maj=6.1km s-min=3.9km az=30.0*
*DJA **12** 10:18:59.8±2.9, 3°N±6°×9°3E±2°6, h10km, M5.2/9, mb5.0/9, mB5.8/4, MLv5.2/7, Mw(mB)5.4/4*
ISC 12 10:18:56.9±0.5, **2°71N**±0°07×**92°45E**±0°06, **h10**km, **n95,** σ1**915**/94, **mb4.5**/36, **1D, Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
BSI	**Banda Aceh**	**3.96**	**46**	P		**Pn**	**10 19 57.8**	**0.0**
LHMI	**Lhok Sumawe**	**5.14**	**61**	*e*Pn		**Pn**	**10 20 13.7**	**-0.2**
GSI	**Gunungsitoli**	**5.31**	**105**	P		**Pn**	**10 20 15.7**	**-0.7**
	180nm,0.8s,0.7nm							
GSI	**Gunungsitoli**	**5.31**	**105**	*e*Pn		**Pn**	**10 20 16.0**	**-0.4**
KCSI	**Kotacane, Aceh**	**5.38**	**81**	P		**Pn**	**10 20 17.1**	**-0.2**
PBSI	**Pulau Batu**	**6.45**	**115**	P		**Pn**	**10 20 31.4**	**-0.6**
	322nm,0.5s							
PSI	**Prapat**	**6.47**	**89**	Pn		**Pn**	**10 20 32.5**	**+0.1**
	4.2nm,0.3s,baz=298,slow=7.9,SNR=21							
PSI				Sn		**Sn**	**10 21 43.6**	**-2.8**
	4.9nm,0.3s,baz=79,slow=16,SNR=4.4							
MNSI	**Mandailing Nat**	**7.38**	**105**	P		**Pn**	**10 20 45.5**	**+0.7**
	117nm,0.6s,3μm							
SISI	**Saibi**	**7.76**	**121**	P		**Pn**	**10 20 50.8**	**+0.8**
	57nm,0.9s							
KULM	**Kulim**	**8.57**	**72**	*e*Pn		**Pn**	**10 21 00.8**	**-0.4**
IPM	**Ipoh**	**8.74**	**78**	*e*Pn		**Pn**	**10 21 02.8**	**-0.6**
PDSI	**Padang**	**8.78**	**114**	P		**Pn**	**10 21 04.5**	**+0.4**
PPSI	**Pulau Pagai**	**9.31**	**126**	P		**Pn**	**10 21 12.2**	**+0.9**
PALK	**Pallekele**	**12.54**	**292**	Pn		**Pn**	**10 21 53.8**	**-1.9**
	1.9nm,0.3s,baz=116,slow=14,SNR=8.6							
PALK				Sn		Sn	10 24 02.6	-13
	1.8nm,0.3s,baz=297,slow=6.4,SNR=4.4							
PALK	**Pallekele**	**12.54**	**292**	*e*Pn		**Pn**	**10 21 54.4**	**-1.3**
PALK				*e*Sn		Sn	10 24 05.2	-10

CM01	**Chiang Mai Arr**	**16.86**	**22**	*e*Pn		**Pn**	**10 22 52.9**	**-0.3**
CM31	**Chiang Mai Arr**	**16.89**	**22**	*e*Pn		**Pn**	**10 22 52.4**	**-1.2**
CMAR	**Chiang Mai Arr**	**16.89**	**22**	Pn		**Pn**	**10 22 52.4**	**-1.2**
	0.5nm,0.3s,baz=220,slow=14,SNR=5.4							
CHTO	**Chiang Mai**	**17.22**	**21**	*e*Pn		**Pn**	**10 22 57.0**	**-0.8**
	7.8nm,1.0s							
SBUM	**Sibu**	**19.75**	**90**	*e*P		**P**	**10 23 26.6**	**-0.7**
	10nm,0.9s							
BOK	**Bokaro**	**21.90**	**344**	*ex*		**P**	**10 23 49.2**	**-1.2**
H08S2	**Diego Garcia H**	**22.41**	**243**	T		T	10 45 44.2	
	baz=59,slow=74,SNR=6.0							
H08S3	**Diego Garcia H**	**22.41**	**243**	T		T	10 45 45.3	
	baz=59,slow=74,SNR=4.5							
H08S1	**Diego Carcia H**	**22.43**	**243**	T		T	10 45 49.3	
	baz=59,slow=74,SNR=4.7							
SHL	**Shillong**	**22.73**	**359**	*e*P		**P**	**10 23 59.0**	**-0.4**
	12nm,1.0s							
KMI	**Kunming**	**24.39**	**23**	P		**P**	**10 24 21.2**	**+5.4**
KMI				pmax		pmax		
	comp=Z,19nm,1.4s							
ODAN	**Odare**	**24.50**	**349**	*e*P		**P**	**10 24 17.2**	**+0.4**
RAMN	**Ramite**	**24.74**	**347**	*e*P		**P**	**10 24 19.7**	**+0.7**
	comp=Z,51nm,0.8s							
JIRN	**Jiri**	**25.52**	**347**	*e*P		**P**	**10 24 26.4**	**+0.2**
	comp=Z,53nm,0.7s							
GUN	**Gumba**	**25.83**	**347**	*e*P		**P**	**10 24 29.3**	**+0.3**
	comp=Z,34nm,0.7s							
PYUN	**Piuthan**	**26.81**	**341**	*e*P		**P**	**10 24 40.6**	**+2.9**
CD2	**Chengdu**	**30.01**	**20**	*e*P		**P**	**10 25 06.2**	**+0.1**
CD2				pmax		pmax		
	comp=Z,10.0nm,0.5s							
XAN	**Xi'an**	**34.75**	**24**	P		P	10 25 53.4	+5.8
XAN				pP		sP	10 25 57.9	+6.0
XAN				pmax		pmax		
	comp=Z,3.0nm,0.7s							
LZH	**Lanzhou**	**34.84**	**16**	*e*P		**P**	**10 25 52.4**	**+3.9**
LZH				pP		sP	10 26 02.6	+10
LZH				sP		pP	10 26 05.8	+14
LZH				PP		**PP**	**10 27 08.0**	**+0.5**
LZH				pmax		pmax		
	comp=Z,38nm,1.2s							
LZH				pmax		pmax		
	comp=Z,820nm,5.7s							
LZH				LR		LR		
	comp=N,410nm,13.3s							
LZH				LR		LR		
	comp=E,310nm,13.5s							
LZH				LR		LR		
	comp=Z,380nm,15.3s							
NIL	**Nilore**	**35.63**	**332**	*e*P		**P**	**10 25 57.1**	**+2.0**
	comp=Z,14nm,0.6s							
NJ2	**Nanjing**	**38.32**	**38**	*e*P		**P**	**10 26 18.2**	**+0.2**
NJ2				pmax		pmax		
	comp=Z,12nm,0.5s							
FITZ	**Fitzroy Crossi**	**38.69**	**124**	P		**P**	**10 26 20.4**	**-0.9**
	comp=Z,4.8nm,0.7s,baz=301,slow=5.9,SNR=8.6							
WMQ	**Urumqi**	**41.15**	**355**	P		**P**	**10 26 41.6**	**+0.1**
WMQ				pmax		pmax		
	comp=Z,16nm,0.8s							
KDJ	**Kajisay**	**41.56**	**343**	*e*P		**P**	**10 26 46.6**	**+1.6**
	comp=Z,4.4nm,0.9s							
HHC	**Hu-ho-hao-te**	**41.70**	**22**	*e*P		**P**	**10 26 47.5**	**+1.4**
HHC				pmax		pmax		
	comp=Z,20nm,1.0s							
HHC				pmax		pmax		
	comp=Z,67nm,5.8s							
KK31	**Karatay Array**	**44.71**	**337**	*e*P		**P**	**10 27 10.0**	**-0.3**
KKAR	**Karatay Array**

s-min=1.7km az=31.6
MEX ***12*** *10:26:54.9±0.4,28°.94N×113°.22W,h15km,MD5.0*
NEIC ***12*** *10:26:55.4±0.2,28°.71N×113°.07W,h10km,mb4.9/169, MD5.0(MEX),Error ellipse: s-maj=3.6km s-min=2.2km az=216.0*
NEIC Felt at Santa Rosalia, Baja California and at Caborca and Hermosillo, Sonora.

ISC 12 10:26:55.7±0.3,**28°.89N**±0°.04×**113°.05W**±0°.04,**h10**km, **n754,**σ1ş**44**/757,**mb5.0**/130,**Baja California**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op		h m s	ISC
SRIG	**Santa Rosalia**	**1.72**	**155**	*eP*	**Pn**	**10 27 22.3**	**-3.4**
SRIG				*i* S	**Sn**	**10 27 45.1**	**-2.6**
SRIG	**Santa Rosalia**	**1.72**	**155**	*ePn*	**Pn**	**10 27 22.3**	**-3.4**
SRIG				*ePn*	**Pb**	**10 27 22.9**	**-4.4**
SRIG				*eSn*	**Sn**	**10 27 45.1**	**-2.6**
HSIG		**1.85**	**85**	*i* P	**Pn**	**10 27 24.9**	**-2.7**
HSIG				*i* S	**Sn**	**10 27 49.0**	**-1.9**
HSIG		**1.85**	**85**	*ePn*	**Pn**	**10 27 24.8**	**-2.7**
HSIG				*i* S	**Sn**	**10 27 49.0**	**-1.9**
214A	**Organ Pipe Nat** baz=184	**3.07**	**4**	P	**Pn**	**10 27 42.0**	**-2.3**
113A	**Mohawk Valley,**	**3.92**	**351**	*ePn*	**Pn**	**10 27 54.0**	**-2.0**
TUC	**Tucson** baz=209	**3.93**	**29**	P	**Pn**	**10 27 54.7**	**-1.6**
TUC				Sb	**Sg**	**10 28 59.7**	**-2.4**
TUC	**Tucson** baz=209	**3.93**	**29**	*ePn*	**Pn**	**10 27 55.5**	**-0.7**
319A	**Douglas**	**4.10**	**52**	*ePn*	**Pn**	**10 27 57.1**	**-1.5**
GLA	**Glamis**	**4.42**	**340**	*ePn*	**Pn**	**10 28 01.6**	**-1.3**
IKP	**In-Ko-Pah, Jac** baz=146	**4.58**	**326**	Pb	**Pg**	**10 28 20.0**	**-3.5**
BAR	**Barrett**	**4.90**	**321**	*ePn*	**Pn**	**10 28 13.0**	**+3.5**
LTC	**Little Chuckwa**	**4.90**	**340**	*ePg*	**Pb**	**10 28 18.5**	**-3.2**
MONP2	**Monument Peak** baz=145	**4.93**	**325**	Pb	**Pb**	**10 28 24.9**	**+2.6**
MONP2				Sb	**Sg**	**10 29 33.5**	**-0.7**
Y12C	**Blythe** baz=166	**5.01**	**346**	P	**Pn**	**10 28 10.4**	**-0.5**
Y12C	**Blythe**	**5.01**	**346**	*ePn*	**Pn**	**10 28 10.3**	**-0.7**
Y14A	**Wickenburg**	**5.04**	**0**	*ePn*	**Pn**	**10 28 10.2**	**-1.2**
BC3	**Big Chuckawall** baz=157	**5.18**	**337**	P	**Pn**	**10 28 12.4**	**-1.0**
109C	**Camp Elliot, M** baz=139	**5.29**	**320**	Pb	**Pb**	**10 28 28.5**	**+0.1**
CPE	**Camp Elliot**	**5.29**	**320**	*ePn*	**Pn**	**10 28 17.3**	**+2.4**
LPIG	**La Paz** 34nm,0.3s,baz=320,slow=4.8,SNR=22	**5.36**	**152**	Pn	**Pn**	**10 28 16.0**	**+0.1**
LPIG				Pg	**Pb**	**10 28 32.3**	**+2.8**
LPIG	19nm,0.3s,baz=169,slow=10.0,SNR=9.5			Sn	**Sn**	**10 29 15.7**	**-1.9**
LPIG	baz=184,slow=16,SNR=2.4			Lg	Lg	10 29 42.8	
PDMCI	4.7nm,0.3s,baz=208,slow=18,SNR=3.6 **Parker Dam,Lak** baz=170	**5.48**	**351**	P	**Pn**	**10 28 16.7**	**-0.7**
XPFO	**Piæon Flat**	**5.54**	**329**	*ePn*	**Pn**	**10 28 19.8**	**+1.5**
PFO	**Pinyon Flats O** baz=148	**5.54**	**329**	Pb	**Pb**	**10 28 33.8**	**+1.2**
PFO	**Pinyon Flats O**	**5.54**	**329**	*ePn*	**Pn**	**10 28 18.4**	**0.0**
IRM	**Iron Mountain** baz=161	**5.55**	**342**	P	**Pn**	**10 28 18.2**	**-0.2**
X16A	**Lo Mia Camp, P**	**5.68**	**14**	*ePn*	**Pn**	**10 28 19.7**	**-0.7**
121A	**Cookes Peak, D** baz=231	**5.81**	**50**	P	**Pn**	**10 28 21.6**	**-0.5**
DEVC	**Devers**	**5.87**	**330**	*eSn*	**Sn**	**10 29 26.0**	**-4.1**
SLBS	**Sierra La Lagu**	**5.88**	**151**	*ePn*	**Pn**	**10 28 23.6**	**+0.5**
NEE2	**Needles Airpor** baz=167	**6.01**	**348**	P	**Pn**	**10 28 24.5**	**-0.3**
X18A	**Snowflake**	**6.22**	**24**	*ePn*	**Pn**	**10 28 28.2**	**+0.5**
W13A	**Hualapai Mount**	**6.24**	**354**	*ePn*	**Pn**	**10 28 28.9**	**+0.9**
GMRC	**Granite Mounta**	**6.29**	**340**	*ePn*	**Pn**	**10 28 30.0**	**+1.3**
GMRC				*ePg*	**Pb**	**10 28 49.0**	**+3.6**
EPT	**El Paso**	**6.35**	**61**	*ePn*	**Pn**	**10 28 30.0**	**+0.5**
LDFC	**Landfair**	**6.42**	**345**	*ePn*	**Pn**	**10 28 32.3**	**+1.9**
BFSC	**Mount Baldy Ra** baz=144	**6.63**	**325**	P	**Pb**	**10 28 52.8**	**+1.7**
VTV	**Victorville**	**6.73**	**328**	*eSn*	**Sn**	**10 29 54.1**	**+2.7**
WUAZ	**Wupatki** baz=192	**6.76**	**12**	P	**Pn**	**10 28 35.7**	**+0.6**
WUAZ	**Wupatki**	**6.76**	**12**	*ePn*	**Pn**	**10 28 35.8**	**+0.6**
HPIG		**6.82**	**105**	*ePn*	**Pn**	**10 28 36.3**	**+0.3**
MWC	**Mount Wilson**	**6.82**	**323**	*ePn*	**Pn**	**10 28 38.5**	**+2.5**
MWC				*eLg*	Lg	10 30 40.7	
W18A	**Petrified Fore** baz=205	**6.82**	**24**	P	**Pn**	**10 28 37.1**	**+1.1**
W18A	**Petrified Fore**	**6.82**	**24**	*ePn*	**Pn**	**10 28 36.9**	**+0.9**
PASC	**Pasadena Art C**	**6.85**	**322**	*ePn*	**Pn**	**10 28 38.5**	**+2.2**
TUQ	**Turquoise Moun**	**6.97**	**340**	*ePn*	Pn	10 28 32.0	-6.0
PT2	**Point Dume**	**7.08**	**318**	*ePn*	Pn	10 28 44.3	+4.9
GSC	**Goldstone, Bar**	**7.14**	**335**	*ePn*	**Pn**	**10 28 43.1**	**+2.7**
MNTX	**Cornudas Mount** baz=248	**7.20**	**65**	P	**Pn**	**10 28 40.9**	**-0.2**
MNTX	**Cornudas Mount**	**7.20**	**65**	*ePn*	**Pn**	**10 28 40.9**	**-0.2**
Y22D	**IRIS PASSCAL I** baz=226	**7.36**	**44**	P	**Pn**	**10 28 45.1**	**+1.7**
Y22D	**IRIS PASSCAL I**	**7.36**	**44**	*ePn*	**Pn**	**10 28 43.5**	**+0.1**
Y22E	**IRIS PASSCAL I** baz=226	**7.36**	**44**	P	**Pn**	**10 28 45.2**	**+1.8**
LENM	**Lemitar**	**7.39**	**43**	*ePn*	**Pn**	**10 28 44.8**	**+0.9**
LAZ	**Ladron**	**7.46**	**41**	*ePn*	**Pn**	**10 28 45.1**	**+0.3**
OSI	**Osito Audit: C**	**7.48**	**321**	*ePn*	**Pn**	**10 28 45.5**	**+0.6**
SHOC	**Shoshone, Teco** baz=158	**7.50**	**340**	P	**Pn**	**10 28 48.7**	**+3.5**
U15A	**North Rim**	**7.55**	**5**	*ePn*	**Pn**	**10 28 47.0**	**+0.9**
BNM	**Barren Site**	**7.59**	**45**	*ePn*	**Pn**	**10 28 47.1**	**+0.5**
LPM	**Los Pinos Moun**	**7.78**	**47**	*ePn*	**Pn**	**10 28 47.7**	**-0.3**
SHPR	**Sheep Range**	**7.80**	**347**	*ePn*	**Pn**	**10 28 50.6**	**+1.1**
WBSM	**Bird Springs**	**7.91**	**328**	*eSn*	**Sn**	**10 30 20.4**	**-0.2**
ARVC	**Arvin** baz=141	**7.92**	**323**	P	**Pn**	**10 28 55.5**	**+4.5**
LCMT	**Little Creek M**	**8.11**	**359**	*ePn*	**Pn**	**10 28 54.8**	**+1.2**
KNB	**Kanab**	**8.11**	**1**	*ePn*	**Pn**	**10 28 54.9**	**+1.2**
ISA	**Isabella, Lake** baz=145	**8.17**	**327**	P	Pn	10 29 00.0	+5.6
ISA	**Isabella, Lake**	**8.17**	**327**	*ePn*	**Pn**	**10 28 56.3**	**+1.9**
GDL2	**Guadalupe Moun**	**8.19**	**64**	*ePn*	**Pn**	**10 28 55.8**	**+1.1**
FURC	**Furnace Creek,**	**8.21**	**338**	*eSn*	**Sn**	**10 30 31.6**	**+3.9**
LTX	**Lajitas**	**8.22**	**85**	*ePn*	**Pn**	**10 28 55.0**	**-0.2**
LTX				*eSn*	**Sn**	**10 30 28.1**	**-0.1**
TX31	**Lajitas Ar. Si**	**8.22**	**85**	*ePn*	**Pn**	**10 28 56.0**	**0.0**
TX31				*ePn*	**Pn**	**10 28 56.0**	**+0.8**
TXAR	**Lajitas Array** 8.2nm,0.3s,baz=254,slow=13,SNR=338	**8.22**	**85**	Pn	**Pn**	**10 28 55.0**	**-0.2**
TXAR	0.7nm,0.3s,baz=245,slow=20,SNR=2.9			Sn	**Sn**	**10 30 28.1**	**-0.1**
TXAR	2.1nm,0.3s,baz=267,slow=30,SNR=3.7			Lg	Lg	10 31 11.3	
TXAR	comp=Z,5μm,21.5s,baz=0.0,slow=32			LR	LR	10 31 14.6	
ANMO	**Albuquerque** 1.6nm,0.3s,baz=46,slow=15,SNR=71	**8.24**	**41**	Pn	**Pn**	**10 28 56.1**	**+0.6**
ANMO	0.8nm,0.3s,baz=22,slow=15,SNR=8.4			Pg	Pg	10 29 38.6	+5.1
ANMO	1.6nm,0.3s,baz=148,slow=18,SNR=4.1			Lg	Lg	10 31 16.4	
ANMO	**Albuquerque** baz=224	**8.24**	**41**	P	**Pn**	**10 28 56.3**	**+0.8**
DAC	**Darwin (Calif)**	**8.30**	**334**	*ePn*	**Pn**	**10 28 58.5**	**+2.1**
TPNV	**Topopah Spring**	**8.48**	**342**	*ePn*	**Pn**	**10 29 00.2**	**+1.5**
PKCU	**Pink Cliffs**	**8.56**	**4**	*ePn*	**Pn**	**10 29 01.4**	**+1.4**
CLNB	**Carlsbad**	**8.60**	**65**	*ePn*	**Pn**	**10 28 59.9**	**-0.4**
VES	**Vestal, Richgr** baz=143	**8.61**	**325**	P	**Pn**	**10 29 03.2**	**+2.8**
CWC	**Cottonwood Cre** baz=150	**8.64**	**332**	P	Pn	10 29 05.9	+4.9
CCUT	**Cedar City**	**8.64**	**358**	*ePn*	**Pn**	**10 29 02.8**	**+1.6**
SZCU	**Shurtz Canyon**	**8.69**	**360**	*ePn*	**Pn**	**10 29 03.9**	**+2.2**
SMMC	**Simmler** baz=136	**8.70**	**319**	P	**Pn**	**10 29 04.2**	**+2.5**
GRAC	**Grapevine Rang** baz=155	**8.86**	**337**	P	**Pn**	**10 29 07.5**	**+3.6**
MVCO	**Mesa Verde** baz=206	**9.14**	**24**	P	**Pn**	**10 29 09.1**	**+1.2**
MVCO	**Mesa Verde**	**9.14**	**24**	*ePn*	**Pn**	**10 29 09.2**	**+1.4**
PAGB	**Antelope Grade**	**9.14**	**320**	*ePn*	**Pn**	**10 29 09.4**	**+1.7**
MTPU	**Mount Pierson**	**9.16**	**4**	*ePn*	**Pn**	**10 29 11.2**	**+2.9**
MSU	**Marysvale**	**9.63**	**4**	*ePn*	**Pn**	**10 29 18.1**	**+3.5**
R11A	**Troy Canyon, C** baz=167	**9.67**	**348**	P	**Pn**	**10 29 15.5**	**+0.4**
R11A	**Troy Canyon, C**	**9.67**	**348**	*ePn*	**Pn**	**10 29 15.4**	**+0.4**
TCRU	**Three Creeks R**	**9.71**	**3**	*ePn*	**Pn**	**10 29 17.3**	**+1.5**
PV05	**Paradox Valley**	**9.74**	**19**	*ePn*	**Pn**	**10 29 17.8**	**+1.7**
PV01	**Paradox Valley**	**9.95**	**21**	*ePn*	**Pn**	**10 29 20.4**	**+1.4**
OMMB	**Old Mammoth Mi**	**10.02**	**332**	*ePn*	**Pn**	**10 29 22.5**	**+2.4**
PV10	**Paradox Valley**	**10.04**	**18**	*ePn*	**Pn**	**10 29 21.2**	**+1.0**
MDPB	**Devils Postpil**	**10.07**	**332**	*ePn*	**Pn**	**10 29 22.6**	**+1.9**
PV09	**Paradox Valley**	**10.13**	**18**	*ePn*	**Pn**	**10 29 23.6**	**+2.2**
Q16A	**Castle Valley**	**10.13**	**8**	*ePn*	**Pn**	**10 29 24.2**	**+2.8**
MSTX	**Muleshoe** baz=242	**10.14**	**57**	P	**Pn**	**10 29 25.1**	**+3.7**
MSTX	**Muleshoe**	**10.14**	**57**	*ePn*	**Pn**	**10 29 24.7**	**+3.2**
S22A	**4UR Ranch, Cre** baz=212	**10.25**	**29**	P	**Pn**	**10 29 25.6**	**+2.4**
S22A	**4UR Ranch, Cre**	**10.25**	**29**	*ePn*	**Pn**	**10 29 24.9**	**+1.7**
SRU	**San Rafael Swe**	**10.41**	**11**	*ePn*	**Pn**	**10 29 27.9**	**+2.7**
NV11	**Mina Array Sit**	**10.42**	**337**	*ePn*	**Pn**	**10 29 29.1**	**+3.7**
NV01	**Mina Array Sit**	**10.47**	**337**	*ePn*	**Pn**	**10 29 28.8**	**+2.6**
NVAR	**Mina Array Bea** baz=160,slow=13,SNR=19	**10.47**	**337**	Pn	**Pn**	**10 29 30.3**	**+4.2**
NVAR	baz=143,slow=36,SNR=2.9			Lg	Lg	10 32 25.8	
TMUT	**Trail Mountain**	**10.50**	**8**	*ePn*	**Pn**	**10 29 29.5**	**+2.9**
RYN	**Ryan**	**10.73**	**336**	*ePn*	**Pn**	**10 29 32.0**	**+2.5**
P17A	**Butcher Ranch,**	**10.73**	**10**	*ePn*	**Pn**	**10 29 31.8**	**+2.1**
MHTCO	**State Highway**	**10.80**	**38**	*ePn*	**Pn**	**10 29 32.6**	**+1.9**
SDCO	**Great Sand Dun** baz=217	**10.86**	**34**	P	**Pn**	**10 29 35.5**	**+4.1**
SDCO	**Great Sand Dun**	**10.86**	**34**	*ePn*	**Pn**	**10 29 34.7**	**+3.2**
P18A	**Preston Nutter**	**10.96**	**11**	*ePn*	**Pn**	**10 29 35.7**	**+2.7**
WAKR	**Walker**	**10.96**	**333**	*ePn*	**Pn**	**10 29 35.8**	**+2.9**
T25A	**Trinidad** baz=223	**10.96**	**39**	P	**Pn**	**10 29 36.0**	**+3.2**
T25A	**Trinidad**	**10.96**	**39**	*ePn*	**Pn**	**10 29 35.7**	**+2.8**
T25A				*e*		10 29 36.0	
KVN	**Kaiserville**	**10.97**	**339**	*ePn*	**Pn**	**10 29 36.1**	**+3.2**
CMB	**Columbia Colle**	**10.98**	**328**	*ePn*	**Pn**	**10 29 35.2**	**+2.2**
NLU	**North Lily Min**	**11.07**	**4**	*ePn*	**Pn**	**10 29 37.6**	**+3.3**
MPU	**Maple Canyon**	**11.16**	**6**	*ePn*	**Pn**	**10 29 37.4**	**+1.8**
ZAIG	**Zacatecas**	**11.23**	**120**	*ePn*	**Pn**	**10 29 37.2**	**+0.5**
DUG	**Dugway, Tooele** baz=181	**11.28**	**1**	P	Pn	10 29 43.1	+5.9
DUG	**Dugway, Tooele**	**11.28**	**1**	*ePn*	**Pn**	**10 29 40.7**	**+3.5**
YERR	**Yerington**	**11.30**	**335**	*ePn*	**Pn**	**10 29 39.2**	**+1.7**
YERR				*ePn*	Pn	10 29 44.5	+7.0
AMTX	**Amarillo** baz=241	**11.36**	**55**	P	**Pn**	**10 29 40.4**	**+2.1**
AMTX	**Amarillo**	**11.36**	**55**	*ePn*	**Pn**	**10 29 40.8**	**+2.6**
SMCO	**Snowmass**	**11.43**	**25**	*ePn*	**Pn**	**10 29 42.5**	**+3.1**
JCT	**Junction City** baz=265	**11.63**	**79**	P	**Pn**	**10 29 44.1**	**+2.2**
JCT	**Junction City**	**11.63**	**79**	*ePn*	**Pn**	**10 29 44.0**	**+2.2**
BGC	**Bolinger Road**	**11.66**	**322**	*ePn*	Pn	10 29 49.5	+7.3
BGC				*eSn*	**Sn**	**10 31 45.6**	**-6.8**
VCNR	**Virginia City**	**11.73**	**334**	*ePn*	**Pn**	**10 29 46.0**	**+2.7**
JLU	**Jordanelle**	**11.76**	**6**	*ePn*	**Pn**	**10 29 47.0**	**+3.2**
CTU	**Camp Tracy**	**11.83**	**5**	*ePn*	**Pn**	**10 29 47.6**	**+3.0**
O20A	**White River Ci** baz=201	**11.90**	**18**	P	**Pn**	**10 29 49.1**	**+3.5**
O20A	**White River Ci**	**11.90**	**18**	*ePn*	**Pn**	**10 29 48.2**	**+2.6**
PAHR	**Pah Rah Range**	**11.99**	**336**	*ePn*	Pn	10 29 54.1	+7.3
Q24A	**Divide** baz=215	**12.00**	**31**	P	**Pn**	**10 29 50.1**	**+3.0**
Q24A	**Divide**	**12.00**	**31**	*ePn*	**Pn**	**10 29 49.7**	**+2.6**
BGU	**Big Grassy Mou**	**12.01**	**0**	*ePn*	**Pn**	**10 29 51.8**	**+4.7**
BMN	**Battle Mountai**	**12.02**	**345**	*ePn*	**Pn**	**10 29 50.1**	**+3.0**
833A	**Chaparral WMA,** baz=275	**12.02**	**89**	P	**Pn**	**10 29 47.3**	**+0.2**
ABTX	**Abilene, Hawle** baz=255	**12.12**	**69**	P	**Pn**	**10 29 49.9**	**+1.4**
ABTX	**Abilene, Hawle**	**12.12**	**69**	*ePn*	**Pn**	**10 29 50.8**	**+2.2**
TCUT	**Toone Canyon**	**12.28**	**6**	*ePn*	**Pn**	**10 29 54.8**	**+3.9**
ISCO	**Idaho Springs** baz=211	**12.49**	**27**	P	**Pn**	**10 29 56.6**	**+2.7**
ISCO	**Idaho Springs**	**12.49**	**27**	*ePn*	**Pn**	**10 29 56.6**	**+2.7**
BEKR	**Beckworth**	**12.50**	**333**	*ePn*	**Pn**	**10 29 54.5**	**+0.7**
HWUT	**Hardware Ranch**	**12.75**	**5**	*ePn*	**Pn**	**10 30 00.4**	**+3.1**
LNIG	**Linares**	**12.76**	**105**	*ePn*	**Pn**	**10 30 00.0**	**+2.8**
HVU	**Hansel Valley**	**12.87**	**1**	*ePn*	**Pn**	**10 30 01.9**	**+3.1**
KSCO	**Kaye Shedlock'** baz=223	**13.29**	**38**	P	**Pn**	**10 30 07.4**	**+2.8**
KSCO	**Kaye Shedlock'**	**13.29**	**38**	*ePn*	**Pn**	**10 30 07.3**	**+2.8**
N23A	**Red Feather La** baz=208	**13.32**	**24**	P	**Pn**	**10 30 09.3**	**+4.2**
N23A	**Red Feather La**	**13.32**	**24**	*ePn*	**Pn**	**10 30 09.3**	**+4.2**
WMOK	**Wichita Mounta** baz=248	**13.46**	**61**	P	**Pn**	**10 30 07.4**	**+0.5**
WMOK	**Wichita Mounta**	**13.46**	**61**	*ePn*	**Pn**	**10 30 08.0**	**+1.1**
435B	**Jarrell** baz=265	**13.56**	**78**	P	**Pn**	**10 30 10.1**	**+1.9**
435B	**Jarrell**	**13.56**	**78**	*ePn*	**Pn**	**10 30 10.0**	**+1.8**
WHTX	**Lake Whitney,** baz=260	**13.81**	**73**	P	**Pn**	**10 30 12.1**	**+0.6**
WHTX	**Lake Whitney,**	**13.81**	**73**	*ePn*	**Pn**	**10 30 12.3**	**+0.8**
PHWY	**Pilot Hill**	**13.85**	**25**	*ePn*	**Pn**	**10 30 15.6**	**+3.2**
AHID	**Auburn Hatcher**	**13.94**	**6**	*ePn*	**Pn**	**10 30 16.3**	**+2.8**
JRQG	**Juriquilla Cam**	**14.04**	**123**	*ePn*	**Pn**	**10 30 16.2**	**+1.2**
BW06	**Boulder Array**	**14.14**	**11**	*ePn*	**Pn**	**10 30 17.9**	**+1.7**
PD31	**Pinedale Array**	**14.14**	**11**	*ePn*	**Pn**	**10 30 18.1**	**+1.9**
PDAR	**Pinedale Array** 0.1nm,0.3s,baz=187,slow=9.7,SNR=14	**14.14**	**11**	Pn	**Pn**	**10 30 17.9**	**+1.6**
PDAR	0.1nm,0.3s,baz=192,slow=34,SNR=3.5			Lg	Lg	10 34 19.8	
PDAR	**Pinedale Array**	**14.14**	**11**	*ePn*	**Pn**	**10 30 15.7**	**-0.5**
PDAR				Lg	Lg	10 34 19.8	
WVOR	**Wild Horse Val**	**14.25**	**343**	*ePn*	**Pn**	**10 30 21.0**	**+3.3**
MOD	**Modoc Plateau**	**14.26**	**338**	*ePn*	**Pn**	**10 30 20.2**	**+2.3**
MOD				*eP*	**P**	**10 30 25.7**	**+0.5**
REDW	**Red Top Meadow**	**14.55**	**6**	*ePn*	**Pn**	**10 30 24.5**	**+2.6**
SNOW	**Snow King Moun**	**14.66**	**7**	*ePn*	**Pn**	**10 30 25.5**	**+2.0**
MFID	**Camas Ranch**	**14.67**	**352**	*ePn*	**P**	**10 30 27.1**	**-2.6**
TPAW	**Teton Pass**	**14.67**	**6**	*ePn*	**Pn**	**10 30 26.3**	**+2.7**
HLID	**Hailey** baz=175	**14.69**	**356**	P	**P**	**10 30 28.8**	**-1.1**
HLID	**Hailey**	**14.69**	**356**	*ePn*	**P**	**10 30 27.8**	**-2.1**
K22A	**Casper** baz=203	**14.71**	**19**	P	**Pn**	**10 30 26.5**	**+2.5**
K22A	**Casper**	**14.71**	**19**	*ePn*	**Pn**	**10 30 26.6**	**+2.5**
FXWY	**Fox Creek**	**14.81**	**6**	*ePn*	**Pn**	**10 30 27.3**	**+1.9**
LOHW	**Long Hollow**	**14.83**	**7**	*ePn*	**Pn**	**10 30 27.7**	**+2.1**
CBKS	**Cedar Bluff**	**14.83**	**45**	*ePn*	**Pn**	**10 30 27.5**	**+1.9**
MOOW	**Moose Ponds** 82nm,1.4s	**14.95**	**6**	*ePn*	**Pn**	**10 30 29.5**	**+2.3**
OGNE	**Ogallala** baz=220	**15.03**	**34**	P	**Pn**	**10 30 30.2**	**+1.9**
OGNE	**Ogallala**	**15.03**	**34**	*ePn*	**Pn**	**10 30 31.0**	**+2.7**
YBH	**Yreka Blue Hor** 0.1nm,0.3s,baz=102,slow=6.8,SNR=4.2	**15.03**	**331**	Pn	**P**	**10 30 36.2**	**+2.4**
HKT	**Hockley** 195nm,1.5s	**15.05**	**82**	*ePn*	**Pn**	**10 30 28.8**	**+0.4**
IMW	**Indian Meadow** 103nm,1.4s	**15.08**	**6**	*ePn*	**Pn**	**10 30 31.8**	**+2.8**
J08A	**Circle Bar Ran** 56nm,1.4s	**15.09**	**345**	*ePn*	**P**	**10 30 33.8**	**-0.5**
K05A	**Summer Lake** 102nm,1.3s	**15.19**	**337**	*ePn*	**Pn**	**10 30 33.0**	**+2.4**
K05A				*ePn*	Pn	10 30 38.4	+7.8
YPP	**Pitchstone Pla** 52nm,1.3s	**15.46**	**6**	*ePn*	**Pn**	**10 30 36.4**	**+2.3**
H17A	**Grant Village** 51nm,1.4s	**15.61**	**7**	*ePn*	**Pn**	**10 30 38.0**	**+2.0**
YFT	**Old Faithful** 156nm,1.8s	**15.63**	**6**	*ePn*	**P**	**10 30 40.6**	**0.0**
YMR	**Madison River** 63nm,1.3s	**15.84**	**5**	*ePn*	**P**	**10 30 41.7**	**-1.1**
YHB	**Horse Butte** 42nm,1.4s	**15.90**	**5**	*ePn*	**Pn**	**10 30 41.6**	**+1.8**
MCMT	**McKenzie Canyo**	**15.91**	**1**	*ePn*	**Pn**	**10 30 41.6**	**+1.7**
QLMT	**Earthquake Lak**	**15.97**	**4**	*ePn*	**P**	**10 30 42.7**	**-1.5**
YHH	**Holmes Hill** 74nm,1.6s	**15.97**	**6**	*ePn*	**P**	**10 30 44.6**	**+0.3**
I07A	**Izee** 45nm,1.5s	**16.02**	**343**	*ePn*	**Pn**	**10 30 43.1**	**+1.9**
I07A				*ePn*	Pn	10 30 49.5	+8.3
NATX	**Nacogdoches** baz=264	**16.14**	**75**	P	**Pn**	**10 30 42.0**	**-0.7**
NATX	**Nacogdoches** 110nm,1.3s	**16.14**	**75**	*ePn*	**Pn**	**10 30 42.1**	**-0.5**
PINE	**Pine Mountain** 131nm,1.7s	**16.16**	**339**	*ePn*	**P**	**10 30 45.7**	**-0.7**
TUL1	**Leonard** baz=249	**16.16**	**60**	P	**Pn**	**10 30 42.9**	**-0.1**
TUL1	**Leonard** 254nm,1.1s	**16.16**	**60**	*ePn*	**Pn**	**10 30 42.9**	**-0.1**
BMO	**Blue Mountains** 79nm,1.7s	**16.29**	**349**	*ePn*	**Pn**	**10 30 46.5**	**+1.8**
BMO				*ePn*	Pn	10 30 52.6	+8.0
RLMT	**Red Lodge** baz=192	**16.48**	**9**	P	**P**	**10 30 49.5**	**-0.4**
RLMT	**Red Lodge** 128nm,1.4s	**16.48**	**9**	*ePn*	**P**	**10 30 49.3**	**-0.6**
BOZ	**Bozeman (W)** baz=184	**16.72**	**3**	P	**P**	**10 30 56.5**	**+4.0**
BOZ	**Bozeman (W)** 52nm,1.4s	**16.72**	**3**	*ePn*	**P**	**10 30 53.8**	**+1.3**
I05D	**Terrebonne, OR** baz=154	**16.78**	**339**	P	**P**	**10 30 55.6**	**+2.5**
RSSD	**Black Hills** baz=208	**16.83**	**23**	P	**Pn**	**10 30 52.8**	**+1.2**
RSSD	**Black Hills** 74nm,1.4s	**16.83**	**23**	*ePn*	**P**	**10 30 53.7**	**0.0**
LRM	**Limekiln Ridge**	**16.91**	**1**	*ePn*	**P**	**10 30 54.9**	**+0.2**
O33A	**Hebron** baz=233	**16.92**	**45**	P	**Pn**	**10 30 51.7**	**-1.0**
240A	**Hunter Patters** baz=264	**16.93**	**75**	P	**Pn**	**10 30 51.6**	**-1.1**
KSU1	**Kansas State U** baz=238	**17.00**	**49**	P	**Pn**	**10 30 53.6**	**+0.1**
KSU1	**Kansas State U** 202nm,1.0s	**17.00**	**49**	*ePn*	**Pn**	**10 30 54.3**	**+0.7**
G08A	**Pilot Rock** 32nm,1.4s	**17.03**	**346**	*ePn*	**P**	**10 30 56.7**	**+0.8**
X39A	**Fountain Ranch** baz=255	**17.06**	**66**	P	**Pn**	**10 30 54.2**	**-0.1**
140A	**Cam and Jess,** baz=262	**17.15**	**73**	P	**Pn**	**10 30 55.0**	**-0.6**
H04A	**Detroit Lake** 78nm,1.4s	**17.36**	**338**	*ePn*	**Pn**	**10 31 00.3**	**+2.2**
H04A				*ePn*	Pn	10 31 07.3	+9.1
F10A	**Beach Ranch, E** 70nm,1.6s	**17.37**	**350**	*ePn*	**P**	**10 31 02.9**	**+3.3**
341A	**Kurthwod** baz=266	**17.38**	**77**	P	**P**	**10 31 00.3**	**+0.6**
Z40A	**Long Farm, Mag** baz=260	**17.39**	**71**	P	Pn	**10 30 58.1**	**-0.4**
G06A	**Carlson Farm,** 210nm,1.9s	**17.39**	**342**	*eP*	**P**	**10 31 01.0**	**+1.2**
N33A	**J Bar K, Exete** baz=232	**17.40**	**43**	P	**P**	**10 31 00.9**	**+0.9**
BGNE	**Belgrade** baz=228	**17.42**	**40**	P	**P**	**10 31 01.6**	**+1.5**
BGNE	**Belgrade** 72nm,1.0s	**17.42**	**40**	*ePn*	**P**	**10 31 01.2**	**+1.1**
W39A	**Magazine** baz=254	**17.50**	**64**	P	**Pn**	**10 30 59.5**	**-0.3**
W39A	**Magazine** 92nm,1.1s	**17.50**	**64**	*ePn*	**Pn**	**10 30 59.4**	**-0.4**
MIAR	**Mount Ida** baz=256	**17.50**	**66**	P	**Pn**	**10 31 00.4**	**+0.6**
MIAR	**Mount Ida** 205nm,2.0s	**17.50**	**66**	*ePn*	**Pn**	**10 31 00.5**	**+0.6**
O34A	**Beatrice** baz=235	**17.54**	**46**	P	**Pn**	**10 30 59.2**	**-1.2**
Y40A	**Okolona** baz=258	**17.62**	**68**	P	**Pn**	**10 31 00.1**	**-1.3**
241A	**Mo Tay, Goldon** baz=264	**17.64**	**75**	P	**Pn**	**10 31 01.2**	**-0.4**
T38A	**Diamond** baz=248	**17.70**	**58**	P	**Pn**	**10 31 02.4**	**+0.1**
WLAR	**White Oak Lake** 170nm,1.1s	**17.70**	**69**	*ePn*	**Pn**	**10 31 02.4**	**+0.1**
HHAR	**Hobbs** 83nm,1.1s	**17.70**	**60**	*ePn*	**Pn**	**10 31 01.6**	**-0.7**
141A	**Papa Simpson,** baz=263	**17.71**	**73**	P	**Pn**	**10 31 02.2**	**-0.3**
V39A	**Pettigrew** baz=252	**17.79**	**62**	P	**Pn**	**10 31 02.8**	**-0.7**
HRY	**Holter Researc**	**17.82**	**3**	*ePn*	**P**	**10 31 05.6**	**+1.0**
F07A	**Phinny Hill Vi** 82nm,1.4s	**17.82**	**344**	*ePn*	**P**	**10 31 05.9**	**+1.4**
Z41A	**Richland Creek** baz=261	**17.88**	**71**	P	**Pn**	**10 31 04.2**	**-0.4**
Z41A	**Richland Creek** 316nm,1.4s	**17.88**	**71**	*ePn*	**Pn**	**10 31 04.9**

JTMT	Jette	93nm,1.6s	18.86	357	eP	Pn	10 31 18.0	+1.4
M35A	Neola	baz=233	18.90	44	P	Pn	10 31 17.6	+0.6
J32A	Parkston	baz=225	18.92	36	P	Pn	10 31 17.6	+0.3
V41A	Mountainview	baz=254	18.93	63	P	P	10 31 16.7	-0.1
Q38A	Cooks Store, C	baz=243	18.97	53	P	Pn	10 31 18.0	+0.2
143A	Socs Landing,	baz=264	18.98	73	P	Pn	10 31 18.2	+0.2
N36A	Muff Farm, Cla	baz=236	18.99	46	P	Pn	10 31 18.2	+0.1
T40A	Mansfield	baz=250	19.06	59	P	P	10 31 18.7	+0.4
X42A	Stuttgart	baz=258	19.07	67	P	P	10 31 18.8	+0.5
LON	Longmire	33nm,1.4s	19.11	341	eP	Pn	10 31 20.4	+0.9
R39A	Chumby, Stover	baz=246	19.11	55	P	P	10 31 19.2	+0.5
O37A	Wolven Farm, M	baz=239	19.18	49	P	Pn	10 31 20.1	-0.2
S40A	Lebanon	baz=249	19.23	58	P	Pn	10 31 20.8	-0.3
U41A	Viola	baz=253	19.27	62	P	P	10 31 20.6	0.0
LTY	Liberty	22nm,1.4s	19.28	344	eP	Pn	10 31 23.6	+2.0
W42A	Bald Knob	baz=256	19.31	65	P	P	10 31 21.1	+0.2
P38A	Dawn	baz=242	19.33	51	P	Pn	10 31 21.8	-0.3
J33A	Davis	baz=227	19.35	38	P	Pn	10 31 23.2	+0.8
L35A	Bielow Farm, R	baz=232	19.38	42	P	P	10 31 21.8	+0.2
K34A	Le Mars	baz=230	19.41	40	P	Pn	10 31 23.9	+0.7
H31A	Wolsey	baz=221	19.42	33	P	Pn	10 31 24.2	+1.0
N37A	Lee Faris, Mou	baz=238	19.44	48	P	Pn	10 31 23.5	0.0
M36A	Felix, Anita	baz=235	19.44	45	P	Pn	10 31 24.9	+1.4
444A	Pine Grove	baz=270	19.44	79	P	Pn	10 31 24.0	+0.4
Q39A	Willow Grove F	baz=244	19.45	53	P	P	10 31 23.2	+0.7
E03A	Lebam	81nm,1.3s	19.46	338	eP	Pn	10 31 23.2	-0.4
344A	Westbrook Farm	baz=268	19.46	77	P	Pn	10 31 24.0	+0.2
Y43A	Makayla and Ka	baz=261	19.53	70	P	Pn	10 31 24.2	-0.4
244A	Avery, Jackson	baz=266	19.53	75	P	Pn	10 31 24.9	+0.3
V42A	Cord	baz=255	19.54	64	P	P	10 31 23.3	-0.2
D05A	Enumclaw	55nm,1.2s	19.56	342	eP	P	10 31 24.8	+1.3
D05A					eP	Pn	10 31 33.0	+8.1
I32A	Karley and Nic	baz=224	19.58	35	P	Pn	10 31 26.4	+1.1
T41A	Mountain View	baz=251	19.60	60	P	P	10 31 24.4	+0.2
NEW	Newport	0.1nm,0.3s,baz=172,slow=12,SNR=15	19.60	352	P	P	10 31 24.7	+0.6
NEW	Newport	baz=170	19.60	352	P	Pn	10 31 29.2	+3.8
NEW	Newport	66nm,1.4s	19.60	352	eP	Pn	10 31 25.6	+0.1
O38A	Galt	baz=241	19.60	50	P	P	10 31 24.7	+0.6
R40A	Maddies Statio	baz=247	19.66	56	P	P	10 31 25.5	+0.8
X43A	Marvell	75nm,1.0s	19.67	68	eP	Pn	10 31 26.6	+0.3
VBMS	Vicksburg	204nm,1.2s	19.68	75	eP	Pn	10 31 27.6	+1.2
S41A	Jillco Farms,	baz=250	19.79	58	P	P	10 31 26.9	+0.7
U42A	Revenden	baz=254	19.80	62	P	P	10 31 26.5	+0.2
P39B	Salisbury	baz=243	19.80	52	P	P	10 31 26.7	+0.4
ECSD	EROS Data Cent	baz=227	19.82	37	P	P	10 31 27.4	+0.9
ECSD	EROS Data Cent		19.82	37	eP	Pn	10 31 27.5	-0.5
Z44A	Pea Ridge, Bel	baz=263	19.85	72	P	Pn	10 31 27.9	-0.5
J34A	George	baz=229	19.88	39	P	Pn	10 31 29.3	+0.6
M37A	Trindle Farm,	baz=237	19.88	46	P	Pn	10 31 28.4	-0.4
L36A	Harm Buss Farm	baz=234	19.89	44	P	Pn	10 31 28.5	-0.4
H32A	Carlson Farm,	baz=224	19.94	34	P	P	10 31 28.7	+0.9
I33A	Coleman	baz=226	19.94	36	P	Pn	10 31 29.8	+0.4
B08A	Colville Reser	55nm,1.4s	20.04	348	eP	Pn	10 31 30.9	+0.2
HBAR	Harrisburg		20.06	65	eP	P	10 31 30.1	+1.0
Q40A	Laux Farm, Aux	baz=246	20.07	54	P	P	10 31 29.9	+0.6
N38A	Joes South For	baz=240	20.09	49	P	P	10 31 30.2	+0.8
T42A	Van Buren	baz=252	20.11	61	P	P	10 31 30.0	+0.4
WALA	Waterton Lakes	167nm,1.9s	20.16	358	eP	P	10 31 31.2	+1.0
245A	Little AP, Sta	baz=267	20.20	75	P	Pn	10 31 31.9	-0.7
145A	Houston Renfro	baz=265	20.21	74	P	Pn	10 31 32.0	-0.7
X44A	Crenshaw	baz=260	20.26	68	P	P	10 31 31.9	+0.5
O39A	Kirksville	baz=242	20.29	51	P	P	10 31 32.3	+0.6
NLWA	Neilton Lookou	31nm,1.3s	20.30	338	eP	P	10 31 33.1	+1.3
NLWA					eP	Pn	10 31 38.2	+4.5
R41A	Rosebud	baz=248	20.31	57	P	P	10 31 32.3	+0.5
P40A	Paris	baz=244	20.31	53	P	P	10 31 32.4	+0.5
CCM	Cathedral Cave	baz=249	20.32	58	P	P	10 31 32.3	+0.3
CCM	Cathedral Cave	53nm,1.0s	20.32	58	eP	P	10 31 32.3	+0.3
CMIG	Matias Romero	37nm,0.4s,baz=290,slow=18,SNR=6.2	20.40	121	P	P	10 31 32.2	-0.8
H33A	Prehn Over Nor	baz=225	20.41	35	P	P	10 31 33.6	+0.7
M38A	Pleasantville	baz=238	20.43	47	P	P	10 31 34.2	+1.0
G32A	Webster	baz=222	20.46	33	P	P	10 31 34.6	+1.1
L37A	Phoenix Point,	baz=236	20.46	45	P	P	10 31 34.6	+1.1
Z45A	Winona	baz=263	20.48	72	P	P	10 31 33.5	-0.2
346A	Big Creek Wild	baz=269	20.55	77	P	P	10 31 35.0	+0.5
S42A	Caledonia	baz=251	20.56	59	P	P	10 31 34.7	+0.1
F31A	Hecla	baz=219	20.57	31	P	P	10 31 35.5	+0.9
N39A	Derby Farms, D	baz=240	20.62	49	P	P	10 31 35.9	+0.8
B06A	Marblemount	16nm,0.9s	20.65	344	eP	Pn	10 31 37.7	-0.1
Q41A	Truxton	baz=247	20.66	55	P	P	10 31 36.3	+0.7
Y45A	Yeager Farm, C	baz=262	20.66	70	P	P	10 31 36.1	+0.4
SCIA	State Center	baz=237	20.68	46	P	Pn	10 31 37.3	-0.9
SCIA	State Center	240nm,1.4s	20.68	46	eP	Pn	10 31 37.9	-0.3
O40A	La Belle	baz=243	20.69	52	P	P	10 31 36.8	+0.9
R42A	Luebbering	baz=249	20.73	57	P	P	10 31 36.7	+0.2
T43A	Greenville	baz=253	20.74	61	P	P	10 31 36.7	+0.2
J36A	Seneca 1, Swea	baz=232	20.82	41	P	Pn	10 31 39.0	-0.8
X45A	UM Field Stati	baz=261	20.86	69	P	P	10 31 38.3	+0.4
OXF	Oxford	baz=260	20.86	68	P	P	10 31 38.3	+0.4
OXF	Oxford	184nm,1.1s	20.86	68	eP	P	10 31 38.8	+0.9
H34A	Spellman Lake,	baz=227	20.90	36	P	P	10 31 39.1	+1.0
K37A	Belmond	baz=234	20.90	43	P	P	10 31 38.8	+0.6
G33A	Ortonville	baz=224	20.93	34	P	P	10 31 38.8	+0.3
L38A	Oak Wood Farm,	baz=237	20.97	46	P	Pn	10 31 40.1	+1.1
S43A	Fulton Ridge,	baz=252	21.04	60	P	P	10 31 39.9	+0.1
P41A	Barry, Barry	baz=246	21.07	54	P	P	10 31 40.5	+0.5
Z46A	Louisville	baz=264	21.09	72	P	P	10 31 41.2	+0.9
M39A	Webster	baz=240	21.13	48	P	P	10 31 41.2	+0.6
Q42A	Golden Eagle	baz=248	21.15	56	P	P	10 31 41.8	+0.9
A04D	Lummi Island	baz=156	21.15	342	P	P	10 31 44.6	+3.8
Y46A	Houston	baz=262	21.23	70	P	P	10 31 42.7	+0.9
N40A	Mertquake, Sal	baz=242	21.23	50	P	P	10 31 42.4	+0.6
E31A	Nome	baz=219	21.27	30	P	P	10 31 42.1	0.0
J37A	Redenius Farm,	baz=233	21.27	42	P	P	10 31 43.2	+1.0
SLM	Saint Louis	111nm,1.1s	21.27	57	eP	P	10 31 43.5	+1.3
U44B	Burton Farm, H	baz=256	21.27	63	P	P	10 31 43.2	+0.9
T44A	Benton	baz=254	21.27	61	P	P	10 31 42.4	+0.1
247A	Quitman	baz=267	21.29	75	P	P	10 31 44.1	+1.6
PGC	Sidney	23nm,1.0s	21.30	341	eP	P	10 31 43.1	+0.8
347A	Saraland	baz=269	21.34	77	P	P	10 31 44.3	+1.3
K38A	Parkersburg	baz=236	21.36	45	P	P	10 31 44.2	+1.0
G34A	Benson	baz=226	21.36	35	P	P	10 31 43.7	+0.5
R43A	Red Bud	baz=250	21.37	58	P	P	10 31 43.4	+0.1
O41A	Passleys Farm,	baz=245	21.37	53	P	P	10 31 44.0	+0.6
H35A	Sunnyside Ranc	baz=228	21.42	38	P	P	10 31 44.7	+0.9
I36A	Fitzsimmons Fa	baz=231	21.43	40	P	P	10 31 44.8	+0.8
V45A	Humboldt	baz=258	21.45	65	P	P	10 31 44.9	+0.7
F33A	5 Mile Ranch,	baz=223	21.46	33	P	P	10 31 44.4	+0.2
M40A	Post Highland	baz=241	21.53	49	P	P	10 31 45.5	+0.5
P42A	Winchester	baz=247	21.54	54	P	P	10 31 45.7	+0.6
X46A	Booneville	baz=261	21.55	69	P	P	10 31 45.5	+0.3
L39A	Vinton	baz=239	21.57	47	P	P	10 31 45.7	+0.4
147A	Livingston	baz=266	21.61	74	P	P	10 31 46.7	+0.8
MDND	Maddock	baz=213	21.61	25	P	P	10 31 46.3	+0.5
MDND	Maddock	136nm,1.1s	21.61	25	eP	P	10 31 46.9	+1.1
N41A	Harden Midland	baz=244	21.65	51	P	P	10 31 46.6	+0.3
UTMT	University of	262nm,1.1s	21.65	64	eP	P	10 31 47.7	+1.3
S44A	Carbondale	baz=253	21.70	60	P	P	10 31 47.3	+0.4
U45A	Rockin P Farm,	baz=256	21.73	64	P	P	10 31 48.3	+1.0
SIUC	Southern Illin	92nm,1.0s	21.74	60	eP	P	10 31 47.6	+0.3
Q43A	New Douglas	baz=249	21.77	56	P	P	10 31 48.0	+0.4
I37A	Lemond, Waseca	baz=232	21.78	41	P	P	10 31 48.0	+0.4
W46A	Michie	baz=260	21.80	67	P	P	10 31 48.3	+0.3
Z47A	Carrollton	baz=265	21.82	72	P	P	10 31 48.6	+0.5
H36A	Jessenland, He	baz=230	21.83	39	P	P	10 31 48.2	0.0
348A	Jackson	baz=269	21.88	77	P	P	10 31 50.0	+1.1
J38A	Wedel Dairy, R	baz=235	21.92	43	P	P	10 31 48.7	-0.5
K39A	Oelwein	baz=238	21.94	45	P	P	10 31 49.2	-0.2
F34A	Alexandria	baz=226	21.94	35	P	P	10 31 49.4	+0.1
O42A	Bath	baz=246	21.97	53	P	P	10 31 50.1	+0.4
R44A	Waltonville	baz=252	22.00	59	P	P	10 31 50.7	+0.6
PLAL	Pickwick Lake	56nm,1.0s	22.02	68	eP	P	10 31 51.0	+0.7
L40A	Anamosa	baz=240	22.04	48	P	P	10 31 50.6	+0.2
Y47A	UCPARC, Winfie	baz=263	22.07	71	P	P	10 31 51.6	+0.8
E33A	Westby DABS, E	baz=223	22.08	33	P	P	10 31 50.8	-0.1
V46A	Holladay	baz=258	22.13	65	P	P	10 31 51.7	+0.1
X47A	Russelville	baz=262	22.13	69	P	P	10 31 51.9	+0.3
P43A	Skaggs, Pawnee	baz=248	22.15	55	P	P	10 31 52.1	+0.4
M41A	Milan	baz=242	22.16	50	P	P	10 31 52.1	+0.4
148A	Greensboro	baz=267	22.20	74	P	P	10 31 52.8	+0.5
U46A	Springville	baz=257	22.20	64	P	P	10 31 52.8	+0.6
S45A	Carrier Mills	baz=254	22.21	60	P	P	10 31 52.9	+0.6
Q44A	Meyer Farm, Va	baz=250	22.26	57	P	P	10 31 52.9	+1.1
Z48A	Northport	baz=265	22.26	72	P	P	10 31 53.2	+0.3
C31A	Landman Farms,	baz=217	22.30	28	P	P	10 31 53.1	-0.1
F35A	Swanville	baz=227	22.33	36	P	P	10 31 54.1	+0.5
G36A	St. Michael	baz=229	22.35	38	P	P	10 31 54.3	+0.6
J39A	Decorah	baz=237	22.39	44	P	P	10 31 53.9	-0.3
H37A	Dierke Farm, C	baz=232	22.40	40	P	P	10 31 55.0	+0.7
K40A	Colesburg	baz=239	22.41	46	P	P	10 31 54.5	+0.1
I38A	Scanlan Farm,	baz=234	22.41	42	P	P	10 31 54.6	+0.1
WVT	Waverly	baz=258	22.43	65	P	P	10 31 55.1	+0.5
WVT	Waverly	88nm,1.2s	22.43	65	eP	P	10 31 55.8	+1.1
W47A	Westpoint	baz=260	22.45	67	P	P	10 31 54.8	-0.2
349A	Repton	baz=270	22.49	77	P	P	10 31 56.4	+1.0
E34A	Wadena	baz=224	22.49	34	P	P	10 31 55.1	-0.2
L41A	Preston	baz=241	22.51	48	P	P	10 31 55.5	0.0
O43A	Sugar Creek Fa	baz=247	22.54	53	P	P	10 31 55.1	-0.8
249A	Camden	baz=268	22.55	76	P	P	10 31 57.0	+0.9
T46A	Princeton	baz=256	22.57	62	P	P	10 31 57.1	+0.9
R45A	Skylar, Fairfi	baz=252	22.61	59	P	P	10 31 57.0	+0.4
BRAL	Brewton	baz=270	22.61	78	P	P	10 31 57.9	+1.2
BRAL	Brewton	93nm,0.9s	22.61	78	eP	P	10 31 58.1	+1.4
V47A	Nunnelly	baz=259	22.61	66	P	P	10 31 56.9	+0.2
D33A	AnnSam, Waubun	baz=222	22.63	32	P	P	10 31 56.4	-0.3
Y48A	Jasper	baz=264	22.63	71	P	P	10 31 58.0	+1.2
HDIL	Hopedale	baz=246	22.66	53	P	P	10 31 57.3	+0.1
HDIL	Hopedale	185nm,1.1s	22.66	53	eP	P	10 31 57.6	+0.5
LLLB	Lillooet	30nm,1.3s	22.70	345	eP	P	10 31 58.0	+0.5
LRAL	Lakeview Retre	baz=266	22.70	73	P	P	10 31 58.2	+0.6
LRAL	Lakeview Retre	58nm,1.1s	22.70	73	eP	P	10 31 57.9	+0.3
M42A	Sheffield	baz=244	22.72	50	P	P	10 31 57.4	-0.3
P44A	Sand Creek, Wi	baz=249	22.74	56	P	P	10 31 57.6	-0.4
I39A	Houston	baz=236	22.79	43	P	P	10 31 58.4	-0.1
X48A	Hartselle	baz=263	22.79	69	P	P	10 31 58.4	-0.1
H38A	Maiden Rock	baz=233	22.82	41	P	P	10 31 59.0	+0.2
C32A	Crookston	baz=220	22.84	30	P	P	10 32 01.5	+2.6
B31A	Greenbush Farm	baz=217	22.84	27	P	P	10 31 58.6	-0.3
SPMN	Marine on St.	baz=231	22.86	39	P	P	10 31 59.5	+0.3
SPMN	Marine on St.	116nm,1.3s	22.86	39	eP	P	10 31 60.0	+0.8
S46A	Don Dixon Farm	baz=254	22.87	61	P	P	10 31 59.7	+0.3
F36A	Milaca	baz=229	22.88	37	P	P	10 32 00.6	+1.2
OLIL	Olney	266nm,1.8s	22.88	58	eP	P	10 32 00.3	+0.8
D34A	Park Rapids	baz=223	22.89	33	P	P	10 32 00.7	+1.3
Q45A	Warren Harvey,	baz=251	22.89	58	P	P	10 31 59.7	+0.1
K41A	Shullsburg	baz=240	22.89	47	P	P	10 31 59.6	0.0
E35A	Pequot Lakes	baz=226	22.90	35	P	P	10 32 00.4	+0.9
N43A	Stutzman Famil	baz=245	22.90	52	P	P	10 31 59.8	+0.2
U47A	Clarksville	baz=258	22.92	64	P	P	10 32 00.8	+0.9
W48A	Pulaski	baz=261	22.97	68	P	P	10 32 00.7	+0.2
USIN	University of	39nm,0.8s	22.98	60	eP	P	10 32 00.8	+0.3
USIN					eP	P	10 32 05.9	+5.3
J40A	Soldiers Grove	baz=238	23.02	45	P	P	10 32 01.1	+0.2
L42A	Oliver, Polo	baz=242	23.03	49	P	P	10 32 00.7	-0.2
JFWS	Jewell Farm	baz=240	23.08	47	P	P	10 32 01.8	+0.2
JFWS	Jewell Farm	112nm,0.9s	23.08	47	eP	P	10 32 01.8	+0.2
O44A	Mansfield	baz=248	23.09	54	P	P	10 32 01.5	-0.1
Z49A	Columbiana	baz=266	23.10	73	P	P	10 32 01.3	-0.5
C33A	Trail	baz=221	23.12	31	P	P	10 32 03.2	+1.4
V48A	Smith Brothers	baz=260	23.16	66	P	P	10 32 02.9	+0.5
R46A	Gibon Southern	baz=254	23.17	60	P	P	10 32 02.5	0.0
T47A	Sharon Grove	baz=257	23.18	63	P	P	10 32 03.0	+0.5
350A	Dozier	baz=270	23.22	77	P	P	10 32 03.4	+0.3
Y49A	Blount Mountai	baz=264	23.25	71	P	P	10 32 03.1	-0.3
M43A	Waltham Townsh	baz=245	23.25	51	P	P	10 32 02.9	-0.4
F37A	Hinrichs Farm,	baz=230	23.27	38	P	P	10 32 04.4	+1.0
B32A	Ashes, Strandq	baz=219	23.27	29	P	P	10 32 03.6	+0.2
250A	Grady	baz=269	23.28	76	P	P	10 32 03.6	0.0
G38A	Ridgeland	baz=233	23.36	40	P	P	10 32 04.4	+0.2
I40A	Norwalk	baz=237	23.36	44	P	P	10 32 04.9	+0.6
X49A	Woodville	baz=263	23.39	69	P	P	10 32 04.8	+0.1
P45A	Graceland, Par	baz=250	23.40	56	P	P	10 32 05.0	+0.3
H39A	Augusta	baz=235	23.40	42	P	P	10 32 05.1	+0.4
C34A	RKJ Ranch, Bem	baz=223	23.43	32	P	P	10 32 04.9	-0.1
D35A	Remer	baz=226	23.43	34	P	P	10 32 05.0	-0.1
E36A	McGregor	baz=228	23.45	36	P	P	10 32 05.8	+0.6
J41A	Loganville	baz=239	23.46	46	P	P	10 32 05.7	+0.4
AGMN	Agassiz Nation	baz=220	23.48	30	P	P	10 32 05.6	+0.1
AGMN	Agassiz Nation	116nm,1.4s	23.48	30	eP	P	10 32 05.9	+0.4
150A	Eclectic	baz=268	23.50	74	P	P	10 32 06.0	+0.2
Q46A	CEJHS Indians,	baz=252	23.52	58	P	P	10 32 06.5	+0.5
U48A	Cassie Pea, Po	baz=258	23.52	64	P	P	10 32 06.4	+0.4
N44A	Piper City	baz=247	23.57	53	P	P	10 32 06.4	0.0
B33A	Robert and Kas	baz=221	23.59	30	P	P	10 32 06.8	+0.2
K42A	Prairie Point,	baz=241	23.60	48	P	P	10 32 06.5	-0.2
Z50A	Ashland	baz=266	23.61	73	P	P	10 32 06.9	-0.1
O45A	Potomac	baz=249	23.66	55	P	P	10 32 07.0	-0.3
A32A	Rocking H Ranc	baz=218	23.70	28	P	P	10 32 07.4	-0.2
L43A	Garden Prairie	baz=243	23.72	50	P	P	10 32 07.6	-0.3
T48A	Bowling Green	baz=257	23.76	63	P	P	10 32 08.9	+0.6
G39A	Holcombe	baz=234	23.82	41	P	P	10 32 08.7	-0.1
Y50A	Piedmont	baz=265	23.82	71	P	P	10 32 09.4	+0.5
P46A	Rosedale	baz=251	23.82	56	P	P	10 32 08.8	0.0
F38A	Pierce - Schro	baz=231	23.82	39	P	P	10 32 09.0	+0.1
351A	Pinckard	baz=271	23.85	77	P	P	10 32 09.8	+0.6
M44A	Midewin, Midew	baz=246	23.86	52	P	P	10 32 09.0	-0.2
H40A	Chili	baz=236	23.89	43	P	P	10 32 09.8	+0.3
I41A	Arkdale	baz=238	23.90	44	P	P	10 32 10.0	+0.3
C35A	Jirik Farms, M	baz=225	23.91	33	P	P	10 32 10.0	+0.4
R47A	Wooly Knot Far	baz=254	23.94	60	P	P	10 32 10.5	+0.5
D36A	Goodland	baz=227	23.94	35	P	P	10 32 11.0	+1.0
J42A	Columbus	baz=241	24.00	47	P	P	10 32 10.5	0.0
251A	Midway	baz=269	24.01	75	P	P	10 32 11.2	+0.4
N45A	Kentland	baz=248	24.02	53	P	P	10 32 10.6	-0.2
151A	Opelika		24.09	74	P	P	10 32 11.4	-0.1

baz=268
WCI **Wyandotte Cave** 24.10 60 P P 10 32 11.6 +0.1
baz=255
WCI **Wyandotte Cave** 24.10 60 *e*P P 10 32 12.2 +0.7
190nm,1.9s
S48A **Wiedeman Farm,** 24.14 62 P P 10 32 12.2 +0.2
baz=256
SFIN **Lafayette** 24.15 55 P P 10 32 11.7 -0.3
baz=249
SFIN **Lafayette** 24.15 55 *e*P P 10 32 11.9 -0.1
56nm,0.8s
B34A **Aery, Baudette** 24.16 31 P P 10 32 12.7 +0.7
baz=222
BLO **Bloomington** 24.18 58 *e*P P 10 32 12.9 +0.5
60nm,1.3s
Q47A **Bedord North L** 24.19 59 P P 10 32 12.2 -0.2
baz=253
K43A **Burlington** 24.23 49 P P 10 32 11.4 -1.3
baz=243
L44A **Lake County Fo** 24.28 50 P P 10 32 13.6 +0.5
baz=245
EDM **Edmonton** 24.31 360 *e*P P 10 32 16.6 +3.2
118nm,1.8s
F39A **Loretta** 24.33 40 P P 10 32 13.9 +0.3
baz=233
H41A **Junction City** 24.33 44 P P 10 32 13.4 -0.3
baz=237
H41A **Junction City** 24.33 44 *e*P P 10 32 13.7 +0.1
50nm,1.2s
G40A **Rib Lake** 24.36 42 P P 10 32 13.7 -0.2
baz=235
E38A **The Farm, Brul** 24.41 38 P P 10 32 14.3 0.0
baz=231
M45A **Boilermakers S** 24.41 52 P P 10 32 14.7 +0.3
baz=247
I42A **Draeger Farm,** 24.41 46 P P 10 32 14.1 -0.2
baz=240
I42A **Draeger Farm,** 24.41 46 *e*P P 10 32 14.6 +0.2
94nm,1.3s
352A **Blakely** 24.42 77 P P 10 32 14.9 +0.3
baz=271
R48A **Northridge Ran** 24.46 60 P P 10 32 15.0 +0.1
baz=255
P47A **Martinsville** 24.47 57 P P 10 32 14.5 -0.4
baz=252
J43A **Natural Harves** 24.48 47 P P 10 32 14.4 -0.6
baz=242
C36A **Pine Crest Far** 24.50 34 P P 10 32 15.2 +0.1
baz=227
N46A **Monticello** 24.59 54 P P 10 32 16.0 0.0
baz=249
O47A **Sheridan** 24.77 56 P P 10 32 16.9 -0.7
baz=251
F40A **Park Falls** 24.78 40 P P 10 32 17.4 -0.3
baz=234
C37A **Embarrass** 24.80 35 P P 10 32 19.3 +1.4
baz=228
E39A **Mellen** 24.81 39 P P 10 32 17.7 -0.2
baz=233
WI02 **Reinke Road, C** 24.86 44 *e*P P 10 32 18.8 +0.5
49nm,1.1s
WI04 **River Road, Cl** 24.87 44 *e*P P 10 32 18.8 +0.4
104nm,1.5s
I43A **Langenfeld Bro** 24.89 46 P P 10 32 18.6 -0.1
baz=241
G41A **Antigo** 24.93 43 P P 10 32 18.4 -0.7
baz=237
H42A **Shiocton** 24.96 45 P P 10 32 19.3 0.0
baz=239
H42A **Shiocton** 24.96 45 *e*P P 10 32 19.6 +0.3
28nm,0.8s
453A **Whigham** 24.97 78 P P 10 32 20.0 +0.6
baz=272
ULM **Lac du Bonnet** 25.00 27 P P 10 32 18.9 -0.6
16nm,0.9s,baz=216,slow=10,SNR=29
ULM Lg Lg 10 40 04.5
0.4nm,0.3s,baz=315,slow=19,SNR=2.8
ULM **Lac du Bonnet** 25.00 27 *e*P P 10 32 19.3 -0.2
40nm,1.0s
ULM Lg Lg 10 40 04.5
APG **El Apazote** 25.03 119 P P 10 32 20.8 +0.4
9.3nm,0.9s,baz=295,slow=13,SNR=6.3
353A **Camilla** 25.04 77 P P 10 32 20.5 +0.4
baz=271
M46A **Old House Fiel** 25.04 53 P P 10 32 20.2 +0.1
baz=248
E40A **Wakefield** 25.21 40 P P 10 32 21.7 +0.1
baz=234
C38A **Sawbill Land.** 25.26 36 P P 10 32 22.5 +0.5
baz=229
F41A **Three Lakes** 25.27 42 P P 10 32 22.3 +0.2
baz=236
EYMN **Ely** 25.30 35 P P 10 32 22.9 +0.5
baz=229
EYMN **Ely** 25.30 35 *e*P P 10 32 23.3 +1.0
23nm,1.0s
G42A **Mountain** 25.40 43 P P 10 32 23.0 -0.2
baz=238
G42A **Mountain** 25.40 43 *e*P P 10 32 23.6 +0.3
64nm,1.0s
H43A **Windswept, Lux** 25.41 45 P P 10 32 23.1 -0.3
baz=240
H43A **Windswept, Lux** 25.41 45 *e*P P 10 32 23.8 +0.4
83nm,0.9s
COWI **Conover** 25.45 41 *e*P P 10 32 24.3 +0.6
28nm,1.0s
TIGA **Tifton** 25.57 77 *e*P P 10 32 25.7 +0.8
305nm,1.9s
TKL **Tuckaleechee C** 25.60 67 P P 10 32 25.8 +0.5
53nm,0.9s,baz=232,slow=6.5,SNR=38
TKL Lg Lg 10 40 32.3
4.5nm,1.0s,baz=144,slow=14,SNR=2.5
TKL **Tuckaleechee C** 25.60 67 *e*P P 10 32 25.7 +0.5
86nm,0.9s
TKL Lg Lg 10 40 32.3
GOGA **Godfrey** 25.68 72 P P 10 32 25.4 -0.5
baz=268
GOGA **Godfrey** 25.68 72 *e*P P 10 32 26.2 +0.3
52nm,1.4s
E41A **Kenton** 25.75 40 P P 10 32 26.4 0.0
baz=235
254A **Abbeville** 25.81 76 P P 10 32 27.1 -0.1
baz=271
BBB **Bella Bella** 25.83 338 P P 10 32 30.1 +3.1
3.2nm,0.9s,baz=118,slow=7.1,SNR=3.3
G43A **Wallace** 25.86 44 P P 10 32 27.3 -0.1
baz=239
G43A **Wallace** 25.86 44 *e*P P 10 32 27.8 +0.3
50nm,1.0s
TZTN **Tazewell** 25.90 65 P P 10 32 27.9 -0.1
baz=261
TZTN **Tazewell** 25.90 65 *e*P P 10 32 27.9 -0.1
37nm,1.0s
C39A **Grand Marais** 25.92 37 P P 10 32 27.4 -0.6
baz=231
154A **Montrose** 25.96 74 P P 10 32 28.5 0.0
baz=269
BG3 **Lake Jocassee** 26.22 69 *e*P P 10 32 31.9 +1.1
62nm,1.0s
D41A **Chassel** 26.32 40 P P 10 32 31.7 +0.2
baz=235
E42A **Champion** 26.34 41 P P 10 32 31.7 -0.1
baz=237
F43A **Flat Rock, Esc** 26.46 43 P P 10 32 32.8 -0.1
baz=239
C40A **Isle Royale Na** 26.50 38 P P 10 32 32.9 -0.3
baz=232
HODGE **Hodges** 26.72 71 *e*P P 10 32 36.1 +0.8
30nm,0.9s
E43A **Lone Tree Farm** 26.85 42 P P 10 32 36.2 -0.2
baz=238
F44A **Big Bay de Noc** 26.98 44 P P 10 32 37.1 -0.5
baz=240
FFC **Flin Flon** 27.04 14 *e*P P 10 32 38.4 +0.4
16nm,1.3s
ACSO **Alum Creek Sta** 27.10 57 P P 10 32 38.8 0.0
baz=254
ACSO **Alum Creek Sta** 27.10 57 *e*P P 10 32 39.4 +0.6
115nm,1.2s
F45A **CMU Biological** 27.40 45 P P 10 32 41.2 -0.1
baz=242
KMSC **Kings Mountain** 27.54 69 P P 10 32 42.8 +0.1
baz=266
KMSC **Kings Mountain** 27.54 69 *e*P P 10 32 43.3 +0.7
76nm,0.9s
JSC **Jenkinsville** 27.55 71 *e*P P 10 32 43.4 +0.6
19nm,1.0s
F46A **Macinaw City C** 27.91 45 P P 10 32 46.3 +0.5
baz=242
E45A **Wooded Hills,** 27.93 44 P P 10 32 46.4 +0.3
baz=241
MCWV **Mont Chateau** 29.32 60 P P 10 32 58.2 -0.4
baz=258
N54A **Moraine State** 29.49 57 P P 10 32 59.0 -1.1
baz=256
N54A **Moraine State** 29.49 57 *e*P P 10 33 00.6 +0.5
113nm,1.6s
M54A **Oil Creek Stat** 29.86 56 P P 10 33 03.3 -0.1
baz=255
M54A **Oil Creek Stat** 29.86 56 *e*P P 10 33 03.8 +0.5
82nm,1.3s
O56A **Blue Knob Stat** 30.40 59 P P 10 33 07.8 -0.4
baz=259
O56A **Blue Knob Stat** 30.40 59 *e*P P 10 33 08.3 +0.1
48nm,1.3s
SSPA **Standing Stone** 30.98 58 P P 10 33 13.1 -0.1
baz=259
SSPA **Standing Stone** 30.98 58 *e*P P 10 33 11.6 -1.6
56nm,1.4s
SADO **Sadowa** 31.16 50 *e*P P 10 33 15.2 +0.5
26nm,0.9s
MMNY **Mt. Morris Dam** 31.43 54 *e*P P 10 33 17.7 +0.5
41nm,1.2s
DLBC **Dease Lake** 31.80 343 *e*P P 10 33 21.2 +1.0
12nm,1.2s
FCC **Fort Churchill** 32.61 18 *e*P P 10 33 27.1 -0.1
13nm,1.1s
PLVO **Plevna** 32.64 51 *e*P P 10 33 28.7 +0.9
73nm,1.0s
BINY **Binghamton** 32.69 56 P P 10 33 28.7 +0.4
baz=258
BINY **Binghamton** 32.69 56 *e*P P 10 33 29.1 +0.8
66nm,1.1s
HDC **Heredia** 32.98 119 *e*P P 10 33 31.5 +0.4
129nm,1.0s
YKA **Yellowknife Ar** 33.63 359 P P 10 33 35.6 -0.5
2.7nm,1.1s,baz=182,slow=8.0,SNR=17
YKA PcP PcP 10 36 15.1 -1.0
0.6nm,0.8s,baz=168,slow=2.4,SNR=6.4
SKAG **Skagway** 34.15 340 *e*P P 10 33 42.1 +1.5
29nm,1.8s
LONY **Lake Ozonia** 34.23 52 P P 10 33 42.2 +0.5
baz=256
LONY **Lake Ozonia** 34.23 52 *e*P P 10 33 42.5 +0.8
30nm,1.0s
NCB **Newcomb** 34.34 53 *e*P P 10 33 43.0 +0.5
37nm,1.4s
ACCN **Adirondack Com** 34.60 55 *e*P P 10 33 45.9 +1.0
44nm,1.4s
TRQ **Mont Tremblant** 34.68 49 *e*P P 10 33 46.6 +1.0
FRNY **Flat Rock** 34.98 52 *e*P P 10 33 48.8 +0.8
FRNY *e*pP sP 10 33 52.7 +0.4
WHY **Whitehorse** 35.00 341 *e*P P 10 33 49.9 +1.7
17nm,1.5s
VT1 **Waterbury** 35.45 53 *e*P P 10 33 53.2 +1.0
77nm,1.5s
HYT **Haines Junctio** 35.90 340 *e*P P 10 34 01.2 +5.3
7.6nm,1.4s
BALM **Baldy** 37.62 337 *e*P P 10 34 12.4 +1.8
44nm,2.0s
PKME **Peaks-Kenny Pk** 38.04 52 P P 10 34 14.9 +0.7
baz=260
EYAK **Cordova Ski Ar** 38.51 335 *e*P P 10 34 19.6 +1.7
25nm,1.3s
DAWY **Dawson** 38.99 342 *e*P P 10 34 23.2 +1.2
41nm,1.8s
PQI **Presque Isle** 39.17 50 *e*P P 10 34 29.9 +6.2
32nm,1.2s
KLU **Klutina** 39.19 336 *e*P P 10 34 25.6 +1.8
39nm,1.8s
MENT **Mentasta** 39.43 338 *e*P P 10 34 26.9 +1.2
10nm,1.3s
HARP **HAARP** 39.54 337 *e*P P 10 34 24.5 -2.1
40nm,1.2s
MLOA **Mauna Loa Obse** 39.71 266 *e*P P 10 34 29.0 0.0
290nm,1.3s
KDAK **Kodiak Island** 39.81 328 P P 10 34 29.0 +0.2
6.1nm,0.8s,baz=118,slow=4.4,SNR=8.4
KDAK **Kodiak Island** 39.81 328 *e*P P 10 34 30.3 +1.5
21nm,1.1s
OHAK **Old Harbor** 39.88 327 *e*P P 10 34 30.7 +1.3
42nm,1.4s
SCM **Sheep Creek Mo** 39.92 335 *e*P P 10 34 31.1 +1.2
66nm,1.8s
EGAK **Eagle** 40.03 342 *e*P P 10 34 32.6 +2.0
9.9nm,1.3s
BRLK **Bradley Lake** 40.09 331 *e*P P 10 34 32.5 +1.3
16nm,1.0s
SCRK **Sand Creek** 40.26 339 *e*P P 10 34 33.9 +1.2
9.9nm,1.1s
SML **Sawmill** 40.28 335 *e*P P 10 34 34.3 +1.5
21nm,1.3s
SML *es*P sP 10 34 39.5 +2.3
RIDG **Independ'e Rid** 40.36 339 *e*P P 10 34 34.2 +0.8
15nm,1.4s
RC01 **Rabbit Creek A** 40.38 333 *e*P P 10 34 34.5 +1.0
28nm,1.5s
PMR **Palmer** 40.45 334 *e*P P 10 34 34.9 +0.9
63nm,1.8s
GHO **Glory Hole Cre** 40.48 335 *e*P P 10 34 35.5 +1.1
51nm,1.6s
DHY **Denali Highway** 40.75 337 *e*P P 10 34 38.1 +1.4
39nm,1.9s
SUA **Susitna One** 40.99 333 *e*P P 10 34 36.8 -1.9
49nm,1.7s
INK **Inuvik** 41.27 349 P P 10 34 40.4 -0.3
3.5nm,0.9s,baz=153,slow=11,SNR=5.4
INK **Inuvik** 41.27 349 *e*P P 10 34 41.2 +0.4
16nm,1.3s
RND **Reindeer** 41.47 337 *e*P P 10 34 43.4 +0.8
19nm,1.4s
HDA **Harding Lake** 41.49 339 *e*P P 10 34 43.1 +0.4
24nm,1.7s
SKT **Skwentna** 41.60 334 *e*P P 10 34 44.4 +0.8
52nm,1.8s
MCK **McKinley** 41.71 337 *e*P P 10 34 45.4 +0.9
22nm,1.3s
IL1 **Eielson Array** 41.72 339 *e*P P 10 34 44.6 0.0
ILAR **Eielson Array** 41.72 339 P P 10 34 45.1 +0.7
3.2nm,0.9s,baz=149,slow=7.0,SNR=33
ILAR LR LR 10 52 47.3
comp=Z,1μm,19.7s,baz=177,slow=37
ILB **Eielson Array** 41.72 339 *e*P P 10 34 45.2 +0.7
WRH **Wood River Hil** 41.90 338 *e*P P 10 34 46.3 +0.3
10nm,0.4s
CCB **Clear Creek Bu** 41.93 338 *e*P P 10 34 47.8 +1.6
15nm,0.2s
TRF **Thorofare Moun** 42.01 336 *e*P P 10 34 47.8 +0.7
47nm,1.4s
SCHQ **Schefferville** 42.01 39 P P 10 34 46.9 -0.2
14nm,0.9s,baz=258,slow=6.0,SNR=18
SCHQ **Schefferville** 42.01 39 *e*P P 10 34 47.3 +0.2
33nm,1.0s
MDM **Murphy Dome** 42.27 339 *e*P P 10 34 50.0 +0.9
20nm,1.6s
PPLA **Purkeypile** 42.37 335 *e*P P 10 34 50.6 +0.5
60nm,1.4s
FYU **Fort Yukon** 42.49 342 *e*P P 10 34 57.0 +6.2
22nm,1.2s
CAST **Castle Rocks** 42.64 335 *e*P P 10 34 52.3 +0.2
53nm,1.8s
BPAW **Bear Paw Mtn.** 42.65 337 *e*P P 10 34 52.6 +0.5
59nm,1.7s
SVW2 **Sparrevohn** 42.77 331 *e*P P 10 34 53.5 +0.3
23nm,1.2s
MLY **Manley** 43.14 338 *e*P P 10 34 57.0 +0.9
21nm,1.3s
OTAV **Otavalo** 43.63 125 *e*P P 10 35 01.0 -0.2
22nm,1.3s
SJG **San Juan** 44.08 93 *e*P P 10 35 04.6 +0.3
23nm,0.8s
COLD **Coldfoot** 44.37 340 *e*P P 10 35 07.4 +1.4
19nm,1.6s
IM3 **Indian Mountai** 44.72 338 *e*P P 10 35 08.7 0.0
RES **Resolute Bay** 46.78 7 *e*P P 10 35 25.1 +0.2
26nm,1.8s
ATAH **Atahualpa** 48.97 132 P P 10 35 45.8 +2.7
9.4nm,0.9s,baz=12,slow=4.7,SNR=6.2
GAMB **Gambell** 50.71 331 *e*P P 10 35 55.3 +0.1
20nm,1.4s
TULEG **Thule** 52.09 12 *e*P P 10 36 07.0 +1.6
49nm,1.9s
SFJD **Kangerlussuaq** 53.03 26 P P 10 36 12.8 +0.4
6.9nm,0.9s,baz=283,slow=14,SNR=2.8
SFJD **Kangerlussuaq** 53.03 26 *e*P P 10 36 12.8 +0.4
SFJD *e*P P 10 36 13.3 +0.8
SUMG **Summit** 58.10 20 *i* P P 10 36 49.7 +0.3
23nm,1.2s
SUMG **Summit** 58.10 20 *e*P P 10 36 50.3 +0.9
18nm,1.1s
PTGA **Pitinga** 58.63 111 *e*P P 10 36 52.8 -0.6
12nm,1.0s
LPAZ **La Paz** 62.46 130 P P 10 37 21.0 +0.8
1.0nm,0.7s,baz=322,slow=7.3,SNR=3.1
DAG **Danmarks Havn** 63.12 15 *i* P P 10 37 21.9 -1.1
18nm,1.4s
SCO **Scoresbysund** 63.45 22 *e*P P 10 37 27.4 +2.1
22nm,1.4s
MNMC **Minye Minye** 63.56 133 *e*P P 10 37 31.1 +4.0
PB11 **IPOC Station P** 63.98 134 *e*P P 10 37 29.5 -0.2
30nm,1.2s
PB01 **IPOC Station P** 65.04 135 *e*P P 10 37 36.9 +0.4
18nm,1.1s
SEY **Seymchan** 66.71 330 P P 10 37 46.1 -0.5
3.6nm,0.9s,baz=92,slow=23,SNR=6.6
PEA1 **Petropavlovsk-** 67.02 319 *e*P P 10 37 47.6 -1.2
PETK **Petropavlovsk-** 67.02 319 P P 10 37 47.6 -1.2
6.3nm,0.9s,baz=78,slow=9.7,SNR=3.6
SPA0 **Spitsbergen Ar** 69.18 10 *e*P P 10 38 01.3 -0.7
SPITS **Spitsbergen Ar** 69.18 10 P P 10 38 01.3 -0.7
17nm,1.2s,baz=1.9,slow=8.7,SNR=3.8
AFI **Afiamalu** 70.89 241 LR LR 11 00 32.7
comp=Z,387nm,20.7s,baz=45,slow=28
TIXI **Tiksi** 71.03 343 *e*P P 10 38 11.9 -1.4
8.2nm,1.2s
CPUP **Villa Florida** 76.63 130 P P 10 38 46.8 -0.1
5.4nm,1.0s,baz=348,slow=6.2,SNR=7.5
CPUP **Villa Florida** 76.63 130 *e*P P 10 38 46.9 +0.1
12nm,1.1s
ARA0 **ARCESS Array S** 77.37 14 *e*P P 10 38 49.8 -0.6
ARCES **ARCESS Array B** 77.37 14 P P 10 38 49.8 -0.6
3.4nm,1.0s,baz=298,slow=2.6,SNR=5.0
NB200 **NORSAR Array S** 79.66 24 *e*P P 10 39 02.8 -0.4
NOA **NORSAR Array B** 79.66 24 P P 10 39 02.8 -0.4
2.4nm,1.1s,baz=340,slow=10.0,SNR=2.1
PLCA **Paso Flores** 79.69 149 P P 10 39 04.3 +0.8
7.3nm,0.9s,baz=0.4,slow=5.4,SNR=12
PLCA **Paso Flores** 79.69 149 *e*P P 10 39 04.4 +0.8
19nm,1.1s
HFS **Hagfors** 81.17 24 P P 10 39 10.7 -0.7
4.5nm,1.0s,baz=310,slow=15,SNR=2.9
KLR **Kul'dur** 83.21 323 P P 10 39 21.0 -1.3
0.2nm,0.8s,baz=360,slow=6.9,SNR=5.5
FIA0 **FINESS Array S** 84.10 18 *e*P P 10 39 26.4 -0.1
FINES **FINESS Array B** 84.10 18 P P 10 39 26.4 -0.1
1.7nm,0.8s,baz=350,slow=7.1,SNR=4.1
MJAR **Matsushiro Arr** 86.67 310 P P 10 39 38.2 -1.7
3.6nm,1.2s,baz=27,slow=3.6,SNR=6.6
MAJO **Matsushiro** 86.67 310 *e*P P 10 39 38.2 -1.7
CN2 **Changchun** 90.02 322 *e*P P 10 39 56.4 +0.7
MODS **Modra-Piesok** 91.16 31 *e*P P 10 40 01.5 +0.6
KSRS **Korea Array** 92.73 316 P P 10 40 07.9 -0.5
1.9nm,0.9s,baz=56,slow=9.4,SNR=4.6
KS01 **Wonju Array Si** 92.73 316 *e*P P 10 40 07.8 -0.6
KS15 **Wonju Array Si** 92.76 316 *e*P P 10 40 07.9 -0.6
KSAR **Wonju Array Be** 92.76 316 P P 10 40 07.9 -0.6
SONA1 **Songino Array** 95.79 335 *e*P P 10 40 22.4 0.0
SONA0 **Songino Array** 95.80 335 *e*P P 10 40 22.5 0.0
SONM **Songino Array** 95.80 335 P P 10 40 22.5 0.0
0.7nm,0.7s,baz=72,slow=4.8,SNR=5.3
HHC **Hu-ho-hao-te** 99.23 327 *e*P Pdif 10 40 36.5 -1.5
HHC pmax pmax
comp=Z,12nm,1.5s
HHC pmax pmax
comp=Z,31nm,8.1s
NJ2 **Nanjing** 101.86 317 *e*P Pdif 10 40 53.2 +3.5
NJ2 pmax pmax
comp=Z,7.0nm,0.5s
LZH **Lanzhou** 106.63 330 *e*Pdif Pdif 10 41 09.5 -1.6
LZH *e*PP PP 10 45 36.8 +1.5
LZH AMB AMB
comp=Z,29nm,1.0s
WB2 **Warramunga Arr** 118.68 262 *e*PKPdf PKPdf 10 45 43.0 -1.6
WR1 **Warramunga Arr** 118.69 262 *e*PKPdf PKPdf 10 45 42.6 -2.1
WRA **Warramunga Arr** 118.69 262 PKP PKPdf 10 45 42.6 -2.1
comp=Z,2.9nm,0.8s,baz=64,slow=2.1,SNR=15
AS31 **Alice Springs** 120.43 258 *e*PKPdf PKPdf 10 45 45.2 -2.8
ASAR **Alice Springs** 120.43 258 PKP PKPdf 10 45 45.2 -2.8
comp=Z,2.2nm,0.9s,baz=75,slow=2.0,SNR=17
CM31 **Chiang Mai Arr** 123.69 323 *e*PKPdf PKPdf 10 45 53.9 -0.6
CMAR **Chiang Mai Arr** 123.69 323 PKP PKPdf 10 45 53.9 -0.6
comp=Z,2.3nm,0.9s,baz=326,slow=1.9,SNR=12
CM01 **Chiang Mai Arr** 123.71 323 *e*PKPdf PKPdf 10 45 53.6 -0.8
LSZ **Lusaka** 141.80 78 PKP PKPdf 10 46 29.1 +0.6
comp=Z,1.7nm,0.5s,baz=21,slow=1.6,SNR=4.8

MEX 12 10:29:35.7±0.6, 16°.11N×98°.61W, h20km±5km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	0.54	59	*i* P		Pb	10 29 44.4	-2.2
PNIG				*i* S		Sb	10 29 52.0	-1.9
TLIG	**Tlapa**	1.44	2	*e*P		Pn	10 29 57.9	-2.9
TLIG				*e*S		Sn	10 30 14.4	-4.9
CAIG	**El Cayaco**	1.84	301	*e*P		Pn	10 29 59.7	-6.5
CAIG				*e*S		Sn	10 30 24.9	-4.0
VHO	**Vista Hermosa**	2.04	62	*e*P		Pn	10 30 06.5	-2.5
VHO				*e*S		Sn	10 30 30.3	-3.7
PLIG	**Platanillo**	2.42	339	*e*P		Pn	10 30 13.3	-0.9
PLIG				*i* S		Sn	10 30 40.3	-3.2

IDC 12 10:39:08.2±1.9, 2°.26N×89°.38E, h0km, mb3.8/2, mb1 3.9/5, mb1mx3.4/73, mbtmp3.8/5, ML3.7/2, Error ellipse: s-maj=47.6km s-min=29.5km az=36.0, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
PSI	**Prapat**	9.55	87	Pn		Pn	10 41 26.8	-0.5
0.4nm,0.3s,baz=281,slow=16,SNR=2.8								
PSI				Sn		Sn	10 43 00.1	-15
0.8nm,0.3s,baz=148,slow=15,SNR=2.7								
PALK	**Pallekele**	9.97	300	Pn		Pn	10 41 31.6	-1.3
1.3nm,0.3s,baz=118,slow=1.7,SNR=9.6								
PALK				Sn		Sn	10 43 22.3	-3.4
2.9nm,0.3s,baz=296,slow=1.8,SNR=6.9								
CMAR	**Chiang Mai Arr**	18.63	30	P		P	10 43 27.0	-0.6
baz=225,slow=13,SNR=6.6								
H08S3	**Diego Garcia H**	19.50	240	T		T	11 04 02.6	
baz=60,slow=75,SNR=6.1								
H08S2	**Diego Garcia H**	19.51	240	T		T	11 04 04.4	
baz=60,slow=75,SNR=6.4								
H08S1	**Diego Garcia H**	19.52	240	T		T	11 04 04.3	
baz=60,slow=75,SNR=17								
H01W3	**Cape Leeuwin H**	43.64	150	T		T	11 33 45.5	
baz=322								
H01W2	**Cape Leeuwin H**	43.65	150	T		T	11 33 48.3	
baz=322								
H01W1	**Cape Leeuwin H**	43.66	150	T		T	11 33 49.9	
baz=322								
SONM	**Songino Array**	47.73	15	P		P	10 47 47.4	+0.4
1.2nm,0.6s,baz=202,slow=9.1,SNR=3.9								
WRA	**Warramunga Arr**	49.32	119	P		P	10 47 59.0	-0.6
0.6nm,0.6s,baz=298,slow=8.7,SNR=5.0								
TXAR	**Lajitas Array**	146.19	21	PKPbc		PKPbc	10 58 51.2	-0.2
0.4nm,0.9s,baz=325,slow=1.1,SNR=3.1								

IDC ***12*** *10:39:11.5±2.2, 25°.85S×13°.26W, h0km, mb4.1/9, mb1 4.2/9, mb1mx3.9/52, mbtmp4.1/9, MS4.5/1, Ms1 4.4/1, ms1mx3.8/50, Error ellipse: s-maj=59.8km s-min=32.1km az=50.0*

ISCJB ***12*** *10:39:12.4±3.1, 25°.8S±0°.4×13°.1W±0°.5, h10km, mb4.0/9, MS4.5/1, Error ellipse: s-maj=78.7km s-min=24.7km az=136.8*

ISC 12 10:39:12.9±2.3, 25°.9S±0°.3×13°.3W±0°.3, h10km, n16, σ1°.92/11, mb4.0/9, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
H10S2	**ASCENSION HYDR**	16.90	355	T		T	11 00 56.6	
baz=177,slow=75,SNR=14								
H10S3	**ASCENSION HYDR**	16.91	355	T		T	11 00 57.5	
baz=177,slow=75,SNR=14								
H10S1	**ASCENSION HYDR**	16.92	355	T		T	11 01 02.6	
baz=177,slow=75,SNR=13								
H10N3	**ASCENSION HYDR**	18.00	356	T		T	11 02 25.2	
SNR=5.8								

TSUM	**Tsumeb**	**29.22**	**83**	P		**P**	**10 45 15.9**	**+0.6**
	1.0nm,0.3s,baz=238,slow=19,SNR=3.5								
BOSA	**Boshof**	**34.26**	**103**	P		**P**	**10 45 59.1**	**-0.4**
	4.0nm,0.9s,baz=228,slow=9.3,SNR=4.8								
BOSA				LR		LR	10 56 40.5		
	comp=Z,871nm,21.6s,baz=252,slow=31								
KOWA	**Kowa**	**41.15**	**14**	P		**P**	**10 46 57.4**	**-0.1**
	4.0nm,0.8s,baz=189,slow=11,SNR=7.7								
TORD	**Torodi Ar. Bea**	**41.46**	**22**	P		**P**	**10 46 59.1**	**-1.0**
	2.9nm,0.8s,baz=198,slow=7.6,SNR=9.9								
GERES	**GERESS Array B**	**78.22**	**18**	P		**P**	**10 51 11.6**	**-1.0**
	0.5nm,0.5s,baz=195,slow=1.9,SNR=2.3								
BRTR	**Keskin Array B**	**78.58**	**35**	P		**P**	**10 51 15.7**	**+0.8**
	1.4nm,0.9s,baz=211,slow=2.5,SNR=6.1								
MLR	**Muntele Rosu**	**79.51**	**27**	P		**P**	**10 51 20.6**	**+0.8**
	0.9nm,0.9s,baz=214,slow=11,SNR=4.3								
AKASG	**Malin Array Be**	**85.01**	**26**	P		**P**	**10 51 47.3**	**-1.0**
	0.3nm,0.3s,baz=220,slow=4.8,SNR=5.5								
HFS	**Hagfors**	**88.53**	**13**	P		**P**	**10 52 06.5**	**+1.3**
	1.9nm,0.8s,baz=233,slow=14,SNR=2.7								
ILAR	**Eielson Array**	**131.21**	**336**	PKP		**PKPdf**	**10 58 24.6**	**+0.1**
	0.4nm,1.0s,baz=12,slow=1.3,SNR=3.1								
KLR	**Kul'dur**	**144.28**	**40**	PKhKP		PKPpre	10 58 44.9		
	0.7nm,1.0s,baz=306,slow=8.7,SNR=4.4								
KSRS	**Korea Array**	**145.25**	**61**	PKPbc		**PKPbc**	**10 58 49.4**	**-1.4**
	3.3nm,1.0s,baz=281,slow=3.0,SNR=8.4								

NIED ***12*** *10:39:00,23˚.40N×120˚.40E,h5km,Mw4.3 Best double couple: M₀3.38000×10¹⁵ NP1:ϕs10.00000°,δ43.00000°, λ59.00000°. NP2:ϕs229.00000°,δ54.00000°,λ115.00000°.*
IDC ***12*** *10:39:22.8±0.7,23˚.24N×120˚.64E,h0km,mb3.7/13, mb1 3.9/14,mb1mx3.7/66,mbtmp3.7/14,ML3.6/1,MS4.0/2, Ms1 4.1/2,ms1mx3.3/77,Error ellipse: s-maj=23.0km s-min=16.0km az=71.0*
JMA ***12*** *10:39:24.3±0.2,23˚.40N×120˚.41E,h0km,M4.4*
ISCJB ***12*** *10:39:25.9±0.2,23˚.334N±0˚.010×120˚.38E±0˚.01, h20km±1km,mb3.9/14,MS3.9/2,Error ellipse: s-maj=2.0km s-min=1.6km az=7.3*
TAP ***12*** *10:39:25.1,23˚.33N×120˚.42E,h13km,ML4.6,B*
NEIC ***12*** *10:39:25.5±1.3,23˚.21N×120˚.48E,h16km±7km,mb4.2/1, ML4.6(TAP),Error ellipse: s-maj=10.2km s-min=9.0km az=67.0*
NEIC Recorded [3 TAP] at Changhua, Chiayi, Tainan and Yunlin; [2 TAP] at Kaohsiung, Nantou and Taichung; [1 TAP] at Penghu.
BJI ***12*** *10:39:27.0,23˚.52N×120˚.28E,h8km,ML4.1/7,Ms3.9/1, Ms7.3.8/2*

ISC 12 10:39:25.8±0.7,23˚34N±0˚.01×120˚39E±0˚.02,h18km±3km, n162,σ0s99/246,mb4.1/14,8C-40D,Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
TWK	**Hsinying**	**0.12**	**129**	⇓*i*P		**Pg**	**10 39 28.6**	**-1.1**
	baz=121							
TWK				*i* S		**Sg**	**10 39 31.4**	**-0.9**
	baz=121							
WLGB	**Puzi**	**0.16**	**329**	⇓*i*P		**Pg**	**10 39 29.8**	**-0.3**
	baz=325							
WLGB				S		**Sg**	**10 39 33.9**	**+0.8**
	baz=325							
CHY	**Chiayi**	**0.16**	**12**	⇓*i*P		**Pg**	**10 39 29.8**	**-0.3**
	baz=6.0							
CHY				*e*S		**Sg**	**10 39 33.1**	**0.0**
	baz=6.0							
CHN8	**Yiju**	**0.16**	**271**	⇓*i*P		**Pg**	**10 39 29.8**	**-0.4**
	baz=275							
CHN8				S		**Sg**	**10 39 33.7**	**+0.6**
	baz=275							
CHN4	**Tsaushan**	**0.19**	**87**	⇓*i*P		**Pg**	**10 39 29.7**	**-0.9**
	baz=84							
CHN4				S		**Sg**	**10 39 33.2**	**-0.6**
	baz=84							
CHN1	**Nanshi**	**0.20**	**141**	⇓*i*P		**Pg**	**10 39 29.9**	**-0.9**
	baz=138							
CHN1				*i* S		**Sg**	**10 39 33.6**	**-0.5**
	baz=138							
CHN2	**Minshiung**	**0.20**	**23**	⇓*i*P		**Pg**	**10 39 30.6**	**-0.2**
	baz=16							
CHN2				*e*S		**Sg**	**10 39 34.9**	**+0.7**
	baz=16							
TPUB	**Ta-pu**	**0.23**	**101**	⇓P		**Pg**	**10 39 30.1**	**-1.1**
	baz=99							
TPUB				*e*S		**Sg**	**10 39 33.7**	**-1.1**
	baz=99							
TPUB	**Ta-pu**	**0.23**	**101**	*e*Pg		**Pg**	**10 39 29.8**	**-1.3**
WTP	**Ta-pu**	**0.23**	**115**	⇓*i*P		**Pg**	**10 39 30.4**	**-0.8**
	baz=109							
WTP				*i* S		**Sg**	**10 39 34.6**	**-0.2**
	baz=109							
SCLT	**Jiali**	**0.24**	**227**	⇓*i*P		**Pg**	**10 39 31.4**	**0.0**
	baz=231							
SCLT				*e*S		**Sg**	**10 39 36.7**	**+1.5**
	baz=231							
CHN3	**Shinhua**	**0.27**	**185**	⇑*i*P		**Pb**	**10 39 32.0**	**0.0**
	baz=194							
CHN3				*e*S		**Sb**	**10 39 37.4**	**+1.1**
	baz=194							
SGST	**Jiashian**	**0.32**	**145**	⇓*i*P		**Pg**	**10 39 32.2**	**-0.4**
	baz=138							
SGST				*e*S		**Sb**	**10 39 37.6**	**-0.1**
	baz=138							
WSF	**Szhu**	**0.33**	**333**	⇓*i*P		**Pb**	**10 39 32.8**	**-0.4**
	baz=332							
WSF				*e*S		**Sb**	**10 39 38.9**	**+0.7**
	baz=332							
TAI1	**Yung-k'ang**	**0.34**	**206**	*e*P		**Pb**	**10 39 33.2**	**-0.1**
	baz=208							
TAI1				*e*S		**Sb**	**10 39 39.3**	**+1.0**
	baz=208							
CHN5	**Tsauling**	**0.37**	**46**	⇓P		**Pg**	**10 39 33.0**	**-0.6**
	baz=43							
CHN5				*e*S		**Sb**	**10 39 39.2**	**-0.2**
	baz=43							
WDLH	**Douliu**	**0.37**	**22**	⇓*e*P		**Pb**	**10 39 33.6**	**-0.3**
	baz=19							
WDLH				*e*S		**Sb**	**10 39 40.0**	**+0.6**
	baz=19							
WGK	**Gukeng**	**0.38**	**25**	*e*P		**Pb**	**10 39 33.7**	**-0.3**
	baz=23							
WGK				*e*S		**Sb**	**10 39 40.5**	**+1.0**
	baz=23							
STYT	**Tauyuan**	**0.38**	**118**	⇓*i*P		**Pg**	**10 39 33.1**	**-0.7**
	baz=107							
STYT				*e*S		**Sg**	**10 39 39.0**	**-0.2**
	baz=107							
SLGT	**Liugui**	**0.42**	**146**	⇓P		**Pg**	**10 39 34.1**	**-0.3**
	baz=135							
SLGT				*e*S		**Sb**	**10 39 40.6**	**-0.2**
	baz=135							
TWM1	**Shoushan**	**0.52**	**176**	⇑*e*P		**Pb**	**10 39 37.5**	**+1.1**
	baz=178							
WTCT	**Ta-ch'eng**	**0.53**	**349**	⇓P		**Pb**	**10 39 36.0**	**-0.5**
	baz=349							
WTCT				*e*S		**Sb**	**10 39 44.5**	**+0.6**
	baz=349							
RLNB	**Erlin**	**0.55**	**357**	⇓P		**Pb**	**10 39 36.6**	**-0.3**
	baz=347							
RLNB				*e*S		**Sb**	**10 39 45.2**	**+0.8**
	baz=347							
WJS	**Zhushan**	**0.57**	**33**	⇓*e*P		**Pg**	**10 39 36.9**	**-0.3**
	baz=31							
WJS				*e*S		**Sb**	**10 39 45.6**	**+0.5**
	baz=31							
ELDTW	**Lidau**	**0.60**	**105**	⇓P		**Pg**	**10 39 36.9**	**-0.9**
	baz=96							
ELDTW				*e*S		**Sg**	**10 39 45.5**	**-0.3**
	baz=96							
WNT	**Mingjian**	**0.60**	**27**	⇓*i*P		**Pb**	**10 39 37.5**	**-0.2**
	baz=26							
WNT				*e*S		**Sb**	**10 39 46.7**	**+0.8**
	baz=26							
SSD	**Sandimen**	**0.64**	**159**	*e*P		**Pb**	**10 39 38.2**	**-0.1**
	baz=146							
SSD				S		**Sb**	**10 39 47.6**	**+0.7**
	baz=146							
WDGT	**Dungji**	**0.67**	**263**	⇓*i*P		**Pb**	**10 39 38.5**	**-0.6**
	baz=264							
WDGT				*e*S		**Sb**	**10 39 48.2**	**+0.1**
	baz=264							
SSLB	**Suanglung**	**0.68**	**49**	⇓P		**Pg**	**10 39 38.5**	**-0.8**
	baz=48							
SSLB				*e*S		**Sb**	**10 39 48.5**	**+0.1**
	baz=48							
SSLB	**Suanglung**	**0.68**	**49**	*e*Pg		**Pg**	**10 39 38.5**	**-0.8**
SSLB				*e*Sn		**Sg**	**10 39 48.3**	**-0.1**
TYC	**Yuchr**	**0.70**	**37**	⇓P		**Pg**	**10 39 39.4**	**-0.3**
	baz=37							
TYC				S		**Sb**	**10 39 49.8**	**+0.8**
	baz=37							
WSSB	**Gushan**	**0.71**	**190**	⇑*e*P		**Pn**	**10 39 40.5**	**-0.4**
	baz=204							
SMLT	**Sun Moon Lake**	**0.71**	**41**	⇓*i*P		**Pg**	**10 39 39.5**	**-0.4**
	baz=40							
SMLT				*e*S		**Sb**	**10 39 50.0**	**+0.7**
	baz=40							
WCHH	**Zhanghua**	**0.75**	**12**	*e*P		**Pb**	**10 39 40.1**	**-0.3**
	baz=24							
WCHH				*e*S		**Sb**	**10 39 51.4**	**+1.1**
	baz=24							
MASBT	**Mashibuluo**	**0.76**	**163**	⇑P		**Pg**	**10 39 40.2**	**-0.5**
	baz=149							
MASBT				*e*S		**Sb**	**10 39 51.5**	**+0.9**
	baz=149							
PHUB	**P'eng-hu**	**0.77**	**283**	⇓P		**Pg**	**10 39 39.8**	**-1.1**
	baz=283							
PHUB				*e*S		**Sb**	**10 39 50.3**	**-0.5**
	baz=283							
KAU	**Kaohsiung**	**0.77**	**185**	*e*P		**Pb**	**10 39 41.4**	**+0.6**
	baz=203							
PNG	**Penghu**	**0.80**	**286**	⇓*i*P		**Pg**	**10 39 40.4**	**-1.0**
	baz=287							
PNG				*e*S		**Sb**	**10 39 51.8**	**+0.2**
	baz=287							
TWG	**Pinlang**	**0.82**	**129**	⇓*i*P		**Pg**	**10 39 41.1**	**-0.6**
	baz=129							
TWG				*e*S		**Sg**	**10 39 52.0**	**-0.6**
	baz=129							
TWG	**Pinlang**	**0.82**	**129**	*e*Pn		**Pg**	**10 39 41.1**	**-0.6**
TWG				*e*Sn		**Sg**	**10 39 50.8**	**-1.8**
TWGBT	**Beinan**	**0.82**	**129**	⇓P		**Pg**	**10 39 41.1**	**-0.8**
	baz=129							
TWGBT				*e*S		**Sg**	**10 39 52.4**	**-0.4**
	baz=129							
TWF1	**Yuli**	**0.83**	**89**	⇓*i*P		**Pg**	**10 39 41.1**	**-1.0**
	baz=88							
TWF1				*e*S		**Sg**	**10 39 51.7**	**-1.5**
	baz=88							
YULB	**Yu-li**	**0.84**	**86**	⇓P		**Pg**	**10 39 41.0**	**-1.2**
	baz=93							
YULB				S		**Sg**	**10 39 51.9**	**-1.3**
	baz=93							
YULB	**Yu-li**	**0.84**	**86**	*e*Pg		**Pg**	**10 39 41.0**	**-1.2**
YULB				*e*Sg		**Sg**	**10 39 51.8**	**-1.5**
TCU	**Taichung**	**0.84**	**18**	*e*P		**Pg**	**10 39 41.7**	**-0.6**
	baz=18							
TCU				*e*S		**Sb**	**10 39 54.1**	**+1.1**
	baz=18							
FULB	**Fuli**	**0.84**	**100**	⇓*i*P		**Pg**	**10 39 41.9**	**-0.4**
	baz=91							
FULB				*e*S		**Sg**	**10 39 53.1**	**-0.4**
	baz=91							
DPDB	**Guoxing**	**0.85**	**36**	⇓*e*P		**Pg**	**10 39 41.4**	**-0.9**
	baz=35							
DPDB				*e*S		**Sb**	**10 39 53.9**	**+0.7**
	baz=35							
SSPT	**Xinbi**	**0.87**	**169**	*e*P		**Pb**	**10 39 42.8**	**+0.4**
	baz=170							
EHY	**Hungye**	**0.87**	**79**	*e*P		**Pg**	**10 39 42.1**	**-0.7**
	baz=79							
EHY				*e*S		**Sg**	**10 39 53.6**	**-0.7**
	baz=79							
ECL	**Taimali**	**0.91**	**145**	*e*P		**Pg**	**10 39 42.8**	**-0.7**
	baz=145							
ECL				*e*S		**Sb**	**10 39 56.1**	**+1.3**
	baz=145							
TTN	**Taitung**	**0.91**	**130**	*e*P		**Pb**	**10 39 43.2**	**+0.1**
	baz=130							
CHKT	**Chengkung**	**0.93**	**105**	⇓P		**Pg**	**10 39 43.4**	**-0.5**
	baz=104							
CHKT				*e*S		**Sb**	**10 39 56.1**	**+0.7**
	baz=104							
OWD	**Renai**	**0.94**	**50**	⇓*e*P		**Pg**	**10 39 43.3**	**-0.9**
	baz=49							
OWD				*e*S		**Sg**	**10 39 55.8**	**-0.9**
	baz=49							
HGSD	**Ruisui**	**0.96**	**81**	⇓*i*P		**Pg**	**10 39 43.9**	**-0.6**
	baz=88							
HGSD				*e*S		**Sb**	**10 39 57.5**	**+1.1**
	baz=88							
WLCH	**Liuqiu**	**0.99**	**181**	*e*P		**Pn**	**10 39 44.9**	**+0.1**
	baz=203							
TWP	**Hsiaoliuchiu**	**0.99**	**181**	*e*P		**Pn**	**10 39 45.0**	**+0.1**
	baz=203							
CHGB	**Renai**	**1.01**	**45**	⇓P		**Pg**	**10 39 44.2**	**-1.4**
	baz=45							
CHGB				*e*S		**Sg**	**10 39 58.3**	**-0.7**
	baz=45							
EAST	**Anshuo**	**1.04**	**156**	⇑*i*P		**Pg**	**10 39 45.3**	**-0.8**
	baz=149							
EAST				*e*S		**Sn**	**10 40 00.3**	**+0.5**
	baz=149							
TWQ1	**Liyutan**	**1.06**	**19**	⇓P		**Pg**	**10 39 45.4**	**-1.0**
	baz=20							
TWQ1				*e*S		**Sb**	**10 40 00.4**	**+1.1**
	baz=20							
ESL	**Shilin**	**1.07**	**64**	⇓*e*P		**Pg**	**10 39 45.4**	**-1.1**
	baz=52							
ESL				*e*S		**Sb**	**10 40 00.3**	**+0.9**
	baz=52							
TAW	**Tawu**	**1.09**	**154**	*e*P		**Pb**	**10 39 45.9**	**-0.2**
	baz=147							
TAW				*e*S		**Sn**	**10 40 01.2**	**+0.5**
	baz=147							
NSY	**Sanyi**	**1.12**	**18**	⇓P		**Pb**	**10 39 46.7**	**-0.1**
	baz=18							
NSY				*e*S		**Sn**	**10 40 02.3**	**+0.6**
	baz=18							
WHF	**Hehuan Shan**	**1.13**	**45**	*e*P		**Pg**	**10 39 46.5**	**-1.4**
	baz=45							
WHF				*e*S		**Sg**	**10 40 02.2**	**-0.5**
	baz=45							
TDCB	**Techi**	**1.15**	**38**	*e*P		**Pb**	**10 39 46.4**	**-0.8**
	baz=27							
TDCB				*e*S		**Sg**	**10 40 02.8**	**-0.4**
	baz=27							
TWT	**Tachien**	**1.16**	**38**	*e*P		**Pb**	**10 39 47.0**	**-0.5**
	baz=27							
TWT				*e*S		**Sb**	**10 40 02.7**	**+0.5**
	baz=27							
ENLB	**Shoufeng**	**1.25**	**63**	P		**Pn**	**10 39 48.5**	**+0.2**
	baz=53							
ENLB				*e*S		**Sb**	**10 40 05.0**	**+0.5**
	baz=53							
NMLH	**Miaoli**	**1.25**	**17**	P		**Pn**	**10 39 48.3**	**-0.1**
	baz=17							
NMLH				*e*S		**Sg**	**10 40 05.5**	**-0.7**
	baz=17							
HWA	**Hwalien**	**1.28**	**60**	*e*P		**Pb**	**10 39 49.5**	**+0.1**
	baz=60							
HWA				*e*S		**Sn**	**10 40 06.7**	**+1.1**
	baz=60							
TWD	**Chiawan**	**1.33**	**56**	*e*P		**Pn**	**10 39 49.8**	**+0.3**
	baz=56							
TWD				*e*S		**Sb**	**10 40 07.5**	**+0.6**
	baz=56							
HEN	**Hengchun**	**1.37**	**166**	*e*P		**Pn**	**10 39 50.2**	**+0.2**
	baz=166							
HEN				*e*S		**Sg**	**10 40 09.3**	**-0.8**
	baz=166							
NACB	**Ninganchiao**	**1.38**	**53**	*e*P		**Pn**	**10 39 50.5**	**+0.3**
	baz=53							
NACB				*e*S		**Sn**	**10 40 07.9**	**-0.2**
	baz=53							
NACB	**Ninganchiao**	**1.38**	**53**	*e*Pn		**Pn**	**10 39 50.5**	**+0.3**
NACB				*e*Sn		**Sn**	**10 40 08.1**	**0.0**
NSTT	**Nanjuang**	**1.40**	**23**	P		**Pn**	**10 39 50.3**	**-0.2**
	baz=24							
NSTT				*e*S		**Sn**	**10 40 09.3**	**+0.7**
	baz=24							
NNSB	**Datong**	**1.41**	**40**	*e*P		**Pn**	**10 39 50.8**	**0.0**
	baz=29							
NNSB				*e*S		**Sn**	**10 40 09.3**	**+0.3**
	baz=29							
NNS	**Nan Shan**	**1.42**	**39**	*e*P		**Pn**	**10 39 51.0**	**+0.1**
	baz=29							
NNS				*e*S		**Sn**	**10 40 09.8**	**+0.7**
	baz=29							
LIOB	**Emei**	**1.42**	**24**	P		**Pn**	**10 39 50.6**	**-0.1**
	baz=24							
LIOB				*e*S		**Sn**	**10 40 09.7**	**+0.7**
	baz=24							
TWK1	**Hengchun**	**1.45**	**164**	⇑P		**Pn**	**10 39 50.8**	**-0.3**
	baz=165							
TWKBT	**Hengchun**	**1.45**	**164**	⇑P		**Pn**	**10 39 50.7**	**-0.4**
	baz=164							
TWKBT				*e*S		**Sg**	**10 40 11.7**	**-0.9**
	baz=164							
TSEB	**Hengchuen, Pin**	**1.51**	**162**	*e*P		**Pn**	**10 39 51.8**	**-0.2**
	baz=164							
SBCB	**Hsinchu**	**1.54**	**21**	*e*P		**Pn**	**10 39 52.2**	**-0.3**
	baz=21							
SBCB				*e*S		**Sn**	**10 40 13.3**	**+1.2**
	baz=21							
HSN	**Hsinchu**	**1.55**	**20**	*e*P		**Pn**	**10 39 53.0**	**+0.5**
	baz=22							
HSN				*e*S		**Sb**	**10 40 14.3**	**+1.0**
	baz=22							
YHNB	**Yeheng**	**1.60**	**34**	*e*P		**Pn**	**10 39 53.4**	**0.0**
	baz=34							
YHNB				*e*S		**Sn**	**10 40 14.8**	**+1.2**
	baz=34							
YHNB	**Yeheng**	**1.60**	**34**	*e*Pn		**Pn**	**10 39 53.5**	**+0.2**
YHNB				*e*Sn		**Sn**	**10 40 14.1**	**+0.5**
ENA	**Nanau**	**1.64**	**49**	*e*P		**Pn**	**10 39 55.0**	**+1.2**
	baz=49							
ENA				*e*S		**Sb**	**10 40 16.6**	**+0.6**
	baz=49							
ENTT	**Nioudou**	**1.68**	**40**	*e*P		**Pn**	**10 39 55.2**	**+0.8**
	baz=30							
LAY	**Lan-yu**	**1.68**	**140**	*e*P		**Pn**	**10 39 53.4**	**-1.0**
	baz=140							
LAY				*e*S		**Sn**	**10 40 16.5**	**+0.9**
	baz=140							
ENAH	**Nanao**	**1.71**	**49**	*e*P		**Pb**	**10 39 56.0**	**-0.6**
	baz=67							
NWLT	**Wulai**	**1.75**	**35**	*e*P		**Pn**	**10 39 55.9**	**+0.5**
	baz=36							
NWLT				*e*S		**Sn**	**10 40 18.3**	**+0.9**
	baz=36							
NCUH	**Zhongli**	**1.77**	**24**	*e*P		**Pn**	**10 39 55.6**	**-0.1**
	baz=24							
NCU	**National Centr**	**1.78**	**24**	*e*P		**Pn**	**10 39 55.8**	**+0.1**
	baz=12							
NCU				*e*S		**Sn**	**10 40 19.0**	**+1.1**
	baz=12							
TWE	**Neicheng**	**1.80**	**40**	*e*P		**Pn**	**10 39 57.3**	**+1.3**
	baz=25							
TWC	**Suao**	**1.84**	**46**	*e*P		**Pb**	**10 39 58.3**	**-0.6**
	baz=47							
TWC				*e*S		**Sb**	**10 40 21.8**	**+0.2**
	baz=47							
TATO	**Taipei**	**1.91**	**31**	*e*Pn		**Pn**	**10 39 57.6**	**+0.1**
TWA	**Mucha**	**1.96**	**34**	*e*P		**Pn**	**10 39 58.8**	**+0.5**
	baz=35							
TWA				*e*S		**Sn**	**10 40 24.4**	**+1.9**
	baz=35							
TWS1	**Kuangyinshan**	**1.99**	**28**	*e*P		**Pn**	**10 39 58.8**	**+0.2**
	baz=29							
TWS1				*e*S		**Sn**	**10 40 24.3**	**+1.3**
	baz=29							
EOS1	**EOS1**	**2.00**	**53**	*e*P		**Pb**	**10 40 01.2**	**-0.3**
	baz=52							
NTC	**Toucheng**	**2.00**	**41**	*e*P		**Pn**	**10 39 59.8**	**+1.0**
	baz=26							
EGS		**2.06**	**43**	*e*P		**Pb**	**10 40 01.4**	**-1.2**
	baz=30							
NTST	**Danshui**	**2.06**	**28**	*e*P		**Pn**	**10 39 59.6**	**+0.1**
	baz=28							
YM04	**YM04**	**2.09**	**30**	*e*P		**Pn**	**10 39 59.6**	**-0.4**
	baz=31							
YM04				*e*S		**Sn**	**10 40 24.5**	**-1.0**
	baz=31							
TIPB	**Shuangxi**	**2.09**	**39**	*e*P		**Pn**	**10 39 59.9**	**0.0**
	baz=25							
TIPB				*e*S		**Sn**	**10 40 26.0**	**+0.4**
	baz=25							
YM10	**YM10**	**2.10**	**30**	*e*P		**Pn**	**10 39 59.9**	**-0.2**
	baz=31							
YM10				*e*S		**Sn**	**10 40 26.3**	**+0.4**
	baz=31							
YM05	**YM05**	**2.11**	**30**	*e*P		**Pn**	**10 40 00.1**	**-0.2**
	baz=15							
NWF	**Wu-fen Shan**	**2.14**	**36**	*e*P		**Pn**	**10 40 01.7**	**+0.9**
	baz=19							
WFSB	**Wu-fen Shan**	**2.14**	**36**	*e*P		**Pn**	**10 40 01.7**	**+1.0**
	baz=20							
YM08	**YM08**	**2.14**	**31**	*e*P		**Pn**	**10 40 00.9**	**+0.2**
	baz=16							
KNMB	**Chin-men Tao**	**2.14**	**302**	*e*P		**Pn**	**10 39 60.0**	**-0.7**
	baz=303							
YM07	**YM07**	**2.14**	**31**	*e*P		**Pn**	**10 39 59.3**	**-1.4**
	baz=31							
TWB1	**Santiao Chiao**	**2.21**	**41**	*e*P		**Pn**	**10 40 02.6**	**+1.0**
	baz=25							
TWY	**Chenhua**	**2.22**	**30**	*e*P		**Pn**	**10 40 01.6**	**-0.2**
	baz=31							
TWY				*e*S		**Sn**	**10 40 29.9**	**+1.1**
	baz=31							
QZH	**Quanzhou**	**2.29**	**315**	⇑*i*Pn		**Pn**	**10 40 02.5**	**-0.2**
QZH				Sn		**Sn**	**10 40 27.3**	**-3.1**
QZH				smax		smax		
	comp=N,840nm,0.3s							
QZH				smax		smax		
	comp=E,580nm,0.5s							
JYNG	**Yonagunijimaku**	**2.59**	**64**	P		**Pn**	**10 40 07.7**	**+0.9**
JYNG				S		**Sn**	**10 40 40.4**	**+2.6**
YOJ	**Yonaguni jima**	**2.65**	**65**	*e*P		**Pn**	**10 40 08.7**	**+1.1**
	baz=64							
YOJ	**Yonaguni jima**	**2.65**	**65**	P		**Pn**	**10 40 08.5**	**+0.9**
YOJ				S		**Sn**	**10 40 41.5**	**+2.2**
YOJ	**Yonaguni jima**	**2.65**	**65**	*e*Pn		**Pn**	**10 40 08.9**	**+1.2**
MATB	**Ma-tsu**	**2.83**	**352**	*e*P		**Pn**	**10 40 09.1**	**-1.0**
	baz=352							
HATJ	**Hateruma jima**	**3.21**	**77**	P		**Pn**	**10 40 16.2**	**+0.8**
HATJ				*e*S		**Sn**	**10 40 54.9**	**+1.7**
IRIF	**Iriomote-Funau**	**3.22**	**71**	P		**Pn**	**10 40 16.8**	**+1.4**
IRIF				S		**Sn**	**10 40 56.1**	**+2.8**
JKRS	**Kuro-shima**	**3.43**	**74**	P		**Pn**	**10 40 19.9**	**+1.4**
JKRS				*e*S		**Sn**	**10 41 00.3**	**+1.6**
JIJ	**Ishigaki jima**	**3.58**	**73**	P		**Pn**	**10 40 20.9**	**+0.4**
JIJ				*e*S		**Sn**	**10 41 02.6**	**+0.1**
JISG	**Ishigakijimahi**	**3.80**	**70**	P		**Pn**	**10 40 23.8**	**+0.4**
JISG				S		**Sn**	**10 41 07.7**	**0.0**
JTJ	**Tarama**	**4.15**	**71**	P		**Pn**	**10 40 29.5**	**+1.2**
JTJ				*e*S		**Sn**	**10 41 18.2**	**+1.8**
JIRB	**Irabujima**	**4.62**	**70**	P		**Pn**	**10 40 36.8**	**+2.1**
JOGS	**Gusukube**	**4.80**	**72**	P		**Pn**	**10 40 39.3**	**+2.1**
JOW	**Kunigami**	**7.95**	**62**	Pn		**Pn**	**10 41 19.6**	**-0.9**
	2.0nm,0.3s,baz=146,slow=27,SNR=15							
JOW				Sn		**Sn**	**10 42 46.1**	**-3.9**
	baz=353,slow=16,SNR=1.7							
JOW	**Kunigami**	**7.95**	**62**	*e*P		**Pn**

H11S1 WAKE ISLAND Hy 43.39 87 T T 11 32 59.5
baz=284,slow=74,SNR=2.9
H11S2 WAKE ISLAND Hy 43.40 87 T T 11 32 50.5
baz=284,slow=74,SNR=4.3
WR1 Warramunga Arr 45.12 161 *eP* **P 10 47 39.0 -2.4**
comp=Z,42nm,1.9s
WRA Warramunga Arr 45.12 161 P **P 10 47 39.0 -2.4**
comp=Z,4.0nm,0.8s,baz=345,slow=8.7,SNR=13
ASAR Alice Springs 48.54 163 P **P 10 48 07.2 -0.9**
comp=Z,2.4nm,1.1s,baz=329,slow=5.5,SNR=9.9
GEYT Alibeck 54.60 301 LR LR 11 15 36.3
comp=Z,499nm,19.4s,baz=290,slow=40
STKA Stephens Creek 58.54 159 P **P 10 49 20.1 -1.2**
comp=Z,1.4nm,0.9s,baz=333,slow=8.0,SNR=4.4
STKA Stephens Creek 58.54 159 *eP* **P 10 49 20.1 -1.2**
comp=Z,4.7nm,1.9s
ILAR Eielson Array 70.29 27 P **P 10 50 37.4 -0.5**
comp=Z,0.2nm,0.5s,baz=297,slow=6.0,SNR=5.8
ILB Eielson Array 70.29 27 *eP* **P 10 50 37.4 -0.5**
FIA0 FINESS Array S 71.80 330 *eP* **P 10 50 47.2 +0.2**
FINES FINESS Array B 71.80 330 P **P 10 50 47.2 +0.2**
comp=Z,1.6nm,0.8s,baz=90,slow=3.8,SNR=3.8
NB2 NORSAR Subarra 78.62 332 P **P 10 51 26.5 +0.1**
comp=Z,4.5nm,1.0s,baz=62,slow=5.6
NB200 NORSAR Array S 78.62 332 *eP* **P 10 51 26.6 +0.1**
NOA NORSAR Array B 78.62 332 P **P 10 51 26.6 +0.1**
comp=Z,2.7nm,0.9s,baz=62,slow=5.5,SNR=3.6
YKA Yellowknife Ar 84.02 22 P **P 10 51 54.5 -0.5**
comp=Z,0.9nm,0.7s,baz=314,slow=4.8,SNR=19

IDC 12 10:46:57.8±5.2, 26°30S×14°36W, h0km, mb3.9/5, mb1 4.0/5, mb1mx3.7/46, mbtmp3.9/5, MS4.6/4, Ms1 4.6/4, ms1mx4.0/51, Error ellipse: s-maj=293.4km s-min=62.0km az=93.0, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
H10S2	**ASCENSION HYDR**	**17.25**	**359**	T		T	11 08 59.1	
	baz=177,slow=74,SNR=11							
H10S3	**ASCENSION HYDR**	**17.26**	**359**	T		T	11 09 04.4	
	baz=177,slow=74,SNR=7.8							
H10S1	**ASCENSION HYDR**	**17.27**	**359**	T		T	11 09 03.1	
	baz=177,slow=74,SNR=9.9							
BOSA	**Boshof**	**35.12**	**103**	LR		LR	11 05 44.7	
	comp=Z,778nm,18.4s,baz=260,slow=32							
KOWA	**Kowa**	**41.78**	**15**	P		P	10 54 49.8	+0.7
	3.2nm,0.8s,baz=203,slow=7.8,SNR=4.0							
TORD	**Torodi Ar. Bea**	**42.21**	**24**	P		P	10 54 52.0	-0.6
	1.5nm,0.7s,baz=199,slow=8.5,SNR=7.1							
VNA2	**Neumayer--Watz**	**44.83**	**177**	P		P	10 55 13.8	+0.6
	baz=353,slow=9.1							
PLCA	**Paso Flores**	**48.24**	**238**	LR		LR	11 15 15.4	
	comp=Z,423nm,18.9s,baz=46,slow=35							
LPAZ	**La Paz**	**50.78**	**270**	LR		LR	11 16 01.0	
	comp=Z,1μm,20.8s,baz=40,slow=34							
IDI	**Anoyia**	**71.62**	**33**	LR		LR	11 27 02.2	
	comp=Z,372nm,21.4s,baz=328,slow=34							
BRTR	**Keskin Array B**	**79.47**	**36**	P		P	10 59 07.0	+0.8
	0.2nm,0.3s,baz=197,slow=4.4,SNR=3.9							
MLR	**Muntele Rosu**	**80.31**	**27**	P		P	10 59 10.7	0.0
	0.6nm,0.7s,baz=180,slow=8.1,SNR=3.5							
AKASG	**Malin Array Be**	**85.79**	**26**	P		P	10 59 37.5	-1.1
	0.2nm,0.3s,baz=221,slow=5.8,SNR=5.6							
KLR	**Kul'dur**	**145.21**	**40**	PKPbc		PKPbc	11 06 36.4	-0.4
	0.5nm,1.0s,baz=311,slow=3.7,SNR=8.1							
KSRS	**Korea Array**	**146.30**	**61**	PKPbc		PKPdf	11 06 39.5	+0.2
	2.4nm,1.0s,baz=289,slow=3.8,SNR=6.6							

IDC 12 10:54:25.6±2.4, 7°37S×129°75E, h133km±29km, mb3.3/1, mb1 3.4/6, mb1mx3.1/61, mbtmp3.7/6, Error ellipse: s-maj=38.4km s-min=22.1km az=92.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SIJI	**Sorong**	**6.63**	**13**	P		Pn	10 56 01.1	+0.3
	0.3nm,0.3s,baz=217,slow=20,SNR=1.2							
SIJI				S		Sn	10 57 11.3	-3.9
	2.1nm,0.3s,baz=180,slow=20,SNR=2.8							
BATI	**Baumata**	**6.64**	**244**	P		Pn	10 56 01.1	+0.3
	2.2nm,0.3s,baz=50,slow=7.9,SNR=1.3							
BATI				S		Sn	10 57 10.5	-4.9
	6.1nm,0.3s,baz=83,slow=6.4,SNR=5.0							
FITZ	**Fitzroy Crossi**	**11.39**	**200**	P		Pn	10 57 02.9	-1.6
	0.2nm,0.3s,baz=30,slow=13,SNR=0.1							
FITZ				S		Sn	10 59 02.6	-7.4
	baz=114,slow=20							
WRA	**Warramunga Arr**	**13.26**	**161**	P		Pn	10 57 28.4	-0.5
	0.6nm,0.3s,baz=346,slow=13,SNR=21							
WRA				S		Sn	10 59 50.6	-4.8
	1.5nm,0.3s,baz=321,slow=26,SNR=13							
ASAR	**Alice Springs**	**16.68**	**167**	P		P	10 58 13.5	+1.7
	0.3nm,0.3s,baz=346,slow=9.1,SNR=18							
ASAR				S		Sn	11 01 10.2	-7.6
	0.2nm,0.3s,baz=354,slow=27,SNR=2.5							
MKAR	**Makanchi Array**	**68.40**	**327**	P		P	11 05 12.9	-0.1
	0.3nm,0.4s,baz=108,slow=8.2,SNR=4.4							

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*IDC **12** 10:54:25.3±1.6, 3°15N×92°83E, h0km, mb3.8/6, mb1 3.9/9, mb1mx3.6/76, mbtmp3.8/9, ML3.8/3, Error ellipse: s-maj=43.3km s-min=22.5km az=40.0*

ISC 12 10:54:27.6±1.5, 3°3N±0°2×93°0E±0°1, h10km, n9, σ1§24/9, mb3.7/6, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
PSI	**Prapat**	**5.94**	**94**	Pn		**Pn**	**10 55 57.8**	**+2.1**
	1.4nm,0.3s,baz=170,slow=17,SNR=4.5							
PSI				Sn		**Sn**	**10 57 01.9**	**-2.0**
	1.5nm,0.3s,baz=155,slow=19,SNR=3.3							
PALK	**Pallekele**	**12.87**	**289**	Pn		Pn	10 57 27.3	-3.5
	0.2nm,0.3s,baz=118,slow=15,SNR=2.3							
PALK				Sn		Sn	10 59 40.4	-14
	2.2nm,0.3s,baz=116,slow=5.1,SNR=5.5							
CMAR	**Chiang Mai Arr**	**16.18**	**21**	Pn		**Pn**	**10 58 15.4**	**+0.1**
	0.2nm,0.3s,baz=213,slow=9.7,SNR=4.5							
MKAR	**Makanchi Array**	**44.35**	**349**	P		**P**	**11 02 38.2**	**+0.1**
	1.8nm,0.6s,baz=166,slow=7.8,SNR=9.2							
SONM	**Songino Array**	**45.88**	**13**	P		**P**	**11 02 50.5**	**+0.1**
	0.3nm,0.3s,baz=203,slow=11,SNR=2.5							
WRA	**Warramunga Arr**	**46.68**	**121**	P		**P**	**11 02 56.5**	**-0.5**
	0.4nm,0.6s,baz=299,slow=8.7,SNR=2.9							
KURBB	**Kurchatov Arra**	**48.75**	**348**	P		**P**	**11 03 11.9**	**-0.5**
	1.1nm,0.6s,baz=172,slow=7.2,SNR=4.4							
BVAR	**Borovoye Array**	**53.00**	**343**	P		**P**	**11 03 44.1**	**-0.4**
	0.5nm,0.5s,baz=131,slow=18,SNR=3.3							
GERES	**GERESS Array B**	**80.51**	**319**	P		**P**	**11 06 40.0**	**-0.2**
	0.6nm,0.7s,baz=95,slow=6.2,SNR=3.7							

IDC 12 10:56:38.4±6.6, 26°42S×141°51W, h0km, mb4.0/5, mb1 4.0/5, mb1mx3.7/47, mbtmp4.0/5, Error ellipse: s-maj=168.7km s-min=40.9km az=58.0, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
H10S2	**ASCENSION HYDR**	**17.37**	**360**	T		T	11 18 50.9	
	baz=177,slow=74,SNR=14							
H10S3	**ASCENSION HYDR**	**17.38**	**360**	T		T	11 18 51.5	
	baz=177,slow=74,SNR=13							
H10S1	**ASCENSION HYDR**	**17.39**	**360**	T		T	11 18 52.3	
	baz=177,slow=74,SNR=12							
BOSA	**Boshof**	**35.23**	**103**	P		P	11 03 34.8	-0.1
	2.7nm,0.7s,baz=231,slow=4.6,SNR=3.9							
KOWA	**Kowa**	**41.93**	**15**	P		P	11 04 31.0	0.0
	2.2nm,0.6s,baz=219,slow=6.2,SNR=5.8							
TORD	**Torodi Ar. Bea**	**42.37**	**24**	P		P	11 04 34.3	-0.3
	1.6nm,0.9s,baz=205,slow=7.9,SNR=6.3							
BRTR	**Keskin Array B**	**79.65**	**36**	P		P	11 08 48.4	+0.5
	0.6nm,0.8s,baz=205,slow=6.4,SNR=3.9							
AKASG	**Malin Array Be**	**85.96**	**26**	P		P	11 09 19.9	-0.3
	0.1nm,0.3s,baz=220,slow=5.6,SNR=2.6							

STR 12 10:58:05.4±0.8, 50°N±5°×±°, h10km, M2.5/6, MLv2.5/6, Germany

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
ABH	**Alteburg**	**0.63**	**63**	Pg		Pg	10 58 17.3	-0.3
LANF	**Langenberg**	**0.96**	**130**	Pg		Pg	10 58 22.5	-1.3
ECH	**Echery**	**1.42**	**167**	Pn		Pn	10 58 30.2	-1.0
THEF	**They Montfort**	**1.45**	**199**	Pn		Pn	10 58 30.0	-1.6

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*ISCJB **12** 10:59:49.9±0.4, 1°14N±0°.05×92°.15E±0°.04, h10km, mb4.5/33, Error ellipse: s-maj=8.1km s-min=4.6km az=23.2*

*DJA **12** 10:59:50.9±3.3, 1°N±9°×9°2E±2°9, h10km, M5.0/8, mb5.1/8, mB5.4/6, MLv5.1/7, Mw(mB)4.9/6, Mwp6.2/1*

*IDC **12** 10:59:50.3±0.7, 1°.18N×92°.16E, h0km, mb4.2/18, mb1 4.4/21, mb1mx4.1/73, mbtmp4.2/21, ML3.9/2, Error ellipse: s-maj=28.4km s-min=12.7km az=44.0*

*NEIC **12** 10:59:51.7±0.3, 1°.17N×92°.10E, h10km, mb4.7/13, Error ellipse: s-maj=7.0km s-min=3.7km az=20.0*

ISC 12 10:59:52.3±0.5, 1°22N±0°.07×92°25E±0°.06, h10km, n91, σ1§41/89, mb4.5/33, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
MLSI	**Meulaboh, Aceh**	**5.14**	**54**	P		**Pn**	**11 01 10.7**	**+1.3**
BSI	**Banda Aceh**	**5.23**	**36**	P		**Pn**	**11 01 11.6**	**+1.0**
GSI	**Gunungsitoli**	**5.33**	**89**	P		**Pn**	**11 01 12.6**	**+0.6**
	123nm,0.8s							
GSI	**Gunungsitoli**	**5.33**	**89**	*e*Pn		**Pn**	**11 01 13.3**	**+1.3**
TPTI		**5.33**	**68**	P		**Pn**	**11 01 12.9**	**+0.9**
	114nm,0.6s,3μm							
KCSI	**Kotacane, Aceh**	**5.98**	**67**	P		**Pn**	**11 01 23.4**	**+2.5**
LHMI	**Lhok Sumawe**	**6.16**	**50**	*e*Pn		**Pn**	**11 01 25.6**	**+2.2**
PSI	**Prapat**	**6.86**	**77**	Pn		**Pn**	**11 01 34.2**	**+1.1**
	2.6nm,0.3s,baz=245,slow=9.2,SNR=7.3							
PSI				Sn		**Sn**	**11 02 46.3**	**-5.1**
	baz=239,slow=12,SNR=2.2							
SISI	**Saibi**	**7.29**	**110**	P		**Pn**	**11 01 39.0**	**0.0**
	227nm,0.8s,2μm							
MNSI	**Mandailing Nat**	**7.34**	**93**	P		**Pn**	**11 01 41.4**	**+1.7**
	112nm,0.6s,3μm							
PDSI	**Padang**	**8.48**	**104**	P		**Pn**	**11 01 56.5**	**+1.1**
PPSI	**Pulau Pagai**	**8.71**	**117**	P		**Pn**	**11 01 58.5**	**+0.1**
BKNI	**Bangkinang**	**8.84**	**96**	*e*Pn		**Pn**	**11 02 01.3**	**+1.1**
KULM	**Kulim**	**9.31**	**64**	*e*Pn		**Pn**	**11 02 07.6**	**+0.8**
IPM	**Ipoh**	**9.35**	**70**	*e*Pn		**Pn**	**11 02 09.3**	**+2.0**
MYKOM	**Kota Tinggi**	**11.62**	**87**	*e*Pn		**Pn**	**11 02 39.2**	**+0.9**
PALK	**Pallekele**	**12.98**	**298**	Pn		**Pn**	**11 02 57.0**	**0.0**
	0.5nm,0.3s,baz=116,slow=13,SNR=3.2							
PALK				Sn		Sn	11 05 06.2	-16
	1.0nm,0.3s,baz=215,slow=0.1,SNR=6.8							
PALK	**Pallekele**	**12.98**	**298**	*e*Pn		Pn	11 02 54.4	-2.7
PALK				*e*Sn		Sn	11 05 07.7	-14
KSM	**Kuching**	**18.06**	**89**	*e*Pn		**Pn**	**11 04 05.3**	**+1.8**
	30nm,1.0s							
CM01	**Chiang Mai Arr**	**18.32**	**21**	*e*P		**Pn**	**11 04 05.3**	**-1.5**
CMAR	**Chiang Mai Arr**	**18.35**	**21**	P		**Pn**	**11 04 07.3**	**+0.2**
	baz=216,slow=13,SNR=16							
CHTO	**Chiang Mai**	**18.68**	**20**	*e*P		**P**	**11 04 11.2**	**+0.4**
	7.4nm,1.2s							
HMDM	**Hanimaadhoo**	**19.80**	**287**	*e*P		**P**	**11 04 21.0**	**-2.0**
	2.9nm,0.7s							
SBUM	**Sibu**	**20.00**	**86**	*e*P		**P**	**11 04 27.2**	**+1.9**
	34nm,1.5s							
H08S2	**Diego Garcia H**	**21.58**	**246**	T		T	11 26 39.7	
	baz=70							
H08S3	**Diego Garcia H**	**21.58**	**246**	T		T	11 26 39.0	
	baz=70							
H08S1	**Diego Garcia H**	**21.59**	**246**	T		T	11 26 40.8	
	baz=70							
MYLDM	**Lahad Datu**	**26.50**	**81**	*e*P		**P**	**11 05 32.2**	**+2.0**
	19nm,0.7s							
MMRI	**Maumere**	**31.45**	**109**	*e*P		**P**	**11 06 15.0**	**+0.7**
	77nm,0.6s							
CD2	**Chengdu**	**31.48**	**19**	*e*P		**P**	**11 06 15.5**	**+1.1**
CD2				pmax		pmax		
	comp=Z,10.0nm,0.5s							
XAN	**Xi'an**	**36.19**	**24**	P		**P**	**11 06 57.5**	**+2.2**
XAN				pP		pP	11 07 02.6	+4.2
XAN				pmax		pmax		
	comp=Z,5.0nm,1.1s							
LZH	**Lanzhou**	**36.33**	**16**	*e*P		**P**	**11 06 58.2**	**+1.6**
LZH				pP		pP	11 07 02.4	+2.7
LZH				sP		sP	11 07 05.1	+4.2
LZH				*e*PP		**PnPn**	**11 08 20.3**	**+1.6**
LZH				pmax		pmax		
	comp=Z,21nm,1.0s							
LZH				pmax		pmax		
	comp=Z,210nm,4.6s							
LZH				LR		LR		
	comp=N,280nm,13.0s							
LZH				LR		LR		
	comp=E,340nm,13.3s							
LZH				LR		LR		
	comp=Z,460nm,15.0s							
FITZ	**Fitzroy Crossi**	**38.05**	**122**	P		**P**	**11 07 11.1**	**-0.2**
	comp=Z,5.3nm,0.6s,baz=333,slow=4.5,SNR=10							
GTA	**Gaotai**	**38.64**	**9**	*e*P		**P**	**11 07 15.6**	**-0.5**
GTA				pP		pP	11 07 20.0	+0.8
GTA				sP		sP	11 07 23.2	+2.8
GTA				S		**S**	**11 13 11.9**	**-0.8**
GTA				sS		pS	11 13 18.6	+2.2
GTA				SS		**SnSn**	**11 15 54.4**	**-6.3**
GTA				pmax		pmax		
	comp=Z,4.0nm,0.8s							
GTA				pmax		pmax		
	comp=Z,230nm,7.1s							
GTA				LR		LR		
	comp=N,380nm,17.1s							
GTA				LR		LR		
	comp=E,270nm,19.0s							
GTA				LR		LR		
	comp=Z,470nm,22.8s							
NJ2	**Nanjing**	**39.63**	**37**	*e*P		**P**	**11 07 24.4**	**+0.1**
NJ2				pmax		pmax		
	comp=Z,8.0nm,0.5s							
WMQ	**Urumqi**	**42.62**	**355**	P		**P**	**11 07 49.4**	**+0.6**
WMQ				pmax		pmax		
	comp=Z,19nm,0.7s							
WMQ				pmax		pmax		
	comp=Z,170nm,3.9s							
WMQ				LR		LR		
	comp=N,510nm,26.7s							
WMQ				LR		LR		
	comp=E,2μm,33.3s							
WMQ				LR		LR		
	comp=Z,920nm,26.7s							
HHC	**Hu-ho-hao-te**	**43.16**	**22**	*e*P		**P**	**11 07 55.5**	**+2.2**
HHC				pmax		pmax		
	comp=Z,21nm,1.1s							
HHC				pmax		pmax		
	comp=Z,65nm,6.3s							
MK01	**Makanchi Array**	**46.20**	**351**	*e*P		**P**	**11 08 17.1**	**-0.3**
MK31	**Makanchi Array**	**46.22**	**351**	*e*P		**P**	**11 08 17.1**	**-0.5**
MK32	**Makanchi Array**	**46.22**	**351**	*e*P		**P**	**11 08 17.4**	**-0.2**
MKAR	**Makanchi Array**	**46.22**	**351**	P		**P**	**11 08 17.4**	**-0.2**
	comp=Z,1.4nm,0.7s,baz=164,slow=8.7,SNR=14							
MKAR	**Makanchi Array**	**46.22**	**351**	*e*P		**P**	**11 08 17.4**	**-0.2**
	comp=Z,12nm,0.8s							
WRA	**Warramunga Arr**	**46.31**	**119**	P		**P**	**11 08 18.3**	**-0.4**
	comp=Z,13nm,0.7s,baz=297,slow=8.6,SNR=71							
WR1	**Warramunga Arr**	**46.31**	**119**	*e*P		**P**	**11 08 18.3**	**-0.4**
	comp=Z,15nm,0.8s							
WB2	**Warramunga Arr**	**46.32**	**119**	*e*P		**P**	**11 08 18.5**	**-0.3**
	comp=Z,16nm,0.8s							
AS31	**Alice Springs**	**47.43**	**124**	*e*P		**P**	**11 08 27.2**	**-0.3**
	comp=Z,3.1nm,0.7s							
ASAR	**Alice Springs**	**47.43**	**124**	P		**P**	**11 08 27.2**	**-0.3**
	comp=Z,2.0nm,0.7s,baz=301,slow=7.7,SNR=31							
SONA0	**Songino Array**	**48.03**	**13**	*e*P		**P**	**11 08 32.2**	**+0.4**
SONM	**Songino Array**	**48.03**	**13**	P		**P**	**11 08 32.2**	**+0.4**
	comp=Z,3.9nm,0.9s,baz=181,slow=11,SNR=7.1							
SONA1	**Songino Array**	**48.04**	**13**	*e*P		**P**	**11 08 31.9**	**0.0**
GEYT	**Alibeck**	**48.14**	**323**	P		**P**	**11 08 32.7**	**0.0**
	comp=Z,3.3nm,0.6s,baz=126,slow=14,SNR=4.0							
KURBB	**Kurchatov Arra**	**50.59**	**349**	P		P	11 08 49.9	-1.3
	comp=Z,1.7nm,0.7s,baz=173,slow=7.4,SNR=15							
KURK	**Kurchatov**	**50.66**	**349**	*e*P		P	11 08 49.9	-1.8
KURK				*e*P		**P**	**11 08 51.4**	**-0.3**
ZALV	**Zalesovo Beam**	**52.91**	**355**	P		**P**	**11 09 08.2**	**-0.3**
	comp=Z,1.2nm,0.3s,baz=186,slow=7.6,SNR=2.7							
ZALV	**Zalesovo Beam**	**52.91**	**355**	*e*P		**P**	**11 09 08.1**	**-0.4**
ZAA1	**Zalesovo Array**	**52.92**	**355**	*e*P		**P**	**11 09 08.2**	**-0.3**
BVAR	**Borovoye Array**	**54.74**	**344**	P		P	11 09 20.4	-1.5
	comp=Z,0.7nm,0.4s,baz=141,slow=7.6,SNR=5.8							
ABKAR	**Akbulak array**	**55.28**	**335**	*e*P		**P**	**11 09 25.1**	**-0.7**
ABKAR				eS		**S**	**11 17 11.0**	**+1.4**
STKA	**Stephens Creek**	**57.11**	**130**	P		**P**	**11 09 39.0**	**-0.3**
	comp=Z,2.6nm,0.7s,baz=303,slow=6.5,SNR=11							
STKA	**Stephens Creek**	**57.11**	**130**	*e*P		**P**	**11 09 39.0**	**-0.3**
	comp=Z,5.0nm,0.8s							
KLR	**Kul'dur**	**58.56**	**29**	P		**P**	**11 09 49.1**	**0.0**
	comp=Z,0.2nm,0.8s,baz=253,slow=5.0,SNR=4.7							
KBZ	**Khabaz**	**58.88**	**321**	P		**P**	**11 10 05.5**	**+0.4**
	comp=Z,3.1nm,0.8s,baz=126,slow=5.5,SNR=7.1							
BR101	**Keskin Array S**	**65.48**	**314**	*e*P		**P**	**11 10 35.1**	**-1.0**
BR131	**Keskin Array S**	**65.48**	**314**	*e*P		**P**	**11 10 35.0**	**-1.0**
BRTR	**Keskin Array B**	**65.48**	**314**	P		**P**	**11 10 35.1**	**-1.0**
	comp=Z,0.7nm,0.7s,baz=134,slow=5.3,SNR=4.5							
ILGA	**Ilgaz**	**65.89**	**315**	*e*P		**P**	**11 10 38.2**	**-0.5**
	comp=Z,6.5nm,0.7s							
BR231	**Keskin MP Arra**	**66.14**	**314**	*e*P		P	11 10 36.5	-3.8
AKASG	**Malin Array Be**	**72.26**	**323**	P		**P**	**11 11 17.1**	**-0.7**
	comp=Z,0.2nm,0.3s,baz=96,slow=4.5,SNR=4.3							
MLR	**Muntele Rosu**	**72.68**	**318**	P		P	11 11 19.2	-1.4
	comp=Z,1.0nm,0.6s,baz=166,slow=13,SNR=4.2							
MLR	**Muntele Rosu**	**72.68**	**318**	*e*P		P	11 11 19.2	-1.4
MLR				*e*P		**P**	**11 11 19.9**	**-0.8**
BUR04	**Bucovina Ar. S**	**73.77**	**320**	*e*P		**P**	**11 11 26.9**	**-0.1**
BUR08	**Bucovina Ar. S**	**73.79**	**320**	*e*P		**P**	**11 11 26.9**	**-0.2**
TIXI	**Tiksi**	**74.09**	**11**	*e*P		**P**	**11 11 27.6**	**-0.6**
	comp=Z,4.5nm,0.9s							
CRVS	**Cervenica-Dubn**	**76.53**	**320**	*e*P		**P**	**11 11 45.0**	**+2.2**
STHS	**Stebnicka Huta**	**76.79**	**321**	*e*P		**P**	**11 11 47.8**	**+3.5**
FIA0	**FINESS Array S**	**77.73**	**333**	*e*P		**P**	**11 11 48.6**	**-0.6**
FINES	**FINESS Array B**	**77.73**	**333**	P		**P**	**11 11 48.6**	**-0.6**
	comp=Z,1.4nm,0.8s,baz=169,slow=3.9,SNR=4.0							
VYHS	**Vyhne**	**78.13**	**319**	*e*P		**P**	**11 11 53.1**	**+1.3**
ARA0	**ARCESS Array S**	**80.88**	**341**	*e*P		**P**	**11 12 06.1**	**-0.2**
ARCES	**ARCESS Array B**	**80.88**	**341**	P		**P**	**11 12 06.1**	**-0.2**
	comp=Z,2.9nm,0.9s,baz=101,slow=12,SNR=2.9							
GEA0	**GERESS Array S**	**81.55**	**319**	*e*P		**P**	**11 12 10.0**	**-0.4**
GEC2	**GERESS Array S**	**81.55**	**319**	*e*P		**P**	**11 12 10.6**	**+0.2**
	comp=Z,1.1nm,1.1s							
GERES	**GERESS Array B**	**81.55**	**319**	P		**P**	**11 12 10.6**	**+0.2**
	comp=Z,1.3nm,0.7s,baz=98,slow=5.5,SNR=8.5							
KHC	**Kasperske Hory**	**81.67**	**319**	*e*P		**P**	**11 12 14.0**	**+3.0**
KEST	**Kesra**	**83.52**	**306**	P		**P**	**11 12 20.7**	**-0.3**
	comp=Z,2.4nm,0.7s,baz=62,slow=18,SNR=3.1							
KEST	**Kesra**	**83.52**	**306**	*e*P		**P**	**11 12 20.3**	**-0.7**
	comp=Z,46nm,1.9s							
PDAR	**Pinedale Array**	**132.01**	**22**	PKP		**PKPdf**	**11 19 06.0**	**-0.8**
	comp=Z,0.7nm,0.9s,baz=339,slow=3.7,SNR=3.7							
LTX	**Lajitas**	**146.02**	**25**	*e*PKPdf		**PKPdf**	**11 19 33.1**	**+0.5**
TX31	**Lajitas Ar. Si**	**146.02**	**25**	*e*PKPdf		**PKPdf**	**11 19 32.6**	**0.0**
TX31				*e*PKPdf		**PKPbc**	**11 19 32.7**	**-0.6**
TXAR	**Lajitas Array**	**146.02**	**25**	PKPbc		**PKPdf**	**11 19 33.1**	**+0.5**
	comp=Z,1.5nm,0.6s,baz=269,slow=0.5,SNR=21							
JCT	**Junction City**	**146.46**	**19**	*e*PKPdf		**PKPdf**	**11 19 32.2**	**-1.0**

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*ISCJB **12** 11:01:55.9±0.2, 5°.97S±0°.04×103°.27E±0°.03, h10km, mb4.7/61, MS4.8/2, Error ellipse: s-maj=5.8km s-min=3.1km az=31.9*

*IDC **12** 11:01:56.0±0.4, 5°.81S×103°.44E, h0km, mb4.5/36, mb1 4.6/36, mb1mx4.4/67, mbtmp4.5/36, Error ellipse: s-maj=15.1km s-min=10.6km az=37.0*

*DJA **12** 11:01:59.3±0.3, 6°S±3°×10°3E±°, h10km, M4.9/37, mb5.2/37, mB5.5/29, MLv5.0/16, Mw(mB)4.9/29, Mwp6.0/1*

*NEIC **12** 11:02:01.7±0.6, 5°.90S×103°.43E, h41km±5km, mb4.9/28, Error ellipse: s-maj=6.8km s-min=4.3km az=221.0*

ISC 12 11:01:57.9±0.3, 5°.93S±0°.05×103°.29E±0°.04, h10km, n204, σ1§67/201, mb4.6/61, 5C-2D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
LWLI	**Liwa**	**1.19**	**40**	P		**Pb**	**11 02 21.5**	**+0.8**
KASI	**Kota Agung**	**1.27**	**71**	P		Pn	**11 02 20.4**	**-1.4**
MNAI	**Manna**	**1.59**	**348**	P		**Pb**	**11 02 29.2**	**+1.7**
MNAI	**Manna**	**1.59**	**348**	*e*Pn		**Pb**	**11 02 28.9**	**+1.4**
MDSI	**Maura Dua**	**1.69**	**32**	P		**Pn**	**11 02 28.4**	**+0.9**
KLI	**Kotabumi**	**1.89**	**56**	P		**Pb**	**11 02 32.3**	**-0.3**
BLSI	**Bandar Lampung**	**2.03**	**74**	P		**Pn**	**11 02 33.3**	**+1.1**
MASI	**Maura Aman, Be**	**2.96**	**339**	P		**Pn**	**11 02 48.4**	**+3.3**
PMBI	**Palembang**	**3.33**	**26**	P		Pg	11 03 13.2	+11
SKJI	**Sukabumi**	**3.42**	**108**	P		**Pn**	**11 02 52.3**	**+0.9**
JMBI	**JAMBI**	**4.28**	**5**	P		**Pg**	**11 03 19.7**	**-0.4**
LEM	**Lembang**	**4.40**	**102**	Pn		**Pn**	**11 03 07.0**	**+2.1**
	26nm,0.3s,baz=214,slow=9.3,SNR=16							
LEM				S

baz=28,SNR=10
H01W3 Cape Leeuwin H 30.50 162 T T 11 40 07.5
baz=340,slow=76,SNR=9.7
H01W2 Cape Leeuwin H 30.52 162 T T 11 40 05.8
baz=340,slow=76,SNR=13
H01W1 Cape Leeuwin H 30.52 162 T T 11 40 05.8
baz=340,slow=76,SNR=13
H08S2 Diego Garcia H 30.62 265 T T 11 40 12.8
baz=89,slow=75,SNR=56
H08S3 Diego Garcia H 30.63 265 T T 11 40 12.3
baz=89,slow=75,SNR=54
H08S1 Diego Garcia H 30.64 265 T T 11 40 14.6
baz=89,slow=75,SNR=60
KMI Kunming 30.87 359 P P 11 08 20.0 +5.1
KMI pmax pmax
comp=Z,20nm,0.7s
H08N1 Diego Carcia H 32.09 268 T T 11 42 22.2
baz=153
H08N2 Diego Garcia H 32.10 268 T T 11 42 20.5
baz=153,slow=74,SNR=18
H08N3 Diego Garcia H 32.11 268 T T 11 42 20.5
baz=153,slow=74,SNR=18
WR1 Warramunga Arr 33.23 118 *eP* **P 11 08 33.9 -1.6**
comp=Z,13nm,0.7s
WRA Warramunga Arr 33.23 118 P **P 11 08 33.9 -1.6**
comp=Z,7.7nm,0.7s,baz=300,slow=9.0,SNR=12
WB2 Warramunga Arr 33.24 118 *eP* **P 11 08 34.1 -1.5**
comp=Z,13nm,0.7s
BOK Bokaro 34.08 331 *eP* **P 11 08 44.4 +1.6**
AS31 Alice Springs 34.33 124 *eP* **P 11 08 43.9 -1.2**
comp=Z,3.1nm,0.7s
ASAR Alice Springs 34.33 124 P **P 11 08 43.9 -1.1**
comp=Z,8.6nm,0.7s,baz=301,slow=7.8,SNR=16
ASAR PcP **PcP 11 11 21.7 +0.4**
comp=Z,0.8nm,0.8s,baz=309,slow=5.9,SNR=3.4
AS01 Alice Springs 34.36 124 *eP* **P 11 08 43.3 -2.1**
CD2 Chengdu 36.64 1 *eP* **P 11 09 06.5 +1.7**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
QIS Mount Isa 38.10 116 P **P 11 09 16.3 -1.1**
baz=38,SNR=4.0
XAN Xi'an 40.11 7 P P 11 09 43.8 +10
XAN pP sP 11 09 50.8 +12
XAN sP pP 11 09 54.2 +17
XAN pmax pmax
comp=Z,5.0nm,0.7s
XAN pmax pmax
comp=Z,260nm,14.6s
BBOO Buckleboo 40.56 135 P **P 11 09 36.7 -1.1**
baz=40,SNR=7.0
NJ2 Nanjing 40.58 21 *eP* **P 11 09 37.4 -0.4**
NJ2 pmax pmax
comp=Z,13nm,0.5s
LZH Lanzhou 41.80 1 *eP* **P 11 09 52.8 +4.8**
LZH pP sP 11 09 59.0 +6.6
LZH sP pP 11 10 03.3 +12
LZH PP PP 11 10 33.8 -51
LZH S **S 11 16 10.4 +4.7**
LZH sS sS 11 16 22.5 +12
LZH SS **SS 11 19 12.0 0.0**
LZH pmax pmax
comp=Z,54nm,0.9s
LZH pmax pmax
comp=Z,380nm,5.0s
LZH LR LR
comp=N,500nm,13.5s
LZH LR LR
comp=E,1μm,13.5s
LZH LR LR
comp=Z,1μm,14.9s
MTSU Mount Surprise 41.81 111 P **P 11 09 47.8 -0.5**
baz=42,SNR=8.8
HTT Hallett 42.92 134 P **P 11 09 56.6 -0.5**
baz=43,SNR=9.3
PMG Port Moresby 43.60 97 P **P 11 10 01.2 -1.5**
comp=Z,22nm,0.6s,baz=318,slow=18,SNR=6.9
QLP Quilpie 44.07 122 P **P 11 10 06.6 +0.1**
baz=44,SNR=9.4
STKA Stephens Creek 44.11 131 P **P 11 10 06.2 -0.4**
comp=Z,21nm,0.6s,baz=305,slow=7.8,SNR=54
STKA Stephens Creek 44.11 131 P **P 11 10 06.3 -0.4**
baz=44,SNR=41
STKA Stephens Creek 44.11 131 *eP* **P 11 10 06.3 -0.4**
comp=Z,5.0nm,0.8s
SMLA Simla 44.51 327 *ex* **P 11 10 10.1 +0.3**
GTA Gaotai 45.23 356 *eP* **P 11 10 17.9 +2.3**
GTA pP sP 11 10 21.9 +1.9
GTA sP pP 11 10 25.2 +6.5
GTA pmax pmax
comp=Z,3.0nm,0.6s
ARPS Mount Arapiles 46.70 137 P **P 11 10 27.4 +0.2**
baz=47,SNR=6.4
JNU Nakatsue 46.84 32 P **P 11 10 25.1 -3.2**
comp=Z,6.4nm,0.8s,baz=180,slow=2.0,SNR=2.2
JNU Nakatsue 46.84 32 *eP* **P 11 10 25.1 -3.2**
comp=Z,24nm,1.1s
CMSA Cobar Meteorol 47.11 128 P **P 11 10 30.5 0.0**
baz=47,SNR=23
HHC Hu-ho-hao-te 47.17 9 *eP* **P 11 10 33.1 +2.3**
HHC pmax pmax
comp=Z,32nm,1.0s
HHC pmax pmax
comp=Z,85nm,6.2s
NIL Nilore 48.57 326 *eP* **P 11 10 41.1 -0.6**
comp=Z,23nm,0.9s
KS15 Wonju Array Si 48.87 26 *eP* **P 11 10 43.5 -0.4**
KSAR Wonju Array Be 48.87 26 P **P 11 10 43.5 -0.4**
KSRS Korea Array 48.90 26 P **P 11 10 43.5 -0.6**
comp=Z,1.7nm,0.6s,baz=222,slow=7.0,SNR=9.4
KS01 Wonju Array Si 48.91 26 *eP* **P 11 10 43.2 -1.0**
YNG Young 50.30 130 P **P 11 10 55.2 +0.2**
baz=50,SNR=6.6
CAN Canberra 51.17 131 P **P 11 11 00.6 -0.9**
baz=51
WMQ Urumqi 51.49 346 P **P 11 11 04.2 +0.4**
WMQ pmax pmax
comp=Z,25nm,0.7s
WMQ LR LR
comp=N,510nm,20.7s
WMQ LR LR
comp=E,1μm,9.3s
WMQ LR LR
comp=Z,920nm,24.7s
KSH Kashi 51.78 333 P **P 11 11 05.0 -1.1**
KSH sP sP 11 11 17.0 +6.5
KSH PP **PP 11 13 05.0 +1.0**
KSH S **S 11 18 21.1 -7.3**
KSH Kashi 51.78 333 SS **SS 11 22 00.6 -4.7**
KSH pmax pmax
comp=Z,10.0nm,0.7s
KSH pmax pmax
comp=Z,310nm,4.5s
KSH LR LR
comp=N,170nm,3.4s
KSH LR LR
comp=E,180nm,3.8s
WSAR Wadi Sarin 52.37 305 P **P 11 11 08.7 -1.9**
comp=E,2.6nm,0.6s,baz=166,slow=8.3,SNR=2.1
NRN Naryn 53.34 335 *eP* **P 11 11 17.8 -0.1**
comp=E,10nm,0.9s
CN2 Changchun 53.40 20 *eP* **P 11 11 21.6 +3.8**
MAJO Matsushiro 53.42 35 *eP* **P 11 11 15.0 -3.2**
MJAR Matsushiro Arr 53.42 35 P **P 11 11 15.0 -3.2**
comp=E,1.1nm,0.6s,baz=208,slow=7.9,SNR=5.7
KDJ Kajisay 53.43 336 *eP* **P 11 11 18.6 +0.3**
comp=E,27nm,0.9s
SONA0 Songino Array 53.61 3 *eP* **P 11 11 19.6 +0.1**
SONM Songino Array 53.61 3 P **P 11 11 19.6 +0.1**
comp=E,2.4nm,0.8s,baz=180,slow=9.4,SNR=7.1
SONA1 Songino Array 53.62 3 *eP* **P 11 11 19.4 -0.2**
ULN Ulaanbaatar 53.67 3 *eP* **P 11 11 20.0 +0.1**
comp=E,5.2nm,1.0s
KZA Kyzart 54.19 334 P **P 11 11 24.2 0.0**
SNR=9.6
UCH Uchtor 54.63 334 P **P 11 11 27.4 0.0**
SNR=6.1
TKM2 Tokmak 2 54.73 335 P **P 11 11 27.9 0.0**
SNR=13
KBK Karagaybulak 54.79 335 P **P 11 11 28.8 +0.5**
SNR=5.8
AML Almayashu 54.91 333 P **P 11 11 29.5 +0.1**
SNR=9.5
AAK Ala-Archa 54.97 334 P **P 11 11 29.7 +0.2**
comp=E,1.6nm,0.5s,baz=163,slow=5.0,SNR=5.3
AAK Ala-Archa 54.97 334 *eP* **P 11 11 29.4 -0.1**
comp=E,14nm,1.5s
AAK *eP* **P 11 11 29.7 +0.2**

EKS2 Erkin-Say 55.30 334 P **P 11 11 32.2 +0.3**
SNR=11
MK01 Makanchi Array 55.68 343 *eP* **P 11 11 33.6 -0.8**
MK31 Makanchi Array 55.70 343 *eP* **P 11 11 34.3 -0.3**
MK32 Makanchi Array 55.70 343 *eP* **P 11 11 34.0 -0.6**
MKAR Makanchi Array 55.70 343 P **P 11 11 34.0 -0.6**
comp=E,9.1nm,0.8s,baz=148,slow=8.4,SNR=37
MKAR Makanchi Array 55.70 343 *eP* **P 11 11 34.3 -0.3**
comp=E,37nm,0.6s
MAKZ Makanchi 55.81 342 *eP* **P 11 11 34.9 -0.4**
comp=E,5.7nm,1.0s
OPO Ambohidratompo 56.03 252 P **P 11 11 39.9 +2.3**
comp=E,3.9nm,0.6s,baz=84,slow=7.3,SNR=5.1
USRK Ussuriysk Ar. 56.21 25 P **P 11 11 36.6 -1.5**
comp=E,3.5nm,0.6s,baz=209,slow=6.0,SNR=8.6
HNR Honiara 56.21 97 P **P 11 11 36.5 -2.3**
comp=E,68nm,0.8s,baz=307,slow=6.2,SNR=4.5
KK31 Karatay Array 57.13 332 *eP* **P 11 11 44.6 -0.2**
KKAR Karatay Array 57.13 332 *eP* **P 11 11 44.4 -0.4**
KURBB Kurchatov Arra 60.25 342 P **P 11 12 06.0 -0.4**
comp=E,1.7nm,0.8s,baz=159,slow=6.1,SNR=14
KURBB PcP **PcP 11 12 51.6 0.0**
comp=E,2.1nm,0.8s,baz=160,slow=2.9,SNR=2.6
KLR Kul'dur 60.28 21 P **P 11 12 05.5 -1.1**
comp=E,0.2nm,0.6s,baz=218,slow=7.4,SNR=9.6
KURK Kurchatov 60.30 342 *eP* **P 11 12 06.0 -0.7**
KURK *eP* **P 11 12 06.4 -0.3**
KURK *ePcP* **PcP 11 12 51.6 -0.2**
GEYT Alibeck 60.55 320 P **P 11 12 08.7 0.0**
comp=E,1.3nm,0.3s,baz=140,slow=7.7,SNR=4.7
ASAJ Asahikawa 61.11 31 P **P 11 12 11.6 -0.8**
comp=E,5.1nm,0.6s,baz=235,slow=11,SNR=6.2
ASAJ Asahikawa 61.11 31 *eP* **P 11 12 10.6 -1.8**
comp=E,10nm,0.9s
ZALV Zalesovo Beam 61.65 348 P **P 11 12 15.1 -0.7**
comp=E,4.6nm,0.6s,baz=156,slow=5.2,SNR=7.3
ZAA1 Zalesovo Array 61.65 348 *eP* **P 11 12 15.1 -0.8**
RAYN Ar Rayn 63.51 300 *eP* **P 11 12 28.6 -0.4**
RAYN *epP* **sP 11 12 37.8 +4.4**
BVAR Borovoye Array 65.00 339 P **P 11 12 37.3 -0.7**
comp=E,3.7nm,0.6s,baz=142,slow=10,SNR=14
BRVK Borovoye 65.06 339 *eP* **P 11 12 37.0 -1.4**
comp=E,10nm,1.1s
KMBO Kilima Mbogo 66.05 271 P **P 11 12 46.6 +0.7**
comp=E,0.8nm,0.3s,baz=210,slow=1.2,SNR=4.4
ABKAR Akbulak array 66.64 331 *eP* **P 11 12 48.2 -0.6**
AKTO Aktyubinsk 68.36 331 P **P 11 12 57.7 -1.9**
comp=E,0.7nm,0.3s,baz=72,slow=3.2,SNR=3.2
ARU Arti 72.11 336 P **P 11 13 20.0 -2.4**
comp=E,1.5nm,0.3s,baz=164,slow=4.8,SNR=4.3
ARU Arti 72.11 336 *eP* **P 11 13 22.2 -0.2**
comp=E,9.3nm,0.9s
KBZ Khabaz 73.41 319 P **P 11 13 30.1 -0.3**
comp=E,3.1nm,0.8s,baz=121,slow=4.7,SNR=6.0
ASF Jabal al Asfar 73.53 306 P **P 11 13 32.0 +0.5**
comp=E,3.3nm,0.8s,baz=98,slow=7.1,SNR=4.4
LSZ Lusaka 74.11 256 P **P 11 13 35.7 +0.4**
comp=E,2.9nm,0.5s,baz=79,slow=4.2,SNR=7.6
LSZ Lusaka 74.11 256 *eP* **P 11 13 35.7 +0.4**
comp=E,7.5nm,1.0s
BOSA Boshof 76.69 242 P **P 11 13 50.3 +0.4**
comp=E,4.0nm,0.9s,baz=80,slow=4.1,SNR=3.5
BRTR Keskin Array B 78.38 312 P **P 11 13 58.8 -0.3**
comp=E,4.4nm,0.8s,baz=127,slow=7.9,SNR=20
BR101 Keskin Array S 78.38 312 *eP* **P 11 13 58.8 -0.3**
BR131 Keskin Array S 78.38 312 *eP* **P 11 13 58.8 -0.3**
BR231 Keskin MP Arra 79.05 312 *eP* **P 11 13 59.5 -3.2**
KLMR Klimovskoe 82.78 334 *eP* **P 11 14 19.5 -2.5**
KLMR AMP 11 14 30.8
comp=Z,9.0nm,1.3s
KLMR *ePP* **PP 11 17 31.6 -0.5**
IDI Anoyia 83.99 306 P **P 11 14 30.0 +1.0**
comp=Z,2.8nm,0.3s,baz=197,slow=19,SNR=2.9
IDI Anoyia 83.99 306 *eP* **P 11 14 30.0 +1.0**
comp=Z,68nm,1.5s
AKASG Malin Array Be 84.58 322 P **P 11 14 30.9 -0.5**
comp=Z,0.6nm,0.3s,baz=89,slow=4.2,SNR=8.0
VRI Vrincioaia 84.94 317 ⇓*i*P **P 11 14 34.9 +1.4**
PLOR Plostina 84.99 317 ⇓*i*P **P 11 14 34.5 +0.7**
TESR Tescani 85.15 318 ⇑*i*P **P 11 14 35.1 +0.6**
MLR Muntele Rosu 85.39 316 P **P 11 14 36.4 +0.5**
comp=Z,1.5nm,0.9s,baz=120,slow=20,SNR=6.6
MLR Muntele Rosu 85.39 316 ⇑*i*P **P 11 14 36.5 +0.6**
MLR Muntele Rosu 85.39 316 *eP* **P 11 14 36.2 +0.4**
comp=Z,38nm,1.3s
MLR *eP* **P 11 14 36.4 +0.5**
BURAR Bucovina Array 86.36 318 ⇑*i*P **P 11 14 42.5 +1.9**
BUR04 Bucovina Ar. S 86.36 318 *eP* **P 11 14 41.8 +1.1**
BUR08 Bucovina Ar. S 86.37 318 *eP* **P 11 14 41.9 +1.2**
DRGR 87.86 317 ⇑*i*P **P 11 14 49.0 +1.1**
BZS Buzias 88.39 316 ⇑*i*P **P 11 14 51.5 +1.2**
CRVS Cervenica-Dubn 89.07 319 *eP* **P 11 14 55.9 +2.4**
FIA1 FINESS Array S 89.09 332 *eP* **P 11 14 53.6 +0.4**
FIA1 *eP* **P 11 14 54.8 +1.6**
FIA0 FINESS Array S 89.09 332 *eP* **P 11 14 51.0 -2.2**
FINES FINESS Array B 89.09 332 P **P 11 14 51.0 -2.2**
comp=Z,1.7nm,0.6s,baz=211,slow=29,SNR=13
STHS Stebnicka Huta 89.30 320 *eP* **P 11 14 56.0 +1.5**
SNAA Sanae 89.43 198 P **P 11 14 55.9 +1.1**
comp=Z,2.3nm,0.8s,baz=120,slow=8.1,SNR=6.3
SNAA Sanae 89.43 198 *eP* **P 11 14 55.9 +1.1**
comp=Z,6.9nm,1.2s
GEC2 GERESS Array S 94.15 319 *eP* **P 11 15 17.3 +0.1**
comp=Z,11nm,1.6s
GERES GERESS Array B 94.15 319 P **P 11 15 17.3 +0.1**
comp=Z,0.3nm,0.2s,baz=92,slow=6.7,SNR=3.6
HFS Hagfors 94.89 330 P **P 11 15 20.0 -0.2**
comp=Z,0.8nm,0.5s,baz=117,slow=12,SNR=2.2
H09W1 TRISTAN DA CUN 106.39 229 T T 13 15 14.3
SNR=1160
YKA Yellowknife Ar 117.09 19 PKP **PKPdf 11 20 42.5 -0.5**
comp=Z,0.3nm,1.0s,baz=328,slow=2.2,SNR=3.4
F10A Beach Ranch, E 126.94 35 *e*PKPdf **PKPdf 11 21 02.4 -0.2**
BOZ Bozeman (W) 130.22 32 *e*PKPdf **PKPdf 11 21 08.0 -0.9**
TUC Tucson 138.79 46 *e*PKPpre PKPpre 11 21 18.3
319A Douglas 140.37 46 *e*PKPpre PKPpre 11 21 19.3
TX31 Lajitas Ar. Si 145.51 44 *e*PKPbc **PKPbc 11 21 36.8 -0.5**
TX31 *e*PKPbc **PKPdf 11 21 36.9 -0.4**
LTX Lajitas 145.51 44 *e*PKPbc **PKPbc 11 21 36.9 -0.4**
TXAR Lajitas Array 145.51 44 PKPbc **PKPbc 11 21 36.9 -0.4**
comp=Z,2.5nm,0.7s,baz=286,slow=0.8,SNR=19
WVT Waverly 148.26 17 *e*PKPbc **PKPdf 11 21 43.4 +1.8**
TKL Tuckaleechee C 149.71 11 PKPbc **PKPdf 11 21 46.4 +2.4**
comp=Z,1.8nm,0.6s,baz=342,slow=3.2,SNR=3.0
LPAZ La Paz 156.34 201 PKPbc PKPbc 11 22 07.3
comp=Z,1.1nm,0.7s,baz=211,slow=5.9,SNR=3.9

ISN ***12*** *11:02:07.3±0.9,38.50N×43.53E, h0km±3km, ML3.3*
ISK ***12*** *11:02:11.2, 38.89N×43.55E, h5km, ML3.6/9*
ATA ***12*** *11:02:11.2±1.2, 38.89N×43.52E, h3km±10km, ML3.8, MW3.8*
DDA ***12*** *11:02:12.2, 38.88N×43.56E, h15km, Ml3.3*
ISCJB ***12*** *11:02:12.8±0.4, 38.90N±0.02×43.53E±0.03, h2km±3km, Error ellipse: s-maj=3.6km s-min=2.7km az=30.4*
CSEM ***12*** *11:02:13.0±0.2, 38.90N×43.54E, h10km, ML3.3, Error ellipse: s-maj=4.7km s-min=3.9km az=129.0*
ISC 12 11:02:12.6±0.8, 38.89N±0.02×43.52E±0.02, h13km±5km, n86, σ1°23/119, 4C-11D, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VMUR	**Van-Muradiye**	**0.11**	**23**	*i* P	**Pg**	**11 02 15.6**	**-0.4**
VMUR				*i* S	**Sg**	**11 02 18.9**	**+0.5**
VMUR	**Van-Muradiye**	**0.11**	**23**	P	**Pg**	**11 02 15.6**	**-0.4**
VMUR				S	**Sg**	**11 02 18.9**	**+0.5**
ERCV	**ERCIS-VAN**	**0.19**	**314**	PG	**Pg**	**11 02 16.7**	**-0.4**
ERCV				SG	**Sg**	**11 02 20.4**	**+0.2**
ERCV	**ERCIS-VAN**	**0.19**	**314**	*e*Pg	**Pg**	**11 02 16.7**	**-0.4**
ERCV				*e*Sg	**Sg**	**11 02 20.4**	**+0.2**
VANB	**Van**	**0.31**	**199**	PG	**Pb**	**11 02 20.1**	**+0.1**
VANB				SG	**Sn**	**11 02 26.4**	**-2.8**
VANB	**Van**	**0.31**	**199**	*e*Pg	**Pb**	**11 02 20.1**	**+0.1**
VANB				*e*Sg	**Sn**	**11 02 26.4**	**-2.8**
TVAN	**Van**	**0.37**	**194**	*i* P	**Pg**	**11 02 19.9**	**-0.2**
TVAN				*i* S	**Sb**	**11 02 27.7**	**+1.0**
TVAN	**Van**	**0.37**	**194**	P	**Pg**	**11 02 19.9**	**-0.2**
CLDR	**Caldiran**	**0.41**	**50**	PG	**Pg**	**11 02 19.2**	**-1.6**
CLDR				SG	**Sg**	**11 02 26.1**	**-0.3**
CLDR	**Caldiran**	**0.41**	**50**	*i* P	**Pg**	**11 02 19.0**	**-1.7**
CLDR				*i* S	**Sg**	**11 02 26.0**	**-0.3**
CLDR	**Caldiran**	**0.41**	**50**	*e*Pg	**Pg**	**11 02 19.2**	**-1.6**
CLDR				S	**Sg**	**11 02 26.0**	**-0.3**

ADCV BITLIS_Adilcev 0.62 263 *i* P **Pb 11 02 24.8 -0.6**
ADCV *i* S **Sn 11 02 34.8 -2.4**
ADCV BITLIS_Adilcev 0.62 263 P **Pb 11 02 24.8 -0.6**
ADCV S **Sn 11 02 34.8 -2.4**
DYDN Diyadin 0.67 12 *eP* **Pg 11 02 24.9 -0.9**
DYDN ⇓*eS* **Sg 11 02 34.6 0.0**
DYDN IAML 11 02 39.5
comp=Z,220nm,0.4s
DYDN Diyadin 0.67 12 *i* P **Pg 11 02 25.2 -0.5**
DYDN Diyadin 0.67 12 P **Pg 11 02 25.2 -0.5**
GEVA Gevas 0.68 212 *i* P **Pg 11 02 24.7 -1.1**
GEVA *eS* **Sb 11 02 35.8 +0.2**
GEVA IAML 11 02 42.3
comp=Z,375nm,0.7s
GEVA Gevas 0.68 212 *i* P **Pg 11 02 25.0 -0.8**
GEVA Gevas 0.68 212 P **Pg 11 02 25.0 -0.8**
TUTA Tutak 0.75 314 *eP* **Pg 11 02 26.2 -1.0**
TUTA *eS* **Sb 11 02 37.8 0.0**
TUTA IAML 11 02 42.4
comp=Z,620nm,0.4s
TUTA Tutak 0.75 314 *i* P **Pg 11 02 26.6 -0.6**
TUTA *i* S **Sn 11 02 38.4 -2.0**
TUTA Tutak 0.75 314 P **Pg 11 02 26.6 -0.6**
TUTA S **Sn 11 02 38.4 -2.0**
AGRB Hanur-Agry 0.80 330 PG **Pb 11 02 27.7 -0.7**
AGRB SG **Sb 11 02 39.2 +0.4**
AGRB Hanur-Agry 0.80 330 *e*Pg **Pb 11 02 27.7 -0.7**
AGRB *e*Sg **Sb 11 02 39.6 +0.4**
IGDI IGDIR 1.07 24 *i* P **Pb 11 02 32.4 -0.6**
IGDI *eS* **Sn 11 02 48.9 +0.8**
IGDI IAML 11 02 52.0
comp=Z,80nm,0.4s
IGDI IGDIR 1.07 24 *i* P **Pb 11 02 32.5 -0.5**
EKAR Karacoban 1.19 289 *eP* **Pg 11 02 34.8 -0.7**
EKAR *eS* **Sg 11 02 53.8 +2.7**
EKAR IAML 11 03 06.5
comp=Z,156nm,0.6s
EKAR Karacoban 1.19 289 *i* P **Pg 11 02 35.0 -0.5**
EKAR Karacoban 1.19 289 P **Pg 11 02 35.0 -0.5**
GURO Guroymak-BITLI 1.21 254 PN **Pb 11 02 34.7 -0.6**
GURO Guroymak-BITLI 1.21 254 *e*Pn **Pb 11 02 34.7 -0.6**
TASB TASBURUN-IGDIR 1.23 27 PN **Pn 11 02 35.3 -0.2**
TASB TASBURUN-IGDIR 1.23 27 *e*Pn **Pn 11 02 35.3 -0.2**
EATA Eleskirt 1.26 321 *eP* **Pb 11 02 35.8 -0.5**
EATA ⇓*eS* **Sg 11 02 54.9 +1.7**
EATA IAML 11 02 57.6
comp=Z,39nm,0.4s
EATA Eleskirt 1.26 321 *i* P **Pb 11 02 36.0 -0.3**
EATA *i* S **Sg 11 02 55.2 +2.0**
EATA Eleskirt 1.26 321 P **Pb 11 02 36.0 -0.3**
EATA S **Sg 11 02 55.2 +2.0**
HYR Heyderabad 1.33 51 ⇑P **Pb 11 02 37.9 +0.5**
HYR ⇓S **Sg 11 02 59.8 +4.3**
HAKT HAKKARI 1.33 173 *i* P **Pb 11 02 36.8 -0.8**
HAKT HAKKARI 1.33 173 P **Pb 11 02 36.8 -0.8**
YOVA Hakkari_Y…kse 1.43 155 *i* P **Pb 11 02 39.1 -0.1**
YOVA *i* S **Sg 11 03 01.0 +2.3**
YOVA Hakkari_Y…kse 1.43 155 P **Pb 11 02 39.1 -0.1**
DIGO Kars 1.53 356 *eP* **Pb 11 02 41.2 +0.3**
DIGO *eS* **Sg 11 03 04.2 +2.2**
DIGO IAML 11 03 16.1
comp=Z,34nm,0.5s
DIGO Kars 1.53 356 *i* P **Pb 11 02 41.2 +0.3**
DIGO Kars 1.53 356 P **Pb 11 02 41.2 +0.3**
SRTM Siirt_Merkez 1.54 235 *i* P **Pg 11 02 41.8 -0.3**
SRTM *i* S **Sg 11 03 04.1 +2.0**
SRTM Siirt_Merkez 1.54 235 P **Pg 11 02 41.8 -0.3**
NAX Nakhchivan 1.57 79 ⇓P **Pb 11 02 41.5 0.0**
NAX ⇓S **Sg 11 03 06.5 +3.4**
SIRT Sirnak 1.62 212 PN **Pb 11 02 41.9 -0.5**
SIRT Sirnak 1.62 212 *e*Pn **Pb 11 02 41.9 -0.5**
VRTB Varto-Mus 1.63 280 PN **Pb 11 02 42.0 -0.2**
VRTB Varto-Mus 1.63 280 *i* P **Pn 11 02 40.1 -1.0**
VRTB Varto-Mus 1.63 280 *e*Pn **Pb 11 02 42.3 -0.2**
SIRN S¨–rnak 1.64 212 *i* P **Pg 11 02 43.7 -0.3**
SIRN S¨–rnak 1.64 212 P **Pg 11 02 43.7 -0.3**
SBZ Shahbuz 1.67 71 ⇑P **Pb 11 02 42.8 -0.3**
SBZ ⇓S **Sg 11 03 08.8 +2.6**
HOMI Horasan 1.70 313 *eP* **Pb 11 02 44.0 +0.1**
HOMI IAML 11 03 15.4
comp=Z,56nm,0.7s
KARS Kars 1.77 349 PN **Pb 11 02 43.9 -1.1**
KARS Kars 1.77 349 *e*Pn **Pb 11 02 43.9 -1.1**
EAK Akyaka 1.80 2 *eP* **Pb 11 02 46.2 +0.8**
EAK IAML 11 03 19.5
comp=Z,49nm,0.5s
EAK Akyaka 1.80 2 *i* P **Pb 11 02 46.3 +0.8**
EAK Akyaka 1.80 2 P **Pb 11 02 46.3 +0.8**
SENK Senkaya-Erzuru 1.90 332 PN **Pb 11 02 46.6 -0.6**
SENK Senkaya-Erzuru 1.90 332 *e*Pn **Pb 11 02 46.6 -0.6**
ORD Ordubad 1.93 88 ⇓P **Pb 11 02 46.6 -1.1**
ORD ⇓S **Sg 11 03 15.3 +0.5**
ERZM Erzurum 1.95 302 *eP* **Pb 11 02 46.9 -1.2**
ERZM Erzurum 1.95 302 *i* P **Pb 11 02 47.6 -0.5**
ERZM Erzurum 1.95 302 P **Pb 11 02 47.7 -0.5**
SVAN Silvan-Diyarba 1.96 249 PN **Pb 11 02 47.2 -0.9**
SVAN Silvan-Diyarba 1.96 249 *e*Pn **Pb 11 02 47.2 -0.9**
BTMN Batman 2.02 241 *i* P **Pg 11 02 49.7 -1.7**
BTMN Batman 2.02 241 P **Pg 11 02 49.7 -1.7**
ECAT Cat-ERZURUM 2.10 291 *eP* **Pb 11 02 50.9 +0.2**
ECAT IAML 11 03 26.0
comp=Z,17nm,0.5s
ECAT Cat-ERZURUM 2.10 291 *i* P **Pb 11 02 50.5 -0.1**
ECAT Cat-ERZURUM 2.10 291 P **Pb 11 02 50.5 -0.1**
BNGB Bing˜‖ 2.21 274 PN **Pb 11 02 50.9 -1.6**
BINT Bingol 2.36 271 *e*Pn **Pn 11 02 50.9 -0.2**
GDB GEDABAY 2.52 43 ⇓P **Pn 11 02 54.0 +0.7**
GDB ⇑S **Sb 11 03 28.9 +0.3**
QZX Qazax, Azerbai 2.60 33 ⇓P **Pn 11 02 54.4 +0.1**
GANJ Ganja 2.79 50 ⇑P **Pn 11 02 57.9 +1.0**
GANJ ⇓S **Sb 11 03 35.9 -0.4**
MAZI Mazidag 2.81 240 PN **Pn 11 02 58.5 +1.3**
MAZI Mazidag 2.81 240 *e*Pn **Pn 11 02 58.5 +1.3**
BAYT Ayd¨–ntepe-Bay 3.01 301 PN **Pn 11 03 02.4 +2.3**
BAYT Ayd¨–ntepe-Bay 3.01 301 *e*Pn **Pn 11 03 02.4 +2.3**
PTK Pertek 3.22 271 PN **Pn 11 03 04.7 +1.8**
PTK Pertek 3.22 271 *e*Pn **Pn 11 03 04.7 +1.8**
KELT Kelkit 3.53 292 *eP* **Pb 11 03 16.5 +1.5**

MEX 12 11:07:22.2±0.4, 29.14N×113.24W, h16km±8km, MD3.7, Gulf of California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HSIG		**2.01**	**93**	*e*P	Pn	11 07 52.3	-3.2
HSIG				*e*S	Sn	11 08 15.2	-5.1
SRIG	**Santa Rosalia**	**2.02**	**154**	*e*P	Pn	11 07 52.5	-3.0
SRIG				*e*S	Sn	11 08 15.5	-4.9

ISCJB ***12*** *11:07:28.1±0.5, 1.20N±0.08×92.19E±0.08, h10km, mb4.3/21, MS4.9/1, Error ellipse: s-maj=14.4km s-min=7.9km az=40.6*
IDC ***12*** *11:07:28.4±0.7, 1.19N×92.17E, h0km, mb4.1/17, mb1 4.3/20, mb1mx4.0/73, mbtmp4.1/20, ML3.8/3, MS4.9/1, Ms1 4.9/1, ms1mx3.4/71, Error ellipse: s-maj=27.0km s-min=12.7km az=43.0*
NEIC ***12*** *11:07:29.9±0.3, 1.18N×92.18E, h10km, mb4.8/6, Error ellipse: s-maj=11.0km s-min=5.8km az=39.0*
ISC 12 11:07:30.1±0.8, 1.2N±0.1×92.19E±0.10, h10km, n50, σ0°87/47, mb4.3/21, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**6.91**	**77**	Pn	**Pn**	**11 09 11.4**	**-0.3**
	0.9nm,0.3s,baz=210,slow=20,SNR=2.9						
PSI	**Prapat**	**6.91**	**77**	*e*Pn	**Pn**	**11 09 11.3**	**-0.4**
PALK	**Pallekele**	**12.95**	**298**	Pn	Pn	11 10 31.8	-2.6
	0.7nm,0.3s,baz=118,slow=7.5,SNR=3.7						
PALK				Sn	Sn	11 12 44.6	-14
	2.0nm,0.3s,baz=120,slow=2.1,SNR=7.3						
PALK	**Pallekele**	**12.95**	**298**	*e*Pn	**Pn**	**11 10 32.6**	**-1.8**
PALK				Sn	Sn	11 12 44.6	-14
CMAR	**Chiang Mai Arr**	**18.39**	**21**	P	**P**	**11 11 43.9**	**-1.5**
	0.2nm,0.3s,baz=216,slow=13,SNR=12						
H08S2	**Diego Garcia H**	**21.52**	**246**	T	T	11 34 12.5	
	baz=65						
H08S3	**Diego Garcia H**	**21.52**	**246**	T	T	11 34 11.6	
	baz=65						

H08S1	**Diego Carcia H**	**21.54**	**246**	T		T		11 34 11.1	
	baz=65								
FITZ	**Fitzroy Crossi**	**38.09**	**122**	P		**P**		**11 14 49.1**	**-0.3**
	3.3nm,0.7s,baz=319,slow=11,SNR=5.3								
WSAR	**Wadi Sarin**	**39.25**	**307**	P		**P**		**11 14 59.6**	**+0.5**
	2.5nm,0.6s,baz=63,slow=6.8,SNR=3.3								
JOW	**Kunigami**	**43.01**	**50**	LR		LR		11 33 15.1	
	comp=Z,1µm,19.0s,baz=51,slow=36								
MK01	**Makanchi Array**	**46.21**	**351**	*e*P		**P**		**11 15 55.2**	**-0.2**
MK31	**Makanchi Array**	**46.23**	**351**	*e*P		**P**		**11 15 55.4**	**-0.1**
MK32	**Makanchi Array**	**46.23**	**351**	*e*P		**P**		**11 15 55.4**	**-0.1**
MKAR	**Makanchi Array**	**46.23**	**351**	P		**P**		**11 15 55.4**	**-0.1**
	1.1nm,0.6s,baz=168,slow=8.9,SNR=6.8								
MKAR	**Makanchi Array**	**46.23**	**351**	*e*P		**P**		**11 15 55.6**	**+0.1**
	13nm,0.8s								
WR1	**Warramunga Arr**	**46.34**	**119**	*e*P		**P**		**11 15 56.5**	**-0.2**
	5.1nm,0.7s								
WRA	**Warramunga Arr**	**46.34**	**119**	P		**P**		**11 15 56.5**	**-0.2**
	6.1nm,0.7s,baz=297,slow=8.6,SNR=32								
WB2	**Warramunga Arr**	**46.35**	**119**	*e*P		**P**		**11 15 56.6**	**-0.3**
ASAR	**Alice Springs**	**47.46**	**124**	*e*P		**P**		**11 16 05.2**	**-0.4**
	8.6nm,1.3s,baz=302,slow=7.8,SNR=10								
ASAR				PcP		**PcP**		**11 17 35.7**	**-0.3**
	0.8nm,0.7s,baz=302,slow=3.5,SNR=6.3								
AS31	**Alice Springs**	**47.46**	**124**	*e*P		**P**		**11 16 05.0**	**-0.5**
	0.6nm,0.8s								
SONA0	**Songino Array**	**48.06**	**13**	*e*P		**P**		**11 16 10.9**	**+1.0**
SONM	**Songino Array**	**48.06**	**13**	P		**P**		**11 16 10.9**	**+1.0**
	2.9nm,0.9s,baz=193,slow=9.3,SNR=8.4								
SONA1	**Songino Array**	**48.08**	**13**	*e*P		**P**		**11 16 10.9**	**+0.9**
GEYT	**Alibeck**	**48.12**	**323**	P		**P**		**11 16 10.2**	**-0.2**
	1.3nm,0.5s,baz=158,slow=4.7,SNR=2.6								
KSAR	**Wonju Array Be**	**48.79**	**38**	P		**P**		**11 16 16.3**	**+0.8**
KSRS	**Korea Array**	**48.82**	**38**	P		**P**		**11 16 16.3**	**+0.6**
	0.6nm,0.6s,baz=241,slow=7.9,SNR=2.9								
KURBB	**Kurchatov Arra**	**50.60**	**349**	P		**P**		**11 16 28.7**	**-0.3**
	1.4nm,0.6s,baz=171,slow=7.0,SNR=9.2								
KURK	**Kurchatov**	**50.67**	**349**	*e*P		**P**		**11 16 28.7**	**-0.9**
KURK				*e*P		**P**		**11 16 29.4**	**-0.2**
ZAA0	**Zalesovo Array**	**52.93**	**355**	*e*P		**P**		**11 16 47.8**	**+1.4**
	19nm,0.3s								
ZALV	**Zalesovo Beam**	**52.93**	**355**	P		**P**		**11 16 45.4**	**-1.0**
	6.0nm,0.3s,baz=209,slow=8.3,SNR=8.4								
ZALV	**Zalesovo Beam**	**52.93**	**355**	*e*P		**P**		**11 16 45.9**	**-0.5**
ZAA1	**Zalesovo Array**	**52.94**	**355**	*e*P		**P**		**11 16 45.4**	**-1.1**
BVAR	**Borovoye Array**	**54.75**	**344**	P		P		11 16 57.9	-1.8
	1.0nm,0.7s,baz=233,slow=46,SNR=3.9								
STKA	**Stephens Creek**	**57.14**	**130**	P		**P**		**11 17 17.1**	**-0.2**
	1.3nm,0.6s,baz=309,slow=8.0,SNR=5.4								
KBZ	**Khabaz**		**60.86**	**321**	P	**P**		**11 17 43.7**	**+0.8**
	2.7nm,0.6s,baz=102,slow=8.7,SNR=4.2								
BR101	**Keskin Array S**	**65.45**	**314**	*e*P		**P**		**11 18 13.3**	**-0.4**
BRTR	**Keskin Array B**	**65.45**	**314**	P		**P**		**11 18 13.3**	**-0.4**
	0.7nm,0.6s,baz=128,slow=6.4,SNR=3.9								
BR231	**Keskin MP Arra**	**66.12**	**314**	*e*P		P		11 18 13.9	-4.1
MLR	**Muntele Rosu**	**72.67**	**318**	P		**P**		**11 18 59.0**	**+0.7**
	1.4nm,0.7s,baz=158,slow=9.5,SNR=3.6								
MLR	**Muntele Rosu**	**72.67**	**318**	*e*P		**P**		**11 18 58.9**	**+0.5**
	9.5nm,0.9s								
MLR				*e*P		**P**		**11 18 59.0**	**+0.7**
BUR04	**Bucovina Ar. S**	**73.76**	**320**	*e*P		**P**		**11 19 05.2**	**+0.5**
BUR04				*e*pP		**sP**		**11 19 12.8**	**+3.5**
TIXI	**Tiksi**	**74.12**	**11**	*e*P		**P**		**11 19 05.7**	**-0.6**
	4.2nm,0.6s								
FIA0	**FINESS Array S**	**77.72**	**333**	*e*P		**P**		**11 19 26.2**	**-0.8**
FINES	**FINESS Array B**	**77.72**	**333**	P		**P**		**11 19 26.2**	**-0.8**
	1.6nm,0.7s,baz=125,slow=5.3,SNR=4.0								
GEA0	**GERESS Array S**	**81.53**	**319**	*e*P		**P**		**11 19 48.2**	**+0.1**
GEC2	**GERESS Array S**	**81.53**	**319**	*e*P		**P**		**11 19 48.6**	**+0.5**
	7.4nm,1.2s								
GERES	**GERESS Array B**	**81.53**	**319**	P		**P**		**11 19 48.6**	**+0.5**
	1.1nm,0.8s,baz=104,slow=5.6,SNR=5.7								
LTX	**Lajitas**	**146.07**	**25**	*e*PKPdf		**PKPdf**		**11 27 10.9**	**+0.5**
TXAR	**Lajitas Array**	**146.07**	**25**	PKPbc		**PKPdf**		**11 27 10.9**	**+0.5**
	0.6nm,0.6s,baz=35,slow=1.3,SNR=6.4								

MEX 12 11:13:03.1±0.5, 14°51N×93°00W, h96km±164km, MD4.1, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.21**	**350**	*e*P	Pn	11 13 24.5	-1.2
TGIG		**2.26**	**357**	*e*P	Sn	11 14 10.3	+3.8

IDC ***12*** *11:13:44.3±2.2, 3°.20N×92°.75E, h0km, mb3.8/4, mb1 3.8/6, mb1mx3.5/76, mbtmp3.8/6, ML3.5/2, MS4.2/1, Ms1 4.2/1, ms1mx3.2/72, Error ellipse: s-maj=63.5km s-min=25.4km az=39.0*

ISCJB ***12*** *11:13:46.2±1.3, 3°.1N±0°.2×92°.7E±0°.1, h33km, mb3.8/4, MS4.2/1, Error ellipse: s-maj=35.9km s-min=13.9km az=22.2*

ISC 12 11:13:48.6±1.3, 3°.2N±0°.3×92°.8E±0°.1, h35km, n7, σ1s88/7, mb3.9/4, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**6.10**	**94**	Pn	**Pn**	**11 15 17.1**	**+0.6**
	0.7nm,0.3s,baz=304,slow=11,SNR=3.1						
PSI				Sn	**Sn**	**11 16 22.5**	**-2.7**
	0.9nm,0.3s,baz=335,slow=23,SNR=11						
PALK	**Pallekele**	**12.73**	**289**	Pn	**Pn**	**11 16 45.6**	**-1.7**
	0.4nm,0.3s,baz=117,slow=13,SNR=3.2						
PALK				Sn	Sn	11 18 56.4	-11
	0.8nm,0.3s,baz=113,slow=15,SNR=4.1						
MKAR	**Makanchi Array**	**44.36**	**350**	P	**P**	**11 21 56.5**	**+1.0**
	1.0nm,0.6s,baz=166,slow=8.2,SNR=10						
WRA	**Warramunga Arr**	**46.81**	**121**	P	**P**	**11 22 16.5**	**+1.2**
	0.4nm,0.7s,baz=299,slow=8.9,SNR=2.7						
KURBB	**Kurchatov Arra**	**48.75**	**348**	P	**P**	**11 22 30.7**	**+0.8**
	0.8nm,0.5s,baz=166,slow=6.4,SNR=4.0						
ZALV	**Zalesovo Beam**	**50.99**	**354**	P	**P**	**11 22 47.6**	**+0.8**
	1.0nm,0.3s,baz=168,slow=7.8,SNR=1.1						
PMG	**Port Moresby**	**55.57**	**104**	LR	LR	11 49 49.2	
	comp=Z,219nm,21.2s,baz=352,slow=39						

IDC 12 11:15:41.7±2.1, 3°.95N×125°.61E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.4/67, mbtmp3.5/4, Error ellipse: s-maj=135.7km s-min=25.9km az=69.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.91**	**180**	P	P	11 20 37.3	+0.6
	1.9nm,0.4s,baz=360,slow=11						
WRA	**Warramunga Arr**	**25.25**	**160**	P	P	11 21 09.7	0.0
	0.2nm,0.3s,baz=337,slow=9.6,SNR=6.4						
ASAR	**Alice Springs**	**28.62**	**164**	P	P	11 21 39.6	-0.4
	0.2nm,0.3s,baz=339,slow=7.2,SNR=7.1						
MKAR	**Makanchi Array**	**56.74**	**326**	P	P	11 25 27.4	-0.1
	0.2nm,0.5s,baz=121,slow=7.0,SNR=4.3						

JMA 12 11:18:40.8±0.2, 37°.00N×141°.11E, h27km±2km, M1.1, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.27**	**292**	P	Pb	11 18 47.4	-0.2
ONAJ				S	Sb	11 18 52.2	-0.1
JFK	**Kawauchi**	**0.41**	**333**	P	Pb	11 18 49.3	-0.4
JFK				S	Sb	11 18 55.5	-0.3
JMM	**Marumori**	**0.90**	**344**	P	Pn	11 18 57.0	-0.7
JMM				S	Sb	11 19 08.9	-0.5

ISK ***12*** *11:18:56.2, 41°.45N×35°.17E, h9km, ML2.1/4*

ISCJB ***12*** *11:18:58.4±0.5, 41°.56N±0°.03×35°.43E±0°.04, h0km, Error ellipse: s-maj=5.0km s-min=3.2km az=43.0*

CSEM ***12*** *11:18:58.5±0.2, 41°.56N×35°.42E, h1km, ML2.1, Error ellipse: s-maj=4.6km s-min=3.1km az=46.0, Suspected Mining explosion.*

DDA ***12*** *11:18:58.2, 41°.58N×35°.43E, h7km, Ml2.8, Suspected Mining explosion.*

ISC 12 11:18:58.2±0.8, 41°.46N±0°.03×35°.30E±0°.03, h0km, n25, σ1s44/39, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DIKM	**Dikmen**	**0.19**	**351**	PG	**Pg**	**11 19 01.3**	**-0.6**
DIKM				SG	**Sg**	**11 19 04.6**	**+0.2**
DIKM	**Dikmen**	**0.19**	**351**	*i* Pg	**Pg**	**11 19 01.3**	**-0.6**
DIKM				*e*Sg	**Sg**	**11 19 04.6**	**+0.2**
BOYT	**Boyabat**	**0.30**	**262**	*i* P	**Pb**	**11 19 06.0**	**-0.5**
BOYT				*i* S	**Sb**	**11 19 13.0**	**+1.0**
BOYT	**Boyabat**	**0.30**	**262**	P	**Pb**	**11 19 06.0**	**-0.5**
BOYT				S	**Sb**	**11 19 13.0**	**+1.0**
HAVZ	**Havza**	**0.50**	**141**	*i* P	**Pb**	**11 19 09.9**	**0.0**
HAVZ	**Havza**	**0.50**	**141**	P	**Pb**	**11 19 09.9**	**0.0**
SINO	**SINOP_Merkez**	**0.56**	**353**	*i* P	**Pg**	**11 19 08.0**	**-1.0**
SINO				*i* S	**Sg**	**11 19 14.5**	**-1.8**
SINO	**SINOP_Merkez**	**0.56**	**353**	P	**Pg**	**11 19 08.0**	**-1.0**
SINO				S	**Sg**	**11 19 14.5**	**-1.8**
SNOP	**Sinop**	**0.56**	**353**	PG	**Pg**	**11 19 07.9**	**-1.1**
SNOP				SG	**Sg**	**11 19 15.1**	**-1.2**
SNOP	**Sinop**	**0.56**	**353**	*e*Pg	**Pg**	**11 19 07.9**	**-1.1**
SNOP				*e*Sg	**Sg**	**11 19 15.1**	**-1.2**
SAMS	**Samsun-Alacam**	**0.68**	**98**	*i* P	**Pg**	**11 19 10.2**	**-1.0**
SAMS				*i* S	**Sg**	**11 19 19.1**	**-0.8**
SAMS	**Samsun-Alacam**	**0.68**	**98**	P	**Pg**	**11 19 10.2**	**-1.0**
SAMS				S	**Sg**	**11 19 19.1**	**-0.8**
KVT	**Kavak**	**0.68**	**124**	PG	**Pg**	**11 19 10.9**	**-0.4**
KVT				SG	**Sb**	**11 19 21.9**	**-1.1**
KVT	**Kavak**	**0.68**	**124**	*e*Pg	**Pg**	**11 19 10.9**	**-0.4**
KVT				*e*Sg	**Sb**	**11 19 21.9**	**-1.1**
CTAK	**Corum_Osmancik**	**0.90**	**205**	*i* P	**Pn**	**11 19 18.7**	**+0.4**
CTAK	**Corum_Osmancik**	**0.90**	**205**	P	**Pn**	**11 19 18.7**	**+0.4**
BZK	**Bozkurt**	**1.09**	**298**	PG	**Pg**	**11 19 15.7**	**-3.4**
COAL	**Corum-Alaca**	**1.23**	**191**	*i* P	**Pn**	**11 19 23.0**	**+0.2**
COAL	**Corum-Alaca**	**1.23**	**191**	P	**Pn**	**11 19 23.0**	**+0.2**
ILGA	**Ilgaz**	**1.26**	**252**	*i* P	**Pn**	**11 19 24.3**	**+1.0**
ILGA				*i* S	**Sn**	**11 19 44.8**	**+3.7**
ILGA	**Ilgaz**	**1.26**	**252**	P	**Pn**	**11 19 24.3**	**+1.0**
ILGA				S	**Sn**	**11 19 44.8**	**+3.7**
ILGA	**Ilgaz**	**1.26**	**252**	*e*S	**Pn**	**11 19 24.7**	**+1.4**
ERBA	**Erbaa**	**1.35**	**125**	*i* P	**Pg**	**11 19 23.3**	**-0.8**
ERBA	**Erbaa**	**1.35**	**125**	P	**Pg**	**11 19 23.3**	**-0.8**
CORM	**Corum**	**1.38**	**202**	PN	**Pg**	**11 19 21.9**	**-2.8**

NIED ***12*** *11:19:00, 36°.80N×141°.30E, h5km, Mw5.2 Best double couple: M0 7.83000×10^16 NP1:φs182.00000°, δ38.00000°, λ-116.00000°. NP2:φs35.00000°, δ56.00000°, λ-71.00000°.*

BJI ***12*** *11:19:54.7, 36°.75N×141°.21E, h12km, mb4.9/68, mB5.3/56, Ms5.2/80, Ms7 5.0/75*

IDC ***12*** *11:19:56.2±0.3, 36°.84N×141°.14E, h0km, mb4.9/53, mb1 4.9/60, mb1mx4.9/78, mbtmp4.9/60, ML3.6/7, MS4.6/39, Ms1 4.6/39, ms1mx4.4/65, Error ellipse: s-maj=10.9km s-min=7.9km az=98.0*

JMA ***12*** *11:19:57.2±0.1, 36°.83N×141°.34E, h29km±1km, M5.6*

JMA Felt IV J1.

ISCJB ***12*** *11:19:59.3±0.4, 36°.85N±0°.02×141°.09E±0°.02, h28km±2km, mb5.1/365, MS4.8/56, Error ellipse: s-maj=3.1km s-min=2.2km az=154.6*

NEIC ***12*** *11:20:01.0±0.9, 36°.87N×141°.03E, h27km±6km, mb5.2/240, Error ellipse: s-maj=3.0km s-min=2.0km az=139.0*

NEIC Felt [II] at Tokyo. Felt in much of eastern Honshu. Recorded [4 JMA] in Ibaraki.

GCMT ***12*** *11:20:01.0±0.4, 36°.78N×141°.33E, h21km±1km, MW5.4/71, Moment Tensor Solution. s10,c12; s71,c101; Duration: 193 Moment tensor: Scale 10^17Nm; Mrr=1.76±.18; Mθθ 0.41±.10; Mφφ 1.34±.10; Mrθ -0.42±.20; Mθφ 0.56±.05; Mφr-0.45±.15; Best double couple: Mo 1.78800×10^17 NP1:φs31.00000°, δ55.00000°, λ-84.00000°. NP2: φs200.00000°, δ36.00000°, λ-99.00000°. Principal axes: T 1.7000, Plg10.0000°, Azm116.0000°; N 0.1710, Plg5.0000°, Azm207.0000°; P -1.8760, Plg79.0000°, Azm324.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

MOS ***12*** *11:20:02.2±0.9, 37°.25N×140°.98E, h36km, mb5.3/116, MS4.8/27 Error ellipse: s-maj=5.7km s-min=3.7km az=98.5*

ISC 12 11:19:59.9±0.5, 36°.88N±0°.02×141°.19E±0°.03, h24km±3km, n1125, σ1s39/1196, mb5.2/372, MS4.8/57, 23C-58D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.39**	**305**	↑P	**Pb**	**11 20 07.4**	**-0.8**
ONAJ				*e*S	**Sb**	**11 20 15.2**	**+1.3**
JFK	**Kawauchi**	**0.55**	**332**	↑P	**Pb**	**11 20 09.7**	**-1.2**
JFK				S	**Sb**	**11 20 18.4**	**0.0**
JHO	**Hitachi**	**0.57**	**242**	↓P	**Pb**	**11 20 09.9**	**-1.4**
JHO				S	**Sb**	**11 20 18.7**	**-0.3**
JFT	**Otama**	**0.93**	**313**	↓P	**Pb**	**11 20 16.7**	**-0.7**
JFT				S	**Sb**	**11 20 30.6**	**+1.2**
JSB	**Shiboa**	**1.02**	**275**	↓P	**Pn**	**11 20 18.5**	**-0.3**
JSB				S	**Sn**	**11 20 33.5**	**+1.1**
JMM	**Marumori**	**1.03**	**342**	↓P	**Pn**	**11 20 17.1**	**-1.7**
JMM				S	**Sb**	**11 20 31.9**	**-0.3**
JYT	**Yasato**	**1.04**	**231**	↓P	**Pn**	**11 20 16.4**	**-2.5**
JYT				S	**Sb**	**11 20 30.4**	**-1.9**
JFY	**Yanaizu**	**1.30**	**294**	↓P	**Pn**	**11 20 22.5**	**0.0**
JFY				S	**Sb**	**11 20 40.7**	**+0.8**
I30JP	**ISUMI INFRASON**	**1.73**	**205**	Pn	**Pb**	**11 20 30.0**	**-0.9**
	baz=32,slow=22,SNR=1.0						
I30JP				Sn	**Sb**	**11 20 52.8**	**+0.7**
	baz=30,slow=360						
MJAR	**Matsushiro Arr**	**2.42**	**263**	Pn	**Pn**	**11 20 38.1**	**+0.2**
	71nm,0.3s,baz=88,slow=14,SNR=224						
MJAR				Sn	**Sb**	**11 21 12.8**	**+0.6**
	223nm,0.3s,baz=78,slow=11,SNR=6.4						
MJAR				LR	LR	11 21 37.7	
	comp=Z,13µm,18.5s,baz=80,slow=43						
MAJO	**Matsushiro**	**2.42**	**263**	*e*Pn	**Pn**	**11 20 38.6**	**+0.6**
MAJO				*e*Sn	**Sb**	**11 21 12.8**	**+0.6**
MAJO	**Matsushiro**	**2.42**	**263**	*d* iP	**Pn**	**11 20 38.6**	**+0.6**
MAT	**Matsushiro**	**2.42**	**263**	P	**Pn**	**11 20 38.6**	**+0.6**
MAT				S	**Sb**	**11 21 13.7**	**+1.4**
MJB9	**Matsu-Tunnel**	**2.43**	**263**	*e*Pn	**Pn**	**11 20 38.6**	**+0.6**
INU	**Inuyama**	**3.71**	**247**	*e*Pn	**Pn**	**11 20 56.5**	**+0.9**
INU				*e*Sn	**Sn**	**11 21 36.1**	**-2.5**
JHJ	**Hachijo jima 2**	**3.93**	**198**	Pn	**Pn**	**11 20 57.2**	**-1.5**
	124nm,0.3s,baz=332,slow=22,SNR=43						
JHJ				Sn	**Sn**	**11 21 41.1**	**-2.9**
	307nm,0.3s,baz=64,slow=23,SNR=11						
JHJ				LR	LR	11 22 08.8	
	comp=Z,2µm,20.7s,baz=58,slow=34						
JHJ2	**Mitsune**	**3.93**	**197**	*e*Pn	**Pn**	**11 20 58.6**	**0.0**
ERM	**Erimo**	**5.35**	**16**	*e*Pn	**Pn**	**11 21 19.4**	**+1.3**
ERM	**Erimo**	**5.35**	**16**	*e*P	**Pn**	**11 21 19.0**	**+0.9**
ERM				pmax	pmax		
	comp=Z,39nm,0.9s						
ASAJ	**Asahikawa**	**7.30**	**8**	Pn	**Pn**	**11 21 44.5**	**-0.5**
	comp=Z,3.4nm,0.3s,baz=215,slow=11,SNR=33						
ASAJ				Sn	**Sn**	**11 23 04.4**	**-2.7**
	baz=228,slow=16,SNR=1.8						
ASAJ				LR	LR	11 25 31.9	
	comp=Z,25nm,18.4s,baz=207,slow=46						
GLVR	**Golovnino**	**7.60**	**24**	*e*P	**Pn**	**11 21 47.0**	**-2.1**
GLVR				*i* S	**Sn**	**11 23 11.0**	**-3.4**
GRPR	**Tuman**	**7.91**	**25**	*e*P	**Pn**	**11 21 53.5**	**+0.2**
GRPR				*e*S	**Sn**	**11 23 19.8**	**-2.2**
GRPR				pmax	pmax		
	comp=Z,88nm,0.5s						
GRPR				pmax	pmax		
	comp=E,56nm,0.4s						
YUK	**Yuzh-Kuril'sk**	**7.98**	**25**	P	**Pn**	**11 21 55.0**	**+0.8**
YUK				*e*S	**Sn**	**11 23 22.6**	**-1.1**
YUK				pmax	pmax		
	comp=Z,120nm,0.5s						
YUK				pmax	pmax		
	comp=N,95nm,0.4s						
YUK				pmax	pmax		
	comp=E,46nm,0.3s						
YUK				MLR	MLR		
	comp=E,699nm,10.0s						
YUK				MLR	MLR		
	comp=Z,597nm,9.0s						
SHO	**Shikotan**	**8.20**	**30**	*e*P	**Pn**	**11 21 53.8**	**-3.4**
SHO				*e*S	**Sn**	**11 23 20.7**	**-8.3**
SHO				pmax	pmax		
	comp=Z,39nm,0.4s						
SHO				pmax	pmax		
	comp=N,16nm,0.2s						
SHO				pmax	pmax		
	comp=E,30nm,0.4s						
TEY	**Ternei**	**8.85**	**338**	*e*P	**Pn**	**11 22 06.0**	**-0.2**
TEY				pmax	pmax		
	comp=N,1µm,6.0s						
TEY				pmax	pmax		
	comp=Z,2µm,6.4s						
TEY				MLR	MLR		
	comp=E,5µm,13.0s						
TEY				MLR	MLR		
	comp=N,5µm,14.0s						
TEY				MLR	MLR		
	comp=Z,6µm,14.0s						
JNU	**Nakatsue**	**9.26**	**249**	Pn	**Pn**	**11 22 10.9**	**-0.9**
	comp=Z,0.2nm,0.3s,baz=56,slow=3.6,SNR=2.8						
JNU	**Nakatsue**	**9.26**	**249**	*e*Pn	**Pn**	**11 22 12.5**	**+0.6**
VLA	**Vladivostok**	**9.47**	**314**	*d* iP	**Pn**	**11 22 18.4**	**+3.7**
VLA				pmax	pmax		
	comp=Z,321nm,1.4s						
KUR	**Kuril'sk**	**9.74**	**29**	↓*i*P	**Pn**	**11 22 18.2**	**-0.2**
KUR				*i* S	**Sn**	**11 24 02.7**	**-4.3**
KUR				pmax	pmax		
	comp=Z,48nm,0.5s						
KUR				pmax	pmax		
	comp=N,26nm,0.6s						
KUR				pmax	pmax		
	comp=E,25nm,0.5s						
KUR				smax	smax		
	comp=N,75nm,0.5s						
KUR				smax	smax		
	comp=E,85nm,0.5s						
CBIJ	**Chichi jima**	**9.79**	**175**	*e*Pn	**Pn**	**11 22 15.1**	**-4.1**
CBIJ				*e*Sn	**Sn**	**11 24 01.8**	**-6.5**
JCJ	**Chichijima**	**9.79**	**175**	Pn	**Pn**	**11 22 15.9**	**-3.3**
	comp=E,32nm,0.3s,baz=320,slow=5.1,SNR=11						
JCJ				Sn	Sn	11 23 57.2	-11
	baz=294,slow=19						
JCJ				LR	LR	11 26 02.2	
	comp=E,4µm,21.0s,baz=11,slow=38						
USRK	**Ussuriysk Ar.**	**10.12**	**319**	Pn	Pn	11 22 28.5	+5.0
	comp=E,1.4nm,0.3s,baz=135,slow=13,SNR=28						
USRK				LR	LR	11 26 00.5	
	comp=E,6µm,18.9s,baz=125,slow=36						
YSS	**Yuzh-Sakhalins**	**10.13**	**6**	*e*Pn	**Pn**	**11 22 22.7**	**-1.0**
YSS	**Yuzh-Sakhalins**	**10.13**	**6**	↓*e*P	**Pn**	**11 22 22.5**	**-1.2**
YSS				*e*S	**Sn**	**11 24 16.7**	**+0.2**
YSS				pmax	pmax		
	comp=N,20nm,1.0s						
YSS				pmax	pmax		
	comp=Z,20nm,1.0s						
YSS				smax	smax		
	comp=N,30nm,0.9s						
YSS				smax	smax		
	comp=E,20nm,0.9s						
YSS				MLR	MLR		
	comp=Z,5µm,14.0s						
YSS				MLR	MLR		
	comp=N,3µm,13.0s						
YSS				MLR	MLR		
	comp=E,4µm,14.0s						
KSRS	**Korea Array**	**10.61**	**277**	Pn	Pn	11 22 35.8	+5.5
	comp=E,1.1nm,0.3s,baz=88,slow=13,SNR=62						
KSRS				LR	LR	11 26 18.1	
	comp=E,6µm,21.1s,baz=90,slow=36						
KS01	**Wonju Array Si**	**10.63**	**277**	*e*Pn	**Pn**	**11 22 32.1**	**+1.5**
KS15	**Wonju Array Si**	**10.64**	**277**	*e*Pn	**Pn**	**11 22 32.3**	**+1.6**
KSAR	**Wonju Array Be**	**10.64**	**277**	Pn	Pn	11 22 35.8	+5.1
KSAR	**Wonju Array Be**	**10.64**	**277**	P	Pn	11 22 35.8	+5.1
TJN	**Taejon**	**11.13**	**272**	↓*e*P	**Pn**	**11 22 40.9**	**+3.5**
INCN	**Inchon**	**11.63**	**277**	*e*Pn	**Pn**	**11 22 44.5**	**+0.1**
INCN	**Inchon**	**11.63**	**277**	P	Pn	11 22 51.1	+6.8
	SNR=6.3						
INCN	**Inchon**	**11.63**	**277**	PnPn	Pn	11 22 51.1	+6.8
	SNR=6.3						
MDJ	**Mudanjiang**	**11.70**	**315**	P	**Pn**	**11 22 48.2**	**+3.0**
MDJ				pP		11 22 51.5	
MDJ				sP		11 22 53.6	
MDJ				S	**Sn**	**11 24 55.5**	**+0.5**
MDJ				SS	**SnSn**	**11 25 08.9**	**+1.9**
MDJ				pmax	pmax		
	comp=E,82nm,1.1s						
MDJ				pmax	pmax		
	comp=E,2µm,5.3s						
MDJ				LR	LR		
	comp=E,9µm,18.3s						
MDJ				LR	LR		
	comp=E,4µm,15.1s						
MDJ				LR	LR		
	comp=E,5µm,14.3s						
CN2	**Changchun**	**13.85**	**305**	*e*P	**Pn**	**11 23 15.0**	**+0.5**
CN2				*es*P	P	11 23 22.9	+0.3
CN2				*e*S	**Sn**	**11 25 48.1**	**+0.7**
CN2				pmax	pmax		
	comp=E,20nm,1.2s						
CN2				pmax	pmax		
	comp=E,2µm,10.0s						
CN2				LR	LR		
	comp=E,5µm,12.0s						
CN2				LR	LR		
	comp=E,4µm,12.0s						
CN2				LR	LR		
	comp=E,5µm,13.0s						
TYV	**Tymovskoe**	**14.02**	**4**	*e*P	**Pn**	**11 23 14.6**	**-2.2**
TYV				*e*S	**Sn**	**11 25 44.5**	**-7.0**
TYV				pmax	pmax		
	comp=Z,59nm,1.4s						
TYV				pmax	pmax		
	comp=Z,300nm,2.5s						
TYV				smax	smax		
	comp=E,15nm,1.2s						
TYV				smax	smax		
	comp=N,400nm,12.9s						
TYV				MLR	MLR		
	comp=N,4µm,19.0s						
TYV				MLR	MLR		
	comp=Z,9µm,13.0s						
KLR	**Kul'dur**	**14.12**	**334**	Pn	**Pn**	**11 23 19.4**	**+1.1**
	comp=Z,0.0nm,0.3s,baz=141,slow=13,SNR=6.1						
KLR				LR	LR	11 28 28.0	
	comp=Z,473nm,19.1s,

comp=Z,4μm,11.9s
ZEA Zeya 19.44 335 *e*P **P** **11 24 21.7 -2.7**
ZEA pmax pmax
comp=E,27nm,0.9s
ZEA pmax pmax
comp=N,72nm,1.2s
ZEA pmax pmax
comp=Z,78nm,1.2s
ZEA MLR MLR
comp=N,4μm,14.0s
ZEA MLR MLR
comp=E,2μm,14.0s
ZEA MLR MLR
comp=Z,7μm,14.0s
BJI Beijing 19.83 287 P **P** **11 24 25.8 -2.9**
BJI pmax pmax
comp=Z,17nm,1.4s
BJI pmax pmax
comp=Z,870nm,11.2s
BJI LR LR
comp=Z,5μm,11.6s
BJI LR LR
comp=Z,6μm,10.8s
PEA0B Petropavlovsk- 19.91 30 *e*P **P** **11 24 30.2 +0.7**
comp=Z,111nm,1.3s
PETK Petropavlovsk- 19.91 30 P **Pn** **11 24 31.3 0.0**
comp=Z,0.3nm,0.3s,baz=246,slow=1.5,SNR=6.1
PETK Petropavlovsk- 19.91 30 *e*P **P** **11 24 30.1 +0.6**
PETK Petropavlovsk- 19.91 30 *e*P **P** **11 24 30.1 +0.6**
PEA1 Petropavlovsk- 19.91 30 *e*P **Pn** **11 24 31.3 0.0**
PET Petropavlovsk 20.24 32 *e*P **P** **11 24 32.1 -1.0**
comp=Z,78nm,1.2s
PET Petropavlovsk 20.24 32 *e*P Pn 11 24 35.6 +0.5
PET *e*S **S** **11 28 17.1 -1.7**
PET pmax pmax
comp=Z,1μm,6.4s
PET pmax pmax
comp=Z,500nm,8.4s
PET MLR MLR
comp=Z,2μm,17.0s
PET MLR MLR
comp=Z,2μm,17.0s
SSLB Suanglung 21.75 239 *e*P **P** **11 24 49.2 -0.5**
comp=Z,26nm,0.8s
YULB Yu-li 21.78 237 *e*P **P** **11 24 49.6 -0.4**
comp=Z,18nm,0.7s
TPUB Ta-pu 22.29 238 *e*P **P** **11 24 53.4 -2.2**
comp=Z,4μm,0.6s
TWG Pinlang 22.32 237 *e*P **P** **11 24 53.8 -2.0**
comp=Z,271nm,1.1s
QZH Quanzhou 22.69 245 *e*P **P** **11 25 00.9 +1.2**
QZH S **S** **11 29 03.9 -2.7**
QZH LR LR
comp=Z,3μm,18.6s
QZH LR LR
comp=Z,2μm,17.5s
QZH LR LR
comp=Z,2μm,12.2s
CLNS Chul'man 22.75 336 *e*P **P** **11 24 57.9 -2.2**
CLNS *e**PP **sP** **11 25 09.3 -0.7**
CLNS *e* 11 25 24.3
CLNS *e* 11 28 47.8
CLNS *e*S **S** **11 29 02.8 -4.5**
CLNS *e*SS SnSn 11 29 57.5 +19
CLNS pmax pmax
comp=N,12nm,0.9s
CLNS pmax pmax
comp=Z,13nm,1.0s
CLNS pmax pmax
comp=E,8.0nm,1.0s
CLNS pmax pmax
comp=N,22nm,1.0s
CLNS pmax pmax
comp=Z,31nm,1.1s
CLNS pmax pmax
comp=E,19nm,1.1s
CLNS smax smax
comp=E,742nm,11.2s
CLNS smax smax
comp=N,1μm,11.0s
CLNS MLR MLR
comp=N,2μm,13.0s
CLNS MLR MLR
comp=N,3μm,12.0s
CLNS MLR MLR
comp=Z,3μm,13.0s
TIY Taiyuan 22.86 281 *e*P **P** **11 24 58.7 -2.8**
TIY S **S** **11 29 03.2 -6.5**
TIY pmax pmax
comp=Z,210nm,5.7s
TIY LR LR
comp=Z,2μm,13.6s
TIY LR LR
comp=Z,3μm,14.2s
TIY LR LR
comp=Z,3μm,17.5s
WHN Wuhan 23.16 262 ⇓P **P** **11 25 02.6 -2.0**
WHN LR LR
comp=Z,15μm,21.1s
WHN LR LR
comp=Z,3μm,22.3s
WHN LR LR
comp=Z,10μm,17.6s
HHC Hu-ho-hao-te 23.35 289 *e*P **P** **11 25 06.4 -0.1**
HHC PP **PnPn** **11 25 37.2 +4.4**
HHC S **S** **11 29 13.6 -4.4**
HHC sS pS 11 29 22.3 -3.1
HHC pmax pmax
comp=Z,19nm,0.7s
HHC pmax pmax
comp=Z,240nm,5.1s
HHC LR LR
comp=Z,3μm,11.1s
HHC LR LR
comp=Z,3μm,12.1s
HHC LR LR
comp=Z,4μm,12.8s
GUMO Guam 23.43 171 P **P** **11 25 06.4 -0.9**
comp=Z,130nm,1.1s,baz=66,slow=20,SNR=2.5
MA2 Magadan 23.54 12 P **P** **11 25 07.8 -0.2**
comp=Z,24nm,1.1s,baz=183,slow=15,SNR=5.1
YAK Yakutsk 26.18 348 P **P** **11 25 26.6 -5.5**
comp=Z,8.1nm,0.3s,baz=92,slow=2.0,SNR=2.1
YAK LR LR 11 36 07.0
comp=Z,1μm,18.3s,baz=100,slow=37
YAK Yakutsk 26.18 348 *e*P **P** **11 25 31.2 -1.0**
comp=Z,127nm,1.0s
YAK Yakutsk 26.18 348 *i*P **P** **11 25 30.9 -1.2**
YAK *e**PP **sP** **11 25 48.6 +6.2**
YAK *e* 11 26 10.5
YAK *e* 11 28 55.3
YAK *e*S **S** **11 29 56.9 -5.5**
YAK *e*SS **SnSn** **11 31 12.9 +11**
YAK pmax pmax
comp=N,15nm,1.1s
YAK pmax pmax
comp=Z,30nm,1.1s
YAK pmax pmax
comp=E,8.0nm,1.1s
YAK pmax pmax
comp=Z,74nm,1.1s
YAK pmax pmax
comp=E,49nm,1.3s
YAK pmax pmax
comp=N,121nm,1.9s
YAK smax smax
comp=E,227nm,2.3s
YAK smax smax
comp=N,373nm,2.4s
YAK MLR MLR
comp=Z,1μm,13.0s
YAK MLR MLR
comp=N,3μm,17.0s
YAK MLR MLR
comp=E,2μm,17.0s
XAN Xi'an 26.37 274 P **P** **11 25 32.8 -1.5**
XAN pP pP 11 25 37.1 -4.4
XAN sP sP 11 25 39.8 -4.7
XAN S **S** **11 30 12.1 +5.9**
XAN sS sS 11 30 19.5 +1.4
XAN pmax pmax
comp=E,12nm,2.1s
XAN pmax pmax
comp=E,330nm,5.5s
XAN LR LR
comp=E,2μm,15.2s
XAN LR LR
comp=E,3μm,12.6s
XAN LR LR
comp=E,3μm,12.5s
SEY Seymchan 26.97 11 P **P** **11 25 39.7 +0.4**
comp=E,22nm,1.1s,baz=202,slow=5.8,SNR=17
SEY Seymchan 26.97 11 ⇓*e*P **P** **11 25 38.9 -0.4**
ULN Ulaanbaatar 27.30 305 *e*P **P** **11 25 41.8 -0.8**
comp=E,15nm,0.9s
ULN Ulaanbaatar 27.30 305 P **P** **11 25 42.1 -0.5**
SNR=9.3
ULN Ulaanbaatar 27.30 305 P **P** **11 25 42.1 -0.5**
SNR=9.3
ULN Ulaanbaatar 27.30 305 *d*⇓P **P** **11 25 41.8 -0.8**
ULN pmax pmax
comp=Z,20nm,1.7s
BOD Bodaibo 27.57 328 *e*P **P** **11 25 43.5 -1.2**
BOD pmax pmax
comp=Z,36nm,1.0s
GZH Guangzhou 27.65 248 P **P** **11 25 40.5 -5.2**
SONA1 Songino Array 27.72 304 *e*P **P** **11 25 45.0 -1.4**
SONA0 Songino Array 27.73 304 *e*P **P** **11 25 45.4 -1.0**
SONA0 *e*PcP **PcP** **11 29 03.4 +0.7**
SONM Songino Array 27.73 304 P **P** **11 25 45.4 -1.0**
comp=Z,11nm,0.7s,baz=108,slow=9.2,SNR=40
SONM PcP **PcP** **11 29 03.4 +0.7**
comp=Z,1.6nm,1.0s,baz=112,slow=1.8,SNR=4.2
H11N2 WAKE ISLAND Hy 28.22 120 T T 11 55 15.3
baz=313,slow=76
H11N1 WAKE ISLAND Hy 28.23 120 T T 11 55 14.8
baz=313,slow=76
H11N3 WAKE ISLAND Hy 28.24 120 T T 11 55 13.3
baz=313,slow=76,SNR=9420
H11S1 WAKE ISLAND Hy 28.93 122 T T 11 56 06.3
baz=315,slow=75,SNR=8695
H11S3 WAKE ISLAND Hy 28.93 122 T T 11 56 07.3
baz=315,slow=75,SNR=7642
H11S2 WAKE ISLAND Hy 28.94 122 T T 11 56 08.9
baz=315,slow=75,SNR=6789
LZH Lanzhou 29.92 280 ⇓P **P** **11 26 06.1 0.0**
LZH pP pP 11 26 10.2 -3.1
LZH sP sP 11 26 13.0 -3.3
LZH PP **PnPn** **11 27 04.2 +1.6**
LZH S **S** **11 31 00.0 -2.2**
LZH SS **SnSn** **11 32 36.5 +2.6**
LZH pmax pmax
comp=Z,53nm,1.1s
LZH pmax pmax
comp=Z,1μm,9.3s
LZH LR LR
comp=Z,4μm,13.5s
LZH LR LR
comp=Z,7μm,15.5s
LZH LR LR
comp=Z,9μm,16.5s
IRK Irkutsk 30.07 313 *e*P **P** **11 26 04.6 -2.4**
IRK pmax pmax
comp=Z,27nm,2.1s
ZAK Zakamensk 30.23 309 *e*P **P** **11 26 07.7 -0.9**
ZAK pmax pmax
comp=Z,3.0nm,1.2s
TLY Talaya 30.30 311 *e*P **P** **11 26 08.1 -1.0**
comp=Z,9.8nm,0.8s
TLY Talaya 30.30 311 *e*P **P** **11 26 08.4 -0.7**
TLY pmax pmax
comp=Z,7.0nm,0.6s
TLY MLR MLR
comp=Z,1μm,12.0s
GYA Guiyang 31.02 260 ⇑*i*P **P** **11 26 14.4 -1.4**
GYA PP **PnPn** **11 27 18.2 +1.0**
GYA PcP **PcP** **11 29 13.0 +1.6**
GYA S **S** **11 31 19.8 +0.3**
GYA SS **SnSn** **11 33 02.6 +1.7**
GYA ScS **ScS** **11 36 50.5 +0.6**
GYA pmax pmax
comp=Z,30nm,0.8s
GYA pmax pmax
comp=Z,140nm,5.8s
GYA LR LR
comp=Z,560nm,16.9s
GYA LR LR
comp=Z,520nm,17.2s
GYA LR LR
comp=Z,570nm,17.4s
CD2 Chengdu 31.50 270 P **P** **11 26 19.0 -0.9**
CD2 pP pP 11 26 23.4 -3.8
CD2 S **S** **11 31 26.5 -0.3**
CD2 sS pS 11 31 34.0 -1.0
CD2 pmax pmax
comp=Z,20nm,0.5s
CD2 pmax pmax
comp=Z,320nm,6.0s
CD2 LR LR
comp=Z,6μm,17.9s
CD2 LR LR
comp=Z,3μm,19.9s
CD2 LR LR
comp=Z,5μm,17.4s
MOY Mondy 31.90 310 *e*P **P** **11 26 23.1 -0.2**
GTA Gaotai 32.44 287 *e*P **P** **11 26 27.9 -0.3**
GTA pP pP 11 26 32.1 -3.4
GTA sP sP 11 26 34.9 -3.6
GTA S **S** **11 31 39.1 -2.4**
GTA sS pS 11 31 47.6 -2.0
GTA SS **SnSn** **11 33 32.1 -3.0**
GTA pmax pmax
comp=Z,8.0nm,0.6s
GTA LR LR
comp=Z,1μm,15.2s
GTA LR LR
comp=Z,1μm,11.4s
GTA LR LR
comp=Z,2μm,12.4s
QIZ Qiongzhong 32.71 246 P **P** **11 26 30.9 +0.4**
QIZ S **S** **11 31 47.7 +2.0**
QIZ pmax pmax
comp=Z,10.0nm,1.0s
QIZ LR LR
comp=Z,2μm,18.6s
QIZ LR LR
comp=Z,2μm,17.2s
QIZ LR LR
comp=Z,1μm,14.9s
DAV Davao City (W) 32.91 209 LR LR 11 38 30.9
comp=Z,750nm,20.0s,baz=63,slow=34
BILL Bilibino 34.22 16 *i*P **P** **11 26 41.9 -1.3**
BILL *i* 11 27 00.9
BILL *i* 11 27 56.8
BILL *i* 11 29 21.3
BILL pmax pmax
comp=Z,8.0nm,1.3s
BILL MLR MLR
comp=Z,1μm,16.0s
KMI Kunming 34.77 261 P **P** **11 26 47.5 -1.2**
KMI pP pP 11 26 52.8 -3.2
KMI sP sP 11 26 55.4 -3.6
KMI PP **PP** **11 28 06.6 -1.0**
KMI S **S** **11 32 15.7 -2.2**
KMI sS pS 11 32 26.3 0.0
KMI SS **SnSn** **11 34 28.2 -3.8**
KMI pmax pmax
comp=Z,28nm,1.4s
KMI pmax pmax
comp=Z,240nm,4.1s
KMI LR LR
comp=Z,3μm,20.8s
KMI LR LR
comp=Z,810nm,21.9s
KMI LR LR
comp=Z,2μm,24.2s
TIXI Tiksi 35.42 353 *e*P **P** **11 26 52.7 -0.8**
comp=Z,30nm,1.3s
TIXI Tiksi 35.42 353 *de*P **P** **11 26 52.9 -0.6**
TIXI pmax pmax
comp=Z,35nm,1.7s
KRAR Krasnoyarsk 37.45 316 ⇓*e*P **P** **11 27 11.7 +0.7**
MYLDM Lahad Datu 37.78 219 *e*P **P** **11 27 14.8 +0.6**
comp=Z,36nm,1.0s
TNTI Ternate 38.14 203 *e*P **P** **11 27 16.6 -0.6**
comp=Z,86nm,1.1s
SIJI Sorong 38.67 196 P **P** **11 27 21.4 -0.3**
comp=Z,26nm,0.6s,baz=355,slow=12,SNR=20
GAMB Gambell 38.94 31 *e*P **P** **11 27 24.9 +1.5**
comp=Z,21nm,1.6s
JAY Jayapura 39.20 181 P P 11 27 31.5 +5.4
comp=Z,258nm,1.1s,comp=Z,7μm
GENI Genyem 39.28 182 P **P** **11 27 28.2 +1.4**
comp=Z,88nm,1.0s,comp=Z,3μm
LBMI Labuha 39.43 202 P **P** **11 27 28.6 +0.5**
comp=Z,90nm,1.0s,comp=Z,2μm
KMSI Cibinong 39.48 208 P P 11 27 35.8 +7.3
comp=Z,142nm,0.8s
DGZ Jazzator, Alta 40.34 306 *i*P **P** **11 27 36.5 +1.0**
DGZ pmax pmax
comp=Z,60nm,0.9s
MRSI Marisa 40.37 211 P **P** **11 27 36.5 +0.6**
comp=Z,51nm,1.3s,comp=Z,1μm
FAKI Fak Fak 40.47 194 P **P** **11 27 38.2 +1.6**
comp=Z,68nm,0.7s,comp=Z,1μm
FAKI Fak Fak 40.47 194 *e*P **P** **11 27 37.1 +0.5**
comp=Z,51nm,0.8s
WMQ Urumqi 40.75 297 P **P** **11 27 40.0 +1.1**
WMQ pP pP 11 27 43.9 -2.4
WMQ pmax pmax
comp=Z,190nm,1.1s
WMQ pmax pmax
comp=Z,700nm,3.8s
WMQ LR LR
comp=Z,4μm,13.5s
WMQ LR LR
comp=Z,3μm,13.5s
WMQ LR LR
comp=Z,3μm,26.9s
CHTO Chiang Mai 41.08 256 *e*P **P** **11 27 41.7 -0.1**
comp=Z,45nm,1.6s
CHTO Chiang Mai 41.08 256 P **P** **11 27 41.5 -0.3**
SNR=13
CHTO Chiang Mai 41.08 256 P **P** **11 27 41.5 -0.3**
SNR=13
CHTO Chiang Mai 41.08 256 *e*P **P** **11 27 41.7 -0.1**
CHTO pmax pmax
comp=Z,45nm,1.6s
SANI Sanana 41.23 203 P **P** **11 27 42.0 -1.0**
comp=Z,117nm,0.7s,comp=Z,1μm
CM31 Chiang Mai Arr 41.29 255 *e*P **P** **11 27 45.2 +1.7**
CMAR Chiang Mai Arr 41.29 255 P **P** **11 27 43.6 +0.2**
comp=Z,3.1nm,0.7s,baz=51,slow=3.7,SNR=16
CMAR PcP **PcP** **11 29 42.9 +1.0**
comp=Z,3.5nm,1.0s,baz=23,slow=4.2,SNR=4.6
CMAR LR LR 11 47 10.5
comp=Z,800nm,19.1s,baz=49,slow=40
CMAR Chiang Mai Arr 41.29 255 P **P** **11 27 43.7 +0.2**
CMAR 11 29 42.9
CMAR pmax pmax
comp=Z,5.0nm,1.0s
CMAR pmax pmax
comp=Z,4.0nm,1.0s
CMAR MLR MLR
comp=Z,800nm,19.1s
CM01 Chiang Mai Arr 41.30 255 *e*P **P** **11 27 42.2 -1.3**
MPSI Mapaga 41.36 213 P **P** **11 27 43.9 -0.1**
comp=Z,22nm,0.9s,comp=Z,578nm
MSAI Masohi 41.62 199 P **P** **11 27 48.8 +2.6**
comp=Z,59nm,1.6s
APSI Ampana 41.75 210 P **P** **11 27 47.3 +0.1**
comp=Z,153nm,1.2s,comp=Z,2μm
ZAA0 Zalesovo Array 41.89 313 *e*P **P** **11 27 47.4 -0.6**
comp=Z,65nm,1.2s
ZAA1 Zalesovo Array 41.89 313 *e*P **P** **11 27 48.0 +0.1**
ZAA1 *e*PcP **PcP** **11 29 43.9 +0.6**
ZALV Zalesovo Beam 41.89 313 P **P** **11 27 48.0 +0.1**
comp=Z,19nm,0.7s,baz=91,slow=6.2,SNR=77
ZALV PcP **PcP** **11 29 43.9 +0.6**
comp=Z,3.2nm,0.7s,baz=124,slow=3.6,SNR=2.5
ZALV Zalesovo Beam 41.89 313 *e*P **P** **11 27 47.2 -0.8**
ZALV PcP **PcP** **11 29 43.9 +0.6**
ZALV Zalesovo Beam 41.89 313 *e*P **P** **11 27 47.2 -0.8**
ZALV 11 29 43.9
LSA Lhasa 42.05 275 P **P** **11 27 50.4 +0.2**
LSA pmax pmax
comp=Z,22nm,1.0s
AAI Ambon 42.14 200 P **P** **11 27 52.1 +1.7**
comp=Z,178nm,1.5s,comp=Z,4μm
ZSN Zaisan 42.22 303 ⇓*i*P **P** **11 27 51.7 +0.9**
comp=Z,174nm,1.4s
ZSN *e*S **S** **11 34 13.6 +4.0**
ZSN LR LR 11 45 54.0
comp=Z,407nm,11.9s
PCI Palu 42.50 213 P **P** **11 27 53.9 +0.5**
comp=Z,99nm,1.1s,comp=Z,1μm
NVS Novosibirsk 42.82 314 ⇑*i*P **P** **11 27 55.5 0.0**
NVS pmax pmax
comp=Z,54nm,1.2s
NVS pmax pmax
comp=N,8.0nm,0.9s
NVS pmax pmax
comp=E,27nm,0.9s
SHL Shillong 43.23 269 *e*P **P** **11 28 02.0 +2.5**
SBUM Sibu 43.43 225 *e*P **P** **11 28 01.0 +0.1**
comp=E,38nm,1.1s
MK01 Makanchi Array 44.05 302 *e*P **P** **11 28 05.2 -0.4**
MK31 Makanchi Array 44.05 302 *e*P **P** **11 28 05.4 -0.2**
MK31 Makanchi Array 44.05 302 *e*P **P** **11 28 05.4 -0.2**
MK32 Makanchi Array 44.05 302 *e*P **P** **11 28 05.6 0.0**
MKAR Makanchi Array 44.05 302 P **P** **11 28 05.6 0.0**
comp=E,13nm,0.6s,baz=86,slow=10.0,SNR=114
MKAR LR LR 11 46 44.8
comp=E,1μm,19.9s,baz=74,slow=36
MKAR Makanchi Array 44.05 302 *e*P **P** **11 28 05.4 -0.2**
comp=E,139nm,0.7s
MKAR Makanchi Array 44.05 302 *e*P **P** **11 28 05.4 -0.2**
MKAR pmax pmax
comp=Z,139nm,0.7s
KDI Kendari 44.17 207 P **P** **11 28 08.0 +1.2**
comp=Z,57nm,1.0s,comp=Z,1μm
MAKZ Makanchi 44.26 302 *e*P **P** **11 28 07.1 -0.2**
comp=Z,31nm,0.8s
MAKZ Makanchi 44.26 302 *e*P **P** **11 28 07.1 -0.2**
MAKZ pmax pmax
comp=Z,31nm,0.8s
SEM Semipalatinsk 44.90 308 ⇓*i*P **P** **11 28 11.8 -0.8**
comp=Z,574nm,1.3s
SEM *i*S **S** **11 34 49.1 0.0**
SEM LR LR 11 47 19.0
comp=Z,2μm,12.8s
KSM Kuching 45.32 226 *e*P **P** **11 28 16.7 +0.7**
comp=Z,78nm,1.1s
BNSI Bone 45.54 210 P **P** **11 28 18.2 +0.5**
comp=Z,169nm,1.1s,comp=Z,2μm
SVW2 Sparrevohn 45.75 37 *e*P **P** **11 28 21.0 +2.0**
comp=Z,42nm,1.3s
STKI Sintang 45.81 224 P **P** **11 28 21.0 +1.1**
KURK Kurchatov 45.89 308 *e*P **P** **11 28 19.7 -0.4**
comp=Z,157nm,1.3s
KURK *e*P **P** **11 28 20.2 0.0**
KURK Kurchatov 45.89 308 P **P** **11 28 19.9 -0.2**
SNR=53
KURK Kurchatov 45.89 308 P **P** **11 28 19.9 -0.2**
SNR=53
KURK Kurchatov 45.89 308 *d*⇓P **P** **11 28 19.7 -0.4**
KURK pmax pmax
comp=Z,143nm,1.3s
KURBB Kurchatov Arra 45.96 308 P **P** **11 28 20.2 -0.5**
comp=Z,44nm,0.9s,baz=84,slow=8.4,SNR=117
KAPI Kappang 46.24 210 P **P** **11 28 23.7 +0.5**
SNR=14
KAPI Kappang 46.24 210 P **P** **11 28 23.7 +0.5**
SNR=14
ODAN Odare 46.25 274 *e*P **P** **11 28 23.4 -0.2**
comp=Z,244nm,1.4s
KBKI Kotabaru 46.28 216 P **P** **11 28 28.3 +4.8**
comp=Z,39nm,1.2s,comp=Z,1μm
PMG Port Moresby 46.38 172 P **P** **11 28 25.0 +0.7**
comp=Z,13nm,0.8s,baz=307,slow=5.1,SNR=2.6
PMG Port Moresby 46.38 172 ⇓*e*P **P** **11 28 26.2 +1.9**
PMG pmax pmax
comp=Z,198nm,1.5s
PDGK Podgornoye 46.69 298 P **P** **11 28 26.2 -0.5**
PDGK pmax pmax
comp=Z,78nm,1.1s
RAMN Ramite 46.84 274 *e*P **P** **11 28 28.1 -0.1**
comp=Z,297nm,1.1s
JIRN Jiri 46.86 275 *e*P **P** **11 28 29.0 +0.5**
IM3 Indian Mountai 46.87 31 *e*P **P** **11 28 27.9 +0.2**
GUN Gumba 46.99 276 *e*P **P** **11 28 29.6 0.0**
comp=Z,244nm,1.2s
UZB Uzynbulak 47.07 298 ⇓*i*P **P** **11 28 29.6 -0.1**
comp=Z,328nm,1.2s
UZB *i*S **S** **11 35 21.3 +1.0**
UZB LR LR 11 49 29.7
comp=Z,419nm,11.6s
KPKS Kokpek 47.23 298 ⇓*i*P **P** **11 28 30.9 0.0**
comp=Z,352nm,1.5s
KPKS *i*S **S** **11 35 23.9 +1.4**

KPKS LR LR 11 49 49.6
comp=Z,1µm,12.8s
KDAK Kodiak Island 47.33 42 *eP* **P 11 28 32.3 +1.0**
comp=Z,42nm,1.2s
KDAK Kodiak Island 47.33 42 *i* P **P 11 28 31.8 +0.5**
PPLA Purkeypile 47.39 35 *eP* **P 11 28 33.8 +1.8**
comp=Z,63nm,1.4s
CAST Castle Rocks 47.45 34 *eP* **P 11 28 34.1 +1.9**
comp=Z,46nm,1.6s
ZHN Zhinishke 47.48 298⇓*iP* **P 11 28 33.2 +0.3**
comp=Z,175nm,1.4s
ZHN *eS* **S 11 35 27.6 +1.5**
ZHN LR LR 11 49 43.9
comp=Z,303nm,11.1s
PKIN Phulchoki 47.52 276 *eP* **P 11 28 33.4 -0.2**
comp=Z,81nm,0.9s
SATY Saty 47.52 298⇓*iP* **P 11 28 33.7 +0.5**
comp=Z,266nm,0.9s
SATY *eS* **S 11 35 28.2 +1.4**
SATY LR LR 11 50 16.7
comp=Z,863nm,12.0s
KKN Kakani 47.53 276 *eP* **P 11 28 33.5 -0.1**
comp=Z,113nm,0.9s
PRZ Przheval'sk 47.68 297 *eP* **P 11 28 35.5 +1.0**
comp=Z,94nm,1.3s
PRZ Przheval'sk 47.68 297 *eP* **P 11 28 35.6 +1.0**
PRZ pmax pmax
comp=Z,94nm,1.3s
SKT Skwentna 47.70 36 *eP* **P 11 28 35.3 +1.1**
comp=Z,21nm,1.4s
DMN Daman 47.74 276 *eP* **P 11 28 35.2 -0.1**
comp=Z,227nm,1.6s
GKN Gorkha 47.95 276 *eP* **P 11 28 36.6 -0.1**
comp=Z,265nm,1.1s
BPAW Bear Paw Mtn. 47.95 33 *eP* **P 11 28 38.0 +1.9**
comp=Z,25nm,1.4s
MLY Manley 48.07 32 *eP* **P 11 28 38.5 +1.5**
comp=Z,24nm,1.2s
SUA Susitna One 48.09 37 *eP* **P 11 28 38.0 +0.7**
comp=Z,24nm,1.2s
BRLK Bradley Lake 48.09 39 *eP* **P 11 28 39.0 +1.7**
comp=Z,13nm,1.0s
TRF Thorofare Moun 48.26 34 *eP* **P 11 28 39.6 +1.0**
comp=Z,47nm,1.9s
COLD Coldfoot 48.37 29 *eP* **P 11 28 40.8 +1.5**
comp=Z,13nm,1.4s
MDOK Medeo 48.46 298⇓*iP* **P 11 28 40.6 +0.1**
comp=Z,279nm,1.3s
MDOK *eS* **S 11 35 41.3 +1.2**
MDOK *i* LR LR 11 49 02.2
DANN Dangsing 48.49 277 *eP* **P 11 28 41.8 +0.7**
AAA Alma-Ata 48.54 298 *eP* P 11 28 31.0 -10
AAA pmax pmax
comp=E,300nm,5.6s
AAA MLR MLR
comp=Z,2µm,16.0s
RC01 Rabbit Creek A 48.59 37 *eP* **P 11 28 42.0 +0.9**
comp=Z,38nm,1.2s
KULM Kulim 48.59 240 *eP* **P 11 28 41.5 0.0**
comp=Z,73nm,1.4s
KDJ Kajisay 48.65 297 *eP* **P 11 28 42.4 +0.4**
comp=Z,62nm,1.6s
MMRI Maumere 48.65 205 P **P 11 28 46.5 +4.6**
comp=Z,130nm,1.2s
TOLK Toolik Lake Re 48.69 27 P **P 11 28 43.3 +1.6**
baz=267
TOLK Toolik Lake Re 48.69 27 *eP* **P 11 28 42.9 +1.1**
comp=Z,29nm,1.3s
KUU Kurty 48.76 300⇓*iP* **P 11 28 42.3 -0.4**
comp=Z,199nm,1.5s
KUU *i* S **S 11 35 44.8 +0.7**
KUU LR LR 11 49 30.2
comp=Z,269nm,13.3s
PMR Palmer 48.85 37 *eP* **P 11 28 43.1 +0.1**
comp=Z,35nm,1.4s
PMR Palmer 48.85 37 *eP* **P 11 28 43.1 +0.1**
PMR pmax pmax
comp=Z,35nm,1.4s
MCK McKinley 48.86 34 *eP* **P 11 28 44.1 +1.0**
comp=Z,28nm,1.3s
MCK McKinley 48.86 34 *eP* **P 11 28 44.1 +1.0**
MCK pmax pmax
comp=Z,28nm,1.3s
KOLN Koldanda 48.87 277 *eP* **P 11 28 43.7 -0.3**
RND Reindeer 48.90 34 *eP* **P 11 28 44.2 +0.7**
comp=Z,42nm,1.3s
RND Reindeer 48.90 34 *eP* **P 11 28 44.2 +0.7**
RND pmax pmax
comp=Z,42nm,1.3s
IPM Ipoh 48.91 239 *eP* **P 11 28 43.5 -0.6**
comp=Z,44nm,1.0s
GHO Glory Hole Cre 48.94 36 *eP* **P 11 28 44.8 +0.9**
comp=Z,72nm,1.4s
SOEI Soe 49.04 202 *eP* **P 11 28 44.8 -0.4**
comp=Z,181nm,1.0s
MDM Murphy Dome 49.14 32 *eP* **P 11 28 46.5 +1.2**
comp=Z,46nm,1.2s
WRH Wood River Hil 49.21 33 *eP* **P 11 28 47.0 +1.2**
comp=Z,20nm,1.4s
PYUN Piuthan 49.22 277 *eP* **P 11 28 46.7 +0.1**
comp=Z,289nm,1.1s
SML Sawmill 49.22 36 *eP* **P 11 28 46.9 +1.0**
comp=Z,64nm,1.6s
SML Sawmill 49.22 36 *eP* **P 11 28 46.9 +1.0**
SML pmax pmax
comp=Z,65nm,1.6s
COLA College 49.30 32 *eP* **P 11 28 48.0 +1.6**
comp=Z,84nm,2.0s
COLA College 49.30 32 *eP* **P 11 28 48.0 +1.6**
COLA pmax pmax
comp=Z,84nm,2.0s
CCB Clear Creek Bu 49.33 32 *eP* **P 11 28 47.7 +1.1**
comp=Z,21nm,1.6s
BMNS Besmoynak 49.44 299⇓*iP* **P 11 28 48.6 +0.5**
comp=Z,482nm,1.3s
BMNS *eS* **S 11 35 55.4 +1.4**
BMNS LR LR 11 52 18.5
comp=Z,371nm,11.5s
TKM2 Tokmak 2 49.55 298 P **P 11 28 49.6 +0.6**
SNR=27
TKM2 Tokmak 2 49.55 298 P **P 11 28 49.0 +0.1**
TKM2 pmax pmax
comp=Z,81nm,1.8s
DHY Denali Highway 49.59 35 *eP* **P 11 28 49.7 +0.9**
comp=Z,28nm,1.3s
BATI Baumata 49.65 203 P **P 11 28 49.6 -0.1**
comp=Z,94nm,0.8s,baz=100,slow=1.8,SNR=14
NRN Naryn 49.69 296 *eP* **P 11 28 50.2 0.0**
comp=Z,17nm,1.0s
NRN Naryn 49.69 296 *eP* **P 11 28 50.2 0.0**
NRN pmax pmax
comp=Z,17nm,1.0s
SCM Sheep Creek Mo 49.69 36 *eP* **P 11 28 50.7 +1.1**
comp=Z,44nm,1.4s
SCM Sheep Creek Mo 49.69 36 *eP* **P 11 28 50.7 +1.1**
SCM pmax pmax
comp=Z,44nm,1.4s
HDA Harding Lake 49.70 33 *eP* **P 11 28 50.1 +0.5**
comp=Z,25nm,1.1s
ILAR Eielson Array 49.72 32 P **P 11 28 50.0 +0.3**
comp=Z,9.9nm,1.0s,baz=266,slow=5.7,SNR=59
ILAR LR LR 11 51 11.1
comp=Z,492nm,20.0s,baz=294,slow=38
ILAR Eielson Array 49.72 32 P **P 11 28 50.0 +0.3**
ILAR pmax pmax
comp=Z,10.0nm,1.0s
ILAR MLR MLR
comp=Z,492nm,20.0s
ILB Eielson Array 49.72 32 *eP* **P 11 28 50.0 +0.3**
BRZS Berezniki 49.76 308⇓*iP* **P 11 28 48.9 -1.4**
comp=Z,41nm,1.2s
BRZS *eS* **S 11 35 57.7 -0.2**
KZA Kyzart 50.04 298 P **P 11 28 54.1 +1.2**
SNR=16
BTLS Baital 50.04 302⇓*iP* **P 11 28 51.8 -0.6**
comp=Z,206nm,1.3s
BTLS *eS* **S 11 36 02.2 +0.3**
KBK Karagaybulak 50.08 298 P **P 11 28 53.3 +0.3**
SNR=11
USP Ospenovka 50.22 299 P **P 11 28 54.5 +0.6**
SNR=6.3
FRU Bishkek 50.26 299 *eP* **P 11 28 53.5 -0.7**
FRU *e* 11 30 49.0
FRU *eS* S 11 35 54.0 -11
FRU pmax pmax
comp=Z,100nm,2.0s
KSH Kashi 50.31 294 P **P 11 28 58.8 +4.2**

KSH pP pP 11 29 03.5 +1.3
KSH PP **PP** **11 30 55.3 +5.3**
KSH S **S** **11 36 10.5 +4.5**
KSH SS **SS** **11 39 38.5 -0.9**
KSH pmax pmax
comp=Z,58nm,1.7s
KSH pmax pmax
comp=Z,810nm,4.2s
KSH LR LR
comp=Z,500nm,7.5s
KSH LR LR
comp=Z,280nm,7.3s
KSH LR LR
comp=Z,1µm,10.1s
FYU Fort Yukon 50.33 30 *eP* **P 11 28 56.4 +2.2**
comp=Z,119nm,1.7s
MTN Manton Dam 50.36 193 *eP* **P 11 28 54.8 -0.1**
comp=Z,89nm,1.1s
KLU Klutina 50.39 37 *eP* **P 11 28 56.3 +1.4**
comp=Z,41nm,1.4s
AAK Ala-Archa 50.41 298 P **P 11 28 55.1 -0.3**
comp=Z,2.7nm,0.7s,baz=82,slow=9.6,SNR=15
AAK LR LR 11 50 56.4
comp=Z,2µm,21.5s,baz=60,slow=37
AAK Ala-Archa 50.41 298 P **P 11 28 55.5 +0.1**
SNR=6.9
AAK Ala-Archa 50.41 298 *eP* **P 11 28 55.1 -0.3**
AAK *eP* **P 11 28 55.5 +0.1**
AAK Ala-Archa 50.41 298 P **P 11 28 55.9 +0.5**
SNR=13
AAK Ala-Archa 50.41 298 P **P 11 28 55.9 +0.5**
SNR=13
AAK Ala-Archa 50.41 298 *iP* **P 11 28 55.5 +0.1**
SNR=6.4
AAK Ala-Archa 50.41 298*d iP* **P 11 28 55.2 -0.2**
AAK pmax pmax
comp=Z,26nm,1.9s
PAX Paxson 50.46 35 *eP* **P 11 28 56.7 +1.3**
comp=Z,13nm,1.2s
PAX Paxson 50.46 35 *eP* **P 11 28 56.7 +1.3**
PAX pmax pmax
comp=Z,13nm,1.2s
DIV Divide 50.50 37 *eP* **P 11 28 57.1 +1.4**
comp=Z,66nm,1.4s
UCH Uchtor 50.52 298 P **P 11 28 57.3 +0.7**
SNR=7.8
BVA0 Borovoye Array 50.54 312 *i* P **P 11 28 55.5 -0.6**
BVA0 pmax pmax
comp=Z,18nm,1.1s
BVAR Borovoye Array 50.54 312 P **P 11 28 55.8 -0.3**
comp=Z,3.0nm,0.5s,baz=77,slow=7.8,SNR=27
BVAR PcP **PcP** **11 30 14.3 +0.6**
comp=Z,3.0nm,0.6s,baz=145,slow=3.6,SNR=2.4
BVAR LR LR 11 51 39.4
comp=Z,761nm,18.4s,baz=85,slow=38
BVAR Borovoye Array 50.54 312 P **P 11 28 55.8 -0.3**
BVAR 11 30 14.3
BVAR pmax pmax
comp=Z,3.0nm,0.5s
BVAR pmax pmax
comp=Z,3.0nm,0.6s
BVAR MLR MLR
comp=Z,761nm,18.4s
EYAK Cordova Ski Ar 50.58 38 *eP* **P 11 28 57.8 +1.6**
comp=Z,30nm,1.3s
COEN Coen 50.60 178 *eP* **P 11 28 57.3 +0.5**
comp=Z,36nm,0.9s
BRVK Borovoye 50.60 312 *eP* **P 11 28 56.3 -0.2**
comp=Z,19nm,1.0s
BRVK Borovoye 50.60 312 P **P 11 28 56.6 +0.1**
SNR=15
BRVK Borovoye 50.60 312 P **P 11 28 56.6 +0.1**
SNR=15
BRVK Borovoye 50.60 312*d iP* **P 11 28 56.1 -0.4**
BRVK pmax pmax
comp=Z,49nm,1.2s
HARP HAARP 50.66 35 *eP* **P 11 28 58.8 +2.0**
comp=Z,119nm,2.0s
RIDG Independ'e Rid 50.67 34 *eP* **P 11 28 57.6 +0.7**
comp=Z,18nm,1.2s
DOT Dot Lake 51.03 34 *eP* **P 11 29 00.3 +0.7**
comp=Z,57nm,1.4s
SCRK Sand Creek 51.03 33 *eP* **P 11 29 00.4 +0.6**
comp=Z,36nm,1.2s
BMRM Bremner River 51.09 37 *eP* **P 11 29 01.1 +1.0**
comp=Z,33nm,1.3s
AML Almayashu 51.12 298 P **P 11 29 02.0 +0.9**
SNR=16
RAGM Ragged Mountai 51.13 38 *eP* **P 11 29 02.1 +1.7**
comp=Z,42nm,1.4s
LHMI Lhok Sumawe 51.24 243 *eP* **P 11 29 01.6 -0.1**
comp=Z,180nm,1.2s
MENT Mentasta 51.26 35 *eP* **P 11 29 02.9 +1.5**
comp=Z,42nm,1.4s
PSI Prapat 51.56 239 P **P 11 29 03.7 -0.6**
comp=Z,25nm,0.8s,baz=31,slow=2.7,SNR=15
PSI Prapat 51.56 239 *eP* **P 11 29 04.4 +0.1**
comp=Z,33nm,0.9s
PSI Prapat 51.56 239 *eP* **P 11 29 04.4 +0.1**
PSI pmax pmax
comp=Z,33nm,0.9s
JAGI Jajag, Banyuwa 51.76 215 *eP* **P 11 29 05.9 +0.4**
comp=Z,83nm,1.2s
MNAS Manas 51.85 299 P **P 11 29 05.4 -0.8**
MNAS pmax pmax
comp=Z,33nm,1.4s
SFK Sufi-Kurgan 51.94 296 P **P 11 29 07.0 0.0**
SFK pmax pmax
comp=Z,47nm,1.4s
EGAK Eagle 52.16 32 *eP* **P 11 29 09.1 +1.1**
comp=Z,19nm,1.3s
BALM Baldy 52.16 37 *eP* **P 11 29 09.5 +1.3**
comp=Z,22nm,1.3s
BALM Baldy 52.16 37 *eP* **P 11 29 09.5 +1.3**
BALM pmax pmax
comp=Z,22nm,1.3s
DAWY Dawson 53.02 33 *eP* **P 11 29 15.7 +1.2**
comp=Z,32nm,1.8s
UGM Wanagama 53.03 219 *eP* **P 11 29 15.0 0.0**
comp=Z,1µm,1.6s
KK31 Karatay Array 53.05 300 *eP* **P 11 29 15.2 +0.2**
KK31 Karatay Array 53.05 300 *eP* **P 11 29 15.2 +0.2**
KKAR Karatay Array 53.05 300 *eP* **P 11 29 15.2 +0.2**
KKAR Karatay Array 53.05 300 *eP* **P 11 29 15.2 +0.2**
GSI Gunungsitoli 53.57 239 *eP* **P 11 29 19.3 +0.3**
comp=Z,309nm,1.2s
LEM Lembang 53.65 223 P **P 11 29 18.7 -1.0**
comp=Z,144nm,0.8s,baz=27,slow=4.9,SNR=29
IUG Iuzhnay 53.70 299⇓*iP* **P 11 29 20.3 +0.5**
comp=Z,344nm,1.3s
IUG *eS* **S 11 36 53.6 +1.2**
IUG LR LR 11 52 52.6
comp=Z,564nm,14.2s
CISI Cisompet, Garu 54.14 222 *eP* **P 11 29 20.6 -2.6**
comp=Z,61nm,0.5s
CISI *epP* **P 11 29 26.2 +2.9**
NIL Nilore 54.50 288 *eP* **P 11 29 26.4 +0.7**
comp=Z,68nm,1.4s
NIL Nilore 54.50 288 *eP* **P 11 29 26.4 +0.7**
NIL pmax pmax
comp=Z,68nm,1.4s
HYT Haines Junctio 54.52 36 *eP* **P 11 29 27.2 +1.6**
comp=Z,65nm,1.4s
INK Inuvik 54.60 27 P **P 11 29 26.5 +0.7**
comp=Z,8.8nm,1.1s,baz=306,slow=7.5,SNR=25
INK Inuvik 54.60 27 *eP* **P 11 29 26.7 +0.9**
comp=Z,32nm,1.5s
INK Inuvik 54.60 27 *eP* **P 11 29 26.7 +0.9**
INK pmax pmax
comp=Z,32nm,1.5s
SVE Sverdlovsk 55.15 319*c iP* **P 11 29 30.2 +0.2**
SVE pmax pmax
comp=Z,54nm,1.0s
SVE MLR MLR
comp=Z,1µm,15.0s
WHY Whitehorse 55.81 36 *eP* **P 11 29 36.4 +1.5**
comp=Z,32nm,1.5s
SKAG Skagway 55.92 38 *eP* **P 11 29 37.9 +2.4**
comp=Z,30nm,1.4s
ARU Arti 56.36 319 P **P 11 29 38.4 -0.3**
comp=Z,24nm,0.7s,baz=84,slow=4.7,SNR=38
ARU LR LR 11 55 04.5
comp=Z,895nm,19.0s,baz=54,slow=37
ARU Arti 56.36 319 *eP* **P 11 29 38.5 -0.2**
ARU Arti 56.36 319*d iP* **P 11 29 38.3 -0.3**
ARU 11 30 36.3
ARU 11 31 42.1

ARU S **S** **11 37 29.7 +2.3**
ARU pmax pmax
comp=Z,80nm,1.2s
BESE Bessie Mountai 56.41 39 *eP* **P 11 29 41.2 +2.1**
comp=Z,42nm,1.4s
FITZ Fitzroy Crossi 56.62 198 P **P 11 29 40.0 -0.8**
comp=Z,24nm,1.0s,baz=21,slow=7.9,SNR=16
CTA Charters Tower 56.86 174 P **P 11 29 42.0 -0.6**
comp=Z,12nm,1.0s,baz=1.8,slow=12,SNR=4.2
CTA Charters Tower 56.86 174 P **P 11 29 42.0 -0.6**
CTA pmax pmax
comp=Z,13nm,0.9s
WRAB Tennant Creek 56.88 188 *eP* **P 11 29 42.2 -0.4**
comp=Z,56nm,0.9s
WRAB Tennant Creek 56.88 188*d iP* **P 11 29 41.6 -1.1**
WRAB pmax pmax
comp=Z,68nm,1.0s
WB2 Warramunga Arr 56.88 188 *eP* **P 11 29 41.8 -1.0**
comp=Z,78nm,1.0s
WR1 Warramunga Arr 56.89 188 *eP* **P 11 29 41.8 -1.0**
comp=Z,81nm,1.1s
WRA Warramunga Arr 56.89 188 P **P 11 29 41.8 -1.0**
comp=Z,43nm,0.9s,baz=6.0,slow=7.2,SNR=139
WRA Warramunga Arr 56.89 188 P **P 11 29 41.8 -1.0**
WRA pmax pmax
comp=Z,42nm,0.9s
KBL Kabul 57.31 291 *eP* **P 11 29 45.6 -0.4**
comp=Z,41nm,1.4s
KBL Kabul 57.31 291 *eP* **P 11 29 45.6 -0.4**
KBL pmax pmax
comp=Z,41nm,1.4s
AB31 Akbulak array 57.90 310 *iP* **P 11 29 49.2 -0.5**
AB31 pmax pmax
comp=Z,8.0nm,0.6s
ABKAR Akbulak array 57.90 310 *eP* **P 11 29 49.2 -0.5**
HYB Hyderabad 58.02 268 *iP* **P 11 29 50.0 -1.0**
AKTO Aktyubinsk 58.65 312 P **P 11 29 54.4 -0.5**
comp=Z,10nm,0.9s,baz=67,slow=8.8,SNR=14
AKTO LR LR 11 55 42.7
comp=Z,1µm,20.7s,baz=56,slow=37
AKTO Aktyubinsk 58.65 312 P **P 11 29 53.4 -1.5**
AKTO pmax pmax
comp=Z,16nm,1.1s
DLBC Dease Lake 58.85 38 *eP* **P 11 29 58.2 +1.9**
comp=Z,47nm,1.5s
AS01 Alice Springs 60.61 188 *eP* **P 11 30 07.3 -1.3**
AS31 Alice Springs 60.61 188 *eP* **P 11 30 08.5 -0.2**
comp=Z,6.1nm,0.8s
ASAR Alice Springs 60.61 188 P **P 11 30 08.1 -0.6**
comp=Z,20nm,0.8s,baz=9.8,slow=6.4,SNR=142
ASAR LR LR 11 56 22.2
comp=Z,386nm,19.1s,baz=332,slow=36
ASAR PKP2bc 11 59 39.6
comp=Z,1.6nm,1.0s,baz=191,slow=3.6,SNR=6.3
SPA0 Spitsbergen Ar 60.64 349 *eP* **P 11 30 08.2 0.0**
SPITS Spitsbergen Ar 60.64 349 P **P 11 30 08.2 0.0**
comp=Z,2.2nm,0.5s,baz=34,slow=6.2,SNR=7.6
SPITS LR LR 11 59 00.3
comp=Z,193nm,18.6s,baz=120,slow=39
MBWA Marble Bar 61.18 203 *eP* **P 11 30 12.4 -0.1**
comp=Z,31nm,1.0s
POO Poona 61.20 272⇑*iP* **P 11 30 10.0 -2.9**
comp=Z,9.0nm,1.0s
PALK Pallekele 62.16 258 P **P 11 30 18.7 -0.7**
comp=Z,40nm,1.0s,baz=116,slow=4.6,SNR=21
PALK LR LR 12 00 40.2
comp=Z,609nm,19.1s,baz=116,slow=39
PALK Pallekele 62.16 258 *eP* **P 11 30 19.9 +0.4**
comp=Z,65nm,1.0s
PALK Pallekele 62.16 258 P **P 11 30 20.4 +1.0**
SNR=12
PALK Pallekele 62.16 258 P **P 11 30 20.4 +1.0**
SNR=12
PALK Pallekele 62.16 258 *iP* **P 11 30 19.7 +0.3**
SNR=14
PALK Pallekele 62.16 258 *iP* **P 11 30 20.3 +0.8**
LVZ Lovozero 62.18 336⇓*eP* **P 11 30 20.6 +1.8**
LVZ pmax pmax
comp=Z,92nm,2.7s
APA Apatity 62.75 336⇓*iP* **P 11 30 21.5 -1.1**
APA pmax pmax
comp=Z,7.0nm,1.2s
APA MLR MLR
comp=Z,2µm,17.0s
RES Resolute Bay 62.79 14 *eP* **P 11 30 22.6 -0.1**
comp=Z,31nm,1.3s
RES Resolute Bay 62.79 14 *eP* **P 11 30 22.6 -0.1**
RES pmax pmax
comp=Z,31nm,1.3s
TMCR Tamitsa 62.79 331 *eP* **P 11 30 22.2 -0.7**
TMCR pmax pmax
comp=Z,50nm,1.1s
DZM Mont Dzumac 63.29 154 LR LR 11 55 40.3
comp=Z,471nm,20.6s,baz=359,slow=34
GEYT Alibeck 63.76 299 P **P 11 30 30.1 +0.3**
comp=Z,15nm,0.9s,baz=36,slow=2.8,SNR=20
GEYT LR LR 11 59 58.4
comp=Z,578nm,21.8s,baz=80,slow=38
GYA0B ALIBECK ARRAY 63.76 299 *eP* **P 11 30 30.0 +0.2**
comp=Z,18nm,0.8s
KLMR Klimovskoe 63.79 328 *eP* **P 11 30 27.6 -2.0**
KLMR AMP 11 30 30.6
comp=Z,52nm,1.3s
KLMR *ePP* **PP** **11 32 47.9 -1.6**
KLMR LQ LQ 11 53 37.6
KLMR LQ LQ 11 53 37.6
KLMR LR LR 11 57 30.9
KLMR Klimovskoe 63.79 328 *eP* **P 11 30 27.5 -2.0**
KLMR *e* 11 32 47.8
KLMR pmax pmax
comp=Z,52nm,1.3s
YKA Yellowknife Ar 64.03 30 P **P 11 30 31.4 +0.4**
comp=Z,3.7nm,1.1s,baz=298,slow=6.3,SNR=32
YKA PKP2bc 11 59 22.8
comp=Z,0.4nm,1.0s,baz=118,slow=3.1,SNR=6.5
ARA0 ARCESS Array S 64.08 339 *eP* **P 11 30 31.7 +0.4**
ARCES ARCESS Array B 64.08 339 P **P 11 30 31.7 +0.4**
comp=Z,5.1nm,0.7s,baz=60,slow=8.1,SNR=34
MSVF Nonsavu 64.50 141 *eP* **P 11 30 36.6 +1.9**
comp=Z,47nm,1.4s
MSVF Nonsavu 64.50 141⇑*eP* **P 11 30 37.3 +2.5**
MSVF pmax pmax
comp=Z,38nm,1.8s
DAG Danmarks Havn 65.91 355 *iP* **P 11 30 43.5 +0.4**
comp=Z,17nm,0.9s
DAG Danmarks Havn 65.91 355 *iP* **P 11 30 43.5 +0.4**
DAG pmax pmax
comp=Z,17nm,0.9s
LLLB Lillooet 66.48 44 *eP* **P 11 30 48.7 +1.4**
comp=Z,25nm,1.5s
NLWA Neilton Lookou 66.95 47 *eP* **P 11 30 52.0 +1.7**
comp=Z,57nm,1.4s
A04D Lummi Island 66.96 46 P **P 11 30 51.8 +1.6**
baz=300
AFI Afiamalu 67.17 130 LR LR 11 57 59.4
comp=Z,398nm,18.9s,baz=324,slow=34
MOS Moscow 67.27 323 *eP* **P 11 30 50.9 -1.2**
MOS *e* 11 31 17.4
MOS pmax pmax
comp=Z,74nm,0.8s
MOS MLR MLR
comp=Z,1µm,15.0s
B05A Bryant 67.54 46 P **P 11 30 55.5 +1.5**
baz=301
E03A Lebam 67.55 48 *eP* **P 11 30 57.1 +3.1**
VRH Novokhopyorsk 67.57 318 *eP* **P 11 30 53.3 -0.8**
VRH pmax pmax
comp=Z,20nm,0.6s
OBN Obninsk 68.11 323 P **P 11 30 57.8 +0.4**
comp=Z,19nm,0.3s,baz=62,slow=8.3,SNR=10
OBN Obninsk 68.11 323 *eP* **P 11 30 57.8 +0.4**
comp=Z,63nm,1.2s
OBN Obninsk 68.11 323*d iP* **P 11 30 56.9 -0.5**
OBN *e* 11 31 22.9
OBN *e* 11 33 22.6
OBN pmax pmax
comp=Z,51nm,1.2s
F04D Rainier, OR 68.12 48 P **P 11 30 59.3 +1.7**
baz=301
D05A Enumclaw 68.15 47 *eP* **P 11 30 59.8 +2.0**
comp=Z,83nm,1.7s
LPSR Galich'ya Gora 68.31 320 *eP* **P 11 30 58.1 -0.6**
LPSR pmax pmax
comp=Z,50nm,1.2s
STKA Stephens Creek 68.40 180 P **P 11 30 59.2 -0.2**
comp=Z,11nm,0.9s,baz=343,slow=8.8,SNR=28

STKA	Stephens Creek	68.40	180	*e*P		P		11 30 59.5	+0.1
	comp=Z,2.7nm,0.9s									
STKA	Stephens Creek	68.40	180	*e*P		P		11 30 59.5	+0.1
STKA					pmax	pmax				
	comp=Z,3.0nm,0.9s									
G03D	McMinnville, O	68.41	49	P		P		11 31 01.4	+1.9
	baz=301									
FORT	Forrest	68.42	192	*e*P		P		11 30 59.8	+0.3
	comp=Z,66nm,0.8s									
FIA1	FINESS Array S	68.86	332	*e*P		P		11 31 01.8	-0.2
FIA0	FINESS Array S	68.87	332	*e*P		P		11 31 01.7	-0.3
FIA0	FINESS Array S	68.87	332	*e*P		P		11 31 01.7	-0.3
FINES	FINESS Array B	68.87	332	P		P		11 31 01.7	-0.3
	comp=Z,8.9nm,0.7s,baz=35,slow=10,SNR=28									
FINES					LR	LR		12 03 03.7		
	comp=Z,577nm,18.0s,baz=48,slow=38									
LTY	Liberty	68.89	46	*e*P		P		11 31 03.9	+1.4
	comp=Z,21nm,1.5s									
VSR	Storozhevoye	68.93	319	*e*P		P		11 31 02.0	-0.6
VSR					pmax	pmax				
	comp=Z,50nm,1.3s									
B08A	Colville Reser	69.07	45	*e*P		P		11 31 05.0	+1.4
	comp=Z,55nm,2.0s									
I03D	Drain, OR	69.14	51	P		P		11 31 06.0	+2.0
	baz=302									
H04A	Detroit Lake	69.34	49	*e*P		P		11 31 06.6	+1.3
	comp=Z,32nm,1.2s									
GROC	Groznyy	69.36	309	*e*P		P		11 31 05.1	-0.3
GROC				*e*				11 31 26.6		
GROC					pmax	pmax				
	comp=Z,51nm,1.3s									
BBOO	Buckleboo	69.50	185	*e*P		P		11 31 06.3	+0.1
	comp=Z,26nm,0.9s									
G05D	Wamic, OR	69.57	48	P		P		11 31 08.3	+1.5
	baz=302									
EDM	Edmonton	69.57	38	*e*P		P		11 31 08.3	+1.7
	comp=Z,43nm,1.5s									
EDM	Edmonton	69.57	38	*e*P		P		11 31 08.3	+1.7
EDM					pmax	pmax				
	comp=Z,43nm,1.5s									
I04A	Tendick Farm,	69.67	50	P		P		11 31 08.8	+1.4
	baz=302									
L02D	Cave Junction,	69.78	52	P		P		11 31 09.5	+1.4
	baz=302									
G06A	Carlson Farm,	69.98	48	*e*P		P		11 31 10.8	+1.6
	comp=Z,38nm,1.6s									
I05D	Terrebonne, OR	70.03	49	P		P		11 31 10.5	+0.8
	baz=302									
GOF	Gofitskoye	70.06	312⇑	*e*P		P		11 31 10.0	+0.3
GOF					pmax	pmax				
	comp=Z,103nm,1.2s									
NEW	Newport	70.36	44	P		P		11 31 12.6	+1.0
	baz=304									
NEW	Newport	70.36	44	*e*P		P		11 31 12.8	+1.3
	comp=Z,26nm,1.6s									
NEW				*e*PcP		PcP		11 31 33.4	+0.4
NEW	Newport	70.36	44	*e*P		P		11 31 12.8	+1.3
NEW				*e*				11 31 33.4		
NEW					pmax	pmax				
	comp=Z,26nm,1.6s									
VSU	Vasula	70.50	329⇑	*e*P		P		11 31 12.7	+0.6
VSU					pmax	pmax				
	comp=Z,203nm,1.7s									
NCK	Nalchik	70.57	310⇑	*e*P		P		11 31 12.5	-0.4
NCK					pmax	pmax				
	comp=Z,48nm,0.6s									
PINE	Pine Mountain	70.57	50	*e*P		P		11 31 14.9	+1.8
	comp=Z,41nm,1.2s									
YBH	Yreka Blue Hor	70.58	52	P		P		11 31 12.8	-0.2
	comp=Z,8.0nm,1.0s,baz=252,slow=3.2,SNR=6.2									
J05D	Fort Rock, OR	70.66	50	P		P		11 31 15.2	+1.5
	baz=303									
M02C	Callahan	70.67	52	P		P		11 31 15.3	+1.7
	baz=302									
K04D	Chiloquin, OR	70.70	51	P		P		11 31 15.3	+1.4
	baz=303									
WSAR	Wadi Sarin	70.74	285	P		P		11 31 14.8	+0.6
	comp=Z,15nm,1.1s,baz=94,slow=7.6,SNR=6.6									
WSAR					LR	LR		12 08 00.6		
	comp=Z,322nm,18.2s,baz=133,slow=41									
E09A	Wood Farm, Sta	70.75	46	*e*P		P		11 31 15.8	+1.9
	comp=Z,45nm,1.6s									
ZEI	Tsey	70.76	309	*e*P		P		11 31 10.6	-3.7
ZEI					pmax	pmax				
	comp=Z,10.0nm,0.8s									
SUMG	Summit	70.84	360	*i* P		P		11 31 16.1	+1.6
	comp=Z,34nm,1.1s									
SUMG	Summit	70.84	360	*e*P		P		11 31 15.4	+0.9
	comp=Z,36nm,1.1s									
SUMG	Summit	70.84	360	*i* P		P		11 31 16.1	+1.6
SUMG					pmax	pmax				
	comp=Z,34nm,1.1s									
KVAR	Kislovodsk Arr	70.87	311	P		P		11 31 14.9	+0.1
	comp=Z,57nm,1.1s,baz=40,slow=7.2,SNR=28									
KVAR					LR	LR		12 03 22.7		
	comp=Z,790nm,20.0s,baz=54,slow=37									
KBZ	Khabaz	70.87	311	P		P		11 31 15.0	+0.4
	comp=Z,19nm,1.0s,baz=64,slow=4.8,SNR=28									
KBZ					LR	LR		12 03 07.5		
	comp=Z,847nm,19.9s,baz=58,slow=37									
KIV	Kislovodsk	70.87	311	*e*P		P		11 31 15.8	+0.9
	comp=Z,55nm,0.9s									
KIV	Kislovodsk	70.87	311	P		P		11 31 15.4	+0.6
	SNR=18									
KIV	Kislovodsk	70.87	311	P		P		11 31 15.4	+0.6
	SNR=18									
KIV	Kislovodsk	70.87	311	*i* P		P		11 31 15.2	+0.3
	SNR=12									
KIV	Kislovodsk	70.87	311	*e*P		P		11 31 13.7	-1.1
KIV					pmax	pmax				
	comp=Z,60nm,1.0s									
G08A	Pilot Rock	70.94	47	*e*P		P		11 31 16.7	+1.5
	comp=Z,22nm,1.6s									
BIDO	Bidbid	70.97	285	P		P		11 31 18.0	+2.3
	SNR=10									
BIDO	Bidbid	70.97	285	pP		P		11 31 18.0	+2.3
	SNR=10									
N02D	Trinity Center	70.98	53	P		P		11 31 16.9	+1.4
	baz=303									
BANOM	Banah	71.09	289	*i* P		P		11 31 16.9	+0.6
	SNR=7.5									
M04C	Macdoel	71.10	52	P		P		11 31 17.6	+1.4
	baz=303									
SHME	Shamm	71.14	289	*i* P		P		11 31 17.1	+0.4
	SNR=7.7									
K05A	Summer Lake	71.18	50	*e*P		P		11 31 19.4	+2.5
	comp=Z,86nm,1.4s									
NEY	Neytrino	71.24	310	*de*P		P		11 31 17.2	+0.1
NEY					pmax	pmax				
	comp=Z,4.0nm,1.2s									
SMDO	Samad	71.28	285	pP		pP		11 31 27.1	+1.6
	SNR=7.2									
WDC	Whiskeytown Da	71.30	53	*e*P		P		11 31 19.3	+2.0
	comp=Z,23nm,1.3s									
WDC	Whiskeytown Da	71.30	53	*e*P		P		11 31 19.3	+2.0
WDC					pmax	pmax				
	comp=Z,23nm,1.3s									
MSFE	Esma-Masafi	71.50	288	*i* P		P		11 31 19.3	+0.4
	SNR=6.8									
F10A	Beach Ranch, E	71.58	46	*e*P		P		11 31 20.4	+1.3
	comp=Z,13nm,1.3s									
GNI	Garni	71.66	307	P		P		11 31 21.2	+1.4
	comp=Z,7.8nm,0.3s,baz=40,slow=4.2,SNR=5.3									
GNI					LR	LR		12 04 44.0		
	comp=Z,603nm,18.8s,baz=60,slow=38									
GNI	Garni	71.66	307	P		P		11 31 20.9	+1.2
GNI	Garni	71.66	307⇑	*e*P		P		11 31 21.1	+1.4
GNI					pmax	pmax				
	comp=Z,94nm,1.2s									
WALA	Waterton Lakes	71.67	42	*e*P		P		11 31 21.2	+1.7
	comp=Z,10nm,1.0s									
UOSS	Minazif	71.69	288	*e*P		P		11 31 20.2	+0.3
	comp=Z,48nm,1.2s									
UOSS	Minazif	71.69	288	*i* P		P		11 31 19.7	-0.2
	SNR=6.2									
AKH	Akhalkalaki	71.76	308	‖*i* P		P		11 31 22.3	+1.9
AKH	Akhalkalaki	71.76	308	*e*P		P		11 31 21.2	+0.8
	comp=Z,15nm,0.7s									
AKH	Akhalkalaki	71.76	308	*e*P		P		11 31 21.2	+0.8
AKH					pmax	pmax				
	comp=Z,15nm,0.7s									
HATD	Hatta, Dubai	71.81	288	P		P		11 31 22.0	+1.3
	SNR=8.7									
HATD	Hatta, Dubai	71.81	288	P		P		11 31 22.0	+1.3
	SNR=8.7									
HATD	Hatta, Dubai	71.81	288	*i* P		P		11 31 20.9	+0.3
	SNR=11									

SOHO	SOHO	71.87	287	*i* P		P		11 31 21.1	+0.1
	SNR=12									
O03D	Paynes Creek	71.93	53	P		P		11 31 22.0	+0.8
	baz=303									
ASHO	Ashiyiah	71.94	288	P		P		11 31 22.7	+1.2
	SNR=9.5									
ASHO	Ashiyiah	71.94	288	P		P		11 31 22.7	+1.2
	SNR=9.5									
ASHO	Ashiyiah	71.94	288	*i* P		P		11 31 21.8	+0.3
	SNR=11									
MOD	Modoc Plateau	71.99	51	*e*P		P		11 31 23.2	+1.5
	comp=Z,13nm,1.1s									
NAZ	Nazwa, Dubai	72.08	288	P		P		11 31 24.0	+1.7
	SNR=6.1									
NAZ	Nazwa, Dubai	72.08	288	pP		P		11 31 24.0	+1.7
	SNR=6.1									
NAZ	Nazwa, Dubai	72.08	288	*i* P		P		11 31 21.3	-0.9
	SNR=6.5									
BMO	Blue Mountains	72.16	47	*e*P		P		11 31 23.8	+1.2
	comp=Z,26nm,1.4s									
BMO	Blue Mountains	72.16	47	*e*P		P		11 31 23.8	+1.2
BMO					pmax	pmax				
	comp=Z,26nm,1.4s									
JTMT	Jette	72.22	43	*e*P		P		11 31 24.3	+1.3
	comp=Z,19nm,1.4s									
SCO	Scoresbysund	72.25	354	*i* P		P		11 31 23.9	+1.4
	comp=Z,19nm,1.4s									
SCO	Scoresbysund	72.25	354	*e*P		P		11 31 23.3	+0.8
	comp=Z,12nm,1.1s									
SCO	Scoresbysund	72.25	354	*e*P		P		11 31 23.3	+0.8
SCO					pmax	pmax				
	comp=Z,12nm,1.1s									
J08A	Circle Bar Ran	72.31	49	*e*P		P		11 31 25.1	+1.6
	comp=Z,30nm,1.4s									
IDID	Didziasalis	72.51	327	*e*P		P		11 31 25.2	+0.9
IDID					IAmb	IAmb		11 31 30.7		
	comp=Z,16nm,0.9s									
ALNE	Al Ain	72.52	287	*i* P		P		11 31 25.2	+0.3
	SNR=6.4									
ORV	Oroville	72.53	54	*e*P		P		11 31 26.0	+1.2
	comp=Z,18nm,1.2s									
ORV	Oroville	72.53	54	*e*P		P		11 31 26.0	+1.2
ORV					pmax	pmax				
	comp=Z,18nm,1.2s									
IIGN	Ignalina	72.71	327	*e*P		P		11 31 26.5	+1.0
IIGN					IAmb	IAmb		11 31 33.0		
	comp=Z,22nm,1.1s									
WVOR	Wild Horse Val	72.73	50	*e*P		P		11 31 27.8	+1.7
	comp=Z,39nm,1.6s									
WVOR	Wild Horse Val	72.73	50	*e*P		P		11 31 27.8	+1.7
WVOR					pmax	pmax				
	comp=Z,39nm,1.6s									
NACGM	Naroch	72.75	327	*e*		P		11 31 25.0	-0.8
NACGM				*e*LQ		LQ		12 00 40.0		
NACGM				*e*LR		LR		12 03 42.0		
CPMM	Point Molate	72.82	55	*e*P		P		11 31 27.7	+1.2
SOC	Sochi	72.87	312	*d* P		P		11 31 25.1	-1.6
SOC				*e**SP		pP		11 31 31.1	-3.4
SOC				*e*PPP		PPP		11 35 52.2		
SOC				*e*S		S		11 40 52.1	+0.7
SOC				*e*SS		SS		11 45 33.9	+3.0
SOC					pmax	pmax				
	comp=Z,25nm,0.8s									
SOC					MLR	MLR				
	comp=Z,550nm,16.0s									
MSO	Missoula	72.95	44	P		P		11 31 27.9	+0.7
	baz=306									
MSO	Missoula	72.95	44	*e*P		P		11 31 28.4	+1.1
	comp=Z,17nm,1.4s									
NWAO	Narrogin (SRO)	72.97	201	P		P		11 31 27.6	+0.5
	comp=Z,8.8nm,0.7s,baz=257,slow=5.3,SNR=6.4									
NWAO	Narrogin (SRO)	72.97	201	P		P		11 31 27.7	+0.5
NWAO					pmax	pmax				
	comp=Z,10.0nm,0.7s									
BEKR	Beckworth	73.09	53	*e*P		P		11 31 29.8	+1.5
	comp=Z,32nm,1.3s									
AFDM	Forest Hills D	73.21	54	*e*P		P		11 31 30.5	+1.7
	comp=Z,24nm,1.4s									
ANN	Anapa	73.51	314	*e*P		P		11 31 28.9	-1.5
ANN				*e*				11 31 43.3		
ANN				*e*S		S		11 40 57.4	-1.2
ANN					pmax	pmax				
	comp=Z,47nm,1.3s									
PAHR	Pah Rah Range	73.80	52	*e*P		P		11 31 34.0	+1.5
	comp=Z,19nm,1.2s									
MFID	Camas Ranch	73.86	48	*e*P		P		11 31 33.7	+1.0
	comp=Z,33nm,1.5s									
VCNR	Virginia City	73.86	53	*e*P		P		11 31 34.5	+1.6
	comp=Z,20nm,1.4s									
FFC	Flin Flon	73.93	33	*e*P		P		11 31 33.6	+0.9
	comp=Z,36nm,1.5s									
FFC	Flin Flon	73.93	33	*e*P		P		11 31 33.6	+0.9
FFC					pmax	pmax				
	comp=Z,36nm,1.5s									
NC405	NORSAR Array S	74.05	337	*e*P		P		11 31 32.4	-0.9
CMB	Columbia Colle	74.10	54	*e*P		P		11 31 35.8	+1.7
	comp=Z,29nm,1.3s									
CMB	Columbia Colle	74.10	54	*e*P		P		11 31 35.8	+1.7
CMB					pmax	pmax				
	comp=Z,29nm,1.3s									
HFS	Hagfors	74.15	336	P		P		11 31 34.5	+0.5
	comp=Z,3.6nm,0.4s,baz=64,slow=6.8,SNR=30									
HFS					LR	LR		12 06 42.1		
	comp=Z,1μm,19.6s,baz=52,slow=38									
HRY	Holter Researc	74.19	43	*e*P		P		11 31 36.4	+1.8
FCC	Fort Churchill	74.22	26	*e*P		P		11 31 34.5	+0.2
	comp=Z,36nm,1.4s									
FCC	Fort Churchill	74.22	26	*e*P		P		11 31 34.5	+0.2
FCC					pmax	pmax				
	comp=Z,36nm,1.4s									
NC204	NORSAR Array S	74.22	338	*e*P		P		11 31 34.7	+0.4
NB201	NORSAR Array S	74.23	337	*e*P		P		11 31 33.7	-0.7
NB2	NORSAR Subarra	74.26	337	P		P		11 31 34.3	-0.3
	comp=Z,16nm,0.8s,baz=40,slow=6.2									
NB2	NORSAR Subarra	74.26	337	P		P		11 31 34.3	-0.3
	baz=40,slow=6.2									
NB200	NORSAR Array S	74.26	337	*e*P		P		11 31 34.6	0.0
NOA	NORSAR Array B	74.26	337	P		P		11 31 34.6	0.0
	comp=Z,5.8nm,0.7s,baz=39,slow=5.9,SNR=17									
YERR	Yerington	74.30	53	*e*P		P		11 31 37.3	+1.9
	comp=Z,38nm,1.3s									
AKASG	Malin Array Be	74.31	322	P		P		11 31 34.5	-0.4
	comp=Z,6.1nm,0.5s,baz=46,slow=6.5,SNR=51									
AKBB	Malin Array Si	74.31	322	*e*P		P		11 31 34.6	-0.4
	comp=Z,30nm,1.0s									
AKBB	Malin Array Si	74.31	322	*e*P		P		11 31 34.6	-0.4
AKBB					pmax	pmax				
	comp=Z,30nm,1.0s									
KIEV	Kiev	74.32	322	*e*P		P		11 31 34.6	-0.5
	comp=Z,29nm,1.0s									
KIEV	Kiev	74.32	322	*i* P		P		11 31 34.7	-0.3
	SNR=14									
KIEV	Kiev	74.32	322	*d* P		P		11 31 34.5	-0.6
KIEV					pmax	pmax				
	comp=Z,29nm,1.2s									
AK11	Malin Array Si	74.35	322	*e*P		P		11 31 35.1	-0.1
NBO02	NORSAR Array S	74.36	337	*e*P		P		11 31 35.1	0.0
LRM	Limekiln Ridge	74.38	44	*e*P		P		11 31 36.9	+1.0
NBO00	NORSAR Array S	74.40	337	*e*P		P		11 31 36.1	+0.7
WAKR	Walker	74.45	53	*e*P		P		11 31 38.3	+2.0
	comp=Z,20nm,1.2s									
DLMT	Dillon	74.57	45	*e*P		P		11 31 38.3	+1.5
	comp=Z,36nm,1.4s									
HLID	Hailey	74.60	47	P		P		11 31 38.5	+1.4
	baz=306									
HLID	Hailey	74.60	47	*e*P		P		11 31 38.9	+1.8
	comp=Z,13nm,1.4s									
BMN	Battle Mountai	74.74	51	*e*P		P		11 31 39.4	+1.5
	comp=Z,24nm,1.3s									
BMN	Battle Mountai	74.74	51	*e*P		P		11 31 39.4	+1.5
BMN					pmax	pmax				
	comp=Z,24nm,1.3s									
MCMT	McKenzie Canyo	74.75	45	*e*P		P		11 31 39.3	+1.3
SUW	Suwalki	74.92	327	*e*P		P		11 31 39.0	+0.5
SUW	Suwalki	74.92	327	*e*P		P		11 31 39.0	+0.5
	comp=Z,60nm,1.2s									
SUW	Suwalki	74.92	327	*e*P		P		11 31 39.0	+0.5
RYN	Ryan	74.97	53	*e*P		P		11 31 40.8	+1.6
	comp=Z,25nm,1.3s									
BOZ	Bozeman (W)	74.97	44	P		P		11 31 40.2	+1.0
	baz=308									
BOZ	Bozeman (W)	74.97	44	*e*P		P		11 31 40.7	+1.5
	comp=Z,44nm,1.7s									
BOZ				*e*S		S		11 41 14.9	-0.5
BOZ	Bozeman (W)	74.97	44	*e*P		P		11 31 40.7	+1.5
BOZ				*e*S		S		11 41 14.9	-0.5

BOZ					pmax	pmax				
	comp=Z,44nm,1.7s									
KVN	Kaiserville	74.99	52	*e*P		P		11 31 41.1	+1.7
	comp=Z,34nm,1.3s									
KVN	Kaiserville	74.99	52	*e*P		P		11 31 41.2	+1.7
KVN					pmax	pmax				
	comp=Z,34nm,1.3s									
NV01	Mina Array Sit	75.22	53	*e*P		P		11 31 41.6	+0.8
NVAR	Mina Array Bea	75.22	53	P		P		11 31 42.6	+1.8
	comp=Z,8.0nm,0.9s,baz=288,slow=6.1,SNR=35									
NV11	Mina Array Sit	75.31	53	*e*P		P		11 31 43.0	+1.8
	comp=Z,2.6nm,1.5s									
PAGB	Antelope Grade	75.50	56	*e*P		P		11 31 43.8	+1.6
	comp=Z,52nm,1.3s									
QLMT	Earthquake Lak	75.55	45	*e*P		P		11 31 44.6	+2.0
YHB	Horse Butte	75.73	44	*e*P		P		11 31 45.5	+1.8
	comp=Z,9.4nm,0.9s									
KLNR	Kaliningrad	75.77	329‖	*e*P		P		11 31 44.4	+1.1
ELK	Elko	75.78	50	LR		LR		11 58 28.8		
	comp=Z,128nm,21.9s,baz=196,slow=30									
KONO	Kongsberg	75.85	337‖	*e*P		P		11 31 44.2	+0.5
YHH	Holmes Hill	75.90	44	*e*P		P		11 31 46.6	+1.9
	comp=Z,18nm,1.5s									
SMMC	Simmler	75.91	56	P		P		11 31 46.0	+1.4
	baz=305									
YMR	Madison River	75.91	44	*e*P		P		11 31 46.9	+2.2
	comp=Z,12nm,1.0s									
SFJD	Kangerlussuaq	76.05	5	LR		LR		12 05 37.9		
	comp=Z,256nm,21.8s,baz=350,slow=36									
YFT	Old Faithful	76.12	45	*e*P		P		11 31 49.0	+3.1
	comp=Z,35nm,1.5s									
VES	Vestal, Richgr	76.21	56	P		P		11 31 46.6	+0.4
	baz=306,SNR=11									
YPP	Pitchstone Pla	76.25	45	*e*P		P		11 31 49.2	+2.5
	comp=Z,42nm,1.8s									
PKM	Mcpherson Peak	76.28	57	P		P		11 31 48.1	+1.2
	baz=306,SNR=7.1									
H17A	Grant Village	76.30	44	P		P		11 31 49.9	+3.0
	baz=309									
H17A	Grant Village	76.30	44	*e*P		P		11 31 50.3	+3.4
	comp=Z,29nm,1.2s									
SORM	Soroca	76.40	321‖	*i* P		P		11 31 47.9	+0.9
IMW	Indian Meadow	76.41	45	*e*P		P		11 31 49.6	+2.0
	comp=Z,34nm,1.5s									
FXWY	Fox Creek	76.52	45	*e*P		P		11 31 49.6	+1.5
	comp=Z,17nm,1.3s									
CWC	Cottonwood Cre	76.52	55	P		P		11 31 49.2	+1.0
	baz=306									
RLMT	Red Lodge	76.57	43	P		P		11 31 49.9	+1.5
	baz=309									
RLMT	Red Lodge	76.57	43	*e*P		P		11 31 49.6	+1.2
	comp=Z,22nm,1.5s									
SBC	Santa Barbara	76.60	57	P		P		11 31 50.1	+1.7
	baz=306									
MOOW	Moose Ponds	76.61	45	*e*P		P		11 31 50.7	+2.1
	comp=Z,17nm,1.3s									
HVU	Hansel Valley	76.64	48	*e*P		P		11 31 51.0	+2.2
	comp=Z,16nm,1.3s									
HVU	Hansel Valley	76.64	48	*e*P		P		11 31 51.0	+2.2
HVU					pmax	pmax				
	comp=Z,16nm,1.3s									
TPAW	Teton Pass	76.65	45	*e*P		P		11 31 51.2	+2.2
	comp=Z,16nm,1.2s									
GRAC	Grapevine Rang	76.66	54	P		P		11 31 50.0	+1.1
	baz=306									
ISA	Isabella, Lake	76.72	55	P		P		11 31 49.6	+0.4
	baz=306									
ISA	Isabella, Lake	76.72	55	*e*P		P		11 31 50.1	+0.9
	comp=Z,13nm,1.2s									
ISA	Isabella, Lake	76.72	55	*e*P		P		11 31 50.1	+0.9
ISA					pmax	pmax				
	comp=Z,13nm,1.2s									
LOHW	Long Hollow	76.77	45	*e*P		P		11 31 51.2	+1.7
	comp=Z,15nm,1.4s									
REDW	Red Top Meadow	76.79	45	*e*P		P		11 31 51.6	+2.0
	comp=Z,23nm,1.4s									
ARVC	Arvin	76.79	56	P		P		11 31 50.5	+0.9
	baz=306									
KIS	Kishinev	76.89	319	*e*P		P		11 31 47.0	-2.9
KIS					LRM	MLR		12 08 08.0		
	comp=Z,2μm,16.0s									
KIS	Kishinev	76.89	319	*e*P		P		11 31 47.0	-2.9
KIS					MLR	MLR				
	comp=Z,1μm,15.0s									
KIS					MLR	MLR				
	comp=Z,2μm,16.0s									
SCZ2	Santa Cruz Isl	76.91	57	P		P		11 31 51.6	+1.3
	baz=306									
DAC	Darwin (Calif)	76.94	54	*e*P		P		11 31 51.6	+1.0
	comp=Z,18nm,1.4s									
DAC	Darwin (Calif)	76.94	54	*e*P		P		11 31 51.6	+1.0
DAC					pmax	pmax				
	comp=Z,18nm,1.4s									
R11A	Troy Canyon, C	76.99	52	P		P		11 31 52.0	+1.1
	baz=307									
R11A	Troy Canyon, C	76.99	52	*e*P		P		11 31 52.0	+1.1
	comp=Z,27nm,1.3s									
AHID	Auburn Hatcher	77.01	46	*e*P		P		11 31 52.6	+1.7
	comp=Z,9.4nm,1.0s									
MPMC	Manual Prospec	77.13	55	P		P		11 31 52.8	+1.1
	baz=306,SNR=12									
OSI	Osito Audit: C	77.17	56	P		P		11 31 52.9	+1.2
	baz=306									
LAO	LASA Array

KWP **Kalwaria Pacla** 78.15 324 *e*P P 11 31 57.6 +0.7
comp=Z,978nm,1.3s
KWP **Kalwaria Pacla** 78.15 324 *e*P P 11 31 57.8 +0.9
JLU **Jordanelle** 78.15 48 *e*P P 11 31 59.2 +1.9
comp=Z,33nm,1.7s
RRX **Edison Barstow** 78.16 55 P P 11 31 58.2 +1.0
baz=307
NLU **North Lily Min** 78.18 49 *e*P P 11 31 59.4 +1.9
comp=Z,11nm,1.1s
SCI2 **San Clemente I** 78.25 58 P P 11 31 58.2 +0.6
baz=306
BUR08 **Bucovina Ar. S** 78.31 322 *e*P P 11 31 58.3 +0.3
BUR04 **Bucovina Ar. S** 78.32 322 *e*P P 11 31 57.8 -0.2
BURAR **Bucovina Array** 78.32 322⇓ *i*P P 11 31 58.6 +0.6
TESR **Tescani** 78.34 320⇑ *i*P P 11 31 58.3 +0.3
SHPR **Sheep Range** 78.37 53 *e*P P 11 32 00.5 +1.9
comp=Z,20nm,1.3s
MPU **Maple Canyon** 78.41 49 *e*P P 11 32 00.6 +1.8
comp=Z,18nm,1.2s
TUQ **Turquoise Moun** 78.52 54 P P 11 32 00.4 +1.0
baz=307
BBRC **Big Bear Solar** 78.57 56 P P 11 32 00.3 +0.5
baz=307
HEC **Hector,Ludlow** 78.62 55 P P 11 32 00.6 +0.8
baz=307
VRI **Vrincioaia** 78.73 320⇑ *i*P P 11 32 00.5 +0.3
PLOR **Plostina** 78.78 320⇓ *i*P P 11 32 01.4 +0.9
MURC **Murrieta** 78.79 56 P P 11 32 01.5 +0.8
baz=307
BR101 **Keskin Array S** 78.82 311 *e*P P 11 32 01.5 +0.6
BR131 **Keskin Array S** 78.82 311 *e*P P 11 32 01.6 +0.7
BRTR **Keskin Array B** 78.82 311 P P 11 32 01.5 +0.6
comp=Z,4.1nm,0.9s,baz=112,slow=3.3,SNR=26
BRTR LR LR 12 10 09.4
comp=Z,216nm,18.6s,baz=36,slow=38
CCUT **Cedar City** 78.87 51 *e*P P 11 32 03.4 +2.0
comp=Z,63nm,2.0s
STHS **Stebnicka Huta** 78.98 325 *e*P P 11 32 02.8 +1.3
STHS *e* 11 32 10.9
STHS **Stebnicka Huta** 78.98 325 *e*P P 11 32 02.8 +1.3
STHS *e* 11 32 10.9
STHS pmax pmax
comp=Z,13nm,0.9s
MSU **Marysvale** 79.01 50 *e*P P 11 32 04.5 +2.3
MSU **Marysvale** 79.01 50 *e*P P 11 32 04.5 +2.3
SZCU **Shurtz Canyon** 79.02 51 *e*P P 11 32 03.9 +1.7
comp=Z,30nm,1.0s
UZH **Uzhgorod** 79.04 324 *e*P P 11 32 02.1 +0.3
UZH *i* 11 32 11.9
OJC **Ojcow** 79.07 326 *e*P P 11 32 02.4 +0.5
OJC **Ojcow** 79.07 326 *e*P P 11 32 02.4 +0.5
comp=Z,45nm,1.1s
OJC **Ojcow** 79.07 326 *e*P P 11 32 02.4 +0.5
GMRC **Granite Mounta** 79.09 55 P P 11 32 03.4 +0.9
baz=308
TMUT **Trail Mountain** 79.11 49 *e*P P 11 32 04.6 +1.8
comp=Z,42nm,1.9s
CRVS **Cervenica-Dubn** 79.24 324 *e*P P 11 32 04.0 +1.1
CRVS **Cervenica-Dubn** 79.24 324 *e*P P 11 32 04.0 +1.1
BR231 **Keskin MP Arra** 79.26 312 *e*P P 11 32 00.9 -2.4
PFO **Pinyon Flats O** 79.27 56 P P 11 32 04.3 +0.8
baz=307
PFO **Pinyon Flats O** 79.27 56 *e*P P 11 32 04.9 +1.4
comp=Z,28nm,1.4s
PFO **Pinyon Flats O** 79.27 56 *e*P P 11 32 04.9 +1.4
PFO pmax pmax
comp=Z,28nm,1.4s
109C **Camp Elliot, M** 79.27 57 P P 11 32 04.2 +0.8
baz=307
XPFO **Pæon Flat** 79.27 56 *e*P P 11 32 04.9 +1.4
comp=Z,33nm,1.4s
LCMT **Little Creek M** 79.28 52 *e*P P 11 32 05.5 +2.0
comp=Z,25nm,1.3s
P17A **Butcher Ranch,** 79.28 48 *e*P P 11 32 05.5 +1.9
comp=Z,33nm,1.2s
MTPU **Mount Pierson** 79.30 50 *e*P P 11 32 06.3 +2.4
comp=Z,74nm,2.0s
ISR **Istrita** 79.33 319⇓ *i*P P 11 32 04.8 +1.3
BELC **Belle Mtn. Jos** 79.34 56 P P 11 32 04.0 +0.1
baz=308
DOPR **Dopca** 79.35 320⇑ *i*P P 11 32 04.7 +1.1
Q16A **Castle Valley** 79.37 49 *e*P P 11 32 06.2 +2.2
comp=Z,47nm,1.6s
MLR **Muntele Rosu** 79.39 320 P P 11 32 04.6 +0.7
comp=Z,0.4nm,0.4s,baz=13,slow=7.1,SNR=7.4
MLR LR LR 12 09 08.7
comp=Z,346nm,21.7s,baz=42,slow=37
MLR **Muntele Rosu** 79.39 320⇑ *i*P P 11 32 05.2 +1.3
MLR **Muntele Rosu** 79.39 320 *e*P P 11 32 04.4 +0.5
comp=Z,24nm,1.4s
MLR *e*P P 11 32 04.7 +0.7
MLR **Muntele Rosu** 79.39 320 *e*P P 11 32 04.4 +0.5
MLR pmax pmax
comp=Z,24nm,1.4s
NIE **Niedzica** 79.42 325 *e*P P 11 32 04.8 +0.9
NIE **Niedzica** 79.42 325 *e*P P 11 32 04.8 +0.9
P18A **Preston Nutter** 79.48 48 *e*P P 11 32 06.0 +1.2
comp=Z,18nm,1.2s
KNB **Kanab** 79.54 51 *e*P P 11 32 07.2 +2.2
comp=Z,80nm,1.6s
KNB **Kanab** 79.54 51 *e*P P 11 32 07.2 +2.2
KNB pmax pmax
comp=Z,80nm,1.6s
SRU **San Rafael Swe** 79.64 49 *e*P P 11 32 07.1 +1.6
comp=Z,19nm,1.0s
SRU **San Rafael Swe** 79.64 49 *e*P P 11 32 07.1 +1.6
SRU pmax pmax
comp=Z,19nm,1.0s
K22A **Casper** 79.68 44 P P 11 32 06.0 +0.3
baz=311
ULM **Lac du Bonnet** 79.73 33 P P 11 32 05.5 +0.1
comp=Z,8.1nm,1.1s,baz=314,slow=5.8,SNR=11
ULM **Lac du Bonnet** 79.73 33 *e*P P 11 32 06.0 +0.6
comp=Z,39nm,1.5s
ULM **Lac du Bonnet** 79.73 33 *e*P P 11 32 06.1 +0.6
ULM pmax pmax
comp=Z,39nm,1.5s
MONP2 **Monument Peak** 79.73 57 P P 11 32 06.7 +0.6
baz=307
MDND **Maddock** 79.74 37 P P 11 32 06.5 +0.8
baz=315
CJR **Cluj-Napoca** 79.74 322⇑ *i*P P 11 32 07.4 +1.7
NEE2 **Needles Airpor** 79.78 54 P P 11 32 07.1 +1.0
baz=308
IRM **Iron Mountain** 79.81 55 P P 11 32 07.5 +1.2
baz=308,SNR=6.8
VOIR 79.89 320⇓ *i*P P 11 32 07.7 +1.1
BC3 **Big Chuckawall** 79.91 56 P P 11 32 07.6 +0.6
baz=308
LANS **Liptovska Anna** 79.99 325 *e*P P 11 32 08.6 +1.6
LANS *e*PCP PcP 11 32 13.9 -0.5
LANS **Liptovska Anna** 79.99 325 *e*P P 11 32 08.6 +1.6
LANS *e* 11 32 13.9
W13A **Hualapai Mount** 80.05 54 *e*P P 11 32 08.9 +1.0
comp=Z,12nm,1.3s
RSSD **Black Hills** 80.06 42 P P 11 32 08.0 +0.3
baz=312
RSSD **Black Hills** 80.06 42 *e*P P 11 32 08.6 +0.9
comp=Z,14nm,1.4s
RSSD **Black Hills** 80.06 42 *e*P P 11 32 08.6 +0.9
RSSD pmax pmax
comp=Z,14nm,1.4s
OKC **Ostrava-Krasne** 80.08 327 *e*P P 11 32 08.0 +0.6
OKC *e*PCP PcP 11 32 12.9 -1.8
OKC **Ostrava-Krasne** 80.08 327 *e*P P 11 32 08.0 +0.6
OKC *e* 11 32 12.9
IKP **In-Ko-Pah, Jac** 80.08 57 P P 11 32 08.3 +0.4
baz=308
A31A **Linda, St. Vin** 80.09 35 P P 11 32 07.3 -0.2
baz=316
SWSC **Sam W. Stewart** 80.11 56 P P 11 32 08.4 +0.5
baz=308
SWSC **Sam W. Stewart** 80.11 56 *e*P P 11 32 08.9 +1.0
DRGR 80.13 322⇓ *i*P P 11 32 08.6 +0.8
KSP **Ksiaz** 80.14 328 *e*P P 11 32 08.3 +0.6
KSP **Ksiaz** 80.14 328 *e*P P 11 32 08.3 +0.6
ARR **Arges** 80.15 320⇑ *i*P P 11 32 09.7 +1.7
RAR **Rarotonga** 80.21 126 LR LR 12 03 39.8
comp=Z,437nm,18.6s,baz=285,slow=33
U15A **North Rim** 80.24 52 *e*P P 11 32 10.9 +2.0
comp=Z,38nm,1.5s
B31A **Greenbush Farm** 80.25 35 P P 11 32 09.0 +0.6
baz=316
O20A **White River Ci** 80.34 47 P P 11 32 10.0 +0.7
baz=311
O20A **White River Ci** 80.34 47 *e*P P 11 32 10.6 +1.3
comp=Z,16nm,1.1s
PDMCI **Parker Dam,Lak** 80.37 54 P P 11 32 10.3 +1.0
baz=308,SNR=5.3
MORC **Moravsky Berou** 80.39 327⇑ *i*P P 11 32 10.5 +1.3
MORC **Moravsky Berou** 80.39 327 *e*P P 11 32 09.6 +0.5
comp=Z,99nm,1.1s
MORC **Moravsky Berou** 80.39 327 *e*P P 11 32 09.6 +0.5
MORC pmax pmax
comp=Z,99nm,1.1s
A32A **Rocking H Ranc** 80.42 34 P P 11 32 09.2 0.0
baz=317
Y12C **Blythe** 80.46 55 P P 11 32 10.9 +1.2
baz=308
Y12C **Blythe** 80.46 55 *e*P P 11 32 11.1 +1.3
comp=Z,12nm,0.9s
DPC **Dobruska-Polom** 80.49 328 *e*P P 11 32 10.4 +0.7
DPC *e*PCP PcP 11 32 14.0 -2.6
DPC **Dobruska-Polom** 80.49 328 *e*P P 11 32 10.4 +0.7
UPC **Upice** 80.51 328 *e*P P 11 32 10.8 +1.1
UPC **Upice** 80.51 328 *e*P P 11 32 10.8 +1.1
LOT **Lotru** 80.53 321⇓ *i*P P 11 32 11.8 +1.7
RAYN **Ar Rayn** 80.55 292 *e*P P 11 32 10.5 0.0
comp=Z,47nm,1.1s
C31A **Landman Farms,** 80.66 36 P P 11 32 10.9 +0.3
baz=316
PSZ **Piszkesteto** 80.68 324⇑ *i*P P 11 32 12.2 +1.4
PSZ **Piszkesteto** 80.68 324 *e*P P 11 32 12.0 +1.2
comp=Z,48nm,1.3s
PSZ **Piszkesteto** 80.68 324 *e*P P 11 32 12.0 +1.2
PSZ pmax pmax
comp=Z,49nm,1.3s
GLA **Glamis** 80.69 56 P P 11 32 11.8 +0.7
baz=308
GLA **Glamis** 80.69 56 *e*P P 11 32 13.4 +2.3
comp=Z,37nm,1.4s
GLA **Glamis** 80.69 56 *e*P P 11 32 13.4 +2.3
GLA pmax pmax
comp=Z,37nm,1.4s
VYHS **Vyhne** 80.75 325 *e*P P 11 32 12.0 +0.9
VYHS *e*PCP PcP 11 32 16.5 -1.2
VYHS **Vyhne** 80.75 325 *e*P P 11 32 12.0 +0.9
VYHS pmax pmax
comp=Z,15nm,1.4s
B32A **Ashes, Strandq** 80.78 35 P P 11 32 11.4 +0.2
baz=317
PV09 **Paradox Valley** 80.87 48 *e*P P 11 32 13.7 +1.4
A33A **Warroad** 80.90 34 P P 11 32 11.8 -0.1
baz=318
PV10 **Paradox Valley** 81.01 48 *e*P P 11 32 14.8 +1.9
BRG **Berggiesshubel** 81.09 329 *e*P P 11 32 13.4 +0.6
comp=Z,19nm,1.2s
BRG **Berggiesshubel** 81.09 329 *e*P P 11 32 13.4 +0.6
BRG pmax pmax
comp=Z,19nm,1.2s
CLL **Collm** 81.14 330⇓ *i*P P 11 32 12.9 -0.1
comp=Z,31nm,1.3s
CLL *i* pP PcP 11 32 18.1 -1.2
comp=Z,28nm,1.0s
CLL LmH 12 07 00.0
comp=N,700nm,19.0s
CLL LmH 12 07 00.0
comp=E,900nm,19.2s
CLL L L 12 13 00.0
comp=Z,500nm,21.5s
CLL **Collm** 81.14 330 *e*P P 11 32 13.0 -0.1
comp=Z,25nm,1.0s
CLL **Collm** 81.14 330 *e*P P 11 32 13.0 -0.1
CLL pmax pmax
comp=Z,25nm,1.0s
VRAC **Vranov** 81.15 327 P P 11 32 13.7 +0.5
comp=Z,9.3nm,0.7s,baz=50,slow=5.2,SNR=16
VRAC LR LR 12 11 51.9
comp=Z,1μm,18.7s,baz=46,slow=38
VRAC **Vranov** 81.15 327⇑ *i*P P 11 32 14.7 +1.5
AGMN **Agassiz Nation** 81.16 35 P P 11 32 13.3 +0.1
baz=317
AGMN **Agassiz Nation** 81.16 35 *e*P P 11 32 13.6 +0.3
comp=Z,16nm,1.3s
PV05 **Paradox Valley** 81.16 49 *e*P P 11 32 15.7 +1.9
N23A **Red Feather La** 81.17 45 P P 11 32 15.1 +1.3
baz=312
N23A **Red Feather La** 81.17 45 *e*P P 11 32 15.6 +1.8
comp=Z,31nm,1.3s
PHWY **Pilot Hill** 81.17 44 *e*P P 11 32 15.1 +1.3
comp=Z,22nm,1.5s
D31A **Mcclaflin, Tow** 81.20 36 P P 11 32 13.6 +0.1
baz=316
B33A **Robert and Kas** 81.30 34 P P 11 32 13.8 -0.2
baz=317
WUAZ **Wupatki** 81.39 52 P P 11 32 15.9 +1.0
baz=310,SNR=6.5
WUAZ **Wupatki** 81.39 52 *e*P P 11 32 17.0 +2.1
comp=Z,22nm,1.2s
PV01 **Paradox Valley** 81.44 48 *e*P P 11 32 16.5 +1.3
ASF **Jabal al Asfar** 81.45 304 P P 11 32 15.7 +0.5
comp=Z,5.7nm,0.9s,baz=76,slow=3.1,SNR=6.8
ASF LR LR 12 11 22.1
comp=Z,267nm,20.6s,baz=58,slow=38
GOPC **GO Pecny, Ondr** 81.47 328 *e*P P 11 32 15.4 +0.5
GOPC *e*PCP PcP 11 32 19.1 -1.8
GOPC **GO Pecny, Ondr** 81.47 328 *e*P P 11 32 15.4 +0.5
E31A **Nome** 81.48 37 P P 11 32 15.2 +0.3
baz=316
PRU **Pruhonice** 81.52 328 *e*P P 11 32 16.1 +1.0
PRU *e*PCP PcP 11 32 19.3 -1.7
PRU **Pruhonice** 81.52 328 *e*P P 11 32 16.1 +1.0
MODS **Modra-Piesok** 81.54 326 *e*P P 11 32 16.1 +0.8
MODS *e*PCP PcP 11 32 21.5 +0.3
MODS **Modra-Piesok** 81.54 326 *e*P P 11 32 16.1 +0.8
B34A **Aery, Baudette** 81.57 34 P P 11 32 15.4 0.0
baz=318
C33A **Trail** 81.60 35 P P 11 32 15.6 0.0
baz=317
HERR **Herculane** 81.61 321⇓ *i*P P 11 32 16.3 +0.6
SMCO **Snowmass** 81.71 47 *e*P P 11 32 18.5 +1.6
comp=Z,12nm,1.2s
F31A **Hecla** 81.80 37 P P 11 32 17.0 +0.3
baz=316
E32A **Braaten, Kindr** 81.84 36 P P 11 32 17.1 +0.2
baz=317
MMAI **Mount Meron Ar** 81.91 305 P P 11 32 18.1 +0.6
comp=Z,1.6nm,0.4s,baz=343,slow=8.3,SNR=5.4
MMAI LR 12 11 47.9
comp=Z,674nm,21.1s,baz=115,slow=38
D33A **AnnSam, Waubun** 82.02 35 P P 11 32 17.7 -0.1
baz=317
X16A **Lo Mia Camp, P** 82.05 53 *e*P P 11 32 20.4 +2.0
comp=Z,32nm,1.6s
X16A *e*S S 11 42 32.2 +0.6
C34A **RKJ Ranch, Bem** 82.07 35 P P 11 32 17.8 -0.3
baz=318
B35A **Bob, Littlefor** 82.07 33 P P 11 32 18.0 0.0
baz=319,SNR=7.1
ISCO **Idaho Springs** 82.08 46 P P 11 32 19.9 +1.2
baz=312,SNR=7.3
ISCO **Idaho Springs** 82.08 46 *e*P P 11 32 19.9 +1.2
comp=Z,13nm,1.4s
ISCO **Idaho Springs** 82.08 46 *e*P P 11 32 19.9 +1.2
ISCO pmax pmax
comp=Z,13nm,1.4s
MVCO **Mesa Verde** 82.09 49 P P 11 32 19.8 +1.2
baz=311,SNR=7.1
MVCO **Mesa Verde** 82.09 49 *e*P P 11 32 20.3 +1.6
comp=Z,24nm,1.3s
NKC **Novy Kostel** 82.19 330 *e*P P 11 32 19.9 +1.2
NKC *e*PCP PcP 11 32 23.5 -0.5
NKC **Novy Kostel** 82.19 330 *e*P P 11 32 19.9 +1.2
G31A **Conde** 82.28 38 P P 11 32 19.4 +0.2
baz=316
F32A **Veblen** 82.34 37 P P 11 32 19.7 +0.2
baz=317
D34A **Park Rapids** 82.36 35 P P 11 32 19.6 0.0
baz=318
E33A **Westby DABS, E** 82.41 36 P P 11 32 20.1 +0.2
baz=317
C35A **Jirik Farms, M** 82.45 34 P P 11 32 20.0 -0.1
baz=319,SNR=6.4
SUSD **Miller** 82.47 39 P P 11 32 20.2 0.0
baz=316
CONA **Conrad Observa** 82.51 326 *i* P P 11 32 21.7 +1.3
comp=Z,22nm,1.3s,SNR=9.4
KHC **Kasperske Hory** 82.58 328 *e*P P 11 32 21.0 +0.2
KHC *e*PCP PcP 11 32 24.9 -0.9
KHC **Kasperske Hory** 82.58 328 *e*P P 11 32 21.1 +0.4
comp=Z,9.8nm,1.1s
KHC **Kasperske Hory** 82.58 328 *e*P P 11 32 21.0 +0.2
G32A **Webster** 82.60 37 P P 11 32 21.0 0.0
baz=316
W18A **Petrified Fore** 82.68 51 P P 11 32 23.1 +1.4
baz=310
H31A **Wolsey** 82.68 39 P P 11 32 21.5 +0.2
baz=316
214A **Organ Pipe Nat** 82.71 55 P P 11 32 22.6 +0.9
baz=309
S22A **4UR Ranch, Cre** 82.74 48 P P 11 32 23.6 +1.5
baz=312,SNR=10
S22A **4UR Ranch, Cre** 82.74 48 *e*P P 11 32 23.8 +1.7
comp=Z,19nm,1.3s
GEC2 **GERESS Array S** 82.75 328 *e*P P 11 32 22.0 +0.3
comp=Z,12nm,1.1s
GEC2 **GERESS Array S** 82.75 328 *e*P P 11 32 22.0 +0.3
GEC2 pmax pmax
comp=Z,13nm,1.1s
GERES **GERESS Array B** 82.75 328 P P 11 32 21.6 -0.1
comp=Z,2.5nm,0.5s,baz=46,slow=5.8,SNR=18
GEA0 **GERESS Array S** 82.75 328 *e*P P 11 32 21.6 -0.2
F33A **5 Mile Ranch,** 82.76 36 P P 11 32 22.2 +0.5
baz=317,SNR=7.2
VTS **Vitosha** 82.81 319 *e*P P 11 32 23.2 +1.0
comp=Z,12nm,0.8s
VTS **Vitosha** 82.81 319 *e*P P 11 32 23.2 +1.0
VTS pmax pmax
comp=Z,12nm,0.8s
D35A **Remer** 82.88 34 P P 11 32 22.2 -0.2
baz=319
Q24A **Divide** 82.91 46 P P 11 32 23.9 +0.9
baz=312
Q24A **Divide** 82.91 46 *e*P P 11 32 24.6 +1.6
comp=Z,5.8nm,0.8s
C36A **Pine Crest Far** 82.92 33 P P 11 32 22.3 -0.2
baz=319,SNR=6.8
I31A **Royce, Wessing** 82.97 39 P P 11 32 23.0 +0.2
baz=316
E35A **Pequot Lakes** 83.11 35 P P 11 32 23.3 -0.3
baz=318
GRFO **Grafenberg** 83.11 330 *e*P P 11 32 24.7 +1.2
comp=Z,46nm,1.3s
GRFO **Grafenberg** 83.11 330 *e*P P 11 32 24.7 +1.2
GRFO pmax pmax
comp=Z,46nm,1.3s
G33A **Ortonville** 83.16 37 P P 11 32 24.2 +0.4
baz=317,SNR=6.3
ARSA **Arzberg** 83.17 326 *i*P P 11 32 24.6 +0.8
comp=Z,14nm,1.4s
H32A **Carlson Farm,** 83.18 38 P P 11 32 23.7 -0.2
baz=317
D36A **Goodland** 83.21 34 P P 11 32 23.5 -0.5
baz=319
EKA **Eskdalemuir Ar** 83.22 340 P P 11 32 23.8 -0.1
comp=Z,6.4nm,0.9s,baz=46,slow=4.8,SNR=7.1
EKA LR LR 12 13 20.0
comp=Z,589nm,18.2s,baz=35,slow=38
C37A **Embarrass** 83.23 33 P P 11 32 24.0 -0.1
baz=320,SNR=6.1
MOA **Molln** 83.27 327 *i* PcP P 11 32 25.5 +1.1
comp=Z,17nm,1.3s
F34A **Alexandria** 83.28 36 P P 11 32 24.6 +0.1
baz=318
OGNE **Ogallala** 83.31 43 P P 11 32 25.3 +0.5
baz=314
EYMN **Ely** 83.36 33 P P 11 32 24.8 0.0
baz=320,SNR=9.8
EYMN **Ely** 83.36 33 *e*P P 11 32 25.4 +0.6
comp=Z,37nm,1.4s
DIVS **Divibare** 83.39 322 *e*P P 11 32 25.6 +0.5
comp=Z,41nm,1.5s
H33A **Prehn Over Nor** 83.39 37 P P 11 32 25.3 +0.3
baz=317
J31A **Geddes** 83.40 40 P P 11 32 25.1 0.0
baz=316
I32A **Karley and Nic** 83.51 38 P P 11 32 25.9 +0.3
baz=317
G34A **Benson** 83.51 37 P P 11 32 25.9 +0.3
baz=318
SDCO **Great Sand Dun** 83.52 47 P P 11 32 27.3 +1.2
baz=312,SNR=9.6
SDCO **Great Sand Dun** 83.52 47 *e*P P 11 32 27.9 +1.7
comp=Z,16nm,1.4s
D37A **Cotton** 83.55 34 P P 11 32 25.6 -0.2
baz=320
F35A **Swanville** 83.56 36 P P 11 32 26.0 +0.1
baz=318
C38A **Sawbill Land.** 83.63 33 P P 11 32 26.0 -0.2
baz=320,SNR=11
E36A **McGregor** 83.67 34 P P 11 32 26.4 0.0
baz=319
J32A **Parkston** 83.79 39 P P 11 32 27.2 +0.1
baz=316
TUC **Tucson** 83.81 54 P P 11 32 28.3 +0.8
baz=310
TUC **Tucson** 83.81 54 *e*P P 11 32 29.2 +1.7
comp=Z,31nm,1.8s
TUC **Tucson** 83.81 54 *e*P P 11 32 29.2 +1.7
TUC pmax pmax
comp=Z,31nm,1.8s
PERS **Pernice** 83.82 326 *e*P P 11 32 27.2 0.0
SOKA **Soboth** 83.82 326 *i* P P 11 32 28.0 +0.7
comp=Z,31nm,1.1s,SNR=12
I33A **Coleman** 83.82 38 P P 11 32 27.4 +0.2
baz=317
K31A **O'Neill** 83.87 40 P P 11 32 27.9 +0.4
baz=316
H34A **Spellman Lake,** 83.87 37 P P 11 32 27.9 +0.4
baz=318
E37A **Wrenshall** 84.02 34 P P 11 32 28.3 +0.2
baz=320
F36A **Milaca** 84.04 35 P P 11 32 28.2 0.0
baz=319
C39A **Grand Marais** 84.04 32 P P 11 32 27.9 -0.4
baz=321,SNR=5.2
G35A **Watkins** 84.07 36 P P 11 32 29.2 +0.7
baz=318
ECSD **EROS Data Cent** 84.14 38 P P 11 32 29.0 +0.1
baz=317,SNR=5.6
ECSD **EROS Data Cent** 84.14 38 *e*P P 11 32 29.7 +0.8
comp=Z,19nm,1.4s
OBKA **Obir** 84.17 326 *i* PcP P 11 32 32.2 +3.1
comp=Z,11nm,1.2s
K32A **Verdigre** 84.24 40 P P 11 32 29.1 -0.4
baz=316
KBA **Koelnbreinsper** 84.26 327 *i* PcP P 11 32 30.2 +0.6
comp=Z,12nm,1.1s
J33A **Davis** 84.27 39 P P 11 32 29.5 0.0
baz=317
PMOR **Pomariorio Ree** 84.28 113 *e*T T 13 05 06.0
comp=Z,55nm,0.2s
I34A **Hadley** 84.29 37 P P 11 32 29.9 +0.2
baz=318
H35A **Sunnyside Ranc** 84.30 36 P P 11 32 30.2 +0.6
baz=318,SNR=7.1
EIL **Elat** 84.31 303 P P 11 32 30.9 +1.0
comp=Z,23nm,1.0s,baz=68,slow=3.1,SNR=13
KSCO **Kaye Shedlock'** 84.31 45 P P 11 32 30.4 +0.4
baz=314
E38A **The Farm, Brul** 84.36 33 P P 11 32 29.8 -0.1
baz=320,SNR=5.9
C40A **Isle Royale Na** 84.38 31 P P 11 32 30.0 0.0
baz=322
G36A **St. Michael** 84.41 36 P P 11 32 30.3 +0.1
baz=319
F37A **Hinrichs Farm,** 84.56 35 P P 11 32 31.0 +0.1
baz=320
T25A **Trinidad** 84.57 47 P P 11 32 32.4 +0.9
baz=313,SNR=8.8
T25A **Trinidad** 84.57 47 *e*P P 11 32 33.0 +1.6
comp=Z,28nm,1.3s
VISS **Visnje** 84.57 326 *i* P P 11 32 31.3 +0.3
BOJS **Bojanci** 84.61 325 *i* P P 11 32 36.3 +5.1
L32A **Elgin** 84.70 40 P P 11 32 32.0 +0.2
baz=316
F38A **Pierce - Schro** 84.71 34 P P 11 32 32.1 +0.4
baz=320
PPT2 **Papeete2** 84.74 116 *e*LR LR 11 58 24.5
comp=Z,2μm,32.0s,baz=311
PPT2 **Papeete2** 84.74 116 *e*T T 13 05 40.0
comp=Z,4.4nm,0.2s
LAZ **Ladron** 84.76 51 *e*P P 11 32 34.3 +1.9
K33A **Hardington** 84.77 39 P P 11 32 32.3 +0.2
baz=317
BCLA **Clavier** 84.78 333 ⇑P P 11 32 32.2 +0.3
J34A **George** 84.80 38 P P 11 32 32.3 +0.1
baz=318
H36A **Jessenland, He** 84.82 36 P P 11 32 32.8 +0.5
baz=319

ANMO	Albuquerque baz=312	84.82	50	P		P	11 32 34.0	+1.3
ANMO	Albuquerque comp=Z,19nm,1.4s	84.82	50	eP		P	11 32 34.5	+1.8
ANMO	Albuquerque	84.82	50	d iP		P	11 32 34.0	+1.3
ANMO	comp=Z,17nm,1.4s				pmax	pmax		
I35A	Creekview Farm baz=318	84.85	37	P		P	11 32 32.6	+0.2
SPMN	Marine on St. baz=320	84.85	35	P		P	11 32 32.8	+0.3
JAVS	Javornik	84.86	326	i P		P	11 32 32.4	-0.2
ABTA	Abfaltersbach comp=Z,8.2nm,1.0s	84.88	327	i P		P	11 32 32.1	-0.5
TIAR	Tiarei comp=Z,3.5nm,0.2s	84.88	116	eT		T	13 05 50.4	
L33A	Hoskins baz=317	84.96	40	P		P	11 32 33.1	+0.1
PDG	Podgorica	84.97	321	⇓iP		P	11 32 33.4	+0.4
E39A	Mellen baz=321,SNR=5.3	84.98	33	P		P	11 32 32.9	-0.1
RETA	Reutte comp=Z,27nm,1.4s,SNR=7.1	85.04	329	i PcP		P	11 32 34.3	+0.9
BGNE	Belgrade baz=316	85.05	41	P		P	11 32 33.4	-0.1
J35A	Milford baz=318	85.11	38	P		P	11 32 33.7	-0.1
Y22D	IRIS PASSCAL I baz=312	85.11	51	P		P	11 32 34.6	+0.5
Y22E	IRIS PASSCAL I baz=312	85.11	51	P		P	11 32 34.7	+0.6
K34A	Le Mars baz=318	85.17	39	P		P	11 32 34.0	0.0
F39A	Loretta baz=321,SNR=5.2	85.18	34	P		P	11 32 33.8	-0.2
I36A	Fitzsimmons Fa baz=319	85.19	36	P		P	11 32 34.4	+0.2
E40A	Wakefield baz=321,SNR=9.9	85.21	33	P		P	11 32 34.7	+0.4
BNM	Barren Site	85.24	50	eP		P	11 32 36.6	+1.7
H37A	Dierke Farm, C baz=320	85.29	36	P		P	11 32 34.9	+0.3
D41A	Chassel baz=322	85.30	32	P		P	11 32 34.8	+0.2
DOU	Dourbes	85.30	334	⇑P		P	11 32 32.2	-2.3
G38A	Ridgeland baz=320	85.33	35	P		P	11 32 34.5	-0.3
BFO	Black Forest comp=Z,24nm,0.9s	85.35	331	eP		P	11 32 35.2	+0.3
BFO	Black Forest	85.35	331	i P		P	11 32 35.2	+0.3
319A	Douglas comp=Z,30nm,1.4s	85.39	54	eP		P	11 32 37.7	+2.2
FETA	Feichten comp=Z,7.5nm,0.8s	85.42	329	i PcP		P	11 32 35.8	+0.3
M33A	Taylor Creek F baz=317	85.43	40	P		P	11 32 35.2	-0.2
I37A	Lemond, Waseca baz=319,SNR=5.4	85.49	36	P		P	11 32 36.0	+0.4
H38A	Maiden Rock baz=320	85.51	35	P		P	11 32 36.1	+0.4
F40A	Park Falls baz=321	85.52	33	P		P	11 32 35.9	+0.1
SCHQ	Schefferville comp=Z,5.8nm,0.8s,baz=310,slow=16,SNR=3.4	85.53	16	P		P	11 32 37.1	+1.5
SCHQ					LR	LR	12 13 30.8	
SCHQ	comp=Z,315nm,19.5s,baz=335,slow=38 Schefferville comp=Z,9.3nm,1.0s	85.53	16	eP		P	11 32 36.7	+1.0
G39A	Holcombe baz=321	85.55	34	P		P	11 32 35.6	-0.3
J36A	Seneca 1, Swea baz=319	85.56	37	P		P	11 32 36.2	+0.2
L34A	Svendsen Farm, baz=317	85.56	39	P		P	11 32 36.0	0.0
DAVA	Damuels comp=Z,16nm,1.1s	85.56	329	i PcP		P	11 32 36.5	+0.4
K35A	Storm Lake baz=318	85.57	38	P		P	11 32 36.0	0.0
121A	Cookes Peak, D baz=312	85.59	52	P		P	11 32 37.7	+1.2
E41A	Kenton baz=322,SNR=6.5	85.60	32	P		P	11 32 36.1	0.0
M34A	Aspy Farms, Fr baz=317	85.79	40	P		P	11 32 37.5	+0.2
COWI	Conover comp=Z,24nm,1.5s	85.81	32	eP		P	11 32 37.7	+0.5
ECH	Echery comp=Z,16nm,0.9s	85.90	331	eP		P	11 32 37.3	-0.3
ECH	Echery	85.90	331	eP		P	11 32 37.3	-0.3
ECH	comp=Z,16nm,0.9s				pmax	pmax		
J37A	Redenius Farm, baz=319	85.95	37	P		P	11 32 38.3	+0.4
I38A	Scanlan Farm, baz=320	85.97	36	P		P	11 32 38.1	0.0
G40A	Rib Lake baz=321,SNR=6.1	86.00	34	P		P	11 32 38.3	+0.1
K36A	Gilmore City baz=319	86.02	38	P		P	11 32 38.6	+0.3
CBKS	Cedar Bluff baz=316	86.06	43	P		P	11 32 38.7	+0.1
E42A	Champion baz=323	86.07	32	P		P	11 32 38.8	+0.3
F41A	Three Lakes baz=322,SNR=7.7	86.11	33	P		P	11 32 39.2	+0.5
M35A	Neola baz=318	86.27	39	P		P	11 32 39.7	+0.1
L36A	Harm Buss Farm baz=318	86.31	38	P		P	11 32 39.9	+0.2
O33A	Hebron baz=317	86.31	41	P		P	11 32 39.4	-0.4
K37A	Belmond baz=319	86.32	37	P		P	11 32 40.1	+0.3
N34A	Lincoln baz=317	86.32	40	P		P	11 32 39.5	-0.3
H40A	Chili baz=321	86.41	34	P		P	11 32 40.7	+0.5
TUE	Stuetta comp=Z,20nm,1.2s	86.44	329	eP		P	11 32 40.9	+0.4
J38A	Wedel Dairy, R baz=320,SNR=5.8	86.45	36	P		P	11 32 40.6	+0.2
G41A	Antigo baz=322	86.49	33	P		P	11 32 40.6	0.0
I39A	Houston baz=320	86.49	35	P		P	11 32 40.5	-0.1
E43A	Lone Tree Farm baz=323	86.50	31	P		P	11 32 40.9	+0.3
O34A	Beatrice baz=317	86.70	41	P		P	11 32 41.4	-0.3
M36A	Felix, Anita baz=318	86.73	39	P		P	11 32 42.0	+0.2
E44A	Grand Marais A baz=324	86.74	30	P		P	11 32 42.0	+0.2
L37A	Phoenix Point, baz=319	86.75	38	P		P	11 32 42.2	+0.3
N35A	Tabor baz=318	86.75	39	P		P	11 32 42.3	+0.4
H41A	Junction City baz=322	86.75	34	P		P	11 32 41.8	0.0
H41A	Junction City comp=Z,28nm,1.4s	86.75	34	eP		P	11 32 42.7	+0.9
G42A	Mountain baz=322	86.79	33	P		P	11 32 42.3	+0.2
G42A	Mountain comp=Z,45nm,1.6s	86.79	33	eP		P	11 32 43.0	+1.0
J39A	Decorah baz=320	86.80	36	P		P	11 32 41.8	-0.3
K38A	Parkersburg baz=320	86.83	37	P		P	11 32 42.4	+0.2
F43A	Flat Rock, Esc baz=323	86.86	32	P		P	11 32 42.6	+0.3
I40A	Norwalk baz=321	86.88	35	P		P	11 32 42.7	+0.2
IDI	Anoyia comp=Z,12nm,0.8s,baz=45,slow=7.1,SNR=3.9	86.96	313	P		P	11 32 42.7	-0.4
IDI	Anoyia	86.96	313	⇓iP		P	11 32 43.4	+0.3
IDI	Anoyia comp=Z,68nm,1.4s	86.96	313	eP		P	11 32 42.7	-0.4
O35A	Humboldt baz=318	87.05	40	P		P	11 32 43.6	+0.3
F44A	Big Bay de Noc baz=324	87.06	31	P		P	11 32 43.6	+0.3
I41A	Arkdale baz=322	87.09	34	P		P	11 32 44.3	+0.8
G43A	Wallace baz=323,SNR=5.0	87.10	32	P		P	11 32 44.0	+0.5
G43A	Wallace comp=Z,38nm,1.4s	87.10	32	eP		P	11 32 44.6	+1.1
L38A	Oak Wood Farm, baz=320	87.12	37	P		P	11 32 43.5	-0.2
N36A	Muff Farm, Cla baz=318	87.12	39	P		P	11 32 44.2	+0.5
M37A	Trindle Farm, baz=319	87.14	38	P		P	11 32 44.4	+0.6
WI02	Reinke Road, C comp=Z,46nm,1.7s	87.15	33	eP		P	11 32 44.7	+0.9
SCIA	State Center baz=319	87.17	37	P		P	11 32 44.5	+0.5
K39A	Oelwein baz=320	87.20	36	P		P	11 32 43.7	-0.3
J40A	Soldiers Grove baz=321	87.20	35	P		P	11 32 43.9	-0.2
E45A	Wooded Hills, baz=325	87.25	30	P		P	11 32 44.8	+0.6
H42A	Shiocton baz=322	87.33	33	P		P	11 32 45.3	+0.6
ITM	Ithomi comp=Z,23nm,0.8s	87.33	316	eP		P	11 32 45.2	+0.4
KSU1	Kansas State U baz=317	87.54	41	P		P	11 32 45.8	0.0
N37A	Lee Faris, Mou baz=319	87.55	39	P		P	11 32 46.1	+0.3
M38A	Pleasantville baz=320	87.55	38	P		P	11 32 46.2	+0.4
K40A	Colesburg baz=321	87.56	36	P		P	11 32 45.9	+0.2
J41A	Loganville baz=322	87.56	35	P		P	11 32 46.0	+0.2
L39A	Vinton baz=320	87.59	37	P		P	11 32 46.1	+0.2
I42A	Draeger Farm, baz=322	87.65	34	P		P	11 32 46.4	+0.2
I42A	Draeger Farm, comp=Z,41nm,1.6s	87.65	34	eP		P	11 32 47.0	+0.8
MNTX	Cornudas Mount baz=313	87.66	52	P		P	11 32 47.2	+0.7
MNTX	Cornudas Mount comp=Z,9.2nm,1.4s	87.66	52	eP		P	11 32 47.8	+1.2
F45A	CMU Biological baz=324	87.66	31	P		P	11 32 46.8	+0.6
H43A	Windswept, Lux baz=323	87.69	33	P		P	11 32 46.9	+0.5
H43A	Windswept, Lux comp=Z,45nm,1.5s	87.69	33	eP		P	11 32 47.5	+1.1
MSTX	Muleshoe baz=314	87.71	48	P		P	11 32 47.2	+0.3
AMTX	Amarillo baz=315	87.73	47	P		P	11 32 47.5	+0.6
AMTX	Amarillo comp=Z,40nm,1.8s	87.73	47	eP		P	11 32 47.8	+1.0
JFWS	Jewell Farm baz=321	87.81	35	P		P	11 32 46.8	-0.1
F46A	Macinaw City C baz=325	87.90	30	P		P	11 32 48.0	+0.7
I43A	Langenfeld Bro baz=323	87.99	33	P		P	11 32 48.0	+0.1
J42A	Columbus baz=322	88.00	34	P		P	11 32 48.0	+0.1
M39A	Webster baz=320	88.00	37	P		P	11 32 48.5	+0.6
N38A	Joes South For baz=320	88.01	38	P		P	11 32 48.4	+0.4
L40A	Anamosa baz=321	88.01	36	P		P	11 32 48.0	0.0
K41A	Shullsburg baz=321	88.02	35	P		P	11 32 48.1	+0.1
O37A	Wolven Farm, M baz=319	88.02	39	P		P	11 32 48.4	+0.3
J43A	Natural Harves baz=322	88.27	34	P		P	11 32 49.5	+0.3
N39A	Derby Farms, D baz=320	88.30	38	P		P	11 32 49.9	+0.5
K42A	Prairie Point, baz=322	88.33	35	P		P	11 32 49.2	-0.2
L41A	Preston baz=321	88.34	36	P		P	11 32 49.5	0.0
P37A	Lathrop baz=319	88.35	40	P		P	11 32 49.9	+0.2
M40A	Post Highland baz=321	88.38	37	P		P	11 32 50.0	+0.3
O38A	Galt baz=319	88.39	39	P		P	11 32 50.2	+0.3
GLMI	Grayling baz=325	88.73	31	P		P	11 32 51.6	+0.3
P38A	Dawn baz=319	88.74	39	P		P	11 32 51.7	+0.3
N40A	Mertquake, Sal baz=320	88.75	37	P		P	11 32 52.0	+0.5
O39A	Kirksville baz=320	88.76	38	P		P	11 32 52.0	+0.4
L42A	Oliver, Polo baz=322	88.78	35	P		P	11 32 51.5	-0.1
Q37A	Longview Farm, baz=319	88.83	40	P		P	11 32 51.5	-0.4
K43A	Burlington baz=323	88.84	34	P		P	11 32 51.8	-0.1
M41A	Milan baz=321	88.86	36	P		P	11 32 52.2	+0.1
L43A	Garden Prairie baz=322	89.07	35	P		P	11 32 52.6	-0.4
M42A	Sheffield baz=322	89.17	36	P		P	11 32 53.3	-0.1
O40A	La Belle baz=320	89.19	38	P		P	11 32 54.2	+0.6
Q38A	Cooks Store, C baz=319	89.20	40	P		P	11 32 53.5	-0.1
N41A	Harden Midland baz=321	89.23	37	P		P	11 32 54.0	+0.3
P39B	Salisbury baz=320	89.24	39	P		P	11 32 54.3	+0.5
LPIG	La Paz comp=Z,123nm,18.2s,baz=328,slow=36	89.42	60	LR		LR	12 13 28.6	
Q39A	Willow Grove F baz=320	89.46	39	P		P	11 32 55.1	+0.3
WMOK	Wichita Mounta baz=316	89.51	45	P		P	11 32 55.8	+0.6
WMOK	Wichita Mounta comp=Z,17nm,1.4s	89.51	45	eP		P	11 32 56.2	+1.1
WMOK	Wichita Mounta	89.51	45	eP		P	11 32 56.3	+1.1
WMOK	comp=Z,17nm,1.4s				pmax	pmax		
P40A	Paris baz=320	89.56	38	P		P	11 32 55.8	+0.5
M43A	Waltham Townsh baz=322	89.56	35	P		P	11 32 55.6	+0.4
R38A	Fenwick Farm, baz=319	89.63	40	P		P	11 32 55.1	-0.5
O41A	Passleys Farm, baz=321	89.68	37	P		P	11 32 56.4	+0.5
N43A	Stutzman Famil baz=322	89.85	36	P		P	11 32 57.1	+0.5
P41A	Barry, Barry baz=321	89.93	38	P		P	11 32 57.7	+0.6
Q40A	Laux Farm, Aux baz=320	89.95	39	P		P	11 32 57.5	+0.4
R39A	Chumby, Stover baz=320	89.98	40	P		P	11 32 57.3	-0.1
O42A	Bath baz=322	90.00	37	P		P	11 32 57.5	+0.1
M44A	Midewin, Midew baz=323	90.02	35	P		P	11 32 57.5	+0.1
HDIL	Hopedale baz=322	90.09	36	P		P	11 32 58.2	+0.4
O43A	Sugar Creek Fa baz=322	90.30	36	P		P	11 32 58.9	+0.2
TUL1	Leonard baz=318	90.33	43	P		P	11 32 59.4	+0.4
TX31	Lajitas Ar. Si	90.35	52	eP		P	11 32 59.9	+0.6
TX31				eP		P	11 33 00.8	+1.4
LTX	Lajitas	90.35	52	eP		P	11 33 00.1	+0.8
LTX	Lajitas	90.35	52	eP		P	11 33 00.1	+0.8
TXAR	Lajitas Array comp=Z,2.8nm,0.9s,baz=303,slow=2.8,SNR=22	90.35	52	P		P	11 33 00.1	+0.7
TXAR					LR	LR	12 07 26.9	
M45A	comp=Z,176nm,22.0s,baz=0.0,slow=32 Boilermakers S baz=323	90.38	34	P		P	11 32 59.2	+0.1
R40A	Maddies Statio baz=320	90.39	39	P		P	11 32 59.4	+0.2
Q41A	Truxton baz=321	90.40	38	P		P	11 32 59.5	+0.3
N44A	Piper City baz=323	90.45	35	P		P	11 32 59.7	+0.3
ABTX	Abilene, Hawle baz=316	90.52	47	P		P	11 33 00.7	+0.8
N45A	Kentland	90.69	35	P		P	11 33 01.1	+0.5
P43A	Skaggs, Pawnee baz=322	90.70	37	P		P	11 33 00.8	+0.2
M46A	Old House Fiel baz=324	90.77	34	P		P	11 33 01.2	+0.4
T39A	Clever baz=319	90.78	41	P		P	11 33 01.1	0.0
O44A	Mansfield baz=322	90.80	36	P		P	11 33 01.2	+0.2
S40A	Lebanon baz=320	90.80	40	P		P	11 33 01.2	0.0
R41A	Rosebud baz=321	90.84	39	P		P	11 33 01.1	-0.2
N46A	Monticello baz=324	91.01	34	P		P	11 33 02.3	+0.3
O45A	Potomac baz=323	91.07	35	P		P	11 33 02.0	-0.3
CCM	Cathedral Cave baz=321	91.09	39	P		P	11 33 02.4	0.0
CCM	Cathedral Cave comp=Z,12nm,1.2s	91.09	39	eP		P	11 33 03.9	+1.4
CCM	Cathedral Cave comp=Z,12nm,1.2s	91.09	39	eP	pmax	P pmax	11 33 03.9	+1.4
T40A	Mansfield baz=320	91.13	40	P		P	11 33 02.3	-0.4
R42A	Luebbering baz=321	91.14	38	P		P	11 33 03.0	+0.3
Q43A	New Douglas baz=322	91.17	37	P		P	11 33 02.9	+0.1
S41A	Jillco Farms, baz=320	91.20	39	P		P	11 33 02.7	-0.3
AAM	Ann Arbor baz=326	91.20	32	P		P	11 33 03.0	+0.1
U39A	Green Forest baz=319	91.22	41	P		P	11 33 03.1	0.0
SFIN	Lafayette baz=323	91.25	35	P		P	11 33 03.2	0.0
P44A	Sand Creek, Wi baz=322	91.27	36	P		P	11 33 03.5	+0.3
Q44A	Meyer Farm, Va baz=322	91.53	37	P		P	11 33 04.5	0.0
S42A	Caledonia baz=321	91.54	39	P		P	11 33 04.7	+0.2
V39A	Pettigrew baz=319	91.54	42	P		P	11 33 04.4	-0.3
U40A	Yellville baz=320	91.56	41	P		P	11 33 04.6	-0.1
R43A	Red Bud baz=322	91.57	38	P		P	11 33 04.8	+0.1
T41A	Mountain View baz=320	91.61	40	P		P	11 33 04.8	0.0
P45A	Graceland, Par baz=323	91.64	36	P		P	11 33 04.9	0.0
O47A	Sheridan baz=324	91.79	34	P		P	11 33 05.2	-0.4
W39A	Magazine baz=319	91.95	42	P		P	11 33 06.2	-0.3
JCT	Junction City baz=316	91.95	49	P		P	11 33 06.8	+0.2
T42A	Van Buren baz=321	91.96	39	P		P	11 33 06.3	-0.2
V40A	Witts Springs baz=320	92.00	41	P		P	11 33 06.5	-0.3
R44A	Waltonville baz=322	92.01	37	P		P	11 33 06.7	-0.1
S43A	Fulton Ridge, baz=322	92.05	38	P		P	11 33 07.0	+0.1
U41A	Viola baz=320	92.06	40	P		P	11 33 06.8	-0.2
Q46A	CEJHS Indians, baz=323	92.22	36	P		P	11 33 07.8	+0.1
WHTX	Lake Whitney, baz=317	92.26	47	P		P	11 33 08.4	+0.4
X39A	Fountain Ranch baz=319	92.28	43	P		P	11 33 08.6	+0.5
T43A	Greenville baz=321	92.32	39	P		P	11 33 08.2	+0.1
W40A	Ferguson Farm, baz=320	92.33	42	P		P	11 33 08.5	+0.2
P47A	Martinsville baz=324	92.35	35	P		P	11 33 08.2	-0.1
S44A	Carbondale baz=322	92.36	38	P		P	11 33 08.5	+0.2
R45A	Skylar, Fairfi baz=323	92.36	37	P		P	11 33 08.4	0.0
V41A	Mountainview baz=320	92.36	41	P		P	11 33 08.4	-0.1
U42A	Revenden baz=321	92.41	40	P		P	11 33 08.4	-0.2
MIAR	Mount Ida baz=319	92.55	42	P		P	11 33 09.8	+0.5
MIAR	Mount Ida comp=Z,13nm,1.1s	92.55	42	eP		P	11 33 10.3	+1.0
MIAR	Mount Ida	92.55	42	eP		P	11 33 10.3	+1.0
MIAR	comp=Z,13nm,1.1s				pmax	pmax		
LONY	Lake Ozonia baz=332	92.65	25	P		P	11 33 10.4	+0.8
WHAR	Wooly Hollow comp=Z,18nm,1.2s	92.67	41	eP		P	11 33 10.6	+0.7
W41B	Gary Mavity, V baz=320	92.78	41	P		P	11 33 10.0	-0.3
R46A	Gibon Southern baz=323	92.79	36	P		P	11 33 10.5	+0.2
X40A	Basin Creek Fa baz=320	92.99	42	P		P	11 33 11.9	+0.6
X40A	Basin Creek Fa comp=Z,23nm,1.6s	92.99	42	eP		P	11 33 13.0	+1.7
Y40A	Okolona baz=319	93.11	43	P		P	11 33 12.2	+0.3
R47A	Wooly Knot Far baz=324	93.19	36	P		P	11 33 12.4	+0.2
WCI	Wyandotte Cave baz=324	93.35	36	P		P	11 33 13.5	+0.6
N54A	Moraine State baz=328	93.83	30	P		P	11 33 15.1	+0.1
LBNH	Lisbon baz=334	93.85	23	P		P	11 33 14.8	-0.3
X43A	Marvell baz=321	94.00	41	P		P	11 33 15.9	0.0
WVT	Waverly baz=323	94.29	38	P		P	11 33 16.9	-0.4
240A	Hunter Patters baz=319	94.33	44	P		P	11 33 17.4	-0.1
W45A	Hickory Valley baz=322	94.38	39	P		P	11 33 17.2	-0.5
X44A	Crenshaw baz=321	94.40	40	P		P	11 33 17.8	0.0
X45A	UM Field Stati baz=322	94.85	40	P		P	11 33 19.8	-0.1
SSPA	Standing Stone baz=330	94.93	29	P		P	11 33 20.5	+0.3
O56A	Blue Knob Stat baz=329	94.98	29	P		P	11 33 20.0	-0.4
KEST	Kesra comp=Z,5.0nm,0.9s,baz=62,slow=6.3,SNR=3.7	95.04	323	P		P	11 33 24.6	+3.8
V48A	Smith Brothers baz=324	95.10	37	P		P	11 33 20.7	-0.2
W47A	Westpoint baz=323	95.11	38	P		P	11 33 21.5	+0.5
143A	Socs Landing, baz=320	95.12	42	P		P	11 33 21.7	+0.6
341A	Kurthwood baz=319	95.19	44	P		P	11 33 21.9	+0.4
Y45A	Yeager Farm, C baz=322	95.21	40	P		P	11 33 21.7	+0.2
N59A	State Game Lan baz=331	95.49	27	P		P	11 33 23.0	+0.3
HRV	Adam Dziewonsk baz=334	95.53	24	P		P	11 33 23.1	+0.3
PAL	Palisades baz=333	96.08	26	P		P	11 33 26.5	+1.2
X49A	Woodville baz=324	96.32	38	P		P	11 33 26.6	0.0
Y49A	Blount Mountai baz=324	96.80	38	P		P	11 33 28.9	+0.1
ESDC	Sonseca Array comp=Z,1.5nm,0.9s,baz=32,slow=5.8,SNR=4.1	97.35	334	P		Pdif	11 33 32.6	+1.3
Z50A	Ashland baz=324	97.53	38	P		P	11 33 31.8	-0.3
RKT	Rikitea comp=Z,778nm,30.0s,baz=310	98.86	112	eLR		LR	12 04 59.5	
758A	Lake Helen baz=326	103.36	37	P		Pdif	11 33 57.9	-0.2
857A	Zephyrhills baz=326	103.42	39	P		Pdif	11 33 58.4	0.0
TOA1	Torodi Ar. Sit	117.31	315	ePKPdf		PKPdf	11 38 42.9	-0.9

TOA0	**Torodi Ar. Sit**	**117.31**	**315**	*e*PKPdf	**PKPdf**	11 38 43.6	-0.2
TORD	**Torodi Ar. Bea**	**117.31**	**315**	PKP	**PKPdf**	11 38 42.9	-0.9
	comp=Z,0.9nm,1.0s,baz=25,slow=3.6,SNR=3.8						
KOWA	**Kowa**	**119.28**	**321**	PKP	**PKPdf**	11 38 47.2	-0.3
	comp=Z,1.1nm,0.4s,baz=117,slow=4.5,SNR=4.0						
QSPA	**South Pole Qui**	**126.62**	**180**	*e*PKPdf	**PKPdf**	11 39 00.1	0.0
SNAA	**Sanae**	**140.55**	**197**	PKhKP	PKPpre	11 39 18.5	
	comp=Z,1.9nm,0.8s,baz=225,slow=3.0,SNR=11						
SAML	**Samuel**	**144.48**	**45**	*e*PKPdf	PKPbc	11 39 33.2	+0.1
LPAZ	**La Paz**	**146.92**	**60**	PKPbc	**PKPbc**	11 39 41.8	+0.3
	comp=Z,14nm,0.7s,baz=330,slow=3.2,SNR=26						
MNMC	**Minye Minye**	**147.77**	**65**	*e*PKPdf	**PKPbc**	11 39 42.8	-0.5
PB11	**IPOC Station P**	**148.12**	**66**	*e*PKPdf	**PKPbc**	11 39 42.6	-1.5
PB01	**IPOC Station P**	**149.03**	**68**	*e*PKPdf	**PKPbc**	11 39 45.1	-1.2
PB04	**IPOC Station P**	**149.30**	**71**	*e*PKPdf	**PKPdf**	11 39 44.2	+1.4
LCO	**Las Campanas**	**152.20**	**83**	*e*PKPdf	**PKPdf**	11 39 47.6	+0.4
ROC1	**El Roble**	**153.38**	**91**	*e*PKPdf	**PKPdf**	11 39 49.6	+0.9

MEX 12 11:20:16.4±0.5, 28°43N×112°62W, h16km±9km, MD3.9, Gulf of California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SRIG	**Santa Rosalia**	**1.16**	**163**	*e*P	Pn	11 20 34.1	-3.8
SRIG				*e*S	Sb	11 20 47.9	-4.8
HSIG		**1.58**	**68**	*e*P	Pn	11 20 40.4	-3.3
HSIG				*e*S	Sn	11 20 58.5	-5.4

TAP ***12*** *11:25:45.7, 23°.34N×120°.42E, h13km, ML4.0, B*
JMA ***12*** *11:25:45.0±0.2, 23°.39N×120°.41E, h0km, M3.5*
ISCJB ***12*** *11:25:46.6±0.2, 23°.35N±0°.01×120°.39E±0°.01, h19km±2km, Error ellipse: s-maj=2.2km s-min=1.8km az=4.2*
ISC 12 11:25:46.4±0.8, 23°36N±0°.01×120°40E±0°.02, h18km±2km, n104, σ0s99/170, 5C-32D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TWK	**Hsinying**	**0.12**	**139**	⇓*i*P	**Pg**	**11 25 49.3**	**-1.0**
TWK	baz=124			*i* S	**Sg**	**11 25 51.9**	**-1.1**
CHY	**Chiayi**	**0.14**	**8**	*e*P	**Pg**	**11 25 50.4**	**-0.2**
CHY	baz=6.0			*e*S	**Sg**	**11 25 54.2**	**+0.8**
WLGB	**Puzi**	**0.15**	**322**	⇓*i*P	**Pg**	**11 25 50.5**	**-0.2**
WLGB	baz=323			S	**Sg**	**11 25 54.5**	**+0.9**
CHN4	**Tsaushan**	**0.17**	**92**	⇓*i*P	**Pg**	**11 25 50.3**	**-0.7**
CHN4	baz=85			S	**Sg**	**11 25 53.8**	**-0.3**
CHN8	**Yiju**	**0.18**	**267**	⇓P	**Pg**	**11 25 50.4**	**-0.6**
CHN8	baz=273			*e*S	**Sg**	**11 25 54.7**	**+0.6**
CHN2	**Minshiung**	**0.19**	**21**	⇓P	**Pg**	**11 25 51.2**	**+0.1**
CHN2	baz=17			*e*S	**Sg**	**11 25 55.5**	**+1.1**
CHN1	**Nanshi**	**0.21**	**146**	⇓*i*P	**Pg**	**11 25 50.6**	**-0.8**
CHN1	baz=139			S	**Sg**	**11 25 54.6**	**-0.3**
TPUB	**Ta-pu**	**0.21**	**105**	⇓P	**Pg**	**11 25 50.8**	**-0.8**
TPUB	baz=101			S	**Sg**	**11 25 54.4**	**-0.8**
WTP	**Ta-pu**	**0.22**	**120**	*i* P	**Pg**	**11 25 51.2**	**-0.6**
WTP	baz=110			*i* S	**Sg**	**11 25 55.2**	**-0.1**
SCLT	**Jiali**	**0.26**	**227**	⇓P	**Pb**	**11 25 52.0**	**-0.6**
SCLT	baz=230			*e*S	**Sb**	**11 25 57.6**	**+1.0**
CHN3	**Shinhua**	**0.28**	**187**	⇑P	**Pb**	**11 25 52.7**	**-0.2**
CHN3	baz=195			*e*S	**Sb**	**11 25 58.2**	**+1.0**
SGST	**Jiashian**	**0.32**	**149**	⇓P	**Pb**	**11 25 52.8**	**-0.8**
SGST	baz=139			S	**Sb**	**11 25 58.6**	**+0.2**
WSF	**Szhu**	**0.33**	**329**	⇓*i*P	**Pb**	**11 25 53.4**	**-0.3**
WSF	baz=331			*e*S	**Sb**	**11 25 59.5**	**+0.9**
CHN5	**Tsauling**	**0.35**	**46**	⇓P	**Pb**	**11 25 53.5**	**-0.6**
CHN5	baz=43			S	**Sb**	**11 25 59.8**	**+0.4**
WDLH	**Douliu**	**0.35**	**20**	*e*P	**Pb**	**11 25 54.3**	**+0.1**
WDLH	baz=18			*e*S	**Sb**	**11 26 01.3**	**+1.9**
TAI1	**Yung-k'ang**	**0.35**	**207**	*e*P	**Pb**	**11 25 54.2**	**0.0**
TAI1	baz=208			*e*S	**Sb**	**11 26 00.9**	**+1.5**
WGK	**Gukeng**	**0.36**	**24**	*e*P	**Pb**	**11 25 54.1**	**-0.2**
STYT	**Tauyuan**	**0.38**	**121**	⇓*i*P	**Pb**	**11 25 53.7**	**-0.9**
STYT	baz=108			*e*S	**Sb**	**11 25 59.6**	**-0.6**
ALS	**Alishan**	**0.40**	**67**	⇓*i*P	**Pb**	**11 25 54.6**	**-0.6**
ALS	baz=65			*e*S	**Sb**	**11 26 00.9**	**-0.2**
SLGT	**Liugui**	**0.42**	**148**	*e*P	**Pb**	**11 25 54.8**	**-0.7**
SLGT	baz=136			*e*S	**Sb**	**11 26 01.5**	**-0.1**
WTCT	**Ta-ch'eng**	**0.52**	**347**	⇓P	**Pb**	**11 25 56.7**	**-0.3**
WTCT	baz=349			*e*S	**Sb**	**11 26 04.9**	**+0.8**
TWM1	**Shoushan**	**0.53**	**178**	P	**Pn**	**11 25 58.4**	**-0.7**
RLNB	**Erlin**	**0.53**	**356**	⇓P	**Pb**	**11 25 57.1**	**-0.1**
RLNB	baz=346			S	**Sb**	**11 26 05.7**	**+1.1**
WJS	**Zhushan**	**0.55**	**33**	*e*P	**Pb**	**11 25 57.5**	**0.0**
WJS	baz=32			*e*S	**Sb**	**11 26 06.6**	**+1.5**
WNT	**Mingjian**	**0.58**	**26**	⇓P	**Pb**	**11 25 58.1**	**+0.1**
WNT	baz=26			*e*S	**Sb**	**11 26 07.3**	**+1.5**
ELDTW	**Lidau**	**0.59**	**106**	⇓P	**Pb**	**11 25 57.6**	**-0.6**
ELDTW	baz=97			*e*S	**Sb**	**11 26 05.9**	**-0.3**
SSD	**Sandimen**	**0.64**	**161**	⇓P	**Pb**	**11 25 59.0**	**0.0**
SSD	baz=149			*e*S	**Sb**	**11 26 08.6**	**+0.9**
SSLB	**Suanglung**	**0.66**	**50**	⇓P	**Pb**	**11 25 59.1**	**-0.4**
SSLB	baz=48			S	**Sb**	**11 26 09.2**	**+0.8**
TYC	**Yuchr**	**0.69**	**37**	⇓*i*P	**Pb**	**11 25 59.9**	**+0.1**
TYC	baz=37			S	**Sb**	**11 26 10.2**	**+1.2**
WDGT	**Dungji**	**0.69**	**262**	⇓*i*P	**Pg**	**11 25 59.2**	**-0.8**
WDGT	baz=263			*e*S	**Sg**	**11 26 08.7**	**-0.5**
SMLT	**Sun Moon Lake**	**0.69**	**41**	⇓*i*P	**Pb**	**11 26 00.0**	**0.0**
SMLT	baz=40			*e*S	**Sb**	**11 26 10.7**	**+1.4**
WSSB	**Gushan**	**0.72**	**190**	⇑P	**Pb**	**11 26 01.0**	**+0.5**
WCHH	**Zhanghua**	**0.73**	**11**	*e*P	**Pb**	**11 26 00.6**	**-0.1**
WCHH	baz=24			*e*S	**Sb**	**11 26 11.9**	**+1.6**
MASBT	**Mashibuluo**	**0.77**	**164**	⇑P	**Pb**	**11 26 01.0**	**-0.3**
MASBT	baz=151			*e*S	**Sb**	**11 26 12.2**	**+0.8**
PHUB	**P'eng-hu**	**0.78**	**282**	⇓P	**Pg**	**11 26 00.4**	**-1.2**
PHUB	baz=283			S	**Sg**	**11 26 11.1**	**-0.9**
KAU	**Kaohsiung**	**0.79**	**186**	*e*P	**Pb**	**11 26 01.8**	**+0.2**
PNG	**Penghu**	**0.81**	**285**	⇓*i*P	**Pg**	**11 26 01.0**	**-1.2**
PNG	baz=286			*e*S	**Sg**	**11 26 12.2**	**-0.7**
TWG	**Pinlang**	**0.81**	**131**	*e*P	**Pb**	**11 26 02.0**	**0.0**
TWG	baz=119			S	**Sb**	**11 26 13.3**	**+0.6**
TWF1	**Yuli**	**0.82**	**90**	⇓P	**Pb**	**11 26 01.8**	**-0.3**
TWF1	baz=89			*e*S	**Sb**	**11 26 12.5**	**-0.4**
TWGBT	**Beinan**	**0.82**	**131**	⇓P	**Pb**	**11 26 01.7**	**-0.4**
TWGBT	baz=119			*e*S	**Sb**	**11 26 13.0**	**+0.1**
YULB	**Yu-li**	**0.82**	**87**	⇓P	**Pb**	**11 26 01.6**	**-0.5**
YULB	baz=93			S	**Sb**	**11 26 12.5**	**-0.4**
DPDB	**Guoxing**	**0.83**	**35**	*e*P	**Pb**	**11 26 02.1**	**-0.2**
DPDB	baz=35			*e*S	**Sb**	**11 26 13.7**	**+0.6**
FULB	**Fuli**	**0.83**	**101**	⇓*i*P	**Pb**	**11 26 02.6**	**+0.2**
FULB	baz=92			S	**Sn**	**11 26 15.1**	**0.0**
EHY	**Hungye**	**0.86**	**80**	P	**Pb**	**11 26 02.6**	**-0.2**
EHY	baz=88			*e*S	**Sb**	**11 26 13.8**	**-0.1**
SSPT	**Xinbi**	**0.88**	**170**	*e*P	**Pn**	**11 26 03.8**	**-0.1**
ECL	**Taimali**	**0.91**	**146**	*e*P	**Pb**	**11 26 03.8**	**+0.1**
ECL	baz=145			*e*S	**Sb**	**11 26 16.6**	**+1.2**
TTN	**Taitung**	**0.91**	**131**	*e*P	**Pn**	**11 26 04.3**	**0.0**
TTN	baz=130			*e*S	**Sn**	**11 26 17.9**	**+1.0**
CHKT	**Chengkung**	**0.92**	**106**	*e*P	**Pb**	**11 26 04.1**	**+0.2**
CHKT	baz=105			*e*S	**Sn**	**11 26 17.8**	**+0.5**
OWD	**Renai**	**0.93**	**50**	*e*P	**Pb**	**11 26 04.0**	**0.0**
OWD	baz=49			*e*S	**Sb**	**11 26 15.8**	**-0.2**
HGSD	**Ruisui**	**0.95**	**82**	⇓P	**Pn**	**11 26 04.6**	**-0.2**
HGSD	baz=87			*e*S	**Sb**	**11 26 17.5**	**+1.0**
CHGB	**Renai**	**0.99**	**45**	⇓*e*P	**Pb**	**11 26 04.7**	**-0.5**
CHGB	baz=45			*e*S	**Sb**	**11 26 17.6**	**-0.5**
WLCH	**Liuqiu**	**1.00**	**181**	*e*P	**Pn**	**11 26 06.6**	**+1.1**
WLCH	baz=202			*e*S	**Sn**	**11 26 22.6**	**+3.5**
TWP	**Hsiaoliuchiu**	**1.01**	**182**	*e*P	**Pb**	**11 26 05.2**	**-0.1**
TWQ1	**Liyutan**	**1.04**	**19**	⇓*e*P	**Pn**	**11 26 06.0**	**-0.1**
TWQ1	baz=19			*e*S	**Sn**	**11 26 20.6**	**+0.3**
ESL	**Shilin**	**1.05**	**64**	⇓*e*P	**Pn**	**11 26 06.0**	**-0.2**
ESL	baz=52			*e*S	**Sb**	**11 26 19.7**	**+0.3**
EAST	**Anshuo**	**1.05**	**157**	⇑*i*P	**Pb**	**11 26 06.1**	**0.0**
EAST	baz=149			*e*S	**Sn**	**11 26 20.9**	**+0.4**
NSY	**Sanyi**	**1.10**	**17**	*e*P	**Pn**	**11 26 07.1**	**+0.1**
WHF	**Hehuan Shan**	**1.11**	**45**	*e*P	**Pb**	**11 26 07.1**	**-0.3**
WHF	baz=45			*e*S	**Sn**	**11 26 23.0**	**+0.4**
TDCB	**Techi**	**1.13**	**38**	*e*P	**Pb**	**11 26 07.2**	**-0.3**
TWT	**Tachien**	**1.14**	**38**	*e*P	**Pb**	**11 26 07.5**	**-0.2**
ENLB	**Shoufeng**	**1.23**	**63**	*e*P	**Pg**	**11 26 08.6**	**-1.5**
NMLH	**Miaoli**	**1.23**	**17**	*e*P	**Pn**	**11 26 09.1**	**+0.4**
HWA	**Hwalien**	**1.26**	**61**	*e*P	**Pg**	**11 26 09.9**	**-0.9**
TWD	**Chiawan**	**1.31**	**56**	*e*P	**Pg**	**11 26 10.3**	**-1.3**
TWD	baz=56			*e*S	**Sn**	**11 26 27.4**	**+0.6**
NACB	**Ninganchiao**	**1.36**	**53**	*e*P	**Pn**	**11 26 10.8**	**+0.3**
NACB	baz=53			*e*S	**Sn**	**11 26 28.9**	**+0.8**
HEN	**Hengchun**	**1.38**	**167**	*e*P	**Pb**	**11 26 11.4**	**-0.2**
NSTT	**Nanjuang**	**1.38**	**23**	*e*P	**Pn**	**11 26 10.4**	**-0.4**
NSTT	baz=24			*e*S	**Sb**	**11 26 29.0**	**0.0**
NNSB	**Datong**	**1.39**	**40**	*e*P	**Pn**	**11 26 11.1**	**0.0**
NNSB	baz=29			*e*S	**Sn**	**11 26 30.4**	**+1.3**
NNS	**Nan Shan**	**1.40**	**39**	*e*P	**Pg**	**11 26 11.8**	**-1.6**
NNS	baz=29			*e*S	**Sn**	**11 26 31.2**	**+2.1**
LIOB	**Emei**	**1.40**	**23**	⇑P	**Pn**	**11 26 11.2**	**+0.2**
LIOB	baz=24			*e*S	**Sg**	**11 26 30.1**	**-1.6**
TWK1	**Hengchun**	**1.46**	**165**	*e*P	**Pn**	**11 26 11.3**	**-0.4**
TWKBT	**Hengchun**	**1.46**	**165**	*e*P	**Pn**	**11 26 11.4**	**-0.4**
TSEB	**Hengchuen, Pin**	**1.52**	**162**	*e*P	**Pn**	**11 26 12.5**	**-0.2**
SBCB	**Hsinchu**	**1.52**	**20**	*e*P	**Pn**	**11 26 12.8**	**+0.1**
YHNB	**Yeheng**	**1.58**	**34**	*e*P	**Pn**	**11 26 13.8**	**+0.2**
ENA	**Nanau**	**1.62**	**49**	*e*P	**Pb**	**11 26 15.3**	**-0.5**
ENTT	**Nioudou**	**1.66**	**40**	*e*P	**Pb**	**11 26 16.2**	**-0.3**
ENAH	**Nanao**	**1.69**	**50**	*e*P	**Pg**	**11 26 17.3**	**-1.6**
LAY	**Lan-yu**	**1.69**	**141**	*e*P	**Pn**	**11 26 13.4**	**-1.6**
TWE	**Neicheng**	**1.78**	**40**	*e*P	**Pb**	**11 26 18.2**	**-0.4**
TATO	**Taipei**	**1.89**	**31**	*e*P	**Pb**	**11 26 19.8**	**-0.6**
EOS1	**EOS1**	**1.98**	**53**	*e*P	**Pn**	**11 26 21.3**	**-0.5**
NTC	**Toucheng**	**1.98**	**41**	*e*P	**Pb**	**11 26 21.7**	**-0.2**
EGS		**2.04**	**43**	*e*P	**Pb**	**11 26 23.0**	**+0.1**
TIPB	**Shuangxi**	**2.07**	**39**	*e*P	**Pn**	**11 26 20.3**	**0.0**
YM10	**YM10**	**2.08**	**30**	*e*P	**Pn**	**11 26 20.0**	**-0.5**
YM05	**YM05**	**2.09**	**30**	*e*P	**Pn**	**11 26 19.7**	**-0.8**
YM03	**YM03**	**2.09**	**30**	*e*P	**Pn**	**11 26 20.0**	**-0.6**
NWF	**Wu-fen Shan**	**2.12**	**36**	*e*P	**Pb**	**11 26 23.4**	**-1.0**
WFSB	**Wu-fen Shan**	**2.12**	**36**	*e*P	**Pb**	**11 26 22.6**	**-1.7**
YM07	**YM07**	**2.12**	**31**	*e*P	**Pn**	**11 26 20.5**	**-0.6**
KNMB	**Chin-men Tao**	**2.15**	**301**	*e*P	**Pn**	**11 26 20.4**	**-0.9**
TWB1	**Santiao Chiao**	**2.19**	**41**	*e*P	**Pn**	**11 26 22.1**	**+0.2**
QZH	**Quanzhou**	**2.29**	**314**	Pn	**Pn**	**11 26 22.6**	**-0.6**
QZH				Sn	**Sn**	**11 26 48.0**	**-3.0**
QZH				smax	smax		
	comp=N,220nm,0.3s						
QZH				smax	smax		
	comp=E,220nm,0.3s						
JYNG	**Yonagunijimaku**	**2.57**	**64**	P	**Pn**	**11 26 29.1**	**+2.0**
JYNG				S	**Sb**	**11 27 01.4**	**-1.8**
YOJ	**Yonaguni jima**	**2.63**	**65**	*e*P	**Pn**	**11 26 28.8**	**+0.9**
	baz=64						
YOJ	**Yonaguni jima**	**2.63**	**65**	P	**Pn**	**11 26 29.5**	**+1.6**
YOJ				S	**Sb**	**11 27 02.8**	**-2.1**
MATB	**Ma-tsu**	**2.81**	**352**	*e*P	**Pn**	**11 26 29.8**	**-0.7**
	baz=352						
HATJ	**Hateruma jima**	**3.19**	**77**	P	**Pn**	**11 26 37.1**	**+1.4**
HATJ				S	**Sn**	**11 27 15.4**	**+2.0**
IRIF	**Iriomote-Funau**	**3.20**	**72**	P	**Pn**	**11 26 37.4**	**+1.6**
IRIF				S	**Sn**	**11 27 16.6**	**+3.2**
JKRS	**Kuro-shima**	**3.42**	**74**	P	**Pn**	**11 26 40.7**	**+1.9**
JKRS				S	**Sn**	**11 27 21.6**	**+2.8**
JIJ	**Ishigaki jima**	**3.57**	**73**	P	**Pn**	**11 26 42.2**	**+1.4**
JIJ				S	**Sn**	**11 27 23.8**	**+1.2**
JISG	**Ishigakijimahi**	**3.78**	**70**	P	**Pn**	**11 26 44.3**	**+0.6**
JISG				S	**Sn**	**11 27 28.5**	**+0.8**
JTJ	**Tarama**	**4.13**	**71**	P	**Pn**	**11 26 51.0**	**+2.4**
JTJ				S	**Sn**	**11 27 38.8**	**+2.3**

ISCJB ***12*** *11:28:13.2±0.6, 50°.11N±0°.04×18°.38E±0°.03, h0km, Error ellipse: s-maj=6.3km s-min=3.0km az=178.2*
CSEM ***12*** *11:28:14.0±0.3, 50°.07N×18°.41E, h1km, ML2.8/8, Error ellipse: s-maj=7.2km s-min=3.4km az=4.0*
IPEC ***12*** *11:28:14.2±0.2, 50°.07N×18°.47E, h2km±2km, ML1.8/3, Error ellipse: s-maj=2.1km s-min=1.1km az=160.0*
WAR ***12*** *11:28:14.6, 50°.07N×18°.46E, h1km, Mw2.3*
ISC 12 11:28:14.1±0.8, 50°.06N±0°.04×18°.44E±0°.02, h0km, n26, σ0s87/44, 3D, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAC	**Raciborz**	**0.16**	**278**	*e*Pg	**Pg**	**11 28 18.4**	**+1.3**
RAC				*e*Sg	**Sg**	**11 28 21.8**	**+2.6**
OKC	**Ostrava-Krasne**	**0.29**	**220**	⇓*i*PG	**Pg**	**11 28 20.6**	**+0.9**
OKC				*e*SG	**Sg**	**11 28 24.3**	**+0.8**
	comp=Z,56nm,0.5s						
OKC	**Ostrava-Krasne**	**0.29**	**220**	Pg	**Pg**	**11 28 20.6**	**+0.9**
OKC				Sg	**Sg**	**11 28 24.3**	**+0.8**
	56nm,0.5s						
MORC	**Moravsky Berou**	**0.65**	**244**	*e*Pg	**Pg**	**11 28 26.7**	**+0.3**
MORC				*e*Sg	**Sg**	**11 28 35.3**	**+0.5**
	22nm,0.2s						
OJC	**Ojcow**	**0.89**	**79**	*e*Pg	**Pg**	**11 28 31.2**	**+0.1**
OJC				*e*Sg	**Sg**	**11 28 43.1**	**+0.4**
OJC	**Ojcow**	**0.89**	**79**	*e*Pg	**Pg**	**11 28 31.2**	**+0.1**
OJC				*e*Sg	**Sg**	**11 28 43.1**	**+0.4**
OJC	**Ojcow**	**0.89**	**79**	*e*Pg	**Pg**	**11 28 31.2**	**+0.1**
OJC				*e*Sg	**Sg**	**11 28 43.1**	**+0.4**
LANS	**Liptovska Anna**	**1.13**	**143**	*e*Pg	**Pg**	**11 28 36.2**	**+0.4**
LANS				*e*Sg	**Sg**	**11 28 48.6**	**-1.9**
LANS	**Liptovska Anna**	**1.13**	**143**	*e*PG	**Pg**	**11 28 36.2**	**+0.4**
LANS				*e*SG	**Sg**	**11 28 48.6**	**-1.9**
NIE	**Niedzica**	**1.37**	**117**	*e*Pg	**Pn**	**11 28 40.7**	**+0.1**
NIE				*e*Sg	**Sb**	**11 28 59.4**	**+0.7**
NIE	**Niedzica**	**1.37**	**117**	*e*Pg	**Pn**	**11 28 40.7**	**+0.1**
NIE				*e*Sg	**Sb**	**11 28 59.4**	**+0.7**
NIE	**Niedzica**	**1.37**	**117**	*e*Pg	**Pn**	**11 28 40.7**	**+0.1**
NIE				*e*Sg	**Sb**	**11 28 59.4**	**+0.7**
DPC	**Dobruska-Polom**	**1.39**	**283**	*e*PG	**Pg**	**11 28 40.2**	**-0.5**
DPC				*e*SG	**Sg**	**11 28 57.6**	**-1.1**
	comp=Z,22nm,0.5s						
DPC	**Dobruska-Polom**	**1.39**	**283**	Pg	**Pg**	**11 28 40.2**	**-0.5**
DPC				Sg	**Sg**	**11 28 57.6**	**-1.1**
	22nm,0.5s						
VRAC	**Vranov**	**1.42**	**238**	*e*Pg	**Pn**	**11 28 40.6**	**-0.5**
VRAC				*e*Sg	**Sg**	**11 28 59.1**	**-0.4**
	12nm,0.3s						
VYHS	**Vyhne**	**1.59**	**170**	*e*Pn	**Pn**	**11 28 43.1**	**-0.4**
VYHS	**Vyhne**	**1.59**	**170**	*e*PN	**Pn**	**11 28 43.1**	**-0.4**
UPC	**Upice**	**1.62**	**287**	⇓*e*SG	**Sn**	**11 29 04.9**	**-0.6**
	comp=Z,6.8nm,0.2s						
UPC	**Upice**	**1.62**	**287**	Sg	**Sn**	**11 29 04.9**	**-0.6**
	6.8nm,0.2s						
KRUC	**Moravsky**	**1.66**	**234**	*e*Pn	**Pn**	**11 28 44.6**	**+0.1**
KRUC				*e*Sg	**Sb**	**11 29 06.9**	**-0.2**
	9.6nm,0.2s						
STHS	**Stebnicka Huta**	**1.93**	**108**	*e*PN	**Pg**	**11 28 51.1**	**0.0**
STHS				*e*SN	**Sg**	**11 29 16.4**	**+0.2**
STHS				*e*LG	Lg	11 29 21.3	
GOPC	**GO Pecny, Ondr**	**2.36**	**268**	*e*SG	**Sb**	**11 29 26.9**	**-0.3**
	comp=Z,5.3nm,0.2s						
GOPC	**GO Pecny, Ondr**	**2.36**	**268**	Sg	**Sb**	**11 29 26.9**	**-0.3**
	5.3nm,0.2s						
PRU	**Pruhonice**	**2.51**	**270**	⇓*e*SG	**Sb**	**11 29 31.9**	**+0.4**
	comp=Z,4.7nm,0.3s						
PRU	**Pruhonice**	**2.51**	**270**	Sg	**Sb**	**11 29 31.9**	**+0.4**
	4.7nm,0.3s						
KHC	**Kasperske Hory**	**3.29**	**255**	*e*PG	**Pb**	**11 29 13.8**	**+0.4**
KHC				*e*SG	**Sg**	**11 29 57.7**	**-2.2**
	comp=Z,7.3nm,0.7s						

CSEM ***12*** *11:29:35.8±0.2, 39°.28N×27°.57E, h1km, ML2.5, Error ellipse: s-maj=6.1km s-min=4.2km az=116.0, Suspected Mining explosion.*
ISK ***12*** *11:29:35.6, 39°.29N×27°.55E, h10km, ML2.6/5*
ISCJB ***12*** *11:29:36.2±0.4, 39°.27N±0°.02×27°.61E±0°.04, h0km, Error ellipse: s-maj=4.8km s-min=3.2km az=11.2*
DDA ***12*** *11:29:36.9, 39°.31N×27°.71E, h13km, Ml2.5, Suspected Mining explosion.*
ISC 12 11:29:35.7±0.8, 39°21N±0°.03×27°.63E±0°.03, h0km, n31, σ0s50/41, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STEP	**BALIKESIR_Sava**	**0.18**	**23**	*i* P	**Pg**	**11 29 39.8**	**+0.6**
STEP				*i* S	**Sg**	**11 29 42.0**	**+0.5**
STEP	**BALIKESIR_Sava**	**0.18**	**23**	P	**Pg**	**11 29 39.8**	**+0.6**
STEP				S	**Sg**	**11 29 42.0**	**+0.5**
AKS	**Akhisar**	**0.36**	**156**	PG	**Pb**	**11 29 44.9**	**-0.1**
AKS				SG	**Sb**	**11 29 51.9**	**+0.7**
AKS	**Akhisar**	**0.36**	**156**	*e*Pg	**Pb**	**11 29 44.9**	**-0.1**
AKHS	**Akhisar**	**0.36**	**156**	*i* P	**Pb**	**11 29 45.4**	**+0.3**
AKHS				*i* S	**Sb**	**11 29 51.7**	**+0.5**
AKHS	**Akhisar**	**0.36**	**156**	P	**Pb**	**11 29 45.3**	**+0.3**
AKHS				S	**Sb**	**11 29 51.7**	**+0.5**
BALB	**Balikesir**	**0.47**	**25**	PG	**Pg**	**11 29 44.5**	**-0.2**
BALB				SG	**Sg**	**11 29 51.3**	**+0.4**
BALB	**Balikesir**	**0.47**	**25**	*e*Pg	**Pg**	**11 29 44.5**	**-0.2**
BALY	**Balya**	**0.53**	**359**	*i* P	**Pg**	**11 29 45.3**	**-0.5**
BALY				*i* S	**Sg**	**11 29 51.9**	**-0.8**
BALY	**Balya**	**0.53**	**359**	P	**Pg**	**11 29 45.3**	**-0.5**
BALY				S	**Sg**	**11 29 51.9**	**-0.8**
DKL	**Dikili**	**0.58**	**256**	PG	**Pg**	**11 29 46.3**	**-0.5**
DKL	**Dikili**	**0.58**	**256**	*e*Pg	**Pg**	**11 29 46.3**	**-0.5**
AYVA	**Ayvalik**	**0.73**	**278**	*i* P	**Pn**	**11 29 53.8**	**+0.5**
DURS	**Dursunbey**	**0.76**	**59**	*i* P	**Pg**	**11 29 50.0**	**-0.3**
DURS				*i* S	**Sg**	**11 29 59.1**	**-1.1**
DURS	**Dursunbey**	**0.76**	**59**	P	**Pg**	**11 29 50.0**	**-0.3**
DURS				S	**Sg**	**11 29 59.1**	**-1.1**
BLCB	**Balcova**	**0.94**	**209**	PG	**Pb**	**11 29 55.2**	**+0.3**
BLCB	**Balcova**	**0.94**	**209**	*e*Pg	**Pb**	**11 29 55.2**	**+0.3**
BAYC	**CANAKKALE_Bayr**	**0.99**	**303**	*i* P	**Pn**	**11 29 56.8**	**0.0**
MANT	**Manisa**	**1.02**	**134**	*i* P	**Pn**	**11 29 57.7**	**+0.2**
MANT	**Manisa**	**1.02**	**134**	P	**Pn**	**11 29 57.7**	**+0.2**
KULA	**Kula-Manisa**	**1.06**	**130**	PN	**Pn**	**11 29 57.9**	**-0.1**
KULA	**Kula-Manisa**	**1.06**	**130**	*e*Pn	**Pn**	**11 29 57.9**	**-0.1**
URLA	**Izmir**	**1.17**	**224**	PN	**Pb**	**11 29 58.9**	**+0.1**
URLA	**Izmir**	**1.17**	**224**	*e*Pn	**Pb**	**11 29 58.9**	**+0.1**
AYDB	**Zeytinkoy-Aydi**	**1.28**	**171**	PN	**Pn**	**11 30 01.2**	**+0.3**
AYDB	**Zeytinkoy-Aydi**	**1.28**	**171**	*e*Pn	**Pn**	**11 30 01.2**	**+0.3**
BOZC	**Bozcaada**	**1.37**	**298**	*i* P	**Pb**	**11 30 02.6**	**+0.4**
TVSB	**Tavsanli**	**1.44**	**80**	PN	**Pn**	**11 30 02.7**	**-0.5**
TVSB	**Tavsanli**	**1.44**	**80**	*e*Pn	**Pn**	**11 30 02.7**	**-0.5**
CHOS	**Chios island**	**1.48**	**237**	PN	**Pn**	**11 30 03.3**	**-0.3**
CHOS	**Chios island**	**1.48**	**237**	*e*Pn	**Pn**	**11 30 03.3**	**-0.3**

IDC 12 11:31:06.2±2.9, 0°22N×91°85E, h0km, mb3.5/3, mb1 3.7/5, mb1mx3.3/79, mbtmp3.5/5, ML3.8/2, Error ellipse: s-maj=64.6km s-min=32.8km az=56.0, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**7.53**	**70**	Pn	Pn	11 32 57.6	+0.2
	1.5nm,0.3s,baz=26,slow=5.4,SNR=3.0						
PSI				Sn	Sn	11 34 15.2	-8.4
	baz=187,slow=22,SNR=2.0						
PALK	**Pallekele**	**13.14**	**302**	Sn	Sn	11 36 31.1	-10
	0.7nm,0.3s,baz=100,slow=2.1,SNR=2.5						
CMAR	**Chiang Mai Arr**	**19.42**	**21**	P	P	11 35 33.8	-0.5
	0.1nm,0.3s,baz=217,slow=12,SNR=3.6						
WRA	**Warramunga Arr**	**46.18**	**118**	P	P	11 39 32.9	-0.4
	1.2nm,0.9s,baz=295,slow=8.6,SNR=4.2						
MKAR	**Makanchi Array**	**47.13**	**351**	P	P	11 39 40.7	+0.5
	0.3nm,0.7s,baz=180,slow=7.2,SNR=2.5						
SONM	**Songino Array**	**49.08**	**13**	P	P	11 39 55.1	-0.4
	0.3nm,0.4s,baz=198,slow=7.6,SNR=3.0						

*IDC **12** 11:38:12.8±0.6, 26°75S×12°85W, h0km, mb4.1/18, mb1 4.2/18, mb1mx4.1/53, mbtmp4.1/18, MS4.5/19, Ms1 4.5/19, ms1mx4.2/47, Error ellipse: s-maj=21.9km s-min=17.0km az=139.0*

*ISCJB **12** 11:38:13.4±0.5, 26°7S±0°1×13°1W±0°1, h10km, mb4.3/28, MS4.5/20, Error ellipse: s-maj=17.7km s-min=9.7km az=141.0*

*NEIC **12** 11:38:14.6±0.4, 26°79S×12°95W, h10km, mb4.8/14, Error ellipse: s-maj=15.5km s-min=11.1km az=148.0*

ISC 12 11:38:14.8±0.5, 26°8S±0°1×12°96W±0°09, h10km, n90, σ2§12/75, mb4.3/28, MS4.5/20, 5C-1D, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H09W1	**TRISTAN DA CUN**	**10.24**	**177**	T	T	11 51 29.4	
	SNR=265						
H10S2	**ASCENSION HYDR**	**17.86**	**355**	T	T	12 00 12.3	
	baz=177,slow=75,SNR=46						
H10S3	**ASCENSION HYDR**	**17.86**	**354**	T	T	12 00 12.7	
	baz=177,slow=75,SNR=41						
H10S1	**ASCENSION HYDR**	**17.87**	**355**	T	T	12 00 14.1	
	baz=177,slow=75,SNR=50						
H10N1	**ASCENSION HYDR**	**18.95**	**355**	T	T	12 01 37.8	
	baz=222						
H10N3	**ASCENSION HYDR**	**18.95**	**355**	T	T	12 01 37.6	
	baz=222						
H10N2	**ASCENSION HYDR**	**18.96**	**355**	T	T	12 01 38.7	
	baz=222						
TSUM	**Tsumeb**	**29.07**	**81**	P	**P**	**11 44 13.0**	**-2.7**
	0.9nm,0.4s,baz=177,slow=7.1,SNR=3.0						
TSUM				LR	LR	11 51 59.7	
	comp=Z,386nm,21.3s,baz=325,slow=29						
TSUM	**Tsumeb**	**29.07**	**81**	*e*P	**P**	**11 44 13.0**	**-2.7**
TSUM				*e*P	**P**	**11 44 19.0**	**+3.3**
BOSA	**Boshof**	**33.78**	**102**	P	**P**	**11 44 54.7**	**-2.4**
	2.2nm,0.9s,baz=258,slow=7.6,SNR=3.1						
BOSA				LR	LR	11 56 53.6	
	comp=Z,868nm,19.2s,baz=276,slow=33						
DBIC	**Dimbokro**	**34.22**	**14**	LR	LR	11 55 25.7	
	comp=Z,737nm,20.0s,baz=180,slow=30						
CPUP	**Villa Florida**	**39.53**	**260**	P	**P**	**11 45 44.9**	**-1.1**
	2.9nm,0.8s,baz=91,slow=12,SNR=4.6						
CPUP				LR	LR	11 59 55.3	
	comp=Z,579nm,19.1s,baz=104,slow=33						
CPUP	**Villa Florida**	**39.53**	**260**	*e*P	**P**	**11 45 44.9**	**-1.1**
	7.7nm,1.1s						
LSZ	**Lusaka**	**39.92**	**82**	P	**P**	**11 45 46.0**	**-3.5**
	1.1nm,0.3s,baz=172,slow=14,SNR=2.4						
LSZ	**Lusaka**	**39.92**	**82**	*e*P	**P**	**11 45 50.8**	**+1.3**
	16nm,1.2s						
KOWA	**Kowa**	**42.00**	**13**	P	**P**	**11 46 04.4**	**-1.9**
	4.7nm,0.9s,baz=188,slow=11,SNR=4.4						
KOWA				LR	LR	12 00 42.7	
	comp=Z,565nm,18.4s,baz=208,slow=32						
KOWA	**Kowa**	**42.00**	**13**	*e*P	**P**	**11 46 04.4**	**-1.9**
KOWA				*e*P	**P**	**11 46 08.5**	**+2.2**
TOA0	**Torodi Ar. Sit**	**42.22**	**22**	*e*P	**P**	**11 46 07.4**	**-0.8**
TOA0				*e*P	**pP**	**11 46 08.6**	**-2.7**
TORD	**Torodi Ar. Bea**	**42.22**	**22**	P	**P**	**11 46 07.4**	**-0.8**
	3.3nm,0.8s,baz=201,slow=7.9,SNR=7.9						
TORD				PcP	**PcP**	**11 48 03.0**	**+0.8**
	1.5nm,1.0s,baz=222,slow=1.9,SNR=3.5						
TORD				LR	LR	12 00 06.6	
	comp=Z,625nm,20.7s,baz=190,slow=31						
TOA1	**Torodi Ar. Sit**	**42.22**	**22**	*e*P	**P**	**11 46 07.4**	**-0.8**
TOA1				*e*PcP	**PcP**	**11 48 03.0**	**+0.7**
TRQA	**Tornquist**	**42.42**	**242**	*e*P	**P**	**11 46 10.9**	**+1.2**
	13nm,1.0s						
VNA2	**Neumayer--Watz**	**44.23**	**177**	P	P	11 46 30.9	+7.0
	baz=347,slow=9.3						
PLCA	**Paso Flores**	**49.02**	**238**	P	**P**	**11 47 02.9**	**+0.9**
	3.9nm,0.9s,baz=129,slow=5.7,SNR=8.4						
PLCA				LR	LR	12 04 20.8	
	comp=Z,520nm,21.0s,baz=122,slow=32						
PLCA	**Paso Flores**	**49.02**	**238**	*e*P	**P**	**11 47 03.4**	**+1.5**
	44nm,2.0s						
SAML	**Samuel**	**50.64**	**281**	*e*P	**P**	**11 47 14.3**	**-0.2**
	20nm,1.0s						
LPAZ	**La Paz**	**52.03**	**270**	P	**P**	**11 47 24.5**	**-1.1**
	1.5nm,0.7s,baz=121,slow=5.9,SNR=4.3						
LPAZ				LR	LR	12 07 29.3	
	comp=Z,923nm,21.1s,baz=108,slow=34						
LPAZ	**La Paz**	**52.03**	**270**	*e*P	**P**	**11 47 25.1**	**-0.5**
	5.0nm,1.0s						
PTGA	**Pitinga**	**52.06**	**292**	*e*P	**P**	**11 47 24.2**	**-0.9**
	10.0nm,1.0s						
PB11	**IPOC Station P**	**52.20**	**265**	*e*P	**P**	**11 47 25.8**	**-0.5**
	20nm,1.1s						
KMBO	**Kilima Mbogo**	**54.52**	**71**	LR	LR	12 08 32.2	
	comp=Z,820nm,21.6s,baz=271,slow=34						
OPO	**Ambohidratompo**	**55.66**	**95**	LR	LR	12 10 31.5	
	comp=Z,810nm,18.7s,baz=274,slow=35						
MAW	**Mawson**	**60.09**	**155**	P	**P**	**11 48 22.3**	**+0.5**
	2.5nm,0.6s,baz=270,slow=2.0,SNR=2.0						
MAW	**Mawson**	**60.09**	**155**	*e*P	**P**	**11 48 22.3**	**+0.5**
	2.4nm,0.9s						
PCRV	**Puerto La Cruz**	**62.19**	**299**	LR	LR	12 13 57.2	
	comp=Z,622nm,18.4s,baz=126,slow=34						
ESDC	**Sonseca Array**	**66.70**	**8**	P	**P**	**11 49 06.4**	**+0.5**
	0.1nm,0.3s,baz=179,slow=8.0,SNR=2.7						
ROSC	**El Rosal**	**67.10**	**288**	LR	LR	12 16 56.7	
	comp=Z,279nm,19.3s,baz=101,slow=35						
HELC	**Santa Helena**	**68.83**	**289**	*e*P	**P**	**11 49 19.2**	**-1.1**
	17nm,0.9s						
IDI	**Anoyia**	**71.40**	**32**	LR	LR	12 20 16.3	
	comp=Z,133nm,19.5s,baz=328,slow=35						
VNDA	**Vanda**	**75.83**	**179**	P	**P**	**11 50 01.6**	**+1.0**
	0.8nm,0.8s,baz=268,slow=1.5,SNR=3.1						
BFO	**Black Forest**	**77.22**	**14**	*e*P	**P**	**11 50 10.8**	**+2.0**
	11nm,1.1s						
BR231	**Keskin MP Arra**	**78.84**	**34**	*e*P	**P**	**11 50 18.8**	**+0.8**
GEA0	**GERESS Array S**	**79.02**	**18**	*e*P	**P**	**11 50 19.4**	**+0.6**
GERES	**GERESS Array B**	**79.03**	**18**	P	**P**	**11 50 17.1**	**-1.8**
	0.3nm,0.2s,baz=258,slow=3.7,SNR=3.1						
GERES				PP	**PP**	**11 53 21.8**	**+3.5**
	0.3nm,0.2s,baz=213,slow=9.7,SNR=2.9						
BR101	**Keskin Array S**	**79.19**	**35**	*e*P	**P**	**11 50 18.8**	**-1.2**
BRTR	**Keskin Array B**	**79.19**	**35**	P	**P**	**11 50 18.8**	**-1.2**
	0.4nm,0.7s,baz=175,slow=6.8,SNR=2.5						
KHC	**Kasperske Hory**	**79.25**	**17**	*e*P	**P**	**11 50 15.5**	**-4.5**
KHC				*e*PCP	**PcP**	**11 50 29.0**	**+0.7**
MODS	**Modra-Piesok**	**79.63**	**20**	*e*P	**P**	**11 50 26.3**	**+4.2**
MODS				*e*		11 50 32.9	
VOIR		**79.82**	**26**	⇑*i*P	**P**	**11 50 27.5**	**+4.3**
PSZ	**Piszkesteto**	**80.06**	**22**	⇑*i*P	**P**	**11 50 27.7**	**+3.2**
PSZ	**Piszkesteto**	**80.06**	**22**	*e*P	**P**	**11 50 26.5**	**+2.0**
	12nm,0.9s						
DRGR		**80.07**	**24**	⇑*i*P	P	11 50 33.8	+9.2
MLR	**Muntele Rosu**	**80.22**	**27**	P	**P**	**11 50 23.4**	**-2.1**
	0.3nm,0.4s,baz=144,slow=19,SNR=2.8						
MLR	**Muntele Rosu**	**80.22**	**27**	⇑*i*P	P	11 50 30.2	+4.7
MLR	**Muntele Rosu**	**80.22**	**27**	*e*P	**P**	**11 50 23.4**	**-2.1**
MLR				*e*P	**P**	**11 50 24.4**	**-1.0**
VYHS	**Vyhne**	**80.22**	**21**	*e*P	**P**	**11 50 29.1**	**+3.8**
VYHS				*e*		11 50 35.6	
VRI	**Vrincioaia**	**80.84**	**27**	⇑*i*P	P	11 50 36.3	+7.6
BRG	**Berggiesshubel**	**80.94**	**17**	*e*P	**P**	**11 50 32.9**	**+3.8**
	3.1nm,0.7s						
BRG				*e*		11 50 39.6	
	10nm,1.1s						
BRG				*e*		11 50 46.6	
	5.5nm,0.8s						
	comp=N,558nm,15.9s						
	comp=E,609nm,11.9s						
	comp=Z,1μm,14.0s						
CRVS	**Cervenica-Dubn**	**81.44**	**22**	*e*P	P	11 50 36.6	+4.9
CRVS				*e*		11 50 43.7	
BUR04	**Bucovina Ar. S**	**81.69**	**25**	*e*P	**P**	**11 50 34.6**	**+1.3**
EKA	**Eskdalemuir Ar**	**82.27**	**6**	P	**P**	**11 50 34.8**	**-1.2**
	comp=Z,1.8nm,0.8s,baz=186,slow=6.4,SNR=2.5						
SORM	**Soroca**	**83.33**	**26**	‖*i*P	**P**	**11 50 45.6**	**+4.0**
RPN	**Rapa Nui**	**83.38**	**243**	LR	LR	12 20 42.3	
	comp=Z,354nm,21.2s,baz=300,slow=30						
WSAR	**Wadi Sarin**	**85.22**	**61**	LR	LR	12 28 42.8	
	comp=Z,358nm,19.4s,baz=256,slow=36						
GNI	**Garni**	**85.55**	**41**	LR	LR	12 29 15.1	
	comp=Z,113nm,18.5s,baz=178,slow=36						
AK11	**Malin Array Si**	**85.69**	**25**	*e*P	**P**	**11 50 53.1**	**-0.4**
KIEV	**Kiev**	**85.72**	**25**	*e*P	**P**	**11 50 55.7**	**+2.1**
	comp=Z,9.7nm,1.1s						
AKASG	**Malin Array Be**	**85.73**	**25**	P	**P**	**11 50 53.2**	**-0.5**
	comp=Z,1.1nm,0.6s,baz=222,slow=4.6,SNR=2.7						
AKBB	**Malin Array Si**	**85.73**	**25**	*e*P	**P**	**11 50 56.5**	**+2.8**
	comp=Z,11nm,1.1s						
APG	**El Apazote**	**85.92**	**289**	LR	LR	12 29 08.8	
	comp=Z,277nm,20.2s,baz=102,slow=36						
HFS	**Hagfors**	**89.38**	**13**	P	**P**	**11 51 10.6**	**-0.5**
	comp=Z,3.2nm,0.9s,baz=94,slow=5.9,SNR=3.0						
NB200	**NORSAR Array S**	**89.75**	**11**	*e*P	**P**	**11 51 13.3**	**+0.4**
NOA	**NORSAR Array B**	**89.77**	**11**	P	**P**	**11 51 13.3**	**+0.4**
	comp=Z,0.7nm,0.8s,baz=199,slow=4.5,SNR=2.6						
NOA				LR	LR	12 30 13.9	
	comp=Z,78nm,19.2s,baz=205,slow=35						
GEYT	**Alibeck**	**92.62**	**48**	LR	LR	12 33 49.8	
	comp=Z,172nm,18.3s,baz=345,slow=36						
YKA	**Yellowknife Ar**	**118.78**	**329**	PKP	**PKPdf**	**11 57 01.0**	**-1.6**
	comp=Z,0.4nm,0.9s,baz=65,slow=0.9,SNR=3.2						
ASAR	**Alice Springs**	**120.45**	**144**	PKP	**PKPdf**	**11 57 07.5**	**+0.3**
	comp=Z,0.5nm,0.9s,baz=186,slow=1.9,SNR=2.9						
AS31	**Alice Springs**	**120.45**	**144**	*e*PKPdf	**PKPdf**	**11 57 07.1**	**-0.2**
WR1	**Warramunga Arr**	**123.71**	**142**	*e*PKPdf	**PKPdf**	**11 57 14.9**	**+1.3**
WRA	**Warramunga Arr**	**123.71**	**142**	PKP	**PKPdf**	**11 57 14.9**	**+1.3**
	comp=Z,0.4nm,0.6s,baz=240,slow=2.1,SNR=2.6						
CD2	**Chengdu**	**125.08**	**70**	PKP	**PKPdf**	**11 57 20.5**	**+4.7**
LZH	**Lanzhou**	**126.13**	**64**	*e*PKP	**PKPdf**	**11 57 19.5**	**+1.7**
LZH				pPKP	sPKPdf	11 57 29.1	+6.7
LZH				sPKP		11 57 34.8	
LZH				LR	LR		
	comp=N,160nm,17.9s						
LZH				LR	LR		
	comp=E,170nm,18.0s						
LZH				LR	LR		
	comp=Z,200nm,20.1s						
GYA	**Guiyang**	**126.50**	**76**	*e*Pdif	**Pdif**	**11 54 02.8**	**+4.3**
GYA				PKP	**sPKPdf**	**11 57 23.0**	**-0.3**
GYA				PP	PP	11 59 26.5	+12
GYA				AMB	AMB		
	comp=Z,120nm,8.0s						
SONA0	**Songino Array**	**128.82**	**49**	*e*PKPdf	**PKPdf**	**11 57 23.6**	**+1.0**
SONM	**Songino Array**	**128.82**	**49**	PKP	**PKPdf**	**11 57 23.6**	**+1.0**
	comp=Z,0.7nm,0.8s,baz=241,slow=2.6,SNR=2.5						
ILAR	**Eielson Array**	**132.18**	**335**	PKP	**PKPdf**	**11 57 25.2**	**-3.0**
	comp=Z,0.3nm,1.0s,baz=127,slow=0.9,SNR=2.9						
ILB	**Eielson Array**	**132.18**	**335**	*e*PKPdf	**PKPdf**	**11 57 25.2**	**-3.0**
KLR	**Kul'dur**	**144.81**	**41**	PKP	PKPbc	11 57 50.6	-0.1
	comp=Z,1.2nm,1.0s,baz=310,slow=5.4,SNR=5.9						
KSAR	**Wonju Array Be**	**145.42**	**62**	PKPbc	**PKPbc**	**11 57 52.6**	**-0.5**
KSRS	**Korea Array**	**145.44**	**62**	PKPbc	**PKPbc**	**11 57 52.6**	**-0.6**
	comp=Z,0.9nm,0.9s,baz=275,slow=5.0,SNR=3.1						
MAJO	**Matsushiro**	**153.71**	**61**	*e*PKPbc	**PKPbc**	**11 58 12.3**	**-1.9**
MJAR	**Matsushiro Arr**	**153.71**	**61**	PKPbc	**PKPbc**	**11 58 12.3**	**-1.9**
	comp=Z,0.3nm,0.4s,baz=277,slow=1.7,SNR=2.9						

*NIED **12** 11:42:00, 36°80N×141°30E, h5km, Mw4.0 Best double couple: Mo1.11000×10^15 NP1:φs38.00000°, δ46.00000°, λ-63.00000°. NP2:φs182.00000°, δ50.00000°, λ-115.00000°.*

*ISCJB **12** 11:42:36.0±1.0, 36°87N±0°04×141°38E±0°06, h24km±6km, mb4.1/23, MS4.3/1, Error ellipse: s-maj=8.2km s-min=5.3km az=26.1*

*JMA **12** 11:42:35.8±0.1, 36°82N×141°34E, h27km±1km, M4.1*

*IDC **12** 11:42:40.2±2.5, 36°85N×141°19E, h38km±21km, mb3.8/20, mb1 3.9/24, mb1mx3.7/77, mbtmp4.0/24, ML3.2/4, MS4.3/1, Ms1 4.3/1, ms1mx3.1/70, Error ellipse: s-maj=17.9km s-min=14.3km az=104.0*

*NEIC **12** 11:42:40.9±0.9, 36°88N×141°20E, h44km±7km, mb4.6/4, Error ellipse: s-maj=10.4km s-min=6.4km az=126.0*

ISC 12 11:42:36.4±1.6, 36°91N±0°04×141°28E±0°06, h8km±9km, n64, σ1§28/73, mb4.1/23, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.43**	**297**	P	**Pb**	**11 42 46.1**	**-0.2**
ONAJ				S	**Sb**	**11 42 53.3**	**+0.4**
JFK	**Kawauchi**	**0.56**	**325**	P	**Pb**	**11 42 48.4**	**-0.1**
JFK				S	**Sb**	**11 42 57.0**	**+0.3**
JHO	**Hitachi**	**0.64**	**243**	P	**Pg**	**11 42 48.3**	**-0.4**
JHO				S	**Sg**	**11 42 57.4**	**+0.3**
JFT	**Otama**	**0.97**	**309**	P	**Pb**	**11 42 55.4**	**0.0**
JFT				S	**Sb**	**11 43 09.6**	**+1.2**
JMM	**Marumori**	**1.03**	**338**	P	**Pg**	**11 42 55.9**	**-0.4**
JMM				S	**Sb**	**11 43 10.5**	**+0.3**
JSB	**Shiboa**	**1.09**	**274**	P	**Pg**	**11 42 57.0**	**-0.3**
JSB				S	**Sb**	**11 43 12.6**	**+0.7**
JYT	**Yasato**	**1.10**	**233**	P	**Pg**	**11 42 55.4**	**-2.2**
JFY	**Yanaizu**	**1.35**	**292**	P	**Pn**	**11 43 01.2**	**-0.4**
JFY				S	**Sg**	**11 43 19.3**	**-0.6**
MJAR	**Matsushiro Arr**	**2.49**	**263**	Pn	**Pn**	**11 43 17.1**	**-0.2**
	5.7nm,0.3s,baz=100,slow=14,SNR=21						
MJAR				Sn	**Sb**	**11 43 52.4**	**+0.2**
	6.3nm,0.3s,baz=70,slow=12,SNR=6.6						
MAJO	**Matsushiro**	**2.49**	**263**	*e*Pn	**Pn**	**11 43 17.5**	**+0.3**
MAJO				*e*Sn	**Sb**	**11 43 52.4**	**+0.1**
MAT	**Matsushiro**	**2.49**	**263**	P	**Pn**	**11 43 17.0**	**-0.3**
MAT				S	**Sn**	**11 43 48.0**	**+0.1**
MJB9	**Matsu-Tunnel**	**2.50**	**263**	*e*Pn	**Pn**	**11 43 17.6**	**+0.3**
INU	**Inuyama**	**3.78**	**247**	*e*Pn	**Pn**	**11 43 36.9**	**+1.9**
JHJ	**Hachijo jima 2**	**3.97**	**198**	Pn	**Pn**	**11 43 37.8**	**+0.2**
	7.9nm,0.3s,baz=77,slow=22,SNR=3.0						
JHJ				Sn	**Sn**	**11 44 27.4**	**+3.0**
	7.5nm,0.3s,baz=53,slow=14,SNR=2.5						
ASAJ	**Asahikawa**	**7.27**	**8**	Pn	**Pn**	**11 44 23.0**	**+0.1**
	0.9nm,0.3s,baz=216,slow=9.8,SNR=10						
ASAJ				Sn	**Sn**	**11 45 45.1**	**-0.5**
	0.4nm,0.3s,baz=198,slow=20,SNR=2.9						
YSS	**Yuzh-Sakhalins**	**10.10**	**6**	*e*Pn	**Pn**	**11 45 05.6**	**+3.9**
USRK	**Ussuriysk Ar.**	**10.14**	**319**	Pn	**Pn**	**11 45 03.7**	**+1.5**
	0.2nm,0.3s,baz=130,slow=14,SNR=6.2						
KSRS	**Korea Array**	**10.67**	**227**	Pn	**Pn**	**11 45 14.1**	**+4.6**
	0.3nm,0.3s,baz=84,slow=16,SNR=4.4						
KS15	**Wonju Array Si**	**10.70**	**277**	*e*Pn	**Pn**	**11 45 11.7**	**+1.8**
KSAR	**Wonju Array Be**	**10.70**	**277**	Pn	**Pn**	**11 45 14.1**	**+4.2**
KLR	**Kul'dur**	**14.13**	**334**	Pn	**Pn**	**11 45 57.4**	**+0.6**
	0.0nm,0.3s,baz=180,slow=20,SNR=3.1						
YAK	**Yakutsk**	**26.17**	**348**	P	**P**	**11 48 11.1**	**+0.1**
	11nm,0.4s,baz=87,slow=0.3,SNR=1.8						
SEY	**Seymchan**	**26.94**	**11**	P	**P**	**11 48 19.3**	**+1.5**
	1.7nm,0.7s,baz=227,slow=13,SNR=4.4						
SONA1	**Songino Array**	**27.77**	**304**	*e*P	**P**	**11 48 25.3**	**-0.4**
SONA0	**Songino Array**	**27.77**	**304**	*e*P	**P**	**11 48 25.5**	**-0.2**
SONM	**Songino Array**	**27.77**	**304**	P	**P**	**11 48 25.5**	**-0.2**
	1.6nm,0.7s,baz=107,slow=8.8,SNR=11						
H11N2	**WAKE ISLAND Hy**	**28.18**	**120**	T	T	12 17 55.2	
	baz=313,slow=75,SNR=106						
H11N1	**WAKE ISLAND Hy**	**28.18**	**120**	T	T	12 17 55.4	
	baz=313,slow=75,SNR=97						
H11N3	**WAKE ISLAND Hy**	**28.20**	**120**	T	T	12 17 55.2	
	baz=313,slow=75,SNR=89						
H11S1	**WAKE ISLAND Hy**	**28.88**	**122**	T	T	12 18 45.5	
	baz=315,slow=75,SNR=32						
H11S3	**WAKE ISLAND Hy**	**28.88**	**123**	T	T	12 18 47.1	
	baz=315,slow=75,SNR=27						
H11S2	**WAKE ISLAND Hy**	**28.90**	**123**	T	T	12 18 47.2	
	baz=315,slow=75,SNR=26						
ZAA1	**Zalesovo Array**	**41.92**	**312**	*e*P	**P**	**11 50 26.9**	**-0.3**
ZAA1				*e*PcP	**PcP**	**11 52 22.3**	**-0.3**
ZALV	**Zalesovo Beam**	**41.92**	**312**	P	**P**	**11 50 26.9**	**-0.3**
	2.5nm,0.6s,baz=85,slow=6.6,SNR=12						
ZALV				PcP	**PcP**	**11 52 22.3**	**-0.3**
	0.9nm,0.6s,baz=103,slow=3.1,SNR=3.3						
MK01	**Makanchi Array**	**44.09**	**302**	*e*P	**P**	**11 50 44.0**	**-0.9**
MK31	**Makanchi Array**	**44.09**	**302**	*e*P	**P**	**11 50 44.5**	**-0.4**
MK32	**Makanchi Array**	**44.09**	**302**	*e*P	**P**	**11 50 44.7**	**-0.3**
MKAR	**Makanchi Array**	**44.09**	**302**	P	**P**	**11 50 44.7**	**-0.3**
	1.9nm,0.7s,baz=87,slow=10,SNR=16						
MKAR	**Makanchi Array**	**44.09**	**302**	*e*P	**P**	**11 50 44.1**	**-0.9**
	17nm,0.7s						
KURK	**Kurchatov**	**45.92**	**308**	*e*P	**P**	**11 50 58.9**	**-0.5**
	7.0nm,0.9s						
KURK				*e*P	**P**	**11 50 59.6**	**+0.2**
KURBB	**Kurchatov Array**	**45.99**	**308**	P	**P**	**11 50 59.6**	**-0.3**
	5.7nm,0.8s,baz=84,slow=8.4,SNR=22						
ILAR	**Eielson Array**	**49.66**	**32**	P	**P**	**11 51 29.2**	**+1.1**
	1.4nm,0.8s,baz=272,slow=6.6,SNR=18						
ILB	**Eielson Array**	**49.66**	**32**	*e*P	**P**	**11 51 28.9**	**+0.7**
AAK	**Ala-Archa**	**50.45**	**298**	LR	LR	12 16 05.1	
	comp=Z,298nm,18.7s,baz=253,slow=40						
BVAR	**Borovoye Array**	**50.58**	**312**	P	**P**	**11 51 33.8**	**-1.5**
	0.7nm,0.6s,baz=210,slow=35,SNR=3.1						
BVAR				PcP	**PcP**	**11 52 52.6**	**-0.4**
	0.4nm,0.5s,baz=228,slow=39,SNR=2.3						
BKNI	**Bangkinang**	**52.03**	**235**	*e*P	**P**	**11 51 48.3**	**+1.6**
	222nm,0.4s						
INK	**Inuvik**	**54.55**	**27**	P	**P**	**11 52 04.6**	**+0.2**
	0.5nm,0.7s,baz=300,slow=8.5,SNR=5.9						
ARU	**Arti**	**56.38**	**319**	P	**P**	**11 52 17.6**	**-0.3**
	1.6nm,0.3s,baz=23,slow=1.1,SNR=6.0						
ARU	**Arti**	**56.38**	**319**	*e*P	**P**	**11 52 17.6**	**-0.3**
	4.7nm,0.8s						
WR1	**Warramunga Arr**	**56.92**	**188**	*e*P	**P**	**11 52 20.4**	**-1.7**
	0.3nm,0.3s						
WRA	**Warramunga Arr**	**56.92**	**188**	P	**P**	**11 52 20.4**	**-1.7**
	1.9nm,1.0s,baz=5.6,slow=7.0,SNR=5.6						
ASAR	**Alice Springs**	**60.65**	**188**	P	**P**	**11 52 47.0**	**-0.9**
	0.8nm,0.8s,baz=12,slow=7.0,SNR=6.9						
YKA	**Yellowknife Ar**	**63.97**	**30**	P	**P**	**11 53 09.9**	**+0.1**
	0.3nm,0.9s,baz=300,slow=6.6,SNR=5.8						
ARA0	**ARCESS Array S**	**64.08**	**339**	*e*P	**P**	**11 53 09.9**	**-0.5**
ARCES	**ARCESS Array B**	**64.08**	**339**	P	**P**	**11 53 09.9**	**-0.5**
	2.6nm,0.9s,baz=46,slow=5.2,SNR=3.7						
FIA0	**FINESS Array S**	**68.88**	**332**	*e*P	**P**	**11 53 40.1**	**-1.1**
FINES	**FINESS Array B**	**68.88**	**332**	P	**P**	**11 53 40.1**	**-1.0**
	1.8nm,0.7s,baz=16,slow=9.9,SNR=5.3						
NEW	**Newport**	**70.30**	**44**	P	**P**	**11 53 49.4**	**-0.9**
	0.8nm,0.5s,baz=270,slow=20,SNR=2.4						
KBZ	**Khabaz**	**70.90**	**311**	P	**P**	**11 53 51.7**	**-2.2**
	3.1nm,1.0s,baz=0.7,slow=2.5,SNR=4.5						
HFS	**Hagfors**	**74.16**	**336**	P	**P**	**11 54 11.6**	**-1.4**
	0.5nm,0.5s,baz=11,slow=8.8,SNR=3.5						
NB2	**NORSAR Subarra**	**74.26**	**337**	P	**P**	**11 54 13.2**	**-0.5**
	comp=Z,0.9nm,0.7s,baz=36,slow=6.2						
NB200	**NORSAR Array S**	**74.26**	**337**	*e*P	**P**	**11 54 12.9**	**-0.8**
NOA	**NORSAR Array B**	**74.26**	**337**	P	**P**	**11 54 12.9**	**-0.8**
	comp=Z,1.1nm,0.7s,baz=40,slow=5.9,SNR=4.2						
AKASG	**Malin Array Be**	**74.33**	**322**	P	**P**	**11 54 13.4**	**-0.8**
	comp=Z,0.2nm,0.3s,baz=46,slow=6.8,SNR=4.5						

*IDC **12** 11:44:58.3±1.2, 2°87N×92°72E, h0km, mb4.0/11, mb1 4.1/14, mb1mx3.8/75, mbtmp4.0/14, ML3.9/3, Error ellipse: s-maj=37.8km s-min=20.8km az=34.0*

*ISCJB **12** 11:45:01.6±0.7, 2°93N±0°10×92°88E±0°05, h33km, mb4.0/11, Error ellipse: s-maj=14.7km s-min=6.5km az=13.7*

*DJA **12** 11:45:06.1±1.3, 3°N±7°×9°3E±1°0, h10km, M4.2/6, mB4.9/2, mb4.0/4, MLv4.2/6, Mw(mB)4.2/2*

ISC 12 11:45:03.2±0.8, 2°9N±0°1×92°81E±0°07, h35km, n21, σ1§06/24, mb4.0/11, Off west coast of northern Sumatera

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

*CSEM **12** 12:00:43.5, 36.95N×33.08E, h7km, ML2.3*
DDA 12 12:00:43.5, 36.95N×33.08E, h7km, Ml2.3, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERMK	**Ermenek**	**0.33**	**203**	*i* P	Pg	12 00 50.3	+0.3
ERMK				*i* S	Sg	12 00 55.6	+1.2
ERMK	**Ermenek**	**0.33**	**203**	P	Pg	12 00 50.3	+0.2
ERMK				S	Sg	12 00 55.7	+1.2
KERG	**Konya-Eregli**	**0.96**	**61**	*i* P	Pg	12 01 01.7	-0.2
KERG				*i* S	Sb	12 01 16.1	+0.7
KERG	**Konya-Eregli**	**0.96**	**61**	P	Pg	12 01 01.7	-0.2
KERG				S	Sb	12 01 16.1	+0.7
KEPZ	**Antalya-Kepez**	**1.18**	**268**	*i* P	Pg	12 01 05.5	-0.6
KEPZ				*i* S	Sn	12 01 23.1	+0.3
KEPZ	**Antalya-Kepez**	**1.18**	**268**	P	Pg	12 01 05.6	-0.5
KEPZ				S	Sn	12 01 23.1	+0.3
GULE	**Gulek**	**1.40**	**76**	*i* P	Pn	12 01 09.6	0.0
GULE				*i* S	Sg	12 01 31.3	+2.8

*CSEM **12** 12:01:19.6, 36.51N×34.23E, h10km, MD2.1*
ISK 12 12:01:19.6, 36.51N×34.23E, h10km, MD2.1/2, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIZK	**Mersin**	**0.08**	**249**	PG	Pg	12 01 22.1	+0.2
KIZK				SG	Sg	12 01 22.9	+0.4
KIZK	**Mersin**	**0.08**	**249**	*i* P	Pg	12 01 22.1	+0.3
KIZK				*i* S	Sg	12 01 24.2	+0.7
KIZK	**Mersin**	**0.08**	**249**	P	Pg	12 01 22.1	+0.2
KIZK				S	Sg	12 01 24.2	+0.7
SILI	**Silifke-Mersin**	**0.29**	**241**	PG	Pg	12 01 25.9	+0.6
SILI				SG	Sb	12 01 30.8	-0.9
SILI	**Silifke-Mersin**	**0.29**	**241**	*e*Pg	Pg	12 01 25.9	+0.6
SILI				*e*Sg	Sb	12 01 30.8	-0.9
GULN	**MERSIN_Gulnar**	**0.64**	**240**	*i* P	Pg	12 01 30.6	-1.4
GULN				*i* S	Sg	12 01 40.5	0.0
GULN	**MERSIN_Gulnar**	**0.64**	**240**	P	Pg	12 01 30.6	-1.4
GULN				S	Sg	12 01 40.5	0.0
AKKU	**Akkuyu-Mersin**	**0.65**	**238**	PG	Pg	12 01 32.6	+0.4
AKKU				SG	Sb	12 01 41.6	-0.6
AKKU	**Akkuyu-Mersin**	**0.65**	**238**	*e*Pg	Pg	12 01 32.6	+0.4
AKKU				*e*Sg	Sb	12 01 41.6	-0.6
TEKE	**Tekeli-Mersin**	**0.97**	**248**	PG	Pb	12 01 38.8	+0.2
TEKE				SG	Sn	12 01 52.7	-0.6
TEKE	**Tekeli-Mersin**	**0.97**	**248**	*e*Pg	Pb	12 01 38.8	+0.2
TEKE				*e*Sg	Sn	12 01 52.7	-0.6

MAN 12 12:03:04, 10.06N×123.06E, h39km, mb4.3, ML3.1, MS2.9, Cebu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNPH	**Sibulan**	**0.73**	**166**	*e*P	Pn	12 03 18.8	+0.9
SNPH				*i* S	Sn	12 03 30.1	+2.3
GUIM	**Jordan**	**0.73**	**321**	*e*P	Pn	12 03 18.8	+0.9
GUIM				*e*S	Sn	12 03 30.2	+2.4
TBP	**Tagbilaran**	**0.87**	**115**	*e*P	Pn	12 03 18.0	-1.8
MSLP	**Maasin**	**1.77**	**87**	*e*P	Pn	12 03 33.9	+1.7
MSLP				*e*S	Sn	12 03 54.4	+0.9

*NIED **12** 12:03:00, 37.00N×142.20E, h26km, Mw3.9 Best double couple: M0 7.09000×10^14 NP1:φ=205.00000°, δ=16.00000°, λ=108.00000°. NP2:φ=7.00000°, δ=75.00000°, λ=85.00000°.*
*IDC **12** 12:03:19.5±0.9, 37.00N×142.35E, h0km, mb3.6/10, mb1 3.7/13, mb1mx3.6/73, mbtmp3.7/13, ML3.7/3, Error ellipse: s-maj=23.8km s-min=17.0km az=104.0*
*JMA **12** 12:03:21.2±0.2, 37.04N×142.24E, h14km±2km, M4.2*
ISC 12 12:03:20.2±2.0, 37.02N±0.04×142.27E±0.06, h5km±11km, n33, σ1=13/41, mb3.7/10, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**1.16**	**288**	P	**Pg**	**12 03 42.2**	**-0.3**
JFK				S	**Sb**	**12 03 57.9**	**-0.2**
ONAJ	**Iwakimizuishiy**	**1.18**	**274**	P	**Pg**	**12 03 42.4**	**-0.4**
ONAJ				*e*S	**Sg**	**12 03 58.0**	**0.0**
JHO	**Hitachi**	**1.42**	**254**	P	**Pn**	**12 03 46.2**	**-0.4**
JHO				*e*S	**Sb**	**12 04 04.0**	**-1.6**
JMM	**Marumori**	**1.44**	**306**	P	**Pn**	**12 03 46.6**	**-0.3**
JMM				S	**Sb**	**12 04 05.4**	**-0.7**
JIO	**Ouri**	**1.60**	**333**	P	**Pn**	**12 03 48.8**	**-0.3**
JIO				S	**Sn**	**12 04 08.6**	**-1.5**
JFT	**Otama**	**1.62**	**288**	P	**Pb**	**12 03 50.1**	**-0.4**
JFT				*e*S	**Sn**	**12 04 09.7**	**-0.8**
JOU	**Okura**	**1.85**	**317**	P	**Pn**	**12 03 53.4**	**+0.9**
JOU				S	**Sn**	**12 04 15.6**	**-0.6**
JFY	**Yanaizu**	**2.08**	**281**	P	**Pn**	**12 03 56.7**	**+1.0**
JFY				*e*S	**Sn**	**12 04 21.6**	**-0.4**
JMK	**Ichinoseki**	**2.10**	**337**	P	**Pn**	**12 03 56.9**	**+0.9**
JMK				*e*S	**Sn**	**12 04 21.6**	**-0.7**
JAG	**Ashikaga**	**2.34**	**256**	P	**Pn**	**12 04 00.1**	**+0.9**
JAG				S	**Sn**	**12 04 27.8**	**-0.5**
JYK	**Kaneyama**	**2.42**	**322**	P	**Pn**	**12 04 01.2**	**+0.9**
JOM	**Ohasama**	**2.56**	**343**	P	**Pn**	**12 04 03.3**	**+1.0**
BSO1	**Boso 1**	**2.59**	**204**	P	**Pn**	**12 04 03.9**	**+1.8**
MJAR	**Matsushiro Arr**	**3.29**	**263**	Pn	**Pn**	**12 04 14.8**	**+2.4**
MJAR	7.4nm,0.3s,baz=91,slow=14,SNR=28			Sn	**Sn**	**12 04 50.3**	**-1.6**
MAT	**Matsushiro**	**3.29**	**263**	P	**Pn**	**12 04 15.0**	**+2.6**
MAT				S	**Sn**	**12 04 52.4**	**+0.5**
JHJ	**Hachijo jima 2**	**4.39**	**208**	Pn	**Pn**	**12 04 28.7**	**+1.2**
JHJ	13nm,0.3s,baz=330,slow=22,SNR=8.6			Sn	**Sn**	**12 05 15.9**	**-3.1**
ASAJ	**Asahikawa**	**7.09**	**2**	Pn	**Pn**	**12 05 04.9**	**+0.4**
ASAJ	19nm,0.3s,baz=73,slow=19,SNR=6.3 1.1nm,0.3s,baz=207,slow=16,SNR=15			Sn	**Sn**	**12 06 24.1**	**-1.3**
SEY	**Seymchan**	**26.67**	**10**	P	**P**	**12 09 00.5**	**+0.8**
H11N2	0.7nm,0.4s,baz=195,slow=23,SNR=5.2 **WAKE ISLAND Hy 27.56 122**			T	T	12 38 04.7	
H11N1	baz=314,slow=75,SNR=30 **WAKE ISLAND Hy 27.57 122**			T	T	12 38 05.8	
H11N3	baz=314,slow=75,SNR=28 **WAKE ISLAND Hy 27.58 122**			T	T	12 38 06.6	
H11S1	baz=314,slow=75,SNR=20 **WAKE ISLAND Hy 28.29 124**			T	T	12 38 58.1	
H11S3	baz=316,slow=76,SNR=20 **WAKE ISLAND Hy 28.29 124**			T	T	12 38 55.8	
H11S2	baz=316,slow=76,SNR=20 **WAKE ISLAND Hy 28.30 124**			T	T	12 38 58.7	
SONM	baz=316,slow=76,SNR=21 **Songino Array**	**28.36**	**304**	P	**P**	**12 09 16.3**	**+1.1**
ZALV	0.4nm,0.4s,baz=110,slow=12,SNR=3.6 **Zalesovo Beam**	**42.42**	**312**	P	**P**	**12 11 15.7**	**+0.2**
MKAR	0.7nm,0.3s,baz=101,slow=7.5,SNR=4.8 **Makanchi Array**	**44.70**	**302**	P	**P**	**12 11 34.1**	**+0.1**
KURBB	0.4nm,0.7s,baz=94,slow=11,SNR=3.3 **Kurchatov Arra**	**46.54**	**308**	P	**P**	**12 11 48.9**	**+0.4**
ILAR	1.0nm,0.7s,baz=82,slow=8.3,SNR=4.2 **Eielson Array**	**49.14**	**32**	P	**P**	**12 12 08.9**	**+0.5**
WRA	0.3nm,0.6s,baz=265,slow=6.0,SNR=7.5 **Warramunga Arr**	**57.15**	**189**	P	**P**	**12 13 07.2**	**-0.7**
ASAR	0.6nm,0.5s,baz=7.3,slow=7.0,SNR=7.0 **Alice Springs**	**60.88**	**189**	P	**P**	**12 13 33.9**	**+0.1**
YKA	0.3nm,0.5s,baz=11,slow=16,SNR=5.3 **Yellowknife Ar**	**63.47**	**30**	P	**P**	**12 13 50.8**	**+0.1**
FINES	0.1nm,0.4s,baz=304,slow=6.6,SNR=3.1 **FINESS Array B**	**69.14**	**333**	P	**P**	**12 14 26.7**	**-0.3**
	0.9nm,0.8s,baz=68,slow=5.1,SNR=2.7						

*ISCJB **12** 12:05:49.7±1.1, 11.15S×161.5E±0.2, h10km, mb3.5/6, Error ellipse: s-maj=24.1km s-min=13.5km az=149.7*
*IDC **12** 12:05:49.3±2.1, 11.15S×161.57E, h0km, mb3.7/6, mb1 3.8/7, mb1mx3.6/49, mbtmp3.6/7, ML3.5/1, Error ellipse: s-maj=52.3km s-min=32.2km az=121.0*
ISC 12 12:05:51.5±1.3, 11.1S±0.2×161.5E±0.2, h10km, n8, σ0=88/9, mb3.7/6, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.21**	**317**	*e*P	**Pn**	**12 06 29.0**	**+0.8**
HNR				*e*S	Sg	12 07 17.0	+15
HNR	**Honiara**	**2.21**	**317**	Pn	**Pn**	**12 06 28.8**	**+0.6**
HNR	12nm,0.3s,baz=83,slow=17,SNR=4.0			Sn	**Sn**	**12 06 54.6**	**-1.0**
WRA	**Warramunga Arr**	**27.58**	**248**	P	**P**	**12 11 37.7**	**-1.4**
ASAR	0.8nm,0.8s,baz=80,slow=9.4,SNR=3.0 **Alice Springs**	**29.09**	**241**	P	**P**	**12 11 53.0**	**+0.4**
MJAR	0.3nm,0.8s,baz=72,slow=10,SNR=2.9 **Matsushiro Arr**	**52.17**	**336**	P	**P**	**12 15 02.7**	**+0.3**
SONM	1.1nm,0.9s,baz=161,slow=7.7,SNR=2.7 **Songino Array**	**76.24**	**325**	P	**P**	**12 17 40.7**	**+0.3**
MKAR	0.5nm,0.6s,baz=130,slow=4.8,SNR=3.7 **Makanchi Array**	**90.68**	**318**	P	**P**	**12 18 54.5**	**0.0**
YKA	0.4nm,0.9s,baz=104,slow=6.1,SNR=3.1 **Yellowknife Ar**	**96.91**	**28**	P	**P**	**12 19 22.0**	**-0.7**
	0.1nm,0.5s,baz=260,slow=4.9,SNR=4.2						

*NEIC **12** 12:10:04.0±0.0, 35.52N×96.77W, h5km, MN3.1(TUL), After TUL.*
NEIC Felt [III] at Prague. Also felt at Broken Arrow, Drumright, Jenks, Lone Grove, Meeker, Muskogee, Oklahoma City, Sparks and Tulsa.
ISC 12 12:10:05.1±0.7, 35.56N±0.04×96.76W±0.03, h10km, n76, σ1=26/94, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK002	**Wilshire Harra**	**0.36**	**268**	*e*Pg	**Pg**	**12 10 11.3**	**-0.9**
TUL1	**Leonard**	**0.86**	**66**	P	**Pg**	**12 10 20.6**	**-1.0**
TUL1	baz=244			S	**Sg**	**12 10 32.6**	**-0.2**
TUL1	**Leonard**	**0.86**	**66**	*e*Pg	**Pg**	**12 10 20.6**	**-1.0**
TUL1				*e*Sg	**Sg**	**12 10 32.9**	**+0.1**
WMOK	**Wichita Mounta**	**1.85**	**244**	P	**Pn**	**12 10 36.3**	**-0.7**
WMOK	baz=64			S	**Sb**	**12 11 00.6**	**-1.6**
WMOK	**Wichita Mounta**	**1.85**	**244**	*e*Pn	**Pn**	**12 10 36.3**	**-0.7**
WMOK				*e*Sn	**Sb**	**12 11 01.0**	**-1.2**
HHAR	**Hobbs**	**2.40**	**72**	*e*Pn	**Pn**	**12 10 45.1**	**+0.7**
HHAR				*e*Sn	**Sb**	**12 11 15.7**	**-2.2**
X39A	**Fountain Ranch**	**2.41**	**115**	P	**Pn**	**12 10 44.6**	**0.0**
W39A	baz=296 **Magazine**	**2.46**	**98**	P	**Pn**	**12 10 45.2**	**0.0**
W39A	baz=278			S	**Sn**	**12 11 16.3**	**+1.0**
W39A	**Magazine**	**2.46**	**98**	*e*Pn	**Pn**	**12 10 45.4**	**+0.2**
W39A				*e*Sn	**Sn**	**12 11 16.3**	**+1.0**
T38A	**Diamond**	**2.47**	**53**	P	**Pn**	**12 10 46.2**	**+0.7**
V39A	baz=234 **Pettigrew**	**2.55**	**83**	P	**Pn**	**12 10 46.5**	**0.0**
V39A	baz=264,SNR=18			S	**Sn**	**12 11 18.5**	**+0.9**
U39A	baz=264 **Green Forest**	**2.78**	**72**	P	**Pn**	**12 10 49.8**	**+0.1**
MIAR	baz=253 **Mount Ida**	**2.80**	**110**	P	**Pn**	**12 10 50.3**	**+0.4**
MIAR	baz=291			S	**Sn**	**12 11 23.8**	**0.0**
MIAR	baz=291 **Mount Ida**	**2.80**	**110**	*e*Pn	**Pn**	**12 10 50.1**	**+0.2**
W40A	**Ferguson Farm,**	**3.04**	**96**	P	**Pn**	**12 10 53.5**	**+0.4**
W40A	baz=277,SNR=5.8 **Ferguson Farm,**	**3.04**	**96**	*e*Pn	**Pn**	**12 10 53.7**	**+0.6**
S38A	**Stockton**	**3.08**	**47**	P	**Pn**	**12 10 54.4**	**+0.6**
S38A	baz=228			S	**Sn**	**12 11 33.0**	**+2.2**
T39A	baz=228 **Clever**	**3.10**	**61**	P	**Pn**	**12 10 54.4**	**+0.4**
T39A	baz=242			S	**Sn**	**12 11 32.5**	**+1.4**
V40A	baz=242 **Witts Springs**	**3.21**	**85**	P	**Pn**	**12 10 55.7**	**+0.1**
V40A	baz=266,SNR=18			S	**Sn**	**12 11 35.0**	**+1.1**
V40A	baz=266 **Witts Springs**	**3.21**	**85**	*e*Pn	**Pn**	**12 10 55.9**	**+0.3**
Y40A	**Okolona**	**3.25**	**117**	Sb	**Sb**	**12 11 44.1**	**+1.6**
U40A	baz=299 **Yellville**	**3.26**	**75**	P	**Pn**	**12 10 56.4**	**+0.1**
U40A	baz=256,SNR=8.7			Sb	**Sg**	**12 11 46.4**	**-3.5**
X40A	baz=256 **Basin Creek Fa**	**3.39**	**107**	*e*Pn	**Pn**	**12 10 58.8**	**+0.7**
R38A	**Fenwick Farm,**	**3.48**	**40**	P	**Pn**	**12 10 59.6**	**+0.4**
S39A	baz=222 **Bolivar**	**3.48**	**51**	P	**Pn**	**12 10 59.8**	**+0.5**
S39A	baz=233			S	**Sn**	**12 11 42.5**	**+1.8**
KSU1	baz=233 **Kansas State U**	**3.53**	**2**	Pb	**Pb**	**12 11 08.8**	**+1.1**
KSU1	baz=182			Sb	**Sg**	**12 11 55.3**	**-3.3**
KSU1	baz=182 **Kansas State U**	**3.53**	**2**	*e*Pn	**Pn**	**12 11 02.0**	**+2.0**
WHTX	**Lake Whitney,**	**3.61**	**189**	Sb	**Sb**	**12 11 53.6**	**+0.8**
WHTX	baz=9.0 **Lake Whitney,**	**3.61**	**189**	*e*Pn	**Pn**	**12 11 00.5**	**-0.6**
WHAR	**Wooly Hollow**	**3.66**	**93**	*e*Pn	**Pn**	**12 11 02.2**	**+0.5**
UALR	**University of**	**3.70**	**101**	*e*Pn	**Pn**	**12 11 02.6**	**+0.3**
W41B	**Gary Mavity, V**	**3.71**	**95**	P	**Pn**	**12 11 02.4**	**+0.1**
W41B	baz=277,SNR=12			S	**Sn**	**12 11 46.9**	**+0.8**
W41B	baz=277 **Gary Mavity, V**	**3.71**	**95**	*e*Pn	**Pn**	**12 11 02.9**	**+0.5**
V41A	**Mountainview**	**3.75**	**85**	P	**Pn**	**12 11 02.9**	**-0.2**
V41A	baz=267,SNR=8.2			S	**Sn**	**12 11 48.6**	**+1.3**
T40A	baz=267 **Mansfield**	**3.77**	**64**	Sb	**Sg**	**12 12 02.7**	**-3.4**
ABTX	baz=246 **Abilene, Hawle**	**3.79**	**220**	*e*Pn	**Pn**	**12 11 04.3**	**+0.8**
S40A	**Lebanon**	**3.98**	**58**	P	**Pn**	**12 11 06.6**	**+0.4**
U41A	baz=240 **Viola**	**4.00**	**77**	P	**Pn**	**12 11 06.8**	**+0.3**
CBKS	baz=260 **Cedar Bluff**	**4.03**	**325**	P	**Pn**	**12 11 07.3**	**+0.5**
CBKS	baz=143 **Cedar Bluff**	**4.03**	**325**	*e*Pn	**Pn**	**12 11 09.1**	**+2.2**
R39A	**Chumby, Stover**	**4.05**	**46**	P	**Pn**	**12 11 07.4**	**+0.2**
R39A	baz=228			S	**Sn**	**12 11 56.5**	**+1.9**
AMTX	baz=228 **Amarillo**	**4.09**	**262**	P	**Pn**	**12 11 07.7**	**-0.1**
AMTX	baz=80 **Amarillo**	**4.09**	**262**	*e*Pn	**Pn**	**12 11 07.9**	**+0.2**
Q38A	**Cooks Store, C**	**4.22**	**35**	S	**Sn**	**12 11 58.6**	**-0.1**
T41A	baz=217 **Mountain View**	**4.29**	**68**	P	**Pn**	**12 11 10.8**	**+0.4**
R40A	baz=251,SNR=5.6 **Maddies Statio**	**4.51**	**52**	P	**Pn**	**12 11 13.7**	**+0.3**
U42A	baz=234 **Revenden**	**4.54**	**78**	P	**Pn**	**12 11 13.7**	**-0.2**
O33A	baz=261,SNR=11 **Hebron**	**4.55**	**352**	P	**Pn**	**12 11 13.7**	**-0.3**
O35A	baz=172 **Humboldt**	**4.74**	**8**	P	**Pn**	**12 11 16.7**	**+0.1**
P38A	baz=188 **Dawn**	**4.80**	**31**	P	**Pn**	**12 11 17.5**	**+0.1**
R41A	baz=213,SNR=5.7 **Rosebud**	**5.10**	**56**	P	**Pn**	**12 11 21.8**	**+0.3**
MSTX	baz=239 **Muleshoe**	**5.20**	**254**	P	**Pn**	**12 11 22.0**	**-1.1**
MSTX	baz=71 **Muleshoe**	**5.20**	**254**	*e*Pn	**Pn**	**12 11 22.3**	**-0.8**
N35A	**Tabor**	**5.36**	**9**	P	**Pn**	**12 11 25.3**	**+0.1**
N36A	baz=190 **Muff Farm, Cla**	**5.43**	**15**	P	**Pn**	**12 11 26.3**	**+0.2**
P40A	baz=196 **Paris**	**5.45**	**42**	P	**Pn**	**12 11 26.1**	**-0.2**
Q41A	baz=224 **Truxton**	**5.56**	**51**	P	**Pn**	**12 11 27.5**	**-0.3**
JCT	baz=234 **Junction City**	**5.68**	**208**	*e*Pn	**Pn**	**12 11 30.1**	**+0.6**
KSCO	**Kaye Shedlock'**	**5.81**	**308**	*e*Pn	**Pn**	**12 11 33.4**	**+2.0**
BGNE	**Belgrade**	**5.94**	**350**	*e*Pn	**Pn**	**12 11 35.6**	**+2.5**
T25A	**Trinidad**	**6.38**	**287**	*e*Pn	**Pn**	**12 11 39.4**	**+0.1**
MHTCO	**State Highway**	**6.59**	**286**	*e*Pn	**Pn**	**12 11 42.3**	**+0.1**
MHTCO				*e*Lg	Lg	12 13 35.2	
OGNE	**Ogallala**	**6.79**	**324**	*e*Pn	**Pn**	**12 11 45.3**	**+0.5**
PLAL	**Pickwick Lake**	**7.12**	**92**	*e*Pn	**Pn**	**12 11 49.5**	**+0.1**
SDCO	**Great Sand Dun**	**7.36**	**290**	*e*Pn	**Pn**	**12 11 52.8**	**0.0**
ECSD	**EROS Data Cent**	**8.16**	**1**	*e*Pn	**Pn**	**12 12 03.3**	**-0.3**
ISCO	**Idaho Springs**	**8.20**	**304**	*e*Pn	**Pn**	**12 12 05.3**	**+0.9**
ISCO				*e*Lg	Lg	12 14 26.2	
TX31	**Lajitas Ar. Si**	**8.52**	**225**	*e*Pn	**Pn**	**12 12 08.6**	**0.0**
WESC	**Westside Schoo**	**15.96**	**265**	*e*Sn	**Sn**	**12 16 51.3**	**+4.8**
EML	**El Monte Cty P**	**16.83**	**267**	*e*Pn	**P**	**12 14 01.1**	**-1.8**
FON	**Fontana**	**17.05**	**271**	*e*Sn	**Sn**	**12 17 13.5**	**+0.4**
BFSC	**Mount Baldy Ra**	**17.20**	**272**	*e*Pn	**P**	**12 14 08.8**	**+1.6**
ANTCA	**Antelope Range**	**17.64**	**284**	*e*Pn	**P**	**12 14 12.2**	**+0.2**
BAKC	**Calstate**	**18.21**	**276**	*e*Sn	**Sn**	**12 17 42.4**	**+1.2**
SBI	**Santa Barbara**	**18.47**	**270**	*e*Sn	**Sn**	**12 17 43.9**	**-3.5**
WRW	**Wenatchee Ridg**	**21.70**	**312**	*e*PcP	**PcP**	**12 18 57.7**	**+0.8**

*ISCJB **12** 12:13:35.2±0.9, 3.4N±0.1×92.7E±0.1, h10km, mb3.7/8, Error ellipse: s-maj=20.5km s-min=11.9km az=30.4*
*IDC **12** 12:13:35.6±1.3, 3.38N×92.68E, h0km, mb3.7/8, mb1 3.8/11, mb1mx3.6/74, mbtmp3.7/11, ML3.8/2, Error ellipse: s-maj=40.1km s-min=18.1km az=48.0*
ISC 12 12:13:37.0±1.1, 3.5N±0.2×92.84E±0.10, h10km, n14, σ1=58/12, mb3.7/8, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**6.11**	**96**	Pn	**Pn**	**12 15 08.5**	**+1.0**
PSI	2.3nm,0.3s,baz=278,slow=16,SNR=6.3 1.0nm,0.3s,baz=342,slow=20,SNR=2.4			Sn	**Sn**	**12 16 14.5**	**-3.2**
PALK	**Pallekele**	**12.66**	**288**	Pn	**Pn**	**12 16 36.2**	**-1.2**
PALK	0.6nm,0.3s,baz=114,slow=16,SNR=4.0 2.3nm,0.3s,baz=112,slow=5.4,SNR=6.8			Sn	Sn	12 18 45.2	-13
CMAR	**Chiang Mai Arr**	**16.06**	**21**	Pn	**Pn**	**12 17 22.6**	**-0.5**
H08S2	baz=216,slow=14,SNR=10 **Diego Garcia H**	**23.10**	**241**	T	T	12 41 31.4	
H08S3	baz=62,slow=75,SNR=3.7 **Diego Garcia H**	**23.10**	**241**	T	T	12 41 31.2	
H08S1	baz=62,slow=75,SNR=3.8 **Diego Garcia H**	**23.12**	**241**	T	T	12 41 35.4	
MKAR	baz=62,slow=75,SNR=3.5 **Makanchi Array**	**44.13**	**350**	P	**P**	**12 21 46.9**	**+1.2**
SONM	1.9nm,0.7s,baz=166,slow=8.8,SNR=19 **Songino Array**	**45.73**	**13**	P	**P**	**12 21 59.8**	**+1.3**
WRA	0.6nm,0.7s,baz=194,slow=5.3,SNR=3.2 **Warramunga Arr**	**46.92**	**121**	P	**P**	**12 22 08.5**	**+0.3**
ASAR	0.2nm,0.5s,baz=301,slow=8.4,SNR=2.7 **Alice Springs**	**48.23**	**126**	P	**P**	**12 22 20.1**	**+1.7**
KURBB	0.2nm,0.7s,baz=295,slow=8.0,SNR=2.9 **Kurchatov Arra**	**48.53**	**348**	P	**P**	**12 22 21.2**	**+1.1**
ZALV	1.2nm,0.7s,baz=172,slow=7.1,SNR=8.8 **Zalesovo Beam**	**50.76**	**354**	P	**P**	**12 22 37.8**	**+0.7**
BVAR	1.3nm,0.4s,baz=181,slow=9.2,SNR=5.0 **Borovoye Array**	**52.77**	**343**	P	**P**	**12 22 51.8**	**-0.4**
GERES	0.3nm,0.5s,baz=130,slow=8.3,SNR=3.0 **GERESS Array B**	**80.26**	**319**	P	**P**	**12 25 46.9**	**-1.3**
	0.4nm,0.4s,baz=76,slow=5.6,SNR=5.2						

IDC 12 12:16:15.9±3.0, 68.18N×166.66W, h0km, mb3.1/3, mb1 3.2/4, mb1mx3.1/76, mbtmp3.1/4, ML2.8/1, Error ellipse: s-maj=132.7km s-min=21.0km az=19.0, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILAR	**Eielson Array**	**8.60**	**104**	Pn	Pn	12 18 17.1	-4.3
ILAR	0.1nm,0.3s,baz=297,slow=14,SNR=10 0.0nm,0.3s,baz=292,slow=22,SNR=3.1			Sn	Sn	12 19 49.0	-10
YKA	**Yellowknife Ar**	**21.84**	**80**	P	P	12 21 08.5	-1.1
KURBB	0.1nm,0.5s,baz=305,slow=8.9,SNR=3.2 **Kurchatov Arra**	**52.04**	**313**	P	P	12 25 26.5	-0.2
MKAR	0.6nm,0.6s,baz=29,slow=7.0,SNR=7.2 **Makanchi Array**	**54.43**	**308**	P	P	12 25 44.5	0.0
	0.2nm,0.6s,baz=49,slow=6.5,SNR=3.4						

*JMA **12** 12:18:33.8±0.1, 24.86N×121.96E, h39km, M3.0*
*TAP **12** 12:18:33.4, 24.87N×122.01E, h10km, ML3.2, B*
ISC 12 12:18:32.4±0.9, 24.87N±0.03×122.11E±0.02, h10km±7km, n66, σ0=72/85, 7C-1D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EGS		**0.16**	**262**	⇓*i* P	**Pg**	**12 18 36.1**	**+0.3**
EGS	baz=245			*e*S	**Sg**	**12 18 38.5**	**+0.3**
TWB1	baz=245 **Santiao Chiao**	**0.18**	**323**	⇑*i* P	**Pg**	**12 18 36.8**	**+0.7**
TWB1	baz=354			S	**Sg**	**12 18 39.2**	**+0.5**
NTC	baz=354 **Toucheng**	**0.25**	**267**	P	**Pg**	**12 18 37.6**	**+0.2**
NTC	baz=272			S	**Sg**	**12 18 40.8**	**-0.1**
TIPB	baz=272 **Shuangxi**	**0.28**	**292**	⇑*i* P	**Pg**	**12 18 37.3**	**-0.6**
TIPB	baz=301			S	**Sg**	**12 18 40.4**	**-1.2**
EOS1	baz=301 **EOS1**	**0.32**	**176**	*e*P	**Pb**	**12 18 40.7**	**+0.6**
ILA	baz=163 **Ilan**	**0.34**	**253**	*e*P	**Pb**	**12 18 40.0**	**-0.5**
ILA	baz=247			S	**Sg**	**12 18 43.7**	**+0.1**
TWC	baz=247 **Suao**	**0.35**	**222**	⇑*i* P	**Pb**	**12 18 39.6**	**-1.1**
NWF	baz=208 **Wu-fen Shan**	**0.36**	**305**	⇑*i* P	**Pb**	**12 18 40.2**	**-0.7**
NWF	baz=304			S	**Sg**	**12 18 44.6**	**+0.3**
WFSB	baz=304 **Wu-fen Shan**	**0.36**	**305**	*e*P	**Pb**	**12 18 40.2**	**-0.7**
WFSB	baz=304			*e*S	**Sg**	**12 18 44.6**	**+0.4**
TWE	baz=304 **Neicheng**	**0.42**	**250**	⇑*i* P	**Pg**	**12 18 40.7**	**0.0**
TWE	baz=244			S	**Sg**	**12 18 45.7**	**-0.6**
SLBB	baz=244 **Yuanshan**	**0.44**	**255**	*i* P	**Pg**	**12 18 41.1**	**+0.1**
SLBB	baz=252			*e*S	**Sg**	**12 18 46.6**	**-0.3**
ENAH	baz=252 **Nanao**	**0.49**	**213**	*e*P	**Pb**	**12 18 42.8**	**-0.4**
YM07	baz=207 **YM07**	**0.54**	**305**	*e*P	**Pg**	**12 18 42.8**	**0.0**
YM07	baz=310			*e*S	**Sg**	**12 18 49.1**	**-0.8**
ENTT	baz=310 **Nioudou**	**0.54**	**245**	*i* P	**Pg**	**12 18 43.0**	**+0.1**
NANB	baz=241 **Nanao**	**0.54**	**217**	*e*P	**Pb**	**12 18 43.5**	**-0.5**
ENA	baz=211 **Nanao**	**0.55**	**217**	*e*P	**Pb**	**12 18 44.4**	**+0.3**
NWLT	baz=211 **Wulai**	**0.56**	**261**	P	**Pg**	**12 18 43.0**	**-0.2**
NWLT	baz=260			S	**Sg**	**12 18 49.8**	**-0.6**
YM08

	baz=212								
NACB					*e*S		**Sb**	12 19 00.0	**-0.2**
	baz=212								
NCU	**National Centr**	**0.84**	**277**		P		**Pn**	12 18 50.0	**-0.4**
	baz=270								
NCU					*e*S		**Sb**	12 19 01.4	**+0.9**
	baz=270								
NCUH	**Zhongli**	**0.84**	**277**		*e*P		**Pn**	12 18 50.0	**-0.4**
	baz=278								
JYNG	**Yonagunijimaku**	**0.87**	**118**		P		**Pn**	12 18 51.2	**+0.5**
JYNG					*e*S		**Sn**	12 19 04.1	**+0.7**
TWD	**Chiawan**	**0.91**	**211**		P		**Pn**	12 18 50.6	**-0.7**
	baz=200								
YOJ	**Yonaguni jima**	**0.92**	**116**		*e*P		**Pn**	12 18 52.6	**+1.3**
	baz=114								
YOJ	**Yonaguni jima**	**0.92**	**116**		P		**Pn**	12 18 51.8	**+0.5**
YOJ					*e*S		**Sn**	12 19 05.1	**+0.5**
LIOB	**Emei**	**1.01**	**258**		*e*P		**Pn**	12 18 52.9	**+0.1**
	baz=249								
SBCB	**Hsinchu**	**1.02**	**266**		*e*P		**Pn**	12 18 53.4	**+0.6**
	baz=284								
NSTT	**Nanjuang**	**1.03**	**257**		*e*P		**Pn**	12 18 53.3	**+0.4**
	baz=249								
WHF	**Hehuan Shan**	**1.05**	**227**		*e*P		**Pn**	12 18 52.9	**-0.7**
	baz=216								
TDCB	**Techi**	**1.06**	**235**		*e*P		**Pn**	12 18 53.5	**0.0**
	baz=228								
CHGB	**Renai**	**1.17**	**227**		*e*P		**Pg**	12 18 54.2	**-0.7**
	baz=226								
ESL	**Shilin**	**1.21**	**211**		*e*P		**Pg**	12 18 55.8	**+0.2**
	baz=210								
NMLH	**Miaoli**	**1.24**	**255**		*e*P		**Pg**	12 18 56.9	**+0.8**
	baz=255								
NMLH					*e*S		**Sn**	12 19 14.3	**+1.7**
	baz=255								
OWD	**Renai**	**1.24**	**223**		*e*P		**Pg**	12 18 56.6	**+0.4**
	baz=223								
OWD					*e*S		**Sn**	12 19 12.3	**-0.6**
	baz=223								
SMLT	**Sun Moon Lake**	**1.47**	**229**		*e*P		**Pg**	12 19 02.1	**+1.5**
	baz=219								
TYC	**Yuchr**	**1.49**	**230**		*e*P		**Pg**	12 19 02.3	**+1.4**
	baz=236								
HGSD	**Ruisui**	**1.50**	**205**		*e*P		**Pg**	12 19 02.6	**+1.4**
	baz=222								
SSLB	**Suanglung**	**1.50**	**225**		*e*P		**Pg**	12 19 00.8	**-0.4**
	baz=225								
EHY	**Hungye**	**1.53**	**208**		*e*P		**Pg**	12 19 02.5	**+0.8**
	baz=210								
IRIF	**Iriomote-Funau**	**1.57**	**109**		P		**Pb**	12 19 01.0	**-0.5**
WJS	**Zhushan**	**1.63**	**231**		*e*P		**Pg**	12 19 05.3	**+1.6**
	baz=223								
HATJ	**Hateruma jima**	**1.75**	**117**		P		**Pb**	12 19 04.1	**-0.4**
ALS	**Alishan**	**1.80**	**222**		*e*P		**Pg**	12 19 07.4	**+0.5**
	baz=223								
CHN5	**Tsauling**	**1.82**	**226**		*e*P		**Pg**	12 19 07.4	**+0.2**
	baz=227								
JKRS	**Kuro-shima**	**1.84**	**109**		P		**Pb**	12 19 05.6	**-0.6**
JIJ	**Ishigaki jima**	**1.92**	**105**		P		**Pb**	12 19 06.5	**-1.0**
JISG	**Ishigakijimahi**	**2.02**	**97**		P		**Pb**	12 19 08.2	**-1.1**
CHN4	**Tsaushan**	**2.05**	**223**		*e*P		**Pg**	12 19 11.3	**-0.3**
	baz=227								
TWK	**Hsinying**	**2.17**	**223**		*e*P		**Pg**	12 19 13.1	**-1.0**
	baz=227								
CHN1	**Nanshi**	**2.21**	**221**		*e*P		**Pg**	12 19 13.3	**-1.4**
	baz=225								
SLGT	**Liugui**	**2.29**	**216**		*e*P		**Pg**	12 19 14.9	**-1.4**
	baz=209								
MATB	**Ma-tsu**	**2.33**	**304**		*e*P		**Pn**	12 19 10.5	**-0.4**
	baz=302								
JTJ	**Tarama**	**2.37**	**95**		P		**Pb**	12 19 13.0	**-2.2**
MASBT	**Mashibuluo**	**2.62**	**211**		*e*P		**Pb**	12 19 19.2	**-0.2**
	baz=216								

DJA ***12*** *12:19:31.8±5.0,2˚N±12˚×9˚3E±4˚3, h10km, M5.6/7, mb5.9/4, mB6.0/4, MLv5.5/7, Mw(mB)5.7/4*

IDC ***12*** *12:19:35.5±0.5,2˚.08N×93˚.62E, h0km, mb4.2/29, mb1 4.3/31, mb1mx4.2/67, mbtmp4.2/31, ML4.4/2, Error ellipse: s-maj=15.9km s-min=12.6km az=45.0*

ISCJB ***12*** *12:19:37.8±1.7,2˚.06N±0˚.04×93˚.59E±0˚.04, h25km±12km, mb4.4/48, Error ellipse: s-maj=8.3km s-min=5.5km az=137.2*

NEIC ***12*** *12:19:37.0±0.2,2˚.03N×93˚.54E, h10km, mb4.8/16, Error ellipse: s-maj=5.3km s-min=3.7km az=209.0*

ISC 12 12:19:39.2±0.6, 2˚.03N±0˚.06×93˚.59E±0˚.06, h22km±4km, n135, σ1°02/143, mb4.5/51, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLSI	**Meulaboh, Aceh**	**3.58**	**52**	P	**Pn**	**12 20 33.6**	**+0.2**
TPTI		**3.79**	**71**	P	**Pn**	**12 20 36.1**	**-0.2**
GSI	**Gunungsitoli**	**4.05**	**100**	P	**Pn**	**12 20 40.8**	**+1.0**
GSI	**Gunungsitoli**	**4.05**	**100**	*e*Pn	**Pn**	**12 20 41.0**	**+1.2**
LHMI	**Lhok Sumawe**	**4.62**	**46**	P	**Pn**	**12 20 49.2**	**+1.5**
	408nm,0.7s,12µm2.3nm						
LHMI	**Lhok Sumawe**	**4.62**	**46**	*e*Pn	**Pn**	**12 20 49.0**	**+1.3**
PBSI	**Pulau Batu**	**5.12**	**114**	P	**Pn**	**12 20 56.0**	**+1.4**
	6µm,0.6s,72µm22nm						
TSI	**Tuntungan**	**5.18**	**73**	P	Pn	12 21 00.9	+5.5
	279nm,0.6s,7µm2.7nm						
PSI	**Prapat**	**5.38**	**82**	*e*Pn	**Pn**	**12 20 59.3**	**+0.9**
BKNI	**Bangkinang**	**7.63**	**103**	*e*Pn	**Pn**	**12 21 30.3**	**+1.1**
KULM	**Kulim**	**7.75**	**65**	*e*Pn	**Pn**	**12 21 31.0**	**+0.2**
IPM	**Ipoh**	**7.81**	**72**	*e*Pn	**Pn**	**12 21 32.1**	**+0.5**
PBA	**Port Blair**	**9.60**	**355**	*e*P	Pn	12 21 54.7	-1.5
PBA	**Port Blair**	**9.60**	**355**	*e*Pn	Pn	12 21 55.8	-0.4
PBA				*e*Sn	Sn	12 23 42.6	-0.8
MYKOM	**Kota Tinggi**	**10.26**	**91**	*e*Pn	**Pn**	**12 22 05.9**	**+0.7**
DGPR	**DIGLIPUR**	**11.10**	**357**	*e*P	**Pn**	**12 22 14.7**	**-2.0**
MNAI	**Manna**	**11.31**	**124**	*e*Pn	**Pn**	**12 22 20.4**	**+0.9**
PALK	**Pallekele**	**13.86**	**293**	Pn	**Pn**	**12 22 55.3**	**+0.8**
	2.9nm,0.3s,baz=116,slow=12,SNR=13						
PALK				Sn	Sn	12 25 15.4	-12
	5.2nm,0.3s,baz=116,slow=3.2,SNR=11						
CISI	**Cisompet, Garu**	**17.09**	**124**	*e*Pn	**Pn**	**12 23 36.5**	**-0.4**
	155nm,1.6s						
CM01	**Chiang Mai Arr**	**17.12**	**18**	*e*Pn	**Pn**	**12 23 37.0**	**-0.3**
CM31	**Chiang Mai Arr**	**17.15**	**17**	*e*Pn	**Pn**	**12 23 37.2**	**-0.4**
CMAR	**Chiang Mai Arr**	**17.15**	**17**	P	**Pn**	**12 23 37.5**	**-0.2**
	0.4nm,0.3s,baz=214,slow=12,SNR=34						
CMAR				PcP	**PcP**	**12 28 22.2**	**+0.6**
	0.1nm,0.3s,baz=243,slow=3.9,SNR=4.4						
MDRS	**Chennai**	**17.17**	**310**	*e*P	**Pn**	**12 23 37.6**	**-0.2**
MDRS				IAmb	IAmb	12 23 38.7	
CHTO	**Chiang Mai**	**17.49**	**17**	*e*Pn	**Pn**	**12 23 40.7**	**-1.1**
	17nm,0.9s						
VIS	**Vishakhapatnam**	**18.57**	**328**	*e*P	**Pn**	**12 23 55.3**	**+0.2**
VIS				IAmb	IAmb	12 23 56.5	
HYB	**Hyderabad**	**21.27**	**317**	*i* P	**P**	**12 24 25.0**	**+0.7**
HYB	**Hyderabad**	**21.27**	**317**	*e*P	**P**	**12 24 24.9**	**+0.7**
HYB				IAmb	IAmb	12 24 28.7	
	comp=Z,26nm,0.4s						
BOK	**Bokaro**	**22.89**	**342**	*e*P	**P**	**12 24 42.0**	**+0.5**
BOK				IAmb	IAmb	12 24 44.1	
	comp=Z,22nm,0.7s						
KKM	**Kota Kinabalu**	**22.91**	**79**	*e*P	**P**	**12 24 41.8**	**-0.1**
	comp=Z,27nm,0.8s						
H08S2	**Diego Garcia H**	**23.14**	**245**	T	T	12 50 20.7	
	baz=63,slow=76,SNR=108						
H08S3	**Diego Garcia H**	**23.14**	**245**	T	T	12 50 19.0	
	baz=63,slow=76,SNR=110						
H08S1	**Diego Garcia H**	**23.16**	**245**	T	T	12 50 17.3	
	baz=63,slow=76,SNR=100						
SHL	**Shillong**	**23.46**	**356**	*e*P	**P**	**12 24 46.6**	**-0.8**
SHL				IAmb	IAmb	12 24 48.7	
	comp=Z,37nm,1.2s						
SHL	**Shillong**	**23.46**	**356**	*e*P	**P**	**12 24 47.4**	**-0.1**
	comp=Z,30nm,0.7s						
NGP	**Nagpur**	**23.71**	**324**	*e*P	**P**	**12 24 50.0**	**+0.3**
NGP				IAmb	IAmb	12 24 53.8	
	comp=Z,7.1nm,0.5s						
H08N1	**Diego Garcia H**	**24.03**	**250**	T	T	12 51 39.0	
	baz=295						
H08N2	**Diego Garcia H**	**24.03**	**250**	T	T	12 51 38.4	
	baz=295,slow=74,SNR=3.0						
H08N3	**Diego Garcia H**	**24.05**	**250**	T	T	12 51 40.1	
	baz=295,slow=74,SNR=4.6						
KMI	**Kunming**	**24.60**	**20**	P	**P**	**12 25 01.7**	**+3.5**
KMI				sP	sP	12 25 12.6	+5.0
KMI				pmax	pmax		
	comp=Z,7.0nm,1.4s						
MYLDM	**Lahad Datu**	**25.05**	**82**	*e*P	**P**	**12 25 03.0**	**+0.9**
	comp=Z,28nm,0.9s						
ODAN	**Odare**	**25.40**	**347**	*e*P	**P**	**12 25 04.5**	**-0.9**
KOLN	**Koldanda**	**27.32**	**340**	*e*P	**P**	**12 25 21.2**	**-1.6**
	comp=Z,8.4nm,0.6s						
GYA	**Guiyang**	**27.35**	**26**	*e*P	**P**	**12 25 24.9**	**+2.0**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
CD2	**Chengdu**	**30.30**	**18**	*e*P	**P**	**12 25 49.5**	**+0.5**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
XAN	**Xi'an**	**34.92**	**23**	P	**P**	**12 26 29.1**	**-0.4**
XAN				pP	sP	12 26 37.8	-1.2
XAN				sP	pP	12 26 41.7	+5.5
XAN				pmax	pmax		
	comp=Z,6.0nm,0.6s						
XAN				pmax	pmax		
	comp=Z,110nm,4.1s						
LZH	**Lanzhou**	**35.20**	**14**	*e*P	**P**	**12 26 35.3**	**+3.4**
LZH				pP	sP	12 26 44.1	+2.6
LZH				sP	pP	12 26 47.2	+8.5
LZH				*e*PP	**PP**	**12 27 56.3**	**+4.2**
LZH				pmax	pmax		
	comp=Z,34nm,0.8s						
LZH				pmax	pmax		
	comp=Z,350nm,4.3s						
LZH				LR	LR		
	comp=N,390nm,13.5s						
LZH				LR	LR		
	comp=E,390nm,16.4s						
LZH				LR	LR		
	comp=Z,500nm,12.1s						
GTA	**Gaotai**	**37.64**	**8**	*e*P	**P**	**12 26 54.2**	**+1.5**
GTA				pP	sP	12 27 01.5	-0.8
GTA				sP	pP	12 27 04.9	+5.4
GTA				S	**S**	**12 32 42.8**	**+1.4**
GTA				sS	ScP	12 32 57.1	+0.7
GTA				SS	**SnSn**	**12 35 17.5**	**-3.7**
GTA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
GTA				pmax	pmax		
	comp=Z,230nm,5.5s						
GTA				LR	LR		
	comp=N,190nm,14.0s						
GTA				LR	LR		
	comp=E,130nm,11.6s						
GTA				LR	LR		
	comp=Z,200nm,14.7s						
NJ2	**Nanjing**	**38.18**	**36**	*e*P	**P**	**12 26 57.7**	**+0.5**
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.5s						
H01W3	**Cape Leeuwin H**	**41.47**	**154**	T	T	13 11 42.6	
	baz=331						
H01W2	**Cape Leeuwin H**	**41.48**	**154**	T	T	13 11 44.8	
	baz=331,slow=74,SNR=4.7						
H01W1	**Cape Leeuwin H**	**41.48**	**154**	T	T	13 11 44.8	
	baz=331,slow=74,SNR=10						
HHC	**Hu-ho-hao-te**	**41.92**	**21**	*e*P	**P**	**12 27 29.6**	**+1.3**
HHC				pmax	pmax		
	comp=Z,24nm,0.5s						
HHC				pmax	pmax		
	comp=Z,75nm,5.7s						
WMQ	**Urumqi**	**41.94**	**354**	P	**P**	**12 27 29.4**	**+1.0**
WMQ				LR	LR		
	comp=N,190nm,16.3s						
WMQ				LR	LR		
	comp=E,380nm,20.7s						
WMQ				LR	LR		
	comp=Z,410nm,27.9s						
WRA	**Warramunga Arr**	**45.54**	**121**	P	**P**	**12 27 58.0**	**+0.3**
	comp=Z,2.3nm,0.5s,baz=303,slow=8.4,SNR=42						
WRA				PcP	**PcP**	**12 29 35.7**	**-0.6**
	comp=Z,0.9nm,0.6s,baz=313,slow=2.9,SNR=5.5						
WR1	**Warramunga Arr**	**45.54**	**121**	*e*P	**P**	**12 27 58.0**	**+0.3**
	comp=Z,23nm,1.4s						
WR1				*e*PcP	**PcP**	**12 29 35.7**	**-0.6**
WRAB	**Tennant Creek**	**45.55**	**121**	*e*P	**P**	**12 27 58.1**	**+0.4**
	comp=Z,6.8nm,0.8s						
WB2	**Warramunga Arr**	**45.55**	**121**	*e*P	**P**	**12 27 57.4**	**-0.3**
MK01	**Makanchi Array**	**45.64**	**349**	*e*P	**P**	**12 27 58.1**	**+0.1**
MK31	**Makanchi Array**	**45.66**	**349**	*e*P	**P**	**12 27 58.1**	**-0.1**
MK32	**Makanchi Array**	**45.66**	**349**	*e*P	**P**	**12 27 58.8**	**+0.5**
MKAR	**Makanchi Array**	**45.66**	**349**	P	**P**	**12 27 58.8**	**+0.5**
	comp=Z,2.0nm,0.4s,baz=168,slow=8.6,SNR=33						
MKAR	**Makanchi Array**	**45.66**	**349**	*e*P	**P**	**12 27 58.1**	**-0.1**
	comp=Z,24nm,0.7s						
MAKZ	**Manchi**	**45.74**	**349**	*e*P	**P**	**12 27 59.3**	**+0.5**
	comp=Z,4.1nm,1.1s						
ASAR	**Alice Springs**	**46.79**	**126**	P	**P**	**12 28 07.5**	**+0.1**
	comp=Z,0.4nm,0.3s,baz=297,slow=7.3,SNR=27						
ASAR				PcP	**PcP**	**12 29 40.4**	**-0.2**
	comp=Z,3.5nm,0.7s,baz=302,slow=3.1,SNR=12						
AS31	**Alice Springs**	**46.79**	**126**	*e*P	**P**	**12 28 07.5**	**+0.1**
AS31				*e*PcP	**PcP**	**12 29 40.4**	**-0.2**
AS01	**Alice Springs**	**46.83**	**125**	*e*P	**P**	**12 28 07.5**	**-0.2**
AS01				*e*PcP	**PcP**	**12 29 40.1**	**-0.6**
SONA0	**Songino Array**	**46.96**	**12**	*e*P	**P**	**12 28 08.7**	**+0.2**
SONA0				*e*PcP	**PcP**	**12 29 40.8**	**0.0**
SONM	**Songino Array**	**46.96**	**12**	P	**P**	**12 28 08.7**	**+0.2**
	comp=Z,2.5nm,0.5s,baz=192,slow=9.0,SNR=13						
SONM				PcP	**PcP**	**12 29 40.8**	**0.0**
	comp=Z,1.3nm,0.6s,baz=174,slow=4.1,SNR=3.8						
SONA1	**Songino Array**	**46.97**	**12**	*e*P	**P**	**12 28 08.7**	**+0.1**
SONA1				*e*pP	**pP**	**12 28 15.5**	**0.0**
KSAR	**Wonju Array Be**	**47.28**	**38**	P	**P**	**12 28 10.4**	**-0.6**
KSRS	**Korea Array**	**47.31**	**38**	P	**P**	**12 28 10.4**	**-0.8**
	comp=Z,1.0nm,0.6s,baz=224,slow=8.0,SNR=4.1						
GEYT	**Alibeck**	**48.31**	**322**	P	**P**	**12 28 17.9**	**-1.2**
	comp=Z,4.1nm,0.8s,baz=182,slow=4.5,SNR=5.2						
OPO	**Ambohidratompo**	**50.02**	**244**	P	**P**	**12 28 33.8**	**+1.2**
	comp=Z,3.4nm,0.4s,baz=61,slow=13,SNR=6.1						
KURBB	**Kurchatov Arra**	**50.07**	**348**	P	**P**	**12 28 32.4**	**+0.2**
	comp=Z,2.2nm,0.8s,baz=167,slow=7.1,SNR=16						
KURBB				PcP	**PcP**	**12 29 51.9**	**+0.1**
	comp=Z,1.5nm,0.8s,baz=137,slow=3.4,SNR=4.2						
KURK	**Kurchatov**	**50.14**	**348**	*e*P	**P**	**12 28 32.4**	**-0.4**
KURK				*e*PcP	**PcP**	**12 29 51.9**	**-0.1**
CN2	**Changchun**	**50.29**	**30**	*e*P	**P**	**12 28 37.1**	**+3.0**
RAYN	**Ar Rayn**	**51.19**	**299**	*e*P	**P**	**12 28 41.6**	**+0.3**
	comp=Z,5.4nm,0.8s						
ZAA0	**Zalesovo Array**	**52.25**	**353**	*e*P	**P**	**12 28 49.0**	**+0.4**
ZAA0				*e*pP	**pP**	**12 28 55.8**	**+0.2**
ZALV	**Zalesovo Beam**	**52.25**	**353**	P	**P**	**12 28 48.6**	**0.0**
	comp=Z,2.9nm,0.6s,baz=189,slow=6.4,SNR=12						
ZALV	**Zalesovo Beam**	**52.25**	**353**	*e*P	**P**	**12 28 48.5**	**-0.1**
ZAA1	**Zalesovo Array**	**52.26**	**353**	*e*P	**P**	**12 28 48.6**	**0.0**
MAJO	**Matsushiro**	**53.58**	**45**	*e*P	**P**	**12 28 58.0**	**-0.7**
MAJO				*e*PcP	**PcP**	**12 30 05.1**	**-0.2**
MJAR	**Matsushiro Arr**	**53.58**	**45**	P	**P**	**12 28 58.0**	**-0.8**
	comp=Z,0.7nm,0.6s,baz=224,slow=6.7,SNR=3.3						
MJAR				PcP	**PcP**	**12 30 05.1**	**-0.2**
	comp=Z,1.3nm,0.9s,baz=271,slow=5.5,SNR=3.1						
BVAR	**Borovoye Array**	**54.35**	**343**	P	**P**	**12 29 03.2**	**-0.9**
	comp=Z,1.7nm,0.8s,baz=141,slow=7.1,SNR=9.3						
ABKAR	**Akbulak array**	**55.14**	**334**	*e*P	**P**	**12 29 09.3**	**-0.5**
ABKAR				*e*pP	**sP**	**12 29 19.7**	**+0.2**
KMBO	**Kilima Mbogo**	**56.42**	**267**	P	**P**	**12 29 21.2**	**+1.3**
	comp=Z,1.5nm,0.5s,baz=62,slow=12,SNR=5.1						
KMBO	**Kilima Mbogo**	**56.42**	**267**	*e*P	**P**	**12 29 20.5**	**+0.6**
	comp=Z,16nm,1.8s						
STKA	**Stephens Creek**	**56.60**	**131**	P	**P**	**12 29 20.4**	**-0.2**
	comp=Z,0.6nm,0.4s,baz=301,slow=11,SNR=3.7						
STKA	**Stephens Creek**	**56.60**	**131**	*e*P	**P**	**12 29 20.4**	**-0.2**
	comp=Z,3.0nm,1.6s						
KLR	**Kul'dur**	**57.20**	**29**	P	**P**	**12 29 24.8**	**+0.2**
	comp=Z,0.2nm,0.9s,baz=266,slow=6.3,SNR=5.5						
KBZ	**Khabaz**	**61.11**	**320**	P	**P**	**12 29 52.1**	**+0.4**
	comp=Z,2.4nm,0.7s,baz=130,slow=7.7,SNR=6.9						
BR101	**Keskin Array S**	**65.90**	**313**	*e*P	**P**	**12 30 23.2**	**-0.5**
BRTR	**Keskin Array B**	**65.90**	**313**	P	**P**	**12 30 23.2**	**-0.5**
	comp=Z,1.0nm,0.7s,baz=119,slow=7.7,SNR=8.3						
LBTB	**Lobatse**	**71.04**	**243**	*e*P	**P**	**12 30 56.8**	**+0.7**
	comp=Z,12nm,0.8s						
IDI	**Anoyia**	**71.51**	**307**	P	**P**	**12 30 59.2**	**+0.5**
	comp=Z,5.6nm,0.5s,baz=93,slow=5.4,SNR=6.2						
IDI	**Anoyia**	**71.51**	**307**	*e*P	**P**	**12 30 59.2**	**+0.5**
	comp=Z,53nm,1.3s						
BOSA	**Boshof**	**72.08**	**239**	P	**P**	**12 31 02.5**	**+0.2**
	comp=Z,4.3nm,0.8s,baz=91,slow=6.3,SNR=6.2						
AKASG	**Malin Array Be**	**72.42**	**323**	P	**P**	**12 31 02.3**	**-1.4**
	comp=Z,1.1nm,0.5s,baz=88,slow=5.1,SNR=6.0						
MLR	**Muntele Rosu**	**73.00**	**317**	P	**P**	**12 31 06.5**	**-1.0**
	comp=Z,1.1nm,0.8s,baz=188,slow=6.5,SNR=5.8						
TIXI	**Tiksi**	**73.04**	**11**	*e*P	**P**	**12 31 05.8**	**-1.2**
	comp=Z,12nm,1.0s						
BUR04	**Bucovina Ar. S**	**74.04**	**319**	*e*P	**P**	**12 31 13.7**	**+0.1**
CRVS	**Cervenica-Dubn**	**76.78**	**320**	*e*P	**P**	**12 31 30.0**	**+0.9**
STHS	**Stebnicka Huta**	**77.03**	**320**	*e*P	**P**	**12 31 31.6**	**+1.1**
FIA0	**FINESS Array S**	**77.61**	**333**	*e*P	**P**	**12 31 32.5**	**-1.1**
FINES	**FINESS Array B**	**77.61**	**333**	P	**P**	**12 31 32.5**	**-1.0**
	comp=Z,1.8nm,0.7s,baz=118,slow=2.8,SNR=5.9						
ARA0	**ARCESS Array S**	**80.56**	**341**	*e*P	**P**	**12 31 48.9**	**-0.6**
ARCES	**ARCESS Array B**	**80.56**	**341**	P	**P**	**12 31 48.9**	**-0.6**
	comp=Z,1.9nm,0.8s,baz=59,slow=5.8,SNR=6.7						
GEA0	**GERESS Array S**	**81.82**	**319**	*e*P	**P**	**12 31 56.6**	**-0.1**
GEA0				*e*pP	**sP**	**12 32 05.4**	**-1.3**
GEC2	**GERESS Array S**	**81.82**	**319**	*e*P	**P**	**12 31 56.9**	**+0.1**
	comp=Z,3.8nm,0.8s						
GERES	**GERESS Array B**	**81.82**	**319**	P	**P**	**12 31 56.9**	**+0.1**
	comp=Z,2.0nm,0.5s,baz=93,slow=5.3,SNR=16						
BRG	**Berggiesshubel**	**81.90**	**321**	*e*P	**P**	**12 31 57.0**	**0.0**
	comp=Z,3.5nm,0.8s						
HFS	**Hagfors**	**83.21**	**330**	P	**P**	**12 32 03.0**	**-0.7**
	comp=Z,0.9nm,0.4s,baz=108,slow=9.3,SNR=7.0						
KEST	**Kesra**	**84.15**	**306**	P	**P**	**12 32 09.3**	**+0.2**
	comp=Z,1.8nm,0.7s,baz=286,slow=6.4,SNR=3.8						
NB200	**NORSAR Array S**	**84.54**	**331**	*e*P	**P**	**12 32 09.1**	**-1.3**
NOA	**NORSAR Array B**	**84.54**	**331**	P	**P**	**12 32 09.1**	**-1.3**
	comp=Z,0.8nm,0.9s,baz=41,slow=8.8,SNR=3.0						
SPA0	**Spitsbergen Ar**	**85.41**	**348**	*e*P	**P**	**12 32 12.7**	**-1.8**
SPITS	**Spitsbergen Ar**	**85.41**	**348**	P	**P**	**12 32 12.7**	**-1.8**
	comp=Z,1.8nm,0.7s,baz=91,slow=17,SNR=3.8						
URZ	**Urewera**	**86.15**	**128**	P	**P**	**12 32 17.1**	**-1.8**
	comp=Z,12nm,0.8s,baz=0.0,slow=7.1,SNR=3.6						
TORD	**Torodi Ar. Bea**	**91.39**	**283**	P	**P**	**12 32 43.5**	**-0.7**
	comp=Z,1.0nm,0.8s,baz=99,slow=5.7,SNR=4.6						
TOA1	**Torodi Ar. Sit**	**91.39**	**283**	*e*P	**P**	**12 32 43.5**	**-0.8**
EKA	**Eskdalemuir Ar**	**92.19**	**325**	P	**P**	**12 32 46.6**	**-0.5**
	comp=Z,0.5nm,0.5s,baz=67,slow=5.5,SNR=3.5						
WRW	**Wenatchee Rid**	**121.93**	**27**	*e*PKPdf	**PKPdf**	**12 38 31.9**	**-0.2**
ULM	**Lac du Bonnet**	**127.29**	**8**	PKP	**PKPdf**	**12 38 41.0**	**-1.2**
	comp=Z,2.0nm,0.7s,baz=273,slow=3.3,SNR=6.4						
NV01	**Mina Array Sit**	**130.14**	**33**	*e*PKPdf	**PKPdf**	**12 38 47.3**	**-1.0**
NVAR	**Mina Array Bea**	**130.14**	**33**	PKP	**PKPdf**	**12 38 47.7**	**-0.6**
	comp=Z,0.5nm,0.7s,baz=286,slow=3.7,SNR=3.5						
PD31	**Pinedale Array**	**130.76**	**22**	*e*PKPdf	**PKPdf**	**12 38 48.8**	**-0.6**
PDAR	**Pinedale Array**	**130.76**	**22**	PKP	**PKPdf**	**12 38 49.0**	**-0.3**
	comp=Z,0.5nm,0.8s,baz=45,slow=1.0,SNR=4.5						
PFO	**Pinyon Flats O**	**134.63**	**36**	*e*PKPpre	PKPpre	12 38 45.2	
TX31	**Lajitas Ar. Si**	**144.71**	**27**	*e*PKPdf	**PKPab**	**12 39 13.2**	**-0.6**
TX31				*e*PKPdf	PKPbc	12 39 13.8	-0.1
LTX	**Lajitas**	**144.71**	**27**	*e*PKPdf	**PKPab**	**12 39 13.7**	**-0.1**
TXAR	**Lajitas Array**	**144.71**	**27**	PKP	**PKPab**	**12 39 13.7**	**-0.1**
	comp=Z,2.9nm,0.5s,baz=65,slow=0.2,SNR=42						
JCT	**Junction City**	**145.24**	**21**	*e*PKPbc	**PKPbc**	**12 39 14.8**	**-0.7**
HPIG		**145.73**	**32**	*e*PKPdf	**PKPab**	**12 39 17.7**	**-0.1**
LPAZ	**La Paz**	**157.09**	**231**	PKP	**PKPdf**	**12 39 35.1**	**+0.1**
	comp=Z,0.9nm,0.8s,baz=138,slow=13,SNR=3.3						
LPAZ				PKPab	**PKPab**	**12 40 05.9**	**+0.5**
	comp=Z,1.6nm,0.8s,baz=120,slow=7.8,SNR=3.9						
LPAZ	**La Paz**	**157.09**	**231**	*e*PKPdf	**PKPdf**	**12 39 34.7**	**-0.4**
LPAZ				PKPab	**PKPab**	**12 40 05.9**	**+0.5**

ISCJB ***12*** *12:19:50.8±0.6,2˚.11N±0˚.10×93˚.59E±0˚.08, h10km, mb4.3/23, Error ellipse: s-maj=14.1km s-min=11.3km az=18.3*

IDC ***12*** *12:19:50.9±0.7,2˚.04N×93˚.53E, h0km, mb4.3/21, mb1 4.4/22, mb1mx4.2/65, mbtmp4.3/22, ML5.0/1, Error ellipse: s-maj=22.1km s-min=15.9km az=41.0*

NEIC ***12*** *12:19:52

ellipse: s-maj=252.0km s-min=22.9km az=68.0

ISC 12 12:23:44.7±0.8, 32°54N±0°07×86°3E±0°1, h10km, n11, σ1°51/11, mb3.4/4, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUN	**Gumba**	**4.63**	**185**	*e*P	**Pg**	**12 25 11.0**	**-2.5**
LSA	**Lhasa**	**5.01**	**123**	P	**Pg**	**12 25 19.3**	**-1.5**
LSA	comp=Z,6.0nm,1.3s			pmax	pmax		
PKIN	**Phulchoki**	**5.01**	**189**	*e*P	**Pb**	**12 25 13.6**	**+0.8**
DMN	**Daman**	**5.03**	**192**	*e*P	**Pb**	**12 25 14.9**	**+1.9**
	comp=Z,16nm,0.6s						
RAMN	**Ramite**	**5.58**	**177**	*e*P	**Pn**	**12 25 08.6**	**+0.6**
MKAR	**Makanchi Array**	**14.56**	**349**	Pn	**Pn**	**12 27 09.6**	**-1.3**
	comp=Z,0.1nm,0.3s,baz=163,slow=10,SNR=3.6						
KURBB	**Kurchatov Arra**	**18.96**	**345**	P	**P**	**12 28 05.5**	**-0.5**
	comp=Z,0.0nm,0.3s,baz=155,slow=11,SNR=3.2						
ZALV	**Zalesovo Beam**	**21.42**	**358**	P	**P**	**12 28 34.1**	**+1.4**
	comp=Z,0.5nm,0.4s,baz=170,slow=11,SNR=2.7						
WRA	**Warramunga Arr**	**69.51**	**132**	P	**P**	**12 34 54.4**	**+0.7**
	comp=Z,1.0nm,1.1s,baz=327,slow=6.7,SNR=6.1						
ASAR	**Alice Springs**	**72.02**	**135**	P	**P**	**12 35 09.7**	**+0.7**
	comp=Z,0.4nm,0.9s,baz=325,slow=5.8,SNR=4.7						
YKA	**Yellowknife Ar**	**83.81**	**10**	P	**P**	**12 36 14.4**	**+0.4**
	comp=Z,0.1nm,0.5s,baz=340,slow=3.8,SNR=3.8						

ISCJB 12 12:33:31.8±0.3, 47°.16N±0°.01×7°.46E±0°.02, h7km±4km, Error ellipse: s-maj=2.5km s-min=2.3km az=160.2
CSEM 12 12:33:32.9±0.1, 47°.18N×7°.48E, h10km, ML2.5/17, Error ellipse: s-maj=1.6km s-min=1.3km az=13.0
IASPEI 12 12:33:32.7±0.9, 47°.19N±0°.03×7°.46E±0°.02, h5km±6km, Error ellipse: s-maj=4.2km s-min=3.0km az=28.8, GT5 selection from ISC bulletin GT5 identified by Bond¨jr and McLaughlin (2009) selection criteria Bond¨jr and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009
LDG 12 12:33:33.7±0.1, 47°.19N×7°.51E, h3km, Md2.3/3, Ml2.5/16, Error ellipse: s-maj=1.0km s-min=0.8km az=53.0
BGR 12 12:33:33.5±0.9, 47°.19N×7°.47E, h10km, ML2.0/8, Error ellipse: s-maj=6.7km s-min=3.3km az=38.0
ZUR 12 12:33:33.3, 47°.20N×7°.54E, h3km, ML1.9/10
STR 12 12:33:34.0±0.3, 47°.22N±0°.01×7°.50E±0°.02, h5km, MLv2.2/10

ISC 12 12:33:32.6±0.8, 47°18N±0°02×7°47E±0°01, h5km±5km, n85, σ0°61/130, 3C-8D, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOLB	**Solothurn Schu**	**0.04**	**50**	⇓*i*Pg	**Pg**	**12 33 34.0**	**+0.2**
SOLB				*i* Sg	**Sg**	**12 33 34.8**	**+0.1**
SOLB	**Solothurn Schu**	**0.04**	**50**	⇓*i*Pg	**Pg**	**12 33 34.0**	**+0.2**
SOLZ	**Solothurn, Zeu**	**0.06**	**58**	⇑*i*Pg	**Pg**	**12 33 34.0**	**0.0**
SOLZ	**Solothurn, Zeu**	**0.06**	**58**	⇑*i*Pg	**Pg**	**12 33 34.0**	**0.0**
BALST	**Balsthal**	**0.22**	**44**	⇑*i*Pg	**Pg**	**12 33 37.3**	**+0.4**
	1µm,2.0s						
BALST	**Balsthal**	**0.22**	**44**	*e*Pg	**Pg**	**12 33 37.3**	**+0.4**
BALST				*e*Sg	**Sg**	**12 33 40.3**	**+0.5**
BALST	**Balsthal**	**0.22**	**44**	Pg	**Pg**	**12 33 37.3**	**+0.4**
BALST				Sg	**Sg**	**12 33 40.3**	**+0.5**
BOURR	**Bourrignon**	**0.27**	**323**	⇓*i*Pg	**Pb**	**12 33 39.3**	**-0.6**
	192nm,0.5s						
BOURR	**Bourrignon**	**0.27**	**323**	⇓*i*Pg	**Pb**	**12 33 39.3**	**-0.6**
SAIRA	**Les Sairains D**	**0.29**	**295**	⇓*i*Pg	**Pb**	**12 33 39.9**	**-0.4**
	336nm,0.6s						
SAIRA	**Les Sairains D**	**0.29**	**295**	⇓*i*Pg	**Pb**	**12 33 39.9**	**-0.4**
LOMF	**Lomont**	**0.47**	**292**	Pg	**Pb**	**12 33 43.2**	**-0.1**
LOMF				Sg	**Sb**	**12 33 49.8**	**-0.8**
LOMF	**Lomont**	**0.47**	**292**	Pg	**Pb**	**12 33 43.2**	**-0.1**
SULZ	**Cheisacher**	**0.56**	**51**	*e*Pg	**Pg**	**12 33 43.7**	**+0.5**
	117nm,0.5s						
SULZ	**Cheisacher**	**0.56**	**51**	*e*Pg	**Pg**	**12 33 43.8**	**+0.5**
SULZ				*e*Sg	**Sg**	**12 33 51.0**	**+0.4**
SULZ	**Cheisacher**	**0.56**	**51**	Pg	**Pg**	**12 33 43.8**	**+0.5**
SULZ				Sg	**Sg**	**12 33 51.0**	**+0.4**
HASLI	**Hasliberg/Brie**	**0.63**	**132**	*e*Pg	**Pb**	**12 33 45.6**	**-0.5**
	80nm,0.5s						
HASLI	**Hasliberg/Brie**	**0.63**	**132**	*e*Pg	**Pb**	**12 33 45.6**	**-0.5**
MOF	**Molkenrain**	**0.71**	**341**	Pg	**Pg**	**12 33 47.1**	**+0.9**
MOF				Sg	**Sb**	**12 33 57.0**	**-0.6**
MOF	**Molkenrain**	**0.71**	**341**	Pg	**Pg**	**12 33 47.2**	**+0.9**
BNALP	**Bannalp**	**0.72**	**115**	*e*Pg	**Pb**	**12 33 47.3**	**-0.4**
	49nm,0.2s						
BNALP	**Bannalp**	**0.72**	**115**	*e*Pg	**Pb**	**12 33 47.3**	**-0.4**
HINF	**Hinteralfeld**	**0.76**	**327**	*e*Pg	**Pb**	**12 33 48.1**	**-0.2**
HINF	**Hinteralfeld**	**0.76**	**327**	*e*Pn	**Pn**	**12 33 49.6**	**-0.4**
HINF				*e*Sg	**Sg**	**12 33 58.1**	**+1.0**
HINF				*e*Sn	**Sn**	**12 34 01.2**	**-0.7**
	59nm,0.2s						
HINF	**Hinteralfeld**	**0.76**	**327**	*e*Pg	**Pb**	**12 33 48.1**	**-0.2**
HINF	**Hinteralfeld**	**0.76**	**327**	*e*Pn	**Pn**	**12 33 49.6**	**-0.4**
HINF				*e*Sg	**Sg**	**12 33 58.1**	**+1.0**
HINF				*e*Sn	**Sn**	**12 34 01.2**	**-0.7**
	30nm,0.2s						
FELD	**Feldberg im Sc**	**0.79**	**27**	Pg	**Pg**	**12 33 47.9**	**+0.3**
FELD				Sg	**Sg**	**12 33 58.2**	**+0.3**
FELD	**Feldberg im Sc**	**0.79**	**27**	Pg	**Pg**	**12 33 47.9**	**+0.3**
GRIMS	**Grimsel Gerste**	**0.84**	**136**	⇓*i*Pg	**Pb**	**12 33 49.5**	**-0.2**
	28nm,0.7s						
GRIMS	**Grimsel Gerste**	**0.84**	**136**	⇓*i*Pg	**Pb**	**12 33 49.5**	**-0.2**
SLE	**Schleitheim**	**0.91**	**49**	*e*Pg	**Pg**	**12 33 50.2**	**+0.2**
SLE				*e*Sg	**Sb**	**12 34 02.8**	**-0.4**
SLE	**Schleitheim**	**0.91**	**49**	Pg	**Pg**	**12 33 50.2**	**+0.2**
SLE				Sg	**Sb**	**12 34 02.8**	**-0.4**
WILA	**Wila**	**1.01**	**76**	*e*Pg	**Pb**	**12 33 52.6**	**+0.1**
WILA				*e*Sg	**Sb**	**12 34 06.1**	**0.0**
WILA	**Wila**	**1.01**	**76**	Pg	**Pb**	**12 33 52.6**	**+0.1**
WILA				Sg	**Sb**	**12 34 06.1**	**0.0**
SIMPL	**Simplonpass**	**1.01**	**158**	*i* Pg	**Pn**	**12 33 53.0**	**-0.6**
	121nm,0.2s						
SIMPL	**Simplonpass**	**1.01**	**158**	*i* Pg	**Pn**	**12 33 53.0**	**-0.6**
ECH	**Echery**	**1.06**	**349**	*e*Pg	**Pn**	**12 33 54.0**	**-0.1**
ECH				*e*Sg	**Sb**	**12 34 07.4**	**-0.1**
ECH	**Echery**	**1.06**	**349**	Pg	**Pn**	**12 33 54.0**	**-0.1**
ECH				Sg	**Sb**	**12 34 07.3**	**-0.2**
ECH	**Echery**	**1.06**	**349**	Pg	**Pn**	**12 33 54.0**	**-0.1**
FUSIO	**Fusio**	**1.09**	**131**	*e*Pg	**Pn**	**12 33 54.2**	**-0.4**
	58nm,0.6s						
FUSIO	**Fusio**	**1.09**	**131**	*e*Pg	**Pn**	**12 33 54.2**	**-0.4**
CABF	**La Chapelle**	**1.11**	**240**	*e*Pg	**Pn**	**12 33 55.9**	**+1.1**
CABF				*e*Sg	**Sn**	**12 34 09.9**	**-0.5**
	25nm,0.6s						
CABF	**La Chapelle**	**1.11**	**240**	*e*Pg	**Pn**	**12 33 55.9**	**+1.1**
CABF				*e*Sg	**Sn**	**12 34 09.9**	**-0.5**
	13nm,0.6s						
HAU	**Haudompre**	**1.12**	**318**	*e*Pg	**Pn**	**12 33 55.0**	**+0.1**
HAU				*e*Sn	**Sn**	**12 34 09.9**	**-0.9**
	45nm,0.2s						
HAU	**Haudompre**	**1.12**	**318**	*e*Pg	**Pn**	**12 33 55.0**	**+0.1**
HAU				*e*Sn	**Sn**	**12 34 09.9**	**-0.9**
	22nm,0.2s						
PANIX	**Pigniu (Panix)**	**1.18**	**107**	*e*Pg	**Pb**	**12 33 55.3**	**-0.2**
	56nm,0.4s						
PANIX	**Pigniu (Panix)**	**1.18**	**107**	*e*Pg	**Pb**	**12 33 55.3**	**-0.2**
CDF	**Champ du Feu**	**1.24**	**354**	*e*Pn	**Pn**	**12 33 56.2**	**-0.4**
CDF	**Champ du Feu**	**1.24**	**354**	*e*Pg	**Pg**	**12 33 57.2**	**+0.9**
CDF				*e*Sg	**Sb**	**12 34 12.7**	**-0.1**
	39nm,0.2s						
CDF	**Champ du Feu**	**1.24**	**354**	*e*Pn	**Pn**	**12 33 56.2**	**-0.4**
CDF	**Champ du Feu**	**1.24**	**354**	*e*Pg	**Pg**	**12 33 57.2**	**+0.9**
CDF				*e*Sg	**Sb**	**12 34 12.7**	**-0.1**
	19nm,0.2s						
BFO	**Black Forest**	**1.29**	**26**	*e*Pg	**Pb**	**12 33 57.1**	**-0.2**
BFO				*e*Sg	**Sn**	**12 34 14.1**	**-0.8**
BFO	**Black Forest**	**1.29**	**26**	Pg	**Pb**	**12 33 57.1**	**-0.2**
BFO				Sg	**Sn**	**12 34 14.1**	**-0.8**
PLONS	**Plons/SG**	**1.31**	**95**	*e*Pg	**Pg**	**12 33 58.1**	**+0.4**
PLONS				*e*Sg	**Sg**	**12 34 15.1**	**+0.4**
PLONS	**Plons/SG**	**1.31**	**95**	Pg	**Pg**	**12 33 58.1**	**+0.4**
PLONS				Sg	**Sg**	**12 34 15.1**	**+0.4**
THEF	**They Montfort**	**1.45**	**317**	Pg	**Pg**	**12 34 00.8**	**+0.5**
THEF				Sg	**Sg**	**12 34 20.8**	**+1.7**
THEF	**They Montfort**	**1.45**	**317**	Pg	**Pg**	**12 34 00.8**	**+0.5**
DAVA	**Damuels**	**1.65**	**85**	Pg	**Pg**	**12 34 04.7**	**+0.6**
	1.8nm,0.1s						
DAVA				Sg	**Sg**	**12 34 26.5**	**+1.1**
	11nm,0.2s						
DAVA	**Damuels**	**1.65**	**85**	*i* Pg	**Pg**	**12 34 04.7**	**+0.6**
	1.8nm,0.1s						
DAVA				*i* Sg	**Sg**	**12 34 26.5**	**+1.1**
	11nm,0.2s						
LPL	**La Plagne**	**1.74**	**197**	*e*Sg	**Sg**	**12 34 29.5**	**+1.0**
	6.1nm,0.4s						
LPL	**La Plagne**	**1.74**	**197**	*e*Sg	**Sg**	**12 34 29.5**	**+1.0**
	3.0nm,0.4s						
LPG	**La Plagne**	**1.75**	**197**	*e*Sg	**Sg**	**12 34 29.8**	**+0.9**
	4.3nm,0.2s						
LPG	**La Plagne**	**1.75**	**197**	*e*Sg	**Sg**	**12 34 29.8**	**+0.9**
	2.2nm,0.2s						
PAGF	**Fort de Pagny**	**1.81**	**320**	*e*Sg	**Sg**	**12 34 30.6**	**-0.1**
	1.6nm,0.3s						
PAGF	**Fort de Pagny**	**1.81**	**320**	*e*Sg	**Sg**	**12 34 30.6**	**-0.1**
	0.8nm,0.3s						
OBER	**Oberstdorf**	**1.94**	**82**	*e*Sg	**Sg**	**12 34 35.2**	**+0.5**
OBER	**Oberstdorf**	**1.94**	**82**	Sg	**Sg**	**12 34 35.2**	**+0.5**
SFTF	**Sexfontaines**	**1.94**	**303**	*e*Pg	**Pg**	**12 34 09.7**	**0.0**
SFTF				*e*Sg	**Sg**	**12 34 35.5**	**+0.7**
	6.5nm,0.2s						
SFTF	**Sexfontaines**	**1.94**	**303**	*e*Pg	**Pg**	**12 34 09.7**	**0.0**
SFTF				*e*Sg	**Sg**	**12 34 35.5**	**+0.7**
	3.2nm,0.2s						
FETA	**Feichten**	**2.23**	**93**	Pg	**Pg**	**12 34 16.0**	**+0.7**
	1.0nm,0.4s						
FETA				Sg	**Sg**	**12 34 44.2**	**-0.1**
	1.9nm,0.3s						
FETA	**Feichten**	**2.23**	**93**	Pg	**Pg**	**12 34 16.0**	**+0.7**
	1.0nm,0.4s						
FETA				Sg	**Sg**	**12 34 44.2**	**-0.1**
	1.9nm,0.3s						
LOR	**Lormes**	**2.46**	**273**	*e*Pg	**Pg**	**12 34 19.9**	**+0.2**
LOR				*e*Sg	**Sg**	**12 34 51.4**	**-0.2**
	6.5nm,0.3s						
LOR	**Lormes**	**2.46**	**273**	*e*Pg	**Pg**	**12 34 19.9**	**+0.2**
LOR				*e*Sg	**Sg**	**12 34 51.4**	**-0.2**
	3.2nm,0.3s						
MBDF	**Montbardon**	**2.50**	**191**	*e*Pg	**Pg**	**12 34 21.0**	**+0.5**
MBDF				*e*Sg	**Sg**	**12 34 53.2**	**+0.3**
	1.4nm,0.3s						
MBDF	**Montbardon**	**2.50**	**191**	*e*Pg	**Pg**	**12 34 21.0**	**+0.5**
MBDF				*e*Sg	**Sg**	**12 34 53.2**	**+0.3**
	0.7nm,0.3s						
ORIF	**Oris-en-Rattie**	**2.52**	**207**	*e*Pg	**Pg**	**12 34 21.3**	**+0.5**
ORIF				*e*Sg	**Sg**	**12 34 53.1**	**-0.3**
	4.8nm,0.3s						
ORIF	**Oris-en-Rattie**	**2.52**	**207**	*e*Pg	**Pg**	**12 34 21.3**	**+0.5**
ORIF				*e*Sg	**Sg**	**12 34 53.1**	**-0.3**
	2.4nm,0.3s						
SMF	**Signal de Mont**	**2.54**	**259**	*e*Pg	**Pg**	**12 34 21.4**	**+0.1**
SMF				*e*Sg	**Sg**	**12 34 54.4**	**+0.1**
	7.7nm,0.4s						
SMF	**Signal de Mont**	**2.54**	**259**	*e*Pg	**Pg**	**12 34 21.4**	**+0.1**
SMF				*e*Sg	**Sg**	**12 34 54.4**	**+0.1**
	3.8nm,0.4s						
SSF	**Saint Saulge**	**2.71**	**269**	*e*Sg	**Sg**	**12 34 58.7**	**-0.8**
	5.3nm,0.4s						
SSF	**Saint Saulge**	**2.71**	**269**	*e*Sg	**Sg**	**12 34 58.7**	**-0.8**
	2.7nm,0.4s						
AVF	**Avril sur Loir**	**2.84**	**264**	*e*P	**Pn**	**12 34 20.8**	**+2.2**
AVF				*e*Sg	**Sg**	**12 35 03.5**	**-0.4**
	0.6nm,0.2s						
AVF	**Avril sur Loir**	**2.84**	**264**	*e*P	**Pn**	**12 34 20.8**	**+2.2**
AVF				*e*Sg	**Sg**	**12 35 03.5**	**-0.4**
	0.3nm,0.2s						
VIVF	**Saint-Julien-l**	**3.03**	**221**	*e*Sg	**Sg**	**12 35 09.3**	**-0.6**
	6.1nm,0.4s						
VIVF	**Saint-Julien-l**	**3.03**	**221**	*e*Sg	**Sg**	**12 35 09.3**	**-0.6**
	3.0nm,0.4s						

IDC 12 12:39:17.8±0.8, 12°.46N×143°.85E, h0km, mb3.9/11, mb1 4.1/11, mb1mx3.8/56, mbtmp3.9/11, Error ellipse: s-maj=24.3km s-min=17.3km az=112.0
ISCJB 12 12:39:20.1±0.7, 12°.4N±0°.1×143°.8E±0°.1, h27km, mb3.9/11, Error ellipse: s-maj=20.1km s-min=9.2km az=43.3

ISC 12 12:39:21.9±0.8, 12°5N±0°1×143°9E±0°1, h27km, n18, σ0°96/14, mb3.9/11, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.48**	**41**	Pn	**Pn**	**12 39 46.6**	**-0.2**
	36nm,0.3s,baz=186,slow=21,SNR=17						
GUMO				Sn	**Sn**	**12 40 05.0**	**-0.3**
	255nm,0.3s,baz=166,slow=23,SNR=61						
H11S3	**WAKE ISLAND Hy**	**22.78**	**72**	T	T	13 07 58.6	
	baz=246,slow=74,SNR=3.0						
H11S1	**WAKE ISLAND Hy**	**22.79**	**72**	T	T	13 08 02.2	
	baz=246						
H11S2	**WAKE ISLAND Hy**	**22.79**	**72**	T	T	13 08 01.6	
	baz=246,slow=74,SNR=5.1						
H11N1	**WAKE ISLAND Hy**	**23.24**	**69**	T	T	13 08 37.8	
	baz=255,slow=75,SNR=15						
H11N2	**WAKE ISLAND Hy**	**23.25**	**69**	T	T	13 08 38.7	
	baz=255,slow=75,SNR=20						
H11N3	**WAKE ISLAND Hy**	**23.26**	**69**	T	T	13 08 40.2	
	baz=255,slow=75,SNR=12						
WRA	**Warramunga Arr**	**33.54**	**196**	P	**P**	**12 45 59.2**	**-0.4**
	1.1nm,0.7s,baz=21,slow=10.0,SNR=11						
ASAR	**Alice Springs**	**37.21**	**195**	P	**P**	**12 46 30.9**	**-0.3**
	0.6nm,0.7s,baz=16,slow=11,SNR=8.6						
ASAR				PcP	**PcP**	**12 48 51.6**	**+0.8**
	0.4nm,0.9s,baz=33,slow=3.0,SNR=4.4						
CMAR	**Chiang Mai Arr**	**43.63**	**284**	P	**P**	**12 47 24.0**	**-0.4**
	0.5nm,0.6s,baz=90,slow=5.4,SNR=3.2						
SONM	**Songino Array**	**47.10**	**326**	P	**P**	**12 47 53.3**	**+1.6**
	0.4nm,0.5s,baz=152,slow=5.6,SNR=2.5						
ZALV	**Zalesovo Beam**	**61.98**	**325**	P	**P**	**12 49 38.8**	**-0.6**
	0.5nm,0.5s,baz=120,slow=8.7,SNR=2.2						
KURBB	**Kurchatov Arra**	**64.86**	**320**	P	**P**	**12 49 58.8**	**+0.2**
	0.6nm,0.5s,baz=105,slow=7.1,SNR=5.1						
ILAR	**Eielson Array**	**69.99**	**25**	P	**P**	**12 50 29.8**	**-1.1**
	0.5nm,0.5s,baz=250,slow=5.8,SNR=15						
BVAR	**Borovoye Array**	**70.21**	**322**	P	**P**	**12 50 32.6**	**+0.3**
	1.7nm,0.4s,baz=108,slow=7.7,SNR=15						
YKA	**Yellowknife Ar**	**84.30**	**27**	P	**P**	**12 51 51.4**	**+0.3**
	0.5nm,0.4s,baz=286,slow=5.1,SNR=13						
NVAR	**Mina Array Bea**	**88.38**	**51**	P	**P**	**12 52 13.6**	**+1.5**
	2.2nm,0.8s,baz=256,slow=5.9,SNR=11						
FINES	**FINESS Array B**	**91.77**	**335**	P	**P**	**12 52 25.5**	**-1.5**
	2.3nm,1.0s,baz=50,slow=3.0,SNR=4.7						

IDC 12 12:41:22.3±6.0, 3°86N×92°77E, h0km, mb4.2/3, mb1 4.2/5, mb1mx3.6/64, mbtmp4.0/5, ML3.8/2, Error ellipse: s-maj=127.1km s-min=46.6km az=150.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**12.48**	**286**	Pn	Pn	12 44 21.2	-0.2
	0.5nm,0.3s,baz=117,slow=17,SNR=3.3						
PALK				Sn	Sn	12 46 27.0	-14
	1.4nm,0.3s,baz=115,slow=3.4,SNR=7.0						
CMAR	**Chiang Mai Arr**	**15.72**	**22**	Pn	Pn	12 45 04.8	-0.5
	0.1nm,0.3s,baz=215,slow=15,SNR=8.0						
MKAR	**Makanchi Array**	**43.73**	**350**	P	P	12 49 28.8	-0.5
	0.7nm,0.5s,baz=162,slow=8.9,SNR=9.1						
ZALV	**Zalesovo Beam**	**50.36**	**354**	P	P	12 50 21.4	+0.4
	4.0nm,0.4s,baz=172,slow=6.8,SNR=16						
GERES	**GERESS Array B**	**79.92**	**319**	P	P	12 53 33.3	0.0
	1.8nm,0.8s,baz=104,slow=5.4,SNR=10						

IDC 12 12:50:40.4±1.4, 10°.96S×161°.64E, h0km, mb3.6/7, mb1 3.8/8, mb1mx3.6/45, mbtmp3.6/8, ML3.5/1, Error ellipse: s-maj=34.4km s-min=24.4km az=135.0
ISCJB 12 12:50:43.0±1.0, 11°.0S±0°.1×161°.6E±0°.1, h28km, mb3.5/7, Error ellipse: s-maj=20.0km s-min=16.1km az=146.7

ISC 12 12:50:44.7±1.2, 11°0S±0°2×161°6E±0°1, h28km, n9, σ0°52/10, mb3.5/7, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.23**	**313**	*e*P	**Pn**	**12 51 19.0**	**-0.8**
HNR				*e*S	Sb	12 52 05.0	+14
HNR	**Honiara**	**2.23**	**313**	Pn	**Pn**	**12 51 19.6**	**-0.2**
	14nm,0.3s,baz=193,slow=4.3,SNR=9.1						
HNR				Sn	**Sn**	**12 51 46.7**	**+0.4**
	27nm,0.3s,baz=219,slow=9.2,SNR=5.4						
WRA	**Warramunga Arr**	**27.73**	**248**	P	**P**	**12 56 30.8**	**-0.3**
	0.5nm,0.8s,baz=76,slow=10,SNR=2.9						
ASAR	**Alice Springs**	**29.25**	**241**	P	**P**	**12 56 44.5**	**-0.2**
	0.2nm,0.5s,baz=64,slow=10,SNR=3.2						
FITZ	**Fitzroy Crossi**	**35.49**	**254**	P	**P**	**12 57 39.5**	**+0.2**
	2.7nm,1.1s,baz=105,slow=20,SNR=2.0						
SONM	**Songino Array**	**76.23**	**325**	P	**P**	**13 02 31.5**	**+0.7**
	0.5nm,0.4s,baz=137,slow=5.5,SNR=3.7						
ILAR	**Eielson Array**	**84.75**	**20**	P	**P**	**13 03 15.4**	**-0.6**
	0.2nm,0.7s,baz=228,slow=4.9,SNR=4.1						
MKAR	**Makanchi Array**	**90.69**	**318**	P	**P**	**13 03 44.8**	**-0.2**
	0.1nm,0.4s,baz=92,slow=4.8,SNR=2.8						
YKA	**Yellowknife Ar**	**96.77**	**28**	P	**P**	**13 04 12.8**	**+0.4**
	0.1nm,0.5s,baz=259,slow=4.7,SNR=3.6						

IDC 12 12:53:42.7±1.9, 2°49N×89°81E, h0km, mb3.7/6, mb1 3.7/6, mb1mx3.4/71, mbtmp3.7/6, Error ellipse: s-maj=66.3km s-min=28.0km az=53.0, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**44.61**	**353**	P	P	13 01 56.8	-0.1
	0.3nm,0.4s,baz=166,slow=8.7,SNR=3.1						
SONM	**Songino Array**	**47.39**	**15**	P	P	13 02 19.1	+0.3
	2.0nm,0.6s,baz=192,slow=9.7,SNR=12						
KURBB	**Kurchatov Arra**	**48.90**	**350**	P	P	13 02 30.4	+0.1
	0.2nm,0.4s,baz=178,slow=6.5,SNR=3.7						
WRA	**Warramunga Arr**	**49.05**	**119**	P	P	13 02 32.1	+0.2
	0.4nm,0.6s,baz=299,slow=8.6,SNR=3.3						
ZALV	**Zalesovo Beam**	**51.46**	**356**	P	P	13 02 49.0	-0.6
	0.6nm,0.4s,baz=168,slow=7.4,SNR=2.9						
BRTR	**Keskin Array B**	**62.84**	**314**	P	P	13 04 11.2	+0.4
	0.4nm,0.7s,baz=148,slow=8.5,SNR=2.6						
TXAR	**Lajitas Array**	**145.82**	**21**	PKPbc	PKPdf	13 13 22.5	-1.9
	0.1nm,0.5s,baz=259,slow=0.9,SNR=2.7						

ISCJB 12 12:56:33.2±1.3, 1°.3N±0°.2×91°.4E±0°.1, h10km, mb4.0/7, Error ellipse: s-maj=26.4km s-min=17.8km az=22.5
IDC 12 12:56:33.8±1.5, 1°.30N×91°.44E, h0km, mb3.9/7, mb1 3.9/9, mb1mx3.6/73, mbtmp3.8/9, ML3.7/2, Error ellipse: s-maj=42.6km s-min=24.6km az=44.0

ISC 12 12:56:35.2±1.4, 1°3N±0°2×91°3E±0°1, h10km, n13, σ2°00/11, mb3.9/7, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**12.10**	**299**	Pn	**Pn**	**12 59 30.2**	**+2.3**
	0.9nm,0.3s,baz=117,slow=13,SNR=4.2						
PALK				Sn	**Sn**	**13 01 39.2**	**-3.9**
	0.9nm,0.3s,baz=119,slow=8.3,SNR=3.5						
CMAR	**Chiang Mai Arr**	**18.59**	**23**	P	**Pn**	**13 00 52.5**	**-0.5**
	0.1nm,0.3s,baz=214,slow=13,SNR=4.0						
H08S2	**Diego Garcia H**	**20.77**	**244**	T	T	13 22 57.4	
	baz=64,slow=75,SNR=14						
H08S3	**Diego Garcia H**	**20.78**	**244**	T	T	13 22 57.6	
	baz=64,slow=75,SNR=20						
H08S1	**Diego Garcia H**	**20.79**	**244**	T	T	13 22 58.2	
	baz=64,slow=75,SNR=24						
MKAR	**Makanchi Array**	**45.95**	**351**	P	**P**	**13 04 59.1**	**+0.7**
	0.9nm,0.6s,baz=165,slow=9.3,SNR=11						
WRA	**Warramunga Arr**	**47.19**	**119**	P	**P**	**13 05 07.1**	**-1.5**
	0.6nm,0.8s,baz=296,slow=8.7,SNR=3.9						
GEYT	**Alibeck**	**47.48**	**324**	P	**P**	**13 05 09.7**	**-0.9**
	1.1nm,0.5s,baz=107,slow=9.2,SNR=2.2						
SONM	**Songino Array**	**48.13**	**14**	P	**P**	**13 05 16.2**	**+0.7**
	2.5nm,0.6s,baz=191,slow=9.3,SNR=15						
KURBB	**Kurchatov Arra**	**50.29**	**349**	P	**P**	**13 05 32.5**	**+0.6**
	0.5nm,0.2s,baz=165,slow=6.4,SNR=3.7						
ZALV	**Zalesovo Beam**	**52.71**	**355**	P	**P**	**13 05 48.9**	**-1.0**
	0.7nm,0.6s,baz=205,slow=6.6,SNR=4.0						
GERES	**GERESS Array B**	**80.84**	**319**	P	**P**	**13 08 51.8**	**+2.2**
	0.6nm,0.5s,baz=102,slow=5.6,SNR=6.2						
TXAR	**Lajitas Array**	**146.31**	**24**	PKPbc	**PKPab**	**13 16 17.0**	**-0.8**
	0.3nm,0.5s,baz=313,slow=1.5,SNR=6.2						

IDC 12 12:57:26.7±4.1, 1°27N×91°48E, h0km, mb3.7/3, mb1 3.8/3, mb1mx3.3/69, mbtmp3.7/3, Error ellipse: s-maj=154.7km s-min=32.2km az=59.0, North Indian Ocean

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

	baz=303						
TATO	**Taipei**	**0.56**	**274**	*e*P	**Pb**	**13 07 15.0**	**+0.1**
	baz=277						
TATO				*e*S	**Sg**	**13 07 21.8**	**-0.4**
	baz=277						
YM03	**YM03**	**0.56**	**295**⇑	*e*P	**Pn**	**13 07 16.1**	**-0.8**
	baz=305						
YM03				*e*S	**Sn**	**13 07 26.6**	**+0.7**
	baz=305						
TWY	**Chenhua**	**0.57**	**306**	*e*P	**Pn**	**13 07 16.8**	**-0.1**
	baz=317						
TWY				*e*S	**Sb**	**13 07 24.4**	**+1.6**
	baz=317						
ENTT	**Nioudou**	**0.57**	**239**	*e*P	**Pg**	**13 07 14.6**	**-0.4**
	baz=233						
ENTT				*e*S	**Sg**	**13 07 21.6**	**-1.0**
	baz=233						
NANB	**Nanao**	**0.60**	**212**	*e*P	**Pg**	**13 07 15.4**	**-0.1**
	baz=217						
NANB				*e*S	**Sg**	**13 07 22.5**	**-1.1**
	baz=217						
ENA	**Nanau**	**0.61**	**213**	*e*P	**Pb**	**13 07 16.1**	**+0.4**
	baz=217						
ENA				*e*S	**Sg**	**13 07 22.1**	**-1.6**
	baz=217						
TWS1	**Kuangyinshan**	**0.64**	**285**	*e*P	**Pn**	**13 07 17.8**	**-0.1**
	baz=293						
TWS1				*e*S	**Sb**	**13 07 26.1**	**+1.1**
	baz=293						
YHNB	**Yeheng**	**0.71**	**248**	*e*P	**Pg**	**13 07 16.7**	**-0.9**
	baz=252						
YHNB				*e*S	**Sg**	**13 07 24.1**	**-3.0**
	baz=252						
NNS	**Nan Shan**	**0.83**	**233**	*e*P	**Pg**	**13 07 19.1**	**-0.7**
	baz=246						
NNSB	**Datong**	**0.83**	**232**	*e*P	**Pg**	**13 07 19.1**	**-0.6**
	baz=235						
NNSB				*e*S	**Sg**	**13 07 29.0**	**-1.8**
	baz=235						
NACB	**Ninganchiao**	**0.89**	**211**	*e*P	**Pg**	**13 07 20.5**	**-0.4**
	baz=212						
NACB				*e*S	**Sg**	**13 07 30.8**	**-1.9**
	baz=212						
JYNG	**Yonagunijimaku**	**0.91**	**122**	P	**Pn**	**13 07 23.1**	**+1.6**
JYNG				*e*S	**Sn**	**13 07 36.2**	**+2.0**
YOJ	**Yonaguni jima**	**0.95**	**120**	P	**Pn**	**13 07 23.9**	**+1.8**
TWD	**Chiawan**	**0.97**	**209**	*e*P	**Pg**	**13 07 22.4**	**-0.1**
	baz=209						
TWD				*e*S	**Sg**	**13 07 33.2**	**-2.0**
	baz=209						
LIOB	**Emei**	**1.03**	**254**	*e*P	**Pn**	**13 07 24.5**	**+1.2**
	baz=258						
LIOB				*e*S	**Sb**	**13 07 38.1**	**+1.8**
	baz=258						
NSTT	**Nanjuang**	**1.05**	**253**	*e*P	**Pb**	**13 07 23.8**	**+0.5**
	baz=256						
NSTT				*e*S	**Sg**	**13 07 37.6**	**0.0**
	baz=256						
WHF	**Hehuan Shan**	**1.10**	**224**	*e*P	**Pg**	**13 07 24.4**	**-0.5**
	baz=218						
WHF				*e*S	**Sg**	**13 07 38.2**	**-1.2**
	baz=218						
CHGB	**Renai**	**1.22**	**224**	*e*P	**Pg**	**13 07 25.9**	**-1.2**
	baz=216						
ESL	**Shilin**	**1.28**	**209**	*e*P	**Pg**	**13 07 28.0**	**-0.2**
	baz=210						
OWD	**Renai**	**1.29**	**221**	*e*P	**Pg**	**13 07 28.3**	**-0.3**
	baz=223						
IRIF	**Iriomote-Funau**	**1.60**	**112**	P	**Pg**	**13 07 33.6**	**-0.7**
JKRS	**Kuro-shima**	**1.87**	**112**	P	**Pg**	**13 07 38.1**	**-1.4**
JIJ	**Ishigaki jima**	**1.94**	**107**	P	**Pg**	**13 07 39.2**	**-1.7**
JISG	**Ishigakijimahi**	**2.04**	**99**	P	**Pg**	**13 07 40.7**	**-2.0**
JTJ	**Tarama**	**2.38**	**97**	P	**Pg**	**13 07 46.7**	**-2.5**

NIED ***12*** *13:07:00,35˚.90N×137˚.30E,h8km,Mw3.6 Best double couple: M₀2.83000×10¹⁴ NP1:ϕs351.00000°,δ82.00000°, λ-7.00000°. NP2:ϕs82.00000°,δ83.00000°,λ-172.00000°.*

JMA 12 13:07:40.6,35˚.88N×137˚.29E,h10km±1km,M3.6,2C-2D Broadband fault plane solution: P waves. NP1: ϕs178.00000°,δ85.00000°,λ-6.00000°. **NP2:** ϕs268.00000°,δ84.00000°,λ-175.00000°. **Principal axes:** T Plg1.0000°, Azm223.0000°; N Plg82.0000°, Azm320.0000°; P Plg8.0000°, Azm133.0000°; **Eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JGF	**Kuroka**	**0.28**	**169**	⇓P	Pg	13 07 46.4	+0.1
JGF				S	Sg	13 07 50.1	-0.1
JGN	**Niukaw**	**0.34**	**3**	⇑P	Pg	13 07 47.3	-0.2
JGN				S	Sg	13 07 52.1	0.0
JTT	**Ttatey**	**0.72**	**3**	⇑P	Pg	13 07 54.4	-0.2
JTT				S	Sg	13 08 04.2	+0.1
JKG	**Kaga**	**0.87**	**297**	⇓P	Pg	13 07 57.4	0.0
JKG				S	Sg	13 08 09.1	+0.3
MAT	**Matsushiro**	**0.99**	**48**	P	Pg	13 07 59.5	-0.2
MAT				S	Sg	13 08 12.5	-0.2

ISCJB ***12*** *13:07:46.6±1.3,2˚.6N±0˚.2×92˚.0E±0˚.2,h10km,mb3.6/7 Error ellipse: s-maj=30.4km s-min=22.9km az=150.3*

IDC ***12*** *13:07:46.8±1.4,2˚.51N×91˚.89E,h0km,mb3.6/7,mb1 3.8/8, mb1mx3.5/71,mbtmp3.6/8,ML3.8/1,Error ellipse: s-maj=43.8km s-min=27.4km az=50.0*

ISC 12 13:07:48.4±1.3,2˚.6N±0˚.2×92˚.0E±0˚.2,h10km,n9,σ0s74/9, mb3.6/7,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**17.20**	**23**	P	**Pn**	**13 11 48.1**	**-1.0**
	0.1nm,0.3s,baz=211,slow=12,SNR=6.2						
MKAR	**Makanchi Array**	**44.86**	**351**	P	**P**	**13 16 02.9**	**0.0**
	0.5nm,0.8s,baz=163,slow=8.9,SNR=6.0						
SONM	**Songino Array**	**46.78**	**13**	P	**P**	**13 16 19.4**	**+1.1**
	0.4nm,0.8s,baz=190,slow=7.3,SNR=3.3						
WRA	**Warramunga Arr**	**47.20**	**120**	P	**P**	**13 16 21.6**	**-0.2**
	0.7nm,0.7s,baz=298,slow=8.6,SNR=5.6						
KURBB	**Kurchatov Arra**	**49.22**	**349**	P	**P**	**13 16 37.1**	**+0.1**
	0.4nm,0.7s,baz=165,slow=6.9,SNR=3.6						
ZALV	**Zalesovo Beam**	**51.56**	**355**	P	**P**	**13 16 54.4**	**-0.2**
	0.3nm,0.3s,baz=162,slow=8.7,SNR=4.2						
BRTR	**Keskin Array B**	**64.37**	**313**	P	**P**	**13 18 24.1**	**-0.8**
	0.5nm,0.6s,baz=104,slow=6.1,SNR=3.5						
GERES	**GERESS Array B**	**80.36**	**319**	P	**P**	**13 20 00.7**	**+0.4**
	0.4nm,0.3s,baz=88,slow=6.0,SNR=6.6						
TXAR	**Lajitas Array**	**144.92**	**24**	PKPbc	**PKPab**	**13 27 26.3**	**+0.4**
	0.4nm,0.6s,baz=142,slow=0.2,SNR=4.6						

IDC ***12*** *13:09:44.1±0.3,2˚.39N×93˚.45E,h0km,mb4.9/48, mb1 5.0/51,mb1mx4.9/73,mbtmp4.9/51,ML5.1/3,MS4.2/18, Ms1 4.2/18,ms1mx4.0/35,Error ellipse: s-maj=11.2km s-min=9.0km az=38.0*

BJI ***12*** *13:09:44.5,2˚.03N×93˚.38E,h31km,mb5.3/78,mB5.2/45, Ms4.8/70,Ms7 4.5/62*

ISCJB ***12*** *13:09:45.7±0.7,2˚.37N±0˚.02×93˚.40E±0˚.02,h21km±5km, mb5.2/161,MS4.4/43,Error ellipse: s-maj=4.4km s-min=3.1km az=32.4*

NEIC ***12*** *13:09:45.6±0.2,2˚.40N×93˚.40E,h10km,mb5.2/36,Error ellipse: s-maj=4.8km s-min=3.4km az=207.0*

MOS ***12*** *13:09:47.6±0.9,2˚.41N×93˚.41E,h35km,mb5.4/75, MS4.1/14,Error ellipse: s-maj=7.1km s-min=4.0km az=111.8*

GCMT ***12*** *13:09:49.2±0.4,2˚.42N×93˚.43E,h32km±2km,MW5.3/78, Moment Tensor Solution. s25,c28; s78,c95; Duration: 1s0 Moment tensor: Scale 10¹⁷Nm; Mrr0.17±.08; Mθθ-0.76±.05; Mϕϕ0.59±.05; Mrθ-0.35±.07; Mθϕ-0.45±.04; Mϕr-0.40±.10; Best double couple: M₀0.96900×10¹⁷ NP1:ϕs211.00000°,δ87.00000°,λ34.00000°. NP2: ϕs119.00000°,δ56.00000°,λ176.00000°. Principal axes: T 0.8680, Plg26.0000°, Azm81.0000°; N 0.2010, Plg56.0000°, Azm216.0000°; P -1.0690, Plg21.0000°, Azm340.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

DJA ***12*** *13:09:50.4±2.1,2˚.N±4˚×9˚.3E±˚,h32km±30km,M5.8/14, mb5.9/14,mB6.0/13,MLv6.0/12,Mw(mB)5.7/13*

ISC 12 13:09:49.1±0.6,2˚.42N±0˚.03×93˚.39E±0˚.04,h33km±3km, n501,σ1s52/564,mb5.3/164,MS4.4/44,23C-61D,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MLSI	**Meulaboh, Aceh**	**3.52**	**58**	P	**Pn**	**13 10 42.3**	**+0.8**
BSI	**Banda Aceh**	**3.60**	**32**	P	**Pn**	**13 10 43.5**	**+0.9**
TPTI		**3.87**	**77**	P	**Pn**	**13 10 46.5**	**+0.2**
GSI	**Gunungsitoli**	**4.32**	**105**	P	**Pn**	**13 10 52.9**	**+0.4**
GSI	**Gunungsitoli**	**4.32**	**105**	*e*Pn	**Pn**	**13 10 52.5**	**0.0**
GSI				*e*Sn	**Sn**	**13 11 39.1**	**-2.7**
KCSI	**Kotacane, Aceh**	**4.51**	**76**	P	**Pn**	**13 10 56.8**	**+1.7**
LHMI	**Lhok Sumawe**	**4.51**	**52**	P	**Pn**	**13 10 57.3**	**+2.2**
LHMI	**Lhok Sumawe**	**4.51**	**52**	Pn	**Pn**	**13 10 54.8**	**-0.3**
LHMI				Sn	**Sn**	**13 11 40.6**	**-5.9**
TSI	**Tuntungan** 2μm,1.1s,21μm9.3nm	**5.27**	**78**	P	**Pn**	**13 11 08.0**	**+2.4**
PBSI	**Pulau Batu** 3μm,0.6s,46μm17nm	**5.47**	**117**	P	**Pn**	**13 11 08.7**	**+0.4**
MNSI	**Mandailing Nat** 906nm,0.7s,42μm	**6.39**	**105**	P	**Pn**	**13 11 21.7**	**+0.8**
SISI	**Saibi** 898nm,0.8s,10μm	**6.80**	**123**	P	**Pn**	**13 11 26.1**	**-0.5**
KULM	**Kulim**	**7.78**	**68**	*e*Pn	**Pn**	**13 11 40.0**	**0.0**
KULM				*e*Sn	**Sn**	**13 13 03.8**	**-3.3**
PDSI	**Padang** 168nm,0.4s,6μm	**7.80**	**115**	P	**Pn**	**13 11 40.5**	**+0.1**
IPM	**Ipoh**	**7.89**	**75**	*e*Pn	**Pn**	**13 11 41.5**	**-0.1**
IPM				*e*Sn	**Sn**	**13 13 05.2**	**-4.6**
BKNI	**Bangkinang**	**7.92**	**105**	P	**Pn**	**13 11 42.7**	**+0.7**
BKNI				S	**Sn**	**13 13 14.5**	**+4.0**
BKNI	**Bangkinang**	**7.92**	**105**	*e*Pn	**Pn**	**13 11 42.2**	**+0.3**
BKNI				*e*Sn	**Sn**	**13 13 10.0**	**-0.6**
PPSI	**Pulau Pagai** 939nm,0.8s,8μm	**8.38**	**128**	P	**Pn**	**13 11 47.8**	**-0.5**
PBA	**Port Blair**	**9.20**	**356**	*e*P	Pn	13 11 57.2	-2.3
MASI	**Maura Aman, Be** 713nm,0.7s,7μm	**10.42**	**122**	P	**Pn**	**13 12 16.8**	**+0.4**
MYKOM	**Kota Tinggi**	**10.47**	**93**	*e*Pn	**Pn**	**13 12 16.0**	**-0.9**
DGPR	**DIGLIPUR**	**10.70**	**358**	*e*P	**Pn**	**13 12 18.4**	**-1.7**
TPRI	**Tanjung Pinang**	**11.23**	**97**	P	**Pn**	**13 12 28.6**	**+1.3**
DSRI	**Dabo**	**11.54**	**104**	P	**Pn**	**13 12 32.5**	**+0.8**
MNAI	**Manna**	**11.69**	**125**	P	**Pn**	**13 12 33.6**	**-0.1**
MNAI	**Manna**	**11.69**	**125**	*e*Pn	**Pn**	**13 12 33.0**	**-0.7**
MNAI				*e*Sn	Sn	13 14 33.1	-10
PALK	**Pallekele** 9.8nm,0.3s,baz=116,slow=13,SNR=19	**13.53**	**291**	Pn	**Pn**	**13 12 58.3**	**-0.6**
PALK	39nm,0.3s,baz=116,slow=7.2,SNR=30			Sn	Sn	13 15 14.6	-14
PALK	**Pallekele**	**13.53**	**291**	*e*Pn	**Pn**	**13 12 58.4**	**-0.6**
PALK				Sn	Sn	13 15 14.6	-14
PALK				*e*Sn	Sn	13 15 17.4	-11
PALK	**Pallekele** SNR=12	**13.53**	**291**	*i* P	**Pn**	**13 12 58.8**	**-0.1**
COCO	**West Island**	**14.91**	**167**	*e*Pn	**Pn**	**13 13 16.4**	**-1.2**
COCO	**West Island**	**14.91**	**167**	*e*P	**Pn**	**13 13 16.4**	**-1.2**
MDRS	**Chennai**	**16.77**	**310**	*e*P	**Pn**	**13 13 41.1**	**-0.5**
CM01	**Chiang Mai Arr**	**16.81**	**19**	*e*Pn	**Pn**	**13 13 40.4**	**-1.7**
CM31	**Chiang Mai Arr**	**16.84**	**18**	*e*Pn	**Pn**	**13 13 42.3**	**-0.2**
CMAR	**Chiang Mai Arr** 4.6nm,0.3s,baz=215,slow=13,SNR=160	**16.84**	**18**	Pn	**Pn**	**13 13 42.4**	**-0.1**
CMAR	comp=Z,602nm,18.1s,baz=206,slow=40			LR	LR	13 20 56.0	
LEM	**Lembang** 2.6nm,0.3s,baz=237,slow=4.4,SNR=5.1	**16.91**	**123**	Pn	**Pn**	**13 13 42.9**	**-0.6**
KSM	**Kuching** 132nm,1.0s	**16.93**	**93**	*e*Pn	**Pn**	**13 13 42.9**	**-0.8**
CHTO	**Chiang Mai** SNR=80	**17.18**	**18**	Pn	**Pn**	**13 13 46.1**	**-0.6**
CHTO	**Chiang Mai** SNR=80	**17.18**	**18**	P	**Pn**	**13 13 46.1**	**-0.6**
TRD	**Trivandrum**	**17.44**	**291**	*e*P	**Pn**	**13 13 49.0**	**-1.0**
CISI	**Cisompet, Garu**	**17.47**	**125**	P	**Pn**	**13 13 49.5**	**-0.9**
CISI	**Cisompet, Garu** 205nm,0.7s	**17.47**	**125**	*e*Pn	**Pn**	**13 13 48.6**	**-1.8**
CISI				*e*Sn	**Sn**	**13 17 01.8**	**-2.4**
VIS	**Vishakhapatnam**	**18.14**	**328**	*e*P	**P**	**13 13 58.7**	**+0.1**
SBUM	**Sibu** 120nm,1.3s	**18.81**	**90**	*e*P	**Pn**	**13 14 07.0**	**+0.2**
HYB	**Hyderabad**	**20.85**	**317**	*i* P	**P**	**13 14 29.0**	**+0.7**
HYB				*e*S	**S**	**13 18 18.0**	**-1.3**
HYB	**Hyderabad**	**20.85**	**317**	*e*P	**P**	**13 14 29.1**	**+0.7**
HYB				IAmb	IAmb	13 14 32.6	
MNCY	**Minicoy**	**21.08**	**287**	*e*P	**P**	**13 14 32.2**	**+1.4**
BOK	**Bokaro**	**22.46**	**342**	*e*P	**P**	**13 14 45.3**	**-0.2**
KKM	**Kota Kinabalu** 106nm,1.0s	**23.04**	**80**	*e*P	**P**	**13 14 51.5**	**-0.4**
QIZ	**Qiongzhong**	**23.06**	**43**	P	**P**	**13 14 52.6**	**+0.7**
QIZ				S	**S**	**13 19 02.0**	**+1.2**
QIZ	comp=Z,29nm,1.1s			pmax	pmax		
QIZ	comp=N,1μm,19.1s			LR	LR		
QIZ	comp=E,1μm,21.8s			LR	LR		
QIZ	comp=Z,720nm,17.3s			LR	LR		
SHL	**Shillong**	**23.06**	**357**	*e*P	**P**	**13 14 51.5**	**-0.5**
H08S2	**Diego Garcia H** baz=62,slow=75,SNR=40	**23.12**	**244**	T	T	13 40 40.3	
H08S3	**Diego Garcia H** baz=62,slow=75,SNR=37	**23.13**	**244**	T	T	13 40 19.7	
H08S1	**Diego Carcia H** baz=62,slow=75,SNR=2.4	**23.14**	**244**	T	T	13 40 09.4	
GOA	**Goa**	**23.25**	**305**	*e*P	**P**	**13 14 55.7**	**+1.9**
GOA	comp=Z,66nm,0.7s			IAmb	IAmb	13 14 57.6	
NGP	**Nagpur**	**23.28**	**324**	*e*P	**P**	**13 14 54.2**	**+0.1**
KMI	**Kunming**	**24.31**	**21**	P	**P**	**13 15 06.0**	**+2.0**
KMI				pP	pP	13 15 14.0	+0.5
KMI				sP	sP	13 15 17.8	+0.3
KMI				PP	**PnPn**	**13 15 41.7**	**+6.9**
KMI				S	**S**	**13 19 23.4**	**+2.2**
KMI				sS	sS	13 19 35.1	-1.7
KMI				SS	**SnSn**	**13 20 15.6**	**+10**
KMI	comp=Z,130nm,1.2s			pmax	pmax		
KMI	comp=Z,440nm,3.1s			pmax	pmax		
KMI	comp=Z,490nm,15.5s			LR	LR		
KMI	comp=Z,1μm,16.2s			LR	LR		
KMI	comp=Z,640nm,12.9s			LR	LR		
POO	**Poona**	**24.96**	**311**	*e*P	**P**	**13 15 07.5**	**-2.3**
ODAN	**Odare** comp=Z,334nm,1.0s	**24.98**	**347**	*e*P	**P**	**13 15 11.2**	**+1.1**
RAMN	**Ramite** comp=Z,333nm,0.7s	**25.25**	**346**	*e*P	**P**	**13 15 14.4**	**+1.9**
BHPL	**Bhopal**	**25.84**	**325**	*e*P	**P**	**13 15 18.9**	**+1.2**
JIRN	**Jiri** comp=Z,646nm,1.1s	**26.03**	**345**	*e*P	**P**	**13 15 21.0**	**+1.2**
PKIN	**Phulchoki** comp=Z,136nm,0.9s	**26.16**	**344**	*e*P	**P**	**13 15 22.5**	**+1.6**
DMN	**Daman** comp=Z,144nm,0.7s	**26.27**	**343**	*e*P	**P**	**13 15 22.8**	**+0.9**
GUN	**Gumba** comp=Z,313nm,0.9s	**26.35**	**345**	*e*P	**P**	**13 15 23.8**	**+1.2**
KKN	**Kakani** comp=Z,276nm,1.1s	**26.40**	**344**	*e*P	**P**	**13 15 23.7**	**+0.8**
GKN	**Gorkha** comp=Z,640nm,1.1s	**26.78**	**343**	*e*P	**P**	**13 15 27.6**	**+1.3**
KOLN	**Koldanda** comp=Z,196nm,0.8s	**26.89**	**341**	*e*P	**P**	**13 15 28.7**	**+1.3**
GYA	**Guiyang**	**27.09**	**27**⇑	*i* P	**P**	**13 15 32.0**	**+2.9**
GYA				PP	**PnPn**	**13 16 18.6**	**+5.9**
GYA				PcP	**PcP**	**13 18 52.2**	**+2.5**
GYA				S	**S**	**13 20 07.8**	**+2.6**
GYA				SS	**SnSn**	**13 21 22.0**	**+8.4**
GYA				ScS	**ScS**	**13 26 18.9**	**-0.2**
GYA	comp=Z,30nm,0.8s			pmax	pmax		
GYA	comp=Z,140nm,5.8s			pmax	pmax		
GYA	comp=Z,560nm,16.9s			LR	LR		
GYA	comp=Z,520nm,17.2s			LR	LR		
GYA	comp=Z,570nm,17.4s			LR	LR		
LSA	**Lhasa**	**27.22**	**356**	P	**P**	**13 15 32.6**	**+2.0**
LSA	comp=Z,190nm,0.8s			pmax	pmax		
DANN	**Dangsing**	**27.38**	**341**	*e*P	**P**	**13 15 33.1**	**+1.3**
PYUN	**Piuthan**	**27.40**	**340**	*e*P	**P**	**13 15 33.0**	**+1.0**
TGY	**Tagaytay City**	**29.58**	**65**	P	**P**	**13 15 52.6**	**+1.3**
CD2	**Chengdu** comp=Z,79nm,0.4s,baz=219,slow=6.5,SNR=2.9	**29.99**	**18**	P	**P**	**13 15 55.0**	**+0.3**
CD2				pP	pP	13 16 03.8	-0.5
CD2				sP	sP	13 16 07.8	-0.5
CD2				S	**S**	**13 20 52.7**	**+2.1**
CD2				sS	sS	13 21 07.9	+1.5
CD2	comp=Z,130nm,0.7s			pmax	pmax		
CD2	comp=Z,360nm,5.6s			pmax	pmax		
CD2	comp=Z,940nm,16.9s			LR	LR		
CD2	comp=Z,1μm,15.4s			LR	LR		
CD2	comp=Z,780nm,13.4s			LR	LR		
SMLA	**Simla**	**32.41**	**333**	*e*P	**P**	**13 16 17.1**	**+1.1**
BATI	**Baumata** comp=Z,1μm,21.5s,baz=335,slow=40	**32.64**	**113**	LR	LR	13 31 16.4	
QZH	**Quanzhou**	**33.04**	**45**	*e*P	**P**	**13 16 23.2**	**+1.6**
QZH				S	**S**	**13 21 39.4**	**+1.0**
QZH	comp=Z,850nm,16.1s			LR	LR		
QZH	comp=Z,820nm,16.5s			LR	LR		
QZH	comp=Z,640nm,12.8s			LR	LR		
DHRM	**DHARAMSHALA**	**33.75**	**333**	*e*P	**P**	**13 16 27.6**	**-0.5**
YULB	**Yu-li** comp=Z,23nm,0.9s	**34.13**	**50**	*e*P	**P**	**13 16 31.7**	**+0.6**
WHN	**Wuhan**	**34.30**	**33**	⇓P	**P**	**13 16 33.7**	**+1.2**
WHN				S	**S**	**13 21 58.6**	**+0.9**
WHN	comp=Z,160nm,0.8s			pmax	pmax		
WHN	comp=Z,5μm,20.2s			LR	LR		
WHN	comp=Z,4μm,19.8s			LR	LR		
WHN	comp=Z,2μm,16.2s			LR	LR		
XAN	**Xi'an**	**34.64**	**23**	P	**P**	**13 16 35.4**	**-0.1**
XAN				pP	pP	13 16 44.3	-0.8
XAN				sP	sP	13 16 48.8	-0.3
XAN				PP	**PnPn**	**13 17 51.6**	**-0.2**
XAN				S	**S**	**13 22 00.2**	**-2.9**
XAN				sS	pS	13 22 16.3	+2.4
XAN	comp=Z,170nm,0.8s			pmax	pmax		
XAN	comp=Z,770nm,14.6s			LR	LR		
XAN	comp=Z,670nm,14.6s			LR	LR		
XAN	comp=Z,1μm,16.3s			LR	LR		
MBWA	**Marble Bar** comp=Z,15nm,0.8s	**34.84**	**134**	*e*P	**P**	**13 16 37.1**	**-0.2**
LZH	**Lanzhou**	**34.87**	**15**	⇓P	**P**	**13 16 38.0**	**+0.4**
LZH				pP	pP	13 16 48.0	+0.8
LZH				sP	sP	13 16 51.8	+0.6
LZH				PP	**PP**	**13 17 57.5**	**+0.4**
LZH				S	**S**	**13 22 10.7**	**+3.9**
LZH				sS	sS	13 22 23.0	+0.4
LZH				SS	**SnSn**	**13 24 23.4**	**+0.6**
LZH	comp=Z,110nm,1.1s			pmax	pmax		
LZH	comp=Z,280nm,5.0s			pmax	pmax		
LZH	comp=Z,530nm,13.7s			LR	LR		
LZH	comp=Z,1μm,14.2s			LR	LR		
LZH	comp=Z,1μm,16.5s			LR	LR		
GTA	**Gaotai**	**37.28**	**8**	*e*P	**P**	**13 16 58.4**	**+0.3**
GTA				pP	pP	13 17 08.2	+0.4
GTA				sP	sP	13 17 11.9	+0.1
GTA				S	**S**	**13 22 44.1**	**+0.5**
GTA				sS	sS	13 22 59.3	-0.2
GTA	comp=Z,77nm,0.8s			pmax	pmax		
GTA	comp=Z,250nm,4.5s			pmax	pmax		
GTA	comp=Z,370nm,15.9s			LR	LR		
GTA	comp=Z,320nm,15.9s			LR	LR		
GTA	comp=Z,300nm,15.7s			LR	LR		
FITZ	**Fitzroy Crossi** comp=Z,4.7nm,0.9s,baz=256,slow=3.6,SNR=6.3	**37.74**	**124**	P	**P**	**13 17 00.8**	**-1.4**
FITZ	**Fitzroy Crossi** baz=38,SNR=6.2	**37.74**	**124**	P	**P**	**13 17 00.9**	**-1.3**
MEEK	**Meekatharra** baz=38,SNR=17	**37.78**	**142**	P	**P**	**13 17 03.0**	**+0.6**
NJ2	**Nanjing**	**37.99**	**36**	*e*P	**P**	**13 17 05.0**	**+1.0**
NJ2				pP	**pP**	**13 17 13.4**	**-0.3**
NJ2				sP	**sP**	**13 17 17.7**	**0.0**
NJ2				S	**S**	**13 22 56.3**	**+2.2**
NJ2	comp=Z,41nm,0.9s			pmax	pmax		
NJ2	comp=Z,200nm,4.6s			pmax	pmax		
NJ2	comp=Z,1μm,20.1s			LR	LR		
NJ2	comp=Z,2μm,22.2s			LR	LR		
NJ2	comp=Z,910nm,14.6s			LR	LR		
SIJI	**Sorong** comp=Z,4.6nm,0.6s,baz=311,slow=10,SNR=7.5	**38.00**	**94**	P	**P**	**13 17 03.4**	**-1.1**
SIJI	comp=Z,308nm,20.1s,baz=272,slow=38			LR	LR	13 33 55.7	
KBL	**Kabul** comp=Z,16nm,0.9s	**39.19**	**327**	*e*P	**P**	**13 17 15.0**	**+0.6**
KBL	**Kabul** comp=Z,16nm,0.9s	**39.19**	**327**	*e*P	**P**	**13 17 15.0**	**+0.6**
KBL				pmax	pmax		
FAKI	**Fak Fak** comp=Z,36nm,1.0s	**39.20**	**98**	*e*P	**P**	**13 17 11.9**	**-2.6**
WSAR	**Wadi Sarin** comp=Z,6.4nm,0.8s,baz=113,slow=5.8,SNR=4.2	**39.52**	**304**	P	**P**	**13 17 19.3**	**+2.3**
BLDU	**Ballidu** baz=40,SNR=7.7	**39.67**	**148**	P	**P**	**13 17 18.8**	**+0.6**
TIA	**Tai'an**	**40.15**	**30**	P	**P**	**13 17 22.9**	**+0.8**
TIA				S	**S**	**13 23 27.2**	**+0.5**
TIA				SS	**SS**	**13 26 19.2**	**-6.1**
TIA	comp=Z,34nm,0.8s			pmax	pmax		
TIA	comp=Z,440nm,24.0s			LR	LR		
TIA	comp=Z,820nm,20.6s			LR	LR		
TIA	comp=Z,440nm,23.5s			LR	LR		
KSH	**Kashi**	**40.19**	**339**	P	**P**	**13 17 21.2**	**-1.3**
KSH				sP	sP	13 17 35.0	-1.2
KSH				PP	**PnPn**	**13 18 58.0**	**-1.1**
KSH				S	**S**	**13 23 21.1**	**-6.2**
KSH	comp=Z,28nm,0.8s			pmax	pmax		
KSH	comp=Z,280nm,3.0s			pmax	pmax		
KSH	comp=Z,380nm,6.4s			LR	LR		
KSH	comp=Z,340nm,5.5s			LR	LR		
KSH	comp=Z,420nm,6.7s			LR	LR		
MUN	**Mundaring** baz=41,SNR=5.9	**40.48**	**150**	P	**P**	**13 17 27.0**	**+2.1**
BTO	**Baotou**	**40.88**	**19**	*e*P	**P**	**13 17 27.9**	**-0.3**
KLBR	**Kellerberrin** baz=41,SNR=6.0	**40.99**	**148**	P	**P**	**13 17 30.2**	**+1.2**
JOW	**Kunigami** comp=Z,12nm,0.7s,baz=209,slow=7.4,SNR=5.1	**41.31**	**51**	P	**P**	**13 17 32.3**	**+0.5**
WMQ	**Urumqi**	**41.54**	**354**	P	**P**	**13 17 35.2**	**+1.7**
WMQ				pP	pP	13 17 42.6	-0.6
WMQ				PP	**PP**	**13 19 10.3**	**+0.4**
WMQ				PcP	**PcP**	**13 19 29.4**	**-1.2**
WMQ				S	**S**	**13 23 47.0**	**-0.2**
WMQ				SS	**SS**	**13 26 48.2**	**-4.6**
WMQ	comp=Z,150nm,0.9s			pmax	pmax		
WMQ	comp=Z,360nm,3.7s			pmax	pmax		
WMQ				LR	LR		

comp=Z,350nm,23.5s
WMQ LR LR
comp=Z,750nm,29.3s
WMQ LR LR
comp=Z,370nm,24.9s
SFK Sufi-Kurgan 41.55 337 P **P** **13 17 34.7 +0.8**
SFK pmax pmax
comp=Z,105nm,1.4s
HHC Hu-ho-hao-te 41.63 21 *e*P **P** **13 17 36.0 +1.6**
HHC sP sP 13 17 49.9 +1.8
HHC S **S** **13 23 50.8 +2.0**
HHC SS **SS** **13 26 52.5 -2.3**
HHC pmax pmax
comp=Z,39nm,1.0s
HHC pmax pmax
comp=Z,94nm,5.6s
HHC LR LR
comp=Z,880nm,15.0s
HHC LR LR
comp=Z,1µm,14.7s
HHC LR LR
comp=Z,1µm,14.9s
SOHO SOHO 41.64 304 P **P** **13 17 35.8 +1.3**
NWAO Narrogin (SRO) 41.76 149 P **P** **13 17 35.5 +0.1**
comp=Z,10.0nm,0.8s,baz=283,slow=6.7,SNR=5.2
NWAO Narrogin (SRO) 41.76 149 P **P** **13 17 37.7 +2.3**
baz=42,SNR=4.5
NWAO P **P** **13 17 37.7 +2.3**
baz=42,SNR=4.5
NWAO Narrogin (SRO) 41.76 149 *e*P **P** **13 17 32.9 -2.6**
comp=Z,27nm,0.8s
H01W3 Cape Leeuwin H 41.90 154 T T 14 03 44.0
baz=328,slow=74
H01W2 Cape Leeuwin H 41.91 154 T T 14 03 36.0
baz=328
H01W1 Cape Leeuwin H 41.92 154 T T 14 03 05.8
baz=328,slow=74
ALNE Al Ain 42.25 304 *i* P **P** **13 17 41.4 +1.8**
SNR=9.2
HATD Hatta, Dubai 42.27 305 P **P** **13 17 41.3 +1.6**
ULHL Ulahol 42.53 341 P **P** **13 17 42.2 +0.4**
SNR=32
UZB Uzynbulak 42.53 344⇓ *i* P **P** **13 17 43.1 +1.4**
comp=Z,742nm,1.0s
UZB *i* S **S** **13 24 03.9 +1.8**
PDGK Podgornoye 42.58 345 P **P** **13 17 42.9 +0.8**
PDGK pmax pmax
comp=Z,122nm,1.2s
SATY Saty 42.62 344⇓ *i* P **P** **13 17 44.0 +1.5**
comp=Z,1µm,1.1s
SATY *e*S **S** **13 24 05.4 +2.1**
KZA Kyzart 42.71 340 P **P** **13 17 44.5 +1.0**
SNR=34
ZHN Zhinishke 42.71 344⇓ *i* P **P** **13 17 44.5 +1.3**
comp=Z,402nm,1.2s
BJI Beijing 42.77 26 P **P** **13 17 45.5 +2.0**
BJI S **S** **13 24 08.3 +2.9**
BJI pmax pmax
comp=Z,170nm,0.8s
BJI LR LR
comp=Z,630nm,22.1s
BJI LR LR
comp=Z,1µm,20.1s
UCH Uchtor 43.10 339 P **P** **13 17 47.4 +0.7**
SNR=63
MDOK Medeo 43.11 342 *i* P **P** **13 17 47.7 +1.3**
comp=Z,1µm,1.1s
MDOK LR LR 13 36 20.2
comp=Z,122nm,15.0s
KMBL Kambalda 43.16 143 P **P** **13 17 49.3 +2.5**
baz=43,SNR=5.2
AAA Alma-Ata 43.19 342⇓ *i* P **P** **13 17 48.5 +1.5**
comp=Z,273nm,0.9s
AAA LR LR 13 36 39.8
comp=Z,63nm,17.8s
AML Almayashu 43.31 339 P **P** **13 17 49.1 +0.8**
SNR=96
KBK Karagaybulak 43.33 340 P **P** **13 17 49.3 +1.0**
SNR=42
TKM2 Tokmak 2 43.34 341 P **P** **13 17 49.0 +0.7**
SNR=58
TKM2 Tokmak 2 43.34 341 P **P** **13 17 49.1 +0.7**
TKM2 pmax pmax
comp=Z,52nm,1.1s
AAK Ala-Archa 43.47 340 P **P** **13 17 50.0 +0.7**
comp=Z,12nm,0.7s,baz=136,slow=5.1,SNR=36
AAK PcP **PcP** **13 19 36.9 -0.2**
comp=Z,7.1nm,0.9s,baz=117,slow=4.5,SNR=3.6
AAK Ala-Archa 43.47 340 P **P** **13 17 50.4 +1.1**
SNR=22
AAK Ala-Archa 43.47 340 *e*P **P** **13 17 50.1 +0.8**
comp=Z,23nm,0.9s
AAK PcP **PcP** **13 19 36.9 -0.2**
AAK Ala-Archa 43.47 340 P **P** **13 17 50.6 +1.3**
SNR=17
AAK Ala-Archa 43.47 340 P **P** **13 17 50.6 +1.3**
SNR=17
AAK Ala-Archa 43.47 340 *i* P **P** **13 17 50.4 +1.1**
SNR=7.0
AAK Ala-Archa 43.47 340 *d* iP **P** **13 17 50.2 +0.8**
AAK pmax pmax
comp=Z,30nm,1.0s
WRKA Warakurna 43.48 131 P **P** **13 17 49.2 -0.3**
baz=44,SNR=14
BMNS Besmoynak 43.49 341⇓ *i* P **P** **13 17 50.6 +1.1**
comp=Z,1µm,1.0s
BMNS LR LR 13 36 42.6
comp=Z,162nm,16.9s
FRU Bishkek 43.59 340 *e*P **P** **13 17 51.0 +0.8**
FRU pmax pmax
comp=Z,100nm,2.0s
RER Riviere de l'E 43.67 236 *e*P **P** **13 17 51.7 +0.5**
comp=Z,112nm,0.9s
CHMS Chumysh 43.70 340 P **P** **13 17 51.2 +0.2**
SNR=6.5
EKS2 Erkin-Say 43.74 339 P **P** **13 17 52.9 +1.4**
SNR=27
KUU Kurty 43.99 342⇓ *i* P **P** **13 17 53.8 +0.5**
comp=Z,510nm,1.0s
KUU *i* S **S** **13 24 24.2 +1.1**
USP Ospenovka 44.02 340 P **P** **13 17 54.2 +0.6**
SNR=36
MNAS Manas 44.06 338 P **P** **13 17 54.5 +0.4**
MNAS pmax pmax
comp=Z,37nm,0.9s
IUG Iuzhnay 44.76 335⇓ *i* P **P** **13 18 00.6 +0.9**
comp=Z,1µm,0.9s
DZA Taraz 44.85 337 *i* P **P** **13 18 01.0 +0.7**
comp=Z,707nm,0.8s
DZA *e*S **S** **13 24 37.2 +1.3**
MK01 Makanchi Array 45.22 349 *e*P **P** **13 18 03.8 +0.6**
MK31 Makanchi Array 45.25 349 *e*P **P** **13 18 03.9 +0.6**
MK31 Makanchi Array 45.25 349 *e*P **P** **13 18 03.9 +0.6**
MKAR Makanchi Array 45.25 349 P **P** **13 18 04.2 +0.9**
comp=Z,92nm,0.6s,baz=167,slow=8.5,SNR=590
MKAR PP **PP** **13 19 50.9 +1.3**
comp=Z,22nm,1.0s,baz=161,slow=9.2,SNR=4.4
MKAR LR LR 13 38 25.8
comp=Z,153nm,21.7s,baz=176,slow=38
KK31 Karatay Array 45.36 336 *e*P **P** **13 18 04.1 -0.1**
KK31 Karatay Array 45.36 336 *e*P **P** **13 18 04.1 -0.1**
KKAR Karatay Array 45.36 336 *e*P **P** **13 18 04.0 -0.3**
KKAR Karatay Array 45.36 336 *e*P **P** **13 18 04.0 -0.3**
ZSN Zaisan 45.46 352⇓ *i* P **P** **13 18 07.2 +2.2**
comp=Z,358nm,1.0s
ZSN *i* S **S** **13 24 47.3 +2.9**
BRLS Boroldaу 45.57 336⇓ *i* P **P** **13 18 05.0 -0.9**
comp=Z,15nm,1.1s
BTLS Baital 45.74 341⇓ *i* P **P** **13 18 07.5 +0.2**
comp=Z,343nm,1.0s
WRA Warramunga Arr 45.91 121 P **P** **13 18 08.3 -0.7**
comp=Z,11nm,0.6s,baz=299,slow=8.7,SNR=36
WRAB Tennant Creek 45.92 121 *e*P **P** **13 18 08.1 -1.0**
comp=Z,27nm,0.7s
WRAB Tennant Creek 45.92 121 *d* iP **P** **13 18 08.8 -0.2**
WRAB pmax pmax
comp=Z,22nm,1.0s
WB2 Warramunga Arr 45.92 121 *e*P **P** **13 18 07.8 -1.3**
comp=Z,65nm,0.8s
TJN Taejon 46.10 39 *d* iP **P** **13 18 10.4 +0.2**
JNU Nakatsue 46.52 45 P **P** **13 18 13.3 -0.4**
comp=Z,7.4nm,0.7s,baz=249,slow=2.8,SNR=6.7
SONM Songino Array 46.62 12 P **P** **13 18 14.9 +0.6**
comp=Z,59nm,0.6s,baz=193,slow=8.9,SNR=309
SONM PcP **PcP** **13 19 48.1 +0.3**
comp=Z,5.9nm,0.6s,baz=192,slow=4.0,SNR=5.6
SONM LR LR 13 38 39.3

comp=Z,258nm,20.9s,baz=188,slow=37
SONA1 Songino Array 46.63 12 *e*P **P** **13 18 15.1 +0.7**
ULN Ulaanbaatar 46.79 13 *e*P **P** **13 18 15.0 -0.6**
comp=Z,34nm,1.0s
ULN Ulaanbaatar 46.79 13 P **P** **13 18 16.6 +1.0**
SNR=14
ULN Ulaanbaatar 46.79 13 P **P** **13 18 16.6 +1.0**
SNR=14
ULN Ulaanbaatar 46.79 13 *d* iP **P** **13 18 16.2 +0.6**
ULN pmax pmax
comp=Z,43nm,1.2s
KS15 Wonju Array Si 47.09 38 *e*P **P** **13 18 15.8 -2.1**
KSAR Wonju Array Be 47.09 38 P **P** **13 18 18.5 +0.5**
KSAR Wonju Array Be 47.09 38 P **P** **13 18 18.5 +0.5**
KS01 Wonju Array Si 47.12 38 *e*P **P** **13 18 17.6 -0.6**
KSRS Korea Array 47.12 38 P **P** **13 18 18.5 +0.3**
comp=Z,13nm,0.7s,baz=225,slow=8.6,SNR=46
AS31 Alice Springs 47.17 126 *e*P **P** **13 18 18.7 -0.2**
comp=Z,7.1nm,0.7s
ASAR Alice Springs 47.17 126 P **P** **13 18 18.1 -0.8**
comp=Z,2.7nm,0.5s,baz=299,slow=7.8,SNR=25
ASAR PcP **PcP** **13 19 50.0 -0.2**
comp=Z,2.1nm,0.8s,baz=304,slow=4.0,SNR=2.0
AS01 Alice Springs 47.21 126 *e*P **P** **13 18 18.4 -0.8**
DGZ Jazzator, Alta 47.38 355 *i* P **P** **13 18 21.9 +1.7**
DGZ pmax pmax
comp=Z,14nm,0.6s
SNY Shenyang 47.68 31⇓ P **P** **13 18 22.9 +0.5**
SNY S **S** **13 25 09.3 -6.9**
SNY pmax pmax
comp=Z,38nm,0.6s
SNY pmax pmax
comp=Z,170nm,3.8s
SNY LR LR
comp=Z,640nm,15.7s
SNY LR LR
comp=Z,560nm,19.6s
SNY LR LR
comp=Z,620nm,17.2s
GEYT Alibeck 47.88 322 P **P** **13 18 25.5 +1.3**
comp=Z,77nm,0.7s,baz=153,slow=8.3,SNR=138
ZAK Zakamensk 48.52 8 *e*P **P** **13 18 30.0 +1.0**
ZAK pmax pmax
comp=Z,26nm,0.9s
HVS Khovu-Aksy 48.55 0 *c* iP **P** **13 18 30.4 +1.3**
HVS pmax pmax
comp=Z,189nm,0.9s
SEM Semipalatinsk 49.10 349⇓ *i* P **P** **13 18 34.1 +0.6**
comp=Z,663nm,0.7s
SEM *e*S **S** **13 25 37.8 +1.3**
SEM LR LR 13 40 28.2
comp=Z,145nm,18.7s
OTUK Ortayu 49.12 341 P **P** **13 18 34.1 +0.6**
OTUK pmax pmax
comp=Z,71nm,0.7s
MOY Mondy 49.49 6 *e*P **P** **13 18 37.4 +1.0**
MOY pmax pmax
comp=Z,18nm,2.0s
KURBB Kurchatov Arra 49.65 348 P **P** **13 18 37.9 +0.5**
comp=Z,54nm,0.7s,baz=170,slow=7.1,SNR=380
KURBB PcP **PcP** **13 19 58.9 +0.4**
comp=Z,6.6nm,0.8s,baz=159,slow=3.5,SNR=4.1
KURBB S **S** **13 25 44.4 +0.6**
comp=Z,0.2nm,0.3s,baz=156,slow=16,SNR=3.0
KURK Kurchatov 49.72 348 *e*P **P** **13 18 38.5 +0.5**
comp=Z,99nm,1.1s
KURK PcP **PcP** **13 19 58.9 +0.1**
KURK S **S** **13 25 44.4 -0.3**
KURK Kurchatov 49.72 348 P **P** **13 18 38.9 +0.9**
SNR=32
KURK Kurchatov 49.72 348 P **P** **13 18 38.9 +0.9**
SNR=32
KURK Kurchatov 49.72 348 *de*P **P** **13 18 38.3 +0.3**
KURK pmax pmax
comp=Z,100nm,1.1s
TLY Talaya 49.84 8 *e*P **P** **13 18 40.4 +1.5**
TLY *e*S **S** **13 25 48.4 +1.9**
TLY *e* 13 28 26.7
TLY pmax pmax
comp=Z,27nm,0.8s
TLY MLR MLR
comp=Z,190nm,17.0s
OPO Ambohidratompo 50.01 243 P **P** **13 18 41.7 +0.7**
comp=Z,14nm,0.6s,baz=63,slow=4.6,SNR=21
CN2 Changchun 50.06 30 *e*P **P** **13 18 40.7 0.0**
CN2 *e*pP pP 13 18 50.7 +0.1
CN2 *e*S **S** **13 25 47.8 -1.9**
CN2 pmax pmax
comp=Z,20nm,0.8s
CN2 LR LR
comp=Z,530nm,21.0s
CN2 LR LR
comp=Z,540nm,21.0s
CN2 LR LR
comp=Z,360nm,21.0s
ABPO Ambohimpanom 50.13 243 *e*P **P** **13 18 43.0 +1.2**
comp=Z,30nm,0.9s
ABPO Ambohimpanom 50.13 243 *e*P **P** **13 18 43.0 +1.2**
ABPO pmax pmax
comp=Z,30nm,0.9s
IRK Irkutsk 50.48 9 *e*P **P** **13 18 44.6 +0.8**
IRK pmax pmax
comp=Z,52nm,2.0s
BRZS Berezniki 50.56 343 *i* P **P** **13 18 45.2 +0.8**
comp=Z,39nm,1.2s
BRZS *e*S **S** **13 25 57.9 +1.3**
QIS Mount Isa 50.71 119 P **P** **13 18 47.3 +1.3**
baz=51,SNR=3.4
RAYN Ar Rayn 50.83 299 *e*P **P** **13 18 46.8 -0.2**
comp=Z,12nm,0.8s
ATD Arta Tunnel 50.91 283 LR LR 13 36 44.6
comp=Z,177nm,19.9s,baz=76,slow=32
ZAA0 Zalesovo Array 51.85 354 *e*P **P** **13 18 54.5 +0.5**
ZALV Zalesovo Beam 51.85 354 P **P** **13 18 54.4 +0.5**
comp=Z,65nm,0.5s,baz=187,slow=7.9,SNR=262
ZALV LR LR 13 45 47.9
comp=Z,306nm,18.0s,baz=164,slow=42
ZALV Zalesovo Beam 51.85 354 *e*P **P** **13 18 53.9 0.0**
ZALV Zalesovo Beam 51.85 354 *e*P **P** **13 18 53.9 0.0**
INU Inuyama 52.02 46 *e*P **P** **13 18 54.3 -1.3**
comp=Z,20nm,0.7s
MSHR Mys Shultsa 52.29 35⇓ *e*P **P** **13 18 58.0 +0.5**
MDJ Mudanjiang 52.76 32 P **P** **13 19 00.3 -0.6**
MDJ pP pP 13 19 09.4 -1.5
MDJ sP sP 13 19 13.2 -1.6
MDJ PP **PP** **13 20 59.9 -0.6**
MDJ S **S** **13 26 29.3 +2.3**
MDJ sS sS 13 26 44.7 +1.3
MDJ ScS **ScS** **13 28 47.3 -1.0**
MDJ SS **SS** **13 30 09.9 +3.9**
MDJ pmax pmax
comp=Z,20nm,1.5s
MDJ pmax pmax
comp=Z,280nm,3.6s
MDJ LR LR
comp=Z,630nm,23.9s
MDJ LR LR
comp=Z,760nm,17.5s
MDJ LR LR
comp=Z,510nm,14.3s
NVS Novosibirsk 52.91 353 *e*P **P** **13 19 02.2 +0.4**
NVS *e*S **S** **13 26 29.9 +1.3**
NVS pmax pmax
comp=Z,80nm,1.1s
NVS pmax pmax
comp=N,30nm,0.8s
NVS pmax pmax
comp=E,7.0nm,0.4s
NVS smax smax
comp=N,3.0nm,0.4s
NVS smax smax
comp=E,2.0nm,0.5s
BBOO Buckleboo 53.41 135 P **P** **13 19 07.3 +1.4**
baz=54,SNR=8.5
KRAR Krasnoyarsk 53.43 360⇑ *i* P **P** **13 19 07.5 +1.9**
MAT Matsushiro 53.44 45 P **P** **13 19 06.6 +0.5**
MAJO Matsushiro 53.44 45⇑ *e*P **P** **13 19 06.2 +0.1**
MAJO pmax pmax
comp=Z,22nm,2.0s
MJAR Matsushiro Arr 53.44 45 P **P** **13 19 06.9 +0.8**
comp=Z,4.6nm,0.7s,baz=239,slow=6.9,SNR=17
MJAR Matsushiro Arr 53.44 45 P **P** **13 19 06.9 +0.8**
MJAR pmax pmax
comp=Z,2.0nm,0.6s
USRK Ussuriysk Ar. 53.79 34 P **P** **13 19 09.0 +0.5**
comp=Z,7.2nm,0.7s,baz=248,slow=5.5,SNR=13

BVA0 Borovoye Array 53.92 343 P **P** **13 19 08.5 -0.8**
BVA0 pmax pmax
comp=Z,25nm,0.8s
BVAR Borovoye Array 53.92 343 P **P** **13 19 09.0 -0.3**
comp=Z,19nm,0.6s,baz=142,slow=7.5,SNR=92
BVAR LR LR 13 43 18.3
comp=Z,365nm,19.3s,baz=160,slow=37
BVAR Borovoye Array 53.92 343 P **P** **13 19 09.0 -0.3**
BVAR pmax pmax
comp=Z,19nm,0.6s
BVAR MLR MLR
comp=Z,365nm,19.3s
BRVK Borovoye 53.98 343 *e*P **P** **13 19 09.5 -0.2**
comp=Z,55nm,1.3s
BRVK Borovoye 53.98 343 P **P** **13 19 09.6 -0.1**
SNR=9.1
BRVK Borovoye 53.98 343 P **P** **13 19 09.6 -0.1**
SNR=9.1
BRVK Borovoye 53.98 343 *d* iP **P** **13 19 09.2 -0.5**
BRVK pmax pmax
comp=Z,47nm,1.3s
AB31 Akbulak array 54.70 334 *i* P **P** **13 19 14.8 -0.2**
AB31 pmax pmax
comp=Z,40nm,0.8s
HTT Hallett 55.78 134 P **P** **13 19 22.9 -0.3**
baz=56,SNR=10
KMBO Kilima Mbogo 56.24 267 P **P** **13 19 28.3 +1.3**
comp=Z,12nm,0.9s,baz=61,slow=9.9,SNR=18
KMBO Kilima Mbogo 56.24 267 *e*P **P** **13 19 27.4 +0.3**
comp=Z,20nm,1.1s
KMBO Kilima Mbogo 56.24 267 *i* P **P** **13 19 28.4 +1.3**
SNR=10
AKTO Aktyubinsk 56.41 334 P **P** **13 19 26.6 -0.7**
comp=Z,8.8nm,0.7s,baz=120,slow=8.3,SNR=26
AKTO LR LR 13 44 23.0
comp=Z,176nm,21.0s,baz=141,slow=37
CTA Charters Tower 56.45 116 LR LR 13 45 31.3
comp=Z,193nm,19.7s,baz=294,slow=38
QLP Quilpie 56.88 124 P **P** **13 19 33.0 +1.9**
baz=57,SNR=4.8
KLR Kul'dur 56.96 29 *d* iP **P** **13 19 31.9 +0.7**
STKA Stephens Creek 57.01 131 P **P** **13 19 31.2 -0.7**
comp=Z,2.9nm,0.7s,baz=309,slow=8.2,SNR=8.5
STKA Stephens Creek 57.01 131 P **P** **13 19 31.8 -0.1**
baz=57,SNR=4.7
BOD Bodaibo 57.60 13⇑ *i* P **P** **13 19 36.0 +0.4**
BOD pmax pmax
comp=Z,62nm,1.1s
GNI Garni 57.80 317 P **P** **13 19 38.4 +0.9**
comp=Z,11nm,0.4s,baz=183,slow=1.6,SNR=12
GNI Garni 57.80 317 P **P** **13 19 39.5 +1.9**
SNR=7.0
GNI Garni 57.80 317 P **P** **13 19 39.5 +1.9**
SNR=7.0
GNI Garni 57.80 317 P **P** **13 19 38.5 +0.9**
GNI Garni 57.80 317 *d* iP **P** **13 19 38.6 +1.0**
GNI pmax pmax
comp=Z,118nm,1.2s
ZEA Zeya 58.22 23 *e*P **P** **13 19 40.4 +0.4**
ZEA pmax pmax
comp=E,20nm,0.6s
ZEA pmax pmax
comp=N,30nm,0.7s
ZEA pmax pmax
comp=Z,38nm,0.8s
ZEA MLR MLR
comp=Z,600nm,14.0s
ZEA MLR MLR
comp=N,400nm,15.0s
TBLG Delisi 58.55 319 *e*P **P** **13 19 44.0 +1.4**
comp=N,43nm,0.8s
TBLG Delisi 58.55 319 *e*P **P** **13 19 44.0 +1.4**
TBLG pmax pmax
comp=Z,43nm,0.8s
GROC Groznyy 58.59 321 *e*P **P** **13 19 41.1 -1.7**
GROC *e* 13 20 30.9
GROC pmax pmax
comp=Z,76nm,1.0s
ERM Erimo 59.41 41⇓ *e*P **P** **13 19 48.3 -0.2**
ERM pmax pmax
comp=Z,34nm,1.2s
ARPS Mount Arapiles 59.52 136 P **P** **13 19 49.6 +0.2**
baz=60,SNR=6.1
ZEI Tsey 59.60 320 *e*P **P** **13 19 46.0 -4.1**
ZEI pmax pmax
comp=Z,21nm,0.8s
CLNS Chul'man 59.79 19 *e*P **P** **13 19 49.9 -1.0**
CLNS pmax pmax
comp=Z,24nm,1.1s
CLNS pmax pmax
comp=N,11nm,1.0s
CLNS pmax pmax
comp=E,8.0nm,1.2s
CMSA Cobar Meteorol 60.01 129 P **P** **13 19 52.6 -0.2**
baz=60,SNR=8.3
ASAJ Asahikawa 60.05 39 P **P** **13 19 53.5 +0.7**
comp=E,8.4nm,0.6s,baz=280,slow=2.1,SNR=17
ASAJ Asahikawa 60.05 39 *e*P **P** **13 19 52.5 -0.3**
comp=E,12nm,0.8s
NCK Nalchik 60.13 320⇓ *i* P **P** **13 19 53.9 +0.4**
NCK pmax pmax
comp=Z,24nm,0.4s
SVE Sverdlovsk 60.20 340 *ce*P **P** **13 19 53.5 -0.2**
SVE pmax pmax
comp=Z,68nm,1.2s
GRNR Gornyy 60.25 30 *e*P **P** **13 19 55.0 +0.8**
GRNR pmax pmax
comp=Z,46nm,1.0s
NEY Neytrino 60.58 320⇓ *e*P **P** **13 19 58.0 +1.3**
NEY pmax pmax
comp=Z,7.0nm,0.7s
ARU Arti 60.63 339 P **P** **13 19 55.8 -0.8**
comp=Z,10nm,0.8s,baz=136,slow=3.2,SNR=22
ARU Arti 60.63 339 *e*P **P** **13 19 54.1 -2.5**
comp=Z,32nm,1.1s
ARU Arti 60.63 339 *d* iP **P** **13 19 55.6 -1.0**
ARU 13 20 38.3
ARU S **S** **13 28 11.0 +0.4**
ARU SS **SS** **13 32 02.7 -6.8**
ARU pmax pmax
comp=Z,49nm,1.7s
ARU MLR MLR
comp=Z,289nm,20.0s
ASF Jabal al Asfar 60.67 306 P **P** **13 19 59.3 +1.8**
comp=Z,11nm,0.7s,baz=65,slow=5.5,SNR=18
KBZ Khabaz 60.69 320 P **P** **13 19 57.7 +0.5**
comp=Z,26nm,0.8s,baz=126,slow=5.5,SNR=60
KBZ LR LR 13 49 35.0
comp=Z,85nm,20.1s,baz=130,slow=39
KVAR Kislovodsk Arr 60.92 320 P **P** **13 19 59.5 +0.5**
comp=Z,41nm,0.9s,baz=72,slow=3.0,SNR=22
KIV Kislovodsk 60.93 320 P **P** **13 19 59.6 +0.5**
SNR=14
KIV Kislovodsk 60.93 320 P **P** **13 19 59.6 +0.5**
SNR=14
KIV Kislovodsk 60.93 320 *i* P **P** **13 19 59.5 +0.5**
SNR=7.3
KIV Kislovodsk 60.93 320 *e*P **P** **13 19 59.3 +0.3**
KIV pmax pmax
comp=Z,65nm,1.1s
GOF Gofitskoye 61.22 321⇑ *e*P **P** **13 20 00.9 0.0**
GOF pmax pmax
comp=Z,33nm,0.6s
YSS Yuzh-Sakhalins 61.56 36 *e*P **P** **13 20 03.6 +0.5**
comp=Z,26nm,0.9s
YSS Yuzh-Sakhalins 61.56 36⇓ *e*P **P** **13 20 03.9 +0.8**
YSS *e* 13 20 22.3
YSS pmax pmax
comp=Z,30nm,0.9s
EIL Elat 61.59 303 P **P** **13 20 07.7 +4.0**
comp=Z,9.9nm,0.7s,baz=137,slow=5.9,SNR=8.4
YUK Yuzh-Kuril'sk 62.09 40⇑ *e*P **P** **13 20 08.3 +1.6**
MMAI Mount Meron Ar 62.12 306 P **P** **13 20 09.4 +2.2**
comp=Z,8.3nm,0.6s,baz=101,slow=7.9,SNR=13
MMAI LR LR 13 47 42.5
comp=Z,139nm,20.9s,baz=125,slow=37
EIDS Eidsvold 62.27 120 P **P** **13 20 10.3 +2.0**
baz=62,SNR=7.5
TOO Toolangi 62.47 135 P **P** **13 20 11.1 +1.7**
baz=63,SNR=4.2
YAYL Yayladag 62.47 310 *i* P P 13 20 18.1 +8.5
SOC Sochi 62.69 319 *e*P **P** **13 20 08.7 -2.0**
SOC *e* 13 22 28.1
SOC *e*PPP PPP 13 23 54.4
SOC *e*S **S** **13 28 34.8 -2.3**
SOC *e*SS **SS** **13 32 38.3 -3.9**

SOC pmax pmax
comp=Z,24nm,0.6s
SOC MLR MLR
comp=Z,273nm,21.0s
ANDN Andirin 62.79 311 *i* P **P 13 20 12.9 +1.2**
YNG Young 63.20 131 P **P 13 20 14.9 +0.5**
baz=63,SNR=8.5
TYV Tymovskoe 63.54 32 *e*P **P 13 20 11.8 -4.4**
TYV pmax pmax
comp=Z,200nm,5.3s
TYV pmax pmax
comp=Z,7.0nm,1.2s
TYV MLR MLR
comp=Z,700nm,18.0s
NKL Nikolayevsk 63.79 30 *e*P **P 13 20 17.5 -0.3**
NKL pmax pmax
comp=N,6.0nm,0.9s
NKL pmax pmax
comp=Z,39nm,0.9s
NKL MLR MLR
comp=Z,600nm,16.0s
CSS Mathiatis 64.31 308 *e*P **P 13 20 21.8 +0.1**
comp=Z,16nm,1.4s
ANN Anapa 64.69 319 *e*P P 13 20 13.7 -10
ANN *e**PP pP 13 20 26.1 -7.9
ANN *e* 13 20 54.3
ANN pmax pmax
comp=Z,31nm,1.2s
VRH Novokhopyorsk 65.02 327 *e*P **P 13 20 24.6 -1.3**
VRH pmax pmax
comp=Z,30nm,0.5s
YAK Yakutsk 65.38 18 *e*P **P 13 20 26.9 -1.1**
YAK *e**PP **pP 13 20 36.0 -2.2**
YAK *e* 13 21 03.5
YAK *e*S **S 13 29 07.5 -2.3**
YAK *e**SS sS 13 29 38.9 +12
YAK *e*SSS SSS 13 36 21.7
YAK pmax pmax
comp=Z,119nm,0.9s
YAK pmax pmax
comp=E,27nm,1.2s
YAK pmax pmax
comp=N,21nm,1.1s
YAK pmax pmax
comp=Z,26nm,0.9s
YAK pmax pmax
comp=N,15nm,1.5s
YAK smax smax
comp=E,62nm,14.8s
YAK MLR MLR
comp=Z,269nm,20.0s
YAK MLR MLR
comp=N,885nm,23.0s
YAK MLR MLR
comp=E,169nm,18.0s
BR131 Keskin Array S 65.49 313 *e*P **P 13 20 29.0 -0.5**
BRTR Keskin Array B 65.49 313 P **P 13 20 29.4 -0.1**
comp=E,12nm,0.7s,baz=129,slow=7.1,SNR=73
BRTR LR LR 13 49 41.1
comp=E,127nm,20.2s,baz=108,slow=37
ILGA Ilgaz 65.86 314 *e*P **P 13 20 30.2 -1.7**
comp=E,29nm,1.0s
ANTO Ankara 66.16 313 *e*P **P 13 20 33.3 -0.3**
comp=E,21nm,0.7s
ANTO Ankara 66.16 313 *e*P **P 13 20 33.3 -0.3**
ANTO pmax pmax
comp=Z,21nm,0.7s
BR231 Keskin MP Arra 66.16 313 *e*P **P 13 20 30.1 -3.6**
VSR Storozhevoye 66.43 326 *e*P **P 13 20 33.2 -1.8**
VSR pmax pmax
comp=Z,60nm,1.1s
LSZ Lusaka 66.83 252 *e*P **P 13 20 38.2 -0.2**
comp=Z,9.4nm,0.9s
LSZ Lusaka 66.83 252 *e*P **P 13 20 38.2 -0.2**
LSZ pmax pmax
comp=Z,9.0nm,0.9s
SIM Simferopol' 66.92 318 *d i*P **P 13 20 38.8 +0.5**
SIM pmax pmax
comp=Z,39nm,0.9s
SIM MLR MLR
comp=Z,70nm,17.2s
LPSR Galich'ya Gora 67.21 327 *e*P **P 13 20 39.0 -0.9**
LPSR pmax pmax
comp=Z,50nm,0.9s
MOS Moscow 69.36 330 *e*P **P 13 20 52.3 -1.1**
MOS pmax pmax
comp=Z,77nm,0.7s
OBN Obninsk 69.61 329 *d i*P **P 13 20 54.1 -0.8**
OBN *e* 13 21 18.0
OBN *e* 13 23 29.9
OBN *e*S **S 13 29 54.5 -6.3**
OBN pmax pmax
comp=Z,96nm,1.7s
OBN MLR MLR
comp=Z,205nm,22.0s
TIRR Tirgusor 70.62 317⇑ *i*P **P 13 21 01.8 +0.5**
TIRR Tirgusor 70.62 317 *e*P **P 13 21 01.4 +0.1**
comp=Z,18nm,0.8s
TIRR Tirgusor 70.62 317 ⇑P **P 13 21 01.8 +0.5**
APE Apeiranthos 70.96 308⇓ *i*P **P 13 21 03.8 +0.2**
APE Apeiranthos 70.96 308 ⇓P **P 13 21 03.8 +0.2**
CFR Carcaliu 71.01 317⇑ *i*P **P 13 21 03.9 +0.2**
CFR Carcaliu 71.01 317 ⇑P **P 13 21 03.9 +0.2**
LBTB Lobatse 71.04 243 *e*P **P 13 21 04.2 -0.1**
comp=Z,22nm,0.9s
LBTB Lobatse 71.04 243 *e*P **P 13 21 04.3 -0.1**
LBTB pmax pmax
comp=Z,23nm,0.9s
KLMR Klimovskoe 71.04 335 *e*P **P 13 21 01.6 -2.0**
KLMR AMP 13 21 03.8
comp=Z,27nm,1.1s
KLMR *e*PcP **PcP 13 21 21.7 -2.0**
KLMR Klimovskoe 71.04 335 *e*P **P 13 21 01.5 -2.0**
KLMR *e* 13 21 21.7
KLMR pmax pmax
comp=Z,27nm,1.1s
SKR Severo-Kuril's 71.12 37⇑ *e*P **P 13 21 04.2 0.0**
IDI Anoyia 71.12 306 P **P 13 21 05.3 +0.6**
comp=Z,48nm,0.7s,baz=92,slow=7.5,SNR=33
IDI Anoyia 71.12 306⇑ *i*P **P 13 21 05.5 +0.8**
IDI Anoyia 71.12 306 *e*P **P 13 21 05.5 +0.8**
comp=Z,42nm,0.7s
SORM Soroca 71.73 320⇓ *i*P **P 13 21 07.7 -0.3**
SORM Soroca 71.73 320 ⇓P **P 13 21 07.7 -0.3**
MA2 Magadan 71.93 27 P **P 13 21 08.5 -0.5**
comp=Z,11nm,0.7s,baz=191,slow=10,SNR=6.9
AKASG Malin Array Be 71.99 323 P **P 13 21 08.8 -0.7**
comp=Z,13nm,0.8s,baz=90,slow=4.8,SNR=52
AKASG PP **PP 13 23 50.8 +1.1**
comp=Z,2.2nm,0.9s,baz=89,slow=6.6,SNR=4.4
AKASG Malin Array Be 71.99 323 P **P 13 21 08.8 -0.7**
AKASG 13 23 50.8
AKASG pmax pmax
comp=Z,7.0nm,0.8s
AKASG pmax pmax
comp=Z,2.0nm,0.9s
AKBB Malin Array Si 71.99 323 *e*P **P 13 21 08.7 -0.8**
AKBB Malin Array Si 71.99 323 *e*P **P 13 21 08.7 -0.8**
KIEV Kiev 72.00 323 *e*P **P 13 21 08.7 -0.9**
comp=Z,14nm,0.9s
KIEV Kiev 72.00 323 *i* P **P 13 21 08.8 -0.7**
SNR=9.2
KIEV Kiev 72.00 323 *de*P **P 13 21 08.7 -0.9**
KIEV pmax pmax
comp=Z,19nm,1.1s
AK11 Malin Array Si 72.02 323 *e*P **P 13 21 08.9 -0.8**
BOSA Boshof 72.11 239 P **P 13 21 10.5 -0.4**
comp=Z,11nm,0.9s,baz=87,slow=8.3,SNR=10
BOSA Boshof 72.11 239 *e*P **P 13 21 11.0 +0.1**
comp=Z,21nm,1.1s
VRI Vrincioaia 72.15 318⇑ *i*P **P 13 21 11.5 +0.9**
VRI Vrincioaia 72.15 318 ⇑P **P 13 21 11.5 +0.9**
PLOR Plostina 72.20 318⇓ *i*P **P 13 21 12.2 +1.3**
PLOR Plostina 72.20 318 ⇓P **P 13 21 12.2 +1.3**
TESR Tescani 72.38 318⇓ *i*P **P 13 21 11.9 0.0**
MLR Muntele Rosu 72.58 317 P **P 13 21 14.4 +1.1**
comp=Z,8.2nm,0.9s,baz=132,slow=1.9,SNR=34
MLR Muntele Rosu 72.58 317⇓ *i*P **P 13 21 14.4 +1.1**
MLR Muntele Rosu 72.58 317 *e*P **P 13 21 13.8 +0.4**
comp=Z,41nm,0.9s
TIXI Tiksi 72.69 11 *d i*P **P 13 21 12.8 -0.5**
TIXI pmax pmax
comp=Z,61nm,0.8s
MAW Mawson 73.08 192 P **P 13 21 16.7 +1.2**
comp=Z,3.3nm,0.7s,baz=356,slow=8.2,SNR=3.5

VOIR 73.18 317⇓ *i*P **P 13 21 16.7 -0.1**
VOIR 73.18 317 ⇓P **P 13 21 16.7 -0.1**
TMCR Tamitsa 73.35 338 *e*P **P 13 21 16.7 -0.6**
TMCR pmax pmax
comp=Z,26nm,0.9s
ARR Arges 73.45 317⇓ *i*P **P 13 21 18.2 -0.2**
BURAR Bucovina Array 73.61 319⇑ *i*P **P 13 21 20.5 +1.1**
BURAR Bucovina Array 73.61 319 ⇑P **P 13 21 20.5 +1.1**
BUR04 Bucovina Ar. S 73.62 319 *e*P **P 13 21 20.1 +0.7**
BUR08 Bucovina Ar. S 73.63 319 *e*P **P 13 21 18.1 -1.4**
VTS Vitosha 73.84 314⇑ *i*P **P 13 21 20.5 -0.3**
VTS Vitosha 73.84 314 *e*P **P 13 21 20.3 -0.6**
comp=Z,9.0nm,0.7s
VTS Vitosha 73.84 314 ⇑P **P 13 21 20.6 -0.3**
LOT Lotru 74.06 317⇓ *i*P **P 13 21 17.3 -4.7**
SEY Seymchan 74.17 24 P **P 13 21 21.6 -0.5**
comp=Z,8.8nm,0.9s,baz=230,slow=5.2,SNR=20
SEY Seymchan 74.17 24⇓ *e*P **P 13 21 22.1 -0.1**
PUL Pulkovo 74.63 332⇓ *e*P **P 13 21 25.4 +0.6**
PUL pmax pmax
comp=Z,59nm,1.1s
NACGM Naroch 74.74 327 *e*P **P 13 21 25.0 -0.6**
NACGM PM 13 21 26.0
comp=Z,0.2nm,0.8s
HERR Herculane 74.87 316⇑ *i*P **P 13 21 26.7 +0.1**
IDID Didziasalis 74.89 327 *e*P **P 13 21 26.7 +0.2**
IDID IAmb IAmb 13 21 27.6
comp=Z,21nm,0.9s
DRGR 75.08 318⇓ *i*P **P 13 21 27.9 0.0**
DRGR 75.08 318 ⇓P **P 13 21 27.9 0.0**
IIGN Ignalina 75.18 327 *e*P **P 13 21 28.3 +0.2**
IIGN IAmb IAmb 13 21 29.3
comp=Z,21nm,0.9s
BZS Buzias 75.57 316⇓ *i*P **P 13 21 31.0 +0.4**
BZS Buzias 75.57 316 ⇓P **P 13 21 31.0 +0.4**
KWP Kalwaria Pacla 75.72 321 *e*P **P 13 21 32.0 +0.6**
KWP Kalwaria Pacla 75.72 321 *e*P **P 13 21 32.0 +0.6**
UZH Uzhgorod 75.76 320 *e*P **P 13 21 32.1 +0.5**
UZH *e* 13 21 38.3
VSU Vasula 75.89 330 *d i*P **P 13 21 31.6 -0.6**
VSU pmax pmax
comp=Z,92nm,1.0s
CRVS Cervenica-Dubn 76.35 320 *e*P **P 13 21 35.9 +0.9**
CRVS Cervenica-Dubn 76.35 320 *e*P **P 13 21 35.9 +0.9**
LVZ Lovozero 76.41 341⇑ *e*P **P 13 21 34.5 -0.5**
LVZ pmax pmax
comp=Z,54nm,2.2s
SUW Suwalki 76.50 325 *e*P **P 13 21 35.4 -0.3**
SUW Suwalki 76.50 325 *e*P **P 13 21 35.4 -0.3**
STHS Stebnicka Huta 76.60 320 *e*P **P 13 21 37.7 +1.3**
STHS Stebnicka Huta 76.60 320 *e*P **P 13 21 37.7 +1.3**
STHS pmax pmax
comp=Z,15nm,0.8s
FIA1 FINESS Array S 77.18 333 *e*P **P 13 21 38.6 -0.7**
PSZ Piszkesteto 77.18 319⇓ *i*P **P 13 21 40.0 +0.2**
PSZ Piszkesteto 77.18 319 ⇓P **P 13 21 40.0 +0.2**
FINES FINESS Array B 77.18 333 P **P 13 21 38.9 -0.5**
comp=Z,15nm,0.7s,baz=97,slow=5.6,SNR=39
FINES LR LR 13 57 32.5
comp=Z,229nm,20.1s,baz=120,slow=37
NIE Niedzica 77.20 320 *e*P **P 13 21 40.8 +0.9**
NIE Niedzica 77.20 320 *e*P **P 13 21 40.8 +0.9**
OJC Ojcow 77.68 321 *e*P **P 13 21 42.9 +0.5**
OJC Ojcow 77.68 321 *e*P **P 13 21 42.9 +0.5**
VYHS Vyhne 77.98 319 *e*P **P 13 21 44.8 +0.6**
VYHS Vyhne 77.98 319 *e*P **P 13 21 44.8 +0.6**
VYHS pmax pmax
comp=Z,9.0nm,1.0s
KLNR Kaliningrad 78.33 325 *de*P **P 13 21 45.9 0.0**
KLNR pmax pmax
comp=Z,104nm,0.8s
MODS Modra-Piesok 78.98 319 *e*P **P 13 21 50.5 +0.8**
MODS Modra-Piesok 78.98 319 *e*P **P 13 21 50.5 +0.8**
MORC Moravsky Berou 79.03 320⇓ *i*P **P 13 21 48.7 -1.3**
MORC Moravsky Berou 79.03 320 *e*P **P 13 21 50.5 +0.5**
MORC Moravsky Berou 79.03 320 ⇓P **P 13 21 48.7 -1.3**
ZST Bratislava 79.07 319 *e*P **P 13 21 50.3 +0.1**
ZST Bratislava 79.07 319 *e*P **P 13 21 50.3 +0.1**
KRLC Kraliky 79.57 320 *e*P **P 13 21 53.8 +0.9**
KRLC Kraliky 79.57 320 *e*P **P 13 21 53.8 +0.9**
CONA Conrad Observa 79.86 318 *i*P **P 13 21 55.2 +0.6**
comp=Z,9.2nm,1.2s
DPC Dobruska-Polom 79.90 321 *e*P **P 13 21 55.8 +1.1**
DPC *e*PCP **pP 13 22 04.2 -0.9**
DPC *ex* x 13 22 13.5
DPC Dobruska-Polom 79.90 321 *e*P **P 13 21 55.8 +1.1**
DPC *e* 13 22 04.2
DPC *e* 13 22 13.5
BOJS Bojanci 79.97 316 *i*P **P 13 21 55.3 +0.2**
KSP Ksiaz 79.99 321 *e*P **P 13 21 56.1 +1.0**
KSP Ksiaz 79.99 321 *e*P **P 13 21 56.1 +1.0**
ARSA Arzberg 80.00 317 *i*P **P 13 21 56.2 +0.9**
SNR=8.3
SYO Syowa Base 80.01 197⇓ *eX* **P 13 21 53.0 -1.8**
SYO Syowa Base 80.01 197⇓ *eX* **P 13 21 58.0 +3.2**
UPC Upice 80.12 321 *e*P **P 13 21 56.8 +1.0**
UPC *ex* x 13 22 06.3
UPC Upice 80.12 321 *e*P **P 13 21 56.8 +1.0**
UPC *e* 13 22 06.3
ARCES ARCESS Array B 80.12 341 P **P 13 21 54.8 -0.7**
comp=Z,15nm,0.8s,baz=88,slow=5.9,SNR=44
PERS Pernice 80.20 317 *e*P **P 13 21 56.9 +0.5**
SOKA Soboth 80.26 317 *i*P **P 13 21 57.6 +0.8**
SNR=9.4
VISS Visnje 80.29 316 *i*P **P 13 21 57.1 +0.3**
GOPC GO Pecny, Ondr 80.82 320 *e*P **P 13 22 00.2 +0.6**
GOPC GO Pecny, Ondr 80.82 320 *e*P **P 13 22 00.2 +0.6**
JAVS Javornik 80.84 316 *i*P **P 13 21 59.6 -0.3**
PRU Pruhonice 80.98 320 *e*P **P 13 22 00.3 -0.2**
PRU Pruhonice 80.98 320 *e*P **P 13 22 00.3 -0.2**
PVCC Panska Ves 81.03 321 *e*P **P 13 22 01.6 +0.9**
PVCC Panska Ves 81.03 321 *e*P **P 13 22 01.6 +0.9**
GEA0 GERESS Array S 81.40 319 *e*P **P 13 22 03.0 +0.1**
GEC2 GERESS Array S 81.40 319 *e*P **P 13 22 03.5 +0.7**
GEC2 GERESS Array S 81.40 319 *e*P **P 13 22 03.5 +0.7**
GERES GERESS Array B 81.40 319 P **P 13 22 03.5 +0.7**
comp=Z,13nm,0.7s,baz=96,slow=5.4,SNR=77
BILL Bilibino 81.40 21⇑ *i*P **P 13 22 02.3 0.0**
BILL *i* 13 22 08.9
BILL pmax pmax
comp=Z,3.0nm,0.8s
BILL MLR MLR
comp=Z,386nm,17.0s
BRG Berggiesshubel 81.47 321 *i*P **P 13 22 03.6 +0.5**
comp=Z,13nm,0.9s
BRG Berggiesshubel 81.47 321 *i*P **P 13 22 03.6 +0.5**
BRG pmax pmax
comp=Z,13nm,0.9s
KHC Kasperske Hory 81.51 319 *e*P **P 13 22 03.9 +0.6**
KHC *e*PCP **PcP 13 22 09.9 +0.6**
KHC *ex* x 13 22 18.1
KHC Kasperske Hory 81.51 319 *e*P **P 13 22 04.0 +0.6**
KHC Kasperske Hory 81.51 319 *e*P **P 13 22 04.0 +0.6**
CLL Collm 82.11 321⇓ *i*P **P 13 22 06.5 +0.1**
comp=Z,9.0nm,1.0s
CLL Collm 82.11 321⇓ *i*P **P 13 22 06.5 +0.1**
CLL pmax pmax
comp=Z,9.0nm,1.0s
RPZ Rata Peaks 82.76 134 LR LR 14 00 21.9
comp=Z,137nm,18.1s,baz=196,slow=37
HFS Hagfors 82.78 330 P **P 13 22 09.4 -0.3**
comp=Z,12nm,0.7s,baz=119,slow=2.2,SNR=44
KEST Kesra 83.76 306 P **P 13 22 17.0 +1.6**
comp=Z,12nm,0.8s,baz=63,slow=2.0,SNR=12
KEST Kesra 83.76 306 *e*P **P 13 22 15.2 -0.3**
NB2 NORSAR Subarra 84.10 331 P **P 13 22 15.8 -0.7**
comp=Z,12nm,0.9s,baz=90,slow=5.3
NOA NORSAR Array B 84.10 331 P **P 13 22 15.9 -0.7**
comp=Z,9.4nm,0.8s,baz=96,slow=5.3,SNR=21
NOA NORSAR Array B 84.10 331 P **P 13 22 15.9 -0.6**
NOA pmax pmax
comp=Z,8.0nm,0.8s
TUE Stuetta 84.15 316 *e*P **P 13 22 18.3 +1.0**
KONO Kongsberg 84.78 330⇓ *e*P **P 13 22 19.6 -0.3**
KONO pmax pmax
comp=Z,21nm,1.2s
BFO Black Forest 84.92 318 *i*P **P 13 22 21.3 +0.4**
SPITS Spitsbergen Ar 84.99 348 P **P 13 22 20.5 -0.3**
comp=Z,14nm,0.6s,baz=48,slow=3.7,SNR=27
VNDA Vanda 87.77 168 P **P 13 22 34.3 0.0**
comp=Z,0.5nm,0.7s,baz=326,slow=5.0,SNR=2.3
TORD Torodi Ar. Bea 91.11 283 P **P 13 22 52.1 +0.8**
comp=Z,1.2nm,1.1s,baz=72,slow=4.7,SNR=3.1

EKA Eskdalemuir Ar 91.76 325 P **P 13 22 53.6 +0.2**
comp=Z,6.5nm,0.8s,baz=98,slow=5.0,SNR=13
EKA PP **PP 13 26 32.7 +0.4**
comp=Z,2.9nm,0.9s,baz=85,slow=9.5,SNR=3.5
ESDC Sonseca Array 94.14 310 P **P 13 23 05.3 +0.5**
comp=Z,0.2nm,0.4s,baz=59,slow=4.4,SNR=7.3
SNAA Sanae 94.25 198 P **P 13 23 04.9 +0.3**
comp=Z,0.6nm,0.6s,baz=132,slow=4.1,SNR=5.0
KOWA Kowa 96.57 285 LR LR 14 05 55.9
comp=Z,181nm,18.8s,baz=200,slow=35
TOLK Toolik Lake Re 97.32 19 P **P 13 23 18.7 0.0**
baz=296
DBIC Dimbokro 97.91 277 LR LR 14 05 24.4
comp=Z,70nm,19.6s,baz=72,slow=34
BORG Borgarnes 98.13 337 LR LR 14 10 50.0
comp=Z,107nm,21.2s,baz=83,slow=37
ILAR Eielson Array 100.05 22 P **Pdif 13 23 29.1 -1.9**
comp=Z,0.4nm,0.8s,baz=311,slow=4.4,SNR=6.5
ILAR PP **PP 13 27 32.1 -3.9**
comp=Z,0.7nm,0.8s,baz=295,slow=7.0,SNR=5.9
INK Inuvik 102.41 16 P **Pdif 13 23 40.9 -0.4**
comp=Z,0.3nm,0.5s,baz=338,slow=4.6,SNR=4.8
RES Resolute Bay 102.85 2 P **Pdif 13 23 43.7 +0.6**
comp=Z,2.1nm,0.8s,baz=314,slow=4.2,SNR=9.7
RES PP **PP 13 27 52.0 -4.7**
comp=Z,0.5nm,0.5s,baz=13,slow=20,SNR=3.6
YKA Yellowknife Ar 111.87 14 Pdiff **Pdif 13 24 25.2 +1.7**
comp=Z,0.2nm,0.7s,baz=319,slow=4.5,SNR=5.4
YKA PKiKP **PKiKP 13 28 19.2 -1.2**
comp=Z,0.2nm,0.6s,baz=325,slow=2.6,SNR=4.2
YKA PP **PP 13 29 01.3 -1.6**
comp=Z,1.0nm,1.0s,baz=335,slow=8.3,SNR=5.5
YKA PKKPab **PKKPab 13 39 20.9 -2.5**
comp=Z,0.2nm,0.6s,baz=144,slow=3.7,SNR=6.3
MSO Missoula 125.38 23 P **PKPdf 13 28 46.0 -1.0**
baz=326
ULM Lac du Bonnet 126.94 7 PKP **PKPdf 13 28 49.1 -0.7**
comp=Z,4.8nm,0.6s,baz=20,slow=3.0,SNR=13
RLMT Red Lodge 128.55 20 P **PKPdf 13 28 52.1 -1.2**
baz=331
B34A Aery, Baudette 128.82 7 P **PKPdf 13 28 52.4 -1.0**
baz=350
B35A Bob, Littlefor 129.05 6 P **PKPdf 13 28 52.8 -1.0**
baz=351
EYMN Ely 129.66 4 P **PKPdf 13 28 54.6 -0.5**
baz=354
NVAR Mina Array Bea 129.92 33 PKP **PKPdf 13 28 56.3 +0.2**
comp=Z,0.9nm,0.6s,baz=327,slow=1.6,SNR=7.6
PDAR Pinedale Array 130.48 22 PKP **PKPdf 13 28 57.4 +0.3**
comp=Z,0.6nm,0.5s,baz=54,slow=2.6,SNR=6.5
PDAR PP **PP 13 31 10.2 -0.2**
comp=Z,1.3nm,0.9s,baz=15,slow=3.7,SNR=4.2
D41A Chassel 130.70 2 P **PKPdf 13 28 56.7 -0.3**
baz=357
E40A Wakefield 131.26 3 P **PKPdf 13 28 58.1 0.0**
baz=356
E41A Kenton 131.28 2 P **PKPdf 13 28 57.7 -0.4**
baz=357
E39A Mellen 131.29 4 P **PKPdf 13 28 57.8 -0.4**
baz=355
R11A Troy Canyon, C 131.40 31 P **PKPdf 13 28 59.3 +0.4**
baz=320
F36A Milaca 131.54 6 P **PKPdf 13 28 58.0 -0.6**
baz=351
F40A Park Falls 131.77 3 P **PKPdf 13 28 58.7 -0.4**
baz=355
F45A CMU Biological 132.10 359 P **PKPdf 13 28 59.2 -0.5**
baz=1.4
G38A Ridgeland 132.39 5 P **PKPdf 13 28 59.3 -1.0**
baz=353
G40A Rib Lake 132.41 3 P **PKPdf 13 29 00.0 -0.3**
baz=355
H40A Chili 133.05 4 P **PKPdf 13 29 01.3 -0.2**
baz=355
ECSD EROS Data Cent 133.19 10 P **PKPdf 13 29 01.2 -0.7**
baz=346
J39A Decorah 134.22 5 P **PKPdf 13 29 03.5 -0.3**
baz=353
J41A Loganville 134.32 3 P **PKPdf 13 29 03.2 -0.8**
baz=355
ANMO Albuquerque 138.43 25 PKP **PKPdf 13 29 12.7 +0.6**
comp=Z,2.3nm,0.8s,baz=39,slow=2.7,SNR=5.9
X39A Fountain Ranch 142.59 10 P PKPpre 13 29 14.7
baz=348
MIAR Mount Ida 142.65 10 P PKPpre 13 29 15.7
baz=348
TXAR Lajitas Array 144.45 26 PKP PKPbc 13 29 21.4 0.0
comp=Z,9.8nm,0.6s,baz=245,slow=0.4,SNR=126
Z50A Ashland 144.51 359 P **PKPab 13 29 20.7 -0.4**
baz=1.2
Z49A Columbiana 144.58 360 P **PKPab 13 29 21.3 -0.1**
baz=0.1
141A Papa Simpson, 144.66 9 P PKPbc 13 29 22.1 +0.3
baz=349
LRAL Lakeview Retre 144.74 1 P **PKPab 13 29 21.3 -0.6**
baz=359
JCT Junction City 144.95 20 P **PKPab 13 29 22.3 -0.5**
baz=337
145A Houston Renfro 145.03 5 P **PKPdf 13 29 23.4 -0.3**
baz=354
146A Union 145.06 4 P **PKPdf 13 29 23.5 -0.2**
baz=356
147A Livingston 145.06 2 P **PKPbc 13 29 22.8 -0.3**
baz=357
NATX Nacogdoches 145.16 12 P **PKPab 13 29 23.7 +0.2**
baz=346
150A Eclectic 145.16 359 P **PKPbc 13 29 23.0 -0.4**
baz=1.0
149A Jones 145.17 0 P **PKPbc 13 29 23.3 -0.2**
baz=360
151A Opelika 145.22 358 P **PKPbc 13 29 23.1 -0.5**
baz=2.2
241A Mo Tay, Goldon 145.23 9 P **PKPdf 13 29 24.2 +0.1**
baz=349
VBMS Vicksburg 145.35 6 P **PKPdf 13 29 24.5 +0.2**
baz=353
244A Avery, Jackson 145.51 6 P **PKPbc 13 29 24.6 +0.1**
baz=353
245A Little AP, Sta 145.60 5 P **PKPbc 13 29 24.9 +0.1**
baz=354
253A Americus 145.63 356 P **PKPbc 13 29 24.9 -0.1**
baz=4.4
251A Midway 145.66 358 P **PKPdf 13 29 24.8 0.0**
baz=2.1
248A Dixon Mills 145.66 2 P **PKPab 13 29 25.4 +0.1**
baz=358
247A Quitman 145.67 3 P **PKPab 13 29 25.7 +0.3**
baz=356
254A Abbeville 145.68 355 P **PKPbc 13 29 25.1 0.0**
baz=5.8
252A Lumpkin 145.73 357 P **PKPbc 13 29 25.2 0.0**
baz=3.3
250A Grady 145.79 359 P **PKPbc 13 29 25.3 -0.1**
baz=0.6
249A Camden 145.79 1 P **PKPbc 13 29 25.5 +0.1**
baz=359
356A Blackshear 146.18 353 P **PKPbc 13 29 26.4 -0.2**
baz=8.0
347A Saraland 146.32 3 P **PKPab 13 29 27.6 -0.2**
baz=356
353A Camilla 146.34 356 P **PKPbc 13 29 27.0 -0.1**
baz=4.3
349A Repton 146.41 1 P **PKPab 13 29 28.1 -0.1**
baz=359
453A Whigham 146.84 356 P **PKPbc 13 29 28.3 -0.3**
baz=4.2
833A Chaparral WMA, 147.06 21 P **PKPbc 13 29 29.2 -0.1**
baz=336
LPAZ La Paz 157.18 232 PKPab **PKPab 13 30 13.4 -0.6**
comp=Z,3.1nm,0.8s,baz=58,slow=6.2,SNR=6.7

IDC 12 13:14:49.5±1.7, 2°48.8N×92°35.2E, h0km, mb3.8/6, mb1 3.9/6, mb1mx3.5/72, mbtmp3.8/6, Error ellipse: s-maj=87.7km s-min=21.1km az=53.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**45.00**	**350**	P	P	P	13 23 06.8	+0.1
	1.3nm,0.6s,baz=166,slow=8.0,SNR=3.8							
WRA	**Warramunga Arr**	**46.84**	**120**	P	P	P	13 23 21.4	-0.2
	1.2nm,0.8s,baz=293,slow=8.3,SNR=4.1							
ASAR	**Alice Springs**	**48.06**	**125**	P	P	P	13 23 31.1	0.0
	0.2nm,0.5s,baz=293,slow=7.1,SNR=3.2							
KURBB	**Kurchatov Arra**	**49.38**	**348**	P	P	P	13 23 40.4	-0.3
	0.9nm,0.7s,baz=165,slow=7.6,SNR=3.0							
ZALV	**Zalesovo Beam**	**51.68**	**354**	P	P	P	13 23 57.9	-0.1

1.5nm,0.4s,baz=165,slow=6.4,SNR=5.7
GERES GERESS Array B 80.67 319 P P 13 27 04.6 0.0
0.2nm,0.3s,baz=90,slow=7.8,SNR=3.1
TXAR Lajitas Array 144.84 25 PKP PKPbc 13 34 28.8 +0.5
0.2nm,0.4s,baz=311,slow=1.6,SNR=3.1

CSEM ***12*** *13:20:28.8±0.2, 37.87N×15.65E, h10km, ML3.9/14, Error ellipse: s-maj=4.3km s-min=2.5km az=131.0*
ROM 12 13:20:28.8±0.1, 37.89N×15.63E, h8km±1km, Ml3.2/33, 2C, Error ellipse: s-maj=1.4km s-min=1.0km az=125.0, Sicily

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATN	**Antennamare**	**0.30**	**334**	Pg	Pb	13 20 35.7	-0.9
ATN				Sg	Sb	13 20 41.7	-0.1
	1µm,0.3s						
ATN	**Antennamare**	**0.30**	**334**	Pg	Pb	13 20 35.7	-0.9
ATN				Sg	Sb	13 20 41.7	-0.1
	1µm,0.3s						
MMME	**Mongiuffi-Meli**	**0.30**	**279**	Pg	Pb	13 20 35.7	-0.8
MMME				Sg	Sb	13 20 40.4	-1.3
	4µm,0.3s						
MMME	**Mongiuffi-Meli**	**0.30**	**279**	Pg	Pb	13 20 35.7	-0.8
MMME				Sg	Sb	13 20 40.4	-1.3
	4µm,0.3s						
MPAZ	**Palizzi**	**0.30**	**78**	Pg	Pb	13 20 36.1	-0.5
MPAZ				Sg	Sb	13 20 41.6	-0.2
	2µm,0.4s						
MPAZ	**Palizzi**	**0.30**	**78**	Pg	Pb	13 20 36.1	-0.5
MPAZ				Sg	Sb	13 20 41.6	-0.2
	2µm,0.4s						
GMB	**Gambarie**	**0.32**	**29**	Pg	Pb	13 20 36.3	-0.6
GMB				Sg	Sb	13 20 41.6	-0.8
	13µm,0.2s						
GMB	**Gambarie**	**0.32**	**29**	Pg	Pb	13 20 36.3	-0.6
GMB				Sg	Sb	13 20 41.6	-0.8
	13µm,0.2s						
MPNC	**Port Mandanici**	**0.34**	**320**	Pg	Pg	13 20 36.2	+0.8
MPNC				Sg	Sb	13 20 41.6	-1.1
	3µm,0.4s						
MPNC	**Port Mandanici**	**0.34**	**320**	Pg	Pg	13 20 36.2	+0.8
MPNC				Sg	Sb	13 20 41.6	-1.1
	3µm,0.4s						
MCSR	**Castroreale**	**0.35**	**300**	Pg	Pg	13 20 36.5	+0.8
	11µm,0.3s						
MCSR	**Castroreale**	**0.35**	**300**	Pg	Pg	13 20 36.5	+0.8
	11µm,0.3s						
MSCL	**Scilla**	**0.37**	**20**	Pg	Pb	13 20 37.0	-0.7
MSCL				Sg	Sb	13 20 42.8	-0.8
	2µm,0.4s						
MSCL	**Scilla**	**0.37**	**20**	Pg	Pb	13 20 37.0	-0.7
MSCL				Sg	Sb	13 20 42.8	-0.8
	2µm,0.4s						
SOI	**Samo**	**0.38**	**61**	Pg	Pb	13 20 37.3	-0.6
SOI				Sg	Sg	13 20 42.5	+1.2
	1µm,0.6s						
SOI	**Samo**	**0.38**	**61**	Pg	Pb	13 20 37.3	-0.6
SOI				Sg	Sg	13 20 42.5	+1.2
	1µm,0.6s						
MSRU	**Castanea**	**0.39**	**346**	Pg	Pb	13 20 37.3	-0.7
MSRU				Sg	Sb	13 20 43.6	-0.5
	2µm,0.2s						
MSRU	**Castanea**	**0.39**	**346**	Pg	Pb	13 20 37.3	-0.7
MSRU				Sg	Sb	13 20 43.6	-0.5
	2µm,0.2s						
NOV	**Novara**	**0.41**	**290**	Pg	Pb	13 20 37.7	-0.8
NOV				Sg	Sb	13 20 44.7	-0.3
	3µm,0.6s						
NOV	**Novara**	**0.41**	**290**	Pg	Pb	13 20 37.7	-0.8
NOV				Sg	Sb	13 20 44.7	-0.3
	3µm,0.6s						
CEL	**Celeste**	**0.42**	**29**	Pg	Pb	13 20 38.1	-0.6
CEL				Sg	Sb	13 20 44.6	-0.7
	770nm,0.3s						
CEL	**Celeste**	**0.42**	**29**	Pg	Pb	13 20 38.1	-0.6
CEL				Sg	Sb	13 20 44.6	-0.7
	770nm,0.3s						
MILZ	**Milazzo**	**0.49**	**321**	Pg	Pg	13 20 39.0	+0.6
	2µm,0.4s						
MILZ	**Milazzo**	**0.49**	**321**	Pg	Pg	13 20 39.0	+0.6
	2µm,0.4s						
MUCR	**Ucria**	**0.62**	**285**	Pg	Pg	13 20 41.3	+0.6
	997nm,0.6s						
MUCR	**Ucria**	**0.62**	**285**	Pg	Pg	13 20 41.3	+0.6
	997nm,0.6s						
HAGA	**Augusta**	**0.71**	**212**	Pg	Pg	13 20 42.5	0.0
HAGA				Sg	Sb	13 20 53.5	+0.1
	1µm,0.9s						
HAGA	**Augusta**	**0.71**	**212**	Pg	Pg	13 20 42.5	0.0
HAGA				Sg	Sb	13 20 53.5	+0.1
	1µm,0.9s						
JOPP	**Joppolo**	**0.74**	**16**	Pg	Pg	13 20 43.4	+0.2
	475nm,0.5s						
JOPP	**Joppolo**	**0.74**	**16**	Pg	Pg	13 20 43.4	+0.2
	475nm,0.5s						
HCRL	**Carlentini**	**0.77**	**218**	Pg	Pg	13 20 43.7	+0.1
HCRL				Sg	Sb	13 20 55.4	+0.3
	3µm,0.7s						
HCRL	**Carlentini**	**0.77**	**218**	Pg	Pg	13 20 43.7	+0.1
HCRL				Sg	Sb	13 20 55.4	+0.3
	3µm,0.7s						
LLI	**Lipari**	**0.77**	**316**	Pg	Pb	13 20 44.8	+0.2
	4µm,0.6s						
LLI	**Lipari**	**0.77**	**316**	Pg	Pb	13 20 44.8	+0.2
	4µm,0.6s						
ECNV	**Catenanuova**	**0.78**	**248**	Pg	Pb	13 20 45.4	+0.7
	581nm,0.6s						
ECNV	**Catenanuova**	**0.78**	**248**	Pg	Pb	13 20 45.4	+0.7
	581nm,0.6s						
HLNI	**Lentini**	**0.81**	**228**	Pg	Pg	13 20 44.1	-0.2
HLNI	**Lentini**	**0.81**	**228**	Pg	Pg	13 20 44.1	-0.2
MSFR	**San Fratello**	**0.83**	**280**	Pg	Pg	13 20 45.2	+0.4
	225nm,0.6s						
MSFR	**San Fratello**	**0.83**	**280**	Pg	Pg	13 20 45.2	+0.4
	225nm,0.6s						
PLAC	**Placanica**	**0.85**	**48**	Pg	Pg	13 20 45.1	0.0
	477nm,0.5s						
PLAC	**Placanica**	**0.85**	**48**	Pg	Pg	13 20 45.1	0.0
	477nm,0.5s						
SSY	**Sortino**	**0.86**	**211**	Pg	Pg	13 20 44.9	-0.4
	982nm,0.5s						
SSY	**Sortino**	**0.86**	**211**	Pg	Pg	13 20 44.9	-0.4
	982nm,0.5s						
GALF	**Gagliano Caste**	**0.86**	**258**	Pg	Pb	13 20 46.4	+0.3
	609nm,0.6s						
GALF	**Gagliano Caste**	**0.86**	**258**	Pg	Pb	13 20 46.4	+0.3
	609nm,0.6s						
MEU	**Monte Lauro**	**0.96**	**216**	Pg	Pg	13 20 47.1	-0.2
MEU				Sg	Sb	13 21 01.7	+0.9
	910nm,0.2s						
MEU	**Monte Lauro**	**0.96**	**216**	Pg	Pg	13 20 47.1	-0.2
MEU				Sg	Sb	13 21 01.7	+0.9
	910nm,0.2s						
HAVL	**Avola**	**1.01**	**204**	Pg	Pg	13 20 47.3	-0.9
	548nm,0.2s						
HAVL	**Avola**	**1.01**	**204**	Pg	Pg	13 20 47.3	-0.9
	548nm,0.2s						
HVZN	**Vizzini**	**1.02**	**226**	Pg	Pg	13 20 47.8	-0.5
HVZN				Sg	Sb	13 21 02.9	+0.6
	4µm,0.9s						
HVZN	**Vizzini**	**1.02**	**226**	Pg	Pg	13 20 47.8	-0.5
HVZN				Sg	Sb	13 21 02.9	+0.6
	4µm,0.9s						
HMDC	**Modica**	**1.15**	**216**	Pg	Pg	13 20 49.7	-1.1
	428nm,0.4s						
HMDC	**Modica**	**1.15**	**216**	Pg	Pg	13 20 49.7	-1.1
	428nm,0.4s						
PLLN	**Pollina**	**1.18**	**276**	Pg	Pn	13 20 51.8	+0.1
	869nm,1.2s						
PLLN	**Pollina**	**1.18**	**276**	Pg	Pn	13 20 51.8	+0.1
	869nm,1.2s						
IACL	**Alicudi**	**1.19**	**303**	Pg	Pg	13 20 51.0	-0.7
	512nm,0.4s						
IACL	**Alicudi**	**1.19**	**303**	Pg	Pg	13 20 51.0	-0.7
	512nm,0.4s						
RAFF	**Raffo Rosso**	**1.21**	**237**	Pg	Pb	13 20 51.2	-0.7
	994nm,0.6s						
RAFF	**Raffo Rosso**	**1.21**	**237**	Pg	Pb	13 20 51.2	-0.7
	994nm,0.6s						
RESU	**Resuttano**	**1.27**	**260**	Pg	Pg	13 20 53.6	+0.4
	250nm,0.7s						
RESU	**Resuttano**	**1.27**	**260**	Pg	Pg	13 20 53.6	+0.4
	250nm,0.7s						
SERS	**Sersale**	**1.42**	**36**	Pg	Pg	13 20 56.3	+0.3
	114nm,0.5s						
SERS	**Sersale**	**1.42**	**36**	Pg	Pg	13 20 56.3	+0.3
	114nm,0.5s						
CAR1	**CAROLEI**	**1.44**	**18**	Pg	Pn	13 20 54.3	-1.0
	479nm,0.6s						
CAR1	**CAROLEI**	**1.44**	**18**	Pg	Pn	13 20 54.3	-1.0
	479nm,0.6s						
ALJA	**Alia**	**1.49**	**265**	Pg	Pb	13 20 57.0	+0.2
	157nm,0.7s						
ALJA	**Alia**	**1.49**	**265**	Pg	Pb	13 20 57.0	+0.2
	157nm,0.7s						
TIP	**Timpagrande**	**1.56**	**34**	Pg	Pb	13 20 57.9	-0.2
	126nm,0.7s						
TIP	**Timpagrande**	**1.56**	**34**	Pg	Pb	13 20 57.9	-0.2
	126nm,0.7s						
CELI	**Celico**	**1.66**	**24**	Pg	Pn	13 20 58.3	-0.1
	153nm,0.6s						
CELI	**Celico**	**1.66**	**24**	Pg	Pn	13 20 58.3	-0.1
	153nm,0.6s						
MATE	**Matera**	**2.88**	**16**	⇑*i*P	Pn	13 21 15.6	+0.6
MATE	**Matera**	**2.88**	**16**	⇑*i*P	Pn	13 21 15.6	+0.6

IDC 12 13:21:14.1±2.2, 1.19N×91.87E, h0km, mb3.8/3, mb1 4.1/3, mb1mx3.4/76, mbtmp3.8/3, Error ellipse: s-maj=194.1km s-min=30.1km az=36.0, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**46.62**	**119**	P	P	13 29 44.1	-0.3
	0.6nm,0.7s,baz=296,slow=8.6,SNR=4.2						
BRTR	**Keskin Array B**	**65.22**	**314**	P	P	13 31 57.4	-0.4
	0.4nm,0.4s,baz=125,slow=7.7,SNR=3.7						
GERES	**GERESS Array B**	**81.32**	**319**	P	P	13 33 32.9	+0.2
	0.8nm,0.6s,baz=104,slow=5.6,SNR=7.1						
TXAR	**Lajitas Array**	**146.20**	**25**	PKPbc	PKPbc	13 40 57.0	-0.3
	0.2nm,0.6s,baz=164,slow=0.9,SNR=4.1						

IDC ***12*** *13:21:34.4±1.2, 4.09N×92.29E, h0km, mb3.9/10, mb1 4.0/11, mb1mx3.7/78, mbtmp3.9/11, ML3.6/1, Error ellipse: s-maj=44.6km s-min=18.9km az=52.0*
ISCJB ***12*** *13:21:37.7±0.9, 4.2N±0.1×92.4E±0.2, h33km, mb3.9/10, Error ellipse: s-maj=26.7km s-min=16.1km az=146.1*
ISC 12 13:21:39.8±1.2, 4.2N±0.2×92.4E±0.2, h35km, n11, σ0.87/11, mb3.9/10, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**15.53**	**24**	Pn	**Pn**	**13 25 15.4**	**-0.8**
	0.1nm,0.3s,baz=219,slow=13,SNR=7.0						
MKAR	**Makanchi Array**	**43.31**	**350**	P	**P**	**13 29 39.4**	**+1.1**
	2.0nm,0.6s,baz=169,slow=8.6,SNR=18						
SONM	**Songino Array**	**45.09**	**13**	P	**P**	**13 29 52.6**	**0.0**
	0.5nm,0.6s,baz=198,slow=8.2,SNR=3.8						
GEYT	**Alibeck**	**45.87**	**322**	P	**P**	**13 29 57.6**	**-1.2**
	1.5nm,0.5s,baz=126,slow=7.3,SNR=2.9						
WRA	**Warramunga Arr**	**47.68**	**122**	P	**P**	**13 30 13.6**	**+0.3**
	0.9nm,0.7s,baz=297,slow=8.7,SNR=3.0						
KURBB	**Kurchatov Arra**	**47.70**	**348**	P	**P**	**13 30 13.9**	**+1.0**
	0.3nm,0.2s,baz=169,slow=7.2,SNR=9.3						
ASAR	**Alice Springs**	**49.02**	**126**	P	**P**	**13 30 23.2**	**-0.4**
	0.4nm,0.7s,baz=300,slow=7.3,SNR=3.5						
ZALV	**Zalesovo Beam**	**49.96**	**354**	P	**P**	**13 30 31.2**	**+1.0**
	3.3nm,0.5s,baz=191,slow=8.7,SNR=14						
BVAR	**Borovoye Array**	**51.92**	**343**	P	**P**	**13 30 45.3**	**+0.3**
	0.7nm,0.4s,baz=142,slow=7.3,SNR=2.7						
BRTR	**Keskin Array B**	**63.56**	**313**	P	**P**	**13 32 07.0**	**-0.2**
	0.5nm,0.8s,baz=129,slow=5.2,SNR=3.9						
GERES	**GERESS Array B**	**79.40**	**319**	P	**P**	**13 33 43.0**	**+0.5**
	1.0nm,0.6s,baz=110,slow=5.8,SNR=5.3						

NEIC ***12*** *13:23:21.5±0.0, 17.72N×103.17W, h19km, MD4.1(MEX), After MEX.*
MEX 12 13:23:21.5±0.7, 17.72N×103.17W, h19km, MD4.1, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMIG	**Aquila**	**0.59**	**344**	*e*P	Pb	13 23 31.0	-2.2
MMIG				*e*S	Sb	13 23 38.5	-2.6
MMIG	**Aquila**	**0.59**	**344**	*e*P	Pb	13 23 31.0	-2.2
MMIG				*e*S	Sb	13 23 38.5	-2.6
ZIIG	**Zihuatanejo**	**1.63**	**94**	*e*P	Pn	13 23 45.6	-3.6
ZIIG	**Zihuatanejo**	**1.63**	**94**	*e*P	Pn	13 23 45.6	-3.6
EZ5V		**1.80**	**347**	*e*P	Pn	13 23 49.2	-2.5
EZ5V				*e*S	Sn	13 24 11.4	-2.8
CJM	**Chamela**	**2.50**	**315**	*e*P	Pb	13 24 03.7	-2.2
CJM	**Chamela**	**2.50**	**315**	*e*P	Pb	13 24 03.7	-2.2
MOIG	**Morelia**	**2.71**	**44**	*e*Pn	Pn	13 24 01.8	-2.5
MOIG				*e*Sn	Sn	13 24 32.9	-3.8
ARIG	**Puente Sto Nin**	**2.75**	**78**	*e*P	Pn	13 24 02.7	-1.9
ZAIG	**Zacatecas**	**5.06**	**6**	*e*Pn	Pn	13 24 33.6	-3.0
ECSD	**EROS Data Cent**	**26.52**	**11**	P	P	13 28 55.7	-2.2
	6.1nm,0.8s						

IDC ***12*** *13:29:22.3±0.9, 3.16N×92.93E, h0km, mb4.3/14, mb1 4.4/16, mb1mx4.0/69, mbtmp4.3/16, ML4.2/2, Error ellipse: s-maj=32.3km s-min=18.5km az=45.0*
NEIC ***12*** *13:29:24.1±0.5, 3.26N×92.92E, h10km, mb4.5/6, Error ellipse: s-maj=11.7km s-min=6.3km az=198.0*
DJA ***12*** *13:29:37.7±2.7, 3.5N±5.9×94.2E±2.4, h55km±32km, M4.6/7, mb4.6/7, mB5.3/3, MLv4.5/6, Mw(mB)4.8/3*
ISC 12 13:29:25.2±0.7, 3.43N±0.09×93.12E±0.07, h10km, n64, σ1.70/61, mb4.4/20, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLSI	**Meulaboh, Aceh**	**3.38**	**76**	P	**Pn**	**13 30 20.5**	**+2.5**
TPTI		**4.06**	**92**	P	**Pn**	**13 30 29.3**	**+1.9**
LHMI	**Lhok Sumawe**	**4.21**	**65**	*e*Pn	**Pn**	**13 30 34.0**	**+4.5**
GSI	**Gunungsitoli**	**4.93**	**115**	P	**Pn**	**13 30 39.1**	**-0.3**
GSI	**Gunungsitoli**	**4.93**	**115**	*e*Pn	**Pn**	**13 30 39.3**	**-0.1**
PSI	**Prapat**	**5.83**	**96**	*e*Pn	**Pn**	**13 30 53.7**	**+1.8**
PSI				*e*Sn	**Sn**	**13 31 58.2**	**-0.7**
PBSI	**Pulau Batu**	**6.21**	**124**	P	**Pn**	**13 31 01.4**	**+4.4**
MNSI	**Mandailing Nat**	**6.97**	**112**	P	**Pn**	**13 31 08.2**	**+0.8**
	56nm,0.6s,1µm						
SISI	**Saibi**	**7.61**	**128**	P	**Pn**	**13 31 20.7**	**+4.4**
KULM	**Kulim**	**7.73**	**76**	*e*Pn	**Pn**	**13 31 20.4**	**+2.5**
KULM				*e*Sn	**Sn**	**13 32 42.0**	**-3.6**
IPM	**Ipoh**	**7.96**	**82**	*e*Pn	**Pn**	**13 31 23.6**	**+2.7**
IPM				*e*Sn	**Sn**	**13 32 50.0**	**-1.2**
PDSI	**Padang**	**8.51**	**120**	P	**Pn**	**13 31 33.1**	**+4.4**
DGPR	**DIGLIPUR**	**9.68**	**359**	*ex*	**Pn**	**13 31 45.1**	**+0.4**
PALK	**Pallekele**	**12.94**	**288**	Pn	Pn	13 32 25.8	-3.5
	1.3nm,0.3s,baz=117,slow=7.7,SNR=4.1						
PALK				Sn	Sn	13 34 37.6	-16
	3.6nm,0.3s,baz=115,slow=7.3,SNR=7.2						
PALK	**Pallekele**	**12.94**	**288**	*e*Pn	Pn	13 32 25.2	-4.0
PALK				*e*Sn	Sn	13 34 37.9	-16
MDSI	**Maura Dua**	**13.56**	**125**	P	**Pn**	**13 32 38.7**	**+0.9**
CMAR	**Chiang Mai Arr**	**15.98**	**20**	Pn	**Pn**	**13 33 11.4**	**+1.2**
	0.3nm,0.3s,baz=217,slow=14,SNR=17						
CHTO	**Chiang Mai**	**16.31**	**20**	*e*Pn	**Pn**	**13 33 14.6**	**0.0**
BOK	**Bokaro**	**21.41**	**342**	*e*P	**P**	**13 34 14.9**	**+1.4**
ODAN	**Odare**	**23.93**	**347**	*e*P	**P**	**13 34 40.6**	**+0.8**
RAMN	**Ramite**	**24.20**	**346**	*e*P	**P**	**13 34 43.7**	**+1.3**
JIRN	**Jiri**	**24.98**	**345**	*e*P	**P**	**13 34 50.8**	**+1.2**
	88nm,1.1s						
PKIN	**Phulchoki**	**25.12**	**344**	*e*P	**P**	**13 34 52.6**	**+1.9**
	24nm,0.9s						
DMN	**Daman**	**25.23**	**343**	*e*P	**P**	**13 34 53.3**	**+1.6**
GUN	**Gumba**	**25.30**	**345**	*e*P	**P**	**13 34 53.5**	**+1.0**
	48nm,1.2s						
KKN	**Kakani**	**25.35**	**344**	*e*P	**P**	**13 34 53.6**	**+0.9**
GKN	**Gorkha**	**25.74**	**343**	*e*P	**P**	**13 34 57.1**	**+0.9**
KOLN	**Koldanda**	**25.85**	**340**	*e*P	**P**	**13 34 58.2**	**+0.9**
	28nm,0.9s						
LSA	**Lhasa**	**26.19**	**356**	P	**P**	**13 35 03.0**	**+2.4**
LSA				pmax	pmax		
	comp=Z,16nm,0.7s						
DANN	**Dangsing**	**26.34**	**341**	*e*P	**P**	**13 35 03.0**	**+1.2**
PYUN	**Piuthan**	**26.36**	**340**	*e*P	**P**	**13 35 02.8**	**+0.9**
	comp=Z,42nn,1.1s						
SMLA	**Simla**	**31.39**	**333**	*ex*	P	13 35 43.5	-2.8
KDJ	**Kajisay**	**41.08**	**342**	*e*P	**P**	**13 37 10.2**	**+0.9**
	comp=Z,4.9nm,0.9s						

MK01	**Makanchi Array**	**44.18**	**349**	*e*P	**P**	**13 37 34.5**	**+0.3**
MK31	**Makanchi Array**	**44.20**	**349**	*e*P	**P**	**13 37 35.3**	**+0.8**
MKAR	**Makanchi Array**	**44.20**	**349**	P	**P**	**13 37 35.4**	**+0.9**
	comp=Z,6.0nm,0.7s,baz=167,slow=8.6,SNR=56						
MAKZ	**Makanchi**	**44.28**	**349**	*e*P	**P**	**13 37 35.9**	**+0.9**
	comp=Z,3.9nm,0.6s						
KK31	**Karatay Array**	**44.32**	**336**	*e*P	**P**	**13 37 35.6**	**+0.2**
KKAR	**Karatay Array**	**44.32**	**336**	*e*P	**P**	**13 37 35.6**	**+0.2**
SONM	**Songino Array**	**45.69**	**12**	P	**P**	**13 37 47.7**	**+1.3**
	comp=Z,1.5nm,0.6s,baz=193,slow=8.4,SNR=11						
SONA1	**Songino Array**	**45.70**	**12**	*e*P	**P**	**13 37 46.8**	**+0.3**
WRA	**Warramunga Arr**	**46.67**	**122**	P	**P**	**13 37 53.1**	**-1.3**
	comp=Z,3.2nm,0.9s,baz=297,slow=8.9,SNR=7.8						
GEYT	**Alibeck**	**46.92**	**322**	P	**P**	**13 37 56.2**	**+0.1**
	comp=Z,7.1nm,0.8s,baz=157,slow=7.9,SNR=14						
KURBB	**Kurchatov Arra**	**48.61**	**348**	P	**P**	**13 38 09.7**	**+0.8**
	comp=Z,4.6nm,0.8s,baz=169,slow=6.8,SNR=36						
KURK	**Kurchatov**	**48.68**	**348**	*e*P	**P**	**13 38 08.5**	**-0.9**
	comp=Z,6.4nm,1.0s						
RAYN	**Ar Rayn**	**50.12**	**298**	*e*P	**P**	**13 38 20.4**	**-0.6**
	comp=Z,6.5nm,0.9s						
ZAA0	**Zalesovo Array**	**50.81**	**354**	*e*P	P	13 38 23.7	-2.0
	comp=Z,5.6nm,0.9s						
ZALV	**Zalesovo Beam**	**50.81**	**354**	P	**P**	**13 38 26.5**	**+0.8**
	comp=Z,4.2nm,0.5s,baz=187,slow=8.6,SNR=21						
ZALV	**Zalesovo Beam**	**50.81**	**354**	*e*P	**P**	**13 38 24.3**	**-1.4**
BVAR	**Borovoye Array**	**52.88**	**343**	P	**P**	**13 38 40.1**	**-1.0**
	comp=Z,2.8nm,0.9s,baz=139,slow=7.9,SNR=9.4						
ABKAR	**Akbulak array**	**53.67**	**334**	*e*P	**P**	**13 38 46.7**	**-0.4**
STKA	**Stephens Creek**	**57.88**	**131**	P	**P**	**13 39 16.2**	**-1.4**
	comp=Z,1.9nm,0.9s,baz=309,slow=9.3,SNR=3.5						
KBZ	**Khabaz**	**59.74**	**320**	P	**P**	**13 39 29.6**	**-0.6**
	comp=Z,2.8nm,0.8s,baz=168,slow=4.5,SNR=7.2						
BRTR	**Keskin Array B**	**64.61**	**313**	P	**P**	**13 40 01.6**	**-1.7**
	comp=Z,0.8nm,0.7s,baz=133,slow=8.6,SNR=6.9						
BR231	**Keskin MP Arra**	**65.28**	**313**	*e*P	P	13 40 02.7	-4.9
IDI	**Anoyia**	**70.30**	**306**	P	**P**	**13 40 38.7**	**-0.6**
	comp=Z,6.2nm,0.8s,baz=103,slow=14,SNR=4.5						
MLR	**Muntele Rosu**	**71.66**	**317**	P	**P**	**13 40 47.0**	**-0.5**
	comp=Z,1.3nm,0.8s,baz=117,slow=5.0,SNR=6.9						
BUR04	**Bucovina Ar. S**	**72.67**	**319**	*e*P	**P**	**13 40 53.0**	**-0.5**
FINES	**FINESS Array B**	**76.16**	**333**	P	**P**	**13 41 12.0**	**-1.3**
	comp=Z,3.1nm,1.1s,baz=94,slow=11,SNR=4.6						
GEA0	**GERESS Array S**	**80.46**	**319**	*e*P	**P**	**13 41 36.8**	**-0.6**
GEC2	**GERESS Array S**	**80.46**	**319**	*e*P	**P**	**13 41 37.4**	**-0.1**
	comp=Z,7.2nm,1.0s						
GERES	**GERESS Array B**	**80.46**	**319**	P	**P**	**13 41 36.9**	**-0.6**
	comp=Z,1.9nm,0.7s,baz=100,slow=5.5,SNR=17						
PDAR	**Pinedale Array**	**129.64**	**22**	PKP	**PKPdf**	**13 48 34.8**	**-0.5**
	comp=Z,3.3nm,0.7s,baz=299,slow=1.8,SNR=3.1						
TXAR	**Lajitas Array**	**143.66**	**25**	PKP	PKPab	13 48 58.9	+1.0
	comp=Z,0.3nm,0.7s,baz=354,slow=1.3,SNR=3.5						

ISCJB ***12*** *13:29:27.5±1.6, 39.74N±0.04×142.4E±0.1, h17km±10km, mb3.5/3, MS3.7/2, Error ellipse: s-maj=13.2km s-min=6.0km az=1.0*
JMA ***12*** *13:29:28.2, 39.74N×142.30E, h21km±1km, M3.4*
IDC ***12*** *13:29:33.3±4.2, 40.06N×141.18E, h0km, mb3.7/3, mb1 3.4/5, mb1mx3.2/77, mbtmp3.5/5, ML3.0/2, MS3.7/2, Ms1 3.7/2, ms1mx2.8/64, Error ellipse: s-maj=82.2km s-min=32.9km az=111.0*
ISC 12 13:29:28.3±2.0, 39.72N±0.04×142.18E±0.08, h4km±12km, n22, σ1.06/24, mb3.6/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIYJ	**Miyakonagasawa**	**0.31**	**243**	P	**Pb**	**13 29 36.6**	**+0.1**
MIYJ				S	**Sb**	**13 29 42.3**	**+0.4**
JTH	**Tanohata**	**0.33**	**312**	P	**Pb**	**13 29 36.3**	**-0.5**
JTH				S	**Sb**	**13 29 42.0**	**-0.5**
JKZ	**Kuzumaki**	**0.71**	**292**	P	**Pb**	**13 29 43.0**	**-0.3**
JKZ				*e*S	**Sb**	**13 29 53.4**	**0.0**
JOM	**Ohasama**	**0.73**	**251**	P	**Pb**	**13 29 43.7**	**+0.1**
JOM				S	**Sb**	**13 29 54.6**	**+0.7**
OFUJ	**Ofunato**	**0.75**	**212**	P	**Pb**	**13 29 43.2**	**-0.8**
OFUJ				S	**Sb**	**13 29 54.0**	**-0.5**
JANG	**Nango**	**0.83**	**322**	P	**Pg**	**13 29 43.8**	**-0.5**
JANG				*e*S	**Sg**	**13 29 55.2**	**+0.2**
JMK	**Ichinoseki**	**1.07**	**225**	P	**Pb**	**13 29 48.9**	**-0.5**
JMK				*e*S	**Sb**	**13 30 03.8**	**+0.1**
JRG	**Rokugo**	**1.24**	**255**	P	**Pn**	**13 29 52.6**	**+0.2**
JRG				*e*S	**Sn**	**13 30 10.3**	**+0.7**
JAH	**Hinai**	**1.28**	**292**	P	**Pg**	**13 29 52.5**	**-0.3**
JAH				S	**Sb**	**13 30 10.5**	**+0.8**
ASAJ	**Asahikawa**	**4.41**	**4**	Pn	**Pn**	**13 30 38.7**	**+2.7**
	1.0nm,0.3s,baz=198,slow=13,SNR=9.9						
ASAJ				Sn	**Sn**	**13 31 27.2**	**-0.6**
	0.4nm,0.3s,baz=248,slow=18,SNR=1.8						
MJAR	**Matsushiro Arr**	**4.46**	**226**	Pn	**Pn**	**13 30 39.1**	**+2.4**
	0.4nm,0.3s,baz=38,slow=11,SNR=7.0						
**H11

SBLS	**San Blas**	**1.67**	**72**	*eP*		**Pn**	**13 40 04.3**	**+0.1**
SNJE	**San Jose**	**1.69**	**71**	*eP*		**Pn**	**13 40 05.0**	**+0.5**
APG	**El Apazote**	**1.83**	**25**	Pn		**Pn**	**13 40 08.0**	**+1.5**
	86nm,0.3s,baz=166,slow=10.0,SNR=241							
APG				Sn		**Sb**	**13 40 33.9**	**+1.4**
	42nm,0.3s,baz=80,slow=18,SNR=14							
BOQS	**Boqueron**	**1.96**	**78**	*eP*		**Pn**	**13 40 09.2**	**+0.9**
BOQS				*eS*		**Sn**	**13 40 31.7**	**-0.4**
SNET	**Serv Nac Est T**	**2.00**	**79**	*eP*	Pn	**Pn**	**13 40 09.4**	**+0.7**
SNET	**Serv Nac Est T**	**2.00**	**79**	IAML			13 40 44.9	
	comp=Z,610nm,0.2s							
LFU	**La Fuente**	**2.12**	**78**	*eP*		**Pn**	**13 40 10.4**	**+0.1**
LFRS	**El Faro**	**2.15**	**82**	*eP*		**Pn**	**13 40 11.8**	**+1.0**
LFRS				*eS*		**Sn**	**13 40 34.9**	**-1.7**
TECA	**Tecapa**	**2.68**	**86**	*eP*		**Pn**	**13 40 18.6**	**+0.5**
VSM	**San Miguel**	**2.90**	**88**	*eP*		**Pn**	**13 40 21.8**	**+0.6**
PCIG		**3.03**	**321**	P		Pn	13 40 20.0	-2.8
PCIG				S		Sn	13 40 47.1	-11
LCND	**La Ca˜–ada**	**3.27**	**90**	*eP*		**Pn**	**13 40 26.6**	**+0.5**
CMIG	**Matias Romero**	**5.12**	**317**	Pn		**Pn**	**13 40 50.2**	**-1.4**
	comp=Z,0.9nm,0.3s,baz=145,slow=9.6,SNR=7.1							
CMIG				Sn		**Sn**	**13 41 50.7**	**+0.9**
	comp=Z,1.5nm,0.3s,baz=103,slow=16,SNR=3.8							
LTX	**Lajitas**	**19.65**	**326**	*eP*		**P**	**13 44 05.0**	**+1.6**
TXAR	**Lajitas Array**	**19.65**	**326**	*eP*		**P**	**13 44 05.0**	**+1.6**
	comp=Z,0.2nm,0.3s,baz=156,slow=12,SNR=19							
TX31	**Lajitas Ar. Si**	**19.66**	**326**	*eP*		**P**	**13 44 04.6**	**+1.2**
H06E1	**SOCORRO T-PHAS**	**19.66**	**289**	T		T	14 04 05.1	
	SNR=6.2							
MNTX	**Cornudas Mount**	**22.42**	**327**	*eP*		**P**	**13 44 33.5**	**+0.3**
JSC	**Jenkinsville**	**22.75**	**22**	*eP*		**P**	**13 44 33.2**	**-3.4**
	comp=Z,12nm,0.8s							
TKL	**Tuckaleechee C**	**23.23**	**16**	LR		LR	13 54 30.4	
	comp=Z,144nm,19.6s,baz=198,slow=38							
AMTX	**Amarillo**	**23.44**	**338**	*eP*		**P**	**13 44 43.6**	**-0.2**
	comp=Z,6.8nm,0.8s							
HMTC	**Hemet**	**30.98**	**315**	*eP*		**P**	**13 45 54.6**	**+3.0**
TPO	**Tropico Hills**	**32.47**	**316**	*eP*		**P**	**13 46 05.5**	**+0.6**
BAKC	**Calstate**	**33.33**	**316**	*eP*		**P**	**13 46 13.1**	**+0.9**
PDAR	**Pinedale Array**	**33.33**	**335**	P		**P**	**13 46 13.5**	**+1.1**
	comp=Z,0.2nm,0.6s,baz=130,slow=9.5,SNR=2.2							
NV01	**Mina Array Sit**	**34.65**	**321**	*eP*		**P**	**13 46 25.0**	**+1.1**
NVAR	**Mina Array Bea**	**34.65**	**321**	P		**P**	**13 46 25.4**	**+1.6**
	comp=Z,2.0nm,0.7s,baz=127,slow=7.5,SNR=16							
YKA	**Yellowknife Ar**	**51.84**	**346**	P		**P**	**13 48 40.2**	**-1.8**
	comp=Z,0.8nm,0.7s,baz=149,slow=7.8,SNR=17							
YKA				PcP		**PcP**	**13 49 54.4**	**-0.2**
	comp=Z,0.4nm,0.6s,baz=151,slow=3.7,SNR=9.1							
INK	**Inuvik**	**61.28**	**343**	P		**P**	**13 49 47.8**	**-1.3**
	comp=Z,0.8nm,0.7s,baz=116,slow=7.3,SNR=6.8							
ILAR	**Eielson Array**	**63.74**	**337**	P		**P**	**13 50 04.5**	**-1.1**
	comp=Z,0.5nm,0.6s,baz=171,slow=5.3,SNR=12							
CMAR	**Chiang Mai Arr**	**146.85**	**342**	PKPbc		**PKPdf**	**13 59 17.5**	**+2.1**
	comp=Z,1.4nm,0.8s,baz=349,slow=4.3,SNR=10							

IDC 12 13:40:59.2±2.1, 2°.07N×91°.45E, h0km, mb3.4/4, mb1 3.6/5, mb1mx3.3/61, mbtmp3.5/5, ML3.8/1, Error ellipse: s-maj=64.2km s-min=26.8km az=48.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**11.89**	**296**	Pn	Pn	13 43 50.1	-0.2
	0.6nm,0.3s,baz=116,slow=12,SNR=2.9						
PALK				Sn	Sn	13 45 56.9	-6.9
	2.4nm,0.3s,baz=116,slow=15,SNR=7.8						
MKAR	**Makanchi Array**	**45.26**	**351**	P	P	13 49 18.6	+0.1
	0.2nm,0.3s,baz=171,slow=8.7,SNR=2.0						
SONM	**Songino Array**	**47.39**	**14**	P	P	13 49 35.2	-0.2
	0.6nm,0.6s,baz=201,slow=9.1,SNR=3.1						
WRA	**Warramunga Arr**	**47.41**	**120**	P	P	13 49 35.8	-0.1
	0.5nm,0.7s,baz=296,slow=8.5,SNR=3.4						
KURBB	**Kurchatov Arra**	**49.61**	**349**	P	P	13 49 52.0	-0.3
	0.1nm,0.3s,baz=156,slow=7.1,SNR=3.2						

*ISCJB **12** 13:55:37.9±0.1, 17°.4S×178°.9W±0°.3, h547km, mb3.6/8, Error ellipse: s-maj=74.6km s-min=13.3km az=154.1*
*IDC **12** 13:55:38.9±2.0, 17°.51S×178°.74W, h551km±25km, mb3.1/7, mb1 3.4/8, mb1mx3.0/51, mbtmp4.0/8, Error ellipse: s-maj=74.7km s-min=13.4km az=152.0*
ISC 12 13:55:38.6±1.1, 17°.5S±0°.5×178°.8W±0°.3, h547km, n9, σ0§69/11, mb3.4/8, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.60**	**63**	P	**P**	**13 57 32.2**	**-0.2**
	2.3nm,0.3s,baz=209,slow=19,SNR=3.8						
STKA	**Stephens Creek**	**38.55**	**241**	P	**P**	**14 02 14.8**	**+0.1**
	3.0nm,0.4s,baz=90,slow=9.6,SNR=25						
WRA	**Warramunga Arr**	**44.38**	**259**	P	**P**	**14 03 00.7**	**-0.3**
	2.4nm,0.4s,baz=93,slow=8.0,SNR=92						
WRA				PcP	**PcP**	**14 04 32.0**	**-1.0**
	0.3nm,0.4s,baz=97,slow=3.6,SNR=4.1						
ASAR	**Alice Springs**	**44.58**	**254**	P	**P**	**14 03 02.8**	**+0.2**
	25nm,0.6s,baz=88,slow=8.3,SNR=556						
ASAR				PcP	**PcP**	**14 04 32.5**	**-1.3**
	0.6nm,0.5s,baz=104,slow=3.7,SNR=4.6						
FITZ	**Fitzroy Crossi**	**52.76**	**260**	P	**P**	**14 04 03.9**	**+0.7**
	0.7nm,0.3s,baz=117,slow=4.5,SNR=14						
NVAR	**Mina Array Bea**	**79.34**	**44**	P	**P**	**14 06 48.4**	**+0.2**
	0.4nm,0.6s,baz=226,slow=8.6,SNR=4.0						
ILAR	**Eielson Array**	**85.53**	**13**	P	**P**	**14 07 18.4**	**-0.2**
	0.2nm,0.4s,baz=226,slow=5.2,SNR=5.8						
TXAR	**Lajitas Array**	**86.05**	**58**	P	**P**	**14 07 22.6**	**+0.6**
	0.4nm,0.7s,baz=212,slow=3.2,SNR=4.6						
PDAR	**Pinedale Array**	**87.27**	**44**	P	**P**	**14 07 27.6**	**+0.1**
	0.2nm,0.4s,baz=220,slow=6.9,SNR=3.1						

IDC 12 13:56:37.8±2.0, 2°.64N×91°.86E, h0km, mb3.3/2, mb1 3.7/4, mb1mx3.2/75, mbtmp3.5/4, ML3.6/2, Error ellipse: s-maj=56.1km s-min=28.7km az=47.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**12.03**	**293**	Pn	Pn	13 59 30.8	+0.1
	0.4nm,0.3s,baz=116,slow=14,SNR=3.7						
PALK				Sn	Sn	14 01 36.5	-9.1
	1.0nm,0.3s,baz=116,slow=7.1,SNR=4.1						
CMAR	**Chiang Mai Arr**	**17.18**	**23**	P	P	14 00 40.9	-0.3
	0.1nm,0.3s,baz=214,slow=13,SNR=4.6						
H08S2	**Diego Garcia H**	**21.86**	**242**	T	T	14 24 20.8	
	baz=60,slow=75,SNR=4.9						
H08S3	**Diego Garcia H**	**21.86**	**242**	T	T	14 24 22.4	
	baz=60,slow=75,SNR=4.3						
H08S1	**Diego Garcia H**	**21.87**	**242**	T	T	14 24 21.8	
	baz=60,slow=75,SNR=3.6						
MKAR	**Makanchi Array**	**44.76**	**351**	P	P	14 04 52.7	-0.4
	0.1nm,0.4s,baz=153,slow=7.2,SNR=2.9						
WRA	**Warramunga Arr**	**47.35**	**120**	P	P	14 05 13.7	-0.2
	0.6nm,0.5s,baz=300,slow=8.6,SNR=4.7						

IDC 12 13:57:15.5±1.8, 14°.98S×175°.17W, h0km, mb3.6/3, mb1 3.9/4, mb1mx3.5/54, mbtmp3.6/4, ML4.0/1, Error ellipse: s-maj=96.5km s-min=25.6km az=154.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.46**	**72**	Pn	Pn	13 58 11.0	+0.4
	13nm,0.3s,baz=191,slow=2.8,SNR=24						
AFI				Sn	Sn	13 58 45.5	-6.9
	29nm,0.3s,baz=332,slow=1.9,SNR=16						
WRA	**Warramunga Arr**	**48.28**	**257**	P	P	14 05 59.0	+0.2
	0.5nm,0.8s,baz=93,slow=7.2,SNR=3.8						
ASAR	**Alice Springs**	**48.62**	**252**	P	P	14 06 01.1	-0.3
	0.9nm,0.6s,baz=87,slow=8.4,SNR=7.8						
ILAR	**Eielson Array**	**82.38**	**12**	P	P	14 09 38.8	-0.2
	0.5nm,1.1s,baz=217,slow=4.7,SNR=3.4						
BRTR	**Keskin Array B**	**144.75**	**320**	PKP	PKPbc	14 16 54.2	+0.5
	0.3nm,0.4s,baz=77,slow=2.7,SNR=3.2						

*ISCJB **12** 14:01:24.3±1.0, 2°.5N×89°.8E±0°.1, h10km, mb3.7/6, Error ellipse: s-maj=23.6km s-min=15.1km az=39.2*
*IDC **12** 14:01:25.0±1.6, 2°.49N×89°.85E, h0km, mb3.6/6, mb1 3.7/8, mb1mx3.4/75, mbtmp3.6/8, ML3.5/2, Error ellipse: s-maj=51.1km s-min=22.0km az=55.0*
ISC 12 14:01:26.6±1.3, 2°.5N±0°.2×89°.9E±0°.2, h10km, n15, σ0§75/9, mb3.6/6, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**10.29**	**298**	Pn	**Pn**	**14 03 54.8**	**+0.2**
	0.5nm,0.3s,baz=116,slow=11,SNR=2.1						
PALK				Sn	Sn	14 05 41.7	-8.5
	3.0nm,0.3s,baz=297,slow=6.8,SNR=9.3						
CMAR	**Chiang Mai Arr**	**18.20**	**29**	P	**Pn**	**14 05 40.2**	**+0.6**
	0.1nm,0.3s,baz=222,slow=13,SNR=3.7						
H08S3	**Diego Garcia H**	**20.04**	**240**	T	T	14 26 49.9	
	baz=59,slow=75,SNR=9.5						
H08S2	**Diego Garcia H**	**20.04**	**240**	T	T	14 26 48.6	
	baz=59,slow=75,SNR=7.3						
H08S1	**Diego Carcia H**	**20.06**	**240**	T	T	14 26 50.1	
	baz=59,slow=75,SNR=6.9						
H01W3	**Cape Leeuwin H**	**43.59**	**151**	T	T	14 56 04.7	
	baz=326,slow=74,SNR=2.9						
H01W2	**Cape Leeuwin H**	**43.60**	**151**	T	T	14 56 07.7	
	baz=326,slow=74,SNR=2.1						
H01W1	**Cape Leeuwin H**	**43.61**	**151**	T	T	14 56 12.3	
	baz=326,slow=74,SNR=2.6						
MKAR	**Makanchi Array**	**44.63**	**353**	P	**P**	**14 09 38.9**	**-0.4**
	0.4nm,0.6s,baz=170,slow=8.6,SNR=4.5						
SONM	**Songino Array**	**47.38**	**15**	P	**P**	**14 10 01.4**	**+0.3**
	2.3nm,0.7s,baz=195,slow=8.5,SNR=13						
KURBB	**Kurchatov Arra**	**48.92**	**350**	P	**P**	**14 10 12.7**	**-0.1**
	0.3nm,0.5s,baz=169,slow=7.3,SNR=3.2						
WRA	**Warramunga Arr**	**49.00**	**119**	P	**P**	**14 10 13.5**	**-0.5**
	1.1nm,0.6s,baz=296,slow=8.6,SNR=8.4						
ASAR	**Alice Springs**	**50.11**	**124**	P	**P**	**14 10 22.9**	**+0.5**
	0.3nm,0.9s,baz=299,slow=7.4,SNR=3.0						
ZALV	**Zalesovo Beam**	**51.47**	**356**	P	**P**	**14 10 30.6**	**-1.5**
	0.4nm,0.4s,baz=175,slow=7.0,SNR=3.0						
TXAR	**Lajitas Array**	**145.81**	**21**	PKPbc	**PKPdf**	**14 21 06.8**	**+0.2**
	0.8nm,0.6s,baz=349,slow=2.0,SNR=9.8						

IDC 12 14:01:30.3±56.0, 0°.60S×89°.40E, h0km, mb3.8/4, mb1 3.8/4, mb1mx3.3/73, mbtmp3.8/4, Error ellipse: s-maj=1100.0km s-min=148.2km az=4.0, South Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**47.60**	**353**	P	P	14 10 08.1	+0.1
	0.6nm,0.7s,baz=168,slow=8.4,SNR=5.2						
SONM	**Songino Array**	**50.46**	**15**	P	P	14 10 29.6	-0.3
	1.4nm,0.5s,baz=193,slow=8.7,SNR=5.0						
KURBB	**Kurchatov Arra**	**51.86**	**351**	P	P	14 10 39.3	-1.0
	0.6nm,0.7s,baz=178,slow=6.7,SNR=3.9						
ZALV	**Zalesovo Beam**	**54.49**	**357**	P	P	14 11 00.3	+0.8
	0.5nm,0.4s,baz=185,slow=11,SNR=3.6						

*ISCJB **12** 14:04:51.8±1.3, 1°.9N±0°.2×91°.2E±0°.1, h10km, mb3.9/5, Error ellipse: s-maj=26.4km s-min=18.5km az=22.4*
*IDC **12** 14:04:52.9±1.8, 1°.98N×91°.33E, h0km, mb3.8/5, mb1 3.9/7, mb1mx3.5/73, mbtmp3.8/7, ML3.9/2, Error ellipse: s-maj=51.5km s-min=26.6km az=50.0*
ISC 12 14:04:53.9±1.5, 2°.0N±0°.2×91°.2E±0°.1, h10km, n11, σ1§55/9, mb3.9/5, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**11.69**	**297**	Pn	**Pn**	**14 07 43.0**	**+2.1**
	2.2nm,0.3s,baz=115,slow=12,SNR=15						
PALK				Sn	**Sn**	**14 09 48.7**	**-2.9**
	7.1nm,0.3s,baz=111,slow=5.3,SNR=13						
CMAR	**Chiang Mai Arr**	**18.08**	**24**	P	**P**	**14 09 05.7**	**-0.1**
	0.1nm,0.3s,baz=215,slow=14,SNR=2.8						
H08S2	**Diego Garcia H**	**20.93**	**243**	T	T	14 31 22.0	
	baz=64						
H08S3	**Diego Garcia H**	**20.93**	**243**	T	T	14 31 21.5	
	baz=64						
H08S1	**Diego Garcia H**	**20.95**	**243**	T	T	14 31 21.5	
	baz=64						
MKAR	**Makanchi Array**	**45.32**	**351**	P	**P**	**14 13 12.7**	**+0.6**
	0.7nm,0.5s,baz=170,slow=8.7,SNR=8.8						
SONM	**Songino Array**	**47.56**	**14**	P	**P**	**14 13 29.2**	**-0.5**
	1.4nm,0.5s,baz=193,slow=9.3,SNR=8.2						
WRA	**Warramunga Arr**	**47.61**	**119**	P	**P**	**14 13 29.7**	**-0.7**
	0.6nm,0.7s,baz=296,slow=8.6,SNR=6.2						
KURBB	**Kurchatov Arra**	**49.66**	**349**	P	**P**	**14 13 46.2**	**+0.5**
	1.1nm,0.9s,baz=173,slow=7.1,SNR=7.7						
ZALV	**Zalesovo Beam**	**52.08**	**355**	P	**P**	**14 14 04.3**	**+0.4**
	0.6nm,0.4s,baz=191,slow=7.4,SNR=4.2						
TXAR	**Lajitas Array**	**145.80**	**23**	PKPbc	**PKPab**	**14 24 34.5**	**0.0**
	0.1nm,0.5s,baz=321,slow=2.3,SNR=2.6						

*CSEM **12** 14:20:33.9±0.4, 36°.12N×21°.39E, h12km, ML2.6, Error ellipse: s-maj=9.3km s-min=4.9km az=75.0*
*ATH **12** 14:20:35.4, 36°.20N×21°.49E, h31km±2km, ML2.6/3, Error ellipse: s-maj=4.5km s-min=1.7km az=302.0*
*THE **12** 14:20:36.0, 36°.19N×21°.46E, h15km, ML2.6/4, Error ellipse: s-maj=1.4km s-min=0.9km az=77.0*
ISC 12 14:20:35.4±2.7, 36°.18N±0°.09×21°.5E±0°.1, h16km±10km, n27, σ0§38/39, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MES2	**Methoni**	**0.67**	**17**	P	**Pb**	**14 20 48.7**	**0.0**
MES2				S	**Sg**	**14 20 57.4**	**0.0**
MES2				AML	AML	14 21 03.1	
	comp=E,1741μm,0.5s						
MES2				AML	AML	14 21 03.3	
	comp=N,1244μm,0.6s						
MES2	**Methoni**	**0.67**	**17**	P	**Pb**	**14 20 48.7**	**0.0**
MES2				S	**Sb**	**14 20 58.0**	**+0.3**
PYL	**PYLOS**	**0.74**	**18**	P	**Pb**	**14 20 50.2**	**+0.3**
PYL				S	**Sn**	**14 21 02.2**	**0.0**
PYL				AML	AML	14 21 03.8	
	comp=N,800μm,0.5s						
PYL				AML	AML	14 21 04.8	
	comp=E,1208μm,0.5s						
PYL	**PYLOS**	**0.74**	**18**	P	**Pb**	**14 20 50.0**	**0.0**
PYL				S	**Sn**	**14 21 01.2**	**-1.0**
PYL	**PYLOS**	**0.74**	**18**	P	**Pb**	**14 20 50.0**	**0.0**
PYL				S	**Sn**	**14 21 01.2**	**-1.0**
DYR	**Agios Nikonas**	**0.91**	**50**	P	**Pb**	**14 20 52.1**	**-0.6**
DYR				S	**Sg**	**14 21 05.6**	**+0.6**
DYR				AML	AML	14 21 09.4	
	comp=N,536μm,0.4s						
DYR				AML	AML	14 21 12.0	
	comp=E,475μm,0.4s						
DYR	**Agios Nikonas**	**0.91**	**50**	P	**Pb**	**14 20 52.7**	**-0.1**
DYR				S	**Sn**	**14 21 06.1**	**-0.2**
DYR	**Agios Nikonas**	**0.91**	**50**	P	**Pb**	**14 20 52.7**	**-0.1**
DYR				S	**Sn**	**14 21 06.1**	**-0.2**
ITM	**Ithomi**	**1.06**	**20**	P	**Pb**	**14 20 54.9**	**-0.5**
ITM	**Ithomi**	**1.06**	**20**	P	**Pb**	**14 20 55.1**	**-0.3**
ITM				S	**Sn**	**14 21 10.7**	**+0.6**
ITM	**Ithomi**	**1.06**	**20**	P	**Pb**	**14 20 55.1**	**-0.3**
ITM				S	**Sn**	**14 21 10.7**	**+0.6**
KYTH	**Kithira**	**1.28**	**86**	P	**Pb**	**14 20 59.2**	**+0.1**
KYTH	**Kithira**	**1.28**	**86**	P	**Pn**	**14 20 58.8**	**+0.1**
KYTH	**Kithira**	**1.28**	**86**	P	**Pn**	**14 20 58.8**	**+0.1**
VLI	**Veliai**	**1.30**	**65**	P	**Pn**	**14 20 59.0**	**+0.2**
VLI	**Veliai**	**1.30**	**65**	P	**Pn**	**14 20 59.1**	**+0.2**
VLI	**Veliai**	**1.30**	**65**	P	**Pn**	**14 20 59.1**	**+0.2**
AMT	**Artemida-Makis**	**1.36**	**8**	P	**Pg**	**14 21 01.3**	**-0.3**
AMT	**Artemida-Makis**	**1.36**	**8**	P	**Pn**	**14 21 00.0**	**+0.3**
AMT				S	**Sb**	**14 21 17.8**	**+0.2**
AMT	**Artemida-Makis**	**1.36**	**8**	P	**Pn**	**14 21 00.0**	**+0.3**
AMT				S	**Sb**	**14 21 17.8**	**+0.2**
VLX	**Vlachokerasia**	**1.39**	**32**	P	**Pb**	**14 21 01.4**	**+0.3**
VLX	**Vlachokerasia**	**1.39**	**32**	P	**Pn**	**14 21 00.1**	**-0.2**
VLX	**Vlachokerasia**	**1.39**	**32**	P	**Pb**	**14 21 00.9**	**-0.2**
GUR	**Goura**	**1.89**	**22**	P	**Pn**	**14 21 07.3**	**+0.3**
GUR	**Goura**	**1.89**	**22**	P	**Pn**	**14 21 07.3**	**+0.3**
DID	**Didima**	**1.94**	**47**	P	**Pn**	**14 21 07.5**	**-0.2**
DID	**Didima**	**1.94**	**47**	P	**Pn**	**14 21 07.5**	**-0.2**

*CSEM **12** 14:21:31.1±0.1, 38°.35N×22°.02E, h5km, ML1.9, Error ellipse: s-maj=1.5km s-min=1.4km az=122.0*
*THE **12** 14:21:31.2, 38°.34N×22°.01E, h9km, ML2.1/11, Error ellipse: s-maj=0.6km s-min=0.2km az=37.0*
ATH 12 14:21:31.1, 38°.35N×22°.03E, h10km±1km, ML1.9/9, Error ellipse: s-maj=1.6km s-min=0.7km az=43.0, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRIZ	**Trizonia**	**0.04**	**63**	P	Pg	14 21 32.9	-0.2
TRIZ				S	Sg	14 21 34.2	-0.2
TRIZ	**Trizonia**	**0.04**	**63**	P	Pg	14 21 32.9	-0.1
TRIZ				S	Sg	14 21 34.3	-0.1
TRIZ	**Trizonia**	**0.04**	**63**	P	Pg	14 21 32.9	-0.1
TRIZ				S	Sg	14 21 34.3	-0.1
SERG	**Sergoula**	**0.07**	**20**	P	Pg	14 21 33.2	-0.2
SERG				S	Sg	14 21 35.1	0.0
SERG				AML	AML	14 21 35.1	
	comp=E,6957μm,0.2s						
SERG				AML	AML	14 21 35.2	
	comp=N,5550μm,0.1s						
SERG	**Sergoula**	**0.07**	**20**	P	Pg	14 21 33.3	-0.1
SERG				S	Sg	14 21 34.9	-0.1
SERG	**Sergoula**	**0.07**	**20**	P	Pg	14 21 33.3	-0.1
SERG				S	Sg	14 21 34.9	-0.1
KALE	**Kalithea**	**0.10**	**64**	P	Pg	14 21 34.0	+0.2
KALE				S	Sg	14 21 36.3	+0.6
KALE	**Kalithea**	**0.10**	**64**	P	Pg	14 21 33.8	0.0
KALE				S	Sg	14 21 35.9	+0.2
KALE	**Kalithea**	**0.10**	**64**	P	Pg	14 21 33.8	0.0
KALE				S	Sg	14 21 35.9	+0.2
LAKA	**Lakka**	**0.11**	**199**	P	Pg	14 21 33.7	-0.3
LAKA				S	Sg	14 21 35.6	-0.3
LAKA	**Lakka**	**0.11**	**199**	P	Pg	14 21 33.9	0.0
LAKA				S	Sg	14 21 35.9	0.0
LAKA	**Lakka**	**0.11**	**199**	P	Pg	14 21 33.9	0.0
LAKA				S	Sg	14 21 35.8	-0.1
LAKA	**Lakka**	**0.11**	**199**	S	Sg	14 21 35.9	0.0
EFP	**Efpalio**	**0.12**	**310**	P	Pg	14 21 33.6	-0.5
EFP				S	Sg	14 21 36.1	0.0
EFP				AML	AML	14 21 36.2	
	comp=E,2443μm,0.3s						
EFP				AML	AML	14 21 37.1	
	comp=N,2042μm,0.3s						
EFP	**Efpalio**	**0.12**	**310**	P	Pg	14 21 33.8	-0.3
EFP				S	Sg	14 21 36.1	0.0
EFP	**Efpalio**	**0.12**	**310**	P	Pg	14 21 33.8	-0.3
EFP				S	Sg	14 21 36.1	0.0
UPR	**University Cam**	**0.20**	**251**	P	Pg	14 21 35.2	-0.1
UPR				S	Sg	14 21 39.2	+1.1
UPR	**University Cam**	**0.20**	**251**	P	Pg	14 21 35.0	-0.3
UPR				S	Sg	14 21 38.3	+0.2
UPR	**University Cam**	**0.20**	**251**	P	Pg	14 21 35.3	0.0
UPR				S	Sg	14 21 38.8	+0.7
UPR	**University Cam**	**0.20**	**251**	S	Sg	14 21 38.3	+0.2
ANX	**Ano Chora**	**0.26**	**341**	P	Pg	14 21 36.3	-0.2
ANX				AML	AML	14 21 40.9	
	comp=E,1777μm,0.3s						
ANX				AML	AML	14 21 40.9	
	comp=N,1899μm,0.3s						
ANX				S	Sg	14 21 41.1	+1.1
ANX	**Ano Chora**	**0.26**	**341**	P	Pg	14 21 36.3	-0.2
ANX				S	Sg	14 21 40.5	+0.5
ANX	**Ano Chora**	**0.26**	**341**	P	Pg	14 21 36.4	-0.1
ANX				S	Sg	14 21 40.5	+0.5
KLV	**Kalavryta, Ach**	**0.32**	**162**	P	Pg	14 21 37.2	-0.3
KLV	**Kalavryta, Ach**	**0.32**	**162**	P	Pg	14 21 37.4	-0.1
KLV				S	Sg	14 21 42.1	+0.3
KLV	**Kalavryta, Ach**	**0.32**	**162**	P	Pg	14 21 37.4	-0.1
KLV				S	Sg	14 21 42.1	+0.3
DLFA	**Delphi**	**0.39**	**70**	P	Pg	14 21 38.1	-0.8
DLFA				S	Sb	14 21 45.6	-0.7
DLFA				AML	AML	14 21 47.8	
	comp=E,303μm,0.4s						
DLFA				AML	AML	14 21 48.0	
	comp=N,251μm,0.4s						
DLFA	**Delphi**	**0.39**	**70**	P	Pg	14 21 38.5	-0.4
DLFA				S	Sg	14 21 45.0	+0.9
DSF	**Desfina**	**0.40**	**81**	P	Pg	14 21 38.7	-0.4
DSF				S	Sb	14 21 45.7	-0.9
DSF				AML	AML	14 21 45.9	
	comp=N,877μm,0.1s						
DSF				AML	AML	14 21 46.0	
	comp=E,399μm,0.2s						
DSF	**Desfina**	**0.40**	**81**	P	Pg	14 21 39.1	+0.1
DSF				S	Sg	14 21 45.3	+1.0
DSF	**Desfina**	**0.40**	**81**	P	Pg	14 21 39.1	+0.1
DSF				S	Sg	14 21 45.2	+0.9
DSF	**Desfina**	**0.40**	**81**	S	Sg	14 21 45.3	+1.0
DRO	**Drossia**	**0.47**	**212**	P	Pg	14 21 39.9	-0.4
DRO				S	Sb	14 21 47.7	-0.7
DRO				AML	AML	14 21 49.6	
	comp=E,615μm,0.2s						
DRO				AML	AML	14 21 50.6	
	comp=N,485μm,0.1s						
DRO	**Drossia**	**0.47**	**212**	P	Pg	14 21 40.0	-0.2
DRO				S	Sg	14 21 46.7	+0.3
DRO	**Drossia**	**0.47**	**212**	P	Pg	14 21 40.0	-0.2
DRO				S	Sg	14 21 46.7	+0.3
PVO	**Paravola**	**0.48**	**305**	P	Pg	14 21 41.0	+0.6
PVO	**Paravola**	**0.48**	**305**	P	Pg	14 21 40.7	+0.3
GUR	**Goura**	**0.48**	**149**	P	Pg	14 21 40.5	0.0
GUR				S

IDC 12 14:30:13.0±1.8, 2°.08N×93°.83E, h0km, mb3.7/6, mb1 3.8/7, mb1mx3.5/66, mbtmp3.7/7, ML3.9/1, Error ellipse: s-maj=64.7km s-min=26.7km az=56.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**17.03**	**17**	Pn	P	14 34 14.7	-0.1
	0.2nm,0.3s,baz=216,slow=12,SNR=8.5						
WRA	**Warramunga Arr**	**45.37**	**121**	P	P	14 38 33.2	-0.4
	0.5nm,1.0s,baz=316,slow=5.8,SNR=3.1						
MKAR	**Makanchi Array**	**45.66**	**349**	P	P	14 38 34.0	-1.5
	1.0nm,0.7s,baz=167,slow=8.7,SNR=12						
SONM	**Songino Array**	**46.86**	**12**	P	P	14 38 46.2	+1.2
	0.5nm,0.7s,baz=199,slow=8.1,SNR=2.5						
KURBB	**Kurchatov Arra**	**50.07**	**347**	P	P	14 39 08.6	-1.0
	0.6nm,0.7s,baz=171,slow=7.3,SNR=7.0						
ZALV	**Zalesovo Beam**	**52.23**	**353**	P	P	14 39 25.5	-0.2
	1.4nm,0.5s,baz=184,slow=9.1,SNR=6.2						
GERES	**GERESS Array B**	**81.93**	**319**	P	P	14 42 36.4	+1.5
	0.2nm,0.3s,baz=110,slow=5.7,SNR=4.2						

*DJA **12** 14:31:13.4±0.7, 5°N±9°×9°0E±°, h63km±48km, M5.1/10, mb4.9/10, mB5.4/8, MLv5.5/4, Mw(mB)4.8/8*
*ISCJB **12** 14:31:33.5±0.4, 4°.15N±0°.05×92°.59E±0°.03, h10km, mb4.3/34, MS4.1/8, Error ellipse: s-maj=6.9km s-min=4.4km az=24.9*
*IDC **12** 14:31:33.7±0.7, 4°.12N×92°.50E, h0km, mb4.1/22, mb1 4.3/24, mb1mx4.1/69, mbtmp4.1/24, ML4.3/2, MS3.9/3, Ms1 4.0/3, ms1mx3.3/75, Error ellipse: s-maj=28.9km s-min=12.4km az=47.0*
*NEIC **12** 14:31:35.0±0.3, 4°.21N×92°.58E, h10km, mb4.7/10, Error ellipse: s-maj=8.8km s-min=4.9km az=212.0*

ISC 12 14:31:35.4±0.6, 4°.10N±0°.06×92°.53E±0°.05, h10km, n114, σ2§22/110, mb4.4/37, MS4.2/8, 1D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSI	**Banda Aceh**	**3.08**	**63**	P	**Pn**	**14 32 23.2**	**-1.0**
MLSI	**Meulaboh, Aceh**	**3.86**	**87**	P	**Pn**	**14 32 38.3**	**+3.4**
LHMI	**Lhok Sumawe**	**4.54**	**76**	P	**Pn**	**14 32 44.5**	**+0.3**
	241nm,0.7s,4µm2.3nm						
LHMI	**Lhok Sumawe**	**4.54**	**76**	Pn	Pn	14 32 41.6	-2.6
LHMI				*e*Sn	**Sn**	**14 33 33.5**	**-3.6**
TPTI		**4.71**	**100**	P	Pn	14 32 51.8	+5.2
GSI	**Gunungsitoli**	**5.75**	**119**	P	Pn	14 33 07.5	+6.6
GSI	**Gunungsitoli**	**5.75**	**119**	*e*Pn	**Pn**	**14 33 00.0**	**-0.9**
PSI	**Prapat**	**6.51**	**101**	*e*Pn	**Pn**	**14 33 10.7**	**-0.7**
PKDT	**Phuket**	**6.89**	**57**	P	**Pn**	**14 33 15.0**	**-1.5**
	46nm,0.7s,774nm0.2nm						
PBA	**Port Blair**	**7.51**	**2**	*e*P	Pn	14 33 24.4	-0.6
MNSI	**Mandailing Nat**	**7.77**	**115**	P	Pn	14 33 34.4	+5.8
SURT	**Suratani**	**7.87**	**52**	P	**Sn**	**14 34 57.7**	**-1.5**
	28nm,0.9s						
SURT	**Suratani**	**7.87**	**52**	P	**Pn**	**14 33 28.7**	**-1.3**
	27nm,0.6s,447nm0.1nm						
TRTT	**Trang**	**8.03**	**62**	P	**Sn**	**14 35 03.6**	**+0.5**
	23nm,1.0s						
TRTT	**Trang**	**8.03**	**62**	P	**Pn**	**14 33 29.8**	**-2.3**
	18nm,0.6s,264nm0.1nm						
KULM	**Kulim**	**8.18**	**81**	*e*Pn	Pn	14 33 31.1	-3.1
KULM				*e*Sn	Sn	14 34 57.1	-10
IPM	**Ipoh**	**8.48**	**87**	*e*Pn	Pn	14 33 35.8	-2.6
IPM				*e*Sn	**Sn**	**14 35 07.9**	**-6.3**
SISI	**Saibi**	**8.48**	**129**	P	**Pn**	**14 33 40.1**	**+1.7**
DGPR	**DIGLIPUR**	**9.03**	**2**	*e*P	**Pn**	**14 33 45.1**	**-0.8**
PDSI	**Padang**	**9.36**	**122**	P	Pn	14 33 55.9	+5.5
MYKOM	**Kota Tinggi**	**11.53**	**101**	*e*Pn	**Pn**	**14 34 21.7**	**+1.5**
SRDT	**SRDT**	**12.08**	**32**	P	Pn	14 34 35.9	+8.2
PALK	**Pallekele**	**12.19**	**286**	Pn	**Pn**	**14 34 28.8**	**-0.4**
	4.4nm,0.3s,baz=116,slow=14,SNR=3.6						
PALK				Sn	Sn	14 36 34.6	-11
	4.1nm,0.3s,baz=116,slow=7.8,SNR=4.0						
CHBT	**CHBT**	**12.95**	**48**	P	**Pn**	**14 34 44.1**	**+4.5**
MNAI	**Manna**	**13.38**	**129**	*e*Pn	**Pn**	**14 34 46.5**	**+1.0**
PBKT	**Sadao Pong**	**14.91**	**33**	P	**Pn**	**14 35 05.1**	**-1.2**
	37nm,1.4s,2µm						
MDRS	**Chennai**	**15.06**	**307**	*e*P	**Pn**	**14 35 07.4**	**-0.9**
MDRS				IAmb	IAmb	14 35 19.4	
	comp=Z,26nm,0.7s						
CM01	**Chiang Mai Arr**	**15.56**	**23**	*e*Pn	**Pn**	**14 35 13.0**	**-1.9**
CM31	**Chiang Mai Arr**	**15.59**	**23**	*e*Pn	**Pn**	**14 35 13.2**	**-2.1**
CMAR	**Chiang Mai Arr**	**15.59**	**23**	Pn	**Pn**	**14 35 13.6**	**-1.8**
	comp=Z,0.2nm,0.3s,baz=218,slow=14,SNR=24						
CMAR				LR	LR	14 41 12.4	
	comp=Z,350nm,19.7s,baz=221,slow=37						
CHTO	**Chiang Mai**	**15.91**	**23**	P	**Pn**	**14 35 19.9**	**+0.4**
CHTO	**Chiang Mai**	**15.91**	**23**	P	**Pn**	**14 35 19.9**	**+0.4**
	comp=Z,98nm,1.4s,comp=Z,2µm						
CHTO	**Chiang Mai**	**15.91**	**23**	*e*Pn	**Pn**	**14 35 18.4**	**-1.2**
	comp=Z,29nm,1.1s						
CMMT	**Chiang Mai**	**15.91**	**23**	P	**Pn**	**14 35 18.8**	**-0.7**
	comp=Z,22nm,1.4s						
CMMT	**Chiang Mai**	**15.91**	**23**	P	**Pn**	**14 35 18.8**	**-0.7**
	comp=Z,22nm,1.4s						
VIS	**Vishakhapatnam**	**16.27**	**327**	*e*P	**Pn**	**14 35 23.3**	**-0.8**
VIS				IAmb	IAmb	14 35 31.5	
	comp=Z,83nm,1.1s						
SKNT	**Sakolnakorn**	**17.02**	**40**	P	**Pn**	**14 35 32.5**	**-1.2**
	comp=Z,17nm,1.7s						
LEM	**Lembang**	**18.56**	**126**	LR	LR	14 44 00.7	
	comp=Z,361nm,18.0s,baz=294,slow=40						
HYB	**Hyderabad**	**19.05**	**315**	*i* P	**P**	**14 35 58.0**	**0.0**
HYB	**Hyderabad**	**19.05**	**315**	*e*P	**P**	**14 35 58.3**	**+0.3**
HYB				IAmb	IAmb	14 35 59.5	
	comp=Z,41nm,1.4s						
BOK	**Bokaro**	**20.60**	**342**	*e*P	**P**	**14 36 13.5**	**-1.4**
BOK				IAmb	IAmb	14 36 16.6	
	comp=Z,28nm,0.9s						
NGP	**Nagpur**	**21.42**	**323**	*e*P	**P**	**14 36 25.3**	**+1.5**
NGP				IAmb	IAmb	14 36 27.1	
	comp=Z,334nm,2.9s						
GOA	**Goa**	**21.61**	**303**	*e*P	**P**	**14 36 27.4**	**+1.7**
KMI	**Kunming**	**23.09**	**24**	P	**P**	**14 36 43.6**	**+1.9**
KMI				pP	sP	14 36 51.8	+5.9
KMI				sP	pP	14 36 58.1	+13
KMI				S	**S**	**14 40 51.0**	**-2.2**
KMI				sS	sS	14 41 04.4	+6.2
KMI				SS	**SnSn**	**14 41 33.1**	**+7.1**
KMI				pmax	pmax		
	comp=Z,15nm,1.3s						
KMI				pmax	pmax		
	comp=Z,130nm,4.6s						
KMI				LR	LR		
	comp=N,260nm,22.4s						
KMI				LR	LR		
	comp=E,620nm,20.5s						
KMI				LR	LR		
	comp=Z,280nm,19.4s						
PKIN	**Phulchoki**	**24.32**	**344**	*e*P	**P**	**14 36 54.5**	**+0.8**
DMN	**Daman**	**24.43**	**344**	*e*P	**P**	**14 36 55.3**	**+0.7**
	comp=Z,44nm,1.1s						
GUN	**Gumba**	**24.51**	**346**	*e*P	**P**	**14 36 56.3**	**+0.8**
	comp=Z,142nm,1.1s						
KKN	**Kakani**	**24.55**	**344**	*e*P	**P**	**14 36 56.4**	**+0.7**
	comp=Z,60nm,1.1s						
GKN	**Gorkha**	**24.93**	**343**	*e*P	**P**	**14 36 59.2**	**+0.1**
KOLN	**Koldanda**	**25.03**	**341**	*e*P	**P**	**14 37 00.4**	**+0.4**
	comp=Z,68nm,1.1s						
DANN	**Dangsing**	**25.52**	**342**	*e*P	**P**	**14 37 05.3**	**+0.7**
PYUN	**Piuthan**	**25.54**	**340**	*e*P	**P**	**14 37 04.8**	**+0.2**
	comp=Z,125nm,1.2s						
CD2	**Chengdu**	**28.69**	**20**	*e*P	**P**	**14 37 32.0**	**-0.8**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
SMLA	**Simla**	**30.53**	**333**	*e*P	**P**	**14 37 48.1**	**-0.9**
SMLA				IAmb	IAmb	14 37 50.4	
	comp=Z,17nm,1.1s						
DHRM	**DHARAMSHALA**	**31.87**	**333**	*e*P	**P**	**14 38 00.4**	**-0.8**
DHRM				IAmb	IAmb	14 38 02.0	
	comp=Z,6.9nm,0.5s						
XAN	**Xi'an**	**33.47**	**25**	P	**P**	**14 38 13.5**	**-1.3**
XAN				pP	sP	14 38 22.8	+3.6
XAN				sP	pP	14 38 26.0	+8.1
XAN				PP	**PP**	**14 39 41.0**	**+10**
XAN				S	S	14 43 29.3	-7.3
XAN				sS	sS	14 43 45.3	+3.7
XAN				SS	**SnSn**	**14 45 30.5**	**-8.1**
XAN				pmax	pmax		
	comp=Z,5.0nm,0.6s						
XAN				pmax	pmax		
	comp=Z,43nm,6.5s						
XAN				LR	LR		
	comp=N,350nm,13.6s						
XAN				LR	LR		
	comp=E,450nm,13.6s						
XAN				LR	LR		
	comp=Z,530nm,13.0s						
LZH	**Lanzhou**	**33.50**	**17**	⇓P	**P**	**14 38 18.9**	**+3.7**
LZH				pP	sP	14 38 25.3	+5.8
LZH				sP	pP	14 38 29.0	+11
LZH				PP	**PnPn**	**14 39 31.4**	**+4.9**
LZH				S	**S**	**14 43 37.8**	**+0.6**
LZH				sS	sS	14 43 50.4	+8.1
LZH				SS	**SnSn**	**14 45 44.2**	**+4.8**
LZH				pmax	pmax		
	comp=Z,25nm,1.3s						
LZH				pmax	pmax		
	comp=Z,190nm,5.6s						
LZH				LR	LR		
	comp=N,730nm,11.5s						
LZH				LR	LR		
	comp=E,750nm,12.1s						
LZH				LR	LR		
	comp=Z,650nm,12.7s						
GTA	**Gaotai**	**35.76**	**10**	*e*P	**P**	**14 38 34.6**	**-0.2**
GTA				pP	sP	14 38 44.0	+4.9
GTA				sP	pP	14 38 48.2	+10
GTA				S	**S**	**14 44 09.6**	**-2.5**
GTA				sS	sS	14 44 25.3	+8.1
GTA				SS	**SnSn**	**14 46 30.7**	**-3.6**
GTA				pmax	pmax		
	comp=Z,5.0nm,1.3s						
GTA				pmax	pmax		
	comp=Z,110nm,7.6s						
GTA				LR	LR		
	comp=N,190nm,17.1s						
GTA				LR	LR		
	comp=E,300nm,17.6s						
GTA				LR	LR		
	comp=Z,380nm,12.8s						
NJ2	**Nanjing**	**37.18**	**39**	*e*P	**P**	**14 38 47.2**	**+0.4**
NJ2				pmax	pmax		
	comp=Z,14nm,0.5s						
FITZ	**Fitzroy Crossi**	**39.40**	**125**	P	**P**	**14 39 05.4**	**-0.2**
	comp=Z,4.7nm,0.9s,baz=302,slow=7.3,SNR=4.3						
WMQ	**Urumqi**	**39.79**	**355**	P	**P**	**14 39 08.2**	**-0.4**
WMQ				LR	LR		
	comp=N,160nm,31.9s						
WMQ				LR	LR		
	comp=E,320nm,31.9s						
WMQ				LR	LR		
	comp=Z,260nm,36.5s						
HHC	**Hu-ho-hao-te**	**40.39**	**22**	*e*P	**P**	**14 39 13.9**	**+0.1**
HHC				S	**S**	**14 45 29.0**	**+6.9**
HHC				pmax	pmax		
	comp=Z,18nm,1.0s						
HHC				pmax	pmax		
	comp=Z,71nm,5.3s						
HHC				LR	LR		
	comp=N,520nm,14.2s						
HHC				LR	LR		
	comp=E,940nm,15.4s						
HHC				LR	LR		
	comp=Z,730nm,14.4s						
KZA	**Kyzart**	**40.84**	**340**	P	**P**	**14 39 18.3**	**+0.5**
	SNR=5.2						
UCH	**Uchtor**	**41.23**	**340**	P	**P**	**14 39 21.5**	**+0.4**
	SNR=6.5						
AML	**Almayashu**	**41.44**	**339**	P	**P**	**14 39 23.3**	**+0.6**
	SNR=10						
KBK	**Karagaybulak**	**41.46**	**340**	P	**P**	**14 39 23.8**	**+1.1**
	SNR=6.3						
TKM2	**Tokmak 2**	**41.48**	**341**	P	**P**	**14 39 23.2**	**+0.3**
	SNR=5.8						
AAK	**Ala-Archa**	**41.60**	**340**	P	**P**	**14 39 23.7**	**0.0**
	comp=Z,0.9nm,0.4s,baz=140,slow=7.4,SNR=7.1						
AAK				LR	LR	14 57 14.3	
	comp=Z,232nm,21.4s,baz=145,slow=37						
AAK	**Ala-Archa**	**41.60**	**340**	*e*P	**P**	**14 39 22.6**	**-1.2**
	comp=Z,7.1nm,1.3s						
MK01	**Makanchi Array**	**43.42**	**350**	*e*P	**P**	**14 39 37.4**	**-0.9**
MK31	**Makanchi Array**	**43.45**	**350**	*e*P	**P**	**14 39 37.6**	**-1.0**
MKAR	**Makanchi Array**	**43.45**	**350**	P	**P**	**14 39 38.0**	**-0.5**
	comp=Z,4.6nm,1.0s,baz=168,slow=8.5,SNR=19						
MKAR	**Makanchi Array**	**43.45**	**350**	*e*P	**P**	**14 39 37.4**	**-1.1**
	comp=Z,25nm,1.0s						
KK31	**Karatay Array**	**43.48**	**336**	*e*P	**P**	**14 39 37.6**	**-1.2**
KKAR	**Karatay Array**	**43.48**	**336**	*e*P	**P**	**14 39 37.4**	**-1.5**
MAKZ	**Makanchi**	**43.52**	**349**	*e*P	**P**	**14 39 38.3**	**-0.9**
	comp=Z,6.1nm,1.3s						
SONM	**Songino Array**	**45.17**	**13**	P	**P**	**14 39 51.9**	**-0.6**
	comp=Z,2.5nm,0.7s,baz=196,slow=9.5,SNR=11						
SONA1	**Songino Array**	**45.19**	**13**	*e*P	**P**	**14 39 52.1**	**-0.5**
GEYT	**Alibeck**	**46.04**	**322**	P	**P**	**14 39 60.0**	**+0.5**
	comp=Z,8.4nm,0.8s,baz=157,slow=8.0,SNR=21						
GYA0B	**ALIBECK ARRAY**	**46.04**	**322**	*e*P	**P**	**14 39 59.2**	**-0.2**
	comp=Z,12nm,0.9s						
KSAR	**Wonju Array Be**	**46.33**	**40**	P	**P**	**14 40 02.6**	**+1.0**
KSRS	**Korea Array**	**46.36**	**40**	P	**P**	**14 40 02.6**	**+0.7**
	comp=Z,1.3nm,0.9s,baz=231,slow=7.7,SNR=3.2						
WRA	**Warramunga Arr**	**47.52**	**122**	P	**P**	**14 40 11.0**	**-0.2**
	comp=Z,1.9nm,0.6s,baz=298,slow=8.8,SNR=14						
WB2	**Warramunga Ar**	**47.52**	**122**	*e*P	**P**	**14 40 11.8**	**+0.5**
KURBB	**Kurchatov Arra**	**47.84**	**348**	P	**P**	**14 40 12.9**	**-0.3**
	comp=Z,3.8nm,0.8s,baz=169,slow=7.2,SNR=23						
KURK	**Kurchatov**	**47.91**	**348**	*e*P	P	14 40 10.3	-3.4
	comp=Z,8.3nm,1.1s						
ASAR	**Alice Springs**	**48.85**	**126**	P	**P**	**14 40 20.9**	**-0.6**
	comp=Z,1.7nm,1.0s,baz=300,slow=7.5,SNR=11						
ASAR				PcP	**PcP**	**14 41 47.0**	**+0.9**
	comp=Z,0.9nm,0.8s,baz=306,slow=4.6,SNR=2.9						
CN2	**Changchun**	**49.06**	**31**	*e*P	**P**	**14 40 24.3**	**+1.6**
RAYN	**Ar Rayn**	**49.29**	**298**	*e*P	P	14 40 21.7	-3.2
	comp=Z,6.1nm,1.0s						
ZAA0	**Zalesovo Array**	**50.09**	**354**	*e*P	**P**	**14 40 30.4**	**0.0**
	comp=Z,21nm,1.4s						
ZALV	**Zalesovo Beam**	**50.09**	**354**	P	**P**	**14 40 30.1**	**-0.3**
	comp=Z,2.5nm,0.5s,baz=179,slow=7.1,SNR=4.0						
ZALV	**Zalesovo Beam**	**50.09**	**354**	*e*P	P	14 40 28.4	-2.0
BVAR	**Borovoye Array**	**52.07**	**343**	P	**P**	**14 40 44.8**	**-0.5**
	comp=Z,2.7nm,0.9s,baz=140,slow=7.2,SNR=12						
ABKAR	**Akbulak array**	**52.82**	**334**	*e*P	**P**	**14 40 49.5**	**-1.4**
AKTO	**Aktyubinsk**	**54.54**	**334**	P	**P**	**14 41 03.2**	**-0.3**
	comp=Z,1.6nm,0.9s,baz=109,slow=8.3,SNR=3.5						
STKA	**Stephens Creek**	**58.75**	**131**	P	**P**	**14 41 34.9**	**+1.0**
	comp=Z,3.2nm,0.7s,baz=313,slow=7.7,SNR=9.0						
KBZ	**Khabaz**	**58.85**	**320**	P	**P**	**14 41 34.0**	**-0.3**
	comp=Z,2.3nm,0.9s,baz=110,slow=5.2,SNR=4.7						
KVAR	**Kislovodsk Ar**	**59.09**	**320**	P	**P**	**14 41 36.2**	**+0.1**
	comp=Z,3.3nm,0.5s,baz=127,slow=10,SNR=4.1						
BR131	**Keskin Array**	**63.73**	**313**	*e*P	**P**	**14 42 08.1**	**+0.4**
BRTR	**Keskin Array B**	**63.73**	**313**	P	**P**	**14 42 06.8**	**-0.8**
	comp=Z,1.3nm,0.9s,baz=126,slow=7.3,SNR=9.6						
AKASG	**Malin Array Be**	**70.14**	**323**	P	**P**	**14 42 47.0**	**-1.1**
	comp=Z,0.1nm,0.3s,baz=92,slow=5.8,SNR=5.6						
MLR	**Muntele Rosu**	**70.78**	**317**	P	**P**	**14 42 51.9**	**-0.4**
	comp=Z,0.4nm,0.5s,baz=141,slow=6.5,SNR=6.3						
MLR	**Muntele Rosu**	**70.78**	**317**	*e*P	**P**	**14 42 51.8**	**-0.4**
	comp=Z,18nm,1.4s						
TIXI	**Tiksi**	**71.22**	**11**	*e*P	**P**	**14 42 52.8**	**-1.5**
BUR04	**Bucovina Ar. S**	**71.79**	**319**	*e*P	**P**	**14 42 56.9**	**-1.4**
CRVS	**Cervenica-Dubn**	**74.52**	**320**	*e*P	P	14 43 11.4	-2.9
STHS	**Stebnicka Huta**	**74.77**	**320**	*e*P	P	14 43 11.4	-4.4
FINES	**FINESS Array B**	**75.30**	**333**	P	**P**	**14 43 18.2**	**-0.4**
	comp=Z,1.1nm,0.9s,baz=108,slow=3.5,SNR=3.1						
SUR	**Sutherland**	**76.89**	**236**	LR	LR	15 16 12.6	
	comp=Z,6.6nm,18.2s,baz=66,slow=35						
GEA0	**GERESS Array S**	**79.57**	**319**	*e*P	P	14 43 40.8	-2.1
GEC2	**GERESS Array S**	**79.58**	**319**	*e*P	**P**	**14 43 42.7**	**-0.2**
	comp=Z,7.0nm,1.1s						
GERES	**GERESS Array B**	**79.58**	**319**	P	**P**	**14 43 42.8**	**-0.2**
	comp=Z,1.7nm,0.9s,baz=91,slow=5.9,SNR=11						
HFS	**Hagfors**	**80.90**	**330**	P	**P**	**14 43 48.9**	**-0.8**
	comp=Z,0.9nm,0.4s,baz=92,slow=7.2,SNR=10						
EKA	**Eskdalemuir Ar**	**89.90**	**325**	P	**P**	**14 44 34.5**	**-0.2**
	comp=Z,0.5nm,0.5s,baz=92,slow=5.7,SNR=2.6						

IDC 12 14:32:43.7±372.0, 37°.78N×15°.45E, h0km, Error ellipse: s-maj=140.9km s-min=115.9km az=91.0, Sicily

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I48TN	**KESRA INFRASON**	**5.29**	**250**	*i*		15 07 50.0	
	baz=68,slow=321,SNR=0.6						
I26DE	**FREYUNG INFRAS**	**11.14**	**354**	*i*		15 40 01.1	
	baz=175,slow=328,SNR=2.5						
I43RU	**DUBNA INFRASON**	**23.84**	**30**	*i*		16 58 10.0	
	baz=227,slow=323,SNR=1.0						

*NIED **12** 14:37:00.38°.10N×142°.40E, h77km, Mw3.7 Best double couple: M04.09000×10^14 NP1:φs207.00000°, δ36.00000°, λ-55.00000°. NP2:φs347.00000°, δ61.00000°, λ-113.00000°.*
*IDC **12** 14:37:54.8±1.9, 38°.05N×142°.83E, h0km, mb3.8/4, mb1 3.7/6, mb1mx3.4/64, mbtmp3.6/6, ML2.9/2, Error ellipse: s-maj=40.5km s-min=25.6km az=86.0*
*JMA **12** 14:37:59.6±0.1, 38°.13N×142°.39E, h36km±2km, M3.8*
*ISCJB **12** 14:38:00.1±1.2, 38°.11N±0°.05×142°.38E±0°.10, h38km±11km, mb3.8/4, Error ellipse: s-maj=13.4km s-min=7.0km az=22.5*

ISC 12 14:37:59.0±3.6, 38°.13N±0°.05×142°.41E±0°.08, h21km±22km, n25, σ1§47/29, mb3.7/4, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**0.90**	**292**	P	**Pb**	**14 38 15.8**	**-0.1**
JIO				S	**Sb**	**14 38 27.0**	**-0.4**
OFUJ	**Ofunato**	**1.12**	**329**	P	**Pn**	**14 38 18.9**	**-0.5**
JMK	**Ichinoseki**	**1.25**	**312**	P	**Pn**	**14 38 21.1**	**-0.1**
JMK				S	**Sn**	**14 38 37.0**	**-0.3**
JMM	**Marumori**	**1.31**	**259**	P	**Pn**	**14 38 21.4**	**-0.6**
JMM				*e*S	**Sn**	**14 38 37.2**	**-1.6**
JOU	**Okura**	**1.40**	**280**	P	**Pn**	**14 38 23.5**	**+0.2**
JOU				S	**Sn**	**14 38 41.2**	**+0.1**
JFK	**Kawauchi**	**1.44**	**239**	P	**Pn**	**14 38 22.9**	**-0.9**
JFK				*e*S	**Sn**	**14 38 39.4**	**-2.7**
JOM	**Ohasama**	**1.60**	**327**	P	**Pn**	**14 38 26.4**	**+0.3**
JOM				*e*S	**Sn**	**14 38 45.3**	**-0.8**
JFT	**Otama**	**1.75**	**250**	P	**Pn**	**14 38 28.7**	**+0.5**
JFT				S	**Sn**	**14 38 49.9**	**0.0**
JYK	**Kaneyama**	**1.79**	**297**	P	**Pn**	**14 38 29.7**	**+1.0**
JYS	**Shirataka**	**1.85**	**274**	P	**Pb**	**14 38 32.1**	**-0.1**
JRG	**Rokugo**	**1.88**	**313**	P	**Pb**	**14 38 32.0**	**-0.7**
JYA	**Atsumi**	**2.17**	**283**	P	**Pn**	**14 38 34.6**	**+0.7**
MJAR	**Matsushiro Arr**	**3.71**	**246**	Pn	**Pn**	**14 38 58.0**	**+3.0**
	0.7nm,0.3s,baz=63,slow=9.6,SNR=11						
MJAR				Sn	**Sb**	**14 39 45.5**	**-2.8**
	0.6nm,0.3s,baz=130,slow=12,SNR=4.0						
MAT	**Matsushiro**	**3.71**	**246**	P	**Pn**	**14 38 58.3**	**+3.3**
MAT				S	**Sn**	**14 39 37.7**	**-0.4**
ASAJ	**Asahikawa**	**5.99**	**1**	Pn	**Pn**	**14 39 27.4**	**+1.2**
	0.3nm,0.3s,baz=195,slow=13,SNR=5.5						
ASAJ				Sn	**Sn**	**14 40 32.0**	**-2.1**
	0.4nm,0.3s,baz=232,slow=19,SNR=2.9						
H11N2	**WAKE ISLAND Hy**	**28.06**	**124**	T	T	15 14 09.1	
	baz=315,SNR=24						
H11N1	**WAKE ISLAND Hy**	**28.07**	**124**	T	T	15 14 14.2	
	baz=315,slow=74						
H11N3	**WAKE ISLAND Hy**	**28.08**	**124**	T	T	15 14 19.7	
	baz=315,slow=74						
H11S1	**WAKE ISLAND Hy**	**28.82**	**126**	T	T	15 15 12.1	
	baz=318						
H11S3	**WAKE ISLAND Hy**	**28.82**	**126**	T	T	15 15 11.6	
	baz=318,slow=74,SNR=12						
H11S2	**WAKE ISLAND Hy**	**28.84**	**126**	T	T	15 15 16.2	
	baz=318,slow=74						
ZALV	**Zalesovo Beam**	**41.78**	**311**	P	**P**	**14 45 48.0**	**+1.4**
	0.7nm,0.5s,baz=94,slow=5.8,SNR=3.1						
MKAR	**Makanchi Array**	**44.22**	**301**	P	**P**	**14 46 07.7**	**+1.2**
	0.5nm,0.7s,baz=87,slow=12,SNR=6.1						
KURBB	**Kurchatov Arra**	**45.96**	**307**	P	**P**	**14 46 21.3**	**+1.0**
	2.3nm,0.5s,baz=81,slow=8.0,SNR=13						
WRA	**Warramunga Arr**	**58.26**	**189**	P	**P**	**14 47 50.8**	**-1.1**
	0.9nm,1.1s,baz=7.1,slow=7.0,SNR=2.8						

*IDC **12** 14:42:55.5±1.2, 2°.51N×90°.35E, h0km, mb3.7/9, mb1 3.8/11, mb1mx3.5/69, mbtmp3.7/11, ML3.8/2, Error ellipse: s-maj=39.9km s-min=18.8km az=48.0*
*ISCJB **12** 14:42:58.8±0.8, 2°.6N±0°.1×90°.39E±0°.08, h33km, mb3.7/10, Error ellipse: s-maj=15.2km s-min=10.5km az=16.2*

ISC 12 14:43:01.2±0.9, 2°.6N±0°.1×90°.35E±0°.10, h35km, n26, σ1§05/18, mb3.7/10, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PKDT	**Phuket**	**9.51**	**56**	P	**Pn**	**14 45 15.1**	**-0.7**
	34nm,0.9s,0.1nm						
SURT	**Suratani**	**10.48**	**53**	P	**Pn**	**14 45 28.2**	**-0.9**
	16nm,1.0s,0.1nm						
TRTT	**Trang**	**10.63**	**61**	P	**Pn**	**14 45 30.1**	**-1.1**
	8.0nm,1.0s,0.0nm						
PALK	**Pallekele**	**10.66**	**296**	Pn	**Pn**	**14 45 30.6**	**-1.0**
	1.1nm,0.3s,baz=116,slow=16,SNR=8.5						
PALK				Sn	Sn	14 47 19.6	-10
	3.6nm,0.3s,baz=114,slow=3.8,SNR=8.7						
PBKT	**Sadao Pong**	**17.34**	**36**	P	**P**	**14 47 03.1**	**+1.3**
	8.3nm,1.1s						
CMAR	**Chiang Mai Arr**	**17.83**	**28**	P	**Pn**	**14 47 07.0**	**+0.2**
	0.1nm,0.3s,baz=220,slow=12,SNR=5.2						
CHTO

nsta2 refers to surface waves, cutoff=50s.
BJI ***12*** *14:46:29.6,3˚.55N×93˚.84E,h30km,mb4.9/44,mB5.3/24, Ms5.4/23,Ms7.5.1/21*
ISC 12 14:46:27.9±0.4,**3˚32N**±0˚.05×**93˚77E**±0˚.05,**h24**km,**n318,** σ1§**08**/314,**mb5.0**/117,**MS4.8**/18,**27C-23D,Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSI	**Banda Aceh**	**2.65**	**35**	P	**Pn**	**14 47 07.8**	**-1.4**
MLSI	**Meulaboh, Aceh**	**2.80**	**70**	P	**Pn**	**14 47 11.6**	**+0.4**
TPTI		**3.41**	**91**	P	**Pn**	**14 47 19.7**	**+0.1**
LHMI	**Lhok Sumawe**	**3.70**	**59**	*e*P	**Pn**	**14 47 25.2**	**+1.6**
LHMI				S	**Sb**	**14 48 16.2**	**-0.8**
LHMI	**Lhok Sumawe**	**3.70**	**59**	*e*Pn	**Pn**	**14 47 25.1**	**+1.4**
KCSI	**Kotacane, Aceh**	**4.00**	**87**	P	**Pn**	**14 47 29.3**	**+1.5**
GSI	**Gunungsitoli**	**4.30**	**118**	P	**Pn**	**14 47 30.5**	**-1.4**
GSI	**Gunungsitoli**	**4.30**	**118**	*e*Pn	**Pn**	**14 47 30.7**	**-1.2**
TSI	**Tuntungan**	**4.79**	**88**	P	**Pn**	**14 47 40.2**	**+1.5**
PSI	**Prapat**	**5.18**	**96**	*e*Pn	**Pn**	**14 47 45.2**	**+1.1**
PSI	**Prapat**	**5.18**	**96**	*e*P	**Pn**	**14 47 45.2**	**+1.1**
PBSI	**Pulau Batu** 1µm,0.9s,11µm3.5nm	**5.62**	**127**	P	**Pn**	**14 47 49.3**	**-0.8**
MNSI	**Mandailing Nat** 164nm,0.8s,3µm0.7nm	**6.33**	**113**	P	**Pn**	**14 48 00.0**	**+0.2**
PKDT	**Phuket** 49nm,1.3s,2µm0.2nm	**6.43**	**45**	P	**Pn**	**14 48 01.0**	**-0.2**
SISI	**Saibi**	**7.04**	**131**	P	**Pn**	**14 48 08.2**	**-1.4**
KULM	**Kulim**	**7.14**	**74**	*e*Pn	**Pn**	**14 48 11.3**	**+0.4**
IPM	**Ipoh**	**7.33**	**81**	*e*Pn	**Pn**	**14 48 13.4**	**-0.3**
TRTT	**Trang** 28nm,1.2s,586nm0.1nm	**7.41**	**52**	P	**Pn**	**14 48 14.6**	**-0.1**
SURT	**Suratani** 28nm,1.2s,658nm0.2nm	**7.51**	**42**	P	**Pn**	**14 48 16.1**	**+0.1**
SKLT	**Songkhla** 94nm,0.9s,1µm0.4nm	**7.82**	**60**	P	**Pn**	**14 48 20.6**	**+0.2**
BKNI	**Bangkinang**	**7.85**	**112**	P	**Pn**	**14 48 21.3**	**+0.5**
BKNI	**Bangkinang**	**7.85**	**112**	*e*Pn	**Pn**	**14 48 20.1**	**-0.7**
PDSI	**Padang** 49nm,1.1s	**7.90**	**122**	P	**Pn**	**14 48 20.6**	**-0.9**
PPSI	**Pulau Pagai** 114nm,0.9s	**8.69**	**134**	P	**Pn**	**14 48 30.2**	**-2.0**
MYKOM	**Kota Tinggi**	**10.19**	**98**	*e*Pn	**Pn**	**14 48 52.1**	**-0.7**
MNAI	**Manna**	**11.94**	**130**	P	**Pn**	**14 49 16.2**	**-0.6**
SRDT	**SRDT** 55nm,2.1s	**12.17**	**25**	P	**P**	**14 49 29.3**	**-3.0**
CHBT	**CHBT** 287nm,0.9s,41µm	**12.63**	**42**	P	**Pn**	**14 49 29.4**	**+3.1**
PALK	**Pallekele** 0.6nm,0.3s,baz=116,slow=13,SNR=2.9	**13.59**	**287**	Pn	**Pn**	**14 49 40.3**	**+1.0**
PALK	5.2nm,0.3s,baz=115,slow=4.6,SNR=6.4			Sn	Sn	14 51 55.8	-14
PALK	comp=Z,2µm,18.2s,baz=116,slow=35			LR	LR	14 54 19.4	
PALK	**Pallekele**	**13.59**	**287**	*e*Pn	**Pn**	**14 49 39.9**	**+0.5**
PALK				eSn	Sn	14 51 56.3	-13
PALK	**Pallekele**	**13.59**	**287**	*e*P	**Pn**	**14 49 39.9**	**+0.5**
CM01	**Chiang Mai Arr**	**15.85**	**18**	*e*Pn	**Pn**	**14 50 09.0**	**-0.6**
CM31	**Chiang Mai Arr**	**15.88**	**18**	*e*Pn	**Pn**	**14 50 09.1**	**-0.9**
CMAR	**Chiang Mai Arr** 0.2nm,0.3s,baz=213,slow=13,SNR=48	**15.88**	**18**	Pn	**Pn**	**14 50 09.4**	**-0.6**
CMAR	comp=Z,1µm,18.8s,baz=206,slow=41			LR	LR	14 57 19.5	
CHTO	**Chiang Mai** 53nm,1.0s	**16.21**	**18**	*e*Pn	**Pn**	**14 50 13.3**	**-1.0**
CHTO	**Chiang Mai** SNR=38	**16.21**	**18**	Pn	**Pn**	**14 50 13.6**	**-0.7**
CHTO	**Chiang Mai** SNR=38	**16.21**	**18**	P	**Pn**	**14 50 13.6**	**-0.7**
CHTO	**Chiang Mai**	**16.21**	**18**	*e*P	**Pn**	**14 50 13.3**	**-1.0**
CHTO	comp=Z,53nm,1.0s			pmax	pmax		
KSM	**Kuching** comp=Z,79nm,1.0s	**16.63**	**96**	*e*Pn	**P**	**14 50 23.8**	**+1.9**
TRD	**Trivandrum**	**17.49**	**288**	*e*P	**Pn**	**14 50 28.7**	**-1.7**
VIS	**Vishakhapatnam**	**17.60**	**325**	*e*P	**Pn**	**14 50 31.1**	**-0.6**
SBUM	**Sibu** comp=Z,31nm,1.2s	**18.45**	**92**	*e*P	**Pn**	**14 50 44.1**	**+1.9**
HYB	**Hyderabad**	**20.47**	**314**	*i* P	**P**	**14 51 05.0**	**+0.8**
HYB	**Hyderabad**	**20.47**	**314**	*e*P	**P**	**14 51 04.1**	**0.0**
HYB	comp=Z,25nm,0.9s			IAmb	IAmb	14 51 06.0	
BOK	**Bokaro**	**21.73**	**340**	*e*P	**P**	**14 51 19.3**	**+1.6**
BOK	comp=Z,200nm,0.9s			IAmb	IAmb	14 51 21.1	
QIZ	**Qiongzhong**	**22.16**	**44**	P	**P**	**14 51 23.9**	**+1.6**
QIZ	comp=Z,17nm,1.1s			pmax	pmax		
QIZ	comp=Z,5µm,13.8s			LR	LR		
QIZ	comp=Z,1µm,20.1s			LR	LR		
QIZ	comp=Z,2µm,17.5s			LR	LR		
SHL	**Shillong**	**22.20**	**355**	*e*P	**P**	**14 51 23.4**	**+0.5**
SHL	comp=Z,67nm,1.1s			IAmb	IAmb	14 51 25.9	
SHL				*ex*	x	15 05 22.5	
KKM	**Kota Kinabalu** comp=Z,74nm,1.2s	**22.54**	**82**	*e*P	**P**	**14 51 28.0**	**+1.5**
NGP	**Nagpur**	**22.79**	**322**	*e*P	**P**	**14 51 28.1**	**-0.9**
NGP	comp=Z,57nm,0.2s			IAmb	IAmb	14 51 30.7	
GOA	**Goa**	**23.06**	**303**	*e*P	**P**	**14 51 29.4**	**-2.5**
GOA	comp=Z,101nm,1.6s			IAmb	IAmb	14 51 34.7	
KMI	**Kunming**	**23.34**	**21**	P	**P**	**14 51 35.5**	**+0.7**
KMI				pP	sP	14 51 45.3	+0.6
KMI				sP	pP	14 51 49.4	+7.7
KMI				S	**S**	**14 55 47.7**	**+1.2**
KMI	comp=Z,41nm,2.0s			pmax	pmax		
KMI	comp=Z,640nm,4.1s			pmax	pmax		
KMI	comp=Z,3µm,10.9s			LR	LR		
KMI	comp=Z,2µm,10.5s			LR	LR		
KMI	comp=Z,3µm,10.5s			LR	LR		
H08S2	**Diego Garcia H** baz=63,slow=75,SNR=218	**23.86**	**243**	T	T	15 16 30.0	
H08S3	**Diego Garcia H** baz=63,slow=75,SNR=320	**23.86**	**243**	T	T	15 16 30.6	
H08S1	**Diego Carcia H** baz=63,slow=75,SNR=272	**23.87**	**243**	T	T	15 16 30.5	
POO	**Poona**	**24.67**	**309**	*e*P	**P**	**14 51 46.1**	**-1.1**
POO	comp=Z,33nm,1.2s			IAmb	IAmb	14 51 48.8	
MYLDM	**Lahad Datu** comp=Z,79nm,1.0s	**24.73**	**85**	*e*P	**P**	**14 51 48.4**	**+0.6**
BHPL	**Bhopal**	**25.34**	**323**	*e*P	**P**	**14 51 54.1**	**+0.8**
BHPL	comp=Z,50nm,1.2s			IAmb	IAmb	14 51 54.6	
LSA	**Lhasa**	**26.36**	**355**	P	**P**	**14 52 04.5**	**+1.6**
LSA	comp=Z,90nm,0.9s			pmax	pmax		
KAPI	**Kappang** comp=Z,8.3nm,0.9s	**27.25**	**108**	*e*P	**P**	**14 52 10.2**	**-0.4**
CD2	**Chengdu**	**29.02**	**18**	P	**P**	**14 52 26.5**	**+0.3**
CD2				S	**S**	**14 57 18.1**	**+1.8**
CD2	comp=Z,20nm,0.5s			pmax	pmax		
SMLA	**Simla**	**31.79**	**332**	*e*P	**P**	**14 52 50.2**	**-0.4**
SMLA				IAmb	IAmb	14 52 52.3	
DHRM	**DHARAMSHALA**	**33.13**	**332**	*e*P	**P**	**14 53 02.4**	**-0.3**
DHRM	comp=Z,14nm,0.7s			IAmb	IAmb	14 53 02.5	
WHN	**Wuhan**	**33.34**	**33**	⇓P	**P**	**14 53 05.7**	**+1.4**
XAN	**Xi'an**	**33.67**	**23**	P	**P**	**14 53 06.1**	**-1.1**
XAN				pP	pP	14 53 14.0	-0.4
XAN				sP	sP	14 53 18.0	+0.7
XAN				PP	**PnPn**	**14 54 18.6**	**-0.9**
XAN				S	**S**	**14 58 24.3**	**-4.6**
XAN				sS	pS	14 58 37.4	+0.2
XAN				SS	**SnSn**	**15 00 29.5**	**-4.2**
XAN	comp=Z,40nm,0.9s			pmax	pmax		
XAN	comp=Z,190nm,7.9s			pmax	pmax		
XAN	comp=Z,2µm,12.2s			LR	LR		
XAN	comp=Z,5µm,13.6s			LR	LR		
XAN	comp=Z,5µm,12.5s			LR	LR		
LZH	**Lanzhou**	**33.91**	**15**	⇓P	**P**	**14 53 09.2**	**-0.2**
LZH				pP	pP	14 53 16.8	+0.2
LZH				sP	sP	14 53 20.6	+1.1
LZH	comp=Z,50nm,0.9s			pmax	pmax		
LZH	comp=Z,730nm,6.4s			pmax	pmax		
GTA	**Gaotai**	**36.34**	**8**	*e*P	**P**	**14 53 30.0**	**-0.2**
GTA				pP	pP	14 53 37.0	-0.5
GTA				sP	sP	14 53 40.4	0.0
GTA				S	**S**	**14 59 10.1**	**0.0**
GTA				sS	sS	14 59 24.3	+2.3
GTA	comp=Z,9.0nm,1.0s			pmax	pmax		
GTA	comp=Z,2µm,9.0s			pmax	pmax		
GTA	comp=Z,8µm,20.4s			LR	LR		
GTA	comp=Z,3µm,19.5s			LR	LR		
GTA	comp=Z,3µm,18.5s			LR	LR		
NJ2	**Nanjing** NJ2	**37.05**	**37**	*e*P	**P**	**14 53 37.6**	**+1.4**
	comp=Z,18nm,0.7s			pmax	pmax		
SIJI	**Sorong** comp=Z,22nm,0.9s,baz=301,slow=5.3,SNR=12	**37.71**	**96**	P	**P**	**14 53 41.1**	**-1.0**
FITZ	**Fitzroy Crossi** comp=Z,3.3nm,0.7s,baz=251,slow=3.5,SNR=6.2	**37.94**	**125**	P	**P**	**14 53 42.7**	**-1.2**
FITZ	**Fitzroy Crossi** baz=38,SNR=3.9	**37.94**	**125**	P	**P**	**14 53 43.0**	**-0.9**
MEEK	**Meekatharra** baz=38,SNR=7.3	**38.26**	**143**	P	**P**	**14 53 47.2**	**+0.7**
WSAR	**Wadi Sarin** comp=Z,4.2nm,0.8s,baz=170,slow=4.7,SNR=3.7	**39.33**	**303**	P	**P**	**14 53 56.3**	**+0.8**
WSAR	comp=Z,292nm,19.3s,baz=127,slow=36			LR	LR	15 09 56.4	
KSH	**Kashi**	**39.49**	**338**	P	**P**	**14 53 56.1**	**-0.7**
KSH				sP	sP	14 54 06.9	-0.1
KSH				PP	**PnPn**	**14 55 30.9**	**+0.2**
KSH				S	**S**	**14 59 52.7**	**-5.1**
KSH	comp=Z,12nm,0.8s			pmax	pmax		
KSH	comp=Z,540nm,7.7s			pmax	pmax		
KSH	comp=Z,780nm,10.8s			LR	LR		
KSH	comp=Z,550nm,7.8s			LR	LR		
KSH	comp=Z,2µm,13.4s			LR	LR		
WMQ	**Urumqi**	**40.69**	**353**	P	**P**	**14 54 08.4**	**+1.8**
WMQ				pP	pP	14 54 14.5	+0.6
WMQ				sP	sP	14 54 18.6	+1.7
WMQ	comp=Z,91nm,1.3s			pmax	pmax		
WMQ	comp=Z,700nm,3.7s			pmax	pmax		
WMQ	comp=Z,5µm,19.3s			LR	LR		
WMQ	comp=Z,4µm,21.5s			LR	LR		
BJI	**Beijing** BJI	**41.80**	**26**	P	**P**	**14 54 17.2**	**+1.5**
	comp=Z,48nm,1.0s			pmax	pmax		
ULHL	**Ulahol** SNR=16	**41.81**	**340**	P	**P**	**14 54 16.7**	**+0.7**
PDGK	**Podgornoye** PDGK	**41.81**	**344**	P	**P**	**14 54 15.8**	**-0.1**
	comp=Z,42nm,1.2s			pmax	pmax		
KZA	**Kyzart** SNR=17	**42.00**	**339**	P	**P**	**14 54 18.7**	**+0.9**
UCH	**Uchtor** SNR=27	**42.39**	**339**	P	**P**	**14 54 21.9**	**+0.8**
H01W3	**Cape Leeuwin H** baz=331,slow=76,SNR=62	**42.55**	**155**	T	T	15 40 01.8	
H01W2	**Cape Leeuwin H** baz=331,slow=76,SNR=57	**42.56**	**155**	T	T	15 40 00.9	
H01W1	**Cape Leeuwin H** baz=331,slow=76,SNR=42	**42.56**	**155**	T	T	15 39 53.2	
AML	**Almayashu** SNR=36	**42.61**	**338**	P	**P**	**14 54 23.5**	**+0.7**
KBK	**Karagaybulak** SNR=24	**42.62**	**339**	P	**P**	**14 54 23.9**	**+1.4**
TKM2	**Tokmak 2** SNR=17	**42.62**	**340**	P	**P**	**14 54 23.4**	**+0.7**
TKM2	**Tokmak 2** TKM2	**42.62**	**340**	P	**P**	**14 54 22.6**	**-0.1**
	comp=Z,57nm,2.2s			pmax	pmax		
AAK	**Ala-Archa** comp=Z,5.9nm,1.0s,baz=137,slow=12,SNR=18	**42.76**	**339**	P	**P**	**14 54 24.4**	**+0.7**
AAK	**Ala-Archa** SNR=12	**42.76**	**339**	P	**P**	**14 54 25.2**	**+1.5**
AAK	**Ala-Archa** comp=Z,25nm,1.4s	**42.76**	**339**	*e*P	**P**	**14 54 25.0**	**+1.3**
AAK	**Ala-Archa** SNR=16	**42.76**	**339**	P	**P**	**14 54 25.0**	**+1.3**
AAK	**Ala-Archa** SNR=16	**42.76**	**339**	P	**P**	**14 54 25.0**	**+1.3**
AAK	**Ala-Archa** AAK	**42.76**	**339**	*c i*P	**P**	**14 54 25.0**	**+1.3**
	comp=Z,32nm,1.9s			pmax	pmax		
FRU	**Bishkek** FRU	**42.89**	**339**	*e*P	**P**	**14 54 26.0**	**+1.4**
FRU	comp=Z,110nm,2.2s			*e* pmax	pmax	14 56 36.0	
EKS2	**Erkin-Say** SNR=13	**43.04**	**338**	P	**P**	**14 54 27.0**	**+1.1**
USP	**Ospenovka** SNR=23	**43.31**	**339**	P	**P**	**14 54 28.6**	**+0.6**
WRKA	**Warakurna** baz=44,SNR=4.7	**43.79**	**132**	P	**P**	**14 54 31.9**	**-0.3**
MK01	**Makanchi Array**	**44.41**	**349**	*e*P	**P**	**14 54 36.6**	**-0.2**
MK31	**Makanchi Array**	**44.44**	**349**	*e*P	**P**	**14 54 37.6**	**+0.6**
MK31	**Makanchi Array**	**44.44**	**349**	*e*P	**P**	**14 54 37.6**	**+0.6**
MKAR	**Makanchi Array** comp=Z,26nm,0.8s,baz=170,slow=8.4,SNR=136	**44.44**	**349**	P	**P**	**14 54 37.6**	**+0.6**
MAKZ	**Makanchi** comp=Z,23nm,1.0s	**44.52**	**348**	*e*P	**P**	**14 54 38.2**	**+0.6**
MAKZ	**Makanchi** MAKZ	**44.52**	**348**	*e*P	**P**	**14 54 38.2**	**+0.6**
	comp=Z,23nm,1.0s			pmax	pmax		
KK31	**Karatay Array**	**44.69**	**336**	*e*P	**P**	**14 54 39.1**	**+0.1**
KK31	**Karatay Array**	**44.69**	**336**	*e*P	**P**	**14 54 39.1**	**+0.1**
KKAR	**Karatay Array**	**44.69**	**336**	*e*P	**P**	**14 54 39.1**	**0.0**
KKAR	**Karatay Array**	**44.69**	**336**	*e*P	**P**	**14 54 39.1**	**0.0**
JNU	**Nakatsue** comp=Z,898nm,18.5s,baz=262,slow=38	**45.62**	**45**	LR	LR	15 15 18.2	
SONM	**Songino Array** comp=Z,17nm,0.9s,baz=194,slow=8.8,SNR=48	**45.66**	**12**	P	**P**	**14 54 47.1**	**+0.2**
SONA1	**Songino Array**	**45.68**	**12**	*e*P	**P**	**14 54 47.0**	**0.0**
ULN	**Ulaanbaatar** ULN	**45.83**	**12**	*e*P	**P**	**14 54 48.2**	**-0.1**
ULN				*e*PcP	**PcP**	**14 56 26.3**	**+0.9**
ULN	**Ulaanbaatar** SNR=7.6	**45.83**	**12**	P	**P**	**14 54 49.2**	**+1.0**
ULN	**Ulaanbaatar** SNR=7.6	**45.83**	**12**	P	**P**	**14 54 49.2**	**+1.0**
ULN	**Ulaanbaatar** ULN	**45.83**	**12**	*c i*P	**P**	**14 54 48.7**	**+0.5**
	comp=Z,13nm,1.0s			pmax	pmax		
WRA	**Warramunga Arr** comp=Z,23nm,1.0s,baz=300,slow=8.8,SNR=47	**46.06**	**122**	P	**P**	**14 54 49.6**	**-0.7**
WRA				PcP	**PcP**	**14 56 26.4**	**-0.1**
WRAB	**Tennant Creek** comp=Z,3.6nm,1.0s,baz=301,slow=3.2,SNR=3.8	**46.06**	**122**	*e*P	**P**	**14 54 50.1**	**-0.2**
WRAB	**Tennant Creek** WRAB	**46.06**	**122**	*de*P	**P**	**14 54 49.6**	**-0.7**
	comp=Z,43nm,1.2s			pmax	pmax		
WB2	**Warramunga Arr** comp=Z,37nm,1.1s	**46.07**	**122**	*e*P	**P**	**14 54 49.7**	**-0.7**
KSRS	**Korea Array** comp=Z,547nm,18.4s,baz=225,slow=37	**46.19**	**38**	LR	LR	15 14 59.8	
DGZ	**Jazzator, Alta** DGZ	**46.53**	**354**	*e*P	**P**	**14 54 55.1**	**+1.4**
	comp=Z,12nm,1.5s			pmax	pmax		
ASAR	**Alice Springs** comp=Z,7.3nm,0.9s,baz=293,slow=7.9,SNR=60	**47.40**	**127**	P	**P**	**14 54 59.9**	**-0.9**
ASAR				PcP	**PcP**	**14 56 30.7**	**-0.6**
AS31	**Alice Springs** comp=Z,2.5nm,0.8s	**47.40**	**127**	*e*P	**P**	**14 55 00.2**	**-0.6**
GEYT	**Alibeck** comp=Z,19nm,0.8s,baz=146,slow=8.2,SNR=38	**47.41**	**321**	P	**P**	**14 55 01.4**	**+0.7**
GYA0B	**ALIBECK ARRAY**	**47.41**	**321**	*e*P	**P**	**14 55 01.7**	**+1.1**
AS01	**Alice Springs** comp=Z,30nm,1.0s	**47.44**	**127**	*e*P	**P**	**14 54 59.8**	**-1.2**
ZAK	**Zakamensk** ZAK	**47.58**	**8**	*e*P	**P**	**14 55 01.5**	**-0.3**
	comp=Z,7.0nm,1.5s			pmax	pmax		
HVS	**Khovu-Aksy** HVS	**47.65**	**360**	*d i*P	**P**	**14 55 03.6**	**+1.3**
	comp=Z,49nm,0.9s			pmax	pmax		
KURBB	**Kurchatov Arra** comp=Z,18nm,0.8s,baz=168,slow=6.5,SNR=49	**48.86**	**347**	P	**P**	**14 55 12.2**	**+0.6**
TLY	**Talaya** SNR=6.1	**48.90**	**8**	P	**P**	**14 55 14.5**	**+2.6**
TLY	**Talaya** SNR=6.1	**48.90**	**8**	P	**P**	**14 55 14.5**	**+2.6**
TLY	**Talaya**	**48.90**	**8**	*e*P	**P**	**14 55 13.5**	**+1.6**
KURK	**Kurchatov** comp=Z,24nm,0.9s	**48.93**	**347**	*e*P	**P**	**14 55 12.8**	**+0.8**
KURK	**Kurchatov** SNR=17	**48.93**	**347**	P	**P**	**14 55 13.2**	**+1.1**
KURK	**Kurchatov** SNR=17	**48.93**	**347**	P	**P**	**14 55 13.2**	**+1.1**
KURK	**Kurchatov** KURK	**48.93**	**347**	*de*P	**P**	**14 55 12.9**	**+0.8**
	comp=Z,33nm,1.0s			pmax	pmax		
CN2	**Changchun**	**49.10**	**30**	*e*P	**P**	**14 55 17.0**	**+3.5**
IRK	**Irkutsk** IRK	**49.54**	**8**	*e*P	**P**	**14 55 17.0**	**+0.3**
	comp=Z,42nm,2.8s			pmax	pmax		
RAYN	**Ar Rayn** comp=Z,16nm,1.1s	**50.74**	**298**	*e*P	**P**	**14 55 27.2**	**+0.8**
OPO	**Ambohidratompo** comp=Z,411nm,18.9s,baz=18,slow=32	**50.75**	**243**	LR	LR	15 13 46.2	
ZAA0	**Zalesovo Array** comp=Z,64nm,1.3s	**51.00**	**353**	*e*P	**P**	**14 55 28.0**	**+0.3**
ZALV	**Zalesovo Beam** comp=Z,17nm,0.4s,baz=183,slow=5.9,SNR=84	**51.00**	**353**	P	**P**	**14 55 28.4**	**+0.6**
ZALV	**Zalesovo Beam**	**51.00**	**353**	*e*P	**P**	**14 55 28.0**	**+0.3**
ZALV	**Zalesovo Beam**	**51.00**	**353**	*e*P	**P**	**14 55 28.0**	**+0.3**
ATD	**Arta Tunnel** comp=Z,66nm,19.4s,baz=55,slow=33	**51.08**	**282**	LR	LR	15 14 34.9	
NVS	**Novosibirsk** NVS	**52.07**	**352**	⇑P	**P**	**14 55 36.3**	**+0.6**
	comp=N,22nm,1.0s			pmax	pmax		
NVS	comp=Z,32nm,1.0s			pmax	pmax		
NVS	comp=E,5.0nm,0.5s			pmax	pmax		
KRAR	**Krasnoyarsk**	**52.54**	**359**	⇓*e*P	**P**	**14 55 40.4**	**+1.2**
MJAR	**Matsushiro Arr** comp=E,986nm,18.1s,baz=240,slow=38	**52.55**	**45**	LR	LR	15 19 59.8	
USRK	**Ussuriysk Ar.** comp=E,1µm,18.4s,baz=204,slow=39	**52.84**	**34**	LR	LR	15 20 34.2	
BVA0	**Borovoye Array** BVA0	**53.18**	**343**	P	**P**	**14 55 43.6**	**-0.4**
	comp=Z,22nm,1.1s			pmax	pmax		
BVAR	**Borovoye Array** comp=Z,12nm,0.8s,baz=142,slow=7.5,SNR=48	**53.18**	**343**	P	**P**	**14 55 43.7**	**-0.3**
BRVK	**Borovoye** comp=Z,23nm,1.1s	**53.24**	**343**	*e*P	**P**	**14 55 44.2**	**-0.2**
BRVK	**Borovoye** SNR=8.1	**53.24**	**343**	P	**P**	**14 55 44.5**	**+0.1**
BRVK	**Borovoye** SNR=8.1	**53.24**	**343**	P	**P**	**14 55 44.5**	**+0.1**
BRVK	**Borovoye** BRVK	**53.24**	**343**	*de*P	**P**	**14 55 44.1**	**-0.3**
	comp=Z,21nm,1.0s			pmax	pmax		
AB31	**Akbulak array** AB31	**54.07**	**333**	P	**P**	**14 55 50.0**	**-0.6**
	comp=Z,22nm,1.1s			pmax	pmax		
ABKAR	**Akbulak array**	**54.07**	**333**	*e*P	**P**	**14 55 50.2**	**-0.3**
AKTO	**Aktyubinsk** comp=Z,3.9nm,1.0s,baz=143,slow=10,SNR=7.8	**55.78**	**333**	P	**P**	**14 56 02.2**	**-0.7**
KLR	**Kul'dur** comp=Z,85nm,18.1s,baz=215,slow=40	**56.00**	**29**	LR	LR	15 24 11.2	
KLR	**Kul'dur**	**56.00**	**29**	⇑*e*P	**P**	**14 56 04.6**	**+0.1**
BOD	**Bodaibo** BOD	**56.64**	**13**	*e*P	**P**	**14 56 08.9**	**0.0**
	comp=Z,18nm,1.0s			pmax	pmax		
KMBO	**Kilima Mbogo** comp=Z,2.1nm,0.6s,baz=99,slow=8.8,SNR=5.2	**56.66**	**266**	P	**P**	**14 56 10.7**	**+0.5**
KMBO				LR	LR	15 18 31.4	
STKA	**Stephens Creek** comp=Z,4.6nm,0.7s,baz=315,slow=6.1,SNR=14	**57.32**	**131**	P	**P**	**14 56 13.5**	**-0.7**
STKA	**Stephens Creek** baz=57,SNR=12	**57.32**	**131**	P	**P**	**14 56 13.7**	**-0.6**
STKA	**Stephens Creek** comp=Z,1.1nm,0.7s	**57.32**	**131**	*e*P	**P**	**14 56 13.9**	**-0.3**
STKA	comp=Z,1.0nm,0.7s			pmax	pmax		
GNI	**Garni** comp=Z,8.4nm,0.5s,baz=280,slow=2.1,SNR=6.9	**57.40**	**317**	P	**P**	**14 56 16.0**	**+1.1**
GNI	**Garni** SNR=5.2	**57.40**	**317**	P	**P**	**14 56 16.2**	**+1.3**
GNI	**Garni** SNR=5.2	**57.40**	**317**	P	**P**	**14 56 16.2**	**+1.3**
GNI	**Garni** GNI	**57.40**	**317**	*c i*P	**P**	**14 56 15.9**	**+1.0**
	comp=Z,99nm,1.7s			pmax	pmax		
GROC	**Groznyy** GROC	**58.13**	**320**	*e*P	**P**	**14 56 18.1**	**-1.6**
GROC				*e*		14 57 08.6	
GROC	comp=Z,10.0nm,0.4s			pmax	pmax		
ZEI	**Tsey** ZEI	**59.16**	**319**	*e*P	**P**	**14 56 25.9**	**-1.3**
	comp=Z,8.0nm,0.8s			pmax	pmax		
SVE	**Sverdlovsk** SVE	**59.49**	**340**	⇑*e*P	**P**	**14 56 28.6**	**-0.3**
	comp=Z,34nm,1.1s			pmax	pmax		
NCK	**Nalchik** NCK	**59.68**	**320**	⇓*e*P	**P**	**14 56 31.3**	**+0.7**
	comp=Z,18nm,0.4s			pmax	pmax		
ARU	**Arti** comp=Z,18nm,1.1s	**59.93**	**338**	*e*P	**P**	**14 56 31.1**	**-0.9**
ARU	**Arti** ARU	**59.93**	**338**	*c i*P	**P**	**14 56 31.4**	**-0.6**
ARU						14 57 17.2	
ARU				S	**S**	**15 04 39.9**	**-2.7**
ARU				SS	**SS**	**15 08 40.2**	**+0.8**
ARU	comp=Z,28nm,1.7s			pmax	pmax		
NEY	**Neytrino** NEY	**60.14**	**319**	⇓*e*P	**P**	**14 56 34.7**	**+0.8**
	comp=Z,7.0nm,1.9s			pmax	pmax		
KBZ	**Khabaz** comp=Z,8.3nm,0.9s,baz=179,slow=5.6,SNR=14	**60.24**	**320**	P	**P**	**14 56 34.6**	**+0.3**
CMSA	**Cobar Meteorol** baz=60,SNR=13	**60.28**	**129**	P	**P**	**14 56 34.8**	**-0.1**
ASF	**Jabal al Asfar** comp=Z,4.6nm,0.8s,baz=12,slow=3.5,SNR=6.7	**60.45**	**305**	P	**P**	**14 56 36.0**	**-0.1**
KVAR	**Kislovodsk Arr**	**60.47**	**320**	P	**P**	**14 56 36.1**	**0.0**
KIV	**Kislovodsk** SNR=6.5	**60.48**	**320**	P	**P**	**14 56 36.6**	**+0.5**
KIV	**Kislovodsk** SNR=6.5	**60.48**	**320**	P	**P**	**14 56 36.6**	**+0.5**
KIV	**Kislovodsk** KIV	**60.48**	**320**	*e*P	**P**	**14 56 36.1**	**0.0**
	comp=Z,20nm,1.1s			pmax	pmax		
EIL	**Elat** comp=Z,9.6nm,0.9s,baz=57,slow=3.0,SNR=6.0	**61.43**	**302**	P	P	14 56 49.0	+6.3
MMAI	**Mount Meron Ar** comp=Z,9.0nm,0.9s,baz=91,slow=9.2,SNR=8.1	**61.89**	**306**	P	**P**	**14 56 47.2**	**+1.3**
SOC	**Sochi** SOC	**62.26**	**318**	*e*P	**P**	**14 56 47.4**	**-0.6**
	comp=Z,10.0nm,0.4s			pmax	pmax		
TOO	**Toolangi** baz=63,SNR=4.2	**62.84**	**135**	P	**P**	**14 56 53.6**	**+1.5**
BR131	**Keskin Array S**	**65.16**	**313**	*e*P	**P**	**14 57 07.2**	**-0.3**
BRTR	**Keskin Array B** comp=Z,4.2nm,0.9s,baz=132,slow=6.8,SNR=22	**65.16**	**313**	P	**P**	**14 57 07.1**	**-0.3**
ILGA	**Ilgaz** comp=Z,39nm,1.3s	**65.51**	**314**	*e*P	**P**	**14 57 10.2**	**+0.5**
BR231	**Keskin MP Arra**	**65.83**	**312**	*e*P	**P**	**14 57 07.5**	**-4.2**
SIM	**Simferopol'** SIM	**66.50**	**318**	*e*P	**P**	**14 57 16.1**	**+0.3**
SIM				*e*		14 57 26.0	
SIM	comp=Z,21nm,0.8s			pmax	pmax		
SIM	comp=Z,110nm,13.9s			MLR	MLR		
LSZ	**Lusaka** comp=Z,6.1nm,0.8s	**67.46**	**252**	*e*P	**P**	**14 57 23.3**	**+0.7**
LSZ	**Lusaka** LSZ	**67.46**	**252**	*e*P	**P**	**14 57 23.3**	**

OBN pmax pmax
comp=Z,47nm,1.9s
OBN MLR MLR
comp=Z,811nm,17.0s
TIRR Tirgusor 70.23 316⇑ *iP* **P 14 57 38.8 -0.3**
TIRR Tirgusor 70.23 316⇑ P **P 14 57 38.8 -0.3**
KLMR Klimovskoe 70.39 335 *eP* **P 14 57 37.2 -2.5**
KLMR AMP 14 57 40.3
comp=Z,21nm,1.5s
KLMR Klimovskoe 70.39 335 *eP* **P 14 57 37.1 -2.6**
KLMR pmax pmax
comp=Z,21nm,1.5s
TLB Topalu 70.52 316⇑ *iP* **P 14 57 41.2 +0.3**
TLB Topalu 70.52 316⇑ P **P 14 57 41.2 +0.3**
IDI Anoyia 70.89 306 P **P 14 57 44.0 +0.5**
comp=Z,4.5nm,0.4s,baz=99,slow=8.6,SNR=7.1
SORM Soroca 71.28 320⇓ *iP* **P 14 57 43.9 -1.5**
SORM Soroca 71.28 320⇓ P **P 14 57 43.9 -1.5**
AKASG Malin Array Be 71.50 323 P **P 14 57 45.7 -1.0**
comp=Z,1.5nm,0.6s,baz=88,slow=5.0,SNR=24
AKBB Malin Array Si 71.50 323 *eP* **P 14 57 45.8 -0.9**
comp=Z,16nm,1.3s
AKBB Malin Array Si 71.50 323 *eP* **P 14 57 45.8 -0.9**
AKBB pmax pmax
comp=Z,16nm,1.3s
KIEV Kiev 71.51 323 *eP* **P 14 57 45.8 -1.0**
comp=Z,17nm,1.3s
KIEV Kiev 71.51 323 *c iP* **P 14 57 45.7 -1.0**
KIEV pmax pmax
comp=Z,15nm,1.4s
AK11 Malin Array Si 71.53 323 *eP* **P 14 57 45.5 -1.4**
VRI Vrincioaia 71.74 317⇓ *iP* **P 14 57 49.1 +0.8**
VRI Vrincioaia 71.74 317 ⇓P **P 14 57 49.1 +0.8**
PLOR Plostina 71.79 317⇓ *iP* **P 14 57 49.4 +0.7**
PLOR Plostina 71.79 317 ⇓P **P 14 57 49.4 +0.7**
PETK Petropavlovsk- 71.92 35 LR LR 15 29 32.7
comp=Z,319nm,21.8s,baz=252,slow=36
TESR Tescani 71.96 318⇑ *iP* **P 14 57 49.3 -0.3**
MLR Muntele Rosu 72.18 317 P **P 14 57 51.2 +0.1**
comp=Z,3.2nm,0.9s,baz=145,slow=3.4,SNR=16
MLR Muntele Rosu 72.18 317⇑ *iP* **P 14 57 51.4 +0.3**
MLR Muntele Rosu 72.18 317⇑ P **P 14 57 51.4 +0.3**
TMCR Tamitsa 72.66 338 *eP* **P 14 57 53.2 -0.2**
TMCR pmax pmax
comp=Z,29nm,1.2s
VOIR 72.78 317⇓ *iP* **P 14 57 54.2 -0.5**
VOIR 72.78 317 ⇓P **P 14 57 54.2 -0.5**
BOSA Boshof 72.89 239 P **P 14 57 55.3 -0.4**
comp=Z,6.7nm,0.9s,baz=90,slow=4.9,SNR=5.1
BURAR Bucovina Array 73.18 319⇓ *iP* **P 14 57 57.7 +0.7**
BURAR Bucovina Array 73.18 319 ⇓P **P 14 57 57.7 +0.7**
BUR04 Bucovina Ar. S 73.19 319 *eP* **P 14 57 57.2 +0.2**
BUR08 Bucovina Ar. S 73.20 319 *eP* **P 14 57 57.6 +0.5**
VTS Vitosha 73.49 313⇑ *iP* **P 14 57 58.4 -0.6**
VTS Vitosha 73.49 313 *eP* **P 14 57 58.4 -0.6**
comp=Z,13nm,1.0s
VTS Vitosha 73.49 313 ⇑P **P 14 57 58.4 -0.6**
LOT Lotru 73.67 316⇓ *iP* **P 14 57 57.9 -2.0**
DRGR 74.66 318⇑ *iP* **P 14 58 06.1 +0.4**
DRGR 74.66 318 ⇑P **P 14 58 06.1 +0.4**
BZS Buzias 75.18 316⇓ *iP* **P 14 58 07.6 -1.0**
BZS Buzias 75.18 316 ⇓P **P 14 58 07.6 -1.0**
VSU Vasula 75.31 330⇑ *eP* **P 14 58 08.4 -0.6**
VSU pmax pmax
comp=Z,70nm,1.2s
UZH Uzhgorod 75.32 319 *eP* **P 14 58 08.1 -1.2**
UZH *e* 14 58 13.1
UZH *e* 14 58 19.7
CRVS Cervenica-Dubn 75.91 320 *eP* **P 14 58 14.0 +1.3**
CRVS Cervenica-Dubn 75.91 320 *eP* **P 14 58 14.0 +1.3**
STHS Stebnicka Huta 76.15 320 *eP* **P 14 58 15.7 +1.6**
STHS Stebnicka Huta 76.15 320 *eP* **P 14 58 15.7 +1.6**
STHS pmax pmax
comp=Z,7.0nm,1.0s
FIA1 FINESS Array S 76.55 333 *eP* **P 14 58 15.2 -0.8**
FINES FINESS Array B 76.55 333 P **P 14 58 15.6 -0.4**
comp=Z,8.1nm,0.9s,baz=99,slow=6.0,SNR=17
PSZ Piszkesteto 76.76 318⇑ *iP* **P 14 58 18.0 +0.4**
PSZ Piszkesteto 76.76 318 *eP* **P 14 58 17.9 +0.4**
comp=Z,9.6nm,1.0s
PSZ Piszkesteto 76.76 318 ⇑P **P 14 58 18.0 +0.4**
NIE Niedzica 76.76 320 *eP* **P 14 58 18.8 +1.3**
NIE Niedzica 76.76 320 *eP* **P 14 58 18.8 +1.3**
OJC Ojcow 77.22 321 *eP* **P 14 58 21.1 +1.0**
OJC Ojcow 77.22 321 *eP* **P 14 58 20.5 +0.4**
comp=Z,20nm,1.1s
OJC Ojcow 77.22 321 *eP* **P 14 58 21.1 +1.0**
VYHS Vyhne 77.55 319 *eP* **P 14 58 21.8 -0.2**
VYHS Vyhne 77.55 319 *eP* **P 14 58 21.8 -0.2**
VYHS pmax pmax
comp=Z,50nm,2.5s
MODS Modra-Piesok 78.56 319 *eP* **P 14 58 28.5 +0.9**
MODS Modra-Piesok 78.56 319 *eP* **P 14 58 28.5 +0.9**
MORC Moravsky Berou 78.59 320⇑ *iP* **P 14 58 28.8 +1.1**
MORC Moravsky Berou 78.59 320 ⇑P **P 14 58 28.8 +1.1**
KRLC Kraliky 79.11 320 *eP* **P 14 58 31.3 +0.7**
KRLC *e*PCP **sP** 14 58 40.7 -0.6
KRLC Kraliky 79.11 320 *eP* **P 14 58 31.3 +0.7**
KRLC *e* 14 58 40.7
VRAC Vranov 79.13 319 P **P 14 58 31.2 +0.5**
comp=Z,1.3nm,0.5s,baz=105,slow=7.8,SNR=3.6
CONA Conrad Observa 79.44 318 *iP* **P 14 58 32.8 +0.3**
comp=Z,8.3nm,1.1s
DPC Dobruska-Polom 79.44 320 *eP* **P 14 58 33.1 +0.7**
DPC *e*PCP **sP** 14 58 42.8 -0.3
DPC Dobruska-Polom 79.44 320 *eP* **P 14 58 33.1 +0.7**
DPC *e* 14 58 42.8
KSP Ksiaz 79.53 321 *eP* **P 14 58 33.5 +0.7**
KSP Ksiaz 79.53 321 *eP* **P 14 58 33.5 +0.7**
ARSA Arzberg 79.59 317 *iP* **P 14 58 34.2 +0.9**
comp=Z,19nm,0.9s,SNR=11
UPC Upice 79.66 321 *eP* **P 14 58 34.0 +0.4**
UPC Upice 79.66 321 *eP* **P 14 58 34.0 +0.4**
SOKA Soboth 79.86 317 *iP* **P 14 58 35.2 +0.3**
comp=Z,27nm,1.0s,SNR=16
OBKA Obir 80.18 316 *iP* **P 14 58 37.2 +0.6**
comp=Z,17nm,1.4s
MOA Molln 80.50 318 *iP* **P 14 58 38.3 +0.1**
comp=Z,9.1nm,1.2s
PRU Pruhonice 80.54 320 *eP* **P 14 58 38.6 +0.3**
PRU *ex* x 14 58 48.6
PRU Pruhonice 80.54 320 *eP* **P 14 58 38.6 +0.3**
PRU *e* 14 58 48.6
PVCC Panska Ves 80.58 321 *eP* **P 14 58 39.5 +1.0**
PVCC Panska Ves 80.58 321 *eP* **P 14 58 39.5 +1.0**
MYKA Terra Mystica 80.81 317 *iP* **P 14 58 40.5 +0.6**
comp=Z,14nm,1.2s
GEA0 GERESS Array S 80.97 319 *eP* **P 14 58 40.6 -0.2**
GEC2 GERESS Array S 80.97 319 *eP* **P 14 58 41.1 +0.4**
comp=Z,24nm,1.1s
GEC2 GERESS Array S 80.97 319 *eP* **P 14 58 41.1 +0.4**
GEC2 pmax pmax
comp=Z,24nm,1.1s
GERES GERESS Array B 80.97 319 P **P 14 58 41.0 +0.2**
comp=Z,11nm,0.9s,baz=94,slow=5.4,SNR=60
GERES GERESS Array B 80.97 319 P **P 14 58 41.0 +0.2**
KBA Koelnbreinsper 81.05 317 *iP* **P 14 58 41.2 -0.1**
comp=Z,7.3nm,1.1s
KHC Kasperske Hory 81.08 319 *eP* **P 14 58 41.2 0.0**
KHC *ex* x 14 58 50.6
KHC Kasperske Hory 81.08 319 *eP* **P 14 58 41.2 0.0**
comp=Z,3.7nm,1.1s
KHC Kasperske Hory 81.08 319 *eP* **P 14 58 41.2 0.0**
KHC *e* 14 58 50.6
ABTA Abfaltersbach 81.60 317 *iP* **P 14 58 44.0 -0.1**
comp=Z,7.2nm,0.9s
CLL Collm 81.64 321⇑ *iP* **P 14 58 44.4 +0.3**
comp=Z,16nm,1.4s
CLL *i* 14 58 54.7
CLL Collm 81.64 321⇑ *iP* **P 14 58 44.4 +0.3**
CLL pmax pmax
comp=Z,16nm,1.4s
HFS Hagfors 82.19 330 P **P 14 58 46.6 -0.2**
comp=Z,8.4nm,1.0s,baz=145,slow=5.4,SNR=8.6
WTTA Wattenberg 82.23 317 *iP* **P 14 58 47.3 -0.3**
comp=Z,11nm,0.8s
WATA Walderalm 82.28 317 *iP* **P 14 58 47.8 0.0**
comp=Z,4.5nm,0.5s
MOTA Moosalm 82.60 317 *iP* **P 14 58 49.0 -0.5**
comp=Z,15nm,0.9s,SNR=7.6
FETA Feichten 82.83 317 *iP* **P 14 58 50.8 +0.1**
comp=Z,10nm,0.9s
RETA Reutte 82.83 317 *iP* **P 14 58 49.8 -0.8**
comp=Z,10nm,0.7s,SNR=5.9

DAVA Damuels 83.42 317 *iP* **P 14 58 53.6 -0.1**
comp=Z,18nm,0.9s,SNR=6.1
NB2 NORSAR Subarra 83.50 331 P **P 14 58 52.6 -1.1**
comp=Z,10nm,1.0s,baz=90,slow=5.3
NOA NORSAR Array B 83.50 331 P **P 14 58 53.0 -0.7**
comp=Z,6.1nm,0.9s,baz=93,slow=5.6,SNR=9.2
NOA NORSAR Array B 83.50 331 P **P 14 58 53.0 -0.7**
KEST Kesra 83.55 305 P **P 14 58 55.2 +0.7**
comp=Z,13nm,1.0s,baz=298,slow=1.7,SNR=10
SPITS Spitsbergen Ar 84.19 348 P **P 14 58 55.8 -1.0**
comp=Z,15nm,1.0s,baz=60,slow=8.7,SNR=7.4
KONO Kongsberg 84.20 329⇑ *eP* **P 14 58 56.9 -0.3**
KONO pmax pmax
comp=Z,117nm,1.7s
BFO Black Forest 84.50 318 *iP* **P 14 58 59.3 +0.3**
VNDA Vanda 88.57 168 P **P 14 59 18.3 0.0**
comp=Z,2.8nm,1.1s,baz=299,slow=5.8,SNR=4.4
EKA Eskdalemuir Ar 91.24 325 P **P 14 59 31.1 -0.1**
comp=Z,2.5nm,0.8s,baz=92,slow=5.1,SNR=4.4
TORD Torodi Ar. Bea 91.27 283 P **P 14 59 32.4 +0.2**
comp=Z,1.9nm,0.9s,baz=98,slow=2.0,SNR=9.5
ESDC Sonseca Array 93.85 310 P **P 14 59 43.9 +0.2**
comp=Z,0.3nm,0.4s,baz=62,slow=3.5,SNR=4.4
TXAR Lajitas Array 143.48 26 PKP **PKPdf 15 06 00.7 -0.8**
comp=Z,0.6nm,0.4s,baz=248,slow=2.5,SNR=6.1
CPUP Villa Florida 144.07 228 PKP PKPbc 15 06 00.6 +0.2
comp=Z,9.1nm,0.9s,baz=101,slow=3.6,SNR=15
151A Opelika 144.34 359 P PKPbc 15 06 01.6 +0.6
baz=1.6
244A Avery, Jackson 144.58 7 P PKPbc 15 06 02.5 +0.7
baz=352
245A Little AP, Sta 144.67 5 P **PKPdf 15 06 03.4 +0.1**
baz=354
247A Quitman 144.75 3 P **PKPdf 15 06 03.8 +0.3**
baz=356
251A Midway 144.78 359 P PKPbc 15 06 03.2 +0.8
baz=1.5
252A Lumpkin 144.85 358 P PKPbc 15 06 03.5 +0.8
baz=2.6
355A Pearson 145.38 355 P **PKPdf 15 06 05.0 +0.4**
baz=6.0
347A Saraland 145.40 3 P **PKPab 15 06 05.6 +1.0**
baz=356
350A Dozier 145.45 0 P **PKPab 15 06 05.4 +0.6**
baz=360
353A Camilla 145.47 357 P **PKPdf 15 06 05.1 +0.4**
baz=3.6
349A Repton 145.51 1 P **PKPab 15 06 05.8 +0.8**
baz=358

NIED ***12*** *14:50:00,37.˚50N×141.˚70E,h20km,Mw5.5 Best double couple: M₀1.95000×10¹⁷ NP1:φ₀4.00000°,δ70.00000°, λ168.00000°. NP2:φ₀98.00000°,δ79.00000°,λ20.00000°.*
IDC ***12*** *14:50:48.4±0.3,37.˚47N×141.˚64E,h0km,mb5.6/61, mb1 5.6/68,mb1mx5.5/75,mbtmp5.6/68,ML4.4/8,MS4.8/52, Ms1 4.8/52,ms1mx4.7/65,Error ellipse: s-maj=9.4km s-min=7.3km az=89.0*
BJI ***12*** *14:50:49.0,37.˚48N×141.˚58E,h22km,mb5.5/88,mB5.4/53, Ms5.6/91,Ms7 5.3/84*
JMA ***12*** *14:50:50.4±0.1,37.˚45N×141.˚73E,h27km±2km,M5.9*
JMA Felt IV J1.
MOS ***12*** *14:50:52.0±1.1,37.˚61N×141.˚70E,h37km,mb6.0/135, MS5.1/79,Error ellipse: s-maj=6.0km s-min=4.1km az=99.4*
NEIC ***12*** *14:50:52.9±1.0,37.˚51N×141.˚47E,h25km±6km,mb5.6/272, MS5.1/133,Error ellipse: s-maj=2.8km s-min=2.0km az=142.0*
NEIC Felt [IV] at Koriyama, [III] at Iwaki and Sendai and [II] at Tokyo. Felt in much of eastern Honshu. Recorded [4 JMA] in Fukushima and Miyagi.
ISCJB ***12*** *14:50:52.1±0.4,37.˚48N±0.˚01×141.˚56E±0.˚01,h31km±2km, mb5.7/447,MS5.2/227, Error ellipse: s-maj=2.4km s-min=1.8km az=144.4*
GCMT ***12*** *14:50:52.8±0.1,37.˚48N×141.˚66E,h14km,MW5.5/137, Moment Tensor Solution. s88,c153; s137,c268; Duration: 1ŝ3 Moment tensor: Scale 10¹⁷Nm; Mrr-0.21±.03; Mθθ0.61±.02; Mϕϕ-0.40±.02; Mrθ0.69±.06; Mθϕ1.72±.02; Mϕr0.51±.06; Best double couple: M₀1.94400×10¹⁷ NP1:φ₀s100.00000°,δ76.00000°, λ14.00000°. NP2:φ₀s6.00000°,δ76.00000°,λ166.00000°. Principal axes: T 2.2020, Plg20.0000°, Azm323.0000°; N -0.5140, Plg70.0000°, Azm143.0000°; P -1.6870, Plg0.0000°, Azm233.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 12 14:50:52.4±0.4,37.˚55N±0.˚02×141.˚62E±0.˚03,h27km±2km, h27km:pP-P,n1778,σ1ŝ64/1851,mb5.7/493,MS5.1/228, 217C-45D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.62**	**253**	⇓P		**Pb**		**14 51 03.6**	**-1.1**
JFK				S		**Sb**		**14 51 12.5**	**-0.6**
JMM	**Marumori**	**0.73**	**296**	⇑P		**Pb**		**14 51 06.0**	**-0.4**
JMM				S		**Sb**		**14 51 16.9**	**+0.9**
ONAJ	**Iwakimizuishiy**	**0.79**	**236**	⇓P		**Pb**		**14 51 05.5**	**-2.1**
ONAJ				S		**Sb**		**14 51 16.3**	**-1.7**
JIO	**Ouri**	**0.93**	**347**	⇑P		**Pn**		**14 51 09.0**	**-0.6**
JIO				S		**Sb**		**14 51 22.1**	**+0.4**
JFT	**Otama**	**1.02**	**269**	⇑P		**Pn**		**14 51 10.8**	**-0.1**
JFT				S		**Sn**		**14 51 25.1**	**+0.7**
JOU	**Okura**	**1.11**	**317**	⇑P		**Pb**		**14 51 12.9**	**0.0**
JOU				S		**Sb**		**14 51 28.4**	**+1.4**
JHO	**Hitachi**	**1.26**	**222**	⇓P		**Pn**		**14 51 11.5**	**-2.7**
JHO				S		**Sn**		**14 51 28.1**	**-2.1**
JYS	**Shirataka**	**1.40**	**299**	⇑P		**Pb**		**14 51 17.2**	**-0.6**
JYS				S		**Sb**		**14 51 37.4**	**+2.1**
JMK	**Ichinoseki**	**1.43**	**347**	⇑P		**Pn**		**14 51 17.0**	**+0.4**
JMK				S		**Sb**		**14 51 36.3**	**+0.1**
JSB	**Shiboa**	**1.48**	**247**	⇓P		**Pn**		**14 51 17.3**	**+0.1**
OFUJ	**Ofunato**	**1.53**	**1**	⇑P		**Pn**		**14 51 17.3**	**-0.6**
JFY	**Yanaizu**	**1.53**	**265**	⇑P		**Pn**		**14 51 18.5**	**+0.6**
JFY				S		**Sb**		**14 51 39.2**	**+0.2**
JYK	**Kaneyama**	**1.69**	**324**	⇑P		**Pn**		**14 51 21.1**	**+1.0**
JYA	**Atsumi**	**1.83**	**305**	⇑P		**Pn**		**14 51 23.4**	**+1.4**
JNS	**Sasagawa**	**1.84**	**279**	⇑P		**Pn**		**14 51 23.4**	**+1.2**
JOM	**Ohasama**	**1.94**	**353**	⇑P		**Pn**		**14 51 24.0**	**+0.5**
JRG	**Rokugo**	**2.00**	**338**	⇑P		**Pn**		**14 51 25.7**	**+1.3**
MIYJ	**Miyakonagasawa**	**2.03**	**4**	⇑P		**Pn**		**14 51 24.0**	**-0.8**
JKT	**Katashina**	**2.05**	**248**	⇓P		**Pn**		**14 51 25.6**	**+0.5**
JAG	**Ashikaga**	**2.07**	**238**	⇓P		**Pn**		**14 51 24.4**	**-0.9**
JAW	**Awa shima**	**2.08**	**296**	⇑P		**Pn**		**14 51 26.7**	**+1.2**
JHK	**Hiroka**	**2.09**	**262**	⇑P		**Pn**		**14 51 26.6**	**+0.9**
JYW	**Yuwa**	**2.27**	**331**	⇑P		**Pn**		**14 51 29.9**	**+1.8**
JIZZ	**Izumozaki**	**2.31**	**270**	⇑P		**Pn**		**14 51 30.3**	**+1.6**
TOK	**Tokyo**	**2.39**	**219**	⇓P		**Pn**		**14 51 28.1**	**-1.6**
JKZ	**Kuzumaki**	**2.44**	**355**	⇑P		**Pn**		**14 51 31.0**	**+0.5**
I30JP	**ISUMI INFRASON**	**2.47**	**206**	Pn		**Pn**		**14 51 30.3**	**-0.6**
	baz=36,slow=21,SNR=1.8								
I30JP				*i*				15 04 30.0	
	baz=0.1,slow=328,SNR=0.9								
JGK	**Kuni**	**2.58**	**248**	⇓P		**Pn**		**14 51 33.3**	**+0.9**
JRY	**Ryogami san**	**2.67**	**236**	⇓P		**Pn**		**14 51 32.6**	**-1.0**
JAH	**Hinai**	**2.74**	**344**	⇑P		**Pn**		**14 51 36.3**	**+1.7**
MJAR	**Matsushiro Arr**	**2.91**	**251**	Pn		**Pn**		**14 51 37.4**	**+0.5**
	113nm,0.3s,baz=80,slow=16,SNR=1578								
MJAR				Sn		**Sb**		**14 52 19.0**	**+0.3**
	212nm,0.3s,baz=76,slow=16,SNR=7.4								
MJAR				LR		LR		14 52 20.5	
	comp=Z,7μm,21.2s,baz=45,slow=32								
MAJO	**Matsushiro**	**2.91**	**251**	*e*Pn		**Pn**		**14 51 38.2**	**+1.2**
MAJO	**Matsushiro**	**2.91**	**251**	*d iP*		**Pn**		**14 51 38.1**	**+1.2**
MAT	**Matsushiro**	**2.91**	**251**	P		**Pn**		**14 51 38.3**	**+1.4**
MAT				S		**Sb**		**14 52 17.9**	**-0.8**
MAT	**Matsushiro**	**2.91**	**251**	P		**Pn**		**14 51 38.0**	**+1.1**
MJB9	**Matsu-Tunnel**	**2.91**	**251**	*e*Pn		**Pn**		**14 51 38.1**	**+1.2**
JNG	**Nsakai**	**3.04**	**249**	⇓P		**Pn**		**14 51 39.7**	**+0.9**
JOG3	**Oga3**	**3.09**	**321**	P		**Pn**		**14 51 36.0**	**-3.3**
JYN	**Shimob**	**3.21**	**231**	⇓P		**Pn**		**14 51 40.7**	**-0.5**
JTM	**Tenmabayashi**	**3.26**	**353**	P		**Pn**		**14 51 42.7**	**+1.0**
JTT	**Ttatey**	**3.56**	**256**	⇓P		**Pn**		**14 51 47.9**	**+2.1**
JSI2	**Shiura 2**	**3.62**	**345**	⇑P		**Pn**		**14 51 48.6**	**+1.9**
JGN	**Niukaw**	**3.70**	**250**	P		**Pn**		**14 51 49.3**	**+1.5**
SHZ3	**Shizuoka 3**	**3.71**	**229**	P		**Pn**		**14 51 48.0**	**+0.1**
JNY	**Yasuok**	**3.74**	**235**	⇓P		**Pn**		**14 51 49.4**	**+1.1**
JGF	**Kuroka**	**3.94**	**242**	⇓P		**Pn**		**14 51 52.4**	**+1.2**
JSG	**Sagara**	**4.00**	**225**	⇓P		**Pn**		**14 51 51.8**	**0.0**
JYZW	**Yoshizawa**	**4.04**	**232**	P		**Pn**		**14 51 52.6**	**+0.1**
JSR	**Shiriuchi**	**4.08**	**347**	⇑P		**Pn**		**14 51 54.9**	**+1.9**

JAO Obara 4.19 238 ⇓P **Pn 14 51 55.6 +1.0**
INU Inuyama 4.31 241 *e*Pn **Pn 14 51 57.1 +0.9**
ERM Erimo 4.61 14 *de*P **Pn 14 51 59.8 -0.5**
ERM *e*Sn **Sn 14 52 58.3 +5.4**
ERM Erimo 4.61 14 *de*P **Pn 14 51 59.8 -0.5**
JHJ2 Mitsune 4.67 199 *e*Pn **Pn 14 51 59.5 -1.6**
JHJ2 *e*Sn **Sn 14 52 52.4 -1.9**
JHJ Hachijo jima 2 4.67 199 Pn **Pn 14 51 59.2 -1.9**
287nm,0.3s,baz=330,slow=15,SNR=97
JHJ Sn **Sn 14 52 51.3 -3.1**
671nm,0.3s,baz=262,slow=23,SNR=7.6
JOSM Okushiri--Mats 4.82 341 ⇑P **Pn 14 52 04.3 +1.2**
JFM Mihama 4.97 248 ⇓P **Pn 14 52 07.3 +2.1**
JCH Churui 5.23 14 ⇑P **Pn 14 52 08.0 -0.8**
JWT Wachi 5.50 248 ⇓P **Pn 14 52 14.3 +1.8**
JFR Furan 5.66 7 P **Pn 14 52 14.2 -0.4**
JAR Ashorobuto 5.97 15 ⇑P **Pn 14 52 17.4 -1.5**
JAJ2 Tsuna 6.29 242 P **Pn 14 52 23.5 +0.2**
JKK2 Kamakawa 2 6.37 7 ⇑P **Pn 14 52 24.1 -0.4**
ASAJ Asahikawa 6.60 6 Pn **Pn 14 52 27.4 -0.2**
38nm,0.3s,baz=221,slow=11,SNR=288
ASAJ Sn **Sn 14 53 41.9 0.0**
12nm,0.3s,baz=50,slow=17,SNR=2.3
ASAJ LR LR 14 55 44.1
comp=Z,72nm,18.6s,baz=192,slow=44
GLVR Golovnino 6.85 24 ⇓*iP* **Pn 14 52 29.3 -1.7**
GLVR *i* S **Sn 14 53 43.6 -4.5**
GLVR pmax pmax
comp=Z,2μm,0.6s
GLVR pmax pmax
comp=E,1μm,0.3s
GLVR pmax pmax
comp=N,1μm,0.6s
JRA Rausu 6.91 22 P **Pn 14 52 29.9 -1.9**
GRPR Tuman 7.16 25 *eP* **Pn 14 52 33.4 -1.9**
GRPR *eS* **Sn 14 53 50.9 -4.9**
GRPR pmax pmax
comp=Z,1μm,0.5s
GRPR pmax pmax
comp=N,2μm,0.6s
GRPR pmax pmax
comp=E,2μm,0.5s
YUK Yuzh-Kuril'sk 7.23 25 *iP* **Pn 14 52 34.4 -1.8**
YUK *i* S **Sn 14 53 52.1 -5.3**
YUK pmax pmax
comp=N,856nm,0.5s
YUK pmax pmax
comp=E,1μm,0.5s
YUK pmax pmax
comp=Z,1μm,0.5s
SHO Shikotan 7.45 30 *iP* **Pn 14 52 35.3 -3.9**
SHO *i* S **Sn 14 53 54.2 -8.5**
SHO pmax pmax
comp=E,360nm,0.5s
SHO pmax pmax
comp=N,326nm,0.4s
SHO pmax pmax
comp=Z,608nm,0.5s
JKU Kubokawa 8.16 241 P **Pn 14 52 51.5 +2.4**
TEY Ternei 8.37 335 *eP* **Pn 14 52 53.0 +1.1**
TEY pmax pmax
comp=N,112nm,0.7s
TEY pmax pmax
comp=Z,138nm,0.7s
TEY pmax pmax
comp=E,1μm,2.0s
TEY pmax pmax
comp=N,2μm,3.0s
TEY pmax pmax
comp=Z,2μm,3.0s
TEY MLR MLR
comp=N,15μm,15.0s
TEY MLR MLR
comp=E,9μm,15.0s
TEY MLR MLR
comp=Z,9μm,13.0s
KUR Kuril'sk 8.99 29 *c iP* **Pn 14 52 58.5 -1.9**
KUR *i* S **Sn 14 54 35.5 -5.2**
KUR pmax pmax
comp=Z,968nm,0.5s
KUR smax smax
comp=Z,5μm,13.0s
JKI Kunimi 9.07 247 P **Pn 14 53 03.4 +1.9**
VLA Vladivostok 9.28 310 *c iP* **Pn 14 53 08.8 +4.5**
VLA pmax pmax
comp=Z,2μm,1.0s
YSS Yuzh-Sakhalins 9.43 5 *ePn* **Pn 14 53 05.8 -0.6**
YSS *eSn* **Sn 14 54 57.0 +5.5**
YSS Yuzh-Sakhalins 9.43 5⇑*iP* **Pn 14 53 06.1 -0.3**
YSS *eS* **Sn 14 54 51.0 -0.5**
YSS pmax pmax
comp=Z,440nm,0.9s
YSS pmax pmax
comp=N,360nm,1.0s
YSS pmax pmax
comp=E,190nm,1.1s
YSS smax smax
comp=N,210nm,1.0s
YSS smax smax
comp=E,280nm,1.0s
YSS MLR MLR
comp=Z,12μm,14.0s
YSS MLR MLR
comp=N,7μm,15.0s
YSS MLR MLR
comp=E,15μm,16.0s
MSHR Mys Shultsa 9.46 305 ⇓*eP* **Pn 14 53 08.1 +1.3**
JNU Nakatsue 9.82 246 Pn **Pn 14 53 12.9 +1.1**
comp=E,5.2nm,0.3s,baz=54,slow=5.8,SNR=69
JNU LR LR 14 57 09.3
comp=E,12μm,20.7s,baz=44,slow=39
JNU Nakatsue 9.82 246 *ePn* **Pn 14 53 12.5 +0.7**
USRK Ussuriysk Ar. 9.86 315 Pn **Pn 14 53 14.2 +1.9**
comp=E,18nm,0.3s,baz=118,slow=12,SNR=346
USRK LR LR 14 56 59.2
comp=E,14μm,18.1s,baz=110,slow=37
CBIJ Chichi jima 10.44 177 *ePn* **Pn 14 53 15.7 -4.5**
CBIJ *eSn* **Sn** 14 55 03.5 -13
JCJ Chichijima 10.44 177 Pn **Pn 14 53 15.6 -4.7**
comp=E,53nm,0.3s,baz=78,slow=12,SNR=23
JCJ Sn **Sn** 14 55 02.7 -14
comp=E,76nm,0.3s,baz=304,slow=21,SNR=5.7
JCJ LR LR 14 57 46.4
comp=E,7μm,19.4s,baz=0.5,slow=40
KSRS Korea Array 10.88 274 Pn **Pn 14 53 30.6 +4.3**
comp=E,1.6nm,0.3s,baz=87,slow=13,SNR=129
KSRS LR LR 14 57 32.5
comp=E,4μm,18.5s,baz=77,slow=37
KSRS Korea Array 10.88 274 P **Pn 14 53 30.6 +4.3**
KSRS pmax pmax
comp=Z,2.0nm,0.3s
KSRS MLR MLR
comp=Z,4μm,18.5s
KS01 Wonju Array Si 10.90 274 *ePn* **Pn 14 53 30.4 +3.8**
KS15 Wonju Array Si 10.91 274 *ePn* **Pn 14 53 31.3 +4.6**
KSAR Wonju Array Be 10.91 274 Pn **Pn 14 53 30.6 +3.8**
KSAR Wonju Array Be 10.91 274 P **Pn 14 53 30.6 +3.8**
TJN Taejon 11.47 268 *c iP* Pn 14 53 39.5 +5.2
MDJ Mudanjiang 11.49 312 P **Pn 14 53 35.4 +0.8**
MDJ pP 14 53 40.6
MDJ sP 14 53 42.8
MDJ S **Sn 14 55 43.4 +1.5**
MDJ pmax pmax
comp=Z,600nm,0.8s
MDJ LR LR
comp=Z,13μm,12.7s
MDJ LR LR
comp=Z,10μm,17.5s
MDJ LR LR
comp=Z,12μm,19.1s
INCN Inchon 11.90 274 *ePn* **Pn 14 53 44.8 +4.4**
INCN Inchon 11.90 274 P Pn 14 53 46.2 +5.9
SNR=7.2
INCN Inchon 11.90 274 PnPn Pn 14 53 46.2 +5.9
SNR=7.2
TYV Tymovskoe 13.33 3 *eP* **Pn 14 53 58.6 -1.1**
TYV *eS* **Sn 14 56 21.6 -5.2**
TYV pmax pmax
comp=Z,400nm,2.6s
TYV pmax pmax
comp=Z,150nm,0.8s
TYV smax smax
comp=E,1μm,6.1s
TYV smax smax
comp=E,42nm,1.4s

TYV					MLR	MLR			
	comp=E,17µm,15.0s								
TYV					MLR	MLR			
	comp=Z,16µm,15.0s								
KLR	**Kul'dur**	**13.69**	**332**		Pn	**Pn**	**14**	**54**	**04.5 -0.1**
	comp=Z,0.2nm,0.3s,baz=134,slow=12,SNR=51								
KLR					LR	LR	14	59	33.8
	comp=Z,334nm,21.2s,baz=136,slow=38								
KLR	**Kul'dur**	**13.69**	**332**	*de*	P	**Pn**	**14**	**54**	**05.2 +0.6**
CN2	**Changchun**	**13.76**	**302**	*e*	P	**Pn**	**14**	**54**	**06.7 +1.1**
CN2				*es*	P	P	14	54	16.6 +2.8
CN2				*e*	S	**Sn**	**14**	**56**	**39.2 +1.8**
CN2					pmax	pmax			
	comp=Z,150nm,0.8s								
CN2					pmax	pmax			
	comp=Z,200nm,5.0s								
CN2					LR	LR			
	comp=Z,7µm,15.0s								
CN2					LR	LR			
	comp=Z,7µm,15.0s								
CN2					LR	LR			
	comp=Z,6µm,18.0s								
SNY	**Shenyang**	**14.53**	**293**	⇑	P	**Pn**	**14**	**54**	**17.1 +1.0**
SNY					S	**Sn**	**14**	**57**	**03.3 +7.1**
SNY					pmax	pmax			
	comp=Z,10.0nm,0.5s								
SNY					pmax	pmax			
	comp=Z,1µm,3.5s								
SNY					LR	LR			
	comp=Z,5µm,12.5s								
SNY					LR	LR			
	comp=Z,9µm,14.2s								
SNY					LR	LR			
	comp=Z,11µm,13.7s								
JOW	**Kunigami**	**15.53**	**230**		Pn	**Pn**	**14**	**54**	**27.5 -2.0**
	comp=Z,1.1nm,0.3s,baz=5.7,slow=9.5,SNR=13								
JOW					LR	LR	15	00	17.4
	comp=Z,4µm,21.5s,baz=77,slow=37								
JOW	**Kunigami**	**15.53**	**230**	*e*	Pn	**Pn**	**14**	**54**	**26.9 -2.7**
	comp=Z,250nm,1.1s								
NKL	**Nikolayevsk**	**15.61**	**358**	*i*	P	**Pn**	**14**	**54**	**27.2 -3.2**
NKL				*e*			14	57	16.0
NKL					pmax	pmax			
	comp=N,140nm,1.2s								
NKL					pmax	pmax			
	comp=E,62nm,1.2s								
NKL					pmax	pmax			
	comp=Z,240nm,1.2s								
NKL					pmax	pmax			
	comp=E,350nm,8.0s								
NKL					pmax	pmax			
	comp=Z,900nm,8.0s								
NKL					MLR	MLR			
	comp=E,4µm,19.0s								
NKL					MLR	MLR			
	comp=Z,9µm,19.0s								
DL2	**Dalian**	**15.77**	**281**		P	**Pn**	**14**	**54**	**31.3 -1.2**
DL2					S	**Sn**	**14**	**57**	**25.2 -1.2**
DL2					pmax	pmax			
	comp=Z,260nm,0.8s								
DL2					pmax	pmax			
	comp=Z,920nm,7.8s								
DL2					LR	LR			
	comp=Z,12µm,16.2s								
DL2					LR	LR			
	comp=Z,5µm,15.5s								
DL2					LR	LR			
	comp=Z,6µm,13.2s								
OKH	**Okha**	**16.03**	**3**	⇑	*i* P	**Pn**	**14**	**54**	**34.2 -1.5**
OKH					*i* S	**Sn**	**14**	**57**	**26.5 -5.9**
OKH					pmax	pmax			
	comp=Z,300nm,24.0s								
OKH					smax	smax			
	comp=E,900nm,9.0s								
OKH					smax	smax			
	comp=Z,6µm,15.0s								
SKR	**Severo-Kuril's**	**16.71**	**34**	*e*	P	**Pn**	**14**	**54**	**42.3 -2.1**
SKR					pmax	pmax			
	comp=Z,165nm,0.7s								
SKR					pmax	pmax			
	comp=Z,2µm,4.5s								
SKR					MLR	MLR			
	comp=Z,2µm,17.0s								
SKR					MLR	MLR			
	comp=Z,2µm,16.0s								
SSE	**Sheshan**	**18.05**	**255**		P	**Pn**	**14**	**55**	**00.8 -0.4**
SSE					S	**Sn**	**14**	**58**	**20.4 -1.3**
SSE					pmax	pmax			
	comp=Z,67nm,0.9s								
SSE					pmax	pmax			
	comp=Z,450nm,5.7s								
SSE					LR	LR			
	comp=Z,9µm,19.0s								
SSE					LR	LR			
	comp=Z,6µm,18.4s								
ZEA	**Zeya**	**18.99**	**333**	*e*	P	**P**	**14**	**55**	**09.7 -1.9**
ZEA					pmax	pmax			
	comp=E,200nm,0.9s								
ZEA					pmax	pmax			
	comp=N,370nm,1.0s								
ZEA					pmax	pmax			
	comp=Z,620nm,1.0s								
ZEA					pmax	pmax			
	comp=N,500nm,2.0s								
ZEA					pmax	pmax			
	comp=Z,700nm,2.0s								
ZEA					MLR	MLR			
	comp=Z,10µm,14.0s								
ZEA					MLR	MLR			
	comp=E,4µm,17.0s								
ZEA					MLR	MLR			
	comp=N,6µm,14.0s								
PEA0B	**Petropavlovsk-**	**19.16**	**31**	*e*	P	**Pn**	**14**	**55**	**14.0 -0.6**
	comp=N,269nm,1.0s								
PETK	**Petropavlovsk-**	**19.16**	**31**		P	**P**	**14**	**55**	**13.0 -0.5**
	comp=N,1.7nm,0.3s,baz=204,slow=7.0,SNR=16								
PETK					LR	LR	15	03	36.2
	comp=N,1µm,18.3s,baz=219,slow=40								
PETK	**Petropavlovsk-**	**19.16**	**31**	*e*	P	**P**	**14**	**55**	**13.3 -0.2**
PETK	**Petropavlovsk-**	**19.16**	**31**	*e*	P	**P**	**14**	**55**	**13.3 -0.2**
NJ2	**Nanjing**	**19.46**	**260**	*e*	P	**P**	**14**	**55**	**17.0 0.0**
NJ2					pP	**pP**	**14**	**55**	**23.3 -1.0**
NJ2					sP	**sP**	**14**	**55**	**28.5 +0.7**
NJ2					S	**S**	**14**	**58**	**54.7 -0.8**
NJ2					pmax	pmax			
	comp=N,38nm,1.0s								
NJ2					pmax	pmax			
	comp=N,350nm,4.3s								
NJ2					LR	LR			
	comp=N,9µm,16.8s								
NJ2					LR	LR			
	comp=N,6µm,17.4s								
NJ2					LR	LR			
	comp=N,6µm,16.3s								
PET	**Petropavlovsk**	**19.49**	**32**	*e*	P	**P**	**14**	**55**	**15.9 -1.2**
	comp=N,239nm,1.0s								
PET	**Petropavlovsk**	**19.49**	**32**	*e*	P	**Pn**	**14**	**55**	**18.4 -0.1**
PET				*e*	S	**S**	**14**	**58**	**51.9 -3.7**
PET					pmax	pmax			
	comp=Z,2µm,6.1s								
PET					pmax	pmax			
	comp=Z,1µm,6.2s								
PET					pmax	pmax			
	comp=Z,235nm,1.0s								
PET					MLR	MLR			
	comp=Z,3µm,19.0s								
PET					MLR	MLR			
	comp=Z,3µm,18.0s								
JISG	**Ishigakijimahi**	**19.63**	**234**		P	**P**	**14**	**55**	**15.7 -3.1**
TIA	**Tai'an**	**19.63**	**274**		P	**P**	**14**	**55**	**17.9 -0.9**
TIA					S	**S**	**14**	**58**	**52.5 -6.3**
TIA					pmax	pmax			
	comp=Z,120nm,1.1s								
TIA					LR	LR			
	comp=Z,10µm,17.1s								
TIA					LR	LR			
	comp=Z,7µm,15.7s								
TIA					LR	LR			
	comp=Z,6µm,14.8s								
BJI	**Beijing**	**19.97**	**285**		P	**P**	**14**	**55**	**21.0 -1.4**
BJI					S	**S**	**14**	**58**	**57.3 -8.3**
BJI					pmax	pmax			
	comp=Z,130nm,1.5s								
BJI					LR	LR			
	comp=Z,870nm,16.1s								
BJI					LR	LR			
	comp=Z,5µm,16.3s								
BJI					LR	LR			
	comp=Z,3µm,22.1s								
TATO	**Taipei**	**21.24**	**240**		PFAKE		14	55	50.0 +14
TATO					LR	LR			
	comp=Z,5µm,21.0s								
YHNB	**Yeheng**	**21.51**	**239**		PFAKE		14	55	50.0 +11
YHNB					LR	LR			
	comp=Z,6µm,20.0s								
CLNS	**Chul'man**	**22.28**	**335**	*e*	P	**P**	**14**	**55**	**45.7 -1.6**
CLNS				*e**	PP	**sP**	**14**	**55**	**56.8 -1.3**
CLNS				*e*			14	56	02.3
CLNS				*e*			14	59	42.7
CLNS				*e*	S	**S**	**14**	**59**	**46.2 -4.5**
CLNS				*e*	SS	SnSn	15	00	38.5 +20
CLNS					pmax	pmax			
	comp=Z,271nm,1.0s								
CLNS					pmax	pmax			
	comp=N,196nm,0.9s								
CLNS					pmax	pmax			
	comp=E,157nm,0.9s								
CLNS					pmax	pmax			
	comp=N,212nm,1.1s								
CLNS					pmax	pmax			
	comp=Z,179nm,1.0s								
CLNS					pmax	pmax			
	comp=E,102nm,1.0s								
CLNS					smax	smax			
	comp=N,1µm,10.5s								
CLNS					smax	smax			
	comp=E,889nm,10.9s								
CLNS					MLR	MLR			
	comp=Z,5µm,14.0s								
CLNS					MLR	MLR			
	comp=N,4µm,13.0s								
CLNS					MLR	MLR			
	comp=E,1µm,9.0s								
MA2	**Magadan**	**22.81**	**12**		P	**P**	**14**	**55**	**53.1 +0.2**
	comp=E,240nm,0.7s,baz=198,slow=9.6,SNR=66								
MA2					LR	LR	15	06	06.0
	comp=E,4µm,18.2s,baz=200,slow=40								
TPUB	**Ta-pu**	**22.94**	**238**	*e*	P	**P**	**14**	**55**	**50.2 -4.3**
	comp=E,152nm,0.7s								
TWG	**Pinlang**	**22.97**	**236**	*e*	P	**P**	**14**	**55**	**52.0 -2.9**
	comp=E,1µm,1.3s								
TIY	**Taiyuan**	**23.08**	**279**	*e*	P	**P**	**14**	**55**	**54.0 -1.9**
TIY					PP	**PnPn**	**14**	**56**	**22.5 +1.2**
TIY					S	**S**	**15**	**00**	**00.5 -4.8**
TIY					SS	**SnSn**	**15**	**00**	**48.4 +10**
TIY					pmax	pmax			
	comp=E,120nm,0.6s								
TIY					pmax	pmax			
	comp=E,340nm,6.5s								
TIY					LR	LR			
	comp=E,9µm,13.6s								
TIY					LR	LR			
	comp=E,10µm,13.8s								
QZH	**Quanzhou**	**23.29**	**244**	⇑	*i* P	**P**	**14**	**55**	**54.9 -3.1**
QZH					S	**S**	**15**	**00**	**00.8 -7.9**
QZH					pmax	pmax			
	comp=E,99nm,0.6s								
QZH					LR	LR			
	comp=E,4µm,18.0s								
QZH					LR	LR			
	comp=E,7µm,17.5s								
QZH					LR	LR			
	comp=E,6µm,12.0s								
HHC	**Hu-ho-hao-te**	**23.47**	**287**	*e*	P	**P**	**14**	**55**	**58.1 -1.7**
HHC					sP	*sP*	14	56	11.5 +0.7
HHC					S	**S**	**15**	**00**	**04.5 -7.2**
HHC					SS	**SnSn**	**15**	**00**	**52.6 +4.3**
HHC					pmax	pmax			
	comp=E,110nm,0.9s								
HHC					pmax	pmax			
	comp=E,600nm,4.1s								
HHC					LR	LR			
	comp=E,4µm,11.1s								
HHC					LR	LR			
	comp=E,4µm,12.0s								
HHC					LR	LR			
	comp=E,5µm,12.6s								
WHN	**Wuhan**	**23.60**	**261**	⇑	P	**P**	**14**	**56**	**01.4 +0.4**
WHN					S	**S**	**15**	**00**	**09.5 -4.2**
WHN					pmax	pmax			
	comp=E,240nm,0.8s								
WHN					LR	LR			
	comp=E,38µm,15.9s								
WHN					LR	LR			
	comp=E,16µm,15.3s								
WHN					LR	LR			
	comp=E,13µm,16.2s								
GUMO	**Guam**	**24.04**	**172**		P	**P**	**14**	**56**	**04.2 -1.0**
	comp=E,104nm,1.0s,baz=18,slow=19,SNR=3.3								
GUMO					LR	LR	15	03	42.4
	comp=E,1µm,21.6s,baz=5.0,slow=32								
GUMO	**Guam**	**24.04**	**172**	*e*	P	**P**	**14**	**56**	**09.1 +3.8**
	comp=E,907nm,1.2s								
GUMO	**Guam**	**24.04**	**172**	*e*	P	**P**	**14**	**56**	**09.1 +3.8**
GUMO					pmax	pmax			
	comp=Z,907nm,1.2s								
BTO	**Baotou**	**24.65**	**287**	*e*	P	**P**	**14**	**56**	**09.0 -1.8**
YAK	**Yakutsk**	**25.60**	**347**	*e*	P	**P**	**14**	**56**	**15.4 -3.7**
	comp=Z,912nm,0.7s,baz=18,slow=4.2,SNR=357								
YAK					LR	LR	15	06	35.9
	comp=Z,6µm,21.1s,baz=48,slow=37								
YAK	**Yakutsk**	**25.60**	**347**	*e*	P	**P**	**14**	**56**	**19.0 -0.1**
	comp=Z,2µm,0.8s								
YAK	**Yakutsk**	**25.60**	**347**	*c*	*i* P	**P**	**14**	**56**	**18.9 -0.1**
YAK				*e*	PPP	PPP	14	56	57.9
YAK				*e*			14	59	54.7
YAK				*e*	S	**S**	**15**	**00**	**43.1 -2.1**
YAK				*e*	SSS	SSS	15	01	47.9
YAK				*e*			15	07	19.5
YAK					pmax	pmax			
	comp=Z,1µm,0.9s								
YAK					pmax	pmax			
	comp=E,102nm,0.9s								
YAK					pmax	pmax			
	comp=N,289nm,1.0s								
YAK					pmax	pmax			
	comp=Z,321nm,0.8s								
YAK					pmax	pmax			
	comp=E,188nm,0.8s								
YAK					pmax	pmax			
	comp=N,773nm,1.7s								
YAK					smax	smax			
	comp=E,569nm,1.6s								
YAK					smax	smax			
	comp=N,2µm,2.9s								
YAK					MLR	MLR			
	comp=E,3µm,17.0s								
YAK					MLR	MLR			
	comp=Z,8µm,15.0s								
YAK					MLR	MLR			
	comp=N,14µm,18.0s								
SEY	**Seymchan**	**26.25**	**11**		P	**P**	**14**	**56**	**26.3 +1.3**
	comp=N,208nm,0.9s,baz=197,slow=8.6,SNR=266								
SEY					LR	LR	15	08	44.4
	comp=N,3µm,18.1s,baz=179,slow=41								
SEY	**Seymchan**	**26.25**	**11**	*ce*	P	**P**	**14**	**56**	**26.6 +1.7**
XAN	**Xi'an**	**26.68**	**272**		P	**P**	**14**	**56**	**28.5 -0.7**
XAN					pP	pP	14	56	35.5 -1.6
XAN					sP	sP	14	56	39.4 -1.0
XAN					PP	**PnPn**	**14**	**57**	**12.6 +2.1**
XAN					S	**S**	**15**	**01**	**00.1 -2.8**
XAN					sS	pS	15	01	11.6 -0.1
XAN					SS	**SnSn**	**15**	**02**	**11.2 +4.4**
XAN					pmax	pmax			
	comp=N,110nm,0.7s								
XAN					pmax	pmax			
	comp=N,160nm,3.8s								
XAN					LR	LR			
	comp=N,8µm,16.3s								
XAN					LR	LR			
	comp=N,5µm,16.3s								
XAN					LR	LR			
	comp=N,3µm,16.8s								
CAUP	**Cauayan**	**26.93**	**226**	*e*	P	**P**	**14**	**56**	**31.0 -0.5**
BOD	**Bodaibo**	**27.18**	**327**	⇓	*i* P	**P**	**14**	**56**	**33.5 +0.1**
BOD					pmax	pmax			
	comp=Z,621nm,0.8s								
ULN	**Ulaanbaatar**	**27.20**	**303**		PFAKE		14	56	50.0 +16
ULN					LR	LR			
	comp=Z,3µm,20.0s								
ULN	**Ulaanbaatar**	**27.20**	**303**		P	**P**	**14**	**56**	**33.9 0.0**
	SNR=26								
ULN	**Ulaanbaatar**	**27.20**	**303**		P	**P**	**14**	**56**	**33.4 -0.5**
	SNR=26								
ULN					pmax	pmax			
	comp=E,158nm,0.9s								
ULN					MLR	MLR			
	comp=Z,3µm,17.0s								
SONA1	**Songino Array**	**27.63**	**303**	*e*	P	**P**	**14**	**56**	**37.4 -0.4**
SONM	**Songino Array**	**27.64**	**303**		P	**P**	**14**	**56**	**37.9 +0.1**
	comp=Z,204nm,0.8s,baz=102,slow=8.0,SNR=151								
SONM					PcP	**PcP**	**14**	**59**	**55.3 +0.7**
	comp=Z,8.3nm,0.8s,baz=130,slow=2.1,SNR=4.2								
SONM					LR	LR	15	07	53.8
	comp=Z,3µm,18.5s,baz=100,slow=37								
BALP	**Baler**	**28.04**	**225**	*e*	P	**P**	**14**	**56**	**40.1 -1.3**
GZH	**Guangzhou**	**28.21**	**247**		P	**P**	**14**	**56**	**38.3 -4.6**
GZH					S	S	15	01	17.8 -9.3
GZH					pmax	pmax			
	comp=Z,97nm,0.8s								
H11N2	**WAKE ISLAND Hy**	**28.28**	**122**		T	T	15	26	09.1
	baz=314,slow=75,SNR=2980								
H11N1	**WAKE ISLAND Hy**	**28.29**	**122**		T	T	15	26	07.0
	baz=314,slow=75,SNR=4533								
H11N3	**WAKE ISLAND Hy**	**28.30**	**122**		T	T	15	26	11.3
	baz=314,slow=75,SNR=3721								
BOLP	**Bolinao**	**28.49**	**228**	*e*	P	**P**	**14**	**56**	**41.9 -3.5**
SCZP	**Santa Cruz**	**28.96**	**227**	*e*	P	**P**	**14**	**56**	**49.2 -0.4**
H11S1	**WAKE ISLAND Hy**	**29.01**	**124**		T	T	15	27	01.4
	baz=316,slow=76,SNR=3279								
H11S3	**WAKE ISLAND Hy**	**29.01**	**124**		T	T	15	27	06.5
	baz=316,slow=76,SNR=3822								
H11S2	**WAKE ISLAND Hy**	**29.02**	**124**		T	T	15	27	00.3
	baz=316,slow=76,SNR=4139								
CNP	**Catarman**	**29.19**	**216**	*e*	P	**P**	**14**	**56**	**51.7 +0.1**
AUQP	**San Andres**	**29.46**	**220**	*e*	P	**P**	**14**	**56**	**54.5 +0.5**
TGY	**Tagaytay City**	**29.73**	**224**		P	**P**	**14**	**56**	**56.5 0.0**
	comp=Z,242nm,0.4s,baz=261,slow=0.7,SNR=14								
BOAC	**Boac**	**29.77**	**222**	*e*	P	**P**	**14**	**56**	**56.2 -0.6**
IRK	**Irkutsk**	**29.88**	**312**	*e*	P	**P**	**14**	**56**	**57.1 -0.4**
IRK				*e*			14	57	17.0
IRK					pmax	pmax			
	comp=Z,174nm,2.2s								
ZAK	**Zakamensk**	**30.08**	**308**	*e*	P	**P**	**14**	**56**	**59.0 -0.4**
ZAK					pmax	pmax			
	comp=Z,130nm,1.0s								
TLY	**Talaya**	**30.12**	**310**	*e*	P	**P**	**14**	**56**	**59.4 -0.2**
	comp=Z,154nm,0.9s								
TLY					LR	LR			
	comp=Z,6µm,19.0s								
TLY	**Talaya**	**30.12**	**310**		P	**P**	**14**	**57**	**00.3 +0.6**
	SNR=34								
TLY	**Talaya**	**30.12**	**310**		P	**P**	**14**	**57**	**00.3 +0.6**
	SNR=34								
TLY	**Talaya**	**30.12**	**310**	*c*	*i* P	**P**	**14**	**56**	**59.1 -0.5**
TLY				*e*			14	58	05.9
TLY				*e*	PPP	PPP	14	58	13.6
TLY				*e*	S	**S**	**15**	**01**	**59.6 +3.0**
TLY					pmax	pmax			
	comp=Z,160nm,0.8s								
TLY					MLR	MLR			
	comp=Z,5µm,14.0s								
LZH	**Lanzhou**	**30.14**	**279**	⇑	P	**P**	**14**	**57**	**00.1 -0.1**
LZH					pP	sP	14	57	09.7 -1.8
LZH					sP	pP	14	57	13.4 +5.3
LZH					PP	**PnPn**	**14**	**57**	**58.6 +0.8**
LZH					S	**S**	**15**	**01**	**54.3 -3.3**
LZH					sS	sS	15	02	10.7 -0.1
LZH					SS	**SnSn**	**15**	**03**	**35.9 +4.4**
LZH					pmax	pmax			
	comp=Z,260nm,1.4s								
LZH					pmax	pmax			
	comp=Z,680nm,6.4s								
LZH					LR	LR			
	comp=Z,15µm,10.7s								
LZH					LR	LR			
	comp=Z,12µm,12.8s								
LZH					LR	LR			
	comp=Z,10µm,12.8s								
OCLP	**Ormoc**	**30.49**	**214**	*e*	P	**P**	**14**	**57**	**03.4 +0.2**
OTRP	**Odiongan**	**30.61**	**220**	*e*	P	**P**	**14**	**57**	**03.8 -0.4**
RCP	**Roxas**	**30.93**	**218**	⇑ *e*	P	**P**	**14**	**57**	**06.5 -0.5**
SJMP	**San Jose**	**30.99**	**222**	*e*	P	**P**	**14**	**57**	**06.8 -0.8**
MSLP	**Maasin**	**31.20**	**213**	*e*	P	**P**	**14**	**57**	**08.8 -0.6**
LLP	**Lapu-Lapu**	**31.43**	**215**	⇓ *e*	P	**P**	**14**	**57**	**10.3 -1.2**
GYA	**Guiyang**	**31.47**	**260**	⇑ *i*	P	**P**	**14**	**57**	**11.0 -0.9**
GYA					PP	**PnPn**	**14**	**58**	**18.2 +3.0**
GYA					PcP	**PcP**	**15**	**00**	**07.8 +3.1**
GYA					S	**S**	**15**	**02**	**19.0 +0.5**
GYA					ScP	**ScP**	**15**	**03**	**48.7 +2.8**
GYA					SS	**SnSn**	**15**	**04**	**07.5 +3.5**
GYA					pmax	pmax			
	comp=Z,180nm,0.9s								
GYA					pmax	pmax			
	comp=Z,220nm,5.5s								
GYA					LR	LR			
	comp=Z,570nm,16.8s								
GYA					LR	LR			
	comp=Z,520nm,17.0s								
GYA					LR	LR			
	comp=Z,560nm,17.2s								
MOY	**Mondy**	**31.73**	**310**	*e*	P	**P**	**14**	**57**	**13.5 -0.5**
MOY					pmax	pmax			
	comp=Z,144nm,2.1s								
CD2	**Chengdu**	**31.84**	**269**		P	**P**	**14**	**57**	**14.0 -1.1**
CD2					pP	pP	14	57	19.1 -3.9
CD2					sP	sP	14	57	21.4 -4.9
CD2					S	**S**	**15**	**02**	**23.5 -0.5**
CD2					sS	pS	15	02	32.3 -0.7
CD2					pmax	pmax			
	comp=Z,180nm,0.8s								
CD2					pmax	pmax			
	comp=Z,330nm,6.2s								
CD2					LR	LR			
	comp=Z,15µm,16.4s								
CD2					LR	LR			
	comp=Z,11µm,15.4s								
CD2					LR	LR			
	comp=Z,6µm,18.4s								
BUSP	**Coron**	**31.86**	**223**	*e*	P	**P**	**14**	**57**	**14.5 -0.8**
BUTP	**Butuan**	**31.92**	**211**	*e*	P	**P**	**14**	**57**	**15.5 -0.3**
JAP	**San Jose, Anti**	**32.02**	**219**	⇓ *e*	P	**P**	**14**	**57**	**16.8 +0.2**
GTA	**Gaotai**	**32.57**	**286**	*e*	P	**P**	**14**	**57**	**21.0 -0.5**
GTA					pP	pP	14	57	28.5 -1.0
GTA					sP	sP	14	57	31.6 -1.2
GTA					PcP	**PcP**	**15**	**00**	**08.8 +1.3**
GTA					S	**S**	**15**	**02**	**33.4 -2.0**
GTA					sS	pS	15	02	44.2 -0.1
GTA					SS	**SnSn**	**15**	**04**	**29.4 -1.0**
GTA					ScS	**ScS**	**15**	**07**	**48.6 -0.5**
GTA					pmax	pmax			
	comp=Z,49nm,0.9s								
GTA					LR	LR			
	comp=Z,5µm,15.2s								
GTA					LR	LR			
	comp=Z,3µm,17.8s								
GTA					LR	LR			
	comp=Z,3µm,19.5s								
SNPH	**Sibulan**	**32.62**	**215**	*e*	P	**P**	**14**	**57**	**20.4 -1.6**
BUKP	**Musuan**	**33.14**	**211**	*e*	P	**P**	**14**	**57**	**25.4 -1.1**
QIZ	**Qiongzhong**	**33.29**	**245**		P	**P**	**14**	**57**	**28.5 +0.7**
QIZ					S	**S**	**15**	**02**	**48.6 +1.9**
QIZ					pmax	pmax			
	comp=Z,34nm,0.9s								
QIZ					LR	LR			
	comp=Z,4µm,21.0s								
QIZ					LR	LR			
	comp=Z,4µm,20.4s								
QIZ					LR	LR			
	comp=Z,3µm,12.9s								
BILL	**Bilibino**	**33.48**	**17**	*c*	*i* P	**P**	**14**	**57**	**28.6 -0.4**
BILL					*i*		14	57	35.6
BILL					*i*		14	57	48.6
BILL					*i*		14	58	38.4
BILL					*i*		15	00	09.7
BILL					*i* S	**S**	**15**	**02**	**45.1 -3.6**
BILL					pmax	pmax			
	comp=E,45nm,1.1s								
BILL					MLR	MLR			
	comp=Z,3µm,16.0s								
DAV	**Davao City (W)**	**33.66**	**210**		P	**P**	**14**	**57**	**30.5 -0.5**
	comp=Z,266nm,0.4s,baz=96,slow=23,SNR=4.5								
DAV					LR	LR	15	11	13.9
	comp=Z,2µm,19.2s,baz=14,slow=36								
PATS	**Pohnpei**	**34.14**	**149**	*e*	P	P	14	57	30.1 -5.0
	comp=Z,142nm,1.1s								
IPIL	**Ipil**	**34.30**	**215**	*e*	P	**P**	**14**	**57**	**34.9 -1.7**

TIXI Tiksi 34.80 353 *e*P P 14 57 40.2 -0.1
comp=Z,65nm,0.6s
TIXI LR LR
comp=Z,2µm,20.0s
TIXI Tiksi 34.80 353 *c i*P P 14 57 40.1 -0.2
TIXI pmax pmax
comp=Z,148nm,1.7s
KMI Kunming 35.20 261 P P 14 57 44.8 +0.2
KMI pP pP 14 57 52.7 +0.1
KMI sP sP 14 57 54.9 -1.0
KMI S **S** 15 03 17.2 +0.6
KMI pmax pmax
comp=Z,150nm,1.0s
KMI pmax pmax
comp=Z,370nm,4.4s
KMI LR LR
comp=Z,9µm,15.6s
KMI LR LR
comp=Z,3µm,16.6s
KMI LR LR
comp=Z,3µm,16.6s
HVS Khovu-Aksy 36.21 308 *d i*P P 14 57 54.2 +1.4
HVS pmax pmax
comp=Z,227nm,0.9s
SGSI Sangihe 36.79 208 P P 14 57 58.6 +0.7
KRAR Krasnoyarsk 37.20 316⇑ *e*P P 14 58 01.9 +0.8
GAMB Gambell 38.19 32 *e*P P 14 58 09.6 +0.3
comp=Z,26nm,1.0s
GAMB *e*PcP **PcP** 15 00 24.6 +1.3
MYLDM Lahad Datu 38.52 219 *e*P P 14 58 14.2 +1.6
comp=Z,239nm,1.1s
SKNT Sakolnakorn 38.89 249 P P 14 58 15.6 -0.1
comp=Z,35nm,1.1s
TNTI Ternate 38.89 203 *e*P P 14 58 15.3 -0.3
comp=Z,202nm,1.1s
KKM Kota Kinabalu 38.97 223 *e*P P 14 58 16.9 +0.5
comp=Z,379nm,1.9s
KKM LR LR
comp=Z,1µm,20.0s
SIJI Sorong 39.41 196 P P 14 58 19.2 -0.8
comp=Z,27nm,0.7s,baz=22,slow=11,SNR=22
SIJI LR LR 15 14 20.4
comp=Z,2µm,18.4s,baz=14,slow=36
MANU Manus Island 39.75 171 *e*P P 14 58 28.1 +5.2
JAY Jayapura 39.87 181 P P 14 58 27.7 +3.8
GENI Genyem 39.96 182 P P 14 58 25.2 +0.6
LBMI Labuha 40.18 202 P P 14 58 27.6 +1.2
DGZ Jazzator, Alta 40.22 305 *i* P P 14 58 28.2 +1.5
DGZ pmax pmax
comp=Z,782nm,0.9s
KMSI Cibinong 40.23 208 P P 14 58 27.3 +0.5
WMQ Urumqi 40.76 296 P P 14 58 32.5 +1.4
WMQ sP sP 14 58 42.8 +0.4
WMQ PP **PnPn** 15 00 07.5 -1.7
WMQ S **S** 15 04 39.5 -0.5
WMQ sS sS 15 04 57.4 +4.1
WMQ ScS **ScS** 15 08 34.1 -0.3
WMQ pmax pmax
comp=Z,420nm,1.3s
WMQ LR LR
comp=Z,23µm,16.7s
WMQ LR LR
comp=Z,4µm,18.9s
WMQ LR LR
comp=Z,5µm,20.9s
MRSI Marisa 41.12 211 P P 14 58 34.1 -0.1
FAKI Fak Fak 41.20 194 P P 14 58 34.1 -0.7
FAKI Fak Fak 41.20 194 *e*P P 14 58 33.9 -0.9
comp=Z,104nm,0.9s
PBKT Sadao Pong 41.38 251 P P 14 58 35.9 -0.5
comp=Z,135nm,1.3s
CMMT Chiang Mai 41.58 255 P P 14 58 37.4 -0.6
comp=Z,147nm,0.8s,comp=Z,4µm
CHTO Chiang Mai 41.58 255 P P 14 58 38.4 +0.4
comp=Z,484nm,1.0s,comp=Z,20µm
CHTO Chiang Mai 41.58 255 *e*P P 14 58 38.0 0.0
comp=Z,25nm,0.8s
CHTO LR LR
comp=Z,3µm,19.0s
CHTO Chiang Mai 41.58 255 *e*P P 14 58 38.0 0.0
CHTO pmax pmax
comp=Z,25nm,0.8s
CHTO MLR MLR
comp=Z,3µm,19.0s
ZAA0 Zalesovo Array 41.69 312 *e*P P 14 58 39.0 +0.5
comp=Z,477nm,0.8s
ZALV Zalesovo Beam 41.69 312 P P 14 58 39.0 +0.5
comp=Z,417nm,0.8s,baz=88,slow=7.0,SNR=456
ZALV PcP **PcP** 15 00 35.0 +0.3
comp=Z,31nm,0.6s,baz=74,slow=3.5,SNR=4.9
ZALV ScP **ScP** 15 04 27.2 +4.1
comp=Z,4.4nm,0.8s,baz=116,slow=3.4,SNR=3.7
ZALV LR LR 15 16 41.2
comp=Z,3µm,18.4s,baz=331,slow=37
CM31 Chiang Mai Arr 41.79 255 *e*P P 14 58 40.0 +0.3
CMAR Chiang Mai Arr 41.79 255 P P 14 58 40.1 +0.4
comp=Z,9.9nm,0.7s,baz=48,slow=5.2,SNR=57
CMAR PcP **PcP** 15 00 36.4 +0.8
comp=Z,4.5nm,0.8s,baz=4.1,slow=1.3,SNR=4.1
CMAR ScP **ScP** 15 04 25.7 +1.7
comp=Z,2.6nm,0.8s,baz=39,slow=3.0,SNR=4.4
CMAR LR LR 15 17 17.0
comp=Z,3µm,18.4s,baz=42,slow=38
CM01 Chiang Mai Arr 41.80 255 *e*P P 14 58 39.7 0.0
CM01 *e*PcP **PcP** 15 00 37.3 +1.6
SANI Sanana 41.98 204 P P 14 58 40.2 -1.0
MPSI Mapaga 42.11 213 P P 14 58 42.0 -0.3
ZSN Zaisan 42.14 302⇑ *i*P P 14 58 43.8 +1.4
comp=Z,3µm,1.1s
ZSN LR LR 15 17 12.8
comp=Z,425nm,12.6s
LUWI Luwuk 42.18 209 P P 14 58 40.5 -2.4
LUWI Luwuk 42.18 209 *e*P P 14 58 40.4 -2.4
comp=Z,134nm,0.9s
LSA Lhasa 42.33 275 P P 14 58 45.7 +1.1
LSA pmax pmax
comp=Z,70nm,1.3s
MSAI Masohi 42.37 199 P P 14 58 46.0 +1.7
APSI Ampana 42.50 210 P P 14 58 45.0 -0.4
NVS Novosibirsk 42.60 313↓ *i*P P 14 58 47.3 +1.4
NVS *e*S **S** 15 05 00.6 -6.3
NVS *i* SSS SSS 15 09 05.7
NVS pmax pmax
comp=Z,451nm,1.0s
NVS pmax pmax
comp=N,54nm,0.8s
NVS pmax pmax
comp=E,288nm,1.2s
NVS smax smax
comp=N,22nm,1.4s
NVS smax smax
comp=E,113nm,2.0s
NLAI Namlea 42.77 202 P P 14 58 46.4 -1.2
comp=E,91nm,0.9s,comp=E,1µm
CHBT CHBT 42.84 245 P P 14 58 50.5 +2.2
comp=E,247nm,0.7s,comp=E,17µm
AAI Ambon 42.88 200 P P 14 58 49.4 +0.8
PCI Palu 43.25 213 P P 14 58 51.0 -0.5
BNDI Bandanaira 43.26 197 P P 14 58 52.1 +0.5
comp=E,790nm,1.1s,comp=E,6µm
SHL Shillong 43.58 269 *e*P P 14 58 54.4 0.0
SHL IAmb IAmb 14 58 56.4
comp=Z,46nm,0.8s
SGKI Sangatta, Kali 43.91 216 P P 14 58 53.6 -3.3
MK01 Makanchi Array 43.98 302 *e*P P 14 58 57.9 +0.7
MK31 Makanchi Array 43.98 302 *e*P P 14 58 57.8 +0.6
MK31 Makanchi Array 43.98 302 *i* P P 14 58 57.8 +0.6
MK31 pmax pmax
comp=Z,439nm,0.9s
MKAR Makanchi Array 43.98 302 P P 14 58 57.9 +0.6
comp=Z,321nm,0.8s,baz=87,slow=9.3,SNR=618
MKAR PcP **PcP** 15 00 43.1 +0.5
comp=Z,22nm,0.9s,baz=76,slow=3.2,SNR=2.0
MKAR LR LR 15 17 50.8
comp=Z,2µm,20.2s,baz=86,slow=37
MKAR Makanchi Array 43.98 302 *e*P P 14 58 57.8 +0.6
comp=Z,2µm,0.8s
MKAR PcP **PcP** 15 00 43.1 +0.5
MKAR Makanchi Array 43.98 302 P P 14 58 57.9 +0.6
MKAR 15 00 43.1
MKAR pmax pmax
comp=Z,317nm,0.8s
MKAR pmax pmax
comp=Z,22nm,0.9s
MKAR MLR MLR
comp=Z,2µm,20.2s

SMKI Samarinda 44.03 216 P P 14 58 58.9 +1.1
SBUM Sibu 44.15 225 *e*P P 14 58 58.4 -0.4
comp=Z,75nm,1.1s
SRDT SRDT 44.16 250 P P 14 59 01.2 +2.3
comp=Z,118nm,0.9s
MAKZ Makanchi 44.19 302 *e*P P 14 58 59.8 +0.9
comp=Z,380nm,0.9s
MAKZ Makanchi 44.19 302 *e*P P 14 58 59.8 +0.9
MAKZ pmax pmax
comp=Z,381nm,0.9s
SEM Semipalatinsk 44.76 307⇑ *i*P P 14 59 03.7 +0.1
comp=Z,5µm,1.2s
SEM LR LR 15 18 03.8
comp=Z,3µm,17.4s
BKB Balikpapan 44.89 216 P P 14 59 05.0 +0.3
SVW2 Sparrevohn 45.01 38 *e*P P 14 59 07.5 +2.3
comp=Z,73nm,1.0s
MTKI Muara Teweh, K 45.58 219 P P 14 59 11.1 +0.9
KURK Kurchatov 45.74 308 *e*P P 14 59 11.7 +0.6
comp=Z,760nm,0.8s
KURK LR LR
comp=Z,5µm,22.0s
KURK Kurchatov 45.74 308 P P 14 59 11.9 +0.8
SNR=162
KURK Kurchatov 45.74 308 P P 14 59 11.9 +0.8
SNR=162
KURK Kurchatov 45.74 308 *c i*P P 14 59 11.8 +0.7
KURK pmax pmax
comp=Z,1µm,1.1s
KURK MLR MLR
comp=Z,3µm,17.0s
KURBB Kurchatov Arra 45.81 308 P P 14 59 12.2 +0.5
comp=Z,657nm,0.8s,baz=84,slow=8.1,SNR=539
KSM Kuching 46.03 226 *e*P P 14 59 14.5 +0.7
comp=Z,110nm,0.9s
KSM LR LR
comp=Z,793nm,19.0s
TARA Tarawa 46.12 134 PFAKE 14 59 30.0 +16
TARA LR LR
comp=Z,152nm,20.0s
IM3 Indian Mountai 46.12 31 *e*P P 14 59 15.3 +1.3
OHAK Old Harbor 46.27 43 *e*P P 14 59 15.6 +0.5
comp=Z,71nm,0.8s
BNSI Bone 46.29 210 P P 14 59 16.1 +0.3
comp=Z,298nm,1.1s,comp=Z,3µm
BBSI Bau Bau 46.35 207 P P 14 59 17.6 +1.3
comp=Z,41nm,1.1s,comp=Z,582nm
STKI Sintang 46.53 224 P P 14 59 18.6 +0.9
ODAN Odare 46.55 273 *e*P P 14 59 18.7 +0.6
comp=Z,385nm,1.0s
KDAK Kodiak Island 46.61 42 P P 14 59 18.4 +0.7
comp=Z,59nm,0.6s,baz=279,slow=3.6,SNR=124
KDAK Kodiak Island 46.61 42 *e*P P 14 59 18.7 +0.9
comp=Z,118nm,0.8s
KDAK LR LR
comp=Z,598nm,20.0s
KDAK Kodiak Island 46.61 42 *i* P P 14 59 18.1 +0.3
PPLA Purkeypile 46.65 35 *e*P P 14 59 20.6 +2.3
comp=Z,72nm,1.1s
PDGK Podgornoye 46.68 298 P P 14 59 19.1 +0.3
PDGK pmax pmax
comp=Z,382nm,1.1s
CAST Castle Rocks 46.71 34 *e*P P 14 59 20.5 +1.9
comp=Z,44nm,0.8s
CAST *e*PcP **PcP** 15 00 52.3 +0.6
HOM Homer 46.98 40 *e*P P 14 59 24.0 +3.3
comp=Z,283nm,1.7s
KAPI Kappang 46.99 210 PFAKE 14 59 30.0 +8.8
KAPI LR LR
comp=Z,860nm,22.0s
KAPI Kappang 46.99 210 P P 14 59 21.9 +0.7
SNR=35
KAPI Kappang 46.99 210 P P 14 59 21.9 +0.7
SNR=35
PMG Port Moresby 47.00 173 P P 14 59 20.5 -0.8
comp=Z,14nm,0.7s,baz=9.2,slow=8.5,SNR=5.2
PMG LR LR 15 18 16.7
comp=Z,523nm,21.9s,baz=355,slow=35
PMG Port Moresby 47.00 173⇑ *e*P P 14 59 25.5 +4.2
PMG pmax pmax
comp=Z,151nm,1.0s
KBKI Kotabaru 47.02 216 P P 14 59 21.5 0.0
comp=Z,75nm,1.0s,comp=Z,1µm
UZB Uzynbulak 47.06 297⇑ *i*P P 14 59 22.3 +0.5
comp=Z,1µm,0.9s
UZB LR LR 15 19 43.1
comp=Z,894nm,17.4s
RAMN Ramite 47.13 274 *e*P P 14 59 23.2 +0.5
comp=Z,585nm,0.9s
JIRN Jiri 47.13 275 *e*P P 14 59 23.7 +0.9
comp=Z,324nm,0.8s
BPAW Bear Paw Mtn. 47.20 34 *e*P P 14 59 24.2 +1.8
comp=Z,30nm,0.9s
KPKS Kokpek 47.21 298⇑ *i*P P 14 59 24.6 +1.8
comp=Z,2µm,0.8s
KPKS *i* S **S** 15 06 17.2 +3.0
KPKS LR LR 15 19 18.8
comp=Z,2µm,16.8s
GUN Gumba 47.27 275 *e*P P 14 59 24.6 +0.8
comp=Z,414nm,0.8s
MLY Manley 47.33 32 *e*P P 14 59 25.4 +2.0
comp=Z,59nm,1.2s
SUA Susitna One 47.35 37 *e*P P 14 59 24.5 +0.7
comp=Z,49nm,0.8s
BRLK Bradley Lake 47.36 39 *e*P P 14 59 24.1 +0.4
comp=Z,32nm,0.8s
ZHN Zhinishke 47.46 298⇑ *i*P P 14 59 25.7 +0.8
comp=Z,526nm,1.0s
ZHN *e*S **S** 15 06 19.9 +2.1
ZHN LR LR 15 19 57.2
comp=Z,950nm,16.2s
TRF Thorofare Moun 47.51 34 *e*P P 14 59 26.2 +1.2
comp=Z,45nm,0.8s
SATY Saty 47.51 297⇑ *i*P P 14 59 26.2 +0.9
comp=Z,921nm,1.2s
SATY *i* S **S** 15 06 20.7 +2.2
SATY LR LR 15 20 09.2
comp=Z,1µm,14.4s
COLD Coldfoot 47.62 29 *e*P P 14 59 27.3 +1.7
comp=Z,31nm,0.9s
BSSI Bau Bau, Buton 47.73 209 P P 14 59 26.6 -0.4
KKN Kakani 47.80 275 *e*P P 14 59 28.4 +0.6
comp=Z,262nm,0.7s
PKIN Phulchoki 47.80 275 *e*P P 14 59 28.7 +0.8
comp=Z,154nm,0.7s
RC01 Rabbit Creek A 47.85 38 *e*P P 14 59 28.4 +1.0
comp=Z,121nm,1.2s
SKLT Songkhla 47.90 241 P P 14 59 30.6 +2.2
comp=Z,70nm,0.8s
TOLK Toolik Lake Re 47.94 27 P P 14 59 29.9 +1.8
baz=267
TOLK Toolik Lake Re 47.94 27 *e*P P 14 59 29.8 +1.7
comp=Z,79nm,1.0s
SURT Suratani 47.95 245 P P 14 59 29.4 +0.6
comp=Z,30nm,1.0s
DMN Daman 48.02 275 *e*P P 14 59 30.1 +0.6
comp=Z,163nm,0.8s
TRTT Trang 48.08 243 P P 14 59 30.5 +0.7
comp=Z,18nm,0.8s
MCK McKinley 48.11 34 *e*P P 14 59 30.7 +1.2
comp=Z,70nm,1.0s
MCK McKinley 48.11 34 *e*P P 14 59 30.7 +1.2
MCK pmax pmax
comp=Z,70nm,1.0s
RND Reindeer 48.16 34 *e*P P 14 59 30.8 +0.9
comp=Z,57nm,0.8s
RND Reindeer 48.16 34 *e*P P 14 59 30.8 +0.9
RND pmax pmax
comp=Z,57nm,0.8s
GKN Gorkha 48.21 276 *e*P P 14 59 31.5 +0.6
comp=Z,710nm,1.0s
TARG Taragay, Kyrgy 48.32 296 *e*P P 14 59 33.2 +1.3
comp=Z,189nm,0.8s
MDM Murphy Dome 48.39 32 *e*P P 14 59 33.3 +1.6
comp=Z,84nm,1.0s
MDOK Medeo 48.44 298 *i* P P 14 59 33.6 +1.1
comp=Z,1µm,1.2s
MDOK *i* S **S** 15 06 34.3 +2.6
MDOK LR LR 15 20 21.8
comp=Z,2µm,16.2s
WRH Wood River Hil 48.46 33 *e*P P 14 59 33.3 +1.1
comp=Z,34nm,0.8s
AAA Alma-Ata 48.52 298⇑ *i*P P 14 59 34.6 +1.6
comp=Z,556nm,1.2s
AAA *e*S **S** 15 06 35.9 +3.2
AAA LR LR 15 19 57.2
comp=Z,989nm,17.4s

AAA Alma-Ata 48.52 298 *e*P P 14 59 34.5 +1.5
AAA pmax pmax
comp=Z,400nm,4.8s
AAA MLR MLR
comp=Z,3µm,18.0s
COLA College 48.55 32 PFAKE 14 59 50.0 +17
COLA LR LR
comp=Z,946nm,20.0s
COLA College 48.55 32 *i* P P 14 59 34.3 +1.5
COLA pmax pmax
comp=Z,18nm,0.7s
CCB Clear Creek Bu 48.58 33 *e*P P 14 59 34.4 +1.3
comp=Z,20nm,0.8s
KDJ Kajisay 48.65 297 *e*P P 14 59 35.2 +1.1
comp=Z,100nm,0.6s
KUU Kurty 48.73 299⇑ *i*P P 14 59 35.0 +0.4
comp=Z,973nm,0.7s
KUU *i* S **S** 15 06 37.1 +1.6
KUU LR LR 15 19 11.6
comp=Z,652nm,15.6s
PBKI Pangkalan Bun 48.74 222 P P 14 59 36.6 +1.7
DANN Dangsing 48.75 277 *e*P P 14 59 36.5 +1.3
DHY Denali Highway 48.84 35 *e*P P 14 59 36.1 +0.8
comp=Z,49nm,0.9s
HDA Harding Lake 48.96 33 *e*P P 14 59 36.6 +0.7
comp=Z,78nm,1.1s
ILAR Eielson Array 48.97 33 P P 14 59 36.8 +0.7
comp=Z,28nm,0.7s,baz=265,slow=6.2,SNR=467
ILAR LR LR 15 22 23.4
comp=Z,661nm,19.2s,baz=302,slow=39
ILAR Eielson Array 48.97 33 P P 14 59 36.8 +0.7
ILAR pmax pmax
comp=Z,29nm,0.7s
ILAR MLR MLR
comp=Z,661nm,19.2s
ILB Eielson Array 48.97 33 *e*P P 14 59 36.8 +0.7
IL1 Eielson Array 48.97 33 *e*P P 14 59 36.6 +0.5
PKDT Phuket 49.01 244 P P 14 59 38.1 +1.2
comp=Z,48nm,0.7s
KOLN Koldanda 49.13 276 *e*P P 14 59 38.8 +0.7
comp=Z,274nm,0.9s
BOK Bokaro 49.20 270 *e*P P 14 59 38.5 +0.1
KULM Kulim 49.22 240 *e*P P 14 59 38.9 +0.3
KULM *e*PcP **PcP** 15 00 54.8 -6.7
KULM LR LR
comp=Z,2µm,20.0s
ULHL Ulahol 49.28 297 P P 14 59 39.5 +0.5
SNR=39
MMRI Maumere 49.40 206 P P 14 59 40.0 +0.2
MMRI Maumere 49.40 206 *e*P P 14 59 39.5 -0.3
comp=Z,139nm,0.9s
BMNS Besmoynak 49.42 298⇑ *i*P P 14 59 41.3 +1.3
comp=Z,4µm,0.7s
BMNS LR LR 15 20 05.6
comp=Z,1µm,14.4s
PYUN Piuthan 49.47 277 *e*P P 14 59 41.4 +0.8
comp=Z,1µm,1.0s
TKM2 Tokmak 2 49.53 298 P P 14 59 42.4 +1.4
SNR=430
TKM2 Tokmak 2 49.53 298 P P 14 59 42.0 +1.1
TKM2 pmax pmax
comp=Z,263nm,0.8s
IPM Ipoh 49.55 238 *e*P P 14 59 40.8 -0.3
comp=Z,65nm,0.9s
DGPR DIGLIPUR 49.57 254 *e*P P 14 59 41.6 +0.4
FYU Fort Yukon 49.58 30 *e*P P 14 59 43.1 +2.5
comp=Z,161nm,1.2s
BRZS Berezniki 49.62 308⇑ *i*P P 14 59 41.8 +0.5
comp=Z,644nm,0.8s
KLU Klutina 49.65 37 *e*P P 14 59 42.0 +0.6
comp=Z,84nm,1.1s
MYKOM Kota Tinggi 49.70 233 *e*P P 14 59 42.7 +0.5
comp=Z,47nm,1.1s
PAX Paxson 49.72 35 *e*P P 14 59 42.3 +0.4
PAX *e*PcP **PcP** 15 01 04.0 +1.4
PAX Paxson 49.72 35 *e*P P 14 59 42.3 +0.4
PAX *e* 15 01 04.1
DIV Divide 49.77 37 *e*P P 14 59 43.2 +1.0
comp=Z,115nm,1.0s
SOEI Soe 49.79 203 P P 14 59 41.7 -1.2
HNR Honiara 49.79 156 P P 14 59 47.0 +4.2
HNR Honiara 49.79 156 P P 14 59 42.2 -0.6
comp=Z,30nm,0.7s,baz=37,slow=18,SNR=2.3
HNR Honiara 49.79 156 P P 14 59 42.2 -0.6
HNR LR LR
comp=Z,1µm,20.0s
EYAK Cordova Ski Ar 49.85 38 *e*P P 14 59 44.6 +1.8
comp=Z,50nm,1.0s
HARP HAARP 49.92 36 *e*P P 14 59 45.3 +2.0
comp=Z,76nm,0.8s
RIDG Independ'e Rid 49.93 34 *e*P P 14 59 44.0 +0.5
comp=Z,38nm,0.8s
TPRI Tanjung Pinang 49.94 232 P P 14 59 46.1 +2.0
BTLS Baital 49.99 301⇑ *i*P P 14 59 44.6 +0.5
comp=Z,2µm,0.9s
KZA Kyzart 50.03 297 P P 14 59 46.9 +1.9
SNR=97
KBK Karagaybulak 50.06 298 P P 14 59 46.2 +1.2
SNR=214
CHMS Chumysh 50.10 298 P P 14 59 45.5 +0.5
SNR=47
USP Ospenovka 50.19 299 P P 14 59 46.6 +0.9
SNR=97
FRU Bishkek 50.24 298⇑ *i*P P 14 59 46.5 +0.4
FRU *e* 15 01 12.0
FRU *e* 15 01 40.0
FRU *e*S **S** 15 06 56.0 -0.7
FRU pmax pmax
comp=Z,260nm,1.8s
FRU smax smax
comp=E,120nm,2.0s
DOT Dot Lake 50.28 34 *e*P P 14 59 46.9 +0.8
comp=E,74nm,0.7s
SCRK Sand Creek 50.28 34 *e*P P 14 59 47.1 +0.9
comp=E,62nm,1.0s
BVA0 Borovoye Array 50.35 312 P P 14 59 47.0 +0.3
BVA0 pmax pmax
comp=Z,136nm,0.8s
BVAR Borovoye Array 50.35 312 P P 14 59 47.4 +0.7
comp=Z,143nm,0.9s,baz=76,slow=7.5,SNR=375
BVAR PcP **PcP** 15 01 05.5 +0.5
comp=Z,39nm,0.7s,baz=70,slow=4.8,SNR=4.7
BVAR Borovoye Array 50.35 312 P P 14 59 47.4 +0.7
BVAR 15 01 05.5
BVAR pmax pmax
comp=Z,144nm,0.9s
BVAR pmax pmax
comp=Z,39nm,0.7s
KSH Kashi 50.35 294 P P 14 59 51.8 +4.7
KSH pP sP 14 59 58.9 +0.4
KSH PcP **PcP** 15 01 08.1 +2.7
KSH PP **PP** 15 01 47.8 +5.3
KSH S **S** 15 07 03.9 +5.5
KSH ScS **ScS** 15 09 35.9 -0.5
KSH pmax pmax
comp=Z,140nm,1.0s
KSH pmax pmax
comp=Z,1µm,4.8s
KSH LR LR
comp=Z,2µm,12.8s
KSH LR LR
comp=Z,1µm,9.7s
KSH LR LR
comp=Z,2µm,12.7s
BMRM Bremner River 50.35 37 *e*P P 14 59 48.5 +1.8
comp=Z,94nm,1.0s
AAK Ala-Archa 50.39 298 P P 14 59 48.2 +0.8
comp=Z,89nm,0.7s,baz=100,slow=5.5,SNR=122
AAK Ala-Archa 50.39 298 P P 14 59 48.2 +0.8
SNR=119
AAK Ala-Archa 50.39 298 *e*P P 14 59 48.1 +0.6
comp=Z,101nm,0.8s
AAK LR LR
comp=Z,3µm,20.0s
AAK Ala-Archa 50.39 298 P P 14 59 48.5 +1.1
SNR=30
AAK Ala-Archa 50.39 298 P P 14 59 48.5 +1.1
SNR=30
AAK Ala-Archa 50.39 298 *i* P P 14 59 47.9 +0.5
SNR=11
AAK Ala-Archa 50.39 298 *c i*P P 14 59 48.0 +0.6
AAK pmax pmax
comp=Z,99nm,0.7s
RAGM Ragged Mountai 50.39 38 *e*P P 14 59 49.1 +2.1
comp=Z,68nm,0.9s
BATI Baumata 50.40 203 P P 14 59 46.7 -0.7

comp=Z,95nm,1.0s,baz=72,slow=7.9,SNR=10
BATI LR LR 15 18 02.7
comp=Z,792nm,22.0s,baz=13,slow=32
BATI Baumata 50.40 203 P **P 14 59 47.6 +0.1**
BRVK Borovoye 50.40 312 *eP* **P 14 59 47.8 +0.7**
comp=Z,199nm,0.8s
BRVK LR LR
comp=Z,1μm,19.0s
BRVK Borovoye 50.40 312 P **P 14 59 48.1 +1.0**
SNR=56
BRVK Borovoye 50.40 312 P **P 14 59 48.1 +1.0**
SNR=56
BRVK Borovoye 50.40 312 *ceP* **P 14 59 47.8 +0.7**
BRVK pmax pmax
comp=Z,242nm,0.9s
UCH Uchtor 50.50 298 P **P 14 59 49.9 +1.3**
SNR=56
MENT Mentasta 50.52 35 *eP* **P 14 59 49.9 +2.0**
comp=Z,81nm,1.0s
PBA Port Blair 50.66 253 *eP* P 14 59 48.0 -1.5
PBA IAmb IAmb 14 59 53.0
comp=Z,136nm,0.2s
EKS2 Erkin-Say 50.88 298 P **P 14 59 51.9 +0.9**
SNR=102
DSRI Dabo 51.00 231 P **P 14 59 54.4 +2.4**
WSI Waingapu 51.04 207 P **P 14 59 54.4 +2.1**
MTN Manton Dam 51.09 193 *eP* **P 14 59 52.2 -0.4**
comp=Z,189nm,1.0s
AML Almayashu 51.11 298 P **P 14 59 54.4 +1.3**
SNR=232
PLAI Plampang 51.25 211 P **P 14 59 52.1 -1.7**
COEN Coen 51.25 178 *eP* **P 14 59 54.2 +0.3**
comp=Z,84nm,0.9s
KMMI Kalianget 51.34 216 P **P 14 59 55.4 +0.9**
PPBI Pangkal Pinang 51.39 228 P **P 14 59 57.8 +2.8**
EGAK Eagle 51.41 32 *eP* **P 14 59 55.4 +0.8**
comp=Z,49nm,1.0s
EGAK LR LR
comp=Z,702nm,19.0s
BALM Baldy 51.43 37 *eP* **P 14 59 56.4 +1.5**
comp=Z,40nm,0.9s
BALM Baldy 51.43 37 *eP* **P 14 59 56.4 +1.5**
BALM pmax pmax
comp=Z,40nm,0.9s
SRBI Singaraja 51.68 214 P **P 14 59 57.8 +0.8**
comp=Z,142nm,0.9s,comp=Z,1μm
MNAS Manas 51.83 298 P **P 14 59 58.9 +0.7**
MNAS pmax pmax
comp=Z,228nm,0.9s
LHMI Lhok Sumawe 51.84 243 P **P 15 00 02.5 +4.1**
comp=Z,175nm,1.0s
GRJI Gresik 51.93 218 P **P 15 00 01.7 +2.8**
comp=Z,288nm,0.9s,comp=Z,2μm
SFK Sufi-Kurgan 51.96 295 P **P 15 00 00.0 +0.7**
SFK pmax pmax
comp=Z,182nm,1.0s
BLJI Banyuglugur 52.12 216 P **P 15 00 02.7 +2.4**
comp=Z,95nm,0.8s
PSI Prapat 52.20 239 *eP* **P 15 00 01.5 +0.3**
comp=Z,49nm,0.7s
PSI Prapat 52.20 239 *eP* **P 15 00 01.5 +0.3**
PSI pmax pmax
comp=Z,49nm,0.7s
DNP Denpasar 52.20 214 P **P 15 00 04.2 +3.2**
comp=Z,523nm,0.6s,comp=Z,36μm
DAWY Dawson 52.28 33 *eP* **P 15 00 02.5 +1.4**
comp=Z,12nm,0.6s
DDI Dehra Dun 52.35 282 *eP* **P 14 59 59.0 -3.1**
DDI IAmb IAmb 15 00 04.0
comp=Z,128nm,1.1s
IGBI Denpasar 52.36 214 P P 15 00 09.3 +7.2
comp=Z,325nm,1.0s
JAGI Jajag, Banyuwa 52.50 215 P **P 15 00 06.7 +3.5**
comp=Z,92nm,0.9s
JAGI Jajag, Banyuwa 52.50 215 *eP* **P 15 00 03.8 +0.6**
comp=Z,95nm,1.0s
DZA Taraz 52.51 299⇑ *iP* **P 15 00 04.3 +1.1**
comp=Z,3μm,0.8s
BKNI Bangkinang 52.62 235 P **P 15 00 07.4 +3.2**
comp=Z,176nm,1.0s
GMJI Gumukmas 52.65 216 P **P 15 00 04.2 -0.1**
comp=Z,156nm,1.0s
SMLA Simla 52.69 283 *eP* **P 15 00 04.8 +0.3**
DHRM DHARAMSHALA 52.88 285 *eP* **P 15 00 05.2 -1.0**
KK31 Karatay Array 53.01 300 *eP* **P 15 00 07.4 +0.6**
KK31 Karatay Array 53.01 300 *eP* **P 15 00 07.4 +0.6**
KKAR Karatay Array 53.01 300 *eP* **P 15 00 07.4 +0.6**
KKAR Karatay Array 53.01 300 *eP* **P 15 00 07.4 +0.6**
SMRI Semarang 53.06 220 P P 15 00 15.7 +8.3
comp=Z,190nm,1.2s
PWJI Pagerwojo 53.22 218 P **P 15 00 07.8 -0.7**
comp=Z,392nm,0.9s,comp=Z,3μm
MNSI Mandailing Nat 53.23 237 P **P 15 00 09.9 +1.3**
comp=Z,67nm,0.8s
CHLP Challavanipeta 53.41 266 *eP* **P 15 00 10.3 +0.3**
WOJI Wonogiri, Jawa 53.49 219 P P 15 00 20.0 +10
IUG Iuzhnay 53.67 299⇑ *iP* **P 15 00 12.9 +1.1**
comp=Z,4μm,1.0s
IUG *eS* **S 15 07 46.4 +2.5**
IUG LR LR 15 22 56.6
comp=Z,981nm,15.6s
UGM Wanagama 53.76 219 P **P 15 00 13.3 +0.8**
comp=Z,529nm,1.2s,comp=Z,5μm
UGM Wanagama 53.76 219 *eP* **P 15 00 12.1 -0.4**
comp=Z,628nm,1.1s
HYT Haines Junctio 53.79 37 *eP* **P 15 00 14.0 +1.6**
comp=Z,115nm,1.1s
INK Inuvik 53.85 27 *eP* **P 15 00 14.0 +1.5**
comp=Z,87nm,0.8s
INK Inuvik 53.85 27 *eP* **P 15 00 14.0 +1.5**
INK pmax pmax
comp=Z,87nm,0.8s
CHM Chimkent 53.91 299 *i* P **P 15 00 14.9 +1.6**
comp=Z,2μm,1.0s
CHM *i* S **S 15 07 49.7 +2.7**
CHM LR LR 15 23 39.3
comp=Z,771nm,14.4s
OPA Opana 53.96 89 *eP* **P 15 00 15.8 +1.8**
comp=Z,90nm,0.8s
OPA Opana 53.96 89 *eP* **P 15 00 15.8 +1.8**
OPA pmax pmax
comp=Z,90nm,0.8s
KIP Kipapa 54.09 89⇑ *eP* **P 15 00 16.0 +1.1**
KIP pmax pmax
comp=Z,535nm,1.0s
LEM Lembang 54.37 223 P **P 15 00 17.1 0.0**
comp=Z,337nm,0.9s,baz=59,slow=9.1,SNR=24
LEM LR LR 15 23 24.9
comp=Z,568nm,19.7s,baz=20,slow=36
MDSI Maura Dua 54.41 228 P **P 15 00 16.9 -0.3**
comp=Z,73nm,1.4s
VIS Vishakhapatnam 54.42 266 *eP* **P 15 00 17.0 -0.4**
BLSI Bandar Lampung 54.50 226 P **P 15 00 20.0 +2.1**
comp=Z,209nm,0.8s
MASI Maura Aman, Be 54.52 231 P **P 15 00 19.9 +1.8**
comp=Z,360nm,1.4s,comp=Z,4μm
NIL Nilore 54.61 288 *eP* **P 15 00 19.8 +1.2**
comp=Z,268nm,0.8s
NIL LR LR
comp=Z,725nm,20.0s
NIL Nilore 54.61 288 *eP* **P 15 00 19.8 +1.2**
NIL pmax pmax
comp=Z,268nm,0.8s
NIL MLR MLR
comp=Z,725nm,20.0s
SVE Sverdlovsk 54.87 318 *dP* **P 15 00 21.4 +1.3**
SVE *eS* **S 15 08 01.1 +1.7**
SVE pmax pmax
comp=Z,740nm,0.9s
SVE MLR MLR
comp=Z,5μm,16.0s
SVE MLR MLR
comp=E,4μm,15.0s
WHY Whitehorse 55.08 37 *eP* **P 15 00 24.0 +2.3**
comp=E,29nm,0.8s
SKAG Skagway 55.19 38 *eP* **P 15 00 25.1 +2.7**
comp=E,32nm,0.9s
BESE Bessie Mountai 55.67 39 *eP* **P 15 00 28.5 +2.5**
comp=E,65nm,1.2s
NGP Nagpur 55.98 272 *eP* **P 15 00 28.5 -0.1**
PVM Polavaram 56.04 266 *eP* **P 15 00 29.1 +0.1**
ARU Arti 56.08 318 P **P 15 00 29.6 +0.8**
comp=E,280nm,0.6s,baz=80,slow=3.6,SNR=482
ARU Arti 56.08 318 *eP* **P 15 00 29.4 +0.6**
comp=E,522nm,0.8s
ARU LR LR
comp=Z,4μm,19.0s
ARU Arti 56.08 318 *cP* **P 15 00 29.4 +0.6**
ARU 15 01 27.7
ARU 15 02 30.0
ARU *eS* **S 15 08 18.5 +2.8**
ARU 15 10 17.4
ARU SS **SS 15 12 04.9 +3.4**
ARU pmax pmax
comp=Z,709nm,1.0s
ARU MLR MLR
comp=Z,4μm,17.0s
BHPL Bhopal 56.20 275 *eP* **P 15 00 29.2 -0.9**
BHPL IAmb IAmb 15 00 30.0
comp=Z,166nm,1.6s
RPR Rampur 57.01 269 *eP* **P 15 00 35.0 -0.9**
AIN Ainahou 57.20 90 *eP* **P 15 00 39.0 +1.5**
comp=Z,113nm,0.6s
AIN *ep* **pP 15 00 43.4 -2.5**
FITZ Fitzroy Crossi 57.36 198 P **P 15 00 38.1 -0.2**
comp=Z,30nm,1.0s,baz=12,slow=6.4
FITZ Fitzroy Crossi 57.36 198 *eP* **P 15 00 38.5 +0.3**
comp=Z,89nm,1.3s
KBL Kabul 57.38 291 *eP* **P 15 00 38.8 +0.1**
comp=Z,223nm,1.2s
KBL *ePcP* **PcP 15 01 32.8 +0.3**
KBL Kabul 57.38 291 *eP* **P 15 00 38.8 +0.1**
KBL *e* 15 01 32.8
KBL pmax pmax
comp=Z,223nm,1.2s
CTA Charters Tower 57.50 175 LR LR 15 24 34.8
comp=Z,589nm,21.7s,slow=35
CTAO Charters Tower 57.50 175 PFAKE 15 00 50.0 +11
CTAO LR LR
comp=Z,2μm,20.0s
CRAG Craig 57.57 42 *eP* **P 15 00 38.8 -0.5**
comp=Z,32nm,1.0s
WRAB Tennant Creek 57.59 188 *eP* **P 15 00 38.7 -1.1**
comp=Z,128nm,1.0s
WRAB LR LR
comp=Z,1μm,19.0s
WRAB Tennant Creek 57.59 188 *dP* **P 15 00 38.9 -0.9**
WRAB pmax pmax
comp=Z,72nm,0.7s
WB2 Warramunga Arr 57.59 188 *eP* **P 15 00 38.9 -0.9**
comp=Z,92nm,0.7s
WRA Warramunga Arr 57.59 188 P **P 15 00 38.9 -1.0**
comp=Z,79nm,0.6s,baz=5.6,slow=7.4,SNR=257
WRA LR LR 15 25 32.8
comp=Z,839nm,19.0s,baz=65,slow=36
WRA PKP2bc 15 30 29.5
comp=Z,1.3nm,0.9s,baz=183,slow=1.8,SNR=4.9
SRSP Sriramsagar 57.72 270 *eP* **P 15 00 40.0 -1.0**
AB31 Akbulak array 57.73 310 P **P 15 00 40.8 +0.2**
AB31 pmax pmax
comp=Z,215nm,0.7s
ABKAR Akbulak array 57.73 310 *eP* **P 15 00 41.1 +0.5**
comp=Z,2μm,0.6s
FUNA Funafuti 57.75 135 PFAKE 15 00 50.0 +8.9
FUNA LR LR
comp=Z,8μm,19.0s
DLBC Dease Lake 58.12 38 *eP* **P 15 00 46.0 +2.7**
comp=Z,43nm,0.9s
ADKI Addanki 58.13 266 *eP* **P 15 00 44.6 +0.7**
NJS Nagarjunasagar 58.26 267 *eP* **P 15 00 44.3 -0.5**
HYB Hyderabad 58.38 268 *i* P **P 15 00 45.0 -0.7**
HYB *e* 15 01 16.5
HYB Hyderabad 58.38 268 *eP* **P 15 00 45.1 -0.5**
HYBB Hyderabad (bro 58.38 268 *eP* **P 15 00 45.0 -0.6**
AKTO Aktyubinsk 58.45 312 P **P 15 00 46.0 +0.4**
comp=Z,202nm,0.8s,baz=77,slow=7.5,SNR=233
AKTO LR LR 15 26 59.6
comp=Z,1μm,18.6s,baz=84,slow=37
DIB Dawson Inlet, 58.74 45 *eP* **P 15 00 49.7 +2.1**
comp=Z,45nm,1.2s
SRLM Srisailam 58.84 267 *eP* **P 15 00 48.6 -0.3**
MDRS Chennai 59.51 263 *eP* **P 15 00 51.6 -1.8**
SKHT Srikalahasti 59.54 264 *eP* **P 15 00 53.5 -0.2**
KLRI Killari 59.58 270 *eP* **P 15 00 52.9 -1.0**
HOPEN Hopen 59.58 346 *eP* **P 15 00 54.3 +1.3**
HOPEN IAmb IAmb 15 00 55.3
comp=Z,101nm,0.7s
SPA0 Spitsbergen Ar 60.05 349 *eP* **P 15 00 57.0 +0.7**
SPITS Spitsbergen Ar 60.05 349 P **P 15 00 56.8 +0.5**
comp=Z,22nm,0.8s,baz=30,slow=9.0,SNR=19
SPITS LR LR 15 28 07.4
comp=Z,2μm,21.5s,baz=35,slow=37
SPITS Spitsbergen Ar 60.05 349 P **P 15 00 56.8 +0.5**
SPITS pmax pmax
comp=Z,21nm,0.8s
SPITS MLR MLR
comp=Z,2μm,21.5s
KBS Kingsbay 60.17 350 *eP* **P 15 00 58.5 +1.4**
comp=Z,113nm,0.9s
KBS LR LR
comp=Z,1μm,19.0s
KBS Kingsbay 60.17 350⇑ *iP* **P 15 00 58.5 +1.4**
KBS IAmb IAmb 15 00 59.5
comp=Z,102nm,0.8s
KBS Kingsbay 60.17 350 *eP* **P 15 00 58.5 +1.4**
KBS pmax pmax
comp=Z,113nm,0.9s
KBS MLR MLR
comp=Z,1μm,19.0s
URV Uravakonda 60.79 267 *eP* **P 15 01 02.0 -0.3**
HSPB Hornsund (broa 60.98 348⇑ *iP* **P 15 01 03.9 +1.3**
HSPB IAmb IAmb 15 01 04.9
comp=Z,165nm,1.0s
HSPB Hornsund (broa 60.98 348 *eP* **P 15 01 04.6 +2.0**
AS01 Alice Springs 61.32 188 *eP* **P 15 01 04.4 -1.1**
AS31 Alice Springs 61.32 188 *eP* **P 15 01 05.0 -0.6**
comp=Z,12nm,0.7s
ASAR Alice Springs 61.32 188 P **P 15 01 05.0 -0.6**
comp=Z,39nm,0.7s,baz=14,slow=6.5,SNR=328
ASAR LR LR 15 26 02.2
comp=Z,1μm,22.0s,baz=358,slow=34
ASAR PKP2bc 15 30 26.9
comp=Z,3.0nm,0.7s,baz=177,slow=2.1,SNR=5.0
POO Poona 61.51 272 *eP* **P 15 01 06.4 -0.8**
BBB Bella Bella 61.58 44 *eP* **P 15 01 07.5 +0.5**
comp=Z,28nm,1.0s
LVZ Lovozero 61.71 336 *eP* **P 15 01 07.9 +0.2**
comp=Z,115nm,1.0s
LVZ LR LR
comp=Z,2μm,20.0s
LVZ Lovozero 61.71 336 *ceP* **P 15 01 07.9 +0.2**
LVZ pmax pmax
comp=Z,122nm,0.9s
MBWA Marble Bar 61.93 203 *eP* **P 15 01 09.8 +0.1**
comp=Z,78nm,0.8s
MBWA LR LR
comp=Z,901nm,22.0s
BJO Bjornoya 61.97 345 *eP* **P 15 01 10.6 +1.3**
RES Resolute Bay 62.06 15 LR LR 15 28 43.1
comp=Z,914nm,21.6s,baz=326,slow=37
RES Resolute Bay 62.06 15 *eP* **P 15 01 10.4 +0.5**
comp=Z,77nm,0.8s
RES Resolute Bay 62.06 15 *eP* **P 15 01 10.4 +0.5**
RES pmax pmax
comp=Z,77nm,0.8s
APA Apatity 62.28 336⇑ *iP* **P 15 01 11.1 -0.4**
APA *i* PPP PPP 15 04 56.0
APA *i* S **S 15 09 34.0 -1.6**
APA pmax pmax
comp=Z,139nm,0.8s
APA MLR MLR
comp=Z,2μm,16.0s
BHJ Bhuj 62.32 279 *ex* **P 15 01 08.8 -3.7**
TMCR Tamitsa 62.37 331 *eP* **P 15 01 10.7 -1.4**
TMCR *eS* **S 15 09 38.8 +2.1**
TMCR pmax pmax
comp=Z,223nm,1.0s
PALK Pallekele 62.64 257 P **P 15 01 15.0 +0.3**
comp=Z,9.6nm,0.7s,baz=113,slow=3.9,SNR=5.8
PALK Pallekele 62.64 257 *iP* **P 15 01 16.0 +1.2**
KEV Kevo 63.02 339 *eP* **P 15 01 17.1 +0.8**
comp=Z,96nm,0.9s
KEV LR LR
comp=Z,4μm,19.0s
KEV Kevo 63.02 339 *eP* **P 15 01 17.2 +0.8**
KEV pmax pmax
comp=Z,96nm,0.9s
KEV MLR MLR
comp=Z,4μm,19.0s
GOA Goa 63.21 269 *eP* **P 15 01 18.6 +0.2**
EIDS Eidsvold 63.22 170 *eP* **P 15 01 18.8 +0.6**
comp=Z,28nm,0.8s
YKA Yellowknife Ar 63.28 30 P **P 15 01 18.9 +0.7**
comp=Z,13nm,0.6s,baz=302,slow=6.5,SNR=283
YKA PKPPKP **P'P'df 15 30 16.6 -6.0**
comp=Z,0.2nm,0.7s,baz=134,slow=3.5,SNR=5.7
HAMF Hammerfest 63.38 341 *eP* **P 15 01 19.5 +0.7**
KLMR Klimovskoe 63.41 328 *eP* **P 15 01 15.7 -3.4**
KLMR AMP 15 01 20.8
comp=Z,197nm,0.8s
KLMR *eP* **PP 15 03 35.5 -2.7**
KLMR *eS* **S 15 09 44.4 -5.4**
KLMR *eS* **S 15 09 44.4 -5.4**
KLMR *eSS* **SS 15 13 49.7 -6.3**
KLMR *eSS* **SS 15 13 49.7 -6.3**
KLMR LQ LQ 15 23 55.7
KLMR LQ LQ 15 23 55.7
KLMR LR LR 15 28 32.2
KLMR Klimovskoe 63.41 328 *eP* **P 15 01 15.7 -3.4**
KLMR *e* 15 03 35.5
KLMR *eS* **S 15 09 44.3 -5.5**
KLMR pmax pmax
comp=Z,197nm,0.8s
GEYT Alibeck 63.73 299 P **P 15 01 22.5 +0.8**
comp=Z,94nm,0.9s,baz=33,slow=3.5,SNR=116
GYA0B ALIBECK ARRAY 63.73 299 *eP* **P 15 01 22.5 +0.8**
comp=Z,126nm,0.9s
DZM Mont Dzumac 63.74 154 P **P 15 01 22.7 +0.8**
comp=Z,29nm,0.9s,baz=10,slow=11,SNR=6.8
DZM LR LR 15 27 07.3
comp=Z,1μm,20.0s,baz=352,slow=34
DZM Mont Dzumac 63.74 154 *eP* **P 15 01 23.2 +1.3**
comp=Z,175nm,1.2s
DZM *eS* **S 15 09 55.0 0.0**
comp=Z,540nm,23.6s
DZM Mont Dzumac 63.74 154 *eLR* LR 15 20 19.6
comp=Z,2μm,20.8s
DZM Mont Dzumac 63.74 154 P **P 15 01 22.7 +0.8**
DZM *eP* **P 15 01 23.6 +1.7**
KTK1 Kautokeino 64.53 339 *eP* **P 15 01 27.3 +0.9**
KTK1 IAmb IAmb 15 01 28.2
comp=Z,110nm,0.9s
TULEG Thule 64.57 8 *eP* **P 15 01 26.7 +0.2**
comp=Z,115nm,0.9s
TULEG *ePcP* **PcP 15 01 56.9 -3.4**
MSVF Nonsavu 64.80 141 *eP* **P 15 01 30.8 +2.0**
comp=Z,70nm,1.2s
MSVF LR LR
comp=Z,1μm,20.0s
MSVF Nonsavu 64.80 141⇑ *iP* **P 15 01 31.2 +2.3**
MSVF pmax pmax
comp=Z,32nm,1.3s
DAG Danmarks Havn 65.27 355⇑ *iP* **P 15 01 31.6 +0.5**
comp=Z,118nm,0.9s
DAG Danmarks Havn 65.27 355⇑ *iP* **P 15 01 31.6 +0.5**
DAG pmax pmax
comp=Z,120nm,0.9s
TRO Tromso 65.28 341 *eP* **P 15 01 31.8 +0.6**
LLLB Lillooet 65.77 44 *eP* **P 15 01 36.3 +1.5**
comp=Z,65nm,1.2s
PGC Sidney 65.86 46 *eP* **P 15 01 37.1 +1.8**
comp=Z,40nm,1.0s
NLWA Neilton Lookou 66.25 48 *eP* **P 15 01 40.7 +2.8**
comp=Z,67nm,0.9s
NLWA LR LR
comp=Z,617nm,20.0s
A04D Lummi Island 66.25 46 P **P 15 01 40.1 +2.3**
baz=300
B05A Bryant 66.83 46 P **P 15 01 43.3 +1.8**
baz=301
MOS Moscow 66.93 323 *eP* **P 15 01 41.4 -0.7**
MOS *e* 15 01 50.4
MOS *e* 15 02 08.3
MOS *e* 15 04 10.4
MOS *eS* **S 15 10 33.7 +0.5**
MOS pmax pmax
comp=Z,440nm,1.3s
MOS pmax pmax
comp=N,205nm,1.0s
MOS pmax pmax
comp=E,176nm,1.1s
MOS pmax pmax
comp=Z,600nm,1.4s
MOS pmax pmax
comp=N,200nm,1.2s
MOS pmax pmax
comp=E,200nm,1.2s
MOS MLR MLR
comp=Z,2μm,21.0s
B06A Marblemount 67.05 46 *eP* **P 15 01 44.8 +1.8**
comp=Z,72nm,1.3s
VRH Novokhopyorsk 67.31 318 *eP* **P 15 01 44.6 +0.1**
VRH pmax pmax
comp=Z,250nm,0.6s
VRH MLR MLR
comp=Z,3μm,15.0s
AFI Afiamalu 67.34 130 P **P 15 01 45.6 +0.4**
comp=Z,11nm,0.9s,baz=29,slow=19,SNR=1.8
STEI Steigen 67.43 341 *eP* **P 15 01 45.5 +0.5**
STEI IAmb IAmb 15 01 46.4
comp=Z,64nm,0.8s
KULLO Kullorsuaq 67.45 5⇑ *iP* **P 15 01 45.4 +0.4**
comp=Z,106nm,1.2s
KULLO Kullorsuaq 67.45 5⇑ *iP* **P 15 01 45.4 +0.4**
KULLO pmax pmax
comp=Z,110nm,1.2s
D05A Enumclaw 67.45 47 *eP* **P 15 01 49.5 +4.0**
G03D McMinnville, O 67.72 50 P **P 15 01 49.6 +2.4**
baz=301
LOF Lofoten 67.72 341 *eP* **P 15 01 47.5 +0.6**
OBN Obninsk 67.78 323 P **P 15 01 48.0 +0.6**
comp=Z,123nm,0.6s,baz=41,slow=1.6,SNR=44
OBN Obninsk 67.78 323 *eP* **P 15 01 47.5 +0.1**
comp=Z,230nm,1.0s
OBN LR LR
comp=Z,2μm,22.0s
OBN Obninsk 67.78 323 *cP* **P 15 01 47.9 +0.5**
OBN *e* 15 02 13.8
OBN *e* 15 04 17.9
OBN *ePPP* PPP 15 05 54.1
OBN *eS* S 15 10 32.0 -11
OBN pmax pmax
comp=Z,399nm,1.5s
OBN MLR MLR
comp=Z,2μm,15.0s
LON Longmire 67.78 48 *eP* **P 15 01 49.4 +1.7**
comp=Z,26nm,1.0s
LON Longmire 67.78 48 *eP* **P 15 01 49.4 +1.7**
LON pmax pmax
comp=Z,26nm,1.0s
PUL Pulkovo 67.83 329⇑ *eP* **P 15 01 48.8 +1.1**
PUL pmax pmax
comp=Z,245nm,1.1s
LPSR Galich'ya Gora 68.01 320 *eP* **P 15 01 49.1 +0.2**
LPSR pmax pmax
comp=Z,320nm,0.7s
LPSR MLR MLR
comp=Z,3μm,15.0s
COR Corvallis 68.02 50 *eP* **P 15 01 52.4 +3.2**
comp=Z,104nm,1.1s
COR Corvallis 68.02 50 *eP* **P 15 01 52.4 +3.3**
COR pmax pmax
comp=Z,104nm,1.1s
LTY Liberty 68.18 47 *eP* **P 15 01 51.6 +1.4**
comp=Z,25nm,0.9s
ARMA Armidale 68.26 171 *eP* **P 15 01 51.8 +1.0**
comp=Z,43nm,1.1s
MAK Makhachkala 68.27 308 *eP* **P 15 01 47.9 -2.8**
MAK *e* 15 04 19.0
MAK *eS* **S 15 10 47.5 -2.1**
MAK *eSS* **SS 15 15 06.1 -6.2**
MAK pmax pmax
comp=Z,136nm,0.9s
MAK MLR MLR
comp=Z,3μm,14.0s
B08A Colville Reser 68.36 45 *eP* **P 15 01 52.9 +1.6**
comp=Z,36nm,1.1s
VORR Voronezh 68.38 319⇑ *iP* **P 15 01 50.0 -1.2**
FIA1 FINESS Array S 68.43 332 *eP* **P 15 01 51.8 +0.4**
FINES FINESS Array B 68.43 332 P **P 15 01 52.0 +0.6**
comp=Z,206nm,0.7s,baz=54,slow=7.5,SNR=379
FINES FINESS Array B 68.43 332 P **P 15 01 52.0 +0.6**
FINES pmax pmax
comp=Z,207nm,0.7s
I03D Drain, OR 68.45 51 P **P 15 01 53.8 +1.9**
baz=302,SNR=7.1
H04A Detroit Lake 68.65 50 *eP* **P 15 01 54.9 +1.8**
comp=Z,47nm,0.9s
VSR Storozhevoye 68.65 319 *eP* **P 15 01 53.4 +0.4**

VSR pmax pmax
comp=Z,250nm,0.7s
VSR MLR MLR
comp=Z,4μm,16.0s
EDM Edmonton 68.84 39 *e*P **P 15 01 55.2 +1.1**
comp=Z,110nm,1.1s
EDM *e*PcP **PcP 15 02 21.1 +2.5**
EDM Edmonton 68.84 39 *e*P **P 15 01 55.3 +1.1**
EDM *e* 15 02 21.1
EDM pmax pmax
comp=Z,110nm,1.1s
G05D Wamic, OR 68.87 49 P **P 15 01 56.2 +1.7**
baz=302
AKT Akhty 68.90 307 *e*P **P 15 01 55.7 +0.8**
AKT *e* 15 02 20.6
AKT *e* 15 04 25.9
AKT pmax pmax
comp=Z,144nm,0.7s
MOR8 Moi Rana 68.94 340 *e*P **P 15 01 54.1 -0.5**
MOR8 IAmb IAmb 15 01 54.8
comp=Z,178nm,0.7s
I04A Tendick Farm, 68.98 50 P **P 15 01 56.7 +1.4**
baz=302,SNR=7.9
KONS Konsvik 69.05 340 *e*P **P 15 01 55.5 +0.3**
STKA Stephens Creek 69.07 180 P **P 15 01 55.6 +0.1**
comp=Z,35nm,0.7s,baz=349,slow=7.3,SNR=99
STKA PKP2bc 15 30 05.9
comp=Z,2.4nm,0.9s,baz=145,slow=9.2,SNR=4.0
STKA LR LR 15 31 28.8
comp=Z,740nm,20.2s,baz=353,slow=35
STKA Stephens Creek 69.07 180 *e*P **P 15 01 55.8 +0.1**
comp=Z,7.7nm,0.8s
STKA *e*PcP **PcP 15 02 16.1 -3.4**
STKA ⇑*e* 15 30 05.9
L02D Cave Junction, 69.11 52 P **P 15 01 57.7 +1.6**
baz=302
FORT Forrest 69.15 192 *e*P **P 15 01 56.2 0.0**
comp=Z,3μm,0.6s
STOK Stokkvaagen 69.20 340 *e*P **P 15 01 56.6 +0.5**
GROC Groznyy 69.20 309 *e*P **P 15 01 56.4 -0.2**
GROC *e* 15 02 20.0
GROC *e* 15 04 28.6
GROC *e*S **S 15 11 00.4 -0.4**
GROC pmax pmax
comp=Z,128nm,1.3s
C09A Chrisman Ranch 69.26 45 *e*P **P 15 01 58.4 +1.5**
comp=Z,28nm,0.9s
HUMO Hull Mountain 69.28 52 *e*P **P 15 02 01.2 +4.1**
G06A Carlson Farm, 69.28 48 *e*P **P 15 01 59.1 +2.0**
comp=Z,48nm,1.3s
D08A Wollman Farm, 69.29 46 *e*P **P 15 01 58.5 +1.4**
D08A *e*PcP **PcP 15 02 16.9 -3.7**
HAWA Hanford 69.30 47 *e*P **P 15 01 59.1 +1.9**
I05D Terrebonne, OR 69.34 50 P **P 15 01 59.1 +1.6**
baz=303
F07A Phinny Hill Vi 69.34 48 *e*P **P 15 01 59.6 +2.3**
comp=Z,34nm,0.9s
J04D Umpqua Nationa 69.46 51 P **P 15 02 00.1 +1.7**
baz=303
NEW Newport 69.64 44 P **P 15 02 00.7 +1.4**
baz=304
NEW Newport 69.64 44 *e*P **P 15 02 00.6 +1.3**
comp=Z,46nm,1.1s
NEW LR LR
comp=Z,712nm,22.0s
NEW Newport 69.64 44 *e*P **P 15 02 00.6 +1.3**
NEW pmax pmax
comp=Z,47nm,1.1s
NEW MLR MLR
comp=Z,712nm,22.0s
GOF Gofitskoye 69.87 312⇑ *i*P **P 15 02 01.4 +0.7**
GOF *e*S **S 15 11 09.3 +0.7**
GOF pmax pmax
comp=Z,391nm,1.3s
PINE Pine Mountain 69.88 50 *e*P **P 15 02 03.3 +2.3**
comp=Z,102nm,0.9s
YBH Yreka Blue Hor 69.90 52 P **P 15 02 02.4 +1.4**
comp=Z,9.4nm,0.8s,baz=288,slow=3.2,SNR=9.5
YBH LR LR 15 27 38.1
comp=Z,147nm,21.3s,baz=302,slow=32
YBH Yreka Blue Hor 69.90 52 *e*P **P 15 02 03.3 +2.3**
comp=Z,36nm,1.1s
YBH Yreka Blue Hor 69.90 52 P **P 15 02 02.4 +1.4**
YBH pmax pmax
comp=Z,9.0nm,0.8s
YBH Yreka Blue Hor 69.90 52 *e*P **P 15 02 03.3 +2.3**
YBH pmax pmax
comp=Z,36nm,1.1s
DDFL Dedoflistskaro 69.94 307 P **P 15 02 03.0 +1.7**
J05D Fort Rock, OR 69.98 50 P **P 15 02 03.3 +1.7**
baz=303,SNR=22
M02C Callahan 69.99 53 P **P 15 02 03.4 +1.9**
baz=303
E09A Wood Farm, Sta 70.04 46 *e*P **P 15 02 03.6 +2.0**
comp=Z,63nm,1.4s
VSU Vasula 70.09 330*c i*P **P 15 02 02.4 +0.7**
VSU pmax pmax
comp=Z,555nm,1.1s
SUMG Summit 70.17 0 *i* P **P 15 02 03.9 +1.4**
comp=Z,121nm,1.0s
SUMG Summit 70.17 0 *e*P **P 15 02 03.8 +1.4**
comp=Z,150nm,1.1s
SUMG Summit 70.17 0 *i* P **P 15 02 03.9 +1.4**
SUMG pmax pmax
comp=Z,120nm,1.0s
BBOO Buckleboo 70.19 185 *e*P **P 15 02 02.6 +0.1**
comp=Z,51nm,0.9s
G08A Pilot Rock 70.24 48 *e*P **P 15 02 04.5 +1.4**
comp=Z,26nm,1.1s
N02D Trinity Center 70.31 53 P **P 15 02 05.2 +1.6**
baz=303
NCK Nalchik 70.40 310⇑ *e*P **P 15 02 04.8 +0.9**
NCK pmax pmax
comp=Z,99nm,0.8s
DGRG David-gareji 70.41 308 P **P 15 02 03.9 -0.2**
DGRG David-gareji 70.41 308 *e*P **P 15 02 03.9 -0.2**
M04C Macdoel 70.42 52 P **P 15 02 05.9 +1.6**
baz=303,SNR=15
GUDG Gudauri 70.42 309 P **P 15 02 05.0 +0.7**
DUS Dusheti 70.48 308 P **P 15 02 06.0 +1.4**
DUS Dusheti 70.48 308 *e*P **P 15 02 05.9 +1.4**
K05A Summer Lake 70.49 51 *e*P **P 15 02 07.1 +2.4**
comp=Z,88nm,0.9s
I07A Izee 70.59 49 *e*P **P 15 02 07.3 +2.1**
comp=Z,19nm,1.1s
ZEI Tsey 70.60 309 *e*P **P 15 02 01.9 -3.5**
ZEI pmax pmax
comp=Z,136nm,1.5s
SEAG Tbilisi Sea 70.60 308 P **P 15 02 07.2 +2.0**
WDC Whiskeytown Da 70.63 53 *e*P **P 15 02 07.5 +2.1**
comp=Z,48nm,1.0s
WDC Whiskeytown Da 70.63 53 *e*P **P 15 02 07.5 +2.1**
WDC pmax pmax
comp=Z,48nm,1.0s
TBLG Delisi 70.66 308 P **P 15 02 06.3 +0.7**
TBLG Delisi 70.66 308 *e*P **P 15 02 05.9 +0.3**
TBLG Delisi 70.66 308 *e*P **P 15 02 06.5 +0.9**
comp=Z,118nm,1.1s
TBLG Delisi 70.66 308 *e*P **P 15 02 06.2 +0.7**
KVAR Kislovodsk Arr 70.69 311 P **P 15 02 06.7 +0.9**
comp=Z,378nm,1.2s,baz=323,slow=2.3,SNR=111
KBZ Khabaz 70.69 311 P **P 15 02 06.6 +0.9**
comp=Z,92nm,0.9s,baz=62,slow=4.8,SNR=130
KBZ PKPPKP **P'P'df 15 30 03.7 -5.6**
baz=180,slow=2.0
KBZ LR LR 15 34 11.4
comp=Z,1μm,21.1s,baz=42,slow=37
KIV Kislovodsk 70.69 311 *e*P **P 15 02 07.0 +1.2**
comp=Z,494nm,1.2s
KIV LR LR
comp=Z,2μm,19.0s
KIV Kislovodsk 70.69 311 P **P 15 02 07.2 +1.4**
SNR=93
KIV Kislovodsk 70.69 311 P **P 15 02 07.2 +1.4**
SNR=93
KIV Kislovodsk 70.69 311 *i* P **P 15 02 06.8 +1.0**
SNR=48
KIV Kislovodsk 70.69 311 *e*P **P 15 02 06.8 +1.0**
KIV *e*S **S 15 11 20.6 +2.2**
KIV pmax pmax
comp=Z,397nm,1.1s
KIV pmax pmax
comp=Z,85nm,3.5s
NSS Namsos 70.86 339 *e*P **P 15 02 06.7 +0.4**
NSS IAmb IAmb 15 02 07.6
comp=Z,64nm,0.9s

F10A Beach Ranch, E 70.87 46 *e*P **P 15 02 08.5 +1.6**
comp=Z,33nm,1.3s
WSAR Wadi Sarin 70.89 285 P **P 15 02 08.0 +0.7**
comp=Z,29nm,0.8s,baz=93,slow=5.6,SNR=20
WALA Waterton Lakes 70.94 42 *e*P **P 15 02 08.7 +1.3**
comp=Z,59nm,1.3s
ONI Oni 70.98 309 P **P 15 02 08.7 +1.1**
ONI Oni 70.98 309 *e*P **P 15 02 08.6 +1.1**
NEY Neytrino 71.06 310⇑ *i*P **P 15 02 09.0 +0.8**
NEY pmax pmax
comp=Z,25nm,1.6s
BIDO Bidbid 71.12 285 P **P 15 02 10.3 +1.7**
SNR=20
BIDO Bidbid 71.12 285 P **P 15 02 10.3 +1.7**
SNR=20
BANOM Banah 71.20 289 P **P 15 02 10.8 +1.6**
SNR=5.2
BANOM Banah 71.20 289 P **P 15 02 10.8 +1.6**
SNR=5.2
BANOM Banah 71.20 289 *i* P **P 15 02 10.7 +1.6**
SNR=14
SHME Shamm 71.25 289 *i* P **P 15 02 10.0 +0.6**
SNR=19
O03D Paynes Creek 71.26 53 P **P 15 02 10.4 +1.1**
baz=304
SMDO Samad 71.44 285 pP P 15 02 23.0 +12
SNR=6.6
BMO Blue Mountains 71.46 47 *e*P **P 15 02 12.0 +1.5**
BMO LR LR
comp=Z,602nm,20.0s
BMO Blue Mountains 71.46 47 *e*P **P 15 02 12.0 +1.5**
BMO pmax pmax
comp=Z,28nm,1.0s
BMO MLR MLR
comp=Z,602nm,20.0s
JTMT Jette 71.51 44 *e*P **P 15 02 12.5 +1.7**
comp=Z,32nm,1.0s
GNI Garni 71.53 307 P **P 15 02 12.3 +1.3**
comp=Z,222nm,1.4s,baz=144,slow=2.7,SNR=34
GNI Garni 71.53 307 P **P 15 02 12.3 +1.3**
GNI LR LR
comp=Z,1μm,19.0s
GNI Garni 71.53 307 P **P 15 02 12.9 +1.8**
SNR=31
GNI Garni 71.53 307 P **P 15 02 12.9 +1.8**
SNR=31
GNI Garni 71.53 307 *i* P **P 15 02 12.6 +1.5**
SNR=8.8
GNI Garni 71.53 307 *i* P **P 15 02 12.6 +1.5**
GNI pmax pmax
comp=Z,581nm,1.4s
J08A Circle Bar Ran 71.61 49 *e*P **P 15 02 13.3 +1.9**
comp=Z,49nm,1.0s
MSFE Esma-Masafi 71.61 288 *i* P **P 15 02 12.3 +0.7**
SNR=16
AKH Akhalkalaki 71.61 308 P **P 15 02 12.8 +1.3**
AKH Akhalkalaki 71.61 308 *e*P **P 15 02 13.1 +1.6**
AKH Akhalkalaki 71.61 308⇑ *i*P **P 15 02 13.2 +1.6**
AKH Akhalkalaki 71.61 308 *e*P **P 15 02 13.2 +1.6**
comp=Z,125nm,1.4s
AKH Akhalkalaki 71.61 308 *e*P **P 15 02 12.8 +1.3**
SCO Scoresbysund 71.61 354⇑ *i*P **P 15 02 12.3 +1.5**
comp=Z,84nm,1.1s
SCO Scoresbysund 71.61 354 *e*P **P 15 02 12.1 +1.3**
comp=Z,86nm,1.1s
SCO Scoresbysund 71.61 354⇑ *i*P **P 15 02 12.3 +1.5**
SCO pmax pmax
comp=Z,84nm,1.1s
HOQ Hoqain 71.71 286 pP P 15 02 21.0 +8.7
SNR=6.4
UOSS Minazif 71.81 288 *e*P **P 15 02 13.5 +0.8**
comp=Z,90nm,0.8s
UOSS Minazif 71.81 288 *i* P **P 15 02 13.0 +0.2**
SNR=14
ORV Oroville 71.86 54 *e*P **P 15 02 13.9 +1.0**
comp=Z,32nm,1.1s
ORV Oroville 71.86 54 *e*P **P 15 02 13.9 +1.0**
ORV pmax pmax
comp=Z,32nm,1.1s
HATD Hatta, Dubai 71.93 288 P **P 15 02 15.0 +1.5**
SNR=11
HATD Hatta, Dubai 71.93 288 P **P 15 02 15.0 +1.5**
SNR=11
HATD Hatta, Dubai 71.93 288 *i* P **P 15 02 14.2 +0.7**
SNR=28
SOHO SOHO 72.00 287 *i* P **P 15 02 14.2 +0.2**
SNR=27
WVOR Wild Horse Val 72.04 50 *e*P **P 15 02 15.7 +1.7**
comp=Z,27nm,1.0s
WVOR LR LR
comp=Z,460nm,20.0s
WVOR Wild Horse Val 72.04 50 *e*P **P 15 02 15.7 +1.7**
WVOR pmax pmax
comp=Z,27nm,1.0s
WVOR MLR MLR
comp=Z,460nm,20.0s
ASHO Ashiyiah 72.06 288 P **P 15 02 15.7 +1.4**
SNR=9.7
ASHO Ashiyiah 72.06 288 P **P 15 02 15.7 +1.4**
SNR=9.7
ASHO Ashiyiah 72.06 288 *i* P **P 15 02 14.8 +0.4**
SNR=13
IDID Didziasalis 72.13 327 *e*P **P 15 02 15.3 +1.1**
IDID IAmb IAmb 15 02 16.6
comp=Z,67nm,0.7s
MICGM Minsk 72.16 326⇑ *i*P **P 15 02 15.0 +0.7**
MICGM PM 15 02 16.0
comp=Z,0.5nm,1.0s
MICGM *e*PP **PP 15 04 50.0 -4.2**
MICGM *e*S **S 15 11 36.0 +1.2**
MICGM *e*LR LR 15 34 10.0
MNK Minsk 72.16 326⇑ *i*P **P 15 02 15.0 +0.7**
MNK *e* 15 04 50.0
MNK *e*S **S 15 11 36.0 +1.2**
MNK pmax pmax
comp=Z,470nm,1.0s
MSO Missoula 72.23 44 P **P 15 02 16.1 +1.0**
baz=306
MSO Missoula 72.23 44 *e*P **P 15 02 16.2 +1.1**
comp=Z,18nm,1.0s
BSY Bisya 72.26 285 pP P 15 02 23.0 +7.5
SNR=8.6
TBLU Trondheim 72.33 339 *e*P **P 15 02 14.2 -1.0**
TBLU IAmb IAmb 15 02 14.9
comp=Z,159nm,0.6s
IIGN Ignalina 72.33 327 *e*P **P 15 02 16.6 +1.2**
IIGN IAmb IAmb 15 02 17.8
comp=Z,82nm,0.6s
NACGM Naroch 72.38 327 *e*P **P 15 02 16.0 +0.3**
NACGM PM 15 02 18.0
comp=Z,1.0nm,0.8s
NACGM *e*LQ LQ 15 31 22.0
NACGM *e*LR LR 15 35 05.0
NACGM LRM MLR 15 38 15.0
comp=Z,4.5nm,23.0s
AFDM Forest Hills D 72.54 54 *e*P **P 15 02 18.9 +1.9**
comp=Z,19nm,1.1s
CLDR Caldiran 72.62 306 *e*P **P 15 02 18.3 +0.6**
ALNE Al Ain 72.64 287 *i* P **P 15 02 18.2 +0.4**
SNR=35
SOC Sochi 72.67 312*c i*P **P 15 02 17.9 +0.3**
SOC *e**SP **pP 15 02 25.9 -0.3**
SOC *e*S **S 15 11 43.1 +2.1**
SOC *e*SS **SS 15 16 13.8 -6.1**
SOC *e*SSS SSS 15 19 36.3
SOC pmax pmax
comp=Z,82nm,0.8s
SOC MLR MLR
comp=Z,2μm,16.0s
SENK Senkaya-Erzuru 72.81 308 *e*P **P 15 02 20.5 +1.7**
CAN Canberra 72.83 174 *e*P **P 15 02 19.4 +0.9**
comp=Z,64nm,1.4s
CAN LR LR
comp=Z,696nm,20.0s
CAN Canberra 72.83 174 *e*P **P 15 02 19.4 +0.9**
CAN pmax pmax
comp=Z,64nm,1.4s
CAN MLR MLR
comp=Z,696nm,20.0s
RDG13 Poverty Ridge 72.89 56 *e*P **P 15 02 23.5 +4.4**
AGRB Hanur-Agry 72.96 307 *e*P **P 15 02 21.4 +1.7**
PAHR Pah Rah Range 73.12 53 *e*P **P 15 02 22.1 +1.5**
comp=Z,39nm,1.1s
ILULI Ilulissat 73.13 5 *i* P **P 15 02 20.5 +0.7**
comp=Z,55nm,0.9s

ILULI Ilulissat 73.13 5 *e*P **P 15 02 20.6 +0.7**
comp=Z,51nm,0.8s
ILULI Ilulissat 73.13 5 *e*P **P 15 02 20.6 +0.7**
ILULI pmax pmax
comp=Z,51nm,0.8s
MFID Camas Ranch 73.16 48 *e*P **P 15 02 22.3 +1.6**
comp=Z,55nm,1.3s
FFC Flin Flon 73.18 33 *e*P **P 15 02 21.4 +0.9**
comp=Z,61nm,1.0s
FFC LR LR
comp=Z,446nm,21.0s
FFC Flin Flon 73.18 33 *e*P **P 15 02 21.4 +0.9**
FFC pmax pmax
comp=Z,61nm,1.0s
FFC MLR MLR
comp=Z,446nm,21.0s
VCNR Virginia City 73.19 53 *e*P P 15 02 25.8 +4.8
comp=Z,25nm,1.0s
ANN Anapa 73.29 314 *e*P **P 15 02 20.2 -1.0**
ANN *e* 15 02 36.6
ANN *e* 15 05 01.5
ANN *i*S **S 15 11 48.3 +0.3**
ANN *e*SS **SS 15 16 25.6 -3.6**
ANN *e*SSS SSS 15 19 45.9
ANN pmax pmax
comp=N,52nm,1.4s
ANN pmax pmax
comp=Z,218nm,1.4s
ANN pmax pmax
comp=E,62nm,1.4s
ANN smax smax
comp=N,198nm,4.6s
ANN smax smax
comp=E,264nm,4.6s
ANN MLR MLR
comp=E,2μm,18.0s
ANN MLR MLR
comp=N,1μm,18.0s
ANN MLR MLR
comp=Z,2μm,18.0s
CMB Columbia Colle 73.44 55 *e*P **P 15 02 24.0 +1.7**
comp=Z,46nm,1.0s
CMB Columbia Colle 73.44 55 *e*P **P 15 02 24.0 +1.7**
CMB pmax pmax
comp=Z,46nm,1.0s
FCC Fort Churchill 73.47 27 *e*P **P 15 02 22.6 +0.6**
comp=Z,126nm,1.2s
FCC Fort Churchill 73.47 27 *e*P **P 15 02 22.6 +0.6**
FCC pmax pmax
comp=Z,126nm,1.2s
HRY Holter Researc 73.47 43 *e*P **P 15 02 23.9 +1.5**
CHOM Cayeli-Rize 73.48 309 *e*P **P 15 02 23.8 +1.3**
NC405 NORSAR Array S 73.56 337 *e*P **P 15 02 22.6 0.0**
NC303 NORSAR Array S 73.58 337 *e*P **P 15 02 22.8 +0.1**
DOMB Dombas 73.62 339⇑ *i*P **P 15 02 23.9 +1.0**
DOMB IAmb IAmb 15 02 24.6
comp=Z,161nm,0.6s
MOL Molde 73.63 340 *e*P **P 15 02 23.2 +0.4**
YERR Yerington 73.63 53 *e*P **P 15 02 25.4 +1.8**
comp=Z,65nm,1.1s
LRM Limekiln Ridge 73.66 44 *e*P **P 15 02 25.2 +1.4**
HFS Hagfors 73.68 336 P **P 15 02 23.7 +0.4**
comp=Z,110nm,0.7s,baz=53,slow=5.6,SNR=281
HFS PP **PP 15 05 03.6 -3.5**
comp=Z,20nm,1.0s,baz=28,slow=6.5,SNR=3.6
HFS Hagfors 73.68 336 P **P 15 02 23.7 +0.4**
HFS 15 05 03.6
HFS pmax pmax
comp=Z,111nm,0.7s
HFS pmax pmax
comp=Z,20nm,1.0s
NWAO Narrogin (SRO) 73.71 201 P **P 15 02 23.6 -0.1**
comp=Z,26nm,1.0s,baz=274,slow=5.3,SNR=9.0
NWAO Narrogin (SRO) 73.71 201 *e*P **P 15 02 24.0 +0.3**
comp=Z,68nm,1.3s
NWAO LR LR
comp=Z,889nm,20.0s
NWAO Narrogin (SRO) 73.71 201 *e*P **P 15 02 24.0 +0.3**
NWAO pmax pmax
comp=Z,68nm,1.3s
NWAO MLR MLR
comp=Z,889nm,20.0s
NC204 NORSAR Array S 73.73 338 *e*P **P 15 02 24.6 +1.0**
NB201 NORSAR Array S 73.74 337 *e*P **P 15 02 23.6 -0.1**
NB2 NORSAR Subarra 73.77 337 P **P 15 02 24.7 +0.8**
comp=Z,144nm,0.7s,baz=39,slow=6.2
NB2 NORSAR Subarra 73.77 337 P **P 15 02 24.7 +0.8**
baz=39,slow=6.2
NOA NORSAR Array B 73.77 337 P **P 15 02 24.6 +0.7**
comp=Z,132nm,0.7s,baz=39,slow=5.8,SNR=530
NOA PP **PP 15 05 03.7 -4.2**
comp=Z,9.1nm,1.0s,baz=46,slow=8.4,SNR=3.5
WAKR Walker 73.78 54 *e*P **P 15 02 26.8 +2.2**
comp=Z,24nm,1.0s
DLMT Dillon 73.86 45 *e*P **P 15 02 26.5 +1.6**
comp=Z,54nm,1.0s
HLID Hailey 73.90 47 P **P 15 02 26.6 +1.4**
baz=307
HLID Hailey 73.90 47 *e*P **P 15 02 26.9 +1.7**
comp=Z,17nm,0.9s
HLID LR LR
comp=Z,591nm,19.0s
NC602 NORSAR Array S 73.91 337 *e*P **P 15 02 24.6 +0.1**
NC602 NORSAR Array S 73.91 337 *e*P **P 15 02 24.8 +0.2**
NBO00 NORSAR Array S 73.91 337 *e*P **P 15 02 25.4 +0.8**
AKASG Malin Array Be 73.99 322 P **P 15 02 25.6 +0.4**
comp=Z,92nm,0.5s,baz=46,slow=6.1,SNR=570
AKASG PP **PP 15 05 06.7 -3.3**
comp=Z,15nm,0.7s,baz=45,slow=9.0,SNR=5.8
AKASG LR LR 15 35 44.1
comp=Z,1μm,20.2s,baz=60,slow=36
AKASG Malin Array Be 73.99 322 P **P 15 02 25.6 +0.4**
AKASG 15 05 06.7
AKASG pmax pmax
comp=Z,100nm,0.5s
AKASG pmax pmax
comp=Z,15nm,0.7s
AKASG MLR MLR
comp=Z,1μm,20.2s
AKBB Malin Array Si 73.99 322 *e*P **P 15 02 25.7 +0.5**
comp=Z,143nm,0.6s
AKBB Malin Array Si 73.99 322 *e*P **P 15 02 25.7 +0.5**
AKBB pmax pmax
comp=Z,143nm,0.6s
KIEV Kiev 74.00 322 *e*P **P 15 02 25.3 0.0**
comp=Z,139nm,0.6s
KIEV LR LR
comp=Z,2μm,19.0s
KIEV Kiev 74.00 322 *i* P **P 15 02 25.6 +0.3**
SNR=126
KIEV Kiev 74.00 322*c i*P **P 15 02 25.4 +0.1**
KIEV pmax pmax
comp=Z,270nm,1.4s
NAO01 NORSAR Array S 74.03 337 *e*P **P 15 02 25.9 +0.6**
AK11 Malin Array Si 74.03 322 *e*P **P 15 02 25.4 -0.1**
MCMT McKenzie Canyo 74.04 45 *e*P **P 15 02 27.3 +1.3**
BMN Battle Mountai 74.06 51 *e*P **P 15 02 28.3 +2.2**
comp=Z,48nm,1.2s
BMN Battle Mountai 74.06 51 *e*P **P 15 02 28.3 +2.2**
BMN pmax pmax
comp=Z,49nm,1.2s
AKN Aaknes 74.10 340 *e*P **P 15 02 27.0 +1.3**
VRTB Varto-Mus 74.18 307 *e*P **P 15 02 29.2 +2.4**
BOZ Bozeman (W) 74.26 44 P **P 15 02 28.5 +1.3**
baz=308
BOZ Bozeman (W) 74.26 44 *e*P **P 15 02 28.5 +1.3**
comp=Z,35nm,0.9s
BOZ LR LR
comp=Z,654nm,19.0s
BOZ Bozeman (W) 74.26 44 *e*P **P 15 02 28.5 +1.3**
BOZ pmax pmax
comp=Z,35nm,0.9s
BOZ MLR MLR
comp=Z,654nm,19.0s
BAYT Ayd¨–ntepe-Bay 74.28 309 *e*P **P 15 02 29.1 +1.7**
RYN Ryan 74.29 53 *e*P **P 15 02 29.5 +2.1**
comp=Z,42nm,1.2s
SIRT Sirnak 74.51 305 *e*P **P 15 02 29.5 +0.8**
MDPB Devils Postpil 74.51 54 *e*P **P 15 02 30.9 +1.9**
comp=Z,27nm,1.0s
SUW Suwalki 74.54 327 *e*P **P 15 02 28.9 +0.5**
SUW *e*pP **pP 15 02 38.0 +1.0**
SUW LMZ LR 15 38 19.2
comp=Z,2μm,21.3s
SUW Suwalki 74.54 327 *e*P **P 15 02 29.0 +0.6**
comp=Z,128nm,0.8s

SUW	**Suwalki**	74.54	327	⇑	*e*P	**P**	**15 02 28.9 +0.5**
SUW					*e**PP	**pP**	**15 02 38.0 +1.0**
SUW					MLR	MLR	
	comp=Z,2µm,21.3s						
NV01	**Mina Array Sit**	74.55	53		*e*P	**P**	**15 02 30.5 +1.5**
NVAR	**Mina Array Bea**	74.55	53		P	**P**	**15 02 30.5 +1.5**
	comp=Z,6.5nm,0.6s,baz=290,slow=5.8,SNR=43						
NVAR					LR	LR	15 29 23.6
	comp=Z,186nm,20.5s,baz=77,slow=31						
NV11	**Mina Array Sit**	74.64	53		*e*P	**P**	**15 02 31.2 +1.7**
	comp=Z,3.7nm,1.3s						
BNGB	**Bing˜¶**	74.77	308		*e*P	**P**	**15 02 31.6 +1.5**
OSL	**Oslo**	74.79	337		*e*P	**P**	**15 02 30.7 +1.0**
OSL					IAmb	IAmb	15 02 31.6
	comp=Z,155nm,0.8s						
ESPY	**Espiye-Giresun**	74.83	310		*e*P	**P**	**15 02 30.8 +0.4**
QLMT	**Earthquake Lak**	74.84	45		*e*P	**P**	**15 02 32.5 +2.0**
PAGB	**Antelope Grade**	74.85	57		*e*P	**P**	**15 02 32.6 +2.0**
	comp=Z,51nm,0.8s						
YHB	**Horse Butte**	75.02	45		*e*P	**P**	**15 02 32.9 +1.2**
	comp=Z,40nm,0.9s						
SIM	**Simferopol'**	75.07	316		*c* iP	**P**	**15 02 32.4 +0.7**
SIM					*i*		15 02 42.0
SIM					pmax	pmax	
	comp=Z,167nm,0.7s						
SIM					MLR	MLR	
	comp=Z,1µm,16.6s						
FOO	**Floro**	75.11	340		*e*P	**P**	**15 02 32.4 +0.9**
FOO					IAmb	IAmb	15 02 33.3
	comp=Z,71nm,0.8s						
HYA	**Hoyanger**	75.15	339	⇑	iP	**P**	**15 02 32.7 +1.0**
HYA					IAmb	IAmb	15 02 33.6
	comp=Z,130nm,0.8s						
YHH	**Holmes Hill**	75.19	45		*e*P	**P**	**15 02 34.4 +1.7**
	comp=Z,26nm,1.1s						
YMR	**Madison River**	75.20	45		*e*P	**P**	**15 02 34.5 +1.8**
	comp=Z,66nm,1.3s						
SMMC	**Simmler**	75.26	57		P	**P**	**15 02 35.4 +2.4**
	baz=306						
SFJD	**Kangerlussuaq**	75.36	5		P	**P**	**15 02 33.8 +1.0**
	comp=Z,51nm,0.8s,baz=348,slow=6.0,SNR=36						
SFJD					LR	LR	15 37 58.7
	comp=Z,714nm,18.3s,baz=352,slow=38						
SFJD	**Kangerlussuaq**	75.36	5	⇑	iP	**P**	**15 02 33.6 +0.7**
	comp=Z,55nm,0.8s						
SFJD	**Kangerlussuaq**	75.36	5		*e*P	**P**	**15 02 33.6 +0.7**
	comp=Z,62nm,0.8s						
SFJD	**Kangerlussuaq**	75.36	5	⇑	*i* P	**P**	**15 02 33.6 +0.7**
SFJD					pmax	pmax	
	comp=Z,55nm,0.8s						
KONO	**Kongsberg**	75.37	337		*e*P	**P**	**15 02 33.8 +0.8**
	comp=Z,76nm,0.7s						
KONO	**Kongsberg**	75.37	337	⇑	iP	**P**	**15 02 33.9 +0.8**
KONO	**Kongsberg**	75.37	337	*c*	iP	**P**	**15 02 33.8 +0.8**
KONO					pmax	pmax	
	comp=Z,72nm,0.7s						
KLNR	**Kaliningrad**	75.37	329	*c*	iP	**P**	**15 02 33.7 +0.6**
KLNR					pmax	pmax	
	comp=Z,151nm,0.8s						
TIN	**Tinemaha, Big**	75.40	54		P	**P**	**15 02 36.0 +2.2**
	baz=306						
YFT	**Old Faithful**	75.41	45		*e*P	**P**	**15 02 37.5 +3.6**
YPP	**Pitchstone Pla**	75.54	45		*e*P	**P**	**15 02 37.8 +3.1**
	comp=Z,162nm,1.8s						
VES	**Vestal, Richgr**	75.55	56		P	**P**	**15 02 36.5 +1.9**
	baz=306						
H17A	**Grant Village**	75.59	45		P	**P**	**15 02 38.2 +3.3**
	baz=309						
H17A	**Grant Village**	75.59	45		*e*P	**P**	**15 02 38.2 +3.3**
	comp=Z,90nm,1.1s						
PKM	**Mcpherson Peak**	75.63	57		P	**P**	**15 02 37.0 +1.7**
	baz=306						
SUE	**Sulen**	75.63	340	⇑	iP	**P**	**15 02 35.8 +1.3**
SUE					IAmb	IAmb	15 02 36.5
	comp=Z,69nm,0.6s						
PTK	**Pertek**	75.63	308		*e*P	**P**	**15 02 36.9 +1.7**
IMW	**Indian Meadow**	75.69	45		*e*P	**P**	**15 02 38.0 +2.4**
	comp=Z,49nm,0.9s						
DYBB	**Diyarbakir**	75.72	307		*e*P	**P**	**15 02 37.3 +1.7**
FXWY	**Fox Creek**	75.81	46		*e*P	**P**	**15 02 38.2 +2.0**
	comp=Z,41nm,1.1s						
ILIC	**ilic-Erzincan**	75.81	309		*e*P	**P**	**15 02 37.6 +1.4**
MAZI	**Mazidag**	75.82	306		*e*P	**P**	**15 02 37.5 +1.3**
RLMT	**Red Lodge**	75.86	44		P	**P**	**15 02 38.1 +1.6**
	baz=309						
RLMT	**Red Lodge**	75.86	44		*e*P	**P**	**15 02 38.5 +2.0**
	comp=Z,46nm,1.1s						
RLMT					LR	LR	
	comp=Z,684nm,22.0s						
CWC	**Cottonwood Cre**	75.86	55		P	**P**	**15 02 37.7 +1.2**
	baz=306						
MOOW	**Moose Ponds**	75.90	45		*e*P	**P**	**15 02 38.8 +2.1**
	comp=Z,64nm,1.4s						
TPAW	**Teton Pass**	75.94	46		*e*P	**P**	**15 02 39.5 +2.5**
	comp=Z,28nm,0.8s						
HVU	**Hansel Valley**	75.94	48		*e*P	**P**	**15 02 39.1 +2.2**
HVU	**Hansel Valley**	75.94	48		*e*P	**P**	**15 02 39.1 +2.2**
ASK	**Askoy**	75.99	339		*e*P	**P**	**15 02 38.1 +1.5**
ASK					IAmb	IAmb	15 02 38.6
	comp=Z,120nm,0.7s						
GRAC	**Grapevine Rang**	75.99	54		P	**P**	**15 02 38.8 +1.7**
	baz=307						
RSDY	**Resadiye-TOKAT**	76.00	310		*e*P	**P**	**15 02 35.6 -1.5**
BER	**Bergen**	76.03	339		*e*P	**P**	**15 02 38.3 +1.5**
BER					IAmb	IAmb	15 02 38.8
	comp=Z,146nm,0.7s						
ODD1	**Odda**	76.05	338		*e*P	**P**	**15 02 38.3 +1.2**
ODD1					IAmb	IAmb	15 02 39.0
	comp=Z,110nm,0.7s						
ISA	**Isabella, Lake**	76.06	56		P	**P**	**15 02 38.4 +0.8**
	baz=306						
ISA	**Isabella, Lake**	76.06	56		*e*P	**P**	**15 02 38.5 +0.9**
	comp=Z,24nm,1.0s						
ISA	**Isabella, Lake**	76.06	56		*e*P	**P**	**15 02 38.5 +0.9**
ISA					pmax	pmax	
	comp=Z,24nm,1.0s						
LOHW	**Long Hollow**	76.06	45		*e*P	**P**	**15 02 39.6 +2.0**
	comp=Z,19nm,1.1s						
SNOW	**Snow King Moun**	76.07	46		*e*P	**P**	**15 02 40.7 +3.0**
REDW	**Red Top Meadow**	76.08	46		*e*P	**P**	**15 02 39.9 +2.2**
	comp=Z,35nm,0.9s						
SORM	**Soroca**	76.09	321	⇑	iP	**P**	**15 02 37.8 +0.4**
ARVC	**Arvin**	76.14	56		P	**P**	**15 02 39.0 +1.0**
	baz=306						
SNOP	**Sinop**	76.27	313		*e*P	**P**	**15 02 39.5 +1.0**
SCZ2	**Santa Cruz Isl**	76.27	58		P	**P**	**15 02 40.6 +1.8**
	baz=306						
DAC	**Darwin (Calif)**	76.27	55		*e*P	**P**	**15 02 40.2 +1.3**
	comp=Z,32nm,1.1s						
DAC	**Darwin (Calif)**	76.27	55		*e*P	**P**	**15 02 40.2 +1.3**
DAC					pmax	pmax	
	comp=Z,32nm,1.1s						
AHID	**Auburn Hatcher**	76.31	46		*e*P	**P**	**15 02 41.3 +2.3**
	comp=Z,26nm,1.0s						
AHID					LR	LR	
	comp=Z,582nm,19.0s						
BGU	**Big Grassy Mou**	76.31	49		*e*P	**P**	**15 02 40.6 +1.6**
	comp=Z,56nm,1.5s						
R11A	**Troy Canyon, C**	76.31	52		P	**P**	**15 02 40.7 +1.5**
	baz=307						
R11A	**Troy Canyon, C**	76.31	52		*e*P	**P**	**15 02 40.8 +1.7**
DGMT	**Dagmar**	76.33	39		PFAKE		15 02 50.0 +11
DGMT					LR	LR	
	comp=Z,798nm,19.0s						
KVT	**Kavak**	76.35	311		*e*P	**P**	**15 02 40.9 +1.8**
MPMC	**Manual Prospec**	76.47	55		P	**P**	**15 02 41.6 +1.6**
	baz=307						
LAO	**LASA Array**	76.48	41		P	**P**	**15 02 41.2 +1.5**
	baz=311						
LAO	**LASA Array**	76.48	41		*e*P	**P**	**15 02 41.3 +1.5**
	comp=Z,58nm,1.0s						
LAO					LR	LR	
	comp=Z,503nm,19.0s						
SVSK	**Karacayir**	76.49	310		*e*P	**P**	**15 02 41.6 +1.8**
BLS5	**Blasjo**	76.50	338	⇑	iP	**P**	**15 02 40.9 +1.3**
BLS5					IAmb	IAmb	15 02 41.7
	comp=Z,88nm,0.9s						
TOKT	**Tokat**	76.52	311		*e*P	**P**	**15 02 41.6 +1.5**
MALT	**Malatya**	76.58	308		*e*P	**P**	**15 02 42.4 +1.8**
KIS	**Kishinev**	76.61	320	⇑	iP	**P**	**15 02 39.0 -1.4**
	comp=Z,700nm,1.4s						
KIS	**Kishinev**	76.61	320		*e*PPP	PPP	15 07 02.0
KIS					*e*S	**S**	**15 12 20.0 -4.8**
KIS	**Kishinev**	76.61	320		*e*PS		15 12 46.0
KIS					LRM	MLR	15 39 40.0
	comp=Z,2µm,15.0s						
KIS	**Kishinev**	76.61	320	*o*	iP	**P**	**15 02 39.0 -1.4**
KIS					*e*S	**S**	**15 12 20.0 -4.8**
KIS					*e*PS	PnS	15 12 46.0 -19
KIS					pmax	pmax	
	comp=Z,700nm,1.4s						
KIS					pmax	pmax	
	comp=Z,500nm,4.0s						
KIS					MLR	MLR	
	comp=N,2µm,15.0s						
KIS					MLR	MLR	
	comp=Z,4µm,15.0s						
KIS					MLR	MLR	
	comp=E,2µm,16.0s						
KIS					MLR	MLR	
	comp=Z,5µm,16.0s						
FURC	**Furnace Creek,**	76.63	54		P	**P**	**15 02 42.2 +1.5**
	baz=307						
LRMC	**Laurel Mtn Rad**	76.69	55		P	**P**	**15 02 42.6 +1.4**
	baz=307						
TPNV	**Topopah Spring**	76.74	54		P	**P**	**15 02 43.2 +1.6**
	baz=307						
TPNV	**Topopah Spring**	76.74	54		*e*P	**P**	**15 02 43.1 +1.6**
	comp=Z,51nm,1.0s						
TPNV	**Topopah Spring**	76.74	54		*e*P	**P**	**15 02 43.1 +1.6**
TPNV					pmax	pmax	
	comp=Z,51nm,1.0s						
HWUT	**Hardware Ranch**	76.76	48		*e*P	**P**	**15 02 42.8 +1.2**
	comp=Z,73nm,1.2s						
HWUT					LR	LR	
	comp=Z,604nm,20.0s						
HOMB	**Homborsund**	76.81	337		*e*P	**P**	**15 02 42.2 +0.9**
HOMB					IAmb	IAmb	15 02 42.9
	comp=Z,90nm,1.0s						
EDW2	**Edwards Air Fo**	76.84	56		P	**P**	**15 02 43.6 +1.6**
	baz=307						
URFA	**Urfa**	76.86	307		*e*P	**P**	**15 02 42.9 +0.8**
DUG	**Dugway, Tooele**	76.89	49		P	**P**	**15 02 43.9 +1.6**
	baz=308						
DUG	**Dugway, Tooele**	76.89	49		*e*P	**P**	**15 02 44.1 +1.8**
	comp=Z,57nm,1.3s						
DUG					LR	LR	
	comp=Z,442nm,19.0s						
DUG	**Dugway, Tooele**	76.89	49		*e*P	**P**	**15 02 44.1 +1.8**
DUG					pmax	pmax	
	comp=Z,57nm,1.3s						
DUG					MLR	MLR	
	comp=Z,442nm,19.0s						
BZK	**Bozkurt**	77.00	313		*e*P	**P**	**15 02 43.9 +1.2**
DARE	**Darende-Malaty**	77.02	309		*e*P	**P**	**15 02 45.1 +2.1**
KMY	**Karmoy**	77.03	339		*e*P	**P**	**15 02 43.9 +1.5**
KMY					IAmb	IAmb	15 02 44.6
	comp=Z,72nm,0.7s						
LVV	**L'vov**	77.06	324		*e*P	**P**	**15 02 43.5 +0.6**
LVV					*e*S	**S**	**15 12 29.0 -0.7**
LVV					MLR	MLR	
	comp=Z,2µm,14.0s						
BSD	**Bornholm Skovb**	77.07	332	⇑	*i*P	**P**	**15 02 43.2 +0.4**
	comp=Z,138nm,0.9s						
	comp=Z,3µm,17.0s						
BSD	**Bornholm Skovb**	77.07	332	⇑	iP	**P**	**15 02 43.2 +0.4**
BSD					pmax	pmax	
	comp=Z,140nm,0.9s						
BSD					MLR	MLR	
	comp=Z,3µm,17.0s						
BEL	**Belsk**	77.10	327		*e*P	**P**	**15 02 44.5 +1.5**
BEL					LMZ	LR	15 39 15.1
	comp=Z,2µm,20.9s						
BEL	**Belsk**	77.10	327	⇑	*e*P	**P**	**15 02 44.5 +1.4**
BEL					MLR	MLR	
	comp=Z,2µm,20.9s						
IAS	**Iasi**	77.12	320	⇑	iP	**P**	**15 02 44.4 +1.2**
STAV	**Stavanger**	77.12	338		*e*P	**P**	**15 02 44.0 +1.0**
BORG	**Borgarnes**	77.16	353		LR	LR	15 38 11.6
	comp=Z,498nm,21.1s,baz=16,slow=37						
BORG	**Borgarnes**	77.16	353		*e*P	**P**	**15 02 44.2 +1.1**
	comp=Z,80nm,0.8s						
BORG	**Borgarnes**	77.16	353		*e*P	**P**	**15 02 44.2 +1.1**
BORG					pmax	pmax	
	comp=Z,80nm,0.8s						
TCUT	**Toone Canyon**	77.16	48		*e*P	**P**	**15 02 46.0 +2.1**
	comp=Z,105nm,1.2s						
SNART	**Snartemo**	77.16	337		*e*P	**P**	**15 02 44.4 +1.2**
SNART					IAmb	IAmb	15 02 45.2
	comp=Z,72nm,0.7s						
ANGG	**Ammassalik, Gr**	77.16	360		*e*P	**P**	**15 02 43.8 +0.7**
BW06	**Boulder Array**	77.19	46		P	**P**	**15 02 45.0 +1.0**
	baz=310						
BW06	**Boulder Array**	77.19	46		*e*P	**P**	**15 02 45.0 +1.0**
	comp=Z,30nm,0.9s						
BW06					LR	LR	
	comp=Z,650nm,19.0s						
PD31	**Pinedale Array**	77.19	46		*e*P	**P**	**15 02 45.0 +0.9**
PDAR	**Pinedale Array**	77.19	46		P	**P**	**15 02 45.0 +0.9**
	comp=Z,7.5nm,0.7s,baz=269,slow=2.4,SNR=58						
PDAR	**Pinedale Array**	77.19	46		*e*P	**P**	**15 02 44.8 +0.7**
CTU	**Camp Tracy**	77.22	48		*e*P	**P**	**15 02 46.1 +1.9**
SHOC	**Shoshone, Teco**	77.35	54		P	**P**	**15 02 46.1 +1.3**
	baz=307						
GSC	**Goldstone, Bar**	77.37	55		P	**P**	**15 02 46.1 +1.1**
	baz=307						
GSC	**Goldstone, Bar**	77.37	55		*e*P	**P**	**15 02 46.7 +1.7**
GSC	**Goldstone, Bar**	77.37	55		*e*P	**P**	**15 02 46.7 +1.7**
CIS	**Catalina Islan**	77.44	58		P	**P**	**15 02 46.8 +1.4**
	baz=307						
BFSC	**Mount Baldy Ra**	77.44	57		P	**P**	**15 02 46.7 +1.2**
	baz=307						
JLU	**Jordanelle**	77.45	48		*e*P	**P**	**15 02 47.6 +2.0**
NLU	**North Lily Min**	77.49	49		*e*P	**P**	**15 02 47.0 +1.3**
	comp=Z,25nm,1.0s						
COP	**Copenhagen**	77.54	333	⇑	*i*P	**P**	**15 02 47.5 +2.1**
	comp=Z,2µm,15.0s						
COP	**Copenhagen**	77.54	333	⇑	iP	**P**	**15 02 47.5 +2.1**
COP					MLR	MLR	
	comp=Z,2µm,15.0s						
GKP	**Gorka Klasztor**	77.55	329		*e*P	**P**	**15 02 46.4 +0.9**
GKP					LMZ	LR	15 40 28.1
	comp=Z,4µm,18.0s						
GKP	**Gorka Klasztor**	77.55	329	⇑	*e*P	**P**	**15 02 46.4 +0.9**
GKP					MLR	MLR	
	comp=Z,4µm,18.0s						
SHPR	**Sheep Range**	77.70	53		*e*P	**P**	**15 02 49.1 +2.2**
	comp=Z,41nm,1.1s						
MPU	**Maple Canyon**	77.71	49		*e*P	**P**	**15 02 48.2 +1.2**
	comp=Z,38nm,0.8s						
ILGA	**Ilgaz**	77.74	313		*e*P	**P**	**15 02 48.9 +1.7**
	comp=Z,96nm,0.7s						
CORM	**Corum**	77.75	311		*e*P	**P**	**15 02 48.0 +0.9**
TLCR		77.80	318	⇓	iP	**P**	**15 02 48.1 +1.0**
KWP	**Kalwaria Pacla**	77.81	324		*e*P	**P**	**15 02 48.5 +1.4**
KWP	**Kalwaria Pacla**	77.81	324	⇓	*e*P	**P**	**15 02 48.5 +1.4**
BNN	**Bunyan**	77.85	310		*e*P	**P**	**15 02 48.1 +0.4**
TUQ	**Turquoise Moun**	77.86	55		P	**P**	**15 02 49.3 +1.5**
	baz=308						
LLD	**Lille Linde**	77.89	333		*i* P	**P**	**15 02 48.0 +0.6**
	comp=Z,141nm,0.7s						
LLD	**Lille Linde**	77.89	333		*i* P	**P**	**15 02 48.0 +0.6**
LLD					pmax	pmax	
	comp=Z,140nm,0.7s						
HEC	**Hector,Ludlow**	77.96	55		P	**P**	**15 02 49.8 +1.5**
	baz=308						
BUR08	**Bucovina Ar. S**	78.00	322		*e*P	**P**	**15 02 49.2 +1.0**
BUR04	**Bucovina Ar. S**	78.01	322		*e*P	**P**	**15 02 49.4 +1.0**
BURAR	**Bucovina Array**	78.01	322	⇑	iP	**P**	**15 02 49.1 +0.7**
KMRS	**Kahramanmaras**	78.03	308		*e*P	**P**	**15 02 50.2 +1.6**
TESR	**Tescani**	78.04	320	⇑	iP	**P**	**15 02 48.9 +0.5**
GAZ	**Gaziantep**	78.04	308		*e*P	**P**	**15 02 50.6 +1.9**
MUD	**Monsted U'grnd**	78.05	335	⇑	iP	**P**	**15 02 49.4 +1.2**
	comp=Z,87nm,1.0s						
MUD	**Monsted U'grnd**	78.05	335	⇑	iP	**P**	**15 02 49.4 +1.2**
MUD					pmax	pmax	
	comp=Z,87nm,1.0s						
MURC	**Murrieta**	78.14	57		P	**P**	**15 02 50.7 +1.5**
	baz=307						
CFR	**Carcaliu**	78.17	318	⇓	iP	**P**	**15 02 49.7 +0.6**
CCUT	**Cedar City**	78.19	52		*e*P	**P**	**15 02 51.4 +1.7**
	comp=Z,48nm,1.3s						
PETR	**Petresti**	78.28	319	⇑	iP	**P**	**15 02 51.9 +2.2**
DGAR	**Diego Garcia**	78.31	251		PFAKE		15 03 00.0 +10
DGAR					LR	LR	
	comp=Z,286nm,19.0s						
MSU	**Marysvale**	78.33	50		*e*P	**P**	**15 02 52.5 +2.1**
MSU	**Marysvale**	78.33	50		*e*P	**P**	**15 02 52.5 +2.1**
SZCU	**Shurtz Canyon**	78.34	51		*e*P	**P**	**15 02 52.5 +2.0**
	comp=Z,31nm,1.2s						
ODBI	**Odobesti**	78.34	319	⇓	iP	**P**	**15 02 52.8 +2.7**
TMUT	**Trail Mountain**	78.42	49		*e*P	**P**	**15 02 53.0 +1.9**
	comp=Z,32nm,1.1s						
GMRC	**Granite Mounta**	78.43	55		P	**P**	**15 02 52.6 +1.6**
	baz=308						
VRI	**Vrincioaia**	78.44	320	⇑	iP	**P**	**15 02 52.3 +1.6**
PLOR	**Plostina**	78.49	320	⇑	iP	**P**	**15 02 52.2 +1.2**
TIRR	**Tirgusor**	78.50	318	⇑	iP	**P**	**15 02 52.1 +1.1**
TIRR	**Tirgusor**	78.50	318		*e*P	**P**	**15 02 51.4 +0.4**
	comp=Z,272nm,2.0s						
TIRR	**Tirgusor**	78.50	318		*e*P	**P**	**15 02 51.4 +0.4**
TIRR					pmax	pmax	
	comp=Z,272nm,2.0s						
P17A	**Butcher Ranch,**	78.59	49		*e*P	**P**	**15 02 53.9 +2.1**
	comp=Z,103nm,1.3s						
LCMT	**Little Creek M**	78.60	52		*e*P	**P**	**15 02 54.1 +2.2**
	comp=Z,54nm,1.2s						
HARR	**Harsova**	78.60	318	⇑	iP	**P**	**15 02 52.8 +1.3**
TLB	**Topalu**	78.61	318	⇑	iP	**P**	**15 02 52.6 +1.0**
MTPU	**Mount Pierson**	78.62	51		*e*P	**P**	**15 02 54.6 +2.3**
	comp=Z,30nm,0.9s						
PFO	**Pinyon Flats O**	78.62	56		P	**P**	**15 02 53.6 +1.6**
	baz=308						
PFO	**Pinyon Flats O**	78.62	56		*e*P	**P**	**15 02 53.9 +1.9**
	comp=Z,56nm,1.4s						
PFO					LR	LR	
	comp=Z,540nm,20.0s						
PFO	**Pinyon Flats O**	78.62	56		*e*P	**P**	**15 02 53.9 +1.9**
PFO					pmax	pmax	
	comp=Z,56nm,1.4s						
PFO					MLR	MLR	
	comp=Z,540nm,20.0s						
XPFO	**Piæon Flat**	78.62	56		*e*P	**P**	**15 02 54.0 +1.9**
	comp=Z,60nm,1.4s						
STHS	**Stebnicka Huta**	78.63	325		*e*P	**P**	**15 02 53.3 +1.6**
STHS	**Stebnicka Huta**	78.63	325		*e*P	**P**	**15 02 53.3 +1.6**
STHS					pmax	pmax	
	comp=Z,34nm,0.7s						
BR131	**Keskin Array S**	78.63	312		*e*P	**P**	**15 02 52.7 +0.8**
BRTR	**Keskin Array B**	78.63	312		P	**P**	**15 02 52.8 +0.8**
	comp=Z,19nm,0.7s,baz=91,slow=4.9,SNR=89						
BRTR					PP	**PP**	**15 05 42.6 -6.9**
	comp=Z,7.5nm,1.0s,baz=62,slow=5.6,SNR=4.2						
BRTR	**Keskin Array B**	78.63	312		P	**P**	**15 02 52.8 +0.8**
BRTR					pmax	pmax	
	comp=Z,18nm,0.7s						
BRTR					pmax	pmax	
	comp=Z,8.0nm,1.0s						
GRER		78.64	319	⇑	iP	**P**	**15 02 54.6 +2.8**
Q16A	**Castle Valley**	78.68	49		*e*P	**P**	**15 02 54.6 +2.2**
	comp=Z,131nm,1.5s						
BELC	**Belle Mtn. Jos**	78.68	56		P	**P**	**15 02 53.2 +0.8**
	baz=308						
OJC	**Ojcow**	78.70	326		*e*P	**P**	**15 02 53.3 +1.3**
OJC	**Ojcow**	78.70	326		*e*P	**P**	**15 02 53.2 +1.3**
	comp=Z,139nm,0.9s						
OJC	**Ojcow**	78.70	326	⇑	*e*P	**P**	**15 02 53.3 +1.3**
UZH	**Uzhgorod**	78.70	324		*e*P	**P**	**15 02 50.5 -1.5**
UZH					*e*		15 03 00.1
UZH					*e*S	**S**	**15 12 42.3 -5.2**
UZH					MLR	MLR	
	comp=N,6µm,18.0s						
UZH					MLR	MLR	
	comp=E,5µm,18.0s						
UZH					MLR	MLR	
	comp=Z,2µm,18.0s						
KOZT	**Kozan**	78.72	309		*e*P	**P**	**15 02 53.7 +1.4**
P18A	**Preston Nutter**	78.79	48		*e*P	**P**	**15 02 55.0 +2.0**
	comp=Z,88nm,1.5s						
ARCR	**ARCALIA**	78.80	322	⇓	iP	**P**	**15 02 54.7 +2.1**
BMR	**Baia Mare**	78.81	323	⇑	iP	**P**	**15 02 53.7 +1.1**
KNB	**Kanab**	78.86	52		*e*P	**P**	**15 02 55.7 +2.3**
	comp=Z,90nm,1.3s						
KNB	**Kanab**	78.86	52		*e*P	**P**	**15 02 55.7 +2.3**
KNB					pmax	pmax	
	comp=Z,90nm,1.3s						
CRVS	**Cervenica-Dubn**	78.90	324		*e*P	**P**	**15 02 54.5 +1.4**
CRVS	**Cervenica-Dubn**	78.90	324		*e*P	**P**	**15 02 54.5 +1.4**
TRPA	**Tarpa**	78.94	323	⇑	*e*PKKPbc	**P**	**15 02 55.1 +1.8**
SRU	**San Rafael Swe**	78.95	49		*e*P	**P**	**15 02 55.4 +1.6**
	comp=Z,49nm,0.8s						
SRU	**San Rafael Swe**	78.95	49		*e*P	**P**	**15 02 55.4 +1.6**
SRU					pmax	pmax	
	comp=Z,49nm,0.8s						
PGOR	**Pogoanele**	78.95	319	⇓	*i*P	**P**	**15 02 55.6 +2.1**
K22A	**Casper**	78.97	44		P	**P**	**15 02 54.6 +0.7**
	baz=311						
K22A	**Casper**	78.97	44		*e*P	**P**	**15 02 55.2 +1.4**
AMRR	**Amara**	78.97	318	⇓	iP	**P**	**15 02 55.6 +2.0**
ULM	**Lac du Bonnet**	78.98	33		P	**P**	**15 02 53.8 +0.3**
	comp=Z,18nm,0.7s,baz=309,slow=6.5,SNR=37						
ULM	**Lac du Bonnet**	78.98	33		*e*P	**P**	**15 02 53.9 +0.3**
	comp=Z,46nm,1.1s						
ULM	**Lac du Bonnet**	78.98	33		*e*P	**P**	**15 02 53.9 +0.4**
ULM					pmax	pmax	
	comp=Z,47nm,1.1s						
MDND	**Maddock**	79.00	37		P	**P**	**15 02 54.4 +0.7**
	baz=315						
MDND	**Maddock**	79.00	37		*e*P	**P**	**15 02 55.3 +1.6**
ANTO	**Ankara**	79.04	312		*e*P	**P**	**15 02 55.4 +1.3**
	comp=Z,53nm,0.8s						
ANTO					LR	LR	
	comp=Z,614nm,19.0s						
ANTO	**Ankara**	79.04	312		P	**P**	**15 02 55.5 +1.3**
	SNR=16						
ANTO	**Ankara**	79.04	312		P	**P**	**15 02 55.5 +1.3**
	SNR=16						
ANTO	**Ankara**	79.04	312		*e*P	**P**	**15 02 55.4 +1.3**
ANTO					pmax	pmax	
	comp=Z,53nm,0.8s						
ANTO					MLR	MLR	
	comp=Z,614nm,19.0s						

OKC eS S 15 13 00.3 +2.2
OKC AMS AMS 15 41 10.0
comp=Z,2µm,17.6s
PDMCI Parker Dam,Lak 79.71 55 P P 15 02 58.9 +1.1
baz=309
KSP Ksiaz 79.75 328 eP P 15 02 59.0 +1.3
KSP LMZ LR 15 41 52.0
comp=Z,2µm,19.4s
KSP Ksiaz 79.75 328⇑ eP P 15 02 59.0 +1.3
KSP MLR MLR
comp=Z,2µm,19.4s
Y12C Blythe 79.80 55 P P 15 02 59.9 +1.6
baz=308
Y12C Blythe 79.80 55 eP P 15 03 00.2 +1.9
DRGR 79.81 322⇑ iP P 15 02 59.2 +1.0
ARR Arges 79.85 320⇑ iP P 15 03 00.3 +1.8
C31A Landman Farms, 79.92 36 P P 15 02 59.2 +0.5
baz=316
MORC Moravsky Berou 80.02 327⇑ iP P 15 03 00.6 +1.4
MORC Moravsky Berou 80.02 327 eP P 15 03 00.4 +1.2
comp=Z,328nm,0.9s
MORC Moravsky Berou 80.02 327 eP P 15 03 00.4 +1.2
MORC pmax pmax
comp=Z,327nm,0.9s
GLA Glamis 80.04 56 P P 15 03 00.7 +1.0
baz=308
GLA Glamis 80.04 56 eP P 15 03 01.9 +2.2
GLA Glamis 80.04 56 eP P 15 03 01.9 +2.2
B32A Ashes, Strandq 80.04 35 P P 15 02 59.5 +0.2
baz=317
BIGH Upper Bighouse 80.07 342 eP P 15 03 00.5 +1.2
BIGH IAmb IAmb 15 03 01.0
comp=Z,166nm,0.8s
DPC Dobruska-Polom 80.11 328⇑ iP P 15 03 01.1 +1.4
DPC epP PcP 15 03 05.4 -1.6
DPC eS S 15 13 04.8 +2.4
DPC AMS AMS 15 44 30.0
comp=Z,2µm,15.3s
DPC Dobruska-Polom 80.11 328⇑ iP P 15 03 01.1 +1.4
DPC eS S 15 13 04.8 +2.4
DPC MLR MLR
comp=Z,2µm,15.3s
MLA1 Latheron 80.11 342 eP P 15 03 00.8 +1.3
KRLC Kraliky 80.12 328⇑ iP P 15 03 01.0 +1.2
KRLC Kraliky 80.12 328⇑ iP P 15 03 01.0 +1.2
UPC Upice 80.12 328⇑ iP P 15 03 01.1 +1.4
UPC eS S 15 13 03.7 +1.2
UPC AMS AMS 15 41 50.0
comp=Z,3µm,17.3s
UPC Upice 80.12 328⇑ iP P 15 03 01.1 +1.4
UPC eS S 15 13 03.7 +1.2
UPC MLR MLR
comp=Z,3µm,17.3s
A33A Warroad 80.16 34 P P 15 03 00.3 +0.4
baz=318
PV09 Paradox Valley 80.17 49 eP P 15 03 02.3 +1.6
LOT Lotru 80.23 321⇓ iP P 15 03 01.6 +1.0
HUMR Humele 80.25 320⇑ iP P 15 03 01.1 +0.5
PV10 Paradox Valley 80.31 49 eP P 15 03 03.5 +2.2
PSZ Piszkesteto 80.33 325⇑ iP P 15 03 02.5 +1.4
PSZ Piszkesteto 80.33 325⇑ ePKKPbc P 15 03 02.4 +1.4
PSZ Piszkesteto 80.33 325 eP P 15 03 02.4 +1.4
comp=Z,95nm,0.9s
PSZ LR LR
comp=Z,1µm,20.0s
PSZ Piszkesteto 80.33 325 eP P 15 03 02.4 +1.4
PSZ pmax pmax
comp=Z,95nm,0.9s
PSZ MLR MLR
comp=Z,1µm,20.0s
RAR Rarotonga 80.33 126 LR LR 15 41 04.0
comp=Z,665nm,18.0s,baz=302,slow=38
LADK Ladik-KONYA 80.37 311 eP P 15 03 01.2 -0.3
KIZK Mersin 80.39 309 eP P 15 03 02.2 +0.8
VYHS Vyhne 80.39 325 eP P 15 03 02.7 +1.4
VYHS Vyhne 80.39 325 eP P 15 03 02.7 +1.4
VYHS pmax pmax
comp=Z,31nm,0.9s
AGMN Agassiz Nation 80.42 35 P P 15 03 01.5 +0.2
baz=317
AGMN Agassiz Nation 80.42 35 eP P 15 03 01.6 +0.2
comp=Z,49nm,1.1s
AGMN LR LR
comp=Z,803nm,19.0s
N23A Red Feather La 80.45 45 P P 15 03 03.6 +1.5
baz=312
N23A Red Feather La 80.45 45 eP P 15 03 04.2 +2.1
comp=Z,88nm,1.3s
PHWY Pilot Hill 80.46 45 eP P 15 03 01.0 -1.1
D31A Mcclaflin, Tow 80.46 37 P P 15 03 02.3 +0.7
baz=316
PV05 Paradox Valley 80.47 49 eP P 15 03 03.9 +1.8
RSC Scourie 80.50 343⇑ eP P 15 03 02.8 +1.3
B33A Robert and Kas 80.56 35 P P 15 03 02.3 +0.2
baz=318
RAYN Ar Rayn 80.61 292 eP P 15 03 03.2 +0.3
comp=Z,41nm,0.8s
RAYN LR LR
comp=Z,1µm,19.0s
HWQ Hawqa 80.65 306 eP P 15 03 03.4 +0.4
Y14A Wickenburg 80.67 54 eP P 15 03 07.6 +4.5
comp=Z,33nm,0.9s
BRG Berggiesshubel 80.69 329⇑ iP P 15 03 03.7 +0.9
comp=Z,70nm,0.9s
BRG i PP PP 15 05 51.1 -15
comp=Z,24nm,1.1s
BRG S S 15 13 05.0 -3.4
BRG SS SS 15 18 31.0 +11
comp=N,2µm,14.6s
comp=E,1µm,16.3s
comp=Z,2µm,15.5s
BRG Berggiesshubel 80.69 329⇑ iP P 15 03 03.7 +0.9
BRG S S 15 13 05.0 -3.4
BRG pmax pmax
comp=Z,70nm,0.9s
BRG pmax pmax
comp=Z,25nm,1.1s
BRG MLR MLR
comp=N,2µm,14.6s
BRG MLR MLR
comp=E,1µm,16.3s
BRG MLR MLR
comp=Z,2µm,15.5s
PVCC Panska Ves 80.70 329⇑ iP P 15 03 04.3 +1.5
PVCC epP pP 15 03 12.3 +0.8
PVCC AMS AMS 15 43 00.0
comp=Z,3µm,16.4s
PVCC Panska Ves 80.70 329⇑ iP P 15 03 04.3 +1.5
PVCC e 15 03 12.3
PVCC MLR MLR
comp=Z,3µm,16.4s
WUAZ Wupatki 80.71 52 P P 15 03 04.8 +1.4
baz=310
WUAZ Wupatki 80.71 52 eP P 15 03 05.2 +1.8
comp=Z,41nm,0.9s
WUAZ LR LR
comp=Z,541nm,20.0s
MCD Coleburn Disti 80.72 342 eP P 15 03 03.7 +0.9
CLL Collm 80.73 330⇑ iP P 15 03 03.4 +0.4
comp=Z,131nm,0.9s
CLL i pP pP 15 03 12.6 +1.0
CLL i 15 03 21.1
CLL ePP PP 15 06 04.0 -2.3
CLL eS S 15 13 06.0 -2.8
CLL eSS SS 15 18 42.0 +21
CLL eSSS SSS 15 22 06.0
CLL Collm 80.73 330 eP P 15 03 03.0 0.0
comp=Z,114nm,0.8s
CLL Collm 80.73 330⇑ iP P 15 03 03.4 +0.4
CLL eS S 15 13 06.0 -2.8
CLL pmax pmax
comp=Z,131nm,0.9s
CLL MLR MLR
comp=Z,2µm,17.5s
D32A Dogwood Acres, 80.73 36 P P 15 03 03.6 +0.5
baz=317
E31A Nome 80.74 37 P P 15 03 03.6 +0.4
baz=316
PV01 Paradox Valley 80.75 49 eP P 15 03 05.4 +1.7
VRAC Vranov 80.78 327 P P 15 03 04.5 +1.2
comp=Z,55nm,0.8s,baz=47,slow=5.0,SNR=52
VRAC PP PP 15 06 07.7 +0.8
comp=Z,14nm,0.9s,baz=42,slow=8.0,SNR=3.6
VRAC Vranov 80.78 327⇑ iP P 15 03 04.9 +1.6
B34A Aery, Baudette 80.82 34 P P 15 03 03.7 +0.1
baz=318
C33A Trail 80.85 35 P P 15 03 04.0 +0.3
baz=318
MME1 Meikle Cairn 80.89 341 eP P 15 03 03.8 +0.1
113A Mohawk Valley, 80.91 56 eP P 15 03 05.8 +1.5
comp=Z,72nm,1.6s
SMCO Snowmass 81.00 47 eP P 15 03 06.4 +1.2
comp=Z,56nm,1.3s
SMOL Smolenice 81.01 326 eP P 15 03 06.3 +1.8
SMOL Smolenice 81.01 326 eP P 15 03 06.3 +1.8
BUD Budapest 81.05 325⇑ eP P 15 03 05.7 +0.9
F31A Hecla 81.06 38 P P 15 03 05.3 +0.4
baz=316
SRE Strehaia 81.07 321⇑ iP P 15 03 06.0 +1.1
BHL Bhannes 81.07 306 eP P 15 03 05.8 +0.5
GOPC GO Pecny, Ondr 81.08 328⇑ iP P 15 03 06.1 +1.2
GOPC epP pP 15 03 14.2 +0.6
GOPC eS S 15 13 13.8 +1.2
GOPC AMS AMS 15 42 20.0
comp=Z,2µm,16.4s
GOPC GO Pecny, Ondr 81.08 328⇑ iP P 15 03 06.1 +1.2
GOPC e 15 03 14.2
GOPC eS S 15 13 13.8 +1.2
GOPC MLR MLR
comp=Z,2µm,16.4s
E32A Braaten, Kindr 81.10 37 P P 15 03 05.4 +0.4
baz=317
PRA Prague 81.11 329⇑ AMS AMS 15 43 10.0
comp=Z,3µm,15.5s
MDO Dochfour 81.12 342 eP P 15 03 06.3 +1.3
PRU Pruhonice 81.13 329⇑ iP P 15 03 06.1 +1.0
PRU epP pP 15 03 14.4 +0.6
PRU eS S 15 13 12.7 -0.3
PRU AMS AMS 15 43 10.0
comp=Z,3µm,16.6s
PRU Pruhonice 81.13 329⇑ iP P 15 03 06.1 +1.0
PRU e 15 03 14.4
PRU eS S 15 13 12.7 -0.3
PRU MLR MLR
comp=Z,3µm,16.6s
SRO Srobarova 81.13 325 eP P 15 03 07.1 +1.9
SRO Srobarova 81.13 325 eP P 15 03 07.1 +1.9
BZS Buzias 81.18 322⇑ iP P 15 03 06.2 +0.7
MODS Modra-Piesok 81.18 326 eP P 15 03 07.1 +1.6
MODS Modra-Piesok 81.18 326 eP P 15 03 07.1 +1.6
RRH Rhenigidale 81.24 344⇓ eP P 15 03 06.8 +1.3
TREC Trest 81.26 328⇑ iP P 15 03 07.1 +1.2
TREC AMS AMS 15 42 20.0
comp=Z,3µm,17.0s
TREC Trest 81.26 328⇑ iP P 15 03 07.1 +1.2
TREC MLR MLR
comp=Z,3µm,17.0s
IVI Ivigtut 81.27 5 eP P 15 03 06.6 +1.0
comp=Z,62nm,0.8s
D33A AnnSam, Waubun 81.28 36 P P 15 03 06.1 +0.1
baz=318
HERR Herculane 81.31 321⇑ iP P 15 03 06.7 +0.5
B35A Bob, Littlefor 81.33 34 P P 15 03 06.6 +0.3
baz=319
C34A RKJ Ranch, Bem 81.33 35 P P 15 03 06.7 +0.5
baz=318
ASF Jabal al Asfar 81.36 304 P P 15 03 07.8 +1.0
comp=Z,26nm,0.8s,baz=2.9,slow=3.1,SNR=38
ASF PP PP 15 06 07.2 -5.1
comp=Z,5.0nm,0.8s,baz=350,slow=10.0,SNR=3.5
ASF LR LR 15 43 05.6
comp=Z,612nm,19.6s,baz=20,slow=38
SHBL Chebaa 81.37 305 eP P 15 03 07.4 +0.5
X16A Lo Mia Camp, P 81.37 53 eP P 15 03 09.2 +2.2
comp=Z,29nm,0.9s
ISCO Idaho Springs 81.37 46 P P 15 03 08.5 +1.4
baz=312
ISCO Idaho Springs 81.37 46 eP P 15 03 08.7 +1.6
comp=Z,18nm,0.9s
ISCO LR LR
comp=Z,501nm,20.0s
ISCO Idaho Springs 81.37 46 eP P 15 03 08.7 +1.6
ISCO pmax pmax
comp=Z,18nm,0.9s
ISCO MLR MLR
comp=Z,501nm,20.0s
ZST Bratislava 81.39 326 eP P 15 03 05.8 -0.7
ZST Bratislava 81.39 326 eP P 15 03 05.8 -0.7
ZST pmax pmax
comp=Z,45nm,0.9s
MVCO Mesa Verde 81.39 49 P P 15 03 08.3 +1.1
baz=311
MVCO Mesa Verde 81.39 49 eP P 15 03 08.9 +1.8
comp=Z,33nm,0.9s
MVCO LR LR
comp=Z,551nm,20.0s
CSKK Cs˙ˇtkako 81.49 325⇑ eP P 15 03 08.2 +1.1
G31A Conde 81.54 38 P P 15 03 08.1 +0.7
baz=316
D34A Park Rapids 81.62 35 P P 15 03 08.1 +0.2
baz=318
SUTC Suttuce-Ispart 81.66 311 eP P 15 03 08.9 +0.5
E33A Westby DABS, E 81.67 36 P P 15 03 08.7 +0.7
baz=317
C35A Jirik Farms, M 81.71 34 P P 15 03 08.4 +0.1
baz=319
ISP Isparta 81.72 312 PFAKE 15 03 20.0 +11
ISP LR LR
comp=Z,956nm,19.0s
SUSD Miller 81.73 39 P P 15 03 08.7 +0.2
baz=316
NKC Novy Kostel 81.79 330⇑ iP P 15 03 09.6 +0.9
NKC epP pP 15 03 17.6 +0.3
NKC eS S 15 13 21.7 +1.8
NKC AMS AMS 15 43 00.0
comp=Z,3µm,16.1s
NKC Novy Kostel 81.79 330⇑ iP P 15 03 09.6 +0.9
NKC e 15 03 17.6
NKC eS S 15 13 21.7 +1.8
NKC MLR MLR
comp=Z,3µm,16.1s
MMAI Mount Meron Ar 81.80 305 P P 15 03 10.3 +1.2
comp=Z,65nm,0.7s,baz=46,slow=7.1,SNR=111
MMAI LR LR 15 43 00.6
comp=Z,794nm,19.0s,baz=35,slow=38
G32A Webster 81.87 38 P P 15 03 09.5 +0.3
baz=317
CSS Mathiatis 81.87 308 eP P 15 03 09.8 +0.4
comp=Z,14nm,0.6s
CSS LR LR
comp=Z,202nm,20.0s
CSS Mathiatis 81.87 308 P P 15 03 09.8 +0.4
H31A Wolsey 81.94 39 P P 15 03 09.7 +0.1
baz=316
W18A Petrified Fore 82.00 52 P P 15 03 11.5 +1.2
baz=311
SOP Sopron 82.02 326⇑ eP P 15 03 11.6 +1.7
F33A 5 Mile Ranch, 82.02 37 P P 15 03 10.5 +0.6
baz=317
S22A 4UR Ranch, Cre 82.04 48 P P 15 03 12.1 +1.5
baz=312
S22A 4UR Ranch, Cre 82.04 48 eP P 15 03 12.5 +1.9
comp=Z,40nm,1.1s
E34A Wadena 82.05 36 P P 15 03 10.4 +0.3
baz=318
CONA Conrad Observa 82.14 327 i P P 15 03 12.1 +1.5
comp=Z,42nm,0.8s,SNR=32
D35A Remer 82.14 35 P P 15 03 10.4 -0.2
baz=319
MORH M˙ţr˙igy, Hung 82.16 324⇑ eP P 15 03 11.1 +0.5
C36A Pine Crest Far 82.17 34 P P 15 03 11.1 +0.4
baz=319
KHC Kasperske Hory 82.19 329⇑ iP P 15 03 11.8 +1.0
KHC epP pP 15 03 19.6 +0.1
KHC ex x 15 03 29.0
KHC eS S 15 13 22.9 -1.2
KHC AMS AMS 15 43 40.0
comp=Z,2µm,15.3s
KHC Kasperske Hory 82.19 329 eP P 15 03 11.6 +0.7
comp=Z,34nm,0.8s
KHC Kasperske Hory 82.19 329⇑ iP P 15 03 11.8 +1.0
KHC e 15 03 19.6
KHC e 15 03 29.0
KHC eS S 15 13 22.9 -1.2
KHC MLR MLR
comp=Z,2µm,15.3s
Q24A Divide 82.20 46 P P 15 03 12.4 +0.9
baz=313
Q24A Divide 82.20 46 eP P 15 03 13.1 +1.6
URZ Urewera 82.23 153 P P 15 03 09.6 -1.2
comp=Z,8.1nm,0.8s,baz=308,slow=12,SNR=3.1
URZ LR LR 15 35 23.4
comp=Z,746nm,21.4s,baz=360,slow=33
EAB Aberfoyle 82.24 342⇑ eP P 15 03 11.9 +1.0
X18A Snowflake 82.24 52 eP P 15 03 13.6 +2.0
comp=Z,90nm,1.8s
RDO Rodhopi 82.30 317 eP P 15 03 12.2 +0.7
RDO Rodhopi 82.30 317 P P 15 03 12.2 +0.7
GEC2 GERESS Array S 82.36 328 eP P 15 03 12.4 +0.6
comp=Z,42nm,0.9s
GEC2 pmax pmax
comp=Z,42nm,0.9s
GERES GERESS Array B 82.36 328 P P 15 03 12.4 +0.6
comp=Z,34nm,0.8s,baz=36,slow=5.3,SNR=136
GERES PP PP 15 05 52.8 -27
comp=Z,4.4nm,0.8s,baz=48,slow=9.3,SNR=4.9
GERES LR LR 15 43 43.5
comp=Z,2µm,18.1s,baz=16,slow=38
GEA0 GERESS Array S 82.36 328 eP P 15 03 12.3 +0.5
E35A Pequot Lakes 82.37 35 P P 15 03 11.9 +0.1
baz=318
MANT Manisa 82.42 313 eP P 15 03 13.4 +1.0
comp=Z,179nm,1.0s
G33A Ortonville 82.42 37 P P 15 03 12.8 +0.7
baz=317
H32A Carlson Farm, 82.44 38 P P 15 03 12.4 +0.2
baz=317
D36A Goodland 82.47 34 P P 15 03 12.2 -0.1
baz=319
C37A Embarrass 82.48 33 P P 15 03 12.4 +0.1
baz=320
WTSB Winterswijk 82.52 334 eP P 15 03 12.8 +0.4
comp=Z,86nm,0.8s
VTS Vitosha 82.53 319⇑ iP P 15 03 14.4 +1.5
VTS Vitosha 82.53 319 eP P 15 03 13.6 +0.8
comp=Z,65nm,0.7s
VTS Vitosha 82.53 319 P P 15 03 13.9 +1.0
VTS Vitosha 82.53 319 eP P 15 03 13.6 +0.8
VTS pmax pmax
comp=Z,65nm,0.7s
F34A Alexandria 82.54 36 P P 15 03 13.1 +0.4
baz=318
OGNE Ogallala 82.59 43 P P 15 03 13.7 +0.5
baz=314
OGNE Ogallala 82.59 43 eP P 15 03 14.9 +1.8
comp=Z,72nm,1.0s
OGNE LR LR
comp=Z,663nm,19.0s
EYMN Ely 82.61 33 P P 15 03 13.5 +0.5
baz=320
EYMN Ely 82.61 33 eP P 15 03 13.5 +0.5
comp=Z,61nm,1.0s
EYMN LR LR
comp=Z,551nm,20.0s
PGBU Glenifferbraes 82.61 341 eP P 15 03 14.0 +1.2
PGBU IAmb IAmb 15 03 15.8
comp=Z,135nm,1.1s
H33A Prehn Over Nor 82.65 38 P P 15 03 13.9 +0.6
baz=317
J31A Geddes 82.67 40 P P 15 03 13.7 +0.4
baz=316
EKA Eskdalemuir Ar 82.70 341 P P 15 03 14.1 +0.8
comp=Z,13nm,0.5s,baz=28,slow=4.9,SNR=48
EKA PP PP 15 06 06.9 -15
comp=Z,5.7nm,0.7s,baz=31,slow=7.0,SNR=4.3
GRFO Grafenberg 82.70 330 eP P 15 03 14.8 +1.4
comp=Z,109nm,0.9s
GRFO Grafenberg 82.70 330 eP P 15 03 14.8 +1.4
GRFO pmax pmax
comp=Z,109nm,0.9s
ESK Eskdalemuir 82.73 341 eP P 15 03 13.5 +0.1
ESK LR LR
comp=Z,2µm,20.0s
ESK Eskdalemuir 82.73 341⇑ eP P 15 03 13.2 -0.2
ESK Eskdalemuir 82.73 341 eP P 15 03 13.5 +0.1
ESK MLR MLR
comp=Z,2µm,20.0s
G34A Benson 82.77 37 P P 15 03 14.4 +0.5
baz=318
I32A Karley and Nic 82.78 39 P P 15 03 14.1 +0.2
baz=317
ARSA Arzberg 82.80 326 i P P 15 03 15.2 +1.1
comp=Z,19nm,0.7s,SNR=20
D37A Cotton 82.81 34 P P 15 03 13.9 -0.2
baz=320
F35A Swanville 82.82 36 P P 15 03 14.3 +0.2
baz=318
SDCO Great Sand Dun 82.82 47 P P 15 03 15.7 +1.0
baz=313
SDCO Great Sand Dun 82.82 47 eP P 15 03 16.1 +1.5
comp=Z,26nm,1.1s
SDCO LR LR
comp=Z,540nm,22.0s
EDMD Edmundbyers 82.82 340 eP P 15 03 14.5 +0.5
EDMD IAmb IAmb 15 03 15.5
comp=Z,33nm,0.8s
ECK Cauldkaine Hil 82.83 341⇑ eP P 15 03 14.9 +0.9
BEHE Becsehely 82.83 325⇑ eP P 15 03 15.0 +0.8
C38A Sawbill Land. 82.89 33 P P 15 03 14.5 0.0
baz=320
MOA Molln 82.89 327 i P P 15 03 15.6 +1.1
comp=Z,20nm,0.9s,SNR=16
E36A McGregor 82.92 35 P P 15 03 15.0 +0.4
baz=319
KAVA Kavala 82.96 317 eP P 15 03 15.7 +0.8
KAVA Kavala 82.96 317 P P 15 03 15.7 +0.8
J32A Parkston 83.06 39 P P 15 03 15.5 0.0
baz=317
NVR Nevrokopi 83.06 318 P P 15 03 16.0 +0.5
NVR Nevrokopi 83.06 318 P P 15 03 16.0 +0.5
DIVS Divibare 83.07 322 eP P 15 03 15.5 -0.1
comp=Z,47nm,0.9s
H34A Spellman Lake, 83.13 37 P P 15 03 16.5 +0.7
baz=318
K31A O'Neill 83.14 40 P P 15 03 16.4 +0.5
baz=316
TUC Tucson 83.14 54 P P 15 03 17.2 +1.1
baz=310
TUC Tucson 83.14 54 eP P 15 03 17.8 +1.7
TUC LR LR
comp=Z,719nm,19.0s
TUC Tucson 83.14 54 eP P 15 03 17.8 +1.7
TUC MLR MLR
comp=Z,719nm,19.0s
BBO1 Bothel 83.25 340⇑ eP P 15 03 17.4 +1.3
C39A Grand Marais 83.30 32 P P 15 03 16.6 +0.1
baz=321
G35A Watkins 83.33 36 P P 15 03 17.5 +0.7
baz=319
KESW Keswick, Cumbr 83.35 340 eP P 15 03 17.5 +0.9
KESW IAmb IAmb 15 03 18.3
comp=Z,62nm,0.8s
FETY Fethiye 83.36 312 eP P 15 03 15.8 -1.3
FETY Fethiye 83.36 312 P P 15 03 15.8 -1.3
SRS Serrai 83.37 318 eP P 15 03 17.4 +0.3
SRS Serrai 83.37 318 P P 15 03 17.4 +0.3
SRS Serrai 83.37 318 eP P 15 03 17.4 +0.3
ECSD EROS Data Cent 83.41 38 P P 15 03 17.5 +0.2
baz=317
ECSD EROS Data Cent 83.41 38 eP P 15 03 17.8 +0.5
comp=Z,34nm,0.9s
ECSD LR LR
comp=Z,686nm,19.0s
PERS Pernice 83.45 326 i P P 15 03 18.1 +0.6
SOKA Soboth 83.46 326 i P P 15 03 18.4 +0.9
comp=Z,57nm,0.7s,SNR=44
HPK Haverah Park 83.50 339⇑ eP P 15 03 18.6 +1.2
HPK IAmb IAmb 15 03 19.3
comp=Z,110nm,0.7s
YER Yerkesik 83.50 312 eP P 15 03 19.0 +1.1
YER Yerkesik 83.50 312 P P 15 03 19.0 +1.1
YER Yerkesik 83.50 312 eP P 15 03 19.0 +1.1
K32A Verdigre 83.51 40 P P 15 03 17.9 +0.1
baz=317
GAL1 Galloway 83.52 341⇑ eP P 15 03 18.3 +0.8
GAL1 IAmb IAmb 15 03 20.7
comp=Z,28nm,0.7s
J33A Davis 83.54 39 P P 15 03 18.2 +0.3
baz=317
I34A Hadley 83.55 38 P P 15 03 18.3 +0.3
baz=318
LMK Market Rasen 83.56 338⇑ eP P 15 03 14.9 -2.9
H35A Sunnyside Ranc 83.56 37 P P 15 03 19.1 +1.1
baz=318
E38A The Farm, Brul 83.62 34 P P 15 03 18.4 +0.1

baz=320
C40A Isle Royale Na 83.63 32 P P 15 03 18.5 +0.2
baz=322
G36A St. Michael 83.67 36 P P 15 03 18.8 +0.3
baz=319
CLGH Cloghs, Cushen 83.68 342 eP P 15 03 19.2 +0.9
KNT Kendrikon 83.71 318 P P 15 03 19.2 +0.4
KNT Kendrikon 83.71 318 P P 15 03 19.2 +0.4
KNT Kendrikon 83.71 318 P P 15 03 19.2 +0.4
MHTCO State Highway 83.71 47 eP P 15 03 21.4 +2.3
VAY Valandovo 83.77 319 eP P 15 03 19.9 +0.8
VAY Valandovo 83.77 319 P P 15 03 19.9 +0.8
VAY Valandovo 83.77 319⇑ iP P 15 03 20.0 +0.8
VAY Valandovo 83.77 319 eP P 15 03 19.9 +0.8
OBKA Obir 83.80 326 i P P 15 03 19.6 +0.3
comp=Z,26nm,0.7s,SNR=16
F37A Hinrichs Farm, 83.81 35 P P 15 03 19.5 +0.3
baz=320
HGN Heimansgroeve 83.82 333 eP P 15 03 19.6 +0.5
comp=Z,76nm,0.9s
T25A Trinidad 83.87 47 P P 15 03 21.2 +1.2
baz=313
T25A Trinidad 83.87 47 eP P 15 03 21.3 +1.4
comp=Z,30nm,0.9s
KBA Koelnbreinsper 83.88 327 i P P 15 03 20.3 +0.5
comp=Z,62nm,0.8s,SNR=38
BEBN Eben Emael 83.88 334 ⇑P P 15 03 19.9 +0.5
SKO Skopje 83.89 320⇑ iP P 15 03 21.1 +1.4
WACR West Acre 83.91 337⇑ eP P 15 03 20.1 +0.6
WACR IAmb IAmb 15 03 22.4
comp=Z,146nm,0.8s
MEM Membach 83.92 333 ⇑P P 15 03 19.9 +0.3
comp=Z,51nm,1.0s
PLE Pljevlja 83.93 322⇑ iP P 15 03 21.4 +1.4
BLY Banja Luka 83.94 324⇑ iP P 15 03 20.8 +0.9
BLY Banja Luka 83.94 324 eP P 15 03 20.6 +0.7
comp=Z,179nm,1.8s
L32A Elgin 83.97 40 P P 15 03 20.6 +0.5
baz=317
F38A Pierce - Schro 83.97 34 P P 15 03 20.7 +0.7
baz=320
PLG Polygyros 83.98 317 P P 15 03 20.6 +0.4
PLG Polygyros 83.98 317 P P 15 03 20.6 +0.4
PLG Polygyros 83.98 317 P P 15 03 20.6 +0.4
LBWR Ladybower, Pea 84.01 339⇑ eP P 15 03 21.1 +1.0
LBWR IAmb IAmb 15 03 23.4
comp=Z,260nm,0.8s
IVA Berane 84.02 321⇑ iP P 15 03 21.5 +1.0
IOMK Kirk Michael 84.03 341 eP P 15 03 21.0 +0.9
J34A George 84.06 38 P P 15 03 21.0 +0.4
baz=318
LAZ Ladron 84.08 51 eP P 15 03 22.5 +1.5
OZLJ Ozalj 84.08 325 P P 15 03 20.1 -0.5
H36A Jessenland, He 84.08 36 P P 15 03 21.6 +1.0
baz=319
MYKA Terra Mystica 84.10 327 i P P 15 03 20.8 +0.1
comp=Z,30nm,0.8s,SNR=18
SPMN Marine on St. 84.11 35 P P 15 03 21.2 +0.4
baz=320
SPMN Marine on St. 84.11 35 eP P 15 03 21.3 +0.5
comp=Z,40nm,1.1s
I35A Creekview Farm 84.11 37 P P 15 03 21.2 +0.4
baz=318
SNZO South Karori 84.11 156 PFAKE 15 03 30.0 +10
SNZO LR LR
comp=Z,1μm,20.0s
GRG Griva 84.12 318 eP P 15 03 21.2 +0.3
GRG Griva 84.12 318 P P 15 03 21.2 +0.3
GRG Griva 84.12 318 eP P 15 03 21.2 +0.3
ANMO Albuquerque 84.13 50 LR LR 15 36 59.1
comp=Z,240nm,20.5s,baz=202,slow=33
ANMO Albuquerque 84.13 50 P P 15 03 22.6 +1.3
baz=312
ANMO Albuquerque 84.13 50 eP P 15 03 23.2 +1.9
ANMO Albuquerque 84.13 50 d iP P 15 03 23.2 +1.9
ANMO pmax pmax
comp=Z,29nm,1.2s
PAIG Paliouri 84.17 317 eP P 15 03 21.2 +0.1
PAIG Paliouri 84.17 317 P P 15 03 21.2 +0.1
PAIG Paliouri 84.17 317 eP P 15 03 21.2 +0.1
PVY Plav 84.19 321⇑ iP P 15 03 21.7 +0.3
VISS Visnje 84.21 326 i P P 15 03 21.4 +0.1
ARG Arkhangelos 84.22 312 P P 15 03 21.9 +0.5
ARG Arkhangelos 84.22 312 P P 15 03 21.9 +0.5
ARG Arkhangelos 84.22 312 P P 15 03 21.9 +0.5
KOME Kolasin 84.22 321⇑ iP P 15 03 22.1 +0.6
L33A Hoskins 84.23 40 P P 15 03 21.6 +0.2
baz=317
EIL Elat 84.23 303 P P 15 03 29.2 +7.5
comp=Z,80nm,0.8s,baz=35,slow=3.8,SNR=65
EIL PP PP 15 06 40.2 +4.3
comp=Z,8.9nm,1.1s,baz=17,slow=2.9,SNR=2.2
E39A Mellen 84.23 33 P P 15 03 21.6 +0.3
baz=321
PMOR Pomariorio Ree 84.24 114 eT T 16 35 38.3
comp=Z,57nm,0.2s
STU Stuttgart 84.24 331 eP P 15 03 21.8 +0.5
comp=Z,120nm,1.0s
STU Stuttgart 84.24 331 eP P 15 03 21.8 +0.5
STU pmax pmax
comp=Z,120nm,1.0s
BOJS Bojanci 84.26 325 eP P 15 03 21.8 +0.3
BGNE Belgrade 84.33 41 P P 15 03 22.2 +0.2
baz=316
BGNE Belgrade 84.33 41 eP P 15 03 22.8 +0.8
comp=Z,67nm,0.8s
BCLA Clavier 84.33 334 ⇑P P 15 03 22.1 +0.4
comp=Z,46nm,1.1s
UCC Uccle 84.34 334 eP P 15 03 23.1 +1.3
UCC Uccle 84.34 334 eP P 15 03 23.1 +1.3
J35A Milford 84.37 38 P P 15 03 22.5 +0.3
baz=318
KRUS Krusevo 84.42 319 i P P 15 03 23.1 +0.6
WATA Walderalm 84.43 328 i PcP P 15 03 23.5 +1.0
comp=Z,17nm,0.7s,SNR=9.4
Y22D IRIS PASSCAL I 84.43 51 P P 15 03 23.2 +0.4
baz=312
F39A Loretta 84.43 34 P P 15 03 22.8 +0.4
baz=321
K34A Le Mars 84.44 39 P P 15 03 22.8 +0.3
baz=318
LPM Los Pinos Moun 84.45 51 eP P 15 03 24.6 +1.7
I36A Fitzsimmons Fa 84.46 37 P P 15 03 22.9 +0.4
baz=319
WTTA Wattenberg 84.46 328 i PcP P 15 03 23.4 +0.7
comp=Z,10nm,0.6s,SNR=6.2
E40A Wakefield 84.47 33 P P 15 03 23.6 +1.0
baz=322
JAVS Javornik 84.49 326 i P P 15 03 22.4 -0.4
ABTA Abtaltersbach 84.50 328 i P P 15 03 22.2 -0.6
comp=Z,22nm,0.9s,SNR=15
NKY Niksic 84.51 321⇑ iP P 15 03 23.7 +0.7
H37A Dierke Farm, C 84.55 36 P P 15 03 23.7 +0.7
baz=320
D41A Chassel 84.55 32 P P 15 03 23.6 +0.7
baz=322
BNM Barren Site 84.56 51 eP P 15 03 25.1 +1.5
NKME Niksic 84.56 321⇑ iP P 15 03 23.8 +0.6
G38A Ridgeland 84.59 35 P P 15 03 23.3 +0.1
baz=320
SNF Seneffe 84.61 334 ⇑P P 15 03 23.6 +0.4
comp=Z,88nm,1.1s
PHP Peshkopia 84.61 320 eP P 15 03 23.8 +0.4
PHP Peshkopia 84.61 320 P P 15 03 23.8 +0.4
PHP Peshkopia 84.61 320 eP P 15 03 23.8 +0.4
MOTA Moosalm 84.61 329 i PcP P 15 03 24.2 +0.7
SNR=25
RETA Reutte 84.64 329 i PcP P 15 03 24.4 +0.9
comp=Z,66nm,0.9s,SNR=52
WLF Walferdange 84.65 333 ⇓P P 15 03 24.4 +1.0
WLF Walferdange 84.65 333 eP P 15 03 24.4 +1.0
comp=Z,240nm,2.0s
WLF LR LR
comp=Z,2μm,20.0s
WLF Walferdange 84.65 333 eP P 15 03 24.4 +1.0
WLF pmax pmax
comp=Z,240nm,2.0s
WLF MLR MLR
comp=Z,2μm,20.0s
PDG Podgorica 84.66 321⇓ iP P 15 03 24.6 +1.0
TTG Podgorica 84.66 321⇑ iP P 15 03 24.3 +0.7
TTG Podgorica 84.66 321 eP P 15 03 24.1 +0.5
comp=Z,136nm,0.8s
TTG Podgorica 84.66 321 eP P 15 03 24.1 +0.5
TTG pmax pmax
comp=Z,136nm,0.8s
BRY Bratogost 84.67 322⇑ iP P 15 03 24.2 +0.4
LIT Litokhoron 84.69 318 eP P 15 03 23.7 -0.1
LIT Litokhoron 84.69 318 P P 15 03 23.7 -0.1
LIT Litokhoron 84.69 318 eP P 15 03 23.7 -0.1
M33A Taylor Creek F 84.70 40 P P 15 03 24.1 +0.2
baz=317
PPT Papeete 84.72 117 LR LR 15 38 57.8
comp=Z,525nm,19.3s,baz=336,slow=34
319A Douglas 84.72 54 eP P 15 03 26.0 +1.8
PPT2 Papeete2 84.73 117 eLR LR 15 29 29.5
comp=Z,1μm,25.5s,baz=310
PPT2 Papeete2 84.73 117 eT T 16 36 16.0
comp=Z,8.2nm,0.3s
CEME Cevo 84.75 321⇑ iP P 15 03 24.3 +0.2
I37A Lemond, Waseca 84.75 36 P P 15 03 24.8 +0.8
baz=319
TRI Trieste 84.77 326 eP P 15 03 23.9 -0.1
TRI Trieste 84.77 326 eP P 15 03 23.9 -0.1
UDBI Udbina 84.77 324 P P 15 03 24.2 0.0
H38A Maiden Rock 84.77 35 P P 15 03 24.5 +0.4
baz=320
F40A Park Falls 84.78 33 P P 15 03 24.3 +0.2
baz=321
FNA Florina 84.78 319 P P 15 03 24.1 -0.2
FNA Florina 84.78 319 P P 15 03 24.1 -0.2
FNA Florina 84.78 319 P P 15 03 24.1 -0.2
SCHQ Schefferville 84.80 16 P P 15 03 24.9 +0.9
comp=Z,38nm,0.7s,baz=357,slow=5.5,SNR=17
SCHQ LR LR 15 43 40.5
comp=Z,754nm,19.8s,baz=346,slow=37
G39A Holcombe 84.81 34 P P 15 03 24.3 0.0
baz=321
J36A Seneca 1, Swea 84.82 37 P P 15 03 24.7 +0.3
baz=319
L34A Svendsen Farm, 84.83 39 P P 15 03 24.8 +0.3
baz=318
XOR Xorichti 84.83 317 P P 15 03 24.1 -0.5
XOR Xorichti 84.83 317 P P 15 03 24.1 -0.5
K35A Storm Lake 84.84 38 P P 15 03 24.9 +0.4
baz=318
OHR Ohrid 84.84 319⇑ iP P 15 03 24.8 +0.1
DOU Dourbes 84.85 334 ⇑P P 15 03 24.7 +0.3
comp=Z,25nm,1.1s
E41A Kenton 84.85 32 P P 15 03 25.0 +0.5
baz=322
WLF1 Llynfaes 84.85 340 eP P 15 03 25.1 +0.8
WLF1 IAmb IAmb 15 03 26.1
comp=Z,168nm,1.2s
TIAR Tiarei 84.88 117 eT T 16 36 25.4
comp=Z,8.1nm,0.3s
DRME Dracevica, Mon 84.88 321⇑ iP P 15 03 25.4 +0.7
FOEL Foel Wylfa 84.88 339⇑ eP P 15 03 24.6 +0.1
FOEL IAmb IAmb 15 03 26.6
comp=Z,104nm,0.9s
121A Cookes Peak, D 84.91 53 P P 15 03 26.6 +1.3
baz=312
BFO Black Forest 84.93 331 eP P 15 03 25.6 +0.7
comp=Z,120nm,0.9s
BFO LR LR
comp=Z,987nm,19.0s
BFO Black Forest 84.93 331 eP P 15 03 25.6 +0.7
BFO pmax pmax
comp=Z,120nm,0.9s
BFO MLR MLR
comp=Z,987nm,19.0s
FYTO Fytoko, Volos 84.94 317 eP P 15 03 24.9 -0.1
FYTO Fytoko, Volos 84.94 317 P P 15 03 24.9 -0.1
BUM Brajici-Budva 84.94 321⇑ iP P 15 03 25.3 +0.2
ULC Ulcinj 85.01 321⇑ iP P 15 03 26.1 +0.7
FETA Feichten 85.03 329 i P P 15 03 26.1 +0.5
comp=Z,50nm,0.9s,SNR=25
HCY Herceg Novi 85.03 322⇑ iP P 15 03 26.7 +1.2
LLW Llanuwchllyn 85.05 340⇑ eP P 15 03 26.1 +0.8
M34A Aspy Farms, Fr 85.06 40 P P 15 03 25.9 +0.3
baz=318
COWI Conover 85.06 33 eP P 15 03 25.9 +0.3
comp=Z,34nm,0.9s
COWI LR LR
comp=Z,899nm,19.0s
STON Ston 85.10 322 P P 15 03 24.3 -1.5
ELSH Elham, Standar 85.11 336⇑ eP P 15 03 26.0 +0.3
ELSH IAmb IAmb 15 03 28.0
comp=Z,227nm,0.9s
HLM1 Long Mynd 85.12 339 eP P 15 03 26.2 +0.5
HLM1 IAmb IAmb 15 03 26.9
comp=Z,41nm,1.3s
L35A Bielow Farm, R 85.14 39 P P 15 03 26.0 0.0
baz=318
APE Apeiranthos 85.14 314⇓ iP P 15 03 26.0 -0.2
NVLJ Novalja 85.15 325 P P 15 03 24.6 -1.4
TIR Tirane 85.15 320⇑ iP P 15 03 27.1 +1.0
TIR Tirane 85.15 320 eP P 15 03 27.2 +1.1
TIR LR LR
comp=Z,3μm,20.0s
TIR Tirane 85.15 320 eP P 15 03 27.2 +1.1
TIR MLR MLR
comp=Z,3μm,20.0s
DAVA Damuels 85.16 329 i PcP P 15 03 27.0 +0.8
comp=Z,84nm,0.8s,SNR=40
N33A J Bar K, Exete 85.17 41 P P 15 03 25.9 -0.3
baz=317
RPZ Rata Peaks 85.18 159 LR LR 15 33 13.3
comp=Z,522nm,21.9s,baz=344,slow=30
KBN Korca 85.21 319 eP P 15 03 26.8 +0.3
KBN Korca 85.21 319 P P 15 03 26.8 +0.3
KBN Korca 85.21 319 eP P 15 03 26.8 +0.3
J37A Redenius Farm, 85.21 37 P P 15 03 26.7 +0.4
baz=319
H39A Augusta 85.22 35 P P 15 03 26.8 +0.4
baz=321
I38A Scanlan Farm, 85.23 36 P P 15 03 26.9 +0.4
baz=320
KARP Karpathos 85.24 312 P P 15 03 26.9 +0.2
KARP Karpathos 85.24 312 P P 15 03 26.9 +0.2
G40A Rib Lake 85.25 34 P P 15 03 27.0 +0.5
baz=321
K36A Gilmore City 85.28 38 P P 15 03 27.3 +0.6
baz=319
E42A Champion 85.32 32 P P 15 03 27.3 +0.5
baz=323
THL Klokotos Trika 85.32 318 P P 15 03 25.8 -1.2
CBKS Cedar Bluff 85.34 43 P P 15 03 27.1 -0.1
baz=316
CBKS Cedar Bluff 85.34 43 eP P 15 03 28.1 +0.9
CBKS LR LR
comp=Z,546nm,20.0s
CBKS Cedar Bluff 85.34 43 eP P 15 03 28.1 +0.9
CBKS MLR MLR
comp=Z,546nm,20.0s
F41A Three Lakes 85.36 33 P P 15 03 27.8 +0.7
baz=322
DSB Dublin 85.41 341 eP P 15 03 28.2 +1.1
comp=Z,50nm,0.8s
LKR Lokris 85.44 316 P P 15 03 26.5 -1.1
LKR Lokris 85.44 316 P P 15 03 26.5 -1.1
ECH Echery 85.48 331 eP P 15 03 27.6 0.0
comp=Z,84nm,0.9s
ECH LR LR
comp=Z,1μm,19.0s
ECH Echery 85.48 331 eP P 15 03 27.6 0.0
ECH pmax pmax
comp=Z,84nm,0.9s
ECH MLR MLR
comp=Z,1μm,19.0s
M35A Neola 85.54 39 P P 15 03 28.4 +0.3
baz=318
AGG Agios Georgios 85.54 317 eP P 15 03 27.1 -1.0
AGG Agios Georgios 85.54 317 P P 15 03 27.1 -1.0
AGG Agios Georgios 85.54 317 eP P 15 03 27.1 -1.0
AXAR Agios Charalam 85.55 317 eP P 15 03 28.6 +0.5
AXAR Agios Charalam 85.55 317 P P 15 03 28.6 +0.5
LBZ Lake Benmore 85.56 160 eP P 15 03 28.6 +0.9
comp=Z,48nm,1.0s
STRD Stroud 85.57 338⇑ eP P 15 03 28.8 +0.8
L36A Harm Buss Farm 85.58 38 P P 15 03 28.5 +0.3
baz=319
K37A Belmond 85.58 37 P P 15 03 28.7 +0.5
baz=319
O33A Hebron 85.59 41 P P 15 03 28.0 -0.3
baz=317
N34A Lincoln 85.59 40 P P 15 03 28.2 -0.1
baz=318
MCH1 Michaelchurch 85.62 339⇑ eP P 15 03 28.9 +0.7
MCH1 IAmb IAmb 15 03 30.0
comp=Z,62nm,0.7s
SANT Santorini 85.67 313 PFAKE 15 03 40.0 +11
SANT LR LR
comp=Z,597nm,20.0s
H40A Chili 85.67 34 P P 15 03 29.1 +0.5
baz=321
WOL Wolverton 85.70 338⇑ eP P 15 03 29.3 +0.7
WOL IAmb IAmb 15 03 30.1
comp=Z,113nm,0.9s
MONM Monmouth 85.70 339⇑ eP P 15 03 29.2 +0.6
MONM IAmb IAmb 15 03 30.4
comp=Z,95nm,0.8s
THR6 Thira Island, 85.71 313 eP P 15 03 28.4 -0.6
THR6 Thira Island, 85.71 313 P P 15 03 28.4 -0.6
J38A Wedel Dairy, R 85.72 36 P P 15 03 28.9 +0.1
baz=320
G41A Antigo 85.74 33 P P 15 03 29.2 +0.2
baz=322
E43A Lone Tree Farm 85.75 31 P P 15 03 29.5 +0.5
baz=323
I39A Houston 85.75 35 P P 15 03 29.3 +0.3
baz=321
LPW Lampeter 85.82 340⇑ eP P 15 03 30.1 +0.9
LPW IAmb IAmb 15 03 31.0
comp=Z,122nm,1.1s
O34A Beatrice 85.97 41 P P 15 03 30.2 -0.1
baz=318
E44A Grand Marais A 85.99 31 P P 15 03 30.8 +0.6
baz=324
M36A Felix, Anita 86.00 39 P P 15 03 30.7 +0.4
baz=319
H41A Junction City 86.00 34 P P 15 03 30.8 +0.6
baz=322
H41A Junction City 86.00 34 eP P 15 03 30.9 +0.6
comp=Z,59nm,1.0s
L37A Phoenix Point, 86.01 38 P P 15 03 30.7 +0.4
baz=319
N35A Tabor 86.01 40 P P 15 03 31.0 +0.6
baz=318
TUE Stuetta 86.03 329 eP P 15 03 31.1 +0.4
comp=Z,48nm,1.0s
TUE LR LR
comp=Z,2μm,21.0s
G42A Mountain 86.05 33 P P 15 03 31.1 +0.7
baz=322
G42A Mountain 86.05 33 eP P 15 03 31.3 +0.9
comp=Z,54nm,0.9s
J39A Decorah 86.06 36 P P 15 03 30.6 +0.1
baz=320
ANX Ano Chora 86.07 317 P P 15 03 30.3 -0.6
K38A Parkersburg 86.09 37 P P 15 03 31.2 +0.5
baz=320
ZKR Zakros 86.10 312 eP P 15 03 30.3 -0.6
ZKR Zakros 86.10 312 P P 15 03 30.3 -0.6
F43A Flat Rock, Esc 86.11 32 P P 15 03 31.3 +0.6
baz=323
DSL Palaion Diasel 86.13 318 eP P 15 03 30.8 -0.2
DSL Palaion Diasel 86.13 318 P P 15 03 30.8 -0.2
SERG Sergoula 86.13 317 P P 15 03 29.5 -1.5
SRN Sarande 86.16 319 eP P 15 03 31.0 -0.1
SRN Sarande 86.16 319 P P 15 03 31.0 -0.1
EFP Efpalio 86.20 317 P P 15 03 31.2 -0.1
LAKA Lakka 86.30 317 eP P 15 03 31.4 -0.5
LAKA Lakka 86.30 317 P P 15 03 31.4 -0.5
F44A Big Bay de Noc 86.31 31 P P 15 03 32.4 +0.7
baz=324
GUR Goura 86.32 316 eP P 15 03 30.9 -1.2
GUR Goura 86.32 316 P P 15 03 30.9 -1.2
O35A Humboldt 86.32 40 P P 15 03 32.1 +0.2
baz=318
I41A Arkdale 86.34 34 P P 15 03 32.5 +0.6
baz=322
KLV Kalavryta, Ach 86.34 316 eP P 15 03 30.5 -1.7
KLV Kalavryta, Ach 86.34 316 P P 15 03 30.5 -1.7
NPS Neapolis 86.35 313 P P 15 03 31.2 -1.0
NPS Neapolis 86.35 313 P P 15 03 31.2 -1.0
NPS Neapolis 86.35 313 P P 15 03 31.2 -1.0
G43A Wallace 86.35 32 P P 15 03 32.9 +0.9
baz=323
G43A Wallace 86.35 32 eP P 15 03 32.8 +0.8
comp=Z,64nm,0.9s
WI04 River Road, Cl 86.37 33 eP P 15 03 33.1 +1.1
L38A Oak Wood Farm, 86.38 37 P P 15 03 32.6 +0.5
baz=320
N36A Muff Farm, Cla 86.39 39 P P 15 03 33.0 +0.7
baz=318
M37A Trindle Farm, 86.40 38 P P 15 03 33.1 +0.8
baz=319
SCIA State Center 86.44 38 P P 15 03 33.2 +0.8
baz=320
SCIA State Center 86.44 38 eP P 15 03 34.0 +1.5
SCIA LR LR
comp=Z,543nm,19.0s
J40A Soldiers Grove 86.46 35 P P 15 03 32.5 0.0
baz=321
K39A Oelwein 86.46 36 P P 15 03 32.5 0.0
baz=320
PDO Prodromos 86.47 317 P P 15 03 32.6 -0.1
LAST Lasithi 86.50 313 P P 15 03 33.0 0.0
LAST Lasithi 86.50 313 P P 15 03 33.0 0.0
E45A Wooded Hills, 86.51 30 P P 15 03 32.9 +0.2
baz=325
H42A Shiocton 86.58 33 P P 15 03 33.5 +0.4
baz=322
H42A Shiocton 86.58 33 eP P 15 03 34.2 +1.1
comp=Z,57nm,0.9s
RLS Riolos of Patr 86.71 317 P P 15 03 33.5 -0.3
RLS Riolos of Patr 86.71 317 P P 15 03 33.5 -0.3
IDI Anoyia 86.76 313 P P 15 03 34.0 -0.2
comp=Z,59nm,0.8s,baz=23,slow=9.6,SNR=35
IDI PP PP 15 06 50.8 -5.3
comp=Z,6.8nm,0.8s,baz=32,slow=19,SNR=2.0
IDI LR LR 15 47 21.3
comp=Z,416nm,19.5s,baz=31,slow=39
IDI Anoyia 86.76 313⇓ iP P 15 03 33.7 -0.5
IDI Anoyia 86.76 313 eP P 15 03 34.2 0.0
comp=Z,66nm,0.8s
IDI PP PP 15 06 50.8 -5.3
KSU1 Kansas State U 86.81 41 P P 15 03 34.4 0.0
baz=318
KSU1 Kansas State U 86.81 41 eP P 15 03 35.2 +0.8
KSU1 LR LR
comp=Z,697nm,19.0s
N37A Lee Faris, Mou 86.81 39 P P 15 03 35.0 +0.7
baz=319
M38A Pleasantville 86.82 38 P P 15 03 34.8 +0.5
baz=320
K40A Colesburg 86.82 36 P P 15 03 34.6 +0.3
baz=321
J41A Loganville 86.82 35 P P 15 03 34.4 +0.1
baz=322
DAMY Dhamar 86.85 286 eP P 15 03 37.0 +1.7
L39A Vinton 86.86 37 P P 15 03 35.0 +0.5
baz=320
I42A Draeger Farm, 86.90 34 P P 15 03 35.4 +0.7
baz=322
I42A Draeger Farm, 86.90 34 eP P 15 03 35.5 +0.8
FSK Fiskardo 86.90 318 P P 15 03 34.3 -0.5
F45A CMU Biological 86.92 31 P P 15 03 35.3 +0.6
baz=324
HTL Hartland 86.94 339⇑ eP P 15 03 35.6 +0.9
HTL IAmb IAmb 15 03 36.5
comp=Z,27nm,1.1s
H43A Windswept, Lux 86.94 33 P P 15 03 35.7 +0.8
baz=323
H43A Windswept, Lux 86.94 33 eP P 15 03 35.9 +1.0
comp=Z,99nm,0.9s
MNTX Cornudas Mount 86.98 52 eP P 15 03 36.2 +0.9
MNTX LR LR
comp=Z,436nm,21.0s
MSTX Muleshoe 87.02 49 P P 15 03 36.0 +0.5
baz=314
MSTX Muleshoe 87.02 49 eP P 15 03 36.6 +1.0
comp=Z,20nm,0.9s
AMTX Amarillo 87.02 47 P P 15 03 36.5 +0.9
baz=315
AMTX Amarillo 87.02 47 eP P 15 03 36.9 +1.3
comp=Z,51nm,0.9s
KFL Anninata 87.04 317 P P 15 03 35.1 -0.4
JFWS Jewell Farm 87.06 35 P P 15 03 35.5 0.0
baz=321
JFWS Jewell Farm 87.06 35 eP P 15 03 36.1 +0.6
comp=Z,29nm,0.8s
JFWS LR LR
comp=Z,691nm,21.0s
JFWS Jewell Farm 87.06 35 eP P 15 03 36.1 +0.6
JFWS pmax pmax

comp=Z,29nm,0.8s
JFWS MLR MLR
comp=Z,691nm,21.0s
ITM Ithomi 87.09 316 P P 15 03 34.8 -1.0
ITM Ithomi 87.09 316 P P 15 03 34.8 -1.0
F46A Macinaw City C 87.15 30 P P 15 03 36.5 +0.6
baz=325
IMMV Iera Moni Meta 87.16 314 P P 15 03 35.6 -0.5
I43A Langenfeld Bro 87.25 34 P P 15 03 36.8 +0.4
baz=323
J42A Columbus 87.26 34 P P 15 03 36.9 +0.4
baz=322
M39A Webster 87.27 37 P P 15 03 37.0 +0.5
baz=320
N38A Joes South For 87.27 38 P P 15 03 37.3 +0.7
baz=320
GDL2 Guadalupe Moun 87.27 51 eP P 15 03 38.4 +1.5
L40A Anamosa 87.27 36 P P 15 03 36.9 +0.4
baz=321
K41A Shullsburg 87.28 36 P P 15 03 37.0 +0.4
baz=321
DYA Yadsworthy 87.28 339 eP P 15 03 35.8 -0.6
O37A Wolven Farm, M 87.29 39 P P 15 03 37.3 +0.6
baz=319
PYL PYLOS 87.40 316 eP P 15 03 36.1 -1.1
PYL PYLOS 87.40 316 P P 15 03 36.1 -1.1
VLC Villacollemand 87.46 327 PFAKE 15 03 50.0 +13
VLC LR LR
comp=Z,2µm,19.0s
J43A Natural Harves 87.53 34 P P 15 03 38.1 +0.4
baz=323
AQU L'Aquila 87.54 324 eP P 15 03 38.9 +1.0
comp=Z,68nm,0.9s
AQU LR LR
comp=Z,2µm,19.0s
AQU L'Aquila 87.54 324 eP P 15 03 38.9 +1.0
AQU pmax pmax
comp=Z,68nm,0.9s
AQU MLR MLR
comp=Z,2µm,19.0s
N39A Derby Farms, D 87.57 38 P P 15 03 38.7 +0.7
baz=320
K42A Prairie Point, 87.58 35 P P 15 03 38.0 0.0
baz=322
L41A Preston 87.60 36 P P 15 03 38.2 +0.1
baz=321
P37A Lathrop 87.62 40 P P 15 03 38.6 +0.3
baz=319
M40A Post Highland 87.64 37 P P 15 03 38.8 +0.5
baz=321
O38A Galt 87.66 39 P P 15 03 38.8 +0.4
baz=320
JQE Queens East 87.81 337 eP P 15 03 39.4 +0.5
GLMI Grayling 87.98 31 PFAKE 15 03 50.0 +10
GLMI LR LR
comp=Z,491nm,19.0s
N40A Mertquake, Sal 88.01 37 P P 15 03 40.8 +0.7
baz=321
P38A Dawn 88.01 39 P P 15 03 40.6 +0.5
baz=319
O39A Kirksville 88.02 38 P P 15 03 40.6 +0.5
baz=320
L42A Oliver, Polo 88.04 36 P P 15 03 40.3 +0.1
baz=322
K43A Burlington 88.10 34 P P 15 03 40.3 -0.1
baz=323
Q37A Longview Farm, 88.10 40 P P 15 03 40.4 -0.2
baz=319
M41A Milan 88.13 36 P P 15 03 41.1 +0.4
baz=321
CUC Castrocucco 88.20 321 eP P 15 03 40.6 -0.5
comp=Z,16nm,0.8s
CUC LR LR
comp=Z,979nm,20.0s
BNI Bardonecchia 88.27 330 eP P 15 03 42.0 +0.6
BNI LR LR
comp=Z,2µm,21.0s
BNI Bardonecchia 88.27 330 eP P 15 03 42.0 +0.6
BNI MLR MLR
comp=Z,2µm,21.0s
L43A Garden Prairie 88.33 35 P P 15 03 41.8 +0.3
baz=322
TIP Timpagrande 88.35 320 iP P 15 03 41.7 -0.2
TIP Timpagrande 88.35 320 eP P 15 03 41.6 -0.2
comp=Z,46nm,0.9s
TIP LR LR
comp=Z,2µm,21.0s
M42A Sheffield 88.43 36 P P 15 03 42.3 +0.3
baz=322
Q38A Cooks Store, C 88.47 40 P P 15 03 42.4 +0.2
baz=319
N41A Harden Midland 88.50 37 P P 15 03 42.9 +0.5
baz=321
P39B Salisbury 88.50 39 P P 15 03 42.9 +0.5
baz=320
L44A Lake County Fo 88.71 34 P P 15 03 43.8 +0.4
baz=323
Q39A Willow Grove F 88.73 39 P P 15 03 44.1 +0.6
baz=320
LPIG La Paz 88.79 60 LR LR 15 38 59.0
comp=Z,149nm,19.2s,baz=298,slow=32
N42A Yates City 88.79 37 P P 15 03 44.2 +0.4
baz=322
WMOK Wichita Mounta 88.80 46 P P 15 03 44.7 +0.7
baz=316
WMOK Wichita Mounta 88.80 46 eP P 15 03 45.0 +1.0
WMOK LR LR
comp=Z,615nm,19.0s
WMOK Wichita Mounta 88.80 46 eP P 15 03 45.0 +1.0
WMOK MLR MLR
comp=Z,615nm,19.0s
M43A Waltham Townsh 88.82 36 P P 15 03 44.5 +0.6
baz=322
P40A Paris 88.82 39 P P 15 03 44.6 +0.7
baz=320
R38A Fenwick Farm, 88.90 41 P P 15 03 44.0 -0.3
baz=319
SSB Saint Sauveur 88.92 331 eP P 15 03 44.5 +0.2
comp=Z,15nm,0.9s
SSB LR LR
comp=Z,1µm,20.0s
SSB Saint Sauveur 88.92 331 eP P 15 03 44.5 +0.2
SSB pmax pmax
comp=Z,15nm,0.9s
SSB MLR MLR
comp=Z,1µm,20.0s
O41A Passleys Farm, 88.94 37 P P 15 03 45.1 +0.6
baz=321
N43A Stutzman Famil 89.11 36 P P 15 03 45.9 +0.7
baz=322
P41A Barry, Barry 89.19 38 P P 15 03 46.5 +0.8
baz=321
Q40A Laux Farm, Aux 89.22 39 P P 15 03 46.4 +0.6
baz=320
R39A Chumby, Stover 89.25 40 P P 15 03 46.1 +0.1
baz=320
M44A Midewin, Midew 89.28 35 P P 15 03 46.7 +0.7
baz=323
S38A Stockton 89.32 41 P P 15 03 46.2 -0.2
baz=319
HDIL Hopedale 89.36 36 P P 15 03 47.1 +0.7
baz=322
HDIL Hopedale 89.36 36 PFAKE 15 04 00.0 +14
HDIL LR LR
comp=Z,531nm,20.0s
CEL Celeste 89.49 320 eP P 15 03 47.9 +0.7
comp=Z,150nm,0.8s
CEL LR LR
comp=Z,2µm,20.0s
O43A Sugar Creek Fa 89.56 36 P P 15 03 47.9 +0.5
baz=322
T38A Diamond 89.57 42 P P 15 03 47.8 +0.3
baz=319
S39A Bolivar 89.58 40 P P 15 03 47.5 0.0
baz=320
TUL1 Leonard 89.61 43 P P 15 03 48.2 +0.5
baz=318
TUL1 Leonard 89.61 43 eP P 15 03 48.9 +1.2
P42A Winchester 89.61 37 P P 15 03 48.2 +0.6
baz=321
R40A Maddies Statio 89.66 39 P P 15 03 48.2 +0.3
baz=320
Q41A Truxton 89.67 38 P P 15 03 48.6 +0.7
baz=321
TX31 Lajitas Ar. Si 89.67 52 eP P 15 03 49.1 +0.8
TXAR Lajitas Array 89.68 52 P P 15 03 49.2 +1.0
comp=Z,5.8nm,0.5s,baz=301,slow=2.9,SNR=82
TXAR LR LR 15 38 25.7
comp=Z,189nm,21.0s,baz=0.0,slow=32
N44A Piper City 89.71 35 P P 15 03 48.9 +0.8
baz=323
ABTX Abilene, Hawle 89.82 48 P P 15 03 49.6 +0.8
baz=316
ABTX Abilene, Hawle 89.82 48 eP P 15 03 50.2 +1.4
ATD Arta Tunnel 89.90 284 P P 15 03 50.2 +0.8
comp=Z,4.5nm,0.4s,baz=331,slow=5.4,SNR=3.8
ATD LR LR 15 49 35.4
comp=Z,277nm,18.4s,baz=43,slow=39
N45A Kentland 89.95 35 P P 15 03 50.1 +0.9
baz=323
P43A Skaggs, Pawnee 89.97 37 P P 15 03 49.9 +0.6
baz=322
M46A Old House Fiel 90.02 34 P P 15 03 50.2 +0.7
baz=324
Q42A Golden Eagle 90.05 38 P P 15 03 50.4 +0.7
baz=321
T39A Clever 90.06 41 P P 15 03 49.9 +0.1
baz=320
S40A Lebanon 90.07 40 P P 15 03 49.9 0.0
baz=320
R41A Rosebud 90.10 39 P P 15 03 50.5 +0.5
baz=321
SADO Sadowa 90.16 28 eP P 15 03 50.8 +0.7
HHAR Hobbs 90.32 42 eP P 15 03 51.7 +0.7
O45A Potomac 90.33 35 P P 15 03 51.8 +0.9
baz=323
CCM Cathedral Cave 90.36 39 P P 15 03 51.6 +0.4
baz=321
CCM Cathedral Cave 90.36 39 eP P 15 03 51.8 +0.6
comp=Z,43nm,1.1s
CCM Cathedral Cave 90.36 39 eP P 15 03 51.8 +0.6
CCM pmax pmax
comp=Z,43nm,1.1s
T40A Mansfield 90.41 40 P P 15 03 51.5 +0.1
baz=320
R42A Luebbering 90.41 39 P P 15 03 51.8 +0.4
baz=321
Q43A New Douglas 90.43 38 P P 15 03 52.0 +0.5
baz=322
AAM Ann Arbor 90.46 32 PFAKE 15 04 00.0 +8.5
AAM LR LR
comp=Z,877nm,21.0s
S41A Jillco Farms, 90.47 40 P P 15 03 51.8 +0.1
baz=321
U39A Green Forest 90.49 41 P P 15 03 52.1 +0.3
baz=320
TRQ Mont Tremblant 90.50 24 eP P 15 03 52.4 +0.7
SFIN Lafayette 90.51 35 P P 15 03 52.6 +0.8
baz=324
SFIN Lafayette 90.51 35 eP P 15 03 53.0 +1.2
comp=Z,36nm,0.9s
P44A Sand Creek, Wi 90.53 37 P P 15 03 52.6 +0.7
baz=322
PLVO Plevna 90.68 26 eP P 15 03 53.5 +1.1
comp=Z,31nm,0.8s
Q44A Meyer Farm, Va 90.79 37 P P 15 03 53.7 +0.6
baz=322
S42A Caledonia 90.80 39 P P 15 03 54.1 +0.8
baz=321
V39A Pettigrew 90.81 42 P P 15 03 53.7 +0.3
baz=319
R43A Red Bud 90.84 38 P P 15 03 53.8 +0.4
baz=322
U40A Yellville 90.84 41 P P 15 03 53.8 +0.4
baz=320
VAE Valguarnera 90.84 321 LR LR 15 47 57.0
comp=Z,1µm,18.9s,baz=28,slow=38
T41A Mountain View 90.87 40 P P 15 03 53.7 +0.1
baz=321
P45A Graceland, Par 90.89 36 P P 15 03 54.2 +0.6
baz=323
O47A Sheridan 91.05 35 P P 15 03 54.6 +0.3
baz=324
P46A Rosedale 91.07 36 P P 15 03 55.1 +0.6
baz=323
W39A Magazine 91.22 42 P P 15 03 55.5 +0.3
baz=319
T42A Van Buren 91.23 40 P P 15 03 55.6 +0.4
baz=321
JCT Junction City 91.26 49 P P 15 03 55.8 +0.3
baz=316
JCT Junction City 91.26 49 eP P 15 03 56.5 +0.9
comp=Z,22nm,0.8s
JCT LR LR
comp=Z,365nm,19.0s
JCT Junction City 91.26 49 eP P 15 03 56.5 +0.9
JCT pmax pmax
comp=Z,22nm,0.8s
JCT MLR MLR
comp=Z,365nm,19.0s
V40A Witts Springs 91.27 41 P P 15 03 55.5 0.0
baz=320
S43A Fulton Ridge, 91.31 39 P P 15 03 56.0 +0.3
baz=322
U41A Viola 91.33 41 P P 15 03 55.8 0.0
baz=320
OLIL Olney 91.36 37 eP P 15 03 57.2 +1.4
WHTX Lake Whitney, 91.55 47 P P 15 03 57.5 +0.7
baz=317
WHTX Lake Whitney, 91.55 47 eP P 15 03 58.3 +1.5
X39A Fountain Ranch 91.56 43 P P 15 03 57.8 +0.9
baz=319
T43A Greenville 91.59 39 P P 15 03 57.4 +0.5
baz=321
P47A Martinsville 91.61 35 P P 15 03 57.5 +0.6
baz=324
W40A Ferguson Farm, 91.61 42 P P 15 03 57.6 +0.6
baz=320
W40A Ferguson Farm, 91.61 42 eP P 15 03 58.0 +1.1
comp=Z,39nm,0.9s
R45A Skylar, Fairfi 91.62 37 P P 15 03 57.8 +0.8
baz=323
S44A Carbondale 91.62 38 P P 15 03 57.8 +0.8
baz=322
SIUC Southern Illin 91.62 38 eP P 15 03 58.3 +1.2
V41A Mountainview 91.64 41 P P 15 03 57.3 +0.2
baz=320
VSL Villasalto 91.66 325 PFAKE 15 04 10.0 +13
VSL LR LR
comp=Z,1µm,19.0s
U42A Revenden 91.68 40 P P 15 03 57.5 +0.2
baz=321
PBMO Poplar Bluff 91.76 39 eP P 15 03 58.6 +1.0
MIAR Mount Ida 91.83 43 P P 15 03 58.8 +0.8
baz=319
MIAR Mount Ida 91.83 43 eP P 15 03 58.9 +0.8
comp=Z,38nm,1.0s
MIAR LR LR
comp=Z,563nm,21.0s
MIAR Mount Ida 91.83 43 eP P 15 03 58.9 +0.8
MIAR pmax pmax
comp=Z,38nm,1.0s
MIAR MLR MLR
comp=Z,563nm,21.0s
LONY Lake Ozonia 91.90 25 P P 15 03 58.5 +0.3
baz=332
LONY Lake Ozonia 91.90 25 eP P 15 03 59.1 +0.9
LONY LR LR
comp=Z,1µm,21.0s
WHAR Wooly Hollow 91.95 41 eP P 15 03 58.0 -0.5
S45A Carrier Mills 91.97 38 P P 15 03 59.1 +0.5
baz=322
Q47A Bedord North L 91.98 35 P P 15 03 59.3 +0.6
baz=324
V42A Cord 92.02 41 P P 15 03 59.1 +0.2
baz=321
PQI Presque Isle 92.04 20 eP P 15 03 59.5 +0.8
WDD Wied Dalam 92.05 320 PFAKE 15 04 10.0 +11
WDD LR LR
comp=Z,1µm,19.0s
R46A Gibon Southern 92.05 37 P P 15 03 59.5 +0.5
baz=323
W41B Gary Mavity, V 92.06 41 P P 15 03 59.4 +0.3
baz=320
ERPA Erie 92.10 30 P P 15 03 59.7 +0.5
baz=328
X40A Basin Creek Fa 92.27 42 P P 15 04 00.8 +0.7
baz=320
435B Jarrell 92.36 48 P P 15 04 01.2 +0.6
baz=317
MMNY Mt. Morris Dam 92.37 28 eP P 15 04 01.0 +0.6
comp=Z,36nm,1.0s
S46A Don Dixon Farm 92.38 37 P P 15 04 01.1 +0.6
baz=323
Y40A Okolona 92.39 43 P P 15 04 01.2 +0.5
baz=320
R47A Wooly Knot Far 92.45 36 P P 15 04 01.5 +0.7
baz=324
ACSO Alum Creek Sta 92.45 33 P P 15 04 01.5 +0.6
baz=326
ACSO Alum Creek Sta 92.45 33 eP P 15 04 01.5 +0.6
comp=Z,35nm,0.8s
ACSO LR LR
comp=Z,822nm,19.0s
NCB Newcomb 92.59 25 eP P 15 04 02.5 +1.1
comp=Z,19nm,0.9s
WCI Wyandotte Cave 92.61 36 P P 15 04 02.3 +0.8
baz=324
WCI Wyandotte Cave 92.61 36 eP P 15 04 02.8 +1.2
WCI Wyandotte Cave 92.61 36 eP P 15 04 02.8 +1.2
M54A Oil Creek Stat 92.74 30 P P 15 04 02.7 +0.5
baz=328
VT1 Waterbury 92.76 24 eP P 15 04 03.8 +1.6
T46A Princeton 92.80 38 P P 15 04 03.3 +0.8
baz=323
PKME Peaks-Kenny Pk 92.97 21 P P 15 04 03.7 +0.6
baz=336
PKME Peaks-Kenny Pk 92.97 21 eP P 15 04 04.4 +1.3
comp=Z,38nm,0.9s
PKME LR LR
comp=Z,1µm,20.0s
N54A Moraine State 93.08 30 P P 15 04 04.5 +0.8
baz=328
N54A Moraine State 93.08 30 eP P 15 04 05.0 +1.2
comp=Z,28nm,0.8s
LBNH Lisbon 93.11 23 P P 15 04 04.7 +1.0
baz=334
S48A Wiedeman Farm, 93.18 36 P P 15 04 04.7 +0.4
baz=324
T47A Sharon Grove 93.22 37 P P 15 04 05.1 +0.7
baz=323
ACCN Adirondack Com 93.30 25 eP P 15 04 05.9 +1.2
comp=Z,21nm,0.9s
NATX Nacogdoches 93.32 45 PFAKE 15 04 20.0 +15
NATX LR LR
comp=Z,839nm,19.0s
BINY Binghamton 93.54 27 PFAKE 15 04 20.0 +14
BINY LR LR
comp=Z,777nm,20.0s
WVT Waverly 93.56 38 P P 15 04 06.4 +0.4
baz=323
WVT Waverly 93.56 38 eP P 15 04 06.9 +0.9
WVT Waverly 93.56 38 eP P 15 04 06.9 +0.9
U48A Cassie Pea, Po 93.88 37 P P 15 04 08.0 +0.6
baz=324
V47A Nunnelly 93.95 38 P P 15 04 08.0 +0.2
baz=323
OXF Oxford 94.04 40 P P 15 04 08.5 +0.2
baz=322
SSPA Standing Stone 94.18 29 P P 15 04 09.4 +0.6
baz=330
O56A Blue Knob Stat 94.23 30 P P 15 04 09.7 +0.6
baz=329
O56A Blue Knob Stat 94.23 30 eP P 15 04 10.1 +1.0
comp=Z,87nm,0.8s
MCWV Mont Chateau 94.24 31 P P 15 04 09.9 +0.8
baz=328
V48A Smith Brothers 94.36 38 P P 15 04 09.7 0.0
baz=324
W47A Westpoint 94.37 38 P P 15 04 09.9 +0.2
baz=323
Y45A Yeager Farm, C 94.48 41 P P 15 04 11.3 +1.0
baz=322
KVTX Kingsville 94.52 50 PFAKE 15 04 20.0 +9.4
KVTX LR LR
comp=Z,735nm,19.0s
KEST Kesra 94.71 323 P P 15 04 11.5 +0.1
comp=Z,22nm,1.0s,baz=301,slow=4.7,SNR=14
N59A State Game Lan 94.74 28 eP P 15 04 12.6 +1.3
W48A Pulaski 94.79 38 P P 15 04 12.1 +0.4
baz=324
TZTN Tazewell 95.25 35 P P 15 04 14.2 +0.5
baz=326
TZTN Tazewell 95.25 35 eP P 15 04 15.1 +1.3
PAL Palisades 95.33 26 P P 15 04 14.6 +0.7
baz=333
X49A Woodville 95.58 38 P P 15 04 15.7 +0.4
baz=324
DFRA Djebel Bou Aff 95.66 326 P P 15 04 15.7 -0.1
TKL Tuckaleechee C 95.87 36 P P 15 04 17.2 +0.6
comp=Z,5.8nm,0.7s,baz=29,slow=3.4,SNR=8.7
TKL LR LR 15 49 07.8
comp=Z,265nm,20.4s,baz=348,slow=36
BLA Blacksburg 96.07 33 P P 15 04 18.2 +0.6
baz=328
BLA Blacksburg 96.07 33 PFAKE 15 04 30.0 +12
BLA LR LR
comp=Z,703nm,20.0s
CKHR Kef el Ahmar 96.26 326 P P 15 04 18.6 +0.1
CBN Corbin Frederi 96.48 30 PFAKE 15 04 30.0 +11
CBN LR LR
comp=Z,714nm,20.0s
Z50A Ashland 96.80 39 P P 15 04 21.2 +0.3
baz=324
BG3 Lake Jocassee 96.81 35 eP P 15 04 22.4 +1.5
ES19 SONSECA Array 96.85 334 eP P 15 04 21.2 +0.2
ESDC Sonseca Array 96.90 334 P P 15 04 21.5 +0.3
comp=Z,4.5nm,0.8s,baz=17,slow=4.0,SNR=17
ESDC PP PP 15 07 42.7 -33
comp=Z,3.6nm,0.8s,baz=18,slow=6.6,SNR=7.0
ESDC LR LR 15 51 44.7
comp=Z,1µm,21.9s,baz=5.0,slow=38
PAB San Pablo 97.15 334 eP Pdif 15 04 22.8 +0.3
PAB LR LR
comp=Z,2µm,22.0s
PAB San Pablo 97.15 334 eP Pdif 15 04 22.8 +0.3
PAB MLR MLR
comp=Z,2µm,22.0s
KMSC Kings Mountain 97.41 34 P Pdif 15 04 23.9 +0.3
baz=327
MTE Manteigas 97.43 337 PFAKE 15 04 40.0 +16
MTE LR LR
comp=Z,1µm,22.0s
GOGA Godfrey 97.86 37 PFAKE 15 04 40.0 +14
GOGA LR LR
comp=Z,682nm,20.0s
BRAL Brewton 97.89 41 PFAKE 15 04 40.0 +14
BRAL LR LR
comp=Z,562nm,20.0s
RKT Rikitea 98.80 112 eLR LR 15 36 36.0
comp=Z,1µm,26.8s,baz=311
CNNC Cliffs of the 98.82 32 PFAKE 15 04 40.0 +10
CNNC LR LR
comp=Z,802nm,22.0s
NHSC New Hope 99.64 35 PFAKE 15 04 50.0 +16
NHSC LR LR
comp=Z,1µm,19.0s
454A Quitman 99.99 38 P Pdif 15 04 35.2 0.0
baz=325
553A Crawfordville 100.02 39 P Pdif 15 04 35.3 0.0
baz=325
KMBO Kilima Mbogo 102.06 278 PP PP 15 08 51.9 -4.8
comp=Z,2.8nm,0.9s,baz=5.1,slow=9.3,SNR=3.8
KMBO Kilima Mbogo 102.06 278 PP PP 15 08 51.9 -4.8
KMBO LR LR
comp=Z,463nm,19.0s
RTC Rabat Centre 103.02 334 PFAKE 15 05 00.0 +11
RTC LR LR
comp=Z,3µm,20.0s
BBSR BB Station 106.23 23 PFAKE 15 09 30.0
BBSR LR LR
comp=Z,2µm,22.0s
MBAR Mbarara 106.83 283 PFAKE 15 09 30.0
MBAR LR LR
comp=Z,630nm,22.0s
TAM Tamanrasset 107.14 318 PFAKE 15 09 30.0
TAM LR LR
comp=Z,461nm,20.0s
GTBY Guantanamo Bay 113.19 38 PFAKE 15 09 40.0
GTBY LR LR
comp=Z,413nm,22.0s
MTDJ Mount Denham 113.40 41 PFAKE 15 09 40.0
MTDJ LR LR
comp=Z,487nm,20.0s
GRTK Grand Turk 113.65 33 PFAKE 15 09 40.0
GRTK LR LR
comp=Z,856nm,20.0s
JTS JuntasAbangare 115.47 52 PFAKE 15 09 40.0 +7.7
JTS LR LR
comp=Z,321nm,20.0s
VNDA Vanda 115.48 175 PKP PKPdf 15 09 30.4 0.0

comp=Z,1.0nm,0.8s,baz=293,slow=5.3,SNR=3.6
SDDR Presa de Saban 115.80 35 PFAKE 15 09 50.0 +17
SDDR LR LR
comp=Z,964nm,20.0s
TORD Torodi Ar. Bea 117.08 315 PKP **PKPdf 15 09 35.0 -0.4**
comp=Z,4.1nm,0.9s,baz=29,slow=1.5,SNR=19
TORD PP PP 15 10 27.2 -17
comp=Z,4.5nm,0.8s,baz=34,slow=7.0,SNR=5.0
TORD PKKPbc **PKKPbc 15 20 00.9 +2.1**
baz=223,slow=4.2
LSZ Lusaka 117.64 272 PKP **PKPdf 15 09 36.3 -0.2**
comp=Z,3.1nm,0.6s,baz=5.5,slow=2.9,SNR=5.1
LSZ Lusaka 117.64 272 PKP **PKPdf 15 09 36.3 -0.2**
LSZ LR LR
comp=Z,459nm,20.0s
SJG San Juan 118.77 30 PFAKE 15 09 50.0 +11
SJG LR LR
comp=Z,541nm,22.0s
KOWA Kowa 118.98 321 PKP **PKPdf 15 09 39.0 0.0**
comp=Z,10nm,0.8s,baz=35,slow=2.0,SNR=19
KOWA PP PP 15 10 49.1 -8.4
comp=Z,12nm,0.9s,baz=28,slow=6.1,SNR=5.1
BCIP Isla Barro Col 119.48 49 PFAKE 15 09 50.0 +10
BCIP LR LR
comp=Z,451nm,19.0s
MAW Mawson 120.08 206 PKP **PKPdf 15 09 39.5 +0.1**
comp=Z,4.4nm,0.8s,baz=11,slow=5.2,SNR=3.8
ANWB Willy Bob 120.82 26 PFAKE 15 09 50.0 +7.5
ANWB LR LR
comp=Z,516nm,22.0s
FDF Fort de France 123.76 27 PFAKE 15 10 00.0 +12
FDF LR LR
comp=Z,437nm,21.0s
SDV Santo Domingo 124.82 40 PKP **PKPdf 15 09 50.7 +0.2**
comp=Z,16nm,0.5s,baz=0.0,slow=4.0,SNR=4.8
SDV Santo Domingo 124.82 40 PKP **PKPdf 15 09 50.7 +0.2**
SDV LR LR
comp=Z,471nm,20.0s
LBTB Lobatse 124.86 264 PKP **PKPdf 15 09 50.0 -0.2**
comp=Z,12nm,0.9s,baz=80,slow=1.4,SNR=12
LBTB Lobatse 124.86 264 *e*PKPdf **PKPdf 15 09 50.7 +0.6**
LBTB Lobatse 124.86 264 *e*PKIKP **PKPdf 15 09 50.7 +0.6**
BBGH Gun Hill 125.79 26 PFAKE 15 10 00.0 +7.9
BBGH LR LR
comp=Z,902nm,20.0s
SACV Santiago Islan 125.94 342 PFAKE 15 10 00.0 +7.6
SACV LR LR
comp=Z,258nm,21.0s
GRGR Grenville 125.96 29 PFAKE 15 10 00.0 +7.5
GRGR LR LR
comp=Z,501nm,20.0s
DBIC Dimbokro 126.02 317 PKP **PKPdf 15 09 52.5 -0.1**
comp=Z,17nm,0.8s,baz=16,slow=2.0,SNR=15
DBIC PP PP 15 11 35.9 -9.4
baz=16,slow=7.3
TIC Toumodi 126.13 317 *e*PKIKP **PKPdf 15 09 52.3 -0.5**
TIC Toumodi 126.13 317 *eP* **PP 15 11 40.6 -5.4**
ROSC El Rosal 126.18 46 PKP **PKPdf 15 09 54.0 +0.6**
comp=Z,4.3nm,0.3s,baz=248,slow=19,SNR=6.4
KIC Kosan Boka 126.22 317 *e*PKIKP **PKPdf 15 09 52.7 -0.3**
comp=Z,31nm,0.8s
KIC Kosan Boka 126.22 317 *eP* **PP 15 11 44.2 -2.4**
comp=Z,61nm,1.1s
LIC Lamto 126.49 317 *e*PKIKP **PKPdf 15 09 52.9 -0.6**
comp=Z,39nm,0.8s
LIC Lamto 126.49 317 *eP* **PP 15 11 45.7 -2.7**
comp=Z,103nm,0.9s
PCRV Puerto La Cruz 126.53 33 PKP **PKPdf 15 09 52.5 -1.0**
comp=Z,4.9nm,0.5s,baz=0.0,slow=10,SNR=2.7
BOSA Boshof 126.83 260 PKP **PKPdf 15 09 53.9 +0.1**
comp=Z,3.0nm,0.8s,baz=59,slow=0.9,SNR=4.4
OTAV Otavalo 127.28 54 *e*PKPdf **PKPdf 15 09 58.7 +3.1**
OTAV LR LR
comp=Z,375nm,20.0s
QSPA South Pole Qui 127.29 180 PKP **PKPdf 15 09 53.4 -0.1**
comp=Z,7.4nm,0.7s,baz=324,slow=2.1,SNR=12
QSPA South Pole Qui 127.29 180 *e*PKPdf **PKPdf 15 09 53.3 -0.1**
QSPA LR LR
comp=Z,900nm,19.0s
TSUM Tsumeb 128.23 274 PKP **PKPdf 15 09 57.1 +0.3**
comp=Z,5.8nm,0.8s,baz=46,slow=3.8,SNR=11
TSUM Tsumeb 128.23 274 *e*PKPdf **PKPdf 15 09 57.9 +1.1**
TSUM LR LR
comp=Z,491nm,19.0s
SYO Syowa Base 128.74 207⇑ *i*P **Pdif 15 06 28.6 -13**
SUR Sutherland 131.90 258 PFAKE 15 10 20.0 +17
SUR LR LR
comp=Z,882nm,19.0s
NNA Nana 137.24 64 PFAKE 15 10 30.0 +16
NNA LR LR
comp=Z,296nm,22.0s
PTGA Pitinga 138.30 34 *e*PKPdf **PKPdf 15 10 15.9 +0.1**
PTGA LR LR
comp=Z,11μm,22.0s
SNAA Sanae 141.29 197 PKP PKPpre 15 10 12.4
SNAA Sanae 141.29 197 PKhKP PKPpre 15 10 12.5
comp=Z,5.3nm,0.8s,baz=169,slow=5.3,SNR=11
SNAA Sanae 141.29 197 *e*PKPpre PKPpre 15 10 15.1
SNAA Sanae 141.29 197 *e*PKIKP PKPpre 15 10 15.1
VNA2 Neumayer--Watz 142.86 196 PKP PKPpre 15 10 19.6
baz=76,slow=2.3
VNA3 Neumayer Olymp 143.11 195 PKP PKPbc 15 10 19.1 -0.5
VNA1 Neumayer--Stat 143.26 196 PKP PKPbc 15 10 20.1 +0.1
ASCN Ascension 143.35 318 PFAKE 15 10 40.0 +15
ASCN LR LR
comp=Z,1μm,20.0s
SAML Samuel 143.76 45 *e*PKPpre PKPpre 15 10 23.2
SAML LR LR
comp=Z,426nm,22.0s
LPAZ La Paz 146.29 59 PKPbc **PKPab 15 10 31.9 -0.5**
comp=Z,38nm,1.0s,baz=350,slow=4.8,SNR=50
LPAZ La Paz 146.29 59 *e*PKPdf **PKPbc 15 10 31.6 0.0**
LPAZ La Paz 146.29 59 *e*PKP2 **PKPbc 15 10 31.7 0.0**
MNMC Minye Minye 147.18 65 *e*PKPdf **PKPbc 15 10 33.3 -0.5**
PB11 IPOC Station P 147.54 66 *e*PKPdf **PKPdf 15 10 32.3 +0.4**
PB01 IPOC Station P 148.46 67 *e*PKPdf **PKPbc 15 10 35.2 -1.8**
LCO Las Campanas 151.78 82 *e*PKPbc **PKPbc 15 10 45.8 +0.8**
LCO LR LR
comp=Z,416nm,19.0s
PEL Peldehue 153.36 90 *e*PKPbc **PKPbc 15 10 48.7 +0.6**
PEL Peldehue 153.36 90 *e*PKIKP **PKPbc 15 10 48.7 +0.6**
PLCA Paso Flores 154.92 107 PKPbc **PKPbc 15 10 52.2 +0.9**
comp=Z,3.2nm,0.9s,baz=272,slow=1.8,SNR=6.0
PLCA Paso Flores 154.92 107 *e*PKIKP **PKPbc 15 10 52.3 +1.0**
EFI East Falkland 160.20 142 PFAKE 15 11 00.0 +11
EFI LR LR
comp=Z,942nm,19.0s
CPUP Villa Florida 160.45 61 PKP **PKPdf 15 10 49.9 +0.2**
comp=Z,1.2nm,0.7s,baz=18,slow=6.4
CPUP PKPab **PKPab 15 11 31.3 +0.5**
comp=Z,2.5nm,0.7s,baz=319,slow=4.9,SNR=3.2
TRQA Tornquist 161.35 99 *e*PKPab **PKPab 15 11 37.4 +2.7**
TRQA LR LR
comp=Z,614nm,20.0s
SPB Sao Paulo 164.07 32 PFAKE 15 11 10.0 +17
SPB LR LR
comp=Z,883nm,19.0s

DDA **12** *14:55:12.9, 39°.10N×27°.28E, h7km, Ml2.9*
ISK **12** *14:55:12.8, 39°.05N×27°.31E, h8km, ML2.6/10*
ISCJB **12** *14:55:13.2±0.4, 39°.07N±0°.02×27°.29E±0°.02, h5km±3km, Error ellipse: s-maj=2.9km s-min=2.7km az=43.4*
CSEM **12** *14:55:13.4±0.1, 39°.06N×27°.30E, h8km, ML2.6, Error ellipse: s-maj=2.1km s-min=2.0km az=176.0*

ISC 12 14:55:13.2±1.0, 39°.06N±0°.02×27°.30E±0°.02, h9km±8km, n60, σ0°54/102, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DKL	**Dikili**	**0.30**	**273**	PG	**Pg**	**14 55 19.6**	**+0.4**
DKL				SG	**Sg**	**14 55 23.8**	**+0.5**
DKL	**Dikili**	**0.30**	**273**	*e*Pg	**Pg**	**14 55 19.6**	**+0.4**
DKL				*e*Sg	**Sg**	**14 55 23.8**	**+0.5**
AKS	**Akhisar**	**0.44**	**114**	PG	**Pb**	**14 55 22.4**	**-0.7**
AKS	**Akhisar**	**0.44**	**114**	*e*Pg	**Pb**	**14 55 22.4**	**-0.7**
AKHS	**Akhisar**	**0.44**	**114**	*i* P	**Pb**	**14 55 22.7**	**-0.4**
AKHS				*i* S	**Sb**	**14 55 29.3**	**-0.5**
AKHS	**Akhisar**	**0.44**	**114**	P	**Pb**	**14 55 22.7**	**-0.4**
AKHS				S	**Sb**	**14 55 29.3**	**-0.5**
STEP	**BALIKESIR_Sava**	**0.46**	**46**	*i* P	**Pg**	**14 55 22.2**	**+0.1**
STEP				*i* S	**Sg**	**14 55 28.9**	**+0.7**
STEP	**BALIKESIR_Sava**	**0.46**	**46**	P	**Pg**	**14 55 22.2**	**+0.1**
STEP				S	**Sg**	**14 55 28.9**	**+0.7**
AYVA	**Ayvalik**	**0.53**	**298**	*i* P	**Pg**	**14 55 23.2**	**-0.3**
AYVA				*i* S	**Sg**	**14 55 30.9**	**+0.4**
AYVA	**Ayvalik**	**0.53**	**298**	P	**Pg**	**14 55 23.2**	**-0.3**
AYVA				S	**Sg**	**14 55 30.9**	**+0.4**
CUND	**Cunda Adasi-Ba**	**0.56**	**300**	PG	**Pb**	**14 55 24.5**	**-0.6**
CUND				SG	**Sb**	**14 55 33.0**	**-0.2**
CUND	**Cunda Adasi-Ba**	**0.56**	**300**	*e*Pg	**Pb**	**14 55 24.5**	**-0.6**
CUND				*e*Sg	**Sb**	**14 55 33.0**	**-0.2**
BLCB	**Balcova**	**0.70**	**197**	PG	**Pb**	**14 55 27.4**	**-0.1**
BLCB				SG	**Sb**	**14 55 36.7**	**-0.5**
BLCB	**Balcova**	**0.70**	**197**	*e*Pg	**Pb**	**14 55 27.4**	**-0.1**
BLCB				*e*Sg	**Sb**	**14 55 36.7**	**-0.5**
BALY	**Balya**	**0.73**	**20**	*i* P	**Pg**	**14 55 25.7**	**-1.5**
BALY				*i* S	**Sg**	**14 55 36.0**	**-0.8**
BALY	**Balya**	**0.73**	**20**	P	**Pg**	**14 55 25.7**	**-1.5**
BALY				S	**Sg**	**14 55 36.0**	**-0.8**
BALB	**Balikesir**	**0.74**	**38**	PG	**Pb**	**14 55 27.8**	**-0.4**
BALB				SG	**Sg**	**14 55 37.2**	**+0.1**
BALB	**Balikesir**	**0.74**	**38**	*e*Pg	**Pb**	**14 55 27.8**	**-0.4**
BALB				*e*Sg	**Sg**	**14 55 37.2**	**+0.1**
URLA	**Izmir**	**0.89**	**218**	PG	**Pb**	**14 55 30.6**	**-0.1**
URLA	**Izmir**	**0.89**	**218**	*i* P	**Pg**	**14 55 29.7**	**-0.5**
URLA				*i* S	**Sn**	**14 55 44.0**	**-0.7**
URLA	**Izmir**	**0.89**	**218**	P	**Pg**	**14 55 29.7**	**-0.5**
URLA	**Izmir**	**0.89**	**218**	*e*Pg	**Pb**	**14 55 30.6**	**-0.1**
URLA				S	**Sn**	**14 55 44.0**	**-0.7**
BAYC	**CANAKKALE_Bayr**	**0.90**	**320**	*i* P	**Pg**	**14 55 29.6**	**-0.8**
BAYC				*i* S	**Sg**	**14 55 41.5**	**-0.6**
BAYC	**CANAKKALE_Bayr**	**0.90**	**320**	P	**Pg**	**14 55 29.6**	**-0.8**
BAYC				S	**Sg**	**14 55 41.5**	**-0.6**
ZEY	**˜zmir**	**1.03**	**217**	*i* P	**Pb**	**14 55 33.1**	**0.0**
ZEY				*i* S	**Sn**	**14 55 48.0**	**+0.4**
GONE	**Gonen-Balikesi**	**1.03**	**17**	PG	**Pb**	**14 55 33.3**	**+0.1**
GONE	**Gonen-Balikesi**	**1.03**	**17**	*e*Pg	**Pb**	**14 55 33.3**	**+0.1**
DGB	**˜zmir**	**1.05**	**198**	*i* P	**Pg**	**14 55 33.2**	**-0.2**
DGB				*i* S	**Sn**	**14 55 49.0**	**+0.2**
DURS	**Dursunbey**	**1.06**	**59**	*i* P	**Pb**	**14 55 33.7**	**-0.1**
DURS				*i* S	**Sb**	**14 55 48.0**	**+0.2**
DURS	**Dursunbey**	**1.06**	**59**	P	**Pb**	**14 55 33.7**	**-0.1**
DURS				S	**Sb**	**14 55 48.0**	**+0.2**
DEMI	**Demirci**	**1.11**	**90**	*i* P	**Pn**	**14 55 34.9**	**0.0**
DEMI				*i* S	**Sb**	**14 55 49.7**	**+0.7**
DEMI	**Demirci**	**1.11**	**90**	P	**Pn**	**14 55 34.9**	**0.0**
DEMI				S	**Sb**	**14 55 49.7**	**+0.7**
SIGR	**SIGRI**	**1.13**	**278**	PN	**Pn**	**14 55 35.8**	**+0.7**
SIGR	**SIGRI**	**1.13**	**278**	*e*Pn	**Pn**	**14 55 35.8**	**+0.7**
MANT	**Manisa**	**1.14**	**119**	*i* P	**Pb**	**14 55 35.2**	**+0.1**
MANT				*i* S	**Sn**	**14 55 50.8**	**-0.4**
MANT	**Manisa**	**1.14**	**119**	P	**Pb**	**14 55 35.2**	**+0.1**
MANT				S	**Sn**	**14 55 50.8**	**-0.4**
CHOS	**Chios island**	**1.18**	**236**	PN	**Pn**	**14 55 35.8**	**-0.1**
CHOS				SN	**Sn**	**14 55 52.7**	**+0.7**
CHOS	**Chios island**	**1.18**	**236**	*e*Pn	**Pn**	**14 55 35.8**	**-0.1**
CHOS				*e*Sn	**Sn**	**14 55 52.7**	**+0.7**
KULA	**Kula-Manisa**	**1.20**	**117**	PN	**Pg**	**14 55 35.4**	**-0.8**
KULA				SN	**Sb**	**14 55 52.1**	**+0.5**
KULA	**Kula-Manisa**	**1.20**	**117**	*e*Pn	**Pg**	**14 55 35.4**	**-0.8**
KULA				*e*Sn	**Sb**	**14 55 52.1**	**+0.5**
AYDB	**Zeytinkoy-Aydi**	**1.20**	**157**	PN	**Pn**	**14 55 36.8**	**+0.6**
AYDB				SN	**Sb**	**14 55 52.3**	**+0.4**
AYDB	**Zeytinkoy-Aydi**	**1.20**	**157**	*e*Pn	**Pn**	**14 55 36.8**	**+0.6**
AYDB				*e*Sn	**Sb**	**14 55 52.3**	**+0.4**
BOZC	**Bozcaada**	**1.24**	**310**	PN	**Pn**	**14 55 36.5**	**-0.1**
BOZC	**Bozcaada**	**1.24**	**310**	*e*Pn	**Pn**	**14 55 36.5**	**-0.1**
KRBG	**Karabiga-Canak**	**1.33**	**0**	PN	**Pg**	**14 55 38.9**	**+0.1**
KRBG				SN	**Sn**	**14 55 56.9**	**+1.1**
KRBG	**Karabiga-Canak**	**1.33**	**0**	*e*Pn	**Pg**	**14 55 38.9**	**+0.1**
KRBG				*e*Sn	**Sn**	**14 55 56.9**	**+1.1**
EDC	**Edincik**	**1.36**	**19**	PN	**Pg**	**14 55 39.4**	**+0.1**
EDC				SN	**Sg**	**14 55 57.4**	**+0.4**
EDC	**Edincik**	**1.36**	**19**	*e*Pn	**Pg**	**14 55 39.4**	**+0.1**
EDC				*e*Sn	**Sg**	**14 55 57.4**	**+0.4**
LPK	**Lapseki**	**1.38**	**343**	PN	**Pb**	**14 55 38.8**	**-0.3**
LPK	**Lapseki**	**1.38**	**343**	*e*Pn	**Pb**	**14 55 38.8**	**-0.3**
KCTX	**Karacabey (Bur**	**1.46**	**34**	PN	**Pb**	**14 55 40.2**	**-0.3**
KCTX				SN	**Sg**	**14 55 59.8**	**-0.3**
KCTX	**Karacabey (Bur**	**1.46**	**34**	*e*Pn	**Pb**	**14 55 40.2**	**-0.3**
KCTX				*e*Sn	**Sg**	**14 55 59.8**	**-0.3**
RKY	**Sarkoy-Tekirda**	**1.63**	**357**	PN	**Pb**	**14 55 42.9**	**-0.5**
RKY	**Sarkoy-Tekirda**	**1.63**	**357**	*e*Pn	**Pb**	**14 55 42.9**	**-0.5**
ERIK	**Erikli-Kesan**	**1.72**	**340**	PN	**Pb**	**14 55 44.4**	**-0.5**
ERIK				SN	**Sb**	**14 56 06.4**	**-0.2**
ERIK	**Erikli-Kesan**	**1.72**	**340**	*e*Pn	**Pb**	**14 55 44.4**	**-0.5**
ERIK				*e*Sn	**Sb**	**14 56 06.4**	**-0.2**
TVSB	**Tavsanli**	**1.73**	**76**	PN	**Pn**	**14 55 43.9**	**+0.5**
TVSB	**Tavsanli**	**1.73**	**76**	*e*Pn	**Pn**	**14 55 43.9**	**+0.5**
ALN	**Alexandroupoli**	**2.07**	**333**	PN	**Pn**	**14 55 49.0**	**+0.9**
ALN	**Alexandroupoli**	**2.07**	**333**	*e*Pn	**Pn**	**14 55 49.0**	**+0.9**

IDC 12 15:00:25.5±55.0, 2°.21N×92°.79E, h0km, mb3.9/4, mb1 3.9/4, mb1mx3.4/74, mbtmp3.9/4, Error ellipse: s-maj=1057.0km s-min=128.3km az=179.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**45.34**	**350**	P	P	15 08 45.4	0.0
	0.6nm,0.5s,baz=166,slow=9.7,SNR=4.1						
SONM	**Songino Array**	**46.95**	**13**	P	P	15 08 58.1	-0.1
	1.2nm,0.7s,baz=193,slow=9.2,SNR=3.1						
KURBB	**Kurchatov Arra**	**49.73**	**348**	P	P	15 09 19.2	-0.2
	1.1nm,0.9s,baz=160,slow=5.4,SNR=3.0						
ZALV	**Zalesovo Beam**	**51.98**	**354**	P	P	15 09 36.3	-0.1
	1.0nm,0.4s,baz=170,slow=8.0,SNR=2.7						

CSEM **12** *15:00:29.0, 57°.71N×11°.89E, h0km, ML1.4, Mining explosion.*

UPP 12 15:00:29.0, 57°.71N×11°.89E, h0km, ML1.4, Mining explosion., Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ONSU	**Onsala**	**0.31**	**177**	P	Pg	15 00 35.2	+0.2
ONSU				S	Sg	15 00 39.1	+0.1
TJOU	**Tjoern**	**0.35**	**336**	P	Pg	15 00 35.8	0.0
VANU	**Vaenersborg**	**0.79**	**7**	P	Pg	15 00 44.0	-0.2
FABU	**Falkenberg**	**0.84**	**147**	P	Pg	15 00 44.2	-0.2
FKPU	**Falk**	**1.08**	**64**	P	Pg	15 00 49.2	-0.4
GNOU	**Gnosjoe**	**1.09**	**112**	P	Pg	15 00 49.2	-0.7
STRU	**Stroemstad**	**1.38**	**345**	P	Pg	15 00 54.2	-1.3
NASU	**Vaermlandsnaes**	**1.40**	**29**	P	Pn	15 00 54.6	-1.2
DEL	**Delary**	**1.65**	**138**	P	Pn	15 00 58.7	-0.4
BJUU	**Bjuv**	**1.75**	**159**	P	Pn	15 01 00.4	-0.2

IDC 12 15:00:31.8±52.0, 0°.39S×91°.08E, h0km, mb4.1/4, mb1 4.1/4, mb1mx3.4/75, mbtmp4.1/4, Error ellipse: s-maj=1024.0km s-min=135.4km az=1.0, South Indian Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**47.61**	**352**	P	P	15 09 09.7	+0.2
	1.1nm,0.7s,baz=165,slow=7.9,SNR=4.1						
SONM	**Songino Array**	**49.84**	**13**	P	P	15 09 26.5	-0.3
	2.5nm,0.7s,baz=194,slow=9.6,SNR=5.7						
KURBB	**Kurchatov Arra**	**51.93**	**350**	P	P	15 09 41.4	-1.0
	1.1nm,0.7s,baz=174,slow=7.4,SNR=3.9						
ZALV	**Zalesovo Beam**	**54.40**	**355**	P	P	15 10 01.3	+0.8
	2.1nm,0.5s,baz=174,slow=6.3,SNR=5.5						

MEX 12 15:01:13.6±0.7, 17°.81N×103°.20W, h16km±73km, MD4.0, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MMIG	**Aquila**	**0.50**	**343**	*e*P	Pg	15 01 21.6	-2.0
MMIG				*e*S	Sg	15 01 28.3	-2.0
ZIIG	**Zihuatanejo**	**1.66**	**97**	*e*P	Pn	15 01 38.4	-3.7
EZ5V		**1.71**	**347**	*e*P	Pn	15 01 40.0	-3.0
CJM	**Chamela**	**2.43**	**314**	*e*P	Pn	15 01 54.7	+2.0
ARIG	**Puente Sto Nin**	**2.75**	**80**	*i* P	Pn	15 01 54.7	-2.4
CAIG	**El Cayaco**	**2.90**	**105**	*e*P	Pn	15 01 56.9	-2.2

DJA **12** *15:01:17.5±0.3, 8°.5S±3°×10°.7E±°, h10km, M5.0/28, mb5.0/17, mB5.4/10, MLv5.0/28, Mw(mB)4.9/10*
ISCJB **12** *15:01:19.9±0.4, 7°.61S±0°.04×107°.15E±0°.03, h78km±3km, mb4.7/78, Error ellipse: s-maj=7.6km s-min=3.7km az=30.8*
NEIC **12** *15:01:19.6±0.6, 7°.60S×107°.11E, h58km±5km, mb4.9/49, Error ellipse: s-maj=6.9km s-min=4.2km az=222.0*
NEIC Felt [III] at Cianjur.
IDC **12** *15:01:23.8±0.8, 7°.53S×107°.20E, h91km±6km, mb4.2/36, mb1 4.3/37, mb1mx4.1/69, mbtmp4.5/37, Error ellipse: s-maj=15.0km s-min=8.9km az=48.0*

ISC 12 15:01:20.1±0.8, 7.72S±0°.06×107°.11E±0°.04, h64km±7km, n306, σ1°32/305, mb4.8/77, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CISI	**Cisompet, Garu**	**0.72**	**77**	P	**Pn**	**15 01 33.8**	**-1.1**
CISI	**Cisompet, Garu**	**0.72**	**77**	*e*Pn	**Pn**	**15 01 33.5**	**-1.4**
CISI				*e*Sn	**Sn**	**15 01 43.8**	**-2.0**
SKJI	**Sukabumi**	**0.90**	**322**	P	**Pn**	**15 01 37.5**	**+0.5**
LEM	**Lembang**	**1.02**	**30**	P	**Pn**	**15 01 40.7**	**+2.0**
	2μm,0.3s,baz=90,slow=4.1,SNR=619						
LEM				S	**Sn**	**15 01 56.3**	**+3.8**
	2μm,0.3s,baz=188,slow=18,SNR=15						
LEM	**Lembang**	**1.02**	**30**	P	**Pn**	**15 01 41.0**	**+2.2**
CMJI	**Cimerak**	**1.33**	**93**	P	**Pn**	**15 01 41.8**	**-0.8**
TNG	**Tangerang**	**1.60**	**343**	P	**Pn**	**15 01 49.1**	**+2.8**
TNG				P	**Pn**	**15 01 48.7**	**+2.4**
KPJI	**Karang Pucung**	**1.85**	**78**	P	**Pn**	**15 01 51.0**	**+1.4**
BLSI	**Bandar Lampung**	**2.98**	**321**	P	**Pn**	**15 02 07.0**	**+1.9**
XMIS	**Christmas Isla**	**3.10**	**208**	*e*Pn	Pn	15 02 01.3	-5.3
XMIS				*e*Sn	Sn	15 02 31.4	-11
SMRI	**Semarang**	**3.37**	**79**	P	**Pn**	**15 02 12.6**	**+2.2**
SMRI	**Semarang**	**3.37**	**79**	*e*Pn	**Pn**	**15 02 11.1**	**+0.7**
SMRI				*e*Sn	**Sn**	**15 02 51.9**	**+2.7**
UGM	**Wanagama**	**3.39**	**93**	P	**Pn**	**15 02 10.8**	**+0.2**
UGM	**Wanagama**	**3.39**	**93**	*e*Pn	**Pn**	**15 02 10.5**	**-0.1**
KASI	**Kota Agung**	**3.39**	**310**	P	**Pn**	**15 02 12.1**	**+1.5**
KLI	**Kotabumi**	**3.62**	**322**	P	**Pn**	**15 02 17.0**	**+3.3**
WOJI	**Wonogiri, Jawa**	**3.78**	**92**	P	**Pn**	**15 02 16.0**	**0.0**
LWLI	**Liwa**	**4.05**	**311**	P	**Pn**	**15 02 21.5**	**+1.7**
PCJI	**Pacitan**	**4.06**	**97**	P	**Pn**	**15 02 19.7**	**0.0**
MDSI	**Maura Dua**	**4.34**	**318**	P	**Pn**	**15 02 25.8**	**+2.2**
PWJI	**Pagerwojo**	**4.66**	**94**	P	**Pn**	**15 02 29.0**	**+1.0**
MNAI	**Manna**	**5.31**	**309**	P	**Pn**	**15 02 38.4**	**+1.5**
	234nm,0.7s,5μm1.4nm						
MNAI	**Manna**	**5.31**	**309**	*e*Pn	**Pn**	**15 02 37.2**	**+0.3**
MNAI				*e*Sn	**Sn**	**15 03 34.3**	**-2.5**
GRJI	**Gresik**	**5.39**	**82**	P	Pn	15 02 48.9	+11
PPBI	**Pangkal Pinang**	**5.61**	**350**	P	**Pn**	**15 02 44.6**	**+3.6**
	0.6nm,0.7s,299nm0.0nm						
BWJI	**Bawean**	**5.81**	**72**	P	**Pn**	**15 02 46.7**	**+2.9**
GMJI	**Gumukmas**	**6.30**	**95**	P	**Pn**	**15 02 51.7**	**+1.3**
	118nm,0.8s,3μm0.6nm						
BLJI	**Banyuglugur**	**6.43**	**91**	P	**Pn**	**15 02 53.8**	**+1.6**
MASI	**Maura Aman, Be**	**6.65**	**313**	P	**Pn**	**15 02 57.5**	**+2.2**
PBKI	**Pangkalan Bun**	**6.74**	**43**	P	**Pn**	**15 03 00.7**	**+4.2**
KMMI	**Kalianget**	**6.83**	**85**	P	**Pn**	**15 02 59.3**	**+1.5**
JAGI	**Jajag, Banyuwa**	**7.01**	**97**	P	**Pn**	**15 03 01.3**	**+1.0**
JAGI	**Jajag, Banyuwa**	**7.01**	**97**	*e*Pn	**Pn**	**15 03 00.3**	**+0.1**
JAGI				*e*Sn	**Sn**	**15 04 12.0**	**-6.6**
DSRI	**Dabo**	**7.62**	**341**	P	**Pn**	**15 03 13.0**	**+4.4**
	128nm,0.7s						
IGBI	**Denpasar**	**8.03**	**98**	P	**Pn**	**15 03 16.1**	**+2.0**
	236nm,0.5s,5μm						
SRBI	**Singaraja**	**8.04**	**93**	P	**Pn**	**15 03 15.8**	**+1.6**
DNP	**Denpasar**	**8.08**	**97**	P	**Pn**	**15 03 15.9**	**+1.1**
PPSI	**Pulau Pagai**	**8.61**	**304**	P	**Pn**	**15 03 20.9**	**-1.3**
	216nm,0.6s						
KSM	**Kuching**	**9.67**	**19**	*e*Pn	**Pn**	**15 03 36.6**	**-0.1**
PLAI	**Plampang**	**10.62**	**97**	P	**Pn**	**15 03 49.7**	**+0.2**
	52nm,0.7s						
COCO	**West Island**	**11.05**	**245**	*e*Pn	**Pn**	**15 03 55.0**	**-0.4**
SBUM	**Sibu**	**11.32**	**27**	*e*Pn	**Pn**	**15 03 58.8**	**-0.3**
GSI	**Gunungsitoli**	**13.07**	**313**	*e*Pn	**Pn**	**15 04 20.6**	**-2.4**
MMRI	**Maumere**	**15.00**	**95**	P	**Pn**	**15 04 50.7**	**+2.1**
	113nm,0.9s,6μm						
MMRI	**Maumere**	**15.00**	**95**	*e*Pn	**Pn**	**15 04 46.6**	**-2.0**
	101nm,0.5s						
MPSI	**Mapaga**	**15.06**	**58**	P	**P**	**15 04 53.9**	**+0.7**
KKM	**Kota Kinabalu**	**16.41**	**34**	*e*Pn	**Pn**	**15 05 03.5**	**-3.1**
	42nm,1.5s						
BATI	**Baumata**	**16.54**	**100**	P	**Pn**	**15 05 08.1**	**0.0**
	4.4nm,0.3s,baz=209,slow=19,SNR=7.3						
BATI				S	**S**	**15 08 18.7**	**-0.9**
	2.1nm,0.3s,baz=53,slow=20,SNR=4.3						
LUWI	**Luwuk**	**16.96**	**68**	*e*Pn	**Pn**	**15 05 11.4**	**-1.9**
	138nm,1.4s						
SOEI	**Soe**	**17.08**	**98**	*e*Pn	**Pn**	**15 05 12.4**	**-2.6**
	82nm,0.8s						
SOEI				*e*Sn	**Sn**	**15 08 26.8**	**+2.4**
MYLDM	**Lahad Datu**	**17.13**	**42**	*e*Pn	**Pn**	**15 05 14.0**	**-1.4**
	23nm,1.0s						
MBWA	**Marble Bar**	**18.09**	**139**	*e*P	**P**	**15 05 24.8**	**-2.0**
	14nm,1.0s						
FITZ	**Fitzroy Crossi**	**20.78**	**122**	P	**P**	**15 05 57.2**	**+1.0**
	27nm,0.8s,baz=281,slow=5.7,SNR=16						
FITZ	**Fitzroy Crossi**	**20.78**	**122**	*e*P	**P**	**15 05 57.1**	**+1.0**
	25nm,0.8s						
MTN	**Manton Dam**	**24.17**	**104**	*e*P	**P**	**15 06 29.4**	**-1.3**
	166nm,1.9s						
SIJI	**Sorong**	**25.02**	**75**	P	**P**	**15 06 38.0**	**-0.5**
	8.5nm,0.7s,baz=106,slow=19,SNR=6.3

STKA	Stephens Creek	40.08	132	P		P		15 08 50.7	+1.1
	comp=Z,29nm,0.7s,baz=305,slow=8.4,SNR=46								
STKA	Stephens Creek	40.08	132	*e*P		P		15 08 50.8	+1.3
	comp=Z,7.2nm,0.8s								
NJ2	Nanjing	41.11	15	*e*P		P		15 08 57.0	-0.9
NJ2				pmax		pmax			
	comp=Z,13nm,0.5s								
LZH	Lanzhou	43.68	356	*e*P		P		15 09 19.6	+0.6
LZH				pP		pP		15 09 33.4	-1.7
LZH				sP		sP		15 09 38.3	-4.1
LZH				*e*PP		PcP		15 11 07.2	+2.0
LZH				pmax		pmax			
	comp=Z,21nm,1.0s								
LZH				pmax		pmax			
	comp=Z,6µm,7.1s								
LZH				LR		LR			
	comp=N,410nm,13.3s								
LZH				LR		LR			
	comp=E,310nm,13.5s								
LZH				LR		LR			
	comp=Z,380nm,15.3s								
CAN	Canberra	47.15	132	*e*P		P		15 09 48.6	+2.2
	comp=Z,11nm,0.8s								
ARMA	Armidale	47.34	125	*e*P		P		15 09 50.0	+1.9
	comp=Z,66nm,1.8s								
HHC	Hu-ho-hao-te	48.50	5	*e*P		P		15 09 59.3	+2.6
HHC				pmax		pmax			
	comp=Z,30nm,1.1s								
HHC				pmax		pmax			
	comp=Z,87nm,6.3s								
KS15	Wonju Array Si	48.95	22	*e*P		P		15 09 59.5	-0.6
KSAR	Wonju Array Be	48.95	22	P		P		15 09 59.6	-0.5
KSRS	Korea Array	48.97	22	P		P		15 09 59.6	-0.7
	comp=Z,1.0nm,0.7s,baz=205,slow=7.2,SNR=4.3								
INU	Inuyama	51.29	31	*e*P		P		15 10 17.3	-0.5
	comp=Z,50nm,1.8s								
NIL	Nilore	52.20	324	*e*P		P		15 10 23.6	-1.1
	comp=Z,29nm,1.5s								
WMQ	Urumqi	54.23	343	P		P		15 10 40.5	+1.0
SONA0	Songino Array	55.31	359	*e*P		P		15 10 46.4	-0.9
SONA0				*e*PcP		PcP		15 11 48.2	+0.9
SONA0				*e*ScP		ScP		15 15 39.8	-0.9
SONM	Songino Array	55.31	359	P		P		15 10 46.4	-0.9
	comp=Z,0.8nm,0.5s,baz=188,slow=8.7,SNR=3.2								
SONM				PcP		PcP		15 11 48.2	+0.9
	comp=Z,3.0nm,0.7s,baz=171,slow=4.0,SNR=8.6								
SONM				ScP		ScP		15 15 39.8	-0.9
	comp=Z,0.4nm,0.5s,baz=177,slow=5.1,SNR=3.9								
SONA1	Songino Array	55.33	359	*e*P		P		15 10 45.4	-2.0
KBL	Kabul	55.33	322	*e*P		P		15 10 47.2	-0.6
	comp=Z,12nm,1.0s								
USRK	Ussuriysk Ar.	56.36	21	P		P		15 10 53.7	-1.0
	comp=Z,2.1nm,0.5s,baz=193,slow=6.1,SNR=10								
WSAR	Wadi Sarin	56.50	304	P		P		15 10 57.8	+1.7
	comp=Z,5.1nm,0.5s,baz=161,slow=5.5,SNR=14								
NRN	Naryn	56.63	332	*e*P		P		15 10 55.3	-1.8
	comp=Z,6.1nm,1.2s								
KDJ	Kajisay	56.65	334	*e*P		P		15 10 55.6	-1.5
	comp=Z,4.6nm,1.0s								
MK01	Makanchi Array	58.57	340	*e*P		P		15 11 08.0	-2.3
MK31	Makanchi Array	58.60	340	*e*P		P		15 11 08.8	-1.6
MK32	Makanchi Array	58.60	340	*e*P		P		15 11 08.7	-1.8
MKAR	Makanchi Array	58.60	340	P		P		15 11 08.7	-1.8
	comp=Z,4.1nm,0.7s,baz=150,slow=7.3,SNR=14								
MKAR	Makanchi Array	58.60	340	*e*P		P		15 11 08.3	-2.1
	comp=Z,28nm,0.9s								
UOSS	Minazif	59.24	305	*e*P		P		15 11 15.6	+0.3
	comp=Z,93nm,2.0s								
KLR	Kul'dur	60.68	18	P		P		15 11 23.6	-1.1
	comp=Z,0.4nm,0.6s,baz=198,slow=5.6,SNR=22								
ASAJ	Asahikawa	60.75	29	P		P		15 11 24.6	-0.6
	comp=Z,3.4nm,0.7s,baz=201,slow=11,SNR=4.3								
ASAJ	Asahikawa	60.75	29	*e*P		P		15 11 24.8	-0.5
	comp=Z,14nm,1.4s								
YSS	Yuzh-Sakhalins	62.97	27	*e*P		P		15 11 38.1	-1.9
	comp=Z,39nm,1.7s								
KURBB	Kurchatov Arra	63.16	340	P		P		15 11 39.9	-1.4
	comp=Z,5.2nm,0.7s,baz=157,slow=5.8,SNR=20								
KURK	Kurchatov	63.21	340	*e*P		P		15 11 38.9	-2.7
	comp=Z,8.2nm,0.8s								
ZAA0	Zalesovo Array	64.25	346	*e*P		P		15 11 47.4	-1.0
	comp=Z,3.9nm,0.9s								
ZALV	Zalesovo Beam	64.25	346	P		P		15 11 46.7	-1.7
	comp=Z,1.3nm,0.3s,baz=157,slow=6.6,SNR=6.7								
ZALV	Zalesovo Beam	64.25	346	*e*P		P		15 11 46.3	-2.1
ZAA1	Zalesovo Array	64.26	346	*e*P		P		15 11 46.7	-1.8
GEYT	Alibeck	64.37	319	P		P		15 11 49.5	-0.1
	comp=Z,4.9nm,0.7s,baz=165,slow=6.2,SNR=7.1								
GYA0B	ALIBECK ARRAY	64.37	319	*e*P		P		15 11 48.4	-1.2
	comp=Z,9.2nm,1.0s								
MQZ	McQueen's Vall	67.08	134	*e*P		P		15 12 09.1	+2.1
	comp=Z,91nm,1.6s								
RAYN	Ar Rayn	67.69	299	*e*P		P		15 12 11.4	+0.2
	comp=Z,21nm,1.8s								
BVAR	Borovoye Array	68.07	337	P		P		15 12 11.8	-1.1
	comp=Z,6.8nm,0.6s,baz=146,slow=8.9,SNR=44								
BRVK	Borovoye	68.14	337	*e*P		P		15 12 12.8	-0.5
	comp=Z,5.7nm,0.6s								
BKZ	Black Stump Fm	69.19	129	*e*P		P		15 12 21.7	+1.3
	comp=Z,106nm,1.6s								
KMBO	Kilima Mbogo	69.89	272	P		P		15 12 25.8	+0.4
	comp=Z,0.8nm,0.4s,baz=64,slow=13,SNR=3.5								
ABKAR	Akbulak array	70.08	329	*e*P		P		15 12 24.9	-0.5
	comp=Z,218nm,0.6s								
MXZ	Matakaoa Point	70.44	127	*e*P		P		15 12 29.1	+1.1
	comp=Z,405nm,1.8s								
YAK	Yakutsk	71.71	11	P		P		15 12 29.5	-5.5
	comp=Z,11nm,0.6s,baz=196,slow=1.2,SNR=6.2								
YAK	Yakutsk	71.71	11	*e*P		P		15 12 33.7	-1.3
	comp=Z,14nm,0.6s								
AKTO	Aktyubinsk	71.79	329	P		P		15 12 35.1	-0.7
	comp=Z,5.5nm,0.6s,baz=109,slow=7.4,SNR=13								
PETK	Petropavlovsk-	74.17	29	P		P		15 12 48.7	-1.1
	comp=Z,5.7nm,1.0s,baz=35,slow=1.5,SNR=4.7								
PETK	Petropavlovsk-	74.17	29	*e*P		P		15 12 49.4	-0.4
PEA1	Petropavlovsk-	74.17	29	*e*P		P		15 12 48.7	-1.1
VNDA	Vanda	75.25	169	P		P		15 12 56.8	+1.1
	comp=Z,2.0nm,0.6s,baz=322,slow=5.9,SNR=7.4								
VNDA	Vanda	75.25	169	*e*P		P		15 12 56.9	+1.2
	comp=Z,5.4nm,1.3s								
ARU	Arti	75.31	335	P		P		15 12 56.7	+0.4
	comp=Z,6.2nm,0.5s,baz=98,slow=6.2,SNR=9.5								
ARU	Arti	75.31	335	*e*P		P		15 12 56.1	-0.2
	comp=Z,8.2nm,0.7s								
KBZ	Khabaz	77.25	318	P		P		15 13 08.3	+0.7
	comp=Z,4.0nm,1.0s,baz=129,slow=4.6,SNR=4.5								
LSZ	Lusaka	77.36	256	P		P		15 13 11.1	+2.0
	comp=Z,1.9nm,0.5s,baz=55,slow=2.2,SNR=4.4								
LSZ	Lusaka	77.36	256	*e*P		P		15 13 10.9	+1.9
	comp=Z,21nm,1.9s								
ASF	Jabal al Asfar	77.65	305	P		P		15 13 12.0	+1.8
	comp=Z,4.9nm,0.7s,baz=243,slow=17,SNR=7.3								
MMAI	Mount Meron Ar	79.11	306	P		P		15 13 20.0	+1.8
	comp=Z,3.8nm,0.7s,baz=85,slow=7.7,SNR=7.3								
TIXI	Tiksi	80.50	7	*e*P		P		15 13 23.1	-1.7
	comp=Z,3.3nm,0.6s								
QSPA	South Pole Qui	82.27	180	P		P		15 13 35.3	+0.7
	comp=Z,7.2nm,0.9s,baz=94,slow=2.6,SNR=11								
BR101	Keskin Array S	82.39	312	*e*P		P		15 13 35.7	0.0
BR131	Keskin Array S	82.39	312	*e*P		P		15 13 35.6	0.0
BRTR	Keskin Array B	82.39	312	P		P		15 13 35.7	0.0
	comp=Z,2.9nm,0.7s,baz=139,slow=6.9,SNR=14								
BR231	Keskin MP Arra	83.06	312	*e*P		P		15 13 36.3	-2.8
IDI	Anoyia	88.11	306	P		P		15 14 03.0	-1.3
	comp=Z,8.6nm,0.9s,baz=276,slow=19,SNR=2.0								
ALN	Alexandroupoli	88.30	311	*e*P		P		15 14 05.0	+0.1
	comp=Z,18nm,1.5s								
AKASG	Malin Array Be	88.32	322	P		P		15 14 04.4	-0.4
	comp=Z,2.1nm,0.7s,baz=84,slow=4.9,SNR=10								
AKBB	Malin Array Si	88.32	322	*e*P		P		15 14 04.0	-0.8
	comp=Z,16nm,1.7s								
AK11	Malin Array Si	88.35	322	*e*P		P		15 14 04.2	-0.8
SNAA	Sanae	88.88	197	P		P		15 14 08.6	+1.4
	comp=Z,2.4nm,0.8s,baz=162,slow=4.3,SNR=4.1								
SNAA	Sanae	88.88	197	*e*P		P		15 14 07.9	+0.8
	comp=Z,26nm,1.7s								
MLR	Muntele Rosu	89.30	316	P		P		15 14 10.5	+0.8
	comp=Z,0.7nm,0.6s,baz=71,slow=6.4,SNR=4.0								
MLR	Muntele Rosu	89.30	316	*e*P		P		15 14 10.0	+0.3
	comp=Z,7.0nm,0.9s								
FIA0	FINESS Array S	92.45	332	*e*P		P		15 14 23.8	0.0
FINES	FINESS Array B	92.45	332	P		P		15 14 23.8	0.0
	comp=Z,1.3nm,0.7s,baz=123,slow=7.0,SNR=6.0								
CRVS	Cervenica-Dubn	92.90	319	*e*P		P		15 14 27.1	+0.9
STHS	Stebnicka Huta	93.12	319	*e*P		P		15 14 24.4	-2.8
SPA0	Spitsbergen Ar	97.66	348	*e*P		P		15 14 46.5	-0.8
SPITS	Spitsbergen Ar	97.66	348	P		P		15 14 46.5	-0.8
	comp=Z,3.9nm,0.8s,baz=306,slow=3.4,SNR=7.1								
HFS	Hagfors	98.34	330	P		Pdif		15 14 50.9	+0.2
	comp=Z,1.2nm,0.8s,baz=49,slow=14,SNR=2.2								
TOLK	Toolik Lake Re	101.99	21	P		Pdif		15 15 07.4	+0.6
	baz=280								
YKA	Yellowknife Ar	117.50	20	PKP		PKPdf		15 19 58.6	+0.2
	comp=Z,0.8nm,0.6s,baz=325,slow=1.8,SNR=17								
EDM	Edmonton	124.06	28	*e*PKPdf		PKPdf		15 20 11.4	+0.1
J05D	Fort Rock, OR	124.90	42	P		PKPdf		15 20 13.3	-0.1
	baz=296								
F10A	Beach Ranch, E	126.16	37	*e*PKPdf		PKPdf		15 20 17.1	+1.4
MSO	Missoula	127.60	35	P		PKPdf		15 20 18.6	+0.2
	baz=305								
NVAR	Mina Array Bea	128.98	46	PKP		PKPdf		15 20 23.3	+1.9
	comp=Z,0.7nm,0.8s,baz=226,slow=1.6,SNR=4.9								
BAKC	Calstate	129.60	50	*e*PKPpre		PKPpre		15 20 11.7	
BOZ	Bozeman (W)	129.62	35	P		PKPdf		15 20 23.0	+0.7
	baz=307								
VTV	Victorville	131.25	50	*e*PKPpre		PKPpre		15 20 14.7	
GSC	Goldstone, Bar	131.35	49	*e*PKPdf		PKPdf		15 20 26.1	+0.2
DNR	Dunn Ranch,Anz	132.17	51	*e*PKPpre		PKPpre		15 20 14.9	
PDAR	Pinedale Array	132.51	37	PKP		PKPdf		15 20 29.3	+1.2
	comp=Z,0.4nm,0.5s,baz=311,slow=0.7,SNR=5.4								
ULM	Lac du Bonnet	133.48	20	PKP		PKPdf		15 20 30.4	+1.1
	comp=Z,2.2nm,0.7s,baz=327,slow=6.7,SNR=5.2								
RSSD	Black Hills	134.71	32	P		PKPdf		15 20 32.9	+0.8
	baz=314								
A33A	Warroad	134.75	21	P		PKPdf		15 20 32.8	+1.1
	baz=328								
B32A	Ashes, Strandq	134.79	22	P		PKPdf		15 20 32.5	+0.7
	baz=326								
C31A	Landman Farms,	134.83	24	P		PKPdf		15 20 32.6	+0.7
	baz=324								
B35A	Bob, Littlefor	135.82	20	P		PKPdf		15 20 34.4	+0.6
	baz=330								
D33A	AnnSam, Waubun	136.09	23	P		PKPdf		15 20 34.6	+0.3
	baz=326								
F32A	Veblen	136.63	25	P		PKPdf		15 20 36.0	+0.7
	baz=324								
C36A	Pine Crest Far	136.64	20	P		PKPdf		15 20 36.2	+0.8
	baz=331								
ISCO	Idaho Springs	136.67	37	P		PKPdf		15 20 36.2	+0.2
	baz=309								
D35A	Remer	136.81	21	P		PKPdf		15 20 36.7	+1.1
	baz=329								
TUC	Tucson	137.16	50	P		PKPdf		15 20 37.0	+0.1
	baz=297								
D37A	Colton	137.30	20	P		PKPdf		15 20 37.6	+1.1
	baz=331								
E36A	McGregor	137.57	21	P		PKPdf		15 20 38.1	+1.1
	baz=329								
C40A	Isle Royale Na	137.63	16	P		PKPdf		15 20 38.3	+1.2
	baz=336								
F36A	Milaca	138.04	22	P		PKPdf		15 20 39.1	+1.2
	baz=329								
ECSD	EROS Data Cent	138.56	26	P		PKPdf		15 20 40.4	+1.4
	baz=323								
D41A	Chassel	138.57	16	P		PKPdf		15 20 40.0	+1.2
	baz=336								
E39A	Mellen	138.60	19	P		PKPdf		15 20 40.6	+1.7
	baz=333								
E40A	Wakefield	138.74	18	P		PKPdf		15 20 40.2	+1.0
	baz=334								
F40A	Park Falls	139.14	18	P		PKPdf		15 20 40.8	+0.8
	baz=334								
BGNE	Belgrade	139.65	30	P		PKPdf		15 20 41.8	+0.8
	baz=319								
G40A	Rib Lake	139.70	19	P		PKPdf		15 20 42.0	+0.9
	baz=333								
O41A	Passleys Farm,	143.95	24	P		PKPbc		15 20 46.5	-0.2
	baz=329								
Q39A	Willow Grove F	143.95	27	P		PKPbc		15 20 47.2	+0.5
	baz=325								
TX31	Lajitas Ar. Si	143.95	49	*e*PKPdf		PKPdf		15 20 48.6	-0.6
LTX	Lajitas	143.95	49	*e*PKPdf		PKPdf		15 20 48.9	-0.3
TXAR	Lajitas Array	143.95	49	PKP		PKPdf		15 20 48.9	-0.3
	comp=Z,1.3nm,0.5s,baz=254,slow=2.1,SNR=9.6								
WMOK	Wichita Mounta	144.09	38	P		PKPdf		15 20 48.4	-0.8
	baz=313								
WMOK	Wichita Mounta	144.09	38	*e*PKPdf		PKPbc		15 20 48.1	+0.8
R38A	Fenwick Farm,	144.21	29	P		PKPbc		15 20 47.8	+0.2
	baz=323								
P41A	Barry, Barry	144.25	24	P		PKPbc		15 20 47.7	+0.1
	baz=328								
Q40A	Laux Farm, Aux	144.39	26	P		PKPbc		15 20 48.6	+0.5
	baz=326								
R39A	Chumby, Stover	144.52	28	P		PKPbc		15 20 48.4	-0.1
	baz=324								
P42A	Winchester	144.62	24	P		PKPab		15 20 47.9	-0.7
	baz=329								
S39A	Bolivar	144.88	29	P		PKPab		15 20 49.6	-0.1
	baz=323,SNR=5.7								
R40A	Maddies Statio	144.89	27	P		PKPbc		15 20 49.9	+0.3
	baz=325								
ABTX	Abilene, Hawle	144.93	41	P		PKPbc		15 20 50.4	+0.4
	baz=309								
TUL1	Leonard	144.99	33	P		PKPab		15 20 50.3	+0.3
	baz=318								
Q42A	Golden Eagle	145.12	24	P		PKPab		15 20 50.5	+0.1
	baz=328								
R41A	Rosebud	145.28	26	P		PKPbc		15 20 50.9	0.0
	baz=327								
HRV	Adam Dziewonsk	145.33	358	P		PKPab		15 20 51.1	0.0
	baz=2.3								
S40A	Lebanon	145.34	28	P		PKPbc		15 20 50.9	-0.2
	baz=324,SNR=10								
T39A	Clever	145.39	30	P		PKPbc		15 20 51.0	-0.3
	baz=323,SNR=7.5								
CCM	Cathedral Cave	145.53	26	P		PKPab		15 20 52.4	+0.4
	baz=327								
R42A	Luebbering	145.54	25	P		PKPab		15 20 52.3	+0.2
	baz=328								
ALLY	Allegheny Colle	145.60	10	*e*PKPdf		PKPbc		15 20 51.9	0.0
P45A	Graceland, Par	145.64	21	P		PKPab		15 20 52.5	+0.2
	baz=333								
HHAR	Hobbs	145.69	31	*e*PKPdf		PKPdf		15 20 52.0	+0.1
T40A	Mansfield	145.70	28	P		PKPbc		15 20 52.1	-0.1
	baz=324,SNR=6.2								
S41A	Jillco Farms,	145.70	27	P		PKPab		15 20 52.8	+0.1
	baz=326								
M54A	Oil Creek Stat	145.82	9	P		PKPab		15 20 53.1	+0.1
	baz=348								
M54A	Oil Creek Stat	145.82	9	*e*PKPdf		PKPbc		15 20 52.4	-0.2
U39A	Green Forest	145.84	30	P		PKPab		15 20 53.3	+0.1
	baz=322								
R43A	Red Bud	145.90	24	P		PKPab		15 20 53.4	0.0
	baz=329								
S42A	Caledonia	145.97	26	P		PKPbc		15 20 53.2	+0.1
	baz=327								
JCT	Junction City	146.13	45	P		PKPab		15 20 55.4	+0.8
	baz=307								
JCT	Junction City	146.13	45	*e*PKPdf		PKPab		15 20 54.3	-0.3
T41A	Mountain View	146.14	28	P		PKPbc		15 20 53.7	0.0
	baz=325								
P47A	Martinsville	146.16	19	P		PKPbc		15 20 53.6	0.0
	baz=336								
U40A	Yellville	146.17	30	P		PKPbc		15 20 54.1	+0.4
	baz=323								
V39A	Pettigrew	146.18	31	P		PKPbc		15 20 53.9	0.0
	baz=321								
N54A	Moraine State	146.30	10	P		PKPab		15 20 55.5	+0.7
	baz=347								
T42A	Van Buren	146.45	27	P		PKPbc		15 20 55.0	+0.4
	baz=326								
W39A	Magazine	146.60	32	P		PKPbc		15 20 55.4	+0.4
	baz=320								
V40A	Witts Springs	146.62	30	P		PKPbc		15 20 55.4	+0.3
	baz=322								
V40A	Witts Springs	146.62	30	*e*PKPdf		PKPbc		15 20 54.5	-0.6
U41A	Viola	146.63	29	P		PKPbc		15 20 55.5	+0.4
	baz=324								
T43A	Greenville	146.76	26	P		PKPbc		15 20 56.0	+0.6
	baz=328								
N59A	State Game Lan	146.84	4	P		PKPbc		15 20 56.1	+0.5
	baz=355								
SSPA	Standing Stone	146.92	7	P		PKPab		15 20 56.5	-0.7
	baz=351								
SSPA	Standing Stone	146.92	7	*e*PKPdf		PKPbc		15 20 55.8	+0.1
U42A	Revenden	146.95	28	P		PKPbc		15 20 56.3	+0.4
	baz=325								
X39A	Fountain Ranch	146.95	33	P		PKPab		15 20 57.0	-0.5
	baz=319								
S45A	Carrier Mills	146.96	23	P		PKPbc		15 20 56.3	+0.3
	baz=331								
V41A	Mountainview	146.97	29	P		PKPbc		15 20 56.4	+0.3
	baz=323								
W40A	Ferguson Farm,	146.98	31	P		PKPbc		15 20 56.7	+0.6
	baz=321								
T44A	Benton	147.06	25	P		PKPbc		15 20 56.8	+0.5
	baz=329								
R47A	Wooly Knot Far	147.16	20	P		PKPbc		15 20 57.0	+0.5
	baz=335								
O56A	Blue Knob Stat	147.19	8	P		PKPbc		15 20 56.9	+0.2
	baz=350								
MIAR	Mount Ida	147.21	33	P		PKPab		15 20 57.7	-0.8
	baz=320								
MIAR	Mount Ida	147.21	33	*e*PKPbc		PKPbc		15 20 57.4	+0.6
WCI	Wyandotte Cave	147.30	20	P		PKPab		15 20 57.9	-0.9
	baz=335								
V42A	Cord	147.32	29	P		PKPab		15 20 58.1	-0.8
	baz=325								
W41B	Gary Mavity, V	147.41	30	P		PKPab		15 20 58.5	-0.7
	baz=323								
X40A	Basin Creek Fa	147.65	32	P		PKPab		15 20 59.5	-0.8
	baz=321								
MVL	Millersville	147.71	5	*e*PKPdf		PKPdf		15 20 52.4	-2.7
V43A	Jonesboro	147.73	28	P		PKPab		15 20 59.7	-0.8
	baz=326								
Y40A	Okolona	147.77	33	P		PKPbc		15 20 59.4	+1.1
	baz=320								
T46A	Princeton	147.78	23	P		PKPbc		15 20 59.2	+1.0
	baz=331								
S48A	Wiedeman Farm,	147.89	20	P		PKPbc		15 20 59.1	+0.6
	baz=335								
T47A	Sharon Grove	148.12	22	P		PKPbc		15 20 59.8	+0.6
	baz=333								
Y41A	Eaglette Beard	148.23	32	P		PKPbc		15 21 00.8	+1.3
	baz=321								
T48A	Bowling Green	148.27	21	P		PKPbc		15 21 00.4	+0.8
	baz=334								
U47A	Clarksville	148.54	23	P		PKPbc		15 21 00.7	+0.5
	baz=332								
WVT	Waverly	148.60	24	P		PKPbc		15 21 01.1	+0.7
	baz=331								
WVT	Waverly	148.60	24	*e*PKPbc		PKPbc		15 21 01.1	+0.7
140A	Cam and Jess,	148.64	35	P		PKPbc		15 21 01.5	+0.9
	baz=318								
U48A	Cassie Pea, Po	148.75	22	P		PKPbc		15 21 01.3	+0.5
	baz=333								
V46A	Holladay	148.77	24	P		PKPbc		15 21 01.1	+0.2
	baz=330								
LNIG	Linares	149.41	53	*e*PKPbc		PKPbc		15 21 03.4	+0.5
W47A	Westpoint	149.46	24	P		PKPbc		15 21 03.0	+0.3
	baz=330								
TZTN	Tazewell	149.71	17	P		PKPbc		15 21 03.6	+0.4
	baz=339								
Y46A	Houston	150.08	27	P		PKPbc		15 21 04.4	+0.2
	baz=327								
X48A	Hartselle	150.37	24	P		PKPbc		15 21 05.0	+0.1
	baz=331								
X49A	Woodville	150.60	23	P		PKPbc		15 21 05.3	-0.1
	baz=332								
BG3	Lake Jocassee	151.33	17	*e*PKPdf		PKPdf		15 21 00.8	-0.3
BG3				*e*PKPbc		PKiKP		15 21 07.8	+0.2
246A	Jackson Lee, B	151.49	30	P		PKPbc		15 21 07.9	+0.3
	baz=325								
LRAL	Lakeview Retre	151.62	26	P		PKPbc		15 21 07.8	0.0
	baz=330								
LRAL	Lakeview Retre	151.62	26	*e*PKPbc		PKPbc		15 21 08.0	+0.2
KMSC	Kings Mountain	151.63	15	P		PKPbc		15 21 07.7	-0.1
	baz=342								
KMSC	Kings Mountain	151.63	15	*e*PKPbc		PKPbc		15 21 07.7	-0.1
Z49A	Columbiana	151.68	25	P		PKPbc		15 21 08.1	+0.2
	baz=331								
346A	Big Creek Wild	151.82	31	P		PKPbc		15 21 07.9	-0.5
	baz=324								
Z50A	Ashland	151.87	24	P		PKPbc		15 21 08.7	+0.3
	baz=332								
149A	Jones	152.08	26	P		PKPbc		15 21 09.3	+0.4
	baz=330,SNR=5.0								
347A	Saraland	152.28	30	P		PKPbc		15 21 10.5	+1.2
	baz=325								
150A	Eclectic	152.40	24	P		PKPbc		15 21 10.1	+0.5
	baz=331								
JSC	Jenkinsville	152.46	15	*e*PKPbc		PKPbc		15 21 10.1	+0.4
249A	Camden	152.47	27	P		PKPbc		15 21 10.7	+0.9
	baz=328								
GOGA	Godfrey

ASTR	**Astara**	**4.65**	**287**	⇓	S		**Sn**	**15 03 45.7**	**0.0**	
LKRN	**Lenkeran, Azer**	**4.70**	**289**	⇑	P		**Pn**	**15 02 50.7**	**-1.6**	
LKRN				⇓	S		**Sn**	**15 03 45.0**	**-1.8**	
LRK	**Lerik**	**5.01**	**287**	⇓	P		Pn	15 02 54.4	-2.4	
LRK				⇑	S		**Sn**	**15 03 53.7**	**-1.2**	
GLBA	**Clilabad**	**5.15**	**294**	⇑	P		Pn	15 02 56.7	-1.8	
GLBA				⇓	S		**Sn**	**15 03 57.1**	**-0.8**	
ATGJ	**Altiaghaj**	**5.57**	**311**	⇑	S		**Sn**	**15 04 07.5**	**-1.1**	
SIZA	**Siyzn**	**5.73**	**313**	⇑	S		**Sn**	**15 04 13.0**	**+0.6**	
PQL	**Pirkuli**	**5.74**	**309**	⇓	S		**Sn**	**15 04 13.2**	**+0.4**	
ZRD	**Zardab**	**6.06**	**301**	⇑	S		**Sn**	**15 04 19.7**	**-0.9**	
QUBA	**Quba, Azerbaij**	**6.14**	**313**	⇑	S		**Sn**	**15 04 22.2**	**-0.3**	
XNQ	**Khinaliq**	**6.24**	**310**	⇑	S		**Sn**	**15 04 23.7**	**-1.5**	
QBL	**Gabala**	**6.30**	**307**	⇑	S		**Sn**	**15 04 24.6**	**-1.8**	
QSAR	**Qusar**	**6.38**	**313**	⇑	S		**Sn**	**15 04 28.7**	**+0.4**	
BRDA	**Brd**	**6.40**	**300**	⇑	S		**Sn**	**15 04 27.2**	**-1.7**	
SEKA	**Sheki**	**6.85**	**307**	⇑	S		**Sn**	**15 04 38.6**	**-1.4**	
ORD	**Ordubad**	**6.86**	**286**	⇑	S		**Sn**	**15 04 40.9**	**+0.5**	
GANJ	**Ganja**	**7.16**	**300**	⇓	S		**Sn**	**15 04 45.0**	**-2.6**	
SBZ	**Shahbuz**	**7.30**	**289**	⇓	S		**Sn**	**15 04 51.5**	**+0.3**	
GDB	**GEDABAY**	**7.58**	**299**	⇑	P		Pn	15 03 29.9	-2.3	
GDB				⇓	S		**Sn**	**15 04 57.1**	**-1.1**	

DJA ***12*** *15:07:27.7±3.1,3˚N±5˚×9˚2E±2˚7,h10km,M5.3/13, mb5.3/13,mB5.7/4,MLv5.2/10,Mw(mB)5.3/4*
IDC ***12*** *15:07:31.6±0.6,3.˚44N×92.˚67E,h0km,mb4.3/24, mb1 4.4/26,mb1mx4.1/73,mbtmp4.3/26,ML4.1/2,Error ellipse: s-maj=25.6km s-min=12.1km az=43.0*
ISCJB ***12*** *15:07:33.2±0.2,3.˚43N±0.˚03×92.˚74E±0.˚03,h24km, mb4.7/67,MS4.5/2,Error ellipse: s-maj=5.5km s-min=3.3km az=31.6*
NEIC ***12*** *15:07:34.7±0.5,3.˚47N×92.˚72E,h22km±3km,mb4.8/44, Error ellipse: s-maj=5.2km s-min=3.0km az=215.0*

ISC 12 15:07:35.2±0.4,3.˚41N±0.˚05×92.˚59E±0.˚05,h24km,n159, σ1§64/168,mb4.8/67,1C,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
BSI	**Banda Aceh**	**3.40**	**52**	P		**Pn**	**15 08 24.6**	**-2.2**
MLSI	**Meulaboh, Aceh**	**3.90**	**77**	P		**Pn**	**15 08 31.9**	**-1.7**
TPTI		**4.58**	**92**	P		**Pn**	**15 08 41.5**	**-1.6**
LHMI	**Lhok Sumawe**	**4.70**	**67**	P		**Pn**	**15 08 43.9**	**-0.8**
	256nm,0.6s							
LHMI				S		**Sn**	**15 09 36.8**	**-1.8**
	256nm,0.6s							
LHMI	**Lhok Sumawe**	**4.70**	**67**	*e*Pn		**Pn**	**15 08 43.6**	**-1.1**
KCSI	**Kotacane, Aceh**	**5.17**	**89**	P		**Pn**	**15 08 50.5**	**-0.7**
GSI	**Gunungsitoli**	**5.40**	**113**	P		**Pn**	**15 08 52.4**	**-2.0**
	280nm,0.6s							
GSI	**Gunungsitoli**	**5.40**	**113**	*e*Pn		**Pn**	**15 08 52.3**	**-2.0**
TSI	**Tuntungan**	**5.96**	**89**	P		**Pn**	**15 09 02.3**	**+0.3**
	336nm,0.8s,5μm							
PSI	**Prapat**	**6.35**	**95**	*e*Pn		**Pn**	**15 09 06.1**	**-1.4**
PSI				*e*Sn		**Sn**	**15 10 25.2**	**+5.7**
PBSI	**Pulau Batu**	**6.65**	**121**	P		**Pn**	**15 09 09.4**	**-2.0**
PKDT	**Phuket**	**7.24**	**52**	P		**Pn**	**15 09 17.5**	**-2.1**
	34nm,0.8s,1μm0.1nm							
MNSI	**Mandailing Nat**	**7.45**	**110**	P		**Pn**	**15 09 21.3**	**-1.2**
	164nm,0.5s,4μm							
SISI	**Saibi**	**8.02**	**126**	P		**Pn**	**15 09 28.5**	**-1.8**
	146nm,0.6s							
PBA	**Port Blair**	**8.19**	**1**	*e*Pn		Pn	15 09 30.9	-1.7
KULM	**Kulim**	**8.25**	**77**	*e*Pn		**Pn**	**15 09 31.6**	**-1.9**
KULM				*e*Sn		Sn	15 10 53.0	-13
SURT	**Suratani**	**8.27**	**48**	P		**Pn**	**15 09 32.4**	**-1.3**
	37nm,1.0s,0.2nm							
TRTT	**Trang**	**8.32**	**58**	P		**Pn**	**15 09 31.5**	**-2.9**
	15nm,0.7s,0.1nm							
IPM	**Ipoh**	**8.48**	**83**	*e*Pn		**Pn**	**15 09 34.2**	**-2.5**
PDSI	**Padang**	**8.96**	**119**	P		**Pn**	**15 09 42.1**	**-1.2**
	28nm,0.5s							
PDSI				S		**Sn**	**15 11 28.7**	**+5.1**
	28nm,0.5s							
BKNI	**Bangkinang**	**8.98**	**110**	P		**Pn**	**15 09 43.0**	**-0.5**
BKNI	**Bangkinang**	**8.98**	**110**	*e*Pn		**Pn**	**15 09 42.0**	**-1.5**
PPSI	**Pulau Pagai**	**9.62**	**130**	P		**Pn**	**15 09 50.6**	**-1.7**
MYKOM	**Kota Tinggi**	**11.36**	**98**	*e*Pn		**Pn**	**15 10 14.3**	**-1.8**
PALK	**Pallekele**	**12.44**	**288**	P		**Pn**	**15 10 30.8**	**-0.2**
	3.0nm,0.3s,baz=116,slow=14,SNR=18							
PALK				S		Sn	15 12 39.5	-9.4
	14nm,0.3s,baz=116,slow=2.2,SNR=13							
PALK	**Pallekele**	**12.44**	**288**	*e*Pn		**Pn**	**15 10 31.1**	**+0.2**
PALK				*e*Sn		Sn	15 12 37.5	-11
MNAI	**Manna**	**12.92**	**127**	*e*Pn		**Pn**	**15 10 35.2**	**-2.3**
COCO	**West Island**	**16.07**	**165**	*e*Pn		**Pn**	**15 11 19.3**	**-0.3**
	452nm,1.5s							
CM01	**Chiang Mai Arr**	**16.17**	**22**	*e*Pn		**Pn**	**15 11 17.9**	**-3.1**
CM31	**Chiang Mai Arr**	**16.19**	**22**	*e*Pn		**Pn**	**15 11 18.9**	**-2.4**
CMAR	**Chiang Mai Arr**	**16.19**	**22**	Pn		**Pn**	**15 11 18.7**	**-2.6**
	0.1nm,0.3s,baz=216,slow=13,SNR=52							
CHTO	**Chiang Mai**	**16.52**	**22**	P		**Pn**	**15 11 23.1**	**-2.4**
	58nm,0.9s							
CHTO	**Chiang Mai**	**16.52**	**22**	*e*Pn		**Pn**	**15 11 22.5**	**-2.9**
	9.8nm,0.8s							
CMMT	**Chiang Mai**	**16.52**	**22**	P		**Pn**	**15 11 22.1**	**-3.4**
	24nm,0.8s							
SKNT	**Sakolnakorn**	**17.51**	**39**	P		**P**	**15 11 44.9**	**+6.0**
KSM	**Kuching**	**17.81**	**96**	*e*Pn		**Pn**	**15 11 41.6**	**0.0**
	35nm,1.0s							
CISI	**Cisompet, Garu**	**18.70**	**126**	*e*P		**P**	**15 11 51.5**	**-0.5**
	46nm,1.2s							
HMDM	**Hanimaadhoo**	**19.61**	**281**	*es*P		sP	15 12 12.5	+0.7
SBUM	**Sibu**	**19.63**	**92**	*e*P		**P**	**15 12 02.1**	**-0.1**
	14nm,1.1s							
SHL	**Shillong**	**22.04**	**358**	*e*P		**P**	**15 12 28.0**	**-0.4**
SHL	**Shillong**	**22.04**	**358**	*e*P		**P**	**15 12 25.9**	**-2.5**
	64nm,1.0s							
KMI	**Kunming**	**23.69**	**23**	P		**P**	**15 12 47.1**	**+1.6**
KMI				pP		pP	15 12 52.0	-0.6
KMI				pmax		pmax		
	comp=Z,19nm,1.6s							
MYLDM	**Lahad Datu**	**25.89**	**85**	*e*P		**P**	**15 13 04.9**	**-0.7**
	comp=Z,31nm,1.3s							
LSA	**Lhasa**	**26.18**	**357**	P		**P**	**15 13 09.7**	**+1.2**
LSA				pmax		pmax		
	comp=Z,34nm,0.7s							
GYA	**Guiyang**	**26.59**	**29**	⇑	*i*P	**P**	**15 13 12.0**	**+0.1**
GYA				PP		**PnPn**	**15 13 56.4**	**+3.5**
GYA				PcP		**PcP**	**15 16 38.2**	**+2.2**
GYA				S		**S**	**15 17 45.0**	**-0.5**
GYA				SS		**SnSn**	**15 18 55.8**	**+7.0**
GYA				pmax		pmax		
	comp=Z,20nm,0.8s							
GYA				pmax		pmax		
	comp=Z,120nm,5.5s							
GYA				LR		LR		
	comp=N,570nm,16.8s							
GYA				LR		LR		
	comp=E,520nm,17.0s							
GYA				LR		LR		
	comp=Z,560nm,17.2s							
CD2	**Chengdu**	**29.31**	**20**	*e*P		**P**	**15 13 36.5**	**+0.4**
CD2				pmax		pmax		
	comp=Z,10.0nm,0.5s							
XAN	**Xi'an**	**34.06**	**25**	P		**P**	**15 14 16.4**	**-1.4**
XAN				sP		pP	15 14 25.6	+0.6
XAN				pmax		pmax		
	comp=Z,12nm,0.9s							
LZH	**Lanzhou**	**34.13**	**16**	*e*P		**P**	**15 14 20.7**	**+2.2**
LZH				pP		pP	15 14 24.1	-1.6
LZH				sP		sP	15 14 27.4	-1.3
LZH				PP		**PP**	**15 15 35.3**	**-0.8**
LZH				pmax		pmax		
	comp=Z,13nm,1.0s							
LZH				pmax		pmax		
	comp=Z,4μm,5.0s							
LZH				LR		LR		
	comp=N,280nm,13.0s							
LZH				LR		LR		
	comp=E,340nm,13.3s							
LZH				LR		LR		
	comp=Z,460nm,15.0s							
NIL	**Nilore**	**35.08**	**331**	*e*P		**P**	**15 14 26.1**	**-0.5**
	comp=Z,19nm,0.7s							
GTA	**Gaotai**	**36.43**	**9**	*e*P		**P**	**15 14 38.7**	**+0.5**
GTA				pP		pP	15 14 43.0	-2.4
GTA				sP		sP	15 14 46.3	-2.1
GTA				S		**S**	**15 20 22.0**	**+3.4**
GTA				sS		sS	15 20 29.1	-1.5
GTA				SS		**SnSn**	**15 22 42.1**	**-5.6**
GTA				pmax		pmax		
	comp=Z,8.0nm,0.8s							
GTA				pmax		pmax		
	comp=Z,1μm,7.1s							
GTA				LR		LR		
	comp=N,540nm,15.7s							
GTA				LR		LR		
	comp=E,950nm,16.2s							
GTA				LR		LR		
	comp=Z,490nm,12.4s							
NJ2	**Nanjing**	**37.68**	**38**	*e*P		**P**	**15 14 47.9**	**-0.9**
NJ2				pmax		pmax		
	comp=Z,14nm,0.5s							
FITZ	**Fitzroy Crossi**	**38.96**	**124**	P		**P**	**15 14 58.9**	**-0.9**
	comp=Z,3.8nm,0.8s,baz=1.1,slow=22,SNR=3.8							
FITZ	**Fitzroy Crossi**	**38.96**	**124**	*e*P		**P**	**15 14 58.7**	**-1.1**
	comp=Z,9.9nm,1.1s							
WMQ	**Urumqi**	**40.47**	**355**	P		**P**	**15 15 13.3**	**+1.2**
WMQ				sP		pP	15 15 18.6	-0.8
WMQ				pmax		pmax		
	comp=Z,16nm,1.1s							
NRN	**Naryn**	**40.68**	**341**	*e*P		**P**	**15 15 13.4**	**-0.7**
	comp=Z,8.3nm,1.4s							
KDJ	**Kajisay**	**40.94**	**342**	*e*P		**P**	**15 15 16.5**	**+0.4**
	comp=Z,6.9nm,0.9s							
HHC	**Hu-ho-hao-te**	**41.00**	**22**	*e*P		**P**	**15 15 16.9**	**+0.4**
HHC				pmax		pmax		
	comp=Z,28nm,1.0s							
HHC				pmax		pmax		
	comp=Z,74nm,6.0s							
UCH	**Uchtor**	**41.89**	**340**	P		**P**	**15 15 24.9**	**+0.7**
	SNR=8.1							
AML	**Almayashu**	**42.09**	**339**	P		**P**	**15 15 26.7**	**+0.9**
	SNR=15							
KBK	**Karagaybulak**	**42.12**	**341**	P		**P**	**15 15 27.0**	**+1.2**
	SNR=6.6							
TKM2	**Tokmak 2**	**42.15**	**341**	P		**P**	**15 15 26.4**	**+0.4**
	SNR=6.6							
AAK	**Ala-Archa**	**42.26**	**340**	P		**P**	**15 15 27.4**	**+0.5**
	comp=Z,1.7nm,0.7s,baz=214,slow=12,SNR=6.4							
AAK	**Ala-Archa**	**42.26**	**340**	*e*P		**P**	**15 15 28.4**	**+1.5**
	comp=Z,3.6nm,0.9s							
EKS2	**Erkin-Say**	**42.53**	**339**	P		**P**	**15 15 30.2**	**+1.2**
	SNR=5.4							
USP	**Ospenovka**	**42.82**	**341**	P		**P**	**15 15 31.8**	**+0.5**
	SNR=7.7							
MK01	**Makanchi Array**	**44.10**	**350**	*e*P		**P**	**15 15 41.6**	**+0.1**
MK31	**Makanchi Array**	**44.13**	**350**	*e*P		**P**	**15 15 41.5**	**-0.2**
MK32	**Makanchi Array**	**44.13**	**350**	*e*P		**P**	**15 15 41.9**	**+0.2**
MK32				*e*ScP		**ScP**	**15 21 19.0**	**+1.8**
MKAR	**Makanchi Array**	**44.13**	**350**	P		**P**	**15 15 41.9**	**+0.2**
	comp=Z,12nm,0.7s,baz=169,slow=8.7,SNR=72							
MKAR				ScP		**ScP**	**15 21 19.0**	**+1.8**
	comp=Z,0.6nm,0.8s,baz=177,slow=7.3,SNR=4.4							
MKAR	**Makanchi Array**	**44.13**	**350**	*e*P		**P**	**15 15 41.8**	**0.0**
	comp=Z,63nm,0.8s							
MKAR				ScP		**ScP**	**15 21 19.0**	**+1.8**
KK31	**Karatay Array**	**44.13**	**337**	*e*P		**P**	**15 15 42.0**	**+0.2**
KKAR	**Karatay Array**	**44.13**	**337**	*e*P		**P**	**15 15 41.8**	**0.0**
MAKZ	**Makanchi**	**44.20**	**350**	*e*P		**P**	**15 15 42.1**	**-0.2**
	comp=Z,6.6nm,0.8s							
SONA0	**Songino Array**	**45.83**	**13**	*e*P		**P**	**15 15 55.4**	**+0.1**
SONM	**Songino Array**	**45.83**	**13**	P		**P**	**15 15 55.4**	**+0.1**
	comp=Z,2.0nm,0.7s,baz=194,slow=8.1,SNR=8.2							
SONA1	**Songino Array**	**45.84**	**13**	*e*P		**P**	**15 15 55.0**	**-0.5**
ULN	**Ulaanbaatar**	**46.01**	**14**	*e*P		**P**	**15 15 56.4**	**-0.4**
	comp=Z,11nm,1.8s							
GEYT	**Alibeck**	**46.61**	**322**	P		**P**	**15 16 03.0**	**+1.4**
	comp=Z,9.4nm,0.7s,baz=147,slow=8.3,SNR=23							
GYA0B	**ALIBECK ARRAY**	**46.61**	**322**	*e*P		**P**	**15 16 02.8**	**+1.2**
	comp=Z,12nm,0.8s							
WR1	**Warramunga Arr**	**47.11**	**121**	*e*P		**P**	**15 16 05.3**	**-0.4**
	comp=Z,46nm,1.8s							
WRA	**Warramunga Arr**	**47.11**	**121**	P		**P**	**15 16 05.3**	**-0.4**
	comp=Z,2.5nm,0.6s,baz=297,slow=8.9,SNR=12							
WRAB	**Tennant Creek**	**47.12**	**121**	*e*P		**P**	**15 16 04.2**	**-1.5**
	comp=Z,20nm,1.1s							
WB2	**Warramunga Arr**	**47.12**	**121**	*e*P		**P**	**15 16 04.8**	**-1.1**
AS13	**Alice Springs**	**48.39**	**126**	P		**P**	**15 16 15.8**	**+0.1**
	baz=49							
AS31	**Alice Springs**	**48.41**	**126**	*e*P		**P**	**15 16 14.4**	**-1.4**
	comp=Z,2.9nm,1.5s							
ASAR	**Alice Springs**	**48.41**	**126**	P		**P**	**15 16 15.6**	**-0.2**
	comp=Z,1.3nm,0.8s,baz=298,slow=7.2,SNR=7.8							
AS01	**Alice Springs**	**48.44**	**126**	*e*P		**P**	**15 16 15.3**	**-0.7**
KURBB	**Kurchatov Arra**	**48.52**	**348**	P		**P**	**15 16 16.5**	**+0.4**
	comp=Z,7.8nm,0.8s,baz=171,slow=7.1,SNR=38							
KURK	**Kurchatov**	**48.59**	**348**	*e*P		**P**	**15 16 16.5**	**-0.2**
	comp=Z,15nm,1.2s							
TLY	**Talaya**	**48.98**	**9**	*e*P		**P**	**15 16 20.0**	**+0.3**
	comp=Z,1.8nm,0.7s							
CN2	**Changchun**	**49.61**	**31**	*e*P		**P**	**15 16 25.7**	**+1.0**
RAYN	**Ar Rayn**	**49.66**	**298**	*e*P		**P**	**15 16 26.3**	**+0.8**
	comp=Z,6.3nm,0.9s							
ZAA0	**Zalesovo Array**	**50.78**	**354**	*e*P		**P**	**15 16 33.3**	**+0.1**
	comp=Z,28nm,1.5s							
ZALV	**Zalesovo Beam**	**50.78**	**354**	P		**P**	**15 16 33.7**	**+0.4**
	comp=Z,5.6nm,0.4s,baz=184,slow=8.6,SNR=24							
ZALV	**Zalesovo Beam**	**50.78**	**354**	*e*P		**P**	**15 16 33.0**	**-0.2**
ZAA1	**Zalesovo Array**	**50.78**	**354**	*e*P		**P**	**15 16 33.7**	**+0.4**
INU	**Inuyama**	**51.91**	**47**	*e*P		**P**	**15 16 40.2**	**-2.0**
	comp=Z,35nm,1.6s							
GUMO	**Guam**	**52.58**	**76**	*e*P		**P**	**15 16 45.9**	**-1.5**
	comp=Z,178nm,1.1s							
BVAR	**Borovoye Array**	**52.74**	**343**	P		**P**	**15 16 47.7**	**-0.3**
	comp=Z,5.0nm,0.8s,baz=141,slow=7.3,SNR=23							
BRVK	**Borovoye**	**52.80**	**343**	*e*P		**P**	**15 16 47.8**	**-0.6**
	comp=Z,5.5nm,0.9s							
ABKAR	**Akbulak array**	**53.46**	**334**	*e*P		**P**	**15 16 53.0**	**-0.3**
	comp=Z,52nm,0.8s							
AKTO	**Aktyubinsk**	**55.17**	**334**	P		**P**	**15 17 05.7**	**-0.1**
	comp=Z,1.5nm,0.6s,baz=76,slow=6.7,SNR=4.0							
KMBO	**Kilima Mbogo**	**55.49**	**266**	P		**P**	**15 17 09.6**	**+0.5**
	comp=Z,1.1nm,0.2s,baz=38,slow=15,SNR=4.1							
KMBO	**Kilima Mbogo**	**55.49**	**266**	*e*P		**P**	**15 17 09.3**	**+0.3**
	comp=Z,4.7nm,1.2s							
STKA	**Stephens Creek**	**58.26**	**131**	P		**P**	**15 17 28.5**	**+0.4**
	comp=Z,2.4nm,0.7s,baz=316,slow=5.0,SNR=6.5							
STKA	**Stephens Creek**	**58.26**	**131**	*e*P		**P**	**15 17 28.5**	**+0.4**
	comp=Z,0.8nm,0.8s							
KBZ	**Khabaz**	**59.41**	**320**	P		**P**	**15 17 36.3**	**+0.5**
	comp=Z,4.6nm,0.9s,baz=133,slow=5.3,SNR=9.1							
ARU	**Arti**	**59.42**	**339**	P		**P**	**15 17 35.2**	**-0.5**
	comp=Z,0.9nm,0.4s,baz=342,slow=3.5,SNR=4.0							
ARU	**Arti**	**59.42**	**339**	*e*P		**P**	**15 17 34.9**	**-0.7**
	comp=Z,5.3nm,1.0s							
KVAR	**Kislovodsk Arr**	**59.65**	**320**	P		**P**	**15 17 38.1**	**+0.5**
	comp=Z,6.3nm,0.8s,baz=252,slow=3.2,SNR=4.5							
KIV	**Kislovodsk**	**59.65**	**320**	*e*P		**P**	**15 17 37.5**	**-0.2**
	comp=Z,9.6nm,0.9s							
CMSA	**Cobar Meteorol**	**61.25**	**129**	P		**P**	**15 17 49.9**	**+1.2**
	baz=61,SNR=6.9							
BR101	**Keskin Array S**	**64.23**	**313**	*e*P		**P**	**15 18 08.8**	**+0.2**
BR131	**Keskin Array S**	**64.23**	**313**	*e*P		**P**	**15 18 08.4**	**-0.2**
BRTR	**Keskin Array B**	**64.23**	**313**	P		**P**	**15 18 08.8**	**+0.2**
	comp=Z,1.4nm,0.7s,baz=128,slow=6.4,SNR=8.9							
ILGA	**Ilgaz**	**64.60**	**314**	*e*P		**P**	**15 18 11.3**	**+0.2**
	comp=Z,5.5nm,0.8s							
YAK	**Yakutsk**	**64.69**	**18**	*e*P		**P**	**15 18 10.1**	**-0.8**
	comp=Z,11nm,1.0s							
BR231	**Keskin MP Arra**	**64.90**	**313**	*e*P		**P**	**15 18 09.1**	**-3.8**
HNR	**Honiara**	**68.31**	**101**	P		**P**	**15 18 34.8**	**-0.3**
	comp=Z,32nm,0.7s,baz=301,slow=5.9,SNR=3.2							
IDI	**Anoyia**	**69.89**	**306**	P		**P**	**15 18 45.8**	**+1.2**
	comp=Z,8.6nm,0.8s,baz=158,slow=13,SNR=4.0							
IDI	**Anoyia**	**69.89**	**306**	*e*P		**P**	**15 18 46.2**	**+1.7**
	comp=Z,74nm,1.5s							
AKASG	**Malin Array Be**	**70.72**	**323**	P		**P**	**15 18 48.6**	**-0.6**
	comp=Z,1.8nm,0.7s,baz=91,slow=5.1,SNR=8.3							
AKBB	**Malin Array Si**	**70.72**	**323**	*e*P		**P**	**15 18 48.4**	**-0.8**
	comp=Z,6.0nm,1.1s							
KIEV	**Kiev**	**70.72**	**323**	*e*P		**P**	**15 18 48.7**	**-0.6**
	comp=Z,5.4nm,1.1s							
AK11	**Malin Array Si**	**70.75**	**323**	*e*P		**P**	**15 18 48.9**	**-0.5**
MLR	**Muntele Rosu**	**71.31**	**317**	P		**P**	**15 18 54.1**	**+1.0**
	comp=Z,1.7nm,0.8s,baz=0.0,slow=2.0,SNR=10							
MLR	**Muntele Rosu**	**71.31**	**317**	*e*P		**P**	**15 18 53.9**	**+0.7**
	comp=Z,8.5nm,0.8s							
TIXI	**Tiksi**	**71.88**	**11**	*e*P		**P**	**15 18 54.8**	**-1.0**
	comp=Z,9.8nm,0.9s							
BUR04	**Bucovina Ar. S**	**72.34**	**319**	*e*P		**P**	**15 18 59.5**	**+0.3**
BUR08	**Bucovina Ar. S**	**72.36**	**319**	*e*P		**P**	**15 19 00.2**	**+0.8**
VTS	**Vitosha**	**72.58**	**314**	*e*P		**P**	**15 19 00.2**	**-0.6**
	comp=Z,4.3nm,1.0s							
CRVS	**Cervenica-Dubn**	**75.08**	**320**	*e*P		**P**	**15 19 15.7**	**+0.5**
SUW	**Suwalki**	**75.23**	**325**	*e*P		**P**	**15 19 15.0**	**-0.9**
	comp=Z,59nm,0.3s							
STHS	**Stebnicka Huta**	**75.33**	**320**	*e*P		**P**	**15 19 18.8**	**+2.2**
FIA0	**FINESS Array S**	**75.93**	**333**	*e*P		**P**	**15 19 19.4**	**-0.3**
FINES	**FINESS Array B**	**75.93**	**333**	P		**P**	**15 19 19.4**	**-0.3**
	comp=Z,1.6nm,0.7s,baz=102,slow=8.0,SNR=4.8							
VYHS	**Vyhne**	**76.71**	**319**	*e*P		**P**	**15 19 25.4**	**+0.9**
CUC	**Castrocucco**	**77.68**	**310**	*e*P		**P**	**15 19 31.3**	**+1.2**
	comp=Z,21nm,1.3s							
MORC	**Moravsky Berou**	**77.76**	**320**	*e*P		**P**	**15 19 31.1**	**+0.7**
	comp=Z,18nm,1.1s							
KRLC	**Kraliky**	**78.29**	**320**	*e*P		**P**	**15 19 34.7**	**+1.4**
WDD	**Wied Dalam**	**78.33**	**306**	*e*P		**P**	**15 19 34.9**	**+1.1**
	comp=Z,61nm,0.8s							
DPC	**Dobruska-Polom**	**78.62**	**321**	*e*P		**P**	**15 19 36.7**	**+1.5**
DPC				*ep*P		**sP**	**15 19 45.6**	**-0.2**
AQU	**L'Aquila**	**79.72**	**312**	*e*P		**P**	**15 19 41.4**	**+0.1**
	comp=Z,18nm,0.7s							
GEA0	**GERESS Array S**	**80.12**	**319**	*e*P		**P**	**15 19 44.1**	**+0.7**
GEC2	**GERESS Array S**	**80.13**	**319**	*e*P		**P**	**15 19 44.7**	**+1.2**
	comp=Z,6.9nm,0.9s							
GERES	**GERESS Array B**	**80.13**	**319**	P		**P**	**15 19 44.5**	**+1.1**
	comp=Z,3.5nm,0.8s,baz=98,slow=5.7,SNR=27							
KHC	**Kasperske Hory**	**80.24**	**319**	*e*P		**P**	**15 19 44.7**	**+0.7**
KHC				*ep*P		**sP**	**15 19 54.4**	**-0.2**
PYZ	**Puysegur Point**	**81.51**	**137**	*e*P		**P**	**15 19 47.9**	**-2.8**
	comp=Z,366nm,1.6s							
HFS	**Hagfors**	**81.52**	**330**	P		**P**	**15 19 49.3**	**-1.2**
	comp=Z,1.0nm,0.7s,baz=302,slow=3.2,SNR=2.5							
KEST	**Kesra**	**82.53**	**305**	P		**P**	**15 19 57.5**	**+1.0**
	comp=Z,5.7nm,0.9s,baz=315,slow=10,SNR=4.2							
KEST	**Kesra**	**82.53**	**305**	*e*P		**P**	**15 19 57.0**	**+0.5**
	comp=Z,12nm,1.1s							
B04A	**Port Angeles**	**119.82**	**27**	*e*PKPdf		**PKPdf**	**15 26 23.0**	**-0.6**
WRW	**Wenatchee Ridg**	**121.14**	**26**	*e*PKPdf		**PKPdf**	**15 26 25.9**	**-0.5**
PHWY	**Pilot Hill**	**132.55**	**18**	*e*PKPdf		**PKPdf**	**15 26 49.5**	**+0.9**
VTV	**Victorville**	**132.90**	**34**	*e*PKPpre		PKPpre	15 26 38.5	
PSRC	**Puddingstone R**	**132.97**	**35**	*e*PKPpre		PKPpre	15 26 34.8	
HODGE	**Hodges**	**142.24**	**353**	*e*PKPdf		**PKPdf**	**15 27 05.8**	**-0.4**
LTX	**Lajitas**	**143.90**	**25**	*e*PKPdf		PKPbc	15 27 07.8	+0.6
TXAR	**Lajitas Array**	**143.90**	**25**	PKP		PKPbc	15 27 07.8	+0.6
	comp=Z,0.2nm,0.7s,baz=279,slow=1.7,SNR=3.0							

IDC ***12*** *15:21:19.3±2.2,45.˚77N×151.˚09E,h0km,mb3.3/4, mb1 3.5/5,mb1mx3.2/67,mbtmp3.4/5,ML3.4/1,Error ellipse: s-maj=51.9km s-min=31.8km az=50.0*
MOS ***12*** *15:21:27.3±1.2,45.˚48N×150.˚35E,h58km,mb4.3/1,Error ellipse: s-maj=32.8km s-min=14.4km az=150.7*
ISCJB ***12*** *15:21:28.4±0.9,45.˚28N±0.˚08×150.˚20E±0.˚09,h50km, mb3.4/4,Error ellipse: s-maj=12.5km s-min=7.1km az=143.6*
SKHL ***12*** *15:21:30.8±0.3,45.˚34N×150.˚16E,h58km±11km,mb4.7/5*
JMA ***12*** *15:21:30.4±0.8,45.˚54N×149.˚96E,h30km,M4.3*

ISC 12 15:21:29.6±1.6,45.˚26N±0.˚09×150.˚2E±0.˚1,h50km,n34, σ1§76/43,mb3.4/4,1D,Kuril Islands

| Code |

JKB				*e*S	**Sn**	**15 24 33.6**	**-5.3**
TYV	**Tymovskoe**	**7.55**	**321**	*e*P	**Pn**	**15 23 18.0**	**+1.1**
H11N2	**WAKE ISLAND Hy**	**28.97**	**146**	T	T	15 58 16.6	
	baz=335,slow=76,SNR=43						
H11N1	**WAKE ISLAND Hy**	**28.98**	**146**	T	T	15 58 19.8	
	baz=335,slow=76,SNR=41						
H11N3	**WAKE ISLAND Hy**	**28.99**	**146**	T	T	15 58 23.8	
	baz=335,slow=76,SNR=40						
H11S3	**WAKE ISLAND Hy**	**30.01**	**147**	T	T	15 59 34.3	
	baz=334,slow=74,SNR=52						
H11S2	**WAKE ISLAND Hy**	**30.02**	**147**	T	T	15 59 34.3	
	baz=234,slow=74,SNR=52						
MKAR	**Makanchi Array**	**45.82**	**297**	P	**P**	**15 29 45.0**	**-1.4**
	comp=E,0.1nm,0.4s,baz=57,slow=5.3,SNR=1.8						
MKAR	**Makanchi Array**	**45.82**	**297**	P	**P**	**15 29 45.0**	**-1.4**
KURK	**Kurchatov**	**46.50**	**304**	P	**P**	**15 29 50.8**	**-0.8**
KURBB	**Kurchatov Arra**	**46.59**	**304**	P	**P**	**15 29 50.8**	**-1.5**
	comp=E,0.2nm,0.3s,baz=71,slow=7.7,SNR=2.2						
WRA	**Warramunga Arr**	**66.47**	**196**	P	**P**	**15 32 13.8**	**0.0**
	comp=E,0.4nm,0.9s,baz=12,slow=7.2,SNR=1.3						
ASAR	**Alice Springs**	**70.18**	**196**	P	**P**	**15 32 38.5**	**+1.6**
	comp=E,0.2nm,0.4s,baz=12,slow=6.4,SNR=6.5						

MEX 12 15:21:48.0±1.0, 17.7°N×103.2°W, h17km±131km, MD4.1, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMIG	**Aquila**	**0.53**	**347**	*e*P	Pg	15 21 56.5	-2.1
MMIG				*e*S	Sg	15 22 03.5	-2.1
ZIIG	**Zihuatanejo**	**1.68**	**95**	*e*P	Pn	15 22 12.3	-4.4
EZ5V		**1.73**	**348**	*e*P	Pn	15 22 15.2	-2.5
EZ5V				*e*S	Sn	15 22 36.0	-3.6
CJM	**Chamela**	**2.44**	**315**	*e*P	Pb	15 22 30.3	-1.1
MOIG	**Morelia**	**2.70**	**45**	*e*P	Pn	15 22 27.7	-3.2
ARIG	**Puente Sto Nin**	**2.78**	**79**	*e*P	Pn	15 22 29.5	-2.3

NIED ***12*** *15:26:00, 32.3°N×141.9°E, h5km, Mw4.2 Best double couple: M◎2.55000×10^15 NP1:φ◎227.00000°, δ21.00000°, λ134.00000°. NP2:φ◎1.00000°, δ75.00000°, λ75.00000°.*
MOS ***12*** *15:26:52.8±1.1, 32.2°N×141.8°E, h43km, mb4.8/51, Error ellipse: s-maj=8.9km s-min=4.6km az=106.2*
ISCJB ***12*** *15:26:52.1±0.5, 32.1°N±0.0°×141.9°E±0.0°, h37km±4km, mb4.6/114, MS4.2/2, Error ellipse: s-maj=4.5km s-min=3.9km az=1.6*
NEIC ***12*** *15:26:54.2±0.5, 32.1°N×141.8°E, h39km±4km, mb4.7/65, Error ellipse: s-maj=4.0km s-min=3.0km az=116.0*
IDC ***12*** *15:26:54.0±2.2, 32.1°N×141.8°E, h39km±18km, mb4.2/31, mb1 4.2/35, mb1mx4.1/65, mbtmp4.4/35, ML3.5/4, MS3.4/3, Ms1 3.4/3, ms1mx2.9/65, Error ellipse: s-maj=13.8km s-min=10.8km az=89.0*
JMA ***12*** *15:26:54.4±0.2, 32.3°N×141.9°E, h68km, M4.8*
ISC 12 15:26:54.2±0.7, 32.2°N±0.0°×141.9°E±0.0°, h45km±5km, n267, σ1°38/288, mb4.6/114, 8C-8D, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHCJ	**Hachijojimakas**	**1.99**	**296**	P	**Pn**	**15 27 25.6**	**+0.2**
JHCJ				S	**Sn**	**15 27 48.7**	**-0.3**
JHJ2	**Mitsune**	**1.99**	**298**	||P	**Pn**	**15 27 25.8**	**+0.4**
JHJ2	**Mitsune**	**1.99**	**298**	*e*Pn	**Pn**	**15 27 25.5**	**+0.1**
JHJ2				*e*Sn	**Sn**	**15 27 46.7**	**-2.4**
JHJ	**Hachijo jima 2**	**2.02**	**297**	Pn	**Pn**	**15 27 25.8**	**0.0**
	266nm,0.3s,baz=179,slow=23,SNR=187						
JHJ				Sn	**Sn**	**15 27 48.7**	**-1.1**
	504nm,0.3s,baz=151,slow=22,SNR=9.5						
JHJ				LR	LR	15 28 20.8	
	comp=Z,676nm,20.3s,baz=76,slow=44						
BSO1	**Boso 1**	**2.56**	**342**	P	**Pn**	**15 27 33.0**	**+0.2**
BSO1				S	**Sn**	**15 28 02.5**	**0.0**
BSO3	**Boso 3**	**2.84**	**336**	P	**Pn**	**15 27 37.1**	**+0.2**
JKO	**Kozu shima**	**3.06**	**311**	P	**Pn**	**15 27 40.6**	**+0.6**
JOD2	**Odawara 2**	**3.85**	**323**	P	**Pn**	**15 27 51.1**	**+0.1**
JYN	**Shimob**	**4.32**	**320**	P	**Pn**	**15 27 58.4**	**+0.9**
JRY	**Ryogami san**	**4.55**	**327**	P	**Pn**	**15 28 00.9**	**+0.3**
JRY				*e*S	**Sn**	**15 28 51.2**	**-1.0**
JAG	**Ashikaga**	**4.68**	**335**	P	**Pn**	**15 28 02.0**	**-0.3**
JAG				*e*S	**Sn**	**15 28 53.7**	**-1.6**
JIE	**Ise**	**4.88**	**298**	P	**Pn**	**15 28 06.2**	**+1.2**
CBIJ	**Chichi jima**	**5.10**	**177**	P	**Pn**	**15 28 09.4**	**+1.3**
CBIJ	**Chichi jima**	**5.10**	**177**	*e*Pn	**Pn**	**15 28 08.1**	**-0.1**
CBIJ				*e*Sn	**Sn**	**15 29 00.6**	**-5.2**
JCJ	**Chichijima**	**5.10**	**177**	Pn	**Pn**	**15 28 08.0**	**-0.1**
	baz=294,slow=20						
JCJ				Sn	**Sn**	**15 29 04.2**	**-1.5**
	63nm,0.3s,baz=111,slow=21,SNR=6.8						
INU	**Inuyama**	**5.14**	**309**	*e*Pn	**Pn**	**15 28 10.3**	**+1.6**
INU				*e*Sn	**Sn**	**15 29 09.3**	**+2.5**
MJAR	**Matsushiro Arr**	**5.30**	**326**	Pn	**Pn**	**15 28 11.9**	**+1.0**
	8.3nm,0.3s,baz=161,slow=11,SNR=76						
MJAR				Sn	**Sn**	**15 29 08.7**	**-1.9**
	9.3nm,0.3s,baz=146,slow=19,SNR=8.0						
MJAR				LR	LR	15 30 13.1	
	comp=Z,279nm,18.1s,baz=205,slow=38						
MAJO	**Matsushiro**	**5.30**	**326**	*e*Pn	**Pn**	**15 28 12.0**	**+1.0**
MAJO				*e*Sn	**Sn**	**15 29 08.7**	**-2.0**
MAJO	**Matsushiro**	**5.30**	**326**	*d*P	**Pn**	**15 28 11.9**	**+1.0**
MAT	**Matsushiro**	**5.30**	**326**	P	**Pn**	**15 28 12.0**	**+1.1**
MAT				S	**Sn**	**15 29 09.8**	**-0.9**
MAT	**Matsushiro**	**5.30**	**326**	P	**Pn**	**15 28 12.2**	**+1.3**
MAT				S	**Sn**	**15 29 09.6**	**-1.1**
MJB9	**Matsu-Tunnel**	**5.31**	**326**	*e*Pn	**Pn**	**15 28 12.4**	**+1.4**
MJB9				*e*Sn	**Sn**	**15 29 09.3**	**-1.6**
JWZ	**Kozaga**	**5.38**	**286**	P	**Pn**	**15 28 13.4**	**+1.4**
JWZ				*e*S	**Sn**	**15 29 14.3**	**+1.6**
JFT	**Otama**	**5.46**	**347**	P	**Pn**	**15 28 12.8**	**-0.2**
JNU	**Nakatsue**	**9.35**	**279**	Pn	**Pn**	**15 29 08.9**	**+2.4**
	0.5nm,0.3s,baz=88,slow=7.0,SNR=6.1						
JNU				LR	LR	15 32 37.3	
	comp=Z,354nm,19.1s,baz=107,slow=37						
JNU	**Nakatsue**	**9.35**	**279**	*e*Pn	**Pn**	**15 29 10.0**	**+3.6**
ERM	**Erimo**	**9.84**	**5**	*e*Pn	**Pn**	**15 29 12.0**	**-1.0**
ERM	**Erimo**	**9.84**	**5**	*e*P	**Pn**	**15 29 12.0**	**-1.0**
GLVR	**Golovnino**	**11.86**	**13**	P	**Pn**	**15 29 39.5**	**-1.1**
GLVR				pmax	pmax		
	comp=Z,145nm,0.8s						
GLVR				pmax	pmax		
	comp=E,92nm,0.7s						
GLVR				pmax	pmax		
	comp=N,32nm,0.9s						
ASAJ	**Asahikawa**	**11.90**	**2**	Pn	**Pn**	**15 29 39.6**	**-1.6**
	comp=N,0.7nm,0.3s,baz=233,slow=7.6,SNR=12						
ASAJ				Sn	Sn	15 31 44.3	-8.3
	comp=N,0.6nm,0.3s,baz=323,slow=20,SNR=3.4						
ASAJ	**Asahikawa**	**11.90**	**2**	*e*Pn	Pn	15 29 38.0	-3.3
ASAJ				Sn	Sn	15 31 44.3	-8.3
YUK	**Yuzh-Kuril'sk**	**12.21**	**14**	P	**Pn**	**15 29 44.2**	**-1.2**
YUK				pmax	pmax		
	comp=Z,65nm,0.6s						
YUK				pmax	pmax		
	comp=E,56nm,0.8s						
YUK				pmax	pmax		
	comp=N,67nm,0.6s						
SHO	**Shikotan**	**12.27**	**17**	*e*P	**Pn**	**15 29 46.2**	**0.0**
SHO				pmax	pmax		
	comp=Z,9.0nm,0.6s						
SHO				pmax	pmax		
	comp=E,3.0nm,0.3s						
SHO				pmax	pmax		
	comp=N,8.0nm,0.5s						
KSRS	**Korea Array**	**12.63**	**298**	Pn	P	15 29 54.9	-6.5
	comp=N,0.3nm,0.3s,baz=108,slow=13,SNR=7.6						
KSRS				LR	LR	15 34 42.0	
	comp=N,183nm,20.4s,baz=295,slow=37						
KS15	**Wonju Array Si**	**12.65**	**298**	*e*Pn	**Pn**	**15 29 50.1**	**-1.4**
KSAR	**Wonju Array Be**	**12.65**	**298**	Pn	**Pn**	**15 29 55.0**	**+3.5**
KSAR	**Wonju Array Be**	**12.65**	**298**	P	**Pn**	**15 29 55.0**	**+3.5**
KS01	**Wonju Array Si**	**12.66**	**298**	*e*Pn	**Pn**	**15 29 48.9**	**-2.7**
JOW	**Kunigami**	**13.03**	**249**	*e*Pn	Pn	15 29 51.1	-5.6
KUR	**Kuril'sk**	**13.81**	**18**	*e*P	**Pn**	**15 30 08.0**	**+0.8**
KUR				pmax	pmax		
	comp=Z,7.0nm,0.9s						
USRK	**Ussuriysk Ar.**	**14.28**	**330**	Pn	**Pn**	**15 30 13.5**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=163,slow=17,SNR=3.9						
YSS	**Yuzh-Sakhalins**	**14.74**	**2**	*e*Pn	**Pn**	**15 30 17.4**	**-2.3**
YSS	**Yuzh-Sakhalins**	**14.74**	**2**	*e*P	**Pn**	**15 30 17.4**	**-2.3**
CN2	**Changchun**	**17.36**	**317**	*e*P	**P**	**15 30 53.5**	**-0.4**
KLR	**Kul'dur**	**18.64**	**339**	P	**Pn**	**15 31 07.3**	**-1.4**
	comp=Z,0.0nm,0.3s,baz=135,slow=9.0,SNR=9.8						
KLR	**Kul'dur**	**18.64**	**339**	||*e*P	**Pn**	**15 31 06.6**	**-2.1**
NJ2	**Nanjing**	**19.53**	**276**	*e*P	**Pn**	**15 31 17.5**	**-2.0**
NJ2				pmax	pmax		
	comp=Z,11nm,0.5s						
YHNB	**Yeheng**	**19.54**	**253**	*e*P	**P**	**15 31 17.0**	**-1.2**
	comp=Z,57nm,1.5s						
NACB	**Ninganchiao**	**19.60**	**251**	*e*P	**Pn**	**15 31 18.9**	**-1.5**
	comp=Z,21nm,1.0s						
YULB	**Yu-li**	**20.22**	**249**	*e*P	**P**	**15 31 24.7**	**-0.7**
	comp=Z,26nm,1.4s						
SSLB	**Suanglung**	**20.30**	**251**	*e*P	**P**	**15 31 25.5**	**-0.9**
	comp=Z,30nm,1.4s						
TPUB	**Ta-pu**	**20.80**	**250**	*e*P	Pn	15 31 32.2	-2.4
	comp=Z,19nm,1.2s						
NKL	**Nikolayevsk**	**20.95**	**358**	*e*P	Pn	15 31 33.7	-2.4
NKL				pmax	pmax		
	comp=N,8.0nm,0.9s						
NKL				pmax	pmax		
	comp=Z,28nm,0.9s						
PEA0B	**Petropavlovsk-**	**23.80**	**24**	*e*P	**P**	**15 32 03.5**	**+0.9**
	comp=Z,206nm,1.8s						
ZEA	**Zeya**	**23.95**	**338**	*e*P	**P**	**15 32 04.9**	**+0.8**
ZEA				pmax	pmax		
	comp=N,25nm,0.7s						
ZEA				pmax	pmax		
	comp=Z,28nm,0.8s						
HHC	**Hu-ho-hao-te**	**25.77**	**298**	*e*P	**P**	**15 32 20.4**	**-0.5**
HHC				pmax	pmax		
	comp=Z,24nm,0.8s						
HHC				pmax	pmax		
	comp=Z,250nm,4.2s						
CLNS	**Chul'man**	**27.30**	**339**	*e*P	**P**	**15 32 35.2**	**+0.8**
CLNS				pmax	pmax		
	comp=Z,14nm,0.9s						
CLNS				pmax	pmax		
	comp=N,8.0nm,0.9s						
CLNS				pmax	pmax		
	comp=E,4.0nm,0.9s						
XAN	**Xi'an**	**27.63**	**283**	P	**P**	**15 32 37.0**	**-0.6**
XAN				pP	pP	15 32 41.8	-7.8
XAN				pmax	pmax		
	comp=Z,8.0nm,0.6s						
ULN	**Ulaanbaatar**	**30.63**	**311**	*e*P	**P**	**15 33 05.2**	**+1.0**
	comp=Z,5.2nm,0.7s						
ULN	**Ulaanbaatar**	**30.63**	**311**	||*e*P	**P**	**15 33 05.6**	**+1.4**
ULN				pmax	pmax		
	comp=Z,8.0nm,1.0s						
YAK	**Yakutsk**	**30.87**	**349**	P	**P**	**15 33 01.8**	**-4.1**
	comp=Z,9.2nm,0.5s,baz=30,slow=1.5,SNR=2.2						
YAK	**Yakutsk**	**30.87**	**349**	*e*P	**P**	**15 33 05.8**	**-0.1**
	comp=Z,15nm,0.7s						
YAK	**Yakutsk**	**30.87**	**349**	*e*P	**P**	**15 33 06.3**	**+0.4**
YAK				pmax	pmax		
	comp=Z,15nm,0.7s						
SONA1	**Songino Array**	**31.04**	**311**	*e*P	**P**	**15 33 09.0**	**+1.2**
SONA0	**Songino Array**	**31.04**	**311**	*e*P	**P**	**15 33 09.3**	**+1.5**
SONM	**Songino Array**	**31.04**	**311**	P	**P**	**15 33 09.3**	**+1.5**
	comp=Z,4.4nm,0.6s,baz=114,slow=9.8,SNR=16						
LZH	**Lanzhou**	**31.61**	**288**	*e*P	**P**	**15 33 13.3**	**+0.3**
LZH				pP	pP	15 33 24.4	-0.7
LZH				sP	sP	15 33 27.6	-2.9
LZH				PP	**PnPn**	**15 34 15.3**	**-2.4**
LZH				pmax	pmax		
	comp=Z,47nm,1.0s						
LZH				pmax	pmax		
	comp=Z,420nm,5.7s						
LZH				LR	LR		
	comp=N,410nm,13.3s						
LZH				LR	LR		
	comp=E,310nm,13.5s						
LZH				LR	LR		
	comp=Z,380nm,15.3s						
BOD	**Bodaibo**	**31.90**	**332**	*e*P	**P**	**15 33 14.6**	**-0.5**
BOD				pmax	pmax		
	comp=Z,8.0nm,1.0s						
CD2	**Chengdu**	**32.43**	**278**	*e*P	**P**	**15 33 18.8**	**-1.3**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
ZAK	**Zakamensk**	**33.76**	**314**	*e*P	**P**	**15 33 31.9**	**+0.4**
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.1s						
TLY	**Talaya**	**33.96**	**316**	*e*P	**P**	**15 33 34.0**	**+0.8**
	comp=Z,10nm,1.1s						
TLY	**Talaya**	**33.96**	**316**	*e*P	**P**	**15 33 34.8**	**+1.6**
TLY				pmax	pmax		
	comp=Z,9.0nm,1.0s						
GTA	**Gaotai**	**34.65**	**294**	*e*P	**P**	**15 33 38.8**	**-0.6**
GTA				pP	pP	15 33 47.9	-3.7
GTA				sP	sP	15 33 52.1	-4.9
GTA				S	**S**	**15 39 05.3**	**-0.7**
GTA				sS	sS	15 39 21.0	-5.3
GTA				SS	**SnSn**	**15 41 19.8**	**-1.4**
GTA				pmax	pmax		
	comp=Z,6.0nm,1.0s						
GTA				pmax	pmax		
	comp=Z,1μm,9.0s						
GTA				LR	LR		
	comp=N,240nm,10.5s						
GTA				LR	LR		
	comp=E,210nm,11.6s						
GTA				LR	LR		
	comp=Z,230nm,12.8s						
KMI	**Kunming**	**34.95**	**269**	P	**P**	**15 33 42.1**	**-0.2**
KMI				pmax	pmax		
	comp=Z,19nm,0.5s						
BILL	**Bilibino**	**38.56**	**14**	*i* P	**P**	**15 34 08.6**	**-3.6**
BILL				*i*		15 34 25.3	
BILL				*i*		15 35 40.6	
BILL				*i*		15 36 28.0	
BILL				pmax	pmax		
	comp=Z,2.0nm,0.9s						
HVS	**Khovu-Aksy**	**39.84**	**313**	||*e*P	P	15 34 25.6	+2.4
HVS				pmax	pmax		
	comp=Z,16nm,1.5s						
TIXI	**Tiksi**	**40.12**	**354**	*e*P	**P**	**15 34 25.4**	**+0.2**
	comp=Z,3.1nm,0.6s						
TIXI	**Tiksi**	**40.12**	**354**	||*e*P	**P**	**15 34 25.3**	**+0.2**
TIXI				pmax	pmax		
	comp=Z,3.0nm,0.6s						
CHTO	**Chiang Mai**	**40.75**	**262**	*e*P	**P**	**15 34 30.4**	**-0.6**
	comp=Z,10nm,1.8s						
CHTO	**Chiang Mai**	**40.75**	**262**	*e*P	**P**	**15 34 30.4**	**-0.6**
CHTO				pmax	pmax		
	comp=Z,10.0nm,1.8s						
CM31	**Chiang Mai Arr**	**40.92**	**261**	*e*P	**P**	**15 34 31.7**	**-0.7**
CM31				*e*PcP	**PcP**	**15 36 33.2**	**+0.9**
CMAR	**Chiang Mai Arr**	**40.92**	**261**	P	**P**	**15 34 31.6**	**-0.8**
	comp=Z,0.7nm,0.8s,baz=46,slow=8.1,SNR=6.5						
CMAR				PcP	**PcP**	**15 36 33.2**	**+0.9**
	comp=Z,0.2nm,0.6s,baz=16,slow=4.0,SNR=4.2						
CM01	**Chiang Mai Arr**	**40.92**	**261**	*e*P	**P**	**15 34 31.9**	**-0.5**
PMG	**Port Moresby**	**41.68**	**172**	*e*P	**P**	**15 34 38.8**	**+0.3**
	comp=Z,41nm,1.3s						
PMG	**Port Moresby**	**41.68**	**172**	*e*P	**P**	**15 34 38.8**	**+0.3**
PMG				pmax	pmax		
	comp=Z,41nm,1.3s						
WMQ	**Urumqi**	**43.55**	**302**	P	**P**	**15 34 55.6**	**+1.9**
WMQ				pP	pP	15 35 05.4	-0.7
WMQ				sP	sP	15 35 10.8	-0.6
WMQ				pmax	pmax		
	comp=Z,24nm,1.1s						
DGZ	**Jazzator, Alta**	**43.69**	**310**	*i* P	**P**	**15 34 56.2**	**+1.5**
DGZ				pmax	pmax		
	comp=Z,5.0nm,0.7s						
SOEI	**Soe**	**45.01**	**205**	*e*P	**P**	**15 35 06.4**	**+0.9**
	comp=Z,66nm,1.6s						
ZAA0	**Zalesovo Array**	**45.57**	**316**	*e*P	**P**	**15 35 09.7**	**+0.2**
	comp=Z,5.8nm,1.0s						
ZAA0				*e*PcP	**PcP**	**15 36 46.9**	**-0.4**
ZALV	**Zalesovo Beam**	**45.57**	**316**	P	**P**	**15 35 10.0**	**+0.5**
	comp=Z,3.5nm,0.6s,baz=98,slow=6.3,SNR=20						
ZALV				PcP	**PcP**	**15 36 47.6**	**+0.3**
	comp=Z,2.9nm,0.6s,baz=98,slow=2.1,SNR=8.4						
ZALV	**Zalesovo Beam**	**45.57**	**316**	*e*P	**P**	**15 35 09.5**	**0.0**
ZALV				*e*PcP	**PcP**	**15 36 47.3**	**0.0**
ZALV	**Zalesovo Beam**	**45.57**	**316**	*e*P	**P**	**15 35 09.5**	**0.0**
ZALV				*e*		15 36 47.3	
ZAA1	**Zalesovo Array**	**45.57**	**316**	*e*P	**P**	**15 35 10.0**	**+0.5**
ZAA1				*e*PcP	**PcP**	**15 36 47.6**	**+0.2**
BATI	**Baumata**	**45.64**	**206**	P	**P**	**15 35 09.9**	**-0.5**
	comp=Z,26nm,1.0s,baz=100,slow=18,SNR=3.2						
COEN	**Coen**	**45.92**	**178**	*e*P	**P**	**15 35 13.3**	**+0.7**
	comp=Z,26nm,1.3s						
MTN	**Manton Dam**	**45.97**	**195**	*e*P	**P**	**15 35 13.2**	**+0.2**
	comp=Z,26nm,0.6s						
NVS	**Novosibirsk**	**46.56**	**317**	*e*P	**P**	**15 35 18.3**	**+1.0**
MK01	**Makanchi Array**	**47.16**	**306**	*e*P	**P**	**15 35 22.9**	**+0.8**
MK01				*e*PcP	**PcP**	**15 36 53.5**	**+0.3**
MK31	**Makanchi Array**	**47.16**	**306**	*e*P	**P**	**15 35 22.5**	**+0.4**
MK31				*e*PcP	**PcP**	**15 36 53.7**	**+0.6**
MK31	**Makanchi Array**	**47.16**	**306**	*e*P	**P**	**15 35 22.5**	**+0.4**
MK31				*e*		15 36 53.7	
MK32	**Makanchi Array**	**47.16**	**306**	*e*P	**P**	**15 35 23.0**	**+0.8**
MK32				*e*PcP	**PcP**	**15 36 52.5**	**-0.6**
MKAR	**Makanchi Array**	**47.16**	**306**	P	**P**	**15 35 23.0**	**+0.8**
	comp=Z,4.9nm,0.4s,baz=90,slow=9.8,SNR=112						
MKAR				PcP	**PcP**	**15 36 52.5**	**-0.6**
	comp=Z,1.8nm,0.8s,baz=50,slow=2.3,SNR=3.2						
MKAR	**Makanchi Array**	**47.16**	**306**	*e*P	**P**	**15 35 22.5**	**+0.4**
	comp=Z,65nm,0.8s						
MKAR				*e*PcP	**PcP**	**15 36 53.6**	**+0.4**
ODAN	**Odare**	**47.32**	**278**	*e*P	**P**	**15 35 24.0**	**+0.1**
MAKZ	**Makanchi**	**47.38**	**306**	*e*P	**P**	**15 35 24.5**	**+0.7**
	comp=Z,9.2nm,1.0s						
MAKZ	**Makanchi**	**47.38**	**306**	*e*P	**P**	**15 35 24.5**	**+0.7**
MAKZ				pmax	pmax		
	comp=Z,9.0nm,1.0s						
RAMN	**Ramite**	**47.96**	**279**	*e*P	**P**	**15 35 29.1**	**+0.3**
	comp=Z,40nm,0.8s						
JIRN	**Jiri**	**48.06**	**280**	*e*P	**P**	**15 35 29.9**	**+0.1**
GUN	**Gumba**	**48.23**	**280**	*e*P	**P**	**15 35 31.9**	**+0.8**
	comp=Z,36nm,0.9s						
KKN	**Kakani**	**48.77**	**280**	*e*P	**P**	**15 35 35.5**	**+0.4**
DMN	**Daman**	**48.98**	**280**	*e*P	**P**	**15 35 36.8**	**+0.1**
SVW2	**Sparrevohn**	**49.17**	**35**	*e*P	P	15 35 40.0	+2.6
	comp=Z,23nm,1.8s						
GKN	**Gorkha**	**49.24**	**281**	*e*P	**P**	**15 35 38.7**	**+0.1**
KURK	**Kurchatov**	**49.34**	**312**	*e*P	**P**	**15 35 39.3**	**+0.6**
	comp=Z,17nm,1.1s						
KURK	**Kurchatov**	**49.34**	**312**	*ce*P	**P**	**15 35 39.0**	**+0.2**
KURK				pmax	pmax		
	comp=Z,17nm,1.1s						
KURBB	**Kurchatov Arra**	**49.40**	**311**	P	**P**	**15 35 39.6**	**+0.3**
	comp=Z,6.6nm,0.6s,baz=87,slow=7.5,SNR=54						
DANN	**Dangsing**	**49.85**	**282**	*e*P	**P**	**15 35 44.3**	**+0.9**
OHAK	**Old Harbor**	**50.10**	**40**	*e*P	**P**	**15 35 45.1**	**+0.7**
	comp=Z,32nm,1.5s						
KOLN	**Koldanda**	**50.18**	**281**	*e*P	**P**	**15 35 46.0**	**+0.2**
	comp=Z,5.2nm,0.5s						
KDAK	**Kodiak Island**	**50.49**	**39**	P	**P**	**15 35 48.2**	**+0.8**
	comp=Z,4.3nm,0.8s,baz=291,slow=2.2,SNR=7.4						
KDAK	**Kodiak Island**	**50.49**	**39**	*e*P	**P**	**15 35 48.5**	**+1.1**
	comp=Z,32nm,1.4s						
KDAK	**Kodiak Island**	**50.49**	**39**	*i* P	**P**	**15 35 48.6**	**+1.2**
PYUN	**Piuthan**	**50.58**	**282**	*e*P	**P**	**15 35 49.2**	**+0.4**
	comp=Z,40nm,0.6s						
IM3	**Indian Mountai**	**50.64**	**28**	*e*P	**P**	**15 35 48.5**	**+0.1**
IM3				*e*PcP	**PcP**	**15 37 06.8**	**+1.4**
LEM	**Lembang**	**50.74**	**226**	P	**P**	**15 35 49.9**	**-0.2**
	comp=Z,25nm,1.0s,baz=126,slow=19,SNR=3.9						
PPLA	**Purkeypile**	**50.95**	**33**	*e*P	**P**	**15 35 52.5**	**+1.5**
	comp=Z,44nm,2.0s						
CAST	**Castle Rocks**	**51.04**	**32**	*e*P	P	15 35 53.7	+2.2
	comp=Z,15nm,2.0s						
SKT	**Skwentna**	**51.18**	**34**	*e*P	**P**	**15 35 53.4**	**+0.8**
	comp=Z,13nm,1.8s						
KDJ	**Kajisay**	**51.42**	**301**	*e*P	**P**	**15 35 55.8**	**+0.9**
	comp=Z,2.4nm,0.8s						
SUA	**Susitna One**	**51.53**	**34**	*e*P	**P**	**15 35 56.3**	**+0.9**
	comp=Z,20nm,2.0s						
MLY	**Manley**	**51.77**	**30**	*e*P	**P**	**15 35 56.3**	**-0.7**
	comp=Z,4.5nm,1.2s						
TRF	**Thorofare Moun**	**51.84**	**32**	*e*P	**P**	**15 35 58.8**	**+1.1**
	comp=Z,24nm,1.9s						
WRAB	**Tennant Creek**	**52.35**	**189**	*e*P	**P**	**15 36 01.7**	**0.0**
	comp=Z,11nm,0.8s						
WRAB	**Tennant Creek**	**52.35**	**189**	||*i* P	**P**	**15 36 01.9**	**+0.2**
WRAB				pmax	pmax		
	comp=Z,7.0nm,1.1s						
WB2	**Warramunga Arr**	**52.36**	**189**	*e*P	**P**	**15 36 01.4**	**-0.4**
WR1	**Warramunga Arr**	**52.36**	**189**	*e*P	**P**	**15 36 02.0**	**+0.2**
	comp=Z,26nm,1.4s						
WRA	**Warramunga Arr**	**52.36**	**189**	P	**P**	**15 36 02.0**	**+0.2**
	comp=Z,5.2nm,0.4s,baz=5.9,slow=7.7,SNR=130						
FITZ	**Fitzroy Crossi**	**52.39**	**200**	*e*P	**P**	**15 36 02.9**	**+0.9**
	comp=Z,23nm,1.5s						
GHO	**Glory Hole Cre**	**52.41**	**34**	*e*P	**P**	**15 36 03.5**	**+1.7**
	comp=Z,26nm,1.9s						
NRN	**Naryn**	**52.43**	**300**	*e*P	**P**	**15 36 03.7**	**+1.1**
	comp=Z,1.9nm,0.6s						
NRN	**Naryn**	**52.43**	**300**	*e*P	**P**	**15 36 03.7**	**+1.1**
NRN				pmax	pmax		
	comp=Z,2.0nm,0.6s						
RND	**Reindeer**	**52.49**	**32**	*e*P	**P**	**15 36 03.8**	**+1.4**
	comp=Z,9.6nm,1.5s						
RND	**Reindeer**	**52.49**	**32**	*e*P	**P**	**15 36 03.8**	**+1.4**
RND				pmax	pmax		
	comp=Z,10.0nm,1.5

comp=Z,12nm,1.8s
SKAG Skagway 59.29 36 *e*P **P 15 36 52.3 +1.2**
comp=Z,6.2nm,1.0s
KBL Kabul 59.64 294 *e*P **P 15 36 54.5 +0.4**
comp=Z,2.6nm,0.7s
KBL Kabul 59.64 294 *e*P **P 15 36 54.5 +0.4**
KBL pmax pmax
comp=Z,3.0nm,0.7s
ARU Arti 60.30 321 *e*P **P 15 36 58.0 +0.1**
comp=Z,16nm,0.6s
ARU Arti 60.30 321 *c i*P **P 15 36 58.1 +0.1**
ARU 15 37 40.8
ARU S **S 15 45 11.8 +3.0**
ARU pmax pmax
comp=Z,17nm,0.8s
ABKAR Akbulak array 61.43 312 *e*P **P 15 37 06.1 +0.3**
comp=Z,54nm,0.8s
AKTO Aktyubinsk 62.27 314 P **P 15 37 11.8 +0.4**
comp=Z,5.4nm,0.7s,baz=95,slow=9.0,SNR=14
STKA Stephens Creek 63.74 180 P **P 15 37 20.4 -0.8**
comp=Z,0.7nm,0.5s,baz=337,slow=15,SNR=3.5
STKA Stephens Creek 63.74 180 *e*P **P 15 37 21.3 +0.1**
comp=Z,5.4nm,2.0s
STKA Stephens Creek 63.74 180 *e*P **P 15 37 21.3 +0.1**
STKA pmax pmax
comp=Z,5.0nm,2.0s
FORT Forrest 64.00 193 *e*P **P 15 37 24.1 +1.1**
comp=Z,248nm,0.6s
BBOO Buckleboo 64.90 185 *e*P **P 15 37 29.5 +0.7**
comp=Z,19nm,1.4s
SPA0 Spitsbergen Ar 65.33 349 *e*P **P 15 37 32.4 +1.2**
SPITS Spitsbergen Ar 65.33 349 P **P 15 37 32.4 +1.2**
comp=Z,7.8nm,0.9s,baz=42,slow=6.7,SNR=7.8
GEYT Alibeck 66.61 301 P **P 15 37 40.8 +0.8**
comp=Z,2.0nm,0.6s,baz=45,slow=6.7,SNR=5.7
RES Resolute Bay 67.17 14 P **P 15 37 43.2 +0.3**
comp=Z,3.5nm,0.8s,baz=330,slow=5.0,SNR=20
RES Resolute Bay 67.17 14 *e*P **P 15 37 43.2 +0.3**
comp=Z,3.3nm,0.8s
YKA Yellowknife Ar 67.79 29 P **P 15 37 47.5 +0.5**
comp=Z,0.8nm,0.5s,baz=296,slow=6.4,SNR=20
KLMR Klimovskoe 68.08 329 *e*P **P 15 37 46.0 -2.9**
KLMR AMP 15 37 50.4
comp=Z,12nm,1.3s
KLMR Klimovskoe 68.08 329 *e*P **P 15 37 45.9 -2.9**
KLMR pmax pmax
comp=Z,12nm,1.3s
NWAO Narrogin (SRO) 68.84 202 *e*P **P 15 37 54.8 +0.9**
comp=Z,74nm,1.8s
NWAO Narrogin (SRO) 68.84 202 *e*P **P 15 37 54.8 +0.9**
NWAO pmax pmax
comp=Z,75nm,1.8s
LVP Lakeview Peak 71.19 47 *e*P **P 15 38 05.2 -3.2**
VALT Mount Saint He 71.26 47 *e*P **P 15 38 08.4 -0.6**
OBN Obninsk 72.23 324↑ *e*P **P 15 38 14.7 +0.4**
OBN *e* 15 38 34.4
OBN *e* 15 40 52.5
OBN *e*S **SKiKP 15 47 35.9 -11**
OBN pmax pmax
comp=Z,15nm,0.5s
FIA0 FINESS Array S 73.28 333 *e*P **P 15 38 21.0 +0.5**
FIA0 FINESS Array S 73.28 333 *e*P **P 15 38 21.0 +0.5**
FINES FINESS Array B 73.28 333 P **P 15 38 21.0 +0.5**
comp=Z,3.9nm,0.7s,baz=51,slow=7.0,SNR=15
FINES FINESS Array B 73.28 333 P **P 15 38 21.0 +0.5**
FINES pmax pmax
comp=Z,4.0nm,0.7s
NCK Nalchik 74.07 312↓ *e*P **P 15 38 25.5 0.0**
NCK pmax pmax
comp=Z,10.0nm,0.4s
ZEI Tsey 74.22 311 *e*P **P 15 38 24.8 -1.8**
ZEI pmax pmax
comp=Z,3.0nm,0.8s
KBZ Khabaz 74.39 312 P **P 15 38 28.8 +1.4**
comp=Z,7.2nm,0.8s,baz=95,slow=2.6,SNR=20
KIV Kislovodsk 74.42 312 *e*P **P 15 38 28.8 +1.2**
comp=Z,13nm,0.9s
KIV Kislovodsk 74.42 312 *e*P **P 15 38 29.3 +1.7**
KIV pmax pmax
comp=Z,15nm,1.0s
VSU Vasula 74.83 330↓ *e*P **P 15 38 30.3 +0.7**
VSU pmax pmax
comp=Z,41nm,1.1s
GNI Garni 74.96 308 P **P 15 38 32.1 +1.2**
comp=Z,3.1nm,0.3s,baz=322,slow=17,SNR=2.1
GNI Garni 74.96 308↑ *e*P P 15 38 33.4 +2.5
GNI pmax pmax
comp=Z,21nm,1.1s
FFC Flin Flon 77.55 32 *i* P P 15 38 47.3 +2.2
NV01 Mina Array Sit 77.57 52 *e*P **P 15 38 46.7 +0.9**
NVAR Mina Array Bea 77.57 52 P **P 15 38 47.5 +1.6**
comp=Z,0.3nm,0.5s,baz=269,slow=6.2,SNR=3.1
AKASG Malin Array Be 78.38 323 P **P 15 38 50.0 +0.2**
comp=Z,3.2nm,0.5s,baz=50,slow=5.8,SNR=19
AKASG Malin Array Be 78.38 323 P **P 15 38 50.0 +0.2**
AKASG pmax pmax
comp=Z,3.0nm,0.5s
KIEV Kiev 78.39 323↑ *i*P **P 15 38 49.9 0.0**
KIEV pmax pmax
comp=Z,3.0nm,0.5s
HFS Hagfors 78.66 336 P **P 15 38 51.4 +0.2**
comp=Z,2.8nm,0.6s,baz=86,slow=5.9,SNR=11
NB2 NORSAR Subarra 78.80 338 P **P 15 38 52.1 +0.1**
comp=Z,4.5nm,0.8s,baz=41,slow=5.6
NB200 NORSAR Array S 78.80 338 *e*P **P 15 38 52.4 +0.4**
NOA NORSAR Array B 78.80 338 P **P 15 38 52.4 +0.4**
comp=Z,4.3nm,0.8s,baz=41,slow=5.4,SNR=14
BLKC Black Mountain 80.07 55 *e*P P 15 39 01.5 +2.1
PDAR Pinedale Array 80.76 45 P **P 15 39 04.3 +1.0**
comp=Z,0.2nm,0.6s,baz=284,slow=3.6,SNR=2.9
ILGA Ilgaz 81.56 313 *e*P **P 15 39 09.0 +1.5**
comp=Z,8.3nm,0.7s
IRM Iron Mountain 82.01 55 *e*P P 15 39 12.6 +2.8
SRU San Rafael Swe 82.28 48 *e*P **P 15 39 12.2 +0.9**
comp=Z,3.3nm,0.7s
SRU San Rafael Swe 82.28 48 *e*P **P 15 39 12.2 +0.9**
SRU pmax pmax
comp=Z,3.0nm,0.7s
KWP Kalwaria Pacla 82.30 325 *e*P **P 15 39 11.9 +1.0**
comp=Z,142nm,0.9s
KWP Kalwaria Pacla 82.30 325 *e*P **P 15 39 11.9 +1.0**
KWP pmax pmax
comp=Z,142nm,0.9s
BUR04 Bucovina Ar. S 82.37 322 *e*P **P 15 39 12.1 +0.7**
BR101 Keskin Array S 82.38 312 *e*P **P 15 39 12.6 +0.9**
BRTR Keskin Array B 82.38 312 P **P 15 39 12.6 +0.9**
comp=Z,2.7nm,1.0s,baz=123,slow=4.6,SNR=13
BR231 Keskin MP Arra 82.85 313 *e*P **P 15 39 13.2 -1.0**
RAYN Ar Rayn 82.90 293 *e*P **P 15 39 15.2 +0.6**
comp=Z,5.6nm,0.6s
STHS Stebnicka Huta 83.15 326 *e*P P 15 39 17.3 +1.9
STHS Stebnicka Huta 83.15 326 *e*P P 15 39 17.3 +1.9
STHS pmax pmax
comp=Z,3.0nm,0.9s
MLR Muntele Rosu 83.35 320 P **P 15 39 17.1 +0.5**
comp=Z,0.5nm,0.5s,baz=337,slow=13,SNR=4.5
MLR Muntele Rosu 83.35 320 *e*P **P 15 39 16.5 -0.1**
comp=Z,18nm,1.9s
LANS Liptovska Anna 84.18 326 *e*P **P 15 39 22.1 +1.4**
LANS Liptovska Anna 84.18 326 *e*P **P 15 39 22.1 +1.4**
KRLC Kraliky 84.76 328 *e*P **P 15 39 24.2 +0.6**
KRLC Kraliky 84.76 328 *e*P **P 15 39 24.2 +0.6**
DPC Dobruska-Polom 84.77 328 *e*P **P 15 39 24.8 +1.2**
DPC *e*pP **pP 15 39 35.3 -1.8**
DPC Dobruska-Polom 84.77 328 *e*P **P 15 39 24.8 +1.2**
DPC *e* 15 39 35.3
VYHS Vyhne 84.94 326 *e*P **P 15 39 25.4 +0.9**
VYHS Vyhne 84.94 326 *e*P **P 15 39 25.4 +0.9**
VYHS pmax pmax
comp=Z,4.0nm,1.2s
MMAI Mount Meron Ar 85.11 306 P **P 15 39 26.6 +0.9**
comp=Z,1.0nm,0.4s,baz=343,slow=4.5,SNR=4.0
CLL Collm 85.49 331 *i*P **P 15 39 27.5 +0.4**
comp=Z,8.0nm,1.0s
CLL *e*(sP) **sP 15 39 48.0 +2.3**
CLL Collm 85.49 331 *i*P **P 15 39 27.5 +0.4**
CLL pmax pmax
comp=Z,8.0nm,1.0s
KHC Kasperske Hory 86.87 329 *e*P **P 15 39 34.9 +0.8**
KHC Kasperske Hory 86.87 329 *e*P **P 15 39 34.9 +0.8**
GEC2 GERESS Array S 87.03 329 *e*P **P 15 39 35.7 +0.8**
GEC2 pmax pmax
comp=Z,6.3nm,1.5s
GEC2 GERESS Array S 87.03 329 *e*P **P 15 39 35.7 +0.8**
GEC2 pmax pmax
comp=Z,6.0nm,1.5s
GERES GERESS Array B 87.03 329 P **P 15 39 35.7 +0.8**
comp=Z,0.3nm,0.5s,baz=28,slow=4.4,SNR=2.6
LTX Lajitas 92.72 53 *e*P **P 15 40 03.1 +1.1**
LTX Lajitas 92.72 53 *e*P **P 15 40 03.1 +1.1**
TXAR Lajitas Array 92.72 53 P **P 15 40 03.1 +1.1**
comp=Z,0.8nm,0.7s,baz=297,slow=3.5,SNR=8.5
TOA1 Torodi Ar. Sit 120.98 313 *e*PKPdf **PKPdf 15 45 42.1 -0.3**
TORD Torodi Ar. Bea 120.98 313 PKP **PKPdf 15 45 42.1 -0.3**
comp=Z,0.5nm,0.5s,baz=44,slow=0.8,SNR=3.1
SAML Samuel 147.19 51 *e*PKPbc **PKPab 15 46 33.4 -1.4**
LPAZ La Paz 148.49 67 PKPbc **PKPab 15 46 38.4 -2.4**
comp=Z,1.8nm,0.6s,baz=347,slow=3.6,SNR=6.2
LPAZ La Paz 148.49 67 *e*PKP2 **PKPab 15 46 38.3 -2.5**

PRU 12 15:26:55.8, 49.91N×18.40E, h0km, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OKC	**Ostrava-Krasne**	**0.18**	**246**	*e*PG	Pg	15 26 58.9	-0.3
OKC				*e*SG	Sg	15 27 01.9	+0.4
	comp=Z,9.2nm,0.2s						
DPC	**Dobruska-Polom**	**1.41**	**289**	*e*SG	Sg	15 27 40.8	-0.2

IDC 12 15:31:26.2±6.1, 19.76S×176.70W, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.4/49, mbtmp3.7/3, Error ellipse: s-maj=185.4km s-min=98.9km az=143.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**39.21**	**244**	P	P	15 38 55.4	-1.0
	0.5nm,0.5s,baz=90,slow=15,SNR=2.8						
ASAR	**Alice Springs**	**45.88**	**256**	P	P	15 39 50.8	0.0
	0.8nm,0.6s,baz=93,slow=8.4,SNR=11						
WRA	**Warramunga Arr**	**45.92**	**261**	P	P	15 39 51.5	+0.3
	comp=Z,56nm,1.6s,baz=95,slow=7.6,SNR=12						
AKASG	**Malin Array Be**	**142.94**	**333**	PKP	PKPdf	15 51 01.0	-0.8
	0.3nm,0.5s,baz=48,slow=3.9,SNR=4.1						

*ISCJB **12** 15:33:41.7±0.8, 42.03N±0.04×65.96W±0.05, h10km, mb3.5/5, Error ellipse: s-maj=7.3km s-min=3.9km az=143.2*
*IDC **12** 15:33:41.1±2.4, 41.33N×65.24W, h0km, mb3.5/5, mb1 3.7/5, mb1mx3.3/63, mbtmp3.5/5, Error ellipse: s-maj=56.2km s-min=46.8km az=147.0*
*OTT **12** 15:33:44.6±0.7, 41.97N×65.84W, h18km, ML3.8/8, Atlantic Ocean, south of Nova Scotia. 205km south from Shelburne, Ns*
*NEIC **12** 15:33:44.6±0.0, 41.97N×65.84W, h18km, MN3.2, ML3.8(OTT), After OTT.*
ISC 12 15:33:42.7±1.1, 41.92N±0.07×65.83W±0.05, h10km, n52, σ2s54/63, mb3.4/5, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EMMW	**East Machias**	**3.03**	**338**	PN	**Pn**	**15 34 30.3**	**-0.4**
EMMW				SN	**Sn**	**15 35 04.4**	**-2.6**
EMMW	**East Machias**	**3.03**	**338**	*e*Pn	**Pn**	**15 34 30.4**	**-0.4**
EMMW				*e*Sn	**Sn**	**15 35 05.6**	**-1.4**
HAL	**Halifax**	**3.17**	**30**	PN	**Pn**	**15 34 32.6**	**-0.1**
HAL				SN	**Sn**	**15 35 08.4**	**-2.1**
HAL				Trac		15 35 14.1	
	comp=Z,65nm,0.1s						
GGN	**Saint George**	**3.28**	**347**	PN	**Pn**	**15 34 35.1**	**+0.9**
GGN				SN	**Sn**	**15 35 09.4**	**-3.8**
GGN				Trac		15 35 20.3	
	comp=Z,45nm,0.1s						
GGN	**Saint George**	**3.28**	**347**	*e*Pn	**Pn**	**15 34 35.1**	**+0.9**
GGN				*e*Sn	**Sn**	**15 35 09.4**	**-3.8**
WVL	**Waterville**	**3.85**	**315**	PN	**Pb**	**15 34 46.9**	**-3.8**
WVL				SN	**Sn**	**15 35 24.4**	**-2.8**
WVL	**Waterville**	**3.85**	**315**	*e*Pn	**Pb**	**15 34 46.9**	**-3.8**
WVL				*e*Sn	**Sn**	**15 35 24.4**	**-2.8**
BCX	**Boston College**	**3.99**	**278**	*e*Pn	**Pn**	**15 34 43.7**	**-0.2**
LMN	**Caledonia Moun**	**4.00**	**10**	PN	**Pn**	**15 34 44.8**	**+0.7**
LMN				SN	**Sn**	**15 35 28.6**	**-2.4**
LMN				Trac		15 35 48.2	
	comp=Z,83nm,0.3s						
LMN	**Caledonia Moun**	**4.00**	**10**	*e*Pn	**Pn**	**15 34 44.8**	**+0.7**
LMN				*e*Sn	**Sn**	**15 35 28.6**	**-2.4**
WES	**Weston**	**4.11**	**278**	*e*Pn	**Pn**	**15 34 43.9**	**-1.6**
PKME	**Peaks-Kenny Pk**	**4.18**	**324**	PN	**Pn**	**15 34 47.1**	**+0.6**
PKME				SN	**Sn**	**15 35 31.8**	**-3.6**
PKME	**Peaks-Kenny Pk**	**4.18**	**324**	*e*Pn	**Pn**	**15 34 47.6**	**+1.1**
PKME				*e*Sn	**Sn**	**15 35 32.5**	**-3.0**
BRYW	**Bryant College**	**4.26**	**272**	*e*Pn	**Pn**	**15 34 46.8**	**-0.8**
BRYW				*e*Sn	**Sn**	**15 35 34.5**	**-2.8**
HRV	**Adam Dziewonsk**	**4.29**	**280**	*e*Pn	**Pn**	**15 34 47.8**	**-0.2**
HRV				*e*Sn	**Sn**	**15 35 36.1**	**-2.1**
FFD	**Franklin Falls**	**4.56**	**292**	*e*Pn	**Pn**	**15 34 53.0**	**+1.3**
GBN	**Guysborough**	**4.69**	**40**	PN	**Pn**	**15 34 51.9**	**-1.6**
GBN				SN	**Sn**	**15 35 42.6**	**-5.3**
GBN				Trac		15 35 49.6	
	comp=Z,194nm,0.3s						
GBN	**Guysborough**	**4.69**	**40**	*e*Pn	**Pn**	**15 34 51.9**	**-1.6**
GBN				*e*Sn	**Sn**	**15 35 42.6**	**-5.3**
QUA2	**Belchertown**	**4.86**	**276**	*e*Pn	**Pn**	**15 34 55.9**	**0.0**
QUA2				*e*Sn	**Sn**	**15 35 52.1**	**-0.1**
PQI	**Presque Isle**	**5.00**	**342**	PN	**Pn**	**15 34 58.5**	**+0.7**
PQI				SN	**Sn**	**15 35 53.3**	**-2.4**
PQI	**Presque Isle**	**5.00**	**342**	*e*Pn	**Pn**	**15 34 58.4**	**+0.6**
PQI				*e*Sn	**Sn**	**15 35 53.8**	**-1.8**
LBNH	**Lisbon**	**5.03**	**300**	PN	**Pn**	**15 34 57.3**	**-0.9**
LBNH				SN	**Sn**	**15 35 53.5**	**-2.8**
LBNH	**Lisbon**	**5.03**	**300**	*e*Pn	**Pn**	**15 34 57.4**	**-0.8**
HNH	**Hanover**	**5.07**	**293**	*e*Pn	**Pn**	**15 34 58.0**	**-0.7**
BATG	**Bathurst New B**	**5.36**	**358**	PN	**Pn**	**15 35 00.0**	**+0.3**
BATG				SN	**Sn**	**15 36 00.1**	**-4.3**
BATG				Trac		15 36 07.3	
	comp=Z,39nm,0.1s						
BATG	**Bathurst New B**	**5.36**	**358**	*e*Pn	**Pn**	**15 35 03.0**	**+0.3**
BATG				*e*Sn	**Sn**	**15 36 00.1**	**-4.3**
YLE	**Yale**	**5.36**	**266**	*e*Sg	**Sg**	**15 36 35.1**	**+0.4**
MOQ	**Mont Orford**	**5.76**	**308**	PN	Pn	15 35 14.5	+6.2
MOQ				SN	**Sn**	**15 36 16.9**	**+2.3**
MOQ				Trac		15 36 20.8	
	comp=Z,13nm,0.2s						
MOQ	**Mont Orford**	**5.76**	**308**	*e*Pn	Pn	15 35 14.5	+6.2
MOQ				*e*Sn	**Sn**	**15 36 16.9**	**+2.3**
CPNY	**Central Park**	**6.22**	**262**	*e*Pn	**Pn**	**15 35 19.2**	**-1.3**
FRNY	**Flat Rock**	**6.36**	**300**	*e*Sn	**Sn**	**15 36 28.8**	**-0.3**
BRNJ	**Basking Ridge**	**6.69**	**262**	*e*Pn	**Pn**	**15 35 20.1**	**-0.9**
DPQ	**Saint Jean**	**6.89**	**316**	PN	Pn	15 35 28.4	+4.7
DPQ				SN	**Sn**	**15 36 42.4**	**+0.3**
DPQ				Trac		15 37 09.0	
	comp=Z,11nm,0.3s						
DPQ	**Saint Jean**	**6.89**	**316**	*e*Pn	Pn	15 35 28.4	+4.7
DPQ				*e*Sn	**Sn**	**15 36 42.4**	**+0.3**
SMQ	**Clarke City**	**8.33**	**356**	PN	**Pn**	**15 35 43.5**	**+0.1**
SMQ				SN	**Sn**	**15 37 15.5**	**-2.0**
SMQ				Trac		15 37 23.7	
	comp=Z,3.6nm,0.1s						
SSPA	**Standing Stone**	**9.17**	**266**	*e*Pn	**Pn**	**15 35 53.9**	**-1.1**
IP06	**Yanceyville**	**10.14**	**251**	*e*Sn	**Sn**	**15 37 55.0**	**-7.1**
FRB	**Frobisher Bay**	**21.92**	**357**	P	**P**	**15 38 41.2**	**+5.3**
	3.1nm,0.8s,baz=181,slow=10,SNR=3.2						
H05N1	**Guadeloupe/Mar**	**25.84**	**169**	T	T	16 06 04.2	
	SNR=9.4						
H07S1	**FLORES T-PHASE**	**26.29**	**84**	T	T	16 06 58.0	
	SNR=12						
YKA	**Yellowknife Ar**	**35.13**	**323**	P	P	15 40 41.7	+5.7
	0.3nm,0.6s,baz=94,slow=8.2,SNR=6.5						
NVAR	**Mina Array Bea**	**39.73**	**283**	P	P	15 41 20.7	+5.1
	0.2nm,0.5s,baz=59,slow=9.8,SNR=2.4						
ILAR	**Eielson Array**	**49.38**	**326**	P	P	15 42 37.8	+5.8
	0.2nm,0.4s,baz=74,slow=4.9,SNR=4.4						
H10N2	**ASCENSION HYDR**	**68.17**	**124**	T	T	16 58 41.2	
	baz=321,slow=75,SNR=53						
H10N3	**ASCENSION HYDR**	**68.17**	**124**	T	T	16 58 41.2	
	baz=321,slow=75,SNR=61						
H10N1	**ASCENSION HYDR**	**68.19**	**124**	T	T	16 58 41.2	
	baz=321,slow=75,SNR=72						
H10S1	**ASCENSION HYDR**	**68.94**	**124**	T	T	16 59 41.0	
	baz=322,slow=75,SNR=24						
H10S3	**ASCENSION HYDR**	**68.94**	**124**	T	T	16 59 38.7	
	baz=322,slow=75,SNR=27						
H10S2	**ASCENSION HYDR**	**68.95**	**124**	T	T	16 59 41.0	
	baz=322,slow=75,SNR=31						
KURBB	**Kurchatov Arra**	**82.72**	**22**	P	**P**	**15 46 10.0**	**+3.6**
	0.3nm,0.6s,baz=340,slow=6.1,SNR=3.0						
WRA	**Warramunga Arr**	**152.22**	**316**	PKPbc	**PKPbc**	**15 53 38.3**	**-0.5**
	0.6nm,0.5s,baz=22,slow=2.3,SNR=5.9						
ASAR	**Alice Springs**	**155.47**	**312**	PKPab	**PKPab**	**15 54 06.6**	**+4.3**
	0.3nm,0.7s,baz=56,slow=3.9,SNR=2.9						

*ISCJB **12** 15:34:05.3±2.1, 41.18N±0.03×65.66W±0.03, h10km, mb3.4/6, Error ellipse: s-maj=52.3km s-min=24.6km az=158.1*
*IDC **12** 15:34:05.7±1.9, 41.74N×65.59W, h0km, mb3.4/6, mb1 3.8/6, mb1mx3.4/63, mbtmp3.4/6, Error ellipse: s-maj=55.9km s-min=26.5km az=166.0*
ISC 12 15:34:07.2±1.9, 41.38N±0.03×65.66W±0.02, h10km, n8, σ0s39/8, mb3.4/6, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PDAR	**Pinedale Array**	**32.27**	**287**	P	**P**	**15 40 36.7**	**+0.4**
	0.5nm,0.8s,baz=78,slow=10,SNR=3.1						
TXAR	**Lajitas Array**	**33.09**	**260**	P	**P**	**15 40 43.4**	**0.0**
	0.2nm,0.4s,baz=71,slow=5.8,SNR=3.6						
YKA	**Yellowknife Ar**	**35.37**	**323**	P	**P**	**15 41 02.8**	**+0.3**
	0.3nm,0.5s,baz=95,slow=8.3,SNR=5.6						
NVAR	**Mina Array Bea**	**39.93**	**283**	P	**P**	**15 41 41.9**	**0.0**
	0.3nm,0.5s,baz=84,slow=10,SNR=2.9						
ILAR	**Eielson Array**	**49.61**	**326**	P	**P**	**15 42 57.9**	**-0.4**
	0.2nm,0.5s,baz=82,slow=5.8,SNR=3.6						
AKASG	**Malin Array Be**	**61.84**	**46**	P	**P**	**15 44 26.5**	**+0.2**
	0.1nm,0.3s,baz=275,slow=6.0,SNR=3.1						
WRA	**Warramunga Arr**	**152.46**	**316**	PKPbc	**PKPbc**	**15 54 03.8**	**-0.1**
	0.7nm,0.5s,baz=26,slow=2.3,SNR=11						
ASAR	**Alice Springs**	**155.71**	**312**	PKPab	**PKPab**	**15 54 27.4**	**-0.5**
	0.2nm,0.9s,baz=45,slow=4.6,SNR=2.7						

*IDC **12** 15:43:48.7±3.3, 42.09N×65.43W, h0km, mb3.1/2, mb1 3.5/2, mb1mx3.1/67, mbtmp3.1/2, Error ellipse: s-maj=84.8km s-min=71.6km az=18.0*
*ISCJB **12** 15:43:51.2±0.7, 42.12N±0.04×65.96W±0.05, h10km, mb3.2/2, Error ellipse: s-maj=6.6km s-min=4.5km az=149.2*
*OTT **12** 15:43:53.8±0.5, 42.02N×65.73W, h18km, ML3.4/6, Atlantic Ocean, south of Nova Scotia. 200km south from Shelburne, Ns*
*NEIC **12** 15:43:53.8±0.0, 42.02N×65.73W, h18km, MN3.0, ML3.4(OTT), After OTT.*
ISC 12 15:43:50.9±1.3, 42.02N±0.08×65.79W±0.05, h10km, n52, σ1s77/72, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EMMW	**East Machias**	**2.95**	**336**	PN	**Pn**	**15 44 38.9**	**+1.0**
EMMW				SN	**Sn**	**15 45 12.6**	**-0.7**
EMMW	**East Machias**	**2.95**	**336**	*e*Pn	**Pn**	**15 44 38.7**	**+0.9**
EMMW				*e*Sn	**Sn**	**15 45 13.4**	**+0.1**
HAL	**Halifax**	**3.07**	**31**	PN	**Pn**	**15 44 40.8**	**+1.4**
HAL				SN	**Sn**	**15 45 15.6**	**-0.6**
HAL				Trac		15 45 17.9	
	comp=Z,43nm,0.1s						
GGN	**Saint George**	**3.19**	**346**	PN	**Pn**	**15 44 42.7**	**+1.6**
GGN				SN	**Sn**	**15 45 18.1**	**-1.0**
GGN				Trac		15 45 23.2	
	comp=Z,10nm,0.1s						
GGN	**Saint George**	**3.19**	**346**	*e*Pn	**Pn**	**15 44 42.7**	**+1.6**
GGN				*e*Sn	**Sn**	**15 45 18.1**	**-1.0**
MCA2	**McAdam 2**	**3.74**	**343**	PN	**Pn**	**15 44 49.2**	**+0.6**
MCA2				SN	**Sn**	**15 45 31.5**	**-1.3**
MCA2				Trac		15 45 36.7	
	comp=Z,13nm,0.0s						
WVL	**Waterville**	**3.80**	**313**	SN	**Sn**	**15 45 33.6**	**-0.7**
WVL	**Waterville**	**3.80**	**313**	*e*Pn	**Pn**	**15 44 51.2**	**+1.7**
WVL				*e*Sn	**Sn**	**15 45 33.8**	**-0.5**
LMN	**Caledonia Moun**	**3.90**	**10**	PN	**Pn**	**15 44 53.5**	**+2.7**
LMN				SN	**Sn**	**15 45 38.0**	**+1.3**
LMN				Trac		15 45 53.9	
	comp=Z,23nm,0.1s						
LMN	**Caledonia Moun**	**3.90**	**10**	*e*Pn	**Pn**	**15 44 53.5**	**+2.7**
LMN				*e*Sn	**Sn**	**15 45 38.0**	**+1.3**
BCX	**Boston College**	**4.01**	**276**	*e*Pn	**Pn**	**15 44 52.1**	**-0.3**
PKME	**Peaks-Kenny Pk**	**4.12**	**323**	PN	**Pn**	**15 44 54.8**	**+1.0**
PKME				SN	**Sn**	**15 45 41.2**	**-1.0**
PKME	**Peaks-Kenny Pk**	**4.12**	**323**	*e*Pn	**Pn**	**15 44 54.9**	**+1.0**
PKME				*e*Sn	**Sn**	**15 45 41.4**	**-0.7**
WES	**Weston**	**4.13**	**277**	*e*Pn	**Pn**	**15 44 53.7**	**-0.3**
BRYW	**Bryant College**	**4.29**	**271**	*e*Pn	**Pn**	**15 44 55.3**	**-1.0**
HRV	**Adam Dziewonsk**	**4.31**	**278**	*e*Pn	**Pn**	**15 44 56.1**	**-0.4**
FFD	**Franklin Falls**	**4.56**	**291**	*e*Sn	**Sn**	**15 45 51.4**	**-1.5**
GBN	**Guysborough**	**4.59**	**41**	PN	**Pn**	**15 45 00.4**	**+0.1**
GBN				SN	**Sn**	**15 45 49.9**	**-3.8**
GBN				Trac		15 45 53.8	
	comp=Z,52nm,0.1s						
GBN	**Guysborough**	**4.59**	**41**	*e*Pn	**Pn**	**15 45 00.4**	**+0.1**
GBN				*e*Sn	**Sn**	**15 45 49.9**	**-3.8**
QUA2	**Belchertown**	**4.89**	**275**	*e*Pn	**Pn**	**15 45 03.8**	**-0.6**
PQI	**Presque Isle**	**4.92**	**342**	PN	**Pn**	**15 45 06.2**	**+1.4**
PQI				SN	**Sn**	**15 45 58.5**	**-3.3**
PQI	**Presque Isle**	**4.92**	**342**	*e*Pn	**Pn**	**15 45 06.9**	**+2.1**
PQI				*e*Sn	**Sn**	**15 46 01.3**	**-0.5**
LBNH	**Lisbon**	**5.01**	**298**	PN	**Pn**	**15 45 07.6**	**+1.5**
LBNH				SN	**Sn**	**15 46 02.9**	**-1.2**
LBNH	**Lisbon**	**5.01**	**298**	*e*Pn	**Pn**	**15 45 07.6**	**+1.5**
LBNH				*e*Sn	**Sn**	**15 46 01.9**	**-2.2**
BATG	**Bathurst New B**	**5.26**	**358**	PN	**Pn**	**15 45 11.5**	**+1.9**
BATG				mb		15 45 12.4	
	comp=Z,4.6nm,0.0s						
BATG				SN	**Sn**	**15 46 09.0**	**-1.2**
BATG				Trac		15 46 11.1	
	comp=Z,30nm,0.1s						
BATG	**Bathurst New B**	**5.26**	**358**	*e*Pn	**Pn**	**15 45 11.5**	**+1.9**
BATG				*e*Sn	**Sn**	**15 46 09.1**	**-1.2**
MOQ	**Mont Orford**	**5.73**	**307**	PN	**Pn**	**15 45 17.3**	**+1.2**
MOQ				SN	**Sn**	**15 46 20.0**	**-1.9**
MOQ				Trac		15 46 25.0	
	comp=Z,4.3nm,0.1s						
MOQ	**Mont Orford**	**5.73**	**307**	*e*Pn	**Pn**	**15 45 17.3**	**+1.2**
MOQ				*e*Sn	**Sn**	**15 46 20.0**	**-1.9**
FRNY	**Flat Rock**	**6.34**	**299**	*e*Pn	**Pn**	**15 45 25.6**	**+1.3**
FRNY				*e*Sn	**Sn**	**15 46 35.9**	**-0.9**
BRNJ	**Basking Ridge**	**6.74**	**262**	*e*Pn	**Pn**	**15 45 28.6**	**-1.3**
DPQ	**Saint Jean**	**6.84**	**315**	SN	**Sn**	**15 46 47.4**	**-1.7**
DPQ				Trac		15 46 53.3	
	comp=Z,2.7nm,0.2s						
GSQ	**Grosses Roches**	**6.96**	**353**	PN	**Pn**	**15 45 35.5**	**+2.8**
GSQ				Trac		15 46 56.1	
	comp=Z,3.0nm,0.1s						
GSQ	**Grosses Roches**	**6.96**	**353**	*e*Pn	**Pn**	**15 45 35.5**	**+2.8**
DAQ	**Lac Daran**	**7.09**	**329**	PN	**Pn**	**15

0.1nm,0.4s,baz=98,slow=8.8,SNR=2.7
NVAR Mina Array Bea 39.74 283 P **P** 15 51 25.1 +1.2
0.3nm,0.5s,baz=87,slow=8.6,SNR=3.1
H10N2 ASCENSION HYDR 68.20 124 T T 17 08 45.2
baz=321,slow=75,SNR=31
H10N3 ASCENSION HYDR 68.20 124 T T 17 08 45.3
baz=321,slow=75,SNR=28
H10N1 ASCENSION HYDR 68.22 124 T T 17 08 46.6
baz=321,slow=75,SNR=33
H10S1 ASCENSION HYDR 68.96 124 T T 17 09 42.1
baz=322,slow=75,SNR=13
H10S3 ASCENSION HYDR 68.96 125 T T 17 09 42.1
baz=322,slow=75,SNR=12
H10S2 ASCENSION HYDR 68.98 124 T T 17 09 43.4
baz=322,slow=75,SNR=9.9
WRA Warramunga Arr 152.17 316 PKPbc **PKPbc** 16 03 46.6 -0.3
0.5nm,0.8s,baz=26,slow=2.4,SNR=6.2

MAN 12 15:48:05.1±0.2, 27.6°N×126.2°E±8.3, h38km±3km, mb3.9, ML2.7, MS2.3, 1C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.92**	**238**	*e*P	Pn	15 48 22.7	+1.4
SCPH				*e*S	Sn	15 48 27.3	-6.0
MSLP	**Maasin**	**1.40**	**265**	*e*P	Pn	15 48 29.3	+1.2
MSLP				*e*S	Sn	15 48 47.3	+1.9
BUTP	**Butuan**	**1.44**	**207**	*e*P	Pn	15 48 30.0	+1.4
BUTP				*e*S	Sn	15 48 40.7	-5.6

*NIED **12** 15:51:00, 36.80N×141.30E, h5km, Mw3.9 Best double couple: M0 8.26000×10^14 NP1: φ=222.00000°, δ=43.00000°, λ=-58.00000°. NP2: φ=82.00000°, δ=54.00000°, λ=-116.00000°.*
*ISCJB **12** 15:51:17.9±1.0, 36.79N±0.03×141.46E±0.05, h15km±6km, mb4.2/22, Error ellipse: s-maj=7.8km s-min=4.5km az=25.4*
*IDC **12** 15:51:18.0±0.8, 36.81N×141.29E, h0km, mb3.8/13, mb1 3.9/17, mb1mx3.7/67, mbtmp3.8/17, ML3.2/4, MS3.1/1, Ms1 3.1/1, ms1mx2.5/61, Error ellipse: s-maj=20.6km s-min=14.9km az=107.0*
*NEIC **12** 15:51:19.0±0.6, 36.91N×141.37E, h10km, mb4.7/5, Error ellipse: s-maj=13.3km s-min=7.7km az=139.0*
NEIC Felt at Tokai. Recorded [1 JMA] in Fukushima and Ibaraki.
*JMA **12** 15:51:20.1, 36.78N×141.26E, h29km±1km, M3.9*
JMA Felt I J1.

ISC 12 15:51:17.9±1.9, 36.80N±0.04×141.33E±0.06, h2km±11km, n64, σ1°39/68, mb4.2/22, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.52**	**305**	P	**Pb**	**15 51 30.1**	**+0.3**
ONAJ				S	**Sb**	**15 51 37.4**	**-0.4**
JHO	**Hitachi**	**0.64**	**253**	P	**Pb**	**15 51 31.5**	**-0.3**
JHO				S	**Sb**	**15 51 39.8**	**-1.4**
JFK	**Kawauchi**	**0.67**	**327**	P	**Pb**	**15 51 32.9**	**+0.5**
JFK				S	**Sb**	**15 51 42.2**	**0.0**
JFT	**Otama**	**1.07**	**312**	P	**Pn**	**15 51 39.4**	**-0.5**
JFT				S	**Sb**	**15 51 52.9**	**-0.7**
JYT	**Yasato**	**1.08**	**238**	P	**Pg**	**15 51 38.1**	**-0.5**
JYT				S	**Sg**	**15 51 51.6**	**-1.0**
JMM	**Marumori**	**1.15**	**338**	P	**Pb**	**15 51 40.3**	**-0.1**
JMM				S	**Sg**	**15 51 55.4**	**+0.6**
MJAR	**Matsushiro Arr**	**2.52**	**265**	Pn	**Pn**	**15 52 00.3**	**+0.4**
	3.4nm,0.3s,baz=100,slow=12,SNR=35						
MJAR				Sn	**Sb**	**15 52 33.0**	**-2.4**
	9.7nm,0.3s,baz=82,slow=27,SNR=5.8						
MAJO	**Matsushiro**	**2.53**	**265**	*e*Pn	**Pn**	**15 52 00.2**	**+0.3**
MAJO				*e*Sn	**Sg**	**15 52 37.8**	**-1.2**
MAT	**Matsushiro**	**2.53**	**265**	P	**Pn**	**15 52 00.6**	**+0.7**
MAT				S	**Sb**	**15 52 33.0**	**-2.4**
MJB9	**Matsu-Tunnel**	**2.53**	**265**	*e*Pn	**Pn**	**15 52 00.3**	**+0.4**
MJB9				*e*Sn	**Sb**	**15 52 36.0**	**+0.5**
INU	**Inuyama**	**3.78**	**249**	*e*Pn	**Pn**	**15 52 19.5**	**+2.3**
INU				*e*Sn	**Sb**	**15 53 10.6**	**-1.0**
JHJ	**Hachijo jima 2**	**3.89**	**200**	Pn	**Pn**	**15 52 20.5**	**+1.9**
	4.2nm,0.3s,baz=37,slow=16,SNR=2.7						
JHJ				Sn	**Sn**	**15 53 05.6**	**+0.8**
	7.5nm,0.3s,baz=240,slow=20,SNR=2.8						
ERM	**Erimo**	**5.40**	**15**	*e*Pn	**Pn**	**15 52 37.1**	**-2.2**
ERM				*e*Sn	**Sn**	**15 53 40.7**	**-1.2**
ASAJ	**Asahikawa**	**7.37**	**7**	Pn	**Pn**	**15 53 06.8**	**+0.4**
	0.8nm,0.3s,baz=193,slow=8.0,SNR=9.8						
ASAJ				Sn	**Sn**	**15 54 30.0**	**-0.6**
	0.1nm,0.3s,baz=137,slow=26,SNR=1.7						
ASAJ	**Asahikawa**	**7.37**	**7**	*e*Pn	**Pn**	**15 53 04.5**	**-2.0**
ASAJ				Sn	**Sn**	**15 54 30.0**	**-0.6**
USRK	**Ussuriysk Ar.**	**10.25**	**319**	Pn	**Pn**	**15 53 50.4**	**+4.4**
	0.1nm,0.3s,baz=118,slow=15,SNR=4.4						
KSRS	**Korea Array**	**10.73**	**278**	Pn	Pn	15 53 57.3	+4.9
	0.1nm,0.3s,baz=150,slow=38,SNR=4.7						
KSRS				LR	LR	15 57 28.9	
	comp=Z,98nm,21.0s,baz=10.0,slow=35						
KSAR	**Wonju Array Be**	**10.76**	**277**	Pn	**Pn**	**15 53 57.3**	**+4.4**
CN2	**Changchun**	**13.98**	**305**	*e*P	**P**	**15 54 41.3**	**-3.8**
PETK	**Petropavlovsk-**	**19.92**	**30**	P	**Pn**	**15 55 52.4**	**+0.1**
	0.1nm,0.3s,baz=282,slow=32,SNR=2.8						
PEA1	**Petropavlovsk-**	**19.93**	**30**	*e*P	**Pn**	**15 55 52.4**	**+0.1**
HHC	**Hu-ho-hao-te**	**23.49**	**289**	*e*P	**P**	**15 56 30.4**	**+1.4**
HHC				pmax	pmax		
	comp=Z,11nm,0.8s						
HHC				pmax	pmax		
	comp=Z,83nm,4.1s						
MA2	**Magadan**	**23.60**	**12**	P	**P**	**15 56 30.7**	**+1.0**
	comp=Z,14nm,0.9s,baz=180,slow=20,SNR=3.1						
SONA0	**Songino Array**	**27.86**	**304**	*e*P	**P**	**15 57 09.0**	**+0.1**
SONM	**Songino Array**	**27.86**	**304**	P	**P**	**15 57 09.0**	**+0.1**
	comp=Z,0.9nm,0.5s,baz=100,slow=8.5,SNR=4.5						
H11N2	**WAKE ISLAND Hy**	**28.09**	**120**	T	T	16 26 36.6	
	baz=313,slow=75,SNR=215						
H11N1	**WAKE ISLAND Hy**	**28.09**	**120**	T	T	16 26 42.0	
	baz=313,slow=75,SNR=204						
H11N3	**WAKE ISLAND Hy**	**28.10**	**120**	T	T	16 26 38.0	
	baz=313,slow=75,SNR=157						
H11S1	**WAKE ISLAND Hy**	**28.79**	**122**	T	T	16 27 29.9	
	baz=315,slow=75,SNR=56						
H11S3	**WAKE ISLAND Hy**	**28.79**	**122**	T	T	16 27 33.1	
	baz=315,slow=75,SNR=53						
H11S2	**WAKE ISLAND Hy**	**28.80**	**122**	T	T	16 27 34.9	
	baz=315,slow=75,SNR=33						
LZH	**Lanzhou**	**30.04**	**280**	*e*P	**P**	**15 57 29.2**	**+0.8**
LZH				pP	sP	15 57 40.1	+11
LZH				sP	pP	15 57 43.7	+15
LZH				pmax	pmax		
	comp=Z,31nm,1.0s						
LZH				pmax	pmax		
	comp=Z,180nm,6.3s						
FAKI	**Fak Fak**	**40.41**	**194**	*e*P	P	15 58 51.8	-5.7
	comp=Z,26nm,1.1s						
WMQ	**Urumqi**	**40.89**	**297**	P	**P**	**15 59 01.6**	**+0.3**
WMQ				pmax	pmax		
	comp=Z,12nm,0.8s						
ZAA0	**Zalesovo Array**	**42.02**	**313**	*e*P	**P**	**15 59 09.7**	**-0.7**
ZAA1	**Zalesovo Array**	**42.02**	**313**	*e*P	**P**	**15 59 10.3**	**-0.1**
ZALV	**Zalesovo Beam**	**42.02**	**313**	P	**P**	**15 59 10.3**	**-0.1**
	comp=Z,1.0nm,0.4s,baz=116,slow=6.8,SNR=7.6						
ZALV	**Zalesovo Beam**	**42.02**	**313**	*e*P	**P**	**15 59 10.0**	**-0.4**
SDPT	**Sand Point**	**43.01**	**45**	*e*P	P	15 59 13.6	-4.8
MK01	**Makanchi Array**	**44.19**	**302**	*e*P	**P**	**15 59 27.5**	**-0.6**
MK31	**Makanchi Array**	**44.19**	**302**	*e*P	**P**	**15 59 27.7**	**-0.4**
MK32	**Makanchi Array**	**44.19**	**302**	*e*P	**P**	**15 59 28.2**	**+0.1**
MKAR	**Makanchi Array**	**44.19**	**302**	P	**P**	**15 59 28.2**	**+0.1**
	comp=Z,1.2nm,0.6s,baz=90,slow=9.4,SNR=15						
MKAR	**Makanchi Array**	**44.19**	**302**	*e*P	**P**	**15 59 26.3**	**-1.8**
	comp=Z,9.8nm,0.6s						
MAKZ	**Makanchi**	**44.40**	**302**	*e*P	**P**	**15 59 29.1**	**-0.6**
	comp=Z,1.4nm,0.8s						
KURK	**Kurchatov**	**46.02**	**308**	*e*P	**P**	**15 59 42.0**	**-0.6**
	comp=Z,2.9nm,0.7s						
KURBB	**Kurchatov Arra**	**46.09**	**308**	P	**P**	**15 59 43.7**	**+0.6**
	comp=Z,0.8nm,0.4s,baz=85,slow=8.4,SNR=10						
ILAR	**Eielson Array**	**49.73**	**32**	P	**P**	**16 00 11.9**	**+0.8**
	comp=Z,0.5nm,0.8s,baz=270,slow=6.4,SNR=5.9						
ILB	**Eielson Array**	**49.73**	**32**	*e*P	**P**	**16 00 07.2**	**-3.9**
BVAR	**Borovoye Array**	**50.68**	**312**	P	**P**	**16 00 18.2**	**-0.3**
	comp=Z,0.2nm,0.4s,baz=99,slow=8.9,SNR=2.8						
WR1	**Warramunga Arr**	**56.82**	**188**	*e*P	**P**	**16 01 03.5**	**-0.3**
	comp=Z,29nm,1.7s						
WRA	**Warramunga Arr**	**56.82**	**188**	P	**P**	**16 01 03.4**	**-0.3**
	comp=Z,1.1nm,0.8s,baz=6.3,slow=7.5,SNR=8.3						
MWH	**Moku'aweowe**	**57.27**	**89**	*e*P	P	16 01 00.4	-7.3
	comp=Z,170nm,1.4s						
ASAR	**Alice Springs**	**60.55**	**188**	P	**P**	**16 01 30.3**	**+0.7**
	comp=Z,0.6nm,0.8s,baz=14,slow=5.8,SNR=5.5						
YKA	**Yellowknife Ar**	**64.04**	**30**	P	**P**	**16 01 53.7**	**+1.1**
	comp=Z,0.1nm,0.5s,baz=305,slow=7.0,SNR=3.2						
FIA1	**FINESS Array S**	**68.99**	**332**	*e*P	**P**	**16 02 24.0**	**-0.3**
FIA0	**FINESS Array S**	**68.99**	**332**	*e*P	**P**	**16 02 24.6**	**+0.4**
FINES	**FINESS Array B**	**68.99**	**332**	P	**P**	**16 02 24.6**	**+0.4**
	comp=Z,2.5nm,0.9s,baz=41,slow=10,SNR=4.3						
BR101	**Keskin Array S**	**78.96**	**312**	*e*P	**P**	**16 03 23.3**	**+0.1**
BRTR	**Keskin Array B**	**78.96**	**312**	P	**P**	**16 03 23.3**	**+0.1**
	comp=Z,0.3nm,0.5s,baz=42,slow=6.6,SNR=2.0						
STHS	**Stebnicka Huta**	**79.11**	**325**	*e*P	**P**	**16 03 23.5**	**-0.2**
GERES	**GERESS Array B**	**82.88**	**328**	P	**P**	**16 03 42.7**	**-1.2**
	comp=Z,0.2nm,0.4s,baz=52,slow=3.8,SNR=3.8						
IDI	**Anoyia**	**87.10**	**313**	P	**P**	**16 04 05.9**	**+0.5**
	comp=Z,6.8nm,0.9s,baz=312,slow=15,SNR=2.2						
H06S1	**SOCORRO T**	**92.35**	**65**	T	T	17 45 30.2	
	SNR=15						

*ISCJB **12** 15:53:56.2±1.0, 2.6N±0.2×89.9E±0.1, h10km, mb3.8/5, Error ellipse: s-maj=23.8km s-min=15.0km az=30.0*
*IDC **12** 15:53:56.9±1.2, 2.58N×89.96E, h0km, mb3.7/5, mb1 3.7/7, mb1mx3.4/63, mbtmp3.6/7, ML3.5/2, Error ellipse: s-maj=42.2km s-min=21.1km az=40.0*

ISC 12 15:53:58.2±1.2, 2.6N±0.2×89.9E±0.2, h10km, n11, σ0°67/8, mb3.9/5, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**10.31**	**297**	Pn	**Pn**	**15 56 25.6**	**-0.7**
	0.4nm,0.3s,baz=114,slow=15,SNR=4.7						
PALK				Sn	Sn	15 58 08.8	-13
	2.5nm,0.3s,baz=297,slow=2.0,SNR=10						
CMAR	**Chiang Mai Arr**	**18.08**	**29**	P	**P**	**15 58 09.7**	**-0.4**
	0.1nm,0.3s,baz=222,slow=12,SNR=3.7						
H08S3	**Diego Garcia H**	**20.14**	**240**	T	T	16 19 10.5	
	baz=57,slow=74						
H08S2	**Diego Garcia H**	**20.15**	**240**	T	T	16 19 10.8	
	baz=57,slow=74						
H08S1	**Diego Garcia H**	**20.16**	**240**	T	T	16 19 19.6	
	baz=57						
GEYT	**Alibeck**	**45.68**	**324**	P	**P**	**16 02 20.2**	**+0.8**
	1.1nm,0.6s,baz=133,slow=13,SNR=2.4						
SONM	**Songino Array**	**47.27**	**15**	P	**P**	**16 02 31.8**	**0.0**
	1.9nm,0.6s,baz=200,slow=8.9,SNR=8.7						
WRA	**Warramunga Arr**	**48.98**	**119**	P	**P**	**16 02 45.6**	**+0.2**
	1.0nm,0.8s,baz=297,slow=8.6,SNR=6.2						
ASAR	**Alice Springs**	**50.11**	**124**	P	**P**	**16 02 53.9**	**-0.1**
	0.2nm,0.8s,baz=295,slow=7.0,SNR=4.7						
BRTR	**Keskin Array B**	**52.87**	**314**	P	**P**	**16 04 25.4**	**+0.6**
	0.2nm,0.5s,baz=144,slow=7.5,SNR=2.6						
TXAR	**Lajitas Array**	**145.70**	**21**	PKPbc	**PKPdf**	**16 13 37.1**	**-0.8**
	0.1nm,0.5s,baz=336,slow=2.7,SNR=3.5						

IDC 12 16:00:35.3±8.0, 22.06S×179.57W, h109km±57km, mb3.6/2, mb1 4.0/3, mb1mx3.3/47, mbtmp4.2/3, Error ellipse: s-maj=217.9km s-min=30.8km az=147.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**10.98**	**44**	P	Pn	16 03 09.6	+0.3
	5.2nm,0.3s,baz=186,slow=1.6,SNR=12						
AFI				S	Sn	16 05 10.3	+0.1
	1.2nm,0.3s,baz=72,slow=20,SNR=3.2						
ASAR	**Alice Springs**	**42.76**	**259**	P	P	16 08 22.0	-0.3
	1.2nm,0.8s,baz=86,slow=8.3,SNR=20						
WRA	**Warramunga Arr**	**42.96**	**264**	P	P	16 08 23.9	0.0
	1.2nm,0.4s,baz=102,slow=8.4,SNR=37						
BRTR	**Keskin Array B**	**146.75**	**310**	PKPbc	PKPbc	16 20 04.3	-0.7
	1.0nm,0.6s,baz=96,slow=2.8,SNR=7.5						

IDC 12 16:04:44.0±3.1, 3.09N×93.69E, h0km, mb3.3/3, mb1 3.5/4, mb1mx3.1/74, mbtmp3.2/4, ML3.5/1, Error ellipse: s-maj=114.8km s-min=26.8km az=61.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**16.11**	**18**	Pn	Pn	16 08 31.4	-0.7
	0.1nm,0.3s,baz=217,slow=12,SNR=4.1						
MKAR	**Makanchi Array**	**44.65**	**349**	P	P	16 12 58.5	+0.1
	0.3nm,0.5s,baz=161,slow=8.4,SNR=4.4						
WRA	**Warramunga Arr**	**46.00**	**122**	P	P	16 13 09.5	-0.1
	0.7nm,1.1s,baz=300,slow=8.8,SNR=3.2						
ASAR	**Alice Springs**	**47.33**	**126**	P	P	16 13 19.7	-0.3
	0.3nm,1.0s,baz=293,slow=7.5,SNR=5.2						

*IDC **12** 16:07:50.0±1.9, 0.89N×92.75E, h0km, mb3.8/6, mb1 3.9/8, mb1mx3.5/73, mbtmp3.8/8, ML3.8/2, Error ellipse: s-maj=54.5km s-min=25.6km az=51.0*
*NEIC **12** 16:07:51.3±0.6, 0.90N×92.77E, h10km, mb4.9/4, Error ellipse: s-maj=10.6km s-min=5.7km az=209.0*
*ISCJB **12** 16:07:52.9±0.6, 0.93N±0.07×92.88E±0.06, h33km, mb4.1/8, Error ellipse: s-maj=11.3km s-min=7.3km az=-30.2*

ISC 12 16:07:55.2±0.8, 0.98N±0.10×92.90E±0.08, h35km, n36, σ1°35/36, mb4.2/8, 1C, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSI	**Gunungsitoli**	**4.69**	**86**	*e*Pn	**Pn**	**16 09 04.8**	**+1.3**
LHMI	**Lhok Sumawe**	**5.84**	**44**	*e*Pn	**Pn**	**16 09 20.4**	**+1.0**
PSI	**Prapat**	**6.29**	**73**	*e*Pn	**Pn**	**16 09 26.2**	**+0.6**
IPM	**Ipoh**	**8.83**	**67**	*e*Pn	**Pn**	**16 10 01.7**	**+1.3**
KULM	**Kulim**	**8.84**	**61**	*e*Pn	**Pn**	**16 10 01.7**	**+1.1**
KULM				*e*Sn	**Sn**	**16 11 34.6**	**-4.5**
PBA	**Port Blair**	**10.61**	**359**	*e*Pn	Pn	16 10 22.6	-2.2
PBA				*e*Sn	Sn	16 12 17.3	-5.1
MYKOM	**Kota Tinggi**	**10.98**	**86**	*e*Pn	**Pn**	**16 10 30.1**	**+0.3**
MNAI	**Manna**	**11.36**	**118**	*e*Pn	**Pn**	**16 10 34.0**	**-1.1**
MNAI				*e*Sn	Sn	16 12 31.5	-9.5
PALK	**Pallekele**	**13.67**	**298**	Pn	**Pn**	**16 11 04.7**	**-2.0**
	0.6nm,0.3s,baz=116,slow=12,SNR=3.0						
PALK				Sn	Sn	16 13 22.7	-15
	2.0nm,0.3s,baz=115,slow=5.3,SNR=6.0						
PALK	**Pallekele**	**13.67**	**298**	*e*Pn	**Pn**	**16 11 04.1**	**-2.6**
PALK				*e*Sn	Sn	16 13 21.8	-16
CM01	**Chiang Mai Arr**	**18.32**	**19**	*e*P	**P**	**16 12 06.4**	**-0.2**
CM31	**Chiang Mai Arr**	**18.35**	**19**	*e*P	**P**	**16 12 06.4**	**-0.5**
CMAR	**Chiang Mai Arr**	**18.35**	**19**	P	**P**	**16 12 06.6**	**-0.3**
	0.1nm,0.3s,baz=215,slow=12,SNR=16						
CHTO	**Chiang Mai**	**18.69**	**18**	*e*P	**Pn**	**16 12 11.8**	**+0.6**
	3.2nm,0.9s						
SMRI	**Semarang**	**19.23**	**115**	*e*P	**P**	**16 12 16.4**	**-0.2**
	91nm,1.2s						
NIL	**Nilore**	**37.36**	**332**	*e*P	**P**	**16 15 05.3**	**+0.7**
	3.5nm,0.6s						
WR1	**Warramunga Arr**	**45.62**	**119**	*e*P	**P**	**16 16 12.9**	**+0.3**
	33nm,1.7s						
WRA	**Warramunga Arr**	**45.62**	**119**	P	**P**	**16 16 12.9**	**+0.3**
	1.4nm,1.0s,baz=300,slow=9.1,SNR=3.5						
KK31	**Karatay Array**	**46.47**	**337**	*e*P	**P**	**16 16 19.1**	**+0.2**
KKAR	**Karatay Array**	**46.47**	**337**	*e*P	**P**	**16 16 19.0**	**+0.1**
MK01	**Makanchi Array**	**46.54**	**350**	*e*P	**P**	**16 16 20.3**	**+1.0**
MK31	**Makanchi Array**	**46.56**	**350**	*e*P	**P**	**16 16 19.7**	**+0.2**
MK32	**Makanchi Array**	**46.56**	**350**	*e*P	**P**	**16 16 20.7**	**+1.2**
MKAR	**Makanchi Array**	**46.56**	**350**	P	**P**	**16 16 20.7**	**+1.2**
	0.6nm,0.6s,baz=166,slow=8.7,SNR=8.5						
MKAR	**Makanchi Array**	**46.56**	**350**	*e*P	**P**	**16 16 20.0**	**+0.4**
	6.5nm,0.6s						
SONA0	**Songino Array**	**48.12**	**12**	*e*P	**P**	**16 16 33.8**	**+2.1**
SONM	**Songino Array**	**48.12**	**12**	P	**P**	**16 16 33.8**	**+2.1**
	1.3nm,0.7s,baz=190,slow=9.2,SNR=7.8						
SONA1	**Songino Array**	**48.13**	**12**	*e*P	**P**	**16 16 33.8**	**+2.0**
KURBB	**Kurchatov Arra**	**50.95**	**348**	P	**P**	**16 16 53.7**	**+0.6**
	0.3nm,0.3s,baz=170,slow=6.6,SNR=5.0						
KURK	**Kurchatov**	**51.02**	**348**	*e*P	**P**	**16 16 53.7**	**+0.1**
ZALV	**Zalesovo Beam**	**53.21**	**354**	P	**P**	**16 17 10.6**	**+0.7**
	0.9nm,0.4s,baz=184,slow=7.4,SNR=5.6						
ZALV	**Zalesovo Beam**	**53.21**	**354**	*e*P	**P**	**16 17 10.2**	**+0.3**
ZAA1	**Zalesovo Array**	**53.22**	**354**	*e*P	**P**	**16 17 10.6**	**+0.7**
BVAR	**Borovoye Array**	**55.15**	**344**	P	**P**	**16 17 22.7**	**-1.3**
	0.3nm,0.5s,baz=126,slow=7.3,SNR=3.0						
ABKAR	**Akbulak array**	**55.77**	**334**	*e*P	**P**	**16 17 27.8**	**-0.8**
SYO	**Syowa Base**	**78.50**	**197**	*e*P	**P**	**16 19 52.6**	**+0.3**

*ATA **12** 16:13:38.8±1.1, 39.17N×42.29E, h21km±6km, ML2.8, MW2.7*
*ISCJB **12** 16:13:40.7±0.8, 39.18N±0.03×42.30E±0.05, h21km±13km, Error ellipse: s-maj=5.9km s-min=4.8km az=165.3*
*CSEM **12** 16:13:40.8, 39.21N×42.33E, h7km, ML2.5*
*DDA **12** 16:13:40.8, 39.21N×42.33E, h7km, Ml2.5*

ISC 12 16:13:40.5±1.0, 39.20N±0.03×42.31E±0.03, h16km±8km, n18, σ1°09/35, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EKAR	**Karacoban**	**0.20**	**288**	*e*P	**Pg**	**16 13 44.6**	**-0.9**
EKAR				*e*S	**Sg**	**16 13 49.4**	**+0.5**
EKAR				IAML		16 13 49.9	
	comp=Z,196nm,0.4s						
EKAR	**Karacoban**	**0.20**	**288**	*i* P	**Pg**	**16 13 44.4**	**-1.1**
EKAR				*i* S	**Sg**	**16 13 49.7**	**+0.8**
EKAR	**Karacoban**	**0.20**	**288**	P	**Pg**	**16 13 44.4**	**-1.1**
EKAR				S	**Sg**	**16 13 49.7**	**+0.8**
TUTA	**Tutak**	**0.44**	**62**	*e*P	**Pg**	**16 13 49.2**	**-0.3**
TUTA				*e*S	**Sb**	**16 13 56.3**	**-0.4**
TUTA				IAML		16 14 00.7	
	comp=Z,90nm,0.2s						
TUTA	**Tutak**	**0.44**	**62**	*i* P	**Pg**	**16 13 49.1**	**-0.5**
TUTA				*i* S	**Sb**	**16 13 56.2**	**-0.4**
TUTA	**Tutak**	**0.44**	**62**	P	**Pg**	**16 13 49.1**	**-0.5**
TUTA				S	**Sb**	**16 13 56.2**	**-0.4**
ADCV	**BITLIS_Adilcev**	**0.50**	**140**	*i* P	**Pg**	**16 13 49.9**	**-0.8**
ADCV				*i* S	**Sb**	**16 13 58.9**	**+0.6**
ADCV	**BITLIS_Adilcev**	**0.50**	**140**	P	**Pg**	**16 13 49.9**	**-0.8**
ADCV				S	**Sb**	**16 13 58.9**	**+0.6**
AGRB	**Hanur-Agry**	**0.65**	**54**	*e*PG	**Pg**	**16 13 53.3**	**-0.1**
AGRB				SG	**Sb**	**16 14 02.9**	**+0.4**
GURO	**Guroymak-BITLI**	**0.68**	**199**	PG	**Pg**	**16 13 53.5**	**-0.4**
GURO				SG	**Sg**	**16 14 02.7**	**-0.2**
EATA	**Eleskirt**	**0.68**	**12**	*e*P	**Pg**	**16 13 53.4**	**-0.6**
EATA				*e*S	**Sb**	**16 14 04.9**	**+1.4**
EATA				IAML		16 14 05.0	
	comp=Z,9.6nm,0.3s						
EATA	**Eleskirt**	**0.68**	**12**	*i* P	**Pg**	**16 13 53.1**	**-0.9**
EATA				*i* S	**Sb**	**16 14 03.8**	**+0.3**
EATA	**Eleskirt**	**0.68**	**12**	P	**Pg**	**16 13 53.1**	**-0.9**
EATA				S	**Sb**	**16 14 03.8**	**+0.3**
HOMI	**Horasan**	**0.90**	**340**	*e*P	**Pg**	**16 13 56.7**	**-1.4**
HOMI				*e*S	**Sb**	**16 14 11.5**	**+1.6**
HOMI				IAML		16 14 12.9	
	comp=Z,30nm,0.4s						
ERZM	**Erzurum**	**1.02**	**315**	*e*P	**Pg**	**16 13 59.5**	**-0.8**
ERZM				*e*S	**Sg**	**16 14 13.8**	**+0.1**
ERZM	**Erzurum**	**1.02**	**315**	*i* P	**Pb**	**16 14 01.1**	**+1.2**
ERZM				*i* S	**Sg**	**16 14 11.1**	**-2.6**
ERZM	**Erzurum**	**1.02**	**315**	P	**Pb**	**16 14 01.1**	**+1.2**
ERZM				S	**Sg**	**16 14 11.1**	**-2.6**
GEVA	**Gevas**	**1.06**	**146**	*e*P	**Pg**	**16 13 59.1**	**-1.9**
GEVA				IAML		16 14 22.6	
	comp=Z,6.8nm,0.4s						

*BYKL **12** 16:17:45.3±0.4, 51.65N×101.23E*
*MOS **12** 16:17:45.1±1.9, 51.73N×101.17E, h13km, mb4.2/1, Error ellipse: s-maj=20.5km s-min=16.4km az=143.4*

ISC 12 16:17:45.0±0.9, 51.66N±0.04×101.21E±0.02, h13km±7km, n38, σ3°21/70, 4C-2D, Tuva-Buryatia-Mongolia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOY	**Mondy**	**0.13**	**274**	⇓*i*Pg	**Pg**	**16 17 49.4**	**+0.9**
MOY				*i* Sg	**Sg**	**16 17 52.1**	**+1.1**
MOY	**Mondy**	**0.13**	**274**	*e*PG	**Pg**	**16 17 49.4**	**+0.9**
MOY				*e*		16 17 52.1	
MOY				pmax	pmax		
	comp=Z,1μm,0.1s						
MOY				smax	smax		
	comp=N,7μm,0.2s						
ARS	**Arshan**	**0.80**	**70**	⇑*i*Pg	**Pg**	**16 18 00.5**	**0.0**
ARS				*e*Pb	**Pn**	**16 18 02.5**	**+0.5**
ARS				*e*Sg	**Sb**	**16 18 12.0**	**+0.5**
ARS				Pmax			
	comp=N,85nm,0.5s						
ARS				Smax			
	comp=N,1μm,0.5s						
ARS	**Arshan**	**0.80**	**70**	*e*PG	**Pg**	**16 18 00.7**	**+0.2**
ARS				*e*		16 18 11.5	
ARS				pmax	pmax		
	comp=Z,103nm,0.1s						
ARS				smax	smax		
	comp=N,1μm,0.2s						
ORL	**Orlik**	**1.23**	**316**	⇑*i*Pg	**Pn**	**16 18 07.8**	**-0.2**
	comp=N,19nm,0.7s						
ORL				⇓*i*Pg	**Pn**	**16 18 07.8**	**-0.2**
ORL	comp=N,42nm,0.7s			⇑*i*Pg	**Pn**	**16 18

STDB					Pmax				
	comp=E,54nm,0.6s								
STDB					Smax				
	comp=E,265nm,1.1s								
TDJR	**Todzha**	**3.24**	**285**	*e*Pn		**Pb**	**16 18 40.8**	**-1.6**
TDJR				*e*Pg		**Pg**	**16 18 44.6**	**-2.4**
TDJR				*e*Sg		**Sg**	**16 19 28.0**	**-1.0**
TRG	**Tyrgan**	**3.35**	**69**	*e*Pn		**Pn**	**16 18 40.6**	**+3.6**
TRG				*e*Pg		**Pb**	**16 18 44.1**	**-0.1**
TRG				*e*			16 19 07.3	
TRG				*e*Sg		**Sb**	**16 19 28.1**	**+3.2**
TRG				Pmax				
	comp=E,22nm,0.3s								
TRG				Smax					
	comp=E,131nm,0.4s								
KAB	**Kabansk**	**3.40**	**81**	*e*Sg		**Sb**	**16 19 29.8**	**+3.5**
FFNB	**Fofonovo**	**3.47**	**81**	*e*Pg		**Pb**	**16 18 46.6**	**+0.4**
FFNB				*e*			16 19 28.1	
FFNB				*e*Sg		**Sg**	**16 19 32.4**	**-3.9**
FFNB				Pmax				
	comp=E,12nm,0.3s								
FFNB				Smax					
	comp=E,56nm,0.6s								
ZRHB	**Zarechye**	**3.77**	**74**	*e*Pg		**Pb**	**16 18 53.7**	**+2.3**
ZRHB				*e*Sg		**Sb**	**16 19 41.7**	**+4.7**
UUDB	**Ulan-Yde**	**4.02**	**84**	*e*Pn		**Pb**	**16 18 52.1**	**-3.5**
UUDB				*e*Pg			16 18 57.1	-4.8
UUDB				*e*			16 19 40.4	
UUDB				*e*Sg		**Sg**	**16 19 49.2**	**-4.7**
UUDB				Pmax				
	comp=E,32nm,0.9s								
UUDB				Smax					
	comp=E,56nm,1.2s								
ERNS	**Erzin**	**4.07**	**252**	*e*Pn		Pn	16 18 52.3	+5.3
ERNS				*e*			16 19 19.4	
ERNS				*e*			16 19 25.5	
ERNS				*e*Sg		**Sb**	**16 19 50.2**	**+4.5**
KZLR	**Kyzyl**	**4.20**	**273**	*e*Sg		**Sg**	**16 19 55.9**	**-3.9**
OGRR	**Ongureny**	**4.37**	**60**	*e*		**Pn**	**16 18 51.2**	**+0.2**
OGRR				*e*			16 19 00.7	
OGRR				*e*Pg		**Pb**	**16 19 03.1**	**+1.6**
OGRR				*e*Sn		**Sn**	**16 19 44.1**	**+2.4**
OGRR				*e*Sg		**Sb**	**16 19 59.1**	**+5.0**
OGRR				Pmax				
	comp=E,11nm,0.5s								
OGRR				Smax					
	comp=E,101nm,1.1s								
OGRR	**Ongureny**	**4.37**	**60**	*e*PN		**Pn**	**16 18 53.8**	**+2.8**
OGRR				*e*			16 19 04.3	
OGRR				*e*S		**Sn**	**16 19 41.4**	**-0.3**
OGRR				*e*			16 19 57.2	
OGRR				pmax	pmax				
	comp=Z,13nm,0.5s								
OGRR				smax	smax				
	comp=E,101nm,1.1s								
SYVR	**Suvo**	**5.71**	**66**	*e*		**Pg**	**16 19 33.0**	**-1.3**
SYVR				*e*Sg		**Sb**	**16 20 39.9**	**+7.1**
SYVR				Smax					
	comp=E,22nm,1.1s								
NIZ	**Nizh Angarsk**	**6.44**	**47**	*e*Pn		**Pn**	**16 19 21.9**	**+2.5**
NIZ				*e*Pg		**Pb**	**16 19 39.2**	**+2.4**
NIZ				*e*			16 20 31.7	
NIZ				*e*Sg		**Sg**	**16 21 03.2**	**-8.2**
NIZ				Pmax				
	comp=E,4.0nm,0.5s								
NIZ				Smax					
	comp=E,46nm,0.7s								
NIZ	**Nizh Angarsk**	**6.44**	**47**	*e*PN		**Pn**	**16 19 18.2**	**-1.2**
NIZ				*e*			16 19 39.0	
NIZ				*e*S		**Sn**	**16 20 32.0**	**-0.7**
NIZ				*e*			16 21 04.9	
NIZ				pmax	pmax				
	comp=Z,3.0nm,0.3s								
NIZ				smax	smax				
	comp=N,39nm,0.7s								
YLYR	**Ulyunkhan**	**6.79**	**58**	*e*Pn		**Pn**	**16 19 25.6**	**+1.4**
YLYR				*e*			16 19 35.7	
YLYR				*e*Pg		**Pb**	**16 19 47.0**	**+4.3**
YLYR				*e*Sn		**Sn**	**16 20 44.8**	**+3.6**
YLYR				*e*Sg		**Sg**	**16 21 15.8**	**-6.7**
YLYR				Pmax					
	comp=N,1.0nm,0.5s								
YLYR				Smax					
	comp=N,27nm,1.1s								
KMO	**Kumora**	**7.28**	**51**	*e*		**Pn**	**16 19 31.0**	**+0.1**
KMO				*e*Sn		**Sn**	**16 20 54.1**	**+0.8**
KMO				*e*Sg		**Sg**	**16 21 31.7**	**-6.6**
KMO				max					
	comp=N,4.0nm,0.4s								
KMO				Smax					
	comp=N,40nm,1.1s								
KPC	**Khapcheranga**	**7.36**	**101**	*e*Sg		**Sg**	**16 21 32.3**	**-8.8**
KPC				Smax					
	comp=N,25nm,1.0s								
UKT	**Uakit**	**8.33**	**58**	*e*		**Pn**	**16 19 49.7**	**+4.3**
UKT				*e*			16 21 30.9	
UKT				*e*			16 21 34.0	
UKT				*e*Sg		**Sg**	**16 22 03.6**	**-8.3**
UKT				Smax					
	comp=N,18nm,1.8s								
SVKR	**Severomuysk**	**8.55**	**54**	*e*Sg		Sg	16 22 09.7	-9.4
SVKR				Smax					
	comp=N,68nm,0.9s								
BOD	**Bodaibo**	**9.63**	**45**	*e*Sg		Sn	16 22 44.3	+53
NLYR	**Nelyaty**	**9.79**	**55**	*e*Sg		Sn	16 22 49.8	+55
CRS	**Chara**	**11.26**	**56**	*e*Sg			16 23 33.3	
TUP	**Tupik**	**11.62**	**69**	*e*		Pn	16 20 05.9	-24
TUP				*e*Sg			16 23 44.2	
TUP				Smax					
	comp=N,5.0nm,1.1s								

KRSC 12 16:25:10.1±0.8, 55°.35N×162°.39E, h80km±20km, ML3.6, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**0.89**	**15**	*e*P	Pn	16 25 29.3	+1.4
KBTR				*e*S	Sn	16 25 42.4	+1.3
KBG	**Krutoberegovo**	**0.92**	**11**	*e*S	Sn	16 25 43.1	+1.4
ZLN	**Zelenaya**	**1.12**	**307**	*e*P	Pn	16 25 32.4	+1.7
ZLN				*e*S	Sn	16 25 47.9	+1.8
BZGR	**Bezymyannyi-Gr**	**1.13**	**302**	*e*P	Pn	16 25 33.3	+2.5
TUMD	**Tumrok D**	**1.15**	**263**	*e*P	Pn	16 25 32.0	+1.0
TUMD				*e*S	Sn	16 25 46.9	+0.2
CIRR	**Tsirk**	**1.20**	**310**	*e*P	Pn	16 25 33.8	+2.0
CIRR				*e*S	Sn	16 25 50.0	+2.0
LGNR	**Loginova**	**1.21**	**308**	*e*P	Pn	16 25 34.0	+2.0
LGNR				*e*S	Sn	16 25 50.5	+2.1
BZMR	**Bezymyannaya**	**1.23**	**299**	*e*P	Pn	16 25 33.3	+1.2
BZMR				*e*S	Sn	16 25 50.2	+1.7
KZV	**Kizimen**	**1.23**	**260**	*e*P	Pn	16 25 33.1	+1.0
KZV				*e*S	Sn	16 25 48.6	0.0
BZWR	**Bezymyannyi-We**	**1.24**	**300**	*e*P	Pn	16 25 33.7	+1.5
BZWR				*e*S	Sn	16 25 50.8	+2.0
TUMR	**Tumrok**	**1.29**	**268**	*e*P	Pn	16 25 34.4	+1.6
TUMR				*e*S	Sn	16 25 51.3	+1.5
KMNR	**Kamenistaya**	**1.29**	**289**	*e*P	Pn	16 25 34.3	+1.5
KMNR				*e*S	Sn	16 25 51.9	+2.0
SMKR	**Semkarok**	**1.34**	**337**	*e*P	Pn	16 25 35.4	+2.0
SMKR				*e*S	Sn	16 25 53.4	+2.5
KRSR	**Krestovskiy**	**1.35**	**311**	*e*P	Pn	16 25 34.9	+1.3
KRSR				*e*S	Sn	16 25 51.8	+0.6
KLY	**Klyuchi**	**1.38**	**315**	*e*P	Pn	16 25 34.3	+0.5
KLY				*e*S	Sn	16 25 51.8	+0.2
KPT	**Kopyto**	**1.38**	**297**	*e*S	Sn	16 25 52.7	+0.9
BDR	**Baidarnaya**	**1.39**	**332**	*e*P	Pn	16 25 36.3	+2.2
SRKR	**Sorokina**	**1.47**	**333**	*e*P	Pn	16 25 37.2	+2.1
SRKR				*e*S	Sn	16 25 56.8	+2.8
KOZ	**Kozyrevsk**	**1.59**	**297**	*e*P	Pn	16 25 38.7	+2.1
KOZ				*e*S	Sn	16 25 59.3	+2.6
BKI	**Bering**	**2.05**	**93**	*e*P	Pn	16 25 45.1	+2.5
BKI				*e*S	Sn	16 26 08.6	+1.1
ESO	**Esso**	**2.17**	**287**	*e*P	Pn	16 25 45.7	+1.4
ESO				*e*S	Sn	16 26 11.1	+0.7
SPN	**Mys Shipunski**	**2.66**	**213**	*e*P	Pn	16 25 52.0	+1.2
SPN				*e*S	Sn	16 26 21.4	-0.6
NLC	**Nalytchevo**	**2.83**	**221**	P	Pn	16 25 54.6	+1.6
NLC				*e*S	Sn	16 26 26.9	+0.9
KRER	**Koryakskii**	**2.96**	**228**	P	Pn	16 25 58.4	+3.3
KRX	**Arik**	**2.97**	**229**	P	Pn	16 25 57.8	+2.7
KRX				S	Sn	16 26 32.8	+3.1
SMAR	**Somma**	**2.97**	**227**	P	Pn	16 25 59.2	+4.0
SMAR				S	Sn	16 26 32.9	+3.0
AVH	**Avacha**	**3.00**	**227**	*e*P	Pn	16 25 59.1	+3.7
UGLR	**Uglovaya**	**3.00**	**226**	*e*P	Pn	16 25 58.6	+3.1
UGLR				*e*S	Sn	16 26 32.9	+2.4
GNL	**Ganaly**	**3.08**	**239**	*e*P	Pn	16 25 59.9	+3.3
DALK	**Dalny**	**3.16**	**224**	*e*P	Pn	16 26 00.5	+2.9
DALK				*e*S	Sn	16 26 35.6	+1.4
KRMR	**Karymshinskiy**	**3.56**	**227**	P	Pn	16 26 07.1	+4.1
KRMR				*e*S	Sn	16 26 47.8	+3.8
RUS	**Russkaya**	**3.72**	**220**	*e*P	Pn	16 26 07.7	+2.5
RUS				*e*S	Sn	16 26 49.2	+1.4
OSSR	**Ossora**	**3.92**	**5**	*e*P	Pn	16 26 10.2	+2.3
OSSR				*e*S	Sn	16 26 53.4	+0.7

IDC **12** *16:35:16.6±2.0, 36°.96N×140°.91E, h0km, mb3.3/3, mb1 3.4/4, mb1mx3.2/67, mbtmp3.2/4, ML3.0/1, MS3.0/1, Ms1 3.0/1, ms1mx2.5/30, Error ellipse: s-maj=40.1km s-min=28.6km az=56.0*

ISCJB **12** *16:35:19.3±0.8, 36°.87N±0°.03×140°.81E±0°.06, h20km±5km, mb3.3/3, MS2.8/1, Error ellipse: s-maj=8.9km s-min=4.6km az=20.9*

JMA **12** *16:35:20.4, 36°.90N×140°.67E, h8km±1km, M3.1*

ISC 12 16:35:19.7±1.0, 36°.90N±0°.04×140°.76E±0°.06, h15km±7km, n20, σ1s01/23, mb3.5/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.21**	**10**	P	**Pg**	**16 35 25.0**	**+0.5**
ONAJ				S	**Sg**	**16 35 28.5**	**+0.8**
JHO	**Hitachi**	**0.32**	**208**	P	**Pg**	**16 35 26.3**	**-0.1**
JHO				S	**Sg**	**16 35 30.5**	**-0.4**
JFK	**Kawauchi**	**0.48**	**11**	P	**Pb**	**16 35 29.8**	**-0.1**
JFK				S	**Sb**	**16 35 36.4**	**-0.4**
JSB	**Shiboa**	**0.67**	**276**	P	**Pb**	**16 35 32.8**	**-0.4**
JSB				S	**Sg**	**16 35 41.4**	**-0.4**
JFT	**Otama**	**0.70**	**332**	P	**Pb**	**16 35 33.4**	**-0.3**
JFT				S	**Sb**	**16 35 42.5**	**-0.7**
JYT	**Yasato**	**0.81**	**214**	P	**Pg**	**16 35 34.9**	**-0.5**
JYT				S	**Sg**	**16 35 45.4**	**-0.6**
JMM	**Marumori**	**0.97**	**2**	P	**Pn**	**16 35 38.1**	**-0.7**
JMM				S	**Sb**	**16 35 51.0**	**+0.2**
JFY	**Yanaizu**	**0.98**	**301**	P	**Pb**	**16 35 38.0**	**-0.4**
JFY				S	**Sg**	**16 35 49.8**	**-1.7**
MJAR	**Matsushiro Arr**	**2.08**	**261**	Pn	**Pn**	**16 35 55.3**	**+1.2**
	4.7nm,0.3s,baz=82,slow=15,SNR=36						
MJAR				Sn	**Sn**	**16 36 21.1**	**+1.4**
	8.7nm,0.3s,baz=251,slow=16,SNR=24						
MAT	**Matsushiro**	**2.08**	**261**	P	**Pn**	**16 35 55.5**	**+1.4**
MAT				S	**Sn**	**16 36 22.3**	**+2.6**
MA2	**Magadan**	**23.60**	**13**	LR	LR	16 49 41.3	
	comp=Z,38nm,21.0s,baz=179,slow=37						
H11N2	**WAKE ISLAND Hy**	**28.54**	**120**	T	T	17 11 01.1	
	baz=312,slow=75,SNR=13						
H11N1	**WAKE ISLAND Hy**	**28.54**	**120**	T	T	17 11 03.2	
	baz=312,slow=75,SNR=30						
H11N3	**WAKE ISLAND Hy**	**28.55**	**120**	T	T	17 11 04.0	
	baz=312,slow=75,SNR=23						
H11S1	**WAKE ISLAND Hy**	**29.23**	**122**	T	T	17 11 53.5	
	baz=314,slow=75,SNR=49						
H11S3	**WAKE ISLAND Hy**	**29.23**	**122**	T	T	17 11 54.8	
	baz=314,slow=75,SNR=53						
H11S2	**WAKE ISLAND Hy**	**29.25**	**122**	T	T	17 11 56.7	
	baz=314,slow=75,SNR=44						
MKAR	**Makanchi Array**	**43.74**	**302**	P	**P**	**16 43 24.1**	**-0.3**
	0.2nm,0.8s,baz=90,slow=8.8,SNR=2.1						
KURBB	**Kurchatov Arra**	**45.67**	**308**	P	**P**	**16 43 38.9**	**-0.8**
	0.2nm,0.4s,baz=81,slow=7.7,SNR=3.4						
WRA	**Warramunga Arr**	**56.86**	**187**	P	**P**	**16 45 03.6**	**-0.2**
	0.4nm,0.8s,baz=5.5,slow=7.2,SNR=3.3						

IDC **12** *16:41:05.7±1.2, 62°.82N×149°.34W, h48km±11km, mb3.6/22, mb1 3.8/25, mb1mx3.6/80, mbtmp3.9/25, ML3.7/4, MS3.1/1, Ms1 3.2/1, ms1mx2.5/60, Error ellipse: s-maj=12.8km s-min=8.7km az=99.0*

ISCJB **12** *16:41:06.7±0.1, 62°.80N±0°.01×148°.99W±0°.03, h78km±2km, mb3.9/25, Error ellipse: s-maj=2.6km s-min=2.2km az=13.5*

NEIC **12** *16:41:07.8±0.0, 62°.80N×149°.03W, h67km, MW4.0, ML4.1(AEIC) Best double couple: NP1:ϕ=348.00000°, δ40.00000°, λ-148.00000°. NP2:ϕ=233.00000°, δ70.00000°, λ-54.00000°. Principal axes: T 1.2800, Plg17.0000°, Azm297.0000°; N 0.0900, Plg33.0000°, Azm39.0000°; P -1.3700, Plg51.0000°, Azm184.0000°; After AEIC.*

NEIC Felt at Palmer.

ISC 12 16:41:07.8±0.7, 62°.83N±0°.02×149°.00W±0°.03, h63km±6km, n150, σ1s55/187, mb4.0/25, Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUR	**Hurricane**	**0.33**	**296**	*e*Pn	**Pn**	**16 41 18.8**	**+0.3**
RND	**Reindeer**	**0.58**	**6**	*e*Pn	**Pn**	**16 41 21.7**	**+0.8**
RND				*e*Sn	**Sn**	**16 41 31.2**	**+0.7**
DHY	**Denali Highway**	**0.78**	**71**	*e*Pn	**Pn**	**16 41 23.8**	**+0.5**
DHY				*e*Sn	**Sn**	**16 41 35.7**	**+0.9**
TRF	**Thorofare Moun**	**0.85**	**317**	*e*Pn	**Pn**	**16 41 25.1**	**+0.9**
TRF				*e*Sn	**Sn**	**16 41 37.2**	**+0.9**
MCK	**McKinley**	**0.90**	**2**	*e*Pn	**Pn**	**16 41 25.8**	**+1.1**
MCK				*e*Sn	**Sn**	**16 41 39.0**	**+1.7**
GHO	**Glory Hole Cre**	**1.07**	**178**	*e*Pn	**Pn**	**16 41 26.3**	**-0.6**
GHO				*e*Sn	**Sn**	**16 41 40.5**	**-0.5**
SML	**Sawmill**	**1.07**	**163**	*e*Pn	**Pn**	**16 41 26.3**	**-0.6**
SML				*e*Sn	**Sn**	**16 41 41.0**	**-0.2**
KTH	**Kantishna Hill**	**1.13**	**310**	*e*Pn	**Pn**	**16 41 28.7**	**+1.0**
KTH				*e*Sn	**Sn**	**16 41 40.9**	**-1.7**
PMR	**Palmer**	**1.25**	**183**	*e*Pn	**Pn**	**16 41 28.9**	**-0.3**
PMR				*e*Sn	**Sn**	**16 41 44.8**	**-0.3**
SCM	**Sheep Creek Mo**	**1.27**	**142**	*e*Pn	**Pn**	**16 41 28.6**	**-1.0**
SCM				*e*Sn	**Sn**	**16 41 47.0**	**+1.2**
KNK	**Knik Glacier**	**1.45**	**170**	*e*Pn	**Pn**	**16 41 31.8**	**0.0**
KNK				*e*Sn	**Sn**	**16 41 50.9**	**+0.9**
SKT	**Skwentna**	**1.46**	**235**	*e*Pn	**Pn**	**16 41 31.9**	**-0.1**
SKT				*e*Sn	**Sn**	**16 41 50.6**	**+0.4**
PPLA	**Purkeypile**	**1.47**	**274**	*e*Pn	**Pn**	**16 41 32.5**	**+0.3**
PPLA				*e*Sn	**Sn**	**16 41 51.6**	**+1.1**
CAST	**Castle Rocks**	**1.52**	**294**	*e*Pn	**Pn**	**16 41 33.1**	**+0.3**
CAST				*e*Sn	**Sn**	**16 41 52.9**	**+1.2**
BPAW	**Bear Paw Mtn.**	**1.55**	**326**	*e*Pn	**Pn**	**16 41 33.9**	**+0.6**
BPAW				*e*Sn	**Sn**	**16 41 52.7**	**+0.3**
PS10	**TAPS Pump St10**	**1.58**	**67**	*e*Pn	**Pn**	**16 41 35.0**	**+1.4**
SUA	**Susitna One**	**1.60**	**212**	*e*Pn	**Pn**	**16 41 34.3**	**+0.3**
SUA				*e*Sn	**Sn**	**16 41 55.4**	**+1.7**
PAX	**Paxson**	**1.62**	**84**	*e*Pn	**Pn**	**16 41 35.1**	**+0.9**
PAX				*e*Sn	**Sn**	**16 41 55.2**	**+1.0**
WRH	**Wood River Hil**	**1.69**	**13**	P	**Pn**	**16 41 35.6**	**+0.5**
WRH				S	**Sn**	**16 41 56.3**	**+0.5**
RC01	**Rabbit Creek A**	**1.79**	**192**	*e*Pn	**Pn**	**16 41 36.0**	**-0.3**
RC01				*e*Sn	**Sn**	**16 42 00.3**	**+2.2**
PS11	**TAPS Pump St11**	**1.80**	**113**	*e*Pn	**Pn**	**16 41 37.9**	**+1.3**
HARP	**HAARP**	**1.83**	**102**	*e*Pn	**Pn**	**16 41 38.3**	**+1.4**
HARP				*e*Sn	**Sn**	**16 42 01.7**	**+2.7**
HDA	**Harding Lake**	**1.83**	**29**	*e*Pn	**Pn**	**16 41 37.5**	**+0.5**
HDA				*e*Sn	**Sn**	**16 41 59.8**	**+0.8**
STLK	**Strandline Lak**	**1.89**	**226**	P	**Pn**	**16 41 38.3**	**+0.5**
CCB	**Clear Creek Bu**	**1.90**	**16**	*e*Pn	**Pn**	**16 41 38.2**	**+0.4**
CCB				*e*Sn	**Sn**	**16 42 00.3**	**-0.3**
PS08	**TAPS Pump Stn8**	**1.97**	**29**	*e*Pn	**Pn**	**16 41 39.3**	**+0.5**
KLU	**Klutina**	**1.97**	**132**	*e*Pn	**Pn**	**16 41 38.8**	**-0.2**
KLU				*e*Sn	**Sn**	**16 42 05.8**	**+3.2**
RIDG	**Independ'e Rid**	**2.08**	**62**	*e*Pn	**Pn**	**16 41 42.4**	**+1.9**
RIDG				*e*Sn	**Sn**	**16 42 08.7**	**+3.3**
COLA	**College**	**2.11**	**13**	*e*Pn	**Pn**	**16 41 41.2**	**+0.5**
COLA				*e*Sn	**Sn**	**16 42 06.6**	**+0.8**
JPK	**Jack Peak**	**2.12**	**147**	*e*Pn	**Pn**	**16 41 40.2**	**-0.6**
VLZ	**Valdez**	**2.12**	**142**	*e*Pn	**Pn**	**16 41 40.2**	**-0.6**
VMT	**TAPS TI Valdez**	**2.15**	**144**	*e*Pn	**Pn**	**16 41 40.8**	**-0.5**
IL1	**Eielson Array**	**2.16**	**25**	*e*Pn	**Pn**	**16 41 41.4**	**0.0**
IL1				*e*Sn	**Sn**	**16 42 06.8**	**-0.3**
ILAR	**Eielson Array**	**2.16**	**25**	P	**Pn**	**16 41 41.9**	**+0.5**
	72nm,0.3s,baz=205,slow=14,SNR=3423						
ILAR				S	**Sn**	**16 42 07.0**	**-0.1**
	71nm,0.3s,baz=206,slow=20,SNR=15						
ILB	**Eielson Array**	**2.16**	**25**	*e*Pn	**Pn**	**16 41 41.8**	**+0.4**
ILB				*e*Sn	**Sn**	**16 42 06.6**	**-0.4**
MDM	**Murphy Dome**	**2.16**	**9**	*e*Pn	**Pn**	**16 41 42.1**	**+0.6**
MDM				*e*Sn	**Sn**	**16 42 07.9**	**+0.8**
SPU	**Mount Spurr**	**2.20**	**222**	*e*Pn	**Pn**	**16 41 42.1**	**+0.1**
SPU				*e*Sn	**Sn**	**16 42 08.2**	**+0.1**
BGL	**Barrier Glacie**	**2.25**	**227**	*e*Pn	**Pn**	**16 41 43.5**	**+0.8**
PS12	**TAPS Pump St12**	**2.26**	**125**	*e*Pn	**Pn**	**16 41 42.8**	**-0.1**
GLM	**Gilmore Dome**	**2.27**	**17**	*e*Pn	**Pn**	**16 41 43.7**	**+0.7**
DIV	**Divide**	**2.29**	**137**	*e*Pn	**Pn**	**16 41 42.5**	**-0.8**
DIV				*e*Sn	**Sn**	**16 42 07.8**	**-2.5**
SPWE	**Spurr West**	**2.29**	**229**	P	**Pn**	**16 41 44.3**	**+0.9**
MLY	**Manley**	**2.34**	**342**	*e*Pn	**Pn**	**16 41 44.6**	**+0.7**
DOT	**Dot Lake**	**2.38**	**68**	*e*Pn	**Pn**	**16 41 45.2**	**+0.8**
MENT	**Mentasta**	**2.42**	**85**	*e*Pn	**Pn**	**16 41 45.8**	**+0.8**
MENT				*e*Sn	**Sn**	**16 42 15.2**	**+1.8**
SCRK	**Sand Creek**	**2.53**	**61**	*e*Pn	**Pn**	**16 41 47.3**	**+0.7**
SCRK				*e*Sn	**Sn**	**16 42 17.8**	**+1.6**
EYAK	**Cordova Ski Ar**	**2.77**	**145**	*e*Pn	**Pn**	**16 41 49.6**	**-0.1**
BMRM	**Bremner River**	**2.80**	**130**	*e*Pn	**Pn**	**16 41 49.2**	**-1.0**
BMRM				*e*Sn	**Sn**	**16 42 29.9**	**+7.2**
DFR	**Drift River**	**2.85**	**220**	P	**Pn**	**16 41 51.6**	**+0.7**
RSO	**Redoubt South**	**2.98**	**219**	*e*Pn	**Pn**	**16 41 51.5**	**-1.3**
RSO				*e*Sn	**Sn**	**16 42 34.1**	**+6.7**
PS06	**TAPS Pump Stn6**	**3.05**	**354**	*e*Pn	**Pn**	**16 41 54.4**	**+0.9**
PRP	**Porcupine Dome**	**3.09**	**28**	*e*Pn	**Pn**	**16 41 55.1**	**+0.9**
RAGM	**Ragged Mountai**	**3.21**	**138**	*e*Pn	**Pn**	**16 41 55.0**	**-0.7**
RAGM				*e*Sn	Sn	16 42 43.3	+11
BRLK	**Bradley Lake**	**3.21**	**197**	*e*Pn	**Pn**	**16 41 55.7**	**-0.1**
BRLK				*e*Sn	**Sn**	**16 42 39.4**	**+6.5**
TT01	**Tatalina**	**3.22**	**274**	*e*Pn	**Pn**	**16 41 55.6**	**-0.2**
BCA3	**Beaver Creek A**	**3.30**	**83**	*e*Pn	**Pn**	**16 41 57.3**	**+0.3**
ILW	**Iliamna West**	**3.42**	**217**	*e*Pn	**Pn**	**16 41 57.6**	**-1.2**
HOM	**Homer**	**3.43**	**203**	*e*Pn	**Pn**	**16 41 59.5**	**+0.7**
NICHA	**Nichawak Mount**	**3.55**	**135**	*e*Pn	**Pn**	**16 41 59.4**	**-1.0**
SVW2	**Sparrevohn**	**3.56**	**244**	*e*Pn	**Pn**	**16 42 00.3**	**-0.3**
BALM	**Baldy**	**3.62**	**117**	*e*Pn	**Pn**	**16 42 01.1**	**-0.4**
KHIT	**Khitrov Hills**	**3.64**	**129**	*e*Pn	**Pn**	**16 42 00.8**	**-0.9**
MID	**Middleton Isla**	**3.65**	**158**	*e*Pn	**Pn**	**16 42 01.9**	**+0.2**
KAIM	**Kayak Island**	**3.66**	**141**	*e*Pn	**Pn**	**16 42 00.7**	**-1.1**
KIAG	**Kiagna River**	**3.68**	**118**	*e*Pn	**Pn**	**16 42 01.5**	**-0.8**
SUCK	**Suckling Hills**	**3.73**	**136**	*e*Pn	**Pn**	**16 42 02.2**	**-0.7**
IM3	**Indian Mountai**	**3.77**	**329**	*e*Pn	**Pn**	**16 42 04.0**	**+0.6**
ISLE	**Juniper Island**	**3.88**	**122**	*e*Pn	**Pn**	**16 42 03.9**	**-1.1**
BARN	**Barnard Glacie**	**3.90**	**114**	*e*Pn	**Pn**	**16 42 05.5**	**+0.3**
EGAK	**Eagle**	**3.98**	**57**	*e*Pn	**Pn**	**16 42 07.2**	**+1.0**
FYU	**Fort Yukon**	**4.08**	**22**	*e*Pn	**Pn**	**16 42 08.5**	**+0.9**
AUNW	**Augustine NWes**	**4.09**	**214**	P	**Pn**	**16 42 08.5**	**+0.7**
AUW	**Augustine West**	**4.10**	**214**	P	**Pn**	**16 42 08.6**	**+0.7**
AUI	**Augustine Isla**	**4.12**	**213**	P	**Pn**	**16 42 09.1**	**+1.0**
COLD	**Coldfoot**	**4.44**	**354**	*e*Pn	**Pn**	**16 42 13.4**	**+0.9**
DAWY	**Dawson**	**4.49**	**70**	*e*Pn	**Pn**	**16 42 13.8**	**+0.6**
CDD	**Cape Douglas**	**4.53**	**212**	P	**Pn**	**16 42 13.9**	**+0.1**
FONW	**Fourpeaked Sta**	**4.68**	**213**	P	**Pn**	**16 42 15.7**	**-0.2**
SAMH	**Samovar Hills**	**4.78**	**121**	*e*Pn	**Pn**	**16 42 17.4**	**+0.2**
BM3	**Burnt Mountain**	**4.96**	**20**	*e*Pn	**Pn**	**16 42 20.6**	**+0.9**
KAHC	**Katmai Hardscr**	**5.13**	**218**	P	**Pn**	**16 42 21.8**	**-0.3**
KARR	**Katmai Rainbow**	**5.18**	**215**	P	**Pn**	**16 42 22.6**	**0.0**
BCPM	**Bancas Point**	**5.34**	**119**	*e*Pn	**Pn**	**16 42 24.4**	**-0.5**
KDAK	**Kodiak Island**	**5.37**	**201**	P	**Pn**	**16 42 23.2**	**-2.1**
	7.8nm,0.3s,baz=46,slow=11,SNR=173						
KDAK				S	**Sn**	**16 43 21.0**	**-4.6**
	8.7nm,0.3s,baz=138,slow=19,SNR=6.7						
KDAK	**Kodiak Island**	**5.37**	**201**	*e*Pn	**Pn**	**16 42 22.8**	**-2.5**
KDAK				S	**Sn**	**16 43 21.0**	**-4.6**
YUK5	**Granite Creek**	**5.52**	**103**	P	**Pn**	**16 42 26.5**	**-1.0**
PNL	**Peninsula**	**5.62**	**120**	*e*Pn	**Pn**	**16 42 27.7**	**-0.9**
YUK7	**Dusty Glacier**	**5.66**	**109**	P	**Pn**	**16 42 28.4**	**-1.0**
CAHL	**Cahill**	**5.72**	**216**	P	**Pn**	**16 42 30.0**	**-0.1**
HYT	**Ha

	comp=Z,19nm,0.9s								
LZH					pmax	pmax			
	comp=Z,220nm,5.6s								
AKASG	**Malin Array Be**	**66.80**	**1**	P		**P**	**16 51 51.6**	**-0.4**
	comp=Z,0.9nm,0.5s,baz=0.4,slow=6.3,SNR=7.8								
GERES	**GERESS Array B**	**67.82**	**12**	P		**P**	**16 51 59.5**	**+0.8**
	comp=Z,0.2nm,0.3s,baz=357,slow=5.9,SNR=2.7								
GEYT	**Alibeck**	**77.25**	**338**	P		**P**	**16 52 56.1**	**+1.3**
	comp=Z,1.5nm,0.6s,baz=321,slow=11,SNR=4.0								
CMAR	**Chiang Mai Arr**	**83.34**	**298**	P		**P**	**16 53 28.4**	**+0.7**
	comp=Z,0.3nm,0.6s,baz=4.3,slow=6.8,SNR=4.5								
BOSA	**Boshof**	**145.57**	**9**	PKPbc		**PKPab**	**17 00 38.4**	**-0.5**
	comp=Z,1.2nm,0.5s,baz=50,slow=1.4,SNR=5.4								
QSPA	**South Pole Qui**	**152.65**	**180**	PKPbc		**PKPbc**	**17 00 53.8**	**-1.5**
	comp=Z,1.3nm,0.6s,baz=98,slow=0.9,SNR=3.7								

ATA ***12*** *16:44:12.6±0.7, 38.°65N×43.°21E, h13km±13km, ML2.9, MW3.0*
ISK ***12*** *16:44:12.7, 38.°65N×43.°16E, h14km, ML2.4/4*
ISCJB ***12*** *16:44:13.9±0.5, 38.°63N±0.°03×43.°18E±0.°03, h15km, Error ellipse: s-maj=4.0km s-min=3.4km az=2.7*
DDA ***12*** *16:44:13.8, 38.°66N×43.°20E, h7km, Ml2.7*
CSEM ***12*** *16:44:13.4±0.2, 38.°64N×43.°16E, h10km, ML2.4, Error ellipse: s-maj=5.1km s-min=4.3km az=163.0*

ISC 12 16:44:13.6±0.8, 38.°64N±0.°02×43.°20E±0.°02, h15km, n27, σ0=94/51, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
VANB	**Van**	**0.15**	**106**	PG		**Pb**	**16 44 18.3**	**0.0**
VANB				SG		**Sb**	**16 44 22.2**	**+0.8**
VANB	**Van**	**0.15**	**106**	*e*Pg		**Pb**	**16 44 18.3**	**0.0**
VANB				*e*Sg		**Sb**	**16 44 22.2**	**+0.8**
TVAN	**Van**	**0.20**	**124**	*i* P		**Pg**	**16 44 17.9**	**-0.5**
TVAN				*i* S		**Sg**	**16 44 21.8**	**+0.3**
TVAN	**Van**	**0.20**	**124**	P		**Pg**	**16 44 17.9**	**-0.5**
TVAN				S		**Sg**	**16 44 21.8**	**+0.3**
GEVA	**Gevas**	**0.34**	**199**	*i* P		**Pg**	**16 44 20.2**	**-0.6**
GEVA				*e*S		**Sg**	**16 44 26.6**	**+0.9**
GEVA				IAML			16 44 30.3	
	comp=Z,153nm,0.5s							
GEVA	**Gevas**	**0.34**	**199**	*i* P		**Pg**	**16 44 20.1**	**-0.7**
GEVA				*i* S		**Sb**	**16 44 27.4**	**+0.5**
GEVA	**Gevas**	**0.34**	**199**	P		**Pg**	**16 44 20.1**	**-0.7**
GEVA				S		**Sb**	**16 44 27.4**	**+0.5**
ADCV	**BITLIS_Adilcev**	**0.41**	**295**	*i* P		**Pg**	**16 44 21.5**	**-0.4**
ADCV				*i* S		**Sb**	**16 44 29.1**	**+0.3**
ADCV	**BITLIS_Adilcev**	**0.41**	**295**	P		**Pg**	**16 44 21.5**	**-0.4**
ADCV				S		**Sb**	**16 44 29.1**	**+0.3**
VMUR	**Van-Muradiye**	**0.46**	**40**	*i* P		**Pb**	**16 44 23.4**	**-0.1**
VMUR				*i* S		**Sn**	**16 44 31.7**	**-2.1**
VMUR	**Van-Muradiye**	**0.46**	**40**	P		**Pb**	**16 44 23.4**	**-0.1**
VMUR				S		**Sn**	**16 44 31.7**	**-2.1**
CLDR	**Caldiran**	**0.75**	**48**	PG		**Pg**	**16 44 27.9**	**-0.4**
CLDR				SG		**Sb**	**16 44 39.4**	**+0.7**
CLDR	**Caldiran**	**0.75**	**48**	*i* P		**Pg**	**16 44 28.1**	**-0.3**
CLDR				*i* S		**Sb**	**16 44 39.1**	**+0.3**
CLDR	**Caldiran**	**0.75**	**48**	*e*Pg		**Pg**	**16 44 27.9**	**-0.4**
CLDR	**Caldiran**	**0.75**	**48**	P		**Pg**	**16 44 28.1**	**-0.3**
CLDR				S		**Sb**	**16 44 39.1**	**+0.3**
TUTA	**Tutak**	**0.82**	**339**	*i* P		**Pg**	**16 44 28.9**	**-0.7**
TUTA				*e*S		**Sb**	**16 44 40.7**	**+0.1**
TUTA				IAML			16 44 43.5	
	comp=Z,33nm,0.2s							
TUTA	**Tutak**	**0.82**	**339**	*i* P		**Pg**	**16 44 28.9**	**-0.7**
TUTA				*i* S		**Sb**	**16 44 40.9**	**+0.2**
TUTA	**Tutak**	**0.82**	**339**	P		**Pg**	**16 44 28.9**	**-0.7**
TUTA				S		**Sb**	**16 44 40.9**	**+0.2**
GURO	**Guroymak-BITLI**	**0.92**	**265**	PG		**Pb**	**16 44 30.3**	**-1.0**
GURO				SG		**Sb**	**16 44 42.9**	**-0.5**
GURO	**Guroymak-BITLI**	**0.92**	**265**	*e*Pg		**Pb**	**16 44 30.3**	**-1.0**
GURO				*e*Sg		**Sb**	**16 44 42.9**	**-0.5**
AGRB	**Hanur-Agry**	**0.95**	**350**	PG		**Pb**	**16 44 31.1**	**-0.8**
AGRB				SG		**Sg**	**16 44 44.7**	**+0.2**
AGRB	**Hanur-Agry**	**0.95**	**350**	*e*Pg		**Pb**	**16 44 31.1**	**-0.8**
AGRB				*e*Sg		**Sg**	**16 44 44.7**	**+0.2**
EKAR	**Karacoban**	**1.08**	**305**	*e*P		**Pb**	**16 44 33.5**	**-0.6**
EKAR				*e*S		**Sn**	**16 44 50.1**	**+0.9**
EKAR				IAML			16 44 60.0	
	comp=Z,11nm,0.5s							
EKAR	**Karacoban**	**1.08**	**305**	*i* P		**Pb**	**16 44 33.7**	**-0.4**
EKAR				*i* S		**Sn**	**16 44 53.3**	**+4.1**
EATA	**Eleskirt**	**1.34**	**336**	*e*P		**Pb**	**16 44 38.6**	**0.0**
EATA				*e*S		**Sg**	**16 44 58.9**	**+1.9**
EATA				IAML			16 45 07.9	
	comp=Z,3.2nm,0.4s							
HOMI	**Horasan**	**1.73**	**325**	*e*P		**Pb**	**16 44 45.2**	**+0.1**
HOMI				IAML			16 44 56.5	
	comp=Z,5.7nm,0.5s							
ERZM	**Erzurum**	**1.90**	**312**	*e*P		**Pb**	**16 44 48.0**	**-0.2**

NEIC 12 16:44:45.3±0.0, 18.°87N×64.°15W, h39km, MD3.6(RSPR), After RSPR., Virgin Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ABVI	**Anegada Island**	**0.22**	**230**	*e*Pg		Pn	16 44 51.6	-1.7
ABVI				*e*Sg		Sn	16 44 56.4	-3.5
STVI	**Saint Thomas**	**0.92**	**236**	*e*Pn		Pn	16 45 00.6	-1.1
STVI				*e*Sn		Sn	16 45 11.3	-2.4
CDVI	**St. Croix**	**1.26**	**208**	*e*Pn		Pn	16 45 07.3	+0.9
CDVI				*e*Sn		Sn	16 45 25.3	+3.3
SMRT	**St. Maarten**	**1.31**	**128**	*e*Pn		Pn	16 45 09.3	+2.2
SMRT				*e*Sn		Sn	16 45 28.8	+5.4
SABA	**Saba**	**1.52**	**145**	*e*Pn		Pn	16 45 12.5	+2.5
CBYP	**Canovanas**	**1.72**	**250**	*e*Pn		Pn	16 45 11.2	-1.7
SJG	**San Juan**	**2.04**	**249**	*e*Pn		Pn	16 45 16.1	-1.0
SJG				*e*Sn		Sn	16 45 40.7	-0.7
AOPR	**Arecibo Observ**	**2.52**	**258**	*e*Pn		Pn	16 45 28.7	-1.0
ANWB	**Willy Bob**	**2.55**	**118**	*e*Pn		Pn	16 45 25.1	+0.9
AGP	**Aguadilla**	**2.87**	**261**	*e*Pn		Pn	16 45 26.0	-2.5
MPR	**Mayaguez**	**2.91**	**257**	*e*Pn		Pn	16 45 28.6	-0.5
CRPR	**Cabo Rojo, PR**	**2.94**	**253**	*e*Pn		Pn	16 45 29.2	-0.2
GDHS	**Morne Mazeau,**	**3.45**	**138**	*e*Pn		Pn	16 45 40.0	+3.5
SDDR	**Presa de Saban**	**6.75**	**272**	*e*Pn		Pn	16 46 21.1	-0.8
SDDR				*e*Sn		Sn	16 47 37.2	-0.5
GRTK	**Grand Turk**	**7.06**	**293**	*e*Pn		Pn	16 46 22.4	-3.7
GRTK				*e*Sn		Sn	16 47 34.5	-11

TAP ***12*** *16:46:06.7, 22.°48N×122.°74E, h58km±1km, ML2.8, D*
JMA ***12*** *16:46:06.0±0.4, 22.°53N×122.°79E, h50km*

ISC 12 16:46:00.6±1.5, 22.°55N±0.°05×122.°82E±0.°03, h4km±11km, n35, σ0=88/60, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LAY	**Lan-yu**	**1.28**	**247**	*e*P		**Pg**	**16 46 27.9**	**+2.7**
	baz=248							
LAY				*i* S		**Sn**	**16 46 41.9**	**-1.0**
	baz=248							
CHKT	**Chengkung**	**1.45**	**292**	P		**Pg**	**16 46 29.0**	**+0.6**
	baz=296							
CHKT				S		**Sn**	**16 46 46.5**	**-0.5**
	baz=296							
FULB	**Fuli**	**1.55**	**295**	P		**Pg**	**16 46 30.7**	**+0.4**
	baz=302							
FULB				S		**Sn**	**16 46 49.2**	**-0.3**
	baz=302							
TWF1	**Yuli**	**1.61**	**300**	P		**Pg**	**16 46 32.1**	**+0.5**
	baz=310							
TWGBT	**Beinan**	**1.63**	**280**	*e*P		**Pg**	**16 46 32.9**	**+1.1**
	baz=288							
TWGBT				*e*S		**Sb**	**16 46 52.1**	**0.0**
	baz=288							
YULB	**Yu-li**	**1.63**	**301**	*e*P		**Pg**	**16 46 32.8**	**+0.8**
	baz=311							
YULB				*e*S		**Sb**	**16 46 52.2**	**-0.1**
	baz=311							
TWG	**Pinlang**	**1.64**	**280**	P		**Pg**	**16 46 33.0**	**+0.9**
	baz=288							
TWG				S		**Sb**	**16 46 52.4**	**0.0**
	baz=288							
EHY	**Hungye**	**1.68**	**305**	P		**Pg**	**16 46 33.3**	**+0.6**
	baz=314							
EHY				S		**Sb**	**16 46 53.0**	**-0.5**
	baz=314							
ECL	**Taimali**	**1.73**	**272**	P		**Pg**	**16 46 33.7**	**0.0**
	baz=285							
ECL				S		**Sb**	**16 46 54.2**	**-0.7**
	baz=285							
HATJ	**Hateruma jima**	**1.75**	**31**	S		**Sb**	**16 46 56.4**	**+0.8**
EAST	**Anshuo**	**1.83**	**265**	P		**Pg**	**16 46 35.8**	**+0.1**
	baz=258							
EAST				*e*S		**Sb**	**16 46 57.4**	**-0.7**
	baz=258							
YOJ	**Yonaguni jima**	**1.91**	**5**	P		**Pg**	**16 46 37.9**	**+0.6**
IRIF	**Iriomote-Funau**	**1.96**	**25**	P		**Pg**	**16 46 38.5**	**+0.2**
IRIF				S		**Sb**	**16 47 01.8**	**+0.1**
TWK1	**Hengchun**	**1.96**	**252**	S		**Sb**	**16 46 59.3**	**-2.4**
	baz=261							
NACB	**Ninganchiao**	**1.97**	**325**	*e*P		**Pb**	**16 46 37.5**	**+0.4**
	baz=335							
NACB				*e*S		**Sn**	**16 47 00.4**	**+0.5**
	baz=335							
STYT	**Tauyuan**	**2.00**	**288**	P		**Pg**	**16 46 38.4**	**-0.5**
	baz=293							
STYT				S		**Sb**	**16 47 01.4**	**-1.4**
	baz=293							
JKRS	**Kuro-shima**	**2.00**	**33**	P		**Pg**	**16 46 39.1**	**+0.1**
JKRS				*e*S		**Sb**	**16 47 02.2**	**-0.7**
ALS	**Alishan**	**2.09**	**298**	P		**Pg**	**16 46 40.9**	**+0.3**
	baz=293							
SSLB	**Suanglung**	**2.11**	**306**	*e*P		**Pb**	**16 46 40.1**	**+0.6**
	baz=315							
SSLB				*e*S		**Sb**	**16 47 04.9**	**-1.2**
	baz=315							
ENA	**Nanau**	**2.11**	**332**	*e*P		**Pb**	**16 46 40.4**	**+0.9**
	baz=327							
ENA				*e*S		**Sb**	**16 47 05.6**	**-0.5**
	baz=327							
SGST	**Jiashian**	**2.13**	**285**	*e*P		**Pg**	**16 46 41.7**	**+0.2**
	baz=287							
SGST				*e*S		**Sb**	**16 47 07.9**	**+1.3**
	baz=287							
CHGB	**Renai**	**2.13**	**315**	*e*S		**Sb**	**16 47 06.0**	**-0.8**
	baz=317							
WHF	**Hehuan Shan**	**2.13**	**318**	*e*S		**Sn**	**16 47 05.5**	**+0.9**
	baz=321							
WTP	**Ta-pu**	**2.15**	**289**	*e*P		**Pg**	**16 46 42.1**	**+0.2**
	baz=298							
WTP				*e*S		**Sg**	**16 47 08.7**	**-1.0**
	baz=298							
TPUB	**Ta-pu**	**2.15**	**291**	*e*P		**Pg**	**16 46 42.1**	**+0.2**
	baz=293							
TPUB				*e*S		**Sb**	**16 47 08.6**	**+1.4**
	baz=293							
JIJ	**Ishigaki jima**	**2.17**	**34**	P		**Pb**	**16 46 40.7**	**+0.2**
JIJ				S		**Sn**	**16 47 06.0**	**+1.0**
CHN4	**Tsaushan**	**2.20**	**292**	*e*P		**Pg**	**16 46 43.2**	**+0.4**
	baz=294							
CHN4				*e*S		**Sb**	**16 47 09.3**	**+0.7**
	baz=294							
CHN1	**Nanshi**	**2.21**	**287**	*e*P		**Pg**	**16 46 43.2**	**+0.3**
	baz=295							
CHN1				*e*S		**Sg**	**16 47 10.9**	**-0.7**
	baz=295							
CHN5	**Tsauling**	**2.23**	**298**	*e*P		**Pg**	**16 46 44.1**	**+0.7**
	baz=308							
CHN5				*e*S		**Sg**	**16 47 11.5**	**-0.9**
	baz=308							
TYC	**Yuchr**	**2.25**	**307**	*e*P		**Pg**	**16 46 44.4**	**+0.5**
	baz=317							
TWK	**Hsinying**	**2.27**	**289**	*e*P		**Pg**	**16 46 43.8**	**-0.2**
	baz=290							
NNSB	**Datong**	**2.29**	**325**	*e*P		**Pb**	**16 46 43.1**	**+0.5**
	baz=334							
NNSB				*e*S		**Sb**	**16 47 10.1**	**-1.1**
	baz=334							
JISG	**Ishigakijimahi**	**2.44**	**34**	P		**Pb**	**16 46 44.1**	**-1.0**
JISG				*e*S		**Sn**	**16 47 12.7**	**+1.1**
YHNB	**Yeheng**	**2.49**	**328**	*e*P		**Pb**	**16 46 46.2**	**+0.2**
	baz=330							
JTJ	**Tarama**	**2.70**	**39**	P		**Pb**	**16 46 48.2**	**-1.4**
JTJ				S		**Sn**	**16 47 19.2**	**+1.2**

TEH ***12*** *16:47:43.5, 30.°42N×50.°72E, h10km, ML3.6*
ISCJB ***12*** *16:47:44.6±0.4, 30.°41N±0.°04×50.°65E±0.°05, h10km, mb3.5/12, Error ellipse: s-maj=7.9km s-min=4.4km az=135.6*
IDC ***12*** *16:47:44.0±1.5, 30.°50N×50.°59E, h0km, mb3.6/12, mb1 3.7/14, mb1mx3.5/62, mbtmp3.6/14, ML3.3/2, Error ellipse: s-maj=31.2km s-min=20.0km az=178.0*
CSEM ***12*** *16:47:46.7±0.4, 30.°47N×50.°72E, h10km, ML3.6, Error ellipse: s-maj=13.1km s-min=6.2km az=43.0*

ISC 12 16:47:44.4±0.6, 30.°42N±0.°04×50.°76E±0.°04, h10km, n49, σ1=93/48, mb3.7/12, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
IKAZ	**Kazeroun**	**1.13**	**124**	*e*Sg		**Sn**	**16 48 25.1**	**+2.7**
IKAZ				*e*Pg		**Pn**	**16 48 06.7**	**+0.1**
IKAZ				*e*AMB		AMB	16 48 31.4	
	comp=Z,16μm,0.2s							
IKAZ	**Kazeroun**	**1.13**	**124**	*e*Sg		**Sn**	**16 48 25.1**	**+2.7**
IBRJ	**Brojen**	**1.54**	**16**	*e*AMB		AMB	16 48 39.2	
	comp=Z,5μm,0.2s							
IRAM	**Ramesheh**	**1.96**	**45**	*e*Pn		**Pn**	**16 48 18.4**	**+0.5**
IRAM				*e*AMB		AMB	16 48 21.8	
	comp=Z,4μm,0.2s							
IRAM	**Ramesheh**	**1.96**	**45**	*e*Pn		**Pn**	**16 48 18.4**	**+0.5**
IPAR	**Pars**	**2.06**	**106**	*e*Pn		**Pg**	**16 48 23.9**	**-0.1**
IPAR				*e*AMB		AMB	16 48 57.9	
	comp=Z,2μm,0.3s							
IPAR	**Pars**	**2.06**	**106**	*e*Pn		**Pg**	**16 48 23.9**	**-0.1**
IGAR	**Gharneh**	**2.26**	**29**	*e*Pn		**Pb**	**16 48 24.2**	**-1.3**
IGAR				*e*AMB		AMB	16 48 57.6	
	comp=Z,2μm,0.2s							
IPIR	**Pirpir**	**2.26**	**3**	*e*Pn		**Pb**	**16 48 24.6**	**-0.9**
IPIR				*e*AMB		AMB	16 49 00.8	
	comp=Z,7μm,0.3s							
IPIR	**Pirpir**	**2.26**	**3**	*e*Pn		**Pb**	**16 48 24.6**	**-0.9**
ISRV	**Sarvestan**	**2.29**	**116**	*e*Pn		**Pb**	**16 48 24.5**	**-1.5**
ISRV				*e*AMB		AMB	16 49 11.9	
	comp=Z,3μm,0.3s							
ISRV	**Sarvestan**	**2.29**	**116**	*e*Pn		**Pb**	**16 48 24.5**	**-1.5**
SHGR	**Shooshtar-Gavs**	**2.38**	**316**	*e*Pn		**Pb**	**16 48 24.7**	**-2.6**
IZEF	**Zefreh**	**2.81**	**28**	*e*Pn		**Pb**	**16 48 31.8**	**-3.0**
IZEF				*e*AMB		AMB	16 48 45.7	
	comp=Z,541nm,0.1s							
IZEF	**Zefreh**	**2.81**	**28**	*e*Pn		**Pb**	**16 48 31.8**	**-3.0**
GHIR	**Ghir-Karzin**	**2.88**	**137**	*e*Pn		**Pb**	**16 48 33.7**	**-2.3**
IKLH	**Kolahrood**	**2.97**	**13**	*e*Pn		**Pn**	**16 48 33.8**	**+1.9**
IKLH				*e*AMB		AMB	16 49 21.3	
	comp=Z,1μm,0.2s							
IKLH	**Kolahrood**	**2.97**	**13**	*e*Pn		**Pn**	**16 48 33.8**	**+1.9**
KFJS		**3.32**	**229**	P		**Pb**	**16 48 41.6**	**-1.8**
KFJS				S		**Sb**	**16 49 23.3**	**-0.5**
KHMZ	**Khomeyn**	**3.38**	**349**	*e*Pn		**Pn**	**16 48 39.3**	**+1.9**
QAM	**Ghamsar**	**3.38**	**10**	*e*Pn		**Pb**	**16 48 40.4**	**-4.2**
QAM				*e*AMB		AMB	16 49 27.6	
	comp=Z,2μm,0.1s							
ANAR	**Anarak**	**3.74**	**42**	*e*AMB		AMB	16 48 59.0	
	comp=Z,99nm,0.2s							
IKFM	**Kafar-mosalman**	**3.96**	**322**	*e*Pn		**Pn**	**16 48 47.7**	**+2.4**
IKFM				*e*AMB		AMB	16 50 05.7	
	comp=Z,99nm,0.4s							
IKFM	**Kafar-mosalman**	**3.96**	**322**	*e*Pn		**Pn**	**16 48 47.7**	**+2.4**
GHVR	**GHOM**	**4.07**	**6**	*e*Pn		**Pn**	**16 48 49.3**	**+2.4**
ASAO	**Ashtian**	**4.16**	**352**	*e*Pn		**Pn**	**16 48 50.3**	**+2.0**
HSAM	**Samen**	**4.20**	**335**	*e*Pn		**Pn**	**16 48 50.2**	**+1.4**
HSAM				*e*AMB		AMB	16 49 44.6	
	comp=Z,99nm,0.3s							
HSAM	**Samen**	**4.20**	**335**	*e*Pn		**Pn**	**16 48 50.2**	**+1.4**
BOQSS		**4.70**	**195**	P		Pb	16 49 00.6	-6.3
IVIS	**Veis**	**5.26**	**322**	*e*Pn		**Pn**	**16 49 04.6**	**+1.4**
IVIS				*e*AMB		AMB	16 50 15.9	
	comp=Z,274nm,0.2s							
IVIS	**Veis**	**5.26**	**322**	*e*Pn		**Pn**	**16 49 04.6**	**+1.4**
SNGE	**Sanandaj**	**5.48**	**329**	*e*Pn		**Pn**	**16 49 06.8**	**+0.5**
IDHR	**Dehrash**	**5.64**	**320**	*e*Pn		**Pn**	**16 49 10.5**	**+1.9**
IDHR				*e*AMB		AMB	16 50 21.4	
	comp=Z,667nm,0.1s							
IDHR	**Dehrash**	**5.64**	**320**	*e*Pn		**Pn**	**16 49 10.5**	**+1.9**
BTHS		**6.35**	**179**	P		Pn	16 49 22.1	+4.0
WSAR	**Wadi Sarin**	**10.02**	**134**	Pn		**Pn**	**16 50 09.4**	**+0.9**
	comp=Z,0.3nm,0.3s,baz=353,slow=11,SNR=4.2							
WSAR						Sn	**16 51 56.9**	**-4.2**
	comp=Z,0.3nm,0.3s,baz=143,slow=17,SNR=3.3							
BRTR	**Keskin Array B**	**16.79**	**308**	Pn		**P**	**16 51 40.0**	**-2.0**
	comp=Z,0.1nm,0.3s,baz=129,slow=15,SNR=4.7							
IDI	**Anoyia**	**22.24**	**289**	P		**P**	**16 52 41.3**	**-0.2**
	comp=Z,4.3nm,0.6s,baz=308,slow=12,SNR=3.3							
MLR	**Muntele Rosu**	**24.55**	**315**	P		**P**	**16 53 05.6**	**+1.2**
	comp=Z,0.6nm,0.8s,baz=134,slow=1.5,SNR=4.8							
AKASG	**Malin Array Be**	**25.87**	**328**	P		**P**	**16 53 15.9**	**-0.3**
	comp=Z,0.7nm,0.5s,baz=132,slow=9.3,SNR=4.3							
BVAR	**Borovoye Array**	**26.75**	**27**	P		**P**	**16 53 25.2**	**+1.1**
	comp=Z,0.6nm,0.7s,baz=213,slow=7.7,SNR=4.0							
KURBB	**Kurchatov Arra**	**28.93**	**38**	P		**P**	**16 53 45.1**	**+1.6**
	comp=Z,0.2nm,0.6s,baz=241,slow=9.4,SNR=2.9							
MKAR	**Makanchi Array**	**29.31**	**47**	P		**P**	**16 53 49.3**	**+2.2**
	comp=Z,0.1nm,0.4s,baz=233,slow=9.6,SNR=2.4							
ZALV	**Zalesovo Beam**	**33.96**	**36**	P		**P**	**16 54 30.6**	**+2.8**
	comp=Z,0.4nm,0.3s,baz=238,slow=15,SNR=2.8							
FINES	**FINESS Array B**	**35.02**	**340**	P		**P**	**16 54 36.2**	**-0.6**
	comp=Z,0.8nm,0.6s,baz=145,slow=8.2,SNR=7.4							
HFS	**Hagfors**	**38.63**	**331**	P		**P**	**16 55 07.2**	**-0.4**
	comp=Z,1.0nm,0.4s,baz=116,slow=6.6,SNR=13							
NOA	**NORSAR Array B**	**40.16**	**331**	P		**P**	**16 55 19.0**	**-1.4**
	comp=Z,0.4nm,0.5s,baz=122,slow=8.4,SNR=3.0							
EKA	**Eskdalemuir Ar**	**45.24**	**319**	P		**P**	**16 56 00.3**	**-1.4**
	comp=Z,0.4nm,0.4s,baz=103,slow=7.7,SNR=3.1							
TORD	**Torodi Ar. Bea**	**48.30**	**260**	P		**P**	**16 56 27.1**	**+0.9**
	comp=Z,0.5nm,0.4s,baz=59,slow=6.9,SNR=4.8							

JMA 12 16:50:46.9±0.1, 36.°81N×141.°28E, h25km±1km, M2.7, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ONAJ	**Iwakimizuishiy**	**0.48**	**307**	P		Pb	16 50 56.6	-0.3
ONAJ				S		Sb	16 51 03.9	+0.2
JHO	**Hitachi**	**0.60**	**251**	P		Pb	16 50 58.7	-0.2
JHO				S		Sb	16 51 06.9	-0.1
JFK	**Kawauchi**	**0.64**	**330**	P		Pb	16 50 59.3	-0.3
JFK				S		Sb	16 51 08.3	+0.1
JFT	**Otama**	**1.03**	**313**	P		Pb	16 51 06.5	+0.4
JFT				S		Sn	16 51 19.9	+0.4
JMM	**Marumori**	**1.12**	**340**	S		Sn	16 51 21.5	-0.2
MAT	**Matsushiro**	**2.48**	**265**	P		Pn	16 51 26.7	+0.9
MAT				S		Sn	16 51 56.6	+1.3

IDC 12 16:53:30.1±2.1, 2.°53N×90.°13E, h0km, mb3.5/4, mb1 3.6/5, mb1mx3.3/68, mbtmp3.5/5, ML3.5/1, MS3.6/1, Ms1 3.6/1, ms1mx2.6/55, Error ellipse: s-maj=64.1km s-min=30.8km az=46.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PALK	**Pallekele**	**10.50**	**297**	Pn		Pn	16 56 03.2	+1.1
	0.4nm,0.3s,baz=117,slow=16,SNR=4.8							
PALK				Sn		Sn	16 57 49.8	-11
	0.4nm,0.3s,baz=296,slow=0.2,SNR=3.1							
MKAR	**Makanchi Array**	**44.61**	**352**	P		P	17 01 43.6	-0.6
	0.2nm,0.7s,baz=151,slow=6.3,SNR=2.6							
SONM	**Songino Array**	**47.27**	**15**	P		P	17 02 05.9	+0.7
	1.8nm,0.7s,baz=202,slow=7.9,SNR=7.4							
ATD	**Arta Tunnel**	**47.70**	**283**	LR		LR	17 18 19.6	
	comp=Z,62nm,20.4s,baz=188,slow=31							
WRA	**Warramunga Arr**	**48.79**	**119**	P		P	17 02 17.4	0.0
	0.4nm,0.6s,baz=293,slow=8.3,SNR=3.0							
KURBB	**Kurchatov Arra**	**48.91**	**350**	P		P	17 02 17.0	-0.8
	0.4nm,0.7s,baz=174,slow=8.0,SNR=5.1							
TXAR	**Lajitas Array**	**145.67**	**22**	PKPbc		PKPdf	17 13 10.5	-1.0
	0.2nm,0.5s,baz=318,slow=1.2,SNR=5.7							

IDC ***12*** *16:55:34.4±1.2, 3.°59N×92.°78E, h0km, mb3.7/9, mb1 3.8/11, mb1mx3.5/69, mbtmp3.7/11, ML3.6/2, Error ellipse: s-maj=42.9km s-min=19.3km az=50.0*
ISCJB ***12*** *16:55:37.3±0.9, 3.°6N±0.°1×92.°7E±0.°1, h33km, mb3.8/9, Error ellipse: s-maj=20.7km s-min=14.8km az=36.6*

ISC 12 16:55:39.5±1.1, 3.°7N±0.°2×92.°8E±0.°1, h35km, n14, σ0=96/11, mb3.8/9, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PALK	**Pallekele**	**12.52**	**287**	Pn		**Pn**	**16 58 34.4**	**-1.0**
	0.5nm,0.3s,baz=114,slow=14,SNR=2.5							
PALK				Sn		Sn	17 00 39.6	-14
	0.8nm,0.3s,baz=122,slow=0.8,SNR=4.0							
CMAR	**Chiang Mai Arr**	**15.91**	**22**	Pn		**Pn**	**16 59 19.7**	**-1.2**
	0.1nm,0.3s,baz=221,slow=13,SNR=6.9							
H08S2	**Diego Garcia H**	**23.12**	**241**	T		T	17 24 27.1	
	baz=64							
H08S3	**Diego Garcia H**	**23.12**	**241**	T		T	17 24 26.4	
	baz=64							
H08S1	**Diego Carcia H**	**23.14**	**241**	T		T	17 24 29.1	
	baz=64							
MKAR	**Makanchi Array**	**43.92**	**350**	P		**P**	**17 03 44.1**	**+1.2**
	1.5nm,0.7s,baz=166,slow=8.8,S

az=218.0

ISC 12 16:58:38.3±0.8, 16°43'N±0'07×98°42'W±0'06, h10km, n72, σ1°71/79, mb4.2/31, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.28**	**97**	*eP*	**Pg**	**16 58 44.1**	**+0.1**
PNIG				*eS*	**Sg**	**16 58 48.8**	**+1.0**
PNIG	**Pinotepa**	**0.28**	**97**	*e*Pg	**Pg**	**16 58 44.1**	**+0.1**
PNIG				*e*Sg	**Sg**	**16 58 48.8**	**+1.0**
TLIG	**Tlapa**	**1.14**	**353**	*i* P	**Pb**	**16 58 58.2**	**-1.9**
TLIG				*i* S	**Sb**	**16 59 13.8**	**-1.2**
TLIG	**Tlapa**	**1.14**	**353**	*i* P	**Pb**	**16 58 58.2**	**-1.9**
TLIG				*i* S	**Sb**	**16 59 13.8**	**-1.2**
VHO	**Vista Hermosa**	**1.74**	**68**	*eP*	**Pn**	**16 59 08.6**	**-0.1**
VHO				*eS*	**Sn**	**16 59 31.2**	**+0.2**
VHO	**Vista Hermosa**	**1.74**	**68**	*e*Pn	**Pn**	**16 59 08.6**	**-0.1**
VHO				*e*Sn	**Sn**	**16 59 31.2**	**+0.2**
UNM	**Universidad Na**	**2.97**	**346**	*e*Pn	**Pn**	**16 59 28.0**	**+2.2**
UNM				*e*Sn	**Sb**	**17 00 12.5**	**+4.4**
CMIG	**Matias Romero**	**3.45**	**78**	Pn	**Pn**	**16 59 31.4**	**-0.7**
	5.0nm,0.3s,baz=258,slow=10,SNR=27						
CMIG				Pg	**Pb**	**16 59 40.6**	**+1.1**
	13nm,0.3s,baz=261,slow=16,SNR=38						
CMIG				Sn	**Sn**	**17 00 12.9**	**-0.2**
	20nm,0.3s,baz=0.0,slow=17,SNR=4.1						
CMIG				Lg	Lg	17 00 29.7	
	49nm,0.3s,baz=278,slow=21,SNR=14						
LVIG	**Laguna Verde**	**3.79**	**30**	*e*Pn	**Pn**	**16 59 35.0**	**-1.7**
JRQG	**Juriquilla Cam**	**4.67**	**336**	*e*Pn	Pn	16 59 55.7	+6.7
APG	**El Apazote**	**7.79**	**99**	Pn	**Pn**	**17 00 32.7**	**+0.7**
	0.5nm,0.3s,baz=326,slow=17,SNR=6.8						
APG				Sn	**Sn**	**17 02 01.4**	**+1.0**
	0.5nm,0.3s,baz=349,slow=12,SNR=3.6						
APG				Lg	Lg	17 02 25.7	
	1.2nm,0.3s,baz=242,slow=20,SNR=3.7						
H06E1	**SOCORRO T-PHAS**	**12.15**	**283**	T	T	17 13 40.0	
LPIG	**La Paz**	**13.51**	**306**	LR	LR	17 06 05.1	
	comp=Z,103nm,21.9s,baz=22,slow=33						
LTX	**Lajitas**	**13.72**	**340**	*e*Pn	**Pn**	**17 01 54.3**	**+1.2**
TXAR	**Lajitas Array**	**13.72**	**340**	Pn	**Pn**	**17 01 54.3**	**+1.2**
	baz=159,slow=18,SNR=2.6						
TXAR				Lg	Lg	17 05 50.6	
	0.2nm,0.3s,baz=161,slow=31,SNR=4.4						
JTS	**JuntasAbangare**	**14.45**	**113**	Pn	**P**	**17 02 09.3**	**-0.6**
	1.2nm,0.3s,baz=303,slow=12,SNR=4.5						
MNTX	**Cornudas Mount**	**16.47**	**339**	*e*Pn	**P**	**17 02 33.0**	**+0.8**
	2.2nm,0.8s						
319A	**Douglas**	**17.87**	**328**	*e*Pn	**Pn**	**17 02 48.4**	**+1.2**
	11nm,1.3s						
WMOK	**Wichita Mounta**	**18.24**	**359**	*e*P	**Pn**	**17 02 46.5**	**-5.1**
	8.0nm,1.3s						
BNM	**Barren Site**	**19.13**	**339**	*e*P	**P**	**17 03 02.7**	**+0.9**
W39A	**Magazine**	**19.14**	**12**	*e*P	**P**	**17 03 03.3**	**+1.6**
	33nm,1.8s						
BCIP	**Isla Barro Col**	**19.49**	**109**	*e*P	**P**	**17 03 00.1**	**-5.6**
	81nm,0.9s						
ANMO	**Albuquerque**	**19.80**	**340**	P	**P**	**17 03 09.8**	**+0.7**
	0.1nm,0.3s,baz=167,slow=8.6,SNR=3.3						
ANMO				LR	LR	17 11 28.8	
	comp=Z,124nm,21.7s,baz=344,slow=39						
ANMO	**Albuquerque**	**19.80**	**340**	*e*P	**P**	**17 03 10.2**	**+1.1**
	1.8nm,0.8s						
V40A	**Witts Springs**	**19.93**	**13**	*e*P	**P**	**17 03 10.1**	**-0.3**
	8.7nm,0.9s						
HHAR	**Hobbs**	**20.17**	**11**	*e*P	**P**	**17 03 12.1**	**-0.9**
	5.7nm,0.8s						
PLAL	**Pickwick Lake**	**20.67**	**25**	*e*P	**P**	**17 03 19.2**	**+0.9**
	5.7nm,0.6s						
T25A	**Trinidad**	**21.30**	**347**	*e*P	**P**	**17 03 25.7**	**+0.3**
	9.6nm,1.0s						
X16A	**Lo Mia Camp, P**	**21.39**	**329**	*e*P	**P**	**17 03 27.6**	**+1.3**
	4.1nm,0.7s						
WVT	**Waverly**	**21.77**	**24**	*e*P	**P**	**17 03 29.8**	**-0.4**
	6.9nm,0.8s						
Y14A	**Wickenburg**	**21.82**	**326**	*e*P	**P**	**17 03 31.9**	**+1.0**
	16nm,1.8s						
GLA	**Glamis**	**22.22**	**321**	*e*P	**P**	**17 03 37.1**	**+2.0**
	6.4nm,1.2s						
WUAZ	**Wupatki**	**22.25**	**331**	*e*P	**P**	**17 03 37.1**	**+1.5**
	12nm,1.0s						
MVCO	**Mesa Verde**	**22.54**	**339**	*e*P	**P**	**17 03 40.8**	**+2.1**
	34nm,1.9s						
IRM	**Iron Mountain**	**23.19**	**323**	*e*Sn	Sn	17 08 22.1	+7.7
SMCO	**Snowmass**	**23.87**	**343**	*e*P	**P**	**17 03 54.8**	**+2.4**
	9.4nm,1.5s						
GMRC	**Granite Mounta**	**23.93**	**323**	*e*Sn	Sn	17 08 36.7	+4.4
ISCO	**Idaho Springs**	**24.12**	**346**	*e*P	**P**	**17 03 56.5**	**+1.8**
	5.5nm,1.2s						
KNB	**Kanab**	**24.15**	**331**	*e*P	**P**	**17 03 56.8**	**+2.0**
	29nm,2.0s						
WCI	**Wyandotte Cave**	**24.19**	**24**	*e*P	**P**	**17 03 54.4**	**-0.6**
	32nm,1.6s						
CRNC	**Corona**	**24.46**	**319**	*e*PcP	**PcP**	**17 07 37.1**	**+0.9**
MTPU	**Mount Pierson**	**24.71**	**333**	*e*P	**P**	**17 04 02.1**	**+2.0**
	8.6nm,0.8s						
PSRC	**Puddingstone R**	**24.76**	**319**	*e*PcP	**PcP**	**17 07 33.8**	**-3.1**
CCUT	**Cedar City**	**24.83**	**331**	*e*P	**P**	**17 04 02.5**	**+1.4**
	14nm,0.4s						
SHPR	**Sheep Range**	**24.91**	**327**	*e*P	**P**	**17 04 04.2**	**+2.4**
	9.0nm,1.7s						
SRU	**San Rafael Swe**	**24.96**	**337**	*e*P	**P**	**17 04 03.4**	**+1.3**
	3.7nm,0.8s						
Q16A	**Castle Valley**	**25.04**	**336**	*e*P	**P**	**17 04 04.0**	**+1.2**
	25nm,1.6s						
PASC	**Pasadena Art C**	**25.05**	**319**	*e*PcP	**PcP**	**17 07 36.8**	**-0.8**
PASC				*e*S	**S**	**17 08 28.5**	**+1.4**
MSU	**Marysvale**	**25.10**	**334**	*e*P	**P**	**17 04 06.2**	**+2.7**
SBI	**Santa Barbara**	**25.17**	**316**	*e*PcP	**PcP**	**17 07 35.6**	**-2.1**
SBI				*e*S	**S**	**17 08 33.6**	**+4.7**
P18A	**Preston Nutter**	**25.31**	**338**	*e*P	**P**	**17 04 07.2**	**+1.7**
	4.9nm,0.9s						
IR2C	**Iron Canyon**	**25.32**	**319**	*e*PcP	**PcP**	**17 07 40.2**	**+2.0**
PHWY	**Pilot Hill**	**25.52**	**348**	*e*P	**P**	**17 04 09.2**	**+1.8**
	12nm,0.9s						
TCUT	**Toone Canyon**	**27.04**	**338**	*e*P	**P**	**17 04 21.3**	**+0.2**
	8.9nm,1.1s						
HWUT	**Hardware Ranch**	**27.53**	**338**	*e*P	**P**	**17 04 25.4**	**0.0**
	2.1nm,0.8s						
BW06	**Boulder Array**	**27.93**	**342**	*e*P	**P**	**17 04 28.3**	**-0.7**
	18nm,2.0s						
PD31	**Pinedale Array**	**27.93**	**342**	*e*P	**P**	**17 04 28.8**	**-0.1**
PDAR	**Pinedale Array**	**27.93**	**342**	P	**P**	**17 04 29.6**	**+0.6**
	0.7nm,0.6s,baz=142,slow=9.4,SNR=7.2						
PDAR	**Pinedale Array**	**27.93**	**342**	*e*P	**P**	**17 04 29.7**	**+0.8**
NV01	**Mina Array Sit**	**28.02**	**325**	*e*P	**P**	**17 04 30.8**	**+1.0**
NVAR	**Mina Array Bea**	**28.02**	**325**	P	**P**	**17 04 28.1**	**-1.7**
	0.3nm,0.6s,baz=111,slow=36,SNR=2.6						
FFC	**Flin Flon**	**38.32**	**357**	*e*P	**P**	**17 06 00.1**	**+1.1**
	4.2nm,0.8s						
EDM	**Edmonton**	**38.54**	**346**	*e*P	**P**	**17 06 01.9**	**+0.9**
	6.5nm,0.8s						
YKA	**Yellowknife Ar**	**47.40**	**350**	P	**P**	**17 07 12.2**	**-0.3**
	0.7nm,0.7s,baz=156,slow=7.3,SNR=13						
YKB5	**Yellowknife Ar**	**47.40**	**350**	*e*P	**P**	**17 07 11.1**	**-1.4**
INK	**Inuvik**	**56.44**	**345**	P	**P**	**17 08 19.7**	**-0.1**
	1.1nm,0.7s,baz=122,slow=6.9,SNR=5.3						
INK	**Inuvik**	**56.44**	**345**	*e*P	**P**	**17 08 20.5**	**+0.7**
	11nm,1.9s						
ILAR	**Eielson Array**	**58.22**	**338**	P	**P**	**17 08 33.3**	**+0.8**
	1.1nm,1.1s,baz=116,slow=4.9,SNR=6.5						
RES	**Resolute Bay**	**58.30**	**1**	P	**P**	**17 08 31.6**	**-1.2**
	0.4nm,0.7s,baz=233,slow=9.6,SNR=5.0						
RES	**Resolute Bay**	**58.30**	**1**	*e*P	**P**	**17 08 32.2**	**-0.6**
	14nm,1.9s						
TRF	**Thorofare Moun**	**58.84**	**336**	*e*P	**P**	**17 08 37.4**	**+0.3**
	4.9nm,1.0s						
PLCA	**Paso Flores**	**62.48**	**156**	P	**P**	**17 09 01.5**	**-0.5**
	3.2nm,1.0s,baz=7.1,slow=2.9,SNR=5.6						

*IDC **12** 17:00:50.3±2.3, 2°26N×90°13E, h0km, mb3.7/6, mb1 3.7/7, mb1mx3.4/67, mbtmp3.6/7, ML3.5/1, Error ellipse: s-maj=80.1km s-min=23.0km az=62.0*

*ISCJB **12** 17:00:52.8±1.6, 2°3N±0°2×90°1E±0°3, h33km, mb3.8/6, Error ellipse: s-maj=43.4km s-min=17.9km az=156.1*

ISC 12 17:00:55.3±2.3, 2°3N±0°2×90°2E±0°4, h35km, n11, σ0°49/8, mb3.8/6, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**18.25**	**28**	P	**P**	**17 05 05.8**	**-0.1**
	0.1nm,0.3s,baz=220,slow=12,SNR=5.6						
H08S2	**Diego Garcia H**	**20.18**	**241**	T	T	17 26 39.4	
	baz=60,slow=75,SNR=4.6						
H08S3	**Diego Garcia H**	**20.18**	**241**	T	T	17 26 46.4	
	baz=60,slow=75,SNR=5.9						
H08S1	**Diego Garcia H**	**20.20**	**241**	T	T	17 26 37.3	
	baz=60,slow=75,SNR=5.8						
MKAR	**Makanchi Array**	**44.88**	**352**	P	**P**	**17 09 06.4**	**+0.1**
	0.3nm,0.7s,baz=173,slow=8.0,SNR=4.0						
SONM	**Songino Array**	**47.52**	**15**	P	**P**	**17 09 27.2**	**0.0**
	1.2nm,0.6s,baz=194,slow=10.0,SNR=7.7						
WRA	**Warramunga Arr**	**48.65**	**119**	P	**P**	**17 09 36.8**	**+0.5**
	1.8nm,0.7s,baz=296,slow=8.6,SNR=13						
KURBB	**Kurchatov Arra**	**49.18**	**350**	P	**P**	**17 09 39.6**	**-0.1**
	0.3nm,0.3s,baz=165,slow=6.6,SNR=3.1						
ASAR	**Alice Springs**	**49.76**	**124**	P	**P**	**17 09 44.1**	**-0.6**
	0.4nm,0.8s,baz=292,slow=7.8,SNR=2.9						
ZALV	**Zalesovo Beam**	**51.70**	**356**	P	**P**	**17 09 58.3**	**-0.4**
	0.4nm,0.4s,baz=171,slow=9.8,SNR=2.0						
TXAR	**Lajitas Array**	**145.91**	**22**	PKPbc	**PKPab**	**17 20 32.9**	**+0.6**
	0.6nm,0.7s,baz=292,slow=1.4,SNR=6.6						

*ISCJB **12** 17:07:40.7±0.7, 32°06N±0°06×104°6E±0°1, h15km, mb3.6/6, Error ellipse: s-maj=16.2km s-min=6.7km az=18.2*

*IDC **12** 17:07:40.3±1.0, 32°11N×104°67E, h0km, mb3.6/6, mb1 3.6/8, mb1mx3.3/73, mbtmp3.5/8, ML3.0/2, Error ellipse: s-maj=49.1km s-min=18.8km az=64.0*

*BJI **12** 17:07:43.7, 32°08N×104°48E, h18km, ML3.3/15, Ms3.2/1*

ISC 12 17:07:41.5±0.7, 32°17N±0°05×104°71E±0°05, h15km, n13, σ1°41/17, mb3.8/6, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CD2	**Chengdu**	**1.50**	**213**	Pg	**Pn**	**17 08 07.2**	**-0.7**
CD2				Sg	**Sn**	**17 08 25.6**	**-1.6**
CD2				smax	smax		
	comp=N,2μm,0.8s						
CD2				smax	smax		
	comp=E,1μm,0.6s						
LZH	**Lanzhou**	**3.97**	**350**	*e*Pg	Pg	17 09 18.0	+20
LZH				Sg	**Sg**	**17 09 48.6**	**-0.5**
LZH				smax	smax		
	comp=N,250nm,0.7s						
LZH				smax	smax		
	comp=E,260nm,0.8s						
LZH	**Lanzhou**	**3.97**	**350**	*e*Pg	**Pg**	**17 08 57.6**	**-0.1**
XAN	**Xi'an**	**4.00**	**61**	Pn	**Pb**	**17 08 48.8**	**-2.9**
XAN				Pg	**Pg**	**17 08 58.0**	**-0.1**
XAN				Sn	**Sb**	**17 09 39.8**	**-0.1**
XAN				Sg	**Sg**	**17 09 51.8**	**+1.9**
XAN				smax	smax		
	comp=E,140nm,0.7s						
XAN				smax	smax		
	comp=E,110nm,0.8s						
CMAR	**Chiang Mai Arr**	**14.61**	**202**	Pn	**Pn**	**17 11 08.1**	**+0.3**
	comp=E,0.0nm,0.3s,baz=16,slow=10,SNR=2.7						
SONM	**Songino Array**	**15.70**	**4**	Pn	**P**	**17 11 24.6**	**-1.6**
	comp=E,0.2nm,0.3s,baz=182,slow=9.8,SNR=3.3						
WMQ	**Urumqi**	**17.71**	**316**	*e*P	**Pn**	**17 11 47.2**	**-0.5**
MKAR	**Makanchi Array**	**22.53**	**317**	P	**P**	**17 12 41.9**	**+1.1**
	comp=E,0.6nm,0.8s,baz=116,slow=11,SNR=6.2						
ZALV	**Zalesovo Beam**	**26.00**	**333**	P	**P**	**17 13 15.5**	**+1.9**
	comp=E,1.7nm,0.5s,baz=133,slow=10,SNR=7.3						
FINES	**FINESS Array B**	**56.97**	**326**	P	**P**	**17 17 27.0**	**+1.0**
	comp=E,1.2nm,0.8s,baz=46,slow=12,SNR=2.4						
WRA	**Warramunga Arr**	**59.08**	**147**	P	**P**	**17 17 42.2**	**+0.9**
	comp=E,0.8nm,0.7s,baz=339,slow=7.9,SNR=4.6						
ASAR	**Alice Springs**	**62.14**	**150**	P	**P**	**17 18 03.0**	**+0.8**
	comp=E,0.3nm,0.7s,baz=332,slow=6.4,SNR=4.3						
YKA	**Yellowknife Ar**	**80.52**	**17**	P	**P**	**17 19 54.3**	**+1.5**
	comp=E,0.3nm,0.6s,baz=330,slow=5.2,SNR=6.7						

*IDC **12** 17:09:12.0±3.1, 6°86S×116°28E, h0km, mb3.1/4, mb1 3.3/4, mb1mx3.1/58, mbtmp3.2/4, MS3.2/1, Ms1 3.4/1, ms1mx2.6/19, Error ellipse: s-maj=183.9km s-min=25.5km az=54.0*

*ISCJB **12** 17:09:44.6±0.8, 8°10S±0°06×119°05E±0°05, h10km, mb2.7/1, MS3.2/1, Error ellipse: s-maj=9.2km s-min=6.7km az=142.5*

*DJA **12** 17:09:45.7±0.6, 8°S±3°×11°9E±°, h13km±5km, M3.5/7, MLv3.5/7*

ISC 12 17:09:44.8±1.3, 8°11S±0°06×119°02E±0°06, h10km, n8, σ0°98/10, Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLAI	**Plampang**	**1.42**	**240**	P	**Pn**	**17 10 10.7**	**+0.1**
PLAI				S	**Sn**	**17 10 30.1**	**+0.7**
WSI	**Waingapu**	**2.00**	**141**	P	**Pn**	**17 10 19.1**	**+0.4**
WSI				S	**Sn**	**17 10 44.5**	**+0.7**
BSSI	**Bau Bau, Buton**	**2.44**	**37**	P	**Pn**	**17 10 25.0**	**+0.3**
BSSI				S	**Sn**	**17 10 55.2**	**+0.6**
BASI	**Baing, Sumba**	**2.60**	**144**	P	**Pn**	**17 10 27.5**	**+0.5**
EDFI	**Ende, Flores**	**2.72**	**104**	P	**Pn**	**17 10 28.6**	**-0.1**
WRA	**Warramunga Arr**	**18.94**	**130**	P	**P**	**17 14 06.2**	**+0.1**
	0.4nm,0.7s,baz=305,slow=12,SNR=1.9						
ASAR	**Alice Springs**	**21.05**	**139**	P	**P**	**17 14 26.9**	**-2.2**
	0.3nm,0.8s,baz=316,slow=10,SNR=2.3						
CMAR	**Chiang Mai Arr**	**33.00**	**323**	LR	LR	17 28 50.0	
	comp=Z,43nm,18.3s,baz=120,slow=39						

MAN 12 17:10:14, 6°28N×124°79E, h13km, mb3.8, ML2.5, MS2.0, 2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSPH	**General Santos**	**0.25**	**141**	↓*i* P	Pn	17 10 27.9	+4.3
GSPH				*i* S	Sn	17 10 40.2	+11
DMPH	**Davao City--Mi**	**1.07**	**42**	↓*eP*	Pg	17 10 34.0	-0.4
DMPH				*i* S	Sg	17 10 49.0	+0.4
BUKP	**Musuan**	**1.61**	**10**	*e*P	Pn	17 10 39.4	-2.8
BUKP				*e*S	Sb	17 11 03.9	0.0
IPIL	**Ipil**	**2.66**	**304**	*e*P	Pn	17 10 57.9	+1.3
MSLP	**Maasin**	**3.83**	**1**	*e*P	Pb	17 11 20.2	-1.2

*NIED **12** 17:15:00, 36°80N×141°40E, h5km, Mw3.9 Best double couple: M0 7.53000×10^14 NP1:ϕs19.00000°, δ33.00000°, λ-100.00000°. NP2:ϕs210.00000°, δ58.00000°, λ-84.00000°.*

*IDC **12** 17:15:48.1±0.7, 36°75N×141°23E, h0km, mb4.0/16, mb1 4.1/18, mb1mx3.8/71, mbtmp3.9/18, ML3.4/2, MS3.1/4, Ms1 3.1/4, ms1mx2.6/71, Error ellipse: s-maj=17.3km s-min=15.5km az=97.0*

*ISCJB **12** 17:15:49.3±0.9, 36°80N±0°03×141°34E±0°05, h19km±5km, mb4.1/21, MS3.8/1, Error ellipse: s-maj=7.3km s-min=4.7km az=28.1*

*NEIC **12** 17:15:49.5±0.3, 36°75N×141°29E, h10km, mb4.4/5, Error ellipse: s-maj=7.5km s-min=5.3km az=155.0*

NEIC Recorded [2 JMA] in Ibaraki.

*JMA **12** 17:15:49.5, 36°80N×141°32E, h29km±1km, M4.1*

JMA Felt II J1.

ISC 12 17:15:49.8±1.6, 36°80N±0°04×141°27E±0°06, h10km±9km, n63, σ0°96/64, mb4.1/21, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.48**	**309**	P	**Pg**	**17 15 59.8**	**+0.5**
ONAJ				S	**Sg**	**17 16 07.3**	**+1.6**
JHO	**Hitachi**	**0.59**	**252**	P	**Pb**	**17 16 01.8**	**-0.4**
JHO				S	**Sb**	**17 16 10.6**	**0.0**
JFK	**Kawauchi**	**0.65**	**331**	P	**Pg**	**17 16 02.3**	**-0.1**
JFK				S	**Sg**	**17 16 11.2**	**+0.2**
JYT	**Yasato**	**1.03**	**237**	P	**Pg**	**17 16 08.4**	**-1.3**
JYT				S	**Sg**	**17 16 22.0**	**-1.1**
JFT	**Otama**	**1.03**	**314**	P	**Pg**	**17 16 09.1**	**-0.6**
JFT				S	**Sg**	**17 16 23.0**	**-0.2**
JSB	**Shiboa**	**1.09**	**279**	P	**Pb**	**17 16 10.7**	**-0.1**
JMM	**Marumori**	**1.13**	**341**	P	**Pb**	**17 16 09.7**	**-1.8**
JMM				S	**Sb**	**17 16 24.3**	**-2.0**
MJAR	**Matsushiro Arr**	**2.47**	**265**	Pn	**Pn**	**17 16 30.7**	**+0.5**
	4.7nm,0.3s,baz=89,slow=14,SNR=43						
MJAR				Sn	**Sn**	**17 17 01.9**	**+1.5**
	9.2nm,0.3s,baz=114,slow=8.1,SNR=4.6						
MJAR				LR	LR	17 17 30.6	
	comp=Z,138nm,19.5s,baz=70,slow=42						
MAJO	**Matsushiro**	**2.47**	**265**	*e*Pn	**Pn**	**17 16 31.4**	**+1.2**
MAJO				*e*Sn	**Sn**	**17 17 01.9**	**+1.5**
MAT	**Matsushiro**	**2.47**	**265**	P	**Pn**	**17 16 31.3**	**+1.1**
MAT				S	**Sn**	**17 16 59.4**	**-1.1**
MJB9	**Matsu-Tunnel**	**2.47**	**265**	*e*Pn	**Pn**	**17 16 31.4**	**+1.1**
INU	**Inuyama**	**3.73**	**248**	*e*Pn	**Pn**	**17 16 46.4**	**-1.1**
JHJ	**Hachijo jima 2**	**3.87**	**199**	Pn	**Pn**	**17 16 51.3**	**+2.0**
	4.0nm,0.3s,baz=32,slow=19,SNR=4.3						
JHJ				Sn	**Sn**	**17 17 36.0**	**+1.2**
	12nm,0.3s,baz=270,slow=23,SNR=6.0						
ASAJ	**Asahikawa**	**7.38**	**7**	Pn	**Pn**	**17 17 37.6**	**0.0**
	0.7nm,0.3s,baz=237,slow=8.5,SNR=8.6						
USRK	**Ussuriysk Ar.**	**10.22**	**319**	Pn	**Pn**	**17 18 19.2**	**+2.7**
	0.1nm,0.3s,baz=130,slow=14,SNR=2.6						
USRK				LR	LR	17 21 42.3	
	comp=Z,90nm,21.8s,baz=141,slow=35						
KSRS	**Korea Array**	**10.68**	**278**	Pn	Pn	17 18 30.4	+7.6
	0.2nm,0.3s,baz=89,slow=13,SNR=6.9						
KSRS				LR	LR	17 22 29.3	
	comp=Z,72nm,18.4s,baz=80,slow=38						
KSAR	**Wonju Array Be**	**10.71**	**277**	Pn	Pn	17 18 30.4	+7.2
KLR	**Kul'dur**	**14.23**	**334**	Pn	**P**	**17 19 18.9**	**+0.2**
	0.0nm,0.3s,baz=133,slow=11,SNR=4.2						
SEY	**Seymchan**	**27.05**	**11**	P	**P**	**17 21 33.4**	**+1.4**
	2.1nm,0.9s,baz=159,slow=2.2,SNR=4.8						
SONA0	**Songino Array**	**27.82**	**304**	*e*P	**P**	**17 21 39.7**	**+0.4**
SONM	**Songino Array**	**27.82**	**304**	P	**P**	**17 21 39.7**	**+0.4**
	1.6nm,0.7s,baz=105,slow=8.3,SNR=12						
H11N2	**WAKE ISLAND Hy**	**28.13**	**120**	T	T	17 51 07.9	
	baz=313,slow=75,SNR=374						
H11N1	**WAKE ISLAND Hy**	**28.14**	**120**	T	T	17 51 08.0	
	baz=313,slow=75,SNR=470						
H11N3	**WAKE ISLAND Hy**	**28.15**	**120**	T	T	17 51 08.4	
	baz=313,slow=75,SNR=344						
H11S1	**WAKE ISLAND Hy**	**28.83**	**122**	T	T	17 51 59.1	
	baz=315,slow=76,SNR=174						
H11S3	**WAKE ISLAND Hy**	**28.83**	**122**	T	T	17 51 58.4	
	baz=315,slow=76,SNR=162						
H11S2	**WAKE ISLAND Hy**	**28.85**	**122**	T	T	17 52 00.2	
	baz=315,slow=76,SNR=97						
ZAA0	**Zalesovo Array**	**41.99**	**313**	*e*P	**P**	**17 23 40.4**	**-0.5**
	3.2nm,0.8s						
ZAA1	**Zalesovo Array**	**41.99**	**313**	*e*P	**P**	**17 23 40.6**	**-0.3**
ZALV	**Zalesovo Beam**	**41.99**	**313**	P	**P**	**17 23 40.6**	**-0.3**
	3.7nm,0.8s,baz=95,slow=6.2,SNR=8.1						
MK01	**Makanchi Array**	**44.14**	**302**	*e*P	**P**	**17 23 58.1**	**-0.4**
MK31	**Makanchi Array**	**44.14**	**302**	*e*P	**P**	**17 23 58.1**	**-0.4**
MK32	**Makanchi Array**	**44.14**	**302**	*e*P	**P**	**17 23 58.1**	**-0.4**
MKAR	**Makanchi Array**	**44.14**	**302**	P	**P**	**17 23 58.1**	**-0.4**
	1.5nm,0.8s,baz=91,slow=9.5,SNR=12						
MKAR	**Makanchi Array**	**44.14**	**302**	*e*P	**P**	**17 23 58.5**	**0.0**
	11nm,0.8s						
MAKZ	**Makanchi**	**44.35**	**302**	*e*P	**P**	**17 23 59.9**	**-0.3**
	1.5nm,0.8s						
KURK	**Kurchatov**	**45.98**	**308**	*e*P	**P**	**17 24 13.3**	**+0.3**
KURBB	**Kurchatov Arra**	**46.05**	**308**	P	**P**	**17 24 13.2**	**-0.4**
	3.8nm,0.8s,baz=84,slow=8.2,SNR=14						
HOM	**Homer**	**47.74**	**39**	*e*P	**P**	**17 24 26.3**	**-0.4**
	90nm,1.7s						
MDM	**Murphy Dome**	**49.18**	**32**	*e*P	**P**	**17 24 39.2**	**+1.5**
	3.0nm,0.8s						
IL1	**Eielson Array**	**49.76**	**32**	*e*P	**P**	**17 24 42.1**	**0.0**
ILAR	**Eielson Array**	**49.76**	**32**	P	**P**	**17 24 42.1**	**+0.1**
	1.7nm,0.7s,baz=267,slow=6.4,SNR=25						
ILB	**Eielson Array**	**49.76**	**32**	*e*P	**P**	**17 24 42.4**	**+0.4**
BVAR	**Borovoye Array**	**50.64**	**312**	P	**P**	**17 24 48.1**	**-0.8**
	0.3nm,0.4s,baz=69,slow=7.9,SNR=4.5						
INK	**Inuvik**	**54.65**	**27**	P	**P**	**17 25 18.4**	**+0.1**
	0.7nm,0.8s,baz=330,slow=7.7,SNR=4.1						
WR1	**Warramunga Arr**	**56.81**	**188**	*e*P	**P**	**17 25 33.2**	**-1.2**
	35nm,1.8s						
WRA	**Warramunga Arr**	**56.81**	**188**	P	**P**	**17 25 33.2**	**-1.2**
	1.2nm,0.3s,baz=6.2,slow=7.4,SNR=26						
ASAR	**Alice Springs**	**60.54**	**188**	P	**P**	**17 25 59.9**	**-0.5**
	1.1nm,0.8s,baz=2.2,slow=6.9,SNR=8.5						
YKA	**Yellowknife Ar**	**64.07**	**30**	P	**P**	**17 26 23.9**	**+0.3**
	0.1nm,0.4s,baz=298,slow=6.2,SNR=4.6						
STKA	**Stephens Creek**	**68.32**	**180**	P	**P**	**17 26 50.6**	**-0.5**
	1.7nm,0.9s,baz=271,slow=4.4,SNR=3.6						
FIA0	**FINESS Array S**	**68.97**	**332**	*e*P	**P**	**17 26 54.0**	**-0.9**
FINES	**FINESS Array B**	**68.97**	**332**	P	**P**	**17 26 54.0**	**-0.9**
	1.6nm,0.8s,baz=55,slow=7.2,SNR=4.8						
KBZ	**Khabaz**	**70.97**	**311**	P	**P**	**17 27 07.2**	**-0.2**
	1.6nm,0.7s,baz=59,slow=5.9,SNR=3.4

H11S3	**WAKE ISLAND Hy 28.90 122**	T	T		17 55 27.2	
	baz=315,slow=76,SNR=68					
H11S2	**WAKE ISLAND Hy 28.92 122**	T	T		17 55 28.4	
	baz=315,slow=76,SNR=80					
ZALV	**Zalesovo Beam 41.92 313**	P	**P**		**17 27 09.6**	**+0.4**
	1.8nm,0.8s,baz=90,slow=7.4,SNR=7.9					
MKAR	**Makanchi Array 44.08 302**	P	**P**		**17 27 27.1**	**+0.3**
	0.8nm,0.6s,baz=88,slow=11,SNR=8.7					
KURBB	**Kurchatov Arra 45.99 308**	P	**P**		**17 27 41.8**	**-0.1**
	1.4nm,0.8s,baz=81,slow=7.8,SNR=8.3					
ILAR	**Eielson Array 49.77 32**	P	**P**		**17 28 11.7**	**+0.8**
	0.8nm,0.8s,baz=270,slow=6.8,SNR=8.9					
WRA	**Warramunga Arr 56.83 188**	P	**P**		**17 29 02.0**	**-1.3**
	0.5nm,0.3s,baz=5.8,slow=7.1,SNR=18					
ASAR	**Alice Springs 60.56 188**	P	**P**		**17 29 29.1**	**-0.2**
	0.7nm,0.8s,baz=7.5,SNR=3.7					
YKA	**Yellowknife Ar 64.08 30**	P	**P**		**17 29 51.5**	**-0.9**
	0.1nm,0.4s,baz=288,slow=6.3,SNR=1.6					
FINES	**FINESS Array B 68.91 332**	P	**P**		**17 30 23.1**	**-0.2**
	1.4nm,0.7s,baz=23,slow=7.5,SNR=2.1					
NOA	**NORSAR Array B 74.31 337**	P	**P**		**17 30 56.4**	**+0.6**
	0.8nm,0.7s,baz=42,slow=5.5,SNR=2.3					
LPAZ	**La Paz 146.95 60**	PKPbc	**PKPab**		**17 39 03.6**	**-0.4**
	0.8nm,0.6s,baz=353,slow=8.1,SNR=4.0					

*ISCJB **12** 17:20:32.9±1.6,2°.5N±0°.3×89°.3E±0°.2, h10km, mb3.8/4, Error ellipse: s-maj=40.2km s-min=19.8km az=30.0*
*IDC **12** 17:20:34.5±2.0,2°.60N×89°.47E, h0km, mb3.7/4, mb1 3.8/5, mb1mx3.4/66, mbtmp3.8/5, ML3.8/1, Error ellipse: s-maj=64.0km s-min=27.1km az=50.0*

ISC 12 17:20:35.3±1.6, 2°.5N±0°.3×89°.4E±0°.2, h10km, n6, σ0s51/6, mb3.7/4, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PALK	**Pallekele**	**9.85**	**299**	Pn	**Pn**	**17 22 57.2**	**0.0**
	0.9nm,0.3s,baz=295,slow=15,SNR=3.1						
PALK				Sn	Sn	17 24 40.5	-7.5
	1.7nm,0.3s,baz=297,slow=5.1,SNR=5.4						
MKAR	**Makanchi Array**	**44.53**	**353**	P	**P**	**17 28 47.3**	**+0.1**
	0.7nm,0.7s,baz=169,slow=8.9,SNR=4.3						
SONM	**Songino Array**	**47.47**	**16**	P	**P**	**17 29 10.4**	**-0.1**
	1.7nm,0.7s,baz=196,slow=9.3,SNR=8.4						
WRA	**Warramunga Arr**	**49.43**	**119**	P	**P**	**17 29 25.8**	**-0.1**
	0.6nm,1.0s,baz=298,slow=8.8,SNR=9.8						
ZALV	**Zalesovo Beam**	**51.40**	**357**	P	**P**	**17 29 39.8**	**-0.4**
	0.4nm,0.4s,baz=168,slow=7.4,SNR=2.2						
TXAR	**Lajitas Array**	**145.94**	**21**	PKPbc	**PKPab**	**17 40 17.3**	**+0.7**
	0.5nm,0.7s,baz=270,slow=1.8,SNR=4.3						

*IDC **12** 17:30:13.5±1.7,3°.13N×92°.68E, h0km, mb3.8/8, mb1 3.9/10, mb1mx3.5/67, mbtmp3.8/10, ML3.4/1, MS3.6/3, Ms1 3.6/3, ms1mx2.9/61, Error ellipse: s-maj=51.8km s-min=24.6km az=40.0*
*NEIC **12** 17:30:14.6±0.7,3°.11N×92°.65E, h10km, mb4.7/3, Error ellipse: s-maj=19.9km s-min=9.4km az=222.0*
*ISCJB **12** 17:30:17.5±1.0,3°.4N±0°.2×92°.94E±0°.10, h33km, mb4.0/10, MS3.6/3, Error ellipse: s-maj=26.0km s-min=8.1km az=26.9*

ISC 12 17:30:19.3±1.3, 3°.3N±0°.2×92°.9E±0°.1, h35km, n22, σ0s57/20, mb3.9/10, MS3.5/3, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**6.05**	**95**	Pn	**Pn**	**17 31 46.5**	**+0.1**
PSI				Sn	**Sn**	**17 32 54.3**	**-0.3**
CMAR	**Chiang Mai Arr**	**16.17**	**21**	Pn	**P**	**17 34 07.0**	**+0.2**
	0.1nm,0.3s,baz=218,slow=12,SNR=4.0						
NIL	**Nilore**	**35.30**	**331**	*e*P	**P**	**17 37 11.5**	**+0.4**
	5.2nm,0.6s						
JOW	**Kunigami**	**41.14**	**52**	LR	LR	17 53 52.0	
	comp=Z,46nm,21.8s,baz=128,slow=34						
MK01	**Makanchi Array**	**44.24**	**350**	*e*P	**P**	**17 38 25.4**	**+0.1**
MKAR	**Makanchi Array**	**44.27**	**350**	P	**P**	**17 38 26.1**	**+0.6**
	0.9nm,0.6s,baz=167,slow=8.6,SNR=14						
MKAR	**Makanchi Array**	**44.27**	**350**	*e*P	**P**	**17 38 25.1**	**-0.4**
	7.1nm,0.8s						
MK31	**Makanchi Array**	**44.27**	**350**	*e*P	**P**	**17 38 25.3**	**-0.2**
MK32	**Makanchi Array**	**44.27**	**350**	*e*P	**P**	**17 38 26.1**	**+0.6**
WRA	**Warramunga Array**	**46.81**	**121**	P	**P**	**17 38 46.3**	**+0.3**
	0.3nm,0.6s,baz=296,slow=8.9,SNR=2.1						
WR1	**Warramunga Ar**	**46.81**	**121**	*e*P	**P**	**17 38 46.3**	**+0.3**
	25nm,1.6s						
GEYT	**Alibeck**	**46.86**	**322**	P	**P**	**17 38 46.4**	**+0.2**
	1.7nm,0.8s,baz=121,slow=10,SNR=3.9						
KURBB	**Kurchatov Arra**	**48.67**	**348**	P	**P**	**17 39 00.5**	**+0.6**
	0.8nm,0.6s,baz=172,slow=7.6,SNR=6.3						
KURK	**Kurchatov**	**48.73**	**348**	*e*P	**P**	**17 39 00.5**	**+0.1**
ZALV	**Zalesovo Beam**	**50.90**	**354**	P	**P**	**17 39 17.1**	**+0.3**
	0.7nm,0.4s,baz=181,slow=8.9,SNR=5.1						
ZAA1	**Zalesovo Array**	**50.93**	**354**	*e*P	**P**	**17 39 17.1**	**+0.2**
BVAR	**Borovoye Array**	**52.91**	**343**	P	**P**	**17 39 31.9**	**0.0**
	0.4nm,0.5s,baz=167,slow=8.1,SNR=3.8						
BRTR	**Keskin Array B**	**64.51**	**313**	LR	LR	18 09 42.9	
	comp=Z,37nm,21.9s,baz=220,slow=37						
FIA0	**FINESS Array S**	**76.15**	**333**	*e*P	**P**	**17 42 02.2**	**-1.3**
FINES	**FINESS Array B**	**76.15**	**333**	P	**P**	**17 42 02.2**	**-1.3**
	0.9nm,0.9s,baz=93,slow=8.4,SNR=1.6						
GERES	**GERESS Array B**	**80.39**	**319**	P	**P**	**17 42 27.6**	**+0.2**
	0.5nm,0.7s,baz=93,slow=6.1,SNR=5.7						
BORG	**Borgarnes**	**97.10**	**337**	LR	LR	18 28 37.8	
	comp=Z,66nm,20.9s,baz=93,slow=36						

*MEX **12** 17:30:26.9±0.7,28°.63N×113°.43W, h51km±17km, MD4.1*
*ISCJB **12** 17:30:28.7±1.1,28°.5N±0°.1×112°.9W±0°.1, h17km, mb3.2/2, MS3.7/2, Error ellipse: s-maj=19.0km s-min=10.2km az=44.6*
*IDC **12** 17:30:31.2±3.7,29°.02N×112°.73W, h0km, mb3.3/2, mb1 3.7/4, mb1mx3.4/59, mbtmp3.3/4, ML4.0/2, MS3.3/3, Ms1 3.2/3, ms1mx3.0/15, Error ellipse: s-maj=62.9km s-min=19.1km az=32.0*

ISC 12 17:30:28.8±1.2, 28°.4N±0°.1×113°.0W±0°.1, h17km, n11, σ1s49/9, Baja California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SRIG	**Santa Rosalia**	**1.31**	**147**	*e*P	**Pn**	**17 30 51.9**	**-0.5**
HSIG		**1.93**	**72**	*e*P	**Pn**	**17 31 00.7**	**-0.2**
GUYB	**Guaymas**	**1.99**	**105**	*e*P	**Pn**	**17 31 01.0**	**-0.6**
SPIG	**San Pedro Mart**	**3.35**	**322**	*e*P	**Pn**	**17 31 23.4**	**+2.6**
CBX	**Cerro Bola**	**4.98**	**322**	*e*P	**Pb**	**17 31 53.7**	**-1.9**
TXAR	**Lajitas Array**	**8.27**	**82**	Pn	**Pn**	**17 32 28.7**	**+0.6**
	0.5nm,0.3s,baz=259,slow=12,SNR=18						
TXAR				Lg	Lg	17 34 46.2	
	0.1nm,0.3s,baz=284,slow=34,SNR=3.7						
TXAR				LR	LR	17 35 22.0	
	comp=Z,38nm,21.1s,baz=0.0,slow=37						
PDAR	**Pinedale Array**	**14.58**	**10**	Pn	**Pn**	**17 33 54.4**	**-0.2**
	0.1nm,0.3s,baz=184,slow=10,SNR=4.3						
YKA	**Yellowknife Ar**	**34.08**	**359**	P	**P**	**17 37 13.2**	**+1.1**
	0.2nm,0.8s,baz=181,slow=7.4,SNR=4.2						
ILAR	**Eielson Array**	**42.15**	**339**	P	**P**	**17 38 20.6**	**+0.6**
	0.9nm,1.0s,baz=155,slow=6.3,SNR=6.1						
SCHQ	**Schefferville**	**42.36**	**38**	LR	LR	17 56 17.1	
	comp=Z,109nm,21.5s,baz=55,slow=37						
ROSC	**El Rosal**	**43.58**	**115**	LR	LR	17 58 27.6	
	comp=Z,74nm,18.3s,baz=216,slow=38						

*ATA **12** 17:31:26.7±1.8,38°.91N×43°.60E, h7km±42km, ML2.5, MW2.7*
*CSEM **12** 17:31:27.9±0.2,38°.92N×43°.58E, h10km, ML2.6, Error ellipse: s-maj=5.6km s-min=4.3km az=137.0*
*DDA **12** 17:31:27.9, 38°.90N×43°.57E, h6km, Ml2.6*
*ISK **12** 17:31:27.9, 38°.91N×43°.57E, h12km, ML2.1/5*
*ISCJB **12** 17:31:28.2±0.6, 38°.90N±0°.03×43°.61E±0°.05, h13km±3km, Error ellipse: s-maj=6.2km s-min=4.1km az=21.2*

ISC 12 17:31:28.0±0.9, 38°.90N±0°.02×43°.59E±0°.03, h12km±6km, n25, σ0s75/45, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VMUR	**Van-Muradiye**	**0.09**	**350**	*i*P	**Pg**	**17 31 30.4**	**-0.5**
VMUR				*i*S	**Sg**	**17 31 33.6**	**+0.6**
VMUR	**Van-Muradiye**	**0.09**	**350**	P	**Pg**	**17 31 30.4**	**-0.5**
VMUR				S	**Sg**	**17 31 33.6**	**+0.6**
ERCV	**ERCIS-VAN**	**0.23**	**301**	PG	**Pg**	**17 31 32.4**	**-0.6**
ERCV				SG	**Sg**	**17 31 37.1**	**+0.7**
ERCV	**ERCIS-VAN**	**0.23**	**301**	*e*Pg	**Pg**	**17 31 32.4**	**-0.6**
ERCV				*e*Sg	**Sg**	**17 31 37.1**	**+0.7**
VANB	**Van**	**0.35**	**207**	PG	**Pb**	**17 31 36.4**	**+0.2**
VANB				SG	**Sb**	**17 31 43.5**	**+1.8**
VANB	**Van**	**0.35**	**207**	*e*Pg	**Pb**	**17 31 36.4**	**+0.2**
VANB				*e*Sg	**Sb**	**17 31 43.5**	**+1.8**
CLDR	**Caldiran**	**0.35**	**47**	PG	**Pg**	**17 31 35.3**	**+0.1**
CLDR				SG	**Sb**	**17 31 41.4**	**-0.5**
CLDR	**Caldiran**	**0.35**	**47**	*i* P	**Pg**	**17 31 34.6**	**-0.5**
CLDR				*i* S	**Sb**	**17 31 41.8**	**-0.2**
CLDR	**Caldiran**	**0.35**	**47**	P	**Pg**	**17 31 34.6**	**-0.5**
CLDR	**Caldiran**	**0.35**	**47**	*e*Pg	**Pg**	**17 31 35.3**	**+0.1**
CLDR				*e*Sg	**Sb**	**17 31 41.4**	**-0.5**
TVAN	**Van**	**0.40**	**201**	*i* P	**Pg**	**17 31 35.4**	**-0.7**
TVAN				*i* S	**Sb**	**17 31 42.5**	**-0.9**
TVAN	**Van**	**0.40**	**201**	P	**Pg**	**17 31 35.4**	**-0.7**
TVAN				S	**Sb**	**17 31 42.5**	**-0.9**
ADCV	**BITLIS_Adilcev**	**0.68**	**262**	*i* P	**Pg**	**17 31 40.5**	**-0.8**
ADCV				*i* S	**Sb**	**17 31 50.9**	**-0.6**
ADCV	**BITLIS_Adilcev**	**0.68**	**262**	P	**Pg**	**17 31 40.5**	**-0.8**
ADCV				S	**Sb**	**17 31 50.9**	**-0.6**
GEVA	**Gevas**	**0.72**	**215**	*e*P	**Pg**	**17 31 40.8**	**-1.3**
GEVA				*e*S	**Sb**	**17 31 52.6**	**0.0**
GEVA				IAML		17 31 54.8	
	comp=Z,8.4nm,0.4s						
TUTA	**Tutak**	**0.78**	**310**	*e*P	**Pg**	**17 31 42.3**	**-1.0**
TUTA				*e*S	**Sb**	**17 31 53.9**	**-0.5**
TUTA				IAML		17 31 59.5	
	comp=Z,20nm,0.2s						
TUTA	**Tutak**	**0.78**	**310**	*i* P	**Pg**	**17 31 42.8**	**-0.4**
TUTA				*i* S	**Sb**	**17 31 54.3**	**-0.1**
TUTA	**Tutak**	**0.78**	**310**	P	**Pg**	**17 31 42.8**	**-0.4**
TUTA				S	**Sb**	**17 31 54.3**	**-0.1**
AGRB	**Hanur-Agry**	**0.82**	**325**	PG	**Pg**	**17 31 43.7**	**-0.2**
AGRB				SG	**Sb**	**17 31 55.8**	**+0.4**
AGRB	**Hanur-Agry**	**0.82**	**325**	*e*Pg	**Pg**	**17 31 43.7**	**-0.2**
IGDI	**IGDIR**	**1.03**	**21**	*e*P	**Pg**	**17 31 47.3**	**-0.7**
IGDI				*e*S	**Sg**	**17 32 00.9**	**-0.6**
IGDI				IAML		17 32 14.5	
	comp=Z,5.2nm,0.3s						
EKAR	**Karacoban**	**1.24**	**287**	*e*P	**Pb**	**17 31 50.7**	**-0.8**
EKAR				*e*S	**Sn**	**17 32 09.7**	**+1.5**
GURO	**Guroymak-BITLI**	**1.27**	**254**	PN	**Pg**	**17 31 52.1**	**-0.3**
GURO	**Guroymak-BITLI**	**1.27**	**254**	*e*Pn	**Pg**	**17 31 52.1**	**-0.3**
EATA	**Eleskirt**	**1.28**	**319**	*e*P	**Pg**	**17 31 52.9**	**+0.2**

MAN 12 17:31:35, 6°.33N×125°.24E, h13km, mb4.7, ML3.6, MS3.5, 3C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GSPH	**General Santos**	**0.38**	**230**	*i*P	Pg	17 31 39.9	-2.8
GSPH				*i* S	Sb	17 31 50.5	+1.1
KCP	**Kidapawan**	**0.69**	**347**	*e*P	Pb	17 31 48.9	-0.1
KCP				*i* S	Sn	17 32 07.1	+6.0
DMPH	**Davao City--Mi**	**0.79**	**20**	*e*P	Pg	17 31 50.2	-0.2
DMPH				*i* S	Sn	17 32 07.5	+3.8
BUKP	**Musuan**	**1.55**	**353**	*e*P	Pn	17 32 01.0	-1.4
BUKP				*e*S	Sg	17 32 26.0	+1.1
BIPH	**Bislig**	**2.15**	**31**	*i*P	Pn	17 32 04.1	-6.5
BIPH				*i* S	Sn	17 32 31.1	-6.1
PAGZ	**Pagadian**	**2.38**	**309**	*e*P	Pb	17 32 15.9	-1.9
IPIL	**Ipil**	**3.02**	**299**	*e*P	Pn	17 32 23.3	+0.8
IPIL				*e*S	Sn	17 33 00.6	+2.0

*ISCJB **12** 17:33:58.9±0.6, 43°.13N±0°.03×13°.59E±0°.04, h26km±7km, Error ellipse: s-maj=5.2km s-min=4.7km az=179.1*
*CSEM **12** 17:33:58.9±0.2, 43°.14N×13°.57E, h20km, ML2.5/7, Error ellipse: s-maj=3.4km s-min=2.9km az=66.0*
*ROM **12** 17:33:59.2±0.2, 43°.12N×13°.51E, h27km±3km, Md2.1/17, Ml1.9/12, Error ellipse: s-maj=2.0km s-min=1.3km az=91.0*

ISC 12 17:33:58.9±0.9, 43°.15N±0°.02×13°.59E±0°.02, h16km±7km, n36, σ0s50/55, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OFFI	**Offida**	**0.23**	**162**	Pg	**Pb**	**17 34 06.2**	**+1.5**
	219nm,0.4s						
OFFI	**Offida**	**0.23**	**162**	Pg	**Pb**	**17 34 06.2**	**+1.5**
	219nm,0.4s						
GUMA	**Gualdo di Mace**	**0.27**	**110**	Pg	**Pg**	**17 34 04.3**	**-0.4**
GUMA				Sg	**Sg**	**17 34 08.6**	**-0.2**
	399nm,0.2s						
GUMA	**Gualdo di Mace**	**0.27**	**110**	Pg	**Pg**	**17 34 04.3**	**-0.4**
GUMA				Sg	**Sg**	**17 34 08.6**	**-0.2**
	399nm,0.2s						
CING	**Cingoli**	**0.36**	**308**	Pg	**Pb**	**17 34 06.9**	**-0.1**
CING				Sg	**Sb**	**17 34 13.0**	**+0.6**
	69nm,0.2s						
CING	**Cingoli**	**0.36**	**308**	Pg	**Pb**	**17 34 06.9**	**-0.1**
CING				Sg	**Sb**	**17 34 13.0**	**+0.6**
	69nm,0.2s						
FDMO	**Fiordimonte**	**0.39**	**252**	Pg	**Pg**	**17 34 06.5**	**-0.3**
FDMO				Sg	**Sg**	**17 34 12.4**	**+0.3**
	114nm,0.2s						
FDMO	**Fiordimonte**	**0.39**	**252**	Pg	**Pg**	**17 34 06.5**	**-0.3**
FDMO				Sg	**Sg**	**17 34 12.4**	**+0.3**
	114nm,0.2s						
AOI	**Ancona**	**0.40**	**1**	Pg	**Pb**	**17 34 08.3**	**+0.8**
AOI	**Ancona**	**0.40**	**1**	Pg	**Pb**	**17 34 08.3**	**+0.8**
AOI				Sg	**Sn**	**17 34 16.0**	**-1.2**
	60nm,0.4s						
NRCA	**Norcia**	**0.47**	**228**	Pg	**Pg**	**17 34 07.9**	**-0.5**
NRCA				Sg	**Sg**	**17 34 15.0**	**+0.2**
	126nm,0.1s						
NRCA	**Norcia**	**0.47**	**228**	Pg	**Pg**	**17 34 07.9**	**-0.5**
NRCA				Sg	**Sg**	**17 34 15.0**	**+0.2**
	126nm,0.1s						
SNTG	**Esanatoglia**	**0.48**	**282**	Pg	**Pg**	**17 34 08.4**	**-0.2**
SNTG				Sg	**Sg**	**17 34 15.6**	**+0.5**
	45nm,0.2s						
SNTG	**Esanatoglia**	**0.48**	**282**	Pg	**Pg**	**17 34 08.4**	**-0.2**
SNTG				Sg	**Sg**	**17 34 15.6**	**+0.5**
	45nm,0.2s						
CESI	**CESI - Serrava**	**0.52**	**254**	Pg	**Pg**	**17 34 08.9**	**-0.4**
CESI				Sg	**Sg**	**17 34 16.6**	**+0.3**
	20nm,0.3s						
CESI	**CESI - Serrava**	**0.52**	**254**	Pg	**Pg**	**17 34 08.9**	**-0.4**
CESI				Sg	**Sg**	**17 34 16.6**	**+0.3**
	20nm,0.3s						
TERO	**Teramo**	**0.53**	**179**	Pg	**Pg**	**17 34 09.2**	**-0.2**
TERO	**Teramo**	**0.53**	**179**	Pg	**Pg**	**17 34 09.2**	**-0.2**
SMA1	**SAN MARTINO**	**0.56**	**200**	Pg	**Pg**	**17 34 09.4**	**-0.5**
SMA1				Sg	**Sb**	**17 34 17.9**	**-0.1**
	66nm,0.6s						
SMA1	**SAN MARTINO**	**0.56**	**200**	Pg	**Pg**	**17 34 09.4**	**-0.5**
SMA1				Sg	**Sb**	**17 34 17.9**	**-0.1**
	66nm,0.6s						
ARVD	**Arcevia**	**0.58**	**306**	Pg	**Pg**	**17 34 10.1**	**-0.3**
ARVD	**Arcevia**	**0.58**	**306**	Pg	**Pg**	**17 34 10.1**	**-0.3**
CAMP	**Campotosto**	**0.63**	**192**	Pg	**Pb**	**17 34 11.7**	**+0.1**
CAMP				Sg	**Sg**	**17 34 19.6**	**-0.1**
CAMP	**Campotosto**	**0.63**	**192**	Pg	**Pb**	**17 34 11.7**	**+0.1**
CAMP				Sg	**Sg**	**17 34 19.6**	**-0.1**
SSFR	**Montelago di S**	**0.65**	**296**	Pg	**Pg**	**17 34 11.5**	**-0.2**
	58nm,0.2s						
SSFR	**Montelago di S**	**0.65**	**296**	Pg	**Pg**	**17 34 11.5**	**-0.2**
	58nm,0.2s						
LNSS	**Leonessa**	**0.68**	**216**	Pg	**Pg**	**17 34 11.8**	**-0.5**
	35nm,0.3s						
LNSS	**Leonessa**	**0.68**	**216**	Pg	**Pg**	**17 34 11.8**	**-0.5**
	35nm,0.3s						
ATCC	**AVT- Casa Cast**	**0.69**	**273**	Pg	**Pg**	**17 34 12.0**	**-0.5**
ATCC	**AVT- Casa Cast**	**0.69**	**273**	Pg	**Pg**	**17 34 12.0**	**-0.5**
MPAG	**Monte Paganucc**	**0.77**	**308**	Pg	**Pb**	**17 34 14.5**	**+0.6**
MPAG	**Monte Paganucc**	**0.77**	**308**	Pg	**Pb**	**17 34 14.5**	**+0.6**
PIEI	**Pieia**	**0.86**	**297**	Pg	**Pg**	**17 34 15.4**	**-0.2**
	18nm,0.3s						
PIEI	**Pieia**	**0.86**	**297**	Pg	**Pg**	**17 34 15.4**	**-0.2**
	18nm,0.3s						
NVLJ	**Novalja**	**1.69**	**33**	*e*Pn	**Pn**	**17 34 27.6**	**-0.1**
NVLJ				Sn	**Sn**	**17 34 48.5**	**-0.4**
NVLJ	**Novalja**	**1.69**	**33**	*e*Pn	**Pn**	**17 34 27.5**	**-0.1**
NVLJ				Sn	**Sn**	**17 34 48.5**	**-0.4**

IDC 12 17:37:40.2±3.0, 4°.03S×133°.40E, h0km, mb3.4/1, mb1 3.8/4, mb1mx3.3/48, mbtmp3.6/4, ML3.7/3, Error ellipse: s-maj=130.0km s-min=28.3km az=81.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**15.85**	**177**	Pn	**Pn**	**17 41 22.8**	**-2.0**
	0.2nm,0.3s,baz=354,slow=13,SNR=9.9						
WRA				Sn	Sn	17 44 08.8	-12
	0.2nm,0.3s,baz=359,slow=23,SNR=5.9						
FITZ	**Fitzroy Crossi**	**15.92**	**208**	Pn	**Pn**	**17 41 25.8**	**+0.1**
	0.4nm,0.3s,baz=34,slow=13,SNR=18						
ASAR	**Alice Springs**	**19.53**	**179**	P	**Pn**	**17 42 10.3**	**-0.3**
	0.1nm,0.3s,baz=0.6,slow=13,SNR=9.0						
MKAR	**Makanchi Array**	**67.69**	**325**	P	**P**	**17 48 39.4**	**0.0**
	0.3nm,0.6s,baz=119,slow=7.3,SNR=2.7						

*IDC **12** 17:39:23.7±1.5,2°.54N×91°.88E, h0km, mb3.6/5, mb1 3.8/8, mb1mx3.5/62, mbtmp3.6/8, ML3.5/2, Error ellipse: s-maj=43.1km s-min=23.6km az=37.0*
*ISCJB **12** 17:39:25.3±1.3,2°.5N±0°.2×91°.8E±0°.1, h33km, mb3.5/5, Error ellipse: s-maj=26.4km s-min=14.2km az=20.3*

ISC 12 17:39:28.3±1.2, 2°.6N±0°.2×91°.8E±0°.1, h35km, n9, σ1s68/9, mb3.5/5, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**7.08**	**88**	Pn	**Pn**	**17 41 08.8**	**-0.8**
PALK	**Pallekele**	**12.04**	**293**	Pn	**Pn**	**17 42 15.3**	**-2.2**
	0.4nm,0.3s,baz=119,slow=6.9,SNR=2.5						
PALK				Sn	Sn	17 44 19.3	-11
	1.9nm,0.3s,baz=106,slow=2.5,SNR=9.1						
CMAR	**Chiang Mai Arr**	**17.27**	**23**	P	**Pn**	**17 43 25.0**	**-1.8**
	0.1nm,0.3s,baz=221,slow=14,SNR=7.2						
MKAR	**Makanchi Array**	**44.84**	**351**	P	**P**	**17 47 39.7**	**+0.7**
	0.3nm,0.7s,baz=164,slow=9.4,SNR=4.3						
SONM	**Songino Array**	**46.83**	**13**	P	**P**	**17 47 55.8**	**+1.0**
	0.2nm,0.4s,baz=190,slow=7.3,SNR=2.3						
WRA	**Warramunga Arr**	**47.32**	**120**	P	**P**	**17 47 58.8**	**-0.2**
	1.2nm,0.7s,baz=298,slow=8.7,SNR=9.0						
BVAR	**Borovoye Array**	**53.35**	**344**	P	**P**	**17 48 44.6**	**+0.5**
	0.4nm,0.6s,baz=99,slow=9.2,SNR=3.0						
GERES	**GERESS Array B**	**80.28**	**319**	P	**P**	**17 51 38.2**	**+2.5**
	0.3nm,0.5s,baz=104,slow=5.6,SNR=4.4						
TXAR	**Lajitas Array**	**144.98**	**24**	PKP	**PKPdf**	**17 59 02.4**	**-0.3**
	0.6nm,0.9s,baz=298,slow=2.7,SNR=4.6						

*ISCJB **12** 17:58:57.2±0.6,28°.73N±0°.05×113°.08W±0°.05, h8km, mb3.8/6, MS3.5/3, Error ellipse: s-maj=8.1km s-min=4.1km az=38.6*
*IDC **12** 17:58:58.4±1.6,28°.83N×113°.03W, h0km, mb3.8/5, mb1 4.0/10, mb1mx3.7/61, mbtmp3.8/10, ML3.9/4, MS3.4/6, Ms1 3.4/6, ms1mx3.1/51, Error ellipse: s-maj=26.1km s-min=15.2km az=27.0*
*NEIC **12** 17:58:59.2±0.8,28°.70N×113°.14W, h10km, mb4.0/11, MD4.3(MEX), Error ellipse: s-maj=11.2km s-min=5.6km az=218.0*
*MEX **12** 17:58:59.7±0.6,28°.79N×113°.20W, h12km, MD4.3*

ISC 12 17:58:59.6±0.9, 28°.73N±0°.08×112°.96W±0°.07, h8km, n93, σ1s86/82, mb3.9/6, MS3.3/3, Gulf of California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SRIG	**Santa Rosalia**	**1.54**	**155**	*e*P	**Pn**	**17 59 26.1**	**-1.3**
SRIG	**Santa Rosalia**	**1.54**	**155**	*e*Pn	**Pn**	**17 59 26.4**	**-0.9**
HSIG		**1.79**	**80**	*e*P	**Pn**	**17 59 29.0**	**-1.8**
HSIG		**1.79**	**80**	*e*Pn	**Pn**	**17 59 28.7**	**-2.1**
GUYB	**Guaymas**	**2.02**	**114**	*e*P	**Pn**	**17 59 33.4**	**-0.6**
SPX	**San Pedro Mart**	**3.17**	**317**	*e*Pn	**Pb**	**17 59 56.6**	**+0.3**
SPIG	**San Pedro Mart**	**3.17**	**317**	*e*P	Pn	17 59 45.6	-4.5
SPIG	**San Pedro Mart**	**3.17**	**317**	*e*Pn	Pn	17 59 45.6	-4.5
TUC	**Tucson**	**4.03**	**27**	*e*Pn	**Pn**	**17 59 59.8**	**-2.0**
113A	**Mohawk Valley,**	**4.08**	**350**	*e*Pn	Pn	17 59 59.0	-3.3
319A	**Douglas**	**4.14**	**50**	*e*Pn	**Pn**	**18 00 01.6**	**-1.6**
GLA	**Glamis**	**4.60**	**340**	*e*Pn	Pn	18 00 06.4	-3.0
CBX	**Cerro Bola**	**4.79**	**319**	*e*P	**Pb**	**18 00 23.5**	**-0.4**
BAR	**Barrett**	**5.07**	**322**	*e*Pn	**Pn**	**18 00 14.0**	**-1.9**
Y12C	**Blythe**	**5.18**	**345**	*e*Pn	**Pn**	**18 00 16.8**	**-0.6**
LPIG	**La Paz**	**5.19**	**152**	Pn	**Pn**	**18 00 17.9**	**+0.4**
	baz=53,slow=5.1,SNR=2.7						
Y14A	**Wickenburg**	**5.19**	**360**	*e*Pn	**Pn**	**18 00 14.8**	**-2.8**
PLM	**Palomar**	**5.70**	**325**	*e*Pn	**Pn**	**18 00 22.

ALVY	**Alvey**	**17.23**	**335**	*e*Sn	**Sn**	18 06 10.6	**-1.8**
HHAR	**Hobbs**	**17.71**	**60**	*e*Pn	**Pn**	18 03 06.1	**-0.5**
LAO	**LASA Array**	**18.69**	**15**	*e*P	**P**	18 03 15.9	**-2.4**
	40nm,0.8s						
NEW	**Newport**	**19.77**	**352**	P	**P**	18 03 30.0	**-0.1**
	0.2nm,0.3s,baz=166,slow=11,SNR=4.1						
NEW				LR	LR	18 10 29.1	
	comp=Z,88nm,20.7s,baz=290,slow=35						
ECSD	**EROS Data Cent**	**19.90**	**37**	*e*P	**P**	18 03 33.0	**+1.6**
	7.9nm,1.4s						
C05A	**Tolt Reservoir**	**20.11**	**343**	*e*P	**P**	18 03 31.4	**-2.3**
CMIG	**Matias Romero**	**20.25**	**121**	LR	LR	18 11 55.2	
	comp=Z,112nm,18.9s,baz=286,slow=38						
ULM	**Lac du Bonnet**	**25.10**	**26**	P	**P**	18 04 23.8	**-0.9**
	4.0nm,0.8s,baz=220,slow=9.0,SNR=7.0						
JTS	**JuntasAbangare**	**32.01**	**119**	LR	LR	18 17 22.2	
	comp=Z,63nm,19.1s,baz=25,slow=34						
YKA	**Yellowknife Ar**	**33.78**	**359**	P	**P**	18 05 40.6	**-1.0**
	0.2nm,0.7s,baz=179,slow=7.6,SNR=7.8						
INK	**Inuvik**	**41.44**	**349**	P	**P**	18 06 45.5	**-0.9**
	0.7nm,0.7s,baz=150,slow=8.4,SNR=5.4						
IL1	**Eielson Array**	**41.89**	**339**	*e*P	**P**	18 06 49.5	**-0.6**
ILAR	**Eielson Array**	**41.89**	**339**	P	**P**	18 06 50.4	**+0.2**
	1.5nm,1.0s,baz=150,slow=6.8,SNR=9.3						
ILB	**Eielson Array**	**41.89**	**339**	*e*P	**P**	18 06 50.4	**+0.2**
BPAW	**Bear Paw Mtn.**	**42.82**	**337**	*e*P	**P**	18 06 57.9	**+0.1**
	4.1nm,0.9s						
IM3	**Indian Mountai**	**44.89**	**338**	*e*P	**P**	18 07 13.9	**-0.4**
FIA0	**FINESS Array S**	**84.22**	**18**	*e*P	**P**	18 11 31.4	**+0.1**
FINES	**FINESS Array B**	**84.22**	**18**	P	**P**	18 11 31.4	**+0.1**
	1.7nm,0.8s,baz=328,slow=6.9,SNR=3.4						
GERES	**GERESS Array B**	**89.28**	**32**	LR	LR	18 51 28.5	
	comp=Z,54nm,18.4s,baz=142,slow=35						

ISCJB ***12*** *18:00:56.9±0.5, 1.86N±0.07×90.08E±0.04, h10km, mb4.2/24, MS3.7/14, Error ellipse: s-maj=10.6km s-min=5.6km az=18.8*

IDC ***12*** *18:00:57.3±0.9, 1.99N×90.08E, h0km, mb4.0/15, mb1 4.1/16, mb1mx3.9/67, mbtmp4.0/16, ML3.5/1, MS3.7/17, Ms1 3.7/17, ms1mx3.4/65, Error ellipse: s-maj=35.3km s-min=15.9km az=48.0*

NEIC ***12*** *18:00:58.8±0.7, 1.85N×90.03E, h10km, mb4.5/12, Error ellipse: s-maj=12.0km s-min=7.0km az=207.0*

ISC 12 18:00:58.4±0.7, 1.8N±0.1×89.92E±0.08, h10km, n84, σ1°47/66, mb4.2/24, MS3.7/14, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
BSI	**Banda Aceh**	**6.51**	**55**	P		**Pn**	**18 02 33.3**	**-1.1**
	46nm,1.1s,888nm							
MLSI	**Meulaboh, Aceh**	**6.93**	**69**	P		**Pn**	**18 02 39.7**	**-0.4**
	108nm,0.5s,0.6nm							
MLSI				S		Sn	18 04 04.2	+5.1
	108nm,0.5s,0.6nm							
TPTI		**7.40**	**78**	P		**Pn**	**18 02 45.9**	**-0.7**
TPTI				S		**Sn**	**18 04 14.9**	**+4.2**
GSI	**Gunungsitoli**	**7.67**	**93**	P		**Pn**	**18 02 48.4**	**-1.9**
	53nm,1.6s							
GSI	**Gunungsitoli**	**7.67**	**93**	*e*Pn		**Pn**	**18 02 49.9**	**-0.4**
LHMI	**Lhok Sumawe**	**7.80**	**64**	P		**Pn**	**18 02 51.1**	**-1.1**
	66nm,0.6s							
KCSI	**Kotacane, Aceh**	**8.03**	**77**	P		**Pn**	**18 02 55.0**	**-0.3**
PSI	**Prapat**	**9.06**	**83**	*e*Pn		**Pn**	**18 03 08.1**	**-1.4**
SISI	**Saibi**	**9.68**	**109**	P		**Pn**	**18 03 15.2**	**-2.7**
PALK	**Pallekele**	**10.68**	**301**	Pn		Pn	18 03 23.2	-8.4
	4.5nm,0.3s,baz=116,slow=12,SNR=22							
PALK				Sn		Sn	18 05 10.2	-21
	5.7nm,0.3s,baz=116,slow=15,SNR=7.1							
PALK				LR		LR	18 07 00.0	
	comp=Z,394nm,18.5s,baz=116,slow=34							
KULM	**Kulim**	**11.26**	**72**	*e*Pn		**Pn**	**18 03 38.2**	**-1.3**
IPM	**Ipoh**	**11.41**	**76**	*e*Pn		**Pn**	**18 03 40.8**	**-0.9**
CM01	**Chiang Mai Arr**	**18.76**	**28**	*e*P		**P**	**18 05 15.8**	**-2.1**
CM31	**Chiang Mai Arr**	**18.79**	**28**	*e*P		**Pn**	**18 05 16.9**	**-1.7**
CMAR	**Chiang Mai Arr**	**18.79**	**28**	P		**P**	**18 05 15.2**	**-2.9**
	0.1nm,0.3s,baz=218,slow=12,SNR=6.1							
CMAR						LR	18 12 16.9	
	comp=Z,164nm,20.2s,baz=204,slow=37							
CHTO	**Chiang Mai**	**19.10**	**27**	*e*P		**Pn**	**18 05 21.4**	**-0.9**
	7.5nm,1.1s							
HYB	**Hyderabad**	**19.13**	**325**	*i* P		**Pn**	**18 05 24.5**	**+1.7**
LEM	**Lembang**	**19.63**	**116**	LR		LR	18 12 28.0	
	comp=Z,207nm,18.6s,baz=270,slow=35							
H08S2	**Diego Garcia H**	**19.75**	**241**	T		T	18 25 27.7	
	baz=60,slow=75,SNR=43							
H08S3	**Diego Garcia H**	**19.75**	**242**	T		T	18 25 26.6	
	baz=60,slow=75,SNR=45							
H08S1	**Diego Carcia H**	**19.76**	**241**	T		T	18 25 27.9	
	baz=60,slow=75,SNR=54							
WSAR	**Wadi Sarin**	**37.08**	**308**	LR		LR	18 21 48.1	
	comp=Z,102nm,18.2s,baz=145,slow=34							
TARG	**Taragay, Kyrgy**	**41.23**	**346**	*e*P		**P**	**18 08 45.8**	**+1.6**
	13nm,1.5s							
PRZ	**Przheval'sk**	**41.81**	**347**	*e*P		**P**	**18 08 50.9**	**+2.3**
	12nm,1.1s							
AAK	**Ala-Archa**	**42.96**	**343**	LR		LR	18 26 40.3	
	comp=Z,78nm,20.7s,baz=160,slow=36							
AAK	**Ala-Archa**	**42.96**	**343**	*e*P		**P**	**18 08 59.5**	**+1.6**
	6.3nm,1.4s							
H01W3	**Cape Leeuwin H**	**42.96**	**150**	T		T	18 55 00.3	
	baz=325,slow=74,SNR=7.7							
H01W2	**Cape Leeuwin H**	**42.97**	**150**	T		T	18 55 01.4	
	baz=325,slow=74,SNR=9.1							
H01W1	**Cape Leeuwin H**	**42.98**	**150**	T		T	18 55 01.7	
	baz=325,slow=74,SNR=9.7							
KK31	**Karatay Array**	**44.64**	**340**	*e*P		**P**	**18 09 12.2**	**+0.9**
KKAR	**Karatay Array**	**44.64**	**340**	*e*P		**P**	**18 09 12.2**	**+0.9**
MK01	**Makanchi Array**	**45.30**	**353**	*e*P		**P**	**18 09 17.0**	**+0.6**
MK31	**Makanchi Array**	**45.32**	**353**	*e*P		**P**	**18 09 17.6**	**+0.9**
MK32	**Makanchi Array**	**45.32**	**353**	*e*P		**P**	**18 09 15.2**	**-1.4**
MKAR	**Makanchi Array**	**45.32**	**353**	P		**P**	**18 09 15.2**	**-1.4**
	0.6nm,0.4s,baz=176,slow=8.7,SNR=13							
MKAR	**Makanchi Array**	**45.32**	**353**	*e*P		**P**	**18 09 17.6**	**+0.9**
	17nm,1.3s							
MAKZ	**Makanchi**	**45.38**	**352**	*e*P		**P**	**18 09 18.1**	**+1.1**
	5.7nm,1.4s							
GEYT	**Alibeck**	**46.32**	**325**	P		**P**	**18 09 23.5**	**-1.2**
	1.2nm,0.6s,baz=143,slow=13,SNR=4.4							
ATD	**Arta Tunnel**	**47.67**	**284**	LR		LR	18 26 38.2	
	comp=Z,76nm,18.1s,baz=150,slow=32							
SONA0	**Songino Array**	**48.04**	**15**	*e*P		**P**	**18 09 36.0**	**-2.0**
SONM	**Songino Array**	**48.04**	**15**	P		**P**	**18 09 36.0**	**-2.0**
	3.5nm,0.7s,baz=193,slow=10,SNR=17							
SONA1	**Songino Array**	**48.05**	**15**	*e*P		**P**	**18 09 39.4**	**+1.2**
WRA	**Warramunga Arr**	**48.62**	**119**	P		**P**	**18 09 42.2**	**-0.7**
	1.5nm,0.7s,baz=296,slow=8.6,SNR=13							
WR1	**Warramunga Arr**	**48.62**	**119**	*e*P		**P**	**18 09 42.2**	**-0.7**
	32nm,1.6s							
JNU	**Nakatsue**	**49.44**	**46**	LR		LR	18 30 55.4	
	comp=Z,92nm,21.4s,baz=208,slow=37							
KURBB	**Kurchatov Arra**	**49.61**	**350**	P		**P**	**18 09 49.6**	**-0.3**
	2.1nm,0.8s,baz=178,slow=7.2,SNR=9.6							
ASAR	**Alice Springs**	**49.68**	**123**	P		**P**	**18 09 51.0**	**0.0**
	0.5nm,0.6s,baz=300,slow=7.5,SNR=11							
AS31	**Alice Springs**	**49.68**	**123**	*e*P		**P**	**18 09 51.0**	**0.0**
	2.3nm,1.4s							
KURK	**Kurchatov**	**49.69**	**351**	*e*P		**P**	**18 09 49.6**	**-0.9**
KSRS	**Korea Array**	**49.80**	**40**	LR		LR	18 34 19.7	
	comp=Z,44nm,18.1s,baz=228,slow=40							
ZAA0	**Zalesovo Array**	**52.16**	**356**	*e*P		**P**	**18 10 09.6**	**+0.6**
	6.7nm,1.4s							
ZALV	**Zalesovo Beam**	**52.16**	**356**	P		**P**	**18 10 09.1**	**0.0**
	0.9nm,0.3s,baz=181,slow=7.4,SNR=8.9							
ZALV				LR		LR	18 33 09.5	
	comp=Z,64nm,20.7s,baz=336,slow=37							
ZALV	**Zalesovo Beam**	**52.16**	**356**	*e*P		**P**	**18 10 09.6**	**+0.5**
ZAA1	**Zalesovo Array**	**52.17**	**356**	*e*P		**P**	**18 10 09.1**	**0.0**
BVAR	**Borovoye Array**	**53.58**	**345**	P		**P**	**18 10 20.1**	**+0.5**
	0.8nm,0.7s,baz=116,slow=9.8,SNR=4.9							
BVAR				LR		LR	18 33 10.1	
	comp=Z,88nm,21.1s,baz=152,slow=36							
ABKAR	**Akbulak array**	**53.80**	**336**	*e*P		**P**	**18 10 21.8**	**+0.6**
GUMO	**Guam**	**55.57**	**75**	LR		LR	18 33 15.8	
	comp=Z,24nm,21.9s,baz=150,slow=35							
MJAR	**Matsushiro Arr**	**56.37**	**46**	LR		LR	18 38 54.7	
	comp=Z,29nm,18.1s,baz=220,slow=41							
PMG	**Port Moresby**	**58.09**	**102**	LR		LR	18 38 29.9	
	comp=Z,56nm,18.6s,baz=252,slow=39							
KBZ	**Khabaz**	**58.98**	**322**	P		**P**	**18 10 58.9**	**+0.6**
	3.2nm,1.0s,baz=78,slow=2.3,SNR=5.5							
KIV	**Kislovodsk**	**59.23**	**322**	*e*P		**P**	**18 11 01.7**	**+1.5**
	10.0nm,1.1s							
STKA	**Stephens Creek**	**59.27**	**129**	P		**P**	**18 11 02.8**	**+2.2**
	1.0nm,0.7s,baz=306,slow=9.6,SNR=3.0							

BR101	**Keskin Array S**	**63.41**	**314**	*e*P		**P**	**18 11 29.1**	**+0.5**
BR131	**Keskin Array S**	**63.41**	**314**	*e*P		**P**	**18 11 29.2**	**+0.5**
BRTR	**Keskin Array B**	**63.41**	**314**	P		**P**	**18 11 29.1**	**+0.5**
	1.0nm,0.5s,baz=140,slow=6.8,SNR=9.3							
ILGA	**Ilgaz**	**63.85**	**316**	*e*P		**P**	**18 11 30.5**	**-1.1**
	5.2nm,0.8s							
BR231	**Keskin MP Arra**	**64.07**	**314**	*e*P		**P**	**18 11 30.1**	**-2.9**
AKASG	**Malin Array Be**	**70.43**	**324**	P		**P**	**18 12 13.3**	**+0.5**
	0.2nm,0.4s,baz=97,slow=4.5,SNR=7.1							
BUR04	**Bucovina Ar. S**	**71.84**	**320**	*e*P		**P**	**18 12 21.2**	**-0.4**
BUR08	**Bucovina Ar. S**	**71.85**	**320**	*e*P		**P**	**18 12 21.7**	**-0.1**
FIA0	**FINESS Array S**	**76.18**	**334**	*e*P		**P**	**18 12 44.8**	**-1.8**
FINES	**FINESS Array B**	**76.18**	**334**	P		**P**	**18 12 44.8**	**-1.8**
	1.2nm,0.8s,baz=78,slow=3.5,SNR=8.3							
DPC	**Dobruska-Polom**	**78.19**	**321**	*e*P		**P**	**18 13 00.6**	**+2.3**
GEA0	**GERESS Array S**	**79.60**	**319**	*e*P		**P**	**18 13 02.5**	**-3.5**
GEC2	**GERESS Array S**	**79.60**	**319**	*e*P		**P**	**18 13 06.4**	**+0.3**
	9.7nm,1.1s							
GERES	**GERESS Array B**	**79.60**	**319**	P		**P**	**18 13 06.2**	**+0.1**
	3.0nm,0.8s,baz=131,slow=4.1,SNR=9.5							
KHC	**Kasperske Hory**	**79.72**	**320**	*e*P		**P**	**18 13 08.0**	**+1.3**
KHC				*e*PCP		**PcP**	**18 13 16.1**	**+1.7**
HFS	**Hagfors**	**81.61**	**331**	P		**P**	**18 13 17.3**	**+0.8**
	1.3nm,0.6s,baz=138,slow=5.0,SNR=8.8							
NOA	**NORSAR Array B**	**82.97**	**331**	LR		LR	18 52 32.1	
	comp=Z,28nm,19.4s,baz=150,slow=37							
SPITS	**Spitsbergen Ar**	**84.92**	**349**	LR		LR	18 54 41.0	
	comp=Z,45nm,21.5s,baz=115,slow=38							
VNDA	**Vanda**	**87.87**	**168**	LR		LR	18 49 07.0	
	comp=Z,152nm,18.2s,baz=158,slow=33							
DBIC	**Dimbokro**	**94.53**	**277**	LR		LR	18 56 32.8	
	comp=Z,62nm,19.1s,baz=100,slow=35							
LTX	**Lajitas**	**146.44**	**22**	*e*PKPdf		**PKPdf**	**18 20 39.0**	**-0.4**
TXAR	**Lajitas Array**	**146.44**	**22**	PKPbc		**PKPdf**	**18 20 39.0**	**-0.4**
	4.6nm,1.0s,baz=287,slow=1.2,SNR=15							

IDC 12 18:07:06.1±6.0, 5.38S×151.18E, h185km±40km, mb2.8/2, mb1 3.1/3, mb1mx2.7/48, mbtmp3.5/3, Error ellipse: s-maj=115.0km s-min=46.4km az=125.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
PMG	**Port Moresby**	**5.65**	**225**	P		Pn	18 08 27.7	-0.9
	4.2nm,0.3s,baz=34,slow=6.7,SNR=15							
PMG				S		Sn	18 09 34.5	+0.9
	8.5nm,0.3s,baz=284,slow=21,SNR=8.9							
WRA	**Warramunga Arr**	**21.86**	**227**	P		P	18 11 44.2	-0.1
	0.4nm,0.5s,baz=56,slow=11,SNR=7.4							
ASAR	**Alice Springs**	**24.53**	**221**	P		P	18 12 10.9	+1.0
	0.2nm,0.3s,baz=52,slow=8.8,SNR=9.0							
TORD	**Torodi Ar. Bea**	**148.94**	**287**	PKPbc		PKPbc	18 26 31.5	-1.7
	0.4nm,0.7s,baz=58,slow=2.7,SNR=2.3							

IDC 12 18:09:35.5±3.6, 2.53N×92.80E, h0km, mb3.3/2, mb1 3.4/3, mb1mx3.1/65, mbtmp3.2/3, ML3.4/1, Error ellipse: s-maj=115.6km s-min=33.0km az=62.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**16.93**	**20**	Pn		Pn	18 13 35.0	+1.0
	0.1nm,0.3s,baz=216,slow=10.0,SNR=4.1							
MKAR	**Makanchi Array**	**45.03**	**350**	P		P	18 17 52.6	-0.3
	0.3nm,0.7s,baz=157,slow=7.9,SNR=4.0							
WRA	**Warramunga Arr**	**46.48**	**121**	P		P	18 18 04.6	-0.2
	0.4nm,0.8s,baz=300,slow=8.9,SNR=2.8							

IDC ***12*** *18:13:11.7±2.5, 2.70N×92.92E, h0km, mb3.7/6, mb1 3.8/7, mb1mx3.5/64, mbtmp3.7/7, ML3.7/1, Error ellipse: s-maj=91.8km s-min=20.6km az=60.0*

ISCJB ***12*** *18:13:15.5±0.9, 2.66N±0.07×93.24E±0.07, h33km, mb3.8/6, Error ellipse: s-maj=11.3km s-min=8.7km az=29.3*

DJA ***12*** *18:13:24.5±0.8, 3°N±4°×9°4E±1°0, h42km±67km, M4.2/7, mb4.3/5, MLv4.2/7*

ISC 12 18:13:17.3±1.3, 2.55N±0.07×93.3E±0.1, h35km, n15, σ2926/20, mb3.8/6, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
BSI	**Banda Aceh**	**3.54**	**34**	P		**Pn**	**18 14 11.9**	**+2.0**
BSI				S		**Sn**	**18 14 52.9**	**+2.2**
MLSI	**Meulaboh, Aceh**	**3.55**	**61**	P		**Pn**	**18 14 11.9**	**+1.9**
MLSI				S		**Sn**	**18 14 49.8**	**-0.9**
TPTI		**3.95**	**80**	P		**Pn**	**18 14 16.1**	**+0.6**
TPTI				S		**Sn**	**18 14 59.3**	**-1.4**
GSI	**Gunungsitoli**	**4.46**	**106**	P		**Pn**	**18 14 24.0**	**+1.4**
GSI				S		**Sn**	**18 15 12.7**	**-0.6**
LHMI	**Lhok Sumawe**	**4.52**	**54**	P		**Pn**	**18 14 25.9**	**+2.6**
KCSI	**Kotacane, Aceh**	**4.58**	**78**	P		**Pn**	**18 14 25.6**	**+1.4**
MNSI	**Mandailing Nat**	**6.53**	**105**	P		**Pn**	**18 14 52.9**	**+1.9**
MNSI				S		**Sn**	**18 16 00.0**	**-4.3**
SISI	**Saibi**	**6.97**	**124**	P		**Pn**	**18 14 59.5**	**+2.5**
CMAR	**Chiang Mai Arr**	**16.75**	**19**	Pn		**Pn**	**18 17 08.1**	**-1.3**
	0.1nm,0.3s,baz=209,slow=13,SNR=9.0							
MKAR	**Makanchi Array**	**45.09**	**349**	P		**P**	**18 21 28.0**	**-2.1**
	1.0nm,0.5s,baz=171,slow=8.2,SNR=15							
WRA	**Warramunga Arr**	**46.07**	**121**	P		**P**	**18 21 39.7**	**+1.4**
	0.5nm,0.9s,baz=302,slow=8.6,SNR=2.8							
SONM	**Songino Array**	**46.51**	**12**	P		**P**	**18 21 40.4**	**-1.0**
	0.7nm,0.6s,baz=194,slow=9.0,SNR=6.1							
ASAR	**Alice Springs**	**47.34**	**126**	P		**P**	**18 21 51.7**	**+3.5**
	0.4nm,0.9s,baz=300,slow=8.0,SNR=2.4							
KURBB	**Kurchatov Arra**	**49.50**	**348**	P		**P**	**18 22 02.0**	**-2.3**
	0.6nm,0.6s,baz=173,slow=7.4,SNR=9.0							
ZALV	**Zalesovo Beam**	**51.70**	**354**	P		**P**	**18 22 18.7**	**-2.2**
	1.5nm,0.5s,baz=182,slow=6.1,SNR=7.2							

IDC ***12*** *18:20:44.0±1.5, 2.15N×92.56E, h0km, mb3.6/8, mb1 3.7/9, mb1mx3.5/68, mbtmp3.5/9, Error ellipse: s-maj=56.4km s-min=22.2km az=54.0*

ISCJB ***12*** *18:20:47.5±1.1, 2.2N±0.2×92.7E±0.2, h33km, mb3.6/8, Error ellipse: s-maj=32.5km s-min=16.9km az=148.9*

ISC 12 18:20:49.5±1.3, 2.2N±0.2×92.7E±0.2, h35km, n9, σ1912/9, mb3.6/8, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**17.27**	**20**	P		**Pn**	**18 24 47.0**	**-1.1**
	baz=118,slow=17,SNR=2.7							
MKAR	**Makanchi Array**	**45.31**	**350**	P		**P**	**18 29 04.2**	**+0.1**
	0.6nm,0.6s,baz=172,slow=8.3,SNR=6.9							
WRA	**Warramunga Arr**	**46.44**	**120**	P		**P**	**18 29 14.0**	**+0.7**
	1.2nm,0.9s,baz=300,slow=8.6,SNR=4.9							
SONM	**Songino Array**	**46.97**	**13**	P		**P**	**18 29 18.3**	**+1.2**
	0.2nm,0.5s,baz=210,slow=8.3,SNR=2.1							
GEYT	**Alibeck**	**47.60**	**323**	P		**P**	**18 29 23.1**	**+1.0**
	1.0nm,0.7s,baz=150,slow=15,SNR=2.9							
ASAR	**Alice Springs**	**47.65**	**125**	P		**P**	**18 29 22.1**	**-0.7**
	0.5nm,0.9s,baz=299,slow=7.3,SNR=2.9							
KURBB	**Kurchatov Arra**	**49.70**	**348**	P		**P**	**18 29 36.6**	**-1.3**
	0.3nm,0.8s,baz=170,slow=7.6,SNR=3.2							
ZALV	**Zalesovo Beam**	**51.97**	**354**	P		**P**	**18 29 55.4**	**+0.4**
	0.4nm,0.3s,baz=186,slow=8.1,SNR=2.1							
GERES	**GERESS Array B**	**81.07**	**319**	P		**P**	**18 33 00.2**	**-1.0**
	0.2nm,0.3s,baz=96,slow=5.3,SNR=2.4							

IDC ***12*** *18:26:25.9±0.8, 2.55N×93.04E, h0km, mb3.8/11, mb1 4.0/13, mb1mx3.7/66, mbtmp3.8/13, ML3.8/2, Error ellipse: s-maj=29.4km s-min=17.1km az=54.0*

NEIC ***12*** *18:26:26.9±0.4, 2.45N×92.86E, h10km, mb4.7/4, Error ellipse: s-maj=9.3km s-min=5.6km az=210.0*

ISCJB ***12*** *18:26:27.1±0.4, 2.52N±0.05×92.91E±0.04, h21km, mb4.1/14, Error ellipse: s-maj=8.3km s-min=4.8km az=31.9*

DJA ***12*** *18:26:29.0±1.3, 3°N±4°×9°3E±1°1, h10km, M4.7/9, mb5.0/8, mB5.1/5, MLv4.8/9, Mw(mB)4.5/5, Mwp6.7/1*

ISC 12 18:26:29.4±0.6, 2.53N±0.06×92.93E±0.07, h21km, n53, σ1908/51, mb4.1/14, 1D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
BSI	**Banda Aceh**	**3.77**	**39**	P		**Pn**	**18 27 26.0**	**-0.3**
BSI				S		**Sn**	**18 28 07.6**	**-2.5**
MLSI	**Meulaboh, Aceh**	**3.87**	**63**	P		**Pn**	**18 27 28.5**	**+0.8**
TPTI		**4.30**	**80**	P		**Pn**	**18 27 33.8**	**+0.2**

GSI	**Gunungsitoli**	**4.80**	**105**	P		**Pn**	**18 27 40.5**	**0.0**
GSI	**Gunungsitoli**	**4.80**	**105**	*e*Pn		**Pn**	**18 27 40.3**	**-0.2**
LHMI	**Lhok Sumawe**	**4.82**	**56**	P		**Pn**	**18 27 42.3**	**+1.5**
LHMI	**Lhok Sumawe**	**4.82**	**56**	*e*Pn		**Pn**	**18 27 42.2**	**+1.5**
KCSI	**Kotacane, Aceh**	**4.93**	**78**	P		**Pn**	**18 27 43.5**	**+1.2**
TSI	**Tuntungan**	**5.71**	**80**	P		**Pn**	**18 27 55.3**	**+2.4**
PBSI	**Pulau Batu**	**5.93**	**116**	P		**Pn**	**18 27 54.4**	**-1.6**
PSI	**Prapat**	**5.99**	**87**	*e*Pn		**Pn**	**18 27 57.4**	**+0.4**
MNSI	**Mandailing Nat**	**6.86**	**104**	P		**Pn**	**18 28 08.8**	**-0.1**
	91nm,0.5s,1µm0.6nm							
SISI	**Saibi**	**7.25**	**122**	P		**Pn**	**18 28 13.9**	**-0.3**
KULM	**Kulim**	**8.17**	**70**	*e*Pn		**Pn**	**18 28 27.6**	**+0.7**
PDSI	**Padang**	**8.27**	**114**	P		**Pn**	**18 28 28.5**	**+0.3**
PDSI				S		**Sn**	**18 30 04.1**	**+3.1**
IPM	**Ipoh**	**8.30**	**76**	*e*Pn		**Pn**	**18 28 29.5**	**+0.8**
PPSI	**Pulau Pagai**	**8.81**	**127**	P		**Pn**	**18 28 33.6**	**-2.1**
PBA	**Port Blair**	**9.07**	**359**	*e*Pn		Pn	18 28 37.8	-1.3
PALK	**Pallekele**	**13.06**	**292**	Pn		**Pn**	**18 29 34.2**	**+0.3**
	0.6nm,0.3s,baz=117,slow=15,SNR=4.2							
PALK				Sn		Sn	18 31 43.8	-15
	2.5nm,0.3s,baz=114,slow=4.9,SNR=8.1							
CM31	**Chiang Mai Arr**	**16.89**	**20**	*e*Pn		**Pn**	**18 30 24.1**	**-0.6**
CMAR	**Chiang Mai Arr**	**16.89**	**20**	Pn		**Pn**	**18 30 24.1**	**-0.6**
	0.1nm,0.3s,baz=213,slow=12,SNR=14							
H08S2	**Diego Garcia H**	**22.76**	**243**	T		T	18 54 40.9	
	baz=60,slow=75,SNR=3.4							
H08S3	**Diego Garcia H**	**22.76**	**244**	T		T	18 54 34.8	
	baz=60,slow=75,SNR=3.2							
H08S1	**Diego Carcia H**	**22.78**	**243**	T		T	18 54 32.7	
	baz=60,slow=75,SNR=4.1							
MK01	**Makanchi Array**	**45.02**	**350**	*e*P		**P**	**18 34 43.3**	**-0.2**
MK31	**Makanchi Array**	**45.05**	**350**	*e*P		**P**	**18 34 43.8**	**0.0**
MK32	**Makanchi Array**	**45.05**	**350**	*e*P		**P**	**18 34 43.8**	**+0.1**
MKAR	**Makanchi Array**	**45.05**	**350**	P		**P**	**18 34 43.8**	**+0.1**
	1.5nm,0.6s,baz=167,slow=8.7,SNR=25							
MKAR	**Makanchi Array**	**45.05**	**350**	*e*P		**P**	**18 34 43.8**	**+0.1**
	10nm,0.7s							
KK31	**Karatay Array**	**45.07**	**337**	*e*P		**P**	**18 34 43.8**	**-0.2**
KKAR	**Karatay Array**	**45.07**	**337**	*e*P		**P**	**18 34 43.8**	**-0.2**
MAKZ	**Makanchi**	**45.12**	**349**	*e*P		**P**	**18 34 44.2**	**-0.1**
	8.4nm,1.8s							
WR1	**Warramunga Arr**	**46.37**	**121**	*e*P		**P**	**18 34 53.0**	**-1.5**
	45nm,1.8s							
WRA	**Warramunga Arr**	**46.37**	**121**	P		**P**	**18 34 53.0**	**-1.5**
	1.0nm,0.8s,baz=300,slow=8.8,SNR=22							
SONA0	**Songino Array**	**46.60**	**12**	*e*P		**P**	**18 34 57.0**	**+0.9**
SONM	**Songino Array**	**46.60**	**12**	P		**P**	**18 34 57.0**	**+0.9**
	1.3nm,0.6s,baz=197,slow=8.4,SNR=10							
GEYT	**Alibeck**	**47.51**	**322**	P		**P**	**18 35 02.9**	**-0.4**
	1.4nm,0.7s,baz=148,slow=8.7,SNR=4.6							
ASAR	**Alice Springs**	**47.62**	**126**	P		**P**	**18 35 03.4**	**-0.8**
	0.2nm,0.7s,baz=299,slow=7.7,SN

ABV	Anegada	1.96	115	⇓*e*P	Pn	18 32 04.5	-0.7
ABVI	Anegada Island	1.96	115	*e*Pn	Pn	18 32 04.5	-0.7
IMPR	Mona Island, P	2.21	228	⇑*e*P	Pn	18 32 09.4	+0.7
CDVI	St. Croix	2.26	143	*e*Pn	Pn	18 32 10.5	+1.1
SDDR	Presa de Saban	4.84	264	⇑*e*P	Pn	18 32 45.5	+0.6
SDDR	Presa de Saban	4.84	264	*e*Pn	Pn	18 32 45.5	+0.6
IP05	Hopewell Churc	20.80	333	*e*P	P	18 36 12.9	+0.2
TKL	Tuckaleechee C	22.29	320	P	P	18 36 44.5	+16
	3.3nm,0.4s,baz=140,slow=18,SNR=6.9						
TKL				S	S	18 40 23.2	-8.8
	1.6nm,0.6s,baz=286,slow=21,SNR=1.7						
LTX	Lajitas	35.33	293	*e*P	P	18 38 27.8	+1.0
TXAR	Lajitas Array	35.33	293	P	P	18 38 27.8	+1.0
	0.4nm,0.6s,baz=103,slow=11,SNR=4.4						
PDAR	Pinedale Array	43.10	312	P	P	18 39 32.1	+0.4
	0.5nm,0.9s,baz=80,slow=6.6,SNR=2.9						
YKA	Yellowknife Ar	54.16	335	P	P	18 40 58.1	+2.0
	0.2nm,0.7s,baz=108,slow=7.2,SNR=3.8						

MEX 12 18:32:27.9±0.5, 16°25'N×98°10'W, h14km±2km, MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PNIG	Pinotepa	0.15	351	*i* P	Pg	18 32 31.1	-0.7
PNIG				*i* S	Sg	18 32 33.9	-0.4
TLIG	Tlapa	1.38	341	*e*P	Pn	18 32 49.6	-3.3
TLIG				*i* S	Sn	18 33 05.5	-5.5
VHO	Vista Hermosa	1.55	58	*e*P	Pn	18 32 51.9	-3.4
HUIG	Huatulco	1.98	104	*e*P	Pn	18 33 00.8	-0.1
CAIG	El Cayaco	2.22	291	*e*P	Pn	18 33 03.1	-1.3

DJA ***12*** *18:41:59.2±3.8, 1°N±10°×9°1E±2°3, h37km±76km, M4.8/8, mb4.5/8, mB5.6/3, MLv5.0/5, Mw(mB)5.1/3*

IDC ***12*** *18:42:00.7±2.8, 1°67'N×91°11'E, h0km, mb3.5/4, mb1 3.6/5, mb1mx3.2/71, mbtmp3.4/5, ML3.5/1, MS3.1/1, Ms1 3.1/1, ms1mx2.5/50, Error ellipse: s-maj=85.7km s-min=28.6km az=61.0*

ISC 12 18:41:59.5±1.5, 1°4N±0°1×90°8E±0°1, h10km, n15, σ1°92/14, mb3.7/4, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BSI	Banda Aceh	6.09	48	P	Pn	18 43 28.1	-1.6
	36nm,0.7s,766nm						
MLSI	Meulaboh, Aceh	6.31	63	P	Pn	18 43 30.9	-1.8
	65nm,0.9s,0.5nm						
TPTI		6.67	74	P	Pn	18 43 35.0	-2.6
	32nm,0.6s,0.2nm						
GSI	Gunungsitoli	6.80	90	P	Pn	18 43 37.6	-1.8
LHMI	Lhok Sumawe	7.25	58	P	Pn	18 43 44.3	-1.4
	50nm,1.2s,0.3nm						
KCSI	Kotacane, Aceh	7.31	73	P	Pn	18 43 45.2	-1.2
TSI	Tuntungan	8.06	75	S	Sn	18 45 30.8	+2.7
SISI	Saibi	8.73	108	P	Pn	18 44 04.1	-1.9
MNSI	Mandailing Nat	8.82	94	P	Pn	18 44 05.7	-1.5
	21nm,0.4s,1µm						
PALK	Pallekele	11.63	301	LR	LR	18 48 27.7	
	comp=Z,95nm,18.5s,baz=116,slow=33						
CMAR	Chiang Mai Arr	18.77	25	P	P	18 46 17.4	-1.7
	0.1nm,0.3s,baz=218,slow=13,SNR=5.5						
MKAR	Makanchi Array	45.84	352	P	P	18 50 21.0	-0.8
	0.3nm,0.8s,baz=162,slow=9.4,SNR=4.4						
WRA	Warramunga Arr	47.67	119	P	P	18 50 37.7	+1.2
	0.6nm,0.9s,baz=298,slow=8.9,SNR=3.0						
SONM	Songino Array	48.22	14	P	P	18 50 41.8	+1.2
	0.4nm,0.6s,baz=188,slow=9.0,SNR=3.8						
ZALV	Zalesovo Beam	52.63	356	P	P	18 51 15.0	+1.4
	0.4nm,0.3s,baz=190,slow=7.3,SNR=2.6						

IDC ***12*** *18:47:13.5±1.8, 1°26'N×125°75'E, h0km, mb3.3/4, mb1 3.5/4, mb1mx3.3/55, mbtmp3.4/4, Error ellipse: s-maj=184.3km s-min=22.5km az=65.0*

ISCJB ***12*** *18:47:18.4±0.8, 1°33'N±0°06'×126°23'E±0°07, h54km, mb3.3/4, Error ellipse: s-maj=9.9km s-min=8.2km az=150.7*

DJA ***12*** *18:47:18.0±1.1, 1°N±3°×12°6E±°, h15km±8km, M3.7/8, mb4.4/1, MLv3.4/8*

ISC 12 18:47:19.9±1.1, 1°30'N±0°07'×126°24'E±0°07, h54km, n11, σ1°05/13, mb3.4/4, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LBMI	Labuha	2.30	147	P	Pn	18 47 54.7	-0.8
KMSI	Cibinong	2.37	252	P	Pn	18 47 56.3	-0.1
KMSI				S	Sn	18 48 24.2	-0.1
SGSI	Sangihe	2.47	343	P	Pn	18 47 57.9	+0.1
SANI	Sanana	3.34	184	P	Pn	18 48 09.0	-0.7
SANI				S	Sn	18 48 49.1	+1.0
LUWI	Luwuk	4.17	236	P	Pn	18 48 20.7	-0.5
MRSI	Marisa	4.38	259	P	Pn	18 48 23.6	-0.3
APSI	Ampana	5.09	244	P	Pn	18 48 33.3	-0.4
WRA	Warramunga Arr	22.56	160	P	P	18 52 15.9	+0.2
	0.7nm,0.4s,baz=337,slow=11,SNR=18						
ASAR	Alice Springs	25.91	164	P	P	18 52 49.4	+2.1
	0.3nm,0.8s,baz=346,slow=10,SNR=8.6						
MKAR	Makanchi Array	59.27	326	P	P	18 57 14.2	-1.9
	0.2nm,0.5s,baz=117,slow=7.0,SNR=1.9						
KURBB	Kurchatov Arra	63.52	328	P	P	18 57 45.2	+0.6
	0.3nm,0.8s,baz=128,slow=6.1,SNR=3.4						

ISCJB ***12*** *18:53:00.2±0.2, 33°46'N±0°01'×116°46'W±0°01, h6km±2km, Error ellipse: s-maj=2.0km s-min=1.8km az=145.1*

ECX ***12*** *18:53:01.9±0.5, 33°45'N×116°49'W, h5km, MD3.3, ML3.5*

NEIC ***12*** *18:53:01.2±0.0, 33°46'N×116°47'W, h8km, ML3.5(PAS), After PAS.*

NEIC Felt [III] at Mountain Center and [II] at Indian Wells, Indio, La Quinta, Palm Desert, Palm Springs and Rancho Mirage. Also felt at Cathedral City, Chula Vista, El Cajon, Hemet, Idyllwild, Moreno Valley, San Diego and Temecula.

ISC 12 18:53:00.5±0.8, 33°45'N±0°01'×116°47'W±0°01, h11km±6km, n114, σ0°73/160, 3D, Southern California

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FRD	Ford Ranch, An	0.12	293	*e*Pg	Pg	18 53 04.0	+0.4
PFO	Pinyon Flats O	0.16	3	P	Pg	18 53 04.1	-0.2
	baz=180,SNR=1000						
PFO				S	Sg	18 53 06.3	-0.5
	baz=180						
PFO	Pinyon Flats O	0.16	3	*e*Pg	Pg	18 53 04.0	-0.2
XPFO	Piæon Flat	0.16	4	*e*Pg	Pg	18 53 04.0	-0.2
BORC	Borrego Spring	0.18	166	*e*Pg	Pg	18 53 05.1	+0.7
PLM	Palomar	0.34	254	*e*Pg	Pb	18 53 08.2	-0.5
DGR	Domenigoni Val	0.49	294	*e*Pg	Pg	18 53 10.5	+0.3
DGR				*e*Sg	Sg	18 53 12.6	-4.1
HMTC	Hemet	0.52	300	*e*Pg	Pg	18 53 10.8	+0.2
BATC	Bat Cave Butte	0.53	89	*e*Pg	Pb	18 53 11.3	-0.4
CTW	Cottonwood Mou	0.55	65	*e*Pg	Pg	18 53 11.3	+0.1
MONP2	Monument Peak	0.56	176	P	Pb	18 53 11.8	-0.5
	baz=357,SNR=217						
MONP2				S	Sg	18 53 19.1	+0.4
	baz=357						
CBKC	Canebrake	0.58	161	*e*Pg	Pb	18 53 12.1	-0.5
HWB	Hans Werner Br	0.59	225	*e*Pg	Pb	18 53 12.3	-0.5
HWB				*e*Sg	Sb	18 53 20.4	-0.8
DPP	Dos Picos Cty	0.60	222	*e*Pg	Pg	18 53 12.4	+0.3
DPP				*e*Sg	Sg	18 53 20.6	+0.6
MURC	Murrieta	0.62	284	P	Pg	18 53 12.8	+0.2
	baz=102,SNR=152						
MURC				S	Sg	18 53 21.3	+0.5
	baz=102						
ERRC	Elmore Ranch	0.63	121	*e*Pg	Pb	18 53 14.1	+0.5
ERRC				*e*Sg	Sb	18 53 23.5	+1.0
BBSC	Beaumont Base	0.64	318	*e*Pg	Pg	18 53 13.1	+0.3
EML	El Monte Cty P	0.64	210	*e*Pg	Pg	18 53 13.1	+0.2
BELC	Belle Mtn. Jos	0.68	35	P	Pg	18 53 13.4	-0.2
	baz=216,SNR=283						
BELC				S	Sg	18 53 22.0	-0.5
	baz=216						
BELC	Belle Mtn. Jos	0.68	35	*e*Pg	Pg	18 53 13.5	-0.2
FRK	Frink	0.70	93	*e*Pg	Pg	18 53 13.9	-0.1
CRR	Carrizo Plain	0.70	143	*e*Pg	Pb	18 53 14.5	-0.2
HAY	Hayfield	0.70	68	*e*Pg	Pb	18 53 14.8	0.0
TPC	Twentynine Pal	0.74	28	*e*Pg	Pg	18 53 14.5	-0.4
SWSC	Sam W. Stewart	0.75	132	P	Pg	18 53 15.1	+0.1
	baz=313,SNR=80						
SWSC				S	Sb	18 53 25.4	-0.5
	baz=313						
SWSC	Sam W. Stewart	0.75	132	*e*Pg	Pb	18 53 15.7	+0.1
SWSC				*e*Sn	Sb	18 53 26.0	+0.1
109C	Camp Elliot, M	0.77	224	P	Pg	18 53 15.5	+0.1
	baz=43,SNR=41						
109C				S	Sg	18 53 25.5	+0.1
	baz=43						
CPE	Camp Elliot	0.77	224	*e*Pg	Pg	18 53 15.4	+0.1
CPE				*e*Sn	Sg	18 53 25.7	+0.2
BAR	Barrett	0.78	193	*e*Pg	Pg	18 53 15.5	-0.1
BAR				*e*Sn	Sb	18 53 26.3	-0.6
BAR	Barrett	0.78	193	⇓*e*P	Pg	18 53 15.7	0.0
SDRC	San Diego Road	0.81	209	*e*P	Pg	18 53 16.1	-0.1
SVD	Seven Oaks Dam	0.84	322	*e*Pg	Pb	18 53 17.5	+0.4
SVD				*e*Sn	Sb	18 53 28.9	+0.3
IKP	In-Ko-Pah, Jac	0.85	159	P	Pb	18 53 17.1	-0.2
	baz=340,SNR=174						
IKP				S	Sb	18 53 28.3	-0.5
	baz=340						
IKP	In-Ko-Pah, Jac	0.85	159	*e*P	Pb	18 53 17.1	-0.2
IKP				*e*S	Sb	18 53 28.3	-0.5
BC3	Big Chuckawall	0.87	76	P	Pg	18 53 17.1	-0.2
	baz=258,SNR=268						
BC3				S	Sg	18 53 28.2	-0.5
	baz=258						
BBRC	Big Bear Solar	0.90	335	P	Pg	18 53 17.6	-0.2
	baz=154,SNR=22						
BBRC				S	Sg	18 53 29.6	+0.1
	baz=154						
BBRC	Big Bear Solar	0.90	335	*e*Pg	Pg	18 53 17.8	0.0
BBRC				*e*Sn	Sg	18 53 29.8	+0.3
RMX	La Rumorosa	0.90	159	*e*P	Pg	18 53 17.5	-0.4
RMX				*e*P	Pn	18 53 19.2	-0.2
RMX				*e*S	Sn	18 53 32.0	-0.5
YUH	Yuha Desert	0.92	150	*e*Pg	Pg	18 53 17.9	-0.3
WESC	Westside Schoo	0.92	138	*e*Pg	Pb	18 53 18.6	0.0
WESC				*e*Sn	Sn	18 53 32.8	+0.1
WESC	Westside Schoo	0.92	138	*e*P	Pg	18 53 17.9	-0.3
RVR	Riverside	0.93	306	*e*Pg	Pg	18 53 18.5	+0.1
RVR				*e*Sn	Sg	18 53 30.2	-0.3
BTCC	Brunts Corner	1.13	112	*e*Pn	Pn	18 53 23.5	+1.2
CBX	Cerro Bola	1.14	188	⇓*e*P	Pg	18 53 21.9	-0.5
CBX				*e*S	Sb	18 53 37.3	0.0
CBX				IAML		18 53 40.2	
	comp=N,1µm,0.5s						
CBX				*e*		18 53 40.2	
CHNC	Chino	1.15	299	*e*Sg	Sb	18 53 37.2	-0.1
BFSC	Mount Baldy Ra	1.27	309	P	Pn	18 53 23.5	-0.8
	baz=128,SNR=80						
BFSC				S	Sb	18 53 40.0	-0.8
	baz=128						
BFSC	Mount Baldy Ra	1.27	309	*e*Pn	Pg	18 53 24.9	+0.1
SSK	Sunset Peak	1.27	307	*e*Pn	Pn	18 53 24.2	-0.3
PSRC	Puddingstone R	1.29	300	*e*Pn	Pg	18 53 25.1	-0.1
PSRC				*e*Sn	Sb	18 53 41.2	-0.1
IRM	Iron Mountain	1.31	57	P	Pn	18 53 23.6	-1.2
	baz=238,SNR=109						
IRM				S	Sb	18 53 42.2	+0.1
	baz=238						
IRM	Iron Mountain	1.31	57	*e*Pn	Pb	18 53 25.2	0.0
IRM				*e*Sn	Sg	18 53 43.0	+0.2
PEM	Pine Mountain	1.37	302	*e*Pn	Pn	18 53 25.8	+0.2
HEC	Hector,Ludlow	1.38	5	P	Pn	18 53 25.2	-0.7
	baz=184,SNR=173						
HEC	Hector,Ludlow	1.38	5	*e*Pn	Pg	18 53 27.0	-0.1
GLA	Glamis	1.43	106	P	Pn	18 53 25.3	-1.1
	baz=287,SNR=14						
GLA	Glamis	1.43	106	*e*Pn	Pn	18 53 25.5	-1.0
RRX	Edison Barstow	1.49	343	Pg	Pb	18 53 28.4	+0.2
	baz=162						
DANC	Danby, Needles	1.49	37	*e*Sn	Sg	18 53 48.5	0.0
GMRC	Granite Mounta	1.49	27	P	Pn	18 53 26.5	-1.0
	baz=207,SNR=126						
GMRC				Sb	Sn	18 53 47.3	+0.2
	baz=207						
GMRC	Granite Mounta	1.49	27	*e*Pn	Pb	18 53 28.6	+0.3
GVRC	Garvey Reservo	1.50	294	*e*Sn	Sg	18 53 49.5	+0.7
HOLC	Holcomb Ridge	1.52	312	*e*Pn	Pb	18 53 28.7	-0.2
HOLC				*e*Sn	Sb	18 53 48.4	+0.1
MWC	Mount Wilson	1.53	301	*e*Pn	Pn	18 53 28.6	+0.5
MWC				*e*Sn	Sb	18 53 49.1	+0.5
CHFC	Chilao Flat St	1.57	305	*e*Pn	Pb	18 53 29.3	-0.4
CHFC				*e*Sn	Sb	18 53 49.8	+0.2
JNH	Juniper Hills	1.59	309	*e*Pn	Pg	18 53 30.5	-0.4
PASC	Pasadena Art C	1.60	297	*e*Pn	Pb	18 53 29.6	-0.5
PASC				*e*Sn	Sb	18 53 50.6	+0.2
CIAC	Catalina I. Ai	1.63	269	*e*Pn	Pn	18 53 28.7	-0.5
CIS	Catalina Islan	1.63	269	P	Pn	18 53 28.6	-0.6
	baz=87,SNR=29						
CIS				Sb	Sb	18 53 51.8	+0.6
	baz=87						
Y12C	Blythe	1.65	79	P	Pn	18 53 28.4	-1.1
	baz=260						
Y12C				Sb	Sb	18 53 52.2	+0.3
	baz=260						
Y12C	Blythe	1.65	79	*e*Pn	Pn	18 53 28.3	-1.1
LRRC	Littlerock Res	1.68	310	*e*Pn	Pg	18 53 32.4	-0.4
PBX	Punta Banda	1.71	187	*e*P	Pn	18 53 31.1	+0.8
PBX				*e*S	Sb	18 53 54.1	+0.5
DSCC	Desert Studies	1.72	10	*e*Pn	Pb	18 53 32.3	+0.2
DSCC				*e*Sn	Sg	18 53 54.8	-1.0
DECC	Green Verdugo	1.75	298	Pb	Pb	18 53 32.4	-0.2
	baz=116						
DECC				Sb	Sb	18 53 54.9	+0.3
	baz=116						
DECC	Green Verdugo	1.75	298	*e*Pn	Pb	18 53 32.6	-0.1
DECC				*e*Sn	Sb	18 53 55.0	+0.3
BLKC	Black Mountain	1.75	339	*e*Pn	Pn	18 53 32.0	+0.1
ECNX	Esteban Cantu	1.79	184	*e*P	Pn	18 53 32.2	+0.8
ECNX				*e*S	Sb	18 53 56.2	+0.4
SCI2	San Clemente I	1.80	256	P	Pn	18 53 31.6	0.0
	baz=74,SNR=21						
SCI2				Sb	Sb	18 53 57.2	+1.1
	baz=74						
IR2C	Iron Canyon	1.86	301	*e*Pn	Pb	18 53 34.6	0.0
IR2C				*e*Sn	Sb	18 53 58.8	+1.0
GSC	Goldstone, Bar	1.87	352	P	Pn	18 53 32.4	-0.1
	baz=171,SNR=69						
GSC	Goldstone, Bar	1.87	352	*e*Pn	Pn	18 53 32.5	-0.1
EDW2	Edwards Air Fo	1.91	319	Sb	Sb	18 54 00.1	+0.8
	baz=138						
EDW2	Edwards Air Fo	1.91	319	*e*Sn	Sb	18 54 00.6	+1.3
LEOC	Leona Valley	1.93	308	*e*Pn	Pb	18 53 36.1	+0.4
ZAX	El Zacaton	1.94	175	*e*P	Pn	18 53 34.5	+1.0
ZAX				*e*S	Sb	18 54 00.3	+0.3
ZAX				IAML		18 54 06.3	
	comp=E,440nm,0.8s						
ZAX				⇓*e*		18 54 06.3	
NEE2	Needles Airpor	2.02	49	Pg	Pb	18 53 38.1	+0.8
	baz=230,SNR=13						
NEE2				Sb	Sb	18 54 03.3	+0.7
	baz=230						
TUQ	Turquoise Moun	2.03	13	Pg	Pb	18 53 38.4	+0.9
	baz=193,SNR=22						
TUQ				Sb	Sb	18 54 03.7	+0.7
	baz=193						
TUQ	Turquoise Moun	2.03	13	*e*Sn	Sg	18 54 04.9	-1.0
PDMCI	Parker Dam,Lak	2.12	66	Pb	Pb	18 53 38.8	0.0
	baz=247,SNR=22						
SHOC	Shoshone, Teco	2.45	4	P	Pn	18 53 40.2	-0.3
	baz=184,SNR=20						
SPIG	San Pedro Mart	2.54	160	*e*P	Pb	18 53 47.1	+0.8
SPIG				*e*S	Sg	18 54 20.0	-2.2
SPX	San Pedro Mart	2.54	160	*e*P	Pb	18 53 47.4	+1.0
W13A	Hualapai Mount	2.70	52	*e*Pn	Pn	18 53 43.7	-0.4
MPMC	Manual Prospec	2.74	342	P	Pn	18 53 44.3	-0.2
	baz=162,SNR=12						
ISA	Isabella, Lake	2.76	324	Pb	Pb	18 53 49.2	-0.7
	baz=142,SNR=48						
ISA	Isabella, Lake	2.76	324	*e*Pn	Pn	18 53 44.9	+0.1
WASM	Alta Sierra Ca	2.86	324	*e*Pn	Pn	18 53 45.9	-0.4
Y14A	Wickenburg	2.93	79	*e*Pn	Pn	18 53 47.5	+0.4
DAC	Darwin (Calif)	2.97	342	*e*Pn	Pn	18 53 48.0	+0.2
SHPR	Sheep Range	3.23	19	*e*Pn	Pn	18 53 51.6	+0.2
TPNV	Topopah Spring	3.50	3	P	Pn	18 53 55.5	+0.5
	baz=183						
TPNV	Topopah Spring	3.50	3	*e*Pn	Pn	18 53 55.6	+0.6
TIN	Tinemaha, Big	3.88	339	*e*Sn	Sn	18 54 46.5	+0.7
X16A	Lo Mia Camp, P	4.29	76	*e*Pn	Pn	18 54 06.3	+0.4
U15A	North Rim	4.54	48	*e*Pn	Pn	18 54 10.4	+1.0
KNB	Kanab	4.65	39	*e*Pn	Pn	18 54 12.0	+1.2
R11A	Troy Canyon, C	4.94	8	*e*Pn	Pn	18 54 14.9	0.0
SZCU	Shurtz Canyon	4.97	33	*e*Pn	Pn	18 54 16.7	+1.3
NV11	Mina Array Sit	5.16	345	*e*Pn	Pn	18 54 19.5	+1.7
NV01	Mina Array Sit	5.19	344	*e*Pn	Pn	18 54 18.3	0.0
RYN	Ryan	5.43	343	*e*Pn	Pn	18 54 20.7	-0.9
CMB	Columbia Colle	5.58	326	*e*Pg	Pg	18 54 48.4	+1.2
JECB	Eureka Canyon	5.66	311	*e*Sg	Sg	18 55 58.5	-3.5
Q16A	Castle Valley	6.94	37	*e*Pn	Pn	18 54 41.5	-0.8

IDC 12 18:53:10.2±2.5, 2°49'N×93°31'E, h0km, mb3.6/4, mb1 3.6/5, mb1mx3.3/65, mbtmp3.5/5, ML3.4/1, Error ellipse: s-maj=108.5km s-min=30.4km az=64.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	Chiang Mai Arr	16.80	19	Pn	Pn	18 57 05.9	-1.2
	0.1nm,0.3s,baz=215,slow=12,SNR=5.4						
MKAR	Makanchi Array	45.16	349	P	P	19 01 28.6	-0.1
	0.4nm,0.6s,baz=171,slow=8.5,SNR=8.1						
KURBB	Kurchatov Arra	49.57	348	P	P	19 02 02.7	-0.2
	0.2nm,0.6s,baz=159,slow=6.0,SNR=4.1						
ZALV	Zalesovo Beam	51.77	354	P	P	19 02 20.1	+0.6
	0.5nm,0.4s,baz=159,slow=6.5,SNR=3.9						
STKA	Stephens Creek	57.11	131	P	P	19 02 58.6	-0.3
	1.4nm,0.8s,baz=318,slow=7.1,SNR=2.9						

IDC 12 18:54:29.0±3.2, 3°92'S×93°39'E, h0km, mb3.3/3, mb1 3.7/4, mb1mx3.2/65, mbtmp3.6/4, ML4.3/1, Error ellipse: s-maj=151.5km s-min=28.3km az=46.0, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PALK	Pallekele	16.85	311	Pn	Pn	18 58 25.6	-1.0
	1.0nm,0.3s,baz=111,slow=9.4,SNR=6.5						
WRA	Warramunga Arr	42.95	115	P	P	19 02 29.2	-1.0
	0.8nm,0.8s,baz=292,slow=8.2,SNR=4.8						
ASAR	Alice Springs	43.74	121	P	P	19 02 37.3	+0.8
	0.2nm,0.6s,baz=296,slow=7.7,SNR=1.6						
MKAR	Makanchi Array	51.44	350	P	P	19 03 36.3	+0.3
	0.2nm,0.6s,baz=171,slow=10,SNR=2.3						

TIR ***12*** *18:55:27.2, 42°04'N×22°16'E, h7km, Md1.9/2*

CSEM 12 18:54:57.5, 42°60'N×18°10'E, h5km, ML1.5/4, 1C-1D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TREB	Trebinje	0.22	58	⇓*i*Pg	Pg	18 55 01.4	-0.4
TREB				*e*Sg	Sg	18 55 05.1	+0.4
HCY	Herceg Novi	0.33	118	⇑*i*Pg	Pg	18 55 03.6	-0.3
HCY				*e*Sg	Sg	18 55 08.9	+0.6
STON	Ston	0.40	313	*e*Pg	Pg	18 55 04.3	-0.9
STON				Sg	Sg	18 55 11.1	+0.7
BRY	Bratogost	0.44	47	*e*Pg	Pg	18 55 05.6	-0.5
BRY				*e*Sg	Sg	18 55 12.2	+0.3
PDG	Podgorica	0.88	101	*e*Sg	Sg	18 55 26.1	+0.5
DRME	Dracevica, Mon	0.91	117	*e*Pg	Pg	18 55 13.6	-1.3
DRME				*e*Sg	Sg	18 55 26.8	+0.1
PUK	Puka	1.45	112	*i* PG	Pn	18 55 23.9	-0.5
PUK				*i* SG	Sg	18 55 47.1	+3.2
BBLS	Lazići	1.58	37	*e*Pn	Pn	18 55 26.2	-0.1
BBLS				*e*Sn	Sb	18 55 47.6	-0.1
TIR	Tirane	1.82	133	*i* PG	Pn	18 55 27.3	-2.2
TIR				*i* SG	Sn	18 55 48.7	-4.2

DJA 12 18:58:01.0±2.2, 2°N±3°×9°4E±1°8, h18km±26km, M3.9/3, mb3.8/3, MLv4.0/2, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BSI	Banda Aceh	3.41	17	P	Pn	18 58 54.7	+1.4
BSI				S	Sn	18 59 34.1	+0.8
GSI	Gunungsitoli	3.42	105	P	Pn	18 58 55.6	+2.2
GSI				S	Sn	18 59 34.4	+0.9
KCSI	Kotacane, Aceh	3.72	70	P	Pn	18 58 58.4	+0.8
LHMI	Lhok Sumawe	4.00	42	P	Pn	18 59 02.1	+0.6
MNSI	Mandailing Nat	5.48	105	P	Pn	18 59 23.7	+1.9
MNSI				S	Sn	19 00 24.9	+0.4
SISI	Saibi	5.96	126	P	Pn	18 59 28.6	+0.2
MDSI	Maura Dua	11.93	124	P	Pn	19 00 50.2	-0.1

ISCJB ***12*** *19:03:42.6±1.1, 2°5N±0°2×90°0E±0°1, h10km, mb3.6/4, Error ellipse: s-maj=25.0km s-min=16.7km az=38.8*

IDC ***12*** *19:03:43.2±1.8, 2°56'N×90°05'E, h0km, mb3.6/4, mb1 3.6/6, mb1mx3.3/63, mbtmp3.5/6, ML2.9/1, Error ellipse: s-maj=51.6km s-min=25.8km az=55.0*

ISC 12 19:03:44.3±1.3, 2°6N±0°2×89°9E±0°1, h10km, n7, σ2°51/8, mb3.5/4, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PALK	Pallekele	10.26	297	Pn	Pn	19 06 15.1	+3.4
	0.1nm,0.3s,baz=170,slow=0.4,SNR=1.5						
PALK				Sn	Sn	19 08 02.7	-4.2
	0.7nm,0.3s,baz=122,slow=4.5,SNR=5.2						
CMAR	Chiang Mai Arr	18.10	29	P	P	19 07 56.0	-0.4
	baz=227,slow=14,SNR=1.7						
MKAR	Makanchi Array	44.53	353	P

CMAR	**Chiang Mai Arr**	**18.12**	**31**	P		Pn	19 15 13.4	0.0
	0.0nm,0.3s,baz=223,slow=11,SNR=4.6							
CMAR				LR		LR	19 20 45.7	
	comp=Z,45nm,20.9s,baz=190,slow=32							
H08S3	**Diego Garcia H**	**19.76**	**238**	T		T	19 35 56.8	
	baz=57,slow=74,SNR=7.6							
H08S2	**Diego Garcia H**	**19.76**	**238**	T		T	19 35 53.2	
	baz=57,slow=74,SNR=9.4							
H08S1	**Diego Carcia H**	**19.77**	**238**	T		T	19 35 55.5	
	baz=57,slow=74,SNR=6.9							
MKAR	**Makanchi Array**	**44.12**	**353**	P		P	19 19 10.1	-0.2
	0.2nm,0.5s,baz=162,slow=9.6,SNR=3.8							
SONM	**Songino Array**	**47.12**	**16**	P		P	19 19 34.1	-0.1
	1.8nm,0.7s,baz=198,slow=9.2,SNR=6.7							
WRA	**Warramunga Arr**	**49.73**	**119**	P		P	19 19 54.4	-0.1
	0.5nm,0.8s,baz=297,slow=9.0,SNR=3.0							

IDC 12 19:14:56.4±6.6, 1°00N×96°22E, h0km, mb3.8/5, mb1 3.8/6, mb1mx3.4/62, mbtmp3.7/6, ML3.3/1, Error ellipse: s-maj=167.3km s-min=61.2km az=129.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**17.55**	**9**	P	Pn	19 19 03.0	+0.4
	0.0nm,0.3s,baz=215,slow=14,SNR=3.8						
MKAR	**Makanchi Array**	**47.20**	**347**	P	P	19 23 30.4	-0.5
	0.9nm,0.6s,baz=166,slow=8.5,SNR=12						
SONM	**Songino Array**	**47.47**	**9**	P	P	19 23 32.0	-1.2
	1.0nm,0.8s,baz=188,slow=8.7,SNR=3.7						
KURBB	**Kurchatov Arra**	**51.67**	**346**	P	P	19 24 04.6	-0.3
	0.7nm,0.8s,baz=170,slow=7.8,SNR=6.5						
ZALV	**Zalesovo Beam**	**53.60**	**352**	P	P	19 24 20.9	+1.7
	1.1nm,0.5s,baz=179,slow=7.1,SNR=6.6						
GERES	**GERESS Array B**	**84.32**	**319**	P	P	19 27 30.4	-0.1
	0.4nm,0.7s,baz=108,slow=3.2,SNR=2.9						

IDC 12 19:15:27.1±2.0, 1°46N×126°28E, h0km, mb3.4/4, mb1 3.6/4, mb1mx3.3/54, mbtmp3.4/4, Error ellipse: s-maj=167.8km s-min=27.1km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.68**	**160**	P	P	19 20 30.8	+0.4
	0.5nm,0.3s,baz=338,slow=10,SNR=13						
ASAR	**Alice Springs**	**26.05**	**164**	P	P	19 21 02.3	0.0
	0.2nm,0.5s,baz=345,slow=6.9,SNR=4.5						
STKA	**Stephens Creek**	**36.19**	**158**	P	P	19 22 30.8	-0.8
	1.3nm,0.8s,baz=318,slow=12,SNR=2.3						
MKAR	**Makanchi Array**	**59.17**	**326**	P	P	19 25 30.1	+0.2
	0.2nm,0.8s,baz=113,slow=7.8,SNR=1.9						

DJA 12 19:17:10.4±2.2, 1°N±12°×9°2E±1°9, h10km, M4.6/6, mB5.2/2, mb4.5/6, MLv4.6/4, Mw(mB)4.5/2

ISCJB 12 19:17:12.2±0.8, 1°09N±0°10×91°94E±0°07, h10km, mb3.8/7, Error ellipse: s-maj=15.1km s-min=8.0km az=27.2

IDC 12 19:17:14.1±1.4, 1°25N×91°93E, h0km, mb3.7/7, mb1 3.8/9, mb1mx3.5/65, mbtmp3.7/9, ML3.6/2, MS3.4/1, Ms1 3.4/1, ms1mx2.6/60, Error ellipse: s-maj=40.4km s-min=25.5km az=42.0

ISC 12 19:17:14.6±0.9, 1°16N±0°10×91°96E±0°09, h10km, n24, σ1s27/20, mb3.7/7, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLSI	**Meulaboh, Aceh**	**5.41**	**55**	P	**Pn**	**19 18 35.8**	**+0.4**
BSI	**Banda Aceh**	**5.45**	**38**	P	**Pn**	**19 18 35.9**	**0.0**
GSI	**Gunungsitoli**	**5.61**	**88**	P	**Pn**	**19 18 39.0**	**+0.7**
TPTI		**5.62**	**68**	P	**Pn**	**19 18 38.8**	**+0.5**
KCSI	**Kotacane, Aceh**	**6.26**	**68**	P	**Pn**	**19 18 47.7**	**+0.5**
LHMI	**Lhok Sumawe**	**6.41**	**51**	S	**Sn**	**19 19 59.7**	**-2.8**
PSI	**Prapat**	**7.15**	**77**	LR	LR	19 22 12.8	
	comp=Z,273nm,18.4s,slow=42						
SISI	**Saibi**	**7.54**	**109**	P	**Pn**	**19 19 02.4**	**-2.3**
MNSI	**Mandailing Nat**	**7.62**	**93**	P	**Pn**	**19 19 07.2**	**+1.3**
PDSI	**Padang**	**8.74**	**104**	P	**Pn**	**19 19 21.3**	**0.0**
PPSI	**Pulau Pagai**	**8.94**	**116**	P	**Pn**	**19 19 22.7**	**-1.2**
KRJI	**Kerinci**	**10.03**	**109**	P	**Pn**	**19 19 39.4**	**+0.4**
PALK	**Pallekele**	**12.76**	**299**	Pn	**Pn**	**19 20 14.4**	**-2.0**
	0.7nm,0.3s,baz=115,slow=13,SNR=3.1						
PALK				Sn	Sn	19 22 24.4	-14
	2.9nm,0.3s,baz=113,slow=0.9,SNR=7.4						
CMAR	**Chiang Mai Arr**	**18.51**	**21**	P	**P**	**19 21 30.6**	**-0.7**
	0.1nm,0.3s,baz=217,slow=13,SNR=6.3						
H08S2	**Diego Garcia H**	**21.30**	**245**	T	T	19 43 53.7	
	baz=65,slow=75,SNR=8.9						
H08S3	**Diego Garcia H**	**21.30**	**246**	T	T	19 43 44.3	
	baz=65,slow=75,SNR=14						
H08S1	**Diego Carcia H**	**21.31**	**245**	T	T	19 43 55.3	
	baz=65,slow=75,SNR=14						
MKAR	**Makanchi Array**	**46.23**	**351**	P	**P**	**19 25 40.2**	**+0.1**
	0.4nm,0.5s,baz=166,slow=9.1,SNR=7.0						
WRA	**Warramunga Arr**	**46.53**	**119**	P	**P**	**19 25 44.0**	**+1.3**
	0.6nm,0.7s,baz=301,slow=8.9,SNR=4.0						
SONM	**Songino Array**	**48.15**	**13**	P	**P**	**19 25 56.2**	**+1.1**
	2.1nm,0.6s,baz=190,slow=9.2,SNR=9.5						
KURBB	**Kurchatov Arra**	**50.59**	**349**	P	**P**	**19 26 13.1**	**-0.4**
	0.5nm,0.6s,baz=178,slow=7.6,SNR=7.9						
ZALV	**Zalesovo Beam**	**52.95**	**355**	P	**P**	**19 26 30.9**	**-0.2**
	1.0nm,0.4s,baz=188,slow=7.0,SNR=5.0						
BRTR	**Keskin Array B**	**65.31**	**314**	P	**P**	**19 27 58.3**	**+1.0**
	0.3nm,0.7s,baz=63,slow=5.8,SNR=3.1						
GERES	**GERESS Array B**	**81.41**	**319**	P	**P**	**19 29 32.9**	**+0.9**
	0.6nm,0.9s,baz=104,slow=5.6,SNR=5.2						

ISCJB 12 19:24:50.9±1.7, 1°0N±0°2×92°0E±0°3, h10km, mb3.6/6, MS3.3/3, Error ellipse: s-maj=50.3km s-min=17.6km az=154.4

IDC 12 19:24:51.1±2.5, 0°94N×91°95E, h0km, mb3.5/6, mb1 3.7/7, mb1mx3.4/64, mbtmp3.5/7, ML3.6/1, MS3.3/3, Ms1 3.3/3, ms1mx3.1/27, Error ellipse: s-maj=86.9km s-min=21.6km az=61.0

ISC 12 19:24:52.8±2.6, 1°0N±0°3×92°0E±0°5, h10km, n10, σ0s82/7, mb3.7/6, MS3.3/3, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**18.68**	**21**	P	**P**	**19 29 10.6**	**-0.6**
	0.1nm,0.3s,baz=216,slow=13,SNR=15						
TGY	**Tagaytay City**	**31.47**	**64**	LR	LR	19 43 35.0	
	comp=Z,67nm,20.0s,baz=287,slow=36						
WRA	**Warramunga Arr**	**46.41**	**119**	P	**P**	**19 33 19.6**	**-0.4**
	0.6nm,0.4s,baz=343,slow=10,SNR=6.9						
MKAR	**Makanchi Array**	**46.42**	**351**	P	**P**	**19 33 19.2**	**-0.5**
	0.4nm,0.8s,baz=139,slow=11,SNR=4.1						
ASAR	**Alice Springs**	**47.51**	**124**	P	**P**	**19 33 28.8**	**+0.2**
	0.2nm,0.7s,baz=301,slow=7.4,SNR=2.8						
SONM	**Songino Array**	**48.33**	**13**	P	**P**	**19 33 35.6**	**+0.9**
	0.8nm,0.6s,baz=174,slow=6.6,SNR=4.8						
KURBB	**Kurchatov Arra**	**50.78**	**349**	P	**P**	**19 33 52.3**	**-0.8**
	0.5nm,0.6s,baz=165,slow=7.1,SNR=4.5						
ZALV	**Zalesovo Beam**	**53.14**	**355**	P	**P**	**19 34 11.3**	**+0.6**
	0.4nm,0.3s,baz=197,slow=7.3,SNR=3.3						
GUMO	**Guam**	**53.80**	**74**	LR	LR	19 56 19.0	
	comp=Z,54nm,21.7s,baz=242,slow=35						
SUR	**Sutherland**	**74.69**	**236**	LR	LR	20 06 28.7	
	comp=Z,8.6nm,18.4s,baz=253,slow=34						

ISCJB 12 19:25:51.8±1.5, 3°40N±0°03×92°84E±0°03, h1km±9km, mb4.7/80, MS4.0/12, Error ellipse: s-maj=6.3km s-min=4.0km az=31.2

IDC 12 19:25:53.0±0.5, 3°36N×92°83E, h0km, mb4.5/31, mb1 4.6/34, mb1mx4.4/66, mbtmp4.5/34, ML4.2/2, MS3.9/12, Ms1 3.9/12, ms1mx3.6/40, Error ellipse: s-maj=16.2km s-min=11.3km az=33.0

NEIC 12 19:25:55.3±2.3, 3°39N×92°83E, h15km±14km, mb4.8/40, Error ellipse: s-maj=7.7km s-min=4.3km az=219.0

GCMT 12 19:25:55.3±0.4, 3°52N×92°84E, h19km±1km, MW4.9/65, Moment Tensor Solution. s18,c19; s65,c97; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr=2.65±.22; Mθθ=0.44±.12; Mϕϕ=2.21±.13; Mrθ=1.16±.33; Mrϕ=0.15±.07; Mθϕ=-0.35±.20; Best double couple: Mw=2.65200×10^16 NP1:ϕs=346.00000°, δ51.00000°, λ=-114.00000°. NP2: ϕs=201.00000°, δ45.00000°, λ=-63.00000°. Principal axes: T 2.2380, Plg4.0000°, Azm92.0000°; N 0.8250,

Plg19.0000°, Azm1.0000°; P -3.0650, Plg71.0000°, Azm193.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.

DJA 12 19:25:57.0±2.4, 3°N±3°×9°3E±°, h32km±30km, M4.8/15, mb5.0/15, mB5.1/10, MLv5.0/8, Mw(mB)4.5/10

ISC 12 19:25:56.4±0.8, 3°41N±0°06×92°84E±0°05, h20km±3km, n242, σ0s91/252, mb4.7/87, MS4.1/12, 10C-6D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSI	**Banda Aceh**	**3.21**	**50**	P	**Pn**	**19 26 44.8**	**-0.9**
MLSI	**Meulaboh, Aceh**	**3.66**	**76**	P	**Pn**	**19 26 52.0**	**+0.1**
MLSI				S	**Pn**	**19 26 52.0**	**+0.1**
TPTI		**4.33**	**92**	P	**Pn**	**19 27 01.4**	**+0.2**
LHMI	**Lhok Sumawe**	**4.47**	**66**	P	**Pn**	**19 27 03.8**	**+0.7**
LHMI				S	**Sn**	**19 27 57.5**	**+2.8**
LHMI	**Lhok Sumawe**	**4.47**	**66**	*e*Pn	**Pn**	**19 27 04.0**	**+0.8**
KCSI	**Kotacane, Aceh**	**4.92**	**89**	P	**Pn**	**19 27 09.8**	**+0.5**
KCSI				S	**Pn**	**19 27 10.2**	**+0.9**
GSI	**Gunungsitoli**	**5.17**	**114**	P	**Pn**	**19 27 12.3**	**-0.5**
	193nm,0.6s,3μm0.9nm						
GSI	**Gunungsitoli**	**5.17**	**114**	*e*Pn	**Pn**	**19 27 12.0**	**-0.8**
TSI	**Tuntungan**	**5.71**	**89**	P	**Pn**	**19 27 21.5**	**+1.3**
	243nm,0.6s,4μm1.5nm						
PSI	**Prapat**	**6.11**	**96**	Pn	**Pn**	**19 27 26.4**	**+0.8**
PSI				Sn	**Sn**	**19 28 34.1**	**-1.0**
PSI	**Prapat**	**6.11**	**96**	*e*Pn	**Pn**	**19 27 26.0**	**+0.3**
PSI				Sn	**Sn**	**19 28 34.1**	**-1.0**
MNSI	**Mandailing Nat**	**7.22**	**111**	P	**Pn**	**19 27 41.5**	**+0.6**
	90nm,0.4s,3μm						
SISI	**Saibi**	**7.82**	**127**	P	**Pn**	**19 27 48.7**	**-0.5**
	86nm,0.8s						
KULM	**Kulim**	**8.01**	**76**	*e*Pn	**Pn**	**19 27 52.1**	**+0.4**
TRTT	**Trang**	**8.11**	**57**	P	**Pn**	**19 27 51.8**	**-1.3**
PBA	**Port Blair**	**8.19**	**359**	*e*P	Pn	19 27 52.6	-1.6
PBA	**Port Blair**	**8.19**	**359**	*e*Pn	Pn	19 27 52.1	-2.1
IPM	**Ipoh**	**8.23**	**82**	*e*Pn	**Pn**	**19 27 54.1**	**-0.7**
SKLT	**Songkhla**	**8.60**	**64**	P	**Pn**	**19 28 02.8**	**+3.0**
	39nm,1.0s						
PDSI	**Padang**	**8.74**	**119**	P	**Pn**	**19 28 03.5**	**+1.6**
	29nm,0.5s,2μm						
PPSI	**Pulau Pagai**	**9.43**	**130**	P	**Pn**	**19 28 11.7**	**+0.4**
SDSI	**Sungai Dareh**	**9.61**	**117**	S	**Pn**	**19 28 14.6**	**+0.9**
DGPR	**DIGLIPUR**	**9.70**	**1**	*e*P	**Pn**	**19 28 13.6**	**-1.4**
MYKOM	**Kota Tinggi**	**11.12**	**98**	*e*Pn	**Pn**	**19 28 32.6**	**-1.7**
MASI	**Maura Aman, Be**	**11.43**	**125**	P	**Pn**	**19 28 38.8**	**+0.1**
	60nm,0.8s						
SRDT	**SRDT**	**12.51**	**29**	P	**Pn**	**19 28 54.0**	**+0.6**
	16nm,1.3s						
PALK	**Pallekele**	**12.68**	**288**	Pn	**Pn**	**19 28 54.6**	**-1.2**
	3.2nm,0.3s,baz=116,slow=14,SNR=13						
PALK				Sn	Sn	19 31 04.1	-12
	20nm,0.3s,baz=116,slow=5.0,SNR=12						
PALK				LR	LR	19 32 58.0	
	comp=Z,1μm,21.8s,baz=116,slow=34						
MNAI	**Manna**	**12.72**	**127**	P	**Pn**	**19 28 56.3**	**0.0**
	86nm,0.7s						
CHBT	**CHBT**	**13.20**	**45**	P	**P**	**19 29 13.2**	**+0.5**
PBKT	**Sadao Pong**	**15.32**	**31**	P	**Pn**	**19 29 30.1**	**-1.6**
	22nm,0.9s						
MDRS	**Chennai**	**15.72**	**308**	*e*P	**Pn**	**19 29 36.4**	**-0.4**
CM01	**Chiang Mai Arr**	**16.07**	**21**	*e*Pn	**Pn**	**19 29 39.7**	**-1.7**
CM01				*e*PcP	**PcP**	**19 34 38.4**	**+0.9**
CM31	**Chiang Mai Arr**	**16.10**	**21**	*e*Pn	**Pn**	**19 29 40.5**	**-1.3**
CMAR	**Chiang Mai Arr**	**16.10**	**21**	Pn	**Pn**	**19 29 40.6**	**-1.1**
	0.2nm,0.3s,baz=216,slow=13,SNR=48						
CMAR				PcP	**PcP**	**19 34 38.6**	**+1.1**
	0.0nm,0.3s,baz=224,slow=3.8,SNR=5.7						
CHTO	**Chiang Mai**	**16.43**	**21**	*e*Pn	**Pn**	**19 29 44.5**	**-1.4**
	15nm,1.0s						
CMMT	**Chiang Mai**	**16.43**	**21**	P	**Pn**	**19 29 43.2**	**-2.8**
	17nm,1.2s						
TRD	**Trivandrum**	**16.58**	**288**	*e*P	**Pn**	**19 29 46.9**	**-1.1**
VIS	**Vishakhapatnam**	**17.00**	**327**	*e*P	**Pn**	**19 29 51.6**	**-1.6**
SKNT	**Sakolnakorn**	**17.36**	**38**	P	**Pn**	**19 29 55.9**	**-1.8**
KSM	**Kuching**	**17.56**	**96**	*e*Pn	**P**	**19 30 01.8**	**+0.7**
	30nm,1.0s						
LEM	**Lembang**	**17.92**	**125**	LR	LR	19 37 40.5	
	comp=Z,409nm,18.1s,baz=300,slow=40						
SBUM	**Sibu**	**19.38**	**92**	*e*P	**Pn**	**19 30 22.2**	**-0.2**
	23nm,1.2s						
HYB	**Hyderabad**	**19.75**	**316**	*i* P	**Pn**	**19 30 27.5**	**+0.7**
HYB				*e*S	**Sn**	**19 34 10.0**	**+1.6**
HYB	**Hyderabad**	**19.75**	**316**	*e*P	**P**	**19 30 24.8**	**-0.5**
HYB				IAmb	IAmb	19 30 26.2	
	comp=Z,6.7nm,0.5s						
BOK	**Bokaro**	**21.35**	**342**	*e*P	**P**	**19 30 43.5**	**+1.0**
BOK				IAmb	IAmb	19 30 46.5	
	comp=Z,45nm,0.3s						
SHL	**Shillong**	**22.05**	**358**	*e*P	**P**	**19 30 49.3**	**-0.8**
SHL				IAmb	IAmb	19 30 54.3	
	comp=Z,88nm,1.4s						
SHL	**Shillong**	**22.05**	**358**	*e*P	**P**	**19 30 49.9**	**-0.3**
	comp=Z,58nm,0.9s						
NGP	**Nagpur**	**22.16**	**324**	*e*P	**P**	**19 30 50.5**	**-0.7**
NGP				IAmb	IAmb	19 31 01.5	
	comp=Z,10nm,0.8s						
GOA	**Goa**	**22.24**	**304**	*e*P	**P**	**19 30 51.5**	**-0.6**
H08S2	**Diego Garcia H**	**23.08**	**242**	T	T	19 56 25.5	
	baz=62,slow=75,SNR=16						
H08S3	**Diego Garcia H**	**23.08**	**242**	T	T	19 56 26.6	
	baz=62,slow=75,SNR=18						
H08S1	**Diego Carcia H**	**23.10**	**242**	T	T	19 56 25.5	
	baz=62,slow=75,SNR=22						
KMI	**Kunming**	**23.60**	**23**	P	**P**	**19 31 07.5**	**+1.2**
KMI				pP	sP	19 31 17.3	+2.6
KMI				sP	pP	19 31 20.7	+8.5
KMI				S	**S**	**19 35 23.4**	**+3.4**
KMI				sS	Sn	19 35 37.0	-3.8
KMI				SS	SnSn	19 36 15.8	+18
KMI				pmax	pmax		
	comp=Z,22nm,1.5s						
KMI				pmax	pmax		
	comp=Z,190nm,3.1s						
KMI				LR	LR		
	comp=N,340nm,14.7s						
KMI				LR	LR		
	comp=E,360nm,14.1s						
KMI				LR	LR		
	comp=Z,300nm,11.4s						
ODAN	**Odare**	**23.89**	**348**	*e*P	**P**	**19 31 09.7**	**+0.5**
	comp=Z,76nm,1.0s						
RAMN	**Ramite**	**24.16**	**346**	*e*P	**P**	**19 31 12.6**	**+0.9**
	comp=Z,42nm,0.6s						
BHPL	**Bhopal**	**24.72**	**324**	*e*P	**P**	**19 31 12.3**	**-4.3**
BHPL				IAmb	IAmb	19 31 13.2	
	comp=Z,7.3nm,0.2s						
JIRN	**Jiri**	**24.93**	**346**	*e*P	**P**	**19 31 19.6**	**+0.7**
	comp=Z,88nm,0.7s						
PKIN	**Phulchoki**	**25.06**	**344**	*e*P	**P**	**19 31 21.0**	**+1.1**
DMN	**Daman**	**25.17**	**344**	*e*P	**P**	**19 31 21.4**	**+0.5**
	comp=Z,43nm,0.8s						
GUN	**Gumba**	**25.25**	**345**	*e*P	**P**	**19 31 22.3**	**+0.6**
	comp=Z,50nm,0.7s						
KKN	**Kakani**	**25.29**	**344**	*e*P	**P**	**19 31 22.4**	**+0.4**
	comp=Z,44nm,0.9s						
MYLDM	**Lahad Datu**	**25.65**	**85**	*e*P	**P**	**19 31 26.3**	**+1.2**
	comp=Z,22nm,0.9s						
GKN	**Gorkha**	**25.68**	**343**	*e*P	**P**	**19 31 26.0**	**+0.6**
	comp=Z,52nm,0.6s						
LSA	**Lhasa**	**26.19**	**357**	P	**P**	**19 31 31.7**	**+1.3**
LSA				pmax	pmax		
	comp=Z,38nm,0.8s						
DANN	**Dangsing**	**26.27**	**342**	*e*P	**P**	**19 31 31.7**	**+0.8**
PYUN	**Piuthan**	**26.29**	**340**	*e*P	**P**	**19 31 31.4**	**+0.4**
	comp=Z,42nm,0.9s						
SMLA	**Simla**	**31.28**	**334**	*e*P	**P**	**19 32 15.8**	**+0.7**
SMLA				IAmb	IAmb	19 32 18.8	
	comp=Z,35nm,1.3s						
DHRM	**DHARAMSHALA**	**32.62**	**333**	*e*P	**P**	**19 32 26.2**	**-1.0**
DHRM				IAmb	IAmb	19 32 27.6	
	comp=Z,84nm,0.1s						
BATI	**Baumata**	**33.55**	**114**	LR	LR	19 49 04.0	
	comp=Z,228nm,18.5s,baz=300,slow=42						
XAN	**Xi'an**	**33.96**	**24**	P	**P**	**19 32 37.7**	**-1.0**
XAN				pP	pP	19 32 42.6	-2.1
XAN				sP	sP	19 32 45.5	-1.7
XAN				PP	**PnPn**	**19 33 50.2**	**-1.7**
XAN				S	**S**	**19 38 00.6**	**-2.2**
XAN				sS	sS	19 38 10.3	-2.4
XAN				SS	**SnSn**	**19 40 07.1**	**-2.6**
XAN				pmax	pmax		
	comp=Z,35nm,0.9s						
XAN				LR	LR		
	comp=N,210nm,14.1s						
XAN				LR	LR		
	comp=E,210nm,13.0s						
XAN				LR	LR		
	comp=Z,250nm,15.2s						
NIL	**Nilore**	**35.20**	**331**	*e*P	**P**	**19 32 49.5**	**+0.1**
	comp=Z,35nm,0.6s						
GTA	**Gaotai**	**36.39**	**9**	*e*P	**P**	**19 32 59.5**	**-0.1**
GTA				pP	pP	19 33 04.9	-0.8
GTA				sP	sP	19 33 08.4	+0.2
GTA				pmax	pmax		
	comp=Z,17nm,1.0s						
MEEK	**Meekatharra**	**38.90**	**142**	P	**P**	**19 33 21.5**	**+0.5**
	baz=39						
TARG	**Taragay, Kyrgy**	**40.46**	**343**	*e*P	**P**	**19 33 34.9**	**+0.7**
	comp=Z,5.1nm,0.8s						
NRN	**Naryn**	**40.77**	**341**	*e*P	**P**	**19 33 37.1**	**+0.5**
	comp=Z,8.1nm,1.0s						
PRZ	**Przheval'sk**	**40.98**	**344**	*e*P	**P**	**19 33 39.7**	**+1.5**
	comp=Z,22nm,1.1s						
KDJ	**Kajisay**	**41.02**	**342**	*e*P	**P**	**19 33 39.5**	**+1.0**
	comp=Z,11nm,0.9s						
ULHL	**Ulahol**	**41.42**	**341**	P	**P**	**19 33 42.5**	**+0.7**
	SNR=8.4						
UCH	**Uchtor**	**41.98**	**340**	P	**P**	**19 33 47.4**	**+0.7**
	SNR=11						
AML	**Almayashu**	**42.18**	**339**	P	**P**	**19 33 48.8**	**+0.5**
	SNR=15						
KBK	**Karagaybulak**	**42.21**	**340**	P	**P**	**19 33 49.3**	**+1.1**
	SNR=8.5						
TKM2	**Tokmak 2**	**42.23**	**341**	P	**P**	**19 33 48.8**	**+0.3**
	SNR=7.0						
AAK	**Ala-Archa**	**42.35**	**340**	P	**P**	**19 33 49.9**	**+0.6**
	comp=Z,1.7nm,0.6s,baz=17,slow=1.7,SNR=6.9						
AAK				PcP	**PcP**	**19 35 43.6**	**+0.9**
	comp=Z,2.2nm,0.8s,baz=140,slow=8.4,SNR=4.2						
AAK	**Ala-Archa**	**42.35**	**340**	*e*P	**P**	**19 33 50.4**	**+1.0**
AAK				*e*PcP	**PcP**	**19 35 43.6**	**+0.9**
EKS2	**Erkin-Say**	**42.62**	**339**	P	**P**	**19 33 52.4**	**+0.9**
	SNR=12						
NWAO	**Narrogin (SRO)**	**42.89**	**149**	LR	LR	19 48 39.5	
	comp=Z,107nm,20.1s,slow=32						
USP	**Ospenovka**	**42.90**	**340**	P	**P**	**19 33 54.2**	**+0.5**
	SNR=10						
MK01	**Makanchi Array**	**44.15**	**350**	*e*P	**P**	**19 34 03.6**	**-0.1**
MK31	**Makanchi Array**	**44.17**	**350**	*e*P	**P**	**19 34 04.1**	**+0.2**
MK32	**Makanchi Array**	**44.17**	**350**	*e*P	**P**	**19 34 04.2**	**+0.2**
MKAR	**Makanchi Array**	**44.17**	**350**	P	**P**	**19 34 04.2**	**+0.2**
	comp=Z,14nm,0.8s,baz=168,slow=8.9,SNR=62						
MKAR	**Makanchi Array**	**44.17**	**350**	*e*P	**P**	**19 34 04.1**	**+0.2**
	comp=Z,73nm,0.6s						
KK31	**Karatay Array**	**44.23**	**336**	*e*P	**P**	**19 34 04.6**	**+0.2**
KKAR	**Karatay Array**	**44.23**	**336**	*e*P	**P**	**19 34 04.6**	**+0.2**
MAKZ	**Makanchi**	**44.24**	**349**	*e*P	**P**	**19 34 04.5**	**+0.1**
	comp=Z,7.6nm,0.8s						
SONA0	**Songino Array**	**45.77**	**13**	*e*P	**P**	**19 34 17.2**	**+0.4**
SONA0				*e*PcP	**PcP**	**19 35 54.3**	**+0.1**
SONM	**Songino Array**	**45.77**	**13**	P	**P**	**19 34 17.2**	**+0.4**
	comp=Z,7.2nm,0.9s,baz=195,slow=9.1,SNR=19						
SONM				PcP	**PcP**	**19 35 54.3**	**+0.1**
	comp=Z,3.2nm,0.8s,baz=190,slow=4.3,SNR=5.8						
SONA1	**Songino Array**	**45.78**	**13**	*e*P	**P**	**19 34 17.1**	**+0.2**
ULN	**Ulaanbaatar**	**45.95**	**13**	*e*P	**P**	**19 34 18.3**	**+0.1**
	comp=Z,5.2nm,0.9s						
JNU	**Nakatsue**	**46.22**	**46**	P	**P**	**19 34 20.3**	**-0.1**
	comp=Z,9.7nm,0.8s,baz=150,slow=8.1,SNR=6.2						
JNU	**Nakatsue**	**46.22**	**46**	*e*P	**P**	**19 34 20.3**	**-0.1**
	comp=Z,19nm,1.0s						
KSAR	**Wonju Array Be**	**46.66**	**39**	P	**P**	**19 34 23.8**	**0.0**
KSRS	**Korea Array**	**46.69**	**39**	P	**P**	**19 34 23.8**	**-0.2**
	comp=Z,3.2nm,0.9s,baz=225,slow=9.3,SNR=8.8						
GEYT	**Alibeck**	**46.77**	**322**	P	**P**	**19 34 25.4**	**+0.8**
	comp=Z,11nm,0.8s,baz=148,slow=8.7,SNR=29						
GYA0B	**ALIBECK ARRAY**	**46.77**	**322**	*e*P	**P**	**19 34 25.5**	**+0.9**
	comp=Z,12nm,0.8s						
WR1	**Warramunga Arr**	**46.90**	**121**	*e*P	**P**	**19 34 25.3**	**-0.6**
	comp=Z,9.9nm,0.9s						
WRA	**Warramunga Arr**	**46.90**	**121**	P	**P**	**19 34 25.3**	**-0.6**
	comp=Z,5.7nm,0.7s,baz=298,slow=8.8,SNR=26						
WB2	**Warramunga Arr**	**46.91**	**121**	*e*P	**P**	**19 34 25.3**	**-0.6**
ASAR	**Alice Springs**	**48.20**	**126**	P	**P**	**19 34 35.4**	**-0.6**
	comp=Z,2.7nm,0.8s,baz=300,slow=7.7,SNR=19						
ASAR				PcP	**PcP**	**19 36 03.1**	**-0.1**
	comp=Z,2.1nm,0.7s,baz=306,slow=3.9,SNR=9.2						
AS31	**Alice Springs**	**48.20**	**126**	*e*P	**P**	**19 34 35.4**	**-0.6**
	comp=Z,1.4nm,0.8s						
KURBB	**Kurchatov Arra**	**48.57**	**348**	P	**P**	**19 34 38.6**	**+0.3**
	comp=Z,10nm,0.8s,baz=172,slow=7.2,SNR=53						
KURBB				PcP

PLOR	Plostina	71.10 317	⇓	*i*	P		19 37 14.5 +1.0
TESR	Tescani	71.27 318	⇓	*i*	P		19 37 14.5 0.0
MLR	Muntele Rosu	71.48 317		P	P		19 37 16.7 +0.8
	comp=Z,2.4nm,0.7s						
MLR	Muntele Rosu	71.48 317	⇑	*i*	P		19 37 16.8 +0.8
MLR	Muntele Rosu	71.48 317		*e*	P		19 37 16.7 +0.8
	comp=Z,16nm,0.7s						
PRAR	RASCA	71.78 319	⇑	*i*	P		19 37 17.7 +0.1
TIXI	Tiksi	71.83 11		*e*	P		19 37 16.6 -0.7
	comp=Z,25nm,0.8s						
VOIR		72.08 317	⇑	*i*	P		19 37 19.7 +0.2
BOSA	Boshof	72.15 239		P	P		19 37 20.2 -0.1
	comp=Z,1.7nm,0.6s,baz=207,slow=5.7,SNR=3.2						
ARR	Arges	72.35 317	⇑	*i*	P		19 37 21.1 0.0
BURAR	Bucovina Array	72.50 319	⇑	*i*	P		19 37 23.1 +1.1
BUR04	Bucovina Ar. S	72.51 319		*e*	P		19 37 22.4 +0.4
BUR08	Bucovina Ar. S	72.52 319		*e*	P		19 37 22.7 +0.5
VTS	Vitosha	72.76 314	⇓	*i*	P		19 37 23.5 -0.2
VTS	Vitosha	72.76 314		*e*	P		19 37 23.1 -0.6
	comp=Z,4.4nm,0.8s						
IDID	Didziasalis	73.76 327		*e*	P		19 37 28.7 -0.4
IDID				IAmb	IAmb		19 37 30.6
	comp=Z,6.5nm,0.9s						
HERR	Herculane	73.78 316	⇓	*i*	P		19 37 29.6 +0.1
DRGR		73.97 318	⇑	*i*	P		19 37 31.3 +0.6
IIGN	Ignalina	74.05 327		*e*	P		19 37 30.3 -0.5
IIGN				IAmb	IAmb		19 37 31.5
	comp=Z,3.9nm,0.7s						
IZAR	Zarasai	74.16 327		*e*	P		19 37 31.1 -0.3
IZAR				IAmb	IAmb		19 37 33.6
	comp=Z,4.4nm,0.9s						
SIRR	Siria	74.58 317	⇑	*i*	P		19 37 34.7 +0.6
KWP	Kalwaria Pacla	74.60 321		*e*	P		19 37 34.8 +0.6
CRVS	Cervenica-Dubn	75.24 320		*e*	P		19 37 38.5 +0.6
SUW	Suwalki	75.37 325		*e*	P		19 37 38.1 -0.4
SUW	Suwalki	75.37 325		*e*	P		19 37 37.9 -0.6
	comp=Z,31nm,0.9s						
STHS	Stebnicka Huta	75.49 320		*e*	P		19 37 40.9 +1.6
FIA1	FINESS Array S	76.05 333		*e*	P		19 37 41.5 -0.7
FIA0	FINESS Array S	76.05 333		*e*	P		19 37 41.3 -0.9
FINES	FINESS Array B	76.05 333		P	P		19 37 41.3 -0.9
	comp=Z,4.2nm,0.7s,baz=115,slow=8.6,SNR=16						
OJC	Ojcow	76.56 321		*e*	P		19 37 46.0 +0.5
OJC	Ojcow	76.56 321		*e*	P		19 37 45.9 +0.5
	comp=Z,6.1nm,0.7s						
VYHS	Vyhne	76.87 319		*e*	P		19 37 47.6 +0.4
MODS	Modra-Piesok	77.88 319		*e*	P		19 37 53.5 +0.6
MORC	Moravsky Berou	77.92 320		*e*	P		19 37 53.9 +0.8
	comp=Z,20nm,1.0s						
KRLC	Kraliky	78.45 320		*e*	P		19 37 56.5 +0.4
KRLC				*e*PCP	PcP		19 38 05.9 +0.7
CONA	Conrad Observa	78.75 318		*i*	P		19 37 57.9 +0.1
	comp=Z,1.7nm,0.6s						
DPC	Dobruska-Polom	78.78 321		*e*	P		19 37 58.7 +0.8
DPC				*e*PCP	PcP		19 38 07.6 +1.0
ARSA	Arzberg	78.90 317		*i*	P		19 37 59.5 +0.9
	comp=Z,11nm,0.9s,SNR=6.1						
UPC	Upice	79.00 321		*e*	P		19 38 00.0 +1.0
SOKA	Soboth	79.16 317		*i*	P		19 38 00.8 +0.7
	comp=Z,12nm,1.1s						
OBKA	Obir	79.47 317		*i*	P		19 38 03.2 +1.4
	comp=Z,6.6nm,0.8s						
GOPC	GO Pecny, Ondr	79.71 320		*e*	P		19 38 03.2 +0.3
GOPC				*e*PCP	PcP		19 38 12.4 +1.8
PRU	Pruhonice	79.87 320		*e*	P		19 38 04.0 +0.2
PRU				*e*PCP	PcP		19 38 12.9 +1.6
MYKA	Terra Mystica	80.11 317		*i*	P		19 38 05.7 +0.5
	comp=Z,4.2nm,0.6s						
GEA0	GERESS Array S	80.29 319		*e*	P		19 38 06.5 +0.3
GEC2	GERESS Array S	80.29 319		*e*	P		19 38 06.7 +0.5
	comp=Z,12nm,0.8s						
GERES	GERESS Array B	80.29 319		P	P		19 38 06.6 +0.5
	comp=Z,7.0nm,0.8s,baz=98,slow=5.5,SNR=44						
BSD	Bornholm Skovb	80.31 325		*i*	P		19 38 05.2 -0.8
	comp=Z,9.2nm,0.7s						
BSD				*i*			19 38 14.0
BRG	Berggiesshubel	80.36 321		*e*	P		19 38 06.7 +0.3
	comp=Z,6.8nm,0.9s						
BRG				*e*			19 38 15.4
	comp=Z,8.2nm,1.0s						
KBA	Koelnbreinsper	80.36 317		*i*	P		19 38 06.5 -0.2
	comp=Z,1.6nm,0.5s						
KHC	Kasperske Hory	80.40 319		*e*	P		19 38 06.7 0.0
KHC				*e*PCP	sP		19 38 15.9 +0.3
KHC	Kasperske Hory	80.40 319		*e*	P		19 38 06.7 0.0
	comp=Z,1.6nm,0.7s						
ABTA	Abfaltersbach	80.89 317		*i*	P		19 38 09.5 +0.1
	comp=Z,2.3nm,0.9s						
CLL	Collm	80.99 321	⇓	*i*	P		19 38 09.6 -0.1
	comp=Z,8.0nm,1.2s						
CLL				*i*			19 38 18.0
WTTA	Wattenberg	81.53 317		*i*	P		19 38 12.9 0.0
	comp=Z,6.7nm,0.8s						
WATA	Walderalm	81.58 317		*i*	P		19 38 12.9 -0.2
	comp=Z,8.2nm,0.9s						
HFS	Hagfors	81.65 330		P	P		19 38 12.5 -0.5
	comp=Z,2.2nm,0.8s,baz=120,slow=8.5,SNR=12						
MOTA	Moosalm	81.90 317		*i*	P		19 38 14.6 -0.2
	comp=Z,7.8nm,0.8s,SNR=8.8						
GRFO	Grafenberg	81.98 320		*e*	P		19 38 15.7 +0.6
	comp=Z,8.0nm,0.9s						
FETA	Feichten	82.13 317		*i*	P		19 38 16.0 -0.1
	comp=Z,6.5nm,0.9s						
RETA	Reutte	82.14 317		*i*	P		19 38 15.9 -0.1
	comp=Z,5.4nm,0.6s						
DAVA	Damuels	82.73 317		*i*	P		19 38 19.7 +0.5
	comp=Z,9.2nm,0.8s						
KEST	Kesra	82.74 305		P	P		19 38 18.5 -0.9
	comp=Z,6.3nm,0.8s,baz=67,slow=5.0,SNR=7.5						
KEST				LR	LR		20 18 57.5
	comp=Z,82nm,19.2s,baz=270,slow=38						
KEST	Kesra	82.74 305		*e*	P		19 38 19.1 -0.3
	comp=Z,11nm,0.8s						
NB2	NORSAR Subarra	82.97 331		P	P		19 38 18.5 -1.5
	comp=Z,4.2nm,0.9s,baz=94,slow=5.3						
NB200	NORSAR Array S	82.97 331		*e*	P		19 38 18.9 -1.1
NOA	NORSAR Array B	82.97 331		P	P		19 38 18.9 -1.1
	comp=Z,2.3nm,0.9s,baz=95,slow=5.8,SNR=4.6						
SPA0	Spitsbergen Ar	83.92 348		*e*	P		19 38 23.9 -0.7
SPITS	Spitsbergen Ar	83.92 348		P	P		19 38 23.9 -0.7
	comp=Z,12nm,1.0s,baz=123,slow=16,SNR=4.8						
BNI	Bardonecchia	84.89 315		*e*	P		19 38 30.1 -0.2
	comp=Z,9.4nm,0.9s						
TAM	Tamanrasset	86.22 293		*e*	P		19 38 35.5 -1.9
	comp=Z,4.2nm,0.9s						
VNDA	Vanda	88.85 168		P	P		19 38 48.0 -0.6
	comp=Z,0.8nm,0.7s,baz=312,slow=5.6,SNR=3.6						
TORD	Torodi Ar. Bea	90.35 283		LR	LR		20 18 09.2
	comp=Z,40nm,18.4s,baz=165,slow=35						
EKA	Eskdalemuir Ar	90.64 325		P	P		19 38 57.7 +0.2
	comp=Z,2.8nm,0.9s,baz=93,slow=4.5,SNR=6.2						
KOWA	Kowa	95.78 285		LR	LR		20 21 00.0
	comp=Z,77nm,19.2s,baz=209,slow=34						
IM3	Indian Mountai	96.22 22		*e*	P		19 39 22.9 -0.1
TOLK	Toolik Lake Re	96.57 19		*e*	P		19 39 25.1 +0.6
	comp=Z,3.8nm,0.8s						
DBIC	Dimbokro	97.24 277		LR	LR		20 21 19.7
	comp=Z,99nm,19.9s,baz=89,slow=34						
ILAR	Eielson Array	99.34 22		P	Pdif		19 39 36.4 -0.7
	comp=Z,0.3nm,0.8s,baz=294,slow=3.6,SNR=5.3						
ULM	Lac du Bonnet	126.02 7		PKP	PKPdf		19 44 56.8 -0.6
	comp=Z,2.5nm,0.7s,baz=346,slow=4.4,SNR=4.8						
PD31	Pinedale Array	129.77 21		*e*PKPdf	PKPdf		19 45 04.2 -0.9
PDAR	Pinedale Array	129.77 21		PKP	PKPdf		19 45 04.2 -0.9
	comp=Z,0.7nm,0.7s,baz=354,slow=1.5,SNR=6.9						
R11A	Troy Canyon, C	130.82 30		*e*PKPdf	PKPdf		19 45 09.0 +1.9
MTPU	Mount Pierson	132.68 27		*e*PKPdf	PKPdf		19 45 09.3 -1.6
DNR	Dunn Ranch,Anz	133.88 35		*e*PKPpre	PKPpre		19 45 00.8
CPUP	Villa Florida	143.44 229		PKP	PKPbc		19 45 28.0 +0.4
	comp=Z,1.6nm,0.8s,baz=184,slow=4.4,SNR=3.2						
LTX	Lajitas	143.79 25		*e*PKPdf	PKPbc		19 45 28.8 +0.2
TX31	Lajitas Ar. Si	143.79 25		*e*PKPpre	PKPpre		19 45 25.8
TX31				*e*PKPdf	PKPbc		19 45 29.5 +0.9
TXAR	Lajitas Array	143.79 25		PKP	PKPbc		19 45 28.8 +0.2
	comp=Z,1.2nm,0.8s,baz=128,slow=0.8,SNR=8.8						
JCT	Junction City	144.20 19		*e*PKPdf	PKPab		19 45 29.6 +0.2
HPIG		144.93 30		*e*PKPbc	PKPdf		19 45 33.2 -0.1
LNIG	Linares	149.43 22		*e*PKPbc	PKPbc		19 45 44.8 -0.2

IDC 12 19:37:13.4±1.7, 6°25N×92°01E, h0km, mb3.4/3, mb1 3.8/5, mb1mx3.4/65, mbtmp3.6/5, ML3.8/2, Error ellipse: s-maj=44.1km s-min=27.7km az=50.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PALK	Pallekele	11.28	276	Pn		Pn	19 39 56.3	+0.2
	1.9nm,0.3s,baz=116,slow=18,SNR=11							
CMAR	Chiang Mai Arr	13.89	28	Pn		Pn	19 40 32.6	+0.8
	0.1nm,0.3s,baz=231,slow=14,SNR=13							
MKAR	Makanchi Array	41.26	350	P		P	19 45 00.6	+0.2
	0.1nm,0.4s,baz=174,slow=7.4,SNR=2.9							
ZALV	Zalesovo Beam	47.92	354	P		P	19 45 52.8	-0.7
	0.4nm,0.4s,baz=184,slow=7.5,SNR=2.4							
WRA	Warramunga Arr	49.10	123	P		P	19 46 03.0	-0.1
	0.5nm,0.8s,baz=302,slow=8.8,SNR=3.1							

IDC 12 19:41:53.8±1.9, 3°66N×93°13E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.3/61, mbtmp3.5/4, MS3.1/1, Ms1 3.3/1, ms1mx2.5/53, Error ellipse: s-maj=91.4km s-min=28.3km az=52.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CMAR	Chiang Mai Arr	15.77	21	LR		LR	19 51 50.9	
	comp=Z,63nm,19.4s,baz=205,slow=38							
MKAR	Makanchi Array	43.99	349	P		P	19 50 04.2	+1.3
	0.4nm,0.5s,baz=161,slow=8.9,SNR=5.1							
WRA	Warramunga Arr	46.77	122	P		P	19 50 25.4	-0.1
	0.3nm,0.7s,baz=299,slow=8.6,SNR=3.6							
ZALV	Zalesovo Beam	50.59	354	P		P	19 50 53.1	-1.1
	0.5nm,0.5s,baz=181,slow=8.6,SNR=2.6							
GERES	GERESS Array B	80.30	319	P		P	19 54 06.8	-0.1
	0.1nm,0.3s,baz=96,slow=6.0,SNR=2.8							

IDC 12 19:42:32.3±0.9, 3°36N×92°78E, h0km, mb4.0/15, mb1 4.1/18, mb1mx3.9/64, mbtmp4.1/18, ML4.1/2, MS3.0/1, Ms1 3.0/1, ms1mx2.5/69, Error ellipse: s-maj=32.3km s-min=14.7km az=38.0
NEIC 12 19:42:33.7±0.3, 3°34N×92°82E, h10km, mb4.6/11, Error ellipse: s-maj=9.1km s-min=4.4km az=209.0
ISCJB 12 19:42:35.8±0.4, 3°48N±0°06×93°03E±0°03, h33km, mb4.2/23, Error ellipse: s-maj=8.5km s-min=4.0km az=19.0
DJA 12 19:42:42.4±0.8, 4°N±5°×9°3E±°, h84km±33km, M4.4/11, mb4.4/6, mB4.7/3, MLv4.5/11, Mw(mB)4.0/3

ISC 12 19:42:37.5±0.6, 3°48N±0°08×92°96E±0°06, h35km, n56, σ1°28/61, mb4.3/23, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BSI	Banda Aceh	3.08	49	P		Pn	19 43 22.4	-1.3
BSI				S		Sn	19 43 56.8	-2.5
MLSI	Meulaboh, Aceh	3.53	77	P		Pn	19 43 30.6	+0.7
MLSI				S		Sn	19 44 07.2	-3.2
TPTI		4.22	93	P		Pn	19 43 39.0	-0.4
TPTI				S		Sn	19 44 24.9	-2.6
LHMI	Lhok Sumawe	4.34	66	P		Pn	19 43 40.5	-0.6
KCSI	Kotacane, Aceh	4.81	89	P		Pn	19 43 46.9	-0.6
KCSI				S		Sn	19 44 38.9	-3.1
GSI	Gunungsitoli	5.10	115	P		Pn	19 43 50.8	-0.6
GSI	Gunungsitoli	5.10	115	*e*Pn		Pn	19 43 50.6	-0.8
TSI	Tuntungan	5.60	90	P		Pn	19 43 58.0	-0.3
	68nm,0.6s							
PSI	Prapat	6.00	96	Pn		Pn	19 44 05.0	+1.1
	baz=270,slow=10							
PSI				Sn		Sn	19 45 12.2	+0.6
	4.7nm,0.3s,baz=332,slow=14,SNR=4.7							
PSI				LR		LR	19 46 43.1	
	comp=Z,114nm,18.8s,baz=274,slow=41							
MNSI	Mandailing Nat	7.14	112	P		Pn	19 44 19.1	-0.4
SISI	Saibi	7.77	128	P		Pn	19 44 27.8	-0.4
	40nm,0.7s							
KULM	Kulim	7.88	77	*e*Pn		Pn	19 44 30.9	+1.2
IPM	Ipoh	8.11	83	*e*Pn		Pn	19 44 33.0	+0.2
PALK	Pallekele	12.77	288	Pn		Pn	19 45 33.8	-2.9
	1.3nm,0.3s,baz=115,slow=17,SNR=4.1							
PALK				Sn		Sn	19 47 44.6	-13
	4.0nm,0.3s,baz=115,slow=8.2,SNR=9.3							
CMAR	Chiang Mai Arr	16.00	21	Pn		Pn	19 46 20.5	+0.5
	0.2nm,0.3s,baz=217,slow=14,SNR=7.3							
SHL	Shillong	21.99	357	*e*P		P	19 47 29.2	+0.4
	9.0nm,0.7s							
NIL	Nilore	35.20	331	*e*P		P	19 49 28.9	+0.4
	16nm,0.6s							
PRZ	Przheval'sk	40.95	344	*e*P		P	19 50 19.4	+2.3
	8.6nm,1.3s							
KDJ	Kajisay	40.99	342	*e*P		P	19 50 18.7	+1.4
	2.6nm,0.8s							
MK01	Makanchi Array	44.11	349	*e*P		P	19 50 43.3	+0.9
MK31	Makanchi Array	44.13	349	*e*P		P	19 50 43.7	+1.1
MK32	Makanchi Array	44.13	349	*e*P		P	19 50 43.5	+0.9
MKAR	Makanchi Array	44.13	349	P		P	19 50 43.5	+0.9
	2.3nm,0.5s,baz=168,slow=8.6,SNR=29							
MKAR	Makanchi Array	44.13	349	*e*P		P	19 50 43.7	+1.1
	18nm,0.6s							
MAKZ	Makanchi	44.20	349	*e*P		P	19 50 44.2	+1.0
	1.8nm,0.7s							
KK31	Karatay Array	44.22	336	*e*P		P	19 50 43.6	+0.3
KKAR	Karatay Array	44.22	336	*e*P		P	19 50 43.6	+0.2
SONA0	Songino Array	45.68	13	*e*P		P	19 50 56.5	+1.5
SONM	Songino Array	45.68	13	P		P	19 50 56.5	+1.5
	0.7nm,0.6s,baz=178,slow=8.3,SNR=3.8							
GEYT	Alibeck	46.78	322	P		P	19 51 04.4	+0.6
	3.7nm,0.6s,baz=148,slow=8.7,SNR=14							
GYA0B	ALIBECK ARRAY	46.78	322	*e*P		P	19 51 04.2	+0.4
	4.9nm,0.6s							
WRA	Warramunga Arr	46.83	121	P		P	19 51 04.7	+0.3
	0.5nm,0.9s,baz=296,slow=8.8,SNR=4.0							
WR1	Warramunga Arr	46.83	121	*e*P		P	19 51 04.7	+0.3
	34nm,1.8s							
ASAR	Alice Springs	48.15	126	P		P	19 51 14.9	+0.3
	0.3nm,0.7s,baz=300,slow=7.4,SNR=3.4							
KURBB	Kurchatov Arra	48.53	348	P		P	19 51 17.8	+0.8
	1.9nm,0.6s,baz=170,slow=6.8,SNR=17							
KURK	Kurchatov	48.60	348	*e*P		P	19 51 17.8	+0.2
ZALV	Zalesovo Beam	50.75	354	P		P	19 51 34.7	+0.8
	2.2nm,0.4s,baz=183,slow=8.6,SNR=12							
ZALV	Zalesovo Beam	50.75	354	*e*P		P	19 51 34.9	+1.0
ZAA1	Zalesovo Array	50.76	354	*e*P		P	19 51 34.7	+0.8
BVAR	Borovoye Array	52.78	343	P		P	19 51 49.1	0.0
	1.3nm,0.7s,baz=145,slow=8.4,SNR=9.9							
ABKAR	Akbulak array	53.56	334	*e*P		P	19 51 55.1	+0.2
PMG	Port Moresby	55.51	104	P		P	19 52 11.2	+1.6
	6.2nm,0.5s,baz=227,slow=10,SNR=4.0							
BR101	Keskin Array S	64.46	313	*e*P		P	19 53 09.9	-0.9
BRTR	Keskin Array B	64.46	313	P		P	19 53 09.9	-0.9
	0.7nm,0.7s,baz=127,slow=6.3,SNR=5.1							
BR231	Keskin MP Arra	65.12	313	*e*P		P	19 53 11.2	-3.9
IDI	Anoyia	70.14	306	P		P	19 53 47.5	+0.7
	6.3nm,0.7s,baz=101,slow=9.3,SNR=4.9							
MLR	Muntele Rosu	71.51	317	P		P	19 53 56.0	+1.0
	0.5nm,0.6s,baz=121,slow=5.9,SNR=9.7							
MLR	Muntele Rosu	71.51	317	*e*P		P	19 53 55.5	+0.5
	15nm,1.6s							
TIXI	Tiksi	71.75	11	*e*P		P	19 53 56.2	+0.5
	2.9nm,0.7s							
FIA0	FINESS Array S	76.04	333	*e*P		P	19 54 20.4	-0.7
FINES	FINESS Array B	76.04	333	P		P	19 54 20.4	-0.7
	0.8nm,0.7s,baz=87,slow=4.2,SNR=4.3							
GEA0	GERESS Array S	80.32	319	*e*P		P	19 54 45.5	+0.4
GEC2	GERESS Array S	80.32	319	*e*P		P	19 54 45.8	+0.6
	20nm,1.9s							
GERES	GERESS Array B	80.32	319	P		P	19 54 45.0	-0.2
	1.8nm,0.8s,baz=100,slow=5.7,SNR=16							
CLL	Collm	81.01	321	*e*P		P	19 54 48.0	-0.7
HFS	Hagfors	81.65	330	P		P	19 54 51.1	-0.8
	0.9nm,0.7s,baz=162,slow=5.5,SNR=3.3							

TAP 12 19:48:13.1, 23°33N×120°45E, h17km, ML0.6, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TWK	Hsinying	0.07	148	*e*P		Pg	19 48 16.9	+0.3
	baz=142							
TWK				*e*S		Sg	19 48 19.6	+0.8
	baz=142							
CHN4	Tsaushan	0.14	80	*e*P		Pb	19 48 17.6	+0.4
	baz=80							
CHN4				*e*S		Sb	19 48 21.1	+1.1
	baz=80							
CHN1	Nanshi	0.16	152	*e*P		Pb	19 48 18.1	+0.5
	baz=152							
CHN1				*e*S		Sb	19 48 21.6	+0.9
	baz=152							
TPUB	Ta-pu	0.17	99	*e*P		Pb	19 48 18.1	+0.3
	baz=99							
TPUB				*e*S		Sb	19 48 21.6	+0.6
	baz=99							
WTP	Ta-pu	0.17	118	*e*P		Pb	19 48 18.4	+0.5
	baz=117							
WTP				*e*S		Sb	19 48 22.2	+1.1
	baz=117							
CHN5	Tsauling	0.34	38	*e*P		Pb	19 48 20.9	+0.1
	baz=38							
CHN5				*e*S		Sb	19 48 26.8	+0.9
	baz=38							
ALS	Alishan	0.38	61	*e*S		Sb	19 48 28.0	+0.8
	baz=62							
ELDTW	Lidau	0.54	105	*e*P		Pb	19 48 24.6	+0.4
	baz=104							

TAP 12 19:48:20.2, 23°55N×120°85E, h7km, ML0.6, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ALS	Alishan	0.06	224	*i* P		Pg	19 48 21.6	-0.4
	baz=216							
ALS				S		Sg	19 48 22.9	-0.5
	baz=216							
ALS	Alishan	0.06	224	*i* P		Pg	19 48 21.6	-0.4
	baz=62							
CHN5	Tsauling	0.16	286	*e*P		Pg	19 48 23.5	-0.1
	baz=286							
CHN5				*e*S		Sg	19 48 26.0	+0.2
	baz=286							
SSLB	Suanglung	0.26	23	*e*P		Pg	19 48 25.2	0.0
	baz=22							
SSLB				*e*S		Sg	19 48 28.9	+0.2
	baz=22							
CHN4	Tsaushan	0.31	230	*e*P		Pg	19 48 26.1	-0.1
	baz=229							
CHN4				*e*S		Sg	19 48 30.7	+0.4
	baz=229							
TPUB	Ta-pu	0.32	219	*e*P		Pg	19 48 26.4	-0.1
	baz=218							
TPUB				*e*S		Sg	19 48 30.8	+0.1
	baz=218							
WTP	Ta-pu	0.37	215	*e*P		Pg	19 48 27.2	-0.2
	baz=214							
WTP				*e*S		Sg	19 48 32.9	+0.5
	baz=214							
ELDTW	Lidau	0.39	157	*e*P		Pg	19 48 27.9	0.0
	baz=155							
ELDTW				*e*S		Sg	19 48 33.1	+0.1
	baz=155							
ELDTW	Lidau	0.39	157	*e*S		Sg	19 48 33.0	0.0
	baz=104							
YULB	Yu-li	0.44	111	*e*P		Pg	19 48 28.8	0.0
	baz=110							
YULB				*e*S		Sg	19 48 35.0	+0.5
	baz=110							
FULB	Fuli	0.54	130	*e*S		Sg	19 48 38.6	+0.9
	baz=130							

ISCJB 12 19:53:05.5±1.0, 3°2N±0°1×92°80E±0°07, h19km, mb3.7/6, Error ellipse: s-maj=21.4km s-min=9.4km az=15.0
IDC 12 19:53:09.4±1.5, 3°75N×92°44E, h0km, mb3.7/6, mb1 3.8/8, mb1mx3.5/65, mbtmp3.7/8, ML3.8/1, Error ellipse: s-maj=47.0km s-min=25.3km az=45.0
DJA 12 19:53:22.2±1.3, 4°N±5°×9°4E±°, h10km, M3.5/3, MLv3.5/3

ISC 12 19:53:08.0±1.1, 3°4N±0°1×92°9E±0°1, h19km, n13, σ1°03/12, mb3.7/6, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BSI	Banda Aceh	3.24	49	P		Pn	19 53 57.7	-0.2
BSI				S		Sn	19 54 26.8	-9.2
MLSI	Meulaboh, Aceh	3.66	75	P		Pn	19 54 03.5	-0.2
TPTI		4.32	91	P		Pn	19 54 13.5	+0.7
TPTI				S		Sn	19 54 48.3	-14
KCSI	Kotacane, Aceh	4.92	88	P		Pn	19 54 18.5	-2.5
GSI	Gunungsitoli	5.14	113	P		Pn	19 54 24.2	+0.2
GSI				S		Sn	19 55 13.5	-9.4
PALK	Pallekele	12.71	288	Pn		Pn	19 56 06.7	-1.2
	0.5nm,0.3s,baz=109,slow=11,SNR=4.6							
PALK				Sn		Sn	19 58 17.1	-12
	1.0nm,0.3s,baz=126,slow=1.0,SNR=5.3							
CMAR	Chiang Mai Arr	16.16	21	Pn		P	19 56 57.2	-0.1
	baz=210,slow=12,SNR=4.0							
MKAR	Makanchi Array	44.24	350	P		P	20 01 16.8	+0.6
	0.8nm,0.6s,baz=168,slow=8.9,SNR=12							
GEYT	Alibeck	46.82	322	P		P	20 01 37.0	+0.2
	1.0nm,0.6s,baz=116,slow=9.8,SNR=3.8							
WRA	Warramunga Arr	46.85	121	P		P	20 01 46.2	+8.9
	0.5nm,0.8s,baz=297,slow=8.9,SNR=3.5							
KURBB	Kurchatov Arra	48.63	348	P		P	20 01 51.2	+0.7
	0.4nm,0.6s,baz=160,slow=5.8,SNR=3.6							
ZALV	Zalesovo Beam	50.87	354	P		P	20 02 08.1	+0.6
	0.7nm,0.3s,baz=174,slow=8.9,SNR=4.0							
GERES	GERESS Array B	80.34	319	P		P	20 05 18.9	+0.7
	0.3nm,0.6

ellipse: s-maj=0.8km s-min=0.4km az=237.0
*CSEM **12** 20:07:02.4±0.2, 36°.99N×22°.11E, h10km, ML3.4, Error ellipse: s-maj=4.9km s-min=3.2km az=49.0*
*IDC **12** 20:07:04.9±1.2, 37°.01N×22°.16E, h49km±15km, mb3.3/10, mb1 3.4/15, mb1mx3.3/72, mbtmp3.5/15, ML3.0/5, Error ellipse: s-maj=17.3km s-min=10.4km az=25.0*
ISC 12 20:07:01.4±0.8, 36°.97N±0°.02×22°.09E±0°.02, h17km±5km, n178, σ1§23/222, mb3.6/10, Southern Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ITM	**Ithomi**	**0.24**	**328**	P	**Pg**	**20 07 06.8**	**-0.1**
ITM				S	**Sg**	**20 07 10.1**	**-0.5**
ITM				AML	AML	20 07 10.8	
	comp=N,19057μm,0.2s						
ITM				AML	AML	20 07 16.9	
	comp=E,13830μm,0.3s						
ITM	**Ithomi**	**0.24**	**328**	P	**Pg**	**20 07 06.8**	**-0.1**
ITM				S	**Sg**	**20 07 10.6**	**-0.1**
ITM	**Ithomi**	**0.24**	**328**	P	**Pg**	**20 07 06.8**	**-0.1**
ITM				S	**Sg**	**20 07 10.5**	**-0.1**
PYL	**PYLOS**	**0.29**	**254**	P	**Pg**	**20 07 06.7**	**-0.9**
PYL				S	**Sg**	**20 07 11.4**	**-0.4**
PYL				AML	AML	20 07 15.2	
	comp=E,28425μm,0.4s						
PYL				AML	AML	20 07 17.3	
	comp=N,20349μm,0.3s						
PYL	**PYLOS**	**0.29**	**254**	P	**Pg**	**20 07 07.3**	**-0.3**
PYL				S	**Sg**	**20 07 11.8**	**0.0**
PYL	**PYLOS**	**0.29**	**254**	P	**Pg**	**20 07 07.3**	**-0.3**
PYL				S	**Sg**	**20 07 11.9**	**+0.1**
DYR	**Agios Nikonas**	**0.29**	**137**	P	**Pg**	**20 07 07.5**	**-0.2**
DYR				S	**Sg**	**20 07 12.6**	**+0.6**
DYR				AML	AML	20 07 12.9	
	comp=E,10655μm,0.3s						
DYR				AML	AML	20 07 13.0	
	comp=N,25209μm,0.4s						
DYR	**Agios Nikonas**	**0.29**	**137**	P	**Pg**	**20 07 07.4**	**-0.2**
DYR				S	**Sg**	**20 07 12.3**	**+0.4**
DYR	**Agios Nikonas**	**0.29**	**137**	P	**Pg**	**20 07 07.5**	**-0.2**
DYR				S	**Sg**	**20 07 12.3**	**+0.4**
VLX	**Vlachokerasia**	**0.46**	**30**	P	**Pg**	**20 07 11.2**	**+0.5**
VLX				S	**Sb**	**20 07 18.5**	**+0.7**
VLX				AML	AML	20 07 18.7	
	comp=E,29050μm,0.3s						
VLX				AML	AML	20 07 18.7	
	comp=N,31991μm,0.6s						
VLX	**Vlachokerasia**	**0.46**	**30**	P	**Pg**	**20 07 10.7**	**0.0**
VLX				S	**Sg**	**20 07 17.5**	**+0.5**
VLX	**Vlachokerasia**	**0.46**	**30**	P	**Pg**	**20 07 10.7**	**0.0**
VLX				S	**Sg**	**20 07 17.5**	**+0.5**
TRIP	**Tripoli**	**0.57**	**15**	P	**Pg**	**20 07 12.4**	**-0.4**
TRIP				S	**Sb**	**20 07 21.3**	**+0.4**
TRIP	**Tripoli**	**0.57**	**15**	P	**Pg**	**20 07 12.4**	**-0.4**
TRIP				S	**Sg**	**20 07 21.1**	**+0.6**
TRIP	**Tripoli**	**0.57**	**15**	P	**Pg**	**20 07 12.4**	**-0.4**
TRIP				S	**Sg**	**20 07 20.9**	**+0.4**
AMT	**Artemida-Makis**	**0.63**	**332**	P	**Pg**	**20 07 14.0**	**0.0**
AMT				S	**Sg**	**20 07 21.4**	**-0.9**
AMT				AML	AML	20 07 26.0	
	comp=E,27875μm,0.3s						
AMT				AML	AML	20 07 26.4	
	comp=N,36552μm,0.5s						
AMT	**Artemida-Makis**	**0.63**	**332**	P	**Pg**	**20 07 13.7**	**-0.2**
AMT				S	**Sg**	**20 07 22.7**	**+0.3**
AMT	**Artemida-Makis**	**0.63**	**332**	P	**Pg**	**20 07 13.9**	**0.0**
AMT				S	**Sg**	**20 07 22.1**	**-0.3**
VLI	**Veliai**	**0.73**	**110**	P	**Pg**	**20 07 15.9**	**+0.3**
VLI				S	**Sg**	**20 07 24.6**	**-0.7**
VLI				AML	AML	20 07 25.7	
	comp=N,3032μm,0.5s						
VLI				AML	AML	20 07 30.3	
	comp=E,4262μm,0.7s						
VLI	**Veliai**	**0.73**	**110**	P	**Pg**	**20 07 15.6**	**0.0**
VLI	**Veliai**	**0.73**	**110**	P	**Pg**	**20 07 15.6**	**0.0**
VLI				S	**Sg**	**20 07 25.1**	**-0.2**
KRND	**KRANIDI**	**0.94**	**64**	P	**Pb**	**20 07 20.1**	**+0.8**
KRND				AML	AML	20 07 36.2	
	comp=E,5472μm,0.4s						
KRND				AML	AML	20 07 36.8	
	comp=N,3428μm,0.4s						
KRND	**KRANIDI**	**0.94**	**64**	P	**Pb**	**20 07 19.3**	**0.0**
KRND	**KRANIDI**	**0.94**	**64**	P	**Pb**	**20 07 19.3**	**0.0**
GUR	**Goura**	**0.98**	**12**	P	**Pb**	**20 07 18.6**	**-1.4**
GUR				AML	AML	20 07 46.3	
	comp=E,5979μm,0.7s						
GUR				AML	AML	20 07 47.0	
	comp=N,5107μm,0.5s						
GUR	**Goura**	**0.98**	**12**	P	**Pb**	**20 07 19.3**	**-0.8**
GUR	**Goura**	**0.98**	**12**	P	**Pb**	**20 07 19.3**	**-0.8**
DRO	**Drossia**	**1.02**	**343**	P	**Pn**	**20 07 21.8**	**+0.8**
DRO				AML	AML	20 07 41.1	
	comp=E,8311μm,0.4s						
DRO				AML	AML	20 07 43.9	
	comp=N,5933μm,0.4s						
DRO	**Drossia**	**1.02**	**343**	P	**Pb**	**20 07 20.5**	**-0.2**
DRO	**Drossia**	**1.02**	**343**	P	**Pb**	**20 07 21.3**	**+0.6**
KYTH	**Kithira**	**1.05**	**132**	P	**Pb**	**20 07 22.0**	**+0.9**
KYTH				AML	AML	20 07 45.0	
	comp=E,3642μm,0.5s						
KYTH				AML	AML	20 07 49.2	
	comp=N,3246μm,0.5s						
KYTH	**Kithira**	**1.05**	**132**	P	**Pb**	**20 07 21.2**	**+0.1**
DID	**Didima**	**1.06**	**60**	P	**Pb**	**20 07 21.3**	**0.0**
DID				S	**Sn**	**20 07 37.0**	**+1.1**
DID				AML	AML	20 07 40.7	
	comp=E,2429μm,0.4s						
DID				AML	AML	20 07 40.9	
	comp=N,3036μm,0.6s						
DID	**Didima**	**1.06**	**60**	P	**Pb**	**20 07 21.3**	**0.0**
DID	**Didima**	**1.06**	**60**	P	**Pb**	**20 07 21.3**	**0.0**
DID				S	**Sn**	**20 07 36.4**	**+0.4**
KLV	**Kalavryta, Ach**	**1.07**	**3**	P	**Pb**	**20 07 20.2**	**-1.3**
KLV				S	**Sn**	**20 07 37.9**	**+1.7**
KLV				AML	AML	20 07 43.3	
	comp=N,1560μm,0.5s						
KLV				AML	AML	20 07 45.5	
	comp=E,1478μm,0.7s						
KLV	**Kalavryta, Ach**	**1.07**	**3**	P	**Pb**	**20 07 20.6**	**-0.9**
KLV				S	**Sb**	**20 07 36.2**	**+0.9**
KLV	**Kalavryta, Ach**	**1.07**	**3**	P	**Pb**	**20 07 20.9**	**-0.6**
KLV				S	**Sb**	**20 07 36.2**	**+0.9**
THAL	**Thalero**	**1.16**	**23**	P	**Pn**	**20 07 22.6**	**-0.2**
THAL	**Thalero**	**1.16**	**23**	P	**Pn**	**20 07 22.6**	**-0.2**
VTN	**Vitineika**	**1.18**	**323**	P	**Pg**	**20 07 25.9**	**+1.6**
VTN	**Vitineika**	**1.18**	**323**	P	**Pb**	**20 07 24.5**	**+1.1**
VTN	**Vitineika**	**1.18**	**323**	P	**Pb**	**20 07 24.5**	**+1.1**
RLS	**Riolos of Patr**	**1.19**	**336**	P	**Pn**	**20 07 23.8**	**+0.5**
RLS				AML	AML	20 07 47.9	
	comp=E,2329μm,0.7s						
RLS				AML	AML	20 07 49.8	
	comp=N,1828μm,0.5s						
RLS	**Riolos of Patr**	**1.19**	**336**	P	**Pn**	**20 07 23.1**	**-0.2**
RLS	**Riolos of Patr**	**1.19**	**336**	P	**Pn**	**20 07 23.8**	**+0.5**
LOUT	**Loutraki**	**1.23**	**35**	P	**Pn**	**20 07 24.3**	**+0.4**
LOUT	**Loutraki**	**1.23**	**35**	P	**Pn**	**20 07 23.9**	**0.0**
LOUT	**Loutraki**	**1.23**	**35**	P	**Pn**	**20 07 24.5**	**+0.6**
LTK	**Loutraki**	**1.26**	**33**	P	**Pn**	**20 07 24.8**	**+0.5**
LTK				AML	AML	20 07 45.1	
	comp=E,3596μm,0.6s						
LTK				S	**Sg**	**20 07 45.4**	**+3.2**
LTK				AML	AML	20 07 47.4	
	comp=N,2351μm,0.4s						
LTK	**Loutraki**	**1.26**	**33**	P	**Pn**	**20 07 24.6**	**+0.3**
LTK	**Loutraki**	**1.26**	**33**	P	**Pn**	**20 07 24.9**	**+0.6**
LTK				S	**Sg**	**20 07 43.8**	**+1.6**
LAKA	**Lakka**	**1.27**	**356**	P	**Pn**	**20 07 24.1**	**-0.3**
LAKA				AML	AML	20 07 50.0	
	comp=N,1159μm,0.6s						
LAKA				AML	AML	20 07 52.4	
	comp=E,1121μm,0.5s						
LAKA	**Lakka**	**1.27**	**356**	P	**Pn**	**20 07 24.2**	**-0.2**
LAKA	**Lakka**	**1.27**	**356**	P	**Pn**	**20 07 24.7**	**+0.3**
TRIZ	**Trizonia**	**1.39**	**360**	P	**Pn**	**20 07 26.4**	**+0.4**
TRIZ	**Trizonia**	**1.39**	**360**	P	**Pn**	**20 07 26.4**	**+0.4**
KALE	**Kalithea**	**1.42**	**2**	P	**Pn**	**20 07 25.8**	**-0.6**
KALE				AML	AML	20 07 52.3	
	comp=N,1523μm,0.5s						
KALE				AML	AML	20 07 59.3	
	comp=E,1267μm,0.6s						
KALE	**Kalithea**	**1.42**	**2**	P	**Pn**	**20 07 26.4**	**-0.1**
KALE	**Kalithea**	**1.42**	**2**	P	**Pn**	**20 07 26.9**	**+0.4**
PROD	**Prodromos**	**1.44**	**26**	P	**Pb**	**20 07 28.0**	**+0.3**
PROD				S	**Sn**	**20 07 45.2**	**0.0**
PROD				AML	AML	20 07 50.4	
	comp=E,1387μm,0.7s						
PROD				AML	AML	20 07 56.3	
	comp=N,1425μm,0.3s						
PROD	**Prodromos**	**1.44**	**26**	P	**Pb**	**20 07 28.2**	**+0.5**
PROD				S	**Sb**	**20 07 46.6**	**+0.8**
SERG	**Sergoula**	**1.44**	**359**	P	**Pn**	**20 07 27.1**	**+0.4**
SERG				AML	AML	20 07 53.4	
	comp=E,1290μm,0.3s						
SERG				AML	AML	20 08 02.9	
	comp=N,1211μm,0.4s						
SERG	**Sergoula**	**1.44**	**359**	P	**Pn**	**20 07 27.8**	**+1.1**
EFP	**Efpalio**	**1.46**	**354**	P	**Pn**	**20 07 27.7**	**+0.8**
EFP				AML	AML	20 07 53.7	
	comp=N,1532μm,0.4s						
EFP				AML	AML	20 07 57.7	
	comp=E,1216μm,0.3s						
EFP	**Efpalio**	**1.46**	**354**	P	**Pn**	**20 07 27.6**	**+0.6**
EFP	**Efpalio**	**1.46**	**354**	P	**Pn**	**20 07 28.3**	**+1.3**
ANKY	**Antikythira Is**	**1.48**	**138**	P	**Pg**	**20 07 30.4**	**+0.6**
ANKY				AML	AML	20 08 01.2	
	comp=N,1148μm,0.4s						
ANKY				AML	AML	20 08 12.3	
	comp=E,1151μm,0.8s						
ANKY	**Antikythira Is**	**1.48**	**138**	P	**Pn**	**20 07 28.8**	**+1.6**
ANKY	**Antikythira Is**	**1.48**	**138**	P	**Pn**	**20 07 28.8**	**+1.6**
DSF	**Desfina**	**1.48**	**14**	P	**Pg**	**20 07 29.9**	**0.0**
DSF				S	**Sg**	**20 07 51.8**	**+2.8**
DSF				AML	AML	20 07 56.3	
	comp=E,1526μm,0.7s						
DSF				AML	AML	20 07 56.6	
	comp=N,1490μm,0.3s						
DSF	**Desfina**	**1.48**	**14**	P	**Pb**	**20 07 29.2**	**+0.7**
DSF	**Desfina**	**1.48**	**14**	P	**Pb**	**20 07 29.2**	**+0.7**
DSF				S	**Sg**	**20 07 50.6**	**+1.5**
KFL	**Anninata**	**1.53**	**318**	P	**Pn**	**20 07 28.9**	**+0.8**
KFL				AML	AML	20 07 58.1	
	comp=N,1401μm,0.3s						
KFL				AML	AML	20 08 06.5	
	comp=E,1757μm,0.5s						
KFL	**Anninata**	**1.53**	**318**	P	**Pn**	**20 07 29.2**	**+1.2**
KFL	**Anninata**	**1.53**	**318**	P	**Pn**	**20 07 29.6**	**+1.6**
VILL	**Villia**	**1.54**	**39**	P	**Pn**	**20 07 29.2**	**+1.1**
VILL	**Villia**	**1.54**	**39**	P	**Pn**	**20 07 29.2**	**+1.1**
VLY	**Voula,Athens**	**1.62**	**57**	P	**Pn**	**20 07 30.2**	**+1.0**
VLY				S	**Sg**	**20 07 53.5**	**-0.1**
VLY				AML	AML	20 07 57.8	
	comp=E,2003μm,0.5s						
VLY				AML	AML	20 07 59.6	
	comp=N,1507μm,0.7s						
VLY	**Voula,Athens**	**1.62**	**57**	P	**Pn**	**20 07 30.5**	**+1.3**
VLY	**Voula,Athens**	**1.62**	**57**	P	**Pb**	**20 07 30.7**	**-0.1**
VLY				S	**Sg**	**20 07 53.2**	**-0.4**
ANX	**Ano Chora**	**1.62**	**355**	P	**Pb**	**20 07 31.0**	**0.0**
ANX	**Ano Chora**	**1.62**	**355**	P	**Pb**	**20 07 31.0**	**0.0**
ATH	**Athens Observa**	**1.64**	**52**	P	**Pn**	**20 07 30.6**	**+1.2**
ATH				S	**Sb**	**20 07 52.2**	**+0.7**
ATH				AML	AML	20 07 58.5	
	comp=E,2291μm,0.8s						
ATH				AML	AML	20 08 03.9	
	comp=N,828μm,0.4s						
ATH	**Athens Observa**	**1.64**	**52**	P	**Pb**	**20 07 31.1**	**0.0**
ATH				S	**Sb**	**20 07 52.8**	**+1.3**
ATHU	**Athens Univers**	**1.68**	**53**	P	**Pn**	**20 07 30.2**	**+0.2**
ATHU				AML	AML	20 07 60.0	
	comp=E,272μm,0.7s						
ATHU				AML	AML	20 08 00.2	
	comp=N,401μm,0.7s						
ATHU	**Athens Univers**	**1.68**	**53**	P	**Pn**	**20 07 31.1**	**+1.1**
ATHU	**Athens Univers**	**1.68**	**53**	P	**Pn**	**20 07 31.1**	**+1.1**
VLS	**Valsamata**	**1.69**	**316**	P	**Pn**	**20 07 30.9**	**+0.6**
VLS				AML	AML	20 08 01.7	
	comp=E,902μm,0.3s						
VLS				AML	AML	20 08 04.3	
	comp=N,1035μm,0.4s						
VLS	**Valsamata**	**1.69**	**316**	P	**Pn**	**20 07 31.3**	**+1.1**
VLS	**Valsamata**	**1.69**	**316**	P	**Pn**	**20 07 31.7**	**+1.5**
PVO	**Paravola**	**1.70**	**345**	P	**Pg**	**20 07 35.6**	**+1.5**
PVO				AML	AML	20 08 12.1	
	comp=E,857μm,0.4s						
PVO				AML	AML	20 08 17.9	
	comp=N,1054μm,0.7s						
PVO	**Paravola**	**1.70**	**345**	P	**Pb**	**20 07 33.5**	**+1.3**
PVO	**Paravola**	**1.70**	**345**	P	**Pb**	**20 07 33.5**	**+1.3**
PDO	**Prodromos**	**1.77**	**336**	P	**Pg**	**20 07 35.5**	**+0.1**
PDO				AML	AML	20 08 09.7	
	comp=E,1745μm,0.4s						
PDO				AML	AML	20 08 10.1	
	comp=N,2117μm,0.4s						
PDO	**Prodromos**	**1.77**	**336**	P	**Pb**	**20 07 34.2**	**+0.7**
PDO	**Prodromos**	**1.77**	**336**	P	**Pb**	**20 07 34.2**	**+0.7**
PTL	**Penteli**	**1.77**	**52**	P	**Pn**	**20 07 31.7**	**+0.3**
PTL				S	**Sn**	**20 07 54.3**	**+0.7**
PTL				AML	AML	20 08 03.0	
	comp=E,1024μm,0.4s						
PTL				AML	AML	20 08 04.0	
	comp=N,792μm,0.6s						
PTL	**Penteli**	**1.77**	**52**	P	**Pn**	**20 07 32.1**	**+0.7**
PTL	**Penteli**	**1.77**	**52**	P	**Pn**	**20 07 32.5**	**+1.1**
PTL				S	**Sb**	**20 07 55.5**	**0.0**
LKR	**Lokris**	**1.82**	**23**	P	**Pb**	**20 07 34.0**	**-0.3**
LKR	**Lokris**	**1.82**	**23**	P	**Pb**	**20 07 34.0**	**-0.3**
DION	**Dionisos Attik**	**1.83**	**53**	P	**Pn**	**20 07 32.6**	**+0.4**
DION				S	**Sb**	**20 07 57.2**	**0.0**
DION				AML	AML	20 07 58.2	
	comp=N,912μm,0.5s						
DION				AML	AML	20 08 01.7	
	comp=E,1137μm,0.5s						
DION	**Dionisos Attik**	**1.83**	**53**	P	**Pn**	**20 07 33.5**	**+1.3**
DION				S	**Sb**	**20 07 57.7**	**+0.4**
AXAR	**Agios Charalam**	**1.85**	**14**	P	**Pb**	**20 07 35.4**	**+0.7**
AXAR	**Agios Charalam**	**1.85**	**14**	P	**Pb**	**20 07 35.4**	**+0.7**
MHLO	**Agia Marina, M**	**1.88**	**98**	P	**Pb**	**20 07 35.4**	**+0.1**
MHLO				AML	AML	20 08 12.4	
	comp=N,2810μm,0.8s						
MHLO				AML	AML	20 08 12.6	
	comp=E,4325μm,0.5s						
MHLO	**Agia Marina, M**	**1.88**	**98**	P	**Pn**	**20 07 34.8**	**+2.0**
MHLO	**Agia Marina, M**	**1.88**	**98**	P	**Pn**	**20 07 34.8**	**+2.0**
MHLA	**Plaka, Milos I**	**1.89**	**96**	P	**Pb**	**20 07 35.2**	**-0.3**
MHLA				AML	AML	20 08 08.9	
	comp=E,1279μm,0.9s						
MHLA				AML	AML	20 08 25.0	
	comp=N,775μm,0.8s						
MHLA	**Plaka, Milos I**	**1.89**	**96**	P	**Pb**	**20 07 35.1**	**-0.3**
FSK	**Fiskardo**	**1.91**	**321**	P	**Pb**	**20 07 36.7**	**+0.9**
EVR	**Evrytania**	**1.95**	**354**	P	**Pg**	**20 07 38.8**	**-0.1**
EVR				AML	AML	20 08 18.8	
	comp=N,631μm,0.7s						
EVR				AML	AML	20 08 20.2	
	comp=E,540μm,0.8s						
EVR	**Evrytania**	**1.95**	**354**	P	**Pb**	**20 07 37.8**	**+1.2**
EVR	**Evrytania**	**1.95**	**354**	P	**Pb**	**20 07 37.4**	**+0.8**
AGG	**Agios Georgios**	**2.05**	**5**	P	**Pb**	**20 07 39.3**	**+1.0**
AGG				AML	AML	20 08 14.8	
	comp=N,1180μm,0.6s						
AGG				AML	AML	20 08 15.6	
	comp=E,1014μm,0.6s						
AGG	**Agios Georgios**	**2.05**	**5**	P	**Pb**	**20 07 38.3**	**0.0**
AGG	**Agios Georgios**	**2.05**	**5**	P	**Pb**	**20 07 38.3**	**0.0**
EREA	**Eretria**	**2.06**	**45**	P	**Pn**	**20 07 36.0**	**+0.8**
EREA	**Eretria**	**2.06**	**45**	P	**Pn**	**20 07 36.0**	**+0.8**
LKD2	**Lefkada island**	**2.14**	**328**	P	**Pb**	**20 07 41.2**	**+1.5**
LKD2				AML	AML	20 08 25.0	
	comp=N,927μm,0.6s						
LKD2				AML	AML	20 08 26.2	
	comp=E,867μm,0.6s						
LKD2	**Lefkada island**	**2.14**	**328**	P	**Pb**	**20 07 40.0**	**+0.3**
LKD2	**Lefkada island**	**2.14**	**328**	P	**Pb**	**20 07 39.9**	**+0.3**
KARY	**Karystos**	**2.15**	**60**	P	**Pn**	**20 07 37.9**	**+1.4**
KARY	**Karystos**	**2.15**	**60**	P	**Pn**	**20 07 37.9**	**+1.4**
IMMV	**Iera Moni Meta**	**2.15**	**134**	P	**Pb**	**20 07 39.6**	**-0.4**
IMMV				AML	AML	20 08 21.7	
	comp=E,656μm,0.7s						
IMMV				AML	AML	20 08 25.3	
	comp=N,897μm,0.7s						
IMMV	**Iera Moni Meta**	**2.15**	**134**	P	**Pb**	**20 07 39.5**	**-0.4**
IMMV	**Iera Moni Meta**	**2.15**	**134**	P	**Pn**	**20 07 39.2**	**+2.7**
DSL	**Palaion Diasel**	**2.29**	**340**	P	**Pb**	**20 07 42.8**	**+0.4**
DSL				AML	AML	20 08 33.1	
	comp=N,702μm,0.9s						
DSL				AML	AML	20 08 40.1	
	comp=E,646μm,1.1s						
DSL	**Palaion Diasel**	**2.29**	**340**	P	**Pb**	**20 07 41.8**	**-0.6**
VAM	**Vamos**	**2.32**	**132**	P	**Pb**	**20 07 43.0**	**+0.3**
VAM				AML	AML	20 08 29.1	
	comp=E,770μm,0.8s						
VAM				AML	AML	20 08 31.1	
	comp=N,626μm,0.9s						
VAM	**Vamos**	**2.32**	**132**	P	**Pn**	**20 07 41.1**	**+2.3**
VAM	**Vamos**	**2.32**	**132**	P	**Pn**	**20 07 41.1**	**+2.3**
SKIA	**Skiathos**	**2.44**	**26**	P	**Pn**	**20 07 42.6**	**+2.0**
SKIA	**Skiathos**	**2.44**	**26**	P	**Pn**	**20 07 42.6**	**+2.0**
NEO	**Neokhori**	**2.50**	**21**	P	**Pn**	**20 07 43.0**	**+1.7**
NEO	**Neokhori**	**2.50**	**21**	P	**Pn**	**20 07 43.0**	**+1.7**
XOR	**Xorichti**	**2.54**	**20**	P	**Pn**	**20 07 43.8**	**+1.9**
XOR	**Xorichti**	**2.54**	**20**	P	**Pn**	**20 07 43.8**	**+1.9**
THL	**Klokotos Trika**	**2.59**	**359**	P	**Pb**	**20 07 47.9**	**+0.5**
THL				AML	AML	20 08 34.3	
	comp=N,120μm,0.5s						
THL				AML	AML	20 08 34.4	
	comp=E,206μm,0.6s						
THL	**Klokotos Trika**	**2.59**	**359**	P	**Pb**	**20 07 46.3**	**-1.0**
THL	**Klokotos Trika**	**2.59**	**359**	P	**Pb**	**20 07 46.3**	**-1.0**
THR3	**Thira Island,**	**2.72**	**101**	P	**Pn**	**20 07 47.4**	**+3.0**
THR3	**Thira Island,**	**2.72**	**101**	P	**Pn**	**20 07 47.4**	**+3.0**
APE	**Apeiranthos**	**2.76**	**87**	P	**Pn**	**20 07 44.9**	**0.0**
APE	**Apeiranthos**	**2.76**	**87**	P	**Pn**	**20 07 46.0**	**+1.1**
IDI	**Anoyia**	**2.83**	**126**	P	**Pn**	**20 07 48.2**	**+2.4**
	comp=E,3.7nm,0.3s,baz=324,slow=14,SNR=30						
IDI				S	**Sn**	**20 08 20.1**	**+0.6**
	comp=E,5.8nm,0.3s,baz=239,slow=22,SNR=5.2						
KPRO	**Kipourio**	**3.03**	**349**	P	**Pb**	**20 07 54.8**	**-0.2**
KPRO	**Kipourio**	**3.03**	**349**	P	**Pb**	**20 07 53.0**	**-1.9**
LAST	**Lasithi**	**3.29**	**122**	P	**Pn**	**20 07 54.8**	**+2.5**
LAST	**Lasithi**	**3.29**	**122**	P	**Pn**	**20 07 54.8**	**+2.5**
NPS	**Neapolis**	**3.33**	**120**	P	**Pn**	**20 07 53.6**	**+0.9**
NPS				AML	AML	20 08 39.0	
	comp=E,258μm,0.8s						
NPS				AML	AML	20 08 58.4	
	comp=N,244μm,0.8s						
NPS	**Neapolis**	**3.33**	**120**	P	**Pn**	**20 07 54.5**	**+1.8**
CHOS	**Chios island**	**3.45**	**65**	P	**Pn**	**20 07 54.5**	**+0.1**
CHOS	**Chios island**	**3.45**	**65**	P	**Pn**	**20 07 55.8**	**+1.4**
KNT	**Kendrikon**	**4.23**	**8**	P	**Pn**	**20 08 07.5**	**+2.4**
KNT	**Kendrikon**	**4.23**	**8**	P	**Pn**	**20 08 07.5**	**+2.4**
KARP	**Karpathos**	**4.34**	**108**	P	**Pn**	**20 08 10.3**	**+3.6**
KARP				AML	AML	20 09 06.3	
	comp=N,218μm,0.8s						
KARP				AML	AML	20 09 08.6	
	comp=E,244μm,0.9s						
KARP	**Karpathos**	**4.34**	**108**	P	**Pn**	**20 08 09.9**	**+3.2**
VAE	**Valguarnera**	**6.14**	**277**	P	**Pn**	**20 08 35.5**	**+4.0**
	comp=E,1.4nm,0.3s,baz=146,slow=13,SNR=3.8						
VAE				S	**Sn**	**20 09 43.9**	**+2.5**
	comp=E,2.2nm,0.3s,baz=270,slow=20,SNR=3.0						
STON	**Ston**	**6.79**	**332**	*e*Pn	**Pn**	**20 08 38.6**	**-1.5**
STON				Sn	**Sn**	**20 09 53.3**	**-3.7**
UDBI	**Udbina**	**8.94**	**330**	*i* Pn	**Pn**	**20 09 09.0**	**-0.8**
MLR	**Muntele Rosu**	**8.99**	**18**	P	**Pn**	**20 09 12.5**	**+2.0**
	comp=E,0.0nm,0.3s,baz=172,slow=15,SNR=2.0						
NVLJ	**Novalja**	**9.35**	**326**	*e*Pn	**Pn**	**20 09 15.5**	**+0.3**
NVLJ				Sn	**Sn**	**20 10 55.8**	**-4.2**
BRTR	**Keskin Array B**	**9.48**	**70**	P	**Pn**	**20 09 19.5**	**+2.2**
	comp=E,0.4nm,0.3s,baz=253,slow=15,SNR=12						
MMAI	**Mount Meron Ar**	**11.61**	**106**	P	**Pn**	**20 09 44.0**	**-2.5**
	comp=E,0.5nm,0.3s,baz=311,slow=13,SNR=5.3						
GERES	**GERESS Array B**	**13.35**	**335**	P	**Pn**	**20 10 11.3**	**+1.2**
	comp=E,0.0nm,0.3s,baz=160,slow=14,SNR=2.5						
HFS	**Hagfors**	**23.80**	**350**	P	**P**	**20 12 12.3**	**-0.7**
	comp=E,2.4nm,0.6s,baz=161,slow=10,SNR=11						
FINES	**FINESS Array B**	**24.62**	**5**	P	**P**	**20 12 19.7**	**-0.9**
	comp=E,2.0nm,1.0s,baz=178,slow=11,SNR=4.4						
FINES				PcP	**PcP**	**20 15 57.3**	**-0.4**
	comp=E,0.8nm,0.7s,baz=180,slow=1.9,SNR=3.7						
NB2	**NORSAR Subarra**	**25.05**	**347**	P	**P**	**20 12 23.3**	**-1.3**
	comp=Z,1.1nm,0.6s,baz=155,slow=9.3						
NOA	**NORSAR Array B**	**25.05**	**347**	P	**P**	**20 12 23.4**	**-1.2**
	comp=Z,0.8nm,0.7s,baz=151,slow=9.1,SNR=6.1						
EKA	**Eskdalemuir Ar**	**25.13**	**325**	P	**P**	**20 12 24.8**	**-0.5**
	comp=Z,1.1nm,0.6s,baz=122,slow=7.9,SNR=4.6						
TORD	**Torodi Ar. Bea**	**29.94**	**223**	P	**P**	**20 13 08.8**	**+0.1**
	comp=Z,0.3nm,0.5s,baz=44,slow=8.2,SNR=3.2						
KURBB	**Kurchatov Arra**	**41.96**	**53**	P	**P**	**20 14 49.9**	**-1.3**
	comp=Z,0.3nm,0.5s,baz=279,slow=8.7,SNR=3.2						
MKAR	**Makanchi Array**	**44.88**	**58**	P	**P**	**20 15 12.6**	**-2.3**
	comp=Z,0.3nm,0.4s,baz=279,slow=7.4,SNR=5.7						
ZALV	**Zalesovo Beam**	**45.58**	**47**	P	**P**	**20 15 18.5**	**-1.8**
	comp=Z,0.5nm,0.3s,baz=273,slow=8.0,SNR=2.6						
YKA	**Yellowknife Ar**	**74.94**	**341**	P	**P**	**20 18 40.8**	**-0.3**
	comp=Z,0.2nm,0.

H08S3	**Diego Garcia H**	**21.62**	**241**	T		T	20 35 20.5	
	baz=61,slow=75,SNR=21							
H08S1	**Diego Garcia H**	**21.64**	**241**	T		T	20 35 23.0	
	baz=61,slow=75,SNR=24							
SHL	**Shillong**	**22.59**	**1**	*e*P		**P**	**20 13 35.0 +0.6**	
	12nm,0.7s							
ODAN	**Odare**	**24.19**	**351**	*e*P		**P**	**20 13 52.6 +2.4**	
RAMN	**Ramite**	**24.41**	**349**	*e*P		**P**	**20 13 54.4 +2.1**	
	31nm,0.8s							
JIRN	**Jiri**	**25.18**	**349**	*e*P		**P**	**20 14 01.4 +2.0**	
	47nm,1.0s							
GUN	**Gumba**	**25.49**	**348**	*e*P		**P**	**20 14 04.2 +2.1**	
	37nm,1.1s							
KKN	**Kakani**	**25.50**	**347**	*e*P		**P**	**20 14 04.3 +2.3**	
GKN	**Gorkha**	**25.85**	**346**	*e*P		**P**	**20 14 06.8 +1.6**	
MYLDM	**Lahad Datu**	**27.05**	**84**	*e*P		**P**	**20 14 17.1 +1.1**	
	12nm,1.0s							
GTA	**Gaotai**	**37.17**	**11**	*e*P		**P**	**20 15 47.0 +2.5**	
GTA				pP		pP	20 15 51.1 -3.6	
GTA				sP		sP	20 15 54.6 -4.3	
GTA				pmax		pmax		
	comp=Z,3.0nm,1.1s							
AAK	**Ala-Archa**	**42.42**	**341**	P		**P**	**20 16 28.8 +0.6**	
	comp=Z,0.2nm,0.3s,baz=198,slow=6.4,SNR=2.6							
H01W3	**Cape Leeuwin H**	**43.15**	**152**	T		T	21 02 26.1	
	baz=328,slow=74,SNR=6.1							
H01W2	**Cape Leeuwin H**	**43.16**	**152**	T		T	21 02 27.3	
	baz=328,slow=74,SNR=3.5							
H01W1	**Cape Leeuwin H**	**43.16**	**152**	T		T	21 02 30.1	
	baz=328,slow=74,SNR=4.3							
MK01	**Makanchi Array**	**44.47**	**351**	*e*P		**P**	**20 16 44.0 -0.4**	
MK31	**Makanchi Array**	**44.49**	**351**	*e*P		**P**	**20 16 44.1 -0.5**	
MK32	**Makanchi Array**	**44.49**	**351**	*e*P		**P**	**20 16 44.1 -0.5**	
MKAR	**Makanchi Array**	**44.49**	**351**	P		**P**	**20 16 44.1 -0.5**	
	comp=Z,1.6nm,0.7s,baz=171,slow=8.6,SNR=16							
MKAR	**Makanchi Array**	**44.49**	**351**	*e*P		**P**	**20 16 44.3 -0.3**	
	comp=Z,10nm,0.7s							
GEYT	**Alibeck**	**46.38**	**323**	P		**P**	**20 16 59.3 -0.4**	
	comp=Z,1.0nm,0.6s,baz=144,slow=10,SNR=3.8							
SONA0	**Songino Array**	**46.63**	**14**	*e*P		**P**	**20 17 02.6 +1.0**	
SONM	**Songino Array**	**46.63**	**14**	P		**P**	**20 17 02.6 +1.0**	
	comp=Z,4.5nm,0.8s,baz=193,slow=9.9,SNR=14							
SONA1	**Songino Array**	**46.64**	**14**	*e*P		**P**	**20 17 02.5 +0.7**	
ULN	**Ulaanbaatar**	**46.81**	**14**	*e*P		**P**	**20 17 04.7 +1.6**	
	comp=Z,9.7nm,1.8s							
WR1	**Warramunga Arr**	**47.78**	**120**	*e*P		**P**	**20 17 10.8 -0.1**	
	comp=Z,21nm,1.4s							
WRA	**Warramunga Arr**	**47.78**	**120**	P		**P**	**20 17 10.8 -0.1**	
	comp=Z,3.0nm,1.0s,baz=299,slow=8.9,SNR=6.8							
KURBB	**Kurchatov Arra**	**48.84**	**349**	P		**P**	**20 17 16.6 -1.9**	
	comp=Z,0.7nm,0.2s,baz=171,slow=7.7,SNR=5.0							
ZALV	**Zalesovo Beam**	**51.23**	**355**	P		**P**	**20 17 36.0 -0.6**	
	comp=Z,1.1nm,0.6s,baz=177,slow=8.4,SNR=6.2							
ZALV	**Zalesovo Beam**	**51.23**	**355**	*e*P		**P**	**20 17 36.3 -0.3**	
ZAA1	**Zalesovo Array**	**51.23**	**355**	*e*P		**P**	**20 17 36.0 -0.6**	
BVAR	**Borovoye Array**	**52.97**	**344**	P		**P**	**20 17 49.4 -0.2**	
	comp=Z,1.2nm,0.8s,baz=141,slow=7.1,SNR=8.2							
ABKAR	**Akbulak array**	**53.48**	**335**	*e*P		**P**	**20 17 53.9 +0.5**	
KBZ	**Khabaz**	**59.13**	**321**	P		**P**	**20 18 33.9 +0.1**	
	comp=Z,1.0nm,0.7s,baz=63,slow=2.3,SNR=3.1							
BR101	**Keskin Array S**	**63.80**	**313**	*e*P		**P**	**20 19 04.4 -1.3**	
BRTR	**Keskin Array B**	**63.80**	**313**	P		**P**	**20 19 04.4 -1.3**	
	comp=Z,0.3nm,0.6s,baz=121,slow=5.6,SNR=2.7							
MLR	**Muntele Rosu**	**70.97**	**317**	P		**P**	**20 19 50.9 0.0**	
	comp=Z,0.3nm,0.6s,baz=138,slow=14,SNR=3.6							
TIXI	**Tiksi**	**72.65**	**12**	*e*P		**P**	**20 19 59.5 -0.7**	
	comp=Z,5.2nm,0.8s							
FIA0	**FINESS Array S**	**75.93**	**333**	*e*P		**P**	**20 20 20.5 +0.9**	
FINES	**FINESS Array B**	**75.93**	**333**	P		**P**	**20 20 20.5 +0.9**	
	comp=Z,1.5nm,0.9s,baz=115,slow=5.2,SNR=3.3							
GEA0	**GERESS Array S**	**79.82**	**319**	*e*P		**P**	**20 20 40.8 -0.8**	
GEC2	**GERESS Array S**	**79.82**	**319**	*e*P		**P**	**20 20 41.0 -0.6**	
	comp=Z,6.8nm,1.2s							
GERES	**GERESS Array B**	**79.82**	**319**	P		**P**	**20 20 41.0 -0.6**	
	comp=Z,0.7nm,0.7s,baz=104,slow=5.6,SNR=6.6							
SYO	**Syowa Base**	**79.86**	**197**‖	*e*P		**P**	**20 20 42.2 +1.0**	
LTX	**Lajitas**	**144.86**	**23**	*e*PKPbc		**PKPdf**	**20 28 10.4 -0.5**	
TXAR	**Lajitas Array**	**144.86**	**23**	PKPbc		**PKPdf**	**20 28 10.4 -0.5**	
	comp=Z,0.6nm,0.8s,baz=292,slow=1.4,SNR=6.4							

IDC ***12*** *20:16:53.7±1.4, 0.°45N×92.°24E, h0km, mb3.8/8, mb1 3.9/10, mb1mx3.6/68, mbtmp3.8/10, ML3.9/2, Error ellipse: s-maj=40.8km s-min=25.6km az=43.0*

ISCJB ***12*** *20:16:54.0±0.7, 0.°51N±0.°07×92.°14E±0.°05, h10km, mb3.8/8, Error ellipse: s-maj=9.8km s-min=7.6km az=19.8*

DJA ***12*** *20:16:55.0±1.3, 1.°N±5.°×9.°2E±1.°2, h66km±47km, M5.3/12, mb5.1/12, mB5.4/6, MLv5.7/9, Mw(mB)4.9/6*

ISC 12 20:16:55.6±0.9, 0.°51N±0.°09×91.°98E±0.°07, h10km, n27, σ1°78/30, mb3.8/8, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
GSI	**Gunungsitoli**	**5.65**	**82**	P		**Pn**	**20 18 19.0**	**-0.8**
MLSI	**Meulaboh, Aceh**	**5.78**	**50**	P		**Pn**	**20 18 20.8**	**-0.8**
MLSI				S		**Sn**	**20 19 31.0**	**+2.9**
TPTI		**5.87**	**62**	P		**Pn**	**20 18 21.5**	**-1.3**
	502nm,0.6s,8μm							
BSI	**Banda Aceh**	**5.96**	**34**	P		**Pn**	**20 18 21.4**	**-2.6**
BSI				S		**Sn**	**20 19 31.7**	**-0.7**
KCSI	**Kotacane, Aceh**	**6.51**	**63**	P		**Pn**	**20 18 30.7**	**-1.0**
	443nm,0.6s							
LHMI	**Lhok Sumawe**	**6.82**	**47**	P		**Pn**	**20 18 34.4**	**-1.5**
	676nm,0.7s,7μm							
TSI	**Tuntungan**	**7.22**	**66**	P		**Pn**	**20 18 40.8**	**-0.5**
SISI	**Saibi**	**7.34**	**104**	P		**Pn**	**20 18 41.8**	**-1.2**
	30nm,0.8s							
MNSI	**Mandailing Nat**	**7.61**	**88**	P		**Pn**	**20 18 45.9**	**-0.7**
	249nm,0.4s,6μm							
PDSI	**Padang**	**8.60**	**99**	P		**Pn**	**20 18 58.8**	**-1.5**
	36nm,0.5s							
PPSI	**Pulau Pagai**	**8.66**	**112**	P		**Pn**	**20 19 00.2**	**-0.9**
PKDT	**Phuket**	**9.69**	**41**	P		**Pn**	**20 19 14.2**	**-1.0**
TRTT	**Trang**	**10.59**	**46**	P		**Pn**	**20 19 26.5**	**-1.0**
	8.3nm,0.9s,0.0nm							
PALK	**Pallekele**	**13.10**	**301**	Pn		**Pn**	**20 20 05.5**	**+3.5**
	0.7nm,0.3s,baz=116,slow=11,SNR=5.1							
PALK				Sn		**Sn**	**20 22 22.2**	**-5.7**
	4.1nm,0.3s,baz=76,slow=0.4,SNR=7.9							
PBKT	**Sadao Pong**	**18.25**	**29**	P		**Pn**	**20 21 09.1**	**-0.1**
	10nm,1.0s							
CMAR	**Chiang Mai Arr**	**19.10**	**21**	P		**Pn**	**20 21 19.9**	**+0.3**
	0.1nm,0.3s,baz=214,slow=11,SNR=14							
CHTO	**Chiang Mai**	**19.43**	**20**	P		**Pn**	**20 21 23.8**	**+0.2**
	18nm,1.4s							
CMMT	**Chiang Mai**	**19.43**	**20**	P		**P**	**20 21 22.8**	**+0.4**
WRA	**Warramunga Arr**	**46.20**	**119**	P		**P**	**20 25 19.2**	**-2.0**
	0.6nm,0.6s,baz=295,slow=8.6,SNR=5.8							
MKAR	**Makanchi Array**	**46.87**	**351**	P		**P**	**20 25 26.2**	**+0.2**
	0.6nm,0.6s,baz=168,slow=8.9,SNR=8.9							
SONM	**Songino Array**	**46.77**	**13**	P		**P**	**20 25 41.2**	**+0.2**
	1.1nm,0.6s,baz=188,slow=9.0,SNR=5.1							
KURBB	**Kurchatov Arra**	**51.22**	**349**	P		**P**	**20 25 59.0**	**-0.3**
	0.6nm,0.2s,baz=172,slow=6.9,SNR=5.0							
ZALV	**Zalesovo Beam**	**53.59**	**355**	P		**P**	**20 26 16.3**	**-0.5**
	0.9nm,0.3s,baz=180,slow=7.1,SNR=5.0							
BVAR	**Borovoye Array**	**55.34**	**344**	P		**P**	**20 26 29.0**	**-0.6**
	0.4nm,0.6s,baz=142,slow=5.4,SNR=4.3							
BRTR	**Keskin Array B**	**65.77**	**314**	P		**P**	**20 27 43.3**	**+2.0**
	0.2nm,0.5s,baz=107,slow=4.1,SNR=2.4							
GERES	**GERESS Array B**	**81.90**	**319**	P		**P**	**20 29 17.0**	**+1.4**
	0.3nm,0.5s,baz=87,slow=4.0,SNR=3.5							
TXAR	**Lajitas Array**	**146.77**	**25**	PKPbc		**PKPdf**	**20 36 36.0**	**-1.2**
	0.1nm,0.4s,baz=339,slow=1.5,SNR=3.0							

ISCJB ***12*** *20:18:57.6±0.5, 73.°92N±0.°04×8.°2E±0.°2, h10km, mb3.2/5, MS3.0/2, Error ellipse: s-maj=10.0km s-min=5.9km az=13.5*

IDC ***12*** *20:18:59.3±0.8, 73.°81N×8.°22E, h0km, mb3.3/5, mb1 3.6/9, mb1mx3.3/76, mbtmp3.5/9, ML2.3/2, MS3.1/5, Ms1 3.1/5, ms1mx2.8/57, Error ellipse: s-maj=21.8km s-min=12.1km az=90.0*

IEPN ***12*** *20:19:01.0, 73.°80N×8.°66E, h15km*

BER ***12*** *20:19:02.8±3.5, 73.°88N×8.°53E, h16km±48km, ML2.1*

ISC 12 20:18:59.7±0.7, 73.°91N±0.°06×8.°68E±0.°08, h10km, n23, σ2°03/28, mb3.2/5, Greenland Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
HSPB	**Hornsund (broa**	**3.55**	**26**	*e*P		**Pn**	**20 19 55.8**	**+1.0**
HSPB				*e*S		**Sn**	**20 20 33.4**	**-3.4**
SPA0	**Spitsbergen Ar**	**4.67**	**20**	*e*P		**Pn**	**20 20 11.9**	**+1.8**
SPA0				*e*S		**Sn**	**20 21 04.0**	**-0.3**
SPA0				*e*S		Sb	20 21 05.6	-12
SPA0				IAML			20 21 10.1	
	comp=Z,5.6nm,0.4s							
SPA0	**Spitsbergen Ar**	**4.67**	**20**	*i* P		**Pn**	**20 20 12.0**	**+1.8**
SPA0				*i* S		**Sn**	**20 21 05.2**	**+0.9**
SPITS	**Spitsbergen Ar**	**4.67**	**20**	Pn		**Pn**	**20 20 12.1**	**+2.0**
	baz=207,slow=12,SNR=609							
SPITS				Sn		**Sn**	**20 21 03.6**	**-0.7**
	baz=208,slow=24,SNR=1.6							
HOPEN	**Hopen**	**4.92**	**50**	*e*P		**Pn**	**20 20 14.3**	**+0.8**
HOPEN				*e*S		**Sn**	**20 21 06.7**	**-3.6**
HOPEN				IAML			20 21 13.1	
	comp=Z,7.0nm,0.3s							
KBS	**Kingsbay**	**5.10**	**7**	*e*P		**Pn**	**20 20 17.2**	**+1.2**
KBS				*e*S		**Sn**	**20 21 12.9**	**-1.9**
KBS				IAML			20 21 19.5	
	comp=Z,4.8nm,0.4s							
KBS	**Kingsbay**	**5.10**	**7**	*i* P		**Pn**	**20 20 17.0**	**+1.0**
KBS				*i* S		**Sn**	**20 21 14.4**	**-0.4**
TRO	**Tromso**	**5.36**	**138**	*e*P		**Pn**	**20 20 21.5**	**+1.8**
JMIC	**Jan Mayen**	**5.96**	**249**	Pn		**Pn**	**20 20 25.9**	**-1.9**
	comp=Z,3.8nm,0.3s,baz=172,slow=9.3,SNR=3.6							
JMIC	**Jan Mayen**	**5.96**	**249**	*e*P		**Pn**	**20 20 26.1**	**-1.8**
SCO	**Scoresbysund**	**9.90**	**265**	*i* P		**Pn**	**20 21 19.5**	**-2.3**
ZFI2	**Zemlya Franca-**	**10.67**	**33**	*i* P		**Pn**	**20 21 32.8**	**+0.4**
ZFI2				*i* S		**Sn**	**20 23 26.4**	**-5.2**
NOA	**NORSAR Array B**	**12.97**	**174**	LR		LR	20 26 16.1	
	comp=Z,48nm,18.3s,baz=0.0,slow=34							
HFS	**Hagfors**	**13.97**	**170**	Pn		**Pn**	**20 22 15.7**	**-1.7**
	comp=Z,0.1nm,0.3s,baz=7.8,slow=12,SNR=2.1							
HFS				LR		LR	20 26 59.2	
	comp=Z,88nm,19.6s,baz=332,slow=34							
FINES	**FINESS Array B**	**14.06**	**144**	Pn		**Pn**	**20 22 17.2**	**-1.4**
	comp=Z,0.0nm,0.3s,baz=350,slow=14,SNR=2.4							
FINES				LR		LR	20 27 23.2	
	comp=Z,66nm,19.2s,baz=354,slow=36							
OBN	**Obninsk**	**21.93**	**134**	LR		LR	20 32 09.1	
	comp=Z,44nm,21.7s,baz=268,slow=36							
VRAC	**Vranov**	**24.93**	**168**	LR		LR	20 34 19.5	
	comp=Z,69nm,18.2s,baz=246,slow=37							
GERES	**GERESS Array B**	**25.25**	**172**	P		**P**	**20 24 26.5**	**+0.9**
	comp=Z,0.3nm,0.7s,baz=9.8,slow=6.3,SNR=3.1							
BVAR	**Borovoye Array**	**32.31**	**96**	P		**P**	**20 25 31.2**	**+2.9**
	comp=Z,0.2nm,0.6s,baz=350,slow=5.9,SNR=2.5							
YKA	**Yellowknife Ar**	**38.78**	**322**	P		**P**	**20 26 24.5**	**+0.8**
	comp=Z,0.5nm,0.8s,baz=20,slow=8.6,SNR=8.8							
ILAR	**Eielson Array**	**40.63**	**344**	P		**P**	**20 26 39.7**	**+0.5**
	comp=Z,0.3nm,0.7s,baz=7.8,slow=7.3,SNR=5.8							
TORD	**Torodi Ar. Bea**	**60.88**	**188**	P		**P**	**20 29 12.7**	**+0.5**
	comp=Z,0.4nm,0.8s,baz=16,slow=7.5,SNR=2.2							
SNAA	**Sanae**	**145.55**	**186**	PKPbc		**PKPab**	**20 38 37.6**	**+1.1**
	comp=Z,1.4nm,1.0s,baz=307,slow=10,SNR=3.2							

BJI ***12*** *20:21:47.0, 3.°20N×92.°77E, h9km, mb4.9/70, mB5.2/50, Ms5.4/72, Ms7 5.0/67*

IDC ***12*** *20:21:50.9±0.4, 3.°69N×92.°71E, h0km, mb4.5/42, mb1 4.5/45, mb1mx4.4/78, mbtmp4.5/45, ML4.4/3, MS4.7/55, Ms1 4.7/55, ms1mx4.6/70, Error ellipse: s-maj=13.2km s-min=9.9km az=28.0*

ISCJB ***12*** *20:21:51.2±0.1, 3.°73N±0.°02×92.°77E±0.°02, h10km, mb4.8/149, MS4.8/82, Error ellipse: s-maj=3.8km s-min=2.2km az=33.3*

GCMT ***12*** *20:21:52.9±0.1, 3.°68N×92.°69E, h12km, MW5.4/122, Moment Tensor Solution. s78,c129; s122,c235; Duration: 1ś2 Moment tensor: Scale 10^17 Nm; Mrr=0.12±.02; Mθθ=0.50±.02; Mϕϕ=0.62±.02; Mrθ=0.32±.04; Mθϕ=1.27±.01; Mϕr=0.75±.04; Best double couple: M0=1.61500×10^17 NP1:ϕs=10.00000°, δ84.00000°, λ=-30.00000°. NP2:ϕs=104.00000°, δ60.00000°, λ=173.00000°. Principal axes: T 1.5840, Plg16.0000°, Azm61.0000°; N 0.0620, Plg59.0000°, Azm181.0000°; P -1.6460, Plg25.0000°, Azm323.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***12*** *20:21:52.9±0.2, 3.°75N×92.°75E, h10km, mb5.1/62, MW5.3 Error ellipse: s-maj=5.2km s-min=3.1km az=213.0, Moment Tensor Solution. s6 Moment tensor: Scale 10^16 Nm; Mrr=4.31; Mθθ=0.66; Mϕϕ4.97; Mrθ=3.41; Mθϕ=5.62; Mϕr=5.46; Best double couple: M0=9.70000×10^16 NP1: ϕs=5.00000°, δ71.00000°, λ=-47.00000°. NP2:ϕs=114.00000°, δ47.00000°, λ=-153.00000°. Principal axes: T 9.2000, Plg14.0000°, Azm65.0000°; N 1.0000, Plg40.0000°, Azm167.0000°; P -10.2000, Plg4.0000°, Azm31.0000°;*

MOS ***12*** *20:21:53.5±1.1, 3.°78N×92.°76E, h24km, mb5.2/48, MS5.0/12 Error ellipse: s-maj=7.6km s-min=4.5km az=111.6*

DJA ***12*** *20:21:53.1±0.3, 4.°N±2.°×9.°3E±.°, h10km, M5.3/36, mb5.3/36, mB5.7/31, MLv5.9/9, Mw(mB)5.2/31, Mwp5.9/4*

ISC 12 20:21:53.5±0.6, 3.°68N±0.°04×92.°72E±0.°04, h15km±2km, n465, σ1°63/490, mb4.9/153, MS4.8/83, 27C-19D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BSI	**Banda Aceh**	**3.14**	**55**	P		**Pn**	**20 22 42.1**	**-0.4**
MLSI	**Meulaboh, Aceh**	**3.72**	**81**	P		**Pn**	**20 22 50.5**	**-0.1**
TPTI		**4.47**	**95**	P		**Pn**	**20 23 00.4**	**-0.5**
LHMI	**Lhok Sumawe**	**4.49**	**70**	P		**Pn**	**20 23 01.9**	**+0.8**
LHMI	**Lhok Sumawe**	**4.49**	**70**	*e*Pn		**Pn**	**20 23 01.8**	**+0.7**
KCSI	**Kotacane, Aceh**	**5.05**	**92**	P		**Pn**	**20 23 10.4**	**+1.6**
	2μm,0.8s,28μm16nm							
GSI	**Gunungsitoli**	**5.40**	**116**	P		**Pn**	**20 23 13.3**	**-0.3**
	797nm,0.8s,9μm4.3nm							
GSI	**Gunungsitoli**	**5.40**	**116**	*e*Pn		**Pn**	**20 23 12.7**	**-0.9**
TSI	**Tuntungan**	**5.84**	**92**	P		**Pn**	**20 23 20.3**	**+0.6**
	752nm,0.8s,10μm9.3nm							
TSI				S		**Sn**	**20 24 29.8**	**+3.4**
	752nm,0.8s,10μm9.3nm							
PSI	**Prapat**	**6.26**	**98**	*e*Pn		**Pn**	**20 23 26.2**	**+0.6**
PSI	**Prapat**	**6.26**	**98**	*e*P		**Pn**	**20 23 26.2**	**+0.6**
PKDT	**Phuket**	**6.98**	**53**	P		**Pn**	**20 23 34.7**	**-0.7**
	294nm,0.8s,3μm0.9nm							
MNSI	**Mandailing Nat**	**7.43**	**113**	P		**Pn**	**20 23 42.3**	**+0.7**
PBA	**Port Blair**	**7.92**	**0**	*e*P		Pn	20 23 47.9	-0.4
PBA	**Port Blair**	**7.92**	**0**	*e*Pn		Pn	20 23 47.1	-1.1
SURT	**Suratani**	**7.99**	**49**	P		**Pn**	**20 23 48.9**	**-0.4**
	190nm,1.4s,2μm0.6nm							
KULM	**Kulim**	**8.07**	**78**	*e*Pn		**Pn**	**20 23 49.8**	**-0.5**
TRTT	**Trang**	**8.07**	**59**	P		**Pn**	**20 23 49.2**	**-1.2**
	127nm,1.5s,2μm0.7nm							
SISI	**Saibi**	**8.08**	**128**	P		**Pn**	**20 23 49.5**	**-1.0**
	797nm,1.0s,7μm							
IPM	**Ipoh**	**8.32**	**84**	*e*Pn		**Pn**	**20 23 53.5**	**-0.4**
SKLT	**Songkhla**	**8.59**	**66**	P		**Pn**	**20 23 56.9**	**-0.7**
	231nm,1.3s,3μm0.9nm							
BKNI	**Bangkinang**	**8.96**	**112**	*e*Pn		**Pn**	**20 24 02.8**	**+0.2**
PDSI	**Padang**	**8.99**	**120**	P		**Pn**	**20 24 03.0**	**0.0**
DGPR	**DIGLIPUR**	**9.44**	**1**	*e*P		**Pn**	**20 24 08.0**	**-1.1**
PPSI	**Pulau Pagai**	**9.70**	**131**	P		**Pn**	**20 24 11.9**	**-0.9**
SDSI	**Sungai Dareh**	**9.84**	**118**	P		**Pn**	**20 24 14.8**	**+0.2**
	0.2nm,0.7s,6.0nm							
MYKOM	**Kota Tinggi**	**11.28**	**99**	*e*Pn		**Pn**	**20 24 34.0**	**-0.3**
MASI	**Maura Aman, Be**	**11.68**	**125**	P		**Pn**	**20 24 40.0**	**0.0**
	509nm,1.0s,8μm							
TPRI	**Tanjung Pinang**	**12.11**	**103**	P		**Pn**	**20 24 46.6**	**+0.8**
	27nm,0.6s,725nm							
JMBI	**JAMBI**	**12.13**	**116**	P		**Pn**	**20 24 46.6**	**+0.6**
	248nm,0.4s,11μm							
SRDT	**SRDT**	**12.34**	**30**	P		**Pn**	**20 24 48.6**	**-0.2**
	105nm,1.5s,2μm							
PALK	**Pallekele**	**12.48**	**287**	Pn		**Pn**	**20 24 49.0**	**-1.9**
	7.6nm,0.3s,baz=116,slow=14,SNR=31							
PALK				Sn		Sn	20 26 55.7	-14
	66nm,0.3s,baz=115,slow=0.4,SNR=16							
PALK				LR		LR	20 29 08.2	
	comp=Z,3μm,18.1s,baz=116,slow=35							
PALK	**Pallekele**	**12.48**	**287**	Pn		**Pn**	**20 24 51.1**	**+0.3**
	SNR=12							
PALK	**Pallekele**	**12.48**	**287**	P		**Pn**	**20 24 51.1**	**+0.3**
	SNR=12							
PALK	**Pallekele**	**12.48**	**287**	*i* P		**Pn**	**20 24 51.0**	**+0.1**
MNAI	**Manna**	**12.98**	**128**	P		**Pn**	**20 24 57.7**	**0.0**
	506nm,0.8s,7μm							
MNAI	**Manna**	**12.98**	**128**	*e*Pn		**Pn**	**20 24 57.1**	**-0.6**
CHBT	**CHBT**	**13.10**	**46**	P		**Pn**	**20 25 01.1**	**+1.9**
	279nm,1.2s							
MDSI	**Maura Dua**	**14.04**	**125**	P		**Pn**	**20 25 11.2**	**-0.9**
	101nm,0.7s,2μm							
LWLI	**Liwa**	**14.25**	**127**	P		**Pn**	**20 25 15.1**	**0.0**

KASI	**Kota Agung**	**14.90**	**128**	P		**Pn**	**20 25 22.3**	**-1.6**
	174nm,1.0s,2μm							
PBKT	**Sadao Pong**	**15.16**	**32**	P		**Pn**	**20 25 25.6**	**-1.7**
	86nm,2.0s,2μm							
MDRS	**Chennai**	**15.46**	**308**	*e*P		**Pn**	**20 25 29.8**	**-1.4**
MDRS				IAmb		IAmb	20 25 31.0	
	comp=Z,152nm,1.4s							
CM01	**Chiang Mai Arr**	**15.87**	**22**	*e*Pn		**Pn**	**20 25 34.0**	**-2.6**
CM31	**Chiang Mai Arr**	**15.90**	**22**	*e*Pn		**Pn**	**20 25 35.1**	**-1.9**
CMAR	**Chiang Mai Arr**	**15.90**	**22**	Pn		**Pn**	**20 25 35.4**	**-1.6**
	comp=Z,0.2nm,0.3s,baz=218,slow=14,SNR=67							
CMAR				LR		LR	20 31 42.0	
	comp=Z,3μm,21.6s,baz=217,slow=37							
CHTO	**Chiang Mai**	**16.22**	**22**	P		**Pn**	**20 25 39.4**	**-1.8**
	comp=Z,259nm,1.7s,comp=Z,5μm							
CHTO	**Chiang Mai**	**16.22**	**22**	*e*Pn		**Pn**	**20 25 39.2**	**-2.0**
	comp=Z,106nm,1.3s							
CHTO	**Chiang Mai**	**16.22**	**22**	Pn		**Pn**	**20 25 39.7**	**-1.4**
	SNR=47							
CHTO	**Chiang Mai**	**16.22**	**22**	P		**Pn**	**20 25 39.7**	**-1.4**
	SNR=47							
CHTO	**Chiang Mai**	**16.22**	**22**	*e*P		**Pn**	**20 25 39.2**	**-2.0**
CHTO				pmax		pmax		
	comp=Z,106nm,1.3s							
CMMT	**Chiang Mai**	**16.22**	**22**	P		**Pn**	**20 25 38.4**	**-2.8**
	comp=Z,59nm,1.1s,comp=Z,1μm							
SKHT	**Srikalahasti**	**16.27**	**309**	*e*P		**Pn**	**20 25 40.5**	**-1.3**
TRD	**Trivandrum**	**16.38**	**288**	*e*P		**Pn**	**20 25 43.4**	**+0.2**
VIS	**Vishakhapatnam**	**16.71**	**327**	*e*P		**Pn**	**20 25 45.1**	**-2.2**
CHLP	**Challavanipeta**	**16.99**	**331**	*e*P		**Pn**	**20 25 48.9**	**-2.0**
SKNT	**Sakolnakorn**	**17.22**	**39**	P		**Pn**	**20 25 52.2**	**-1.6**
	comp=Z,59nm,1.8s							
PVM	**Polavaram**	**17.33**	**322**	*e*P		**Pn**	**20 25 52.6**	**-2.5**
ADKI	**Addanki**	**17.42**	**315**	*e*P		**Pn**	**20 25 56.1**	**-0.1**
KSM	**Kuching**	**17.71**	**97**	*e*Pn		**P**	**20 26 00.5**	**-0.2**
	comp=Z,121nm,1.2s							
LEM	**Lembang**	**18.17**	**125**	P		**Pn**	**20 26 04.8**	**-1.0**
	comp=Z,1.0nm,0.3s,baz=220,slow=4.9,SNR=8.0							
LEM				LR		LR	20 33 59.6	
	comp=Z,3μm,18.4s,baz=302,slow=40							
LEM	**Lembang**	**18.17**	**125**	P		**Pn**	**20 26 05.0**	**-0.8**
	comp=Z,1μm,1.3s,comp=Z,14μm							
SRLM	**Srisailam**	**18.36**	**313**	*e*P		**Pn**	**20 26 06.4**	**-1.5**
NJS	**Nagarjunasagar**	**18.36**	**315**	*e*P		**Pn**	**20 26 06.3**	**-1.6**
CISI	**Cisompet, Garu**	**18.75**	**127**	P		**P**	**20 26 11.6**	**-0.7**
	comp=Z,126nm,0.9s,comp=Z,2μm							
CISI	**Cisompet, Garu**	**18.75**	**127**	*e*P		**P**	**20 26 11.5**	**-0.7**
	comp=Z,81nm,0.8s							
URV	**Uravakonda**	**18.90**	**307**	*e*P		**P**	**20 26 13.3**	**-0.5**
XMIS	**Christmas Isla**	**19.07**	**138**	*e*P		**Pn**	**20 26 16.4**	**-0.1**
	comp=Z,782nm,2.0s							
STKI	**Sintang**	**19.09**	**100**	P		**Pn**	**20 26 16.6**	**-0.2**
HYB	**H

GYA LR LR
comp=Z,580nm,17.2s
CD2 Chengdu 29.02 20 ⇑P P 20 27 52.5 -0.6
CD2 pP pP 20 27 55.4 -2.2
CD2 S **S** **20 32 44.9 +0.9**
CD2 pmax pmax
comp=Z,70nm,0.5s
CD2 pmax pmax
comp=Z,230nm,5.3s
CD2 LR LR
comp=Z,4μm,14.5s
CD2 LR LR
comp=Z,4μm,15.5s
CD2 LR LR
comp=Z,3μm,12.7s
TGY Tagaytay City 29.70 68 P P 20 27 59.6 +0.2
comp=Z,134nm,0.4s,baz=280,slow=8.6,SNR=3.6
TGY LR LR 20 39 13.4
comp=Z,1μm,21.5s,baz=272,slow=35
DDI Dehra Dun 29.90 334 eP P 20 27 59.7 -1.3
SMLA Simla 30.98 333 eP P 20 28 09.7 -0.8
DHRM DHARAMSHALA 32.33 333 eP P 20 28 22.9 +0.3
DHRM IAmb IAmb 20 28 24.8
comp=Z,17nm,1.0s
QZH Quanzhou 32.66 47 ⇑*i*P P 20 28 22.6 -2.7
QZH S **S** **20 33 42.4 +1.3**
QZH LR LR
comp=Z,7μm,14.3s
QZH LR LR
comp=Z,3μm,14.1s
QZH LR LR
comp=Z,5μm,14.3s
DAV Davao City (W) 32.88 83 LR LR 20 43 10.3
comp=Z,2μm,21.3s,baz=256,slow=39
XAN Xi'an 33.76 25 P P 20 28 33.8 -1.1
XAN pP pP 20 28 37.1 -2.3
XAN sP sP 20 28 41.5 +0.3
XAN PP **PnPn** **20 29 46.1 -1.2**
XAN S **S** **20 33 53.3 -4.9**
XAN pmax pmax
comp=Z,41nm,0.8s
XAN LR LR
comp=Z,4μm,17.9s
XAN LR LR
comp=Z,4μm,18.4s
XAN LR LR
comp=Z,3μm,16.3s
BATI Baumata 33.77 114 P P 20 28 33.8 -1.4
comp=Z,30nm,1.0s,baz=86,slow=19,SNR=2.8
LZH Lanzhou 33.84 16 ⇑P P 20 28 35.0 -0.7
LZH pP sP 20 28 40.8 -1.2
LZH sP pP 20 28 42.4 +2.2
LZH ePP **PnPn** **20 29 49.6 +1.2**
LZH S **S** **20 33 53.1 -6.5**
LZH pmax pmax
comp=Z,57nm,1.2s
LZH pmax pmax
comp=Z,410nm,4.3s
LZH LR LR
comp=Z,4μm,13.3s
LZH LR LR
comp=Z,9μm,13.8s
LZH LR LR
comp=Z,7μm,15.7s
NACB Ninganchiao 34.50 51 eP P 20 28 39.3 -2.1
comp=Z,33nm,1.2s
NIL Nilore 34.91 331 eP P 20 28 43.8 -1.1
comp=Z,90nm,1.6s
NIL Nilore 34.91 331 eP P 20 28 43.8 -1.1
NIL pmax pmax
comp=Z,90nm,1.6s
GTA Gaotai 36.14 9 eP P 20 28 55.8 +0.3
GTA pP sP 20 29 02.8 +1.0
GTA sP pP 20 29 06.1 +6.1
GTA S **S** **20 34 32.2 -2.7**
GTA sS sS 20 34 45.0 +2.7
GTA pmax pmax
comp=Z,14nm,1.1s
GTA pmax pmax
comp=Z,220nm,9.0s
GTA LR LR
comp=Z,650nm,20.0s
GTA LR LR
comp=Z,2μm,15.2s
GTA LR LR
comp=Z,990nm,19.5s
MBWA Marble Bar 36.20 134 eP P 20 28 55.9 -0.1
comp=Z,36nm,1.4s
NJ2 Nanjing 37.39 38 eP P 20 29 06.7 +0.6
NJ2 S **S** **20 34 46.0 -7.9**
NJ2 sS **sS** **20 35 01.2 -0.1**
NJ2 pmax pmax
comp=Z,27nm,0.6s
NJ2 pmax pmax
comp=Z,260nm,4.6s
NJ2 LR LR
comp=Z,5μm,17.4s
NJ2 LR LR
comp=Z,4μm,16.5s
NJ2 LR LR
comp=Z,4μm,12.5s
KBL Kabul 37.77 327 eP P 20 29 08.9 -0.6
comp=Z,19nm,1.5s
KBL Kabul 37.77 327 eP P 20 29 08.9 -0.6
KBL pmax pmax
comp=Z,19nm,1.5s
WSAR Wadi Sarin 38.25 304 LR LR 20 44 45.3
comp=Z,1μm,18.5s,baz=134,slow=36
TIY Taiyuan 38.38 26 eP P 20 29 14.9 +0.5
TIY sP **sP** **20 29 23.3 +2.5**
TIY PP **PnPn** **20 30 45.4 +1.3**
TIY S **S** **20 35 08.0 -0.8**
TIY sS **ScP** **20 35 18.1 +2.5**
TIY SS **SnSn** **20 37 49.9 -4.9**
TIY pmax pmax
comp=Z,170nm,7.3s
TIY LR LR
comp=Z,2μm,11.8s
TIY LR LR
comp=Z,3μm,13.4s
TIY LR LR
comp=Z,3μm,14.2s
SIJI Sorong 38.79 96 P P 20 29 18.4 +0.2
comp=Z,5.1nm,0.9s,baz=239,slow=6.0,SNR=4.6
MEEK Meekatharra 39.19 142 P P 20 29 22.7 +1.4
baz=39,SNR=5.8
TIA Tai'an 39.42 32 P P 20 29 23.0 -0.1
TIA S **S** **20 35 21.0 -3.5**
TIA SS **SnSn** **20 38 19.2 -0.7**
TIA pmax pmax
comp=Z,19nm,1.7s
TIA LR LR
comp=Z,1μm,18.1s
TIA LR LR
comp=Z,2μm,18.1s
TIA LR LR
comp=Z,1μm,19.6s
MORW Morawa 39.52 147 P P 20 29 23.3 -0.7
baz=40
BTO Baotou 39.93 21 eP P 20 29 25.9 -1.5
TARG Taragay, Kyrgy 40.17 343 eP P 20 29 29.0 -0.7
comp=Z,24nm,1.3s
WMQ Urumqi 40.22 354 P P 20 29 30.8 +1.1
WMQ sP sP 20 29 39.3 +3.3
WMQ S **S** **20 35 33.7 -2.6**
WMQ sS sS 20 35 45.8 +2.0
WMQ pmax pmax
comp=Z,45nm,2.1s
WMQ pmax pmax
comp=Z,440nm,4.1s
WMQ LR LR
comp=Z,2μm,27.5s
WMQ LR LR
comp=Z,2μm,19.9s
WMQ LR LR
comp=Z,3μm,32.3s
NRN Naryn 40.47 341 eP P 20 29 31.7 -0.4
comp=Z,20nm,1.3s
NRN Naryn 40.47 341 eP P 20 29 31.7 -0.4
NRN pmax pmax
comp=Z,20nm,1.3s
PRZ Przheval'sk 40.69 344 eP P 20 29 33.5 -0.3
comp=Z,80nm,1.5s
PRZ Przheval'sk 40.69 344 eP P 20 29 33.5 -0.3
PRZ pmax pmax
comp=Z,80nm,1.5s

HHC Hu-ho-hao-te 40.71 22 eP P 20 29 34.4 +0.6
HHC pP sP 20 29 39.7 -0.5
HHC sP pP 20 29 45.4 +7.0
HHC S **S** **20 35 44.0 +0.2**
HHC SS **SS** **20 38 43.4 -1.2**
HHC pmax pmax
comp=Z,28nm,1.1s
HHC pmax pmax
comp=Z,74nm,6.2s
HHC LR LR
comp=Z,830nm,15.2s
HHC LR LR
comp=Z,760nm,15.6s
HHC LR LR
comp=Z,810nm,15.0s
KDJ Kajisay 40.72 342 eP P 20 29 33.4 -0.7
comp=Z,51nm,1.6s
JOW Kunigami 41.05 52 LR LR 20 48 29.8
comp=Z,1μm,18.2s,baz=328,slow=39
ULHL Ulahol **41.12 341 P P 20 29 37.5 +0.1**
SNR=5.7
KZA Kyzart 41.30 340 P P 20 29 39.6 +0.6
SNR=7.0
UCH Uchtor 41.68 340 P P 20 29 42.8 +0.5
SNR=9.5
AML Almayashu 41.89 339 P P 20 29 44.1 +0.3
SNR=19
KBK Karagaybulak 41.91 340 P P 20 29 44.9 +1.0
SNR=10
TKM2 Tokmak 2 41.94 341 P P 20 29 43.9 -0.2
SNR=13
BJI Beijing 41.95 27 P P 20 29 44.9 +1.0
BJI S **S** **20 36 03.6 +1.6**
BJI pmax pmax
comp=Z,56nm,1.1s
BJI LR LR
comp=Z,3μm,18.6s
BJI LR LR
comp=Z,4μm,19.3s
BJI LR LR
comp=Z,2μm,22.1s
AAK Ala-Archa 42.05 340 P P 20 29 45.0 +0.1
baz=146,slow=6.2
AAK LR LR 20 47 43.5
comp=Z,2μm,21.1s,baz=145,slow=37
AAK Ala-Archa 42.05 340 eP P 20 29 44.3 -0.6
comp=Z,20nm,1.1s
AAK Ala-Archa 42.05 340 pP P 20 29 47.9 +2.9
SNR=11
AAK Ala-Archa 42.05 340 P P 20 29 47.9 +2.9
SNR=11
AAK Ala-Archa 42.05 340⇓eP P 20 29 44.9 0.0
AAK pmax pmax
comp=Z,15nm,1.4s
FRU Bishkek 42.18 340 eP P 20 29 44.0 -1.8
FRU pmax pmax
comp=Z,70nm,2.2s
USP Osepenovka 42.61 340 P P 20 29 49.2 -0.1
SNR=7.3
NWAO Narrogin (SRO) 43.19 149 eP P 20 29 54.0 -0.1
comp=Z,91nm,1.9s
NWAO Narrogin (SRO) 43.19 149 eP P 20 29 54.0 -0.1
NWAO pmax pmax
comp=Z,91nm,1.9s
H01W3 Cape Leeuwin H 43.33 154 T T 21 16 31.5
baz=331,slow=75,SNR=24
H01W2 Cape Leeuwin H 43.34 154 T T 21 16 32.5
baz=331,slow=75,SNR=30
H01W1 Cape Leeuwin H 43.34 154 T T 21 16 32.9
baz=331,slow=75,SNR=38
DL2 Dalian 43.82 33 P P 20 29 57.2 -1.9
DL2 S **S** **20 36 30.7 +1.2**
DL2 pmax pmax
comp=Z,39nm,1.1s
DL2 pmax pmax
comp=Z,150nm,6.1s
DL2 LR LR
comp=Z,990nm,15.3s
DL2 LR LR
comp=Z,2μm,16.2s
DL2 LR LR
comp=Z,1μm,14.8s
MK01 Makanchi Array 43.86 350 eP P 20 29 58.6 -0.8
MK31 Makanchi Array 43.89 350 eP P 20 29 58.4 -1.2
MK31 Makanchi Array 43.89 350 eP P 20 29 58.4 -1.2
MK32 Makanchi Array 43.89 350 eP P 20 29 59.5 -0.1
MKAR Makanchi Array 43.89 350 P P 20 29 59.5 -0.1
comp=Z,17nm,1.0s,baz=161,slow=7.7,SNR=40
MKAR LR LR 20 53 02.0
comp=Z,857nm,18.2s,baz=164,slow=43
MKAR Makanchi Array 43.89 350 eP P 20 29 58.8 -0.8
comp=Z,102nm,0.8s
MKAR Makanchi Array 43.89 350 eP P 20 29 58.8 -0.8
MKAR pmax pmax
comp=Z,103nm,0.8s
KK31 Karatay Array 43.93 336 eP P 20 29 59.6 -0.4
KK31 Karatay Array 43.93 336 eP P 20 29 59.6 -0.4
KKAR Karatay Array 43.93 336 eP P 20 29 59.7 -0.3
KKAR Karatay Array 43.93 336 eP P 20 29 59.7 -0.3
MAKZ Makanchi 43.96 349 eP P 20 29 59.6 -0.5
comp=Z,15nm,0.9s
MAKZ Makanchi 43.96 349 eP P 20 29 59.6 -0.5
MAKZ pmax pmax
comp=Z,15nm,0.9s
WRKA Warakurna 44.81 132 P P 20 30 07.7 +0.3
baz=45,SNR=6.7
SONA0 Songino Array 45.53 13 eP P 20 30 13.5 +0.7
SONM Songino Array 45.53 13 P P 20 30 13.5 +0.7
comp=Z,7.5nm,0.8s,baz=195,slow=7.9,SNR=26
SONM LR LR 20 51 01.8
comp=Z,1μm,18.3s,baz=196,slow=38
SONA1 Songino Array 45.55 13 eP P 20 30 12.6 -0.4
ULN Ulaanbaatar 45.71 13 eP P 20 30 14.8 +0.4
comp=Z,12nm,1.2s
ULN Ulaanbaatar 45.71 13 pP P 20 30 15.1 +0.8
SNR=6.0
ULN Ulaanbaatar 45.71 13 P P 20 30 15.1 +0.8
SNR=6.0
ULN Ulaanbaatar 45.71 13⇓*i*P P 20 30 14.7 +0.4
ULN pmax pmax
comp=Z,16nm,2.3s
INCN Inchon 45.77 38 eP P 20 30 14.3 -0.4
comp=Z,86nm,1.5s
DGZ Jazzator, Alta 46.07 355 eP P 20 30 18.1 +1.0
DGZ pmax pmax
comp=Z,4.0nm,0.5s
JNU Nakatsue 46.12 46 P P 20 30 18.2 +0.7
comp=Z,9.6nm,1.0s,baz=285,slow=16,SNR=4.2
JNU LR LR 20 50 44.1
comp=Z,1μm,18.2s,baz=244,slow=38
GEYT Alibeck 46.48 322 P P 20 30 21.1 +0.8
comp=Z,10.0nm,0.9s,baz=151,slow=9.4,SNR=21
GEYT LR LR 20 50 22.4
comp=Z,2μm,21.6s,baz=140,slow=37
GYA0B ALIBECK ARRAY 46.48 322 eP P 20 30 20.1 -0.2
comp=Z,15nm,0.8s
KSAR Wonju Array Be 46.53 39 P P 20 30 20.4 -0.3
KSAR Wonju Array Be 46.53 39 P P 20 30 20.4 -0.3
KS01 Wonju Array Si 46.56 39 eP P 20 30 20.2 -0.7
KSRS Korea Array 46.56 39 P P 20 30 20.4 -0.5
comp=Z,2.1nm,0.8s,baz=233,slow=8.2,SNR=12
KSRS LR LR 20 50 22.4
comp=Z,2μm,20.5s,baz=234,slow=37
WR1 Warramunga Arr 47.14 122 eP P 20 30 25.9 +0.1
comp=Z,37nm,1.1s
WRA Warramunga Arr 47.14 122 P P 20 30 25.9 +0.1
comp=Z,3.8nm,0.6s,baz=297,slow=9.0,SNR=26
WRA LR LR 20 51 05.7
comp=Z,899nm,21.2s,baz=280,slow=37
WRAB Tennant Creek 47.15 122 eP P 20 30 25.5 -0.3
comp=Z,27nm,1.0s
WRAB Tennant Creek 47.15 122⇑*i*P P 20 30 26.3 +0.5
WRAB pmax pmax
comp=Z,31nm,1.4s
WB2 Warramunga Arr 47.15 122 eP P 20 30 24.0 -1.8
WB2 eP P **20 30 25.9 +0.1**
HVS Khovu-Aksy 47.30 1*ci*P P 20 30 28.3 +1.7**
HVS pmax pmax
comp=Z,72nm,1.1s
ZAK Zakamensk 47.38 9 eP P 20 30 26.5 -0.8
ZAK pmax pmax
comp=Z,9.0nm,1.4s
FORT Forrest 48.08 138 eP P 20 30 33.5 +0.7
comp=Z,30nm,0.9s
KURBB Kurchatov Arra 48.28 348 P P 20 30 33.0 -1.1
comp=Z,13nm,1.0s,baz=170,slow=6.9,SNR=31

MOY Mondy 48.32 7 eP P 20 30 37.2 +2.7
KURK Kurchatov 48.35 348 eP P 20 30 33.7 -0.9
comp=Z,37nm,1.3s
KURK Kurchatov 48.35 348 P P 20 30 34.8 +0.2
SNR=13
KURK Kurchatov 48.35 348 P P 20 30 34.8 +0.2
SNR=13
KURK Kurchatov 48.35 348*de*P P 20 30 34.3 -0.3
KURK pmax pmax
comp=Z,35nm,1.4s
ASAR Alice Springs 48.46 126 P P 20 30 36.0 +0.1
comp=Z,2.4nm,0.8s,baz=296,slow=7.5,SNR=19
AS31 Alice Springs 48.46 126 eP P 20 30 36.1 +0.2
comp=Z,1.9nm,0.5s
AS01 Alice Springs 48.50 126 eP P 20 30 35.9 -0.4
TLY Talaya 48.70 9 eP P 20 30 36.5 -0.8
comp=Z,8.6nm,0.9s
TLY Talaya 48.70 9 pP P 20 30 39.4 +2.1
SNR=7.6
TLY Talaya 48.70 9 P P 20 30 39.4 +2.1
SNR=7.6
TLY Talaya 48.70 9 eP P 20 30 38.5 +1.2
TLY *e*S **S** **20 37 41.8 +2.5**
TLY pmax pmax
comp=Z,18nm,2.0s
TLY MLR MLR
comp=Z,641nm,16.0s
DAMY Dhamar 48.82 286 eP P 20 30 39.8 +0.6
comp=Z,36nm,1.4s
CN2 Changchun 49.32 31 eP P 20 30 43.0 +0.8
CN2 *e*pP sP 20 30 50.6 +2.0
CN2 *e*S **S** **20 37 44.0 -4.2**
CN2 pmax pmax
comp=Z,20nm,1.2s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=Z,2μm,18.0s
CN2 LR LR
comp=Z,1μm,18.0s
CN2 LR LR
comp=Z,1μm,16.0s
IRK Irkutsk 49.34 9 eP P 20 30 42.9 +0.7
IRK pmax pmax
comp=Z,37nm,2.5s
RAYN Ar Rayn 49.64 298 eP P 20 30 45.5 +0.4
comp=Z,7.7nm,1.0s
OPO Ambohidratompo 49.99 242 LR LR 20 49 02.9
comp=Z,1μm,18.4s,baz=66,slow=33
ZAA0 Zalesovo Array 50.52 354 eP P 20 30 51.0 -0.1
comp=Z,90nm,1.4s
ZALV Zalesovo Beam 50.52 354 P P 20 30 51.4 +0.2
comp=Z,20nm,0.6s,baz=186,slow=8.3,SNR=46
ZALV LR LR 20 54 54.9
comp=Z,1μm,19.6s,baz=160,slow=39
ZAA1 Zalesovo Array 50.53 354 eP P 20 30 51.4 +0.2
CIT Chita 51.20 16 eP P 20 30 56.8 +0.4
NVS Novosibirsk 51.58 353⇑*i*P P 20 31 00.2 +1.1
NVS *i*S **S** **20 38 16.7 -2.5**
NVS pmax pmax
comp=Z,40nm,1.1s
NVS pmax pmax
comp=N,18nm,0.9s
NVS pmax pmax
comp=E,11nm,0.5s
NVS smax smax
comp=N,27nm,1.9s
NVS smax smax
comp=E,21nm,1.5s
INU Inuyama 51.64 47 eP P 20 30 59.4 -0.5
comp=E,38nm,1.1s
MDJ Mudanjiang 52.06 33 P P 20 31 01.6 -1.3
MDJ pP sP 20 31 10.7 +1.4
MDJ sP pP 20 31 14.5 +7.0
MDJ S **S** **20 38 22.7 -3.6**
MDJ sS sS 20 38 38.3 +4.4
MDJ ScS **ScS** **20 40 49.2 -3.5**
MDJ pmax pmax
comp=E,36nm,1.3s
MDJ LR LR
comp=E,2μm,16.7s
MDJ LR LR
comp=E,2μm,17.5s
MDJ LR LR
comp=E,2μm,19.1s
KRAR Krasnoyarsk 52.17 0⇓eP P 20 31 05.5 +2.0
GUMO Guam 52.39 76 LR LR 20 54 25.5
comp=E,279nm,19.4s,baz=265,slow=37
BVAR Borovoye Array 52.52 343 P P 20 31 05.4 -0.7
comp=E,10nm,1.0s,baz=146,slow=8.2,SNR=32
BVAR LR LR 20 54 22.6
comp=E,2μm,20.0s,baz=153,slow=37
BRVK Borovoye 52.58 343 eP P 20 31 06.0 -0.6
comp=E,11nm,0.9s
BRVK Borovoye 52.58 343 P P 20 31 06.5 -0.1
SNR=7.2
BRVK Borovoye 52.58 343 P P 20 31 06.5 -0.1
SNR=7.2
BRVK Borovoye 52.58 343*di*P P 20 31 06.4 -0.2**
BRVK pmax pmax
comp=Z,12nm,0.9s
JHJ Hachijo jima 2 52.76 51 LR LR 20 54 46.6
comp=Z,655nm,19.3s,baz=288,slow=37
MAJO Matsushiro 53.04 46 eP P 20 31 09.5 -0.8
MAJO Matsushiro 53.04 46*di*P P 20 31 10.4 +0.1**
MAJO pmax pmax
comp=Z,40nm,2.1s
MJAR Matsushiro Arr 53.04 46 P P 20 31 09.5 -0.8
comp=Z,2.1nm,0.8s,baz=252,slow=7.6,SNR=4.9
MJAR LR LR 20 56 29.2
comp=Z,647nm,18.6s,baz=200,slow=39
USRK Ussuriysk Ar. 53.13 35 P P 20 31 08.5 -2.3
comp=Z,2.5nm,0.6s,baz=130,slow=3.0,SNR=5.8
USRK LR LR 20 57 04.7
comp=Z,915nm,18.8s,baz=212,slow=40
ABKAR Akbulak array 53.27 334 eP P 20 31 11.4 -0.4
AKTO Aktyubinsk 54.99 334 P P 20 31 22.5 -1.8
comp=Z,4.4nm,0.9s,baz=135,slow=10,SNR=11
AKTO LR LR 20 55 45.7
comp=Z,1μm,21.4s,baz=141,slow=37
KMBO Kilima Mbogo 55.64 266 P P 20 31 30.0 +0.1
comp=Z,2.1nm,0.8s,baz=55,slow=11,SNR=5.5
KMBO Kilima Mbogo 55.64 266 eP P 20 31 30.0 +0.1
comp=Z,37nm,2.0s
KMBO Kilima Mbogo 55.64 266 eP P 20 31 30.0 +0.1
KMBO pmax pmax
comp=Z,37nm,2.0s
PMG Port Moresby 55.79 104 LR LR 20 58 02.3
comp=Z,511nm,18.9s,baz=272,slow=39
MAK Makhachkala 55.98 321 eP P 20 31 31.2 -0.3
MAK *e* 20 33 36.5
MAK *e*S **S** **20 39 19.2 -0.1**
MAK pmax pmax
comp=Z,764nm,2.2s
KLR Kul'dur 56.19 30 P P 20 31 33.2 +0.3
comp=Z,0.5nm,0.9s,baz=244,slow=8.1,SNR=16
KLR LR LR 20 59 01.0
comp=Z,124nm,19.0s,baz=226,slow=40
GNI Garni 56.42 317 P P 20 31 34.7 -0.3
comp=Z,2.0nm,0.4s,baz=155,slow=6.0,SNR=5.9
GNI LR LR 20 57 24.9
comp=Z,466nm,19.9s,baz=107,slow=38
GNI Garni 56.42 317 eP P 20 31 34.7 -0.3
GNI *e*P P **20 31 35.2 +0.3**
GNI Garni 56.42 317⇓eP P 20 31 35.1 +0.1
GNI pmax pmax
comp=Z,72nm,1.5s
HTT Hallett 57.14 134 P P 20 31 40.2 +0.2
baz=57,SNR=3.6
ZEA Zeya 57.33 24 eP P 20 31 40.8 -0.2
ZEA pmax pmax
comp=Z,64nm,1.8s
ZEA MLR MLR
comp=Z,2μm,15.0s
ZEA MLR MLR
comp=E,600nm,13.0s
ZEA MLR MLR
comp=N,900nm,15.0s
CTA Charters Tower 57.61 116 LR LR 20 58 09.9
comp=N,600nm,20.4s,baz=287,slow=38
ZEI Tsey 58.20 319 eP P 20 31 47.0 -0.6
ZEI pmax pmax
comp=Z,9.0nm,1.4s
STKA Stephens Creek 58.34 131 P P 20 31 48.1 -0.4
comp=Z,6.1nm,0.8s,baz=319,slow=7.1,SNR=16
STKA LR LR 20 58 35.6
comp=Z,484nm,19.2s,baz=289,slow=38

STKA Stephens Creek 58.34 131 P **P** **20 31 49.1 +0.6**
baz=58,SNR=10.0
STKA Stephens Creek 58.34 131 *e*P **P** **20 31 49.2 +0.8**
comp=Z,3.3nm,1.0s
STKA Stephens Creek 58.34 131 *e*P **P** **20 31 49.2 +0.8**
STKA pmax pmax
comp=Z,3.0nm,1.0s
NCK Nalchik 58.73 320⇑ *i*P **P** **20 31 51.9 +0.9**
NCK pmax pmax
comp=Z,8.0nm,0.6s
SVE Sverdlovsk 58.79 340⇓ *e*P **P** **20 31 50.7 -0.4**
SVE pmax pmax
comp=Z,35nm,1.1s
SVE MLR MLR
comp=Z,1μm,19.0s
ARU Arti 59.21 339 P **P** **20 31 53.0 -1.0**
comp=Z,2.2nm,0.6s,baz=179,slow=6.2,SNR=8.4
ARU LR LR 20 58 07.4
comp=Z,1μm,21.1s,baz=138,slow=37
ARU Arti 59.21 339 *e*P **P** **20 31 53.5 -0.5**
comp=Z,30nm,1.3s
ARU Arti 59.21 339 *c i*P **P** **20 31 53.3 -0.7**
ARU 20 32 42.0
ARU 20 34 03.1
ARU S **S** **20 40 02.8 +1.5**
ARU 20 41 45.9
ARU SS **SS** **20 44 00.1 +4.2**
ARU pmax pmax
comp=Z,20nm,1.7s
ARU MLR MLR
comp=Z,1μm,22.0s
KBZ Khabaz 59.29 320 P **P** **20 31 53.9 -0.9**
comp=Z,5.9nm,1.0s,baz=133,slow=6.5,SNR=5.6
KBZ LR LR 21 00 37.2
comp=Z,557nm,19.5s,baz=97,slow=39
ASF Jabal al Asfar 59.38 305 P **P** **20 31 56.6 +0.7**
comp=Z,4.4nm,1.0s,baz=107,slow=11,SNR=4.9
ASAJ Asahikawa 59.50 40 P **P** **20 31 57.0 +0.7**
comp=Z,1.4nm,0.5s,baz=90,slow=18,SNR=3.0
GRNR Gornyy 59.51 31 *e*P **P** **20 31 55.8 -0.4**
GRNR pmax pmax
comp=Z,46nm,1.0s
KVAR Kislovodsk Arr 59.52 320 LR LR 21 00 33.0
comp=Z,334nm,20.7s,baz=74,slow=39
KIV Kislovodsk 59.53 320 *e*P **P** **20 31 57.1 +0.5**
comp=Z,22nm,1.2s
KIV Kislovodsk 59.53 320 pP **P** **20 31 57.4 +0.8**
SNR=6.1
KIV Kislovodsk 59.53 320 P **P** **20 31 57.4 +0.8**
SNR=6.1
KIV Kislovodsk 59.53 320 *e*P **P** **20 31 56.7 +0.1**
KIV *e* 20 32 41.7
KIV *e*S **S** **20 40 06.4 +0.4**
KIV *e*SS **SS** **20 44 04.9 +3.4**
KIV pmax pmax
comp=Z,16nm,1.0s
KIV MLR MLR
comp=Z,408nm,16.0s
MMAI Mount Meron Ar 60.83 306 P **P** **20 32 06.9 +1.2**
comp=Z,2.3nm,0.8s,baz=111,slow=7.9,SNR=4.9
ARPS Mount Arapiles 60.90 136 P **P** **20 32 07.3 +1.4**
baz=61
YSS Yuzh-Sakhalins 60.95 37⇑ *e*P **P** **20 32 06.8 +0.7**
YSS *e* 20 32 11.5
YSS *e* 20 32 17.4
YSS MLR MLR
comp=Z,1μm,15.0s
YSS MLR MLR
comp=N,600nm,14.0s
YSS MLR MLR
comp=E,600nm,12.0s
CMSA Cobar Meteorol 61.32 129 P **P** **20 32 10.7 +1.7**
baz=62,SNR=16
TYV Tymovskoe 62.84 33 *e*P **P** **20 32 19.5 +0.7**
TYV pmax pmax
comp=Z,200nm,5.7s
TYV pmax pmax
comp=Z,14nm,1.5s
NKL Nikolayevsk 63.03 30 *e*P **P** **20 32 19.0 -1.0**
NKL pmax pmax
comp=N,8.0nm,1.0s
NKL pmax pmax
comp=Z,27nm,1.0s
VRH Novokhopyorsk 63.59 327 *e*P **P** **20 32 21.5 -2.3**
VRH pmax pmax
comp=Z,8.0nm,0.8s
BR101 Keskin Array S 64.14 313 *e*P **P** **20 32 27.5 -0.3**
BR131 Keskin Array S 64.14 313 *e*P **P** **20 32 27.9 0.0**
BRTR Keskin Array B 64.14 313 P **P** **20 32 27.5 -0.3**
comp=Z,2.6nm,0.8s,baz=131,slow=7.1,SNR=21
BRTR LR LR 21 02 01.8
comp=Z,436nm,19.3s,baz=102,slow=38
YAK Yakutsk 64.39 18 *e*P **P** **20 32 28.3 -0.5**
comp=Z,43nm,1.0s
YAK Yakutsk 64.39 18 *e*P **P** **20 32 27.6 -1.2**
YAK *e**PP **sP** **20 32 33.7 -1.6**
YAK *e* 20 33 04.7
YAK *e* 20 34 47.3
YAK *e*PPP PPP 20 36 30.6
YAK *e*S **S** **20 41 03.5 -3.1**
YAK *e* 20 42 14.9
YAK *e*SS **SS** **20 45 18.3 +1.6**
YAK pmax pmax
comp=Z,22nm,0.9s
YAK pmax pmax
comp=E,8.0nm,1.0s
YAK pmax pmax
comp=N,4.0nm,1.3s
YAK pmax pmax
comp=Z,20nm,1.3s
YAK pmax pmax
comp=E,37nm,2.0s
YAK pmax pmax
comp=N,42nm,2.1s
YAK smax smax
comp=N,83nm,2.7s
YAK smax smax
comp=E,29nm,2.3s
YAK MLR MLR
comp=Z,2μm,17.0s
YAK MLR MLR
comp=N,1μm,22.0s
YAK MLR MLR
comp=E,1μm,19.0s
ILGA Ilgaz 64.50 314 *e*P **P** **20 32 31.1 +0.8**
BR231 Keskin MP Arra 64.81 313 *e*P **P** **20 32 28.1 -4.1**
VSR Storozhevoye 65.01 326 *e*P **P** **20 32 31.2 -1.9**
VSR pmax pmax
comp=Z,10.0nm,1.2s
SIM Simferopol' 65.53 318 *de*P **P** **20 32 36.0 -0.6**
SIM *e* 20 32 47.0
SIM *e*S **S** **20 41 24.1 +2.7**
SIM pmax pmax
comp=Z,16nm,1.1s
LPSR Galich'ya Gora 65.78 327 *e*P **P** **20 32 35.8 -2.3**
LPSR pmax pmax
comp=Z,8.0nm,0.5s
LSZ Lusaka 66.58 252 P **P** **20 32 43.2 -0.8**
comp=Z,2.2nm,0.8s,baz=86,slow=9.7,SNR=2.7
LSZ Lusaka 66.58 252 *e*P **P** **20 32 43.2 -0.8**
comp=Z,9.6nm,1.2s
LSZ Lusaka 66.58 252 *e*P **P** **20 32 43.2 -0.8**
LSZ pmax pmax
comp=Z,10.0nm,1.2s
MOS Moscow 67.94 330 *e*P **P** **20 32 51.1 -0.6**
MOS MLR MLR
comp=Z,1μm,21.0s
OBN Obninsk 68.18 329 P **P** **20 32 52.1 -1.1**
comp=Z,8.4nm,0.7s,baz=100,slow=12,SNR=6.5
OBN Obninsk 68.18 329 *e*P **P** **20 32 52.1 -1.1**
comp=Z,78nm,1.8s
OBN Obninsk 68.18 329⇓ *e*P **P** **20 32 53.9 +0.7**
OBN *e* 20 33 20.3
OBN *e* 20 35 22.4
OBN pmax pmax
comp=Z,38nm,1.6s
OBN MLR MLR
comp=Z,826nm,20.0s
HNR Honiara 68.24 102 LR LR 21 05 36.2
comp=Z,120nm,18.2s,baz=334,slow=38
TIRR Tirgusor 69.24 316⇓ *i*P **P** **20 33 00.6 +0.5**
TIRR Tirgusor 69.24 316 *e*P **P** **20 33 01.0 +0.9**
comp=Z,21nm,1.1s
TIRR Tirgusor 69.24 316 *e*P **P** **20 33 01.0 +0.9**
TIRR pmax pmax
comp=Z,21nm,1.1s
TLB Topalu 69.53 316⇑ *i*P **P** **20 33 02.0 +0.1**
KLMR Klimovskoe 69.62 335 *e*P **P** **20 32 59.9 -2.2**
KLMR AMP 20 33 03.5
comp=Z,10.0nm,1.1s
KLMR LQ LQ 20 58 43.0
KLMR LQ LQ 20 58 43.0
KLMR LR LR 21 01 48.2
KLMR Klimovskoe 69.62 335 *e*P **P** **20 32 59.8 -2.3**
KLMR pmax pmax
comp=Z,10.0nm,1.1s
CFR Carcaliu 69.63 317⇑ *i*P **P** **20 33 03.4 +0.9**
KIS Kishinev 69.69 319 *e*P **P** **20 33 03.0 +0.2**
KIS *e*S **S** **20 42 10.0 -1.2**
KIS LRM MLR 21 09 20.0
comp=Z,700nm,20.0s
KIS Kishinev 69.69 319 *e*P **P** **20 33 03.0 +0.2**
KIS *e*S **S** **20 42 10.0 -1.2**
KIS MLR MLR
comp=Z,500nm,18.0s
KIS MLR MLR
comp=N,200nm,20.0s
KIS MLR MLR
comp=Z,700nm,20.0s
IDI Anoyia 69.83 306 P **P** **20 33 04.4 +0.4**
comp=Z,8.0nm,0.6s,baz=92,slow=9.3,SNR=10
IDI LR LR 21 05 25.5
comp=Z,249nm,21.8s,baz=94,slow=38
IDI Anoyia 69.83 306⇑ *i*P **P** **20 33 05.8 +1.8**
IDI Anoyia 69.83 306 *e*P **P** **20 33 04.4 +0.4**
comp=Z,117nm,1.9s
SORM Soroca 70.33 320⇓ *i*P **P** **20 33 06.7 0.0**
AKASG Malin Array Be 70.58 323 P **P** **20 33 06.8 -1.4**
comp=Z,0.7nm,0.4s,baz=86,slow=5.0,SNR=22
AKASG LR LR 21 08 30.6
comp=Z,354nm,18.2s,baz=90,slow=40
AKBB Malin Array Si 70.58 323 *e*P **P** **20 33 07.8 -0.4**
comp=Z,10nm,1.1s
AKBB Malin Array Si 70.58 323 *e*P **P** **20 33 07.8 -0.4**
AKBB pmax pmax
comp=Z,10.0nm,1.1s
KIEV Kiev 70.59 323 *e*P **P** **20 33 07.2 -1.1**
comp=Z,10nm,1.1s
KIEV Kiev 70.59 323⇓ *e*P **P** **20 33 07.6 -0.6**
KIEV pmax pmax
comp=Z,10.0nm,1.1s
AK11 Malin Array Si 70.61 323 *e*P **P** **20 33 07.3 -1.1**
VRI Vrincioaia 70.77 317⇑ *i*P **P** **20 33 11.3 +1.8**
PLOR Plostina 70.82 317⇑ *i*P **P** **20 33 11.6 +1.8**
TESR Tescani 70.99 318⇑ *i*P **P** **20 33 11.4 +0.6**
LBTB Lobatse 71.02 242 P **P** **20 33 11.0 -0.5**
comp=Z,7.2nm,0.9s,baz=113,slow=7.9,SNR=5.0
LBTB Lobatse 71.02 242 *e*P **P** **20 33 12.4 +0.9**
comp=Z,9.8nm,0.8s
LBTB Lobatse 71.02 242 *e*P **P** **20 33 12.5 +0.9**
LBTB pmax pmax
comp=Z,10.0nm,0.8s
MA2 Magadan 71.11 27 *e*P **P** **20 33 13.6 +2.3**
MLR Muntele Rosu 71.20 317 P **P** **20 33 12.6 +0.3**
comp=Z,3.7nm,0.9s,baz=325,slow=4.5,SNR=26
MLR LR LR 21 08 59.4
comp=Z,170nm,19.1s,baz=86,slow=40
MLR Muntele Rosu 71.20 317⇓ *i*P **P** **20 33 13.4 +1.1**
PRAR RASCA 71.49 319⇓ *i*P **P** **20 33 14.6 +0.7**
TIXI Tiksi 71.59 11 *e*P **P** **20 33 13.1 -0.9**
comp=Z,40nm,1.1s
TIXI Tiksi 71.59 11 *c i*P **P** **20 33 13.2 -0.7**
TIXI pmax pmax
comp=Z,35nm,1.2s
VOIR 71.80 317⇑ *i*P **P** **20 33 16.3 +0.4**
ARR Arges 72.07 317⇓ *i*P **P** **20 33 18.3 +0.8**
BOSA Boshof 72.19 239 P **P** **20 33 18.4 -0.1**
comp=Z,5.2nm,1.0s,baz=75,slow=7.9,SNR=5.0
BOSA LR LR 21 04 05.1
comp=Z,591nm,18.0s,baz=64,slow=35
BURAR Bucovina Array 72.22 319⇑ *i*P **P** **20 33 20.1 +1.8**
PETK Petropavlovsk- 72.22 35 LR LR 21 08 22.8
comp=Z,376nm,18.6s,baz=241,slow=39
BUR04 Bucovina Ar. S 72.24 319 *e*P **P** **20 33 18.4 +0.1**
BUR08 Bucovina Ar. S 72.24 319 *e*P **P** **20 33 19.4 +0.9**
VTS Vitosha 72.48 314⇑ *i*P **P** **20 33 20.8 +0.7**
VTS Vitosha 72.48 314 *e*P **P** **20 33 20.0 -0.1**
comp=Z,12nm,1.0s
VTS Vitosha 72.48 314 *e*P **P** **20 33 20.0 -0.1**
VTS pmax pmax
comp=Z,13nm,1.0s
SEY Seymchan 73.30 24 P **P** **20 33 23.4 -0.8**
comp=Z,3.0nm,0.9s,baz=253,slow=11,SNR=5.3
SEY Seymchan 73.30 24⇓ *e*P **P** **20 33 24.6 +0.3**
NACGM Naroch 73.31 327 *e* **P** **20 33 23.0 -1.5**
NACGM *e*LR LR 21 05 08.0
IDID Didziasalis 73.47 327 *e*P **P** **20 33 25.9 +0.5**
IDID IAmb IAmb 20 33 28.2
comp=Z,10nm,1.0s
HERR Herculane 73.50 316⇑ *i*P **P** **20 33 26.5 +0.7**
LVV L'vov 73.53 321 *e*P **P** **20 33 27.5 +1.6**
LVV *e*S **S** **20 42 53.6 -1.8**
LVV MLR MLR
comp=Z,200nm,18.0s
DRGR 73.69 318⇓ *i*P **P** **20 33 28.1 +1.1**
IIGN Ignalina 73.76 327 *e*P **P** **20 33 27.6 +0.5**
IIGN IAmb IAmb 20 33 29.9
comp=Z,8.8nm,1.1s
IZAR Zarasai 73.87 327 *e*P **P** **20 33 28.4 +0.6**
IZAR IAmb IAmb 20 33 29.0
comp=Z,7.1nm,0.9s
MAW Mawson 74.17 191 LR LR 21 01 13.1
comp=Z,360nm,18.3s,baz=23,slow=32
BZS Buzias 74.20 316⇑ *i*P **P** **20 33 30.9 +1.0**
SIRR Siria 74.29 317⇓ *i*P **P** **20 33 31.7 +1.2**
KWP Kalwaria Pacla 74.32 321 *e*P **P** **20 33 32.7 +2.1**
KWP Kalwaria Pacla 74.32 321 *e*P **P** **20 33 31.4 +0.9**
comp=Z,443nm,1.6s
KWP Kalwaria Pacla 74.32 321 *e*P **P** **20 33 32.7 +2.1**
VSU Vasula 74.47 330⇑ *e*P **P** **20 33 31.4 +0.2**
VSU pmax pmax
comp=Z,62nm,1.2s
CRVS Cervenica-Dubn 74.96 320 *e*P **P** **20 33 37.5 +3.2**
CRVS Cervenica-Dubn 74.96 320 *e*P **P** **20 33 37.5 +3.2**
DIVS Divibare 75.06 315 *e*P **P** **20 33 36.7 +1.6**
comp=Z,5.2nm,0.9s
SUW Suwalki 75.08 325 *e*P **P** **20 33 34.8 0.0**
SUW Suwalki 75.08 325 *e*P **P** **20 33 34.8 0.0**
comp=Z,62nm,1.0s
SUW Suwalki 75.08 325 *e*P **P** **20 33 34.8 0.0**
STHS Stebnicka Huta 75.20 320 *e*P **P** **20 33 37.7 +2.0**
STHS Stebnicka Huta 75.20 320 *e*P **P** **20 33 37.7 +2.0**
STHS pmax pmax
comp=Z,6.0nm,0.9s
FIA1 FINESS Array S 75.75 333 *e*P **P** **20 33 38.5 -0.1**
FIA1 *e*P **pP** **20 33 38.9 -4.4**
FIA0 FINESS Array S 75.75 333 *e*P **P** **20 33 37.2 -1.3**
FIA0 FINESS Array S 75.75 333 *e*P **P** **20 33 37.2 -1.3**
FINES FINESS Array B 75.75 333 P **P** **20 33 37.2 -1.3**
comp=Z,3.9nm,0.8s,baz=106,slow=6.4,SNR=9.4
FINES LR LR 21 08 45.4
comp=Z,994nm,21.8s,baz=106,slow=37
PSZ Piszkesteto 75.79 318 *e*P **P** **20 33 39.2 0.0**
comp=Z,8.6nm,0.9s
PSZ Piszkesteto 75.79 318 *e*P **P** **20 33 39.2 0.0**
PSZ pmax pmax
comp=Z,9.0nm,0.9s
NIE Niedzica 75.81 320 *e*P **P** **20 33 40.4 +1.2**
NIE Niedzica 75.81 320 *e*P **P** **20 33 40.4 +1.2**
BEL Belsk 75.99 323 *e*P **P** **20 33 41.3 +1.2**
BEL Belsk 75.99 323 *e*P **P** **20 33 41.3 +1.2**
OJC Ojcow 76.28 321 *e*P **P** **20 33 40.6 -1.2**
OJC Ojcow 76.28 321 *e*P **P** **20 33 40.6 -1.2**
DZM Mont Dzumac 76.38 114 LR LR 21 11 28.8
comp=Z,356nm,18.3s,baz=254,slow=39
DZM Mont Dzumac 76.38 114 *e*S **S** **20 43 25.3 -3.0**
comp=Z,146nm,26.9s
DZM *e*SS **SS** **20 48 24.5 +1.6**
comp=Z,272nm,27.3s
DZM *e*LR LR 20 57 21.7
comp=Z,853nm,23.9s
VYHS Vyhne 76.59 319 *e*P **P** **20 33 44.2 +0.6**
VYHS Vyhne 76.59 319 *e*P **P** **20 33 44.2 +0.6**
VYHS pmax pmax
comp=Z,13nm,1.6s
KLNR Kaliningrad 76.91 325⇑ *e*P **P** **20 33 45.2 -0.1**
KLNR pmax pmax
comp=Z,76nm,1.1s
MODS Modra-Piesok 77.59 319 *e*P **P** **20 33 50.6 +1.3**
MODS *e*PCP **PcP** **20 34 00.9 +1.4**
MODS Modra-Piesok 77.59 319 *e*P **P** **20 33 50.6 +1.3**
MODS *e* 20 34 01.0
MORC Moravsky Berou 77.64 320⇑ *i*P **P** **20 33 51.8 +2.3**
MORC Moravsky Berou 77.64 320 *e*P **P** **20 33 50.5 +1.0**
comp=Z,82nm,1.5s
MORC Moravsky Berou 77.64 320 *e*P **P** **20 33 50.5 +1.0**
MORC pmax pmax
comp=Z,83nm,1.5s
KRLC Kraliky 78.17 320 *e*P **P** **20 33 53.0 +0.5**
KRLC *e*PCP **PcP** **20 34 02.5 +0.5**
KRLC Kraliky 78.17 320 *e*P **P** **20 33 53.0 +0.5**
KRLC *e* 20 34 02.5
VRAC Vranov 78.18 320 P **P** **20 33 52.9 +0.4**
comp=Z,1.1nm,0.4s,baz=83,slow=9.2,SNR=5.3
CONA Conrad Observa 78.47 318 *i* P **P** **20 33 55.0 +0.7**
comp=Z,6.1nm,1.0s
CONA *i* PP **PP** **20 36 54.4 +2.6**
comp=Z,15nm,1.2s
DPC Dobruska-Polom 78.50 321 *e*P **P** **20 33 55.7 +1.4**
DPC *e*PCP **PcP** **20 34 04.1 +0.7**
DPC Dobruska-Polom 78.50 321 *e*P **P** **20 33 55.7 +1.4**
DPC *e* 20 34 04.1
KSP Ksiaz 78.59 321 *e*P **P** **20 33 56.7 +2.0**
KSP Ksiaz 78.59 321 *e*P **P** **20 33 56.7 +2.0**
BOJS Bojanci 78.60 316 *i*P **P** **20 33 55.7 +0.8**
ARSA Arzberg 78.61 317 *i*P **P** **20 33 56.3 +1.3**
comp=Z,18nm,1.0s,SNR=9.0
UPC Upice 78.72 321 *e*P **P** **20 33 54.0 -1.5**
UPC Upice 78.72 321 *e*P **P** **20 33 54.0 -1.5**
PERS Pernice 78.82 317 *i*P **P** **20 33 57.2 +1.1**
SOKA Soboth 78.88 317 *i*P **P** **20 33 57.6 +1.0**
comp=Z,20nm,1.2s,SNR=14
VISS Visnje 78.92 316 *i*P **P** **20 33 57.4 +0.7**
OBKA Obir 79.19 317 *i*P **P** **20 33 59.4 +1.1**
comp=Z,22nm,1.6s,SNR=6.2
MOA Mlolin 79.53 318 *i*P **P** **20 34 01.9 +1.9**
comp=Z,11nm,1.6s
PRU Pruhonice 79.59 320 *e*P **P** **20 34 01.4 +1.2**
PRU *e*PCP **PcP** **20 34 10.4 +2.3**
PRU Pruhonice 79.59 320 *e*P **P** **20 34 01.4 +1.2**
PRU *e* 20 34 10.4
MYKA Terra Mystica 79.83 317 *i*P **P** **20 34 02.8 +1.1**
comp=Z,23nm,1.8s
GEA0 GERESS Array S 80.01 319 *e*P **P** **20 34 03.1 +0.5**
GEC2 GERESS Array S 80.01 319 *e*P **P** **20 34 03.9 +1.2**
comp=Z,30nm,1.1s
GEC2 GERESS Array S 80.01 319 *e*P **P** **20 34 03.9 +1.2**
GEC2 pmax pmax
comp=Z,30nm,1.1s
GERES GERESS Array B 80.01 319 P **P** **20 34 03.4 +0.7**
comp=Z,8.0nm,0.8s,baz=100,slow=5.5,SNR=41
GERES LR LR 21 14 45.0
comp=Z,269nm,18.8s,baz=90,slow=40
BRG Berggiesshubel 80.07 321 *e*P **P** **20 34 04.4 +1.6**
comp=Z,27nm,1.5s
BRG *e* 20 34 12.7
comp=Z,12nm,1.1s
BRG *e* 20 36 29.8
comp=Z,7.8nm,1.1s
comp=N,446nm,16.9s
comp=E,399nm,17.8s
comp=Z,567nm,11.6s
BRG Berggiesshubel 80.07 321 *e*P **P** **20 34 04.4 +1.6**
BRG *e* 20 34 12.7
BRG pmax pmax
comp=Z,27nm,1.5s
BRG pmax pmax
comp=Z,12nm,1.1s
BRG pmax pmax
comp=Z,8.0nm,1.1s
BRG MLR MLR
comp=N,446nm,16.9s
BRG MLR MLR
comp=E,399nm,17.8s
BRG MLR MLR
comp=Z,567nm,11.6s
KBA Koelnbreinsper 80.07 317 *i*P **P** **20 34 01.3 -1.9**
comp=Z,13nm,1.5s
KHC Kasperske Hory 80.12 319 *e*P **P** **20 34 04.0 +0.8**
KHC *e*PCP **PcP** **20 34 12.6 +2.1**
KHC Kasperske Hory 80.12 319 *e*P **P** **20 34 03.1 -0.1**
comp=Z,4.3nm,1.1s
KHC Kasperske Hory 80.12 319 *e*P **P** **20 34 03.1 -0.1**
KHC pmax pmax
comp=Z,4.0nm,1.1s
BILL Bilibino 80.48 21 *i*P **P** **20 34 03.0 -1.7**
BILL *i* 20 34 15.5
BILL *i* 20 37 05.5
BILL pmax pmax
comp=Z,3.0nm,1.2s
BILL MLR MLR
comp=Z,1μm,16.0s
ABTA Abfaltersbach 80.61 317 *i*P **P** **20 34 07.2 +1.3**
comp=Z,7.4nm,1.1s
CLL Collm 80.70 321⇑ *i*P **P** **20 34 07.2 +1.0**
comp=Z,25nm,1.6s
CLL *i* 20 34 16.5
CLL *e*SS SS 20 49 34.0 +7.6
CLL L L 21 14 00.0
comp=Z,400nm,19.5s
CLL Collm 80.70 321 *e*P **P** **20 34 07.2 +1.0**
comp=Z,15nm,1.3s
CLL Collm 80.70 321 *e*P **P** **20 34 07.3 +1.0**
CLL pmax pmax
comp=Z,15nm,1.3s
SYO Syowa Base 81.01 197⇑ *e*P **P** **20 34 09.0 +1.6**
WTTA Wattenberg 81.25 317 *i*P **P** **20 34 10.2 +0.8**
comp=Z,11nm,0.9s
WATA Walderalm 81.30 317 *i*P **P** **20 34 10.0 +0.3**
comp=Z,11nm,0.9s,SNR=7.1
HFS Hagfors 81.35 330 P **P** **20 34 09.5 0.0**
comp=Z,3.8nm,0.8s,baz=132,slow=2.2,SNR=10.0
HFS LR LR 21 13 01.5
comp=Z,750nm,21.6s,baz=94,slow=38
MOTA Moosalm 81.62 317 *i*P **P** **20 34 11.7 +0.3**
comp=Z,14nm,1.1s,SNR=10.0
GRFO Grafenberg 81.70 320 *e*P **P** **20 34 13.7 +2.1**
comp=Z,20nm,1.3s
GRFO Grafenberg 81.70 320 *e*P **P** **20 34 13.7 +2.1**
GRFO pmax pmax
comp=Z,20nm,1.3s
FETA Feichten 81.85 317 *i*P **P** **20 34 13.4 +0.8**
comp=Z,16nm,1.3s,SNR=6.3
RETA Reutte 81.86 317 *i*P **P** **20 34 13.3 +0.7**
comp=Z,30nm,1.4s,SNR=9.4
DAVA Damuels 82.45 317 *i*P **P** **20 34 17.2 +1.5**
comp=Z,26nm,1.1s,SNR=9.3
KEST Kesra 82.48 305 P **P** **20 34 14.6 -1.5**
comp=Z,6.1nm,1.0s,baz=158,slow=5.4,SNR=2.7
KEST LR LR 21 13 51.4
comp=Z,216nm,19.6s,baz=71,slow=38
KEST Kesra 82.48 305 *e*P **P** **20 34 17.6 +1.5**
comp=Z,62nm,2.0s
NB200 NORSAR Array S 82.67 331 *e*P **P** **20 34 15.5 -1.0**
NOA NORSAR Array B 82.67 331 P **P** **20 34 15.5 -1.0**
comp=Z,4.1nm,1.1s,baz=96,slow=5.1,SNR=3.3
NOA LR LR 21 14 35.2
comp=Z,658nm,20.0s,baz=105,slow=38
TUE Stuetta 82.78 316 *e*P **P** **20 34 19.4 +1.8**
comp=Z,13nm,1.0s
BFO Black Forest 83.53 318 *i*P **P** **20 34 23.3 +2.1**
SPITS Spitsbergen Ar 83.63 348 LR LR 21 15 11.1
comp=Z,1μm,21.9s,baz=115,slow=38
TAM Tamanrasset 86.01 292 *e*P **P** **20 34 36.4 +2.1**
comp=Z,14nm,1.4s
TAM Tamanrasset 86.01 292 *e*P **P** **20 34 36.4 +2.1**
TAM pmax pmax
comp=Z,13nm,1.4s
VNDA Vanda 89.14 168 P **P** **20 34 48.9 +0.8**
comp=Z,1.1nm,0.9s,baz=332,slow=6.3,SNR=4.4
VNDA LR LR 21 08 48.4
comp=Z,762nm,20.4s,baz=300,slow=32
TORD Torodi Ar. Bea 90.17 283 LR LR 21 13 50.3
comp=Z,324nm,19.1s,baz=105,slow=35
EKA Eskdalemuir Ar 90.34 325 P **P** **20 34 52.8 -1.3**
comp=Z,2.0nm,0.8s,baz=83,slow=5.9,SNR=3.6
EKA LR LR 21 18 57.0
comp=Z,361nm,21.3s,baz=55,slow=38
ESDC Sonseca Array 92.81 310 P **P** **20 35 04.9 -1.2**
comp=Z,0.2nm,0.4s,baz=38,slow=3.8,SNR=3.5
ESDC LR LR 21 18 46.4
comp=Z,163nm,21.6s,baz=150,slow=37
SNAA Sanae 95.23 198 LR LR 21 13 21.0
comp=Z,124nm,18.4s,baz=116,slow=32
KOWA Kowa 95.59 285 LR LR 21 17 15.4
comp=Z,371nm,19.0s,baz=75,slow=35

IM3	**Indian Mountai**	**96.02**	**22**	*e*P	**P**		**20 35 21.8**	**+1.7**
AFI	**Afiamalu**	**96.21**	**104**	LR	LR		21 20 21.8	
	comp=Z,78nm,20.4s,baz=280,slow=36							
BORG	**Borgarnes**	**96.70**	**337**	LR	LR		21 19 54.7	
	comp=Z,437nm,21.7s,baz=59,slow=36							
DBIC	**Dimbokro**	**97.08**	**277**	LR	LR		21 16 34.0	
	comp=Z,468nm,20.6s,baz=71,slow=34							
ILAR	**Eielson Array**	**99.13**	**22**	P		**Pdif**	**20 35 33.7**	**-0.5**
	comp=Z,0.2nm,0.7s,baz=312,slow=4.5,SNR=2.8							
ILAR				LR	LR		21 23 35.1	
	comp=Z,421nm,20.7s,baz=308,slow=37							
TULEG	**Thule**	**99.19**	**356**	*e*P		**Pdif**	**20 35 31.8**	**-2.4**
	comp=Z,31nm,1.9s							
INK	**Inuvik**	**101.38**	**16**	P		**Pdif**	**20 35 43.5**	**-0.6**
	comp=Z,0.3nm,0.4s,baz=287,slow=4.2,SNR=2.5							
RES	**Resolute Bay**	**101.61**	**2**	P		**Pdif**	**20 35 43.8**	**-1.2**
	comp=Z,0.7nm,0.9s,baz=330,slow=5.1,SNR=2.0							
PPT2	**Papeete2**	**117.50**	**108**	*e*LR	LR		21 16 27.7	
	comp=Z,357nm,23.0s							
WRW	**Wenatchee Ridg**	**120.84**	**26**	*e*PKPdf		**PKPdf**	**20 40 46.2**	**+0.5**
RKT	**Rikitea**	**130.04**	**117**	*e*LR	LR		21 22 15.8	
	comp=Z,384nm,22.8s							
FPU	**Francis Peak**	**130.17**	**24**	*e*PKPdf		**PKPdf**	**20 41 06.0**	**+1.9**
GVRC	**Garvey Reservo**	**132.52**	**35**	*e*PKPpre	PKPpre		20 40 57.9	
RPV	**Rancho Palos V**	**132.58**	**36**	*e*PKPdf		**PKPdf**	**20 41 09.0**	**+0.6**
VTV	**Victorville**	**132.60**	**34**	*e*PKPpre	PKPpre		20 40 58.0	
VTV	**Victorville**	**132.60**	**34**	*e*PKHKP	PKHPpre		20 40 58.0	
PLAL	**Pickwick Lake**	**141.53**	**1**	*e*PKPdf		**PKPdf**	**20 41 24.0**	**-0.9**
CPUP	**Villa Florida**	**143.53**	**229**	PKP		**PKPdf**	**20 41 28.4**	**-0.2**
	comp=Z,0.8nm,0.3s,baz=118,slow=3.8,SNR=2.4							
LTX	**Lajitas**	**143.60**	**25**	*e*PKPdf	PKPbc		20 41 26.7	+0.6
LTX	**Lajitas**	**143.60**	**25**	*e*PKIKP	PKPbc		20 41 26.7	+0.6
TXAR	**Lajitas Array**	**143.60**	**25**	PKP	PKPbc		20 41 26.7	+0.6
	comp=Z,0.2nm,0.5s,baz=7.4,slow=1.0,SNR=4.8							
HPIG		**144.75**	**29**	*e*PKPdf		**PKPdf**	**20 41 31.3**	**+0.2**
LNIG	**Linares**	**149.22**	**22**	*e*PKPbc		**PKPbc**	**20 41 43.0**	**+0.4**

ISCJB ***12*** *20:27:12.7±0.5,3˚.35N±0˚.07×92˚.80E±0˚.05,h10km, mb4.4/24,Error ellipse: s-maj=11.4km s-min=6.5km az=23.6*

IDC ***12*** *20:27:12.9±0.9,3˚.32N×92˚.76E,h0km,mb4.2/14, mb1 4.3/16,mb1mx4.0/80,mbtmp4.2/16,ML3.6/2,Error ellipse: s-maj=34.8km s-min=17.8km az=44.0*

NEIC ***12*** *20:27:14.3±0.3,3˚.32N×92˚.78E,h10km,mb4.8/8,Error ellipse: s-maj=8.8km s-min=4.7km az=204.0*

ISC 12 20:27:14.4±0.7,3˚.3N±0˚.1×92˚.79E±0˚.09,h10km,n50, σ0§61/44,mb4.5/24,1C,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
LHMI	**Lhok Sumawe**	**4.56**	**65**	*e*Pn		**Pn**	**20 28 24.4**	**+0.8**
GSI	**Gunungsitoli**	**5.18**	**112**	*e*Pn		**Pn**	**20 28 32.0**	**-0.1**
PSI	**Prapat**	**6.14**	**95**	*e*Pn		**Pn**	**20 28 45.9**	**+0.4**
KULM	**Kulim**	**8.08**	**76**	*e*Pn		**Pn**	**20 29 11.9**	**-0.1**
PBA	**Port Blair**	**8.29**	**360**	*e*Pn		Pn	20 29 13.8	-1.0
IPM	**Ipoh**	**8.30**	**82**	*e*Pn		**Pn**	**20 29 15.3**	**+0.3**
PALK	**Pallekele**	**12.66**	**289**	Pn		**Pn**	**20 30 14.7**	**-0.2**
	1.3nm,0.3s,baz=115,slow=13,SNR=5.2							
PALK				Sn		Sn	20 32 25.1	-11
	2.2nm,0.3s,baz=124,slow=1.1,SNR=4.6							
CMAR	**Chiang Mai Arr**	**16.22**	**21**	Pn		**Pn**	**20 31 01.6**	**-1.0**
	0.0nm,0.3s,baz=213,slow=13,SNR=4.0							
NIL	**Nilore**	**35.27**	**331**	*e*P		**P**	**20 34 09.0**	**-0.6**
	25nm,0.8s							
MK01	**Makanchi Array**	**44.24**	**350**	*e*P		**P**	**20 35 23.8**	**-0.2**
MK31	**Makanchi Array**	**44.27**	**350**	*e*P		**P**	**20 35 24.4**	**+0.2**
MK32	**Makanchi Array**	**44.27**	**350**	*e*P		**P**	**20 35 24.2**	**0.0**
MKAR	**Makanchi Array**	**44.27**	**350**	P		**P**	**20 35 24.2**	**0.0**
	6.8nm,0.8s,baz=167,slow=8.6,SNR=14							
KK31	**Karatay Array**	**44.30**	**337**	*e*P		**P**	**20 35 24.7**	**+0.1**
KKAR	**Karatay Array**	**44.30**	**337**	*e*P		**P**	**20 35 24.6**	**0.0**
SONA0	**Songino Array**	**45.88**	**13**	*e*P		**P**	**20 35 37.9**	**+0.7**
SONM	**Songino Array**	**45.88**	**13**	P		**P**	**20 35 37.9**	**+0.7**
	1.7nm,0.8s,baz=186,slow=10,SNR=4.6							
GEYT	**Alibeck**	**46.82**	**322**	P		**P**	**20 35 45.8**	**+1.2**
	7.7nm,0.7s,baz=148,slow=8.7,SNR=14							
GYA0B	**ALIBECK ARRAY**	**46.82**	**322**	*e*P		**P**	**20 35 45.8**	**+1.2**
	9.6nm,0.8s							
WR1	**Warramunga Arr**	**46.88**	**121**	*e*P		**P**	**20 35 44.9**	**-0.5**
	43nm,1.9s							
WRA	**Warramunga Arr**	**46.88**	**121**	P		**P**	**20 35 44.9**	**-0.5**
	0.8nm,0.6s,baz=297,slow=8.8,SNR=3.2							
ASAR	**Alice Springs**	**48.18**	**126**	P		**P**	**20 35 56.7**	**+1.2**
	0.7nm,1.0s,baz=296,slow=7.9,SNR=3.5							
KURBB	**Kurchatov Arra**	**48.66**	**348**	P		**P**	**20 35 58.7**	**0.0**
	2.5nm,0.2s,baz=170,slow=7.3,SNR=7.9							
KURK	**Kurchatov**	**48.73**	**348**	*e*P		**P**	**20 35 58.7**	**-0.5**
RAYN	**Ar Rayn**	**49.88**	**298**	*e*P		**P**	**20 36 09.5**	**+0.9**
	3.7nm,0.8s							
ZAA0	**Zalesovo Array**	**50.90**	**354**	*e*P		**P**	**20 36 16.1**	**+0.5**
	18nm,1.5s							
ZALV	**Zalesovo Beam**	**50.90**	**354**	P		**P**	**20 36 15.7**	**0.0**
	3.1nm,0.6s,baz=182,slow=7.7,SNR=7.1							
ZALV	**Zalesovo Beam**	**50.90**	**354**	*e*P		**P**	**20 36 15.5**	**-0.1**
ZAA1	**Zalesovo Array**	**50.91**	**354**	*e*P		**P**	**20 36 15.7**	**0.0**
BVAR	**Borovoye Array**	**52.90**	**343**	P		**P**	**20 36 30.0**	**-0.6**
	2.6nm,0.8s,baz=137,slow=7.7,SNR=7.6							
KBZ	**Khabaz**	**59.62**	**320**	P		**P**	**20 37 18.6**	**-0.2**
	3.6nm,0.9s,baz=172,slow=4.6,SNR=5.8							
BR101	**Keskin Array S**	**64.45**	**313**	*e*P		**P**	**20 37 51.0**	**-0.5**
BRTR	**Keskin Array B**	**64.45**	**313**	P		**P**	**20 37 51.0**	**-0.5**
	1.0nm,0.7s,baz=126,slow=7.7,SNR=6.0							
AKASG	**Malin Array Be**	**70.92**	**323**	P		P	20 38 30.4	-1.5
	0.3nm,0.3s,baz=90,slow=5.5,SNR=4.4							
AKBB	**Malin Array Si**	**70.92**	**323**	*e*P		P	20 38 30.4	-1.5
	14nm,1.6s							
MLR	**Muntele Rosu**	**71.53**	**317**	P		**P**	**20 38 36.3**	**+0.4**
	1.7nm,0.9s,baz=305,slow=4.5,SNR=7.4							
TIXI	**Tiksi**	**71.94**	**11**	*e*P		**P**	**20 38 37.0**	**-0.7**
	6.6nm,0.8s							
FIA0	**FINESS Array S**	**76.12**	**333**	*e*P		**P**	**20 39 01.3**	**-1.0**
FINES	**FINESS Array B**	**76.12**	**333**	P		**P**	**20 39 01.3**	**-1.0**
	1.7nm,0.7s,baz=64,slow=6.3,SNR=4.0							
CONA	**Conrad Observa**	**78.80**	**318**	*i* P		**P**	**20 39 17.7**	**-0.1**
	4.8nm,1.4s							
ARSA	**Arzberg**	**78.94**	**317**	*i* P		**P**	**20 39 19.4**	**+0.9**
	5.6nm,0.8s							
GEA0	**GERESS Array S**	**80.34**	**319**	*e*P		**P**	**20 39 26.2**	**+0.1**
GEC2	**GERESS Array S**	**80.34**	**319**	*e*P		**P**	**20 39 26.8**	**+0.7**
	7.4nm,0.9s							
GERES	**GERESS Array B**	**80.34**	**319**	P		**P**	**20 39 26.8**	**+0.7**
	4.0nm,0.8s,baz=96,slow=5.5,SNR=15							
SYO	**Syowa Base**	**80.67**	**197**	*e*P		**P**	**20 39 27.0**	**-0.3**
CLL	**Collm**	**81.04**	**321**	*e*P		**P**	**20 39 30.0**	**+0.3**
MOTA	**Moosalm**	**81.94**	**317**	*i* P		**P**	**20 39 34.5**	**-0.3**
	4.5nm,0.8s							
MCU	**Monte Cristo P**	**130.25**	**24**	*e*PKPpre	PKPpre		20 46 15.4	
LTX	**Lajitas**	**143.91**	**25**	*e*PKPdf	PKPab		20 46 50.0	+1.8
TXAR	**Lajitas Array**	**143.91**	**25**	PKP	PKPab		20 46 50.0	+1.8
	0.3nm,0.7s,baz=350,slow=4.6,SNR=2.3							

IDC 12 20:29:10.7±1.6,3˚.76N×92˚.46E,h0km,mb3.8/4,mb1 4.0/5, mb1mx3.5/81,mbtmp4.0/5,ML4.3/1,Error ellipse: s-maj=63.9km s-min=22.9km az=50.0,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**12.21**	**287**	Pn		Pn	20 32 06.0	-0.1
	1.9nm,0.3s,baz=116,slow=14,SNR=5.0							
PALK				Sn		Sn	20 34 14.7	-8.5
	0.8nm,0.3s,baz=315,slow=1.4,SNR=2.9							
MKAR	**Makanchi Array**	**43.77**	**350**	P		P	20 37 17.9	-0.2
	3.6nm,1.1s,baz=159,slow=7.8,SNR=3.6							
WRA	**Warramunga Arr**	**47.40**	**121**	P		P	20 37 47.3	+0.1
	0.5nm,0.5s,baz=298,slow=8.9,SNR=3.5							
ASAR	**Alice Springs**	**48.71**	**126**	P		P	20 37 57.0	-0.3
	0.7nm,0.8s,baz=301,slow=7.6,SNR=3.0							
ZALV	**Zalesovo Beam**	**50.42**	**354**	P		P	20 38 09.8	0.0
	0.8nm,0.4s,baz=174,slow=7.4,SNR=3.3							

ISCJB ***12*** *20:31:17.8±0.2,73˚.87N±0˚.03×8˚.9E±0˚.2,h10km,mb4.2/36, MS3.8/19,Error ellipse: s-maj=6.9km s-min=3.9km az=167.3*

IDC ***12*** *20:31:17.5±0.5,73˚.79N×8˚.34E,h0km,mb3.9/18, mb1 4.0/24,mb1mx3.8/89,mbtmp3.9/24,ML3.4/5,MS3.8/18, Ms1 3.8/18,ms1mx3.6/77,Error ellipse: s-maj=13.7km s-min=9.4km az=80.0*

BER ***12*** *20:31:19.5±2.8,73˚.93N×8˚.51E,h10km,ML2.4*

NEIC ***12*** *20:31:19.2±0.3,73˚.78N×8˚.28E,h10km,mb4.6/22,Error ellipse: s-maj=7.4km s-min=4.6km az=73.0*

ISC 12 20:31:18.9±0.4,73˚.85N±0˚.05×8˚.38E±0˚.06,h10km,n122, σ1§81/117,mb4.4/36,MS3.7/19,Greenland Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
HSPB	**Hornsund (broa**	**3.65**	**26**	*e*P		**Pn**	**20 32 13.2**	**-2.0**
SPA0	**Spitsbergen Ar**	**4.76**	**20**	*e*Pn		**Pn**	**20 32 30.0**	**-0.4**
SPA0				*e*Sn		**Sn**	**20 33 22.7**	**-2.9**
SPA0	**Spitsbergen Ar**	**4.76**	**20**	*e*P		**Pn**	**20 32 29.5**	**-1.0**
SPA0				*e*S		**Sn**	**20 33 23.1**	**-2.5**
SPITS	**Spitsbergen Ar**	**4.76**	**20**	Pn		**Pn**	**20 32 29.4**	**-1.0**
	baz=201,slow=12,SNR=202							
SPITS				Sn		**Sn**	**20 33 22.7**	**-2.9**
	baz=246,slow=17,SNR=1.9							
SPITS				LR	LR		20 34 14.3	
	comp=Z,628nm,19.4s,baz=235,slow=37							
HOPEN	**Hopen**	**5.02**	**50**	*e*P		**Pn**	**20 32 31.6**	**-2.5**
HOPEN				*e*S		Sn	20 33 23.0	-9.0
KBS	**Kingsbay**	**5.17**	**8**	*e*Pn		**Pn**	**20 32 35.8**	**-0.3**
KBS	**Kingsbay**	**5.17**	**8**	*e*P		**Pn**	**20 32 34.3**	**-1.8**
TRO	**Tromso**	**5.37**	**137**	*e*P		**Pn**	**20 32 37.4**	**-1.5**
TRO				IAML			20 33 40.5	
	comp=Z,7.8nm,0.5s							
HAMF	**Hammerfest**	**5.67**	**117**	*e*P		**Pn**	**20 32 41.1**	**-1.9**
HAMF				IAML			20 33 51.2	
	comp=Z,6.2nm,0.4s							
JMIC	**Jan Mayen**	**5.86**	**249**	Pn		**Pn**	**20 32 43.3**	**-2.3**
	comp=Z,7.9nm,0.3s,baz=80,slow=6.1,SNR=9.9							
JMIC				LR	LR		20 34 18.4	
	comp=Z,429nm,20.4s,baz=74,slow=31							
JMIC	**Jan Mayen**	**5.86**	**249**	*e*P		**Pn**	**20 32 43.2**	**-2.3**
LOF	**Lofoten**	**5.99**	**161**	*e*P		**Pn**	**20 32 45.0**	**-2.3**
KTK1	**Kautokeino**	**6.77**	**128**	*e*P		**Pn**	**20 32 57.9**	**-0.2**
DAG	**Danmarks Havn**	**7.41**	**306**	*i* P		**Pn**	**20 33 03.4**	**-3.4**
DAG				*e*S		Sn	20 34 01.4	-29
KONS	**Konsvik**	**7.56**	**165**	*e*P		**Pn**	**20 33 07.9**	**-1.0**
KONS				IAML			20 34 32.5	
	comp=Z,5.0nm,0.6s							
MOR8	**Moi Rana**	**7.99**	**162**	*e*P		**Pn**	**20 33 13.2**	**-1.5**
MOR8				IAML			20 34 41.0	
	comp=Z,6.3nm,0.4s							
SCO	**Scoresbysund**	**9.81**	**265**	*i* P		**Pn**	**20 33 36.2**	**-3.4**
SCO				*e*			20 35 18.5	
SCO	**Scoresbysund**	**9.81**	**265**	*e*Pn		**Pn**	**20 33 36.3**	**-3.4**
NC204	**NORSAR Array S**	**12.66**	**175**	*e*Pn		**Pn**	**20 34 16.9**	**-2.0**
NC303	**NORSAR Array S**	**12.73**	**173**	*e*Pn		**Pn**	**20 34 18.1**	**-1.6**
NB200	**NORSAR Array S**	**12.91**	**174**	*e*Pn		**Pn**	**20 34 20.7**	**-1.5**
NOA	**NORSAR Array B**	**12.91**	**174**	Pn		**Pn**	**20 34 20.7**	**-1.5**
	comp=Z,0.2nm,0.3s,baz=353,slow=13,SNR=4.4							
NOA				LR	LR		20 39 04.4	
	comp=Z,256nm,18.4s,baz=355,slow=36							
HFS	**Hagfors**	**13.93**	**169**	Pn		**Pn**	**20 34 36.6**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=15,slow=12,SNR=2.5							
HFS				LR	LR		20 39 27.5	
	comp=Z,362nm,19.0s,baz=1.0,slow=35							
FIA0	**FINESS Array S**	**14.06**	**143**	*e*Pn		**Pn**	**20 34 36.8**	**-0.9**
FINES	**FINESS Array B**	**14.06**	**143**	Pn		**Pn**	**20 34 36.8**	**-0.9**
	comp=Z,0.1nm,0.3s,baz=350,slow=16,SNR=3.1							
KLMR	**Klimovskoe**	**17.37**	**122**	*e*Pn		**Pn**	**20 35 21.5**	**+0.6**
KLMR				AMP			20 35 29.3	
	comp=Z,49nm,1.4s							
ILULI	**Ilulissat**	**18.65**	**286**	*e*P		Pn	20 35 45.2	+8.7
	comp=Z,20nm,0.8s							
EKA	**Eskdalemuir Ar**	**19.17**	**200**	P		**P**	**20 35 41.4**	**-0.7**
	baz=4.5,slow=12,SNR=7.4							
SFJD	**Kangerlussuaq**	**20.04**	**281**	P		**P**	**20 35 51.6**	**+0.1**
	comp=Z,2.9nm,0.5s,baz=30,slow=9.1,SNR=4.5							
SFJD				LR	LR		20 42 38.0	
	comp=Z,438nm,19.9s,baz=20,slow=34							
SUW	**Suwalki**	**20.82**	**155**	*e*P		**P**	**20 35 59.0**	**-1.1**
SUW	**Suwalki**	**20.82**	**155**	*e*P		**P**	**20 35 59.4**	**-0.7**
	comp=Z,108nm,1.4s							
MICGM	**Minsk**	**20.98**	**147**	*e*		Pn	20 36 13.0	+8.6
GKP	**Gorka Klasztor**	**20.99**	**165**	*e*P		**P**	**20 36 02.0**	**+0.2**
OBN	**Obninsk**	**21.95**	**133**	P		**P**	**20 36 11.0**	**-1.2**
	comp=Z,3.8nm,0.5s,baz=346,slow=17,SNR=2.7							
OBN				LR	LR		20 44 52.1	
	comp=Z,338nm,19.8s,baz=272,slow=37							
OBN	**Obninsk**	**21.95**	**133**	*e*P		**P**	**20 36 10.4**	**-1.8**
	comp=Z,72nm,1.6s							
BEL	**Belsk**	**22.71**	**160**	*e*P		**P**	**20 36 20.4**	**+0.1**
CLL	**Collm**	**22.71**	**172**	*i* P		**P**	**20 36 21.5**	**+1.1**
	comp=Z,26nm,1.6s							
CLL	**Collm**	**22.71**	**172**	*e*P		**P**	**20 36 20.1**	**-0.3**
	comp=Z,15nm,1.3s							
UCC	**Uccle**	**23.20**	**186**	*e*P		**P**	**20 36 25.6**	**+0.2**
	comp=Z,40nm,1.5s							
PVCC	**Panska Ves**	**23.56**	**170**	*e*P		**P**	**20 36 29.8**	**+0.8**
PVCC				AMS	AMS		20 47 30.0	
	comp=Z,200nm,17.9s							
UPC	**Upice**	**23.66**	**168**	*e*P		**P**	**20 36 27.2**	**-2.8**
NKC	**Novy Kostel**	**23.77**	**174**	*e*P		**P**	**20 36 31.1**	**0.0**
NKC				AMS	AMS		20 45 50.0	
	comp=Z,200nm,14.4s							
DPC	**Dobruska-Polom**	**23.83**	**167**	*e*P		**P**	**20 36 32.6**	**+0.9**
DPC				*e*pP		**sP**	**20 36 37.6**	**+1.6**
PRU	**Pruhonice**	**24.10**	**170**	*e*P		**P**	**20 36 35.8**	**+1.6**
PRU				*e*pP		**sP**	**20 36 41.7**	**+3.3**
PRU				AMS	AMS		20 45 30.0	
	comp=Z,200nm,19.0s							
KRLC	**Kraliky**	**24.14**	**167**	*e*P		**P**	**20 36 39.9**	**+5.3**
GOPC	**GO Pecny, Ondr**	**24.18**	**170**	*e*P		**P**	**20 36 41.2**	**+6.2**
GOPC				AMS	AMS		20 45 40.0	
	comp=Z,200nm,17.7s							
OJC	**Ojcow**	**24.22**	**162**	*e*P		**P**	**20 36 34.3**	**-1.0**
OJC	**Ojcow**	**24.22**	**162**	*e*P		**P**	**20 36 34.5**	**-0.9**
	comp=Z,23nm,1.2s							
MORC	**Moravsky Berou**	**24.48**	**166**	*e*P		**P**	**20 36 38.0**	**+0.2**
	comp=Z,115nm,1.5s							
RES	**Resolute Bay**	**24.71**	**322**	LR	LR		20 45 54.8	
	comp=Z,239nm,18.4s,baz=66,slow=35							
AKASG	**Malin Array Be**	**24.87**	**147**	P		**P**	**20 36 39.1**	**-2.1**
	comp=Z,1.6nm,0.6s,baz=344,slow=9.8,SNR=9.8							
AKASG				LR	LR		20 46 07.7	
	comp=Z,381nm,20.7s,baz=340,slow=36							
AKBB	**Malin Array Si**	**24.87**	**147**	*e*P		**P**	**20 36 41.6**	**+0.4**
	comp=Z,21nm,1.3s							
KIEV	**Kiev**	**24.88**	**147**	*e*P		**P**	**20 36 41.6**	**+0.4**
	comp=Z,20nm,1.3s							
VRAC	**Vranov**	**24.89**	**167**	P		**P**	**20 36 41.7**	**+0.3**
	comp=Z,6.3nm,1.0s,baz=354,slow=12,SNR=6.7							
VRAC				LR	LR		20 46 28.0	
	comp=Z,159nm,19.1s,baz=354,slow=37							
KHC	**Kasperske Hory**	**24.91**	**172**	*e*P		**P**	**20 36 37.5**	**-4.1**
KHC				*ex*		x	20 36 42.6	
KHC				AMS	AMS		20 46 00.0	
	comp=Z,200nm,16.3s							
NIE	**Niedzica**	**25.06**	**161**	*e*P		**P**	**20 36 43.7**	**+0.7**
KWP	**Kalwaria Pacla**	**25.08**	**158**	*e*P		**P**	**20 36 44.6**	**+1.5**
KWP	**Kalwaria Pacla**	**25.08**	**158**	*e*P		**P**	**20 36 43.2**	**+0.1**
	comp=Z,585nm,1.4s							
STHS	**Stebnicka Huta**	**25.15**	**160**	*e*P		**P**	**20 36 45.0**	**+1.3**
GEC2	**GERESS Array S**	**25.20**	**172**	*e*P		**P**	**20 36 45.4**	**+1.1**
	comp=Z,20nm,1.1s							
GERES	**GERESS Array B**	**25.20**	**172**	P		**P**	**20 36 45.7**	**+1.4**
	comp=Z,4.5nm,1.1s,baz=355,slow=8.7,SNR=5.0							
GERES				LR	LR		20 46 42.6	
	comp=Z,164nm,19.5s,baz=354,slow=37							
GEA0	**GERESS Array S**	**25.21**	**172**	*e*P		**P**	**20 36 46.0**	**+1.6**
LANS	**Liptovska Anna**	**25.25**	**163**	*e*P		**P**	**20 36 46.3**	**+1.6**
BFO	**Black Forest**	**25.61**	**180**	*e*P		**P**	**20 36 49.1**	**+1.2**
	comp=Z,21nm,1.4s							
CRVS	**Cervenica-Dubn**	**25.68**	**160**	*e*P		**P**	**20 36 52.4**	**+3.9**
ECH	**Echery**	**25.73**	**182**	*e*P		**P**	**20 36 50.0**	**+1.0**
	comp=Z,11nm,1.2s							
VYHS	**Vyhne**	**25.85**	**164**	*e*P		**P**	**20 36 52.3**	**+2.2**
MODS	**Modra-Piesok**	**25.86**	**166**	*e*P		**P**	**20 36 53.4**	**+3.2**
ARU	**Arti**	**26.13**	**104**	P		**P**	**20 36 52.8**	**+0.3**
	comp=Z,0.7nm,0.3s,baz=313,slow=7.9,SNR=2.5							
PSZ	**Piszkesteto**	**26.51**	**162**	*e*P		**P**	**20 36 57.6**	**+1.4**
BUR08	**Bucovina Ar. S**	**27.32**	**155**	*e*P		**P**	**20 37 04.1**	**+0.6**
BUR04	**Bucovina Ar. S**	**27.35**	**155**	*e*P		**P**	**20 37 04.0**	**+0.3**
FRB	**Frobisher Bay**	**27.37**	**290**	LR	LR		20 47 02.7	
	comp=Z,155nm,19.8s,baz=8.5,slow=34							
BVAR	**Borovoye Array**	**32.39**	**95**	P		**P**	**20 37 47.6**	**-0.6**
	comp=Z,0.8nm,0.8s,baz=347,slow=5.9,SNR=3.9							
ABKAR	**Akbulak array**	**32.94**	**109**	*e*P		**P**	**20 37 53.2**	**+0.2**
FNA	**Florina**	**33.72**	**162**	*e*P		**P**	**20 37 60.0**	**0.0**
	comp=Z,15nm,1.3s							
SCHQ	**Schefferville**	**34.48**	**279**	LR	LR		20 50 29.2	
	comp=Z,204nm,20.4s,baz=32,slow=33							
ESDC	**Sonseca Array**	**34.77**	**197**	P		**P**	**20 38 07.0**	**-2.0**
	comp=Z,1.7nm,0.9s,baz=353,slow=9.1,SNR=4.6							
INK	**Inuvik**	**35.97**	**337**	P		**P**	**20 38 19.1**	**+0.1**
	comp=Z,2.1nm,1.0s,baz=19,slow=11,SNR=4.2							
INK				LR	LR		20 54 13.1	
	comp=Z,79nm,19.4s,baz=137,slow=38							
BR101	**Keskin Array S**	**36.26**	**146**	*e*P		**P**	**20 38 22.5**	**+0.5**
BRTR	**Keskin Array B**	**36.26**	**146**	P		**P**	**20 38 22.5**	**+0.5**
	comp=Z,0.8nm,0.8s,baz=339,slow=8.1,SNR=4.5							
YKA	**Yellowknife Ar**	**38.78**	**322**	P		**P**	**20 38 43.2**	**+0.3**
	comp=Z,1.2nm,0.7s,baz=14,slow=8.5,SNR=23							
YKA				PcP		**PcP**	**20 40 54.4**	**+0.5**
	comp=Z,0.3nm,0.6s,baz=14,slow=3.0,SNR=4.6							
IL1	**Eielson Array**	**40.67**	**344**	*e*P		**P**	**20 39 01.1**	**+2.5**
ILAR	**Eielson Array**	**40.67**	**344**	P		**P**	**20 39 00.5**	**+1.9**
	comp=Z,1.0nm,0.9s,baz=0.1,slow=6.8,SNR=11							
ILB	**Eielson Array**	**40.67**	**344**	*e*P		**P**	**20 39 00.5**	**+1.9**
DAWY	**Dawson**	**40.70**	**339**	*e*P		**P**	**20 38 59.2**	**+0.3**
	comp=Z,17nm,1.9s							
MK32	**Makanchi Array**	**41.34**	**88**	*e*P		**P**	**20 39 05.6**	**+1.3**
MKAR	**Makanchi Array**	**41.34**	**88**	P		**P**	**20 39 05.6**	**+1.3**
	comp=Z,0.5nm,0.7s,baz=339,slow=7.7,SNR=3.8							
MK01	**Makanchi Array**	**41.36**	**88**	*e*pP		pP	20 39 10.8	+3.1
CAST	**Castle Rocks**	**42.37**	**347**	*e*P		**P**	**20 39 15.7**	**+3.1**
	comp=Z,6.6nm,1.2s							
DHY	**Denali Highway**	**42.38**	**344**	*e*P		**P**	**20 39 14.9**	**+2.1**
	comp=Z,7.1nm,1.2s							
GEYT	**Alibeck**	**43.06**	**118**	P		**P**	**20 39 17.8**	**-0.6**
	comp=Z,0.6nm,0.4s,baz=356,slow=8.1,SNR=3.7							
FFC	**Flin Flon**	**43.49**	**308**	*e*P		**P**	**20 39 22.4**	**+0.7**
	comp=Z,4.6nm,1.1s							
SKT	**Skwentna**	**43.77**	**346**	*e*P		**P**	**20 39 26.0**	**+2.1**
	comp=Z,31nm,2.0s							
SUA	**Susitna One**	**44.23**	**346**	*e*P		**P**	**20 39 29.5**	**+1.8**
	comp=Z,36nm,2.0s							
ULM	**Lac du Bonnet**	**46.22**	**300**	LR	LR		20 58 40.2	
	comp=Z,203nm,19.4s,baz=26,slow=36							
SONA1	**Songino Array**	**46.90**	**66**	*e*P		**P**	**20 39 49.1**	**+0.1**
SONA0	**Songino Array**	**46.91**	**66**	*e*P		**P**	**20 39 49.2**	**+0.1**
SONM	**Songino Array**	**46.91**	**66**	P		**P**	**20 39 49.2**	**+0.1**
	comp=Z,1.6nm,1.2s,baz=282,slow=2.8,SNR=3.8							
SADO	**Sadowa**	**46.97**	**283**	LR	LR		20 57 35.1	

CPUP Villa Florida 151.97 162 PKPbc **PKPbc 20 55 48.9 -0.9**
1.7nm,0.6s,baz=270,slow=2.0,SNR=4.0
LPAZ La Paz 154.07 130 PKPab **PKPab 20 56 10.2 +1.3**
1.2nm,0.8s,baz=266,slow=3.4,SNR=4.8

*ISCJB **12** 20:39:36.9±0.9, 19°.2S±0°.2×177°.8W±0°.2, h532km, mb3.2/5, Error ellipse: s-maj=34.3km s-min=19.0km az=137.8*
*IDC **12** 20:39:36.7±7.4, 19°.17S×177°.71W, h520km±87km, mb2.9/5, mb1 3.3/6, mb1mx2.9/54, mbtmp3.8/6, Error ellipse: s-maj=48.1km s-min=24.0km az=175.0*
ISC 12 20:39:37.5±0.9, 19°.1S±0°.2×177°.9W±0°.2, h532km, n9, σ1♀35/8, mb3.3/5, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**19.59**	**192**	P	**P**	**20 43 29.9**	**-0.7**
	2.6nm,0.3s,baz=289,slow=2.3,SNR=9.1						
WRA	**Warramunga Arr**	**44.93**	**261**	P	**P**	**20 47 06.1**	**+0.9**
	0.6nm,0.8s,baz=97,slow=7.6,SNR=3.5						
ASAR	**Alice Springs**	**44.98**	**255**	P	**P**	**20 47 06.6**	**+1.1**
	0.5nm,0.7s,baz=91,slow=7.1,SNR=3.7						
NVAR	**Mina Array Bea**	**79.92**	**43**	P	**P**	**20 50 51.5**	**0.0**
	0.4nm,0.3s,baz=237,slow=8.4,SNR=4.0						
TXAR	**Lajitas Array**	**86.20**	**57**	P	**P**	**20 51 24.1**	**+1.1**
	0.5nm,0.7s,baz=216,slow=5.6,SNR=4.7						
YKA	**Yellowknife Ar**	**95.19**	**25**	P	**P**	**20 52 03.2**	**-0.3**
	0.2nm,0.6s,baz=229,slow=4.3,SNR=3.6						
EKA	**Eskdalemuir Ar**	**143.60**	**5**	PKP	PKPab	20 58 09.7	-0.4
	0.6nm,0.6s,baz=332,slow=3.3,SNR=5.2						
MMAI	**Mount Meron Ar**	**147.21**	**302**	PKPbc	**PKPab**	**20 58 22.8**	**-2.3**
	0.8nm,0.5s,baz=101,slow=4.6,SNR=4.5						
GERES	**GERESS Array B**	**148.88**	**345**	PKPbc	**PKPbc**	**20 58 25.0**	**-0.3**
	0.4nm,0.5s,baz=60,slow=2.4,SNR=2.7						

IDC 12 20:40:04.5±1.1, 1°.41N×66°.74E, h0km, mb3.9/6, mb1 4.1/6, mb1mx3.4/80, mbtmp3.9/6, Error ellipse: s-maj=34.8km s-min=28.2km az=134.0, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08N2	**Diego Garcia H**	**8.78**	**151**	T	T	20 51 18.1	
	baz=332,slow=76,SNR=334						
H08N3	**Diego Garcia H**	**8.79**	**151**	T	T	20 51 17.0	
	baz=332,slow=76,SNR=264						
H08N1	**Diego Garcia H**	**8.80**	**151**	T	T	20 51 18.7	
	baz=332,slow=76,SNR=266						
CMAR	**Chiang Mai Arr**	**35.85**	**60**	P	P	20 47 07.3	+1.0
	1.2nm,1.0s,baz=236,slow=11,SNR=8.4						
LBTB	**Lobatse**	**47.72**	**234**	P	P	20 48 43.4	-0.1
	2.9nm,0.8s,baz=82,slow=7.1,SNR=3.8						
ZALV	**Zalesovo Beam**	**54.45**	**13**	P	P	20 49 32.0	-1.6
	0.4nm,0.4s,baz=201,slow=7.8,SNR=3.5						
H01W3	**Cape Leeuwin H**	**57.15**	**134**	T	T	21 51 33.1	
	baz=300,slow=75,SNR=12						
H01W2	**Cape Leeuwin H**	**57.15**	**134**	T	T	21 51 36.2	
	baz=300,slow=75,SNR=10						
H01W1	**Cape Leeuwin H**	**57.17**	**134**	T	T	21 51 34.4	
	baz=300,slow=75,SNR=10						
SONM	**Songino Array**	**57.55**	**31**	P	P	20 49 55.8	-0.3
	0.4nm,0.4s,baz=224,slow=8.1,SNR=5.2						
WRA	**Warramunga Arr**	**69.50**	**112**	P	P	20 51 14.8	-0.7
	2.0nm,0.9s,baz=289,slow=6.1,SNR=6.2						
ASAR	**Alice Springs**	**69.76**	**116**	P	P	20 51 17.3	+0.1
	0.6nm,0.8s,baz=278,slow=5.6,SNR=4.5						
TXAR	**Lajitas Array**	**148.09**	**344**	PKPbc	PKPbc	20 59 53.5	+0.4
	1.3nm,0.9s,baz=37,slow=2.3,SNR=8.5						

IDC 12 20:43:44.0±1.6, 3°.46N×93°.12E, h0km, mb3.7/5, mb1 3.9/6, mb1mx3.4/73, mbtmp3.7/6, ML3.4/1, Error ellipse: s-maj=62.0km s-min=26.4km az=50.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**15.96**	**20**	Pn	Pn	20 47 30.7	+0.5
	0.1nm,0.3s,baz=220,slow=12,SNR=4.9						
MKAR	**Makanchi Array**	**44.18**	**234**	P	P	20 51 54.3	-0.4
	0.7nm,0.5s,baz=174,slow=8.8,SNR=12						
WRA	**Warramunga Arr**	**46.68**	**122**	P	P	20 52 15.0	0.0
	0.9nm,0.9s,baz=297,slow=8.8,SNR=3.7						
GEYT	**Alibeck**	**46.90**	**322**	P	P	20 52 17.4	+0.9
	0.6nm,0.5s,baz=139,slow=7.7,SNR=2.2						
ZALV	**Zalesovo Beam**	**50.79**	**354**	P	P	20 52 45.7	-0.2
	0.9nm,0.5s,baz=185,slow=8.8,SNR=4.6						
GERES	**GERESS Array B**	**80.44**	**319**	P	P	20 55 57.1	-0.8
	0.3nm,0.6s,baz=93,slow=5.3,SNR=4.2						

*ISCJB **12** 20:44:26.4±0.5, 3°.80N±0°.07×92°.59E±0°.07, h10km, mb4.2/29, Error ellipse: s-maj=11.1km s-min=9.3km az=139.9*
*IDC **12** 20:44:26.4±0.8, 3°.78N×92°.53E, h0km, mb4.1/16, mb1 4.2/18, mb1mx3.9/71, mbtmp4.1/18, ML3.7/2, Error ellipse: s-maj=29.9km s-min=15.1km az=46.0*
*NEIC **12** 20:44:27.7±0.4, 3°.75N×92°.62E, h10km, mb4.8/8, Error ellipse: s-maj=9.4km s-min=6.7km az=221.0*
ISC 12 20:44:28.2±0.7, 3°.8N±0°.1×92°.6E±0°.1, h10km, n59, σ0♀80/55, mb4.4/30, 1C, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSI	**Gunungsitoli**	**5.57**	**116**	*e*Pn	Pn	20 45 47.1	-4.1
PALK	**Pallekele**	**12.31**	**287**	Pn	**Pn**	**20 47 22.8**	**-0.9**
	1.5nm,0.3s,baz=116,slow=14,SNR=3.4						
PALK				Sn	Sn	20 49 27.9	-13
	5.0nm,0.3s,baz=117,slow=8.0,SNR=7.4						
CM31	**Chiang Mai Arr**	**15.87**	**23**	*e*Pn	**Pn**	**20 48 11.7**	**-0.1**
CMAR	**Chiang Mai Arr**	**15.87**	**23**	Pn	**Pn**	**20 48 10.6**	**-1.3**
	0.1nm,0.3s,baz=217,slow=14,SNR=7.4						
CHTO	**Chiang Mai**	**16.20**	**22**	*e*Pn	**Pn**	**20 48 16.6**	**+0.6**
	5.5nm,0.9s						
HYB	**Hyderabad**	**19.30**	**316**	*i* P	**P**	**20 48 55.5**	**+2.0**
SHL	**Shillong**	**21.68**	**358**	*e*P	**P**	**20 49 23.0**	**+3.6**
SHL	**Shillong**	**21.68**	**358**	*e*P	**P**	**20 49 18.7**	**-0.7**
MK01	**Makanchi Array**	**43.74**	**350**	*e*P	**P**	**20 52 33.6**	**-0.2**
MK31	**Makanchi Array**	**43.77**	**350**	*e*P	**P**	**20 52 34.3**	**+0.3**
MK32	**Makanchi Array**	**43.77**	**350**	*e*P	**P**	**20 52 34.4**	**+0.4**
MKAR	**Makanchi Array**	**43.77**	**350**	P	**P**	**20 52 34.4**	**+0.4**
	3.4nm,0.7s,baz=166,slow=8.1,SNR=20						
MKAR	**Makanchi Array**	**43.77**	**350**	*e*P	**P**	**20 52 34.3**	**+0.4**
	20nm,0.8s						
KK31	**Karatay Array**	**43.79**	**337**	*e*P	**P**	**20 52 34.3**	**+0.1**
KKAR	**Karatay Array**	**43.79**	**337**	*e*P	**P**	**20 52 34.3**	**+0.1**
MAKZ	**Makanchi**	**43.84**	**350**	*e*P	**P**	**20 52 34.7**	**+0.2**
	2.6nm,0.9s						
SONA0	**Songino Array**	**45.48**	**13**	*e*P	**P**	**20 52 47.1**	**-0.6**
SONM	**Songino Array**	**45.48**	**13**	P	**P**	**20 52 47.1**	**-0.6**
	1.1nm,0.7s,baz=196,slow=9.4,SNR=5.1						
GEYT	**Alibeck**	**46.31**	**322**	P	**P**	**20 52 54.8**	**+0.4**
	3.1nm,0.8s,baz=143,slow=5.2,SNR=6.0						
WR1	**Warramunga Arr**	**47.32**	**122**	*e*P	**P**	**20 53 02.5**	**0.0**
	48nm,1.9s						
WRA	**Warramunga Arr**	**47.32**	**122**	P	**P**	**20 53 02.5**	**0.0**
	0.8nm,0.6s,baz=305,slow=8.4,SNR=5.7						
KURBB	**Kurchatov Arra**	**48.16**	**348**	P	**P**	**20 53 08.3**	**-0.2**
	2.0nm,0.6s,baz=170,slow=7.1,SNR=10.0						
KURK	**Kurchatov**	**48.23**	**348**	*e*P	**P**	**20 53 08.3**	**-0.7**
ASAR	**Alice Springs**	**48.64**	**126**	P	**P**	**20 53 12.4**	**-0.2**
	0.4nm,0.7s,baz=311,slow=8.5,SNR=3.2						
ZAA0	**Zalesovo Array**	**50.42**	**354**	*e*P	**P**	**20 53 26.3**	**+0.6**
	4.7nm,0.8s						
ZALV	**Zalesovo Beam**	**50.42**	**354**	P	**P**	**20 53 26.0**	**+0.3**
	4.7nm,0.6s,baz=182,slow=9.0,SNR=18						
ZALV	**Zalesovo Beam**	**50.42**	**354**	*e*P	**P**	**20 53 25.8**	**+0.1**
ZAA1	**Zalesovo Array**	**50.42**	**354**	*e*P	**P**	**20 53 25.9**	**+0.2**
BVAR	**Borovoye Array**	**52.39**	**343**	P	**P**	**20 53 40.2**	**-0.3**
	2.5nm,0.8s,baz=133,slow=8.7,SNR=9.8						
ABKAR	**Akbulak array**	**53.12**	**334**	*e*P	**P**	**20 53 45.6**	**-0.4**
AKTO	**Aktyubinsk**	**54.84**	**334**	P	**P**	**20 53 58.0**	**-0.5**
	0.6nm,0.4s,baz=108,slow=6.4,SNR=2.9						
KLR	**Kul'dur**	**56.19**	**30**	P	**P**	**20 54 07.5**	**-0.8**
	0.1nm,0.8s,baz=219,slow=8.5,SNR=3.7						
STKA	**Stephens Creek**	**58.52**	**131**	P	**P**	**20 54 25.6**	**+0.6**
	1.2nm,0.8s,baz=323,slow=10,SNR=2.2						
KBZ	**Khabaz**	**59.12**	**320**	P	**P**	**20 54 29.3**	**+0.3**
	1.9nm,1.0s,baz=157,slow=6.7,SNR=3.7						
BR101	**Keskin Array S**	**63.97**	**313**	*e*P	**P**	**20 55 01.9**	**-0.2**
BRTR	**Keskin Array B**	**63.97**	**313**	P	**P**	**20 55 01.9**	**-0.2**
	0.8nm,0.6s,baz=129,slow=8.6,SNR=6.7						
BR231	**Keskin MP Arra**	**64.64**	**313**	*e*P	P	20 55 02.6	-3.8
IDI	**Anoyia**	**69.65**	**306**	P	P	20 55 36.8	-1.5
	7.9nm,0.8s,baz=74,slow=7.4,SNR=3.2						
AKASG	**Malin Array Be**	**70.42**	**323**	P	**P**	**20 55 41.6**	**-1.0**
	1.2nm,0.6s,baz=91,slow=4.9,SNR=7.7						
MLR	**Muntele Rosu**	**71.03**	**317**	*e*P	**P**	**20 55 47.3**	**+0.7**
	10nm,1.1s						
TIXI	**Tiksi**	**71.53**	**11**	*e*P	P	20 55 47.4	-1.6
	4.5nm,0.8s						
BUR04	**Bucovina Ar. S**	**72.06**	**319**	*e*P	**P**	**20 55 53.0**	**+0.2**
BUR08	**Bucovina Ar. S**	**72.07**	**319**	*e*P	**P**	**20 55 54.0**	**+1.1**
SUW	**Suwalki**	**74.92**	**325**	*e*P	**P**	**20 56 08.7**	**-0.6**
	30nm,1.1s						
FIA0	**FINESS Array S**	**75.60**	**333**	*e*P	**P**	**20 56 12.2**	**-0.8**
FINES	**FINESS Array B**	**75.60**	**333**	P	**P**	**20 56 12.2**	**-0.8**
	1.3nm,0.6s,baz=92,slow=9.5,SNR=5.9						
CONA	**Conrad Observa**	**78.30**	**318**	*i* P	**P**	**20 56 29.2**	**+0.5**
	4.8nm,1.5s						
ARSA	**Arzberg**	**78.44**	**317**	*i* P	**P**	**20 56 30.1**	**+0.6**
	5.5nm,0.9s						
SOKA	**Soboth**	**78.71**	**317**	*e*P	**P**	**20 56 31.6**	**+0.6**
	6.4nm,1.3s						
OBKA	**Obir**	**79.02**	**317**	*i* pP	**P**	**20 56 34.0**	**+1.2**
	5.0nm,1.0s						
GEA0	**GERESS Array S**	**79.84**	**319**	*e*P	**P**	**20 56 37.2**	**+0.1**
GEC2	**GERESS Array S**	**79.84**	**319**	*e*P	**P**	**20 56 38.2**	**+1.0**
	6.3nm,0.9s						
GERES	**GERESS Array B**	**79.84**	**319**	P	**P**	**20 56 37.7**	**+0.5**
	3.8nm,0.9s,baz=100,slow=5.7,SNR=17						
KHC	**Kasperske Hory**	**79.95**	**319**	*e*P	**P**	**20 56 38.0**	**+0.3**
CLL	**Collm**	**80.54**	**321**	*e*P	**P**	**20 56 41.0**	**+0.3**
SYO	**Syowa Base**	**81.05**	**197**⃤	*e*P	**P**	**20 56 43.4**	**+0.4**
MOTA	**Moosalm**	**81.45**	**317**	*i* P	**P**	**20 56 45.7**	**-0.1**
	1.4nm,0.6s						
FETA	**Feichten**	**81.68**	**317**	*i* P	**P**	**20 56 47.3**	**+0.2**
	4.4nm,1.1s						
RETA	**Reutte**	**81.69**	**317**	*i* P	**P**	**20 56 47.0**	**-0.1**
	5.2nm,1.0s						

*ISCJB **12** 20:45:13.7±0.4, 73°.83N±0°.03×8°.7E±0°.2, h10km, mb4.0/17, MS3.8/10, Error ellipse: s-maj=7.8km s-min=4.6km az=177.9*
*IDC **12** 20:45:14.5±0.6, 73°.72N×8°.47E, h0km, mb3.8/11, mb1 3.9/17, mb1mx3.6/86, mbtmp3.8/17, ML3.5/5, MS3.6/9, Ms1 3.6/9, ms1mx3.2/71, Error ellipse: s-maj=17.2km s-min=9.7km az=83.0*
*CSEM **12** 20:45:15.9, 73°.72N×8°.61E, h10km, mb4.5/5*
*NEIC **12** 20:45:15.9±0.3, 73°.72N×8°.61E, h10km, mb4.5/5, Error ellipse: s-maj=10.3km s-min=5.7km az=75.0*
*IEPN **12** 20:45:16.0, 73°.66N×8°.94E, h15km*
*BER **12** 20:45:17.6±3.6, 73°.81N×8°.61E, h11km±22km, ML2.4*
ISC 12 20:45:15.8±0.5, 73°.83N±0°.05×9°.04E±0°.06, h10km, n80, σ2♀84/78, mb4.1/18, MS3.9/10, Greenland Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BJO	**Bjornoya**	**2.86**	**72**	*e*P	**Pn**	**20 46 01.9**	**+0.5**
HSPB	**Hornsund (broa**	**3.58**	**24**	*e*P	**Pn**	**20 46 11.3**	**0.0**
SPA0	**Spitsbergen Ar**	**4.71**	**19**	*e*Pn	**Pn**	**20 46 27.5**	**+0.7**
SPA0	**Spitsbergen Ar**	**4.71**	**19**	*e*P	**Pn**	**20 46 26.9**	**+0.1**
SPA0				*e*S	**Sn**	**20 47 20.5**	**-0.9**
SPA0	**Spitsbergen Ar**	**4.71**	**19**	*i* P	**Pn**	**20 46 27.3**	**+0.5**
SPA0				*i* S	**Sn**	**20 47 20.4**	**-1.0**
SPITS	**Spitsbergen Ar**	**4.71**	**19**	Pn	**Pn**	**20 46 27.4**	**+0.6**
	baz=206,slow=11,SNR=822						
SPITS				Sn	**Sn**	**20 47 20.5**	**-0.9**
	baz=206,slow=26,SNR=1.6						
SPITS				LR	LR	20 48 20.7	
	comp=Z,333nm,18.2s,baz=240,slow=38						
HOPEN	**Hopen**	**4.89**	**49**	*e*P	**Pn**	**20 46 29.4**	**+0.2**
HOPEN				*e*S	**Sn**	**20 47 22.4**	**-3.4**
HOPEN				IAML		20 47 26.0	
	comp=Z,11nm,0.2s						
KBS	**Kingsbay**	**5.17**	**6**	*e*Pn	**Pn**	**20 46 32.7**	**-0.3**
KBS	**Kingsbay**	**5.17**	**6**	*e*Pn	**Pn**	**20 46 32.7**	**-0.3**
KBS	**Kingsbay**	**5.17**	**6**	*e*P	**Pn**	**20 46 32.5**	**-0.5**
KBS				*e*S	**Sn**	**20 47 30.7**	**-1.8**
KBS	**Kingsbay**	**5.17**	**6**	*i* P	**Pn**	**20 46 32.1**	**-0.9**
KBS				*i* S	**Sn**	**20 47 29.9**	**-2.7**
TRO	**Tromso**	**5.24**	**139**	*e*P	**Pn**	**20 46 35.2**	**+1.3**
TRO				IAML		20 47 35.5	
	comp=Z,12nm,0.7s						
HAMF	**Hammerfest**	**5.50**	**118**	*e*P	**Pn**	**20 46 38.0**	**+0.4**
HAMF				*e*S	**Sn**	**20 47 34.8**	**-6.0**
HAMF				IAML		20 47 35.7	
	comp=Z,9.7nm,0.4s						
LOF	**Lofoten**	**5.92**	**163**	*e*P	**Pn**	**20 46 42.5**	**-0.8**
JMIC	**Jan Mayen**	**6.02**	**250**	Pn	**Pn**	**20 46 40.5**	**-4.3**
	comp=Z,4.4nm,0.3s,baz=52,slow=5.4,SNR=6.0						
JMIC				LR	LR	20 48 15.6	
	comp=Z,274nm,19.0s,baz=74,slow=31						
JMIC	**Jan Mayen**	**6.02**	**250**	*e*P	**Pn**	**20 46 40.8**	**-3.9**
KIF	**Kilpisjarvi**	**6.12**	**136**	*e*P	**Pn**	**20 46 46.6**	**+0.4**
KIF				*e*S	**Sn**	**20 47 51.6**	**-4.6**
HEF	**Hetta**	**7.20**	**132**	*e*P	**Pn**	**20 47 02.9**	**+1.9**
KONS	**Konsvik**	**7.50**	**167**	*e*P	**Pn**	**20 47 05.2**	**+0.2**
KONS				*e*S	Sn	20 48 19.9	-10
KONS				IAML		20 48 25.9	
	comp=Z,5.6nm,0.3s						
DAG	**Danmarks Havn**	**7.57**	**306**	*i* P	Pn	20 46 59.8	-6.2
DAG				*e*S	Sn	20 47 57.5	-34
MOR8	**Moi Rana**	**7.92**	**164**	*e*P	**Pn**	**20 47 09.8**	**-0.9**
MOR8				*e*S	Sn	20 48 31.2	-9.0
MOR8				IAML		20 48 33.2	
	comp=Z,4.6nm,0.5s						
SCO	**Scoresbysund**	**9.99**	**266**	*i* P	Pn	20 47 34.0	-5.1
SCO	**Scoresbysund**	**9.99**	**266**	*e*Pn	Pn	20 47 33.7	-5.4
ZFI2	**Zemlya Franca-**	**10.69**	**33**	*i* P	**Pn**	**20 47 47.8**	**-0.7**
ZFI2				*i* S	**Sn**	**20 49 41.4**	**-6.6**
NB200	**NORSAR Array S**	**12.88**	**175**	*e*Pn	**Pn**	**20 48 16.4**	**-2.3**
NOA	**NORSAR Array B**	**12.88**	**175**	Pn	**Pn**	**20 48 16.4**	**-2.3**
	comp=Z,0.1nm,0.3s,baz=354,slow=13,SNR=3.5						
NOA				LR	LR	20 52 53.1	
	comp=Z,175nm,19.6s,baz=355,slow=36						
HFS	**Hagfors**	**13.87**	**170**	Pn	**Pn**	**20 48 31.4**	**-0.7**
	comp=Z,0.2nm,0.3s,baz=342,slow=9.3,SNR=9.3						
HFS				LR		20 53 33.9	
	comp=Z,248nm,18.6s,baz=330,slow=36						
FIA0	**FINESS Array S**	**13.93**	**144**	*e*Pn	**Pn**	**20 48 32.4**	**-0.5**
FINES	**FINESS Array B**	**13.93**	**144**	Pn	**Pn**	**20 48 32.4**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=350,slow=12,SNR=10						
FINES				LR	LR	20 53 59.9	
	comp=Z,192nm,18.8s,baz=342,slow=38						
KLMR	**Klimovskoe**	**17.20**	**123**	*e*Pn	**P**	**20 49 19.1**	**+1.7**
KLMR				AMP		20 49 27.1	
	comp=Z,16nm,1.3s						
EKA	**Eskdalemuir Ar**	**19.22**	**202**	P	**P**	**20 49 37.1**	**-2.4**
	comp=Z,7.9nm=11,SNR=6.6						
SFJD	**Kangerlussuaq**	**20.23**	**281**	LR	LR	20 56 35.7	
	comp=Z,263nm,20.4s,baz=36,slow=34						
SUW	**Suwalki**	**20.73**	**156**	*e*P	Pn	20 50 02.1	+3.8
SUW	**Suwalki**	**20.73**	**156**	*e*P	**P**	**20 49 55.7**	**-0.2**
	comp=Z,24nm,1.0s						
GKP	**Gorka Klasztor**	**20.92**	**166**	*e*P	Pn	20 50 06.7	+6.1
CLL	**Collm**	**22.67**	**174**	*i* P	**P**	**20 50 23.0**	**+6.1**
	comp=Z,13nm,1.5s						
CLL				LmV		20 59 00.0	
	comp=Z,200nm,18.2s						
BRG	**Berggiesshubel**	**23.14**	**172**	*e*P	**P**	**20 50 28.7**	**+7.0**
	comp=Z,8.8nm,1.4s						
UPC	**Upice**	**23.60**	**169**	AMS	AMS	21 13 20.0	
	comp=Z,500nm,17.4s						
NKC	**Novy Kostel**	**23.73**	**175**	*e*P	**P**	**20 50 33.7**	**+6.0**
NKC				AMS	AMS	21 13 50.0	
	comp=Z,500nm,18.8s						
DPC	**Dobruska-Polom**	**23.78**	**168**	*e*P	**P**	**20 50 30.0**	**+1.9**
DPC				*e*pP	**sP**	**20 50 35.4**	**+3.0**
DPC				AMS	AMS	21 13 00.0	
	comp=Z,300nm,15.7s						
PRU	**Pruhonice**	**24.05**	**171**	*e*P	**P**	**20 50 37.1**	**+6.5**
PRU				AMS	AMS	21 13 50.0	
	comp=Z,400nm,15.0s						
GOPC	**GO Pecny, Ondr**	**24.13**	**171**	*e*P	P	20 50 39.1	+7.6
GOPC				AMS	AMS	21 13 40.0	
	comp=Z,300nm,14.4s						
OJC	**Ojcow**	**24.15**	**163**	*e*P	**P**	**20 50 31.4**	**-0.2**
AKASG	**Malin Array Be**	**24.76**	**148**	P	**P**	**20 50 36.2**	**-0.9**
	comp=Z,0.4nm,0.4s,baz=348,slow=9.8,SNR=5.0						
VRAC	**Vranov**	**24.83**	**168**	P	**P**	**20 50 38.7**	**+0.9**
	comp=Z,3.5nm,0.8s,baz=4.7,slow=11,SNR=4.2						
RES	**Resolute Bay**	**24.84**	**322**	LR	LR	20 59 52.3	
	comp=Z,126nm,19.3s,baz=180,slow=35						
KHC	**Kasperske Hory**	**24.87**	**173**	*e*P	**P**	**20 50 44.3**	**+6.1**
KHC				AMS	AMS	21 14 40.0	
	comp=Z,400nm,18.4s						
NIE	**Niedzica**	**24.98**	**162**	*e*P	**P**	**20 50 40.4**	**+1.2**
STHS	**Stebnicka Huta**	**25.07**	**161**	*e*P	P	20 50 47.7	+7.7
GEC2	**GERESS Array S**	**25.16**	**173**	*e*P	**P**	**20 50 39.4**	**-1.5**
	comp=Z,8.8nm,1.1s						
GERES	**GERESS Array B**	**25.16**	**173**	P	**P**	**20 50 39.3**	**-1.6**
	comp=Z,0.4nm,0.4s,baz=12,slow=6.8,SNR=9.9						
GEA0	**GERESS Array S**	**25.17**	**173**	*e*P	**P**	**20 50 39.0**	**-1.9**
CRVS	**Cervenica-Dubn**	**25.60**	**161**	*e*P	**P**	**20 50 50.1**	**+5.4**
VYHS	**Vyhne**	**25.79**	**165**	*e*P	**P**	**20 50 53.0**	**+6.5**
MODS	**Modra-Piesok**	**25.80**	**167**	*e*P	P	20 50 54.3	+7.7
ARU	**Arti**	**25.95**	**105**	P	**P**	**20 50 48.6**	**+0.8**
	comp=Z,1.4nm,0.8s,baz=310,slow=6.4,SNR=2.7						
ARU	**Arti**	**25.95**	**105**	*e*P	**P**	**20 50 48.6**	**+0.8**
	comp=Z,13nm,1.3s						
CONA	**Conrad Observa**	**26.17**	**170**	*i* P	**P**	**20 50 53.9**	**+3.9**
	comp=Z,9.7nm,1.5s						
KBA	**Koelnbreinsper**	**26.91**	**173**	*i* pP	**P**	**20 51 03.6**	**+6.8**
	comp=Z,3.8nm,1.1s						
OBKA	**Obir**	**27.52**	**172**	*i* P	**P**	**20 51 05.0**	**+2.8**
	comp=Z,9.9nm,1.4s						
FRB	**Frobisher Bay**	**27.55**	**290**	LR	LR	21 01 12.2	
	comp=Z,117nm,20.5s,baz=46,slow=35						
ABKAR	**Akbulak array**	**32.76**	**110**	*e*P	**P**	**20 51 50.8**	**+2.4**
SCHQ	**Schefferville**	**34.66**	**279**	LR	LR	21 04 46.2	
	comp=Z,146nm,18.3s,baz=27,slow=34						
INK	**Inuvik**	**36.06**	**337**	P	**P**	**20 52 18.6**	**+1.9**
	comp=Z,2.0nm,1.1s,baz=9.3,slow=10,SNR=3.6						
BR101	**Keskin Array S**	**36.15**	**147**	*e*P	**P**	**20 52 18.5**	**+0.6**
BRTR	**Keskin Array B**	**36.15**	**147**	P	**P**	**20 52 18.5**	**+0.6**
	comp=Z,0.3nm,0.5s,baz=325,slow=7.2,SNR=3.2						
KURK	**Kurchatov**	**36.57**	**90**	*e*P	**P**	**20 52 23.5**	**+2.2**
KURBB	**Kurchatov Arra**	**36.63**	**90**	P	**P**	**20 52 23.5**	**+1.7**
	comp=Z,0.7nm,0.2s,baz=340,slow=7.9,SNR=2.8						
YKA	**Yellowknife Ar**	**38.91**	**322**	P	**P**	**20 52 40.5**	**-0.4**
	comp=Z,2.2nm,1.2s,baz=20,slow=8.6,SNR=13						
YKA				PcP	**PcP**	**20 54 50.7**	**-0.5**
	comp=Z,0.1nm,0.5s,baz=18,slow=2.5,SNR=3.4						
ILAR	**Eielson Array**	**40.74**	**344**	P	**P**	**20 52 58.5**	**+2.4**
	comp=Z,1.0nm,0.7s,baz=5.9,slow=6.8,SNR=4.4						
ISCO	**Idaho Springs**	**58.53**	**305**	*e*P	**P**	**20 55 12.0**	**-0.2**
	comp=Z,6.1nm,1.0s						
OXF	**Oxford**	**59.51**	**289**	*e*P	**P**	**20 55 19.5**	**+0.9**
	comp=Z,25nm,0.8s						
TOA1	**Torodi Ar. Sit**	**60.81**	**188**	*e*P	**P**	**20 55 27.9**	**+0.1**
TOA0	**Torodi Ar. Sit**	**60.81**	**188**	*e*P	**P**	**20 55 28.1**	**+0.3**
TORD	**Torodi Ar. Bea**	**60.81**	**188**	P	**P**	**20 55 27.9**	**+0.1**
	comp=Z,1.6nm,0.6s,baz=354,slow=6.7,SNR=8.0						
LTX	**Lajitas**	**68.07**	**300**	*e*P	**P**	**20 56 14.3**	**-0.9**
TXAR	**Lajitas Array**	**68.07**	**300**	P	**P**	**20 56 14.3**	**-0.9**
	comp=Z,0.8nm,1.1s,baz=15,slow=7.5,SNR=3.7						
ASAR	**Alice Springs**	**122.01**	**63**	PKP	**PKPdf**	**21 04 09.6**	**-0.2**
	comp=Z,0.5nm,1.0s,baz=340,slow=0.7,SNR=4.1						
VNA2	**Neumayer--Watz**	**144.91**	**189**	P	**PKPab**	**21 04 45.6**	**-4.5**
	baz=342,slow=5.0						
SNAA	**Sanae**	**145.48**	**187**	PKPbc	**PKPbc**	**21 04 52.2**	**+0.2**
	comp=Z,3.2nm,1.1s,baz=351,slow=1.4,SNR=6.5						

*IDC **12** 20:46:55.7±1.4, 3°.62N×92°.59E, h0km, mb3.7/7, mb1 4.0/8, mb1mx3.6/72, mbtmp3.9/8, ML4.1/1, Error ellipse: s-maj=51.2km s-min=25.2km az=41.0*
*ISCJB **12** 20:46:57.4±1

ANDN	**Andirin**	**0.10**	**353**	*i* P		**Pg**	**21 00 43.3**	**-0.6**
ANDN				*i* S		**Sg**	**21 00 46.4**	**+0.6**
ANDN	**Andirin**	**0.10**	**353**	P		**Pg**	**21 00 43.3**	**-0.6**
ANDN				S		**Sg**	**21 00 46.3**	**+0.6**
KOZT	**Kozan**	**0.42**	**270**	PG		**Pg**	**21 00 48.8**	**-0.8**
KOZT				SG		**Sb**	**21 00 56.7**	**-0.7**
KOZT	**Kozan**	**0.42**	**270**	*e*Pg		**Pg**	**21 00 48.8**	**-0.8**
KOZT				*e*Sg		**Sb**	**21 00 56.7**	**-0.7**
KMRS	**Kahramanmaras**	**0.43**	**87**	PG		**Pg**	**21 00 48.6**	**-1.1**
KMRS				SG		**Sg**	**21 00 55.5**	**+0.1**
KMRS	**Kahramanmaras**	**0.43**	**87**	*e*Pg		**Pg**	**21 00 48.6**	**-1.1**
KMRS				*e*Sg		**Sg**	**21 00 55.5**	**+0.1**
SAIM	**ADANA**	**0.54**	**336**	*i* P		**Pg**	**21 00 51.4**	**-0.4**
SAIM				*i* S		**Sb**	**21 01 00.3**	**-0.5**
SAIM	**ADANA**	**0.54**	**336**	P		**Pg**	**21 00 51.4**	**-0.4**
SAIM				S		**Sb**	**21 01 00.3**	**-0.5**
CEYT	**Ceyhan**	**0.68**	**226**	PG		**Pg**	**21 00 54.7**	**+0.3**
CEYT				SG		**Sb**	**21 01 04.9**	**+0.2**
CEYT	**Ceyhan**	**0.68**	**226**	*e*Pg		**Pg**	**21 00 54.7**	**+0.3**
CEYT				*e*Sg		**Sb**	**21 01 04.9**	**+0.2**
GAZ	**Gaziantep**	**0.75**	**114**	PG		**Pb**	**21 00 56.1**	**-0.3**
GAZ				SG		**Sb**	**21 01 06.5**	**-0.2**
GAZ	**Gaziantep**	**0.75**	**114**	*e*Pg		**Pb**	**21 00 56.1**	**-0.3**
GAZ				*e*Sg		**Sb**	**21 01 06.5**	**-0.2**
KUZU	**Kuzuini**	**0.91**	**141**	*i* P		**Pg**	**21 00 57.2**	**-1.6**
KUZU				*i* S		**Sb**	**21 01 12.1**	**+0.7**
KUZU	**Kuzuini**	**0.91**	**141**	P		**Pg**	**21 00 57.2**	**-1.6**
KUZU				S		**Sb**	**21 01 12.1**	**+0.7**
YAHY	**KAYSERI_Yahyal**	**1.00**	**308**	*i* P		**Pg**	**21 00 58.8**	**-1.7**
YAHY				*i* S		**Sn**	**21 01 15.6**	**-0.1**
YAHY	**KAYSERI_Yahyal**	**1.00**	**308**	P		**Pg**	**21 00 58.8**	**-1.7**
YAHY				S		**Sn**	**21 01 15.6**	**-0.1**
DARE	**Darende-Malaty**	**1.40**	**39**	PN		**Pn**	**21 01 07.8**	**+0.2**
DARE	**Darende-Malaty**	**1.40**	**39**	*e*Pn		**Pb**	**21 01 07.8**	**+0.2**
BNN	**Bunyan**	**1.43**	**344**	PN		**Pb**	**21 01 08.1**	**0.0**
BNN	**Bunyan**	**1.43**	**344**	*e*Pn		**Pb**	**21 01 08.1**	**0.0**
AKCD	**Akcadag**	**1.48**	**56**	*i* P		**Pn**	**21 01 08.4**	**+0.3**
AKCD				*i* S		**Sg**	**21 01 30.2**	**+1.3**
AKCD	**Akcadag**	**1.48**	**56**	P		**Pn**	**21 01 08.4**	**+0.3**
AKCD				S		**Sg**	**21 01 30.2**	**+1.3**
MALT	**Malatya**	**1.83**	**63**	PN		**Pn**	**21 01 13.4**	**+0.4**
MALT				SN		**Sb**	**21 01 38.8**	**+0.7**
MALT	**Malatya**	**1.83**	**63**	*e*Pn		**Pn**	**21 01 13.4**	**+0.4**
MALT				*e*Sn		**Sb**	**21 01 38.8**	**+0.7**
HEKM	**Malatya_Hekimh**	**1.88**	**42**	*i* P		**Pb**	**21 01 15.6**	**-0.2**
HEKM				*i* S		**Sg**	**21 01 43.0**	**+1.4**
HEKM	**Malatya_Hekimh**	**1.88**	**42**	P		**Pb**	**21 01 15.6**	**-0.2**
URFA	**Urfa**	**1.96**	**90**	PN		**Pn**	**21 01 15.5**	**+0.8**
URFA				SN		**Sb**	**21 01 41.2**	**-0.5**
URFA	**Urfa**	**1.96**	**90**	*e*Pn		**Pn**	**21 01 15.5**	**+0.8**
URFA				*e*Sn		**Sb**	**21 01 41.2**	**-0.5**

MAN 12 21:12:38,10.12N×123.19E,h1km,mb4.2,ML3.0,MS2.7, Cebu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SNPH	**Sibulan**	**0.77**	**177**	*e*P	Pb	21 12 53.6	-0.7
SNPH				*e*S	Sg	21 13 03.7	+0.9
LLP	**Lapu-Lapu**	**0.79**	**75**	*e*P	Pb	21 12 53.9	-0.6
LLP				*e*S	Sb	21 13 05.5	-0.2
MSLP	**Maasin**	**1.64**	**89**	*e*P	Pb	21 13 08.6	-0.5
MSLP				*e*S	Sg	21 13 31.1	+0.3

*ISCJB **12** 21:15:10.1±0.5,2.32N±0.06×91.80E±0.04,h10km, mb4.3/19,MS3.9/6,Error ellipse: s-maj=8.7km s-min=4.6km az=19.4*

*IDC **12** 21:15:10.8±1.2,2.41N×91.82E,h0km,mb4.1/13, mb1 4.3/15,mb1mx3.9/64,mbtmp4.1/15,ML4.2/2,MS3.8/7, Ms1 3.8/7,ms1mx3.2/63,Error ellipse: s-maj=35.3km s-min=22.7km az=36.0*

*DJA **12** 21:15:11.6±0.6,2.7N±4°×9°2E±°,h10km,M4.9/18,mb4.8/18, mB5.4/7,MLv5.0/6,Mw(mB)4.8/7*

*NEIC **12** 21:15:12.0±0.2,2.37N×91.76E,h10km,mb4.2/5,Error ellipse: s-maj=13.7km s-min=6.4km az=197.0*

ISC 12 21:15:12.3±0.8,2.36N±0.09×91.73E±0.07,h10km,n68, σ1§08/60,mb4.3/19,MS3.9/6,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BSI	**Banda Aceh**	**4.73**	**49**	P	**Pn**	**21 16 22.1**	**-1.6**
BSI				S	**Sn**	**21 17 20.2**	**+1.6**
MLSI	**Meulaboh, Aceh**	**5.03**	**68**	P	**Pn**	**21 16 26.7**	**-1.2**
	305nm,0.8s,5μm1.3nm						
TPTI		**5.51**	**81**	P	**Pn**	**21 16 33.5**	**-1.0**
LHMI	**Lhok Sumawe**	**5.93**	**61**	P	**Pn**	**21 16 41.3**	**+1.0**
GSI	**Gunungsitoli**	**5.94**	**100**	P	**Pn**	**21 16 39.2**	**-1.1**
	161nm,1.0s,2μm						
GSI	**Gunungsitoli**	**5.94**	**100**	*e*Pn	**Pn**	**21 16 39.6**	**-0.7**
	107nm,0.6s						
KCSI	**Kotacane, Aceh**	**6.14**	**79**	P	**Pn**	**21 16 44.2**	**+1.0**
	480nm,1.0s,17μm						
TSI	**Tuntungan**	**6.92**	**80**	P	**Pn**	**21 16 53.4**	**-0.4**
	178nm,0.6s						
MNSI	**Mandailing Nat**	**8.00**	**101**	P	**Pn**	**21 17 08.2**	**-0.5**
	53nm,0.4s,1μm						
SISI	**Saibi**	**8.22**	**116**	P	Pn	21 17 10.4	-1.3
	45nm,1.0s						
PKDT	**Phuket**	**8.57**	**50**	P	**Pn**	**21 17 14.9**	**-1.6**
	35nm,0.9s,0.1nm						
PBA	**Port Blair**	**9.29**	**6**	*e*P	Pn	21 17 25.4	-1.0
PDSI	**Padang**	**9.31**	**110**	P	**Pn**	**21 17 26.7**	**-0.1**
KULM	**Kulim**	**9.36**	**72**	*e*Pn	**Pn**	**21 17 26.2**	**-1.2**
	21nm,0.6s						
IPM	**Ipoh**	**9.51**	**77**	*e*Pn	**Pn**	**21 17 29.4**	**-0.1**
	27nm,0.6s						
SURT	**Suratani**	**9.61**	**47**	P	**Pn**	**21 17 29.1**	**-1.7**
	18nm,0.8s,0.1nm						
TRTT	**Trang**	**9.61**	**55**	P	Pn	21 17 28.9	-1.9
	17nm,0.7s,0.1nm						
SKLT	**Songkhla**	**10.06**	**61**	P	**Pn**	**21 17 35.8**	**-1.2**
	44nm,0.8s,419nm						
DGPR	**DIGLIPUR**	**10.81**	**6**	*e*P	**Pn**	**21 17 47.2**	**-0.1**
PALK	**Pallekele**	**12.02**	**294**	Pn	**Pn**	**21 18 02.5**	**-1.4**
	1.9nm,0.3s,baz=116,slow=13,SNR=14						
PALK				Sn	Sn	21 20 06.5	-12
	7.1nm,0.3s,baz=296,slow=1.3,SNR=6.0						
PALK	**Pallekele**	**12.02**	**294**	*e*Pn	**Pn**	**21 18 02.3**	**-1.6**
	24nm,0.5s						
MDSI	**Maura Dua**	**14.18**	**119**	P	Pn	21 18 31.6	-1.7
	7.0nm,0.9s						
MDRS	**Chennai**	**15.57**	**314**	*e*P	**Pn**	**21 18 50.9**	**-1.1**
PBKT	**Sadao Pong**	**16.79**	**32**	P	**Pn**	**21 19 08.9**	**+1.2**
	7.6nm,0.8s						
VIS	**Vishakhapatnam**	**17.35**	**332**	*e*P	**Pn**	**21 19 13.5**	**-1.2**
CMAR	**Chiang Mai Arr**	**17.49**	**23**	Pn	**Pn**	**21 19 14.9**	**-1.5**
	0.3nm,0.3s,baz=220,slow=13,SNR=13						
CMAR				LR	LR	21 25 16.1	
	comp=Z,101nm,19.1s,baz=220,slow=35						
CHTO	**Chiang Mai**	**17.81**	**23**	*e*Pn	**Pn**	**21 19 21.0**	**+0.5**
	4.0nm,0.9s						
CMMT	**Chiang Mai**	**17.81**	**23**	P	P	21 19 30.1	+8.9
KSM	**Kuching**	**18.59**	**92**	*e*P	**P**	**21 19 29.3**	**-0.5**
	9.3nm,0.8s						
HYB	**Hyderabad**	**19.78**	**320**	*i* P	**P**	**21 19 44.5**	**+1.6**
HYB				*e*S	S	21 23 15.0	-11
HYB	**Hyderabad**	**19.78**	**320**	*e*P	**P**	**21 19 43.6**	**+0.7**
HYB				IAmb	IAmb	21 19 44.5	
	comp=Z,6.3nm,0.6s						
GOA	**Goa**	**21.95**	**308**	*e*P	**P**	**21 20 07.3**	**+1.0**
BOK	**Bokaro**	**22.04**	**346**	*e*P	**P**	**21 20 07.8**	**+0.5**
SHL	**Shillong**	**23.07**	**0**	*e*P	**P**	**21 20 19.6**	**+1.2**
ODAN	**Odare**	**24.71**	**351**	*e*P	**P**	**21 20 34.8**	**+0.7**
	comp=Z,25nm,0.7s						
RAMN	**Ramite**	**24.94**	**349**	*e*P	**P**	**21 20 37.4**	**+1.2**
	comp=Z,37nm,0.6s						
JIRN	**Jiri**	**25.71**	**349**	*e*P	**P**	**21 20 43.6**	**+0.3**
	comp=Z,34nm,0.9s						
PKIN	**Phulchoki**	**25.80**	**347**	*e*P	**P**	**21 20 45.8**	**+1.8**
DMN	**Daman**	**25.89**	**346**	*e*P	**P**	**21 20 45.8**	**+1.0**
GUN	**Gumba**	**26.01**	**348**	*e*P	**P**	**21 20 46.4**	**+0.4**
	comp=Z,17nm,0.7s						
KOLN	**Koldanda**	**26.43**	**344**	*e*P	**P**	**21 20 50.7**	**+1.0**
PYUN	**Piuthan**	**26.92**	**343**	*e*P	**P**	**21 20 54.4**	**+0.3**
SMLA	**Simla**	**31.75**	**336**	*e*P	**P**	**21 21 36.5**	**-0.1**
DHRM	**DHARAMSHALA**	**33.09**	**336**	*e*P	**P**	**21 21 49.1**	**+0.5**
NIL	**Nilore**	**35.60**	**333**	*e*P	**P**	**21 22 10.4**	**+0.1**
	comp=Z,31nm,0.8s						
AAK	**Ala-Archa**	**42.96**	**341**	P	**P**	**21 23 12.8**	**+1.0**
	comp=Z,0.4nm,0.4s,baz=184,slow=4.4,SNR=4.6						
MKAR	**Makanchi Array**	**45.01**	**351**	P	**P**	**21 23 27.4**	**-0.7**
	comp=Z,2.4nm,0.7s,baz=168,slow=8.9,SNR=29						
MKAR				LR	LR	21 43 50.7	
	comp=Z,89nm,18.7s,baz=358,slow=38						
GEYT	**Alibeck**	**46.92**	**323**	P	**P**	**21 23 43.9**	**+0.7**
	comp=Z,4.0nm,0.8s,baz=159,slow=8.9,SNR=11						
SONM	**Songino Array**	**47.04**	**13**	P	**P**	**21 23 43.9**	**-0.2**
	comp=Z,1.2nm,0.7s,baz=190,slow=9.0,SNR=6.0						
WRA	**Warramunga Arr**	**47.32**	**120**	P	**P**	**21 23 45.8**	**-0.8**
	comp=Z,2.2nm,0.8s,baz=298,slow=8.8,SNR=8.6						
KURBB	**Kurchatov Arra**	**49.37**	**349**	P	**P**	**21 24 01.6**	**-0.3**
	comp=Z,1.8nm,0.7s,baz=171,slow=6.9,SNR=16						
KURK	**Kurchatov**	**49.44**	**349**	P	**P**	**21 24 01.6**	**-0.8**
ZALV	**Zalesovo Beam**	**51.73**	**355**	P	**P**	**21 24 19.5**	**-0.2**
	comp=Z,2.9nm,0.7s,baz=186,slow=7.9,SNR=12						
ZALV				LR	LR	21 47 24.0	
	comp=Z,93nm,21.8s,baz=158,slow=37						
BVAR	**Borovoye Array**	**53.50**	**344**	P	**P**	**21 24 31.5**	**-1.3**
	comp=Z,2.1nm,0.7s,baz=126,slow=7.3,SNR=13						
BVAR				LR	LR	21 48 48.0	
	comp=Z,138nm,18.4s,baz=178,slow=38						
GUMO	**Guam**	**53.67**	**75**	LR	LR	21 46 11.9	
	comp=Z,56nm,21.9s,baz=94,slow=35						
ABKAR	**Akbulak array**	**54.03**	**335**	*e*P	**P**	**21 24 36.3**	**-0.5**
	comp=Z,1.7nm,0.7s						
KMBO	**Kilima Mbogo**	**54.58**	**267**	LR	LR	21 45 29.6	
	comp=Z,114nm,19.0s,baz=96,slow=33						
KBZ	**Khabaz**	**59.67**	**321**	P	**P**	**21 25 17.6**	**+0.7**
	comp=Z,2.8nm,0.8s,baz=136,slow=5.9,SNR=8.5						
BRTR	**Keskin Array B**	**64.32**	**313**	P	**P**	**21 25 48.6**	**+0.1**
	comp=Z,1.3nm,0.7s,baz=138,slow=7.8,SNR=8.3						
BOSA	**Boshof**	**70.66**	**239**	LR	LR	21 54 34.2	
	comp=Z,80nm,18.1s,baz=63,slow=33						
MLR	**Muntele Rosu**	**71.50**	**317**	P	**P**	**21 26 34.7**	**+1.1**
	comp=Z,1.0nm,0.8s,baz=80,slow=6.1,SNR=8.0						
TIXI	**Tiksi**	**73.07**	**12**	*e*P	**P**	**21 26 41.8**	**-0.5**
	comp=Z,3.7nm,0.8s						
FINES	**FINESS Array B**	**76.48**	**333**	P	**P**	**21 27 01.7**	**-0.5**
	comp=Z,2.1nm,0.8s,baz=113,slow=4.4,SNR=5.7						
GERES	**GERESS Array B**	**80.35**	**319**	P	**P**	**21 27 24.7**	**+0.6**
	comp=Z,2.4nm,0.7s,baz=104,slow=5.5,SNR=23						
BRG	**Berggiesshubel**	**80.47**	**321**	*e*P	P	21 27 34.2	+10
	comp=Z,20nm,1.9s						
FETA	**Feichten**	**82.14**	**317**	*i* P	**P**	**21 27 34.0**	**+0.4**
	comp=Z,5.7nm,1.5s						
DAVA	**Damuels**	**82.74**	**317**	*i* P	**P**	**21 27 40.5**	**+3.7**
	comp=Z,11nm,0.9s						
TXAR	**Lajitas Array**	**145.20**	**24**	PKPbc	**PKPbc**	**21 34 50.6**	**-0.1**
	comp=Z,0.4nm,0.6s,baz=336,slow=2.0,SNR=6.7						

*IDC **12** 21:18:43.2±1.0,4.02N×92.09E,h0km,mb3.9/8, mb1 4.1/10,mb1mx3.7/64,mbtmp3.9/10,ML3.6/1,Error ellipse: s-maj=39.3km s-min=19.2km az=44.0*

*NEIC **12** 21:18:44.6±0.4,3.99N×92.02E,h10km,mb4.4/4,Error ellipse: s-maj=9.8km s-min=6.8km az=195.0*

*ISCJB **12** 21:18:46.1±0.7,4.01N±0.10×92.07E±0.08,h33km, mb4.1/11,Error ellipse: s-maj=14.8km s-min=10.5km az=22.1*

ISC 12 21:18:48.1±0.8,4.0N±0.1×92.03E±0.09,h35km,n19, σ0§77/19,mb4.0/11,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KULM	**Kulim**	**8.68**	**81**	*e*Pn	**Pn**	**21 20 50.4**	**-1.0**
PALK	**Pallekele**	**11.73**	**287**	Pn	**Pn**	**21 21 31.6**	**-1.6**
	baz=112,slow=19,SNR=1.6						
CMAR	**Chiang Mai Arr**	**15.87**	**25**	Pn	**Pn**	**21 22 28.8**	**-0.2**
	0.1nm,0.3s,baz=216,slow=12,SNR=5.0						
CHTO	**Chiang Mai**	**16.19**	**24**	*e*Pn	**Pn**	**21 22 32.6**	**-0.5**
	0.5nm,0.4s						
KSM	**Kuching**	**18.43**	**97**	*e*P	**Pn**	**21 23 00.7**	**-0.3**
	1.2nm,0.4s						
MKAR	**Makanchi Array**	**43.45**	**350**	P	**P**	**21 26 47.6**	**-0.1**
	1.5nm,0.8s,baz=167,slow=7.9,SNR=5.6						
ULN	**Ulaanbaatar**	**45.56**	**14**	P	**P**	**21 27 05.1**	**+0.3**
	3.1nm,0.8s						
KURBB	**Kurchatov Arra**	**47.83**	**348**	P	**P**	**21 27 22.6**	**+0.4**
	0.9nm,0.8s,baz=161,slow=7.4,SNR=5.0						
WRA	**Warramunga Arr**	**47.89**	**121**	P	**P**	**21 27 22.8**	**-0.4**
	0.7nm,0.7s,baz=297,slow=8.9,SNR=4.2						
KURK	**Kurchatov**	**47.90**	**349**	P	**P**	**21 27 22.6**	**-0.2**
TLY	**Talaya**	**48.49**	**10**	*e*P	**P**	**21 27 27.9**	**+0.5**
	3.7nm,0.7s						
ASAR	**Alice Springs**	**49.20**	**126**	P	**P**	**21 27 33.4**	**0.0**
	0.3nm,0.6s,baz=304,slow=7.4,SNR=3.6						
ZALV	**Zalesovo Beam**	**50.13**	**354**	P	**P**	**21 27 39.5**	**-0.3**
	2.1nm,0.5s,baz=178,slow=7.4,SNR=7.9						
GUMO	**Guam**	**52.97**	**76**	P	**P**	**21 28 02.8**	**+1.1**
BRTR	**Keskin Array B**	**63.42**	**313**	P	**P**	**21 29 14.8**	**+0.1**
	0.5nm,0.6s,baz=119,slow=7.2,SNR=3.7						
IDI	**Anoyia**	**69.09**	**306**	P	**P**	**21 29 52.7**	**+1.7**
	6.7nm,0.9s,baz=86,slow=15,SNR=3.2						
TSUM	**Tsumeb**	**76.70**	**249**	P	**P**	**21 30 36.5**	**+0.1**
	5.2nm,1.7s						
GERES	**GERESS Array B**	**79.31**	**319**	P	**P**	**21 30 51.3**	**+0.9**
	1.4nm,0.9s,baz=95,slow=4.9,SNR=7.1						
CLL	**Collm**	**80.03**	**321**	*e*P	**P**	**21 30 54.0**	**0.0**

*ISCJB **12** 21:21:14.8±1.5,2.4N±0.2×89.54E±0.10,h10km,mb3.8/3, Error ellipse: s-maj=29.1km s-min=11.9km az=16.5*

*IDC **12** 21:21:16.4±1.9,2.45N×89.76E,h0km,mb3.7/3,mb1 3.8/5, mb1mx3.3/66,mbtmp3.7/5,ML4.3/1,Error ellipse: s-maj=50.3km s-min=30.2km az=51.0*

ISC 12 21:21:17.2±1.5,2.4N±0.2×89.6E±0.1,h10km,n6,σ1§14/7, mb3.7/3,North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PALK	**Pallekele**	**10.11**	**299**	Pn	**Pn**	**21 23 43.7**	**+1.0**
	2.2nm,0.3s,baz=115,slow=7.0,SNR=4.1						
PALK				Sn	**Sn**	**21 25 34.5**	**-1.7**
	2.5nm,0.3s,baz=97,slow=0.8,SNR=6.9						
CMAR	**Chiang Mai Arr**	**18.34**	**29**	P	**Pn**	**21 25 31.3**	**-0.7**
	baz=218,slow=12,SNR=3.1						
MKAR	**Makanchi Array**	**44.64**	**353**	P	**P**	**21 29 30.4**	**+0.4**
	0.2nm,0.4s,baz=166,slow=8.2,SNR=4.5						
SONM	**Songino Array**	**47.48**	**15**	P	**P**	**21 29 52.7**	**+0.2**
	1.9nm,0.5s,baz=198,slow=9.3,SNR=11						
WRA	**Warramunga Arr**	**49.18**	**119**	P	**P**	**21 30 05.3**	**-0.6**
	0.5nm,0.6s,baz=297,slow=8.5,SNR=4.8						
TXAR	**Lajitas Array**	**145.93**	**21**	PKPbc	**PKPab**	**21 40 58.8**	**+0.5**
	0.2nm,0.6s,baz=282,slow=0.8,SNR=2.8						

IDC 12 21:22:20.2±6.0,28.55S×177.47W,h0km,mb3.6/2, mb1 3.9/2,mb1mx3.6/44,mbtmp3.6/2,Error ellipse: s-maj=302.1km s-min=89.7km az=164.0,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**43.70**	**265**	P	P	21 30 26.8	-0.5
	0.2nm,0.3s,baz=107,slow=7.0,SNR=5.6						
WRA	**Warramunga Arr**	**44.53**	**270**	P	P	21 30 34.1	+0.2
	0.6nm,0.4s,baz=108,slow=8.3,SNR=10						
FINES	**FINESS Array B**	**143.56**	**341**	PKP	PKPdf	21 41 55.4	-0.8
	0.9nm,0.5s,baz=72,slow=4.5,SNR=9.4						

*ISCJB **12** 21:28:58.3±0.6,0.98N±0.08×91.87E±0.05,h10km, mb4.2/11,Error ellipse: s-maj=11.2km s-min=6.9km az=17.6*

*IDC **12** 21:28:58.8±1.4,0.98N×91.93E,h0km,mb3.8/8, mb1 3.9/11,mb1mx3.6/71,mbtmp3.8/11,ML3.6/2,Error ellipse: s-maj=35.2km s-min=21.0km az=24.0*

*NEIC **12** 21:28:59.8±0.6,0.89N×91.86E,h10km,mb4.3/3,Error ellipse: s-maj=12.8km s-min=8.3km az=187.0*

*DJA **12** 21:29:01.1±0.6,1°N±6°×9°2E±°,h10km,M5.0/12,mb5.1/12, mB5.6/6,MLv4.9/6,Mw(mB)5.1/6*

ISC 12 21:29:00.1±0.7,0.96N±0.09×91.88E±0.07,h10km,n34, σ1§04/35,mb4.0/11,North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MLSI	**Meulaboh, Aceh**	**5.58**	**54**	P	**Pn**	**21 30 23.9**	**+0.6**
	190nm,0.5s,4μm						
BSI	**Banda Aceh**	**5.65**	**37**	P	**Pn**	**21 30 24.4**	**+0.2**
	54nm,0.7s						
GSI	**Gunungsitoli**	**5.70**	**87**	P	**Pn**	**21 30 25.4**	**+0.4**
	76nm,0.7s						
TPTI		**5.76**	**67**	P	**Pn**	**21 30 25.7**	**-0.1**
	152nm,0.5s,3μm						
KCSI	**Kotacane, Aceh**	**6.41**	**67**	P	**Pn**	**21 30 35.3**	**+0.6**
LHMI	**Lhok Sumawe**	**6.60**	**50**	P	**Pn**	**21 30 38.2**	**+0.9**
	119nm,0.6s						
LHMI	**Lhok Sumawe**	**6.60**	**50**	*e*Pn	**Pn**	**21 30 39.0**	**+1.7**
	90nm,0.4s						
TSI	**Tuntungan**	**7.14**	**69**	P	**Pn**	**21 30 45.4**	**+0.7**
PSI	**Prapat**	**7.27**	**75**	Pn	**Pn**	**21 30 43.8**	**-2.9**
	baz=270,slow=15						
PSI				Sn	**Sn**	**21 32 07.0**	**-2.3**
	baz=194,slow=19						
SISI	**Saibi**	**7.56**	**108**	P	**Pn**	**21 30 51.6**	**+1.2**
	37nm,0.7s						
MNSI	**Mandailing Nat**	**7.70**	**91**	P	**Pn**	**21 30 53.6**	**+1.2**
	91nm,0.5s,2μm						
PPSI	**Pulau Pagai**	**8.93**	**115**	P	**Pn**	**21 31 10.3**	**+1.0**
	74nm,0.6s						
KULM	**Kulim**	**9.75**	**64**	*e*Pn	**Pn**	**21 31 21.2**	**+0.6**
	14nm,0.5s						
IPM	**Ipoh**	**9.78**	**69**	*e*Pn	**Pn**	**21 31 22.0**	**+1.1**
	10nm,0.5s						
RGRI	**Rengat**	**10.53**	**97**	P	**Pn**	**21 31 32.7**	**+1.4**
	125nm,0.4s,16μm						
PALK	**Pallekele**	**12.79**	**300**	Pn	**Pn**	**21 32 00.8**	**-1.4**
	0.7nm,0.3s,baz=114,slow=9.8,SNR=4.2						
PALK	**Pallekele**	**12.79**	**300**	*e*Pn	**Pn**	**21 32 01.1**	**-1.1**
KSM	**Kuching**	**18.43**	**88**	P	**P**	**21 33 15.7**	**-0.2**
	2.9nm,0.6s						
CMAR	**Chiang Mai Arr**	**18.72**	**21**	P	Pn	21 33 20.0	+0.6
	0.1nm,0.3s,baz=214,slow=12,SNR=5.6						
CHTO	**Chiang Mai**	**19.04**	**21**	*e*P	**P**	**21 33 23.2**	**+0.6**
	0.4nm,0.4s						
MKAR	**Makanchi Array**	**46.41**	**351**	P	**P**	**21 37 26.9**	**-0.1**
	0.6nm,0.5s,baz=170,slow=8.7,SNR=9.6						
WRA	**Warramunga Arr**	**46.50**	**119**	P	**P**	**21 37 28.3**	**+0.2**
	1.0nm,0.7s,baz=297,slow=8.7,SNR=6.9						
GEYT	**Alibeck**	**48.13**	**324**	P	**P**	**21 37 40.6**	**+0.1**
	1.0nm,0.5s,baz=110,slow=11,SNR=3.6						
SONM	**Songino Array**	**48.36**	**13**	P	**P**	**21 37 43.1**	**+0.9**
	0.8nm,0.7s,baz=193,slow=7.7,SNR=5.2						
KURBB	**Kurchatov Arra**	**50.76**	**349**	P	**P**	**21 38 00.2**	**-0.1**
	0.7nm,0.5s,baz=174,slow=6.6,SNR=9.4						
KURK	**Kurchatov**	**50.84**	**349**	P	**P**	**21 38 00.2**	**-0.7**
ZALV	**Zalesovo Beam**	**53.13**	**355**	P	**P**	**21 38 17.8**	**-0.2**
	1.1nm,0.4s,baz=180,slow=6.4,SNR=9.0						
MAJO	**Matsushiro**	**55.53**	**45**	*e*P	**P**	**21 38 36.0**	**+0.2**
	1.6nm,0.6s						
BRTR	**Keskin Array B**	**65.39**	**314**	P	**P**	**21 39 43.7**	**+0.3**
	0.2nm,0.6s,baz=148,slow=6.3,SNR=2.7						
GERES	**GERESS Array B**	**81.50**	**319**	P	**P**	**21 41 18.8**	**+0.8**
	0.8nm,0.8s,baz=115,slow=6.3,SNR=5.7						
RAO	**Raoul Island**	**90.64**	**119**	P	**P**	**21 42 03.3**	**-0.1**
	84nm,0.2s						
QSPA	**South Pole Qui**	**90.91**	**180**	P	**P**	**21 42 03.4**	**-0.7**
	7.3nm,1.1s						
LKWY	**Lake**	**130.52**	**21**	*e*Pdif	**Pdif**	**21 45 00.8**	**-1.1**
TXAR	**Lajitas Array**	**146.40**	**25**	PKPbc	**PKPbc**	**21 48 41.9**	**-0.4**
	0.1nm,0.5s,baz=240,slow=2.2,SNR=4.9						

IDC 12 21:36:03.1±5.1,3.36N×89.61E,h0km,mb3.5/4,mb1 3.6/4, mb1mx3.2/65,mbtmp3.5/4,MS3.6/1,Ms1 3.6/1, ms1mx2.7/52,Error ellipse: s-maj=180.6km s-min=29.8km az=60.0,North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PALK	**Pallekele**	**9.68**	**294**	Sn	Sn	21 40 06.9	-6.6
	0.9nm,0.3s,baz=295,slow=3.9,SNR=5.2						
MKAR	**Makanchi Array**	**43.73**	**353**	P	P	21 44 11.1	+1.0
	0.3nm,0.6s,baz=160,slow=7.4,SNR=4.1						
SONM	**Songino Array**	**46.61**	**16**	P	P	21 44 33.9	+0.8
	0.6nm,0.5s,baz=189,slow=8.4,SNR=3.9						
OPO	**Ambohidratompo**	**47.11**	**241**	LR	LR	22 01 02

comp=Z,61nm,1.1s,comp=Z,1µm
KSM Kuching 17.43 89 *e*P **P** **21 46 26.7 +0.7**
comp=Z,17nm,1.0s
CM01 Chiang Mai Arr 18.20 19 *e*Pn **Pn** **21 46 32.0 -2.3**
CM31 Chiang Mai Arr 18.23 19 *e*P **Pn** **21 46 34.5 -0.2**
CMAR Chiang Mai Arr 18.23 19 P **Pn** **21 46 34.2 -0.5**
comp=Z,0.4nm,0.3s,baz=215,slow=11,SNR=25
CMAR PcP **PcP** **21 51 07.4 +0.9**
comp=Z,0.1nm,0.3s,baz=212,slow=3.2,SNR=4.2
CMAR LR LR 21 54 19.9
comp=Z,250nm,18.7s,baz=198,slow=40
CHTO Chiang Mai 18.56 18 P **P** **21 46 37.4 -0.9**
comp=Z,93nm,1.6s,comp=Z,3µm
CHTO Chiang Mai 18.56 18 *e*P **P** **21 46 37.0 -1.4**
comp=Z,50nm,1.0s
CMMT Chiang Mai 18.56 18 P **P** **21 46 36.3 -2.1**
comp=Z,55nm,1.1s,comp=Z,795nm
VIS Vishakhapatnam 18.98 331 *e*P **P** **21 46 41.8 -1.0**
SKNT Sakolnakorn 19.18 34 P **Pn** **21 46 46.3 +0.1**
comp=Z,19nm,1.3s
SBUM Sibu 19.38 86 *e*P **P** **21 46 47.2 -0.2**
comp=Z,12nm,0.9s
HYB Hyderabad 21.46 320 *i* P **P** **21 47 10.5 +0.6**
HYB *e*S Sn 21 51 13.0 -2.2
HYB Hyderabad 21.46 320 *e*P **P** **21 47 09.4 -0.5**
HYB IAmb IAmb 21 47 10.1
comp=Z,30nm,0.9s
H08S2 Diego Garcia H 22.11 246 T T 22 10 06.3
baz=67,slow=74
H08S3 Diego Garcia H 22.11 247 T T 22 10 18.2
baz=67
H08S1 Diego Garcia H 22.13 246 T T 22 10 12.2
baz=67,slow=74
BOK Bokaro 23.53 344 *e*P **P** **21 47 32.5 +1.0**
BOK IAmb IAmb 21 47 35.6
comp=Z,282nm,2.2s
GOA Goa 23.60 308 *e*P **P** **21 47 32.1 -0.1**
KKM Kota Kinabalu 23.80 78 *e*P **P** **21 47 34.9 +0.7**
comp=Z,47nm,1.1s
NGP Nagpur 24.05 327 *e*P **P** **21 47 35.7 -0.6**
NGP IAmb IAmb 21 47 47.5
comp=Z,33nm,1.5s
SHL Shillong 24.32 358 IAmb IAmb 21 47 27.4
comp=Z,7.2nm,0.5s
SHL *e*P **P** **21 47 38.5 -0.5**
KMI Kunming 25.69 21 P **P** **21 47 55.0 +3.4**
KMI pP pP 21 48 01.7 +0.1
KMI sP sP 21 48 03.9 -1.9
KMI pmax pmax
comp=Z,21nm,1.5s
KMI pmax pmax
comp=Z,86nm,3.5s
KMI LR LR
comp=N,260nm,13.4s
KMI LR LR
comp=E,240nm,14.6s
KMI LR LR
comp=Z,250nm,15.7s
MYLDM Lahad Datu 25.90 80 *e*P **P** **21 47 55.8 +2.5**
comp=Z,32nm,1.1s
ODAN Odare 26.13 349 *e*P **P** **21 47 56.0 +0.5**
comp=Z,62nm,1.0s
RAMN Ramite 26.38 347 *e*P **P** **21 47 58.8 +1.0**
comp=Z,64nm,0.9s
BHPL Bhopal 26.61 327 *e*P **P** **21 47 59.0 -0.7**
JIRN Jiri 27.15 347 *e*P **P** **21 48 05.6 +0.7**
comp=Z,153nm,1.4s
PKIN Phulchoki 27.26 345 *e*P **P** **21 48 06.3 +0.5**
DMN Daman 27.37 345 *e*P **P** **21 48 07.0 +0.3**
GUN Gumba 27.47 346 *e*P **P** **21 48 07.8 +0.1**
comp=Z,49nm,0.9s
KKN Kakani 27.50 345 *e*P **P** **21 48 08.1 +0.3**
comp=Z,34nm,1.0s
GKN Gorkha 27.87 344 *e*P **P** **21 48 11.4 +0.4**
comp=Z,42nm,1.0s
DANN Dangsing 28.44 343 *e*P **P** **21 48 15.9 -0.4**
PYUN Piuthan 28.44 341 *e*P **P** **21 48 16.4 +0.1**
comp=Z,51nm,1.0s
LSA Lhasa 28.47 357 P **P** **21 48 18.3 +1.6**
LSA pmax pmax
comp=Z,11nm,1.0s
GYA Guiyang 28.47 27 *e*P **P** **21 48 18.9 +2.5**
GYA pmax pmax
comp=Z,10.0nm,0.8s
TGY Tagaytay City 30.60 64 LR LR 22 01 24.0
comp=Z,56nm,19.8s,baz=261,slow=37
CD2 Chengdu 31.37 18 *e*P **P** **21 48 42.5 +0.6**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
BATI Baumata 32.64 111 LR LR 22 04 03.8
comp=Z,269nm,18.6s,baz=276,slow=40
SMLA Simla 33.34 335 *e*P **P** **21 48 59.4 +0.2**
SMLA IAmb IAmb 21 49 03.0
comp=Z,11nm,0.7s
DHRM DHARAMSHALA 34.68 335 *e*P **P** **21 49 10.1 -1.0**
DHRM IAmb IAmb 21 49 13.4
comp=Z,222nm,3.2s
WHN Wuhan 35.66 33 ⇓P P 21 49 28.0 +8.8
WHN S S 21 55 15.8 +22
WHN pmax pmax
comp=Z,28nm,0.5s
WHN LR LR
comp=N,450nm,11.1s
WHN LR LR
comp=E,940nm,18.0s
WHN LR LR
comp=Z,730nm,12.5s
XAN Xi'an 36.03 23 P **P** **21 49 22.1 -0.3**
XAN pP pP 21 49 30.0 -2.6
XAN sP sP 21 49 33.6 -3.2
XAN PP **PP** **21 50 44.8 0.0**
XAN S **S** **21 54 57.2 -2.0**
XAN sS sS 21 55 08.6 -7.4
XAN SS **SnSn** **21 57 17.6 -8.1**
XAN pmax pmax
comp=Z,5.0nm,0.7s
XAN pmax pmax
comp=Z,150nm,9.8s
XAN LR LR
comp=N,190nm,15.7s
XAN LR LR
comp=E,210nm,15.7s
XAN LR LR
comp=Z,140nm,18.4s
LZH Lanzhou 36.25 15 *e*P **P** **21 49 27.0 +2.6**
LZH pP pP 21 49 32.5 -2.1
LZH sP sP 21 49 37.5 -1.3
LZH *e*PP **PP** **21 50 49.3 +2.0**
LZH pmax pmax
comp=Z,25nm,1.2s
LZH pmax pmax
comp=Z,320nm,5.0s
LZH LR LR
comp=N,280nm,13.0s
LZH LR LR
comp=E,340nm,13.3s
LZH LR LR
comp=Z,460nm,15.0s
MEEK Meekatharra 37.12 140 P **P** **21 49 32.8 +1.0**
baz=37
NIL Nilore 37.22 332 *e*P **P** **21 49 32.8 +0.2**
comp=Z,23nm,0.8s
GTA Gaotai 38.63 9 *e*P **P** **21 49 45.0 +0.5**
GTA pP pP 21 49 52.8 -1.9
GTA sP sP 21 49 55.9 -3.0
GTA S **S** **21 55 39.2 +0.4**
GTA sS SS 21 57 53.2 -37
GTA SS **SnSn** **21 58 24.5 -4.1**
GTA pmax pmax
comp=Z,3.0nm,1.0s
GTA pmax pmax
comp=Z,320nm,8.6s
GTA LR LR
comp=N,93nm,12.8s
GTA LR LR
comp=E,180nm,14.7s
GTA LR LR
comp=Z,130nm,11.9s
NJ2 Nanjing 39.33 36 *e*P **P** **21 49 50.7 +0.4**
NJ2 pmax pmax
comp=Z,9.0nm,0.5s
WSAR Wadi Sarin 39.84 306 LR LR 22 04 49.8
comp=Z,185nm,20.4s,baz=134,slow=34
NWAO Narrogin (SRO) 40.93 148 P **P** **21 50 03.8 +0.2**
comp=Z,7.7nm,0.8s,baz=0.0,slow=6.1,SNR=3.0
NWAO LR LR 22 05 29.5
comp=Z,223nm,19.0s,baz=204,slow=34
NWAO Narrogin (SRO) 40.93 148 P **P** **21 50 03.5 -0.1**
comp=Z,27nm,0.8s
KSH Kashi 41.21 340 P **P** **21 50 10.0 +4.1**
KSH pmax pmax
comp=Z,10.0nm,0.7s
WMQ Urumqi 42.76 354 P **P** **21 50 19.8 +1.3**
WMQ pP pP 21 50 22.4 -6.4
WMQ sP sP 21 50 28.1 -4.9
WMQ pmax pmax
comp=Z,33nm,0.9s
WMQ pmax pmax
comp=Z,330nm,4.7s
WMQ LR LR
comp=N,280nm,21.9s
WMQ LR LR
comp=E,280nm,24.3s
WMQ LR LR
comp=Z,300nm,21.9s
HHC Hu-ho-hao-te 43.02 21 *e*P **P** **21 50 23.6 +3.0**
HHC pmax pmax
comp=Z,26nm,1.0s
HHC pmax pmax
comp=Z,65nm,5.8s
ULHL Ulahol 43.59 342 P **P** **21 50 24.7 -0.6**
SNR=8.5
UCH Uchtor 44.12 340 P **P** **21 50 30.8 +0.8**
SNR=8.3
AML Almayashu 44.32 340 P **P** **21 50 32.2 +0.8**
SNR=14
AAK Ala-Archa 44.50 341 *e*P **P** **21 50 33.4 +0.9**
comp=Z,12nm,1.3s
EKS2 Erkin-Say 44.76 340 P **P** **21 50 35.8 +1.1**
SNR=11
USP Ospenovka 45.06 341 P **P** **21 50 37.4 +0.5**
SNR=8.6
WRA Warramunga Arr 45.72 120 P **P** **21 50 42.3 -0.1**
comp=Z,6.5nm,0.7s,baz=299,slow=8.6,SNR=53
WRAB Tennant Creek 45.72 120 *e*P **P** **21 50 42.4 -0.1**
comp=Z,14nm,0.9s
WB2 Warramunga Arr 45.73 120 *e*P **P** **21 50 42.7 +0.2**
FORT Forrest 46.10 137 *e*P **P** **21 50 45.5 +0.2**
comp=Z,380nm,1.0s
KK31 Karatay Array 46.33 337 *e*P **P** **21 50 47.6 +0.6**
KKAR Karatay Array 46.33 337 *e*P **P** **21 50 47.6 +0.6**
MK01 Makanchi Array 46.39 350 *e*P **P** **21 50 47.2 -0.1**
MK31 Makanchi Array 46.42 350 *e*P **P** **21 50 47.8 +0.3**
MKAR Makanchi Array 46.42 350 P **P** **21 50 47.6 0.0**
comp=Z,7.2nm,0.8s,baz=165,slow=8.6,SNR=55
MKAR LR LR 22 11 30.4
comp=Z,74nm,21.2s,baz=178,slow=38
MKAR Makanchi Array 46.42 350 *e*P **P** **21 50 47.8 +0.3**
comp=Z,87nm,0.8s
MAKZ Makanchi 46.49 350 *e*P **P** **21 50 48.4 +0.3**
comp=Z,7.6nm,0.8s
ASAR Alice Springs 46.86 124 P **P** **21 50 51.3 -0.1**
comp=Z,3.2nm,0.9s,baz=299,slow=7.2,SNR=14
ASAR PcP **PcP** **21 52 24.2 +0.2**
comp=Z,1.1nm,0.6s,baz=292,slow=2.8,SNR=4.4
ASAR LR LR 22 11 35.3
comp=Z,85nm,19.2s,baz=298,slow=38
AS01 Alice Springs 46.90 124 *e*P **P** **21 50 51.2 -0.5**
JNU Nakatsue 47.80 44 LR LR 22 12 22.2
comp=Z,84nm,19.9s,baz=298,slow=38
SONM Songino Array 47.98 12 P **P** **21 51 00.8 +1.0**
comp=Z,11nm,0.9s,baz=195,slow=8.0,SNR=31
SONM PcP **PcP** **21 52 27.7 +0.1**
comp=Z,2.2nm,0.7s,baz=213,slow=5.1,SNR=2.8
SONA1 Songino Array 48.00 12 *e*P **P** **21 51 00.6 +0.6**
ULN Ulaanbaatar 48.16 13 *e*P **P** **21 51 02.1 +0.9**
comp=Z,11nm,1.0s
KSAR Wonju Array Be 48.43 38 P **P** **21 51 04.2 +0.9**
KS01 Wonju Array Si 48.46 38 *e*P **P** **21 51 04.0 +0.5**
KSRS Korea Array 48.46 38 P **P** **21 51 04.2 +0.7**
comp=Z,3.8nm,0.8s,baz=228,slow=7.9,SNR=12
GEYT Alibeck 48.59 323 P **P** **21 51 05.5 +0.9**
comp=Z,3.1nm,0.8s,baz=157,slow=8.0,SNR=7.9
GEYT LR LR 22 12 03.7
comp=Z,220nm,22.0s,baz=155,slow=37
GYA0B ALIBECK ARRAY 48.59 323 *e*P **P** **21 51 05.9 +1.3**
comp=Z,6.0nm,0.7s
OPO Ambohidratompo 48.97 244 P **P** **21 51 08.6 +0.6**
comp=Z,8.1nm,0.9s,baz=99,slow=18,SNR=4.7
DAMY Dhamar 49.72 288 *e*P **P** **21 51 14.5 +0.6**
comp=Z,16nm,1.1s
ATD Arta Tunnel 50.70 284 LR LR 22 09 31.2
comp=Z,56nm,19.1s,baz=63,slow=32
KURBB Kurchatov Arra 50.80 348 P **P** **21 51 21.2 +0.1**
comp=Z,4.4nm,0.9s,baz=172,slow=6.8,SNR=28
KURK Kurchatov 50.87 348 *e*P **P** **21 51 22.0 +0.3**
comp=Z,16nm,1.1s
RAYN Ar Rayn 51.00 300 *e*P **P** **21 51 23.5 +0.2**
comp=Z,7.7nm,0.8s
TLY Talaya 51.19 9 *e*P **P** **21 51 24.9 +0.8**
comp=Z,1.9nm,0.4s
CN2 Changchun 51.43 30 *e*P **P** **21 51 28.6 +2.6**
CN2 *e*pP pP 21 51 33.9 -2.6
CN2 *e*S **S** **21 58 46.6 +3.1**
CN2 pmax pmax
comp=Z,20nm,8.0s
CN2 LR LR
comp=N,190nm,20.0s
CN2 LR LR
comp=E,230nm,20.0s
CN2 LR LR
comp=Z,200nm,20.0s
ZAA0 Zalesovo Array 53.07 354 *e*P **P** **21 51 38.2 +0.3**
comp=Z,16nm,0.8s
ZALV Zalesovo Beam 53.07 354 P **P** **21 51 37.8 -0.1**
comp=Z,7.0nm,0.6s,baz=186,slow=7.2,SNR=26
ZALV LR LR 22 18 18.9
comp=Z,65nm,19.0s,baz=84,slow=41
ZALV Zalesovo Beam 53.07 354 *e*P **P** **21 51 37.5 -0.5**
MAJO Matsushiro 54.72 45 P **P** **21 51 50.8 +0.4**
comp=Z,2.2nm,0.5s
MJAR Matsushiro Arr 54.72 45 P **P** **21 51 49.8 -0.7**
comp=Z,2.0nm,0.9s,baz=212,slow=6.8,SNR=5.4
MJAR LR LR 22 16 32.7
comp=Z,63nm,20.4s,baz=255,slow=38
BVAR Borovoye Array 55.00 344 P **P** **21 51 51.7 -0.4**
comp=Z,2.3nm,0.8s,baz=142,slow=7.2,SNR=15
BVAR LR LR 22 16 34.0
comp=Z,217nm,18.6s,baz=156,slow=37
PMG Port Moresby 55.06 102 P **P** **21 51 52.9 -0.3**
comp=Z,7.1nm,0.6s,baz=270,slow=13,SNR=2.1
PMG LR LR 22 18 07.4
comp=Z,43nm,20.6s,baz=269,slow=39
PMG Port Moresby 55.06 102 P **P** **21 51 53.5 +0.3**
BRVK Borovoye 55.06 344 *e*P **P** **21 51 51.9 -0.6**
comp=Z,6.9nm,0.9s
USRK Ussuriysk Ar. 55.15 34 P **P** **21 51 54.2 +0.9**
comp=Z,5.7nm,0.9s,baz=241,slow=11,SNR=9.4
ABKAR Akbulak array 55.63 334 *e*P **P** **21 51 56.3 -0.4**
comp=Z,98nm,0.8s
KMBO Kilima Mbogo 55.66 268 P **P** **21 51 58.9 +1.0**
comp=Z,5.7nm,1.0s,baz=56,slow=11,SNR=7.8
KMBO Kilima Mbogo 55.66 268 *e*P **P** **21 51 58.8 +0.9**
comp=Z,10nm,1.3s
CTAO Charters Tower 56.37 115 *e*P **P** **21 52 02.5 0.0**
comp=Z,3.5nm,0.7s
STKA Stephens Creek 56.57 130 P **P** **21 52 03.4 -0.4**
comp=Z,4.7nm,0.9s,baz=324,slow=8.7,SNR=10.0
STKA LR LR 22 16 19.2
comp=Z,115nm,19.3s,baz=329,slow=36
STKA Stephens Creek 56.57 130 P **P** **21 52 03.8 0.0**
baz=57,SNR=7.1
STKA Stephens Creek 56.57 130 *e*P **P** **21 52 03.8 0.0**
comp=Z,2.5nm,1.4s
AKTO Aktyubinsk 57.34 334 P **P** **21 52 08.1 -0.8**
comp=Z,2.5nm,0.9s,baz=124,slow=11,SNR=5.8
AKTO LR LR 22 17 38.2
comp=Z,102nm,20.4s,baz=148,slow=37
GNI Garni 58.40 318 P **P** **21 52 16.6 -0.2**
comp=Z,1.3nm,0.3s,baz=112,slow=11,SNR=2.6
GNI LR LR 22 19 21.0
comp=Z,78nm,19.9s,baz=110,slow=38
GNI Garni 58.40 318 *e*P **P** **21 52 18.4 +1.7**
comp=Z,62nm,0.9s
CMSA Cobar Meteorol 59.62 128 P **P** **21 52 25.8 +0.6**
baz=60,SNR=11
ASF Jabal al Asfar 61.00 307 P **P** **21 52 33.7 -1.0**
comp=Z,1.0nm,0.5s,baz=103,slow=7.5,SNR=3.7
KBZ Khabaz 61.34 321 P **P** **21 52 37.2 +0.6**
comp=Z,3.3nm,0.8s,baz=121,slow=6.8,SNR=8.0
ASAJ Asahikawa 61.38 39 P **P** **21 52 37.9 +1.0**
comp=Z,8.9nm,0.7s,baz=230,slow=7.9,SNR=5.9
KIV Kislovodsk 61.59 321 *e*P **P** **21 52 38.4 -0.1**
comp=Z,48nm,1.7s
ARU Arti 61.64 339 *e*P **P** **21 52 37.8 -0.7**
comp=Z,8.1nm,0.9s
MBAR Mbarara 62.15 269 P **P** **21 52 43.0 +0.1**
comp=Z,3.0nm,0.2s,baz=72,slow=3.2,SNR=3.7
MMAI Mount Meron Ar 62.47 307 P **P** **21 52 44.0 -0.6**
comp=Z,2.0nm,0.8s,baz=123,slow=5.3,SNR=3.5
MMAI LR LR 22 20 32.1
comp=Z,171nm,18.9s,baz=95,slow=37
LSZ Lusaka 65.95 253 *e*P **P** **21 53 07.3 -0.5**
comp=Z,7.2nm,1.0s
BR131 Keskin Array S 65.99 313 *e*P **P** **21 53 07.6 0.0**
BRTR Keskin Array B 65.99 313 P **P** **21 53 07.5 -0.1**
comp=Z,2.2nm,0.7s,baz=133,slow=6.4,SNR=16
BRTR LR LR 22 24 21.8
comp=Z,87nm,18.6s,baz=27,slow=38
YAK Yakutsk 66.76 18 *e*P **P** **21 53 12.1 +0.3**
comp=Z,51nm,0.8s
CASY Casey 68.43 172 P **P** **21 53 22.9 +0.6**
comp=Z,3.5nm,0.9s
LBTB Lobatse 69.99 243 *e*P **P** **21 53 32.5 -0.5**
comp=Z,17nm,0.9s
BOSA Boshof 71.00 239 P **P** **21 53 39.1 0.0**
comp=Z,9.3nm,1.0s,baz=82,slow=7.6,SNR=9.2
BOSA Boshof 71.00 239 *e*P **P** **21 53 38.7 -0.4**
comp=Z,8.2nm,0.9s
IDI Anoyia 71.47 307 P **P** **21 53 42.7 +0.9**
comp=Z,5.6nm,0.7s,baz=98,slow=13,SNR=6.5
IDI LR LR 22 26 03.6
comp=Z,68nm,21.6s,baz=98,slow=37
IDI Anoyia 71.47 307 ⇑*i*P **P** **21 53 43.0 +1.3**
MAW Mawson 71.71 192 P **P** **21 53 43.3 +0.9**
comp=Z,6.3nm,0.9s,baz=313,slow=6.5,SNR=4.4
KLMR Klimovskoe 72.00 336 *e*P **P** **21 53 42.3 -1.9**
KLMR AMP 21 53 52.8
comp=Z,13nm,1.0s
SORM Soroca 72.39 321 ⇓*i*P **P** **21 53 47.0 +0.1**
AKASG Malin Array Be 72.71 323 P **P** **21 53 48.0 -0.8**
comp=Z,0.3nm,0.3s,baz=97,slow=4.6,SNR=10
AKASG LR LR 22 28 35.4
comp=Z,41nm,20.2s,baz=120,slow=38
VRI Vrincioaia 72.75 318 ⇓*i*P **P** **21 53 50.0 +0.8**
PLOR Plostina 72.80 318 ⇑*i*P **P** **21 53 50.7 +1.2**
TESR Tescani 72.99 319 ⇓*i*P **P** **21 53 50.6 0.0**
MLR Muntele Rosu 73.17 317 P **P** **21 53 52.4 +0.7**
comp=Z,1.4nm,0.8s,baz=120,slow=20,SNR=13
MLR LR LR 22 28 08.7
comp=Z,21nm,21.9s,baz=68,slow=38
MLR Muntele Rosu 73.17 317 ⇑*i*P **P** **21 53 53.0 +1.2**
MLR Muntele Rosu 73.17 317 *e*P **P** **21 53 52.5 +0.7**
comp=Z,17nm,0.9s
PRAR RASCA 73.52 319 ⇓*i*P **P** **21 53 54.0 +0.4**
ARR Arges 74.03 317 ⇑*i*P **P** **21 53 56.9 +0.1**
TIXI Tiksi 74.06 11 *e*P **P** **21 53 55.6 -0.7**
comp=Z,23nm,0.8s
BURAR Bucovina Array 74.25 319 ⇑*i*P **P** **21 53 58.7 +0.7**
BUR04 Bucovina Ar. S 74.25 319 *e*P **P** **21 53 58.5 +0.4**
BUR08 Bucovina Ar. S 74.27 319 *e*P **P** **21 53 59.0 +0.8**
VTS Vitosha 74.35 314 ⇓*i*P **P** **21 53 58.9 +0.1**
VTS Vitosha 74.35 314 *e*P **P** **21 53 58.7 -0.1**
comp=Z,5.3nm,0.8s
DZM Mont Dzumac 75.23 113 LR LR 22 29 60.0
comp=Z,67nm,18.1s,baz=156,slow=38
DRGR 75.68 318 ⇓*i*P **P** **21 54 06.8 +0.5**
IDID Didziasalis 75.69 327 *e*P **P** **21 54 06.0 +0.1**
IDID IAmb IAmb 21 54 16.3
comp=Z,6.0nm,0.8s
IIGN Ignalina 75.98 327 *e*P **P** **21 54 07.7 0.0**
IIGN IAmb IAmb 21 54 18.0
comp=Z,7.6nm,0.9s
IZAR Zarasai 76.09 328 *e*P **P** **21 54 08.4 +0.1**
IZAR IAmb IAmb 21 54 17.5
comp=Z,11nm,1.2s
BZS Buzias 76.15 317 ⇓*i*P **P** **21 54 11.5 +2.6**
TSUM Tsumeb 76.49 250 *e*P **P** **21 54 11.5 0.0**
comp=Z,117nm,1.7s
CRVS Cervenica-Dubn 77.00 320 *e*P **P** **21 54 14.1 +0.5**
STHS Stebnicka Huta 77.26 321 *e*P **P** **21 54 16.4 +1.3**
STHS *e*PCP **PcP** **21 54 25.1 -0.6**
SUW Suwalki 77.26 325 *e*P **P** **21 54 14.7 -0.2**
comp=Z,36nm,0.9s
FINES FINESS Array B 78.09 333 P **P** **21 54 19.4 0.0**
comp=Z,3.4nm,1.0s,baz=110,slow=8.1,SNR=6.0
FINES LR LR 22 30 37.7
comp=Z,154nm,21.1s,baz=123,slow=37
VYHS Vyhne 78.61 319 *e*P **P** **21 54 23.5 +0.9**
VYHS *e*PCP **PcP** **21 54 31.6 +0.1**
MODS Modra-Piesok 79.61 319 *e*P **P** **21 54 29.4 +1.3**
MODS *e*PCP **pP** **21 54 37.5 -1.6**
DPC Dobruska-Polom 80.56 321 *e*P **P** **21 54 34.1 +0.9**
DPC *e*pP **PcP** **21 54 37.3 -2.8**
DPC *e*PCP **pP** **21 54 41.5 -2.8**
ARSA Arzberg 80.59 318 *i* P **P** **21 54 34.6 +1.1**
comp=Z,6.5nm,0.8s
SOKA Soboth 80.84 317 *i* P **P** **21 54 35.6 +0.7**
comp=Z,6.4nm,0.9s,SNR=8.4
GEA0 GERESS Array S 82.03 319 *e*P **P** **21 54 41.3 +0.2**
GEC2 GERESS Array S 82.03 319 *e*P **P** **21 54 42.0 +0.8**
comp=Z,13nm,1.0s
GERES GERESS Array B 82.03 319 P **P** **21 54 41.6 +0.5**
comp=Z,3.1nm,0.9s,baz=100,slow=5.4,SNR=21
BRG Berggiesshubel 82.14 321 *e*P P 21 54 50.2 +8.7
comp=Z,7.8nm,1.1s
KHC Kasperske Hory 82.14 319 *e*P **P** **21 54 43.1 +1.5**
KHC *ex* x 21 54 51.6
KHC Kasperske Hory 82.14 319 *e*P **P** **21 54 42.6 +1.0**
comp=Z,1.1nm,0.8s
RPZ Rata Peaks 82.24 134 LR LR 22 31 45.4
comp=Z,101nm,18.1s,baz=263,slow=36
CLL Collm 82.79 321 *e*P **P** **21 54 44.0 -0.9**
CLL *i* 21 54 52.6
comp=Z,5.0nm,1.1s
WTTA Wattenberg 83.22 317 *i* P **P** **21 54 47.8 +0.3**
comp=Z,5.7nm,0.8s
MOTA Moosalm 83.59 317 *i* P **P** **21 54 49.2 -0.1**
comp=Z,11nm,1.0s
HFS Hagfors 83.64 330 P **P** **21 54 51.0 +1.9**
comp=Z,3.2nm,1.0s,baz=66,slow=3.6,SNR=3.6
HFS LR LR 22 35 03.6
comp=Z,76nm,20.2s,baz=80,slow=38
KEST Kesra 84.09 306 P **P** **21 54 52.6 +0.6**
comp=Z,5.9nm,0.8s,baz=115,slow=1.7,SNR=5.4
KEST LR LR 22 35 19.0
comp=Z,65nm,19.2s,baz=280,slow=38
DAVA Damuels 84.42 317 *i* P **P** **21 54 54.3 +0.7**
comp=Z,19nm,0.9s
NB2 NORSAR Subarra 84.97 331 P **P** **21 54 55.1 -0.8**
comp=Z,5.1nm,1.1s,baz=92,slow=5.3
NOA NORSAR Array B 84.97 331 P **P** **21 54 55.8 -0.1**
comp=Z,1.5nm,0.9s,baz=94,slow=5.5,SNR=2.5
NOA LR LR 22 34 25.1
comp=Z,48nm,20.4s,baz=50,slow=37
SPITS Spitsbergen Ar 86.15 348 LR LR 22 41 44.4
comp=Z,68nm,18.2s,baz=295,slow=41
URZ Urewera 86.16 128 P **P** **21 55 00.9 -1.3**
comp=Z,12nm,1.0s,baz=97,slow=3.1,SNR=4.2
URZ LR LR 22 31 08.7
comp=Z,155nm,19.6s,baz=244,slow=34
TAM Tamanrasset 87.12 293 *e*P **P** **21 55 08.4 +0.9**
comp=Z,7.7nm,1.1s
TAM *e*pP **pP** **21 55 17.9 -0.7**
TORD Torodi Ar. Bea 90.89 283 P **P** **21 55 23.8 -1.4**
comp=Z,1.2nm,1.1s,baz=90,slow=4.9,SNR=3.7
QSPA South Pole Qui 91.07 180 *e*P **P** **21 55 26.1 +1.1**
comp=Z,50nm,1.2s
EKA Eskdalemuir Ar 92.53 325 LR LR 22 39 52.6
comp=Z,64nm,21.5s,baz=140,slow=37
SNAA Sanae 92.86 198 P **P** **21 55 32.9 -0.3**
comp=Z,3.6nm,1.1s,baz=61,slow=11,SNR=3.5
VNA2 Neumayer--Watz 94.41 199 P **P** **21 55 41.6 +1.3**
baz=72,slow=5.7
ESDC Sonseca Array 94.56 310 LR LR 22 41 55.8
comp=Z,30nm,20.1s,baz=90,slow=38
BORG Borgarnes 99.10 337 LR LR 22 41 27.3
comp=Z,79nm,21.9s,baz=226,slow=36
YKA Yellowknife Ar 113.24 13 PKKPbc PKKPbc 22 11 43.6 -2.3
comp=Z,0.4nm,0.6s,baz=151,slow=3.2,SNR=9.7
YKA PKKPab **PKKPab** **22 11 51.0 -1.1**
comp=Z,0.4nm,0.7s,baz=149,slow=3.7,SNR=7.3
NVAR Mina Array Bea 131.28 33 PKP **PKPdf** **22 01 34.4 +0.8**
comp=Z,0.4nm,0.3s,baz=212,slow=3.2,SNR=2.8
PDAR Pinedale Array 131.87 22 PKP **PKPdf** **22 01 34.5 -0.1**
comp=Z,0.6nm,0.7s,baz=253,slow=1.5,SNR=5.2
CPUP Villa Florida 141.93 226 PKhKP PKPpre 22 01 49.9
comp=Z,2.1nm,1.0s,baz=106,slow=7.2,SNR=3.2
MIAR Mount Ida 144.01 9 *e*PKPdf **PKPdf** **22 01 55.4 -1.4**

PEL	**Peldehue**	**144.60**	**204**	*e*PKPdf	**PKPdf**	**22**	**01**	**57.4**	**-0.6**
TX31	**Lajitas Ar. Si**	**145.83**	**26**	*e*PKPdf	**PKPab**	**22**	**02**	**00.5**	**-0.7**
TX31				*e*PKPdf	**PKPbc**	**22**	**02**	**00.9**	**+0.1**
TXAR	**Lajitas Array**	**145.83**	**26**	PKPbc	**PKPab**	**22**	**02**	**00.7**	**-0.4**
	comp=Z,3.9nm,0.7s,baz=245,slow=1.3,SNR=39								
LRAL	**Lakeview Retre**	**146.03**	**360**	*e*PKPdf	**PKPbc**	**22**	**02**	**00.6**	**-0.5**
LRAL				*ep*PKPdf	**pPKPdf**	**22**	**02**	**09.2**	**-2.6**
JCT	**Junction City**	**146.33**	**20**	*e*PKPdf	**PKPbc**	**22**	**02**	**01.8**	**-0.4**
HPIG		**146.88**	**31**	*e*PKPbc	**PKPab**	**22**	**02**	**04.2**	**-1.2**
LPAZ	**La Paz**	**155.97**	**230**	PKP	**PKPdf**	**22**	**02**	**16.4**	**-0.3**
	comp=Z,1.2nm,0.7s,baz=320,slow=2.0,SNR=4.7								
LPAZ				PKPab	**PKPab**	**22**	**02**	**44.5**	**+0.7**
	comp=Z,3.4nm,0.9s,baz=79,slow=2.5,SNR=6.2								
OTAV	**Otavalo**	**171.22**	**279**	*e*PKPdf	**PKPdf**	**22**	**02**	**30.4**	**-0.4**

IDC 12 21:51:19.1±2.0, 1°49N×93°15E, h0km, mb3.3/2, mb1 3.7/5, mb1mx3.2/67, mbtmp3.5/5, ML3.7/2, MS3.8/1, Ms1 3.8/1, ms1mx2.9/35, Error ellipse: s-maj=49.1km s-min=27.0km az=42.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**5.92**	**77**	Pn	Pn	21 52 47.2	-1.0
	baz=270,slow=1.1						
PSI				Sn	Sn	21 53 45.7	-11
	baz=270,slow=11						
PALK	**Pallekele**	**13.67**	**295**	Pn	Pn	21 54 33.9	-0.6
	0.2nm,0.3s,baz=118,slow=14,SNR=2.1						
PALK				Sn	Sn	21 56 55.4	-12
	0.5nm,0.3s,baz=113,slow=7.7,SNR=2.8						
CMAR	**Chiang Mai Arr**	**17.80**	**18**	P	Pn	21 55 28.6	+0.2
	0.1nm,0.3s,baz=215,slow=13,SNR=4.7						
WSAR	**Wadi Sarin**	**39.85**	**306**	LR	LR	22 14 18.3	
	comp=Z,121nm,19.0s,baz=130,slow=35						
WRA	**Warramunga Arr**	**45.66**	**120**	P	P	21 59 41.8	-0.1
	0.5nm,0.9s,baz=300,slow=8.0,SNR=13						
MKAR	**Makanchi Array**	**46.11**	**350**	P	P	21 59 45.2	+0.1
	0.1nm,0.3s,baz=176,slow=8.8,SNR=4.9						

NIED ***12*** *21:54:00, 36.60N×142.20E, h14km, Mw4.0 Best double couple: M0 9.62000×10^14 NP1: ϕ=197.00000°, δ=44.00000°, λ=-84.00000°. NP2: ϕ=9.00000°, δ=46.00000°, λ=-96.00000°.*

ISCJB ***12*** *21:54:24.0±0.5, 36.58N±0.05×142.16E±0.05, h19km, mb3.8/21, MS3.0/1, Error ellipse: s-maj=6.5km s-min=5.2km az=171.2*

IDC ***12*** *21:54:23.1±0.7, 36.59N×142.08E, h0km, mb3.9/19, mb1 4.0/22, mb1mx3.9/65, mbtmp3.9/22, ML3.9/3, MS3.2/2, Ms1 3.2/2, ms1mx2.5/66, Error ellipse: s-maj=17.8km s-min=15.3km az=132.0*

JMA ***12*** *21:54:24.5±0.3, 36.62N×142.18E, h29km, M4.2*

NEIC ***12*** *21:54:26.9±2.7, 36.60N×142.11E, h25km±18km, mb4.4/2, Error ellipse: s-maj=11.2km s-min=7.7km az=132.0*

ISC 12 21:54:25.6±0.6, 36.63N±0.05×142.05E±0.05, h19km, n46, σ1s65/45, mb4.0/21, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**1.11**	**296**	P	**Pg**	**21 54 45.6**	**-1.5**
ONAJ				*e*S	**Sg**	**21 55 01.7**	**+0.1**
JHO	**Hitachi**	**1.19**	**270**	P	**Pb**	**21 54 46.8**	**-0.7**
JHO				S	**Sg**	**21 55 03.9**	**-0.3**
JFK	**Kawauchi**	**1.19**	**308**	P	**Pb**	**21 54 46.7**	**-0.9**
JMM	**Marumori**	**1.59**	**321**	P	**Pb**	**21 54 52.6**	**-1.7**
JMM				*e*S	**Sb**	**21 55 12.5**	**-1.5**
JFT	**Otama**	**1.63**	**303**	P	**Pb**	**21 54 53.8**	**-1.3**
JIO	**Ouri**	**1.91**	**343**	P	**Pb**	**21 54 56.6**	**-3.1**
JFY	**Yanaizu**	**2.03**	**293**	P	**Pb**	**21 55 00.5**	**-1.4**
JAG	**Ashikaga**	**2.10**	**265**	P	**Pb**	**21 55 00.7**	**-2.3**
JRY	**Ryogami san**	**2.61**	**257**	P	**Pn**	**21 55 07.5**	**+0.7**
MJAR	**Matsushiro Arr**	**3.09**	**270**	Pn	**Pn**	**21 55 14.9**	**+1.6**
	11nm,0.3s,baz=89,slow=8.9,SNR=90						
MJAR				Sn	**Sn**	**21 55 51.2**	**+1.4**
	6.7nm,0.3s,baz=104,slow=14,SNR=6.6						
MAJO	**Matsushiro**	**3.09**	**270**	*e*Pn	**Pb**	**21 55 15.6**	**-4.4**
MAT	**Matsushiro**	**3.09**	**270**	P	**Pb**	**21 55 15.5**	**-4.5**
MAT				S	**Sn**	**21 55 52.3**	**+2.5**
JHJ	**Hachijo jima 2**	**3.97**	**209**	Pn	**Pn**	**21 55 25.6**	**+0.2**
	23nm,0.3s,baz=52,slow=15,SNR=14						
JHJ				Sn	**Sn**	**21 56 09.7**	**-1.7**
	27nm,0.3s,baz=233,slow=20,SNR=4.5						
ASAJ	**Asahikawa**	**7.49**	**3**	Pn	**Pn**	**21 56 13.9**	**+0.1**
	2.0nm,0.3s,baz=220,slow=11,SNR=14						
ASAJ				Sn	**Sn**	**21 57 35.5**	**-2.6**
	0.5nm,0.3s,baz=26,slow=18,SNR=3.1						
KSRS	**Korea Array**	**11.32**	**278**	LR	LR	22 01 36.2	
	comp=Z,107nm,18.8s,baz=47,slow=38						
YAK	**Yakutsk**	**26.58**	**347**	LR	LR	22 12 40.8	
	comp=Z,40nm,18.5s,slow=41						
H11N2	**WAKE ISLAND Hy**	**27.50**	**121**	T	T	22 29 31.7	
	baz=313,slow=75,SNR=24						
H11N1	**WAKE ISLAND Hy**	**27.51**	**121**	T	T	22 29 47.5	
	baz=313,slow=75,SNR=18						
H11N3	**WAKE ISLAND Hy**	**27.52**	**121**	T	T	22 29 47.4	
	baz=313,slow=75,SNR=20						
H11S1	**WAKE ISLAND Hy**	**28.21**	**123**	T	T	22 30 34.0	
	baz=316,slow=75,SNR=12						
H11S3	**WAKE ISLAND Hy**	**28.21**	**123**	T	T	22 30 25.6	
	baz=316,slow=75,SNR=9.4						
H11S2	**WAKE ISLAND Hy**	**28.23**	**123**	T	T	22 30 26.3	
	baz=316,slow=75,SNR=8.1						
SONM	**Songino Array**	**28.43**	**304**	P	**P**	**22 00 20.5**	**+1.3**
	2.2nm,0.8s,baz=107,slow=8.6,SNR=12						
CMAR	**Chiang Mai Arr**	**41.89**	**256**	P	**P**	**22 02 15.2**	**+0.3**
	0.4nm,0.7s,baz=40,slow=7.1,SNR=3.9						
ZALV	**Zalesovo Beam**	**42.56**	**313**	P	**P**	**22 02 21.3**	**+1.4**
	1.4nm,0.7s,baz=102,slow=8.3,SNR=5.9						
MKAR	**Makanchi Array**	**44.76**	**303**	P	**P**	**22 02 38.9**	**+1.1**
	1.1nm,0.7s,baz=90,slow=9.3,SNR=13						
KURK	**Kurchatov**	**46.58**	**308**	*e*P	**P**	**22 02 52.9**	**+0.9**
	3.7nm,0.5s						
KURBB	**Kurchatov Arra**	**46.65**	**308**	P	**P**	**22 02 53.2**	**+0.6**
	0.9nm,0.3s,baz=83,slow=8.0,SNR=10.0						
ILAR	**Eielson Array**	**49.56**	**32**	P	**P**	**22 03 16.1**	**+1.1**
	0.8nm,0.8s,baz=270,slow=5.9,SNR=7.7						
BVAR	**Borovoye Array**	**51.22**	**313**	P	**P**	**22 03 28.6**	**+1.0**
	0.5nm,0.5s,baz=69,slow=7.7,SNR=3.6						
INK	**Inuvik**	**54.52**	**27**	P	**P**	**22 03 52.8**	**+1.1**
	0.5nm,0.6s,baz=334,slow=2.4,SNR=4.4						
WRA	**Warramunga Arr**	**56.73**	**189**	P	**P**	**22 04 07.9**	**-0.3**
	0.8nm,0.6s,baz=6.0,slow=7.3,SNR=7.1						
ABKAR	**Akbulak array**	**58.59**	**310**	*e*P	**P**	**22 04 21.1**	**+0.1**
	1.3nm,0.7s						
ASAR	**Alice Springs**	**60.46**	**189**	P	**P**	**22 04 34.2**	**+0.1**
	1.0nm,0.8s,baz=5.0,slow=7.2,SNR=6.6						
POO	**Poona**	**61.89**	**273**	*e*P	**P**	**22 04 41.0**	**-3.1**
YKA	**Yellowknife Ar**	**63.90**	**30**	P	**P**	**22 04 57.7**	**+1.0**
	0.1nm,0.4s,baz=303,slow=7.0,SNR=4.6						
GEYT	**Alibeck**	**64.48**	**299**	P	**P**	**22 05 01.1**	**+0.1**
	0.7nm,0.4s,baz=69,slow=4.8,SNR=4.3						
FINES	**FINESS Array B**	**69.41**	**333**	P	**P**	**22 05 31.7**	**-0.1**
	1.1nm,0.9s,baz=46,slow=9.9,SNR=2.5						
HFS	**Hagfors**	**74.67**	**336**	P	**P**	**22 06 04.2**	**+0.8**
	1.5nm,0.9s,baz=46,slow=8.7,SNR=2.8						
NOA	**NORSAR Array B**	**74.75**	**338**	P	**P**	**22 06 03.7**	**-0.2**
	1.5nm,0.9s,baz=27,slow=9.1,SNR=3.4						
AKASG	**Malin Array Be**	**74.93**	**323**	P	**P**	**22 06 05.9**	**+0.8**
	1.0nm,0.5s,baz=47,slow=6.4,SNR=10						
PDAR	**Pinedale Array**	**77.58**	**46**	P	**P**	**22 06 21.3**	**+0.7**
	0.3nm,0.6s,baz=260,slow=2.5,SNR=2.3						
CLL	**Collm**	**81.70**	**330**	*e*P	**P**	**22 06 44.0**	**+1.5**
MMAI	**Mount Meron Ar**	**82.61**	**306**	P	**P**	**22 06 48.8**	**+1.0**
	1.6nm,0.9s,baz=48,slow=6.7,SNR=3.3						
GERES	**GERESS Array B**	**83.32**	**329**	P	**P**	**22 06 52.1**	**+0.9**
	0.2nm,0.4s,baz=39,slow=6.3,SNR=3.4						
LPAZ	**La Paz**	**146.45**	**61**	PKPbc	**PKPab**	**22 14 07.3**	**-0.2**
	1.3nm,0.6s,baz=31,slow=7.2,SNR=6.0						

IDC ***12*** *21:55:03.3±1.3, 2.62N×91.83E, h0km, mb3.9/10, mb1 4.0/13, mb1mx3.7/67, mbtmp3.9/13, ML4.2/1, MS3.7/4, Ms1 3.7/4, ms1mx3.1/67, Error ellipse: s-maj=36.3km s-min=20.9km az=32.0*

NEIC ***12*** *21:55:04.7±0.5, 2.62N×91.86E, h10km, mb4.3/3, Error ellipse: s-maj=10.9km s-min=5.2km az=195.0*

DJA ***12*** *21:55:04.1±0.4, 3°N±7°×9°E±°, h10km, M4.7/9, mb4.7/9, mB5.2/6, MLv4.8/6, Mw(mB)4.6/6*

ISCJB ***12*** *21:55:05.9±0.7, 2.61N±0.07×91.97E±0.04, h33km, mb3.9/12, MS3.7/4, Error ellipse: s-maj=11.1km s-min=5.4km az=19.5*

ISC 12 21:55:07.9±0.8, 2.61N±0.09×91.88E±0.07, h35km, n38, σ1s06/38, mb3.9/12, MS3.8/4, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSI	**Banda Aceh**	**4.46**	**50**	P	**Pn**	**21 56 11.9**	**-1.1**
MLSI	**Meulaboh, Aceh**	**4.81**	**70**	P	**Pn**	**21 56 17.1**	**-0.8**
MLSI				S	**Sn**	**21 57 13.7**	**+1.3**
TPTI		**5.33**	**83**	P	**Pn**	**21 56 23.7**	**-1.4**
LHMI	**Lhok Sumawe**	**5.69**	**63**	P	**Pn**	**21 56 30.4**	**+0.5**
LHMI	**Lhok Sumawe**	**5.69**	**63**	*e*Pn	**Pn**	**21 56 30.2**	**+0.3**
	131nm,0.8s						
GSI	**Gunungsitoli**	**5.84**	**103**	P	**Pn**	**21 56 31.4**	**-0.7**
GSI	**Gunungsitoli**	**5.84**	**103**	*e*Pn	**Pn**	**21 56 31.3**	**-0.7**
	66nm,0.6s						
GSI				*e*Sn	**Sn**	**21 57 36.0**	**-1.8**
PSI	**Prapat**	**7.04**	**88**	Pn	**Pn**	**21 56 47.8**	**-0.9**
PSI				Sn	**Sn**	**21 58 07.0**	**-0.6**
MNSI	**Mandailing Nat**	**7.90**	**103**	P	**Pn**	**21 57 00.2**	**-0.2**
SISI	**Saibi**	**8.20**	**118**	P	**Pn**	**21 57 03.7**	**-0.8**
PKDT	**Phuket**	**8.30**	**50**	P	**Pn**	**21 57 04.4**	**-1.4**
KULM	**Kulim**	**9.15**	**73**	*e*Pn	**Pn**	**21 57 16.7**	**-0.8**
	35nm,0.8s						
IPM	**Ipoh**	**9.32**	**78**	*e*Pn	**Pn**	**21 57 19.5**	**-0.3**
	20nm,0.3s						
SURT	**Suratani**	**9.33**	**47**	P	**Pn**	**21 57 18.5**	**-1.5**
TRTT	**Trang**	**9.35**	**56**	P	**Pn**	**21 57 18.5**	**-1.8**
PALK	**Pallekele**	**12.06**	**293**	Pn	**Pn**	**21 57 54.6**	**-2.9**
	1.6nm,0.3s,baz=116,slow=13,SNR=11						
PALK				Sn	Sn	21 59 59.0	-12
	2.3nm,0.3s,baz=115,slow=0.2,SNR=12						
PALK	**Pallekele**	**12.06**	**293**	*e*Pn	**Pn**	**21 57 55.7**	**-1.8**
PALK				Sn	Sn	21 59 59.0	-12
PBKT	**Sadao Pong**	**16.51**	**32**	P	**P**	**21 58 59.1**	**-0.1**
	14nm,0.9s,2µm						
CMAR	**Chiang Mai Arr**	**17.21**	**23**	P	**Pn**	**21 59 04.5**	**-1.2**
	baz=215,slow=13,SNR=11						
CHTO	**Chiang Mai**	**17.53**	**23**	*e*Pn	**Pn**	**21 59 09.1**	**-0.6**
	4.8nm,1.0s						
SKNT	**Sakolnakorn**	**18.58**	**39**	P	**P**	**21 59 21.8**	**-0.4**
	13nm,1.1s						
BATI	**Baumata**	**34.11**	**112**	LR	LR	22 16 49.3	
	comp=Z,166nm,20.3s,baz=300,slow=38						
NIL	**Nilore**	**35.46**	**333**	*e*P	**P**	**22 02 01.5**	**+0.4**
	11nm,0.6s						
AAK	**Ala-Archa**	**42.78**	**341**	LR	LR	22 21 23.0	
	comp=Z,116nm,18.4s,baz=156,slow=37						
MKAR	**Makanchi Array**	**44.80**	**351**	P	**P**	**22 03 18.6**	**+0.3**
	1.4nm,0.6s,baz=174,slow=8.7,SNR=10						
SONM	**Songino Array**	**46.77**	**13**	P	**P**	**22 03 34.9**	**+0.9**
	0.8nm,0.8s,baz=201,slow=7.6,SNR=3.7						
SONM				LR	LR	22 25 11.6	
	comp=Z,96nm,19.9s,baz=230,slow=39						
GEYT	**Alibeck**	**46.81**	**323**	P	**P**	**22 03 34.2**	**-0.2**
	0.7nm,0.4s,baz=165,slow=6.0,SNR=2.6						
WRA	**Warramunga Arr**	**47.31**	**120**	P	**P**	**22 03 39.5**	**+1.0**
	0.7nm,0.8s,baz=297,slow=8.5,SNR=3.7						
KURBB	**Kurchatov Arra**	**49.16**	**349**	P	**P**	**22 03 53.3**	**+1.0**
	1.1nm,0.6s,baz=177,slow=7.4,SNR=5.0						
KURK	**Kurchatov**	**49.23**	**349**	P	**P**	**22 03 53.3**	**+0.5**
ZALV	**Zalesovo Beam**	**51.51**	**355**	P	**P**	**22 04 10.1**	**+0.2**
	0.8nm,0.4s,baz=190,slow=5.9,SNR=4.5						
BVAR	**Borovoye Array**	**53.31**	**344**	P	**P**	**22 04 23.5**	**+0.1**
	1.1nm,0.8s,baz=164,slow=8.5,SNR=4.1						
GUMO	**Guam**	**53.47**	**75**	LR	LR	22 27 00.5	
	comp=Z,34nm,20.0s,baz=98,slow=36						
BRTR	**Keskin Array B**	**64.26**	**313**	P	**P**	**22 05 40.8**	**+0.8**
	0.2nm,0.4s,baz=131,slow=5.9,SNR=2.7						
TIXI	**Tiksi**	**72.81**	**12**	*e*P	**P**	**22 06 33.1**	**+0.6**
	3.3nm,0.9s						
FINES	**FINESS Array B**	**76.33**	**333**	P	**P**	**22 06 53.5**	**+0.4**
	0.8nm,0.8s,baz=92,slow=9.7,SNR=2.9						
GERES	**GERESS Array B**	**80.26**	**319**	P	**P**	**22 07 16.4**	**+1.1**
	0.5nm,0.5s,baz=109,slow=5.3,SNR=5.0						
TXAR	**Lajitas Array**	**144.92**	**24**	PKP	**PKPdf**	**22 14 42.5**	**+0.2**
	0.5nm,0.7s,baz=306,slow=2.1,SNR=3.8						

ISCJB ***12*** *21:55:36.5±0.3, 43.14N±0.02×13.58E±0.03, h23km±5km, Error ellipse: s-maj=4.4km s-min=3.4km az=152.5*

CSEM ***12*** *21:55:36.4±0.1, 43.12N×13.53E, h19km, ML3.0/14, Error ellipse: s-maj=2.5km s-min=2.1km az=71.0*

ROM ***12*** *21:55:36.7±0.1, 43.12N×13.51E, h24km±2km, Md2.7/29, Ml2.5/30, Error ellipse: s-maj=1.5km s-min=1.3km az=101.0*

ISC 12 21:55:36.0±1.0, 43.12N±0.02×13.52E±0.02, h12km±8km, n73, σ0s77/105, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFFI	**Offida**	**0.22**	**148**	Pg	**Pb**	**21 55 43.5**	**+1.5**
	1µm,0.5s						
OFFI	**Offida**	**0.22**	**148**	Pg	**Pb**	**21 55 43.5**	**+1.5**
	1µm,0.5s						
GUMA	**Gualdo di Mace**	**0.31**	**101**	Pg	**Pg**	**21 55 41.6**	**-0.7**
GUMA				Sg	**Sg**	**21 55 45.7**	**-0.8**
	4µm,0.2s						
GUMA	**Gualdo di Mace**	**0.31**	**101**	Pg	**Pg**	**21 55 41.6**	**-0.7**
GUMA				Sg	**Sg**	**21 55 45.7**	**-0.8**
	4µm,0.2s						
FDMO	**Fiordimonte**	**0.33**	**255**	Pg	**Pb**	**21 55 43.7**	**-0.2**
FDMO				Sg	**Sb**	**21 55 49.5**	**+0.4**
	398nm,0.2s						
FDMO	**Fiordimonte**	**0.33**	**255**	Pg	**Pb**	**21 55 43.7**	**-0.2**
FDMO				Sg	**Sb**	**21 55 49.5**	**+0.4**
	398nm,0.2s						
CING	**Cingoli**	**0.35**	**317**	Pg	**Pb**	**21 55 44.1**	**-0.1**
CING				Sg	**Sb**	**21 55 50.1**	**+0.4**
	317nm,0.3s						
CING	**Cingoli**	**0.35**	**317**	Pg	**Pb**	**21 55 44.1**	**-0.1**
CING				Sg	**Sb**	**21 55 50.1**	**+0.4**
	317nm,0.3s						
NRCA	**Norcia**	**0.42**	**226**	Pg	**Pb**	**21 55 45.0**	**-0.4**
NRCA				Sg	**Sb**	**21 55 52.4**	**+0.7**
	359nm,0.1s						
NRCA	**Norcia**	**0.42**	**226**	Pg	**Pb**	**21 55 45.0**	**-0.4**
NRCA				Sg	**Sb**	**21 55 52.4**	**+0.7**
	359nm,0.1s						
AOI	**Ancona**	**0.43**	**8**	Pg	**Pg**	**21 55 45.7**	**+1.2**
AOI				Sg	**Sb**	**21 55 53.5**	**+1.4**
	299nm,0.3s						
AOI	**Ancona**	**0.43**	**8**	Pg	**Pg**	**21 55 45.7**	**+1.2**
AOI				Sg	**Sb**	**21 55 53.5**	**+1.4**
	299nm,0.3s						
SNTG	**Esanatoglia**	**0.45**	**287**	Pg	**Pb**	**21 55 45.6**	**-0.2**
SNTG				Sg	**Sb**	**21 55 52.9**	**+0.4**
	186nm,0.4s						
SNTG	**Esanatoglia**	**0.45**	**287**	Pg	**Pb**	**21 55 45.6**	**-0.2**
SNTG				Sg	**Sb**	**21 55 52.9**	**+0.4**
	186nm,0.4s						
CESI	**CESI - Serrava**	**0.47**	**256**	Pg	**Pb**	**21 55 46.0**	**-0.2**
CESI				Sg	**Sb**	**21 55 53.7**	**+0.6**
	85nm,0.3s						
CESI	**CESI - Serrava**	**0.47**	**256**	Pg	**Pb**	**21 55 46.0**	**-0.2**
CESI				Sg	**Sb**	**21 55 53.7**	**+0.6**
	85nm,0.3s						
TERO	**Teramo**	**0.50**	**173**	Pg	**Pg**	**21 55 46.4**	**+0.5**
TERO				Sg	**Sb**	**21 55 54.7**	**+0.6**
	185nm,0.3s						
TERO	**Teramo**	**0.50**	**173**	Pg	**Pg**	**21 55 46.4**	**+0.5**
TERO				Sg	**Sb**	**21 55 54.7**	**+0.6**
	185nm,0.3s						
SMA1	**SAN MARTINO**	**0.51**	**196**	Pg	**Pb**	**21 55 46.5**	**-0.5**
SMA1				Sg	**Sb**	**21 55 55.1**	**+0.7**
	352nm,0.4s						
SMA1	**SAN MARTINO**	**0.51**	**196**	Pg	**Pb**	**21 55 46.5**	**-0.5**
SMA1				Sg	**Sb**	**21 55 55.1**	**+0.7**
	352nm,0.4s						
ARVD	**Arcevia**	**0.57**	**312**	Pg	**Pg**	**21 55 47.7**	**+0.7**
ARVD				Sg	**Sb**	**21 55 57.2**	**+1.3**
	62nm,0.2s						
ARVD	**Arcevia**	**0.57**	**312**	Pg	**Pg**	**21 55 47.7**	**+0.7**
ARVD				Sg	**Sb**	**21 55 57.2**	**+1.3**
	62nm,0.2s						
CAMP	**Campotosto**	**0.59**	**188**	Pg	**Pg**	**21 55 47.9**	**+0.3**
	128nm,0.3s						
CAMP	**Campotosto**	**0.59**	**188**	Pg	**Pg**	**21 55 47.9**	**+0.3**
	128nm,0.3s						
SSFR	**Montelago di S**	**0.62**	**300**	Pg	**Pg**	**21 55 48.7**	**+0.5**
	201nm,0.2s						
SSFR	**Montelago di S**	**0.62**	**300**	Pg	**Pg**	**21 55 48.7**	**+0.5**
	201nm,0.2s						
LNSS	**Leonessa**	**0.63**	**214**	Pg	**Pb**	**21 55 48.6**	**-0.4**
	287nm,0.4s						
LNSS	**Leonessa**	**0.63**	**214**	Pg	**Pb**	**21 55 48.6**	**-0.4**
	287nm,0.4s						
ATCC	**AVT- Casa Cast**	**0.65**	**276**	Pg	**Pg**	**21 55 49.0**	**+0.4**
	176nm,0.7s						
ATCC	**AVT- Casa Cast**	**0.65**	**276**	Pg	**Pg**	**21 55 49.0**	**+0.4**
	176nm,0.7s						
FRON	**Frontone**	**0.70**	**304**	Pg	**Pb**	**21 55 50.3**	**+0.1**
	103nm,0.3s						
FRON	**Frontone**	**0.70**	**304**	Pg	**Pb**	**21 55 50.3**	**+0.1**
	103nm,0.3s						
MURB	**Monte Urbino**	**0.74**	**281**	Pg	**Pb**	**21 55 51.2**	**+0.3**
MURB				Sg	**Sb**	**21 56 01.7**	**+0.6**
	317nm,0.3s						
MURB	**Monte Urbino**	**0.74**	**281**	Pg	**Pb**	**21 55 51.2**	**+0.3**
MURB				Sg	**Sb**	**21 56 01.7**	**+0.6**
	317nm,0.3s						
MPAG	**Monte Paganucc**	**0.75**	**313**	Pg	**Pb**	**21 55 51.4**	**+0.3**
	98nm,0.3s						
MPAG	**Monte Paganucc**	**0.75**	**313**	Pg	**Pb**	**21 55 51.4**	**+0.3**
	98nm,0.3s						
VCEL	**Villa Celiera**	**0.77**	**162**	Pg	**Pb**	**21 55 52.1**	**+0.8**
	195nm,0.4s						
VCEL	**Villa Celiera**	**0.77**	**162**	Pg	**Pb**	**21 55 52.1**	**+0.8**
	195nm,0.4s						
AQU	**L'Aquila**	**0.77**	**187**	Pg	**Pb**	**21 55 51.5**	**+0.1**
	143nm,0.8s						
AQU	**L'Aquila**	**0.77**	**187**	Pg	**Pb**	**21 55 51.5**	**+0.1**
	143nm,0.8s						
T0104	**Madonna delle**	**0.78**	**190**	Pg	**Pb**	**21 55 51.4**	**-0.1**
FSSB	**Fossombrone**	**0.79**	**317**	Pg	**Pb**	**21 55 51.9**	**+0.3**
	581nm,0.4s						
FSSB	**Fossombrone**	**0.79**	**317**	Pg	**Pb**	**21 55 51.9**	**+0.3**
	581nm,0.4s						
PIEI	**Pieia**	**0.83**	**300**	Pg	**Pg**	**21 55 52.2**	**+0.2**
	92nm,0.2s						
PIEI	**Pieia**	**0.83**	**300**	Pg	**Pg**	**21 55 52.2**	**+0.2**
	92nm,0.2s						
ATVO	**AVT- Monte Val**	**0.85**	**288**	Pg	**Pg**	**21 55 52.6**	**+0.1**
	151nm,0.7s						
ATVO	**AVT- Monte Val**	**0.85**	**288**	Pg	**Pg**	**21 55 52.6**	**+0.1**
	151nm,0.7s						
ATPC	**Poggio Castell**	**0.86**	**295**	Pg	**Pb**	**21 55 53.0**	**+0.2**
	142nm,0.4s						
ATPC	**Poggio Castell**	**0.86**	**295**	Pg	**Pb**	**21 55 53.0**	**+0.2**
	142nm,0.4s						
CESX	**Cesi**	**0.86**	**234**	Pg	**Pb**	**21 55 52.8**	**-0.1**
	116nm,0.4s						
CESX	**Cesi**	**0.86**	**234**	Pg	**Pb**	**21 55 52.8**	**-0.1**
	116nm,0.4s						
FIAM	**Fiamignano**	**0.91**	**199**	Pg	**Pg**	**21 55 53.4**	**-0.1**
	114nm,0.5s						
FIAM	**Fiamignano**	**0.91**	**199**	Pg	**Pg**	**21 55 53.4**	**-0.1**
	114nm,0.5s						
MGAB	**Montegabbione**	**1.06**	**259**	Pg	**Pn**	**21 55 57.6**	**+0.9**
	63nm,0.5s						
MGAB	**Montegabbione**	**1.06**	**259**	Pg	**Pn**	**21 55 57.6**	**+0.9**
	63nm,0.5s						
PARC	**Parchiule**	**1.07**	**300**	Pg	**Pn**	**21 55 57.4**	**+0.5**
	68nm,0.6s						
PARC	**Parchiule**	**1.07**	**300**	Pg	**Pn**	**21 55 57.4**	**+0.5**
	68nm,0.6s						
INTR	**Introdacqua**	**1.15**	**166**	Pg	**Pg**	**21 55 58.5**	**+0.5**
	92nm,0.6s						
INTR	**Introdacqua**	**1.15**	**166**	Pg	**Pg**	**21 55 58.5**	**+0.5**
	92nm,0.6s						
LPEL	**Lama dei Pelig**	**1.18**	**155**	Pg	**Pg**	**21 55 59.2**	**+0.5**
	53nm,0.2s						
LPEL	**Lama dei Pelig**	**1.18**	**155**	Pg	**Pg**	**21 55 59.2**	**+0.5**
	53nm,0.2s						
NVLJ	**Novalja**	**1.74**	**34**	*i* Pn	**Pn**	**21 56 05.2**	**-0.9**
NVLJ				Sn	**Sn**	**21 56 26.4**	**-1.7**
NVLJ	**Novalja**	**1.74**	**34**	*i* Pn	**Pn**	**21 56 05.1**	**-0.9**
NVLJ				Sn	**Sn**	**21 56 26.4**	**-1.7**
UDBI	**Udbina**	**2.15**	**48**	*e*Pn	**Pn**	**21 56 12.2**	**+0.5**
UDBI				Sn	**Sn**	**21 56 38.4**	**+0.1**
UDBI	**Udbina**	**2.15**	**48**	*e*Pn	**Pn**	**21 56 12.2**	**+0.5**
UDBI				Sn	**Sn**	**21 56 38.3**	**+0.1**
**OZLJ

0.4nm,0.7s,baz=92,slow=6.9,SNR=4.1
TXAR Lajitas Array 144.21 24 PKP **PKPdf 22 20 12.4 -0.7**
0.3nm,0.7s,baz=304,slow=1.6,SNR=2.5

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*ISCJB **12** 22:06:07.8±0.9, 1.°8N±0.°1×89.°7E±0.°1, h10km, mb3.7/9, MS3.6/1, Error ellipse: s-maj=25.1km s-min=14.6km az=38.6*
*IDC **12** 22:06:08.8±1.3, 1.°88N×89.°81E, h0km, mb3.6/8, mb1 3.7/10, mb1mx3.5/63, mbtmp3.6/10, ML3.6/2, MS3.6/1, Ms1 3.6/1, ms1mx2.7/57, Error ellipse: s-maj=50.9km s-min=20.9km az=48.0*
ISC 12 22:06:10.4±1.2, 1.°9N±0.°2×89.°8E±0.°2, h10km, n19, σ1§27/12, mb3.7/9, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PALK	**Pallekele**	**10.54**	**301**	Pn	**Pn**	**22 08 40.2**	**-1.5**
	0.6nm,0.3s,baz=116,slow=10,SNR=3.0						
PALK				Sn	Sn	22 10 24.9	-15
	2.3nm,0.3s,baz=116,slow=2.8,SNR=6.0						
CMAR	**Chiang Mai Arr**	**18.79**	**28**	Pn	**Pn**	**22 10 31.1**	**+0.5**
	0.1nm,0.3s,baz=217,slow=14,SNR=4.1						
H08S2	**Diego Garcia H**	**19.66**	**241**	T	T	22 30 43.9	
	baz=64,slow=74,SNR=3.5						
H08S3	**Diego Garcia H**	**19.66**	**241**	T	T	22 30 31.9	
H08S1	**Diego Garcia H**	**19.68**	**241**	T	T	22 30 33.2	
	baz=116,slow=74,SNR=4.7						
H01W3	**Cape Leeuwin H**	**43.08**	**150**	T	T	23 00 02.2	
	baz=327,slow=74,SNR=2.9						
H01W2	**Cape Leeuwin H**	**43.09**	**150**	T	T	23 00 01.5	
H01W1	**Cape Leeuwin H**	**43.10**	**150**	T	T	23 00 06.4	
	baz=280,slow=74,SNR=2.6						
NWAO	**Narrogin (SRO)**	**43.23**	**146**	LR	LR	22 33 55.4	
	comp=Z,74nm,18.1s,baz=224,slow=38						
MKAR	**Makanchi Array**	**45.24**	**353**	P	**P**	**22 14 27.2**	**-0.8**
	0.4nm,0.7s,baz=165,slow=10,SNR=3.6						
WRA	**Warramunga Arr**	**48.76**	**119**	P	**P**	**22 14 55.5**	**-0.4**
	0.5nm,0.6s,baz=301,slow=8.4,SNR=2.9						
KURBB	**Kurchatov Arra**	**49.53**	**351**	P	**P**	**22 15 00.7**	**-0.6**
	0.4nm,0.5s,baz=174,slow=7.1,SNR=4.2						
ASAR	**Alice Springs**	**49.82**	**123**	P	**P**	**22 15 03.6**	**-0.4**
	0.2nm,0.5s,baz=300,slow=7.3,SNR=2.6						
ZALV	**Zalesovo Beam**	**52.09**	**356**	P	**P**	**22 15 19.7**	**-0.8**
	0.7nm,0.4s,baz=182,slow=6.2,SNR=3.7						
BVAR	**Borovoye Array**	**53.49**	**346**	P	**P**	**22 15 30.1**	**-0.8**
	0.3nm,0.7s,baz=153,slow=4.5,SNR=3.7						
BRTR	**Keskin Array B**	**63.27**	**314**	P	**P**	**22 16 42.5**	**+2.8**
	0.6nm,0.6s,baz=124,slow=7.5,SNR=2.1						
FINES	**FINESS Array B**	**76.07**	**334**	P	**P**	**22 17 58.0**	**0.0**
	1.3nm,0.9s,baz=112,slow=6.4,SNR=2.7						
GERES	**GERESS Array B**	**79.47**	**319**	P	**P**	**22 18 18.1**	**+0.8**
	0.9nm,0.7s,baz=104,slow=5.6,SNR=7.9						
TXAR	**Lajitas Array**	**146.43**	**22**	PKPbc	**PKPab**	**22 25 52.5**	**-0.9**
	0.4nm,0.9s,baz=299,slow=1.9,SNR=2.3						

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*ISK **12** 22:13:08.2, 39.°38N×33.°13E, h5km, ML3.4/23*
*DDA **12** 22:13:08.8, 39.°34N×33.°15E, h19km, Ml3.5*
*CSEM **12** 22:13:09.2±0.1, 39.°37N×33.°12E, h2km, ML3.4, Error ellipse: s-maj=2.7km s-min=2.5km az=45.0*
ISC 12 22:13:09.0±1.0, 39.°37N±0.°01×33.°13E±0.°02, h3km±8km, n106, σ0§99/145, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFSR	**Afˇar-Bala (A**	**0.09**	**329**	**Pg**	**Pg**	**22 13 10.1**	**-0.9**
AFSR				Sg	Sg	22 13 12.2	-0.1
AFSR	**Afˇar-Bala (A**	**0.09**	**329**	*ePg*	**Pg**	**22 13 10.1**	**-0.9**
AFSR				*eSg*	Sg	22 13 12.2	-0.1
BBAL	**Bala**	**0.18**	**358**	*iP*	**Pg**	**22 13 13.7**	**+1.2**
BBAL				*i*S	Sg	22 13 16.9	+2.0
BBAL	**Bala**	**0.18**	**358**	P	**Pg**	**22 13 13.7**	**+1.2**
BBAL				S	Sg	22 13 16.9	+2.0
KKUL	**Konya-Kulu**	**0.26**	**221**	*i*P	**Pg**	**22 13 14.5**	**+0.5**
KKUL				*i*S	Sg	22 13 18.8	+1.5
KKUL	**Konya-Kulu**	**0.26**	**221**	P	**Pg**	**22 13 14.5**	**+0.5**
KKUL				S	Sg	22 13 18.8	+1.5
SERE	**Sereflikochisa**	**0.54**	**141**	PG	**Pg**	**22 13 19.1**	**-0.2**
SERE				SG	Sb	22 13 28.3	-1.0
SERE	**Sereflikochisa**	**0.54**	**141**	*ePg*	**Pg**	**22 13 19.1**	**-0.2**
SERE				*eSg*	Sb	22 13 28.3	-1.0
ANTO	**Ankara**	**0.57**	**333**	PG	**Pg**	**22 13 20.2**	**+0.3**
ANTO				SG	Sb	22 13 28.5	-1.7
ANTO	**Ankara**	**0.57**	**333**	*ePg*	**Pg**	**22 13 20.2**	**+0.3**
ANTO				*eSg*	Sb	22 13 28.5	-1.7
LOD	**Lodumlu**	**0.59**	**332**	PG	**Pg**	**22 13 19.6**	**-0.9**
LOD	**Lodumlu**	**0.59**	**332**	*ePg*	**Pg**	**22 13 19.6**	**-0.9**
DAD	**Ankara**	**0.61**	**332**	*iP*	**Pg**	**22 13 18.9**	**-1.9**
DAD				*i*S	Sb	22 13 30.3	-1.3
DAD	**Ankara**	**0.61**	**332**	P	**Pg**	**22 13 18.9**	**-1.9**
DAD				S	Sb	22 13 30.3	-1.3
AKSY	**AKSARAY - Alti**	**0.87**	**145**	*iP*	**Pg**	**22 13 24.6**	**-1.0**
AKSY				*i*S	Sg	22 13 37.1	+0.2
AKSY	**AKSARAY - Alti**	**0.87**	**145**	P	**Pg**	**22 13 24.6**	**-1.0**
AKSY				S	Sg	22 13 37.1	+0.2
CDAG	**Cicekdag**	**0.99**	**75**	*iP*	**Pg**	**22 13 27.3**	**-0.8**
CDAG	**Cicekdag**	**0.99**	**75**	P	**Pg**	**22 13 27.3**	**-0.8**
ELDT	**Eldivan**	**1.15**	**11**	*iP*	**Pg**	**22 13 30.9**	**-0.1**
ELDT				*i*S	Sn	22 13 47.2	-1.2
ELDT	**Eldivan**	**1.15**	**11**	P	**Pg**	**22 13 30.9**	**-0.1**
ELDT				S	Sn	22 13 47.2	-1.2
KDHN	**Kadinhani**	**1.16**	**224**	*iP*	**Pg**	**22 13 30.9**	**-0.3**
KDHN				*i*S	Sb	22 13 46.4	-0.8
KDHN	**Kadinhani**	**1.16**	**224**	P	**Pg**	**22 13 30.9**	**-0.3**
KDHN				S	Sb	22 13 46.4	-0.8
SULT	**Sultanhani-AKS**	**1.20**	**165**	PN	**Pn**	**22 13 32.5**	**-0.3**
SULT	**Sultanhani-AKS**	**1.20**	**165**	*ePn*	**Pn**	**22 13 32.5**	**-0.3**
CMDR	**Camlidere-ANKA**	**1.23**	**336**	*iP*	**Pg**	**22 13 32.2**	**-0.5**
CMDR				*i*S	Sn	22 13 52.0	+1.5
CMDR	**Camlidere-ANKA**	**1.23**	**336**	P	**Pg**	**22 13 32.2**	**-0.5**
CMDR				S	Sn	22 13 52.0	+1.5
AUSIV	**SIVRIHISAR**	**1.24**	**274**	*iP*	**Pg**	**22 13 30.9**	**-1.8**
AUSIV				*i*S	Sn	22 13 50.9	+0.3
AUSIV	**SIVRIHISAR**	**1.24**	**274**	P	**Pg**	**22 13 30.9**	**-1.8**
AUSIV				S	Sn	22 13 50.9	+0.3
SVRH	**Sivrihisar-ESK**	**1.25**	**274**	PN	**Pb**	**22 13 32.9**	**-0.4**
SVRH	**Sivrihisar-ESK**	**1.25**	**274**	*ePn*	**Pb**	**22 13 32.9**	**-0.4**
CANT	**Cankiri**	**1.29**	**17**	PN	**Pb**	**22 13 33.6**	**-0.4**
CANT				SN	Sn	22 13 52.1	+0.2
LADK	**Ladik-KONYA**	**1.31**	**207**	PN	**Pn**	**22 13 33.8**	**-0.5**
LADK	**Ladik-KONYA**	**1.31**	**207**	*ePn*	**Pn**	**22 13 33.8**	**-0.5**
AUMIH	**MIHALICIK**	**1.37**	**292**	*iP*	**Pb**	**22 13 34.9**	**-0.4**
AUMIH				*i*S	Sn	22 13 55.3	+1.4
AUMIH	**MIHALICIK**	**1.37**	**292**	P	**Pb**	**22 13 34.9**	**-0.4**
AUMIH				S	Sn	22 13 55.3	+1.4
CORM	**Corum**	**1.41**	**54**	PN	**Pn**	**22 13 34.2**	**-1.5**
CORM				SN	Sn	22 13 55.7	+0.8
CORM	**Corum**	**1.41**	**54**	*ePn*	**Pn**	**22 13 34.2**	**-1.5**
CORM				*eSn*	Sn	22 13 55.7	+0.8
AVNS	**Nevsehir-Avano**	**1.45**	**112**	*iP*	**Pg**	**22 13 36.9**	**+0.1**
AVNS				*i*S	Sg	22 13 57.1	+1.6
AVNS	**Nevsehir-Avano**	**1.45**	**112**	P	**Pg**	**22 13 36.9**	**+0.1**
AVNS				S	Sg	22 13 57.1	+1.6
BCAM	**Yenicaga**	**1.66**	**331**	*iP*	**Pb**	**22 13 40.0**	**-0.4**
BCAM				*i*S	Sg	22 14 04.7	+2.2
BCAM	**Yenicaga**	**1.66**	**331**	P	**Pb**	**22 13 40.0**	**-0.4**
BCAM				S	Sg	22 14 04.7	+2.2
COAL	**Corum-Alaca**	**1.68**	**58**	*iP*	**Pn**	**22 13 39.2**	**-0.2**
COAL				*i*S	Sg	22 14 04.3	+1.2
COAL	**Corum-Alaca**	**1.68**	**58**	P	**Pn**	**22 13 39.2**	**-0.2**
COAL				S	Sg	22 14 04.3	+1.2
DOGA	**KONYA_Doganhis**	**1.70**	**223**	*iP*	**Pb**	**22 13 40.2**	**-0.8**
DOGA	**KONYA_Doganhis**	**1.70**	**223**	P	**Pb**	**22 13 40.2**	**-0.8**
KMER	**Konya-Meram**	**1.70**	**201**	*iP*	**Pn**	**22 13 39.8**	**+0.1**
KMER	**Konya-Meram**	**1.70**	**201**	P	**Pn**	**22 13 39.8**	**+0.1**
NIG	**Nigde**	**1.71**	**137**	PN	**Pb**	**22 13 40.6**	**-0.6**
NIG	**Nigde**	**1.71**	**137**	*ePn*	**Pb**	**22 13 40.6**	**-0.6**
YOZ	**Yozgat**	**1.71**	**80**	PN	**Pb**	**22 13 40.6**	**-0.7**
YOZ				SN	Sg	22 14 03.5	-0.6
YOZ	**Yozgat**	**1.71**	**80**	*ePn*	**Pb**	**22 13 40.6**	**-0.7**
YOZ				*eSn*	Sg	22 14 03.5	-0.6
ILGA	**Ilgaz**	**1.74**	**15**	*iP*	**Pn**	**22 13 40.4**	**0.0**
ILGA				*i*S	Sg	22 14 05.0	0.0
ILGA	**Ilgaz**	**1.74**	**15**	P	**Pn**	**22 13 40.4**	**0.0**
ILGA				S	Sg	22 14 05.1	0.0
CTAK	**Corum_Osmancik**	**1.81**	**44**	*iP*	**Pn**	**22 13 41.3**	**+0.1**
CTAK				*i*S	Sg	22 14 07.4	+0.3
CTAK	**Corum_Osmancik**	**1.81**	**44**	P	**Pn**	**22 13 41.3**	**+0.1**
CTAK				S	Sg	22 14 07.4	+0.3
BOLV	**Bolvadin**	**1.82**	**250**	*iP*	**Pn**	**22 13 41.7**	**+0.4**
BOLV	**Bolvadin**	**1.82**	**250**	P	**Pn**	**22 13 41.7**	**+0.4**
MDUB	**Mudurnu**	**1.85**	**307**	PN	**Pn**	**22 13 41.9**	**+0.1**
MDUB	**Mudurnu**	**1.85**	**307**	*ePn*	**Pn**	**22 13 41.9**	**+0.1**
SHUT	**Suhut-Afyon**	**2.17**	**249**	PN	**Pb**	**22 13 47.2**	**-1.8**
SHUT	**Suhut-Afyon**	**2.17**	**249**	*ePn*	**Pb**	**22 13 47.2**	**-1.8**
BNN	**Bunyan**	**2.17**	**103**	PN	**Pn**	**22 13 46.8**	**+0.6**
BNN	**Bunyan**	**2.17**	**103**	*ePn*	**Pn**	**22 13 46.8**	**+0.6**
GULT	**Gulveren**	**2.28**	**299**	PN	**Pn**	**22 13 48.5**	**+0.9**
GULT	**Gulveren**	**2.28**	**299**	*ePn*	**Pn**	**22 13 48.5**	**+0.9**
KURC	**Kurucasile-Bar**	**2.49**	**353**	PN	**Pn**	**22 13 51.2**	**+0.7**
KURC	**Kurucasile-Bar**	**2.49**	**353**	*ePn*	**Pn**	**22 13 51.2**	**+0.7**
SUTC	**Sutluce-Ispart**	**2.52**	**222**	PN	**Pn**	**22 13 51.9**	**+0.9**
SUTC	**Sutluce-Ispart**	**2.52**	**222**	*ePn*	**Pn**	**22 13 51.9**	**+0.9**
KARA	**Karaisali**	**2.59**	**144**	PN	**Pn**	**22 13 52.7**	**+0.9**
KARA	**Karaisali**	**2.59**	**144**	*ePn*	**Pn**	**22 13 52.7**	**+0.9**
BZK	**Bozkurt**	**2.67**	**14**	PN	**Pn**	**22 13 53.9**	**+0.9**
BZK	**Bozkurt**	**2.67**	**14**	*ePn*	**Pn**	**22 13 53.9**	**+0.9**
TOKT	**Tokat**	**2.79**	**69**	PN	**Pn**	**22 13 55.7**	**+1.0**
TOKT	**Tokat**	**2.79**	**69**	*ePn*	**Pn**	**22 13 55.7**	**+1.0**
DIKM	**Dikmen**	**2.80**	**35**	PN	**Pn**	**22 13 55.3**	**+0.6**
DIKM	**Dikmen**	**2.80**	**35**	*ePn*	**Pn**	**22 13 55.3**	**+0.6**
KVT	**Kavak**	**2.81**	**52**	PN	**Pn**	**22 13 55.9**	**+1.0**
KVT	**Kavak**	**2.81**	**52**	*ePn*	**Pn**	**22 13 55.9**	**+1.0**
KOZT	**Kozan**	**2.83**	**131**	PN	**Pn**	**22 13 56.3**	**+1.1**
KOZT	**Kozan**	**2.83**	**131**	*ePn*	**Pn**	**22 13 56.3**	**+1.1**
TVSB	**Tavsanli**	**2.84**	**273**	PN	**Pn**	**22 13 55.9**	**+0.5**
TVSB	**Tavsanli**	**2.84**	**273**	*ePn*	**Pn**	**22 13 55.9**	**+0.5**
KIZK	**Mersin**	**2.99**	**164**	PN	**Pn**	**22 13 58.4**	**+1.1**
SVSK	**Karacayir**	**3.04**	**78**	PN	**Pn**	**22 13 58.4**	**+0.5**
SVSK	**Karacayir**	**3.04**	**78**	*ePn*	**Pn**	**22 13 58.4**	**+0.5**
SNOP	**Sinop**	**3.08**	**30**	PN	**Pn**	**22 13 59.3**	**+0.7**
SNOP	**Sinop**	**3.08**	**30**	*ePn*	**Pn**	**22 13 59.3**	**+0.7**
YLV	**Yalova**	**3.13**	**294**	PN	**Pn**	**22 13 59.9**	**+0.6**
YLV	**Yalova**	**3.13**	**294**	*ePn*	**Pn**	**22 13 59.9**	**+0.6**
TEKE	**Tekeli-Mersin**	**3.22**	**180**	PN	**Pn**	**22 14 01.6**	**+1.2**
TEKE	**Tekeli-Mersin**	**3.22**	**180**	*ePn*	**Pn**	**22 14 01.6**	**+1.2**
AKKU	**Akkuyu-Mersin**	**3.22**	**174**	PN	**Pn**	**22 14 01.6**	**+1.1**
AKKU	**Akkuyu-Mersin**	**3.22**	**174**	*ePn*	**Pn**	**22 14 01.6**	**+1.1**
KORT	**Korkueli**	**3.22**	**224**	PN	**Pn**	**22 14 01.8**	**+1.2**
KORT	**Korkueli**	**3.22**	**224**	*ePn*	**Pn**	**22 14 01.8**	**+1.2**
RSDY	**Resadiye-TOKAT**	**3.39**	**71**	PN	**Pn**	**22 14 04.2**	**+1.4**
RSDY	**Resadiye-TOKAT**	**3.39**	**71**	*ePn*	**Pn**	**22 14 04.2**	**+1.4**
BUY	**Buyukada**	**3.42**	**297**	PN	**Pn**	**22 14 04.2**	**+1.0**
BUY	**Buyukada**	**3.42**	**297**	*ePn*	**Pn**	**22 14 04.2**	**+1.0**
DARE	**Darende-Malaty**	**3.48**	**102**	PN	**Pn**	**22 14 05.2**	**+1.0**
DARE	**Darende-Malaty**	**3.48**	**102**	*ePn*	**Pn**	**22 14 05.2**	**+1.0**
ARMT	**Armutlu**	**3.49**	**291**	PN	**Pn**	**22 14 05.2**	**+0.9**
ARMT	**Armutlu**	**3.49**	**291**	*ePn*	**Pn**	**22 14 05.2**	**+0.9**
ISK	**Istanbul-Kandi**	**3.55**	**300**	PN	**Pn**	**22 14 06.1**	**+1.1**
ISK	**Istanbul-Kandi**	**3.55**	**300**	*ePn*	**Pn**	**22 14 06.1**	**+1.1**

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*ISCJB **12** 22:13:55.1±0.8, 1.°6N±0.°1×89.°6E±0.°1, h10km, mb3.8/9, Error ellipse: s-maj=16.6km s-min=15.8km az=40.6*
*IDC **12** 22:13:56.0±1.6, 1.°56N×89.°69E, h0km, mb3.6/7, mb1 3.7/9, mb1mx3.5/68, mbtmp3.6/9, ML3.8/1, Error ellipse: s-maj=42.4km s-min=28.7km az=36.0*
*NEIC **12** 22:13:56.8±0.6, 1.°49N×89.°63E, h10km, mb4.3/3, Error ellipse: s-maj=14.6km s-min=14.2km az=108.0*
ISC 12 22:13:56.8±0.8, 1.°5N±0.°1×89.°6E±0.°1, h10km, n15, σ1§04/15, mb3.7/9, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PALK	**Pallekele**	**10.60**	**303**	Pn	**Pn**	**22 16 28.4**	**-0.5**
	0.8nm,0.3s,baz=116,slow=10,SNR=5.4						
PALK				Sn	Sn	22 18 10.4	-17
	0.7nm,0.3s,baz=116,slow=7.4,SNR=3.4						
CMAR	**Chiang Mai Arr**	**19.17**	**28**	P	**Pn**	**22 18 21.0**	**-0.6**
	baz=226,slow=12,SNR=5.5						
CHTO	**Chiang Mai**	**19.48**	**27**	P	**P**	**22 18 23.7**	**-0.4**
	20nm,2.1s						
MKAR	**Makanchi Array**	**45.57**	**353**	P	**P**	**22 22 17.4**	**+0.4**
	0.3nm,0.8s,baz=163,slow=9.7,SNR=3.1						
SONM	**Songino Array**	**48.39**	**15**	P	**P**	**22 22 40.1**	**+0.9**
	0.8nm,0.6s,baz=192,slow=8.4,SNR=5.4						
WRA	**Warramunga Arr**	**48.72**	**118**	P	**P**	**22 22 41.9**	**-0.1**
	0.7nm,0.9s,baz=298,slow=8.3,SNR=2.9						
KURBB	**Kurchatov Arra**	**49.85**	**351**	P	**P**	**22 22 48.8**	**-1.3**
	0.2nm,0.4s,baz=169,slow=7.8,SNR=3.2						
KURK	**Kurchatov**	**49.93**	**351**	P	**P**	**22 22 48.8**	**-1.8**
ZALV	**Zalesovo Beam**	**52.43**	**356**	P	**P**	**22 23 08.3**	**-1.1**
	0.3nm,0.4s,baz=180,slow=7.2,SNR=2.1						
LSZ	**Lusaka**	**62.98**	**252**	P	**P**	**22 24 23.8**	**-0.7**
	3.1nm,1.1s						
BRTR	**Keskin Array B**	**63.41**	**314**	P	**P**	**22 24 28.0**	**+1.0**
	0.3nm,0.5s,baz=117,slow=5.3,SNR=2.6						
GERES	**GERESS Array B**	**79.64**	**319**	P	**P**	**22 26 06.3**	**+1.6**
	0.5nm,0.5s,baz=101,slow=6.9,SNR=4.7						
QSPA	**South Pole Qui**	**91.44**	**180**	P	**P**	**22 27 03.3**	**+0.1**
	1.4nm,0.7s						
TXAR	**Lajitas Array**	**146.81**	**22**	PKPbc	**PKPbc**	**22 33 40.4**	**+0.3**
	0.3nm,0.8s,baz=319,slow=4.0,SNR=3.0						
SAML	**Samuel**	**151.96**	**254**	*e*PKPdf	**PKPdf**	**22 33 46.1**	**-0.8**

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*ISCJB **12** 22:25:41.8±1.5, 0.°5N±0.°2×91.°9E±0.°3, h10km, mb3.7/6, Error ellipse: s-maj=40.5km s-min=24.3km az=152.2*
*IDC **12** 22:25:41.9±1.9, 0.°47N×91.°82E, h0km, mb3.7/6, mb1 3.8/7, mb1mx3.4/64, mbtmp3.7/7, ML3.6/1, Error ellipse: s-maj=57.9km s-min=29.1km az=56.0*
ISC 12 22:25:43.6±1.7, 0.°5N±0.°2×91.°9E±0.°3, h10km, n7, σ0§73/7, mb3.9/6, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**19.15**	**21**	P	**Pn**	**22 30 08.5**	**+0.3**
	0.1nm,0.3s,baz=215,slow=12,SNR=6.0						
WRA	**Warramunga Arr**	**46.27**	**119**	P	**P**	**22 34 09.7**	**-0.1**
	0.6nm,0.5s,baz=296,slow=8.6,SNR=5.4						
MKAR	**Makanchi Array**	**46.87**	**351**	P	**P**	**22 34 13.8**	**-0.2**
	0.6nm,0.6s,baz=170,slow=9.1,SNR=10						
SONM	**Songino Array**	**48.81**	**13**	P	**P**	**22 34 29.5**	**+0.3**
	0.9nm,0.5s,baz=203,slow=6.3,SNR=5.4						
KURBB	**Kurchatov Arra**	**51.22**	**349**	P	**P**	**22 34 46.3**	**-0.9**
	0.3nm,0.4s,baz=173,slow=6.7,SNR=5.1						
ZALV	**Zalesovo Beam**	**53.59**	**355**	P	**P**	**22 35 04.0**	**-0.8**
	0.5nm,0.3s,baz=174,slow=5.1,SNR=3.6						
GERES	**GERESS Array B**	**81.86**	**319**	P	**P**	**22 38 03.9**	**+0.6**
	0.4nm,0.6s,baz=108,slow=4.3,SNR=4.9						

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*KRSC **12** 22:28:17.6±1.5, 52.°72N×155.°05E, h529km±18km, ML4.6*
*ISCJB **12** 22:28:19.5±0.3, 53.°21N±0.°06×153.°89E±0.°09, h478km±4km, mb3.6/31, Error ellipse: s-maj=10.4km s-min=6.5km az=137.1*
*MOS **12** 22:28:19.3±0.9, 53.°18N×154.°15E, h493km, mb3.8/18, Error ellipse: s-maj=10.1km s-min=7.7km az=86.5*
*IDC **12** 22:28:21.1±0.7, 53.°31N×153.°75E, h476km±8km, mb3.2/21, mb1 3.3/25, mb1mx3.1/76, mbtmp4.0/25, Error ellipse: s-maj=14.7km s-min=9.5km az=158.0*
ISC 12 22:28:20.3±0.5, 53.°16N±0.°07×154.°13E±0.°06, h482km±6km, n103, σ1§75/135, mb3.6/31, 6C-9D, Sea of Okhotsk

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MIPR	**Malaya Ipel'ka**	**1.83**	**118**	*eP*	**P**	**22 29 22.9**	**-0.1**
MIPR	**Malaya Ipel'ka**	**1.83**	**118**	PN	**P**	**22 29 22.9**	**-0.1**
APC	**Apacha**	**1.85**	**96**	*eP*	**P**	**22 29 22.6**	**-0.4**
APC				*eS*	**S**	22 30 13.2	-0.8
APC	**Apacha**	**1.85**	**96**	PN	**P**	**22 29 22.6**	**-0.4**
APC				S	**S**	22 30 13.2	-0.8
PETK	**Petropavlovsk-**	**2.15**	**90**	P	**P**	**22 29 24.6**	**0.0**
	9.4nm,0.3s,baz=261,slow=10.0,SNR=79						
PETK				S	**S**	22 30 19.2	+2.3
	baz=296,slow=24,SNR=3.1						
GNL	**Ganaly**	**2.34**	**75**	*eP*	**P**	**22 29 25.8**	**+0.1**
GNL	**Ganaly**	**2.34**	**75**	PN	**P**	**22 29 25.8**	**+0.1**
ASAK	**Asacha**	**2.42**	**107**	*eP*	**P**	**22 29 26.3**	**+0.1**
ASAK	**Asacha**	**2.42**	**107**	PN	**P**	**22 29 26.3**	**+0.1**
KRMR	**Karymshinskiy**	**2.44**	**96**	*eP*	**P**	**22 29 26.2**	**0.0**
KRMR	**Karymshinskiy**	**2.44**	**96**	PN	**P**	**22 29 26.2**	**0.0**
MTVR	**Mutnovka**	**2.55**	**104**	*eP*	**P**	**22 29 27.1**	**0.0**
MTVR	**Mutnovka**	**2.55**	**104**	PN	**P**	**22 29 27.1**	**0.0**
KOK	**Koryaka**	**2.71**	**85**	*eP*	**P**	**22 29 28.8**	**+0.8**
KOK	**Koryaka**	**2.71**	**85**	PN	**P**	**22 29 28.8**	**+0.8**
KRX	**Arik**	**2.72**	**84**	*eP*	**P**	**22 29 28.7**	**+0.6**
KRX	**Arik**	**2.72**	**84**	PN	**P**	**22 29 28.7**	**+0.6**
PET	**Petropavlovsk**	**2.73**	**91**	*eP*	**P**	**22 29 28.0**	**+0.1**
PET				*eS*	**S**	22 30 23.0	-0.2
PET	**Petropavlovsk**	**2.73**	**91**	*i*PN	**P**	**22 29 28.1**	**+0.1**
PET				*eS*	**S**	**22 30 22.6**	**-0.6**
PET				pmax	pmax		
	comp=Z,329nm,0.6s						
PET				smax	smax		
	comp=N,83nm,0.7s						
PET				smax	smax		
	comp=E,65nm,0.6s						
RUS	**Russkaya**	**2.76**	**104**	*eP*	**P**	**22 29 27.3**	**-0.9**
RUS				*eS*	**S**	22 30 20.0	-3.5
RUS	**Russkaya**	**2.76**	**104**	PN	**P**	**22 29 27.3**	**-0.9**
RUS				S	**S**	22 30 20.0	-3.5
KDTR	**Khodutka, Kamc**	**2.77**	**118**	*eP*	**P**	**22 29 26.7**	**-1.6**
KDTR				*eS*	**S**	22 30 19.7	-3.9
SKR	**Severo-Kuril's**	**2.77**	**153**	*eP*	**P**	**22 29 27.8**	**-0.6**
SKR	**Severo-Kuril's**	**2.77**	**153**	PN	**P**	**22 29 27.8**	**-0.6**
AVH	**Avacha**	**2.77**	**86**	*eP*	**P**	**22 29 28.9**	**+0.5**
AVH	**Avacha**	**2.77**	**86**	PN	**P**	**22 29 28.9**	**+0.5**
KRER	**Koryakskii**	**2.78**	**85**	*eP*	**P**	**22 29 29.0**	**+0.4**
KRER	**Koryakskii**	**2.78**	**85**	PN	**P**	**22 29 29.0**	**+0.4**
DALK	**Dalny**	**2.79**	**91**	*eP*	**P**	**22 29 28.2**	**-0.2**
DALK				*eS*	**S**	22 30 24.4	+0.5
DALK	**Dalny**	**2.79**	**91**	PN	**P**	**22 29 28.2**	**-0.2**
DALK				S	**S**	22 30 24.4	+0.5
SMAR	**Somma**	**2.81**	**86**	*eP*	**P**	**22 29 29.2**	**+0.4**
SMAR	**Somma**	**2.81**	**86**	PN	**P**	**22 29 29.2**	**+0.4**
UGLR	**Uglovaya**	**2.83**	**87**	*eP*	**P**	**22 29 29.3**	**+0.5**
UGLR				*eS*	**S**	22 30 25.2	+0.6
UGLR	**Uglovaya**	**2.83**	**87**	PN	**P**	**22 29 29.3**	**+0.5**
UGLR				S	**S**	22 30 25.2	+0.6
SDLR	**Sedlovina**	**2.86**	**86**	*eP*	**P**	**22 29 29.2**	**+0.2**
SDLR	**Sedlovina**	**2.86**	**86**	PN	**P**	**22 29 29.2**	**+0.2**
NLC	**Nalytchevo**	**3.14**	**88**	*eP*	**P**	**22 29 30.1**	**-0.7**
NLC				*eS*	**S**	22 30 26.9	-1.3
NLC	**Nalytchevo**	**3.14**	**88**	PN	**P**	**22 29 30.1**	**-0.7**
NLC				S	**S**	22 30 26.9	-1.3
SPN	**Mys Shipunski**	**3.55**	**89**	*eP*	**P**	**22 29 32.6**	**-1.3**
SPN				*eS*	**S**	22 30 28.5	-5.4
SPN	**Mys Shipunski**	**3.55**	**89**	PN	**P**	**22 29 32.6**	**-1.3**
SPN				S	**S**	22 30 28.5	-5.4
ESO	**Esso**	**3.84**	**42**	*eP*	**P**	**22 29 37.0**	**+0.9**
ESO	**Esso**	**3.84**	**42**	PN	**P**	**22 29 37.0**	**+0.9**
KZV	**Kizimen**	**4.12**	**59**	*eP*	**P**	**22 29 38.8**	**+0.2**
KZV	**Kizimen**	**4.12**	**59**	PN	**P**	**22 29 38.8**	**+0.2**

KBZ	**Khabaz**	**66.93**	**313**	P	**P**	**22 38 23.5**	**-0.2**	
	comp=Z,1.7nm,0.6s,baz=106,slow=4.5,SNR=5.9							
EKA	**Eskdalemuir Ar**	**70.25**	**346**	P	**P**	**22 38 43.0**	**-0.6**	
	comp=Z,0.3nm,0.3s,baz=8.5,slow=5.7,SNR=7.1							
TXAR	**Lajitas Array**	**73.86**	**63**	P	**P**	**22 39 08.0**	**+2.7**	
	comp=Z,0.4nm,0.5s,baz=292,slow=4.6,SNR=7.5							
TXAR	**Lajitas Array**	**73.86**	**63**	*eP*	**P**	**22 39 07.7**	**+2.4**	
TXAR				pmax	pmax			
	comp=Z,1.0nm,0.6s							
BRTR	**Keskin Array B**	**74.18**	**316**	P	**P**	**22 39 06.3**	**-0.6**	
	comp=Z,0.5nm,0.5s,baz=33,slow=3.1,SNR=4.2							
BRTR	**Keskin Array B**	**74.18**	**316**	*eP*	**P**	**22 39 06.6**	**-0.4**	
BRTR				pmax	pmax			
	comp=Z,1.0nm,0.5s							
WRA	**Warramunga Arr**	**74.79**	**199**	P	**P**	**22 39 11.2**	**+0.9**	
	comp=Z,0.2nm,0.4s,baz=13,slow=6.0,SNR=3.1							
MMAI	**Mount Meron Ar**	**79.06**	**311**	P	**P**	**22 39 33.9**	**+0.1**	
	comp=Z,1.2nm,0.4s,baz=43,slow=6.3,SNR=16							
CPUP	**Villa Florida**	**144.41**	**54**	PKP	**PKPab**	**22 47 00.5**	**-0.3**	
	comp=Z,0.6nm,0.4s,baz=0.5,slow=9.4,SNR=3.3							

IDC ***12*** *22:29:30.2±1.3, 3.56N×92.64E, h0km, mb3.9/9, mb1 4.0/11,mb1mx3.7/66, mbtmp3.9/11, ML3.4/2, MS3.0/1, Ms1 3.0/1, ms1mx2.5/64, Error ellipse: s-maj=38.4km s-min=23.7km az=42.0*

ISCJB ***12*** *22:29:31.9±1.0, 3.7N×0.1×92.66E±0.06, h24km, mb4.0/11, Error ellipse: s-maj=19.9km s-min=8.8km az=176.1*

NEIC ***12*** *22:29:31.8±0.8, 3.65N×92.66E, h10km, mb4.3/3, Error ellipse: s-maj=15.8km s-min=10.1km az=179.0*

ISC 12 22:29:33.8±1.2, 3.6N±0.2×92.66E±0.08, h24km, n15, σ0s84/17, mb4.1/11, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LHMI	**Lhok Sumawe**	**4.56**	**69**	*eP*n	**Pn**	**22 30 40.9**	**-0.5**
LHMI				*e*Sn	**Sn**	**22 31 34.1**	**+0.4**
PALK	**Pallekele**	**12.44**	**287**	Pn	**Pn**	**22 32 28.9**	**-0.7**
	0.2nm,0.3s,baz=113,slow=18,SNR=5.0						
PALK				Sn	Sn	22 34 35.4	-12
	3.3nm,0.3s,baz=116,slow=9.4,SNR=9.9						
PALK				LR	LR	22 36 39.1	
	comp=Z,74nm,19.1s,baz=116,slow=34						
CMAR	**Chiang Mai Arr**	**15.97**	**22**	Pn	**Pn**	**22 33 16.5**	**-0.6**
	0.0nm,0.3s,baz=216,slow=14,SNR=14						
CHTO	**Chiang Mai**	**16.30**	**22**	*eP*n	**Pn**	**22 33 20.5**	**-0.8**
	3.0nm,0.8s						
MKAR	**Makanchi Array**	**43.93**	**350**	P	**P**	**22 37 39.4**	**+0.6**
	2.4nm,0.7s,baz=166,slow=8.7,SNR=22						
SONM	**Songino Array**	**45.60**	**13**	P	**P**	**22 37 53.2**	**+0.9**
	0.8nm,0.7s,baz=197,slow=7.7,SNR=5.2						
SONM				PcP	**PcP**	**22 39 29.5**	**-0.9**
	0.5nm,0.8s,baz=183,slow=5.5,SNR=2.7						
GEYT	**Alibeck**	**46.49**	**322**	P	**P**	**22 38 00.5**	**+1.2**
	2.2nm,0.6s,baz=134,slow=4.2,SNR=6.7						
WRA	**Warramunga Arr**	**47.16**	**121**	P	**P**	**22 38 04.9**	**+0.1**
	0.2nm,0.4s,baz=299,slow=9.1,SNR=9.0						
KURBB	**Kurchatov Arra**	**48.33**	**348**	P	**P**	**22 38 13.9**	**+0.6**
	2.2nm,0.8s,baz=172,slow=6.9,SNR=13						
KURK	**Kurchatov**	**48.40**	**348**	*eP*	**P**	**22 38 12.2**	**-1.7**
	1.9nm,0.4s						
ZALV	**Zalesovo Beam**	**50.57**	**354**	P	**P**	**22 38 31.2**	**+0.8**
	2.3nm,0.6s,baz=186,slow=8.6,SNR=8.7						
BVAR	**Borovoye Array**	**52.56**	**343**	P	**P**	**22 38 45.2**	**-0.2**
	1.1nm,0.7s,baz=148,slow=8.5,SNR=8.2						
BRTR	**Keskin Array B**	**64.14**	**313**	P	**P**	**22 40 06.5**	**-0.2**
	0.3nm,0.6s,baz=122,slow=5.4,SNR=3.8						
TIXI	**Tiksi**	**71.66**	**11**	*eP*	**P**	**22 40 52.7**	**-0.5**
	2.3nm,0.4s						
GERES	**GERESS Array B**	**80.01**	**319**	P	**P**	**22 41 42.1**	**+0.6**
	1.2nm,0.8s,baz=104,slow=6.2,SNR=9.3						

IDC ***12*** *22:36:20.2±1.4, 4.02N×92.51E, h0km, mb3.6/7, mb1 3.8/9, mb1mx3.5/65, mbtmp3.6/9, ML3.6/2, MS3.5/3, Ms1 3.5/3, ms1mx2.9/57, Error ellipse: s-maj=38.7km s-min=25.7km az=43.0*

ISCJB ***12*** *22:36:23.3±1.1, 4.1N±0.2×92.5E±0.1, h33km, mb3.6/7, MS3.5/3, Error ellipse: s-maj=23.2km s-min=17.9km az=5.1*

ISC 12 22:36:25.4±1.3, 4.1N±0.2×92.5E±0.1, h35km, n12, σ0s97/9, mb3.6/7, MS3.5/3, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**12.16**	**286**	Pn	**Pn**	**22 39 15.5**	**-0.8**
	0.5nm,0.3s,baz=117,slow=16,SNR=4.5						
PALK				Sn	Sn	22 41 22.3	-8.5
	2.1nm,0.3s,baz=115,slow=9.8,SNR=3.0						
CMAR	**Chiang Mai Arr**	**15.60**	**23**	Pn	**Pn**	**22 40 01.3**	**-1.5**
	0.1nm,0.3s,baz=219,slow=14,SNR=3.5						
TGY	**Tagaytay City**	**29.75**	**69**	LR	LR	22 54 44.7	
	comp=Z,60nm,19.7s,baz=134,slow=37						
MKAR	**Makanchi Array**	**43.45**	**350**	P	**P**	**22 44 25.6**	**+0.6**
	0.2nm,0.3s,baz=166,slow=8.7,SNR=6.4						
SONM	**Songino Array**	**45.19**	**13**	P	**P**	**22 44 39.3**	**+0.3**
	0.2nm,0.4s,baz=207,slow=9.2,SNR=1.4						
WRA	**Warramunga Arr**	**47.53**	**122**	P	**P**	**22 44 57.4**	**-0.3**
	0.6nm,0.9s,baz=304,slow=8.5,SNR=3.8						
KURBB	**Kurchatov Arra**	**47.84**	**348**	P	**P**	**22 45 00.5**	**+0.9**
	0.3nm,0.3s,baz=163,slow=7.5,SNR=4.6						
ZALV	**Zalesovo Beam**	**50.10**	**354**	P	**P**	**22 45 17.7**	**+0.9**
	1.1nm,0.4s,baz=185,slow=11,SNR=6.0						
KMBO	**Kilima Mbogo**	**55.46**	**266**	LR	LR	23 08 31.7	
	comp=Z,65nm,18.1s,baz=96,slow=35						
MLR	**Muntele Rosu**	**70.76**	**317**	P	**P**	**22 47 38.9**	**+0.5**
	0.3nm,0.6s,baz=111,slow=10.0						
GERES	**GERESS Array B**	**79.56**	**319**	P	**P**	**22 48 29.4**	**+0.4**
	0.7nm,0.8s,baz=105,slow=6.2,SNR=8.0						
NOA	**NORSAR Array B**	**82.22**	**331**	LR	LR	23 28 02.2	
	comp=Z,19nm,19.6s,baz=90,slow=38						

ISCJB ***12*** *22:37:12.2±0.5, 3.67N±0.08×92.66E±0.04, h10km, mb4.4/40, MS3.9/1, Error ellipse: s-maj=11.3km s-min=6.3km az=1.9*

NEIC ***12*** *22:37:14.0±0.4, 3.70N×92.65E, h10km, mb4.4/8, Error ellipse: s-maj=8.0km s-min=4.3km az=188.0*

IDC ***12*** *22:37:15.9±0.7, 4.11N×92.24E, h0km, mb4.2/17, mb1 4.3/18, mb1mx4.0/63, mbtmp4.2/18, ML3.9/1, Error ellipse: s-maj=31.4km s-min=14.5km az=46.0*

ISC 12 22:37:14.4±0.8, 3.7N±0.1×92.64E±0.07, h10km, n90, σ1s28/88, mb4.4/40, 8C-7D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LHMI	**Lhok Sumawe**	**4.54**	**71**	*eP*n	**Pn**	**22 38 23.3**	**0.0**
GSI	**Gunungsitoli**	**5.50**	**116**	*eP*n	**Pn**	**22 38 35.8**	**-0.7**
PSI	**Prapat**	**6.35**	**98**	*eP*n	**Pn**	**22 38 47.8**	**-0.4**
KULM	**Kulim**	**8.14**	**79**	*eP*n	**Pn**	**22 39 11.8**	**-0.9**
IPM	**Ipoh**	**8.40**	**85**	*eP*n	**Pn**	**22 39 15.2**	**-1.2**
PALK	**Pallekele**	**12.38**	**287**	Pn	**Pn**	**22 40 09.6**	**-1.4**
	0.8nm,0.3s,baz=116,slow=14,SNR=6.1						
PALK				Sn	Sn	22 42 18.3	-11
	5.2nm,0.3s,baz=117,slow=5.3,SNR=8.4						
PALK	**Pallekele**	**12.38**	**287**	*eP*n	**Pn**	**22 40 10.5**	**-0.5**
PALK				Sn	Sn	22 42 18.3	-11
CM01	**Chiang Mai Arr**	**15.85**	**23**	*eP*n	**Pn**	**22 40 56.3**	**-1.5**
CM31	**Chiang Mai Arr**	**15.87**	**22**	*eP*n	**Pn**	**22 40 59.1**	**+1.0**
CMAR	**Chiang Mai Arr**	**15.87**	**22**	Pn	**Pn**	**22 40 58.2**	**+0.1**
	0.2nm,0.3s,baz=211,slow=11,SNR=12						
CHTO	**Chiang Mai**	**16.20**	**22**	*eP*n	**Pn**	**22 41 02.5**	**+0.2**
	6.6nm,0.9s						
HYB	**Hyderabad**	**19.37**	**316**	*i* P	**Pn**	**22 41 42.0**	**+0.3**
HYB				*e*S	**S**	**22 45 22.0**	**+2.0**
H08S2	**Diego Garcia H**	**23.06**	**241**	T	T	23 08 18.1	
	baz=61,slow=75						
H08S3	**Diego Garcia H**	**23.06**	**241**	T	T	23 08 27.8	
	baz=61,slow=75						
H08S1	**Diego Carcia H**	**23.08**	**241**	T	T	23 08 22.2	
	baz=61,slow=75						
KMI	**Kunming**	**23.37**	**24**	P	**P**	**22 42 24.1**	**+0.4**
KMI				sP	sP	22 42 35.3	+7.4
KMI				S	**S**	**22 46 39.2**	**+2.2**
KMI				pmax	pmax		
	comp=Z,6.0nm,1.4s						
KMI				pmax	pmax		
	comp=Z,79nm,5.0s						
KMI				LR	LR		
	comp=N,180nm,14.7s						
KMI				LR	LR		
	comp=E,240nm,15.3s						
KMI				LR	LR		
	comp=Z,160nm,9.6s						
LSA	**Lhasa**	**25.85**	**357**	P	**P**	**22 42 48.0**	**+1.1**
LSA				pmax	pmax		
	comp=Z,7.0nm,0.8s						
XAN	**Xi'an**	**33.74**	**25**	P	**P**	**22 43 55.7**	**-0.7**
XAN				pP	sP	22 44 00.3	-0.4
XAN				pmax	pmax		
	comp=Z,4.0nm,0.7s						
LZH	**Lanzhou**	**33.81**	**16**	*eP*	P	22 44 02.3	+5.3
LZH				pP	sP	22 44 09.9	+8.6
LZH				sP	pP	22 44 13.0	+13
LZH				PP	**PP**	**22 45 16.8**	**+3.2**
LZH				pmax	pmax		
	comp=Z,21nm,1.0s						
LZH				pmax	pmax		
	comp=Z,290nm,5.0s						
NIL	**Nilore**	**34.82**	**331**	*eP*	**P**	**22 44 05.8**	**+0.1**
	comp=Z,6.7nm,0.8s						
GTA	**Gaotai**	**36.10**	**9**	*eP*	**P**	**22 44 17.5**	**+0.8**
GTA				pP	sP	22 44 22.8	+1.8
GTA				sP	pP	22 44 26.0	+6.2
GTA				pmax	pmax		
	comp=Z,3.0nm,1.3s						
WMQ	**Urumqi**	**40.15**	**354**	P	**P**	**22 44 52.2**	**+1.5**
HHC	**Hu-ho-hao-te**	**40.68**	**22**	*eP*	**P**	**22 44 55.7**	**+0.4**
HHC				pmax	pmax		
	comp=Z,8.0nm,1.0s						
HHC				pmax	pmax		
	comp=Z,29nm,5.8s						
MK01	**Makanchi Array**	**43.79**	**350**	*eP*	**P**	**22 45 20.3**	**-0.1**
MK31	**Makanchi Array**	**43.81**	**350**	*eP*	**P**	**22 45 20.6**	**0.0**
MKAR	**Makanchi Array**	**43.81**	**350**	P	**P**	**22 45 20.6**	**0.0**
	comp=Z,3.3nm,0.7s,baz=165,slow=8.6,SNR=32						
MKAR	**Makanchi Array**	**43.81**	**350**	*eP*	**P**	**22 45 20.6**	**0.0**
	comp=Z,27nm,0.9s						
MAKZ	**Makanchi**	**43.88**	**349**	*eP*	**P**	**22 45 20.9**	**-0.2**
	comp=Z,2.9nm,0.8s						
SONM	**Songino Array**	**45.50**	**13**	P	**P**	**22 45 34.7**	**+0.5**
	comp=Z,0.5nm,0.6s,baz=199,slow=8.1,SNR=3.9						
SONA1	**Songino Array**	**45.51**	**13**	*eP*	**P**	**22 45 34.1**	**-0.2**
GEYT	**Alibeck**	**46.38**	**322**	P	**P**	**22 45 40.0**	**-1.2**
	comp=Z,3.2nm,0.8s,baz=134,slow=8.3,SNR=9.0						
WRA	**Warramunga Arr**	**47.24**	**122**	P	P	22 45 55.0	+6.9
	comp=Z,2.9nm,0.8s,baz=297,slow=9.0,SNR=9.5						
KURBB	**Kurchatov Arra**	**48.20**	**348**	P	**P**	**22 45 55.2**	**+0.1**
	comp=Z,2.7nm,0.8s,baz=169,slow=7.2,SNR=22						
KURK	**Kurchatov**	**48.27**	**348**	*eP*	**P**	**22 45 55.4**	**-0.2**
	comp=Z,5.5nm,1.0s						
ASAR	**Alice Springs**	**48.56**	**126**	P	P	22 46 05.1	+6.8
	comp=Z,1.0nm,0.9s,baz=306,slow=8.0,SNR=6.2						
ASAR				PcP	**PcP**	**22 47 31.3**	**+7.1**
	comp=Z,0.6nm,0.7s,baz=305,slow=3.3,SNR=4.3						
CN2	**Changchun**	**49.31**	**31**	*eP*	**P**	**22 45 59.0**	**-4.7**
RAYN	**Ar Rayn**	**49.54**	**298**	*eP*	**P**	**22 46 06.9**	**+1.0**
	comp=Z,4.1nm,0.8s						
ZAA0	**Zalesovo Array**	**50.45**	**354**	*eP*	**P**	**22 46 12.6**	**+0.3**
	comp=Z,30nm,1.7s						
ZALV	**Zalesovo Beam**	**50.45**	**354**	P	**P**	**22 46 12.5**	**+0.2**
	comp=Z,6.0nm,0.6s,baz=170,slow=6.8,SNR=26						
BVAR	**Borovoye Array**	**52.44**	**343**	P	**P**	**22 46 26.7**	**-0.5**
	comp=Z,2.8nm,0.8s,baz=149,slow=6.7,SNR=21						
BVAR				PcP	**PcP**	**22 47 38.8**	**+0.9**
	comp=Z,1.2nm,0.9s,baz=143,slow=5.2,SNR=2.5						
BRVK	**Borovoye**	**52.50**	**343**	*eP*	**P**	**22 46 27.2**	**-0.4**
	comp=Z,4.1nm,0.9s						
STKA	**Stephens Creek**	**58.44**	**131**	P	P	22 47 17.1	+6.3
	comp=Z,1.4nm,0.6s,baz=308,slow=7.3,SNR=6.6						
ASF	**Jabal al Asfar**	**59.28**	**305**	P	**P**	**22 47 15.9**	**-0.9**
	comp=Z,1.9nm,0.8s,baz=117,slow=6.5,SNR=4.2						
MMAI	**Mount Meron Ar**	**60.73**	**306**	P	**P**	**22 47 26.6**	**0.0**
	comp=Z,2.7nm,0.8s,baz=98,slow=10,SNR=4.5						
BR131	**Keskin Array S**	**64.04**	**313**	*eP*	**P**	**22 47 48.1**	**-0.7**
BRTR	**Keskin Array B**	**64.04**	**313**	P	**P**	**22 47 48.4**	**-0.5**
	comp=Z,2.1nm,0.8s,baz=125,slow=6.3,SNR=15						
BR231	**Keskin MP Arra**	**64.71**	**313**	*eP*	**P**	**22 47 49.3**	**-3.9**
TIRR	**Tirgusor**	**69.14**	**316**	⇓*iP*	**P**	**22 48 21.0**	**-0.1**
TLB	**Topalu**	**69.43**	**316**	⇓*iP*	**P**	**22 48 22.8**	**-0.1**
IDI	**Anoyia**	**69.73**	**306**	P	**P**	**22 48 24.8**	**-0.2**
	comp=Z,8.6nm,0.7s,baz=92,slow=11,SNR=9.0						
LEOM	**Leova**	**69.82**	**318**	⇓*iP*	**P**	**22 48 25.4**	**+0.2**
SORM	**Soroca**	**70.23**	**320**	⇓*iP*	**P**	**22 48 27.0**	**-0.8**
AKASG	**Malin Array Be**	**70.48**	**323**	P	**P**	**22 48 28.0**	**-1.2**
	comp=Z,1.2nm,0.5s,baz=88,slow=4.8,SNR=12						
VRI	**Vrincioaia**	**70.67**	**317**	⇓*iP*	**P**	**22 48 31.0**	**+0.5**
PLOR	**Plostina**	**70.72**	**317**	⇑*iP*	**P**	**22 48 31.9**	**+1.0**
TESR	**Tescani**	**70.89**	**318**	⇑*iP*	**P**	**22 48 31.6**	**-0.3**
MLR	**Muntele Rosu**	**71.10**	**317**	P	**P**	**22 48 33.9**	**+0.6**
	comp=Z,2.1nm,0.8s,baz=123,slow=7.2,SNR=21						
MLR	**Muntele Rosu**	**71.10**	**317**	⇓*iP*	**P**	**22 48 34.0**	**+0.6**
MLR	**Muntele Rosu**	**71.10**	**317**	*eP*	**P**	**22 48 33.7**	**+0.3**
	comp=Z,9.3nm,0.7s						
PRAR	**RASCA**	**71.39**	**319**	⇑*iP*	**P**	**22 48 34.9**	**0.0**
TIXI	**Tiksi**	**71.55**	**11**	*eP*	**P**	**22 48 34.8**	**-0.6**
	comp=Z,2.8nm,0.8s						
VOIR		**71.70**	**317**	⇑*iP*	**P**	**22 48 36.3**	**-0.6**
ARR	**Arges**	**71.97**	**317**	⇓*iP*	**P**	**22 48 38.3**	**-0.2**
BURAR	**Bucovina Array**	**72.12**	**319**	⇑*iP*	**P**	**22 48 40.3**	**+0.9**
BUR04	**Bucovina Ar. S**	**72.12**	**319**	*eP*	**P**	**22 48 39.7**	**+0.3**
BUR08	**Bucovina Ar. S**	**72.14**	**319**	*eP*	**P**	**22 48 40.2**	**+0.7**
VTS	**Vitosha**	**72.38**	**313**	⇑*iP*	**P**	**22 48 41.0**	**-0.1**
VTS	**Vitosha**	**72.38**	**313**	*eP*	**P**	**22 48 41.0**	**-0.1**
	comp=Z,4.1nm,0.9s						
HERR	**Herculane**	**73.40**	**316**	⇑*iP*	**P**	**22 48 46.7**	**-0.2**
DRGR		**73.59**	**318**	⇑*iP*	**P**	**22 48 47.9**	**-0.2**
SUW	**Suwalki**	**74.99**	**325**	*eP*	**P**	**22 48 55.0**	**-0.9**
	comp=Z,20nm,0.9s						
STHS	**Stebnicka Huta**	**75.10**	**320**	*eP*	**P**	**22 48 58.2**	**+1.4**
FINES	**FINESS Array B**	**75.66**	**333**	P	**P**	**22 48 58.5**	**-1.1**
	comp=Z,1.7nm,0.7s,baz=96,slow=7.0,SNR=8.9						
VYHS	**Vyhne**	**76.49**	**319**	*eP*	**P**	**22 49 04.8**	**+0.1**
MODS	**Modra-Piesok**	**77.50**	**319**	*eP*	**P**	**22 49 10.9**	**+0.5**
KRLC	**Kraliky**	**78.07**	**320**	*eP*	**P**	**22 49 14.0**	**+0.4**
CONA	**Conrad Observa**	**78.37**	**318**	*i* P	**P**	**22 49 15.1**	**-0.2**
	comp=Z,4.3nm,1.3s						
DPC	**Dobruska-Polom**	**78.40**	**321**	*eP*	**P**	**22 49 15.9**	**+0.5**
ARSA	**Arzberg**	**78.52**	**317**	*i* P	**P**	**22 49 16.1**	**-0.1**
	comp=Z,7.1nm,0.8s						
SOKA	**Soboth**	**78.78**	**317**	*i* P	**P**	**22 49 18.0**	**+0.4**
	comp=Z,5.0nm,0.8s,SNR=6.0						
PRU	**Pruhonice**	**79.49**	**320**	*eP*	**P**	**22 49 21.9**	**+0.6**
GEA0	**GERESS Array S**	**79.91**	**319**	*eP*	**P**	**22 49 23.8**	**+0.1**
GEC2	**GERESS Array S**	**79.91**	**319**	*eP*	**P**	**22 49 24.4**	**+0.6**
	comp=Z,8.9nm,0.9s						
GERES	**GERESS Array B**	**79.91**	**319**	P	**P**	**22 49 24.2**	**+0.4**
	comp=Z,5.0nm,0.8s,baz=95,slow=5.3,SNR=43						
BRG	**Berggiesshubel**	**79.97**	**321**	*eP*	**P**	**22 49 24.7**	**+0.8**
	comp=Z,2.3nm,1.1s						
KHC	**Kasperske Hory**	**80.02**	**319**	*eP*	**P**	**22 49 24.0**	**-0.3**
CLL	**Collm**	**80.61**	**321**	*i* P	**P**	**22 49 27.2**	**-0.1**
	comp=Z,5.0nm,1.3s						
MOTA	**Moosalm**	**81.52**	**317**	*i* P	**P**	**22 49 32.1**	**-0.4**
	comp=Z,8.0nm,1.0s,SNR=6.6						
RETA	**Reutte**	**81.76**	**317**	*i* P	**P**	**22 49 33.4**	**-0.3**
	comp=Z,8.0nm,1.1s,SNR=6.2						
DAVA	**Damuels**	**82.35**	**317**	*i* P	**P**	**22 49 37.0**	**+0.1**
	comp=Z,10nm,1.0s						

IDC 12 22:38:21.5±4.5, 5.04N×89.72E, h0km, mb3.9/5, mb1 3.9/5, mb1mx3.5/64, mbtmp3.9/5, Error ellipse: s-maj=161.7km s-min=32.5km az=59.0, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**42.09**	**352**	P	P	22 46 14.8	-0.5
	1.4nm,0.8s,baz=168,slow=8.3,SNR=3.7						
SONM	**Songino Array**	**44.98**	**16**	P	P	22 46 38.3	-0.3
	0.6nm,0.6s,baz=201,slow=7.7,SNR=3.6						
KURBB	**Kurchatov Arra**	**46.39**	**350**	P	P	22 46 49.8	+0.2
	1.0nm,0.6s,baz=169,slow=6.6,SNR=4.0						
ZALV	**Zalesovo Beam**	**48.92**	**356**	P	P	22 47 09.4	+0.1
	2.8nm,0.8s,baz=168,slow=6.5,SNR=3.9						
WRA	**Warramunga Arr**	**50.39**	**121**	P	P	22 47 21.0	-0.1
	1.0nm,0.9s,baz=295,slow=8.1,SNR=1.6						

NEIC ***12*** *22:40:11.1±1.6, 28.59N×112.74W, h10km, MD4.1(MEX), Error ellipse: s-maj=28.3km s-min=13.3km az=86.0*

MEX 12 22:40:12.4±0.4, 28.64N×112.89W, h20km±52km, MD4.1, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRIG	**Santa Rosalia**	**1.43**	**156**	*eP*n	Pn	22 40 34.2	-3.0
SRIG	**Santa Rosalia**	**1.43**	**156**	*eP*n	Pn	22 40 36.0	-1.2
SRIG				*e*Sn	Sn	22 40 54.5	-0.9
HSIG		**1.74**	**77**	*eP*n	Pn	22 40 38.4	-3.2
HSIG		**1.74**	**77**	*eP*n	Pn	22 40 38.7	-2.8
HSIG				*e*Sn	Sb	22 41 04.5	-0.7
GUYB	**Guaymas**	**1.92**	**112**	*eP*	Pn	22 40 41.3	-2.7
SPIG	**San Pedro Mart**	**3.29**	**318**	*eP*	Pb	22 41 13.3	+3.1
214A	**Organ Pipe Nat**	**3.31**	**1**	*eP*n	Pn	22 41 03.2	+0.1
TUC	**Tucson**	**4.09**	**26**	*eP*n	Pn	22 41 13.4	-0.4
TUC				S	Sb	22 42 20.3	+7.5
121A	**Cookes Peak, D**	**5.87**	**47**	*eP*n	Pn	22 41 38.9	+0.5
	20nm,0.6s						

ISCJB ***12*** *22:44:49.4±0.4, 39.50N±0.03×27.98E±0.04, h13km±5km, Error ellipse: s-maj=6.3km s-min=4.3km az=34.4*

ISK ***12*** *22:44:49.4, 39.50N×28.02E, h9km, ML2.2/9*

CSEM ***12*** *22:44:49.4±0.1, 39.49N×27.99E, h12km, ML2.2, Error ellipse: s-maj=3.5km s-min=2.9km az=91.0*

DDA ***12*** *22:44:49.4, 39.49N×27.96E, h7km, Ml2.6*

ISC 12 22:44:49.5±0.9, 39.49N±0.02×27.99E±0.03, h18km±6km, n36, σ0s58/48, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BALB	**Balikesir**	**0.18**	**331**	PG	**Pg**	**22 44 54.3**	**+0.2**
BALB				SG	**Sg**	**22 44 57.6**	**+0.4**
BALB	**Balikesir**	**0.18**	**331**	*eP*g	**Pg**	**22 44 54.3**	**+0.2**
BALB				*eS*g	**Sg**	**22 44 57.6**	**+0.4**
STEP	**BALIKESIR_Sava**	**0.24**	**243**	*i* P	**Pg**	**22 44 54.5**	**-0.5**
STEP				*i* S	**Sg**	**22 44 58.2**	**-0.5**
STEP	**BALIKESIR_Sava**	**0.24**	**243**	P	**Pg**	**22 44 54.5**	**-0.5**
STEP				S	**Sg**	**22 44 58.2**	**-0.5**
BALY	**Balya**	**0.38**	**312**	*i* P	**Pg**	**22 44 56.4**	**-1.1**
BALY	**Balya**	**0.38**	**312**	P	**Pg**	**22 44 56.4**	**-1.1**
DURS	**Dursunbey**	**0.39**	**73**	*i* P	**Pg**	**22 44 57.7**	**+0.1**
DURS				*i* S	**Sb**	**22 45 03.7**	**0.0**
DURS	**Dursunbey**	**0.39**	**73**	P	**Pg**	**22 44 57.7**	**+0.1**
DURS				S	**Sb**	**22 45 03.7**	**0.0**
AKHS	**Akhisar**	**0.62**	**193**	*i* P	**Pg**	**22 45 01.3**	**-0.5**
AKHS				*i* S	**Sg**	**22 45 10.1**	**0.0**
AKHS	**Akhisar**	**0.62**	**193**	P	**Pg**	**22 45 01.3**	**-0.5**
AKHS				S	**Sg**	**22 45 10.1**	**0.0**
KCTX	**Karacabey (Bur**	**0.83**	**20**	PG	**Pg**	**22 45 05.1**	**-0.6**
KCTX				SG	**Sb**	**22 45 16.9**	**+0.6**
KCTX	**Karacabey (Bur**	**0.83**	**20**	*eP*g	**Pg**	**22 45 05.1**	**-0.6**
KCTX				*eS*g	**Sb**	**22 45 16.9**	**+0.6**
EDC	**Edincik**	**0.87**	**354**	PG	**Pg**	**22 45 05.9**	**-0.5**
EDC				SG	**Sb**	**22 45 17.9**	**+0.6**
EDC	**Edincik**	**0.87**	**354**	*eP*g	**Pg**	**22 45 05.9**	**-0.5**
EDC				*eS*g	**Sb**	**22 45 17.9**	**+0.6**
SIMA	**Simav-Kutahya**	**0.87**	**117**	PG	**Pb**	**22 45 06.7**	**+0.6**
SIMA	**Simav-Kutahya**	**0.87**	**117**	*eP*g	**Pb**	**22 45 06.7**	**+0.6**
ORLT	**Orhaneli**	**0.89**	**51**	PG	**Pg**	**22 45 06.3**	**-0.6**
ORLT	**Orhaneli**	**0.89**	**51**	*eP*g	**Pg**	**22 45 06.3**	**-0.6**
DKL	**Dikili**	**0.94**	**244**	PG	**Pg**	**22 45 07.6**	**-0.1**
DKL	**Dikili**	**0.94**	**244**	*eP*g	**Pg**	**22 45 07.6**	**-0.1**
KRBG	**Karabiga-Canak**	**1.05**	**330**	PG	**Pg**	**22 45 09.3**	**-0.6**
KRBG	**Karabiga-Canak**	**1.05**	**330**	*eP*g	**Pg**	**22 45 09.3**	**-0.6**
MANT	**Manisa**	**1.09**	**156**	*i* P	**Pb**	**22 45 10.7**	**+0.8**
MANT	**Manisa**	**1.09**	**156**	P	**Pb**	**22 45 10.7**	**+0.8**
KULA	**Kula-Manisa**	**1.10**	**152**	PN	**Pb**	**22 45 10.9**	**+0.8**
KULA	**Kula-Manisa**	**1.10**	**152**	*eP*n	**Pb**	**22 45 10.

PASC	**Pasadena Art C**	**1.89**	**308**	*e*Pn	**Pb**	**22 46 59.1**	**-0.8**
PASC				*e*Sn	**Sb**	**22 47 24.2**	**+0.7**
ECBX	**El Chinero**	**1.91**	**144**	*e*P	**Pb**	**22 46 59.8**	**-0.5**
ECBX				*e*S	**Sg**	**22 47 25.9**	**-1.3**
ECBX				IAML		22 47 30.3	
	comp=N,59nm,0.4s						
ECBX				⇓*e*		22 47 30.3	
SPIG	**San Pedro Mart**	**2.12**	**158**	*e*P	**Pb**	**22 47 04.6**	**+0.6**
SPIG				*e*S	**Sb**	**22 47 31.9**	**+1.6**
SPX	**San Pedro Mart**	**2.12**	**158**	*e*P	**Pb**	**22 47 04.3**	**+0.2**
SPX				*e*S	**Sg**	**22 47 32.6**	**-1.3**
EDW2	**Edwards Air Fo**	**2.29**	**324**	Sb	**Sb**	**22 47 36.0**	**+1.1**
	baz=144						
GSC	**Goldstone, Bar**	**2.30**	**351**	*e*Pg	**Pg**	**22 47 08.7**	**-1.0**
GSC				*e*Sg	**Sg**	**22 47 41.0**	**+1.5**
ISA	**Isabella, Lake**	**3.15**	**327**	*e*Pn	**Pn**	**22 47 16.2**	**+1.3**
ISA				S	**Sb**	**22 48 02.8**	**+3.1**
DAC	**Darwin (Calif)**	**3.39**	**343**	*e*Pg	**Pg**	**22 47 29.6**	**-1.0**
SHPR	**Sheep Range**	**3.61**	**16**	*e*Sg	**Sg**	**22 48 20.7**	**-0.9**

IDC 12 22:49:22.1±6.7, 3°21'N×92°92'.92E, h0km, mb3.7/8, mb1 3.7/9, mb1mx3.5/67, mbtmp3.6/9, ML3.7/1, Error ellipse: s-maj=144.0km s-min=43.4km az=146.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**16.26**	**21**	Pn	Pn	22 53 10.9	-1.1
	0.1nm,0.3s,baz=208,slow=11,SNR=4.6						
MKAR	**Makanchi Array**	**44.38**	**350**	P	P	22 57 34.4	+0.1
	1.2nm,0.6s,baz=170,slow=8.6,SNR=19						
SONM	**Songino Array**	**45.95**	**13**	P	P	22 57 47.1	+0.1
	0.2nm,0.4s,baz=189,slow=9.0,SNR=2.5						
GEYT	**Alibeck**	**46.97**	**322**	P	P	22 57 55.7	+0.7
	1.7nm,0.6s,baz=126,slow=7.3,SNR=5.1						
KURBB	**Kurchatov Arra**	**48.78**	**348**	P	P	22 58 09.0	+0.2
	1.0nm,0.6s,baz=170,slow=7.0,SNR=6.3						
ZALV	**Zalesovo Beam**	**51.01**	**354**	P	P	22 58 25.5	-0.2
	1.1nm,0.6s,baz=170,slow=8.8,SNR=5.0						
BVAR	**Borovoye Array**	**53.03**	**343**	P	P	22 58 39.9	-0.8
	0.4nm,0.6s,baz=133,slow=6.3,SNR=3.1						
BRTR	**Keskin Array B**	**64.61**	**313**	P	P	23 00 01.0	-0.8
	0.3nm,0.6s,baz=103,slow=6.5,SNR=3.0						
GERES	**GERESS Array B**	**80.49**	**319**	P	P	23 01 36.8	+0.6
	0.3nm,0.6s,baz=117,slow=4.8,SNR=4.0						

IDC 12 22:49:54.5±3.1, 0°53S×94°37E, h0km, mb3.5/5, mb1 3.6/6, mb1mx3.3/67, mbtmp3.5/6, ML3.7/1, Error ellipse: s-maj=102.6km s-min=27.6km az=58.0, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**19.40**	**13**	P	P	22 54 22.0	-0.4
	0.1nm,0.3s,baz=209,slow=11,SNR=3.1						
WRA	**Warramunga Arr**	**43.61**	**119**	P	P	22 58 00.7	-0.3
	0.4nm,0.8s,baz=300,slow=8.6,SNR=2.9						
MKAR	**Makanchi Array**	**48.31**	**349**	P	P	22 58 36.5	-1.2
	0.4nm,0.6s,baz=168,slow=8.7,SNR=3.1						
SONM	**Songino Array**	**49.30**	**11**	P	P	22 58 45.8	+0.4
	0.3nm,0.5s,baz=178,slow=8.7,SNR=2.6						
KURBB	**Kurchatov Arra**	**52.72**	**347**	P	P	22 59 10.5	-0.5
	0.4nm,0.6s,baz=171,slow=6.6,SNR=3.2						
ZALV	**Zalesovo Beam**	**54.87**	**353**	P	P	22 59 27.6	+1.0
	0.7nm,0.5s,baz=189,slow=8.5,SNR=4.2						

IDC 12 22:55:18.5±1.2, 0°.76N×92°.33E, h0km, mb3.7/9, mb1 3.8/11, mb1mx3.5/68, mbtmp3.7/11, ML3.4/2, Error ellipse: s-maj=41.5km s-min=20.9km az=47.0
ISCJB 12 22:55:21.7±0.9, 0°.8N±0°.1×92°.3E±0°.1, h33km, mb3.7/9, Error ellipse: s-maj=24.0km s-min=14.9km az=39.3

ISC 12 22:55:23.8±1.1, 0°.8N±0°.2×92°.3E±0°.2, h35km, n12, σ0s35/12, mb3.7/9, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PALK	**Pallekele**	**13.26**	**299**	Pn	**Pn**	**22 58 29.4**	**-0.4**
	0.2nm,0.3s,baz=115,slow=14,SNR=4.2						
PALK				Sn	Sn	23 00 45.8	-10
	0.3nm,0.3s,baz=117,slow=16,SNR=2.5						
CMAR	**Chiang Mai Arr**	**18.72**	**20**	P	**Pn**	**22 59 40.3**	**0.0**
	0.0nm,0.3s,baz=212,slow=12,SNR=5.0						
WRA	**Warramunga Arr**	**46.03**	**119**	P	**P**	**23 03 44.2**	**-0.2**
	0.6nm,0.6s,baz=297,slow=8.6,SNR=6.4						
MKAR	**Makanchi Array**	**46.66**	**351**	P	**P**	**23 03 48.9**	**0.0**
	0.7nm,0.7s,baz=164,slow=8.7,SNR=8.3						
ASAR	**Alice Springs**	**47.12**	**124**	P	**P**	**23 03 52.9**	**-0.1**
	0.3nm,0.5s,baz=287,slow=8.3,SNR=3.0						
SONM	**Songino Array**	**48.43**	**13**	P	**P**	**23 04 02.8**	**0.0**
	1.0nm,0.6s,baz=187,slow=9.0,SNR=5.9						
KURBB	**Kurchatov Arra**	**51.02**	**349**	P	**P**	**23 04 22.1**	**-0.2**
	0.5nm,0.7s,baz=172,slow=7.1,SNR=5.0						
ZALV	**Zalesovo Beam**	**53.35**	**354**	P	**P**	**23 04 39.0**	**-0.5**
	0.3nm,0.4s,baz=168,slow=7.4,SNR=4.3						
BRTR	**Keskin Array B**	**65.83**	**314**	P	**P**	**23 06 06.8**	**+0.7**
	0.5nm,0.5s,baz=136,slow=6.3,SNR=4.6						
FINES	**FINESS Array B**	**78.14**	**333**	P	**P**	**23 07 19.4**	**+0.2**
	0.9nm,0.7s,baz=90,slow=4.2,SNR=4.4						
GERES	**GERESS Array B**	**81.92**	**319**	P	**P**	**23 07 40.3**	**+0.2**
	0.6nm,0.7s,baz=104,slow=5.6,SNR=6.9						
TXAR	**Lajitas Array**	**146.37**	**26**	PKPbc	**PKPdf**	**23 15 00.5**	**-0.2**
	0.3nm,0.4s,baz=346,slow=1.1,SNR=8.9						

IDC 12 23:00:02.3±1.3, 36°.82N×141°.21E, h0km, mb3.7/7, mb1 3.8/8, mb1mx3.5/57, mbtmp3.6/8, ML2.6/1, MS2.3/1, Ms1 2.3/1, ms1mx2.1/63, Error ellipse: s-maj=29.9km s-min=25.9km az=74.0
ISCJB 12 23:00:03.5±1.4, 36°.79N±0°.04×141°.35E±0°.09, h23km±8km, mb3.6/7, Error ellipse: s-maj=12.4km s-min=6.5km az=21.2
JMA 12 23:00:04.3, 36°.81N×141°.29E, h26km±1km, M3.4

ISC 12 23:00:02.7±3.9, 36°.81N±0°.05×141°.31E±0°.08, h5km±25km, n22, σ0s83/24, mb3.6/7, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ONAJ	**Iwakimizuishiy**	**0.50**	**306**	P	**Pb**	**23 00 14.2**	**+0.2**
ONAJ				S	**Sb**	**23 00 21.5**	**-0.2**
JHO	**Hitachi**	**0.63**	**252**	P	**Pb**	**23 00 16.1**	**0.0**
JHO				S	**Sb**	**23 00 24.6**	**-0.6**
JFK	**Kawauchi**	**0.66**	**328**	P	**Pb**	**23 00 16.7**	**+0.1**
JFK				S	**Sb**	**23 00 25.6**	**-0.5**
JFT	**Otama**	**1.05**	**313**	P	**Pb**	**23 00 23.6**	**+0.2**
JFT				S	**Sb**	**23 00 37.3**	**-0.1**
JYT	**Yasato**	**1.07**	**238**	P	**Pn**	**23 00 23.2**	**-1.1**
JYT				S	**Sb**	**23 00 36.9**	**-1.0**
JSB	**Shiboa**	**1.13**	**279**	S	**Sb**	**23 00 40.2**	**+0.6**
JMM	**Marumori**	**1.13**	**339**	P	**Pn**	**23 00 24.3**	**-0.8**
JMM				S	**Sb**	**23 00 39.3**	**-0.4**
MJAR	**Matsushiro Arr**	**2.51**	**265**	Pn	**Pn**	**23 00 44.7**	**+0.6**
	1.4nm,0.3s,baz=71,slow=13,SNR=16						
MJAR				Sn	**Sb**	**23 01 20.4**	**+1.1**
	6.4nm,0.3s,baz=75,slow=20,SNR=6.0						
MJAR				LR	LR	23 01 54.2	
	comp=Z,61nm,20.5s,baz=100,slow=46						
MAT	**Matsushiro**	**2.51**	**265**	P	**Pn**	**23 00 44.9**	**+0.8**
MAT				S	**Sn**	**23 01 14.6**	**-0.5**
SONM	**Songino Array**	**27.84**	**304**	P	**P**	**23 05 51.2**	**-1.9**
	0.5nm,0.6s,baz=99,slow=8.9,SNR=3.2						
H11N2	**WAKE ISLAND Hy**	**28.10**	**120**	T	T	23 35 22.4	
	baz=313,slow=75,SNR=233						
H11N1	**WAKE ISLAND Hy**	**28.11**	**120**	T	T	23 35 22.8	
	baz=313,slow=75,SNR=170						
H11N3	**WAKE ISLAND Hy**	**28.12**	**120**	T	T	23 35 22.7	
	baz=313,slow=75,SNR=119						
H11S1	**WAKE ISLAND Hy**	**28.81**	**122**	T	T	23 36 15.0	
	baz=315,slow=75,SNR=51						
H11S3	**WAKE ISLAND Hy**	**28.81**	**122**	T	T	23 36 15.3	
	baz=315,slow=75,SNR=38						
H11S2	**WAKE ISLAND Hy**	**28.82**	**122**	T	T	23 36 16.3	
	baz=315,slow=75,SNR=28						
ZALV	**Zalesovo Beam**	**42.01**	**313**	P	**P**	**23 07 55.1**	**+0.6**
	0.6nm,0.6s,baz=81,slow=9.3,SNR=3.9						
MKAR	**Makanchi Array**	**44.17**	**302**	P	**P**	**23 08 12.6**	**+0.3**
	0.6nm,0.6s,baz=90,slow=10,SNR=8.2						
KURBB	**Kurchatov Arra**	**46.08**	**308**	P	**P**	**23 08 27.6**	**+0.3**
	0.3nm,0.4s,baz=51,slow=44,SNR=2.8						
ILAR	**Eielson Array**	**49.73**	**32**	P	**P**	**23 08 57.0**	**+1.6**
	0.3nm,0.7s,baz=274,slow=6.3,SNR=4.6						
WRA	**Warramunga Arr**	**56.83**	**188**	P	**P**	**23 09 48.3**	**+0.2**
	0.7nm,0.6s,baz=5.6,slow=7.4,SNR=11						
FINES	**FINESS Array B**	**68.97**	**332**	P	**P**	**23 11 07.9**	**-0.6**
	1.5nm,0.9s,baz=50,slow=4.3,SNR=2.3						

IDC 12 23:04:05.0±8.3, 4°.06N×92°.33E, h0km, mb3.6/5, mb1 3.7/6, mb1mx3.4/63, mbtmp3.5/6, ML3.5/1, Error ellipse: s-maj=192.4km s-min=45.1km az=145.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**15.70**	**24**	Pn	Pn	23 07 46.0	-1.8
	0.1nm,0.3s,baz=215,slow=11,SNR=4.8						
MKAR	**Makanchi Array**	**43.45**	**350**	P	P	23 12 10.0	+0.2
	0.5nm,0.6s,baz=164,slow=8.3,SNR=8.2						
SONM	**Songino Array**	**45.26**	**13**	P	P	23 12 24.3	-0.1
	0.2nm,0.4s,baz=211,slow=8.1,SNR=2.5						
ZALV	**Zalesovo Beam**	**50.11**	**354**	P	P	23 13 02.1	+0.3
	1.0nm,0.4s,baz=183,slow=9.1,SNR=6.5						
BRTR	**Keskin Array B**	**63.60**	**313**	P	P	23 14 37.7	-0.4
	0.2nm,0.5s,baz=101,slow=7.7,SNR=2.4						
GERES	**GERESS Array B**	**79.47**	**319**	P	P	23 16 13.8	+0.2
	0.4nm,0.8s,baz=99,slow=6.3,SNR=5.0						

IDC 12 23:08:30.4±1.1, 0°.76N×92°.86E, h0km, mb3.7/10, mb1 3.8/12, mb1mx3.6/67, mbtmp3.7/12, ML3.9/2, MS3.5/2, Ms1 3.5/2, ms1mx2.8/66, Error ellipse: s-maj=39.6km s-min=18.6km az=46.0
DJA 12 23:08:30.4±1.4, 1°N±4°×9°3E±1°.3, h10km, M4.8/10, mb5.1/10, mB5.2/5, MLv4.8/8, Mw(mB)4.6/5
NEIC 12 23:08:32.1±0.6, 0°.85N×92°.92E, h10km, mb4.2/1, Error ellipse: s-maj=13.4km s-min=7.2km az=195.0
ISCJB 12 23:08:33.6±0.6, 0°.89N±0°.08×93°.02E±0°.05, h33km, mb3.7/11, Error ellipse: s-maj=11.5km s-min=6.2km az=21.2

ISC 12 23:08:35.5±0.7, 0°.80N±0°.08×92°92E±0°.07, h35km, n30, σ1s45/31, mb3.7/11, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GSI	**Gunungsitoli**	**4.68**	**84**	P	**Pn**	**23 09 43.1**	**-0.7**
GSI	**Gunungsitoli**	**4.68**	**84**	*e*Pn	**Pn**	**23 09 42.9**	**-0.9**
GSI				*e*Sn	**Sn**	**23 10 34.2**	**-2.7**
MLSI	**Meulaboh, Aceh**	**4.90**	**45**	P	**Pn**	**23 09 44.5**	**-2.3**
	110nm,0.6s,0.7nm						
TPTI		**4.91**	**60**	P	**Pn**	**23 09 45.4**	**-1.5**
BSI	**Banda Aceh**	**5.24**	**27**	P	**Pn**	**23 09 49.8**	**-1.6**
PBSI	**Pulau Batu**	**5.43**	**99**	P	**Pn**	**23 09 54.2**	**+0.2**
LHMI	**Lhok Sumawe**	**5.96**	**42**	P	**Pn**	**23 10 00.7**	**-0.7**
LHMI				S	**Sn**	**23 11 13.1**	**+4.6**
SISI	**Saibi**	**6.52**	**109**	P	**Pn**	**23 10 08.2**	**-0.9**
MNSI	**Mandailing Nat**	**6.66**	**90**	P	**Pn**	**23 10 09.6**	**-1.4**
	106nm,0.4s,4μm						
PDSI	**Padang**	**7.73**	**103**	P	**Pn**	**23 10 25.6**	**-0.1**
PPSI	**Pulau Pagai**	**7.92**	**117**	P	**Pn**	**23 10 27.8**	**-0.5**
	109nm,0.4s,2μm						
IPM	**Ipoh**	**8.89**	**66**	*e*Pn	**Pn**	**23 10 40.4**	**-1.1**
	15nm,0.6s						
KULM	**Kulim**	**8.92**	**60**	*e*Pn	**Pn**	**23 10 40.3**	**-1.7**
	17nm,0.7s						
PALK	**Pallekele**	**13.77**	**298**	Pn	**Pn**	**23 11 46.8**	**-1.7**
	0.9nm,0.3s,baz=114,slow=13,SNR=5.4						
PALK				Sn	Sn	23 14 07.0	-13
	1.3nm,0.3s,baz=296,slow=17,SNR=5.6						
PALK				LR	LR	23 16 15.4	
	comp=Z,186nm,19.5s,baz=116,slow=34						
LEM	**Lembang**	**16.51**	**118**	LR	LR	23 18 40.5	
	comp=Z,133nm,18.4s,baz=62,slow=37						
CMAR	**Chiang Mai Arr**	**18.52**	**18**	P	**P**	**23 12 48.4**	**-0.7**
	0.1nm,0.3s,baz=219,slow=12,SNR=6.2						
NIL	**Nilore**	**37.53**	**333**	*e*P	**P**	**23 15 46.2**	**-0.2**
	3.2nm,0.7s						
WRA	**Warramunga Arr**	**45.52**	**119**	P	**P**	**23 16 52.4**	**+0.3**
	1.0nm,0.8s,baz=299,slow=8.6,SNR=3.9						
ASAR	**Alice Springs**	**46.64**	**124**	P	**P**	**23 17 01.2**	**+0.3**
	0.6nm,0.9s,baz=294,slow=7.0,SNR=3.8						
MKAR	**Makanchi Array**	**46.74**	**350**	P	**P**	**23 17 01.9**	**+0.6**
	0.7nm,0.7s,baz=161,slow=8.3,SNR=8.5						
SONM	**Songino Array**	**48.29**	**12**	P	**P**	**23 17 14.3**	**+0.8**
	1.2nm,0.8s,baz=190,slow=8.1,SNR=6.0						
GEYT	**Alibeck**	**48.87**	**323**	P	**P**	**23 17 19.4**	**+1.4**
	1.0nm,0.5s,baz=139,slow=5.5,SNR=2.3						
KURBB	**Kurchatov Arra**	**51.13**	**348**	P	**P**	**23 17 34.8**	**0.0**
	0.6nm,0.9s,baz=166,slow=8.0,SNR=4.4						
KURK	**Kurchatov**	**51.20**	**348**	P	**P**	**23 17 34.8**	**-0.5**
ZALV	**Zalesovo Beam**	**53.40**	**354**	P	**P**	**23 17 50.9**	**-0.7**
	0.8nm,0.3s,baz=204,slow=6.2,SNR=5.0						
BRTR	**Keskin Array B**	**66.25**	**314**	P	**P**	**23 19 19.5**	**-1.0**
	0.6nm,0.9s,baz=133,slow=7.6,SNR=3.4						
FINES	**FINESS Array B**	**78.40**	**333**	P	**P**	**23 20 32.7**	**+0.3**
	0.4nm,0.6s,baz=94,slow=4.2,SNR=2.4						
GERES	**GERESS Array B**	**82.30**	**319**	P	**P**	**23 20 54.4**	**+0.7**
	0.1nm,0.3s,baz=92,slow=7.2,SNR=2.4						
K22A	**Casper**	**133.34**	**20**	*e*PKPdf	**PKPdf**	**23 27 50.3**	**+1.8**
TXAR	**Lajitas Array**	**146.10**	**27**	PKPbc	**PKPbc**	**23 28 12.8**	**0.0**
	0.2nm,0.6s,baz=8.5,slow=1.8,SNR=3.1						

IDC 12 23:12:41.9±1.5, 3°.84N×92°.25E, h0km, mb3.8/7, mb1 3.9/9, mb1mx3.6/68, mbtmp3.8/9, ML3.9/2, Error ellipse: s-maj=40.6km s-min=26.9km az=41.0
NEIC 12 23:12:43.4±0.8, 3°.94N×92°.57E, h10km, mb4.2/2, Error ellipse: s-maj=17.0km s-min=13.8km az=46.0
ISCJB 12 23:12:44.8±0.7, 3°.87N±0°.09×92°.3E±0°.1, h33km, mb3.9/7, Error ellipse: s-maj=16.2km s-min=12.3km az=164.0

ISC 12 23:12:46.0±0.8, 3°.9N±0°.1×92°40E±0°.07, h35km, n23, σ2s38/16, mb4.0/7, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KULM	**Kulim**	**8.34**	**80**	*e*Pn	**Pn**	**23 14 40.2**	**-4.2**
PALK	**Pallekele**	**12.10**	**286**	Pn	**Pn**	**23 15 36.4**	**+0.3**
	0.5nm,0.3s,baz=116,slow=15,SNR=2.9						
PALK				Sn	**Sn**	**23 17 46.0**	**-3.8**
	1.6nm,0.3s,baz=296,slow=3.9,SNR=6.0						
PALK	**Pallekele**	**12.10**	**286**	*e*Pn	**Pn**	**23 15 38.0**	**+1.9**
PALK				Sn	**Sn**	**23 17 46.0**	**-3.8**
CMAR	**Chiang Mai Arr**	**15.79**	**23**	Pn	**P**	**23 16 28.9**	**-0.4**
	0.2nm,0.3s,baz=216,slow=13,SNR=5.3						
CHTO	**Chiang Mai**	**16.11**	**23**	*e*Pn	**Pn**	**23 16 29.6**	**-0.4**
	0.5nm,0.2s						
COCO	**West Island**	**16.62**	**165**	*e*Pn	**Pn**	**23 16 35.8**	**-0.5**
	114nm,0.5s						
H08S2	**Diego Garcia H**	**22.95**	**240**	T	T	23 43 04.1	
	baz=61						
H08S3	**Diego Garcia H**	**22.95**	**240**	T	T	23 43 03.5	
	baz=61,slow=74						
H08S1	**Diego Carcia H**	**22.97**	**240**	T	T	23 43 06.4	
	baz=61,slow=74						
H08N1	**Diego Garcia H**	**23.66**	**245**	T	T	23 43 22.4	
	baz=12,slow=72,SNR=44						
H08N2	**Diego Garcia H**	**23.67**	**245**	T	T	23 43 21.2	
	baz=12,slow=72,SNR=48						
H08N3	**Diego Garcia H**	**23.69**	**245**	T	T	23 43 19.4	
	baz=12,slow=72,SNR=44						
MKAR	**Makanchi Array**	**43.58**	**350**	P	**P**	**23 20 49.3**	**+2.6**
	2.1nm,0.7s,baz=170,slow=9.0,SNR=19						
H01W3	**Cape Leeuwin H**	**43.69**	**154**	T	T	00 08 07.8	
	baz=342,slow=76						
H01W2	**Cape Leeuwin H**	**43.71**	**154**	T	T	00 08 12.4	
	baz=342,slow=76						
H01W1	**Cape Leeuwin H**	**43.71**	**154**	T	T	00 08 15.3	
	baz=342,slow=76						
SONM	**Songino Array**	**45.36**	**13**	P	**P**	**23 21 01.8**	**+0.8**
	0.3nm,0.6s,baz=201,slow=7.7,SNR=2.6						
GEYT	**Alibeck**	**46.08**	**322**	P	**P**	**23 21 07.6**	**+0.8**
	1.5nm,0.6s,baz=126,slow=7.3,SNR=4.4						
WRA	**Warramunga Arr**	**47.55**	**122**	P	**P**	**23 21 20.6**	**+2.2**
	0.5nm,0.5s,baz=297,slow=8.7,SNR=4.7						
KURBB	**Kurchatov Arra**	**47.97**	**348**	P	**P**	**23 21 23.3**	**+2.1**
	1.4nm,0.8s,baz=170,slow=6.6,SNR=7.7						
KURK	**Kurchatov**	**48.04**	**348**	P	**P**	**23 21 23.3**	**+1.6**
ZALV	**Zalesovo Beam**	**50.24**	**354**	P	**P**	**23 21 40.0**	**+1.5**
	1.3nm,0.4s,baz=181,slow=7.3,SNR=6.7						
GERES	**GERESS Array B**	**79.61**	**319**	P	**P**	**23 24 49.7**	**-0.2**
	0.4nm,0.6s,baz=105,slow=7.2,SNR=3.3						

ISCJB 12 23:15:45.7±0.3, 44°.54S±0°.06×94°.18E±0°.07, h10km, mb4.7/45, MS4.7/44, Error ellipse: s-maj=8.7km s-min=6.5km az=147.6
IDC 12 23:15:45.5±0.5, 44°.52S×94°.22E, h0km, mb4.6/21, mb1 4.6/21, mb1mx4.5/52, mbtmp4.6/21, MS4.6/38, Ms1 4.6/38, ms1mx4.6/44, Error ellipse: s-maj=16.0km s-min=13.2km az=142.0
NEIC 12 23:15:47.5±0.2, 44°.49S×94°.21E, h10km, mb4.8/18, Error ellipse: s-maj=6.7km s-min=5.5km az=157.0
GCMT 12 23:15:47.5±0.1, 44°.49S×94°.28E, h12km, MW5.2/109, Moment Tensor Solution. s77,c119; s109,c190; Duration: 1s0 Moment tensor: Scale 10^16Nm; Mrr-0.96±.14; Mθθ-2.38±.14; Mϕϕ3.34±.13; Mrθ-0.20±.34; Mθϕ-8.71±.10; Mϕr-0.49±.32; Best double couple: Mo9.18400×10^16 NP1:ϕ9.00000°, δ89.00000°, λ-3.00000°. NP2:ϕ99.00000°, δ87.00000°, λ-179.00000°. Principal axes: T 9.6550, Plg2.0000°, Azm54.0000°; N -0.9400, Plg86.0000°, Azm169.0000°; P -8.7130, Plg3.0000°, Azm324.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.

ISC 12 23:15:47.4±0.4, 44°.55S±0°.07×94°21E±0°.08, h10km, n126, σ1s67/97, mb4.8/45, MS4.7/44, 3D, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H01W2	**Cape Leeuwin H**	**18.06**	**65**	T	T	23 38 15.8	
	baz=231,slow=74,SNR=130						
H01W3	**Cape Leeuwin H**	**18.07**	**65**	T	T	23 38 16.9	
	baz=231,slow=74,SNR=173						
H01W1	**Cape Leeuwin H**	**18.08**	**65**	T	T	23 38 16.6	
	baz=231,slow=74,SNR=196						
MUN	**Mundaring**	**21.27**	**61**	P	**P**	**23 20 34.1**	**+0.3**
	baz=21,SNR=6.2						
NWAO	**Narrogin (SRO)**	**21.30**	**65**	P	**P**	**23 20 32.8**	**-1.3**
	55nm,1.1s,baz=225,slow=5.7,SNR=11						
NWAO				LR	LR	23 26 58.6	
	comp=Z,5μm,19.4s,baz=100,slow=32						
NWAO	**Narrogin (SRO)**	**21.30**	**65**	P	**P**	**23 20 34.2**	**0.0**
NWAO	baz=20,SNR=7.4			P	**P**	**23 20 34.2**	**0.0**
	baz=20,SNR=7.4						
NWAO	**Narrogin (SRO)**	**21.30**	**65**	*e*P	**P**	**23 20 34.5**	**+0.3**
	107nm,1.3s						
KLBR	**Kellerberrin**	**22.50**	**63**	P	**P**	**23 20 46.9**	**-0.2**
	baz=22,SNR=9.5						
BLDU	**Ballidu**	**22.51**	**59**	P	**P**	**23 20 48.3**	**+1.1**
	baz=22,SNR=7.4						
CASY	**Casey**	**23.52**	**163**	*e*P	**P**	**23 20 58.5**	**+1.2**
	56nm,1.4s						
KMBL	**Kambalda**	**25.34**	**68**	P	**P**	**23 21 15.0**	**+0.6**
	baz=24,SNR=7.3						
MAW	**Mawson**	**28.39**	**205**	P	**P**	**23 21 40.2**	**-1.3**
	13nm,1.0s,baz=66,slow=12,SNR=6.1						
MAW				LR	LR	23 30 41.1	
	comp=Z,2μm,18.8s,baz=42,slow=32						
MAW	**Mawson**	**28.39**	**205**	*e*P	**P**	**23 21 42.4**	**+0.9**
	5.7nm,1.2s						
FORT	**Forrest**	**29.88**	**74**	*e*P	**P**	**23 21 56.9**	**+1.8**
	769nm,1.1s						
WRKA	**Warakurna**	**33.75**	**66**	P	**P**	**23 22 29.4**	**+0.2**
	baz=33,SNR=12						
SYO	**Syowa Base**	**36.75**	**209**	*e*P	**P**	**23 22 53.0**	**-1.4**
SYO	**Syowa Base**	**36.75**	**209**	*i*/pP	pP	23 22 58.4	+0.9
FITZ	**Fitzroy Crossi**	**37.23**	**55**	LR	LR	23 36 45.1	
	comp=Z,2μm,19.4s,baz=180,slow=34						
ASAR	**Alice Springs**	**38.41**	**70**	P	**P**	**23 23 08.5**	**-0.6**
	20nm,0.9s,baz=225,slow=7.3,SNR=65						
ASAR				LR	LR	23 36 45.5	
	comp=Z,2μm,21.5s,baz=225,slow=33						
AS31	**Alice Springs**	**38.41**	**70**	*e*P	**P**	**23 23 08.9**	**-0.3**
	7.8nm,1.0s						
AS01	**Alice Springs**	**38.45**	**71**	*e*P	**P**	**23 23 09.3**	**-0.1**
STKA	**Stephens Creek**	**38.80**	**88**	P	**P**	**23 23 11.8**	**-0.5**
	7.0nm,0.9s,baz=214,slow=9.4,SNR=9.5						
STKA				LR	LR	23 36 04.4	
	comp=Z,1μm,20.6s,baz=227,slow=31						
STKA	**Stephens Creek**	**38.80**	**88**	P	**P**	**23 23 10.9**	**-1.4**
	baz=38,SNR=5.9						
STKA	**Stephens Creek**	**38.80**	**88**	*e*P	**P**	**23 23 12.7**	**+0.4**
	2.2nm,1.0s						
LEM	**Lembang**	**39.35**	**21**	LR	LR	23 36 23.9	
	comp=Z,1μm,19.6s,baz=190,slow=32						
MNAI	**Manna**	**40.75**	**13**	*e*P	**P**	**23 23 29.5**	**+0.9**
	133nm,0.9s						
WRA	**Warramunga Arr**	**41.29**	**67**	P	**P**	**23 23 32.3**	**-0.7**
	31nm,1.0s,baz=228,slow=8.1,SNR=53						
WRA				LR	LR	23 38 49.9	
	comp=Z,5μm,20.3s,baz=230,slow=34						
WB2	**Warramunga Arr**	**41.30**

KMI					sP	sP	23 27 10.8	+8.5
KMI					S	**S**	**23 36 11.8**	**+4.8**
KMI	**Kunming**	**69.77**	**8**	SS	SS		23 40 27.4	-8.8
KMI					pmax	pmax		
	comp=Z,9.0nm,0.8s							
KMI					pmax	pmax		
	comp=Z,110nm,6.5s							
KMI					LR	LR		
	comp=N,210nm,22.1s							
KMI					LR	LR		
	comp=E,530nm,24.8s							
KMI					LR	LR		
	comp=Z,330nm,21.6s							
MBAR	**Mbarara**	**70.94**	**289**		P	**P**	**23 27 04.5**	**-0.8**
	comp=Z,2.3nm,0.2s,baz=96,slow=9.2,SNR=2.3							
MBAR					LR	LR	23 52 46.1	
	comp=Z,599nm,21.7s,baz=109,slow=31							
ATD	**Arta Tunnel**	**72.62**	**307**		LR	LR	23 53 56.5	
	comp=Z,301nm,18.3s,baz=148,slow=32							
MSVF	**Nonsavu**	**73.45**	**99**	*e*P		**P**	**23 27 20.7**	**+0.4**
	comp=Z,45nm,2.0s							
GUMO	**Guam**	**73.88**	**52**		LR	LR	00 02 39.6	
	comp=Z,198nm,18.0s,baz=160,slow=38							
WSAR	**Wadi Sarin**	**74.89**	**326**		LR	LR	23 53 14.9	
	comp=Z,488nm,19.9s,baz=174,slow=30							
CD2	**Chengdu**	**75.60**	**8**	*e*P		**P**	**23 27 34.0**	**+1.8**
CD2					S	**S**	**23 37 17.4**	**+4.4**
CD2					pmax	pmax		
	comp=Z,10.0nm,0.5s							
CD2					pmax	pmax		
	comp=Z,120nm,5.0s							
CD2					LR	LR		
	comp=N,290nm,18.9s							
CD2					LR	LR		
	comp=E,370nm,18.9s							
CD2					LR	LR		
	comp=Z,390nm,20.9s							
WHN	**Wuhan**	**76.96**	**18**	⇓P		**P**	**23 27 35.3**	**-4.5**
WHN					S	**S**	**23 37 26.9**	**-0.9**
WHN					LR	LR		
	comp=Z,870nm,21.9s							
JOW	**Kunigami**	**77.56**	**31**		LR	LR	23 59 08.6	
	comp=Z,202nm,21.8s,baz=137,slow=34							
XAN	**Xi'an**	**79.35**	**12**		P	P	23 27 47.6	-5.5
XAN					pP	pP	23 27 53.4	-3.0
XAN					sP	sP	23 27 57.2	-0.4
XAN					PP	**PP**	**23 30 48.0**	**-5.6**
XAN	**Xi'an**	**79.35**	**12**		S	**S**	**23 37 56.4**	**+2.8**
XAN	**Xi'an**	**79.35**	**12**		SKS	**SKSac**	**23 38 02.0**	**-7.1**
XAN	**Xi'an**	**79.35**	**12**		SS	SS	23 43 16.0	+14
XAN					pmax	pmax		
	comp=Z,4.0nm,0.8s							
XAN					LR	LR		
	comp=N,150nm,21.7s							
XAN					LR	LR		
	comp=E,340nm,20.6s							
XAN					LR	LR		
	comp=Z,220nm,23.0s							
NJ2	**Nanjing**	**79.47**	**21**	*e*P		**P**	**23 27 54.0**	**+0.3**
NJ2					pmax	pmax		
	comp=Z,8.0nm,0.5s							
NIL	**Nilore**	**80.13**	**342**	*e*P		**P**	**23 27 57.0**	**-0.3**
	comp=Z,11nm,0.6s							
LZH	**Lanzhou**	**80.73**	**8**	*e*P		**P**	**23 28 03.8**	**+3.1**
LZH					pP	PcP	23 28 08.4	+1.0
LZH					sP	sP	23 28 11.8	+6.6
LZH					PP	**PP**	**23 31 10.0**	**+4.8**
LZH					pmax	pmax		
	comp=Z,24nm,1.0s							
LZH					pmax	pmax		
	comp=Z,220nm,5.0s							
LZH					LR	LR		
	comp=N,79nm,15.7s							
LZH					LR	LR		
	comp=E,85nm,16.0s							
LZH					LR	LR		
	comp=Z,110nm,19.2s							
RAYN	**Ar Rayn**	**81.05**	**316**	*e*P		**P**	**23 28 03.6**	**+1.0**
	comp=Z,16nm,1.7s							
KBL	**Kabul**	**81.97**	**339**	*e*P		**P**	**23 28 07.3**	**0.0**
	comp=Z,6.4nm,0.8s							
JCJ	**Chichijima**	**83.68**	**42**		LR	LR	00 04 19.2	
	comp=Z,139nm,18.4s,baz=257,slow=35							
GTA	**Gaotai**	**83.73**	**4**	*e*P		**P**	**23 28 16.3**	**0.0**
GTA					pP	PcP	23 28 20.6	+0.2
GTA					sP	sP	23 28 24.2	+3.4
GTA					pmax	pmax		
	comp=Z,3.0nm,1.1s							
KSH	**Kashi**	**85.28**	**346**		P	**P**	**23 28 22.3**	**-1.8**
KSH	**Kashi**	**85.28**	**346**		S	**S**	**23 38 52.1**	**-2.2**
KSH					LR	LR		
	comp=N,210nm,6.5s							
KSH					LR	LR		
	comp=E,260nm,6.7s							
RAR	**Rarotonga**	**86.13**	**116**		LR	LR	23 59 15.5	
	comp=E,165nm,20.5s,baz=236,slow=30							
HHC	**Hu-ho-hao-te**	**86.43**	**13**	*e*P		**P**	**23 28 31.2**	**+1.4**
HHC					pmax	pmax		
	comp=Z,19nm,1.3s							
HHC					pmax	pmax		
	comp=Z,63nm,7.4s							
KSAR	**Wonju Array Be**	**87.11**	**26**		P	**P**	**23 28 34.2**	**+1.2**
KSRS	**Korea Array**	**87.13**	**26**		P	**P**	**23 28 34.2**	**+1.1**
	comp=Z,0.5nm,0.3s,baz=232,slow=6.0,SNR=3.7							
JHJ	**Hachijo jima 2**	**87.71**	**37**		LR	LR	00 09 24.5	
	comp=Z,82nm,18.7s,baz=100,slow=37							
WMQ	**Urumqi**	**88.17**	**355**		P	**P**	**23 28 38.1**	**0.0**
WMQ					sP	sP	23 28 44.9	+2.3
WMQ	**Urumqi**	**88.17**	**355**		S	**S**	**23 39 19.2**	**-2.9**
WMQ	**Urumqi**	**88.17**	**355**		SS	SS	23 45 07.4	-4.5
WMQ					pmax	pmax		
	comp=Z,16nm,1.1s							
WMQ					LR	LR		
	comp=N,410nm,25.9s							
WMQ					LR	LR		
	comp=E,740nm,39.0s							
WMQ					LR	LR		
	comp=Z,360nm,22.3s							
GEYT	**Alibeck**	**88.34**	**332**		P	**P**	**23 28 38.1**	**-0.8**
	comp=Z,0.6nm,0.5s,baz=180,slow=5.6,SNR=3.5							
AAK	**Ala-Archa**	**88.57**	**346**		P	**P**	**23 28 39.6**	**-0.5**
	comp=Z,3.2nm,0.9s,baz=136,slow=7.5,SNR=8.0							
AAK					LR	LR	00 03 54.8	
	comp=Z,286nm,21.7s,baz=198,slow=33							
AAK	**Ala-Archa**	**88.57**	**346**	*e*P		**P**	**23 28 40.7**	**+0.6**
	comp=Z,7.1nm,1.3s							
MJAR	**Matsushiro Arr**	**90.01**	**34**		P	**P**	**23 28 46.3**	**-0.5**
	comp=Z,1.9nm,0.9s,baz=182,slow=4.9,SNR=4.2							
MJAR					LR	LR	00 08 25.3	
	comp=Z,51nm,19.4s,baz=100,slow=35							
MK01	**Makanchi Array**	**91.54**	**352**	*e*P		**P**	**23 28 53.2**	**-0.5**
MKAR	**Makanchi Array**	**91.56**	**352**		P	**P**	**23 28 52.7**	**-1.1**
	comp=Z,1.3nm,1.0s,baz=174,slow=6.1,SNR=5.4							
MKAR					LR	LR	00 08 36.6	
	comp=Z,231nm,18.8s,baz=187,slow=35							
MAKZ	**Makanchi**	**91.61**	**352**	*e*P		**P**	**23 28 53.8**	**-0.2**
	comp=Z,7.7nm,1.4s							
ASF	**Jabal al Asfar**	**92.46**	**314**		P	**P**	**23 28 58.6**	**+0.2**
	comp=Z,5.2nm,1.0s,baz=180,slow=3.0,SNR=5.6							
SONM	**Songino Array**	**92.62**	**8**		P	**P**	**23 28 58.2**	**-0.6**
	comp=Z,2.9nm,1.1s,baz=175,slow=3.1,SNR=9.2							
SONM					LR	LR	00 09 42.7	
	comp=Z,246nm,21.0s,baz=199,slow=35							
SONA1	**Songino Array**	**92.63**	**8**	*e*P		**P**	**23 28 57.9**	**-1.0**
ULN	**Ulaanbaatar**	**92.72**	**9**	*e*P		**P**	**23 28 59.4**	**+0.1**
	comp=Z,3.7nm,1.0s							
MMAI	**Mount Meron Ar**	**93.90**	**314**		P	**P**	**23 29 05.8**	**+0.8**
	comp=Z,19nm,1.3s,baz=117,slow=5.0,SNR=9.7							
MMAI					LR	LR	00 07 15.3	
	comp=Z,301nm,18.1s,baz=75,slow=33							
PLCA	**Paso Flores**	**94.01**	**352**	*e*P		LR	00 10 04.8	
	comp=Z,314nm,19.9s,baz=197,slow=35							
PPT2	**Papeete2**	**95.24**	**121**	eLR		LR	23 59 58.2	
	comp=Z,879nm,26.8s,baz=212							
PPT	**Papeete**	**95.25**	**121**		LR	LR	00 03 04.1	
	comp=Z,220nm,21.7s,baz=205,slow=30							
KURBB	**Kurchatov Arra**	**95.76**	**350**		P	**P**	**23 29 11.7**	**-1.2**
	comp=Z,0.6nm,0.8s,baz=185,slow=4.1,SNR=3.3							
KURK	**Kurchatov**	**95.84**	**350**		P	**P**	**23 29 11.7**	**-1.6**
ZALV	**Zalesovo Beam**	**98.44**	**354**		LR	LR	00 13 07.2	
	comp=Z,228nm,18.4s,baz=284,slow=35							
RKT	**Rikitea**	**99.05**	**135**	eLR		LR	00 01 34.6	
	comp=Z,352nm,23.0s							
BVAR	**Borovoye Array**	**99.32**	**346**		LR	LR	00 11 40.2	
	comp=Z,451nm,20.0s,baz=183,slow=34							
AKTO	**Aktyubinsk**	**99.70**	**337**		LR	LR	00 12 13.3	
	comp=Z,327nm,19.4s,baz=151,slow=34							

BRTR	**Keskin Array B**	**100.03**	**317**		P	**Pdif**	**23 29 32.7**	**0.0**
	comp=Z,0.7nm,0.8s,baz=163,slow=5.9,SNR=3.3							
TORD	**Torodi Ar. Bea**	**100.87**	**278**		P	**Pdif**	**23 29 37.4**	**+0.6**
	comp=Z,0.8nm,1.0s,baz=104,slow=2.5,SNR=2.2							
CLL	**Collm**	**118.40**	**315**	*e*PKiKP		**PKiKP**	**23 34 36.0**	**+1.7**
CLL				*i*			23 34 41.7	
ILAR	**Eielson Array**	**141.23**	**37**	PKhKP		PKPpre	23 35 09.7	
	comp=Z,1.0nm,1.1s,baz=270,slow=3.6,SNR=4.1							
DAWY	**Dawson**	**144.53**	**39**	*e*PKPdf		PKPbc	23 35 22.4	+0.7
INK	**Inuvik**	**145.87**	**29**	*e*PKPbc		**PKPdf**	**23 35 25.0**	**0.0**
RES	**Resolute Bay**	**149.49**	**5**	PKPbc		**PKPdf**	**23 35 33.0**	**+2.1**
	comp=Z,4.9nm,0.9s,baz=337,slow=4.1,SNR=10							
RES	**Resolute Bay**	**149.49**	**5**	*e*PKPdf		**PKPdf**	**23 35 30.8**	**0.0**
RES					*e*PKPbc	**PKiKP**	**23 35 36.5**	**0.0**
NVAR	**Mina Array Bea**	**155.00**	**93**	PKP		**PKPdf**	**23 35 40.2**	**-0.2**
	comp=Z,0.4nm,0.3s,baz=228,slow=1.1,SNR=4.2							
YKA	**Yellowknife Ar**	**155.51**	**33**	PKP		**PKPdf**	**23 35 39.9**	**-0.1**
	comp=Z,1.3nm,1.2s,baz=309,slow=1.9,SNR=8.5							
YKA					PKPab	**PKPab**	**23 36 05.5**	**-0.4**
	comp=Z,2.3nm,1.0s,baz=305,slow=4.2,SNR=14							
TXAR	**Lajitas Array**	**159.22**	**131**	PKP		**PKPdf**	**23 35 45.5**	**-0.5**
	comp=Z,0.7nm,0.9s,baz=193,slow=3.7,SNR=4.9							
TXAR					PKPab	**PKPab**	**23 36 23.0**	**0.0**
	comp=Z,1.4nm,1.0s,baz=198,slow=7.6,SNR=6.5							
PDAR	**Pinedale Array**	**162.72**	**88**	PKP		**PKPdf**	**23 35 49.4**	**-0.1**
	comp=Z,0.7nm,0.9s,baz=171,slow=1.7,SNR=6.3							

IDC 12 23:16:41.7±13.0, 1°.59N×90°.46E, h0km, mb3.5/3, mb1 3.6/5, mb1mx3.3/68, mbtmp3.5/5, ML3.6/2, Error ellipse: s-maj=256.4km s-min=51.2km az=172.0, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**11.25**	**300**	Pn	Pn	23 19 23.4	-0.6
	0.1nm,0.3s,baz=116,slow=13,SNR=2.9						
PALK				Sn	Sn	23 21 12.7	-18
	0.9nm,0.3s,baz=120,slow=0.8,SNR=7.2						
CMAR	**Chiang Mai Arr**	**18.72**	**26**	Pn	Pn	23 21 02.2	-0.1
	0.2nm,0.3s,baz=215,slow=11,SNR=4.4						
MKAR	**Makanchi Array**	**45.59**	**352**	P	P	23 25 03.4	-0.2
	0.4nm,0.7s,baz=172,slow=9.5,SNR=5.8						
SONM	**Songino Array**	**48.09**	**14**	P	P	23 25 22.7	-0.6
	0.5nm,0.7s,baz=198,slow=7.2,SNR=4.0						
KURBB	**Kurchatov Arra**	**49.90**	**350**	P	P	23 25 37.5	+0.6
	0.3nm,0.5s,baz=167,slow=7.0,SNR=4.5						

IDC 12 23:19:12.8±3.3, 3°.47N×90°.77E, h0km, mb3.4/3, mb1 3.7/4, mb1mx3.3/64, mbtmp3.4/4, ML3.7/1, Error ellipse: s-maj=98.9km s-min=30.3km az=64.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**16.91**	**28**	Pn	Pn	23 23 10.5	-0.5
	0.1nm,0.3s,baz=216,slow=13,SNR=6.0						
MKAR	**Makanchi Array**	**43.78**	**352**	P	P	23 27 19.6	-0.6
	0.3nm,0.8s,baz=171,slow=9.9,SNR=3.1						
SONM	**Songino Array**	**46.20**	**15**	P	P	23 27 40.1	+0.5
	0.4nm,0.5s,baz=189,slow=8.2,SNR=2.7						
WRA	**Warramunga Arr**	**48.70**	**120**	P	P	23 27 59.2	-0.1
	0.7nm,0.8s,baz=292,slow=8.2,SNR=2.5						

*ISCJB **12** 23:22:50.3±1.1, 1°.3N±0°.2×91°.6E±0°.1, h10km, mb3.9/8, Error ellipse: s-maj=27.5km s-min=13.6km az=22.7*
*IDC **12** 23:22:50.8±1.8, 1°.24N×91°.63E, h0km, mb3.9/7, mb1 4.0/8, mb1mx3.6/66, mbtmp3.9/8, ML3.4/1, Error ellipse: s-maj=56.9km s-min=25.7km az=47.0*
*NEIC **12** 23:22:52.2±0.9, 1°.29N×91°.63E, h10km, mb4.1/1, Error ellipse: s-maj=22.0km s-min=10.7km az=199.0*
ISC 12 23:22:52.2±1.3, 1°.3N±0°.2×91°.6E±0°.1, h10km, n15, σ0s78/12, mb3.9/8, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**9.84**	**66**	*e*Pn	**Pn**	**23 25 13.2**	**-0.7**
PALK	**Pallekele**	**12.41**	**299**	Pn	**Pn**	**23 25 48.1**	**-1.0**
	0.2nm,0.3s,baz=115,slow=14,SNR=2.6						
PALK				Sn	Sn	23 27 55.8	-12
	1.1nm,0.3s,baz=296,slow=2.9,SNR=9.1						
H08S2	**Diego Garcia H**	**21.05**	**245**	T	T	23 49 22.2	
	baz=65,slow=75,SNR=30						
H08S3	**Diego Garcia H**	**21.06**	**245**	T	T	23 49 22.3	
	baz=65,slow=75,SNR=34						
H08S1	**Diego Garcia H**	**21.07**	**245**	T	T	23 49 24.2	
	baz=65,slow=75,SNR=36						
NACB	**Ninganchiao**	**36.85**	**50**	P	**P**	**23 30 01.1**	**+0.1**
	1.0nm,0.3s						
MKAR	**Makanchi Array**	**46.05**	**351**	P	**P**	**23 31 16.4**	**+0.2**
	0.8nm,0.7s,baz=165,slow=9.0,SNR=6.6						
WRA	**Warramunga Arr**	**46.88**	**119**	P	**P**	**23 31 22.8**	**-0.4**
	0.8nm,0.7s,baz=294,slow=8.6,SNR=4.5						
SONM	**Songino Array**	**48.09**	**13**	P	**P**	**23 31 33.0**	**+0.7**
	2.1nm,0.8s,baz=192,slow=9.3,SNR=8.7						
KURBB	**Kurchatov Arra**	**50.39**	**349**	P	**P**	**23 31 50.2**	**+0.5**
	1.0nm,0.3s,baz=175,slow=7.3,SNR=6.9						
KURK	**Kurchatov**	**50.47**	**349**	P	**P**	**23 31 50.2**	**0.0**
ZALV	**Zalesovo Beam**	**52.78**	**355**	P	**P**	**23 32 06.5**	**-1.0**
	0.8nm,0.5s,baz=171,slow=7.0,SNR=4.9						
BVAR	**Borovoye Array**	**54.50**	**344**	P	**P**	**23 32 21.0**	**+0.9**
	0.3nm,0.6s,baz=147,slow=8.6,SNR=2.5						
HNR	**Honiara**	**68.85**	**101**	P	**P**	**23 33 58.0**	**+0.3**
GERES	**GERESS Array B**	**81.09**	**319**	P	**P**	**23 35 08.9**	**+1.0**
	0.7nm,0.7s,baz=108,slow=4.3,SNR=3.6						

*CSEM **12** 23:23:42.6, 67°.83N×20°.19E, h0km, ML1.7, Mining explosion.*
*HEL **12** 23:23:46.6±0.1, 67°.84N×20°.17E, h0km, ML1.5(UPP), Explosion*
UPP 12 23:23:42.6±0.1, 67°.83N×20°.19E, h0km, ML1.7, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.13**	**24**	P	Pg	23 23 45.4	+0.3
KUA				S	Sg	23 23 47.3	+0.4
KUA	**Kurravaara**	**0.13**	**24**	P	Pg	23 23 48.8	+3.7
KUA				S	Sg	23 23 50.7	+3.9
KUA	**Kurravaara**	**0.13**	**24**	P	Pg	23 23 45.4	+0.3
KUA				S	Sg	23 23 47.3	+0.5
KUA	**Kurravaara**	**0.13**	**24**	*i* P	Pg	23 23 48.8	+3.6
KUA				*i* S	Sg	23 23 50.7	+3.8
RATU	**Laukkuluspa**	**0.23**	**268**	P	Pg	23 23 47.1	+0.2
RATU	**Laukkuluspa**	**0.23**	**268**	P	Pg	23 23 50.5	+3.6
RATU	**Laukkuluspa**	**0.23**	**268**	P	Pg	23 23 47.1	+0.2
RATU	**Laukkuluspa**	**0.23**	**268**	*i* P	Pg	23 23 50.5	+3.5
NIKU	**Nikkaluokta**	**0.44**	**275**	P	Pg	23 23 51.3	+0.3
NIKU	**Nikkaluokta**	**0.44**	**275**	P	Pb	23 23 54.5	+1.3
NIKU	**Nikkaluokta**	**0.44**	**275**	P	Pg	23 23 51.3	+0.3
NIKU	**Nikkaluokta**	**0.44**	**275**	*i* P	Pb	23 23 54.5	+1.3
LANU	**Lannavaara**	**0.71**	**71**	*e*S	Sg	23 24 05.6	+0.2
LANU	**Lannavaara**	**0.71**	**71**	*e*S	Sg	23 24 05.6	+0.2
MASU	**Masugnsbyn**	**0.79**	**118**	P	Pg	23 23 57.5	-0.2
MASU	**Masugnsbyn**	**0.79**	**118**	P	Pn	23 24 00.7	-0.3
MASU	**Masugnsbyn**	**0.79**	**118**	P	Pg	23 23 57.5	-0.2
MASU	**Masugnsbyn**	**0.79**	**118**	*i* P	Pn	23 24 00.7	-0.2
KIF	**Kilpisjarvi**	**1.20**	**11**	*e*S	Sb	23 24 21.9	-0.2
KIF	**Kilpisjarvi**	**1.20**	**11**	*e*S	Sb	23 24 21.9	-0.2
KIF	**Kilpisjarvi**	**1.20**	**11**	*e*P	Pn	23 24 09.6	+3.1
PAJU	**Pajala**	**1.39**	**124**	P	Pg	23 24 08.0	-1.2
PAJU	**Pajala**	**1.39**	**124**	P	Pb	23 24 11.2	+1.8
PAJU	**Pajala**	**1.39**	**124**	P	Pg	23 24 08.0	-1.2
PAJU	**Pajala**	**1.39**	**124**	*e*P	Pb	23 24 11.2	+1.8
HEF	**Hetta**	**1.42**	**64**	*e*P	Pb	23 24 12.0	+2.1
HEF				*e*Sb	Sn	23 24 31.6	+2.6
HEF	**Hetta**	**1.42**	**64**	*e*P	Pb	23 24 12.0	+2.1
HEF				*e*SB	Sn	23 24 31.6	+2.6
HEF	**Hetta**	**1.42**	**64**	*e*P	Pb	23 24 12.2	+2.3
ERTU	**Ertsjaerv**	**1.50**	**148**	*e*Pg	Pg	23 24 13.8	+2.4
ERTU				*e*Sb	Sn	23 24 33.8	+2.8
ERTU	**Ertsjaerv**	**1.50**	**148**	*e*PG	Pg	23 24 13.8	+2.4
ERTU				*e*SB	Sn	23 24 33.8	+2.8
KALU	**Kalix**	**2.34**	**146**	*e*S	Sb	23 24 56.0	+0.9
KALU	**Kalix**	**2.34**	**146**	*e*S	Sb	23 24 56.0	+1.0
TOF	**Tornio**	**2.40**	**135**	*e*P	Pn	23 24 24.5	+1.5
TOF				*e*S	Sb	23 24 56.8	+0.2
TOF	**Tornio**	**2.40**	**135**	*e*P	Pn	23 24 24.5	+1.5
TOF				*e*S	Sb	23 24 56.8	+0.2
SGF	**Sodankyl**	**2.45**	**96**	*e*Pb	Pg	23 24 29.9	+0.3
SGF	**Sodankyl**	**2.45**	**96**	*e*PB	Pg	23 24 29.9	+0.3
RNF	**Rovaniemi**	**2.58**	**116**	*e*Pb	Pb	23 24 30.7	+1.1
RNF				*e*S	Sb	23 25 01.9	+0.1
RNF	**Rovaniemi**	**2.58**	**116**	*e*PB	Pb	23 24 30.7	+1.1
RNF				*e*S	Sb	23 25 01.9	+0.1
KU6	**Riekki**	**4.23**	**111**	*e*Pg	Pg	23 25 01.7	-1.8
KU6	**Riekki**	**4.23**	**111**	*e*PG	Pg	23 25 01.7	-1.8

*CSEM **12** 23:29:25.5±0.2, 33°.76N×32°.18E, h40km, ML3.4, Error ellipse: s-maj=6.5km s-min=2.4km az=74.0*
*GII **12** 23:29:27.2±0.1, 33°.73N×32°.21E, h32km, MD2.7/7*
*NIC **12** 23:29:27.5±0.2, 33°.99N×32°.06E, h60km, ML3.4*
ISC 12 23:29:23.8±1.5, 33°.76N±0°.03×32°.13E±0°.05, h29km±14km, n62, σ1s07/107, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPCY	**Paphos** baz=195	**1.14**	**9**	P	**Pb**	**23 29 45.0**	**+0.1**
PPCY	**Paphos**	**1.14**	**9**	P	**Pb**	**23 29 45.0**	**+0.1**
SZAC	**Souni** baz=222	**1.18**	**32**	P	**Pb**	**23 29 45.7**	**+0.1**
SZAC				S	**Sb**	**23 30 00.5**	**+0.1**
SZAC	**Souni**	**1.18**	**32**	P	**Pb**	**23 29 45.7**	**+0.1**
SZAC				S	**Sb**	**23 30 00.5**	**+0.1**
ALFC	**Alefka** baz=201	**1.45**	**15**	P	**Pn**	**23 29 49.1**	**+0.9**
ALFC				S	**Sn**	**23 30 05.7**	**-0.6**
ALFC	**Alefka**	**1.45**	**15**	P	**Pn**	**23 29 49.1**	**+0.9**
ALFC				S	**Sn**	**23 30 05.7**	**-0.6**
LEF	**Lefka**	**1.50**	**25**	P	**Pn**	**23 29 48.4**	**-0.4**
LEF				S	**Sn**	**23 30 08.1**	**+0.7**
CSS	**Mathiatis** baz=227	**1.56**	**39**	P	**Pn**	**23 29 50.1**	**+0.4**
CSS				S	**Sn**	**23 30 10.2**	**+1.2**
CSS	**Mathiatis**	**1.56**	**39**	P	**Pn**	**23 29 50.1**	**+0.4**
CSS				Sn	**Sn**	**23 30 09.6**	**+0.6**
CSS				S	**Sn**	**23 30 10.2**	**+1.2**
CSS	**Mathiatis**	**1.56**	**39**	Pn	**Pn**	**23 29 49.9**	**+0.2**
CSS				Sn	**Sn**	**23 30 09.6**	**+0.6**
MAMC	**Mammari** baz=219	**1.67**	**32**	P	**Pb**	**23 29 52.8**	**-1.2**
MAMC	**Mammari**	**1.67**	**32**	P	**Pb**	**23 29 52.8**	**-1.2**
HNTI	**Hanita**	**2.63**	**104**	Pn	**Pn**	**23 30 04.9**	**+0.5**
HNTI				Sn	**Sn**	**23 30 34.5**	**-0.9**
HNTI	**Hanita**	**2.63**	**104**	Pn	**Pn**	**23 30 04.9**	**+0.5**
HNTI				Sn	**Sn**	**23 30 34.5**	**-0.9**
OFRI	**'Ofer**	**2.65**	**115**	Pn	**Pn**	**23 30 04.7**	**+0.1**
OFRI				Sn	**Sn**	**23 30 35.1**	**-0.7**
OFRI	**'Ofer**	**2.65**	**115**	Pn	**Pn**	**23 30 04.7**	**+0.1**
OFRI				Sn	**Sn**	**23 30 35.1**	**-0.7**
GULN	**MERSIN_Gulnar**	**2.69**	**25**	*i* P	**Pn**	**23 30 01.6**	**-3.6**
GULN				*i* S	**Sn**	**23 30 36.6**	**-0.1**
GULN	**MERSIN_Gulnar**	**2.69**	**25**	P	**Pn**	**23 30 01.5**	**-3.6**
GULN				S	**Sn**	**23 30 36.6**	**-0.1**
BLGI	**Bet Lehem HaGe**	**2.76**	**111**	Pn	**Pn**	**23 30 06.9**	**+0.7**
BLGI				Sn	**Sn**	**23 30 37.4**	**-1.1**
BLGI	**Bet Lehem HaGe**	**2.76**	**111**	Pn	**Pn**	**23 30 06.9**	**+0.7**
BLGI				Sn	**Sn**	**23 30 37.4**	**-1.1**
MMA0B	**Mount Meron ar**	**2.84**	**104**	Pn	**Pn**	**23 30 07.5**	**+0.2**
MMA0B				Sn	**Sn**	**23 30 39.9**	**-0.6**
MMA0B	**Mount Meron ar**	**2.84**	**104**	Pn	**Pn**	**23 30 07.5**	**+0.2**
MMA0B				Sn	**Sn**	**23 30 39.9**	**-0.6**
DQRL	**Deir Qamar**	**2.87**	**90**	*e*P	**Pn**	**23 30 08.2**	**+0.5**
SLTI	**Sal'it**	**2.88**	**121**	Pn	**Pn**	**23 30 07.7**	**0.0**
SLTI				Sn	**Sn**	**23 30 40.5**	**-0.9**
SLTI	**Sal'it**	**2.88**	**121**	Pn	**Pn**	**23 30 07.7**	**0.0**
SLTI				Sn	**Sn**	**23 30 40.5**	**-0.9**
BHL	**Bhannes**	**2.94**	**86**	*e*P	**Pn**	**23 30 08.2**	**-0.5**
ERMK	**Ermenek**	**2.95**	**12**	*i* P	**Pn**	**23 30 10.3**	**+1.4**
ERMK				*i* S	**Sn**	**23 30 46.5**	**+3.0**
ERMK	**Ermenek**	**2.95**	**12**	P	**Pn**	**23 30 10.3**	**+1.4**
ERMK				S	**Sn**	**23 30 46.5**	**+3.0**
QRWL	**Qaraoun**	**2.97**	**93**	*e*P	**Pn**	**23 30 09.2**	**+0.1**
SHBL	**Chebaa**	**3.05**	**97**	*e*P	**Pn**	**23 30 10.7**	**+0.5**
MMLI	**Mount Malkishu**	**3.06**	**115**	Pn	**Pn**	**23 30 10.5**	**+0.2**
MMLI				Sn	**Sn**	**23 30 44.9**	**-1.1**
MMLI	**Mount Malkishu**	**3.06**	**115**	Pn	**Pn**	**23 30 10.5**	**+0.2**
MMLI				Sn	**Sn**	**23 30 44.9**	**-1.1**
RCY	**Rachaya**	**3.10**	**94**	*e*P	**Pn**	**23 30 11.4**	**+0.4**
KEPZ	**Antalya-Kepez**	**3.17**	**352**	*i* P	**

MASI	Maura Aman, Be	3.67	317	P	Pn	23 31 25.7	+3.5
PPBI	Pangkal Pinang	3.94	21	P	Pn	23 31 29.8	+4.0
PPSI	Pulau Pagai	5.63	303	P	Pn	23 31 51.3	+2.3
BATI	Baumata	19.23	104	P	P	23 34 47.9	-1.4
	2.7nm,0.3s,baz=315,slow=7.1,SNR=2.3						
CMAR	Chiang Mai Arr	24.84	347	P	P	23 35 44.9	-2.2
	0.1nm,0.3s,baz=183,slow=8.4,SNR=2.4						
WRA	Warramunga Arr	31.99	119	P	P	23 36 50.1	-1.0
	0.7nm,0.8s,baz=301,slow=10.0,SNR=8.5						
ASAR	Alice Springs	33.18	125	P	P	23 37 00.9	-0.5
	0.8nm,0.8s,baz=293,slow=7.2,SNR=7.3						
JOW	Kunigami	39.71	34	P	P	23 37 47.0	-10
	23nm,0.6s,baz=38,slow=30,SNR=7.7						
STKA	Stephens Creek	43.07	132	P	P	23 38 24.1	-0.5
	3.6nm,0.4s,baz=307,slow=8.2,SNR=15						
SONM	Songino Array	53.49	1	P	P	23 39 41.5	-3.4
	0.2nm,0.3s,baz=190,slow=7.0,SNR=2.3						
MKAR	Makanchi Array	56.08	342	P	P	23 40 01.5	-2.0
	0.2nm,0.4s,baz=159,slow=9.1,SNR=7.0						
ZALV	Zalesovo Beam	61.90	347	P	P	23 40 40.9	-2.7
	0.4nm,0.3s,baz=162,slow=7.3,SNR=2.5						
BRTR	Keskin Array B	79.40	312	P	P	23 42 30.8	0.0
	0.3nm,0.6s,baz=119,slow=7.2,SNR=2.7						
FINES	FINESS Array B	89.71	332	P	P	23 43 22.0	-0.1
	0.7nm,0.7s,baz=104,slow=4.4,SNR=6.1						
RCBR	Riachuelo	139.02	254	PKP	PKPdf	23 49 55.1	+3.1
	74nm,0.8s,baz=145,slow=0.2,SNR=3.3						
TXAR	Lajitas Array	144.45	46	PKP	PKPab	23 50 00.4	+0.8
	0.4nm,0.5s,baz=284,slow=1.1,SNR=6.5						

ISCJB ***12*** *23:34:27.6±0.8, 3°.0N×0°.1×89°.5E±0°.2, h10km, mb3.8/6, MS4.1/7, Error ellipse: s-maj=25.3km s-min=12.7km az=144.7*

IDC ***12*** *23:34:27.9±3.6, 2°.98N×89°.50E, h0km, mb3.7/5, mb1 3.7/6, mb1mx3.4/63, mbtmp3.7/6, ML3.6/1, MS4.0/7, Ms1 4.1/7, ms1mx3.5/59, Error ellipse: s-maj=77.3km s-min=42.1km az=171.0*

NEIC ***12*** *23:34:29.7±0.6, 3°.03N×89°.54E, h10km, mb4.3/1, Error ellipse: s-maj=21.1km s-min=10.8km az=53.0*

ISC 12 23:34:29.4±0.9, 3°.0N±0°.2×89°.3E±0°.1, h10km, n17, σ2s05/11, mb3.8/6, MS4.2/7, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PALK	Pallekele	9.57	297	Pn	Pn	23 36 51.0	+3.5
	0.5nm,0.3s,baz=116,slow=15,SNR=4.6						
PALK				Sn	Sn	23 38 30.9	-4.3
	2.7nm,0.3s,baz=302,slow=0.8,SNR=12						
COCO	West Island	16.82	154	Pn	Pn	23 38 24.4	-0.8
MKAR	Makanchi Array	44.08	353	P	P	23 42 38.1	+0.5
	0.6nm,0.5s,baz=172,slow=8.6,SNR=5.6						
SONM	Songino Array	47.07	16	P	P	23 43 01.2	-0.3
	1.2nm,0.6s,baz=187,slow=9.4,SNR=7.8						
KURBB	Kurchatov Arra	48.35	351	P	P	23 43 10.8	-0.4
	0.4nm,0.6s,baz=169,slow=8.5,SNR=3.7						
KURK	Kurchatov	48.43	351	P	P	23 43 10.8	-0.9
WRAB	Tennant Creek	49.73	119	P	P	23 43 22.2	-0.1
	3.5nm,1.1s						
ZALV	Zalesovo Beam	50.95	357	P	P	23 43 30.7	-0.3
	0.4nm,0.4s,baz=182,slow=8.5,SNR=3.0						
KMBO	Kilima Mbogo	52.19	266	LR	LR	00 02 49.6	
	comp=Z,90nm,18.1s,baz=108,slow=32						
BRTR	Keskin Array B	62.15	314	P	P	23 44 51.7	+0.5
	0.4nm,0.5s,baz=129,slow=6.6,SNR=3.8						
MLR	Muntele Rosu	69.42	318	LR	LR	00 19 14.5	
	comp=Z,44nm,18.7s,baz=138,slow=39						
PETK	Petropavlovsk-	74.27	36	LR	LR	00 22 03.8	
	comp=Z,151nm,20.6s,baz=210,slow=38						
HFS	Hagfors	80.28	331	LR	LR	00 26 54.5	
	comp=Z,136nm,21.3s,baz=105,slow=39						
NOA	NORSAR Array B	81.65	331	LR	LR	00 28 18.3	
	comp=Z,142nm,19.8s,baz=115,slow=40						
SPITS	Spitsbergen Ar	83.64	349	LR	LR	00 30 15.2	
	comp=Z,110nm,20.8s,baz=250,slow=40						
JMIC	Jan Mayen	89.76	341	LR	LR	00 28 33.5	
	comp=Z,78nm,18.4s,baz=68,slow=36						
TXAR	Lajitas Array	145.56	20	PKPbc	PKPbc	23 54 08.3	-0.6
	0.3nm,0.5s,baz=102,slow=0.6,SNR=6.4						

MEX 12 23:36:13.9±0.3, 16°.04N×94°.58W, h45km±56km, MD3.8, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		1.35	104	*e*P	Pn	23 36 34.7	-1.6
PCIG				*e*S	Sn	23 36 51.0	-2.1
TGIG		1.58	62	*e*P	Pn	23 36 38.2	-1.4
CCIG	Comitan	2.36	84	*e*P	Pn	23 36 48.8	-1.5

IDC 12 23:42:28.6±14.0, 2°.42N×92°.96E, h0km, mb3.7/2, mb1 3.7/4, mb1mx3.2/68, mbtmp3.6/4, ML3.4/2, MS4.0/1, Ms1 4.0/1, ms1mx2.9/68, Error ellipse: s-maj=260.9km s-min=56.3km az=161.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PALK	Pallekele	13.12	292	Pn	Pn	23 45 37.0	+0.6
	0.2nm,0.3s,baz=113,slow=13,SNR=2.5						
PALK				Sn	Sn	23 47 49.1	-14
	1.7nm,0.3s,baz=117,slow=12,SNR=5.6						
CMAR	Chiang Mai Arr	16.98	20	Pn	Pn	23 46 28.3	+0.6
	0.1nm,0.3s,baz=209,slow=14,SNR=3.5						
MKAR	Makanchi Array	45.16	350	P	P	23 50 46.6	-0.5
	0.7nm,0.7s,baz=168,slow=8.5,SNR=7.8						
TLY	Talaya	49.90	9	LR	LR	00 12 19.4	
	comp=Z,151nm,21.7s,baz=217,slow=36						
ZALV	Zalesovo Beam	51.80	354	P	P	23 51 38.1	+0.1
	0.6nm,0.4s,baz=168,slow=8.7,SNR=3.1						

IDC ***12*** *23:45:37.3±1.5, 4°.10N×92°.27E, h0km, mb3.8/6, mb1 4.0/7, mb1mx3.5/67, mbtmp3.8/7, ML3.4/1, Error ellipse: s-maj=52.4km s-min=26.4km az=51.0*

ISCJB ***12*** *23:45:40.8±1.3, 4°.2N±0°.2×92°.4E±0°.2, h33km, mb3.9/6, Error ellipse: s-maj=30.9km s-min=23.3km az=151.5*

ISC 12 23:45:42.9±1.4, 4°.3N±0°.2×92°.4E±0°.2, h35km, n7, σ0s79/7, mb3.8/6, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	Chiang Mai Arr	15.50	24	Pn	Pn	23 49 18.3	-0.6
	0.1nm,0.3s,baz=217,slow=14,SNR=6.4						
MKAR	Makanchi Array	43.28	350	P	P	23 53 42.0	+0.9
	1.2nm,0.7s,baz=164,slow=8.5,SNR=12						
KURBB	Kurchatov Arra	47.67	348	P	P	23 54 15.9	+0.2
	1.0nm,0.8s,baz=174,slow=7.6,SNR=5.5						
WRA	Warramunga Arr	47.69	122	P	P	23 54 16.4	0.0
	0.4nm,0.8s,baz=299,slow=9.1,SNR=3.1						
ZALV	Zalesovo Beam	49.94	354	P	P	23 54 34.0	+0.9
	2.4nm,0.4s,baz=182,slow=8.6,SNR=12						
BRTR	Keskin Array B	63.55	313	P	P	23 56 09.6	-0.6
	0.5nm,0.8s,baz=111,slow=6.8,SNR=4.3						
GERES	GERESS Array B	79.39	319	P	P	23 57 45.5	0.0
	1.4nm,0.9s,baz=97,slow=5.8,SNR=7.4						

ISCJB ***12*** *23:53:57.3±0.7, 20°.4S±0°.2×178°.0W±0°.2, h534km, mb3.6/7, Error ellipse: s-maj=32.0km s-min=17.2km az=154.5*

IDC ***12*** *23:53:58.7±6.0, 20°.35S×177°.98W, h539km±65km, mb3.2/7, mb1 3.5/7, mb1mx3.1/44, mbtmp4.1/7, Error ellipse: s-maj=83.5km s-min=27.0km az=154.0*

ISC 12 23:53:57.8±0.8, 20°.4S±0°.3×177°.9W±0°.2, h534km, n15, σ0s64/15, mb3.7/7, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	Stephens Creek	37.88	244	P	P	00 00 29.3	-0.1
	1.4nm,0.5s,baz=100,slow=15,SNR=5.2						
ASAR	Alice Springs	44.60	257	P	P	00 01 23.2	+0.4
	3.5nm,0.4s,baz=94,slow=7.6,SNR=52						
ASAR				PcP	PcP	00 02 54.1	-0.2
	0.1nm,0.3s,baz=102,slow=4.4,SNR=4.3						
WRA	Warramunga Arr	44.67	262	P	P	00 01 23.4	0.0
	1.5nm,0.4s,baz=98,slow=7.8,SNR=42						
FITZ	Fitzroy Crossi	53.10	262	P	P	00 02 26.4	+0.6
	1.8nm,0.5s,baz=143,slow=5.1,SNR=5.1						
TXAR	Lajitas Array	86.96	57	P	P	00 05 47.7	+1.0
	0.4nm,0.6s,baz=233,slow=7.5,SNR=4.2						
VNA3	Neumayer Olymp	88.22	176	P	P	00 05 51.2	-0.5
ILAR	Eielson Array	88.22	13	P	P	00 05 51.3	-0.2
	0.3nm,0.4s,baz=206,slow=6.0,SNR=3.0						
VNA2	Neumayer--Watz	88.66	177	P	P	00 05 53.7	0.0
	baz=188,slow=3.3						
PDAR	Pinedale Array	88.86	43	P	P	00 05 55.8	+0.4
	0.4nm,0.5s,baz=198,slow=5.5,SNR=4.5						
BVAR	Borovoye Array	119.06	320	PKP	PKPdf	00 11 45.1	-0.6
	0.4nm,0.3s,baz=113,slow=3.3,SNR=2.9						
AKASG	Malin Array Be	142.97	331	PKhKP	PKPpre	00 12 27.4	
	1.2nm,0.4s,baz=44,slow=4.4,SNR=11						
EKA	Eskdalemuir Ar	144.92	5	PKP	PKPdf	00 12 32.8	-1.0
	2.0nm,1.0s,baz=353,slow=2.2,SNR=3.4						
BRTR	Keskin Array B	146.83	312	PKPbc	PKPbc	00 12 40.0	-0.5
	0.5nm,0.6s,baz=100,slow=3.7,SNR=4.4						
MMAI	Mount Meron Ar	147.83	300	PKPbc	PKPbc	00 12 43.8	+0.6
	0.8nm,0.4s,baz=82,slow=6.0,SNR=12						
GERES	GERESS Array B	150.14	344	PKPbc	PKPbc	00 12 47.5	-1.0
	0.4nm,0.5s,baz=29,slow=3.0,SNR=3.7						

ISCJB ***12*** *23:58:25.1±0.8, 1°.7N±0°.1×89°.4E±0°.1, h10km, mb3.7/11, Error ellipse: s-maj=21.8km s-min=14.3km az=34.5*

IDC ***12*** *23:58:25.4±1.0, 1°.64N×89°.40E, h0km, mb3.6/11, mb1 3.7/13, mb1mx3.5/72, mbtmp3.6/13, ML3.7/2, Error ellipse: s-maj=32.3km s-min=18.1km az=44.0*

ISC 12 23:58:27.2±1.0, 1°.7N±0°.2×89°.3E±0°.1, h10km, n14, σ1s66/15, mb3.7/11, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PALK	Pallekele	10.16	303	Pn	Pn	00 00 55.0	+1.7
	0.7nm,0.3s,baz=115,slow=13,SNR=6.0						
PALK				Sn	Sn	00 02 43.1	-4.4
	8.5nm,0.3s,baz=118,slow=0.1,SNR=13						
CMAR	Chiang Mai Arr	19.16	29	P	Pn	00 02 51.4	-0.4
	0.1nm,0.3s,baz=222,slow=12,SNR=3.1						
MKAR	Makanchi Array	45.31	353	P	P	00 06 45.6	+0.3
	0.5nm,0.7s,baz=168,slow=9.7,SNR=6.9						
GEYT	Alibeck	46.00	325	P	P	00 06 51.6	+0.7
	0.7nm,0.5s,baz=142,slow=7.3,SNR=3.1						
SONM	Songino Array	48.28	15	P	P	00 07 08.5	-0.1
	1.6nm,0.7s,baz=195,slow=9.2,SNR=9.5						
WRA	Warramunga Arr	49.16	118	P	P	00 07 13.9	-1.8
	0.5nm,0.3s,baz=297,slow=8.7,SNR=18						
KURBB	Kurchatov Arra	49.57	351	P	P	00 07 18.3	0.0
	0.2nm,0.3s,baz=174,slow=7.1,SNR=6.3						
ASAR	Alice Springs	50.19	123	P	P	00 07 22.3	-1.2
	0.3nm,0.7s,baz=296,slow=7.1,SNR=2.7						
ZALV	Zalesovo Beam	52.19	357	P	P	00 07 37.4	-0.6
	0.6nm,0.4s,baz=189,slow=8.3,SNR=3.8						
BVAR	Borovoye Array	53.49	346	P	P	00 07 48.7	+1.1
	0.2nm,0.5s,baz=145,slow=5.3,SNR=2.2						
BRTR	Keskin Array B	62.99	314	P	P	00 08 55.0	+0.4
	0.3nm,0.6s,baz=124,slow=6.6,SNR=2.9						
GERES	GERESS Array B	79.23	319	P	P	00 10 34.6	+1.8
	0.7nm,0.7s,baz=106,slow=7.2,SNR=2.4						
TORD	Torodi Ar. Bea	87.25	283	P	P	00 11 15.0	+0.2
	0.4nm,0.8s,baz=82,slow=4.7,SNR=5.4						
TXAR	Lajitas Array	146.74	21	PKPbc	PKPbc	00 18 09.7	-0.6
	0.5nm,0.8s,baz=202,slow=1.3,SNR=3.6						

ISN ***13*** *00:04:44.4±1.2, 39°.08N×44°.27E, h0km±40km, ML4.4*

NSSP ***13*** *00:04:48.0, 39°.02N×44°.27E, h10km, Ms4.3*

DDA ***13*** *00:04:48.7, 39°.03N×44°.17E, h4km, Ml4.3*

IDC ***13*** *00:04:50.0±0.7, 39°.09N×44°.22E, h0km, mb3.7/18, mb1 3.8/27, mb1mx3.8/72, mbtmp3.7/27, ML3.2/8, MS3.7/7, Ms1 3.7/7, ms1mx3.2/67, Error ellipse: s-maj=10.6km s-min=7.9km az=141.0*

MOS ***13*** *00:04:49.4±1.5, 38°.93N×44°.21E, h8km, mb4.3/20, Error ellipse: s-maj=6.0km s-min=4.1km az=89.6*

ISK ***13*** *00:04:49.6, 39°.04N×44°.10E, h5km, ML4.3/13*

ATA ***13*** *00:04:50.1±1.2, 39°.06N×44°.03E, h15km±10km, ML4.4, MW4.7*

NEIC ***13*** *00:04:50.7±0.0, 39°.03N×44°.04E, h5km, mb4.2/20, ML4.2(ISK), After ISK.*

ISCJB ***13*** *00:04:50.6±0.1, 39°.00N±0°.01×44°.19E±0°.01, h10km, mb4.0/37, MS3.8/3, Error ellipse: s-maj=2.0km s-min=1.4km az=169.0*

CSEM ***13*** *00:04:50.8±0.1, 39°.03N×44°.17E, h5km, mb4.1/30, Error ellipse: s-maj=3.1km s-min=2.2km az=169.0*

THR ***13*** *00:04:50.7±0.6, 39°.10N×44°.21E, h14km±10km, ML3.6*

VIE ***13*** *00:04:56.8, 38°.80N×44°.08E, h63km, mb3.6/6, MS3.2/4*

TEH ***13*** *00:04:57.9, 38°.86N×44°.34E, h26km, ML4.0*

ISC 13 00:04:51.1±0.4, 39°.01N±0°.01×44°.14E±0°.01, h10km, n411, σ1s64/495, mb4.1/39, MS3.5/3, 53C-49D, Iran-Armenia-Azerbaijan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CLDR	Caldiran	0.22	307	PG	Pg	00 04 53.0	-2.9
CLDR				SG	Sg	00 04 56.9	-2.1
CLDR	Caldiran	0.22	307	↓*i*P	Pg	00 04 52.9	-2.9
CLDR				*i* S	Sg	00 04 56.8	-2.1
CLDR	Caldiran	0.22	307	P	Pg	00 04 52.9	-2.9
CLDR				*e*Sg	Sg	00 04 56.9	-2.1
VMUR	Van-Muradiye	0.44	267	↑*i*P	Pg	00 04 58.2	-1.7
VMUR				*i* S	Sg	00 05 05.0	-0.8
VMUR	Van-Muradiye	0.44	267	P	Pg	00 04 58.2	-1.7
VMUR				S	Sg	00 05 05.0	-0.8
MAKU	Maku	0.54	51	*e*Pg	Pg	00 04 59.6	-2.1
MAKU				*e*Sg	Sg	00 05 06.6	-2.4
MAKU	Maku	0.54	51	*e*Pg	Pg	00 04 59.6	-2.1
MAKU				*e*Sg	Sg	00 05 06.6	-2.4
MAKU				AML	AML	00 05 08.0	
	comp=E,9μm,0.3s						
MAKU				AML	AML	00 05 08.8	
	comp=N,10μm,0.3s						
ERCV	ERCIS-VAN	0.62	271	PG	Pg	00 05 01.5	-1.8
ERCV				SG	Sb	00 05 11.7	-1.5
ERCV	ERCIS-VAN	0.62	271	*e*Pg	Pg	00 05 01.5	-1.8
ERCV				*e*Sg	Sb	00 05 11.7	-1.5
DYDN	Diyadin	0.64	327	*i* P	Pg	00 05 01.2	-2.3
DYDN				*e*S	Sg	00 05 09.8	-2.1
DYDN				IAML		00 05 13.7	
	comp=Z,2μm,0.3s						
DYDN	Diyadin	0.64	327	↓*i*P	Pg	00 05 01.2	-2.3
DYDN				*i* S	Sg	00 05 10.7	-1.2
DYDN	Diyadin	0.64	327	P	Pg	00 05 01.2	-2.3
DYDN				S	Sg	00 05 10.7	-1.2
VANB	Van	0.72	235	PG	Pb	00 05 05.2	-0.7
VANB				SG	Sn	00 05 16.8	-1.9
VANB	Van	0.72	235	*e*Pg	Pb	00 05 05.2	-0.7
VANB				*e*Sg	Sn	00 05 16.8	-1.9
TVAN	Van	0.75	230	↑*i*P	Pg	00 05 05.1	-0.5
TVAN				*i* S	Sn	00 05 17.9	-1.6
TVAN	Van	0.75	230	P	Pg	00 05 05.1	-0.5
TVAN				S	Sn	00 05 18.0	-1.6
IGDI	IGDIR	0.86	357	*i* P	Pg	00 05 05.7	-2.0
IGDI				*e*S	Sb	00 05 19.5	-0.2
IGDI				IAML		00 05 27.4	
	comp=Z,1μm,0.5s						
IGDI	IGDIR	0.86	357	↓*i*P	Pg	00 05 05.7	-2.0
IGDI				*i* S	Sb	00 05 19.7	0.0
HYR	Heyderabad	0.90	38	↑P	Pg	00 05 06.5	-1.9
	SNR=112						
HYR				↑S	Sg	00 05 19.5	-0.6
ARRZ	Ararat	0.94	27	*e*P	Pg	00 05 08.0	-1.3
ARRZ				*e*S	Sg	00 05 20.0	-1.6
TASB	TASBURUN-IGDIR	0.97	4	PG	Pg	00 05 08.0	-1.9
TASB	TASBURUN-IGDIR	0.97	4	*e*Pg	Pg	00 05 08.0	-1.9
AGRB	Hanur-Agry	1.05	303	PG	Pg	00 05 09.6	-1.8
AGRB				SG	Sn	00 05 25.6	-1.4
AGRB	Hanur-Agry	1.05	303	*e*Pg	Pg	00 05 09.6	-1.8
AGRB				*e*Sg	Sn	00 05 25.6	-1.4
NAX	Nakhchivan	1.07	81	Pg	Pg	00 05 09.2	-2.4
NAX	Nakhchivan	1.07	81	↑P	Pg	00 05 09.6	-2.0
	SNR=1000						
NAX				↑S	Sg	00 05 25.5	0.0
NAX	Nakhchivan	1.07	81	PG	Pg	00 05 09.2	-2.4
GEVA	Gevas	1.10	231	*e*P	Pg	00 05 10.5	-1.8
GEVA				*e*S	Sn	00 05 27.4	-0.7
GEVA	Gevas	1.10	231	↑*i*P	Pg	00 05 10.3	-1.9
GEVA				*i* S	Sn	00 05 27.4	-0.7
GEVA	Gevas	1.10	231	P	Pg	00 05 10.4	-1.9
GEVA				S	Sn	00 05 27.4	-0.7
TUTA	Tutak	1.10	291	*i* P	Pg	00 05 09.9	-2.4
TUTA				*e*S	Sg	00 05 25.2	-1.5
TUTA				IAML		00 05 34.2	
	comp=Z,1μm,0.6s						
TUTA	Tutak	1.10	291	↑*i*P	Pg	00 05 10.0	-2.4
TUTA				*i* S	Sg	00 05 25.7	-1.0
TUTA	Tutak	1.10	291	P	Pg	00 05 10.0	-2.4
TUTA				S	Sg	00 05 25.7	-1.0
ADCV	BITLIS_Adilcev	1.12	260	↑*i*P	Pg	00 05 11.0	-1.7
ADCV				*i* S	Sn	00 05 29.6	+0.9
ADCV	BITLIS_Adilcev	1.12	260	P	Pg	00 05 11.0	-1.7
ADCV				S	Sn	00 05 29.6	+0.9
SBZ	Shahbuz	1.16	70	↓P	Pb	00 05 11.3	-2.1
	SNR=1000						
SBZ				↑S	Sb	00 05 27.7	-0.9
GNI	Garni	1.23	22	Pg	Pn	00 05 12.4	-2.1
	comp=Z,48nm,0.3s,baz=210,slow=3.1,SNR=109						
GNI				Lg		00 05 27.8	
	comp=Z,378nm,0.3s,baz=198,slow=20,SNR=49						
GNI	Garni	1.23	22	↓*i*P	Pn	00 05 12.4	-2.1
GNI				↑*i*S	Sb	00 05 30.2	-0.3
GNI	Garni	1.23	22	*e*Pn	Pn	00 05 12.7	-1.8
GNI	Garni	1.23	22	*i* Pg	Pn	00 05 12.1	-2.4
GNI	Garni	1.23	22	*e*Pn	Pn	00 05 12.7	-1.8
GNI				S	Sb	00 05 30.2	-0.3
GNI	Garni	1.23	22	*d*iPG	Pn	00 05 12.1	-2.4
IMRD	Marand	1.26	103	*e*Pg	Pn	00 05 12.1	-2.8
IMRD				*e*AMB	AMB	00 05 38.9	
	comp=Z,99μm,0.2s						
IMRD	Marand	1.26	103	*e*Pg	Pn	00 05 12.1	-2.8
ISHB	Shabestar	1.37	122	*e*Pg	Pn	00 05 14.1	-2.4
ISHB				*e*AMB	AMB	00 05 17.4	
	comp=Z,55μm,0.2s						
YOVA	Hakkari_Y`…kse	1.43	175	↓*i*P	Pn	00 05 15.7	-1.6
YOVA				*i* S	Sg	00 05 37.8	+0.7
YOVA	Hakkari_Y`…kse	1.43	175	P	Pn	00 05 15.7	-1.6
YOVA				S	Sg	00 05 37.8	+0.7
ORD	Ordubad	1.45	93	↑P	Pn	00 05 16.3	-1.2
	SNR=1000						
ORD				↓S	Sg	00 05 39.4	+1.7
HAKT	HAKKARI	1.49	193	↓*i*P	Pn	00 05 16.2	-2.0
HAKT				*i* S	Sg	00 05 39.6	+0.4
HAKT	HAKKARI	1.49	193	P	Pn	00 05 16.2	-2.0
HAKT				S	Sg	00 05 39.6	+0.4
DIGO	Kars	1.52	337	*i* P	Pn	00 05 17.6	-1.1
DIGO				*e*S	Sg	00 05 40.1	+0.1
DIGO				IAML		00 05 49.8	
	comp=Z,236nm,0.5s						
DIGO	Kars	1.52	337	↓*i*P	Pn	00 05 17.9	-0.8
DIGO				*i* S	Sg	00 05 40.1	+0.1
DIGO	Kars	1.52	337	P	Pn	00 05 17.9	-0.8
DIGO				S	Sg	00 05 40.2	+0.1
EATA	Eleskirt	1.53	304	*e*P	Pn	00 05 17.9	-1.0
EATA				IAML		00 05 51.9	
	comp=Z,132nm,0.5s						
EATA	Eleskirt	1.53	304	↓*i*P	Pn	00 05 17.6	-1.3
EATA				*i* S	Sb	00 05 39.1	-0.3
EATA	Eleskirt	1.53	304	P	Pn	00 05 17.5	-1.3
EATA				S	Sb	00 05 39.1	-0.3
EKAR	Karacoban	1.63	279	*e*P	Pn	00 05 19.7	-0.4
EKAR				IAML		00 06 08.9	
	comp=Z,357nm,0.7s						
EKAR	Karacoban	1.63	279	↑*i*P	Pn	00 05 19.2	-0.9
EKAR				*i* S	Sg	00 05 45.2	+1.5
EKAR	Karacoban	1.63	279	P	Pn	00 05 19.2	-0.9
EKAR				S	Sg	00 05 45.2	+1.5
GURO	Guroymak-BITLI	1.71	255	PN	Pn	00 05 20.9	-0.2
GURO	Guroymak-BITLI	1.71	255	*e*Pn	Pn	00 05 20.9	-0.2
EAK	Akyaka	1.72	346	*e*P	Pn	00 05 21.4	0.0
EAK				*e*S	Sg	00 05 47.8	+1.3
EAK				IAML		00 05 50.7	
	comp=Z,650nm,0.6s						
EAK	Akyaka	1.72	346	↓*i*P	Pn	00 05 21.2	-0.1
EAK				*i* S	Sg	00 05 47.1	+0.6
EAK	Akyaka	1.72	346	P	Pn	00 05 21.2	-0.1
EAK				S	Sg	00 05 47.1	+0.6
ITBZ	Tabriz	1.75	116	*e*Pn	Pn	00 05 20.6	-1.2
ITBZ				*e*AMB	AMB	00 05 26.1	
	comp=Z,23μm,0.2s						
ITBZ	Tabriz	1.75	116	*e*Pn	Pn	00 05 20.6	-1.2
KARS	Kars	1.81	333	PN	Pn	00 05 22.9	+0.4
KARS	Kars	1.81	333	*e*Pn	Pn	00 05 22.9	+0.4
GMRZ	Gyumri	1.81	353	*e*P	Pg	00 05 25.0	-0.9
GMRZ				↑S	Sg	00 05 49.0	-0.4
STE	Stepanavan	1.99	5	↓P	Pn	00 05 24.0	-1.0
STEZ	Stepenevan	2.00	6	↓*e*P	Pn	00 05 24.0	-1.1
STEZ				↓*e*S	Sg	00 05 59.0	+3.7
HOMI	Horasan	2.01	302	*e*P	Pn	00 05 24.9	-0.4
HOMI				IAML		00 06 03.0	
	comp=Z,295nm,0.8s						
HOMI	Horasan	2.01	302	↓*i*P	Pn	00 05 24.7	-0.7
HOMI				*i* S	Sg	00 05 56.1	+0.2
SRTM	Siirt_Merkez	2.02	240	*e*P	Pn	00 05 25.4	+0.1
SRTM				*i* S	Sg	00 05 55.5	-0.5
SRTM	Siirt_Merkez	2.02	240	P	Pn	00 05 25.4	+0.1
SRTM				S	Sg	00 05 55.5	-0.5
SIRT	Sirnak	2.02	222	PN	Pb	00 05 26.7	-1.3
SIRT	Sirnak

BNGB	**Bing˜¶l**	**2.70 271**	PN	**Pn**	**00 05 35.7 +1.0**
EPOS	**Posof**	**2.71 337**	*e*P	**Pn**	**00 05 34.4 -0.5**
EPOS			IAML		00 06 29.3
	comp=Z,18nm,0.6s				
EPOS	**Posof**	**2.71 337**	⇓*i*P	**Pn**	**00 05 34.4 -0.5**
EPOS			*i* S	**Sg**	**00 06 22.9 +4.7**
EPOS	**Posof**	**2.71 337**	P	**Pn**	**00 05 34.4 -0.5**
BTNK	**Botanikuri**	**2.71 10**	P	**Pb**	**00 05 37.9 -1.9**
BTNK			S	**Sb**	**00 06 14.5 +1.3**
DBAD	**Bademkaya**	**2.75 318**	*i* P	**Pb**	**00 05 39.2 -1.2**
DBAD			*i* S	**Sg**	**00 06 21.7 +2.3**
DBAD	**Bademkaya**	**2.75 318**	P	**Pb**	**00 05 39.2 -1.2**
TBLG	**Delisi**	**2.75 9**	PN	**Pn**	**00 05 36.1 +0.7**
TBLG	**Delisi**	**2.75 9**	*e*P	**Pn**	**00 05 35.8 +0.5**
TBLG			*e*S	**Sg**	**00 06 17.0 -2.6**
TBLG			IAML		00 06 23.6
	comp=Z,44nm,0.6s				
TBLG	**Delisi**	**2.75 9**	P	**Pn**	**00 05 36.3 +0.9**
TBLG			S	**Sg**	**00 06 17.2 -2.5**
TBLG	**Delisi**	**2.75 9**	*e*Pn	**Pn**	**00 05 36.2 +0.9**
TBLG	**Delisi**	**2.75 9**	*e*Pn	**Pn**	**00 05 36.1 +0.7**
TBLG			*e*Sb	**Sg**	**00 06 17.1 -2.5**
TBLG	**Delisi**	**2.75 9**	*e*PN	**Pn**	**00 05 36.3 +0.9**
TBLG			*e*S	**Sg**	**00 06 17.1 -2.5**
ARTV	**Artvin**	**2.75 323**	*e*P	**Pb**	**00 05 38.5 -2.1**
ARTV			*e*S	**Sg**	**00 06 20.0 +0.3**
ARTV			IAML		00 06 29.9
	comp=Z,17nm,0.7s				
SEAG	**Tbilisi Sea**	**2.79 10**	P	**Pb**	**00 05 40.0 -1.2**
SEAG			S	**Sg**	**00 06 18.2 -2.7**
BINT	**Bingol**	**2.85 268**	*e*Pn	**Pn**	**00 05 35.7 -1.1**
DDFL	**Dedoflistskaro**	**2.86 31**	P	**Pg**	**00 05 44.3 -1.7**
DDFL			S	**Sg**	**00 06 24.4 +1.2**
MNGR	**Mingechevir, A**	**2.87 51**	Pn	**Pn**	**00 05 35.4 -1.5**
MNGR	**Mingechevir, A**	**2.87 51**	⇑P	**Pn**	**00 05 37.0 +0.1**
	SNR=18				
MNGR			⇓S	**Sn**	**00 06 13.3 +1.9**
MNGR	**Mingechevir, A**	**2.87 51**	PN	**Pn**	**00 05 35.4 -1.5**
GRMI	**Germi**	**2.94 93**	*e*Pn	**Pn**	**00 05 38.5 +0.5**
GRMI			*e*Sg	**Sb**	**00 06 20.8 +1.2**
GRMI	**Germi**	**2.94 93**	*e*Pn	**Pn**	**00 05 38.5 +0.5**
GRMI			*e*Sg	**Sb**	**00 06 20.8 +1.2**
GRMI			AML	AML	00 06 24.9
	comp=E,181nm,0.5s				
GRMI			AML	AML	00 06 37.0
	comp=N,184nm,0.6s				
KOPT	**Kop Dagi**	**2.99 291**	*e*P	**Pb**	**00 05 45.1 +0.4**
KOPT			IAML		00 06 27.1
	comp=Z,41nm,0.7s				
KOPT			*e*S	**Sg**	**00 06 29.0 +1.7**
ZRD	**Zardab**	**3.01 64**	⇓P	**Pn**	**00 05 37.7 -1.2**
	SNR=14				
DUS	**Dusheti**	**3.10 8**	P	**Pn**	**00 05 42.2 +2.0**
DUS			S	**Sg**	**00 06 29.6 -1.2**
DUS	**Dusheti**	**3.10 8**	*e*Pn	**Pn**	**00 05 42.2 +2.0**
DUS			*e*Sb	**Sg**	**00 06 29.6 -1.2**
DUS	**Dusheti**	**3.10 8**	*e*PN	**Pn**	**00 05 42.2 +2.0**
DUS			*e*S	**Sg**	**00 06 29.6 -1.2**
SEKA	**Sheki**	**3.21 46**	Pn	**Pn**	**00 05 40.5 -1.2**
SEKA	**Sheki**	**3.21 46**	⇓P	**Pn**	**00 05 42.5 +0.8**
	SNR=8.5				
SEKA			⇑S	**Sb**	**00 06 23.9 -3.6**
SEKA	**Sheki**	**3.21 46**	PN	**Pn**	**00 05 40.5 -1.2**
ZKTA	**Zakatala**	**3.24 35**	Pn	**Pn**	**00 05 39.9 -2.1**
ZKTA	**Zakatala**	**3.24 35**	PN	**Pn**	**00 05 39.9 -2.1**
BAYB	**BAYBURT**	**3.25 294**	*e*P	**Pn**	**00 05 43.3 +1.0**
BAYB			IAML		00 06 42.4
	comp=Z,12nm,0.6s				
DIY	**Diyarbakir**	**3.27 251**	*e*Pn	**Pn**	**00 05 44.5 +2.0**
MAZI	**Mazidag**	**3.30 243**	PN	**Pn**	**00 05 45.0 +2.1**
MAZI	**Mazidag**	**3.30 243**	*e*Pn	**Pn**	**00 05 45.0 +2.1**
LRK	**Lerik**	**3.30 95**	⇓P	**Pn**	**00 05 43.1 +0.1**
	SNR=310				
LRK			⇑S	**Sn**	**00 06 25.8 +3.4**
DYBB	**Diyarbakir**	**3.31 253**	PN	**Pn**	**00 05 44.5 +1.4**
GLBA	**Clilabad**	**3.31 85**	⇓P	**Pn**	**00 05 43.0 -0.1**
	SNR=143				
GLBA			⇑S	**Sn**	**00 06 22.6 +0.1**
CHOM	**Cayeli-Rize**	**3.33 310**	*e*Pn	**Pn**	**00 05 44.5 +1.3**
BAYT	**Ayd˜–ntepe-Bay**	**3.38 295**	PN	**Pn**	**00 05 45.6 +1.5**
BAYT	**Ayd˜–ntepe-Bay**	**3.38 295**	*e*Pn	**Pn**	**00 05 45.6 +1.5**
KDMR	**Kurdemir**	**3.40 65**	⇓P	**Pn**	**00 05 44.2 -0.1**
SAAT	**Saatly**	**3.42 74**	⇓P	**Pn**	**00 05 43.7 -0.8**
	SNR=5.0				
QBL	**Gabala**	**3.43 55**	⇑P	**Pn**	**00 05 46.0 +1.2**
	SNR=39				
QBL			⇑S	**Sn**	**00 06 25.7 +0.2**
GUDG	**Gudauri**	**3.46 4**	P	**Pn**	**00 05 46.7 +1.4**
GUDG			S	**Sb**	**00 06 37.0 +2.2**
ERZN	**Erzincan**	**3.48 281**	PN	**Pn**	**00 05 46.4 +1.0**
EUZM	**Uzumlu**	**3.51 283**	*e*P	**Pb**	**00 05 51.3 -2.2**
IML	**Ismayilli**	**3.58 59**	⇑P	**Pn**	**00 05 46.6 -0.2**
	SNR=8.2				
IML			⇓S	**Sn**	**00 06 29.0 -0.2**
TNCL	**Tunceli-Merkez**	**3.58 273**	*e*P	**Pn**	**00 05 47.4 +0.6**
ONI	**Oni**	**3.61 352**	P	**Pb**	**00 05 53.2 -1.9**
ONI	**Oni**	**3.61 352**	*e*PN	**Pb**	**00 05 53.2 -1.9**
LKRN	**Lenkeran, Azer**	**3.63 93**	Pn	**Pn**	**00 05 46.0 -1.4**
LKRN	**Lenkeran, Azer**	**3.63 93**	⇑P	**Pn**	**00 05 47.8 +0.4**
	SNR=66				
LKRN			⇓S	**Sn**	**00 06 33.7 +3.4**
LKRN	**Lenkeran, Azer**	**3.63 93**	PN	**Pn**	**00 05 46.0 -1.4**
ASTR	**Astara**	**3.66 96**	⇑P	**Pn**	**00 05 47.7 -0.1**
	SNR=101				
ASTR			⇑S	**Sn**	**00 06 34.5 +3.4**
AKT	**Akhty**	**3.69 47**	*e*Pn	**Pn**	**00 05 49.5 +1.2**
	comp=Z,183nm,0.7s				
AKT			*e*Sn	**Sn**	**00 06 32.8 +0.9**
	comp=Z,107nm,1.0s				
AKT	**Akhty**	**3.69 47**	*e*PN	**Pn**	**00 05 49.5 +1.2**
AKT			*e*		00 05 59.3
AKT			*e*S	**Sn**	**00 06 32.8 +0.9**
AKT			pmax	pmax	
	comp=Z,183nm,0.7s				
AKT			smax	smax	
	comp=E,198nm,0.9s				
AKT			smax	smax	
	comp=E,138nm,0.8s				
AKT			smax	smax	
	comp=N,107nm,1.0s				
PTK	**Pertek**	**3.70 270**	PN	**Pn**	**00 05 50.1 +1.5**
PTK	**Pertek**	**3.70 270**	*e*Pn	**Pn**	**00 05 50.1 +1.5**
XNQ	**Khinaliq**	**3.75 54**	⇓P	**Pn**	**00 05 49.2 0.0**
	SNR=7.8				
XNQ			⇑S	**Sn**	**00 06 35.7 +2.1**
ZEI	**Tsey**	**3.78 357**	*e*PN	**Pb**	**00 05 54.7 -3.3**
ZEI			pmax	pmax	
	comp=Z,94nm,0.8s				
LACR	**Lac**	**3.81 2**	Pn	**Pn**	**00 05 52.3 +2.3**
LACR	**Lac**	**3.81 2**	PN	**Pn**	**00 05 52.3 +2.3**
PQL	**Pirkuli**	**3.86 61**	⇑P	**Pn**	**00 05 50.6 -0.1**
	SNR=13				
ALIB	**Äli-Bayra**	**3.88 74**	⇑P	**Pn**	**00 05 51.9 +1.1**
	SNR=6.6				
ALIB			⇓S	**Sn**	**00 06 38.1 +1.6**
DIGR	**Digorskoe uzhe**	**3.91 354**	PN	**Pb**	**00 06 02.0 +1.8**
KELT	**Kelkit**	**3.94 288**	*e*P	**Pb**	**00 05 57.8 -3.0**
KELT			IAML		00 07 18.0
	comp=Z,6.7nm,0.7s				
BTLR	**Botlikh**	**3.98 23**	*e*Pn	**Pn**	**00 05 55.6 +3.4**
	comp=Z,44nm,0.8s				
BTLR			*e*Sb	**Sg**	**00 06 58.1 -0.7**
	comp=Z,72nm,1.0s				
BTLR	**Botlikh**	**3.98 23**	⇓*e*PN	**Pn**	**00 05 55.6 +3.4**
BTLR			*e*		00 06 58.1
BTLR			pmax	pmax	
	comp=Z,44nm,0.8s				
BTLR			smax	smax	
	comp=Z,44nm,0.8s				
BTLR			smax	smax	
	comp=N,72nm,1.0s				
GNBR	**Gunib**	**4.00 32**	*e*Sb	**Sg**	**00 06 56.4 -3.1**
	comp=N,157nm,1.4s				
GNBR	**Gunib**	**4.00 32**	⇓*e*PN	**Pb**	**00 06 01.8 +0.1**
GNBR			*e*		00 06 56.4
GNBR			pmax	pmax	
	comp=Z,61nm,0.8s				
GNBR			smax	smax	
	comp=N,157nm,1.4s				
GBS	**Qobustan**	**4.00 66**	⇑P	**Pn**	**00 05 52.4 -0.1**
	SNR=4.4				
QSAR	**Qusar**	**4.02 50**	⇓P	**Pn**	**00 05 51.8 -1.1**
	SNR=15				
XNZR	**Khunzakh**	**4.03 28**	*e*Sb	**Sg**	**00 07 00.8 +0.3**
XNZR	**Khunzakh**	**4.03 28**	⇑*e*PN	**Pb**	**00 06 03.2 +0.9**
XNZR			*e*		00 07 00.8
QUBA	**Quba, Azerbaij**	**4.07 54**	⇑P	**Pn**	**00 05 53.1 -0.4**
	SNR=10				
ATGJ	**Altiaghaj**	**4.12 62**	⇓P	**Pn**	**00 05 54.3 0.0**
	SNR=9.3				
REFA	**Refahiye_ERZ˜**	**4.19 277**	*e*P	**Pn**	**00 05 58.0 +2.7**
REFA			IAML		00 08 36.5
	comp=Z,3.8nm,0.1s				
SIZA	**Siyzn**	**4.19 59**	⇑P	**Pn**	**00 05 55.3 +0.1**
	SNR=5.8				
LSNR	**Lesken**	**4.27 357**	PN	**Pb**	**00 06 06.6 +0.3**
ZNJK	**Zanjan**	**4.29 122**	*e*Pn	**Pn**	**00 05 57.4 +0.7**
ZNJK	**Zanjan**	**4.29 122**	*e*Pn	**Pn**	**00 05 57.4 +0.7**
ZNJK			AML	AML	00 07 14.2
	comp=N,25nm,0.6s				
BTKR	**Batakoyurt**	**4.37 4**	PN	**Pg**	**00 06 12.6 -2.2**
NEY	**Neytrino**	**4.37 346**	*e*Pn	**Pn**	**00 06 01.0 +3.3**
NEY	**Neytrino**	**4.37 346**	⇑*e*PN	**Pn**	**00 06 01.0 +3.3**
GROC	**Groznyy**	**4.37 16**	*e*Sb	**Sg**	**00 07 11.0 -0.4**
GROC	**Groznyy**	**4.37 16**	*e*PN	**Pb**	**00 06 09.0 +1.0**
GROC			*e*S	**Sg**	**00 07 11.0 -0.4**
GROC			pmax	pmax	
	comp=Z,109nm,1.3s				
GROC			smax	smax	
	comp=E,181nm,1.6s				
GROC			smax	smax	
	comp=E,518nm,1.6s				
KEMA	**Kemaliye**	**4.40 275**	*e*P	Pn	00 06 02.5 +4.4
URFA	**Urfa**	**4.47 251**	PN	**Pn**	**00 06 01.3 +2.2**
URFA	**Urfa**	**4.47 251**	*e*Pn	**Pn**	**00 06 01.3 +2.2**
DBC	**Dubki**	**4.49 26**	⇑*e*PN	**Pb**	**00 06 06.0 -4.1**
DBC			*e*		00 07 11.4
MALT	**Malatya**	**4.53 263**	PN	**Pn**	**00 06 01.3 +1.5**
MALT	**Malatya**	**4.53 263**	*e*Pn	**Pn**	**00 06 01.3 +1.5**
ESPY	**Espiye-Giresun**	**4.57 296**	PN	**Pn**	**00 06 02.4 +2.0**
ESPY	**Espiye-Giresun**	**4.57 296**	*e*Pn	**Pn**	**00 06 02.4 +2.0**
IDHR	**Dehrash**	**4.67 157**	*e*AMB	AMB	00 06 22.4
	comp=Z,1µm,0.3s				
IDHR			*e*Pn	**Pn**	**00 06 03.7 +1.9**
IDHR			*e*Sg	**Sg**	**00 07 17.2 -3.8**
ILIN	**Lien**	**4.67 150**	*e*Pn	**Pn**	**00 06 04.1 +2.2**
ILIN			*e*AMB	AMB	00 07 41.5
	comp=Z,711nm,0.4s				
ILIN	**Lien**	**4.67 150**	*e*Pn	**Pn**	**00 06 04.1 +2.2**
SNGE	**Sanandaj**	**4.68 146**	*e*Pn	**Pn**	**00 06 03.9 +1.9**
SNGE	**Sanandaj**	**4.68 146**	*e*Pn	**Pn**	**00 06 03.9 +1.9**
MAK	**Makhachkala**	**4.70 32**	*e*Pn	**Pn**	**00 06 01.6 -0.4**
	comp=Z,89nm,1.1s				
MAK			*e*Sn	**Sn**	**00 06 56.8 +0.3**
	comp=Z,238nm,11.0s				
MAK	**Makhachkala**	**4.70 32**	*e*PN	**Pn**	**00 06 01.6 -0.4**
MAK			*e*S	**Sn**	**00 06 56.8 +0.3**
MAK			pmax	pmax	
	comp=Z,89nm,1.1s				
MAK			MLR	MLR	
	comp=Z,238nm,11.0s				
KBZ	**Khabaz**	**4.80 349**	Pn	**Pn**	**00 06 07.0 +3.5**
	comp=Z,0.1nm,0.3s,baz=180,slow=13,SNR=3.0				
KBZ			Lg	Lg	00 07 20.0
	baz=180,slow=20,SNR=1.4				
KBZ			LR	LR	00 08 19.8
	comp=Z,644nm,18.9s,baz=157,slow=44				
KBZ	**Khabaz**	**4.80 349**	Pn	**Pn**	**00 06 07.0 +3.5**
	comp=Z,644nm,18.9s				
KBZ	**Khabaz**	**4.80 349**	PN	**Pn**	**00 06 07.0 +3.5**
KBZ			MLR	MLR	
	comp=Z,644nm,18.9s				
IVIS	**Veis**	**4.98 153**	*e*Pn	**Pn**	**00 06 07.3 +1.3**
IVIS			*e*AMB	AMB	00 07 49.1
	comp=Z,2µm,0.7s				
IVIS	**Veis**	**4.98 153**	*e*Pn	**Pn**	**00 06 07.3 +1.3**
KVAR	**Kislovodsk Arr**	**5.06 348**	Pn	**Pn**	**00 06 09.9 +2.8**
	baz=162,slow=20,SNR=3.2				
KVAR			Lg	Lg	00 07 25.5
	baz=229,slow=9.3,SNR=2.1				
KVAR			LR	LR	00 08 27.4
	comp=Z,643nm,18.4s,baz=144,slow=44				
KIV	**Kislovodsk**	**5.06 348**	*e*Pn	**Pn**	**00 06 10.5 +3.4**
KIV	**Kislovodsk**	**5.06 348**	*e*Pn	**Pn**	**00 06 09.4 +2.3**
	comp=Z,108nm,8.0s				
KIV	**Kislovodsk**	**5.06 348**	*e*PN	**Pn**	**00 06 09.4 +2.3**
KIV			pmax	pmax	
	comp=Z,13nm,1.1s				
KIV			MLR	MLR	
	comp=Z,108nm,8.0s				
IGHG	**Ghaleghazi**	**5.07 157**	*e*Pn	**Pn**	**00 06 08.5 +1.2**
IGHG			*e*AMB	AMB	00 07 48.9
	comp=Z,4µm,0.7s				
IGHG	**Ghaleghazi**	**5.07 157**	*e*Pn	**Pn**	**00 06 08.5 +1.2**
IGZV	**Ghazvin**	**5.49 117**	*e*Pn	**Pn**	**00 06 14.1 +1.0**
IGZV			*e*AMB	AMB	00 07 24.3
	comp=Z,969nm,0.1s				
IGZV	**Ghazvin**	**5.49 117**	*e*Pn	**Pn**	**00 06 14.1 +1.0**
SOC	**Sochi**	**5.65 325**	*e*S	**Sn**	**00 07 23.3 +3.2**
SOC	**Sochi**	**5.65 325**	*e*P	**Pn**	**00 06 13.1 -2.1**
SOC			*e*		00 07 23.3
SOC			MLR	MLR	
	comp=Z,179nm,10.0s				
IRAZ	**Razeghan**	**5.86 126**	*e*Pn	**Pn**	**00 06 19.3 +1.1**
IRAZ			*e*AMB	AMB	00 07 10.4
	comp=Z,507nm,0.4s				
IRAZ	**Razeghan**	**5.86 126**	*e*Pn	**Pn**	**00 06 19.3 +1.1**
CHTH	**Charan**	**6.36 117**	*e*Pn	**Pn**	**00 06 26.5 +1.3**
CHTH	**Charan**	**6.36 117**	*e*Pn	**Pn**	**00 06 26.5 +1.3**
ASAO	**Ashtian**	**6.49 132**	*e*Pn	**Pn**	**00 06 28.7 +1.7**
ASAO	**Ashtian**	**6.49 132**	*e*Pn	**Pn**	**00 06 28.7 +1.7**
RTB	**Rutbah**	**6.73 209**	*e*Pn	**Pn**	**00 06 29.0 -1.0**
	SNR=3.0				
IPRN	**Peran**	**7.07 110**	*e*Pn	**Pn**	**00 06 37.1 +2.3**
IPRN			*e*AMB	AMB	00 06 49.5
	comp=Z,413nm,0.3s				
ISHM	**Shahmirzad**	**7.95 111**	*e*Pn	**Pn**	**00 06 50.5 +3.4**
ISHM			*e*AMB	AMB	00 07 12.4
	comp=Z,304nm,0.2s				
IGLO	**Ghaloghah**	**8.07 105**	*e*Pn	**Pn**	**00 06 50.1 +1.5**
IGLO			*e*AMB	AMB	00 06 59.3
	comp=Z,1µm,0.2s				
BR131	**Keskin Array S**	**8.17 278**	*e*Pn	**Pn**	**00 06 53.9 +4.0**
BRTR	**Keskin Array B**	**8.17 278**	Pn	Pn	00 06 54.3 +4.5
	comp=Z,0.1nm,0.3s,baz=101,slow=11,SNR=14				
BRTR			Lg	Lg	00 09 11.2
	comp=Z,0.1nm,0.3s,baz=64,slow=3.4,SNR=2.6				
ASF	**Jabal al Asfar**	**9.02 223**	Pn	**Pn**	**00 07 01.5 0.0**
	comp=Z,0.1nm,0.3s,baz=41,slow=9.3,SNR=3.0				
ASF			Lg	Lg	00 09 39.4
	comp=Z,0.0nm,0.3s,baz=342,slow=20,SNR=3.0				
MMAI	**Mount Meron Ar**	**9.27 232**	Pn	**Pn**	**00 07 06.5 +1.7**
	comp=Z,0.2nm,0.3s,baz=74,slow=15,SNR=3.8				
MMAI			Lg	Lg	00 09 47.4
	comp=Z,0.2nm,0.3s,baz=236,slow=47,SNR=3.1				
GEYT	**Alibeck**	**11.01 91**	Pn	**Pn**	**00 07 27.2 -1.6**
	comp=Z,1.2nm,0.3s,baz=280,slow=16,SNR=12				
EIL	**Elat**	**12.01 222**	LR	LR	00 12 51.4
	comp=Z,384nm,18.3s,baz=60,slow=40				
VSR	**Storozhevoye**	**12.69 346**	*e*P	**Pn**	**00 07 51.6 0.0**
VSR			pmax	pmax	
	comp=Z,10.0nm,1.1s				
LPSR	**Galich'ya Gora**	**14.06 347**	*e*P	**Pn**	**00 08 09.1 -1.2**
LPSR			pmax	pmax	
	comp=Z,10.0nm,0.8s				
VRI	**Vrincioaia**	**14.55 304**	⇓*i*P	P	00 08 30.0 +6.3
VRI	**Vrincioaia**	**14.55 304**	⇓P	P	00 08 30.0 +6.3
MLR	**Muntele Rosu**	**14.94 302**	⇑*i*P	**P**	**00 08 32.2 +4.2**
MLR	**Muntele Rosu**	**14.94 302**	⇑P	**P**	**00 08 32.2 +4.2**
AKTO	**Aktyubinsk**	**15.06 36**	Pn	**Pn**	**00 08 20.5 -3.4**
	comp=Z,0.1nm,0.3s,baz=221,slow=16,SNR=5.7				
DOPR	**Dopca**	**15.46 303**	⇓*i*P	**P**	**00 08 35.7 +1.9**
RAYN	**Ar Rayn**	**15.49 175**	*e*Pn	**Pn**	**00 08 25.5 -4.2**
	comp=Z,11nm,1.0s				
VOIR		**15.52 301**	⇑*i*P	**P**	**00 08 37.4 +3.0**
VOIR		**15.52 301**	P	**P**	**00 08 37.4 +3.0**
VOIR		**15.52 301**	⇑P	**P**	**00 08 37.4 +3.0**
AKASG	**Malin Array Be**	**15.73 323**	Pn	**Pn**	**00 08 31.0 -1.5**
	comp=Z,0.4nm,0.3s,baz=128,slow=11,SNR=7.6				
AKBB	**Malin Array Si**	**15.73 323**	*e*Pn	**P**	**00 08 36.6 0.0**
	comp=Z,21nm,1.3s				
AKBB	**Malin Array Si**	**15.73 323**	*e*P	**P**	**00 08 36.6 0.0**
	comp=Z,21nm,1.3s				
AKBB	**Malin Array Si**	**15.73 323**	*e*P	**P**	**00 08 36.6 0.0**
AKBB			pmax	pmax	
	comp=Z,21nm,1.3s				
KIEV	**Kiev**	**15.73 323**	*e*Pn	**P**	**00 08 36.6 0.0**
	comp=Z,21nm,1.3s				
KIEV	**Kiev**	**15.73 323**	*i* P	**P**	**00 08 36.2 -0.4**
KIEV	**Kiev**	**15.73 323**	⇓*i*P	**P**	**00 08 36.2 -0.4**
AK11	**Malin Array Si**	**15.74 323**	*e*Pn	**P**	**00 08 36.6 -0.1**
ARR	**Arges**	**15.77 300**	⇑*i*P	**P**	**00 08 42.0 +4.7**
BURAR	**Bucovina Array**	**16.20 308**	⇑*i*P	**P**	**00 08 43.4 +1.3**
BURAR	**Bucovina Array**	**16.20 308**	⇑P	**P**	**00 08 43.4 +1.3**
BUR04	**Bucovina Ar. S**	**16.21 308**	*e*Pn	**P**	**00 08 42.5 +0.4**
BUR04	**Bucovina Ar. S**	**16.21 308**	*e*Pn	**P**	**00 08 42.5 +0.4**
BUR08	**Bucovina Ar. S**	**16.23 308**	*e*Pn	**P**	**00 08 43.0 +0.7**
BUR08	**Bucovina Ar. S**	**16.23 308**	*e*Pn	**P**	**00 08 43.0 +0.7**
VTS	**Vitosha**	**16.24 289**	⇑*i*P	**P**	**00 08 44.5 +1.9**
VTS	**Vitosha**	**16.24 289**	*e*Pn	**P**	**00 08 42.6 0.0**
	comp=Z,8.6nm,1.3s				
VTS	**Vitosha**	**16.24 289**	*e*Pn	**P**	**00 08 42.6 0.0**
	comp=Z,8.6nm,1.3s				
VTS	**Vitosha**	**16.24 289**	P	**P**	**00 08 44.5 +1.9**
VTS	**Vitosha**	**16.24 289**	⇑P	**P**	**00 08 44.5 +1.9**
LOT	**Lotru**	**16.38 300**	⇑*i*P	**P**	**00 08 43.7 -0.4**
OBN	**Obninsk**	**16.90 345**	⇓*e*P	**Pn**	**00 08 45.8 -1.7**
OBN			pmax	pmax	
	comp=Z,15nm,0.9s				
OBN			MLR	MLR	
	comp=Z,405nm,28.0s				
UOSS	**Minazif**	**17.34 140**	*e*Pn	**Pn**	**00 08 52.0 -1.2**
	comp=Z,10nm,0.8s				
UOSS	**Minazif**	**17.34 140**	*e*Pn	**Pn**	**00 08 52.0 -1.2**
	comp=Z,10nm,0.8s				
DIVS	**Divibare**	**18.75 293**	*e*P	**Pn**	**00 09 11.9 +1.3**
	comp=Z,5.8nm,1.1s				
DIVS	**Divibare**	**18.75 293**	*e*P	**Pn**	**00 09 11.9 +1.3**
	comp=Z,5.8nm,1.1s				
CRVS	**Cervenica-Dubn**	**19.02 309**	*e*P	**Pn**	**00 09 14.1 +0.3**
CRVS	**Cervenica-Dubn**	**19.02 309**	*e*P	**Pn**	**00 09 14.1 +0.3**
CRVS	**Cervenica-Dubn**	**19.02 309**	*e*P	**Pn**	**00 09 14.1 +0.3**
STHS	**Stebnicka Huta**	**19.36 310**	*e*P	**Pn**	**00 09 17.3 -0.5**
STHS	**Stebnicka Huta**	**19.36 310**	*e*P	**Pn**	**00 09 17.3 -0.5**
PSZ	**Piszkesteto**	**19.66 305**	*e*P	**Pn**	**00 09 22.4 +0.9**
	comp=Z,20nm,1.7s				
PSZ	**Piszkesteto**	**19.66 305**	*e*P	**Pn**	**00 09 22.4 +0.9**
PSZ			pmax	pmax	
	comp=Z,20nm,1.7s				
ARU	**Arti**	**19.87 24**	*e*P	**Pn**	**00 09 23.5 -0.3**
	comp=Z,39nm,1.7s				
ARU	**Arti**	**19.87 24**	*c i*P	**Pn**	**00 09 23.7 -0.1**
ARU			S	**Sn**	**00 13 08.4 +1.4**
ARU			pmax	pmax	
	comp=Z,32nm,2.5s				
NIE	**Niedzica**	**19.92 309**	*e*P	**Pn**	**00 09 25.0 +0.4**
NIE	**Niedzica**	**19.92 309**	*e*P	**Pn**	**00 09 25.0 +0.4**
WSAR	**Wadi Sarin**	**19.98 138**	P	**Pn**	**00 09 25.7 +0.2**
	comp=Z,0.4nm,0.3s,baz=303,slow=9.0,SNR=6.3				
WSAR			LR	LR	00 18 01.1
	comp=Z,196nm,18.0s,baz=274,slow=40				
KK31	**Karatay Array**	**20.27 70**	*e*P	Pn	00 09 27.9 -0.8
KK31	**Karatay Array**	**20.27 70**	*e*P	Pn	00 09 28.0 -0.7
KK31	**Karatay Array**	**20.27 70**	*e*P	Pn	00 09 28.0 -0.7
KKAR	**Karatay Array**	**20.27 70**	*e*P	Pn	00 09 27.9 -0.8
KKAR	**Karatay Array**	**20.27 70**	*e*P	Pn	00 09 27.9 -0.8
KKAR	**Karatay Array**	**20.27 70**	*e*P	Pn	00 09 27.9 -0.8
KBL	**Kabul**	**20.42 95**	*e*P	Pn	00 09 30.8 +0.1
	comp=Z,10nm,1.0s				
KBL	**Kabul**	**20.42 95**	*e*P	Pn	00 09 30.8 +0.1
	comp=Z,10nm,1.0s				
KBL	**Kabul**	**20.42 95**	*e*P	Pn	00 09 30.8 +0.1
KBL			pmax	pmax	
	comp=Z,10.0nm,1.0s				
VYHS	**Vyhne**	**20.51 306**	*e*P	Pn	00 09 30.6 -0.9
VYHS	**Vyhne**	**20.51 306**	*e*P	Pn	00 09 30.6 -0.9
VYHS			pmax	pmax	
	comp=Z,4.0nm,1.2s				
SUW	**Suwalki**	**20.69 323**	*e*P	Pn	00 09 32.7 -0.9
	comp=Z,55nm,1.1s				
SUW	**Suwalki**	**20.69 323**	*e*P	Pn	00 09 32.7 -0.8
SUW			pmax	pmax	
	comp=Z,55nm,1.1s				
SVE	**Sverdlovsk**	**20.88 26**	⇓*e*P	Pn	00 09 35.7 +0.1
SVE			pmax	pmax	
	comp=Z,28nm,1.3s				
MODS	**Modra-Piesok**	**21.47 305**	*e*P	**P**	**00 09 45.0 +5.4**
MODS	**Modra-Piesok**	**21.47 305**	*e*P	**P**	**00 09 45.0 +5.4**
KLMR	**Klimovskoe**	**22.05 354**	*e*P	**P**	**00 09 48.1 +2.3**
KLMR			AMP		00 09 49.8
	comp=Z,20nm,0.9s				
KLMR			LQ	LQ	00 16 30.8
KLMR			LQ	LQ	00 16 30.8
KLMR			LR	LR	00 18 28.6
KLMR	**Klimovskoe**	**22.05 354**	*e*P	**P**	**00 09 48.1 +2.3**
KLMR			pmax	pmax	
	comp=Z,20nm,0.9s				
VRAC	**Vranov**	**22.16 307**	P	**P**	**00 09 47.7 +0.6**
	comp=Z,1.1nm,0.6s,baz=139,slow=11,SNR=3.0				
CONA	**Conrad Observa**	**22.27 303**	P	**P**	**00 09 49.1 +0.8**
	comp=Z,4.7nm,1.3s				
CONA	**Conrad Observa**	**22.27 303**	P	**P**	**00 09 49.1 +0.8**
	comp=Z,4.7nm,1.3s				
KLNR	**Kaliningrad**	**22.45 322**	⇓*e*P	**P**	**00 09 53.1 +3.0**
VSU	**Vasula**	**22.47 336**	⇓*e*P	**P**	**00 09 51.7 +1.5**
VSU			pmax	pmax	
	comp=Z,28nm,1.0s				
AML	**Almayashu**	**22.61 73**	P	**P**	**00 09 53.2 +0.8**
	SNR=9.7				
DPC	**Dobruska-Polom**	**22.66 309**	*e*P	**P**	**00 09 58.0 +5.6**
DPC	**Dobruska-Polom**	**22.66 309**	*e*P	**P**	**00 09 58.0 +5.6**
EKS2	**Erkin-Say**	**22.66 71**	P	**P**	**00 09 55.1 +2.5**
	SNR=14				
BRVK	**Borovoye**	**22.78 43**	*e*P	**P**	**00 09 54.8 +1.2**
	comp=Z,5.5nm,0.8s				
BRVK	**Borovoye**	**22.78 43**	*ce*P	**P**	**00 09 56.1 +2.5**
BRVK			pmax	pmax	
	comp=Z,7.0nm,0.9s				
BVAR	**Borovoye Array**	**22.82 44**	P	**P**	**00 09 54.0 -0.1**
	comp=Z,1.4nm,0.7s,baz=253,slow=9.9,SNR=7.8				
BVAR	**Borovoye Array**	**22.82 44**	P	**P**	**00 09 54.0 -0.1**
BVAR			pmax	pmax	
	comp=Z,1.0nm,0.7s				
AAK	**Ala-Archa**	**23.19 71**	P	**P**	**00 09 58.5 +0.3**
	comp=Z,3.3nm,0.9s,baz=242,slow=8.3,SNR=14				
AAK	**Ala-Archa**	**23.19 71**	*e*P	**P**	**00 09 59.2 +1.1**
	comp=Z,6.9nm,1.0s				
AAK	**Ala-Archa**	**23.19 71**	*i* P	**P**	**00 09 58.6 +0.4**
	comp=Z,4.0nm,0.9s				
AAK	**Ala-Archa**	**23.19 71**	⇓*i*P	**P**	**00 09 58.6 +0.4**
AAK			pmax	pmax	
	comp=Z,4.0nm,0.9s				
FRU	**Bishkek**	**23.28 71**	*e*P	**P**	**00 09 59.0 +0.1**
MOA	**Molln**	**23.30 302**	*i* pP	**P**	**00 09 59.9 +0.7**
	comp=Z,5.8nm,1.1s				
CHMS	**Chumysh**	**23.37 70**	P	**P**	**00 10 01.5 +1.6**
	SNR=5.2				
KBK	**Karagaybulak**	**23.52 71**	P	**P**	**00 10 03.0 +1.5**
	SNR=11				
PRU	**Pruhonice**	**23.64 307**	*e*P	**P**	**00 10 02.5 +0.1**
PRU	**Pruhonice**	**23.64 307**	*e*P	**P**	**00 10 02.5 +0.1**
KZA	**Kyzart**	**23.77 73**	P	**P**	**00 10 05.7 +1.5**
	SNR=22				
KBA	**Koelnbreinsper**	**23.79 300**	P	**P**	**00 10 04.2 +0.1**
	comp=Z,10.0nm,1.3s				
KBA	**Koelnbreinsper**	**23.79 300**	*i* pP	**P**	**00 10 04.2 +0.1**
	comp=Z,10.0nm,1.3s				
GEA0	**GERESS Array S**	**23.88 304**	*e*P	**P**	**00 10 05.2 +0.4**
GEC2	**GERESS Array S**	**23.88 304**	*e*P	**P**	**00 10 06.0 +1.2**
	comp=Z,4.9nm,1.0s				
GEC2	**GERESS Array S**	**23.88 304**	*e*P	**P**	**00 10 06.0 +1.2**
	comp=Z,4.9nm,1.0s				
GEC2	**GERESS Array S**	**23.88 304**	*e*P	**P**	**00 10 06.0 +1.2**
GEC2			pmax	pmax	
	comp=Z,5.0nm,1.0s				
GERES	**GERESS Array B**	**23.88 304**	P	**P**	**00 10 04.9 0.0**
	comp=Z,1.7nm,0.8s,baz=105,slow=9.0,SNR=14				
TKM2	**Tokmak 2**	**24.00 70**	P	**P**	**00 10 07.2 +1.1**
	SNR=11				
NIL	**Nilore**	**24.00 94**	*e*P	**P**	**00 10 06.8 +0.8**
	comp=Z,17nm,0.8s				
NIL	**Nilore**	**24.00 94**	*e*P	**P**	**00 10 06.8 +0.8**
	comp=Z,17nm,0.8s				
NIL	**Nilore**	**24.00 94**	*e*P	**P**	**00 10 06.8 +0.8**
NIL			pmax	pmax	
	comp=Z,17nm,0.8s				
KHC	**Kasperske Hory**	**24.03 305**	*e*P	**P**	**00 10 06.0 -0.1**
KHC	**Kasperske Hory**	**24.03 305**	*e*P	**P**	**00 10 06.4 +0.3**
	comp=Z,7.5nm,1.7s				
KHC	**Kasperske Hory**	**24.03 305**	*e*P	**P**	**00 10 06.0 -0.1**
ULHL	**Ulahol**	**24.50 72**	P	**P**	**00 10 12.2 +1.4**
	SNR=30				
CLL	**Collm**	**24.96 310**	*e*(P)	**P**	**00 10 16.0 +1.5**

CLL				*e*			00 10 26.0		
CLL	**Collm**	**24.96**	**310**	*e*P		**P**	**00 10 16.0**	**+1.5**
WTTA	**Wattenberg**	**24.97**	**300**	P		**P**	**00 10 15.7**	**+0.8**
	comp=Z,9.8nm,1.1s							
WTTA	**Wattenberg**	**24.97**	**300**	*i* P		**P**	**00 10 15.7**	**+0.8**
	comp=Z,9.8nm,1.1s							
NKC	**Novy Kostel**	**25.00**	**307**	*e*P		**P**	**00 10 16.4**	**+1.4**
NKC	**Novy Kostel**	**25.00**	**307**	*e*P		**P**	**00 10 16.4**	**+1.4**
NKC	**Novy Kostel**	**25.00**	**307**	*e*P		**P**	**00 10 16.4**	**+1.4**
FIA1	**FINESS Array S**	**25.08**	**339**	*e*P		**P**	**00 10 15.1**	**-0.4**
FINES	**FINESS Array B**	**25.08**	**339**	P		**P**	**00 10 14.7**	**-0.8**
	comp=Z,5.7nm,0.9s,baz=144,slow=10,SNR=13							
FINES	**FINESS Array B**	**25.08**	**339**	P		**P**	**00 10 14.7**	**-0.8**
FINES				pmax	pmax			
	comp=Z,4.0nm,0.7s							
MOTA	**Moosalm**	**25.34**	**300**	P		**P**	**00 10 19.1**	**+0.9**
	comp=Z,15nm,1.0s							
MOTA	**Moosalm**	**25.34**	**300**	*i* P		**P**	**00 10 19.1**	**+0.9**
	comp=Z,15nm,1.0s							
FETA	**Feichten**	**25.55**	**299**	*i* pP		**P**	**00 10 19.9**	**-0.3**
	comp=Z,8.0nm,0.9s							
DAVA	**Damuels**	**26.16**	**300**	P		**P**	**00 10 25.6**	**-0.1**
	comp=Z,7.2nm,1.0s							
DAVA	**Damuels**	**26.16**	**300**	*i* pP		**P**	**00 10 25.6**	**-0.1**
	comp=Z,7.2nm,1.0s							
KURBB	**Kurchatov Arra**	**26.77**	**53**	P		**P**	**00 10 31.3**	**+0.4**
	comp=Z,1.2nm,0.7s,baz=263,slow=9.1,SNR=7.4							
PDGK	**Podgornoye**	**26.83**	**69**	P		**P**	**00 10 32.6**	**+0.9**
KURK	**Kurchatov**	**26.85**	**53**	*e*P		**P**	**00 10 32.1**	**+0.5**
	comp=Z,44nm,1.1s							
KURK	**Kurchatov**	**26.85**	**53⇓**	*e*P		**P**	**00 10 32.2**	**+0.5**
KURK				pmax	pmax			
	comp=Z,2.0nm,1.0s							
ATD	**Arta Tunnel**	**27.39**	**183**	LR		LR	00 21 46.1	
	comp=Z,136nm,19.4s,baz=216,slow=37							
BNI	**Bardonecchia**	**28.29**	**295**	*e*P		**P**	**00 10 46.1**	**+1.3**
	comp=Z,6.1nm,1.1s							
BNI	**Bardonecchia**	**28.29**	**295**	*e*P		**P**	**00 10 46.1**	**+1.3**
BNI				pmax	pmax			
	comp=Z,6.0nm,1.1s							
HFS	**Hagfors**	**28.49**	**328**	P		**P**	**00 10 45.8**	**-0.5**
	comp=Z,2.5nm,0.7s,baz=110,slow=8.4,SNR=5.4							
MK31	**Makanchi Array**	**28.78**	**62**	*e*P		**P**	**00 10 49.6**	**+0.6**
MK31	**Makanchi Array**	**28.78**	**62**	*e*P		**P**	**00 10 49.7**	**+0.6**
MKAR	**Makanchi Array**	**28.78**	**62**	P		**P**	**00 10 49.5**	**+0.5**
	comp=Z,1.6nm,0.8s,baz=266,slow=7.2,SNR=16							
MKAR	**Makanchi Array**	**28.78**	**62**	*e*P		**P**	**00 10 49.6**	**+0.6**
	comp=Z,11nm,0.8s							
MK01	**Makanchi Array**	**28.79**	**62**	*e*P		**P**	**00 10 49.4**	**+0.3**
NOA	**NORSAR Array B**	**30.01**	**328**	P		**P**	**00 10 58.7**	**-1.1**
	comp=Z,0.4nm,0.7s,baz=108,slow=7.0,SNR=2.8							
ZALV	**Zalesovo Beam**	**31.25**	**48**	P		**P**	**00 11 09.5**	**-1.3**
	comp=Z,0.3nm,0.3s,baz=258,slow=7.2,SNR=2.8							
DGZ	**Jazzator, Alta**	**32.33**	**56**	P		**P**	**00 11 21.2**	**+0.7**
WMQ	**Urumqi**	**32.73**	**67**	P		**P**	**00 11 26.8**	**+2.9**
EKA	**Eskdalemuir Ar**	**35.27**	**313**	P		**P**	**00 11 45.5**	**-0.3**
	comp=Z,1.0nm,0.6s,baz=104,slow=8.8,SNR=4.4							
ESDC	**Sonseca Array**	**36.85**	**287**	P		**P**	**00 11 58.6**	**-1.0**
	comp=Z,0.4nm,0.5s,baz=62,slow=8.8,SNR=3.0							
ULN	**Ulaanbaatar**	**45.38**	**57**	*e*P		**P**	**00 13 10.3**	**+0.5**
	comp=Z,3.6nm,0.9s							
ULN	**Ulaanbaatar**	**45.38**	**57⇓**	*i*P		**P**	**00 13 10.6**	**+0.8**
ULN				pmax	pmax			
	comp=Z,5.0nm,1.2s							
TORD	**Torodi Ar. Bea**	**45.44**	**247**	P		**P**	**00 13 10.9**	**+0.5**
	comp=Z,1.4nm,1.1s,baz=41,slow=7.7,SNR=5.6							
LZH	**Lanzhou**	**46.69**	**74**	*e*P		**P**	**00 13 19.8**	**-0.4**
LZH				pP		sP	00 13 24.8	+0.2
LZH				sP		pP	00 13 27.1	+3.7
LZH				PP		**PP**	**00 15 09.2**	**-0.6**
LZH				pmax	pmax			
	comp=Z,14nm,0.7s							
LZH				pmax	pmax			
	comp=Z,260nm,4.6s							
HHC	**Hu-ho-hao-te**	**50.55**	**65**	*e*P		**P**	**00 13 50.1**	**+0.2**
HHC				pmax	pmax			
	comp=Z,10.0nm,1.0s							
HHC				pmax	pmax			
	comp=Z,46nm,6.0s							
CHTO	**Chiang Mai**	**51.22**	**97**	*e*P		**P**	**00 13 54.7**	**-0.3**
	comp=Z,3.8nm,0.7s							
CHTO	**Chiang Mai**	**51.22**	**97**	*e*P		**P**	**00 13 54.7**	**-0.3**
CHTO				pmax	pmax			
	comp=Z,4.0nm,0.7s							
CMAR	**Chiang Mai Arr**	**51.42**	**97**	P		**P**	**00 13 55.9**	**-0.6**
	comp=Z,2.8nm,0.8s,baz=299,slow=8.8,SNR=21							
CMAR				LR		LR	00 38 32.8	
	comp=Z,20nm,18.6s,baz=50,slow=39							
CM01	**Chiang Mai Arr**	**51.46**	**97**	*e*P		**P**	**00 13 55.7**	**-1.1**
TIXI	**Tiksi**	**51.88**	**24⇓**	*e*P		**P**	**00 14 00.6**	**+1.4**
TIXI				pmax	pmax			
	comp=Z,1.0nm,0.5s							
KLR	**Kul'dur**	**60.35**	**49**	P		**P**	**00 15 00.2**	**+0.2**
	comp=Z,0.1nm,0.6s,baz=310,slow=16,SNR=3.0							
KLR	**Kul'dur**	**60.35**	**49⇑**	*e*P		**P**	**00 15 00.1**	**0.0**
KSRS	**Korea Array**	**63.46**	**62**	P		**P**	**00 15 20.2**	**-1.0**
	comp=Z,1.3nm,0.7s,baz=297,slow=6.8,SNR=2.9							
SEY	**Seymchan**	**63.52**	**29⇑**	*e*P		**P**	**00 15 23.5**	**+2.3**
BILL	**Bilibino**	**64.85**	**21⇑**	*e*P		**P**	**00 15 32.0**	**+2.2**
BILL				*e*			00 16 06.7	
BILL				*e*S		S	00 24 48.3	+38
BILL				*e*SS		SS	00 28 32.3	+11
BILL				pmax	pmax			
	comp=Z,1.0nm,0.8s							
ILAR	**Eielson Array**	**76.19**	**5**	P		**P**	**00 16 39.0**	**-0.1**
	comp=Z,0.2nm,0.7s,baz=12,slow=4.6,SNR=3.5							
YKA	**Yellowknife Ar**	**77.40**	**350**	P		**P**	**00 16 45.6**	**-0.3**
	comp=Z,0.5nm,1.1s,baz=18,slow=5.9,SNR=3.7							
WVOR	**Wild Horse Val**	**97.44**	**347**	*e*P		Pdif	00 18 26.4	+1.2
	comp=Z,4.2nm,0.3s							
WVOR	**Wild Horse Val**	**97.44**	**347**	*e*P		Pdif	00 18 26.4	+1.2
WVOR				pmax	pmax			
	comp=Z,4.0nm,0.3s							
YBH	**Yreka Blue Hor**	**98.75**	**350**	LR		LR	01 06 04.0	
	comp=Z,182nm,18.9s,baz=20,slow=37							

ISCJB ***13*** *00:10:09.8±0.7,35.86N±0.04×139.5E±0.1,h102km±5km, mb3.4/3,Error ellipse: s-maj=14.1km s-min=6.2km az=167.0*

IDC ***13*** *00:10:11.6±1.4,35.79N×139.40E,h102km±9km,mb3.1/3, mb1 3.3/4,mb1mx2.9/69,mbtmp3.6/4,Error ellipse: s-maj=31.0km s-min=8.3km az=66.0*

JMA ***13*** *00:10:12.0±0.2,35.87N×139.57E,h84km±2km,M3.0*

ISC 13 00:10:10.6±1.1,35.86N±0.05×139.54E±0.09,h96km±8km, n12,σ1§64/21,mb3.5/3,2C-3D,Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JRY	**Ryogami san**	**0.54**	**287**	⇓P		**Pn**	**00 10 27.3**	**+1.0**
JRY				*e*S		**Sn**	**00 10 38.9**	**+0.8**
JAG	**Ashikaga**	**0.56**	**353**	⇑P		**Pn**	**00 10 26.9**	**+0.3**
JAG				S		**Sn**	**00 10 37.8**	**-0.6**
JOD2	**Odawara 2**	**0.70**	**211**	⇓P		**Pn**	**00 10 27.6**	**-0.2**
JOD2				S		**Sn**	**00 10 39.7**	**-0.8**
JYN	**Shimob**	**0.89**	**246**	⇓P		**Pn**	**00 10 30.0**	**+0.4**
JYN				S		**Sn**	**00 10 44.1**	**+0.2**
JKT	**Katashina**	**0.93**	**346**	⇑P		**Pn**	**00 10 30.6**	**+0.5**
JKT				S		**Sn**	**00 10 44.5**	**-0.3**
JIM2	**Oshima 3**	**1.15**	**184**	P		**Pn**	**00 10 32.4**	**-0.1**
JIM2				S		**Sn**	**00 10 48.0**	**-0.9**
MJAR	**Matsushiro Arr**	**1.27**	**303**	P		**Pn**	**00 10 33.8**	**-0.1**
	5.6nm,0.3s,baz=136,slow=11,SNR=31							
MJAR				S		**Sn**	**00 10 51.6**	**+0.2**
	14nm,0.3s,baz=126,slow=22,SNR=19							
MAT	**Matsushiro**	**1.27**	**303**	P		**Pn**	**00 10 34.4**	**+0.5**
MAT				*e*S		**Sn**	**00 10 50.6**	**-0.9**
JHJ	**Hachijo jima 2**	**2.75**	**176**	P		**Pn**	**00 10 54.1**	**+1.3**
	92nm,0.3s,baz=55,slow=1.8,SNR=19							
JHJ				S		**Sn**	**00 11 25.6**	**+0.2**
	24nm,0.3s,baz=257,slow=18,SNR=4.2							
MKAR	**Makanchi Array**	**43.47**	**303**	P		**P**	**00 18 03.9**	**-0.2**
	0.2nm,0.7s,baz=99,slow=7.4,SNR=2.6							
KURBB	**Kurchatov Arra**	**45.54**	**309**	P		**P**	**00 18 20.3**	**-0.1**
	0.3nm,0.4s,baz=77,slow=7.7,SNR=3.8							
WRA	**Warramunga Arr**	**55.72**	**186**	P		**P**	**00 19 37.0**	**-0.2**
	0.4nm,0.3s,baz=360,slow=7.5,SNR=12							

IDC 13 00:21:28.0±13.0,3°03N×91°51E,h0km,mb3.2/2, mb1 3.6/4,mb1mx3.2/65,mbtmp3.5/4,ML4.0/2,MS3.4/1, Ms1 3.4/1,ms1mx2.7/27,Error ellipse: s-maj=248.2km s-min=48.9km az=166.0,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PALK	**Pallekele**	**11.55**	**292**	Pn		Pn	00 24 14.3	-0.2
	0.6nm,0.3s,baz=115,slow=10.0,SNR=4.5							
PALK				Sn		Sn	00 26 14.9	-9.4
	0.5nm,0.3s,baz=115,slow=16,SNR=5.1							
CMAR	**Chiang Mai Arr**	**16.98**	**25**	Pn		Pn	00 25 26.4	-0.6
	0.2nm,0.3s,baz=213,slow=13,SNR=3.3							
LEM	**Lembang**	**18.83**	**121**	LR		LR	00 33 26.1	
	comp=Z,96nm,18.4s,baz=92,slow=38							
MKAR	**Makanchi Array**	**44.33**	**351**	P		P	00 29 39.5	-0.4
	0.7nm,1.1s,baz=156,slow=7.9,SNR=3.1							
SONM	**Songino Array**	**46.45**	**14**	P		P	00 29 57.1	+0.3
	0.3nm,0.6s,baz=205,slow=6.4,SNR=2.7							

MEX ***13*** *00:22:07.9±0.6,29.03N×113.54W,h28km±13km,MD4.0*

NEIC ***13*** *00:22:11.0±0.9,28.94N×112.78W,h10km,MD4.0(MEX), Error ellipse: s-maj=14.5km s-min=10.9km az=65.0*

ISC 13 00:22:09.9±1.1,28.94N±0.05×113.10W±0.07,h17km,n10, σ1§14/14,Baja California

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SRIG	**Santa Rosalia**	**1.79**	**155**	*i* P		**Pn**	**00 22 39.0**	**-1.0**
SRIG	**Santa Rosalia**	**1.79**	**155**	*e*Pn		**Pn**	**00 22 40.2**	**+0.3**
SRIG				*e*Sn		**Sb**	**00 23 05.8**	**+1.5**
HSIG		**1.88**	**87**	*e*P		**Pn**	**00 22 41.2**	**-0.1**
HSIG		**1.88**	**87**	*e*Pn		**Pn**	**00 22 39.5**	**-1.8**
HSIG				Sg		**Sb**	**00 23 09.1**	**+2.0**
GUYB	**Guaymas**	**2.22**	**117**	*e*P		**Pn**	**00 22 46.0**	**+0.2**
SPIG	**San Pedro Mart**	**2.94**	**316**	*e*P		**Pb**	**00 23 01.4**	**-0.6**
SPIG	**San Pedro Mart**	**2.94**	**316**	*e*P		**Pb**	**00 23 01.4**	**-0.6**
214A	**Organ Pipe Nat**	**3.01**	**5**	Pn		**Pn**	**00 22 57.5**	**+0.6**
214A				*e*Pg		**Pg**	**00 23 08.2**	**+0.5**
TUC	**Tucson**	**3.90**	**30**	*e*Pn		**Pn**	**00 23 09.8**	**+0.7**
TUC				*e*Pg		**Pg**	**00 23 23.6**	**-1.1**
121A	**Cookes Peak, D**	**5.80**	**51**	*e*Pn		**Pn**	**00 23 34.6**	**-0.8**
	8.5nm,0.8s							

IDC 13 00:22:56.3±12.0,2°63N×90°19E,h0km,mb3.5/3, mb1 3.6/4,mb1mx3.3/63,mbtmp3.5/4,ML4.1/1,Error ellipse: s-maj=252.1km s-min=88.7km az=159.0,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**17.92**	**28**	P		Pn	00 27 06.0	-1.2
	0.3nm,0.3s,baz=222,slow=12,SNR=4.6							
MKAR	**Makanchi Array**	**44.53**	**352**	P		P	00 31 11.2	+1.4
	0.3nm,0.6s,baz=161,slow=9.2,SNR=4.3							
SONM	**Songino Array**	**47.16**	**15**	P		P	00 31 31.5	+0.8
	0.3nm,0.3s,baz=196,slow=7.6,SNR=3.3							
ZALV	**Zalesovo Beam**	**51.35**	**356**	P		P	00 32 00.8	-1.6
	0.3nm,0.3s,baz=184,slow=7.0,SNR=2.6							

IDC 13 00:33:26.9±18.0,3°06N×92°49E,h0km,mb3.4/2, mb1 3.6/4,mb1mx3.3/67,mbtmp3.5/4,ML3.7/2,Error ellipse: s-maj=330.1km s-min=55.0km az=160.0,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PALK	**Pallekele**	**12.46**	**290**	Pn		Pn	00 36 24.7	-1.0
	0.2nm,0.3s,baz=113,slow=13,SNR=2.6							
CMAR	**Chiang Mai Arr**	**16.55**	**22**	Pn		Pn	00 37 19.4	-1.3
	0.2nm,0.3s,baz=207,slow=12,SNR=6.5							
MKAR	**Makanchi Array**	**44.45**	**350**	P		P	00 41 41.0	+1.2
	0.2nm,0.4s,baz=169,slow=9.4,SNR=5.1							
ZALV	**Zalesovo Beam**	**51.11**	**354**	P		P	00 42 30.2	-1.1
	0.3nm,0.4s,baz=163,slow=6.0,SNR=2.5							

IDC 13 00:41:14.9±1.4,0°07N×125°22E,h0km,mb3.6/5, mb1 3.8/5,mb1mx3.5/55,mbtmp3.7/5,Error ellipse: s-maj=184.2km s-min=19.7km az=64.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.80**	**156**	P		P	00 46 07.4	-1.4
	1.4nm,0.6s,baz=334,slow=11,SNR=15							
ASAR	**Alice Springs**	**25.05**	**161**	P		P	00 46 42.1	+0.9
	1.0nm,0.3s,baz=343,slow=11,SNR=17							
STKA	**Stephens Creek**	**35.35**	**156**	P		P	00 48 12.1	-0.1
	0.7nm,0.5s,baz=343,slow=11,SNR=2.8							
MKAR	**Makanchi Array**	**59.74**	**327**	P		P	00 51 21.3	-0.4
	0.2nm,0.3s,baz=122,slow=7.4,SNR=9.8							
KURBB	**Kurchatov Arra**	**64.04**	**329**	P		P	00 51 50.9	+0.4
	0.3nm,0.6s,baz=127,slow=6.3,SNR=3.5							

JMA 13 00:45:36.3±0.1,36°83N×141°36E,h30km±1km,M2.7, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ONAJ	**Iwakimizuishiy**	**0.53**	**301**	P		Pb	00 45 46.9	-0.3
ONAJ				S		Sb	00 45 54.7	+0.1
JFK	**Kawauchi**	**0.66**	**324**	P		Pb	00 45 49.1	-0.3
JFK				*e*S		Sb	00 45 58.3	-0.1
JHO	**Hitachi**	**0.67**	**251**	P		Pb	00 45 49.3	-0.3
JHO				S		Sb	00 45 58.4	-0.2
JFT	**Otama**	**1.07**	**310**	S		Sb	00 46 10.1	+0.3
JMM	**Marumori**	**1.13**	**337**	*e*S		Sb	00 46 11.4	-0.1
MAT	**Matsushiro**	**2.55**	**264**	P		Pn	00 46 15.2	-0.4
MAT				*e*S		Sb	00 46 50.9	-1.4

IDC 13 00:49:13.9±1.9,3°94N×127°48E,h0km,mb3.8/5, mb1 3.9/5,mb1mx3.4/59,mbtmp3.8/5,Error ellipse: s-maj=180.7km s-min=21.0km az=66.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.68**	**164**	P		P	00 54 35.9	-0.9
	5.1nm,0.9s,baz=344,slow=9.5,SNR=29							
ASAR	**Alice Springs**	**28.15**	**167**	P		P	00 55 08.2	+0.1
	0.3nm,0.3s,baz=341,slow=10,SNR=4.6							
STKA	**Stephens Creek**	**38.07**	**160**	P		P	00 56 35.2	+0.8
	1.7nm,0.6s,baz=336,slow=10.0,SNR=4.5							
MKAR	**Makanchi Array**	**57.81**	**325**	P		P	00 59 07.8	+0.6
	0.2nm,0.4s,baz=126,slow=8.1,SNR=3.6							
KURBB	**Kurchatov Arra**	**61.96**	**327**	P		P	00 59 35.1	-0.5
	0.4nm,0.6s,baz=132,slow=6.1,SNR=4.9							

IDC 13 00:51:01.8±1.8,2°53N×93°18E,h0km,mb3.6/4,mb1 3.9/6, mb1mx3.4/71,mbtmp3.7/6,ML4.0/2,Error ellipse: s-maj=54.3km s-min=30.8km az=46.0,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PALK	**Pallekele**	**13.29**	**291**	Pn		Pn	00 54 13.2	+1.3
	0.5nm,0.3s,baz=114,slow=20,SNR=2.3							
PALK				Sn		Sn	00 56 23.0	-18
	0.9nm,0.3s,baz=297,slow=3.4,SNR=6.2							
CMAR	**Chiang Mai Arr**	**16.81**	**19**	Pn		P	00 55 00.5	-0.5
	0.3nm,0.3s,baz=207,slow=14,SNR=6.0							
MKAR	**Makanchi Array**	**45.09**	**349**	P		P	00 59 19.1	-0.7
	0.3nm,0.4s,baz=165,slow=7.9,SNR=6.0							
WRA	**Warramunga Arr**	**46.16**	**121**	P		P	00 59 28.6	0.0
	0.2nm,0.3s,baz=299,slow=8.7,SNR=3.1							
ZALV	**Zalesovo Beam**	**51.71**	**354**	P		P	01 00 10.6	-0.1
	0.7nm,0.4s,baz=170,slow=9.0,SNR=4.1							
GERES	**GERESS Array B**	**81.17**	**319**	P		P	01 03 19.4	-0.1
	0.5nm,0.8s,baz=101,slow=5.1,SNR=3.4							

MAN ***13*** *00:51:18,12.64N×125.47E,h9km,mb4.7,ML3.6,MS3.5*

NEIC ***13*** *00:51:23.3±2.2,12.41N×125.29E,h63km±18km,mb4.1/2, Error ellipse: s-maj=24.0km s-min=9.5km az=69.0*

IDC ***13*** *00:51:23.5±5.5,12.41N×125.30E,h65km±49km,mb3.5/11, mb1 3.7/11,mb1mx3.4/66,mbtmp3.8/11,ML5.0/1,Error ellipse: s-maj=51.6km s-min=18.1km az=67.0*

ISC 13 00:51:17.0±2.0,12.66N±0.05×125.60E±0.07,h12km±11km, n34,σ1§42/34,mb3.8/13,4C-1D,Samar

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CNP	**Catarman**	**0.93**	**261**	*e*P		**Pg**	**00 51 33.6**	**-1.3**
CNP				*e*S		**Sg**	**00 51 46.1**	**-0.9**
PLP	**Palo**	**1.60**	**202⇑**	*e*P		**Pn**	**00 51 44.2**	**-0.9**
PLP				*e*S		**Sn**	**00 52 03.9**	**-1.9**
PVCP	**Virac**	**1.69**	**304**	*e*P		**Pn**	**00 51 45.9**	**-0.4**
OCLP	**Ormoc**	**1.87**	**211**	*e*P		**Pn**	**00 51 49.8**	**+1.0**
OCLP				*e*S		**Sn**	**00 52 11.6**	**-0.8**
MMPH	**Masbate**	**1.95**	**261⇓**	*i*P		**Pb**	**00 51 52.4**	**-0.1**
MMPH				*i* S		**Sn**	**00 52 14.9**	**+0.5**
MSLP	**Maasin**	**2.61**	**196**	*e*P		**Pn**	**00 52 00.9**	**+1.9**
MSLP				*e*S		**Sb**	**00 52 35.0**	**-0.9**
LLP	**Lapu-Lapu**	**2.83**	**215**	*e*P		**Pn**	**00 52 02.7**	**+0.8**
LLP				*e*S		**Sn**	**00 52 37.5**	**+1.6**
SCPH	**Surigao**	**2.86**	**182⇑**	*e*P		**Pb**	**00 52 06.1**	**-2.0**
OTRP	**Odiongan**	**3.51**	**266**	*e*P		**Pn**	**00 52 11.8**	**+0.4**
GUIM	**Jordan**	**3.58**	**236**	*e*P		**Pn**	**00 52 12.9**	**+0.6**
SNPH	**Sibulan**	**4.03**	**215**	*e*P		**Pg**	**00 52 36.3**	**+2.0**
SNPH				*e*S		Sn	00 52 43.8	-22
JAP	**San Jose, Anti**	**4.05**	**242⇑**	*e*P		**Pn**	**00 52 22.1**	**+3.2**
DCPH	**Dipolog City**	**4.61**	**209⇑**	*e*P		**Pg**	**00 52 48.2**	**+2.8**
DCPH				*e*S		Sn	00 53 04.8	-15
TGY	**Tagaytay City**	**4.76**	**288**	P		**Pn**	**00 52 29.7**	**+1.1**
	66nm,0.3s,baz=180,slow=16,SNR=2.2							
CMAR	**Chiang Mai Arr**	**26.30**	**286**	P		**P**	**00 56 51.2**	**-1.5**
	1.1nm,0.7s,baz=96,slow=8.1,SNR=7.6							
FITZ	**Fitzroy Crossi**	**30.56**	**180**	P		**P**	**00 57 29.1**	**-1.6**
	5.6nm,0.9s,baz=42,slow=12,SNR=3.6							
ASAR	**Alice Springs**	**37.01**	**167**	P		**P**	**00 58 25.6**	**-1.1**
	0.6nm,0.5s,baz=342,slow=7.9,SNR=4.9							
SONM	**Songino Array**	**38.56**	**339**	P		**P**	**00 58 41.0**	**+1.3**
	0.5nm,0.6s,baz=168,slow=7.4,SNR=3.5							
H11S3	**WAKE ISLAND Hy**	**39.94**	**76**	T		T	01 41 47.2	
	baz=273							
H11S1	**WAKE ISLAND Hy**	**39.95**	**76**	T		T	01 41 51.9	
	baz=273							
H11S2	**WAKE ISLAND Hy**	**39.95**	**76**	T		T	01 41 51.8	
	baz=273							
H11N1	**WAKE ISLAND Hy**	**40.19**	**74**	T		T	01 42 07.0	
	baz=266							
H11N2	**WAKE ISLAND Hy**	**40.20**	**74**	T		T	01 42 07.8	
	baz=266							
H11N3	**WAKE ISLAND Hy**	**40.21**	**74**	T		T	01 42 08.4	
	baz=266							
MKAR	**Makanchi Array**	**49.74**	**322**	P		**P**	**01 00 10.2**	**+1.0**
	0.8nm,0.7s,baz=126,slow=8.2,SNR=5.4							
ZALV	**Zalesovo Beam**	**52.23**	**331**	P		**P**	**01 00 28.9**	**+1.1**
	0.5nm,0.4s,baz=134,slow=4.3,SNR=4.7							
KURK	**Kurchatov**	**53.74**	**325**	P		**P**	**01 00 39.0**	**0.0**
KURBB	**Kurchatov Arra**	**53.75**	**325**	P		**P**	**01 00 39.0**	**0.0**
	1.1nm,0.7s,baz=126,slow=7.7,SNR=6.0							
TIXI	**Tiksi**	**58.99**	**1**	*e*P		**P**	**01 01 18.1**	**+2.1**
	0.8nm,0.5s							
BVAR	**Borovoye Array**	**59.34**	**325**	P		**P**	**01 01 19.2**	**+0.3**
	0.9nm,0.8s,baz=115,slow=6.5,SNR=3.7							
BRVK	**Borovoye**	**59.41**	**325**	*e*P		**P**	**01 01 19.5**	**+0.2**
	0.4nm,0.3s							
KVAR	**Kislovodsk Arr**	**76.25**	**312**	P		**P**	**01 03 05.0**	**-0.8**
	3.3nm,0.9s,baz=100,slow=6.1,SNR=3.6							
AKASG	**Malin Array Be**	**84.31**	**321**	P		**P**	**01 03 47.7**	**-1.1**
	0.1nm,0.3s,baz=66,slow=3.6,SNR=3.7							
YKA	**Yellowknife Ar**	**91.85**	**24**	P		**P**	**01 04 25.4**	**+0.6**
	0.1nm,0.5s,baz=301,slow=4.3,SNR=3.4							

ISCJB ***13*** *00:54:50.6±1.9,33.95N±0.05×23.68E±0.04,h7km±14km, mb3.4/8,MS3.9/1,Error ellipse: s-maj=8.3km s-min=6.1km az=177.9*

IDC ***13*** *00:54:52.3±1.3,34.17N×23.85E,h0km,mb3.6/8, mb1 3.6/14,mb1mx3.4/65,mbtmp3.5/14,ML3.5/6,MS3.2/4, Ms1 3.2/4,ms1mx2.7/56,Error ellipse: s-maj=25.8km s-min=18.5km az=174.0*

THE ***13*** *00:54:53.2,34.05N×23.65E,h0km±1km,ML3.6/5,Error ellipse: s-maj=2.5km s-min=0.8km az=210.0*

ATH ***13*** *00:54:54.3,34.19N×23.68E,h20km±2km,ML3.5/4,Error ellipse: s-maj=4.0km s-min=1.2km az=22.0*

CSEM ***13*** *00:54:58.3±0.5,34.34N×23.78E,h20km,ML3.5,Error ellipse: s-maj=11.0km s-min=3.5km az=12.0*

ISC 13 00:54:52.6±2.0,34.11N±0.06×23.72E±0.04,h3km±12km, n139,σ1§29/146,mb3.6/8,Crete

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

KARP	**Karpathos**	**3.17**	**62**	P		**Pn**	**00 55 45.6**	**+2.1**
KARP				S		**Sn**	**00 56 24.6**	**+2.7**
KARP	**Karpathos**	**3.17**	**62**	P		**Pn**	**00 55 45.6**	**+2.1**
KARP				S		**Sn**	**00 56 24.6**	**+2.7**
PYL	**PYLOS**	**3.21**	**330**	P		**Pn**	**00 55 45.1**	**+1.1**
PYL	**PYLOS**	**3.21**	**330**	P		**Pn**	**00 55 45.1**	**+1.1**
PYL	**PYLOS**	**3.21**	**330**	P		**Pn**	**00 55 45.1**	**+1.1**
KRND	**KRANIDI**	**3.29**	**352**	P		**Pn**	**00 55 45.3**	**+0.1**
KRND	**KRANIDI**	**3.29**	**352**	P		**Pn**	**00 55 45.6**	**+0.4**
KRND	**KRANIDI**	**3.29**	**352**	P		**Pn**	**00 55 45.8**	**+0.6**
APE	**Apeiranthos**	**3.30**	**26**	P		**Pn**	**00 55 43.3**	**-1.9**
APE	**Apeiranthos**	**3.30**	**26**	P		**Pn**	**00 55 45.8**	**+0.5**
APE	**Apeiranthos**	**3.30**	**26**	P		**Pn**	**00 55 45.8**	**+0.5**
ITM	**Ithomi**	**3.39**	**335**	P		**Pn**	**00 55 50.0**	**+3.4**
ITM	**Ithomi**	**3.39**	**335**	P		**Pn**	**00 55 48.1**	**+1.6**
ITM	**Ithomi**	**3.39**	**335**	P		**Pn**	**00 55 48.1**	**+1.6**
DID	**Didima**	**3.41**	**354**	P		**Pn**	**00 55 45.5**	**-1.2**
DID	**Didima**	**3.41**	**354**	P		**Pn**	**00 55 46.7**	**-0.1**
DID	**Didima**	**3.41**	**354**	P		**Pn**	**00 55 46.7**	**-0.1**
VLX	**Vlachokerasia**	**3.43**	**342**	P		**Pn**	**00 55 47.2**	**+0.1**
VLX	**Vlachokerasia**	**3.43**	**342**	P		**Pn**	**00 55 47.2**	**+0.1**
VLY	**Voula,Athens**	**3.73**	**1**	P		**Pn**	**00 55 51.2**	**0.0**
VLY	**Voula,Athens**	**3.73**	**1**	P		**Pn**	**00 55 51.2**	**0.0**
AMT	**Artemida-Makis**	**3.78**	**335**	P		**Pn**	**00 55 55.2**	**+3.3**
AMT	**Artemida-Makis**	**3.78**	**335**	P		**Pn**	**00 55 52.8**	**+0.9**
AMT	**Artemida-Makis**	**3.78**	**335**	P		**Pn**	**00 55 52.8**	**+0.9**
PTL	**Penteli**	**3.93**	**2**	P		**Pn**	**00 55 53.7**	**-0.2**
PTL	**Penteli**	**3.93**	**2**	P		**Pn**	**00 55 53.7**	**-0.2**
LTK	**Loutraki**	**3.95**	**351**	P		**Pn**	**00 55 52.9**	**-1.3**
LTK	**Loutraki**	**3.95**	**351**	P		**Pn**	**00 55 53.8**	**-0.4**
LTK	**Loutraki**	**3.95**	**351**	P		**Pn**	**00 55 54.2**	**0.0**
KARY	**Karystos**	**3.95**	**8**	P		**Pn**	**00 55 53.5**	**-0.8**
KARY	**Karystos**	**3.95**	**8**	P		**Pn**	**00 55 54.4**	**+0.2**
KARY	**Karystos**	**3.95**	**8**	P		**Pn**	**00 55 54.6**	**+0.4**
DION	**Dionisos Attik**	**3.96**	**2**	P		**Pn**	**00 55 52.5**	**-1.9**
DION	**Dionisos Attik**	**3.96**	**2**	P		**Pn**	**00 55 54.1**	**-0.3**
GUR	**Goura**	**3.97**	**344**	P		**Pn**	**00 55 56.6**	**+2.0**
GUR	**Goura**	**3.97**	**344**	P		**Pn**	**00 55 56.2**	**+1.6**
GUR	**Goura**	**3.97**	**344**	P		**Pn**	**00 55 56.2**	**+1.6**
THAL	**Thalero**	**4.01**	**348**	P		**Pn**	**00 55 57.0**	**+2.0**
THAL	**Thalero**	**4.01**	**348**	P		**Pn**	**00 55 57.0**	**+2.0**
VILL	**Villia**	**4.05**	**355**	P		**Pn**	**00 55 55.8**	**+0.1**
VILL	**Villia**	**4.05**	**355**	P		**Pn**	**00 55 55.8**	**+0.1**
VIL2	**Platees**	**4.11**	**355**	P		**Pn**	**00 55 53.9**	**-2.5**
KLV	**Kalavryta, Ach**	**4.12**	**343**	P		**Pn**	**00 55 57.7**	**+1.1**
KLV	**Kalavryta, Ach**	**4.12**	**343**	P		**Pn**	**00 55 58.2**	**+1.6**
KLV	**Kalavryta, Ach**	**4.12**	**343**	P		**Pn**	**00 55 57.8**	**+1.1**
DRO	**Drossia**	**4.16**	**338**	P		**Pn**	**00 56 00.8**	**+3.7**
DRO	**Drossia**	**4.16**	**338**	P		**Pn**	**00 55 58.9**	**+1.8**
DRO	**Drossia**	**4.16**	**338**	P		**Pn**	**00 55 58.9**	**+1.8**
ARG	**Arkhangelos**	**4.17**	**59**	P		**Pn**	**00 55 58.0**	**+0.7**
ARG	**Arkhangelos**	**4.17**	**59**	P		**Pn**	**00 55 58.0**	**+0.7**
PROD	**Prodromos**	**4.19**	**351**	P		**Pn**	**00 55 57.5**	**0.0**
PROD	**Prodromos**	**4.19**	**351**	P		**Pn**	**00 55 57.5**	**0.0**
RLS	**Riolos of Patr**	**4.34**	**336**	P		**Pn**	**00 56 01.2**	**+1.7**
RLS	**Riolos of Patr**	**4.34**	**336**	P		**Pn**	**00 56 01.2**	**+1.7**
LAKA	**Lakka**	**4.35**	**342**	P		**Pn**	**00 56 00.9**	**+1.2**
LAKA	**Lakka**	**4.35**	**342**	P		**Pn**	**00 56 00.9**	**+1.2**
DSF	**Desfina**	**4.39**	**348**	P		**Pn**	**00 56 00.9**	**+0.5**
DSF	**Desfina**	**4.39**	**348**	P		**Pn**	**00 56 00.9**	**+0.5**
KALE	**Kalithea**	**4.46**	**344**	P		**Pn**	**00 56 01.0**	**-0.2**
KALE	**Kalithea**	**4.46**	**344**	P		**Pn**	**00 56 01.8**	**+0.6**
ANX	**Ano Chora**	**4.70**	**343**	P		**Pn**	**00 56 06.4**	**+1.8**
ANX	**Ano Chora**	**4.70**	**343**	P		**Pn**	**00 56 06.2**	**+1.6**
VLS	**Valsamata**	**4.78**	**329**	P		**Pn**	**00 56 05.1**	**-0.5**
VLS	**Valsamata**	**4.78**	**329**	P		**Pn**	**00 56 06.1**	**+0.5**
SRN	**Sarande**	**6.48**	**334**	*i* PG		Pn	00 56 23.4	-5.5
SRN				*i* SG			00 56 40.4	
VAE	**Valguarnera**	**8.27**	**297**	Pn		**Sn**	**00 56 55.6**	**+2.0**
	comp=N,0.5nm,0.3s,baz=176,slow=19,SNR=2.6							
VAE				Sn		**Sn**	**00 58 25.9**	**-1.7**
	comp=N,0.3nm,0.3s,baz=197,slow=20,SNR=3.2							
BRTR	**Keskin Array B**	**9.71**	**52**	Pn		**Pn**	**00 57 13.2**	**-0.3**
	comp=N,0.1nm,0.3s,baz=240,slow=12,SNR=2.6							
MMAI	**Mount Meron Ar**	**9.81**	**93**	Pn		**Pn**	**00 57 12.6**	**-2.2**
	comp=N,0.9nm,0.3s,baz=270,slow=12,SNR=14							
MMAI				Sn		Sn	00 58 52.8	-13
	comp=N,0.8nm,0.3s,baz=274,slow=26,SNR=4.8							
MMAI				LR		LR	01 03 27.6	
	comp=N,68nm,18.9s,baz=235,slow=53							
EIL	**Elat**	**10.52**	**112**	Pn		Pn	00 57 31.0	+6.5
	comp=N,0.3nm,0.3s,baz=336,slow=12,SNR=11							
EIL				Sn		Sn	00 59 13.5	-9.4
	comp=N,0.3nm,0.3s,baz=342,slow=19,SNR=3.2							
ASF	**Jabal al Asfar**	**11.22**	**96**	Pn		**Pn**	**00 57 32.5**	**-1.5**
	comp=N,0.4nm,0.3s,baz=225,slow=13,SNR=3.9							
ASF				Sn		Sn	00 59 27.2	-13
	comp=N,0.1nm,0.3s,baz=347,slow=7.3,SNR=1.9							
VRAC	**Vranov**	**16.07**	**343**	Pn		**Pn**	**00 58 40.3**	**+0.7**
	comp=N,0.1nm,0.3s,baz=187,slow=11,SNR=3.3							
GERES	**GERESS Array B**	**16.50**	**336**	Pn		**Pn**	**00 58 43.8**	**-1.4**
	comp=N,0.1nm,0.3s,baz=154,slow=16,SNR=3.6							
GERES				LR		LR	01 05 11.9	
	comp=N,68nm,20.4s,baz=129,slow=38							
KHC	**Kasperske Hkry**	**16.79**	**336**	*e*P		**P**	**00 58 51.8**	**+0.8**
AKASG	**Malin Array Be**	**17.06**	**12**	Pn		**Pn**	**00 58 50.2**	**-1.9**
	comp=N,0.5nm,0.3s,baz=215,slow=10,SNR=4.9							
DPC	**Dobruska-Polom**	**17.11**	**344**	*e*P		**P**	**00 58 54.8**	**+0.2**
KVAR	**Kislovodsk Arr**	**17.68**	**51**	LR		LR	01 06 51.3	
	comp=N,49nm,18.2s,baz=242,slow=41							
HFS	**Hagfors**	**26.85**	**349**	P		**P**	**01 00 32.5**	**-1.7**
	comp=N,0.7nm,0.5s,baz=145,slow=10,SNR=5.4							
FINES	**FINESS Array B**	**27.39**	**2**	P		**P**	**01 00 36.9**	**-2.2**
	comp=N,0.8nm,0.7s,baz=175,slow=17,SNR=2.8							
EKA	**Eskdalemuir Ar**	**28.24**	**327**	P		**P**	**01 00 47.9**	**+1.1**
	comp=N,0.7nm,0.6s,baz=122,slow=10,SNR=4.2							
TORD	**Torodi Ar. Bea**	**28.91**	**229**	P		**P**	**01 00 54.0**	**+0.9**
	comp=N,0.3nm,0.6s,baz=50,slow=9.9,SNR=2.5							
KURBB	**Kurchatov Arra**	**42.70**	**50**	P		**P**	**01 02 49.3**	**-1.5**
	comp=N,0.3nm,0.5s,baz=276,slow=8.8,SNR=4.8							
MKAR	**Makanchi Array**	**45.34**	**56**	P		**P**	**01 03 11.5**	**-0.6**
	comp=N,0.4nm,0.4s,baz=270,slow=7.3,SNR=9.5							
ZALV	**Zalesovo Beam**	**46.58**	**45**	P		**P**	**01 03 20.2**	**-1.4**
	comp=N,0.4nm,0.3s,baz=250,slow=7.1,SNR=2.1							
YKA	**Yellowknife Ar**	**78.07**	**342**	P		**P**	**01 06 53.1**	**+0.7**
	comp=N,0.1nm,0.5s,baz=32,slow=5.7,SNR=3.5							
LEM	**Lembang**	**88.76**	**99**	LR		LR	01 51 29.9	
	comp=N,42nm,18.7s,baz=239,slow=38							

NEIC ***13*** *00:55:32.8±0.6,3.°32N×92.°79E,h10km,mb4.2/1,Error ellipse: s-maj=11.5km s-min=10.9km az=199.0*
ISCJB ***13*** *00:55:33.2±0.7,3.°32N±0.°09×92.°7E±0.°1,h24km,mb3.9/10, Error ellipse: s-maj=17.9km s-min=13.6km az=176.0*
IDC ***13*** *00:55:34.2±1.4,3.°66N×92.°54E,h0km,mb3.9/9, mb1 4.0/11,mb1mx3.6/71,mbtmp3.8/11,ML3.7/2,Error ellipse: s-maj=41.4km s-min=25.6km az=34.0*

ISC 13 00:55:35.8±0.8,3.°4N±0.°1×92.°72E±0.°10,h24km,n16, σ0s85/16,mb3.9/10,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KULM	**Kulim**	**8.13**	**76**	*e*Pn	**Pn**	**00 57 29.5**	**-2.8**
	12nn,0.4s						
PALK	**Pallekele**	**12.56**	**288**	Pn	**Pn**	**00 58 32.0**	**-1.2**
	0.4nn,0.3s,baz=115,slow=14,SNR=3.2						
PALK				Sn	Sn	01 00 41.0	-11
	3.2nn,0.3s,baz=116,slow=6.3,SNR=12						
PALK	**Pallekele**	**12.56**	**288**	*e*Pn	**Pn**	**00 58 32.9**	**-0.3**
PALK				Sn	Sn	01 00 41.0	-11
COCO	**West Island**	**16.03**	**165**	Pn	**Pn**	**00 59 17.0**	**-2.8**
CMAR	**Chiang Mai Arr**	**16.15**	**22**	Pn	**Pn**	**00 59 20.4**	**-1.0**
	0.1nn,0.3s,baz=218,slow=12,SNR=3.3						
MKAR	**Makanchi Array**	**44.15**	**350**	P	**P**	**01 03 42.3**	**-0.3**
	1.6nn,0.6s,baz=168,slow=8.0,SNR=10.0						
GEYT	**Alibeck**	**46.69**	**322**	P	**P**	**01 04 03.8**	**+1.0**
	2.0nn,0.6s,baz=129,slow=8.4,SNR=5.0						
WRA	**Warramunga Arr**	**47.00**	**121**	P	**P**	**01 04 10.1**	**+4.6**
	0.8nn,0.8s,baz=297,slow=8.8,SNR=4.6						
KURBB	**Kurchatov Arra**	**48.55**	**348**	P	**P**	**01 04 17.2**	**+0.3**
	0.9nn,0.7s,baz=171,slow=7.4,SNR=8.6						
KURK	**Kurchatov**	**48.62**	**348**	P	**P**	**01 04 17.2**	**-0.2**
ZALV	**Zalesovo Beam**	**50.79**	**354**	P	**P**	**01 04 33.9**	**0.0**
	0.9nn,0.5s,baz=186,slow=6.5,SNR=4.1						
BRTR	**Keskin Array B**	**64.33**	**313**	P	**P**	**01 06 09.2**	**-0.7**
	0.3nn,0.7s,baz=138,slow=9.1,SNR=3.7						
MLR	**Muntele Rosu**	**71.40**	**317**	P	**P**	**01 06 54.7**	**+0.4**
	0.3nn,0.6s,baz=167,slow=19,SNR=3.0						
PETK	**Petropavlovsk-**	**72.44**	**35**	P	**P**	**01 07 01.8**	**+1.7**
	7.9nn,1.0s,baz=272,slow=6.5,SNR=2.9						
SUR	**Sutherland**	**76.65**	**236**	P	**P**	**01 07 24.5**	**-0.8**
	1.2nn,0.6s						
GERES	**GERESS Array B**	**80.21**	**319**	P	**P**	**01 07 44.5**	**0.0**
	0.2nn,0.4s,baz=113,slow=6.8,SNR=3.5						

MEX 13 01:35:10.9±0.5,16.°27N×98.°21W,h10km±4km,MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.14**	**31**	*e*P	Pg	01 35 13.7	-0.6
PNIG				*e*S	Sg	01 35 16.4	-0.2
TLIG	**Tlapa**	**1.33**	**345**	*e*P	Pn	01 35 31.7	-4.0
TLIG				*e*S	Sb	01 35 47.9	-5.3
VHO	**Vista Hermosa**	**1.62**	**60**	*e*P	Pn	01 35 36.1	-3.6
VHO				*e*S	Sn	01 35 57.5	-3.2
CAIG	**El Cayaco**	**2.12**	**292**	*e*P	Pn	01 35 43.8	-2.6
CAIG				*e*S	Sn	01 36 08.5	-4.4

MOS ***13*** *01:35:38.6±0.9,50.°54N×90.°57E,h10km,mb4.1/1,Error ellipse: s-maj=14.3km s-min=11.7km az=85.5*
ISCJB ***13*** *01:35:39.1±0.7,50.°55N±0.°07×90.°58E±0.°09,h10km,Error ellipse: s-maj=11.5km s-min=7.0km az=150.4*
NNC ***13*** *01:35:55.9±4.2,50.°51N×88.°70E,h0km,mb3.7,mpv3.3, Error ellipse: s-maj=53.6km s-min=17.1km az=99.0*

ISC 13 01:35:40.4±0.9,50.°59N±0.°07×90.°44E±0.°07,h10km,n16, σ1s83/15,5C-3D,Tuva-Buryatia-Mongolia border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AKAR	**Aktash**	**1.82**	**262**	*e*PN	**Pn**	**01 36 10.6**	**-1.2**
DGZ	**Jazzator, Alta**	**2.13**	**246**	*i* PN	**Pb**	**01 36 17.2**	**-1.9**
HVS	**Khovu-Aksy**	**2.14**	**74**	*i* PN	**Pn**	**01 36 14.7**	**-1.5**
CERR	**Cheremushki**	**2.34**	**15**	*e*PN	**Pn**	**01 36 18.5**	**-0.4**
CERR				*e*		01 36 46.7	
TASR	**Tashtagol**	**2.69**	**325**	*e*PN	**Pb**	**01 36 26.7**	**-1.9**
TASR				*e*		01 37 00.5	
LUZB	**Luzhba, Kemero**	**3.21**	**343**	*e*PN	**Pn**	**01 36 32.7**	**+1.8**
ZAA0	**Zalesovo Array**	**4.81**	**316**	⇑Pn	**Pb**	**01 37 01.7**	**-3.1**
	1.7nn,0.4s						
ZAA0				⇑Lg	Lg	01 38 06.5	
	15nn,1.1s						
KRAR	**Krasnoyarsk**	**5.62**	**14**	*i* PN	**Pn**	**01 37 03.8**	**-0.1**
MK31	**Makanchi Array**	**6.60**	**238**	⇓Pn	Pn	01 37 21.1	+3.7
	2.8nn,0.6s,baz=65,slow=10,SNR=12						
MK31				⇓Lg	Lg	01 38 57.9	
	7.7nn,0.8s,baz=56,slow=30,SNR=4.1						
MAKZ	**Makanchi**	**6.76**	**239**	⇓Pn	**Pn**	**01 37 21.9**	**+2.4**
	1.9nn,0.7s						
MAKZ				⇑Lg	Lg	01 39 01.0	
	12nn,1.2s						
KURK	**Kurchatov**	**7.51**	**275**	*e*P	**Pn**	**01 37 31.5**	**+1.6**
ULN	**Ulaanbaatar**	**11.20**	**98**	⇑*e*P	**Pn**	**01 38 20.8**	**+0.2**
BRVK	**Borovoye**	**12.70**	**289**	⇑*e*P	**Pn**	**01 38 42.7**	**+1.8**
BRVK				pmax	pmax		
	comp=Z,1.0nm,1.2s						
AAK	**Ala-Archa**	**13.52**	**240**	*i* P	**Pn**	**01 38 53.1**	**+0.8**
ARU	**Arti**	**19.71**	**300**	*i* P	**Pn**	**01 40 13.1**	**+2.0**
ARU				pmax	pmax		
	comp=Z,2.0nm,1.0s						
TIXI	**Tiksi**	**27.25**	**25**	*i* P	**P**	**01 41 24.8**	**+0.7**

MEX 13 01:37:13.8±0.7,16.°27N×98.°40W,h15km,MD3.6,Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.29**	**65**	*e*P	Pg	01 37 19.2	-0.8
PNIG				*e*S	Sg	01 37 23.8	-0.4
TLIG	**Tlapa**	**1.30**	**353**	*i* P	Pn	01 37 33.7	-3.9
TLIG				*e*S	Sb	01 37 49.0	-5.6
VHO	**Vista Hermosa**	**1.79**	**63**	*e*P	Pn	01 37 44.7	+0.3
CAIG	**El Cayaco**	**1.95**	**294**	*e*P	Pn	01 37 43.2	-3.1
CAIG				*e*S	Sn	01 38 06.8	-3.8

NIED ***13*** *01:38:00,35.°70N×141.°00E,h11km,Mw3.5 Best double couple: M0 1.72000×10^14 NP1:φs348.00000°,δ30.00000°, λ-69.00000°. NP2:φs144.00000°,δ62.00000°, λ-102.00000°.*

JMA 13 01:38:06.1±0.1,35.°70N×141.°00E,h14km±1km,M3.5,1C, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CHOJ	**Chosi**	**0.12**	**271**	⇑P	Pg	01 38 09.4	0.0
JYT	**Yasato**	**0.84**	**309**	P	Pg	01 38 21.9	-0.5
JYT				S	Sg	01 38 33.0	-0.4
BSO4	**Boso 4**	**0.89**	**218**	P	Pb	01 38 23.0	-0.3
JHO	**Hitachi**	**0.97**	**339**	P	Pb	01 38 24.1	-0.7
BSO3	**Boso 3**	**0.98**	**204**	P	Pb	01 38 24.6	-0.1
MAT	**Matsushiro**	**2.41**	**291**	P	Pn	01 38 45.0	-0.2
MAT				*e*S	Sn	01 39 12.8	-1.7

IDC ***13*** *01:40:55.7±1.1,28.°66S×176.°39W,h0km,mb4.2/6, mb1 4.4/7,mb1mx4.0/43,mbtmp4.1/7,ML3.8/1,MS3.3/1, Ms1 3.3/1,ms1mx2.6/43,Error ellipse: s-maj=54.6km s-min=21.9km az=154.0*
ISCJB ***13*** *01:40:58.5±0.6,28.°8S±0.°1×176.°40W±0.°10,h29km, mb4.3/11,MS3.1/1,Error ellipse: s-maj=19.7km s-min=8.7km az=150.4*
NEIC ***13*** *01:41:01.7±1.9,28.°81S×176.°43W,h44km±17km,mb4.3/4, Error ellipse: s-maj=21.9km s-min=13.1km az=168.0*

ISC 13 01:41:00.1±0.8,28.°7S±0.°2×176.°5W±0.°1,h29km,n27, σ0s80/27,mb4.3/11,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.37**	**248**	*e*Pn	**Pb**	**01 41 24.3**	**-0.8**
RAO				*e*Sn	**Sn**	**01 41 40.0**	**-0.5**
URZ	**Urewera**	**10.90**	**208**	Pn	**Pn**	**01 43 34.3**	**+0.2**
	0.7nn,0.3s,baz=38,slow=18,SNR=3.4						
URZ				Sn	Sn	01 45 23.1	-12
	1.8nn,0.3s,baz=246,slow=22,SNR=7.6						
SNZO	**South Karori**	**14.47**	**208**	*e*Pn	**Pn**	**01 44 23.2**	**+0.4**
PPT	**Papeete**	**27.05**	**72**	LR	LR	01 55 57.8	
	comp=Z,54nm,18.1s,baz=192,slow=34						
CTA	**Charters Tower**	**34.90**	**276**	P	**P**	**01 47 51.3**	**+1.9**
	0.6nn,0.5s,baz=101,slow=12,SNR=4.5						
STKA	**Stephens Creek**	**36.18**	**254**	P	**P**	**01 48 01.8**	**+1.6**
	2.4nn,0.6s,baz=100,slow=14,SNR=6.7						
BBOO	**Buckleboo**	**40.73**	**252**	*e*P	**P**	**01 48 38.5**	**+0.1**
	22nn,1.3s						
ASAR	**Alice Springs**	**44.56**	**265**	P	**P**	**01 49 09.5**	**-0.3**
	1.5nn,0.5s,baz=106,slow=8.8,SNR=22						
WRAB	**Tennant Creek**	**45.40**	**270**	*e*P	**P**	**01 49 15.7**	**-0.7**
	3.4nn,0.7s						
WRA	**Warramunga Arr**	**45.40**	**270**	P	**P**	**01 49 15.9**	**-0.6**
	3.0nn,0.6s,baz=108,slow=8.6,SNR=21						
FORT	**Forrest**	**47.78**	**253**	*e*P	**P**	**01 49 33.9**	**-1.0**
WVOR	**Wild Horse Val**	**88.59**	**39**	*e*P	**P**	**01 53 50.3**	**+0.1**
	1.3nn,0.6s						
TXAR	**Lajitas Array**	**90.37**	**57**	P	**P**	**01 53 59.5**	**+0.6**
	0.3nn,0.7s,baz=212,slow=6.4,SNR=3.2						
DUG	**Dugway, Tooele**	**90.52**	**43**	*e*P	**P**	**01 53 59.0**	**-0.3**
	0.9nn,0.6s						
ANMO	**Albuquerque**	**91.50**	**51**	*e*P	**P**	**01 54 03.8**	**-0.4**
	0.9nn,0.7s						
ILAR	**Eielson Array**	**96.02**	**12**	P	**P**	**01 54 23.8**	**-0.2**
	0.4nn,0.8s,baz=219,slow=5.6,SNR=4.7						
MKAR	**Makanchi Array**	**117.72**	**310**	PKP	**PKPdf**	**01 59 42.7**	**-0.7**
	0.8nn,1.0s,baz=78,slow=2.1,SNR=4.1						
KURK	**Kurchatov**	**120.86**	**314**	*e*PKPdf	**PKPdf**	**01 59 48.2**	**-1.0**
KURK				PKP	**PKiKP**	**01 59 48.7**	**-0.6**
KURBB	**Kurchatov Arra**	**120.90**	**314**	PKP	**PKPdf**	**01 59 48.7**	**-0.6**
	0.3nn,0.4s,baz=99,slow=1.9,SNR=3.4						
BVAR	**Borovoye Array**	**126.13**	**317**	PKP	**PKPdf**	**01 59 59.4**	**+0.2**
	0.2nn,0.6s,baz=104,slow=1.8,SNR=2.5						
FINES	**FINESS Array B**	**144.02**	**342**	PKP	PKPbc	02 00 30.1	0.0
	1.8nn,0.8s,baz=65,slow=3.7,SNR=12						
NB2	**NORSAR Subarra**	**147.29**	**353**	PKP	**PKPbc**	**02 00 40.2**	**0.0**
	comp=Z,1.4nn,0.6s,baz=8.7,slow=2.9						
NOA	**NORSAR Array B**	**147.29**	**353**	PKPbc	**PKPbc**	**02 00 40.1**	**0.0**
	comp=Z,2.0nn,0.6s,baz=12,slow=4.5,SNR=7.5						
HFS	**Hagfors**	**147.86**	**350**	PKPbc	**PKPbc**	**02 00 41.3**	**-0.5**
	comp=Z,3.0nn,0.8s,baz=48,slow=2.1,SNR=6.3						
AKASG	**Malin Array Be**	**150.74**	**326**	PKPbc	**PKPbc**	**02 00 48.1**	**-1.1**
	comp=Z,1.1nn,0.7s,baz=44,slow=2.6,SNR=5.2						
MMAI	**Mount Meron Ar**	**152.37**	**287**	PKPbc	**PKPbc**	**02 00 55.1**	**+1.4**
	comp=Z,0.7nn,0.5s,baz=90,slow=5.8,SNR=4.2						
BRTR	**Keskin Array B**	**152.92**	**302**	PKPbc	**PKPbc**	**02 00 54.5**	**-0.2**
	comp=Z,0.2nn,0.5s,baz=48,slow=2.1,SNR=2.8						

DDA 13 01:53:38.4,38.°42N×43.°30E,h7km,Ml1.9,Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TVAN	**Van**	**0.14**	**38**	*i* P	Pg	01 53 41.3	-0.1
TVAN				*i* S	Sg	01 53 44.7	+1.2
GEVA	**Gevas**	**0.22**	**240**	*i* P	Pg	01 53 42.5	-0.2
GEVA				*i* S	Sg	01 53 47.2	+1.6
VMUR	**Van-Muradiye**	**0.61**	**21**	*i* P	Pg	01 53 49.4	-0.8
VMUR				*i* S	Sb	01 53 59.4	-0.9

ATA 13 01:54:29.7±2.0,38.°77N×42.°08E,h0km±107km,ML2.7, MW3.2,Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EKAR	**Karacoban**	**0.48**	**358**	*e*P	Pg	01 54 39.5	+0.5
EKAR				*e*S	Sb	01 54 48.2	-0.9
EKAR				IAML		01 54 55.5	
	comp=Z,72nm,0.6s						
EATA	**Eleskirt**	**1.14**	**16**	*e*P	Pn	01 54 53.5	+0.3
EATA				*e*S	Sn	01 55 10.6	+0.9
HOMI	**Horasan**	**1.28**	**354**	*e*P	Pn	01 54 55.4	+0.3
HOMI				*e*S	Sn	01 55 16.3	+3.2
HOMI				IAML		01 55 23.2	
	comp=Z,3.4nm,0.7s						

ISCJB ***13*** *01:59:12.0±0.9,1.°9N±0.°1×89.°5E±0.°1,h10km,mb3.6/10, Error ellipse: s-maj=22.8km s-min=14.1km az=32.2*
IDC ***13*** *01:59:12.3±1.2,1.°84N×89.°50E,h0km,mb3.6/10, mb1 3.7/12,mb1mx3.5/66,mbtmp3.6/12,ML3.7/2,Error ellipse: s-maj=37.7km s-min=21.8km az=40.0*

ISC 13 01:59:14.0±1.1,1.°9N±0.°2×89.°5E±0.°1,h10km,n19, σ0s34/13,mb3.4/10,North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PALK	**Pallekele**	**10.30**	**302**	Pn	**Pn**	**02 01 42.2**	**+0.1**
	3.0nn,0.3s,baz=116,slow=12,SNR=11						
PALK				Sn	Sn	02 03 27.0	-11
	3.2nn,0.3s,baz=116,slow=13,SNR=5.0						
CMAR	**Chiang Mai Arr**	**18.89**	**29**	P	**Pn**	**02 03 35.6**	**+0.2**
	0.0nn,0.3s,baz=218,slow=12,SNR=2.4						
H08S2	**Diego Garcia H**	**19.45**	**241**	T	T	02 24 08.2	
	baz=60,slow=75,SNR=37						
H08S3	**Diego Garcia H**	**19.45**	**241**	T	T	02 24 01.3	
	baz=60,slow=75,SNR=32						
H08S1	**Diego Carcia H**	**19.46**	**241**	T	T	02 23 59.8	
	baz=60,slow=75,SNR=30						
H01W3	**Cape Leeuwin H**	**43.23**	**150**	T	T	02 53 10.6	
	baz=324,slow=75,SNR=2.9						
H01W2	**Cape Leeuwin H**	**43.24**	**150**	T	T	02 53 17.1	
	baz=324,slow=75,SNR=2.5						
H01W1	**Cape Leeuwin H**	**43.25**	**150**	T	T	02 53 17.1	
	baz=324,slow=75,SNR=2.9						
MKAR	**Makanchi Array**	**45.19**	**353**	P	**P**	**02 07 31.0**	**-0.1**
	0.3nn,0.6s,baz=179,slow=9.5,SNR=2.8						
SONM	**Songino Array**	**48.06**	**15**	P	**P**	**02 07 53.9**	**+0.1**
	3.0nn,0.6s,baz=198,slow=9.2,SNR=19						
WRA	**Warramunga Arr**	**49.00**	**119**	P	**P**	**02 08

Error ellipse: s-maj=13.0km s-min=8.0km az=117.0

ISC 13 02:28:10.9±1.1, 39.78N±0.03×142.11E±0.07, h23km±7km, n40, σ1829/40, mb3.9/16, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**0.25**	**310**	P	**Pb**	**02 28 16.2**	**-0.8**
JTH				S	**Sb**	**02 28 21.9**	**+0.7**
MIYJ	**Miyakonagasawa**	**0.30**	**228**	P	**Pb**	**02 28 17.2**	**-0.6**
MIYJ				S	**Sb**	**02 28 23.2**	**+0.7**
JKZ	**Kuzumaki**	**0.63**	**289**	P	**Pb**	**02 28 23.0**	**-0.4**
JKZ				S	**Sn**	**02 28 33.0**	**-0.9**
JOM	**Ohasama**	**0.70**	**244**	P	**Pb**	**02 28 24.1**	**-0.4**
JOM				S	**Sn**	**02 28 35.3**	**-0.2**
JANG	**Nango**	**0.75**	**323**	P	**Pb**	**02 28 23.5**	**-1.8**
JANG				S	**Sb**	**02 28 34.0**	**-1.1**
OFUJ	**Ofunato**	**0.78**	**206**	P	**Pb**	**02 28 23.9**	**-1.9**
OFUJ				S	**Sb**	**02 28 35.4**	**-0.5**
JMK	**Ichinoseki**	**1.08**	**220**	P	**Pn**	**02 28 29.6**	**-0.9**
JMK				S	**Sn**	**02 28 44.6**	**-0.1**
ERM	**Erimo**	**2.37**	**19**	*e*Pn	**Pn**	**02 28 48.5**	**+0.1**
ASAJ	**Asahikawa**	**4.35**	**5**	Pn	**Pn**	**02 29 16.0**	**+0.5**
	3.6nm,0.3s,baz=239,slow=6.8,SNR=8.3						
ASAJ				Sn	**Sn**	**02 30 06.7**	**+1.2**
	1.7nm,0.3s,baz=163,slow=19,SNR=3.0						
ASAJ	**Asahikawa**	**4.35**	**5**	*e*Pn	**Pn**	**02 29 16.7**	**+1.2**
ASAJ				Sn	**Sn**	**02 30 06.7**	**+1.2**
MJAR	**Matsushiro Arr**	**4.46**	**225**	Pn	**Pn**	**02 29 19.9**	**+2.7**
	1.3nm,0.3s,baz=32,slow=12,SNR=9.2						
MJAR				LR	LR	02 31 18.5	
	comp=Z,72nm,20.9s,baz=90,slow=45						
MAJO	**Matsushiro**	**4.46**	**225**	*e*Pn	**Pn**	**02 29 16.7**	**-0.4**
MAT	**Matsushiro**	**4.46**	**225**	P	**Pn**	**02 29 21.2**	**+4.1**
MAT				*e*S	**Sn**	**02 30 10.9**	**+2.6**
JNU	**Nakatsue**	**11.22**	**237**	LR	LR	02 35 24.5	
	comp=Z,50nm,19.9s,baz=117,slow=40						
KSRS	**Korea Array**	**11.34**	**263**	Pn	Pn	02 31 01.2	+10
	0.4nm,0.3s,baz=68,slow=14,SNR=6.6						
KSRS				LR	LR	02 34 59.6	
	comp=Z,27nm,19.1s,baz=60,slow=37						
KSAR	**Wonju Array Be**	**11.37**	**263**	Pn	Pn	02 31 01.2	+9.3
SONM	**Songino Array**	**26.81**	**299**	P	**P**	**02 33 48.8**	**-0.5**
	0.3nm,0.6s,baz=78,slow=9.0,SNR=2.8						
H11N2	**WAKE ISLAND Hy**	**29.20**	**126**	T	T	03 04 38.9	
	baz=319,slow=75						
H11N1	**WAKE ISLAND Hy**	**29.21**	**126**	T	T	03 04 38.9	
	baz=319,slow=75						
H11N3	**WAKE ISLAND Hy**	**29.22**	**126**	T	T	03 04 36.0	
	baz=319,slow=75						
H11S1	**WAKE ISLAND Hy**	**30.00**	**128**	T	T	03 05 42.5	
	baz=321,slow=76						
H11S3	**WAKE ISLAND Hy**	**30.00**	**128**	T	T	03 05 36.7	
	baz=321,slow=76						
H11S2	**WAKE ISLAND Hy**	**30.02**	**128**	T	T	03 05 43.4	
	baz=321,slow=76						
DAV	**Davao City (W)**	**35.79**	**209**	LR	LR	02 48 37.1	
	comp=Z,26nm,19.6s,baz=52,slow=35						
ZALV	**Zalesovo Beam**	**40.52**	**310**	P	**P**	**02 35 47.9**	**0.0**
	2.8nm,0.6s,baz=90,slow=8.6,SNR=7.8						
MKAR	**Makanchi Array**	**43.18**	**300**	P	**P**	**02 36 09.8**	**+0.1**
	1.8nm,0.6s,baz=84,slow=9.3,SNR=19						
KURK	**Kurchatov**	**44.71**	**306**	P	**P**	**02 36 22.3**	**+0.4**
KURBB	**Kurchatov Arra**	**44.79**	**306**	P	**P**	**02 36 22.3**	**-0.2**
	2.9nm,0.5s,baz=79,slow=8.4,SNR=13						
ILAR	**Eielson Array**	**46.90**	**34**	P	**P**	**02 36 41.3**	**+2.3**
	0.3nm,0.7s,baz=262,slow=5.9,SNR=6.6						
BVAR	**Borovoye Array**	**49.16**	**311**	P	**P**	**02 36 56.3**	**-0.4**
	0.4nm,0.3s,baz=74,slow=7.7,SNR=3.2						
ARU	**Arti**	**54.69**	**317**	*e*P	**P**	**02 37 37.6**	**-0.2**
	1.5nm,0.5s						
WRA	**Warramunga Arr**	**59.85**	**188**	P	**P**	**02 38 12.8**	**-1.8**
	0.9nm,0.8s,baz=7.1,slow=7.1,SNR=7.6						
YKA	**Yellowknife Ar**	**61.17**	**31**	P	**P**	**02 38 23.9**	**+0.8**
	0.1nm,0.6s,baz=298,slow=6.0,SNR=4.2						
ASAR	**Alice Springs**	**63.58**	**188**	P	**P**	**02 38 38.4**	**-1.3**
	0.4nm,0.7s,baz=16,slow=13,SNR=4.3						
FINES	**FINESS Array B**	**66.65**	**332**	P	**P**	**02 38 58.9**	**-0.3**
	0.8nm,0.8s,baz=58,slow=10,SNR=3.2						
BMO	**Blue Mountains**	**69.68**	**48**	*e*P	**P**	**02 39 18.0**	**-0.7**
	1.9nm,0.7s						
HFS	**Hagfors**	**71.81**	**336**	P	**P**	**02 39 31.3**	**+0.1**
	0.8nm,0.7s,baz=48,slow=8.9,SNR=4.4						
HFS				LR	LR	03 15 25.6	
	comp=Z,23nm,19.4s,baz=330,slow=40						
NOA	**NORSAR Array B**	**71.87**	**337**	P	**P**	**02 39 31.1**	**-0.5**
AKASG	**Malin Array Be**	**72.47**	**322**	P	**P**	**02 39 35.5**	**+0.2**
	0.3nm,0.4s,baz=45,slow=5.4,SNR=3.3						
BRTR	**Keskin Array B**	**77.44**	**311**	P	**P**	**02 40 04.1**	**-0.4**
	0.3nm,0.8s,baz=38,slow=2.6,SNR=3.0						

IDC 13 02:49:03.2±6.3, 7.25S×128.74E, h182km±62km, mb3.4/2, mb1 3.5/6, mb1mx3.1/47, mbtmp4.0/6, Error ellipse: s-maj=63.3km s-min=24.2km az=42.0

ISC 13 02:48:59.5±1.3, 7.41S±0.09×129.1E±0.1, h150km, n7, σ2284/11, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**6.04**	**242**	P	**Pn**	**02 50 27.7**	**+0.9**
	13nm,0.3s,baz=63,slow=6.8,SNR=6.3						
BATI				S	**Sn**	**02 51 35.0**	**-0.1**
	18nm,0.3s,baz=60,slow=20,SNR=4.0						
FITZ	**Fitzroy Crossi**	**11.14**	**197**	P	**Pn**	**02 51 36.9**	**+2.3**
	0.4nm,0.3s,baz=21,slow=11,SNR=1.6						
FITZ				S	**Sn**	**02 53 34.1**	**-3.8**
	1.2nm,0.3s,baz=94,slow=19,SNR=3.5						
WRA	**Warramunga Arr**	**13.46**	**158**	P	**P**	**02 52 09.9**	**+1.2**
	0.6nm,0.3s,baz=329,slow=13,SNR=15						
WRA				S	**Sn**	**02 54 29.5**	**-4.3**
	1.5nm,0.3s,baz=337,slow=22,SNR=10.0						
ASAR	**Alice Springs**	**16.81**	**165**	P	**Pn**	**02 52 50.4**	**+4.2**
	0.4nm,0.3s,baz=341,slow=10.0,SNR=23						
ASAR				S	**S**	**02 55 52.3**	**-1.0**
	0.3nm,0.3s,baz=352,slow=27,SNR=3.4						
MKAR	**Makanchi Array**	**68.07**	**327**	P	**P**	**02 59 41.6**	**-1.4**
	0.5nm,0.4s,baz=117,slow=6.3,SNR=5.6						
KURBB	**Kurchatov Arra**	**72.39**	**329**	P	**P**	**03 00 07.5**	**-1.6**
	0.4nm,0.3s,baz=127,slow=4.9,SNR=2.6						
TORD	**Torodi Ar. Bea**	**128.00**	**281**	PKP	**PKPdf**	**03 07 47.7**	**-1.0**
	0.5nm,0.9s,baz=116,slow=3.4,SNR=2.1						

IDC 13 02:49:02.0±2.6, 0.97N×95.50E, h0km, mb3.7/10, mb1 3.8/12, mb1mx3.6/59, mbtmp3.7/12, ML4.0/2, MS3.2/1, Ms1 3.2/1, ms1mx2.5/68, Error ellipse: s-maj=58.7km s-min=32.8km az=160.0

NEIC 13 02:49:03.0±0.6, 0.90N×95.55E, h10km, mb4.0/5, Error ellipse: s-maj=12.8km s-min=8.0km az=192.0

DJA 13 02:49:04.1±1.1, 1.1N±5.5×9.5E±1.0, h10km, M4.5/9, mb4.5/4, MLv4.4/9

ISCJB 13 02:49:07.0±0.5, 1.28N±0.06×95.56E±0.04, h33km, mb3.8/14, Error ellipse: s-maj=9.1km s-min=5.5km az=23.1

ISC 13 02:49:08.5±0.7, 1.28N±0.08×95.60E±0.07, h35km, n36, σ1852/36, mb3.8/14, 1D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSI	**Gunungsitoli**	**1.97**	**89**	P	**Pn**	**02 49 40.3**	**+0.8**
GSI	**Gunungsitoli**	**1.97**	**89**	*e*Pn	**Pn**	**02 49 39.8**	**+0.3**
GSI				*e*Sn	**Sn**	**02 50 04.0**	**+1.0**
TPTI		**2.52**	**39**	P	**Pn**	**02 49 46.7**	**-0.3**
PBSI	**Pulau Batu**	**2.99**	**116**	P	**Pn**	**02 49 54.2**	**+0.8**
MLSI	**Meulaboh, Aceh**	**3.07**	**15**	P	**Pn**	**02 49 55.3**	**+0.7**
KCSI	**Kotacane, Aceh**	**3.11**	**44**	P	**Pn**	**02 49 56.4**	**+1.3**
PSI	**Prapat**	**3.65**	**65**	Pn	**Pn**	**02 50 02.8**	**+0.2**
	4.3nm,0.3s,baz=318,slow=7.2,SNR=15						
PSI				Sn	**Sn**	**02 50 44.9**	**+0.4**
	2.3nm,0.3s,baz=286,slow=18,SNR=3.8						
PSI				LR	LR	02 51 52.9	
	comp=Z,309nm,20.5s,baz=234,slow=45						
MNSI	**Mandailing Nat**	**4.00**	**97**	P	**Pn**	**02 50 08.9**	**+1.5**
BSI	**Banda Aceh**	**4.20**	**356**	P	**Pn**	**02 50 07.3**	**-2.9**
SISI	**Saibi**	**4.34**	**127**	P	**Pn**	**02 50 13.2**	**+1.1**
PPSI	**Pulau Pagai**	**5.96**	**132**	P	**Pn**	**02 50 35.0**	**+0.7**
IPM	**Ipoh**	**6.28**	**59**	*e*Pn	**Pn**	**02 50 39.5**	**+0.7**
	12nm,0.5s						
KULM	**Kulim**	**6.42**	**52**	*e*Pn	**Pn**	**02 50 40.8**	**+0.1**
	19nm,0.6s						
MNAI	**Manna**	**9.24**	**127**	*e*Pn	Pn	02 51 12.7	-6.7
MDSI	**Maura Dua**	**10.31**	**124**	P	**Pn**	**02 51 35.5**	**+1.5**
PALK	**Pallekele**	**16.00**	**292**	Pn	Pn	02 52 38.4	-13
	0.3nm,0.3s,baz=117,slow=6.8,SNR=4.2						
CMAR	**Chiang Mai Arr**	**17.38**	**11**	P	**P**	**02 53 09.7**	**+0.1**
	0.4nm,0.3s,baz=201,slow=11,SNR=18						
CHTO	**Chiang Mai**	**17.73**	**10**	*e*P	**P**	**02 53 14.5**	**+1.1**
	1.6nm,0.6s						
BLJI	**Banyuglugur**	**20.06**	**117**	P	**P**	**02 53 32.6**	**-6.4**
AAK	**Ala-Archa**	**45.32**	**338**	*e*P	**P**	**02 57 23.2**	**-0.1**
	1.6nm,0.6s						
MKAR	**Makanchi Array**	**46.80**	**347**	P	**P**	**02 57 36.1**	**+1.4**
	1.5nm,0.7s,baz=166,slow=8.1,SNR=18						
KKAR	**Karatay Array**	**47.30**	**335**	*e*P	**P**	**02 57 40.5**	**+1.9**
	1.0nm,0.6s						
SONM	**Songino Array**	**47.31**	**10**	P	**P**	**02 57 39.3**	**+0.5**
	0.7nm,0.6s,baz=188,slow=9.4,SNR=4.9						
KURBB	**Kurchatov Arra**	**51.26**	**346**	P	**P**	**02 58 10.4**	**+1.6**
	0.3nm,0.5s,baz=168,slow=7.4,SNR=3.6						
KURK	**Kurchatov**	**51.32**	**346**	*e*P	**P**	**02 58 10.4**	**+1.1**
ZALV	**Zalesovo Beam**	**53.24**	**352**	P	**P**	**02 58 24.2**	**+0.8**
	1.5nm,0.5s,baz=188,slow=7.9,SNR=8.0						
BVAR	**Borovoye Array**	**55.67**	**342**	P	**P**	**02 58 40.8**	**-0.3**
	0.4nm,0.5s,baz=134,slow=6.2,SNR=4.4						
BRVK	**Borovoye**	**55.73**	**342**	*e*P	**P**	**02 58 43.1**	**+1.6**
	3.4nm,0.6s						
ABKAR	**Akbulak array**	**56.70**	**333**	*e*P	**P**	**02 58 48.6**	**0.0**
	0.6nm,0.7s						
MMAI	**Mount Meron Ar**	**64.57**	**306**	P	**P**	**02 59 43.1**	**+0.5**
	0.6nm,0.6s,baz=104,slow=9.2,SNR=3.0						
BRTR	**Keskin Array B**	**67.88**	**313**	P	**P**	**03 00 03.0**	**-0.9**
	0.3nm,0.8s,baz=110,slow=6.7,SNR=3.8						
FINES	**FINESS Array B**	**79.19**	**333**	P	**P**	**03 01 09.7**	**+0.1**
	0.5nm,0.7s,baz=102,slow=3.4,SNR=4.2						
SYO	**Syowa Base**	**79.59**	**198**	*e*pP	**P**	**03 01 11.8**	**+0.1**
GERES	**GERESS Array B**	**83.70**	**319**	P	**P**	**03 01 33.3**	**-0.7**
	0.1nm,0.3s,baz=98,slow=4.1,SNR=2.8						
HFS	**Hagfors**	**84.86**	**330**	P	**P**	**03 01 39.5**	**0.0**
	0.4nm,0.5s,baz=146,slow=11,SNR=1.1						
TXAR	**Lajitas Array**	**144.41**	**30**	PKP	**PKPdf**	**03 08 41.3**	**-0.7**
	0.2nm,0.8s,baz=20,slow=3.5,SNR=3.9						

MEX 13 02:50:51.9±0.6, 16.25N×98.44W, h15km, MD4.0, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.33**	**65**	*e*P	Pg	02 50 58.0	-0.8
PNIG				*i* S	Sg	02 51 03.0	-0.5
TLIG	**Tlapa**	**1.31**	**355**	*i* P	Pn	02 51 12.2	-3.6
TLIG				*e*S	Sb	02 51 27.4	-5.7
VHO	**Vista Hermosa**	**1.83**	**63**	*e*P	Pn	02 51 21.5	-1.5
VHO				*e*S	Sn	02 51 44.8	-1.3
CAIG	**El Cayaco**	**1.92**	**295**	*e*P	Pn	02 51 21.0	-3.1
CAIG				*e*S	Sn	02 51 43.8	-4.3
HUIG	**Huatulco**	**2.29**	**102**	*e*P	Pn	02 51 30.1	+0.9

IDC 13 02:55:59.2±4.1, 2.05N×89.44E, h0km, mb3.6/2, mb1 3.6/4, mb1mx3.2/65, mbtmp3.5/4, ML3.6/2, Error ellipse: s-maj=84.8km s-min=48.4km az=173.0, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**10.14**	**301**	Pn	Pn	02 58 27.1	+1.0
	0.3nm,0.3s,baz=118,slow=11,SNR=3.3						
PALK				Sn	Sn	03 00 14.5	-6.1
	1.1nm,0.3s,baz=123,slow=9.1,SNR=7.1						
CMAR	**Chiang Mai Arr**	**18.78**	**29**	P	Pn	03 00 22.0	+1.4
	0.1nm,0.3s,baz=210,slow=10,SNR=2.5						
SONM	**Songino Array**	**47.91**	**15**	P	P	03 04 38.0	-1.3
	1.0nm,0.5s,baz=195,slow=9.1,SNR=5.6						
KURBB	**Kurchatov Arra**	**49.27**	**351**	P	P	03 04 49.0	-0.6
	0.1nm,0.3s,baz=169,slow=7.3,SNR=2.6						
TXAR	**Lajitas Array**	**146.37**	**21**	PKPbc	PKPbc	03 15 42.8	-0.1
	0.1nm,0.7s,baz=26,slow=1.3,SNR=3.6						

IDC 13 03:00:31.1±3.6, 6.39S×150.24E, h0km, mb3.2/2, mb1 3.6/3, mb1mx3.2/50, mbtmp3.4/3, ML1.7/1, MS2.7/1, Ms1 2.7/1, ms1mx2.4/17, Error ellipse: s-maj=128.2km s-min=44.6km az=120.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.28**	**225**	Pn	Pn	03 01 38.8	+1.3
	3.1nm,0.3s,baz=43,slow=13,SNR=5.0						
PMG				Sn	Sn	03 02 25.7	-2.4
	4.4nm,0.3s,baz=112,slow=19,SNR=4.8						
PMG				LR	LR	03 03 29.7	
	comp=Z,87nm,19.3s,baz=164,slow=42						
WRA	**Warramunga Arr**	**20.49**	**227**	P	P	03 05 10.3	-0.5
	1.0nm,0.5s,baz=53,slow=11,SNR=12						
ASAR	**Alice Springs**	**23.28**	**221**	P	P	03 05 40.1	-0.5
	0.3nm,0.7s,baz=53,slow=9.2,SNR=3.4						
TORD	**Torodi Ar. Bea**	**148.31**	**285**	PKPbc	PKPbc	03 20 20.1	-0.4
	0.5nm,0.8s,baz=60,slow=2.1,SNR=4.3						

IDC 13 03:12:12.3±1.8, 2.08N×93.21E, h0km, mb3.9/4, mb1 4.0/7, mb1mx3.5/78, mbtmp3.9/7, ML3.7/3, Error ellipse: s-maj=47.4km s-min=23.1km az=44.0

NEIC 13 03:12:13.2±0.7, 2.03N×93.17E, h10km, mb4.0/3, Error ellipse: s-maj=13.8km s-min=9.1km az=183.0

ISCJB 13 03:12:14.8±1.0, 2.1N±0.1×93.20E±0.08, h33km, mb4.0/7, Error ellipse: s-maj=19.5km s-min=11.5km az=7.0

ISC 13 03:12:17.3±0.9, 2.2N±0.1×93.30E±0.08, h35km, n16, σ1938/17, mb4.0/7, 1D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LHMI	**Lhok Sumawe**	**4.74**	**50**	*e*Pn	**Pn**	**03 13 27.1**	**+0.8**
PSI	**Prapat**	**5.65**	**83**	Pn	**Pn**	**03 13 40.5**	**+1.5**
	4.2nm,0.3s,baz=290,slow=7.1,SNR=17						
PSI				Sn	**Sn**	**03 14 39.6**	**-3.2**
	0.6nm,0.3s,baz=248,slow=19,SNR=2.3						
PALK	**Pallekele**	**13.54**	**292**	Pn	**Pn**	**03 15 26.0**	**-1.0**
	0.3nm,0.3s,baz=116,slow=16,SNR=2.7						
PALK				Sn	Sn	03 17 44.8	-12
	3.5nm,0.3s,baz=294,slow=4.3,SNR=9.0						
CMAR	**Chiang Mai Arr**	**17.11**	**18**	P	**Pn**	**03 16 14.0**	**+0.1**
	0.1nm,0.3s,baz=219,slow=13,SNR=7.4						
CHTO	**Chiang Mai**	**17.44**	**18**	*e*Pn	**P**	**03 16 19.9**	**+0.9**
NIL	**Nilore**	**36.51**	**331**	*e*P	**P**	**03 19 19.4**	**-0.1**
MKAR	**Makanchi Array**	**45.47**	**349**	P	**P**	**03 20 34.0**	**+0.9**
	1.7nm,0.4s,baz=171,slow=8.8,SNR=23						
KKAR	**Karatay Array**	**45.55**	**337**	*e*P	**P**	**03 20 34.3**	**+0.5**
	0.7nm,0.3s						
WRA	**Warramunga Arr**	**45.86**	**121**	P	**P**	**03 20 36.5**	**-0.1**
	0.9nm,0.6s,baz=301,slow=8.6,SNR=16						
SONM	**Songino Array**	**46.88**	**12**	P	**P**	**03 20 44.8**	**+0.5**
	0.5nm,0.6s,baz=209,slow=8.1,SNR=4.0						
KURBB	**Kurchatov Arra**	**49.88**	**348**	P	**P**	**03 21 07.6**	**+0.5**
	1.0nm,0.6s,baz=170,slow=7.2,SNR=8.3						
KURK	**Kurchatov**	**49.95**	**348**	P	**P**	**03 21 07.6**	**0.0**
ABKAR	**Akbulak array**	**54.88**	**334**	*e*P	**P**	**03 21 43.7**	**-0.7**
	0.7nm,0.6s						
CUC	**Castrocucco**	**79.03**	**310**	*e*P	**P**	**03 24 17.4**	**-0.7**
	2.7nm,0.7s						
SYO	**Syowa Base**	**79.74**	**197**	*e*PcP	**PcP**	**03 24 31.4**	**+2.5**
SAML	**Samuel**	**155.66**	**253**	*e*PKPab	**PKPab**	**03 32 33.1**	**-1.8**

IDC 13 03:14:36.2±4.0, 3.11N×90.93E, h0km, mb3.8/5, mb1 3.9/7, mb1mx3.5/76, mbtmp3.9/7, ML3.7/2, Error ellipse: s-maj=85.6km s-min=34.5km az=12.0

ISCJB 13 03:14:38.0±1.3, 3.0N±0.2×90.9E±0.1, h33km, mb3.9/8, Error ellipse: s-maj=32.9km s-min=13.2km az=24.7

NEIC 13 03:14:37.3±0.9, 3.07N×90.93E, h10km, mb4.0/3, Error ellipse: s-maj=24.4km s-min=9.7km az=204.0

ISC 13 03:14:40.6±1.4, 3.0N±0.2×91.0E±0.1, h35km, n11, σ1809/12, mb3.9/8, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**7.94**	**92**	Pn	**Pn**	**03 16 33.4**	**-0.3**
	0.8nm,0.3s,baz=295,slow=17,SNR=2.1						
PSI				Sn	**Sn**	**03 18 00.7**	**-1.8**
	0.7nm,0.3s,baz=342,slow=20,SNR=4.7						
PALK	**Pallekele**	**11.06**	**293**	Pn	**Pn**	**03 17 14.6**	**-1.9**
	0.8nm,0.3s,baz=114,slow=3.6,SNR=3.4						
PALK				Sn	Sn	03 19 08.8	-10
	2.6nm,0.3s,baz=116,slow=5.1,SNR=7.4						
KKAR	**Karatay Array**	**43.85**	**338**	*e*P	**P**	**03 22 43.8**	**+0.3**
	1.0nm,0.4s						
MKAR	**Makanchi Array**	**44.23**	**351**	P	**P**	**03 22 46.0**	**-0.5**
	0.6nm,0.6s,baz=173,slow=8.0,SNR=6.3						
SONM	**Songino Array**	**46.56**	**14**	P	**P**	**03 23 06.0**	**+0.9**
	1.7nm,0.7s,baz=192,slow=9.1,SNR=11						
WRAB	**Tennant Creek**	**48.31**	**120**	*e*P	**P**	**03 23 20.0**	**+1.0**
	3.3nm,0.7s						
KURBB	**Kurchatov Arra**	**48.57**	**349**	P	**P**	**03 23 20.5**	**+0.1**
	0.3nm,0.3s,baz=176,slow=8.0,SNR=4.6						
KURK	**Kurchatov**	**48.64**	**350**	P	**P**	**03 23 20.5**	**-0.4**
ZALV	**Zalesovo Beam**	**51.00**	**355**	P	**P**	**03 23 38.8**	**0.0**
	0.7nm,0.4s,baz=184,slow=6.0,SNR=1.5						
ABKAR	**Akbulak array**	**53.10**	**335**	*e*P	**P**	**03 23 54.8**	**+0.2**
	0.3nm,0.4s						
FINES	**FINESS Array B**	**75.54**	**333**	P	**P**	**03 26 22.5**	**+1.2**
	0.9nm,0.8s,baz=104,slow=4.4,SNR=3.7						

MAN 13 03:17:04, 7.01N×123.86E, h7km, mb3.9, ML2.6, MS2.2, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTBH	**Cotabato--PC H**	**0.44**	**61**	*i*P	Pb	03 17 13.7	-0.3
CTBH				*i* S	Sb	03 17 20.6	-0.2
PAGZ	**Pagadian**	**0.96**	**330**	*e*P	Pn	03 17 23.6	-0.4
PAGZ				*e*S	Sn	03 17 38.6	+0.7
BUKP	**Musuan**	**1.47**	**54**	*e*P	Pn	03 17 31.2	+0.2
BUKP				*e*S	Sg	03 17 52.1	+0.7
IPIL	**Ipil**	**1.50**	**301**	*e*P	Sn	03 17 50.0	-1.1

DJA 13 03:17:13.7±3.9, 1.1N±12.9×9.1E±3.3, h10km, M5.3/7, mb5.4/7, mB5.6/7, MLv5.4/5, Mw(mB)5.1/7

ISCJB 13 03:17:17.4±0.3, 1.03N±0.05×91.88E±0.03, h10km, mb4.5/60, MS4.1/38, Error ellipse: s-maj=7.6km s-min=4.0km az=13.0

NEIC 13 03:17:19.0±0.4, 1.04N×91.81E, h10km, mb4.8/24, Error ellipse: s-maj=10.3km s-min=5.3km az=194.0

IDC 13 03:17:19.1±0.8, 1.28N×91.53E, h0km, mb4.1/23, mb1 4.2/25, mb1mx4.0/78, mbtmp4.1/25, ML4.0/2, MS4.0/34, Ms1 4.0/34, ms1mx3.9/56, Error ellipse: s-maj=21.9km s-min=17.8km az=26.0

GCMT 13 03:17:19.0±0.3, 1.05N×91.86E, h12km, MW4.9/81, Moment Tensor Solution. s15,c16; s81,c120; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr0.12±.09; Mθθ-1.98±.06; Mφφ 1.86±.08; Mrθ 0.21±.21; Mθφ-0.62±.07; Mφr~1.50±.25; Best double couple: M0 2.44300×10^16 NP1:φs220.00000°, δ70.00000°, λ22.00000°. NP2: φs122.00000°, δ69.00000°, λ159.00000°. Principal axes: T 2.8090, Plg29.0000°, Azm81.0000°; N -0.7360, Plg61.0000°, Azm260.0000°; P -2.0770, Plg1.0000°, Azm351.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.

ISC 13 03:17:19.2±0.5, 1.00N±0.06×91.74E±0.05, h10km, n185, σ2824/155, mb4.7/66, MS4.1/38, 4C-8D, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLSI	**Meulaboh, Aceh**	**5.68**	**55**	P	**Pn**	**03 18 41.5**	**-2.3**
BSI	**Banda Aceh**	**5.71**	**38**	P	**Pn**	**03 18 42.1**	**-2.1**
GSI	**Gunungsitoli**	**5.85**	**87**	P	**Pn**	**03 18 44.8**	**-1.3**
GSI	**Gunungsitoli**	**5.85**	**87**	*e*Pn	**Pn**	**03 18 44.9**	**-1.2**
GSI				*e*Sn	**Pb**	**03 18 58.0**	**-3.4**
TPTI		**5.89**	**68**	P	**Pn**	**03 18 44.4**	**-2.2**
KCSI	**Kotacane, Aceh**	**6.53**	**67**	P	**Pn**	**03 18 55.5**	**0.0**
PBSI	**Pulau Batu**	**6.63**	**99**	P	**Pn**	**03 18 55.1**	**-1.7**
LHMI	**Lhok Sumawe**	**6.69**	**51**	P	**Pn**	**03 18 59.5**	**+1.9**
LHMI	**Lhok Sumawe**	**6.69**	**51**	*e*Pn	**Pn**	**03 18 54.9**	**-2.7**
PSI	**Prapat**	**7.40**	**76**	Pn	**Pn**	**03 19 04.8**	**-2.8**
	7.1nm,0.3s,baz=270,slow=7.8,SNR=14						
PSI				Sn	Sn	03 20 21.1	-11
	5.2nm,0.3s,baz=300,slow=16,SNR=4.1						
PSI				LR	LR	03 22 20.2	
	comp=Z,4μm,19.1s,baz=266,slow=40						
SISI	**Saibi**	**7.71**	**107**	P	**Pn**	**03 19 11.5**	**-0.2**
MNSI	**Mandailing Nat**	**7.85**	**91**	P	**Pn**	**03 19 13.2**	**-0.3**
PDSI	**Padang**	**8.93**	**102**	P	**Pn**	**03 19 26.1**	**-2.4**
BKNI	**Bangkinang**	**9.33**	**94**	P	**Pn**	**03 19 34.8**	**+0.9**
BKNI	**Bangkinang**	**9.33**	**94**	*e*Pn	**Pn**	**03 19 33.6**	**-0.3**
PKDT	**Phuket**	**9.49**	**44**	P	**Pn**	**03 19 33.3**	**-2.8**
	55nm,0.7s,801nm						
IPM	**Ipoh**	**9.90**	**69**	*e*Pn	**Pn**	**03 19 40.0**	**-1.8**
TRTT	**Trang**	**10.44

POO						IAmb	IAmb	03 22 46.8	
	comp=Z,40nm,0.1s								
KKM	**Kota Kinabalu**	**24.93**	**78**	*eP*		**P**	**P**	**03 22 41.0**	**-2.1**
	comp=Z,17nm,0.9s								
ODAN	**Odare**	**26.05**	**351**	*eP*		**P**	**P**	**03 22 54.1**	**+0.9**
	comp=Z,250nm,1.2s								
BHPL	**Bhopal**	**26.11**	**329**	*eP*		**P**	**P**	**03 22 55.3**	**+1.7**
KMI	**Kunming**	**26.23**	**23**	P		**P**	**P**	**03 22 58.8**	**+3.9**
KMI				pP		sP	sP	03 23 04.8	+5.6
KMI				sP		pP	pP	03 23 07.6	+10
KMI				S		**S**	**S**	**03 27 29.4**	**+2.0**
KMI				sS		sS	sS	03 27 39.8	+7.3
KMI				SS		**SnSn**	**SnSn**	**03 28 32.4**	**+5.7**
KMI				pmax		pmax	pmax		
	comp=Z,12nm,1.2s								
KMI				pmax		pmax	pmax		
	comp=Z,50nm,3.1s								
KMI				LR		LR	LR		
	comp=N,440nm,15.7s								
KMI				LR		LR	LR		
	comp=E,660nm,13.6s								
KMI				LR		LR	LR		
	comp=Z,460nm,13.3s								
RAMN	**Ramite**	**26.27**	**350**	*eP*		**P**	**P**	**03 22 56.5**	**+1.3**
	comp=Z,286nm,1.3s								
JIRN	**Jiri**	**27.04**	**349**	*eP*		**P**	**P**	**03 23 03.1**	**+0.9**
	comp=Z,175nm,1.1s								
DMN	**Daman**	**27.21**	**347**	*eP*		**P**	**P**	**03 23 05.1**	**+1.4**
GUN	**Gumba**	**27.34**	**349**	*eP*		**P**	**P**	**03 23 05.7**	**+0.8**
	comp=Z,125nm,1.2s								
KOLN	**Koldanda**	**27.73**	**344**	*eP*		**P**	**P**	**03 23 09.2**	**+0.9**
PYUN	**Piuthan**	**28.22**	**343**	*eP*		**P**	**P**	**03 23 13.2**	**+0.6**
LSA	**Lhasa**	**28.55**	**359**	P		**P**	**P**	**03 23 16.8**	**+1.0**
LSA				pmax		pmax	pmax		
	comp=Z,4.0nm,0.8s								
TGY	**Tagaytay City**	**31.68**	**64**	LR		LR	LR	03 35 57.5	
	comp=Z,149nm,20.5s,baz=214,slow=35								
CD2	**Chengdu**	**31.86**	**20**	*eP*		**P**	**P**	**03 23 45.0**	**+0.3**
CD2				sP		sP	sP	03 23 49.4	+0.4
CD2				S		**S**	**S**	**03 28 57.3**	**+1.9**
CD2				sS		sS	sS	03 29 02.4	+1.9
CD2				SS		**SS**	**SS**	**03 31 14.8**	**+2.6**
CD2				pmax		pmax	pmax		
	comp=Z,10.0nm,0.5s								
CD2				pmax		pmax	pmax		
	comp=Z,220nm,5.2s								
CD2				LR		LR	LR		
	comp=N,680nm,13.4s								
CD2				LR		LR	LR		
	comp=E,740nm,14.9s								
CD2				LR		LR	LR		
	comp=Z,600nm,13.5s								
SMLA	**Simla**	**32.99**	**337**	*eP*		**P**	**P**	**03 23 52.9**	**-1.6**
BATI	**Baumata**	**33.67**	**110**	LR		LR	LR	03 39 15.6	
	comp=Z,296nm,18.9s,baz=96,slow=39								
DAV	**Davao City (W)**	**34.28**	**79**	LR		LR	LR	03 41 18.0	
	comp=Z,242nm,18.2s,baz=329,slow=42								
WHN	**Wuhan**	**36.38**	**34**	⇑P		P	P	03 24 32.6	+8.7
WHN				S		S	S	03 30 17.8	+12
WHN				LR		LR	LR		
	comp=N,830nm,11.8s								
WHN				LR		LR	LR		
	comp=E,2μm,18.1s								
WHN				LR		LR	LR		
	comp=Z,880nm,15.8s								
XAN	**Xi'an**	**36.59**	**24**	P		**P**	**P**	**03 24 24.8**	**-0.9**
XAN				pP		pP	pP	03 24 29.1	+0.3
XAN				sP		sP	sP	03 24 32.1	+2.0
XAN				PP		**PnPn**	**PnPn**	**03 25 46.5**	**-2.3**
XAN				S		**S**	**S**	**03 30 02.4**	**-6.2**
XAN				sS		pS	sS	03 30 10.8	-1.5
XAN				SS		**SnSn**	**SnSn**	**03 32 24.4**	**-14**
XAN				pmax		pmax	pmax		
	comp=Z,6.0nm,0.7s								
XAN				pmax		pmax	pmax		
	comp=Z,25nm,2.8s								
XAN				LR		LR	LR		
	comp=N,410nm,17.4s								
XAN				LR		LR	LR		
	comp=E,510nm,16.3s								
XAN				LR		LR	LR		
	comp=Z,330nm,13.0s								
LZH	**Lanzhou**	**36.67**	**17**	*eP*		**P**	**P**	**03 24 29.4**	**+2.9**
LZH				pP		sP	sP	03 24 33.3	+2.4
LZH				sP		pP	pP	03 24 36.1	+6.5
LZH				*ePP*		**PP**	**PP**	**03 25 54.0**	**+3.9**
LZH				*eS*		**S**	**S**	**03 30 11.3**	**+1.3**
LZH				sS		sS	sS	03 30 19.4	+4.3
LZH				SS		**SnSn**	**SnSn**	**03 32 42.4**	**+2.0**
LZH				pmax		pmax	pmax		
	comp=Z,24nm,1.0s								
LZH				pmax		pmax	pmax		
	comp=Z,270nm,5.0s								
LZH				LR		LR	LR		
	comp=N,300nm,10.3s								
LZH				LR		LR	LR		
	comp=E,800nm,11.4s								
LZH				LR		LR	LR		
	comp=Z,840nm,12.3s								
GTA	**Gaotai**	**38.93**	**10**	P		P	P	03 24 54.1	+8.6
GTA				pP		sP	sP	03 24 59.4	+10
GTA				sP		pP	pP	03 25 02.6	+14
GTA				S		**S**	**S**	**03 30 52.8**	**+8.7**
GTA				sS		sS	sS	03 31 02.3	+13
GTA				SS		**SS**	**SS**	**03 33 38.1**	**+2.2**
GTA				pmax		pmax	pmax		
	comp=Z,10.0nm,1.4s								
GTA				pmax		pmax	pmax		
	comp=Z,120nm,5.3s								
GTA				LR		LR	LR		
	comp=N,130nm,17.6s								
GTA				LR		LR	LR		
	comp=E,240nm,14.3s								
GTA				LR		LR	LR		
	comp=Z,180nm,16.2s								
NJ2	**Nanjing**	**40.10**	**37**	*eP*		P	P	03 25 04.1	+8.9
NJ2				pmax		pmax	pmax		
	comp=Z,15nm,0.5s								
NJ2				LR		LR	LR		
	comp=N,700nm,16.8s								
NJ2				LR		LR	LR		
	comp=E,550nm,15.2s								
NJ2				LR		LR	LR		
	comp=Z,440nm,17.7s								
H01W3	**Cape Leeuwin H**	**41.40**	**152**	T		T	T	04 09 29.7	
	baz=326,slow=75,SNR=6.1								
H01W2	**Cape Leeuwin H**	**41.41**	**152**	T		T	T	04 09 30.8	
	baz=326,slow=75,SNR=6.0								
H01W1	**Cape Leeuwin H**	**41.42**	**152**	T		T	T	04 09 33.0	
	baz=326,slow=75,SNR=5.8								
WMQ	**Urumqi**	**42.79**	**356**	P		**P**	**P**	**03 25 17.8**	**+0.6**
WMQ				pP		sP	sP	03 25 22.8	+1.3
WMQ				sP		pP	pP	03 25 26.3	+6.0
WMQ				pmax		pmax	pmax		
	comp=Z,24nm,1.3s								
WMQ				LR		LR	LR		
	comp=N,540nm,22.3s								
WMQ				LR		LR	LR		
	comp=E,260nm,26.9s								
WMQ				LR		LR	LR		
	comp=Z,510nm,23.3s								
JOW	**Kunigami**	**43.48**	**51**	LR		LR	LR	03 45 13.7	
	comp=Z,174nm,19.1s,baz=133,slow=38								
HHC	**Hu-ho-hao-te**	**43.55**	**22**	*eP*		**P**	**P**	**03 25 25.1**	**+1.7**
HHC				pmax		pmax	pmax		
	comp=Z,28nm,1.1s								
HHC				pmax		pmax	pmax		
	comp=Z,160nm,6.2s								
AAK	**Ala-Archa**	**44.24**	**342**	P		**P**	**P**	**03 25 26.1**	**-3.0**
	comp=Z,0.4nm,0.3s,baz=162,slow=11,SNR=2.3								
AAK				LR		LR	LR	03 43 58.2	
	comp=Z,472nm,21.3s,baz=145,slow=36								
AAK	**Ala-Archa**	**44.24**	**342**	*eP*		**P**	**P**	**03 25 28.7**	**-0.4**
	comp=Z,1.2nm,1.1s								
AAK	**Ala-Archa**	**44.24**	**342**	pP		pP	pP	03 25 38.3	+6.1
	SNR=5.0								
AAK	**Ala-Archa**	**44.24**	**342**	P		P	P	03 25 38.3	+9.2
	SNR=5.0								
KKAR	**Karatay Array**	**46.02**	**338**	*eP*		**P**	**P**	**03 25 43.2**	**+0.2**
	comp=Z,13nm,1.1s								
MK01	**Makanchi Array**	**46.32**	**351**	*eP*		**P**	**P**	**03 25 44.8**	**-0.6**
MK31	**Makanchi Array**	**46.35**	**351**	*eP*		**P**	**P**	**03 25 45.4**	**-0.2**
MKAR	**Makanchi Array**	**46.35**	**351**	P		**P**	**P**	**03 25 44.7**	**-0.8**
	comp=Z,1.9nm,0.7s,baz=171,slow=8.8,SNR=16								
MKAR				LR		LR	LR	03 48 12.3	
	comp=Z,157nm,18.1s,baz=170,slow=40								
MKAR	**Makanchi Array**	**46.35**	**351**	*eP*		**P**	**P**	**03 25 45.4**	**-0.2**
	comp=Z,31nm,0.6s								
MAKZ	**Makanchi**	**46.41**	**351**	*eP*		**P**	**P**	**03 25 48.2**	**+2.2**
WRA	**Warramunga Arr**	**46.65**	**119**	P		**P**	**P**	**03 25 51.7**	**+3.3**
	comp=Z,3.2nm,0.7s,baz=296,slow=8.4,SNR=7.4								
WRAB	**Tennant Creek**	**46.66**	**119**	*eP*		**P**	**P**	**03 25 47.5**	**-0.9**
	comp=Z,10nm,0.8s								
ASAR	**Alice Springs**	**47.74**	**124**	P		**P**	**P**	**03 26 00.5**	**+3.7**
	comp=Z,0.7nm,0.8s,baz=291,slow=7.8,SNR=2.5								
GEYT	**Alibeck**	**48.01**	**324**	P		**P**	**P**	**03 25 56.0**	**-2.7**
	comp=Z,2.2nm,0.4s,baz=134,slow=8.3,SNR=4.7								
GEYT				LR		LR	LR	03 47 28.0	
	comp=Z,228nm,19.6s,baz=165,slow=38								
SONM	**Songino Array**	**48.35**	**13**	P		**P**	**P**	**03 26 01.5**	**+0.2**
	comp=Z,3.0nm,0.7s,baz=192,slow=9.2,SNR=16								
SONM				LR		LR	LR	03 48 41.7	
	comp=Z,193nm,19.9s,baz=201,slow=39								
SONA1	**Songino Array**	**48.37**	**13**	*eP*		**P**	**P**	**03 26 01.2**	**-0.2**
ULN	**Ulaanbaatar**	**48.53**	**14**	*eP*		**P**	**P**	**03 26 02.2**	**-0.5**
	comp=Z,4.3nm,1.0s								
ULN	**Ulaanbaatar**	**48.53**	**14**	pP		P	P	03 26 11.8	+9.1
	SNR=5.9								
ULN	**Ulaanbaatar**	**48.53**	**14**	P		P	P	03 26 11.8	+9.1
	SNR=5.9								
JNU	**Nakatsue**	**48.69**	**45**	LR		LR	LR	03 49 08.9	
	comp=Z,250nm,18.1s,baz=262,slow=39								
KSAR	**Wonju Array Be**	**49.22**	**38**	P		**P**	**P**	**03 26 09.8**	**+1.9**
KSRS	**Korea Array**	**49.26**	**38**	P		**P**	**P**	**03 26 09.8**	**+1.6**
	comp=Z,0.4nm,0.3s,baz=243,slow=11,SNR=3.2								
ATD	**Arta Tunnel**	**49.62**	**284**	LR		LR	LR	03 42 50.4	
	comp=Z,79nm,21.8s,baz=78,slow=31								
RAYN	**Ar Rayn**	**50.08**	**300**	*eP*		**P**	**P**	**03 26 13.9**	**-0.9**
	comp=Z,2.9nm,0.8s								
KURBB	**Kurchatov Array**	**50.70**	**349**	P		**P**	**P**	**03 26 18.0**	**-0.9**
	comp=Z,1.7nm,0.6s,baz=172,slow=6.8,SNR=16								
KURK	**Kurchatov**	**50.77**	**349**	*eP*		**P**	**P**	**03 26 19.2**	**-0.2**
	comp=Z,8.2nm,1.0s								
KURK	**Kurchatov**	**50.77**	**349**	pP		P	P	03 26 27.5	+8.0
	SNR=8.0								
KURK	**Kurchatov**	**50.77**	**349**	P		P	P	03 26 27.5	+8.0
	SNR=8.0								
ZAA0	**Zalesovo Array**	**53.08**	**355**	*eP*		**P**	**P**	**03 26 36.3**	**-0.3**
	comp=Z,8.2nm,0.8s								
ZALV	**Zalesovo Beam**	**53.08**	**355**	P		**P**	**P**	**03 26 35.7**	**-1.0**
	comp=Z,1.7nm,0.4s,baz=188,slow=8.3,SNR=8.5								
GUMO	**Guam**	**54.03**	**74**	LR		LR	LR	03 48 59.5	
	comp=Z,110nm,20.5s,baz=240,slow=35								
KMBO	**Kilima Mbogo**	**54.52**	**268**	LR		LR	LR	03 47 13.8	
	comp=Z,211nm,19.9s,baz=130,slow=33								
BVAR	**Borovoye Array**	**54.80**	**344**	P		**P**	**P**	**03 26 47.7**	**-1.6**
	comp=Z,1.5nm,0.8s,baz=163,slow=7.3,SNR=7.5								
BVAR				LR		LR	LR	03 50 27.8	
	comp=Z,376nm,21.2s,baz=165,slow=36								
BRVK	**Borovoye**	**54.86**	**344**	*eP*		**P**	**P**	**03 26 49.0**	**-0.7**
	comp=Z,23nm,1.2s								
JHJ	**Hachijo jima 2**	**55.22**	**49**	LR		LR	LR	03 49 09.7	
	comp=Z,65nm,21.9s,baz=204,slow=35								
ABKAR	**Akbulak array**	**55.25**	**335**	*eP*		**P**	**P**	**03 26 50.7**	**-1.9**
	comp=Z,10nm,0.8s								
MJAR	**Matsushiro Arr**	**55.61**	**45**	LR		LR	LR	03 52 27.7	
	comp=Z,131nm,18.8s,baz=215,slow=38								
AKTO	**Aktyubinsk**	**56.96**	**335**	P		**P**	**P**	**03 27 04.0**	**-0.9**
	comp=Z,0.6nm,0.5s,baz=121,slow=5.9,SNR=3.3								
AKTO				LR		LR	LR	03 52 13.2	
	comp=Z,66nm,18.2s,baz=144,slow=37								
GNI	**Garni**	**57.73**	**318**	LR		LR	LR	03 53 28.6	
	comp=Z,148nm,21.3s,baz=105,slow=38								
KLR	**Kul'dur**	**59.00**	**29**	P		**P**	**P**	**03 27 19.3**	**+0.2**
	comp=Z,0.1nm,0.5s,baz=250,slow=5.9,SNR=2.4								
KBZ	**Khabaz**	**60.72**	**321**	P		**P**	**P**	**03 27 31.4**	**+0.3**
	comp=Z,3.6nm,0.9s,baz=152,slow=8.4,SNR=5.2								
KBZ				LR		LR	LR	03 55 22.8	
	comp=Z,66nm,21.9s,baz=104,slow=38								
KIV	**Kislovodsk**	**60.97**	**321**	*eP*		**P**	**P**	**03 27 32.9**	**0.0**
	comp=Z,13nm,0.8s								
KIV	**Kislovodsk**	**60.97**	**321**	pP		P	P	03 27 44.5	+12
	SNR=5.0								
KIV	**Kislovodsk**	**60.97**	**321**	P		P	P	03 27 44.5	+12
	SNR=5.0								
EIL	**Elat**	**60.97**	**304**	LR		LR	LR	03 53 49.3	
	comp=Z,176nm,19.4s,baz=70,slow=36								
ARU	**Arti**	**61.36**	**340**	*eP*		**P**	**P**	**03 27 34.8**	**-0.4**
	comp=Z,13nm,1.3s								
MMAI	**Mount Meron Ar**	**61.63**	**307**	LR		LR	LR	03 54 33.8	
	comp=Z,194nm,18.3s,baz=120,slow=36								
CAN	**Canberra**	**64.40**	**130**	*eP*		**P**	**P**	**03 27 55.2**	**-0.7**
	comp=Z,7.0nm,0.8s								
LSZ	**Lusaka**	**64.83**	**253**	P		**P**	**P**	**03 27 58.8**	**-0.3**
	comp=Z,1.0nm,0.6s,baz=65,slow=7.8,SNR=4.0								
BR131	**Keskin Array S**	**65.25**	**314**	*eP*		**P**	**P**	**03 28 01.4**	**-0.1**
BRTR	**Keskin Array B**	**65.25**	**314**	P		**P**	**P**	**03 28 01.1**	**-0.4**
	comp=Z,1.5nm,0.7s,baz=140,slow=5.8,SNR=8.3								
YAK	**Yakutsk**	**67.23**	**18**	LR		LR	LR	04 00 46.2	
	comp=Z,91nm,19.0s,baz=286,slow=39								
IDI	**Anoyia**	**70.63**	**307**	P		**P**	**P**	**03 28 35.1**	**-0.3**
	comp=Z,4.1nm,0.7s,baz=95,slow=17,SNR=6.1								
CFR	**Carcaliu**	**70.93**	**318**	⇓P		P	P	**03 28 39.3**	**+2.4**
SORM	**Soroca**	**71.76**	**321**	⇓P		P	P	**03 28 40.7**	**-1.1**
VRI	**Vrincioaia**	**72.08**	**318**	⇑P		P	P	**03 28 44.7**	**+0.8**
AKASG	**Malin Array Be**	**72.13**	**324**	P		**P**	**P**	**03 28 43.1**	**-0.9**
	comp=Z,0.2nm,0.3s,baz=89,slow=5.4,SNR=4.4								
AKASG				LR		LR	LR	04 04 19.9	
	comp=Z,87nm,18.6s,baz=115,slow=39								
PLOR	**Plostina**	**72.13**	**318**	⇑P		P	P	**03 28 45.7**	**+1.5**
KIEV	**Kiev**	**72.14**	**324**	*eP*		**P**	**P**	**03 28 43.8**	**-0.2**
	comp=Z,2.8nm,0.6s								
TESR	**Tescani**	**72.33**	**319**	⇓P		P	P	**03 28 45.0**	**-0.4**
MLR	**Muntele Rosu**	**72.50**	**318**	P		**P**	**P**	**03 28 46.7**	**+0.2**
	comp=Z,1.5nm,0.8s,baz=120,slow=4.6,SNR=14								
MLR				LR		LR	LR	04 04 08.8	
	comp=Z,38nm,20.4s,baz=78,slow=39								
MLR	**Muntele Rosu**	**72.50**	**318**	⇓P		P	P	**03 28 47.2**	**+0.7**
MLR	**Muntele Rosu**	**72.50**	**318**	*eP*		**P**	**P**	**03 28 47.0**	**+0.5**
	comp=Z,13nm,1.0s								
VOIR		**73.08**	**317**	⇓P		P	P	**03 28 48.5**	**-1.4**
ARR	**Arges**	**73.35**	**317**	⇑P		P	P	**03 28 51.6**	**+0.1**
BURAR	**Bucovina Array**	**73.60**	**320**	⇓P		P	P	**03 28 53.4**	**+0.4**
BUR04	**Bucovina Ar. S**	**73.60**	**320**	*eP*		P	P	**03 28 53.5**	**+0.6**
BUR08	**Bucovina Ar. S**	**73.62**	**320**	*eP*		P	P	**03 28 54.1**	**+1.1**
VTS	**Vitosha**	**73.62**	**314**	⇓P		P	P	**03 28 53.1**	**-0.2**
TIXI	**Tiksi**	**74.40**	**11**	P		P	P	**03 28 55.7**	**-1.3**
	comp=Z,1.3nm,0.3s,baz=197,slow=3.3,SNR=7.8								
TIXI	**Tiksi**	**74.40**	**11**	*eP*		**P**	**P**	**03 28 56.1**	**-0.9**
	comp=Z,9.2nm,1.1s								
PETK	**Petropavlovsk-**	**74.97**	**35**	LR		LR	LR	04 04 48.6	
	comp=Z,81nm,18.6s,baz=237,slow=38								
TRPA	**Tarpa**	**75.47**	**320**	⇓P		P	P	**03 29 04.2**	**+0.5**
STHS	**Stebnicka Huta**	**76.63**	**321**	*eP*		P	P	**03 29 10.8**	**+0.5**
FINES	**FINESS Array B**	**77.69**	**333**	P		P	P	**03 29 15.4**	**-0.5**
	comp=Z,2.1nm,0.9s,baz=35,slow=7.0,SNR=4.4								
VYHS	**Vyhne**	**77.96**	**319**	*e*			P	03 29 25.9	+8.1
MODS	**Modra-Piesok**	**78.95**	**319**	*eP*		P	P	**03 29 24.4**	**+1.1**
MORC	**Moravsky Berou**	**79.06**	**321**	*eP*		P	P	**03 29 24.2**	**+0.3**
	comp=Z,16nm,1.1s								
KRLC	**Kraliky**	**79.60**	**321**	*eP*		P	P	**03 29 29.1**	**+2.3**
KRLC					*e*PCP	**PcP**	**PcP**	**03 29 35.2**	**+0.5**
ARSA	**Arzberg**	**79.92**	**318**	P		P	P	**03 29 33.1**	**+4.5**
	comp=Z,11nm,1.3s								
DPC	**Dobruska-Polom**	**79.94**	**321**	*eP*		P	P	**03 29 29.8**	**+1.1**
DPC					*e*PCP	**PcP**	**PcP**	**03 29 37.6**	**+1.4**
DPC					*ex*	x	x	03 29 46.2	
SOKA	**Soboth**	**80.16**	**317**	*i* P		P		03 29 35.2	+5.3
	comp=Z,12nm,1.4s								
MOA	**Molln**	**80.85**	**318**	*i* P		P	P	**03 29 35.0**	**+1.4**
	comp=Z,8.8nm,1.8s								
MYKA	**Terra Mystica**	**81.10**	**317**	*i* P		P	P	**03 29 35.8**	**+0.8**
	comp=Z,16nm,1.5s								
KBA	**Koelnbreinsper**	**81.36**	**317**	*i* PcP		P		03 29 41.7	+5.2
	comp=Z,8.8nm,1.2s								
GERES	**GERESS Array B**	**81.37**	**319**	P		P	P	**03 29 36.8**	**+0.3**
	comp=Z,4.4nm,0.8s,baz=104,slow=5.6,SNR=26								
GERES				LR		LR	LR	04 09 26.1	
	comp=Z,62nm,20.7s,baz=90,slow=39								
KHC	**Kasperske Hory**	**81.50**	**319**	*eP*		P	P	**03 29 38.4**	**+1.4**
KHC					*ex*	x	x	03 29 46.2	
KHC	**Kasperske Hory**	**81.50**	**319**	*eP*		P	P	**03 29 38.4**	**+1.4**
	comp=Z,11nm,1.7s								
BRG	**Berggiesshubel**	**81.52**	**321**	*eP*		P	P	03 29 43.7	+6.6
	comp=Z,8.8nm,1.4s								
BRG					*e*			03 29 48.7	
	comp=Z,15nm,1.3s								
CLL	**Collm**	**82.17**	**322**	*eP*		P	P	**03 29 41.0**	**+0.5**
CLL					*e*			03 29 57.0	
CLL					LmV			04 09 00.0	
	comp=Z,100nm,20.8s								
MOTA	**Moosalm**	**82.91**	**317**	*i* P		P	P	**03 29 44.6**	**0.0**
	comp=Z,2.5nm,0.5s								
FETA	**Feichten**	**83.13**	**317**	*i* P		P		03 29 51.1	+5.4
	comp=Z,12nm,1.4s								
RETA	**Reutte**	**83.16**	**318**	*i* P		P	P	**03 29 45.8**	**0.0**
	comp=Z,24nm,1.4s								
KEST	**Kesra**	**83.23**	**306**	LR		LR	LR	04 09 34.3	
	comp=Z,36nm,18.9s,baz=301,slow=38								
DAVA	**Damuels**	**83.73**	**317**	*i* P		P	P	**03 29 49.4**	**+0.6**
	comp=Z,34nm,1.6s								
TUE	**Stuetta**	**84.03**	**316**	*eP*		P	P	**03 29 48.9**	**-1.6**
	comp=Z,25nm,1.5s								
NOA	**NORSAR Array B**	**84.53**	**331**	P		P	P	**03 29 52.3**	**-0.2**
	comp=Z,0.9nm,0.9s,baz=93,slow=5.6,SNR=2.9								
SPITS	**Spitsbergen Ar**	**86.04**	**348**	P		P	P	**03 30 00.2**	**+0.5**
	comp=Z,4.7nm,0.9s,baz=116,slow=6.6,SNR=1.9								
SPITS				LR		LR	LR	04 12 38.4	
	comp=Z,181nm,20.6s,baz=15,slow=39								
TAM	**Tamanrasset**	**86.12**	**293**	*eP*		P	P	**03 30 03.2**	**+1.9**
	comp=Z,3.5nm,1.1s								
WLF	**Walferdange**	**86.37**	**320**	*eP*		P	P	**03 30 01.8**	**0.0**
	comp=Z,3.8nm,0.7s								
TORD	**Torodi Ar. Bea**	**89.81**	**283**	P		P	P	**03 30 19.2**	**+0.2**
	comp=Z,0.2nm,0.7s,baz=113,slow=4.2,SNR=3.8								
TORD				LR		LR	LR	04 08 37.0	
	comp=Z,128nm,19.6s,baz=85,slow=34								
KOWA	**Kowa**	**95.32**	**285**	LR		LR	LR	04 13 08.4	
	comp=Z,119nm,18.2s,baz=46,slow=35								
DBIC	**Dimbokro**	**96.43**	**277**	LR		LR	LR	04 11 25.4	
	comp=Z,44nm,21.9s,baz=78,slow=34								
TXAR	**Lajitas Array**	**146.43**	**25**	PKPbc		**PKPab**		**03 37 02.9**	**+0.5**
	comp=Z,0.7nm,0.7s,baz=281,slow=1.8,SNR=8.9								

IDC 13 03:19:39.5±2.0, 8°21S×126°06E, h0km, mb3.7/1, mb1 4.0/5, mb1mx3.5/60, mbtmp3.9/5, ML3.4/3, Error ellipse: s-maj=38.4km s-min=27.8km az=84.0, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**3.08**	**230**	Pn	Pn	03 20 29.3	-0.2
	9.7nm,0.3s,baz=59,slow=5.9,SNR=5.6						
BATI				Sn	Sn	03 21 08.8	+1.7
	21nm,0.3s,baz=307,slow=20,SNR=8.5						
FITZ	**Fitzroy Crossi**	**9.83**	**182**	Pn	Pn	03 22 02.3	+0.1
	baz=8.9,slow=12						
FITZ				Sn	Sn	03 23 50.3	-3.2
	2.2nm,0.3s,baz=156,slow=10.0,SNR=12						
WRA	**Warramunga Arr**	**14.15**	**146**	Pn	Pn	03 22 60.0	-1.4
	0.3nm,0.3s,baz=318,slow=14,SNR=8.9						
WRA				Sn	Sn	03 25 33.9	-5.4
	0.3nm,0.3s,baz=318,slow=24,SNR=6.1						
ASAR	**Alice Springs**	**17.11**	**155**	P	P	03 23 41.3	-0.8
	0.1nm,0.3s,baz=335,slow=13,SNR=13						
ASAR				S	Sn	03 26 47.5	-3.7
	0.2nm,0.3s,baz=323,slow=18,SNR=4.0						
MKAR	**Makanchi Array**	**67.17**	**329**	P	P	03 30 35.3	0.0
	0.7nm,0.7s,baz=129,slow=7.8,SNR=3.5						

ATA ***13*** *03:23:53.0±1.2, 38°82N×43°63E, h20km±9km, ML4.0, MW4.2*
DDA ***13*** *03:23:53.7, 38°86N×43°57E, h5km, Ml3.7*
ISN ***13*** *03:23:53.4±1.0, 39°00N×43°73E, h33km±56km, ML3.7*
ISK ***13*** *03:23:54.2, 38°85N×43°60E, h8km, ML3.8/9*
IDC ***13*** *03:23:54.9±1.7, 38°75N×43°71E, h0km, mb3.6/1, Error ellipse: s-maj=24.1km s-min=10.5km az=137.0*
CSEM ***13*** *03:23:55.1±0.1, 38°88N×43°49E, h2km, ML3.7, Error ellipse: s-maj=4.0km s-min=3.0km az=145.0*
TEH ***13*** *03:23:58.6, 38°66N×44°02E, h10km, ML3.3*

ISC 13 03:23:55.1±0.8, 38°87N±0°02×43°58E±0°01, h11km±5km, n118, σ2s 00/155, 13C-15D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VMUR	**Van-Muradiye**	**0.12**	**359**	*i* P	**Pg**	**03 23 58.0**	**-0.2**
VMUR				*i* S	**Sg**	**03 24 01.7**	**+1.3**
VMUR	**Van-Muradiye**	**0.12**	**359**	P	**Pg**	**03 23 58.0**	**-0.2**
VMU

SIRN	**S¨–rnak**	**1.65**	**214**	P		**Pb**	**03 24 24.5**	**-1.1**
IMRD	**Marand**	**1.67**	**95**	*e*Pg		**Pb**	**03 24 24.7**	**-1.3**
VRTB	**Varto-Mus**	**1.68**	**280**	PN		**Pg**	**03 24 25.4**	**-1.8**
VRTB	**Varto-Mus**	**1.68**	**280**	*i* P		**Pg**	**03 24 26.0**	**-1.2**
VRTB	**Varto-Mus**	**1.68**	**280**	*e*Pn		**Pg**	**03 24 25.4**	**-1.8**
VRTB	**Varto-Mus**	**1.68**	**280**	P		**Pg**	**03 24 26.0**	**-1.2**
ISHB	**Shabestar**	**1.71**	**110**	*e*Pg		**Pb**	**03 24 25.3**	**-1.3**
ISHB				*e*AMB		AMB	03 24 27.8	
	comp=Z,7µm,0.2s							
HOMI	**Horasan**	**1.74**	**313**	*e*P		**Pb**	**03 24 25.7**	**-1.5**
HOMI				*e*S		**Sg**	**03 24 53.3**	**+2.1**
HOMI				IAML			03 24 57.4	
	comp=Z,129nm,0.5s							
KARS	**Kars**	**1.79**	**348**	PN		**Pb**	**03 24 27.2**	**-0.8**
KARS	**Kars**	**1.79**	**348**	*e*Pn		**Pb**	**03 24 27.2**	**-0.8**
EAK	**Akyaka**	**1.81**	**1**	*e*P		**Pb**	**03 24 27.9**	**-0.5**
EAK				*e*S		**Sg**	**03 24 55.6**	**+2.3**
EAK				IAML			03 25 08.2	
	comp=Z,89nm,0.6s							
ORD	**Ordubad**	**1.89**	**88**	⇓P		**Pb**	**03 24 28.8**	**-0.8**
ORD				⇑S		**Sg**	**03 24 58.2**	**+2.4**
SENK	**Senkaya-Erzuru**	**1.93**	**331**	PN		**Pb**	**03 24 29.6**	**-0.8**
SENK	**Senkaya-Erzuru**	**1.93**	**331**	*e*Pn		**Pb**	**03 24 29.6**	**-0.8**
ERZM	**Erzurum**	**2.00**	**302**	*e*P		**Pb**	**03 24 29.9**	**-1.7**
BTMN	**Batman**	**2.06**	**242**	*i* P		**Pb**	**03 24 30.9**	**-1.7**
BTMN	**Batman**	**2.06**	**242**	P		**Pb**	**03 24 30.9**	**-1.7**
ITBZ	**Tabriz**	**2.12**	**107**	*e*Pg		**Pb**	**03 24 31.7**	**-1.8**
ITBZ				*e*AMB		AMB	03 24 40.3	
	comp=Z,1µm,0.2s							
ECAT	**Cat-ERZURUM**	**2.15**	**291**	*e*P		**Pb**	**03 24 32.2**	**-1.9**
ECAT				IAML			03 25 11.4	
	comp=Z,43nm,0.5s							
BNGB	**Bing¨ll**	**2.26**	**274**	PN		**Pb**	**03 24 33.8**	**-2.2**
BINT	**Bingol**	**2.41**	**271**	*e*Pn		**Pn**	**03 24 33.8**	**-0.8**
GDB	**GEDABAY**	**2.49**	**42**	⇓P		**Pb**	**03 24 38.2**	**-1.8**
GDB				⇓S		**Sb**	**03 25 11.3**	**+0.5**
AKH	**Akhalkalaki**	**2.53**	**359**	P		**Pg**	**03 24 43.8**	**+0.1**
QZX	**Qazax, Azerbai**	**2.58**	**32**	⇓P		**Pb**	**03 24 38.7**	**-2.7**
QZX				⇑S		**Sb**	**03 25 12.3**	**-0.9**
ARTV	**Artvin**	**2.63**	**332**	*e*P		**Pn**	**03 24 38.5**	**+0.8**
ARTV				IAML			03 25 03.3	
	comp=Z,8.3nm,0.6s							
KOPT	**Kop Dagi**	**2.64**	**297**	*e*P		**Pb**	**03 24 42.4**	**-0.2**
KOPT				IAML			03 25 42.3	
	comp=Z,23nm,0.6s							
EPOS	**Posof**	**2.71**	**346**	*e*P		**Pn**	**03 24 39.1**	**+0.5**
EPOS				IAML			03 25 13.9	
	comp=Z,7.8nm,0.6s							
GANJ	**Ganja**	**2.76**	**49**	⇑P		**Pn**	**03 24 40.6**	**+1.3**
IHRS	**Heris**	**2.77**	**100**	*e*Pn		**Pb**	**03 24 41.2**	**-3.6**
IHRS				*e*AMB		AMB	03 24 50.0	
	comp=Z,2µm,0.2s							
DIY	**Diyarbakir**	**2.81**	**251**	*e*Pn		**Pb**	**03 24 41.5**	**-3.8**
MAZI	**Mazidag**	**2.84**	**241**	PN		**Pn**	**03 24 40.4**	**-0.1**
MAZI	**Mazidag**	**2.84**	**241**	*e*Pn		**Pn**	**03 24 40.4**	**-0.1**
DYBB	**Diyarbakir**	**2.85**	**252**	PN		**Pn**	**03 24 41.5**	**+0.9**
IBST	**Bostanabad**	**2.86**	**113**	*e*Pn		**Pn**	**03 24 42.0**	**+1.1**
IBST				*e*AMB		AMB	03 24 52.4	
	comp=Z,555nm,0.2s							
BAYB	**BAYBURT**	**2.91**	**299**	*e*P		**Pb**	**03 24 47.5**	**+0.4**
BAYB				*e*S		**Sg**	**03 25 26.9**	**-1.8**
BAYB				IAML			03 25 41.8	
	comp=Z,7.6nm,0.6s							
DGRG	**David-gareji**	**2.92**	**28**	*e*P		**Pn**	**03 24 41.5**	**-0.1**
DGRG				IAML			03 25 43.5	
	comp=Z,12nm,0.6s							
DGRG	**David-gareji**	**2.92**	**28**	P		**Pg**	**03 24 48.1**	**-2.9**
BTNK	**Botanikuri**	**2.96**	**18**	P		**Pg**	**03 24 49.7**	**-2.1**
TBLG	**Delisi**	**2.99**	**17**	*e*P		**Pb**	**03 24 48.2**	**-0.1**
TBLG				IAML			03 25 41.5	
	comp=Z,3.2nm,0.5s							
TBLG	**Delisi**	**2.99**	**17**	P		**Pg**	**03 24 50.5**	**-1.9**
ERZN	**Erzincan**	**3.08**	**285**	PN		**Pn**	**03 24 44.4**	**+0.7**
EUZM	**Uzumlu**	**3.12**	**287**	*e*P		**Pb**	**03 24 50.5**	**-0.1**
EUZM				IAML			03 26 05.3	
	comp=Z,5.7nm,0.2s							
TNCL	**Tunceli-Merkez**	**3.15**	**276**	*e*P		**Pb**	**03 24 49.7**	**-1.5**
TNCL				IAML			03 25 19.4	
	comp=Z,30nm,0.6s							
DDFL	**Dedoflistskaro**	**3.22**	**36**	P		**Pg**	**03 24 55.6**	**-1.2**
DUS	**Dusheti**	**3.33**	**15**	P		**Pg**	**03 24 56.8**	**-2.0**
EZC	**Erzincan**	**3.39**	**286**	*e*Pn		**Pn**	**03 24 44.4**	**-3.7**
KELT	**Kelkit**	**3.58**	**292**	*e*P		**Pb**	**03 24 57.9**	**-0.6**
KELT				IAML			03 25 41.0	
	comp=Z,4.8nm,0.6s							
SEKA	**Sheki**	**3.63**	**49**	⇑P		**Pb**	**03 24 54.5**	**-4.8**
SEKA				⇓S		**Sb**	**03 25 40.9**	**-2.4**
GUDG	**Gudauri**	**3.65**	**11**	P		**Pg**	**03 25 02.5**	**-2.5**
LRK	**Lerik**	**3.73**	**92**	⇑P		**Pn**	**03 24 55.2**	**+2.4**
GLBA	**Clilabad**	**3.77**	**83**	⇓P		**Pn**	**03 24 55.0**	**+1.9**
GLBA				⇓S		**Sb**	**03 25 44.4**	**-2.9**
REFA	**Refahiye_ERZ¨**	**3.78**	**279**	*e*P		**Pb**	**03 24 59.2**	**-2.6**
REFA				IAML			03 25 35.6	
	comp=Z,4.4nm,0.3s							
KEMA	**Kemaliye**	**3.98**	**277**	*e*P		**Pn**	**03 24 57.1**	**+1.0**
KEMA				IAML			03 26 11.8	
	comp=Z,1.5nm,0.8s							
IML	**Ismayilli**	**4.03**	**60**	⇓S		**Sb**	**03 25 50.1**	**-4.8**
LKRN	**Lenkeran, Azer**	**4.07**	**91**	⇑P		**Pn**	**03 24 58.7**	**+1.5**
LKRN				⇑S		**Sb**	**03 25 51.7**	**-4.2**
ASTR	**Astara**	**4.09**	**93**	⇓P		**Pn**	**03 24 58.7**	**+1.1**
ASTR				⇑S		**Sb**	**03 25 51.4**	**-5.2**
XNQ	**Khinaliq**	**4.19**	**55**	⇓P		**Pn**	**03 25 01.6**	**+2.5**
XNQ				⇓S		**Sn**	**03 25 52.9**	**+4.7**
PQL	**Pirkuli**	**4.31**	**62**	⇓P		**Pn**	**03 25 02.9**	**+2.2**
PQL				⇑S		**Sb**	**03 25 58.5**	**-4.5**
GBS	**Qobustan**	**4.46**	**66**	⇓S		**Sb**	**03 26 00.9**	**-6.3**
IDHR	**Dehrash**	**4.74**	**151**	*e*AMB		AMB	03 25 26.7	
	comp=Z,437nm,0.3s							
IDHR				*e*Pn		**Pn**	**03 25 08.2**	**+1.5**
KBZ	**Khabaz**	**4.88**	**354**	Pn		Pb	03 25 14.0	-6.5
	baz=138,slow=8.2							
KBZ				Pg		**Pg**	**03 25 25.5**	**-2.9**
	comp=Z,0.1nm,0.3s,baz=167,slow=18,SNR=4.4							
IVIS	**Veis**	**5.07**	**148**	*e*Pn		**Pn**	**03 25 12.5**	**+1.3**
IVIS				*e*AMB		AMB	03 27 03.9	
	comp=Z,329nm,0.5s							
KVAR	**Kislovodsk Arr**	**5.12**	**353**	Pn		Pb	03 25 18.4	-6.3
	baz=145,slow=12							
KVAR				Pg		**Pg**	**03 25 32.2**	**-0.9**
	baz=192,slow=14							
IGHG	**Ghaleghazi**	**5.13**	**151**	*e*Pn		**Pn**	**03 25 14.1**	**+2.0**
IGHG				*e*AMB		AMB	03 27 16.2	
	comp=Z,610nm,0.4s							
BHD	**Baghdad**	**5.63**	**173**	*e*Pn		**Pn**	**03 25 18.0**	**-0.7**
	SNR=5.0							
RTB	**Rutbah**	**6.41**	**205**	*e*Pn		**Pn**	**03 25 31.0**	**+1.6**
	SNR=5.0							
BRTR	**Keskin Array B**	**7.75**	**279**	Pn		Pn	03 25 52.3	+4.3
	baz=90,slow=14							
MMAI	**Mount Meron Ar**	**8.83**	**231**	Pn		**Pn**	**03 26 05.4**	**+2.6**
	baz=70,slow=14							
AKASG	**Malin Array Be**	**15.57**	**324**	Pn		**P**	**03 27 35.6**	**-3.1**
	baz=134,slow=12							
KURBB	**Kurchatov Arra**	**27.21**	**53**	P		**P**	**03 29 40.4**	**+1.7**
	baz=260,slow=8.9							
TORD	**Torodi Ar. Bea**	**44.98**	**247**	P		**P**	**03 32 13.4**	**+2.9**
	comp=Z,0.8nm,0.9s,baz=57,slow=8.4,SNR=3.7							

IDC 13 03:30:43.7±2.1, 1.79N×92.53E, h0km, mb3.6/3, mb1 3.8/6, mb1mx3.4/71, mbtmp3.6/6, ML3.6/3, MS3.1/1, Ms1 3.1/1, ms1mx2.5/56, Error ellipse: s-maj=48.3km s-min=27.2km az=42.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**6.47**	**81**	Pn	Pn	03 32 21.8	+1.4
	0.5nm,0.3s,baz=277,slow=9.6,SNR=4.9						
PSI				LR	LR	03 34 57.2	
	comp=Z,164nm,20.3s,baz=286,slow=39						
PALK	**Pallekele**	**12.98**	**295**	Pn	Pn	03 33 50.7	+1.0
	0.4nm,0.3s,baz=117,slow=14,SNR=1.7						
PALK				Sn	Sn	03 35 59.6	-15
	0.8nm,0.3s,baz=295,slow=7.2,SNR=4.2						
CMAR	**Chiang Mai Arr**	**17.72**	**20**	P	Pn	03 34 51.8	-0.3
	0.1nm,0.3s,baz=216,slow=14,SNR=5.6						
MKAR	**Makanchi Array**	**45.70**	**350**	P	P	03 39 05.7	-0.8
	0.2nm,0.6s,baz=174,slow=9.8,SNR=4.5						
WRA	**Warramunga Arr**	**46.34**	**120**	P	P	03 39 11.2	-0.7
	0.8nm,0.8s,baz=300,slow=8.8,SNR=5.3						
SONM	**Songino Array**	**47.41**	**13**	P	P	03 39 20.6	+0.6
	0.6nm,0.7s,baz=199,slow=9.2,SNR=4.3						

IDC 13 03:31:51.9±1.1, 28.74N×140.68E, h460km±24km, mb2.8/7, mb1 2.9/8, mb1mx2.7/68, mbtmp3.6/8, Error ellipse: s-maj=112.2km s-min=15.2km az=71.0, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**2.11**	**141**	P	P	03 32 55.5	+1.4
	baz=280,slow=19						
JCJ				S	S	03 33 44.3	+0.1
	18nm,0.3s,baz=301,slow=19,SNR=12						
SONM	**Songino Array**	**32.61**	**315**	P	P	03 37 44.5	+0.3
	0.3nm,0.5s,baz=127,slow=11,SNR=3.0						
MKAR	**Makanchi Array**	**48.41**	**309**	P	P	03 39 50.2	-0.6
	0.2nm,0.5s,baz=94,slow=8.7,SNR=2.6						
WRA	**Warramunga Arr**	**49.78**	**188**	P	P	03 39 53.4	-0.5
	0.8nm,0.3s,baz=4.3,slow=7.7,SNR=19						
KURBB	**Kurchatov Arra**	**50.94**	**314**	P	P	03 40 09.2	-0.3
	0.3nm,0.3s,baz=94,slow=7.3,SNR=3.1						
KURBB				PcP	PcP	03 41 15.9	-2.1
	0.4nm,0.3s,baz=48,slow=2.8,SNR=3.1						
ASAR	**Alice Springs**	**52.51**	**188**	P	P	03 40 21.6	+0.4
	0.2nm,0.3s,baz=16,slow=14,SNR=9.9						
BVAR	**Borovoye Array**	**55.94**	**317**	P	P	03 40 45.6	+0.6
	0.3nm,0.4s,baz=106,slow=4.7,SNR=3.1						
BRTR	**Keskin Array B**	**83.91**	**312**	P	P	03 43 33.5	+0.6
	0.3nm,0.7s,baz=66,slow=4.9,SNR=2.9						

WEL 13 03:36:54.3±1.4, 47.˚S±9.˚×16.˚E±.˚, h12km, ML3.9/9, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**0.95**	**46**	P	Pg	03 37 11.6	-1.0
APZ	**The Paps**	**1.58**	**91**	P	Pn	03 37 21.3	-0.8
APZ	**The Paps**	**1.58**	**91**	S	Sn	03 37 42.1	-0.4
DCZ	**Deep Cove**	**1.70**	**37**	P	Pn	03 37 20.9	-2.8
WHZ	**Wether Hill Ro**	**1.82**	**60**	P	Pn	03 37 24.7	-0.7
WHZ	**Wether Hill Ro**	**1.82**	**60**	S	Sn	03 37 49.4	+0.9
MLZ	**Mavora Lakes**	**2.24**	**50**	P	Pn	03 37 31.2	+0.1
MLZ	**Mavora Lakes**	**2.24**	**50**	S	Sn	03 37 58.7	0.0
SYZ	**Scrubby Hill**	**2.40**	**84**	P	Pn	03 37 33.8	+0.6
SYZ	**Scrubby Hill**	**2.40**	**84**	S	Sn	03 38 03.7	+1.2
MSZ	**Milford Sound**	**2.67**	**37**	P	Pn	03 37 38.1	+1.1
TUZ	**Tuapeka**	**2.87**	**74**	P	Pn	03 37 39.7	-0.1
TUZ	**Tuapeka**	**2.87**	**74**	S	Sn	03 38 15.0	+0.8
EAZ	**Earnscleugh**	**2.99**	**59**	P	Pn	03 37 41.6	+0.2
EAZ	**Earnscleugh**	**2.99**	**59**	S	Sn	03 38 18.7	+1.5
WKZ	**Wanaka**	**3.07**	**51**	P	Pn	03 37 43.5	+0.9
WKZ	**Wanaka**	**3.07**	**51**	S	Sn	03 38 22.3	+3.0
JCZ	**Jackson Bay**	**3.51**	**39**	P	Pn	03 37 49.4	+0.6
HHSZ	**Highcliff Hill**	**3.53**	**76**	P	Pn	03 37 49.0	+0.1
ODZ	**Otahua Downs**	**3.89**	**65**	P	Pn	03 37 51.9	-2.0
LBZ	**Lake Benmore**	**3.99**	**54**	P	Pn	03 37 53.8	-1.5
FOZ	**Fox Glacier**	**4.40**	**43**	P	Pn	03 38 00.6	-0.3
RPZ	**Rata Peaks**	**4.90**	**53**	P	Pn	03 38 05.1	-2.7
LTZ	**Lake Taylor**	**6.19**	**52**	P	Pn	03 38 23.7	-1.8
DSZ	**Denniston Nort**	**6.71**	**43**	P	Pn	03 38 31.5	-1.2

*IDC **13** 03:38:35.8±0.6, 2.˚65N×90.˚07E, h0km, mb4.2/30, mb1 4.3/33, mb1mx4.2/70, mbtmp4.2/33, ML4.3/3, MS3.5/7, Ms1 3.5/7, ms1mx3.1/63, Error ellipse: s-maj=16.4km s-min=12.1km az=15.0*

*ISCJB **13** 03:38:39.0±0.3, 2.˚62N±0.˚04×90.˚12E±0.˚03, h33km, mb4.5/67, MS3.8/9, Error ellipse: s-maj=6.0km s-min=3.8km az=13.8*

*NEIC **13** 03:38:39.7±1.6, 2.˚63N×90.˚10E, h25km±11km, mb4.7/30, Error ellipse: s-maj=5.5km s-min=4.0km az=208.0*

*DJA **13** 03:38:39.7±0.3, 3.˚N×5.˚×9.˚0E±.˚, h10km, M5.0/18, mb5.0/18, mB5.2/8, MLv5.4/6, Mw(mB)4.6/8*

ISC 13 03:38:41.0±0.4, 2.˚55N±0.˚06×90.˚04E±0.˚05, h35km, n167, σ1°69/167, mb4.5/72, MS3.7/9, 6C, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSI	**Banda Aceh**	**6.00**	**61**	P	**Pn**	**03 40 06.7**	**-0.7**
MLSI	**Meulaboh, Aceh**	**6.58**	**75**	P	**Pn**	**03 40 14.5**	**-0.8**
TPTI		**7.16**	**84**	P	**Pn**	**03 40 22.8**	**-0.6**
LHMI	**Lhok Sumawe**	**7.38**	**69**	P	**Pn**	**03 40 29.5**	**+3.1**
LHMI	**Lhok Sumawe**	**7.38**	**69**	*e*Pn	**Pn**	**03 40 26.4**	**0.0**
GSI	**Gunungsitoli**	**7.63**	**99**	P	**Pn**	**03 40 30.7**	**+0.9**
GSI	**Gunungsitoli**	**7.63**	**99**	*e*Pn	**Pn**	**03 40 28.1**	**-1.8**
KCSI	**Kotacane, Aceh**	**7.78**	**83**	P	**Pn**	**03 40 31.8**	**0.0**
PSI	**Prapat**	**8.88**	**88**	Pn	**Pn**	**03 40 46.0**	**-1.0**
	3.7nm,0.3s,baz=300,slow=12,SNR=9.2						
PSI				Sn	**Sn**	**03 42 18.3**	**-7.6**
	1.3nm,0.3s,baz=324,slow=8.7,SNR=2.5						
PSI				LR	LR	03 43 35.8	
	comp=Z,174nm,19.7s,baz=248,slow=34						
PBA	**Port Blair**	**9.43**	**16**	*e*P	Pn	03 40 51.3	-3.2
MNSI	**Mandailing Nat**	**9.69**	**100**	P	Pn	03 41 09.2	+11
PKDT	**Phuket**	**9.81**	**57**	P	**Pn**	**03 40 57.4**	**-2.3**
	43nm,0.8s,476nm						
PALK	**Pallekele**	**10.42**	**297**	Pn	**Pn**	**03 41 06.9**	**-1.2**
	4.2nm,0.3s,baz=116,slow=12,SNR=17						
PALK				Sn	Sn	03 42 53.3	-10
	39nm,0.3s,baz=117,slow=14,SNR=18						
PALK				LR	LR	03 44 44.4	
	comp=Z,153nm,18.4s,baz=116,slow=35						
PALK	**Pallekele**	**10.42**	**297**	*e*Pn	**Pn**	**03 41 07.0**	**-1.1**
PALK				*e*Sn	Sn	03 42 52.5	-11
SURT	**Suratani**	**10.78**	**53**	P	**Pn**	**03 41 10.7**	**-2.3**
	41nm,0.8s						
KULM	**Kulim**	**10.93**	**75**	*e*Pn	**Pn**	**03 41 13.1**	**-2.0**
DGPR	**DIGLIPUR**	**10.94**	**15**	*e*P	**Pn**	**03 41 14.1**	**-1.0**
TRTT	**Trang**	**10.95**	**61**	P	**Pn**	**03 41 12.2**	**-3.1**
	20nm,0.7s,280nm						
PDSI	**Padang**	**10.97**	**108**	P	**Pn**	**03 41 15.8**	**+0.1**
	33nm,0.9s						
IPM	**Ipoh**	**11.13**	**80**	*e*Pn	**Pn**	**03 41 16.8**	**-1.1**
SKLT	**Songkhla**	**11.49**	**66**	P	**Pn**	**03 41 24.1**	**+1.3**
	48nm,1.0s,610nm						
MDRS	**Chennai**	**14.25**	**318**	*e*P	**Pn**	**03 41 58.2**	**-2.2**
MDRS				IAmb	IAmb	03 41 58.6	
	comp=Z,88nm,0.6s						
SRDT	**SRDT**	**14.76**	**37**	P	**Pn**	**03 42 05.6**	**-1.7**
	comp=Z,46nm,0.8s						
MDSI	**Maura Dua**	**15.76**	**116**	P	**P**	**03 42 25.8**	**+1.7**
VIS	**Vishakhapatnam**	**16.45**	**337**	*e*P	**Pn**	**03 42 27.3**	**-2.0**
VIS				IAmb	IAmb	03 42 29.3	
	comp=Z,88nm,1.3s						
KASI	**Kota Agung**	**16.52**	**119**	P	**P**	**03 42 32.0**	**-0.5**
PBKT	**Sadao Pong**	**17.59**	**37**	P	**Pn**	**03 42 43.3**	**-0.3**
	comp=Z,38nm,1.1s						
CM01	**Chiang Mai Arr**	**18.03**	**28**	*e*Pn	**Pn**	**03 42 47.7**	**-1.2**
CM31	**Chiang Mai Arr**	**18.05**	**28**	*e*Pn	**P**	**03 42 50.0**	**+0.5**
CMAR	**Chiang Mai Arr**	**18.05**	**28**	P	**Pn**	**03 42 47.9**	**-1.4**
	comp=Z,0.3nm,0.3s,baz=220,slow=12,SNR=37						
MNGI	**Mangalore**	**18.26**	**305**	*e*P	**Pn**	**03 42 53.0**	**+1.2**
CHTO	**Chiang Mai**	**18.36**	**28**	P	**Pn**	**03 42 52.9**	**-0.1**
	comp=Z,65nm,1.0s						
CHTO	**Chiang Mai**	**18.36**	**28**	*e*Pn	**P**	**03 42 52.2**	**-0.7**
	comp=Z,12nm,0.9s						
CMMT	**Chiang Mai**	**18.36**	**28**	P	**P**	**03 42 51.8**	**-1.1**
	comp=Z,15nm,1.0s						
HYB	**Hyderabad**	**18.59**	**323**	*i* P	**P**	**03 42 55.0**	**-0.4**
HYB				*e*S	**S**	**03 46 25.0**	**-0.6**
HYB	**Hyderabad**	**18.59**	**323**	*e*P	**P**	**03 42 52.4**	**-3.0**
HYB				IAmb	IAmb	03 42 55.2	
	comp=Z,18nm,0.4s						
SKNT	**Sakolnakorn**	**19.82**	**43**	P	**P**	**03 43 07.7**	**-1.2**
	comp=Z,11nm,1.0s						
LEM	**Lembang**	**19.86**	**118**	LR	LR	03 50 21.2	
	comp=Z,118nm,18.3s,baz=296,slow=36						
H08S3	**Diego Garcia H**	**20.23**	**240**	T	T	04 04 08.6	
	baz=59,slow=75,SNR=275						
H08S2	**Diego Garcia H**	**20.23**	**240**	T	T	04 03 52.9	
	baz=59,slow=75,SNR=237						
H08S1	**Diego Carcia H**	**20.25**	**240**	T	T	04 03 50.0	
	baz=59,slow=75,SNR=166						
GOA	**Goa**	**20.51**	**310**	*e*P	**P**	**03 43 16.3**	**0.0**
GOA				IAmb	IAmb	03 43 19.8	
	comp=Z,28nm,1.0s						
KPJI	**Karang Pucung**	**21.25**	**118**	P	**P**	**03 43 29.7**	**+5.3**
NGP	**Nagpur**	**21.36**	**331**	*e*P	**P**	**03 43 24.9**	**-0.6**
BOK	**Bokaro**	**21.50**	**350**	*e*P	**P**	**03 43 26.3**	**-0.6**
BOK				IAmb	IAmb	03 43 28.9	
	comp=Z,62nm,0.2s						
STKI	**Sintang**	**21.57**	**96**	P	P	03 43 41.7	+14

SBUM	**Sibu**	**22.16**	**90**	*e*P		**P**	**03 43 35.8**	**+1.7**
	comp=Z,13nm,0.8s								
POO	**Poona**	**22.44**	**316**	*e*P		**P**	**03 43 36.5**	**-0.7**
POO				IAmb		IAmb	03 43 48.6		
	comp=Z,149nm,0.1s								
SHL	**Shillong**	**22.95**	**4**	*e*P		**P**	**03 43 41.4**	**-1.1**
SHL				IAmb		IAmb	03 43 55.6		
	comp=Z,50nm,1.5s								
BHPL	**Bhopal**	**23.92**	**330**	*e*P		**P**	**03 43 49.2**	**-2.7**
BHPL				IAmb		IAmb	03 43 54.7		
	comp=Z,6.8nm,0.9s								
ODAN	**Odare**	**24.30**	**354**	*e*P		**P**	**03 43 56.1**	**+0.5**	
	comp=Z,23nm,0.7s								
RAMN	**Ramite**	**24.48**	**353**	*e*P		**P**	**03 43 58.3**	**+1.0**	
	comp=Z,23nm,0.6s								
JIRN	**Jiri**	**25.23**	**352**	*e*P		**P**	**03 44 04.9**	**+0.6**	
	comp=Z,60nm,0.7s								
QIZ	**Qiongzhong**	**25.37**	**48**	P		**P**	**03 44 06.3**	**+1.1**	
QIZ				S		**S**	**03 48 39.8**	**+10**	
QIZ				pmax		pmax			
	comp=Z,17nm,0.6s								
QIZ				LR		LR			
	comp=N,260nm,15.2s								
QIZ				LR		LR			
	comp=E,220nm,11.3s								
QIZ				LR		LR			
	comp=Z,160nm,10.6s								
KKN	**Kakani**	**25.50**	**350**	*e*P		**P**	**03 44 07.1**	**+0.6**	
GUN	**Gumba**	**25.53**	**351**	*e*P		**P**	**03 44 07.3**	**+0.4**	
	comp=Z,36nm,0.8s								
KMI	**Kunming**	**25.56**	**28**	P		**P**	**03 44 08.3**	**+1.2**	
KMI				pP		pP	03 44 15.0	-2.1	
KMI				sP		sP	03 44 17.6	-3.7	
KMI				pmax		pmax			
	comp=Z,18nm,0.9s								
KMI				pmax		pmax			
	comp=Z,93nm,3.8s								
KMI				LR		LR			
	comp=N,190nm,17.7s								
KMI				LR		LR			
	comp=E,190nm,15.7s								
KMI				LR		LR			
	comp=Z,210nm,21.1s								
KOLN	**Koldanda**	**25.82**	**347**	*e*P		**P**	**03 44 10.3**	**+0.9**	
	comp=Z,20nm,0.6s								
PYUN	**Piuthan**	**26.28**	**346**	*e*P		**P**	**03 44 14.4**	**+0.8**	
	comp=Z,44nm,0.9s								
KKM	**Kota Kinabalu**	**26.32**	**82**	*e*P		**P**	**03 44 13.7**	**-0.3**	
	comp=Z,7.0nm,0.5s								
DANN	**Dangsing**	**26.34**	**347**	*e*P		**P**	**03 44 15.2**	**+1.0**	
LSA	**Lhasa**	**27.02**	**2**	P		**P**	**03 44 21.4**	**+0.9**	
LSA				pmax		pmax			
	comp=Z,7.0nm,0.7s								
SMLA	**Simla**	**30.91**	**338**	*e*P		**P**	**03 44 53.9**	**-0.7**	
CD2	**Chengdu**	**31.04**	**23**	*e*P		**P**	**03 44 55.5**	**-0.3**	
CD2				pmax		pmax			
	comp=Z,10.0nm,0.5s								
CD2				pmax		pmax			
	comp=Z,120nm,5.0s								
DHRM	**DHARAMSHALA**	**32.24**	**338**	*e*P		**P**	**03 45 05.0**	**-1.6**	
DHRM				IAmb		IAmb	03 45 08.4		
	comp=Z,5.5nm,0.8s								
NIL	**Nilore**	**34.69**	**335**	*e*P		**P**	**03 45 28.3**	**+0.6**	
	comp=Z,20nm,0.7s								
LZH	**Lanzhou**	**35.73**	**19**	*e*P		**P**	**03 45 40.0**	**+3.3**	
LZH				pP		pP	03 45 43.5	-3.3	
LZH				sP		sP	03 45 46.6	-4.5	
LZH				*e*PP		**PP**	**03 47 04.6**	**+6.3**	
LZH				*e*S		**S**	**03 51 16.3**	**+4.8**	
LZH				sS		sS	03 51 24.8	-3.5	
LZH				SS		**SnSn**	**03 53 38.8**	**+3.6**	
LZH				pmax		pmax			
	comp

	comp=Z,9.1nm,0.4s									
RAYN	**Ar Rayn**	**47.84**	**300**	*e*P		**P**		**03 47 16.1**	**+0.3**	
	comp=Z,3.4nm,0.8s									
JNU	**Nakatsue**	**48.83**	**47**	P		**P**		**03 47 22.6**	**-0.6**	
	comp=Z,6.0nm,0.7s,baz=214,slow=3.6,SNR=5.2									
JNU				LR		LR		04 11 11.5		
	comp=Z,54nm,18.0s,baz=186,slow=40									
KURBB	**Kurchatov Arra**	**48.88**	**350**	P		**P**		**03 47 22.7**	**-0.5**	
	comp=Z,3.8nm,0.7s,baz=175,slow=7.3,SNR=26									
WRA	**Warramunga Arr**	**48.88**	**119**	P		**P**		**03 47 23.7**	**-0.1**	
	comp=Z,1.7nm,0.7s,baz=297,slow=8.6,SNR=15									
WRAB	**Tennant Creek**	**48.88**	**119**	*e*P		**P**		**03 47 23.8**	**0.0**	
	comp=Z,6.1nm,0.6s									
KURK	**Kurchatov**	**48.95**	**350**	*e*P		**P**		**03 47 21.5**	**-2.3**	
	comp=Z,11nm,1.3s									
KSAR	**Wonju Array Be**	**49.10**	**40**	P		**P**		**03 47 23.9**	**-1.3**	
KS01	**Wonju Array Si**	**49.13**	**40**	*e*P		**P**		**03 47 23.5**	**-1.9**	
KSRS	**Korea Array**	**49.13**	**40**	P		**P**		**03 47 23.9**	**-1.5**	
	comp=Z,2.5nm,0.8s,baz=224,slow=9.2,SNR=8.0									
KSRS				LR		LR		04 10 53.5		
	comp=Z,63nm,18.3s,baz=226,slow=40									
ASAR	**Alice Springs**	**50.00**	**124**	P		**P**		**03 47 32.7**	**+0.4**	
	comp=Z,0.4nm,0.7s,baz=296,slow=7.1,SNR=3.8									
ZAA0	**Zalesovo Array**	**51.41**	**356**	*e*P		**P**		**03 47 41.8**	**-0.5**	
	comp=Z,3.9nm,0.7s									
ZALV	**Zalesovo Beam**	**51.41**	**356**	P		**P**		**03 47 41.5**	**-0.9**	
	comp=Z,2.8nm,0.5s,baz=186,slow=7.3,SNR=12									
BVAR	**Borovoye Array**	**52.87**	**345**	P		**P**		**03 47 51.7**	**-1.6**	
	comp=Z,1.7nm,0.7s,baz=155,slow=11,SNR=8.9									
KMBO	**Kilima Mbogo**	**52.90**	**267**	P		**P**		**03 47 54.8**	**+0.3**	
	comp=Z,1.1nm,0.6s,baz=56,slow=18,SNR=2.9									
BRVK	**Borovoye**	**52.93**	**345**	*e*P		**P**		**03 47 53.4**	**-0.3**	
	comp=Z,7.7nm,0.8s									
ABKAR	**Akbulak array**	**53.15**	**336**	*e*P		**P**		**03 47 55.3**	**0.0**	
	comp=Z,6.6nm,0.5s									
AKTO	**Aktyubinsk**	**54.85**	**335**	P		**P**		**03 48 07.2**	**-0.6**	
	comp=Z,2.2nm,0.7s,baz=126,slow=7.8,SNR=11									
GNI	**Garni**	**55.46**	**319**	*e*P		**P**		**03 48 12.4**	**-0.1**	
	comp=Z,15nm,0.5s									
JHJ	**Hachijo jima 2**	**55.54**	**51**	P		**P**		**03 48 11.8**	**-1.3**	
	comp=Z,74nm,0.3s,baz=250,slow=17,SNR=4.3									
USRK	**Ussuriysk Ar.**	**55.59**	**36**	P		**P**		**03 48 11.8**	**-1.4**	
	comp=Z,2.6nm,0.8s,baz=233,slow=8.3,SNR=4.2									
MAJO	**Matsushiro**	**55.75**	**47**	*e*P		**P**		**03 48 14.0**	**-0.5**	
MJAR	**Matsushiro Ar**	**55.75**	**47**	P		**P**		**03 48 14.1**	**-0.4**	
	comp=Z,2.1nm,0.8s,baz=238,slow=7.4,SNR=6.5									
MJAR				LR		LR		04 14 41.7		
	comp=Z,30nm,18.1s,baz=265,slow=39									
PMG	**Port Moresby**	**58.13**	**103**	*e*P		**P**		**03 48 32.4**	**+0.7**	
	comp=Z,12nm,0.6s									
KBZ	**Khabaz**	**58.46**	**321**	P		**P**		**03 48 33.3**	**-0.2**	
	comp=Z,2.8nm,0.8s,baz=116,slow=6.1,SNR=7.4									
KLR	**Kul'dur**	**58.51**	**31**	P		**P**		**03 48 32.8**	**-1.0**	
	comp=Z,0.4nm,1.0s,baz=245,slow=9.3,SNR=12									
ARU	**Arti**	**59.33**	**340**	*e*P		**P**		**03 48 38.4**	**-1.0**	
MMAI	**Mount Meron Ar**	**59.35**	**307**	P		**P**		**03 48 40.5**	**+0.5**	
	comp=Z,0.4nm,0.4s,baz=106,slow=11,SNR=2.9									
STKA	**Stephens Creek**	**59.65**	**129**	P		**P**		**03 48 42.5**	**+0.4**	
	comp=Z,1.9nm,0.6s,baz=298,slow=9.3,SNR=5.9									
ASAJ	**Asahikawa**	**62.08**	**40**	P		**P**		**03 48 58.5**	**+0.1**	
	comp=Z,5.1nm,0.8s,baz=250,slow=3.4,SNR=3.7									
BR131	**Keskin Array S**	**62.97**	**314**	*e*P		**P**		**03 49 04.1**	**-0.5**	
BRTR	**Keskin Array B**	**62.97**	**314**	P		**P**		**03 49 04.0**	**-0.6**	
	comp=Z,3.5nm,0.6s,baz=132,slow=7.0,SNR=34									
LSZ	**Lusaka**	**63.69**	**252**	*e*P		**P**		**03 49 09.7**	**0.0**	
	comp=Z,2.6nm,0.8s									
CAN	**Canberra**	**66.68**	**130**	*e*P		**P**		**03 49 29.0**	**+0.3**	
	comp=Z,4.1nm,0.7s									
LBTB	**Lobatse**	**68.14**	**242**	*e*P		**P**		**03 49 38.9**	**+0.7**	
	comp=Z,10nm,0.8s									
IDI	**Anoyia**	**68.35**	**307**	P		**P**		**03 49 39.1**	**-0.2**	
	comp=Z,5.3nm,0.6s,baz=117,slow=12,SNR=6.7									
KLMR	**Klimovskoe**	**69.54**	**336**	*e*P		**P**		**03 49 44.0**	**-2.1**	
KLMR				AMP				03 49 46.3		
	comp=Z,12nm,1.1s									
VRI	**Vrincioaia**	**69.81**	**318**	↑*i*P		**P**		**03 49 48.9**	**+0.8**	
AKASG	**Malin Array Be**	**69.88**	**324**	P		**P**		**03 49 47.3**	**-1.0**	
	comp=Z,0.2nm,0.3s,baz=98,slow=4.8,SNR=7.2									
TESR	**Tescani**	**70.06**	**319**	↑*i*P		**P**		**03 49 48.8**	**-0.8**	
MLR	**Muntele Rosu**	**70.22**	**318**	P		**P**		**03 49 51.2**	**+0.5**	
	comp=Z,1.5nm,0.7s,baz=103,slow=8.8,SNR=13									
MLR	**Muntele Rosu**	**70.22**	**318**	↑*i*P		**P**		**03 49 51.6**	**+0.8**	
MLR	**Muntele Rosu**	**70.22**	**318**	*e*P		**P**		**03 49 51.5**	**+0.8**	
	comp=Z,7.6nm,0.8s									
VOIR		**70.81**	**317**	↑*i*P		**P**		**03 49 54.3**	**0.0**	
BURAR	**Bucovina Array**	**71.33**	**320**	↑*i*P		**P**		**03 49 58.3**	**+0.9**	
VTS	**Vitosha**	**71.33**	**314**	↑*i*P		**P**		**03 49 57.4**	**-0.2**	
VTS	**Vitosha**	**71.33**	**314**	*e*P		**P**		**03 49 57.1**	**-0.5**	
	comp=Z,4.1nm,0.9s									
BUR04	**Bucovina Ar. S**	**71.33**	**320**	*e*P		**P**		**03 49 57.7**	**+0.2**	
BUR08	**Bucovina Ar. S**	**71.35**	**320**	*e*P		**P**		**03 49 58.4**	**+0.8**	
TIXI	**Tiksi**	**73.23**	**12**	*e*P		**P**		**03 50 06.2**	**-1.9**	
	comp=Z,5.5nm,0.6s									
STHS	**Stebnicka Huta**	**74.37**	**321**	*e*P		**P**		**03 50 15.9**	**+0.6**	
FINES	**FINESS Array B**	**75.55**	**334**	P		**P**		**03 50 21.7**	**-0.1**	
	comp=Z,1.8nm,0.6s,baz=122,slow=6.7,SNR=11									
GEA0	**GERESS Array S**	**79.10**	**319**	*e*P		**P**		**03 50 42.1**	**0.0**	
GEC2	**GERESS Array S**	**79.10**	**319**	*e*P		**P**		**03 50 42.7**	**+0.6**	
	comp=Z,6.9nm,1.2s									
GERES	**GERESS Array B**	**79.10**	**319**	P		**P**		**03 50 42.6**	**+0.4**	
	comp=Z,2.8nm,0.8s,baz=104,slow=5.6,SNR=17									
CLL	**Collm**	**79.92**	**322**	*e*P		**P**		**03 50 46.0**	**-0.4**	
GRFO	**Grafenberg**	**80.83**	**320**	*e*P		**P**		**03 50 51.7**	**+0.3**	
	comp=Z,4.3nm,0.7s									
HFS	**Hagfors**	**81.00**	**331**	P		**P**		**03 50 51.9**	**-0.1**	
	comp=Z,2.0nm,0.6s,baz=104,slow=6.3,SNR=11									
NOA	**NORSAR Array B**	**82.36**	**331**	P		**P**		**03 50 58.4**	**-0.8**	
	comp=Z,1.0nm,0.8s,baz=102,slow=5.4,SNR=3.6									
BNI	**Bardonecchia**	**83.51**	**315**	*e*P		**P**		**03 51 05.4**	**-0.3**	
	comp=Z,3.9nm,0.8s									
SSB	**Saint Sauveur**	**85.03**	**315**	*e*P		**P**		**03 51 12.9**	**-0.4**	
	comp=Z,2.3nm,0.8s									
TORD	**Torodi Ar. Bea**	**87.82**	**283**	P		**P**		**03 51 25.9**	**-1.6**	
	comp=Z,0.4nm,0.8s,baz=106,slow=5.0,SNR=3.4									
ESK	**Eskdalemuir**	**89.77**	**325**	*e*P		**P**		**03 51 36.2**	**+0.4**	
	comp=Z,7.9nm,0.8s									
MNTX	**Cornudas Mount**	**142.91**	**22**	*e*PKPdf		**PKPdf**		**03 58 11.7**	**-0.1**	
NATX	**Nacogdoches**	**145.58**	**7**	*e*PKPbc		**PKPdf**		**03 58 16.0**	**-0.3**	
TX31	**Lajitas Ar. Si**	**145.68**	**22**	*e*PKPdf		**PKPab**		**03 58 17.2**	**-0.1**	
TXAR	**Lajitas Array**	**145.68**	**22**	PKPbc		**PKPab**		**03 58 17.2**	**-0.1**	
	comp=Z,2.9nm,0.8s,baz=304,slow=1.4,SNR=28									
JCT	**Junction City**	**145.83**	**15**	*e*PKPbc		**PKPdf**		**03 58 16.5**	**-0.4**	
SAML	**Samuel**	**152.63**	**255**	*e*PKPdf		**PKPdf**		**03 58 27.7**	**-0.4**	
SAML				*e*PKPbc		**PKPbc**		**03 58 35.1**	**0.0**	
SAML				*e*PKPab		**PKPab**		**03 58 45.9**	**+0.2**	

IDC 13 03:39:17.8±14.0, 22.78S×179.71W, h418km±145km, mb3.5/4, mb1 3.6/5, mb1mx3.1/51, mbtmp4.4/5, Error ellipse: s-maj=116.2km s-min=35.9km az=12.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
URZ	**Urewera**	**15.67**	**189**	P		P	03 42 37.0	+0.2
	1.0nm,0.3s,baz=8.1,slow=14,SNR=5.8							
URZ				S		S	03 45 06.4	-15
	0.3nm,0.3s,baz=58,slow=19,SNR=2.1							
STKA	**Stephens Creek**	**35.40**	**247**	P		P	03 45 36.5	-0.1
	2.5nm,0.6s,baz=83,slow=12,SNR=6.6							
ASAR	**Alice Springs**	**42.49**	**259**	P		P	03 46 34.5	-0.2
	2.4nm,0.5s,baz=98,slow=7.1,SNR=22							
WRA	**Warramunga Ar**	**42.76**	**265**	P		P	03 46 36.2	-0.6
	1.5nm,0.3s,baz=102,slow=8.3,SNR=191							
FITZ	**Fitzroy Crossi**	**51.19**	**265**	P		P	03 47 41.4	+0.4
	5.4nm,1.1s,baz=105,slow=12,SNR=8.3							
HFS	**Hagfors**	**141.50**	**349**	PKhKP		PKPpre	03 57 54.6	
	1.6nm,0.3s,baz=46,slow=4.2,SNR=30							
AKASG	**Malin Array Be**	**144.17**	**328**	PKP		PKPbc	03 58 02.9	-0.9
	0.8nm,0.5s,baz=44,slow=3.8,SNR=5.2							
EKA	**Eskdalemuir Ar**	**147.39**	**4**	PKPbc		PKPbc	03 58 12.5	-0.6
	0.3nm,0.4s,baz=326,slow=2.1,SNR=3.8							
MMAI	**Mount Meron Ar**	**147.47**	**296**	PKPbc		PKPbc	03 58 13.8	-0.3
	0.6nm,0.4s,baz=96,slow=5.8,SNR=3.3							

*CSEM **13** 03:45:58.0±0.3, 50.28N×18.82E, h1km, Error ellipse: s-maj=6.9km s-min=3.3km az=4.0*
*PRU **13** 03:45:58.8, 50.26N×18.83E, h0km*
WAR 13 03:45:59.2, 50.24N×18.91E, h1km, Mw2.3, Poland

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CHZP	**Chorzow**	**0.07**	**45**	*i* Pg		Pg	03 46 00.5	-0.1
CHZP				*e*Sg		Sg	03 46 02.2	+0.6
CHZP	**Chorzow**	**0.07**	**45**	*i* Pg		Pg	03 46 00.5	-0.1
CHZP				*e*Sg		Sg	03 46 02.2	+0.6
CHZP	**Chorzow**	**0.07**	**45**	*i* Pg		Pg	03 46 00.5	-0.1
CHZP				*e*Sg		Sg	03 46 02.2	+0.6
OJC	**Ojcow**	**0.57**	**92**	*e*Pg		Pg	03 46 10.0	-0.2
OJC				*e*Sg		Sg	03 46 17.9	+0.4
OJC	**Ojcow**	**0.57**	**92**	*e*Pg		Pg	03 46 10.0	-0.2
OJC				*e*Sg		Sg	03 46 17.9	+0.4
OJC	**Ojcow**	**0.57**	**92**	*e*Pg		Pg	03 46 10.0	-0.2
OJC				*e*Sg		Sg	03 46 17.9	+0.4
OJC	**Ojcow**	**0.57**	**92**	*e*Pg		Pg	03 46 10.0	-0.1
OJC				*e*Sg		Sg	03 46 17.9	+0.4
OKC	**Ostrava-Krasne**	**0.64**	**231**	*e*PG		Pg	03 46 11.1	-0.3
OKC				*e*SG		Sg	03 46 19.2	-0.4
	comp=Z,19nm,0.9s							
OKC	**Ostrava-Krasne**	**0.64**	**231**	Pg		Pg	03 46 11.1	-0.3
OKC				Sg		Sg	03 46 19.2	-0.4
	19nm,0.9s							
MORC	**Moravsky Berou**	**1.00**	**243**	*e*Pg		Pg	03 46 17.1	-1.2
MORC				*e*Sg		Sg	03 46 30.4	-0.8
LANS	**Liptovska Anna**	**1.15**	**161**	*e*Pg		Pg	03 46 20.8	-0.4
LANS				*e*Sg		Sg	03 46 36.6	+0.5
LANS	**Liptovska Anna**	**1.15**	**161**	*e*PG		Pg	03 46 20.8	-0.4
LANS				*e*SG		Sg	03 46 36.6	+0.5
KRLC	**Kraliky**	**1.38**	**264**	*e*Pg		Pg	03 46 23.3	-2.3
KRLC				*e*SG		Sg	03 46 41.1	-2.4
	comp=Z,1.8nm,0.5s							
KRLC	**Kraliky**	**1.38**	**264**	Pg		Pg	03 46 23.3	-2.3
KRLC				Sg		Sg	03 46 41.1	-2.4
	1.8nm,0.5s							
DPC	**Dobruska-Polom**	**1.66**	**275**	*e*Pg		Pn	03 46 28.0	-1.5
DPC				*e*SG		Sn	03 46 50.4	-1.2
	comp=Z,4.4nm,0.5s							
DPC	**Dobruska-Polom**	**1.66**	**275**	Pg		Pn	03 46 28.0	-1.5
DPC				Sg		Sn	03 46 50.4	-1.2
	4.4nm,0.5s							
STHS	**Stebnicka Huta**	**1.72**	**118**	*e*Pn		Pb	03 46 31.4	-0.2
STHS				*e*Sn		Sn	03 46 52.8	-0.1
STHS	**Stebnicka Huta**	**1.72**	**118**	*e*PN		Pb	03 46 31.4	-0.2
STHS				*e*SN		Sn	03 46 52.8	-0.1
STHS				eLG		Lg	03 47 05.2	
VYHS	**Vyhne**	**1.75**	**182**	*e*Pg		Pb	03 46 31.6	-0.5
VYHS				*e*Sg		Sb	03 46 54.2	-0.3
VYHS	**Vyhne**	**1.75**	**182**	*e*PG		Pb	03 46 31.6	-0.5
VYHS				*e*SG		Sb	03 46 54.2	-0.3
VYHS				eLG		Lg	03 46 56.3	
VRAC	**Vranov**	**1.77**	**239**	*e*Sg		Sn	03 46 53.4	-0.7
PRU	**Pruhonice**	**2.82**	**267**	*e*SG		Sb	03 47 26.4	+1.0
PRU	**Pruhonice**	**2.82**	**267**	Sg		Sb	03 47 26.4	+1.0
BRG	**Berggiesshubel**	**3.23**	**283**	SG		Sg	03 47 43.0	+0.1
	2.1nm,0.3s							
KHC	**Kasperske Hory**	**3.64**	**254**	*e*SG		Sg	03 47 52.6	-3.4
KHC	**Kasperske Hory**	**3.64**	**254**	Sg		Sg	03 47 52.6	-3.4

*ATA **13** 03:47:58.9±1.3, 38.75N×43.19E, h7km±52km, ML2.1, MW2.6*
*ISCJB **13** 03:48:00.7±0.8, 38.71N±0.04×43.06E±0.05, h20km±13km, Error ellipse: s-maj=7.7km s-min=5.9km az=136.0*
*DDA **13** 03:48:00.6, 38.77N×43.10E, h7km, Ml2.1*
*CSEM **13** 03:48:00.6, 38.77N×43.10E, h7km, ML2.1*
ISC 13 03:47:59.6±1.4, 38.71N±0.04×43.06E±0.03, h11km±14km, n12, σ0s42/22, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ADCV	**BITLIS_Adilcev**	**0.28**	**291**	*i* P		**Pb**	**03 48 06.4**	**-0.4**
ADCV				*i* S		**Sb**	**03 48 11.7**	**0.0**
ADCV	**BITLIS_Adilcev**	**0.28**	**291**	P		**Pb**	**03 48 06.4**	**-0.4**
ADCV				S		**Sb**	**03 48 11.7**	**0.0**
TVAN	**Van**	**0.32**	**123**	*i* P		**Pb**	**03 48 06.9**	**-0.6**
TVAN				*i* S		**Sb**	**03 48 13.1**	**+0.4**
TVAN	**Van**	**0.32**	**123**	P		**Pb**	**03 48 06.9**	**-0.6**
TVAN				S		**Sb**	**03 48 13.1**	**+0.4**
GEVA	**Gevas**	**0.39**	**181**	*e*P		**Pb**	**03 48 08.2**	**-0.5**
GEVA				*e*S		**Sb**	**03 48 15.3**	**+0.6**
GEVA				IAML			03 48 20.3	
	comp=Z,9.6nm,0.7s							
VMUR	**Van-Muradiye**	**0.49**	**54**	*i* P		**Pb**	**03 48 09.7**	**-0.6**
VMUR				*i* S		**Sb**	**03 48 17.9**	**+0.4**
VMUR	**Van-Muradiye**	**0.49**	**54**	P		**Pb**	**03 48 09.7**	**-0.6**
VMUR				S		**Sb**	**03 48 17.9**	**+0.4**
TUTA	**Tutak**	**0.72**	**344**	*i* P		**Pg**	**03 48 13.6**	**-0.1**
TUTA				*e*S		**Sg**	**03 48 23.5**	**+0.4**
TUTA				IAML			03 48 25.1	
	comp=Z,14nm,0.2s							
TUTA	**Tutak**	**0.72**	**344**	*i* P		**Pg**	**03 48 13.5**	**-0.1**
TUTA				*i* S		**Sg**	**03 48 23.5**	**+0.4**
TUTA	**Tutak**	**0.72**	**344**	P		**Pg**	**03 48 13.5**	**-0.1**
TUTA				S		**Sg**	**03 48 23.5**	**+0.4**
EKAR	**Karacoban**	**0.95**	**305**	*e*P		**Pn**	**03 48 19.3**	**+0.2**
EKAR				IAML			03 48 25.8	
	comp=Z,1.5nm,0.5s							
EATA	**Eleskirt**	**1.24**	**339**	*e*P		**Pg**	**03 48 23.3**	**-0.1**

*DDA **13** 03:51:34.4, 39.80N×26.01E, h17km, Ml2.7*
*ISCJB **13** 03:51:36.0±0.3, 39.80N±0.01×26.05E±0.02, h8km±2km, Error ellipse: s-maj=3.1km s-min=2.2km az=169.8*
*ISK **13** 03:51:35.9, 39.81N×26.07E, h5km, ML2.7/15*
*ATH **13** 03:51:35.5, 39.79N×26.05E, h29km±1km, ML2.2/7, Error ellipse: s-maj=2.2km s-min=0.8km az=239.0*
*IASPEI **13** 03:51:35.9±0.8, 39.80N±0.01×26.07E±0.02, h12km±4km, Error ellipse: s-maj=2.5km s-min=2.1km az=85.2, GT5 selection from ISC bulletin GT5 identified by Bondˇjr and McLaughlin (2009) selection criteria Bondˇjr and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009*
*THE **13** 03:51:36.2, 39.80N×26.05E, h8km±1km, ML2.0/6, Error ellipse: s-maj=1.1km s-min=0.4km az=84.0*
*CSEM **13** 03:51:36.2±0.1, 39.80N×26.05E, h10km, ML2.7, Error ellipse: s-maj=3.2km s-min=2.3km az=85.0*
ISC 13 03:51:36.0±0.8, 39.80N±0.01×26.06E±0.02, h12km±4km, n103, σ0s68/161, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BOZC	**Bozcaada**	**0.05**	**358**	PG		**Pg**	**03 51 38.1**	**-0.1**
BOZC	**Bozcaada**	**0.05**	**358**	*i* P		**Pg**	**03 51 38.3**	**+0.1**
BOZC				*i* S		**Sg**	**03 51 39.8**	**-0.1**
BOZC	**Bozcaada**	**0.05**	**358**	*e*Pg		**Pg**	**03 51 38.1**	**-0.1**
EZN	**Ezine**	**0.21**	**82**	PG		**Pg**	**03 51 40.6**	**+0.1**
EZN				SG		**Sg**	**03 51 43.6**	**0.0**
EZN	**Ezine**	**0.21**	**82**	P		**Pg**	**03 51 40.5**	**+0.1**
EZN				S		**Sg**	**03 51 43.7**	**+0.1**
EZN	**Ezine**	**0.21**	**82**	*i* Pg		**Pg**	**03 51 40.6**	**+0.1**
EZN				*i* Sg		**Sg**	**03 51 43.6**	**0.0**
GPNR	**Gulpinar-Canak**	**0.34**	**170**	PG		**Pg**	**03 51 42.8**	**-0.1**
GPNR	**Gulpinar-Canak**	**0.34**	**170**	*e*Pg		**Pg**	**03 51 42.8**	**-0.1**
BAYC	**CANAKKALE_Bayr**	**0.38**	**98**	*i* P		**Pg**	**03 51 43.3**	**-0.3**
BAYC				*i* S		**Sg**	**03 51 48.9**	**+0.1**
BAYC	**CANAKKALE_Bayr**	**0.38**	**98**	P		**Pg**	**03 51 43.3**	**-0.3**
BAYC				S		**Sg**	**03 51 48.8**	**+0.1**
GADA	**Gvkgeada**	**0.41**	**343**	PG		**Pg**	**03 51 44.4**	**+0.2**
GADA	**Gvkgeada**	**0.41**	**343**	P		**Pg**	**03 51 44.4**	**+0.2**
GADA				S		**Sg**	**03 51 50.2**	**+0.5**
GADA	**Gvkgeada**	**0.41**	**343**	P		**Pg**	**03 51 44.4**	**+0.2**
GADA				S		**Sg**	**03 51 50.2**	**+0.5**
GOKC	**Gokceada-Canak**	**0.42**	**346**	PG		**Pg**	**03 51 44.5**	**+0.2**
GOKC				SG		**Sb**	**03 51 50.7**	**-0.9**
GOKC	**Gokceada-Canak**	**0.42**	**346**	*e*Pg		**Pg**	**03 51 44.5**	**+0.2**
GOKC				*e*Sg		**Sb**	**03 51 50.7**	**-0.9**
PRK	**Paraskevi**	**0.57**	**163**	P		**Pg**	**03 51 47.4**	**+0.2**
PRK				S		**Sb**	**03 51 55.5**	**-0.5**
PRK				AML		AML	03 51 57.0	
	comp=N,640μm,0.2s							
PRK				AML		AML	03 51 57.2	
	comp=E,628μm,0.4s							
PRK	**Paraskevi**	**0.57**	**163**	P		**Pg**	**03 51 47.2**	**+0.1**
PRK				S		**Sb**	**03 51 55.6**	**-0.5**
PRK	**Paraskevi**	**0.57**	**163**	P		**Pg**	**03 51 47.2**	**+0.1**
PRK				S		**Sb**	**03 51 55.6**	**-0.5**
SIGR	**SIGRI**	**0.60**	**195**	PG		**Pg**	**03 51 47.8**	**+0.1**
SIGR				SG		**Sb**	**03 51 57.1**	**+0.2**
SIGR	**SIGRI**	**0.60**	**195**	P		**Pg**	**03 51 47.5**	**-0.2**
SIGR				S		**Sg**	**03 51 56.4**	**+0.8**
SIGR				AML		AML	03 51 59.0	
	comp=N,1008μm,0.3s							
SIGR				AML		AML	03 51 59.4	
	comp=E,946μm,0.4s							
SIGR	**SIGRI**	**0.60**	**195**	P		**Pg**	**03 51 47.6**	**-0.1**
SIGR				S		**Sg**	**03 51 56.2**	**+0.6**
SIGR	**SIGRI**	**0.60**	**195**	*e*Pg		**Pg**	**03 51 47.8**	**+0.1**
SIGR				S		**Sg**	**03 51 56.2**	**+0.6**
SIGR				*e*Sg		**Sb**	**03 51 57.1**	**+0.2**
LIA	**Limnos Island**	**0.68**	**279**	P		**Pb**	**03 51 49.6**	**-0.2**
LIA				S		**Sb**	**03 51 59.0**	**0.0**
LIA				AML		AML	03 52 02.8	
	comp=N,202μm,0.3s							
LIA				AML		AML	03 52 03.7	
	comp=E,260μm,0.3s							
LIA	**Limnos Island**	**0.68**	**279**	P		**Pb**	**03 51 49.4**	**-0.4**
LIA				S		**Sb**	**03 51 59.2**	**+0.1**
LIA	**Limnos Island**	**0.68**	**279**	P		**Pb**	**03 51 49.4**	**-0.4**
LIA				S		**Sb**	**03 51 59.1**	**0.0**
GELI	**Tayfur-Gelibol**	**0.68**	**28**	PG		**Pg**	**03 51 49.3**	**+0.1**
GELI				SG		**Sb**	**03 51 58.8**	**-0.5**
GELI	**Tayfur-Gelibol**	**0.68**	**28**	*i* Pg		**Pg**	**03 51 49.3**	**+0.1**
GELI				*i* Sg		**Sb**	**03 51 58.8**	**-0.5**
AYVA	**Ayvalik**	**0.69**	**134**	*i* P		**Pg**	**03 51 48.5**	**-0.9**
AYVA				*i* S		**Sb**	**03 51 59.5**	**0.0**
AYVA	**Ayvalik**	**0.69**	**134**	P		**Pg**	**03 51 48.5**	**-0.9**
AYVA				S		**Sb**	**03 51 59.5**	**0.0**
SMTH	**Samothraki Isl**	**0.79**	**329**	P		**Pg**	**03 51 51.1**	**0.0**
SMTH				S		**Sb**	**03 52 01.9**	**-0.4**
SMTH				AML		AML	03 52 04.5	
	comp=N,422μm,0.5s							
SMTH				AML		AML	03 52 04.7	
	comp=E,311μm,0.2s							
SMTH	**Samothraki Isl**	**0.79**	**329**	P		**Pg**	**03 51 51.2**	**0.0**
SMTH				S		**Sb**	**03 52 02.4**	**+0.1**
SMTH	**Samothraki Isl**	**0.79**	**329**	P		**Pg**	**03 51 51.2**	**0.0**
SMTH				S		**Sb**	**03 52 02.2**	**-0.1**
LPK	**Lapseki**	**0.79**	**43**	PG		**Pg**	**03 51 50.7**	**-0.6**
LPK				SG		**Sg**	**03 52 01.9**	**+0.3**
LPK	**Lapseki**	**0.79**	**43**	*i* Pg		**Pg**	**03 51 50.7**	**-0.6**
LPK				*i* Sg		**Sg**	**03 52 01.9**	**+0.3**
EFSA	**Agios Efstrati**	**0.86**	**253**	P		**Pb**	**03 51 52.9**	**+0.1**
EFSA				S		**Sb**	**03 52 04.2**	**-0.2**
EFSA	**Agios Efstrati**	**0.86**	**253**	P		**Pg**	**03 51 52.6**	**0.0**
EFSA				S		**Sb**	**03 52 04.4**	**0.0**
ENEZ	**Enez**	**0.94**	**5**	PG		**Pg**	**03 51 54.1**	**-0.1**
ENEZ				SG		**Sb**	**03 52 07.3**	**+0.5**
ENEZ	**Enez**	**0.94**	**5**	P		**Pg**	**03 51 53.8**	**-0.4**
ENEZ				S		**Sn**	**03 52 07.9**	**-0.6**
ENEZ	**Enez**	**0.94**	**5**	P		**Pg**	**03 51 53.8**	**-0.4**
ENEZ	**

TLIG	**Tlapa**	**1.30**	**337**	*e*P	Pn	04 00 52.9	-4.4
TLIG				*e*S	Sb	04 01 08.8	-5.5
VHO	**Vista Hermosa**	**1.43**	**60**	*e*P	Pn	04 00 56.0	-3.1
VHO				*e*S	Sn	04 01 15.1	-3.0
VHO	**Vista Hermosa**	**1.43**	**60**	*e*P	Pn	04 00 56.0	-3.1
VHO				*e*S	Sn	04 01 15.1	-3.0
CAIG	**El Cayaco**	**2.25**	**288**	*e*P	Pn	04 01 07.0	-3.2
CAIG				*e*S	Sn	04 01 34.5	-3.5
CAIG	**El Cayaco**	**2.25**	**288**	*e*P	Pn	04 01 07.0	-3.2
CAIG				*e*S	Sn	04 01 34.5	-3.5

ISCJB ***13*** *04:02:36.3±0.2, 6°53S±0.03×130°19E±0.03, h146km, mb4.3/32, Error ellipse: s-maj=5.0km s-min=3.6km az=161.0*

NEIC ***13*** *04:02:39.1±0.3, 6°52S×130°10E, mb4.4/20, Error ellipse: s-maj=7.8km s-min=5.0km az=58.0*

IDC ***13*** *04:02:39.1±2.0, 6°41S×130°10E, h154km±19km, mb3.8/11, mb1 4.0/14, mb1mx3.7/50, mbtmp4.4/14, Error ellipse: s-maj=24.0km s-min=11.0km az=67.0*

DJA ***13*** *04:02:40.5±0.2, 7°S±3°×13°0E±°, h145km±6km, M4.8/13, mb4.8/13, mB5.2/6, MLv4.9/10, Mw(mB)4.6/6*

ISC 13 04:02:37.8±0.4**, 6°50S**±0.04**×130°21E**±0.05**, h146**km**, n103, σ2§04**/115**, mb4.4**/32**, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**1.83**	**144**	P	**Pn**	**04 03 15.0**	**+4.2**
SAUI	**Saumlaki**	**1.83**	**144**	*e*Pn	**Pn**	**04 03 14.6**	**+3.7**
SAUI				*e*Sn	**Sn**	**04 03 37.9**	**+1.7**
MSAI	**Masohi**	**3.38**	**338**	P	**Pn**	**04 03 32.9**	**+3.0**
AAI	**Ambon**	**3.43**	**324**	P	**Pn**	**04 03 33.4**	**+2.7**
FAKI	**Fak Fak**	**4.09**	**30**	P	**Pn**	**04 03 40.2**	**+0.9**
FAKI	**Fak Fak**	**4.09**	**30**	*e*Pn	**Pn**	**04 03 40.0**	**+0.7**
FAKI				*e*Sn	**Sn**	**04 04 25.7**	**-1.3**
NLAI	**Namlea**	**4.48**	**316**	P	Pn	04 03 49.1	+4.8
SIJI	**Sorong**	**5.69**	**11**	P	**Pn**	**04 04 00.9**	**+0.5**
	12nm,0.3s,baz=165,slow=23,SNR=33						
SIJI				S	**Sn**	**04 04 59.9**	**-5.1**
	30nm,0.3s,baz=280,slow=19,SNR=19						
SANI	**Sanana**	**6.10**	**316**	P	**Pn**	**04 04 08.9**	**+3.0**
RKPI	**Ransiki, Papua**	**6.34**	**39**	P	**Pn**	**04 04 11.3**	**+2.2**
MTN	**Manton Dam**	**6.37**	**172**	*e*Pn	**Pn**	**04 04 11.4**	**+1.9**
MTN				*e*Sn	**Sn**	**04 05 18.2**	**-3.2**
LBMI	**Labuha**	**6.41**	**335**	P	**Pn**	**04 04 12.4**	**+2.3**
SOEI	**Soe**	**6.71**	**241**	P	**Pn**	**04 04 15.9**	**+1.7**
SOEI	**Soe**	**6.71**	**241**	*e*Pn	**Pn**	**04 04 12.8**	**-1.4**
SOEI				*e*Sn	**Sn**	**04 05 33.2**	**+3.6**
BATI	**Baumata**	**7.45**	**240**	P	**Pn**	**04 04 24.7**	**+0.8**
	18nm,0.3s,baz=76,slow=5.5,SNR=15						
BATI				S	**Sn**	**04 05 44.6**	**-2.6**
	18nm,0.3s,baz=72,slow=20,SNR=12						
BAKI	**Biak**	**7.90**	**48**	P	**Pn**	**04 04 33.6**	**+3.6**
LUWI	**Luwuk**	**9.18**	**306**	*e*Pn	**Pn**	**04 04 46.7**	**-0.5**
APSI	**Ampana**	**10.18**	**303**	P	**Pn**	**04 05 04.0**	**+3.6**
BNSI	**Bone**	**10.27**	**281**	P	Pn	04 05 14.3	+13
KAPI	**Kappang**	**10.50**	**278**	*e*Pn	**Pn**	**04 05 04.4**	**-0.3**
MRSI	**Marisa**	**10.77**	**310**	P	**Pn**	**04 05 10.6**	**+2.4**
PCI	**Palu**	**11.74**	**298**	P	**P**	**04 05 27.3**	**-0.9**
MPSI	**Mapaga**	**12.32**	**303**	P	**P**	**04 05 31.6**	**-3.1**
FITZ	**Fitzroy Crossi**	**12.36**	**201**	P	**Pn**	**04 05 27.1**	**-1.9**
	0.8nm,0.3s,baz=37,slow=13,SNR=18						
FITZ				S	Sn	04 07 34.7	-11
	1.8nm,0.3s,baz=209,slow=18,SNR=4.9						
PLAI	**Plampang**	**12.53**	**259**	P	**Pn**	**04 05 30.6**	**-0.7**
WRAB	**Tennant Creek**	**13.95**	**164**	*e*Pn	**Pn**	**04 05 48.3**	**-1.1**
WRAB				*e*Sn	Sn	04 08 14.2	-10
WRA	**Warramunga Arr**	**13.96**	**164**	P	**Pn**	**04 05 47.7**	**-1.7**
	1.3nm,0.3s,baz=341,slow=13,SNR=36						
WRA				S	Sn	04 08 13.8	-10
	6.5nm,0.3s,baz=338,slow=21,SNR=12						
WB2	**Warramunga Arr**	**13.96**	**164**	*e*Pn	**Pn**	**04 05 48.3**	**-1.2**
KBKI	**Kotabaru**	**14.34**	**282**	P	**P**	**04 05 56.4**	**-0.7**
COEN	**Coen**	**14.76**	**121**	*e*Pn	**Pn**	**04 05 59.5**	**0.0**
COEN				*e*Sn	**Sn**	**04 08 36.3**	**-7.0**
JAGI	**Jajag, Banyuwa**	**16.04**	**262**	*e*Pn	**Pn**	**04 06 13.3**	**-2.0**
	62nm,1.1s						
MYLDM	**Lahad Datu**	**16.46**	**315**	*e*P	**P**	**04 06 23.1**	**+2.5**
	18nm,1.0s						
BLJI	**Banyuglugur**	**16.53**	**265**	P	**P**	**04 06 23.9**	**+2.5**
PMG	**Port Moresby**	**17.04**	**101**	*e*Pn	**P**	**04 06 27.8**	**+0.8**
AS31	**Alice Springs**	**17.44**	**169**	*e*P	**Pn**	**04 06 33.3**	**+1.0**
	8.2nm,0.5s						
ASAR	**Alice Springs**	**17.44**	**169**	P	**Pn**	**04 06 33.2**	**+0.9**
	2.2nm,0.3s,baz=345,slow=10,SNR=99						
ASAR				S	**S**	**04 09 35.7**	**-10**
	0.8nm,0.3s,baz=348,slow=25,SNR=6.2						
AS01	**Alice Springs**	**17.45**	**168**	*e*P	**Pn**	**04 06 33.6**	**+1.2**
MBWA	**Marble Bar**	**17.76**	**214**	*e*Pn	**P**	**04 06 33.9**	**-1.0**
KKM	**Kota Kinabalu**	**18.71**	**311**	*e*P	**P**	**04 06 44.6**	**-0.8**
	17nm,0.8s						
SBUM	**Sibu**	**20.03**	**296**	*e*P	**P**	**04 07 00.8**	**+1.1**
	22nm,0.8s						
CTA	**Charters Tower**	**20.62**	**132**	P	**P**	**04 07 08.5**	**+2.6**
	20nm,0.9s,baz=330,slow=9.3,SNR=7.4						
CTAO	**Charters Tower**	**20.62**	**132**	*e*P	Pn	04 07 09.0	-0.9
	26nm,0.9s						
KSM	**Kuching**	**21.38**	**291**	*e*P	**P**	**04 07 14.3**	**+0.2**
	5.7nm,0.7s						
CISI	**Cisompet, Garu**	**22.25**	**266**	*e*P	**P**	**04 07 20.9**	**-2.2**
	56nm,0.8s						
FORT	**Forrest**	**24.24**	**185**	*e*P	**P**	**04 07 41.1**	**-0.2**
BBOO	**Buckleboo**	**26.74**	**169**	*e*P	**P**	**04 08 04.7**	**+0.8**
	68nm,2.0s						
MNAI	**Manna**	**27.21**	**273**	*e*P	**P**	**04 08 07.8**	**-0.5**
	167nm,1.0s						
STKA	**Stephens Creek**	**27.40**	**159**	P	**P**	**04 08 10.9**	**+1.1**
	6.2nm,0.7s,baz=332,slow=9.6,SNR=12						
STKA				pP	**pP**	**04 08 44.8**	**+4.2**
	3.5nm,0.7s,baz=317,slow=13,SNR=2.6						
STKA	**Stephens Creek**	**27.40**	**159**	*e*P	**P**	**04 08 10.8**	**+1.0**
	1.4nm,0.8s						
STKA				pP	**pP**	**04 08 44.8**	**+4.2**
SSLB	**Suanglung**	**31.42**	**344**	*e*P	**P**	**04 08 44.7**	**-0.7**
	7.0nm,0.8s						
CAN	**Canberra**	**33.50**	**151**	*e*P	**P**	**04 09 05.3**	**+1.8**
	12nm,0.8s						
CM01	**Chiang Mai Arr**	**39.53**	**309**	*e*P	**P**	**04 09 54.2**	**-0.6**
CMAR	**Chiang Mai Arr**	**39.57**	**309**	P	**P**	**04 09 54.5**	**-0.6**
	2.1nm,0.6s,baz=140,slow=7.7,SNR=14						
CMMT	**Chiang Mai**	**39.77**	**310**	P	**P**	**04 09 55.7**	**-1.1**
	6.1nm,1.3s						
CHTO	**Chiang Mai**	**39.78**	**310**	P	**P**	**04 09 57.1**	**+0.3**
	27nm,1.3s						
CHTO	**Chiang Mai**	**39.78**	**310**	*e*P	**P**	**04 09 56.1**	**-0.7**
	6.6nm,1.1s						
NJ2	**Nanjing**	**39.83**	**345**	*e*P	**P**	**04 09 57.3**	**+0.3**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
KMI	**Kunming**	**41.26**	**321**	P	**P**	**04 10 07.6**	**-1.5**
KMI				pmax	pmax		
	comp=Z,22nm,0.6s						
MJAR	**Matsushiro Arr**	**43.46**	**9**	P	**P**	**04 10 25.5**	**-1.0**
	comp=Z,0.8nm,0.4s,baz=192,slow=10.0,SNR=4.6						
MAJO	**Matsushiro**	**43.46**	**9**	*e*P	**P**	**04 10 25.9**	**-0.6**
	comp=Z,6.3nm,0.7s						
LZH	**Lanzhou**	**49.06**	**332**	*e*P	**P**	**04 11 11.4**	**+1.0**
LZH				pP	pP	04 11 48.5	+4.8
LZH				sP	sP	04 12 06.3	+6.3
LZH				*e*PP	**PP**	**04 13 08.8**	**+3.3**
LZH				pmax	pmax		
	comp=Z,17nm,1.0s						
LZH				pmax	pmax		
	comp=Z,230nm,5.7s						
HHC	**Hu-ho-hao-te**	**50.13**	**342**	*e*P	**P**	**04 11 20.4**	**+2.0**
HHC				pP	pP	04 11 48.3	-3.5
HHC				S	**S**	**04 18 20.4**	**+1.5**
HHC				pmax	pmax		
	comp=Z,32nm,1.0s						
HHC				pmax	pmax		
	comp=Z,89nm,6.2s						
GTA	**Gaotai**	**53.63**	**331**	*e*P	**P**	**04 11 44.6**	**+0.2**
GTA				pP	pP	04 12 21.3	+3.1
GTA				sP	sP	04 12 38.8	+4.5
GTA				pmax	pmax		
	comp=Z,5.0nm,1.1s						
RAMN	**Ramite**	**53.73**	**310**	*e*P	**P**	**04 11 45.1**	**-0.4**
	comp=Z,59nm,0.7s						
JIRN	**Jiri**	**54.41**	**311**	*e*P	**P**	**04 11 49.8**	**-0.8**
	comp=Z,32nm,0.7s						
GUN	**Gumba**	**54.78**	**311**	*e*P	**P**	**04 11 52.5**	**-0.7**
	comp=Z,40nm,0.7s						
KKN	**Kakani**	**55.17**	**310**	*e*P	**P**	**04 11 55.1**	**-0.7**
DMN	**Daman**	**55.20**	**310**	*e*P	**P**	**04 11 55.5**	**-0.6**
	comp=Z,28nm,0.8s						
KOLN	**Koldanda**	**56.44**	**309**	*e*P	**P**	**04 12 04.4**	**-0.5**
	comp=Z,31nm,0.8s						
DANN	**Dangsing**	**56.61**	**310**	*e*P	**P**	**04 12 05.7**	**-0.4**
PYUN	**Piuthan**	**57.07**	**309**	*e*P	**P**	**04 12 08.7**	**-0.6**
	comp=Z,47nm,0.8s						
ULN	**Ulaanbaatar**	**57.85**	**342**	*e*P	**P**	**04 12 14.4**	**0.0**
	comp=Z,4.4nm,0.7s						
SONM	**Songino Array**	**58.03**	**341**	P	**P**	**04 12 15.9**	**+0.4**
	comp=Z,1.2nm,0.5s,baz=152,slow=7.3,SNR=8.5						
SONA1	**Songino Array**	**58.04**	**341**	*e*P	**P**	**04 12 16.1**	**+0.4**
WMQ	**Urumqi**	**63.09**	**327**	P	**P**	**04 12 50.1**	**+0.3**
WMQ				pmax	pmax		
	comp=Z,10.0nm,0.7s						
KSH	**Kashi**	**67.79**	**317**	P	**P**	**04 13 20.5**	**+0.2**
KSH				pmax	pmax		
	comp=Z,10.0nm,0.8s						
MK01	**Makanchi Array**	**67.90**	**327**	*e*P	**P**	**04 13 20.7**	**0.0**
MK31	**Makanchi Array**	**67.92**	**327**	*e*P	**P**	**04 13 20.6**	**-0.2**
MKAR	**Makanchi Array**	**67.92**	**327**	P	**P**	**04 13 21.0**	**+0.2**
	comp=Z,11nm,0.8s,baz=124,slow=7.9,SNR=82						
MKAR	**Makanchi Array**	**67.92**	**327**	*e*P	**P**	**04 13 20.3**	**-0.4**
	comp=Z,49nm,0.7s						
MAKZ	**Makanchi**	**68.10**	**326**	*e*P	**P**	**04 13 21.9**	**0.0**
	comp=Z,7.6nm,0.8s						
KZA	**Kyzart**	**69.53**	**319**	P	**P**	**04 13 32.4**	**+1.1**
	SNR=11						
TKM2	**Tokmak 2**	**69.73**	**320**	P	**P**	**04 13 32.8**	**+0.5**
	SNR=10						
UCH	**Uchtor**	**70.08**	**319**	P	**P**	**04 13 35.9**	**+1.1**
	SNR=11						
AAK	**Ala-Archa**	**70.29**	**320**	P	**P**	**04 13 36.7**	**+1.0**
	SNR=6.4						
AAK	**Ala-Archa**	**70.29**	**320**	*e*P	**P**	**04 13 36.0**	**+0.4**
	comp=Z,7.2nm,0.9s						
AML	**Almayashu**	**70.56**	**319**	P	**P**	**04 13 38.4**	**+0.8**
	SNR=13						
USP	**Osepenovka**	**70.60**	**320**	P	**P**	**04 13 37.8**	**+0.4**
	SNR=6.0						
EKS2	**Erkin-Say**	**70.77**	**319**	P	**P**	**04 13 39.4**	**+0.9**
	SNR=8.0						
ZALV	**Zalesovo Beam**	**71.22**	**334**	P	**P**	**04 13 40.0**	**-0.9**
	comp=Z,1.8nm,0.5s,baz=126,slow=4.6,SNR=8.9						
KURBB	**Kurchatov Arra**	**72.19**	**328**	P	**P**	**04 13 46.5**	**-0.2**
	comp=Z,2.2nm,0.6s,baz=125,slow=4.7,SNR=22						
KURBB				pP	**pP**	**04 14 23.6**	**+1.2**
	comp=Z,1.3nm,0.9s,baz=133,slow=5.1,SNR=3.1						
KURK	**Kurchatov**	**72.20**	**328**	*e*P	**P**	**04 13 46.6**	**-0.1**
KURK				*e*pP	**pP**	**04 14 24.3**	**+1.9**
VNDA	**Vanda**	**72.92**	**173**	P	**P**	**04 13 51.2**	**+0.6**
	comp=Z,0.8nm,0.7s,baz=321,slow=7.4,SNR=7.0						
KKAR	**Karatay Array**	**73.10**	**319**	*e*P	**P**	**04 13 52.1**	**-0.2**
	comp=Z,2.5nm,0.7s						
BVAR	**Borovoye Array**	**77.75**	**328**	P	**P**	**04 14 17.9**	**-0.7**
	comp=Z,0.5nm,0.3s,baz=121,slow=6.9,SNR=6.4						
ABKAR	**Akbulak array**	**82.24**	**322**	*e*P	**P**	**04 14 42.1**	**-0.7**
	comp=Z,0.7nm,0.7s						
AKTO	**Aktyubinsk**	**83.80**	**322**	P	**P**	**04 14 49.9**	**-0.9**
	comp=Z,0.5nm,0.3s,baz=98,slow=7.1,SNR=3.3						
RAYN	**Ar Rayn**	**87.73**	**294**	*e*P	**P**	**04 15 10.1**	**-0.7**
	comp=Z,2.8nm,0.8s						
YKA	**Yellowknife Ar**	**107.21**	**26**	PKiKP	**PKiKP**	**04 20 44.8**	**-1.6**
	comp=Z,0.1nm,0.5s,baz=292,slow=1.7,SNR=4.3						
TORD	**Torodi Ar. Bea**	**128.91**	**282**	PKP	**PKPdf**	**04 21 28.7**	**-0.5**
	comp=Z,0.4nm,0.6s,baz=102,slow=1.9,SNR=6.1						
JTS	**JunasAbangare**	**145.03**	**81**	*e*PKPbc	**PKPdf**	**04 21 59.7**	**+0.8**
CPUP	**Villa Florida**	**146.56**	**168**	PKPbc	**PKPbc**	**04 22 02.4**	**-0.5**
	comp=Z,2.2nm,0.6s,baz=186,slow=2.1,SNR=7.5						
LPAZ	**La Paz**	**150.99**	**141**	PKPbc	**PKPbc**	**04 22 16.1**	**+0.9**
	comp=Z,0.5nm,0.4s,baz=263,slow=3.5,SNR=3.5						
LPAZ				PKPab	**PKPab**	**04 22 25.3**	**+2.2**
	comp=Z,1.5nm,0.5s,baz=230,slow=3.7,SNR=7.0						

IDC ***13*** *04:05:35.1±0.9, 18°04S×172°59W, h0km, mb4.1/8, mb1 4.5/9, mb1mx4. 1/47, mbtmp4. 1/9, ML3.9/1, MS3.4/3, Ms1 3.4/3, ms1mx2.9/45, Error ellipse: s-maj=45.3km s-min=19.3km az=136.0*

NEIC ***13*** *04:05:38.4±0.7, 18°74S×172°13W, h35km, mb4.5/5, Error ellipse: s-maj=27.3km s-min=13.1km az=166.0*

ISC 13 04:05:39.3±0.7**, 18°17S**±0.09**×172°1W**±0.1**, h35**km**, n37, σ2§23/19, mb4.4**/14**, Tonga Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**4.25**	**5**	Pn	**Pn**	**04 06 40.8**	**-0.8**
	7.3nm,0.3s,baz=226,slow=22,SNR=5.9						
AFI				Sn	**Sn**	**04 07 27.8**	**-2.3**
	18nm,0.3s,baz=9.6,slow=20,SNR=5.5						
AFI				LR	LR	04 08 32.5	
	comp=Z,71nm,18.2s,baz=230,slow=42						
MSVF	**Nonsavu**	**9.36**	**271**	*e*Pn	Pn	04 07 54.3	+2.4
	27nm,0.9s						
RAR	**Rarotonga**	**12.02**	**107**	Pn	**Pn**	**04 08 24.8**	**-3.4**
	2.4nm,0.3s,baz=273,slow=3.8,SNR=4.0						
RAR				LR	LR	04 12 39.3	
	comp=Z,92nm,18.2s,baz=274,slow=34						
DZM	**Mont Dzumac**	**20.49**	**256**	*e*LR	LR	04 15 08.0	
	2µm,24.9s						
DZM	**Mont Dzumac**	**20.49**	**256**	*e*P	Pn	04 10 14.2	-2.6
	19nm,0.8s						
PAE	**Paea**	**21.46**	**92**	*e*T	T	04 32 25.5	
	14nm,0.3s						
PPT2	**Papeete2**	**21.46**	**92**	*e*LR	LR	04 15 22.9	
	257nm,25.0s						
PPT2	**Papeete2**	**21.46**	**92**	*e*T	T	04 32 28.7	
	13nm,0.4s						
PPT	**Papeete**	**21.47**	**92**	LR	LR	04 17 03.6	
	comp=Z,101nm,18.1s,baz=262,slow=31						
TIAR	**Tiarei**	**21.69**	**92**	*e*T	T	04 32 40.0	
	3.2nm,0.3s						
TVO	**Taravao**	**21.76**	**93**	*e*T	T	04 32 37.0	
	2.8nm,0.3s						
URZ	**Urewera**	**22.11**	**203**	P	**P**	**04 10 32.3**	**+0.7**
	6.8nm,0.6s,baz=333,slow=1.9,SNR=7.1						
RPZ	**Rata Peaks**	**29.15**	**206**	P	P	04 11 44.5	+7.4
	15nm,0.6s,baz=305,slow=3.0,SNR=10						
TAOE	**Nuku Hiva Isla**	**32.39**	**78**	*e*T	T	04 46 15.0	
	102nm,0.3s						
RKT	**Rikitea**	**35.05**	**104**	*e*LR	LR	04 21 42.6	
	213nm,25.5s						
CAN	**Canberra**	**38.40**	**236**	*e*P	**P**	**04 12 58.4**	**+0.9**
H11S2	**WAKE ISLAND Hy**	**41.96**	**329**	T	T	04 59 05.8	
	baz=147,slow=75,SNR=16						
H11S3	**WAKE ISLAND Hy**	**41.97**	**329**	T	T	04 59 12.7	
	baz=147,slow=75,SNR=12						
H11S1	**WAKE ISLAND Hy**	**41.98**	**329**	T	T	04 59 10.4	
	baz=147,slow=75,SNR=10						
H11N3	**WAKE ISLAND Hy**	**42.91**	**330**	T	T	04 59 46.2	
	baz=151,slow=76,SNR=6.1						
H11N1	**WAKE ISLAND Hy**	**42.92**	**330**	T	T	04 59 51.6	
	baz=151,slow=76,SNR=4.4						
H11N2	**WAKE ISLAND Hy**	**42.93**	**330**	T	T	04 59 49.1	
	baz=151,slow=76,SNR=5.9						
WRAB	**Tennant Creek**	**50.45**	**259**	*e*P	**P**	**04 14 30.4**	**-3.5**
	11nm,0.9s						
WRA	**Warramunga Arr**	**50.46**	**259**	P	**P**	**04 14 31.5**	**-2.5**
	4.6nm,0.8s,baz=96,slow=7.6,SNR=7.4						
ASAR	**Alice Springs**	**50.47**	**254**	P	**P**	**04 14 31.8**	**-2.4**
	8.6nm,0.8s,baz=87,slow=8.2,SNR=14						
RPN	**Rapa Nui**	**58.13**	**111**	LR	LR	04 33 30.0	
	comp=Z,64nm,21.4s,baz=146,slow=29						
NVAR	**Mina Array Bea**	**75.59**	**41**	P	**P**	**04 17 22.0**	**+1.1**
	0.3nm,0.4s,baz=204,slow=7.9,SNR=4.2						
TXAR	**Lajitas Array**	**81.16**	**55**	P	**P**	**04 17 54.4**	**+2.7**
	1.6nm,0.9s,baz=208,slow=7.1,SNR=8.4						
PDAR	**Pinedale Array**	**83.52**	**41**	P	**P**	**04 18 06.3**	**+2.4**
	1.6nm,0.8s,baz=209,slow=3.5,SNR=13						
MCK	**McKinley**	**83.61**	**10**	*e*P	**P**	**04 18 03.5**	**-0.2**
	3.1nm,1.1s						
DOT	**Dot Lake**	**84.43**	**12**	*e*P	**P**	**04 18 09.8**	**+2.0**
	3.9nm,0.9s						
COLA	**College**	**84.85**	**10**	*e*P	**P**	**04 18 11.9**	**+2.1**
	3.8nm,0.8s						
ILAR	**Eielson Array**	**84.92**	**11**	P	**P**	**04 18 11.8**	**+1.5**
	0.7nm,0.8s,baz=224,slow=4.1,SNR=7.7						
INK	**Inuvik**	**90.66**	**13**	*e*P	**P**	**04 18 38.6**	**+1.0**
	2.7nm,1.1s						
YKA	**Yellowknife Ar**	**92.15**	**23**	P	**P**	**04 18 46.6**	**+1.9**
	0.4nm,1.0s,baz=241,slow=4.6,SNR=5.9						
CLL	**Collm**	**146.69**	**354**	*e*PKPbc	**PKPab**	**04 25 19.0**	**+0.6**
GERES	**GERESS Array B**	**149.04**	**353**	PKPbc	**PKPab**	**04 25 25.4**	**-2.6**
	0.6nm,0.6s,baz=36,slow=1.8,SNR=5.2						

MEX 13 04:14:55.4±1.0**, 28°58N×112°94W, h17**km**±999**km**, MD3.9, Gulf of California**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SRIG	**Santa Rosalia**	**1.39**	**154**	*e*P	Pn	04 15 17.0	-3.1
SRIG				*e*S	Sn	04 15 31.8	-6.3
HSIG		**1.80**	**75**	*e*P	Pn	04 15 21.5	-4.1
GUYB	**Guaymas**	**1.94**	**110**	*e*P	Pn	04 15 24.1	-3.5

IDC ***13*** *04:15:05.0±0.6, 18°10S×168°14E, h0km, mb4.4/15, mb1 4.7/17, mb1mx4.4/49, mbtmp4.5/17, ML4.8/2, MS3.8/10, Ms1 3.8/10, ms1mx3.4/39, Error ellipse: s-maj=18.1km s-min=15.7km az=144.0*

ISCJB ***13*** *04:15:07.5±0.2, 18°24S±0.03×168°06E±0.04, h29km, mb4.8/64, MS4.2/13, Error ellipse: s-maj=5.6km s-min=4.7km az=33.4*

BJI ***13*** *04:15:09.3, 18.04S×168.51E, h44km, mb4.7/24, mB5.0/15, Ms5.1/8, Ms7 4.9/8*

NEIC ***13*** *04:15:10.4±0.9, 18°25S×168°09E, h41km±8km, mb5.0/44, Error ellipse: s-maj=7.4km s-min=4.9km az=163.0*

WEL ***13*** *04:15:10.0, 18°25S×168°09E, h40km*

ISC 13 04:15:09.3±0.4**, 18°33S**±0.06**×168°12E**±0.07**, h29**km**, n152, σ1§53/146, mb4.9**/64**, MS4.0**/13**, 2C, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**4.04**	**203**	*e*Pn	**Pn**	**04 16 08.7**	**-0.6**
	206nm,0.3s						
DZM				*e*Sn	**Sn**	**04 16 56.3**	**+0.5**
	221nm,0.2s						
DZM				*e*LR	LR	04 17 03.0	
	2µm,24.9s						
DZM	**Mont Dzumac**	**4.04**	**203**	*e*Pn	**Pn**	**04 16 08.7**	**-0.6**
DZM				*e*Sn	**Sn**	**04 16 56.4**	**+0.5**
MSVF	**Nonsavu**	**9.47**	**88**	*e*Pn	**Pn**	**04 17 26.6**	**+2.8**
HNR	**Honiara**	**11.88**	**317**	Pn	**Pn**	**04 17 55.3**	**-1.4**
	17nm,0.3s,baz=180,slow=1.0,SNR=6.2						
HNR	**Honiara**	**11.88**	**317**	*e*Pn	**Pn**	**04 17 55.1**	**-1.6**
EIDS	**Eidsvold**	**17.29**	**243**	*e*Pn	**P**	**04 19 13.0**	**+3.1**
	50nm,1.3s						
OUZ	**Omahuta**	**17.52**	**165**	P	**Pn**	**04 19 09.7**	**-1.7**
ARMA	**Armidale**	**19.22**	**228**	*e*P	**P**	**04 19 31.1**	**-0.1**
	76nm,1.4s						
AFI	**Afiamalu**	**19.80**	**80**	P	**P**	**04 19 37.4**	**-0.3**
	1.1nm,0.3s,baz=218,slow=17,SNR=4.5						
CTA	**Charters Tower**	**20.72**	**262**	P	Pn	04 19 49.8	-0.3
	26nm,0.9s,baz=96,slow=12,SNR=11						
CTAO	**Charters Tower**	**20.72**	**262**	*e*P	**P**	**04 19 48.3**	**+0.7**
	274nm,1.1s						
HAZ	**Te Kaha**	**21.13**	**158**	P	**P**	**04 19 54.8**	**+3.1**
MXZ	**Matakaoa Point**	**21.14**	**157**	P	**P**	**04 19 54.4**	**+2.5**
PKGZ	**Pakihiroa**	**21.35**	**158**	P	**P**	**04 19 58.0**	**+3.8**
URZ	**Urewera**	**21.36**	**160**	P	**P**	**04 19 56.8**	**+2.6**
	28nm,0.8s,baz=331,slow=10,SNR=11						
URZ	**Urewera**	**21.36**	**160**	*e*P	**P**	**04 19 55.1**	**+0.8**
	34nm,0.9s						
URZ	**Urewera**	**21.36**	**160**	P	**P**	**04 19 58.9**	**+4.7**
WMGZ	**Waiomatatini S**	**21.41**	**157**	P	**P**	**04 19 56.7**	**+1.9**
MWZ	**Matawai**	**21.56**	**160**	P	**P**	**04 19 59.5**	**+3.0**
TWGZ	**Tauwhareparae**	**21.57**	**158**	P	**P**	**04 19 59.0**	**+2.4**
PUZ	**Puketiti**	**21.58**	**158**	P	**P**	**04 19 58.3**	**+1.7**
SNGZ	**Shannon Statio**	**21.91**	**160**	P	**P**	**04 19 59.4**	**-0.8**
NMHZ	**Naumai**	**22.03**	**162**	P	**P**	**04 20 02.3**	**+0.8**
PMG	**Port Moresby**	**22.18**	**291**	*e*P	**P**	**04 20 03.9**	**+0.7**
	27nm,0.9s						
THZ	**Tophouse**	**23.72**	**171**	*e*P	**P**	**04 20 20.0**	**+1.2**
	26nm,0.7s						
CAN	**Canberra**	**23.96**	**221**	*e*P	**P**	**04 20 22.2**	**+1.0**
	18nm,1.0s						
RPZ	**Rata Peaks**	**25.43**	**175**	P	**P**	**04 20 37.9**	**+3.5**
	7.2nm,0.5s,baz=333,slow=6.8,SNR=5.4						
STKA	**Stephens Creek**	**27.46**	**235**	P	**P**	**04 20 53.6**	**+0.7**

LZH					LR	LR				
	comp=N,920nm,15.0s									
LZH					LR	LR				
	comp=E,1μm,15.0s									
LZH					LR	LR				
	comp=Z,2μm,16.5s									
ULN	**Ulaanbaatar**	**85.50**	**324**	*e*P	**P**		**04 27 45.8**	**+1.2**		
	3.0nm,0.8s									
SYO	**Syowa Base**	**85.51**	**196**	⇑*i*P	**P**		**04 27 40.2**	**-3.9**		
SYO	**Syowa Base**	**85.51**	**196**	⇑*e*pP	pP		04 27 56.7	+3.3		
GTA	**Gaotai**	**85.73**	**314**	*e*P	**P**		**04 27 48.9**	**+3.0**		
GTA				pP	sP		04 28 00.9	+2.3		
GTA				sP	pP		04 28 06.4	+11		
GTA				pmax	pmax					
	comp=Z,5.0nm,1.1s									
SONM	**Songino Array**	**85.86**	**323**	P	**P**		**04 27 47.1**	**+0.8**		
	2.1nm,0.9s,baz=135,slow=4.9,SNR=10									
SONA1	**Songino Array**	**85.86**	**324**	*e*P	**P**		**04 27 46.9**	**+0.6**		
M02C	**Callahan**	**87.14**	**45**	P	**P**		**04 27 53.1**	**+0.4**		
	baz=243									
ORV	**Oroville**	**87.23**	**47**	*e*P	**P**		**04 27 52.3**	**-0.8**		
	9.3nm,0.9s									
ARVC	**Arvin**	**87.25**	**52**	P	**P**		**04 27 52.6**	**-0.7**		
	baz=245									
AFDM	**Forest Hills D**	**87.33**	**48**	*e*P	**P**		**04 27 52.9**	**-0.7**		
	16nm,0.9s									
CMB	**Columbia Colle**	**87.34**	**49**	*e*P	**P**		**04 27 52.6**	**-1.1**		
	15nm,0.8s									
VES	**Vestal, Richgr**	**87.36**	**51**	P	**P**		**04 27 52.6**	**-1.2**		
	baz=245									
YBH	**Yreka Blue Hor**	**87.39**	**44**	P	**P**		**04 27 53.5**	**-0.4**		
	4.7nm,0.9s,baz=163,slow=4.0,SNR=6.7									
YBH					LR	LR	05 00 02.5			
	comp=Z,106nm,18.8s,baz=294,slow=31									
MWC	**Mount Wilson**	**87.46**	**53**	*e*P	**P**		**04 27 53.5**	**-1.1**		
	26nm,1.6s									
ISA	**Isabella, Lake**	**87.74**	**51**	P	**P**		**04 27 55.1**	**-0.6**		
	baz=246									
ISA	**Isabella, Lake**	**87.74**	**51**	*e*P	**P**		**04 27 55.1**	**-0.6**		
	7.2nm,1.0s									
EDW2	**Edwards Air Fo**	**87.77**	**52**	P	**P**		**04 27 54.6**	**-1.3**		
	baz=246									
MONP2	**Monument Peak**	**88.18**	**55**	P	**P**		**04 27 57.3**	**-0.7**		
	baz=247									
WAKR	**Walker**	**88.22**	**48**	*e*P	**P**		**04 27 57.9**	**-0.2**		
	11nm,0.9s									
MPMC	**Manual Prospec**	**88.63**	**51**	P	**P**		**04 27 59.3**	**-0.8**		
	baz=246									
PAHR	**Pah Rah Range**	**88.77**	**47**	*e*P	**P**		**04 28 00.1**	**-0.5**		
	14nm,1.1s									
RYN	**Ryan**	**88.92**	**49**	*e*P	**P**		**04 28 00.9**	**-0.5**		
	5.8nm,0.9s									
BELC	**Belle Mtn. Jos**	**88.94**	**54**	P	**P**		**04 28 00.3**	**-1.2**		
	baz=247									
NV01	**Mina Array Sit**	**89.00**	**49**	*e*P	**P**		**04 27 59.7**	**-2.1**		
NVAR	**Mina Array Bea**	**89.00**	**49**	P	**P**		**04 28 01.1**	**-0.7**		
	3.8nm,0.9s,baz=227,slow=7.0,SNR=16									
NVAR					LR	LR	04 59 15.0			
	comp=Z,42nm,20.4s,baz=76,slow=30									
J05D	**Fort Rock, OR**	**89.06**	**44**	P	**P**		**04 28 01.3**	**-0.6**		
	baz=244									
MOD	**Modoc Plateau**	**89.07**	**45**	*e*P	**P**		**04 28 00.8**	**-1.2**		
	9.2nm,0.9s									
GRAC	**Grapevine Rang**	**89.09**	**51**	P	**P**		**04 28 01.7**	**-0.4**		
	baz=246									
NV11	**Mina Array Sit**	**89.11**	**49**	*e*P	**P**		**04 28 01.0**	**-1.3**		
	0.8nm,1.0s									
PINE	**Pine Mountain**	**89.48**	**43**	*e*P	**P**		**04 28 03.4**	**-0.5**		
	8.4nm,0.8s									
IRM	**Iron Mountain**	**89.65**	**54**	P	**P**		**04 28 03.6**	**-1.2**		
	baz=248									
ILAR	**Eielson Array**	**89.68**	**18**	P	**P**		**04 28 01.8**	**-2.3**		
	0.4nm,0.6s,baz=236,slow=5.4,SNR=9.2									
TPNV	**Topopah Spring**	**89.90**	**51**	P	**P**		**04 28 05.5**	**-0.5**		
	baz=247									
TPNV	**Topopah Spring**	**89.90**	**51**	*e*P	**P**		**04 28 05.9**	**-0.1**		
	6.0nm,0.9s									
LPIG	**La Paz**	**89.98**	**65**	LR	LR		04 59 50.9			
	comp=Z,97nm,19.8s,baz=224,slow=30									
SNAA	**Sanae**	**90.02**	**183**	P	**P**		**04 28 05.3**	**-0.6**		
LDFC	**Landfair**	**90.03**	**53**	*e*P	**P**		**04 28 06.3**	**-0.3**		
	11nm,1.0s									
PGC	**Sidney**	**90.13**	**38**	*e*P	**P**		**04 28 05.7**	**-0.8**		
	6.8nm,0.8s									
D05A	**Enumclaw**	**90.33**	**40**	*e*P	**P**		**04 28 07.9**	**+0.4**		
	32nm,1.3s									
WVOR	**Wild Horse Val**	**90.42**	**45**	*e*P	**P**		**04 28 07.9**	**-0.4**		
	11nm,0.9s									
PDMCI	**Parker Dam,Lak**	**90.48**	**54**	P	**P**		**04 28 07.5**	**-1.0**		
	baz=248									
I07A	**Izee**	**90.54**	**43**	*e*P	**P**		**04 28 08.5**	**-0.2**		
	8.9nm,0.8s									
BMN	**Battle Mountai**	**90.58**	**47**	*e*P	**P**		**04 28 08.5**	**-0.5**		
	9.5nm,0.8s									
A04D	**Lummi Island**	**90.60**	**38**	P	**P**		**04 28 07.4**	**-1.3**		
	baz=243									
VNA3	**Neumayer Olymp**	**90.65**	**181**	P	**P**		**04 28 08.9**	**+0.1**		
B05A	**Bryant**	**90.75**	**39**	P	**P**		**04 28 08.4**	**-1.1**		
	baz=243									
J08A	**Circle Bar Ran**	**90.91**	**44**	*e*P	**P**		**04 28 09.6**	**-0.9**		
	14nm,0.8s									
R11A	**Troy Canyon, C**	**90.92**	**50**	P	**P**		**04 28 09.3**	**-1.5**		
	baz=247									
VNA2	**Neumayer--Watz**	**90.93**	**181**	P	**P**		**04 28 10.4**	**+0.4**		
	baz=194,slow=2.9									
LTY	**Liberty**	**91.17**	**40**	*e*P	**P**		**04 28 10.5**	**-1.0**		
	6.3nm,0.8s									
G08A	**Pilot Rock**	**91.40**	**42**	*e*P	**P**		**04 28 11.8**	**-0.9**		
	14nm,0.8s									
HAWA	**Hanford**	**91.50**	**41**	*e*P	**P**		**04 28 13.1**	**+0.1**		
	13nm,0.8s									
LCMT	**Little Creek M**	**92.15**	**52**	*e*P	**P**		**04 28 16.3**	**-0.1**		
	5.3nm,0.9s									
CCUT	**Cedar City**	**92.26**	**51**	*e*P	**P**		**04 28 16.8**	**-0.2**		
	2.7nm,0.9s									
TUC	**Tucson**	**92.39**	**57**	P	**P**		**04 28 16.5**	**-1.1**		
	baz=250									
TUC	**Tucson**	**92.39**	**57**	*e*P	**P**		**04 28 17.2**	**-0.4**		
	3.8nm,1.3s									
B08A	**Colville Reser**	**92.45**	**40**	*e*P	**P**		**04 28 16.3**	**-1.1**		
	5.5nm,1.0s									
X16A	**Lo Mia Camp, P**	**92.60**	**55**	*e*P	**P**		**04 28 18.5**	**-0.2**		
	4.7nm,0.9s									
U15A	**North Rim**	**92.66**	**53**	*e*P	**P**		**04 28 18.7**	**-0.3**		
	5.1nm,0.8s									
319A	**Douglas**	**93.28**	**58**	*e*P	**P**		**04 28 21.8**	**0.0**		
	7.8nm,1.0s									
HLID	**Hailey**	**93.71**	**45**	P	**P**		**04 28 22.9**	**-0.6**		
	baz=248									
HLID	**Hailey**	**93.71**	**45**	*e*P	**P**		**04 28 23.3**	**-0.3**		
	14nm,1.9s									
WMQ	**Urumqi**	**95.81**	**314**	P	**P**		**04 28 33.0**	**0.0**		
WMQ				LR	LR					
	comp=N,630nm,21.5s									
WMQ				LR	LR					
	comp=E,1μm,21.5s									
WMQ				LR	LR					
	comp=Z,650nm,27.7s									
PDAR	**Pinedale Array**	**96.78**	**47**	P	**P**		**04 28 36.7**	**-0.9**		
	0.2nm,0.6s,baz=231,slow=2.9,SNR=2.8									
PDAR					LR	LR	05 07 45.2			
	comp=Z,38nm,18.5s,baz=302,slow=33									
TXAR	**Lajitas Array**	**97.27**	**62**	P	**P**		**04 28 38.6**	**-1.4**		
	0.7nm,0.8s,baz=224,slow=5.2,SNR=6.6									
TXAR					LR	LR	05 06 16.7			
	comp=Z,48nm,18.8s,baz=0.0,slow=32									
YKA	**Yellowknife Ar**	**100.35**	**27**	P	**Pdif**		**04 28 51.0**	**-1.8**		
	0.2nm,0.6s,baz=253,slow=4.6,SNR=7.5									
YKA	**Yellowknife Ar**	**100.35**	**27**	P	**Pdif**		**04 28 51.0**	**-1.8**		
KMBO	**Kilima Mbogo**	**127.97**	**254**	*e*PKPdf	**PKPdf**		**04 34 12.9**	**-0.8**		
AKASG	**Malin Array Be**	**134.13**	**324**	PKP	**PKPdf**		**04 34 23.7**	**-0.2**		
	0.4nm,0.4s,baz=55,slow=2.6,SNR=4.5									
CLL	**Collm**	**141.65**	**335**	*e*PKPdf	**PKPdf**		**04 34 38.0**	**+0.3**		
GERES	**GERESS Array B**	**143.19**	**332**	PKhKP	PKPpre		04 34 37.3			
	0.4nm,0.6s,baz=56,slow=1.8,SNR=3.8									
IDI	**Anoyia**	**143.34**	**305**	PKP	**PKPdf**		**04 34 40.6**	**-0.8**		
	3.5nm,0.7s,baz=143,slow=2.9,SNR=6.6									
MOA	**Molln**	**143.64**	**330**	*i* PKPdf	PKPbc		04 34 40.0	+1.1		
	3.2nm,0.7s									
OBKA	**Obir**	**144.44**	**328**	*i* PKPdf	**PKPab**		**04 34 40.9**	**-0.3**		
	7.6nm,1.2s									
KBA	**Koelnbreinsper**	**144.63**	**330**	*i* PKPdf	**PKPab**		**04 34 40.3**	**-1.7**		
	5.8nm,0.7s									
ABTA	**Abfaltersbach**	**145.27**	**330**	*i* PKPbc	**PKPbc**		**04 34 41.2**	**-2.9**		
	13nm,0.8s									
WTTA	**Wattenberg**	**145.29**	**331**	*i* PKPbc	**PKPbc**		**04 34 41.7**	**-2.6**		
	6.8nm,1.1s									
MOTA	**Moosalm**	**145.47**	**332**	*i* PKPbc	**PKPdf**		**04 34 43.0**	**-1.8**		
	13nm,0.9s									
RETA	**Reutte**	**145.51**	**333**	PKPbc	**PKPdf**		**04 34 42.6**	**-2.2**		
	5.4nm,0.9s									
WLF	**Walferdange**	**145.53**	**339**	*e*PKPbc	**PKPdf**		**04 34 43.9**	**-0.7**		
BFO	**Black Forest**	**145.86**	**336**	*e*PKPbc	**PKPdf**		**04 34 44.2**	**-1.1**		
FETA	**Feichten**	**145.88**	**332**	*i* PKPab	**PKPdf**		**04 34 45.8**	**+0.3**		
	6.8nm,0.8s									
DAVA	**Damuels**	**146.05**	**333**	*i* PKPab	**PKPdf**		**04 34 45.0**	**-0.7**		
	2.7nm,0.6s									
TUE	**Stuetta**	**146.91**	**333**	*e*PKPbc	**PKPdf**		**04 34 48.3**	**+1.0**		
TIP	**Timpagrande**	**147.63**	**316**	*e*PKPbc	**PKPbc**		**04 34 51.5**	**+0.1**		
CUC	**Castrocucco**	**147.80**	**318**	*e*PKPbc	**PKPbc**		**04 34 51.3**	**-0.4**		
AQU	**L'Aquila**	**147.83**	**324**	*e*PKPbc	**PKPbc**		**04 34 50.6**	**-1.1**		
BNI	**Bardonecchia**	**149.18**	**334**	*e*PKPbc	**PKPbc**		**04 34 55.3**	**+0.1**		
SSB	**Saint Sauveur**	**149.84**	**337**	*e*PKPbc	**PKPbc**		**04 34 56.1**	**-0.6**		
TORD	**Torodi Ar. Bea**	**165.96**	**250**	PKP	**PKPdf**		**04 35 12.2**	**-0.2**		
	1.1nm,0.8s,baz=134,slow=0.5,SNR=4.7									
TORD					PKPab		**04 36 14.6**	**+2.2**		
	0.7nm,0.8s,baz=127,slow=2.9,SNR=3.1									

DJA 13 04:19:13.6±0.6, 0°S±4°×12°3E±°, h138km±7km, M4.2/7, mB4.7/1, mb4.4/1, MLv4.1/7, Mw(mB)4.0/1, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**1.05**	**196**	P		Pn	04 19 38.5	+0.7
LUWI				S		Sn	04 19 57.3	+1.1
MRSI	**Marisa**	**1.22**	**294**	P		Pn	04 19 39.4	0.0
APSI	**Ampana**	**1.67**	**238**	P		Pn	04 19 44.2	+0.1
MPSI	**Mapaga**	**3.18**	**276**	P		Pn	04 20 02.9	0.0
PCI	**Palu**	**3.34**	**255**	P		Pn	04 20 05.4	+0.5
SANI	**Sanana**	**3.56**	**125**	P		Pn	04 20 06.3	-1.4
NLAI	**Namlea**	**5.15**	**128**	P		Pn	04 20 29.2	+0.3

*NEIC **13** 04:19:57.6±0.0, 16°.33N×98°.29W, h7km, MD4.1(MEX), After MEX.*

MEX 13 04:19:57.6±0.6, 16°.32N×98°.29W, h7km±10km, MD4.1, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.17**	**67**	*i* P		Pg	04 20 00.7	-0.5
PNIG				*i* S		Sg	04 20 03.7	+0.1
PNIG	**Pinotepa**	**0.17**	**67**	*i* P		Pg	04 20 00.7	-0.5
PNIG				*i* S		Sg	04 20 03.7	+0.1
TLIG	**Tlapa**	**1.26**	**348**	*e*P		Pn	04 20 18.4	-3.4
TLIG				*e*S		Sg	04 20 33.2	-5.0
TLIG	**Tlapa**	**1.26**	**348**	*e*P		Pn	04 20 18.4	-3.4
TLIG				*e*S		Sg	04 20 33.2	-5.0
VHO	**Vista Hermosa**	**1.67**	**63**	*e*P		Pn	04 20 23.9	-3.6
VHO				*e*S		Sn	04 20 44.5	-4.7
VHO	**Vista Hermosa**	**1.67**	**63**	*e*P		Pn	04 20 23.9	-3.6
VHO				*e*S		Sn	04 20 44.5	-4.7
CAIG	**El Cayaco**	**2.02**	**291**	*e*P		Pn	04 20 28.4	-3.7
CAIG				*e*S		Sn	04 20 53.6	-4.1
CAIG	**El Cayaco**	**2.02**	**291**	*e*P		Pn	04 20 28.4	-3.7
CAIG				*e*S		Sn	04 20 53.6	-4.1

*ISN **13** 04:22:05.4±1.2, 38°.67N×42°.67E, h13km±47km, ML4.5*
*MOS **13** 04:22:06.9±1.4, 38°.53N×43°.19E, h7km, mb4.3/18, Error ellipse: s-maj=6.3km s-min=4.7km az=76.0*
*ATA **13** 04:22:07.8±0.9, 38°.70N×43°.18E, h15km±8km, ML4.6, MW4.5, Fault plane solution: NP1:φ=42.90000°, δ=54.07000°, λ=37.45000°.*
*IDC **13** 04:22:07.4±0.7, 38°.62N×43°.16E, h0km, mb4.0/22, mb1 4.0/25, mb1mx3.9/70, mbtmp4.0/25, ML3.3/4, MS3.3/6, Ms1 3.3/6, ms1mx2.7/64, Error ellipse: s-maj=16.3km s-min=9.6km az=169.0*
*ISK **13** 04:22:07.7, 38°.67N×43°.18E, h5km, ML4.2/19*
*DDA **13** 04:22:08.1, 38°.68N×43°.23E, h22km, Ml4.3*
*NEIC **13** 04:22:08.2±0.0, 38°.67N×43°.18E, h5km, mb4.3/23, ML4.2(ISK), After ISK.*
*ISCJB **13** 04:22:09.0±0.4, 38°.63N±0°.02×43°.25E±0°.02, h11km±2km, mb4.2/47, Error ellipse: s-maj=3.0km s-min=2.2km az=154.0*
*CSEM **13** 04:22:09.8±0.1, 38°.62N×43°.25E, h10km, mb4.3/24, Error ellipse: s-maj=4.4km s-min=3.0km az=158.0*

ISC 13 04:22:09.4±0.7, 38°.67N±0°.01×43°.21E±0°.01, h10km±4km, n355, σ1§66/414, mb4.3/47, 21C-67D, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
VANB	**Van**	**0.16**	**119**	PG		**Pg**	**04 22 13.5**	**+0.3**
VANB				SG		**Sg**	**04 22 17.8**	**+2.3**
VANB	**Van**	**0.16**	**119**	Pg		**Pg**	**04 22 13.5**	**+0.5**
VANB	**Van**	**0.16**	**119**	*e*Pg		**Pg**	**04 22 13.5**	**+0.5**
TVAN	**Van**	**0.21**	**134**	⇓*i*P		**Pg**	**04 22 13.5**	**-0.4**
TVAN				*i* S		**Sg**	**04 22 17.6**	**+0.7**
TVAN	**Van**	**0.21**	**134**	P		**Pg**	**04 22 13.5**	**-0.4**
TVAN				S		**Sg**	**04 22 17.6**	**+0.7**
ERCV	**ERCIS-VAN**	**0.36**	**16**	PG		**Pg**	**04 22 15.6**	**-1.0**
ERCV				SG		**Sb**	**04 22 22.6**	**-1.2**
ERCV	**ERCIS-VAN**	**0.36**	**16**	*e*Pg		**Pg**	**04 22 15.6**	**-1.0**
ERCV				*e*Sg		**Sb**	**04 22 22.6**	**-1.2**
GEVA	**Gevas**	**0.38**	**199**	⇓*i*P		**Pg**	**04 22 16.1**	**-0.9**
GEVA				*e*S		**Sg**	**04 22 23.3**	**+1.3**
GEVA				IAML			04 22 26.9	
	comp=Z,14μm,0.5s							
GEVA	**Gevas**	**0.38**	**199**	⇓*i*P		**Pg**	**04 22 16.1**	**-0.9**
GEVA				*i* S		**Sg**	**04 22 23.4**	**+1.4**
GEVA	**Gevas**	**0.38**	**199**	P		**Pg**	**04 22 16.1**	**-0.9**
GEVA				S		**Sg**	**04 22 23.4**	**+1.4**
ADCV	**BITLIS_Adilcev**	**0.41**	**290**	⇓*i*P		**Pg**	**04 22 17.0**	**-0.4**
ADCV				*i* S		**Sg**	**04 22 23.9**	**+1.1**
ADCV	**BITLIS_Adilcev**	**0.41**	**290**	P		**Pg**	**04 22 17.0**	**-0.4**
ADCV				S		**Sg**	**04 22 23.9**	**+1.1**
VMUR	**Van-Muradiye**	**0.42**	**42**	⇓*i*P		**Pg**	**04 22 17.5**	**-0.3**
VMUR				*i* S		**Sb**	**04 22 24.9**	**-0.7**
VMUR	**Van-Muradiye**	**0.42**	**42**	P		**Pg**	**04 22 17.5**	**-0.3**
VMUR				S		**Sb**	**04 22 24.9**	**-0.7**
CLDR	**Caldiran**	**0.72**	**49**	⇓*i*P		**Pg**	**04 22 21.4**	**-2.0**
CLDR				*i* S		**Sg**	**04 22 32.8**	**-0.1**
CLDR	**Caldiran**	**0.72**	**49**	P		**Pg**	**04 22 21.4**	**-2.0**
CLDR				S		**Sg**	**04 22 32.8**	**-0.1**
TUTA	**Tutak**	**0.79**	**337**	⇓*i*P		**Pg**	**04 22 23.5**	**-1.3**
TUTA				*e*S		**Sg**	**04 22 34.4**	**-0.7**
TUTA				IAML			04 22 37.2	
	comp=Z,4μm,0.5s							
TUTA	**Tutak**	**0.79**	**337**	⇓*i*P		**Pg**	**04 22 23.4**	**-1.3**
TUTA				*i* S		**Sg**	**04 22 34.4**	**-0.7**
TUTA	**Tutak**	**0.79**	**337**	P		**Pg**	**04 22 23.5**	**-1.3**
TUTA				S		**Sg**	**04 22 34.4**	**-0.7**
AGRB	**Hanur-Agry**	**0.92**	**349**	PG		**Pg**	**04 22 25.7**	**-1.4**
AGRB	**Hanur-Agry**	**0.92**	**349**	Pg		**Pg**	**04 22 25.7**	**-1.4**
AGRB	**Hanur-Agry**	**0.92**	**349**	*e*Pg		**Pg**	**04 22 25.7**	**-1.4**
GURO	**Guroymak-BITLI**	**0.93**	**263**	PG		**Pg**	**04 22 26.2**	**-1.2**
GURO				SG		**Sg**	**04 22 39.5**	**0.0**
GURO	**Guroymak-BITLI**	**0.93**	**263**	*e*Pg		**Pg**	**04 22 26.2**	**-1.2**
GURO				*e*Sg		**Sg**	**04 22 39.5**	**0.0**
DYDN	**Diyadin**	**0.94**	**23**	⇓*i*P		**Pg**	**04 22 25.9**	**-1.8**
DYDN				IAML			04 22 47.9	
	comp=Z,867nm,0.4s							
DYDN	**Diyadin**	**0.94**	**23**	⇓*i*P		**Pg**	**04 22 25.9**	**-1.8**
DYDN				*i* S		**Sn**	**04 22 43.1**	**+0.4**
DYDN	**Diyadin**	**0.94**	**23**	P		**Pg**	**04 22 25.9**	**-1.8**
DYDN				S		**Sn**	**04 22 43.1**	**+0.4**
EKAR	**Karacoban**	**1.07**	**303**	⇓*i*P		**Pg**	**04 22 28.0**	**-2.0**
EKAR				*e*S		**Sb**	**04 22 44.4**	**+0.1**
EKAR				IAML			04 22 57.5	
	comp=Z,1μm,0.5s							
EKAR	**Karacoban**	**1.07**	**303**	⇓*i*P		**Pg**	**04 22 28.0**	**-2.0**
EKAR				*i* S		**Sn**	**04 22 50.1**	**+4.4**
EKAR	**Karacoban**	**1.07**	**303**	P		**Pg**	**04 22 28.0**	**-2.0**
EKAR				S		**Sn**	**04 22 50.1**	**+4.4**
HAKT	**HAKKARI**	**1.18**	**161**	⇓*i*P		**Pb**	**04 22 29.9**	**-2.1**
HAKT				*i* S		**Sn**	**04 22 50.2**	**+1.7**
HAKT	**HAKKARI**	**1.18**	**161**	P		**Pb**	**04 22 29.9**	**-2.1**
HAKT				S		**Sn**	**04 22 50.2**	**+1.7**
SRTM	**Siirt_Merkez**	**1.22**	**237**	⇓*i*P		**Pn**	**04 22 31.2**	**-1.5**
SRTM				*i* S		**Sn**	**04 22 49.5**	**+0.2**
SRTM	**Siirt_Merkez**	**1.22**	**237**	P		**Pn**	**04 22 31.2**	**-1.5**
SRTM				S		**Sn**	**04 22 49.5**	**+0.2**
EATA	**Eleskirt**	**1.31**	**335**	⇓*i*P		**Pn**	**04 22 32.9**	**-1.2**
EATA				*e*S		**Sn**	**04 22 52.1**	**+0.2**
EATA				IAML			04 22 56.8	
	comp=Z,432nm,0.6s							
EATA	**Eleskirt**	**1.31**	**335**	⇓*i*P		**Pn**	**04 22 32.9**	**-1.2**
EATA				*i* S		**Sn**	**04 22 51.8**	**-0.1**
EATA	**Eleskirt**	**1.31**	**335**	P		**Pn**	**04 22 32.9**	**-1.2**
EATA				S		**Sn**	**04 22 51.8**	**-0.1**
SIRT	**Sirnak**	**1.32**	**208**	PN		**Pb**	**04 22 34.5**	**+0.2**
SIRT				SN		**Sg**	**04 22 52.4**	**+0.5**
SIRT	**Sirnak**	**1.32**	**208**	*e*Pn		**Pb**	**04 22 34.5**	**+0.2**
SIRT				*e*Sn		**Sg**	**04 22 52.4**	**+0.5**
SIRN	**S¨–rnak**	**1.33**	**208**	⇓*i*P		**Pn**	**04 22 32.7**	**-1.5**
SIRN				*i* S		**Sg**	**04 22 53.0**	**+0.6**
SIRN	**S¨–rnak**	**1.33**	**208**	S		**Sg**	**04 22 53.0**	**+0.6**
IGDI	**IGDIR**	**1.37**	**29**	⇓*i*P		**Pn**	**04 22 33.9**	**-0.8**
IGDI				*e*S		**Sg**	**04 22 54.2**	**+0.7**
IGDI				IAML			04 22 59.1	
	comp=Z,479nm,0.6s							
IGDI	**IGDIR**	**1.37**	**29**	⇓*i*P		**Pn**	**04 22 33.9**	**-0.8**
IGDI				*i* S		**Sg**	**04 22 55.5**	**+2.0**
YOVA	**Hakkari_Y¨…kse**	**1.38**	**142**	⇓*i*P		**Pn**	**04 22 33.8**	**-1.1**
YOVA				*i* S		**Sg**	**04 22 55.4**	**+1.6**
YOVA	**Hakkari_Y¨…kse**	**1.38**	**142**	P		**Pn**	**04 22 33.8**	**-1.1**
YOVA				S		**Sg**	**04 22 55.4**	**+1.6**
VRTB	**Varto-Mus**	**1.45**	**290**	PN		**Pn**	**04 22 36.4**	**+0.5**
VRTB	**Varto-Mus**	**1.45**	**290**	⇑*i*P		**Pn**	**04 22 35.9**	**0.0**
VRTB				*i* S		**Sg**	**04 22 59.1**	**+2.9**
VRTB	**Varto-Mus**	**1.45**	**290**	Pn		**Pb**	**04 22 36.6**	**-0.1**
VRTB	**Varto-Mus**	**1.45**	**290**	P		**Pn**	**04 22 35.9**	**0.0**
VRTB	**Varto-Mus**	**1.45**	**290**	Pn		**Pb**	**04 22 36.6**	**-0.1**
VRTB				S		**Sg**	**04 22 59.1**	**+2.9**
TASB	**TASBURUN-IGDIR**	**1.53**	**31**	PN		**Pn**	**04 22 37.4**	**+0.5**
TASB				SN		**Sg**	**04 23 00.1**	**+1.4**
TASB	**TASBURUN-IGDIR**	**1.53**	**31**	*e*Pn		**Pn**	**04 22 37.4**	**+0.5**
TASB				*e*Sn		**Sg**	**04 23 00.1**	**+1.4**
HYR	**Heyderabad**	**1.65**	**50**	⇑P		**Pb**	**04 22 39.3**	**-0.6**
SVAN	**Silvan-Diyarba**	**1.67**	**252**	PN		**Pn**	**04 22 38.9**	**+0.2**
SVAN	**Silvan-Diyarba**	**1.67**	**252**	*e*P		**Pn**	**04 22 39.1**	**+0.4**
SVAN				*i* S		**Sb**	**04 23 02.0**	**+0.7**
SVAN	**Silvan-Diyarba**	**1.67**	**252**	Pn		**Pb**	**04 22 39.8**	**-0.4**
SVAN	**Silvan-Diyarba**	**1.67**	**252**	P		**Pn**	**04 22 39.1**	**+0.4**
SVAN	**Silvan-Diyarba**	**1.67**	**252**	Pn		**Pb**	**04 22 39.8**	**-0.4**
SVAN				S		**Sb**	**04 23 02.0**	**+0.7**
HOMI	**Horasan**	**1.70**	**324**	⇓*i*P		**Pn**	**04 22 38.9**	**-0.6**
HOMI				IAML			04 23 13.2	
	comp=Z,527nm,0.6s							
HOMI	**Horasan**	**1.70**	**324**	⇓*i*P		**Pn**	**04 22 38.8**	**-0.6**
HOMI				*i* S		**Sg**	**04 23 05.1**	**+0.9**
BTMN	**Batman**	**1.72**	**244**	⇑*i*P		**Pn**	**04 22 39.8**	**+0.3**
BTMN				*i* S		**Sb**	**04 23 03.9**	**+1.1**
BTMN	**Batman**	**1.72**	**244**	P		**Pn**	**04 22 39.8**	**+0.3**
BTMN				S		**Sb**	**04 23 03.9**	**+1.1**
DIGO	**Kars**	**1.74**	**4**	⇓*i*P		**Pn**	**04 22 39.6**	**-0.3**
DIGO				IAML			04 23 12.9	
	comp=Z,118nm,0.5s							
DIGO	**Kars**	**1.74**	**4**	⇓*i*P		**Pn**	**04 22 39.7**	**-0.3**
DIGO				*i* S		**Sg**	**04 23 07.2

REFA IAML 04 24 17.5
comp=Z,10nm,0.8s
DDFL Dedoflistskaro 3.56 38 P **Pb** **04 23 14.6 +2.1**
DDFL S **Sg** **04 24 07.2 +3.6**
DUS Dusheti 3.60 18 P **Pb** **04 23 14.6 +1.4**
DUS Dusheti 3.60 18 *eP* **Pb** **04 23 14.6 +1.4**
MNGR Mingechevir, A 3.65 54 ⇓P **Pn** **04 23 06.6 +0.7**
MNGR Mingechevir, A 3.65 54 P **Pn** **04 23 06.6 +0.7**
URFA Urfa 3.68 252 PN **Pn** **04 23 07.7 +1.3**
URFA Urfa 3.68 252 Pn **Pn** **04 23 08.9 +2.5**
URFA Urfa 3.68 252 *ePn* **Pn** **04 23 07.7 +1.3**
ILIC ilic-Erzincan 3.70 284 PN **Pn** **04 23 08.2 +1.5**
ILIC ilic-Erzincan 3.70 284 Pn **Pn** **04 23 08.7 +1.9**
ILIC ilic-Erzincan 3.70 284 *ePn* **Pn** **04 23 08.2 +1.5**
KEMA Kemaliye 3.73 281 *eP* **Pn** **04 23 08.3 +1.2**
KEMA IAML 04 24 25.9
comp=Z,4.1nm,0.6s
MALT Malatya 3.77 266 PN **Pn** **04 23 08.7 +1.0**
MALT Malatya 3.77 266 Pn **Pn** **04 23 09.8 +2.1**
MALT Malatya 3.77 266 *ePn* **Pn** **04 23 08.7 +1.0**
MALT Malatya 3.77 266 P **Pn** **04 23 09.8 +2.1**
MALT Malatya 3.77 266 P **Pn** **04 23 09.8 +2.1**
ONI Oni 3.92 3 P **Pb** **04 23 20.0 +1.4**
ONI S **Sg** **04 24 16.4 +1.2**
ONI Oni 3.92 3 *eP* **Pb** **04 23 20.0 +1.4**
ZKTA Zakatala 3.95 40 P **Pn** **04 23 10.7 +0.6**
ZKTA Zakatala 3.95 40 P **Pn** **04 23 10.7 +0.6**
SEKA Sheki 3.97 49 ⇓P **Pn** **04 23 12.8 +2.3**
SEKA Sheki 3.97 49 P **Pn** **04 23 12.8 +2.3**
GLBA Clilabad 4.08 80 ⇑P **Pn** **04 23 13.6 +1.8**
ESPY Espiye-Giresun 4.12 304 PN **Pn** **04 23 14.5 +2.1**
ESPY Espiye-Giresun 4.12 304 *ePn* **Pn** **04 23 14.5 +2.1**
ZEI Tsey 4.14 7 *eP* **Pn** **04 23 14.2 +1.3**
ZEI pmax pmax
comp=Z,61nm,0.8s
LKRN Lenkeran, Azer 4.36 88 P **Pn** **04 23 17.1 +1.5**
XNQ Khinaliq 4.54 55 ⇑P **Pn** **04 23 20.2 +1.9**
NEY Neytrino 4.59 356 *eP* **Pn** **04 23 21.3 +2.3**
NEY Neytrino 4.59 356 ⇓*eP* **Pn** **04 23 21.3 +2.3**
PQL Pirkuli 4.66 61 ⇑P **Pn** **04 23 21.2 +1.3**
GBS Qobustan 4.80 65 ⇑P **Pn** **04 23 23.3 +1.5**
QSAR Qusar 4.80 52 ⇓P **Pn** **04 23 23.3 +1.5**
QSAR ⇑S **Sn** **04 24 22.3 +4.8**
NCK Nalchik 4.83 3 *eP* **Pn** **04 23 25.8 +3.7**
NCK Nalchik 4.83 3 ⇓*eP* **Pn** **04 23 25.8 +3.7**
ATGJ Altiaghaj 4.92 62 ⇓P **Pn** **04 23 24.5 +0.9**
GROC Groznyy 4.93 23 P **Pb** **04 23 35.8 0.0**
GROC pmax pmax
comp=Z,76nm,1.4s
KBZ Khabaz 5.06 357 Pn Pb 04 23 32.0 -5.9
comp=Z,0.2nm,0.3s,baz=199,slow=8.5,SNR=6.4
KIV Kislovodsk 5.29 356 *ePg* **Pg** **04 23 48.0 -2.8**
KIV Kislovodsk 5.29 356 *eP* **Pn** **04 23 32.3 +3.7**
comp=Z,47nm,8.0s
KIV Kislovodsk 5.29 356 *ePg* **Pg** **04 23 48.0 -2.8**
KIV Kislovodsk 5.29 356 *eP* **Pn** **04 23 32.3 +3.7**
KIV pmax pmax
comp=Z,8.0nm,1.0s
KIV MLR MLR
comp=Z,47nm,8.0s
MAK Makhachkala 5.38 36 *eP* **Pn** **04 23 29.2 -0.5**
comp=Z,141nm,1.2s
MAK *eS* **Sn** **04 24 30.7 -1.0**
comp=Z,188nm,12.0s
MAK Makhachkala 5.38 36 *eP* **Pn** **04 23 29.2 -0.5**
MAK *eS* **Sn** **04 24 30.7 -1.0**
MAK pmax pmax
comp=Z,141nm,1.2s
MAK MLR MLR
comp=Z,188nm,12.0s
BHD Baghdad 5.47 170 *ePn* **Pn** **04 23 29.0 -2.0**
SNR=5.0
SOC Sochi 5.57 333 *eP* **Pn** **04 23 33.4 +1.1**
comp=Z,176nm,12.0s
SOC Sochi 5.57 333 *eP* **Pn** **04 23 33.4 +1.1**
SOC *e* 04 24 41.8
SOC MLR MLR
comp=Z,176nm,12.0s
BRTR Keskin Array B 7.51 281 Pn **Pn** **04 24 00.8 +1.7**
comp=Z,0.1nm,0.3s,baz=110,slow=13,SNR=3.6
BR231 Keskin MP Arra 8.18 281 *ePn* **Pn** **04 24 07.2 -1.1**
BR231 Keskin MP Arra 8.18 281 *ePn* **Pn** **04 24 07.2 -1.1**
ASF Jabal al Asfar 8.28 220 Pn **Pn** **04 24 09.3 -0.4**
comp=Z,0.1nm,0.3s,baz=7.6,slow=15,SNR=2.9
ASF Lg Lg 04 26 27.7
comp=Z,0.3nm,0.3s,baz=162,slow=20,SNR=2.4
MMAI Mount Meron Ar 8.49 231 Pn **Pn** **04 24 15.0 +2.5**
comp=Z,0.3nm,0.3s,baz=66,slow=14,SNR=2.8
MMAI Lg Lg 04 26 38.8
comp=Z,0.4nm,0.3s,baz=56,slow=39,SNR=3.4
CSS Mathiatis 8.75 248 *ePn* **Pn** **04 24 16.4 +0.4**
CSS Mathiatis 8.75 248 *ePn* **Pn** **04 24 16.4 +0.4**
VRI Vrincioaia 14.15 306 ⇑*iP* P 04 25 44.0 +6.5
PLOR Plostina 14.19 306 ⇑*iP* P 04 25 44.5 +6.5
SORM Soroca 14.33 316 ⇑*iP* **P** **04 25 39.9 +0.4**
SORM Soroca 14.33 316 P **P** **04 25 39.9 +0.4**
SORM Soroca 14.33 316 ⇑P **P** **04 25 39.9 +0.4**
MLR Muntele Rosu 14.51 304 Pn **P** **04 25 40.3 -1.3**
comp=Z,0.0nm,0.3s,baz=27,slow=15,SNR=4.7
MLR Muntele Rosu 14.57 304 ⇓*iP* **P** **04 25 44.8 +3.2**
MLR Muntele Rosu 14.51 304 *ePn* **P** **04 25 40.9 -0.7**
MLR Muntele Rosu 14.51 304 P **P** **04 25 44.8 +3.2**
MLR Muntele Rosu 14.51 304 ⇓P **P** **04 25 44.8 +3.2**
IDI Anoyia 15.03 263 Pn **P** **04 25 46.9 -0.4**
comp=Z,0.6nm,0.3s,baz=0.0,slow=2.0,SNR=7.0
IDI Anoyia 15.03 263 ⇓*iP* **P** **04 25 45.5 -1.8**
IDI Anoyia 15.03 263 *ePn* **P** **04 25 45.6 -1.7**
comp=Z,90nm,1.9s
DOPR Dopca 15.05 305 ⇓*iP* **P** **04 25 50.6 +3.2**
DOPR Dopca 15.05 305 ⇓*iP* **P** **04 25 50.6 +3.2**
VOIR 15.07 302 ⇑*iP* **P** **04 25 51.4 +3.6**
VOIR 15.07 302 P **P** **04 25 51.4 +3.6**
VOIR 15.07 302 ⇑P **P** **04 25 51.4 +3.6**
RAYN Ar Rayn 15.23 172 *ePn* **Pn** **04 25 40.6 -4.0**
RAYN Ar Rayn 15.23 172 *eP* **Pn** **04 25 40.6 -4.0**
ARR Arges 15.33 302 ⇓*iP* **P** **04 25 53.7 +3.1**
ARR Arges 15.33 302 ⇓*iP* **P** **04 25 53.7 +3.1**
AKASG Malin Array Be 15.57 325 Pn **Pn** **04 25 47.2 -1.7**
comp=Z,1.0nm,0.3s,baz=128,slow=13,SNR=11
AKBB Malin Array Si 15.57 325 *ePn* **P** **04 25 56.3 +3.1**
comp=Z,16nm,1.4s
AKBB Malin Array Si 15.57 325 *eP* **P** **04 25 56.3 +3.1**
comp=Z,16nm,1.4s
AKBB Malin Array Si 15.57 325 *eP* **P** **04 25 56.3 +3.1**
AKBB pmax pmax
comp=Z,16nm,1.4s
KIEV Kiev 15.57 325 *ePn* **Pn** **04 25 47.0 -1.9**
comp=Z,13nm,1.3s
KIEV Kiev 15.57 325⇓*eP* **P** **04 25 55.4 +2.2**
KIEV pmax pmax
comp=Z,11nm,1.6s
AK11 Malin Array Si 15.58 325 *ePn* **P** **04 25 55.1 +1.9**
VTS Vitosha 15.68 291 ⇓*iP* **P** **04 25 57.3 +2.7**
VTS Vitosha 15.68 291 *ePn* **P** **04 25 57.1 +2.5**
comp=Z,7.7nm,1.2s
VTS Vitosha 15.68 291 P **P** **04 25 57.3 +2.7**
VTS Vitosha 15.68 291 ⇓P **P** **04 25 57.3 +2.7**
AKTO Aktyubinsk 15.76 37 Pn **Pn** **04 25 49.9 -1.5**
comp=Z,0.2nm,0.3s,baz=225,slow=11,SNR=5.3
AKTO LR LR 04 33 42.7
comp=Z,74nm,18.6s,baz=228,slow=44
AKTO Aktyubinsk 15.76 37 P **Pn** **04 25 46.8 -4.6**
AKTO pmax pmax
comp=Z,9.0nm,1.2s
BURAR Bucovina Array 15.86 310 ⇓*iP* **P** **04 25 58.2 +1.7**
BURAR Bucovina Array 15.86 310 ⇓*iP* **P** **04 25 58.2 +1.7**
BURAR Bucovina Array 15.86 310 ⇓P **P** **04 25 58.2 +1.7**
BUR04 Bucovina Ar. S 15.86 310 *ePn* **P** **04 25 57.9 +1.3**
BUR08 Bucovina Ar. S 15.88 310 *ePn* **P** **04 25 58.0 +1.2**
LOT Lotru 15.93 301 ⇓*iP* **P** **04 25 59.3 +2.0**
LOT Lotru 15.93 301 ⇓*iP* **P** **04 25 59.3 +2.0**
AB31 Akbulak array 15.99 43 *iP* **Pn** **04 25 54.2 -0.2**
AB31 pmax pmax
comp=Z,1.0nm,0.6s
ABKAR Akbulak array 15.99 43 *ePn* **Pn** **04 25 54.7 +0.3**
comp=Z,17nm,0.7s
ABKAR Akbulak array 15.99 43 *ePn* **Pn** **04 25 54.7 +0.3**
comp=Z,17nm,0.7s
OBN Obninsk 17.05 347⇓*eP* **P** **04 26 10.6 +1.1**
OBN pmax pmax
comp=Z,11nm,0.7s
OBN MLR MLR
comp=Z,93nm,17.0s

DRGR 17.07 305 ⇓*iP* **P** **04 26 13.6 +3.6**
DRGR 17.07 305 P **P** **04 26 13.6 +3.6**
DRGR 17.07 305 ⇓P **P** **04 26 13.6 +3.6**
SIRR Siria 17.58 302 ⇓*iP* **P** **04 26 18.2 +2.6**
DIVS Divibare 18.22 295 *eP* **P** **04 26 26.0 +3.3**
comp=Z,8.6nm,1.3s
DIVS Divibare 18.22 295 *eP* **P** **04 26 26.0 +3.3**
comp=Z,8.6nm,1.3s
PSZ Piszkesteto 19.26 306 ⇓*iP* **Pn** **04 26 37.3 +2.2**
PSZ Piszkesteto 19.26 306 *eP* **P** **04 26 33.1 -1.0**
comp=Z,21nm,1.5s
PSZ Piszkesteto 19.26 306 ⇓P **Pn** **04 26 37.3 +2.2**
VYHS Vyhne 20.13 307 *eP* Pn 04 26 44.7 -0.6
comp=Z,7.0nm,1.4s
VYHS Vyhne 20.13 307 *eP* Pn 04 26 44.7 -0.6
VYHS Vyhne 20.13 307 *eP* Pn 04 26 44.7 -0.6
VYHS pmax pmax
comp=Z,7.0nm,1.4s
WSAR Wadi Sarin 20.24 135 P **P** **04 26 44.8 -0.1**
comp=Z,3.0nm,0.6s,baz=342,slow=10.0,SNR=4.9
ARU Arti 20.48 25 P **P** **04 26 48.2 +1.0**
comp=Z,4.3nm,0.2s,baz=218,slow=2.0,SNR=7.0
ARU LR LR 04 36 49.4
comp=Z,51nm,18.5s,baz=224,slow=43
ARU Arti 20.48 25 *eP* **P** **04 26 48.1 +1.0**
comp=Z,13nm,1.0s
ARU Arti 20.48 25*d iP* **P** **04 26 48.0 +0.8**
ARU 04 27 05.9
ARU S Sn 04 30 39.4 -0.6
ARU SS **SnSn** **04 30 56.6 +2.1**
ARU pmax pmax
comp=Z,10.0nm,1.0s
TIP Timpagrande 20.57 280 ⇓*iP* **P** **04 26 48.3 -0.1**
TIP Timpagrande 20.57 280 *eP* **P** **04 26 48.5 +0.1**
comp=Z,17nm,1.0s
TIP Timpagrande 20.57 280 *eP* **P** **04 26 48.5 +0.1**
comp=Z,17nm,1.0s
KK31 Karatay Array 21.07 69 *eP* **P** **04 26 56.7 +3.0**
KK31 Karatay Array 21.07 69 *eP* **P** **04 26 56.7 +3.0**
KKAR Karatay Array 21.07 69 *eP* **P** **04 26 56.7 +3.0**
KKAR Karatay Array 21.07 69 *eP* **P** **04 26 56.7 +3.0**
CUC Castrocucco 21.21 282 *eP* **P** **04 26 56.9 +1.7**
comp=Z,3.7nm,0.7s
CUC Castrocucco 21.21 282 *eP* **P** **04 26 56.9 +1.7**
comp=Z,3.7nm,0.7s
MORC Moravsky Berou 21.38 310 *eP* **P** **04 26 57.9 +0.9**
comp=Z,7.1nm,0.9s
MORC Moravsky Berou 21.38 310 *eP* **P** **04 26 57.9 +0.9**
comp=Z,7.1nm,0.9s
MORC Moravsky Berou 21.38 310 *eP* **P** **04 26 57.9 +0.9**
MORC pmax pmax
comp=Z,7.0nm,0.9s
CONA Conrad Observa 21.85 304 P **P** **04 27 03.6 +1.5**
comp=Z,6.0nm,0.9s
CONA Conrad Observa 21.85 304 *i* P **P** **04 27 03.6 +1.5**
comp=Z,6.0nm,0.9s
DPC Dobruska-Polom 22.32 310 *eP* **P** **04 27 08.3 +1.2**
DPC Dobruska-Polom 22.32 310 *eP* **P** **04 27 08.3 +1.2**
DPC Dobruska-Polom 22.32 310 *eP* **P** **04 27 08.3 +1.2**
KLMR Klimovskoe 22.32 355 *eP* **P** **04 27 05.6 -1.4**
KLMR AMP 04 27 13.2
comp=Z,16nm,1.0s
KLMR Klimovskoe 22.32 355 *eP* **P** **04 27 05.5 -1.4**
KLMR pmax pmax
comp=Z,16nm,1.0s
VSU Vasula 22.49 337*c iP* **P** **04 27 13.5 +4.8**
VSU pmax pmax
comp=Z,49nm,1.2s
AQU L'Aquila 22.90 289 *eP* **P** **04 27 10.7 -2.7**
comp=Z,21nm,1.1s
AQU L'Aquila 22.90 289 *eP* **P** **04 27 10.7 -2.7**
AQU pmax pmax
comp=Z,21nm,1.1s
KBA Koelnbreinsper 23.33 301 P **P** **04 27 19.1 +1.2**
comp=Z,4.8nm,1.0s
KBA Koelnbreinsper 23.33 301 *i* P **P** **04 27 19.1 +1.2**
comp=Z,4.8nm,1.0s
GEA0 GERESS Array S 23.48 305 *eP* **P** **04 27 22.2 +3.0**
GEC2 GERESS Array S 23.48 305 *eP* **P** **04 27 22.1 +2.9**
comp=Z,11nm,1.6s
GEC2 GERESS Array S 23.48 305 *eP* **P** **04 27 22.1 +2.9**
comp=Z,11nm,1.6s
GEC2 GERESS Array S 23.48 305 *eP* **P** **04 27 22.1 +2.9**
GEC2 pmax pmax
comp=Z,11nm,1.6s
GERES GERESS Array B 23.48 305 P **P** **04 27 19.2 0.0**
comp=Z,0.4nm,0.5s,baz=85,slow=8.2,SNR=4.9
GERES LR LR 04 36 13.1
comp=Z,26nm,21.2s,baz=94,slow=36
BRVK Borovoye 23.53 43 *eP* **P** **04 27 20.1 +0.5**
comp=Z,9.2nm,1.3s
BRVK Borovoye 23.53 43⇓*eP* **P** **04 27 20.0 +0.5**
BRVK pmax pmax
comp=Z,14nm,1.0s
BVA0 Borovoye Array 23.57 44 P **P** **04 27 17.7 -2.2**
BVA0 pmax pmax
comp=Z,7.0nm,1.3s
BVAR Borovoye Array 23.57 44 P **P** **04 27 19.8 -0.1**
comp=Z,2.3nm,0.9s,baz=238,slow=8.5,SNR=9.4
KHC Kasperske Hory 23.63 306 *eP* **P** **04 27 17.5 -3.1**
KHC Kasperske Hory 23.63 306 *eP* **P** **04 27 17.5 -3.1**
AAK Ala-Archa 23.99 70 P **P** **04 27 25.9 +1.6**
comp=Z,0.8nm,0.5s,baz=238,slow=10,SNR=5.1
AAK Ala-Archa 23.99 70 *eP* **P** **04 27 26.4 +2.1**
comp=Z,3.5nm,1.1s
AAK Ala-Archa 23.99 70 *eP* **P** **04 27 25.7 +1.4**
comp=Z,7.0nm,1.9s
AAK Ala-Archa 23.99 70⇓*eP* **P** **04 27 25.7 +1.4**
AAK pmax pmax
comp=Z,7.0nm,1.9s
FRU Bishkek 24.07 70 *eP* **P** **04 27 26.0 +1.1**
FRU Bishkek 24.07 70 *eP* **P** **04 27 26.0 +1.1**
WTTA Wattenberg 24.51 301 P **P** **04 27 30.0 +0.9**
comp=Z,6.6nm,0.8s
WTTA Wattenberg 24.51 301 *i* pP **P** **04 27 30.0 +0.9**
comp=Z,6.6nm,0.8s
WTTA *i* pP **pP** **04 27 30.2 -1.9**
WATA Walderalm 24.57 301 *i* P **P** **04 27 31.2 +1.7**
comp=Z,14nm,1.1s
MOTA Moosalm 24.88 301 P **P** **04 27 32.7 +0.3**
comp=Z,15nm,0.9s
MOTA Moosalm 24.88 301 *i* P **P** **04 27 32.7 +0.3**
comp=Z,15nm,0.9s
FIA1 FINESS Array S 25.15 341 *eP* **P** **04 27 36.1 +1.7**
FINES FINESS Array B 25.15 341 P **P** **04 27 34.3 -0.1**
comp=Z,2.4nm,0.9s,baz=317,slow=11,SNR=5.5
GRFO Grafenberg 25.26 306 *eP* **P** **04 27 35.4 -0.2**
comp=Z,20nm,1.0s
GRFO Grafenberg 25.26 306 *eP* **P** **04 27 35.4 -0.2**
GRFO pmax pmax
comp=Z,20nm,1.0s
KURBB Kurchatov Arra 27.55 53 P **P** **04 27 57.1 +0.8**
comp=Z,2.5nm,0.7s,baz=264,slow=9.2,SNR=16
KURK Kurchatov 27.63 53 *eP* **P** **04 27 57.8 +0.9**
comp=Z,24nm,0.7s
KURK Kurchatov 27.63 53*d iP* **P** **04 27 57.9 +0.9**
KURK pmax pmax
comp=Z,5.0nm,0.8s
HFS Hagfors 28.39 329 P **P** **04 28 03.4 -0.3**
comp=Z,4.9nm,0.9s,baz=150,slow=12,SNR=8.2
MK31 Makanchi Array 29.58 61 *eP* **P** **04 28 15.3 +0.9**
MK31 Makanchi Array 29.58 61 *eP* **P** **04 28 15.3 +0.9**
MKAR Makanchi Array 29.58 61 P **P** **04 28 14.7 +0.3**
comp=Z,1.3nm,0.9s,baz=257,slow=8.0,SNR=9.7
MKAR Makanchi Array 29.58 61 *eP* **P** **04 28 15.3 +0.9**
comp=Z,8.0nm,0.8s
MK01 Makanchi Array 29.59 61 *eP* **P** **04 28 14.9 +0.4**
MK01 Makanchi Array 29.59 61 *eP* **P** **04 28 14.9 +0.4**
KONO Kongsberg 29.87 326*ceP* **P** **04 28 20.7 +3.9**
KONO pmax pmax
comp=Z,111nm,2.5s
NB2 NORSAR Subarra 29.92 329 P **P** **04 28 16.3 -1.0**
comp=Z,0.5nm,0.6s,baz=125,slow=9.3
NOA NORSAR Array B 29.92 329 P **P** **04 28 16.3 -1.0**
comp=Z,0.5nm,0.6s,baz=126,slow=8.9,SNR=3.8
NOA LR LR 04 39 47.1
comp=Z,24nm,20.9s,baz=100,slow=35
ZALV Zalesovo Beam 32.01 48 P **P** **04 28 35.6 -0.1**
comp=Z,0.6nm,0.4s,baz=250,slow=9.9,SNR=3.7
DGZ Jazzator, Alta 33.12 56 *eP* **P** **04 28 46.5 +0.8**
DGZ pmax pmax
comp=Z,1.0nm,1.0s
WMQ Urumqi 33.53 67 P **P** **04 28 50.8 +1.6**
WMQ pmax pmax
comp=Z,14nm,0.9s
EKA Eskdalemuir Ar 34.98 314 P **P** **04 29 01.1 -0.5**
comp=Z,5.3nm,0.7s,baz=99,slow=8.9,SNR=15
ESK Eskdalemuir 35.01 314 *eP* **P** **04 29 01.3 -0.5**
comp=Z,29nm,1.3s
ESK Eskdalemuir 35.01 314 *eP* **P** **04 29 01.3 -0.5**
ESK pmax pmax
comp=Z,29nm,1.3s
TAM Tamanrasset 35.77 255 *eP* **P** **04 29 09.6 +0.7**
comp=Z,1.8nm,0.9s
TAM Tamanrasset 35.77 255 *eP* **P** **04 29 09.6 +0.7**
comp=Z,1.8nm,0.9s
TAM Tamanrasset 35.77 255 *eP* **P** **04 29 09.6 +0.7**
TAM pmax pmax
comp=Z,2.0nm,0.9s
ESDC Sonseca Array 36.26 287 P **P** **04 29 11.8 -1.0**
comp=Z,0.5nm,0.5s,baz=68,slow=8.3,SNR=6.5
SPITS Spitsbergen Ar 41.15 352 P **P** **04 29 53.4 0.0**
comp=Z,6.5nm,1.0s,baz=132,slow=6.0,SNR=4.0
GTA Gaotai 43.34 70 *eP* **P** **04 30 12.9 +1.1**
GTA pP sP 04 30 16.1 0.0
GTA sP pP 04 30 18.9 +4.0
GTA pmax pmax
comp=Z,6.0nm,0.8s
TORD Torodi Ar. Bea 44.64 247 P **P** **04 30 20.1 -2.2**
comp=Z,0.8nm,0.8s,baz=46,slow=9.9,SNR=5.4
ULN Ulaanbaatar 46.17 57 *eP* **P** **04 30 34.5 +0.2**
comp=Z,1.3nm,0.4s
ULN Ulaanbaatar 46.17 57⇓*eP* **P** **04 30 35.3 +0.9**
ULN pmax pmax
comp=Z,5.0nm,1.5s
LZH Lanzhou 47.48 73 *eP* **P** **04 30 43.3 -1.4**
LZH pP pP 04 30 48.3 +0.5
LZH sP sP 04 30 50.8 +1.8
LZH *e*PP **PP** **04 32 35.3 -0.6**
LZH pmax pmax
comp=Z,24nm,1.0s
LZH pmax pmax
comp=Z,280nm,5.7s
KOWA Kowa 47.96 253 P **P** **04 30 46.8 -1.7**
comp=Z,2.2nm,0.8s,baz=38,slow=11,SNR=4.9
HHC Hu-ho-hao-te 51.35 65 *eP* **P** **04 31 14.6 +0.4**
HHC pmax pmax
comp=Z,8.0nm,1.2s
HHC pmax pmax
comp=Z,22nm,6.6s
CHTO Chiang Mai 51.90 96 *eP* **P** **04 31 17.4 -1.0**
comp=Z,11nm,0.8s
CHTO Chiang Mai 51.90 96 *eP* **P** **04 31 17.4 -1.0**
CHTO pmax pmax
comp=Z,11nm,0.8s
CMAR Chiang Mai Arr 52.11 96 P **P** **04 31 19.1 -0.9**
comp=Z,3.7nm,0.9s,baz=298,slow=8.4,SNR=23
TIXI Tiksi 52.48 23⇓*eP* **P** **04 31 22.2 +0.3**
TIXI pmax pmax
comp=Z,2.0nm,1.1s
YAK Yakutsk 55.14 35 LR LR 04 59 00.9
comp=Z,56nm,18.2s,baz=104,slow=40
KLR Kul'dur 61.12 48 P **P** **04 32 23.3 -0.3**
comp=Z,0.2nm,0.8s,baz=304,slow=7.4,SNR=6.8
KLR Kul'dur 61.12 48 ⇓*iP* **P** **04 32 22.8 -0.8**
SEY Seymchan 64.16 29 P **P** **04 32 44.3 +0.6**
comp=Z,1.7nm,0.5s,baz=281,slow=6.5,SNR=5.6
KSAR Wonju Array Be 64.24 62 P **P** **04 32 44.2 -0.5**
KSAR Wonju Array Be 64.24 62 P **P** **04 32 44.2 -0.5**
KSRS Korea Array 64.26 62 P **P** **04 32 44.2 -0.6**
comp=Z,2.9nm,0.6s,baz=291,slow=7.0,SNR=8.7
BILL Bilibino 65.42 20 ⇓*iP* **P** **04 32 52.0 +0.2**
BILL *e* 04 33 29.1
BILL *e*PPP PPP 04 36 54.6
BILL pmax pmax
comp=Z,3.0nm,1.1s
COLA College 76.42 5 *eP* **P** **04 33 58.9 +0.2**
comp=Z,2.7nm,0.8s
COLA College 76.42 5 *eP* **P** **04 33 58.9 +0.2**
COLA pmax pmax
comp=Z,3.0nm,0.8s
YKA Yellowknife Ar 77.61 350 P **P** **04 34 04.6 -0.7**
comp=Z,0.5nm,0.9s,baz=15,slow=5.6,SNR=9.6
KDAK Kodiak Island 82.99 8 P **P** **04 34 34.8 +0.4**
comp=Z,3.1nm,0.5s,baz=300,slow=2.3,SNR=11
KDAK Kodiak Island 82.99 8 *iP* **P** **04 34 34.7 +0.3**
ULM Lac du Bonnet 84.41 335 LR LR 05 13 07.3
comp=Z,57nm,18.3s,baz=150,slow=36

IDC ***13*** *04:32:05.5±0.8, 5.°77S×149.°10E, h0km, mb4.4/8, mb1 4.7/9, mb1mx4.1/50, mbtmp4.5/9, ML3.2/1, MS3.4/6, Ms1 3.4/6, ms1mx3.1/43, Error ellipse: s-maj=30.9km s-min=18.3km az=110.0*
NEIC ***13*** *04:32:10.8±1.8, 5.°83S×149.°09E, h39km±15km, mb4.6/2, Error ellipse: s-maj=12.4km s-min=11.2km az=190.0*
ISCJB ***13*** *04:32:11.8±0.6, 5.°96S±0.°07×149.°0E±0.°1, h60km, mb4.1/11, MS3.5/3, Error ellipse: s-maj=15.8km s-min=8.5km az=22.8*
ISC 13 04:32:13.4±0.7, 6.°0S±0.°1×149.°0E±0.°1, h60km, n26, σ1§03/27, mb4.0/11, MS3.5/3, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.88**	**208**	Pn	**Pn**	**04 33 11.1**	**+0.6**
	103nm,0.3s,baz=41,slow=5.2,SNR=90						
PMG				Sn	**Sn**	**04 33 53.1**	**-1.8**
	97nm,0.3s,baz=330,slow=20,SNR=17						
PMG				LR	LR	04 34 34.8	
	comp=Z,451nm,19.7s,baz=62,slow=36						
COEN	**Coen**	**9.80**	**215**	*ePn*	**Pn**	**04 34 30.2**	**-1.5**
HNR	**Honiara**	**11.40**	**108**	LR	LR	04 38 37.2	
	comp=Z,102nm,21.8s,baz=325,slow=34						
GUMO	**Guam**	**19.84**	**348**	LR	LR	04 42 17.7	
	comp=Z,72nm,20.5s,baz=116,slow=31						
WRAB	**Tennant Creek**	**19.89**	**224**	*eP*	**P**	**04 36 40.7**	**+0.7**
WRA	**Warramunga Arr**	**19.90**	**224**	P	**P**	**04 36 41.0**	**+0.8**
	33nm,0.7s,baz=50,slow=11,SNR=170						
WRA				S	S	04 40 12.2	-8.9
	1.1nm,0.7s,baz=44,slow=23,SNR=3.5						
WRA				PcP	**PcP**	**04 40 57.0**	**+1.5**
	1.8nm,0.6s,baz=47,slow=2.1,SNR=6.0						
ASAR	**Alice Springs**	**22.82**	**218**	P	**P**	**04 37 12.3**	**+0.8**
	8.5nm,0.6s,baz=52,slow=9.7,SNR=101						
ASAR				PcP	**PcP**	**04 41 02.8**	**+1.7**
	2.2nm,0.9s,baz=53,slow=2.6,SNR=6.7						
ASAR				S	**S**	**04 41 16.5**	**-0.1**
	5.3nm,1.0s,baz=31,slow=22,SNR=15						
ASAR				LR	LR	04 46 26.7	
	comp=Z,174nm,19.3s,baz=43,slow=37						
DZM	**Mont Dzumac**	**23.27**	**135**	*eP*	**P**	**04 37 15.2**	**-0.9**
	20nm,0.8s						
SOEI	**Soe**	**24.77**	**260**	*eP*	**P**	**04 37 29.9**	**0.0**
BATI	**Baumata**	**25.41**	**259**	P	**P**	**04 37 37.0**	**+1.3**
	14nm,0.4s,baz=118,slow=7.0,SNR=3.2						
FITZ	**Fitzroy Crossi**	**25.78**	**240**	P	**P**	**04 37 39.8**	**+0.9**
	23nm,1.0s,baz=90,slow=20,SNR=448						
STKA	**Stephens Creek**	**26.70**	**194**	P	**P**	**04 37 47.9**	**+0.7**
	2.4nm,0.7s,baz=359,slow=13,SNR=5.4						
STKA				LR	LR	04 48 19.8	
	comp=Z,135nm,20.9s,baz=23,slow=36						
FORT	**Forrest**	**31.56**	**216**	*eP*	**P**	**04 38 30.9**	**+0.7**
MBWA	**Marble Bar**	**32.11**	**239**	*eP*	**P**	**04 38 35.5**	**+0.3**
AFI	**Afiamalu**	**39.41**	**105**	LR	LR	04 53 25.0	
	comp=Z,84nm,18.7s,baz=306,slow=32						
VNDA	**Vanda**	**71.85**	**177**	P	**P**	**04 43 30.2**	**+0.8**
	1.1nm,0.6s,baz=336,slow=7.2,SNR=11						
MKAR	**Makanchi Array**	**78.72**	**320**	P	**P**	**04 44 08.1**	**-1.4**
	0.2nm,0.4s,baz=104,slow=7.6,SNR=3.3						
ZALV	**Zalesovo Beam**	**80.03**	**327**	P	**P**	**04 44 16.8**	**+0.5**
	0.4nm,0.3s,baz=121,slow=4.7,SNR=3.4						
KURK	**Kurchatov**	**82.36**	**323**	*eP*	**P**	**04 44 27.7**	**-1.0**
KURBB	**Kurchatov Arra**	**82.38**	**323**	P	**P**	**04 44 27.9**	**-1.0**
	0.2nm,0.3s,baz=90,slow=4.4,SNR=4.3						
MCK	**McKinley**	**83.40**	**23**	*eP*	**P**	**04 44 32.5**	**-1.4**
	3.8nm,0.9s						
QSPA	**South Pole Qui**	**84.02**	**180**	*eP*	**P**	**04 44 37.1**	**-0.1**
ILAR	**Eielson Array**	**84.67**	**23**	P	**P**	**04 44 40.5**	**+0.1**
	1.0nm,0.7s,baz=250,slow=4.7,SNR=14						
PLCA	**Paso Flores**	**121.07**	**146**	PKP	**PKPdf**	**04 51 00.5**	**+0.7**
	1.0nm,0.6s,baz=223,slow=4.0,SNR=4.0						
SAML	**Samuel**	**144.69**	**115**	*e*PKPdf	**PKPdf**	**04 51 43.6**	**-0.9**
TORD	**Torodi Ar. Bea**	**146.99**	**285**	PKPbc	**PKPab**	**04 51 51.5**	**-0.5**
	0.6nm,0.3s,baz=67,slow=3.2,SNR=24						

IDC 13 04:33:27.8±9.9, 1.°34N×91.°64E, h0km, mb3.6/3, mb1 3.7/5, mb1mx3.4/70, mbtmp3.6/5, ML3.9/1, Error ellipse: s-maj=183.0km s-min=50.5km az=169.0, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**12.39**	**299**	Pn	Pn	04 36 26.0	+0.3
	0.8nm,0.3s,baz=116,slow=13,SNR=10.0						
CMAR	**Chiang Mai Arr**	**18.46**	**22**	P	Pn	04 37 45.3	-0.1
	baz=216,slow=12,SNR=4.2						
MKAR	**Makanchi Array**	**46.00**	**351**	P	P	04 41 52.7	-0.3
	0.3nm,0.6s,baz=151,slow=6.7,SNR=4.2						
SONM	**Songino Array**	**48.05**	**13**	P	P	04 42 09.3	+0.2
	0.8nm,0.5s,baz=189,slow=8.5,SNR=5.4						
ZALV	**Zalesovo Beam**	**52.74**	**355**	P	P	04 42 43.9	-0.4
	0.5nm,0.5s,baz=164,slow=5.8,SNR=2.5						

ISCJB ***13*** *04:36:31.7±0.9, 1.1N±0.1°×91.65E±0.08, h10km, mb4.1/7, Error ellipse: s-maj=16.3km s-min=11.5km az=14.4*
NEIC ***13*** *04:36:33.4±0.8, 1.09N×91.58E, h10km, mb4.2/2, Error ellipse: s-maj=17.7km s-min=11.4km az=12.0*
IDC ***13*** *04:36:33.7±1.5, 1.24N×91.66E, h0km, mb4.0/6, mb1 4.1/9, mb1mx3.7/69, mbtmp4.0/9, ML4.1/3, MS3.4/1, Ms1 3.4/1, ms1mx2.6/61, Error ellipse: s-maj=40.1km s-min=22.7km az=41.0*

ISC 13 04:36:33.3±0.9, 1.0N±0.1°×91.6E±0.1, h10km, n23, σ1§16/17, mb4.3/7, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LHMI	**Lhok Sumawe**	**6.79**	**52**	*e*Pn	**Pn**	**04 38 13.1**	**0.0**
	81nm,0.6s						
PSI	**Prapat**	**7.55**	**77**	Pn	**Pn**	**04 38 22.8**	**-0.9**
	2.4nm,0.3s,baz=304,slow=7.8,SNR=7.8						
PSI				Sn	Sn	04 39 38.0	-11
	0.7nm,0.3s,baz=125,slow=16,SNR=1.7						
PSI				LR	LR	04 41 18.9	
	comp=Z,286nm,18.6s,baz=188,slow=38						
IPM	**Ipoh**	**10.04**	**70**	*e*Pn	**Pn**	**04 38 56.7**	**-1.1**
	14nm,0.5s						
PALK	**Pallekele**	**12.48**	**300**	Pn	**Pn**	**04 39 31.1**	**0.0**
	0.6nm,0.3s,baz=120,slow=6.5,SNR=2.0						
PALK	**Pallekele**	**12.48**	**300**	*e*Pn	**Pn**	**04 39 29.4**	**-1.7**
CMAR	**Chiang Mai Arr**	**18.76**	**22**	P	**P**	**04 40 51.4**	**-1.2**
	0.4nm,0.3s,baz=217,slow=12,SNR=14						
CHTO	**Chiang Mai**	**19.09**	**22**	*e*P	**P**	**04 40 55.5**	**-0.7**
	3.8nm,0.9s						
H08S2	**Diego Garcia H**	**20.89**	**245**	T	T	05 03 00.1	
	baz=65,slow=75,SNR=22						
H08S3	**Diego Garcia H**	**20.89**	**245**	T	T	05 02 55.9	
	baz=65,slow=75,SNR=34						
H08S1	**Diego Garcia H**	**20.91**	**245**	T	T	05 02 58.9	
	baz=65,slow=75,SNR=36						
MBWA	**Marble Bar**	**35.29**	**130**	*e*P	**P**	**04 43 27.6**	**-1.0**
	6.3nm,0.4s						
H01W3	**Cape Leeuwin H**	**41.52**	**152**	T	T	05 28 44.9	
	baz=326,slow=75,SNR=5.7						
H01W2	**Cape Leeuwin H**	**41.53**	**152**	T	T	05 28 41.1	
	baz=326,slow=75,SNR=8.0						
H01W1	**Cape Leeuwin H**	**41.53**	**152**	T	T	05 28 43.8	
	baz=326,slow=75,SNR=6.9						
MKAR	**Makanchi Array**	**46.28**	**351**	P	**P**	**04 44 59.0**	**-0.1**
	0.6nm,0.6s,baz=169,slow=8.7,SNR=6.8						
WRA	**Warramunga Arr**	**46.81**	**119**	P	**P**	**04 45 05.3**	**+1.6**
	1.6nm,0.6s,baz=299,slow=8.5,SNR=14						
SONM	**Songino Array**	**48.35**	**13**	P	**P**	**04 45 16.5**	**+1.2**
	1.4nm,0.5s,baz=192,slow=10.0,SNR=7.2						
KURBB	**Kurchatov Arra**	**50.63**	**349**	P	**P**	**04 45 32.9**	**+0.5**
	0.7nm,0.6s,baz=169,slow=6.7,SNR=6.5						
KURK	**Kurchatov**	**50.70**	**349**	P	**P**	**04 45 32.9**	**-0.1**
ZALV	**Zalesovo Beam**	**53.02**	**355**	P	**P**	**04 45 50.3**	**+0.1**
	1.7nm,0.4s,baz=178,slow=6.9,SNR=8.6						
GERES	**GERESS Array B**	**81.23**	**319**	P	**P**	**04 48 51.9**	**+2.1**
	0.8nm,0.6s,baz=96,slow=6.0,SNR=6.7						
TAM	**Tamanrasset**	**85.95**	**293**	*e*P	**P**	**04 49 13.1**	**-1.4**
TXAR	**Lajitas Array**	**146.46**	**25**	PKPbc	**PKPab**	**04 56 16.9**	**+0.4**
	0.5nm,0.6s,baz=262,slow=1.2,SNR=7.7						

MEX 13 04:46:54.9±1.0, 16.53N×98.42W, h19km±94km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.31**	**116**	*i* P	Pg	04 47 00.2	-1.5
PNIG				*e*S	Sg	04 47 05.5	-0.8
TLIG	**Tlapa**	**1.04**	**352**	*e*P	Pb	04 47 10.6	-3.8
TLIG				*e*S	Sb	04 47 23.8	-3.9
VHO	**Vista Hermosa**	**1.70**	**71**	*e*P	Pn	04 47 21.3	-2.5
VHO				*e*S	Sn	04 47 43.7	-1.5
CAIG	**El Cayaco**	**1.85**	**287**	*e*P	Pn	04 47 22.8	-2.8
CAIG				*e*P	Pb	04 47 23.1	-4.9
CAIG				*e*S	Sn	04 47 45.1	-3.3
CAIG				*e*S	Sb	04 47 46.2	-4.6

ISCJB ***13*** *04:49:46.8±0.3, 1.52N±0.04°×91.08E±0.03, h10km, mb4.5/59, MS4.2/52, Error ellipse: s-maj=5.9km s-min=3.9km az=23.5*
IDC ***13*** *04:49:47.3±0.7, 1.59N×91.02E, h0km, mb4.1/25, mb1 4.3/28, mb1mx4.1/70, mbtmp4.2/28, ML4.2/3, MS4.1/46, Ms1 4.1/46, ms1mx4.0/55, Error ellipse: s-maj=21.3km s-min=13.6km az=33.0*
DJA ***13*** *04:49:48.5±3.7, 2.1±10°×9.1E±°, h13km±33km, M5.1/9, mb5.0/9, mB5.3/7, MLv5.4/4, Mw(mB)4.7/7*
NEIC ***13*** *04:49:48.6±0.2, 1.55N×91.04E, h10km, mb4.7/27, Error ellipse: s-maj=6.2km s-min=3.9km az=204.0*
GCMT ***13*** *04:49:48.6±0.2, 1.53N×91.04E, h12km, MW5.0/92, Moment Tensor Solution. s22,c26; s92,c138; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mr0.16±.09; Mθθ-2.53±.07; Mφφ2.37±.08; Mrθ-1.28±.23; Mθφ-1.42±.08; Mφr-2.67±.25; Best double couple: Mo4.09600×10¹⁶ NP1:φs210.00000°, δ88.00000°, λ46.00000°. NP2: φs118.00000°, δ44.00000°, λ177.00000°. Principal axes: T 4.1900, Plg32.0000°, Azm85.0000°; N -0.1900, Plg44.0000°, Azm212.0000°; P -4.0020, Plg29.0000°, Azm334.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 13 04:49:48.6±0.4, 1.48N±0.05×90.96E±0.05, h10km, n188, σ2§04/166, mb4.6/63, MS4.2/53, 2C-2D, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSI	**Banda Aceh**	**5.88**	**47**	P	**Pn**	**04 51 14.2**	**-1.8**
MLSI	**Meulaboh, Aceh**	**6.10**	**63**	P	**Pn**	**04 51 17.2**	**-1.7**
TPTI		**6.46**	**74**	P	**Pn**	**04 51 21.5**	**-2.3**
GSI	**Gunungsitoli**	**6.61**	**91**	P	**Pn**	**04 51 24.6**	**-1.4**
GSI	**Gunungsitoli**	**6.61**	**91**	*e*Pn	**Pn**	**04 51 24.1**	**-1.8**
GSI				*e*Sn	**Sn**	**04 52 36.3**	**-5.2**
LHMI	**Lhok Sumawe**	**7.04**	**58**	P	**Pn**	**04 51 31.7**	**-0.1**
LHMI	**Lhok Sumawe**	**7.04**	**58**	*e*Pn	**Pn**	**04 51 30.7**	**-1.1**
LHMI				*e*Sn	Sn	04 52 40.0	-12
KCSI	**Kotacane, Aceh**	**7.10**	**73**	P	**Pn**	**04 51 32.2**	**-0.4**
PBSI	**Pulau Batu**	**7.47**	**102**	P	Pb	04 51 49.6	-8.8
PSI	**Prapat**	**8.06**	**80**	Pn	**Pn**	**04 51 44.0**	**-2.0**
	1.3nm,0.3s,baz=256,slow=9.8,SNR=8.1						
PSI				Sn	Sn	04 53 05.8	-12
	2.1nm,0.3s,baz=283,slow=19,SNR=2.9						
PSI				LR	LR	04 54 59.4	
	comp=Z,4μm,19.9s,baz=236,slow=39						
PSI	**Prapat**	**8.06**	**80**	*e*Pn	**Pn**	**04 51 43.3**	**-2.7**
PSI				Sn	Sn	04 53 05.8	-12
SISI	**Saibi**	**8.59**	**109**	P	Pn	04 52 02.5	+9.4
MNSI	**Mandailing Nat**	**8.64**	**94**	P	**Pn**	**04 51 53.3**	**-0.5**
PKDT	**Phuket**	**9.72**	**49**	P	**Pn**	**04 52 05.5**	**-3.1**
	60nm,0.7s,920nm0.2nm						
PDSI	**Padang**	**9.79**	**104**	P	**Pn**	**04 52 13.3**	**+3.7**
PPSI	**Pulau Pagai**	**9.98**	**115**	P	Pn	04 52 18.2	+6.1
PBA	**Port Blair**	**10.26**	**10**	*e*P	Pn	04 52 13.9	-2.2
IPM	**Ipoh**	**10.48**	**73**	*e*Pn	**Pn**	**04 52 17.5**	**-1.6**
TRTT	**Trang**	**10.75**	**54**	P	**Pn**	**04 52 19.4**	**-3.3**
	24nm,0.8s,367nm						
SURT	**Suratani**	**10.77**	**46**	P	**Pn**	**04 52 20.0**	**-3.0**
	40nm,1.0s,411nm						
SKLT	**Songkhla**	**11.16**	**59**	P	**Pn**	**04 52 25.6**	**-2.8**
	62nm,1.0s,817nm						
PALK	**Pallekele**	**11.73**	**300**	Pn	**Pn**	**04 52 35.1**	**-1.2**
	3.3nm,0.3s,baz=116,slow=14,SNR=16						
PALK				Sn	Sn	04 54 37.5	-10
	5.1nm,0.3s,baz=116,slow=15,SNR=6.0						
PALK				LR	LR	04 56 13.8	
	comp=Z,592nm,20.4s,baz=116,slow=33						
PALK	**Pallekele**	**11.73**	**300**	*e*Pn	**Pn**	**04 52 35.8**	**-0.5**
PALK				*e*Sn	Sn	04 54 34.3	-13
DGPR	**DIGLIPUR**	**11.79**	**9**	*e*P	**Pn**	**04 52 35.6**	**-1.4**
DGPR				IAmb	IAmb	04 52 42.0	
	comp=Z,29nm,1.2s						
MASI	**Maura Aman, Be**	**12.17**	**112**	P	Pn	04 52 53.5	+11
MYKOM	**Kota Tinggi**	**12.89**	**88**	*e*Pn	Pn	04 52 46.2	-5.8
MNAI	**Manna**	**13.31**	**116**	*e*Pn	**Pn**	**04 52 56.5**	**-1.3**
MDSI	**Maura Dua**	**14.47**	**114**	P	P	04 53 32.5	+12
KASI	**Kota Agung**	**15.20**	**117**	P	**P**	**04 53 35.1**	**+6.5**
MDRS	**Chennai**	**15.66**	**318**	*e*P	**Pn**	**04 53 26.9**	**-2.6**
MDRS				IAmb	IAmb	04 53 37.2	
	comp=Z,99nm,0.5s						
CHBT	**CHBT**	**15.88**	**45**	P	**P**	**04 53 35.3**	**-0.8**
VIS	**Vishakhapatnam**	**17.80**	**336**	*e*P	**P**	**04 53 57.4**	**+0.1**
VIS				IAmb	IAmb	04 53 60.0	
	comp=Z,28nm,0.7s						
PBKT	**Sadao Pong**	**17.94**	**33**	P	**Pn**	**04 53 58.2**	**-0.2**
	comp=Z,53nm,1.2s						
HMDM	**Hanimaadhoo**	**18.49**	**287**	*e*P	**P**	**04 54 04.9**	**-0.1**
	comp=Z,7.9nm,0.8s						
LEM	**Lembang**	**18.56**	**117**	LR	LR	05 00 21.3	
	comp=Z,297nm,18.6s,baz=296,slow=34						
CM01	**Chiang Mai Arr**	**18.57**	**24**	*e*P	**P**	**04 54 05.0**	**-1.0**
CM31	**Chiang Mai Arr**	**18.60**	**24**	*e*P	**P**	**04 54 03.9**	**-2.3**
CMAR	**Chiang Mai Arr**	**18.60**	**24**	Pn	**P**	**04 54 04.6**	**-1.6**
	comp=Z,0.3nm,0.3s,baz=218,slow=13,SNR=30						
CMAR				LR	LR	05 00 51.8	
	comp=Z,301nm,20.1s,baz=212,slow=36						
CHTO	**Chiang Mai**	**18.92**	**24**	P	**Pn**	**04 54 12.2**	**+1.8**
	comp=Z,42nm,1.4s						
CHTO	**Chiang Mai**	**18.92**	**24**	*e*P	**P**	**04 54 08.5**	**-1.2**
	comp=Z,16nm,1.1s						
CMMT	**Chiang Mai**	**18.92**	**24**	P	**Pn**	**04 54 11.1**	**+0.7**
	comp=Z,9.6nm,1.2s						
CISI	**Cisompet, Garu**	**19.06**	**118**	P	Pn	04 54 22.7	+11
CISI	**Cisompet, Garu**	**19.06**	**118**	*e*P	**P**	**04 54 10.9**	**-0.4**
	comp=Z,61nm,1.0s						
KSM	**Kuching**	**19.34**	**90**	*e*P	**P**	**04 54 14.5**	**+0.1**
	comp=Z,35nm,1.2s						
HYB	**Hyderabad**	**19.99**	**323**	*i* P	**Pn**	**04 54 22.5**	**-0.7**
HYB				*e*S	**S**	**04 58 03.0**	**-3.5**
HYB	**Hyderabad**	**19.99**	**323**	*e*P	**P**	**04 54 21.7**	**+0.2**
HYB				IAmb	IAmb	04 54 25.9	
	comp=Z,530nm,3.6s						
SKNT	**Sakolnakorn**	**20.03**	**39**	P	**P**	**04 54 21.2**	**-0.7**
	comp=Z,10nm,1.1s						
DGAR	**Diego Garcia**	**20.47**	**244**	*e*P	Pn	04 54 29.8	+1.0
	comp=Z,145nm,1.3s						
H08S2	**Diego Garcia H**	**20.53**	**244**	T	T	05 15 16.8	
	baz=64,slow=75,SNR=26						
H08S3	**Diego Garcia H**	**20.53**	**244**	T	T	05 15 34.3	
	baz=64,slow=75,SNR=27						
H08S1	**Diego Garcia H**	**20.55**	**244**	T	T	05 15 42.8	
	baz=64,slow=75,SNR=25						
STKI	**Sintang**	**20.56**	**94**	P	Pn	04 54 29.0	-0.9
SBUM	**Sibu**	**21.27**	**87**	*e*P	**P**	**04 54 35.3**	**0.0**
	comp=Z,27nm,1.2s						
GOA	**Goa**	**21.90**	**310**	*e*P	**P**	**04 54 44.2**	**+2.1**
GOA				IAmb	IAmb	04 54 54.1	
	comp=Z,476nm,3.2s						
BOK	**Bokaro**	**22.72**	**348**	*e*P	**P**	**04 54 50.9**	**0.0**
NGP	**Nagpur**	**22.74**	**330**	*e*P	**P**	**04 54 48.5**	**-2.6**
NGP				IAmb	IAmb	04 55 10.2	
POO	**Poona**	**23.85**	**316**	*e*P	**P**	**04 55 04.4**	**+2.0**
POO				IAmb	IAmb	04 55 06.9	
	comp=Z,38nm,1.7s						
SHL	**Shillong**	**23.96**	**2**	*e*P	**P**	**04 55 03.9**	**+0.3**
SHL				IAmb	IAmb	04 55 18.4	
	comp=Z,111nm,0.5s						
BHPL	**Bhopal**	**25.31**	**330**	*e*P	**P**	**04 55 16.2**	**+0.6**
BHPL				IAML		04 55 25.1	
	comp=Z,6.1nm,0.8s						
QIZ	**Qiongzhong**	**25.43**	**45**	P	**P**	**04 55 15.0**	**-1.7**
QIZ				S	**S**	**04 59 43.8**	**0.0**
QIZ				pmax	pmax		
	comp=Z,130nm,3.2s						
QIZ				LR	LR		
	comp=N,1μm,13.7s						
QIZ				LR	LR		
	comp=E,910nm,16.9s						
QIZ				LR	LR		
	comp=Z,640nm,13.8s						
ODAN	**Odare**	**25.47**	**353**	*e*P	**P**	**04 55 17.8**	**+0.5**
	comp=Z,73nm,0.8s						
KKM	**Kota Kinabalu**	**25.60**	**79**	*e*P	**P**	**04 55 17.4**	**-1.1**
	comp=Z,43nm,1.1s						
RAMN	**Ramite**	**25.67**	**351**	*e*P	**P**	**04 55 20.1**	**+1.0**
	comp=Z,166nm,1.3s						
KMI	**Kunming**	**26.11**	**25**	P	**P**	**04 55 25.6**	**+2.5**
KMI				pP	sP	04 55 28.8	+1.4
KMI				sP	pP	04 55 31.9	+5.7
KMI				S	**S**	**04 59 55.1**	**+0.2**
KMI				sS	sS	05 00 03.6	+3.6
KMI				SS	**SnSn**	**05 00 59.8**	**+6.7**
KMI				pmax	pmax		
	comp=Z,16nm,1.2s						
KMI				pmax	pmax		
	comp=Z,55nm,3.1s						
KMI				LR	LR		
	comp=N,570nm,20.3s						
KMI				LR	LR		
	comp=E,640nm,19.7s						
KMI				LR	LR		
	comp=Z,410nm,22.4s						
JIRN	**Jiri**	**26.43**	**350**	*e*P	**P**	**04 55 26.9**	**+0.7**
DMN	**Daman**	**26.58**	**348**	*e*P	**P**	**04 55 27.5**	**+0.1**
GUN	**Gumba**	**26.73**	**350**	*e*P	**P**	**04 55 28.0**	**-0.8**
	comp=Z,63nm,1.1s						
KOLN	**Koldanda**	**27.08**	**346**	*e*P	**P**	**04 55 32.3**	**+0.5**
	comp=Z,78nm,1.4s						
PYUN	**Piuthan**	**27.55**	**345**	*e*P	**P**	**04 55 36.6**	**+0.6**
	comp=Z,35nm,0.8s						
MYLDM	**Lahad Datu**	**27.73**	**82**	*e*P	**P**	**04 55 37.2**	**-0.4**
	comp=Z,57nm,1.2s						
LSA	**Lhasa**	**28.07**	**0**	P	**P**	**04 55 41.6**	**+0.7**
LSA				pmax	pmax		
	comp=Z,13nm,1.0s						
GYA	**Guiyang**	**29.07**	**30**	P	**P**	**04 55 51.0**	**+1.5**
GYA				PP	**PnPn**	**04 56 45.4**	**+3.8**
GYA				PcP	**PcP**	**04 59 00.3**	**+2.5**
GYA				S	**S**	**05 00 40.8**	**-0.5**
GYA				SS	**SnSn**	**05 02 08.0**	**+3.0**
GYA				pmax	pmax		
	comp=Z,20nm,0.8s						
GYA				pmax	pmax		
	comp=Z,120nm,5.2s						
GYA				LR	LR		
	comp=N,480nm,16.8s						
GYA				LR	LR		
	comp=E,460nm,17.0s						
GYA				LR	LR		
	comp=Z,490nm,17.2s						
KAPI	**Kappang**	**29.47**	**103**	*e*P	**P**	**04 55 51.5**	**-1.6**
	comp=Z,3.2nm,0.4s						
CD2	**Chengdu**	**31.68**	**21**	P	**P**	**04 56 12.0**	**-0.5**
CD2				pP	pP	04 56 14.3	-1.3
CD2				PP	**PP**	**04 57 23.6**	**-0.5**
CD2				S	**S**	**05 01 23.3**	**+1.2**
CD2				sS	sS	05 01 27.3	+0.2
CD2				SS	**SS**	**05 03 39.8**	**+1.8**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,120nm,5.0s						
CD2				LR	LR		
	comp=N,570nm,15.4s						
CD2				LR	LR		
	comp=E,730nm,12.9s						
CD2				LR	LR		
	comp=Z,540nm,12.9s						
LUWI	**Luwuk**	**31.90**	**94**	*e*P	**P**	**04 56 14.1**	**-0.5**
	comp=Z,75nm,0.3s						
SMLA	**Simla**	**32.25**	**337**	*e*P	**P**	**04 56 18.5**	**+1.1**
SMLA				IAmb	IAmb	04 56 21.9	
	comp=Z,9.4nm,1.1s						
DHRM	**DHARAMSHALA**	**33.58**	**337**	*e*P	**P**	**04 56 29.6**	**+0.3**
DHRM				IAmb	IAmb	04 56 38.5	
	comp=Z,36nm,1.7s						
BATI	**Baumata**	**34.55**	**110**	LR	LR	05 12 07.2	
	comp=Z,417nm,18.5s,baz=32,slow=39						
SOEI	**Soe**	**34.99**	**109**	*e*P	**P**	**04 56 40.5**	**-1.2**
	comp=Z,32nm,1.0s						
MBWA	**Marble Bar**	**36.03**	**130**	*e*P	**P**	**04 56 49.5**	**-0.8**
	comp=Z,37nm,0.9s						
NIL	**Nilore**	**36.05**	**334**	*e*P	**P**	**04 56 50.6**	**+0.2**
WHN	**Wuhan**	**36.43**	**35**	⇓P	**P**	**04 56 56.8**	**+3.1**
WHN				S	**S**	**05 02 37.3**	**+1.8**
WHN				pmax	pmax		
	comp=Z,72nm,1.3s						
WHN				LR	LR		
	comp=N,650nm,6.4s						
WHN				LR	LR		
	comp=E,2μm,15.6s						
WHN				LR	LR		
	comp=Z,1μm,23.1s						
LZH	**Lanzhou**	**36.45**	**18**	⇓P	**P**	**04 56 55.6**	**+1.7**
LZH				pP	sP	04 57 00.8	+2.5
LZH				sP	pP	04 57 03.3	+6.3
LZH				PP	**PP**	**04 58 23.4**	**+6.4**
LZH				S	**S**	**05 02 39.1**	**+3.2**
LZH				sS	sS	05 02 43.0	+2.0
LZH				SS	**SnSn**	**05 05 02.1**	**-2.1**
LZH				pmax	pmax		
	comp=Z,34nm,1.2s						
LZH				pmax	pmax		
	comp=Z,290nm,5.7s						
LZH				LR	LR		
	comp=N,650nm,13.5s						
LZH				LR	LR		
	comp=E,590nm,13.0s						
LZH				LR	LR		
	comp=Z,680nm,15.5s						
XAN	**Xi'an**	**36.49**	**26**	P	**P**	**04 56 52.8**	**-1.4**
XAN				pP	pP	04 56 57.3	0.0
XAN				sP	sP	04 56 59.9	+1.4
XAN				PP	**PnPn**	**04 58 08.6**	**-8.3**
XAN				S	S	05 02 26.5	-10
XAN				sS	pS	05 02 34.6	-5.4
XAN				SS	SnSn	05 04 47.5	-18
XAN				pmax	pmax		
	comp=Z,5.0nm,0.5s						
XAN				pmax	pmax		
	comp=Z,69nm,2.9s						
XAN				LR	LR		
	comp=N,700nm,14.1s						
XAN				LR	LR		
	comp=E,650nm,13.7s						
XAN				LR	LR		
	comp=Z,510nm,18.4s						
WSAR	**Wadi Sarin**	**38.09**	**307**	LR	LR	05 11 12.4	
	comp=Z,381nm,18.5s,baz=136,slow=34						
GTA	**Gaotai**	**38.61**	**11**	*e*P	**P**	**04 57 14.4**	**+2.2**
GTA				pP	sP	04 57 17.8	+1.3
GTA				sP	pP	04 57 20.4	+5.1
GTA				PP	**PnPn**	**04 58 46.9**	**+4.3**
GTA				PcP	**PcP**	**04 59 25.8**	**+1.3**
GTA				S	**S**	**05 03 11.3**	**+2.7**
GTA				sS	sS	05 03 19.1	+5.4
GTA				SS	**SnSn**	**05 05 54.8**	**-1.5**
GTA				pmax	pmax		
	comp=Z,8.0nm,1.1s						
GTA				pmax	pmax		
	comp=Z,93nm,5.7s						
GTA				LR	LR		
	comp=N,290nm,15.2s						
GTA				LR	LR		
	comp=E,310nm,17.1s						
GTA				LR	LR		
	comp=Z,280nm,15.7s						
NJ2	**Nanjing**	**40.20**	**38**	*e*P	**P**	**04 57 24.8**	**-0.6**
NJ2				pmax	pmax		
	comp=Z,22nm,0.5s						
NJ2				LR	LR		
	comp=N,750nm,17.9s						
NJ2				LR	LR		
	comp=E,710nm,19.5s						
NJ2				LR	LR		
	comp=Z,560nm,19.8s						
KSH	**Kashi**	**40.25**	**342**	P	**P**	**04 57 27.8**	**+1.9**
SIJI	**Sorong**	**40.37**	**93**	LR	LR	05 14 16.5	
	comp=Z,136nm,20.6s,baz=244,slow=36						
H01W3	**Cape Leeuwin H**	**42.19**	**151**	T	T	05 42 37.0	
	baz=327,slow=76,SNR=5.2						
H01W2	**Cape Leeuwin H**	**42.20**	**151**	T	T	05 42 39.0	
	baz=327,slow=76,SNR=5.3						
H01W1	**Cape Leeuwin H**	**42.20**	**151**	T	T	05 42 37.9	
	baz=327,slow=76,SNR=6.1						
WMQ	**Urumqi**	**42.26**	**356**	P	**P**	**04 57 42.9**	**+0.6**
WMQ				pP	pP	04 57 45.4	0.0
WMQ				sP	sP	04 57 47.8	+1.2
WMQ				S	**S**	**05 04 00.9**	**-2.0**
WMQ				SS	**SS**	**05 07 02.8**	**-8.6**
WMQ				pmax	pmax		
	comp=Z,8.0nm,0.7s						
WMQ				LR	LR		
	comp=N,520nm,27.9s						
WMQ				LR	LR		
	comp=E,650nm,20.9s						
WMQ				LR	LR		
	comp=Z,670nm,31.3s						
HHC	**Hu-ho-hao-te**	**43.40**	**23**	*e*P	**P**	**04 57 52.8**	**+1.2**
HHC				pP	sP	04 57 56.8	+0.8
HHC				S	**S**	**05 04 24.6**	**+4.7**
HHC				pmax	pmax		
	comp=Z,27nm,1.0s						
HHC				pmax	pmax		
	comp=Z,87nm,6.2s						
HHC				LR	LR		
	comp=N,380nm,15.7s						
HHC				LR	LR		
	comp=E,700nm,14.7s						
HHC				LR	LR		
	comp=Z,340nm,14.7s						
AAK	**Ala-Archa**	**43.56**	**342**	P	**P**	**04 57 51.9**	**-1.0**
	comp=Z,0.6nm,0.4s,baz=160,slow=12,SNR=3.8						
AAK	**Ala-Archa**	**43.56**	**342**	*e*P	**P**	**04 57 52.5**	**-0.4**
	comp=Z,3.1nm,1.0s						
KK31	**Karatay Array**	**45.29**	**339**	*e*P	**P**	**04 58 06.1**	**-0.5**
KKAR	**Karatay Array**	**45.29**	**339**	*e*P	**P**	**04 58 06.5**	**-0.1**
MK01	**Makanchi Array**	**45.74**	**352**	*e*P	**P**	**04 58 09.3**	**-0.8**
MKAR	**Makanchi Array**	**45.76**	**352**	P	**P**	**04 58 09.2**	**-1.1**
	comp=Z,2.3nm,0.8s,baz=172,slow=7.4,SNR=9.8						
GEYT	**Alibeck**	**47.17**	**324**	P	**P**	**04 58 21.3**	**-0.2**
	comp=Z,1.2nm,0.5s,baz=152,slow=6.5,SNR=2.7						
GEYT				LR	LR	05 19 47.2	
	comp=Z,183nm,18.9s,baz=160,slow=38						
OPO	**Ambohidratompo**	**47.42**	**243**	LR	LR	05 15 19.0	
	comp=Z,382nm,19.0s,baz=38,slow=32						
WRA	**Warramunga Arr**	**47.55**	**119**	P	**P**	**04 58 24.2**	**-0.5**
	comp=Z,9.5nm,1.1s,baz=297,slow=8.6,SNR=19						
WRAB	**Tennant Creek**	**47.56**	**119**	*e*P	**P**	**04 58 23.9**	**-0.9**
	comp=Z,36nm,1.4s						
WB2	**Warramunga Arr**	**47.56**	**119**	*e*P	**P**	**04 58 25.4**	**+0.5**
	comp=Z,12nm,1.0s						
FORT	**Forrest**	**47.69**	**135**	*e*P	**P**	**04 58 26.5**	**+0.9**
SONM	**Songino Array**	**48.07**	**14**	P	**P**	**04 58 28.4**	**0.0**
	comp=Z,8.5nm,0.6

	comp=Z,1.6nm,0.5s								
BVAR	**Borovoye Array**	**54.14**	**345**	P		**P**		**04 59 12.5**	**-1.3**
	comp=Z,0.9nm,0.8s,baz=126,slow=7.4,SNR=4.7								
BRVK	**Borovoye**	**54.20**	**345**	*e*P		**P**		**04 59 13.6**	**-0.6**
	comp=Z,3.0nm,0.5s								
ABKAR	**Akbulak array**	**54.50**	**335**	*e*P		**P**		**04 59 16.1**	**-0.5**
	comp=Z,28nm,0.9s								
BBOO	**Buckleboo**	**54.52**	**133**	*e*P		**P**		**04 59 17.9**	**+0.9**
	comp=Z,22nm,1.6s								
GUMO	**Guam**	**54.65**	**74**	LR		LR		05 21 13.7	
	comp=Z,161nm,21.2s,baz=257,slow=35								
JHJ	**Hachijo jima 2**	**55.51**	**50**	LR		LR		05 24 31.3	
	comp=Z,122nm,18.0s,baz=123,slow=38								
MJAR	**Matsushiro Arr**	**55.83**	**46**	P		**P**		**04 59 26.5**	**+0.1**
	comp=Z,1.6nm,0.8s,baz=229,slow=9.6,SNR=4.9								
MJAR				LR		LR		05 24 31.6	
	comp=Z,140nm,19.6s,baz=255,slow=37								
USRK	**Ussuriysk Ar.**	**55.93**	**35**	P		**P**		**04 59 25.9**	**-1.0**
	comp=Z,2.8nm,0.9s,baz=226,slow=7.7,SNR=5.2								
USRK				LR		LR		05 25 34.4	
	comp=Z,232nm,18.4s,baz=213,slow=38								
AKTO	**Aktyubinsk**	**56.21**	**335**	P		**P**		**04 59 29.0**	**+0.2**
	comp=Z,0.5nm,0.3s,baz=170,slow=6.1,SNR=2.1								
AKTO				LR		LR		05 24 08.3	
	comp=Z,133nm,19.8s,baz=141,slow=37								
GNI	**Garni**	**56.87**	**319**	LR		LR		05 25 37.4	
	comp=Z,189nm,21.1s,baz=104,slow=38								
PMG	**Port Moresby**	**57.00**	**102**	LR		LR		05 26 18.0	
	comp=Z,64nm,18.6s,baz=182,slow=38								
PMG	**Port Moresby**	**57.00**	**102**	*e*P		**P**		**04 59 34.0**	**-1.1**
	comp=Z,34nm,1.1s								
STKA	**Stephens Creek**	**58.27**	**129**	P		**P**		**04 59 44.4**	**+0.7**
	comp=Z,3.3nm,0.8s,baz=336,slow=7.8,SNR=5.8								
STKA				LR		LR		05 26 09.0	
	comp=Z,160nm,18.0s,baz=273,slow=37								
KLR	**Kul'dur**	**58.97**	**30**	P		**P**		**04 59 48.4**	**+0.1**
	comp=Z,0.6nm,1.1s,baz=257,slow=6.2,SNR=6.0								
KBZ	**Khabaz**	**59.87**	**321**	P		**P**		**04 59 55.9**	**+1.3**
	comp=Z,2.0nm,0.8s,baz=120,slow=8.5,SNR=4.6								
KBZ				LR		LR		05 27 41.5	
	comp=Z,83nm,20.7s,baz=98,slow=38								
CSS	**Mathiatis**	**62.99**	**309**	*e*P		**P**		**05 00 15.5**	**-0.4**
	comp=Z,2.1nm,1.0s								
LSZ	**Lusaka**	**64.23**	**252**	*e*P		**P**		**05 00 23.8**	**-0.8**
	comp=Z,2.4nm,0.8s								
BRTR	**Keskin Array B**	**64.37**	**314**	P		**P**		**05 00 24.9**	**-0.2**
	comp=Z,1.0nm,0.9s,baz=120,slow=7.3,SNR=6.9								
BRTR				LR		LR		05 28 45.5	
	comp=Z,139nm,21.1s,baz=108,slow=36								
BR231	**Keskin MP Arra**	**65.03**	**314**	*e*P		**P**		**05 00 25.8**	**-3.6**
HNR	**Honiara**	**69.54**	**101**	LR		LR		05 32 37.6	
	comp=Z,33nm,21.3s,baz=328,slow=37								
BOSA	**Boshof**	**69.55**	**239**	LR		LR		05 28 43.9	
	comp=Z,195nm,19.4s,baz=60,slow=34								
IDI	**Anoyia**	**69.73**	**307**	LR		LR		05 35 37.4	
	comp=Z,54nm,18.5s,baz=86,slow=39								
KLMR	**Klimovskoe**	**70.89**	**336**	*e*P		**P**		**05 01 09.8**	**+4.1**
KLMR				AMP				05 01 26.6	
	comp=Z,9.0nm,1.4s								
AKASG	**Malin Array Be**	**71.29**	**324**	P		**P**		**05 01 07.9**	**-0.4**
	comp=Z,0.4nm,0.5s,baz=90,slow=4.9,SNR=3.3								
AKASG				LR		LR		05 36 40.0	
	comp=Z,111nm,19.0s,baz=100,slow=40								
MLR	**Muntele Rosu**	**71.63**	**318**	P		**P**		**05 01 10.4**	**-0.3**
	comp=Z,0.9nm,0.9s,baz=69,slow=4.7,SNR=5.0								
MLR				LR		LR		05 35 57.3	
	comp=Z,47nm,21.0s,baz=86,slow=39								
MLR	**Muntele Rosu**	**71.63**	**318**	*e*P		**P**		**05 01 10.6**	**-0.1**
	comp=Z,11nm,1.0s								
MAW	**Mawson**	**71.68**	**191**	LR		LR		05 24 56.8	
	comp=Z,160nm,20.3s,baz=248,slow=29								
BUR04	**Bucovina Ar. S**	**72.74**	**320**	*e*P		**P**		**05 01 17.9**	**+0.7**
TIXI	**Tiksi**	**74.09**	**12**	P		**P**		**05 01 23.4**	**-1.2**
	comp=Z,1.9nm,0.3s,baz=273,slow=4.9,SNR=8.3								
TIXI	**Tiksi**	**74.09**	**12**	*e*P		**P**		**05 01 23.2**	**-1.4**
	comp=Z,16nm,1.4s								
PETK	**Petropavlovsk-**	**75.02**	**35**	LR		LR		05 35 23.5	
	comp=Z,73nm,20.9s,baz=242,slow=36								
SEY	**Seymchan**	**76.02**	**24**	P		**P**		**05 01 36.0**	**+0.1**
	comp=Z,0.6nm,0.4s,baz=205,slow=5.4,SNR=4.4								
TIP	**Timpagrande**	**76.84**	**310**	*e*P		**P**		**05 01 41.8**	**+0.6**
	comp=Z,8.8nm,1.1s								
FIA1	**FINESS Array S**	**76.92**	**333**	*e*P		**P**		**05 01 40.1**	**-0.9**
FINES	**FINESS Array B**	**76.92**	**333**	P		**P**		**05 01 40.5**	**-0.4**
	comp=Z,3.7nm,0.6s,baz=110,slow=6.4,SNR=14								
FINES				LR		LR		05 36 15.8	
	comp=Z,118nm,21.8s,baz=106,slow=36								
CUC	**Castrocucco**	**77.69**	**311**	*e*P		**P**		**05 01 44.1**	**-1.7**
	comp=Z,7.6nm,1.2s								
SYO	**Syowa Base**	**78.41**	**197**‖	*e*X		**P**		**05 01 46.2**	**-2.9**
SYO	**Syowa Base**	**78.41**	**197**‖	*e*X		P		05 01 55.4	+6.3
GEA0	**GERESS Array S**	**80.51**	**319**	*e*P		**P**		**05 02 01.5**	**+0.3**
GEC2	**GERESS Array S**	**80.51**	**319**	*e*P		**P**		**05 02 01.3**	**+0.1**
	comp=Z,14nm,1.1s								
GERES	**GERESS Array B**	**80.51**	**319**	P		**P**		**05 02 02.1**	**+0.9**
	comp=Z,3.1nm,0.8s,baz=99,slow=5.9,SNR=12								
GERES				LR		LR		05 43 16.7	
	comp=Z,70nm,18.9s,baz=96,slow=40								
BRG	**Berggiesshubel**	**80.67**	**321**	*e*P		P		05 02 10.3	+8.4
	comp=Z,3.4nm,0.8s								
KEST	**Kesra**	**82.33**	**306**	LR		LR		05 43 12.6	
	comp=Z,65nm,18.1s,baz=302,slow=39								
HFS	**Hagfors**	**82.39**	**330**	P		**P**		**05 02 11.0**	**+0.2**
	comp=Z,3.4nm,1.0s,baz=62,slow=6.7,SNR=3.7								
HFS				LR		LR		05 42 21.0	
	comp=Z,147nm,19.0s,baz=124,slow=38								
NOA	**NORSAR Array B**	**83.74**	**331**	LR		LR		05 43 23.8	
	comp=Z,80nm,19.5s,baz=90,slow=38								
TAM	**Tamanrasset**	**85.23**	**293**	*e*P		**P**		**05 02 26.5**	**+0.2**
	comp=Z,4.8nm,1.1s								
SPITS	**Spitsbergen Ar**	**85.42**	**348**	LR		LR		05 44 59.2	
	comp=Z,322nm,19.2s,baz=140,slow=39								
VNDA	**Vanda**	**87.35**	**168**	LR		LR		05 37 38.2	
	comp=Z,246nm,19.1s,baz=290,slow=33								
TORD	**Torodi Ar. Bea**	**88.96**	**283**	LR		LR		05 41 16.1	
	comp=Z,170nm,19.1s,baz=100,slow=35								
EKA	**Eskdalemuir Ar**	**91.15**	**325**	LR		LR		05 47 31.4	
	comp=Z,27nm,18.7s,baz=45,slow=38								
ESDC	**Sonseca Array**	**92.86**	**310**	LR		LR		05 49 26.2	
	comp=Z,36nm,19.2s,baz=285,slow=39								
KOWA	**Kowa**	**94.45**	**285**	LR		LR		05 44 10.7	
	comp=Z,174nm,19.2s,baz=40,slow=34								
DBIC	**Dimbokro**	**95.61**	**277**	LR		LR		05 45 10.4	
	comp=Z,91nm,19.0s,baz=76,slow=35								
AFI	**Afiamalu**	**97.40**	**104**	LR		LR		05 46 24.3	
	comp=Z,41nm,21.1s,baz=247,slow=35								
BORG	**Borgarnes**	**98.02**	**336**	LR		LR		05 48 55.4	
	comp=Z,114nm,19.4s,baz=116,slow=36								
PDAR	**Pinedale Array**	**132.23**	**20**	PKP		**PKPdf**		**05 09 05.8**	**+2.2**
	comp=Z,0.3nm,0.9s,baz=315,slow=3.0,SNR=3.0								
MNTX	**Cornudas Mount**	**143.54**	**24**	*e*PKPdf		**PKPdf**		**05 09 23.5**	**-0.9**
WLAR	**White Oak Lake**	**144.81**	**6**	*e*PKPdf		PKPbc		05 09 25.8	+0.4
LRAL	**Lakeview Retre**	**145.62**	**357**	*e*PKPbc		**PKPdf**		**05 09 27.6**	**-0.3**
TX31	**Lajitas Ar. Si**	**146.31**	**23**	*e*PKPdf		**PKPdf**		**05 09 28.6**	**-0.8**
TXAR	**Lajitas Array**	**146.31**	**23**	PKPbc		**PKPbc**		**05 09 30.7**	**+0.2**
	comp=Z,3.1nm,0.9s,baz=298,slow=1.9,SNR=24								
NATX	**Nacogdoches**	**146.52**	**9**	*e*PKPbc		**PKPbc**		**05 09 30.5**	**-0.4**
JCT	**Junction City**	**146.60**	**17**	*e*PKPbc		**PKPdf**		**05 09 30.3**	**+0.5**
SAML	**Samuel**	**153.22**	**253**	*e*PKPbc		**PKPbc**		**05 09 48.2**	**+0.2**
OTAV	**Otavalo**	**169.28**	**279**	*e*PKPdf		**PKPdf**		**05 09 57.8**	**-0.2**

MEX 13 04:52:44.6±0.3, 16°35N×98°26W, h24km±5km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
				Op		ISC	h	m	s	ISC
PNIG	**Pinotepa**	**0.13**	**72**	*i* P		Pb	04 52 48.3			-1.1
PNIG				*i* S		Sb	04 52 51.2			-1.4
TLIG	**Tlapa**	**1.24**	**346**	*e*P		Pn	04 52 58.5			-8.2
TLIG				*i* S		Sn	04 53 18.8			-3.9
VHO	**Vista Hermosa**	**1.63**	**64**	*e*P		Pn	04 53 09.3			-2.7
VHO				*i* S		Sn	04 53 28.8			-3.5

*ISCJB **13** 05:01:57.9±0.7, 50°25N±0°04×19°19E±0°03, h0km, Error ellipse: s-maj=6.4km s-min=2.6km az=12.4*
*CSEM **13** 05:01:58.8±0.3, 50°27N×19°24E, h1km, ML2.6/6, Error ellipse: s-maj=8.0km s-min=3.1km az=9.0*
*PRU **13** 05:01:59.8, 50°25N×19°24E, h0km*
*WAR **13** 05:02:00.4, 50°18N×19°34E, h1km, Mw2.5*

ISC 13 05:01:59.4±0.8, 50°16N±0°05×19°25E±0°02, h0km, n27, σ0°63/46, Poland

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
				Op		ISC	h	m	s	ISC
OJC	**Ojcow**	**0.35**	**80**	*e*Pg		**Pg**	**05 02 06.0**			**-0.2**
OJC				*e*Sg		**Sg**	**05 02 10.4**			**-0.4**

HANI				*i* S		**Sb**	**05 16 54.6**	**0.0**
HANI	**Diyarbakir_Han**	**0.89**	**88**	P		**Pg**	**05 16 41.8**	**-0.5**
HANI				S		**Sb**	**05 16 54.7**	**0.0**
URFA	**Urfa**	**1.01**	**201**	PG		**Pg**	**05 16 44.6**	**0.0**
URFA				SG		**Sb**	**05 16 58.8**	**+0.6**
URFA	**Urfa**	**1.01**	**201**	*e*Pg		**Pg**	**05 16 44.6**	**0.0**
URFA				*e*Sg		**Sb**	**05 16 58.8**	**+0.6**
AKCD	**Akcadag**	**1.06**	**265**	*i* P		**Pg**	**05 16 43.5**	**-2.1**
AKCD				*i* S		**Sb**	**05 17 00.6**	**+0.9**
AKCD	**Akcadag**	**1.06**	**265**	P		**Pg**	**05 16 43.5**	**-2.1**
AKCD				S		**Sb**	**05 17 00.6**	**+0.9**
HEKM	**Malatya_Hekimh**	**1.14**	**296**	*i* P		**Pg**	**05 16 46.9**	**-0.1**
HEKM				*i* S		**Sn**	**05 17 03.4**	**+0.4**
HEKM	**Malatya_Hekimh**	**1.14**	**296**	P		**Pg**	**05 16 46.9**	**-0.1**
HEKM				S		**Sn**	**05 17 03.4**	**+0.4**
MAZI	**Mazidag**	**1.32**	**135**	PN		**Pn**	**05 16 49.0**	**-0.7**
MAZI				SN		**Sb**	**05 17 06.8**	**-0.2**
MAZI	**Mazidag**	**1.32**	**135**	*e*Pn		**Pn**	**05 16 49.0**	**-0.7**
MAZI				*e*Sn		**Sb**	**05 17 06.8**	**-0.2**
SURC	**SANLIURFA_SURC**	**1.60**	**199**	*i* P		**Pb**	**05 16 55.1**	**+0.4**
SURC				*i* S		**Sg**	**05 17 17.5**	**+1.0**
SURC	**SANLIURFA_SURC**	**1.60**	**199**	P		**Pb**	**05 16 55.1**	**+0.4**

IDC ***13*** *05:27:42.7±1.7,2.'15N×92.'61E,h0km,mb3.7/5,mb1 4.0/8, mb1mx3.6/66,mbtmp3.8/8,ML3.7/2,Error ellipse: s-maj=43.7km s-min=23.9km az=39.0*

ISCJB ***13*** *05:27:45.2±1.2,2.'2N±0.'2×92.'6E±0.'1,h33km,mb3.7/5, Error ellipse: s-maj=25.6km s-min=14.2km az=17.6*

ISC 13 05:27:47.4±1.3,2.'2N±0.'2×92.'6E±0.'1,h35km,n8,σ1s32/8, mb3.8/5,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PSI	**Prapat**	**6.33**	**84**	Pn			**Pn**	**05 29 17.8**	**-0.7**
	2.0nm,0.3s,baz=266,slow=14,SNR=8.4								
PALK	**Pallekele**	**12.91**	**294**	Pn			**Pn**	**05 30 47.3**	**-1.3**
	0.4nm,0.3s,baz=117,slow=16,SNR=3.9								
PALK				Sn			Sn	05 32 56.6	-15
	1.1nm,0.3s,baz=116,slow=18,SNR=5.1								
CMAR	**Chiang Mai Arr**	**17.34**	**21**	P			**Pn**	**05 31 45.4**	**-1.5**
	baz=217,slow=13,SNR=3.7								
MKAR	**Makanchi Array**	**45.35**	**350**	P			**P**	**05 36 02.9**	**+0.6**
	0.7nm,0.7s,baz=172,slow=9.1,SNR=8.9								
WRA	**Warramunga Arr**	**46.45**	**120**	P			**P**	**05 36 11.3**	**-0.1**
	1.1nm,0.8s,baz=299,slow=8.6,SNR=7.6								
SONM	**Songino Array**	**47.03**	**13**	P			**P**	**05 36 17.2**	**+1.6**
	0.8nm,0.7s,baz=193,slow=8.9,SNR=5.0								
KURBB	**Kurchatov Arra**	**49.73**	**348**	P			**P**	**05 36 36.1**	**-0.1**
	0.4nm,0.8s,baz=168,slow=6.7,SNR=3.8								
GERES	**GERESS Array B**	**81.08**	**319**	P			**P**	**05 40 00.4**	**+1.2**
	0.4nm,0.2s,baz=88,slow=5.1,SNR=2.5								

IDC ***13*** *05:28:08.8±1.6,2.'51N×92.'69E,h0km,mb3.7/5,mb1 3.9/7, mb1mx3.6/65,mbtmp3.7/7,ML3.9/2,Error ellipse: s-maj=48.1km s-min=26.5km az=48.0*

ISCJB ***13*** *05:28:11.6±1.2,2.'6N±0.'2×92.'6E±0.'1,h33km,mb3.7/5, Error ellipse: s-maj=26.1km s-min=19.3km az=18.5*

ISC 13 05:28:13.8±1.3,2.'6N±0.'2×92.'6E±0.'1,h35km,n8,σ1s31/8, mb3.7/5,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**12.78**	**292**	Pn			**Pn**	**05 31 12.0**	**-1.1**
	0.7nm,0.3s,baz=116,slow=13,SNR=3.3								
PALK				Sn			Sn	05 33 23.2	-11
	0.7nm,0.3s,baz=297,slow=2.3,SNR=3.2								
CMAR	**Chiang Mai Arr**	**16.94**	**21**	Pn			**Pn**	**05 32 06.3**	**-1.9**
	0.2nm,0.3s,baz=227,slow=14,SNR=5.5								
MKAR	**Makanchi Array**	**44.95**	**350**	P			**P**	**05 36 26.3**	**+0.9**
	0.5nm,0.4s,baz=166,slow=9.0,SNR=6.8								
SONM	**Songino Array**	**46.62**	**13**	P			**P**	**05 36 39.2**	**+0.5**
	0.4nm,0.6s,baz=188,slow=8.7,SNR=2.8								
WRA	**Warramunga Arr**	**46.64**	**121**	P			**P**	**05 36 38.6**	**-0.5**
	0.9nm,1.0s,baz=298,slow=8.7,SNR=2.9								
KURBB	**Kurchatov Arra**	**49.34**	**348**	P			**P**	**05 37 00.8**	**+1.3**
	0.6nm,0.8s,baz=176,slow=7.0,SNR=4.4								
GERES	**GERESS Array B**	**80.78**	**319**	P			**P**	**05 40 24.8**	**+0.8**
	0.3nm,0.2s,baz=99,slow=6.2,SNR=3.6								
TXAR	**Lajitas Array**	**144.63**	**25**	PKP			**PKPdf**	**05 47 47.8**	**+0.1**
	0.2nm,0.5s,baz=307,slow=0.5,SNR=4.1								

MEX 13 05:29:36.5±0.5,16.'18N×98.'62W,h0km±12km,MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.52**	**66**	*e*P			Pg	05 29 45.9	-0.5
PNIG				*i* S			Sg	05 29 53.6	+0.5
TLIG	**Tlapa**	**1.37**	**2**	*e*P			Pg	05 29 59.3	-3.6
TLIG				*e*S			Sg	05 30 16.6	-4.1
VHO	**Vista Hermosa**	**2.01**	**64**	*e*P			Pn	05 30 09.0	-3.0
VHO				*e*S			Sn	05 30 35.6	-2.3

ISCJB ***13*** *05:31:43.1±0.4,2.'55N±0.'05×89.'67E±0.'05,h10km, mb4.6/42,Error ellipse: s-maj=8.1km s-min=6.1km az=25.1*

IDC ***13*** *05:31:43.3±0.6,2.'65N×89.'67E,h0km,mb4.2/19, mb1 4.2/22,mb1mx4.0/69,mbtmp4.2/22,ML4.0/3,MS3.0/1, Ms1 3.0/1,ms1mx2.5/55,Error ellipse: s-maj=23.0km s-min=12.5km az=49.0*

NEIC ***13*** *05:31:45.7±2.8,2.'65N×89.'71E,h14km±16km,mb5.0/19, Error ellipse: s-maj=8.5km s-min=5.3km az=217.0*

ISC 13 05:31:45.0±0.5,2.'64N±0.'07×89.'67E±0.'05,h10km,n111, σ2s44/104,mb4.7/42,North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BSI	**Banda Aceh**	**6.29**	**63**	P			**Pn**	**05 33 16.1**	**-1.8**
BSI				S			**Sn**	**05 34 21.5**	**-8.4**
MLSI	**Meulaboh, Aceh**	**6.91**	**76**	P			**Pn**	**05 33 23.4**	**-3.1**
TPTI		**7.53**	**85**	P			**Pn**	**05 33 31.7**	**-3.2**
LHMI	**Lhok Sumawe**	**7.70**	**70**	P			Pn	05 33 31.3	-6.0
LHMI	**Lhok Sumawe**	**7.70**	**70**	*e*Pn			**Pn**	**05 33 39.4**	**+2.1**
GSI	**Gunungsitoli**	**8.01**	**99**	P			**Pn**	**05 33 38.5**	**-3.1**
GSI	**Gunungsitoli**	**8.01**	**99**	*e*Pn			**Pn**	**05 33 40.2**	**-1.4**
KCSI	**Kotacane, Aceh**	**8.14**	**84**	P			**Pn**	**05 33 43.7**	**+0.4**
PSI	**Prapat**	**9.24**	**89**	Pn			**Pn**	**05 33 57.1**	**-1.6**
	1.7nm,0.3s,baz=256,slow=6.1,SNR=7.5								
PSI				Sn			**Sn**	**05 35 37.9**	**-5.0**
	2.4nm,0.3s,baz=320,slow=17,SNR=3.7								
PSI	**Prapat**	**9.24**	**89**	*e*Pn			**Pn**	**05 33 57.5**	**-1.2**
PSI				Sn			**Sn**	**05 35 37.9**	**-5.0**
PALK	**Pallekele**	**10.05**	**298**	Pn			**Pn**	**05 34 08.3**	**-1.4**
	0.9nm,0.3s,baz=117,slow=15,SNR=3.8								
PALK				Sn			Sn	05 35 52.7	-10
	7.6nm,0.3s,baz=116,slow=6.6,SNR=6.7								
PALK				LR			LR	05 37 46.8	
	comp=Z,86nm,19.4s,baz=116,slow=36								
PALK	**Pallekele**	**10.05**	**298**	*e*Pn			**Pn**	**05 34 08.8**	**-0.8**
PALK				*e*Sn			**Sn**	**05 35 54.1**	**-8.5**
PKDT	**Phuket**	**10.08**	**58**	P			Pn	05 34 17.6	+7.6
	8.8nm,0.7s								
SURT	**Suratani**	**11.03**	**55**	P			Pn	05 34 28.8	+5.7
	6.8nm,1.0s								
TRTT	**Trang**	**11.23**	**62**	P			**Pn**	**05 34 28.4**	**+2.6**
	4.0nm,1.2s								
PBKT	**Sadao Pong**	**17.75**	**38**	P			**P**	**05 35 53.2**	**-0.1**
	7.8nm,1.1s,1µm								
CM01	**Chiang Mai Arr**	**18.14**	**29**	*e*Pn			**P**	**05 36 03.2**	**+5.6**
CMAR	**Chiang Mai Arr**	**18.16**	**29**	P			**P**	**05 35 57.9**	**+0.1**
	0.2nm,0.3s,baz=226,slow=13,SNR=6.8								
HYB	**Hyderabad**	**18.30**	**324**	*i* P			**Pn**	**05 35 59.0**	**-0.3**
HYB				*e*S			**Sn**	**05 39 15.0**	**-8.8**
H08S3	**Diego Garcia H**	**19.95**	**239**	T			T	05 56 58.9	
	baz=58,slow=75,SNR=51								
H08S2	**Diego Garcia H**	**19.95**	**239**	T			T	05 56 55.6	
	baz=58,slow=75,SNR=62								
H08S1	**Diego Garcia H**	**19.97**	**239**	T			T	05 56 56.8	
	baz=58,slow=75,SNR=52								
KSM	**Kuching**	**20.66**	**93**	*e*P			Pn	05 36 29.2	+1.7
	17nm,1.3s								
CISI	**Cisompet, Garu**	**20.74**	**119**	*e*P			Pn	05 36 32.5	+3.9
	82nm,0.4s								
POO	**Poona**	**22.13**	**317**	*e*P			**P**	**05 36 47.0**	**+6.0**
ODAN	**Odare**	**24.18**	**355**	*e*P			**P**	**05 37 05.9**	**+3.8**
	41nm,0.7s								
RAMN	**Ramite**	**24.35**	**353**	*e*P			**P**	**05 37 07.9**	**+4.3**
	26nm,0.6s								
JIRN	**Jiri**	**25.10**	**353**	*e*P			**P**	**05 37 12.3**	**+1.8**
	64nm,0.9s								
KKN	**Kakani**	**25.36**	**351**	*e*P			**P**	**05 37 14.7**	**+2.0**
	34nm,0.8s								
GUN	**Gumba**	**25.39**	**352**	*e*P			**P**	**05 37 14.3**	**+1.2**
	50nm,0.7s								
KOLN	**Koldanda**	**25.66**	**348**	*e*P			**P**	**05 37 17.4**	**+2.0**
	18nm,0.6s								
KMI	**Kunming**	**25.66**	**28**	P			**P**	**05 37 16.8**	**+1.3**
KMI				pmax			pmax		
	comp=Z,12nm,0.8s								
PYUN	**Piuthan**	**26.11**	**346**	*e*P			**P**	**05 37 21.2**	**+1.7**
	32nm,0.9s								
LSA	**Lhasa**	**26.95**	**3**	P			**P**	**05 37 30.9**	**+3.5**
LSA				pmax			pmax		
	comp=Z,3.0nm,0.5s								
GYA	**Guiyang**	**28.76**	**33**	P			**P**	**05 37 46.3**	**+3.1**
GYA				PP			**PnPn**	**05 38 38.9**	**+5.0**
GYA				PcP			**PcP**	**05 40 55.4**	**+2.0**
GYA				S			**S**	**05 42 34.0**	**+1.1**
GYA				pmax			pmax		
	comp=Z,20nm,0.8s								
GYA				pmax			pmax		
	comp=Z,120nm,5.4s								
GYA				LR			LR		
	comp=N,480nm,16.8s								
GYA				LR			LR		
	comp=E,460nm,17.0s								
GYA				LR			LR		
	comp=Z,490nm,17.2s								
CD2	**Chengdu**	**31.11**	**24**	*e*P			**P**	**05 38 04.5**	**+0.6**
CD2				pmax			pmax		
	comp=Z,10.0nm,0.5s								
CD2				pmax			pmax		
	comp=Z,120nm,5.0s								
NIL	**Nilore**	**34.46**	**335**	*e*P			**P**	**05 38 36.5**	**+3.4**
	18nm,0.6s								
LZH	**Lanzhou**	**35.77**	**20**	*e*P			**P**	**05 38 47.6**	**+3.0**
LZH				pP			sP	05 38 52.5	+3.6
LZH				sP			pP	05 38 55.8	+8.1
LZH				*e*PP			**PP**	**05 40 08.1**	**+2.1**
LZH				pmax			pmax		
	comp=Z,22nm,0.8s								
LZH				pmax			pmax		
	comp=Z,180nm,6.4s								
LZH				LR			LR		
	comp=N,180nm,10.5s								
LZH				LR			LR		
	comp=E,130nm,10.0s								
LZH				LR			LR		
	comp=Z,220nm,11.4s								
XAN	**Xi'an**	**36.04**	**28**	P			**P**	**05 38 43.3**	**-3.5**
XAN				pP			pP	05 38 47.8	-2.1
XAN				sP			sP	05 38 50.4	-0.7
XAN				pmax			pmax		
	comp=Z,4.0nm,0.6s								
XAN				pmax			pmax		
	comp=Z,44nm,4.3s								
GTA	**Gaotai**	**37.75**	**13**	P			**P**	**05 39 01.6**	**+0.2**
GTA				pP			sP	05 39 06.5	+0.8
GTA				sP			pP	05 39 08.5	+4.0
GTA				S			**S**	**05 44 52.6**	**+0.6**
GTA				pmax			pmax		
	comp=Z,4.0nm,1.0s								
GTA				pmax			pmax		
	comp=Z,100nm,5.2s								
GTA				LR			LR		
	comp=Z,130nm,14.3s								
GTA				LR			LR		
	comp=Z,120nm,16.6s								
GTA				LR			LR		
	comp=Z,82nm,17.6s								
KSH	**Kashi**	**38.77**	**343**	P			**P**	**05 39 10.4**	**+0.5**
KSH				pP			sP	05 39 15.5	+1.2
KSH				S			**S**	**05 45 03.3**	**-4.1**
KSH				pmax			pmax		
	comp=Z,260nm,5.0s								
KSH				LR			LR		
	comp=Z,350nm,8.8s								
KSH				LR			LR		
	comp=Z,340nm,6.5s								
NJ2	**Nanjing**	**40.12**	**40**	*e*P			**P**	**05 39 22.9**	**+1.8**
NJ2				pmax			pmax		
	comp=Z,15nm,0.5s								
FITZ	**Fitzroy Crossi**	**40.99**	**122**	P			**P**	**05 39 27.8**	**-0.8**
	comp=Z,3.5nm,1.0s,baz=282,slow=14,SNR=4.2								
WMQ	**Urumqi**	**41.05**	**358**	P			**P**	**05 39 29.3**	**+0.5**
WMQ				sP			sP	05 39 36.3	+3.2
WMQ				pmax			pmax		
	comp=Z,14nm,0.7s								
WMQ				LR			LR		
	comp=Z,190nm,16.7s								
ULHL	**Ulaho**l	**41.23**	**345**	P			P	05 39 38.1	+7.6
	SNR=5.8								
UCH	**Uchtor**	**41.69**	**343**	P			P	05 39 42.5	+8.0
	SNR=6.3								
AML	**Almayashu**	**41.85**	**342**	P			P	05 39 43.5	+7.8
	SNR=7.2								
TKM2	**Tokmak 2**	**42.03**	**345**	P			P	05 39 44.3	+7.3
	SNR=6.9								
AAK	**Ala-Archa**	**42.07**	**343**	P			P	05 39 45.5	+8.2
	SNR=5.0								
EKS2	**Erkin-Say**	**42.31**	**343**	P			P	05 39 47.5	+8.3
	SNR=5.2								
HHC	**Hu-ho-hao-te**	**42.87**	**25**	*e*P			**P**	**05 39 45.4**	**+1.7**
HHC				pmax			pmax		
	comp=Z,32nm,1.1s								
HHC				pmax			pmax		
	comp=Z,76nm,6.1s								
KK31	**Karatay Array**	**43.76**	**340**	*e*P			**P**	**05 39 52.1**	**+1.3**
KKAR	**Karatay Array**	**43.76**	**340**	*e*P			**P**	**05 39 52.2**	**+1.4**
H01W3	**Cape Leeuwin H**	**43.82**	**151**	T			T	06 26 38.3	
	baz=326,slow=74,SNR=20								
H01W2	**Cape Leeuwin H**	**43.83**	**151**	T			T	06 26 41.3	
	baz=326,slow=74,SNR=17								
H01W1	**Cape Leeuwin H**	**43.84**	**151**	T			T	06 26 35.0	
	baz=326,slow=74,SNR=18								
NWAO	**Narrogin (SRO)**	**43.94**	**146**	P			**P**	**05 39 52.6**	**+0.2**
	comp=Z,8.8nm,0.9s,baz=307,slow=5.1,SNR=3.2								
NWAO	**Narrogin (SRO)**	**43.94**	**146**	*e*P			P	05 39 58.3	+5.9
	comp=Z,47nm,1.4s								
MK01	**Makanchi Array**	**44.42**	**353**	*e*P			**P**	**05 39 55.4**	**-0.7**
MK31	**Makanchi Array**	**44.45**	**353**	*e*P			**P**	**05 39 55.8**	**-0.5**
MKAR	**Makanchi Array**	**44.45**	**353**	P			**P**	**05 39 55.5**	**-0.8**
	comp=Z,3.0nm,0.8s,baz=172,slow=8.8,SNR=14								
MKAR	**Makanchi Array**	**44.45**	**353**	*e*P			**P**	**05 39 55.9**	**-0.4**
	comp=Z,39nm,0.8s								
MAKZ	**Makanchi**	**44.50**	**352**	*e*P			**P**	**05 39 56.8**	**+0.1**
	comp=Z,4.1nm,0.9s								
GEYT	**Alibeck**	**45.48**	**325**	P			**P**	**05 40 04.3**	**-0.4**
	comp=Z,1.3nm,0.2s,baz=148,slow=8.5,SNR=4.0								
SONM	**Songino Array**	**47.28**	**15**	P			**P**	**05 40 18.6**	**-0.2**
	comp=Z,6.4nm,0.6s,baz=195,slow=9.6,SNR=29								
SONA1	**Songino Array**	**47.30**	**15**	*e*P			**P**	**05 40 18.6**	**-0.4**
ULN	**Ulaanbaatar**	**47.49**	**16**	*e*P			**P**	**05 40 20.2**	**-0.2**
	comp=Z,4.3nm,0.9s								
KURBB	**Kurchatov Arra**	**48.73**	**351**	P			**P**	**05 40 29.3**	**-0.5**
	comp=Z,1.5nm,0.7s,baz=175,slow=7.2,SNR=14								
KURK	**Kurchatov**	**48.81**	**351**	*e*P			**P**	**05 40 30.4**	**+0.1**
	comp=Z,9.2nm,1.0s								
WRA	**Warramunga Arr**	**49.24**	**119**	P			**P**	**05 40 34.3**	**0.0**
	comp=Z,2.2nm,0.5s,baz=297,slow=8.6,SNR=33								
WRAB	**Tennant Creek**	**49.25**	**119**	*e*P			**P**	**05 40 34.6**	**+0.3**
	comp=Z,52nm,2.0s								
WB2	**Warramunga Arr**	**49.25**	**119**	*e*P			**P**	**05 40 34.3**	**0.0**
	comp=Z,10.0nm,1.1s								
ASAR	**Alice Springs**	**50.36**	**124**	P			**P**	**05 40 42.2**	**-0.5**
	comp=Z,0.8nm,0.8s,baz=293,slow=7.9,SNR=4.7								
ZALV	**Zalesovo Beam**	**51.30**	**356**	P			**P**	**05 40 47.9**	**-1.3**
	comp=Z,4.9nm,0.3s,baz=181,slow=6.9,SNR=6.1								
CN2	**Changchun**	**51.80**	**33**	*e*P			**P**	**05 40 55.4**	**+2.2**
CN2				esP			sP	05 41 03.3	+5.7
BVAR	**Borovoye Array**	**52.70**	**345**	P			**P**	**05 40 58.8**	**-0.9**
	comp=Z,0.7nm,0.5s,baz=111,slow=7.9,SNR=2.4								
ABKAR	**Akbulak array**	**52.92**	**336**	*e*P			**P**	**05 41 01.6**	**+0.2**
	comp=Z,86nm,0.6s								
AKTO	**Aktyubinsk**	**54.62**	**336**	P			**P**	**05 41 14.5**	**+0.6**
	comp=Z,1.0nm,0.3s,baz=135,slow=8.6,SNR=3.4								
STKA	**Stephens Creek**	**59.99**	**129**	P			**P**	**05 41 51.9**	**-0.3**
	comp=Z,1.1nm,0.6s,baz=326,slow=6.6,SNR=3.3								
BR131	**Keskin Array S**	**62.64**	**314**	*e*P			**P**	**05 42 10.4**	**+0.3**
BRTR	**Keskin Array B**	**62.64**	**314**	P			**P**	**05 42 09.6**	**-0.6**
	comp=Z,0.9nm,0.6s,baz=137,slow=8.1,SNR=5.8								
BR231	**Keskin MP Arra**	**63.30**	**314**	*e*P			**P**	**05 42 10.5**	**-4.0**
YAK	**Yakutsk**	**66.36**	**19**	*e*P			**P**	**05 42 33.7**	**-0.1**
	comp=Z,30nm,0.4s								
LBTB	**Lobatse**	**67.85**	**242**	*e*P			**P**	**05 42 45.1**	**+1.0**
	comp=Z,35nm,1.8s								
IDI	**Anoyia**	**68.01**	**307**	*e*P			**P**	**05 42 44.2**	**-0.7**
	comp=Z,90nm,1.7s								
BOSA	**Boshof**	**69.05**	**238**	P			**P**	**05 42 51.5**	**-0.1**
	comp=Z,2.6nm,0.7s,baz=76,slow=8.1,SNR=5.3								
BOSA	**Boshof**	**69.05**	**238**	*e*P			**P**	**05 42 52.8**	**+1.1**
	comp=Z,12nm,1.3s								
KLMR	**Klimovskoe**	**69.32**	**336**	*e*P			**P**	**05 42 51.3**	**-1.2**
KLMR					AMP			05 43 00.3	
	comp=Z,11nm,1.2s								
MLR	**Muntele Rosu**	**69.91**	**318**	P			**P**	**05 42 57.4**	**+0.8**
	comp=Z,0.9nm,0.9s,baz=353,slow=19,SNR=4.1								
MLR	**Muntele Rosu**	**69.91**	**318**	*e*P			**P**	**05 42 57.9**	**+1.3**
	comp=Z,7.6nm,0.6s								
BUR04	**Bucovina Ar. S**	**71.03**	**320**	*e*P			**P**	**05 43 04.0**	**+0.6**
BUR08	**Bucovina Ar. S**	**71.05**	**320**	*e*P			**P**	**05 43 03.0**	**-0.5**
TIXI	**Tiksi**	**73.23**	**12**	*e*P			**P**	**05 43 14.3**	**-1.7**
	comp=Z,8.0nm,0.6s								
TSUM	**Tsumeb**	**74.01**	**249**	*e*P			**P**	**05 43 22.9**	**+1.2**
	comp=Z,22nm,1.8s								
PETK	**Petropavlovsk-**	**74.82**	**35**	P			**P**	**05 43 26.2**	**+0.5**
	comp=Z,0.8nm,0.3s,baz=264,slow=13,SNR=4.3								
FIA1	**FINESS Array S**	**75.31**	**334**	*e*P			**P**	**05 43 28.4**	**+0.2**
	comp=Z,6.5nm,0.7s								
FINES	**FINESS Array B**	**75.31**	**334**	P			**P**	**05 43 28.1**	**-0.2**
	comp=Z,2.6nm,0.7s,baz=119,slow=6.7,SNR=10								
GEA0	**GERESS Array S**	**78.79**	**319**	*e*P			**P**	**05 43 48.8**	**+0.5**
GERES	**GERESS Array B**	**78.80**	**319**	P			**P**	**05 43 48.1**	**-0.3**
	comp=Z,0.4nm,0.2s,baz=107,slow=4.6,SNR=4.5								
CLL	**Colln**	**79.62**	**322**	*i* P			**P**	**05 43 52.8**	**+0.2**
HFS	**Hagfors**	**80.75**	**331**	P			**P**	**05 43 58.3**	**-0.3**
	comp=Z,1.4nm,0.7s,baz=116,slow=5.0,SNR=7.8								
IM3	**Indian Mountai**	**98.12**	**22**	*e*P			**P**	**05 45 20.8**	**-1.0**
PDAR	**Pinedale Array**	**131.58**	**19**	PKP			**PKPdf**	**05 50 58.3**	**-0.5**
	comp=Z,0.3nm,0.6s,baz=282,slow=0.8,SNR=3.5								
ECSD	**EROS Data Cent**	**133.49**	**6**	*e*PKPdf			**PKPdf**	**05 51 01.9**	**-0.2**
VBMS	**Vicksburg**	**145.33**	**0**	*e*PKPbc			**PKPdf**	**05 51 24.0**	**+0.1**
NATX	**Nacogdoches**	**145.54**	**7**	*e*PKPbc			**PKPdf**	**05 51 24.0**	**-0.3**
TX31	**Lajitas Ar. Si**	**145.74**	**21**	*e*PKPdf			**PKPdf**	**05 51 24.8**	**0.0**
TXAR	**Lajitas Array**	**145.74**	**21**	PKPbc			**PKPdf**	**05 51 24.7**	**-0.2**
	comp=Z,2.6nm,0.5s,baz=279,slow=0.9,SNR=35								
JCT	**Junction City**	**145.85**	**15**	*e*PKPdf			**PKPdf**	**05 51 24.4**	**-0.5**
CBYP	**Canovanas**	**148.18**	**312**	*e*PKPbc			**PKPbc**	**05 51 32.2**	**-0.1**
CRPR	**Cabo Rojo, PR**	**149.27**	**313**	*e*PKPbc			**PKPbc**	**05 51 34.9**	**-0.2**

IDC 13 05:35:00.9±3.2,2.'62N×89.'18E,h0km,mb3.5/3,mb1 3.7/4, mb1mx3.3/69,mbtmp3.5/4,ML4.0/1,MS3.2/1,Ms1 3.2/1, ms1mx2.5/51,Error ellipse: s-maj=88.9km s-min=31.0km az=64.0,North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**18.42**	**31**	P			P	05 39 19.4	+1.4
	0.2nm,0.3s,baz=224,slow=13,SNR=2.8								
MKAR	**Makanchi Array**	**44.41**	**353**	P			P	05 43 13.8	+0.4
	0.4nm,0.7s,baz=168,slow=8.0,SNR=2.4								
SONM	**Songino Array**	**47.44**	**16**	P			P	05 43 36.1	-1.3
	1.1nm,0.6s,baz=190,slow=10,SNR=4.4								
KSRS	**Korea Array**	**49.64**	**41**	LR			LR	06 05 21.9	
	comp=Z,24nm,19.6s,baz=220,slow=37								
WRA	**Warramunga Arr**	**49.66**	**119**	P			P	05 43 54.7	-0.2
	0.3nm,0.8s,baz=298,slow=8.8,SNR=4.2								

IDC 13 05:38:25.5±3.9,41.'59S×84.'97E,h0km,mb3.7/5, mb1 3.9/5,mb1mx3.5/56,mbtmp3.7/5,MS3.7/5,Ms1 3.7/5, ms1mx3.1/44,Error ellipse: s-maj=119.5km s-min=37.8km az=26.0,Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
H01W2	**Cape Leeuwin H**	**23.79**	**83**	T			T	06 08 11.4	
	baz=245,slow=74,SNR=28								
H01W3	**Cape Leeuwin H**	**23.80**	**83**	T			T	06 08 12.0	
	baz=245,slow=74,SNR=31		

BUR08	Bucovina Ar. S	73.15	320	*e*P		P	05 51 35.1	+1.1
FIA0	FINESS Array S	77.14	333	*e*P		P	05 51 56.0	-0.6
FINES	FINESS Array B	77.14	333	P		P	05 51 56.0	-0.6
	2.6nm,1.0s,baz=166,slow=13,SNR=4.1							
SYO	Syowa Base	78.76	197	*e*PcP	PcP		05 52 14.0	-0.2
PYZ	Puysegur Point	80.78	137	*e*P		P	05 52 17.1	+0.3
	168nm,1.0s							
GEA0	GERESS Array S	80.91	319	*e*P		P	05 52 18.1	+0.5
GERES	GERESS Array B	80.91	319	P		P	05 52 17.8	+0.1
	1.1nm,0.6s,baz=104,slow=5.6,SNR=11							
LTX	Lajitas	145.87	24	*e*PKPdf	PKPdf		05 59 41.3	-1.7
TX31	Lajitas Ar. Si	145.87	24	*e*PKPdf	PKPdf		05 59 41.4	-1.6
TXAR	Lajitas Array	145.87	24	PKPbc	PKPdf		05 59 41.3	-1.7
	0.6nm,0.6s,baz=271,slow=0.9,SNR=5.8							
LCO	Las Campanas	148.03	210	*e*PKPdf	PKPdf		05 59 46.2	-0.6
MYIG	MØrida	157.51	4	*e*PKPdf	PKPdf		06 00 01.0	+0.6

IDC ***13*** *05:45:21.0±1.1,54°.06N×163°.74W,h0km,mb3.9/15, mb1 4.0/17,mb1mx3.8/85,mbtmp3.9/17,ML3.6/2,MS3.6/2, Ms1 3.7/2,ms1mx2.7/70,Error ellipse: s-maj=27.5km s-min=15.8km az=177.0*

NEIC ***13*** *05:45:23.3±0.0,53°.84N×163°.49W,h26km,mb3.6/3, ML3.6(AEIC),After AEIC.*

ISCJB ***13*** *05:45:24.1±0.8,53°.91N±0°.07×163°.50W±0°.06,h40km±6km, mb4.0/15,MS3.9/1,Error ellipse: s-maj=12.8km s-min=4.0km az=160.4*

ISC 13 05:45:24.0±1.4,53°.94N±0°.08×163°.54W±0°.05, h22km±10km,n62,σ1$15/62,mb4.1/15,Unimak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WESE	West Dahl East	0.82	312	P	Pb	05 45 39.9	+0.3
WESN	West Dahl North	0.88	316	P	Pn	05 45 41.1	0.0
WESP	Westdahl Peak	0.89	309	P	Pn	05 45 41.0	-0.2
SSLW	Shishaldin Wes	0.91	338	P	Pn	05 45 41.2	-0.2
SSLN	Shishaldin Nor	0.92	343	P	Pn	05 45 41.8	+0.2
FALS	False Pass	0.93	4	P	Pb	05 45 41.3	-0.1
FALS				S	Sn	05 45 56.0	+1.7
AKSA	Akutan Strait	1.29	280	P	Pn	05 45 46.1	-0.5
AKSA				S	Sn	05 46 02.9	-0.3
AKUT	Akutan	1.33	280	P	Pn	05 45 46.9	-0.4
AKUT				S	Sn	05 46 03.2	-1.1
AHB	Akutan Harbor	1.36	279	P	Pn	05 45 47.2	-0.4
AKRB	Akutan Reef Bi	1.51	278	P	Pn	05 45 49.4	-0.3
UNV	Unalaska Valle	1.76	268	P	Pn	05 45 52.0	-1.0
UNV				S	Sn	05 46 15.4	+0.7
MTBL	Makushin Table	1.86	272	P	Pn	05 45 54.3	-0.2
MGOD	Makushin Gods	1.98	267	P	Pn	05 45 55.9	-0.3
MCIR	Makushin Cirqu	1.98	272	P	Pn	05 45 56.3	+0.1
SDPT	Sand Point	2.27	50	P	Pn	05 46 00.4	+0.2
SDPT				S	Sn	05 46 27.6	+0.2
OKTU	Okmok Mt. Tuli	2.74	260	P	Pn	05 46 07.3	+0.8
VNWF	Veniaminof 8	3.19	44	P	Pn	05 46 14.6	+1.8
VNSG	Veniaminof 6	3.37	48	P	Pn	05 46 16.0	+0.7
VNHG	Veniaminof 1	3.40	46	P	Pn	05 46 16.7	+0.9
CHGN	Chignik	3.78	49	P	Pn	05 46 21.4	+0.6
ANNW	Aniakchak Nort	4.29	43	P	Pn	05 46 29.6	+1.7
SPIA	Saint Paul Isl	5.01	313	P	Pn	05 46 37.5	-0.1
CAHL	Cahill	6.19	45	P	Pn	05 46 55.9	+1.9
OHAK	Old Harbor	6.68	56	P	Pn	05 47 00.0	-0.6
KDAK	Kodiak Island	7.27	54	Pn	Pn	05 47 07.9	-0.8
	1.9nm,0.3s,baz=154,slow=5.1,SNR=46						
KDAK				Sn	Sn	05 48 27.8	-2.6
	0.7nm,0.3s,baz=343,slow=19,SNR=3.7						
KDAK	Kodiak Island	7.27	54	*e*Pn	Pn	05 47 08.5	-0.2
	24nm,0.8s						
KDAK				Sn	Sn	05 48 27.8	-2.6
RC01	Rabbit Creek A	10.30	40	*e*Pn	Pn	05 47 51.0	+0.7
	2.7nm,0.4s						
KTH	Kantishna Hill	11.63	29	*e*Pn	Pn	05 48 10.1	+1.6
	12nm,1.3s						
TRF	Thorofare Moun	11.74	30	*e*Pn	Pn	05 48 12.9	+2.8
	26nm,1.4s						
BPAW	Bear Paw Mtn.	12.04	27	*e*Pn	Pn	05 48 16.3	+2.3
	0.5nm,0.6s						
BMRM	Bremner River	12.36	48	*e*Pn	Pn	05 48 17.8	-0.6
	9.1nm,1.0s						
MCK	McKinley	12.36	32	*e*Pn	Pn	05 48 19.9	+1.6
	4.9nm,0.9s						
PAX	Paxson	13.04	39	*e*Pn	Pn	05 48 27.7	-0.1
	3.6nm,0.8s						
ILAR	Eielson Array	13.73	31	Pn	Pn	05 48 35.5	-1.5
	0.1nm,0.3s,baz=219,slow=12,SNR=9.0						
ILAR				LR	LR	05 54 28.9	
	comp=Z,176nm,19.8s,baz=335,slow=40						
DOT	Dot Lake	13.96	38	*e*Pn	Pn	05 48 39.9	-0.3
	3.9nm,0.4s						
EGAK	Eagle	15.64	37	*e*P	Pn	05 49 04.3	+1.5
	3.2nm,0.8s						
DAWY	Dawson	15.94	41	*e*P	Pn	05 49 06.2	-0.3
	4.3nm,0.8s						
INK	Inuvik	20.11	33	P	P	05 49 53.9	-1.9
	0.7nm,0.5s,baz=182,slow=7.0,SNR=14						
INK	Inuvik	20.11	33	*e*P	P	05 49 54.4	-1.4
	1.4nm,0.5s						
PETK	Petropavlovsk-	22.87	284	P	P	05 50 25.8	+0.2
	1.4nm,0.4s,baz=83,slow=16,SNR=6.0						
YKA	Yellowknife Ar	26.54	52	P	P	05 50 60.0	+0.3
	1.2nm,0.7s,baz=268,slow=9.0,SNR=26						
NVAR	Mina Array Bea	34.29	98	P	P	05 52 10.8	+2.2
	1.0nm,0.7s,baz=297,slow=9.4,SNR=6.3						
H11N2	WAKE ISLAND Hy	40.97	225	T	T	06 36 54.0	
	baz=26,slow=76,SNR=1725						
H11N3	WAKE ISLAND Hy	40.97	225	T	T	06 36 54.4	
	baz=26,slow=76,SNR=1933						
H11N1	WAKE ISLAND Hy	40.98	225	T	T	06 36 55.4	
	baz=26,slow=76,SNR=1634						
H11S1	WAKE ISLAND Hy	42.14	225	T	T	06 38 21.8	
	baz=26,slow=76,SNR=2908						
H11S2	WAKE ISLAND Hy	42.15	225	T	T	06 38 23.2	
	baz=26,slow=76,SNR=3612						
H11S3	WAKE ISLAND Hy	42.16	225	T	T	06 38 19.6	
	baz=26,slow=76,SNR=2773						
TXAR	Lajitas Array	49.29	95	P	P	05 54 12.3	+1.2
	2.6nm,0.7s,baz=298,slow=5.5,SNR=25						
ULN	Ulaanbaatar	53.11	303	*e*P	P	05 54 40.0	+0.4
	7.2nm,0.6s						
KURK	Kurchatov	63.45	321	P	P	05 55 51.9	+0.2
KURBB	Kurchatov Arra	63.56	321	P	P	05 55 51.8	-0.5
	0.5nm,0.3s,baz=30,slow=6.9,SNR=6.8						
BVAR	Borovoye Array	64.38	327	P	P	05 55 58.0	+0.3
	1.2nm,0.5s,baz=51,slow=7.6,SNR=9.0						
FINES	FINESS Array B	64.71	355	P	P	05 55 58.9	-0.8
	1.2nm,0.5s,baz=12,slow=7.5,SNR=12						
MKAR	Makanchi Array	65.19	316	P	P	05 56 01.1	-2.0
	0.3nm,0.5s,baz=54,slow=7.3,SNR=3.7						
HFS	Hagfors	66.26	2	P	P	05 56 09.0	-0.7
	2.3nm,0.7s,baz=4.3,slow=5.8,SNR=9.3						
EKA	Eskdalemuir Ar	69.90	12	P	P	05 56 32.5	-0.2
	0.8nm,0.6s,baz=8.9,slow=5.0,SNR=3.1						
AKASG	Malin Array Be	75.19	352	P	P	05 57 03.2	-0.9
	0.8nm,0.4s,baz=14,slow=6.2,SNR=4.3						
CMAR	Chiang Mai Arr	79.61	287	P	P	05 57 29.7	+0.2
	0.4nm,0.6s,baz=23,slow=4.9,SNR=3.3						
ESDC	Sonseca Array	85.11	16	P	P	05 57 59.1	+1.1
	0.4nm,0.4s,baz=336,slow=6.3,SNR=3.4						
BRTR	Keskin Array B	85.55	347	P	P	05 57 59.8	-0.5
	0.9nm,0.7s,baz=48,slow=4.5,SNR=5.3						
RPN	Rapa Nui	93.30	134	LR	LR	06 29 29.7	
	comp=Z,45nm,19.8s,baz=71,slow=28						

ISCJB ***13*** *05:47:56.8±1.4,1°.5N±0°.2×89°.5E±0°.2,h10km,mb3.7/5, Error ellipse: s-maj=29.4km s-min=20.5km az=29.9*

IDC ***13*** *05:47:57.0±1.6,1°.43N×89°.54E,h0km,mb3.7/5,mb1 3.8/7, mb1mx3.4/66,mbtmp3.6/7,ML3.4/2,Error ellipse: s-maj=44.6km s-min=28.0km az=44.0*

ISC 13 05:47:58.5±1.4,1°.5N±0°.2×89°.5E±0°.2,h10km,n11,σ1$45/8, mb3.8/5,North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	Pallekele	10.46	304	Pn	Pn	05 50 27.8	-0.9
	0.7nm,0.3s,baz=114,slow=14,SNR=3.9						
H08S2	Diego Garcia H	19.19	242	T	T	06 12 28.3	
	baz=60,slow=75,SNR=11						
H08S3	Diego Garcia H	19.19	242	T	T	06 12 36.7	
	baz=60,slow=75,SNR=8.2						
H08S1	Diego Garcia H	19.20	242	T	T	06 12 27.3	
	baz=60,slow=75,SNR=5.4						
CMAR	Chiang Mai Arr	19.28	28	P	P	05 52 23.5	-0.1
	0.0nm,0.3s,baz=220,slow=15,SNR=3.8						
SONM	Songino Array	48.47	15	P	P	05 56 39.6	-1.8
	0.8nm,0.6s,baz=188,slow=9.5,SNR=3.2						
WRA	Warramunga Arr	48.87	118	P	P	05 56 44.5	-0.3
	0.6nm,0.6s,baz=295,slow=8.5,SNR=5.2						
KURBB	Kurchatov Arra	49.85	351	P	P	05 56 53.1	+1.3
	0.3nm,0.6s,baz=172,slow=8.3,SNR=2.4						
ZALV	Zalesovo Beam	52.45	357	P	P	05 57 13.3	+2.0
	0.5nm,0.4s,baz=158,slow=8.1,SNR=2.8						
GERES	GERESS Array B	79.54	319	P	P	06 00 06.5	+0.7
	0.2nm,0.2s,baz=101,slow=5.1,SNR=2.3						
TXAR	Lajitas Array	146.90	21	PKPbc	PKPdf	06 07 40.5	+0.2
	0.2nm,0.7s,baz=354,slow=1.8,SNR=3.0						

ISN ***13*** *05:50:52.9±1.1,39°.30N×41°.08E,h0km,ML3.3*

ISK ***13*** *05:50:56.0,39°.31N×41°.03E,h5km,ML3.2/15*

ATA ***13*** *05:50:56.1±1.5,39°.33N×41°.08E,h14km±8km,ML3.8, MW3.8*

CSEM ***13*** *05:50:57.5±0.1,39°.32N×41°.05E,h2km,ML3.4,Error ellipse: s-maj=3.8km s-min=3.4km az=168.0*

DDA ***13*** *05:50:57.2,39°.34N×41°.07E,h12km,Ml3.4*

ISC 13 05:50:57.3±1.0,39°.34N±0°.01×41°.05E±0°.01,h8km±8km, n123,σ1$17/168,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ECAT	Cat-ERZURUM	0.27	348	*i* P	Pg	05 51 02.8	0.0
ECAT				*e*S	Sb	05 51 07.7	-1.9
ECAT				IAML		05 51 10.5	
	comp=Z,1μm,0.3s						
ECAT	Cat-ERZURUM	0.27	348	*i* P	Pg	05 51 02.8	0.0
ECAT				*i* S	Sb	05 51 07.6	-1.9
ECAT	Cat-ERZURUM	0.27	348	P	Pg	05 51 02.8	0.0
ECAT				S	Sb	05 51 07.6	-1.9
VRTB	Varto-Mus	0.37	119	PG	Pg	05 51 04.8	+0.3
VRTB	Varto-Mus	0.37	119	*i* P	Pg	05 51 04.8	+0.3
VRTB				*i* S	Sb	05 51 15.9	+3.8
VRTB	Varto-Mus	0.37	119	P	Pg	05 51 04.8	+0.3
BNGB	Bing ¶ll	0.45	219	PG	Pg	05 51 05.0	-1.0
BNGB				SG	Sg	05 51 12.3	+0.9
BGOL	Bingol	0.46	220	*i* P	Pg	05 51 05.7	-0.4
BGOL				*i* S	Sb	05 51 13.6	-1.1
BGOL	Bingol	0.46	220	P	Pg	05 51 05.7	-0.4
BGOL				S	Sb	05 51 13.6	-1.1
ERZM	Erzurum	0.62	24	*e*P	Pg	05 51 08.1	-1.1
ERZM				*e*S	Sb	05 51 18.2	-1.3
ERZM	Erzurum	0.62	24	*i* P	Pg	05 51 08.1	-1.1
ERZM	Erzurum	0.62	24	P	Pg	05 51 08.1	-1.1
BINT	Bingol	0.64	223	*e*Pg	Pg	05 51 05.0	-4.5
BINT				*e*Sg	Sg	05 51 12.9	-4.9
EKAR	Karacoban	0.80	96	*e*P	Pg	05 51 11.4	-1.2
EKAR				*i* Pg	Pb	05 51 12.8	-0.8
EKAR				IAML		05 51 32.1	
	comp=Z,374nm,0.5s						
EKAR	Karacoban	0.80	96	*i* P	Pg	05 51 11.6	-1.0
EKAR				*i* S	Sn	05 51 25.9	-1.3
EKAR	Karacoban	0.80	96	P	Pg	05 51 11.6	-1.0
EKAR				S	Sn	05 51 25.9	-1.3
KOPT	Kop Dagi	0.80	328	*e*P	Pg	05 51 12.8	+0.2
KOPT				IAML		05 51 32.4	
	comp=Z,281nm,0.5s						
KOPT	Kop Dagi	0.80	328	*i* P	Pb	05 51 13.2	-0.4
KOPT	Kop Dagi	0.80	328	P	Pb	05 51 13.2	-0.4
HOMI	Horasan	0.97	43	*e*P	Pg	05 51 13.9	-2.0
HOMI				*e*S	Sb	05 51 29.1	-0.5
HOMI				IAML		05 51 37.9	
	comp=Z,290nm,0.6s						
HOMI	Horasan	0.97	43	*i* P	Pg	05 51 14.1	-1.8
HOMI				*i* S	Sb	05 51 29.3	-0.3
HANI	Diyarbakir_Han	1.05	209	*i* P	Pb	05 51 17.8	0.0
HANI				*i* S	Sn	05 51 33.3	-0.1
HANI	Diyarbakir_Han	1.05	209	P	Pb	05 51 17.8	0.0
HANI				S	Sn	05 51 33.3	-0.1
ERZN	Erzincan	1.05	284	PG	Pg	05 51 17.1	-0.4
ERZN				SG	Sb	05 51 32.5	+0.6
BAYB	BAYBURT	1.10	327	*e*P	Pg	05 51 18.2	-0.3
BAYB				*e*S	Sn	05 51 35.9	+1.1
BAYB				IAML		05 51 43.2	
	comp=Z,86nm,0.5s						
BAYB	BAYBURT	1.10	327	*i* P	Pb	05 51 18.6	-0.1
BAYB				*i* S	Sn	05 51 35.9	+1.1
BAYB	BAYBURT	1.10	327	P	Pb	05 51 18.6	-0.1
GURO	Guroymak-BITLI	1.10	135	PN	Pg	05 51 17.8	-0.6
GURO				SN	Sb	05 51 33.2	-0.1
GURO	Guroymak-BITLI	1.10	135	*e*Pn	Pg	05 51 17.8	-0.6
GURO				*e*Sn	Sb	05 51 33.2	-0.1
EUZM	Uzumlu	1.10	290	*e*P	Pg	05 51 17.3	-1.2
EUZM				*e*S	Sn	05 51 34.1	-0.7
EUZM				IAML		05 51 41.6	
	comp=Z,54nm,0.4s						
EUZM	Uzumlu	1.10	290	*i* P	Pg	05 51 17.4	-1.1
EUZM	Uzumlu	1.10	290	P	Pg	05 51 17.4	-1.1
TNCL	Tunceli-Merkez	1.19	260	*e*P	Pg	05 51 19.1	-1.0
TNCL				*e*S	Sn	05 51 37.4	+0.6
TNCL				IAML		05 51 39.8	
	comp=Z,238nm,0.4s						
TNCL	Tunceli-Merkez	1.19	260	*i* P	Pg	05 51 19.7	-0.4
TNCL				*i* S	Sn	05 51 36.9	+0.1
TNCL	Tunceli-Merkez	1.19	260	P	Pg	05 51 19.7	-0.4
TNCL				S	Sn	05 51 36.9	+0.1
SVAN	Silvan-Diyarba	1.19	174	PN	Pg	05 51 19.5	-0.7
SVAN	Silvan-Diyarba	1.19	174	*i* P	Pg	05 51 19.8	-0.4
SVAN				*i* S	Sn	05 51 36.5	-0.3
SVAN	Silvan-Diyarba	1.19	174	*e*Pn	Pg	05 51 19.5	-0.7
SVAN	Silvan-Diyarba	1.19	174	P	Pg	05 51 19.8	-0.4
SVAN				S	Sn	05 51 36.5	-0.3
EATA	Eleskirt	1.23	65	*e*P	Pg	05 51 19.7	-1.4
EATA	Eleskirt	1.23	65	*i* P	Pg	05 51 19.6	-1.4
EATA	Eleskirt	1.23	65	P	Pg	05 51 19.6	-1.4
BAYT	Ayd¨–ntepe-Bay	1.26	327	PN	Pb	05 51 21.2	-0.3
BAYT	Ayd¨–ntepe-Bay	1.26	327	*e*Pn	Pb	05 51 21.2	-0.3
PTK	Pertek	1.36	251	PN	Pn	05 51 22.4	-0.4
PTK	Pertek	1.36	251	*e*Pn	Pn	05 51 22.4	-0.4
TUTA	Tutak	1.37	87	*e*P	Pn	05 51 22.7	-0.3
TUTA				*e*S	Sn	05 51 42.0	+0.5
TUTA				IAML		05 51 49.2	
	comp=Z,166nm,0.4s						
TUTA	Tutak	1.37	87	*i* P	Pn	05 51 22.7	-0.3
TUTA				*i* S	Sn	05 51 42.1	+0.6
TUTA	Tutak	1.37	87	P	Pn	05 51 22.7	-0.3
TUTA				S	Sn	05 51 42.1	+0.6
ADCV	BITLIS_Adilcev	1.41	112	*i* P	Pg	05 51 24.0	-0.3
ADCV	BITLIS_Adilcev	1.41	112	P	Pg	05 51 24.0	-0.3
BTMN	Batman	1.46	173	*i* P	Pg	05 51 24.9	-0.3
BTMN				*i* S	Sg	05 51 46.5	+2.3
BTMN	Batman	1.46	173	P	Pg	05 51 24.9	-0.3
SRTM	Siirt_Merkez	1.51	153	*i* P	Pg	05 51 26.1	-0.2
SRTM				*i* S	Sg	05 51 51.0	+5.1
SRTM	Siirt_Merkez	1.51	153	P	Pg	05 51 26.0	-0.2
AGRB	Hanur-Agry	1.52	81	PN	Pg	05 51 26.2	-0.3
AGRB	Hanur-Agry	1.52	81	*e*Pn	Pg	05 51 26.2	-0.3
DYBB	Diyarbakir	1.56	207	PN	Pn	05 51 25.5	+0.1
DIY	Diyarbakir	1.58	204	*e*Pn	Pn	05 51 25.5	-0.2
SENK	Senkaya-Erzuru	1.58	39	PN	Pg	05 51 27.4	-0.2
SENK	Senkaya-Erzuru	1.58	39	*e*Pn	Pg	05 51 27.4	-0.2
KELT	Kelkit	1.60	301	*e*P	Pb	05 51 26.7	-0.5
KELT				IAML		05 52 02.5	
	comp=Z,51nm,0.7s						
KELT	Kelkit	1.60	301	*i* P	Pb	05 51 26.5	-0.7
KELT				*i* S	Sg	05 51 51.6	+2.9
KELT	Kelkit	1.60	301	P	Pb	05 51 26.5	-0.7
DDEM	Demirkent	1.64	19	*i* P	Pg	05 51 28.8	0.0
DDEM				*i* S	Sg	05 51 53.0	+2.9
DDEM	Demirkent	1.64	19	P	Pg	05 51 28.8	0.0
DBAD	Bademkaya	1.75	16	*i* P	Pb	05 51 29.6	-0.1
DBAD				*i* S	Sg	05 51 53.9	+0.4
DBAD	Bademkaya	1.75	16	P	Pb	05 51 29.6	-0.1
DBAD				S	Sg	05 51 53.9	+0.4
CHOM	Cayeli-Rize	1.77	353	*e*Pn	Pb	05 51 30.0	0.0
REFA	Refahiye_ERZ¯	1.77	273	*e*P	Pg	05 51 31.5	+0.3
REFA				IAML		05 52 08.3	
	comp=Z,21nm,0.5s						
REFA	Refahiye_ERZ¯	1.77	273	*i* P	Pg	05 51 31.4	+0.2
REFA	Refahiye_ERZ¯	1.77	273	P	Pg	05 51 31.4	+0.2
ELZG	Elazig	1.81	243	*i* P	Pb	05 51 30.8	-0.1
ELZG				*i* S	Sg	05 51 57.2	+1.6
ELZG	Elazig	1.81	243	P	Pb	05 51 30.8	-0.1
MACK	Trabzon	1.88	329	*i* P	Pg	05 51 32.6	-0.6
MACK	Trabzon	1.88	329	P	Pg	05 51 32.6	-0.6
GEVA	Gevas	1.88	123	*e*P	Pb	05 51 30.8	-1.1
GEVA				*e*S	Sg	05 51 56.5	-1.1
GEVA				IAML		05 52 02.0	
	comp=Z,33nm,0.5s						
GEVA	Gevas	1.88	123	*i* P	Pn	05 51 30.3	+0.4
GEVA				*i* S	Sg	05 51 59.9	+2.3
GEVA	Gevas	1.88	123	P	Pn	05 51 30.3	+0.4
KTUT	Trabzon	1.92	330	PN	Pb	05 51 31.3	-1.2
KTUT	Trabzon	1.92	330	*e*Pn	Pb	05 51 31.3	-1.2
ILIC	ilic-Erzincan	1.92	274	PN	Pn	05 51 31.3	+0.8
ILIC	ilic-Erzincan	1.92	274	*e*Pn	Pn	05 51 31.3	+0.8
MAZI	Mazidag	1.94	194	PN	Pn	05 51 30.8	+0.2
MAZI	Mazidag	1.94	194	*e*Pn	Pn	05 51 30.8	+0.2
ARTV	Artvin	1.96	20	*e*P	Pb	05 51 33.2	-0.2
ARTV				IAML		05 52 05.6	
	comp=Z,14nm,0.7s						
KEMA	Kemaliye	1.98	269	*e*P	Pb	05 51 32.4	-1.3
KEMA				IAML		05 52 11.8	
	comp=Z,15nm,0.6s						
KEMA	Kemaliye	1.98	269	*i* P	Pb	05 51 34.1	+0.4
KEMA				*i* S	Sg	05 51 59.8	-1.1
KEMA	Kemaliye	1.98	269	P	Pb	05 51 34.1	+0.4
VMUR	Van-Muradiye	2.00	99	*i* P	Pb	05 51 33.4	-0.6
VMUR	Van-Muradiye	2.00	99	P	Pb	05 51 33.4	-0.6
KARS	Kars	2.02	50	PN	Pn	05 51 32.5	+0.6
KARS	Kars	2.02	50	*e*Pn	Pn	05 51 32.5	+0.6
MARD	Mardin	2.03	186	*i* P	Pn	05 51 32.8	+0.8
MARD				*i* S	Sb	05 52 00.5	+0.4
DYDN	Diyadin	2.06	83	*e*P	Pb	05 51 35.1	0.0
DYDN				IAML		05 52 12.1	
	comp=Z,41nm,0.4s						
DYDN	Diyadin	2.06	83	*i* P	Pb	05 51 34.8	-0.2
DYDN				*i* S	Sg	05 52 03.4	0.0
DYDN	Diyadin	2.06	83	P	Pb	05 51 34.8	-0.2
DBOC	Borcka	2.06	13	*i* P	Pb	05 51 33.6	-1.3
DBOC	Borcka	2.06	13	P	Pb	05 51 33.7	-1.3
DIGO	Kars	2.09	58	*e*P	Pb	05 51 34.2	-1.4
DIGO				IAML		05 52 11.8	
	comp=Z,12nm,0.5s						
DIGO	Kars	2.09	58	*i* P	Pn	05 51 33.7	+0.8
DIGO				*i* S	Sg	05 52 04.5	0.0
DIGO	Kars	2.09	58	P	Pn	05 51 33.7	+0.8
SIRN	S¨–rnak	2.13	149	*i* P	Pb	05 51 34.7	-1.5
SIRN				*i* S	Sg	05 52 05.3	-0.5
SIRN	S¨–rnak	2.13	149	P	Pb	05 51 34.7	-1.5
CLDR	Caldiran	2.24	94	PN	Pn	05 51 35.8	+0.9
CLDR	Caldiran	2.24	94	*i* P	Pb	05 51 37.8	-0.4
CLDR	Caldiran	2.24	94	*e*Pn	Pn	05 51 35.8	+0.9
CLDR	Caldiran	2.24	94	P	Pb	05 51 37.8	-0.4
MALT	Malatya	2.29	244	PN	Pn	05 51 35.6	+0.1
MALT	Malatya	2.29	244	*e*Pn	Pn	05 51 35.6	+0.1
EAK	Akyaka	2.38	55	*e*P	Pb	05 51 38.6	-1.9
EAK				IAML		05 52 47.9	
	comp=Z,35nm,0.8s						
EAK	Akyaka	2.38	55	*i* P	Pb	05 51 39.4	-1.1
EAK	Akyaka	2.38	55	P	Pb	05 51 39.4	-1.1
IGDI	IGDIR	2.40	76	*e*P	Pb	05 51 39.5	-1.3
IGDI				IAML		05 52 22.4	
	comp=Z,8.0nm,0.6s						
HEKM	Malatya_Hekimh	2.44	260	*i* P	Pn	05 51 38.1	+0.4
HEKM				*i* S	Sg	05 52 18.3	+2.4
HEKM	Malatya_Hekimh	2.44	260	P	Pn	05 51 38.1	+0.4
EPOS	Posof	2.51	30	*e*P	Pb	05 51 42.1	-0.7
EPOS				IAML		05 52 19.6	
	comp=Z,7.5nm,0.6s						
URFA	Urfa	2.58	223	PN	Pn	05 51 40.3	+0.9
URFA	Urfa	2.58	223	*e*Pn	Pn	05 51 40.3	+0.9
DARE	Darende-Malaty	2.88	256	PN	Pn	05 51 44.7	+1.1
DARE	Darende-Malaty	2.88	256	*e*Pn	Pn	05 51 44.7	+1.1
SVSK	Karacayir	3.18	282	PN	Pn	05 51 49.3	+1.7
SVSK	Karacayir	3.18	282	*e*Pn	Pn	05 51 49.3	+1.7

ISK ***13*** *05:53:55.9,34°.26N×32°.60E,h10km,ML2.6/7*

ISCJB ***13*** *05:53:57.0±1.1,34°.29N±0°.05×32°.64E±0°.09,h4km±5km, Error ellipse: s-maj=12.2km s-min=7.9km az=13.1*

CSEM ***13*** *05:53:58.2±0.6,34°.29N×32°.66E,h10km,ML3.2,Error ellipse: s-maj=14.2km s-min=9.7km az=87.0*

NIC ***13*** *05:54:01.7±0.2,34°.54N×32°.75

HMMJ	Hamamatsu 2	3.84	3	P	P	05 57 42.0	+1.3
JAO	Obara	4.25	358	P	P	05 57 45.3	+1.1
JNY	Yasuok	4.35	5	P	P	05 57 46.8	+1.7
JOD2	Odawara 2	4.46	18	P	P	05 57 47.1	+1.1
BSO4	Boso 4	4.66	31	P	P	05 57 47.3	-0.2
BSO4				*e*S	S	05 58 55.6	+0.2
JHU	Hanno	5.07	17	P	P	05 57 51.2	-0.2
JHU				S	S	05 58 59.8	-2.6
JRY	Ryogami san	5.14	13	P	P	05 57 52.8	+0.7
JRY				*e*S	S	05 59 03.3	-0.4
MJAR	Matsushiro Arr	5.55	6	P	P	05 57 56.2	+0.3
	4.4nm,0.3s,baz=187,slow=10,SNR=87						
MJAR				S	S	05 59 08.8	-2.0
	0.3nm,0.3s,baz=184,slow=15,SNR=5.6						
MAT	Matsushiro	5.55	6	P	P	05 57 56.2	+0.3
MAT				S	S	05 59 08.8	-2.0
JAG	Ashikaga	5.66	17	P	P	05 57 55.8	-1.1
JAG				*e*S	S	05 59 07.9	-4.6
CBIJ	Chichi jima	5.70	132	*e*S	S	05 59 10.0	-3.4
JHO	Hitachi	6.16	24	P	P	05 58 01.2	-0.6
JFK	Kawauchi	6.95	23	P	P	05 58 09.9	+0.2
KSRS	Korea Array	10.16	312	P	P	05 58 42.5	-0.8
	0.3nm,0.3s,baz=123,slow=10,SNR=4.3						
USRK	Ussuriysk Ar.	13.85	343	P	P	05 59 23.1	+0.6
	1.3nm,0.3s,baz=170,slow=11,SNR=28						
KLR	Kul'dur	18.70	348	P	P	06 00 12.5	+0.9
	0.1nm,0.3s,baz=200,slow=4.6,SNR=15						
SONM	Songino Array	29.02	314	P	P	06 01 43.3	-0.6
	0.4nm,0.5s,baz=143,slow=14,SNR=2.7						
CMAR	Chiang Mai Arr	36.95	259	P	P	06 02 50.2	-1.3
	0.4nm,0.4s,baz=61,slow=6.4,SNR=4.7						
ZALV	Zalesovo Beam	43.81	317	P	P	06 03 45.1	-0.8
	0.7nm,0.4s,baz=71,slow=8.3,SNR=3.1						
MKAR	Makanchi Array	44.80	307	P	P	06 03 52.9	-0.8
	0.7nm,0.3s,baz=94,slow=8.9,SNR=30						
KURBB	Kurchatov Arra	47.34	312	P	P	06 04 12.4	-0.7
	2.3nm,0.5s,baz=90,slow=6.5,SNR=31						
WRA	Warramunga Arr	50.75	184	P	P	06 04 38.9	+0.2
	1.8nm,0.5s,baz=0.1,slow=7.7,SNR=42						
BVAR	Borovoye Array	52.35	315	P	P	06 04 49.8	-0.2
	1.9nm,0.6s,baz=88,slow=7.8,SNR=11						
ASAR	Alice Springs	54.47	184	P	P	06 05 05.8	+0.4
	1.1nm,0.7s,baz=11,slow=14,SNR=15						
ILAR	Eielson Array	56.34	30	P	P	06 05 19.9	+2.0
	0.4nm,0.7s,baz=280,slow=7.7,SNR=7.4						
STKA	Stephens Creek	62.67	176	P	P	06 06 01.2	+0.6
	0.5nm,0.5s,baz=330,slow=4.2,SNR=3.2						
YKA	Yellowknife Ar	70.66	28	P	P	06 06 52.2	+2.4
	0.4nm,0.6s,baz=299,slow=6.2,SNR=10.0						
KBZ	Khabaz	72.31	311	P	P	06 07 00.2	+0.4
	1.3nm,0.8s,baz=152,slow=5.2,SNR=3.7						
FINES	FINESS Array B	72.58	332	P	P	06 07 00.9	-0.1
	1.1nm,0.4s,baz=61,slow=5.3,SNR=11						
AKASG	Malin Array Be	77.00	322	P	P	06 07 26.2	+0.1
	0.3nm,0.4s,baz=51,slow=5.8,SNR=3.3						
HFS	Hagfors	78.16	335	P	P	06 07 32.3	0.0
	1.0nm,0.4s,baz=62,slow=6.8,SNR=7.8						
NOA	NORSAR Array B	78.41	336	P	P	06 07 33.9	+0.2
	0.7nm,0.7s,baz=48,slow=5.1,SNR=3.2						

IDC ***13*** *06:01:32.9±3.4, 1°.21N×91°.41E, h0km, mb3.6/3, mb1 3.8/6, mb1mx3.5/61, mbtmp3.7/6, ML3.8/3, Error ellipse: s-maj=70.4km s-min=35.0km az=10.0*
ISCJB ***13*** *06:01:34.6±1.2, 1°.7N±0°.1×91°.56E±0°.07, h10km, mb3.7/3, Error ellipse: s-maj=18.4km s-min=10.0km az=0.7*
DJA ***13*** *06:01:45.0±2.1, 2°.1N±8°×9°.2E±1°.9, h101km±43km, M4.9/4, mB4.9/2, mb4.9/3, MLv4.9/4, Mw(mB)4.2/2*

ISC 13 06:01:36.1±1.4, 1°.5N±0°.1×91°.62E±0°.09, h10km, n16, σ2s11°/15, mb3.8/3, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
					Op			
BSI	Banda Aceh	5.38	43	P		Pn	06 02 57.8	+1.3
BSI				S		Sn	06 03 56.8	-1.9
MLSI	Meulaboh, Aceh	5.50	60	P		Pn	06 02 58.7	+0.6
TPTI		5.81	73	P		Pn	06 03 02.7	+0.3
KCSI	Kotacane, Aceh	6.46	72	P		Pn	06 03 13.8	+2.5
LHMI	Lhok Sumawe	6.46	55	P		Pn	06 03 11.1	-0.3
PSI	Prapat	7.41	80	Pn		Pn	06 03 25.1	+0.6
	0.6nm,0.3s,baz=327,slow=15,SNR=3.9							
PSI				S		Sn	06 04 44.4	-4.3
	0.2nm,0.3s,baz=342,slow=20,SNR=2.2							
MNSI	Mandailing Nat	7.99	95	P		Pn	06 03 33.8	+1.5
PALK	Pallekele	12.29	298	Pn		Pn	06 04 29.1	-2.2
	0.4nm,0.3s,baz=117,slow=11,SNR=4.3							
PALK				Sn		Sn	06 06 34.7	-14
	1.5nm,0.3s,baz=117,slow=4.9,SNR=7.4							
CMAR	Chiang Mai Arr	18.30	23	P		P	06 05 54.1	+3.8
	0.3nm,0.3s,baz=201,slow=11,SNR=3.9							
H08S2	Diego Garcia H	21.14	244	T		T	06 28 02.4	
	baz=65,slow=75,SNR=11							
H08S3	Diego Garcia H	21.14	244	T		T	06 28 04.6	
	baz=65,slow=75,SNR=11							
H08S1	Diego Carcia H	21.16	244	T		T	06 28 05.8	
	baz=65,slow=75,SNR=11							
MKAR	Makanchi Array	45.81	351	P		P	06 09 58.6	+0.5
	0.4nm,0.6s,baz=185,slow=8.5,SNR=3.1							
SONM	Songino Array	47.87	13	P		P	06 10 15.1	+0.7
	0.4nm,0.5s,baz=188,slow=9.1,SNR=3.3							
ZALV	Zalesovo Beam	52.55	355	P		P	06 10 49.2	-0.3
	0.5nm,0.3s,baz=155,slow=8.1,SNR=3.0							
TXAR	Lajitas Array	146.00	24	PKPbc		PKPbc	06 21 16.6	-0.4
	0.1nm,0.4s,baz=43,slow=0.8,SNR=5.0							

MEX 13 06:05:45.0±0.4, 16°.33N×98°.17W, h29km±5km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
					Op			
PNIG	Pinotepa	0.07	30	*i* P		Pb	06 05 49.0	-1.1
PNIG				*e*S		Sb	06 05 51.8	-1.8
TLIG	Tlapa	1.29	343	*e*P		Pn	06 06 05.4	-1.8
TLIG				*e*S		Sn	06 06 20.2	-3.3
VHO	Vista Hermosa	1.56	61	*e*P		Pn	06 06 08.7	-2.2
VHO				*e*S		Sn	06 06 27.5	-2.9
CAIG	El Cayaco	2.14	290	*e*P		Pn	06 06 17.5	-1.2
CAIG				*e*S		Sn	06 06 46.0	+1.7

MEX 13 06:07:26.2±0.7, 16°.36N×98°.19W, h15km±4km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
					Op			
PNIG	Pinotepa	0.07	63	*i* P		Pg	06 07 28.2	-1.1
PNIG				*i* S		Sg	06 07 31.1	-0.3
TLIG	Tlapa	1.25	343	*e*P		Pn	06 07 46.1	-3.1
TLIG				*e*S		Sb	06 08 00.6	-4.9
VHO	Vista Hermosa	1.57	63	*e*P		Pn	06 07 50.4	-3.3
VHO				*e*S		Sn	06 08 09.1	-4.8
PLIG	Platanillo	2.38	328	*e*P		Pn	06 08 04.7	0.0
PLIG				*e*S		Sn	06 08 31.6	-2.1

SJA ***13*** *06:13:06.4±0.8, 35°.52S×72°.83W, h62km±24km, ML4.4, MW4.2*
ISCJB ***13*** *06:13:15.5±0.3, 35°.19S±0°.03×72°.03W±0°.05, h54km±3km, mb4.7/36, Error ellipse: s-maj=7.9km s-min=3.8km az=22.6*
GUC ***13*** *06:13:16.4±1.2, 35°.21S×72°.02W, h40km±5km, ML4.1*
NEIC ***13*** *06:13:16.0±0.0, 35°.21S×72°.02W, h40km, mb4.7/30, ML4.1(GUC), After GUC.*
NEIC Felt [IV] at Constitucion, Curico and Pencahue; [III] at Chepica, Duao, Iloca, Linares, Lolol, Parral, Pelarco, Talca and Villa Alegre; [II] at Chimbarongo, Paredones and San Fernando.
IDC ***13*** *06:13:17.4±3.3, 35°.17S×71°.83W, h51km±29km, mb4.0/11, mb1 4.1/14, mb1mx3.9/34, mbtmp4.2/14, ML4.1/3, MS3.2/2, Ms1 3.2/2, ms1mx2.8/32, Error ellipse: s-maj=26.0km s-min=16.9km az=81.0*

ISC 13 06:13:15.3±0.9, 35°.19S±0°.03×71°.93W±0°.05, h34km±6km, n107, σ1s80°/117, mb4.7/36, 2C-3D, Central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
					Op			
GO05	HualaæØ	0.18	1	*i* P		Pn	06 13 23.9	+3.7
GO05				*i* S		Sb	06 13 28.8	+2.4
GO05				IAML			06 13 29.8	
	comp=N,63µm,0.3s							
NICH	Los Niches	0.61	72	↓*i* P		Pn	06 13 29.5	+2.1
NICH				*i* S		Sn	06 13 38.0	+1.9
COCH	Cobquecura	1.17	216	*e*P		Pn	06 13 35.3	+0.1
COCH				*i* S		Sn	06 13 49.9	-0.1
COCH				IAML			06 13 53.0	
	comp=E,2µm,0.9s							
CCHI	Chillan	1.41	185	*i* P		Pb	06 13 41.0	-0.2
CCHI				*i* S		Sb	06 14 00.9	+2.1
CCHI	Chillan	1.41	185	*e*P		Pb	06 13 40.5	-0.6
CCHI				*i* S		Sb	06 13 58.5	-0.3
CCHI				IAML			06 14 08.2	
	comp=E,4µm,1.1s							
CCSP	San Pedro de C	1.91	210	*e*P		Pn	06 13 46.3	+0.9
CCSP				*i* S		Sn	06 14 06.5	-1.6
LMEL	Las Melosas	1.96	47	*e*P		Pb	06 13 48.9	-1.5
LMEL				*i* S		Sb	06 14 13.6	-0.9
LMEL				IAML			06 14 19.6	
	comp=E,4µm,0.5s							
CLCH	Cerro Calan	2.13	33	↓*i* P		Pb	06 13 50.7	-2.6
CLCH				*i* S		Sb	06 14 16.8	-2.6
PEL	Peldehue	2.29	27	*e*Pn		Pn	06 13 52.7	+2.0
PEL				*e*Sn		Sb	06 14 26.4	+2.3
ROC1	El Roble	2.34	19	*e*Pn		Pn	06 13 53.1	+1.5
ROC1				*e*Sn		Sb	06 14 26.8	+1.3
ROC1	El Roble	2.34	19	*i* P		Pn	06 13 53.2	+1.6
ROC1				*i* S		Sb	06 14 27.9	+2.4
ROCH	El Roble	2.34	19	↑*i* P		Pn	06 13 53.0	+1.4
ROCH				*i* S		Sn	06 14 21.9	+2.6
RFA	San Rafael	2.88	83	*i* P		Pb	06 14 03.0	-3.0
RFA				IAML			06 14 54.5	
	comp=N,383nm,0.6s							
TMU	Temuco	3.58	188	*e*P		Pn	06 14 09.7	+1.4
TMU				*i* S		Sb	06 14 54.7	-6.1
TMU				IAML			06 15 20.9	
	comp=E,299nm,1.1s							
AUSP	Uspallata	3.64	36	*i* P		Pn	06 14 13.7	+4.1
RTLS	Leoncito	4.04	34	*i* P		Pn	06 14 18.6	+3.6
RTLS				IAML			06 14 25.2	
	comp=Z,380nm,0.5s							
RTCV	Cerro Valdivia	4.36	41	*i* P		Pn	06 14 22.0	+2.7
ZON	Zonda	4.54	38	*i* P		Pn	06 14 24.6	+2.9
ZON				IAML			06 15 48.1	
	comp=Z,117nm,0.7s							
RTLL	Cerro Villicun	4.82	38	*i* P		Pn	06 14 28.5	+3.0
RTLL				IAML			06 14 34.0	
	comp=Z,298nm,0.4s							
RTLL				*i* S		Sb	06 15 34.6	-2.0
ACAN	Cantantal	4.91	55	*i* P		Pn	06 14 29.9	+3.2
AMOG	MOGNA	5.13	35	*i* P		Pn	06 14 31.8	+2.0
AMOG				*i* S		Sb	06 15 44.3	-1.2
AROD	Rodeo	5.42	23	*i* P		Pn	06 14 36.4	+2.4
ACDV	Cuesta del Vie	5.54	26	*i* P		Pn	06 14 37.4	+1.9
ACDV				IAML			06 14 46.9	
	comp=Z,102nm,0.3s							
ACDV				*i* S		Sb	06 15 50.7	-6.7
PLCA	Paso Flores	5.64	169	P		Pn	06 14 39.5	+2.7
	comp=Z,1.6nm,0.3s,baz=4.6,slow=13,SNR=50							
PLCA				LR		LR	06 17 00.2	
	comp=Z,175nm,22.0s,baz=342,slow=40							
PLCA	Paso Flores	5.64	169	*e*Pn		Pn	06 14 39.6	+2.9
LCO	Las Campanas	6.25	10	*e*Pn		Pn	06 14 45.5	+0.2
LCO				*e*Sn		Sn	06 15 55.4	-0.4
LCO	Las Campanas	6.25	10	*i* P		Pn	06 14 45.6	+0.2
LCO				*i* S		Sn	06 15 53.3	-2.4
AGUA	GUANDACOL	6.39	28	*i* P		Pn	06 14 48.4	+1.3
VCA	Vinchina	7.17	27	*i* P		Pn	06 14 58.7	+0.8
VCA				IAML			06 16 44.8	
	comp=Z,103nm,0.5s							
TCA	Tanti	7.25	60	*i* P		Pn	06 14 60.0	+1.1
TCA				IAML			06 15 05.0	
	comp=Z,30nm,0.4s							
TRQA	Tornquist	8.50	113	*e*Pn		Pn	06 15 18.6	+2.7
PB01	IPOC Station P	14.26	9	*e*Pn		Pn	06 16 35.0	+0.2
CPUP	Villa Florida	15.34	59	P		Pn	06 16 48.2	-0.9
	comp=Z,0.1nm,0.3s,baz=189,slow=13,SNR=2.8							
CPUP				LR		LR	06 22 10.1	
	comp=Z,124nm,21.7s,baz=232,slow=35							
CPUP	Villa Florida	15.34	59	*e*Pn		Pn	06 16 50.7	+1.5
	comp=Z,30nm,1.8s							
PB11	IPOC Station P	15.50	8	*e*Pn		Pn	06 16 51.6	+0.1
	comp=Z,19nm,0.8s							
MNMC	Minye Minye	16.13	8	*e*Pn		Pn	06 17 00.2	+0.4
	comp=Z,23nm,0.7s							
LPAZ	La Paz	19.13	11	P		Pn	06 17 37.5	+0.3
	comp=Z,0.4nm,0.3s,baz=188,slow=7.2,SNR=21							
LPAZ	La Paz	19.13	11	*e*P		Pn	06 17 37.8	+0.6
	comp=Z,6.9nm,0.8s							
EFI	East Falkland	19.25	153	*e*P		P	06 17 35.8	-0.8
	comp=Z,95nm,1.5s							
SIV	San Ignacio	21.45	30	P		P	06 18 00.0	-0.8
	comp=Z,8.9nm,0.6s,baz=218,slow=9.8,SNR=57							
OTAV	Otavalo	35.77	349	*e*P		P	06 20 13.4	+1.7
	comp=Z,12nm,2.0s							
PTGA	Pitinga	36.05	21	*e*P		P	06 20 12.9	-0.8
	comp=Z,12nm,1.4s							
PRAC	Prado	38.80	355	*e*P		P	06 20 34.9	-2.0
	comp=Z,5.5nm,0.6s							
HELC	Santa Helena	41.30	355	*e*P		P	06 20 58.1	+0.1
	comp=Z,8.8nm,0.8s							
VNA3	Neumayer Olymp	48.23	157	P		P	06 21 52.4	+0.2
VNA2	Neumayer--Watz	48.88	157	P		P	06 21 56.4	-0.8
	baz=287,slow=8.1							
SNAA	Sanae	50.45	157	P		P	06 22 09.2	-0.1
SNAA	Sanae	50.45	157	P		P	06 22 09.2	-0.1
	comp=Z,2.2nm,0.8s,baz=227,slow=6.3,SNR=7.3							
SNAA	Sanae	50.45	157	*e*P		P	06 22 09.4	+0.2
	comp=Z,20nm,1.8s							
SNET	Serv Nac Est T	51.30	338	*e*P		P	06 22 17.8	+1.6
	comp=Z,123nm,0.3s							
CRPR	Cabo Rojo, PR	53.10	6	*e*P		P	06 22 28.2	-1.3
	comp=Z,65nm,1.6s							
OBIP	Obispado Ponce	53.18	6	*e*P		P	06 22 29.2	-0.9
	comp=Z,14nm,1.3s							
BANI	BANI	53.31	2	*e*P		P	06 22 30.1	-1.0
CBYP	Canovanas	53.48	7	*e*P		P	06 22 31.3	-1.0
	comp=Z,31nm,1.5s							
QSPA	South Pole Qui	55.05	180	P		P	06 22 43.7	+0.3
	comp=Z,2.6nm,0.8s,baz=177,slow=1.3,SNR=3.8							
SYO	Syowa Base	64.73	158	↓*e*X		P	06 23 40.8	-8.8
GOGA	Godfrey	69.10	350	*e*P		P	06 24 17.1	-0.6
	comp=Z,21nm,1.6s							
TXAR	Lajitas Array	70.81	331	P		P	06 24 28.7	+0.2
	comp=Z,0.8nm,0.6s,baz=151,slow=8.6,SNR=12							
TX31	Lajitas Ar. Si	70.82	331	*e*P		P	06 24 28.9	+0.4
OXF	Oxford	71.24	345	*e*P		P	06 24 30.2	-0.6
	comp=Z,15nm,1.2s							
PLAL	Pickwick Lake	71.42	346	*e*P		P	06 24 31.4	-0.5
	comp=Z,3.7nm,0.8s							
MAW	Mawson	72.02	163	*e*P		P	06 24 35.8	+0.6
	comp=Z,9.8nm,1.8s							
TZTN	Tazewell	72.19	350	*e*P		P	06 24 36.0	-0.5
	comp=Z,42nm,1.9s							
WVT	Waverly	72.49	347	*e*P		P	06 24 37.7	-0.5
	comp=Z,8.8nm,0.8s							
PBMO	Poplar Bluff	73.64	345	*e*P		P	06 24 44.4	-0.7
	comp=Z,3.4nm,0.5s							
CCM	Cathedral Cave	75.05	344	*e*P		P	06 24 52.7	-0.6
	comp=Z,5.4nm,0.7s							
LIC	Lamto	75.07	71	*e*P		P	06 24 53.1	-0.9
	comp=Z,96nm,1.8s							
TIC	Toumodi	75.34	71	*e*P		P	06 24 52.6	-2.9
KIC	Kosan Boka	75.38	71	*e*P		P	06 24 55.0	-0.7
	comp=Z,72nm,1.6s							
DBIC	Dimbokro	75.48	71	P		P	06 24 56.1	-0.2
	comp=Z,4.5nm,0.8s,baz=203,slow=1.0,SNR=5.8							
DBIC	Dimbokro	75.48	71	*e*P		P	06 24 56.1	-0.2
	comp=Z,52nm,1.8s							
HDIL	Hopedale	77.05	347	*e*P		P	06 25 03.7	-0.9
	comp=Z,6.9nm,0.4s							
BOSA	Boshof	79.44	117	P		P	06 25 18.0	-0.5
	comp=Z,5.0nm,0.9s,baz=250,slow=3.3,SNR=5.7							
BOSA	Boshof	79.44	117	*e*P		P	06 25 18.3	-0.2
	comp=Z,15nm,1.3s							
KOWA	Kowa	81.05	65	P		P	06 25 27.2	+0.1
	comp=Z,4.2nm,0.5s,baz=228,slow=5.3,SNR=16							
TRQ	Mont Tremblant	81.08	358	*e*P		P	06 25 26.6	+0.1
ECSD	EROS Data Cent	81.71	342	*e*P		P	06 25 29.6	-0.3
	comp=Z,11nm,1.7s							
LBTB	Lobatse	81.73	115	*e*P		P	06 25 31.1	+0.3
	comp=Z,6.8nm,0.9s							
TOA0	Torodi Ar. Sit	84.53	70	*e*P		P	06 25 44.7	-0.5
	comp=Z,26nm,1.8s							
TORD	Torodi Ar. Bea	84.53	70	P		P	06 25 44.9	-0.3
	comp=Z,3.1nm,0.7s,baz=281,slow=5.7,SNR=23							
HWUT	Hardware Ranch	84.63	331	*e*P		P	06 25 45.8	+0.5
	comp=Z,10nm,1.7s							
PDAR	Pinedale Array	84.86	333	P		P	06 25 45.6	-0.8
	comp=Z,0.3nm,0.4s,baz=169,slow=3.9,SNR=4.2							
NVAR	Mina Array Bea	84.91	325	P		P	06 25 47.9	+1.1
	comp=Z,0.2nm,0.5s,baz=167,slow=4.5,SNR=2.9							
KVN	Kaiserville	85.31	326	*e*P		P	06 25 49.6	+0.8
	comp=Z,18nm,2.0s							
ULM	Lac du Bonnet	87.67	345	P		P	06 25 59.4	-0.3
	comp=Z,0.5nm,0.4s,baz=174,slow=1.5,SNR=4.2							
FCC	Fort Churchill	95.41	349	*e*P		P	06 26 35.1	-0.4
	comp=Z,15nm,1.9s							
IM3	Indian Mountai	118.41	333	*e*PKPdf		PKPdf	06 31 57.8	-0.4
H11S2	WAKE ISLAND Hyl	25.83	268	T		T	08 50 40.6	
	baz=122							
H11S1	WAKE ISLAND Hyl	25.84	268	T		T	08 50 48.7	
	baz=122							
H11S3	WAKE ISLAND Hyl	25.85	268	T		T	08 50 39.3	
	baz=122							
H11N3	WAKE ISLAND Hyl	26.27	270	T		T	08 51 06.2	
	baz=117							
H11N1	WAKE ISLAND Hyl	26.29	270	T		T	08 51 05.8	
	baz=117							
H11N2	WAKE ISLAND Hyl	26.29	270	T		T	08 51 09.0	
	baz=117							
ABKAR	Akbulak array	142.34	53	*e*PKPpre		PKPpre	06 32 37.9	
BVAR	Borovoye Array	148.08	44	PKPbc		PKPbc	06 32 56.2	-0.6
	comp=Z,1.3nm,0.5s,baz=278,slow=3.9,SNR=7.3							
AAK	Ala-Archa	152.97	64	*e*PKPbc		PKPbc	06 33 09.4	+0.4
KURBB	Kurchatov Arra	153.66	45	PKPbc		PKPbc	06 33 09.7	-0.3
	comp=Z,0.7nm,0.6s,baz=291,slow=2.8,SNR=5.3							
KURK	Kurchatov	153.67	45	*e*PKPbc		PKPbc	06 33 15.4	+5.4
ZALV	Zalesovo Beam	155.18	34	PKPab		PKPab	06 33 29.4	+0.2
	comp=Z,1.5nm,0.7s,baz=305,slow=5.1,SNR=3.6							
MK31	Makanchi Array	157.46	51	*e*PKPab		PKPab	06 33 39.1	-0.2
MKAR	Makanchi Array	157.46	51	PKPab		PKPab	06 33 38.7	-0.6
	comp=Z,1.8nm,0.8s,baz=285,slow=4.2,SNR=6.0							
MKAR	Makanchi Array	157.46	51	*e*PKPab		PKPab	06 33 39.1	-0.2
MK01	Makanchi Array	157.47	51	*e*PKPab		PKPab	06 33 38.8	-0.6
TLY	Talaya	163.21	10	*e*PKPdf		PKPdf	06 33 15.1	+1.4
NJ2	Nanjing	170.48	254	*e*P		PKPdf	06 33 19.0	-0.7
HHC	Hu-ho-hao-te	173.71	335	*e*P		PKPdf	06 33 22.1	+1.0
HHC				pmax		pmax		
	comp=Z,11nm,1.3s							
HHC				pmax		pmax		
	comp=Z,32nm,7.8s							
LZH	Lanzhou	176.45	74	*e*PKP		PKPdf	06 33 23.0	+0.9
LZH				pPKP		pPKPdf	06 33 33.3	0.0
LZH				sPKP			06 33 36.9	
LZH				LR		LR		
	comp=N,160nm,17.9s							
LZH				LR		LR		
	comp=E,170nm,18.0s							
LZH				LR		LR		
	comp=Z,200nm,20.2s							

IDC ***13*** *06:21:31.6±0.5, 38°.36N×13°.39E, h0km, mb4.2/29, mb1 4.3/34, mb1mx4.2/69, mbtmp4.2/34, ML4.0/5, MS3.7/20, Ms1 3.7/20, ms1mx3.3/71, Error ellipse: s-maj=11.6km s-min=11.2km az=90.0*
ROM ***13*** *06:21:32.6±0.3, 38°.35N×13°.30E, h9km±3km, Ml4.1/49, Error ellipse: s-maj=3.4km s-min=2.6km az=109.0*
ISCJB ***13*** *06:21:32.6±0.3, 38°.24N±0°.02×13°.38E±0°.02, h14km±2km, mb4.5/128, MS3.7/18, Error ellipse: s-maj=2.8km s-min=2.2km az=14.9*
NEIC ***13*** *06:21:33.0±0.0, 38°.29N×13°.30E, h10km, mb4.7/84, ML4.2(ROM), MW4.4(ROM), After ROM.*
NEIC Felt [IV] in the Alcamo-Palermo area, [III] at Trapani and [II] at Castelvetrano and Marsala. Felt in much of northwestern Sicily.
CSEM ***13*** *06:21:33.5±0.1, 38°.28N×13°.33E, h10km, mb4.7/98, Mw4.4, Error ellipse: s-maj=2.7km s-min=2.2km az=26.0*
MOS ***13*** *06:21:34.0±1.1, 38°.24N×13°.37E, h27km, mb4.7/54, Error ellipse: s-maj=4.4km s-min=3.2km az=77.8*
CRAAG ***13*** *06:21:35.0, 38°.19N×13°.31E, Mb4.7*
LDG ***13*** *06:21:35.9±0.1, 38°.26N×13°.40E, h40km±1km, Ml4.1/11, Error ellipse: s-maj=4.0km s-min=2.4km az=22.0*

ISC 13 06:21:34.9±0.6, 38°.29N±0°.02×13°.27E±0°.02, h20km±2km, n765, σ1s71°/796, mb4.7/128, MS3.8/18, 45C-29D, Sicily

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
					Op			
MPG	Monte Pellegri	0.14	151	P		Pg	06 21 37.1	-2.2
MPG				S		Sg	06 21 39.8	-2.4
MPG	Monte Pellegri	0.14	151	↑*e*Pg		Pg	06 21 37.1	-2.2
MPG	Monte Pellegri	0.14	151	↑*e*Pg		Pg	06 21 37.1	-2.2
MPG				Sg		Sg	06 21 40.3	-1.9
	21µm,0.1s							
SOLUN	Solunto	0.28	133	↑*e*Pg		Pg	06 21 39.6	-1.6
SOLUN				Sg		Sg	06 21 44.7	-0.9
	19µm,0.5s							
SOLUN	Solunto	0.28

ECNV	Catenanuova 12µm,1.1s	1.33	121	⇓	*e*Pg	Pn	06 21 58.9	+0.5
NOV	Novara	1.49	99		Pg	Pn	06 21 58.8	-1.8
NOV	Novara	1.49	99		Pg	Pn	06 21 58.8	-1.8
MILZ	Milazzo 6µm,1.1s	1.54	90		Pg	Pn	06 21 59.0	-2.2
MILZ	Milazzo 6µm,1.1s	1.54	90		Pg	Pn	06 21 59.0	-2.2
MCSR	Castroreale 4µm,0.4s	1.57	97		Pg	Pn	06 21 59.4	-2.4
MCSR	Castroreale 4µm,0.4s	1.57	97		Pg	Pn	06 21 59.4	-2.4
HLNI	Lentini 4µm,0.8s	1.57	126	⇓	*e*Pg	Pn	06 22 01.1	-0.6
HLNI	Lentini 4µm,0.8s	1.57	126	⇓	*e*Pg	Pn	06 22 01.1	-0.6
HVZN	Vizzini 25µm,0.8s	1.59	134	⇓	*i*Pg	Pn	06 22 02.3	+0.3
HVZN	Vizzini 25µm,0.8s	1.59	134	⇓	*i*Pg	Pn	06 22 02.3	+0.3
MMME	Mongiuffi-Meli 5µm,1.1s	1.60	102		Pg	Pn	06 22 00.8	-1.3
MMME	Mongiuffi-Meli 5µm,1.1s	1.60	102		Pg	Pn	06 22 00.8	-1.3
MPNC	Port Mandanici 8µm,0.9s	1.64	94		Pg	Pn	06 22 00.7	-2.0
MPNC	Port Mandanici 8µm,0.9s	1.64	94		Pg	Pn	06 22 00.7	-2.0
HCRL	Carlentini 7µm,0.5s	1.72	125		Pg	Pn	06 22 03.1	-0.5
HCRL	Carlentini 7µm,0.5s	1.72	125		Pg	Pn	06 22 03.1	-0.5
ATN	Antennamare 786nm,0.5s	1.73	94		Pg	Pn	06 22 02.3	-1.7
ATN	Antennamare 786nm,0.5s	1.73	94		Pg	Pn	06 22 02.3	-1.7
MSRU	Castanea 2µm,0.8s	1.76	90		Pg	Pn	06 22 01.9	-2.4
MSRU	Castanea 2µm,0.8s	1.76	90		Pg	Pn	06 22 01.9	-2.4
MEU	Monte Lauro 8µm,0.7s	1.77	131		Pg	Pn	06 22 03.8	-0.7
MEU	Monte Lauro 8µm,0.7s	1.77	131		Pg	Pn	06 22 03.8	-0.7
HMDC	Modica 16µm,1.4s	1.79	137	⇓	*i*Pg	Pn	06 22 04.9	+0.2
HMDC	Modica 16µm,1.4s	1.79	137	⇓	*i*Pg	Pn	06 22 04.9	+0.2
HAGA	Augusta 4µm,0.8s	1.79	123		Pg	Pn	06 22 03.9	-0.8
HAGA	Augusta 4µm,0.8s	1.79	123		Pg	Pn	06 22 03.9	-0.8
SSY	Sortino 8µm,0.8s	1.82	128	⇓	*i*Pg	Pn	06 22 04.8	-0.3
SSY	Sortino 8µm,0.8s	1.82	128	⇓	*i*Pg	Pn	06 22 04.8	-0.3
HAVL	Avola 5µm,0.9s	1.98	131		Pg	Pn	06 22 06.9	-0.4
HAVL	Avola 5µm,0.9s	1.98	131		Pg	Pn	06 22 06.9	-0.4
MSCL	Scilla 2µm,0.7s	1.98	91	⇓	*i*Pg	Pn	06 22 05.1	-2.3
MSCL	Scilla 2µm,0.7s	1.98	91	⇓	*i*Pg	Pn	06 22 05.1	-2.3
GMB	Gambarie 3µm,0.8s	2.02	93		Pg	Pn	06 22 05.9	-2.0
GMB	Gambarie 3µm,0.8s	2.02	93		Pg	Pn	06 22 05.9	-2.0
CEL	Celeste	2.06	90		*e*Pn	Pn	06 22 06.5	-1.9
CEL	Celeste	2.06	90		*e*Pn	Pn	06 22 06.6	-1.9
CEL	Celeste	2.06	90		Pg	Pn	06 22 06.4	-2.1
JOPP	Joppolo 370nm,0.6s	2.08	80		Pg	Pn	06 22 06.5	-2.1
JOPP	Joppolo 370nm,0.6s	2.08	80		Pg	Pn	06 22 06.5	-2.1
MPAZ	Palizzi 1µm,0.9s	2.18	98		Pg	Pn	06 22 09.3	-0.8
MPAZ	Palizzi 1µm,0.9s	2.18	98		Pg	Pn	06 22 09.3	-0.8
SOI	Samo 1µm,0.9s	2.20	95		Pg	Pn	06 22 09.2	-1.1
SOI	Samo 1µm,0.9s	2.20	95		Pg	Pn	06 22 09.2	-1.1
BULG	Bulgheria - Ca 262nm,0.5s	2.42	42		Pg	Pn	06 22 11.9	-1.6
BULG	Bulgheria - Ca 262nm,0.5s	2.42	42		Pg	Pn	06 22 11.9	-1.6
CAR1	CAROLEI 869nm,0.6s	2.49	66		Pg	Pn	06 22 12.7	-1.7
CAR1	CAROLEI 869nm,0.6s	2.49	66		Pg	Pn	06 22 12.7	-1.7
PLAC	Placanica 603nm,0.7s	2.49	85		Pg	Pn	06 22 13.2	-1.2
PLAC	Placanica 603nm,0.7s	2.49	85		Pg	Pn	06 22 13.2	-1.2
GRI	Girifalco 668nm,1.0s	2.52	77		Pg	Pn	06 22 13.2	-1.6
GRI	Girifalco 668nm,1.0s	2.52	77		Pg	Pn	06 22 13.2	-1.6
MGR	Morigerati 150nm,0.6s	2.56	43		Pg	Pn	06 22 13.8	-1.5
MGR	Morigerati 150nm,0.6s	2.56	43		Pg	Pn	06 22 13.8	-1.5
CMPR	Campora 216nm,0.6s	2.57	37		Pg	Pn	06 22 13.8	-1.6
CMPR	Campora 216nm,0.6s	2.57	37		Pg	Pn	06 22 13.8	-1.6
CUC	Castrocucco	2.61	48		*e*Pn	Pn	06 22 14.8	-1.2
CUC					*e*Sn	Sn	06 22 45.2	-2.0
CUC	Castrocucco 223nm,0.6s	2.61	48		Pg	Pn	06 22 14.5	-1.5
CUC	Castrocucco 223nm,0.6s	2.61	48		*e*Pn	Pn	06 22 14.8	-1.2
CUC					*e*Sn	Sn	06 22 45.2	-2.0
CUC	Castrocucco 223nm,0.6s	2.61	48		Pg	Pn	06 22 14.5	-1.5
WDD	Wied Dalam	2.64	157		*e*Pn	Pn	06 22 15.6	-0.7
MMN	Mormanno 302nm,0.5s	2.65	52		Pg	Pn	06 22 15.1	-1.4
MMN	Mormanno 302nm,0.5s	2.65	52		Pg	Pn	06 22 15.1	-1.4
CDRU	Civita di Ruta 258nm,1.1s	2.71	35		Pg	Pn	06 22 16.1	-1.3
CDRU	Civita di Ruta 258nm,1.1s	2.71	35		Pg	Pn	06 22 16.1	-1.3
MTSN	Montesano sull 196nm,0.6s	2.76	43		Pg	Pn	06 22 17.0	-1.1
MTSN	Montesano sull 196nm,0.6s	2.76	43		Pg	Pn	06 22 17.0	-1.1
CELI	Celico 544nm,0.6s	2.76	65		Pg	Pn	06 22 16.2	-2.0
CELI	Celico 544nm,0.6s	2.76	65		Pg	Pn	06 22 16.2	-2.0
SIRI	Monte Sirino - 482nm,1.0s	2.77	46		Pg	Pn	06 22 17.2	-1.0
SIRI	Monte Sirino - 482nm,1.0s	2.77	46		Pg	Pn	06 22 17.2	-1.0
SERS	Sersale 296nm,0.9s	2.78	73		Pg	Pn	06 22 17.0	-1.3
SERS	Sersale 296nm,0.9s	2.78	73		Pg	Pn	06 22 17.0	-1.3
MCEL	Monticello 1µm,1.9s	2.83	43		Pg	Pn	06 22 18.3	-0.7
MCEL	Monticello 1µm,1.9s	2.83	43		Pg	Pn	06 22 18.3	-0.7
TIP	Timpagrande	2.87	71	⇓	*i*P	Pn	06 22 18.8	-0.8
TIP	Timpagrande	2.87	71		*e*Pn	Pn	06 22 18.7	-0.8
TIP	Timpagrande	2.87	71	⇓	*i*P	Pn	06 22 18.8	-0.8
TIP					S	Sn	06 22 52.8	-0.7
TIP	Timpagrande 444nm,1.2s	2.87	71		Pg	Pn	06 22 18.5	-1.1
SALB	San Lorenzo Be 327nm,0.5s	2.87	55		Pg	Pn	06 22 18.9	-0.7
SALB	San Lorenzo Be 327nm,0.5s	2.87	55		Pg	Pn	06 22 18.9	-0.7
MRLC	Muro Lucano 101nm,0.4s	3.00	34		Pg	Pn	06 22 21.4	0.0
MRLC	Muro Lucano 101nm,0.4s	3.00	34		Pg	Pn	06 22 21.4	0.0
SNAL	S. Angelo Dei 1µm,1.9s	3.03	29		Pg	Pn	06 22 22.1	+0.3
SNAL	S. Angelo Dei 1µm,1.9s	3.03	29		Pg	Pn	06 22 22.1	+0.3
VSL	Villasalto	3.27	293		*e*Pn	Pn	06 22 23.4	-1.7
VSL					*e*Sn	Sn	06 23 02.6	-0.8
VSL	Villasalto	3.27	293		Pg	Pn	06 22 22.7	-2.3
VSL	Villasalto	3.27	293		Pg	Pn	06 22 22.7	-2.3
CGL	Cagliari Serpe	3.29	290		Pg	Pn	06 22 22.7	-2.6
CGL	Cagliari Serpe	3.29	290		Pg	Pn	06 22 22.7	-2.6
MATE	Matera	3.55	47	⇑	*i*P	Pn	06 22 29.1	+0.2
MATE	Matera	3.55	47	⇑	*i*P	Pn	06 22 29.1	+0.2
MATE					S	Sn	06 23 09.8	-0.5
SG1	Sgolgore (BA)	3.67	45		*e*P	Pn	06 22 30.1	-0.4
MASS	Massafra	3.81	51		*e*P	Pn	06 22 31.9	-0.5
TAR1	Taranto	3.83	53		*i*P	Pn	06 22 31.3	-1.4
BAI	Bari	3.96	44		*e*P	Pn	06 22 34.4	0.0
MS1	Monte Sant'Ang	3.98	30		*e*P	Pn	06 22 35.1	+0.2
CGL1	Ceglie Messapi	4.02	53		*e*P	Pn	06 22 34.7	-0.7
FASA	Fasano	4.04	50		*i*P	Pn	06 22 34.9	-0.7
KEST	Kesra 3.7nm,0.3s,baz=87,slow=7.4,SNR=43	4.05	232		Pn	Pn	06 22 37.0	+1.2
KEST					Sn	Sn	06 23 22.3	-0.3
KEST	14nm,0.3s,baz=53,slow=24,SNR=6.9 comp=Z,2µm,18.2s,baz=26,slow=47				LR	LR	06 24 45.9	
AQU	L'Aquila	4.07	1		*e*Pn	Pn	06 22 38.6	+2.6
AQU	L'Aquila	4.07	1		*e*P	Pn	06 22 38.6	+2.6
AQU	L'Aquila	4.07	1		*e*P	Pn	06 22 38.6	+2.6
CMAH	Djebel Manchou	4.94	252		P	Pn	06 22 46.5	-1.6
CMAH	Djebel Manchou	4.94	252		P	Pn	06 22 46.5	-1.6
KEK	Kerkira	5.28	72		P	Pn	06 22 51.7	-0.9
KEK	Kerkira	5.28	72		P	Pn	06 22 51.7	-0.9
KEK	Kerkira	5.28	72		P	Pn	06 22 51.7	-0.9
CAEH	'Ain El Ouahch	5.32	256		P	Pn	06 22 51.4	-1.8
PGF	Pioggiola	5.36	324		*e*Pn	Pn	06 22 53.8	-0.1
PGF	Pioggiola	5.36	324		*e*P	Pn	06 22 56.8	+3.0
PGF					*e*Sn	Sn	06 23 52.1	-3.0
PGF	Pioggiola 44nm,0.4s	5.36	324		*e*Pn	Pn	06 22 53.8	-0.1
PGF					*e*Sn	Sn	06 23 52.1	-3.0
PGF	Pioggiola	5.36	324		*e*Pn	Pn	06 22 53.8	-0.1
PGF	Pioggiola	5.36	324		*e*P	Pn	06 22 56.8	+3.0
PGF	Pioggiola	5.36	324		*e*P	Pn	06 22 53.8	-0.1
PGF					*e*		06 23 52.1	
CKFL	Kef-Lekhel	5.55	252		P	Pn	06 22 52.8	-3.7
SGD	Sagiada	5.59	74		P	Pn	06 22 56.9	+0.1
IGT	Igoumenitsa	5.65	75		P	Pn	06 22 56.4	-1.3
IGT	Igoumenitsa	5.65	75		P	Pn	06 22 56.4	-1.3
IGT	Igoumenitsa	5.65	75		P	Pn	06 22 56.4	-1.3
IGT	Igoumenitsa	5.65	75		P	Pn	06 22 56.4	-1.3
STON	Ston	5.69	35		P	Pn	06 22 57.1	-1.1
STON	Ston	5.69	35		*i*P	Pn	06 22 57.0	-1.1
FSK	Fiskardo	5.73	86		P	Pn	06 22 57.7	-1.1
VLS	Valsamata	5.76	89		P	Pn	06 22 57.5	-1.8
VLS	Valsamata	5.76	89		P	Pn	06 22 57.5	-1.8
VLS	Valsamata	5.76	89		P	Pn	06 22 57.5	-1.8
VLS	Valsamata	5.76	89		P	Pn	06 22 57.5	-1.8
LKD2	Lefkada island	5.81	83		P	Pn	06 22 59.5	-0.5
LKD2	Lefkada island	5.81	83		P	Pn	06 22 59.5	-0.5
LKD2	Lefkada island	5.81	83		P	Pn	06 22 59.5	-0.5
KFL	Anninata	5.92	89		P	Pn	06 23 00.3	-1.2
TIR	Tirane	5.92	57		*e*Pn	Pn	06 23 00.6	-0.9
TIR	Tirane	5.92	57		*e*P	Pn	06 23 00.6	-0.9
TIR	Tirane	5.92	57		*e*P	Pn	06 23 00.6	-0.9
PDG	Podgorica	6.17	46	⇑	*i*P	Pn	06 23 04.5	-0.2
TTG	Podgorica	6.17	46		*e*Pn	Pn	06 23 04.2	-0.5
TTG	Podgorica	6.17	46		*e*P	Pn	06 23 04.2	-0.5
TTG	Podgorica	6.17	46		*e*P	Pn	06 23 04.2	-0.5
PDO	Prodromos	6.22	85		P	Pn	06 23 06.0	+0.5
VLC	Villacollemand	6.26	341		*e*Pn	Pn	06 23 10.5	+4.4
VLC	Villacollemand	6.26	341		*e*Pn	Pn	06 23 10.5	+4.4
NVLJ	Novalja	6.39	10		P	Pn	06 23 10.0	+2.2
NVLJ	Novalja	6.39	10		*i*P	Pn	06 23 10.0	+2.2
PENT	Pentalofos	6.40	70		P	Pn	06 23 09.2	+1.1
OHR	Ohrid	6.45	62		*e*Pn	Pn	06 23 09.7	+0.9
PHP	Peshkopia	6.47	56		P	Pn	06 23 09.4	+0.4
PHP	Peshkopia	6.47	56		P	Pn	06 23 09.4	+0.4
PHP	Peshkopia	6.47	56		P	Pn	06 23 09.4	+0.4
PHP	Peshkopia	6.47	56		P	Pn	06 23 09.4	+0.4
PVO	Paravola	6.49	85		P	Pn	06 23 09.7	+0.5
KPRO	Kipourio	6.51	73		P	Pn	06 23 11.4	+1.8
DRO	Drossia	6.66	90		P	Pn	06 23 12.6	+1.0
AMT	Artemida-Makis	6.71	94		P	Pn	06 23 13.2	+0.9
EVR	Evrytania	6.72	82		P	Pn	06 23 13.3	+0.9
EVR	Evrytania	6.72	82		P	Pn	06 23 13.3	+0.9
EVR	Evrytania	6.72	82		P	Pn	06 23 13.3	+0.9
FNA	Florina	6.74	66		P	Pn	06 23 12.9	+0.1
FNA	Florina	6.74	66		P	Pn	06 23 12.9	+0.1
FNA	Florina	6.74	66		P	Pn	06 23 12.9	+0.1
FNA	Florina	6.74	66		P	Pn	06 23 12.9	+0.1
BIA	Bitola	6.79	64		P	Pn	06 23 15.0	+1.6
BIA	Bitola	6.79	64		P	Pn	06 23 15.0	+1.6
BIA	Bitola	6.79	64		P	Pn	06 23 15.0	+1.6
BIA	Bitola	6.79	64		*e*Pn	Pn	06 23 14.4	+1.0
EFP	Efpalio	6.79	86		P	Pn	06 23 13.9	+0.6
LAKA	Lakka	6.85	88		P	Pn	06 23 14.5	+0.3
LAKA	Lakka	6.85	88		P	Pn	06 23 14.5	+0.3
LAKA	Lakka	6.85	88		P	Pn	06 23 14.5	+0.3
KRUS	Krusevo	6.87	61		*e*Pn	Pn	06 23 14.3	-0.2
PYL	PYLOS	6.87	99		P	Pn	06 23 13.6	-0.8
PYL	PYLOS	6.87	99		P	Pn	06 23 13.6	-0.8
PYL	PYLOS	6.87	99		P	Pn	06 23 13.6	-0.8
KZN	Kozani	6.89	70		P	Pn	06 23 16.7	+1.8
KZN	Kozani	6.89	70		P	Pn	06 23 16.7	+1.8
KZN	Kozani	6.89	70		P	Pn	06 23 16.7	+1.8
KZN	Kozani	6.89	70		P	Pn	06 23 16.7	+1.8
SERG	Sergoula	6.91	86		P	Pn	06 23 15.6	+0.6
THL	Klokotos Trika	6.94	77		P	Pn	06 23 16.0	+0.7
ITM	Ithomi	6.95	96		P	Pn	06 23 14.3	-1.3
ITM	Ithomi	6.95	96		P	Pn	06 23 14.3	-1.3
ITM	Ithomi	6.95	96		P	Pn	06 23 14.3	-1.3
KALE	Kalithea	6.97	86		P	Pn	06 23 16.8	+0.9
KALE	Kalithea	6.97	86		P	Pn	06 23 16.8	+0.9
KALE	Kalithea	6.97	86		P	Pn	06 23 16.8	+0.9
KLV	Kalavryta, Ach	7.00	89		P	Pn	06 23 16.5	+0.2
KLV	Kalavryta, Ach	7.00	89		P	Pn	06 23 16.5	+0.2
KLV	Kalavryta, Ach	7.00	89		P	Pn	06 23 16.5	+0.2
BLY	Banja Luka	7.09	23	⇑	*i*P	Pn	06 23 17.8	+0.3
BLY	Banja Luka	7.09	23		*e*Pn	Pn	06 23 19.3	+1.8
BLY	Banja Luka	7.09	23		*e*Pn	Pn	06 23 19.3	+1.8
SBF	Sospel	7.10	324		*e*Pn	Pn	06 23 17.0	-0.7
SBF					*e*Sn	Sn	06 24 33.1	-4.8
SBF	Sospel 34nm,0.5s	7.10	324		*e*Pn	Pn	06 23 17.0	-0.7
SBF					*e*Sn	Sn	06 24 33.1	-4.8
SBF	Sospel	7.10	324		*e*P	Pn	06 23 17.0	-0.7
SBF					*e*		06 24 33.1	
AGG	Agios Georgios	7.13	81		*e*Pn	Pn	06 23 18.5	+0.5
AGG	Agios Georgios	7.13	81		P	Pn	06 23 18.6	+0.5
AGG	Agios Georgios	7.13	81		*e*P	Pn	06 23 18.5	+0.5
AGG	Agios Georgios	7.13	81		*e*P	Pn	06 23 18.5	+0.5
TRIP	Tripoli	7.16	93		P	Pn	06 23 18.6	+0.1
GUR	Goura	7.16	90		P	Pn	06 23 19.4	+0.8
GUR	Goura	7.16	90		P	Pn	06 23 19.4	+0.8
GUR	Goura	7.16	90		P	Pn	06 23 19.4	+0.8
LMR	La Mourre	7.19	317		*e*Pn	Pn	06 23 17.4	-1.4
LMR					*e*Sn	Sn	06 24 35.7	-4.2
LMR	La Mourre 14nm,0.3s	7.19	317		*e*Pn	Pn	06 23 17.4	-1.4
LMR					*e*Sn	Sn	06 24 35.7	-4.2
LMR	La Mourre	7.19	317		*e*P	Pn	06 23 17.4	-1.4
LMR					*e*		06 24 35.7	
BBLS	Lazići	7.25	38	⇑	*i*P	Pn	06 23 20.6	+0.9
VLX	Vlachokerasia	7.27	94		P	Pn	06 23 19.9	-0.1
VLX	Vlachokerasia	7.27	94		P	Pn	06 23 19.9	-0.1
VLX	Vlachokerasia	7.27	94		P	Pn	06 23 19.9	-0.1
FRF	La Foret Royal	7.27	319		*e*Pn	Pn	06 23 19.3	-0.7
FRF					*e*Sn	Sn	06 24 37.7	-4.3
FRF	La Foret Royal 11nm,0.3s	7.27	319		*e*Pn	Pn	06 23 19.3	-0.7
FRF					*e*Sn	Sn	06 24 37.7	-4.3
FRF	La Foret Royal	7.27	319		*e*P	Pn	06 23 19.3	-0.7
FRF					*e*		06 24 37.7	
DSF	Desfina	7.28	86		P	Pn	06 23 20.1	0.0
DSF	Desfina	7.28	86		P	Pn	06 23 20.1	0.0
DSF	Desfina	7.28	86		P	Pn	06 23 20.1	0.0
DYR	Agios Nikonas	7.36	99		P	Pn	06 23 21.8	+0.6
LIT	Litokhoron	7.38	73		P	Pn	06 23 22.1	+0.5
LIT	Litokhoron	7.38	73		P	Pn	06 23 22.1	+0.5
LIT	Litokhoron	7.38	73		P	Pn	06 23 22.1	+0.5
LIT	Litokhoron	7.38	73		P	Pn	06 23 22.1	+0.5
IVAS	Ivanjica	7.42	42	⇑	*i*P	Pn	06 23 22.6	+0.6
GRG	Griva	7.53	66		P	Pn	06 23 23.9	+0.3
GRG	Griva	7.53	66		P	Pn	06 23 23.9	+0.3
GRG	Griva	7.53	66		P	Pn	06 23 23.9	+0.3
GRG	Griva	7.53	66		P	Pn	06 23 23.9	+0.3
PROD	Prodromos	7.58	87		P	Pn	06 23 24.2	0.0
FYTO	Fytoko, Volos	7.63	79		P	Pn	06 23 26.2	+1.3
FYTO	Fytoko, Volos	7.63	79		P	Pn	06 23 26.2	+1.3
FYTO	Fytoko, Volos	7.63	79		P	Pn	06 23 26.2	+1.3
LTK	Loutraki	7.64	89		P	Pn	06 23 24.5	-0.6
LTK	Loutraki	7.64	89		P	Pn	06 23 24.5	-0.6
LTK	Loutraki	7.64	89		P	Pn	06 23 24.5	-0.6
DIVS	Divibare	7.70	39		*e*Pn	Pn	06 23 26.4	+0.4
DIVS	Divibare	7.70	39	⇑	*i*P	Pn	06 23 26.1	+0.1
DIVS	Divibare	7.70	39		*e*Pn	Pn	06 23 26.4	+0.4
VAY	Valandovo	7.77	64		P	Pn	06 23 26.2	-0.6
VAY	Valandovo	7.77	64		P	Pn	06 23 26.2	-0.6
VAY	Valandovo	7.77	64		P	Pn	06 23 26.2	-0.6
VAY	Valandovo	7.77	64		P	Pn	06 23 26.2	-0.6
XOR	Xorichti	7.82	79		P	Pn	06 23 27.2	-0.3
XOR	Xorichti	7.82	79		P	Pn	06 23 27.2	-0.3
XOR	Xorichti	7.82	79		P	Pn	06 23 27.2	-0.3
TEKS	Tekeris	7.82	35	⇑	*i*P	Pn	06 23 27.7	+0.1
VLI	Veliai	7.84	99		P	Pn	06 23 28.2	+0.4
VLI	Veliai	7.84	99		P	Pn	06 23 28.2	+0.4
VLI	Veliai	7.84	99		P	Pn	06 23 28.2	+0.4
VILL	Villia	7.91	88		P	Pn	06 23 28.4	-0.3
DID	Didima	7.92	93		P	Pn	06 23 28.1	-0.8
DID	Didima	7.92	93		P	Pn	06 23 28.1	-0.8
DID	Didima	7.92	93		P	Pn	06 23 28.1	-0.8
BARS	Barje	7.92	52	⇑	*i*P	Pn	06 23 29.4	+0.5
GRUS	Gruza	7.93	43		*e*P	Pn	06 23 29.5	+0.5
HORT	Hortiatis	7.95	70		P	Pn	06 23 29.2	-0.1
HORT	Hortiatis	7.95	70		P	Pn	06 23 29.2	-0.1
HORT	Hortiatis	7.95	70		P	Pn	06 23 29.2	-0.1
KNT	Kendrikon	7.96	66		P	Pn	06 23 29.2	-0.2
KNT	Kendrikon	7.96	66		P	Pn	06 23 29.2	-0.2
KNT	Kendrikon	7.96	66		P	Pn	06 23 29.2	-0.2
KNT	Kendrikon	7.96	66		P	Pn	06 23 29.2	-0.2
TRUS	Trudelj	8.00	40	⇑	*i*P	Pn	06 23 29.8	-0.2
MBDF	Montbardon	8.07	325		*e*P	Pn	06 23 33.7	+2.6
MBDF	Montbardon	8.07	325		*e*P	Pn	06 23 33.7	+2.6
MBDF	Montbardon	8.07	325		*e*P	Pn	06 23 33.7	+2.6
MBDF	Montbardon	8.07	325		*e*P	Pn	06 23 33.7	+2.6
SMRF	Simiane la Rot	8.12	317		*e*Pn	Pn	06 23 29.9	-1.8
SMRF	Simiane la Rot	8.12	317		*e*P	Pn	06 23 34.8	+3.1
SMRF					*e*Sn	Sn	06 25 01.8	-1.2
SMRF	Simiane la Rot 5.4nm,0.3s	8.12	317		*e*Pn	Pn	06 23 29.9	-1.8
SMRF					*e*Sn	Sn	06 25 01.8	-1.2
SMRF	Simiane la Rot	8.12	317		*e*P	Pn	06 23 34.8	+3.1
OG25	Le Caire	8.14	321		P	Pn	06 23 32.3	+0.4
PAIG	Paliouri	8.26	75		P	Pn	06 23 32.2	-1.3
PAIG	Paliouri	8.26	75		P	Pn	06 23 32.2	-1.3
PAIG	Paliouri	8.26	75		P	Pn	06 23 32.2	-1.3
PAIG	Paliouri	8.26	75		P	Pn	06 23 32.2	-1.3
OBKA	Obir 5.1nm,0.4s	8.27	6		Pn	Pn	06 23 35.5	+1.7
OBKA	Obir 5.1nm,0.4s	8.27	6	*i*	Pn	Pn	06 23 35.5	+1.7
ATHU	Athens Univers	8.29	89		P	Pn	06 23 32.9	-1.1
ATHU	Athens Univers	8.29	89		P	Pn	06 23 32.9	-1.1
ATHU	Athens Univers	8.29	89		P	Pn	06 23 32.9	-1.1
VLY	Voula,Athens	8.31	90		P	Pn	06 23 33.0	-1.3
VLY	Voula,Athens	8.31	90		P	Pn	06 23 33.0	-1.3
VLY	Voula,Athens	8.31	90		P	Pn	06 23 33.0	-1.3
BOVS	Bovan	8.32	47	⇑	*i*P	Pn	06 23 34.9	+0.6
MYKA	Terra Mystica 9.6nm,0.5s	8.34	2		Pn	Pn	06 23 37.6	+2.9
MYKA	Terra Mystica 9.6nm,0.5s	8.34	2	*i*	Pn	Pn	06 23 37.6	+2.9
PTL	Penteli	8.35	88		P	Pn	06 23 34.0	-0.8
PTL	Penteli	8.35	88		P	Pn	06 23 34.0	-0.8
PTL	Penteli	8.35	88		P	Pn	06 23 34.0	-0.8
BNI	Bardonecchia	8.37	326		*e*Pn	Pn	06 23 37.5	+2.4
BNI	Bardonecchia	8.37	326		*e*P	Pn	06 23 37.5	+2.4
BNI	Bardonecchia	8.37	326		*e*P	Pn	06 23 37.5	+2.4
EREA	Eretria	8.38	86		P	Pn	06 23 34.6	-0.6
FGSL	Fruska Gora	8.43	33		*e*P	Pn	06 23 36.1	+0.3
SRS	Serrai	8.44	67		P	Pn	06 23 36.4	+0.4
SRS	Serrai	8.44	67		P	Pn	06 23 36.4	+0.4
SRS	Serrai	8.44	67		P	Pn	06 23 36.4	+0.4
SRS	Serrai	8.44	67		P	Pn	06 23 36.4	+0.4
ABTA	Abf

CABF La Chapelle 9.87 330 *e*P Pn **06 24 00.1 +4.5**
CHOS Chios island 10.04 85 P Pn **06 23 57.2 -0.9**
CHOS Chios island 10.04 85 P Pn **06 23 57.2 -0.9**
CHOS Chios island 10.04 85 P Pn **06 23 57.2 -0.9**
SIRR Siria 10.11 35 ||*i*P Pn **06 23 59.4 +0.6**
comp=Z,800nm,12.2s
ALN Alexandroupoli 10.20 71 P Pn **06 23 58.7 -1.4**
ALN Alexandroupoli 10.20 71 P Pn **06 23 58.7 -1.4**
ALN Alexandroupoli 10.20 71 P Pn **06 23 58.7 -1.4**
ALN Alexandroupoli 10.20 71 P Pn **06 23 58.7 -1.4**
LOMF Lomont 10.22 335 P Pn **06 24 02.3 +1.9**
FELD Feldberg im Sc 10.33 340 P Pn **06 24 04.6 +2.6**
GEA0 GERESS Array S 10.55 2 *e*Pn Pn **06 24 07.0 +2.0**
GEA0 GERESS Array S 10.55 2 *e*Pn Pn **06 24 07.0 +2.0**
MOF Molkenrain 10.56 337 P Pn **06 24 08.5 +3.4**
GEC2 GERESS Array S 10.56 2 *e*Pn Pn **06 24 06.9 +1.8**
GEC2 GERESS Array S 10.56 2 *e*P Pn **06 24 06.9 +1.8**
GEC2 GERESS Array S 10.56 2 *e*P Pn **06 24 06.9 +1.8**
GERES GERESS Array B 10.56 2 Pn Pn **06 24 06.8 +1.6**
0.4nm,0.3s,baz=177,slow=12,SNR=21
GERES LR LR 06 28 53.5
comp=Z,342nm,20.4s,baz=181,slow=42
HINF Hinterlafeld 10.62 336 *e*P Pn **06 24 09.7 +3.9**
HINF Hinterlafeld 10.62 336 *e*P Pn **06 24 09.7 +3.9**
HINF Hinterlafeld 10.62 336 *e*P Pn **06 24 09.7 +3.9**
HINF Hinterlafeld 10.62 336 *e*P Pn **06 24 09.7 +3.9**
BFO Black Forest 10.66 342 *e*Pn Pn **06 24 09.2 +2.8**
BFO Black Forest 10.66 342 *e*Pn Pn **06 24 09.2 +2.8**
BFO Black Forest 10.66 342 *i*P Pn **06 24 10.6 +4.2**
BFO Black Forest 10.66 342 *i*P Pn **06 24 10.6 +4.2**
PYM Petit Puy Mans 10.67 318 P Pn **06 24 07.3 +0.7**
CAF Calviac 10.69 312 *e*Pn Pn **06 24 05.7 -1.2**
CAF *e*Sn **Sn 06 25 58.7 -7.3**
8.1nm,0.6s
CAF Calviac 10.69 312 *e*Pn Pn **06 24 05.7 -1.2**
CAF *e*Sn **Sn 06 25 58.7 -7.3**
CAF Calviac 10.69 312 *e*P Pn **06 24 05.7 -1.2**
KHC Kasperske Hory 10.84 1 *e*P Pn **06 24 10.5 +1.6**
KHC *ex* x 06 24 44.5
KHC AMS AMS 06 29 10.0
comp=Z,1μm,11.4s
KHC Kasperske Hory 10.84 1 *e*Pn Pn **06 24 10.5 +1.6**
KHC Kasperske Hory 10.84 1 *e*P Pn **06 24 10.5 +1.6**
1μm,11.4s
KHC Kasperske Hory 10.84 1 *e*P Pn **06 24 10.5 +1.6**
KHC MLR MLR
comp=Z,1μm,11.4s
ECH Echery 10.88 338 *e*Pn Pn **06 24 11.6 +2.3**
ECH Echery 10.88 338 *e*P Pn **06 24 11.6 +2.3**
ECH Echery 10.88 338 *e*P Pn **06 24 11.6 +2.3**
STU Stuttgart 10.89 346 *e*Pn Pn **06 24 13.0 +3.5**
STU Stuttgart 10.89 346 *e*P Pn **06 24 13.0 +3.5**
STU Stuttgart 10.89 346 *e*P Pn **06 24 13.0 +3.5**
EPF Esparros 10.90 300 *e*P Pn **06 24 15.7 +5.9**
EPF Esparros 10.90 300 *e*P Pn **06 24 15.7 +5.9**
EPF Esparros 10.90 300 *e*P Pn **06 24 15.7 +5.9**
HAU Haudompre 10.95 335 *e*Pn Pn **06 24 13.1 +2.8**
HAU Haudompre 10.95 335 *e*P Pn **06 24 13.1 +2.8**
HAU Haudompre 10.95 335 *e*P Pn **06 24 13.1 +2.8**
HAU Haudompre 10.95 335 *e*P Pn **06 24 13.1 +2.8**
CDF Champ du Feu 11.02 339 *e*P Pn **06 24 13.4 +2.0**
CDF Champ du Feu 11.02 339 *e*P Pn **06 24 13.4 +2.0**
CDF Champ du Feu 11.02 339 *e*P Pn **06 24 13.4 +2.0**
CDF Champ du Feu 11.02 339 *e*P Pn **06 24 13.4 +2.0**
ARR Arges 11.04 47 ||*i*P Pn **06 24 12.7 +1.1**
TREC Trest 11.12 8 AMS AMS 06 28 50.0
comp=Z,1μm,15.1s
AVF Avril sur Loir 11.21 322 *e*Pn Pn **06 24 13.8 -0.1**
AVF Avril sur Loir 11.21 322 *e*Pn Pn **06 24 13.8 -0.1**
AVF Avril sur Loir 11.21 322 *e*Pn Pn **06 24 13.8 -0.1**
AVF Avril sur Loir 11.21 322 *e*P Pn **06 24 13.8 -0.1**
THEF They Montfort 11.26 334 P Pn **06 24 17.2 +2.6**
VRAC Vranov 11.28 11 LR LR 06 28 17.3
comp=Z,184nm,21.3s,baz=196,slow=36
VOIR 11.31 47 ||*i*P Pn **06 24 17.1 +1.7**
LOR Lormes 11.32 325 *e*P Pn **06 24 17.9 +2.4**
LOR Lormes 11.32 325 *e*P Pn **06 24 17.9 +2.4**
LOR Lormes 11.32 325 *e*P Pn **06 24 17.9 +2.4**
LOR Lormes 11.32 325 *e*P Pn **06 24 17.9 +2.4**
SSF Saint Saulge 11.33 324 *e*Pn Pn **06 24 14.9 -0.7**
SSF Saint Saulge 11.33 324 *e*Pn Pn **06 24 14.9 -0.7**
SSF Saint Saulge 11.33 324 *e*P Pn **06 24 14.9 -0.7**
LANF Langenberg 11.40 341 P Pn **06 24 20.1 +3.6**
TCF Toulx Ste Croi 11.44 318 *e*Pn Pn **06 24 15.5 -1.6**
TCF Toulx Ste Croi 11.44 318 *e*Pn Pn **06 24 15.5 -1.6**
TCF Toulx Ste Croi 11.44 318 *e*P Pn **06 24 15.5 -1.6**
ETSF Etsaut 11.48 298 *e*P Pn **06 24 22.2 +4.5**
ETSF Etsaut 11.48 298 *e*P Pn **06 24 22.2 +4.5**
ETSF Etsaut 11.48 298 *e*P Pn **06 24 22.2 +4.5**
ETSF Etsaut 11.48 298 *e*P Pn **06 24 22.2 +4.5**
PAGF Fort de Pagny 11.63 334 *e*Pn Pn **06 24 18.2 -1.5**
baz=143
PAGF Fort de Pagny 11.63 334 *e*P Pn **06 24 23.3 +3.6**
PAGF Fort de Pagny 11.63 334 *e*Pn Pn **06 24 18.2 -1.5**
PAGF Fort de Pagny 11.63 334 *e*P Pn **06 24 23.3 +3.6**
GOPC GO Pecny, Ondr 11.68 5 *e*P Pn **06 24 21.5 +1.2**
GOPC AMS AMS 06 29 30.0
comp=Z,800nm,12.2s
GOPC GO Pecny, Ondr 11.68 5 *e*P Pn **06 24 21.5 +1.2**
comp=Z,800nm,12.2s
GOPC GO Pecny, Ondr 11.68 5 *e*P Pn **06 24 21.5 +1.2**
GOPC MLR MLR
comp=Z,800nm,12.2s
PRU Pruhonice 11.73 4 *e*P Pn **06 24 22.2 +1.1**
PRU AMS AMS 06 29 30.0
comp=Z,900nm,11.9s
PRU Pruhonice 11.73 4 *e*P Pn **06 24 22.2 +1.1**
comp=Z,900nm,11.9s
PRU Pruhonice 11.73 4 *e*P Pn **06 24 22.2 +1.1**
PRU MLR MLR
comp=Z,900nm,11.9s
PRA Prague 11.81 4 AMS AMS 06 29 30.0
comp=Z,700nm,12.1s
MLR Muntele Rosu 11.87 49 Pn Pn **06 24 25.2 +2.1**
comp=Z,0.2nm,0.3s,baz=230,slow=19,SNR=9.6
MLR LR LR 06 29 53.4
comp=Z,104nm,21.1s,baz=239,slow=43
MLR Muntele Rosu 11.87 49 ||*i*P Pn **06 24 25.1 +2.1**
MLR Muntele Rosu 11.87 49 *e*Pn Pn **06 24 24.9 +1.9**
MLR Muntele Rosu 11.87 49 *e*P Pn **06 24 24.9 +1.9**
MLR Muntele Rosu 11.87 49 *e*P Pn **06 24 24.9 +1.9**
MORC Moravsky Berou 11.89 14 *e*Pn Pn **06 24 25.7 +2.5**
MORC Moravsky Berou 11.89 14 *e*P Pn **06 24 25.7 +2.5**
MORC Moravsky Berou 11.89 14 *e*P Pn **06 24 25.7 +2.5**
NKC Novy Kostel 11.96 357 AMS AMS 06 29 30.0
comp=Z,1μm,12.4s
ISR Istrita 12.03 51 ||*i*P Pn **06 24 26.6 +1.4**
OKC Ostrava-Krasne 12.06 15 AMS AMS 06 30 00.0
comp=Z,2μm,12.7s
CRVS Cervenica-Dubn 12.15 27 *e*PN Pn **06 24 30.1 +3.3**
CRVS Cervenica-Dubn 12.15 27 *e*P Pn **06 24 30.1 +3.3**
DPC Dobruska-Polom 12.26 9 *e*P Pn **06 24 29.3 +1.1**
DPC AMS AMS 06 29 30.0
comp=Z,1μm,14.8s
DPC Dobruska-Polom 12.26 9 *e*P Pn **06 24 29.3 +1.1**
comp=Z,1μm,14.8s
DPC Dobruska-Polom 12.26 9 *e*P Pn **06 24 29.3 +1.1**
DPC MLR MLR
comp=Z,1μm,14.8s
PVCC Panska Ves 12.28 4 AMS AMS 06 29 40.0
comp=Z,700nm,12.9s
UPC Upice 12.37 8 AMS AMS 06 29 40.0
comp=Z,1μm,13.6s
PLOR Plostina 12.48 48 ||*i*P Pn **06 24 32.8 +1.5**
STHS Stebnicka Huta 12.52 25 *e* P **06 24 47.8 +4.4**
VRI Vrincioaia 12.53 49 ||*i*P Pn **06 24 32.5 +0.5**
BRG Berggiesshubel 12.60 2 SG Pn **06 24 37.1 +4.3**
comp=Z,7.2nm,1.1s
KSP Ksiaz 12.74 9 *e*P Pn **06 24 37.5 +2.7**
KSP Ksiaz 12.74 9 *e*P Pn **06 24 37.5 +2.7**
KSP Ksiaz 12.74 9 *e*P Pn **06 24 37.5 +2.7**
BUR04 Bucovina Ar. S 12.77 39 *e*Pn Pn **06 24 35.7 +0.4**
BUR04 Bucovina Ar. S 12.77 39 *e*Pn Pn **06 24 35.7 +0.4**
BUR08 Bucovina Ar. S 12.78 39 *e*Pn Pn **06 24 36.5 +1.0**
BUR08 Bucovina Ar. S 12.78 39 *e*Pn Pn **06 24 36.5 +1.0**
OJC Ojcow 12.81 19 *e*P Pn **06 24 40.4 +4.7**
OJC Ojcow 12.81 19 *e*P Pn **06 24 40.4 +4.7**
TIRR Tirgusor 12.93 57 ||*i*P Pn **06 24 38.3 +0.9**
TIRR Tirgusor 12.93 57 ||*i*P Pn **06 24 38.3 +0.9**
TIRR Tirgusor 12.93 57 ||*e*P Pn 06 24 43.0 +5.6
TIRR pmax pmax
comp=Z,10.0nm,1.7s
CLL Collm 13.02 359 *e*P Pn **06 24 40.0 +1.4**
CLL *e* 06 24 53.0
CLL Lmax 06 30 00.0
CLL Collm 13.02 359 *e*P Pn **06 24 40.0 +1.4**
CLL Collm 13.02 359 *e*P Pn **06 24 40.0 +1.4**
CFR Carcaliu 13.05 53 ||*i*P Pn **06 24 41.3 +2.2**
ESDC Sonseca Array 13.48 281 Pn Pn **06 24 45.3 +0.2**
comp=Z,0.4nm,0.3s,baz=93,slow=14,SNR=3.2
ISP Isparta 13.61 87 *i*P Pn **06 24 48.3 +1.5**
ISP Isparta 13.61 87 *i*P Pn **06 24 48.3 +1.5**
PAB San Pablo 13.78 281 *e*Pn Pn **06 24 50.1 +0.9**
PAB San Pablo 13.78 281 *e*Pn Pn **06 24 50.1 +0.9**
PAB San Pablo 13.78 281 *e*P Pn **06 24 50.1 +0.9**
MILM Milestii Mici 14.31 48 ||*i*P Pn **06 24 59.1 +2.8**
BR131 Keskin Array S 15.90 78 *e*Pn Pn **06 25 17.9 +0.3**
BR131 Keskin Array S 15.90 78 *e*Pn Pn **06 25 17.9 +0.3**
BRTR Keskin Array B 15.90 78 Pn Pn **06 25 15.2 -2.4**
comp=Z,0.1nm,0.3s,baz=25,slow=7.2,SNR=2.8
BRTR LR LR 06 31 33.5
comp=Z,35nm,20.5s,baz=269,slow=38
ILGA Ilgaz 15.98 74 *e*Pn P **06 25 23.2 +1.1**
comp=Z,23nm,1.3s
RGN Rugen 16.27 0 *e*Pn P **06 25 25.9 +1.0**
comp=Z,64nm,0.4s
CSS Mathiatis 16.44 96 *e*Pn Pn **06 25 23.1 -1.3**
comp=Z,6.5nm,0.9s
CSS Mathiatis 16.44 96 *e*Pn Pn **06 25 23.1 -1.3**
comp=Z,6.5nm,0.9s
AK11 Malin Array Si 16.75 37 *e*Pn P **06 25 31.1 +0.8**
KIEV Kiev 16.78 37 *e*Pn P **06 25 30.9 +0.2**
comp=Z,24nm,1.6s
KIEV Kiev 16.78 37 *ce*P Pn **06 25 29.8 +1.2**
KIEV pmax pmax
comp=Z,5.0nm,1.2s
AKASG Malin Array Be 16.79 37 Pn Pn **06 25 28.8 +0.1**
comp=Z,0.7nm,0.3s,baz=233,slow=11,SNR=5.4
AKASG LR LR 06 32 37.5
comp=Z,157nm,20.2s,baz=245,slow=40
AKBB Malin Array Si 16.79 37 *e*Pn P **06 25 30.5 -0.3**
comp=Z,24nm,1.6s
AKBB Malin Array Si 16.79 37 *e*P P **06 25 30.5 -0.3**
AKBB pmax pmax
comp=Z,24nm,1.6s
TAM Tamanrasset 16.81 205 *e*Pn P **06 25 32.5 +1.1**
comp=Z,21nm,1.3s
TAM Tamanrasset 16.81 205 *e*P P **06 25 32.5 +1.1**
comp=Z,21nm,1.3s
TAM Tamanrasset 16.81 205 *e*P P **06 25 32.5 +1.1**
TAM pmax pmax
comp=Z,21nm,1.3s
KLNR Kaliningrad 16.99 14 *i*P P **06 25 32.7 -0.3**
comp=Z,68nm,1.1s
KLNR Kaliningrad 16.99 14 *i*P P **06 25 32.7 -0.3**
KLNR pmax pmax
comp=Z,68nm,1.1s
SUW Suwalki 17.13 20 *e*P P **06 25 36.5 +2.0**
SUW Suwalki 17.13 20 *e*P P **06 25 36.6 +2.0**
comp=Z,125nm,1.3s
SUW Suwalki 17.13 20 *e*P P **06 25 36.5 +2.0**
MMAI Mount Meron Ar 18.72 100 P P **06 25 49.5 -2.9**
comp=Z,1.0nm,0.3s,baz=323,slow=9.4,SNR=3.1
NACGM Naroch 18.98 25 *e* Pn **06 25 56.0 +0.4**
NACGM *e*LR LR 06 34 10.0
IIGN Ignalina 19.18 23 *e*P Pn **06 25 58.4 +0.4**
IIGN IAmb IAmb 06 26 01.8
comp=Z,23nm,1.1s
ANN Anapa 19.18 62 *e*P P **06 25 56.9 -0.3**
comp=Z,64nm,0.9s
ANN Anapa 19.18 62 *e*P P **06 25 56.9 -0.3**
ANN pmax pmax
comp=Z,64nm,0.9s
IDID Didziasalis 19.31 24 *e*P Pn **06 25 59.8 +0.3**
IDID IAmb IAmb 06 26 02.9
comp=Z,5.1nm,0.8s
IZAR Zarasai 19.52 22 *e*P Pn **06 26 02.1 0.0**
IZAR IAmb IAmb 06 26 03.2
comp=Z,5.9nm,0.8s
ASF Jabal al Asfar 20.21 100 P P **06 26 06.7 -2.0**
comp=Z,1.0nm,0.6s,baz=130,slow=7.9,SNR=2.7
EKA Eskdalemuir Ar 20.34 332 P P **06 26 10.4 +0.8**
comp=Z,7.4nm,0.9s,baz=144,slow=11,SNR=8.2
EKA Eskdalemuir Ar 20.34 332 P P **06 26 10.5 +0.8**
EKA pmax pmax
comp=Z,15nm,1.2s
SOC Sochi 20.63 67 *e*P P **06 26 11.6 -1.3**
comp=Z,59nm,0.7s
SOC Sochi 20.63 67 *e*P P **06 26 11.6 -1.3**
SOC *e* 06 26 34.4
SOC *e*S S **06 30 05.5 +3.0**
SOC *e*SS SnSn **06 30 22.6 +0.7**
SOC *e*SSS SSS 06 30 32.8
SOC pmax pmax
comp=Z,59nm,0.7s
SOC MLR MLR
comp=Z,50nm,12.0s
KONO Kongsberg 21.51 355 *i*P P **06 26 24.3 +2.0**
KONO pmax pmax
comp=Z,9.0nm,1.2s
HFS Hagfors 21.87 1 P P **06 26 25.1 -1.0**
comp=Z,2.7nm,0.6s,baz=182,slow=12,SNR=10
HFS LR LR 06 36 01.3
comp=Z,221nm,18.4s,baz=172,slow=40
VSU Vasula 22.00 19 *i*P P **06 26 28.7 +1.2**
VSU pmax pmax
comp=Z,38nm,1.0s
VSR Storozhevoye 22.34 46 *e*P P **06 26 31.0 -0.3**
VSR pmax pmax
comp=Z,40nm,1.5s
NC602 NORSAR Array S 22.50 358 *e*P P **06 26 33.7 +0.8**
NAO01 NORSAR Array S 22.63 357 *e*P P **06 26 35.4 +1.1**
NEY Neytrino 22.79 68 *e*P P **06 26 36.3 0.0**
NEY Neytrino 22.79 68 *ce*P P **06 26 36.3 0.0**
KIV Kislovodsk 22.80 66 *e*P P **06 26 36.5 +0.1**
comp=Z,49nm,1.3s
KIV Kislovodsk 22.80 66 *e*P P **06 26 35.4 -1.0**
comp=Z,31nm,1.1s
KIV Kislovodsk 22.80 66 *e*P P **06 26 35.4 -1.0**
KIV *e*S S **06 30 44.6 +0.1**
KIV pmax pmax
comp=Z,31nm,1.1s
KIV MLR MLR
comp=Z,76nm,14.0s
NB2 NORSAR Subarra 22.81 357 P P **06 26 36.0 -0.3**
comp=Z,8.0nm,1.0s,baz=171,slow=10
NOA NORSAR Array B 22.81 357 P P **06 26 35.8 -0.5**
comp=Z,9.9nm,0.9s,baz=173,slow=11,SNR=10.0
NOA LR LR 06 36 30.3
comp=Z,109nm,18.2s,baz=165,slow=40
NBO00 NORSAR Array S 22.82 357 *e*P P **06 26 37.8 +1.4**
LPSR Galich'ya Gora 22.84 43 *e*P P **06 26 35.6 -0.9**
LPSR pmax pmax
comp=Z,7.0nm,0.6s
NBO02 NORSAR Array S 22.84 357 *e*P P **06 26 36.1 -0.4**
NC405 NORSAR Array S 22.87 358 *e*P P **06 26 36.4 -0.5**
KBZ Khabaz 22.94 67 P P **06 26 37.3 -0.3**
comp=Z,9.1nm,0.9s,baz=269,slow=6.4,SNR=17
NC303 NORSAR Array S 22.99 358 *e*P P **06 26 38.0 -0.1**
OBN Obninsk 23.03 36 LR LR 06 36 24.4
comp=Z,148nm,19.5s,baz=261,slow=39
OBN Obninsk 23.03 36 ||*e*P P **06 26 39.4 +0.9**
OBN *e**PP sP **06 26 50.1 +3.4**
OBN *e* 06 27 05.8
OBN pmax pmax
comp=Z,32nm,1.2s
OBN MLR MLR
comp=Z,172nm,15.0s
NC204 NORSAR Array S 23.07 357 *e*P P **06 26 40.8 +1.8**
GOF Gofitskoye 23.16 63 ||*e*P P **06 26 40.5 +0.6**
GOF pmax pmax
comp=Z,78nm,1.3s
NCK Nalchik 23.43 68 *i*P P **06 26 43.9 +1.2**
comp=Z,13nm,1.1s
NCK Nalchik 23.43 68 *i*P P **06 26 43.9 +1.2**
NCK pmax pmax
comp=Z,13nm,1.1s
ZEI Tsey 23.64 69 *e*P P **06 26 42.8 -2.2**
ZEI pmax pmax
comp=Z,20nm,1.4s
VRH Novokhopyorsk 23.81 48 *e*P P **06 26 45.9 -0.3**
comp=Z,50nm,1.3s
VRH Novokhopyorsk 23.81 48 *e*P P **06 26 45.9 -0.3**
VRH pmax pmax
comp=Z,50nm,1.3s
PUL Pulkovo 24.09 21 *i*P P **06 26 49.5 +0.8**
PUL pmax pmax
comp=Z,51nm,1.0s
GNI Garni 24.39 76 P P **06 26 51.3 -0.7**
comp=Z,11nm,0.4s,baz=191,slow=3.2,SNR=11
FINES FINESS Array B 24.52 15 P P **06 26 51.8 -0.9**
comp=Z,2.9nm,0.4s,baz=186,slow=7.9,SNR=34
FINES LR LR 06 37 36.5
comp=Z,242nm,18.8s,baz=186,slow=40
FIA1 FINESS Array S 24.52 15 *e*P P **06 26 52.1 -0.5**
comp=Z,18nm,1.0s
GROC Groznyy 25.03 68 *e*P P **06 26 59.7 +2.2**
GROC pmax pmax
comp=Z,48nm,1.6s
TOA0 Torodi Ar. Sit 27.07 205 *e*P P **06 27 17.6 +1.4**
comp=Z,9.8nm,1.3s
TORD Torodi Ar. Bea 27.07 205 P P **06 27 16.3 +0.1**
comp=Z,4.0nm,1.0s,baz=14,slow=8.9,SNR=8.8
TORD LR LR 06 39 33.3
comp=Z,290nm,18.3s,baz=15,slow=40
KLMR Klimovskoe 27.93 28 *e*P P **06 27 22.3 -1.1**
KLMR AMP 06 27 24.9
comp=Z,15nm,1.2s
KLMR *e*S S **06 32 06.3 +0.3**
KLMR *e*S S **06 32 06.3 +0.3**
KLMR LQ LQ 06 36 26.0
KLMR LQ LQ 06 36 26.0
KLMR Klimovskoe 27.93 28 *e*P P **06 27 22.3 -1.1**
KLMR *e*S S **06 32 06.2 +0.3**
KLMR pmax pmax
comp=Z,15nm,1.2s
KOWA Kowa 28.20 218 P P **06 27 28.1 +1.7**
comp=Z,1.2nm,0.5s,baz=42,slow=14,SNR=3.3
KOWA LR LR 06 40 34.6
comp=Z,290nm,18.5s,baz=32,slow=40
RAYN Ar Rayn 31.14 109 *e*P P **06 27 51.9 -0.5**
comp=Z,4.2nm,1.0s
RAYN Ar Rayn 31.14 109 *e*P P **06 27 51.9 -0.5**
comp=Z,4.2nm,1.0s
RAYN Ar Rayn 31.14 109 ||*e*P P **06 27 53.9 +1.5**
RAYN pmax pmax
comp=Z,11nm,2.5s
LVZ Lovozero 31.96 15 *i*P P **06 28 01.0 +1.9**
LVZ pmax pmax
comp=Z,7.0nm,1.1s
AKTO Aktyubinsk 33.72 54 P P **06 28 14.1 -0.6**
comp=Z,1.8nm,0.4s,baz=236,slow=9.0,SNR=8.5
AKTO LR LR 06 44 05.7
comp=Z,71nm,19.0s,baz=273,slow=40
AKTO Aktyubinsk 33.72 54 P P **06 28 12.3 -2.3**
AKTO pmax pmax
comp=Z,4.0nm,0.7s
ARU Arti 34.85 44 *e*P P **06 28 24.8 +0.4**
comp=Z,121nm,1.9s
ARU Arti 34.85 44 *d*iP P **06 28 23.5 -0.9**
ARU 06 30 53.0
ARU S S **06 33 55.5 +1.3**
ARU SS SnSn **06 36 06.2 -2.4**
ARU pmax pmax
comp=Z,46nm,1.5s
AB31 Akbulak array 34.92 56 *i*P P **06 28 24.0 -1.1**
AB31 pmax pmax
comp=Z,3.0nm,0.8s
ABKAR Akbulak array 34.92 56 *e*P P **06 28 24.6 -0.5**
comp=Z,22nm,0.8s
GEYT Alibeck 35.02 76 P P **06 28 25.1 -1.0**
comp=Z,1.5nm,0.5s,baz=282,slow=16,SNR=5.1
DBIC Dimbokro 35.50 212 P P **06 28 30.9 +0.6**
comp=Z,5.4nm,0.9s,baz=342,slow=9.6,SNR=2.5
DBIC LR LR 06 44 01.4
comp=Z,128nm,18.1s,baz=16,slow=38
SVE Sverdlovsk 36.06 43 ||*e*P P **06 28 35.1 +0.4**
SVE pmax pmax
comp=Z,37nm,1.4s
UOSS Minazif 38.57 97 *e*P P **06 28 55.7 -0.8**
comp=Z,16nm,0.9s
SPITS Spitsbergen Ar 40.02 1 P P **06 29 07.2 -0.7**
comp=Z,8.3nm,0.9s,baz=228,slow=5.4,SNR=7.3
SPITS LR LR 06 46 53.2
comp=Z,52nm,18.6s,baz=10.0,slow=38
BRVK Borovoye 41.36 50 *e*P P **06 29 19.4 +0.1**
comp=Z,16nm,0.8s
BRVK Borovoye 41.36 50 *ce*P P **06 29 18.8 -0.5**
BRVK pmax pmax
comp=Z,95nm,1.7s
BVA0 Borovoye Array 41.42 50 *i*P P **06 29 19.3 -0.5**
BVA0 pmax pmax
comp=Z,11nm,1.1s
BVAR Borovoye Array 41.42 50 P P **06 29 19.6 -0.2**
comp=Z,4.8nm,0.6s,baz=270,slow=7.7,SNR=30
KK31 Karatay Array 42.95 65 *e*P P **06 29 32.7 +0.3**
KK31 Karatay Array 42.95 65 *e*P P **06 29 32.7 +0.3**
KKAR Karatay Array 42.95 65 *e*P P **06 29 32.7 +0.3**
KKAR Karatay Array 42.95 65 *e*P P **06 29 32.7 +0.3**
OTUK Ortayu 43.17 57 P P **06 29 33.4 -0.7**
OTUK pmax pmax
comp=Z,11nm,1.0s
KMBO Kilima Mbogo 45.02 145 P P **06 29 50.4 +0.9**
comp=Z,5.1nm,0.9s,baz=353,slow=6.9,SNR=11
AAK Ala-Archa 45.90 64 *i*P P **06 29 56.7 +0.6**
AAK pmax pmax
comp=Z,1.0nm,0.9s
KURBB Kurchatov Arra 46.73 53 P P **06 30 01.3 -1.1**
comp=Z,3.0nm,0.6s,baz=285,slow=9.6,SNR=19
KURK Kurchatov 46.77 52 *e*P P **06 30 01.8 -0.9**
comp=Z,17nm,1.3s
KURK Kurchatov 46.77 52 *i*P P **06 30 02.7 +0.1**
KURK pmax pmax
comp=Z,8.0nm,0.9s
NIL Nilore 48.03 76 *e*P P **06 30 13.1 +0.3**
comp=Z,4.7nm,0.5s
NIL Nilore 48.03 76 *e*P P **06 30 13.1 +0.3**
NIL pmax pmax
comp=Z,5.0nm,0.5s
NVS Novosibirsk 48.75 46 *e*P P **06 30 17.0 -1.0**
ZAA0 Zalesovo Array 49.84 47 *e*P P **06 30 25.9 -0.4**
comp=Z,4.3nm,0.9s
ZALV Zalesovo Beam 49.84 47 P P **06 30 24.9 -1.4**
comp=Z,1.5nm,0.4s,baz=285,slow=8.7,SNR=8.5
MAKZ Makanchi 49.85 57 *e*P P **06 30 26.1 -0.5**
comp=Z,3.3nm,0.8s
MAKZ Makanchi 49.85 57 *e*P P **06 30 26.1 -0.5**
MAKZ pmax pmax
comp=Z,3.0nm,0.8s
MK31 Makanchi Array 50.06 57 *e*P P **06 30 26.7 -1.5**
MK31 Makanchi Array 50.06 57 *e*P P **06 30 26.7 -1.5**
MKAR Makanchi Array 50.06 57 *e*P P **06 30 26.6 -1.5**
comp=Z,4.2nm,0.6s,baz=282,slow=6.3,SNR=42
MKAR Makanchi Array 50.06 57 *e*P P **06 30 26.7 -1.5**
comp=Z,31nm,0.6s
MK01 Makanchi Array 50.08 57 *e*P P **06 30 26.9 -1.4**
DGZ Jazzator, Alta 52.50 52 *i*P P **06 30 45.3 -1.3**
DGZ pmax pmax
comp=Z,1.0nm,0.8s
WMQ Urumqi 54.64 59 P P **06 31 04.3 +2.1**
WMQ PcP **PcP 06 32 04.4 -0.6**
WMQ pmax pmax
comp=Z,15nm,0.7s
LSZ Lusaka 55.09 162 *e*P P **06 31 05.7 0.0**
comp=Z,12nm,1.4s
LSZ Lusaka 55.09 162 *e*P P **06 31 05.7 0.0**
LSZ pmax pmax
comp=Z,12nm,1.4s
TIXI Tiksi 61.47 19 *e*P P **06 31 49.2 -0.3**
comp=Z,11nm,1.4s
TIXI Tiksi 61.47 19 *de*P P **06 31 49.2 -0.3**
TIXI pmax pmax
comp=Z,8.0nm,1.3s
BOD Bodaibo 63.72 36 *e*P P **06 32 02.8 -1.9**
BOD pmax pmax
comp=Z,5.0nm,1.5s
SONA1 Songino Array 64.72 48 *e*P P **06 32 10.3 -1.4**
SONM Songino Array 64.72 48 P P **06 32 09.9 -1.7**
comp=Z,1.7nm,0.8s,baz=277,slow=6.2,SNR=8.2
GTA Gaotai 64.73 59 P P **06 32 10.8 -1.1**
GTA pP pP 06 32 18.9 +0.7
GTA sP sP 06 32 22.5 +1.9
GTA S S **06 40 49.4 -2.0**
GTA pmax pmax
comp=Z,4.0nm,0.9s
GTA pmax pmax
comp=Z,4.0nm,1.0s
GTA pmax pmax
comp=Z,94nm,6.7s
GTA LR LR
comp=N,120nm,19.5s
GTA LR LR
comp=E,270nm,22.8s
GTA LR LR

comp=Z,120nm,18.5s
OPO Ambohidratompo 64.90 144 LR LR 07 00 42.6
comp=Z,67nm,21.0s,baz=92,slow=36
ULN Ulaanbaatar 65.09 48 *i* P **P** **06 32 12.4 -1.7**
ULN pmax pmax
comp=Z,1.0nm,0.9s
FCC Fort Churchill 66.16 327 *e*P **P** **06 32 20.8 +0.2**
comp=Z,7.8nm,1.4s
FCC Fort Churchill 66.16 327 *e*P **P** **06 32 20.8 +0.2**
FCC pmax pmax
comp=Z,8.0nm,1.4s
BOSA Boshof 67.49 169 P **P** **06 32 29.1 -0.3**
comp=Z,2.1nm,0.7s,baz=22,slow=5.2,SNR=3.9
BOSA LR LR 07 03 11.1
comp=Z,104nm,18.7s,baz=301,slow=37
BOSA Boshof 67.49 169 *e*P **P** **06 32 29.3 -0.2**
comp=Z,23nm,1.7s
BOSA Boshof 67.49 169 P **P** **06 32 29.2 -0.3**
BOSA pmax pmax
comp=Z,3.0nm,0.9s
BOSA MLR MLR
comp=Z,104nm,18.7s
YAK Yakutsk 67.72 27 *i* P **P** **06 32 32.1 +1.6**
YAK pmax pmax
comp=Z,11nm,0.8s
PALK Pallekele 67.84 98 P **P** **06 32 30.4 -1.6**
comp=Z,3.9nm,0.9s,baz=292,slow=2.6,SNR=4.1
PALK Pallekele 67.84 98 *e*P **P** **06 32 31.8 -0.3**
comp=Z,5.5nm,0.9s
PALK Pallekele 67.84 98 *c*e*e*P **P** **06 32 31.7 -0.3**
SPRD Spring Road, M 68.53 302 *e*P **P** **06 32 37.0 +1.0**
comp=Z,12nm,1.2s
LZH Lanzhou 69.18 60 *e*P **P** **06 32 41.0 +0.7**
LZH pP sP 06 32 48.1 -1.0
LZH sP pP 06 32 51.3 +4.6
LZH *e*PP **PP** **06 35 14.4 +1.6**
LZH pmax pmax
comp=Z,27nm,0.8s
LZH pmax pmax
comp=Z,280nm,4.3s
LZH LR LR
comp=N,84nm,15.0s
LZH LR LR
comp=E,140nm,15.3s
LZH LR LR
comp=Z,160nm,18.0s
INK Inuvik 70.85 348 P **P** **06 32 49.5 -0.2**
comp=Z,1.1nm,0.9s,baz=353,slow=7.1,SNR=3.7
INK Inuvik 70.85 348 *e*P **P** **06 32 49.4 -0.3**
comp=Z,6.9nm,1.6s
INK Inuvik 70.85 348 *e*P **P** **06 32 49.4 -0.3**
INK pmax pmax
comp=Z,7.0nm,1.6s
COWI Conover 71.00 314 *e*P **P** **06 32 52.0 +0.8**
comp=Z,8.8nm,1.0s
G42A Mountain 71.10 313 *e*P **P** **06 32 52.2 +0.6**
comp=Z,10.0nm,1.1s
H43A Windswept, Lux 71.17 312 *e*P **P** **06 32 53.1 +1.0**
comp=Z,31nm,1.4s
YKA Yellowknife Ar 71.21 337 P **P** **06 32 51.9 -0.1**
comp=Z,0.9nm,0.7s,baz=43,slow=5.9,SNR=20
HIA Hailar 71.33 42 *i* P **P** **06 32 53.8 +0.7**
HHC Hu-ho-hao-te 71.58 52 *e*P **P** **06 32 54.5 -0.3**
WI04 River Road, CI 71.66 313 *e*P **P** **06 32 55.7 +0.6**
comp=Z,9.9nm,1.1s
WI02 Reinke Road, C 71.67 313 *e*P **P** **06 32 55.9 +0.8**
comp=Z,21nm,1.4s
BILL Bilibino 72.06 10⇑*i*P **P** **06 32 57.2 +0.1**
BILL *e* 06 35 37.7
BILL e*S* **S** **06 42 19.8 +2.3**
BILL pmax pmax
comp=Z,10.0nm,1.2s
FFC Flin Flon 72.07 327 *e*P **P** **06 32 58.0 +0.7**
comp=Z,7.7nm,1.4s
FFC Flin Flon 72.07 327 *e*P **P** **06 32 58.0 +0.7**
FFC pmax pmax
comp=Z,8.0nm,1.4s
ULM Lac du Bonnet 72.10 320 P **P** **06 32 57.2 -0.4**
comp=Z,7.6nm,0.9s,baz=64,slow=6.1,SNR=8.3
ULM Lac du Bonnet 72.10 320 *e*P **P** **06 32 57.1 -0.5**
comp=Z,12nm,0.9s
TOLK Toolik Lake Re 72.62 353 *e*P **P** **06 33 01.4 +0.9**
comp=Z,9.9nm,1.3s
HODGE Hodges 73.58 301 *e*P **P** **06 33 05.2 -1.4**
comp=Z,18nm,1.7s
XAN Xi'an 73.77 59 P **P** **06 33 07.0 -0.9**
XAN pmax pmax
comp=Z,7.0nm,1.3s
XAN pmax pmax
comp=Z,62nm,6.5s
FYU Fort Yukon 74.18 351 *e*P **P** **06 33 11.3 +1.8**
comp=Z,18nm,1.2s
CHTO Chiang Mai 75.28 78 *e*P **P** **06 33 16.2 -0.6**
comp=Z,3.8nm,1.1s
CHTO Chiang Mai 75.28 78 *e*P **P** **06 33 16.2 -0.6**
comp=Z,4.0nm,1.1s
CHTO Chiang Mai 75.28 78 *e*P **P** **06 33 16.2 -0.6**
CHTO pmax pmax
comp=Z,4.0nm,1.1s
CM31 Chiang Mai Arr 75.49 78 *e*P **P** **06 33 17.2 -0.8**
CM31 Chiang Mai Arr 75.49 78 *e*P **P** **06 33 17.2 -0.8**
CMAR Chiang Mai Arr 75.49 78 P **P** **06 33 16.6 -1.5**
comp=Z,2.3nm,0.8s,baz=307,slow=7.5,SNR=17
CM01 Chiang Mai Arr 75.52 78 *e*P **P** **06 33 17.2 -1.0**
CM01 Chiang Mai Arr 75.52 78 *e*P **P** **06 33 17.2 -1.0**
IM3 Indian Mountai 75.58 355 *e*P **P** **06 33 18.4 +0.7**
DAWY Dawson 75.71 348 *e*P **P** **06 33 19.4 +0.8**
comp=Z,7.1nm,1.2s
MDM Murphy Dome 76.07 352 *e*P **P** **06 33 21.6 +1.1**
comp=Z,7.6nm,1.2s
IL1 Eielson Array 76.10 351 *e*P **P** **06 33 21.3 +0.6**
ILAR Eielson Array 76.10 351 P **P** **06 33 20.1 -0.7**
comp=Z,1.6nm,1.1s,baz=3.3,slow=5.6,SNR=11
ILAR LR LR 07 11 45.8
comp=Z,42nm,18.0s,baz=152,slow=40
WVT Waverly 76.14 305 *e*P **P** **06 33 21.1 -0.3**
comp=Z,8.0nm,1.3s
WVT Waverly 76.14 305 *e*P **P** **06 33 21.1 -0.3**
WVT pmax pmax
comp=Z,8.0nm,1.3s
MLY Manley 76.26 353 *e*P **P** **06 33 22.8 +1.1**
comp=Z,10nm,1.4s
MA2 Magadan 76.36 21 *i* P **P** **06 33 21.9 -0.4**
MA2 pmax pmax
comp=Z,11nm,1.0s
SCRK Sand Creek 76.49 350 *e*P **P** **06 33 24.5 +1.4**
comp=Z,4.4nm,1.2s
WRH Wood River Hil 76.53 352 *e*P **P** **06 33 23.4 +0.3**
comp=Z,6.5nm,1.3s
ECSD EROS Data Cent 76.64 316 *e*P **P** **06 33 24.2 0.0**
comp=Z,9.8nm,1.4s
DOT Dot Lake 76.81 350 *e*P **P** **06 33 25.4 +0.5**
comp=Z,14nm,1.3s
RIDG Independ'e Rid 76.83 350 *e*P **P** **06 33 25.8 +0.8**
comp=Z,11nm,1.3s
PLAL Pickwick Lake 77.00 304 *e*P **P** **06 33 25.6 -0.7**
comp=Z,7.8nm,0.9s
CCM Cathedral Cave 77.11 308 *e*P **P** **06 33 27.1 +0.2**
comp=Z,4.2nm,0.8s
CCM Cathedral Cave 77.11 308 *e*P **P** **06 33 27.1 +0.2**
CCM pmax pmax
comp=Z,4.0nm,0.8s
PBMO Poplar Bluff 77.40 307 *e*P **P** **06 33 28.1 -0.4**
comp=Z,14nm,1.3s
LRAL Lakeview Retre 77.47 302 *e*P **P** **06 33 29.3 +0.3**
comp=Z,8.4nm,0.9s
RND Reindeer 77.65 352 *e*P **P** **06 33 30.5 +1.0**
comp=Z,11nm,1.8s
RND Reindeer 77.65 352 *e*P **P** **06 33 30.5 +1.0**
RND pmax pmax
comp=Z,11nm,1.8s
DHY Denali Highway 77.80 351 *e*P **P** **06 33 31.4 +0.9**
comp=Z,9.5nm,1.1s
EDM Edmonton 77.83 330 *e*P **P** **06 33 31.5 +0.7**
comp=Z,23nm,1.7s
EDM Edmonton 77.83 330 *e*P **P** **06 33 31.5 +0.7**
EDM pmax pmax
comp=Z,23nm,1.7s
CAST Castle Rocks 77.96 353 *e*P **P** **06 33 32.5 +1.3**
comp=Z,15nm,1.7s
OXF Oxford 78.15 305 *e*P **P** **06 33 32.2 -0.6**
comp=Z,29nm,1.0s
OXF Oxford 78.15 305 *e*P **P** **06 33 32.2 -0.6**
OXF pmax pmax
comp=Z,29nm,1.0s
PPLA Purkeypile 78.49 353 *e*P **P** **06 33 34.5 +0.2**
comp=Z,26nm,1.9s

BMRM Bremner River 79.45 349 *e*P **P** **06 33 39.8 +0.3**
comp=Z,16nm,1.4s
WHAR Wooly Hollow 79.50 307 *e*P **P** **06 33 40.1 -0.1**
comp=Z,9.6nm,0.9s
LAO LASA Array 79.58 322 *e*P **P** **06 33 41.3 +0.7**
comp=Z,9.1nm,1.4s
KSU1 Kansas State U 79.67 312 *e*P **P** **06 33 41.3 +0.3**
comp=Z,11nm,1.1s
SUA Susitna One 79.75 352 *e*P **P** **06 33 42.0 +0.8**
comp=Z,8.9nm,1.2s
SVW2 Sparrevohn 80.55 355 *e*P **P** **06 33 47.4 +2.0**
comp=Z,9.9nm,1.4s
MIAR Mount Ida 80.79 307 *e*P **P** **06 33 47.6 +0.4**
comp=Z,7.2nm,0.9s
MIAR Mount Ida 80.79 307 *e*P **P** **06 33 47.6 +0.4**
MIAR pmax pmax
comp=Z,7.0nm,0.9s
USRK Ussurisyk Ar. 80.98 40 P **P** **06 33 47.2 -0.8**
comp=Z,1.2nm,0.6s,baz=16,slow=7.5,SNR=2.6
NJ2 Nanjing 81.58 56 *e*P **P** **06 33 52.8 +1.4**
NJ2 pmax pmax
comp=Z,12nm,0.5s
NJ2 pmax pmax
comp=Z,15nm,0.6s
GCMT Greycliff 81.87 324 *e*P **P** **06 33 54.4 +1.5**
JTMT Jette 82.44 327 *e*P **P** **06 33 56.1 +0.3**
comp=Z,4.9nm,1.1s
K22A Casper 82.64 320 *e*P **P** **06 33 56.9 -0.1**
comp=Z,21nm,1.7s
BOZ Bozeman (W) 82.92 325 *e*P **P** **06 33 59.6 +1.2**
comp=Z,5.2nm,1.3s
BOZ Bozeman (W) 82.92 325 *e*P **P** **06 33 59.6 +1.2**
BOZ pmax pmax
comp=Z,5.0nm,1.3s
YMR Madison River 83.32 324 *e*P **P** **06 34 01.7 +1.2**
comp=Z,13nm,1.6s
YHB Horse Butte 83.36 324 *e*P **P** **06 34 01.7 +0.9**
comp=Z,13nm,1.5s
YPP Pitchstone Pla 83.54 323 *e*P **P** **06 34 03.5 +1.6**
comp=Z,11nm,1.2s
N23A Red Feather La 83.61 318 *e*P **P** **06 34 03.1 +0.9**
comp=Z,8.8nm,1.0s
IMW Indian Meadow 83.89 323 *e*P **P** **06 34 04.5 +1.0**
comp=Z,11nm,1.6s
PETK Petropavlovsk- 83.89 21 LR LR 07 16 08.1
comp=Z,40nm,18.9s,baz=314,slow=39
MOOW Moose Ponds 83.91 323 *e*P **P** **06 34 04.8 +1.2**
comp=Z,4.1nm,1.0s
MCMT McKenzie Canyo 84.06 325 *e*P **P** **06 34 05.3 +0.9**
PDAR Pinedale Array 84.07 322 P **P** **06 34 04.3 -0.2**
comp=Z,0.9nm,0.5s,baz=46,slow=6.4,SNR=8.6
PDAR Pinedale Array 84.07 322 *e*P **P** **06 34 04.4 0.0**
BW06 Boulder Array 84.07 322 *e*P **P** **06 34 03.6 -0.8**
comp=Z,3.8nm,0.8s
TPAW Teton Pass 84.20 323 *e*P **P** **06 34 07.1 +1.9**
comp=Z,6.5nm,1.1s
ISCO Idaho Springs 84.23 317 *e*P **P** **06 34 06.2 +0.8**
comp=Z,6.1nm,0.9s
ISCO Idaho Springs 84.23 317 *e*P **P** **06 34 06.2 +0.8**
ISCO pmax pmax
comp=Z,6.0nm,0.9s
REDW Red Top Meadow 84.25 323 *e*P **P** **06 34 06.5 +1.1**
comp=Z,5.2nm,1.2s
SMCO Snowmass 85.41 318 *e*P **P** **06 34 11.9 +0.5**
comp=Z,7.4nm,1.4s
MHTCO State Highway 85.65 315 *e*P **P** **06 34 14.1 +1.6**
comp=Z,6.6nm,1.0s
SDCO Great Sand Dun 85.65 316 *e*P **P** **06 34 13.1 +0.5**
comp=Z,3.5nm,0.9s
HWUT Hardware Ranch 85.93 322 *e*P **P** **06 34 14.0 +0.3**
comp=Z,4.9nm,1.1s
PRAC Prado 86.28 272 *e*P **P** **06 34 15.3 -0.4**
comp=Z,19nm,1.6s
MTPU Mount Pierson 88.96 320 *e*P **P** **06 34 28.4 -0.3**
comp=Z,3.2nm,0.9s
CCUT Cedar City 89.93 320 *e*P **P** **06 34 33.4 +0.4**
comp=Z,3.0nm,1.0s
TX31 Lajitas Ar. Si 90.61 309 *e*P **P** **06 34 36.7 +0.5**
TXAR Lajitas Array 90.61 309 P **P** **06 34 36.6 +0.5**
comp=Z,2.4nm,1.1s,baz=61,slow=7.8,SNR=7.3
CPUP Villa Florida 92.16 238 LR LR 07 18 29.2
comp=Z,116nm,18.3s,baz=120,slow=37
WRA Warramunga Arr 126.25 88 PKP **PKPdf** **06 40 33.7 -2.7**
comp=Z,0.4nm,0.9s,baz=305,slow=2.4,SNR=3.2

MEX 13 06:40:15.2±0.4, 16.°16N×98.°61W, h10km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.52**	**64**	*e*P	Pg	06 40 24.6	-0.8
PNIG				*i* S	Sg	06 40 32.2	0.0
TLIG	**Tlapa**	**1.39**	**2**	*i* P	Pn	06 40 38.2	-2.6
TLIG				e*S*	Sb	06 40 54.5	-4.8
CAIG	**El Cayaco**	**1.81**	**299**	*e*P	Pn	06 40 44.2	-2.3
VHO	**Vista Hermosa**	**2.02**	**63**	*e*P	Pn	06 40 48.3	-1.2
VHO				e*S*	Sn	06 41 10.1	-4.7
PLIG	**Platanillo**	**2.37**	**339**	*e*P	Pn	06 40 56.1	+1.8
PLIG				e*S*	Sn	06 41 19.3	-4.2

IDC 13 06:47:18.3±3.4, 53.°55N×87.°93E, h0km, mb1 2.7/2, mb1mx2.6/70, mbtmp2.7/2, ML2.4/2, Error ellipse: s-maj=33.3km s-min=19.1km az=56.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZALV	**Zalesovo Beam**	**1.89**	**283**	Pn	Pn	06 47 51.4	-0.5
	0.9nm,0.3s,baz=103,slow=14,SNR=11						
ZALV				Lg	Lg	06 48 18.0	
	1.2nm,0.3s,baz=101,slow=30,SNR=6.4						
I46RU	**ZALESOVO INFRA**	**1.89**	**283**	*i*		07 00 01.0	
	baz=101,slow=339,SNR=1.7						
KURBB	**Kurchatov Arra**	**6.49**	**247**	Pn	Pn	06 48 55.9	+0.8
	0.1nm,0.3s,baz=62,slow=14,SNR=4.5						
MKAR	**Makanchi Array**	**7.67**	**210**	Pn	Pn	06 49 12.3	+1.0
	0.1nm,0.3s,baz=32,slow=14,SNR=3.3						

IDC ***13*** *06:47:56.2±0.9, 39.°61N×75.°24E, h0km, mb3.7/10, mb1 3.9/15, mb1mx3.7/71, mbtmp3.7/15, ML3.3/5, MS3.4/13, Ms1 3.4/13, ms1mx3.0/70, Error ellipse: s-maj=17.6km s-min=15.9km az=92.0*
BJI ***13*** *06:47:58.7, 39.°94N×75.°20E, h7km, mb4.5/6, mB4.4/2, ML4.3/2, Ms4.0/2*
KRNET ***13*** *06:47:59.4±0.1, 39.°79N×75.°34E, mb4.4*
SOME ***13*** *06:48:00.0, 39.°90N×75.°37E, h5km, MS2.9*
NNC ***13*** *06:48:01.5±1.2, 39.°85N×75.°27E, h0km, mb4.4, mpv4.1, Error ellipse: s-maj=11.6km s-min=4.1km az=152.0*
NEIC ***13*** *06:48:04.2±0.7, 39.°82N×75.°40E, h52km±6km, mb4.4/12, Error ellipse: s-maj=9.4km s-min=8.9km az=51.0*
ISC 13 06:47:59.1±1.3, 39.°91N±0.°04×75.°37E±0.°02, h6km±8km, n118, σ1§68/152, mb4.4/24, MS3.4/9, 46C-12D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSH	**Kashi**	**0.61**	**130**	Pg	**Pn**	**06 48 13.8**	**-0.6**
KSH				Sg	**Sn**	**06 48 24.3**	**-0.2**
KSH				smax	smax		
	comp=N,6μm,0.5s						
KSH				smax	smax		
	comp=E,4μm,0.6s						
KSH	**Kashi**	**0.61**	**130**	Pg	**Pn**	**06 48 13.8**	**-0.6**
KSH				Sg	**Sn**	**06 48 24.3**	**-0.2**
SFK	**Sufi-Kurgan**	**1.44**	**275**	⇑P	**Pg**	**06 48 26.8**	**+0.2**
	128nm,0.3s						
SFK				⇑S	**Sg**	**06 48 46.2**	**+0.9**
	376nm,0.3s						
SFK	**Sufi-Kurgan**	**1.44**	**275**	⇑*i*P	**Pg**	**06 48 27.0**	**+0.4**
	baz=80						
SFK				⇑*i*S	**Sg**	**06 48 46.3**	**+1.0**
	baz=80						
NRN	**Naryn**	**1.60**	**17**	⇑e*P*	**Pg**	**06 48 30.7**	**+0.9**
	baz=16						
NRN				⇑*i*S	**Sg**	**06 48 52.9**	**+2.4**
	baz=16						
KZA	**Kyzart**	**2.17**	**358**	P	**Pg**	**06 48 40.2**	**-0.5**
	SNR=161						
KZA	**Kyzart**	**2.17**	**358**	⇑e*P*	**Pg**	**06 48 40.2**	**-0.5**
	baz=58						
KZA				⇑*i*S	**Sg**	**06 49 10.8**	**+1.9**
	baz=58						

ARSB Arslanbob 2.30 309⇑e*P* **Pb** **06 48 41.7 +0.6**
baz=11
ARSB ⇑e*S* **Sg** **06 49 13.4 +0.3**
baz=11
UCH Uchtor 2.41 345 P **Pb** **06 48 43.7 +0.6**
SNR=613
UCH Uchtor 2.41 345⇑*i*P **Pb** **06 48 43.7 +0.6**
baz=46
UCH ⇑*i*S **Sg** **06 49 16.8 +0.4**
baz=46
ULHL Ulahol 2.43 16 P **Pb** **06 48 43.6 +0.3**
SNR=342
ULHL Ulahol 2.43 16⇑*i*P **Pb** **06 48 43.6 +0.3**
baz=15
ULHL ⇑*i*S **Sg** **06 49 17.5 +0.4**
baz=15
AML Almayashu 2.56 331 P **Pb** **06 48 45.3 -0.2**
SNR=168
AML Almayashu 2.56 331⇑*i*P **Pb** **06 48 45.4 -0.2**
baz=32
AML ⇑*i*S **Sg** **06 49 20.2 -1.1**
baz=32
TARG Taragay, Kyrgy 2.59 45⇑*i*P **Pg** **06 48 46.4 -2.4**
baz=43
TARG ⇑*i*S **Sg** **06 49 21.7 -0.8**
baz=43
KDJ Kajisay 2.61 31⇑*i*P **Pb** **06 48 46.3 -0.1**
baz=30
KDJ ⇑*i*S **Sg** **06 49 22.5 -0.4**
baz=30
BOOM Boomskoye usch 2.62 9⇑*i*P **Pb** **06 48 46.4 -0.1**
baz=9.0
BOOM ⇑*i*S **Sg** **06 49 21.5 -1.7**
baz=9.0
KBK Karagaybulak 2.77 354 P **Pb** **06 48 49.0 0.0**
SNR=123
KBK Karagaybulak 2.77 354⇑*i*P **Pb** **06 48 49.0 0.0**
baz=54
KBK ⇑*i*S **Sb** **06 49 24.9 +1.7**
baz=54
AAK Ala-Archa 2.81 347 Pn **Pb** **06 48 49.6 -0.1**
28nm,0.3s,baz=153,slow=8.1,SNR=505
AAK LR LR 06 49 22.6
comp=Z,37nm,21.8s,baz=155,slow=28
AAK Lg Lg 06 49 26.2
39nm,0.3s,baz=20,slow=19,SNR=9.9
AAK Ala-Archa 2.81 347⇑Pn **Pb** **06 48 49.3 -0.4**
189nm,0.5s
AAK ⇓Lg Lg 06 49 26.5
596nm,0.9s
AAK Ala-Archa 2.81 347 P **Pb** **06 48 49.7 0.0**
SNR=110
AAK Ala-Archa 2.81 347 *e*Pn **Pb** **06 48 49.5 -0.2**
AAK e*S*n **Sg** **06 49 29.8 +0.5**
AAK Ala-Archa 2.81 347⇑*i*P **Pb** **06 48 49.7 0.0**
baz=48
AAK ⇑*i*S **Sg** **06 49 26.5 -2.7**
baz=48
FRU1 Bishkek 2.95 349⇓e*P* **Pb** **06 48 51.4 -0.7**
baz=50
FRU1 ⇓e*S* **Sb** **06 49 28.8 +0.3**
baz=50
EKS2 Erkin-Say 3.00 337 P **Pb** **06 48 52.3 -0.8**
SNR=34
EKS2 Erkin-Say 3.00 337⇑e*P* **Pb** **06 48 52.2 -0.8**
baz=38
EKS2 ⇑*i*S **Sb** **06 49 30.3 +0.3**
baz=38
TKM2 Tokmak 2 3.02 3 ⇑Pn **Pb** **06 48 52.5 -0.8**
77nm,0.5s
TKM2 ⇓Sn **Sb** **06 49 31.6 +1.2**
175nm,0.7s
TKM2 ⇑Lg Lg 06 49 36.6
363nm,0.6s
TKM2 Tokmak 2 3.02 3 P **Pb** **06 48 52.5 -0.8**
SNR=203
TKM2 Tokmak 2 3.02 3⇑*i*P **Pb** **06 48 52.5 -0.8**
baz=3.0
TKM2 ⇑*i*S **Sb** **06 49 31.5 +1.0**
baz=3.0
CHMS Chumysh 3.12 352 P **Pb** **06 48 53.9 -1.1**
SNR=73
CHMS Chumysh 3.12 352⇑*i*P **Pb** **06 48 53.8 -1.2**
baz=52
CHMS ⇑e*S* **Sb** **06 49 33.4 0.0**
baz=52
MRKS Merke 3.26 331 *e*P **Pg** **06 49 01.0 -0.6**
90nm,0.3s
MRKS e*S* **Sg** **06 49 44.6 +0.8**
100nm,0.6s
IZV Izvestkoviy 3.26 16 *e*P **Pg** **06 49 01.2 -0.4**
205nm,0.5s
IZV e*S* **Sg** **06 49 45.2 +1.3**
1μm,0.8s
MTBS Maitube 3.32 14 *e*P **Pg** **06 49 02.1 -0.5**
33nm,0.4s
MTBS e*S* **Sg** **06 49 46.8 +1.2**
451nm,0.5s
TNSS Tian-Shan 3.34 20 *e*P **Pg** **06 49 02.4 -0.8**
120nm,0.5s
TNSS e*S* **Sg** **06 49 47.6 +1.0**
594nm,0.6s
DGS Degeres 3.35 5 *e*P **Pg** **06 49 02.7 -0.5**
72nm,0.6s
DGS e*S* **Sg** **06 49 47.8 +1.3**
551nm,0.5s
MNAS Manas 3.36 321⇑Pn **Pb** **06 48 55.6 -3.6**
18nm,0.6s
MNAS ⇓Lg Lg 06 49 46.9
92nm,0.6s
MNAS Manas 3.36 321⇑*i*P **Pb** **06 48 56.4 -2.8**
baz=22
MNAS ⇑e*S* **Sb** **06 49 38.4 -2.0**
baz=22
USP Ospenovka 3.42 349 P **Pb** **06 48 57.5 -2.5**
SNR=77
MDOK Medeo 3.49 21⇓Pn **Pb** **06 48 58.5 -2.8**
46nm,0.6s
MDOK ⇓Lg Lg 06 49 52.1
752nm,0.9s
MDOK Medeo 3.49 21 *e*P **Pg** **06 49 05.0 -0.9**
67nm,0.5s
MDOK e*S* **Sg** **06 49 51.3 +0.1**
537nm,0.7s
KNDC Almaty 3.52 19⇓Pn **Pb** **06 48 59.6 -2.1**
67nm,0.5s
KNDC ⇓Lg Lg 06 49 53.5
572nm,0.6s
KOTS Kotyrbulak 3.57 21 *e*P **Pg** **06 49 05.6 -1.9**
27nm,0.4s
KOTS e*S* **Sg** **06 49 53.3 -0.6**
413nm,0.8s
SATY Saty 3.89 35 *e*P **Pg** **06 49 11.9 -1.7**
32nm,0.6s
SATY e*S* **Sg** **06 50 03.7 -0.3**
368nm,0.7s
KTBS Karatobe 3.93 14 *e*P **Pg** **06 49 12.8 -1.5**
41nm,0.4s
KTBS e*S* **Sg** **06 50 04.8 -0.4**
335nm,0.6s
KUU Kurty 4.05 10 *e*P **Pg** **06 49 15.0 -1.7**
29nm,0.4s
KUU e*S* **Sg** **06 50 08.5 -0.6**
204nm,0.7s
PDGK Podgornoye 4.61 41⇓Pn **Pn** **06 49 12.7 +3.4**
43nm,1.0s
PDGK ⇑Lg Lg 06 50 28.4
121nm,0.7s
IUG Iuzhnay 4.62 301 *e*P **Pg** **06 49 24.8 -2.7**
32nm,0.4s
IUG e*S* **Sg** **06 50 25.4 -1.9**
64nm,0.5s
ARXS Arharly 4.68 22 *e*P **Pg** **06 49 25.7 -3.0**
54nm,0.6s
ARXS e*S* **Sg** **06 50 27.1 -2.1**
192nm,0.6s
MNBS Baschi 4.74 27 *e*P **Pg** **06 49 26.2 -3.7**
60nm,0.7s
MNBS e*S* **Sg** **06 50 28.6 -2.8**
7.9nm,0.6s
KK31 Karatay Array 4.85 313⇓Pn **Pn** **06 49 14.2 +1.7**
1.8nm,0.3s,baz=125,slow=12,SNR=34
KK31 ⇑Pg **Pg** **06 49 28.9 -3.0**
7.2nm,0.5s,baz=136,slow=16,SNR=14
KK31 ⇑Lg Lg 06 50 34.0
20nm,0.6s,baz=128,slow=28,SNR=4.4
KK31 Karatay Array 4.85 313 *e*Pn **Pn** **06 49 15.2 +2.7**
KKAR Karatay Array 4.85 313 *e*Pn **Pn** **06 49 15.2 +2.7**

DZET	**Dzherino**	**5.19**	**260**	⇑Pn		**Pn**	**06 49 19.0**	**+1.6**
	16nm,0.5s								
DZET				⇑Sn		**Sn**	**06 50 19.4**	**+1.9**
	35nm,0.5s								
DZET				⇑Lg		Lg	06 50 41.0	
	72nm,0.6s								
CHCP	**Chirah Chowk**	**6.46**	**196**	P		**Pn**	**06 49 37.5**	**+2.8**
NIL	**Nilore**	**6.47**	**196**	*e*Pn		**Pn**	**06 49 37.7**	**+2.8**
NIL				eSn		**Sn**	**06 50 48.3**	**-0.8**
CEP	**Cherat**	**6.67**	**206**	P		**Pn**	**06 49 40.0**	**+2.2**
THW	**Thamme Wali**	**7.68**	**203**	P		**Pn**	**06 49 52.3**	**+0.9**
SARP	**Sargodha**	**8.26**	**196**	P		**Pn**	**06 49 59.2**	**-0.2**
MAKZ	**Makanchi**	**8.41**	**33**	⇑Pn		**Pn**	**06 50 02.9**	**+1.5**
	2.1nm,0.7s								
MAKZ				⇑Lg		Lg	06 52 34.0		
	3.1nm,0.7s								
MAKZ	**Makanchi**	**8.41**	**33**	*e*Pn		Pn	06 50 05.9	+4.5	
MK01	**Makanchi Array**	**8.52**	**34**	*e*Pn		**Pn**	**06 50 06.1**	**+3.2**	
MK31	**Makanchi Array**	**8.53**	**34**	⇓Pn		**Pn**	**06 50 06.3**	**+3.2**	
	4.3nm,0.7s,baz=068,slow=13,SNR=29								
MK31				Lg		Lg	06 52 36.2		
	22nm,1.2s,baz=222,slow=30,SNR=3.6								
MK31	**Makanchi Array**	**8.53**	**34**	*e*Pn		**Pn**	**06 50 07.0**	**+3.9**	
MKAR	**Makanchi Array**	**8.53**	**34**	Pn		**Pn**	**06 50 06.0**	**+2.9**	
	0.4nm,0.3s,baz=210,slow=14,SNR=28								
MKAR				Lg		Lg	06 52 28.5		
	0.6nm,0.3s,baz=221,slow=31,SNR=5.0								
MKAR				LR		LR	06 53 44.2		
	comp=Z,170nm,18.8s,baz=226,slow=39								
MKAR	**Makanchi Array**	**8.53**	**34**	*e*Pn		**Pn**	**06 50 06.9**	**+3.8**	
WMQ	**Urumqi**	**9.99**	**63**	P		**Pn**	**06 50 24.3**	**+1.1**	
WMQ				pmax		pmax			
	comp=Z,18nm,0.7s								
KURBB	**Kurchatov Arra**	**10.94**	**11**	Pn		**Pn**	**06 50 37.7**	**+1.6**	
	0.0nm,0.3s,baz=198,slow=11,SNR=4.1								
KURBB				Lg		Lg	06 53 41.0		
	0.1nm,0.3s,baz=200,slow=29,SNR=4.4								
BVAR	**Borovoye Array**	**13.56**	**347**	Pn		**Pn**	**06 51 12.4**	**+0.6**	
	0.2nm,0.3s,baz=154,slow=14,SNR=7.1								
BVAR				LR		LR	06 56 38.1		
	comp=Z,178nm,19.6s,baz=178,slow=38								
GEYT	**Alibeck**	**13.58**	**267**	Pn		**Pn**	**06 51 13.3**	**+1.1**	
	0.8nm,0.3s,baz=46,slow=8.3,SNR=3.5								
BRVK	**Borovoye**	**13.61**	**347**	*e*Pn		**Pn**	**06 51 14.6**	**+2.1**	
ABKAR	**Akbulak array**	**14.40**	**316**	*e*Pn		**Pn**	**06 51 23.9**	**+0.6**	
ZAA0	**Zalesovo Array**	**15.44**	**21**	*e*Pn		**Pn**	**06 51 38.5**	**+1.2**	
	9.8nm,1.4s								
ZALV	**Zalesovo Beam**	**15.44**	**21**	Pn		**Pn**	**06 51 38.5**	**+1.2**	
	0.4nm,0.3s,baz=205,slow=12,SNR=8.1								
ZALV				LR		LR	06 57 50.4		
	comp=Z,101nm,18.5s,baz=257,slow=38								
ZALV	**Zalesovo Beam**	**15.44**	**21**	*e*Pn		**Pn**	**06 51 38.2**	**+1.0**	
AKTO	**Aktyubinsk**	**16.10**	**317**	Pn		**Pn**	**06 51 46.6**	**+0.8**	
	0.2nm,0.3s,baz=117,slow=16,SNR=5.0								
AKTO				LR		LR	06 58 52.5		
	comp=Z,47nm,20.0s,baz=127,slow=40								
GTA	**Gaotai**	**18.82**	**84**	P		**Pn**	**06 52 20.5**	**+0.5**	
GTA				pP		sP	06 52 24.6	+2.5	
GTA				sP		pP	06 52 27.6	+6.3	
GTA				S		**S**	**06 55 57.0**	**+3.1**	
GTA				sS		pS	06 56 03.1	-5.2	
GTA				pmax		pmax			
	comp=Z,4.0nm,0.9s								
GTA				pmax		pmax			
	comp=Z,67nm,3.9s								
GTA				LR		LR			
	comp=N,150nm,16.6s								
GTA				LR		LR			
	comp=E,280nm,18.8s								
ARU	**Arti**	**19.88**	**332**	LR		LR	07 00 46.5		
	comp=Z,82nm,20.8s,baz=138,slow=38								
LZH	**Lanzhou**	**22.72**	**91**	*e*P		**P**	**06 53 02.0**	**+0.2**	
LZH				*e*PP		**PnPn**	**06 53 32.3**	**+6.8**	
LZH				pmax		pmax			
	comp=Z,22nm,0.8s								
LZH				LR		LR			
	comp=N,370nm,10.2s								
SONM	**Songino Array**	**23.61**	**60**	P		**P**	**06 53 11.4**	**+0.6**	
	0.9nm,0.7s,baz=257,slow=11,SNR=5.5								
SONM				LR		LR	07 03 17.3		
	comp=Z,120nm,18.1s,baz=122,slow=39								
SONA1	**Songino Array**	**23.62**	**60**	*e*P		**P**	**06 53 11.9**	**+1.0**	
CD2	**Chengdu**	**24.74**	**102**	*e*P		**P**	**06 53 20.0**	**-1.3**	
HHC	**Hu-ho-hao-te**	**27.47**	**76**	*e*P		**P**	**06 53 46.5**	**+0.5**	
HHC				S		**S**	**06 58 26.8**	**-0.2**	
OBN	**Obninsk**	**29.84**	**314**	LR		LR	07 05 26.1		
	comp=Z,15nm,19.3s,baz=42,slow=35								
OBN	**Obninsk**	**29.84**	**314**	*e*P		**P**	**06 54 09.5**	**+2.8**	
	22nm,0.4s								
BRTR	**Keskin Array B**	**31.84**	**283**	P		**P**	**06 54 22.8**	**-2.1**	
	0.6nm,0.5s,baz=82,slow=10,SNR=3.2								
NJ2	**Nanjing**	**35.77**	**89**	*e*P		**P**	**06 54 59.4**	**+0.6**	
NJ2				pmax		pmax			
	comp=Z,16nm,0.5s								
BUR04	**Bucovina Ar. S**	**36.49**	**299**	*e*P		**P**	**06 55 04.7**	**-0.2**	
FIA1	**FINESS Array S**	**36.73**	**322**	*e*P		**P**	**06 55 06.5**	**-0.2**	
FINES	**FINESS Array B**	**36.73**	**322**	P		**P**	**06 55 06.2**	**-0.5**	
	comp=Z,0.5nm,0.4s,baz=119,slow=6.7,SNR=6.4								
FINES				LR		LR	07 10 43.9		
	comp=Z,54nm,18.1s,baz=303,slow=37								
KWP	**Kalwaria Pacla**	**37.92**	**303**	*e*P		**P**	**06 55 19.0**	**+2.0**	
	comp=Z,326nm,1.9s								
HFS	**Hagfors**	**42.62**	**319**	P		**P**	**06 55 55.2**	**-0.5**	
	comp=Z,0.5nm,0.3s,baz=109,slow=8.1,SNR=6.0								
HFS				LR		LR	07 14 19.6		
	comp=Z,51nm,20.6s,baz=152,slow=37								
NC405	**NORSAR Array S**	**43.58**	**321**	*e*P		**P**	**06 56 02.6**	**-1.0**	
NOA	**NORSAR Array B**	**43.83**	**321**	LR		LR	07 15 05.0		
	comp=Z,33nm,20.5s,baz=330,slow=37								
GERES	**GERESS Array B**	**43.87**	**303**	P		**P**	**06 56 03.7**	**-2.5**	
	comp=Z,0.3nm,0.2s,baz=103,slow=4.4,SNR=2.7								
SPITS	**Spitsbergen Ar**	**45.01**	**346**	LR		LR	07 17 55.1		
	comp=Z,45nm,19.3s,baz=145,slow=40								
LEM	**Lembang**	**55.21**	**140**	LR		LR	07 24 24.7		
	comp=Z,141nm,19.3s,baz=154,slow=40								
COLD	**Coldfoot**	**67.73**	**17**	*e*P		**P**	**06 58 56.5**	**-0.4**	
	comp=Z,2.0nm,0.9s								
IM3	**Indian Mountai**	**67.85**	**20**	*e*P		**P**	**06 58 56.3**	**-1.3**	
TORD	**Torodi Ar. Bea**	**69.20**	**270**	P		**P**	**06 59 05.0**	**-1.9**	
	comp=Z,0.3nm,0.4s,baz=46,slow=5.3,SNR=8.5								
INK	**Inuvik**	**69.95**	**11**	*e*P		**P**	**06 59 09.9**	**-0.7**	
	comp=Z,3.0nm,1.0s								
WRH	**Wood River Hil**	**70.49**	**18**	*e*P		**P**	**06 59 11.1**	**-2.9**	
	comp=Z,5.7nm,1.8s								
KTH	**Kantishna Hill**	**70.53**	**20**	*e*P		**P**	**06 59 13.4**	**-1.0**	
	comp=Z,21nm,1.8s								
IL1	**Eielson Array**	**70.53**	**18**	*e*P		**P**	**06 59 12.9**	**-1.3**	
ILAR	**Eielson Array**	**70.53**	**18**	P		**P**	**06 59 12.7**	**-1.6**	
	comp=Z,0.7nm,0.8s,baz=321,slow=4.5,SNR=10								
SCRK	**Sand Creek**	**71.87**	**17**	*e*P		**P**	**06 59 21.6**	**-1.0**	
	comp=Z,15nm,2.0s								
RIDG	**Independ'e Rid**	**71.88**	**18**	*e*P		**P**	**06 59 21.5**	**-1.1**	
	comp=Z,6.2nm,1.4s								
DAWY	**Dawson**	**72.78**	**15**	*e*P		**P**	**06 59 26.8**	**-1.2**	
	comp=Z,4.4nm,1.5s								
OHAK	**Old Harbor**	**74.94**	**25**	*e*P		**P**	**06 59 40.0**	**-0.6**	
	comp=Z,18nm,1.6s								
HYT	**Haines Junctio**	**76.08**	**16**	*e*P		**P**	**06 59 47.0**	**-0.2**	
	comp=Z,5.2nm,1.5s								
YKA	**Yellowknife Ar**	**77.63**	**5**	P		**P**	**06 59 54.6**	**-1.2**	
	comp=Z,0.8nm,0.7s,baz=347,slow=5.6,SNR=25								
WRA	**Warramunga Arr**	**81.00**	**125**	P		**P**	**07 00 13.9**	**-0.8**	
	comp=Z,0.5nm,0.9s,baz=330,slow=5.1,SNR=4.5								
WB2	**Warramunga Arr**	**81.01**	**125**	*e*P		**P**	**07 00 13.3**	**-1.5**	
	comp=Z,29nm,1.9s								
ASAR	**Alice Springs**	**83.51**	**128**	P		**P**	**07 00 25.9**	**-1.9**	
	comp=Z,0.6nm,0.7s,baz=311,slow=5.0,SNR=7.2								
AS01	**Alice Springs**	**83.54**	**128**	*e*P		**P**	**07 00 26.4**	**-1.6**	
PDAR	**Pinedale Array**	**97.59**	**4**	LR		LR	07 51 23.2		
	comp=Z,47nm,18.3s,baz=311,slow=39								
PB01	**IPOC Station P**	**144.65**	**292**	*e*PKPdf		**PKPab**	**07 07 34.9**	**-0.7**	

ISCJB ***13*** *06:48:49.9±0.8, 1°.60N±0°.10×90°.94E±0°.06, h10km, mb3.9/9, MS3.4/12, Error ellipse: s-maj=14.4km s-min=8.1km az=11.8*

IDC ***13*** *06:48:50.4±1.4, 1°.61N×90°.89E, h0km, mb3.9/8, mb1 4.0/11, mb1mx3.7/69, mbtmp3.9/11, ML3.6/3, MS3.4/13, Ms1 3.4/13, ms1mx3.0/64, Error ellipse: s-maj=37.7km s-min=23.1km az=28.0*

NEIC ***13*** *06:48:53.4±3.1, 1°.61N×90°.93E, h19km±19km, mb4.4/1, Error ellipse: s-maj=11.8km s-min=7.0km az=207.0*

ISC 13 06:48:52.1±0.9, 1°.6N±0°.1×90°.98E±0°.08, h10km, n43, σ0°75/31, mb4.0/9, MS3.4/12, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BSI	**Banda Aceh**	**5.78**	**48**	P		**Pn**	**06 50 18.7**	**+0.8**
MLSI	**Meulaboh, Aceh**	**6.02**	**64**	P		**Pn**	**06 50 21.1**	**-0.2**
MLSI				S		**Pg**	**06 50 46.6**	**-0.9**
TPTI		**6.41**	**75**	P		**Pn**	**06 50 25.0**	**-1.6**
GSI	**Gunungsitoli**	**6.61**	**93**	*e*Pn		**Pn**	**06 50 30.2**	**+0.8**
LHMI	**Lhok Sumawe**	**6.95**	**59**	*e*Pn		**Pn**	**06 50 35.2**	**+1.2**
KCSI	**Kotacane, Aceh**	**7.05**	**74**	P		Pn	06 50 29.6	-5.8
PSI	**Prapat**	**8.03**	**81**	Pn		**Pn**	**06 50 49.2**	**+0.2**
	0.6nm,0.3s,baz=270,slow=6.1,SNR=2.4							
PSI				Sn		Sn	06 52 06.5	-14
	1.7nm,0.3s,baz=312,slow=14,SNR=4.1							
PSI				LR		LR	06 54 12.7	
	comp=Z,345nm,19.8s,baz=206,slow=40							
PALK	**Pallekele**	**11.68**	**299**	Pn		**Pn**	**06 51 38.1**	**-0.8**
	2.2nm,0.3s,baz=116,slow=12,SNR=14							
PALK				Sn		Sn	06 53 38.7	-11
	0.9nm,0.3s,baz=299,slow=4.4,SNR=4.0							
PALK	**Pallekele**	**11.68**	**299**	*e*Pn		**Pn**	**06 51 39.2**	**+0.3**
PALK				Sn		Sn	06 53 38.7	-11
CM01	**Chiang Mai Arr**	**18.44**	**25**	*e*P		**Pn**	**06 53 08.5**	**+0.5**
CM31	**Chiang Mai Arr**	**18.46**	**25**	*e*P		**Pn**	**06 53 09.2**	**+1.0**
CMAR	**Chiang Mai Arr**	**18.46**	**25**	P		**P**	**06 53 07.6**	**-0.6**
	0.0nm,0.3s,baz=219,slow=13,SNR=16							
H08S2	**Diego Garcia H**	**20.61**	**243**	T		T	07 14 44.7	
	baz=63,slow=76,SNR=7.9							
H08S3	**Diego Garcia H**	**20.61**	**243**	T		T	07 14 36.1	
	baz=63,slow=76,SNR=6.7							
H08S1	**Diego Garcia H**	**20.62**	**243**	T		T	07 14 44.9	
	baz=63,slow=76,SNR=4.2							
FITZ	**Fitzroy Crossi**	**39.35**	**121**	*e*P		**P**	**06 56 22.2**	**+0.3**
	12nm,1.4s							
MK32	**Makanchi Array**	**45.62**	**352**	*e*P		**P**	**06 57 11.9**	**-0.7**
MKAR	**Makanchi Array**	**45.62**	**352**	P		**P**	**06 57 12.0**	**-0.7**
	0.6nm,0.7s,baz=334,slow=26,SNR=2.9							
MKAR				LR		LR	07 17 55.3	
	comp=Z,45nm,19.3s,baz=110,slow=38							
WRA	**Warramunga Arr**	**47.61**	**119**	P		**P**	**06 57 29.1**	**+0.4**
	1.7nm,0.9s,baz=295,slow=8.8,SNR=4.6							
SONA0	**Songino Array**	**47.93**	**14**	*e*P		**P**	**06 57 31.8**	**+1.0**
SONM	**Songino Array**	**47.93**	**14**	P		**P**	**06 57 31.8**	**+1.0**
	1.6nm,1.0s,baz=194,slow=9.1,SNR=6.9							
SONA1	**Songino Array**	**47.94**	**14**	*e*P		**P**	**06 57 31.1**	**+0.2**
KURBB	**Kurchatov Arra**	**49.95**	**350**	P		**P**	**06 57 46.7**	**+0.6**
	0.6nm,0.6s,baz=177,slow=6.5,SNR=3.4							
KURK	**Kurchatov**	**50.02**	**350**	*e*P		**P**	**06 57 46.6**	**0.0**
ZALV	**Zalesovo Beam**	**52.40**	**355**	P		**P**	**06 58 03.9**	**-0.6**
	1.0nm,0.5s,baz=172,slow=7.4,SNR=3.4							
ZALV				LR		LR	07 22 36.9	
	comp=Z,19nm,18.5s,baz=259,slow=39							
ZALV	**Zalesovo Beam**	**52.40**	**355**	*e*P		**P**	**06 58 05.1**	**+0.7**
ZAA1	**Zalesovo Array**	**52.40**	**355**	*e*P		**P**	**06 58 03.9**	**-0.6**
BVAR	**Borovoye Array**	**54.04**	**345**	LR		LR	07 22 20.2	
	comp=Z,66nm,18.4s,baz=154,slow=37							
AKTO	**Aktyubinsk**	**56.08**	**335**	LR		LR	07 22 15.6	
	comp=Z,21nm,19.5s,baz=99,slow=36							
PMG	**Port Moresby**	**57.02**	**102**	LR		LR	07 25 20.2	
	comp=Z,16nm,21.5s,baz=12,slow=38							
ARU	**Arti**	**60.51**	**340**	LR		LR	07 25 51.0	
	comp=Z,35nm,19.0s,baz=219,slow=37							
BR101	**Keskin Array S**	**64.28**	**314**	*e*P		**P**	**06 59 26.9**	**-1.1**
BRTR	**Keskin Array B**	**64.28**	**314**	P		**P**	**06 59 26.9**	**-1.1**
	0.5nm,0.6s,baz=113,slow=6.9,SNR=3.3							
BRTR				LR		LR	07 27 38.4	
	comp=Z,23nm,21.6s,baz=139,slow=36							
BOSA	**Boshof**	**69.64**	**239**	LR		LR	07 28 57.1	
	comp=Z,42nm,18.1s,baz=176,slow=35							
MLR	**Muntele Rosu**	**71.53**	**318**	LR		LR	07 35 20.6	
	comp=Z,8.8nm,19.7s,baz=289,slow=39							
FIA0	**FINESS Array S**	**76.79**	**333**	*e*P		**P**	**07 00 43.9**	**+0.1**
FINES	**FINESS Array B**	**76.79**	**333**	P		**P**	**07 00 43.9**	**+0.1**
	1.0nm,0.6s,baz=108,slow=4.2,SNR=3.4							
GERES	**GERESS Array B**	**80.41**	**319**	P		**P**	**07 01 04.5**	**+0.4**
	0.3nm,0.3s,baz=104,slow=5.6,SNR=3.8							
HFS	**Hagfors**	**82.27**	**330**	LR		LR	07 39 37.3	
	comp=Z,19nm,19.6s,baz=68,slow=37							
NOA	**NORSAR Array B**	**83.62**	**331**	LR		LR	07 40 57.7	
	comp=Z,15nm,18.4s,baz=0.0,slow=37							
SPITS	**Spitsbergen Ar**	**85.28**	**348**	LR		LR	07 44 13.6	
	comp=Z,31nm,18.9s,baz=315,slow=39							
LTX	**Lajitas**	**146.18**	**23**	*e*PKPdf		**PKPdf**	**07 08 32.8**	**+0.2**
TXAR	**Lajitas Array**	**146.18**	**23**	PKPbc		**PKPdf**	**07 08 32.8**	**+0.2**
	0.2nm,0.4s,baz=38,slow=1.3,SNR=5.3							

IDC ***13*** *06:56:19.1±1.5, 3°.89N×92°.47E, h0km, mb3.5/5, mb1 3.7/8, mb1mx3.5/63, mbtmp3.5/8, ML3.7/3, MS3.3/2, Ms1 3.3/2, ms1mx2.6/55, Error ellipse: s-maj=41.1km s-min=23.0km az=39.0*

ISCJB ***13*** *06:56:21.3±1.1, 3°.9N±0°.2×92°.55E±0°.09, h33km, mb3.5/5, MS3.3/2, Error ellipse: s-maj=23.3km s-min=9.4km az=21.8*

ISC 13 06:56:23.6±1.1, 3°.9N±0°.2×92°.51E±0°.10, h35km, n10, σ1°23/9, mb3.5/5, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**6.49**	**100**	Pn		**Pn**	**06 57 56.7**	**-0.2**
	0.9nm,0.3s,baz=267,slow=15,SNR=2.7							
PSI				Sn		**Sn**	**06 59 08.7**	**-1.2**
	0.8nm,0.3s,baz=263,slow=8.1,SNR=3.1							
PALK	**Pallekele**	**12.22**	**286**	Pn		**Pn**	**06 59 13.8**	**-1.6**
	0.4nm,0.3s,baz=115,slow=5.3,SNR=3.6							
PALK				Sn		Sn	07 01 19.4	-11
	1.3nm,0.3s,baz=289,slow=1.2,SNR=7.2							
CMAR	**Chiang Mai Arr**	**15.77**	**23**	Pn		**Pn**	**07 00 01.8**	**-1.5**
	0.1nm,0.3s,baz=221,slow=14,SNR=5.0							
BATI	**Baumata**	**34.05**	**115**	LR		LR	07 18 10.0	
	comp=Z,72nm,19.0s,baz=171,slow=38							
AAK	**Ala-Archa**	**41.77**	**340**	LR		LR	07 22 57.6	
	comp=Z,24nm,18.0s,baz=160,slow=38							
MKAR	**Makanchi Array**	**43.63**	**350**	P		**P**	**07 04 25.2**	**+0.5**
	0.3nm,0.6s,baz=182,slow=8.1,SNR=4.2							
SONM	**Songino Array**	**45.37**	**13**	P		**P**	**07 04 39.9**	**+1.2**
	0.2nm,0.3s,baz=195,slow=10,SNR=2.1							
WRA	**Warramunga Arr**	**47.43**	**122**	P		**P**	**07 04 55.9**	**+0.7**
	0.6nm,0.9s,baz=304,slow=8.5,SNR=2.8							
ZALV	**Zalesovo Beam**	**50.28**	**354**	P		**P**	**07 05 17.1**	**+0.6**
	0.4nm,0.3s,baz=195,slow=10.0,SNR=3.0							
GERES	**GERESS Array B**	**79.71**	**319**	P		**P**	**07 08 28.9**	**+0.8**
	0.2nm,0.3s,baz=126,slow=5.0,SNR=2.8							

JMA 13 07:07:07.6±0.2, 36°.85N×143°.65E, h47km, M3.5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**2.28**	**284**	P		Pn	07 07 43.7	+0.9
JFK				S		Sn	07 08 10.7	+1.1
ONAJ	**Iwakimizuishiy**	**2.30**	**277**	P		Pn	07 07 44.3	+1.3
ONAJ				S		Sn	07 08 11.3	+1.2
JHO	**Hitachi**	**2.49**	**265**	P		Pn	07 07 46.4	+0.8
JFT	**Otama**	**2.73**	**285**	P		Pn	07 07 50.9	+2.0
JFT				S		Sn	07 08 23.1	+2.4
JMK	**Ichinoseki**	**2.85**	**318**	P		Pn	07 07 52.1	+1.6
JMK				S		Sn	07 08 24.7	+1.2
JOM	**Ohasama**	**3.21**	**325**	P		Pn	07 07 56.9	+1.4
JOM				S		Sn	07 08 32.9	+0.4
JYK	**Kaneyama**	**3.32**	**309**	P		Pn	07 07 59.0	+1.9
JYK				S		Sn	07 08 37.8	+2.5
JAG	**Ashikaga**	**3.40**	**264**	P		Pn	07 07 59.5	+1.4
JAG				S		Sn	07 08 38.1	+0.9
JRY	**Ryogami san**	**3.92**	**259**	P		Pn	07 08 06.2	+0.9
JRY				*e*S		Sn	07 08 51.0	+1.0
JOD2	**Odawara 2**	**4.02**	**248**	P		Pn	07 08 06.5	-0.2
JYN	**Shimob**	**4.34**	**253**	P		Pn	07 08 12.8	+1.6
MAT	**Matsushiro**	**4.38**	**268**	P		Pn	07 08 14.0	+2.3

IDC 13 07:12:01.7±3.3, 1°.89N×89°.45E, h0km, mb3.5/3, mb1 3.6/4, mb1mx3.2/72, mbtmp3.4/4, Error ellipse: s-maj=92.5km s-min=30.9km az=64.0, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**18.91**	**29**	P		P	07 16 23.8	-0.4
	baz=230,slow=13,SNR=2.5							
MKAR	**Makanchi Array**	**45.16**	**353**	P		P	07 20 19.9	-0.2
	0.6nm,1.0s,baz=172,slow=12,SNR=3.3							
SONM	**Songino Array**	**48.06**	**15**	P		P	07 20 43.3	+0.3
	0.4nm,0.5s,baz=207,slow=9.3,SNR=3.6							
WRA	**Warramunga Arr**	**49.08**	**119**	P		P	07 20 51.0	-0.2
	0.6nm,1.0s,baz=294,slow=8.4,SNR=2.9							

IDC 13 07:38:54.4±2.3, 8°.79S×128°.25E, h0km, mb3.7/1, mb1 3.7/3, mb1mx3.3/57, mbtmp3.5/3, ML3.7/2, Error ellipse: s-maj=249.8km s-min=32.9km az=63.0, Timor Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**12.55**	**153**	Pn		Pn	07 41 53.5	-0.9
	0.5nm,0.3s,baz=330,slow=14,SNR=23							
WRA				Sn		Sn	07 44 09.8	-5.3
	0.7nm,0.3s,baz=336,slow=20,SNR=9.7							
ASAR	**Alice Springs**	**15.75**	**161**	Pn		Pn	07 42 39.0	+1.3
	0.3nm,0.3s,baz=338,slow=9.2,SNR=8.0							
ASAR				Sn		Sn	07 45 31.1	-2.0
	0.2nm,0.3s,baz=346,slow=24,SNR=6.4							
MKAR	**Makanchi Array**	**68.79**	**328**	P		P	07 50 00.5	0.0
	0.4nm,0.6s,baz=127,slow=6.9,SNR=3.7							

ISCJB ***13*** *07:39:59.4±0.7, 38°.87N±0°.04×141°.91E±0°.09, h60km±5km, mb3.8/9, Error ellipse: s-maj=11.5km s-min=5.6km az=15.9*

NIED ***13*** *07:40:00, 38°.90N×141°.90E, h44km, Mw3.6 Best double couple: M0 2.76000×10^14 NP1: φ=194.00000°, δ=24.00000°, λ=72.00000°. NP2: φ=34.00000°, δ=67.00000°, λ=98.00000°.*

JMA ***13*** *07:40:00.0±0.1, 38°.89N×141°.97E, h50km±1km, M3.7*

JMA Felt I J1.

IDC ***13*** *07:40:02.3±2.0, 38°.85N×141°.89E, h74km±18km, mb3.5/9, mb1 3.5/12, mb1mx3.3/71, mbtmp3.8/12, MS2.7/5, Ms1 2.7/5, ms1mx2.4/53, Error ellipse: s-maj=24.2km s-min=13.4km az=107.0*

ISC 13 07:40:00.1±1.1, 38°.88N±0°.04×141°.94E±0°.10, h48km±9km, n31, σ1°79/33, mb3.8/9, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**0.29**	**313**	P		**Pn**	**07 40 09.2**	**+0.3**
OFUJ				*e*S		**Sn**	**07 40 15.5**	**+0.3**
JMK	**Ichinoseki**	**0.57**	**278**	P		**Pn**	**07 40 12.3**	**+0.3**
JMK				*e*S		**Sn**	**07 40 21.0**	**+0.5**
JIO	**Ouri**	**0.63**	**228**	P		**Pn**	**07 40 12.9**	**+0.1**
JIO				*e*S		**Sn**	**07 40 21.7**	**-0.2**
JOM	**Ohasama**	**0.78**	**320**	P		**Pn**	**07 40 14.9**	**+0.2**
JOM				*e*S		**Sn**	**07 40 25.5**	**+0.1**
JOU	**Okura**	**1.12**	**243**	P		**Pn**	**07 40 19.5**	**+0.1**
JOU				*e*S		**Sn**	**07 40 34.3**	**+0.5**
JRG	**Rokugo**	**1.14**	**297**	P		**Pn**	**07 40 19.7**	**+0.1**
JRG				*e*S		**Sn**	**07 40 33.6**	**-0.5**
JYK	**Kaneyama**	**1.23**	**272**	P		**Pn**	**07 40 21.2**	**+0.3**
JYK				*e*S		**Sn**	**07 40 35.9**	**-0.5**
JMM	**Marumori**	**1.36**	**222**	P		**Pn**	**07 40 22.2**	**-0.3**
JMM				*e*S		**Sn**	**07 40 38.9**	**-0.5**
JANG	**Nango**	**1.53**	**348**	*e*S		**Sn**	**07 40 44.2**	**+0.6**
MAT	**Matsushiro**	**3.77**	**233**	P		**Pn**	**07 40 58.8**	**+3.1**
MAT				*e*S		**Sn**	**07 41 45.2**	**+6.4**
MJAR	**Matsushiro Arr**	**3.77**	**233**	P		**Pn**	**07 40 58.0**	**+2.3**
	2.4nm,0.3s,baz=35,slow=12,SNR=25							
MJAR				LR		LR	07 42 44.5	
	comp=Z,24nm,18.4s,baz=225,slow=44							
ASAJ	**Asahikawa**	**5.26**	**5**	P		**Pn**	**07 41 17.4**	**+1.3**
	0.7nm,0.3s,baz=253,slow=11,SNR=5.4							
ASAJ				S		**Sn**	**07 42 19.5**	**+4.3**
	0.5nm,0.

DGAR	**Diego Garcia** 86nm,1.1s	**21.30**	**246**	*eP*	**P**	**07 46 32.0**	**-2.4**
H08S2	**Diego Garcia H** baz=65,slow=75,SNR=49	**21.35**	**245**	T	T	08 08 13.7	
H08S3	**Diego Garcia H** baz=65,slow=75,SNR=55	**21.35**	**245**	T	T	08 08 13.9	
H08S1	**Diego Carcia H** baz=65,slow=75,SNR=42	**21.37**	**245**	T	T	08 08 14.3	
KKM	**Kota Kinabalu** 9.0nm,0.8s	**24.64**	**78**	*eP*	**P**	**07 47 08.6**	**0.0**
SOEI	**Soe** 15nm,0.5s	**33.96**	**109**	*eP*	**P**	**07 48 30.0**	**-1.5**
DAV	**Davao City (W)** comp=Z,24nm,19.7s,baz=323,slow=38	**33.99**	**79**	LR	LR	08 03 31.2	
WSAR	**Wadi Sarin** comp=Z,49nm,19.9s,baz=214,slow=34	**39.04**	**307**	LR	LR	08 03 49.8	
MK01	**Makanchi Array**	**46.12**	**351**	*eP*	**P**	**07 50 12.8**	**+1.0**
MK31	**Makanchi Array**	**46.14**	**351**	*eP*	**P**	**07 50 13.3**	**+1.3**
MK32	**Makanchi Array**	**46.14**	**351**	*eP*	**P**	**07 50 13.0**	**+0.9**
MKAR	**Makanchi Array** 1.1nm,0.7s,baz=168,slow=9.1,SNR=7.5	**46.14**	**351**	P	**P**	**07 50 13.0**	**+0.9**
MKAR	**Makanchi Array** 9.2nm,0.8s	**46.14**	**351**	*eP*	**P**	**07 50 13.3**	**+1.2**
WR1	**Warramunga Arr** 9.4nm,1.1s	**46.56**	**119**	*eP*	**P**	**07 50 16.4**	**+0.7**
WRA	**Warramunga Arr** 2.1nm,0.9s,baz=296,slow=8.5,SNR=7.4	**46.56**	**119**	P	**P**	**07 50 16.4**	**+0.7**
WRAB	**Tennant Creek** 3.9nm,0.7s	**46.56**	**119**	*eP*	**P**	**07 50 17.0**	**+1.2**
WB2	**Warramunga Arr** 5.2nm,1.0s	**46.57**	**119**	*eP*	**P**	**07 50 16.6**	**+0.7**
ASAR	**Alice Springs** 0.3nm,0.5s,baz=309,slow=8.2,SNR=3.7	**47.67**	**124**	P	**P**	**07 50 25.5**	**+1.0**
AS31	**Alice Springs** 0.5nm,0.8s	**47.67**	**124**	*eP*	**P**	**07 50 25.5**	**+1.0**
GEYT	**Alibeck** 1.3nm,0.6s,baz=153,slow=9.7,SNR=3.0	**47.95**	**324**	P	**P**	**07 50 27.8**	**+1.4**
SONA0	**Songino Array**	**48.05**	**13**	*eP*	**P**	**07 50 29.3**	**+2.2**
SONM	**Songino Array** 2.3nm,0.8s,baz=195,slow=9.0,SNR=10	**48.05**	**13**	P	**P**	**07 50 29.3**	**+2.2**
SONM	comp=Z,25nm,19.4s,baz=98,slow=40			LR	LR	08 13 28.8	
SONA1	**Songino Array**	**48.07**	**13**	*eP*	**P**	**07 50 29.6**	**+2.3**
KURBB	**Kurchatov Arra** 1.1nm,0.7s,baz=168,slow=7.5,SNR=7.0	**50.50**	**349**	P	**P**	**07 50 46.2**	**+0.6**
KURK	**Kurchatov**	**50.57**	**349**	*eP*	**P**	**07 50 46.2**	**+0.1**
ZALV	**Zalesovo Beam** 1.3nm,0.3s,baz=201,slow=7.7,SNR=3.5	**52.85**	**355**	P	**P**	**07 51 03.9**	**+0.8**
ZALV	comp=Z,21nm,18.9s,baz=233,slow=39			LR	LR	08 16 10.1	
ZAA1	**Zalesovo Array**	**52.86**	**355**	*eP*	**P**	**07 51 03.9**	**+0.7**
BVAR	**Borovoye Array** 0.3nm,0.5s,baz=108,slow=4.7,SNR=2.7	**54.63**	**344**	P	**P**	**07 51 15.5**	**-0.7**
BRTR	**Keskin Array B** comp=Z,14nm,18.3s,baz=169,slow=38	**65.26**	**314**	LR	LR	08 22 41.5	
AKASG	**Malin Array Be** 0.6nm,0.5s,baz=89,slow=5.5,SNR=3.4	**72.07**	**324**	P	**P**	**07 53 11.6**	**-0.3**
TIXI	**Tiksi** 1.3nm,0.5s,baz=208,slow=1.8,SNR=3.8	**74.11**	**11**	P	**P**	**07 53 24.0**	**+0.5**
FIA0	**FINESS Array S**	**77.57**	**333**	*eP*	**P**	**07 53 43.6**	**+0.2**
FINES	**FINESS Array B** 1.6nm,0.8s,baz=121,slow=7.0,SNR=2.4	**77.57**	**333**	P	**P**	**07 53 43.6**	**+0.2**
KEV	**Kevo** 11nm,1.1s	**80.35**	**341**	*eP*	**P**	**07 53 57.1**	**-1.5**
GEA0	**GERESS Array S**	**81.34**	**319**	*eP*	**P**	**07 54 03.7**	**-0.7**
GERES	**GERESS Array B** 1.9nm,0.7s,baz=106,slow=4.9,SNR=8.9	**81.34**	**319**	P	**P**	**07 54 05.7**	**+1.3**
SPITS	**Spitsbergen Ar** comp=Z,16nm,18.5s,baz=310,slow=39	**85.84**	**348**	LR	LR	08 37 58.8	
SNCC	**San Nicolas Is**	**134.62**	**38**	*e*PKPdf	**PKPdf**	**08 01 05.0**	**-1.9**
ROC1	**El Roble**	**144.63**	**205**	*e*PKPdf	**PKPdf**	**08 01 24.7**	**-0.7**
LTX	**Lajitas**	**146.10**	**25**	*e*PKPdf	**PKPab**	**08 01 29.6**	**+0.4**
TXAR	**Lajitas Array** 0.4nm,0.7s,baz=277,slow=2.0,SNR=5.4	**146.10**	**25**	PKPbc	**PKPab**	**08 01 29.6**	**+0.4**

IDC 13 07:44:09.6±11.0, 45.97N×154.29E, h0km, mb3.2/3, mb1 3.5/4, mb1mx3.2/71, mbtmp3.3/4, ML2.9/1, Error ellipse: s-maj=251.9km s-min=98.7km az=79.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-** 1.0nm,0.3s,baz=181,slow=12,SNR=6.5	**7.48**	**16**	Pn	Pn	07 45 59.5	-0.4
H11N2	**WAKE ISLAND Hy** baz=340,slow=76,SNR=3.3	**28.15**	**154**	T	T	08 21 27.7	
H11N1	**WAKE ISLAND Hy** baz=340,slow=76,SNR=3.6	**28.17**	**154**	T	T	08 21 33.6	
H11N3	**WAKE ISLAND Hy** baz=340,slow=76,SNR=2.8	**28.17**	**154**	T	T	08 21 34.8	
H11S1	**WAKE ISLAND Hy** baz=340,slow=76,SNR=3.4	**29.25**	**155**	T	T	08 22 56.9	
H11S3	**WAKE ISLAND Hy** baz=340,slow=76,SNR=2.6	**29.26**	**155**	T	T	08 22 55.5	
H11S2	**WAKE ISLAND Hy** baz=340,slow=76,SNR=3.5	**29.27**	**155**	T	T	08 22 56.6	
ILAR	**Eielson Array** 0.2nm,0.7s,baz=260,slow=7.0,SNR=6.5	**36.66**	**38**	P	P	07 51 17.8	+0.3
INK	**Inuvik** 0.3nm,0.4s,baz=306,slow=6.6,SNR=4.1	**41.88**	**32**	P	P	07 52 00.5	-0.5
YKA	**Yellowknife Ar** 0.1nm,0.6s,baz=291,slow=6.9,SNR=2.6	**51.06**	**37**	P	P	07 53 13.1	-0.1

ISCJB 13 07:48:03.0±1.3, 2.6N±0.2×89.7E±0.2, h10km, mb3.9/6, Error ellipse: s-maj=29.3km s-min=23.4km az=144.7
IDC 13 07:48:03.6±1.5, 2.60N×89.78E, h0km, mb3.9/6, mb1 3.9/7, mb1mx3.5/70, mbtmp3.8/7, ML3.5/1, Error ellipse: s-maj=44.7km s-min=26.9km az=48.0
ISC 13 07:48:05.0±1.5, 2.6N±0.2×89.8E±0.2, h10km, n14, σ0.97/8, mb3.9/6, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr** 0.1nm,0.3s,baz=226,slow=11,SNR=6.5	**18.15**	**29**	P	**P**	**07 52 17.9**	**+0.3**
H08S2	**Diego Garcia H** baz=59,slow=74,SNR=9.9	**20.03**	**239**	T	T	08 13 26.0	
H08S3	**Diego Garcia H** baz=59,slow=74,SNR=8.7	**20.03**	**239**	T	T	08 13 23.6	
H08S1	**Diego Carcia H** baz=59,SNR=7.4	**20.04**	**239**	T	T	08 13 30.2	
H01W3	**Cape Leeuwin H** baz=325,slow=76,SNR=4.4	**43.72**	**151**	T	T	08 42 50.9	
H01W2	**Cape Leeuwin H** baz=325,slow=76,SNR=3.4	**43.73**	**151**	T	T	08 42 46.8	
H01W1	**Cape Leeuwin H** baz=325,slow=76,SNR=4.1	**43.73**	**151**	T	T	08 42 47.8	
MKAR	**Makanchi Array** 0.5nm,0.4s,baz=72,slow=8.6,SNR=8.5	**44.52**	**353**	P	**P**	**07 56 16.8**	**0.0**
SONM	**Songino Array** 3.7nm,0.5s,baz=197,slow=9.5,SNR=19	**47.30**	**15**	P	**P**	**07 56 39.5**	**+0.5**
KURBB	**Kurchatov Arra** 0.3nm,0.2s,baz=172,slow=7.4,SNR=3.0	**48.81**	**350**	P	**P**	**07 56 48.4**	**-1.9**
WRA	**Warramunga Arr** 0.4nm,0.7s,baz=299,slow=8.6,SNR=3.4	**49.11**	**119**	P	**P**	**07 56 53.2**	**0.0**
BRTR	**Keskin Array B** 0.5nm,0.6s,baz=126,slow=7.3,SNR=2.5	**62.76**	**314**	P	**P**	**07 58 31.6**	**+0.6**
FINES	**FINESS Array B** 2.2nm,1.0s,baz=117,slow=8.0,SNR=3.1	**75.41**	**334**	P	**P**	**07 59 49.0**	**+0.2**
TXAR	**Lajitas Array** 1.1nm,1.0s,baz=16,slow=1.0,SNR=7.2	**145.74**	**21**	PKPbc	**PKPab**	**08 07 44.9**	**-0.6**

SOME 13 07:48:42.3, 39.33N×73.68E, h15km
KRNET 13 07:48:46.1±0.1, 39.56N×73.78E, mb3.4
NNC 13 07:48:47.7±2.0, 39.57N×73.44E, h0km, mb3.8, mpv3.4, Error ellipse: s-maj=28.6km s-min=9.7km az=105.0
ISC 13 07:48:46.1±1.5, 39.56N±0.05×73.79E±0.03, h2km±11km, n30, σ1.55/48, 25C-10D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan** 36nm,0.3s	**0.50**	**334**	⇓P	**Pg**	**07 48 55.8**	**+0.1**
SFK	435nm,0.4s			⇑S	**Sg**	**07 49 03.1**	**+0.8**
SFK	**Sufi-Kurgan** baz=35	**0.50**	**334**	⇑*i*P	**Pg**	**07 48 55.9**	**+0.1**
SFK	baz=35			⇑*i*S	**Sg**	**07 49 03.0**	**+0.8**
KSH	**Kashi**	**1.69**	**91**	Pg	**Pn**	**07 49 16.6**	**-0.1**
KSH				Sg	**Sg**	**07 49 43.3**	**+3.0**
KSH				smax	smax		
KSH	comp=N,230nm,0.9s			smax	smax		
ARSB	**Arslanbob** baz=41	**1.86**	**341**	⇑*e*P	**Pb**	**07 49 20.1**	**-0.9**
ARSB	baz=41			⇑*i*S	**Sb**	**07 49 44.6**	**-0.2**
BTK	**Batken** baz=83	**2.34**	**283**	⇑*i*P	**Pn**	**07 49 25.7**	**-0.1**
BTK	baz=83			⇑*i*S	**Sb**	**07 49 56.6**	**-2.0**
NRN	**Naryn** baz=41	**2.51**	**41**	⇑*e*P	**Pn**	**07 49 29.1**	**+0.8**
NRN	baz=41			⇑*i*S	**Sn**	**07 50 00.0**	**+0.3**
AML	**Almayashu** SNR=41	**2.57**	**358**	P	**Pb**	**07 49 32.6**	**-0.5**
AML	**Almayashu** baz=59	**2.57**	**358**	⇑*i*P	**Pn**	**07 49 30.4**	**-2.7**
AML	baz=59			⇑*i*S	**Sb**	**07 50 02.1**	**-3.2**
ARK	**Arkit** baz=29	**2.63**	**329**	⇑*e*P	**Pn**	**07 49 30.9**	**+1.2**
ARK	baz=29			⇑*e*S	**Sn**	**07 50 03.0**	**+0.7**
UCH	**Uchtor** SNR=37	**2.72**	**11**	P	**Pb**	**07 49 35.6**	**-0.1**
UCH	**Uchtor** baz=12	**2.72**	**11**	⇑*i*P	**Pn**	**07 49 32.5**	**+1.3**
UCH	baz=12			⇑*i*S	**Sn**	**07 50 06.0**	**+1.1**
KZA	**Kyzart** baz=24	**2.74**	**23**	⇑*i*P	**Pn**	**07 49 32.5**	**+1.0**
KZA	baz=24			⇑*i*S	**Sn**	**07 50 06.2**	**+0.7**
MNAS	**Manas** comp=E,5.8nm,0.4s	**3.08**	**342**	⇓Pn	**Pb**	**07 49 38.5**	**-3.2**
MNAS	comp=E,34nm,0.5s			⇓Lg	Lg	07 50 23.9	
MNAS	**Manas** baz=42	**3.08**	**342**	⇑*e*P	**Pn**	**07 49 36.7**	**+0.8**
MNAS	baz=42			⇑*i*S	**Sn**	**07 50 13.7**	**+0.3**
EKS2	**Erkin-Say** SNR=6.2	**3.10**	**360**	P	**Pb**	**07 49 40.6**	**-1.3**
EKS2	**Erkin-Say** baz=0.0	**3.10**	**360**	⇑*i*P	**Pn**	**07 49 37.3**	**+1.2**
EKS2	baz=0.0			⇑*e*S	**Sn**	**07 50 14.4**	**+0.6**
AAK	**Ala-Archa** comp=E,7.1nm,0.5s	**3.12**	**10**	⇑Pn	**Pb**	**07 49 41.2**	**-1.1**
AAK	comp=E,51nm,0.9s			⇓Lg	Lg	07 50 27.3	
AAK	**Ala-Archa** SNR=12	**3.12**	**10**	P	**Pb**	**07 49 42.0**	**-0.4**
AAK	**Ala-Archa** baz=10.0	**3.12**	**10**	⇓*i*P	**Pn**	**07 49 37.5**	**+1.1**
AAK	baz=10.0			⇓*i*S	**Sn**	**07 50 15.2**	**+0.9**
MRKS	**Merke** comp=E,23nm,0.5s	**3.21**	**353**	*e*P	**Pb**	**07 49 44.8**	**+0.9**
MRKS	comp=E,94nm,0.4s			*e*S	**Sg**	**07 50 27.8**	**-1.3**
ULHL	**Ulahol** SNR=13	**3.26**	**34**	P	**Pg**	**07 49 49.2**	**+0.6**
ULHL	**Ulahol** baz=34	**3.26**	**34**	⇓*e*P	**Pn**	**07 49 39.8**	**+1.4**
ULHL	baz=34			⇓*i*S	**Sn**	**07 50 18.3**	**+0.4**
TKM2	**Tokmak 2** comp=E,6.4nm,0.8s	**3.62**	**21**	⇑Pn	**Pb**	**07 49 48.7**	**-2.2**
TKM2	comp=E,31nm,0.6s			⇑Lg	Lg	07 50 46.1	
TKM2	**Tokmak 2** SNR=6.1	**3.62**	**21**	P	**Pb**	**07 49 48.8**	**-2.2**
IUG	**Iuzhnay** comp=E,11nm,0.6s	**3.85**	**313**	*e*P	**Pb**	**07 49 53.8**	**-1.0**
IUG	comp=E,38nm,0.5s			*e*S	**Sb**	**07 50 43.6**	**+1.8**
DZET	**Dzherino** comp=E,20nm,0.5s	**3.93**	**260**	⇑Pg	**Pb**	**07 49 55.4**	**-0.9**
DZET	comp=E,91nm,0.6s			⇓Lg	Lg	07 50 46.6	
DGS	**Degeres** comp=E,5.0nm,0.6s	**3.96**	**21**	*e*P	**Pg**	**07 50 00.9**	**-1.1**
DGS	comp=E,32nm,0.6s			*e*S	**Sg**	**07 50 54.9**	**+1.5**
KK31	**Karatay Array** comp=E,1.0nm,0.5s,baz=143,slow=15,SNR=29	**4.31**	**326**	Pn	**Pn**	**07 49 54.6**	**+1.8**
KK31	comp=E,5.6nm,0.3s,baz=155,slow=26,SNR=4.3			⇓Lg	Lg	07 50 57.5	
MDOK	**Medeo** comp=E,5.5nm,0.6s	**4.35**	**33**	Pn	**Pb**	**07 49 59.4**	**-4.0**
MDOK	comp=E,17nm,0.6s			Lg	Lg	07 51 07.4	
ARXS	**Arharly** comp=E,2.8nm,0.7s	**5.54**	**32**	*e*P	**Pg**	**07 50 31.3**	**-0.9**
ARXS	comp=E,15nm,0.8s			*e*S	**Sg**	**07 51 46.4**	**+2.5**

SJA 13 07:49:42.5±0.7, 29.81S×72.90W, h40km±999km, ML3.2, MW3.2
GUC 13 07:49:44.4±0.3, 29.75S×72.44W, h25km±9km, ML3.0
ISC 13 07:49:40.9±2.6, 29.75S±0.06×73.1W±0.1, h35km, n16, σ2.945/29, 4C, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TLL	**Tololo Astrono**	**2.04**	**102**	⇑*i*P	**Pn**	**07 50 11.7**	**-1.4**
TLL				*i* S	**Sn**	**07 50 32.3**	**-5.2**
TLL	comp=N,235nm,0.4s			IAML		07 50 36.1	
GO04	**Tololo Observa**	**2.05**	**103**	⇑*i*P	**Pn**	**07 50 11.8**	**-1.3**
GO04				*i* S	**Sn**	**07 50 32.6**	**-5.0**
GO04	comp=E,833nm,0.3s			IAML		07 50 34.3	
LCO	**Las Campanas**	**2.23**	**71**	⇑*i*P	**Pn**	**07 50 14.8**	**-0.8**
LCO				*i* S	**Sn**	**07 50 38.1**	**-3.9**
LCO	comp=E,279nm,0.2s			IAML		07 50 39.1	
VACH	**Vallenar**	**2.36**	**61**	*e*P	Pn	07 50 32.0	+15
VACH				*i* S	Sn	07 50 57.0	+12
AROD	**Rodeo**	**3.18**	**98**	*e*P	**Pn**	**07 50 30.0**	**+1.2**
AROD				*e*S	**Sn**	**07 51 05.8**	**+0.1**
GO03	**Copiap**	**3.31**	**50**	*e*P	**Pn**	**07 50 30.5**	**+0.1**
GO03				*i* S	**Sn**	**07 51 06.4**	**-2.1**
GO03	comp=E,57nm,0.1s			IAML		07 51 13.1	
ACDV	**Cuesta del Vie**	**3.49**	**98**	*e*P	**Pn**	**07 50 34.3**	**+1.5**
ACDV				*e*S	**Sn**	**07 51 12.8**	**-0.2**
ROCH	**El Roble**	**3.68**	**151**	*e*P	**Pn**	**07 50 36.0**	**+0.4**
ROCH				*e*S	**Sn**	**07 51 13.2**	**-4.6**
ROC1	**El Roble**	**3.68**	**151**	*e*P	**Pn**	**07 50 37.4**	**+1.8**
RTLS	**Leoncito**	**3.87**	**123**	*e*P	**Pn**	**07 50 40.3**	**+2.2**
RTLS	comp=Z,18nm,0.3s			IAML		07 50 45.0	
RTLS				*e*S	**Sn**	**07 51 22.9**	**+0.4**
AGUA	**GUANDACOL**	**4.03**	**87**	*e*P	**Pn**	**07 50 42.5**	**+2.3**
AGUA				*e*S	**Sn**	**07 51 25.9**	**-0.3**
AUSP	**Uspallata**	**4.04**	**129**	*e*P	**Pn**	**07 50 42.5**	**+2.0**
AUSP				*e*S	**Sn**	**07 51 27.3**	**+0.5**
AMOG	**MOGNA**	**4.16**	**108**	*e*P	**Pn**	**07 50 44.4**	**+2.3**
AMOG				*e*S	**Sn**	**07 51 28.9**	**-0.7**
VCA	**Vinchina**	**4.40**	**78**	*e*P	**Pn**	**07 50 48.6**	**+3.2**
VCA				*e*S	**Sn**	**07 51 35.7**	**+0.2**
VCA	comp=Z,50nm,0.6s			IAML		07 51 40.5	
VCA	**Vinchina**	**4.40**	**78**	⇑*i*P	**Pn**	**07 50 49.0**	**+3.6**
VCA				*i* S	**Sn**	**07 51 37.7**	**+2.2**
RTCV	**Cerro Valdivia**	**4.46**	**119**	*e*P	**Pn**	**07 50 48.0**	**+1.9**
RTCV				*e*S	**Sn**	**07 51 36.5**	**-0.4**

MAN 13 08:07:45, 11.35N×124.52E, h25km, mb4.1, ML2.9, MS2.5, 1C-1D, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OCLP	**Ormoc**	**0.31**	**164**	*e*P	Pn	08 07 53.5	-0.5
OCLP				*e*S	Sn	08 08 01.7	+1.9
PLP	**Palo**	**0.49**	**113**	⇓*e*P	Pn	08 07 56.2	-0.2
PLP				*i* S	Sn	08 08 05.3	+1.1
BESP	**Borongan**	**0.93**	**75**	*e*P	Pb	08 08 02.6	+0.1
BESP				*e*S	Sn	08 08 16.7	+1.5
CNP	**Catarman**	**1.16**	**7**	*e*P	Pn	08 08 03.9	-1.7
CNP				*e*S	Sb	08 08 21.1	+0.2
LLP	**Lapu-Lapu**	**1.17**	**208**	*e*P	Pb	08 08 06.4	-0.1
LLP				*e*S	Sb	08 08 24.2	+3.0
MSLP	**Maasin**	**1.26**	**165**	*e*P	Pb	08 08 10.2	+2.2
RCP	**Roxas**	**1.75**	**277**	⇑*e*P	Pn	08 08 13.4	-0.4
RCP				*e*S	Sn	08 08 36.6	+1.3

MAN 13 08:09:06, 10.02N×125.86E, h10km, mb4.4, ML3.2, MS3.0, 2C, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.44**	**237**	⇑*e*P	Pb	08 09 15.8	-0.1
SCPH				*e*S	Sb	08 09 22.0	-0.5
MSLP	**Maasin**	**0.99**	**277**	*e*P	Pn	08 09 25.8	-0.2
MSLP				*e*S	Sn	08 09 40.9	+0.7
BUTP	**Butuan**	**1.07**	**193**	*e*P	Pg	08 09 25.6	-1.0
BUTP				*e*S	Sn	08 09 44.0	+2.0
PLP	**Palo**	**1.43**	**323**	⇑*e*P	Pn	08 09 31.9	-0.1

IDC 13 08:17:25.7±1.8, 2.48N×90.48E, h0km, mb3.6/5, mb1 3.8/7, mb1mx3.4/65, mbtmp3.7/7, ML3.7/2, Error ellipse: s-maj=50.0km s-min=26.3km az=50.0
ISCJB 13 08:17:28.1±1.4, 2.4N±0.2×90.4E±0.1, h33km, mb3.8/5, Error ellipse: s-maj=26.6km s-min=18.3km az=19.3
ISC 13 08:17:30.6±1.5, 2.5N±0.2×90.5E±0.2, h35km, n11, σ0.75/8, mb4.0/5, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	**Pallekele** 1.5nm,0.3s,baz=116,slow=13,SNR=17	**10.83**	**296**	Pn	**Pn**	**08 20 03.3**	**0.0**
PALK	1.6nm,0.3s,baz=110,slow=0.7,SNR=7.0			Sn	Sn	08 21 54.1	-9.3
CMAR	**Chiang Mai Arr** 0.1nm,0.3s,baz=225,slow=12,SNR=3.1	**17.93**	**27**	P	**Pn**	**08 21 37.1**	**-0.3**
H01W3	**Cape Leeuwin H** baz=326,slow=75,SNR=3.2	**43.29**	**151**	T	T	09 11 31.6	
H01W2	**Cape Leeuwin H** baz=326,slow=75,SNR=3.6	**43.30**	**151**	T	T	09 11 27.7	
H01W1	**Cape Leeuwin H** baz=326,slow=75,SNR=3.1	**43.31**	**151**	T	T	09 11 33.1	
MKAR	**Makanchi Array** 0.3nm,0.7s,baz=172,slow=9.6,SNR=3.7	**44.72**	**352**	P	**P**	**08 25 40.0**	**-0.4**
SONM	**Songino Array** 0.9nm,0.4s,baz=197,slow=9.1,SNR=8.1	**47.24**	**15**	P	**P**	**08 26 01.3**	**+0.8**
WRA	**Warramunga Arr** 0.6nm,0.9s,baz=299,slow=9.1,SNR=2.8	**48.47**	**119**	P	**P**	**08 26 10.2**	**-0.1**
KURBB	**Kurchatov Arra** 0.4nm,0.2s,baz=160,slow=6.7,SNR=3.1	**49.03**	**350**	P	**P**	**08 26 14.5**	**+0.4**
ZALV	**Zalesovo Beam** 0.7nm,0.4s,baz=196,slow=7.3,SNR=3.2	**51.52**	**356**	P	**P**	**08 26 31.5**	**-1.3**
TXAR	**Lajitas Array** 0.2nm,0.7s,baz=229,slow=1.3,SNR=3.8	**145.60**	**22**	PKPbc	**PKPab**	**08 37 06.9**	**+0.3**

NIED 13 08:19:00, 37.70N×142.00E, h20km, Mw3.6 Best double couple: M0 3.13000×10^14 NP1:φs 189.00000°, δ43.00000°, λ-31.00000°. NP2:φs 302.00000°, δ69.00000°, λ-129.00000°.
ISCJB 13 08:19:31.0±1.1, 37.71N±0.03×142.09E±0.06, h15km±7km, mb3.5/7, Error ellipse: s-maj=7.8km s-min=5.2km az=19.2
IDC 13 08:19:30.6±0.9, 37.62N×142.04E, h0km, mb3.5/7, mb1 3.7/10, mb1mx3.5/63, mbtmp3.5/10, ML3.4/3, Error ellipse: s-maj=25.4km s-min=16.7km az=104.0
JMA 13 08:19:33.1±0.1, 37.73N×141.99E, h30km±2km, M3.7
ISC 13 08:19:31.3±2.0, 37.71N±0.04×142.00E±0.06, h7km±11km, n30, σ1.923/36, mb3.5/7, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**0.90**	**326**	P	**Pb**	**08 19 49.2**	**0.0**
JIO				*e*S	**Sg**	**08 20 00.3**	**0.0**
JFK	**Kawauchi**	**0.96**	**249**	P	**Pn**	**08 19 50.5**	**-0.7**
JFK				*e*S	**Sb**	**08 20 02.6**	**-0.5**
JMM	**Marumori**	**0.97**	**279**	P	**Pn**	**08 19 50.6**	**-0.7**
JMM				*e*S	**Sg**	**08 20 02.7**	**+0.3**
ONAJ	**Iwakimizuishiy**	**1.13**	**238**	P	**Pn**	**08 19 52.9**	**-0.7**
ONAJ				*e*S	**Sg**	**08 20 06.8**	**+0.9**
JOU	**Okura**	**1.24**	**302**	P	**Pn**	**08 19 55.1**	**+0.1**
JOU				*e*S	**Sb**	**08 20 10.7**	**-0.5**
JFT	**Otama**	**1.33**	**262**	P	**Pg**	**08 19 56.9**	**0.0**
JFT				*e*S	**Sb**	**08 20 13.4**	**-0.5**
JMK	**Ichinoseki**	**1.38**	**334**	P	**Pn**	**08 19 56.5**	**-0.4**
JMK				*e*S	**Sn**	**08 20 12.9**	**-2.5**
JYS	**Shirataka**	**1.61**	**289**	*e*S	**Sn**	**08 20 21.3**	**+0.2**
JYK	**Kaneyama**	**1.76**	**314**	P	**Pn**	**08 20 02.6**	**+0.4**
JOM	**Ohasama**	**1.84**	**343**	P	**Pn**	**08 20 03.2**	**-0.1**
JOM				*e*S	**Sn**	**08 20 24.8**	**-2.1**
JFY	**Yanaizu**	**1.85**	**261**	P	**Pb**	**08 20 04.3**	**-1.1**
JFY				*e*S	**Sb**	**08 20 27.6**	**-1.1**
JRG	**Rokugo**	**1.99**	**328**	P	**Pn**	**08 20 06.0**	**+0.6**
JYA	**Atsumi**	**2.00**	**297**	*e*S	**Sb**	**08 20 32.6**	**-0.6**
MJAR	**Matsushiro Arr** 2.9nm,0.3s,baz=80,slow=16,SNR=20	**3.25**	**250**	Pn	**Pn**	**08 20 24.6**	**+2.0**
MAT	**Matsushiro**	**3.25**	**250**	P	**Pn**	**08 20 23.8**	**+1.2**
MAT				*e*S	**Sn**	**08 21 02.7**	**+1.2**
JHJ	**Hachijo jima 2** 13nm,0.3s,baz=65,slow=21,SNR=4.8	**4.93**	**202**	Pn	**Pn**	**08 20 46.5**	**+0.7**
JHJ	16nm,0.3s,baz=254,slow=23,SNR=6.8			Sn	**Sn**	**08 21 40.8**	**-2.1**
ASAJ	**Asahikawa** 0.7nm,0.3s,baz=198,slow=17,SNR=5.2	**6.41**	**4**	Pn	**Pn**	**08 21 07.0**	**+0.9**
ASAJ	0.3nm,0.3s,baz=148,slow=19,SNR=3.0			Sn	**Sn**	**08 22 16.8**	**-2.7**
SONM	**Songino Array** 0.4nm,0.6s,baz=121,slow=10,SNR=3.5	**27.80**	**303**	P	**P**	**08 25 22.1**	**+1.0**
H11N2	**WAKE ISLAND Hy** baz=315,slow=75,SNR=86	**28.11**	**123**	T	T	08 54 45.9	
H11N1	**WAKE ISLAND Hy** baz=315,slow=75,SNR=51	**28.12**	**123**	T	T	08 54 51.1	
H11N3	**WAKE ISLAND Hy** baz=315,slow=75,SNR=43	**28.13**	**123**	T	T	08 54 51.2	
H11S1	**WAKE ISLAND Hy** baz=317,slow=75,SNR=38	**28.85**	**125**	T	T	08 55 45.4	
H11S3	**WAKE ISLAND Hy** baz=317,slow=75,SNR=41	**28.85**	**125**	T	T	08 55 48.0	
H11S2	**WAKE ISLAND Hy** baz=317,slow=75,SNR=40	**28.87**	**125**	T	T	08 55 46.6	
MKAR	**Makanchi Array** 0.2nm,0.6s,baz=79,slow=7.5,SNR=2.4	**44.16**	**302**	P	**P**	**08 27 42.3**	**+1.8**
KURBB	**Kurchatov Arra** 0.3nm,0.3s,baz=82,slow=7.9,SNR=7.3	**45.95**	**308**	P	**P**	**08 27 53.8**	**-0.9**
ILAR	**Eielson Array** 0.4nm,0.8s,baz=264,slow=5.3,SNR=3.5	**48.67**	**33**	P	**P**	**08 28 18.1**	**+2.4**
WRA	**Warramunga Arr** 1.5nm,0.5s,baz=6.1,slow=7.3,SNR=30	**57.80**	**189**	P	**P**	**08 29 22.4**	**-0.9**
ASAR	**Alice Springs** 0.7nm,0.7s,baz=9.4,slow=5.3,SNR=8.1	**61.52**	**188**	P	**P**	**08 29 48.8**	**-0.2**
YKA	**Yellowknife Ar** 0.1nm,0.7s,baz=302,slow=7.0,SNR=3.4	**62.99**	**30**	P	**P**	**08 29 58.4**	**+0.1**

**IDC 13 08:45:

GSI	Gunungsitoli	7.29	101	*e*Pn		Pn	08 48 54.7	-1.1
PALK	Pallekele	10.68	295	Pn		Pn	08 49 40.8	-1.5
	0.6nm,0.3s,baz=119,slow=15,SNR=7.6							
PALK				Sn		Sn	08 51 30.9	-10
	0.8nm,0.3s,baz=322,slow=0.8,SNR=4.4							
PALK	Pallekele	10.68	295	*e*Pn		Pn	08 49 40.8	-1.5
PALK				*e*Sn		Sn	08 51 32.5	-8.2
CM31	Chiang Mai Arr	17.71	28	*e*Pn		P	08 51 16.4	+0.1
CMAR	Chiang Mai Arr	17.71	28	P		Pn	08 51 14.3	-1.4
	0.1nm,0.3s,baz=219,slow=13,SNR=4.4							
H08S3	Diego Garcia H	20.65	240	T		T	09 12 53.6	
	baz=60,slow=75,SNR=14							
H08S2	Diego Garcia H	20.65	240	T		T	09 12 52.4	
	baz=60,slow=75,SNR=15							
H08S1	Diego Garcia H	20.67	240	T		T	09 12 55.5	
	baz=60,slow=75,SNR=15							
H01W3	Cape Leeuwin H	43.55	151	T		T	09 41 20.9	
	baz=326,slow=75,SNR=4.2							
H01W2	Cape Leeuwin H	43.56	151	T		T	09 41 24.2	
	baz=326,slow=75,SNR=3.1							
H01W1	Cape Leeuwin H	43.57	151	T		T	09 41 24.9	
	baz=326,slow=75,SNR=3.2							
KK31	Karatay Array	43.93	339	*e*P		P	08 55 14.8	-0.4
MK01	Makanchi Array	44.42	352	*e*P		P	08 55 19.2	+0.1
MK32	Makanchi Array	44.44	352	*e*P		P	08 55 19.4	+0.1
MKAR	Makanchi Array	44.44	352	P		P	08 55 19.4	+0.1
	1.0nm,0.8s,baz=171,slow=8.2,SNR=6.7							
SONA0	Songino Array	46.99	15	*e*P		P	08 55 41.0	+1.5
SONM	Songino Array	46.99	15	P		P	08 55 41.0	+1.5
	2.4nm,0.5s,baz=196,slow=9.5,SNR=13							
SONA1	Songino Array	47.00	15	*e*P		P	08 55 41.1	+1.5
WRA	Warramunga Arr	48.64	120	P		P	08 55 51.5	-1.2
	0.8nm,0.9s,baz=297,slow=8.7,SNR=8.7							
WRAB	Tennant Creek	48.65	120	*e*P		P	08 55 57.3	+4.6
	7.1nm,1.1s							
WB2	Warramunga Arr	48.65	120	*e*P		P	08 55 52.5	-0.2
KURBB	Kurchatov Arra	48.76	350	P		P	08 55 53.7	+0.7
	0.9nm,0.8s,baz=173,slow=7.7,SNR=6.9							
ZALV	Zalesovo Beam	51.25	356	P		P	08 56 11.9	+0.1
	0.7nm,0.3s,baz=214,slow=5.4,SNR=4.1							
ZALV	Zalesovo Beam	51.25	356	*e*P		P	08 56 12.2	+0.3
ZAA1	Zalesovo Array	51.25	356	*e*P		P	08 56 11.9	+0.1
D08A	Wollman Farm,	124.10	24	*e*PKPdf		PKPdf	09 06 07.4	+0.6
LTX	Lajitas	145.36	22	*e*PKPdf		PKPdf	09 06 47.3	+0.5
TXAR	Lajitas Array	145.36	22	PKPbc		PKPdf	09 06 47.3	+0.5
	0.3nm,0.5s,baz=277,slow=2.1,SNR=3.4							
CDVI	St. Croix	148.17	311	*e*PKPbc		PKPdf	09 06 52.1	+0.4
PB10	IPOC Station P	152.34	220	*ep*PKPdf		PKPdf	09 07 00.8	+2.7

NEIC ***13*** *08:55:02.1±0.0,60.34N×138.87W,h1km,ML3.0(AEIC), ML3.2(OTT),After OTT.*
PGC ***13*** *08:55:02.1,60.34N×138.87W,h1km,ML3.2/6,ML3.2/6, 86km Wsw of Haines Jct., Yt Southern Yukon Territory, Canada*

ISC 13 08:55:01.4±1.1,60.37N±0.02×138.87W±0.02,h1km±10km, n85,σ1§89/131,Southern Yukon Territory

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YUK7	Dusty Glacier	0.40	66	P	Pg	08 55 09.4	+0.3
YUK7				S	Sg	08 55 14.8	+0.6
YUK7	Dusty Glacier	0.40	66	*e*Pg	Pg	08 55 09.4	+0.3
YUK7				*e*Sg	Sg	08 55 14.8	+0.6
BCPM	Bancas Point	0.57	223	*e*Pg	Pg	08 55 12.5	+0.3
BCPM				*e*Sg	Sg	08 55 19.8	+0.2
PNL	Peninsula	0.75	201	P	Pg	08 55 15.7	-0.1
PNL				S	Sg	08 55 25.2	-0.3
PNL	Peninsula	0.75	201	*e*Pg	Pg	08 55 15.7	-0.1
PNL				*e*Pn	Pn	08 55 25.2	+6.0
HYT	Haines Junctio	0.81	55	P	Pg	08 55 16.5	-0.6
HYT				S	Sg	08 55 27.7	+0.1
HYT	Haines Junctio	0.81	55	*e*Pg	Pg	08 55 16.7	-0.4
HYT				S	Sg	08 55 27.7	+0.1
YUK5	Granite Creek	0.91	33	P	Pg	08 55 19.0	0.0
YUK5				S	Sg	08 55 31.4	+0.6
YUK5	Granite Creek	0.91	33	P	Pg	08 55 18.9	0.0
YUK5				S	Sg	08 55 31.6	+0.8
YKU2	Yakutat	0.95	205	*e*Pg	Pn	08 55 20.8	-1.0
SAMH	Samovar Hills	0.98	257	P	Pg	08 55 21.0	+0.8
LOGN	Logan Glacier	1.15	294	P	Pb	08 55 23.1	-1.0
LOGN				S	Sg	08 55 38.6	+0.3
RKAV	Rock Avalanche	1.23	268	P	Pn	08 55 25.1	-0.8
CTGM	Chitina Glacie	1.35	297	P	Pn	08 55 26.9	-0.7
CTGM				S	Sb	08 55 45.0	-0.4
CTGM	Chitina Glacie	1.35	297	*e*Pg	Pn	08 55 26.7	-0.8
CTGM				*e*Sn	Sb	08 55 45.3	-0.1
GRNC	Granite Creek	1.47	286	P	Pn	08 55 27.9	-1.3
BARN	Barnard Glacie	1.54	298	*e*Pn	Pn	08 55 29.9	-0.2
MESA	MESA	1.54	264	P	Pb	08 55 30.9	-0.1
PLBC	Pleasant Camp	1.56	125	Pn	Pn	08 55 29.4	-0.8
PLBC				Sg	Sn	08 55 49.5	-1.5
PLBC	Pleasant Camp	1.56	125	*e*Pn	Pn	08 55 29.3	-0.9
PLBC				*e*Sn	Sn	08 55 49.5	-1.5
BAGL	Bagley Icefiel	1.60	276	*e*Pn	Pn	08 55 30.2	-0.5
ISLE	Juniper Island	1.73	279	P	Pn	08 55 32.0	-0.7
KIAG	Kiagna River	1.81	289	P	Pn	08 55 33.6	-0.2
BALM	Baldy	1.83	293	Pn	Pn	08 55 34.5	+0.4
BALM				Sg	Sb	08 55 58.9	-0.4
BALM	Baldy	1.83	293	*e*Pn	Pn	08 55 34.5	+0.4
BALM				*e*Pg	Pb	08 55 35.0	-0.8
BALM				*e*Sn	Sb	08 55 58.9	-0.4
BALM				*e*Sg	Sn	08 55 59.3	+1.3
KULT	Kultieth River	1.92	268	P	Pb	08 55 36.6	-0.6
WHY	Whitehorse	2.00	80	Pn	Pn	08 55 36.8	+0.5
WHY				Sg	Sb	08 56 03.8	0.0
WHY	Whitehorse	2.00	80	*e*Pn	Pn	08 55 36.8	+0.5
WHY				*e*Sg	Sb	08 56 03.8	0.0
SKAG	Skagway	2.00	116	*e*Pn	Pb	08 55 37.8	-0.8
SKAG				*e*Sn	Sg	08 56 04.8	-1.0
KHIT	Khitrov Hills	2.17	274	P	Pb	08 55 40.1	-1.5
MCARA	McCarthy VSAT	2.27	298	P	Pb	08 55 41.9	-1.3
VRDI	Verde Repeater	2.41	293	P	Pn	08 55 42.9	+0.8
SUCK	Suckling Hills	2.47	265	P	Pn	08 55 43.6	+0.9
NICHA	Nichawak Mount	2.54	269	P	Pn	08 55 45.4	+1.7
BESE	Bessie Mountai	2.72	129	Pn	Pn	08 55 45.5	-0.8
BESE				Pg	Pb	08 55 49.4	-1.5
BESE				Sg	Sb	08 56 24.3	-0.4
BESE	Bessie Mountai	2.72	129	*e*Pn	Pb	08 55 49.8	-1.1
BESE				*e*Sn	Sb	08 56 26.2	+1.4
RAGM	Ragged Mountai	2.88	273	*e*Pn	Pn	08 55 50.4	+2.0
RAGM				*e*Sn	Sb	08 56 28.1	-1.3
BMRM	Bremner River	2.88	285	*e*Pn	Pn	08 55 49.7	+1.2
BCA3	Beaver Creek A	3.04	334	*e*Pn	Pn	08 55 52.0	+1.4
EYAK	Cordova Ski Ar	3.41	276	*e*Pn	Pn	08 55 57.6	+2.0
MENT	Mentasta	3.46	326	*e*Pn	Pb	08 56 00.2	-3.3
DIV	Divide	3.47	286	Pn	Pn	08 55 54.7	-1.8
DIV				Sg	Sn	08 56 40.8	+2.5
DIV	Divide	3.47	286	*e*Pn	Pn	08 55 56.8	+0.3
KLU	Klutina	3.62	291	*e*Pn	Pn	08 56 00.5	+1.9
HARP	HAARP	3.65	307	Pn	Pn	08 56 00.5	+1.6
HARP				Pg	Pb	08 56 06.9	+0.2
HARP				Sg	Sg	08 57 00.2	+1.7
HARP	HAARP	3.65	307	*e*Pn	Pn	08 56 02.2	+3.2
HARP				*e*Pg	Pb	08 56 09.4	+2.8
HARP				Sg	Sg	08 57 00.2	+1.7
DAWY	Dawson	3.72	356	Pn	Pn	08 56 02.0	+2.1
DAWY				Sg	Sg	08 56 58.4	-2.3
DAWY	Dawson	3.72	356	*e*Pn	Pn	08 56 02.2	+2.3
DAWY				*e*Sg	Sg	08 57 01.0	+0.2
SIT	Sitka	3.80	149	*e*Pg	Pb	08 56 10.9	+1.7
PAX	Paxson	4.09	313	Pn	Pn	08 56 07.1	+2.1
PAX				Pg	Pb	08 56 16.1	+2.0
PAX				Sg	Sg	08 57 09.5	-3.0
PAX	Paxson	4.09	313	*e*Pn	Pn	08 56 07.3	+2.3
PAX				*e*Pg	Pg	08 56 17.9	-1.8
PAX				*e*Sg	Sg	08 57 10.1	-2.5
DOT	Dot Lake	4.10	326	Pn	Pn	08 56 05.2	0.0
DOT				Pg	Pb	08 56 17.2	+2.9
DOT				Sg	Sg	08 57 11.2	-1.9
DOT	Dot Lake	4.10	326	*e*Pn	Pn	08 56 06.3	+1.2
DOT				*e*Pg	Pg	08 56 19.0	-0.9
DOT				*e*Sg	Sg	08 57 12.2	-0.8
SCRK	Sand Creek	4.34	329	*e*Pn	Pn	08 56 09.6	+1.1
SCM	Sheep Creek Mo	4.36	293	*e*Pn	Pn	08 56 10.0	+1.2
RIDG	Independ'e Rid	4.40	323	*e*Pn	Pn	08 56 12.4	+3.2
RIDG				*e*Pg	Pg	08 56 26.2	+0.6
EGAK	Eagle	4.55	348	*e*Pn	Pn	08 56 13.5	+2.2
EGAK				*e*Pg	Pg	08 56 27.9	-0.6
SML	Sawmill	4.81	292	*e*Pn	Pn	08 56 16.3	+1.4
SML				*e*Pg	Pb	08 56 24.1	-2.4
DHY	Denali Highway	4.87	308	*e*Pn	Pn	08 56 17.8	+1.9
DHY				*e*Pg	Pb	08 56 30.3	+2.8
DLBC	Dease Lake	4.92	109	Pn	Pn	08 56 18.0	+1.6
DLBC				Pg	Pb	08 56 30.0	+1.7
DLBC				Sg	Sb	08 57 33.1	+5.3
DLBC	Dease Lake	4.92	109	*e*Pn	Pn	08 56 19.0	+2.6
DLBC				*e*Pg	Pb	08 56 30.6	+2.3
DLBC				*e*Sg	Sg	08 57 34.7	-4.5
PMR	Palmer	5.14	288	*e*Pn	Pn	08 56 21.7	+2.3
WRAK	Wrangell Islan	5.24	136	*e*Pn	Pn	08 56 20.0	-0.7
	4.3nm,0.3s						
MCK	McKinley	5.81	310	*e*Pn	Pn	08 56 29.6	+1.0
SUA	Susitna One	5.89	286	*e*Pn	Pn	08 56 32.6	+2.7
BRLK	Bradley Lake	6.05	269	*e*Pn	Pn	08 56 35.1	+3.2
TRF	Thorofare Moun	6.21	305	*e*Pn	Pn	08 56 38.5	+4.2
KTH	Kantishna Hill	6.52	305	*e*Pn	Pn	08 56 43.4	+5.1
PPLA	Purkeypile	6.83	298	*e*Pn	Pn	08 56 45.3	+2.6
PPLA				*e*Lg	Lg	08 58 39.0	
FYU	Fort Yukon	6.84	338	*e*Pn	Pn	08 56 45.7	+3.1
FYU				*e*Lg	Lg	08 58 39.2	
CAST	Castle Rocks	6.95	302	*e*Pn	Pn	08 56 45.9	+1.7
CAST				*e*Lg	Lg	08 58 44.1	
KDAK	Kodiak Island	7.53	256	*e*Pn	Pn	08 56 53.1	+1.0
OHAK	Old Harbor	8.12	253	*e*Pn	Pn	08 57 00.2	-0.1
FNBB	Fort Nelson	8.17	94	Sg	Sb	08 59 11.7	+10
FNBB	Fort Nelson	8.17	94	Sg	Sb	08 59 11.7	+10
INK	Inuvik	8.30	14	Pn	Pn	08 57 07.0	+4.4
INK				Sn	Sn	08 58 32.0	-4.8
INK				Sg	Sg	08 59 20.9	-6.5
INK	Inuvik	8.30	14	*e*Pn	Pn	08 57 04.1	+1.4
INK				*e*Sg	Sg	08 59 29.1	+1.7
IM3	Indian Mountai	8.76	316	*e*Pn	Pn	08 57 15.4	+6.5
TOLK	Toolik Lake Re	9.48	336	*e*Pn	Pn	08 57 23.3	+4.4
DHRN	Dharma Camp	10.84	44	Pn	Pn	08 57 38.4	+0.9
YKW3	Yellowknife Ar	11.78	69	Pn	Pn	08 57 47.9	-2.4
YKW3	Yellowknife Ar	11.78	69	Pn	Pn	08 57 47.9	-2.4
HPLN	Hepburn Lake,	12.09	50	Pn	Pn	08 57 54.5	-0.1
KUKN	Kugluktuk,NWT	12.72	44	Pn	Pn	08 58 03.6	+0.4
KUKN	Kugluktuk,NWT	12.72	44	Pn	Pn	08 58 03.5	+0.4

ATA ***13*** *08:58:04.8±1.5,38.61N×43.50E,h40km±14km,ML2.7, MW2.8*
ISK ***13*** *08:58:07.8,38.69N×43.21E,h20km,ML2.2/4*
ISCJB ***13*** *08:58:08.9±0.7,38.64N±0.04×43.23E±0.05,h27km±6km, Error ellipse: s-maj=8.0km s-min=5.8km az=39.5*
CSEM ***13*** *08:58:08.5±0.2,38.65N×43.23E,h20km,ML2.2,Error ellipse: s-maj=5.7km s-min=5.4km az=138.0*
DDA ***13*** *08:58:09.5,38.68N×43.20E,h7km,Ml2.6*

ISC 13 08:58:08.9±0.8,38.70N±0.03×43.23E±0.02,h17km±7km, n26,σ1§65/46,Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VANB	Van	0.16	128	PG	Pg	08 58 13.7	+0.4
VANB				SG	Sb	08 58 18.3	+1.7
VANB	Van	0.16	128	*e*Pg	Pg	08 58 13.7	+0.4
VANB				*e*Sg	Sb	08 58 18.3	+1.7
TVAN	Van	0.22	140	*i* P	Pg	08 58 13.9	-0.3
TVAN				*i* S	Sg	08 58 18.2	+0.4
TVAN	Van	0.22	140	P	Pg	08 58 13.9	-0.3
TVAN				S	Sg	08 58 18.2	+0.4
VMUR	Van-Muradiye	0.40	42	*i* P	Pb	08 58 17.7	+0.1
VMUR				*i* S	Sb	08 58 25.1	+1.6
VMUR	Van-Muradiye	0.40	42	P	Pb	08 58 17.7	+0.1
VMUR				S	Sb	08 58 25.1	+1.6
GEVA	Gevas	0.40	199	*e*P	Pg	08 58 16.4	-0.9
GEVA				*e*S	Sg	08 58 23.5	+0.6
GEVA				IAML		08 58 26.5	
	comp=Z,50nm,0.5s						
GEVA	Gevas	0.40	199	*i* P	Pg	08 58 16.2	-1.1
GEVA				*i* S	Sg	08 58 23.9	+0.9
GEVA	Gevas	0.40	199	P	Pg	08 58 16.2	-1.1
GEVA				S	Sg	08 58 23.9	+0.9
ADCV	BITLIS_Adilcev	0.41	286	*i* P	Pg	08 58 17.2	-0.2
ADCV				*i* S	Sb	08 58 23.9	+0.1
ADCV	BITLIS_Adilcev	0.41	286	P	Pg	08 58 17.2	-0.2
ADCV				S	Sb	08 58 23.9	+0.1
CLDR	Caldiran	0.70	50	PG	Pg	08 58 21.8	-0.9
CLDR				SG	Sb	08 58 32.9	+0.7
CLDR	Caldiran	0.70	50	*e*Pg	Pg	08 58 21.8	-0.9
CLDR				*e*Sg	Sb	08 58 32.9	+0.7
TUTA	Tutak	0.78	336	*e*P	Pg	08 58 23.6	-0.5
TUTA	Tutak	0.78	336	*i* P	Pg	08 58 23.6	-0.5
TUTA	Tutak	0.78	336	P	Pg	08 58 23.6	-0.5
AGRB	Hanur-Agry	0.90	348	PG	Pb	08 58 25.9	-0.3
AGRB				SG	Sn	08 58 39.1	-0.5
AGRB	Hanur-Agry	0.90	348	*e*Pg	Pb	08 58 25.9	-0.3
AGRB				*e*Sg	Sn	08 58 39.1	-0.5
GURO	Guroymak-BITLI	0.95	262	PG	Pb	08 58 26.0	-0.9
GURO	Guroymak-BITLI	0.95	262	*e*Pg	Pb	08 58 26.0	-0.9
EKAR	Karacoban	1.06	302	*e*P	Pg	08 58 29.8	+0.2
EKAR				*e*S	Sn	08 58 49.0	+5.2
EKAR				IAML		08 58 52.5	
	comp=Z,4.0nm,0.4s						
EKAR	Karacoban	1.06	302	*i* P	Pg	08 58 30.1	+0.5
EKAR				*i* S	Sn	08 58 49.3	+5.5
EKAR	Karacoban	1.06	302	P	Pg	08 58 30.1	+0.5
EATA	Eleskirt	1.30	334	*e*P	Pn	08 58 31.7	-0.8
EATA				*e*S	Sg	08 58 52.4	+1.3
EATA	Eleskirt	1.30	334	*i* P	Pn	08 58 28.6	-3.9
EATA				*i* S	Sg	08 58 51.6	+0.6
EATA	Eleskirt	1.30	334	P	Pn	08 58 28.6	-3.9
EATA				S	Sg	08 58 51.6	+0.6

DJA ***13*** *08:58:09.0±2.1,5°N±14°×9°5E±1°3,h210km±20km,M4.3/7, mb4.7/3,MLv4.1/7*
IDC ***13*** *08:58:10.1±2.0,2°.15N×93°.92E,h0km,mb3.4/3,mb1 3.8/5, mb1mx3.3/70,mbtmp3.6/5,ML3.7/2,MS3.3/3,Ms1 3.3/3, ms1mx2.6/42,Error ellipse: s-maj=59.2km s-min=26.0km az=57.0*

ISC 13 08:58:11.1±1.9,3°.5N±0°.1×94°.7E±0°.1,h10km,n23, σ2§32/11,mb3.5/3,MS3.1/3,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MLSI	Meulaboh, Aceh	1.85	66	P	Pn	08 58 42.6	-0.3
BSI	Banda Aceh	2.06	16	P	Pn	08 58 38.8	-7.0
TPTI		2.48	96	P	Pn	08 58 49.8	-1.7
LHMI	Lhok Sumawe	2.81	53	P	Pn	08 58 44.5	-12
KCSI	Kotacane, Aceh	3.05	90	P	Pn	08 58 56.2	-3.3
GSI	Gunungsitoli	3.61	127	P	Pn	08 59 11.7	-3.3
TSI	Tuntungan	3.85	90	P	Pn	08 58 59.5	-11
PSI	Prapat	4.26	99	Pn	Pb	08 59 27.4	+1.1
	3.4nm,0.3s,baz=281,slow=6.9,SNR=17						
PSI				Sn	Sb	09 00 20.9	+2.9
	1.9nm,0.3s,baz=133,slow=19,SNR=3.3						
PBSI	Pulau Batu	5.03	135	P	Pn	08 59 31.5	+4.9
MNSI	Mandailing Nat	5.56	119	P	Pn	08 59 34.0	0.0
SISI	Saibi	6.50	138	P	Pn	08 59 48.8	+1.9
PALK	Pallekele	14.44	286	Sn	Sn	09 03 55.7	-20
	baz=114,slow=13,SNR=2.6						
CMAR	Chiang Mai Arr	15.42	15	Pn	P	09 02 08.1	+15
	0.1nm,0.3s,baz=212,slow=12,SNR=19						
H08S2	Diego Garcia H	24.79	243	T	T	09 28 09.5	
	baz=61,slow=75,SNR=8.3						
H08S3	Diego Garcia H	24.79	243	T	T	09 28 19.1	
	baz=61,slow=75,SNR=7.6						
H08S1	Diego Garcia H	24.80	243	T	T	09 28 16.4	
	baz=61,slow=75,SNR=7.2						
MKAR	Makanchi Array	44.44	348	P	P	09 06 32.4	+10
	0.6nm,0.6s,baz=167,slow=8.4,SNR=6.5						
JNU	Nakatsue	44.82	45	LR	LR	09 28 37.1	
	comp=Z,23nm,18.3s,baz=347,slow=39						
WRA	Warramunga Arr	45.36	123	P	P	09 06 29.7	-0.4
	0.5nm,0.8s,baz=298,slow=8.6,SNR=2.8						
KSRS	Korea Array	45.46	38	LR	LR	09 26 52.8	
	comp=Z,14nm,18.3s,baz=143,slow=37						
ASAR	Alice Springs	46.76	127	P	P	09 06 40.8	-0.3
	0.3nm,0.6s,baz=294,slow=7.5,SNR=3.6						
ARU	Arti	60.11	338	LR	LR	09 36 34.3	
	comp=Z,62nm,19.9s,baz=164,slow=38						
TXAR	Lajitas Array	142.89	27	PKP	PKPdf	09 17 48.0	+2.1
	0.1nm,0.7s,baz=234,slow=0.8,SNR=3.1						

MAN 13 09:03:03,11°.37N×124°.48E,h49km,mb3.5,ML2.2,MS1.6, 1C,Leyte

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OCLP	Ormoc	0.34	158	*e*P	Pn	09 03 14.8	+2.4
OCLP				*e*S	Sn	09 03 23.0	+3.8
PLP	Palo	0.53	113	*e*P	Pn	09 03 17.2	+2.6
PLP				*i* S	Sn	09 03 26.5	+3.6
CNP	Catarman	1.15	9	*e*P	Pn	09 03 24.0	+1.3

SJA 13 09:04:01.3±0.3,31°.69S×64°.91W,h16km±15km,ML2.4, MW3.5,Cordoba Province

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TCA	Tanti	0.44	37	*i* P	Pb	09 04 10.6	-0.2
TCA				*i* S	Sb	09 04 17.3	+0.2
TCA				IAML		09 04 18.6	
	comp=Z,114nm,0.4s						
ACAN	Cantantal	2.03	253	*e*P	Pb	09 04 37.0	-0.8
ACAN				*e*S	Sb	09 05 03.7	+0.8
RTLL	Cerro Villicun	3.07	276	IAML		09 05 33.3	
	comp=Z,22nm,0.4s						
RTCV	Cerro Valdivia	3.10	266	*e*P	Pn	09 04 50.8	+1.2
AMOG	MOGNA	3.16	283	*i* P	Pn	09 04 53.3	+2.8
AMOG				*e*S	Sb	09 05 32.6	-2.9
RTLS	Leoncito	3.74	267	IAML		09 05 56.9	
	comp=Z,7.8nm,0.3s						

KOLA ***13*** *09:33:05.6,67.64N×34.12E,h0km*
ISCJB ***13*** *09:33:06.9±1.3,67.63N±0.05×33.7E±0.2,h0km,Error ellipse: s-maj=12.1km s-min=6.6km az=10.4*
HEL ***13*** *09:33:06.7±0.5,67.71N×34.08E,h0km,ML2.7,Explosion*
CSEM ***13*** *09:33:08.4±0.6,67.68N×33.61E,h2km,ML2.7,Error ellipse: s-maj=13.4km s-min=7.7km az=95.0,Mining explosion.*
NAO ***13*** *09:33:11.7±2.0,67.68N×33.32E,ML3.4*

ISC 13 09:33:08.0±1.6,67.69N±0.04×33.57E±0.08,h0km,n24, σ1§88/41,Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
APA	Apatity	0.14	208	P	Pg	09 33 10.6	0.0
APA				S	Sg	09 33 14.3	+2.0
APA0	Apatity Array	0.24	249	P	Pg	09 33 13.3	+0.8
APA0				S	Sb	09 33 18.9	+3.3
VRF	Varrio	1.51	274	*e*P	Pb	09 33 36.2	-0.7
VRF				*e*S	Sn	09 33 58.8	+2.1
VRF	Varrio	1.51	274	*e*P	Pb	09 33 36.2	-0.7
VRF				*e*S	Sn	09 33 58.8	+2.1
VRF				MSG		09 34 05.1	
	comp=Z,84nm,0.2s						
KU6	Riekki	2.21	223	*e*P	Pn	09 33 46.5	+0.5
KU6				*e*Sg	Sg	09 34 19.6	+0.6
	comp=Z,25nm,0.2s						
KU6	Riekki	2.21	223	*e*P	Pn	09 33 46.5	+0.5
KU6				*e*SG	Sg	09 34 19.6	+0.6
KU6				MSG		09 34 21.7	
	comp=Z,25nm,0.2s						
MSF	Maaselka	2.53	227	*e*P	Pn	09 33 52.0	+1.7
MSF				*e*Sg	Sg	09 34 29.3	+0.1
MSF	Maaselka	2.53	227	*e*P	Pn	09 33 52.0	+1.7
MSF				*e*SG	Sg	09 34 29.3	+0.1
SGF	Sodankyl	2.71	268	*e*PB	Pb	09 33 56.5	-0.9
RNF	Rovaniemi	3.14	253	*e*P	Pn	09 33 58.9	+0.2
RNF	Rovaniemi	3.14	253	*e*P	Pn	09 33 58.9	+0.2
KEV	Kevo	3.17	314	*e*P	Pn	09 34 00.2	+1.2
KEV	Kevo	3.17	314	*e*P	Pn	09 34 00.2	+1.2
HEF	Hetta	3.79	286	*e*P	Pn	09 34 08.6	+1.0
HEF				*e*S	Sn	09 34 54.3	+1.5
HEF				*e*Sg	Sg	09 35 09.8	+0.2
	comp=Z,18nm,0.2s						
HEF	Hetta	3.79	286	*e*P	Pn	09 34 08.6	+1.0
HEF				*e*S	Sn	09 34 54.3	+1.5
HEF				*e*SG	Sg	09 35 09.8	+0.2
HEF				MSG		09 35 13.0	
	comp=Z,18nm,0.2s						
FIA0	FINESS Array S	7.05	211	Pn	Pn	09 34 53.3	+1.0
	baz=22,slow=14						
FIA0				Sn	Sn	09 36 11.9	-1.0
	baz=38,slow=28						
FIA0				Lg	Lg	09 36 45.4	
	baz=28,slow=28						
FIA0	FINESS Array S	7.05	211	Pn	Pn	09 34 53.3	+1.0
	SNR=7.4						
FIA0				Sn	Sn	09 36 11.9	-1.0
FIA0				Lg	Lg	09 36 45.3	
	SNR=6.2						
FIA0	FINESS Array S	7.05	211	Pn	Pn	09 34 53.3	+1.0
	baz=22,slow=

CRIN	**San Cristobal**	**0.78**	**60**	*e*P	**Pn**	**09 46 06.4**	**+0.8**
CRIN				*e*S	**Sn**	**09 46 18.7**	**+1.9**
TELN	**Telica**	**0.94**	**72**	*e*P	**Pn**	**09 46 07.3**	**-0.4**
CNCH	**Conchagua**	**0.96**	**355**	*e*P	**Pn**	**09 46 08.3**	**+0.4**
CNCH				*e*S	**Sn**	**09 46 21.3**	**+0.3**
LCND	**La Ca˜–ada**	**1.00**	**352**⇓	*e*P	**Pn**	**09 46 08.8**	**+0.4**
LCND				IAML		09 46 25.4	
	comp=Z,5μm,0.2s						
CNGN	**Cerro Negro**	**1.04**	**80**	*e*P	**Pn**	**09 46 07.8**	**-1.1**
CNGN				*e*S	**Sn**	**09 46 22.3**	**-0.4**
CNGN				AML	AML	09 46 24.8	
	comp=E,632nm,0.1s						
COPN	**Copaltepe**	**1.14**	**97**	*e*P	**Pn**	**09 46 09.6**	**-0.6**
COPN				AML	AML	09 46 24.6	
	comp=Z,885nm,0.2s						
MOMN	**Momotombo**	**1.18**	**85**	*e*P	**Pn**	**09 46 10.4**	**-0.4**
VSM	**San Miguel**	**1.22**	**335**	*e*P	**Pn**	**09 46 12.3**	**+0.7**
LCY	**Lacayo**	**1.23**	**334**	*e*P	**Pn**	**09 46 12.0**	**+0.5**
PACA	**Pacayal**	**1.28**	**334**	*e*P	**Pn**	**09 46 12.9**	**+0.7**
TECA	**Tecapa**	**1.39**	**328**⇓	*e*P	**Pn**	**09 46 13.8**	**+0.2**
XAVN	**Gruta Xavier**	**1.40**	**97**	*e*P	**Pn**	**09 46 13.5**	**-0.2**
BRAN	**Las Pilas**	**1.42**	**73**	*e*P	**Pn**	**09 46 13.5**	**-0.5**
BRAN				*e*S	**Sn**	**09 46 31.0**	**-0.7**
TISN	**Laguna Tiscapa**	**1.46**	**97**	*e*P	**Pn**	**09 46 13.2**	**-1.2**
MGAN	**Managua**	**1.48**	**96**	*e*P	**Pn**	**09 46 14.2**	**-0.5**
MGAN				*e*S	**Sn**	**09 46 32.2**	**-0.8**
CAHU	**Cacacuatique**	**1.52**	**343**	*e*P	**Pn**	**09 46 16.5**	**+1.0**
CAHU				*e*S	**Sn**	**09 46 36.1**	**+1.7**
ESTN	**Estel**	**1.56**	**60**	*e*P	**Pn**	**09 46 15.9**	**0.0**
ESTN				*e*S	**Sn**	**09 46 35.8**	**+0.7**
SNVI	**San Vicente**	**1.67**	**321**	*e*P	**Pn**	**09 46 17.9**	**+0.3**
LFRS	**El Faro**	**1.83**	**316**	*e*P	**Pn**	**09 46 19.9**	**+0.3**
MATN	**Matagalpa**	**1.88**	**71**	*e*P	**Pn**	**09 46 19.8**	**-0.5**
LBRS	**Las Brisas**	**1.90**	**318**	*e*P	**Pn**	**09 46 21.3**	**+0.8**
LFU	**La Fuente**	**1.95**	**317**	*e*P	**Pn**	**09 46 22.0**	**+0.8**
OPAM	**San Salvador**	**1.99**	**315**	*e*P	**Pn**	**09 46 22.2**	**+0.4**
OPAM				IAML		09 46 51.5	
	comp=Z,796nm,0.2s						
SNET	**Serv Nac Est T**	**1.99**	**314**	*e*P	**Pn**	**09 46 22.0**	**+0.2**
SNET				IAML		09 46 47.7	
	comp=Z,709nm,0.2s						
UEES	**San Salvador**	**2.02**	**314**	*e*P	**Pn**	**09 46 22.6**	**+0.4**
UEES				IAML		09 46 51.0	
	comp=Z,886nm,0.2s						
BOQS	**Boqueron**	**2.06**	**314**	*e*P	**Pn**	**09 46 23.5**	**+0.7**
BOQS				*e*S	**Sn**	**09 46 48.0**	**+0.5**
CONN	**Concepcion**	**2.21**	**110**	*e*P	**Pn**	**09 46 23.9**	**-0.7**
SBLS	**San Blas**	**2.38**	**310**	*e*P	**Pn**	**09 46 28.1**	**+1.0**
CRZ1	**La Cruz**	**2.41**	**121**	*e*S	**Sn**	**09 46 53.9**	**-1.9**
GBS3	**Finca Las Im˜¡**	**2.71**	**124**	*e*P	**Pn**	**09 46 31.3**	**-0.3**
NY14	**Universidad de**	**2.73**	**127**	*e*P	**Pn**	**09 46 32.5**	**+0.7**
LAPC	**Finca la Perla**	**2.74**	**124**	*e*P	**Pn**	**09 46 32.0**	**0.0**
BUEV	**Buena Vista**	**2.74**	**123**	*e*P	**Pn**	**09 46 32.1**	**0.0**
LIM1	**Limonal**	**2.92**	**123**	*e*P	**Pn**	**09 46 34.5**	**-0.1**
MESS	**Mesas**	**2.95**	**122**⇑	P	**Pn**	**09 46 34.7**	**-0.2**
COLC	**Colonia**	**2.98**	**123**	*e*P	**Pn**	**09 46 34.9**	**-0.4**
CUI	**Cuipilapa**	**3.02**	**123**	*e*P	**Pn**	**09 46 35.5**	**-0.3**
CUI				*e*S	**Sn**	**09 47 09.1**	**-1.8**
ACAL	**Aguas Claras**	**3.14**	**122**	*e*P	**Pn**	**09 46 37.4**	**-0.1**
AMAS	**Alto Masis**	**3.19**	**122**	*e*P	**Pn**	**09 46 38.6**	**+0.5**
ESPN	**Las Esperanzas**	**3.37**	**92**	*e*P	**Pn**	**09 46 41.3**	**+0.7**
JTS	**JuntasAbangare**	**3.40**	**126**	Pn	**Pn**	**09 46 40.9**	**-0.1**
	comp=Z,1.4nm,0.3s,baz=179,slow=22,SNR=22						
JTS				Pg		09 46 50.1	
	comp=Z,10nm,0.3s,baz=6.1,slow=19,SNR=27						
JTS				Sn	**Sn**	**09 47 16.6**	**-3.5**
	comp=Z,8.3nm,0.3s,baz=310,slow=21,SNR=10						
JTS				LR	LR	09 47 44.4	
	comp=Z,59nm,20.9s,baz=13,slow=34						
JTS	**JuntasAbangare**	**3.40**	**126**	*e*P	**Pn**	**09 46 41.4**	**+0.5**
CEDE	**Laguna Cede˜–o**	**3.49**	**121**	*e*P	**Pn**	**09 46 42.5**	**+0.2**
APG	**El Apazote**	**3.76**	**316**	Pn	**Pn**	**09 46 47.5**	**+1.4**
	comp=Z,0.3nm,0.3s,baz=22,slow=19,SNR=5.1						
APG				LR	LR	09 48 06.8	
	comp=Z,23nm,20.4s,baz=144,slow=36						
SRA1	**San Ram˜‡n**	**3.90**	**124**	*e*P	**Pn**	**09 46 50.2**	**+2.3**
SRA1				*e*S	**Sn**	**09 47 31.7**	**-0.8**
CGA2	**Cerro Gallo 2**	**3.95**	**125**	*e*P	**Pn**	**09 46 49.4**	**+0.8**
CGA2				*e*S	**Sn**	**09 47 32.6**	**-1.1**
LCR2	**La Lucha 2**	**4.48**	**124**	*e*P	**Pn**	**09 46 57.8**	**+1.8**
LCR2				*e*S	**Sn**	**09 47 46.0**	**-0.9**
URSC	**Urasca**	**4.61**	**122**⇑	*e*P	**Pn**	**09 47 01.1**	**+3.3**
URSC				*e*S	**Sn**	**09 47 51.4**	**+1.3**
BUS	**Buena Vista**	**4.78**	**125**	*e*P	**Pn**	**09 47 02.2**	**+1.9**
EDLM	**Las Mercedes**	**5.08**	**126**	*e*P	**Pn**	**09 47 05.5**	**+1.5**
DRK0	**Durika**	**5.36**	**124**	*e*P	**Pn**	**09 47 09.1**	**+1.1**
DRK0				*e*S	**Sn**	**09 48 06.5**	**-2.0**
EDPN	**Palmar Norte**	**5.37**	**128**	*e*P	**Pn**	**09 47 09.4**	**+1.4**
CMIG	**Matias Romero**	**8.38**	**305**	Pn	**Pn**	**09 47 50.5**	**+1.2**
	comp=Z,0.3nm,0.3s,baz=152,slow=13,SNR=6.0						
CMIG				Sn	**Sn**	**09 49 17.1**	**-5.4**
	comp=Z,0.2nm,0.3s,baz=109,slow=18,SNR=2.7						
TXAR	**Lajitas Array**	**22.50**	**321**	P	**P**	**09 50 45.7**	**+0.4**
	comp=Z,4.2nm,0.7s,baz=139,slow=10.0,SNR=46						
PDAR	**Pinedale Array**	**35.76**	**332**	P	**P**	**09 52 43.9**	**-0.2**
	comp=Z,0.3nm,0.6s,baz=118,slow=12,SNR=4.9						
YKA	**Yellowknife Ar**	**53.67**	**345**	P	**P**	**09 55 04.1**	**-1.8**
	comp=Z,0.3nm,0.6s,baz=137,slow=7.9,SNR=12						
ILAR	**Eielson Array**	**66.03**	**336**	P	**P**	**09 56 28.7**	**-2.0**
	comp=Z,0.2nm,0.6s,baz=130,slow=6.3,SNR=5.1						
ASAR	**Alice Springs**	**138.95**	**248**	PKP	**PKPdf**	**10 05 14.2**	**+3.0**
	comp=Z,0.1nm,0.4s,baz=91,slow=2.0,SNR=3.2						
WRA	**Warramunga Arr**	**138.95**	**254**	PKP	**PKPdf**	**10 05 14.2**	**+3.0**
	comp=Z,0.2nm,0.6s,baz=91,slow=2.5,SNR=4.8						

DDA ***13*** *09:46:05.7, 38˚.40N×34˚.30E, h7km, Ml2.5*
CSEM ***13*** *09:46:06.4±0.3, 38˚.43N×34˚.28E, h5km, ML2.5, Error ellipse: s-maj=5.5km s-min=5.4km az=136.0*
ISK ***13*** *09:46:06.1, 38˚.48N×34˚.30E, h11km, ML2.2/5*

ISC 13 09:46:06.1±1.1, 38˚.41N±0˚.03×34˚.28E±0˚.02, h4km±10km, n26, σ0˚60/42, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKSY	**AKSARAY - Alti**	**0.47**	**301**	*i* P	**Pg**	**09 46 15.0**	**-0.2**
AKSY				*i* S	**Sg**	**09 46 21.7**	**+0.4**
AKSY	**AKSARAY - Alti**	**0.47**	**301**	P	**Pg**	**09 46 15.0**	**-0.2**
AKSY				S	**Sg**	**09 46 21.7**	**+0.4**
AVNS	**Nevsehir-Avano**	**0.60**	**48**	*i* P	**Pg**	**09 46 17.5**	**-0.1**
AVNS				*i* S	**Sg**	**09 46 25.8**	**+0.5**
AVNS	**Nevsehir-Avano**	**0.60**	**48**	P	**Pg**	**09 46 17.5**	**-0.1**
AVNS				S	**Sg**	**09 46 25.8**	**+0.5**
SULT	**Sultanhani-AKS**	**0.64**	**251**	PG	**Pb**	**09 46 19.5**	**-0.3**
SULT				SG	**Sb**	**09 46 29.7**	**+0.6**
SULT	**Sultanhani-AKS**	**0.64**	**251**	*e*Pg	**Pb**	**09 46 19.5**	**-0.3**
SULT				*e*Sg	**Sb**	**09 46 29.7**	**+0.6**
SERE	**Sereflikochisa**	**0.77**	**314**	PG	**Pg**	**09 46 20.7**	**-0.2**
SERE				SG	**Sg**	**09 46 31.4**	**+0.4**
SERE	**Sereflikochisa**	**0.77**	**314**	*e*Pg	**Pg**	**09 46 20.7**	**-0.2**
SERE				*e*Sg	**Sg**	**09 46 31.4**	**+0.4**
KERG	**Konya-Eregli**	**1.00**	**187**	*i* P	**Pg**	**09 46 24.5**	**-0.8**
KERG				*i* S	**Sn**	**09 46 42.0**	**+0.3**
KERG	**Konya-Eregli**	**1.00**	**187**	P	**Pg**	**09 46 24.5**	**-0.8**
KERG				S	**Sn**	**09 46 42.0**	**+0.3**
CDAG	**Cicekdag**	**1.21**	**3**	*i* P	**Pg**	**09 46 28.9**	**-0.5**
CDAG				*i* S	**Sn**	**09 46 46.5**	**-0.3**
CDAG	**Cicekdag**	**1.21**	**3**	P	**Pg**	**09 46 28.9**	**-0.5**
CDAG				S	**Sn**	**09 46 46.5**	**-0.3**
KARA	**Karaisali**	**1.30**	**152**	PN	**Pg**	**09 46 31.6**	**+0.5**
KARA	**Karaisali**	**1.30**	**152**	*e*Pn	**Pg**	**09 46 31.6**	**+0.5**
KKUL	**Konya-Kulu**	**1.31**	**306**	*i* P	**Pb**	**09 46 31.1**	**-0.2**
KKUL				*i* S	**Sn**	**09 46 49.9**	**+0.7**
KKUL	**Konya-Kulu**	**1.31**	**306**	P	**Pb**	**09 46 31.1**	**-0.2**
KKUL				S	**Sn**	**09 46 49.9**	**+0.7**
YOZ	**Yozgat**	**1.47**	**33**	PN	**Pn**	**09 46 32.6**	**-0.9**
YOZ	**Yozgat**	**1.47**	**33**	*e*Pn	**Pn**	**09 46 32.6**	**-0.9**
LADK	**Ladik-KONYA**	**1.52**	**263**	PN	**Pn**	**09 46 33.6**	**-0.5**
LADK	**Ladik-KONYA**	**1.52**	**263**	*e*Pn	**Pn**	**09 46 33.6**	**-0.5**
KOZT	**Kozan**	**1.54**	**127**	PN	**Pb**	**09 46 34.6**	**-0.5**
KOZT	**Kozan**	**1.54**	**127**	*e*Pn	**Pb**	**09 46 34.6**	**-0.5**
CUSAR	**Sarkisla-SIVAS**	**1.83**	**56**	*i* P	**Pg**	**09 46 40.6**	**-0.7**
CUSAR				*i* S	**Sg**	**09 47 06.9**	**+1.9**
CUSAR	**Sarkisla-SIVAS**	**1.83**	**56**	P	**Pg**	**09 46 40.6**	**-0.7**
COAL	**Corum-Alaca**	**1.92**	**16**	*i* P	**Pn**	**09 46 40.1**	**+0.4**
COAL				*i* S	**Sg**	**09 47 08.0**	**+0.2**
COAL	**Corum-Alaca**	**1.92**	**16**	P	**Pn**	**09 46 40.1**	**+0.4**

MAN 13 09:49:45, 9˚.12N×125˚.73E, h4km, mb3.7, ML2.4, MS1.9, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUTP	**Butuan**	**0.18**	**214**	*e*P	Pg	09 49 49.3	+0.6
BUTP				*e*S	Sg	09 49 53.6	+2.5
SCPH	**Surigao**	**0.70**	**340**⇑	*e*P	Pg	09 49 58.7	+0.3
SCPH				*e*S	Sg	09 50 07.5	+0.1
BUKP	**Musuan**	**1.40**	**208**	*e*P	Pn	09 50 10.6	-0.8
BUKP				*e*S	Sn	09 50 30.5	+0.2

IDC 13 09:56:15.6±57.0, 12˚.23S×170˚.89E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.4/52, mbtmp3.6/3, Error ellipse: s-maj=992.6km s-min=125.0km az=65.0, Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**33.28**	**229**	P	P	10 02 55.0	-0.1
	0.8nm,0.3s,baz=50,slow=10,SNR=6.7						
WRA	**Warramunga Arr**	**35.89**	**253**	P	P	10 03 18.1	+0.3
	0.3nm,0.5s,baz=84,slow=8.6,SNR=6.0						
ASAR	**Alice Springs**	**36.87**	**247**	P	P	10 03 25.8	-0.4
	0.2nm,0.4s,baz=76,slow=9.1,SNR=8.6						

IDC 13 09:59:16.8±2.5, 53˚.55N×87˚.78E, h0km, mb1 3.7/2, mb1mx3.0/73, mbtmp3.7/2, ML3.4/2, Error ellipse: s-maj=22.0km s-min=14.7km az=62.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZALV	**Zalesovo Beam**	**1.81**	**284**	Pn	Pn	09 59 48.2	-0.8
	8.4nm,0.3s,baz=104,slow=14,SNR=22						
ZALV				Lg	Lg	10 00 13.4	
	7.1nm,0.3s,baz=101,slow=27,SNR=14						
I46RU	**ZALESOVO INFRA**	**1.81**	**284**	*i*		10 11 13.8	
	baz=106,slow=346,SNR=6.9						
KURBB	**Kurchatov Arra**	**6.41**	**247**	Pn	Pn	10 00 52.9	+0.5
	0.3nm,0.3s,baz=62,slow=14,SNR=13						
KURBB				Sn	Sn	10 02 06.0	-0.2
	0.1nm,0.3s,baz=66,slow=23,SNR=4.1						
KURBB				Lg	Lg	10 02 39.7	
	0.1nm,0.3s,baz=69,slow=36,SNR=7.0						
MKAR	**Makanchi Array**	**7.62**	**210**	Pn	Pn	10 01 10.1	+1.1
	1.2nm,0.3s,baz=30,slow=14,SNR=33						
MKAR				Sn	Sn	10 02 37.2	+1.2
	0.4nm,0.3s,baz=31,slow=28,SNR=6.2						
MKAR				Lg	Lg	10 03 17.4	
	0.1nm,0.3s,baz=32,slow=32,SNR=4.1						
BVAR	**Borovoye Array**	**10.43**	**274**	Pn	Pn	10 01 50.8	+3.3
	0.2nm,0.3s,baz=66,slow=18,SNR=2.8						
BVAR				Sn	Sn	10 03 45.5	+0.6
	0.5nm,0.3s,baz=87,slow=25,SNR=5.8						

BJI ***13*** *09:59:58.2, 36˚.89N×141˚.22E, h10km, mb5.5/83, mB5.7/75, Ms5.9/92, Ms7 5.8/89*
IDC ***13*** *09:59:59.3±0.3, 36˚.99N×141˚.24E, h0km, mb5.4/57, mb1 5.4/63, mb1mx5.4/75, mbtmp5.4/63, ML4.2/7, MS5.2/57, Ms1 5.2/57, ms1mx5.1/70, Error ellipse: s-maj=9.7km s-min=8.0km az=106.0*
JMA ***13*** *10:10:00.3±0.1, 36˚.95N×141˚.42E, h32km±1km, M6.0 Broadband fault plane solution: P waves. NP1: ϕs12.00000°, δ73.00000°, λ-99.00000°. NP2:ϕs221.00000°, δ20.00000°, λ-62.00000°. Principal axes: T Plg27.0000°, Azm109.0000°; N Plg9.0000°, Azm14.0000°; P Plg61.0000°, Azm268.0000°;*
JMA Felt IV J1.
NIED ***13*** *10:10:00, 36˚.90N×141˚.50E, h8km, Mw5.7 Best double couple: M0 4.34000×10^17 NP1:ϕs189.00000°, δ42.00000°, λ-106.00000°. NP2:ϕs29.00000°, δ50.00000°, λ-76.00000°.*
NEIC ***13*** *10:10:01.2±0.1, 36˚.99N×141˚.15E, h11km, mb5.6/298, ME5.5, MS5.4/275, MW5.7, MW5.7, Error ellipse: s-maj=2.5km s-min=1.7km az=149.0, Moment Tensor Solution. s55 Moment tensor: Scale 10^17Nm; Mrr-2.94; Mθθ-0.92; Mϕϕ3.86; Mrθ0.02; Mϕr1.57; Mϕr0.49; Best double couple: M0 3.90000×10^17 NP1:ϕs21.00000°, δ41.00000°, λ-83.00000°. NP2:ϕs192.00000°, δ49.00000°, λ-96.00000°. Principal axes: T 4.3600, Plg4.0000°, Azm287.0000°; N -1.3800, Plg4.0000°, Azm196.0000°; P -2.9800, Plg84.0000°, Azm56.0000°; Broadband fault plane solution: P waves. NP1:ϕs29.00000°, δ52.00000°, λ117.00000°. NP2:ϕs170.00000°, δ45.00000°, λ60.00000°. Principal axes: T Plg69.0000°, Azm1.0000°; N Plg0.0000°, Azm0.0000°; P Plg4.0000°, Azm101.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*
NEIC Felt [IV] at Iwaki and [III] at Tokyo and Yokohama. Felt in much of eastern Honshu. Recorded [4 JMA] in Fukushima and Ibaraki.
GCMT ***13*** *10:10:01.2±0.1, 36˚.98N×141˚.35E, h12km, MW5.7/143, Moment Tensor Solution. s116,c237; s143,c362; Duration: 1ŸŸ7 Moment tensor: Scale 10^17Nm; Mrr-4.32±.04; Mθθ0.08±.04; Mϕϕ4.24±.03; Mrθ0.25±.10; Mθϕ1.62±.03; Mϕr-0.15±.10; Best double couple: M0 4.56900×10^17 NP1:ϕs15.00000°, δ46.00000°, λ-96.00000°. NP2:ϕs203.00000°, δ45.00000°, λ-84.00000°. Principal axes: T 4.7970, Plg0.0000°, Azm109.0000°; N -0.4570, Plg4.0000°, Azm19.0000°; P -4.3420, Plg86.0000°, Azm204.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
ISCJB ***13*** *10:10:01.9±0.4, 36˚.95N±0˚.01×141˚.25E±0˚.01, h27km±2km, mb5.6/478, MS5.5/353 Error ellipse: s-maj=2.4km s-min=1.9km az=153.8*
NEIC ***13*** *10:10:02.0±0.0, 36˚.90N×141˚.58E, h17km, Moment Tensor Solution. s56 Moment tensor: Scale 10^17Nm; Mrr-3.72; Mθθ0.77; Mϕϕ2.95; Mrθ-0.49; Mθϕ0.93; Mϕr-2.17; Best double couple: M0 4.20000×10^17 NP1:ϕs16.00000°, δ61.00000°, λ-93.00000°. NP2:ϕs203.00000°, δ29.00000°, λ-84.00000°. Principal axes: T 3.9300, Plg16.0000°, Azm108.0000°; N 0.4400, Plg2.0000°, Azm18.0000°; P -4.3700, Plg73.0000°, Azm278.0000°;*
MOS ***13*** *10:10:04.4±0.9, 37˚.36N×141˚.15E, h31km, mb5.8/151, MS5.6/63 Error ellipse: s-maj=5.2km s-min=3.3km az=103.6*

ISC 13 10:10:01.9±0.4, 36˚.99N±0˚.02×141˚.37E±0˚.02, h19km±1km, h19km:pP-P, n1969, σ1ŸŸ42/2022, mb5.7/510, MS5.5/370, 51C-113D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.47**	**284**	⇑P	**Pg**	**10 10 10.7**	**-0.9**
ONAJ				*e*S	**Sb**	**10 10 18.4**	**0.0**
JFK	**Kawauchi**	**0.55**	**314**	⇑P	**Pg**	**10 10 12.1**	**-0.9**
JFK				*e*S	**Sb**	**10 10 20.7**	**+0.3**
JHO	**Hitachi**	**0.74**	**240**	⇓P	**Pg**	**10 10 14.6**	**-1.9**
JHO				*e*S	**Sg**	**10 10 24.7**	**-1.7**
JFT	**Otama**	**0.98**	**303**	⇑P	**Pb**	**10 10 19.5**	**-0.9**
JFT				*e*S	**Sg**	**10 10 33.3**	**-0.7**
JMM	**Marumori**	**0.99**	**333**	⇑P	**Pb**	**10 10 18.9**	**-1.6**
JMM				*e*S	**Sb**	**10 10 32.4**	**-0.8**
JSB	**Shiboa**	**1.16**	**270**	⇑P	**Pn**	**10 10 22.5**	**-0.7**
JFY	**Yanaizu**	**1.40**	**288**	⇑P	**Pn**	**10 10 26.0**	**-0.4**
JFY				*e*S	**Sn**	**10 10 44.3**	**-0.1**
JIO	**Ouri**	**1.47**	**359**	P	**Pn**	**10 10 25.9**	**-1.5**
JIO				*e*S	**Sn**	**10 10 44.4**	**-1.7**
JOU	**Okura**	**1.49**	**338**	⇓P	**Pn**	**10 10 27.4**	**-0.3**
JOU				*e*S	**Sn**	**10 10 46.7**	**+0.1**
JYS	**Shirataka**	**1.61**	**320**	⇓P	**Pn**	**10 10 29.5**	**+0.1**
JAG	**Ashikaga**	**1.64**	**251**	⇓P	**Pn**	**10 10 28.2**	**-1.6**
JKT	**Katashina**	**1.72**	**263**	⇓P	**Pn**	**10 10 30.4**	**-0.5**
TOK	**Tokyo**	**1.84**	**226**	P	**Pn**	**10 10 31.7**	**-0.7**
I30JP	**ISUMI INFRASON**	**1.88**	**207**	Pn	**Pb**	**10 10 34.5**	**-1.1**
I30JP				*i*		10 23 00.0	
	baz=358,slow=324,SNR=0.5						
JHK	**Hiroka**	**1.90**	**279**	⇓P	**Pn**	**10 10 33.5**	**+0.2**
JMK	**Ichinoseki**	**1.97**	**357**	⇓P	**Pn**	**10 10 33.6**	**-0.6**
JIZZ	**Izumozaki**	**2.19**	**285**	⇓P	**Pn**	**10 10 38.4**	**+1.1**
JRY	**Ryogami san**	**2.21**	**245**	⇓P	**Pn**	**10 10 36.2**	**-1.5**
JAW	**Awa shima**	**2.23**	**312**	⇓P	**Pn**	**10 10 38.5**	**+0.6**
JGK	**Kuni**	**2.23**	**260**	⇓P	**Pn**	**10 10 38.2**	**+0.2**
JJN	**Nakama**	**2.57**	**274**	P	**Pn**	**10 10 43.3**	**+0.8**
MJAR	**Matsushiro Arr**	**2.58**	**261**	Pn	**Pn**	**10 10 42.6**	**0.0**
	206nm,0.3s,baz=94,slow=13,SNR=1139						
MJAR				Sn	**Sb**	**10 11 18.5**	**-0.4**
	347nm,0.3s,baz=214,slow=47,SNR=7.5						
MAJO	**Matsushiro**	**2.58**	**261**	*e*Pn	**Pn**	**10 10 43.3**	**+0.6**
MAJO				*e*Sg	**Sb**	**10 11 20.5**	**+1.6**
MAJO	**Matsushiro**	**2.58**	**261**	*d*P	**Pn**	**10 10 42.9**	**+0.2**
MAT	**Matsushiro**	**2.58**	**261**	P	**Pn**	**10 10 42.9**	**+0.2**
MAT				S	**Sb**	**10 11 16.9**	**-2.0**
MAT	**Matsushiro**	**2.58**	**261**	P	**Pn**	**10 10 43.1**	**+0.4**
MJB9	**Matsu-Tunnel**	**2.58**	**261**	*e*Pn	**Pn**	**10 10 42.3**	**+0.5**
MJB9				*e*Sn	**Sb**	**10 11 20.6**	**+1.6**
AJI	**Ajiro2**	**2.68**	**224**	⇓P	**Pn**	**10 10 42.9**	**-1.1**
JNG	**Nsakai**	**2.69**	**259**	⇓P	**Pn**	**10 10 44.6**	**+0.3**
JYN	**Shimob**	**2.73**	**238**	P	**Pn**	**10 10 44.0**	**-0.7**
JNT	**Takato**	**2.83**	**248**	⇓P	**Pn**	**10 10 46.4**	**+0.1**
SHZ3	**Shizuoka 3**	**3.20**	**234**	⇓P	**Pn**	**10 10 51.4**	**+0.1**
JGN	**Niukaw**	**3.35**	**258**	P	**Pn**	**10 10 54.2**	**+0.8**
JGF	**Kuroka**	**3.52**	**248**	P	**Pn**	**10 10 56.4**	**+0.7**
HMMJ	**Hamamatsu 2**	**3.65**	**235**	P	**Pn**	**10 10 57.5**	**+0.2**
INU	**Inuyama**	**3.88**	**246**	*e*Pn	**Pn**	**10 11 01.2**	**+0.6**
INU				*e*Sg	**Sg**	**10 12 03.8**	**-2.8**
JHJ2	**Mitsune**	**4.07**	**199**	*e*Pn	**Pn**	**10 11 03.2**	**+0.1**
JHJ2				*e*Sn	**Sn**	**10 11 48.9**	**-1.4**
JHJ	**Hachijo jima 2**	**4.07**	**199**	Pn	**Pn**	**10 11 03.2**	**0.0**
	249nm,0.3s,baz=331,slow=17,SNR=110						
JHJ				Sn	**Sn**	**10 11 49.4**	**-0.9**
	429nm,0.3s,baz=257,slow=23,SNR=8.1						
JHJ				LR	LR	10 12 55.1	
	comp=Z,48μm,18.2s,baz=78,slow=44						
ERM	**Erimo**	**5.21**	**15**	*e*Pn	**Pn**	**10 11 17.9**	**-0.9**
ERM				*e*Sn	**Sn**	**10 12 16.4**	**-1.9**
ERM	**Erimo**	**5.21**	**15**	*e*P	**Pn**	**10 11 18.3**	**-0.5**
JSH	**Shimam**	**5.74**	**350**	P	**Pn**	**10 11 28.5**	**+2.4**
JAR	**Ashorobuto**	**6.57**	**15**	⇓P	**Pn**	**10 11 35.4**	**-2.0**
ASAJ	**Asahikawa**	**7.18**	**7**	Pn	**Pn**	**10 11 44.9**	**-1.1**
	17nm,0.3s,baz=214,slow=11,SNR=99						
ASAJ				Sn	**Sn**	**10 13 07.3**	**+0.4**
	26nm,0.3s,baz=53,slow=32,SNR=6.0						
ASAJ	**Asahikawa**	**7.18**	**7**	*e*Pn	**Pn**	**10 11 44.8**	**-1.1**
ASAJ				*e*Sn	**Sn**	**10 13 05.5**	**-1.5**
GLVR	**Golovnino**	**7.45**	**24**	*e*P	**Pn**	**10 11 48.2**	**-1.4**
GLVR				*e*S	**Sn**	**10 13 08.1**	**-5.4**
GLVR				pmax	pmax		
	comp=Z,446nm,0.7s						
GLVR				pmax	pmax		
	comp=N,163nm,0.5s						
GLVR				pmax	pmax		
	comp=E,93nm,0.4s						
GRPR	**Tuman**	**7.76**	**24**	*e*P	**Pn**	**10 11 52.2**	**-1.6**
GRPR				*e*S	**Sn**	**10 13 14.9**	**-6.2**
GRPR				pmax	pmax		
	comp=Z,486nm,0.3s						
GRPR				pmax	pmax		
	comp=E,126nm,0.2s						
GRPR				pmax	pmax		
	comp=N,185nm,0.4s						
YUK	**Yuzh-Kuril'sk**	**7.83**	**24**	*e*P	**Pn**	**10 11 53.5**	**-1.2**
YUK				*e*S	**Sn**	**10 13 17.5**	**-5.3**
YUK				pmax	pmax		
	comp=Z,564nm,0.4s						
YUK				pmax	pmax		
	comp=N,186nm,0.3s						
YUK				pmax	pmax		
	comp=E,45nm,0.3s						
SHO	**Shikotan**	**8.04**	**29**	*e*P	**Pn**	**10 11 55.8**	**-1.8**
SHO				*e*S	**Sn**	**10 13 21.3**	**-6.6**
SHO				pmax	pmax		
	comp=Z,122nm,0.5s						
SHO				pmax	pmax		
	comp=E,123nm,0.3s						
SHO				pmax	pmax		
	comp=N,47nm,0.5s						
TEY	**Ternei**	**8.81**	**337**	*e*P	**Pn**	**10 12 10.0**	**+1.8**
TEY				pmax	pmax		
	comp=N,4μm,10.0s						
TEY				pmax	pmax		
	comp=E,2μm,10.0s						
TEY				pmax	pmax		
	comp=Z,5μm,8.0s						
TEY				pmax	pmax		
	comp=N,21nm,0.7s						
TEY				pm

comp=Z,27µm,14.0s
TYV Tymovskoe 13.90 3 *e*P **Pn 10 13 15.8 -2.0**
TYV *e*S **Sn 10 15 50.8 -0.8**
TYV pmax pmax
comp=Z,24nm,1.8s
TYV pmax pmax
comp=Z,900nm,7.4s
TYV smax smax
comp=E,30nm,1.0s
TYV MLR MLR
comp=N,25µm,14.0s
TYV MLR MLR
comp=N,25µm,15.0s
KLR Kul'dur 14.10 333 Pn **Pn 10 13 20.5 0.0**
comp=N,0.1nm,0.3s,baz=129,slow=13,SNR=25
KLR LR LR 10 18 29.8
comp=N,1µm,19.5s,baz=150,slow=36
KLR Kul'dur 14.10 333 *i*P **Pn 10 13 21.3 +0.8**
GRNR Gornyy 14.23 347 *e*P **Pn 10 13 21.8 -0.5**
GRNR pmax pmax
comp=N,34nm,0.9s
GRNR pmax pmax
comp=E,34nm,0.9s
GRNR pmax pmax
comp=Z,24nm,0.9s
SNY Shenyang 14.58 295 ⇓P **Pn 10 13 27.6 +0.5**
SNY S **Sn 10 16 13.4 +5.3**
SNY pmax pmax
comp=Z,63nm,1.5s
SNY pmax pmax
comp=Z,8µm,10.2s
SNY LR LR
comp=Z,23µm,11.0s
SNY LR LR
comp=Z,40µm,13.2s
SNY LR LR
comp=Z,64µm,12.9s
JOW Kunigami 15.02 231 Pn **Pn 10 13 31.1 -2.1**
comp=Z,0.3nm,0.3s,baz=58,slow=14,SNR=4.0
JOW Kunigami 15.02 231 *e*Pn **Pn 10 13 31.1 -2.1**
comp=Z,123nm,1.0s
DL2 Dalian 15.70 283 ⇑*i*P **Pn 10 13 40.1 -1.9**
DL2 S **Sn 10 16 32.8 -2.5**
DL2 pmax pmax
comp=Z,76nm,0.8s
DL2 pmax pmax
comp=Z,8µm,9.8s
DL2 LR LR
comp=Z,17µm,11.2s
DL2 LR LR
comp=Z,22µm,10.4s
DL2 LR LR
comp=Z,30µm,10.6s
NKL Nikolayevsk 16.17 359 *e*P **Pn 10 13 44.0 -4.0**
NKL pmax pmax
comp=N,22nm,1.0s
NKL pmax pmax
comp=Z,65nm,1.0s
OKH Okha 16.60 3 ⇓*i*P **Pn 10 13 49.1 -4.3**
OKH *i* S **Sn 10 16 59.8 +2.7**
OKH pmax pmax
comp=Z,1µm,15.4s
OKH smax smax
comp=N,2µm,12.3s
OKH MLR MLR
comp=Z,24µm,15.0s
SKR Severo-Kuril's 17.29 33 *e*P **Pn 10 13 58.8 -3.3**
SKR pmax pmax
comp=Z,145nm,1.1s
SKR pmax pmax
comp=Z,1µm,5.1s
SKR MLR MLR
comp=Z,12µm,15.0s
SKR MLR MLR
comp=Z,12µm,16.0s
SSE Sheshan 17.72 257 P **Pn 10 14 06.0 -1.6**
SSE S **Sn 10 17 25.4 +0.9**
SSE pmax pmax
comp=Z,32nm,0.9s
SSE pmax pmax
comp=Z,2µm,10.2s
SSE LR LR
comp=Z,4µm,15.0s
SSE LR LR
comp=Z,530nm,15.4s
NJ2 Nanjing 19.18 262 *e*P **P 10 14 22.4 -2.1**
NJ2 pP **Pn 10 14 26.8 +1.4**
NJ2 sP **sP 10 14 30.8 -1.4**
NJ2 PP **PnPn 10 14 41.3 +3.1**
NJ2 SS S 10 18 17.3 +16
NJ2 pmax pmax
comp=Z,51nm,1.1s
NJ2 pmax pmax
comp=Z,3µm,8.1s
NJ2 LR LR
comp=Z,20µm,11.9s
NJ2 LR LR
comp=Z,28µm,12.5s
NJ2 LR LR
comp=Z,27µm,12.5s
ZEA Zeya 19.41 334 *e*P **P 10 14 23.2 -3.6**
ZEA *e*S **Sn 10 17 58.0 -7.0**
ZEA pmax pmax
comp=Z,2µm,10.0s
ZEA pmax pmax
comp=E,700nm,9.0s
ZEA pmax pmax
comp=N,1µm,8.0s
ZEA pmax pmax
comp=N,140nm,0.9s
ZEA pmax pmax
comp=E,87nm,0.9s
ZEA pmax pmax
comp=Z,190nm,1.0s
ZEA MLR MLR
comp=E,14µm,14.0s
ZEA MLR MLR
comp=Z,38µm,14.0s
ZEA MLR MLR
comp=N,23µm,14.0s
TIA Tai'an 19.48 275 P **P 10 14 25.9 -1.8**
TIA pmax pmax
comp=N,58nm,1.3s
TIA LR LR
comp=N,13µm,15.7s
TIA LR LR
comp=N,13µm,17.2s
TIA LR LR
comp=N,17µm,16.7s
PEA0B Petropavlovsk- 19.75 30 *e*P **P 10 14 28.7 -1.7**
comp=N,132nm,1.1s
PETK Petropavlovsk- 19.75 30 P **P 10 14 30.8 +0.3**
comp=N,0.7nm,0.3s,baz=230,slow=5.3,SNR=19
PETK LR LR 10 21 48.5
comp=N,3µm,19.7s,baz=216,slow=36
PETK Petropavlovsk- 19.75 30 *e*P **P 10 14 27.9 -2.6**
PETK Petropavlovsk- 19.75 30 *e*P **P 10 14 27.9 -2.6**
PEA1 Petropavlovsk- 19.75 30 *e*P **P 10 14 30.8 +0.3**
HIA Hailar 19.91 315 *e*P **P 10 14 30.0 -2.4**
comp=N,71nm,1.1s
HIA Hailar 19.91 315 *d i*P **P 10 14 28.1 -4.3**
HIA pmax pmax
comp=Z,21nm,1.1s
BJI Beijing 19.93 287 P **P 10 14 30.3 -2.3**
BJI pmax pmax
comp=Z,71nm,2.4s
BJI LR LR
comp=Z,5µm,10.6s
BJI LR LR
comp=Z,5µm,10.8s
BJI LR LR
comp=Z,9µm,13.7s
BJT Baijiatuau 19.94 286 *e*P **P 10 14 32.1 -0.6**
comp=Z,66nm,0.8s
BJT Baijiatuau 19.94 286 *e*P **P 10 14 32.1 -0.6**
BJT pmax pmax
comp=Z,66nm,0.8s
PET Petropavlovsk 20.08 32 *e*P **P 10 14 34.1 +0.1**
comp=Z,115nm,1.0s
PET LR LR
comp=Z,8µm,18.0s
PET Petropavlovsk 20.08 32 ⇓*i*P **P 10 14 34.6 +0.6**
PET *e*S **S 10 18 13.1 -5.6**
PET pmax pmax
comp=Z,4µm,11.5s
PET pmax pmax
comp=Z,3µm,11.3s

PET pmax pmax
comp=Z,132nm,1.0s
PET MLR MLR
comp=Z,13µm,14.0s
PET MLR MLR
comp=Z,14µm,14.0s
YOJ Yonaguni jima 20.08 237 *e*P **P 10 14 32.9 -1.4**
comp=Z,187nm,1.5s
YOJ Yonaguni jima 20.08 237 *e*P **P 10 14 32.2 -2.1**
YOJ pmax pmax
comp=Z,190nm,1.5s
TATO Taipei 20.78 240 PFAKE 10 14 50.0 +5.6
TATO LR LR
comp=Z,8µm,18.0s
YHNB Yeheng 21.06 240 *e*P **P 10 14 43.3 -1.7**
comp=Z,49nm,0.8s
YHNB LR LR
comp=Z,9µm,20.0s
NACB Ninganchiao 21.23 239 PFAKE 10 15 00.0 +13
NACB LR LR
comp=Z,8µm,20.0s
SSLB Suanglung 21.92 239 *e*P **P 10 14 51.1 -3.2**
comp=Z,37nm,1.0s
SSLB LR LR
comp=Z,8µm,18.0s
YULB Yu-li 21.95 238 *e*P **P 10 14 50.1 -4.4**
comp=Z,35nm,0.8s
TPUB Ta-pu 22.47 238 *e*P **P 10 14 56.1 -4.0**
comp=Z,60nm,0.7s
TPUB LR LR
comp=Z,10µm,21.0s
TWG Pinlang 22.50 237 *e*P **P 10 14 57.9 -2.5**
comp=Z,259nm,0.8s
TWG LR LR
comp=Z,18µm,21.0s
CLNS Chul'man 22.71 336 *e*P **P 10 15 00.2 -2.2**
CLNS *e**PP **sP 10 15 10.1 -0.1**
CLNS *e* 10 15 24.8
CLNS *e* 10 18 53.0
CLNS *e*S **S 10 19 05.7 -4.2**
CLNS pmax pmax
comp=N,17nm,1.3s
CLNS pmax pmax
comp=Z,33nm,1.3s
CLNS pmax pmax
comp=E,18nm,0.9s
CLNS pmax pmax
comp=E,31nm,0.9s
CLNS pmax pmax
comp=Z,43nm,1.1s
CLNS pmax pmax
comp=N,59nm,1.1s
CLNS smax smax
comp=N,5µm,10.9s
CLNS smax smax
comp=E,2µm,9.9s
CLNS MLR MLR
comp=N,19µm,15.0s
CLNS MLR MLR
comp=E,9µm,17.0s
CLNS MLR MLR
comp=Z,20µm,14.0s
QZH Quanzhou 22.86 245 ⇓*i*P **P 10 14 59.4 -4.8**
QZH S **S 10 19 05.5 -7.4**
QZH pmax pmax
comp=Z,46nm,1.3s
QZH pmax pmax
comp=Z,2µm,10.8s
QZH LR LR
comp=Z,11µm,13.7s
QZH LR LR
comp=Z,14µm,12.4s
QZH LR LR
comp=Z,13µm,13.7s
TIY Taiyuan 22.98 281 *e*P **P 10 15 02.8 -2.7**
TIY S **S 10 19 10.8 -4.2**
TIY SS **SnSn 10 19 54.3 +7.2**
TIY pmax pmax
comp=Z,50nm,0.6s
TIY pmax pmax
comp=Z,1µm,11.5s
TIY LR LR
comp=Z,14µm,12.4s
TIY LR LR
comp=Z,15µm,10.9s
TIY LR LR
comp=Z,22µm,12.4s
WHN Wuhan 23.32 262 ⇓*i*P **P 10 15 06.8 -2.1**
WHN S **S 10 19 15.8 -4.8**
WHN LR LR
comp=Z,34µm,11.2s
WHN LR LR
comp=Z,76µm,12.2s
WHN LR LR
comp=Z,88µm,10.1s
MA2 Magadan 23.41 12 P **P 10 15 09.1 -0.4**
comp=Z,71nm,0.8s,baz=194,slow=8.5,SNR=61
HHC Hu-ho-hao-te 23.46 289 *e*P **P 10 15 09.8 -0.5**
HHC pP pP 10 15 13.9 -1.9
HHC PP **PnPn 10 15 42.9 +6.1**
HHC S **S 10 19 23.1 +0.2**
HHC sS pS 10 19 28.6 -0.2
HHC SS **SnSn 10 20 08.3 +10**
HHC pmax pmax
comp=Z,37nm,1.0s
HHC pmax pmax
comp=Z,1µm,4.0s
HHC LR LR
comp=Z,16µm,12.2s
HHC LR LR
comp=Z,12µm,11.9s
HHC LR LR
comp=Z,15µm,12.3s
GUMO Guam 23.51 171 *e*P **P 10 15 09.6 -1.2**
comp=Z,382nm,1.1s
GUMO Guam 23.51 171 *e*P **P 10 15 09.6 -1.2**
GUMO pmax pmax
comp=Z,382nm,1.1s
BTO Baotou 24.63 288 *e*P **P 10 15 19.1 -2.2**
YAK Yakutsk 26.11 347 P **P 10 15 33.4 -0.9**
comp=Z,249nm,0.8s,baz=166,slow=1.6,SNR=34
YAK LR LR 10 26 11.7
comp=Z,13µm,18.6s,baz=282,slow=37
YAK Yakutsk 26.11 347 *e*P **P 10 15 33.0 -1.3**
comp=Z,244nm,0.9s
YAK LR LR
comp=Z,14µm,19.0s
YAK Yakutsk 26.11 347 *d i*P **P 10 15 33.5 -0.8**
YAK *e**PP **sP 10 15 43.7 +1.4**
YAK *e* 10 16 10.2
YAK eS **S 10 20 04.6 0.0**
YAK eSSS SSS 10 21 08.5
YAK pmax pmax
comp=Z,192nm,0.9s
YAK pmax pmax
comp=N,36nm,1.1s
YAK pmax pmax
comp=E,16nm,0.9s
YAK pmax pmax
comp=Z,284nm,1.4s
YAK pmax pmax
comp=N,209nm,1.4s
YAK pmax pmax
comp=E,32nm,1.1s
YAK smax smax
comp=N,1µm,2.7s
YAK smax smax
comp=E,195nm,1.7s
YAK MLR MLR
comp=Z,16µm,14.0s
YAK MLR MLR
comp=N,18µm,15.0s
YAK MLR MLR
comp=E,4µm,13.0s
XAN Xi'an 26.51 273 P **P 10 15 38.9 +0.6**
XAN pP pP 10 15 43.1 -0.9
XAN sP sP 10 15 45.9 -0.4
XAN S **S 10 20 02.3 -9.3**
XAN pmax pmax
comp=E,29nm,0.6s
XAN pmax pmax
comp=E,2µm,6.8s
XAN LR LR
comp=E,8µm,11.4s
XAN LR LR
comp=E,11µm,12.5s
XAN LR LR

comp=E,15µm,12.5s
SEY Seymchan 26.84 11 P **P 10 15 41.5 +0.6**
comp=E,20nm,0.8s,baz=201,slow=8.4,SNR=66
SEY LR LR 10 27 20.1
comp=E,4µm,18.4s,baz=210,slow=39
SEY Seymchan 26.84 11 *ce*P **P 10 15 42.3 +1.4**
ENH Enshi 27.30 265 *e*P **P 10 15 43.5 -1.9**
comp=E,123nm,0.6s
ENH LR LR
comp=Z,10µm,20.0s
ULN Ulaanbaatar 27.35 304 *e*P **P 10 15 44.1 -1.8**
comp=Z,52nm,0.8s
ULN LR LR
comp=Z,4µm,21.0s
ULN Ulaanbaatar 27.35 304 P **P 10 15 44.7 -1.2**
SNR=27
ULN Ulaanbaatar 27.35 304 P **P 10 15 44.7 -1.2**
SNR=27
ULN Ulaanbaatar 27.35 304 *de*P **P 10 15 44.0 -1.9**
ULN pmax pmax
comp=Z,65nm,1.2s
BOD Bodaibo 27.55 328 *e*P **P 10 15 46.8 -0.5**
BOD pmax pmax
comp=Z,76nm,0.7s
SMY Shemya 27.73 45 *e*P **P 10 15 48.2 -0.7**
comp=Z,119nm,1.1s
SMY Shemya 27.73 45 *e*P **P 10 15 48.2 -0.7**
SMY pmax pmax
comp=Z,119nm,1.1s
SONA1 Songino Array 27.78 304 *e*P **P 10 15 47.8 -1.9**
SONA0 Songino Array 27.79 304 *e*P **P 10 15 47.9 -1.8**
SONA0 *e*PcP **PcP 10 19 06.6 +0.9**
SONM Songino Array 27.79 304 P **P 10 15 47.9 -1.8**
comp=Z,31nm,0.9s,baz=104,slow=9.2,SNR=38
SONM PcP **PcP 10 19 06.6 +0.9**
comp=Z,14nm,1.0s,baz=128,slow=3.1,SNR=3.8
SONM LR LR 10 27 27.3
comp=Z,4µm,18.4s,baz=104,slow=38
GZH Guangzhou 27.82 248 P **P 10 15 45.0 -5.0**
GZH *e*S **S 10 20 24.6 -7.6**
GZH pmax pmax
comp=Z,2µm,9.6s
GZH LR LR
comp=Z,28µm,12.6s
H11N2 WAKE ISLAND Hy 28.15 121 T T 10 45 22.0
baz=313,slow=75,SNR=2546
H11N1 WAKE ISLAND Hy 28.16 121 T T 10 45 16.2
baz=313,slow=75,SNR=4063
H11N3 WAKE ISLAND Hy 28.17 121 T T 10 45 17.0
baz=313,slow=75,SNR=2735
WAKE Wake Island 28.29 122 PFAKE 10 16 10.0 +16
WAKE LR LR
comp=Z,4µm,19.0s
H11S1 WAKE ISLAND Hy 28.86 123 T T 10 46 08.3
baz=315,slow=74,SNR=3033
H11S3 WAKE ISLAND Hy 28.86 123 T T 10 46 11.9
baz=131,slow=74,SNR=3169
H11S2 WAKE ISLAND Hy 28.88 123 T T 10 46 52.3
SNR=2342
LZH Lanzhou 30.04 280 ⇑P **P 10 16 09.3 -0.6**
LZH pP pP 10 16 13.3 -2.4
LZH sP sP 10 16 14.4 -3.6
LZH PP **PnPn 10 17 03.8 -3.0**
LZH S **S 10 21 02.8 -4.6**
LZH sS pS 10 21 11.8 -2.0
LZH SS **SnSn 10 22 39.3 -0.5**
LZH pmax pmax
comp=Z,230nm,1.1s
LZH pmax pmax
comp=Z,2µm,7.8s
LZH LR LR
comp=Z,23µm,13.5s
LZH LR LR
comp=Z,28µm,16.4s
LZH LR LR
comp=Z,36µm,17.3s
IRK Irkutsk 30.11 312 *e*P **P 10 16 09.9 -0.2**
IRK pmax pmax
comp=Z,54nm,3.1s
ZAK Zakamensk 30.27 308 *e*P **P 10 16 10.7 -1.1**
ZAK *e* 10 19 12.1
ZAK pmax pmax
comp=Z,27nm,1.0s
ZAK pmax pmax
comp=Z,15nm,1.2s
TLY Talaya 30.34 311 P **P 10 16 12.0 -0.3**
comp=Z,26nm,0.8s,baz=115,slow=4.1
TLY LR LR 10 28 23.1
comp=Z,6µm,19.9s,baz=105,slow=36
TLY Talaya 30.34 311 *e*P **P 10 16 12.0 -0.3**
TLY LR LR
comp=Z,6µm,20.0s
TLY Talaya 30.34 311 P **P 10 16 12.7 +0.5**
SNR=20
TLY Talaya 30.34 311 P **P 10 16 12.7 +0.5**
SNR=20
TLY Talaya 30.34 311 *c i*P **P 10 16 10.4 -1.8**
TLY *e* 10 17 14.3
TLY *e*S **S 10 21 12.5 +1.1**
TLY *e*SS **ScP 10 22 50.7 -2.6**
TLY *e*SSS SSS 10 23 10.7
TLY pmax pmax
comp=Z,33nm,0.8s
TLY MLR MLR
comp=Z,10µm,14.0s
GYA Guiyang 31.18 260 ⇑*i*P **P 10 16 18.5 -1.5**
GYA PP **PnPn 10 17 24.3 +2.5**
GYA PcP **PcP 10 19 17.6 +2.9**
GYA S **S 10 21 27.5 +2.2**
GYA ScP **ScP 10 22 59.0 +2.3**
GYA SS **SnSn 10 23 11.3 +3.7**
GYA ScS **ScS 10 26 54.5 +0.3**
GYA pmax pmax
comp=Z,60nm,0.7s
GYA pmax pmax
comp=Z,740nm,9.3s
GYA LR LR
comp=Z,11µm,13.4s
GYA LR LR
comp=Z,11µm,14.0s
GYA LR LR
comp=Z,18µm,12.8s
CD2 Chengdu 31.64 270 ⇓P **P 10 16 23.8 -0.1**
CD2 pP pP 10 16 28.0 -1.7
CD2 PP **PnPn 10 17 28.6 +0.9**
CD2 S **S 10 21 28.5 -3.8**
CD2 sS sS 10 21 40.0 -1.7
CD2 pmax pmax
comp=Z,70nm,0.6s
CD2 pmax pmax
comp=Z,2µm,8.5s
CD2 LR LR
comp=Z,26µm,17.7s
CD2 LR LR
comp=Z,27µm,13.7s
CD2 LR LR
comp=Z,24µm,14.5s
MOY Mondy 31.95 310 *e*P **P 10 16 26.4 -0.1**
MOY pmax pmax
comp=Z,33nm,2.3s
GTA Gaotai 32.55 287 P **P 10 16 32.0 +0.1**
GTA pP pP 10 16 35.6 -2.1
GTA sP sP 10 16 38.1 -1.9
GTA PP **PP 10 17 42.6 -2.8**
GTA PcP **PcP 10 19 19.0 +0.7**
GTA S **S 10 21 45.9 -0.5**
GTA sS sS 10 21 54.4 -1.5
GTA PcS **PcS 10 23 05.5 +2.1**
GTA SS **SnSn 10 23 42.3 +1.8**
GTA pmax pmax
comp=Z,44nm,0.7s
GTA pmax pmax
comp=Z,950nm,9.4s
GTA LR LR
comp=Z,6µm,11.4s
GTA LR LR
comp=Z,9µm,11.4s
GTA LR LR
comp=Z,11µm,10.9s
QIZ Qiongzhong 32.88 246 P **P 10 16 36.3 +1.5**
QIZ S **S 10 21 55.5 +3.9**
QIZ pmax pmax
comp=Z,15nm,0.6s
QIZ pmax pmax
comp=Z,790nm,7.3s
QIZ LR LR

comp=Z,8µm,15.8s
QIZ LR LR
comp=Z,7µm,15.0s
QIZ LR LR
comp=Z,10µm,12.5s
QIZ Qiongzhong 32.88 246 *e*P P 10 16 28.8 -6.1
comp=Z,110nm,1.8s
QIZ LR LR
comp=Z,4µm,18.0s
DAV Davao City (W) 33.07 210 LR LR 10 29 57.9
comp=Z,5µm,20.5s,baz=62,slow=36
DAV Davao City (W) ⇑ *i*P **P 10 16 35.9 -0.6**
DAV Davao City (W) 33.07 210 PFAKE 10 16 50.0 +13
DAV LR LR
comp=Z,5µm,19.0s
PATS Pohnpei 33.75 149 PFAKE 10 17 00.0 +18
PATS LR LR
comp=Z,4µm,21.0s
BILL Bilibino 34.08 16*d i*P **P 10 16 44.1 -0.7**
BILL *e* 10 17 53.3
BILL *e*S **S 10 22 08.2 -1.2**
BILL pmax pmax
comp=Z,27nm,1.1s
BILL MLR MLR
comp=Z,6µm,17.0s
KMI Kunming 34.92 261 P **P 10 16 51.5 -1.3**
KMI pP sP 10 17 00.6 -0.3
KMI sP pP 10 17 03.8 +5.2
KMI PP **PP 10 18 12.1 +0.1**
KMI S **S 10 22 19.5 -4.1**
KMI sS sS 10 22 35.5 +2.4
KMI SS **SnSn 10 24 37.8 -0.8**
KMI pmax pmax
comp=Z,72nm,1.6s
KMI pmax pmax
comp=Z,1µm,10.6s
KMI LR LR
comp=Z,14µm,21.6s
KMI LR LR
comp=Z,5µm,22.0s
KMI LR LR
comp=Z,12µm,14.9s
TIXI Tiksi 35.33 353 P **P 10 16 55.1 -0.4**
comp=Z,24nm,0.6s,baz=144,slow=7.3,SNR=35
TIXI Tiksi 35.33 353 *e*P **P 10 16 55.1 -0.4**
TIXI LR LR
comp=Z,6µm,18.0s
TIXI Tiksi 35.33 353*ce*P **P 10 16 55.2 -0.3**
TIXI pmax pmax
comp=Z,29nm,0.8s
TIXI MLR MLR
comp=Z,13µm,15.0s
HVS Khovu-Aksy 36.40 308*d i*P **P 10 17 05.0 -0.1**
HVS pmax pmax
comp=Z,28nm,1.0s
MYLDM Lahad Datu 37.95 219 *e*P **P 10 17 18.4 -0.1**
comp=Z,114nm,1.0s
MYLDM LR LR
comp=Z,7µm,19.0s
TNTI Ternate 38.29 203 *e*P **P 10 17 21.6 +0.3**
comp=Z,609nm,1.9s
TNTI LR LR
comp=Z,4µm,18.0s
KKM Kota Kinabalu 38.42 223 *e*P **P 10 17 22.9 +0.3**
comp=Z,55nm,1.0s
KKM LR LR
comp=Z,4µm,20.0s
SKNT Sakolnakorn 38.50 249 P **P 10 17 21.9 -1.2**
comp=Z,152nm,1.0s
GAMB Gambell 38.78 31 *e*P **P 10 17 26.1 +1.3**
comp=Z,31nm,1.2s
GAMB LR LR
comp=Z,4µm,19.0s
SIJI Sorong 38.81 196 P **P 10 17 25.4 -0.2**
comp=Z,128nm,0.4s,baz=263,slow=17,SNR=15
SIJI LR LR 10 31 12.7
comp=Z,4µm,18.1s,baz=360,slow=33
MANU Manus Island 39.23 171 *e*P **P 10 17 28.6 -0.5**
comp=Z,124nm,1.6s
UNV Unalaska Valle 39.30 48 PFAKE 10 17 40.0 +11
UNV LR LR
comp=Z,3µm,19.0s
JAY Jayapura 39.30 181 P **P 10 17 32.7 +2.9**
GENI Genyem 39.39 182 P **P 10 17 32.2 +1.7**
LBMI Labuha 39.58 202 P **P 10 17 32.2 +0.1**
KMSI Cibinong 39.64 208 P **P 10 17 33.4 +0.8**
AKUT Akutan 39.75 47 PFAKE 10 17 50.0 +17
AKUT LR LR
comp=Z,2µm,21.0s
DGZ Jazzator, Alta 40.39 306 *i*P **P 10 17 38.8 0.0**
DGZ pmax pmax
comp=Z,121nm,1.0s
MRSI Marisa 40.53 211 P **P 10 17 40.5 +0.5**
FAKI Fak Fak 40.60 194 P **P 10 17 41.7 +1.2**
FAKI Fak Fak 40.60 194 *e*P **P 10 17 40.8 +0.3**
comp=Z,84nm,0.9s
FAKI LR LR
comp=Z,6µm,21.0s
WMQ Urumqi 40.83 297 P **P 10 17 42.5 +0.1**
WMQ pP sP 10 17 49.6 -0.9
WMQ PP **PnPn 10 19 22.6 +2.0**
WMQ S **S 10 23 53.8 +1.3**
WMQ SS **SS 10 26 50.8 -2.9**
WMQ pmax pmax
comp=Z,190nm,1.9s
WMQ pmax pmax
comp=Z,4µm,3.7s
WMQ LR LR
comp=Z,22µm,10.9s
WMQ LR LR
comp=Z,11µm,12.1s
WMQ LR LR
comp=Z,12µm,24.9s
KMPI Kaimana, Papua 41.06 192 P **P 10 17 45.9 +1.5**
FALS False Pass 41.16 46 PFAKE 10 18 00.0 +15
FALS LR LR
comp=Z,4µm,18.0s
CHTO Chiang Mai 41.25 256 *e*P **P 10 17 45.4 -0.6**
comp=Z,28nm,0.8s
CHTO LR LR
comp=Z,9µm,19.0s
CHTO Chiang Mai 41.25 256 P **P 10 17 46.5 +0.5**
SNR=5.9
CHTO Chiang Mai 41.25 256 P **P 10 17 46.5 +0.5**
SNR=5.9
CHTO Chiang Mai 41.25 256 *e*P **P 10 17 45.4 -0.6**
CHTO pmax pmax
comp=Z,28nm,0.8s
CHTO MLR MLR
comp=Z,9µm,19.0s
SANI Sanana 41.39 204 P **P 10 17 46.2 -0.8**
CM31 Chiang Mai Arr 41.45 255 *e*P **P 10 17 47.9 +0.3**
CMAR Chiang Mai Arr 41.45 255 P **P 10 17 47.1 -0.5**
comp=Z,8.5nm,0.7s,baz=48,slow=7.0,SNR=15
CMAR LR LR 10 34 25.1
comp=Z,2µm,21.9s,baz=50,slow=35
CM01 Chiang Mai Arr 41.46 255 *e*P **P 10 17 46.6 -1.1**
MPSI Mapaga 41.53 214 P **P 10 17 48.4 +0.2**
LUWI Luwuk 41.59 209 P **P 10 17 47.1 -1.6**
LUWI Luwuk 41.59 209 *e*P **P 10 17 47.1 -1.6**
comp=Z,646nm,1.9s
MSAI Masohi 41.77 199 P **P 10 17 52.5 +2.4**
APSI Ampana 41.91 210 P **P 10 17 51.4 +0.1**
ZAA0 Zalesovo Array 41.92 312 *e*P **P 10 17 50.4 -0.7**
comp=Z,93nm,0.8s
ZAA0 LR LR
comp=Z,4µm,20.0s
ZAA0 Zalesovo Array 41.92 312 *e*P **P 10 17 50.4 -0.7**
comp=Z,93nm,0.8s
ZAA1 Zalesovo Array 41.92 312 *e*P **P 10 17 50.4 -0.6**
ZAA1 *e*PcP **PcP 10 19 46.4 +0.1**
ZALV Zalesovo Beam 41.92 312 P **P 10 17 50.4 -0.7**
comp=Z,83nm,0.8s,baz=92,slow=5.9,SNR=204
ZALV PcP **PcP 10 19 46.4 +0.1**
comp=Z,37nm,0.8s,baz=89,slow=3.7,SNR=4.8
ZALV LR LR 10 35 18.8
comp=Z,3µm,19.3s,baz=96,slow=36
ZALV Zalesovo Beam 41.92 312 *e*P **P 10 17 50.4 -0.7**
ZALV Zalesovo Beam 41.92 312 P **P 10 17 50.4 -0.7**
ZALV 10 19 46.4
ZALV pmax pmax
comp=Z,82nm,0.8s
ZALV pmax pmax
comp=Z,37nm,0.8s
ZALV MLR MLR
comp=Z,3µm,19.3s

NLAI Namlea 42.17 202 P **P 10 17 54.6 +1.2**
LSA Lhasa 42.18 275 *e*P **P 10 17 55.2 +1.2**
comp=Z,92nm,1.1s
LSA LR LR
comp=Z,6µm,18.0s
LSA Lhasa 42.18 275 P **P 10 17 54.5 +0.4**
LSA Lhasa 42.18 275 *e*P **P 10 17 55.2 +1.2**
LSA pmax pmax
comp=Z,92nm,1.1s
LSA MLR MLR
comp=Z,6µm,18.0s
AAI Ambon 42.29 200 P **P 10 17 55.5 +1.1**
BNDI Bandanaira 42.66 197 P P 10 18 07.6 +10
PCI Palu 42.66 213 P **P 10 17 56.4 -1.1**
NVS Novosibirsk 42.85 314 ⇑ *i*P **P 10 17 58.5 -0.1**
NVS *e* 10 19 48.4
NVS *e*S **S 10 24 23.7 +1.8**
NVS pmax pmax
comp=N,23nm,0.9s
NVS pmax pmax
comp=E,65nm,0.9s
NVS pmax pmax
comp=Z,89nm,0.9s
NVS smax smax
comp=N,29nm,1.7s
NVS smax smax
comp=E,61nm,1.7s
SDPT Sand Point 42.86 46 *e*P **P 10 17 58.9 +0.3**
comp=E,58nm,0.6s
SHL Shillong 43.37 269 *e*P **P 10 18 03.7 +0.3**
comp=E,75nm,1.4s
SHL Shillong 43.37 269 *e*P **P 10 18 03.7 +0.3**
SHL pmax pmax
comp=Z,75nm,1.4s
SBUM Sibu 43.60 225 *e*P **P 10 18 03.7 -1.4**
comp=Z,66nm,0.9s
SBUM LR LR
comp=Z,3µm,18.0s
SRDT SRDT 43.78 250 P **P 10 18 05.7 -0.9**
comp=Z,177nm,0.8s,comp=Z,2µm
CHGN Chignik 44.02 44 *e*P **P 10 18 08.3 +0.3**
comp=Z,22nm,0.6s
MK01 Makanchi Array 44.11 302 *e*P **P 10 18 08.2 -0.8**
MK31 Makanchi Array 44.12 302 *e*P **P 10 18 08.7 -0.3**
MK31 Makanchi Array 44.12 302 *e*P **P 10 18 08.7 -0.3**
MK32 Makanchi Array 44.12 302 *e*P **P 10 18 08.6 -0.4**
MKAR Makanchi Array 44.12 302 P **P 10 18 08.6 -0.4**
comp=Z,51nm,0.9s,baz=88,slow=9.8,SNR=56
MKAR LR LR 10 36 38.5
comp=Z,6µm,20.8s,baz=86,slow=36
MKAR Makanchi Array 44.12 302 *e*P **P 10 18 08.7 -0.3**
comp=Z,406nm,0.9s
MKAR LR LR
comp=Z,1µm,18.0s
BKB Balikpapan 44.31 216 P **P 10 18 11.7 +0.9**
MAKZ Makanchi 44.33 302 *e*P **P 10 18 10.3 -0.4**
comp=Z,64nm,0.8s
MAKZ LR LR
comp=Z,7µm,20.0s
MAKZ Makanchi 44.33 302 *e*P **P 10 18 10.3 -0.4**
MAKZ pmax pmax
comp=Z,64nm,0.8s
MAKZ MLR MLR
comp=Z,7µm,20.0s
TTSI Tana Toraja 44.59 212 P **P 10 18 12.3 -0.7**
SEM Semipalatinsk 44.95 308 ⇓ *i*P **P 10 18 14.8 -1.0**
comp=Z,990nm,1.0s
SEM LR LR 10 37 36.7
comp=Z,6µm,14.0s
MTKI Muara Teweh, K 45.02 219 P **P 10 18 17.4 +1.0**
KSM Kuching 45.49 226 *e*P **P 10 18 20.8 +0.6**
comp=Z,183nm,0.9s
SVW2 Sparevohn 45.58 37 *e*P **P 10 18 21.0 +0.6**
comp=Z,102nm,1.1s
BNSI Bone 45.70 210 P **P 10 18 22.4 +0.6**
KURK Kurchatov 45.94 308 *e*P **P 10 18 22.5 -0.8**
comp=Z,167nm,0.9s
KURK LR LR
comp=Z,5µm,21.0s
KURK Kurchatov 45.94 308 P **P 10 18 23.0 -0.4**
SNR=35
KURK Kurchatov 45.94 308 P **P 10 18 23.0 -0.4**
SNR=35
KURK Kurchatov 45.94 308*ce*P **P 10 18 22.3 -1.0**
KURK pmax pmax
comp=Z,253nm,1.2s
STKI Sintang 45.98 224 P **P 10 18 25.1 +1.0**
KURBB Kurchatov Arra 46.01 308 P **P 10 18 23.3 -0.6**
comp=Z,68nm,0.6s,baz=83,slow=8.5,SNR=169
ODAN Odare 46.38 274 *e*P **P 10 18 27.4 -0.1**
comp=Z,136nm,0.6s
KAPI Kappang 46.40 210 P **P 10 18 28.2 +0.8**
SNR=39
KAPI Kappang 46.40 210 P **P 10 18 28.2 +0.8**
SNR=39
KBKI Kotabaru 46.44 216 P **P 10 18 27.4 -0.3**
PMG Port Moresby 46.46 172 P **P 10 18 28.7 +0.9**
comp=Z,48nm,1.1s,baz=55,slow=1.3,SNR=5.3
PMG LR LR 10 35 34.5
comp=Z,596nm,21.7s,baz=1.5,slow=33
PMG Port Moresby 46.46 172 *e*P **P 10 18 29.3 +1.5**
comp=Z,42nm,0.9s
PMG Port Moresby 46.46 172*ce*P **P 10 18 27.7 -0.1**
PMG pmax pmax
comp=Z,117nm,1.0s
IM3 Indian Mountai 46.71 31 *e*P **P 10 18 30.6 +1.3**
PDGK Podgornoye 46.77 298 P **P 10 18 29.4 -0.8**
PDGK pmax pmax
comp=Z,207nm,1.0s
OHAK Old Harbor 46.81 43 *e*P **P 10 18 30.8 +0.7**
comp=Z,72nm,0.8s
OHAK LR LR
comp=Z,2µm,20.0s
RAMN Ramite 46.97 274 *e*P **P 10 18 31.8 -0.3**
comp=Z,911nm,1.2s
JIRN Jiri 46.99 275 *e*P **P 10 18 32.4 0.0**
comp=Z,790nm,1.3s
GUN Gumba 47.13 276 *e*P **P 10 18 33.5 +0.1**
comp=Z,368nm,1.0s
UZB Uzynbulak 47.14 298 ⇓ *i*P **P 10 18 32.7 -0.4**
comp=Z,957nm,1.1s
UZB *i*S **S 10 25 25.2 +0.4**
UZB LR LR 10 38 29.7
comp=Z,4µm,12.3s
KDAK Kodiak Island 47.16 42 *e*P **P 10 18 32.6 -0.2**
comp=Z,104nm,0.9s
KDAK LR LR
comp=Z,2µm,20.0s
KDAK Kodiak Island 47.16 42 *i*P **P 10 18 33.6 +0.8**
PPLA Purkeypile 47.23 35 *e*P **P 10 18 35.8 +2.3**
comp=Z,91nm,1.1s
CAST Castle Rocks 47.28 34 *e*P **P 10 18 35.8 +2.0**
comp=Z,50nm,1.0s
KPKS Kokpek 47.30 298 ⇓ *i*P **P 10 18 34.0 -0.3**
comp=Z,942nm,1.2s
KPKS *e*S **S 10 25 28.0 +1.1**
KPKS LR LR 10 38 43.7
comp=Z,6µm,12.7s
SKLT Songkhla 47.45 242 P **P 10 18 35.2 -0.4**
comp=Z,124nm,0.9s,comp=Z,2µm
SKT Skwentna 47.53 36 *e*P **P 10 18 36.2 +0.5**
comp=Z,34nm,1.0s
HOM Homer 47.54 39 *e*P **P 10 18 36.9 +1.1**
comp=Z,149nm,1.0s
ZHN Zhinishke 47.55 298 ⇓ *i*P **P 10 18 36.1 -0.2**
comp=Z,397nm,1.2s
ZHN *i*S **S 10 25 31.9 +1.4**
ZHN LR LR 10 39 45.6
comp=Z,2µm,12.7s
SATY Saty 47.60 298 *e*P **P 10 18 36.8 +0.2**
comp=Z,582nm,1.2s
SATY *e*S **S 10 25 33.0 +1.8**
SATY LR LR 10 39 26.9
comp=Z,4µm,11.4s
TRTT Trang 47.65 243 P **P 10 18 36.6 -0.5**
comp=Z,41nm,1.6s,comp=Z,850nm
KKN Kakani 47.66 276 *e*P **P 10 18 37.3 -0.1**
comp=Z,203nm,0.8s
PRZ Przheval'sk 47.76 297 *e*P **P 10 18 39.0 +1.0**
comp=Z,179nm,1.0s
PRZ LR LR
comp=Z,7µm,21.0s
PRZ Przheval'sk 47.76 297 *e*P **P 10 18 39.0 +1.0**
PRZ pmax pmax
comp=Z,179nm,1.0s
PRZ MLR MLR
comp=Z,7µm,21.0s

BPAW Bear Paw Mtn. 47.78 33 *e*P **P 10 18 39.5 +1.8**
comp=Z,26nm,0.8s
BPAW LR LR
comp=Z,3µm,20.0s
KTH Kantishna Hill 47.81 34 *e*P **P 10 18 39.5 +1.6**
comp=Z,97nm,1.0s
KTH LR LR
comp=Z,3µm,19.0s
DMN Daman 47.88 276 *e*P **P 10 18 39.1 0.0**
comp=Z,157nm,1.0s
MLY Manley 47.91 32 *e*P **P 10 18 40.4 +1.8**
comp=Z,70nm,1.0s
SUA Susitna One 47.92 37 *e*P **P 10 18 39.4 +0.6**
comp=Z,70nm,0.9s
SUA LR LR
comp=Z,2µm,18.0s
BRLK Bradley Lake 47.92 39 *e*P **P 10 18 40.4 +1.6**
comp=Z,48nm,0.9s
GKN Gorkha 48.08 276 *e*P **P 10 18 41.1 +0.5**
TRF Thorofare Moun 48.09 34 *e*P **P 10 18 41.5 +1.2**
comp=Z,37nm,0.8s
TRF LR LR
comp=Z,3µm,19.0s
COLD Coldfoot 48.21 29 *e*P **P 10 18 42.1 +1.2**
comp=Z,91nm,1.8s
COLD LR LR
comp=Z,2µm,19.0s
TARG Taragay, Kyrgy 48.39 296 *e*P **P 10 18 43.4 +0.3**
comp=Z,120nm,1.1s
TARG LR LR
comp=Z,5µm,21.0s
RC01 Rabbit Creek A 48.42 37 *e*P **P 10 18 43.9 +1.3**
comp=Z,88nm,1.0s
RC01 LR LR
comp=Z,2µm,20.0s
TOLK Toolik Lake Re 48.53 27 P **P 10 18 45.0 +1.6**
baz=267
TOLK S **S 10 25 47.1 +3.6**
baz=267
TOLK Toolik Lake Re 48.53 27 *e*P **P 10 18 45.0 +1.6**
comp=Z,72nm,1.0s
TOLK LR LR
comp=Z,3µm,18.0s
MDOK Medeo 48.53 298 *i*P **P 10 18 44.3 +0.4**
comp=Z,656nm,1.2s
MDOK *i*S **S 10 25 45.8 +1.3**
MDOK LR LR 10 40 02.1
comp=Z,7µm,13.1s
PKDT Phuket 48.59 244 P **P 10 18 44.0 -0.4**
comp=Z,141nm,0.8s
AAA Alma-Ata 48.62 298 *e*P **P 10 18 45.1 +0.7**
AAA *e*S **S 10 25 45.9 +0.4**
AAA pmax pmax
comp=Z,1µm,6.2s
AAA smax smax
comp=E,3µm,8.6s
AAA MLR MLR
comp=Z,8µm,14.0s
DANN Dangsing 48.62 277 *e*P **P 10 18 45.6 +0.7**
PMR Palmer 48.68 37 *e*P **P 10 18 44.7 +0.1**
comp=Z,79nm,1.0s
PMR LR LR
comp=Z,2µm,20.0s
PMR Palmer 48.68 37 *e*P **P 10 18 44.9 +0.4**
PMR pmax pmax
comp=Z,79nm,1.0s
MCK McKinley 48.69 34 *e*P **P 10 18 45.8 +1.1**
comp=Z,50nm,1.0s
MCK LR LR
comp=Z,4µm,18.0s
MCK McKinley 48.69 34 *e*P **P 10 18 45.8 +1.1**
MCK pmax pmax
comp=Z,50nm,1.0s
MCK MLR MLR
comp=Z,4µm,18.0s
KDJ Kajisay 48.73 297 *e*P **P 10 18 45.7 +0.3**
comp=Z,54nm,1.1s
KDJ LR LR
comp=Z,8µm,20.0s
RND Reindeer 48.74 34 *e*P **P 10 18 45.8 +0.8**
comp=Z,78nm,1.0s
RND LR LR
comp=Z,4µm,19.0s
RND Reindeer 48.74 34 *e*P **P 10 18 46.0 +0.9**
RND pmax pmax
comp=Z,78nm,1.0s
GHO Glory Hole Cre 48.77 36 *e*P **P 10 18 46.3 +0.9**
comp=Z,96nm,0.9s
GHO LR LR
comp=Z,1µm,19.0s
MMRI Maumere 48.80 206 P **P 10 18 45.9 -0.1**
MMRI Maumere 48.80 206 *e*P **P 10 18 45.7 -0.3**
comp=Z,187nm,1.0s
KUU Kurty 48.84 299 ⇓ *i*P **P 10 18 45.6 -0.5**
comp=Z,414nm,1.2s
KUU *i*S **S 10 25 49.5 +1.0**
KUU LR LR 10 39 40.0
comp=Z,2µm,14.4s
MDM Murphy Dome 48.98 32 *e*P **P 10 18 48.5 +1.7**
comp=Z,153nm,1.1s
MDM LR LR
comp=Z,2µm,19.0s
KOLN Koldanda 49.00 277 *e*P **P 10 18 47.7 -0.1**
comp=Z,338nm,1.3s
WRH Wood River Hil 49.05 33 *e*P **P 10 18 48.2 +0.9**
comp=Z,32nm,0.9s
WRH LR LR
comp=Z,3µm,19.0s
SML Sawmill 49.05 36 *e*P **P 10 18 48.0 +0.6**
comp=Z,92nm,0.8s
SML LR LR
comp=Z,2µm,21.0s
SML Sawmill 49.05 36 *e*P **P 10 18 48.1 +0.6**
SML pmax pmax
comp=Z,92nm,0.8s
IPM Ipoh 49.09 239 *e*P **P 10 18 47.5 -0.8**
comp=Z,102nm,1.0s
IPM LR LR
comp=Z,4µm,19.0s
COLA College 49.14 32 *e*P **P 10 18 49.3 +1.3**
comp=Z,56nm,1.0s
COLA LR LR
comp=Z,2µm,18.0s
COLA College 49.14 32 *e*P **P 10 18 49.3 +1.3**
COLA pmax pmax
comp=Z,56nm,1.0s
COLA MLR MLR
comp=Z,2µm,18.0s
CCB Clear Creek Bu 49.16 33 *e*P **P 10 18 48.9 +0.7**
comp=Z,79nm,1.7s
CCB LR LR
comp=Z,2µm,19.0s
SOEI Soe 49.19 203 P **P 10 18 48.9 -0.2**
SOEI Soe 49.19 203 *e*P **P 10 18 48.7 -0.4**
comp=Z,225nm,0.8s
MYKOM Kota Tinggi 49.20 234 *e*P **P 10 18 49.4 +0.3**
PYUN Piuthan 49.34 277 *e*P **P 10 18 50.4 0.0**
comp=Z,898nm,1.0s
HNR Honiara 49.35 156 LR LR 10 36 32.7
comp=Z,2µm,21.5s,baz=330,slow=32
HNR Honiara 49.35 156 *e*P **P 10 18 49.4 -0.8**
comp=Z,169nm,0.6s
HNR LR LR
comp=Z,3µm,19.0s
HNR Honiara 49.35 156 *e*P **P 10 18 49.4 -0.8**
HNR pmax pmax
comp=Z,169nm,0.6s
HNR MLR MLR
comp=Z,3µm,19.0s
ULHL Ulahol 49.36 297 P **P 10 18 49.1 -1.2**
SNR=12
DHY Denali Highway 49.42 35 *e*P **P 10 18 51.3 +0.9**
comp=Z,44nm,1.1s
DHY LR LR
comp=Z,4µm,20.0s
TPRI Tanjung Pinang 49.44 232 P **P 10 18 51.8 +0.9**
BMNS Besmoynak 49.52 299 ⇓ *i*P **P 10 18 51.8 +0.4**
comp=Z,1µm,1.2s
BMNS *e*S **S 10 25 59.9 +1.6**
BMNS LR LR 10 41 38.3
comp=Z,3µm,12.7s
SCM Sheep Creek Mo 49.52 36 *e*P **P 10 18 52.6 +1.4**
comp=Z,86nm,1.0s
SCM LR LR
comp=Z,2µm,21.0s
SCM Sheep Creek Mo 49.52 36 *e*P **P 10 18 52.7 +1.6**
SCM pmax pmax

comp=Z,87nm,1.0s
HDA Harding Lake 49.54 33 eP P 10 18 51.5 +0.4
comp=Z,82nm,1.0s
HDA LR LR
comp=Z,3µm,18.0s
ILAR Eielson Array 49.55 32 P P 10 18 52.1 +0.9
comp=Z,46nm,0.9s,baz=269,slow=6.0,SNR=378
ILB Eielson Array 49.55 32 eP P 10 18 51.8 +0.6
IL1 Eielson Array 49.55 32 eP P 10 18 51.8 +0.6
TKM2 Tokmak 2 49.62 298 P P 10 18 52.8 +0.4
SNR=68
NRN Naryn 49.77 296 eP P 10 18 54.0 +0.4
comp=Z,30nm,1.0s
NRN LR LR
comp=Z,6µm,20.0s
NRN Naryn 49.77 296 eP P 10 18 54.0 +0.4
NRN pmax pmax
comp=Z,30nm,1.0s
NRN MLR MLR
comp=Z,6µm,20.0s
BATI Baumata 49.80 203 LR LR 10 38 25.5
comp=Z,1µm,21.8s,baz=15,slow=34
BATI Baumata 49.80 203 P P 10 18 53.5 -0.1
BRZS Berezniki 49.81 308 i P P 10 18 52.8 -0.6
comp=Z,109nm,0.7s
KZA Kyzart 50.12 297 P P 10 18 57.4 +1.1
SNR=29
KBK Karagaybulak 50.16 298 P P 10 18 56.6 +0.2
SNR=35
FYU Fort Yukon 50.17 30 eP P 10 18 58.3 +2.5
comp=Z,96nm,1.1s
CHMS Chumysh 50.20 299 P P 10 18 56.5 +0.1
SNR=8.0
KLU Klutina 50.23 37 eP P 10 18 58.0 +1.5
comp=Z,72nm,1.0s
KLU LR LR
comp=Z,2µm,20.0s
USP Ospenovka 50.29 299 P P 10 18 57.8 +0.6
SNR=15
PAX Paxson 50.30 35 eP P 10 18 56.2 -0.8
comp=Z,24nm,1.0s
PAX LR LR
comp=Z,2µm,19.0s
PAX Paxson 50.30 35 eP P 10 18 56.2 -0.8
PAX pmax pmax
comp=Z,23nm,1.0s
PAX MLR MLR
comp=Z,2µm,19.0s
PBA Port Blair 50.30 253 eP P 10 18 57.0 -0.5
comp=Z,83nm,1.0s
DIV Divide 50.34 37 eP P 10 18 58.2 +0.9
comp=Z,108nm,1.0s
DIV LR LR
comp=Z,3µm,20.0s
FRU Bishkek 50.34 299 i P P 10 18 57.0 -0.5
FRU eS S **10 26 10.0 +0.5**
FRU eP S **pS 10 26 22.0 +5.4**
FRU pmax pmax
comp=Z,100nm,1.8s
FRU smax smax
comp=E,460nm,4.0s
FRU MLR MLR
comp=E,6µm,13.0s
KSH Kashi 50.40 294 P P 10 19 02.0 +3.9
KSH sP sP 10 19 08.0 +1.6
KSH PcP **PcP 10 20 19.1 +2.7**
KSH S **S 10 26 13.9 +3.3**
KSH SS **SS 10 29 45.4 +1.3**
KSH pmax pmax
comp=E,130nm,1.1s
KSH pmax pmax
comp=E,2µm,3.9s
KSH LR LR
comp=E,1µm,10.1s
KSH LR LR
comp=E,2µm,10.2s
KSH LR LR
comp=E,5µm,10.1s
EYAK Cordova Ski Ar 50.41 38 eP P 10 18 59.6 +1.9
comp=E,72nm,0.9s
EYAK LR LR
comp=Z,4µm,19.0s
OTUK Ortayu 50.43 306 P P 10 18 57.3 -0.8
OTUK pmax pmax
comp=Z,64nm,1.1s
AAK Ala-Archa 50.48 298 P P 10 18 58.6 -0.2
comp=Z,21nm,0.8s,baz=106,slow=6.8,SNR=17
AAK LR LR 10 41 00.0
comp=Z,9µm,20.6s,baz=61,slow=37
AAK Ala-Archa 50.48 298 P P 10 18 59.0 +0.2
SNR=17
AAK Ala-Archa 50.48 298 eP P 10 18 58.9 +0.1
AAK LR LR
comp=Z,9µm,21.0s
AAK Ala-Archa 50.48 298 P P 10 18 59.3 +0.5
SNR=14
AAK Ala-Archa 50.48 298 pP P 10 18 59.3 +0.5
SNR=14
AAK Ala-Archa 50.48 298 i P P 10 18 58.6 -0.2
SNR=19
AAK Ala-Archa 50.48 298 d iP P 10 18 58.1 -0.7
AAK pmax pmax
comp=Z,41nm,1.1s
MTN Manton Dam 50.49 193 eP P 10 18 59.0 +0.2
comp=Z,87nm,0.8s
HARP HAARP 50.49 35 eP P 10 18 57.6 -0.8
comp=Z,59nm,0.7s
HARP LR LR
comp=Z,2µm,21.0s
RIDG Independ'e Rid 50.51 34 eP P 10 18 59.0 +0.5
comp=Z,36nm,1.0s
RIDG LR LR
comp=Z,3µm,18.0s
BVA0 Borovoye Array 50.58 312 P P 10 18 58.4 -0.8
BVA0 pmax pmax
comp=Z,38nm,0.7s
BVAR Borovoye Array 50.58 312 P P 10 18 59.0 -0.2
comp=Z,27nm,0.7s,baz=77,slow=8.0,SNR=61
BVAR PcP **PcP 10 20 17.5 +0.8**
comp=Z,38nm,0.7s,baz=91,slow=2.6,SNR=6.4
BVAR LR LR 10 40 47.7
comp=Z,4µm,19.0s,baz=78,slow=37
UCH Uchtor 50.59 298 P P 10 19 00.5 +0.5
SNR=11
BRVK Borovoye 50.64 312 eP P 10 18 59.3 -0.2
comp=Z,52nm,0.8s
BRVK LR LR
comp=Z,5µm,21.0s
BRVK Borovoye 50.64 312 P P 10 18 59.6 0.0
SNR=27
BRVK Borovoye 50.64 312 P P 10 18 59.6 0.0
SNR=27
BRVK Borovoye 50.64 312 deP P 10 18 59.1 -0.5
BRVK pmax pmax
comp=Z,48nm,0.7s
PLAI Plampang 50.66 211 P P 10 18 59.0 -1.1
COEN Coen 50.70 178 eP P 10 19 00.8 +0.4
comp=Z,43nm,1.0s
DOT Dot Lake 50.86 34 eP P 10 19 01.9 +0.7
comp=Z,88nm,0.8s
DOT LR LR
comp=Z,6µm,20.0s
SCRK Sand Creek 50.87 33 eP P 10 19 02.1 +0.8
comp=Z,94nm,1.0s
SCRK LR LR
comp=Z,3µm,20.0s
BMRM Bremner River 50.92 37 eP P 10 19 03.1 +1.4
comp=Z,81nm,1.0s
BMRM LR LR
comp=Z,3µm,21.0s
RAGM Ragged Mountai 50.96 38 eP P 10 19 00.9 -1.1
comp=Z,56nm,0.8s
RAGM LR LR
comp=Z,3µm,20.0s
EKS2 Erkin-Say 50.98 299 P P 10 19 03.0 +0.5
SNR=13
MENT Mentasta 51.09 35 eP P 10 19 04.5 +1.6
comp=Z,54nm,0.9s
MENT LR LR
comp=Z,4µm,19.0s
AML Almayashu 51.20 298 P P 10 19 05.0 +0.5
SNR=43
CRQM Cirque 51.66 37 eP P 10 19 07.8 +0.4
comp=Z,103nm,1.0s
PSI Prapat 51.74 239 P P 10 19 08.3 -0.1
comp=Z,40nm,0.8s,baz=14,slow=5.9,SNR=17
PSI LR LR 10 42 13.6
comp=Z,1µm,18.2s,baz=22,slow=37
PSI Prapat 51.74 239 eP P 10 19 08.1 -0.3
comp=Z,71nm,1.0s
PSI LR LR
comp=Z,4µm,18.0s
PSI Prapat 51.74 239 eP P 10 19 08.1 -0.3
PSI pmax pmax
comp=Z,71nm,1.0s
PSI MLR MLR
comp=Z,4µm,18.0s
MNAS Manas 51.93 299 P P 10 19 09.6 0.0
MNAS pmax pmax
comp=Z,107nm,1.1s
BALM Baldy 52.00 37 eP P 10 19 11.4 +1.6
comp=Z,42nm,0.9s
BALM LR LR
comp=Z,3µm,18.0s
BALM Baldy 52.00 37 eP P 10 19 11.4 +1.6
BALM pmax pmax
comp=Z,42nm,0.9s
EGAK Eagle 52.00 32 eP P 10 19 10.2 +0.6
comp=Z,23nm,0.6s
EGAK LR LR
comp=Z,3µm,19.0s
SFK Sufi-Kurgan 52.02 296 P P 10 19 10.1 -0.4
SFK pmax pmax
comp=Z,95nm,1.1s
BKNI Bangkinang 52.14 235 eP P 10 19 11.7 +0.4
comp=Z,595nm,1.5s
BKNI LR LR
comp=Z,2µm,18.0s
SMRI Semarang 52.50 220 eP P 10 19 14.0 +0.1
comp=Z,373nm,1.5s
DZA Taraz 52.62 300 i P P 10 19 15.5 +0.9
comp=Z,937nm,1.2s
DAWY Dawson 52.86 33 eP P 10 19 17.3 +1.2
comp=Z,13nm,0.8s
DAWY LR LR
comp=Z,8µm,20.0s
KK31 Karatay Array 53.12 300 eP P 10 19 18.3 0.0
KK31 Karatay Array 53.12 300 eP P 10 19 18.3 0.0
KKAR Karatay Array 53.12 300 eP P 10 19 18.3 0.0
KKAR Karatay Array 53.12 300 eP P 10 19 18.3 0.0
CHLP Challavanipeta 53.18 266 eP P 10 19 19.4 +0.5
UGM Wanagama 53.20 219 eP P 10 19 18.6 -0.4
comp=Z,696nm,1.3s
YKU2 Yakutat 53.59 38 PFAKE 10 19 30.0 +8.6
YKU2 LR LR
comp=Z,5µm,19.0s
BRLS Borolday 53.61 300 i eP P 10 19 23.2 +1.3
comp=Z,26nm,0.9s
BRLS eS S **10 26 58.7 +4.2**
BRLS LR LR 10 42 28.7
comp=Z,167nm,13.1s
GSI Gunungsitoli 53.75 239 eP P 10 19 23.1 -0.1
comp=Z,474nm,1.1s
GSI LR LR
comp=Z,3µm,20.0s
LEM Lembang 53.82 223 P P 10 19 23.6 -0.2
comp=Z,119nm,0.8s,baz=59,slow=7.3,SNR=16
LEM LR LR 10 43 30.8
comp=Z,1µm,19.1s,baz=351,slow=37
CHM Chimkent 54.01 299 eP P 10 19 24.7 -0.1
comp=Z,888nm,0.9s
CHM i S S **10 27 01.0 +1.1**
CHM LR LR 10 42 56.7
comp=Z,2µm,14.0s
OPA Opana 54.16 89 eP P 10 19 28.1 +1.9
comp=Z,225nm,1.2s
OPA Opana 54.16 89 eP P 10 19 23.9 -2.3
OPA pmax pmax
comp=Z,220nm,1.2s
KIP Kipapa 54.30 89 eP P 10 19 27.9 +0.8
comp=Z,375nm,2.0s
KIP Kipapa 54.30 89 ceP P 10 19 26.6 -0.5
KIP pmax pmax
comp=Z,1µm,2.5s
CISI Cisompet, Garu 54.32 222 eP P 10 19 26.9 -0.4
comp=Z,242nm,1.6s
HYT Haines Junctio 54.36 37 PFAKE 10 19 40.0 +13
HYT LR LR
comp=Z,3µm,18.0s
INK Inuvik 54.45 27 P P 10 19 29.1 +1.6
comp=Z,38nm,0.8s,baz=298,slow=5.1,SNR=179
INK Inuvik 54.45 27 eP P 10 19 28.6 +1.0
comp=Z,60nm,0.9s
INK LR LR
comp=Z,2µm,20.0s
MNAI Manna 54.52 230 eP P 10 19 27.9 -0.9
comp=Z,212nm,1.4s
NIL Nilore 54.60 288 eP P 10 19 29.4 +0.1
comp=Z,84nm,0.8s
NIL LR LR
comp=Z,3µm,18.0s
NIL Nilore 54.60 288 eP P 10 19 30.0 +0.7
NIL pmax pmax
comp=Z,84nm,0.8s
SVE Sverdlovsk 55.16 319 c iP P 10 19 33.2 +0.3
SVE eS S **10 27 15.9 +1.0**
SVE e 10 30 54.4
SVE pmax pmax
comp=Z,223nm,1.0s
SVE pmax pmax
comp=Z,743nm,13.5s
SVE MLR MLR
comp=Z,5µm,13.0s
SVE MLR MLR
comp=E,5µm,14.0s
WHY Whitehorse 55.65 36 eP P 10 19 38.5 +2.0
comp=E,53nm,0.9s
WHY LR LR
comp=Z,3µm,19.0s
SKAG Skagway 55.75 38 eP P 10 19 40.0 +2.8
comp=Z,73nm,1.1s
SKAG LR LR
comp=Z,2µm,20.0s
PVM Polavaram 55.80 266 eP P 10 19 38.1 +0.1
KHLH Kahului Airpor 55.84 88 eP P 10 19 40.9 +2.7
comp=Z,116nm,1.1s
DZET Dzherino 55.84 296 P P 10 19 37.9 -0.3
DZET pmax pmax
comp=Z,99nm,0.9s
BESE Bessie Mountai 56.24 39 eP P 10 19 42.0 +1.2
comp=Z,73nm,1.1s
BESE LR LR
comp=Z,3µm,19.0s
ARU Arti 56.38 319 P P 10 19 41.4 -0.3
comp=Z,144nm,0.7s,baz=82,slow=4.7,SNR=186
ARU LR LR 10 45 06.0
comp=Z,3µm,18.4s,baz=70,slow=37
ARU Arti 56.38 319 eP P 10 19 41.2 -0.4
comp=Z,185nm,0.7s
ARU LR LR
comp=Z,4µm,20.0s
ARU Arti 56.38 319 d iP P 10 19 41.1 -0.5
ARU 10 21 47.7
ARU PPP PPP 10 23 04.1
ARU S S **10 27 39.9 +8.9**
ARU pmax pmax
comp=Z,246nm,1.0s
SIT Sitka 56.45 41 PFAKE 10 20 00.0 +18
SIT LR LR
comp=Z,4µm,21.0s
SIT Sitka 56.45 41 eP P 10 19 45.1 +3.0
SIT pmax pmax
comp=Z,88nm,1.4s
FITZ Fitzroy Crossi 56.76 198 P P 10 19 44.7 0.0
comp=Z,14nm,0.5s,baz=14,slow=8.2,SNR=18
RPR Rampur 56.80 269 eP P 10 19 45.0 -0.2
WB6 Warramunga Arr 56.92 188 PFAKE 10 20 00.0 +14
WB6 LR LR
comp=Z,2µm,20.0s
KHLU Kahalu'u 56.94 89 eP P 10 19 45.7 -0.5
comp=Z,102nm,1.0s
WB5 Warramunga Arr 56.94 188 PFAKE 10 20 00.0 +14
WB5 LR LR
comp=Z,2µm,20.0s
CTA Charters Tower 56.95 175 LR LR 10 44 02.9
comp=Z,661nm,19.8s,baz=344,slow=36
WB4 Warramunga Arr 56.97 188 PFAKE 10 20 00.0 +14
WB4 LR LR
comp=Z,2µm,22.0s
WC1 Warramunga Arr 56.99 188 PFAKE 10 20 00.0 +14
WC1 LR LR
comp=Z,2µm,20.0s
WRAB Tennant Creek 57.00 188 eP P 10 19 45.4 -1.0
comp=Z,125nm,1.2s
WRAB LR LR
comp=Z,2µm,20.0s
WRAB Tennant Creek 57.00 188 d iP P 10 19 45.6 -0.8
WRAB pmax pmax
comp=Z,51nm,0.8s
WR0 Warramunga Arr 57.00 188 PFAKE 10 20 00.0 +14
WR0 LR LR
comp=Z,2µm,20.0s
WR7 Warramunga Arr 57.01 188 PFAKE 10 20 00.0 +14
WR7 LR LR
comp=Z,2µm,19.0s
WB2 Warramunga Arr 57.01 188 eP P 10 19 45.7 -0.8
WB2 LR LR
comp=Z,2µm,20.0s
WR5 Warramunga Arr 57.01 188 PFAKE 10 20 00.0 +14
WR5 LR LR
comp=Z,2µm,19.0s
WR6 Warramunga Arr 57.01 188 PFAKE 10 20 00.0 +14
WR6 LR LR
comp=Z,2µm,20.0s
WR1 Warramunga Arr 57.01 188 eP P 10 19 45.7 -0.8
comp=Z,120nm,1.2s
WR1 ePcP **PcP 10 20 41.5 0.0**
WR1 eS S **10 27 43.5 +3.4**
WR3 Warramunga Arr 57.01 188 PFAKE 10 20 00.0 +14
WR3 LR LR
comp=Z,2µm,20.0s
WR4 Warramunga Arr 57.01 188 PFAKE 10 20 00.0 +14
WR4 LR LR
comp=Z,2µm,19.0s
WRA Warramunga Arr 57.01 188 P P 10 19 45.7 -0.8
comp=Z,54nm,0.7s,baz=5.5,slow=7.3,SNR=194
WRA PcP **PcP 10 20 41.5 0.0**
comp=Z,20nm,0.7s,baz=355,slow=4.1,SNR=5.9
WRA S S **10 27 43.5 +3.4**
comp=Z,1.3nm,1.0s,baz=12,slow=13,SNR=2.8
WRA LR LR 10 43 44.7
comp=Z,2µm,20.2s,baz=30,slow=36
WRA PKP2bc 10 49 50.7
comp=Z,1.6nm,0.9s,baz=208,slow=2.0,SNR=4.9
WR2 Warramunga Arr 57.01 188 PFAKE 10 20 00.0 +14
WR2 LR LR
comp=Z,2µm,21.0s
WC3 Warramunga Arr 57.02 188 eP P 10 19 45.9 -0.6
comp=Z,181nm,1.4s
WC3 LR LR
comp=Z,2µm,20.0s
WC4 Warramunga Arr 57.03 188 PFAKE 10 20 00.0 +13
WC4 LR LR
comp=Z,2µm,21.0s
KBL Kabul 57.40 291 eP P 10 19 48.6 -1.0
comp=Z,145nm,1.1s
KBL LR LR
comp=Z,4µm,20.0s
KBL Kabul 57.40 291 eP P 10 19 49.2 -0.3
KBL pmax pmax
comp=Z,140nm,1.1s
SRSP Sriramsagar 57.53 270 eP P 10 19 49.9 -0.4
HATHI Halema'uma'u T 57.53 89 PFAKE 10 20 00.0 +9.5
HATHI LR LR
comp=Z,3µm,18.0s
BYL Byron's Ledge 57.54 89 PFAKE 10 20 00.0 +9.4
BYL LR LR
comp=Z,4µm,22.0s
KKO Keanakako'i 57.55 89 PFAKE 10 20 00.0 +9.4
KKO LR LR
comp=Z,2µm,21.0s
STCH Steam Cracks 57.66 89 PFAKE 10 20 10.0 +19
STCH LR LR
comp=Z,2µm,19.0s
ADKI Addanki 57.90 266 eP P 10 19 53.1 +0.1
AB31 Akbulak array 57.95 310 P P 10 19 52.1 -0.7
AB31 pmax pmax
comp=Z,51nm,0.7s
ABKAR Akbulak array 57.95 310 eP P 10 19 52.8 0.0
NJS Nagarjunasagar 58.04 267 eP P 10 19 53.6 -0.3
CRAG Craig 58.12 42 PFAKE 10 20 10.0 +16
CRAG LR LR
comp=Z,7µm,19.0s
HYB Hyderabad 58.17 268 i P P 10 19 55.0 +0.1
HYB eS S **10 27 56.0 +0.3**
HYBB Hyderabad (bro 58.17 268 eP P 10 19 54.4 -0.5
WRAK Wrangell Islan 58.20 41 PFAKE 10 20 10.0 +15
WRAK LR LR
comp=Z,2µm,22.0s
SRLM Srisailam 58.62 267 eP P 10 19 57.6 -0.5
AKTO Aktyubinsk 58.68 312 P P 10 19 57.3 -0.7
comp=Z,75nm,0.8s,baz=74,slow=6.8,SNR=74
AKTO PcP **PcP 10 20 47.2 -0.6**
comp=Z,31nm,0.9s,baz=4.4,slow=2.8,SNR=3.8
AKTO LR LR 10 45 45.5
comp=Z,4µm,20.7s,baz=65,slow=37
DLBC Dease Lake 58.69 38 PFAKE 10 20 10.0 +12
DLBC LR LR
comp=Z,7µm,20.0s
KNTN Kanton 58.83 122 eP P 10 20 00.5 +1.1
comp=Z,372nm,1.8s
DIB Dawson Inlet, 59.28 44 eP P 10 20 03.3 +1.3
comp=Z,56nm,1.1s
SKHT Srikalahasti 59.29 264 eP P 10 20 03.1 +0.4
KLRI Killari 59.38 270 eP P 10 20 02.7 -0.7
URV Uravakonda 60.56 267 eP P 10 20 11.0 -0.5
SPA0 Spitsbergen Ar 60.56 349 eP P 10 20 10.8 +0.2
SPITS Spitsbergen Ar 60.56 349 P P 10 20 10.7 +0.1
comp=Z,10nm,0.8s,baz=1.3,slow=13,SNR=12
SPITS LR LR 10 48 01.9
comp=Z,2µm,18.6s,baz=40,slow=38
KBS Kingsbay 60.70 350 eP P 10 20 12.7 +1.3
comp=Z,78nm,1.0s
KBS LR LR
comp=Z,2µm,18.0s
KBS Kingsbay 60.70 350 eP P 10 20 12.8 +1.3
KBS pmax pmax
comp=Z,78nm,1.0s
AS01 Alice Springs 60.73 188 eP P 10 20 11.5 -0.8
AS31 Alice Springs 60.73 188 eP P 10 20 12.4 +0.1
comp=Z,10nm,0.8s
ASAR Alice Springs 60.73 188 P P 10 20 12.1 -0.3
comp=Z,33nm,0.7s,baz=12,slow=7.3,SNR=277
ASAR S S 10 28 40.5 +12
comp=Z,0.6nm,0.6s,baz=15,slow=18,SNR=4.3
ASAR LR LR 10 46 10.3
comp=Z,2µm,19.7s,baz=8.5,slow=36
ASAR PKP2bc 10 49 40.1
comp=Z,3.7nm,1.1s,baz=192,slow=3.0,SNR=7.4
MBWA Marble Bar 61.33 203 eP P 10 20 16.4 0.0
comp=Z,45nm,1.0s
POO Poona 61.34 272 i P P 10 20 13.0 -3.7
comp=Z,16nm,1.0s
HSPB Hornsund (broa 61.49 348 eP P 10 20 17.7 +0.9
LVZ Lovozero 62.14 336 eP P 10 20 21.5 +0.1
comp=Z,90nm,1.2s
LVZ LR LR
comp=Z,3µm,20.0s
LVZ Lovozero 62.14 336 ceP P 10 20 22.1 +0.7
LVZ pmax pmax
comp=Z,59nm,1.0s
PALK Pallekele 62.33 258 P P 10 20 23.5 +0.1
comp=Z,28nm,0.9s,baz=116,slow=4.0,SNR=19
PALK Pallekele 62.33 258 eP P 10 20 23.3 -0.1
comp=Z,180nm,1.6s
PALK LR LR
comp=Z,3µm,20.0s
PALK Pallekele 62.33 258 P P 10 20 23.9 +0.6
SNR=22
PALK Pallekele 62.33 258 P P 10 20 23.9 +0.6
SNR=22
PALK Pallekele 62.33 258 i P P 10 20 23.5 +0.1
SNR=23
PALK Pallekele 62.33 258 i P P 10 20 24.0 +0.6
RES Resolute Bay 62.66 14 eP P 10 20 24.6 0.0
comp=Z,44nm,1.1s
RES LR LR
comp=Z,2µm,20.0s
RES Resolute Bay 62.66 14 eP P 10 20 24.6 0.0
RES pmax pmax
comp=Z,44nm,1.1s
RES MLR MLR
comp=Z,2µm,20.0s
EIDS Eidsvold 62.69 170 eP P 10 20 26.1 +0.7
comp=Z,39nm,1.3s
APA Apatity 62.72 336 i P P 10 20 24.2 -1.0
APA pmax pmax
comp=Z,44nm,0.7s
APA MLR MLR
comp=Z,1µm,15.0s

TMCR	**Tamitsa**	**62.77**	**331**	*e*P		**P**	**10 20 25.6**	**0.0**
TMCR				pmax		pmax		
	comp=Z,111nm,1.0s							
DZM	**Mont Dzumac**	**63.32**	**154**	*e*P		**P**	**10 20 29.4**	**-0.4**
	comp=Z,158nm,1.1s							
DZM				*e*S		**S**	**10 28 55.6**	**-5.6**
	comp=Z,7μm,28.8s							
DZM	**Mont Dzumac**	**63.32**	**154**	*e*LR		LR	10 39 11.3	
	comp=Z,4μm,27.1s							
DZM	**Mont Dzumac**	**63.32**	**154**	*e*P		**P**	**10 20 31.6**	**+1.9**
	comp=Z,77nm,1.1s							
DZM				LR		LR		
	comp=Z,3μm,20.0s							
KEV	**Kevo**	**63.48**	**339**	*e*P		**P**	**10 20 30.3**	**+0.1**
	comp=Z,200nm,1.6s							
KEV				LR		LR		
	comp=Z,6μm,18.0s							
KEV	**Kevo**	**63.48**	**339**	*e*P		**P**	**10 20 30.5**	**+0.4**
KEV				pmax		pmax		
	comp=Z,200nm,1.6s							
KLMR	**Klimovskoe**	**63.78**	**328**	*e*P		**P**	**10 20 30.4**	**-1.9**
KLMR				AMP			10 20 40.9	
	comp=Z,161nm,1.3s							
KLMR				*e*PP		**PP**	**10 22 49.4**	**-2.8**
KLMR				*e*S		**S**	**10 29 05.9**	**-0.1**
KLMR				*e*S		**S**	**10 29 05.9**	**-0.1**
KLMR				*e*SS		**SS**	**10 33 16.0**	**+2.7**
KLMR				*e*SS		**SS**	**10 33 16.0**	**+2.7**
KLMR				LQ		LQ	10 43 00.4	
KLMR				LQ		LQ	10 43 00.4	
KLMR				LR		LR	10 47 17.7	
KLMR	**Klimovskoe**	**63.78**	**328**	*e*P		**P**	**10 20 30.3**	**-2.0**
KLMR				*e*			10 22 49.3	
KLMR				*e*S		**S**	**10 29 05.8**	**-0.2**
KLMR				*e*SS		**SS**	**10 33 15.9**	**+2.7**
KLMR				pmax		pmax		
	comp=Z,161nm,1.3s							
GEYT	**Alibeck**	**63.83**	**299**	P		**P**	**10 20 33.3**	**+0.2**
	comp=Z,102nm,1.0s,baz=39,slow=2.8,SNR=97							
GEYT				LR		LR	10 50 03.3	
	comp=Z,3μm,20.5s,baz=55,slow=38							
GYA0B	**ALIBECK ARRAY**	**63.83**	**299**	*e*P		**P**	**10 20 33.2**	**+0.1**
	comp=Z,137nm,1.0s							
GYA0B				LR		LR		
	comp=Z,3μm,21.0s							
YKA	**Yellowknife Ar**	**63.87**	**30**	P		**P**	**10 20 33.7**	**+0.8**
	comp=Z,26nm,0.9s,baz=296,slow=6.5,SNR=43							
YKA				PKPPKP		P'P'df	10 49 23.6	-9.3
	comp=Z,2.4nm,1.1s,baz=117,slow=2.3,SNR=14							
YKA	**Yellowknife Ar**	**63.87**	**30**	P		**P**	**10 20 33.7**	**+0.8**
YKA				pmax		pmax		
	comp=Z,25nm,0.9s							
YKA				pmax		pmax		
	comp=Z,2.0nm,1.1s							
YKB5	**Yellowknife Ar**	**63.87**	**30**	*e*P		**P**	**10 20 33.0**	**+0.2**
COCO	**West Island**	**64.38**	**230**	*e*P		**P**	**10 20 36.4**	**-0.4**
	comp=Z,518nm,1.4s							
COCO	**West Island**	**64.38**	**230**	*ce*P		**P**	**10 20 40.4**	**+3.6**
MSVF	**Nonsavu**	**64.49**	**141**	*e*P		**P**	**10 20 39.8**	**+2.3**
	comp=Z,70nm,1.1s							
MSVF	**Nonsavu**	**64.49**	**141**	*e*P		**P**	**10 20 39.8**	**+2.3**
MSVF				pmax		pmax		
	comp=Z,71nm,1.1s							
TULEG	**Thule**	**65.15**	**7**	*e*P		**P**	**10 20 41.0**	**0.0**
	comp=Z,41nm,1.1s							
TULEG				LR		LR		
	comp=Z,4μm,18.0s							
DAG	**Danmarks Havn**	**65.82**	**355**	⇓*i*P		**P**	**10 20 45.5**	**+0.1**
	comp=Z,1μm,14.0s							
DAG	**Danmarks Havn**	**65.82**	**355**	⇓*i*P		**P**	**10 20 45.5**	**+0.1**
DAG				MLR		MLR		
	comp=Z,1μm,14.0s							
LLLB	**Lillooet**	**66.31**	**44**	*e*P		**P**	**10 20 50.3**	**+1.3**
	comp=Z,39nm,0.9s							
PGC	**Sidney**	**66.39**	**46**	*e*P		**P**	**10 20 51.5**	**+2.0**
	comp=Z,31nm,0.9s							
NLWA	**Neilton Lookou**	**66.77**	**47**	*e*P		**P**	**10 20 54.0**	**+2.0**
	comp=Z,70nm,0.9s							
A04D	**Lummi Island**	**66.79**	**46**	P		**P**	**10 20 54.0**	**+2.0**
	baz=300							
AFI	**Afiamalu**	**67.13**	**130**	LR		LR	10 48 16.3	
	comp=Z,1μm,18.4s,baz=319,slow=34							
AFI	**Afiamalu**	**67.13**	**130**	*e*P		**P**	**10 20 54.8**	**+0.2**
AFI				*e*pP		**pP**	**10 20 56.8**	**-3.9**
AFI	**Afiamalu**	**67.13**	**130**	*e*P		**P**	**10 20 54.8**	**+0.2**
MOS	**Moscow**	**67.27**	**323**	*e*P		**P**	**10 20 54.0**	**-0.9**
MOS				*e*			10 20 59.8	
MOS				*e*			10 21 19.8	
MOS				*e*			10 23 24.0	
MOS				*e*S		**S**	**10 29 46.5**	**-2.3**
MOS				*e*SS		**SS**	**10 34 01.7**	**-5.9**
MOS				pmax		pmax		
	comp=Z,133nm,1.3s							
MOS				pmax		pmax		
	comp=N,104nm,1.0s							
B05A	**Bryant**	**67.37**	**46**	P		**P**	**10 20 57.4**	**+1.7**
	baz=301,SNR=9.2							
E03A	**Lebam**	**67.38**	**48**	*e*P		**P**	**10 20 57.3**	**+1.5**
	comp=N,65nm,0.9s							
B06A	**Marblemount**	**67.59**	**46**	*e*P		**P**	**10 20 58.8**	**+1.7**
	comp=N,45nm,1.1s							
VRH	**Novokhopyorsk**	**67.59**	**318**	*e*P		**P**	**10 20 56.3**	**-0.8**
VRH				pmax		pmax		
	comp=Z,110nm,0.8s							
VRH				MLR		MLR		
	comp=Z,6μm,14.0s							
ARMA	**Armidale**	**67.74**	**170**	*e*P		**P**	**10 20 59.7**	**+1.5**
	comp=Z,40nm,1.3s							
MNCI	**Minicoy**	**67.75**	**264**	PFAKE			10 21 10.0	+11
MNCI				LR		LR		
	comp=Z,2μm,20.0s							
D05A	**Enumclaw**	**67.98**	**47**	*e*P		**P**	**10 21 01.4**	**+1.8**
	comp=Z,42nm,0.9s							
OBN	**Obninsk**	**68.11**	**323**	*e*P		**P**	**10 21 00.6**	**+0.3**
	comp=Z,108nm,1.0s							
OBN				LR		LR		
	comp=Z,3μm,19.0s							
OBN	**Obninsk**	**68.11**	**323**	*d*iP		**P**	**10 20 59.9**	**-0.4**
OBN				*i* *SP		**sP**	**10 21 09.4**	**+0.8**
OBN				*e*			10 21 30.9	
OBN				*e*			10 23 32.8	
OBN				*e*PPP		PPP	10 25 10.9	
OBN				*e*S		**S**	**10 29 55.9**	**-3.0**
OBN				pmax		pmax		
	comp=Z,184nm,1.7s							
OBN				MLR		MLR		
	comp=Z,3μm,15.0s							
G03D	**McMinnville, O**	**68.23**	**49**	P		**P**	**10 21 02.2**	**+1.0**
	baz=301							
LON	**Longmire**	**68.31**	**47**	*e*P		**P**	**10 21 03.5**	**+1.7**
	comp=Z,32nm,1.4s							
LON	**Longmire**	**68.31**	**47**	*e*P		**P**	**10 21 03.5**	**+1.7**
LON				pmax		pmax		
	comp=Z,32nm,1.3s							
LPSR	**Galich'ya Gora**	**68.32**	**320**	*e*P		**P**	**10 21 01.0**	**-0.6**
LPSR				pmax		pmax		
	comp=Z,150nm,0.8s							
LPSR				MLR		MLR		
	comp=Z,2μm,11.0s							
MAK	**Makhachkala**	**68.46**	**308**	*d*iP		**P**	**10 21 00.8**	**-1.9**
MAK				*e*			10 23 32.2	
MAK				*e*PPP		PPP	10 25 10.6	
MAK				*e*S		**S**	**10 30 04.0**	**+0.5**
MAK				*e*SS		**SS**	**10 34 28.3**	**+1.6**
MAK				pmax		pmax		
	comp=Z,79nm,0.9s							
STKA	**Stephens Creek**	**68.50**	**180**	P		**P**	**10 21 03.3**	**+0.5**
	comp=Z,9.0nm,0.6s,baz=348,slow=7.4,SNR=22							
STKA				LR		LR	10 50 22.9	
	comp=Z,1μm,20.1s,baz=1.7,slow=35							
STKA	**Stephens Creek**	**68.50**	**180**	*e*P		**P**	**10 21 03.1**	**+0.3**
	comp=Z,16nm,1.6s							
STKA				LR		LR		
	comp=Z,300nm,20.0s							
STKA	**Stephens Creek**	**68.50**	**180**	*e*P		**P**	**10 21 03.3**	**+0.5**
STKA				pmax		pmax		
	comp=Z,16nm,1.6s							
COR	**Corvallis**	**68.53**	**50**	*e*P		**P**	**10 21 05.5**	**+2.4**
	comp=Z,127nm,0.9s							
COR	**Corvallis**	**68.53**	**50**	*e*P		**P**	**10 21 05.5**	**+2.4**
COR				pmax		pmax		
	comp=Z,127nm,0.9s							
HMDM	**Hanimaadhoo**	**68.55**	**262**	PFAKE			10 21 20.0	+16
HMDM				LR		LR		
	comp=Z,1μm,18.0s							
FORT	**Forrest**	**68.56**	**192**	*e*P		**P**	**10 21 03.8**	**+0.6**
	comp=Z,145nm,0.6s							
FORT				LR		LR		
	comp=Z,2μm,19.0s							
VORR	**Voronezh**	**68.68**	**319**	P		**P**	**10 21 04.0**	**+0.1**
LTY	**Liberty**	**68.71**	**46**	*e*P		**P**	**10 21 05.9**	**+1.6**
	comp=Z,23nm,0.9s							
KEBM	**Edson Butte**	**68.78**	**52**	*e*P		**P**	**10 21 05.1**	**+0.4**
	comp=Z,146nm,1.0s							
FIA1	**FINESS Array S**	**68.84**	**332**	*e*P		**P**	**10 21 04.5**	**-0.2**
	comp=Z,119nm,1.0s							
FIA0	**FINESS Array S**	**68.84**	**332**	*e*P		**P**	**10 21 04.2**	**-0.5**
FIA0	**FINESS Array S**	**68.84**	**332**	*e*P		**P**	**10 21 04.2**	**-0.5**
FINES	**FINESS Array B**	**68.84**	**332**	P		**P**	**10 21 04.2**	**-0.5**
	comp=Z,54nm,0.6s,baz=58,slow=7.2,SNR=161							
FINES				LR		LR	10 56 09.7	
	comp=Z,3μm,18.1s,baz=49,slow=40							
B08A	**Colville Reser**	**68.89**	**45**	*e*P		**P**	**10 21 06.6**	**+1.2**
	comp=Z,29nm,1.0s							
VSR	**Storozhevoye**	**68.95**	**319**	*e*P		**P**	**10 21 05.1**	**-0.5**
VSR				pmax		pmax		
	comp=Z,110nm,0.8s							
VSR				MLR		MLR		
	comp=Z,5μm,13.0s							
I03D	**Drain, OR**	**68.97**	**51**	P		**P**	**10 21 07.9**	**+2.1**
	baz=302,SNR=15							
AKT	**Akhty**	**69.08**	**307**	*e*P		**P**	**10 21 05.9**	**-0.8**
AKT				*e*			10 21 29.8	
AKT				pmax		pmax		
	comp=Z,160nm,1.0s							
H04A	**Detroit Lake**	**69.16**	**49**	*e*P		**P**	**10 21 09.1**	**+2.0**
	comp=Z,79nm,0.9s							
KBO	**Bosley Butte**	**69.19**	**52**	*e*P		**P**	**10 21 08.4**	**+1.1**
	comp=Z,151nm,1.5s							
G05D	**Wamic, OR**	**69.39**	**48**	P		**P**	**10 21 09.0**	**+0.5**
	baz=302,SNR=6.6							
EDM	**Edmonton**	**69.41**	**38**	*e*P		**P**	**10 21 09.7**	**+1.3**
	comp=Z,70nm,0.9s							
EDM	**Edmonton**	**69.41**	**38**	*e*P		**P**	**10 21 09.7**	**+1.3**
EDM				pmax		pmax		
	comp=Z,70nm,0.9s							
GROC	**Groznyy**	**69.41**	**309**	*e*P		P	10 21 02.9	-5.7
GROC				*e*			10 21 26.2	
GROC				*i*			10 23 36.7	
GROC				*e*S		**S**	**10 30 08.1**	**-6.6**
GROC				pmax		pmax		
	comp=Z,90nm,1.5s							
I04A	**Tendick Farm,**	**69.49**	**50**	P		**P**	**10 21 10.7**	**+1.5**
	baz=302,SNR=18							
E07A	**Sunnyside**	**69.56**	**47**	*e*P		**P**	**10 21 11.5**	**+2.0**
	comp=Z,35nm,0.8s							
L02D	**Cave Junction,**	**69.61**	**52**	P		**P**	**10 21 11.8**	**+1.9**
	baz=302,SNR=7.5							
BBOO	**Buckleboo**	**69.61**	**185**	*e*P		**P**	**10 21 10.0**	**+0.3**
	comp=Z,37nm,0.8s							
KRMB	**Red Mountain**	**69.75**	**53**	*e*P		**P**	**10 21 12.8**	**+1.9**
	comp=Z,45nm,1.1s							
HUMO	**Hull Mountain**	**69.78**	**52**	*e*P		**P**	**10 21 13.5**	**+2.5**
	comp=Z,26nm,1.1s							
C09A	**Chsman Ranch**	**69.79**	**45**	*e*P		**P**	**10 21 12.4**	**+1.5**
	comp=Z,35nm,0.8s							
G06A	**Carlson Farm,**	**69.81**	**48**	*e*P		**P**	**10 21 12.9**	**+1.8**
	comp=Z,57nm,1.2s							
D08A	**Wollman Farm,**	**69.83**	**46**	*e*P		**P**	**10 21 12.7**	**+1.6**
	comp=Z,31nm,0.8s							
HAWA	**Hanford**	**69.83**	**47**	*e*P		**P**	**10 21 13.0**	**+1.8**
	comp=Z,27nm,1.0s							
I05D	**Terrebonne, OR**	**69.86**	**49**	P		**P**	**10 21 13.4**	**+2.0**
	baz=302							
F07A	**Phinny Hill Vi**	**69.87**	**47**	*e*P		**P**	**10 21 13.5**	**+2.2**
	comp=Z,67nm,0.8s							
J04D	**Umpqua Nationa**	**69.97**	**51**	P		**P**	**10 21 14.2**	**+1.9**
	baz=302,SNR=14							
E08A	**Dider Farm, El**	**70.06**	**46**	*e*P		**P**	**10 21 14.7**	**+2.2**
	comp=Z,34nm,0.8s							
GOF	**Gofitskoye**	**70.10**	**312**	⇓*i*P		**P**	**10 21 13.0**	**+0.2**
GOF				*e*S		**S**	**10 30 22.3**	**-0.5**
GOF				pmax		pmax		
	comp=Z,295nm,1.3s							
NEW	**Newport**	**70.19**	**44**	P		**P**	**10 21 14.7**	**+1.3**
	baz=304,SNR=12							
NEW	**Newport**	**70.19**	**44**	*e*P		**P**	**10 21 14.9**	**+1.5**
	comp=Z,29nm,0.8s							
NEW	**Newport**	**70.19**	**44**	*e*P		**P**	**10 21 14.9**	**+1.5**
NEW				pmax		pmax		
	comp=Z,29nm,0.8s							
KHMM	**Horse Mountain**	**70.20**	**53**	*e*P		**P**	**10 21 16.7**	**+3.0**
	comp=Z,68nm,1.0s							
PINE	**Pine Mountain**	**70.39**	**50**	*e*P		**P**	**10 21 16.9**	**+2.0**
	comp=Z,137nm,0.9s							
YBH	**Yreka Blue Hor**	**70.40**	**52**	P		**P**	**10 21 16.7**	**+1.8**
	comp=Z,36nm,1.1s,baz=324,slow=0.9,SNR=27							
YBH	**Yreka Blue Hor**	**70.40**	**52**	*e*P		**P**	**10 21 15.3**	**+0.5**
	comp=Z,34nm,1.0s							
YBH	**Yreka Blue Hor**	**70.40**	**52**	*e*P		**P**	**10 21 15.3**	**+0.5**
YBH				pmax		pmax		
	comp=Z,34nm,1.0s							
VSU	**Vasula**	**70.48**	**330**	*ce*P		**P**	**10 21 15.1**	**+0.3**
VSU				pmax		pmax		
	comp=Z,268nm,1.0s							
J05D	**Fort Rock, OR**	**70.49**	**50**	P		**P**	**10 21 16.4**	**+1.0**
	baz=303,SNR=29							
M02C	**Callahan**	**70.49**	**53**	P		**P**	**10 21 17.7**	**+2.4**
	baz=302,SNR=7.6							
K04D	**Chiloquin, OR**	**70.52**	**51**	P		**P**	**10 21 17.8**	**+2.2**
	baz=303							
E09A	**Wood Farm, Sta**	**70.57**	**46**	*e*P		**P**	**10 21 17.6**	**+2.0**
	comp=Z,44nm,0.8s							
NCK	**Nalchik**	**70.61**	**310**	*i*P		**P**	**10 21 16.2**	**+0.2**
NCK				pmax		pmax		
	comp=Z,84nm,0.8s							
SUMG	**Summit**	**70.73**	**360**	*i*P		**P**	**10 21 18.2**	**+1.5**
SUMG	**Summit**	**70.73**	**360**	*i*P		**P**	**10 21 18.2**	**+1.5**
G08A	**Pilot Rock**	**70.77**	**47**	*e*P		**P**	**10 21 18.4**	**+1.4**
	comp=Z,20nm,0.9s							
ZEI	**Tsey**	**70.80**	**309**	*e*P		**P**	**10 21 14.6**	**-2.8**
ZEI				pmax		pmax		
	comp=Z,44nm,0.9s							
N02D	**Trinity Center**	**70.81**	**53**	P		**P**	**10 21 19.5**	**+2.2**
	baz=303,SNR=13							
WSAR	**Wadi Sarin**	**70.85**	**285**	P		**P**	**10 21 18.1**	**+0.3**
	comp=Z,38nm,0.9s,baz=87,slow=7.5,SNR=18							
WSAR				LR		LR	10 55 30.2	
	comp=Z,2μm,20.9s,baz=90,slow=39							
TBLG	**Delisi**	**70.85**	**308**	*e*P		**P**	**10 21 18.1**	**+0.6**
	comp=Z,78nm,1.0s							
TBLG	**Delisi**	**70.85**	**308**	*e*P		**P**	**10 21 18.1**	**+0.6**
TBLG				pmax		pmax		
	comp=Z,78nm,1.0s							
KBZ	**Khabaz**	**70.91**	**311**	P		**P**	**10 21 17.8**	**+0.1**
	comp=Z,88nm,0.9s,baz=54,slow=3.5,SNR=113							
KBZ				LR		LR	10 53 10.9	
	comp=Z,3μm,19.3s,baz=58,slow=37							
KIV	**Kislovodsk**	**70.91**	**311**	*e*P		**P**	**10 21 18.8**	**+0.8**
	comp=Z,324nm,1.1s							
KIV				LR		LR		
	comp=Z,3μm,19.0s							
KIV	**Kislovodsk**	**70.91**	**311**	P		**P**	**10 21 18.5**	**+0.5**
	SNR=59							
KIV	**Kislovodsk**	**70.91**	**311**	P		**P**	**10 21 18.5**	**+0.5**
	SNR=59							
KIV	**Kislovodsk**	**70.91**	**311**	*i*P		**P**	**10 21 18.1**	**+0.2**
	SNR=25							
KIV	**Kislovodsk**	**70.91**	**311**	*e*P		**P**	**10 21 18.0**	**+0.1**
KIV				*e*S		**S**	**10 30 34.0**	**+1.5**
KIV				*e*SS		**SS**	**10 35 07.6**	**+3.0**
KIV				pmax		pmax		
	comp=Z,328nm,1.1s							
KIV				pmax		pmax		
	comp=Z,443nm,4.7s							
KIV				MLR		MLR		
	comp=Z,2μm,18.0s							
M04C	**Macdoel**	**70.92**	**52**	P		**P**	**10 21 19.9**	**+1.8**
	baz=303,SNR=31							
WBK	**Wadi Bani Khal**	**70.92**	**284**	P		**P**	**10 21 21.0**	**+2.8**
	SNR=5.6							
K05A	**Summer Lake**	**71.00**	**51**	*e*P		**P**	**10 21 20.1**	**+1.5**
	comp=Z,105nm,0.9s							
BIDO	**Bidbid**	**71.08**	**286**	P		**P**	**10 21 21.0**	**+1.8**
	SNR=12							
I07A	**Izee**	**71.11**	**49**	*e*P		**P**	**10 21 21.4**	**+2.3**
	comp=Z,18nm,1.0s							
WDC	**Whiskeytown Da**	**71.13**	**53**	*e*P		**P**	**10 21 21.4**	**+2.3**
	comp=Z,34nm,0.9s							
WDC	**Whiskeytown Da**	**71.13**	**53**	*e*P		**P**	**10 21 21.4**	**+2.3**
WDC				pmax		pmax		
	comp=Z,34nm,1.0s							
BANOM	**Banah**	**71.19**	**289**	P		**P**	**10 21 21.7**	**+1.8**
	SNR=8.7							
BANOM	**Banah**	**71.19**	**289**	*i*P		**P**	**10 21 20.8**	**+0.9**
	SNR=22							
SHME	**Shamm**	**71.25**	**289**	*i*P		**P**	**10 21 20.3**	**+0.1**
	SNR=27							
NEY	**Neytrino**	**71.28**	**310**	*i*P		**P**	**10 21 20.5**	**+0.2**
NEY				pmax		pmax		
	comp=Z,10.0nm,0.9s							
SMDO	**Samad**	**71.39**	**285**	P		P	10 21 29.0	+7.9
	SNR=11							
F10A	**Beach Ranch, E**	**71.40**	**46**	*e*P		**P**	**10 21 22.4**	**+1.6**
	comp=Z,21nm,0.8s							
WALA	**Waterton Lakes**	**71.50**	**42**	*e*P		**P**	**10 21 22.9**	**+1.5**
	comp=Z,35nm,0.8s							
MDH	**Madha**	**71.53**	**288**	*i*P		**P**	**10 21 21.3**	**-0.5**
	SNR=7.3							
MSFE	**Esma-Masafi**	**71.60**	**288**	*i*P		**P**	**10 21 22.3**	**0.0**
	SNR=16							
HOQ	**Hoqain**	**71.68**	**286**	P		**P**	**10 21 27.0**	**+4.2**
	SNR=5.9							
GNI	**Garni**	**71.71**	**307**	P		**P**	**10 21 22.9**	**0.0**
	comp=Z,15nm,0.4s,baz=126,slow=0.4,SNR=19							
GNI				LR		LR	10 54 37.3	
	comp=Z,1μm,18.9s,baz=64,slow=37							
GNI	**Garni**	**71.71**	**307**	*e*P		**P**	**10 21 24.2**	**+1.3**
GNI				LR		LR		
	comp=Z,3μm,21.0s							
GNI	**Garni**	**71.71**	**307**	P		**P**	**10 21 23.5**	**+0.6**
	SNR=27							
GNI	**Garni**	**71.71**	**307**	*i*P		**P**	**10 21 23.6**	**+0.7**
	SNR=15							
GNI	**Garni**	**71.71**	**307**	*ce*P		**P**	**10 21 23.5**	**+0.6**
GNI				pmax		pmax		
	comp=Z,275nm,1.2s							
O03D	**Paynes Creek**	**71.75**	**53**	P		**P**	**10 21 24.4**	**+1.3**
	baz=303,SNR=15							
UOSS	**Minazif**	**71.79**	**288**	*e*P		**P**	**10 21 23.7**	**+0.3**
	comp=Z,184nm,1.4s							
UOSS				LR		LR		
	comp=Z,2μm,22.0s							
UOSS	**Minazif**	**71.79**	**288**	*i*P		**P**	**10 21 22.9**	**-0.5**
	SNR=17							
AKH	**Akhalkalaki**	**71.81**	**308**	⇓*i*P		**P**	**10 21 24.6**	**+1.1**
AKH	**Akhalkalaki**	**71.81**	**308**	*e*P		**P**	**10 21 24.7**	**+1.2**
	comp=Z,40nm,0.9s							
AKH				LR		LR		
	comp=Z,4μm,22.0s							
AKH	**Akhalkalaki**	**71.81**	**308**	*e*P		**P**	**10 21 24.8**	**+1.2**
AKH				pmax		pmax		
	comp=Z,40nm,0.9s							
MOD	**Modoc Plateau**	**71.82**	**51**	*e*P		**P**	**10 21 25.3**	**+1.8**
	comp=Z,37nm,1.1s							
HATD	**Hatta, Dubai**	**71.91**	**288**	P		**P**	**10 21 25.0**	**+0.8**
	SNR=20							
HATD	**Hatta, Dubai**	**71.91**	**288**	P		**P**	**10 21 25.0**	**+0.8**
	SNR=20							
HATD	**Hatta, Dubai**	**71.91**	**288**	*i*P		**P**	**10 21 24.3**	**+0.2**
	SNR=26							
SOHO	**SOHO**	**71.98**	**287**	*i*P		**P**	**10 21 23.9**	**-0.7**
	SNR=50							
BMO	**Blue Mountains**	**71.99**	**47**	*e*P		**P**	**10 21 25.6**	**+1.1**
	comp=Z,42nm,0.8s							
BMO	**Blue Mountains**	**71.99**	**47**	*e*P		**P**	**10 21 26.0**	**+1.6**
BMO				pmax		pmax		
	comp=Z,42nm,0.9s							
ASHO	**Ashiyiah**	**72.04**	**288**	P		**P**	**10 21 25.7**	**+0.7**
	SNR=19							
ASHO	**Ashiyiah**	**72.04**	**288**	P		**P**	**10 21 25.7**	**+0.7**
	SNR=19							
ASHO	**Ashiyiah**	**72.04**	**288**	*i*P		**P**	**10 21 24.9**	**-0.1**
	SNR=30							
JTMT	**Jette**	**72.05**	**43**	*e*P		**P**	**10 21 26.4**	**+1.7**
	comp=Z,42nm,0.8s							
J08A	**Circle Bar Ran**	**72.13**	**49**	*e*P		**P**	**10 21 27.0**	**+1.7**
	comp=Z,46nm,0.9s							
SCO	**Scoresbysund**	**72.16**	**354**	*i*P		**P**	**10 21 25.9**	**+1.1**
	comp=Z,27nm,1.0s							
SCO	**Scoresbysund**	**72.16**	**354**	PFAKE			10 21 40.0	+15
SCO				LR		LR		
	comp=Z,2μm,22.0s							
NAZ	**Nazwa, Dubai**	**72.18**	**288**	P		**P**	**10 21 28.0**	**+2.2**
	SNR=10							
NAZ	**Nazwa, Dubai**	**72.18**	**288**	*i*P		**P**	**10 21 26.2**	**+0.4**
	SNR=15							
BSY	**Bisya**	**72.22**	**285**	P		**P**	**10 21 30.0**	**+3.9**
	SNR=11							
CAN	**Canberra**	**72.29**	**173**	*e*P		**P**	**10 21 27.1**	**+1.1**
	comp=Z,94nm,1.7s							
CAN				LR		LR		
	comp=Z,1μm,18.0s							
CAN	**Canberra**	**72.29**	**173**	*e*P		**P**	**10 21 27.5**	**+1.5**
CAN				pmax		pmax		
	comp=Z,94nm,1.7s							
ORV	**Oroville**	**72.35**	**54**	*e*P		**P**	**10 21 27.8**	**+1.2**
	comp=Z,71nm,1.3s							
ORV	**Oroville**	**72.35**	**54**	*e*P		**P**	**10 21 27.8**	**+1.2**
ORV				pmax		pmax		
	comp=Z,71nm,1.2s							
IZAR	**Zarasai**	**72.43**	**328**	*e*P		**P**	**10 21 27.3**	**+0.6**
IZAR				IAmb		IAmb	10 21 29.3	
	comp=Z,40nm,0.6s							
IDID	**Didziasalis**	**72.50**	**327**	*e*P		**P**	**10 21 27.6**	**+0.5**
IDID				IAmb		IAmb	10 21 29.4	
	comp=Z,38nm,0.8s							
MICGM	**Minsk**	**72.52**	**326**	⇑*i*P		**P**	**10 21 28.0**	**+0.8**
MICGM				PM			10 21 29.0	
	comp=Z,0.4nm,1.0s							
MICGM				*e*PcP		**pP**	**10 21 33.0**	**-0.4**
MICGM				*e*S		**S**	**10 30 50.0**	**-0.4**
MICGM				*e*ScS		**SKiKP**	**10 31 01.0**	**0.0**
MICGM				*e*SS		**SS**	**10 35 24.0**	**-4.3**
MICGM				*e*SSS		SSS	10 38 32.0	
MICGM				*e*LQ		LQ	10 46 16.0	
MICGM				LQM			10 49 28.0	
	comp=N,3.1nm,20.0s							
MICGM				LQM

SOC Sochi 72.91 312 *e*P P 10 21 28.6 -1.1
SOC *e* 10 24 12.6
SOC *e*PPP PPP 10 25 53.8
SOC *e*S **S 10 30 50.2 -5.0**
SOC *e*SS **SS 10 35 35.2 +0.4**
SOC pmax pmax
comp=Z,67nm,0.9s
SOC MLR MLR
comp=Z,4µm,17.0s
BEKR Beckworth 72.91 53 *e*P P 10 21 31.4 +1.3
comp=Z,53nm,0.9s
AJN Ajban 72.93 288 *i* P P 10 21 29.8 -0.3
SNR=7.8
AFDM Forest Hills D 73.03 54 *e*P P 10 21 32.5 +1.9
comp=Z,59nm,1.4s
NWAO Narrogin (SRO) 73.11 201 P P 10 21 30.8 -0.1
comp=Z,31nm,0.8s,baz=251,slow=5.6,SNR=19
NWAO Narrogin (SRO) 73.11 201 *e*P P 10 21 31.3 +0.4
NWAO Narrogin (SRO) 73.11 201 *e*P P 10 21 31.3 +0.4
RDG13 Poverty Ridge 73.37 56 *e*P P 10 21 34.9 +2.1
comp=Z,86nm,1.2s
ANN Anapa 73.54 314 *e*P P 10 21 33.0 -0.4
ANN *e* 10 24 13.7
ANN *e*S **S 10 31 01.6 -0.7**
ANN pmax pmax
comp=Z,117nm,1.1s
ANN pmax pmax
comp=Z,853nm,7.5s
ANN MLR MLR
comp=Z,3µm,14.0s
PAHR Pah Rah Range 73.62 53 *e*P P 10 21 36.0 +1.8
comp=Z,47nm,1.0s
MFID Camas Ranch 73.68 48 *e*P P 10 21 36.3 +1.7
comp=Z,36nm,0.9s
VCNR Virginia City 73.69 53 *e*P P 10 21 36.9 +2.1
comp=Z,28nm,0.9s
ILULI Ilulissat 73.71 5 *i* P P 10 21 34.3 +0.3
comp=Z,26nm,0.8s
comp=Z,3µm,16.0s
ILULI Ilulissat 73.71 5 *e*P P 10 21 34.8 +0.8
comp=Z,27nm,0.8s
ILULI LR LR
comp=Z,3µm,20.0s
ILULI Ilulissat 73.71 5 *e*P P 10 21 35.1 +1.1
ILULI pmax pmax
comp=Z,27nm,0.8s
FFC Flin Flon 73.76 33 *e*P P 10 21 35.8 +1.2
comp=Z,75nm,0.8s
FFC Flin Flon 73.76 33 *e*P P 10 21 35.8 +1.2
FFC pmax pmax
comp=Z,75nm,0.9s
CMB Columbia Colle 73.92 54 *e*P P 10 21 37.7 +1.7
comp=Z,75nm,1.0s
CMB Columbia Colle 73.92 54 *e*P P 10 21 37.7 +1.7
CMB pmax pmax
comp=Z,75nm,1.0s
SAO San Andreas Ge 73.94 56 *e*P P 10 21 37.8 +1.8
comp=Z,42nm,1.0s
SAO San Andreas Ge 73.94 56 *e*P P 10 21 37.8 +1.8
SAO pmax pmax
comp=Z,42nm,1.0s
NC405 NORSAR Array S 74.01 337 *e*P P 10 21 35.6 -0.3
HRY Holter Researc 74.01 43 *e*P P 10 21 36.5 +0.1
NC303 NORSAR Array S 74.03 337 *e*P P 10 21 36.4 +0.4
DOMB Dombas 74.08 339 *e*P P 10 21 37.0 +0.6
DOMB IAmb IAmb 10 21 39.2
comp=Z,48nm,0.6s
MOL Molde 74.09 340 *e*P P 10 21 36.5 +0.2
HFS Hagfors 74.12 336 P P 10 21 35.9 -0.7
comp=Z,33nm,0.8s,baz=60,slow=7.0,SNR=41
HFS LR LR 10 56 43.2
comp=Z,3µm,18.7s,baz=46,slow=38
YERR Yerington 74.12 53 *e*P P 10 21 39.0 +1.7
comp=Z,71nm,1.0s
NC204 NORSAR Array S 74.17 338 *e*P P 10 21 36.9 0.0
NB201 NORSAR Array S 74.19 337 *e*P P 10 21 36.3 -0.7
NB2 NORSAR Subarra 74.22 337 P P 10 21 37.4 +0.2
comp=Z,41nm,0.7s,baz=39,slow=6.2
NB2 NORSAR Subarra 74.22 337 P P 10 21 37.4 +0.2
baz=39,slow=6.2
NB200 NORSAR Array S 74.22 337 *e*P P 10 21 37.1 -0.1
NOA NORSAR Array B 74.22 337 P P 10 21 37.1 -0.1
comp=Z,44nm,0.8s,baz=43,slow=5.4,SNR=178
NOA LR LR 10 56 44.8
comp=Z,3µm,21.6s,baz=40,slow=38
WAKR Walker 74.27 54 *e*P P 10 21 40.1 +2.0
comp=Z,38nm,1.0s
AKASG Malin Array Be 74.31 322 P P 10 21 37.5 -0.4
comp=Z,17nm,0.4s,baz=46,slow=6.4,SNR=212
AKASG LR LR 10 56 09.5
comp=Z,3µm,18.1s,baz=25,slow=37
AKASG Malin Array Be 74.31 322 P P 10 21 37.5 -0.4
AKASG pmax pmax
comp=Z,19nm,0.4s
AKASG MLR MLR
comp=Z,3µm,18.1s
AKBB Malin Array Si 74.31 322 *e*P P 10 21 37.5 -0.3
comp=Z,86nm,0.9s
AKBB LR LR
comp=Z,3µm,20.0s
AKBB Malin Array Si 74.31 322 *e*P P 10 21 37.6 -0.3
AKBB pmax pmax
comp=Z,86nm,0.9s
AKBB MLR MLR
comp=Z,3µm,20.0s
NBO02 NORSAR Array S 74.32 337 *e*P P 10 21 37.4 -0.4
KIEV Kiev 74.33 322 *e*P P 10 21 37.5 -0.5
comp=Z,83nm,0.9s
KIEV LR LR
comp=Z,3µm,20.0s
KIEV Kiev 74.33 322 *i* P P 10 21 37.4 -0.5
SNR=43
KIEV Kiev 74.33 322 *d* iP P 10 21 37.2 -0.8
KIEV pmax pmax
comp=Z,81nm,0.8s
NC602 NORSAR Array S 74.35 337 *e*P P 10 21 37.6 -0.3
NC602 NORSAR Array S 74.35 337 *e*P P 10 21 37.9 0.0
NBO00 NORSAR Array S 74.36 337 *e*P P 10 21 37.9 -0.1
DLMT Dillon 74.40 45 *e*P P 10 21 40.3 +1.6
comp=Z,68nm,0.8s
HLID Hailey 74.43 47 P P 10 21 40.3 +1.3
baz=306,SNR=22
HLID Hailey 74.43 47 *e*P P 10 21 40.7 +1.7
comp=Z,43nm,1.4s
NAO01 NORSAR Array S 74.47 337 *e*P P 10 21 38.8 +0.2
AKN Aaknes 74.56 340 *e*P P 10 21 40.3 +1.1
BMN Battle Mountai 74.57 51 *e*P P 10 21 41.6 +1.8
comp=Z,77nm,1.3s
BMN Battle Mountai 74.57 51 *e*P P 10 21 41.6 +1.8
BMN pmax pmax
comp=Z,77nm,1.3s
MCMT McKenzie Canyo 74.58 45 *e*P P 10 21 41.1 +1.2
RYN Ryan 74.79 53 *e*P P 10 21 43.0 +1.9
comp=Z,41nm,0.9s
BOZ Bozeman (W) 74.80 44 P P 10 21 42.3 +1.3
baz=308,SNR=50
BOZ Bozeman (W) 74.80 44 *e*P P 10 21 42.7 +1.7
comp=Z,56nm,0.8s
BOZ Bozeman (W) 74.80 44 *e*P P 10 21 42.7 +1.7
BOZ pmax pmax
comp=Z,56nm,0.8s
KVN Kaiserville 74.81 52 *e*P P 10 21 42.7 +1.4
comp=Z,69nm,0.9s
KVN Kaiserville 74.81 52 *e*P P 10 21 42.7 +1.4
KVN pmax pmax
comp=Z,69nm,0.9s
SUW Suwalki 74.91 327 *e*P P 10 21 41.4 0.0
SUW *e*S S 10 31 32.6 +15
SUW Suwalki 74.91 327 *e*P P 10 21 41.7 +0.5
comp=Z,142nm,1.0s
SUW LR LR
comp=Z,4µm,20.0s
SUW Suwalki 74.91 327 *e*P P 10 21 41.3 0.0
COMI Craters of Moo 74.97 47 *e*P P 10 21 44.5 +2.4
MDPB Devils Postpil 75.00 54 *e*P P 10 21 44.0 +1.5
comp=Z,34nm,0.9s
NV01 Mina Array Sit 75.04 53 *e*P P 10 21 43.9 +1.2
NVAR Mina Array Bea 75.04 53 P P 10 21 43.9 +1.2
comp=Z,46nm,0.8s,baz=283,slow=5.9,SNR=138
NVAR LR LR 10 52 33.8
comp=Z,545nm,18.2s,baz=68,slow=34
NV11 Mina Array Sit 75.14 53 *e*P P 10 21 44.6 +1.5
comp=Z,3.9nm,1.1s
MLAC Mammoth, Mammo 75.16 54 P P 10 21 45.4 +2.0
baz=306,SNR=21
OSL Oslo 75.23 337 *e* P 10 21 43.1 +0.1

PAGB Antelope Grade 75.33 56 *e*P P 10 21 46.0 +1.9
comp=Z,128nm,1.0s
SIM Simferopol' 75.34 315 *e*P P 10 21 43.8 -0.1
SIM *e*S **S 10 31 22.0 -0.5**
SIM pmax pmax
comp=Z,72nm,1.0s
QLMT Earthquake Lak 75.38 45 *e*P P 10 21 46.4 +1.9
YHB Horse Butte 75.56 45 *e*P P 10 21 47.4 +1.9
comp=Z,56nm,0.8s
FOO Floro 75.57 340 *e*P P 10 21 45.6 +0.7
HYA Hoyanger 75.61 339 *e*P P 10 21 46.0 +0.9
HYA IAmb IAmb 10 21 47.1
comp=Z,37nm,0.8s
RCTC Rector, Farmer 75.66 55 P P 10 21 47.0 +1.1
baz=306
YHH Holmes Hill 75.73 44 *e*P P 10 21 48.0 +1.5
comp=Z,22nm,0.8s
SMMC Simmler 75.73 57 P P 10 21 48.6 +2.1
baz=305
YMR Madison River 75.74 45 *e*P P 10 21 48.3 +1.8
comp=Z,38nm,0.8s
GCMT Greycliff 75.76 43 *e*P P 10 21 48.0 +1.4
KONO Kongsberg 75.81 337 *e*P P 10 21 46.7 +0.4
comp=Z,17nm,0.8s
KONO LR LR
comp=Z,4µm,18.0s
KONO Kongsberg 75.81 337 *e*P P 10 21 46.7 +0.4
KONO Kongsberg 75.81 337 *ce*P P 10 21 46.0 -0.3
KONO pmax pmax
comp=Z,14nm,0.9s
TIN Tinemaha, Big 75.89 54 P P 10 21 49.3 +1.9
baz=306
MCID Moose Creek 75.91 45 *e*P P 10 21 50.1 +2.6
SFJD Kangerlussuaq 75.94 5 P P 10 21 47.7 +0.7
comp=Z,14nm,0.9s,baz=325,slow=4.3,SNR=5.0
SFJD LR LR 10 58 18.6
comp=Z,2µm,18.5s,baz=348,slow=38
SFJD Kangerlussuaq 75.94 5 *i* P P 10 21 47.0 +0.1
SFJD *i* 10 21 48.0
comp=Z,2µm,15.0s
SFJD Kangerlussuaq 75.94 5 *e*P P 10 21 47.6 +0.7
comp=Z,20nm,0.8s
SFJD LR LR
comp=Z,2µm,19.0s
SFJD Kangerlussuaq 75.94 5 *e*P P 10 21 48.0 +1.1
SFJD pmax pmax
comp=Z,20nm,0.8s
YFT Old Faithful 75.95 45 *e*P P 10 21 50.6 +2.9
comp=Z,47nm,0.8s
VES Vestal, Richgr 76.03 56 P P 10 21 48.9 +0.8
baz=306,SNR=27
SHAO Shalim 76.07 282 P P 10 21 48.2 -0.4
YPP Pitchstone Pla 76.08 45 *e*P P 10 21 51.5 +3.0
comp=Z,148nm,1.9s
SUE Sulen 76.09 340 *e*P P 10 21 49.7 +1.8
PKM Mcpherson Peak 76.10 57 P P 10 21 50.0 +1.3
baz=306,SNR=12
H17A Grant Village 76.13 45 P P 10 21 52.0 +3.2
baz=309,SNR=78
H17A Grant Village 76.13 45 *e*P P 10 21 51.4 +2.5
comp=Z,84nm,0.8s
IMW Indian Meadow 76.23 45 *e*P P 10 21 51.5 +2.0
comp=Z,52nm,0.8s
FXWY Fox Creek 76.34 45 *e*P P 10 21 52.1 +2.1
comp=Z,32nm,0.9s
CWC Cottonwood Cre 76.35 55 P P 10 21 51.3 +1.2
baz=306
RLMT Red Lodge 76.40 43 P P 10 21 52.0 +1.7
baz=309,SNR=16
RLMT Red Lodge 76.40 43 *e*P P 10 21 52.0 +1.7
comp=Z,31nm,0.7s
SORM Soroca 76.41 321 ⇑ *i*P P 10 21 49.4 -0.6
SBC Santa Barbara 76.43 57 P P 10 21 52.0 +1.6
baz=306
MOOW Moose Ponds 76.43 45 *e*P P 10 21 52.8 +2.2
comp=Z,44nm,1.0s
ASK Askoy 76.45 339 *e*P P 10 21 50.9 +0.9
HVU Hansel Valley 76.47 48 *e*P P 10 21 52.9 +2.2
comp=Z,52nm,1.2s
HVU Hansel Valley 76.47 48 *e*P P 10 21 52.9 +2.2
HVU pmax pmax
comp=Z,52nm,1.2s
TPAW Teton Pass 76.48 45 *e*P P 10 21 52.9 +2.0
comp=Z,32nm,0.8s
GRAC Grapevine Rang 76.48 54 P P 10 21 51.8 +1.1
baz=306,SNR=11
BER Bergen 76.49 339 *e*P P 10 21 51.2 +1.1
ODD1 Odda 76.50 338 *e*P P 10 21 51.3 +1.0
ODD1 IAmb IAmb 10 21 52.4
comp=Z,30nm,0.8s
ISA Isabella, Lake 76.54 56 P P 10 21 51.8 +0.6
baz=306,SNR=16
ISA Isabella, Lake 76.54 56 *e*P P 10 21 51.7 +0.6
comp=Z,22nm,0.9s
ISA Isabella, Lake 76.54 56 *e*P P 10 21 51.7 +0.6
ISA pmax pmax
comp=Z,23nm,0.9s
LOHW Long Hollow 76.60 45 *e*P P 10 21 53.2 +1.8
comp=Z,37nm,1.3s
SNOW Snow King Moun 76.61 45 *e*P P 10 21 53.7 +2.1
comp=Z,130nm,1.6s
REDW Red Top Meadow 76.61 46 *e*P P 10 21 53.4 +1.9
comp=Z,107nm,1.5s
ARVC Arvin 76.62 56 P P 10 21 52.1 +0.7
baz=306,SNR=16
MTUT Morton Thiokol 76.70 48 *e*P P 10 21 54.2 +2.2
SCZ2 Santa Cruz Isl 76.74 57 P P 10 21 53.8 +1.6
baz=306
DAC Darwin (Calif) 76.76 55 *e*P P 10 21 53.8 +1.3
comp=Z,31nm,0.9s
DAC Darwin (Calif) 76.76 55 *e*P P 10 21 53.9 +1.4
DAC pmax pmax
comp=Z,31nm,1.0s
R11A Troy Canyon, C 76.82 52 P P 10 21 54.1 +1.4
baz=307,SNR=59
R11A Troy Canyon, C 76.82 52 *e*P P 10 21 54.5 +1.8
comp=Z,50nm,1.0s
BGU Big Grassy Mou 76.83 49 *e*P P 10 21 54.6 +1.9
comp=Z,111nm,1.8s
AHID Auburn Hatcher 76.84 46 *e*P P 10 21 54.3 +1.5
comp=Z,36nm,1.0s
BEI Bear River Ran 76.84 47 *e*P P 10 21 55.0 +2.2
DGMT Dagmar 76.90 38 P P 10 21 53.0 +0.2
baz=312,SNR=13
DGMT Dagmar 76.90 38 *e*P P 10 21 54.0 +1.2
comp=Z,66nm,0.9s
KIS Kishinev 76.91 320 *e*P P 10 21 51.0 -1.8
comp=Z,1µm,12.0s
KIS *e*S **S 10 31 36.0 -3.7**
KIS *e*ScS SKSac 10 31 48.0 -16
KIS Kishinev 76.91 320 *e*P P 10 21 51.0 -1.8
KIS *e* 10 22 02.0
KIS *e*S **S 10 31 36.0 -3.7**
KIS *e*PS **PnS 10 32 20.0 +1.2**
KIS pmax pmax
comp=Z,900nm,8.0s
KIS pmax pmax
comp=Z,1µm,12.0s
KIS MLR MLR
comp=Z,6µm,14.0s
KIS MLR MLR
comp=N,3µm,15.0s
KIS MLR MLR
comp=E,4µm,14.0s
KIS MLR MLR
comp=Z,6µm,14.0s
SPUT South Promonto 76.95 48 *e*P P 10 21 55.8 +2.4
comp=Z,50nm,1.3s
BLS5 Blasjo 76.95 338 *e*P P 10 21 53.7 +0.9
MPMC Manual Prospec 76.96 55 P P 10 21 54.1 +0.5
baz=306,SNR=27
MILM Milestii Mici 76.96 319 ⇓ *i*P P 10 21 52.5 -0.6
OSI Osito Audit: C 76.99 56 P P 10 21 54.8 +1.2
baz=306
OSI Osito Audit: C 76.99 56 *e*P P 10 21 56.0 +2.4
comp=Z,51nm,0.9s
LAO LASA Array 77.03 41 P P 10 21 55.1 +1.4
baz=311,SNR=20
LAO LASA Array 77.03 41 *e*P P 10 21 55.8 +2.1
comp=Z,103nm,1.2s
BLG Laguna Peak, P 77.06 57 P P 10 21 55.0 +1.0
baz=306
FURC Furnace Creek, 77.12 54 P P 10 21 55.7 +1.5
baz=307,SNR=27
LRMC Laurel Mtn Rad 77.17 55 P P 10 21 56.1 +1.4
baz=306
TPNV Topopah Spring 77.23 53 P P 10 21 56.7 +1.7
baz=307,SNR=35
TPNV Topopah Spring 77.23 53 *e*P P 10 21 56.5 +1.4
TPNV Topopah Spring 77.23 53 *e*P P 10 21 56.5 +1.4
SNCC San Nicolas Is 77.25 58 P P 10 21 55.7 +0.7
baz=306,SNR=5.5
SNCC San Nicolas Is 77.25 58 *e*P P 10 21 57.1 +2.1
comp=Z,118nm,0.9s
HOMB Homborsund 77.25 337 *e*P P 10 21 55.1 +0.6
HOMB IAmb IAmb 10 21 56.1
comp=Z,80nm,1.3s
HWUT Hardware Ranch 77.29 47 *e*P P 10 21 57.3 +2.0
comp=Z,89nm,1.3s
EDW2 Edwards Air Fo 77.32 56 P P 10 21 56.7 +1.3
baz=306,SNR=30
FSU Fish Springs 77.35 50 *e*P P 10 21 57.6 +1.9
LVV L'vov 77.40 324 *e*P P 10 21 56.3 +0.8
LVV 10 24 56.2
LVV *e*S **S 10 31 44.8 -0.2**
LVV *e* 10 36 36.6
LVV pmax pmax
comp=Z,330nm,1.3s
LVV MLR MLR
comp=Z,2µm,15.0s
LVV MLR MLR
comp=N,1µm,16.0s
LVV MLR MLR
comp=E,4µm,15.0s
MCU Monte Cristo P 77.41 47 *e*P P 10 21 58.0 +1.9
DUG Dugway, Tooele 77.41 49 P P 10 21 57.5 +1.6
baz=308,SNR=40
DUG Dugway, Tooele 77.41 49 *e*P P 10 21 57.6 +1.6
comp=E,54nm,1.0s
DUG Dugway, Tooele 77.41 49 *e*P P 10 21 57.6 +1.6
DUG pmax pmax
comp=Z,54nm,1.0s
IAS Iasi 77.43 320 ⇑ *i*P P 10 21 56.5 +0.8
DECC Green Verdugo 77.46 57 P P 10 21 57.1 +0.9
baz=306
BEL Belsk 77.47 327 *e*P P 10 21 56.6 +0.7
BEL Belsk 77.47 327 *e*P P 10 21 56.6 +0.7
BSD Bornholm Skovb 77.47 332 ⇓ *i*P P 10 21 55.6 -0.2
comp=Z,58nm,0.8s
comp=Z,4µm,13.0s
BSD Bornholm Skovb 77.47 332 ⇓ *i*P P 10 21 55.6 -0.2
BSD pmax pmax
comp=Z,58nm,0.8s
BSD MLR MLR
comp=Z,4µm,13.0s
KMY Karmoy 77.48 339 *e*P P 10 21 56.9 +1.1
LEOM Leova 77.55 319 ⇓ *i*P P 10 21 57.3 +0.9
STAV Stavanger 77.57 338 *e*P P 10 21 57.1 +0.8
SNART Snartemo 77.60 337 *e*P P 10 21 57.7 +1.2
SNART IAmb IAmb 10 21 58.4
comp=Z,29nm,0.7s
PASC Pasadena Art C 77.61 57 *e*P P 10 21 58.4 +1.4
comp=Z,56nm,1.3s
MWC Mount Wilson 77.66 56 *e*P P 10 21 59.0 +1.4
comp=Z,86nm,1.3s
MWC Mount Wilson 77.66 56 *e*P P 10 21 59.0 +1.4
MWC pmax pmax
comp=Z,86nm,1.3s
TCUT Toone Canyon 77.68 48 *e*P P 10 21 59.6 +2.0
comp=Z,174nm,1.4s
BORG Borgarnes 77.69 352 P P 10 21 58.0 +1.2
comp=Z,38nm,0.9s,baz=45,slow=19,SNR=10
BORG Borgarnes 77.69 352 *e*P P 10 21 58.0 +1.2
comp=Z,54nm,0.9s
BW06 Boulder Array 77.72 45 P P 10 21 58.8 +0.9
baz=310,SNR=15
BW06 Boulder Array 77.72 45 *e*P P 10 21 58.4 +0.6
comp=Z,23nm,0.9s
PD31 Pinedale Array 77.72 45 *e*P P 10 21 59.2 +1.4
PDAR Pinedale Array 77.72 45 P P 10 21 58.0 +0.2
comp=Z,18nm,0.7s,baz=262,slow=2.5,SNR=95
PDAR Pinedale Array 77.72 45 *e*P P 10 21 57.8 0.0
ANGG Ammassalik, Gr 77.73 360 PFAKE 10 22 10.0 +13
ANGG LR LR
comp=Z,3µm,20.0s
CTU Camp Tracy 77.74 48 *e*P P 10 21 59.2 +1.3
comp=Z,38nm,1.0s
FMP Fort Macarthur 77.81 57 P P 10 21 59.2 +1.1
baz=306
SHOC Shoshone, Teco 77.84 54 P P 10 21 59.8 +1.5
baz=307,SNR=9.5
GSC Goldstone, Bar 77.85 55 P P 10 21 59.8 +1.4
baz=307,SNR=18
GSC Goldstone, Bar 77.85 55 *e*P P 10 22 00.1 +1.6
comp=Z,54nm,1.1s
GSC Goldstone, Bar 77.85 55 *e*P P 10 22 00.1 +1.6
GSC pmax pmax
comp=Z,54nm,1.1s
CIS Catalina Islan 77.91 57 P P 10 21 59.9 +1.2
baz=306,SNR=6.3
BFSC Mount Baldy Ra 77.92 56 P P 10 22 00.1 +1.2
baz=307,SNR=21
GKP Gorka Klasztor 77.93 329 *e*P P 10 21 58.8 +0.4
GKP Gorka Klasztor 77.93 329 *e*P P 10 21 58.8 +0.4
COP Copenhagen 77.95 333 ⇓ *i*P P 10 22 00.1 +1.6
comp=Z,178nm,1.5s
comp=Z,2µm,14.0s
COP Copenhagen 77.95 333 ⇓ *i*P P 10 22 00.1 +1.6
COP pmax pmax
comp=Z,180nm,1.5s
COP MLR MLR
comp=Z,2µm,14.0s
JLU Jordanelle 77.98 48 *e*P P 10 22 01.0 +1.7
comp=Z,175nm,2.0s
ILGA Ilgaz 77.98 313 *e*P P 10 22 00.4 +1.2
comp=Z,84nm,1.0s
ILGA LR LR
comp=Z,2µm,21.0s
RRX Edison Barstow 77.98 55 P P 10 22 00.4 +1.3
baz=307
PRAR RASCA 77.99 321 ⇑ *i*P P 10 21 59.4 +0.5
NLU North Lily Min 78.01 49 *e*P P 10 22 01.4 +2.0
comp=Z,38nm,1.0s
SCI2 San Clemente I 78.07 58 P P 10 22 00.6 +1.0
baz=306
TLCR 78.09 318 ⇑ *i*P P 10 21 59.2 -0.3
GIRR Girov 78.13 321 ⇓ *i*P P 10 22 00.4 +0.7
KWP Kalwaria Pacla 78.15 324 *e*P P 10 22 00.6 +0.9
KWP Kalwaria Pacla 78.15 324 *e*P P 10 22 00.6 +0.9
comp=Z,2µm,1.0s
KWP LR LR
comp=Z,25µm,22.0s
KWP Kalwaria Pacla 78.15 324 *e*P P 10 22 00.6 +0.9
SHPR Sheep Range 78.20 53 *e*P P 10 22 02.2 +1.7
comp=Z,68nm,1.2s
MPU Maple Canyon 78.23 49 *e*P P 10 22 02.4 +1.7
comp=Z,70nm,1.2s
LLD Lille Linde 78.31 333 *i* P P 10 22 00.9 +0.5
comp=Z,4nm,0.7s
LLD Lille Linde 78.31 333 *i* P P 10 22 00.9 +0.5
LLD pmax pmax
comp=Z,45nm,0.7s
BUR08 Bucovina Ar. S 78.32 322 *e*P P 10 22 01.3 +0.5
BUR04 Bucovina Ar. S 78.33 322 *e*P P 10 22 01.2 +0.3
BURAR Bucovina Array 78.33 322 ⇓ *i*P P 10 22 00.7 -0.2
TUQ Turquoise Moun 78.35 54 P P 10 22 02.9 +1.6
baz=307,SNR=25
TESR Tescani 78.35 320 ⇑ *i*P P 10 22 00.3 -0.6
BBRC Big Bear Solar 78.40 56 P P 10 22 02.4 +0.7
baz=307
HEC Hector,Ludlow 78.44 55 P P 10 22 03.0 +1.3
baz=307,SNR=21
CFR Carcaliu 78.46 318 ⇓ *i*P P 10 22 01.1 -0.4
MUD Monsted U'grnd 78.48 335 ⇓ *i*P P 10 22 02.1 +0.7
comp=Z,759nm,2.9s
comp=Z,5µm,16.0s
MUD Monsted U'grnd 78.48 335 *e*P P 10 22 02.3 +0.9
MUD Monsted U'grnd 78.48 335 ⇓ *i*P P 10 22 02.1 +0.7
MUD pmax pmax
comp=Z,760nm,2.9s
MUD MLR MLR
comp=Z,5µm,16.0s
RGN Rugen 78.50 332 *e*P P 10 22 02.0 +0.5
comp=Z,85nm,0.8s
RGN LR LR
comp=Z,4µm,20.0s
PETR Petresti 78.58 319 ⇓ *i*P P 10 22 04.0 +1.9
MURC Murrieta 78.61 57 P P 10 22 04.0 +1.3
baz=307,SNR=15
ODBI Odobesti 78.64 319 ⇓ *i*P P 10 22 04.7 +2.2
CCUT Cedar City 78.70 51 *e*P P 10 22 04.7 +1.4
comp=Z,53nm,1.2s
VRI Vrincioaia 78.74 320 ⇓ *i*P P 10 22 04.0 +0.9

SGU Sterling 78.75 49 *eP* **P 10 22 05.9 +2.3**
TIRR Tirgusor 78.79 318 ||*iP* **P 10 22 03.8 +0.5**
TIRR Tirgusor 78.79 318 *eP* **P 10 22 03.3 0.0**
comp=Z,24nm,0.9s
TIRR LR LR
comp=Z,3µm,20.0s
TIRR Tirgusor 78.79 318 *eP* **P 10 22 03.8 +0.5**
TIRR pmax pmax
comp=Z,24nm,0.9s
PLOR Plostina 78.79 320 ||*iP* **P 10 22 04.2 +0.8**
MSU Marysvale 78.84 50 *eP* **P 10 22 04.1 0.0**
MSU Marysvale 78.84 50 *eP* **P 10 22 06.3 +2.3**
SZCU Shurtz Canyon 78.84 51 *eP* **P 10 22 06.2 +2.2**
comp=Z,42nm,1.2s
BR101 Keskin Array S 78.86 312 *eP* **P 10 22 04.0 0.0**
BR131 Keskin Array S 78.86 312 *eP* **P 10 22 03.7 -0.3**
BRTR Keskin Array B 78.86 312 P **P 10 22 04.0 0.0**
comp=Z,25nm,0.8s,baz=94,slow=3.7,SNR=74
BRTR LR LR 10 58 53.8
comp=Z,2µm,21.2s,baz=42,slow=37
HARR Harsova 78.89 318 ||*iP* **P 10 22 03.8 -0.1**
TLB Topalu 78.90 318 ||*iP* **P 10 22 04.1 +0.2**
GMRC Granite Mounta 78.91 55 P **P 10 22 05.7 +1.3**
baz=308,SNR=19
TMUT Trail Mountain 78.94 49 *eP* **P 10 22 06.6 +1.9**
comp=Z,63nm,1.3s
STHS Stebnicka Huta 78.98 325 *eP* **P 10 22 05.5 +1.2**
STHS Stebnicka Huta 78.98 325 *eP* **P 10 22 05.5 +1.2**
STHS pmax pmax
comp=Z,60nm,1.2s
UZH Uzhgorod 79.04 324 *c iP* **P 10 22 05.0 +0.4**
UZH *e* 10 22 10.2
UZH *e* 10 22 16.4
UZH *e* 10 22 20.8
UZH *e* 10 24 59.6
UZH *iS* **S 10 32 02.0 -0.7**
UZH *iSS* **SS 10 37 06.6 -0.7**
UZH MLR MLR
comp=N,6µm,16.0s
UZH MLR MLR
comp=E,4µm,16.0s
UZH MLR MLR
comp=Z,1µm,16.0s
UZH MLR MLR
comp=N,6µm,14.0s
UZH MLR MLR
comp=E,8µm,14.0s
UZH MLR MLR
comp=Z,2µm,14.0s
OJC Ojcow 79.06 326 *eP* **P 10 22 05.2 +0.5**
OJC *eS* **S 10 32 04.4 +1.6**
OJC Ojcow 79.06 326 *eP* **P 10 22 05.0 +0.3**
comp=Z,185nm,1.2s
OJC Ojcow 79.06 326 *eP* **P 10 22 05.2 +0.5**
OJC *eS* **S 10 32 04.4 +1.6**
PFO Pinyon Flats O 79.09 56 P **P 10 22 06.5 +1.1**
baz=307,SNR=22
PFO Pinyon Flats O 79.09 56 *eP* **P 10 22 07.1 +1.7**
comp=Z,77nm,1.2s
PFO Pinyon Flats O 79.09 56 *eP* **P 10 22 07.1 +1.7**
PFO pmax pmax
comp=Z,77nm,1.2s
LDFC Landfair 79.09 54 *eP* **P 10 22 07.3 +2.0**
comp=Z,110nm,1.2s
109C Camp Elliot, M 79.10 57 P **P 10 22 06.6 +1.4**
baz=307,SNR=9.4
CPE Camp Elliot 79.10 57 *eP* **P 10 22 07.0 +1.8**
comp=Z,78nm,1.1s
XPFO Piæon Flat 79.10 56 *eP* **P 10 22 06.7 +1.3**
comp=Z,90nm,1.3s
LCMT Little Creek M 79.10 52 *eP* **P 10 22 07.5 +2.1**
comp=Z,55nm,1.0s
P17A Butcher Ranch, 79.11 49 *eP* **P 10 22 07.5 +2.0**
comp=Z,130nm,1.3s
MANR Mangalia 79.12 317 ||*iP* **P 10 22 06.2 +1.1**
ARCR ARCALIA 79.12 322 ||*iP* **P 10 22 06.7 +1.6**
MTPU Mount Pierson 79.13 50 *eP* **P 10 22 07.5 +1.7**
comp=Z,37nm,0.8s
BMR Baia Mare 79.14 323 ||*iP* **P 10 22 06.2 +1.0**
BELC Belle Mtn. Jos 79.17 56 P **P 10 22 06.7 +0.9**
baz=308,SNR=19
Q16A Castle Valley 79.20 49 *eP* **P 10 22 08.1 +2.1**
comp=Z,100nm,1.3s
CRVS Cervenica-Dubn 79.24 324 *eP* **P 10 22 06.8 +1.0**
CRVS Cervenica-Dubn 79.24 324 *eS* **S 10 32 13.1 +8.2**
CRVS Cervenica-Dubn 79.24 324 *eP* **P 10 22 06.8 +1.0**
CRVS *eS* **S 10 32 13.1 +8.2**
ANTO Ankara 79.27 312 ⇑*iP* **P 10 22 06.4 +0.3**
ANTO Ankara 79.27 312 *eP* **P 10 22 06.5 +0.3**
comp=Z,177nm,1.6s
ANTO LR LR
comp=Z,2µm,19.0s
ANTO Ankara 79.27 312 P **P 10 22 07.0 +0.8**
SNR=19
ANTO Ankara 79.27 312 pP **P 10 22 07.0 +0.8**
SNR=19
ANTO Ankara 79.27 312 *eP* **P 10 22 07.2 +1.0**
ANTO pmax pmax
comp=Z,180nm,1.6s
TRPA Tarpa 79.28 323 ⇑*iP* **P 10 22 07.6 +1.7**
TRPA Tarpa 79.28 323 ||*eP* **P 10 22 06.9 +1.0**
BR231 Keskin MP Arra 79.30 312 *eP* **P 10 22 07.3 +1.0**
ISR Istrita 79.34 319 ⇑*iP* **P 10 22 07.6 +1.2**
DOPR Dopca 79.36 320 ||*iP* **P 10 22 08.0 +1.5**
KNB Kanab 79.37 52 *eP* **P 10 22 09.1 +2.2**
comp=Z,180nm,1.4s
KNB Kanab 79.37 52 *eP* **P 10 22 09.1 +2.2**
KNB pmax pmax
comp=Z,180nm,1.4s
MLR Muntele Rosu 79.40 320 P **P 10 22 07.7 +0.8**
comp=Z,3.8nm,0.8s,baz=73,slow=8.3,SNR=12
MLR LR LR 10 59 22.0
comp=Z,1µm,21.0s,baz=42,slow=37
MLR Muntele Rosu 79.40 320 ||*iP* **P 10 22 07.6 +0.8**
MLR Muntele Rosu 79.40 320 *eP* **P 10 22 07.5 +0.6**
comp=Z,48nm,1.0s
MLR LR LR
comp=Z,4µm,21.0s
MLR Muntele Rosu 79.40 320 *eP* **P 10 22 07.5 +0.6**
MLR pmax pmax
comp=Z,48nm,1.0s
NIE Niedzica 79.41 325 *eP* **P 10 22 07.6 +0.9**
NIE *e* 10 22 15.1
NIE *eS* **SKSac 10 32 20.9 -1.2**
NIE Niedzica 79.41 325 *eP* **P 10 22 07.6 +0.9**
NIE *e* 10 22 15.1
NIE *eS* **SKSac 10 32 20.9 -1.2**
PSN Preselentsi 79.42 317 *iP* **P 10 22 06.3 -0.5**
SRU San Rafael Swe 79.47 49 *eP* **P 10 22 08.8 +1.4**
comp=Z,60nm,0.8s
SRU San Rafael Swe 79.47 49 *eP* **P 10 22 08.8 +1.4**
SRU pmax pmax
comp=Z,60nm,0.8s
K22A Casper 79.51 44 P **P 10 22 07.8 +0.2**
baz=311
K22A Casper 79.51 44 *eP* **P 10 22 08.6 +1.1**
comp=Z,38nm,1.0s
BAR Barrett 79.51 57 *eP* **P 10 22 09.0 +1.4**
comp=Z,47nm,0.9s
EKU East Kanab 79.53 51 *eP* **P 10 22 09.7 +1.8**
MONP2 Monument Peak 79.55 57 P **P 10 22 09.1 +1.1**
baz=308,SNR=20
ULM Lac du Bonnet 79.56 33 P **P 10 22 08.0 +0.6**
comp=Z,35nm,0.8s,baz=309,slow=6.4,SNR=19
ULM LR LR 10 58 23.9
comp=Z,651nm,20.1s,baz=339,slow=36
ULM Lac du Bonnet 79.56 33 *eP* **P 10 22 08.0 +0.6**
comp=Z,43nm,0.9s
ULM Lac du Bonnet 79.56 33 *eP* **P 10 22 08.0 +0.6**
ULM pmax pmax
comp=Z,43nm,0.9s
MDND Maddock 79.57 37 P **P 10 22 08.5 +0.9**
baz=315,SNR=8.2
MDND Maddock 79.57 37 *eP* **P 10 22 09.2 +1.6**
comp=Z,105nm,0.9s
MMU Miners Mountai 79.58 50 *eP* **P 10 22 10.2 +2.1**
NEE2 Needles Airpor 79.60 54 P **P 10 22 09.1 +1.1**
baz=308
IRM Iron Mountain 79.63 55 P **P 10 22 09.7 +1.4**
baz=308,SNR=16
SECR 79.64 319 ||*iP* **P 10 22 09.4 +1.4**
BC3 Big Chuckawall 79.73 56 P **P 10 22 10.2 +1.4**
baz=308,SNR=18
CJR Cluj-Napoca 79.75 322 ||*iP* **P 10 22 09.3 +0.7**
RWWY Rawlins 79.75 45 *eP* **P 10 22 10.7 +1.7**
comp=Z,91nm,1.2s
SULR 79.79 319 ||*iP* **P 10 22 09.2 +0.4**
W13A Hualapai Mount 79.88 54 *eP* **P 10 22 11.7 +2.0**
comp=Z,30nm,1.1s
RSSD Black Hills 79.89 42 P **P 10 22 10.3 +0.7**
baz=312
RSSD Black Hills 79.89 42 *eP* **P 10 22 10.7 +1.1**
comp=Z,26nm,0.7s
VOIR 79.90 320 ⇑*iP* **P 10 22 10.9 +1.4**
IKP In-Ko-Pah, Jac 79.91 57 P **P 10 22 11.1 +1.3**
baz=308,SNR=28
A31A Linda, St. Vin 79.93 35 P **P 10 22 09.6 +0.1**
baz=316
SWSC Sam W. Stewart 79.94 56 P **P 10 22 10.5 +0.7**
baz=308,SNR=8.3
LANS Liptovska Anna 79.98 326 *eP* **P 10 22 11.3 +1.5**
LANS Liptovska Anna 79.98 326 *eP* **P 10 22 11.3 +1.5**
KAND Kocaeli-Kandir 80.00 314 *iP* **P 10 22 09.8 -0.2**
U15A North Rim 80.07 52 *eP* **P 10 22 13.0 +2.2**
comp=Z,140nm,1.4s
OKC Ostrava-Krasne 80.07 327 *eP* **P 10 22 11.0 +0.8**
OKC *epP* **pP 10 22 15.8 -0.6**
OKC *ePP* **PP 10 25 12.6 +1.0**
OKC *eS* **S 10 32 11.7 -1.8**
OKC AMS AMS 11 02 10.0
comp=Z,6µm,14.6s
OKC Ostrava-Krasne 80.07 327 *eP* **P 10 22 11.0 +0.8**
OKC *e* 10 22 15.8
OKC *e* 10 25 12.6
OKC *eS* **S 10 32 11.7 -1.8**
OKC MLR MLR
comp=Z,6µm,14.6s
B31A Greenbush Farm 80.08 35 P **P 10 22 11.1 +0.8**
baz=316,SNR=20
WESC Westside Schoo 80.09 56 *eP* **P 10 22 10.8 +0.1**
KSP Ksiaz 80.12 328 *eP* **P 10 22 11.2 +0.7**
KSP *e* 10 22 18.5
KSP *eS* **S 10 32 16.3 +2.2**
KSP Ksiaz 80.12 328 *eP* **P 10 22 11.2 +0.7**
KSP *e* 10 22 18.5
KSP *eS* **S 10 32 16.3 +2.2**
DRGR 80.13 322 ||*iP* **P 10 22 11.0 +0.3**
RAR Rarotonga 80.16 126 LR LR 10 54 16.3
comp=Z,1µm,19.1s,baz=320,slow=33
ARR Arges 80.16 320 ⇑*iP* **P 10 22 12.4 +1.5**
O20A White River Ci 80.17 47 P **P 10 22 12.4 +1.1**
baz=311,SNR=15
O20A White River Ci 80.17 47 *eP* **P 10 22 13.0 +1.8**
comp=Z,90nm,1.4s
PDMCI Parker Dam,Lak 80.20 54 P **P 10 22 12.2 +1.0**
baz=308
A32A Rocking H Ranc 80.26 35 P **P 10 22 11.3 +0.1**
baz=317,SNR=27
Y12C Blythe 80.29 55 P **P 10 22 13.3 +1.5**
baz=308
Y12C Blythe 80.29 55 *eP* **P 10 22 13.9 +2.2**
comp=Z,160nm,1.4s
MORC Moravsky Berou 80.38 327 ⇑*iP* **P 10 22 12.3 +0.4**
MORC Moravsky Berou 80.38 327 *eP* **P 10 22 12.4 +0.4**
comp=Z,391nm,1.2s
MORC LR LR
comp=Z,14µm,18.0s
MORC Moravsky Berou 80.38 327 *eP* **P 10 22 12.5 +0.5**
MORC pmax pmax
comp=Z,390nm,1.2s
DPC Dobruska-Polom 80.48 328 *eP* **P 10 22 13.5 +1.0**
DPC *epP* **PcP 10 22 18.6 -0.9**
DPC *ePP* **PP 10 25 15.4 +0.3**
DPC *eS* **S 10 32 16.7 -1.2**
DPC AMS AMS 11 03 20.0
comp=Z,5µm,13.5s
DPC Dobruska-Polom 80.48 328 *eP* **P 10 22 13.5 +1.0**
DPC *e* 10 22 18.6
DPC *e* 10 25 15.4
DPC *eS* **S 10 32 16.7 -1.2**
DPC MLR MLR
comp=Z,5µm,13.5s
KRLC Kraliky 80.49 327 *eP* **P 10 22 13.4 +0.8**
KRLC *epP* **pP 10 22 18.1 -0.7**
KRLC Kraliky 80.49 327 *eP* **P 10 22 13.4 +0.8**
KRLC *e* 10 22 18.1
C31A Landman Farms, 80.50 36 P **P 10 22 12.8 +0.2**
baz=316,SNR=14
UPC Upice 80.50 328 *eP* **P 10 22 13.5 +1.0**
UPC *eS* **S 10 32 19.5 +1.5**
UPC AMS AMS 11 03 30.0
comp=Z,6µm,13.8s
UPC Upice 80.50 328 *eP* **P 10 22 13.5 +1.0**
UPC *eS* **S 10 32 19.5 +1.5**
UPC MLR MLR
comp=Z,6µm,13.8s
GLA Glamis 80.52 56 P **P 10 22 13.8 +0.7**
baz=308,SNR=9.3
LOT Lotru 80.54 321 ⇑*iP* **P 10 22 13.9 +0.9**
BIGH Upper Bighouse 80.55 342 *eP* **P 10 22 13.7 +1.1**
BIGH IAmb IAmb 10 22 14.4
comp=Z,139nm,1.0s
HUMR Humele 80.56 319 ⇑*iP* **P 10 22 13.2 +0.2**
B32A Ashes, Strandq 80.62 35 P **P 10 22 13.1 -0.1**
baz=317,SNR=20
RAYN Ar Rayn 80.64 292 *eP* **P 10 22 13.5 -0.3**
comp=Z,57nm,1.0s
RAYN LR LR
comp=Z,3µm,20.0s
BORA Eskisehir 80.64 313 *iP* **P 10 22 13.7 +0.1**
PSZ Piszkesteto 80.68 324 ||*iP* **P 10 22 14.2 +0.6**
PSZ Piszkesteto 80.68 324 ||*eP* **P 10 22 14.4 +0.8**
PSZ Piszkesteto 80.68 324 *eP* **P 10 22 13.8 +0.1**
comp=Z,103nm,1.1s
PSZ LR LR
comp=Z,3µm,20.0s
PSZ Piszkesteto 80.68 324 *eP* **P 10 22 14.2 +0.6**
PSZ pmax pmax
comp=Z,100nm,1.1s
PV09 Paradox Valley 80.70 49 *eP* **P 10 22 16.4 +2.2**
A33A Warroad 80.74 34 P **P 10 22 14.2 +0.3**
baz=318,SNR=27
VYHS Vyhne 80.75 325 *eP* **P 10 22 14.6 +0.7**
VYHS *ePP* **PP 10 25 15.7 -1.6**
VYHS *eS* **S 10 32 23.5 +2.8**
VYHS Vyhne 80.75 325 *eP* **P 10 22 14.7 +0.8**
VYHS pmax pmax
comp=Z,35nm,1.2s
SZH Strazhica 80.92 318 *iP* **P 10 22 14.5 -0.4**
RSC Scourie 80.98 343 *eP* **P 10 22 15.5 +0.6**
N23A Red Feather La 80.99 45 P **P 10 22 17.2 +1.4**
baz=312,SNR=17
N23A Red Feather La 80.99 45 *eP* **P 10 22 16.7 +0.9**
comp=Z,76nm,1.0s
AGMN Agassiz Nation 81.00 35 P **P 10 22 15.3 +0.1**
baz=317,SNR=18
AGMN Agassiz Nation 81.00 35 *eP* **P 10 22 15.5 +0.3**
comp=Z,39nm,0.9s
PHWY Pilot Hill 81.00 45 *eP* **P 10 22 16.5 +0.8**
comp=Z,55nm,1.4s
SIRR Siria 81.02 322 ⇑*iP* **P 10 22 16.3 +0.9**
C32A Crookston 81.03 35 P **P 10 22 15.6 +0.2**
baz=317
D31A Mcclaflin, Tow 81.03 36 P **P 10 22 15.8 +0.3**
baz=316
BRG Berggiesshubel 81.08 329 ⇑*iP* **P 10 22 15.8 +0.3**
comp=Z,39nm,1.0s
BRG *i* 10 22 20.2
comp=Z,54nm,1.3s
BRG Berggiesshubel 81.08 329 S **S 10 32 23.0 -1.0**
BRG SS **SS 10 37 33.0 -4.5**
comp=N,4µm,14.4s
comp=E,2µm,13.6s
comp=Z,5µm,15.1s
BRG Berggiesshubel 81.08 329 ⇑*iP* **P 10 22 15.9 +0.3**
BRG S **S 10 32 23.0 -1.0**
BRG SS **SS 10 37 33.0 -4.5**
BRG pmax pmax
comp=Z,39nm,1.0s
BRG pmax pmax
comp=Z,54nm,1.3s
BRG MLR MLR
comp=N,4µm,14.4s
BRG MLR MLR
comp=E,2µm,13.6s
BRG MLR MLR
comp=Z,5µm,15.1s
PVCC Panska Ves 81.08 329 *eP* **P 10 22 16.8 +1.1**
PVCC AMS AMS 11 03 00.0
comp=Z,5µm,13.9s
PVCC Panska Ves 81.08 329 *eP* **P 10 22 16.8 +1.1**
PVCC MLR MLR
comp=Z,5µm,13.9s
JMB Yambol 81.11 317 *iP* **P 10 22 15.4 -0.5**
CLL Collm 81.12 330 ||*iP* **P 10 22 15.8 0.0**
comp=Z,69nm,0.9s
CLL *i* (sP) **pP 10 22 21.4 -0.6**
comp=Z,87nm,1.1s
CLL *ePP* **PP 10 25 22.0 +1.7**
CLL *ePPP* PPP 10 27 06.0
CLL *ePPPP* 10 28 30.0
CLL *eS* **S 10 32 25.0 +0.5**
CLL *ePS* **PnS 10 33 06.0 -5.7**
CLL *eSS* **SS 10 37 42.0 +3.8**
CLL *eSSS* SSS 10 41 06.0
CLL Lmax 11 03 00.0
CLL Collm 81.12 330 *eP* **P 10 22 16.1 +0.2**
comp=Z,58nm,0.8s
CLL LR LR
comp=Z,2µm,19.0s
CLL Collm 81.12 330 *eP* **P 10 22 16.0 +0.2**
CLL pmax pmax
comp=Z,58nm,0.8s
B33A Robert and Kas 81.14 35 P **P 10 22 16.0 +0.1**
baz=317,SNR=10
VRAC Vranov 81.14 327 ||*iP* **P 10 22 16.5 +0.5**
WUAZ Wupatki 81.22 52 P **P 10 22 17.7 +0.8**
baz=310
D32A Dogwood Acres, 81.31 36 P **P 10 22 16.7 -0.2**
baz=317,SNR=5.7
E31A Nome 81.31 37 P **P 10 22 17.6 +0.6**
baz=316,SNR=20
SMOL Smolenice 81.37 326 *eP* **P 10 22 18.5 +1.3**
SMOL Smolenice 81.37 326 *eP* **P 10 22 18.5 +1.3**
BUD Budapest 81.40 325 ||*eP* **P 10 22 17.9 +0.5**
B34A Aery, Baudette 81.40 34 P **P 10 22 17.4 0.0**
baz=318,SNR=12
C33A Trail 81.43 35 P **P 10 22 17.9 +0.3**
baz=317,SNR=17
GOPC GO Pecny, Ondr 81.46 328 *eP* **P 10 22 18.0 +0.3**
GOPC *epP* **PcP 10 22 23.7 0.0**
GOPC *ePP* **PP 10 25 25.3 +2.2**
GOPC *eS* **S 10 32 28.0 -0.1**
GOPC AMS AMS 11 04 50.0
comp=Z,6µm,13.1s
GOPC GO Pecny, Ondr 81.46 328 *eP* **P 10 22 18.0 +0.3**
GOPC *e* 10 22 23.7
GOPC *e* 10 25 25.3
GOPC *eS* **S 10 32 28.0 -0.1**
GOPC MLR MLR
comp=Z,6µm,13.1s
SRO Srobarova 81.48 325 *eP* **P 10 22 18.9 +1.1**
SRO Srobarova 81.48 325 *eP* **P 10 22 18.9 +1.1**
PRA Prague 81.49 329 *eP* **P 10 22 18.9 +1.1**
PRA *eS* **S 10 32 30.8 +2.5**
PRA AMS AMS 11 06 00.0
comp=Z,5µm,13.7s
PRA Prague 81.49 329 *eP* **P 10 22 18.9 +1.1**
PRA *eS* **S 10 32 30.8 +2.5**
PRA MLR MLR
comp=Z,5µm,13.7s
BZS Buzias 81.50 322 ⇑*iP* **P 10 22 17.8 -0.2**
PRU Pruhonice 81.51 329 *eP* **P 10 22 18.4 +0.5**
PRU *epP* **PcP 10 22 23.7 -0.2**
PRU *ePP* **PP 10 25 25.8 +2.3**
PRU *eS* **S 10 32 29.3 +0.8**
PRU AMS AMS 11 04 50.0
comp=Z,5µm,13.8s
PRU Pruhonice 81.51 329 *eP* **P 10 22 18.4 +0.5**
PRU *e* 10 22 23.7
PRU *e* 10 25 25.8
PRU *eS* **S 10 32 29.3 +0.8**
PRU MLR MLR
comp=Z,5µm,13.8s
ASF Jabal al Asfar 81.51 304 P **P 10 22 18.9 +0.5**
comp=Z,17nm,1.0s,baz=12,slow=1.7,SNR=18
ASF LR LR 11 01 25.6
comp=Z,908nm,18.6s,baz=12,slow=38
SMCO Snowmass 81.53 47 *eP* **P 10 22 19.4 +0.6**
comp=Z,34nm,0.9s
MODS Modra-Piesok 81.54 326 *eP* **P 10 22 19.6 +1.5**
MODS Modra-Piesok 81.54 326 *eS* **S 10 32 31.3 +2.3**
MODS Modra-Piesok 81.54 326 *eP* **P 10 22 19.6 +1.5**
MODS *eS* **S 10 32 31.3 +2.3**
F31A Hecla 81.63 38 P **P 10 22 19.3 +0.6**
baz=316,SNR=15
TREC Trest 81.63 328 *eP* **P 10 22 19.2 +0.6**
TREC AMS AMS 11 02 50.0
comp=Z,4µm,16.5s
TREC Trest 81.63 328 *eP* **P 10 22 19.2 +0.6**
TREC MLR MLR
comp=Z,4µm,16.5s
E32A Braaten, Kindr 81.67 36 P **P 10 22 18.6 -0.3**
baz=317
RRH Rhenigidale 81.72 343 *eP* **P 10 22 19.1 +0.2**
GDZ Gediz 81.73 313 *iP* **P 10 22 18.9 -0.5**
ZST Bratislava 81.75 326 *eP* **P 10 22 20.5 +1.3**
ZST Bratislava 81.75 326 *eS* **S 10 32 32.0 +0.9**
ZST Bratislava 81.75 326 *eP* **P 10 22 20.6 +1.3**
ZST pmax pmax
comp=Z,745nm,3.7s
KAC Achnashellach 81.78 343 *eP* **P 10 22 20.1 +0.9**
URZ Urewera 81.82 152 *eP* **P 10 22 19.0 -0.4**
comp=Z,39nm,1.0s
CSKK Cs ‡kako 81.84 325 ||*eP* **P 10 22 20.3 +0.6**
D33A AnnSam, Waubun 81.85 35 P **P 10 22 20.0 +0.1**
baz=317
C34A RKJ Ranch, Bem 81.90 35 P **P 10 22 20.0 -0.1**
baz=318
B35A Bob, Littlefor 81.91 34 P **P 10 22 20.5 +0.5**
baz=319,SNR=19
ISCO Idaho Springs 81.91 46 P **P 10 22 22.0 +1.4**
baz=312,SNR=14
ISCO Idaho Springs 81.91 46 *eP* **P 10 22 22.2 +1.6**
comp=Z,120nm,1.8s
ISCO Idaho Springs 81.91 46 *eP* **P 10 22 22.5 +1.9**
ISCO pmax pmax
comp=Z,120nm,1.8s
MVCO Mesa Verde 81.91 49 P **P 10 22 20.0 -0.6**
baz=311,SNR=7.9
MVCO Mesa Verde 81.91 49 *eP* **P 10 22 19.7 -0.9**
comp=Z,304nm,1.6s
ISP Isparta 81.95 312 ||*iP* **P 10 22 20.0 -0.6**
ISP Isparta 81.95 312 *eP* **P 10 22 20.5 -0.1**
ISP LR LR
comp=Z,2µm,22.0s
ISP Isparta 81.95 312 P **P 10 22 20.0 -0.6**
ISP Isparta 81.95 312 *iP* **P 10 22 19.8 -0.8**
ISP pmax pmax
comp=Z,68nm,1.1s
MMAI Mount Meron Ar 81.97 305 P **P 10 22 20.9 +0.2**
comp=Z,52nm,0.9s,baz=47,slow=6.3,SNR=60
MMAI LR LR 11 01 52.9
comp=Z,2µm,21.0s,baz=40,slow=38
DURS Dursunbey 81.97 314 *iP* **P 10 22 21.0 +0.3**
SART Tekirdag 81.98 316 *iP* **P 10 22 19.8 -0.8**
KPL Plockton 82.01 343 *eP* **P 10 22 21.6 +1.3**
KPL IAmb IAmb 10 22 23.4
comp=Z,125nm,1.0s
KPL Plockton 82.01 343 *eP* **P 10 22 21.8 +1.4**
MPEP Malo Peshtene 82.02 319 *iP* **P 10 22 20.9 +0.2**
NRS Narsarsuaq 82.05 3 PFAKE 10 22 30.0 +10
NRS LR LR
comp=Z,2µm,19.0s
EDU Dundee 82.05 341 *eP* **P 10 22 21.5 +0.8**
CSS Mathiatis 82.07 308 *eP* **P 10 22 19.9 -1.3**
comp=Z,11nm,0.8s
CSS LR LR
comp=Z,600nm,22.0s
CSS Mathiatis 82.07 308 P **P 10 22 21.4 +0.2**
KSB Sheil Bridge 82.07 342 *eP* **P 10 22 21.3 +0.7**
G31A Conde 82.11 38 P **P 10 22 21.7 +0.5**
baz=316,SNR=13
KESN Edirne-Kesan 82.17 316 *iP* **P 10 22 22.6 +0.5**
F32A Veblen 82.17 37 P **P 10 22 21.7 +0.2**
baz=317,SNR=5.6
NKC Novy Kostel 82.18 330 *eP* **P 10 22 22.1 +0.6**
NKC *epP* **sP 10 22 28.0 -1.9**
NKC *eS* **S 10 32 36.6 +1.1**
NKC AMS AMS 11 02 10.0
comp=Z,6µm,13.7s
NKC Novy Kostel 82.18 330 *eP* **P 10 22 22.1 +0.6**
NKC *e* 10 22 28.0
NKC *eS* **S 10 32 36.6 +1.1**

NKC				MLR	MLR		
	comp=Z,6µm,13.7s						
D34A	**Park Rapids**	**82.19**	**35**	P	**P**	**10 22 21.8**	**+0.2**
	baz=318,SNR=10						
DEMI	**Demirci**	**82.21**	**314**	*i* P	**P**	**10 22 22.2**	**+0.3**
E33A	**Westby DABS, E**	**82.24**	**36**	P	**P**	**10 22 22.7**	**+0.9**
	baz=317,SNR=13						
C35A	**Jirik Farms, M**	**82.29**	**34**	P	**P**	**10 22 22.1**	**0.0**
	baz=319,SNR=21						
SUSD	**Miller**	**82.30**	**39**	P	**P**	**10 22 22.7**	**+0.5**
	baz=316,SNR=12						
KDZ	**Kurdzhali**	**82.30**	**317**	*i* P	**P**	**10 22 23.0**	**+0.7**
PGB	**Panagyurishte**	**82.35**	**318**	*i* P	**P**	**10 22 23.0**	**+0.4**
BALY	**Balya**	**82.37**	**315**	*i* P	**P**	**10 22 21.9**	**-0.8**
PLD	**Plovdiv**	**82.37**	**318**	*i* P	**P**	**10 22 22.6**	**0.0**
SOP	**Sopron**	**82.37**	**326**	⇓*e*P	**P**	**10 22 23.5**	**+1.0**
BKZ	**Black Stump Fm**	**82.39**	**153**	*e*P	**P**	**10 22 23.8**	**+1.3**
	comp=Z,24nm,0.9s						
BKZ				LR	LR		
	comp=Z,1µm,19.0s						
G32A	**Webster**	**82.44**	**38**	P	**P**	**10 22 23.3**	**+0.4**
	baz=316						
ALN	**Alexandroupoli**	**82.47**	**316**	*e*P	**P**	**10 22 22.8**	**-0.3**
ALN				LR	LR		
	comp=Z,1µm,20.0s						
ALN	**Alexandroupoli**	**82.47**	**316**	P	**P**	**10 22 22.8**	**-0.3**
ALN	**Alexandroupoli**	**82.47**	**316**	*e*P	**P**	**10 22 22.8**	**-0.3**
ALN				MLR	MLR		
	comp=Z,1µm,20.0s						
CONA	**Conrad Observa**	**82.50**	**326**	*i* pP	**P**	**10 22 24.4**	**+1.1**
	comp=Z,38nm,0.9s,SNR=25						
W18A	**Petrified Fore**	**82.50**	**51**	P	**P**	**10 22 24.2**	**+0.5**
	baz=310						
MORH	**Mˆ‡rˆ¡gy, Hung**	**82.50**	**324**	⇓*e*P	**P**	**10 22 23.0**	**-0.2**
H31A	**Wolsey**	**82.51**	**39**	P	**P**	**10 22 23.8**	**+0.5**
	baz=316,SNR=8.7						
ENEZ	**Enez**	**82.52**	**316**	P	**P**	**10 22 23.7**	**+0.3**
STEP	**BALIKESIR_Sava**	**82.56**	**314**	*i* P	**P**	**10 22 23.9**	**+0.2**
S22A	**4UR Ranch, Cre**	**82.56**	**48**	P	**P**	**10 22 22.9**	**-1.2**
	baz=312,SNR=6.1						
KHC	**Kasperske Hory**	**82.57**	**328**	*e*P	**P**	**10 22 24.0**	**+0.4**
KHC				*e*pP	**sP**	**10 22 29.8**	**-2.2**
KHC				*e*PP	**PP**	**10 25 34.3**	**+2.0**
KHC				*e*S	**S**	**10 32 40.4**	**+0.8**
KHC				AMS	AMS	11 05 30.0	
	comp=Z,5µm,12.9s						
KHC	**Kasperske Hory**	**82.57**	**328**	*e*P	**P**	**10 22 23.6**	**+0.1**
	comp=Z,22nm,0.9s						
KHC				LR	LR		
	comp=Z,2µm,18.0s						
KHC	**Kasperske Hory**	**82.57**	**328**	*e*P	**P**	**10 22 24.0**	**+0.4**
KHC				*e*		10 22 29.8	
KHC				*e*		10 25 34.3	
KHC				*e*S	**S**	**10 32 40.4**	**+0.8**
KHC				MLR	MLR		
	comp=Z,5µm,12.9s						
RDO	**Rodhopi**	**82.58**	**317**	*e*P	**P**	**10 22 24.0**	**+0.3**
RDO	**Rodhopi**	**82.58**	**317**	P	**P**	**10 22 24.0**	**+0.3**
F33A	**5 Mile Ranch,**	**82.59**	**37**	P	**P**	**10 22 24.3**	**+0.6**
	baz=317,SNR=17						
E34A	**Wadena**	**82.63**	**36**	P	**P**	**10 22 23.9**	**0.0**
	baz=318,SNR=5.7						
RZN	**Rozhen**	**82.66**	**318**	*i* P	**P**	**10 22 24.7**	**+0.4**
MANT	**Manisa**	**82.67**	**313**	*i* P	**P**	**10 22 24.9**	**+0.3**
MANT	**Manisa**	**82.67**	**313**	*e*P	**P**	**10 22 25.0**	**+0.5**
	comp=Z,241nm,1.4s						
MANT				LR	LR		
	comp=Z,7µm,18.0s						
EAB	**Aberfoyle**	**82.71**	**341**	*e*P	**P**	**10 22 24.3**	**+0.2**
D35A	**Remer**	**82.72**	**35**	P	**P**	**10 22 24.2**	**-0.1**
	baz=319,SNR=6.7						
GEC2	**GERESS Array S**	**82.73**	**328**	*e*P	**P**	**10 22 24.7**	**+0.2**
	comp=Z,25nm,0.8s						
GEC2				LR	LR		
	comp=Z,4µm,18.0s						
GEC2	**GERESS Array S**	**82.73**	**328**	*e*P	**P**	**10 22 24.8**	**+0.2**
GEC2				pmax	pmax		
	comp=Z,25nm,0.9s						
GERES	**GERESS Array B**	**82.73**	**328**	P	**P**	**10 22 24.6**	**+0.1**
	comp=Z,17nm,0.7s,baz=36,slow=5.0,SNR=114						
GERES				PKKPbc	**PKKPbc**	**10 40 46.7**	**-1.2**
	comp=Z,1.1nm,0.9s,baz=249,slow=2.6,SNR=5.5						
Q24A	**Divide**	**82.74**	**46**	P	**P**	**10 22 25.0**	**0.0**
	baz=312,SNR=9.5						
GEA0	**GERESS Array S**	**82.74**	**328**	*e*P	**P**	**10 22 23.8**	**-0.7**
X18A	**Snowflake**	**82.75**	**52**	*e*P	**P**	**10 22 26.6**	**+1.7**
	comp=Z,178nm,1.9s						
C36A	**Pine Crest Far**	**82.75**	**33**	P	**P**	**10 22 24.5**	**0.0**
	baz=319,SNR=12						
I31A	**Royce, Wessing**	**82.80**	**39**	P	**P**	**10 22 25.4**	**+0.5**
	baz=316						
VTS	**Vitosha**	**82.83**	**319**	⇓*i*P	**P**	**10 22 25.4**	**+0.2**
VTS	**Vitosha**	**82.83**	**319**	*e*P	**P**	**10 22 25.3**	**+0.1**
VTS				LR	LR		
	comp=Z,3µm,22.0s						
VTS	**Vitosha**	**82.83**	**319**	*i* P	**P**	**10 22 25.6**	**+0.4**
VTS	**Vitosha**	**82.83**	**319**	P	**P**	**10 22 25.3**	**+0.1**
VTS	**Vitosha**	**82.83**	**319**	*e*P	**P**	**10 22 25.8**	**+0.6**
VTS				pmax	pmax		
	comp=Z,33nm,0.8s						
WTSB	**Winterswijk**	**82.94**	**334**	*i* P	**P**	**10 22 25.4**	**0.0**
	comp=Z,39nm,0.7s						
E35A	**Pequot Lakes**	**82.95**	**35**	P	**P**	**10 22 25.7**	**+0.2**
	baz=318,SNR=7.6						
BAYC	**CANAKKALE_Bayr**	**82.98**	**315**	*i* P	**P**	**10 22 26.1**	**+0.3**
G33A	**Ortonville**	**82.99**	**37**	P	**P**	**10 22 26.3**	**+0.5**
	baz=317,SNR=24						
H32A	**Carlson Farm,**	**83.01**	**38**	P	**P**	**10 22 26.2**	**+0.3**
	baz=317						
GADA	**Gvkgeada**	**83.04**	**316**	*e*P	**P**	**10 22 26.5**	**+0.4**
GADA	**Gvkgeada**	**83.04**	**316**	P	**P**	**10 22 26.5**	**+0.4**
EZN	**Ezine**	**83.05**	**315**	*e*P	**P**	**10 22 26.3**	**+0.2**
EZN	**Ezine**	**83.05**	**315**	P	**P**	**10 22 26.3**	**+0.2**
EZN	**Ezine**	**83.05**	**315**	*e*P	**P**	**10 22 26.3**	**+0.2**
D36A	**Goodland**	**83.05**	**34**	P	**P**	**10 22 25.4**	**-0.7**
	baz=319,SNR=9.4						
SMTH	**Samothraki Isl**	**83.05**	**316**	*e*P	**P**	**10 22 26.0**	**-0.2**
SMTH	**Samothraki Isl**	**83.05**	**316**	P	**P**	**10 22 26.0**	**-0.2**
C37A	**Embarrass**	**83.06**	**33**	P	**P**	**10 22 26.3**	**+0.1**
	baz=320,SNR=20						
PGBU	**Glenifferbraes**	**83.09**	**341**	*e*P	**P**	**10 22 27.1**	**+1.1**
PGBU				IAmb	IAmb	10 22 28.3	
	comp=Z,108nm,0.9s						
GRFO	**Grafenberg**	**83.10**	**330**	*e*P	**P**	**10 22 26.9**	**+0.6**
	comp=Z,60nm,0.8s						
GRFO				LR	LR		
	comp=Z,3µm,21.0s						
GRFO	**Grafenberg**	**83.10**	**330**	*e*P	**P**	**10 22 27.1**	**+0.9**
GRFO				pmax	pmax		
	comp=Z,60nm,0.8s						
F34A	**Alexandria**	**83.12**	**36**	P	**P**	**10 22 27.0**	**+0.6**
	baz=318,SNR=8.4						
OGNE	**Ogallala**	**83.14**	**43**	P	**P**	**10 22 27.3**	**+0.5**
	baz=314,SNR=5.1						
OGNE	**Ogallala**	**83.14**	**43**	*e*P	**P**	**10 22 27.9**	**+1.1**
	comp=Z,85nm,1.1s						
ARSA	**Arzberg**	**83.16**	**326**	*i* pP	**P**	**10 22 27.5**	**+0.8**
	comp=Z,45nm,1.1s,SNR=15						
EKA	**Eskdalemuir Ar**	**83.17**	**340**	P	**P**	**10 22 26.4**	**-0.1**
	comp=Z,20nm,0.8s,baz=34,slow=5.2,SNR=26						
EKA				LR	LR	11 03 11.0	
	comp=Z,2µm,18.7s,baz=35,slow=38						
BEHE	**Becsehely**	**83.18**	**325**	⇓*e*P	**P**	**10 22 27.1**	**+0.4**
ESK	**Eskdalemuir**	**83.19**	**341**	*e*P	**P**	**10 22 27.0**	**+0.4**
	comp=Z,35nm,0.9s						
ESK				LR	LR		
	comp=Z,2µm,19.0s						
ESK	**Eskdalemuir**	**83.19**	**341**	*e*P	**P**	**10 22 26.3**	**-0.3**
ESK				*e*P	**P**	**10 22 26.3**	**-0.3**
ESK				IAmb	IAmb	10 22 27.9	
	comp=Z,32nm,0.9s						
ESK				IAMs_20	IAMs_20	11 03 50.5	
	comp=Z,2µm,15.0s						
ESK	**Eskdalemuir**	**83.19**	**341**	*e*P	**P**	**10 22 27.6**	**+1.0**
ESK				pmax	pmax		
	comp=Z,35nm,1.0s						
EYMN	**Ely**	**83.20**	**33**	P	**P**	**10 22 27.2**	**+0.4**
	baz=320,SNR=18						
EYMN	**Ely**	**83.20**	**33**	*e*P	**P**	**10 22 27.2**	**+0.4**
	comp=Z,57nm,0.8s						
H33A	**Prehn Over Nor**	**83.22**	**38**	P	**P**	**10 22 27.6**	**+0.6**
	baz=317,SNR=19						
J31A	**Geddes**	**83.23**	**40**	P	**P**	**10 22 27.7**	**+0.6**
	baz=316,SNR=5.4						
KAVA	**Kavala**	**83.24**	**317**	*e*P	**P**	**10 22 26.8**	**-0.3**
KAVA	**Kavala**	**83.24**	**317**	P	**P**	**10 22 26.8**	**-0.3**
MMB	**Musomiste**	**83.26**	**318**	*i* P	**P**	**10 22 27.7**	**+0.4**
MOA	**Molln**	**83.26**	**327**	*i* pP	**P**	**10 22 27.6**	**+0.4**
	comp=Z,29nm,1.0s,SNR=22						
EDMD	**Edmundbyers**	**83.28**	**340**	IAMs_20	IAMs_20	11 02 58.5	
	comp=Z,3µm,18.5s						
ECK	**Cauldkaine Hil**	**83.29**	**340**	*e*P	**P**	**10 22 27.9**	**+0.8**
I32A	**Karley and Nic**	**83.34**	**38**	P	**P**	**10 22 27.9**	**+0.3**
	baz=317						
G34A	**Benson**	**83.34**	**37**	P	**P**	**10 22 28.5**	**+0.9**
	baz=318,SNR=9.6						
SDCO	**Great Sand Dun**	**83.35**	**47**	P	**P**	**10 22 28.4**	**+0.3**
	baz=312						
NVR	**Nevrokopi**	**83.35**	**318**	*e*P	**P**	**10 22 27.9**	**+0.1**
NVR	**Nevrokopi**	**83.35**	**318**	P	**P**	**10 22 27.9**	**+0.1**
D37A	**Cotton**	**83.39**	**34**	P	**P**	**10 22 27.5**	**-0.3**
	baz=320						
F35A	**Swanville**	**83.39**	**36**	P	**P**	**10 22 28.0**	**+0.2**
	baz=318,SNR=9.1						
BHH	**Howats Hill**	**83.39**	**340**	*e*P	**P**	**10 22 28.3**	**+0.6**
DIVS	**Divibare**	**83.40**	**322**	*e*P	**P**	**10 22 27.6**	**-0.4**
	comp=Z,59nm,1.1s						
DIVS				LR	LR		
	comp=Z,3µm,19.0s						
KKB	**Krupnik**	**83.40**	**319**	*i* P	**P**	**10 22 28.5**	**+0.5**
C38A	**Sawbill Land.**	**83.47**	**33**	P	**P**	**10 22 28.4**	**+0.1**
	baz=320,SNR=18						
PRK	**Paraskevi**	**83.47**	**315**	*e*P	**P**	**10 22 28.7**	**+0.4**
PRK	**Paraskevi**	**83.47**	**315**	P	**P**	**10 22 28.7**	**+0.4**
PRK	**Paraskevi**	**83.47**	**315**	*e*P	**P**	**10 22 28.7**	**+0.4**
E36A	**McGregor**	**83.50**	**35**	P	**P**	**10 22 28.4**	**0.0**
	baz=319,SNR=14						
THZ	**Tophouse**	**83.51**	**157**	*e*P	**P**	**10 22 28.7**	**+0.5**
	comp=Z,178nm,1.5s						
FETY	**Fethiye**	**83.59**	**312**	*e*P	**P**	**10 22 28.0**	**-1.1**
FETY	**Fethiye**	**83.59**	**312**	P	**P**	**10 22 28.0**	**-1.1**
J32A	**Parkston**	**83.62**	**39**	P	**P**	**10 22 29.5**	**+0.5**
	baz=316,SNR=7.1						
TUC	**Tucson**	**83.63**	**54**	P	**P**	**10 22 30.4**	**+0.9**
	baz=310						
LIA	**Limnos Island**	**83.64**	**316**	*e*P	**P**	**10 22 28.8**	**-0.4**
LIA	**Limnos Island**	**83.64**	**316**	P	**P**	**10 22 28.8**	**-0.4**
BFZ	**Birch Farm**	**83.65**	**154**	*e*P	**P**	**10 22 29.7**	**+0.8**
	comp=Z,88nm,1.3s						
I33A	**Coleman**	**83.66**	**38**	P	**P**	**10 22 29.7**	**+0.4**
	baz=317,SNR=7.8						
SRS	**Serrai**	**83.66**	**318**	*e*P	**P**	**10 22 29.1**	**-0.2**
SRS	**Serrai**	**83.66**	**318**	P	**P**	**10 22 29.1**	**-0.2**
SRS	**Serrai**	**83.66**	**318**	*e*P	**P**	**10 22 29.1**	**-0.2**
SNZO	**South Karori**	**83.68**	**155**	PFAKE		10 22 40.0	+11
SNZO				LR	LR		
	comp=Z,1µm,20.0s						
K31A	**O'Neill**	**83.70**	**40**	P	**P**	**10 22 29.5**	**0.0**
	baz=316,SNR=15						
H34A	**Spellman Lake,**	**83.70**	**37**	P	**P**	**10 22 29.6**	**+0.2**
	baz=318						
SIGR	**SIGRI**	**83.73**	**315**	*e*P	**P**	**10 22 29.3**	**-0.4**
SIGR	**SIGRI**	**83.73**	**315**	P	**P**	**10 22 29.3**	**-0.4**
YER	**Yerkesik**	**83.73**	**312**	*e*P	**P**	**10 22 30.6**	**+0.8**
YER	**Yerkesik**	**83.73**	**312**	P	**P**	**10 22 30.6**	**+0.8**
YER	**Yerkesik**	**83.73**	**312**	*e*P	**P**	**10 22 30.6**	**+0.8**
KESW	**Keswick, Cumbr**	**83.81**	**340**	*e*P	**P**	**10 22 30.9**	**+1.1**
KESW				IAmb	IAmb	10 22 31.9	
	comp=Z,53nm,0.8s						
KESW				IAMs_20	IAMs_20	11 04 25.9	
	comp=Z,3µm,15.8s						
SOKA	**Soboth**	**83.82**	**326**	*i* pP	**P**	**10 22 30.5**	**+0.4**
	comp=Z,78nm,1.0s,SNR=42						
E37A	**Wrenshall**	**83.85**	**34**	P	**P**	**10 22 30.1**	**-0.1**
	baz=320						
F36A	**Milaca**	**83.87**	**35**	P	**P**	**10 22 30.3**	**0.0**
	baz=319						
C39A	**Grand Marais**	**83.88**	**32**	P	**P**	**10 22 30.0**	**-0.3**
	baz=321,SNR=11						
URLA	**Izmir**	**83.89**	**314**	*i* P	**P**	**10 22 30.0**	**-0.6**
G35A	**Watkins**	**83.91**	**36**	P	**P**	**10 22 31.1**	**+0.6**
	baz=318,SNR=10						
HPK	**Haverah Park**	**83.95**	**339**	*e*P	**P**	**10 22 31.4**	**+0.9**
HPK				IAmb	IAmb	10 22 32.5	
	comp=Z,68nm,0.8s						
HPK				IAMs_20	IAMs_20	11 09 37.3	
	comp=Z,2µm,13.6s						
ECSD	**EROS Data Cent**	**83.97**	**38**	P	**P**	**10 22 31.2**	**+0.3**
	baz=317,SNR=14						
ECSD	**EROS Data Cent**	**83.97**	**38**	*e*P	**P**	**10 22 31.8**	**+0.9**
	comp=Z,42nm,0.9s						
KNT	**Kendrikon**	**84.00**	**318**	*e*P	**P**	**10 22 31.4**	**+0.3**
KNT	**Kendrikon**	**84.00**	**318**	P	**P**	**10 22 31.4**	**+0.3**
KNT	**Kendrikon**	**84.00**	**318**	*e*P	**P**	**10 22 31.4**	**+0.3**
DOBS	**Dobrina**	**84.02**	**326**	*e*P	**P**	**10 22 30.7**	**-0.3**
VAY	**Valandovo**	**84.06**	**318**	*e*P	**P**	**10 22 31.7**	**+0.4**
VAY	**Valandovo**	**84.06**	**318**	P	**P**	**10 22 31.7**	**+0.4**
VAY	**Valandovo**	**84.06**	**318**	⇓*i*P	**P**	**10 22 31.3**	**-0.1**
VAY	**Valandovo**	**84.06**	**318**	*e*P	**P**	**10 22 31.7**	**+0.4**
K32A	**Verdigre**	**84.07**	**40**	P	**P**	**10 22 31.7**	**+0.3**
	baz=316,SNR=5.4						
J33A	**Davis**	**84.10**	**39**	P	**P**	**10 22 31.6**	**+0.1**
	baz=317						
I34A	**Hadley**	**84.12**	**38**	P	**P**	**10 22 32.0**	**+0.4**
	baz=318						
H35A	**Sunnyside Ranc**	**84.13**	**37**	P	**P**	**10 22 32.4**	**+0.7**
	baz=318,SNR=23						
KSCO	**Kaye Shedlock'**	**84.14**	**45**	P	**P**	**10 22 33.3**	**+1.3**
	baz=314						
KSCO	**Kaye Shedlock'**	**84.14**	**45**	*e*P	**P**	**10 22 33.5**	**+1.5**
	comp=Z,218nm,1.5s						
CLGH	**Cloghs, Cushen**	**84.15**	**342**	*e*P	**P**	**10 22 32.1**	**+0.6**
CLGH				IAmb	IAmb	10 22 34.6	
	comp=Z,53nm,0.7s						
CLGH				IAMs_20	IAMs_20	11 04 54.9	
	comp=Z,3µm,16.7s						
OBKA	**Obir**	**84.16**	**326**	*i* P	**P**	**10 22 31.9**	**0.0**
	comp=Z,24nm,1.0s,SNR=7.7						
PMOR	**Pomariorio Ree**	**84.19**	**114**	*e*T	T	11 54 54.9	
	comp=Z,62nm,0.2s						
SKO	**Skopje**	**84.19**	**319**	*e*P	**P**	**10 22 33.0**	**+1.0**
SKO	**Skopje**	**84.19**	**319**	P	**P**	**10 22 33.0**	**+1.0**
SKO	**Skopje**	**84.19**	**319**	⇓*i*P	**P**	**10 22 32.7**	**+0.7**
SKO	**Skopje**	**84.19**	**319**	*e*P	**P**	**10 22 33.0**	**+1.0**
SMG	**Samos**	**84.19**	**314**	*e*P	**P**	**10 22 31.6**	**-0.5**
SMG	**Samos**	**84.19**	**314**	P	**P**	**10 22 31.6**	**-0.5**
E38A	**The Farm, Brul**	**84.20**	**34**	P	**P**	**10 22 31.8**	**-0.1**
	baz=320,SNR=20						
C40A	**Isle Royale Na**	**84.22**	**31**	P	**P**	**10 22 32.3**	**+0.3**
	baz=322						
HGN	**Heimansgroeve**	**84.24**	**333**	*i* P	**P**	**10 22 32.0**	**0.0**
	comp=Z,161nm,1.7s						
G36A	**St. Michael**	**84.24**	**36**	P	**P**	**10 22 32.7**	**+0.5**
	baz=319						
MHTCO	**State Highway**	**84.24**	**47**	PFAKE		10 22 50.0	+17
MHTCO				LR	LR		
	comp=Z,900nm,21.0s						
KBA	**Koelnbreinsper**	**84.25**	**327**	*i* P	**P**	**10 22 32.5**	**+0.1**
	comp=Z,33nm,0.8s,SNR=14						
PLE	**Pljevlja**	**84.25**	**322**	⇓*i*P	**P**	**10 22 32.9**	**+0.4**
PLG	**Polygyros**	**84.26**	**317**	*e*P	**P**	**10 22 32.3**	**-0.1**
PLG	**Polygyros**	**84.26**	**317**	P	**P**	**10 22 32.3**	**-0.1**
PLG	**Polygyros**	**84.26**	**317**	*e*P	**P**	**10 22 32.3**	**-0.1**
BLY	**Banja Luka**	**84.28**	**324**	⇑*i*P	**P**	**10 22 32.3**	**-0.1**
BLY	**Banja Luka**	**84.28**	**324**	*e*P	**P**	**10 22 32.9**	**+0.5**
	comp=Z,55nm,1.3s						
BLY				LR	LR		
	comp=Z,4µm,18.0s						
HORT	**Hortiatis**	**84.29**	**318**	*e*P	**P**	**10 22 32.4**	**-0.2**
HORT	**Hortiatis**	**84.29**	**318**	P	**P**	**10 22 32.4**	**-0.2**
KHZ	**Kahutara**	**84.30**	**157**	PFAKE		10 22 40.0	+7.9
KHZ				LR	LR		
	comp=Z,2µm,22.0s						
BEBN	**Eben Emael**	**84.30**	**334**	⇑P	**P**	**10 22 34.3**	**+1.9**
IVA	**Berane**	**84.34**	**321**	⇓*i*P	**P**	**10 22 33.4**	**+0.6**
THE	**Thessaloniki**	**84.34**	**318**	*e*P	**P**	**10 22 32.4**	**-0.3**
THE	**Thessaloniki**	**84.34**	**318**	P	**P**	**10 22 32.4**	**-0.3**
THE	**Thessaloniki**	**84.34**	**318**	*e*P	**P**	**10 22 32.4**	**-0.3**
MEM	**Membach**	**84.34**	**333**	⇑P	**P**	**10 22 32.8**	**+0.2**
	comp=Z,23nm,0.9s						
BODT	**Bodrum**	**84.36**	**313**	*e*P	**P**	**10 22 31.9**	**-1.1**
BODT	**Bodrum**	**84.36**	**313**	P	**P**	**10 22 31.9**	**-1.1**
EIL	**Elat**	**84.38**	**303**	LR	LR	11 04 42.3	
	comp=Z,1µm,19.0s,baz=62,slow=39						
F37A	**Hinrichs Farm,**	**84.39**	**35**	P	**P**	**10 22 32.9**	**0.0**
	baz=320						
T25A	**Trinidad**	**84.40**	**47**	P	**P**	**10 22 34.5**	**+1.0**
	baz=313						
GRG	**Griva**	**84.41**	**318**	*e*P	**P**	**10 22 33.1**	**-0.1**
GRG	**Griva**	**84.41**	**318**	P	**P**	**10 22 33.1**	**-0.1**
GRG	**Griva**	**84.41**	**318**	*e*P	**P**	**10 22 33.1**	**-0.1**
PAIG	**Paliouri**	**84.44**	**317**	*e*P	**P**	**10 22 33.1**	**-0.2**
PAIG	**Paliouri**	**84.44**	**317**	P	**P**	**10 22 33.1**	**-0.2**
PAIG	**Paliouri**	**84.44**	**317**	*e*P	**P**	**10 22 33.1**	**-0.2**
MYKA	**Terra Mystica**	**84.47**	**327**	*i* P	**P**	**10 22 33.2**	**-0.3**
	comp=Z,18nm,0.6s,SNR=11						
LBWR	**Ladybower, Pea**	**84.47**	**339**	*e*P	**P**	**10 22 34.0**	**+0.8**
LBWR				IAmb	IAmb	10 22 35.3	
	comp=Z,111nm,0.9s						
LBWR				IAMs_20	IAMs_20	11 06 19.8	
	comp=Z,2µm,16.1s						
PVY	**Plav**	**84.50**	**321**	⇓*i*P	**P**	**10 22 34.0**	**+0.3**
L32A	**Elgin**	**84.53**	**40**	P	**P**	**10 22 34.0**	**+0.3**
	baz=316						
F38A	**Pierce - Schro**	**84.55**	**34**	P	**P**	**10 22 34.5**	**+0.7**
	baz=320,SNR=27						
GORS	**Gorjuse**	**84.55**	**326**	*e*P	**P**	**10 22 34.9**	**+1.0**
GORS				*i* PP	**PP**	**10 25 51.5**	**+2.8**
K33A	**Hardington**	**84.61**	**39**	P	**P**	**10 22 34.4**	**+0.3**
	baz=317						
BOJS	**Bojanci**	**84.61**	**325**	*i* P	**P**	**10 22 34.0**	**-0.1**
BOJS				*e*		10 25 51.6	
BOJS				*i*		10 27 08.1	
BOJS				*e*S	**S**	**10 32 59.2**	**-1.0**
J34A	**George**	**84.63**	**38**	P	**P**	**10 22 34.0**	**-0.2**
	baz=318						
STU	**Stuttgart**	**84.63**	**330**	*e*P	**P**	**10 22 34.4**	**+0.3**
	comp=Z,68nm,0.8s						
STU				LR	LR		
	comp=Z,3µm,18.0s						
STU	**Stuttgart**	**84.63**	**330**	*e*P	**P**	**10 22 34.5**	**+0.3**
STU				pmax	pmax		
	comp=Z,68nm,0.8s						
PPT	**Papeete**	**84.64**	**117**	LR	LR	10 53 53.3	
	comp=Z,951nm,19.5s,baz=304,slow=31						
ANMO	**Albuquerque**	**84.64**	**50**	P	**P**	**10 22 36.4**	**+1.7**
	comp=Z,47nm,1.0s,baz=102,slow=4.5,SNR=19						
ANMO	**Albuquerque**	**84.64**	**50**	*e*P	**P**	**10 22 35.0**	**+0.3**
	comp=Z,78nm,1.1s						
ANMO	**Albuquerque**	**84.64**	**50**	*de*P	**P**	**10 22 36.1**	**+1.4**
ANMO				pmax	pmax		
	comp=Z,178nm,2.5s						
H36A	**Jessenland, He**	**84.65**	**36**	P	**P**	**10 22 35.6**	**+1.3**
	baz=319,SNR=5.8						
PPT2	**Papeete2**	**84.66**	**117**	*e*P	**P**	**10 22 35.0**	**+0.3**
	comp=Z,54nm,1.2s						
PPT2	**Papeete2**	**84.66**	**117**	*e*S	**S**	**10 32 57.7**	**-3.7**
	comp=Z,4µm,32.5s						
PPT2	**Papeete2**	**84.66**	**117**	*e*LR	LR	10 48 58.9	
	comp=Z,7µm,31.0s,baz=313						
PPT2	**Papeete2**	**84.66**	**117**	*e*T	T	11 55 36.1	
	comp=Z,8.6nm,0.2s						
OXZ	**Oxford**	**84.66**	**158**	*e*P	**P**	**10 22 34.6**	**+0.6**
	comp=Z,46nm,0.8s						
I35A	**Creekview Farm**	**84.68**	**37**	P	**P**	**10 22 34.3**	**-0.2**
	baz=318						
SPMN	**Marine on St.**	**84.69**	**35**	P	**P**	**10 22 34.6**	**+0.1**
	baz=320						
SPMN	**Marine on St.**	**84.69**	**35**	*e*P	**P**	**10 22 35.5**	**+1.0**
	comp=Z,50nm,1.2s						
PAE	**Paea**	**84.70**	**117**	*e*P	**P**	**10 22 34.9**	**+0.1**
	comp=Z,11nm,1.3s						
PAE	**Paea**	**84.70**	**117**	*e*T	T	11 55 40.6	
	comp=Z,2.0nm,0.3s						
KRUS	**Krusevo**	**84.72**	**319**	⇓*e*P	**P**	**10 22 34.9**	**+0.1**
CADS	**Cadrg**	**84.74**	**326**	*e*P	**P**	**10 22 33.4**	**-1.3**
CADS				*e*S	**S**	**10 32 59.5**	**-2.0**
BCLA	**Clavier**	**84.75**	**334**	⇑P	**P**	**10 22 35.1**	**+0.5**
UCC	**Uccle**	**84.77**	**334**	⇓P	**P**	**10 22 33.6**	**-1.1**
UCC	**Uccle**	**84.77**	**334**	PFAKE		10 22 50.0	+15
UCC				LR	LR		
	comp=Z,3µm,18.0s						
L33A	**Hoskins**	**84.79**	**40**	P	**P**	**10 22 34.9**	**-0.2**
	baz=317						
TIAR	**Tiarei**	**84.80**	**116**	*e*P	**P**	**10 22 35.7**	**+0.4**
	comp=Z,25nm,1.1s						
TIAR	**Tiarei**	**84.80**	**116**	*e*T	T	11 55 48.2	
	comp=Z,8.7nm,0.3s						
WATA	**Walderalm**	**84.81**	**328**	*i* PcP	**P**	**10 22 35.5**	**+0.3**
	comp=Z,7.5nm,0.6s						
E39A	**Mellen**	**84.81**	**33**	P	**P**	**10 22 35.1**	**0.0**
	baz=321,SNR=13						
WTTA	**Wattenberg**	**84.84**	**328**	*i* P	**P**	**10 22 35.3**	**-0.1**
	comp=Z,13nm,0.9s						
ABTA	**Abfaltersbach**	**84.87**	**327**	*i* P	**P**	**10 22 34.5**	**-1.0**
	comp=Z,29nm,1.1s,SNR=13						
BGNE	**Belgrade**	**84.88**	**41**	P	**P**	**10 22 35.7**	**+0.2**
	baz=316,SNR=9.2						
BGNE	**Belgrade**	**84.88**	**41**	*e*P	**P**	**10 22 36.5**	**+1.0**
	comp=Z,116nm,0.9s						
BGNE				LR	LR		
	comp=Z,1µm,20.0s						
NKME	**Niksic**	**84.89**	**321**	⇓*i*P	**P**	**10 22 35.4**	**-0.2**
PHP	**Peshkopia**	**84.92**	**320**	*e*P	**P**	**10 22 35.7**	**-0.1**
PHP	**Peshkopia**	**84.92**	**320**	P	**P**	**10 22 35.7**	**-0.1**
PHP	**Peshkopia**	**84.92**	**320**	*e*P	**P**	**10 22 35.7**	**-0.1**
J35A	**Milford**	**84.94**	**38**	P	**P**	**10 22 35.9**	**+0.1**
	baz=318						
Y22D	**IRIS PASSCAL I**	**84.94**	**51**	P	**P**	**10 22 36.7**	**+0.5**
	baz=312						
Y22D	**IRIS PASSCAL I**	**84.94**	**51**	PFAKE		10 22 50.0	+14
Y22D				LR	LR		
	comp=Z,800nm,18.0s						
Y22E	**IRIS PASSCAL I**	**84.94**	**51**	P	**P**	**10 22 37.0**	**+0.9**
	baz=312						
LIT	**Litokhoron**	**84.97**	**318**	*e*P	**P**	**10 22 35.4**	**-0.6**
LIT	**Litokhoron**	**84.97**	**318**	P	**P**	**10 22 35.4**	**-0.6**
LIT	**Litokhoron**	**84.97**	**318**	*e*P	**P**	**10 22 35.4**	**-0.6**
PDG	**Podgorica**	**84.98**	**321**	⇑*i*P	**P**	**10 22 36.0**	**+0.1**
PDG	**Podgorica**	**84.98**	**321**	P	**P**	**10 22 36.1**	**+0.1**
TTG	**Podgorica**	**84.98**	**321**	⇓*i*P	**P**	**10 22 36.0**	**+0.1**
TTG	**Podgorica**	**84.98**	**321**	*e*P	**P**	**10 22 36.1**	**+0.1**
	comp=Z,90nm,0.8s						
TTG				LR	LR		
	comp=Z,3µm,22.0s						
TTG	**Podgorica**	**84.98**	**321**	*e*P	**P**	**10 22 35.8**	**-0.1**
TTG				pmax	pmax		
	comp=Z,90nm,0.8s						
BRY	**Bratogost**	**84.99**	**322**	⇓*i*P	**P**	**10 22 35.6**	**-0.6**
MOTA	**Moosalm**	**85.00**	**329**	*i* PcP	**P**	**10 22 36.4**	**+0.2**
	comp=Z,34nm,1.1s,SNR=12						
K34A	**Le Mars**	**85.00**	**39**	P	**P**	**10 22 36.5**	**+0.4**
	baz=318,SNR=8.5						
F39A	**Loretta**	**85.01**	**34**	P	**P**	**10 22 36.8**	**+0.7**
	baz=321,SNR=11						
TVO	**Taravao**	**85.02**	**116**	*e*P	**P**	**10 22 37.0**	**+0.6**
	comp=Z,15nm,0.9s						
RETA	**Reutte**	**85.03**	**329**	*i* PcP	**P**	**10 22 36.6**	**+0.4**
	comp=Z,49nm,0.9s,SNR=22						
I36A	**Fitzsimmons Fa**	**85.03**	**37**	P	**P**	**10 22 36.7**	**+0.5**
	baz=319						
SNF	**Seneffe**	**85.03**	**334**	⇑P	**P**	**10 22 36.5**	**+0.4**
E40A	**Wakefield**	**85.05**	**33**	P	**P**	**10 22 37.1**	**+0.8**
	baz=321,SNR=29						
CEME	**Cevo**	**85.06**	**321**	⇓*i*P	**P**	**10 22 36.0**	**-0.5**
WLF	**Walferdange**	**85.07**	**333**	⇓P	**P**	**10 22 38.8**	**+2.5**
WLF	**Walferdange**	**85.07**	**333**	*e*P	**P**	**10 22 37.1**	**+0.9**
	comp=Z,120nm,1.7s						
WLF				LR	LR		
	comp=Z,4µm,20.0s						
WLF	**Walferdange**	**85.07**	**333**	*e*P	**P**	**10 22 37.1**	**+0.9**
WLF				pmax	pmax		
	comp=Z,120nm,1.7s						
FNA	**Florina**	**85.08**	**319**	*e*P	**P**	**10 22 35.9**	**-0.7**
FNA				LR	LR		
	comp=Z,3µm,19.0s						
FNA	**Florina**	**85.08**	**319**	P	**P**	**10 22 35.9**	**-0.7**
FNA	**Florina**	**85.08**	**319**	*e*P	**P**	**10 22 35.9**	**-0.7**
FNA				MLR	MLR		
	comp=Z,3µm,19.0s						
LBZ	**Lake Benmore**	**85.10**	**160**	*e*P	**P**	**10 22 37.5**	**+1.4**
	comp=Z,51nm,0.9s						
SKIA	**Skiathos**	**85.10**	**316**	P	**P**	**10 22 35.7**	**-0.9**
XOR	**Xorichti**	**85.11**	**317**	*e*P	**P**	**10 22 35.7**	**-1.0**
XOR	**Xorichti**	**85.11**	**317**	P	**P**	**10 22 35.7**	**-1.0**
H37A	**Dierke Farm, C**	**85.12**	**36**	P	**P**	**10 22 37.5**	**+0.9**
	baz=320,SNR=5.8						
TRI	**Trieste**	**85.12**	**326**	PFAKE		10 22 50.0	+13
TRI				LR	LR		
	comp=Z,3µm,22.0s						
TRI	**Trieste**	**85.12**	**326**	*e*P	**P**	**10 22 36.0**	**-0.6**
	comp=Z,30nm,0.9s						
TRI	**Trieste**	**85.12**	**326**	*e*P	**P**	**10 22 36.0**	**-0.6**
TRI				pmax	pmax		
	comp=Z,30nm,0.9s						
NEO	**Neokhori**	**85.13**	**317**	*e*P	**P**	**10 22 35.9**	**-0.9**
NEO	**Neokhori**	**85.13**	**317**	P	**P**	**10 22 35.9**	**-0.9**

D41A **Chassel** 85.14 32 P P 10 22 36.9 +0.3
baz=322,SNR=8.4
OHR **Ohrid** 85.15 319 ⇓*i*P P 10 22 36.7 -0.2
G38A **Ridgeland** 85.16 35 P P 10 22 37.0 +0.1
baz=320,SNR=7.1
DRME **Dracevica, Mon** 85.19 321 ⇓*i*P P 10 22 37.1 0.0
KZN **Kozani** 85.21 318 *e*P P 10 22 36.6 -0.7
KZN **Kozani** 85.21 318 P P 10 22 36.6 -0.7
KZN **Kozani** 85.21 318 *e*P P 10 22 36.6 -0.7
FYTO **Fytoko, Volos** 85.22 317 *e*P P 10 22 36.7 -0.5
FYTO **Fytoko, Volos** 85.22 317 P P 10 22 36.7 -0.5
BUM **Brajici-Budva** 85.26 321 ⇓*i*P P 10 22 37.6 +0.1
M33A **Taylor Creek F** 85.26 40 P P 10 22 37.6 +0.2
baz=317,SNR=7.3
DOU **Dourbes** 85.27 334 ⇓P P 10 22 37.2 -0.1
comp=Z,34nm,2.2s
WLF1 **Llynfaes** 85.32 340 *e*P P 10 22 38.2 +0.8
WLF1 IAMs_20 IAMs_20 11 03 13.3
comp=Z,5µm,19.6s
I37A **Lemond, Waseca** 85.32 36 P P 10 22 38.5 +0.9
baz=319,SNR=14
ULC **Ulcinj** 85.33 321 ⇓*i*P P 10 22 37.6 -0.2
BFO **Black Forest** 85.33 331 *e*P P 10 22 37.5 -0.2
comp=Z,65nm,0.8s
BFO LR LR
comp=Z,3µm,18.0s
BFO **Black Forest** 85.33 331 *i* P P 10 22 38.0 +0.3
FOEL **Foel Wylfa** 85.34 339 *e*P P 10 22 37.6 0.0
FOEL IAmb IAmb 10 22 38.9
comp=Z,111nm,0.8s
FOEL IAMs_20 IAMs_20 11 06 22.2
comp=Z,2µm,17.8s
H38A **Maiden Rock** 85.34 35 P P 10 22 37.9 +0.1
baz=320
HCY **Herceg Novi** 85.35 321 ⇓*i*P P 10 22 37.3 -0.5
F40A **Park Falls** 85.36 33 P P 10 22 38.0 +0.1
baz=321,SNR=9.6
G39A **Holcombe** 85.38 34 P P 10 22 37.8 -0.1
baz=321,SNR=6.7
J36A **Seneca 1, Swea** 85.39 37 P P 10 22 38.3 +0.2
baz=319
L34A **Svendsen Farm,** 85.39 39 P P 10 22 38.2 +0.2
baz=317
APE **Apeiranthos** 85.39 314 *i* P P 10 22 37.2 -1.0
APE pmax pmax
comp=Z,172nm,2.2s
SCHQ **Schefferville** 85.39 16 P P 10 22 38.4 +0.6
comp=Z,37nm,0.8s,baz=356,slow=6.0,SNR=22
SCHQ LR LR 11 02 25.0
comp=Z,1µm,20.3s,baz=347,slow=37
SCHQ **Schefferville** 85.39 16 *e*P P 10 22 38.4 +0.6
comp=Z,40nm,0.8s
K35A **Storm Lake** 85.40 38 P P 10 22 38.2 +0.1
baz=318
FETA **Feichten** 85.41 329 *i* PcP P 10 22 38.4 +0.1
comp=Z,30nm,0.9s,SNR=15
E41A **Kenton** 85.44 32 P P 10 22 38.6 +0.4
baz=322,SNR=20
TIR **Tirane** 85.46 320 ⇓*i*P P 10 22 38.1 -0.3
TIR **Tirane** 85.46 320 *e*P P 10 22 39.0 +0.6
comp=Z,73nm,0.8s
TIR LR LR
comp=Z,4µm,21.0s
TIR **Tirane** 85.46 320 P P 10 22 38.5 +0.1
TIR **Tirane** 85.46 320 *e*P P 10 22 38.2 -0.2
TIR pmax pmax
comp=Z,73nm,0.8s
KARP **Karpathos** 85.47 312 *e*P P 10 22 38.1 -0.5
comp=Z,43nm,0.9s
KARP LR LR
comp=Z,600nm,21.0s
KARP **Karpathos** 85.47 312 P P 10 22 38.1 -0.5
KBN **Korca** 85.50 319 *e*P P 10 22 38.5 -0.2
KBN **Korca** 85.50 319 P P 10 22 38.5 -0.2
KBN **Korca** 85.50 319 *e*P P 10 22 38.5 -0.2
LLW **Llanuwychllyn** 85.51 340 *e*P P 10 22 39.3 +0.9
LLW IAmb IAmb 10 22 39.5
comp=Z,376nm,1.1s
LLW IAMs_20 IAMs_20 11 03 57.1
comp=Z,26µm,20.6s
NEST **Nestorio** 85.52 319 P P 10 22 38.5 -0.3
DAVA **Damuels** 85.55 329 *i* PcP P 10 22 39.0 0.0
comp=Z,72nm,0.9s,SNR=27
ELSH **Elham, Standar** 85.55 336 *e*P P 10 22 38.9 +0.3
ELSH IAmb IAmb 10 22 40.2
comp=Z,136nm,0.8s
ELSH IAMs_20 IAMs_20 11 07 27.9
comp=Z,3µm,14.7s
THL **Klokotos Trika** 85.61 317 P P 10 22 37.7 -1.4
M34A **Aspy Farms, Fr** 85.62 40 P P 10 22 39.6 +0.4
baz=317
HSIG 85.63 57 *e*P P 10 22 41.2 +1.7
COWI **Conover** 85.65 33 *e*P P 10 22 39.8 +0.5
comp=Z,33nm,0.9s
KPRO **Kipourio** 85.68 318 P P 10 22 38.7 -0.9
L35A **Bielow Farm, R** 85.70 39 P P 10 22 40.0 +0.4
baz=318
LKR **Lokris** 85.72 316 *e*P P 10 22 38.5 -1.2
LKR **Lokris** 85.72 316 P P 10 22 38.5 -1.2
N33A **J Bar K, Exete** 85.73 41 P P 10 22 39.3 -0.5
baz=317
ATHU **Athens Univers** 85.76 315 *e*P P 10 22 38.5 -1.5
ATHU **Athens Univers** 85.76 315 P P 10 22 38.5 -1.5
J37A **Redenius Farm,** 85.78 37 P P 10 22 39.5 -0.4
baz=319
ATH **Athens Observa** 85.80 315 *e*P P 10 22 38.4 -1.7
ATH **Athens Observa** 85.80 315 P P 10 22 38.4 -1.7
ATH **Athens Observa** 85.80 315 *e*P P 10 22 38.4 -1.7
H39A **Augusta** 85.80 35 P P 10 22 40.6 +0.6
baz=321,SNR=9.4
I38A **Scanlan Farm,** 85.81 36 P P 10 22 40.7 +0.6
baz=320,SNR=8.2
AGG **Agios Georgios** 85.82 317 *e*P P 10 22 39.5 -0.7
AGG LR LR
comp=Z,5µm,18.0s
AGG **Agios Georgios** 85.82 317 P P 10 22 38.5 -1.8
AGG **Agios Georgios** 85.82 317 *e*P P 10 22 39.6 -0.7
AGG MLR MLR
comp=Z,5µm,18.0s
G40A **Rib Lake** 85.83 34 P P 10 22 40.5 +0.3
baz=321,SNR=16
ODZ **Otahua Downs** 85.83 160 *e*P P 10 22 40.6 +0.8
comp=Z,134nm,1.6s
VLY **Voula,Athens** 85.84 315 *e*P P 10 22 38.7 -1.6
VLY **Voula,Athens** 85.84 315 P P 10 22 38.7 -1.6
K36A **Gilmore City** 85.85 38 P P 10 22 40.9 +0.6
baz=319
ECH **Echery** 85.88 331 *e*P P 10 22 40.3 -0.1
comp=Z,46nm,0.8s
ECH LR LR
comp=Z,2µm,18.0s
ECH **Echery** 85.88 331 *e*P P 10 22 40.3 -0.1
ECH pmax pmax
comp=Z,46nm,0.8s
DSB **Dublin** 85.88 341 *e*P P 10 22 39.8 -0.4
comp=Z,34nm,0.8s
DSB LR LR
comp=Z,2µm,19.0s
CBKS **Cedar Bluff** 85.89 43 P P 10 22 41.2 +0.5
baz=316
CBKS **Cedar Bluff** 85.89 43 *e*P P 10 22 40.9 +0.3
comp=Z,200nm,1.5s
CBKS **Cedar Bluff** 85.89 43 *e*P P 10 22 40.9 +0.3
CBKS pmax pmax
comp=Z,200nm,1.5s
VILL **Villia** 85.89 316 P P 10 22 38.9 -1.8
E42A **Champion** 85.91 32 P P 10 22 41.1 +0.5
baz=323,SNR=15
SANT **Santorini** 85.91 313 PFAKE 10 22 50.0 +9.2
SANT LR LR
comp=Z,2µm,18.0s
SERI **Serifos** 85.93 314 P P 10 22 39.2 -1.6
F41A **Three Lakes** 85.94 33 P P 10 22 41.6 +0.8
baz=322,SNR=26
STRD **Stroud** 86.03 338 *e*P P 10 22 41.7 +0.7
STRD IAmb IAmb 10 22 42.5
comp=Z,157nm,0.9s
STRD IAMs_20 IAMs_20 11 05 50.4
comp=Z,2µm,14.4s
MCH1 **Michaelchurch** 86.08 339 *e*P P 10 22 41.7 +0.5
MCH1 IAmb IAmb 10 22 43.1
comp=Z,66nm,0.7s
MCH1 IAMs_20 IAMs_20 11 05 54.2
comp=Z,2µm,17.1s
M35A **Neola** 86.10 39 P P 10 22 42.3 +0.7
baz=318,SNR=11

O33A **Hebron** 86.14 41 P P 10 22 41.6 -0.3
baz=317
L36A **Harm Buss Farm** 86.14 38 P P 10 22 42.4 +0.6
baz=318
DSF **Desfina** 86.15 316 *e*P P 10 22 40.1 -1.9
DSF **Desfina** 86.15 316 P P 10 22 40.1 -1.9
K37A **Belmond** 86.15 37 P P 10 22 41.7 -0.1
baz=319,SNR=9.6
N34A **Lincoln** 86.15 40 P P 10 22 42.0 +0.2
baz=317,SNR=8.7
MONM **Monmouth** 86.16 339 *e*P P 10 22 42.4 +0.8
MONM IAmb IAmb 10 22 43.5
comp=Z,84nm,0.8s
MONM IAMs_20 IAMs_20 11 07 07.6
comp=Z,2µm,16.0s
JAN **Janina** 86.17 318 *e*P P 10 22 41.8 -0.2
JAN **Janina** 86.17 318 P P 10 22 41.8 -0.2
JAN **Janina** 86.17 318 *e*P P 10 22 41.8 -0.2
EVR **Evrytania** 86.18 317 *e*P P 10 22 41.2 -1.0
EVR **Evrytania** 86.18 317 P P 10 22 41.2 -1.0
TAOE **Nuku Hiva Isla** 86.19 104 *e*LR LR 10 49 31.9
comp=Z,2µm,34.2s
TAOE **Nuku Hiva Isla** 86.19 104 *e*T T 11 57 47.5
comp=Z,55nm,0.2s
LOUT **Loutraki** 86.20 316 P P 10 22 40.2 -1.9
H40A **Chili** 86.25 34 P P 10 22 42.7 +0.4
baz=321,SNR=13
LPW **Lampeter** 86.28 339 *e*P P 10 22 43.0 +0.8
LPW IAmb IAmb 10 22 43.7
comp=Z,67nm,0.8s
J38A **Wedel Dairy, R** 86.29 36 P P 10 22 42.6 +0.1
baz=320,SNR=7.2
I39A **Houston** 86.32 35 P P 10 22 42.5 -0.1
baz=320,SNR=9.0
G41A **Antigo** 86.33 33 P P 10 22 42.8 +0.1
baz=322,SNR=7.7
ZKR **Zakros** 86.33 312 *e*P P 10 22 42.6 -0.2
ZKR **Zakros** 86.33 312 P P 10 22 42.6 -0.2
E43A **Lone Tree Farm** 86.33 31 P P 10 22 43.0 +0.4
baz=323,SNR=15
HGH **Gray Hill** 86.34 339 *e*P P 10 22 42.2 -0.3
THAL **Thalero** 86.34 316 P P 10 22 41.1 -1.7
F42A **Maple Grove Fa** 86.35 32 P P 10 22 42.3 -0.4
baz=323
KALE **Kalithea** 86.38 317 *e*P P 10 22 41.7 -1.4
KALE **Kalithea** 86.38 317 P P 10 22 41.7 -1.4
DID **Didima** 86.39 315 P P 10 22 39.3 -3.8
SERG **Sergoula** 86.41 317 P P 10 22 42.5 -0.7
DSL **Palaion Diasel** 86.41 318 *e*P P 10 22 42.3 -0.9
DSL **Palaion Diasel** 86.41 318 P P 10 22 42.3 -0.9
TUE **Stuetta** 86.42 329 *e*P P 10 22 43.2 -0.2
comp=Z,56nm,1.2s
TUE LR LR
comp=Z,5µm,18.0s
TRIZ **Trizonia** 86.43 317 P P 10 22 42.0 -1.2
SRN **Sarande** 86.46 319 *e*P P 10 22 43.0 -0.3
SRN **Sarande** 86.46 319 P P 10 22 43.0 -0.3
EFP **Efpalio** 86.48 317 P P 10 22 43.3 -0.2
SGD **Sagiada** 86.53 319 P P 10 22 43.5 -0.2
KRND **KRANIDI** 86.53 315 P P 10 22 41.6 -2.2
O34A **Beatrice** 86.53 41 P P 10 22 43.6 -0.2
baz=317
IGT **Igoumenitsa** 86.53 318 *e*P P 10 22 43.0 -0.8
IGT **Igoumenitsa** 86.53 318 P P 10 22 43.0 -0.8
IGT **Igoumenitsa** 86.53 318 *e*P P 10 22 43.0 -0.8
M36A **Felix, Anita** 86.56 39 P P 10 22 44.3 +0.4
baz=318,SNR=6.1
LAKA **Lakka** 86.57 317 *e*P P 10 22 42.9 -1.1
LAKA **Lakka** 86.57 317 P P 10 22 42.9 -1.1
N35A **Tabor** 86.58 40 P P 10 22 44.3 +0.4
baz=318
L37A **Phoenix Point,** 86.58 38 P P 10 22 44.4 +0.5
baz=319
E44A **Grand Marais A** 86.58 30 P P 10 22 44.7 +0.8
baz=324,SNR=11
H41A **Junction City** 86.58 34 P P 10 22 44.5 +0.6
baz=322,SNR=10
H41A **Junction City** 86.58 34 *e*P P 10 22 44.2 +0.3
comp=Z,47nm,1.0s
GUR **Goura** 86.59 316 *e*P P 10 22 42.5 -1.7
GUR **Goura** 86.59 316 P P 10 22 42.5 -1.7
KLV **Kalavryta, Ach** 86.62 316 *e*P P 10 22 43.6 -0.7
KLV **Kalavryta, Ach** 86.62 316 P P 10 22 43.6 -0.7
G42A **Mountain** 86.63 33 P P 10 22 44.7 +0.6
baz=322,SNR=13
G42A **Mountain** 86.63 33 *e*P P 10 22 45.1 +1.0
comp=Z,41nm,0.8s
J39A **Decorah** 86.64 36 P P 10 22 44.5 +0.3
baz=320,SNR=12
K38A **Parkersburg** 86.66 37 P P 10 22 44.6 +0.3
baz=320
F43A **Flat Rock, Esc** 86.70 32 P P 10 22 45.0 +0.6
baz=323,SNR=14
I40A **Norwalk** 86.71 35 P P 10 22 44.0 -0.6
baz=321
LAST **Lasithi** 86.74 312 *e*P P 10 22 44.1 -0.8
LAST **Lasithi** 86.74 312 P P 10 22 44.1 -0.8
PDO **Prodromos** 86.75 317 P P 10 22 44.7 -0.1
DAMY **Dhamar** 86.81 286 *e*P P 10 22 45.7 -0.2
comp=Z,54nm,1.1s
DAMY LR LR
comp=Z,2µm,20.0s
O35A **Humboldt** 86.88 40 P P 10 22 45.0 -0.4
baz=318
F44A **Big Bay de Noc** 86.89 31 P P 10 22 45.7 +0.3
baz=324,SNR=15
LKD2 **Lefkada island** 86.90 318 *e*P P 10 22 44.7 -0.9
LKD2 **Lefkada island** 86.90 318 P P 10 22 44.7 -0.9
TRIP **Tripoli** 86.92 316 P P 10 22 44.8 -1.0
I41A **Arkdale** 86.92 34 P P 10 22 46.0 +0.4
baz=322,SNR=9.8
DRO **Drossia** 86.93 317 P P 10 22 45.5 -0.2
G43A **Wallace** 86.94 32 P P 10 22 46.2 +0.6
baz=323,SNR=13
G43A **Wallace** 86.94 32 *e*P P 10 22 46.5 +0.9
comp=Z,48nm,0.8s
L38A **Oak Wood Farm,** 86.95 37 P P 10 22 45.3 -0.4
baz=320
WI04 **River Road, Cl** 86.95 33 *e*P P 10 22 47.0 +1.3
comp=Z,54nm,0.8s
N36A **Muff Farm, Cla** 86.95 39 P P 10 22 46.7 +0.9
baz=318
M37A **Trindle Farm,** 86.97 38 P P 10 22 46.4 +0.6
baz=319
WI01 **McKinley Avenu** 86.97 33 PFAKE 10 23 00.0 +14
WI01 LR LR
comp=Z,2µm,18.0s
VLX **Vlachokerasia** 86.97 316 *e*P P 10 22 44.5 -1.6
VLX **Vlachokerasia** 86.97 316 P P 10 22 44.5 -1.6
RLS **Riolos of Patr** 86.98 317 *e*P P 10 22 45.6 -0.4
RLS **Riolos of Patr** 86.98 317 P P 10 22 45.6 -0.4
IDI **Anoyia** 87.00 313 P P 10 22 45.8 -0.4
comp=Z,44nm,0.8s,baz=26,slow=15,SNR=18
IDI LR LR 11 04 59.6
comp=Z,902nm,19.3s,baz=27,slow=38
IDI **Anoyia** 87.00 313 ⇓*i*P P 10 22 45.6 -0.6
IDI **Anoyia** 87.00 313 *e*P P 10 22 45.4 -0.8
comp=Z,70nm,1.0s
IDI LR LR
comp=Z,1µm,19.0s
SCIA **State Center** 87.00 38 P P 10 22 47.0 +1.0
baz=319
SCIA **State Center** 87.00 38 *e*P P 10 22 47.0 +1.0
comp=Z,232nm,1.5s
SCIA LR LR
comp=Z,1µm,19.0s
K39A **Oelwein** 87.03 36 P P 10 22 45.9 -0.3
baz=320,SNR=6.7
J40A **Soldiers Grove** 87.04 35 P P 10 22 46.2 0.0
baz=321,SNR=5.6
E45A **Wooded Hills,** 87.09 30 P P 10 22 46.9 +0.5
baz=325,SNR=8.5
H42A **Shiocton** 87.16 33 P P 10 22 47.3 +0.6
baz=322,SNR=11
H42A **Shiocton** 87.16 33 *e*P P 10 22 48.1 +1.4
comp=Z,68nm,1.0s
FSK **Fiskardo** 87.19 318 P P 10 22 45.9 -1.0
AMT **Artemida-Makis** 87.23 316 P P 10 22 45.2 -2.0
KFL **Anninata** 87.32 317 P P 10 22 47.6 0.0
ITM **Ithomi** 87.36 316 *e*P P 10 22 46.4 -1.4
ITM LR LR
comp=Z,1µm,19.0s
ITM **Ithomi** 87.36 316 P P 10 22 46.4 -1.4
KSU1 **Kansas State U** 87.37 41 P P 10 22 48.6 +0.8
baz=317,SNR=7.7

KSU1 **Kansas State U** 87.37 41 *e*P P 10 22 48.6 +0.8
comp=Z,70nm,0.8s
N37A **Lee Faris, Mou** 87.38 39 P P 10 22 48.6 +0.8
baz=319
KYTH **Kithira** 87.38 315 *e*P P 10 22 47.0 -1.0
KYTH **Kithira** 87.38 315 P P 10 22 47.0 -1.0
VLS **Valsamata** 87.38 317 *e*P P 10 22 47.1 -0.8
VLS **Valsamata** 87.38 317 P P 10 22 47.1 -0.8
VLS **Valsamata** 87.38 317 *e*P P 10 22 47.1 -0.8
M38A **Pleasantville** 87.38 38 P P 10 22 48.2 +0.3
baz=320,SNR=7.9
K40A **Colesburg** 87.39 36 P P 10 22 48.2 +0.3
baz=321,SNR=7.8
HTL **Hartland** 87.39 339 *e*P P 10 22 48.2 +0.5
HTL IAMs_20 IAMs_20 11 07 35.5
comp=Z,1µm,16.5s
J41A **Loganville** 87.40 35 P P 10 22 48.3 +0.4
baz=322,SNR=8.3
IMMV **Iera Moni Meta** 87.41 313 P P 10 22 47.5 -0.6
L39A **Vinton** 87.43 37 P P 10 22 48.5 +0.4
baz=320,SNR=9.2
DYR **Agios Nikonas** 87.43 315 P P 10 22 46.3 -1.9
I42A **Draeger Farm,** 87.48 34 P P 10 22 48.6 +0.3
baz=322,SNR=12
I42A **Draeger Farm,** 87.48 34 *e*P P 10 22 49.2 +0.9
comp=Z,56nm,1.0s
MNTX **Cornudas Mount** 87.49 52 P P 10 22 49.4 +0.8
baz=313
F45A **CMU Biological** 87.50 31 P P 10 22 48.7 +0.4
baz=324,SNR=11
ANKY **Antikythira Is** 87.51 314 *e*P P 10 22 47.8 -0.8
ANKY **Antikythira Is** 87.51 314 P P 10 22 47.8 -0.8
H43A **Windswept, Lux** 87.53 33 P P 10 22 49.0 +0.6
baz=323,SNR=12
H43A **Windswept, Lux** 87.53 33 *e*P P 10 22 49.9 +1.4
comp=Z,73nm,0.9s
MSTX **Muleshoe** 87.54 48 P P 10 22 48.6 -0.3
baz=314
AMTX **Amarillo** 87.55 47 P P 10 22 48.6 -0.3
baz=315
AMTX **Amarillo** 87.55 47 *e*P P 10 22 50.5 +1.6
comp=Z,92nm,1.0s
MATE **Matera** 87.58 321 ⇓*i*P P 10 22 48.6 -0.2
JFWS **Jewell Farm** 87.64 35 P P 10 22 48.8 -0.3
baz=321
DYA **Yadsworthy** 87.73 339 *e*P P 10 22 48.0 -1.4
DYA IAMs_20 IAMs_20 11 11 38.8
comp=Z,3µm,12.6s
F46A **Macinaw City C** 87.74 30 P P 10 22 50.0 +0.6
baz=325,SNR=11
I43A **Langenfeld Bro** 87.83 33 P P 10 22 50.2 +0.3
baz=323,SNR=5.9
VLC **Villacollemand** 87.83 327 PFAKE 10 23 00.0 +10
VLC LR LR
comp=Z,3µm,19.0s
M39A **Webster** 87.84 37 P P 10 22 50.5 +0.4
baz=320,SNR=5.9
N38A **Joes South For** 87.84 38 P P 10 22 50.5 +0.5
baz=320
J42A **Columbus** 87.84 34 P P 10 22 50.3 +0.3
baz=322,SNR=5.9
L40A **Anamosa** 87.84 36 P P 10 22 50.6 +0.5
baz=321
K41A **Shullsburg** 87.85 35 P P 10 22 50.4 +0.3
baz=321,SNR=6.0
O37A **Wolven Farm, M** 87.85 39 P P 10 22 50.7 +0.6
baz=319
AQU **L'Aquila** 87.89 324 *e*P P 10 22 50.9 +0.6
comp=Z,55nm,0.8s
AQU LR LR
comp=Z,3µm,21.0s
AQU **L'Aquila** 87.89 324 *e*P P 10 22 51.5 +1.2
AQU pmax pmax
comp=Z,55nm,0.8s
J43A **Natural Harves** 88.11 34 P P 10 22 51.3 0.0
baz=322,SNR=5.7
N39A **Derby Farms, D** 88.13 38 P P 10 22 51.2 -0.2
baz=320
K42A **Prairie Point,** 88.16 35 P P 10 22 51.8 +0.3
baz=322
L41A **Preston** 88.18 36 P P 10 22 51.9 +0.3
baz=321
P37A **Lathrop** 88.18 40 P P 10 22 52.0 +0.2
baz=319
M40A **Post Highland** 88.21 37 P P 10 22 52.1 +0.3
baz=321
O38A **Galt** 88.23 39 P P 10 22 51.9 0.0
baz=319
CUC **Castrocucco** 88.52 321 PFAKE 10 23 00.0 +6.6
CUC LR LR
comp=Z,2µm,19.0s
GLMI **Grayling** 88.57 31 P P 10 22 54.0 +0.5
baz=325,SNR=9.5
GLMI **Grayling** 88.57 31 *e*P P 10 22 55.4 +1.9
comp=Z,185nm,0.9s
P38A **Dawn** 88.57 39 P P 10 22 54.3 +0.7
baz=319,SNR=9.4
N40A **Mertquake, Sal** 88.58 37 P P 10 22 54.1 +0.6
baz=320,SNR=6.9
O39A **Kirksville** 88.59 38 P P 10 22 54.3 +0.7
baz=320,SNR=6.6
L42A **Oliver, Polo** 88.62 35 P P 10 22 53.9 +0.2
baz=322
TIP **Timpagrande** 88.66 320 ⇓*i*P P 10 22 53.9 -0.2
TIP **Timpagrande** 88.66 320 *e*P P 10 22 54.2 +0.2
TIP LR LR
comp=Z,2µm,20.0s
TIP **Timpagrande** 88.66 320 P P 10 22 54.1 0.0
BNI **Bardonecchia** 88.66 330 *e*P P 10 22 53.6 -0.4
comp=Z,66nm,1.9s
BNI LR LR
comp=Z,2µm,21.0s
Q37A **Longview Farm,** 88.66 40 P P 10 22 54.0 0.0
baz=319
K43A **Burlington** 88.68 34 P P 10 22 54.1 +0.2
baz=323
M41A **Milan** 88.70 36 P P 10 22 54.4 +0.3
baz=321,SNR=7.8
L43A **Garden Prairie** 88.90 35 P P 10 22 55.1 +0.1
baz=322
M42A **Sheffield** 89.01 36 P P 10 22 55.8 +0.3
baz=322
O40A **La Belle** 89.02 38 P P 10 22 56.2 +0.6
baz=320,SNR=7.7
Q38A **Cooks Store, C** 89.03 40 P P 10 22 56.3 +0.6
baz=319,SNR=8.0
N41A **Harden Midland** 89.06 37 P P 10 22 56.4 +0.5
baz=321
P39B **Salisbury** 89.07 39 P P 10 22 56.7 +0.9
baz=320,SNR=7.1
LPIG **La Paz** 89.24 60 P P 10 22 58.2 +1.3
comp=Z,44nm,1.0s,baz=11,slow=4.8,SNR=3.8
LPIG LR LR 11 04 55.3
comp=Z,632nm,18.0s,baz=304,slow=37
L44A **Lake County Fo** 89.28 34 P P 10 22 56.2 -0.6
baz=323
Q39A **Willow Grove F** 89.29 39 P P 10 22 57.7 +0.7
baz=320,SNR=17
SSB **Saint Sauveur** 89.32 331 PFAKE 10 23 10.0 +13
SSB LR LR
comp=Z,2µm,21.0s
N42A **Yates City** 89.36 36 P P 10 22 57.6 +0.4
baz=322
P40A **Paris** 89.39 38 P P 10 22 58.1 +0.7
baz=320,SNR=10
M43A **Waltham Townsh** 89.39 35 P P 10 22 57.8 +0.4
baz=322,SNR=8.8
R38A **Fenwick Farm,** 89.46 40 P P 10 22 58.8 +1.0
baz=319
TOBO **Tobermory, Bru** 89.47 29 P P 10 22 58.2 +0.5
baz=327,SNR=7.0
O41A **Passleys Farm,** 89.51 37 P P 10 22 57.3 -0.7
baz=321
N43A **Stutzman Famil** 89.68 36 P P 10 22 58.7 0.0
baz=322
P41A **Barry, Barry** 89.76 38 P P 10 22 59.8 +0.7
baz=321,SNR=9.0
Q40A **Laux Farm, Aux** 89.78 39 P P 10 22 59.5 +0.2
baz=320
CEL **Celeste** 89.80 320 *e*P P 10 22 58.8 -0.6
comp=Z,74nm,0.8s
CEL LR LR
comp=Z,2µm,18.0s
R39A **Chumby, Stover** 89.81 40 P P 10 22 59.4 0.0
baz=320,SNR=6.7
O42A **Bath** 89.83 37 P P 10 22 59.7 +0.3
baz=322

ATD Arta Tunnel 89.85 284 P **P** **10 23 00.3 +0.3**
comp=Z,3,8nm,0.5s,baz=322,slow=7.7,SNR=4.6
ATD LR LR 11 07 58.1
comp=Z,1μm,18.3s,baz=42,slow=39
M44A Midewin, Midew 89.85 35 P **P** **10 22 59.7 +0.2**
baz=323
KLBO Killbear Provi 89.86 28 P **P** **10 22 59.3 -0.2**
baz=328,SNR=10
S38A Stockton 89.88 41 P **P** **10 22 60.0 +0.2**
baz=319
HDIL Hopedale 89.93 36 P **P** **10 23 00.3 +0.4**
baz=322
HDIL Hopedale 89.93 36 PFAKE **10 23 10.0 +10**
HDIL LR LR
comp=Z,2μm,19.0s
BMRO Meriville Lake 90.12 29 P **P** **10 23 01.5 +0.8**
baz=327,SNR=10
T38A Diamond 90.12 41 P **P** **10 23 01.0 +0.2**
baz=319,SNR=13
O43A Sugar Creek Fa 90.13 36 P **P** **10 23 01.2 +0.4**
baz=322
S39A Bolivar 90.14 40 P **P** **10 23 01.1 +0.1**
baz=319
TUL1 Leonard 90.15 43 P **P** **10 23 01.9 +0.9**
baz=318,SNR=6.9
TUL1 Leonard 90.15 43 *e*P **P** **10 23 02.3 +1.2**
comp=Z,41nm,0.8s
LTX Lajitas 90.18 52 *e*P **P** **10 23 02.9 +1.5**
LTX Lajitas 90.18 52 *e*P **P** **10 23 02.9 +1.5**
TXAR Lajitas Array 90.18 52 P **P** **10 23 02.9 +1.5**
comp=Z,20nm,0.7s,baz=308,slow=2.6,SNR=65
TXAR PKKPbc **PKKPbc** **10 40 31.6 +1.7**
comp=Z,0.2nm,0.5s,baz=146,slow=5.3,SNR=6.2
TXAR LR LR 11 04 12.6
comp=Z,379nm,18.1s,baz=0.0,slow=36
P42A Winchester 90.18 37 P **P** **10 23 01.6 +0.6**
baz=321,SNR=5.9
M45A Boilermakers S 90.21 34 P **P** **10 23 01.4 +0.3**
baz=323
R40A Maddies Statio 90.22 39 P **P** **10 23 00.9 -0.4**
baz=320
Q41A Truxton 90.23 38 P **P** **10 23 01.9 +0.5**
baz=321
N44A Piper City 90.28 35 P **P** **10 23 01.5 -0.1**
baz=323
ABTX Abilene, Hawle 90.34 48 P **P** **10 23 02.6 +0.5**
baz=316
BASO Ashfield 90.43 30 P **P** **10 23 03.1 +0.9**
baz=327,SNR=10.0
HPIG 90.52 55 *e*P **P** **10 23 04.8 +1.7**
comp=Z,162nm,2.0s
N45A Kentland 90.53 35 P **P** **10 23 03.0 +0.4**
baz=323
P43A Skaggs, Pawnee 90.54 37 P **P** **10 23 02.5 -0.3**
baz=322
M46A Old House Fiel 90.60 34 P **P** **10 23 03.1 +0.1**
baz=324
Q42A Golden Eagle 90.61 38 P **P** **10 23 03.1 0.0**
baz=321
T39A Clever 90.61 41 P **P** **10 23 03.7 +0.6**
baz=319,SNR=6.6
S40A Lebanon 90.63 40 P **P** **10 23 03.0 -0.2**
baz=320
O44A Mansfield 90.63 36 P **P** **10 23 03.1 -0.1**
baz=322
PEMO Pembroke 90.66 26 P **P** **10 23 03.5 +0.3**
baz=330,SNR=10
R41A Rosebud 90.67 39 P **P** **10 23 03.7 +0.3**
baz=321,SNR=7.9
SADO Sadowa 90.76 28 *e*P **P** **10 23 04.4 +0.8**
comp=Z,21nm,1.1s
N46A Monticello 90.84 34 P **P** **10 23 04.5 +0.3**
baz=324
HHAR Hobbs 90.88 42 *e*P **P** **10 23 05.3 +0.9**
comp=Z,30nm,0.8s
O45A Potomac 90.90 35 P **P** **10 23 04.5 0.0**
baz=323
CCM Cathedral Cave 90.92 39 P **P** **10 23 04.5 0.0**
baz=321
CCM Cathedral Cave 90.92 39 *e*P **P** **10 23 05.7 +1.1**
comp=Z,65nm,1.3s
CCM Cathedral Cave 90.92 39 *e*P **P** **10 23 05.7 +1.1**
CCM pmax pmax
comp=Z,65nm,1.3s
T40A Mansfield 90.96 40 P **P** **10 23 04.9 +0.1**
baz=320,SNR=6.3
R42A Luebbering 90.97 38 P **P** **10 23 04.8 0.0**
baz=321
BANO Bancroft 90.98 27 P **P** **10 23 05.0 +0.3**
baz=330,SNR=12
Q43A New Douglas 91.00 37 P **P** **10 23 05.4 +0.5**
baz=322
S41A Jilco Farms, 91.03 39 P **P** **10 23 04.7 -0.4**
baz=320
AAM Ann Arbor 91.04 32 P **P** **10 23 05.3 +0.3**
baz=326
U39A Green Forest 91.04 41 P **P** **10 23 05.5 +0.3**
baz=319,SNR=18
SFIN Lafayette 91.09 35 P **P** **10 23 06.1 +0.8**
baz=323
SFIN Lafayette 91.09 35 PFAKE **10 23 20.0 +15**
SFIN LR LR
comp=Z,1μm,19.0s
TRQ Mont Tremblant 91.09 24 *e*P **P** **10 23 05.9 +0.6**
P44A Sand Creek, Wi 91.10 36 P **P** **10 23 06.1 +0.7**
baz=322
VAE Valguarnera 91.15 321 LR LR 11 09 00.8
comp=Z,3μm,18.1s,baz=42,slow=39
PLVO Plevna 91.27 26 P **P** **10 23 06.1 0.0**
baz=330,SNR=7.2
PLVO Plevna 91.27 26 *e*P **P** **10 23 07.0 +1.0**
comp=Z,83nm,1.7s
PLVO LR LR
comp=Z,2μm,18.0s
Q44A Meyer Farm, Va 91.36 37 P **P** **10 23 06.7 +0.2**
baz=322
V39A Pettigrew 91.37 42 P **P** **10 23 07.2 +0.5**
baz=319,SNR=12
S42A Caledonia 91.37 39 P **P** **10 23 06.9 +0.3**
baz=321,SNR=7.6
U40A Yellville 91.39 41 P **P** **10 23 07.2 +0.4**
baz=320,SNR=22
R43A Red Bud 91.40 38 P **P** **10 23 07.1 +0.3**
baz=322
T41A Mountain View 91.44 40 P **P** **10 23 07.4 +0.4**
baz=320,SNR=8.3
P45A Graceland, Par 91.47 36 P **P** **10 23 07.5 +0.5**
baz=323
ALFO Alfred 91.51 25 P **P** **10 23 07.4 +0.4**
baz=332,SNR=15
DELO Deloro Mine 91.53 27 P **P** **10 23 08.0 +0.8**
baz=330,SNR=9.2
O47A Sheridan 91.62 34 P **P** **10 23 08.1 +0.3**
baz=324
P46A Rosedale 91.65 35 P **P** **10 23 08.5 +0.6**
baz=323
JCT Junction City 91.77 49 P **P** **10 23 09.0 +0.3**
baz=316
JCT Junction City 91.77 49 *e*P **P** **10 23 09.8 +1.1**
comp=Z,177nm,1.8s
JCT Junction City 91.77 49 *e*P **P** **10 23 09.8 +1.1**
JCT pmax pmax
comp=Z,180nm,1.8s
Q45A Warren Harvey, 91.78 36 P **P** **10 23 09.1 +0.6**
baz=323
W39A Magazine 91.78 42 P **P** **10 23 08.8 +0.3**
baz=319
T42A Van Buren 91.79 39 P **P** **10 23 09.0 +0.4**
baz=321,SNR=8.9
V40A Witts Springs 91.83 41 P **P** **10 23 09.0 +0.2**
baz=320
R44A Waltonville 91.84 37 P **P** **10 23 09.4 +0.6**
baz=322
S43A Fulton Ridge, 91.88 38 P **P** **10 23 09.0 -0.1**
baz=322
U41A Viola 91.89 40 P **P** **10 23 09.2 +0.1**
baz=320,SNR=8.2
VSL Villasalto 92.01 325 PFAKE **10 23 20.0 +10**
VSL LR LR
comp=Z,2μm,20.0s
Q46A CEJHS Indians, 92.05 36 P **P** **10 23 09.9 +0.1**
baz=323
WHTX Lake Whitney, 92.08 47 P **P** **10 23 09.9 -0.1**
baz=317
X39A Fountain Ranch 92.11 43 P **P** **10 23 11.0 +0.8**
baz=319,SNR=9.0
T43A Greenville 92.15 39 P **P** **10 23 10.6 +0.3**
baz=321
W40A Ferguson Farm, 92.16 42 P **P** **10 23 10.1 -0.3**
baz=320,SNR=6.9
W40A Ferguson Farm, 92.16 42 PFAKE **10 23 20.0 +10**
W40A LR LR
comp=Z,1μm,19.0s
P47A Martinsville 92.18 35 P **P** **10 23 10.7 +0.3**
baz=324
S44A Carbondale 92.19 38 P **P** **10 23 10.9 +0.5**
baz=322
R45A Skylar, Fairfi 92.19 37 P **P** **10 23 11.0 +0.6**
baz=323
SIUC Southern Illin 92.19 38 *e*P **P** **10 23 11.6 +1.1**
comp=Z,56nm,1.4s
SIUC LR LR
comp=Z,2μm,20.0s
V41A Mountainview 92.19 41 P **P** **10 23 10.6 +0.1**
baz=320,SNR=13
U42A Revenden 92.24 40 P **P** **10 23 10.8 +0.1**
baz=321
PBMO Poplar Bluff 92.32 39 *e*P **P** **10 23 11.9 +0.8**
comp=Z,59nm,1.3s
WDD Wied Dalam 92.35 319 PFAKE **10 23 20.0 +8.8**
WDD LR LR
comp=Z,2μm,19.0s
MIAR Mount Ida 92.38 43 P **P** **10 23 11.9 +0.6**
baz=319,SNR=13
MIAR Mount Ida 92.38 43 *e*P **P** **10 23 12.7 +1.4**
comp=Z,58nm,0.9s
MIAR Mount Ida 92.38 43 *e*P **P** **10 23 12.7 +1.4**
MIAR pmax pmax
comp=Z,58nm,0.9s
LONY Lake Ozonia 92.50 25 P **P** **10 23 11.5 -0.2**
baz=332
LONY Lake Ozonia 92.50 25 PFAKE **10 23 20.0 +8.2**
LONY LR LR
comp=Z,2μm,18.0s
T44A Benton 92.50 38 P **P** **10 23 12.2 +0.3**
baz=322
S45A Carrier Mills 92.53 37 P **P** **10 23 13.1 +1.0**
baz=322
Q47A Bedord North L 92.56 35 P **P** **10 23 12.2 +0.1**
baz=324
V42A Cord 92.58 40 P **P** **10 23 12.5 +0.2**
baz=321
W41B Gary Mavity, V 92.61 41 P **P** **10 23 12.2 -0.2**
baz=320
R46A Gibson Southern 92.62 36 P **P** **10 23 13.0 +0.6**
baz=323
FRNY Flat Rock 92.64 24 PFAKE **10 23 20.0 +7.6**
FRNY LR LR
comp=Z,2μm,18.0s
PQI Presque Isle 92.64 20 *e*P **P** **10 23 13.4 +1.1**
comp=Z,25nm,0.9s
U43A Rector 92.65 39 P **P** **10 23 13.4 +0.9**
baz=321
ERPA Erie 92.69 29 P **P** **10 23 13.0 +0.3**
baz=328
ERPA Erie 92.69 29 *e*P **P** **10 23 14.2 +1.5**
comp=Z,35nm,0.9s
ERPA LR LR
comp=Z,2μm,20.0s
X40A Basin Creek Fa 92.82 42 P **P** **10 23 14.0 +0.6**
baz=320
435B Jarrell 92.88 48 P **P** **10 23 15.2 +1.4**
baz=317
U44A Portageville 92.91 39 P **P** **10 23 13.8 +0.1**
baz=322
W42A Bald Knob 92.92 41 P **P** **10 23 15.0 +1.2**
baz=320
Y40A Okolona 92.94 43 P **P** **10 23 14.6 +0.7**
baz=319
S46A Don Dixon Farm 92.95 37 P **P** **10 23 13.4 -0.5**
baz=323
MMNY Mt. Morris Dam 92.96 28 PFAKE **10 23 30.0 +16**
MMNY LR LR
comp=Z,1μm,20.0s
X41A Kaden, Bauxite 92.99 42 P **P** **10 23 14.1 -0.1**
baz=320
T45A Paducah 93.02 38 P **P** **10 23 14.5 +0.3**
baz=322
R47A Wooly Knot Far 93.02 36 P **P** **10 23 14.6 +0.3**
baz=324
V43A Jonesboro 93.03 40 P **P** **10 23 15.0 +0.6**
baz=321
ACSO Alum Creek Sta 93.03 32 P **P** **10 23 15.0 +0.7**
baz=326
ACSO Alum Creek Sta 93.03 32 PFAKE **10 23 30.0 +16**
ACSO LR LR
comp=Z,1μm,19.0s
WCI Wyandotte Cave 93.19 36 P **P** **10 23 15.7 +0.7**
baz=324
NCB Newcomb 93.19 25 *e*P **P** **10 23 16.1 +1.2**
comp=Z,25nm,1.4s
NCB LR LR
comp=Z,1μm,20.0s
U44B Burton Farm, H 93.20 39 P **P** **10 23 14.2 -0.9**
baz=322
R48A Northridge Ran 93.24 35 P **P** **10 23 15.3 0.0**
baz=324
WLAR White Oak Lake 93.28 43 *e*P **P** **10 23 17.2 +1.7**
comp=Z,77nm,1.1s
V44A Blytheville 93.33 39 P **P** **10 23 16.2 +0.5**
baz=322
M54A Oil Creek Stat 93.33 30 P **P** **10 23 15.7 +0.1**
baz=328
M54A Oil Creek Stat 93.33 30 PFAKE **10 23 30.0 +14**
M54A LR LR
comp=Z,2μm,20.0s
T46A Princeton 93.37 37 P **P** **10 23 15.9 0.0**
baz=323
Y41A Eaglette Beard 93.40 42 P **P** **10 23 15.3 -0.8**
baz=320
X42A Stuttgart 93.41 41 P **P** **10 23 17.0 +0.9**
baz=320
Z40A Long Farm, Mag 93.44 43 P **P** **10 23 15.6 -0.6**
baz=319
W43A Forest City 93.48 40 P **P** **10 23 16.9 +0.4**
baz=321
U45A Rockin P Farm, 93.49 38 P **P** **10 23 15.6 -0.8**
baz=322
833A Chaparral WMA, 93.56 50 P **P** **10 23 17.4 +0.5**
baz=316
PKME Peaks-Kenny Pk 93.57 21 P **P** **10 23 17.3 +0.6**
baz=336
PKME Peaks-Kenny Pk 93.57 21 *e*P **P** **10 23 18.3 +1.7**
comp=Z,22nm,0.9s
N54A Moraine State 93.67 30 P **P** **10 23 17.1 -0.2**
baz=328
LBNH Lisbon 93.70 23 P **P** **10 23 18.0 +0.7**
baz=334
S48A Wiedeman Farm, 93.75 36 P **P** **10 23 17.0 -0.7**
baz=324
Z41A Richland Creek 93.77 43 P **P** **10 23 18.1 +0.3**
baz=320
U46A Springville 93.77 38 P **P** **10 23 18.0 +0.2**
baz=323
T47A Sharon Grove 93.79 37 P **P** **10 23 18.3 +0.5**
baz=323,SNR=6.1
140A Cam and Jess, 93.81 44 P **P** **10 23 18.4 +0.4**
baz=319
CCAR Cane Creek 93.82 42 *e*P **P** **10 23 19.5 +1.4**
comp=Z,81nm,1.3s
X43A Marvell 93.83 41 P **P** **10 23 17.4 -0.7**
baz=321
V45A Humboldt 93.87 39 P **P** **10 23 18.4 +0.1**
baz=322
Y42A Garnett, Star 93.88 42 P **P** **10 23 18.9 +0.7**
baz=320
ACCN Adirondack Com 93.90 25 PFAKE **10 23 30.0 +12**
ACCN LR LR
comp=Z,1μm,21.0s
W44A Shelby Farms P 93.90 40 P **P** **10 23 18.4 +0.1**
baz=322
T48A Bowling Green 94.04 36 P **P** **10 23 18.9 0.0**
baz=324
WVT Waverly 94.12 38 P **P** **10 23 19.4 0.0**
baz=323
WVT Waverly 94.12 38 PFAKE **10 23 30.0 +11**
WVT LR LR
comp=Z,1μm,20.0s
BINY Binghamton 94.13 27 P **P** **10 23 18.0 -1.3**
baz=331
BINY Binghamton 94.13 27 PFAKE **10 23 30.0 +11**
BINY LR LR
comp=Z,2μm,18.0s
U47A Clarksville 94.14 37 P **P** **10 23 18.2 -1.2**
baz=323
240A Hunter Patters 94.16 44 P **P** **10 23 19.2 -0.4**
baz=319
141A Papa Simpson, 94.21 43 P **P** **10 23 19.8 0.0**
baz=320
W45A Hickory Valley 94.21 39 P **P** **10 23 19.8 0.0**
baz=322
Z42A Norrel Spur, H 94.22 42 P **P** **10 23 20.1 +0.2**
baz=320
X44A Crenshaw 94.23 40 P **P** **10 23 19.8 -0.1**
baz=321
V46A Holladay 94.24 38 P **P** **10 23 19.2 -0.8**
baz=323
Y43A Makayla and Ka 94.28 41 P **P** **10 23 20.2 +0.1**
baz=321
U48A Cassie Pea, Po 94.45 37 P **P** **10 23 20.7 -0.1**
baz=324
V47A Nunnelly 94.52 38 P **P** **10 23 21.0 -0.2**
baz=323
EMMW East Machias 94.60 20 *e*P **P** **10 23 22.7 +1.3**
comp=Z,95nm,1.7s
OXF Oxford 94.60 40 P **P** **10 23 21.1 -0.5**
baz=322
Y44A Strider, Charl 94.61 41 P **P** **10 23 20.5 -1.2**
baz=321
W46A Michie 94.64 39 P **P** **10 23 20.2 -1.5**
baz=322
241A Mo Tay, Goldon 94.64 44 P **P** **10 23 20.6 -1.2**
baz=320
X45A UM Field Stati 94.68 40 P **P** **10 23 21.9 -0.1**
baz=322
SSPA Standing Stone 94.77 29 P **P** **10 23 21.3 -1.0**
baz=330
142A Monroe 94.78 43 P **P** **10 23 22.2 -0.2**
baz=320
O56A Blue Knob Stat 94.82 30 P **P** **10 23 21.4 -1.1**
baz=329
MCWV Mont Chateau 94.83 31 P **P** **10 23 21.6 -0.9**
baz=328
MCWV Mont Chateau 94.83 31 PFAKE **10 23 30.0 +7.4**
MCWV LR LR
comp=Z,2μm,18.0s
V48A Smith Brothers 94.93 37 P **P** **10 23 23.2 +0.1**
baz=324
W47A Westpoint 94.94 38 P **P** **10 23 22.4 -0.7**
baz=323
143A Socs Landing, 94.95 42 P **P** **10 23 22.4 -0.8**
baz=320
X46A Booneville 94.99 39 P **P** **10 23 23.2 -0.2**
baz=322
341A Kurthwood 95.02 44 P **P** **10 23 24.5 +0.9**
baz=319
Z44A Pea Ridge, Bel 95.03 41 P **P** **10 23 23.7 +0.2**
baz=321
242A Grayson 95.03 43 P **P** **10 23 24.0 +0.4**
baz=320
Y45A Yeager Farm, C 95.04 40 P **P** **10 23 22.7 -0.8**
baz=322
KEST Kesra 95.04 323 P **P** **10 23 22.9 -0.8**
comp=Z,11nm,0.8s,baz=307,slow=8.3,SNR=4.0
KEST LR LR 11 11 23.6
comp=Z,2μm,18.6s,baz=352,slow=39
KEST Kesra 95.04 323 *e*P **P** **10 23 22.9 -0.8**
comp=Z,42nm,1.4s
KEST LR LR
comp=Z,2μm,18.0s
N59A State Game Lan 95.33 27 P **P** **10 23 25.4 +0.5**
baz=331
N59A State Game Lan 95.33 27 PFAKE **10 23 40.0 +15**
N59A LR LR
comp=Z,2μm,20.0s
Z45A Winona 95.35 41 P **P** **10 23 23.9 -1.1**
baz=322
W48A Pulaski 95.35 38 P **P** **10 23 25.1 0.0**
baz=323,SNR=6.5
HRV Adam Dziewonsk 95.38 24 P **P** **10 23 24.8 -0.2**
baz=334
HRV Adam Dziewonsk 95.38 24 PFAKE **10 23 40.0 +15**
HRV LR LR
comp=Z,2μm,19.0s
Y46A Houston 95.38 40 P **P** **10 23 25.1 -0.1**
baz=322
X47A Russelville 95.39 39 P **P** **10 23 24.5 -0.7**
baz=323
ZAIG Zacatecas 95.40 56 *e*P **P** **10 23 27.6 +1.7**
441A DeRidder 95.45 45 P **P** **10 23 26.4 +0.9**
baz=319
342A Flagon Creek P 95.46 44 P **P** **10 23 25.6 0.0**
baz=320
144A Alexander Plac 95.53 42 P **P** **10 23 26.3 +0.4**
baz=321
243A Waterproof 95.54 43 P **P** **10 23 25.5 -0.4**
baz=320
WES Weston 95.56 24 *e*P **P** **10 23 27.3 +1.5**
comp=Z,69nm,1.8s
WES Weston 95.56 24 *e*P **P** **10 23 27.3 +1.5**
WES pmax pmax
comp=Z,69nm,1.8s
PAGS Pennsylvania G 95.57 28 PFAKE **10 23 40.0 +14**
PAGS LR LR
comp=Z,2μm,18.0s
ODNJ Ogdensburg 95.61 27 PFAKE **10 23 40.0 +14**
ODNJ LR LR
comp=Z,2μm,19.0s
VBMS Vicksburg 95.80 42 P **P** **10 23 27.7 +0.6**
baz=321
TZTN Tazewell 95.82 35 P **P** **10 23 27.3 +0.1**
baz=326
TZTN Tazewell 95.82 35 PFAKE **10 23 40.0 +13**
TZTN LR LR
comp=Z,1μm,20.0s
X48A Hartselle 95.84 38 P **P** **10 23 27.1 -0.2**
baz=323
244A Avery, Jackson 95.85 42 P **P** **10 23 26.8 -0.5**
baz=321
Z46A Louisville 95.88 40 P **P** **10 23 28.1 +0.7**
baz=322
442A Mamou 95.90 44 P **P** **10 23 27.9 +0.3**
baz=320
PAL Palisades 95.92 26 P **P** **10 23 27.2 -0.2**
baz=332
PAL Palisades 95.92 26 PFAKE **10 23 40.0 +13**
PAL LR LR
comp=Z,2μm,18.0s
541A Lake Charles 95.97 45 P **P** **10 23 28.5 +0.6**
baz=319
BRNJ Basking Ridge 95.97 27 PFAKE **10 23 40.0 +12**
BRNJ LR LR
comp=Z,2μm,20.0s
YLE Yale 95.98 25 PFAKE **10 23 40.0 +12**
YLE LR LR
comp=Z,3μm,18.0s
X49A Woodville 96.15 38 P **P** **10 23 28.1 -0.6**
baz=324
Y48A Jasper 96.21 39 P **P** **10 23 27.4 -1.6**
baz=323
443A Delano Plantat 96.23 44 P **P** **10 23 27.8 -1.2**
baz=320
SDMD Soldier's Deli 96.24 29 PFAKE **10 23 40.0 +11**
SDMD LR LR
comp=Z,700nm,22.0s
146A Union 96.25 41 P **P** **10 23 28.7 -0.5**
baz=322
344A Westbrook Farm 96.28 43 P **P** **10 23 28.7 -0.6**
baz=321
245A Little AP, Sta 96.28 42 P **P** **10 23 29.3 0.0**
baz=321
542A Morse 96.28 45 P **P** **10 23 27.5 -1.8**
baz=320
PSUB Penn St. - Bra 96.31 28 PFAKE **10 23 40.0 +11**
PSUB LR LR
comp=Z,2μm,19.0s
Z47A Carrollton 96.32 40 P **P** **10 23 29.1 -0.3**
baz=322
Z48A Northport 96.44 39 P **P** **10 23 28.4 -1.6**
baz=323
TKL Tuckaleechee C 96.45 36 P **P** **10 23 30.6 +0.5**
comp=Z,8.3nm,0.7s,baz=180,slow=0.7,SNR=4.0
TKL Tuckaleechee C 96.45 36 *e*P **P** **10 23 30.8 +0.8**
comp=Z,12nm,0.8s
147A Livingston 96.63 40 P **P** **10 23 30.6 -0.2**
baz=322
Y49A Blount Mountai 96.63 38 P **P** **10 23 30.8 -0.1**
baz=324
BLA Blacksburg 96.66 32 P **P** **10 23 29.4 -1.6**
baz=328
BLA Blacksburg 96.66 32 PFAKE **10 23 40.0 +9.0**
BLA LR LR
comp=Z,2μm,18.0s
IP04 Greensprings 96.88 30 PFAKE **10 23 40.0 +8.1**

IP04 LR LR
comp=Z,2µm,18.0s
247A Quitman 96.94 41 P **P** **10 23 32.3 0.0**
baz=322
Y50A Piedmont 96.94 38 P **P** **10 23 32.0 -0.3**
baz=324
IP03 Louisa 96.97 30 PFAKE 10 23 40.0 +7.7
IP03 LR LR
comp=Z,2µm,19.0s
LRAL Lakeview Retre 97.00 39 P **P** **10 23 32.9 +0.4**
baz=323
LRAL Lakeview Retre 97.00 39 PFAKE 10 23 40.0 +7.5
LRAL LR LR
comp=Z,1µm,18.0s
148A Greensboro 97.01 40 P Pdif 10 23 32.8 +0.1
baz=323
IP07 Quail 97.05 30 PFAKE 10 23 40.0 +7.2
IP07 LR LR
comp=Z,1µm,18.0s
IP06 Yanceyville 97.06 30 PFAKE 10 23 40.0 +7.2
IP06 LR LR
comp=Z,1µm,18.0s
IP05 Hopewell Churc 97.24 30 PFAKE 10 23 50.0 +16
IP05 LR LR
comp=Z,1µm,18.0s
ESDC Sonseca Array 97.32 334 P **P** **10 23 33.8 -0.1**
comp=Z,4.4nm,1.0s,baz=359,slow=3.6,SNR=6.8
ESDC LR LR 11 12 02.6
comp=Z,2µm,18.9s,baz=55,slow=38
ESLA Sonseca Array 97.32 334 PFAKE 10 23 50.0 +16
ESLA LR LR
comp=Z,3µm,19.0s
Z50A Ashland 97.36 38 P **P** **10 23 33.9 -0.4**
baz=324
BG3 Lake Jocassee 97.38 35 PFAKE 10 23 50.0 +16
BG3 LR LR
comp=Z,1µm,20.0s
149A Jones 97.45 39 P **P** **10 23 34.4 -0.2**
baz=323
PAB San Pablo 97.57 334 PFAKE 10 23 50.0 +15
PAB LR LR
comp=Z,3µm,18.0s
249A Camden 97.78 40 P **P** **10 23 35.6 -0.4**
baz=323
MTE Manteigas 97.87 337 PFAKE 10 23 50.0 +14
MTE LR LR
comp=Z,3µm,22.0s
KMSC Kings Mountain 97.99 34 P **P** **10 23 36.2 -0.8**
baz=327
KMSC Kings Mountain 97.99 34 PFAKE 10 23 50.0 +13
KMSC LR LR
comp=Z,2µm,18.0s
PAULI Pauline 98.04 35 PFAKE 10 23 50.0 +13
PAULI LR LR
comp=Z,2µm,22.0s
CART Cartagena 98.05 331 PFAKE 10 23 50.0 +13
CART LR LR
comp=Z,2µm,19.0s
151A Opelika 98.24 38 P **P** **10 23 37.8 -0.4**
baz=324
449A Pace 98.69 41 P **P** **10 23 40.0 -0.2**
baz=323
JSC Jenkinsville 98.74 35 PFAKE 10 23 50.0 +10
JSC LR LR
comp=Z,2µm,19.0s
RKT Rikitea 98.77 112 *e*PS PS 10 36 39.5 +2.2
comp=Z,1µm,30.2s
RKT *e*SS SS 10 41 55.7 -0.7
comp=Z,1µm,29.2s
RKT Rikitea 98.77 112 *e*LR LR 10 55 20.3
comp=Z,3µm,33.2s,baz=308
PESTR Estremoz 99.28 336 PFAKE 10 23 50.0 +7.3
PESTR LR LR
comp=Z,1µm,19.0s
CNNC Cliffs of the 99.41 32 PFAKE 10 24 00.0 +17
CNNC LR LR
comp=Z,1µm,20.0s
TIGA Tifton 99.98 38 PFAKE 10 24 00.0 +14
TIGA LR LR
comp=Z,1µm,20.0s
NHSC New Hope 100.21 34 PFAKE 10 24 00.0 +13
NHSC LR LR
comp=Z,1µm,21.0s
SFS San Fernando 100.97 334 PFAKE 10 24 00.0 +10
SFS LR LR
comp=Z,2µm,20.0s
KMBO Kilima Mbogo 101.95 278 PFAKE 10 24 10.0 +15
KMBO LR LR
comp=Z,900nm,19.0s
MBAR Mbarara 106.76 282 PFAKE 10 28 40.0
MBAR LR LR
comp=Z,10µm,20.0s
TAM Tamanrasset 107.43 318 PFAKE 10 28 40.0
TAM LR LR
comp=Z,1µm,20.0s
GTBY Guantanamo Bay 113.75 38 PFAKE 10 28 50.0
GTBY LR LR
comp=Z,1µm,19.0s
MTDJ Mount Denham 113.95 41 PFAKE 10 28 50.0
MTDJ LR LR
comp=Z,1µm,20.0s
VNDA Vanda 114.93 175 PKP PKPdf 10 28 40.7 +0.5
comp=Z,4.2nm,0.9s,baz=287,slow=5.8,SNR=13
VNDA Vanda 114.93 175 *e*Pdif **Pdif** **10 24 50.4 -0.7**
VNDA *e*PKiKP **PKiKP** **10 28 40.8 +0.6**
VNDA Vanda 114.93 175 *e*P **Pdif** **10 24 50.4 -0.7**
VNDA *i* 10 28 40.8
SDDR Presa de Saban 116.38 35 PFAKE 10 29 00.0 +15
SDDR LR LR
comp=Z,1µm,19.0s
TOC1 Torodi Ar. Sit 117.32 315 PFAKE 10 29 00.0 +13
TOC1 LR LR
comp=Z,1µm,21.0s
TOC2 Torodi Ar. Sit 117.32 315 PFAKE 10 29 00.0 +13
TOC2 LR LR
comp=Z,1µm,18.0s
TOB2 Torodi Ar. Sit 117.33 315 PFAKE 10 29 00.0 +13
TOB2 LR LR
comp=Z,1µm,19.0s
TOC3 Torodi Ar. Sit 117.34 315 PFAKE 10 29 00.0 +13
TOC3 LR LR
comp=Z,1µm,20.0s
TOC7 Torodi Ar. Sit 117.34 315 PFAKE 10 29 00.0 +13
TOC7 LR LR
comp=Z,1µm,22.0s
TOA1 Torodi Ar. Sit 117.34 315 *e*PKPdf **PKPdf** **10 28 46.5 -0.2**
TOA1 *e*PP **PP** **10 29 51.7 -5.2**
TOA1 LR LR
comp=Z,1µm,21.0s
TOA0 Torodi Ar. Sit 117.34 315 *e*PKPdf **PKPdf** **10 28 43.4 -3.3**
TOA0 *e*PKPdf **PKiKP** **10 28 46.3 -0.5**
TOA0 LR LR
comp=Z,1µm,20.0s
TORD Torodi Ar. Bea 117.34 315 PKP **PKPdf** **10 28 46.5 -0.2**
comp=Z,4.8nm,0.9s,baz=13,slow=1.3,SNR=16
TORD PP **PP** **10 29 51.7 -5.2**
comp=Z,14nm,1.1s,baz=30,slow=4.1,SNR=7.9
TORD PKKPbc **PKKPbc** **10 39 10.4 +1.6**
comp=Z,1.1nm,0.9s,baz=241,slow=3.1,SNR=4.5
TOB3 Torodi Ar. Sit 117.34 315 PFAKE 10 29 00.0 +13
TOB3 LR LR
comp=Z,1µm,20.0s
TOB5 Torodi Ar. Sit 117.34 315 PFAKE 10 29 00.0 +13
TOB5 LR LR
comp=Z,1µm,22.0s
TOA3 Torodi Ar. Sit 117.35 315 PFAKE 10 29 00.0 +13
TOA3 LR LR
comp=Z,1µm,21.0s
TOB4 Torodi Ar. Sit 117.36 315 PFAKE 10 29 00.0 +13
TOB4 LR LR
comp=Z,1µm,20.0s
TOC6 Torodi Ar. Sit 117.36 315 PFAKE 10 29 00.0 +13
TOC6 LR LR
comp=Z,1µm,22.0s
TOC4 Torodi Ar. Sit 117.36 315 PFAKE 10 29 00.0 +13
TOC4 LR LR
comp=Z,1µm,21.0s
TOC5 Torodi Ar. Sit 117.37 315 PFAKE 10 29 00.0 +13
TOC5 LR LR
comp=Z,1µm,20.0s
LSZ Lusaka 117.46 271 *e*Pdif **Pdif** **10 25 04.7 +0.8**
LSZ *e*PKPdf **PKiKP** **10 28 47.5 +0.5**
LSZ LR LR
comp=Z,1µm,20.0s
LSZ Lusaka 117.46 271 *e*P **Pdif** **10 25 04.7 +0.8**
MPR Mayaguez 118.86 31 PFAKE 10 29 00.0 +10
MPR LR LR
comp=Z,400nm,22.0s
AOPR Arecibo Observ 118.90 31 PFAKE 10 29 00.0 +10
AOPR LR LR
comp=Z,1µm,19.0s
CRPR Cabo Rojo, PR 119.06 31 PFAKE 10 29 00.0 +10
CRPR LR LR
comp=Z,1µm,20.0s
KOWA Kowa 119.29 321 PKP **PKPdf** **10 28 50.6 +0.1**
comp=Z,13nm,0.8s,baz=67,slow=1.8,SNR=21
KOWA Kowa 119.29 321 *e*PKPdf **PKPdf** **10 28 50.6 +0.1**
KOWA *e*PKPdf **PKPdf** **10 28 50.7 +0.1**
KOWA LR LR
comp=Z,2µm,19.0s
SJG San Juan 119.36 30 PFAKE 10 29 00.0 +10
SJG LR LR
comp=Z,700nm,21.0s
SABA Saba 120.93 28 PFAKE 10 29 10.0 +16
SABA LR LR
comp=Z,600nm,20.0s
SEUS St. Eustatius 121.14 27 PFAKE 10 29 10.0 +16
SEUS LR LR
comp=Z,800nm,18.0s
LBTB Lobatse 124.60 263 *e*PKPdf **PKPdf** **10 29 01.1 +0.7**
LBTB Lobatse 124.60 263 *e*PKIKP **PKPdf** **10 29 01.2 +0.7**
HELC Santa Helena 124.92 47 PFAKE 10 29 10.0 +8.2
HELC LR LR
comp=Z,2µm,19.0s
SDV Santo Domingo 125.38 40 PKP **PKPdf** **10 29 02.7 +0.3**
comp=Z,18nm,0.9s,baz=274,slow=1.2,SNR=16
SDV Santo Domingo 125.38 40 *e*PKPdf **PKPdf** **10 29 03.2 +0.7**
SDV LR LR
comp=Z,700nm,19.0s
SVB Belmont 125.66 27 PFAKE 10 29 10.0 +7.3
SVB LR LR
comp=Z,700nm,21.0s
DBIC Dimbokro 126.30 317 PKP **PKPdf** **10 29 04.0 +0.1**
comp=Z,15nm,0.8s,baz=22,slow=2.7,SNR=12
DBIC PP **PP** **10 30 57.2 -0.7**
comp=Z,22nm,1.2s,baz=19,slow=7.0,SNR=4.0
DBIC Dimbokro 126.30 317 *e*PKPdf **PKPdf** **10 29 04.0 +0.1**
TUMC Tumaco 126.39 53 PFAKE 10 29 20.0 +16
TUMC LR LR
comp=Z,1µm,19.0s
TIC Toumodi 126.41 317 *e*PKIKP **PKPdf** **10 29 04.2 0.0**
SACV Santiago Islan 126.42 342 PFAKE 10 29 20.0 +16
SACV LR LR
comp=Z,400nm,20.0s
KIC Kosan Boka 126.50 316 *e*PKIKP **PKPdf** **10 29 04.4 +0.1**
comp=Z,39nm,1.0s
BOSA Boshof 126.53 259 PKP **PKPdf** **10 29 04.1 0.0**
comp=Z,12nm,0.9s,baz=133,slow=2.1,SNR=12
BOSA Boshof 126.53 259 *e*PKPdf **PKPdf** **10 29 04.1 0.0**
BOSA *e*PKPdf **PKiKP** **10 29 04.3 -0.3**
ROSC El Rosal 126.72 46 PKP **PKPdf** **10 29 05.5 +0.2**
comp=Z,5.4nm,0.5s,baz=253,slow=12,SNR=4.1
ROSC El Rosal 126.72 46 PFAKE 10 29 20.0 +15
ROSC LR LR
comp=Z,200nm,21.0s
QSPA South Pole Qui 126.73 180 PKP **PKPdf** **10 29 03.3 +0.1**
comp=Z,20nm,0.9s,baz=330,slow=1.1,SNR=27
QSPA South Pole Qui 126.73 180 *e*PKPdf **PKPdf** **10 29 03.3 +0.1**
QSPA *e*PKPdf **PKiKP** **10 29 03.4 -0.2**
LIC Lamto 126.77 317 *e*PKIKP **PKPdf** **10 29 04.8 0.0**
comp=Z,78nm,1.0s
PRAC Prado 127.29 48 *e*PKPdf **PKPdf** **10 29 06.7 +0.8**
TSUM Tsumeb 128.07 274 *e*PKPdf **PKPdf** **10 29 08.3 +1.0**
TSUM LR LR
comp=Z,900nm,22.0s
SYO Syowa Base 128.15 207⇑ *e*Pdiff **Pdif** **10 25 49.4 -0.6**
NVL Nˡ**lazarevskaya 137.23 202** *e*PKIKP **PKPdf** **10 29 24.5 +1.7**
NVL pmax pmax
comp=Z,21nm,0.9s
SNAA Sanae 140.69 197 PKP PKPpre 10 29 21.7
SNAA Sanae 140.69 197 PKhKP PKPpre 10 29 21.7
comp=Z,7.1nm,0.8s,baz=139,slow=4.9,SNR=28
SNAA Sanae 140.69 197 *e*PKPdf **PKPdf** **10 29 30.8 +1.6**
SNAA Sanae 140.69 197 *e*PKIKP **PKPdf** **10 29 30.8 +1.6**
VNA2 Neumayer--Watz 142.26 196 PKP PKPpre 10 29 27.9
baz=106,slow=3.0
VNA3 Neumayer Olymp 142.51 195 PKP PKPpre 10 29 27.5
VNA1 Neumayer--Stat 142.66 196 PKP PKPpre 10 29 27.1
SAML Samuel 144.31 45 *e*PKPdf PKPbc 10 29 36.0 +0.5
SAML LR LR
comp=Z,700nm,20.0s
LPAZ La Paz 146.75 60 PKPbc **PKPbc** **10 29 43.5 -0.4**
comp=Z,46nm,0.8s,baz=353,slow=4.9,SNR=88
LPAZ La Paz 146.75 60 *e*PKPdf **PKPbc** **10 29 43.0 -0.8**
LPAZ La Paz 146.75 60 *e*PKIKP **PKPbc** **10 29 43.0 -0.8**
MNMC Minye Minye 147.59 65 *e*PKPdf **PKPbc** **10 29 44.9 -0.8**
PB11 IPOC Station P 147.95 66 *e*PKPdf **PKPbc** **10 29 45.1 -1.5**
PMSA Palmer Station 148.34 159 PFAKE 10 29 50.0 +0.9
PMSA LR LR
comp=Z,100nm,21.0s
PB01 IPOC Station P 148.86 68 *e*PKPbc **PKPbc** **10 29 49.2 +0.4**
PB01 *e*PKPab **PKPab** **10 29 55.0 +2.3**
RCBR Riachuelo 148.89 355 *e*PKPbc **PKPbc** **10 29 49.4 +0.4**
PB10 IPOC Station P 149.48 73 *e*PKPdf **PKPdf** **10 29 45.5 -0.2**
PB10 *e*PKPbc **PKPbc** **10 29 50.0 -0.2**
PB10 *e*PKPab **PKPab** **10 29 55.2 +0.2**
LCO Las Campanas 152.05 83 *e*PKPbc **PKPbc** **10 29 57.5 +1.1**
LCO *e*PKPab **PKPab** **10 30 03.5 -2.4**
YJA Yavi 152.47 65 *e*P **PKPdf** **10 29 52.6 +1.7**
HJA Humahuaca 153.18 67 *e*P **PKPdf** **10 29 53.4 +1.6**
ROC1 El Roble 153.24 91 *e*PKPdf **PKPdf** **10 29 51.1 -0.3**
ROC1 *e*PKPbc **PKiKP** **10 29 59.3 +0.3**
ROC1 El Roble 153.24 91 *e*P **PKPdf** **10 29 53.2 +1.8**
AROD Rodeo 153.49 84 *e*P **PKPdf** **10 29 53.9 +1.9**
PEL Peldehue 153.55 91 *e*PKPdf **PKPdf** **10 29 51.7 +0.1**
PEL *e*PKPbc **PKiKP** **10 29 60.0 +0.5**
PEL Peldehue 153.55 91 *e*PKIKP **PKPdf** **10 29 51.7 +0.1**
PEL *e* 10 30 00.0
ACDV Cuesta del Vie 153.78 84 *e*P **PKPdf** **10 29 53.7 +1.5**
VCA Vinchina 153.91 80 *e*P **PKPdf** **10 29 53.7 +1.2**
AGUA GUANDACOL 154.00 82 *e*P **PKPdf** **10 29 53.9 +1.4**
AZAP Zapla 154.03 68 *e*P **PKPdf** **10 29 54.6 +1.8**
RTLS Leoncito 154.23 88 *e*P **PKPdf** **10 29 55.1 +2.1**
FSA Cafayete 154.38 73 *e*P **PKPdf** **10 29 54.6 +1.4**
ALOL LOMAS DE OLME 154.59 66 *e*P **PKPdf** **10 29 54.8 +1.5**
RTCV Cerro Valdivia 154.86 87 *e*P **PKPdf** **10 29 55.1 +1.6**
PLCA Paso Flores 154.94 108 PKP **PKPdf** **10 29 51.8 -1.6**
comp=Z,2.0nm,1.0s,baz=283,slow=16,SNR=3.0
PLCA PKPbc **PKPbc** **10 30 05.8 +3.6**
comp=Z,10.0nm,1.1s,baz=287,slow=5.1,SNR=6.8
PLCA PKPab **PKPab** **10 30 19.1 +1.5**
comp=Z,15nm,0.8s,baz=277,slow=4.3,SNR=21
PLCA Paso Flores 154.94 108 *e*PKPab **PKPab** **10 30 19.2 +1.6**
PLCA Paso Flores 154.94 108 *e*PKP2 **PKPab** **10 30 19.2 +1.6**
CPUP Villa Florida 160.90 62 PKP **PKPdf** **10 30 00.1 -0.9**
comp=Z,4.0nm,1.1s,baz=195,slow=4.4,SNR=4.6
CPUP PKPab **PKPab** **10 30 43.9 +0.3**
comp=Z,3.4nm,0.8s,baz=312,slow=5.7,SNR=6.5
CPUP Villa Florida 160.90 62 *e*PKPdf **PKPdf** **10 30 01.6 +0.6**
CPUP *e*PKPab **PKPab** **10 30 44.3 +0.7**
CPUP Villa Florida 160.90 62 *e*PKIKP **PKPdf** **10 30 01.6 +0.6**
CPUP *e* 10 30 44.3
TRQA Tornquist 161.45 100 *e*PKPab **PKPab** **10 30 46.9 +1.0**

*IDC **13** 10:10:01.6±0.5, 16˚.16N×98˚.23W, h0km, mb5.0/21, mb1 5.1/26, mb1mx4.9/49, mbtmp5.0/26, ML4.4/5, MS4.9/15, Ms1 4.9/15, ms1mx4.6/44, Error ellipse: s-maj=16.6km s-min=10.7km az=44.0*
*MEX **13** 10:10:03.5±1.6, 16˚.15N×98˚.35W, h5km, MD5.2*
*GCMT **13** 10:10:04.6±0.2, 16˚.35N×98˚.23W, h14km, MW5.3/108, Moment Tensor Solution. s60,c92; s108,c184; Duration: 1s1 Moment tensor: Scale 10¹⁷Nm; Mrr0.61±.03; Mθθ-0.89±.02; Mϕϕ0.28±.02; Mrθ-0.86±.07; Mθϕ-0.39±.02; Mϕr0.07±.05; Best double couple: M₀1.20800×10¹⁷ NP1:ϕs274.00000°, δ71.00000°, λ111.00000°. NP2:ϕs44.00000°, δ28.00000°, λ44.00000°. Principal axes: T 1.0680, Plg59.0000°, Azm214.0000°; N 0.2810, Plg20.0000°, Azm87.0000°; P -1.3480, Plg23.0000°, Azm348.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*ISCJB **13** 10:10:04.5±0.6, 16˚.56N±0˚.02×97˚.99W±0˚.01, h12km±3km, mb5.3/336, MS5.1/162 Error ellipse: s-maj=2.9km s-min=1.9km az=35.3*
*NEIC **13** 10:10:04.6±0.9, 16˚.24N×98˚.14W, h15km±5km, mb5.4/298, MS5.1/147, MD5.2(MEX), Error ellipse: s-maj=4.1km s-min=2.3km az=210.0*
NEIC Felt [III] at Mexico and [II] at Puebla. Also felt at Acatzingo, Coatepec, Huajuapan, Huayapan, Huixquilucan, Naucalpan, Oaxaca, Pinotepa Nacional, Puerto Escondido and San Antonio de la Cal.
*MOS **13** 10:10:06.6±1.0, 16˚.38N×98˚.02W, h33km, mb5.6/72, Error ellipse: s-maj=9.4km s-min=4.4km az=101.0*
*BJI **13** 10:10:07.1, 16˚.40N×98˚.10W, h25km, mB5.8/5, Ms5.6/5, Ms7 5.3/5*
*UCR **13** 10:10:38.7±2.5, 16˚.21N×95˚.48W, h20km±63km, MD4.9, mb5.4(NEIC)*
ISC 13 10:10:05.1±0.8, 16˚.27N±0˚.04×98˚.14W±0˚.04, h18km±3km, n1277, σ1958/1191, mb5.4/337, MS5.1/163, 3C-6D, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.13**	**6**	*e*P		**Pg**	**10 10 08.9**	**-0.2**
PNIG				*i* S		**Sg**	**10 10 14.0**	**+2.1**
PNIG	**Pinotepa**	**0.13**	**6**	*e*Pg		**Pg**	**10 10 08.9**	**-0.2**
PNIG				*e*Sg		**Sg**	**10 10 14.0**	**+2.1**
TLIG	**Tlapa**	**1.35**	**343**	*e*P		**Pn**	**10 10 27.5**	**-1.8**
TLIG				*e*S		**Sn**	**10 10 44.3**	**-2.6**
TLIG	**Tlapa**	**1.35**	**343**	*e*P		**Pn**	**10 10 27.1**	**-2.1**
VHO	**Vista Hermosa**	**1.57**	**59**	*e*P		**Pn**	**10 10 32.6**	**+0.3**
VHO				*e*S		**Sb**	**10 10 54.3**	**+0.9**
VHO	**Vista Hermosa**	**1.57**	**59**	*e*Pn		**Pn**	**10 10 32.7**	**+0.3**
VHO				*e*Sn		**Sg**	**10 10 56.4**	**+0.5**
HUIG	**Huatulco**	**2.02**	**104**	*e*P		**Pn**	**10 10 37.2**	**-1.1**
HUIG	**Huatulco**	**2.02**	**104**	*e*Pn		**Pn**	**10 10 37.2**	**-1.1**
CAIG	**El Cayaco**	**2.18**	**291**	*e*P		Pn	10 10 34.1	-6.4
CAIG				*i* S		**Sn**	**10 11 05.1**	**-2.0**
CAIG	**El Cayaco**	**2.18**	**291**	*e*Pn		Pn	10 10 34.1	-6.4
CAIG				*e*Sn		**Sn**	**10 11 05.1**	**-2.0**
YAIG	**Yautepec**	**2.73**	**341**	*e*P		**Pn**	**10 10 49.6**	**+1.4**
PPM	**Popocatepetl**	**2.83**	**351**	*e*P		**Pb**	**10 10 52.4**	**-2.9**
UNM	**Universidad Na**	**3.20**	**342**	*e*P		**Pn**	**10 10 54.5**	**-0.4**
UNM	**Universidad Na**	**3.20**	**342**	*e*Pn		**Pn**	**10 10 55.0**	**+0.1**
UNM				*e*Sg		**Sg**	**10 11 49.0**	**+0.8**
UNM	**Universidad Na**	**3.20**	**342**	*e*P		**Pn**	**10 10 56.5**	**+1.6**
CMIG	**Matias Romero**	**3.23**	**75**	Pn		**Pn**	**10 10 54.7**	**-0.3**
	51nm,0.3s,baz=254,slow=11,SNR=254							
CMIG				Lg		Lg	10 11 48.8	
	416nm,0.3s,baz=24,slow=19,SNR=6.4							
ZIIG	**Zihuatanejo**	**3.45**	**293**	*e*P		Pn	10 10 53.0	-5.0
LVIG	**Laguna Verde**	**3.81**	**25**	*e*Pn		**Pn**	**10 11 01.1**	**-1.8**
LVIG				*e*Sg		**Sg**	**10 12 08.9**	**+1.3**
MOIG	**Morelia**	**4.46**	**320**	*e*Pn		**Pn**	**10 11 11.3**	**-0.9**
MOIG				*e*Sg		**Sb**	**10 12 19.9**	**+3.1**
PCIG		**4.77**	**96**	*e*P		**Pn**	**10 11 16.0**	**-0.1**
JRQG	**Juriquilla Cam**	**4.93**	**334**	*e*Pn		**Pn**	**10 11 17.7**	**-0.9**
JRQG				*e*Sg		**Sb**	**10 12 33.8**	**+3.7**
APG	**El Apazote**	**7.50**	**99**	Pn		**Pn**	**10 11 54.4**	**+0.5**
	1.5nm,0.3s,baz=324,slow=14,SNR=29							
APG				Sn		**Sn**	**10 13 20.4**	**+1.8**
	14nm,0.3s,baz=20,slow=17,SNR=5.4							
ZAIG	**Zacatecas**	**7.70**	**328**	*e*Pn		**Pn**	**10 11 57.1**	**+0.4**
SBLS	**San Blas**	**8.57**	**105**	*e*P		**Pn**	**10 12 11.2**	**+2.6**
LNIG	**Linares**	**8.68**	**352**	*e*P		**Pn**	**10 12 08.1**	**-1.8**
LNIG	**Linares**	**8.68**	**352**	*e*Pn		**Pn**	**10 12 09.5**	**-0.3**
SNET	**Serv Nac Est T**	**8.98**	**105**	*e*Pn		Pn	10 12 19.2	+5.1
SNET	**Serv Nac Est T**	**8.98**	**105**	*e*P		**Pn**	**10 12 16.5**	**+2.4**
MYIG	**MØrida**	**9.23**	**58**	*e*Pn		Pn	10 12 22.8	+5.4
TEIG	**Tepich**	**10.16**	**66**	*e*P		**Pn**	**10 12 33.7**	**+3.5**
TGUH	**Tegucigalpa,Un**	**10.72**	**100**	*e*Pn		**Pn**	**10 12 37.6**	**-0.3**
CSGN	**Cosiguina Volc**	**10.75**	**106**	*e*P		**Pn**	**10 12 37.8**	**-0.5**
KVTX	**Kingsville**	**11.23**	**1**	*e*Pn		**Pn**	**10 12 46.0**	**+1.2**
CRIN	**San Cristobal**	**11.31**	**107**	*e*P		**Pn**	**10 12 49.2**	**+3.2**
CRIN					AMb	AMB	10 12 57.9	
	comp=Z,248nm,1.8s							
CNGN	**Cerro Negro**	**11.70**	**107**	*e*P		**Pn**	**10 12 52.0**	**+0.6**
CNGN					AMb	AMB	10 13 01.1	
	comp=Z,161nm,1.5s							
ESTN	**Estel**	**11.81**	**104**	*e*P		**Pn**	**10 12 55.3**	**+2.3**
ESTN					AMb	AMB	10 13 00.3	
	comp=Z,118nm,1.9s							
MOMN	**Momotombo**	**11.88**	**107**	*e*P		**Pn**	**10 12 56.9**	**+3.1**
COPN	**Copaltepe**	**11.91**	**108**	*e*P		**Pn**	**10 12 55.6**	**+1.5**
833A	**Chaparral WMA,**	**12.06**	**355**	P		**Pn**	**10 12 56.3**	**+0.2**
	baz=174,SNR=74							
TISN	**Laguna Tiscapa**	**12.22**	**108**	*e*P		**Pn**	**10 12 58.7**	**+0.3**
MGAN	**Managua**	**12.23**	**108**	*e*P		**Pn**	**10 13 00.7**	**+2.1**
MGAN					AMb	AMB	10 13 06.0	
	comp=Z,75nm,2.0s							
MATN	**Matagalpa**	**12.28**	**104**	*e*P		**Pn**	**10 12 59.2**	**-0.1**
H06E1	**SOCORRO T-PHAS**	**12.45**	**283**	T		T	10 25 08.7	
	SNR=95							
HPIG		**12.71**	**328**	*e*Pn		**Pn**	**10 13 06.0**	**+0.8**
CRZ1	**La Cruz**	**13.20**	**111**	*e*P		**Pn**	**10 13 15.6**	**+3.7**
SLBS	**Sierra La Lagu**	**13.32**	**306**	*e*Pn		**Pn**	**10 13 14.0**	**+0.5**
NY14	**Universidad de**	**13.47**	**113**	*e*P		**P**	**10 13 20.4**	**-4.3**
GBS3	**Finca Las Im¯¡**	**13.48**	**112**	*e*P		**Pn**	**10 13 18.6**	**+2.9**
LAPC	**Finca la Perla**	**13.51**	**112**	*e*P		**Pn**	**10 13 17.7**	**+1.6**
GB1A	**Boringuen Arri**	**13.52**	**112**	*e*P		**Pn**	**10 13 19.5**	**+3.2**
BUEV	**Buena Vista**	**13.52**	**112**	*e*P		**Pn**	**10 13 18.5**	**+2.3**
BUAI	**Buenos Aires**	**13.55**	**112**	*e*P		**Pn**	**10 13 19.9**	**+3.3**
GPS3	**Bodega del ICE**	**13.57**	**112**	*e*P		**Pn**	**10 13 20.6**	**+3.7**
LIM1	**Limonal**	**13.70**	**112**	*e*P		**Pn**	**10 13 21.0**	**+2.4**
GUAB	**Guayabo de Bag**	**13.71**	**112**	*e*P		**Pn**	**10 13 23.0**	**+4.1**
MESS	**Mesas**	**13.73**	**112**	*e*P		**Pn**	**10 13 21.4**	**+2.3**
COLC	**Colonia**	**13.76**	**112**	*e*P		**Pn**	**10 13 21.4**	**+2.0**
HKT	**Hockley**	**13.79**	**8**	*e*Pn		**Pn**	**10 13 21.4**	**+1.8**
HKT	**Hockley**	**13.79**	**8**	*e*P		**Pn**	**10 13 21.4**	**+1.8**
CUI	**Cuipilapa**	**13.79**	**112**	*e*P		**Pn**	**10 13 22.2**	**+2.2**
LPIG	**La Paz**	**13.82**	**306**	Pn		**Pn**	**10 13 20.0**	**-0.3**
	comp=Z,14nm,0.3s,baz=185,slow=1.7,SNR=4.6							
LPIG					LR	LR	10 18 01.6	
	comp=Z,7µm,18.1s,baz=130,slow=35							
LPIG	**La Paz**	**13.82**	**306**	*e*P		Pn	10 13 07.0	-13
ACAL	**Aguas Claras**	**13.92**	**112**	*e*P		**Pn**	**10 13 24.9**	**+3.2**
PTEN	**Parque Tenorio**	**13.93**	**112**⇑	*e*P		**Pn**	**10 13 22.9**	**+1.1**
AMAS	**Alto Masis**	**13.96**	**112**	*e*P		**Pn**	**10 13 25.8**	**+3.4**
LTX	**Lajitas**	**13.97**	**340**	*e*Pn		**Pn**	**10 13 22.6**	**+0.3**
LTX	**Lajitas**	**13.97**	**340**	*e*P		**Pn**	**10 13 22.6**	**+0.3**
TX31	**Lajitas Ar. Si**	**13.97**	**340**	*e*Pn		**Pn**	**10 13 23.4**	**+1.1**
TXAR	**Lajitas Array**	**13.97**	**340**	Pn		**Pn**	**10 13 22.6**	**+0.3**
	comp=Z,0.2nm,0.3s,baz=159,slow=14,SNR=44							
TXAR					Lg	Lg	10 17 28.2	
	comp=Z,0.2nm,0.3s,baz=166,slow=27,SNR=5.6							
TXAR					LR	LR	10 19 26.4	
	comp=Z,14µm,20.4s,baz=0.0,slow=40							
ESPN	**Las Esperanzas**	**14.01**	**105**	*e*P		**Pn**	**10 13 23.6**	**+0.8**
ESPN					AMb	AMB	10 13 38.5	
	comp=Z,100nm,1.2s							
JTS	**JuntasAbangare**	**14.14**	**113**	Pn		**Pn**	**10 13 25.5**	**+0.8**
	comp=Z,3.3nm,0.3s,baz=3.6,slow=8.3,SNR=28							
JCT	**Junction City**	**14.23**	**354**	P		**Pn**	**10 13 24.7**	**-1.2**
	baz=174,SNR=18							
JCT	**Junction City**	**14.23**	**354**	*e*Pn		**Pn**	**10 13 25.6**	**-0.2**
JCT	**Junction City**	**14.23**	**354**	*e*P		**Pn**	**10 13 25.7**	**-0.2**
CASO	**Castillo**	**14.27**	**112**	*e*P		**Pn**	**10 13 27.1**	**+0.6**
CEDE	**Laguna Cede¯–o**	**14.28**	**112**	*e*P		**Pn**	**10 13 27.7**	**+1.1**
435B	**Jarrell**	**14.46**	**2**	P		**Pn**	**10 13 27.2**	**-1.8**
	baz=182							
541A	**Lake Charles**	**14.46**	**17**	P		**Pn**	**10 13 28.0**	**-1.0**
	baz=199							
SRA1	**San Ram¯‡n**	**14.65**	**113**	*e*P		**Pn**	**10 13 33.1**	**+1.4**
CGA2	**Cerro Gallo 2**	**14.69**	**113**	*e*P		**P**	**10 13 36.1**	**-2.3**
645A	**Chauvin**	**14.85**	**27**	P		**Pn**	**10 13 31.9**	**-2.3**
	baz=209							
543A	**St. Martinvill**	**14.91**	**22**	P		**Pn**	**10 13 32.8**	**-2.3**
	baz=204							
HDC	**Heredia**	**15.01**	**113**	*e*Pn		**Pn**	**10 13 36.3**	**-0.3**
	comp=Z,360nm,1.1s							
SJS	**Escuela Geolog**	**15.09**	**113**	*e*P		**P**	**10 13 41.6**	**-1.2**
441A	**DeRidder**	**15.11**	**17**	P		**Pn**	**10 13 35.4**	**-2.3**
	baz=198							
544A	**White Castle**	**15.19**	**24**	P		**Pn**	**10 13 36.0**	**-2.8**
	baz=206							
LCR2	**La Lucha 2**	**15.22**	**113**⇑	*e*P		**Pn**	**10 13 40.3**	**+0.8**
442A	**Mamou**	**15.30**	**19**	P		**Pn**	**10 13 37.7**	**-2.5**
	baz=201							
646A	**Port Sulphur**	**15.30**	**29**	P		**Pn**	**10 13 34.4**	**-5.9**
	baz=212							
CVTR	**Volcan Turrial**	**15.31**	**112**‖	*e*P		**Pn**	**10 13 42.5**	**+1.

baz=182,SNR=15
WHTX Lake Whitney, 15.67 2 *e*Pn Pn 10 13 44.2 -0.8
comp=Z,229nm,0.9s
341A Kurthwood 15.67 16 P Pn 10 13 41.3 -3.8
baz=198
NATX Nacogdoches 15.75 11 P Pn 10 13 42.4 -3.7
baz=192,SNR=13
NATX Nacogdoches 15.75 11 *e*Pn Pn 10 13 44.4 -1.7
comp=Z,227nm,1.0s
EDLM Las Mercedes 15.79 114 *e*P P 10 13 51.4 +0.8
444A Pine Grove 15.89 24 P Pn 10 13 44.8 -3.2
baz=207
444A S Sn 10 16 40.8 -2.9
baz=207
546A Slidell 15.90 28 P Pn 10 13 44.8 -3.2
baz=211
342A Flagon Creek P 15.95 18 P Pn 10 13 45.6 -3.1
baz=201,SNR=11
445A Amite 16.07 25 P Pn 10 13 46.1 -4.1
baz=208
343A Vidalia 16.09 21 P Pn 10 13 47.5 -3.0
baz=203
EDBA Buenos Aires 16.12 114 *e*P Pn 10 13 52.7 +1.7
240A Hunter Patters 16.20 13 P Pn 10 13 48.6 -3.3
baz=195
WBCY West Bay, Gran 16.24 77 *e*Pn Pn 10 13 51.7 -0.8
comp=Z,387nm,1.1s
ABTX Abilene, Hawle 16.34 355 P Pn 10 13 51.9 -1.9
baz=175,SNR=83
ABTX Abilene, Hawle 16.34 355 *e*Pn Pn 10 13 52.4 -1.4
comp=Z,477nm,1.0s
241A Mo Tay, Goldon 16.39 16 P Pn 10 13 52.6 -1.7
baz=198,SNR=7.6
PTJ1 Puerto Jim˜ne 16.39 116µ *e*P P 10 13 59.0 +1.8
FSCY Frank Sound, G 16.43 77 *e*Pn Pn 10 13 54.3 -0.6
comp=Z,424nm,1.1s
446A Poplarville 16.54 27 P Pn 10 13 53.7 -2.5
baz=211
344A Westbrook Farm 16.56 23 P Pn 10 13 54.2 -2.3
baz=206,SNR=15
242A Grayson 16.64 18 P Pn 10 13 54.8 -2.7
baz=200,SNR=6.2
243A Waterproof 16.68 20 P Pn 10 13 55.0 -3.0
baz=203
345A Thompson Farm, 16.70 25 P Pn 10 13 56.1 -2.2
baz=208,SNR=9.1
MNTX Cornudas Mount 16.72 338 P Pn 10 13 57.3 -1.2
baz=155,SNR=51
MNTX Cornudas Mount 16.72 338 *e*Pn Pn 10 13 57.7 -0.8
comp=Z,51nm,0.9s
140A Cam and Jess, 16.82 13 P Pn 10 13 57.7 -2.1
baz=195,SNR=21
GDL2 Guadalupe Moun 16.84 342 *e*Pn Pn 10 14 00.9 +0.7
447A Lucedale 16.86 29 P Pn 10 13 57.1 -3.2
baz=213
141A Papa Simpson, 16.95 15 P Pn 10 13 58.0 -3.3
baz=197
346A Big Creek Wild 17.00 26 P Pn 10 13 58.8 -3.3
baz=210
SRIG Santa Rosalia 17.08 312 *e*Pn Pn 10 14 01.7 -1.4
244A Avery, Jackson 17.11 22 P Pn 10 14 00.0 -3.3
baz=205,SNR=41
142A Monroe 17.16 18 P Pn 10 14 00.9 -3.1
baz=200
EPT El Paso 17.21 335 *e*Pn Pn 10 14 04.9 +0.1
comp=Z,169nm,1.4s
VBMS Vicksburg 17.33 22 P Pn 10 14 03.5 -2.6
baz=205,SNR=10
VBMS Vicksburg 17.33 22 *e*Pn Pn 10 14 04.9 -1.2
comp=Z,215nm,1.0s
HSIG 17.33 319 *e*Pn P 10 14 06.7 -0.8
448A Bay Minette 17.36 31 P Pn 10 14 03.1 -3.4
baz=215
245A Little AP, Sta 17.39 24 P Pn 10 14 03.7 -3.2
baz=207,SNR=8.1
347A Saraland 17.42 28 P Pn 10 14 03.6 -3.7
baz=212
Z40A Long Farm, Mag 17.45 13 P Pn 10 14 05.1 -2.6
baz=195,SNR=14
143A Socs Landing, 17.47 19 P Pn 10 14 04.6 -3.3
baz=202,SNR=14
CPRX Cap Rock 17.48 344 *e*Pn Pn 10 14 06.8 -1.3
comp=Z,25nm,0.8s
LCCY Blossom Villag 17.51 76 *e*Pn Pn 10 14 08.3 -0.1
comp=Z,258nm,1.1s
449A Pace 17.55 33 P Pn 10 14 05.7 -3.2
baz=217
Z41A Richland Creek 17.59 15 P Pn 10 14 06.6 -2.8
baz=197,SNR=23
246A Jackson Lee, B 17.69 26 P Pn 10 14 06.9 -3.8
baz=210
144A Alexander Plac 17.73 22 P Pn 10 14 07.8 -3.3
baz=205
348A Jackson 17.73 30 P Pn 10 14 07.7 -3.5
baz=214
Z42A Norrel Spur, H 17.84 17 P Pn 10 14 09.1 -3.3
baz=200,SNR=5.2
145A Houston Renfro 17.89 23 P Pn 10 14 09.5 -3.6
baz=206
450A Crestview 17.91 34 P Pn 10 14 09.6 -3.8
baz=218
WLAR White Oak Lake 17.93 14 *e*Pn Pn 10 14 12.7 -0.9
comp=Z,154nm,1.0s
247A Quitman 17.95 27 P Pn 10 14 09.4 -4.4
baz=211,SNR=6.5
BRAL Brewton 17.96 32 P Pn 10 14 10.3 -3.6
baz=217
BRAL Brewton 17.96 32 *e*Pn P 10 14 14.1 -0.3
comp=Z,250nm,1.4s
349A Repton 18.03 32 P Pn 10 14 11.8 -3.0
baz=216,SNR=14
MSTX Muleshoe 18.12 348 P Pn 10 14 14.1 -1.9
baz=166,SNR=97
MSTX Muleshoe 18.12 348 *e*Pn Pn 10 14 14.5 -1.5
comp=Z,222nm,1.0s
552A Lynn Haven 18.14 38 P Pn 10 14 12.9 -3.3
baz=223
319A Douglas 18.15 328 *e*Pn P 10 14 16.4 -0.2
comp=Z,284nm,1.1s
Y40A Okolona 18.21 13 P Pn 10 14 14.9 -2.1
baz=195,SNR=11
451A Vernon 18.23 36 P Pn 10 14 14.4 -2.9
baz=221
Y41A Eaglette Beard 18.23 15 P Pn 10 14 13.9 -3.4
baz=197
146A Union 18.26 25 P Pn 10 14 14.6 -3.0
baz=209,SNR=17
Z44A Pea Ridge, Bel 18.32 21 P Pn 10 14 15.0 -3.3
baz=204
248A Dixon Mills 18.38 29 P P 10 14 15.9 -3.1
baz=213
WMOK Wichita Mounta 18.41 358 P P 10 14 17.4 -2.0
baz=178,SNR=17
WMOK Wichita Mounta 18.41 358 *e*P P 10 14 18.0 -1.3
comp=Z,63nm,0.9s
WMOK Wichita Mounta 18.41 358 *e*P P 10 14 18.0 -1.3
WMOK pmax pmax
comp=Z,63nm,1.0s
121A Cookes Peak, D 18.41 333 P P 10 14 18.1 -1.4
baz=150,SNR=88
Y42A Garnett, Star 18.41 17 P P 10 14 16.6 -2.7
baz=200
059Z Ave Maria 18.49 54 P P 10 14 17.9 -2.4
baz=240
CCAR Cane Creek 18.49 17 *e*P P 10 14 18.7 -1.6
comp=Z,176nm,0.9s
X39A Fountain Ranch 18.53 11 P P 10 14 18.6 -2.1
baz=192,SNR=39
350A Dozier 18.53 33 P P 10 14 19.8 -0.9
baz=218,SNR=19
249A Camden 18.57 31 P P 10 14 19.4 -1.8
baz=215
058A Arcadia 18.57 52 P P 10 14 19.7 -1.5
baz=238
957A Wimauma 18.59 50 P P 10 14 19.1 -2.3
baz=235
147A Livingston 18.62 27 P P 10 14 19.3 -2.4
baz=211,SNR=12
MIAR Mount Ida 18.66 12 P P 10 14 20.3 -1.8
baz=194,SNR=68
MIAR Mount Ida 18.66 12 *e*P P 10 14 20.7 -1.4
comp=Z,125nm,1.1s
MIAR Mount Ida 18.66 12 *e*P P 10 14 20.7 -1.4
MIAR pmax pmax
comp=Z,130nm,1.1s
Z45A Winona 18.66 23 P P 10 14 20.7 -1.5
baz=206
553A Crawfordville 18.70 40 P P 10 14 20.5 -2.1
baz=225
452A Marianna 18.73 37 P P 10 14 20.8 -2.1
baz=222
Y43A Makayla and Ka 18.73 19 P P 10 14 21.1 -1.8
baz=202
X40A Basin Creek Fa 18.76 14 P P 10 14 21.3 -1.9
baz=196,SNR=23
Z46A Louisville 18.79 25 P P 10 14 21.7 -1.9
baz=208,SNR=9.9
AMTX Amarillo 18.81 351 P P 10 14 23.2 -0.7
baz=169
AMTX Amarillo 18.81 351 *e*P P 10 14 22.7 -1.2
comp=Z,133nm,0.9s
351A Pinckard 18.81 35 P P 10 14 21.6 -2.2
baz=220,SNR=8.7
X41A Kaden, Bauxite 18.84 15 P P 10 14 22.2 -1.9
baz=197
958A Wauchula 18.90 51 P P 10 14 23.5 -1.3
baz=237
148A Greensboro 18.91 29 P P 10 14 23.1 -1.8
baz=213,SNR=16
857A Zephyrhills 18.93 48 P P 10 14 21.6 -3.6
baz=234
655A Horseshoe Beac 19.00 43 P P 10 14 23.4 -2.4
baz=229
250A Grady 19.00 32 P P 10 14 23.9 -2.1
baz=217
Y44A Strider, Charl 19.01 21 P P 10 14 24.9 -1.1
baz=204,SNR=9.9
059A Moore Haven 19.03 53 P P 10 14 24.0 -2.3
baz=239
554A Perry 19.10 41 P P 10 14 24.7 -2.2
baz=227
X42A Stuttgart 19.13 17 P P 10 14 26.2 -1.0
baz=199
UALR University of 19.15 15 *e*P P 10 14 27.1 -0.4
comp=Z,295nm,1.7s
Y45A Yeager Farm, C 19.16 22 P P 10 14 26.9 -0.8
baz=206,SNR=11
Z47A Carrollton 19.16 27 P P 10 14 26.4 -1.2
baz=211
BCIP Isla Barro Col 19.19 109 *e*P P 10 14 27.7 -0.3
comp=Z,480nm,1.9s
BCIP Isla Barro Col 19.19 109 *e*P Pn 10 14 29.5 +0.5
149A Jones 19.24 30 P P 10 14 27.5 -1.0
baz=215
453A Whigham 19.24 39 P P 10 14 27.9 -0.6
baz=224
W39A Magazine 19.25 11 P P 10 14 28.4 -0.2
baz=193,SNR=49
X43A Marvell 19.31 18 P P 10 14 28.4 -0.8
baz=201
352A Blakely 19.35 36 P P 10 14 29.3 -0.3
baz=221,SNR=7.8
BNM Barren Site 19.38 338 *e*P P 10 14 30.6 +0.3
656A Willston 19.39 45 P P 10 14 29.1 -1.0
baz=231
W40A Ferguson Farm, 19.39 13 P P 10 14 29.6 -0.5
baz=195,SNR=20
W40A Ferguson Farm, 19.39 13 *e*P P 10 14 29.3 -0.8
comp=Z,196nm,1.2s
Y22D IRIS PASSCAL I 19.41 338 P P 10 14 30.9 +0.4
baz=154
Y22D IRIASSCAL I 19.41 338 *e*P P 10 14 30.5 -0.1
comp=Z,165nm,1.0s
Y22E IRIS PASSCAL I 19.41 338 P Pn 10 14 31.1 -0.7
baz=154
Y46A Houston 19.43 24 P P 10 14 30.2 -0.4
baz=208,SNR=73
757A Oxford 19.45 47 P P 10 14 30.2 -0.6
baz=233
LRAL Lakeview Retre 19.50 29 P P 10 14 31.3 -0.1
baz=214,SNR=22
LRAL Lakeview Retre 19.50 29 *e*P P 10 14 31.6 +0.2
comp=Z,50nm,1.0s
959A Okeechobee 19.52 52 P P 10 14 31.3 -0.3
baz=238
LPM Los Pinos Moun 19.52 339 *e*P P 10 14 32.2 +0.3
X44A Crenshaw 19.53 20 P P 10 14 30.5 -1.1
baz=203
Z48A Northport 19.54 27 P P 10 14 31.0 -0.7
baz=212,SNR=35
251A Milvay 19.55 34 P P 10 14 31.2 -0.6
baz=219,SNR=21
W41B Gary Mavity, V 19.55 15 P P 10 14 31.3 -0.6
baz=197,SNR=21
454A Quitman 19.56 40 P P 10 14 30.7 -1.4
baz=226
555A McAlpin 19.58 43 P P 10 14 30.8 -1.4
baz=228
150A Eclectic 19.63 32 P P 10 14 32.3 -0.5
baz=217,SNR=25
WHAR Wooly Hollow 19.66 14 *e*P P 10 14 31.7 -1.3
comp=Z,82nm,0.9s
353A Camilla 19.66 38 P P 10 14 32.6 -0.5
baz=223
TUC Tucson 19.67 327 P Pn 10 14 33.8 -0.9
baz=142
TUC Tucson 19.67 327 *e*P Pn 10 14 34.2 -0.5
comp=Z,64nm,1.1s
TUC Tucson 19.67 327 *e*P Pn 10 14 34.2 -0.5
TUC pmax pmax
comp=Z,64nm,1.1s
060A Indiantown 19.67 54 P P 10 14 32.6 -0.6
baz=240
TUL1 Leonard 19.68 6 P P 10 14 32.0 -1.2
baz=187,SNR=44
TUL1 Leonard 19.68 6 *e*P P 10 14 32.6 -0.7
comp=Z,207nm,0.9s
X45A UM Field Stati 19.72 22 P P 10 14 32.6 -1.1
baz=206,SNR=27
MTDJ Mount Denham 19.78 81 *e*P Pn 10 14 35.5 -0.6
comp=Z,166nm,1.1s
LAZ Ladron 19.79 338 *e*P Pn 10 14 35.5 -0.8
OXF Oxford 19.79 22 P P 10 14 33.8 -0.7
baz=205,SNR=31
OXF Oxford 19.79 22 *e*P P 10 14 33.1 -1.3
comp=Z,164nm,0.9s
OXF Oxford 19.79 22 *e*P P 10 14 33.8 -0.7
OXF pmax pmax
comp=Z,160nm,1.0s
W42A Bald Knob 19.83 16 P P 10 14 34.3 -0.6
baz=199
252A Lumpkin 19.84 35 P P 10 14 34.2 -0.9
baz=221,SNR=19
Z49A Columbiana 19.85 30 P P 10 14 34.9 -0.3
baz=214,SNR=45
Y47A UCPARC, Winfie 19.86 26 P P 10 14 34.8 -0.5
baz=210,SNR=38
556A Lake Butler 19.88 44 P P 10 14 35.4 0.0
baz=230
W43A Forest City 19.89 18 P P 10 14 35.2 -0.4
baz=201
V39A Pettigrew 19.90 11 P P 10 14 35.1 -0.6
baz=193,SNR=90
151A Opelika 19.93 33 P P 10 14 35.6 -0.4
baz=218,SNR=45
455A Stateville 19.96 41 P P 10 14 35.6 -0.8
baz=227
657A Interlachen 19.98 46 P P 10 14 35.2 -1.4
baz=232
V40A Witts Springs 20.03 13 P P 10 14 36.5 -0.6
baz=195,SNR=56
ANMO Albuquerque 20.04 340 P P 10 14 37.7 +0.3
comp=Z,71nm,0.8s,baz=338,slow=12,SNR=95
ANMO Lg Lg 10 20 43.4
comp=Z,2.4nm,0.9s,baz=84,slow=14,SNR=8.2
ANMO LR LR 10 23 20.6
comp=Z,10µm,19.1s,baz=344,slow=40
ANMO Albuquerque 20.04 340 P P 10 14 37.9 +0.5
baz=156
ANMO Albuquerque 20.04 340 *e*P P 10 14 37.5 +0.1
comp=Z,108nm,0.9s
ANMO Albuquerque 20.04 340 *d i*P P 10 14 37.8 +0.3
ANMO pmax pmax
comp=Z,49nm,0.9s
758A Lake Helen 20.07 48 P P 10 14 35.6 -2.0
baz=234
TIGA Tifton 20.10 39 P P 10 14 36.5 -1.3
baz=224
TIGA Tifton 20.10 39 *e*P P 10 14 38.5 +0.7
comp=Z,192nm,1.1s
X46A Booneville 20.13 23 P P 10 14 37.8 -0.4
baz=207,SNR=49
Y48A Jasper 20.16 27 P P 10 14 37.7 -0.8
baz=212,SNR=37
V41A Mountainview 20.16 14 P P 10 14 37.6 -1.0
baz=197,SNR=48
Z50A Ashland 20.20 31 P P 10 14 38.9 -0.1
baz=216,SNR=34
W44A Shelby Farms P 20.22 20 P P 10 14 38.2 -0.9
baz=204
253A Americus 20.23 36 P P 10 14 40.1 +0.7
baz=222
HHAR Hobbs 20.28 10 *e*P P 10 14 38.9 -1.0
comp=Z,83nm,0.9s
MAPC Malpelo 20.31 125 *e*P P 10 14 41.0 +0.7
557A Orange Park 20.34 45 P P 10 14 39.0 -1.5
baz=231
HBAR Harrisburg 20.34 18 *e*P P 10 14 40.2 -0.2
V42A Cord 20.37 16 P P 10 14 39.7 -1.1
baz=199,SNR=33
X47A Russelville 20.39 25 P P 10 14 40.3 -0.7
baz=209,SNR=28
W45A Hickory Valley 20.45 21 P P 10 14 40.6 -1.1
baz=205,SNR=15
Y49A Blount Mountai 20.46 29 P P 10 14 41.0 -0.8
baz=214,SNR=22
U39A Green Forest 20.46 11 P P 10 14 40.6 -1.2
baz=193,SNR=119
355A Pearson 20.48 40 P P 10 14 41.3 -0.8
baz=226
214A Organ Pipe Nat 20.54 322 P P 10 14 43.0 +0.3
baz=136,SNR=55
214A Organ Pipe Nat 20.54 322 *e*P P 10 14 43.3 +0.5
comp=Z,119nm,1.4s
U40A Yellville 20.56 12 P P 10 14 42.0 -0.8
baz=194,SNR=49
V43A Jonesboro 20.59 18 P P 10 14 41.6 -1.6
baz=201
254A Abbeville 20.64 38 P P 10 14 42.0 -1.7
baz=224,SNR=7.0
X48A Hartselle 20.67 27 P P 10 14 42.5 -1.5
baz=211,SNR=41
PLAL Pickville Lake 20.71 24 *e*P P 10 14 43.5 -1.0
comp=Z,138nm,1.0s
W46A Michie 20.72 23 P P 10 14 43.0 -1.6
baz=207,SNR=19
U41A Viola 20.75 14 P P 10 14 44.0 -1.0
baz=197,SNR=49
Y50A Piedmont 20.80 30 P P 10 14 44.9 -0.7
baz=215,SNR=14
V44A Blytheville 20.83 19 P P 10 14 44.0 -1.7
baz=203
457A Yulee 20.83 44 P P 10 14 46.2 +0.3
baz=230
153A Fort Valley 20.84 36 P P 10 14 44.1 -1.8
baz=222
GNAR Gosnell 20.91 19 *e*P Pn 10 14 49.0 -0.2
comp=Z,715nm,1.3s
356A Blackshear 20.92 41 P P 10 14 44.1 -2.7
baz=228
U42A Revenden 20.93 16 P P 10 14 45.5 -1.3
baz=199,SNR=66
T38A Diamond 20.97 9 P P 10 14 45.9 -1.4
baz=190,SNR=36
X49A Woodville 21.04 28 P P 10 14 46.7 -1.3
baz=213,SNR=51
X18A Snowflake 21.05 332 *e*P P 10 14 49.2 +0.8
comp=Z,401nm,1.4s
V45A Humboldt 21.05 21 P P 10 14 46.9 -1.3
baz=205
HALT Halls 21.08 20 *e*P P 10 14 47.3 -1.2
T39A Clever 21.10 11 P P 10 14 47.4 -1.4
baz=193,SNR=62
W47A Westpoint 21.13 25 P P 10 14 47.3 -1.7
baz=209,SNR=46
U43A Rector 21.17 18 P P 10 14 48.5 -1.0
baz=201,SNR=8.2
154A Montrose 21.22 37 P P 10 14 48.1 -2.0
baz=223,SNR=9.9
W48A Pulaski 21.30 26 P P 10 14 49.6 -1.3
baz=211,SNR=36
T40A Mansfield 21.39 12 P P 10 14 50.8 -1.1
baz=195,SNR=43
357A Townsend 21.40 42 P P 10 14 50.5 -1.4
baz=229
V46A Holladay 21.41 23 P P 10 14 50.6 -1.4
baz=207,SNR=35
GLAT Glass 21.43 20 *e*P P 10 14 54.8 +2.6
PVMO Portageville 21.43 19 *e*P P 10 14 53.9 +1.7
comp=Z,266nm,0.5s
W18A Petrified Fore 21.45 333 P P 10 14 53.5 +0.8
baz=148,SNR=100
W18A Petrified Fore 21.45 333 *e*P P 10 14 53.9 +1.2
comp=Z,235nm,1.0s
T41A Mountain View 21.45 14 P P 10 14 51.6 -0.9
baz=197,SNR=59
U44B Burton Farm, H 21.47 20 P P 10 14 53.2 +0.5
baz=204
256A Glenville 21.51 40 P P 10 14 52.9 -0.3
baz=227
U44A Portageville 21.51 19 P P 10 14 52.7 -0.4
baz=202
T25A Trinidad 21.52 346 P P 10 14 53.7 +0.3
baz=164,SNR=116
T25A Trinidad 21.52 346 *e*P P 10 14 54.3 +0.8
comp=Z,1µm,1.8s
PBMO Poplar Bluff 21.55 17 *e*P P 10 14 52.6 -0.9
comp=Z,172nm,0.9s
MHTCO State Highway 21.58 346 *e*P P 10 14 54.8 +0.7
comp=Z,254nm,1.2s
155A Kite 21.61 38 P P 10 14 53.0 -1.2
baz=225,SNR=14
T42A Van Buren 21.61 15 P P 10 14 52.8 -1.3
baz=199,SNR=126
GOGA Godfrey 21.61 35 P P 10 14 52.9 -1.2
baz=221,SNR=38
GOGA Godfrey 21.61 35 *e*P P 10 14 53.6 -0.5
comp=Z,85nm,0.9s
GOGA LR LR
comp=Z,912nm,20.0s
GOGA Godfrey 21.61 35 *e*P P 10 14 53.6 -0.5
GOGA pmax pmax
comp=Z,85nm,0.9s
S38A Stockton 21.61 9 P P 10 14 52.8 -1.3
baz=191,SNR=48
UTMT University of 21.63 21 *e*P P 10 14 55.0 +0.6
comp=Z,468nm,1.0s
PARMO Parma 21.64 19 *e*P P 10 14 55.8 +1.3
CAPC Capurgana 21.66 108 *e*P P 10 14 54.5 -0.3
V47A Nunnelly 21.66 24 P P 10 14 53.3 -1.5
baz=208,SNR=58
X16A Lo Mia Camp, P 21.67 329 *e*P P 10 14 56.3 +1.2
comp=Z,192nm,0.9s
U45A Rockin P Farm, 21.67 21 P P 10 14 53.2 -1.6
baz=205,SNR=18
113A Mohawk Valley, 21.68 322 *e*P P 10 14 54.6 -0.4
comp=Z,73nm,0.9s
S39A Bolivar 21.76 10 P P 10 14 54.2 -1.6
baz=192,SNR=70
SWET Sewanee 21.81 28 *e*P P 10 14 55.2 -1.2
comp=Z,144nm,0.9s
WVT Waverly 21.81 23 P P 10 14 54.8 -1.5
baz=207
WVT Waverly 21.81 23 *e*P P 10 14 54.9 -1.5
comp=Z,154nm,0.9s
WVT Waverly 21.81 23 *e*P P 10 14 54.9 -1.4
WVT pmax pmax
comp=Z,150nm,0.9s
S40A Lebanon 21.83 12 P P 10 14 54.5 -2.0
baz=195,SNR=126
V48A Smith Brothers 21.87 25 P P 10 14 55.0 -2.0
baz=210,SNR=62
T43A Greenville 21.87 17 P P 10 14 55.3 -1.7
baz=200,SNR=76
U46A Springville 21.89 22 P P 10 14 55.5 -1.7
baz=206,SNR=13
S41A Jillco Farms, 21.98 14 P P 10 14 57.0 -1.2
baz=196,SNR=48
257A Skidaway Islan 22.05 42 P P 10 14 57.3 -1.6
baz=229
T44A Benton 22.08 18 P P 10 14 57.7 -1.5
baz=202
Y14A Wickenburg 22.11 325 *e*P P 10 14 59.9 +0.3
comp=Z,152nm,1.0s
R38A Fenwick Farm, 22.15 9 P P 10 14 58.1 -1.9
baz=191,SNR=30
GTBY Guantanamo Bay 22.19 77 *e*P P 10 15 01.1 +0.5
comp=Z,270nm,1.2s
GTBY LR LR
comp=Z,1µm,21.0s
U47A Clarksville 22.29 24 P P 10 14 59.7 -1.8
baz=208,SNR=58
T45A Paducah 22.32 20 P P 10 15 00.0 -1.8
baz=204

SDCO **Great Sand Dun** 22.36 345 P P 10 15 02.3 -0.3
baz=161,SNR=105
SDCO **Great Sand Dun** 22.36 345 eP P 10 15 02.1 -0.5
comp=Z,132nm,1.1s
SDCO LR LR
comp=Z,1µm,19.0s
S42A **Caledonia** 22.38 15 P P 10 15 01.0 -1.5
baz=199,SNR=35
S43A **Fulton Ridge,** 22.39 17 P P 10 15 01.9 -0.7
baz=201,SNR=22
R39A **Chumby, Stover** 22.42 11 P P 10 15 01.3 -1.5
baz=193,SNR=60
CBKS **Cedar Bluff** 22.51 357 P P 10 15 02.5 -1.3
baz=176
CBKS **Cedar Bluff** 22.51 357 eP P 10 15 02.6 -1.3
comp=Z,199nm,1.1s
CBKS LR LR
comp=Z,3µm,20.0s
CBKS **Cedar Bluff** 22.51 357 eP P 10 15 02.6 -1.3
CBKS pmax pmax
comp=Z,200nm,1.1s
GLA **Glamis** 22.51 321 P P 10 15 03.5 -0.5
baz=134,SNR=31
GLA **Glamis** 22.51 321 eP P 10 15 04.5 +0.5
comp=Z,308nm,1.5s
GLA **Glamis** 22.51 321 eP P 10 15 04.5 +0.5
GLA pmax pmax
comp=Z,308nm,1.5s
WUAZ **Wupatki** 22.52 331 P P 10 15 04.3 +0.1
baz=145,SNR=166
WUAZ **Wupatki** 22.52 331 eP P 10 15 05.2 +1.0
comp=Z,207nm,0.9s
WUAZ LR LR
comp=Z,1µm,21.0s
CCM **Cathedral Cave** 22.54 14 P P 10 15 03.1 -1.1
baz=197
CCM **Cathedral Cave** 22.54 14 eP P 10 15 02.2 -2.0
comp=Z,113nm,0.8s
CCM **Cathedral Cave** 22.54 14 eP P 10 15 02.8 -1.4
CCM pmax pmax
comp=Z,110nm,0.9s
R40A **Maddies Statio** 22.54 12 P P 10 15 02.9 -1.3
baz=195,SNR=96
T46A **Princeton** 22.60 22 P P 10 15 03.4 -1.3
baz=206,SNR=57
SOLC **Bahia Solano** 22.62 114 eP P 10 15 10.7 +5.4
U48A **Cassie Pea, Po** 22.65 25 P P 10 15 03.8 -1.5
baz=210,SNR=18
S22A **4UR Ranch, Cre** 22.73 342 P P 10 15 06.5 0.0
baz=158,SNR=184
S22A **4UR Ranch, Cre** 22.73 342 eP P 10 15 07.1 +0.6
comp=Z,99nm,0.8s
R41A **Rosebud** 22.74 14 P P 10 15 06.4 +0.1
baz=197,SNR=35
S44A **Carbondale** 22.74 18 P P 10 15 06.5 +0.2
baz=202,SNR=32
Q37A **Longview Farm,** 22.76 7 P P 10 15 06.0 -0.4
baz=189,SNR=16
SIUC **Southern Illin** 22.77 19 eP P 10 15 06.5 -0.1
comp=Z,127nm,1.0s
MVCO **Mesa Verde** 22.79 338 P P 10 15 06.9 -0.2
baz=154,SNR=125
MVCO **Mesa Verde** 22.79 338 eP P 10 15 07.0 0.0
comp=Z,246nm,1.2s
MVCO LR LR
comp=Z,7µm,20.0s
KSU1 **Kansas State U** 22.79 3 P P 10 15 05.1 -1.7
baz=184,SNR=14
KSU1 **Kansas State U** 22.79 3 eP P 10 15 05.9 -0.9
comp=Z,98nm,1.0s
KSU1 LR LR
comp=Z,5µm,21.0s
Y12C **Blythe** 22.83 323 P P 10 15 07.3 +0.1
baz=136,SNR=14
Y12C **Blythe** 22.83 323 eP P 10 15 07.2 +0.1
comp=Z,86nm,1.1s
T47A **Sharon Grove** 22.84 23 P P 10 15 06.0 -1.4
baz=208,SNR=68
R42A **Luebbering** 22.86 15 P P 10 15 06.6 -1.0
baz=198,SNR=16
HODGE **Hodges** 22.89 36 eP P 10 15 07.2 -0.7
comp=Z,108nm,0.8s
S45A **Carrier Mills** 22.94 20 P P 10 15 07.1 -1.2
baz=204,SNR=62
Q38A **Cooks Store, C** 22.96 9 P P 10 15 08.4 -0.1
baz=191,SNR=44
KSCO **Kaye Shedlock'** 23.00 351 P P 10 15 08.4 -0.7
baz=169,SNR=33
KSCO **Kaye Shedlock'** 23.00 351 eP P 10 15 09.2 0.0
comp=Z,214nm,0.9s
PDMCI **Parker Dam,Lak** 23.01 324 P P 10 15 08.7 -0.4
baz=138,SNR=65
SWSC **Sam W. Stewart** 23.04 319 P P 10 15 09.4 0.0
baz=132,SNR=8.9
IKP **In-Ko-Pah, Jac** 23.04 318 P P 10 15 10.0 +0.4
baz=131,SNR=9.0
R43A **Red Bud** 23.09 17 P P 10 15 09.8 -0.1
baz=200,SNR=33
BG3 **Lake Jocassee** 23.09 33 eP P 10 15 09.8 -0.2
comp=Z,182nm,1.4s
Q39A **Willow Grove F** 23.14 10 P P 10 15 09.8 -0.6
baz=193,SNR=53
MOTC **Monteria, Cord** 23.15 106 eP P 10 15 10.7 -0.1
TKL **Tuckaleechee C** 23.18 31 P P 10 15 10.4 -0.4
comp=Z,23nm,0.7s,baz=193,slow=11,SNR=23
TKL **Tuckaleechee C** 23.18 31 eP P 10 15 10.5 -0.4
comp=Z,271nm,1.4s
TKL **Tuckaleechee C** 23.18 31 eP P 10 15 10.6 -0.3
TKL pmax pmax
comp=Z,270nm,1.4s
RGRS **Roger Stewart** 23.20 41 eP P 10 15 13.7 +2.7
comp=Z,726nm,1.0s
T48A **Bowling Green** 23.22 24 P P 10 15 10.0 -1.3
baz=210,SNR=65
S46A **Don Dixon Farm** 23.24 21 P P 10 15 09.5 -1.9
baz=206
Q40A **Laux Farm, Aux** 23.26 12 P P 10 15 11.1 -0.5
baz=195,SNR=22
R44A **Waltonville** 23.30 18 P P 10 15 10.1 -1.9
baz=202,SNR=58
BC3 **Big Chuckawall** 23.31 321 P P 10 15 12.0 -0.3
baz=134,SNR=57
CSU **Charleston Sou** 23.33 41 eP P 10 15 13.4 +1.1
NHSC **New Hope** 23.34 41 P P 10 15 11.7 -0.7
baz=228,SNR=27
NHSC **New Hope** 23.34 41 eP P 10 15 12.5 +0.1
comp=Z,622nm,1.1s
NHSC LR LR
comp=Z,2µm,20.0s
SLM **Saint Louis** 23.34 16 eP P 10 15 13.2 +0.7
comp=Z,182nm,1.4s
SLM **Saint Louis** 23.34 16 eP P 10 15 13.2 +0.7
SLM pmax pmax
comp=Z,180nm,1.3s
MONP2 **Monument Peak** 23.40 318 P P 10 15 12.8 -0.5
baz=131,SNR=25
Q41A **Truxton** 23.40 14 P P 10 15 11.3 -1.7
baz=197,SNR=77
BAR **Barrett** 23.42 318 eP P 10 15 13.1 -0.2
comp=Z,229nm,1.6s
Q24A **Divide** 23.43 346 P P 10 15 13.6 -0.1
baz=163,SNR=34
Q24A **Divide** 23.43 346 eP P 10 15 13.6 -0.1
comp=Z,103nm,1.0s
W13A **Hualapai Mount** 23.46 326 eP P 10 15 14.7 +0.8
comp=Z,53nm,1.1s
P37A **Lathrop** 23.47 7 P P 10 15 12.9 -0.9
baz=189,SNR=14
IRM **Iron Mountain** 23.48 323 P P 10 15 14.1 +0.2
baz=135,SNR=78
JSC **Jenkinsville** 23.49 37 eP P 10 15 13.0 -1.0
comp=Z,312nm,1.7s
JSC **Jenkinsville** 23.49 37 eP P 10 15 13.3 -0.7
JSC pmax pmax
comp=Z,310nm,1.7s
USIN **University of** 23.51 21 eP P 10 15 14.5 +0.4
comp=Z,238nm,1.0s
Q42A **Golden Eagle** 23.53 15 P P 10 15 14.0 -0.3
baz=198,SNR=48
PAULI **Pauline,** 23.57 35 eP P 10 15 15.4 +0.7
comp=Z,42nm,1.1s
R45A **Skylar, Fairfi** 23.60 20 P P 10 15 14.1 -0.8
baz=204,SNR=42
P39B **Salisbury** 23.61 10 P P 10 15 14.0 -1.1
baz=193,SNR=44
NEE2 **Needles Airpor** 23.61 324 P P 10 15 15.4 +0.2
baz=137
P38A **Dawn** 23.62 9 P P 10 15 14.1 -1.1
baz=191,SNR=36
PV01 **Paradox Valley** 23.64 339 eP P 10 15 16.1 +0.4
comp=Z,259nm,1.1s
U15A **North Rim** 23.70 331 eP P 10 15 17.2 +0.9
comp=Z,580nm,1.7s
O33A **Hebron** 23.73 1 P P 10 15 14.9 -1.3
baz=181,SNR=19
Q43A **New Douglas** 23.77 16 P P 10 15 15.6 -1.0
baz=200,SNR=31
PV05 **Paradox Valley** 23.78 338 eP P 10 15 17.1 +0.1
comp=Z,365nm,1.6s
R46A **Gibon Southern** 23.78 21 P P 10 15 15.5 -1.2
baz=206,SNR=7.1
P40A **Paris** 23.78 12 P P 10 15 15.3 -1.4
baz=195,SNR=70
MALC **Bahia Malaga** 23.79 119 eP P 10 15 19.2 +2.2
PV15 **Paradox Valley** 23.80 340 eP P 10 15 17.6 +0.3
comp=Z,238nm,1.0s
S48A **Wiedeman Farm,** 23.83 24 P P 10 15 16.2 -1.1
baz=210,SNR=39
109C **Camp Elliot, M** 23.84 317 P P 10 15 17.5 +0.2
baz=130,SNR=5.7
CPE **Camp Elliot** 23.84 317 eP P 10 15 17.4 0.0
comp=Z,329nm,1.8s
O34A **Beatrice** 23.86 3 P P 10 15 16.1 -1.4
baz=183,SNR=63
BELC **Belle Mtn. Jos** 23.88 321 P P 10 15 18.3 +0.4
baz=134,SNR=55
XPFO **Piæon Flat** 23.89 320 eP P 10 15 17.7 -0.3
comp=Z,152nm,1.6s
PFO **Pinyon Flats O** 23.90 320 P P 10 15 18.0 -0.1
baz=132,SNR=26
PFO **Pinyon Flats O** 23.90 320 eP P 10 15 17.3 -0.7
comp=Z,131nm,1.5s
PFO LR LR
comp=Z,3µm,20.0s
PFO **Pinyon Flats O** 23.90 320 eP P 10 15 17.8 -0.2
PFO pmax pmax
comp=Z,130nm,1.5s
TUMC **Tumaco** 23.91 125 eP P 10 15 18.1 0.0
comp=Z,177nm,1.0s
TUMC **Tumaco** 23.91 125 eP P 10 15 19.3 +1.2
Q44A **Meyer Farm, Va** 23.93 18 P P 10 15 17.3 -0.8
baz=202,SNR=30
PV07 **Paradox Valley** 23.94 339 eP P 10 15 18.8 +0.3
comp=Z,188nm,1.0s
PV04 **Paradox Valley** 23.99 339 eP P 10 15 19.5 +0.6
O35A **Humboldt** 23.99 4 P P 10 15 17.4 -1.3
baz=185
TZTN **Tazewell** 24.00 30 P P 10 15 18.4 -0.4
baz=216,SNR=60
TZTN **Tazewell** 24.00 30 eP P 10 15 18.1 -0.8
comp=Z,411nm,1.5s
PV10 **Paradox Valley** 24.02 339 eP P 10 15 18.7 -0.7
OLIL **Olney** 24.06 20 eP P 10 15 18.9 -0.4
comp=Z,170nm,1.0s
O37A **Wolven Farm, M** 24.07 8 P P 10 15 17.8 -1.6
baz=189
KMSC **Kings Mountain** 24.07 36 P P 10 15 18.8 -0.8
baz=223,SNR=26
KMSC **Kings Mountain** 24.07 36 eP P 10 15 19.6 +0.1
comp=Z,88nm,1.0s
SMCO **Snowmass** 24.10 343 eP P 10 15 20.8 +0.5
comp=Z,152nm,0.9s
O38A **Galt** 24.11 9 P P 10 15 19.0 -0.9
baz=191,SNR=17
LDFC **Landfair** 24.12 324 eP P 10 15 19.5 -0.6
comp=Z,193nm,1.1s
P41A **Barry, Barry** 24.13 13 P P 10 15 19.4 -0.6
baz=197,SNR=33
PV09 **Paradox Valley** 24.16 339 eP P 10 15 20.6 -0.1
Q45A **Warren Harvey,** 24.18 19 P P 10 15 19.5 -1.0
baz=204,SNR=28
DEVC **Devers** 24.19 320 eP P 10 15 18.0 -2.6
R47A **Wooly Knot Far** 24.21 23 P P 10 15 20.1 -0.6
baz=208,SNR=79
P42A **Winchester** 24.21 15 P P 10 15 19.6 -1.2
baz=198,SNR=103
GMRC **Granite Mounta** 24.22 323 P P 10 15 21.7 +0.6
baz=135,SNR=61
WCI **Wyandotte Cave** 24.24 23 P P 10 15 20.4 -0.6
baz=209
WCI **Wyandotte Cave** 24.24 23 eP P 10 15 20.7 -0.3
comp=Z,93nm,0.8s
WCI **Wyandotte Cave** 24.24 23 eP P 10 15 20.8 -0.2
WCI e 10 20 18.7
WCI pmax pmax
comp=Z,93nm,0.9s
HELC **Santa Helena** 24.30 112 eP P 10 15 22.1 -0.2
comp=Z,348nm,1.6s
EKU **East Kanab** 24.32 331 eP P 10 15 22.8 +0.8
ISCO **Idaho Springs** 24.34 346 P P 10 15 22.7 +0.5
baz=162,SNR=174
ISCO **Idaho Springs** 24.34 346 eP P 10 15 22.6 +0.3
comp=Z,174nm,0.9s
ISCO LR LR
comp=Z,9µm,19.0s
ISCO **Idaho Springs** 24.34 346 eP P 10 15 22.6 +0.3
ISCO pmax pmax
comp=Z,170nm,0.9s
MURC **Murrieta** 24.35 319 P P 10 15 23.0 +0.8
baz=131,SNR=32
ZARC **Zaragoza, Cauc** 24.37 108 eP P 10 15 23.4 +1.0
O40A **La Belle** 24.39 12 P P 10 15 21.7 -0.7
baz=195,SNR=52
N33A **J Bar K, Exete** 24.39 1 P P 10 15 21.8 -0.6
baz=182,SNR=13
O39A **Kirksville** 24.39 10 P P 10 15 21.9 -0.6
baz=193,SNR=28
KNB **Kanab** 24.42 331 eP P 10 15 23.6 +0.6
comp=Z,132nm,0.9s
KNB **Kanab** 24.42 331 eP P 10 15 23.8 +0.9
KNB pmax pmax
comp=Z,130nm,0.9s
LGNH **LOogne** 24.46 81 eP P 10 15 25.4 +2.1
comp=Z,108nm,1.2s
P43A **Skaggs, Pawnee** 24.48 16 P P 10 15 22.4 -0.7
baz=200,SNR=21
N34A **Lincoln** 24.53 3 P P 10 15 22.9 -0.7
baz=184,SNR=24
PKCU **Pink Cliffs** 24.53 332 eP P 10 15 24.2 0.0
comp=Z,160nm,1.3s
R48A **Northridge Ran** 24.55 24 P P 10 15 23.4 -0.4
baz=209,SNR=42
Q46A **CEJHS Indians,** 24.56 21 P P 10 15 22.9 -1.0
baz=206
P44A **Sand Creek, Wi** 24.57 18 P P 10 15 23.5 -0.5
baz=202,SNR=14
O41A **Passleys Farm,** 24.59 13 P P 10 15 23.5 -0.7
baz=197,SNR=67
N35A **Tabor** 24.60 5 P P 10 15 23.1 -1.2
baz=186,SNR=12
BBRC **Big Bear Solar** 24.61 320 P P 10 15 24.9 +0.1
baz=132
LCMT **Little Creek M** 24.62 330 eP P 10 15 25.2 +0.5
comp=Z,53nm,0.9s
N36A **Muff Farm, Cla** 24.62 6 P P 10 15 23.0 -1.5
baz=187,SNR=10
N37A **Lee Faris, Mou** 24.64 7 P P 10 15 23.4 -1.2
baz=189
YOTC **Yotoco, Valle** 24.65 117 eP P 10 15 25.8 +0.7
HEC **Hector,Ludlow** 24.65 322 P P 10 15 25.5 +0.6
baz=134,SNR=26
N38A **Joes South For** 24.81 9 P P 10 15 25.7 -0.5
baz=191,SNR=62
Q47A **Bedord North L** 24.81 22 P P 10 15 25.6 -0.6
baz=208,SNR=48
OGNE **Ogallala** 24.82 353 P P 10 15 26.7 +0.3
baz=171,SNR=21
OGNE **Ogallala** 24.82 353 eP P 10 15 26.4 0.0
comp=Z,380nm,1.1s
OGNE LR LR
comp=Z,3µm,19.0s
TUQ **Turquoise Moun** 24.84 324 P P 10 15 27.2 +0.5
baz=136,SNR=144
SCI2 **San Clemente I** 24.84 316 P P 10 15 24.8 -1.8
baz=127
CODC **Agust´›n Codaz** 24.85 102 eP P 10 15 27.4 +0.6
O42A **Bath** 24.85 15 P P 10 15 25.6 -0.9
baz=199
P45A **Graceland, Par** 24.89 19 P P 10 15 26.4 -0.5
baz=204,SNR=22
MTPU **Mount Pierson** 24.97 333 eP P 10 15 29.1 +1.0
comp=Z,246nm,1.0s
BLO **Bloomington** 24.98 22 eP P 10 15 28.1 +0.3
comp=Z,118nm,1.0s
BLO **Bloomington** 24.98 22 eP P 10 15 28.1 +0.3
BLO pmax pmax
comp=Z,120nm,1.0s
N39A **Derby Farms, D** 25.01 10 P P 10 15 27.3 -0.6
baz=193,SNR=38
SZCU **Shurtz Canyon** 25.01 331 eP P 10 15 29.8 +1.5
comp=Z,179nm,1.8s
CIS **Catalina Islan** 25.02 317 P P 10 15 27.4 -0.7
baz=128,SNR=5.8
RREF **El Recreo** 25.05 114 eP P 10 15 31.9 +2.5
BGNE **Belgrade** 25.06 360 P P 10 15 28.3 -0.1
baz=180
BGNE **Belgrade** 25.06 360 eP P 10 15 28.5 +0.1
comp=Z,439nm,1.8s
BFSC **Mount Baldy Ra** 25.06 319 P P 10 15 29.3 +0.6
baz=131,SNR=15
RRX **Edison Barstow** 25.07 321 P P 10 15 29.9 +1.3
baz=133,SNR=6.8
CCUT **Cedar City** 25.11 331 eP P 10 15 30.3 +1.1
comp=Z,51nm,1.2s
OTAV **Otavalo** 25.11 127 eP P 10 15 30.8 +1.0
comp=Z,85nm,1.1s
OTAV LR LR
comp=Z,1µm,21.0s
OTAV **Otavalo** 25.11 127 eP P 10 15 30.7 +1.0
PTBC **PUERTO BERRIO,** 25.12 110 eP P 10 15 30.4 +1.1
FMP **Fort Macarthur** 25.13 317 P P 10 15 29.5 +0.4
baz=129
O43A **Sugar Creek Fa** 25.14 16 P P 10 15 28.4 -0.7
baz=200
POPC **Popayan, Colom** 25.14 121 eP P 10 15 30.7 +1.0
P46A **Rosedale** 25.15 20 P P 10 15 28.7 -0.5
baz=205,SNR=18
CMBC **Cumbal** 25.16 125 eP P 10 15 34.8 +4.7
N41A **Harden Midland** 25.16 13 P P 10 15 28.6 -0.8
baz=197,SNR=12
NORC **Norcasia** 25.17 112 eP P 10 15 31.9 +2.1
N40A **Mertquake, Sal** 25.18 12 P P 10 15 28.7 -0.9
baz=195,SNR=16
M34A **Aspy Farms, Fr** 25.19 3 P P 10 15 29.3 -0.3
baz=184,SNR=6.2
SHPR **Sheep Range** 25.20 326 eP P 10 15 30.8 +0.8
comp=Z,59nm,1.1s
M35A **Neola** 25.20 4 P P 10 15 29.3 -0.5
baz=186,SNR=7.8
ANIL **Santa Ana** 25.20 115 eP P 10 15 31.6 +1.3
SRU **San Rafael Swe** 25.21 337 eP P 10 15 30.5 +0.5
comp=Z,426nm,1.8s
SRU **San Rafael Swe** 25.21 337 eP P 10 15 30.9 +0.8
SRU pmax pmax
comp=Z,430nm,1.8s
TOLC **Tolima** 25.23 115 eP P 10 15 33.3 +2.7
M33A **Taylor Creek F** 25.23 2 P P 10 15 29.6 -0.5
baz=182
O44A **Mansfield** 25.25 18 P P 10 15 29.7 -0.5
baz=202,SNR=14
GSC **Goldstone, Bar** 25.25 322 P P 10 15 30.6 +0.2
baz=134,SNR=23
GSC **Goldstone, Bar** 25.25 322 eP P 10 15 31.4 +1.0
comp=Z,101nm,1.3s
GSC **Goldstone, Bar** 25.25 322 eP P 10 15 31.3 +1.0
GSC pmax pmax
comp=Z,100nm,1.3s
M36A **Felix, Anita** 25.27 6 P P 10 15 29.4 -0.9
baz=188
Q16A **Castle Valley** 25.29 336 eP P 10 15 31.7 +0.8
comp=Z,90nm,0.8s
M37A **Trindle Farm,** 25.30 7 P P 10 15 30.4 -0.2
baz=189,SNR=40
MWC **Mount Wilson** 25.30 319 eP P 10 15 30.6 -0.3
comp=Z,130nm,1.4s
MWC **Mount Wilson** 25.30 319 eP P 10 15 30.6 -0.3
MWC pmax pmax
comp=Z,130nm,1.4s
PASC **Pasadena Art C** 25.35 318 eP P 10 15 31.9 +0.8
comp=Z,212nm,1.8s
P47A **Martinsville** 25.36 22 P P 10 15 30.9 -0.2
baz=207,SNR=11
O20A **White River Ci** 25.36 342 P P 10 15 31.9 +0.5
baz=157,SNR=120
O20A **White River Ci** 25.36 342 eP P 10 15 32.7 +1.3
comp=Z,148nm,0.9s
GCUF **Volcan Galeras** 25.36 124 eP P 10 15 33.5 +1.5
MSU **Marysvale** 25.36 334 eP P 10 15 32.8 +1.3
MSU **Marysvale** 25.36 334 eP P 10 15 32.8 +1.3
SHOC **Shoshone, Teco** 25.37 324 P P 10 15 32.1 +0.8
baz=136,SNR=14
HDIL **Hopedale** 25.39 16 P P 10 15 31.0 -0.4
baz=200,SNR=24
HDIL **Hopedale** 25.39 16 eP P 10 15 31.1 -0.3
comp=Z,124nm,0.8s
HDIL LR LR
comp=Z,1µm,21.0s
M38A **Pleasantville** 25.43 9 P P 10 15 31.2 -0.6
baz=191,SNR=89
SOTA **Rioblanco** 25.43 121 eP P 10 15 33.2 +0.6
N23A **Red Feather La** 25.46 346 P P 10 15 31.9 -0.5
baz=162,SNR=110
N23A **Red Feather La** 25.46 346 eP P 10 15 32.8 +0.4
comp=Z,156nm,1.0s
N42A **Yates City** 25.46 14 P P 10 15 31.4 -0.7
baz=198,SNR=20
CRUC **La Cruz** 25.48 123 eP P 10 15 34.7 +1.8
PCON **Cinco Dias** 25.49 121 eP P 10 15 34.6 +1.4
DECC **Green Verdugo** 25.50 318 P P 10 15 32.6 +0.1
baz=130
OCAC **Ocana** 25.51 105 eP P 10 15 36.4 +3.4
O45A **Potomac** 25.56 19 P P 10 15 32.3 -0.6
baz=204,SNR=51
TCRU **Three Creeks R** 25.56 333 eP P 10 15 34.0 +0.7
comp=Z,66nm,1.0s
P18A **Preston Nutter** 25.56 338 eP P 10 15 34.4 +1.0
comp=Z,151nm,0.9s
BRRC **Barranca, Sant** 25.57 108 eP P 10 15 34.6 +1.3
MARP **Paez Belalcaza** 25.58 119 eP P 10 15 35.7 +2.0
P17A **Butcher Ranch,** 25.61 337 eP P 10 15 34.3 +0.6
comp=Z,56nm,1.0s
TMUT **Trail Mountain** 25.64 336 eP P 10 15 34.3 +0.2
comp=Z,85nm,0.8s
M39A **Webster** 25.65 10 P P 10 15 32.7 -1.1
baz=193,SNR=55
L32A **Elgin** 25.65 0 P P 10 15 33.7 -0.1
baz=180
L34A **Svendsen Farm,** 25.66 3 P P 10 15 33.4 -0.4
baz=184,SNR=20
SNCC **San Nicolas Is** 25.66 315 P P 10 15 33.6 -0.4
baz=126
SNCC **San Nicolas Is** 25.66 315 eP P 10 15 34.9 +0.8
comp=Z,260nm,1.7s
EDW2 **Edwards Air Fo** 25.69 320 P P 10 15 34.4 +0.1
baz=131,SNR=32
M40A **Post Highland** 25.70 12 P P 10 15 33.5 -0.7
baz=195,SNR=35
SDDR **Presa de Saban** 25.73 80 eP P 10 15 37.0 +2.2
comp=Z,91nm,1.0s
SDDR LR LR
comp=Z,1µm,19.0s
PHWY **Pilot Hill** 25.74 347 eP P 10 15 35.8 +0.9
comp=Z,82nm,1.0s
N43A **Stutzman Famil** 25.79 16 P P 10 15 34.6 -0.4
baz=200,SNR=39
L33A **Hoskins** 25.82 1 P P 10 15 35.1 -0.3
baz=182
L35A **Bielow Farm, R** 25.86 4 P P 10 15 35.1 -0.6
baz=186
M41A **Milan** 25.87 13 P P 10 15 35.1 -0.6
baz=197,SNR=17
SFIN **Lafayette** 25.87 20 P P 10 15 35.4 -0.3
baz=205,SNR=32
SFIN **Lafayette** 25.87 20 eP P 10 15 35.5 -0.3
comp=Z,78nm,0.9s
BLG **Laguna Peak, P** 25.88 317 P P 10 15 37.5 +1.5
baz=128,SNR=6.2
LRMC **Laurel Mtn Rad** 25.90 321 P P 10 15 36.1 -0.2
baz=133
SCIA **State Center** 25.90 8 P P 10 15 35.6 -0.5
baz=191,SNR=19
SCIA **State Center** 25.90 8 eP P 10 15 36.4 +0.3
comp=Z,238nm,0.8s
SCIA LR LR
comp=Z,3µm,22.0s
L36A **Harm Buss Farm** 25.92 6 P P 10 15 35.3 -0.9
baz=188
N44A **Piper City** 25.94 18 P P 10 15 35.9 -0.5
baz=202,SNR=36
OSI **Osito Audit: C** 25.97 319 P P 10 15 37.2 +0.3
baz=130
OSI **Osito Audit: C** 25.97 319 eP P 10 15 36.8 -0.1
comp=Z,266nm,1.5s

ROSC El Rosal 25.99 113 P P 10 15 38.2 +0.7
comp=Z,42nm,1.1s,baz=324,slow=9.9,SNR=15
ROSC El Rosal 25.99 113 eP P 10 15 37.4 -0.2
comp=Z,132nm,1.4s
PRAC Prado 26.03 116 eP P 10 15 38.1 +0.5
comp=Z,83nm,1.1s
PRAC Prado 26.03 116 eP P 10 15 29.0 -8.6
L37A Phoenix Point, 26.05 7 P P 10 15 36.4 -0.9
baz=190,SNR=20
O47A Sheridan 26.05 21 P P 10 15 36.4 -1.0
baz=207,SNR=32
GRTK Grand Turk 26.06 74 eP P 10 15 38.5 +0.8
comp=Z,178nm,1.1s
GRTK LR LR
comp=Z,2µm,20.0s
FLU Fool Peak 26.09 335 eP P 10 15 39.2 +1.1
BETC Betania 26.10 119 eP P 10 15 40.8 +2.6
BLA Blacksburg 26.10 34 P P 10 15 38.5 +0.6
baz=222,SNR=20
BLA Blacksburg 26.10 34 eP P 10 15 38.1 +0.1
comp=Z,176nm,1.3s
BLA LR LR
comp=Z,1µm,20.0s
BLA Blacksburg 26.10 34 eP P 10 15 38.3 +0.3
BLA pmax pmax
comp=Z,180nm,1.3s
FURC Furnace Creek, 26.10 324 P P 10 15 39.0 +1.0
baz=136,SNR=16
TPNV Topopah Spring 26.11 326 P P 10 15 39.8 +1.5
baz=137,SNR=52
TPNV Topopah Spring 26.11 326 eP P 10 15 41.0 +2.8
comp=Z,481nm,1.9s
TPNV Topopah Spring 26.11 326 eP P 10 15 41.4 +3.1
TPNV pmax pmax
comp=Z,480nm,1.9s
M42A Sheffield 26.12 14 P P 10 15 37.8 -0.3
baz=198,SNR=13
CNNC Cliffs of the 26.17 40 P P 10 15 38.2 -0.3
baz=229
CNNC Cliffs of the 26.17 40 eP P 10 15 40.0 +1.4
comp=Z,150nm,0.8s
CNNC LR LR
comp=Z,2µm,19.0s
L38A Oak Wood Farm, 26.17 9 P P 10 15 37.7 -0.8
baz=191,SNR=37
N45A Kentland 26.17 18 P P 10 15 38.1 -0.4
baz=204,SNR=19
MPMC Manual Prospec 26.18 323 P P 10 15 39.1 +0.2
baz=134,SNR=40
SCZ2 Santa Cruz Isl 26.18 316 P P 10 15 38.6 -0.2
baz=127
K33A Hardington 26.27 2 P P 10 15 38.9 -0.6
baz=182
K31A O'Neill 26.27 359 P P 10 15 39.3 -0.2
baz=179,SNR=9.9
L39A Vinton 26.30 10 P P 10 15 38.6 -1.1
baz=193,SNR=30
K32A Verdigre 26.31 0 P P 10 15 39.4 -0.3
baz=180
M43A Waltham Townsh 26.31 16 P P 10 15 39.2 -0.6
baz=200,SNR=44
VWCC Virginia Weste 26.36 34 eP P 10 15 40.3 0.0
ARVC Arvin 26.37 319 P P 10 15 41.3 +0.9
baz=130,SNR=15
DAC Darwin (Calif) 26.39 323 eP P 10 15 41.1 +0.3
comp=Z,49nm,1.1s
DAC Darwin (Calif) 26.39 323 eP P 10 15 41.3 +0.5
DAC pmax pmax
comp=Z,49nm,1.1s
L40A Anamosa 26.39 12 P P 10 15 39.5 -1.0
baz=195,SNR=25
K34A Le Mars 26.39 3 P P 10 15 39.9 -0.6
baz=184
PAMC Pamplona, Colo 26.41 107 eP P 10 15 43.1 +1.7
MPU Maple Canyon 26.42 336 eP P 10 15 41.6 +0.6
comp=Z,67nm,0.9s
N46A Monticello 26.46 20 P P 10 15 40.2 -0.9
baz=205,SNR=12
K36A Gilmore City 26.47 6 P P 10 15 40.2 -1.1
baz=188,SNR=8.5
K35A Storm Lake 26.49 5 P P 10 15 39.8 -1.5
baz=186,SNR=6.1
ISA Isabella, Lake 26.50 321 P P 10 15 42.3 +0.7
baz=132,SNR=22
ISA Isabella, Lake 26.50 321 eP P 10 15 41.6 0.0
comp=Z,51nm,1.0s
ISA Isabella, Lake 26.50 321 eP P 10 15 42.8 +1.2
ISA pmax pmax
comp=Z,51nm,1.0s
SBC Santa Barbara 26.50 317 P P 10 15 40.4 -1.2
baz=128
M44A Midewin, Midew 26.51 17 P P 10 15 41.1 -0.5
baz=202,SNR=40
RWWY Rawlins 26.52 345 eP P 10 15 43.2 +1.3
comp=Z,243nm,1.2s
FLOC Florencia 26.52 121 eP P 10 15 45.6 +3.5
NLU North Lily Min 26.54 336 eP P 10 15 42.5 +0.3
comp=Z,85nm,0.9s
L41A Preston 26.55 13 P P 10 15 40.9 -1.0
baz=196,SNR=26
CHIC Chingaza 26.60 113 eP P 10 15 45.3 +2.1
L42A Oliver, Polo 26.67 14 P P 10 15 42.3 -0.7
baz=198,SNR=37
K37A Belmond 26.69 7 P P 10 15 41.6 -1.7
baz=190,SNR=38
K38A Parkersburg 26.69 9 P P 10 15 42.0 -1.2
baz=192,SNR=9.1
M45A Boilermakers S 26.74 18 P P 10 15 42.7 -1.0
baz=204,SNR=8.0
GRAC Grapevine Rang 26.76 324 P P 10 15 43.8 -0.2
baz=136
CWC Cottonwood Cre 26.79 322 P P 10 15 44.6 +0.3
baz=134
R11A Troy Canyon, C 26.82 329 P P 10 15 44.5 -0.1
baz=140,SNR=39
R11A Troy Canyon, C 26.82 329 eP P 10 15 45.5 +0.9
comp=Z,98nm,1.5s
PKM Mcpherson Peak 26.84 318 P P 10 15 43.9 -1.0
baz=128
JLU Jordanelle 26.86 337 eP P 10 15 45.5 +0.5
comp=Z,51nm,1.2s
K39A Oelwein 26.89 10 P P 10 15 43.5 -1.5
baz=193,SNR=58
FSU Fish Springs 26.89 333 eP P 10 15 46.7 +1.5
J31A Geddes 26.94 359 P P 10 15 44.7 -0.8
baz=179,SNR=9.4
J33A Davis 26.98 2 P P 10 15 44.9 -0.9
baz=182
VES Vestal, Richgr 26.99 320 P P 10 15 45.4 -0.5
baz=131,SNR=35
J34A George 27.00 4 P P 10 15 44.7 -1.3
baz=185,SNR=7.6
J32A Parkston 27.02 0 P P 10 15 45.3 -0.9
baz=181
SDD Santo Domingo 27.02 81 eP P 10 15 47.8 +1.4
comp=Z,121nm,1.1s
K40A Colesburg 27.02 11 P P 10 15 45.2 -1.0
baz=195,SNR=20
M46A Old House Fiel 27.04 20 P P 10 15 45.6 -0.7
baz=206
DUG Dugway, Tooele 27.04 335 P P 10 15 47.0 +0.4
baz=148,SNR=76
DUG Dugway, Tooele 27.04 335 eP P 10 15 47.8 +1.2
comp=Z,88nm,0.9s
DUG LR LR
comp=Z,3µm,19.0s
DUG Dugway, Tooele 27.04 335 eP P 10 15 48.2 +1.6
DUG pmax pmax
comp=Z,88nm,1.0s
CTU Camp Tracy 27.05 337 eP P 10 15 47.5 +0.8
comp=Z,40nm,0.9s
SJAC San Juan de Ar 27.06 116 eP P 10 15 50.2 +3.3
L43A Garden Prairie 27.06 15 P P 10 15 45.9 -0.7
baz=200,SNR=21
K41A Shullsburg 27.10 13 P P 10 15 45.9 -1.0
baz=197,SNR=24
J35A Milford 27.13 5 P P 10 15 45.1 -2.0
baz=186
J36A Seneca 1, Swea 27.17 6 P P 10 15 46.2 -1.3
baz=188,SNR=27
SMMC Simmler 27.22 318 P P 10 15 49.0 +0.8
baz=129,SNR=20
J37A Redenius Farm, 27.24 7 P P 10 15 46.8 -1.3
baz=190,SNR=7.0
K22A Casper 27.26 346 P P 10 15 48.5 0.0
baz=162,SNR=42
K22A Casper 27.26 346 eP P 10 15 49.2 +0.7
comp=Z,360nm,1.8s

ACSO Alum Creek Sta 27.28 26 P P 10 15 47.7 -0.8
baz=213,SNR=28
ACSO Alum Creek Sta 27.28 26 eP P 10 15 48.2 -0.3
comp=Z,224nm,1.4s
ACSO LR LR
comp=Z,2µm,19.0s
L44A Lake County Fo 27.28 17 P P 10 15 48.2 -0.3
baz=202
TCUT Toone Canyon 27.30 338 eP P 10 15 50.0 +1.0
comp=Z,149nm,1.0s
TIN Tinemaha, Big 27.30 323 P P 10 15 48.0 -0.9
baz=134
RCTC Rector, Farmer 27.39 321 P P 10 15 49.4 -0.1
baz=131,SNR=9.8
J38A Wedel Dairy, R 27.39 9 P P 10 15 47.6 -1.9
baz=192
JFWS Jewell Farm 27.41 13 P P 10 15 47.9 -1.7
baz=197,SNR=31
JFWS Jewell Farm 27.41 13 eP P 10 15 49.3 -0.3
comp=Z,73nm,0.8s
JFWS LR LR
comp=Z,2µm,22.0s
JFWS Jewell Farm 27.41 13 eP P 10 15 49.5 -0.1
JFWS pmax pmax
comp=Z,73nm,0.9s
ECSD EROS Data Cent 27.41 2 P P 10 15 48.8 -0.9
baz=183,SNR=28
ECSD EROS Data Cent 27.41 2 eP P 10 15 49.2 -0.5
comp=Z,44nm,1.0s
ECSD LR LR
comp=Z,2µm,19.0s
YOPC Yopal, Colombi 27.45 110 eP P 10 15 51.6 +1.1
K42A Prairie Point, 27.48 14 P P 10 15 49.1 -1.1
baz=198,SNR=16
J39A Decorah 27.53 10 P P 10 15 49.2 -1.6
baz=193,SNR=18
I35A Creek View Farm 27.63 5 P P 10 15 49.7 -2.0
baz=186
PAGB Antelope Grade 27.64 319 eP P 10 15 53.1 +1.1
comp=Z,223nm,1.9s
K43A Burlington 27.66 16 P P 10 15 51.0 -0.9
baz=201,SNR=14
I31A Royce, Wessing 27.68 359 P P 10 15 51.3 -0.8
baz=179
I32A Karley and Nic 27.68 1 P P 10 15 51.3 -0.8
baz=181
I33A Coleman 27.72 2 P P 10 15 51.5 -0.9
baz=183
BGU Big Grassy Mou 27.75 335 eP P 10 15 54.1 +1.2
comp=Z,68nm,1.2s
I34A Hadley 27.75 4 P P 10 15 51.8 -0.9
baz=185
J40A Soldiers Grove 27.77 12 P P 10 15 50.9 -1.9
baz=195,SNR=19
HWUT Hardware Ranch 27.78 338 eP P 10 15 53.6 +0.4
comp=Z,34nm,0.8s
HWUT LR LR
comp=Z,7µm,19.0s
SDV Santo Domingo 27.81 102 P P 10 15 55.1 +1.3
comp=Z,21nm,0.8s,baz=310,slow=4.0,SNR=25
SDV LR LR 10 27 44.8
comp=Z,2µm,19.6s,baz=334,slow=38
SDV Santo Domingo 27.81 102 eP P 10 15 54.1 +0.3
comp=Z,51nm,0.9s
SDV LR LR
comp=Z,2µm,19.0s
SDV Santo Domingo 27.81 102 eP P 10 15 55.0 +1.3
JSRW J. Sargeant Re 27.84 36 eP P 10 15 53.8 +0.2
SPUT South Promonto 27.85 337 eP P 10 15 54.9 +1.1
comp=Z,51nm,1.0s
I36A Fitzsimmons Fa 27.89 6 P P 10 15 52.3 -1.6
baz=188
J41A Loganville 27.89 13 P P 10 15 52.7 -1.2
baz=197,SNR=40
IP07 Quail 27.91 36 eP P 10 15 55.5 +1.3
comp=Z,72nm,1.4s
IP06 Yanceyville 27.95 36 eP P 10 15 55.4 +0.8
comp=Z,23nm,1.1s
I37A Lemond, Waseca 27.95 7 P P 10 15 52.1 -2.4
baz=190
IP03 Louisa 27.99 35 eP P 10 15 55.9 +0.9
comp=Z,57nm,1.3s
IP04 Greensprings 28.00 35 eP P 10 15 56.0 +1.0
comp=Z,39nm,1.1s
IP05 Hopewell Churc 28.00 36 eP P 10 15 55.7 +0.7
comp=Z,140nm,1.5s
IP01 Cuckoo 28.01 36 eP P 10 15 56.2 +1.2
comp=Z,37nm,1.1s
J42A Columbus 28.04 14 P P 10 15 54.8 -0.5
baz=199,SNR=25
MLAC Mammoth, Mammo 28.04 323 P P 10 15 53.4 -2.3
baz=134
I39A Hooton 28.07 10 P P 10 15 54.4 -1.2
baz=194,SNR=13
SPRD Spring Road, M 28.07 36 eP P 10 15 56.8 +1.2
comp=Z,31nm,1.0s
SUSD Miller 28.10 359 P P 10 15 53.0 -2.8
baz=178
I38A Scanlan Farm, 28.12 9 P P 10 15 53.4 -2.6
baz=192,SNR=49
H31A Wolsey 28.13 359 P P 10 15 54.0 -2.1
baz=139
CVRD Centerville Ro 28.14 36 eP P 10 15 57.0 +0.7
comp=Z,45nm,1.3s
H32A Carlson Farm, 28.16 1 P P 10 15 55.2 -1.2
baz=181,SNR=7.9
BW06 Boulder Array 28.16 342 P P 10 15 56.2 -0.5
baz=156,SNR=32
BW06 Boulder Array 28.16 342 eP P 10 15 57.2 +0.5
comp=Z,280nm,1.9s
BW06 LR LR
comp=Z,2µm,19.0s
PD31 Pinedale Array 28.16 342 eP P 10 15 57.3 +0.6
PDAR Pinedale Array 28.16 342 P P 10 15 56.5 -0.2
comp=Z,12nm,0.8s,baz=136,slow=10.0,SNR=38
PDAR LR LR 10 27 47.8
comp=Z,3µm,20.2s,baz=172,slow=38
PDAR Pinedale Array 28.16 342 eP P 10 15 56.1 -0.6
MDPB Devils Postpil 28.18 323 eP P 10 15 58.1 +1.1
comp=Z,68nm,1.2s
RSSD Black Hills 28.21 351 P P 10 15 57.5 +0.4
baz=168
RSSD Black Hills 28.21 351 eP P 10 15 58.0 +0.8
comp=Z,94nm,1.4s
RSSD Black Hills 28.21 351 eP P 10 15 58.1 +1.0
RSSD pmax pmax
comp=Z,94nm,1.4s
NV11 Mina Array Sit 28.23 325 eP P 10 15 58.6 +1.4
comp=Z,6.1nm,1.0s
MCWV Mont Chateau 28.25 31 P P 10 15 56.6 -0.6
baz=219
MCWV Mont Chateau 28.25 31 eP P 10 15 57.9 +0.7
comp=Z,61nm,1.1s
I40A Norwalk 28.27 12 P P 10 15 56.0 -1.4
baz=195
J43A Natural Harves 28.27 15 P P 10 15 56.6 -0.8
baz=200,SNR=12
PMPB Monarch Peak 28.30 319 eP P 10 15 58.4 +0.7
comp=Z,327nm,1.9s
NV01 Mina Array Sit 28.31 325 eP P 10 15 58.4 +0.4
NVAR Mina Array Bea 28.31 325 P P 10 15 58.8 +0.8
comp=Z,36nm,0.9s,baz=151,slow=8.6,SNR=45
NVAR LR LR 10 28 36.3
comp=Z,2µm,19.1s,baz=226,slow=39
H33A Prehn Over Nor 28.35 2 P P 10 15 57.1 -1.0
baz=183,SNR=7.6
HVU Hansel Valley 28.38 337 eP P 10 15 58.8 +0.3
comp=Z,85nm,0.9s
HVU Hansel Valley 28.38 337 eP P 10 15 59.5 +1.0
HVU pmax pmax
comp=Z,85nm,0.9s
H34A Spellman Lake, 28.38 4 P P 10 15 57.2 -1.1
baz=185
H36A Jessenland, He 28.45 6 P P 10 15 57.5 -1.4
baz=188,SNR=37
H35A Sunnyside Ranc 28.48 5 P P 10 15 57.4 -1.9
baz=187
CBN Corbin Frederi 28.48 36 P P 10 15 58.8 -0.5
baz=225
CBN Corbin Frederi 28.48 36 PFAKE 10 16 10.0 +11
CBN LR LR
comp=Z,1µm,19.0s
RYN Ryan 28.57 325 eP P 10 16 01.2 +0.9
comp=Z,42nm,1.1s
H37A Dierke Farm, C 28.57 8 P P 10 15 58.5 -1.5
baz=190
I41A Arkdale 28.58 13 P P 10 15 59.2 -0.9
baz=197,SNR=12

I42A Draeger Farm, 28.63 14 P P 10 15 59.2 -1.4
baz=199,SNR=14
I42A Draeger Farm, 28.63 14 eP P 10 16 00.6 0.0
comp=Z,56nm,1.0s
AHID Auburn Hatcher 28.64 340 eP P 10 16 01.6 +0.6
comp=Z,120nm,1.4s
AHID LR LR
comp=Z,3µm,20.0s
KVN Kaiserville 28.64 326 eP P 10 16 01.6 +0.6
comp=Z,47nm,1.1s
KVN Kaiserville 28.64 326 eP P 10 16 01.6 +0.6
KVN pmax pmax
comp=Z,47nm,1.1s
H38A Maiden Rock 28.75 9 P P 10 16 00.8 -0.8
baz=192,SNR=23
AAM Ann Arbor 28.77 23 P P 10 16 00.4 -1.4
baz=210
AAM Ann Arbor 28.77 23 eP P 10 16 02.2 +0.4
comp=Z,60nm,0.9s
AAM LR LR
comp=Z,2µm,20.0s
AAM Ann Arbor 28.77 23 eP P 10 16 02.8 +1.0
AAM pmax pmax
comp=Z,60nm,1.0s
I43A Langenfeld Bro 28.81 15 P P 10 16 01.1 -1.0
baz=200,SNR=14
G31A Conde 28.87 360 P P 10 16 00.6 -2.1
baz=180
G33A Ortonville 28.88 2 P P 10 16 01.7 -1.0
baz=183,SNR=9.7
G32A Webster 28.91 1 P P 10 16 01.6 -1.4
baz=181
H39A Augusta 28.91 10 P P 10 16 02.3 -0.7
baz=194,SNR=21
G34A Benson 28.96 4 P P 10 16 02.5 -1.0
baz=185
WAKR Walker 28.99 324 eP P 10 16 02.8 -1.3
comp=Z,123nm,1.7s
H40A Chili 29.02 11 P P 10 16 03.3 -0.7
baz=195,SNR=33
G35A Watkins 29.03 5 P P 10 16 02.0 -2.1
baz=187
REDW Red Top Meadow 29.10 341 eP P 10 16 05.9 +0.9
comp=Z,61nm,0.9s
G36A St. Michael 29.11 6 P P 10 16 03.8 -1.0
baz=189
H41A Junction City 29.16 12 P P 10 16 04.3 -1.0
baz=197,SNR=18
H41A Junction City 29.16 12 eP P 10 16 04.6 -0.6
comp=Z,59nm,1.0s
SNOW Snow King Moun 29.16 341 eP P 10 16 06.5 +0.9
comp=Z,76nm,0.8s
N54A Moraine State 29.19 29 P P 10 16 05.3 -0.4
baz=218
N54A Moraine State 29.19 29 eP P 10 16 07.1 +1.4
comp=Z,48nm,1.0s
YERR Yerington 29.22 325 eP P 10 16 07.8 +1.7
comp=Z,54nm,1.3s
CMB Columbia Colle 29.22 322 eP P 10 16 09.4 +3.5
comp=Z,48nm,1.4s
CMB Columbia Colle 29.22 322 eP P 10 16 09.4 +3.5
CMB pmax pmax
comp=Z,48nm,1.4s
SPMN Marine on St. 29.22 8 P P 10 16 04.7 -1.0
baz=190,SNR=17
SPMN Marine on St. 29.22 8 eP P 10 16 05.1 -0.6
comp=Z,49nm,0.8s
BMN Battle Mountai 29.23 329 eP P 10 16 07.0 +0.9
comp=Z,62nm,1.4s
BMN Battle Mountai 29.23 329 eP P 10 16 07.6 +1.5
BMN pmax pmax
comp=Z,62nm,1.4s
TPAW Teton Pass 29.25 341 eP P 10 16 07.5 +1.1
comp=Z,48nm,1.0s
LOHW Long Hollow 29.25 341 eP P 10 16 06.9 +0.6
comp=Z,63nm,0.9s
G38A Ridgeland 29.30 9 P P 10 16 05.5 -0.9
baz=192,SNR=20
H42A Shiocton 29.30 14 P P 10 16 05.7 -0.9
baz=199
H42A Shiocton 29.30 14 eP P 10 16 06.6 0.0
comp=Z,31nm,1.0s
WI02 Reinke Road, C 29.33 14 eP P 10 16 06.9 +0.2
comp=Z,219nm,1.9s
O56A Blue Knob Stat 29.35 32 P P 10 16 06.2 -0.8
baz=221,SNR=5.4
O56A Blue Knob Stat 29.35 32 eP P 10 16 07.2 +0.1
comp=Z,39nm,1.1s
WI04 River Road, Cl 29.36 14 eP P 10 16 07.2 +0.1
comp=Z,34nm,0.9s
FXWY Fox Creek 29.40 341 eP P 10 16 08.6 +0.9
comp=Z,48nm,1.1s
MOOW Moose Ponds 29.41 341 eP P 10 16 08.5 +0.7
comp=Z,24nm,0.9s
H43A Windswept, Lux 29.45 15 P P 10 16 05.9 -2.0
baz=200
H43A Windswept, Lux 29.45 15 eP P 10 16 07.7 -0.2
comp=Z,54nm,1.1s
F31A Hecla 29.51 360 P P 10 16 06.6 -1.7
baz=180,SNR=7.2
G39A Holcombe 29.52 10 P P 10 16 07.5 -0.9
baz=194,SNR=13
F33A 5 Mile Ranch, 29.53 3 P P 10 16 06.8 -1.7
baz=184
F32A Veblen 29.53 1 P P 10 16 06.4 -2.1
baz=182
F34A Alexandria 29.54 4 P P 10 16 06.5 -2.1
baz=186
IMW Indian Meadow 29.61 341 eP P 10 16 09.8 +0.2
comp=Z,24nm,0.8s
SDMD Soldier's Deli 29.63 35 eP P 10 16 12.6 +3.1
comp=Z,20nm,1.2s
F35A Swanville 29.66 5 P P 10 16 08.0 -1.6
baz=187,SNR=5.2
VCNR Virginia City 29.66 325 eP P 10 16 11.8 +1.8
comp=Z,54nm,1.4s
ALLY Alegheny Colle 29.67 28 eP P 10 16 11.6 +1.8
comp=Z,48nm,0.9s
G40A Rib Lake 29.68 11 P P 10 16 08.9 -1.0
baz=196,SNR=40
F37A Hinrichs Farm, 29.73 8 P P 10 16 09.5 -0.8
baz=191,SNR=8.8
F36A Milaca 29.76 7 P P 10 16 09.4 -1.1
baz=189,SNR=37
RUBR Rubicon Trail 29.77 324 eP P 10 16 10.4 -0.6
comp=Z,374nm,1.5s
M54A Oil Creek Stat 29.77 29 P P 10 16 09.9 -0.8
baz=218,SNR=11
M54A Oil Creek Stat 29.77 29 eP P 10 16 07.5 -3.3
comp=Z,191nm,1.8s
PAHR Pah Rah Range 29.81 326 eP P 10 16 12.7 +1.4
comp=Z,60nm,1.5s
G41A Antigo 29.83 13 P P 10 16 09.7 -1.5
baz=197,SNR=8.1
YPP Pitchstone Pla 29.91 342 eP P 10 16 13.5 +1.3
comp=Z,36nm,1.4s
H17A Grant Village 29.95 342 P P 10 16 12.3 -0.3
baz=156
H17A Grant Village 29.95 342 eP P 10 16 10.1 -2.5
comp=Z,42nm,1.4s
SSPA Standing Stone 29.96 32 P P 10 16 11.3 -1.1
baz=222
SSPA Standing Stone 29.96 32 eP P 10 16 12.1 -0.3
comp=Z,82nm,1.4s
AOPR Arecibo Observ 30.02 81 eP P 10 16 12.6 -0.6
comp=Z,79nm,0.4s
G42A Mountain 30.02 14 P P 10 16 11.8 -1.1
baz=199,SNR=23
G42A Mountain 30.02 14 eP P 10 16 12.2 -0.7
comp=Z,35nm,0.8s
LKWY Lake 30.05 342 PFAKE 10 16 30.0 +16
LKWY LR LR
comp=Z,2µm,20.0s
F38A Pierce - Schro 30.07 9 P P 10 16 12.2 -1.0
baz=192,SNR=15
YFT Old Faithful 30.08 342 eP P 10 16 12.5 -1.2
comp=Z,27nm,1.0s
ERPA Erie 30.11 28 P P 10 16 12.5 -1.3
baz=216
ERPA Erie 30.11 28 eP P 10 16 13.6 -0.1
comp=Z,59nm,1.2s
OBIP Obispado Ponce 30.17 82 eP P 10 16 11.0 -3.5
comp=Z,45nm,1.0s
AFDM Forest Hills D 30.17 323 eP P 10 16 13.4 -0.9
comp=Z,33nm,1.5s
F39A Loretta 30.17 10 P P 10 16 12.7 -1.6
baz=194,SNR=19
E33A Westby DABS, E 30.20 3 P P 10 16 12.9 -1.6

baz=184
E31A Nome 30.20 0 P P 10 16 13.5 -1.0
baz=180
G43A Wallace 30.21 15 P P 10 16 13.8 -0.8
baz=200,SNR=15
G43A Wallace 30.21 15 eP P 10 16 14.1 -0.5
comp=Z,42nm,1.1s
ICMP Isla Caja de M 30.25 82 eP P 10 16 12.9 -2.2
E32A Braaten, Kindr 30.25 1 P P 10 16 13.3 -1.6
baz=182
RLMT Red Lodge 30.25 344 P P 10 16 15.2 0.0
baz=158,SNR=44
RLMT Red Lodge 30.25 344 eP P 10 16 15.6 +0.4
comp=Z,108nm,1.3s
RLMT LR LR
comp=Z,558nm,20.0s
E34A Wadena 30.26 4 P P 10 16 13.7 -1.3
baz=186
PAGS Pennsylvania G 30.27 34 eP P 10 16 15.7 +0.5
comp=Z,61nm,1.5s
MVL Millersville 30.31 34 eP P 10 16 15.5 +0.1
comp=Z,24nm,1.0s
YMR Madison River 30.32 342 eP P 10 16 17.1 +1.3
comp=Z,45nm,1.0s
F40A Park Falls 30.32 11 P P 10 16 14.9 -0.6
baz=195,SNR=50
F41A Three Lakes 30.34 13 P P 10 16 14.6 -1.1
baz=197
E35A Pequot Lakes 30.36 5 P P 10 16 15.5 -0.4
baz=187,SNR=26
YHH Holmes Hill 30.39 342 eP P 10 16 17.8 +1.3
comp=Z,25nm,1.1s
E36A McGregor 30.44 7 P P 10 16 15.8 -0.8
baz=189,SNR=6.5
BEKR Beckworth 30.45 325 eP P 10 16 18.3 +1.3
comp=Z,50nm,1.1s
YHB Horse Butte 30.46 341 eP P 10 16 14.6 -2.4
comp=Z,13nm,1.0s
HLID Hailey 30.53 336 P P 10 16 18.3 +0.7
baz=148,SNR=44
HLID Hailey 30.53 336 eP P 10 16 18.7 +1.1
comp=Z,22nm,0.9s
HLID LR LR
comp=Z,3µm,19.0s
F42A Maple Grove Fa 30.58 14 P P 10 16 16.1 -1.7
baz=199
E37A Wrenshall 30.59 8 P P 10 16 16.5 -1.4
baz=191
SJG San Juan 30.60 82 eP P 10 16 18.4 +0.2
comp=Z,57nm,0.6s
SJG LR LR
comp=Z,1µm,19.0s
SJG San Juan 30.60 82 eP P 10 16 18.5 +0.2
SJG pmax pmax
comp=Z,57nm,0.6s
QLMT Earthquake Lak 30.60 341 eP P 10 16 17.9 -0.4
GLMI Grayling 30.67 19 P P 10 16 17.8 -0.9
baz=206
GLMI Grayling 30.67 19 eP P 10 16 19.2 +0.6
comp=Z,66nm,0.8s
GLMI LR LR
comp=Z,2µm,20.0s
E39A Mellen 30.68 10 P P 10 16 17.9 -0.8
baz=194,SNR=14
COWI Conover 30.68 12 eP P 10 16 18.5 -0.2
comp=Z,31nm,0.9s
COWI LR LR
comp=Z,932nm,19.0s
D31A Mcclaflin, Tow 30.70 1 P P 10 16 17.6 -1.2
baz=181
E38A The Farm, Brul 30.75 9 P P 10 16 18.2 -1.1
baz=192,SNR=14
PSUB Penn St. - Bra 30.75 35 eP P 10 16 19.1 -0.3
comp=Z,26nm,1.2s
D32A Dogwood Acres, 30.80 1 P P 10 16 18.5 -1.2
baz=182
D34A Park Rapids 30.83 4 P P 10 16 18.6 -1.4
baz=186
D33A AnnSam, Waubun 30.84 3 P P 10 16 18.3 -1.9
baz=184
E40A Wakefield 30.86 11 P P 10 16 19.0 -1.3
baz=196,SNR=20
CBYP Canovanas 30.87 82 eP P 10 16 20.2 -0.5
comp=Z,60nm,0.7s
F43A Flat Rock, Esc 30.88 15 P P 10 16 19.0 -1.4
baz=201,SNR=34
ORV Oroville 30.88 323 eP P 10 16 21.3 +0.7
comp=Z,57nm,1.4s
ORV Oroville 30.88 323 eP P 10 16 22.3 +1.7
ORV pmax pmax
comp=Z,57nm,1.3s
D35A Remer 30.91 5 P P 10 16 19.7 -1.0
baz=188,SNR=20
MFID Camas Ranch 30.97 335 eP P 10 16 22.0 +0.5
comp=Z,56nm,1.1s
GCMT Greycliff 30.98 344 eP P 10 16 22.3 +0.8
MCMT McKenzie Canyo 31.06 340 eP P 10 16 23.4 +1.0
E41A Kenton 31.07 12 P P 10 16 21.4 -0.7
baz=197,SNR=9.6
LAO LASA Array 31.07 349 P P 10 16 22.0 -0.2
baz=165,SNR=29
LAO LASA Array 31.07 349 eP P 10 16 22.5 +0.2
comp=Z,304nm,1.9s
D36A Goodland 31.10 7 P P 10 16 21.2 -1.2
baz=189,SNR=20
D37A Cotton 31.17 8 P P 10 16 21.6 -1.4
baz=191
F45A CMU Biological 31.18 17 P P 10 16 22.5 -0.6
baz=204,SNR=24
F44A Big Bay de Noc 31.20 16 P P 10 16 22.5 -0.8
baz=202,SNR=53
E42A Champion 31.26 14 P P 10 16 22.6 -1.3
baz=199,SNR=27
LUPA Lehigh Univers 31.26 35 eP P 10 16 24.5 +0.6
comp=Z,2.9nm,1.0s
N59A State Game Lan 31.27 34 P P 10 16 23.2 -0.9
baz=225
N59A State Game Lan 31.27 34 eP P 10 16 24.3 +0.3
comp=Z,24nm,1.1s
BOZ Bozeman (W) 31.36 342 P P 10 16 25.1 +0.2
baz=155,SNR=44
BOZ Bozeman (W) 31.36 342 eP P 10 16 25.6 +0.7
comp=Z,79nm,1.4s
BOZ LR LR
comp=Z,2µm,20.0s
BOZ Bozeman (W) 31.36 342 eP P 10 16 26.2 +1.3
BOZ pmax pmax
comp=Z,79nm,1.4s
C34A RKJ Ranch, Bem 31.41 4 P P 10 16 24.8 -0.3
baz=186
E43A Lone Tree Farm 31.43 15 P P 10 16 24.3 -1.0
baz=201,SNR=42
C31A Landman Farms, 31.44 1 P P 10 16 24.3 -1.1
baz=181,SNR=5.9
WVOR Wild Horse Val 31.44 330 eP P 10 16 25.6 -0.1
comp=Z,134nm,1.4s
WVOR LR LR
comp=Z,15µm,20.0s
WVOR Wild Horse Val 31.44 330 eP P 10 16 26.7 +1.1
WVOR pmax pmax
comp=Z,130nm,1.3s
DLMT Dillon 31.45 340 eP P 10 16 27.2 +1.6
comp=Z,109nm,1.0s
C33A Trail 31.47 3 P P 10 16 25.0 -0.7
baz=184
F46A Macinaw City C 31.48 18 P P 10 16 25.3 -0.5
baz=205
C32A Crookston 31.50 2 P P 10 16 24.8 -1.1
baz=183
MDND Maddock 31.52 358 P P 10 16 25.8 -0.3
baz=177,SNR=18
MDND Maddock 31.52 358 eP P 10 16 26.4 +0.3
comp=Z,272nm,1.0s
C35A Jirik Farms, M 31.54 5 P P 10 16 24.8 -1.4
baz=188,SNR=16
MMNY Mt. Morris Dam 31.55 29 eP P 10 16 26.2 -0.2
comp=Z,46nm,1.0s
O03D Paynes Creek 31.55 324 P P 10 16 25.6 -1.0
baz=133
C36A Pine Crest Far 31.71 7 P P 10 16 27.1 -0.7
baz=190,SNR=18
D41A Chassel 31.72 12 P P 10 16 27.4 -0.4
baz=198,SNR=22
STVI Saint Thomas 31.73 81 eP P 10 16 27.0 -1.3
comp=Z,47nm,0.6s
C37A Embarrass 31.76 8 P P 10 16 27.1 -1.1
baz=191,SNR=5.7
BRNJ Basking Ridge 31.76 35 eP P 10 16 28.8 +0.5
comp=Z,74nm,1.4s
LRM Limekiln Ridge 31.81 341 eP P 10 16 30.3 +1.3
MOD Modoc Plateau 31.87 328 eP P 10 16 29.9 +0.4
comp=Z,63nm,1.0s
C38A Sawbill Land. 31.87 9 P P 10 16 27.6 -1.6
baz=192
E45A Wooded Hills, 31.89 17 P P 10 16 29.0 -0.3
baz=204,SNR=13
E44A Grand Marais A 31.93 16 P P 10 16 28.9 -0.8
baz=202,SNR=11
B33A Robert and Kas 31.99 3 P P 10 16 29.2 -1.0
baz=185,SNR=14
AGMN Agassiz Nation 32.00 3 P P 10 16 29.8 -0.5
baz=184,SNR=62
AGMN Agassiz Nation 32.00 3 eP P 10 16 29.5 -0.8
comp=Z,68nm,0.8s
AGMN LR LR
comp=Z,860nm,20.0s
ODNJ Ogdensburg 32.02 35 eP P 10 16 31.1 +0.6
comp=Z,71nm,1.5s
EYMN Ely 32.06 8 P P 10 16 29.8 -1.1
baz=192
EYMN Ely 32.06 8 eP P 10 16 30.1 -0.8
comp=Z,32nm,1.0s
EYMN LR LR
comp=Z,526nm,21.0s
B32A Ashes, Strandq 32.07 2 P P 10 16 30.2 -0.6
baz=183,SNR=26
B31A Greenbush Farm 32.07 1 P P 10 16 29.7 -1.2
baz=181,SNR=5.3
J08A Circle Bar Ran 32.08 331 eP P 10 16 32.0 +0.9
comp=Z,124nm,0.9s
BINY Binghamton 32.08 32 P P 10 16 30.1 -1.1
baz=223
BINY Binghamton 32.08 32 eP P 10 16 31.4 +0.2
comp=Z,26nm,0.9s
BINY LR LR
comp=Z,2µm,20.0s
C39A Grand Marais 32.15 10 P P 10 16 30.1 -1.6
baz=194,SNR=8.0
B35A Bob, Littlefor 32.21 6 P P 10 16 31.1 -1.0
baz=188,SNR=36
B34A Aery, Baudette 32.26 4 P P 10 16 31.4 -1.1
baz=186,SNR=14
ABVI Anegada Island 32.31 81 eP P 10 16 33.3 -0.1
comp=Z,129nm,1.2s
PAL Palisades 32.35 35 P P 10 16 32.2 -1.2
baz=227
PAL Palisades 32.35 35 eP P 10 16 34.6 +1.1
comp=Z,35nm,0.9s
PAL Palisades 32.35 35 eP P 10 16 35.7 +2.3
PAL pmax pmax
comp=Z,35nm,1.0s
C40A Isle Royale Na 32.42 11 P P 10 16 32.8 -1.2
baz=196,SNR=17
HRY Holter Researc 32.42 342 eP P 10 16 34.2 0.0
DGMT Dagmar 32.50 352 P P 10 16 34.9 +0.2
baz=169,SNR=20
DGMT Dagmar 32.50 352 eP P 10 16 35.0 +0.2
comp=Z,82nm,1.0s
DGMT LR LR
comp=Z,557nm,20.0s
N02D Trinity Center 32.51 324 P P 10 16 32.8 -2.2
baz=132
A31A Linda, St. Vin 32.59 1 P P 10 16 33.7 -1.7
baz=182
M04C Macdoel 32.59 326 P P 10 16 35.5 -0.3
baz=134,SNR=11
A32A Rocking H Ranc 32.59 2 P P 10 16 34.1 -1.4
baz=183,SNR=18
KMRM Mail Ridge 32.60 322 eP P 10 16 40.5 +4.7
comp=Z,179nm,1.4s
SADO Sadowa 32.62 25 eP P 10 16 35.1 -0.7
comp=Z,25nm,1.0s
A33A Warroad 32.66 3 P P 10 16 34.9 -1.2
baz=185,SNR=12
BMO Blue Mountains 32.76 334 eP P 10 16 37.0 -0.1
comp=Z,21nm,0.9s
BMO LR LR
comp=Z,3µm,19.0s
BMO Blue Mountains 32.76 334 eP P 10 16 38.0 +0.9
BMO pmax pmax
comp=Z,21nm,1.0s
K05A Summer Lake 32.77 328 eP P 10 16 38.4 +1.0
comp=Z,166nm,1.9s
M02C Callahan 32.88 325 P P 10 16 37.5 -0.7
baz=132
YBH Yreka Blue Hor 33.03 325 P P 10 16 40.6 +1.0
comp=Z,6.8nm,0.9s,baz=134,slow=3.3,SNR=12
YBH LR LR 10 32 28.0
comp=Z,2µm,18.3s,baz=152,slow=41
YBH Yreka Blue Hor 33.03 325 eP P 10 16 41.6 +2.1
comp=Z,26nm,1.3s
YBH Yreka Blue Hor 33.03 325 eP P 10 16 41.6 +2.1
YBH pmax pmax
comp=Z,26nm,1.3s
KHMM Horse Mountain 33.03 323 eP P 10 16 40.7 +1.1
comp=Z,75nm,1.2s
I07A Izee 33.11 331 eP P 10 16 42.5 +2.3
comp=Z,24nm,0.9s
K04D Chiloquin, OR 33.14 327 P P 10 16 38.8 -1.7
baz=135
PCRV Puerto La Cruz 33.14 96 LR LR 10 31 23.3
comp=Z,945nm,18.7s,baz=280,slow=38
MSO Missoula 33.18 340 P P 10 16 40.8 -0.1
baz=152,SNR=32
MSO Missoula 33.18 340 eP P 10 16 41.4 +0.5
comp=Z,49nm,1.1s
J05D Fort Rock, OR 33.35 329 P P 10 16 42.1 -0.3
baz=137
KRMB Red Mountain 33.56 324 eP P 10 16 49.1 +4.9
comp=Z,101nm,1.4s
PINE Pine Mountain 33.58 330 eP P 10 16 44.5 +0.1
comp=Z,25nm,0.9s
F10A Beach Ranch, E 33.64 336 eP P 10 16 44.7 -0.1
comp=Z,88nm,1.0s
TRY Troy 33.66 33 eP P 10 16 46.7 +1.8
comp=Z,61nm,1.4s
PLVO Plevna 33.72 27 eP P 10 16 44.6 -0.8
comp=Z,112nm,1.9s
J04D Umpqua Nationa 33.76 328 P P 10 16 45.2 -0.8
baz=136,SNR=9.5
L02D Cave Junction, 33.81 325 P P 10 16 44.6 -1.6
baz=132
G08A Pilot Rock 33.81 333 eP P 10 16 46.5 +0.1
comp=Z,56nm,0.9s
ULM Lac du Bonnet 33.95 3 P P 10 16 46.0 -1.3
comp=Z,19nm,0.8s,baz=182,slow=8.6,SNR=16
ULM LR LR 10 33 36.6
comp=Z,393nm,20.8s,baz=192,slow=42
ULM Lac du Bonnet 33.95 3 eP P 10 16 46.2 -1.0
comp=Z,30nm,0.9s
ULM Lac du Bonnet 33.95 3 eP P 10 16 46.4 -0.9
ULM pmax pmax
comp=Z,30nm,1.0s
QUA2 Belchertown 34.07 35 eP P 10 16 50.4 +1.9
comp=Z,35nm,0.9s
JTMT Jette 34.10 340 eP P 10 16 49.3 +0.5
comp=Z,59nm,1.2s
ACCN Adirondack Com 34.12 33 eP P 10 16 49.4 +0.5
comp=Z,34nm,1.3s
I05D Terrebonne, OR 34.17 330 P P 10 16 49.8 +0.4
baz=138,SNR=8.2
NCB Newcomb 34.26 31 eP P 10 16 49.8 -0.3
comp=Z,53nm,1.5s
BBSR BB Station 34.26 56 eP P 10 16 50.9 +0.6
comp=Z,75nm,1.2s
BBSR LR LR
comp=Z,2µm,22.0s
BRYW Bryant College 34.29 36 eP P 10 16 49.3 -1.1
comp=Z,24nm,1.0s
I04A Tendick Farm, 34.31 328 P P 10 16 47.4 -3.2
baz=136,SNR=5.4
E09A Wood Farm, Sta 34.45 335 eP P 10 16 51.5 -0.2
comp=Z,38nm,0.9s
G06A Carlson Farm, 34.51 332 eP P 10 16 53.9 +1.5
comp=Z,132nm,1.8s
LONY Lake Ozonia 34.55 30 P P 10 16 51.3 -1.3
baz=222
LONY Lake Ozonia 34.55 30 eP P 10 16 52.3 -0.3
comp=Z,27nm,1.0s
LONY LR LR
comp=Z,1µm,19.0s
HRV Adam Dziewonsk 34.66 36 P P 10 16 52.9 -0.7
baz=229
HRV Adam Dziewonsk 34.66 36 eP P 10 16 55.5 +1.9
comp=Z,70nm,1.4s
HRV Adam Dziewonsk 34.66 36 eP P 10 16 55.5 +1.9
HRV pmax pmax
comp=Z,70nm,1.4s
KEBM Edson Butte 34.69 325 eP P 10 16 59.3 +5.4
comp=Z,258nm,1.2s
F07A Phinny Hill Vi 34.71 333 eP P 10 16 54.2 +0.3
comp=Z,25nm,0.9s
WES Weston 34.71 36 eP P 10 16 55.6 +1.6
comp=Z,39nm,1.3s
WES Weston 34.71 36 eP P 10 16 55.6 +1.6
WES pmax pmax
comp=Z,39nm,1.3s
I03D Drain, OR 34.72 327 P P 10 16 51.7 -2.3
baz=134,SNR=7.6
BCX Boston College 34.77 36 eP P 10 16 54.8 +0.3
comp=Z,68nm,1.5s
ANWB Willy Bob 34.77 82 PFAKE 10 17 10.0 +15
ANWB LR LR
comp=Z,1µm,19.0s
G05D Wamic, OR 34.84 331 P P 10 16 53.6 -1.5
baz=139
H04A Detroit Lake 34.84 329 eP P 10 16 54.9 -0.2
comp=Z,126nm,1.0s
HAWA Hanford 34.93 334 eP P 10 16 54.4 -1.5
comp=Z,32nm,1.4s
HAWA LR LR
comp=Z,2µm,19.0s
HNH Hanover 35.07 33 eP P 10 16 59.5 +2.4
comp=Z,65nm,1.5s
NNA Nana 35.10 142 eP P 10 16 58.9 +1.2
comp=Z,98nm,1.6s
NNA LR LR
comp=Z,986nm,20.0s
NNA Nana 35.10 142 eP P 10 16 58.9 +1.2
NNA pmax pmax
comp=Z,98nm,1.6s
NNA MLR MLR
comp=Z,986nm,20.0s
WALA Waterton Lakes 35.15 342 eP P 10 16 58.7 +0.9
comp=Z,41nm,0.9s
E07A Sunnyside 35.19 334 eP P 10 16 57.5 -0.6
comp=Z,32nm,0.8s
FRNY Flat Rock 35.20 31 eP P 10 16 59.5 +1.3
comp=Z,145nm,2.0s
D08A Wollman Farm, 35.20 335 eP P 10 16 58.2 -0.1
comp=Z,30nm,1.4s
COR Corvallis 35.32 328 eP P 10 17 03.5 +4.3
comp=Z,243nm,1.5s
COR Corvallis 35.32 328 eP P 10 17 03.5 +4.3
COR pmax pmax
comp=Z,240nm,1.5s
NEW Newport 35.51 338 P P 10 17 00.3 -0.6
baz=148,SNR=13
NEW Newport 35.51 338 eP P 10 17 01.0 +0.1
comp=Z,27nm,1.0s
NEW LR LR
comp=Z,2µm,19.0s
NEW Newport 35.51 338 eP P 10 17 01.8 +0.9
NEW pmax pmax
comp=Z,27nm,1.0s
C09A Chrisman Ranch 35.56 336 eP P 10 17 02.5 +1.2
comp=Z,269nm,1.8s
GRGR Grenville 35.58 92 PFAKE 10 17 10.0 +8.2
GRGR LR LR
comp=Z,1µm,20.0s
LBNH Lisbon 35.62 33 P P 10 16 59.6 -2.2
baz=227
LBNH Lisbon 35.62 33 eP P 10 17 03.5 +1.7
LBNH Lisbon 35.62 33 eP P 10 17 04.9 +3.0
LBNH pmax pmax
comp=Z,110nm,1.7s
FDF Fort de France 35.65 87 PFAKE 10 17 10.0 +7.5
FDF LR LR
comp=Z,2µm,22.0s
G03D McMinnville, O 35.75 329 P P 10 17 00.6 -2.3
baz=136
TRQ Mont Tremblant 35.76 28 eP P 10 17 02.2 -0.9
SVB Belmont 35.76 90 eP P 10 17 06.8 +3.4
comp=Z,84nm,0.9s
LTY Liberty 36.09 334 eP P 10 17 06.1 +0.2
comp=Z,197nm,1.5s
LON Longmire 36.20 332 eP P 10 17 07.2 +0.4
comp=Z,211nm,1.9s
LON Longmire 36.20 332 eP P 10 17 07.8 +1.0
LON pmax pmax
comp=Z,210nm,1.9s
F04D Rainier, OR 36.26 330 P P 10 17 05.3 -1.9
baz=137
B08A Colville Reser 36.42 336 eP P 10 17 08.3 -0.4
comp=Z,87nm,1.4s
D05A Enumclaw 36.61 332 eP P 10 17 10.2 -0.1
comp=Z,118nm,0.9s
E03A Lebam 36.85 330 eP P 10 17 12.6 +0.3
comp=Z,141nm,1.1s
BBGH Gun Hill 37.41 90 PFAKE 10 17 30.0 +13
BBGH LR LR
comp=Z,2µm,19.0s
B06A Marblemount 37.42 334 eP P 10 17 17.2 +0.1
comp=Z,46nm,0.9s
B05A Bryant 37.48 334 P P 10 17 18.4 +0.8
baz=140,SNR=9.5
NLWA Neilton Lookou 37.62 331 eP P 10 17 23.5 +4.7
comp=Z,242nm,1.5s
NLWA LR LR
comp=Z,2µm,20.0s
PKME Peaks-Kenny Pk 37.70 34 P P 10 17 17.3 -2.2
baz=229
PKME Peaks-Kenny Pk 37.70 34 eP P 10 17 19.5 0.0
comp=Z,30nm,1.0s
PKME LR LR
comp=Z,2µm,19.0s
A04D Lummi Island 38.09 333 P P 10 17 23.2 +0.4
baz=140,SNR=53
EMMW East Machias 38.36 36 eP P 10 17 24.4 -0.7
comp=Z,57nm,1.2s
PGC Sidney 38.36 333 eP P 10 17 25.9 +0.9
comp=Z,77nm,1.1s
FFC Flin Flon 38.50 356 eP P 10 17 25.6 -0.5
comp=Z,73nm,0.9s
FFC LR LR
comp=Z,418nm,21.0s
FFC Flin Flon 38.50 356 eP P 10 17 25.7 -0.4
FFC pmax pmax
comp=Z,73nm,1.0s
EDM Edmonton 38.77 345 eP P 10 17 28.8 +0.3
comp=Z,154nm,1.0s
EDM Edmonton 38.77 345 eP P 10 17 28.8 +0.3
EDM pmax pmax
comp=Z,150nm,1.0s
LLLB Lillooet 39.22 336 eP P 10 17 33.0 +0.7
comp=Z,63nm,1.0s
PQI Presque Isle 39.29 33 eP P 10 17 35.2 +2.3
comp=Z,32nm,1.0s
PTGA Pitinga 41.28 110 eP P 10 17 49.5 -0.4
comp=Z,50nm,1.1s
PTGA LR LR
comp=Z,14µm,20.0s
FCC Fort Churchill 42.53 3 eP P 10 17 58.8 -0.6
comp=Z,135nm,1.7s
FCC Fort Churchill 42.53 3 eP P 10 17 59.5 +0.1
FCC pmax pmax
comp=Z,140nm,1.7s
SAML Samuel 42.72 123 eP P 10 17 59.5 -2.0
comp=Z,36nm,1.1s
SAML LR LR
comp=Z,851nm,19.0s
LPAZ La Paz 43.85 136 P P 10 18 09.8 -1.5
comp=Z,6.4nm,1.0s,baz=338,slow=11,SNR=19
LPAZ LR LR 10 35 03.5
comp=Z,1µm,19.1s,baz=313,slow=34
LPAZ La Paz 43.85 136 eP P 10 18 10.4 -0.9
LPAZ La Paz 43.85 136 eP P 10 18 10.9 -0.4
LPAZ pmax pmax
comp=Z,26nm,1.2s
RPN Rapa Nui 44.48 194 LR LR 10 32 05.1
comp=Z,849nm,21.2s,baz=28,slow=30
MNMC Minye Minye 45.01 140 eP P 10 18 20.1 -0.1
comp=Z,132nm,1.6s
SCHQ Schefferville 45.43 25 P P 10 18 22.7 -0.1
comp=Z,40nm,0.9s,baz=230,slow=5.1,SNR=27
SCHQ LR LR 10 40 06.0
comp=Z,941nm,19.9s,baz=225,slow=40
SCHQ Schefferville 45.43 25 eP P 10 18 22.7 -0.1
comp=Z,47nm,0.9s
PB11 IPOC Station P 45.45 141 eP P 10 18 23.1 -0.4
comp=Z,93nm,1.2s
DIB Dawson Inlet, 45.62 332 eP P 10 18 28.9 +4.6
comp=Z,56nm,1.1s

PB01	**IPOC Station P**	**46.53**	**142**	*e*P		**P**	**10 18 31.7**	**-0.3**
	comp=Z,115nm,1.9s									
PB04	**IPOC Station P**	**47.15**	**144**	*e*P		**P**	**10 18 40.8**	**+3.9**
	comp=Z,85nm,1.3s									
CRAG	**Craig**	**47.40**	**334**	*e*P		**P**	**10 18 42.7**	**+4.5**
	comp=Z,59nm,1.2s									
YKA	**Yellowknife Ar**	**47.61**	**350**	P		**P**	**10 18 39.4**	**-0.3**
	comp=Z,15nm,0.9s,baz=157,slow=7.3,SNR=42									
YKB5	**Yellowknife Ar**	**47.61**	**350**	*e*P		**P**	**10 18 39.4**	**-0.3**
WRAK	**Wrangell Islan**	**47.72**	**335**	*e*P		**P**	**10 18 38.1**	**-2.6**
	comp=Z,63nm,1.8s									
WRAK					LR	LR				
	comp=Z,2µm,22.0s									
DLBC	**Dease Lake**	**48.26**	**338**	*e*P		**P**	**10 18 46.6**	**+1.6**
	comp=Z,71nm,1.0s									
BESE	**Bessie Mountai**	**50.17**	**336**	*e*P		**P**	**10 19 00.2**	**+0.7**
	comp=Z,73nm,1.1s									
SKAG	**Skagway**	**50.95**	**337**	*e*P		**P**	**10 19 09.2**	**+3.9**
	comp=Z,73nm,1.1s									
WHY	**Whitehorse**	**51.59**	**338**	*e*P		**P**	**10 19 11.2**	**+1.0**
	comp=Z,53nm,0.9s									
LCO	**Las Campanas**	**52.24**	**149**	*e*P		**P**	**10 19 14.7**	**-1.0**
	comp=Z,21nm,0.9s									
LCO					LR	LR				
	comp=Z,2µm,19.0s									
HYT	**Haines Junctio**	**52.66**	**337**	*e*P		**P**	**10 19 18.3**	**0.0**
	comp=Z,125nm,1.2s									
POHA	**Pohakuloa**	**54.48**	**283**		PFAKE		10 19 40.0	+7.6
POHA					LR	LR				
	comp=Z,1µm,19.0s									
EGAK	**Eagle**	**56.47**	**339**		PFAKE		10 20 00.0	+14
EGAK					LR	LR				
	comp=Z,5µm,20.0s									
KIP	**Kipapa**	**56.62**	**285**		PFAKE		10 20 00.0	+13
KIP					LR	LR				
	comp=Z,3µm,21.0s									
KIP	**Kipapa**	**56.62**	**285**	*e*P		**P**	**10 19 46.3**	**-1.1**
KIP					pmax	pmax				
	comp=Z,271nm,1.0s									
IVI	**Ivigtut**	**57.14**	**26**	*e*P		**P**	**10 19 51.4**	**+1.0**
	comp=Z,47nm,1.2s									
BRLK	**Bradley Lake**	**57.70**	**332**	*e*P		**P**	**10 19 56.5**	**+2.0**
	comp=Z,77nm,1.1s									
KDAK	**Kodiak Island**	**57.71**	**329**		PFAKE		10 20 10.0	+15
KDAK					LR	LR				
	comp=Z,1µm,19.0s									
GHO	**Glory Hole Cre**	**57.75**	**334**	*e*P		**P**	**10 19 54.0**	**-0.9**
	comp=Z,69nm,0.9s									
DHY	**Denali Highway**	**57.77**	**336**	*e*P		**P**	**10 19 56.7**	**+1.6**
	comp=Z,129nm,1.9s									
OHAK	**Old Harbor**	**57.85**	**328**	*e*P		**P**	**10 19 55.6**	**+0.1**
	comp=Z,65nm,1.1s									
HOM	**Homer**	**58.01**	**331**	*e*P		**P**	**10 19 58.7**	**+2.1**
	comp=Z,138nm,1.3s									
CPUP	**Villa Florida**	**58.02**	**136**	P		**P**	**10 19 55.3**	**-1.9**
	comp=Z,13nm,0.9s,baz=326,slow=7.8,SNR=21									
CPUP	**Villa Florida**	**58.02**	**136**	*e*P		**P**	**10 19 55.3**	**-1.9**
	comp=Z,24nm,1.1s									
CPUP	**Villa Florida**	**58.02**	**136**	*e*P		**P**	**10 19 55.7**	**-1.5**
CPUP					pmax	pmax				
	comp=Z,25nm,1.1s									
KEKH	**Kekaha**	**58.13**	**286**	*e*P		**P**	**10 19 57.3**	**-0.8**
	comp=Z,352nm,1.8s									
NRS	**Narsarsuaq**	**58.30**	**27**	*e*P		**P**	**10 20 00.0**	**+1.4**
	comp=Z,73nm,1.4s									
NRS	**Narsarsuaq**	**58.30**	**27**	*e*P		**P**	**10 20 00.0**	**+1.4**
NRS					pmax	pmax				
	comp=Z,73nm,1.4s									
HDA	**Harding Lake**	**58.30**	**337**	*e*P		**P**	**10 19 58.3**	**-0.3**
	comp=Z,45nm,1.0s									
SUA	**Susitna One**	**58.38**	**333**	*e*P		**P**	**10 19 59.8**	**+0.4**
	comp=Z,75nm,0.9s									
RES	**Resolute Bay**	**58.45**	**1**	*e*P		**P**	**10 19 57.0**	**-2.5**
	comp=Z,44nm,1.1s									
RES	**Resolute Bay**	**58.45**	**1**	*e*P		**P**	**10 19 57.4**	**-2.1**
RES					pmax	pmax				
	comp=Z,44nm,1.1s									
IL1	**Eielson Array**	**58.47**	**338**	*e*P		**P**	**10 20 00.7**	**+0.9**
ILAR	**Eielson Array**	**58.47**	**338**	P		**P**	**10 20 00.6**	**+0.7**
	comp=Z,16nm,0.9s,baz=141,slow=5.2,SNR=9.4									
ILAR					LR	LR	10 45 17.9			
	comp=Z,3µm,18.8s,baz=158,slow=36									
ILB	**Eielson Array**	**58.47**	**338**	*e*P		**P**	**10 20 00.6**	**+0.7**
RND	**Reindeer**	**58.51**	**336**	*e*P		**P**	**10 20 00.6**	**+0.4**
	comp=Z,364nm,1.8s									
RND	**Reindeer**	**58.51**	**336**	*e*P		**P**	**10 20 00.6**	**+0.4**
RND					pmax	pmax				
	comp=Z,364nm,1.8s									
MCK	**McKinley**	**58.71**	**336**	*e*P		**P**	**10 19 59.3**	**-2.2**
	comp=Z,75nm,1.1s									
MCK	**McKinley**	**58.71**	**336**	*e*P		**P**	**10 19 59.3**	**-2.2**
MCK					pmax	pmax				
	comp=Z,75nm,1.1s									
CCB	**Clear Creek Bu**	**58.74**	**337**	*e*P		**P**	**10 20 00.9**	**-0.8**
	comp=Z,78nm,1.6s									
WRH	**Wood River Hil**	**58.76**	**337**	*e*P		**P**	**10 20 02.5**	**+0.8**
	comp=Z,54nm,0.9s									
COLA	**College**	**58.88**	**338**		PFAKE		10 20 20.0	+17
COLA					LR	LR				
	comp=Z,2µm,21.0s									
COLA	**College**	**58.88**	**338**	*e*P		**P**	**10 20 04.1**	**+1.5**
COLA					pmax	pmax				
	comp=Z,52nm,1.1s									
FYU	**Fort Yukon**	**58.89**	**340**	*e*P		**P**	**10 20 00.7**	**-2.0**
	comp=Z,186nm,1.5s									
SKT	**Skwentna**	**58.95**	**334**	*e*P		**P**	**10 20 02.0**	**-1.1**
	comp=Z,53nm,1.0s									
TRF	**Thorofare Moun**	**59.10**	**336**	*e*P		**P**	**10 20 04.5**	**+0.1**
	comp=Z,115nm,0.9s									
SFJD	**Kangerlussuaq**	**59.28**	**20**	*e*P		**P**	**10 20 06.2**	**+0.8**
	comp=Z,56nm,1.3s									
SFJD					LR	LR				
	comp=Z,2µm,20.0s									
SFJD	**Kangerlussuaq**	**59.28**	**20**	*e*P		**P**	**10 20 07.8**	**+2.5**
SFJD					pmax	pmax				
	comp=Z,56nm,1.3s									
BPAW	**Bear Paw Mtn.**	**59.68**	**336**	*e*P		**P**	**10 20 07.0**	**-1.2**
	comp=Z,30nm,1.0s									
SVW2	**Sparrevohn**	**60.37**	**332**	*e*P		**P**	**10 20 15.2**	**+2.2**
	comp=Z,65nm,1.0s									
ILULI	**Ilulissat**	**60.42**	**17**	*e*P		**P**	**10 20 10.9**	**-2.2**
	comp=Z,27nm,0.8s									
ILULI	**Ilulissat**	**60.42**	**17**	*e*P		**P**	**10 20 10.9**	**-2.2**
ILULI					pmax	pmax				
	comp=Z,27nm,0.8s									
TULEG	**Thule**	**62.17**	**7**	*e*P		**P**	**10 20 25.3**	**+0.4**
	comp=Z,41nm,1.1s									
PLCA	**Paso Flores**	**62.23**	**157**	P		**P**	**10 20 25.1**	**-0.8**
	comp=Z,14nm,0.9s,baz=353,slow=7.6,SNR=18									
PLCA					LR	LR	10 42 25.5			
	comp=Z,1µm,18.9s,baz=29,slow=31									
PLCA	**Paso Flores**	**62.23**	**157**	*e*P		**P**	**10 20 25.1**	**-0.8**
	comp=Z,50nm,1.2s									
PLCA	**Paso Flores**	**62.23**	**157**	*e*P		**P**	**10 20 25.2**	**-0.6**
PLCA					pmax	pmax				
	comp=Z,50nm,1.2s									
FALS	**False Pass**	**62.65**	**324**	*e*P		**P**	**10 20 27.3**	**-1.2**
	comp=Z,110nm,0.8s									
ANGG	**Ammassalik, Gr**	**63.28**	**24**	*e*P		**P**	**10 20 31.3**	**-1.2**
	comp=Z,28nm,0.9s									
SPB	**Sao Paulo**	**63.43**	**127**		PFAKE		10 20 50.0	+16
SPB					LR	LR				
	comp=Z,1µm,20.0s									
TRQA	**Tornquist**	**63.81**	**149**	*e*P		**P**	**10 20 34.6**	**-1.8**
	comp=Z,44nm,1.2s									
TRQA					LR	LR				
	comp=Z,2µm,20.0s									
TRQA	**Tornquist**	**63.81**	**149**	*e*P		**P**	**10 20 35.3**	**-1.1**
UNV	**Unalaska Valle**	**64.27**	**322**	*e*P		**P**	**10 20 38.7**	**-0.5**
	comp=Z,189nm,1.3s									
RCBR	**Riachuelo**	**65.35**	**104**	*e*P		**P**	**10 20 47.9**	**+1.0**
	comp=Z,79nm,1.0s									
SUMG	**Summit**	**65.70**	**17**	*e*P		**P**	**10 20 47.9**	**-0.8**
	comp=Z,117nm,1.3s									
SUMG	**Summit**	**65.70**	**17**	*e*P		**P**	**10 20 49.0**	**+0.3**
SUMG					pmax	pmax				
	comp=Z,120nm,1.3s									
CMLA	**Cha da Macela**	**66.60**	**55**		PFAKE		10 21 10.0	+15
CMLA					LR	LR				
	comp=Z,823nm,20.0s									
JOHN	**Johnston Islan**	**68.08**	**282**		PFAKE		10 21 20.0	+16
JOHN					LR	LR				
	comp=Z,410nm,19.0s									
GAMB	**Gambell**	**68.28**	**333**	*e*P		**P**	**10 21 03.2**	**-1.4**
	comp=Z,64nm,1.8s									
BORG	**Borgarnes**	**69.79**	**26**		PFAKE		10 21 30.0	+16
BORG					LR	LR				
	comp=Z,609nm,20.0s									
SCO	**Scoresbysund**	**70.17**	**20**	*e*P		**P**	**10 21 20.8**	**+4.5**
	comp=Z,26nm,1.0s									
SCO	**Scoresbysund**	**70.17**	**20**	*e*P		**P**	**10 21 20.8**	**+4.5**
SCO					pmax	pmax				
	comp=Z,26nm,1.0s									
RAR	**Rarotonga**	**70.99**	**240**		PFAKE		10 21 30.0	+7.9
RAR					LR	LR				
	comp=Z,3µm,21.0s									
SACV	**Santiago Islan**	**71.40**	**79**		PFAKE		10 21 40.0	+15
SACV					LR	LR				
	comp=Z,187nm,19.0s									
EFI	**East Falkland**	**76.12**	**156**		PFAKE		10 22 00.0	+8.3
EFI					LR	LR				
	comp=Z,2µm,20.0s									
BILL	**Bilibino**	**77.13**	**337**	*d*	*i*P	**P**	**10 21 57.2**	**-0.1**
BILL					*i*		10 24 52.8			
BILL					*e*S	**S**	**10 31 52.1**	**+6.8**
BILL					pmax	pmax				
	comp=Z,31nm,1.1s									
BILL					MLR	MLR				
	comp=Z,1µm,16.0s									
KBS	**Kingsbay**	**77.92**	**11**		PFAKE		10 22 10.0	+8.5
KBS					LR	LR				
	comp=Z,2µm,20.0s									
AFI	**Afiamalu**	**78.68**	**252**		PFAKE		10 22 20.0	+13
AFI					LR	LR				
	comp=Z,2µm,20.0s									
PCAS	**Casmilo, Conde**	**79.45**	**51**	*e*P		**P**	**10 22 11.4**	**+0.7**
	comp=Z,106nm,1.6s									
ESK	**Eskdalemuir**	**79.56**	**35**		PFAKE		10 22 20.0	+9.0
ESK					LR	LR				
	comp=Z,2µm,20.0s									
POLO	**Lamas de Olo**	**79.69**	**50**	*e*P		**P**	**10 22 12.7**	**+0.6**
PVIS	**Viseu**	**79.76**	**51**	*e*P		**P**	**10 22 16.2**	**+3.8**
	comp=Z,48nm,2.1s									
PMTG	**Montargil**	**79.87**	**52**	*e*P		**P**	**10 22 16.3**	**+3.3**
MTE	**Manteigas**	**80.09**	**51**		PFAKE		10 22 30.0	+16
MTE					LR	LR				
	comp=Z,3µm,21.0s									
PCBR	**Castelo Branco**	**80.27**	**51**	*e*P		**P**	**10 22 18.6**	**+3.5**
MVO	**Moncorvo**	**80.30**	**50**	*e*P		**P**	**10 22 19.2**	**+3.8**
	comp=Z,48nm,1.7s									
PCVE	**Castro Verde**	**80.33**	**54**	*e*P		**P**	**10 22 19.7**	**+4.2**
PBRG	**Braganca**	**80.37**	**49**	*e*P		**P**	**10 22 20.1**	**+4.4**
	comp=Z,49nm,1.9s									
PBEJ	**Beja**	**80.38**	**53**	*e*P		**P**	**10 22 18.9**	**+3.2**
	comp=Z,52nm,2.2s									
PMRV	**Marv??o**	**80.42**	**52**	*e*P		**P**	**10 22 18.8**	**+2.8**
PVAQ	**Vaqueiros**	**80.64**	**54**	*e*P		**P**	**10 22 20.6**	**+3.5**
PBAR	**Barrancos**	**80.98**	**53**	*e*P		**P**	**10 22 22.0**	**+3.0**
RTC	**Rabat Centre**	**82.12**	**57**		PFAKE		10 22 40.0	+15
RTC					LR	LR				
	comp=Z,6µm,22.0s									
PAB	**San Pablo**	**82.68**	**51**	*e*P		**P**	**10 22 31.4**	**+3.4**
	comp=Z,31nm,1.1s									
PAB					LR	LR				
	comp=Z,2µm,19.0s									
PAB	**San Pablo**	**82.68**	**51**	*e*P		**P**	**10 22 31.4**	**+3.4**
PAB					pmax	pmax				
	comp=Z,31nm,1.1s									
ESDC	**Sonseca Array**	**82.94**	**51**	P		**P**	**10 22 29.4**	**+0.1**
	comp=Z,7.9nm,0.9s,baz=303,slow=4.9,SNR=15									
ES19	**SONSECA Array**	**82.98**	**51**	*e*P		**P**	**10 22 29.5**	**0.0**
SEY	**Seymchan**	**84.20**	**334**	*i*P		**P**	**10 22 37.3**	**+2.1**
KONO	**Kongsberg**	**84.77**	**29**	*i*P		**P**	**10 22 40.9**	**+2.8**
KONO					pmax	pmax				
	comp=Z,21nm,1.0s									
PET	**Petropavlovsk**	**84.88**	**324**	*e*P		**P**	**10 22 42.1**	**+3.3**
PET					pmax	pmax				
	comp=Z,23nm,1.2s									
PEA1	**Petropavlovsk-**	**85.39**	**324**	*e*P		**P**	**10 22 40.9**	**-0.5**
PETK	**Petropavlovsk-**	**85.39**	**324**	P		**P**	**10 22 40.9**	**-0.5**
	comp=Z,12nm,0.8s,baz=69,slow=9.3,SNR=6.2									
PETK	**Petropavlovsk-**	**85.39**	**324**	*e*P		**P**	**10 22 40.6**	**-0.9**
PETK	**Petropavlovsk-**	**85.39**	**324**	*e*P		**P**	**10 22 41.3**	**-0.1**
FUNA	**Funafuti**	**85.39**	**260**		PFAKE		10 22 50.0	+7.9
FUNA					LR	LR				
	comp=Z,4µm,19.0s									
KEV	**Kevo**	**86.07**	**17**		PFAKE		10 23 00.0	+16
KEV					LR	LR				
	comp=Z,3µm,19.0s									
MA2	**Magadan**	**86.35**	**332**	P		**P**	**10 22 46.0**	**0.0**
	comp=Z,12nm,1.0s,baz=139,slow=6.6,SNR=4.9									
WLF	**Walferdange**	**86.70**	**39**		PFAKE		10 23 00.0	+12
WLF					LR	LR				
	comp=Z,4µm,20.0s									
TIXI	**Tiksi**	**86.76**	**347**	P		**P**	**10 22 48.1**	**+0.3**
	comp=Z,22nm,1.2s,baz=17,slow=0.7,SNR=9.1									
TIXI	**Tiksi**	**86.76**	**347**	*e*P		**P**	**10 22 50.3**	**+2.5**
	comp=Z,93nm,1.6s									
TIXI					LR	LR				
	comp=Z,806nm,21.0s									
TIXI	**Tiksi**	**86.76**	**347**	*e*P		**P**	**10 22 50.5**	**+2.7**
	comp=Z,93nm,1.6s									
TIXI	**Tiksi**	**86.76**	**347**	*e*P		**P**	**10 22 48.7**	**+0.9**
TIXI					pmax	pmax				
	comp=Z,19nm,1.2s									
SSB	**Saint Sauveur**	**87.23**	**44**		PFAKE		10 23 00.0	+9.3
SSB					LR	LR				
	comp=Z,2µm,21.0s									
HOPE	**Hope Point**	**87.60**	**149**		PFAKE		10 23 00.0	+8.0
HOPE					LR	LR				
	comp=Z,438nm,20.0s									
ECH	**Echery**	**87.85**	**40**		PFAKE		10 23 00.0	+6.4
ECH					LR	LR				
	comp=Z,2µm,20.0s									
BFO	**Black Forest**	**88.53**	**40**		PFAKE		10 23 10.0	+13
BFO					LR	LR				
	comp=Z,2µm,19.0s									
TARA	**Tarawa**	**88.60**	**271**		PFAKE		10 23 10.0	+12
TARA					LR	LR				
	comp=Z,100nm,19.0s									
BNI	**Bardonecchia**	**88.73**	**43**		PFAKE		10 23 10.0	+12
BNI					LR	LR				
	comp=Z,3µm,21.0s									
BNI	**Bardonecchia**	**88.73**	**43**	*e*P		**P**	**10 22 54.3**	**-3.7**
BNI					pmax	pmax				
	comp=Z,67nm,1.9s									
MSVF	**Nonsavu**	**89.17**	**251**	*e*P		**P**	**10 23 04.7**	**+4.3**
	comp=Z,58nm,1.2s									
MSVF					LR	LR				
	comp=Z,2µm,19.0s									
MSVF	**Nonsavu**	**89.17**	**251**	*e*P		**P**	**10 23 04.7**	**+4.3**
MSVF					pmax	pmax				
	comp=Z,58nm,1.2s									
MSVF					MLR	MLR				
	comp=Z,2µm,19.0s									
APA	**Apatity**	**89.28**	**17**	*i*P		**P**	**10 23 04.3**	**+4.4**
APA					MLR	MLR				
	comp=Z,2.0nm,13.0s									
LVZ	**Lovozero**	**89.39**	**16**		PFAKE		10 23 10.0	+10
LVZ					LR	LR				
	comp=Z,3µm,20.0s									
KOWA	**Kowa**	**89.87**	**75**	P		**P**	**10 23 04.0**	**+0.3**
	comp=Z,12nm,0.9s,baz=249,slow=4.7,SNR=11									
KOWA	**Kowa**	**89.87**	**75**	*e*P		**P**	**10 23 04.0**	**+0.3**
	comp=Z,38nm,1.4s									
TUE	**Stuetta**	**89.90**	**41**		PFAKE		10 23 10.0	+6.4
TUE					LR	LR				
	comp=Z,4µm,19.0s									
CLL	**Collm**	**90.04**	**36**	*e*P		**P**	**10 23 05.0**	**+1.2**
CLL					*e*S	**S**	**10 33 55.0**	**-1.1**
CLL					*e*PS	**PS**	**10 35 12.0**	**+7.9**
CLL					*e*PPS	PPS	10 35 36.0			
CLL					*e*SSS	SSS	10 43 42.0			
TIC	**Toumodi**	**91.14**	**83**	*e*P		**P**	**10 23 11.2**	**+1.5**
LIC	**Lamto**	**91.25**	**83**	*e*P		**P**	**10 23 12.9**	**+2.7**
	comp=Z,119nm,1.5s									
DBIC	**Dimbokro**	**91.29**	**83**	P		**P**	**10 23 10.4**	**+0.1**
	comp=Z,8.9nm,0.9s,baz=297,slow=5.0,SNR=5.4									
DBIC	**Dimbokro**	**91.29**	**83**	*e*P		**P**	**10 23 10.4**	**+0.1**
	comp=Z,26nm,1.1s									
DBIC	**Dimbokro**	**91.29**	**83**	*e*P		**P**	**10 23 10.4**	**+0.1**
DBIC					pmax	pmax				
	comp=Z,26nm,1.1s									
KIC	**Kosan Boka**	**91.49**	**83**	*e*P		**P**	**10 23 13.8**	**+2.5**
	comp=Z,111nm,1.4s									
VLC	**Villacollemand**	**91.51**	**43**		PFAKE		10 23 20.0	+9.1
VLC					LR	LR				
	comp=Z,3µm,19.0s									
VSL	**Villasalto**	**92.72**	**48**		PFAKE		10 23 30.0	+14
VSL					LR	LR				
	comp=Z,3µm,21.0s									
TMCR	**Tamitsa**	**93.06**	**18**	*e*P		**P**	**10 23 17.8**	**+0.3**
TMCR					pmax	pmax				
	comp=Z,53nm,1.4s									
YAK	**Yakutsk**	**93.36**	**340**		LR	LR	11 10 20.5			
	comp=Z,1µm,18.1s,baz=266,slow=39									
YAK	**Yakutsk**	**93.36**	**340**		PFAKE		10 23 30.0	+11
YAK					LR	LR				
	comp=Z,1µm,20.0s									
YAK	**Yakutsk**	**93.36**	**340**	*i*P		**P**	**10 23 21.3**	**+2.4**
YAK					pmax	pmax				
	comp=Z,23nm,0.9s									
AQU	**L'Aquila**	**94.28**	**44**		PFAKE		10 23 30.0	+6.3
AQU					LR	LR				
	comp=Z,3µm,22.0s									
TOA1	**Torodi Ar. Sit**	**95.56**	**75**	*e*P		**P**	**10 23 29.0**	**-1.0**
TOA0	**Torodi Ar. Sit**	**95.56**	**75**	*e*P		P	10 23 25.2	-4.8
TORD	**Torodi Ar. Bea**	**95.56**	**75**	P		**P**	**10 23 29.0**	**-1.0**
	comp=Z,3.6nm,0.9s,baz=297,slow=4.4,SNR=12									
TORD					PKKP	**PKKPdf**	**10 40 21.6**	**+0.4**
	comp=Z,1.1nm,0.8s,baz=90,slow=1.4,SNR=4.1									
PSZ	**Piszkesteto**	**95.61**	**37**		PFAKE		10 23 40.0	+10
PSZ					LR	LR				
	comp=Z,3µm,20.0s									
TAM	**Tamanrasset**	**95.86**	**64**	*e*P		**P**	**10 23 32.3**	**+0.8**
	comp=Z,7.9nm,1.1s									
TAM					LR	LR				
	comp=Z,1µm,20.0s									
TAM	**Tamanrasset**	**95.86**	**64**	*e*P		**P**	**10 23 32.3**	**+0.8**
TAM					pmax	pmax				
	comp=Z,8.0nm,1.1s									
YSS	**Yuzh-Sakhalins**	**96.73**	**323**		PFAKE		10 23 50.0	+15
YSS					LR	LR				
	comp=Z,457nm,19.0s									
CUC	**Castrocucco**	**96.97**	**45**		PFAKE		10 23 50.0	+14
CUC					LR	LR				
	comp=Z,2µm,19.0s									
CEL	**Celeste**	**97.83**	**47**		PFAKE		10 23 50.0	+10
CEL					LR	LR				
	comp=Z,2µm,19.0s									
WDD	**Wied Dalam**	**97.96**	**49**		PFAKE		10 23 50.0	+9.5
WDD					LR	LR				
	comp=Z,2µm,19.0s									
TIP	**Timpagrande**	**98.00**	**45**		PFAKE		10 23 50.0	+9.3
TIP					LR	LR				
	comp=Z,2µm,20.0s									
SNZO	**South Karori**	**98.46**	**230**		PFAKE		10 23 50.0	+7.5
SNZO					LR	LR				
	comp=Z,1µm,20.0s									
KIEV	**Kiev**	**98.96**	**31**		PFAKE		10 24 00.0	+15
KIEV					LR	LR				
	comp=Z,3µm,20.0s									
KIEV	**Kiev**	**98.96**	**31**	*e*P		Pdif	10 23 47.5	+2.9
KIEV					pmax	pmax				
	comp=Z,22nm,1.4s									
TIR	**Tirane**	**99.00**	**42**		PFAKE		10 24 00.0	+15
TIR					LR	LR				
	comp=Z,4µm,21.0s									
OBN	**Obninsk**	**99.23**	**24**		PFAKE		10 24 00.0	+14
OBN					LR	LR				
	comp=Z,859nm,20.0s									
OBN	**Obninsk**	**99.23**	**24**	*e*P		**Pdif**	**10 23 46.2**	**+0.5**
OBN					pmax	pmax				
	comp=Z,20nm,1.2s									
HNR	**Honiara**	**103.94**	**264**		PFAKE		10 24 20.0	+13
HNR					LR	LR				
	comp=Z,794nm,19.0s									
ARU	**Arti**	**104.99**	**13**		PFAKE		10 28 40.0	
ARU					LR	LR				
	comp=Z,1µm,22.0s									
MAJO	**Matsushiro**	**105.28**	**316**		PFAKE		10 28 40.0	
MAJO					LR	LR				
	comp=Z,853nm,19.0s									
SANT	**Santorini**	**105.34**	**44**		PFAKE		10 28 40.0	
SANT					LR	LR				
	comp=Z,2µm,21.0s									
MDJ	**Mudanjiang**	**105.46**	**327**		PFAKE		10 28 40.0	
MDJ					LR	LR				
	comp=Z,796nm,21.0s									
QSPA	**South Pole Qui**	**106.19**	**180**		PFAKE		10 28 40.0	
QSPA					LR	LR				
	comp=Z,851nm,19.0s									
HIA	**Hailar**	**106.63**	**335**		PFAKE		10 28 40.0	
HIA					LR	LR				
	comp=Z,989nm,20.0s									
ISP	**Isparta**	**107.77**	**40**		PFAKE		10 28 40.0	
ISP					LR	LR				
	comp=Z,2µm,22.0s									
ANTO	**Ankara**	**107.85**	**38**		PFAKE		10 28 40.0	
ANTO					LR	LR				
	comp=Z,1µm,19.0s									
TLY	**Talaya**	**109.72**	**346**		PFAKE		10 28 50.0	
TLY					LR	LR				
	comp=Z,762nm,19.0s									
KIV	**Kislovodsk**	**110.20**	**29**		PFAKE		10 28 50.0	
KIV					LR	LR				
	comp=Z,1µm,19.0s									
BRVK	**Borovoye**	**110.24**	**7**		PFAKE		10 28 50.0	
BRVK					LR	LR				
	comp=Z,634nm,22.0s									
CSS	**Mathiatis**	**111.32**	**41**		PFAKE		10 28 50.0	
CSS					LR	LR				
	comp=Z,432nm,22.0s									
INCN	**Inchon**	**111.95**	**323**		PFAKE		10 28 50.0	
INCN					LR	LR				
	comp=Z,625nm,19.0s									
ULN

	comp=Z,464nm,20.0s								
ENH	**Enshi**	**126.62**	**330**	*e*PKPdf	**PKPdf**	**10 29 06.8**	**-1.3**		
ENH				LR	LR				
	comp=Z,468nm,20.0s								
RAYN	**Ar Rayn**	**126.84**	**43**	*e*PKPdf	**PKPdf**	**10 29 07.3**	**-1.4**		
RAYN				LR	LR				
	comp=Z,1μm,20.0s								
MBAR	**Mbarara**	**127.28**	**78**	PFAKE		10 29 20.0	+10		
MBAR				LR	LR				
	comp=Z,12μm,21.0s								
LSZ	**Lusaka**	**128.47**	**97**	*e*PKPdf	**PKPdf**	**10 29 11.5**	**-0.5**		
LSZ				LR	LR				
	comp=Z,1μm,20.0s								
LSZ	**Lusaka**	**128.47**	**97**	*e*PKIKP	**PKPdf**	**10 29 11.5**	**-0.5**		
LSZ				MLR	MLR				
	comp=Z,1μm,20.0s								
CD2	**Chengdu**	**128.59**	**336**	PKP	**PKPdf**	**10 29 10.8**	**-1.0**		
SIJI	**Sorong**	**128.98**	**282**	PKP	**PKPdf**	**10 29 12.6**	**-0.4**		
	comp=Z,3.1nm,0.4s,baz=4.0,slow=6.1,SNR=6.0								
NIL	**Nilore**	**129.69**	**9**	PFAKE		10 29 30.0	+16		
NIL				LR	LR				
	comp=Z,443nm,19.0s								
WB2	**Warramunga Arr**	**130.13**	**257**	*e*PKPdf	**PKPdf**	**10 29 12.6**	**-2.4**		
WB2				*e*PKPdf	**PKiKP**	**10 29 13.5**	**-2.3**		
WRAB	**Tennant Creek**	**130.13**	**257**	*e*PKPdf	**PKPdf**	**10 29 13.2**	**-1.7**		
WRAB				LR	LR				
	comp=Z,369nm,19.0s								
WRAB	**Tennant Creek**	**130.13**	**257**	*e*PKIKP	**PKPdf**	**10 29 13.2**	**-1.7**		
WRAB				MLR	MLR				
	comp=Z,369nm,19.0s								
WR1	**Warramunga Arr**	**130.14**	**257**	*e*PKPdf	**PKPdf**	**10 29 13.7**	**-1.2**		
WRA	**Warramunga Arr**	**130.14**	**257**	PKP	**PKPdf**	**10 29 13.7**	**-1.2**		
	comp=Z,16nm,1.0s,baz=75,slow=1.7,SNR=14								
AS31	**Alice Springs**	**130.75**	**253**	*e*PKPdf	**PKPdf**	**10 29 12.7**	**-3.3**		
ASAR	**Alice Springs**	**130.75**	**253**	PKP	**PKPdf**	**10 29 14.2**	**-1.9**		
	comp=Z,2.5nm,1.1s,baz=121,slow=2.5,SNR=4.3								
DAV	**Davao City (W)**	**130.91**	**295**	PFAKE		10 29 30.0	+13		
DAV				LR	LR				
	comp=Z,342nm,20.0s								
GYA	**Guiyang**	**131.16**	**330**	*e*Pdif	**Pdif**	**10 26 08.4**	**-0.2**		
GYA				PKP	**PKiKP**	**10 29 17.8**	**-0.1**		
GYA				PP	**PP**	**10 31 38.0**	**+4.9**		
GYA				AMB	AMB				
	comp=Z,150nm,7.8s								
LSA	**Lhasa**	**133.43**	**349**	PFAKE		10 29 30.0	+8.4		
LSA				LR	LR				
	comp=Z,354nm,20.0s								
KMBO	**Kilima Mbogo**	**133.56**	**76**	PFAKE		10 29 30.0	+8.1		
KMBO				LR	LR				
	comp=Z,907nm,19.0s								
KMI	**Kunming**	**134.10**	**333**	PKP	**PKPdf**	**10 29 23.1**	**+0.5**		
QIZ	**Qiongzhong**	**135.41**	**321**	PFAKE		10 29 40.0	+15		
QIZ				LR	LR				
	comp=Z,311nm,20.0s								
FITZ	**Fitzroy Crossi**	**138.20**	**261**	PKP	**PKPdf**	**10 29 29.0**	**-1.0**		
	comp=Z,4.9nm,0.9s,baz=77,slow=8.6,SNR=3.6								
KKM	**Kota Kinabalu**	**139.42**	**300**	PFAKE		10 29 40.0	+7.4		
KKM				LR	LR				
	comp=Z,299nm,20.0s								
KAPI	**Kappang**	**141.19**	**282**	PFAKE		10 29 50.0	+14		
KAPI				LR	LR				
	comp=Z,208nm,21.0s								
CHTO	**Chiang Mai**	**141.30**	**334**	PFAKE		10 29 50.0	+14		
CHTO				LR	LR				
	comp=Z,294nm,20.0s								
CMAR	**Chiang Mai Arr**	**141.62**	**333**	PKP	**PKPdf**	**10 29 33.0**	**-3.3**		
	comp=Z,2.2nm,0.9s,baz=334,slow=2.5,SNR=9.9								
MBWA	**Marble Bar**	**143.86**	**256**	*e*PKPpre	PKPpre	10 29 35.3			
MBWA				LR	LR				
	comp=Z,340nm,19.0s								
NWAO	**Narrogin (SRO)**	**144.02**	**236**	PFAKE		10 29 50.0	+10		
NWAO				LR	LR				
	comp=Z,465nm,20.0s								
SBUM	**Sibu**	**144.71**	**299**	*e*PKPdf	**PKPab**	**10 29 39.1**	**-1.5**		
HYB	**Hyderabad**	**146.37**	**6**	*i* PKP	**PKPdf**	**10 29 45.0**	**+0.3**		
KSM	**Kuching**	**146.84**	**299**	*e*PKPdf	**PKPdf**	**10 29 44.9**	**-0.6**		
KSM				LR	LR				
	comp=Z,172nm,20.0s								
OPO	**Ambohidratompo**	**146.87**	**99**	PKPbc	**PKPbc**	**10 29 47.0**	**-0.5**		
	comp=Z,56nm,0.8s,baz=256,slow=4.4,SNR=18								
ABPO	**Ambohimpanom**	**146.91**	**100**	*e*PKPdf	**PKPbc**	**10 29 48.2**	**+0.6**		
ABPO				LR	LR				
	comp=Z,132nm,20.0s								
ABPO	**Ambohimpanom**	**146.91**	**100**	*e*PKP2	**PKPbc**	**10 29 48.2**	**+0.6**		
ABPO				MLR	MLR				
	comp=Z,132nm,20.0s								
PBA	**Port Blair**	**150.24**	**338**	*e*PKPdf	PKPdf	10 29 54.4	+3.4		
PBA				*e*PKPbc	PKPbc	10 29 59.8	+3.7		
UGM	**Wanagama**	**150.80**	**283**	*e*PKPdf	**PKPbc**	**10 29 55.2**	**-2.4**		
CISI	**Cisompet, Garu**	**153.20**	**286**	*e*PKPbc	**PKPbc**	**10 30 01.2**	**-1.8**		

*ISCJB **13** 10:11:51.9±0.3,25°.25N±0°.02×94°.91E±0°.03,h86km±3km, mb4.4/28,Error ellipse: s-maj=4.2km s-min=3.8km az=170.0*

*NEIC **13** 10:11:53.5±0.6,25°.24N×94°.98E,h85km±6km,mb4.5/18, Error ellipse: s-maj=8.4km s-min=4.3km az=54.0*

NEIC Felt at Kohima, India.

*BJI **13** 10:11:53.1,25°.55N×95°.02E,h71km,mb4.7/24,mB4.6/10, Ms4.6/4,Ms7 4.5/5*

*NDI **13** 10:11:54.4±2.7,25°.33N×94°.88E,h85km,ML4.5, mb4.5(NEIC)*

*IDC **13** 10:11:55.6±3.3,25°.19N×95°.06E,h113km±32km,mb3.9/12, mb1 4.0/13,mb1mx3.6/75,mbtmp4.2/13,Error ellipse: s-maj=28.5km s-min=12.9km az=57.0*

ISC 13 10:11:52.6±0.7,25°.26N±0°.04×94°.92E±0°.04,h80km±8km, n77,σ1s50/103,mb4.3/28,Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KOHI	**KOHIMA**	**0.87**	**302**	*e*P	**Pn**	**10 12 10.3**	**0.0**
KOHI				*e*S	**Sn**	**10 12 21.8**	**-1.7**
IMP	**Imphal**	**0.98**	**244**	*e*P	**Pn**	**10 12 13.4**	**+1.8**
IMP				*e*S	**Sn**	**10 12 27.3**	**+1.5**
IMP				*e*S		10 12 29.1	
IMP				IAML		10 12 30.7	
	comp=N,15μm,0.3s						
IMP				IAML		10 12 30.9	
	comp=E,4μm,0.3s						
MOKO	**MOKOCHONG**	**1.12**	**341**	*e*P	**Pn**	**10 12 13.4**	**+0.2**
MOKO				*e*S	**Sn**	**10 12 29.1**	**+0.4**
MOKO				IAML		10 12 35.1	
	comp=E,18μm,0.3s						
MOKO				IAML		10 12 35.2	
	comp=N,17μm,0.5s						
JORH	**JORHAT**	**1.59**	**338**	*e*P	**Pn**	**10 12 19.5**	**+0.3**
JORH				*e*S	**Sn**	**10 12 39.7**	**+0.5**
JORH				*e*S		10 12 40.7	
JORH				IAML		10 12 47.4	
	comp=N,31μm,0.4s						
JORH				IAML		10 12 48.0	
	comp=E,32μm,0.3s						
SILR	**SILCHAR**	**1.98**	**256**	*e*P	**Pn**	**10 12 26.3**	**+2.1**
SILR				*e*S	**Sn**	**10 12 51.4**	**+3.0**
SILR				IAML		10 12 55.3	
	comp=N,4μm,0.5s						
SILR				IAML		10 13 01.6	
	comp=E,6μm,0.4s						
DIBR	**DIBRUGARH**	**2.20**	**360**	*e*P	**Pn**	**10 12 30.1**	**+3.0**
DIBR				*e*S	**Sn**	**10 12 53.1**	**-0.4**
LKP	**Lekhapani**	**2.22**	**22**	*e*P	**Pn**	**10 12 26.7**	**-0.8**
LKP				*e*S	**Sn**	**10 12 55.3**	**+1.2**
LKP				IAML		10 13 01.3	
	comp=E,920nm,0.2s						
LKP				IAML		10 13 03.5	
	comp=N,1μm,0.3s						
TEZP	**TEZPUR**	**2.34**	**306**	*e*P	**Pn**	**10 12 28.9**	**-0.2**
TEZP				*e*S	**Sn**	**10 12 55.9**	**-1.1**
TEZP				IAML		10 12 57.3	
	comp=E,4μm,0.1s						
TEZP				IAML		10 12 57.9	
	comp=N,6μm,0.2s						
ZIRO	**ZIRO**	**2.45**	**337**	*e*P	**Pn**	**10 12 30.0**	**-0.8**
ZIRO				*e*S	**Sn**	**10 12 58.8**	**-1.2**
ZIRO				IAML		10 12 59.8	
	comp=N,15μm,0.5s						
ZIRO				IAML		10 13 02.0	
	comp=E,12μm,0.5s						
SHL	**Shillong**	**2.77**	**277**	*e*P	**Pn**	**10 12 35.7**	**+0.7**
SHL				*e*S	**Sn**	**10 13 07.0**	**-0.5**
SHL	**Shillong**	**2.77**	**277**	*e*Pn	**Pn**	**10 12 35.5**	**+0.5**
SHL				*e*Sn	**Sn**	**10 13 08.0**	**+0.5**
GUWA	**GUWAHATI**	**3.06**	**288**	*e*P	**Pn**	**10 12 38.8**	**+0.1**
GUWA				*e*S	**Sn**	**10 13 12.6**	**-1.7**
GUWA				*e*S		10 13 12.7	
GUWA				IAML		10 13 15.0	
	comp=E,3μm,0.2s						
GUWA				IAML		10 13 15.2	
	comp=N,3μm,0.2s						
SAIH	**SAIHA**	**3.28**	**213**	*e*P	**Pn**	**10 12 43.1**	**+1.2**
SAIH				*e*S	**Sn**	**10 13 21.3**	**+1.3**
SAIH				IAML		10 13 26.2	
	comp=E,867nm,0.4s						
SAIH				IAML		10 13 26.4	
	comp=N,678nm,0.4s						
AGT	**Agartala**	**3.62**	**248**	*e*S	**Sn**	**10 13 29.7**	**+1.8**
AGT				IAML		10 13 31.8	
	comp=E,1μm,0.4s						
AGT				IAML		10 13 32.1	
	comp=N,2μm,0.4s						
BELO	**BELONIA**	**3.75**	**238**	*e*P	**Pn**	**10 12 50.1**	**+1.9**
BELO				*e*S	**Sn**	**10 13 30.5**	**-0.8**
BELO				IAML		10 13 34.0	
	comp=E,1μm,0.3s						
BELO				IAML		10 13 34.4	
	comp=N,1μm,0.3s						
TURI	**Tura**	**4.16**	**275**	*e*P	**Pn**	**10 12 55.3**	**+1.5**
TURI				*e*S	**Sn**	**10 13 40.6**	**-0.6**
TURI				*e*S		10 13 41.3	
TURI				IAML		10 13 45.5	
	comp=N,2μm,0.1s						
TURI				IAML		10 13 47.5	
	comp=E,3μm,0.4s						
LSA	**Lhasa**	**5.55**	**324**	P	**Pn**	**10 13 14.5**	**+1.4**
LSA				pmax	pmax		
	comp=E,13nm,0.5s						
LSA				LR	LR		
	comp=E,6μm,14.5s						
LSA	**Lhasa**	**5.55**	**324**	*e*Pn	**Pn**	**10 13 14.9**	**+1.8**
LSA				*e*Sn	**Sn**	**10 14 15.3**	**-0.4**
GTK	**Tadong**	**6.03**	**291**	*e*P	**Pn**	**10 13 20.2**	**+0.8**
GTK				*ex*	**Sn**	**10 14 25.4**	**-1.8**
ODAN	**Odare**	**6.96**	**285**	*e*Pn	**Pn**	**10 13 33.0**	**+0.8**
ODAN				*e*Sn	**Sn**	**10 14 49.6**	**-0.3**
	comp=E,474nm,0.5s						
KMI	**Kunming**	**7.08**	**89**	P	**Pn**	**10 13 36.3**	**+2.5**
KMI				pmax	pmax		
	comp=E,39nm,0.8s						
CHTO	**Chiang Mai**	**7.42**	**149**	*e*Pn	**Pn**	**10 13 38.5**	**+0.2**
CHTO				*e*Sn	**Sn**	**10 14 59.8**	**-1.2**
RAMN	**Ramite**	**7.67**	**284**	*e*Pn	**Pn**	**10 13 42.5**	**+0.6**
CM31	**Chiang Mai Arr**	**7.73**	**150**	*e*Pn	**Pn**	**10 13 43.1**	**+0.6**
CM31				*e*Sn	**Sn**	**10 15 05.3**	**-3.3**
CMAR	**Chiang Mai Arr**	**7.73**	**150**	P	**Pn**	**10 13 43.4**	**+0.9**
	comp=E,1.1nm,0.3s,baz=326,slow=13,SNR=184						
CM01	**Chiang Mai Arr**	**7.77**	**150**	*e*Pn	**Pn**	**10 13 43.4**	**+0.3**
CM01				*e*Sn	**Sn**	**10 15 06.8**	**-2.8**
JIRN	**Jiri**	**8.18**	**289**	*e*Pn	**Pn**	**10 13 49.5**	**+0.5**
JIRN				*e*Sn	**Sn**	**10 15 17.2**	**-2.8**
	comp=E,252nm,0.3s						
GUN	**Gumba**	**8.51**	**290**	*e*Pn	**Pn**	**10 13 53.5**	**0.0**
GUN				*e*Sn	**Sn**	**10 15 24.8**	**-3.3**
	comp=E,223nm,0.5s						
PKIN	**Phulchoki**	**8.85**	**287**	*e*Pn	**Pn**	**10 13 58.7**	**+0.8**
PKIN				*e*Sn	**Sn**	**10 15 32.4**	**-3.7**
	comp=E,355nm,0.7s						
KKN	**Kakani**	**8.99**	**288**	*e*Pn	**Pn**	**10 13 59.8**	**-0.1**
KKN				*e*Sn	**Sn**	**10 15 35.5**	**-4.2**
	comp=E,136nm,0.5s						
DMN	**Daman**	**9.10**	**287**	*e*Pn	**Pn**	**10 14 00.8**	**-0.7**
GKN	**Gorkha**	**9.60**	**289**	*e*Pn	**Pn**	**10 14 08.0**	**-0.1**
GKN				*e*Sn	**Sn**	**10 15 50.9**	**-3.5**
PBKT	**Sadao Pong**	**10.33**	**146**	*e*Pn	**Pn**	**10 14 18.4**	**+0.5**
KOLN	**Koldanda**	**10.44**	**286**	*e*Pn	**Pn**	**10 14 18.3**	**-1.4**
GYA	**Guiyang**	**10.64**	**81**	P	**Pn**	**10 14 20.0**	**-2.3**
GYA				pmax	pmax		
	comp=E,10.0nm,0.7s						
PYUN	**Piuthan**	**11.04**	**287**	*e*Pn	**Pn**	**10 14 26.8**	**-1.0**
PYUN				*e*Sn	**Sn**	**10 16 25.0**	**-4.6**
	comp=E,142nm,0.7s						
LZH	**Lanzhou**	**13.23**	**33**	*e*P	**Pn**	**10 14 57.3**	**-0.1**
LZH				pP	P	10 15 08.3	+4.0
LZH				sP		10 15 19.8	
LZH				pmax	pmax		
	comp=E,29nm,0.9s						
LZH				pmax	pmax		
	comp=E,160nm,4.6s						
GTA	**Gaotai**	**14.70**	**15**	*e*P	**P**	**10 15 20.6**	**+0.1**
GTA				pP	Pn	10 15 32.0	+16
GTA				sP		10 15 42.9	
GTA				pmax	pmax		
	comp=Z,12nm,1.0s						
WMQ	**Urumqi**	**19.43**	**344**	P	**Pn**	**10 16 15.0**	**+0.5**
WMQ				pP	pP	10 16 32.8	+4.2
WMQ				sP	sP	10 16 39.5	+0.8
WMQ				pmax	pmax		
	comp=Z,30nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,180nm,4.1s						
WMQ				LR	LR		
	comp=Z,1μm,24.5s						
WMQ				LR	LR		
	comp=Z,9μm,29.5s						
WMQ				LR	LR		
	comp=Z,2μm,25.7s						
NIL	**Nilore**	**20.61**	**299**	*e*P	**P**	**10 16 26.7**	**+1.2**
	comp=Z,12nm,0.8s						
HHC	**Hu-ho-hao-te**	**20.83**	**38**	*e*P	Pn	10 16 30.3	-0.7
HHC				pmax	pmax		
	comp=Z,8.0nm,0.9s						
IPM	**Ipoh**	**21.48**	**163**	*e*P	**P**	**10 16 35.3**	**+0.5**
	comp=Z,6.3nm,1.0s						
TARG	**Taragay, Kyrgy**	**21.69**	**323**	*e*P	**P**	**10 16 38.8**	**+1.5**
	comp=Z,4.4nm,0.6s						
KDJ	**Kajisay**	**22.31**	**323**	*e*P	**P**	**10 16 44.7**	**+1.0**
	comp=Z,7.8nm,0.7s						
PALK	**Pallekele**	**22.46**	**220**	*e*P	**P**	**10 16 47.5**	**+2.1**
	comp=Z,8.3nm,1.1s						
MK01	**Makanchi Array**	**23.71**	**338**	*e*P	**P**	**10 16 58.0**	**+0.8**
MK31	**Makanchi Array**	**23.73**	**338**	*e*P	**P**	**10 16 58.5**	**+1.1**
MK32	**Makanchi Array**	**23.73**	**338**	*e*P	**P**	**10 16 58.2**	**+0.8**
MKAR	**Makanchi Array**	**23.73**	**338**	P	**P**	**10 16 58.2**	**+0.8**
	comp=Z,7.7nm,0.5s,baz=148,slow=9.4,SNR=5.3						
MKAR	**Makanchi Array**	**23.73**	**338**	*e*P	**P**	**10 16 58.3**	**+0.9**
	comp=Z,99nm,0.4s						
MAKZ	**Makanchi**	**23.85**	**338**	*e*P	**P**	**10 16 59.9**	**+1.4**
	comp=Z,8.8nm,0.6s						
GSI	**Gunungsitoli**	**23.96**	**173**	*e*P	**P**	**10 16 59.5**	**-0.2**
	comp=Z,27nm,1.1s						
AAK	**Ala-Archa**	**24.14**	**321**	P	**P**	**10 17 03.7**	**+2.5**
	comp=Z,4.2nm,0.6s,baz=149,slow=6.3,SNR=8.7						
AAK	**Ala-Archa**	**24.14**	**321**	*e*P	**P**	**10 17 01.6**	**+0.4**
	comp=Z,5.1nm,0.6s						
KBL	**Kabul**	**24.21**	**299**	*e*P	**P**	**10 17 03.5**	**+1.4**
	comp=Z,4.5nm,0.6s						
NACB	**Ninganchiao**	**24.24**	**87**	*e*P	**P**	**10 17 02.3**	**+0.2**
	comp=Z,27nm,0.9s						
SONA0	**Songino Array**	**24.29**	**19**	*e*P	**P**	**10 17 02.9**	**+0.4**
SONM	**Songino Array**	**24.29**	**19**	P	**P**	**10 17 02.9**	**+0.4**
	comp=Z,8.2nm,0.8s,baz=192,slow=9.1,SNR=2.5						
KURBB	**Kurchatov Arra**	**28.30**	**338**	P	**P**	**10 17 38.6**	**+0.2**
	comp=Z,1.7nm,0.3s,baz=147,slow=9.3,SNR=8.9						
KURK	**Kurchatov**	**28.35**	**338**	*e*P	**P**	**10 17 38.5**	**-0.4**
	comp=Z,5.9nm,0.6s						
HIA	**Hailar**	**30.79**	**32**	*e*P	**P**	**10 18 01.9**	**+1.3**
	comp=Z,33nm,1.4s						
BVAR	**Borovoye Array**	**33.30**	**333**	P	**P**	**10 18 23.5**	**+1.0**
	comp=Z,1.3nm,0.5s,baz=138,slow=10,SNR=9.3						
BRVK	**Borovoye**	**33.37**	**333**	*e*P	**P**	**10 18 23.9**	**+0.8**
	comp=Z,2.7nm,0.6s						
ABKAR	**Akbulak array**	**36.22**	**321**	*e*P	**P**	**10 18 49.1**	**+1.4**
AKTO	**Aktyubinsk**	**37.88**	**321**	P	**P**	**10 19 02.6**	**+0.9**
	comp=Z,1.6nm,0.4s,baz=116,slow=5.3,SNR=9.0						
TIXI	**Tiksi**	**50.17**	**13**	*e*P	**P**	**10 20 39.0**	**-0.6**
	comp=Z,13nm,1.2s						
BR101	**Keskin Array S**	**52.72**	**302**	*e*P	**P**	**10 20 59.8**	**+0.4**
BRTR	**Keskin Array B**	**52.72**	**302**	P	**P**	**10 20 59.8**	**+0.4**
	comp=Z,0.4nm,0.6s,baz=111,slow=6.3,SNR=3.5						
AKASG	**Malin Array Be**	**55.63**	**315**	P	**P**	**10 21 19.6**	**-0.5**
	comp=Z,0.7nm,0.3s,baz=81,slow=6.2,SNR=5.1						
WRA	**Warramunga Arr**	**59.06**	**136**	P	**P**	**10 21 43.3**	**-1.4**
	comp=Z,2.3nm,0.5s,baz=325,slow=7.2,SNR=2.2						
WR1	**Warramunga Arr**	**59.06**	**136**	*e*P	**P**	**10 21 43.3**	**-1.4**
	comp=Z,13nm,0.8s						
ASAR	**Alice Springs**	**61.58**	**139**	P	**P**	**10 22 00.1**	**-1.7**
	comp=Z,2.1nm,0.7s,baz=315,slow=6.5,SNR=1.9						
ITM	**Ithomi**	**62.17**	**300**	*e*P	**P**	**10 22 06.1**	**+0.4**
	comp=Z,13nm,1.1s						
RABL	**Rabaul**	**62.75**	**109**	*e*P	**P**	**10 22 09.8**	**-0.1**
	comp=Z,80nm,0.3s						
WDD	**Wied Dalam**	**68.28**	**300**	*e*P	**P**	**10 22 45.3**	**+0.1**
	comp=Z,217nm,0.9s						
INK	**Inuvik**	**80.17**	**16**	P	**P**	**10 23 53.0**	**-0.8**
	comp=Z,2.8nm,0.9s,baz=358,slow=5.0,SNR=3.1						
BOSA	**Boshof**	**85.73**	**236**	P	**P**	**10 24 22.8**	**-0.4**
	comp=Z,2.9nm,0.9s,baz=68,slow=5.4,SNR=5.0						

JMA 13 10:12:14.8±0.1,36°.98N×141°.35E,h31km±1km,M3.8, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ONAJ	**Iwakimizuishiy**	**0.46**	**286**	P	Pb	10 12 24.3	-0.4
ONAJ				*e*S	Sb	10 12 31.0	-0.4
JFK	**Kawauchi**	**0.54**	**316**	P	Pb	10 12 25.6	-0.4
JFK				*e*S	Sb	10 12 33.2	-0.4
JHO	**Hitachi**	**0.73**	**240**	P	Pn	10 12 28.4	-0.5
JHO				*e*S	Sb	10 12 37.9	-0.8
JFT	**Otama**	**0.97**	**304**	*e*S	Sb	10 12 46.0	+0.4
JMM	**Marumori**	**0.99**	**334**	P	Pn	10 12 32.0	-0.5
JSB	**Shiboa**	**1.15**	**270**	*e*S	Sb	10 12 51.4	+0.8

*IDC **13** 10:15:49.2±0.7,36°.98N×141°.34E,h0km,mb4.1/13, mb1 4.3/17,mb1mx4.0/70,mbtmp4.2/17,ML4.1/4,Error ellipse: s-maj=18.8km s-min=16.1km az=96.0*

*ISCJB **13** 10:15:50.0±0.8,36°.96N±0°.02×141°.44E±0°.04,h19km±5km, mb4.3/19,Error ellipse: s-maj=5.6km s-min=3.8km az=13.1*

*JMA **13** 10:15:51.5±0.1,36°.98N×141°.34E,h28km±1km,M4.4*

JMA Felt II J1.

*NEIC **13** 10:15:54.4±0.7,36°.97N×141°.31E,h36km±6km,mb4.9/8, Error ellipse: s-maj=6.6km s-min=5.7km az=100.0*

NEIC Recorded [2 JMA] in Ibaraki.

ISC 13 10:15:49.4±2.1,36°.99N±0°.04×141°.42E±0°.05,h2km±12km, n52,σ1s05/69,mb4.3/19,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ONAJ	**Iwakimizuishiy**	**0.51**	**283**	P	**Pb**	**10 16 00.8**	**-0.3**
ONAJ				*e*S	**Sg**	**10 16 07.2**	**+1.4**
JFK	**Kawauchi**	**0.58**	**311**	P	**Pb**	**10 16 02.1**	**-0.1**
JFK				*e*S	**Sg**	**10 16 09.4**	**+1.5**
JHO	**Hitachi**	**0.78**	**241**	*e*S	**Sg**	**10 16 14.6**	**+0.1**
JMM	**Marumori**	**1.01**	**330**	*e*S	**Sg**	**10 16 21.9**	**+0.1**
JFT	**Otama**	**1.01**	**302**	P	**Pb**	**10 16 09.5**	**-0.1**
JFT				*e*S	**Sg**	**10 16 22.2**	**+0.2**
JSB	**Shiboa**	**1.20**	**269**	P	**Pb**	**10 16 12.8**	**-0.1**
JSB				*e*S	**Sg**	**10 16 27.9**	**-0.1**
JFY	**Yanaizu**	**1.43**	**287**	P	**Pn**	**10 16 16.2**	**-0.2**
JFY				*e*S	**Sg**	**10 16 34.0**	**-1.4**
JIO	**Ouri**	**1.46**	**358**	P	**Pn**	**10 16 16.2**	**-0.6**
JIO				*e*S	**Sg**	**10 16 33.9**	**-2.5**
JOU	**Okura**	**1.50**	**337**	P	**Pn**	**10 16 17.4**	**+0.1**
JOU				*e*S	**Sg**	**10 16 36.1**	**-1.5**
MJAR	**Matsushiro Arr**	**2.62**	**261**	Pn	**Pn**	**10 16 32.6**	**-0.1**
	11nm,0.3s,baz=90,slow=15,SNR=24						
MJAR				Sn	**Sn**	**10 17 06.4**	**+1.4**
	32nm,0.3s,baz=87,slow=30,SNR=5.9						
MAJO	**Matsushiro**	**2.62**	**261**	*e*Pn	**Pn**	**10 16 32.6**	**-0.1**
MAJO				*e*Sn	**Sn**	**10 17 03.9**	**-1.1**
MAT	**Matsushiro**	**2.62**	**261**	P	**Pn**	**10 16 32.9**	**+0.2**
MAT				S	**Sn**	**10 17 06.2**	**+1.2**
MJB9	**Matsu-Tunnel**	**2.62**	**261**	*e*Pn	**Pn**	**10 16 33.4**	**+0.7**
MJB9				*e*Sn	**Sn**	**10 17 03.9**	**-1.2**
INU	**Inuyama**	**3.92**	**247**	*e*Pn	**Pn**	**10 16 52.0**	**+1.5**
INU				*e*Sn	**Sn**	**10 17 34.2**	**-2.9**
JHJ2	**Mitsune**	**4.09**	**199**	*e*Pn	**Pn**	**10 16 53.9**	**+1.0**
JHJ2				*e*Sn	**Sn**	**10 17 39.2**	**-2.0**
JHJ	**Hachijo jima 2**	**4.09**	**200**	Pn	**Pn**	**10 16 52.8**	**-0.1**
	26nm,0.3s,baz=162,slow=23,SNR=10.0						
JHJ				Sn	**Sn**	**10 17 40.2**	**-1.1**
	55nm,0.3s,baz=268,slow=21,SNR=6.1						
ASAJ	**Asahikawa**	**7.17**	**7**	Pn	**Pn**	**10 17 35.0**	**-0.2**
	2.1nm,0.3s,baz=209,slow=12,SNR=7.7						
ASAJ				Sn	**Sn**	**10 18 59.2**	**+1.9**
	0.4nm,0.3s,baz=346,slow=17,SNR=2.0						
ASAJ	**Asahikawa**	**7.17**	**7**	*e*Pn	**Pn**	**10 17 36.9**	**+1.6**
ASAJ				Sn	**Sn**	**10 18 59.2**	**+1.9**
CBIJ	**Chichi jima**	**9.89**	**176**	*e*Pn	**Pn**	**10 18 13.1**	**+0.6**
CBIJ				*e*Sn	**Sn**	**10 20 03.7**	**-0.4**
JCJ	**Chichijima**	**9.89**	**176**	Pn	**Pn**	**10 18 14.4**	**+1.9**
	13nm,0.3s,baz=288,slow=19,SNR=4.2						
JOW	**Kunigami**	**15.06**	**231**	*e*Pn	**P**	**10 19 28.8**	**+0.1**
NACB	**Ninganchiao**	**21.27**	**239**	*e*P	**P**	**10 20 37.0**	**0.0**
	20nm,1.0s						
SONA0	**Songino Array**	**27.81**	**304**	*e*P	**P**	**10 21 40.5**	**+0.5**
SONM	**Songino Array**	**27.81**	**304**	P	**P**	**10 21 40.5**	**+0.5**
	1.8

WRA	**Warramunga Arr**	**52.77**	**130**	P		P	10 38 48.2	0.6
	0.4nm,1.0s,baz=311,slow=8.1,SNR=5.9							
ASAR	**Alice Springs**	**54.79**	**134**	P		P	10 39 02.7	-0.3
	0.1nm,0.6s,baz=321,slow=7.0,SNR=3.5							

ISN ***13*** *10:30:29.9±1.4, 38°.84N×43°.05E, h38km±48km, ML3.2*
ISK ***13*** *10:30:34.7, 38°.51N×43°.00E, h3km, ML3.2/15*
ATA ***13*** *10:30:34.3±0.6, 38°.47N×42°.94E, h4km±8km, ML3.9, MW3.8*
CSEM ***13*** *10:30:35.6±0.2, 38°.47N×43°.00E, h2km, ML3.3, Error ellipse: s-maj=5.7km s-min=4.1km az=157.0*
DDA ***13*** *10:30:35.4, 38°.47N×43°.02E, h15km, Ml3.3*

ISC 13 10:30:35.4±0.8, 38°.46N±0°.02×43°.01E±0°.02, h12km±6km, n97, σ1°36/123, 8C-4D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
GEVA	**Gevas**	**0.15**	**164**	*i* P		**Pg**	**10 30 38.8**	**-0.3**
GEVA				*e*S		**Sg**	**10 30 42.1**	**+0.3**
GEVA				IAML			10 30 43.6	
	comp=Z,8μm,0.5s							
GEVA	**Gevas**	**0.15**	**164**	*i* P		**Pg**	**10 30 38.9**	**-0.3**
GEVA				*i* S		**Sg**	**10 30 42.5**	**+0.7**
GEVA	**Gevas**	**0.15**	**164**	P		**Pg**	**10 30 38.9**	**-0.3**
GEVA				S		**Sg**	**10 30 42.5**	**+0.7**
TVAN	**Van**	**0.32**	**77**	*i* P		**Pg**	**10 30 41.7**	**-0.4**
TVAN				*i* S		**Sg**	**10 30 47.4**	**-1.2**
TVAN	**Van**	**0.32**	**77**	P		**Pg**	**10 30 41.7**	**-0.4**
TVAN				S		**Sg**	**10 30 47.4**	**-1.2**
VANB	**Van**	**0.33**	**65**	PG		**Pg**	**10 30 41.7**	**-0.5**
VANB				SG		**Sg**	**10 30 47.1**	**+0.4**
VANB	**Van**	**0.33**	**65**	*e*Pg		**Pg**	**10 30 41.7**	**-0.5**
VANB				*e*Sg		**Sg**	**10 30 47.1**	**+0.4**
ADCV	**BITLIS_Adilcev**	**0.41**	**328**	*i* P		**Pb**	**10 30 43.7**	**-1.1**
ADCV				*i* S		**Sb**	**10 30 50.6**	**-0.5**
ADCV	**BITLIS_Adilcev**	**0.41**	**328**	P		**Pb**	**10 30 43.7**	**-1.1**
ADCV				S		**Sb**	**10 30 50.6**	**-0.5**
ERCV	**ERCIS-VAN**	**0.62**	**25**	PG		**Pg**	**10 30 46.5**	**-1.0**
ERCV	**ERCIS-VAN**	**0.62**	**25**	*i* Pg		**Pg**	**10 30 46.5**	**-1.0**
VMUR	**Van-Muradiye**	**0.69**	**40**	*i* P		**Pb**	**10 30 48.8**	**-0.8**
VMUR				*i* S		**Sn**	**10 31 01.4**	**-0.6**
VMUR	**Van-Muradiye**	**0.69**	**40**	P		**Pb**	**10 30 48.8**	**-0.8**
GURO	**Guroymak-BITLI**	**0.77**	**277**	PG		**Pg**	**10 30 49.7**	**-0.6**
GURO				SG		**Sb**	**10 31 01.2**	**-0.1**
GURO	**Guroymak-BITLI**	**0.77**	**277**	*e*Pg		**Pg**	**10 30 49.7**	**-0.6**
GURO				*e*Sg		**Sb**	**10 31 01.2**	**-0.1**
TUTA	**Tutak**	**0.95**	**351**	*i* P		**Pg**	**10 30 53.1**	**-0.7**
TUTA				IAML			10 31 07.6	
	comp=Z,537nm,0.4s							
TUTA	**Tutak**	**0.95**	**351**	*i* P		**Pg**	**10 30 53.2**	**-0.7**
TUTA	**Tutak**	**0.95**	**351**	P		**Pg**	**10 30 53.2**	**-0.7**
SRTM	**Siirt_Merkez**	**0.97**	**242**	*i* P		**Pn**	**10 30 54.8**	**-0.2**
SRTM				*i* S		**Sn**	**10 31 09.8**	**+1.0**
SRTM	**Siirt_Merkez**	**0.97**	**242**	P		**Pn**	**10 30 54.8**	**-0.2**
CLDR	**Caldiran**	**0.99**	**46**	PG		**Pg**	**10 30 53.6**	**-0.9**
CLDR				SG		**Sb**	**10 31 07.7**	**0.0**
CLDR	**Caldiran**	**0.99**	**46**	*i* P		**Pg**	**10 30 52.6**	**-1.9**
CLDR				*i* S		**Sb**	**10 31 07.3**	**-0.4**
CLDR	**Caldiran**	**0.99**	**46**	P		**Pg**	**10 30 52.6**	**-1.9**
CLDR	**Caldiran**	**0.99**	**46**	*e*Pg		**Pg**	**10 30 53.6**	**-0.9**
CLDR				S		**Sb**	**10 31 07.3**	**-0.4**
SIRT	**Sirnak**	**1.05**	**205**	PN		**Pn**	**10 30 56.6**	**+0.5**
HAKT	**HAKKARI**	**1.06**	**148**	*i* P		**Pg**	**10 30 54.7**	**-1.1**
HAKT	**HAKKARI**	**1.06**	**148**	P		**Pg**	**10 30 54.7**	**-1.1**
SIRN	**S¨¨-rnak**	**1.07**	**206**	*i* P		**Pn**	**10 30 56.9**	**+0.5**
SIRN	**S¨¨-rnak**	**1.07**	**206**	P		**Pn**	**10 30 56.8**	**+0.5**
EKAR	**Karacoban**	**1.08**	**318**	*e*P		**Pg**	**10 30 55.2**	**-1.1**
EKAR				IAML			10 31 25.0	
	comp=Z,164nm,0.5s							
EKAR	**Karacoban**	**1.08**	**318**	*i* P		**Pg**	**10 30 55.2**	**-1.1**
EKAR	**Karacoban**	**1.08**	**318**	P		**Pg**	**10 30 55.2**	**-1.1**
AGRB	**Hanur-Agry**	**1.12**	**359**	PG		**Pg**	**10 30 56.1**	**-0.9**
DYDN	**Diyadin**	**1.21**	**26**	*e*P		**Pb**	**10 30 58.2**	**-0.2**
DYDN				IAML			10 31 28.5	
	comp=Z,59nm,0.5s							
DYDN	**Diyadin**	**1.21**	**26**	*i* P		**Pn**	**10 30 58.8**	**+0.4**
DYDN	**Diyadin**	**1.21**	**26**	P		**Pn**	**10 30 58.8**	**+0.4**
YOVA	**Hakkari_Y¨…kse**	**1.34**	**130**	*i* P		**Pb**	**10 31 00.8**	**+0.3**
YOVA	**Hakkari_Y¨…kse**	**1.34**	**130**	P		**Pb**	**10 31 00.9**	**+0.3**
VRTB	**Varto-Mus**	**1.40**	**301**	PN		**Pg**	**10 31 01.4**	**-0.9**
VRTB	**Varto-Mus**	**1.40**	**301**	*i* P		**Pg**	**10 31 01.5**	**-0.9**
VRTB	**Varto-Mus**	**1.40**	**301**	P		**Pg**	**10 31 01.5**	**-0.9**
SVAN	**Silvan-Diyarba**	**1.45**	**258**	PN		**Pg**	**10 31 02.9**	**-0.4**
SVAN	**Silvan-Diyarba**	**1.45**	**258**	*e*Pn		**Pg**	**10 31 02.9**	**-0.4**
EATA	**Eleskirt**	**1.46**	**344**	*e*P		**Pb**	**10 31 02.3**	**-0.5**
EATA				*e*S		**Sn**	**10 31 23.7**	**+2.5**
EATA				IAML			10 31 28.4	
	comp=Z,52nm,0.5s							
EATA	**Eleskirt**	**1.46**	**344**	*i* P		**Pb**	**10 31 02.2**	**-0.5**
EATA	**Eleskirt**	**1.46**	**344**	P		**Pb**	**10 31 02.2**	**-0.5**
BTMN	**Batman**	**1.48**	**248**	*i* P		**Pg**	**10 31 03.9**	**+0.1**
BTMN				*i* S		**Sg**	**10 31 24.9**	**+1.8**
BTMN	**Batman**	**1.48**	**248**	P		**Pg**	**10 31 03.9**	**+0.1**
IGDI	**IGDIR**	**1.64**	**30**	*e*P		**Pg**	**10 31 05.8**	**-1.0**
IGDI				IAML			10 31 19.8	
	comp=Z,21nm,0.6s							
IGDI				*e*S		**Sg**	**10 31 30.4**	**+2.3**
IGDI	**IGDIR**	**1.64**	**30**	*i* P		**Pg**	**10 31 06.0**	**-0.8**
HOMI	**Horasan**	**1.80**	**332**	*e*P		**Pb**	**10 31 07.7**	**-0.8**
HOMI				*e*S		**Sg**	**10 31 33.9**	**+0.5**
HOMI				IAML			10 31 38.2	
	comp=Z,55nm,0.7s							
HOMI	**Horasan**	**1.80**	**332**	*i* P		**Pb**	**10 31 07.6**	**-0.8**
TASB	**TASBURUN-IGDIR**	**1.80**	**32**	PN		**Pn**	**10 31 07.0**	**+0.6**
TASB	**TASBURUN-IGDIR**	**1.80**	**32**	*e*Pn		**Pn**	**10 31 07.0**	**+0.6**
BNGB	**Bing¨¶l**	**1.90**	**287**	PN		**Pn**	**10 31 08.3**	**+1.1**
BGOL	**Bingol**	**1.90**	**287**	*i* P		**Pb**	**10 31 10.3**	**+0.2**
BGOL	**Bingol**	**1.90**	**287**	P		**Pb**	**10 31 10.3**	**+0.2**
HYR	**Heyderabad**	**1.91**	**48**	⇑P		**Pb**	**10 31 11.5**	**-0.6**
HYR				⇓S		Sg	10 31 48.6	+12
ERZM	**Erzurum**	**1.93**	**319**	*e*P		**Pb**	**10 31 09.7**	**-0.9**
ERZM				*e*S		**Sg**	**10 31 38.5**	**+1.0**
ERZM	**Erzurum**	**1.93**	**319**	*i* P		**Pb**	**10 31 09.6**	**-1.1**
ERZM	**Erzurum**	**1.93**	**319**	P		**Pb**	**10 31 09.6**	**-1.1**
ECAT	**Cat-ERZURUM**	**1.95**	**307**	*e*P		**Pb**	**10 31 11.2**	**+0.2**
ECAT				*e*S		**Sg**	**10 31 39.8**	**+1.5**
ECAT				IAML			10 31 41.3	
	comp=Z,39nm,0.4s							
ECAT	**Cat-ERZURUM**	**1.95**	**307**	*i* P		**Pb**	**10 31 10.6**	**-0.5**
ECAT	**Cat-ERZURUM**	**1.95**	**307**	P		**Pb**	**10 31 10.6**	**-0.5**
BINT	**Bingol**	**2.01**	**283**	*e*Pn		**Pn**	**10 31 08.8**	**-0.6**
HANI	**Diyarbakir_Han**	**2.05**	**270**	*i* P		**Pb**	**10 31 12.5**	**-0.1**
HANI	**Diyarbakir_Han**	**2.05**	**270**	P		**Pb**	**10 31 12.5**	**-0.1**
NAX	**Nakhchivan**	**2.07**	**69**	⇓P		**Pb**	**10 31 12.6**	**-0.4**
NAX				⇑S		Sg	10 31 50.7	+8.6
MARD	**Mardin**	**2.10**	**238**	*i* P		**Pn**	**10 31 11.6**	**+1.1**
SENK	**Senkaya-Erzuru**	**2.16**	**347**	PN		**Pn**	**10 31 12.2**	**+0.7**
SENK	**Senkaya-Erzuru**	**2.16**	**347**	*e*Pn		**Pn**	**10 31 12.2**	**+0.7**
KARS	**Kars**	**2.17**	**1**	PN		**Pn**	**10 31 11.9**	**+0.4**
KARS	**Kars**	**2.17**	**1**	*e*Pn		**Pn**	**10 31 11.9**	**+0.4**
SBZ	**Shahbuz**	**2.20**	**64**	⇑P		**Pb**	**10 31 14.6**	**-0.6**
SBZ				⇑S		**Sg**	**10 31 53.0**	**+6.9**
MAZI	**Mazidag**	**2.25**	**245**	PN		**Pb**	**10 31 14.6**	**-1.6**
MAZI	**Mazidag**	**2.25**	**245**	*e*Pn		**Pb**	**10 31 14.6**	**-1.6**
DIY	**Diyarbakir**	**2.26**	**256**	*e*Pn		**Pb**	**10 31 15.2**	**-1.0**
EAK	**Akyaka**	**2.27**	**12**	*e*P		**Pg**	**10 31 17.8**	**-1.2**
EAK	**Akyaka**	**2.27**	**12**	*i* P		**Pg**	**10 31 17.4**	**-1.7**
DYBB	**Diyarbakir**	**2.31**	**258**	PN		**Pn**	**10 31 15.2**	**+1.8**
ORD	**Ordubad**	**2.39**	**78**	⇑P		**Pn**	**10 31 16.0**	**+1.6**
ORD				⇓S		**Sg**	**10 31 54.8**	**+2.7**
KOPT	**Kop Dagi**	**2.49**	**309**	*e*P		**Pg**	**10 31 22.7**	**-0.6**
TNCL	**Tunceli-Merkez**	**2.78**	**285**	*e*P		**Pb**	**10 31 26.4**	**+1.2**
TNCL	**Tunceli-Merkez**	**2.78**	**285**	*i* P		**Pb**	**10 31 26.1**	**+0.9**
BAYB	**BAYBURT**	**2.79**	**311**	*e*P		**Pg**	**10 31 26.8**	**-2.0**
ERZN	**Erzincan**	**2.79**	**295**	PN		**Pn**	**10 31 21.7**	**+1.6**
PTK	**Pertek**	**2.86**	**280**	PN		**Pn**	**10 31 22.8**	**+1.7**
PTK	**Pertek**	**2.86**	**280**	*e*Pn		**Pn**	**10 31 22.8**	**+1.7**
BAYT	**Ayd¨¨ntepe-Bay**	**2.94**	**312**	PN		**Pn**	**10 31 23.5**	**+1.3**
BAYT	**Ayd¨¨ntepe-Bay**	**2.94**	**312**	*e*Pn		**Pn**	**10 31 23.5**	**+1.3**
GDB	**GEDABAY**	**3.10**	**42**	⇑P		**Pb**	**10 31 28.0**	**-2.6**
EZC	**Erzincan**	**3.12**	**296**	*e*Pn		**Pn**	**10 31 21.7**	**-2.9**
QZX	**Qazax, Azerbai**	**3.17**	**34**	⇑P		**Pb**	**10 31 29.3**	**-2.5**
QZX				⇓S		**Sg**	**10 32 21.2**	**+3.8**
KELT	**Kelkit**	**3.36**	**301**	*e*P		**Pb**	**10 31 36.7**	**+1.6**
GANJ	**Ganja**	**3.37**	**49**	⇑P		**Pb**	**10 31 31.9**	**-3.2**
KEMA	**Kemaliye**	**3.61**	**284**	*e*P		**Pg**	**10 31 42.5**	**-2.2**
RTB	**Rutbah**	**5.84**	**203**	*e*Pn		**Pn**	**10 32 01.0**	**-0.9**
	SNR=5.0							
RTB				*i* Sn		**Sn**	**10 33 06.0**	**-2.9**

SNR=5.0

MEX 13 10:32:19.7±0.3, 16°.18N×98°.34W, h5km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.30**	**44**	*e*P		Pg	10 32 25.0	-0.6
PNIG				*i* S		Sg	10 32 29.7	+0.2
TLIG	**Tlapa**	**1.40**	**351**	*e*P		Pn	10 32 43.0	-3.0
TLIG				*e*S		Sb	10 32 59.9	-4.6
VHO	**Vista Hermosa**	**1.78**	**60**	*e*P		Pn	10 32 48.0	-3.4
VHO				*e*S		Sn	10 33 09.8	-4.8
PLIG	**Platanillo**	**2.47**	**333**	*e*P		Pn	10 32 59.2	-1.5
PLIG				*e*S		Sn	10 33 26.7	-4.6

IDC ***13*** *10:33:24.7±0.6, 36°.98N×141°.28E, h0km, mb3.8/19, mb1 3.9/24, mb1mx3.8/75, mbtmp3.8/24, ML3.3/4, Error ellipse: s-maj=16.3km s-min=14.6km az=122.0*
ISCJB ***13*** *10:33:25.8±0.9, 36°.98N±0°.03×141°.44E±0°.05, h21km±5km, mb3.9/20, Error ellipse: s-maj=6.6km s-min=4.6km az=22.1*
JMA ***13*** *10:33:27.0±0.1, 36°.98N×141°.35E, h29km±1km, M4.1*
JMA Felt II J1.
NEIC ***13*** *10:33:30.4±0.7, 37°.01N×141°.26E, h38km±6km, mb4.6/2, Error ellipse: s-maj=6.9km s-min=5.9km az=108.0*
NEIC Recorded [2 JMA] in Ibaraki.

ISC 13 10:33:26.8±1.6, 37°.01N±0°.04×141°.38E±0°.05, h14km±9km, n57, σ0°80/65, mb3.9/20, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.48**	**282**	P		**Pg**	**10 33 36.4**	**+0.2**
ONAJ				*e*S		**Sg**	**10 33 43.2**	**+0.5**
JFK	**Kawauchi**	**0.54**	**312**	P		**Pg**	**10 33 37.6**	**+0.1**
JFK				*e*S		**Sg**	**10 33 45.1**	**+0.4**
JHO	**Hitachi**	**0.76**	**239**	P		**Pb**	**10 33 40.6**	**-1.3**
JHO				*e*S		**Sb**	**10 33 50.2**	**-1.9**
JFT	**Otama**	**0.98**	**302**	P		**Pb**	**10 33 45.2**	**-0.4**
JFT				*e*S		**Sb**	**10 33 57.8**	**-0.6**
JMM	**Marumori**	**0.98**	**331**	P		**Pb**	**10 33 44.9**	**-0.6**
JMM				*e*S		**Sb**	**10 33 57.3**	**-1.0**
JSB	**Shiboa**	**1.17**	**269**	P		**Pn**	**10 33 48.4**	**-0.4**
JSB				*e*S		**Sb**	**10 34 03.6**	**-0.3**
JFY	**Yanaizu**	**1.40**	**287**	P		**Pn**	**10 33 51.7**	**-0.2**
JFY				*e*S		**Sn**	**10 34 09.7**	**-0.5**
JIO	**Ouri**	**1.45**	**359**	P		**Pn**	**10 33 51.7**	**-0.8**
JIO				*e*S		**Sn**	**10 34 09.6**	**-1.8**
JOU	**Okura**	**1.47**	**337**	P		**Pn**	**10 33 52.8**	**-0.2**
JOU				*e*S		**Sn**	**10 34 12.0**	**-0.1**
MJAR	**Matsushiro Arr**	**2.59**	**261**	Pn		**Pn**	**10 34 07.7**	**-0.6**
	6.7nm,0.3s,baz=90,slow=15,SNR=32							
MJAR				Sn		**Sn**	**10 34 40.5**	**+0.8**
	16nm,0.3s,baz=84,slow=27,SNR=4.6							
MAJO	**Matsushiro**	**2.59**	**261**	*e*Pn		**Pn**	**10 34 08.9**	**+0.6**
MAJO				*e*Sn		**Sn**	**10 34 40.5**	**+0.8**
MAT	**Matsushiro**	**2.59**	**261**	P		**Pn**	**10 34 08.8**	**+0.5**
MAT				S		**Sn**	**10 34 41.6**	**+1.9**
MJB9	**Matsu-Tunnel**	**2.59**	**261**	*e*Pn		**Pn**	**10 34 08.9**	**+0.6**
INU	**Inuyama**	**3.90**	**246**	*e*Pn		**Pn**	**10 34 27.1**	**+0.8**
JHJ2	**Mitsune**	**4.09**	**199**	*e*Pn		**Pn**	**10 34 30.6**	**+1.7**
JHJ	**Hachijo jima 2**	**4.09**	**199**	Pn		**Pn**	**10 34 28.4**	**-0.6**
	15nm,0.3s,baz=294,slow=23,SNR=10							
JHJ				Sn		**Sn**	**10 35 15.7**	**-1.0**
	44nm,0.3s,baz=61,slow=23,SNR=5.7							
ASAJ	**Asahikawa**	**7.16**	**7**	Pn		**Pn**	**10 35 11.5**	**+0.4**
	0.6nm,0.3s,baz=225,slow=10,SNR=7.1							
ASAJ	**Asahikawa**	**7.16**	**7**	*e*Pn		**Pn**	**10 35 11.8**	**+0.7**
USRK	**Ussuriysk Ar.**	**10.13**	**318**	Pn		**Pn**	**10 35 52.1**	**+0.4**
	0.1nm,0.3s,baz=136,slow=14,SNR=2.2							
KSRS	**Korea Array**	**10.74**	**276**	Pn		**Pn**	**10 36 00.9**	**+0.8**
	0.1nm,0.3s,baz=89,slow=14,SNR=2.7							
KSAR	**Wonju Array Be**	**10.78**	**276**	Pn		**Pn**	**10 36 00.9**	**+0.3**
H11N2	**WAKE ISLAND Hy**	**28.15**	**121**	T		T	11 08 46.8	
	baz=313,slow=75,SNR=71							
H11N1	**WAKE ISLAND Hy**	**28.16**	**121**	T		T	11 08 48.6	
	baz=313,slow=75,SNR=98							
H11N3	**WAKE ISLAND Hy**	**28.17**	**121**	T		T	11 08 47.2	
	baz=313,slow=75,SNR=68							
H11S1	**WAKE ISLAND Hy**	**28.86**	**123**	T		T	11 10 13.8	
	baz=314,slow=74,SNR=104							
H11S3	**WAKE ISLAND Hy**	**28.86**	**123**	T		T	11 10 14.8	
	baz=131,slow=74,SNR=89							
H11S2	**WAKE ISLAND Hy**	**28.88**	**123**	T		T	11 09 40.7	
	SNR=65							
CMAR	**Chiang Mai Arr**	**41.47**	**255**	P		**P**	**10 41 12.8**	**-0.6**
	0.4nm,0.3s,baz=47,slow=7.9,SNR=3.5							
ZAA1	**Zalesovo Array**	**41.92**	**312**	*e*P		**P**	**10 41 15.8**	**-0.8**
ZALV	**Zalesovo Beam**	**41.92**	**312**	P		**P**	**10 41 15.8**	**-0.8**
	1.9nm,0.5s,baz=88,slow=7.0,SNR=4.2							
MK01	**Makanchi Array**	**44.11**	**302**	*e*P		**P**	**10 41 34.3**	**-0.3**
MK31	**Makanchi Array**	**44.11**	**302**	*e*P		**P**	**10 41 34.8**	**+0.2**
MK32	**Makanchi Array**	**44.11**	**302**	*e*P		**P**	**10 41 33.8**	**-0.8**
MKAR	**Makanchi Array**	**44.11**	**302**	P		**P**	**10 41 33.8**	**-0.8**
	1.0nm,0.6s,baz=88,slow=10.0,SNR=10							
MKAR	**Makanchi Array**	**44.11**	**302**	*e*P		**P**	**10 41 34.8**	**+0.2**
	9.8nm,0.8s							
KURK	**Kurchatov**	**45.93**	**308**	*e*P		**P**	**10 41 48.9**	**-0.1**
KURBB	**Kurchatov Arra**	**46.00**	**308**	P		**P**	**10 41 48.9**	**-0.6**
	2.0nm,0.5s,baz=84,slow=8.2,SNR=10							
ILAR	**Eielson Array**	**49.53**	**32**	P		**P**	**10 42 17.8**	**+1.1**
	0.5nm,0.7s,baz=267,slow=6.2,SNR=7.5							
BVAR	**Borovoye Array**	**50.57**	**312**	P		**P**	**10 42 24.0**	**-0.8**
	0.4nm,0.5s,baz=87,slow=12,SNR=3.1							
BVAR				PcP		**PcP**	**10 43 42.7**	**+0.3**
	0.9nm,0.6s,baz=93,slow=3.0,SNR=5.4							
INK	**Inuvik**	**54.42**	**27**	P		**P**	**10 42 53.5**	**+0.5**
	0.7nm,0.6s,baz=286,slow=9.2,SNR=5.6							
ARU	**Arti**	**56.37**	**319**	P		**P**	**10 43 06.8**	**-0.4**
	1.6nm,0.3s,baz=72,slow=2.9,SNR=4.1							
WR1	**Warramunga Arr**	**57.03**	**188**	*e*P		**P**	**10 43 11.3**	**-0.9**
	7.8nm,1.3s							
WRA	**Warramunga Arr**	**57.03**	**188**	P		**P**	**10 43 11.3**	**-1.0**
	1.6nm,0.6s,baz=4.8,slow=7.5,SNR=21							
AKTO	**Aktyubinsk**	**58.68**	**312**	P		**P**	**10 43 23.9**	**+0.2**
	1.4nm,0.8s,baz=57,slow=12,SNR=3.7							
ASAR	**Alice Springs**	**60.76**	**188**	P		**P**	**10 43 38.0**	**-0.1**
	0.9nm,0.7s,baz=9.2,slow=8.8,SNR=11							
YKA	**Yellowknife Ar**	**63.84**	**30**	P		**P**	**10 43 58.5**	**+0.1**
	0.3nm,0.7s,baz=302,slow=6.6,SNR=6.3							
FIA0	**FINESS Array S**	**68.83**	**332**	*e*P		**P**	**10 44 29.7**	**-0.6**
FINES	**FINESS Array B**	**68.83**	**332**	P		**P**	**10 44 29.7**	**-0.6**
	0.8nm,0.8s,baz=66,slow=6.7,SNR=2.3							
HFS	**Hagfors**	**74.10**	**336**	P		**P**	**10 45 02.8**	**+0.6**
	0.5nm,0.5s,baz=350,slow=7.3,SNR=3.4							
NB200	**NORSAR Array S**	**74.20**	**337**	*e*P		**P**	**10 45 02.8**	**0.0**
NOA	**NORSAR Array B**	**74.20**	**337**	P		**P**	**10 45 02.8**	**0.0**
	1.6nm,1.0s,baz=51,slow=5.1,SNR=3.1							
AKASG	**Malin Array Be**	**74.31**	**322**	P		**P**	**10 45 03.0**	**-0.5**
	0.5nm,0.4s,baz=45,slow=5.8,SNR=4.7							
NVAR	**Mina Array Bea**	**75.02**	**53**	P		**P**	**10 45 08.5**	**+0.3**
	0.4nm,0.7s,baz=264,slow=1.5,SNR=4.4							
PDAR	**Pinedale Array**	**77.70**	**45**	P		**P**	**10 45 24.4**	**+1.1**
	0.4nm,0.7s,baz=281,slow=3.0,SNR=4.8							
LTX	**Lajitas**	**90.16**	**52**	*e*P		**P**	**10 46 28.2**	**+1.2**
TXAR	**Lajitas Array**	**90.16**	**52**	P		**P**	**10 46 28.2**	**+1.2**
	0.4nm,0.7s,baz=302,slow=3.1,SNR=6.0							
LPAZ	**La Paz**	**146.73**	**60**	PKPbc		**PKPbc**	**10 53 10.3**	**+0.8**
	0.8nm,0.7s,baz=35,slow=7.3,SNR=4.2							

ISCJB ***13*** *10:37:55.7±1.1, 36°.97N±0°.05×141°.48E±0°.08, h10km, mb3.3/2, Error ellipse: s-maj=9.4km s-min=7.4km az=179.1*
IDC ***13*** *10:37:55.9±3.2, 37°.12N×141°.42E, h0km, mb3.5/2, mb1 3.3/4, mb1mx3.1/66, mbtmp3.4/4, ML2.8/2, Error ellipse: s-maj=53.8km s-min=34.1km az=105.0*
JMA ***13*** *10:37:57.8±0.1, 36°.98N×141°.36E, h29km±1km, M3.3*

ISC 13 10:37:57.3±1.6, 37°.00N±0°.06×141°.40E±0°.09, h10km, n10, σ1°01/15, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.49**	**282**	P		**Pg**	**10 38 07.3**	**+0.4**
ONAJ				S		**Sb**	**10 38 14.1**	**-1.2**
JFK	**Kawauchi**	**0.56**	**311**	P		**Pg**	**10 38 08.5**	**+0.4**
JHO	**Hitachi**	**0.77**	**240**	P		**Pg**	**10 38 11.5**	**-0.6**
JHO				S		**Sg**	**10 38 21.4**	**-0.8**
JMM	**Marumori**	**0.99**	**331**	P		**Pg**	**10 38 15.8**	**-0.5**
JFT	**Otama**	**0.99**	**302**	P		**Pg**	**10 38 16.1**	**-0.3**
MJAR	**Matsushiro Arr**	**2.60**	**261**	Pn		**Pn**	**10 38 39.6**	**+0.2**
	1.2nm,0.3s,baz=90,slow=15,SNR=4.4							
MJAR				Sn		**Sn**	**10 39 12.9**	**+1.8**
	3.0nm,0.3s,baz=88,slow=28,SNR=5.0							
MAT	**Matsushiro**	**2.60**	**261**	P		**Pn**	**10 38 39.7**	**+0.3**
MAT				S		**Sn**	**10 39 12.7**	**+1.6**
JHJ	**Hachijo jima 2**	**4.09**	**199**	Pn		**Pn**	**10 39 01.4**	**+1.5**
	2.6nm,0.3s,baz=337,slow=7.7,SNR=2.7							
JHJ				Sn		**Sn**	**10 39 47.1**	**-0.7**
	5.3nm,0.3s,baz=252,slow=20,SNR=2.6							
ZALV	**Zalesovo Beam**	**41.93**	**312**	P		**P**	**10 45 47.4**	**-0.4**
	0.6nm,0.6s,baz=90,slow=7.2,SNR=2.5							
MKAR	**Makanchi Array**	**44.13**	**302**	P		**P**	**10 46 05.4**	**-0.4**
	0.3nm,0.8s,baz=96,slow=9.1,SNR=3.2							

ISCJB ***13*** *10:38:34.9±1.0, 2°.8N±0°.1×89°.79E±0°.09, h10km, mb3.9/6, Error ellipse: s-maj=22.5km s-min=10.7km az=24.2*
IDC ***13*** *10:38:36.1±1.5, 2°.94N×90°.05E, h0km, mb3.8/6, mb1 3.9/8, mb1mx3.6/65, mbtmp3.8/8, ML4.1/1, Error ellipse: s-maj=47.8km s-min=21.1km az=55.0*

ISC 13 10:38:37.4±1.3, 2°.9N±0°.2×90°.0E±0°.1, h10km, n12, σ1°76/10, mb4.0/6, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**10.20**	**295**	Pn		**Pn**	**10 41 06.5**	**+2.5**
	1.5nm,0.3s,baz=116,slow=13,SNR=13							
PALK				Sn		**Sn**	**10 42 56.2**	**-2.3**
	5.7nm,0.3s,baz=114,slow=0.7,SNR=10							
CMAR	**Chiang Mai Arr**	**17.77**	**29**	P		**Pn**	**10 42 46.0**	**+0.9**
	baz=222,slow=12,SNR=5.7							
H01W3	**Cape Leeuwin H**	**43.91**	**151**	T		T	11 32 52.4	
	baz=326,slow=74,SNR=6.3							
H01W2	**Cape Leeuwin H**	**43.92**	**151**	T		T	11 32 54.3	
	baz=326,slow=74,SNR=5.8							
H01W1	**Cape Leeuwin H**	**43.93**	**151**	T		T	11 32 51.9	
	baz=326,slow=74,SNR=5.6							
MKAR	**Makanchi Array**	**44.22**	**352**	P		**P**	**10 46 46.3**	**-0.5**
	0.5nm,0.6s,baz=172,slow=9.8,SNR=5.0							

JSJ				*e*S	**Sn**	**11 02 46.7**	**-1.8**
JZO	**Okuchi**	**2.53**	**345**	P	**Pn**	**11 02 20.7**	**+0.9**
JZO				*e*S	**Sn**	**11 02 50.3**	**-0.3**
JTSN	**Tsuno**	**2.54**	**2**	P	**Pn**	**11 02 20.2**	**+0.2**
JTSN				*e*S	**Sn**	**11 02 50.7**	**-0.3**
JTK	**Tokunoshima**	**2.86**	**229**	P	**Pn**	**11 02 25.3**	**+0.9**
JIU2	**Izumi 2**	**2.88**	**350**	P	**Pn**	**11 02 25.2**	**+0.5**
JNU	**Nakatsue**	**3.44**	**353**	Pn	**Pn**	**11 02 33.5**	**+1.1**
	4.3nm,0.3s,baz=187,slow=9.6,SNR=33						
JNU				Sn	**Sn**	**11 03 11.3**	**-2.0**
	2.5nm,0.3s,baz=167,slow=20,SNR=4.8						
JOW	**Kunigami**	**3.95**	**225**	Pn	**Pn**	**11 02 38.1**	**-1.3**
	1.4nm,0.3s,baz=61,slow=19,SNR=5.3						
JOW				Sn	**Sn**	**11 03 24.2**	**-1.6**
	3.0nm,0.3s,baz=229,slow=20,SNR=3.2						
MAT	**Matsushiro**	**8.91**	**38**	P	**Pn**	**11 03 47.8**	**+0.3**
MJAR	**Matsushiro Arr**	**8.91**	**38**	Pn	**Pn**	**11 03 48.1**	**+0.6**
	1.3nm,0.3s,baz=246,slow=13,SNR=11						
SONM	**Songino Array**	**26.42**	**320**	P	**P**	**11 07 14.7**	**-0.8**
	0.5nm,0.5s,baz=149,slow=9.2,SNR=3.7						
CMAR	**Chiang Mai Arr**	**31.55**	**257**	P	**P**	**11 08 01.4**	**0.0**
	0.2nm,0.3s,baz=49,slow=8.7,SNR=3.7						
SEY	**Seymchan**	**35.92**	**16**	P	**P**	**11 08 38.5**	**-0.3**
	0.6nm,0.4s,baz=135,slow=2.9,SNR=7.2						
MKAR	**Makanchi Array**	**41.44**	**308**	P	**P**	**11 09 23.9**	**-1.5**
	0.1nm,0.5s,baz=96,slow=9.4,SNR=2.5						
KURBB	**Kurchatov Arra**	**44.38**	**313**	P	**P**	**11 09 48.3**	**-0.9**
	0.2nm,0.5s,baz=101,slow=9.5,SNR=2.9						
WRA	**Warramunga Arr**	**49.43**	**176**	P	**P**	**11 10 28.5**	**-0.4**
	0.4nm,0.6s,baz=355,slow=8.3,SNR=3.3						
BVAR	**Borovoye Array**	**49.63**	**316**	P	**P**	**11 10 30.4**	**+0.2**
	0.4nm,0.5s,baz=90,slow=5.8,SNR=2.5						
ASAR	**Alice Springs**	**53.11**	**177**	P	**P**	**11 10 58.1**	**+1.6**
	0.3nm,0.5s,baz=11,slow=13,SNR=11						
ILAR	**Eielson Array**	**60.07**	**29**	P	**P**	**11 11 47.2**	**+1.6**
	0.2nm,0.7s,baz=287,slow=9.6,SNR=4.6						
KBZ	**Khabaz**	**69.13**	**309**	P	**P**	**11 12 45.9**	**+0.8**
	2.0nm,0.9s,baz=156,slow=5.1,SNR=4.4						
FINES	**FINESS Array B**	**71.22**	**331**	P	**P**	**11 12 57.6**	**+0.1**
	0.6nm,0.4s,baz=78,slow=10,SNR=5.1						
YKA	**Yellowknife Ar**	**74.21**	**26**	P	**P**	**11 13 15.5**	**+0.2**
	0.4nm,0.8s,baz=300,slow=5.6,SNR=9.3						
AKASG	**Malin Array Be**	**74.70**	**320**	P	**P**	**11 13 17.1**	**-1.3**
	0.3nm,0.4s,baz=49,slow=6.5,SNR=4.7						
BRTR	**Keskin Array B**	**77.09**	**308**	P	**P**	**11 13 33.1**	**+0.6**
	1.1nm,0.7s,baz=79,slow=6.4,SNR=4.6						
NVAR	**Mina Array Bea**	**86.11**	**48**	P	**P**	**11 14 20.6**	**+0.3**
	0.5nm,0.6s,baz=304,slow=5.6,SNR=4.0						

*ISCJB **13** 11:03:54.5±1.2,36°.93N±0°.04×141°.49E±0°.05,h8km±6km, mb3.6/7,Error ellipse: s-maj=6.6km s-min=6.2km az=1.6*
*IDC **13** 11:03:55.4±0.9,36°.93N×141°.34E,h0km,mb3.6/7, mb1 3.7/10,mb1mx3.5/70,mbtmp3.6/10,ML3.4/3,Error ellipse: s-maj=25.2km s-min=17.8km az=100.0*
*JMA **13** 11:03:57.5±0.1,36°.93N×141°.34E,h30km±1km,M4.0*
JMA Felt I J1.

ISC 13 11:03:56.2±1.9,36°.94N±0°.04×141°.32E±0°.07,h6km±12km, n25,σ0°55/29,mb3.7/7,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ONAJ	**Iwakimizuishiy**	**0.45**	**292**	P	**Pb**	**11 04 07.0**	**+0.4**
ONAJ				*e*S	**Sb**	**11 04 13.4**	**-0.1**
JFK	**Kawauchi**	**0.56**	**321**	P	**Pb**	**11 04 08.7**	**+0.2**
JFK				*e*S	**Sb**	**11 04 16.2**	**-0.5**
JHO	**Hitachi**	**0.68**	**242**	P	**Pb**	**11 04 10.5**	**0.0**
JHO				*e*S	**Sb**	**11 04 19.9**	**-0.3**
JFT	**Otama**	**0.97**	**307**	P	**Pn**	**11 04 15.9**	**-0.6**
JFT				*e*S	**Sb**	**11 04 29.1**	**+0.4**
JMM	**Marumori**	**1.02**	**336**	P	**Pg**	**11 04 15.7**	**-0.1**
JMM				*e*S	**Sg**	**11 04 29.3**	**+0.3**
JSB	**Shiboa**	**1.12**	**272**	P	**Pn**	**11 04 18.6**	**+0.1**
JSB				*e*S	**Sn**	**11 04 33.8**	**-0.4**
JYT	**Yasato**	**1.15**	**232**	P	**Pb**	**11 04 17.3**	**-1.1**
JFY	**Yanaizu**	**1.37**	**291**	P	**Pb**	**11 04 22.2**	**-0.1**
JFY				*e*S	**Sn**	**11 04 40.2**	**-0.2**
MJAR	**Matsushiro Arr**	**2.52**	**262**	Pn	**Pn**	**11 04 38.7**	**+0.9**
	6.7nm,0.3s,baz=89,slow=14,SNR=44						
MJAR				Sn	**Sb**	**11 05 13.8**	**+0.4**
	9.2nm,0.3s,baz=98,slow=20,SNR=5.4						
MAT	**Matsushiro**	**2.53**	**262**	P	**Pn**	**11 04 39.0**	**+1.1**
MAT				S	**Sb**	**11 05 12.8**	**-0.6**
JHJ	**Hachijo jima 2**	**4.01**	**199**	Pn	**Pn**	**11 04 58.9**	**+0.7**
	5.9nm,0.3s,baz=161,slow=23,SNR=10						
JHJ				Sn	**Sn**	**11 05 46.1**	**+0.6**
	23nm,0.3s,baz=251,slow=23,SNR=5.9						
ASAJ	**Asahikawa**	**7.24**	**7**	Pn	**Pn**	**11 05 42.0**	**-0.6**
	0.6nm,0.3s,baz=220,slow=7.4,SNR=8.2						
H11N2	**WAKE ISLAND Hy**	**28.16**	**120**	T	T	11 39 12.6	
	baz=313,slow=75,SNR=448						
H11N1	**WAKE ISLAND Hy**	**28.17**	**121**	T	T	11 39 13.9	
	baz=313,slow=75,SNR=251						
H11N3	**WAKE ISLAND Hy**	**28.18**	**120**	T	T	11 39 17.3	
	baz=313,slow=75,SNR=252						
H11S1	**WAKE ISLAND Hy**	**28.87**	**123**	T	T	11 40 05.8	
	baz=315,slow=76,SNR=92						
H11S3	**WAKE ISLAND Hy**	**28.87**	**123**	T	T	11 40 05.4	
	baz=315,slow=76,SNR=72						
H11S2	**WAKE ISLAND Hy**	**28.89**	**123**	T	T	11 40 05.1	
	baz=315,slow=76,SNR=47						
ZALV	**Zalesovo Beam**	**41.92**	**312**	P	**P**	**11 11 47.2**	**-0.2**
	1.0nm,0.5s,baz=71,slow=6.4,SNR=4.7						
MKAR	**Makanchi Array**	**44.10**	**302**	P	**P**	**11 12 05.0**	**-0.2**
	0.8nm,0.7s,baz=87,slow=9.7,SNR=8.0						
KURBB	**Kurchatov Arra**	**46.00**	**308**	P	**P**	**11 12 20.2**	**0.0**
	1.2nm,0.7s,baz=86,slow=8.0,SNR=8.3						
ILAR	**Eielson Array**	**49.62**	**32**	P	**P**	**11 12 48.2**	**+0.1**
	0.3nm,0.8s,baz=272,slow=5.7,SNR=5.1						
WRA	**Warramunga Arr**	**56.95**	**188**	P	**P**	**11 13 41.7**	**-0.8**
	0.6nm,0.6s,baz=5.8,slow=7.2,SNR=9.6						
ASAR	**Alice Springs**	**60.68**	**188**	P	**P**	**11 14 08.5**	**+0.1**
	0.4nm,0.9s,baz=18,slow=13,SNR=3.7						
YKA	**Yellowknife Ar**	**63.93**	**30**	P	**P**	**11 14 30.2**	**+0.5**
	0.1nm,0.7s,baz=309,slow=7.9,SNR=2.5						

*ISCJB **13** 11:06:07.9±0.5,50°.25N±0°.03×18°.84E±0°.03,h0km,Error ellipse: s-maj=4.7km s-min=2.5km az=8.5*
*CSEM **13** 11:06:08.0±0.5,50°.29N×18°.89E,h2km,Error ellipse: s-maj=10.6km s-min=3.9km az=22.0*
*PRU **13** 11:06:09.3,50°.24N×18°.86E,h0km*
*WAR **13** 11:06:09.8,50°.24N×18°.93E,h1km,Mw2.5*

ISC 13 11:06:08.7±0.8,50°.24N±0°.03×18°.87E±0°.02,h0km,n29, σ0°81/46,Poland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CHZP	**Chorzow**	**0.10**	**58**	*e*Pg	**Pg**	**11 06 10.7**	**+0.1**
CHZP				*e*Sg	**Sg**	**11 06 11.5**	**-0.3**
CHZP	**Chorzow**	**0.10**	**58**	*e*Pg	**Pg**	**11 06 10.7**	**+0.1**
CHZP				*e*Sg	**Sg**	**11 06 11.5**	**-0.3**
OJC	**Ojcow**	**0.60**	**92**	*e*Pg	**Pg**	**11 06 20.3**	**+0.1**
OJC				*e*Sg	**Sg**	**11 06 28.0**	**0.0**
OJC	**Ojcow**	**0.60**	**92**	*e*Pg	**Pg**	**11 06 20.3**	**+0.1**
OJC				*e*Sg	**Sg**	**11 06 28.0**	**0.0**
OKC	**Ostrava-Krasne**	**0.61**	**229**	*e*PG	**Pg**	**11 06 21.0**	**+0.5**
OKC				*e*SG	**Sg**	**11 06 29.2**	**+0.8**
	comp=Z,20nm,0.6s						
OKC	**Ostrava-Krasne**	**0.61**	**229**	Pg	**Pg**	**11 06 21.0**	**+0.5**
OKC				Sg	**Sg**	**11 06 29.2**	**+0.8**
	20nm,0.6s						
MORC	**Moravsky Berou**	**0.97**	**242**	*e*Sg	**Sb**	**11 06 41.4**	**-0.4**
LANS	**Liptovska Anna**	**1.16**	**160**	*e*PG	**Pg**	**11 06 31.0**	**+0.1**
LANS				*e*SG	**Sb**	**11 06 46.7**	**-0.5**
NIE	**Niedzica**	**1.24**	**131**	*e*Pg	**Pg**	**11 06 32.6**	**+0.1**
NIE				*e*Sg	**Sb**	**11 06 49.3**	**-0.3**
NIE	**Niedzica**	**1.24**	**131**	*e*Pg	**Pg**	**11 06 32.6**	**+0.1**
NIE				*e*Sg	**Sb**	**11 06 49.3**	**-0.3**
NIE	**Niedzica**	**1.24**	**131**	*e*Pg	**Pg**	**11 06 32.6**	**+0.1**
NIE				*e*Sg	**Sb**	**11 06 49.3**	**-0.3**
KRLC	**Kraliky**	**1.35**	**264**	*e*PG	**Pg**	**11 06 33.6**	**-1.0**
KRLC				*e*SG	**Sg**	**11 06 52.1**	**0.0**
	comp=Z,4.2nm,0.7s						
KRLC	**Kraliky**	**1.35**	**264**	Pg	**Pg**	**11 06 33.6**	**-1.0**
KRLC				Sg	**Sg**	**11 06 52.1**	**0.0**
	4.2nm,0.7s						
DPC	**Dobruska-Polom**	**1.64**	**275**	*e*PG	**Pn**	**11 06 39.1**	**+0.3**
DPC				*e*SG	**Sg**	**11 07 01.5**	**+0.3**
	comp=Z,11nm,0.7s						
DPC	**Dobruska-Polom**	**1.64**	**275**	Pg	**Pn**	**11 06 39.1**	**+0.3**
DPC				Sg	**Sg**	**11 07 01.5**	**+0.3**
	11nm,0.7s						
VRAC	**Vranov**	**1.74**	**239**	*e*Pn	**Pb**	**11 06 41.2**	**-0.4**
STHS	**Stebnicka Huta**	**1.75**	**117**	*e*Sn	**Sg**	**11 07 06.0**	**+1.2**
STHS	**Stebnicka Huta**	**1.75**	**117**	*e*SN	**Sg**	**11 07 06.0**	**+1.2**
STHS				*e*LG	Lg	11 07 11.1	
KSP	**Ksiaz**	**1.75**	**291**	*e*Pg	**Pg**	**11 06 42.4**	**+0.2**
KSP				*e*Sg	**Sg**	**11 07 05.6**	**+0.8**
KSP	**Ksiaz**	**1.75**	**291**	*e*Pg	**Pg**	**11 06 42.4**	**+0.2**
KSP				*e*Sg	**Sg**	**11 07 05.6**	**+0.8**
VYHS	**Vyhne**	**1.75**	**181**	*e*Pg	**Pb**	**11 06 41.5**	**-0.2**
VYHS	**Vyhne**	**1.75**	**181**	*e*PN	**Pb**	**11 06 41.5**	**-0.2**
VYHS				*e*SN	**Sn**	**11 07 02.6**	**-0.7**
VYHS				*e*LG	Lg	11 07 05.7	
UPC	**Upice**	**1.85**	**279**	*e*SG	**Sg**	**11 07 07.9**	**-0.1**
UPC	**Upice**	**1.85**	**279**	Sg	**Sg**	**11 07 07.9**	**-0.1**
PRU	**Pruhonice**	**2.79**	**266**	*e*SG	**Sg**	**11 07 38.3**	**-0.1**
PRU	**Pruhonice**	**2.79**	**266**	Sg	**Sg**	**11 07 38.3**	**-0.1**
BRG	**Berggiesshubel**	**3.20**	**283**	SG	**Sg**	**11 07 55.8**	**+4.2**
	2.7nm,0.6s						
KHC	**Kasperske Hory**	**3.61**	**254**	*e*SG	**Sg**	**11 08 04.1**	**-0.5**
KHC	**Kasperske Hory**	**3.61**	**254**	Sg	**Sg**	**11 08 04.1**	**-0.5**

UCR 13 11:09:40.6±1.2,12°.54N×87°.76W,h66km±12km,ML3.7, 1C-1D,Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CSGN	**Cosiguina Volc**	**0.48**	**24**	*e*P	Pn	11 09 53.9	+0.9
CRIN	**San Cristobal**	**0.71**	**77**	*e*P	Pn	11 09 56.3	+0.9
CRIN				AML	AML	11 10 09.1	
	comp=N,3μm,0.3s						
CNCH	**Conchagua**	**0.74**	**354**	*e*P	Pn	11 09 55.8	0.0
CNCH				*e*S	Sn	11 10 07.9	+0.9
LCND	**La Caˆ–ada**	**0.78**	**350**	⇓*i*P	Pn	11 09 56.0	-0.2
LCND				*e*S	Sn	11 10 08.1	+0.4
LCND				IAML		11 10 14.0	
	comp=Z,2μm,0.3s						
TELN	**Telica**	**0.90**	**86**	*e*P	Pn	11 09 58.0	+0.2
VSM	**San Miguel**	**1.02**	**330**	*e*P	Pn	11 09 59.9	+0.5
LCY	**Lacayo**	**1.02**	**329**	*e*P	Pn	11 09 59.6	+0.2
LCY				*e*S	Sn	11 10 13.4	+0.1
CNGN	**Cerro Negro**	**1.03**	**92**	*e*P	Pn	11 09 59.0	-0.4
CNGN				AML	AML	11 10 17.7	
	comp=E,483nm,0.1s						
PACA	**Pacayal**	**1.08**	**329**	*e*P	Pn	11 10 00.4	+0.3
PACA				*e*S	Sn	11 10 14.7	+0.2
PACA				IAML		11 10 19.4	
	comp=Z,7μm,0.2s						
COPN	**Copaltepe**	**1.19**	**107**	*e*P	Pn	11 10 01.4	0.0
COPN				*e*S	Sn	11 10 16.9	0.0
COPN				AML	AML	11 10 17.8	
	comp=Z,777nm,0.2s						
MOMN	**Momotombo**	**1.19**	**96**	*e*P	Pn	11 10 01.8	+0.3
MOMN				⇑*e*P		11 10 01.8	
TECA	**Tecapa**	**1.20**	**323**	*e*P	Pn	11 10 01.6	0.0
CAHU	**Cacacuatique**	**1.30**	**340**	*e*P	Pn	11 10 03.4	+0.3
XAVN	**Gruta Xavier**	**1.45**	**105**	*e*P	Pn	11 10 05.2	+0.4
ESTN	**Estel**	**1.46**	**67**	*e*P	Pn	11 10 05.6	+0.5
ESTN				*e*S	Sn	11 10 24.6	+1.2
TISN	**Laguna Tiscapa**	**1.50**	**105**	*e*P	Pn	11 10 04.8	-0.8
MGAN	**Managua**	**1.52**	**105**	*e*S	Sn	11 10 25.4	+0.6
LFRS	**El Faro**	**1.67**	**310**	*e*P	Pn	11 10 07.7	-0.2
MATN	**Matagalpa**	**1.83**	**77**	*e*P	Pn	11 10 10.3	+0.3
MATN				*e*S	Sn	11 10 32.5	+0.3

*ISCJB **13** 11:10:18.6±1.2,37°.01N±0°.04×141°.48E±0°.07,h19km±7km, mb3.7/13,Error ellipse: s-maj=9.4km s-min=6.1km az=23.3*
*IDC **13** 11:10:18.1±0.7,37°.01N×141°.22E,h0km,mb3.7/13, mb1 3.8/17,mb1mx3.7/68,mbtmp3.7/17,ML3.1/4,Error ellipse: s-maj=18.2km s-min=16.6km az=111.0*
*JMA **13** 11:10:20.0±0.1,37°.01N×141°.39E,h23km±1km,M3.8*

ISC 13 11:10:18.9±3.4,36°.99N±0°.05×141°.26E±0°.06,h5km±21km, n30,σ0°98/33,mb3.8/13,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ONAJ	**Iwakimizuishiy**	**0.39**	**286**	P	**Pn**	**11 10 29.7**	**-1.5**
ONAJ				S	**Sb**	**11 10 36.4**	**+1.9**
JFK	**Kawauchi**	**0.48**	**320**	P	**Pb**	**11 10 30.6**	**+0.7**
JFK				S	**Sb**	**11 10 37.8**	**+0.5**
JHO	**Hitachi**	**0.67**	**236**	P	**Pn**	**11 10 34.3**	**-0.7**
JHO				S	**Sn**	**11 10 44.8**	**-1.1**
JFT	**Otama**	**0.91**	**306**	P	**Pn**	**11 10 38.4**	**+0.1**
JFT				S	**Sn**	**11 10 51.3**	**-0.4**
JMM	**Marumori**	**0.95**	**337**	P	**Pb**	**11 10 37.5**	**-0.3**
JMM				S	**Sb**	**11 10 50.2**	**-0.4**
JSB	**Shiboa**	**1.07**	**269**	P	**Pn**	**11 10 41.8**	**+1.2**
JSB				S	**Sn**	**11 10 57.4**	**+1.5**
MJAR	**Matsushiro Arr**	**2.49**	**261**	Pn	**Pn**	**11 11 01.3**	**+1.2**
	4.1nm,0.3s,baz=89,slow=15,SNR=23						
MJAR				Sn	**Sb**	**11 11 36.1**	**+1.1**
	8.1nm,0.3s,baz=42,slow=24,SNR=6.0						
MAT	**Matsushiro**	**2.49**	**261**	P	**Pb**	**11 11 02.5**	**-1.6**
MAT				*e*S	**Sb**	**11 11 34.8**	**-0.3**
JHJ	**Hachijo jima 2**	**4.05**	**198**	Pn	**Pn**	**11 11 22.7**	**+1.2**
	5.3nm,0.3s,baz=136,slow=23,SNR=6.4						
JHJ				Sn	**Sn**	**11 12 10.0**	**+0.7**
	9.7nm,0.3s,baz=78,slow=9.3,SNR=2.8						
ASAJ	**Asahikawa**	**7.19**	**8**	Pn	**Pn**	**11 12 03.9**	**-0.7**
	0.4nm,0.3s,baz=214,slow=9.6,SNR=5.9						
KSRS	**Korea Array**	**10.65**	**276**	Pn	**Pn**	**11 12 53.6**	**+1.6**
	0.1nm,0.3s,baz=93,slow=16,SNR=2.5						
SONM	**Songino Array**	**27.71**	**304**	P	**P**	**11 16 07.2**	**-0.9**
	0.4nm,0.5s,baz=103,slow=8.5,SNR=3.5						
H11N2	**WAKE ISLAND Hy**	**28.23**	**121**	T	T	11 45 38.4	
	baz=314,slow=75,SNR=104						
H11N1	**WAKE ISLAND Hy**	**28.24**	**121**	T	T	11 45 39.0	
	baz=314,slow=75,SNR=92						
H11N3	**WAKE ISLAND Hy**	**28.25**	**121**	T	T	11 45 41.3	
	baz=314,slow=75,SNR=124						
H11S1	**WAKE ISLAND Hy**	**28.94**	**123**	T	T	11 46 33.1	
	baz=315,slow=75,SNR=46						
H11S3	**WAKE ISLAND Hy**	**28.94**	**123**	T	T	11 46 31.3	
	baz=315,slow=75,SNR=38						
H11S2	**WAKE ISLAND Hy**	**28.95**	**123**	T	T	11 46 33.4	
	baz=315,slow=75,SNR=32						
ZALV	**Zalesovo Beam**	**41.85**	**312**	P	**P**	**11 18 08.9**	**-0.6**
	1.2nm,0.5s,baz=90,slow=8.2,SNR=7.0						
MKAR	**Makanchi Array**	**44.04**	**302**	P	**P**	**11 18 27.0**	**-0.4**
	1.1nm,0.7s,baz=87,slow=10.0,SNR=14						
KURBB	**Kurchatov Arra**	**45.93**	**308**	P	**P**	**11 18 41.9**	**-0.5**
	1.3nm,0.6s,baz=83,slow=8.2,SNR=7.3						
ILAR	**Eielson Array**	**49.59**	**32**	P	**P**	**11 19 11.2**	**+0.6**
	1.1nm,0.8s,baz=266,slow=6.0,SNR=12						
BVAR	**Borovoye Array**	**50.51**	**312**	P	**P**	**11 19 17.9**	**+0.2**
	0.3nm,0.4s,baz=95,slow=8.8,SNR=2.9						
WRA	**Warramunga Arr**	**57.00**	**188**	P	**P**	**11 20 05.3**	**-0.2**
	0.8nm,0.6s,baz=5.6,slow=7.6,SNR=11						
ASAR	**Alice Springs**	**60.73**	**188**	P	**P**	**11 20 30.8**	**-0.6**
	0.5nm,0.7s,baz=9.7,slow=7.1,SNR=6.6						
YKA	**Yellowknife Ar**	**63.90**	**30**	P	**P**	**11 20 52.9**	**+0.6**
	0.1nm,0.6s,baz=306,slow=7.2,SNR=4.4						
FINES	**FINESS Array B**	**68.79**	**332**	P	**P**	**11 21 22.8**	**-0.8**
	1.3nm,0.8s,baz=32,slow=12,SNR=2.5						
AKASG	**Malin Array Be**	**74.25**	**322**	P	**P**	**11 21 56.0**	**-0.7**
	0.2nm,0.3s,baz=45,slow=5.7,SNR=4.3						
PDAR	**Pinedale Array**	**77.78**	**45**	P	**P**	**11 22 18.3**	**+1.0**
	0.2nm,0.5s,baz=257,slow=3.6,SNR=2.7						
TXAR	**Lajitas Array**	**90.24**	**52**	P	**P**	**11 23 20.8**	**-0.1**
	0.2nm,0.4s,baz=316,slow=2.5,SNR=6.5						

IDC 13 11:27:55.1±412.0,47°.61N×47°.70E,h0km,Error ellipse: s-maj=162.7km s-min=139.3km az=15.0, Ukraine-Moldova-Southwestern Russia region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I31KZ	**AKTYUBINSK INF**	**7.35**	**64**	*i*		12 14 20.0	
	baz=251,slow=317,SNR=0.8						
I43RU	**DUBNA INFRASON**	**11.15**	**329**	*i*		12 37 15.0	
	baz=141,slow=325,SNR=3.0						
I26DE	**FREYUNG INFRAS**	**22.57**	**286**	*i*		13 46 10.0	
	baz=80,slow=329,SNR=0.9						

IDC 13 11:29:00.7±1.1,13°.98N×145°.03E,h151km±6km,mb3.3/3, mb1 3.6/3,mb1mx2.8/68,mbtmp3.7/3,Error ellipse: s-maj=237.9km s-min=21.6km az=110.0,Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**0.42**	**203**	P	Pn	11 29 23.4	+1.6
	369nm,0.3s,baz=330,slow=5.0,SNR=185						
GUMO				S	Sn	11 29 38.8	+1.0
	111nm,0.3s,baz=31,slow=19,SNR=45						
WRA	**Warramunga Arr**	**35.31**	**198**	P	P	11 35 41.1	-0.4
	2.1nm,0.6s,baz=21,slow=9.5,SNR=22						
ASAR	**Alice Springs**	**38.96**	**196**	P	P	11 36 12.4	+0.1
	0.3nm,0.3s,baz=17,slow=6.8,SNR=21						
ILAR	**Eielson Array**	**68.15**	**25**	P	P	11 39 44.0	-0.2
	0.2nm,0.5s,baz=249,slow=5.6,SNR=5.2						

IDC 13 11:32:02.5±9.8,50°.42N×149°.37E,h543km±127km, mb2.6/7,mb1 2.7/7,mb1mx2.5/72,mbtmp3.5/7,Error ellipse: s-maj=34.4km s-min=18.2km az=172.0,Sea of Okhotsk

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ILAR	**Eielson Array**	**35.34**	**42**	P	P	11 38 11.9	0.0
	0.3nm,0.5s,baz=261,slow=6.1,SNR=6.0						
INK	**Inuvik**	**39.95**	**34**	P	P	11 38 49.4	-0.1
	0.6nm,0.3s,baz=300,slow=6.2,SNR=12						
MKAR	**Makanchi Array**	**43.14**	**292**	P	P	11 39 14.8	-0.3
	0.2nm,0.5s,baz=69,slow=8.4,SNR=3.0						
BVAR	**Borovoye Array**	**46.65**	**305**	P	P	11 39 41.7	-0.1
	0.3nm,0.4s,baz=49,slow=12,SNR=2.3						
YKA	**Yellowknife Ar**	**49.49**	**37**	P	P	11 40 02.4	-0.4
	0.2nm,0.6s,baz=304,slow=7.5,SNR=8.0						
FINES	**FINESS Array B**	**59.65**	**332**	P	P	11 41 14.0	+0.1
	0.6nm,0.3s,baz=34,slow=6.7,SNR=6.9						
ASAR	**Alice Springs**	**75.02**	**195**	P	P	11 42 48.6	+0.1
	0.3nm,1.0s,baz=5.1,slow=4.5,SNR=4.2						

*ISK **13** 11:35:23.4,38°.75N×43°.29E,h5km,ML2.8/7*
*DDA **13** 11:35:24.3,38°.75N×43°.27E,h7km,Md2.8*
*ATA **13** 11:35:24.3±1.5,38°.75N×43°.19E,h17km±19km,ML3.5, MW3.2*
*CSEM **13** 11:35:24.5±0.2,38°.76N×43°.26E,h5km,ML2.8,Error ellipse: s-maj=4.9km s-min=3.8km az=122.0*

ISC 13 11:35:25.1±0.9,38°.75N±0°.02×43°.29E±0°.03,h18km±4km, n47,σ1°06/60,Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VANB	**Van**	**0.17**	**152**	PG	**Pg**	**11 35 29.9**	**+0.2**
VANB				SG	**Sg**	**11 35 34.5**	**+1.6**
VANB	**Van**	**0.17**	**152**	*e*Pg	**Pg**	**11 35 29.9**	**+0.2**
TVAN	**Van**	**0.24**	**157**	*i* P	**Pg**	**11 35 29.7**	**-1.1**
TVAN				*i* S	**Sg**	**11 35 33.9**	**-0.7**
TVAN	**Van**	**0.24**	**157**	P	**Pg**	**11 35 29.7**	**-1.1**
TVAN				S	**Sg**	**11 35 33.9**	**-0.7**
ERCV	**ERCIS-VAN**	**0.27**	**8**	PG	**Pg**	**11 35 30.1**	**-1.2**
ERCV				SG	**Sb**	**11 35 35.5**	**-0.2**
ERCV	**ERCIS-VAN**	**0.27**	**8**	*e*Pg	**Pg**	**11 35 30.1**	**-1.2**
ERCV				*e*Sg	**Sb**	**11 35 35.5**	**-0.2**
VMUR	**Van-Muradiye**	**0.33**	**43**	*i* P	**Pg**	**11 35 31.6**	**-0.6**
VMUR				*i* S	**Sb**	**11 35 37.5**	**0.0**
VMUR	**Van-Muradiye**	**0.33**	**43**	P	**Pg**	**11 35 31.6**	**-0.6**
VMUR				S	**Sb**	**11 35 37.5**	**0.0**
ADCV	**BITLIS_Adilcev**	**0.44**	**278**	*i* P	**Pg**	**11 35 33.5**	**-0.7**
ADCV	**BITLIS_Adilcev**	**0.44**	**278**	P	**Pg**	**11 35 33.5**	**-0.7**
GEVA	**Gevas**	**0.47**	**202**	*e*P	**Pg**	**11 35 33.4**	**-1.3**
GEVA				IAML		11 35 43.6	
	comp=Z,195nm,0.4s						
GEVA	**Gevas**	**0.47**	**202**	*i* P	**Pg**	**11 35 33.5**	**-1.2**
GEVA	**Gevas**	**0.47**	**202**	P	**Pg**	**11 35 33.5**	**-1.2**
CLDR	**Caldiran**	**0.63**	**51**	PG	**Pg**	**11 35 36.2**	**-1.4**
CLDR				SG	**Sg**	**11

baz=316,slow=76,SNR=39
H11S3 WAKE ISLAND Hy 28.91 123 T T 12 16 37.3
baz=316,slow=76,SNR=26
H11S2 WAKE ISLAND Hy 28.92 123 T T 12 16 38.5
baz=316,slow=76,SNR=21
ZALV Zalesovo Beam 41.86 312 P **P** **11 48 16.8 +0.1**
0.9nm,0.6s,baz=114,slow=9.9,SNR=3.7
MKAR Makanchi Array 44.07 302 P **P** **11 48 34.0 -0.9**
0.4nm,0.6s,baz=88,slow=14,SNR=4.6
ILAR Eielson Array 49.45 32 P **P** **11 49 17.6 +0.9**
0.4nm,0.9s,baz=268,slow=5.4,SNR=5.3
WRA Warramunga Arr 57.12 188 P **P** **11 50 12.8 -0.7**
0.4nm,0.8s,baz=7.0,slow=7.2,SNR=4.9
ASAR Alice Springs 60.84 188 P **P** **11 50 39.3 0.0**
0.5nm,1.0s,baz=15,slow=7.7,SNR=4.0

*ISCJB **13** 11:41:37.8±1.0, 3.7N±0.1×89.3E±0.1, h10km, mb3.6/4, MS3.5/3, Error ellipse: s-maj=22.5km s-min=12.9km az=26.2*
*IDC **13** 11:41:39.0±1.5, 3.67N×89.37E, h0km, mb3.6/4, mb1 3.8/7, mb1mx3.4/76, mbtmp3.7/7, ML3.7/3, MS3.9/2, Ms1 3.9/2, ms1mx3.0/69, Error ellipse: s-maj=41.9km s-min=22.2km az=50.0*
ISC 13 11:41:40.1±1.1, 3.7N±0.2×89.28E±0.10, h10km, n14, σ1§55/9, mb3.6/4, MS3.6/3, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**9.25**	**293**	Pn	**Pn**	**11 43 54.8**	**+1.1**
	1.2nm,0.3s,baz=116,slow=9.5,SNR=10						
PALK				Sn	**Sn**	**11 45 35.8**	**-2.2**
	3.0nm,0.3s,baz=116,slow=3.2,SNR=5.5						
PSI	**Prapat**	**9.67**	**95**	Pn	**Pn**	**11 43 58.9**	**-0.6**
	0.7nm,0.3s,baz=271,slow=10.0,SNR=4.3						
CMAR	**Chiang Mai Arr**	**17.45**	**32**	P	**Pn**	**11 45 43.0**	**-0.8**
	0.1nm,0.3s,baz=207,slow=7.8,SNR=2.3						
H08S3	**Diego Garcia H**	**20.19**	**236**	T	T	12 06 29.6	
	baz=58,slow=75,SNR=21						
H08S2	**Diego Garcia H**	**20.19**	**236**	T	T	12 06 39.4	
	baz=58,slow=75,SNR=15						
H08S1	**Diego Garcia H**	**20.20**	**236**	T	T	12 06 45.0	
	baz=58,slow=75,SNR=17						
AAK	**Ala-Archa**	**40.95**	**343**	LR	LR	12 08 41.8	
	comp=Z,79nm,18.6s,baz=247,slow=40						
MKAR	**Makanchi Array**	**43.36**	**353**	P	**P**	**11 49 41.9**	**-0.7**
	0.3nm,0.5s,baz=180,slow=9.6,SNR=5.1						
SONM	**Songino Array**	**46.38**	**16**	P	**P**	**11 50 08.3**	**+1.5**
	0.9nm,0.6s,baz=188,slow=8.7,SNR=3.6						
WRA	**Warramunga Arr**	**50.10**	**120**	P	**P**	**11 50 35.2**	**-0.6**
	0.7nm,0.6s,baz=298,slow=8.6,SNR=12						
ASAR	**Alice Springs**	**51.27**	**124**	P	**P**	**11 50 44.1**	**-0.5**
	0.5nm,0.8s,baz=296,slow=7.4,SNR=5.7						
ASAJ	**Asahikawa**	**61.72**	**41**	LR	LR	12 18 57.4	
	comp=Z,4,8nm,18.2s,baz=274,slow=36						
RAO	**Raoul Island**	**94.23**	**119**	LR	LR	12 39 40.3	
	comp=Z,105nm,18.0s,baz=154,slow=37						
TXAR	**Lajitas Array**	**144.89**	**20**	PKP	**PKPdf**	**12 01 20.5**	**+2.0**
	0.1nm,0.4s,baz=290,slow=2.6,SNR=3.1						

*ISCJB **13** 11:43:47.6±0.4, 1.19N±0.06×91.98E±0.04, h10km, mb4.5/33, MS4.0/1, Error ellipse: s-maj=9.3km s-min=4.4km az=20.8*
*IDC **13** 11:43:48.5±0.9, 1.25N×91.97E, h0km, mb4.0/15, mb1 4.1/17, mb1mx3.8/75, mbtmp4.0/17, ML3.7/2, MS3.7/2, Ms1 3.7/2, ms1mx3.0/69, Error ellipse: s-maj=29.7km s-min=16.6km az=43.0*
*NEIC **13** 11:43:49.0±0.5, 1.13N×91.93E, h10km, mb4.8/12, Error ellipse: s-maj=10.9km s-min=5.9km az=197.0*
*DJA **13** 11:43:54.9±7.9, 1.1N±11.×9.2E±6.6, h10km, M4.7/7, mB5.1/2, mb4.8/7, MLv4.7/6, Mw(mB)4.5/2*
ISC 13 11:43:49.9±0.6, 1.21N±0.08×91.98E±0.06, h10km, n95, σ1§85/94, mb4.5/39, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSI	**Banda Aceh**	**5.40**	**38**	P	**Sn**	**11 46 07.8**	**-5.0**
TPTI		**5.59**	**69**	P	**Pn**	**11 45 13.8**	**+0.6**
GSI	**Gunungsitoli**	**5.60**	**89**	P	**Pn**	**11 45 13.4**	**0.0**
GSI	**Gunungsitoli**	**5.60**	**89**	*e*Pn	**Pn**	**11 45 13.0**	**-0.3**
GSI				*e*Sn	**Sn**	**11 46 18.0**	**+0.1**
LHMI	**Lhok Sumawe**	**6.37**	**51**	*e*Pn	**Pn**	**11 45 23.1**	**-0.8**
PSI	**Prapat**	**7.12**	**77**	Pn	**Pn**	**11 45 34.2**	**-0.2**
	1.3nm,0.3s,baz=315,slow=14,SNR=5.2						
PSI				LR	LR	11 48 39.0	
	comp=Z,301nm,20.2s,baz=306,slow=41						
PSI	**Prapat**	**7.12**	**77**	*e*Pn	**Pn**	**11 45 34.4**	**0.0**
SISI	**Saibi**	**7.55**	**109**	P	**Pn**	**11 45 40.2**	**+0.1**
MNSI	**Mandailing Nat**	**7.62**	**93**	P	**Pn**	**11 45 41.8**	**+0.7**
PDSI	**Padang**	**8.74**	**104**	P	**Pn**	**11 45 56.0**	**-0.6**
IPM	**Ipoh**	**9.61**	**70**	*e*Pn	**Pn**	**11 46 08.1**	**-0.3**
IPM				*e*Sn	**Sn**	**11 47 55.2**	**-1.3**
PBA	**Port Blair**	**10.41**	**4**	*e*P	Pn	11 46 20.9	+1.5
PBA	**Port Blair**	**10.41**	**4**	*e*Pn	Pn	11 46 21.1	+1.8
MYKOM	**Kota Tinggi**	**11.88**	**87**	*e*Pn	**Pn**	**11 46 40.1**	**+0.5**
DGPR	**DIGLIPUR**	**11.93**	**5**	*ex*	**Pn**	**11 46 37.7**	**-2.5**
MDRS	**Chennai**	**16.55**	**316**	*e*P	**Pn**	**11 47 40.5**	**-1.8**
PBKT	**Sadao Pong**	**17.65**	**30**	*e*Pn	**P**	**11 47 58.5**	**+1.5**
CM01	**Chiang Mai Arr**	**18.43**	**21**	*e*P	**P**	**11 48 04.8**	**-0.8**
CM31	**Chiang Mai Arr**	**18.45**	**21**	*e*P	**P**	**11 48 04.0**	**-2.0**
CMAR	**Chiang Mai Arr**	**18.45**	**21**	P	**P**	**11 48 04.7**	**-1.3**
	0.1nm,0.3s,baz=216,slow=13,SNR=10						
VIS	**Vishakhapatnam**	**18.48**	**333**	*e*P	**P**	**11 48 04.7**	**-1.5**
CHTO	**Chiang Mai**	**18.78**	**21**	*e*P	**P**	**11 48 09.4**	**-0.1**
	6.6nm,1.0s						
MNCI	**Minicoy**	**20.11**	**291**	*e*P	**P**	**11 48 23.0**	**-1.1**
	51nm,1.0s						
SMRI	**Semarang**	**20.17**	**114**	*e*P	**P**	**11 48 24.0**	**-0.8**
	193nm,1.5s						
SBUM	**Sibu**	**20.27**	**86**	*e*P	**P**	**11 48 26.1**	**+0.1**
	9.3nm,0.9s						
HYB	**Hyderabad**	**20.82**	**321**	*i* P	Pn	11 48 33.5	-0.8
HYB	**Hyderabad**	**20.82**	**321**	*e*P	**P**	**11 48 28.8**	**-3.1**
H08S2	**Diego Garcia H**	**21.33**	**245**	T	T	12 10 16.5	
	baz=65,slow=75,SNR=11						
H08S3	**Diego Garcia H**	**21.33**	**245**	T	T	12 10 14.1	
	baz=65,slow=75,SNR=13						
H08S1	**Diego Garcia H**	**21.35**	**245**	T	T	12 10 16.2	
	baz=65,slow=75,SNR=13						
BOK	**Bokaro**	**23.21**	**346**	*e*P	**P**	**11 48 57.8**	**+0.4**
BOK				IAmb	IAmb	11 49 01.1	
	comp=Z,13nm,0.6s						
SHL	**Shillong**	**24.22**	**360**	*e*P	**P**	**11 49 09.1**	**+1.9**
SHL				IAmb	IAmb	11 49 16.3	
	comp=Z,12nm,1.3s						
KMI	**Kunming**	**25.95**	**23**	P	**P**	**11 49 29.1**	**+6.1**
KMI				pmax	pmax		
	comp=Z,12nm,0.5s						
BHPL	**Bhopal**	**26.06**	**328**	*e*P	**P**	**11 49 23.6**	**-0.2**
BHPL				IAmb	IAmb	11 49 25.8	
	comp=Z,6.8nm,0.9s						
CD2	**Chengdu**	**31.58**	**20**	*e*P	**P**	**11 50 14.0**	**+1.1**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,120nm,5.0s						
DDI	**Dehra Dun**	**31.83**	**337**	*e*P	**P**	**11 50 14.8**	**-0.3**
DDI				IAmb	IAmb	11 50 15.5	
	comp=Z,64nm,0.2s						
SMLA	**Simla**	**32.90**	**336**	*e*P	**P**	**11 50 23.0**	**-1.3**
SMLA				IAmb	IAmb	11 50 27.1	
	comp=Z,16nm,1.2s						
DHRM	**DHARAMSHALA**	**34.23**	**336**	*e*P	**P**	**11 50 36.5**	**+0.2**
DHRM				IAmb	IAmb	11 50 43.5	
	comp=Z,342nm,3.0s						
XAN	**Xi'an**	**36.31**	**24**	P	**P**	**11 50 54.1**	**+0.1**
XAN				sP	sP	11 51 01.5	+3.2
XAN				pmax	pmax		
	comp=Z,6.0nm,1.0s						
LZH	**Lanzhou**	**36.41**	**16**	*e*P	**P**	**11 50 57.6**	**+2.7**
LZH				pP	sP	11 51 01.8	+2.5
LZH				sP	pP	11 51 04.1	+6.1
LZH				*e*PP	**PP**	**11 52 22.0**	**+4.1**
LZH				pmax	pmax		
	comp=Z,27nm,0.8s						
LZH				pmax	pmax		
	comp=Z,430nm,5.7s						
LZH				LR	LR		
	comp=N,400nm,13.5s						
LZH				LR	LR		
	comp=E,420nm,13.7s						
LZH				LR	LR		
	comp=Z,470nm,16.8s						
NIL	**Nilore**	**36.74**	**333**	*e*P	**P**	**11 50 58.6**	**+1.0**
	comp=Z,19nm,0.8s						
GTA	**Gaotai**	**38.69**	**10**	*e*P	P	11 51 22.3	+8.1
GTA				pP	sP	11 51 26.8	+8.3
GTA				sP	pP	11 51 29.3	+12
GTA				pmax	pmax		
	comp=Z,7.0nm,1.0s						
NJ2	**Nanjing**	**39.80**	**37**	*e*P	**P**	**11 51 23.6**	**+0.2**
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.5s						
SAUI	**Saumlaki**	**40.26**	**104**	*e*P	**P**	**11 51 25.5**	**-2.1**
	comp=Z,322nm,0.9s						
KSH	**Kashi**	**40.83**	**341**	P	**P**	**11 51 33.1**	**+1.1**
KSH				pmax	pmax		
	comp=Z,19nm,0.6s						
TARG	**Taragay, Kyrgy**	**42.31**	**344**	*e*P	**P**	**11 51 40.1**	**-4.3**
	comp=Z,6.8nm,0.9s						
WMQ	**Urumqi**	**42.60**	**355**	P	**P**	**11 51 47.8**	**+1.4**
KDJ	**Kajisay**	**42.86**	**344**	*e*P	**P**	**11 51 47.7**	**-0.9**
	comp=Z,8.2nm,0.9s						
HHC	**Hu-ho-hao-te**	**43.27**	**22**	*e*P	**P**	**11 51 53.6**	**+1.7**
HHC				S	**S**	**11 58 22.3**	**+3.1**
HHC				pmax	pmax		
	comp=Z,14nm,1.1s						
HHC				pmax	pmax		
	comp=Z,61nm,6.2s						
HHC				LR	LR		
	comp=N,260nm,12.8s						
HHC				LR	LR		
	comp=E,360nm,13.7s						
HHC				LR	LR		
	comp=Z,240nm,12.3s						
AAK	**Ala-Archa**	**44.12**	**341**	P	**P**	**11 51 58.8**	**-0.1**
	comp=Z,1.2nm,0.6s,baz=183,slow=18,SNR=4.4						
KK31	**Karatay Array**	**45.91**	**338**	*e*P	**P**	**11 52 12.6**	**-0.3**
KKAR	**Karatay Array**	**45.91**	**338**	*e*P	**P**	**11 52 12.6**	**-0.3**
MK31	**Makanchi Array**	**46.18**	**351**	*e*P	**P**	**11 52 14.4**	**-0.6**
MK32	**Makanchi Array**	**46.18**	**351**	*e*P	**P**	**11 52 14.4**	**-0.6**
MK32				*e*PP	**PP**	**11 54 09.9**	**+6.5**
MKAR	**Makanchi Array**	**46.18**	**351**	P	**P**	**11 52 14.4**	**-0.6**
	comp=Z,2.9nm,0.7s,baz=170,slow=8.3,SNR=20						
MKAR				PP	**PP**	**11 54 09.9**	**+6.5**
	comp=Z,1.4nm,0.9s,baz=164,slow=10,SNR=4.0						
MKAR	**Makanchi Array**	**46.18**	**351**	*e*P	**P**	**11 52 14.4**	**-0.6**
	comp=Z,38nm,0.8s						
WRA	**Warramunga Arr**	**46.54**	**119**	P	**P**	**11 52 18.6**	**+0.4**
	comp=Z,2.6nm,0.7s,baz=297,slow=8.5,SNR=6.6						
WR1	**Warramunga Arr**	**46.54**	**119**	*e*P	**P**	**11 52 18.6**	**+0.4**
	comp=Z,4.7nm,1.0s						
ASAR	**Alice Springs**	**47.65**	**124**	P	**P**	**11 52 27.5**	**+0.6**
	comp=Z,0.4nm,0.8s,baz=299,slow=7.9,SNR=2.8						
ASAR				PcP	**PcP**	**11 53 55.4**	**-1.1**
	comp=Z,0.3nm,0.6s,baz=292,slow=4.9,SNR=3.1						
SONA0	**Songino Array**	**48.10**	**13**	*e*P	**P**	**11 52 30.3**	**+0.3**
SONM	**Songino Array**	**48.10**	**13**	P	**P**	**11 52 30.3**	**+0.3**
	comp=Z,2.5nm,0.6s,baz=193,slow=8.9,SNR=10.0						
SONA1	**Songino Array**	**48.11**	**13**	*e*P	**P**	**11 52 30.2**	**+0.1**
KSRS	**Korea Array**	**48.94**	**38**	P	**P**	**11 52 36.0**	**-0.5**
	comp=Z,0.6nm,0.7s,baz=233,slow=7.0,SNR=2.6						
KURBB	**Kurchatov Arra**	**50.54**	**349**	P	**P**	**11 52 48.0**	**-0.4**
	comp=Z,2.7nm,0.7s,baz=172,slow=7.4,SNR=15						
KURK	**Kurchatov**	**50.61**	**349**	*e*P	**P**	**11 52 48.0**	**-1.0**
CN2	**Changchun**	**51.81**	**31**	*e*P	**P**	**11 52 56.8**	**-1.3**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
ZAA0	**Zalesovo Array**	**52.90**	**355**	*e*P	**P**	**11 53 04.6**	**-1.4**
	comp=Z,9.1nm,0.7s						
ZALV	**Zalesovo Beam**	**52.90**	**355**	P	**P**	**11 53 05.5**	**-0.5**
	comp=Z,4.4nm,0.8s,baz=180,slow=8.4,SNR=15						
ZALV	**Zalesovo Beam**	**52.90**	**355**	*e*P	**P**	**11 53 05.2**	**-0.8**
ZAA1	**Zalesovo Array**	**52.90**	**355**	*e*P	**P**	**11 53 05.2**	**-0.6**
GUMO	**Guam**	**53.74**	**74**	*e*P	**P**	**11 53 12.5**	**-0.5**
	comp=Z,193nm,1.3s						
BVAR	**Borovoye Array**	**54.67**	**344**	P	**P**	**11 53 19.6**	**+0.5**
	comp=Z,1.5nm,0.7s,baz=102,slow=6.2,SNR=6.8						
ABKAR	**Akbulak array**	**55.17**	**335**	*e*P	**P**	**11 53 23.5**	**+0.8**
AKH	**Akhalkalaki**	**59.18**	**319**	*e*P	**P**	**11 53 51.6**	**+0.1**
	comp=Z,5.5nm,0.3s						
KBZ	**Khabaz**	**60.71**	**321**	P	**P**	**11 54 02.8**	**+1.1**
	comp=Z,2.3nm,0.8s,baz=125,slow=7.5,SNR=5.3						
MBAR	**Mbarara**	**61.26**	**269**	LR	LR	12 15 58.1	
	comp=Z,115nm,18.9s,baz=196,slow=32						
BR101	**Keskin Array S**	**65.28**	**314**	*e*P	**P**	**11 54 32.0**	**-0.4**
BRTR	**Keskin Array B**	**65.28**	**314**	P	**P**	**11 54 32.0**	**-0.4**
	comp=Z,1.4nm,0.8s,baz=134,slow=5.3,SNR=5.9						
BR231	**Keskin MP Arra**	**65.95**	**314**	*e*P	**P**	**11 54 34.0**	**-2.7**
AKASG	**Malin Array Be**	**72.11**	**324**	P	**P**	**11 55 13.8**	**-0.8**
	comp=Z,0.4nm,0.4s,baz=93,slow=4.6,SNR=4.8						
MLR	**Muntele Rosu**	**72.51**	**318**	*e*P	**P**	**11 55 16.4**	**-0.9**
	comp=Z,8.4nm,0.9s						
BUR04	**Bucovina Ar. S**	**73.60**	**320**	*e*P	**P**	**11 55 22.7**	**-1.0**
BUR08	**Bucovina Ar. S**	**73.62**	**320**	*e*P	**P**	**11 55 21.3**	**-2.5**
TIXI	**Tiksi**	**74.15**	**11**	P	**P**	**11 55 25.7**	**-0.5**
	comp=Z,0.8nm,0.4s,baz=293,slow=3.1,SNR=3.6						
STHS	**Stebnicka Huta**	**76.62**	**321**	*e*P	P	11 55 49.5	+8.5
FIA0	**FINESS Array S**	**77.61**	**333**	*e*P	**P**	**11 55 45.0**	**-1.2**
FINES	**FINESS Array B**	**77.61**	**333**	P	**P**	**11 55 45.0**	**-1.2**
	comp=Z,1.4nm,0.8s,baz=205,slow=5.3,SNR=3.8						
KRLC	**Kraliky**	**79.59**	**321**	*e*P	**P**	**11 56 00.1**	**+2.6**
KRLC				*e*PCP	**PcP**	**11 56 05.4**	**0.0**
DPC	**Dobruska-Polom**	**79.93**	**321**	*e*P	**P**	**11 56 01.9**	**+2.6**
DPC				*ex*	x	11 56 07.7	
GEA0	**GERESS Array S**	**81.37**	**319**	*e*P	**P**	**11 56 06.0**	**-1.2**
GEC2	**GERESS Array S**	**81.37**	**319**	*e*P	**P**	**11 56 06.3**	**-0.9**
	comp=Z,12nm,0.9s						
GERES	**GERESS Array B**	**81.37**	**319**	P	**P**	**11 56 08.2**	**+1.0**
	comp=Z,4.8nm,0.8s,baz=101,slow=5.6,SNR=22						
KHC	**Kasperske Hory**	**81.50**	**319**	*e*P	**P**	**11 56 10.8**	**+3.1**
KHC				*ex*	x	11 56 15.5	
LTX	**Lajitas**	**146.14**	**25**	*e*PKPdf	**PKPbc**	**12 03 31.1**	**-0.2**
TXAR	**Lajitas Array**	**146.14**	**25**	PKPbc	**PKPbc**	**12 03 31.1**	**-0.2**
	comp=Z,0.3nm,0.7s,baz=8.9,slow=1.4,SNR=5.5						

*ISCJB **13** 11:49:04.4±1.0, 38.65N±0.05×43.49E±0.08, h30km±6km, Error ellipse: s-maj=11.5km s-min=8.1km az=31.1*
*CSEM **13** 11:49:04.8±0.3, 38.75N×43.38E, h10km, ML2.1, Error ellipse: s-maj=7.6km s-min=6.5km az=145.0*
*DDA **13** 11:49:04.7, 38.71N×43.42E, h7km, Ml2.5*
*ATA **13** 11:49:04.2±0.6, 38.90N×43.64E, h26km±4km, ML2.2, MW2.5*
*ISK **13** 11:49:04.5, 38.75N×43.37E, h21km, ML2.1/4*
ISC 13 11:49:04.6±1.2, 38.66N±0.06×43.49E±0.05, h32km±8km, n25, σ1§18/35, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.11**	**231**	PG	**Pb**	**11 49 10.0**	**-0.5**
VANB				SG	**Sb**	**11 49 15.6**	**+1.1**
VANB	**Van**	**0.11**	**231**	*e*Pg	**Pb**	**11 49 10.0**	**-0.5**
VANB				*e*Sg	**Sb**	**11 49 15.6**	**+1.1**
TVAN	**Van**	**0.15**	**207**	*i* P	**Pb**	**11 49 09.2**	**-1.7**
TVAN	**Van**	**0.15**	**207**	P	**Pb**	**11 49 09.2**	**-1.7**
VMUR	**Van-Muradiye**	**0.33**	**10**	*i* P	**Pb**	**11 49 11.7**	**-1.2**
VMUR	**Van-Muradiye**	**0.33**	**10**	P	**Pb**	**11 49 11.7**	**-1.2**
CLDR	**Caldiran**	**0.58**	**34**	PG	**Pb**	**11 49 15.9**	**-0.7**
CLDR				SG	**Sn**	**11 49 25.6**	**+0.2**
CLDR	**Caldiran**	**0.58**	**34**	*i* P	**Pb**	**11 49 15.5**	**-1.1**
CLDR	**Caldiran**	**0.58**	**34**	P	**Pb**	**11 49 15.5**	**-1.1**
CLDR	**Caldiran**	**0.58**	**34**	*e*Pg	**Pb**	**11 49 15.9**	**-0.7**
CLDR				*e*Sg	**Sn**	**11 49 25.6**	**+0.2**
ADCV	**BITLIS_Adilcev**	**0.62**	**284**	*i* P	**Pb**	**11 49 15.8**	**-1.4**
ADCV	**BITLIS_Adilcev**	**0.62**	**284**	P	**Pb**	**11 49 15.8**	**-1.4**
TUTA	**Tutak**	**0.91**	**325**	*e*P	**Pb**	**11 49 20.4**	**-1.6**
TUTA				*e*S	**Sn**	**11 49 33.7**	**+0.3**
TUTA	**Tutak**	**0.91**	**325**	*i* P	**Pb**	**11 49 20.4**	**-1.6**
TUTA	**Tutak**	**0.91**	**325**	P	**Pb**	**11 49 20.4**	**-1.6**
AGRB	**Hanur-Agry**	**0.99**	**337**	PG	**Pb**	**11 49 22.1**	**-1.3**
AGRB				SG	**Sb**	**11 49 35.1**	**-1.2**
AGRB	**Hanur-Agry**	**0.99**	**337**	*e*Pg	**Pb**	**11 49 22.1**	**-1.3**
AGRB				*e*Sg	**Sb**	**11 49 35.1**	**-1.2**
GURO	**Guroymak-BITLI**	**1.15**	**265**	PG	**Pn**	**11 49 24.4**	**-0.1**
GURO	**Guroymak-BITLI**	**1.15**	**265**	*e*Pg	**Pn**	**11 49 24.4**	**-0.1**
EKAR	**Karacoban**	**1.26**	**298**	*e*P	**Pb**	**11 49 28.7**	**+0.8**
EKAR	**Karacoban**	**1.26**	**298**	*i* P	**Pn**	**11 49 26.8**	**+0.6**
EKAR	**Karacoban**	**1.26**	**298**	P	**Pn**	**11 49 26.8**	**+0.6**
EATA	**Eleskirt**	**1.43**	**327**	*e*P	**Pn**	**11 49 29.7**	**+1.2**
EATA				*e*S	**Sb**	**11 49 48.9**	**+0.1**
EATA				IAML		11 49 52.8	
	comp=Z,1.9nm,0.5s						
EATA	**Eleskirt**	**1.43**	**327**	*i* P	**Pn**	**11 49 29.8**	**+1.2**
EATA				*i* S	**Sb**	**11 49 50.2**	**+1.4**
EATA	**Eleskirt**	**1.43**	**327**	P	**Pn**	**11 49 29.8**	**+1.2**
EATA				S	**Sb**	**11 49 50.2**	**+1.4**

IDC 13 11:49:33.1±10.0, 0.25S×89.50E, h0km, mb3.4/5, mb1 3.6/6, mb1mx3.3/70, mbtmp3.6/6, ML3.5/1, Error ellipse: s-maj=200.9km s-min=51.6km az=177.0, South Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**11.53**	**311**	Pn	**Pn**	**11 52 19.7**	**+0.6**
	0.3nm,0.3s,baz=116,slow=13,SNR=2.9						
CMAR	**Chiang Mai Arr**	**20.78**	**26**	P	**P**	**11 54 16.3**	**+0.3**
	0.3nm,0.4s,baz=225,slow=13,SNR=3.7						
MKAR	**Makanchi Array**	**47.28**	**353**	P	**P**	**11 58 07.4**	**-0.9**
	0.3nm,0.7s,baz=177,slow=10,SNR=3.8						
SONM	**Songino Array**	**50.10**	**15**	P	**P**	**11 58 30.1**	**0.0**
	0.4nm,0.4s,baz=197,slow=9.4,SNR=4.8						
KURBB	**Kurchatov Arra**	**51.54**	**351**	P	**P**	**11 58 42.0**	**+1.3**
	0.2nm,0.5s,baz=172,slow=7.5,SNR=3.8						
ZALV	**Zalesovo Beam**	**54.15**	**357**	P	**P**	**11 58 58.9**	**-1.1**
	0.5nm,0.3s,baz=165,slow=12,SNR=2.6						

IDC 13 11:52:21.2±2.7, 2.55N×92.39E, h0km, mb3.4/2, mb1 3.6/4, mb1mx3.2/72, mbtmp3.4/4, ML3.6/2, Error ellipse: s-maj=68.9km s-min=29.6km az=53.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**6.53**	**88**	Pn	Pn	11 54 00.4	+1.7
	0.8nm,0.3s,baz=321,slow=13,SNR=3.0						
CMAR	**Chiang Mai Arr**	**17.06**	**22**	P	Pn	11 56 19.4	-2.0
	0.1nm,0.3s,baz=212,slow=14,SNR=4.2						
MKAR	**Makanchi Array**	**44.94**	**350**	P	P	12 00 38.3	+0.4
	0.2nm,0.6s,baz=182,slow=8.5,SNR=4.3						
WRA	**Warramunga Arr**	**46.84**	**120**	P	P	12 00 52.8	-0.6
	0.4nm,0.6s,baz=301,slow=8.2,SNR=4.0						

*ISCJB **13** 11:52:50.8±1.2, 37.05N±0.04×141.51E±0.06, h9km±6km, mb3.5/3, Error ellipse: s-maj=7.7km s-min=6.5km az=11.3*
*IDC **13** 11:52:50.8±1.8, 37.10N×141.48E, h0km, mb3.5/3, mb1 3.5/6, mb1mx3.3/71, mbtmp3.5/6, ML3.0/3, MS2.7/1, Ms1 2.7/1, ms1mx2.4/50, Error ellipse: s-maj=35.0km s-min=21.8km az=91.0*
*JMA **13** 11:52:53.2±0.1, 37.06N×141.38E, h27km±1km, M3.4*
ISC 13 11:52:52.2±1.7, 37.08N±0.04×141.41E±0.06, h9km±10km, n16, σ0§71/24, mb3.5/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.49**	**273**	P	**Pb**	**11 53 02.6**	**-0.5**
ONAJ				*e*S	**Sg**	**11 53 09.3**	**+1.1**
JFK	**Kawauchi**	**0.52**	**304**	P	**Pb**	**11 53 03.2**	**-0.3**
JFK				S	**Sb**	**11 53 10.3**	**-0.8**
JHO	**Hitachi**	**0.82**	**236**	P	**Pg**	**11 53 07.8**	**-0.3**
JHO				S	**Sg**	**11 53 18.1**	**-0.7**
JMM	**Marumori**	**0.93**	**328**	P	**Pg**	**11 53 10.2**	**+0.2**
JMM				S	**Sb**	**11 53 22.8**	**-0.1**
JFT	**Otama**	**0.96**	**297**	P	**Pg**	**11 53 11.1**	**+0.4**
JFT				S	**Sg**	**11 53 23.8**	**+0.5**
JIO	**Ouri**	**1.37**	**358**	P	**Pn**	**11 53 17.1**	**-0.5**
JFY	**Yanaizu**	**1.40**	**284**	P	**Pb**	**11 53 18.0**	**-0.6**
JFY				*e*S	**Sb**	**11 53 36.4**	**-0.2**
JOU	**Okura**	**1.41**	**335**	P	**Pb**	**11 53 18.4**	**-0.4**
MJAR	**Matsushiro Arr**	**2.63**	**259**	Pn	**Pn**	**11 53 34.6**	**-0.3**
	1.8nm,0.3s,baz=89,slow=15,SNR=26						
MJAR				Sn	**Sb**	**11 54 10.0**	**-1.8**
	2.9nm,0.3s,baz=76,slow=16,SNR=5.3						
MAT	**Matsushiro**	**2.63**	**259**	P	**Pn**	**11 53 35.6**	**+0.7**
MAT				*e*S	**Sn**	**11 54 07.8**	**+0.9**
JHJ	**Hachijo jima 2**	**4.17**	**199**	Pn	**Pn**	**11 53 56.9**	**+0.8**
	3.9nm,0.3s,baz=112,slow=19,SNR=4.5						
JHJ				Sn	**Sn**	**11 54 45.6**	**+0.6**
	4.1nm,0.3s,baz=270,slow=20,SNR=2.5						
ASAJ	**Asahikawa**	**7.09**	**7**	Pn	**Pn**	**11 54 35.5**	**-0.5**
	0.3nm,0.3s,baz=285,slow=16,SNR=4.2						
KLR	**Kul'dur**	**14.03**	**333**	LR	LR	12 01 40.2	
	comp=Z,32nm,19.8s,baz=358,slow=38						
MKAR	**Makanchi Array**	**44.09**	**302**	P	**P**	**

0.3nm,0.8s,baz=270,slow=1.3,SNR=3.5

IDC ***13*** *12:03:46.3±1.0,2°.24N×92°.49E,h0km,mb4.1/13, mb1 4.2/16,mb1mx3.8/76,mbtmp4.1/16,ML4.0/3,MS3.2/2, Ms1 3.2/2,ms1mx2.8/66,Error ellipse: s-maj=32.1km s-min=15.0km az=46.0*

NEIC ***13*** *12:03:47.9±0.4,2°.22N×92°.44E,h10km,mb4.6/21,Error ellipse: s-maj=8.0km s-min=4.4km az=212.0*

ISCJB ***13*** *12:03:49.7±0.4,2°.24N±0°.04×92°.53E±0°.03,h33km, mb4.4/37,MS4.8/1,Error ellipse: s-maj=6.6km s-min=3.8km az=32.5*

DJA ***13*** *12:03:58.0±1.2,2°N±5°×9°3E±1°0,h77km±65km,M4.8/11, mb5.1/10,mB5.0/8,MLv5.2/11,Mw(mB)4.4/8*

ISC 13 12:03:51.7±0.5,2°.25N±0°.06×92°.56E±0°.05,h35km,n101, σ1§72/108,mb4.5/37,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSI	**Banda Aceh**	**4.22**	**40**	P	**Pn**	**12 04 53.8**	**+0.1**
BSI				S	Sn	12 05 30.0	-12
MLSI	**Meulaboh, Aceh**	**4.33**	**62**	P	**Pn**	**12 04 55.8**	**+0.7**
MLSI				S	Sn	12 05 31.1	-13
TPTI		**4.72**	**78**	P	**Pn**	**12 05 00.5**	**+0.1**
TPTI				S	**Sn**	**12 05 49.2**	**-4.8**
GSI	**Gunungsitoli**	**5.10**	**101**	P	**Pn**	**12 05 06.6**	**+1.0**
GSI				S	**Sn**	**12 05 58.9**	**-4.4**
GSI	**Gunungsitoli**	**5.10**	**101**	*e*Pn	**Pn**	**12 05 06.4**	**+0.8**
GSI				*e*Sn	**Sn**	**12 06 00.1**	**-3.2**
LHMI	**Lhok Sumawe**	**5.28**	**56**	P	**Pn**	**12 05 10.0**	**+1.8**
LHMI	**Lhok Sumawe**	**5.28**	**56**	*e*Pn	**Pn**	**12 05 10.0**	**+1.8**
LHMI				*e*Sn	**Sn**	**12 06 04.5**	**-3.4**
KCSI	**Kotacane, Aceh**	**5.35**	**76**	P	**Pn**	**12 05 11.9**	**+2.7**
PBSI	**Pulau Batu** 632nm,0.7s,7μm	**6.16**	**112**	P	**Pn**	**12 05 21.2**	**+1.0**
PSI	**Prapat** 2.8nm,0.3s,baz=280,slow=7.9,SNR=14	**6.38**	**85**	Pn	**Pn**	**12 05 24.4**	**+1.1**
PSI				Sn	**Sn**	**12 06 29.4**	**-5.7**
	5.7nm,0.3s,baz=271,slow=18,SNR=4.3						
PSI				LR	LR	12 07 15.3	
	comp=Z,141nm,20.4s,baz=279,slow=32						
PSI	**Prapat**	**6.38**	**85**	*e*Pn	**Pn**	**12 05 24.4**	**+1.1**
PSI				*e*Sn	**Sn**	**12 06 35.8**	**+0.7**
MNSI	**Mandailing Nat** 95nm,0.5s,2μm	**7.16**	**102**	P	**Pn**	**12 05 37.8**	**+3.8**
SISI	**Saibi**	**7.43**	**118**	P	**Pn**	**12 05 38.7**	**+1.0**
PKDT	**Phuket**	**8.03**	**45**	P	**Pn**	**12 05 45.3**	**-0.6**
PDSI	**Padang** 54nm,0.7s	**8.50**	**112**	P	**Pn**	**12 05 52.6**	**+0.2**
IPM	**Ipoh**	**8.73**	**75**	*e*Pn	**Pn**	**12 05 56.6**	**+1.0**
IPM				*e*Sn	**Sn**	**12 07 30.5**	**-2.4**
PPSI	**Pulau Pagai**	**8.95**	**124**	P	**Pn**	**12 06 00.1**	**+1.5**
TRTT	**Trang**	**9.01**	**52**	P	**Pn**	**12 05 58.6**	**-0.8**
SURT	**Suratani**	**9.10**	**43**	P	**Pn**	**12 06 00.0**	**-0.7**
PBA	**Port Blair**	**9.35**	**1**	*e*Pn	Pn	12 06 04.0	-0.1
PBA				*e*Sn	Sn	12 07 44.0	-4.0
SKLT	**Songkhla** 147nm,1.1s,1μm0.5nm	**9.40**	**58**	P	**Pn**	**12 06 04.3**	**-0.4**
MYKOM	**Kota Tinggi**	**11.29**	**92**	*e*Pn	**Pn**	**12 06 31.8**	**+1.2**
MYKOM				*e*Sn	**Sn**	**12 08 34.7**	**-1.0**
MNAI	**Manna**	**12.29**	**122**	*e*Pn	**Pn**	**12 06 44.9**	**+0.6**
MNAI				*e*Sn	**Sn**	**12 08 55.0**	**-5.1**
PALK	**Pallekele** 1.6nm,0.3s,baz=116,slow=12,SNR=5.8	**12.83**	**293**	Pn	**Pn**	**12 06 50.0**	**-1.7**
PALK				Sn	Sn	12 09 03.1	-10
	8.9nm,0.3s,baz=297,slow=1.8,SNR=13						
PALK				LR	LR	12 10 59.5	
	comp=Z,160nm,21.2s,baz=116,slow=34						
PALK	**Pallekele**	**12.83**	**293**	*e*Pn	**Pn**	**12 06 51.6**	**-0.2**
PALK				*e*Sn	Sn	12 09 03.4	-10
PBKT	**Sadao Pong** 13nm,1.0s,528nm	**16.46**	**30**	P	**P**	**12 07 43.3**	**+0.8**
PBKT	**Sadao Pong** 4.7nm,0.8s	**16.46**	**30**	*e*Pn	**Pn**	**12 07 39.8**	**-0.3**
CM01	**Chiang Mai Arr**	**17.25**	**21**	*e*Pn	**Pn**	**12 07 50.3**	**+0.2**
CM31	**Chiang Mai Arr**	**17.28**	**21**	*e*Pn	**Pn**	**12 07 50.8**	**+0.3**
CMAR	**Chiang Mai Arr** 0.2nm,0.3s,baz=220,slow=14,SNR=9.0	**17.28**	**21**	P	**Pn**	**12 07 50.0**	**-0.5**
CHTO	**Chiang Mai** 49nm,1.0s	**17.61**	**20**	P	P	12 08 04.1	+8.9
CHTO	**Chiang Mai** 4.4nm,0.8s	**17.61**	**20**	*e*Pn	**Pn**	**12 07 54.1**	**-0.4**
CHTO				*e*Sn	**Sn**	**12 11 07.5**	**-2.3**
CMMT	**Chiang Mai** 11nm,1.0s	**17.61**	**20**	P	P	12 08 03.1	+7.8
KSM	**Kuching** 8.4nm,1.0s	**17.75**	**92**	*e*P	**P**	**12 07 57.9**	**+1.1**
KSM				*e*Sn	**Sn**	**12 11 11.6**	**-1.7**
CISI	**Cisompet, Garu** 65nm,1.4s	**18.07**	**123**	*e*Pn	**P**	**12 08 01.5**	**+1.2**
CISI				*e*Sn	**Sn**	**12 11 22.8**	**+1.9**
SKNT	**Sakolnakorn**	**18.45**	**37**	P	**Pn**	**12 08 10.3**	**+5.6**
HYB	**Hyderabad**	**20.41**	**318**	*i* P	Pn	12 08 29.0	+0.7
SHL	**Shillong**	**23.20**	**358**	*e*P	**P**	**12 09 01.0**	**+5.3**
POO	**Poona**	**24.46**	**313**	*e*P	P	12 09 19.0	+11
KMI	**Kunming**	**24.77**	**22**	P	**P**	**12 09 12.8**	**+2.2**
KMI				sP	sP	12 09 24.8	0.0
KMI				pmax	pmax		
	comp=Z,111nm,0.8s						
ODAN	**Odare**	**24.97**	**349**	*e*P	**P**	**12 09 13.1**	**+0.7**
	comp=Z,26nm,0.7s						
RAMN	**Ramite**	**25.22**	**347**	*e*P	**P**	**12 09 15.5**	**+0.8**
	comp=Z,23nm,0.6s						
JIRN	**Jiri**	**26.00**	**347**	*e*P	**P**	**12 09 22.8**	**+1.0**
MYLDM	**Lahad Datu** comp=Z,12nm,1.2s	**26.04**	**83**	*e*P	**P**	**12 09 22.9**	**+0.9**
PKIN	**Phulchoki**	**26.11**	**345**	*e*P	**P**	**12 09 24.1**	**+1.4**
GUN	**Gumba** comp=Z,16nm,0.6s	**26.31**	**347**	*e*P	**P**	**12 09 25.5**	**+0.9**
KOLN	**Koldanda**	**26.79**	**342**	*e*P	**P**	**12 09 29.5**	**+0.7**
LSA	**Lhasa**	**27.34**	**357**	P	**P**	**12 09 35.1**	**+1.1**
LSA				pmax	pmax		
	comp=Z,20nm,1.2s						
LSA	**Lhasa** comp=Z,12nm,0.6s	**27.34**	**357**	*e*P	**P**	**12 09 33.8**	**-0.2**
KAPI	**Kappang** comp=Z,9.3nm,1.0s	**28.10**	**105**	*e*P	**P**	**12 09 42.0**	**+1.5**
CD2	**Chengdu**	**30.41**	**19**	*e*P	**P**	**12 10 02.3**	**+1.4**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,120nm,5.0s						
TPUB	**Ta-pu** comp=Z,14nm,1.2s	**34.31**	**50**	*e*P	**P**	**12 10 35.4**	**+0.2**
XAN	**Xi'an**	**35.13**	**24**	P	P	12 10 33.8	-8.3
XAN				sP	pP	12 10 41.9	-10
XAN				pmax	pmax		
	comp=Z,4.0nm,0.7s						
LZH	**Lanzhou**	**35.26**	**16**	*e*P	**P**	**12 10 45.3**	**+2.0**
LZH				pP	sP	12 10 55.8	-1.9
LZH				sP	pP	12 10 59.6	+6.2
LZH				PP	**PP**	**12 12 05.8**	**+2.1**
LZH				pmax	pmax		
	comp=Z,34nm,1.0s						
LZH				pmax	pmax		
	comp=Z,370nm,5.7s						
TATO	**Taipei** comp=Z,114nm,1.3s	**35.89**	**48**	*e*P	**P**	**12 10 48.3**	**-0.4**
NIL	**Nilore** comp=Z,6.8nm,0.5s	**36.09**	**332**	*e*P	**P**	**12 10 50.4**	**+0.1**
GTA	**Gaotai**	**37.58**	**9**	*e*P	**P**	**12 11 03.8**	**+0.8**
GTA				pP	pP	12 11 13.4	+0.2
GTA				sP	sP	12 11 17.6	+0.2
GTA				pmax	pmax		
	comp=Z,5.0nm,1.0s						
FITZ	**Fitzroy Crossi** comp=Z,3.7nm,0.7s,baz=302,slow=6.7,SNR=6.5	**38.34**	**123**	P	**P**	**12 11 09.2**	**-0.3**
WMQ	**Urumqi**	**41.62**	**355**	P	**P**	**12 11 38.0**	**+1.4**
WMQ				pmax	pmax		
	comp=Z,13nm,0.7s						
WMQ				LR	LR		
	comp=N,2μm,20.9s						
WMQ				LR	LR		
	comp=E,1μm,23.1s						
WMQ				LR	LR		
	comp=Z,1μm,27.1s						
KDJ	**Kajisay** comp=Z,3.0nm,0.9s	**42.04**	**343**	*e*P	**P**	**12 11 40.5**	**+0.4**
HHC	**Hu-ho-hao-te**	**42.09**	**22**	*e*P	**P**	**12 11 43.1**	**+2.6**
HHC				pmax	pmax		
	comp=Z,11nm,1.0s						
HHC				pmax	pmax		
	comp=Z,34nm,5.7s						
KK31	**Karatay Array**	**45.19**	**337**	*e*P	**P**	**12 12 05.1**	**-0.1**
KKAR	**Karatay Array**	**45.19**	**337**	*e*P	**P**	**12 12 05.2**	**0.0**
MK01	**Makanchi Array**	**45.24**	**350**	*e*P	**P**	**12 12 05.3**	**-0.3**
MK31	**Makanchi Array**	**45.27**	**350**	*e*P	**P**	**12 12 06.2**	**+0.4**
MK32	**Makanchi Array**	**45.27**	**350**	*e*P	**P**	**12 12 06.0**	**+0.1**
MKAR	**Makanchi Array** comp=Z,2.9nm,0.7s,baz=163,slow=8.7,SNR=18	**45.27**	**350**	P	**P**	**12 12 06.0**	**+0.1**
MKAR	**Makanchi Array** comp=Z,1.9nm,0.8s	**45.27**	**350**	*e*P	**P**	**12 12 06.1**	**+0.3**
MAKZ	**Makanchi** comp=Z,3.4nm,1.3s	**45.33**	**350**	*e*P	**P**	**12 12 06.2**	**-0.1**
WR1	**Warramunga Arr** comp=Z,8.8nm,1.3s	**46.54**	**120**	*e*P	**P**	**12 12 16.6**	**+0.3**
WRA	**Warramunga Arr** comp=Z,3.8nm,0.7s,baz=299,slow=8.6,SNR=18	**46.54**	**120**	P	**P**	**12 12 16.6**	**+0.3**
WRAB	**Tennant Creek** comp=Z,6.7nm,0.9s	**46.55**	**120**	*e*P	**P**	**12 12 17.0**	**+0.6**
WB2	**Warramunga Arr**	**46.55**	**120**	*e*P	**P**	**12 12 16.5**	**+0.1**
SONA0	**Songino Array**	**46.96**	**13**	*e*P	**P**	**12 12 20.1**	**+0.8**
SONM	**Songino Array** comp=Z,1.5nm,0.4s,baz=197,slow=8.1,SNR=7.3	**46.96**	**13**	P	**P**	**12 12 20.1**	**+0.8**
SONA1	**Songino Array**	**46.98**	**13**	*e*P	**P**	**12 12 19.9**	**+0.5**
JNU	**Nakatsue** comp=Z,22nm,1.4s	**47.23**	**45**	*e*P	**P**	**12 12 22.7**	**+1.2**
GYA0B	**ALIBECK ARRAY** comp=Z,3.6nm,0.6s	**47.51**	**323**	*e*P	**P**	**12 12 23.2**	**-0.5**
KS15	**Wonju Array Si**	**47.74**	**38**	*e*P	**P**	**12 12 24.7**	**-0.6**
ASAR	**Alice Springs** comp=Z,0.4nm,0.4s,baz=299,slow=7.5,SNR=10	**47.75**	**125**	P	**P**	**12 12 26.1**	**+0.3**
KS01	**Wonju Array Si**	**47.77**	**38**	*e*P	**P**	**12 12 23.9**	**-1.6**
KSRS	**Korea Array** comp=Z,0.4nm,0.7s,baz=236,slow=7.0,SNR=2.9	**47.77**	**38**	P	**P**	**12 12 23.6**	**-1.9**
DAMY	**Dhamar** comp=Z,8.9nm,1.2s	**49.08**	**287**	*e*P	**P**	**12 12 35.3**	**-1.1**
KURBB	**Kurchatov Arra** comp=Z,2.1nm,0.9s,baz=172,slow=7.4,SNR=9.0	**49.65**	**348**	P	**P**	**12 12 39.6**	**-0.1**
KURK	**Kurchatov**	**49.72**	**348**	*e*P	**P**	**12 12 39.7**	**-0.6**
RAYN	**Ar Rayn** comp=Z,9.8nm,1.5s	**50.19**	**299**	*e*P	**P**	**12 12 42.1**	**-2.4**
ZAA0	**Zalesovo Array** comp=Z,2.7nm,0.6s	**51.93**	**354**	*e*P	**P**	**12 12 56.7**	**-0.1**
ZALV	**Zalesovo Beam** comp=Z,2.4nm,0.3s,baz=187,slow=7.7,SNR=11	**51.93**	**354**	P	**P**	**12 12 57.1**	**+0.2**
ZALV	**Zalesovo Beam**	**51.93**	**354**	*e*P	**P**	**12 12 56.9**	**0.0**
ZAA1	**Zalesovo Array**	**51.93**	**354**	*e*P	**P**	**12 12 57.1**	**+0.2**
GUMO	**Guam** comp=Z,147nm,1.3s	**52.90**	**75**	*e*P	**P**	**12 13 03.2**	**-1.6**
BVAR	**Borovoye Array** comp=Z,0.9nm,0.7s,baz=145,slow=10,SNR=4.6	**53.84**	**344**	P	**P**	**12 13 10.0**	**-1.1**
ABKAR	**Abkulak array**	**54.49**	**334**	*e*P	**P**	**12 13 15.6**	**-0.3**
KBZ	**Khabaz** comp=Z,0.5nm,0.4s,baz=137,slow=3.1,SNR=3.8	**60.29**	**320**	P	**P**	**12 13 56.6**	**-0.2**
CSS	**Mathiatis** comp=Z,2.6nm,1.2s	**63.77**	**308**	*e*P	**P**	**12 14 18.6**	**-1.8**
TIXI	**Tiksi** comp=Z,1.8nm,0.4s,baz=206,slow=2.8,SNR=9.1	**73.02**	**11**	P	**P**	**12 15 17.1**	**-0.4**
FIA0	**FINESS Array S**	**76.95**	**333**	*e*P	**P**	**12 15 39.8**	**-0.7**
FINES	**FINESS Array B** comp=Z,0.9nm,0.7s,baz=116,slow=6.3,SNR=2.7	**76.95**	**333**	P	**P**	**12 15 39.8**	**-0.7**
GERES	**GERESS Array B** comp=Z,0.3nm,0.5s,baz=111,slow=4.3,SNR=2.2	**80.98**	**319**	P	**P**	**12 16 03.2**	**+0.3**
LTX	**Lajitas**	**144.96**	**25**	*e*PKPbc	**PKPdf**	**12 23 26.4**	**+0.3**
TXAR	**Lajitas Array** comp=Z,0.2nm,0.4s,baz=148,slow=2.4,SNR=4.8	**144.96**	**25**	PKPbc	**PKPdf**	**12 23 26.4**	**+0.3**

CSEM ***13*** *12:06:49.1,41°.16N×14°.83E,h11km,MD2.1/16*

ROM 13 12:06:49.1±0.1,41°.16N×14°.83E,h11km±1km,Md2.1/16, Ml1.8/9,Error ellipse: s-maj=1.8km s-min=1.2km az=37.0,Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSB1	**Pescosannita**	**0.07**	**345**	Pg	Pg	12 06 51.7	+0.2
PSB1				Sg	Sg	12 06 53.9	+0.7
	458nm,0.3s						
PSB1	**Pescosannita**	**0.07**	**345**	Pg	Pg	12 06 51.7	+0.2
PSB1				Sg	Sg	12 06 53.9	+0.7
	458nm,0.3s						
MRB1	**Monte Rocchett**	**0.11**	**108**	Pg	Pg	12 06 52.5	+0.5
MRB1				Sg	Sg	12 06 55.1	+1.0
	1μm,0.4s						
MRB1	**Monte Rocchett**	**0.11**	**108**	Pg	Pg	12 06 52.5	+0.5
MRB1				Sg	Sg	12 06 55.1	+1.0
	1μm,0.4s						
PAOL	**Paolisi**	**0.24**	**237**	Pg	Pb	12 06 54.8	-0.7
	85nm,0.2s						
PAOL	**Paolisi**	**0.24**	**237**	Pg	Pb	12 06 54.8	-0.7
	85nm,0.2s						
SACR	**S. Croce Del S**	**0.26**	**338**	Pg	Pg	12 06 54.8	+0.4
SACR				Sg	Sb	12 06 59.3	-1.0
	144nm,1.0s						
SACR	**S. Croce Del S**	**0.26**	**338**	Pg	Pg	12 06 54.8	+0.4
SACR				Sg	Sb	12 06 59.3	-1.0
	144nm,1.0s						
PTRJ	**Pietraroja**	**0.31**	**312**	Pg	Pg	12 06 55.5	+0.1
PTRJ				Sg	Sg	12 07 00.5	+1.0
	195nm,0.4s						
PTRJ	**Pietraroja**	**0.31**	**312**	Pg	Pg	12 06 55.5	+0.1
PTRJ				Sg	Sg	12 07 00.5	+1.0
	195nm,0.4s						
MOCO	**Biccari - m.te**	**0.32**	**49**	Pg	Pg	12 06 56.3	+0.6
MOCO				Sg	Sb	12 07 01.9	-0.3
	99nm,0.8s						
NL9	**Nola**	**0.32**	**222**	Pg	Pb	12 06 56.6	-0.3
NL9	**Nola**	**0.32**	**222**	Pg	Pb	12 06 56.6	-0.3
CAFE	**Carife**	**0.33**	**113**	Pg	Pg	12 06 56.0	+0.2
CAFE				Sg	Sb	12 07 01.7	-0.8
CAFE	**Carife**	**0.33**	**113**	Pg	Pg	12 06 56.0	+0.2
CAFE				Sg	Sb	12 07 01.7	-0.8
GATE	**Gambatesa** 71nm,0.5s	**0.36**	**9**	Pg	Pb	12 06 57.5	0.0
GATE	**Gambatesa** 71nm,0.5s	**0.36**	**9**	Pg	Pb	12 06 57.5	0.0
SGTA	**Sant Agata di**	**0.40**	**93**	Pg	Pg	12 06 57.3	+0.2
SGTA	**Sant Agata di**	**0.40**	**93**	Pg	Pg	12 06 57.3	+0.2
SGG	**Gregorio Mates** 65nm,0.5s	**0.41**	**304**	Pg	Pb	12 06 58.3	-0.1
SGG	**Gregorio Mates** 65nm,0.5s	**0.41**	**304**	Pg	Pb	12 06 58.3	-0.1
BSSO	**Busso**	**0.43**	**335**	Pg	Pg	12 06 57.7	+0.2
BSSO	**Busso**	**0.43**	**335**	Pg	Pg	12 06 57.7	+0.2
MCRV	**Calabrutti - M** 53nm,0.2s	**0.46**	**146**	Pg	Pg	12 06 58.2	+0.1
MCRV	**Calabrutti - M** 53nm,0.2s	**0.46**	**146**	Pg	Pg	12 06 58.2	+0.1
CIGN	**Sant'Elia a Pi** 289nm,1.9s	**0.50**	**6**	Pg	Pg	12 06 59.1	+0.3
CIGN	**Sant'Elia a Pi** 289nm,1.9s	**0.50**	**6**	Pg	Pg	12 06 59.1	+0.3
VAGA	**Valle Agricola**	**0.52**	**300**	Pg	Pb	12 06 59.9	-0.4
VAGA	**Valle Agricola**	**0.52**	**300**	Pg	Pb	12 06 59.9	-0.4
MELA	**Melanico ??? S**	**0.59**	**22**	Pg	Pg	12 06 59.9	-0.7
MELA				Sg	Sg	12 07 09.0	+0.7
MELA	**Melanico ??? S**	**0.59**	**22**	Pg	Pg	12 06 59.9	-0.7
MELA				Sg	Sg	12 07 09.0	+0.7

JMA 13 12:11:29.1±0.1,37°.32N×141°.51E,h44km±2km,M2.2, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.51**	**275**	P	Pn	12 11 40.0	-0.2
JFK				S	Sn	12 11 47.6	-0.4
ONAJ	**Iwakimizuishiy**	**0.61**	**249**	P	Pn	12 11 41.2	-0.3
ONAJ				S	Sn	12 11 49.8	-0.5
JMM	**Marumori**	**0.79**	**314**	P	Pn	12 11 43.8	0.0
JMM				*e*S	Sn	12 11 54.7	+0.2
JFT	**Otama**	**0.95**	**282**	P	Pn	12 11 46.9	+0.8
JFT				S	Sn	12 11 59.5	+0.9
JHO	**Hitachi**	**1.03**	**227**	P	Pn	12 11 46.8	-0.4
JHO				S	Sn	12 11 59.4	-1.1
JIO	**Ouri**	**1.14**	**354**	P	Pn	12 11 48.5	-0.1
JIO				*e*S	Sn	12 12 02.4	-0.6
JMK	**Ichinoseki**	**1.65**	**352**	P	Pn	12 11 56.5	+1.0
JMK				*e*S	Sn	12 12 15.8	+0.3

IDC ***13*** *12:12:00.7±0.4,37°.01N×141°.20E,h0km,mb4.6/42, mb1 4.7/49,mb1mx4.6/72,mbtmp4.6/49,ML3.9/4,MS4.3/30, Ms1 4.3/30,ms1mx4.0/67,Error ellipse: s-maj=11.5km s-min=8.4km az=101.0*

NIED ***13*** *12:12:00,37°.00N×141°.40E,h8km,Mw5.0 Best double couple: M0 4.10000×10^16 NP1:φs11.00000°,δ45.00000°, λ-100.00000°. NP2:φs204.00000°,δ45.00000°, λ-80.00000°.*

JMA ***13*** *12:12:02.4±0.1,36°.96N×141°.37E,h31km±1km,M5.2 Broadband fault plane solution: P waves. NP1: φs210.00000°,δ53.00000°,λ70.00000°. NP2:φs61.00000°, δ41.00000°,λ114.00000°. Principal axes: T Plg73.0000°, Azm64.0000°; N Plg16.0000°, Azm222.0000°; P Plg6.0000°, Azm314.0000°;*

JMA Felt III J1.

BJI ***13*** *12:12:02.9,36°.98N×141°.35E,h35km,mb4.8/68,mB4.9/56, Ms5.0/71,Ms7 4.8/68*

ISCJB ***13*** *12:12:03.9±0.5,37°.00N±0°.02×141°.21E±0°.02,h28km±3km, mb4.9/283,MS4.6/55,Error ellipse: s-maj=3.2km s-min=2.3km az=144.6*

MOS ***13*** *12:12:04.9±1.0,37°.18N×141°.14E,h30km,mb5.1/93,Error ellipse: s-maj=5.9km s-min=4.1km az=99.8*

NEIC ***13*** *12:12:05.7±1.0,37°.02N×141°.15E,h28km±7km,mb5.1/201, Error ellipse: s-maj=3.6km s-min=2.4km az=140.0*

NEIC Felt in Chiba, Fukushima, Ibaraki, Miyagi, Tochigi and Tokyo. Recorded [3 JMA] in Fukushima and Ibaraki.

GCMT ***13*** *12:12:05.7±0.2,36°.97N×141°.39E,h17km,MW5.1/106, Moment Tensor Solution. s42,c51; s106,c178; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-5.29±.24; Mθθ0.45±.14; Mθφ4.84±.16; Mrθ-0.59±.43; Mφφ1.85±.09; Mφr-2.17±.35; Best double couple: M0 5.85200×10^16 NP1:φs18.00000°,δ56.00000°,λ-92.00000°. NP2: φs202.00000°,δ34.00000°,λ-87.00000°. Principal axes: T 5.9620, Plg11.0000°, Azm110.0000°; N -0.2190, Plg2.0000°, Azm19.0000°; P -5.7420, Plg79.0000°, Azm280.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 13 12:12:04.5±0.5,37°.04N±0°.03×141°.35E±0°.03,h26km±2km, h26km:pP-P,n749,σ1§46/795,mb5.0/283,MS4.6/56, 35C-24D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.44**	**279**	↑↑P	**Pb**	**12 12 12.2**	**-1.7**
ONAJ				*e*S	**Sb**	**12 12 19.7**	**-0.6**
JFK	**Kawauchi**	**0.50**	**311**	↓↓P	**Pb**	**12 12 13.6**	**-1.3**
JHO	**Hitachi**	**0.76**	**236**	↓↓P	**Pb**	**12 12 16.1**	**-2.9**
JHO				S	**Sb**	**12 12 26.3**	**-2.6**
JFT	**Otama**	**0.94**	**301**	↓↓P	**Pn**	**12 12 21.0**	**-1.1**
JFT				*e*S	**Sb**	**12 12 34.0**	**-0.3**
JMM	**Marumori**	**0.94**	**332**	↓↓P	**Pn**	**12 12 20.4**	**-1.7**
JMM				*e*S	**Sb**	**12 12 33.4**	**-0.8**
JSB	**Shiboa**	**1.14**	**267**	↓↓P	**Pn**	**12 12 23.9**	**-1.0**
JSB				*e*S	**Sn**	**12 12 39.4**	**-0.4**
JFY	**Yanaizu**	**1.36**	**286**	↓↓P	**Pn**	**12 12 27.4**	**-0.5**
JFY				S	**Sn**	**12 12 45.7**	**+0.6**
JIO	**Ouri**	**1.42**	**0**	↓↓P	**Pn**	**12 12 27.4**	**-1.2**
JIO				S	**Sn**	**12 12 45.9**	**-0.5**
JOU	**Okura**	**1.43**	**338**	↓↓P	**Pn**	**12 12 28.8**	**-0.1**
JOU				*e*S	**Sb**	**12 12 48.2**	**-0.3**
MJAR	**Matsushiro Arr** 22nm,0.3s,baz=89,slow=15,SNR=445	**2.57**	**260**	Pn	**Pn**	**12 12 43.0**	**-1.4**
MJAR				Sn	**Sb**	**12 13 19.3**	**-1.7**
	79nm,0.3s,baz=70,slow=37,SNR=6.7						
MJAR				LR	LR	12 13 44.9	
	comp=Z,5μm,18.4s,baz=75,slow=43						
MAJO	**Matsushiro**	**2.57**	**260**	*e*Pn	**Pn**	**12 12 44.4**	**-0.1**
MAJO				*e*Sn	**Sn**	**12 13 14.0**	**-0.9**
MAJO	**Matsushiro**	**2.57**	**260**	*ce*P	**Pn**	**12 12 44.4**	**-0.1**
MAJO				pmax	pmax		
	comp=Z,171nm,0.6s						
MAT	**Matsushiro**	**2.57**	**260**	P	**Pn**	**12 12 44.1**	**-0.4**
MAT				S	**Sb**	**12 13 18.8**	**-2.3**
MJB9	**Matsu-Tunnel**	**2.57**	**260**	*e*Pn	**Pn**	**12 12 44.6**	**0.0**
MJB9				*e*Sn	**Sn**	**12 13 13.8**	**-1.1**
INU	**Inuyama** comp=Z,132nm,0.8s	**3.89**	**246**	*e*P	**Pn**	**12 13 02.7**	**+0.2**
INU	**Inuyama**	**3.89**	**246**	*e*Pn	**Pn**	**12 13 02.6**	**+0.1**
INU				*e*Sn	**Sn**	**12 13 46.5**	**-0.9**
JHJ2	**Mitsune**	**4.11**	**198**	*e*Pn	**Pn**	**12 13 05.2**	**-0.4**
JHJ	**Hachijo jima 2** comp=Z,28nm,0.3s,baz=324,slow=21,SNR=45	**4.11**	**199**	Pn	**Pn**	**12 13 05.0**	**-0.7**
JHJ				Sn	**Sn**	**12 13 52.5**	**-0.4**
	comp=Z,127nm,0.3s,baz=67,slow=22,SNR=7.7						
ERM	**Erimo**	**5.17**	**15**	*e*Pn	**Pn**	**12 13 20.1**	**0.0**
ERM				*e*Sn	**Sn**	**12 14 24.3**	**+5.5**
ERM	**Erimo**	**5.17**	**15**	*ce*P	**Pn**	**12 13 19.9**	**-0.2**
ERM				pmax	pmax		
	comp=Z,142nm,1.0s						
ASAJ	**Asahikawa** comp=Z,5.8nm,0.3s,baz=224,slow=8.7,SNR=52	**7.14**	**7**	Pn	**Pn**	**12 13 47.2**	**0.0**
ASAJ				Sn	**Sn**	**12 15 10.3**	**+2.9**
	comp=Z,4.2nm,0.3s,baz=116,slow=19,SNR=5.3						
ASAJ	**Asahikawa**	**7.14**	**7**	*e*Pn	**Pn**	**12 13 46.8**	**-0.4**
ASAJ				*e*Sn	**Sn**	**12 15 05.9**	**-1.5**
GLVR	**Golovnino**	**7.41**	**24**	P	**Pn**	**12 13 49.5**	**-1.5**
GLVR				*e*S	**Sn**	**12 15 10.2**	**-4.0**
GLVR				pmax	pmax		
	comp=N,49nm,0.4s						
GLVR				pmax	pmax		
	comp=E,68nm,0.4s						
GLVR				pmax	pmax		
	comp=Z,63nm,0.4s						
GRPR	**Tuman**	**7.72**	**24**	*e*P	**Pn**	**12 13 52.9**	**-2.3**
GRPR				*e*S	**Sn**	**12 15 16.5**	**-5.3**
GRPR				pmax	pmax		
	comp=E,31nm,0.4s						

KSRS **Korea Array** 10.71 276 Pn **Pn** 12 14 38.1 +1.9
comp=N,0.3nm,0.3s,baz=90,slow=14,SNR=44
KSRS LR LR 12 18 22.6
comp=N,2μm,18.5s,baz=86,slow=36
KS01 **Wonju Array Si** 10.73 276 *e*Pn **Pn** 12 14 34.8 -1.8
KS15 **Wonju Array Si** 10.74 276 *e*Pn **Pn** 12 14 37.1 +0.4
TJN **Taejon** 11.25 271 *i* P **Pn** 12 14 46.6 +3.1
MDJ **Mudanjiang** 11.68 314 P **Pn** 12 14 50.3 +0.8
MDJ S **Sn** 12 16 57.4 -1.5
MDJ pmax pmax
comp=N,39nm,2.0s
MDJ pmax pmax
comp=N,930nm,4.7s
MDJ LR LR
comp=N,4μm,18.7s
MDJ LR LR
comp=N,2μm,20.8s
MDJ LR LR
comp=N,3μm,13.7s
MDJ **Mudanjiang** 11.68 314 *e*Pn **Pn** 12 14 51.3 +1.9
MDJ *e*Sn **Sn** 12 16 58.1 -0.8
TYV **Tymovskoe** 13.86 3 *e*P **Pn** 12 15 17.8 -1.3
TYV *e*S **Sn** 12 17 50.5 -1.5
TYV pmax pmax
comp=Z,300nm,5.1s
TYV pmax pmax
comp=Z,20nm,1.3s
TYV smax smax
comp=E,7.0nm,1.3s
TYV MLR MLR
comp=N,3μm,14.0s
TYV MLR MLR
comp=Z,4μm,14.0s
CN2 **Changchun** 13.86 304 *e*P **Pn** 12 15 19.9 +0.7
CN2 *es*P P 12 15 34.0 +6.8
CN2 *e*S **Sn** 12 17 52.9 +0.7
CN2 pmax pmax
comp=Z,10.0nm,1.6s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=Z,3μm,12.0s
CN2 LR LR
comp=Z,1μm,12.0s
CN2 LR LR
comp=Z,3μm,13.0s
KLR **Kul'dur** 14.04 333 Pn **Pn** 12 15 22.6 +0.9
comp=Z,0.0nm,0.3s,baz=154,slow=7.7,SNR=10.0
KLR LR LR 12 20 30.3
comp=Z,111nm,19.5s,baz=150,slow=36
KLR **Kul'dur** 14.04 333 *ce*P **Pn** 12 15 23.5 +1.8
GRNR **Gornyy** 14.18 347 *e*P **Pn** 12 15 24.0 +0.5
GRNR pmax pmax
comp=Z,29nm,1.0s
SNY **Shenyang** 14.54 295 ⇑P **P** 12 15 36.1 +1.3
SNY S **Sn** 12 18 14.8 +6.1
SNY pmax pmax
comp=Z,12nm,0.5s
SNY pmax pmax
comp=Z,990nm,11.4s
SNY LR LR
comp=N,3μm,10.6s
SNY LR LR
comp=E,4μm,13.1s
SNY LR LR
comp=Z,7μm,12.4s
JOW **Kunigami** 15.04 231 LR LR 12 21 20.1
comp=Z,907nm,21.7s,baz=134,slow=38
DL2 **Dalian** 15.66 283 P **Pn** 12 15 44.8 +1.4
DL2 S **Sn** 12 18 39.3 +3.1
DL2 pmax pmax
comp=Z,27nm,0.8s
DL2 pmax pmax
comp=Z,700nm,9.8s
DL2 LR LR
comp=Z,2μm,11.3s
DL2 LR LR
comp=Z,2μm,10.8s
DL2 LR LR
comp=Z,3μm,10.5s
NKL **Nikolayevsk** 16.12 359 *e*P **Pn** 12 15 45.0 -4.2
NJ2 **Nanjing** 19.17 262 *e*P **Pn** 12 16 27.3 +0.2
NJ2 pP **sP** 12 16 35.6 -0.9
NJ2 sP **pP** 12 16 39.8 +6.7
NJ2 S **Sn** 12 20 01.3 +0.1
NJ2 pmax pmax
comp=Z,11nm,0.5s
NJ2 pmax pmax
comp=Z,200nm,4.4s
NJ2 LR LR
comp=Z,2μm,11.4s
NJ2 LR LR
comp=Z,2μm,13.0s
NJ2 LR LR
comp=Z,2μm,11.9s
ZEA **Zeya** 19.35 334 *e*P **P** 12 16 25.2 -2.7
ZEA pmax pmax
comp=N,100nm,2.0s
ZEA pmax pmax
comp=Z,100nm,2.0s
ZEA MLR MLR
comp=Z,4μm,13.0s
ZEA MLR MLR
comp=E,1μm,14.0s
ZEA MLR MLR
comp=N,2μm,13.0s
TIA **Tai'an** 19.45 275 P **P** 12 16 27.4 -1.8
TIA pmax pmax
comp=N,11nm,1.0s
TIA LR LR
comp=N,990nm,15.7s
TIA LR LR
comp=N,1μm,13.2s
TIA LR LR
comp=N,1μm,20.1s
PETK **Petropavlovsk-** 19.71 30 P **Pn** 12 16 32.7 -0.7
baz=190,slow=7.5,SNR=5.9
PEA1 **Petropavlovsk-** 19.72 30 *e*P **Pn** 12 16 32.7 -0.8
HIA **Hailar** 19.86 315 *i* P **P** 12 16 34.4 +0.8
HIA pmax pmax
comp=Z,7.0nm,0.9s
BJI **Beijing** 19.90 286 P **P** 12 16 33.1 -0.9
BJI S **S** 12 20 16.6 0.0
BJI pmax pmax
comp=Z,13nm,0.7s
BJI LR LR
comp=Z,1μm,12.0s
BJI LR LR
comp=Z,4μm,11.4s
BJT **Baijiatuan** 19.91 286 *e*P **P** 12 16 32.1 -2.0
comp=Z,16nm,0.8s
BJT **Baijiatuan** 19.91 286 *e*P **P** 12 16 32.1 -2.0
BJT pmax pmax
comp=Z,16nm,0.8s
PET **Petropavlovsk** 20.04 32 *e*P **P** 12 16 36.3 +0.9
comp=Z,112nm,1.5s
PET **Petropavlovsk** 20.04 32 ⇓ *i*P Pn 12 16 36.4 -0.9
PET *e*S **S** 12 20 15.0 -4.3
PET pmax pmax
comp=Z,51nm,1.4s
PET MLR MLR
comp=Z,2μm,13.0s
PET MLR MLR
comp=Z,2μm,16.0s
YOJ **Yonaguni jima** 20.09 237 *e*P **P** 12 16 36.5 +0.3
comp=Z,240nm,1.7s
YOJ **Yonaguni jima** 20.09 237 *e*P **P** 12 16 36.5 +0.3
YOJ pmax pmax
comp=Z,240nm,1.7s
TPUB **Ta-pu** 22.48 238 *e*P **P** 12 17 02.4 +0.4
comp=Z,31nm,0.9s
CLNS **Chul'man** 22.66 336 *e*P **P** 12 17 04.2 +0.6
CLNS *e**PP **sP** 12 17 13.5 -0.6
CLNS *e* 12 17 27.1
CLNS *e* 12 20 57.3
CLNS *e*S **S** 12 21 09.3 -0.7
CLNS *e*SS SnSn 12 21 56.7 +16
CLNS pmax pmax
comp=N,15nm,1.1s
CLNS pmax pmax
comp=Z,17nm,1.1s
CLNS pmax pmax
comp=E,6.0nm,0.9s
CLNS pmax pmax
comp=Z,14nm,1.0s
CLNS pmax pmax
comp=N,11nm,1.2s
CLNS pmax pmax
comp=E,13nm,0.9s
CLNS smax smax
comp=E,242nm,8.1s
CLNS smax smax
comp=N,507nm,9.1s
CLNS MLR MLR
comp=N,1μm,11.0s
CLNS MLR MLR
comp=Z,2μm,14.0s
CLNS MLR MLR
comp=E,1μm,14.0s
QZH **Quanzhou** 22.87 245 *e*P **P** 12 17 07.6 +1.6
QZH S **S** 12 21 10.0 -4.0
QZH LR LR
comp=E,930nm,11.9s
QZH LR LR
comp=E,1μm,12.5s
QZH LR LR
comp=E,1μm,13.3s
TIY **Taiyuan** 22.95 281 *e*P **P** 12 17 08.3 +1.4
TIY S **S** 12 21 10.8 -4.8
TIY pmax pmax
comp=E,180nm,6.0s
TIY LR LR
comp=E,2μm,14.0s
TIY LR LR
comp=E,1μm,10.6s
TIY LR LR
comp=E,2μm,10.9s
WHN **Wuhan** 23.31 262 P **P** 12 17 08.4 -2.0
WHN S **S** 12 21 21.3 -0.1
WHN LR LR
comp=E,3μm,10.9s
WHN LR LR
comp=E,7μm,11.5s
WHN LR LR
comp=E,9μm,11.6s
MA2 **Magadan** 23.36 12 P **P** 12 17 12.2 +1.5
comp=E,15nm,0.6s,baz=195,slow=7.8,SNR=15
HHC **Hu-ho-hao-te** 23.42 289 *e*P **P** 12 17 11.6 0.0
HHC sP sP 12 17 27.9 +5.6
HHC S **S** 12 21 21.4 -2.0
HHC sS sS 12 21 35.3 -0.7
HHC pmax pmax
comp=E,16nm,1.0s
HHC pmax pmax
comp=E,140nm,4.0s
HHC LR LR
comp=E,1μm,13.0s
HHC LR LR
comp=E,1μm,11.4s
HHC LR LR
comp=E,1μm,11.3s
YAK **Yakutsk** 26.06 347 P **P** 12 17 34.3 -1.1
comp=E,43nm,0.7s,baz=157,slow=2.5,SNR=16
YAK **Yakutsk** 26.06 347 *e*P **P** 12 17 34.8 -0.7
comp=E,59nm,0.8s
YAK **Yakutsk** 26.06 347 *d i*P **P** 12 17 34.7 -0.7
YAK *e**PP **pP** 12 17 40.4 -2.7
YAK *e* 12 18 10.3
YAK *e*S **S** 12 22 03.0 -1.8
YAK *e**SS **sS** 12 22 18.4 +1.0
YAK *e*SSS SSS 12 23 08.8
YAK pmax pmax
comp=Z,56nm,0.9s
YAK pmax pmax
comp=N,26nm,1.2s
YAK pmax pmax
comp=E,8.0nm,1.3s
YAK pmax pmax
comp=Z,45nm,1.0s
YAK pmax pmax
comp=N,66nm,1.4s
YAK pmax pmax
comp=E,21nm,1.4s
YAK smax smax
comp=N,351nm,3.1s
YAK smax smax
comp=E,41nm,2.1s
YAK MLR MLR
comp=Z,2μm,14.0s
YAK MLR MLR
comp=N,2μm,14.0s
YAK MLR MLR
comp=E,401nm,10.0s
XAN **Xi'an** 26.49 273 P **P** 12 17 38.8 -1.0
XAN pP pP 12 17 47.8 +0.4
XAN sP sP 12 17 52.0 +1.4
XAN PP **PnPn** 12 18 23.0 +2.8
XAN S **S** 12 22 09.5 -2.8
XAN sS sS 12 22 25.3 +0.4
XAN SS **SnSn** 12 23 21.1 +6.6
XAN pmax pmax
comp=E,7.0nm,1.2s
XAN pmax pmax
comp=E,280nm,9.9s
XAN LR LR
comp=E,840nm,11.9s
XAN LR LR
comp=E,1μm,11.9s
XAN LR LR
comp=E,1μm,10.8s
SEY **Seymchan** 26.80 11 P **P** 12 17 41.9 -0.3
comp=E,20nm,1.1s,baz=212,slow=8.3,SNR=24
ENH **Enshi** 27.28 265 *e*P **P** 12 17 46.1 -0.8
comp=E,30nm,0.6s
ULN **Ulaanbaatar** 27.31 304 *e*P **P** 12 17 47.1 -0.1
comp=E,7.6nm,0.8s
ULN **Ulaanbaatar** 27.31 304 *ce*P **P** 12 17 47.7 +0.5
ULN pmax pmax
comp=Z,11nm,1.0s
BOD **Bodaibo** 27.50 328 *e*P **P** 12 17 47.5 -1.0
BOD pmax pmax
comp=Z,28nm,1.4s
SONA1 **Songino Array** 27.74 304 *e*P **P** 12 17 49.8 -1.2
SONA0 **Songino Array** 27.74 304 *e*P **P** 12 17 49.9 -1.1
SONA0 *e*PcP **PcP** 12 21 07.8 +0.6
SONM **Songino Array** 27.74 304 P **P** 12 17 49.9 -1.1
comp=Z,5.1nm,0.7s,baz=108,slow=8.9,SNR=14
SONM PcP **PcP** 12 21 07.8 +0.6
comp=Z,1.7nm,0.8s,baz=151,slow=2.7,SNR=3.6
SONM LR LR 12 29 28.8
comp=Z,402nm,19.2s,baz=105,slow=38
H11N2 **WAKE ISLAND Hy** 28.19 121 T T 12 47 21.7
baz=313,slow=75,SNR=3951
H11N1 **WAKE ISLAND Hy** 28.20 121 T T 12 47 22.3
baz=313,slow=75,SNR=5281
H11N3 **WAKE ISLAND Hy** 28.21 121 T T 12 47 23.1
baz=313,slow=75,SNR=4435
H11S1 **WAKE ISLAND Hy** 28.91 123 T T 12 48 51.3
baz=314,slow=75,SNR=2631
H11S3 **WAKE ISLAND Hy** 28.91 123 T T 12 48 51.4
baz=314,slow=75,SNR=2112
H11S2 **WAKE ISLAND Hy** 28.92 123 T T 12 48 48.6
baz=314,slow=75,SNR=2288
LZH **Lanzhou** 30.01 280 *e*P **P** 12 18 13.4 +2.0
LZH pP sP 12 18 23.5 +1.3
LZH sP pP 12 18 27.3 +8.3
LZH PP **PnPn** 12 19 11.8 +3.4
LZH S **S** 12 23 06.8 -1.2
LZH sS sS 12 23 23.4 +2.7
LZH pmax pmax
comp=Z,33nm,1.2s
LZH pmax pmax
comp=Z,380nm,4.3s
LZH LR LR
comp=Z,3μm,13.4s
LZH LR LR
comp=Z,3μm,13.1s
LZH LR LR
comp=Z,3μm,15.8s
ZAK **Zakamensk** 30.23 308 *e*P **P** 12 18 12.7 -0.3
ZAK pmax pmax
comp=Z,6.0nm,1.1s
TLY **Talaya** 30.29 311 P **P** 12 18 12.4 -1.0
comp=Z,3.5nm,0.6s,baz=52,slow=3.7,SNR=6.5
TLY LR LR 12 30 23.5
comp=Z,485nm,19.4s,baz=105,slow=36
TLY **Talaya** 30.29 311 *e*P **P** 12 18 13.8 +0.3
TLY **Talaya** 30.29 311 *e*P **P** 12 18 13.5 +0.1
TLY pmax pmax
comp=Z,9.0nm,1.1s
TLY MLR MLR
comp=Z,1μm,14.0s
GYA **Guiyang** 31.17 260 ⇑ *i*P **P** 12 18 20.0 -1.6
GYA pP sP 12 18 32.8 +0.4
GYA PP **PnPn** 12 19 26.0 +2.4
GYA S **S** 12 23 25.4 -0.7
GYA sS sS 12 23 42.0 +3.2
GYA SS **SnSn** 12 25 10.9 +2.0
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,120nm,6.2s
GYA LR LR
comp=Z,560nm,16.8s
GYA LR LR
comp=Z,520nm,17.0s
GYA LR LR
comp=Z,500nm,17.2s
CD2 **Chengdu** 31.62 270 P **P** 12 18 24.6 -0.8
CD2 pP pP 12 18 34.5 +1.4
CD2 S **S** 12 23 31.0 -2.0
CD2 sS sS 12 23 48.1 +2.4
CD2 pmax pmax
comp=Z,20nm,0.5s
CD2 pmax pmax
comp=Z,220nm,5.0s
CD2 LR LR
comp=Z,2μm,18.3s
CD2 LR LR
comp=Z,3μm,14.3s
CD2 LR LR
comp=Z,2μm,11.2s
GTA **Gaotai** 32.51 287 P **P** 12 18 32.3 -1.0
GTA pP sP 12 18 45.3 +1.1
GTA sP pP 12 18 51.8 +11
GTA PcP **PcP** 12 21 21.0 +1.3
GTA S **S** 12 23 43.5 -3.4
GTA sS sS 12 24 04.3 +4.7
GTA pmax pmax
comp=Z,9.0nm,0.7s
GTA LR LR
comp=Z,720nm,11.9s
GTA LR LR
comp=Z,840nm,12.4s
GTA LR LR
comp=Z,970nm,11.4s
QIZ **Qiongzhong** 32.88 246 P **P** 12 18 37.4 +0.9
QIZ S **S** 12 23 52.5 -0.2
QIZ LR LR
comp=Z,800nm,16.9s
QIZ LR LR
comp=Z,600nm,16.6s
QIZ LR LR
comp=Z,1μm,12.8s
BILL **Bilibino** 34.04 16 ⇑ *i*P **P** 12 18 46.3 +0.2
BILL *e* 12 19 57.3
BILL *e*PPP PPP 12 20 18.8
BILL pmax pmax
comp=Z,13nm,1.3s
BILL MLR MLR
comp=Z,618nm,14.0s
KMI **Kunming** 34.91 261 P **P** 12 18 53.4 -1.0
KMI pP pP 12 19 02.5 +0.4
KMI sP sP 12 19 10.5 +5.2
KMI S **S** 12 24 22.8 -1.6
KMI sS sS 12 24 37.6 +0.4
KMI SS **SnSn** 12 26 39.8 -0.1
KMI pmax pmax
comp=Z,15nm,1.1s
KMI pmax pmax
comp=Z,120nm,4.9s
KMI LR LR
comp=Z,1μm,21.1s
KMI LR LR
comp=Z,480nm,21.4s
KMI LR LR
comp=Z,1μm,14.7s
TIXI **Tiksi** 35.28 353 P **P** 12 18 57.0 +0.2
comp=Z,2.5nm,0.5s,baz=140,slow=9.6,SNR=16
TIXI **Tiksi** 35.28 353 *e*P **P** 12 18 56.5 -0.2
comp=Z,22nm,1.4s
TIXI **Tiksi** 35.28 353 *ce*P **P** 12 18 56.6 -0.2
MYLDM **Lahad Datu** 37.98 219 *e*P **P** 12 19 22.2 +1.9
comp=Z,35nm,1.1s
SKNT **Sakolnakorn** 38.50 249 P **P** 12 19 23.9 -0.8
comp=Z,8.1nm,1.0s
SIJI **Sorong** 38.86 196 P **P** 12 19 27.6 0.0
comp=Z,11nm,0.8s,baz=9.1,slow=13,SNR=7.2
GENI **Genyem** 39.44 182 P **P** 12 19 32.8 +0.2
comp=Z,40nm,0.9s
KMSI **Cibinong** 39.68 208 P **P** 12 19 35.1 +0.6
DGZ **Jazzator, Alta** 40.35 306 *i* P **P** 12 19 40.1 +0.1
DGZ pmax pmax
comp=Z,18nm,0.9s
MRSI **Marisa** 40.56 211 P **P** 12 19 43.2 +1.3
comp=Z,20nm,1.2s,comp=Z,584nm
WMQ **Urumqi** 40.79 297 P **P** 12 19 44.4 +0.7
WMQ pP pP 12 19 49.4 -2.1
WMQ sP sP 12 19 59.1 +4.5
WMQ S **S** 12 25 55.0 +2.1
WMQ SS **SS** 12 28 53.8 -0.3
WMQ pmax pmax
comp=Z,65nm,0.9s
WMQ pmax pmax
comp=Z,250nm,3.7s
WMQ LR LR
comp=Z,2μm,14.7s
WMQ LR LR
comp=Z,1μm,24.5s
WMQ LR LR
comp=Z,1μm,29.9s
PBKT **Sadao Pong** 41.01 251 P **P** 12 19 44.0 -1.6
comp=Z,13nm,1.1s,comp=Z,1μm
CMMT **Chiang Mai** 41.24 256 P **P** 12 19 46.6 -0.9
comp=Z,8.7nm,1.6s
CHTO **Chiang Mai** 41.24 256 P **P** 12 19 47.7 +0.2
comp=Z,44nm,0.8s
CHTO **Chiang Mai** 41.24 256 *e*P **P** 12 19 46.9 -0.6
comp=Z,6.3nm,1.1s
CHTO **Chiang Mai** 41.24 256 *e*P **P** 12 19 46.9 -0.6
CHTO pmax pmax
comp=Z,6.0nm,1.1s
SANI **Sanana** 41.42 204 P **P** 12 19 47.6 -1.4
comp=Z,31nm,0.8s,comp=Z,610nm
CM31 **Chiang Mai Arr** 41.45 255 *e*P **P** 12 19 49.3 +0.1
CMAR **Chiang Mai Arr** 41.45 255 P **P** 12 19 48.3 -0.9
comp=Z,1.8nm,0.8s,baz=45,slow=6.2,SNR=12
CMAR LR LR 12 36 36.2
comp=Z,139nm,18.6s,baz=50,slow=36
CM01 **Chiang Mai Arr** 41.45 255 *e*P **P** 12 19 48.3 -1.0
LUWI **Luwuk** 41.62 209 *e*P **P** 12 19 49.2 -1.4
comp=Z,25nm,0.7s
ZAA0 **Zalesovo Array** 41.87 312 *e*P **P** 12 19 51.5 -0.8
comp=Z,19nm,0.7s
ZAA1 **Zalesovo Array** 41.87 312 *e*P **P** 12 19 51.2 -1.1
ZALV **Zalesovo Beam** 41.87 312 P **P** 12 19 51.2 -1.1
comp=Z,19nm,0.6s,baz=95,slow=6.8,SNR=69
ZALV **Zalesovo Beam** 41.87 312 *e*P **P** 12 19 51.0 -1.2
ZALV **Zalesovo Beam** 41.87 312 *e*P **P** 12 19 51.1 -1.2
APSI **Ampana** 41.94 210 P **P** 12 19 52.3 -0.9
comp=Z,65nm,1.2s,comp=Z,851nm
PCI **Palu** 42.70 213 P **P** 12 19 58.9 -0.5
NVS **Novosibirsk** 42.80 314 *e*P **P** 12 19 59.6 -0.2
NVS pmax pmax
comp=N,5.0nm,1.0s
NVS pmax pmax
comp=E,19nm,1.0s
NVS pmax pmax
comp=Z,26nm,1.0s
SBUM **Sibu** 43.63 225 *e*P **P** 12 20 06.8 -0.1
comp=Z,30nm,1.1s
SRDT **SRDT** 43.78 250 P **P** 12 20 07.4 -0.8
comp=Z,22nm,1.1s
MK01 **Makanchi Array** 44.07 302 *e*P **P** 12 20 09.3 -0.9
MK31 **Makanchi Array** 44.07 302 *e*P **P** 12 20 09.9 -0.3
MK31 **Makanchi Array** 44.07 302 *e*P **P** 12 20 10.0 -0.3
MK32 **Makanchi Array** 44.07 302 *e*P **P** 12 20 09.4 -0.9
MKAR **Makanchi Array** 44.07 302 P **P** 12 20 09.4 -0.9
comp=Z,10nm,0.7s,baz=89,slow=9.6,SNR=100
MKAR LR LR 12 38 39.3
comp=Z,558nm,20.0s,baz=87,slow=36
MKAR **Makanchi Array** 44.07 302 *e*P **P** 12 20 09.9 -0.3
comp=Z,69nm,0.7s
MKAR **Makanchi Array** 44.07 302 *e*P **P** 12 20 10.0 -0.3
MKAR pmax pmax
comp=Z,69nm,0.7s
MAKZ **Makanchi** 44.28 302 *e*P **P** 12 20 11.6 -0.4
comp=Z,14nm,0.9s

MAKZ Makanchi 44.28 302 eP P 12 20 11.6 -0.4
MAKZ pmax pmax
comp=Z,14nm,0.9s
MTKI Muara Teweh, K 45.05 219 P P 12 20 19.1 +0.8
KSM Kuching 45.52 226 eP P 12 20 22.3 +0.3
comp=Z,58nm,0.9s
SVW2 Sparrevohn 45.55 37 eP P 12 20 23.6 +1.8
comp=Z,37nm,1.4s
BNSI Bone 45.74 210 P P 12 20 23.4 -0.3
comp=Z,52nm,1.0s,comp=Z,832nm
SAUI Saumlaki 45.76 194 eP P 12 20 23.4 -0.5
comp=Z,344nm,0.9s
KURK Kurchatov 45.89 308 eP P 12 20 24.1 -0.5
comp=Z,105nm,1.5s
KURK Kurchatov 45.89 308 deP P 12 20 24.0 -0.6
KURK pmax pmax
comp=Z,846nm,2.5s
KURBB Kurchatov Arra 45.96 308 P P 12 20 24.6 -0.5
comp=Z,14nm,0.6s,baz=83,slow=8.1,SNR=106
STKI Sintang 46.01 224 P P 12 20 26.8 +0.9
comp=Z,41nm,1.0s
ODAN Odare 46.36 274 eP P 12 20 28.6 -0.3
comp=Z,32nm,0.7s
KAPI Kappang 46.44 210 eP P 12 20 30.8 +1.6
KAPI pmax pmax
comp=Z,37nm,1.7s
PMG Port Moresby 46.52 172 i P P 12 20 31.3 +1.5
PMG pmax pmax
comp=Z,63nm,1.0s
IM3 Indian Mountai 46.68 31 eP P 12 20 31.9 +1.3
PDGK Podgornoye 46.73 298 P P 12 20 30.5 -1.0
PDGK pmax pmax
comp=Z,25nm,0.9s
RAMN Ramite 46.95 274 eP P 12 20 33.4 -0.2
comp=Z,75nm,0.8s
JIRN Jiri 46.96 275 eP P 12 20 34.0 +0.2
comp=Z,37nm,0.7s
GUN Gumba 47.10 276 eP P 12 20 34.7 -0.1
comp=Z,80nm,1.0s
KDAK Kodiak Island 47.13 42 P P 12 20 35.0 +0.8
comp=Z,7.0nm,0.6s,baz=281,slow=4.7,SNR=32
KDAK Kodiak Island 47.13 42 eP P 12 20 35.3 +1.1
comp=Z,98nm,1.8s
KDAK Kodiak Island 47.13 42 i P P 12 20 34.8 +0.6
PPLA Purkeypile 47.20 35 eP P 12 20 37.2 +2.3
comp=Z,63nm,1.5s
CAST Castle Rocks 47.25 34 eP P 12 20 37.2 +2.0
comp=Z,52nm,1.8s
SKLT Songkhla 47.46 241 P P 12 20 37.3 0.0
comp=Z,28nm,1.2s
SKT Skwentna 47.50 36 eP P 12 20 38.0 +0.9
comp=Z,13nm,1.3s
KKN Kakani 47.63 276 eP P 12 20 38.7 -0.1
comp=Z,48nm,0.9s
PKIN Phulchoki 47.63 275 eP P 12 20 38.9 0.0
comp=Z,33nm,0.7s
TRTT Trang 47.66 243 P P 12 20 38.0 -0.8
comp=Z,11nm,0.9s,comp=Z,167nm
BPAW Bear Paw Mtn. 47.75 33 eP P 12 20 41.0 +2.0
comp=Z,40nm,1.7s
KTH Kantishna Hill 47.78 34 eP P 12 20 41.5 +2.2
comp=Z,36nm,1.3s
DMN Daman 47.85 276 eP P 12 20 40.1 -0.5
MLY Manley 47.88 32 eP P 12 20 41.5 +1.5
comp=Z,22nm,1.2s
SUA Susitna One 47.89 37 eP P 12 20 40.9 +0.6
comp=Z,26nm,1.4s
BRLK Bradley Lake 47.90 39 eP P 12 20 42.1 +1.9
comp=Z,12nm,1.0s
TRF Thorofare Moun 48.06 34 eP P 12 20 42.6 +1.0
comp=Z,54nm,2.0s
COLD Coldfoot 48.18 29 eP P 12 20 43.1 +0.9
comp=Z,21nm,1.6s
TARG Taragay, Kyrgy 48.35 296 eP P 12 20 45.4 +0.9
comp=Z,12nm,0.8s
RC01 Rabbit Creek A 48.39 37 eP P 12 20 45.0 +1.1
comp=Z,40nm,1.4s
TOLK Toolik Lake Re 48.49 27 P P 12 20 46.3 +1.5
baz=267,SNR=14
TOLK Toolik Lake Re 48.49 27 eP P 12 20 46.5 +1.8
comp=Z,30nm,1.3s
PKDT Phuket 48.59 244 P P 12 20 45.7 -0.3
comp=Z,32nm,0.9s
DANN Dangsing 48.60 277 eP P 12 20 46.9 +0.5
PMR Palmer 48.66 37 eP P 12 20 47.1 +1.2
comp=Z,29nm,1.4s
PMR Palmer 48.66 37 eP P 12 20 47.1 +1.2
PMR pmax pmax
comp=Z,29nm,1.4s
MCK McKinley 48.66 34 eP P 12 20 47.4 +1.4
comp=Z,16nm,1.2s
MCK McKinley 48.66 34 eP P 12 20 47.4 +1.4
MCK pmax pmax
comp=Z,16nm,1.2s
KDJ Kajisay 48.69 297 eP P 12 20 47.3 +0.5
comp=Z,7.1nm,0.6s
RND Reindeer 48.71 34 eP P 12 20 47.7 +1.2
comp=Z,27nm,1.2s
RND Reindeer 48.71 34 eP P 12 20 47.7 +1.2
RND pmax pmax
comp=Z,27nm,1.2s
GHO Glory Hole Cre 48.74 36 eP P 12 20 47.7 +0.9
comp=Z,26nm,0.9s
MDM Murphy Dome 48.94 32 eP P 12 20 49.9 +1.8
comp=Z,41nm,1.2s
KOLN Koldanda 48.98 277 eP P 12 20 49.0 -0.2
comp=Z,19nm,0.8s
WRH Wood River Hil 49.01 33 eP P 12 20 50.1 +1.4
comp=Z,24nm,1.6s
SML Sawmill 49.02 36 eP P 12 20 50.5 +1.6
comp=Z,20nm,0.9s
SML Sawmill 49.02 36 eP P 12 20 50.5 +1.6
SML pmax pmax
comp=Z,20nm,0.9s
IPM Ipoh 49.10 239 eP P 12 20 49.2 -0.8
comp=Z,26nm,0.8s
COLA College 49.11 32 eP P 12 20 51.0 +1.7
comp=Z,20nm,1.1s
COLA College 49.11 32 eP P 12 20 51.0 +1.7
COLA pmax pmax
comp=Z,20nm,1.1s
CCB Clear Creek Bu 49.13 33 eP P 12 20 51.1 +1.5
comp=Z,18nm,1.6s
MYKOM Kota Tinggi 49.22 233 eP P 12 20 51.3 +0.5
comp=Z,12nm,1.0s
SOEI Soe 49.23 202 P P 12 20 50.0 -1.0
comp=Z,70nm,1.1s
SOEI Soe 49.23 202 eP P 12 20 50.3 -0.7
comp=Z,54nm,0.8s
PYUN Piuthan 49.32 277 eP P 12 20 51.6 -0.2
comp=Z,96nm,1.0s
DHY Denali Highway 49.39 35 eP P 12 20 53.4 +1.6
comp=Z,15nm,1.1s
TPRI Tanjung Pinang 49.45 232 P P 12 20 54.1 +1.4
SCM Sheep Creek Mo 49.50 36 eP P 12 20 54.1 +1.6
comp=Z,41nm,1.4s
SCM Sheep Creek Mo 49.50 36 eP P 12 20 54.1 +1.6
SCM pmax pmax
comp=Z,41nm,1.4s
HDA Harding Lake 49.51 33 eP P 12 20 53.7 +1.2
comp=Z,25nm,1.2s
ILAR Eielson Array 49.52 32 P P 12 20 53.5 +0.9
comp=Z,5.2nm,0.8s,baz=266,slow=5.5,SNR=46
ILAR LR LR 12 43 41.4
comp=Z,171nm,19.1s,baz=310,slow=38
ILB Eielson Array 49.52 32 eP P 12 20 53.7 +1.1
IL1 Eielson Array 49.52 32 eP P 12 20 53.1 +0.5
TKM2 Tokmak 2 49.58 298 P P 12 20 54.4 +0.8
TKM2 pmax pmax
comp=Z,31nm,1.4s
NRN Naryn 49.73 296 eP P 12 20 55.8 +0.9
comp=Z,6.2nm,0.9s
NRN Naryn 49.73 296 eP P 12 20 55.8 +0.9
NRN pmax pmax
comp=Z,6.0nm,0.9s
BATI Baumata 49.84 203 P P 12 20 55.7 +0.2
comp=Z,49nm,0.6s,baz=180,slow=20,SNR=6.8
BATI Baumata 49.84 203 P P 12 20 57.1 +1.6
comp=Z,39nm,0.8s
FYU Fort Yukon 50.13 30 eP P 12 21 00.0 +2.9
comp=Z,79nm,1.5s
KLU Klutina 50.20 37 eP P 12 20 59.4 +1.5
comp=Z,19nm,1.2s
PAX Paxson 50.27 35 eP P 12 20 59.8 +1.4
comp=Z,27nm,1.8s
PAX Paxson 50.27 35 eP P 12 20 59.8 +1.4
PAX pmax pmax
comp=Z,27nm,1.8s
FRU Bishkek 50.30 299 eP P 12 20 59.5 +0.7
DIV Divide 50.31 37 eP P 12 21 00.9 +2.2
comp=Z,45nm,1.3s
KSH Kashi 50.36 294 P P 12 21 03.4 +3.9
KSH sP sP 12 21 17.3 +6.7
KSH PP PP **12 22 59.0 +4.1**
KSH S S **12 28 11.3 +0.3**
KSH ScS ScS **12 30 50.1 +1.2**
KSH SS SS **12 31 47.1 +2.6**
KSH pmax pmax
comp=Z,12nm,0.6s
KSH pmax pmax
comp=Z,370nm,4.8s
KSH LR LR
comp=Z,680nm,12.4s
KSH LR LR
comp=Z,640nm,8.2s
KSH LR LR
comp=Z,2µm,11.4s
OTUK Ortayu 50.38 306 P P 12 20 58.4 -1.0
OTUK pmax pmax
comp=Z,9.0nm,0.8s
EYAK Cordova Ski Ar 50.38 38 eP P 12 21 01.7 +2.5
comp=Z,34nm,1.4s
AAK Ala-Archa 50.44 298 LR LR 12 43 00.5
comp=Z,880nm,20.4s,baz=54,slow=37
AAK Ala-Archa 50.44 298 eP P 12 21 00.4 +0.3
comp=Z,10nm,1.1s
AAK Ala-Archa 50.44 298 ceP P 12 21 00.2 +0.1
AAK pmax pmax
comp=Z,37nm,2.5s
HARP HAARP 50.46 35 eP P 12 21 00.2 +0.4
comp=Z,101nm,1.9s
RIDG Independ'e Rid 50.48 34 eP P 12 21 00.9 +0.9
comp=Z,14nm,1.0s
BVA0 Borovoye Array 50.53 312 P P 12 20 59.9 -0.5
BVA0 pmax pmax
comp=Z,9.0nm,0.8s
BVAR Borovoye Array 50.53 312 P P 12 20 59.8 -0.7
comp=Z,4.2nm,0.5s,baz=78,slow=8.2,SNR=18
BVAR PcP PcP **12 22 17.5 -0.5**
comp=Z,5.6nm,0.6s,baz=100,slow=3.5,SNR=4.5
BVAR LR LR 12 43 09.0
comp=Z,296nm,18.4s,baz=76,slow=37
MTN Manton Dam 50.53 193 eP P 12 21 00.1 -0.6
comp=Z,53nm,1.3s
BRVK Borovoye 50.59 312 eP P 12 21 02.1 +1.2
comp=Z,58nm,1.9s
BRVK Borovoye 50.59 312 P P 12 21 00.3 -0.5
BRVK pmax pmax
comp=Z,13nm,1.2s
DOT Dot Lake 50.83 34 eP P 12 21 03.7 +1.1
comp=Z,26nm,0.8s
SCRK Sand Creek 50.83 33 eP P 12 21 03.7 +1.0
comp=Z,31nm,1.2s
BMRM Bremner River 50.89 37 eP P 12 21 03.6 +0.5
comp=Z,14nm,1.0s
RAGM Ragged Mountai 50.93 38 eP P 12 21 05.4 +2.0
comp=Z,35nm,1.3s
MENT Mentasta 51.06 35 eP P 12 21 06.3 +2.0
comp=Z,36nm,1.4s
CRQM Cirque 51.63 37 eP P 12 21 10.4 +1.6
comp=Z,99nm,1.8s
PSI Prapat 51.75 239 P P 12 21 09.5 -0.6
comp=Z,18nm,0.8s,baz=59,slow=5.9,SNR=5.4
PSI Prapat 51.75 239 eP P 12 21 09.6 -0.5
comp=Z,23nm,0.9s
PSI Prapat 51.75 239 eP P 12 21 09.6 -0.5
PSI pmax pmax
comp=Z,23nm,0.9s
MNAS Manas 51.89 299 P P 12 21 10.2 -0.7
MNAS pmax pmax
comp=Z,7.0nm,0.8s
EGAK Eagle 51.97 32 eP P 12 21 12.0 +1.0
comp=Z,36nm,1.6s
BALM Baldy 51.97 37 eP P 12 21 12.9 +1.7
comp=Z,22nm,1.4s
BALM Baldy 51.97 37 eP P 12 21 12.9 +1.7
BALM pmax pmax
comp=Z,22nm,1.4s
DAWY Dawson 52.83 33 eP P 12 21 19.2 +1.8
comp=Z,9.5nm,1.3s
KK31 Karatay Array 53.08 300 eP P 12 21 19.6 0.0
KK31 Karatay Array 53.08 300 eP P 12 21 19.6 0.0
KKAR Karatay Array 53.08 300 eP P 12 21 19.6 0.0
KKAR Karatay Array 53.08 300 eP P 12 21 19.6 0.0
MDSI Maura Dua 53.91 228 P P 12 21 25.4 -0.5
HYT Haines Junctio 54.33 37 eP P 12 21 30.2 +1.6
comp=Z,49nm,1.3s
INK Inuvik 54.41 27 P P 12 21 30.3 +1.4
comp=Z,6.8nm,0.8s,baz=289,slow=6.8,SNR=41
INK Inuvik 54.41 27 eP P 12 21 30.2 +1.3
comp=Z,36nm,1.4s
NIL Nilore 54.56 288 eP P 12 21 30.9 +0.3
comp=Z,18nm,0.8s
NIL Nilore 54.56 288 eP P 12 21 30.9 +0.3
NIL pmax pmax
comp=Z,18nm,0.8s
SVE Sverdlovsk 55.11 319 ceP P 12 21 34.6 +0.5
SVE pmax pmax
comp=Z,20nm,0.8s
SVE MLR MLR
comp=Z,642nm,13.0s
WHY Whitehorse 55.62 36 eP P 12 21 40.5 +2.6
comp=Z,17nm,1.2s
SKAG Skagway 55.73 38 eP P 12 21 40.8 +2.3
comp=Z,29nm,1.4s
BESE Bessie Mountai 56.21 39 eP P 12 21 44.2 +2.1
comp=Z,32nm,1.4s
ARU Arti 56.32 319 eP P 12 21 42.7 -0.1
comp=Z,21nm,0.8s
ARU Arti 56.32 319 dP P 12 21 42.5 -0.4
ARU 12 22 40.5
ARU 12 23 43.3
ARU S S **12 29 30.6 -0.7**
ARU 12 31 28.8
ARU SS SS **12 33 14.4 -3.3**
ARU pmax pmax
comp=Z,49nm,1.7s
FITZ Fitzroy Crossi 56.80 198 P P 12 21 46.6 0.0
comp=Z,6.7nm,0.8s,baz=29,slow=8.1,SNR=8.7
FITZ Fitzroy Crossi 56.80 198 eP P 12 21 46.9 +0.3
CTA Charters Tower 57.00 174 P P 12 21 48.5 +0.5
comp=Z,5.2nm,0.8s,baz=312,slow=12,SNR=3.9
WRAB Tennant Creek 57.04 188 eP P 12 21 47.7 -0.6
comp=Z,19nm,0.6s
WRAB Tennant Creek 57.04 188 ceP P 12 21 47.8 -0.6
WRAB pmax pmax
comp=Z,10.0nm,0.6s
WB2 Warramunga Arr 57.05 188 eP P 12 21 47.4 -1.0
WR1 Warramunga Arr 57.05 188 eP P 12 21 47.4 -1.0
comp=Z,18nm,0.8s
WRA Warramunga Arr 57.05 188 P P 12 21 47.4 -1.0
comp=Z,15nm,0.8s,baz=5.3,slow=7.3,SNR=76
KBL Kabul 57.37 291 eP P 12 21 50.8 -0.1
comp=Z,26nm,1.4s
KBL Kabul 57.37 291 eP P 12 21 50.8 -0.1
KBL pmax pmax
comp=Z,26nm,1.4s
AB31 Akbulak array 57.90 310 i P P 12 21 53.3 -0.8
AB31 pmax pmax
comp=Z,5.0nm,0.6s
ABKAR Akbulak array 57.90 310 eP P 12 21 53.5 -0.6
comp=Z,74nm,0.6s
HYB Hyderabad 58.15 268 i P P 12 21 56.0 -0.4
AKTO Aktyubinsk 58.63 312 P P 12 21 57.9 -1.4
comp=Z,5.4nm,0.7s,baz=78,slow=8.1,SNR=12
AKTO LR LR 12 47 45.7
comp=Z,327nm,20.1s,baz=67,slow=37
DLBC Dease Lake 58.66 38 eP P 12 22 02.4 +3.0
comp=Z,48nm,1.5s
SPA0 Spitsbergen Ar 60.51 349 eP P 12 22 13.4 +1.6
SPITS Spitsbergen Ar 60.51 349 P P 12 22 12.1 +0.3
comp=Z,2.5nm,0.6s,baz=46,slow=13,SNR=9.8
SPITS LR LR 12 50 01.5
comp=Z,202nm,19.4s,baz=70,slow=38
AS01 Alice Springs 60.78 188 eP P 12 22 13.2 -1.0
AS31 Alice Springs 60.78 188 eP P 12 22 13.9 -0.4
comp=Z,2.6nm,0.7s
ASAR Alice Springs 60.78 188 P P 12 22 13.6 -0.7
comp=Z,9.5nm,0.8s,baz=11,slow=6.9,SNR=91
POO Poona 61.31 272 eP P 12 22 15.0 -3.1
comp=Z,2.0nm,1.0s
MBWA Marble Bar 61.37 203 eP P 12 22 18.0 -0.2
comp=Z,12nm,0.8s
PALK Pallekele 62.32 258 ceP P 12 22 26.0 +1.1
RES Resolute Bay 62.61 14 eP P 12 22 26.0 +0.1
comp=Z,26nm,1.4s
RES Resolute Bay 62.61 14 eP P 12 22 26.0 +0.1
RES pmax pmax
comp=Z,26nm,1.4s
TMCR Tamitsa 62.72 331 eP P 12 22 26.9 +0.1
TMCR pmax pmax
comp=Z,60nm,1.1s
DZM Mont Dzumac 63.38 154 eLR LR 12 41 34.2
comp=Z,687nm,22.6s
KLMR Klimovskoe 63.73 328 eP P 12 22 31.9 -1.6
KLMR AMP 12 22 35.6
comp=Z,44nm,1.5s
KLMR ePcP PcP **12 23 08.0 -1.4**
KLMR ePP PP **12 24 52.3 -1.0**
KLMR LQ LQ 12 45 39.1
KLMR LQ LQ 12 45 39.1
KLMR Klimovskoe 63.73 328 eP P 12 22 31.8 -1.7
KLMR e 12 23 08.0
KLMR e 12 24 52.2
KLMR pmax pmax
comp=Z,44nm,1.5s
GEYT Alibeck 63.79 299 P P 12 22 33.9 -0.5
comp=Z,8.4nm,0.9s,baz=60,slow=3.6,SNR=13
GEYT LR LR 12 51 40.0
comp=Z,226nm,19.2s,baz=255,slow=37
GYA0B ALIBECK ARRAY 63.79 299 eP P 12 22 34.9 +0.4
comp=Z,19nm,1.0s
YKA Yellowknife Ar 63.83 30 P P 12 22 34.9 +0.7
comp=Z,1.8nm,0.7s,baz=296,slow=6.4,SNR=31
TULEG Thule 65.11 7 eP P 12 22 43.0 +0.7
comp=Z,12nm,0.9s
DAG Danmarks Havn 65.77 355 i P P 12 22 46.9 +0.3
comp=Z,17nm,1.2s
DAG Danmarks Havn 65.77 355 i P P 12 22 46.9 +0.3
DAG pmax pmax
comp=Z,17nm,1.2s
LLLB Lillooet 66.29 44 eP P 12 22 51.9 +1.4
comp=Z,16nm,1.4s
A04D Lummi Island 66.77 46 P P 12 22 54.0 +0.6
baz=300
AFI Afiamalu 67.17 130 LR LR 12 48 12.2
comp=Z,113nm,20.1s,baz=294,slow=32
MOS Moscow 67.22 323 eP P 12 22 55.1 -1.1
MOS e 12 23 24.2
MOS pmax pmax
comp=Z,42nm,0.7s
OBN Obninsk 68.06 323 deP P 12 23 01.1 -0.4
OBN e*PP pP **12 23 08.7 -1.0**
OBN e 12 23 33.7
OBN i 12 32 58.3
OBN pmax pmax
comp=Z,74nm,2.5s
OBN MLR MLR
comp=Z,304nm,15.0s
G03D McMinnville, O 68.22 49 P P 12 23 03.9 +1.2
baz=301
STKA Stephens Creek 68.56 180 P P 12 23 04.5 -0.2
comp=Z,3.9nm,0.8s,baz=350,slow=7.3,SNR=12
STKA Stephens Creek 68.56 180 eP P 12 23 04.4 -0.3
comp=Z,1.1nm,0.8s
FORT Forrest 68.60 192 eP P 12 23 04.7 -0.4
comp=Z,650nm,0.7s
LTY Liberty 68.69 46 eP P 12 23 07.3 +1.6
comp=Z,28nm,1.8s
FIA1 FINESS Array S 68.79 332 eP P 12 23 06.3 +0.3
FIA0 FINESS Array S 68.79 332 eP P 12 23 06.2 +0.2
FIA0 FINESS Array S 68.79 332 eP P 12 23 06.2 +0.2
FINES FINESS Array B 68.79 332 P P 12 23 06.2 +0.2
comp=Z,5.3nm,0.7s,baz=40,slow=8.5,SNR=22
FINES LR LR 12 58 09.4
comp=Z,239nm,18.1s,baz=48,slow=40
B08A Colville Reser 68.87 45 eP P 12 23 08.5 +1.7
comp=Z,30nm,1.7s
I03D Drain, OR 68.95 51 P P 12 23 08.9 +1.6
baz=302
AKT Akhty 69.03 307 eP P 12 23 07.6 -0.4
AKT e 12 23 31.0
AKT e 12 25 36.6
AKT pmax pmax
comp=Z,19nm,0.9s
H04A Detroit Lake 69.14 49 eP P 12 23 10.4 +1.9
comp=Z,38nm,1.6s
EDM Edmonton 69.38 38 eP P 12 23 12.0 +2.2
comp=Z,69nm,1.8s
EDM Edmonton 69.38 38 eP P 12 23 12.0 +2.2
EDM pmax pmax
comp=Z,69nm,1.8s
I04A Tendick Farm, 69.48 50 P P 12 23 11.8 +1.2
baz=302
L02D Cave Junction, 69.59 52 P P 12 23 12.6 +1.2
baz=302
BBOO Buckleboo 69.66 185 eP P 12 23 11.7 +0.1
comp=Z,53nm,1.9s
D08A Wollman Farm, 69.81 46 eP P 12 23 14.1 +1.5
comp=Z,51nm,2.0s
HAWA Hanford 69.81 47 eP P 12 23 14.7 +2.0
comp=Z,16nm,1.3s
I05D Terrebonne, OR 69.84 49 P P 12 23 14.4 +1.5
baz=302
J04D Umpqua Nationa 69.96 51 P P 12 23 14.5 +0.7
baz=302
NEW Newport 70.17 44 P P 12 23 15.8 +1.0
baz=304
NEW Newport 70.17 44 eP P 12 23 16.5 +1.7
comp=Z,20nm,1.6s
NEW Newport 70.17 44 eP P 12 23 16.5 +1.7
NEW pmax pmax
comp=Z,20nm,1.6s
PINE Pine Mountain 70.38 50 eP P 12 23 19.0 +2.6
comp=Z,59nm,1.7s
J05D Fort Rock, OR 70.47 50 P P 12 23 18.2 +1.3
baz=303
SUMG Summit 70.68 360 i P P 12 23 20.0 +2.0
SUMG Summit 70.68 360 i P P 12 23 20.0 +2.0
ZEI Tsey 70.76 309 eP P 12 23 16.5 -2.2
ZEI pmax pmax
comp=Z,8.0nm,0.9s
N02D Trinity Center 70.79 53 P P 12 23 20.4 +1.6
baz=303
WSAR Wadi Sarin 70.82 285 P P 12 23 19.9 +0.8
comp=Z,7.3nm,0.8s,baz=150,slow=4.6,SNR=4.5
KBZ Khabaz 70.86 311 P P 12 23 19.4 +0.3
comp=Z,9.0nm,0.9s,baz=42,slow=3.7,SNR=18
KIV Kislovodsk 70.86 311 eP P 12 23 20.0 +0.8
comp=Z,37nm,1.2s
KIV Kislovodsk 70.86 311 eP P 12 23 19.6 +0.4
KIV pmax pmax
comp=Z,30nm,1.1s
KIV MLR MLR
comp=Z,284nm,17.0s
M04C Macdoel 70.91 52 P P 12 23 20.7 +1.2
baz=303
K05A Summer Lake 70.98 51 eP P 12 23 22.7 +2.6
comp=Z,81nm,1.7s
NEY Neytrino 71.23 310 eP P 12 23 23.2 +1.7
NEY pmax pmax
comp=Z,1.0nm,0.8s
WALA Waterton Lakes 71.47 42 eP P 12 23 24.7 +1.9
comp=Z,30nm,1.6s
GNI Garni 71.66 307 LR LR 12 55 52.8
comp=Z,130nm,21.0s,baz=74,slow=37
GNI Garni 71.66 307 ceP P 12 23 26.0 +1.8
GNI pmax pmax
comp=Z,58nm,1.2s
O03D Paynes Creek 71.74 53 P P 12 23 25.4 +0.8
baz=303
BMO Blue Mountains 71.97 47 eP P 12 23 27.8 +1.9
comp=Z,35nm,1.8s
BMO Blue Mountains 71.97 47 eP P 12 23 27.8 +1.9
BMO pmax pmax
comp=Z,35nm,1.8s
JTMT Jette 72.03 43 eP P 12 23 28.2 +2.0
comp=Z,24nm,1.6s
SCO Scoresbysund 72.11 354 i P P 12 23 27.3 +1.2
SCO Scoresbysund 72.11 354 eP P 12 23 27.2 +1.2
comp=Z,26nm,1.7s
SCO Scoresbysund 72.11 354 i P P 12 23 27.3 +1.2
J08A Circle Bar Ran 72.11 49 eP P 12 23 29.1 +2.4
comp=Z,40nm,1.8s
ORV Oroville 72.34 54 eP P 12 23 30.2 +2.1
comp=Z,31nm,1.6s
ORV Oroville 72.34 54 eP P 12 23 30.2 +2.1
ORV pmax pmax
comp=Z,31nm,1.6s

WVOR	**Wild Horse Val**	72.53	50	*e*P		P	12 23 31.4	+2.1
	comp=Z,45nm,1.9s							
WVOR	**Wild Horse Val**	72.53	50	*e*P		P	12 23 31.4	+2.1
WVOR				pmax	pmax			
	comp=Z,45nm,1.9s							
NACGM	**Naroch**	72.69	327	*e*		P	12 23 29.0	-0.8
NACGM				*e*LQ		LQ	12 52 40.0	
NACGM				*e*LR		LR	12 58 26.0	
MSO	**Missoula**	72.75	44	P		P	12 23 31.3	+0.7
	baz=306							
BEKR	**Beckworth**	72.90	53	*e*P		P	12 23 33.4	+1.8
	comp=Z,35nm,1.6s							
PAHR	**Pah Rah Range**	73.61	53	*e*P		P	12 23 37.5	+1.7
	comp=Z,29nm,1.7s							
MFID	**Camas Ranch**	73.66	48	*e*P		P	12 23 38.1	+2.1
	comp=Z,22nm,1.5s							
FFC	**Flin Flon**	73.73	33	*e*P		P	12 23 37.0	+1.0
	comp=Z,25nm,1.4s							
FFC	**Flin Flon**	73.73	33	*e*P		P	12 23 37.0	+1.0
FFC				pmax	pmax			
	comp=Z,25nm,1.4s							
CMB	**Columbia Colle**	73.91	54	*e*P		P	12 23 39.1	+1.7
	comp=Z,15nm,1.3s							
CMB	**Columbia Colle**	73.91	54	*e*P		P	12 23 39.1	+1.7
CMB				pmax	pmax			
	comp=Z,15nm,1.3s							
NC405	**NORSAR Array S**	73.95	337	*e*P		P	12 23 36.7	-0.5
HRY	**Holter Researc**	73.99	43	*e*P		P	12 23 39.8	+1.9
FCC	**Fort Churchill**	74.02	27	*e*P		P	12 23 38.2	+0.6
	comp=Z,25nm,1.3s							
FCC	**Fort Churchill**	74.02	27	*e*P		P	12 23 38.2	+0.6
FCC				pmax	pmax			
	comp=Z,25nm,1.3s							
HFS	**Hagfors**	74.06	336	P		P	12 23 38.3	+0.5
	comp=Z,2.9nm,0.5s,baz=57,slow=5.3,SNR=26							
HFS				LR		LR	13 00 32.1	
	comp=Z,274nm,18.4s,baz=48,slow=39							
YERR	**Yerington**	74.11	53	*e*P		P	12 23 41.0	+2.2
	comp=Z,24nm,1.4s							
NC204	**NORSAR Array S**	74.12	338	*e*P		P	12 23 38.7	+0.5
NB2	**NORSAR Subarra**	74.16	337	P		P	12 23 38.7	+0.2
	comp=Z,4.8nm,0.7s,baz=40,slow=6.2							
NB200	**NORSAR Array S**	74.16	337	*e*P		P	12 23 38.2	-0.3
NOA	**NORSAR Array B**	74.16	337	P		P	12 23 38.2	-0.3
	comp=Z,3.0nm,0.6s,baz=38,slow=5.8,SNR=15							
NOA				LR		LR	13 00 26.7	
	comp=Z,290nm,18.2s,baz=50,slow=39							
LRM	**Limekiln Ridge**	74.18	44	*e*P		P	12 23 40.6	+1.5
AKASG	**Malin Array Be**	74.26	322	P		P	12 23 38.3	-0.8
	comp=Z,3.8nm,0.5s,baz=46,slow=6.4,SNR=32							
AKASG				LR		LR	12 58 00.7	
	comp=Z,279nm,18.2s,baz=45,slow=37							
AKBB	**Malin Array Si**	74.26	322	*e*P		P	12 23 39.0	-0.2
	comp=Z,15nm,1.1s							
AKBB	**Malin Array Si**	74.26	322	*e*P		P	12 23 39.0	-0.2
AKBB				pmax	pmax			
	comp=Z,15nm,1.1s							
KIEV	**Kiev**	74.28	322	*e*P		P	12 23 39.0	-0.3
	comp=Z,15nm,1.1s							
KIEV	**Kiev**	74.28	322	*ce*P		P	12 23 39.1	-0.1
KIEV				pmax	pmax			
	comp=Z,39nm,2.5s							
AK11	**Malin Array Si**	74.31	322	*e*P		P	12 23 39.2	-0.2
DLMT	**Dillon**	74.38	45	*e*P		P	12 23 42.2	+2.1
	comp=Z,49nm,1.7s							
HLID	**Hailey**	74.41	47	P		P	12 23 41.2	+0.8
	baz=307,SNR=7.5							
HLID	**Hailey**	74.41	47	*e*P		P	12 23 42.3	+1.9
	comp=Z,26nm,1.8s							
BMN	**Battle Mountai**	74.55	51	*e*P		P	12 23 43.4	+2.1
	comp=Z,22nm,1.5s							
BMN	**Battle Mountai**	74.55	51	*e*P		P	12 23 43.4	+2.1
BMN				pmax	pmax			
	comp=Z,22nm,1.5s							
RYN	**Ryan**	74.78	53	*e*P		P	12 23 44.6	+2.0
	comp=Z,30nm,1.6s							
BOZ	**Bozeman (W)**	74.78	44	P		P	12 23 42.5	0.0
	baz=308,SNR=8.3							
BOZ	**Bozeman (W)**	74.78	44	*e*P		P	12 23 44.4	+1.9
	comp=Z,12nm,1.1s							
BOZ	**Bozeman (W)**	74.78	44	*e*P		P	12 23 44.4	+1.9
BOZ				pmax	pmax			
	comp=Z,12nm,1.1s							
KVN	**Kaiserville**	74.80	52	*e*P		P	12 23 44.9	+2.1
	comp=Z,32nm,1.6s							
KVN	**Kaiserville**	74.80	52	*e*P		P	12 23 44.9	+2.1
KVN				pmax	pmax			
	comp=Z,32nm,1.6s							
NV01	**Mina Array Sit**	75.03	53	*e*P		P	12 23 45.8	+1.7
NVAR	**Mina Array Bea**	75.03	53	P		P	12 23 45.1	+1.0
	comp=Z,1.7nm,0.8s,baz=293,slow=5.5,SNR=15							
NV11	**Mina Array Sit**	75.12	53	*e*P		P	12 23 47.0	+2.4
	comp=Z,2.4nm,1.7s							
QLMT	**Earthquake Lak**	75.36	45	*e*P		P	12 23 48.8	+2.9
YHB	**Horse Butte**	75.54	45	*e*P		P	12 23 48.8	+1.9
	comp=Z,44nm,1.9s							
YHH	**Holmes Hill**	75.71	44	*e*P		P	12 23 49.8	+1.8
	comp=Z,13nm,1.4s							
YMR	**Madison River**	75.72	45	*e*P		P	12 23 50.2	+2.2
	comp=Z,27nm,1.6s							
SFJD	**Kangerlussaq**	75.89	5	LR		LR	13 00 18.5	
	comp=Z,187nm,18.4s,baz=350,slow=38							
YFT	**Old Faithful**	75.92	45	*e*P		P	12 23 53.0	+3.8
	comp=Z,41nm,1.8s							
VES	**Vestal, Richgr**	76.02	56	P		P	12 23 50.4	+0.8
	baz=306							
YPP	**Pitchstone Pla**	76.05	45	*e*P		P	12 23 53.2	+3.2
	comp=Z,6.9nm,1.2s							
H17A	**Grant Village**	76.11	45	P		P	12 23 53.3	+3.0
	baz=309,SNR=12							
H17A	**Grant Village**	76.11	45	*e*P		P	12 23 53.8	+3.5
	comp=Z,45nm,1.8s							
IMW	**Indian Meadow**	76.21	45	*e*P		P	12 23 53.3	+2.4
	comp=Z,7.0nm,1.0s							
FXWY	**Fox Creek**	76.32	45	*e*P		P	12 23 53.5	+2.1
	comp=Z,21nm,1.5s							
CWC	**Cottonwood Cre**	76.33	55	P		P	12 23 52.4	+0.9
	baz=306							
SORM	**Soroca**	76.36	321	⇑*i*P		P	12 23 51.1	-0.1
SORM	**Soroca**	76.36	321	⇑P		P	12 23 51.1	-0.1
RLMT	**Red Lodge**	76.38	43	P		P	12 23 53.5	+1.7
	baz=309,SNR=11							
RLMT	**Red Lodge**	76.38	43	*e*P		P	12 23 53.6	+1.9
	comp=Z,36nm,1.8s							
MOOW	**Moose Ponds**	76.41	45	*e*P		P	12 23 54.1	+2.1
	comp=Z,22nm,1.5s							
SBC	**Santa Barbara**	76.42	57	P		P	12 23 51.9	+0.1
	baz=306							
HVU	**Hansel Valley**	76.45	48	*e*P		P	12 23 53.8	+1.7
	comp=Z,12nm,1.3s							
HVU	**Hansel Valley**	76.45	48	*e*P		P	12 23 53.8	+1.7
HVU				pmax	pmax			
	comp=Z,12nm,1.3s							
TPAW	**Teton Pass**	76.45	45	*e*P		P	12 23 54.7	+2.4
	comp=Z,46nm,1.9s							
LOHW	**Long Hollow**	76.58	45	*e*P		P	12 23 54.8	+1.9
	comp=Z,19nm,1.8s							
REDW	**Red Top Meadow**	76.59	46	*e*P		P	12 23 55.3	+2.3
	comp=Z,31nm,1.6s							
ARVC	**Arvin**	76.61	56	P		P	12 23 54.5	+1.6
	baz=306							
DAC	**Darwin (Calif)**	76.75	55	*e*P		P	12 23 55.6	+1.6
	comp=Z,18nm,1.5s							
DAC	**Darwin (Calif)**	76.75	55	*e*P		P	12 23 55.6	+1.6
DAC				pmax	pmax			
	comp=Z,18nm,1.5s							
R11A	**Troy Canyon, C**	76.80	52	P		P	12 23 55.7	+1.5
	baz=307,SNR=12							
R11A	**Troy Canyon, C**	76.80	52	*e*P		P	12 23 56.0	+1.8
	comp=Z,26nm,1.5s							
BGU	**Big Grassy Mou**	76.82	49	*e*P		P	12 23 55.2	+1.0
	comp=Z,23nm,1.7s							
DGMT	**Dagmar**	76.87	38	P		P	12 23 55.3	+1.0
	baz=312							
DGMT	**Dagmar**	76.87	38	*e*P		P	12 23 55.7	+1.5
	comp=Z,32nm,1.4s							
MPMC	**Manual Prospec**	76.94	55	P		P	12 23 56.6	+1.6
	baz=306,SNR=5.2							
LAO	**LASA Array**	77.01	41	P		P	12 23 56.4	+1.3
	baz=311,SNR=6.3							
LAO	**LASA Array**	77.01	41	*e*P		P	12 23 57.0	+2.0
	comp=Z,71nm,1.8s							
FURC	**Furnace Creek,**	77.11	54	P		P	12 23 57.1	+1.4
	baz=307							
LRMC	**Laurel Mtn Rad**	77.16	55	P		P	12 23 57.3	+1.1
	baz=306							
TPNV	**Topopah Spring**	77.22	53	P		P	12 23 57.7	+1.1
	baz=307							
TPNV	**Topopah Spring**	77.22	53	*e*P		P	12 23 58.5	+2.0
	comp=Z,43nm,1.8s							
TPNV	**Topopah Spring**	77.22	53	*e*P		P	12 23 58.5	+2.0
TPNV				pmax	pmax			
	comp=Z,43nm,1.8s							
HWUT	**Hardware Ranch**	77.27	47	*e*P		P	12 23 59.1	+2.3
	comp=Z,38nm,1.6s							
EDW2	**Edwds Air Fo**	77.31	56	P		P	12 23 57.8	+0.8
	baz=306							
LVV	**L'vov**	77.35	324	*e*P		P	12 23 58.0	+1.2
DUG	**Dugway, Tooele**	77.39	49	P		P	12 23 59.1	+1.7
	baz=308,SNR=6.0							
DUG	**Dugway, Tooele**	77.39	49	*e*P		P	12 23 59.6	+2.2
	comp=Z,15nm,1.3s							
DUG	**Dugway, Tooele**	77.39	49	*e*P		P	12 23 59.6	+2.2
DUG				pmax	pmax			
	comp=Z,15nm,1.3s							
BORG	**Borgarnes**	77.64	352	LR		LR	13 02 04.6	
	comp=Z,79nm,18.0s,baz=21,slow=39							
TCUT	**Toone Canyon**	77.66	48	*e*P		P	12 24 00.6	+1.5
	comp=Z,37nm,1.4s							
BW06	**Boulder Array**	77.70	45	P		P	12 24 00.2	+1.0
	baz=310							
BW06	**Boulder Array**	77.70	45	*e*P		P	12 24 01.2	+1.9
	comp=Z,22nm,1.6s							
PD31	**Pinedale Array**	77.70	45	*e*P		P	12 24 00.5	+1.3
PDAR	**Pinedale Array**	77.70	45	P		P	12 24 00.2	+1.0
	comp=Z,1.4nm,0.6s,baz=260,slow=2.3,SNR=20							
PDAR	**Pinedale Array**	77.70	45	*e*P		P	12 24 00.1	+0.8
GSC	**Goldstone, Bar**	77.84	55	*e*P		P	12 24 01.6	+1.7
	comp=Z,38nm,1.8s							
GSC	**Goldstone, Bar**	77.84	55	*e*P		P	12 24 01.6	+1.7
GSC				pmax	pmax			
	comp=Z,38nm,1.8s							
ILGA	**Ilgaz**	77.93	313	*e*P		P	12 24 01.9	+1.4
	comp=Z,21nm,1.2s							
JLU	**Jordanelle**	77.96	48	*e*P		P	12 24 03.1	+2.4
	comp=Z,29nm,1.7s							
NLU	**North Lily Min**	77.99	49	*e*P		P	12 24 02.5	+1.7
	comp=Z,6.0nm,1.0s							
KWP	**Kalwaria Pacla**	78.10	324	*e*P		P	12 24 01.8	+0.8
	comp=Z,853nm,1.8s							
KWP	**Kalwaria Pacla**	78.10	324	*e*P		P	12 24 01.8	+0.8
KWP				pmax	pmax			
	comp=Z,853nm,1.8s							
IMU	**Iron Mountain**	78.14	50	*e*P		P	12 24 00.8	-1.0
SHPR	**Sheep Range**	78.18	53	*e*P		P	12 24 04.1	+2.1
	comp=Z,18nm,1.5s							
MPU	**Maple Canyon**	78.22	49	*e*P		P	12 24 03.9	+1.8
	comp=Z,24nm,1.5s							
BUR08	**Bucovina Ar. S**	78.27	322	*e*P		P	12 24 02.7	+0.6
BUR04	**Bucovina Ar. S**	78.28	322	*e*P		P	12 24 02.4	+0.3
BURAR	**Bucovina Array**	78.28	322	⇑*i*P		P	12 24 02.4	+0.2
BURAR	**Bucovina Array**	78.28	322	⇑P		P	12 24 02.4	+0.2
TESR	**Tescani**	78.30	320	⇓*i*P		P	12 24 02.4	+0.2
HEC	**Hector,Ludlow**	78.43	55	P		P	12 24 04.0	+0.7
	baz=307							
MURC	**Murrieta**	78.60	57	P		P	12 24 05.3	+1.2
	baz=307							
CCUT	**Cedar City**	78.68	51	*e*P		P	12 24 06.9	+2.2
	comp=Z,17nm,1.6s							
VRI	**Vrincioaia**	78.69	320	⇓*i*P		P	12 24 05.6	+1.2
VRI	**Vrincioaia**	78.69	320	⇓P		P	12 24 05.6	+1.2
PLOR	**Plostina**	78.74	320	⇑*i*P		P	12 24 04.9	+0.2
PLOR	**Plostina**	78.74	320	⇑P		P	12 24 04.9	+0.2
BR101	**Keskin Array S**	78.81	312	*e*P		P	12 24 05.7	+0.3
BR131	**Keskin Array S**	78.81	312	*e*P		P	12 24 05.6	+0.3
BRTR	**Keskin Array B**	78.81	312	P		P	12 24 05.7	+0.3
	comp=Z,2.9nm,0.9s,baz=67,slow=3.6,SNR=12							
MSU	**Marysvale**	78.82	50	*e*P		P	12 24 03.2	-2.3
MSU	**Marysvale**	78.82	50	*e*P		P	12 24 03.2	-2.3
TLB	**Topalu**	78.85	318	⇑*i*P		P	12 24 05.3	+0.1
TLB	**Topalu**	78.85	318	⇑P		P	12 24 05.3	+0.1
GMRC	**Granite Mounta**	78.90	55	P		P	12 24 07.1	+1.2
	baz=308							
TMUT	**Trail Mountain**	78.92	49	*e*P		P	12 24 07.9	+1.8
	comp=Z,16nm,1.6s							
STHS	**Stebnicka Huta**	78.93	325	*e*P		P	12 24 06.7	+1.1
STHS	**Stebnicka Huta**	78.93	325	*e*P		P	12 24 06.7	+1.1
STHS				pmax	pmax			
	comp=Z,6.0nm,1.0s							
UZH	**Uzhgorod**	78.99	324	*e*P		P	12 24 07.6	+1.7
UZH				*e*			12 24 18.6	
OJC	**Ojcow**	79.01	326	*e*P		P	12 24 06.8	+0.8
	comp=Z,16nm,1.0s							
OJC	**Ojcow**	79.01	326	*e*P		P	12 24 06.8	+0.8
OJC				pmax	pmax			
	comp=Z,16nm,1.0s							
PFO	**Pinyon Flats O**	79.08	56	P		P	12 24 08.1	+1.2
	baz=307							
PFO	**Pinyon Flats O**	79.08	56	*e*P		P	12 24 08.3	+1.4
	comp=Z,45nm,1.9s							
PFO	**Pinyon Flats O**	79.08	56	*e*P		P	12 24 08.3	+1.4
PFO				pmax	pmax			
	comp=Z,45nm,1.9s							
XPFO	**Pæon Flat**	79.09	56	*e*P		P	12 24 07.9	+1.0
	comp=Z,52nm,2.0s							
LCMT	**Little Creek M**	79.09	52	*e*P		P	12 24 09.2	+2.3
	comp=Z,23nm,1.5s							
P17A	**Butcher Ranch,**	79.09	49	*e*P		P	12 24 08.7	+1.8
	comp=Z,45nm,1.6s							
MTPU	**Mount Pierson**	79.11	50	*e*P		P	12 24 09.8	+2.5
	comp=Z,29nm,1.7s							
BELC	**Belle Mtn. Jos**	79.15	56	P		P	12 24 08.2	+0.9
	baz=308							
Q16A	**Castle Valley**	79.18	49	*e*P		P	12 24 09.6	+2.1
	comp=Z,31nm,1.5s							
TRPA	**Tarpa**	79.23	323	⇓*i*P		P	12 24 08.2	+1.0
BR231	**Keskin MP Arra**	79.25	312	*e*P		P	12 24 06.3	-1.4
P18A	**Preston Nutter**	79.29	48	*e*P		P	12 24 09.9	+1.8
	comp=Z,34nm,1.6s							
MLR	**Muntele Rosu**	79.35	320	P		P	12 24 08.3	+0.1
	comp=Z,0.6nm,0.4s,baz=9.5,slow=12,SNR=5.5							
MLR				LR		LR	13 01 22.6	
	comp=Z,104nm,21.2s,baz=44,slow=37							
MLR	**Muntele Rosu**	79.35	320	⇑*i*P		P	12 24 09.3	+1.2
MLR	**Muntele Rosu**	79.35	320	⇑P		P	12 24 09.3	+1.2
KNB	**Kanab**	79.35	52	*e*P		P	12 24 11.0	+2.6
	comp=Z,55nm,1.7s							
KNB	**Kanab**	79.35	52	*e*P		P	12 24 11.0	+2.6
KNB				pmax	pmax			
	comp=Z,55nm,1.7s							
SRU	**San Rafael Swe**	79.45	49	*e*P		P	12 24 10.4	+1.5
	comp=Z,7.0nm,0.8s							
SRU	**San Rafael Swe**	79.45	49	*e*P		P	12 24 10.4	+1.5
SRU				pmax	pmax			
	comp=Z,7.0nm,0.8s							
K22A	**Casper**	79.49	44	P		P	12 24 10.2	+1.2
	baz=311							
K22A	**Casper**	79.49	44	*e*P		P	12 24 10.5	+1.5
	comp=Z,31nm,1.6s							
ULM	**Lac du Bonnet**	79.53	33	P		P	12 24 09.2	+0.3
	comp=Z,4.6nm,0.9s,baz=324,slow=6.1,SNR=8.8							
ULM	**Lac du Bonnet**	79.53	33	*e*P		P	12 24 09.7	+0.8
	comp=Z,27nm,1.4s							
ULM	**Lac du Bonnet**	79.53	33	*e*P		P	12 24 09.7	+0.8
ULM				pmax	pmax			
	comp=Z,27nm,1.4s							
MONP2	**Monument Peak**	79.54	57	P		P	12 24 10.5	+0.9
	baz=308							
IRM	**Iron Mountain**	79.62	55	P		P	12 24 10.8	+1.1
	baz=308							
BC3	**Big Chuckawall**	79.72	56	P		P	12 24 11.3	+1.0
	baz=308							
VOIR		79.85	320	⇑*i*P		P	12 24 11.7	+0.9
VOIR		79.85	320	⇑P		P	12 24 11.7	+0.9
W13A	**Hualapai Mount**	79.86	54	*e*P		P	12 24 12.8	+1.6
	comp=Z,24nm,1.9s							
RSSD	**Black Hills**	79.86	42	P		P	12 24 11.9	+0.7
	baz=313							
RSSD	**Black Hills**	79.86	42	*e*P		P	12 24 11.8	+0.7
	comp=Z,17nm,1.4s							
RSSD	**Black Hills**	79.86	42	*e*P		P	12 24 11.8	+0.7
RSSD				pmax	pmax			
	comp=Z,17nm,1.4s							
IKP	**In-Ko-Pah, Jac**	79.90	57	P		P	12 24 12.6	+1.3
	baz=308							
SWSC	**Sam W. Stewart**	79.92	56	P		P	12 24 12.4	+1.1
	baz=308							
OKC	**Ostrava-Krasne**	80.02	327	AMS		AMS	13 04 10.0	
	comp=Z,800nm,13.2s							
U15A	**North Rim**	80.05	52	*e*P		P	12 24 14.0	+1.7
	comp=Z,57nm,1.8s							
DRGR		80.08	322	⇓*i*P		P	12 24 12.4	+0.4
DRGR		80.08	322	⇓P		P	12 24 12.4	+0.4
ARR	**Arges**	80.11	320	⇑*i*P		P	12 24 13.4	+1.2
O20A	**White River Ci**	80.15	47	P		P	12 24 13.0	+0.4
	baz=311							
O20A	**White River Ci**	80.15	47	*e*P		P	12 24 15.1	+2.4
	comp=Z,14nm,1.3s							
PDMCI	**Parker Dam,Lak**	80.19	54	P		P	12 24 13.7	+1.0
	baz=308							
RAR	**Rarotonga**	80.20	126	LR		LR	12 56 17.3	
	comp=Z,184nm,18.6s,baz=276,slow=33							
A32A	**Rocking H Ranc**	80.22	35	P		P	12 24 13.4	+0.7
	baz=317							
MORC	**Moravsky Berou**	80.33	327	⇓*i*P		P	12 24 13.7	+0.4
MORC	**Moravsky Berou**	80.33	327	*e*P		P	12 24 14.2	+1.0
	comp=Z,37nm,1.1s							
MORC	**Moravsky Berou**	80.33	327	⇓P		P	12 24 13.7	+0.4
DPC	**Dobruska-Polom**	80.43	328	*e*P		P	12 24 15.0	+1.2
DPC				AMS	AMS		13 05 20.0	
	comp=Z,500nm,12.8s							
DPC	**Dobruska-Polom**	80.43	328	*e*P		P	12 24 15.0	+1.2
DPC				MLR	MLR			
	comp=Z,500nm,12.8s							
KRLC	**Kraliky**	80.44	327	*e*P		P	12 24 14.4	+0.6
KRLC				*ep*P		sP	12 24 25.2	0.0
KRLC	**Kraliky**	80.44	327	*e*P		P	12 24 14.4	+0.6
KRLC				*e*			12 24 25.2	
UPC	**Upice**	80.44	328	AMS		AMS	13 05 30.0	
	comp=Z,600nm,13.8s							
C31A	**Landman Farms,**	80.47	36	P		P	12 24 14.7	+0.7
	baz=316							
LOT	**Lotru**	80.49	321	⇑*i*P		P	12 24 14.8	+0.5
B32A	**Ashes, Strandq**	80.59	35	P		P	12 24 15.1	+0.5
	baz=317							
RAYN	**Ar Rayn**	80.61	292	*e*P		P	12 24 15.2	0.0
	comp=Z,30nm,1.5s							
PSZ	**Piszkesteto**	80.62	324	*e*P		P	12 24 15.5	+0.6
	comp=Z,47nm,1.8s							
PSZ	**Piszkesteto**	80.62	324	*e*P		P	12 24 15.5	+0.6
PSZ				pmax	pmax			
	comp=Z,47nm,1.8s							
PV09	**Paradox Valley**	80.68	49	*e*P		P	12 24 14.5	-1.2
A33A	**Warroad**	80.71	34	P		P	12 24 15.2	0.0
	baz=318							
AGMN	**Agassiz Nation**	80.96	35	P		P	12 24 17.2	+0.5
	baz=317							
AGMN	**Agassiz Nation**	80.96	35	*e*P		P	12 24 17.0	+0.3
	comp=Z,26nm,1.6s							
N23A	**Red Feather La**	80.97	45	P		P	12 24 17.8	+0.6
	baz=312							
N23A	**Red Feather La**	80.97	45	*e*P		P	12 24 19.1	+2.0
	comp=Z,28nm,1.5s							
BRG	**Berggiesshubel**	81.02	329	*e*P		P	12 24 17.2	+0.3
	comp=Z,20nm,1.5s							
BRG	**Berggiesshubel**	81.02	329	*e*P		P	12 24 17.2	+0.3
BRG				pmax	pmax			
	comp=Z,20nm,1.5s							
PVCC	**Panska Ves**	81.03	329	AMS		AMS	13 05 00.0	
	comp=Z,500nm,11.3s							
CLL	**Collm**	81.07	330	⇓*i*P		P	12 24 17.2	+0.1
	comp=Z,10.0nm,0.9s							
CLL				*e*S		S	12 34 26.0	+1.3
CLL				*e*			12 40 42.0	
CLL				*e*SSS		SSS	12 43 24.0	
CLL	**Collm**	81.07	330	*e*P		P	12 24 17.1	+0.1
	comp=Z,9.3nm,0.9s							
CLL	**Collm**	81.07	330	⇓*i*P		P	12 24 17.2	+0.1
CLL				*e*			12 24 24.0	
CLL				*e*S		S	12 34 26.0	+1.3
CLL				pmax	pmax			
	comp=Z,10.0nm,0.9s							
VRAC	**Vranov**	81.09	327	LR		LR	13 05 46.2	
	comp=Z,207nm,18.9s,baz=25,slow=40							
Y14A	**Wickenburg**	81.15	54	*e*P		P	12 24 19.6	+1.6
	comp=Z,9.5nm,1.1s							
WUAZ	**Wupatki**	81.20	52	P		P	12 24 19.7	+1.3
	baz=310							
WUAZ	**Wupatki**	81.20	52	*e*P		P	12 24 20.0	+1.7
	comp=Z,26nm,1.6s							
E31A	**Nome**	81.28	37	P		P	12 24 18.8	+0.5
	baz=316							
B34A	**Aery, Baudette**	81.37	34	P		P	12 24 19.2	+0.4
	baz=318							
113A	**Mohawk Valley,**	81.38	55	*e*P		P	12 24 20.5	+1.4
	comp=Z,34nm,2.0s							
C33A	**Trail**	81.40	35	P		P	12 24 19.1	+0.2
	baz=317							
GOPC	**GO Pecny, Ondr**	81.41	328	*e*P		P	12 24 20.0	+1.0
GOPC				*ep*P		pP	12 24 27.3	0.0
GOPC				AMS	AMS		13 07 00.0	
	comp=Z,700nm,12.9s							
GOPC	**GO Pecny, Ondr**	81.41	328	*e*P		P	12 24 20.0	+1.0
GOPC				*e*			12 24 27.3	
GOPC				MLR	MLR			
	comp=Z,700nm,12.9s							
PRU	**Pruhonice**	81.45	328	AMS		AMS	13 07 00.0	
	comp=Z,500nm,15.0s							
SMCO	**Snowmass**	81.51	47	*e*P		P	12 24 22.3	+2.1
	comp=Z,17nm,1.5s							
TREC	**Trest

	baz=319							
C37A	**Embarrass**	83.03	33	P		P	12 24 28.0	+0.5
	baz=320							
EKA	**Eskdalemuir Ar**	83.11	340	P		P	12 24 26.9	-0.9
	comp=Z,2.0nm,0.7s,baz=34,slow=5.2,SNR=5.8							
EYMN	**Ely**	83.17	33	P		P	12 24 28.6	+0.4
	baz=320							
H33A	**Prehn Over Nor**	83.19	38	P		P	12 24 29.0	+0.5
	baz=317							
SDCO	**Great Sand Dun**	83.33	47	P		P	12 24 29.9	+0.3
	baz=312							
SDCO	**Great Sand Dun**	83.33	47	*e*P		P	12 24 31.1	+1.4
	comp=Z,13nm,1.5s							
DIVS	**Divibare**	83.34	322	*e*P		P	12 24 30.5	+1.2
	comp=Z,9.4nm,1.2s							
C38A	**Sawbill Land.**	83.44	33	P		P	12 24 29.8	+0.2
	baz=320							
E36A	**McGregor**	83.47	35	P		P	12 24 30.3	+0.5
	baz=319							
TUC	**Tucson**	83.62	54	P		P	12 24 31.6	+0.7
	baz=310							
TUC	**Tucson**	83.62	54	*e*P		P	12 24 33.0	+2.1
	comp=Z,16nm,1.4s							
TUC	**Tucson**	83.62	54	*e*P		P	12 24 33.0	+2.1
TUC				pmax		pmax		
	comp=Z,16nm,1.4s							
F36A	**Milaca**	83.84	35	P		P	12 24 31.3	-0.4
	baz=319							
C39A	**Grand Marais**	83.85	32	P		P	12 24 31.6	-0.1
	baz=321							
ECSD	**EROS Data Cent**	83.95	38	P		P	12 24 32.6	+0.3
	baz=317							
ECSD	**EROS Data Cent**	83.95	38	*e*P		P	12 24 33.1	+0.8
	comp=Z,17nm,1.5s							
H35A	**Sunnyside Ranc**	84.10	37	P		P	12 24 33.9	+0.9
	baz=318							
E38A	**The Farm, Brul**	84.17	34	P		P	12 24 33.5	+0.1
	baz=320							
MHTCO	**State Highway**	84.22	47	*e*P		P	12 24 35.9	+1.8
	comp=Z,43nm,1.5s							
PMOR	**Pomariorio Ree**	84.23	114	*e*T		T	13 57 04.4	
	comp=Z,21nm,0.2s							
T25A	**Trinidad**	84.38	47	P		P	12 24 35.6	+0.7
	baz=313							
T25A	**Trinidad**	84.38	47	*e*P		P	12 24 36.2	+1.3
	comp=Z,35nm,1.7s							
F38A	**Pierce - Schro**	84.52	34	P		P	12 24 36.0	+0.8
	baz=320							
LAZ	**Ladron**	84.57	51	*e*P		P	12 24 37.4	+1.5
ANMO	**Albuquerque**	84.63	50	P		P	12 24 37.3	+1.1
	baz=312							
ANMO	**Albuquerque**	84.63	50	*e*P		P	12 24 38.0	+1.8
	comp=Z,10nm,1.3s							
ANMO	**Albuquerque**	84.63	50	*ce*P		P	12 24 37.8	+1.6
ANMO				pmax		pmax		
	comp=Z,12nm,1.7s							
PPT	**Papeete**	84.68	117	LR		LR	12 53 54.7	
	comp=Z,74nm,21.8s,baz=292,slow=30							
PPT2	**Papeete2**	84.70	117	*e*LR		LR	12 50 29.7	
	comp=Z,604nm,28.2s							
PPT2	**Papeete2**	84.70	117	*e*T		T	13 57 49.8	
	comp=Z,3.5nm,0.3s							
E39A	**Mellen**	84.78	33	P		P	12 24 36.7	+0.2
	baz=321							
TIAR	**Tiarei**	84.84	116	*e*T		T	13 57 52.0	
	comp=Z,2.4nm,0.3s							
PDG	**Podgorica**	84.93	321	⇓*i*P		P	12 24 36.7	-0.5
F39A	**Loretta**	84.98	34	P		P	12 24 38.1	+0.6
	baz=321							
E40A	**Wakefield**	85.02	33	P		P	12 24 38.2	+0.6
	baz=321							
BNM	**Barren Site**	85.05	51	*e*P		P	12 24 39.2	+0.9
D41A	**Chassel**	85.10	32	P		P	12 24 38.6	+0.5
	baz=322							
BFO	**Black Forest**	85.28	331	*e*P		P	12 24 39.2	+0.2
	comp=Z,8.8nm,0.8s							
BFO	**Black Forest**	85.28	331	*i* P		P	12 24 39.4	+0.5
F40A	**Park Falls**	85.33	33	P		P	12 24 39.4	+0.2
	baz=321							
G39A	**Holcombe**	85.35	34	P		P	12 24 39.6	+0.2
	baz=321							
J36A	**Seneca 1, Swea**	85.36	37	P		P	12 24 40.2	+0.8
	baz=319							
L34A	**Svendsen Farm,**	85.36	39	P		P	12 24 40.5	+1.1
	baz=318							
121A	**Cookes Peak, D**	85.40	52	P		P	12 24 40.9	+0.9
	baz=312							
E41A	**Kenton**	85.40	32	P		P	12 24 40.5	+0.9
	baz=322							
I38A	**Scanlan Farm,**	85.78	36	P		P	12 24 41.4	-0.1
	baz=320							
G40A	**Rib Lake**	85.80	34	P		P	12 24 41.9	+0.3
	baz=321							
CBKS	**Cedar Bluff**	85.86	43	P		P	12 24 42.4	+0.3
	baz=316							
E42A	**Champion**	85.88	32	P		P	12 24 42.3	+0.4
	baz=323							
F41A	**Three Lakes**	85.91	33	P		P	12 24 42.6	+0.5
	baz=322							
K37A	**Belmond**	86.12	37	P		P	12 24 44.0	+0.8
	baz=319							
H40A	**Chili**	86.22	34	P		P	12 24 44.2	+0.6
	baz=321							
J38A	**Wedel Dairy, R**	86.26	36	P		P	12 24 44.2	+0.3
	baz=320							
I39A	**Houston**	86.30	35	P		P	12 24 44.6	+0.5
	baz=320							
E43A	**Lone Tree Farm**	86.30	31	P		P	12 24 44.5	+0.5
	baz=323							
E44A	**Grand Marais A**	86.55	30	P		P	12 24 46.2	+1.0
	baz=324							
G42A	**Mountain**	86.60	33	P		P	12 24 46.1	+0.6
	baz=322							
G42A	**Mountain**	86.60	33	*e*P		P	12 24 46.3	+0.8
	comp=Z,37nm,1.5s							
J39A	**Decorah**	86.61	36	P		P	12 24 45.6	0.0
	baz=320							
F43A	**Flat Rock, Esc**	86.67	32	P		P	12 24 46.3	+0.5
	baz=323							
F44A	**Big Bay de Noc**	86.86	31	P		P	12 24 47.6	+0.8
	baz=324							
I41A	**Arkdale**	86.89	34	P		P	12 24 47.7	+0.7
	baz=322							
G43A	**Wallace**	86.90	32	P		P	12 24 47.9	+0.9
	baz=323							
G43A	**Wallace**	86.90	32	*e*P		P	12 24 47.4	+0.4
	comp=Z,26nm,1.4s							
L38A	**Oak Wood Farm,**	86.92	37	P		P	12 24 48.1	+1.0
	baz=320							
N36A	**Muff Farm, Cla**	86.93	39	P		P	12 24 48.2	+1.0
	baz=318							
M37A	**Trindle Farm,**	86.94	38	P		P	12 24 48.0	+0.8
	baz=319							
IDI	**Anoyia**	86.95	313	P		P	12 24 46.7	-0.8
	comp=Z,6.7nm,0.6s,baz=0.0,slow=0.0,SNR=9.6							
IDI	**Anoyia**	86.95	313	⇑*i*P		P	12 24 47.2	-0.3
K39A	**Oelwein**	87.01	36	P		P	12 24 48.1	+0.5
	baz=320							
J40A	**Soldiers Grove**	87.01	35	P		P	12 24 48.0	+0.5
	baz=321							
E45A	**Wooded Hills,**	87.06	30	P		P	12 24 48.3	+0.6
	baz=325							
N37A	**Lee Faris, Mou**	87.35	39	P		P	12 24 49.9	+0.7
	baz=319							
M38A	**Pleasantville**	87.36	38	P		P	12 24 49.8	+0.5
	baz=320							
K40A	**Colesburg**	87.36	36	P		P	12 24 49.6	+0.3
	baz=321							
J41A	**Loganville**	87.37	35	P		P	12 24 49.9	+0.6
	baz=322							
L39A	**Vinton**	87.40	37	P		P	12 24 50.0	+0.6
	baz=320							
I42A	**Draeger Farm,**	87.45	34	P		P	12 24 49.8	+0.1
	baz=322							
I42A	**Draeger Farm,**	87.45	34	*e*P		P	12 24 47.9	-1.8
	comp=Z,21nm,1.4s							
F45A	**CMU Biological**	87.47	31	P		P	12 24 50.1	+0.4
	baz=324							
MNTX	**Cornudas Mount**	87.47	52	P		P	12 24 51.0	+1.0
	baz=313							
MNTX	**Cornudas Mount**	87.47	52	*e*P		P	12 24 51.7	+1.7
	comp=Z,11nm,1.6s							
H43A	**Windswept, Lux**	87.50	33	P		P	12 24 50.9	+1.0
	baz=323							
I43A	**Langenfeld Bro**	87.80	33	P		P	12 24 51.8	+0.5
	baz=323							
M39A	**Webster**	87.81	37	P		P	12 24 51.7	+0.2
	baz=320							
N38A	**Joes South For**	87.81	38	P		P	12 24 51.9	+0.4
	baz=320							
L40A	**Anamosa**	87.81	36	P		P	12 24 51.6	+0.2
	baz=321							
K41A	**Shullsburg**	87.82	35	P		P	12 24 51.8	+0.3
	baz=321							
J43A	**Natural Harves**	88.07	34	P		P	12 24 53.0	+0.3
	baz=322							
N39A	**Derby Farms, D**	88.11	38	P		P	12 24 53.0	+0.2
	baz=320							
K42A	**Prairie Point,**	88.13	35	P		P	12 24 53.6	+0.6
	baz=322							
L41A	**Preston**	88.15	36	P		P	12 24 53.4	+0.4
	baz=321							
P37A	**Lathrop**	88.16	40	P		P	12 24 54.2	+1.1
	baz=319							
P38A	**Dawn**	88.54	39	P		P	12 24 55.6	+0.7
	baz=319							
L43A	**Garden Prairie**	88.87	35	P		P	12 24 57.0	+0.5
	baz=322							
O40A	**La Belle**	88.99	38	P		P	12 24 57.7	+0.7
	baz=320							
Q39A	**Willow Grove F**	89.26	39	P		P	12 24 59.3	+1.0
	baz=320							
WMOK	**Wichita Mounta**	89.31	46	P		P	12 24 59.2	+0.4
	baz=316							
WMOK	**Wichita Mounta**	89.31	46	*e*P		P	12 25 00.2	+1.5
	comp=Z,22nm,1.7s							
WMOK	**Wichita Mounta**	89.31	46	*e*P		P	12 25 00.2	+1.5
WMOK				pmax		pmax		
	comp=Z,22nm,1.7s							
P40A	**Paris**	89.36	38	P		P	12 24 59.6	+0.8
	baz=320							
O41A	**Passleys Farm,**	89.48	37	P		P	12 25 00.1	+0.7
	baz=321							
N43A	**Stutzman Famil**	89.65	36	P		P	12 25 00.9	+0.8
	baz=322							
ATD	**Arta Tunnel**	89.82	284	LR		LR	13 10 08.1	
	comp=Z,147nm,18.3s,baz=18,slow=39							
S38A	**Stockton**	89.85	41	P		P	12 25 01.1	0.0
	baz=319							
T38A	**Diamond**	90.10	41	P		P	12 25 02.9	+0.6
	baz=319							
S39A	**Bolivar**	90.11	40	P		P	12 25 02.8	+0.5
	baz=320							
TUL1	**Leonard**	90.13	43	P		P	12 25 03.2	+0.7
	baz=318							
TX31	**Lajitas Ar. Si**	90.16	52	*e*P		P	12 25 04.4	+1.5
LTX	**Lajitas**	90.16	52	*e*P		P	12 25 04.1	+1.2
LTX	**Lajitas**	90.16	52	*e*P		P	12 25 04.1	+1.2
TXAR	**Lajitas Array**	90.16	52	P		P	12 25 04.1	+1.2
	comp=Z,1.2nm,0.6s,baz=313,slow=2.5,SNR=14							
R40A	**Maddies Statio**	90.20	39	P		P	12 25 03.0	+0.2
	baz=320							
Q41A	**Truxton**	90.21	38	P		P	12 25 03.6	+0.9
	baz=321							
ABTX	**Abilene, Hawle**	90.33	48	P		P	12 25 04.1	+0.6
	baz=316							
S40A	**Lebanon**	90.61	40	P		P	12 25 04.7	0.0
	baz=320							
R41A	**Rosebud**	90.64	39	P		P	12 25 05.4	+0.6
	baz=321							
CCM	**Cathedral Cave**	90.89	39	P		P	12 25 06.9	+0.9
	baz=321							
T40A	**Mansfield**	90.94	40	P		P	12 25 06.2	0.0
	baz=320							
R42A	**Luebbering**	90.94	38	P		P	12 25 07.1	+0.8
	baz=321							
U39A	**Green Forest**	91.02	41	P		P	12 25 06.9	+0.2
	baz=319							
S42A	**Caledonia**	91.34	39	P		P	12 25 08.4	+0.3
	baz=321							
U40A	**Yellville**	91.37	41	P		P	12 25 08.5	+0.3
	baz=320							
T41A	**Mountain View**	91.41	40	P		P	12 25 08.7	+0.3
	baz=320							
T42A	**Van Buren**	91.76	39	P		P	12 25 10.4	+0.4
	baz=321							
S43A	**Fulton Ridge,**	91.85	38	P		P	12 25 10.6	+0.2
	baz=322							
X39A	**Fountain Ranch**	92.09	43	P		P	12 25 12.1	+0.5
	baz=319							
W40A	**Ferguson Farm,**	92.14	42	P		P	12 25 12.4	+0.6
	baz=320							
W40A	**Ferguson Farm,**	92.14	42	*e*P		P	12 25 12.8	+1.0
	comp=Z,8.0nm,0.9s							
V41A	**Mountainview**	92.17	41	P		P	12 25 11.9	-0.1
	baz=320							
MIAR	**Mount Ida**	92.35	43	P		P	12 25 13.4	+0.6
	baz=319							
MIAR	**Mount Ida**	92.35	43	*e*P		P	12 25 14.2	+1.4
	comp=Z,30nm,1.8s							
MIAR	**Mount Ida**	92.35	43	*e*P		P	12 25 14.2	+1.4
MIAR				pmax		pmax		
	comp=Z,31nm,1.8s							
W41B	**Gary Mavity, V**	92.59	41	P		P	12 25 14.1	+0.3
	baz=320							
X40A	**Basin Creek Fa**	92.80	42	P		P	12 25 15.4	+0.6
	baz=320							
KEST	**Kesra**	94.99	323	LR		LR	13 11 46.6	
	comp=Z,182nm,18.9s,baz=352,slow=38							
ESDC	**Sonseca Array**	97.27	334	LR		LR	13 14 58.3	
	comp=Z,179nm,18.2s,baz=120,slow=39							
RKT	**Rikitea**	98.80	112	*e*LR		LR	12 57 28.5	
	comp=Z,314nm,28.8s							
TOA1	**Torodi Ar. Sit**	117.29	315	*e*PKPdf		PKPdf	12 30 47.1	-1.0
TOA1				*e*PP		PP	12 31 55.4	-2.8
TORD	**Torodi Ar. Bea**	117.29	315	PKP		PKPdf	12 30 47.1	-1.0
	comp=Z,0.4nm,0.7s,baz=0.7,slow=4.1,SNR=2.3							
TORD				PP		PP	12 31 55.4	-2.8
	comp=Z,0.6nm,0.8s,baz=23,slow=7.8,SNR=3.8							
KOWA	**Kowa**	119.24	321	PKP		PKPdf	12 30 51.6	-0.3
	comp=Z,1.7nm,0.7s,baz=99,slow=8.8,SNR=4.0							
SYO	**Syowa Base**	128.18	207	⇑*e*Pdiff		Pdif	12 27 55.5	+3.8
NVL	**N'lazarevskaya**	137.27	202	*e*PKHKP		PKPpre	12 31 07.0	
SNAA	**Sanae**	140.74	197	PKP		PKPdf	12 31 29.0	-1.8
VNA2	**Neumayer--Watz**	142.31	196	PKP		PKPpre	12 31 28.7	
	baz=93,slow=1.7							
LPAZ	**La Paz**	146.74	60	PKPbc		PKPbc	12 31 45.8	+0.5
	comp=Z,6.3nm,0.6s,baz=356,slow=3.4,SNR=18							
PLCA	**Paso Flores**	154.97	108	PKPab		PKPab	12 32 20.2	+0.9
	comp=Z,1.1nm,0.9s,baz=312,slow=2.1,SNR=3.5							

IDC 13 12:14:29.9±4.2, 4°.57S×150°.84E, h140km±39km, mb3.4/4, mb1 3.7/5, mb1mx3.2/49, mbtmp3.9/5, MS3.8/1, Ms1 3.8/1, ms1mx3.0/23, Error ellipse: s-maj=97.6km s-min=26.7km az=130.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.04**	**217**	P	Pn	12 15 57.8	+0.7
	12nm,0.3s,baz=30,slow=6.8,SNR=28						
PMG				S	Sn	12 17 06.1	+0.9
	2.6nm,0.3s,baz=0.0,slow=20,SNR=2.8						
WRA	**Warramunga Arr**	**22.18**	**225**	P	P	12 19 14.1	-0.8
	0.6nm,0.3s,baz=47,slow=10,SNR=20						
ASAR	**Alice Springs**	**25.05**	**219**	P	P	12 19 40.6	-0.8
	0.8nm,0.3s,baz=54,slow=9.2,SNR=37						
FITZ	**Fitzroy Crossi**	**28.07**	**239**	P	P	12 20 09.5	+0.9
	1.7nm,0.6s,baz=36,slow=10,SNR=4.5						
LEM	**Lembang**	**43.06**	**265**	LR	LR	12 45 14.7	
	comp=Z,110nm,18.5s,baz=46,slow=43						
ILAR	**Eielson Array**	**82.69**	**22**	P	P	12 26 37.2	-0.4
	0.3nm,0.5s,baz=247,slow=5.1,SNR=7.0						
TORD	**Torodi Ar. Bea**	**148.38**	**288**	PKPbc	PKPbc	12 34 01.1	+0.2
	0.6nm,0.7s,baz=60,slow=3.7,SNR=3.3						

*NEIC **13** 12:15:37.9±0.0, 16°.16N×98°.30W, h10km, mb3.9/1, MD4.2(MEX), After MEX.*

MEX 13 12:15:37.3±0.6, 16°.12N×98°.27W, h6km±5km, MD4.2, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.30**	**27**	*e*P	Pg	12 15 42.7	-0.5
PNIG				*i* S	Sg	12 15 47.5	+0.2
PNIG	**Pinotepa**	**0.30**	**27**	*e*P	Pg	12 15 42.7	-0.5
PNIG				*i* S	Sg	12 15 47.5	+0.2
TLIG	**Tlapa**	**1.46**	**349**	*i* P	Pn	12 16 00.7	-3.7
TLIG				*e*S	Sn	12 16 18.1	-5.9
TLIG	**Tlapa**	**1.46**	**349**	*i* P	Pn	12 16 00.7	-3.7
TLIG				*e*S	Sn	12 16 19.4	-4.6
VHO	**Vista Hermosa**	**1.75**	**57**	*e*P	Pn	12 16 06.3	-2.1
VHO				*e*S	Sn	12 16 26.2	-5.0
VHO	**Vista Hermosa**	**1.75**	**57**	*e*P	Pn	12 16 06.3	-2.1
VHO				*e*S	Sb	12 16 32.4	0.0
CAIG	**El Cayaco**	**2.13**	**296**	*e*P	Pn	12 16 10.4	-3.0
CAIG				*i* S	Sn	12 16 36.4	-3.8
CAIG	**El Cayaco**	**2.13**	**296**	*e*P	Pn	12 16 07.7	-5.7
CAIG				*e*S	Sn	12 16 38.1	-2.1
PLIG	**Platanillo**	**2.55**	**333**	*e*P	Pn	12 16 16.3	-3.0
PLIG				*i* S	Sn	12 16 46.0	-4.7
PLIG	**Platanillo**	**2.55**	**333**	*e*P	Pn	12 16 18.0	-1.3
PLIG				*e*S	Sb	12 16 53.8	-1.5
MOIG	**Morelia**	**4.50**	**322**	*e*Pn	Pn	12 16 46.7	+0.4
MOIG				*e*Sn	Sn	12 17 36.8	-2.3
ABTX	**Abilene, Hawle**	**16.48**	**356**	*e*P	P	12 19 30.9	-1.0
	3.7nm,0.3s						
121A	**Cookes Peak, D**	**18.48**	**334**	*e*P	P	12 19 51.6	-2.7
SWET	**Sewanee**	**21.99**	**28**	*e*P	P	12 20 29.3	-3.0

IDC 13 12:19:01.3±2.3, 2°.36N×92°.87E, h0km, mb3.5/4, mb1 3.7/5, mb1mx3.3/69, mbtmp3.6/5, ML3.8/1, MS4.2/2, Ms1 4.1/2, ms1mx3.1/55, Error ellipse: s-maj=77.7km s-min=23.4km az=52.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**6.07**	**86**	Pn	Pn	12 20 32.7	+0.3
	2.1nm,0.3s,baz=288,slow=13,SNR=6.6						
MKAR	**Makanchi Array**	**45.21**	**350**	P	P	12 27 19.9	-0.3
	0.5nm,0.7s,baz=169,slow=8.7,SNR=3.7						
WRA	**Warramunga Arr**	**46.33**	**121**	P	P	12 27 29.2	-0.3
	0.4nm,0.7s,baz=299,slow=8.7,SNR=3.9						
ASAR	**Alice Springs**	**47.57**	**125**	P	P	12 27 39.1	0.0
	0.2nm,0.6s,baz=295,slow=7.7,SNR=4.7						
ASAR				LR	LR	12 48 02.7	
	comp=Z,257nm,20.7s,baz=277,slow=37						
ZALV	**Zalesovo Beam**	**51.85**	**354**	P	P	12 28 11.3	+0.1
	0.8nm,0.3s,baz=182,slow=7.9,SNR=4.2						
STKA	**Stephens Creek**	**57.37**	**131**	LR	LR	12 53 47.2	
	comp=Z,178nm,19.4s,baz=8.7,slow=36						

*IDC **13** 12:29:50.9±1.3, 3°.54S×149°.94E, h0km, mb4.1/10, mb1 4.3/11, mb1mx3.9/52, mbtmp4.1/11, ML1.4/1, MS3.7/8, Ms1 3.7/8, ms1mx3.4/41, Error ellipse: s-maj=44.4km s-min=18.2km az=115.0*

*ISCJB **13** 12:29:52.5±1.0, 3°.6S±0°.1×149°.8E±0°.2, h19km, mb4.0/12, MS3.7/6, Error ellipse: s-maj=34.7km s-min=10.5km az=17.7*

*NEIC **13** 12:29:57.1±2.2, 3°.64S×149°.83E, h42km±20km, mb4.5/3, Error ellipse: s-maj=25.9km s-min=12.9km az=115.0*

ISC 13 12:29:54.1±1.2, 3°.6S±0°.2×149°.9E±0°.3, h19km, n27, σ0°78/20, mb4.0/12, MS3.7/6, 1D, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.42**	**205**	Pn	**Pn**	**12 31 28.2**	**+0.5**
	0.5nm,0.3s,baz=3.5,slow=19,SNR=2.7						
PMG				LR	LR	12 34 11.3	
	comp=Z,783nm,19.0s,baz=14,slow=40						
GUMO	**Guam**	**17.74**	**344**	LR	LR	12 40 13.3	
	comp=Z,132nm,19.0s,baz=117,slow=35						
WR1	**Warramunga Arr**	**22.26**	**222**	*e*P	**P**	**12 34 48.7**	**-1.5**
	22nm,1.0s						
WRA	**Warramunga Arr**	**22.26**	**222**	P	**P**	**12 34 48.7**	**-1.5**
	17nm,1.1s,baz=44,slow=10.0,SNR=19						
AS01	**Alice Springs**	**25.24**	**216**	*e*P	**P**	**12 35 18.0**	**-1.1**
AS31	**Alice Springs**	**25.27**	**216**	*e*P	**P**	**12 35 19.3**	**-0.1**
	4.6nm,1.3s						
ASAR	**Alice Springs**	**25.27**	**216**	P	**P**	**12 35 19.1**	**-0.4**
	4.8nm,0.8s,baz=52,slow=8.0,SNR=24						
BATI	**Baumata**	**26.85**	**254**	LR	LR	12 48 49.1	
	comp=Z,227nm,18.1s,baz=90,slow=42						
FITZ	**Fitzroy Crossi**	**27.80**	**237**	P	**P**	**12 35 43.3**	**+1.0**
	12nm,0.7s,baz=52,slow=8.7,SNR=29						
FITZ				LR	LR	12 47 06.0	
	comp=Z,176nm,18.4s,baz=72,slow=37						
FITZ	**Fitzroy Crossi**	**27.80**	**237**	*e*P	**P**	**12 35 41.4**	**-0.8**
	33nm,1.3s						
TGY	**Tagaytay City**	**33.64**	**302**	LR	LR	12 49 38.8	
	comp=Z,66nm,20.4s,baz=156,slow=35						
JOW	**Kunigami**	**36.72**	**327**	LR	LR	12 48 51.9	
	comp=Z,220nm,20.3s,baz=64,slow=31						
JNU	**Nakatsue**	**40.67**	**335**	LR	LR	12 53 57.6	
	comp=Z,45nm,18.4s,baz=126,slow=36						
NWAO	**Narrogin (SRO)**	**42.27**	**222**	LR	LR	12 56 11.1	
	comp=Z,184nm,18.9s,baz=296,slow=37						
CMAR	**Chiang Mai Arr**	**54.72**	**295**	P	**P**	**12 39 22.6**	**-0.1**
	1.1nm,0.9s,baz=119,slow=5.4,SNR=7.3						
MK32	**Makanchi Array**	**77.48**	**319**	*e*P	**P**	**12 41 48.3**	**-0.2**
MKAR	**Makanchi Array**	**77.48**	**319**	P	**P**	**12 41 48.3**	**-0.2**
	0.4nm,0.8s,baz=79,slow=3.1,SNR=3.1						
ZALV	**Zalesovo Beam**	**78.51**	**327**	P	**P**	**12 41 54.7**	**+0.7**
	0.5nm,0.5s,baz=111,slow=3.2,SNR=3.0						
ZAA1	**Zalesovo Array**	**78.52**	**327**	*e*P	**P**	**12 41 54.7**	**+0.7**
KURK	**Kurchatov**	**81.01**	**322**	*e*P	**P**	**12 42 07.6**	**0.0**
KURBB	**Kurchatov Arra**	**81.03**	**322**	P	**P**	**12 42 07.6**	**-0.1**
	0.3nm,0.2s,baz=141,slow=6.0,SNR=2.8						
ILAR	**Eielson Array**	**82.11**	**23**	P	**P**	**12 42 12.3**	**-0.9**
	1.0nm,0.9s,baz=247,slow=5.0,SNR=10						
BVAR	**Borovoye Array**	**86.51**	**323**	P	**P**	**12 42 35.3**	**-0.4**
	0.8nm,0.7s,baz=102,slow=6.2,SNR=4.8						
SYO	**Syowa Base**	**93.87**	**200**	⇓*e*X	P	12 43 15.7	+5.8
YKA	**Yellowknife Ar**	**95.67**	**28**	P	**P**	**12 43 18.7**	**+0.4**
	0.4nm,0.8s,baz=271,slow=4.7,SNR=9.4						
TORD	**Torodi Ar. Bea**	**147.16**	**289**	PKPbc	**PKPbc**	**12 49 37.5**	**+0.4**
	4.1nm,0.8s,baz=68,slow=2.8,SNR=14						
TOA1	**Torodi Ar. Sit**	**147.16**	**289**	*e*PKPbc	**PKPbc**	**12 49 37.5**	**+0.4**

IDC 13 12:30:04.2±2.2, 0°.24S×91°.25E, h0km, mb3.6/6, mb1 3.8/7, mb1mx3.4/73, mbtmp3.7/7, ML3.6/1, Error ellipse: s-maj=60.8km s-min=28.1km az=50.0, South Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**12.90**	**306**	Pn	P

JFT				S		**Sn**	**12 30 41.6**	**+0.3**
MJAR	**Matsushiro Arr**	**2.15**	**265**	Pn		**Pn**	**12 30 46.0**	**+0.1**
	19nm,0.3s,baz=113,slow=6.6,SNR=150							
MJAR				Sn		**Sn**	**12 31 14.0**	**+1.1**
	41nm,0.3s,baz=85,slow=29,SNR=14							
MAT	**Matsushiro**	**2.15**	**265**	P		**Pn**	**12 30 46.9**	**+0.9**
MAT				S		**Sn**	**12 31 12.6**	**-0.4**
JHJ	**Hachijo jima 2**	**3.74**	**194**	Pn		**Pn**	**12 31 09.2**	**+1.4**
	13nm,0.3s,baz=156,slow=22,SNR=12							
JHJ				Sn		**Sn**	**12 31 53.5**	**+1.3**
	14nm,0.3s,baz=254,slow=23,SNR=5.5							
ASAJ	**Asahikawa**	**7.46**	**10**	Pn		**Pn**	**12 31 59.8**	**+0.8**
	1.2nm,0.3s,baz=204,slow=11,SNR=19							
JCJ	**Chichijima**	**9.70**	**173**	LR		LR	12 36 29.3	
	comp=Z,61nm,18.8s,baz=288,slow=39							
MA2	**Magadan**	**23.71**	**13**	P		**P**	**12 35 22.4**	**+0.3**
	1.3nm,0.3s,baz=162,slow=16,SNR=4.0							
SONM	**Songino Array**	**27.57**	**305**	P		**P**	**12 35 56.2**	**-1.3**
	0.4nm,0.3s,baz=109,slow=9.7,SNR=4.3							
H11N2	**WAKE ISLAND Hy**	**28.39**	**120**	T		T	13 05 50.0	
	baz=312,slow=75,SNR=271							
H11N1	**WAKE ISLAND Hy**	**28.40**	**120**	T		T	13 05 54.5	
	baz=312,slow=75,SNR=296							
H11N3	**WAKE ISLAND Hy**	**28.41**	**120**	T		T	13 05 55.3	
	baz=312,slow=75,SNR=228							
H11S1	**WAKE ISLAND Hy**	**29.09**	**122**	T		T	13 06 43.6	
	baz=314,slow=75,SNR=802							
H11S3	**WAKE ISLAND Hy**	**29.09**	**122**	T		T	13 06 36.7	
	baz=314,slow=75,SNR=438							
H11S2	**WAKE ISLAND Hy**	**29.10**	**122**	T		T	13 06 45.3	
	baz=314,slow=75,SNR=657							
ZALV	**Zalesovo Beam**	**41.77**	**313**	P		**P**	**12 37 59.7**	**+0.2**
	0.8nm,0.4s,baz=93,slow=7.4,SNR=5.4							
MKAR	**Makanchi Array**	**43.89**	**302**	P		**P**	**12 38 16.6**	**-0.2**
	0.2nm,0.4s,baz=89,slow=12,SNR=2.4							
KURBB	**Kurchatov Arra**	**45.82**	**308**	P		**P**	**12 38 31.9**	**-0.2**
	1.4nm,0.5s,baz=83,slow=7.8,SNR=15							
ILAR	**Eielson Array**	**49.96**	**32**	P		**P**	**12 39 05.3**	**+1.3**
	0.3nm,0.7s,baz=264,slow=5.5,SNR=5.9							
WRA	**Warramunga Arr**	**56.73**	**187**	P		**P**	**12 39 53.2**	**-1.0**
	0.4nm,0.6s,baz=6.4,slow=7.5,SNR=5.7							
ASAR	**Alice Springs**	**60.46**	**187**	P		**P**	**12 40 19.8**	**-0.4**
	0.3nm,0.7s,baz=11,slow=7.2,SNR=3.3							
YKA	**Yellowknife Ar**	**64.26**	**30**	P		**P**	**12 40 45.9**	**+0.7**
	0.2nm,0.7s,baz=307,slow=6.7,SNR=3.0							
FINES	**FINESS Array B**	**68.85**	**332**	P		**P**	**12 41 14.4**	**-0.1**
	1.5nm,0.7s,baz=39,slow=7.3,SNR=4.7							
AKASG	**Malin Array Be**	**74.24**	**322**	P		**P**	**12 41 46.7**	**-0.6**
	0.2nm,0.3s,baz=43,slow=5.6,SNR=4.2							
NOA	**NORSAR Array B**	**74.27**	**337**	P		**P**	**12 41 46.4**	**-0.9**
	0.5nm,0.6s,baz=40,slow=5.9,SNR=3.6							
NVAR	**Mina Array Bea**	**75.50**	**53**	P		**P**	**12 41 56.5**	**+1.4**
	0.5nm,0.5s,baz=303,slow=4.8,SNR=5.8							
PDAR	**Pinedale Array**	**78.17**	**45**	P		**P**	**12 42 10.1**	**0.0**
	0.3nm,0.5s,baz=254,slow=0.9,SNR=4.8							
GERES	**GERESS Array B**	**82.71**	**328**	P		**P**	**12 42 32.9**	**-1.4**
	0.4nm,0.3s,baz=92,slow=4.5,SNR=5.9							

MEX 13 12:33:05.4±1.3, 16°22N×98°39W, h5km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.30**	**55**	*i* P	Pg	12 33 10.8	-0.5
PNIG				*e*S	Sg	12 33 15.7	+0.3
TLIG	**Tlapa**	**1.35**	**353**	*e*P	Pn	12 33 28.9	-2.2
TLIG				*e*S	Sg	12 33 44.5	-4.5
VHO	**Vista Hermosa**	**1.80**	**61**	*e*P	Pn	12 33 33.9	-3.4
VHO				*e*S	Sn	12 33 55.8	-4.8
CAIG	**El Cayaco**	**1.98**	**295**	*e*P	Pn	12 33 37.7	-2.0
CAIG				*e*S	Sn	12 34 00.2	-4.8
PLIG	**Platanillo**	**2.41**	**334**	*e*P	Pn	12 33 43.9	-1.8
PLIG				*e*S	Sn	12 34 11.7	-4.0

IDC 13 12:34:50.3±1.9, 3°23N×89°83E, h0km, mb3.9/3, mb1 3.9/5, mb1mx3.4/73, mbtmp3.8/5, ML4.2/1, Error ellipse: s-maj=48.1km s-min=28.3km az=48.0, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**9.94**	**294**	Pn	Pn	12 37 13.4	-1.1
	2.3nm,0.3s,baz=116,slow=13,SNR=16						
PALK				Sn	Sn	12 38 55.8	-11
	2.5nm,0.3s,baz=113,slow=0.5,SNR=16						
CMAR	**Chiang Mai Arr**	**17.57**	**30**	P	Pn	12 38 55.5	-1.3
	baz=225,slow=13,SNR=3.1						
SONM	**Songino Array**	**46.68**	**15**	P	P	12 43 20.6	-0.3
	0.4nm,0.4s,baz=189,slow=8.0,SNR=3.6						
KURBB	**Kurchatov Arra**	**48.18**	**350**	P	P	12 43 33.1	+0.7
	0.4nm,0.2s,baz=173,slow=7.4,SNR=2.2						
WRA	**Warramunga Arr**	**49.39**	**120**	P	P	12 43 42.0	-0.2
	0.5nm,0.7s,baz=297,slow=9.1,SNR=3.3						

IDC ***13*** *12:40:37.0±1.8, 3°40N×92°61E, h0km, mb3.7/6, mb1 3.8/9, mb1mx3.5/74, mbtmp3.7/9, ML3.6/3, Error ellipse: s-maj=47.1km s-min=22.6km az=43.0*
ISCJB ***13*** *12:40:38.5±1.1, 3°5N±0°2×92°6E±0°1, h24km, mb3.8/6, Error ellipse: s-maj=24.3km s-min=13.3km az=23.4*
ISC 13 12:40:40.1±1.2, 3°4N±0°2×92°50E±0°09, h24km, n9, σ2s03/10, mb3.8/6, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**6.45**	**95**	Pn	**Pn**	**12 42 13.7**	**0.0**
	1.9nm,0.3s,baz=308,slow=9.6,SNR=4.2						
PALK	**Pallekele**	**12.34**	**288**	Pn	**Pn**	**12 43 36.9**	**+2.4**
	0.5nm,0.3s,baz=117,slow=15,SNR=4.7						
PALK				Sn	**Sn**	**12 45 48.0**	**-3.5**
	0.7nm,0.3s,baz=100,slow=0.8,SNR=5.1						
CMAR	**Chiang Mai Arr**	**16.20**	**22**	Pn	**Pn**	**12 44 24.5**	**-1.9**
	0.1nm,0.3s,baz=210,slow=14,SNR=5.8						
MKAR	**Makanchi Array**	**44.09**	**350**	P	**P**	**12 48 47.9**	**+1.5**
	1.4nm,0.6s,baz=167,slow=8.9,SNR=15						
SONM	**Songino Array**	**45.82**	**13**	P	**P**	**12 49 00.9**	**+0.7**
	0.3nm,0.3s,baz=181,slow=11,SNR=3.0						
WRA	**Warramunga Arr**	**47.20**	**121**	P	**P**	**12 49 10.3**	**-1.1**
	0.5nm,0.8s,baz=301,slow=8.5,SNR=3.4						
KURBB	**Kurchatov Arra**	**48.47**	**348**	P	**P**	**12 49 21.7**	**+1.0**
	0.3nm,0.3s,baz=171,slow=6.8,SNR=4.6						
ZALV	**Zalesovo Beam**	**50.74**	**354**	P	**P**	**12 49 39.5**	**+1.6**
	0.8nm,0.4s,baz=184,slow=6.8,SNR=4.6						
BVAR	**Borovoye Array**	**52.69**	**343**	P	**P**	**12 49 52.1**	**-0.5**
	0.5nm,0.5s,baz=150,slow=10,SNR=4.2						

IDC 13 12:41:19.2±415.0, 47°56N×48°25E, h0km, Error ellipse: s-maj=165.9km s-min=140.4km az=15.0, Western Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I31KZ	**AKTYUBINSK INF**	**7.04**	**62**	*i*		13 25 30.0	
	baz=250,slow=315,SNR=4.0						
I43RU	**DUBNA INFRASONI**	**1.39**	**328**	*i*		13 50 20.0	
	baz=139,slow=328,SNR=2.3						
I26DE	**FREYUNG INFRAS**	**22.94**	**286**	*i*		15 02 30.0	
	baz=82,slow=330,SNR=0.6						

SOME ***13*** *12:43:13.9, 44.67N×82.10E, h20km*
NNC ***13*** *12:43:14.8±1.4, 44.70N×82.01E, h0km, mb3.1, mpv2.6, Error ellipse: s-maj=18.8km s-min=7.4km az=116.0*
ISC 13 12:43:11.5±2.7, 44.61N±0.09×82.3E±0.1, h9km±20km, n6, σ0s58/11, 4C-2D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DJR	**Jarkent**	**1.78**	**262**	*e*P	**Pg**	**12 43 45.8**	**+0.2**
	3.7nm,0.2s						
DJR				*e*S	**Sg**	**12 44 08.7**	**-0.1**
	5.5nm,0.2s						
KAPS	**Kapalarasan**	**2.16**	**289**	*e*P	**Pb**	**12 43 51.0**	**+0.2**
	2.2nm,0.2s						
KAPS				*e*S	**Sb**	**12 44 17.8**	**0.0**
	5.3nm,0.2s						
MK31	**Makanchi Array**	**2.19**	**1**	⇑Pn	**Pb**	**12 43 51.4**	**+0.2**
	3.7nm,0.3s,baz=187,slow=16						
MK31				⇓Sn	**Sb**	**12 44 19.4**	**+0.9**
	14nm,0.5s,baz=184,slow=26						
MAKZ	**Makanchi**	**2.21**	**355**	⇑Pn	**Pb**	**12 43 50.6**	**-1.1**
	2.0nm,0.4s						
MAKZ				⇑Sn	**Sb**	**12 44 19.2**	**+0.1**
	4.7nm,0.4s						
PDGK	**Podgornoye**	**2.37**	**238**	⇑Pn	**Pb**	**12 43 54.7**	**+0.3**
	1.1nm,0.5s						
PDGK				⇓Lg	Lg	12 44 25.4	
	3.6nm,0.5s						
KPKS	**Kokpek**	**2.81**	**247**	*e*P	**Pb**	**12 44 01.6**	**-0.4**
	4.0nm,0.1s						
KPKS				*e*S	**Sb**	**12 44 36.2**	**-0.4**
	4.2nm,0.3s						

ISCJB ***13*** *12:48:10.1±0.2, 3°38N±0°03×89°93E±0°03, h10km, mb4.7/77, MS4.3/29, Error ellipse: s-maj=4.6km s-min=3.2km az=31.4*
IDC ***13*** *12:48:10.3±0.5, 3°40N×89°90E, h0km, mb4.4/31, mb1 4.5/34, mb1mx4.3/72, mbtmp4.4/34, ML3.9/2, MS4.1/20, Ms1 4.1/20, ms1mx4.0/38, Error ellipse: s-maj=15.5km s-min=10.5km az=41.0*
NEIC ***13*** *12:48:11.8±0.2, 3°40N×89°94E, h10km, mb4.9/48, Error ellipse: s-maj=5.1km s-min=3.7km az=210.0*
GCMT ***13*** *12:48:11.8±0.3, 3°37N×89°93E, h12km, MW4.9/97, Moment Tensor Solution. s22,c25; s97,c142; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr-0.14±.08; Mθθ-0.41±.08; Mφφ0.55±.09; Mrθ-0.68±.25; Mθφ-2.84±.06; Mφr-1.19±.23; Best double couple: Mo3.18100×10^16 NP1:φs3.00000°, δ81.00000°, λ-23.00000°. NP2: φs97.00000°, δ68.00000°, λ-170.00000°. Principal axes: T 3.0260, Plg9.0000°, Azm52.0000°; N 0.3090, Plg66.0000°, Azm163.0000°; P -3.3360, Plg22.0000°, Azm318.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 13 12:48:11.7±0.3, 3°40N±0°04×89°84E±0°04, h10km, n252, σ2s19/241, mb4.7/80, MS4.2/29, 3C-8D, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSI	**Banda Aceh**	**5.83**	**69**	P	**Pn**	**12 49 37.2**	**-1.0**
MLSI	**Meulaboh, Aceh**	**6.61**	**82**	P	**Pn**	**12 49 49.3**	**+0.3**
LHMI	**Lhok Sumawe**	**7.32**	**75**	*e*Pn	**Pn**	**12 49 57.7**	**-1.0**
LHMI				*e*Sn	Sn	12 51 12.5	-9.4
TPTI		**7.33**	**91**	P	**Pn**	**12 49 59.7**	**+0.8**
GSI	**Gunungsitoli**	**8.01**	**105**	P	**Pn**	**12 50 06.7**	**-1.5**
GSI	**Gunungsitoli**	**8.01**	**105**	*e*Pn	**Pn**	**12 50 06.2**	**-2.0**
GSI				*e*Sn	**Sn**	**12 51 30.4**	**-8.6**
PBA	**Port Blair**	**8.69**	**19**	*e*P	Pn	12 50 18.7	+1.2
PBA	**Port Blair**	**8.69**	**19**	*e*Pn	Pn	12 50 19.0	+1.4
PBA				*e*Sn	Sn	12 51 47.6	-8.1
PSI	**Prapat**	**9.10**	**94**	Pn	**Pn**	**12 50 21.5**	**-1.7**
	3.2nm,0.3s,baz=271,slow=12,SNR=7.3						
PSI				Sn	**Sn**	**12 51 59.2**	**-6.7**
	2.7nm,0.3s,baz=260,slow=18,SNR=3.3						
PSI				LR	LR	12 53 28.7	
	comp=Z,570nm,21.2s,baz=255,slow=35						
PSI	**Prapat**	**9.10**	**94**	*e*Pn	**Pn**	**12 50 21.3**	**-1.9**
PSI				*e*Sn	**Sn**	**12 51 58.8**	**-7.1**
PKDT	**Phuket**	**9.56**	**62**	P	**Pn**	**12 50 27.4**	**-2.1**
	39nm,0.8s,2μm						
PALK	**Pallekele**	**9.87**	**293**	Pn	**Pn**	**12 50 33.5**	**-0.3**
	32nm,0.3s,baz=116,slow=13,SNR=119						
PALK				Sn	**Sn**	**12 52 17.7**	**-7.1**
	37nm,0.3s,baz=116,slow=0.6,SNR=21						
PALK	**Pallekele**	**9.87**	**293**	*e*Pn	**Pn**	**12 50 33.2**	**-0.6**
PALK				*e*Sn	**Sn**	**12 52 19.0**	**-5.8**
PALK	**Pallekele**	**9.87**	**293**	Pn	**Pn**	**12 50 33.6**	**-0.2**
	SNR=8.2						
PALK	**Pallekele**	**9.87**	**293**	P	**Pn**	**12 50 33.6**	**-0.2**
	SNR=8.2						
MNSI	**Mandailing Nat**	**10.08**	**105**	P	**Pn**	**12 50 34.7**	**-1.9**
DGPR	**DIGLIPUR**	**10.18**	**17**	*e*P	**Pn**	**12 50 37.9**	**-0.2**
SISI	**Saibi**	**10.38**	**117**	P	**Pn**	**12 50 43.2**	**+2.5**
TRTT	**Trang**	**10.75**	**65**	P	**Pn**	**12 50 43.3**	**-2.5**
	30nm,1.2s,322nm						
IPM	**Ipoh**	**11.21**	**84**	*e*Pn	**Pn**	**12 50 50.8**	**-1.4**
IPM				*e*Sn	Sn	12 52 45.8	-12
SKLT	**Songkhla**	**11.37**	**70**	P	**Pn**	**12 50 57.7**	**+3.4**
PDSI	**Padang**	**11.45**	**112**	P	**Pn**	**12 50 58.9**	**+3.4**
PPSI	**Pulau Pagai**	**11.87**	**121**	P	**Pn**	**12 51 04.8**	**+3.6**
MDRS	**Chennai**	**13.49**	**316**	*e*P	**Pn**	**12 51 21.8**	**-1.5**
TRD	**Trivandrum**	**13.77**	**292**	*e*P	**Pn**	**12 51 27.4**	**+0.3**
MASI	**Maura Aman, Be**	**14.00**	**118**	P	P	12 51 43.0	+4.7
MYKOM	**Kota Tinggi**	**14.09**	**96**	*e*Pn	Pn	12 51 23.3	-8.2
SRDT	**SRDT**	**14.22**	**40**	P	**Pn**	**12 51 33.4**	**+0.1**
	23nm,1.3s						
VIS	**Vishakhapatnam**	**15.59**	**336**	*e*P	**Pn**	**12 51 48.6**	**-3.2**
VIS				*i* x	x	12 54 31.6	
MDSI	**Maura Dua**	**16.33**	**119**	P	**Pn**	**12 52 02.1**	**+0.8**
LWLI	**Liwa**	**16.49**	**120**	P	**P**	**12 52 08.1**	**+2.0**
PBKT	**Sadao Pong**	**17.06**	**39**	P	**Pn**	**12 52 08.1**	**-2.3**
	106nm,1.5s						
PBKT	**Sadao Pong**	**17.06**	**39**	*e*Pn	**Pn**	**12 52 09.4**	**-1.0**
	82nm,1.1s						
KASI	**Kota Agung**	**17.12**	**121**	P	**P**	**12 52 12.4**	**-0.5**
PPBI	**Pangkal Pinang**	**17.21**	**109**	P	P	12 52 21.6	+7.7
CM01	**Chiang Mai Arr**	**17.39**	**30**	*e*Pn	**Pn**	**12 52 12.7**	**-2.0**
CM31	**Chiang Mai Arr**	**17.42**	**30**	*e*Pn	**Pn**	**12 52 13.3**	**-1.6**
CMAR	**Chiang Mai Arr**	**17.42**	**30**	P	**Pn**	**12 52 14.6**	**-0.4**
	0.1nm,0.3s,baz=222,slow=14,SNR=34						
CHTO	**Chiang Mai**	**17.72**	**30**	P	**P**	**12 52 20.9**	**+1.3**
	61nm,1.5s						
CHTO	**Chiang Mai**	**17.72**	**30**	*e*Pn	**P**	**12 52 20.1**	**+0.5**
	29nm,1.4s						
CHTO				*e*Sn	**Sn**	**12 55 32.5**	**-3.9**
CHTO	**Chiang Mai**	**17.72**	**30**	Pn	**P**	**12 52 21.7**	**+2.1**
	SNR=14						
CHTO	**Chiang Mai**	**17.72**	**30**	P	**P**	**12 52 21.7**	**+2.1**
	SNR=14						
CMMT	**Chiang Mai**	**17.72**	**30**	P	**P**	**12 52 19.8**	**+0.2**
	18nm,1.5s,542nm						
HYB	**Hyderabad**	**17.79**	**322**	*i* P	**Pn**	**12 52 18.0**	**-1.6**
HYB				*e*S	**Sn**	**12 55 36.0**	**-2.1**
HYB	**Hyderabad**	**17.79**	**322**	*e*P	**P**	**12 52 20.5**	**+0.1**
HYB				IAmb	IAmb	12 52 22.9	
	comp=Z,15nm,0.4s						
SKNT	**Sakolnakorn**	**19.36**	**45**	P	**P**	**12 52 36.6**	**-1.1**
	comp=Z,21nm,1.2s						
CBJI	**Citeko**	**19.59**	**120**	P	**Pn**	**12 52 46.3**	**+4.8**
	comp=Z,52nm,0.7s,comp=Z,5μm						
GOA	**Goa**	**19.82**	**308**	*e*P	**Pn**	**12 52 45.1**	**+0.9**
GOA				IAmb	IAmb	12 52 47.4	
	comp=Z,130nm,0.1s						
DGAR	**Diego Garcia**	**20.40**	**238**	*e*P	Pn	12 52 51.4	+0.3
	comp=Z,67nm,0.8s						
LEM	**Lembang**	**20.45**	**120**	P	**P**	**12 52 49.9**	**+0.1**
	comp=Z,13nm,0.6s,baz=261,slow=9.1,SNR=6.5						
LEM				LR	LR	13 00 51.8	
	comp=Z,326nm,18.2s,baz=328,slow=37						
H08S3	**Diego Garcia H**	**20.49**	**238**	T	T	13 13 56.8	
	baz=57,slow=75,SNR=206						
H08S2	**Diego Garcia H**	**20.49**	**238**	T	T	13 13 57.0	
	baz=57,slow=75,SNR=84						
H08S1	**Diego Carcia H**	**20.51**	**238**	T	T	13 13 58.1	
	baz=57,slow=75,SNR=88						
NGP	**Nagpur**	**20.53**	**330**	*e*P	**P**	**12 52 50.5**	**+0.2**
NGP				IAmb	IAmb	12 52 52.4	
	comp=Z,658nm,3.2s						
KSM	**Kuching**	**20.54**	**95**	*e*P	**P**	**12 52 47.8**	**-2.8**
	comp=Z,17nm,1.0s						
BOK	**Bokaro**	**20.63**	**350**	*e*P	**P**	**12 52 52.5**	**+1.1**
BOK				IAmb	IAmb	12 52 58.3	
	comp=Z,147nm,0.2s						
XMIS	**Christmas Isla**	**20.93**	**131**	*e*P	**P**	**12 52 53.4**	**-1.4**
	comp=Z,76nm,1.1s						
CISI	**Cisompet, Garu**	**20.99**	**121**	P	Pn	12 52 58.3	+0.3
CISI	**Cisompet, Garu**	**20.99**	**121**	*e*P	**P**	**12 52 55.3**	**-0.2**
	comp=Z,55nm,0.7s						
POO	**Poona**	**21.70**	**315**	*e*P	**P**	**12 53 04.5**	**+1.5**
POO				IAmb	IAmb	12 53 08.0	
	comp=Z,19nm,0.5s						
STKI	**Sintang**	**21.88**	**98**	P	**P**	**12 53 09.0**	**+4.0**
SHL	**Shillong**	**22.12**	**5**	*i* P	**P**	**12 53 07.0**	**-0.7**
SHL				IAmb	IAmb	12 53 08.0	
	comp=Z,47nm,0.6s						
SHL				*i* x	**S**	**12 57 12.0**	**+0.2**
SHL	**Shillong**	**22.12**	**5**	*e*P	**P**	**12 53 06.8**	**-0.9**
	comp=Z,64nm,0.8s						
SBUM	**Sibu**	**22.38**	**92**	*e*P	**P**	**12 53 09.3**	**-1.0**
	comp=Z,17nm,1.2s						
KOHI	**KOHIMA**	**22.57**	**10**	*e*P	**P**	**12 53 10.8**	**-1.7**
GUWA	**GUWAHATI**	**22.73**	**4**	*e*P	**P**	**12 53 13.3**	**-0.7**
BHPL	**Bhopal**	**23.09**	**330**	*e*P	**P**	**12 53 19.4**	**+1.6**
BHPL				IAmb	IAmb	12 53 20.0	
	comp=Z,392nm,2.9s						
MOKO	**MOKOCHONG**	**23.23**	**11**	*e*P	**P**	**12 53 18.9**	**-0.4**
TEZP	**TEZPUR**	**23.26**	**7**	*e*P	**P**	**12 53 19.3**	**-0.1**
ODAN	**Odare**	**23.44**	**355**	*e*P	**P**	**12 53 23.0**	**+1.4**
RAMN	**Ramite**	**23.62**	**353**	*e*P	**P**	**12 53 24.9**	**+1.6**
JIRN	**Jiri**	**24.37**	**352**	*e*P	**P**	**12 53 31.6**	**+1.0**
	comp=Z,144nm,1.1s						
DMN	**Daman**	**24.49**	**350**	*e*P	**P**	**12 53 32.9**	**+1.4**
KKN	**Kakani**	**24.64**	**350**	*e*P	**P**	**12 53 33.8**	**+1.0**
GUN	**Gumba**	**24.66**	**352**	*e*P	**P**	**12 53 34.4**	**+1.2**
	comp=Z,90nm,1.0s						
KMI	**Kunming**	**24.91**	**29**	P	**P**	**12 53 37.8**	**+2.5**
KMI				pP	sP	12 53 42.3	+2.7
KMI				sP	pP	12 53 44.8	+6.4
KMI				PP	**PnPn**	**12 54 08.1**	**0.0**
KMI				S	**S**	**12 58 02.3**	**+3.4**
KMI				sS	sS	12 58 12.1	+8.1
KMI				SS	**SnSn**	**12 58 56.1**	**+9.2**
KMI				pmax	pmax		
	comp=Z,13nm,1.0s						
KMI				pmax	pmax		
	comp=Z,110nm,6.3s						
KMI				LR	LR		
	comp=N,490nm,17.6s						
KMI				LR	LR		
	comp=E,650nm,15.1s						
KMI				LR	LR		
	comp=Z,560nm,19.0s						
KOLN	**Koldanda**	**24.95**	**347**	*e*P	**P**	**12 53 37.0**	**+1.4**
	comp=Z,53nm,0.9s						
QIZ	**Qiongzhong**	**24.98**	**50**	P	**P**	**12 53 37.0**	**+1.3**
QIZ				S	**S**	**12 58 01.0**	**+1.3**
QIZ				pmax	pmax		
	comp=Z,27nm,0.8s						
QIZ				LR	LR		
	comp=N,690nm,14.0s						
QIZ				LR	LR		
	comp=E,520nm,14.4s						
QIZ				LR	LR		
	comp=Z,470nm,18.2s						
QIZ	**Qiongzhong**	**24.98**	**50**	*e*P	**P**	**12 53 32.8**	**-2.9**
	comp=Z,37nm,1.0s						
PYUN	**Piuthan**	**25.41**	**346**	*e*P	**P**	**12 53 41.2**	**+1.4**
	comp=Z,142nm,1.1s						
DANN	**Dangsing**	**25.48**	**347**	*e*P	**P**	**12 53 42.0**	**+1.5**
LSA	**Lhasa**	**26.18**	**3**	P	**P**	**12 53 48.6**	**+1.5**
LSA				pmax	pmax		
	comp=Z,52nm,1.0s						
LSA	**Lhasa**	**26.18**	**3**	*e*P	**P**	**12 53 49.0**	**+1.9**
	comp=Z,46nm,0.8s						
KKM	**Kota Kinabalu**	**26.42**	**83**	*e*P	**P**	**12 53 50.0**	**+1.0**
	comp=Z,39nm,1.5s						
JAGI	**Jajag, Banyuwa**	**26.97**	**116**	*e*P	**P**	**12 53 53.2**	**-0.6**
	comp=Z,34nm,1.2s						
GYA	**Guiyang**	**28.03**	**34**	*e*P	**P**	**12 54 04.3**	**+0.9**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
MYLDM	**Lahad Datu**	**28.64**	**85**	*e*P	**P**	**12 54 09.5**	**+0.7**
	comp=Z,14nm,1.1s						
SMLA	**Simla**	**30.06**	**338**	*e*P	**P**	**12 54 22.1**	**+1.1**
CD2	**Chengdu**	**30.35**	**24**	*e*P	**P**	**12 54 24.0**	**+0.2**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,120nm,5.0s						
DHRM	**DHARAMSHALA**	**31.39**	**338**	*e*P	**P**	**12 54 34.1**	**+1.0**
DHRM				IAmb	IAmb	12 54 35.3	
	comp=Z,16nm,0.7s						
MRSI	**Marisa**	**32.22**	**94**	P	**P**	**12 54 44.0**	**+3.6**
	comp=Z,7.0nm,0.8s						
TGY	**Tagaytay City**	**32.48**	**69**	LR	LR	13 06 33.4	
	comp=Z,215nm,20.4s,baz=240,slow=34						
LUWI	**Luwuk**	**33.22**	**97**	P	**P**	**12 54 52.8**	**+3.6**
	comp=Z,30nm,1.1s						
LUWI	**Luwuk**	**33.22**	**97**	*e*P	**P**	**12 54 49.1**	**0.0**
	comp=Z,43nm,1.3s						
NIL	**Nilore**	**33.84**	**335**	*e*P	**P**	**12 54 54.8**	**+0.3**
	comp=Z,41nm,0.8s						
LZH	**Lanzhou**	**35.00**	**20**	*e*P	**P**	**12 55 07.9**	**+3.3**
LZH				pP	sP	12 55 11.9	+3.0
LZH				sP	pP	12 55 14.3	+6.6
LZH				*e*PP	**PP**	**12 56 26.4**	**+2.3**
LZH				*e*S	**S**	**13 00 38.4**	**+1.6**
LZH				sS	sS	13 00 45.5	+3.6
LZH				SS	**SnSn**	**13 02 52.9**	**+0.6**
LZH				pmax	pmax		
	comp=Z,40nm,1.0s						
LZH				pmax	pmax		
	comp=Z,260nm,4.6s						
LZH				LR	LR		
	comp=N,940nm,13.4s						
LZH				LR	LR		
	comp=E,930nm,13.5s						
LZH				LR	LR		
	comp=Z,1μm,15.2s						
XAN	**Xi'an**	**35.29**	**28**	P	**P**	**12 55 05.8**	**-1.2**
XAN				pP	pP	12 55 10.3	+0.2
XAN				sP	sP	12 55 12.8	+1.5
XAN				PP	**PP**	**12 56 27.5**	**+0.3**
XAN				S	**S**	**13 00 42.8**	**+1.7**
XAN				sS	sS	13 00 50.3	+4.1
XAN				SS	**SS

NRN	Naryn	39.85	344	*e*P	P	12 55 48.0	+2.1
	comp=Z,11nm,1.3s						
WMQ	Urumqi	40.29	358	P	P	12 55 50.3	+1.1
WMQ				pP	sP	12 55 55.0	+1.5
WMQ				sP	pP	12 55 57.4	+5.1
WMQ				pmax	pmax		
	comp=Z,17nm,0.9s						
WMQ				LR	LR		
	comp=N,730nm,15.5s						
WMQ				LR	LR		
	comp=E,620nm,18.3s						
WMQ				LR	LR		
	comp=Z,600nm,21.3s						
KZA	Kyzart	40.66	343	P	P	12 55 53.7	+1.0
	SNR=9.8						
UCH	Uchtor	41.01	343	P	P	12 55 56.9	+1.3
	SNR=23						
AML	Almayashu	41.18	342	P	P	12 55 58.5	+1.6
	SNR=31						
FITZ	Fitzroy Crossi	41.25	122	P	P	12 55 56.2	-1.1
	comp=Z,5.0nm,0.9s,baz=286,slow=7.1,SNR=3.9						
FITZ	Fitzroy Crossi	41.25	122	*e*P	P	12 55 56.1	-1.2
	comp=Z,6.4nm,0.9s						
TKM2	Tokmak 2	41.34	344	P	P	12 55 59.0	+1.0
	SNR=18						
AAK	Ala-Archa	41.39	343	P	P	12 55 58.9	+0.5
	comp=Z,7.6nm,0.9s,baz=164,slow=7.2,SNR=19						
AAK	Ala-Archa	41.39	343	P	P	12 56 00.5	+2.1
	SNR=12						
AAK	Ala-Archa	41.39	343	*e*P	P	12 56 00.1	+1.7
AAK	Ala-Archa	41.39	343	P	P	12 56 00.7	+2.3
	SNR=10						
AAK	Ala-Archa	41.39	343	P	P	12 56 00.7	+2.3
	SNR=10						
EKS2	Erkin-Say	41.63	342	P	P	12 56 02.0	+1.7
	SNR=14						
USP	Ospenovka	41.97	343	P	P	12 56 04.0	+1.0
	SNR=13						
HHC	Hu-ho-hao-te	42.11	25	*e*P	P	12 56 05.8	+1.6
HHC				sP	sP	12 56 12.4	+3.8
HHC				S	S	13 02 27.4	+3.5
HHC				sS	sS	13 02 32.9	+3.9
HHC				pmax	pmax		
	comp=Z,18nm,1.0s						
HHC				pmax	pmax		
	comp=Z,79nm,6.2s						
HHC				LR	LR		
	comp=N,310nm,13.7s						
HHC				LR	LR		
	comp=E,670nm,14.3s						
HHC				LR	LR		
	comp=Z,790nm,13.9s						
SAUI	Saumlaki	42.88	105	*e*P	P	12 56 10.4	-0.3
	comp=Z,243nm,0.9s						
KK31	Karatay Array	43.11	339	*e*P	P	12 56 14.2	+2.1
KKAR	Karatay Array	43.11	339	*e*P	P	12 56 14.2	+2.0
JOW	Kunigami	43.52	54	LR	LR	13 14 53.1	
	comp=Z,174nm,18.6s,baz=318,slow=37						
MK01	Makanchi Array	43.69	353	*e*P	P	12 56 16.8	-0.1
MK31	Makanchi Array	43.72	352	*e*P	P	12 56 17.3	+0.3
MK32	Makanchi Array	43.72	352	*e*P	P	12 56 17.1	+0.1
MKAR	Makanchi Array	43.72	352	P	P	12 56 17.1	+0.1
	comp=Z,3.4nm,0.8s,baz=171,slow=8.6,SNR=24						
MKAR	Makanchi Array	43.72	352	*e*P	P	12 56 17.1	+0.1
	comp=Z,24nm,0.8s						
MAKZ	Makanchi	43.77	352	*e*P	P	12 56 18.4	+0.9
	comp=Z,8.1nm,1.3s						
MTN	Manton Dam	44.07	112	*e*P	P	12 56 18.6	-1.7
	comp=Z,33nm,1.4s						
H01W3	Cape Leeuwin H	44.41	151	T	T	13 43 40.7	
	baz=325,slow=75,SNR=29						
H01W2	Cape Leeuwin H	44.42	151	T	T	13 43 37.2	
	baz=325,slow=75,SNR=27						
H01W1	Cape Leeuwin H	44.42	151	T	T	13 43 36.2	
	baz=325,slow=75,SNR=29						
NWAO	Narrogin (SRO)	44.48	146	*e*P	P	12 56 22.2	-1.1
	comp=Z,23nm,1.3s						
GEYT	Albeck	44.96	324	P	P	12 56 28.2	+1.0
	comp=Z,8.7nm,0.7s,baz=146,slow=8.2,SNR=17						
GYA0B	ALIBECK ARRAY	44.96	324	*e*P	P	12 56 27.2	0.0
	comp=Z,28nm,1.2s						
DAMY	Dhamar	46.14	287	*e*P	P	12 56 36.5	-0.6
	comp=Z,16nm,1.4s						
SONA0	Songino Array	46.51	15	*e*P	P	12 56 40.0	+0.7
SONM	Songino Array	46.51	15	P	P	12 56 40.0	+0.7
	comp=Z,12nm,0.6s,baz=194,slow=9.4,SNR=73						
SONA1	Songino Array	46.52	15	*e*P	P	12 56 40.2	+0.8
ULN	Ulaanbaatar	46.71	16	*e*P	P	12 56 40.5	-0.4
	comp=Z,12nm,1.2s						
ULN	Ulaanbaatar	46.71	16	P	P	12 56 48.6	+7.6
	SNR=6.5						
ULN	Ulaanbaatar	46.71	16	P	P	12 56 48.6	+7.6
	SNR=6.5						
RAYN	Ar Rayn	47.25	299	*e*P	P	12 56 46.7	+1.2
	comp=Z,8.4nm,1.3s						
OPO	Ambohidratompo	47.33	241	P	P	12 56 47.0	+0.8
	comp=Z,5.3nm,0.8s,baz=23,slow=3.4,SNR=5.4						
ABPO	Ambohimpanom	47.47	240	*e*P	P	12 56 48.4	+1.0
	comp=Z,17nm,1.0s						
INCN	Inchon	47.81	40	*e*P	P	12 56 47.7	-1.9
	comp=Z,14nm,0.4s						
KURBB	Kurchatov Arra	48.01	350	P	P	12 56 50.8	-0.1
	comp=Z,4.8nm,0.8s,baz=174,slow=7.5,SNR=49						
KURK	Kurchatov	48.09	350	*e*P	P	12 56 50.8	-0.6
KURK	Kurchatov	48.09	350	P	P	12 56 52.0	+0.6
	SNR=6.8						
KURK	Kurchatov	48.09	350	P	P	12 56 52.0	+0.6
	SNR=6.8						
JNU	Nakatsue	48.40	47	LR	LR	13 18 55.0	
	comp=Z,284nm,18.5s,baz=288,slow=38						
JNU	Nakatsue	48.40	47	*e*P	P	12 56 52.8	-1.5
	comp=Z,21nm,1.3s						
KSRS	Korea Array	48.63	41	LR	LR	13 18 21.9	
	comp=Z,168nm,19.0s,baz=230,slow=37						
WR1	Warramunga Arr	49.47	120	*e*P	P	12 57 02.2	-0.5
	comp=Z,11nm,0.8s						
WRA	Warramunga Arr	49.47	120	P	P	12 57 02.2	-0.5
	comp=Z,9.8nm,0.8s,baz=296,slow=8.7,SNR=52						
WRAB	Tennant Creek	49.48	120	*e*P	P	12 57 01.1	-1.6
	comp=Z,18nm,0.9s						
TLY	Talaya	49.48	11	P	P	12 57 02.6	+0.5
	comp=Z,1.3nm,0.5s,baz=213,slow=11,SNR=3.9						
WB2	Warramunga Arr	49.48	120	*e*P	P	12 57 02.2	-0.5
	comp=Z,12nm,0.8s						
FORT	Forrest	49.84	136	*e*P	P	12 57 05.5	+0.2
	comp=Z,18nm,1.1s						
ZAA0	Zalesovo Array	50.55	356	*e*P	P	12 57 10.1	-0.2
	comp=Z,9.0nm,1.2s						
ZALV	Zalesovo Beam	50.55	356	P	P	12 57 10.2	0.0
	comp=Z,3.7nm,0.6s,baz=185,slow=7.0,SNR=17						
ZALV	Zalesovo Beam	50.55	356	*e*P	P	12 57 10.5	+0.3
ZAA1	Zalesovo Array	50.56	356	*e*P	P	12 57 10.2	-0.1
AS31	Alice Springs	50.65	124	*e*P	P	12 57 11.4	-0.1
	comp=Z,1.2nm,1.2s						
ASAR	Alice Springs	50.65	124	P	P	12 57 10.9	-0.6
	comp=Z,2.4nm,1.0s,baz=296,slow=7.7,SNR=20						
ASAR				LR	LR	13 20 11.3	
	comp=Z,171nm,19.4s,baz=318,slow=38						
AS01	Alice Springs	50.68	124	*e*P	P	12 57 11.3	-0.5
CN2	Changchun	51.08	33	*e*P	P	12 57 13.3	-1.1
CN2				*es*P	sP	12 57 20.4	+1.6
BVAR	Borovoye Array	52.01	345	P	P	12 57 20.5	-0.7
	comp=Z,1.9nm,0.7s,baz=148,slow=8.4,SNR=13						
BRVK	Borovoye	52.06	345	*e*P	P	12 57 20.9	-0.7
	comp=Z,4.7nm,1.0s						
ABKAR	Akbulak array	52.30	336	*e*P	P	12 57 24.2	+0.8
	comp=Z,62nm,0.8s						
KMBO	Kilima Mbogo	52.75	266	P	P	12 57 28.7	+1.0
	comp=Z,1.2nm,0.5s,baz=57,slow=13,SNR=3.6						
KMBO	Kilima Mbogo	52.75	266	*e*P	P	12 57 28.2	+0.5
	comp=Z,7.0nm,1.5s						
AKTO	Aktyubinsk	54.00	335	P	P	12 57 35.6	-0.3
	comp=Z,4.7nm,1.0s,baz=118,slow=9.7,SNR=9.2						
USRK	Ussuriysk Ar.	55.02	36	LR	LR	13 22 52.0	
	comp=Z,140nm,19.1s,baz=219,slow=38						
GUMO	Guam	55.25	76	LR	LR	13 20 29.7	
	comp=Z,59nm,21.9s,baz=164,slow=35						
MAJO	Matsushiro	55.32	47	*e*P	P	12 57 46.0	+0.2
MJAR	Matsushiro Arr	55.32	47	P	P	12 57 46.0	+0.2
	comp=Z,1.4nm,1.0s,baz=223,slow=5.9,SNR=3.9						
MJAR				LR	LR	13 21 22.1	
	comp=Z,200nm,21.6s,baz=250,slow=36						
ASF	Jabal al Asfar	57.22	306	P	P	12 58 00.5	+1.0
	comp=Z,2.1nm,0.7s,baz=70,slow=2.6,SNR=4.8						
KBZ	Khabaz	57.67	321	P	P	12 58 03.5	+1.1
	comp=Z,7.7nm,1.0s,baz=121,slow=6.7,SNR=13						
KIV	Kislovodsk	57.92	321	*e*P	P	12 58 04.8	+0.5
	comp=Z,36nm,1.2s						
KIV	Kislovodsk	57.92	321	P	P	12 58 05.6	+1.4
	SNR=8.1						
KIV	Kislovodsk	57.92	321	P	P	12 58 05.6	+1.4
	SNR=8.1						
EIL	Elat	58.08	303	LR	LR	13 23 24.8	
	comp=Z,426nm,18.3s,baz=67,slow=36						
CTA	Charters Tower	60.08	115	P	P	12 58 19.8	+0.2
	comp=Z,13nm,1.0s,baz=350,slow=6.1,SNR=3.0						
STKA	Stephens Creek	60.35	130	P	P	12 58 21.3	+0.1
	comp=Z,13nm,0.8s,baz=305,slow=6.2,SNR=13						
STKA				LR	LR	13 24 31.4	
	comp=Z,162nm,19.1s,baz=300,slow=36						
STKA	Stephens Creek	60.35	130	*e*P	P	12 58 21.3	+0.1
	comp=Z,2.6nm,0.8s						
BR101	Keskin Array S	62.23	314	*e*P	P	12 58 34.4	+0.3
BR131	Keskin Array S	62.23	314	*e*P	P	12 58 34.5	+0.4
BRTR	Keskin Array B	62.23	314	P	P	12 58 34.4	+0.3
	comp=Z,2.5nm,0.6s,baz=126,slow=7.3,SNR=18						
BR231	Keskin MP Arra	62.90	313	*e*P	P	12 58 34.8	-3.6
LSZ	Lusaka	63.76	251	P	P	12 58 44.6	0.0
	comp=Z,1.5nm,0.4s,baz=72,slow=6.7,SNR=3.2						
LSZ	Lusaka	63.76	251	*e*P	P	12 58 45.5	+0.9
	comp=Z,8.3nm,1.5s						
IDI	Anoyia	67.68	307	P	P	12 59 09.7	+0.2
	comp=Z,3.3nm,0.6s,baz=99,slow=10,SNR=6.1						
IDI	Anoyia	67.68	307	*e*P	P	12 59 09.8	+0.2
	comp=Z,12nm,1.0s						
ALN	Alexandroupoli	68.12	313	*e*P	P	12 59 13.1	+1.1
	comp=Z,5.7nm,1.2s						
LBTB	Lobatse	68.36	242	*e*P	P	12 59 15.0	+1.1
	comp=Z,15nm,0.9s						
KLMR	Klimovskoe	68.69	336	*e*P	P	12 59 11.6	-3.6
KLMR				AMP		12 59 15.8	
	comp=Z,9.0nm,1.1s						
VRI	Vrincioaia	69.04	318	*i*P	P	12 59 19.1	+1.3
AKASG	Malin Array Be	69.08	324	P	P	12 59 17.8	0.0
	comp=Z,3.8nm,0.8s,baz=97,slow=4.5,SNR=13						
AKBB	Malin Array Si	69.08	324	*e*P	P	12 59 17.7	-0.2
	comp=Z,2.9nm,0.6s						
PLOR	Plostina	69.09	318	*i*P	P	12 59 19.9	+1.8
TESR	Tescani	69.29	319	*i*P	P	12 59 19.2	-0.1
MLR	Muntele Rosu	69.45	318	P	P	12 59 21.3	+0.8
	comp=Z,3.1nm,0.8s,baz=110,slow=3.3,SNR=17						
MLR	Muntele Rosu	69.45	318	*i*P	P	12 59 21.3	+0.8
MLR	Muntele Rosu	69.45	318	*e*P	P	12 59 21.1	+0.6
	comp=Z,18nm,0.9s						
BOSA	Boshof	69.59	238	P	P	12 59 22.5	+0.9
	comp=Z,11nm,0.9s,baz=88,slow=5.5,SNR=12						
BOSA	Boshof	69.59	238	*e*P	P	12 59 22.5	+0.9
	comp=Z,13nm,0.9s						
VOIR		70.04	317	*i*P	P	12 59 25.8	+1.8
ARR	Arges	70.31	317	*i*P	P	12 59 25.4	-0.2
BURAR	Bucovina Array	70.55	320	*i*P	P	12 59 28.7	+1.6
BUR04	Bucovina Ar. S	70.56	320	*e*P	P	12 59 28.0	+0.8
BUR08	Bucovina Ar. S	70.57	320	*e*P	P	12 59 28.5	+1.2
VTS	Vitosha	70.60	314	*i*P	P	12 59 27.4	-0.2
DRGR		71.97	318	*i*P	P	12 59 35.7	0.0
TIXI	Tiksi	72.45	12	*e*P	P	12 59 36.7	-1.2
	comp=Z,7.4nm,0.6s						
MAW	Mawson	73.35	190	LR	LR	13 24 50.7	
	comp=Z,149nm,18.6s,baz=54,slow=30						
STHS	Stebnicka Huta	73.58	321	*e*P	P	12 59 46.3	+1.1
PETK	Petropavlovsk-	74.11	35	LR	LR	13 35 20.4	
	comp=Z,156nm,19.1s,baz=237,slow=38						
FIA0	FINESS Array S	74.70	333	*e*P	P	12 59 51.7	+0.3
FIA1	FINESS Array S	74.70	333	*e*P	P	12 59 51.2	-0.2
FINES	FINESS Array B	74.70	333	P	P	12 59 51.7	+0.3
	comp=Z,5.7nm,0.7s,baz=108,slow=6.2,SNR=22						
KRLC	Kraliky	76.55	321	*e*P	P	13 00 03.1	+0.8
KRLC				*e*PCP	PcP	13 00 12.0	-1.9
DPC	Dobruska-Polom	76.89	321	*e*P	P	13 00 05.9	+1.7
DPC				*e*PCP	PcP	13 00 14.0	-1.4
GEA0	GERESS Array S	78.33	319	*e*P	P	13 00 12.8	+0.4
GEC2	GERESS Array S	78.33	319	*e*P	P	13 00 13.2	+0.9
	comp=Z,10nm,1.0s						
GERES	GERESS Array B	78.33	319	P	P	13 00 13.3	+0.9
	comp=Z,5.0nm,0.8s,baz=98,slow=5.7,SNR=36						
KHC	Kasperske Hory	78.45	319	*e*P	P	13 00 13.7	+0.8
KHC				*e*PCP	PcP	13 00 22.0	-0.1
BRG	Berggiesshubel	78.48	321	*e*P	P	13 00 13.6	+0.6
	comp=Z,5.2nm,1.0s						
	comp=N,428nm,15.3s						
	comp=E,397nm,13.4s						
	comp=Z,672nm,12.6s						
CLL	Collm	79.13	322	*e*P	P	13 00 11.0	-5.5
CLL				*e*		13 00 17.0	
CLL				LmV		13 35 00.0	
	comp=Z,100nm,20.9s						
CLL				LmH		13 35 00.0	
	comp=N,100nm,19.4s						
CLL				LmH		13 35 00.0	
	comp=E,100nm,21.7s						
HFS	Hagfors	80.17	330	P	P	13 00 23.2	+1.1
	comp=E,1.9nm,0.6s,baz=109,slow=6.9,SNR=7.6						
KEST	Kesra	80.30	306	LR	LR	13 36 56.5	
	comp=E,93nm,21.4s,baz=262,slow=36						
NB200	NORSAR Array S	81.53	331	*e*P	P	13 00 29.2	-0.1
NOA	NORSAR Array B	81.53	331	P	P	13 00 29.3	-0.1
	comp=E,1.8nm,0.9s,baz=95,slow=6.0,SNR=2.9						
RPZ	Rata Peaks	85.99	134	LR	LR	13 39 22.1	
	comp=E,134nm,18.1s,baz=276,slow=36						
TORD	Tomodi Ar. Bea	87.43	283	P	P	13 01 00.2	+0.1
	comp=E,1.5nm,1.2s,baz=97,slow=5.0,SNR=3.7						
TOA1	Tomodi Ar. Sit	87.43	283	*e*P	P	13 01 00.2	0.0
VNDA	Vanda	89.46	168	LR	LR	13 36 14.3	
	comp=E,93nm,18.1s,baz=300,slow=32						
QSPA	South Pole Qui	93.34	180	LR	LR	13 37 11.6	
	comp=E,236nm,22.0s,baz=302,slow=32						
YKA	Yellowknife Ar	111.70	12	PP	PP	13 07 32.5	+4.8
	comp=E,0.2nm,0.8s,baz=328,slow=6.5,SNR=5.2						
MLI	Malad Range	130.58	22	*e*PKPpre	PKPpre	13 07 12.5	
IMU	Iron Mountain	133.08	25	*e*PKPpre	PKPpre	13 07 14.8	
IMU				*e*PKPdf	PKiKP	13 07 29.4	-0.1
CHNC	Chino	134.65	33	*e*PKPpre	PKPpre	13 07 22.0	
CHNC				*e*PKPdf	PKiKP	13 07 32.0	-0.6
HEC	Hector,Ludlow	134.71	31	*e*PKPpre	PKPpre	13 07 19.6	
R19A	Curley Farm, L	134.90	21	*e*PKPpre	PKPpre	13 07 20.6	
CTCC	Cactus City	135.81	31	*e*PKPpre	PKPpre	13 07 21.2	
LTX	Lajitas	144.97	21	*e*PKPdf	PKPbc	13 07 49.4	+0.1
TX31	Lajitas Ar. Si	144.97	21	*e*PKPdf	PKPdf	13 07 50.0	-0.2
TXAR	Lajitas Array	144.97	21	PKP	PKPbc	13 07 49.4	+0.1
	comp=E,0.3nm,0.4s,baz=52,slow=0.5,SNR=10						
PEL	Peldehue	145.25	209	*e*PKPbc	PKPdf	13 07 50.9	+0.5

IDC ***13*** *12:51:56.3±1.1, 17°.93S×168°.18E, h0km, mb4.3/7, mb1 4.4/8, mb1mx4.0/44, mbtmp4.4/8, ML4.3/1, MS3.4/2, Ms1 3.4/2, ms1mx3.0/37, Error ellipse: s-maj=32.5km s-min=26.6km az=109.0*

ISCJB ***13*** *12:52:00.1±0.4, 17°.92S±0°.05×167°.96E±0°.06, h32km, mb4.5/18, MS3.5/1, Error ellipse: s-maj=8.0km s-min=7.3km az=176.0*

NEIC ***13*** *12:52:01.6±2.5, 17°.89S×167°.99E, h30km±17km, mb4.8/10, Error ellipse: s-maj=10.1km s-min=7.4km az=168.0*

ISC 13 12:52:01.8±0.5, 17°.90S±0°.07×168°.01E±0°.06, h32km, n47, σ1s00/49, mb4.6/17, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	Mont Dzumac	4.40	199	*e*Pn	Pn	12 53 06.1	-0.4
DZM				*e*Sn	Sn	12 53 55.1	-1.6
MSVF	Nonsavu	9.56	91	*e*Pn	Pn	12 54 19.6	+2.2
MSVF				*e*Sn	Sn	12 56 02.2	-1.6
HNR	Honiara	11.50	316	Pn	Pn	12 54 42.3	-1.5
	2.0nm,0.3s,baz=192,slow=4.7,SNR=2.5						
HNR				LR	LR	12 58 31.9	
	comp=Z,116nm,18.4s,baz=144,slow=34						
HNR	Honiara	11.50	316	*e*Pn	Pn	12 54 42.7	-1.2
HNR				*e*Sn	Sn	12 56 51.3	+0.1
STKA	Stephens Creek	27.62	235	P	P	12 57 46.6	+0.2
	4.6nm,0.7s,baz=51,slow=8.1,SNR=13						
STKA	Stephens Creek	27.62	235	*e*P	P	12 57 47.4	+1.0
	1.3nm,0.9s						
RAR	Rarotonga	30.51	102	LR	LR	13 07 49.7	
	comp=Z,110nm,19.4s,baz=254,slow=31						
WRA	Warramunga Arr	31.89	261	PcP	PcP	13 01 15.0	+0.3
	2.5nm,1.1s,baz=98,slow=2.6,SNR=5.4						
AS01	Alice Springs	32.30	254	*e*P	P	12 58 28.2	+0.1
BBOO	Buckleboo	32.31	236	*e*P	P	12 58 27.9	-0.1
	8.8nm,1.1s						
AS31	Alice Springs	32.35	254	*e*P	P	12 58 27.0	-1.4
	1.6nm,0.8s						
ASAR	Alice Springs	32.35	254	P	P	12 58 28.1	-0.4
	3.9nm,0.7s,baz=81,slow=8.8,SNR=29						
ASAR				PcP	PcP	13 01 16.1	+0.2
	1.5nm,1.1s,baz=84,slow=3.6,SNR=4.9						
FORT	Forrest	38.39	243	*e*P	P	12 59 20.5	+0.2
	11nm,0.7s						
XMAS	Kiritimati	39.38	63	*e*P	P	12 59 28.4	-0.4
	121nm,1.1s						
FITZ	Fitzroy Crossi	40.23	263	P	P	12 59 36.2	+0.3
	11nm,1.0s,baz=141,slow=6.8,SNR=7.7						
PPT	Papeete	40.33	96	*e*P	P	12 59 36.3	-0.4
PPTF	Pamatai, Papee	40.34	96	*e*P	P	12 59 36.8	0.0
	133nm,1.5s						
KSM	Kuching	59.95	283	*e*P	P	13 02 06.5	+1.0
	6.7nm,0.9s						
SBA	Scott Base	59.98	180	*e*P	P	13 02 06.1	+1.5
	10nm,1.1s						
QSPA	South Pole Qui	72.14	180	P	P	13 03 22.6	-0.5
	4.8nm,1.0s,baz=6.7,slow=2.2,SNR=5.5						
CM01	Chiang Mai Arr	76.87	294	*e*P	P	13 03 51.4	+0.2
CMAR	Chiang Mai Arr	76.89	294	P	P	13 03 52.9	+1.5
	1.0nm,1.1s,baz=138,slow=4.7,SNR=5.1						
ULN	Ulaanbaatar	85.10	324	*e*P	P	13 04 36.0	+1.4
	6.1nm,1.0s						
SONA0	Songino Array	85.46	324	*e*P	P	13 04 37.5	+1.1
SONM	Songino Array	85.46	324	P	P	13 04 37.5	+1.1
	2.6nm,0.9s,baz=144,slow=6.2,SNR=11						
SONA1	Songino Array	85.46	324	*e*P	P	13 04 37.1	+0.7
SCM	Sheep Creek Mo	86.99	20	*e*P	P	13 04 40.4	-3.2
	3.2nm,0.7s						
ILAR	Eielson Array	89.31	18	P	P	13 04 52.8	-1.7
	0.3nm,0.7s,baz=233,slow=3.9,SNR=3.0						
VNA3	Neumayer Olymp	91.07	181	P	P	13 05 02.4	-0.4
VNA2	Neumayer--Watz	91.35	182	P	P	13 05 03.6	-0.4
	baz=95,slow=2.1						
JLU	Jordanelle	94.53	49	*e*P	P	13 05 18.9	-0.5
	3.2nm,0.4s						
MK32	Makanchi Array	99.97	316	*e*Pdif	Pdif	13 05 43.5	-0.2
MKAR	Makanchi Array	99.97	316	P	Pdif	13 05 43.5	-0.2
	0.9nm,1.1s,baz=116,slow=6.7,SNR=3.6						
MAKZ	Makanchi	100.18	316	*e*Sdif	Sdif	13 17 20.1	+2.4
CONA	Conrad Observa	142.40	329	*e*PKiKP	PKiKP	13 11 36.1	+1.7
	4.6nm,0.8s						
GEC2	GERESS Array S	142.77	332	*e*PKPdf	PKPdf	13 11 32.1	+0.1
GERES	GERESS Array B	142.77	332	PKP	PKPdf	13 11 32.1	+0.1
	0.4nm,0.6s,baz=132,slow=2.0,SNR=3.7						
SOKA	Soboth	143.67	328	*e*PKPdf	PKPdf	13 11 33.9	+0.3
	3.0nm,0.8s						
ABTA	Abfaltersbach	144.85	330	*i* PKPdf	PKPdf	13 11 34.9	-0.8
	12nm,0.9s						
WTTA	Wattenberg	144.87	332	*e*PKPdf	PKPdf	13 11 36.0	+0.1
	7.1nm,1.0s						
MOTA	Moosalm	145.05	332	*i* PKPdf	PKPdf	13 11 36.0	-0.1
	11nm,1.0s						
RETA	Reutte	145.09	333	*e*PKPdf	PKPdf	13 11 36.3	+0.2
	5.7nm,0.9s						
BFO	Black Forest	145.43	336	*e*PKPbc	PKPab	13 11 37.0	+0.3
FETA	Feichten	145.46	332	*e*PKPab	PKPab	13 11 37.7	+0.7
	12nm,0.9s						
DAVA	Damuels	145.63	333	*e*PKPab	PKPab	13 11 38.2	+0.5
	9.7nm,1.1s						
TORD	Tomodi Ar. Bea	166.00	252	PKPab	PKPab	13 13 04.4	-0.2
	1.0nm,1.0s,baz=129,slow=0.7,SNR=3.4						
TOA1	Tomodi Ar. Sit	166.00	252	*e*PKPab	PKPab	13 13 04.4	-0.2

ISCJB ***13*** *12:55:18.8±1.0, 37°.48N±0°.05×41°.42E±0°.05, h0km, Error ellipse: s-maj=8.0km s-min=4.3km az=147.7*

ISK ***13*** *12:55:18.9, 37°.55N×41°.34E, h5km, ML2.4/7*

DDA ***13*** *12:55:19.5, 37°.50N×41°.28E, h7km, Ml2.6, Suspected Mining explosion.*

CSEM ***13*** *12°:55:19.5±0.6, 37°.51N×41°.42E, h2km, ML2.6, Error ellipse: s-maj=12.8km s-min=6.6km az=153.0, Suspected Mining explosion.*

ISC 13 12:55:20.1±1.2, 37°.52N±0°.05×41°.33E±0°.04, h0km, n21, σ0s67/33, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BTMN	Batman	0.37	353	*i* P	Pg	12 55 26.7	-0.5
BTMN				*i* S	Sg	12 55 33.5	+1.4
BTMN	Batman	0.37	353	P	Pg	12 55 26.7	-0.5
BTMN				S	Sg	12 55 33.5	+1.4
MARD	Mardin	0.48	245	*i* P	Pg	12 55 28.5	-0.8
MARD				*i* S	Sb	12 55 37.5	-1.7
SRTM	Siirt_Merkez	0.67	45	*i* P	Pg	12 55 33.0	+0.1
SRTM				*i* S	Sb	12 55 43.9	-0.7
SRTM	Siirt_Merkez	0.67	45	P	Pg	12 55 33.0	+0.1
MAZI	Mazidag	0.70	265	PG	Pg	12 55 33.7	+0.2
MAZI				SG	Sb	12 55 45.2	-0.3
MAZI	Mazidag	0.70	265

*IDC **13** 13:06:24.6±0.6, 16°.16N×98°.15W, h0km, mb4.6/24, mb1 4.7/28, mb1mx4.5/50, mbtmp4.6/28, ML4.3/3, MS4.4/25, Ms1 4.4/25, ms1mx4.2/40, Error ellipse: s-maj=20.0km s-min=10.6km az=53.0*

*ISCJB **13** 13:06:27.9±0.5, 16°.53N±0°.02×97°.98W±0°.02, h18km±4km, mb4.7/60, MS4.5/27, Error ellipse: s-maj=3.7km s-min=2.3km az=34.2*

*MEX **13** 13:06:28.1±0.7, 16°.20N×98°.08W, h16km, MD4.7*

*NEIC **13** 13:06:28.4±0.0, 16°.21N×98°.15W, h16km, mb5.0/35, MD4.7(MEX), After MEX.*

NEIC Felt [II] at Mexico. Also felt at Acatzingo, Coacalco, Coatepec, Huayapan, Oaxaca, Pinotepa Nacional, Puerto Escondido, Santa Luca del Camino, Tenango and Yachihuacaltepec.

*GCMT **13** 13:06:28.4±0.3, 16°.38N×98°.17W, h12km±1km, MW5.0/92, Moment Tensor Solution. s31,c43; s92,c135; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr2.10±.15; Mθθ-2.69±.11; Mφφ0.58±.09; Mrθ-2.31±.35; Mθφ-1.17±.07; Mφr-1.93±.36; Best double couple: M0=4.01900×10^16 NP1:φ=233.00000°, δ71.00000°, λ72.00000°. NP2: φ=98.00000°, δ26.00000°, λ132.00000°. Principal axes: T 3.7140, Plg60.0000°, Azm117.0000°; N 0.6070, Plg17.0000°, Azm239.0000°; P -4.3230, Plg24.0000°, Azm337.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*MOS **13** 13:06:30.0±1.2, 16°.45N×98°.06W, h35km, mb5.1/14 Error ellipse: s-maj=9.9km s-min=4.5km az=100.6*

ISC 13 13:06:28.4±0.7, 16°.31N±0°.05×98°.10W±0.05, h20km±5km, n831, σ1°41/826, mb4.7/60, MS4.5/28, 8C-2D, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.09**	**342**	*eP*	**Pb**	**13 06 31.6**	**-0.8**
PNIG				*eS*	**Sb**	**13 06 35.4**	**+0.3**
PNIG	**Pinotepa**	**0.09**	**342**	*eP*	**Pb**	**13 06 31.4**	**-1.0**
PNIG				*eS*	**Sb**	**13 06 35.4**	**+0.3**
TLIG	**Tlapa**	**1.32**	**340**	*eP*	**Pn**	**13 06 50.2**	**-1.7**
TLIG				*eS*	**Sn**	**13 07 08.4**	**-0.6**
TLIG	**Tlapa**	**1.32**	**340**	*eP*	**Pn**	**13 06 50.2**	**-1.7**
TLIG				*eS*	**Sn**	**13 07 08.4**	**-0.6**
HUIG	**Huatulco**	**1.99**	**105**	*eP*	**Pb**	**13 07 03.3**	**-0.6**
HUIG	**Huatulco**	**1.99**	**105**	*eP*	**Pb**	**13 07 03.3**	**-0.6**
MEIG	**Mezcala**	**2.17**	**318**	*eP*	**Pn**	**13 07 02.0**	**-1.4**
MEIG	**Mezcala**	**2.17**	**318**	*eP*	**Pn**	**13 07 02.0**	**-1.4**
PLIG	**Platanillo**	**2.47**	**327**	*eP*	**Pn**	**13 07 05.9**	**-1.7**
PLIG				*eS*	**Sn**	**13 07 36.2**	**-1.0**
PLIG	**Platanillo**	**2.47**	**327**	*eP*	**Pn**	**13 07 05.9**	**-1.7**
PLIG				*eS*	**Sn**	**13 07 36.2**	**-1.0**
YAIG	**Yautepec**	**2.70**	**340**	*eP*	**Pn**	**13 07 10.3**	**-0.6**
YAIG	**Yautepec**	**2.70**	**340**	*eP*	**Pn**	**13 07 10.3**	**-0.6**
UNM	**Universidad Na**	**3.17**	**341**	*eP*	**Pn**	**13 07 20.3**	**+2.8**
UNM	**Universidad Na**	**3.17**	**341**	*ePn*	**Pb**	**13 07 21.3**	**-3.0**
UNM	**Universidad Na**	**3.17**	**341**	*eP*	**Pb**	**13 07 21.3**	**-3.0**
CMIG	**Matias Romero** 54nm,0.3s,baz=255,slow=11,SNR=320	**3.18**	**75**	Pn	**Pn**	**13 07 17.3**	**0.0**
CMIG				Lg	Lg	13 08 13.8	
	184nm,0.3s,baz=280,slow=17,SNR=6.5						
LVIG	**Laguna Verde**	**3.75**	**25**	*eP*	**Pn**	**13 07 25.8**	**+0.6**
LVIG	**Laguna Verde**	**3.75**	**25**	*ePn*	**Pn**	**13 07 25.3**	**+0.1**
DEIG	**Demacu**	**4.07**	**348**	*eP*	**Pn**	**13 07 31.7**	**+2.0**
DEIG	**Demacu**	**4.07**	**348**	*eP*	**Pn**	**13 07 31.7**	**+2.0**
MOIG	**Morelia**	**4.46**	**319**	*ePn*	**Pn**	**13 07 37.2**	**+2.0**
MOIG				*eSn*	**Sn**	**13 08 28.3**	**+1.8**
JRQG	**Juriquilla Cam**	**4.91**	**333**	*ePg*	**Pb**	**13 07 58.1**	**+4.3**
IGIG	**Irapuato, Guan**	**5.38**	**326**	*eP*	Pn	13 07 54.2	+6.5
CCIG	**Comitan**	**5.73**	**89**	*eP*	**Pn**	**13 07 53.1**	**+0.6**
CCIG	**Comitan**	**5.73**	**89**	*eP*	**Pn**	**13 07 53.1**	**+0.6**
APG	**El Apazote** 2.6nm,0.3s,baz=169,slow=21,SNR=19	**7.47**	**99**	Pn	**Pn**	**13 08 17.2**	**+0.7**
APG				Sn	**Sn**	**13 09 42.3**	**+1.5**
	7.8nm,0.3s,baz=311,slow=11,SNR=5.3						
APG				Lg	Lg	13 10 29.5	
	14nm,0.3s,baz=255,slow=19,SNR=4.0						
ZAIG	**Zacatecas**	**7.68**	**327**	*ePn*	**Pn**	**13 08 19.9**	**+0.4**
LNIG	**Linares**	**8.64**	**352**	*ePn*	**Pn**	**13 08 34.7**	**+2.3**
833A	**Chaparral WMA,** baz=174	**12.02**	**355**	P	Pn	13 09 13.7	-4.9
H06E1	**SOCORRO T-PHAS** SNR=14	**12.48**	**283**	T	T	13 21 37.3	
H06S1	**SOCORRO T** SNR=5.9	**12.50**	**283**	T	T	13 21 34.0	
HPIG		**12.70**	**328**	*ePn*	**Pn**	**13 09 27.9**	**-0.2**
CRZ1	**La Cruz**	**13.18**	**112**	*eP*	**Pn**	**13 09 36.4**	**+1.8**
NY14	**Universidad de**	**13.45**	**113**	*eP*	**Pn**	**13 09 42.6**	**+4.4**
GBS3	**Finca Las Im¯¡**	**13.46**	**112**	*eP*	**Pn**	**13 09 42.0**	**+3.5**
LAPC	**Finca la Perla**	**13.49**	**113**	*eP*	**Pn**	**13 09 40.7**	**+1.9**
GB1A	**Borinquen Arri**	**13.50**	**112**	*eP*	**Pn**	**13 09 41.8**	**+2.8**
BUEV	**Buena Vista**	**13.50**	**112**	*eP*	**Pn**	**13 09 41.6**	**+2.6**
BUAI	**Buenos Aires**	**13.53**	**112**	*eP*	**Pn**	**13 09 41.4**	**+2.0**
GPS1	**Guardaparques**	**13.56**	**112**	*eP*	**Pn**	**13 09 44.1**	**+4.2**
LIM1	**Limonal**	**13.68**	**112**	*eP*	**Pn**	**13 09 43.0**	**+1.6**
MESS	**Mesas**	**13.71**	**112**	*eP*	**Pn**	**13 09 43.5**	**+1.6**
COLC	**Colonia**	**13.73**	**112**	*eP*	**Pn**	**13 09 45.1**	**+2.9**
HKT	**Hockley**	**13.74**	**8**	*ePn*	**Pn**	**13 09 42.5**	**+0.4**
HKT	**Hockley**	**13.74**	**8**	*eP*	**Pn**	**13 09 42.5**	**+0.4**
HORNC	**Hornillas**	**13.74**	**112**	*eP*	**Pn**	**13 09 45.3**	**+3.0**
CUI	**Cuipilapa**	**13.77**	**112**	*eP*	**Pn**	**13 09 45.1**	**+2.3**
LPIG	**La Paz** 2.1nm,0.3s,baz=318,slow=10,SNR=4.0	**13.83**	**306**	Pn	**Pn**	**13 09 44.2**	**+0.8**
LPIG				LR	LR	13 15 19.6	
	comp=Z,784nm,18.2s,baz=135,slow=39						
PTEN	**Parque Tenorio**	**13.91**	**112**	*eP*	**Pn**	**13 09 45.5**	**+0.9**
TX31	**Lajitas Ar. Si**	**13.94**	**339**	*ePn*	**Pn**	**13 09 45.1**	**+0.1**
TXAR	**Lajitas Array** 0.0nm,0.3s,baz=158,slow=9.9,SNR=11	**13.94**	**339**	Pn	**Pn**	**13 09 45.5**	**+0.6**
TXAR				Lg	Lg	13 13 47.6	
	0.0nm,0.3s,baz=174,slow=28,SNR=3.7						
TXAR				LR	LR	13 15 49.1	
	comp=Z,5μm,19.4s,baz=0.0,slow=40						
JTS	**JuntasAbangare** 6.5nm,0.3s,baz=10,slow=9.3,SNR=26	**14.12**	**113**	Pn	**Pn**	**13 09 49.8**	**+2.3**
JCR	**Jicaral**	**14.18**	**115**	*eP*	**Pn**	**13 09 50.9**	**+2.6**
JCT	**Junction City** baz=174	**14.19**	**354**	P	**Pn**	**13 09 45.5**	**-2.9**
JCT	**Junction City**	**14.19**	**354**	*ePn*	**Pn**	**13 09 48.1**	**-0.3**
JCT	**Junction City**	**14.19**	**354**	*eP*	**Pn**	**13 09 48.1**	**-0.3**
CEDE	**Laguna Cede¯–o**	**14.26**	**112**	*eP*	**Pn**	**13 09 51.1**	**+1.7**
435B	**Jarrell** baz=182	**14.42**	**2**	P	**Pn**	**13 09 48.7**	**-2.7**
CGA2	**Cerro Gallo 2**	**14.67**	**114**	*eP*	**Pn**	**13 09 57.0**	**+1.9**
HDC	**Heredia**	**14.99**	**113**	*ePn*	**Pn**	**13 09 59.5**	**+0.1**
LCR2	**La Lucha 2**	**15.20**	**114**	*eP*	**Pn**	**13 10 01.6**	**-0.7**
442A	**Mamou** baz=201	**15.24**	**19**	P	**Pn**	**13 09 57.3**	**-5.3**
CVTR	**Volcan Turrial**	**15.29**	**112**	*eP*	**Pn**	**13 10 01.9**	**-1.8**
URSC	**Urasca**	**15.36**	**113**	*eP*	**P**	**13 10 07.8**	**-1.1**
BUS	**Buena Vista**	**15.50**	**114**	*eP*	**P**	**13 10 09.5**	**-1.3**
WHTX	**Lake Whitney,** baz=182,SNR=8.8	**15.62**	**2**	P	**Pn**	**13 10 02.6**	**-4.9**
WHTX	**Lake Whitney,**	**15.62**	**2**	*ePn*	**Pn**	**13 10 07.9**	**+0.4**
NATX	**Nacogdoches** baz=192	**15.70**	**11**	P	**Pn**	**13 10 04.8**	**-3.7**
NATX	**Nacogdoches** 130nm,1.3s	**15.70**	**11**	*ePn*	**Pn**	**13 10 10.1**	**+1.6**
342A	**Flagon Creek P** baz=201	**15.89**	**18**	P	**Pn**	**13 10 06.6**	**-4.4**
445A	**Amite** baz=208	**16.01**	**25**	P	**Pn**	**13 10 07.4**	**-5.1**
EDPN	**Palmar Norte**	**16.04**	**115**	*eP*	**P**	**13 10 17.4**	**+1.1**
DRK0	**Durika**	**16.08**	**114**	*eP*	**Pn**	**13 10 14.1**	**+0.4**
EDBA	**Buenos Aires**	**16.10**	**114**	*eP*	**Pn**	**13 10 14.5**	**+0.6**
ABTX	**Abilene, Hawle** baz=175,SNR=24	**16.30**	**355**	P	**Pn**	**13 10 15.0**	**-1.3**
ABTX	**Abilene, Hawle**	**16.30**	**355**	*ePn*	**Pn**	**13 10 16.2**	**-0.1**
PTJ1	**Puerto Jim¯ne**	**16.38**	**116**	*eP*	**P**	**13 10 19.6**	**-0.4**
446A	**Poplarville** baz=211	**16.48**	**27**	P	**Pn**	**13 10 15.3**	**-3.2**
344A	**Westbrook Farm** baz=206	**16.50**	**23**	P	**Pn**	**13 10 16.3**	**-2.5**
242A	**Grayson** baz=200	**16.59**	**18**	P	**Pn**	**13 10 19.7**	**-0.1**
MNTX	**Cornudas Mount** baz=155,SNR=15	**16.69**	**338**	P	**Pn**	**13 10 20.7**	**-0.5**
MNTX	**Cornudas Mount**	**16.69**	**338**	*ePn*	**Pn**	**13 10 20.6**	**-0.6**
140A	**Cam and Jess,** baz=195	**16.77**	**13**	P	**Pn**	**13 10 19.9**	**-2.2**
GDL2	**Guadalupe Moun**	**16.81**	**341**	*ePn*	**P**	**13 10 25.1**	**+0.2**
346A	**Big Creek Wild** baz=210	**16.95**	**26**	P	**Pn**	**13 10 20.7**	**-3.7**
244A	**Avery, Jackson** baz=205,SNR=5.4	**17.05**	**22**	P	**Pn**	**13 10 23.4**	**-2.3**
VBMS	**Vicksburg** baz=205	**17.27**	**22**	P	**Pn**	**13 10 25.4**	**-3.0**
448A	**Bay Minette** baz=215	**17.30**	**31**	P	**Pn**	**13 10 23.2**	**-5.6**
HSIG		**17.32**	**319**	*ePn*	**Pn**	**13 10 29.1**	**-0.1**
245A	**Little AP, Sta** baz=207	**17.34**	**24**	P	**Pn**	**13 10 23.9**	**-5.4**
347A	**Saraland** baz=212	**17.37**	**28**	P	**Pn**	**13 10 25.0**	**-4.7**
Z40A	**Long Farm, Mag** baz=195	**17.40**	**13**	P	**Pn**	**13 10 30.1**	**0.0**
143A	**Socs Landing,** baz=202	**17.41**	**19**	P	**Pn**	**13 10 30.1**	**-0.1**
449A	**Pace** baz=217	**17.49**	**33**	P	**Pn**	**13 10 30.0**	**-1.1**
Z41A	**Richland Creek** baz=197	**17.54**	**15**	P	**Pn**	**13 10 31.2**	**-0.6**
246A	**Jackson Lee, B** baz=210	**17.63**	**26**	P	**Pn**	**13 10 30.9**	**-2.0**
348A	**Jackson** baz=214	**17.68**	**30**	P	**Pn**	**13 10 31.6**	**-1.9**
144A	**Alexander Plac** baz=205	**17.68**	**22**	P	**Pn**	**13 10 33.3**	**-0.2**
145A	**Houston Renfro** baz=206	**17.83**	**23**	P	**Pn**	**13 10 34.3**	**-1.1**
247A	**Quitman** baz=211	**17.89**	**27**	P	**Pn**	**13 10 35.4**	**-0.7**
BRAL	**Brewton** baz=217	**17.90**	**32**	P	**Pn**	**13 10 35.4**	**-0.8**
349A	**Repton** baz=216	**17.97**	**32**	P	**Pn**	**13 10 36.3**	**-0.8**
MSTX	**Muleshoe** baz=166,SNR=12	**18.08**	**347**	P	**Pn**	**13 10 37.1**	**-1.5**
MSTX	**Muleshoe** 147nm,1.2s	**18.08**	**347**	*ePn*	**Pn**	**13 10 37.0**	**-1.6**
319A	**Douglas**	**18.13**	**328**	*ePn*	**P**	**13 10 39.9**	**+0.4**
Y40A	**Okolona** baz=195	**18.16**	**13**	P	**Pn**	**13 10 37.7**	**-1.7**
Y41A	**Eaglette Beard** baz=197	**18.18**	**15**	P	**Pn**	**13 10 38.8**	**-0.9**
146A	**Union** baz=209	**18.20**	**25**	P	**Pn**	**13 10 39.1**	**-0.9**
Z44A	**Pea Ridge, Bel** baz=204	**18.26**	**21**	P	**Pn**	**13 10 38.5**	**-2.1**
248A	**Dixon Mills** baz=213	**18.32**	**29**	P	**Pn**	**13 10 38.7**	**-2.7**
WMOK	**Wichita Mounta** baz=178,SNR=9.8	**18.36**	**358**	P	**P**	**13 10 38.7**	**-3.2**
WMOK	**Wichita Mounta**	**18.36**	**358**	*eP*	**P**	**13 10 40.6**	**-1.3**
WMOK	**Wichita Mounta**	**18.36**	**358**	*eP*	**P**	**13 10 40.6**	**-1.3**
121A	**Cookes Peak, D** baz=150,SNR=32	**18.39**	**333**	P	**P**	**13 10 39.2**	**-3.1**
121A	**Cookes Peak, D** 74nm,1.1s	**18.39**	**333**	*eP*	**P**	**13 10 41.7**	**-0.6**
350A	**Dozier** baz=218	**18.47**	**33**	P	**P**	**13 10 39.1**	**-4.0**
X39A	**Fountain Ranch** baz=192,SNR=11	**18.48**	**10**	P	**P**	**13 10 41.9**	**-1.2**
249A	**Camden** baz=215	**18.51**	**31**	P	**P**	**13 10 41.3**	**-2.2**
147A	**Livingston** baz=211	**18.57**	**27**	P	**P**	**13 10 40.9**	**-3.2**
Z45A	**Winona** baz=206	**18.61**	**23**	P	**P**	**13 10 42.0**	**-2.5**
MIAR	**Mount Ida** baz=194,SNR=18	**18.61**	**12**	P	**P**	**13 10 43.4**	**-1.1**
MIAR	**Mount Ida**	**18.61**	**12**	*eP*	**P**	**13 10 43.8**	**-0.8**
MIAR	**Mount Ida**	**18.61**	**12**	*eP*	**P**	**13 10 43.8**	**-0.8**
553A	**Crawfordville** baz=225	**18.64**	**40**	P	**P**	**13 10 42.5**	**-2.5**
452A	**Marianna** baz=222	**18.67**	**37**	P	**P**	**13 10 41.8**	**-3.5**
Y43A	**Makayla and Ka** baz=202	**18.68**	**19**	P	**P**	**13 10 43.8**	**-1.6**
X40A	**Basin Creek Fa** baz=196	**18.71**	**14**	P	**P**	**13 10 42.2**	**-3.4**
AMTX	**Amarillo** baz=170	**18.77**	**351**	P	**P**	**13 10 45.8**	**-0.7**
AMTX	**Amarillo**	**18.77**	**351**	*eP*	**P**	**13 10 46.4**	**-0.1**
148A	**Greensboro** baz=213	**18.86**	**28**	P	**P**	**13 10 46.6**	**-0.7**
Y44A	**Strider, Charl** baz=204	**18.96**	**21**	P	**P**	**13 10 47.6**	**-0.8**
059A	**Moore Haven** baz=239	**18.98**	**53**	P	**P**	**13 10 46.5**	**-2.1**
UALR	**University of**	**19.10**	**15**	*eP*	**P**	**13 10 49.0**	**-0.9**
Z47A	**Carrollton** baz=211	**19.10**	**26**	P	**P**	**13 10 48.8**	**-1.2**
Y45A	**Yeager Farm, C** baz=206	**19.11**	**22**	P	**P**	**13 10 49.8**	**-0.3**
BCIP	**Isla Barro Col**	**19.16**	**110**	*eP*	**Pn**	**13 10 53.0**	**+1.2**
BCIP	**Isla Barro Col**	**19.16**	**110**	*eP*	**Pn**	**13 10 53.2**	**+1.5**
149A	**Jones** baz=215	**19.18**	**30**	P	**P**	**13 10 49.0**	**-1.9**
W39A	**Magazine** baz=193,SNR=17	**19.20**	**11**	P	**P**	**13 10 51.0**	**0.0**
X43A	**Marvell** baz=201	**19.26**	**18**	P	**P**	**13 10 51.5**	**-0.1**
656A	**Willston** baz=231	**19.33**	**45**	P	**P**	**13 10 50.7**	**-1.8**
W40A	**Ferguson Farm,** baz=195	**19.34**	**13**	P	**P**	**13 10 51.7**	**-0.9**
W40A	**Ferguson Farm,**	**19.34**	**13**	*eP*	**Pn**	**13 10 53.6**	**-0.1**
BNM	**Barren Site**	**19.35**	**338**	*eP*	**Pn**	**13 10 54.4**	**+0.3**
Y46A	**Houston** baz=208,SNR=18	**19.38**	**24**	P	**P**	**13 10 52.6**	**-0.4**
Y22D	**IRIS PASSCAL I** baz=154	**19.39**	**337**	P	**P**	**13 10 53.1**	**-0.2**
Y22E	**IRIS PASSCAL I** baz=154	**19.39**	**337**	P	**P**	**13 10 53.4**	**0.0**
LRAL	**Lakeview Retre** baz=214,SNR=13	**19.45**	**29**	P	**P**	**13 10 53.2**	**-0.5**
LRAL	**Lakeview Retre**	**19.45**	**29**	*eP*	**Pn**	**13 10 54.4**	**-0.6**
X44A	**Crenshaw** baz=203	**19.47**	**20**	P	**P**	**13 10 53.8**	**-0.2**
Z48A	**Northport** baz=212,SNR=15	**19.48**	**27**	P	**P**	**13 10 53.1**	**-1.0**
251A	**Midway** baz=219	**19.49**	**34**	P	**P**	**13 10 53.6**	**-0.6**
LPM	**Los Pinos Moun**	**19.50**	**338**	*eP*	**Pn**	**13 10 55.5**	**-0.4**
W41B	**Gary Mavity, V** baz=197,SNR=5.3	**19.50**	**14**	P	**P**	**13 10 53.9**	**-0.5**
454A	**Quitman** baz=226	**19.50**	**40**	P	**P**	**13 10 53.3**	**-1.1**
150A	**Eclectic** baz=217,SNR=9.7	**19.57**	**32**	P	**P**	**13 10 53.6**	**-1.5**
353A	**Camilla** baz=223	**19.60**	**38**	P	**P**	**13 10 55.9**	**+0.4**
WHAR	**Wooly Hollow**	**19.61**	**14**	*eP*	**Pn**	**13 10 56.0**	**-0.9**
TUL1	**Leonard** baz=187,SNR=8.9	**19.63**	**6**	P	**P**	**13 10 54.2**	**-1.6**
TUL1	**Leonard**	**19.63**	**6**	*eP*	**P**	**13 10 54.7**	**-1.0**
TUC	**Tucson** baz=142	**19.65**	**326**	P	**P**	**13 10 56.4**	**+0.3**
TUC	**Tucson**	**19.65**	**326**	*eP*	**P**	**13 10 56.4**	**+0.3**
TUC	**Tucson**	**19.65**	**326**	*eP*	**P**	**13 10 56.4**	**+0.3**
X45A	**UM Field Stati** baz=206	**19.66**	**22**	P	**P**	**13 10 56.4**	**+0.3**
MTDJ	**Mount Denham** 214nm,1.3s	**19.73**	**81**	*eP*	**P**	**13 10 55.8**	**-1.3**
OXF	**Oxford** baz=205	**19.73**	**22**	P	**P**	**13 10 56.4**	**-0.5**
OXF	**Oxford**	**19.73**	**22**	*eP*	**P**	**13 10 57.2**	**+0.3**
OXF				*eS*	**S**	**13 14 37.7**	**-0.8**
OXF	**Oxford**	**19.73**	**22**	*eP*	**P**	**13 10 57.2**	**+0.3**
OXF				*eS*	**S**	**13 14 37.7**	**-0.8**
LAZ	**Ladron**	**19.76**	**337**	*eP*	**Pn**	**13 10 58.3**	**-0.7**
252A	**Lumpkin** baz=221	**19.78**	**35**	P	**P**	**13 10 55.4**	**-2.1**
Z49A	**Columbiana** baz=214,SNR=21	**19.80**	**30**	P	**P**	**13 10 55.1**	**-2.5**
Y47A	**UCPARC, Winfie** baz=210,SNR=14	**19.80**	**26**	P	**P**	**13 10 55.0**	**-2.6**
W43A	**Forest City** baz=193,SNR=35	**19.84**	**18**	P	**P**	**13 10 57.6**	**-0.4**
V39A	**Pettigrew** baz=218,SNR=15	**19.85**	**11**	P	**P**	**13 10 57.9**	**-0.3**
151A	**Opelika** baz=232	**19.87**	**33**	P	**P**	**13 10 57.4**	**-1.0**
657A	**Interlachen** baz=195,SNR=22	**19.92**	**46**	P	**P**	**13 10 58.0**	**-1.0**
V40A	**Witts Springs** 32nm,1.0s,baz=337,slow=12,SNR=48	**19.98**	**13**	P	**P**	**13 10 59.5**	**-0.1**
ANMO	**Albuquerque**	**20.01**	**340**	P	**Pn**	**13 11 01.4**	**-0.5**
ANMO				LR	LR	13 19 45.2	
	comp=Z,3μm,21.7s,baz=334,slow=40						
ANMO	**Albuquerque** baz=156	**20.01**	**340**	P	**P**	**13 11 00.5**	**+0.3**
ANMO	**Albuquerque**	**20.01**	**340**	*eP*	**Pn**	**13 11 01.3**	**-0.7**
ANMO	**Albuquerque**	**20.01**	**340**	*deP*	**P**	**13 11 00.5**	**+0.3**
ANMO				pmax	pmax		
	comp=Z,82nm,1.7s						
TIGA	**Tifton** baz=224	**20.04**	**39**	P	**P**	**13 10 58.9**	**-1.3**
TIGA	**Tifton** comp=Z,45nm,0.8s	**20.04**	**39**	*eP*	Pn	13 11 01.2	-0.9
X46A	**Booneville** baz=207,SNR=7.4	**20.08**	**23**	P	**P**	**13 11 01.0**	**+0.4**
Y48A	**Jasper** baz=212	**20.10**	**27**	P	**P**	**13 11 01.4**	**+0.4**
V41A	**Mountainview** baz=197,SNR=19	**20.11**	**14**	P	**P**	**13 11 00.4**	**-0.6**
Z50A	**Ashland** baz=216,SNR=19	**20.14**	**31**	P	**P**	**13 11 01.7**	**+0.3**
253A	**Americus** baz=222	**20.17**	**36**	P	**P**	**13 10 59.9**	**-1.8**
HHAR	**Hobbs**	**20.23**	**10**	*eP*	Pn	13 11 03.2	-1.2
V42A	**Cord** baz=199,SNR=9.1	**20.32**	**16**	P	**P**	**13 11 02.4**	**-0.8**
X47A	**Russelville** baz=209,SNR=10	**20.33**	**25**	P	**P**	**13 11 03.0**	**-0.4**
W45A	**Hickory Valley** baz=205	**20.39**	**21**	P	**P**	**13 11 03.6**	**-0.5**
Y49A	**Blount Mountai** baz=214,SNR=10	**20.40**	**29**	P	**P**	**13 11 04.2**	**0.0**
U39A	**Green Forest** baz=193,SNR=36	**20.41**	**11**	P	**P**	**13 11 03.9**	**-0.4**
U40A	**Yellville** baz=194,SNR=34	**20.50**	**12**	P	**P**	**13 11 04.8**	**-0.5**
214A	**Organ Pipe Nat** baz=136,SNR=42	**20.53**	**322**	P	**P**	**13 11 06.0**	**+0.4**
214A	**Organ Pipe Nat** comp=Z,470nm,1.4s	**20.53**	**322**	*eP*	**P**	**13 11 05.7**	**+0.1**
254A	**Abbeville** baz=224	**20.58**	**38**	P	**P**	**13 11 06.2**	**+0.1**
X48A	**Hartselle** baz=211,SNR=11	**20.61**	**27**	P	**P**	**13 11 05.9**	**-0.6**
PLAL	**Pickwick Lake**	**20.65**	**24**	*eP*	**P**	**13 11 06.0**	**-0.8**
W46A	**Michie** baz=207	**20.67**	**23**	P	**P**	**13 11 05.9**	**-1.1**
U41A	**Viola** baz=197,SNR=7.7	**20.70**	**14**	P	**P**	**13 11 07.3**	**-0.1**
Y50A	**Piedmont** baz=215	**20.75**	**30**	P	**P**	**13 11 08.0**	**+0.1**
V44A	**Blytheville** baz=203	**20.77**	**19**	P	Pn	13 11 09.7	-0.9
457A	**Yulee** baz=230	**20.77**	**44**	P	**P**	**13 11 06.7**	**-1.5**
U42A	**Revenden** baz=199,SNR=29	**20.87**	**16**	P	**P**	**13 11 08.7**	**-0.6**
T38A	**Diamond** baz=190,SNR=16	**20.92**	**9**	P	**P**	**13 11 10.6**	**+0.8**
X49A	**Woodville** baz=213,SNR=11	**20.98**	**28**	P	**P**	**13 11 10.2**	**-0.2**
V45A	**Humboldt** baz=205	**21.00**	**21**	P	**P**	**13 11 09.6**	**-1.0**
X18A	**Snowflake**	**21.03**	**332**	*eP*	**P**	**13 11 12.4**	**+1.2**
T39A	**Clever** baz=193,SNR=16	**21.05**	**11**	P	**P**	**13 11 09.9**	**-1.3**
W47A	**Westpoint** baz=209,SNR=21	**21.07**	**25**	P	**P**	**13 11 11.1**	**-0.4**
154A	**Montrose** baz=223	**21.16**	**37**	P	**P**	**13 11 10.9**	**-1.5**
W48A	**Pulaski** baz=211,SNR=23	**21.25**	**26**	P	**P**	**13 11 11.4**	**-1.9**
T40A	**Mansfield** baz=195,SNR=37	**21.34**	**12**	P	**P**	**13 11 13.5**	**-0.8**
V46A	**Holladay** baz=207,SNR=20	**21.36**	**23**	P	**P**	**13 11 13.6**	**-0.9**
T41A	**Mountain View** baz=197,SNR=17	**21.40**	**14**	P	**P**	**13 11 15.2**	**+0.3**
U44B	**Burton Farm, H** baz=204	**21.41**	**20**	P	**P**	**13 11 14.7**	**-0.4**
W18A	**Petrified Fore** baz=148,SNR=49	**21.43**	**333**	P	**P**	**13 11 16.1**	**+0.6**
W18A	**Petrified Fore**	**21.43**	**333**	*eP*	**P**	**13 11 16.3**	**+0.8**
T25A	**Trinidad** baz=164,SNR=57	**21.49**	**346**	P	**P**	**13 11 16.4**	**+0.3**
T25A	**Trinidad**	**21.49**	**346**	*eP*	**P**	**13 11 17.3**	**+1.1**
155A	**Kite** baz=225	**21.55**	**38**	P	**P**	**13 11 15.5**	**-1.0**
GOGA	**Godfrey** baz=221,SNR=26	**21.55**	**35**	P	**P**	**13 11 15.6**	**-0.9**
GOGA	**Godfrey**	**21.55**	**35**	*eP*	**P**	**13 11 16.1**	**-0.4**
GOGA	**Godfrey**	**21.55**	**35**	*eP*	**P**	**13 11 16.1**	**-0.4**
T42A	**Van Buren** baz=199,SNR=16	**21.55**	**15**	P	**P**	**13 11 15.8**	**-0.8**
S38A	**Stockton** baz=191,SNR=8.5	**21.56**	**9**	P	**P**	**13 11 15.6**	**-1.0**
V47A	**Nunnelly** baz=208,SNR=19	**21.61**	**24**	P	**P**	**13 11 16.0**	**-1.1**
U45A	**Rockin P Farm,** baz=205	**21.62**	**21**	P	**P**	**13 11 16.0**	**-1.3**
CAPC	**Capurgana**	**21.63**	**108**	*eP*	**P**	**13 11 18.6**	**+1.0**
X16A	**Lo Mia Camp, P**	**21.65**	**329**	*eP*	**P**	**13 11 18.6**	**+0.8**
113A	**Mohawk Valley,**	**21.67**	**322**	*eP*	**P**	**13 11 18.3**	**+0.4**
S39A	**Bolivar** baz=192,SNR=21	**21.71**	**10**	P	**P**	**13 11 17.4**	**-0.9**
SWET	**Sewanee** comp=Z,22nm,0.8s	**21.75**	**28**	*eP*	**P**	**13 11 18.5**	**-0.2**
WVT	**Waverly** baz=207	**21.75**	**23**	P	**P**	**13 11 17.7**	**-1.1**
WVT	**Waverly**	**21.75**	**23**	*eP*	**P**	**13 11 17.9**	**-0.8**
WVT	**Waverly**	**21.75**	**23**	*eP*	**P**	**13 11 17.9**	**-0.8**
S40A	**Lebanon** baz=195,SNR=25	**21.78**	**12**	P	**P**	**13 11 18.0**	**-1.0**
V48A	**Smith Brothers** baz=210,SNR=18	**21.81**	**25**	P	**P**	**13 11 18.5**	**-0.8**
T43A	**Greenville** baz=200,SNR=31	**21.82**	**17**	P	**P**	**13 11 18.1**	**-1.3**
S41A	**Jillco Farms,** baz=196,SNR=19	**21.93**	**14**	P	**P**	**13 11 18.8**	**-1.8**
Y14A	**Wickenburg**	**22.09**	**325**	*eP*	**P**	**13 11 23.0**	**+0.5**
R38A	**Fenwick Farm,** baz=191,SNR=8.8	**22.11**	**9**	P	**P**	**13 11 20.7**	**-1.8**
GTBY	**Guantanamo Bay** comp=Z,320nm,1.3s	**22.14**	**77**

SIUC Southern Illin 22.72 18 eP P 13 11 28.6 -0.4
KSU1 Kansas State U 22.75 3 P P 13 11 28.6 -0.7
baz=184
MVCO Mesa Verde 22.76 338 P P 13 11 29.6 -0.3
baz=154,SNR=50
MVCO Mesa Verde 22.76 338 eP P 13 11 29.9 0.0
T47A Sharon Grove 22.79 23 P P 13 11 29.1 -0.7
baz=208,SNR=22
R42A Luebbering 22.81 15 P P 13 11 29.7 -0.4
baz=198,SNR=8.8
Y12C Blythe 22.82 323 P P 13 11 29.5 -0.7
baz=136,SNR=5.6
Y12C Blythe 22.82 323 eP P 13 11 30.9 +0.8
HODGE Hodges 22.83 36 eP P 13 11 30.1 -0.2
S45A Carrier Mills 22.89 20 P P 13 11 29.9 -0.9
baz=204,SNR=9.6
Q38A Cooks Store, C 22.91 9 P P 13 11 31.3 +0.2
baz=191,SNR=13
KSCO Kaye Shedlock' 22.96 351 P P 13 11 31.5 -0.3
baz=169,SNR=11
KSCO Kaye Shedlock' 22.96 351 eP P 13 11 31.9 +0.2
PDMCI Parker Dam,Lak 23.00 324 P P 13 11 32.2 +0.2
baz=138,SNR=14
R43A Red Bud 23.03 17 P P 13 11 32.7 +0.3
baz=200,SNR=14
SWSC Sam W. Stewart 23.03 319 P P 13 11 31.8 -0.6
baz=132
IKP In-Ko-Pah, Jac 23.04 318 P P 13 11 32.1 -0.4
baz=131
Q39A Willow Grove F 23.09 10 P F 13 11 32.8 -0.1
baz=193,SNR=11
TKL Tuckaleechee C 23.12 31 P P 13 11 33.2 -0.1
comp=Z,14nm,0.8s,baz=210,slow=6.2,SNR=11
TKL Tuckaleechee C 23.12 31 eP P 13 11 33.5 +0.2
TKL Tuckaleechee C 23.12 31 eP P 13 11 33.5 +0.2
MOTC Monteria, Cord 23.13 106 eP P 13 11 34.0 +0.5
T48A Bowling Green 23.17 24 P P 13 11 32.8 -0.9
baz=210,SNR=14
S46A Don Dixon Farm 23.18 21 P P 13 11 31.5 -2.4
baz=206
Q40A Laux Farm, Aux 23.21 12 P P 13 11 34.0 -0.1
baz=195,SNR=8.0
R44A Waltonville 23.25 18 P P 13 11 34.8 +0.3
baz=202,SNR=12
NHSC New Hope 23.28 41 P P 13 11 33.3 -1.6
baz=228
NHSC New Hope 23.28 41 eP P 13 11 37.5 +2.6
BC3 Big Chuckawall 23.30 321 P P 13 11 34.2 -1.0
baz=134,SNR=23
Q41A Truxton 23.35 14 P P 13 11 33.9 -1.6
baz=197,SNR=17
MONP2 Monument Peak 23.39 318 P P 13 11 35.6 -0.7
baz=131
Q24A Divide 23.40 346 P P 13 11 35.8 -0.6
baz=163,SNR=7.5
Q24A Divide 23.40 346 eP P 13 11 37.3 +0.9
BAR Barrett 23.42 317 eP P 13 11 36.8 +0.5
P37A Lathrop 23.42 7 P P 13 11 35.4 -0.8
baz=189,SNR=7.1
JSC Jenkinsville 23.43 37 eP P 13 11 36.6 +0.2
JSC Jenkinsville 23.43 37 eP P 13 11 36.6 +0.2
W13A Hualapai Mount 23.45 326 eP P 13 11 37.9 +1.1
USIN University of 23.45 21 eP P 13 11 36.7 +0.2
IRM Iron Mountain 23.47 322 P P 13 11 36.7 -0.1
baz=135,SNR=32
Q42A Golden Eagle 23.48 15 P P 13 11 38.0 +1.3
baz=198
R45A Skylar, Fairfi 23.54 20 P P 13 11 36.5 -0.9
baz=204,SNR=7.9
P39B Salisbury 23.56 10 P P 13 11 36.6 -1.0
baz=193,SNR=8.3
P38A Dawn 23.57 9 P P 13 11 36.2 -1.5
baz=191,SNR=9.8
NEE2 Needles Airpor 23.60 324 P P 13 11 38.1 +0.1
baz=137
PV01 Paradox Valley 23.62 339 eP P 13 11 38.8 +0.3
U15A North Rim 23.68 331 eP P 13 11 40.4 +1.3
O33A Hebron 23.68 1 P P 13 11 37.0 -1.8
baz=181
Q43A New Douglas 23.72 16 P P 13 11 38.1 -1.0
baz=200,SNR=7.6
R46A Gibon Southern 23.73 21 P P 13 11 37.9 -1.3
baz=206
P40A Paris 23.73 12 P P 13 11 38.3 -0.9
baz=195,SNR=20
PV05 Paradox Valley 23.75 338 eP P 13 11 40.3 +0.5
S48A Wiedeman Farm, 23.77 24 P P 13 11 36.9 -2.8
baz=210
O34A Beatrice 23.82 3 P P 13 11 39.0 -1.1
baz=183,SNR=21
109C Camp Elliot, M 23.83 317 P P 13 11 38.5 -1.8
baz=130
CPE Camp Elliot 23.83 317 eP P 13 11 39.8 -0.5
BELC Belle Mtn. Jos 23.87 321 P P 13 11 40.8 0.0
baz=134,SNR=18
Q44A Meyer Farm, Va 23.88 18 P P 13 11 40.2 -0.4
baz=202,SNR=8.6
XPFO Piæon Flat 23.89 320 eP P 13 11 41.7 +0.7
PFO Pinyon Flats O 23.89 320 P P 13 11 40.6 -0.3
baz=132,SNR=13
PFO Pinyon Flats O 23.89 320 eP P 13 11 41.7 +0.7
PFO Pinyon Flats O 23.89 320 eP P 13 11 41.7 +0.7
TUMC Tumaco 23.90 125 eP P 13 11 42.5 +1.4
TZTN Tazewell 23.94 30 P P 13 11 40.4 -0.9
baz=216,SNR=19
TZTN Tazewell 23.94 30 eP P 13 11 42.3 +1.0
O35A Humboldt 23.95 4 P P 13 11 39.7 -1.6
baz=185
PV04 Paradox Valley 23.96 339 eP P 13 11 41.8 +0.1
PV10 Paradox Valley 24.00 338 eP P 13 11 41.7 -0.4
KMSC Kings Mountain 24.01 36 P P 13 11 40.9 -1.1
baz=223,SNR=8.4
KMSC Kings Mountain 24.01 36 eP P 13 11 41.6 -0.4
comp=Z,28nm,0.8s
O37A Wolven Farm, M 24.02 7 P P 13 11 41.1 -0.9
baz=189,SNR=5.5
O38A Galt 24.07 9 P P 13 11 41.3 -1.1
baz=191,SNR=7.0
SMCO Snowmass 24.07 343 eP P 13 11 43.3 +0.4
P41A Barry, Barry 24.08 13 P P 13 11 41.9 -0.6
baz=197,SNR=8.4
Q45A Warren Harvey, 24.13 19 P P 13 11 42.2 -0.8
baz=204
PV09 Paradox Valley 24.14 338 eP P 13 11 44.1 +0.6
R47A Wooly Knot Far 24.15 23 P P 13 11 43.0 -0.3
baz=208,SNR=29
P42A Winchester 24.16 15 P P 13 11 42.3 -1.0
baz=198,SNR=18
WCI Wyandotte Cave 24.18 23 P P 13 11 43.2 -0.3
baz=209
WCI Wyandotte Cave 24.18 23 eP P 13 11 44.1 +0.6
WCI Wyandotte Cave 24.18 23 eP P 13 11 44.1 +0.6
GMRC Granite Mounta 24.21 323 P P 13 11 44.4 +0.4
baz=135,SNR=22
ISCO Idaho Springs 24.30 346 P P 13 11 45.2 +0.3
baz=162,SNR=58
ISCO Idaho Springs 24.30 346 eP P 13 11 45.6 +0.6
ISCO Idaho Springs 24.30 346 eP P 13 11 45.6 +0.6
O40A La Belle 24.34 12 P P 13 11 44.2 -0.7
baz=195,SNR=25
MURC Murrieta 24.34 319 P P 13 11 42.9 -2.2
baz=131
O39A Kirksville 24.34 10 P P 13 11 43.9 -1.1
baz=193,SNR=8.0
ZARC Zaragoza, Cauc 24.35 108 eP P 13 11 45.9 +0.7
N33A J Bar K, Exete 24.35 1 P P 13 11 44.5 -0.5
baz=182
KNB Kanab 24.40 331 eP P 13 11 46.8 +1.0
KNB Kanab 24.40 331 eP P 13 11 46.8 +1.0
P43A Skaggs, Pawnee 24.42 16 P P 13 11 44.9 -0.7
baz=200
N34A Lincoln 24.48 3 P P 13 11 45.4 -0.8
baz=184
R48A Northridge Ran 24.49 24 P P 13 11 45.7 -0.6
baz=209
Q46A CEJHS Indians, 24.51 20 P P 13 11 44.5 -2.0
baz=206
P44A Sand Creek, Wi 24.52 18 P P 13 11 46.1 -0.4
baz=202,SNR=11
O41A Passleys Farm, 24.54 13 P P 13 11 45.5 -1.2
baz=197,SNR=18
N35A Tabor 24.56 4 P P 13 11 45.8 -1.1
baz=186
N36A Muff Farm, Cla 24.57 6 P P 13 11 45.9 -1.1
baz=187
N37A Lee Faris, Mou 24.59 7 P P 13 11 45.8 -1.4
baz=189
LCMT Little Creek M 24.60 330 eP P 13 11 48.8 +1.3
BBRC Big Bear Solar 24.61 320 P P 13 11 47.3 -0.5
baz=132
YOTC Yotoco, Valle 24.63 117 eP P 13 11 48.5 +0.5
HEC Hector,Ludlow 24.64 322 P P 13 11 47.8 0.0
baz=134,SNR=15
Q47A Bedord North L 24.75 22 P P 13 11 48.4 -0.3
baz=208
N38A Joes South For 24.76 9 P P 13 11 48.2 -0.5
baz=191,SNR=10
OGNE Ogallala 24.79 353 P P 13 11 49.7 +0.7
baz=171,SNR=12
OGNE Ogallala 24.79 353 eP P 13 11 50.1 +1.0
O42A Bath 24.80 15 P P 13 11 48.4 -0.7
baz=199
TUQ Turquoise Moun 24.82 323 P P 13 11 49.9 +0.4
baz=136,SNR=12
P45A Graceland, Par 24.84 19 P P 13 11 49.8 +0.4
baz=204
SCI2 San Clemente I 24.84 316 P P 13 11 49.6 0.0
baz=127
BLO Bloomington 24.93 22 eP P 13 11 51.4 +1.1
BLO Bloomington 24.93 22 eP P 13 11 51.4 +1.1
N39A Derby Farms, D 24.96 10 P P 13 11 50.1 -0.4
baz=193,SNR=10
CIS Catalina Islan 25.01 317 P P 13 11 50.0 -1.1
baz=128
BGNE Belgrade 25.01 360 P P 13 11 49.7 -1.3
baz=180
BFSC Mount Baldy Ra 25.05 319 P P 13 11 52.4 +0.8
baz=131,SNR=9.2
RRX Edison Barstow 25.07 321 P P 13 11 51.4 -0.2
baz=133
O43A Sugar Creek Fa 25.08 16 P P 13 11 50.1 -1.5
baz=200
CCUT Cedar City 25.09 330 eP P 13 11 51.0 -1.0
comp=Z,20nm,1.2s
P46A Rosedale 25.09 20 P P 13 11 52.4 +0.6
baz=205
PTBC PUERTO BERRIO, 25.10 110 eP P 13 11 53.7 +1.6
OTAV Otavalo 25.11 128 eP P 13 11 53.7 +1.0
OTAV Otavalo 25.11 128 eP P 13 11 53.8 +1.1
N41A Harden Midland 25.11 13 P P 13 11 51.0 -0.9
baz=197
N40A Mertquake, Sal 25.13 12 P P 13 11 50.9 -1.1
baz=195
POPC Popayan, Colom 25.13 121 eP P 13 11 55.7 +3.1
M34A Aspy Farms, Fr 25.14 3 P P 13 11 51.1 -1.0
baz=184
NORC Norcasia 25.15 113 eP P 13 11 55.3 +2.7
M35A Neola 25.16 4 P P 13 11 53.0 +0.6
baz=186
SHPR Sheep Range 25.18 326 eP P 13 11 53.8 +1.0
SRU San Rafael Swe 25.19 337 eP P 13 11 53.0 +0.2
SRU San Rafael Swe 25.19 337 eP P 13 11 53.0 +0.2
M33A Taylor Creek F 25.19 2 P P 13 11 52.1 -0.5
baz=182
O44A Mansfield 25.19 18 P P 13 11 52.8 +0.1
baz=202
M36A Felix, Anita 25.22 6 P P 13 11 51.8 -1.1
baz=188
GSC Goldstone, Bar 25.24 322 P P 13 11 54.2 +0.9
baz=134,SNR=15
GSC Goldstone, Bar 25.24 322 eP P 13 11 53.5 +0.2
comp=Z,77nm,1.7s
GSC Goldstone, Bar 25.24 322 eP P 13 11 53.5 +0.2
GSC pmax pmax
comp=Z,77nm,1.7s
M37A Trindle Farm, 25.25 7 P P 13 11 53.2 0.0
baz=189
Q16A Castle Valley 25.27 336 eP P 13 11 54.8 +1.2
MWC Mount Wilson 25.29 319 eP P 13 11 54.1 +0.2
comp=Z,48nm,1.4s
MWC Mount Wilson 25.29 319 eP P 13 11 54.1 +0.2
MWC pmax pmax
comp=Z,48nm,1.4s
P47A Martinsville 25.30 22 P P 13 11 53.6 0.0
baz=207
O20A White River Ci 25.33 342 P P 13 11 54.9 +0.8
baz=157,SNR=34
O20A White River Ci 25.33 342 eP P 13 11 55.1 +1.0
HDIL Hopedale 25.34 16 P P 13 11 52.2 -1.8
baz=200
HDIL Hopedale 25.34 16 eP P 13 11 53.9 -0.1
comp=Z,72nm,1.1s
MSU Marysvale 25.34 334 eP P 13 11 55.2 +0.9
MSU Marysvale 25.34 334 eP P 13 11 55.2 +0.9
SHOC Shoshone, Teco 25.36 324 P P 13 11 54.4 +0.2
baz=186
N42A Yates City 25.41 14 P P 13 11 53.4 -1.2
baz=198
SOTA Rioblanco 25.42 121 eP P 13 11 56.6 +1.1
N23A Red Feather La 25.42 346 P P 13 11 55.7 +0.6
baz=162,SNR=33
N23A Red Feather La 25.42 346 eP P 13 11 55.4 +0.3
PCON Cinco Dias 25.48 121 eP P 13 11 58.3 +2.2
OCAC Ocana 25.48 105 eP P 13 11 58.3 +2.6
DECC Green Verdugo 25.49 318 P P 13 11 56.9 +1.5
baz=130
O45A Potomac 25.50 19 P P 13 11 56.1 +0.7
baz=204
P18A Preston Nutter 25.54 338 eP P 13 11 57.2 +1.1
BRRC Barranca, Sant 25.54 108 eP P 13 11 57.3 +1.2
P17A Butcher Ranch, 25.58 337 eP P 13 11 57.0 +0.5
M39A Webster 25.60 10 P P 13 11 55.8 -0.5
baz=193,SNR=19
L32A Elgin 25.61 0 P P 13 11 56.8 +0.4
baz=180
TMUT Trail Mountain 25.61 336 eP P 13 11 57.7 +0.9
M40A Post Highland 25.65 12 P P 13 11 56.3 -0.4
baz=195,SNR=8.2
EDW2 Edwards Air Fo 25.68 320 P P 13 11 56.7 -0.5
baz=131,SNR=14
SDDR Presa de Saban 25.68 80 eP P 13 11 58.2 +0.8
URIC Uribia, Colomb 25.73 97 eP P 13 11 57.9 +0.2
N43A Stutzman Famil 25.73 16 P P 13 11 57.5 0.0
baz=200,SNR=8.7
L33A Hoskins 25.78 1 P P 13 11 58.4 +0.4
baz=182
M41A Milan 25.82 13 P P 13 11 58.0 -0.3
baz=197
SFIN Lafayette 25.82 20 P P 13 11 58.4 +0.1
baz=205
SFIN Lafayette 25.82 20 eP P 13 11 57.0 -1.3
comp=Z,38nm,1.0s
SCIA State Center 25.85 8 P P 13 11 58.4 -0.3
baz=191
SCIA State Center 25.85 8 eP P 13 11 57.2 -1.4
comp=Z,80nm,0.9s
BLG Laguna Peak, P 25.87 317 P P 13 11 57.3 -1.6
baz=128
L36A Harm Buss Farm 25.87 6 P P 13 11 59.4 +0.6
baz=188
N44A Piper City 25.88 18 P P 13 11 58.8 -0.1
baz=202,SNR=5.8
LRMC Laurel Mtn Rad 25.89 321 P P 13 11 58.9 -0.3
baz=133
OSI Osito Audit: C 25.97 318 P P 13 12 01.5 +1.7
baz=130
ROSC El Rosal 25.97 113 P P 13 12 01.0 +0.6
comp=Z,12nm,0.7s,baz=343,slow=6.8,SNR=14
ROSC LR LR 13 22 30.9
comp=Z,158nm,19.8s,baz=285,slow=37
ROSC El Rosal 25.97 113 eP P 13 12 03.1 +2.7
L37A Phoenix Point, 26.00 7 P P 13 12 00.3 +0.3
baz=190
O47A Sheridan 26.00 21 P P 13 11 59.2 -0.8
baz=207,SNR=10
BLA Blacksburg 26.04 34 P P 13 11 59.5 -1.0
baz=222
BLA Blacksburg 26.04 34 eP P 13 11 59.9 -0.5
comp=Z,45nm,1.0s
BLA Blacksburg 26.04 34 eP P 13 11 59.9 -0.5
BLA pmax pmax
comp=Z,45nm,1.0s
M42A Sheffield 26.07 14 P P 13 12 02.5 +1.9
baz=198
FURC Furnace Creek, 26.09 324 P P 13 12 01.9 +1.1
baz=196
TPNV Topopah Spring 26.10 325 P P 13 12 01.0 -0.1
baz=138,SNR=11
TPNV Topopah Spring 26.10 325 eP P 13 12 03.1 +2.0
TPNV Topopah Spring 26.10 325 eP P 13 12 03.1 +2.0
N45A Kentland 26.12 18 P P 13 12 00.9 -0.1
baz=204,SNR=7.3
L38A Oak Wood Farm, 26.12 9 P P 13 12 01.4 +0.3
baz=191
MPMC Manual Prospec 26.17 322 P P 13 12 01.1 -0.6
baz=134,SNR=14
SCZ2 Santa Cruz Isl 26.18 316 P P 13 12 00.9 -0.8
baz=127
BARC Barichara 26.23 109 eP P 13 12 04.1 +1.5
M43A Waltham Townsh 26.25 16 P P 13 12 02.1 -0.2
baz=200,SNR=11
L39A Vinton 26.25 10 P P 13 12 01.5 -0.8
baz=193,SNR=11
K32A Verdigre 26.26 0 P P 13 12 02.5 +0.1
baz=180
L40A Anamosa 26.34 12 P P 13 12 02.1 -0.9
baz=195,SNR=7.4
K34A Le Mars 26.34 3 P P 13 12 03.2 +0.1
baz=184
ARVC Arvin 26.36 319 P P 13 12 02.6 -0.7
baz=130
DAC Darwin (Calif) 26.38 323 eP P 13 12 03.0 -0.7
DAC Darwin (Calif) 26.38 323 eP P 13 12 03.0 -0.7
PAMC Pamplona, Colo 26.38 107 eP P 13 12 06.1 +1.9
MPU Maple Canyon 26.40 336 eP P 13 12 04.3 +0.4
N46A Monticello 26.40 20 P P 13 12 04.5 +0.9
baz=205
K36A Gilmore City 26.43 6 P P 13 12 04.7 +0.9
baz=188
K35A Storm Lake 26.44 5 P P 13 12 03.2 -0.8
baz=186
M44A Midewin, Midew 26.46 17 P P 13 12 03.2 -0.9
baz=202,SNR=8.3
ISA Isabella, Lake 26.49 321 P P 13 12 04.6 0.0
baz=132
ISA Isabella, Lake 26.49 321 eP P 13 12 04.3 -0.3
comp=Z,15nm,1.0s
ISA Isabella, Lake 26.49 321 eP P 13 12 04.3 -0.3
ISA pmax pmax
comp=Z,15nm,1.0s
L41A Preston 26.50 13 P P 13 12 03.3 -1.1
baz=196,SNR=12
NLU North Lily Min 26.52 335 eP P 13 12 06.0 +1.1
CHIC Chingaza 26.58 113 eP P 13 12 08.2 +2.2
L42A Oliver, Polo 26.61 14 P P 13 12 04.6 -0.9
baz=198,SNR=8.5
K38A Parkersburg 26.64 9 P P 13 12 05.0 -0.8
baz=192
K37A Belmond 26.64 7 P P 13 12 03.9 -1.9
baz=190
M45A Boilermakers S 26.69 18 P P 13 12 05.7 -0.4
baz=204
CWC Cottonwood Cre 26.77 322 P P 13 12 07.8 +0.5
baz=134
R11A Troy Canyon, C 26.80 328 P P 13 12 07.4 -0.1
baz=140,SNR=20
R11A Troy Canyon, C 26.80 328 eP P 13 12 07.1 -0.3
comp=Z,98nm,2.0s
K39A Oelwein 26.84 10 P P 13 12 06.7 -0.8
baz=193
K40A Colesburg 26.97 11 P P 13 12 08.0 -0.7
baz=195,SNR=7.8
J32A Parkston 26.98 0 P P 13 12 07.2 -1.6
baz=181
VES Vestal, Richgr 26.98 320 P P 13 12 08.5 -0.4
baz=131
M46A Old House Fiel 26.99 20 P P 13 12 09.3 +0.4
baz=205
L43A Garden Prairie 27.01 15 P P 13 12 08.7 -0.4
baz=200
DUG Dugway, Tooele 27.02 335 P P 13 12 09.3 -0.1
baz=148,SNR=24
DUG Dugway, Tooele 27.02 335 eP P 13 12 10.3 +0.9
DUG Dugway, Tooele 27.02 335 eP P 13 12 10.3 +0.9
CTU Camp Tracy 27.03 337 eP P 13 12 09.9 +0.5
K41A Shullsburg 27.05 13 P P 13 12 09.6 +0.2
baz=197
J36A Seneca 1, Swea 27.12 6 P P 13 12 08.9 -1.2
baz=188,SNR=8.5
J37A Redenius Farm, 27.19 7 P P 13 12 10.2 -0.5
baz=190
ACSO Alum Creek Sta 27.22 26 P P 13 12 09.8 -1.2
baz=213
L44A Lake County Fo 27.23 17 P P 13 12 10.9 -0.1
baz=202
K22A Casper 27.23 346 P P 13 12 12.3 +1.1
baz=162
K22A Casper 27.23 346 eP P 13 12 10.9 -0.3
TCUT Toone Canyon 27.27 338 eP P 13 12 12.0 +0.2
TIN Tinemaha, Big 27.29 323 P P 13 12 11.2 -0.5
baz=134
J38A Wedel Dairy, R 27.34 9 P P 13 12 12.4 +0.3
baz=192
JFWS Jewell Farm 27.35 13 P P 13 12 12.1 0.0
baz=197
JFWS Jewell Farm 27.35 13 eP P 13 12 11.6 -0.5
JFWS Jewell Farm 27.35 13 eP P 13 12 11.6 -0.5
ECSD EROS Data Cent 27.36 2 P P 13 12 11.2 -1.0
baz=183
ECSD EROS Data Cent 27.36 2 eP P 13 12 09.7 -2.6
comp=Z,15nm,0.9s
K42A Prairie Point, 27.43 14 P P 13 12 11.3 -1.5
baz=198
J39A Decorah 27.48 10 P P 13 12 11.6 -1.7
baz=193
K43A Burlington 27.60 16 P P 13 12 12.3 -2.1
baz=201
I32A Karley and Nic 27.64 1 P P 13 12 12.8 -1.9
baz=181
I33A Coleman 27.67 2 P P 13 12 13.4 -1.6
baz=183
I34A Hadley 27.71 3 P P 13 12 13.7 -1.6
baz=185
J40A Soldiers Grove 27.72 12 P P 13 12 14.0 -1.4
baz=195
BGU Big Grassy Mou 27.73 335 eP P 13 12 14.8 -0.9
comp=Z,30nm,1.4s
HWUT Hardware Ranch 27.75 338 eP P 13 12 17.0 +1.0
SDV Santo Domingo 27.78 102 P P 13 12 17.0 +0.6
comp=Z,20nm,1.1s,baz=286,slow=6.4,SNR=18
SDV LR LR 13 25 22.4
comp=Z,782nm,18.1s,baz=340,slow=41
SDV Santo Domingo 27.78 102 eP P 13 12 17.6 +1.2
SDV Santo Domingo 27.78 102 eP P 13 12 17.1 +0.6
J41A Loganville 27.84 13 P P 13 12 16.0 -0.5
baz=197,SNR=9.6
I36A Fitzsimmons Fa 27.84 6 P P 13 12 14.9 -1.6
baz=188
I37A Lemond, Waseca 27.90 7 P P 13 12 15.7 -1.4
baz=190
J42A Columbus 27.99 14 P P 13 12 16.6 -1.2
baz=199
I39A Houston 28.02 10 P P 13 12 17.3 -0.9
baz=194
MLAC Mammoth, Mammo 28.03 323 P P 13 12 18.2 -0.4
baz=134
SUSD Miller 28.05 359 P P 13 12 17.2 -1.3
baz=178
I38A Scanlan Farm, 28.07 9 P P 13 12 18.3 -0.3
baz=192
H32A Carlson Farm, 28.11 1 P P 13 12 19.6 +0.7
baz=181
BW06 Boulder Array 28.13 342 P P 13 12 18.7 -0.7
baz=156,SNR=14
BW06 Boulder Array 28.13 342 eP P 13 12 20.0 +0.6
PD31 Pinedale Array 28.13 342 eP P 13 12 19.9 +0.5
PDAR Pinedale Array 28.13 342 P P 13 12 19.9 +0.5
comp=Z,3.9nm,0.7s,baz=133,slow=8.5,SNR=30
PDAR LR LR 13 24 54.5
comp=Z,2µm,20.9s,baz=172,slow=39
PDAR Pinedale Array 28.13 342 eP P 13 12 18.9 -0.5
MDPB Devils Postpil 28.17 323 eP P 13 12 20.3 +0.4
RSSD Black Hills 28.18 351 P P 13 12 20.5 +0.8
baz=168
RSSD Black Hills 28.18 351 eP P 13 12 20.3 +0.5
RSSD Black Hills 28.18 351 eP P 13 12 20.3 +0.5
MCWV Mont Chateau 28.19 31 P P 13 12 17.7 -1.9
baz=219
NV11 Mina Array Sit 28.21 325 eP P 13 12 21.4 +1.3
J43A Natural Harves 28.22 15 P P 13 12 19.5 -0.4
baz=200
I40A Norwalk 28.22 11 P P 13 12 19.0 -0.9
baz=195
NV01 Mina Array Sit 28.29 325 eP P 13 12 21.6 +0.7
NVAR Mina Array Bea 28.29 325 P P 13 12 22.1 +1.2
comp=Z,12nm,0.9s,baz=148,slow=9.3,SNR=46
HVU Hansel Valley 28.35 336 eP P 13 12 22.3 +1.0
HVU Hansel Valley 28.35 336 eP P 13 12 22.3 +1.0
H36A Jessenland, He 28.40 6 P P 13 12 19.9 -1.6
baz=188

H35A	Sunnyside Ranc	28.43	5	P	P	13 12 22.2	+0.4
	baz=187						
ELK	Elko	28.52	332	P	P	13 12 24.7	+1.8
	comp=Z,5.2nm,1.1s,baz=148,slow=13,SNR=13						
H37A	Dierke Farm, C	28.52	8	P	P	13 12 21.8	-0.8
	baz=190						
I41A	Arkdale	28.53	12	P	P	13 12 24.0	+1.4
	baz=197						
RYN	Ryan	28.55	325	*e*P	P	13 12 23.6	+0.4
I42A	Draeger Farm,	28.58	14	P	P	13 12 23.0	-0.1
	baz=199						
I42A	Draeger Farm,	28.58	14	*e*P	P	13 12 23.6	+0.5
AHID	Auburn Hatcher	28.62	340	*e*P	P	13 12 24.4	+0.7
H38A	Maiden Rock	28.70	9	P	P	13 12 23.4	-0.8
	baz=192						
I43A	Langenfeld Bro	28.76	15	P	P	13 12 24.6	-0.1
	baz=200						
G31A	Conde	28.83	360	P	P	13 12 24.3	-1.0
	baz=180						
G33A	Ortonville	28.83	2	P	P	13 12 24.9	-0.4
	baz=183						
G32A	Webster	28.86	1	P	P	13 12 25.7	+0.1
	baz=181						
H39A	Augusta	28.86	10	P	P	13 12 25.3	-0.3
	baz=194						
H40A	Chili	28.97	11	P	P	13 12 26.4	-0.1
	baz=195,SNR=14						
G36A	St. Michael	29.07	6	P	P	13 12 27.5	+0.1
	baz=189						
REDW	Red Top Meadow	29.07	341	*e*P	P	13 12 28.7	+0.9
H41A	Junction City	29.11	12	P	P	13 12 26.6	-1.2
	baz=197						
H41A	Junction City	29.11	12	*e*P	P	13 12 28.1	+0.3
SPMN	Marine on St.	29.17	8	P	P	13 12 26.7	-1.6
	baz=190						
SPMN	Marine on St.	29.17	8	*e*P	P	13 12 28.4	+0.1
	comp=Z,14nm,0.6s						
BMN	Battle Mountai	29.21	329	P	P	13 12 26.5	-2.4
	comp=Z,60nm,2.0s						
BMN	Battle Mountai	29.21	329	P	P	13 12 26.5	-2.4
BMN				pmax	pmax		
	comp=Z,61nm,2.0s						
TPAW	Teton Pass	29.22	341	*e*P	P	13 12 30.2	+1.0
G38A	Ridgeland	29.25	9	P	P	13 12 28.8	-0.3
	baz=192						
O56A	Blue Knob Stat	29.29	32	P	P	13 12 28.1	-1.5
	baz=221						
MOOW	Moose Ponds	29.39	341	*e*P	P	13 12 31.4	+0.8
H43A	Windswept, Lux	29.40	15	P	P	13 12 28.3	-2.1
	baz=200						
G39A	Holcombe	29.47	10	P	P	13 12 29.6	-1.4
	baz=194						
IMW	Indian Meadow	29.58	341	*e*P	P	13 12 33.3	+0.9
G40A	Rib Lake	29.62	11	P	P	13 12 31.8	-0.6
	baz=196,SNR=10						
F36A	Milaca	29.71	6	P	P	13 12 32.6	-0.5
	baz=189						
SSPA	Standing Stone	29.91	32	P	P	13 12 34.4	-0.6
	baz=222						
SSPA	Standing Stone	29.91	32	*e*P	P	13 12 33.3	-1.6
	comp=Z,138nm,1.5s						
H17A	Grant Village	29.92	342	P	P	13 12 35.2	-0.2
	baz=156						
H17A	Grant Village	29.92	342	*e*P	P	13 12 36.1	+0.8
	comp=Z,19nm,1.5s						
G42A	Mountain	29.97	14	P	P	13 12 34.5	-0.9
	baz=199						
F38A	Pierce - Schro	30.02	9	P	P	13 12 35.6	-0.2
	baz=192						
ERPA	Erie	30.06	28	P	P	13 12 36.9	+0.7
	baz=216						
F39A	Loretta	30.12	10	P	P	13 12 35.7	-1.1
	baz=194						
G43A	Wallace	30.16	15	P	P	13 12 36.2	-0.8
	baz=200,SNR=5.8						
G43A	Wallace	30.16	15	*e*P	P	13 12 37.0	-0.1
E34A	Wadena	30.21	4	P	P	13 12 36.5	-1.0
	baz=186						
RLMT	Red Lodge	30.22	344	P	P	13 12 38.7	+0.7
	baz=158						
RLMT	Red Lodge	30.22	344	*e*P	P	13 12 36.9	-1.0
	comp=Z,10.0nm,0.8s						
F40A	Park Falls	30.27	11	P	P	13 12 37.9	-0.2
	baz=195,SNR=21						
F41A	Three Lakes	30.29	13	P	P	13 12 39.4	+1.1
	baz=197						
E35A	Pequot Lakes	30.32	5	P	P	13 12 39.1	+0.6
	baz=187						
YHH	Holmes Hill	30.36	342	*e*P	P	13 12 40.6	+1.3
ATAH	Atahualpa	30.38	139	P	P	13 12 39.3	-0.5
	comp=Z,13nm,0.9s,baz=329,slow=7.7,SNR=11						
E36A	McGregor	30.39	7	P	P	13 12 39.2	+0.1
	baz=189						
HLID	Hailey	30.50	336	P	P	13 12 40.9	+0.5
	baz=148,SNR=12						
HLID	Hailey	30.50	336	*e*P	P	13 12 39.3	-1.1
	comp=Z,45nm,1.8s						
SJG	San Juan	30.55	82	P	P	13 12 40.6	-0.3
	comp=Z,19nm,0.3s,baz=291,slow=8.8,SNR=7.5						
E39A	Mellen	30.63	10	P	P	13 12 41.0	-0.3
	baz=194,SNR=10						
E40A	Wakefield	30.82	11	P	P	13 12 42.4	-0.4
	baz=196,SNR=10						
F43A	Flat Rock, Esc	30.82	15	P	P	13 12 42.6	-0.4
	baz=201						
D35A	Remer	30.87	5	P	P	13 12 42.8	-0.5
	baz=188						
MFID	Camas Ranch	30.95	334	*e*P	P	13 12 45.8	+1.6
E41A	Kenton	31.02	12	P	P	13 12 43.5	-1.2
	baz=197						
MCMT	McKenzie Canyo	31.03	339	*e*P	P	13 12 46.8	+1.7
	comp=Z,8.9nm,1.1s						
LAO	LASA Array	31.04	349	P	P	13 12 45.0	+0.1
	baz=165						
LAO	LASA Array	31.04	349	*e*P	P	13 12 43.4	-1.5
	comp=Z,50nm,1.5s						
D36A	Goodland	31.05	7	P	P	13 12 44.4	-0.5
	baz=189						
D37A	Cotton	31.12	8	P	P	13 12 44.5	-1.1
	baz=191						
F45A	CMU Biological	31.13	17	P	P	13 12 43.8	-1.8
	baz=204						
F44A	Big Bay de Noc	31.15	16	P	P	13 12 44.8	-1.0
	baz=202,SNR=10						
E42A	Champion	31.21	14	P	P	13 12 44.9	-1.5
	baz=199						
N59A	State Game Lan	31.21	34	P	P	13 12 44.4	-2.1
	baz=225						
BOZ	Bozeman (W)	31.33	342	P	P	13 12 47.8	+0.2
	baz=155,SNR=18						
BOZ	Bozeman (W)	31.33	342	*e*P	P	13 12 48.2	+0.7
BOZ	Bozeman (W)	31.33	342	*e*P	P	13 12 48.3	+0.7
E43A	Lone Tree Farm	31.38	15	P	P	13 12 47.3	-0.5
	baz=201,SNR=7.2						
C31A	Landman Farms,	31.40	0	P	P	13 12 46.7	-1.3
	baz=181						
WVOR	Wild Horse Val	31.43	330	*e*P	P	13 12 49.3	+0.8
WVOR	Wild Horse Val	31.43	330	*e*P	P	13 12 49.3	+0.8
MDND	Maddock	31.48	358	P	P	13 12 48.0	-0.7
	baz=177,SNR=7.4						
MDND	Maddock	31.48	358	*e*P	P	13 12 45.8	-2.9
	comp=Z,131nm,1.1s						
C35A	Jirik Farms, M	31.49	5	P	P	13 12 48.0	-0.8
	baz=188						
O03D	Paynes Creek	31.54	324	P	P	13 12 47.8	-1.6
	baz=133						
C36A	Pine Crest Far	31.66	7	P	P	13 12 50.1	-0.2
	baz=190						
D41A	Chassel	31.67	12	P	P	13 12 49.8	-0.6
	baz=198						
LRM	Limekiln Ridge	31.78	341	*e*P	P	13 12 52.8	+1.1
MOD	Modoc Plateau	31.86	328	*e*P	P	13 12 53.1	+0.8
E44A	Grand Marais A	31.88	16	P	P	13 12 51.0	-1.2
	baz=202						
AGMN	Agassiz Nation	31.95	3	P	P	13 12 52.3	-0.5
	baz=184,SNR=14						
AGMN	Agassiz Nation	31.95	3	*e*P	P	13 12 51.7	-1.2
	comp=Z,22nm,0.9s						
EYMN	Ely	32.02	8	P	P	13 12 53.2	-0.3
	baz=192						
B32A	Ashes, Strandq	32.02	2	P	P	13 12 52.6	-0.9
	baz=183,SNR=10						
J08A	Circle Bar Ran	32.06	331	*e*P	P	13 12 54.9	+0.8
C39A	Grand Marais	32.10	10	P	P	13 12 52.5	-1.7
	baz=194						
B35A	Bob, Littlefor	32.16	5	P	P	13 12 53.9	-0.8
	baz=188,SNR=6.1						
B34A	Aery, Baudette	32.21	4	P	P	13 12 54.7	-0.5
	baz=186						
C40A	Isle Royale Na	32.37	11	P	P	13 12 55.9	-0.6
	baz=196						
HRY	Holter Researc	32.39	342	*e*P	P	13 12 57.0	+0.1
	comp=Z,15nm,1.1s						
DGMT	Dagmar	32.46	352	P	P	13 12 57.2	-0.2
	baz=169						
DGMT	Dagmar	32.46	352	*e*P	P	13 12 57.4	0.0
	comp=Z,45nm,1.4s						
A32A	Rocking H Ranc	32.55	2	P	P	13 12 57.9	-0.2
	baz=183						
M04C	Macdoel	32.58	326	P	P	13 12 57.8	-0.8
	baz=134						
A33A	Warroad	32.62	3	P	P	13 12 58.0	-0.7
	baz=185,SNR=8.2						
BMO	Blue Mountains	32.74	334	*e*P	P	13 12 58.4	-1.5
	comp=Z,31nm,1.5s						
BMO	Blue Mountains	32.74	334	*e*P	P	13 12 58.4	-1.5
BMO				pmax	pmax		
	comp=Z,31nm,1.5s						
M02C	Callahan	32.87	325	P	P	13 13 00.5	-0.5
	baz=132						
YBH	Yreka Blue Hor	33.02	325	LR	LR	13 28 31.2	
	comp=Z,736nm,19.1s,baz=154,slow=40						
PCRV	Puerto La Cruz	33.11	96	LR	LR	13 27 53.5	
	comp=Z,538nm,18.7s,baz=278,slow=39						
MSO	Missoula	33.16	340	P	P	13 13 03.8	+0.2
	baz=152						
J05D	Fort Rock, OR	33.33	329	P	P	13 13 05.2	0.0
	baz=137						
J04D	Umpqua Nationa	33.74	328	P	P	13 13 09.6	+0.8
	baz=136						
ULM	Lac du Bonnet	33.90	3	P	P	13 13 09.4	-0.5
	comp=Z,8.5nm,1.0s,baz=189,slow=9.0,SNR=9.4						
I05D	Terrebonne, OR	34.16	330	P	P	13 13 13.2	+1.0
	baz=138						
I04A	Tendick Farm,	34.29	328	P	P	13 13 13.8	+0.4
	baz=136						
LONY	Lake Ozonia	34.50	30	P	P	13 13 14.2	-0.9
	baz=222						
I03D	Drain, OR	34.71	327	P	P	13 13 17.1	+0.2
	baz=134						
G05D	Wamic, OR	34.82	331	P	P	13 13 18.4	+0.4
	baz=139						
NEW	Newport	35.49	338	LR	LR	13 28 18.3	
	comp=Z,474nm,20.4s,baz=166,slow=37						
NEW	Newport	35.49	338	P	P	13 13 24.2	+0.5
	baz=148						
LBNH	Lisbon	35.56	33	P	P	13 13 25.9	+1.5
	baz=227						
B08A	Colville Reser	36.40	336	*e*P	P	13 13 31.7	+0.2
D05A	Enumclaw	36.59	332	*e*P	P	13 13 34.6	+1.6
B05A	Bryant	37.46	333	P	P	13 13 40.3	-0.1
	baz=140						
PKME	Peaks-Kenny Pk	37.64	34	P	P	13 13 41.8	-0.2
	baz=229						
A04D	Lummi Island	38.07	333	P	P	13 13 45.2	-0.4
	baz=140,SNR=16						
FFC	Flin Flon	38.46	356	*e*P	P	13 13 48.6	-0.2
FFC	Flin Flon	38.46	356	*e*P	P	13 13 48.6	-0.2
EDM	Edmonton	38.73	345	*e*P	P	13 13 51.5	+0.3
EDM	Edmonton	38.73	345	*e*P	P	13 13 51.5	+0.3
LLLB	Lillooet	39.20	336	*e*P	P	13 13 55.8	+0.7
PTGA	Pitinga	41.26	111	P	P	13 14 11.1	-1.5
	comp=Z,7.2nm,0.8s,baz=292,slow=11,SNR=7.5						
FCC	Fort Churchill	42.49	3	*e*P	P	13 14 22.4	+0.4
FCC	Fort Churchill	42.49	3	*e*P	P	13 14 22.4	+0.4
SAML	Samuel	42.71	124	*e*P	P	13 14 19.9	-4.5
	comp=Z,19nm,1.2s						
LPAZ	La Paz	43.85	136	P	P	13 14 32.4	-1.9
	comp=Z,4.2nm,0.9s,baz=342,slow=6.6,SNR=13						
LPAZ				LR	LR	13 31 25.0	
	comp=Z,566nm,19.3s,baz=314,slow=34						
LPAZ	La Paz	43.85	136	*e*P	P	13 14 33.7	-0.6
LPAZ	La Paz	43.85	136	*e*P	P	13 14 33.7	-0.6
RPN	Rapa Nui	44.53	194	LR	LR	13 29 03.2	
	comp=Z,158nm,18.6s,baz=36,slow=31						
MNMC	Minye Minye	45.02	140	*e*P	P	13 14 42.3	-0.9
SCHQ	Schefferville	45.37	25	P	P	13 14 45.1	-0.1
	comp=Z,9.1nm,0.9s,baz=246,slow=4.1,SNR=6.1						
SCHQ				LR	LR	13 36 38.0	
	comp=Z,624nm,18.3s,baz=227,slow=40						
SCHQ	Schefferville	45.37	25	*e*P	P	13 14 46.5	+1.2
PB11	IPOC Station P	45.46	141	*e*P	P	13 14 46.0	-0.6
YKA	Yellowknife Ar	47.57	350	P	P	13 15 02.0	-0.4
	comp=Z,5.2nm,0.9s,baz=156,slow=7.5,SNR=37						
DLBC	Dease Lake	48.24	338	*e*P	P	13 15 10.0	+2.3
TAOE	Nuku Hiva Isla	48.55	242	*e*T	T	14 06 26.0	
	comp=Z,69nm,0.2s						
WHY	Whitehorse	51.56	338	*e*P	P	13 15 34.8	+1.7
HYT	Haines Junctio	52.64	337	*e*P	P	13 15 41.9	+0.8
RKT	Rikitea	53.26	224	*e*T	T	14 12 27.6	
	comp=Z,33nm,0.3s						
BALM	Baldy	54.65	335	*e*P	P	13 15 57.9	+2.1
BALM	Baldy	54.65	335	*e*P	P	13 15 57.9	+2.1
DAWY	Dawson	55.40	339	*e*P	P	13 16 01.6	+0.6
BMRM	Bremner River	55.53	335	*e*P	P	13 16 03.8	+1.7
EYAK	Cordova Ski Ar	55.78	334	*e*P	P	13 16 05.5	+1.7
DIV	Divide	56.09	334	*e*P	P	13 16 08.1	+1.9
MENT	Mentasta	56.26	337	*e*P	P	13 16 04.5	-2.7
KLU	Klutina	56.34	335	*e*P	P	13 16 09.5	+1.6
EGAK	Eagle	56.44	339	*e*P	P	13 16 08.4	-0.1
HARP	HAARP	56.52	336	*e*P	P	13 16 11.0	+1.9
INK	Inuvik	56.63	345	*e*P	P	13 16 09.4	-0.3
INK	Inuvik	56.63	345	*e*P	P	13 16 09.4	-0.3
DOT	Dot Lake	56.80	337	*e*P	P	13 16 12.3	+1.2
PAX	Paxson	56.95	336	*e*P	P	13 16 12.8	+0.6
PAX	Paxson	56.95	336	*e*P	P	13 16 12.8	+0.6
SCRK	Sand Creek	56.95	338	*e*P	P	13 16 14.0	+1.7
SCM	Sheep Creek Mo	57.10	335	*e*P	P	13 16 16.3	+3.0
SCM	Sheep Creek Mo	57.10	335	*e*P	P	13 16 16.3	+3.0
RIDG	Independ'e Rid	57.13	337	*e*P	P	13 16 14.2	+0.8
SML	Sawmill	57.50	334	*e*P	P	13 16 17.1	+1.0
SML	Sawmill	57.50	334	*e*P	P	13 16 17.1	+1.0
BRLK	Bradley Lake	57.68	332	*e*P	P	13 16 18.4	+1.0
KDAK	Kodiak Island	57.69	329	*ce*P	P	13 16 18.9	+1.5
PMR	Palmer	57.73	334	*e*P	P	13 16 17.7	+0.1
PMR	Palmer	57.73	334	*e*P	P	13 16 17.7	+0.1
DHY	Denali Highway	57.74	336	*e*P	P	13 16 18.7	+0.8
RC01	Rabbit Creek A	57.76	333	*e*P	P	13 16 18.5	+0.6
OHAK	Old Harbor	57.83	328	*e*P	P	13 16 18.6	+0.3
CPUP	Villa Florida	58.03	136	P	P	13 16 18.0	-2.2
	comp=Z,6.3nm,0.9s,baz=314,slow=8.2,SNR=7.9						
CPUP				LR	LR	13 40 17.0	
	comp=Z,308nm,21.9s,baz=327,slow=35						
CPUP	Villa Florida	58.03	136	*e*P	P	13 16 18.2	-1.9
CPUP	Villa Florida	58.03	136	*e*P	P	13 16 18.3	-1.9
PMOR	Pomariorio Ree	58.18	240	*e*T	T	14 18 28.2	
	comp=Z,4.1nm,0.2s						
HDA	Harding Lake	58.28	337	*e*P	P	13 16 21.6	+0.2
SUA	Susitna One	58.36	333	*e*P	P	13 16 22.6	+0.4
RES	Resolute Bay	58.41	1	*e*P	P	13 16 23.2	+1.1
RES	Resolute Bay	58.41	1	*e*P	P	13 16 23.2	+1.1
IL1	Eielson Array	58.45	338	*e*P	P	13 16 22.2	-0.4
ILAR	Eielson Array	58.45	338	P	P	13 16 22.9	+0.2
	comp=Z,7.7nm,1.0s,baz=138,slow=4.7,SNR=43						
ILAR				LR	LR	13 43 43.0	
	comp=Z,1µm,18.1s,baz=150,slow=38						
ILB	Eielson Array	58.45	338	*e*P	P	13 16 22.8	+0.2
RND	Reindeer	58.49	336	*e*P	P	13 16 23.9	+0.9
RND	Reindeer	58.49	336	*e*P	P	13 16 23.9	+0.9
MCK	McKinley	58.68	336	*e*P	P	13 16 24.4	+0.1
MCK	McKinley	58.68	336	*e*P	P	13 16 24.4	+0.1
CCB	Clear Creek Bu	58.72	337	*e*P	P	13 16 24.3	-0.2
WRH	Wood River Hil	58.73	337	*e*P	P	13 16 25.0	+0.4
COLA	College	58.85	338	*e*P	P	13 16 26.0	+0.6
COLA	College	58.85	338	*e*P	P	13 16 26.0	+0.6
FYU	Fort Yukon	58.87	340	*e*P	P	13 16 27.3	+1.9
MDM	Murphy Dome	59.03	338	*e*P	P	13 16 26.8	+0.1
TRF	Thorofare Moun	59.08	336	*e*P	P	13 16 27.1	-0.1
SFJD	Kangerlussuaq	59.22	20	LR	LR	13 44 07.1	
	comp=Z,279nm,18.9s,baz=245,slow=38						
SFJD	Kangerlussuaq	59.22	20	*i* P	P	13 16 28.5	+0.6
SFJD	Kangerlussuaq	59.22	20	*e*P	P	13 16 28.5	+0.6
KTH	Kantishna Hill	59.38	336	*e*P	P	13 16 28.2	-1.0
	comp=Z,16nm,0.9s						
PPLA	Purkeypile	59.60	335	*e*P	P	13 16 31.0	+0.2
BPAW	Bear Paw Mtn.	59.66	336	*e*P	P	13 16 31.1	+0.1
CAST	Castle Rocks	59.78	335	*e*P	P	13 16 31.4	-0.6
MLY	Manley	60.00	337	*e*P	P	13 16 33.6	+0.2
SVW2	Sparrevohn	60.35	332	*e*P	P	13 16 35.0	-0.8
COLD	Coldfoot	60.88	339	*e*P	P	13 16 40.4	+1.0
PPT2	Papeete2	60.88	239	*e*LR	LR	13 34 35.5	
	comp=Z,109nm,22.8s						
TOLK	Toolik Lake Re	61.39	341	P	P	13 16 42.2	-0.6
	baz=121,SNR=7.7						
TOLK	Toolik Lake Re	61.39	341	*e*P	P	13 16 43.2	+0.4
IM3	Indian Mountai	61.55	337	*e*P	P	13 16 43.2	-0.7
PLCA	Paso Flores	62.25	157	P	P	13 16 48.0	-1.0
	comp=Z,9.0nm,1.0s,baz=345,slow=7.7,SNR=7.9						
PLCA				LR	LR	13 38 21.0	
	comp=Z,487nm,19.7s,baz=350,slow=31						
PLCA	Paso Flores	62.25	157	*e*P	P	13 16 48.1	-0.9
PLCA	Paso Flores	62.25	157	*e*P	P	13 16 48.1	-0.9
RCBR	Riachuelo	65.33	104	*e*P	P	13 17 10.7	+0.9
SUMG	Summit	65.65	17	*i* P	P	13 17 12.8	+1.5
SUMG	Summit	65.65	17	*e*P	P	13 17 12.0	+0.7
SUMG	Summit	65.65	17	*e*P	P	13 17 12.8	+1.5
BORG	Borgarnes	69.74	26	LR	LR	13 51 15.6	
	comp=Z,157nm,18.1s,baz=28,slow=38						
SCO	Scoresbysund	70.12	20	*i* P	P	13 17 43.1	+4.1
	comp=Z,5.2nm,1.1s						
SCO	Scoresbysund	70.12	20	*e*P	P	13 17 43.1	+4.1
SCO				pmax	pmax		
	comp=Z,5.0nm,1.1s						
DAG	Danmarks Havn	71.81	14	*i* P	P	13 17 48.3	-0.9
DAG	Danmarks Havn	71.81	14	*i* P	P	13 17 48.3	-0.9
EFI	East Falkland	76.15	156	*i* P	P	13 18 17.2	+2.5
BILL	Bilibino	77.11	337⇓	*i*P	P	13 18 19.8	-0.3
BILL				*e*		13 21 15.6	
BILL				*e*PPP	PPP	13 22 58.3	
BILL				*e*S	S	13 28 00.1	-7.7
BILL				pmax	pmax		
	comp=Z,11nm,1.3s						
BILL				MLR	MLR		
	comp=Z,480nm,17.0s						
EKA	Eskdalemuir Ar	79.53	35	P	P	13 18 32.6	-1.1
	comp=Z,1.9nm,0.8s,baz=289,slow=4.4,SNR=4.3						
ESDC	Sonseca Array	82.88	51	P	P	13 18 51.7	-0.3
	comp=Z,2.1nm,0.9s,baz=292,slow=6.8,SNR=3.5						
ES19	SONSECA Array	82.92	51	*e*P	P	13 18 55.5	+3.4
SEY	Seymchan	84.18	334	*ce*P	P	13 18 59.5	+1.4
KONO	Kongsberg	84.71	29	*ce*P	P	13 19 03.2	+2.4
KONO				pmax	pmax		
	comp=Z,36nm,2.5s						
NB2	NORSAR Subarra	84.88	27	P	P	13 19 00.9	-0.8
	comp=Z,21nm,1.7s,baz=304,slow=4.8						
NB2	NORSAR Subarra	84.88	27	P	P	13 19 00.9	-0.8
	baz=304,slow=4.8						
NOA	NORSAR Array B	84.88	27	P	P	13 19 02.3	+0.6
	comp=Z,0.8nm,0.8s,baz=307,slow=5.1,SNR=2.9						
NOA				LR	LR	13 56 18.3	
	comp=Z,86nm,21.9s,baz=310,slow=35						
MA2	Magadan	86.33	332⇑	*e*P	P	13 19 10.8	+1.9
MA2				pmax	pmax		
	comp=Z,16nm,1.5s						
HFS	Hagfors	86.38	28	P	P	13 19 10.7	+1.6
	comp=Z,2.8nm,0.9s,baz=127,slow=3.8,SNR=3.3						
HFS				LR	LR	14 00 25.7	
	comp=Z,105nm,18.5s,baz=346,slow=38						
TIXI	Tiksi	86.72	347	*e*P	P	13 19 11.0	+0.4
TIXI	Tiksi	86.72	347	*ce*P	P	13 19 11.0	+0.4
TIXI				pmax	pmax		
	comp=Z,21nm,2.5s						
KOWA	Kowa	89.82	75	P	P	13 19 26.1	-0.3
	comp=Z,1.2nm,0.3s,baz=130,slow=10.0,SNR=3.8						
KOWA				LR	LR	13 55 43.5	
	comp=Z,193nm,21.4s,baz=224,slow=33						
BRG	Berggiesshubel	90.71	36	*e*P	P	13 19 46.5	+17
	comp=Z,13nm,1.6s						
FINES	FINESS Array B	90.83	23	P	P	13 19 31.3	+1.1
	comp=Z,2.2nm,0.9s,baz=354,slow=1.9,SNR=4.3						
FINES				LR	LR	14 03 36.7	
	comp=Z,211nm,19.1s,baz=318,slow=38						
DBIC	Dimbokro	91.25	83	LR	LR	13 55 20.6	
	comp=Z,127nm,21.7s,baz=277,slow=32						
GERES	GERESS Array B	91.49	38	LR	LR	14 01 16.4	
	comp=Z,154nm,19.6s,baz=300,slow=36						
TORD	Torodi Ar. Bea	95.51	75	P	P	13 19 51.1	-1.6
	comp=Z,1.2nm,0.9s,baz=267,slow=2.9,SNR=3.7						
TORD				LR	LR	13 59 06.0	
	comp=Z,210nm,21.6s,baz=350,slow=33						
KLMR	Klimovskoe	95.96	19	*e*P	P	13 19 53.9	+0.1
KLMR				AMP		13 20 08.8	
	comp=Z,10.0nm,1.5s						
KLMR	Klimovskoe	95.96	19	*e*P	P	13 19 53.9	+0.1
KLMR				pmax	pmax		
	comp=Z,10.0nm,1.5s						
KIEV	Kiev	98.91	31	*i* P	Pdif	13 20 09.6	+2.3
KIEV				pmax	pmax		
	comp=Z,1.0nm,0.8s						
AKASG	Malin Array Be	98.91	31	LR	LR	14 08 48.4	
	comp=Z,105nm,18.2s,baz=280,slow=38						
KURK	Kurchatov	113.21	2	PP	PP	13 25 56.4	+3.1
KURBB	Kurchatov Arra	113.30	2	PP	PP	13 25 56.4	+2.4
	comp=Z,0.9nm,0.9s,baz=354,slow=6.2,SNR=5.8						
HHC	Hu-ho-hao-te	116.82	335	*e*PKP	PKPdf	13 25 13.3	+1.3
HHC				PP	PP	13 26 21.4	+2.0
HHC				SKS	SKSdf	13 32 18.0	-5.3
HHC				SS	SS	13 42 30.5	+5.7
HHC				AMB	AMB		
	comp=Z,100nm,9.2s						
HHC				LR	LR		
	comp=Z,350nm,19.8s						
HHC				LR	LR		
	comp=Z,280nm,18.8s						
HHC				LR	LR		
	comp=Z,310nm,19.2s						
MKAR	Makanchi Array	117.19	360	PKP	PKPdf	13 25 12.6	+0.1
	comp=Z,0.5nm,0.9s,baz=278,slow=1.0,SNR=2.5						
WMQ	Urumqi	119.93	355	*e*PKP	PKPdf	13 25 17.4	-0.5
WMQ				LR	LR		
	comp=Z,330nm,26.1s						
WMQ				LR	LR		
	comp=Z,210nm,26.1s						
WMQ				LR	LR		
	comp=Z,340nm,20.9s						
NJ2	Nanjing	120.28	324	*e*PKP	PKPdf	13 25 18.8	+0.1
GTA	Gaotai	122.10	344	*e*PKP	PKPdf	13 25 21.9	-0.3
GTA				sPKP		13 25 27.8	
GTA				PP	PP	13 27 00.9	+5.3
GTA				SKKS		13 33 56.3	
GTA				SS	SS	13 43 38.3	+5.8
GTA				AMB	AMB		
	comp=Z,110nm,6.1s						
GTA				LR	LR		
	comp=Z,180nm,21.9s						
GTA				LR	LR		
	comp=Z,130nm,16.6s						
GTA				LR	LR		
	comp=Z,230nm,19.0s						
LZH	Lanzhou	123.91	339	*e*PKP	PKPdf	13 25 22.4	-3.4
LZH				sPKP		13 25 37.3	
LZH				*e*PP	PP	13 27 08.6	+0.7
LZH				AMB	AMB		
	comp=Z,390nm,8.6s						
LZH				LR	LR		
	comp=Z,470nm,15.4s						
LZH				LR	LR		
	comp=Z,480nm,15.7s						
LZH				LR	LR		
	comp=Z,490nm,17.0s						
STKA	Stephens Creek	123.98	242	PKP	PKPdf	13 25 23.8	-2.0
	comp=Z,5.4nm,0.9s,baz=318,slow=0.6,SNR=7.7						
KSH	Kashi	124.19	6	PKP	PKPdf	13 25 28.5	+2.3
BOSA	Boshof	126.67	114	PKP	PKPdf	13 25 29.6	-1.6
	comp=Z,4.5nm,0.9s,baz=194,slow=8.3,SNR=2.6						
CD2	Chengdu	128.56	336	PKP	PKPdf	13 25 33.0	-1.7
WRAB	Tennant Creek	130.18	257	*c i*PKIKP	PKPdf	13 25 36.8	-1.2
WRAB				pmax	pmax		
	comp=Z,28nm,2.5s						
WRA	Warramunga Arr	130.19	257	PKP	PKPdf	13 25 36.6	-1.4
	comp=Z,5.3nm,1.0s,baz=87,slow=2.7,SNR=23						
ASAR	Alice Springs	130.80	253	PKP	PKPdf	13 25 37.1	-2.0
	comp=Z,2.8nm,0.9s,baz=87,slow=2.5,SNR=19						
GYA	Guiyang	131.15	330	*e*Pdif	Pdif	13 22 30.0	-1.5
GYA				PKP	PKPdf	13 25 38.6	-1.2
GYA				PP	PP	13 28 00.4	+4.5
GYA				AMB	AMB		
	comp=Z,140nm,8.2s						
KMI	Kunming	134.08	333	PKP	PKPdf	13 25 48.6	+3.1
CMAR	Chiang Mai Arr	141.59	333	PKP	PKPdf	13 25 59.7	+0.5
	comp=Z,0.9nm,0.9s,baz=348,slow=2.4,SNR=5.6						
HYB	Hyderabad	146.32	6	*i* PKP	PKPdf	13 26 07.0	-0.5
OPO	Ambohidratompo	146.84	99	PKPbc	PKPbc	13 26 10.1	-0.2
	comp=Z,19nm,0.9s,baz=275,slow=4.2,SNR=7.5						
KSM	Kuching	146.85	300	*e*PKPbc	PKPdf	13 26 09.1	+0.6
ABPO	Ambohimpanom	146.88	100	*e*PKPbc	PKPbc	13 26 10.3	-0.1
ABPO	Ambohimpanom	146.88	100	*e*PKP2	PKPbc	13 26 10.3	-0.1

IDC 13 13:10:19.5±412.0, 47°49N×48°20E, h0km, Error ellipse: s-maj=161.6km s-min=137.6km az=18.0, Western Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I31KZ	**AKTYUBINSK INF**	**7.11**	**62**	*i*		13 54 40.0	
	baz=250,slow=318,SNR=8.8						
I43RU	**DUBNA INFRASON**	**1.43**	**328**	*i*		14 21 10.0	
	baz=139,slow=330,SNR=2.8						
I26DE	**FREYUNG INFRAS**	**22.93**	**286**	*i*		15 31 00.0	
	baz=82,slow=330,SNR=1.9						

*ISCJB **13** 13:18:46.9±0.6, 16°26N×99°25W±0°04, h16km, mb3.9/11, Error ellipse: s-maj=8.6km s-min=4.8km az=14.1*
*IDC **13** 13:18:47.2±1.1, 16°31N×99°03W, h0km, mb3.9/8, mb1 4.1/11, mb1mx3.9/47, mbtmp3.8/11, ML3.5/2, Error ellipse: s-maj=39.0km s-min=16.0km az=56.0*
*NEIC **13** 13:18:48.9±0.0, 16°18N×99°32W, h15km, mb4.1/4, MD4.2(MEX), After MEX.*
*MEX **13** 13:18:48.9±0.9, 16°18N×99°32W, h15km, MD4.2*
ISC 13 13:18:48.5±0.8, 16°37N±0°06×99°24W±0°04, h16km, n23, σ1§92/32, mb4.1/11, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**1.06**	**89**	*i* P	**Pb**	**13 19 07.3**	**-1.3**
PNIG				*e*S	**Sb**	**13 19 20.4**	**-2.0**
PNIG	**Pinotepa**	**1.06**	**89**	*i* P	**Pb**	**13 19 07.3**	**-1.3**
PNIG				*e*S	**Sb**	**13 19 20.4**	**-2.0**
CAIG	**El Cayaco**	**1.20**	**304**	*e*P	**Pn**	**13 19 07.8**	**-2.8**
CAIG				*e*S	**Sb**	**13 19 23.7**	**-2.3**
CAIG	**El Cayaco**	**1.20**	**304**	*e*P	**Pn**	**13 19 07.8**	**-2.8**
CAIG				*e*S	**Sb**	**13 19 23.7**	**-2.3**
TLIG	**Tlapa**	**1.35**	**28**	*e*P	**Pb**	**13 19 13.3**	**-0.1**
TLIG				*e*S	**Sg**	**13 19 31.0**	**-1.2**
TLIG	**Tlapa**	**1.35**	**28**	*e*P	**Pb**	**13 19 13.3**	**-0.1**
TLIG				*e*S	**Sg**	**13 19 31.0**	**-1.2**
VHO	**Vista Hermosa**	**2.50**	**73**	*e*P	**Pn**	**13 19 29.1**	**+0.4**
VHO				*e*S	**Sn**	**13 20 00.3**	**+1.3**
VHO	**Vista Hermosa**	**2.50**	**73**	*e*P	**Pn**	**13 19 29.1**	**+0.4**
VHO				*e*S	**Sn**	**13 20 00.3**	**+1.3**
CMIG	**Matias Romero**	**4.23**	**80**	Pn	**Pn**	**13 19 51.9**	**-0.5**
	4.8nm,0.3s,baz=262,slow=11,SNR=34						
CMIG				Sn	**Sn**	**13 20 41.9**	**+0.4**
	11nm,0.3s,baz=343,slow=14,SNR=5.9						
CMIG				Lg	Lg	13 21 08.4	
	32nm,0.3s,baz=341,slow=18,SNR=9.7						
APG	**El Apazote**	**8.56**	**98**	Pn	**Pn**	**13 20 50.9**	**-1.2**
	0.4nm,0.3s,baz=353,slow=21,SNR=8.6						
TXAR	**Lajitas Array**	**13.53**	**343**	Pn	**P**	**13 22 04.3**	**-4.7**
	baz=160,slow=12,SNR=2.1						
TXAR				Lg	Lg	13 26 03.8	
	0.0nm,0.3s,baz=161,slow=30,SNR=4.0						
MIAR	**Mount Ida**	**18.80**	**15**	*e*P	**Pn**	**13 23 09.2**	**+1.3**
	4.6nm,0.9s						
WUAZ	**Wupatki**	**21.93**	**333**	*e*P	**P**	**13 23 41.9**	**+0.4**
	9.4nm,1.0s						
SRU	**San Rafael Swe**	**24.72**	**339**	*e*P	**P**	**13 24 11.0**	**+1.7**
	4.6nm,0.9s						
O20A	**White River Ci**	**24.94**	**343**	P	**P**	**13 24 12.7**	**+1.4**
	6.2nm,1.0s						
NVAR	**Mina Array Bea**	**27.63**	**326**	P	**P**	**13 24 39.8**	**+4.1**
	1.3nm,0.9s,baz=145,slow=11,SNR=6.5						
PDAR	**Pinedale Array**	**27.75**	**344**	P	**P**	**13 24 39.2**	**+2.5**
	1.2nm,1.0s,baz=134,slow=6.4,SNR=8.1						
ULM	**Lac du Bonnet**	**33.90**	**4**	P	**P**	**13 25 30.9**	**+0.3**
	2.4nm,0.7s,baz=186,slow=5.3,SNR=4.1						
LPAZ	**La Paz**	**44.66**	**135**	P	**P**	**13 27 01.5**	**0.0**
	0.6nm,0.6s,baz=341,slow=11,SNR=3.8						
YKA	**Yellowknife Ar**	**47.32**	**350**	P	**P**	**13 27 22.5**	**+1.4**
	0.8nm,0.8s,baz=158,slow=7.2,SNR=11						
ILAR	**Eielson Array**	**57.98**	**338**	P	**P**	**13 28 42.1**	**+2.1**
	1.5nm,1.1s,baz=135,slow=4.6,SNR=9.6						
CPUP	**Villa Florida**	**58.83**	**136**	P	**P**	**13 28 45.1**	**-1.4**
	1.9nm,0.8s,baz=346,slow=5.8,SNR=4.2						
PLCA	**Paso Flores**	**62.75**	**156**	P	**P**	**13 29 13.9**	**+0.9**
	3.3nm,1.1s,baz=22,slow=5.2,SNR=4.3						

MAN 13 13:21:28, 10°06N×123°11E, h48km, mb4.3, ML3.1, MS2.8, Cebu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNPH	**Sibulan**	**0.72**	**170**	*e*P	Pn	13 21 43.5	+1.4
SNPH				*e*S	Sn	13 21 54.8	+2.6
GUIM	**Jordan**	**0.76**	**317**	*e*P	Pn	13 21 44.0	+1.5
GUIM				*e*S	Sn	13 21 55.5	+2.5
MSLP	**Maasin**	**1.72**	**87**	*e*P	Pn	13 21 56.3	+0.8
MSLP				*e*S	Sn	13 22 17.8	+1.4

*CSEM **13** 13:27:51.4, 40.16N×32.86E, h7km, ML2.5*
DDA 13 13:27:51.4, 40.16N×32.86E, h7km, Ml2.5, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMDR	**Camlidere-ANKA**	**0.44**	**319**	*i* P	Pg	13 28 00.2	+0.1
CMDR	**Camlidere-ANKA**	**0.44**	**319**	P	Pg	13 28 00.2	+0.2
ELDT	**Eldivan**	**0.55**	**53**	*i* P	Pg	13 28 02.2	+0.1
ELDT				*i* S	Sg	13 28 10.2	+1.0
ELDT	**Eldivan**	**0.55**	**53**	P	Pg	13 28 02.2	+0.2
ELDT				S	Sg	13 28 10.2	+1.0
AFSR	**Afˇar-Bala (A**	**0.73**	**167**	PG	Pg	13 28 02.9	-2.6
AFSR				SG	Sg	13 28 14.9	-0.1
KKUL	**Konya-Kulu**	**0.99**	**177**	*i* P	Pb	13 28 11.1	+0.2
KKUL				*i* S	Sb	13 28 24.6	+0.4
KKUL	**Konya-Kulu**	**0.99**	**177**	P	Pb	13 28 11.1	+0.2
KKUL				S	Sb	13 28 24.6	+0.4
ILGA	**Ilgaz**	**1.11**	**36**	*i* P	Pb	13 28 12.9	-0.2
ILGA	**Ilgaz**	**1.11**	**36**	P	Pb	13 28 12.9	-0.1
SERE	**Sereflikochisa**	**1.33**	**155**	PG	Pn	13 28 09.8	-6.7
CORM	**Corum**	**1.36**	**89**	PG	Pn	13 28 08.1	-8.8
YOZ	**Yozgat**	**1.97**	**105**	PG	Pn	13 28 18.7	-6.6

*ISCJB **13** 13:29:30.7±0.9, 1.4N±0.1×91.88E±0.07, h10km, mb3.6/9, Error ellipse: s-maj=19.1km s-min=9.4km az=10.5*
*IDC **13** 13:29:31.2±1.0, 1.43N×91.84E, h0km, mb3.5/9, mb1 3.7/12, mb1mx3.5/70, mbtmp3.6/12, ML3.7/3, Error ellipse: s-maj=31.2km s-min=17.2km az=38.0*
ISC 13 13:29:32.4±1.0, 1.4N±0.2×91.84E±0.09, h10km, n15, σ1§20/14, mb3.8/9, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**7.21**	**79**	Pn	**Pn**	**13 31 16.1**	**-2.1**
	0.8nm,0.3s,baz=128,slow=18,SNR=3.7						
PSI				Sn	**Sn**	**13 32 40.4**	**+0.1**
	1.4nm,0.3s,baz=23,slow=15,SNR=2.8						
PALK	**Pallekele**	**12.53**	**298**	Pn	**Pn**	**13 32 28.9**	**-2.1**
	0.9nm,0.3s,baz=115,slow=14,SNR=5.7						
PALK				Sn	Sn	13 34 36.1	-15
	7.3nm,0.3s,baz=113,slow=1.3,SNR=12						
CMAR	**Chiang Mai Arr**	**18.31**	**22**	P	**P**	**13 33 47.3**	**+0.5**
	0.1nm,0.3s,baz=218,slow=11,SNR=3.5						
H08S2	**Diego Garcia H**	**21.30**	**245**	T	T	13 55 57.9	
	baz=64,slow=74,SNR=6.1						
H08S3	**Diego Garcia H**	**21.30**	**245**	T	T	13 55 57.8	
	baz=64,slow=74,SNR=7.2						
H08S1	**Diego Carcia H**	**21.31**	**245**	T	T	13 56 00.4	
	baz=64,slow=74,SNR=6.8						
MKAR	**Makanchi Array**	**45.95**	**351**	P	**P**	**13 37 55.7**	**+0.1**
	0.3nm,0.8s,baz=157,slow=7.8,SNR=2.7						
WRA	**Warramunga Arr**	**46.76**	**119**	P	**P**	**13 38 02.3**	**-0.1**
	1.3nm,0.8s,baz=296,slow=8.8,SNR=6.4						
GEYT	**Alibeck**	**47.73**	**324**	P	**P**	**13 38 11.4**	**+1.7**
	0.8nm,0.4s,baz=148,slow=8.5,SNR=3.0						
ASAR	**Alice Springs**	**47.88**	**124**	P	**P**	**13 38 11.8**	**+0.7**
	0.3nm,0.8s,baz=301,slow=7.5,SNR=4.5						
ASAR				PcP	**PcP**	**13 39 40.8**	**+1.0**
	0.4nm,0.7s,baz=305,slow=3.2,SNR=4.6						
SONM	**Songino Array**	**47.92**	**13**	P	**P**	**13 38 12.6**	**+1.4**
	0.7nm,0.6s,baz=213,slow=6.9,SNR=2.4						
KURBB	**Kurchatov Arra**	**50.30**	**349**	P	**P**	**13 38 28.6**	**-0.6**
	0.1nm,0.6s,baz=172,slow=6.3,SNR=2.7						
ZALV	**Zalesovo Beam**	**52.67**	**355**	P	**P**	**13 38 46.5**	**-0.4**
	0.5nm,0.5s,baz=177,slow=10.0,SNR=2.4						
BRTR	**Keskin Array B**	**65.04**	**314**	P	**P**	**13 40 12.9**	**-0.4**
	0.3nm,0.5s,baz=121,slow=9.8,SNR=2.4						
GERES	**GERESS Array B**	**81.12**	**319**	P	**P**	**13 41 48.8**	**+0.5**
	0.4nm,0.5s,baz=117,slow=5.6,SNR=3.2						

*NEIC **13** 13:29:43.8±1.2, 1.51N×92.40E, h10km, mb4.1/1, Error ellipse: s-maj=34.6km s-min=13.6km az=199.0*
*ISCJB **13** 13:29:44.9±0.8, 1.54N±0.08×92.46E±0.06, h33km, mb4.2/8, Error ellipse: s-maj=11.5km s-min=8.8km az=18.7*
*DJA **13** 13:29:44.6±2.3, 2.2N±5.5×9.2E±2.0, h10km, M4.7/7, mb4.8/7, mB5.4/4, MLv4.7/7, Mw(mB)4.8/4*
*IDC **13** 13:29:46.9±6.7, 1.80N×91.41E, h0km, mb4.1/7, mb1 4.3/7, mb1mx3.6/66, mbtmp4.1/7, Error ellipse: s-maj=148.6km s-min=47.9km az=151.0*
ISC 13 13:29:47.2±1.0, 1.53N±0.09×92.4E±0.1, h35km, n17, σ1§13/17, mb4.1/8, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLSI	**Meulaboh, Aceh**	**4.82**	**56**	P	**Pn**	**13 30 57.8**	**+0.5**
BSI	**Banda Aceh**	**4.88**	**36**	P	**Pn**	**13 30 56.6**	**-1.5**
BSI				S	**Sn**	**13 31 52.8**	**-0.6**
TPTI		**5.06**	**70**	P	**Pn**	**13 31 00.7**	**+0.1**
	116nm,0.7s,2µm						
GSI	**Gunungsitoli**	**5.16**	**92**	P	**Pn**	**13 31 01.8**	**-0.2**
	128nm,0.4s,3µm						
GSI	**Gunungsitoli**	**5.16**	**92**	*e*Pn	**Pn**	**13 31 01.6**	**-0.4**
	122nm,0.3s						
GSI				*e*Sn	Sn	13 32 10.3	+10
MNSI	**Mandailing Nat**	**7.20**	**96**	P	**Pn**	**13 31 29.9**	**-0.1**
	119nm,0.5s,3µm						
SISI	**Saibi**	**7.25**	**113**	P	**Pn**	**13 31 28.5**	**-2.2**
	65nm,0.5s						
PDSI	**Padang**	**8.40**	**107**	P	**Pn**	**13 31 46.6**	**0.0**
	40nm,0.9s,4µm						
IPM	**Ipoh**	**9.08**	**71**	Pn	**Pn**	**13 31 54.7**	**-1.2**
	9.1nm,0.4s						
MKAR	**Makanchi Array**	**45.94**	**350**	P	**P**	**13 38 08.6**	**+1.9**
	0.8nm,0.6s,baz=175,slow=9.9,SNR=11						
WRAB	**Tennant Creek**	**46.32**	**120**	P	**P**	**13 38 10.9**	**+0.8**
	1.8nm,0.8s						
SONM	**Songino Array**	**47.69**	**13**	P	P	13 38 25.6	+5.1
	3.4nm,0.6s,baz=194,slow=9.4,SNR=12						
GEYT	**Alibeck**	**47.99**	**323**	P	**P**	**13 38 22.0**	**-0.9**
	2.3nm,0.7s,baz=142,slow=7.5,SNR=4.3						
ZALV	**Zalesovo Beam**	**52.62**	**354**	P	**P**	**13 38 58.4**	**+0.9**
	1.2nm,0.4s,baz=172,slow=7.0,SNR=5.8						
KBZ	**Khabaz**	**60.74**	**321**	P	**P**	**13 39 55.0**	**-0.5**
	2.1nm,0.7s,baz=103,slow=2.5,SNR=6.2						
BRTR	**Keskin Array B**	**65.39**	**313**	P	**P**	**13 40 25.2**	**-1.3**
	0.6nm,0.6s,baz=136,slow=8.0,SNR=3.5						
GERES	**GERESS Array B**	**81.42**	**319**	P	**P**	**13 42 01.7**	**+0.9**
	1.4nm,0.8s,baz=111,slow=6.4,SNR=8.7						

*ISCJB **13** 13:37:32.6±1.8, 36.96N×0.04×141.51E±0.06, h13km±11km, mb3.5/3, Error ellipse: s-maj=8.2km s-min=5.9km az=8.1*
*IDC **13** 13:37:32.4±1.7, 36.99N×141.45E, h0km, mb3.5/3, mb1 3.5/6, mb1mx3.2/63, mbtmp3.5/6, ML3.1/3, Error ellipse: s-maj=34.0km s-min=22.3km az=95.0*
*JMA **13** 13:37:34.8±0.1, 36.96N×141.33E, h28km±1km, M3.2*
ISC 13 13:37:35.9±1.4, 36.99N±0.04×141.26E±0.06, h18km±6km, n19, σ0§77/22, mb3.5/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.39**	**287**	P	**Pg**	**13 37 43.9**	**-0.1**
ONAJ				*e*S	**Sg**	**13 37 50.5**	**+1.1**
JFK	**Kawauchi**	**0.49**	**321**	P	**Pb**	**13 37 45.6**	**-0.4**
JFK				S	**Sb**	**13 37 53.3**	**+0.5**
JHO	**Hitachi**	**0.67**	**236**	P	**Pg**	**13 37 48.6**	**-0.5**
JHO				S	**Sg**	**13 37 58.3**	**+0.2**
JFT	**Otama**	**0.91**	**306**	P	**Pg**	**13 37 53.1**	**-0.5**
JFT				S	**Sg**	**13 38 06.3**	**+0.8**
JMM	**Marumori**	**0.95**	**337**	P	**Pb**	**13 37 52.9**	**-1.0**
JMM				S	**Sg**	**13 38 06.3**	**-0.6**
JSB	**Shiboa**	**1.07**	**269**	P	**Pn**	**13 37 55.8**	**-0.3**
MJAR	**Matsushiro Arr**	**2.49**	**261**	Pn	**Pn**	**13 38 16.1**	**+0.5**
	1.5nm,0.3s,baz=89,slow=14,SNR=21						
MJAR				Sn	**Sb**	**13 38 50.8**	**+0.4**
	2.2nm,0.3s,baz=69,slow=17,SNR=5.7						
MAT	**Matsushiro**	**2.49**	**261**	P	**Pn**	**13 38 16.4**	**+0.8**
MAT				*e*S	**Sb**	**13 38 50.9**	**+0.4**
JHJ	**Hachijo jima 2**	**4.05**	**198**	Pn	**Pn**	**13 38 38.2**	**+1.3**
	3.2nm,0.3s,baz=146,slow=17,SNR=3.3						
JHJ				Sn	**Sn**	**13 39 23.6**	**-0.3**
	4.1nm,0.3s,baz=241,slow=19,SNR=1.9						
ASAJ	**Asahikawa**	**7.19**	**8**	Pn	**Pn**	**13 39 20.2**	**+0.1**
	0.5nm,0.3s,baz=267,slow=11,SNR=7.7						
ASAJ				Sn	**Sn**	**13 40 42.8**	**+1.4**
	0.1nm,0.3s,baz=198,slow=19,SNR=2.9						
H11N2	**WAKE ISLAND Hy**	**28.23**	**120**	T	T	14 12 53.3	
	baz=313,slow=75,SNR=120						
H11N1	**WAKE ISLAND Hy**	**28.24**	**121**	T	T	14 12 53.9	
	baz=313,slow=75,SNR=108						
H11N3	**WAKE ISLAND Hy**	**28.25**	**120**	T	T	14 12 54.6	
	baz=313,slow=75,SNR=89						
H11S1	**WAKE ISLAND Hy**	**28.94**	**123**	T	T	14 13 48.1	
	baz=315,slow=76,SNR=39						
H11S3	**WAKE ISLAND Hy**	**28.95**	**123**	T	T	14 13 47.8	
	baz=315,slow=76,SNR=34						
H11S2	**WAKE ISLAND Hy**	**28.95**	**123**	T	T	14 13 45.6	
	baz=315,slow=76,SNR=21						
MKAR	**Makanchi Array**	**44.04**	**302**	P	**P**	**13 45 42.1**	**-0.4**
	0.4nm,0.6s,baz=88,slow=9.7,SNR=4.0						
KURBB	**Kurchatov Arra**	**45.93**	**308**	P	**P**	**13 45 57.3**	**-0.1**
	0.7nm,0.7s,baz=81,slow=7.6,SNR=6.0						
WRA	**Warramunga Arr**	**57.00**	**188**	P	**P**	**13 47 19.4**	**-1.1**
	0.2nm,0.5s,baz=3.3,slow=7.2,SNR=5.4						

IDC 13 13:38:19.9±2.7, 2.33N×93.91E, h0km, mb3.4/5, mb1 3.5/6, mb1mx3.2/64, mbtmp3.4/6, ML3.3/1, Error ellipse: s-maj=93.5km s-min=26.7km az=58.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**16.77**	**17**	Pn	Pn	13 42 15.1	-1.2
	0.0nm,0.3s,baz=210,slow=14,SNR=3.5						
MKAR	**Makanchi Array**	**45.43**	**349**	P	P	13 46 40.4	-0.1
	0.3nm,0.7s,baz=74,slow=7.1,SNR=3.0						
WRA	**Warramunga Arr**	**45.43**	**121**	P	P	13 46 40.6	-0.3
	0.2nm,0.5s,baz=300,slow=8.6,SNR=3.0						
SONM	**Songino Array**	**46.59**	**12**	P	P	13 46 50.3	+0.5
	0.2nm,0.3s,baz=202,slow=11,SNR=2.9						
KURBB	**Kurchatov Arra**	**49.85**	**347**	P	P	13 47 14.4	-0.3
	0.1nm,0.3s,baz=174,slow=7.0,SNR=3.7						
ZALV	**Zalesovo Beam**	**51.99**	**353**	P	P	13 47 30.7	-0.1
	0.7nm,0.4s,baz=181,slow=9.7,SNR=3.3						

IDC 13 13:46:40.3±1.5, 2.10N×91.71E, h0km, mb3.5/6, mb1 3.8/8, mb1mx3.5/63, mbtmp3.6/8, ML3.9/1, MS2.9/1, Ms1 2.9/1, ms1mx2.5/52, Error ellipse: s-maj=44.4km s-min=25.8km az=48.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**7.24**	**84**	LR	LR	13 50 35.8	
	comp=Z,89nm,18.1s,baz=295,slow=33						
PALK	**Pallekele**	**12.11**	**295**	Pn	Pn	13 49 32.3	-2.1
	0.7nm,0.3s,baz=119,slow=11,SNR=5.9						
CMAR	**Chiang Mai Arr**	**17.73**	**23**	P	Pn	13 50 47.6	-1.2
	baz=219,slow=13,SNR=4.1						
MKAR	**Makanchi Array**	**45.27**	**351**	P	P	13 54 58.4	-1.3
	0.3nm,0.5s,baz=165,slow=9.7,SNR=3.5						
WRA	**Warramunga Arr**	**47.20**	**120**	P	P	13 55 14.1	-1.2
	0.5nm,0.6s,baz=298,slow=8.3,SNR=2.8						
SONM	**Songino Array**	**47.30**	**13**	P	P	13 55 16.5	+0.8
	0.4nm,0.6s,baz=194,slow=11,SNR=3.4						
KURBB	**Kurchatov Arra**	**49.62**	**349**	P	P	13 55 31.6	-1.8
	0.2nm,0.4s,baz=187,slow=38,SNR=3.5						
ZALV	**Zalesovo Beam**	**51.99**	**355**	P	P	13 55 51.8	+0.6
	0.4nm,0.4s,baz=170,slow=8.8,SNR=2.9						
GERES	**GERESS Array B**	**80.53**	**319**	P	P	13 58 55.6	+0.9
	0.2nm,0.3s,baz=137,slow=6.3,SNR=3.0						
TXAR	**Lajitas Array**	**145.45**	**24**	PKPbc	PKPab	14 06 22.4	+1.0
	0.1nm,0.5s,baz=330,slow=3.4,SNR=2.4						

*UCR **13** 13:49:53.7±1.7, 15.02N×92.34W, h35km±999km, ML3.7*

*ISCJB **13** 13:49:54.4±0.4, 14.84N±0.03×92.29W±0.03, h104km±3km, mb4.5/45, Error ellipse: s-maj=5.9km s-min=2.9km az=137.8*
*NEIC **13** 13:49:54.2±0.0, 14.59N×92.44W, h76km, mb4.6/48, MD4.3(MEX), After MEX.*
*MEX **13** 13:49:54.2±0.8, 14.59N×92.44W, h76km±16km, MD4.3*
*IDC **13** 13:49:55.5±1.2, 14.97N×92.21W, h95km±10km, mb4.1/10, mb1 4.3/13, mb1mx3.9/42, mbtmp4.4/13, MS3.3/10, Ms1 3.3/10, ms1mx3.1/41, Error ellipse: s-maj=21.2km s-min=9.9km az=39.0*
ISC 13 13:49:53.7±0.7, 14.81N±0.06×92.36W±0.05, h83km±5km, n316, σ1§38/317, mb4.6/45, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.13**	**43**	*e*P	**Pn**	**13 50 05.2**	**-0.5**
THIG				*e*S	**Sn**	**13 50 13.8**	**-0.8**
THIG		**0.13**	**43**	*e*P	**Pn**	**13 50 05.2**	**-0.5**
THIG				*e*S	**Sn**	**13 50 13.8**	**-0.8**
PCIG		**1.22**	**317**	*e*P	**Pn**	**13 50 16.4**	**+0.8**
PCIG				*e*S	**Sn**	**13 50 32.9**	**+0.9**
PCIG		**1.22**	**317**	*e*P	**Pn**	**13 50 16.4**	**+0.8**
PCIG				*e*S	**Sn**	**13 50 32.9**	**+0.9**
CCIG	**Comitan**	**1.48**	**8**	*e*P	**Pn**	**13 50 21.3**	**+2.3**
CCIG				*e*S	**Sn**	**13 50 40.3**	**+2.1**
CCIG	**Comitan**	**1.48**	**8**	*e*P	**Pn**	**13 50 21.3**	**+2.3**
CCIG				*e*S	**Sn**	**13 50 40.3**	**+2.1**
APG	**El Apazote**	**1.84**	**84**	P	**Pn**	**13 50 25.3**	**+1.5**
	75nm,0.3s,baz=175,slow=17,SNR=480						
APG				LR	LR	13 50 48.9	
	comp=Z,137nm,18.7s,baz=212,slow=32						
APG				S	**Sn**	**13 50 49.0**	**+2.3**
	193nm,0.3s,baz=29,slow=9.9,SNR=19						
IXG	**Ixpaco**	**1.95**	**109**	*e*P	**Pn**	**13 50 26.0**	**+0.8**
TGIG		**2.09**	**339**	*e*P	**Pn**	**13 50 27.1**	**+0.1**
TGIG		**2.09**	**339**	*e*P	**Pn**	**13 50 27.1**	**+0.1**
SBLS	**San Blas**	**2.82**	**110**	*e*P	**Pn**	**13 50 37.7**	**+0.8**
SBLS				*e*S	**Sn**	**13 51 11.6**	**+1.4**
SBLS				AML	AML	13 51 24.1	
	comp=Z,592nm,0.6s						
SNJE	**San Jose**	**2.83**	**109**	*e*P	**Pn**	**13 50 37.8**	**+0.8**
MTO3	**Montecristo**	**2.93**	**98**	*i* P	**Pn**	**13 50 39.0**	**+0.6**
BOQS	**Boqueron**	**3.17**	**109**	*e*P	**Pn**	**13 50 42.6**	**+0.9**
COLS	**Colinas**	**3.18**	**111**	*e*P	**Pn**	**13 50 42.4**	**+0.7**
COLS				*e*S	**Sn**	**13 51 20.8**	**+2.2**
SNET	**Serv Nac Est T**	**3.23**	**110**	*e*P	**Pn**	**13 50 42.6**	**+0.2**
SNET				IAML		13 51 26.1	
	comp=Z,567nm,0.3s						
LFU	**La Fuente**	**3.32**	**108**	*e*P	**Pn**	**13 50 44.1**	**+0.6**
CMIG	**Matias Romero**	**3.32**	**313**	P	**Pn**	**13 50 44.6**	**+1.1**
	comp=Z,35nm,0.3s,baz=136,slow=12,SNR=204						
CMIG				S	**Sn**	**13 51 23.5**	**+1.5**
	comp=Z,163nm,0.3s,baz=103,slow=12,SNR=8.5						
CMIG				LR	LR	13 52 17.2	
	comp=Z,164nm,18.7s,baz=120,slow=43						
LBRS	**Las Brisas**	**3.38**	**108**	*e*P	**Pn**	**13 50 45.7**	**+1.3**
LFRS	**El Faro**	**3.41**	**110**	*e*P	**Pn**	**13 50 45.3**	**+0.5**
LFRS				*e*S	**Sn**	**13 51 25.4**	**+1.3**
SNVI	**San Vicente**	**3.61**	**109**	*e*P	**Pn**	**13 50 49.2**	**+1.6**
VSM	**San Miguel**	**4.19**	**109**	*e*P	**Pn**	**13 50 57.3**	**+1.8**
LCND	**La Caˇ¨-ada**	**4.58**	**108**	*e*P	**Pn**	**13 51 00.8**	**+0.2**
CNCH	**Conchagua**	**4.65**	**109**	*e*P	**Pn**	**13 51 04.3**	**+2.7**
CSGN	**Cosiguina Volc**	**5.00**	**111**	*e*P	**Pn**	**13 51 08.8**	**+2.3**
CSGN				*e*S	**Sn**	**13 52 07.2**	**+4.1**
CRIN	**San Cristobal**	**5.57**	**112**	*e*P	**Pn**	**13 51 17.7**	**+3.5**
CNGN	**Cerro Negro**	**5.96**	**112**	*e*P	**Pn**	**13 51 20.0**	**+0.5**
CNGN				AML	AML	13 52 28.5	
	comp=N,39nm,0.5s						
ESTN	**Estel**	**6.06**	**106**	*e*P	**Pn**	**13 51 22.3**	**+1.4**
MOMN	**Momotombo**	**6.14**	**112**	*e*P	**Pn**	**13 51 23.2**	**+1.2**
COPN	**Copaltepe**	**6.19**	**114**	*e*P	**Pn**	**13 51 24.1**	**+1.6**
LVIG	**Laguna Verde**	**6.24**	**322**	*e*Pn	**Pn**	**13 51 22.6**	**-0.6**
APYN	**Apoyeque**	**6.38**	**113**	*e*P	**Pn**	**13 51 27.0**	**+1.8**
MATN	**Matagalpa**	**6.52**	**106**	*e*P	**Pn**	**13 51 28.5**	**+1.4**
MYIG	**MÖrida**	**6.60**	**22**	*e*Pn	**Pn**	**13 51 28.8**	**+0.7**
ESPN	**Las Esperanzas**	**8.26**	**107**	*e*P	**Pn**	**13 51 50.3**	**-0.4**
JTS	**JuntasAbangare**	**8.51**	**121**	P	**Pn**	**13 51 55.8**	**+1.5**
	comp=N,3.5nm,0.3s,baz=347,slow=8.1,SNR=23						
JTS				LR	LR	13 54 59.9	
	comp=N,67nm,20.0s,baz=348,slow=36						
MOIG	**Morelia**	**9.73**	**301**	*e*Pn	**Pn**	**13 52 14.2**	**+3.2**
MTDJ	**Mount Denham**	**14.61**	**75**	*e*Pn	**P**	**13 53 20.3**	**-0.3**
	comp=N,82nm,0.8s						
058A	**Arcadia**	**15.66**	**37**	P	**Pn**	**13 53 30.0**	**+0.5**
	baz=221						
957A	**Wimauma**	**15.88**	**35**	P	**Pn**	**13 53 32.3**	**-0.1**
	baz=218						

151A	Opelika	18.76	19	P		Pn	13 54 06.8	-0.8
	baz=202,SNR=18							
LRAL	Lakeview Retre	18.79	14	P		Pn	13 54 07.5	-0.3
	baz=196							
LRAL	Lakeview Retre	18.79	14	eP		Pn	13 54 07.4	-0.4
	comp=N,19nm,0.8s							
254A	Abbeville	18.96	24	P		Pn	13 54 08.8	-1.1
	baz=208							
Z48A	Northport	18.99	12	P		Pn	13 54 09.5	-0.7
	baz=194							
Z49A	Columbiana	19.05	15	P		Pn	13 54 10.4	-0.5
	baz=198,SNR=19							
YOTC	Yotoco, Valle	19.09	123	eP		P	13 54 10.8	+0.7
Y40A	Okolona	19.14	358	P		Pn	13 54 11.7	-0.2
	baz=178							
GUYC	Guyana, Colomb	19.22	118	eP		P	13 54 11.9	+0.1
Z50A	Ashland	19.27	17	P		Pn	13 54 12.6	-0.9
	baz=199,SNR=18							
PTBC	PUERTO BERRIO,	19.40	113	eP		P	13 54 10.8	-2.6
Y47A	UCPARC, Winfie	19.44	11	P		Pn	13 54 14.6	-0.9
	baz=193							
Y48A	Jasper	19.59	13	P		Pn	13 54 16.1	-1.2
	baz=195							
154A	Montrose	19.62	24	P		Pn	13 54 16.0	-1.7
	baz=207							
X39A	Fountain Ranch	19.68	356	P		Pn	13 54 17.3	-1.0
	baz=175							
MIAR	Mount Ida	19.68	357	P		Pn	13 54 17.2	-1.2
	baz=177							
MIAR	Mount Ida	19.68	357	eP		Pn	13 54 17.7	-0.6
	comp=N,23nm,0.8s							
POPC	Popayan, Colom	19.70	127	eP		P	13 54 19.0	+2.2
Y49A	Blount Mountai	19.71	15	P		Pn	13 54 17.4	-1.3
	baz=197,SNR=5.9							
OXF	Oxford	19.80	7	eP		P	13 54 16.6	-0.8
	comp=N,35nm,1.1s							
UALR	University of	19.88	0	eP		Pn	13 54 20.2	-0.4
	comp=N,26nm,0.8s							
155A	Kite	19.89	25	P		P	13 54 18.6	+0.2
	baz=209,SNR=6.4							
Y50A	Piedmont	19.92	16	P		Pn	13 54 19.8	-1.4
	baz=199							
X46A	Booneville	19.95	9	P		Pn	13 54 19.8	-1.7
	baz=191							
OTAV	Otavalo	19.97	135	eP		P	13 54 21.7	+1.8
	comp=N,4.7nm,1.1s							
OTAV	Otavalo	19.97	135	eP		P	13 54 22.2	+2.3
SOTA	Rioblanco	20.01	128	eP		P	13 54 21.6	+1.2
X47A	Russelville	20.04	11	P		Pn	13 54 20.7	-1.8
	baz=193							
PCON	Cinco Dias	20.05	127	eP		P	13 54 22.4	+1.5
CRUC	La Cruz	20.12	129	eP		P	13 54 23.5	+2.0
X48A	Hartselle	20.14	13	P		Pn	13 54 21.6	-2.1
	baz=195							
GOGA	Godfrey	20.20	22	P		P	13 54 22.3	+0.5
	baz=206							
GOGA	Godfrey	20.20	22	eP		P	13 54 22.3	+0.5
	comp=N,25nm,0.9s							
W41B	Gary Mavity, V	20.28	0	P		Pn	13 54 23.8	-1.5
	baz=180							
W39A	Magazine	20.34	357	P		Pn	13 54 24.6	-1.4
	baz=176							
X49A	Woodville	20.36	14	P		P	13 54 23.9	+0.4
	baz=197,SNR=8.3							
WHAR	Wooly Hollow	20.39	0	eP		P	13 54 24.4	+0.5
	comp=N,14nm,0.9s							
PRAC	Prado	20.44	121	eP		P	13 54 25.0	+0.3
	comp=N,20nm,0.5s							
PRAC	Prado	20.44	121	eP		P	13 54 25.1	+0.4
PLAL	Pickwick Lake	20.45	10	eP		Pn	13 54 25.1	-2.2
	comp=N,8.8nm,0.8s							
GDL2	Guadalupe Moun	20.48	330	eP		Pn	13 54 27.5	-0.5
W46A	Michie	20.55	9	P		P	13 54 26.1	+0.6
	baz=191							
SDDR	Presa de Saban	20.58	75	eP		P	13 54 25.2	-0.9
	comp=N,26nm,0.8s							
MNTX	Cornudas Mount	20.60	327	P		Pn	13 54 28.4	-0.8
	baz=142							
MNTX	Cornudas Mount	20.60	327	eP		Pn	13 54 27.4	-1.8
	comp=N,6.2nm,0.8s							
PAMC	Pamplona, Colo	20.66	109	eP		P	13 54 25.0	-2.5
WMOK	Wichita Mounta	20.67	345	P		Pn	13 54 28.0	-2.0
	baz=163							
WMOK	Wichita Mounta	20.67	345	eP		P	13 54 27.3	+0.4
	comp=N,5.6nm,0.9s							
W47A	Westpoint	20.80	11	P		P	13 54 28.3	+0.1
	baz=193							
W48A	Pulaski	20.82	13	P		P	13 54 28.6	+0.1
	baz=195							
V40A	Witts Springs	20.91	359	P		P	13 54 30.3	+0.8
	baz=179							
V42A	Cord	20.93	2	P		P	13 54 30.1	+0.5
	baz=183							
CHIC	Chingaza	20.94	117	eP		P	13 54 33.1	+2.7
V39A	Pettigrew	20.97	357	P		Pn	13 54 31.3	-2.3
	baz=177							
FLOC	Florencia	21.09	127	eP		P	13 54 32.8	+1.2
SWET	Sewanee	21.12	15	eP		P	13 54 31.0	-0.8
	comp=N,6.8nm,0.6s							
TUL1	Leonard	21.23	352	P		P	13 54 33.3	+0.4
	baz=171							
V46A	Holladay	21.24	10	P		P	13 54 32.6	-0.4
	baz=191							
MSTX	Muleshoe	21.27	336	P		P	13 54 33.6	+0.1
	baz=152							
V47A	Nunnelly	21.37	11	P		P	13 54 33.6	-0.8
	baz=192							
HODGE	Hodges	21.38	23	eP		P	13 54 35.5	+1.0
	comp=N,9.5nm,0.8s							
V48A	Smith Brothers	21.42	12	P		P	13 54 34.1	-0.9
	baz=195,SNR=6.6							
U41A	Viola	21.45	1	P		P	13 54 35.3	+0.1
	baz=181							
U40A	Yellville	21.46	359	P		P	13 54 35.3	0.0
	baz=179							
SJAC	San Juan de Ar	21.46	121	eP		P	13 54 37.6	+1.9
U42A	Revenden	21.47	2	P		P	13 54 34.8	-0.6
	baz=183,SNR=6.0							
WVT	Waverly	21.61	10	P		P	13 54 36.5	-0.5
	baz=192							
WVT	Waverly	21.61	10	eP		P	13 54 36.2	-0.7
	comp=N,9.9nm,0.7s							
AMTX	Amarillo	21.68	339	P		P	13 54 38.0	+0.2
	baz=155							
AMTX	Amarillo	21.68	339	eP		P	13 54 37.3	-0.5
	comp=N,12nm,0.6s							
CPCT	Cooper Cave	21.72	18	eP		P	13 54 38.0	-0.1
U47A	Clarksville	22.01	11	P		P	13 54 40.3	-0.9
	baz=193							
SDV	Santo Domingo	22.05	103	P		P	13 54 39.0	-3.1
	comp=N,5.7nm,0.4s,baz=320,slow=9.0,SNR=6.5							
SDV	Santo Domingo	22.05	103	eP		P	13 54 37.0	-5.1
	comp=N,8.9nm,0.6s							
SDV	Santo Domingo	22.05	103	eP		P	13 54 36.4	-5.7
T39A	Clever	22.14	358	P		P	13 54 42.4	-0.2
	baz=178,SNR=5.4							
TKL	Tuckaleechee C	22.14	19	P		P	13 54 42.6	0.0
	comp=N,15nm,0.8s,baz=188,slow=9.3,SNR=18							
TKL					LR	LR	14 03 15.2	
	comp=N,128nm,20.8s,baz=314,slow=36							
TKL	Tuckaleechee C	22.14	19	eP		P	13 54 42.3	-0.3
	comp=N,20nm,0.8s							
T41A	Mountain View	22.15	1	P		P	13 54 41.8	-0.8
	baz=182,SNR=6.3							
T42A	Van Buren	22.16	3	P		P	13 54 42.0	-0.8
	baz=183							
T38A	Diamond	22.20	356	P		P	13 54 43.0	-0.2
	baz=175							
U48A	Cassie Pea, Po	22.23	12	P		P	13 54 42.7	-0.8
	baz=195,SNR=5.9							
T40A	Mansfield	22.25	360	P		P	13 54 43.1	-0.7
	baz=180							
T43A	Greenville	22.26	4	P		P	13 54 43.0	-0.8
	baz=185							
T44A	Benton	22.32	6	P		P	13 54 43.7	-0.8
	baz=187							
T46A	Princeton	22.49	9	P		P	13 54 45.3	-1.1
	baz=191							
KMSC	Kings Mountain	22.54	24	P		P	13 54 45.1	-1.8
	baz=209,SNR=8.1							
KMSC	Kings Mountain	22.54	24	eP		P	13 54 47.5	+0.6
	comp=N,24nm,0.8s							
121A	Cookes Peak, D	22.55	324	P		P	13 54 47.3	+0.1
	baz=138,SNR=6.4							
121A	Cookes Peak, D	22.55	324	eP		P	13 54 48.3	+1.1
	comp=N,12nm,0.8s							
T47A	Sharon Grove	22.58	11	P		P	13 54 45.8	-1.4
	baz=193,SNR=14							
S41A	Jillco Farms,	22.69	1	P		P	13 54 47.1	-1.3
	baz=182							
S40A	Lebanon	22.70	360	P		P	13 54 47.3	-1.2
	baz=180							
S43A	Fulton Ridge,	22.76	5	P		P	13 54 47.7	-1.4
	baz=186							
S38A	Stockton	22.77	357	P		P	13 54 48.2	-1.0
	baz=176							
S39A	Bolivar	22.80	358	P		P	13 54 48.9	-0.7
	baz=178,SNR=6.7							
T48A	Bowling Green	22.83	12	P		P	13 54 48.2	-1.7
	baz=195							
S42A	Caledonia	22.91	3	P		P	13 54 49.5	-1.1
	baz=184,SNR=5.3							
S44A	Carbondale	22.96	6	P		P	13 54 50.8	-0.3
	baz=188,SNR=8.4							
SIUC	Southern Illin	22.98	6	eP		P	13 54 50.5	-0.8
	comp=N,40nm,0.8s							
S45A	Carrier Mills	23.02	8	P		P	13 54 50.0	-1.7
	baz=190							
TZTN	Tazewell	23.03	18	P		P	13 54 50.3	-1.6
	baz=202							
TZTN	Tazewell	23.03	18	eP		P	13 54 51.7	-0.2
	comp=N,28nm,0.8s							
S46A	Don Dixon Farm	23.15	9	P		P	13 54 51.5	-1.4
	baz=192							
CCM	Cathedral Cave	23.17	2	P		P	13 54 51.7	-1.5
	baz=183							
CCM	Cathedral Cave	23.17	2	eP		P	13 54 50.1	-3.0
	comp=N,11nm,0.8s							
BNM	Barren Site	23.18	329	eP		P	13 54 52.0	-1.5
LPM	Los Pinos Moun	23.30	329	eP		P	13 54 53.5	-1.2
R38A	Fenwick Farm,	23.32	357	P		P	13 54 53.6	-1.0
	baz=176							
R40A	Maddies Statio	23.39	0	P		P	13 54 53.7	-1.5
	baz=180							
R41A	Rosebud	23.41	2	P		P	13 54 53.9	-1.5
	baz=183,SNR=9.5							
R42A	Luebbering	23.42	3	P		P	13 54 54.0	-1.4
	baz=184							
R39A	Chumby, Stover	23.42	359	P		P	13 54 54.2	-1.3
	baz=179							
S48A	Wiedeman Farm,	23.43	13	P		P	13 54 53.9	-1.7
	baz=196							
R43A	Red Bud	23.47	5	P		P	13 54 55.3	-0.6
	baz=186							
LAZ	Ladron	23.63	328	eP		P	13 54 56.5	-1.2
R45A	Skylar, Fairfi	23.66	8	P		P	13 54 56.5	-1.2
	baz=190,SNR=5.1							
ANMO	Albuquerque	23.73	330	P		P	13 54 59.1	+0.6
	comp=N,3.3nm,0.6s,baz=335,slow=10,SNR=10							
ANMO	Albuquerque	23.73	330	eP		P	13 54 58.9	+0.3
	baz=145							
WCI	Wyandotte Cave	23.93	12	P		P	13 54 58.8	-1.2
	baz=195							
WCI	Wyandotte Cave	23.93	12	eP		P	13 54 58.8	-1.2
	comp=N,66nm,0.8s							
R47A	Wooly Knot Far	23.95	11	P		P	13 54 58.9	-1.3
	baz=194,SNR=5.2							
Q41A	Truxton	24.07	2	P		P	13 55 00.2	-1.1
	baz=183,SNR=7.2							
Q38A	Cooks Store, C	24.08	358	P		P	13 55 01.0	-0.4
	baz=177							
OLIL	Olney	24.12	8	eP		P	13 55 02.0	+0.3
	comp=N,48nm,0.8s							
Q43A	New Douglas	24.15	5	P		P	13 55 01.8	-0.2
	baz=186							
Q44A	Meyer Farm, Va	24.18	6	P		P	13 55 01.7	-0.5
	baz=188							
R48A	Northridge Ran	24.19	13	P		P	13 55 01.7	-0.6
	baz=196							
Q45A	Warren Harvey,	24.27	8	P		P	13 55 03.0	-0.1
	baz=190							
Q47A	Bedord North L	24.59	11	P		P	13 55 05.1	-0.9
	baz=194							
BLA	Blacksburg	24.71	23	P		P	13 55 05.7	-1.4
	baz=208							
P42A	Winchester	24.74	4	P		P	13 55 07.0	-0.4
	baz=185							
P37A	Lathrop	24.74	356	P		P	13 55 08.2	+0.8
	baz=176							
CBKS	Cedar Bluff	24.78	346	P		P	13 55 08.5	+0.7
	baz=163							
P44A	Sand Creek, Wi	24.78	7	P		P	13 55 07.8	+0.1
	baz=189,SNR=5.3							
P41A	Barry, Barry	24.80	2	P		P	13 55 08.0	+0.1
	baz=183							
P43A	Skaggs, Pawnee	24.86	5	P		P	13 55 08.9	+0.5
	baz=187							
VWCC	Virginia Weste	24.91	24	eP		P	13 55 07.9	-1.1
P45A	Graceland, Par	24.95	8	P		P	13 55 09.2	-0.1
	baz=191							
P46A	Rosedale	25.12	9	P		P	13 55 10.0	-0.9
	baz=192,SNR=8.6							
P47A	Martinsville	25.16	11	P		P	13 55 10.8	-0.3
	baz=194							
O40A	La Belle	25.22	1	P		P	13 55 11.6	-0.1
	baz=181							
O45A	Potomac	25.66	8	P		P	13 55 15.1	-0.7
	baz=190,SNR=5.6							
ATAH	Atahualpa	25.83	147	P		P	13 55 19.7	+1.8
	comp=N,14nm,0.8s,baz=351,slow=6.7,SNR=7.0							
ATAH					LR	LR	14 04 10.2	
	comp=N,50nm,21.1s,baz=89,slow=33							
SFIN	Lafayette	25.88	9	P		P	13 55 17.3	-0.4
	baz=192							
SFIN	Lafayette	25.88	9	eP		P	13 55 16.9	-0.8
	comp=N,19nm,0.6s							
O47A	Sheridan	25.90	11	P		P	13 55 17.2	-0.7
	baz=194							
JSRW	Lt Sargeant Re	26.16	27	eP		P	13 55 19.3	-1.0
N43A	Stutzman Famil	26.18	5	P		P	13 55 20.9	+0.5
	baz=187							
S22A	4UR Ranch, Cre	26.20	333	P		P	13 55 22.3	+1.3
	baz=147							
MVCO	Mesa Verde	26.53	330	P		P	13 55 25.4	+1.5
	baz=144							
MVCO	Mesa Verde	26.53	330	P		P	13 55 23.1	-0.8
	comp=N,5.4nm,0.7s							
M39A	Webster	26.57	0	P		P	13 55 24.9	+1.0
	baz=181							
ACSO	Alum Creek Sta	26.62	16	P		P	13 55 24.3	-0.1
	baz=201							
M43A	Waltham Townsh	26.69	6	P		P	13 55 25.5	+0.5
	baz=187							
WUAZ	Wupatki	26.76	324	P		P	13 55 27.1	+1.2
	baz=136							
L40A	Anamosa	27.17	2	P		P	13 55 29.8	+0.5
	baz=183							
L41A	Preston	27.21	3	P		P	13 55 30.3	+0.7
	baz=184							
OGNE	Ogallala	27.37	344	P		P	13 55 31.6	+0.4
	baz=160							
O56A	Blue Knob Stat	28.08	23	P		P	13 55 36.3	-1.2
	baz=209							
N54A	Moraine State	28.19	20	P		P	13 55 37.1	-1.3
	baz=206							
SSPA	Standing Stone	28.66	23	P		P	13 55 42.0	-0.5
	baz=210							
M54A	Oil Creek Stat	28.79	20	P		P	13 55 43.0	-0.8
	baz=206							
N59A	State Game Lan	29.75	26	P		P	13 55 51.7	-0.6
	baz=214							
RRX	Edison Barstow	29.84	316	P		P	13 55 54.6	+1.5
	baz=126							
H32A	Carlson Farm,	29.91	353	P		P	13 55 54.6	+0.9
	baz=170							
G40A	Rib Lake	30.41	3	P		P	13 55 57.8	-0.3
	baz=184							
ISA	Isabella, Lake	31.28	316	P		P	13 56 07.2	+1.3
	baz=125							
F44A	Big Bay de Noc	31.46	8	P		P	13 56 07.3	+0.1
	baz=191							
PDAR	Pinedale Array	31.54	335	PcP		PcP	13 58 59.8	+0.5
	comp=N,0.7nm,0.6s,baz=158,slow=3.9,SNR=5.0							
SADO	Sadowa	31.90	18	P		P	13 56 09.6	-1.6
	comp=N,5.1nm,0.5s,baz=235,slow=10,SNR=5.9							
PLVO	Plevna	32.79	20	eP		P	13 56 15.9	-3.0
	comp=N,6.6nm,0.5s							
C37A	Embarrass	32.82	0	P		P	13 56 19.5	+0.4
	baz=180							
NV01	Mina Array Sit	32.83	321	eP		P	13 56 22.4	+2.8
NVAR	Mina Array Bea	32.83	321	P		P	13 56 21.3	+1.7
	comp=N,6.0nm,0.8s,baz=133,slow=8.7,SNR=38							
NVAR					PcP	PcP	13 59 03.7	+0.8
	comp=N,1.7nm,0.7s,baz=154,slow=2.5,SNR=6.2							
NCB	Newcomb	32.92	24	eP		P	13 56 18.2	-1.9
	comp=N,8.2nm,0.6s							
LONY	Lake Ozonia	33.33	23	P		P	13 56 22.7	-0.9
	baz=212							
LONY	Lake Ozonia	33.33	23	eP		P	13 56 21.7	-1.9
	comp=N,11nm,0.8s							
MDND	Maddock	33.48	351	P		P	13 56 25.2	+0.3
	baz=168							
HLID	Hailey	34.30	331	P		P	13 56 34.6	+2.3
	baz=140							
HLID	Hailey	34.30	331	eP		P	13 56 31.9	-0.4
	comp=N,4.0nm,0.9s							
WVOR	Wild Horse Val	35.63	326	eP		P	13 56 42.8	-0.9
	comp=N,4.6nm,0.9s							
PKME	Peaks-Kenny Pk	36.07	28	P		P	13 56 46.9	-0.3
	baz=220							
J08A	Circle Bar Ran	36.18	327	eP		P	13 56 50.7	+2.4
	comp=N,20nm,0.7s							
MSO	Missoula	36.66	335	P		P	13 56 53.4	+1.0
	baz=144							
SAML	Samuel	37.34	127	eP		P	13 56 56.6	-1.7
	comp=N,13nm,0.8s							
F10A	Beach Ranch, E	37.44	331	eP		P	13 57 00.7	+1.7
	comp=N,12nm,0.6s							
K04D	Chiloquin, OR	37.50	323	P		P	13 57 01.5	+1.9
	baz=129							
J04D	Umpqua Nationa	38.09	324	P		P	13 57 06.6	+2.0
	baz=129							
I05D	Terrebonne, OR	38.37	326	P		P	13 57 08.0	+1.2
	baz=131							
I04A	Tendick Farm,	38.61	324	P		P	13 57 09.8	+1.0
	baz=130							
G05D	Wamic, OR	38.95	327	P		P	13 57 13.3	+1.7
	baz=132							
I03D	Drain, OR	39.08	324	P		P	13 57 14.2	+1.5
	baz=128							
NEW	Newport	39.12	334	P		P	13 57 13.8	+0.8
	baz=140							
G03D	McMinnville, O	39.98	326	P		P	13 57 21.9	+1.8
	baz=130							
B05A	Bryant	41.40	330	P		P	13 57 32.7	+0.9
	baz=134							
EDM	Edmonton	41.76	341	eP		P	13 57 34.2	-0.5
	comp=N,6.3nm,0.4s							
A04D	Lummi Island	42.01	330	P		P	13 57 37.5	+0.8
	baz=133,SNR=6.2							
SCHQ	Schefferville	44.59	21	LR		LR	14 16 48.4	
	comp=N,148nm,19.0s,baz=299,slow=36							
YKA	Yellowknife Ar	50.16	347	P		P	13 58 39.9	-0.5
	comp=N,2.7nm,0.5s,baz=148,slow=7.6,SNR=70							
YKA					PcP	PcP	13 59 58.9	+0.2
	comp=N,1.0nm,0.7s,baz=153,slow=3.6,SNR=11							
YKA					ScP	ScP	14 03 45.3	-1.8
	comp=N,0.6nm,1.0s,baz=144,slow=4.5,SNR=6.0							
WHY	Whitehorse	55.10	336	eP		P	13 59 19.1	+2.0
	comp=N,3.3nm,0.9s							
DAWY	Dawson	58.80	338	eP		P	13 59 43.9	+0.8
PLCA	Paso Flores	58.85	161	P		P	13 59 43.7	-0.1
	comp=N,3.7nm,1.0s,baz=350,slow=10,SNR=5.0							
SFJD	Kangerlussuaq	58.85	18	LR		LR	14 26 21.6	
	comp=N,38nm,18.7s,baz=252,slow=37							
BMRM	Bremner River	59.29	333	eP		P	13 59 48.5	+1.9
	comp=N,5.0nm,0.8s							
INK	Inuvik	59.57	344	eP		P	13 59 49.2	+1.0
EGAK	Eagle	59.83	338	eP		P	13 59 49.0	-1.1
	comp=N,4.0nm,0.8s							
MENT	Mentasta	59.86	336	eP		P	13 59 52.1	+1.7
	comp=N,3.7nm,0.6s							
PAX	Paxson	60.58	335	eP		P	13 59 55.1	-0.3
	comp=N,7.2nm,0.8s							
PMR	Palmer	61.54	333	eP		P	14 00 02.2	+0.4
	comp=N,5.5nm,0.8s							
RC01	Rabbit Creek A	61.62	332	eP		P	14 00 02.6	+0.3
	comp=N,13nm,0.9s							
IL1	Eielson Array	61.96	337	eP		P	14 00 04.8	+0.2
ILAR	Eielson Array	61.96	337	P		P	14 00 05.3	+0.7
	comp=N,4.1nm,0.6s,baz=122,slow=5.3,SNR=65							
ILAR					PcP	PcP	14 00 44.2	-0.3
	comp=N,1.4nm,0.9s,baz=138,slow=4.2,SNR=5.0							
ILB	Eielson Array	61.96	337	eP		P	14 00 05.2	+0.6
MCK	McKinley	62.32	335	eP		P	14 00 07.1	0.0
	comp=N,9.5nm,1.2s							
TRF	Thorofare Moun	62.76	335	eP		P	14 00 10.6	+0.4
	comp=N,12nm,0.7s							
KTH	Kantishna Hill	63.06	335	eP		P	14 00 09.5	-2.5
	comp=N,9.3nm,0.9s							
BPAW	Bear Paw Mtn.	63.30	335	eP		P	14 00 09.8	-3.7
	comp=N,1.3nm,0.9s							
COLD	Coldfoot	64.25	339	eP		P	14 00 17.3	-2.4
	comp=N,5.8nm,1.2s							
SVW2	Sparrevohn	64.30	331	eP		P	14 00 20.5	+0.4
TOLK	Toolik Lake Re	64.64	340	P		P	14 00 22.8	+0.4
	baz=116,SNR=10							
IM3	Indian Mountai	65.08	337	eP		P	14 00 25.1	0.0
BORG	Borgarnes	68.63	26	LR		LR	14 32 04.0	
	comp=N,3nm,18.9s,baz=115,slow=37							
RAR	Rarotonga	75.22	243	LR		LR	14 28 17.4	
	comp=N,15nm,21.2s,baz=285,slow=30							
EKA	Eskdalemuir Ar	77.51	36	P		P	14 01 37.8	-2.4
	comp=N,2.2nm,0.6s,baz=273,slow=5.4,SNR=13							
ESDC	Sonseca Array	79.49	52	P		P	14 01 49.2	-2.3
	comp=N,0.2nm,0.3s,baz=279,slow=6.5,SNR=3.9							
NOA	NORSAR Array B	83.60	28	LR		LR	14 37 29.5	
	comp=N,15nm,21.7s,baz=260,slow=34							
FINES	FINESS Array B	89.91	25	LR		LR	14 43 11.0	
	comp=N,21nm,18.5s,baz=249,slow=36							
KURK	Kurchatov	114.28	6	PKP		PKPdf	14 08 23.7	0.0
KURBB	Kurchatov Arra	114.36	6	PKP		PKPdf	14 08 23.7	-0.2
	comp=N,0.7nm,0.4s,baz=345,slow=1.7,SNR=9.7							
KSRS	Korea Array	115.68	325	PKP		PKPdf	14 08 27.9	+1.1
	comp=N,1.1nm,0.6s,baz=360,slow=1.4,SNR=7.7							
KSAR	Wonju Array Be	115.71	325	PKP		PKPdf	14 08 27.9	+1.0
MKAR	Makanchi Array	118.49	4	PKP		PKPdf	14 08 30.9	-1.1
	comp=N,0.6nm,0.6s,baz=1.3,slow=2.5,SNR=7.2							
BOSA	Boshof	121.01	115	PKP		PKPdf	14 08 37.5	+0.1
	comp=N,2.9nm,0.9s,baz=7.2,slow=1.3,SNR=3.5							
LZH	Lanzhou	127.11	344	ePKP		PKPdf	14 08 48.0	-1.0
LZH				pPKP		pPKPdf	14 09 15.3	+2.9
LZH				sPKP			14 09 27.3	
LZH				LR		LR		
	comp=N,64nm,16.0s							
LZH				LR		LR		
	comp=E,71nm,17.3s							
LZH				LR		LR		
	comp=Z,95nm,19.0s							
CD2	Chengdu	131.97	341	PKP		PKPdf	14 08 56.0	-2.3
CMAR	Chiang Mai Arr	145.12	341	PKPbc		PKPab	14 09 22.4	+0.2
	comp=Z,9.0nm,0.7s,ba

0.5nm,0.5s,baz=293,slow=3.1,SNR=4.9
MK01 **Makanchi Array** 47.23 351 *e*P P 13 59 15.2 +0.1
MK31 **Makanchi Array** 47.25 351 *e*P P 13 59 14.4 -0.9
MK32 **Makanchi Array** 47.25 351 *e*P P 13 59 15.8 +0.5
MKAR **Makanchi Array** 47.25 351 P P 13 59 15.8 +0.5
2.0nm,0.6s,baz=167,slow=9.0,SNR=28
SONA0 **Songino Array** 49.05 13 *e*P P 13 59 30.8 +1.5
SONM **Songino Array** 49.05 13 P P 13 59 30.8 +1.5
4.6nm,0.9s,baz=194,slow=9.1,SNR=17
SONA1 **Songino Array** 49.06 13 *e*P P 13 59 29.1 -0.3
KURBB **Kurchatov Arra** 51.61 349 P P 13 59 48.0 -0.4
2.2nm,0.8s,baz=175,slow=7.0,SNR=21
KURK **Kurchatov** 51.68 349 *e*P P 13 59 48.0 -0.9
ZAA0 **Zalesovo Array** 53.95 355 *e*P P 14 00 06.0 +0.3
4.1nm,0.6s
ZALV **Zalesovo Beam** 53.95 355 P P 14 00 05.8 +0.1
3.6nm,0.4s,baz=187,slow=7.9,SNR=19
ZALV **Zalesovo Beam** 53.95 355 *e*P P 14 00 05.5 -0.2
ZAA1 **Zalesovo Array** 53.96 355 *e*P P 14 00 05.8 +0.1
BVAR **Borovoye Array** 55.74 344 P P 14 00 18.3 -0.4
1.2nm,0.7s,baz=143,slow=10.0,SNR=5.3
STKA **Stephens Creek** 56.45 129 LR LR 14 25 27.9
comp=Z,37nm,18.1s,baz=23,slow=37
BR101 **Keskin Array S** 66.20 314 *e*P P 14 01 30.6 +0.4
BRTR **Keskin Array B** 66.20 314 P P 14 01 30.6 +0.4
1.0nm,0.6s,baz=124,slow=7.6,SNR=5.9
AKASG **Malin Array Be** 73.10 324 P P 14 02 12.6 +0.3
0.2nm,0.2s,baz=85,slow=5.9,SNR=8.9
MLR **Muntele Rosu** 73.45 318 P P 14 02 15.7 +1.0
1.1nm,0.8s,baz=53,slow=5.1,SNR=4.8
FIA0 **FINESS Array S** 78.66 333 *e*P P 14 02 43.8 0.0
FINES **FINESS Array B** 78.66 333 P P 14 02 43.8 0.0
0.9nm,0.6s,baz=96,slow=5.7,SNR=7.3
GERES **GERESS Array B** 82.33 319 P P 14 03 05.6 +1.7
4.6nm,0.9s,baz=102,slow=5.6,SNR=27
HFS **Hagfors** 84.15 330 P P 14 03 13.0 0.0
2.4nm,0.9s,baz=104,slow=6.1,SNR=5.4
TXAR **Lajitas Array** 146.97 26 PKPbc PKPbc 14 10 25.0 -0.4
0.7nm,0.5s,baz=348,slow=0.4,SNR=8.6

ISCJB ***13*** *13:53:02.8±1.1, 1°.0N±0°.2×92°.0E±0°.1, h10km, mb4.0/10, Error ellipse: s-maj=25.1km s-min=17.9km az=19.4*
IDC ***13*** *13:53:03.2±1.3, 1°.03N×92°.03E, h0km, mb4.0/10, mb1 4.2/12,mb1mx3.8/62,mbtmp4.0/12,ML3.8/2, Error ellipse: s-maj=39.4km s-min=24.3km az=41.0*

ISC 13 13:53:04.5±1.3, 1°.0N±0°.2×92°.0E±0°.2, h10km, n13, σ0s66/13, mb4.1/10, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PALK	**Pallekele**	**12.89**	**299**	Pn	**Pn**	**13 56 07.8**	**-0.1**
	0.5nm,0.3s,baz=118,slow=11,SNR=3.1						
PALK				Sn	Sn	13 58 20.8	-11
	0.7nm,0.3s,baz=116,slow=7.7,SNR=4.3						
CMAR	**Chiang Mai Arr**	**18.63**	**21**	P	**Pn**	**13 57 23.2**	**+0.5**
	0.1nm,0.3s,baz=217,slow=13,SNR=5.9						
MKAR	**Makanchi Array**	**46.40**	**351**	P	**P**	**14 01 31.1**	**-0.1**
	1.4nm,0.7s,baz=168,slow=8.9,SNR=8.9						
WRA	**Warramunga Arr**	**46.40**	**119**	P	**P**	**14 01 31.7**	**+0.1**
	1.2nm,0.8s,baz=296,slow=8.3,SNR=4.6						
SONM	**Songino Array**	**48.29**	**13**	P	**P**	**14 01 46.3**	**+0.3**
	1.9nm,0.6s,baz=190,slow=9.5,SNR=6.6						
KURBB	**Kurchatov Arra**	**50.76**	**349**	P	**P**	**14 02 04.4**	**-0.2**
	1.8nm,0.7s,baz=176,slow=6.5,SNR=14						
ZALV	**Zalesovo Beam**	**53.11**	**355**	P	**P**	**14 02 21.6**	**-0.5**
	2.2nm,0.4s,baz=180,slow=6.5,SNR=11						
BVAR	**Borovoye Array**	**54.89**	**344**	P	**P**	**14 02 34.3**	**-0.8**
	0.9nm,0.7s,baz=144,slow=10.0,SNR=3.9						
KBZ	**Khabaz**	**60.90**	**321**	P	**P**	**14 03 18.3**	**+0.7**
	1.6nm,0.6s,baz=115,slow=8.1,SNR=4.9						
BRTR	**Keskin Array B**	**65.46**	**314**	P	**P**	**14 03 48.8**	**+0.6**
	0.5nm,0.5s,baz=132,slow=10,SNR=3.9						
FINES	**FINESS Array B**	**77.82**	**333**	P	**P**	**14 05 01.1**	**-0.8**
	1.2nm,0.8s,baz=134,slow=5.5,SNR=3.3						
GERES	**GERESS Array B**	**81.56**	**319**	P	**P**	**14 05 23.5**	**+0.8**
	0.5nm,0.6s,baz=147,slow=5.6,SNR=2.8						
TXAR	**Lajitas Array**	**146.31**	**25**	PKPbc	**PKPab**	**14 12 46.2**	**-0.9**
	0.5nm,0.7s,baz=270,slow=1.3,SNR=3.6						

MAN 13 14:05:20,10°.27N×123°.33E, h7km, mb3.8, ML2.5, MS2.0, Cebu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LLP	**Lapu-Lapu**	**0.63**	**86**	*e*P	Pg	14 05 32.2	0.0
LLP				*e*S	Sg	14 05 41.3	+0.9
TBP	**Tagbilaran**	**0.78**	**137**	*e*P	Pb	14 05 36.2	+0.3
GUIM	**Jordan**	**0.81**	**296**	*e*P	Pn	14 05 37.3	-0.5
GUIM				*e*S	Sn	14 05 50.0	-0.1
SNPH	**Sibulan**	**0.93**	**186**	*e*P	Pg	14 05 37.6	-0.2
SNPH				*e*S	Sb	14 05 51.2	+0.3
MSLP	**Maasin**	**1.52**	**95**	*e*P	Pb	14 05 48.4	0.0
MSLP				*e*S	Sg	14 06 08.4	-0.3

MEX 13 14:06:19.9±0.9, 16°.61N×98°.32W, h32km±20km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.28**	**139**	*e*P	Pb	14 06 25.8	-1.6
PNIG				*e*S	Sb	14 06 31.0	-1.5
TLIG	**Tlapa**	**0.98**	**346**	*e*P	Pn	14 06 35.9	-1.6
TLIG				*e*P	Pb	14 06 36.0	-2.5
TLIG				*e*S	Sn	14 06 47.2	-3.2
TLIG				*e*S	Sb	14 06 49.1	-2.1
VHO	**Vista Hermosa**	**1.59**	**73**	*e*P	Pn	14 06 38.0	-8.0
CAIG	**El Cayaco**	**1.92**	**284**	*e*P	Pn	14 06 46.8	-3.4
CAIG				*e*P	Pb	14 06 47.2	-7.0
CAIG				*e*S	Sb	14 07 15.7	-2.0
PLIG	**Platanillo**	**2.10**	**328**	*e*P	Pn	14 06 52.2	-0.8
PLIG				*e*S	Sn	14 07 15.6	-2.5

ISCJB ***13*** *14:13:34.0±0.7, 1°.8N±0°.1×89°.6E±0°.1, h10km, mb3.9/16, MS3.6/14, Error ellipse: s-maj=20.6km s-min=12.1km az=36.8*
IDC ***13*** *14:13:34.3±0.8, 1°.77N×89°.63E, h0km, mb3.7/14, mb1 3.9/16,mb1mx3.7/62,mbtmp3.7/16,ML3.7/2,MS3.5/14, Ms1 3.5/14,ms1mx3.2/69, Error ellipse: s-maj=30.4km s-min=15.6km az=41.0*

ISC 13 14:13:35.8±0.9, 1°.8N±0°.2×89°.6E±0°.1, h10km, n33, σ1s17/19, mb3.9/16, MS3.5/14, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PALK	**Pallekele**	**10.43**	**302**	Pn	**Pn**	**14 16 04.1**	**-1.5**
	0.6nm,0.3s,baz=117,slow=15,SNR=3.8						
PALK				Sn	Sn	14 17 51.4	-11
	2.8nm,0.3s,baz=294,slow=0.3,SNR=7.5						
CMAR	**Chiang Mai Arr**	**18.96**	**28**	P	**P**	**14 17 56.6**	**-0.8**
	0.1nm,0.3s,baz=224,slow=12,SNR=7.7						
H08S2	**Diego Garcia H**	**19.45**	**241**	T	T	14 38 07.2	
	baz=60,slow=75,SNR=34						
H08S3	**Diego Garcia H**	**19.45**	**241**	T	T	14 38 08.3	
	baz=60,slow=75,SNR=38						
H08S1	**Diego Carcia H**	**19.47**	**241**	T	T	14 38 06.5	
	baz=60,slow=75,SNR=20						
TGY	**Tagaytay City**	**33.31**	**67**	LR	LR	14 33 48.5	
	comp=Z,64nm,18.9s,baz=254,slow=36						
BATI	**Baumata**	**35.93**	**110**	P	**P**	**14 20 37.5**	**+0.7**
	14nm,0.8s,baz=285,slow=12,SNR=2.7						
BATI				LR	LR	14 37 37.5	
	comp=Z,367nm,18.3s,baz=273,slow=40						
AAK	**Ala-Archa**	**42.90**	**344**	LR	LR	14 39 32.0	
	comp=Z,55nm,19.3s,baz=145,slow=36						
NWAO	**Narrogin (SRO)**	**43.26**	**145**	LR	LR	14 36 27.1	
	comp=Z,50nm,20.8s,slow=32						
MKAR	**Makanchi Array**	**45.31**	**353**	P	**P**	**14 21 54.9**	**+0.9**
	0.7nm,0.7s,baz=178,slow=8.5,SNR=8.2						
GEYT	**Alibeck**	**46.16**	**325**	P	**P**	**14 22 04.0**	**+3.2**
	1.7nm,0.5s,baz=187,slow=10,SNR=4.3						
SONM	**Songino Array**	**48.15**	**15**	P	**P**	**14 22 15.6**	**-0.7**
	1.3nm,0.8s,baz=200,slow=8.0,SNR=8.1						
WRA	**Warramunga Arr**	**48.88**	**118**	P	**P**	**14 22 21.9**	**-0.4**
	0.8nm,0.8s,baz=296,slow=8.4,SNR=3.9						
KURBB	**Kurchatov Arra**	**49.59**	**351**	P	**P**	**14 22 26.7**	**-0.5**
	0.7nm,0.8s,baz=170,slow=6.4,SNR=3.8						
ASAR	**Alice Springs**	**49.93**	**123**	P	**P**	**14 22 30.0**	**-0.3**
	0.6nm,0.8s,baz=296,slow=7.5,SNR=5.8						
ZALV	**Zalesovo Beam**	**52.17**	**356**	P	**P**	**14 22 45.4**	**-1.1**
	0.3nm,0.3s,baz=168,slow=7.4,SNR=2.4						
BVAR	**Borovoye Array**	**53.53**	**346**	P	**P**	**14 22 56.2**	**-0.5**
	1.0nm,0.7s,baz=140,slow=7.0,SNR=2.3						
BVAR				LR	LR	14 46 01.6	
	comp=Z,97nm,21.0s,baz=124,slow=36						
AKTO	**Aktyubinsk**	**55.40**	**336**	P	**P**	**14 23 09.9**	**-0.4**
	1.2nm,0.5s,baz=127,slow=3.7,SNR=2.6						
KBZ	**Khabaz**	**58.81**	**322**	P	**P**	**14 23 35.0**	**+0.5**
	1.1nm,0.7s,baz=135,slow=2.9,SNR=2.9						
MMAI	**Mount Meron Ar**	**59.48**	**308**	LR	LR	14 49 18.0	
	comp=Z,35nm,19.6s,baz=85,slow=36						
ARU	**Arti**	**59.93**	**341**	LR	LR	14 50 06.7	
	comp=Z,56nm,19.4s,baz=130,slow=37						
BRTR	**Keskin Array B**	**63.20**	**314**	P	**P**	**14 24 06.1**	**+1.4**
	1.1nm,0.7s,baz=131,slow=7.2,SNR=7.2						
AKASG	**Malin Array Be**	**70.27**	**324**	LR	LR	14 57 07.3	
	comp=Z,22nm,21.8s,baz=340,slow=37						
MLR	**Muntele Rosu**	**70.51**	**318**	P	**P**	**14 24 52.0**	**+0.9**
	0.4nm,0.7s,baz=117,slow=11,SNR=4.8						
MLR				LR	LR	14 58 50.2	
	comp=Z,8.7nm,21.3s,baz=88,slow=38						
FINES	**FINESS Array B**	**76.07**	**334**	P	**P**	**14 25 23.4**	**+0.1**
	0.7nm,0.8s,baz=146,slow=8.4,SNR=2.4						
GERES	**GERESS Array B**	**79.42**	**319**	P	**P**	**14 25 42.8**	**+0.3**
	2.0nm,0.8s,baz=134,slow=7.6,SNR=13						
KEST	**Kesra**	**81.06**	**306**	LR	LR	15 04 14.1	
	comp=Z,26nm,20.5s,baz=276,slow=38						
HFS	**Hagfors**	**81.48**	**331**	LR	LR	15 04 41.2	
	comp=Z,23nm,19.1s,baz=80,slow=38						
NOA	**NORSAR Array B**	**82.85**	**331**	LR	LR	15 05 59.9	
	comp=Z,15nm,18.9s,baz=350,slow=38						
SPITS	**Spitsbergen Ar**	**84.88**	**349**	LR	LR	15 07 20.5	
	comp=Z,35nm,21.7s,baz=235,slow=38						
TORD	**Torodi Ar. Bea**	**87.57**	**283**	P	**P**	**14 26 23.6**	**-1.3**
	0.5nm,1.0s,baz=72,slow=4.7,SNR=2.6						
VNDA	**Vanda**	**87.90**	**168**	LR	LR	14 58 50.5	
	comp=Z,52nm,19.6s,baz=268,slow=31						
TXAR	**Lajitas Array**	**146.58**	**21**	PKPbc	**PKPdf**	**14 33 16.8**	**-0.3**
	1.1nm,0.9s,baz=316,slow=3.5,SNR=6.4						

ISCJB ***13*** *14:18:56.5±0.5, 39°.63N±0°.03×29°.44E±0°.05, h0km, Error ellipse: s-maj=5.8km s-min=3.9km az=3.1*
CSEM ***13*** *14:18:56.6±0.3, 39°.62N×29°.45E, h1km, ML2.2, Error ellipse: s-maj=8.5km s-min=5.8km az=90.0, Suspected Mining explosion.*
DDA ***13*** *14:18:56.2, 39°.63N×29°.43E, h7km, Ml2.5, Suspected Mining explosion.*
ISK ***13*** *14:18:56.4, 39°.61N×29°.56E, h7km, ML2.2/7*

ISC 13 14:18:56.7±0.9, 39°.64N±0°.03×29°.42E±0°.03, h0km, n20, σ0s67/30, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TVSB	**Tavsanli**	**0.19**	**171**	PG	**Pg**	**14 18 59.9**	**-0.5**
TVSB				SG	**Sg**	**14 19 03.9**	**+1.0**
TVSB	**Tavsanli**	**0.19**	**171**	*e*Pg	**Pg**	**14 18 59.9**	**-0.5**
TVSB				*e*Sg	**Sg**	**14 19 03.9**	**+1.0**
GDZ	**Gediz**	**0.55**	**175**	*i* P	**Pg**	**14 19 06.9**	**-0.4**
GDZ				*i* S	**Sg**	**14 19 14.8**	**+0.4**
GDZ	**Gediz**	**0.55**	**175**	P	**Pg**	**14 19 06.9**	**-0.4**
GDZ				S	**Sg**	**14 19 14.8**	**+0.4**
CAVI	**Cavuskoy**	**0.65**	**30**	PG	**Pg**	**14 19 08.7**	**-0.5**
CAVI				SG	**Sg**	**14 19 18.7**	**+1.1**
CAVI	**Cavuskoy**	**0.65**	**30**	*e*Pg	**Pg**	**14 19 08.7**	**-0.5**
CAVI				*e*Sg	**Sg**	**14 19 18.7**	**+1.1**
DURS	**Dursunbey**	**0.73**	**267**	*i* P	**Pg**	**14 19 10.2**	**-0.6**
DURS				*i* S	**Sg**	**14 19 21.4**	**+1.1**
DURS	**Dursunbey**	**0.73**	**267**	P	**Pg**	**14 19 10.2**	**-0.6**
DURS				S	**Sg**	**14 19 21.4**	**+1.1**
BORA	**Eskisehir**	**0.83**	**73**	*i* P	**Pg**	**14 19 12.1**	**-0.5**
BORA	**Eskisehir**	**0.83**	**73**	P	**Pg**	**14 19 12.1**	**-0.5**
MDNY	**Mudanya-Bursa**	**0.84**	**331**	PG	**Pb**	**14 19 14.8**	**+0.6**
MDNY				SG	**Sn**	**14 19 28.1**	**-0.7**
MDNY	**Mudanya-Bursa**	**0.84**	**331**	*e*Pg	**Pb**	**14 19 14.8**	**+0.6**
MDNY				*e*Sg	**Sn**	**14 19 28.1**	**-0.7**
YLV	**Yalova**	**0.93**	**358**	PG	**Pb**	**14 19 15.7**	**0.0**
YLV	**Yalova**	**0.93**	**358**	*e*Pg	**Pb**	**14 19 15.7**	**0.0**
ARMT	**Armutlu**	**1.02**	**335**	PN	**Pb**	**14 19 16.9**	**-0.4**
ARMT	**Armutlu**	**1.02**	**335**	*e*Pn	**Pb**	**14 19 16.9**	**-0.4**
KCTX	**Karacabey (Bur**	**1.03**	**308**	PN	**Pb**	**14 19 17.6**	**+0.1**
KCTX	**Karacabey (Bur**	**1.03**	**308**	*e*Pn	**Pb**	**14 19 17.6**	**+0.1**
KULA	**Kula-Manisa**	**1.27**	**208**	PN	**Pn**	**14 19 21.9**	**+0.1**
KULA	**Kula-Manisa**	**1.27**	**208**	*e*Pn	**Pn**	**14 19 21.9**	**+0.1**

IDC ***13*** *14:23:40.1±1.7, 1°.81N×93°.74E, h0km, mb3.6/5, mb1 3.7/8, mb1mx3.4/69, mbtmp3.7/8, ML3.6/2, Error ellipse: s-maj=46.1km s-min=23.9km az=48.0*
ISCJB ***13*** *14:23:42.4±1.2, 1°.8N±0°.2×93°.7E±0°.1, h33km, mb3.6/5, Error ellipse: s-maj=24.6km s-min=14.5km az=18.5*

ISC 13 14:23:44.9±1.3, 1°.9N±0°.2×93°.86E±0°.09, h35km, n9, σ1s58/10, mb3.6/5, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**5.13**	**80**	Pn	**Pn**	**14 24 59.6**	**+0.2**
PSI				Sn	**Sn**	**14 25 54.8**	**-2.8**
PALK	**Pallekele**	**14.15**	**293**	Pn	**Pn**	**14 27 00.8**	**-2.2**
	0.5nm,0.3s,baz=115,slow=17,SNR=1.8						
PALK				Sn	Sn	14 29 25.8	-13
	0.6nm,0.3s,baz=117,slow=14,SNR=3.3						
CMAR	**Chiang Mai Arr**	**17.18**	**17**	P	**P**	**14 27 43.9**	**+0.3**
	0.1nm,0.3s,baz=209,slow=11,SNR=12						
MKAR	**Makanchi Array**	**45.82**	**349**	P	**P**	**14 32 04.8**	**+1.4**
	1.3nm,0.7s,baz=168,slow=8.4,SNR=15						
ASAR	**Alice Springs**	**46.51**	**126**	P	**P**	**14 32 10.0**	**+0.8**
	0.2nm,0.8s,baz=294,slow=7.0,SNR=2.7						
SONM	**Songino Array**	**47.01**	**12**	P	**P**	**14 32 13.7**	**+0.9**
	0.2nm,0.3s,baz=198,slow=9.1,SNR=2.8						
KURBB	**Kurchatov Arra**	**50.24**	**347**	P	**P**	**14 32 38.0**	**+0.5**
	0.4nm,0.6s,baz=174,slow=6.4,SNR=4.7						
ZALV	**Zalesovo Beam**	**52.39**	**353**	P	**P**	**14 32 54.6**	**+1.1**
	0.7nm,0.3s,baz=183,slow=5.5,SNR=4.0						
TXAR	**Lajitas Array**	**144.68**	**27**	PKP	**PKPdf**	**14 43 18.9**	**+0.1**
	0.1nm,0.4s,baz=151,slow=2.1,SNR=2.6						

IDC 13 14:26:23.5±7.2, 6°.51S×133°.28E, h0km, mb3.7/1, mb1 3.5/4, mb1mx3.3/48, mbtmp3.3/4, ML2.9/3, Error ellipse: s-maj=97.6km s-min=60.7km az=147.0, Aru Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**13.39**	**176**	Pn	Pn	14 29 34.1	-0.9
	0.1nm,0.3s,baz=353,slow=13,SNR=4.3						
WRA				Sn	Sn	14 32 04.7	-0.1
	0.0nm,0.3s,baz=350,slow=24,SNR=2.7						
FITZ	**Fitzroy Crossi**	**13.72**	**212**	Pn	Pn	14 29 41.6	+2.1
	0.1nm,0.3s,baz=48,slow=12,SNR=3.1						
FITZ				Sn	Sn	14 32 16.5	+3.7
	0.1nm,0.3s,baz=208,slow=18,SNR=3.1						
ASAR	**Alice Springs**	**17.07**	**178**	Pn	Pn	14 30 23.6	-0.2
	0.0nm,0.3s,baz=5.2,slow=9.8,SNR=3.9						
STKA	**Stephens Creek**	**26.41**	**164**	P	P	14 32 01.6	-0.3
	0.4nm,0.4s,baz=331,slow=16,SNR=2.8						

IDC ***13*** *14:29:00.7±1.1, 2°.20N×90°.22E, h0km, mb3.9/17, mb1 4.0/20,mb1mx3.8/72,mbtmp3.9/20,ML4.0/2,MS3.0/1, Ms1 3.3/1,ms1mx2.5/67, Error ellipse: s-maj=30.7km s-min=16.4km az=30.0*
DJA ***13*** *14:29:02.7±1.2, 2°.N±6°.×9°.0E±°, h22km±13km, M5.0/14, mb4.8/14,mB5.3/5,MLv5.2/5,Mw(mB)4.7/5*
NEIC ***13*** *14:29:02.2±0.5, 2°.22N×90°.27E, h10km, mb4.7/3, Error ellipse: s-maj=13.5km s-min=6.8km az=206.0*
ISCJB ***13*** *14:29:03.3±0.5, 2°.20N±0°.06×90°.44E±0°.04, h33km, mb4.1/20, Error ellipse: s-maj=9.6km s-min=4.8km az=19.2*

ISC 13 14:29:04.8±0.7, 2°.04N±0°.09×90°.40E±0°.06, h35km, n67, σ2s03/66, mb4.1/20, 1C, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSI	**Banda Aceh**	**5.97**	**55**	P	**Pn**	**14 30 30.4**	**-0.4**
	142nm,0.8s,2μm						
BSI				S	**Sn**	**14 31 36.8**	**-1.2**
	142nm,0.8s,2μm						
MLSI	**Meulaboh, Aceh**	**6.39**	**70**	P	**Pn**	**14 30 36.3**	**-0.2**
MLSI				S	**Sn**	**14 31 53.2**	**+4.9**
TPTI		**6.88**	**80**	P	**Pn**	**14 30 42.7**	**-0.6**
TPTI				Pn	Pn	14 30 43.4	+0.1
TPTI				S	**Sn**	**14 31 55.7**	**-4.7**
GSI	**Gunungsitoli**	**7.21**	**96**	P	**Pn**	**14 30 48.8**	**+1.0**
GSI				S	**Sn**	**14 32 02.3**	**-6.3**
GSI	**Gunungsitoli**	**7.21**	**96**	*e*Pn	**Pn**	**14 30 49.1**	**+1.3**
GSI				*e*Sn	**Sn**	**14 32 02.2**	**-6.3**
LHMI	**Lhok Sumawe**	**7.26**	**64**	P	**Pn**	**14 30 48.1**	**-0.4**
KCSI	**Kotacane, Aceh**	**7.51**	**79**	P	**Pn**	**14 30 50.1**	**-1.8**
KCSI				S	**Sn**	**14 32 21.1**	**+5.2**
PSI	**Prapat**	**8.55**	**85**	Pn	**Pn**	**14 31 07.3**	**+1.0**
	baz=265,slow=12						
PSI	**Prapat**	**8.55**	**85**	*e*Pn	**Pn**	**14 31 07.5**	**+1.2**
PSI				*e*Sn	Sn	14 32 30.2	-11
MNSI	**Mandailing Nat**	**9.26**	**98**	P	**Pn**	**14 31 17.7**	**+1.8**
SISI	**Saibi**	**9.31**	**111**	P	**Pn**	**14 31 17.6**	**+1.0**
SISI				S	**Sn**	**14 32 57.2**	**-3.0**
PKDT	**Phuket**	**9.81**	**53**	P	**Pn**	**14 31 22.1**	**-1.4**
	31nm,0.8s,374nm0.1nm						
PDSI	**Padang**	**10.48**	**106**	P	**Pn**	**14 31 32.7**	**0.0**
PPSI	**Pulau Pagai**	**10.73**	**116**	P	**Pn**	**14 31 37.8**	**+1.8**
SURT	**Suratani**	**10.82**	**50**	P	**Pn**	**14 31 35.6**	**-1.6**
	18nm,0.7s,0.1nm						
TRTT	**Trang**	**10.90**	**58**	P	**Pn**	**14 31 37.3**	**-1.1**
	9.1nm,0.6s,0.0nm						
PALK	**Pallekele**	**10.97**	**299**	Pn	**Pn**	**14 31 38.1**	**-1.3**
	2.9nm,0.3s,baz=115,slow=11,SNR=21						
PALK				Sn	Sn	14 33 26.5	-14
	16nm,0.3s,baz=116,slow=6.4,SNR=16						
PALK	**Pallekele**	**10.97**	**299**	*e*Pn	**Pn**	**14 31 38.4**	**-0.9**
PALK				*e*Sn	Sn	14 33 25.4	-16
MYKOM	**Kota Tinggi**	**13.45**	**91**	*e*Pn	**P**	**14 32 19.1**	**-3.0**
PBKT	**Sadao Pong**	**17.80**	**35**	P	P	14 33 18.4	+8.1
	7.6nm,1.1s						
CMAR	**Chiang Mai Arr**	**18.34**	**27**	P	**Pn**	**14 33 17.3**	**+0.8**
	0.1nm,0.3s,baz=217,slow=13,SNR=4.4						
CMAR				LR	LR	14 39 28.4	
	comp=Z,51nm,19.0s,baz=280,slow=34						
HYB	**Hyderabad**	**19.21**	**323**	*i* P	**P**	**14 33 26.0**	**+0.1**
H08S2	**Diego Garcia H**	**20.29**	**242**	T	T	14 54 38.6	
	baz=60,slow=75,SNR=29						
H08S3	**Diego Garcia H**	**20.29**	**242**	T	T	14 54 45.3	
	baz=60,slow=75,SNR=32						
H08S1	**Diego Carcia H**	**20.30**	**242**	T	T	14 54 46.5	
	baz=60,slow=75,SNR=21						
ODAN	**Odare**	**24.85**	**354**	*e*P	**P**	**14 34 24.4**	**+0.1**
RAMN	**Ramite**	**25.04**	**352**	*e*P	**P**	**14 34 26.4**	**+0.4**
KKN	**Kakani**	**26.07**	**350**	*e*P	**P**	**14 34 35.2**	**-0.2**
KOLN	**Koldanda**	**26.40**	**346**	*e*P	**P**	**14 34 38.9**	**+0.6**
	8.7nm,0.7s						
PYUN	**Piuthan**	**26.86**	**345**	*e*P	**P**	**14 34 42.8**	**+0.3**
TGY	**Tagaytay City**	**32.47**	**67**	P	**P**	**14 35 35.4**	**+3.1**
	172nm,0.4s,baz=276,slow=16,SNR=3.4						
AAK	**Ala-Archa**	**42.85**	**343**	P	**P**	**14 37 00.2**	**+0.5**
	0.6nm,0.4s,baz=150,slow=7.4,SNR=6.2						
H01W3	**Cape Leeuwin H**	**42.95**	**151**	T	T	15 23 25.9	
	baz=322						
H01W2	**Cape Leeuwin H**	**42.96**	**151**	T	T	15 23 12.3	
	baz=322						
H01W1	**Cape Leeuwin H**	**42.97**	**151**	T	T	15 23 01.8	
	baz=322						
MK01	**Makanchi Array**	**45.11**	**352**	*e*P	**P**	**14 37 16.0**	**-1.7**
MK31	**Makanchi Array**	**45.13**	**352**	*e*P	**P**	**14 37 16.2**	**-1.6**
MK32	**Makanchi Array**	**45.13**	**352**	*e*P	**P**	**14 37 17.1**	**-0.7**
MKAR	**Makanchi Array**	**45.13**	**352**	P	**P**	**14 37 17.1**	**-0.7**
	1.9nm,0.7s,baz=170,slow=9.0,SNR=25						
GEYT	**Alibeck**	**46.39**	**324**	P	**P**	**14 37 28.3**	**+0.4**
	2.2nm,0.7s,baz=138,slow=9.3,SNR=4.3						
SONA0	**Songino Array**	**47.67**	**15**	*e*P	**P**	**14 37 38.2**	**+0.3**
SONM	**Songino Array**	**47.67**	**15**	P	**P**	**14 37 38.2**	**+0.3**
	4.7nm,0.5s,baz=194,slow=9.3,SNR=28						
SONA1	**Songino Array**	**47.69**	**15**	*e*P	**P**	**14 37 38.1**	**+0.1**
WRA	**Warramunga Arr**	**48.32**	**119**	P	**P**	**14 37 46.1**	**+2.8**
	0.7nm,0.8s,baz=296,slow=8.7,SNR=5.4						
WR1	**Warramunga Arr**	**48.32**	**119**	*e*P	**P**	**14 37 46.1**	**+2.8**
	15nm,1.4s						
ASAR	**Alice Springs**	**49.42**	**124**	P	**P**	**14 37 54.3**	**+2.7**
	0.3nm,0.5s,baz=300,slow=7.3,SNR=3.3						
KURBB	**Kurchatov Arra**	**49.44**	**350**	P	**P**	**14 37 50.6**	**-0.6**
	1.9nm,0.8s,baz=171,slow=7.3,SNR=13						
KURK	**Kurchatov**	**49.52**	**350**	*e*P	**P**	**14 37 50.6**	**-1.2**
ZALV	**Zalesovo Beam**	**51.94**	**356**	P	**P**	**14 38 09.0**	**-1.0**
	1.3nm,0.4s,baz=172,slow=5.6,SNR=6.5						
ZAA1	**Zalesovo Array**	**51.95**	**356**	*e*P	**P**	**14 38 09.0**	**-1.1**
BVAR	**Borovoye Array**	**53.46**	**345**	P	**P**	**14 38 19.2**	**-2.1**
	0.4nm,0.6s,baz=138,slow=7.0,SNR=3.8						
AKTO	**Aktyubinsk**	**55.47**	**335**	P	**P**	**14 38 34.6**	**-1.4**
	0.8nm,0.5s,baz=90,slow=8.1,SNR=3.6						
MAJO	**Matsushiro**	**55.84**	**46**	*e*P	**P**

ms1mx2.6/60,Error ellipse: s-maj=95.0km s-min=22.6km az=62.0

ISCJB ***13*** *14:39:07.7±1.0,2°.2N±0°.1×92°.5E±0°.1, h33km, mb3.6/6, MS4.1/1, Error ellipse: s-maj=23.0km s-min=15.4km az=41.7*

ISC 13 14:39:10.0±1.3, 2°.3N±0°.2×92°.6E±0°.2, h35km, n13, σ0§53/8, mb3.7/6, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PALK	**Pallekele**	**12.84**	**293**	Pn	**Pn**	**14 42 10.3**	**+0.2**
	0.9nm,0.3s,baz=116,slow=16,SNR=2.3						
PALK				Sn	Sn	14 44 20.8	-11
	0.5nm,0.3s,baz=116,slow=13,SNR=3.2						
CMAR	**Chiang Mai Arr**	**17.27**	**21**	P	**Pn**	**14 43 09.1**	**+0.6**
	0.1nm,0.3s,baz=213,slow=12,SNR=5.3						
H08S2	**Diego Garcia H**	**22.32**	**244**	T	T	15 06 19.8	
	baz=65						
H08S3	**Diego Garcia H**	**22.32**	**244**	T	T	15 06 26.6	
	baz=65						
H08S1	**Diego Garcia H**	**22.34**	**244**	T	T	15 06 23.1	
	baz=65						
MKAR	**Makanchi Array**	**45.25**	**350**	P	**P**	**14 47 24.1**	**+0.1**
	0.4nm,0.5s,baz=163,slow=8.5,SNR=7.2						
WRA	**Warramunga Arr**	**46.53**	**120**	P	**P**	**14 47 34.8**	**+0.2**
	0.8nm,0.8s,baz=300,slow=8.5,SNR=4.7						
SONM	**Songino Array**	**46.95**	**13**	P	**P**	**14 47 37.6**	**+0.1**
	0.2nm,0.4s,baz=182,slow=8.9,SNR=4.2						
ASAR	**Alice Springs**	**47.75**	**125**	P	**P**	**14 47 44.2**	**+0.2**
	0.2nm,0.8s,baz=298,slow=7.5,SNR=3.0						
TLY	**Talaya**	**50.12**	**9**	LR	LR	15 12 25.3	
	comp=Z,196nm,19.7s,baz=133,slow=40						
ZALV	**Zalesovo Beam**	**51.91**	**354**	P	**P**	**14 48 15.1**	**0.0**
	0.8nm,0.3s,baz=166,slow=7.6,SNR=4.3						
TIXI	**Tiksi**	**73.01**	**11**	P	**P**	**14 50 34.8**	**-1.0**
	0.5nm,0.3s,baz=244,slow=1.6,SNR=2.3						
TXAR	**Lajitas Array**	**144.94**	**25**	PKPbc	PKPbc	14 58 43.7	+0.1
	0.3nm,0.4s,baz=270,slow=2.7,SNR=4.4						

IDC 13 14:39:44.6±1.7, 2°.97N×127°.50E, h0km, mb3.5/4, mb1 3.7/5, mb1mx3.3/66, mbtmp3.5/5, ML3.0/1, Error ellipse: s-maj=88.4km s-min=25.3km az=62.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**5.36**	**135**	Pn	Pn	14 41 06.6	+0.6
	0.5nm,0.3s,baz=58,slow=23,SNR=6.9						
SIJI				Sn	Sn	14 42 01.9	-6.5
	0.6nm,0.3s,baz=343,slow=19,SNR=3.2						
WRA	**Warramunga Arr**	**23.74**	**164**	P	P	14 44 58.9	+0.2
	0.7nm,0.4s,baz=344,slow=10.0,SNR=13						
ASAR	**Alice Springs**	**27.20**	**167**	P	P	14 45 30.0	-0.3
	0.4nm,0.9s,baz=347,slow=7.7,SNR=7.7						
STKA	**Stephens Creek**	**37.15**	**160**	P	P	14 46 56.5	-0.8
	0.7nm,0.4s,baz=338,slow=10.0,SNR=3.8						
MKAR	**Makanchi Array**	**58.61**	**325**	P	P	14 49 44.0	+0.5
	0.6nm,1.1s,baz=116,slow=5.1,SNR=3.2						

IDC 13 14:41:26.1±419.0, 47°.56N×48°.29E, h0km, Error ellipse: s-maj=169.5km s-min=141.2km az=6.0, Western Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I31KZ	**AKTYUBINSK INF**	**7.02**	**62**	*i*		15 25 00.0	
	baz=250,slow=317,SNR=8.4						
I43RU	**DUBNA INFRASONI**	**1.40**	**328**	*i*		15 51 30.0	
	baz=139,slow=332,SNR=3.1						
I26DE	**FREYUNG INFRAS**	**22.96**	**286**	*i*		17 02 40.0	
	baz=82,slow=330,SNR=0.5						

IDC ***13*** *14:41:45.4±1.0, 3°.63N×92°.97E, h0km, mb3.8/12, mb1 3.9/14, mb1mx3.7/76, mbtmp3.8/14, ML3.5/2, Error ellipse: s-maj=35.8km s-min=16.4km az=48.0*

ISCJB ***13*** *14:41:48.3±0.7, 3°.6N±0°.1×92°.9E±0°.1, h33km, mb3.9/13, Error ellipse: s-maj=19.0km s-min=12.2km az=41.2*

ISC 13 14:41:50.5±0.9, 3°.7N±0°.2×92°.9E±0°.1, h35km, n21, σ0§85/15, mb3.8/13, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PALK	**Pallekele**	**12.71**	**287**	Pn	**Pn**	**14 44 47.6**	**-1.3**
	0.1nm,0.3s,baz=116,slow=16,SNR=2.1						
PALK				Sn	Sn	14 46 54.9	-14
	0.6nm,0.3s,baz=121,slow=7.4,SNR=3.7						
CMAR	**Chiang Mai Arr**	**15.85**	**21**	Pn	**Pn**	**14 45 29.8**	**-1.4**
	0.1nm,0.3s,baz=215,slow=13,SNR=13						
H08S2	**Diego Garcia H**	**23.29**	**241**	T	T	15 12 27.6	
	baz=61,slow=76,SNR=39						
H08S3	**Diego Garcia H**	**23.29**	**241**	T	T	15 12 23.4	
	baz=61,slow=76,SNR=40						
H08S1	**Diego Garcia H**	**23.30**	**241**	T	T	15 12 28.4	
	baz=61,slow=76,SNR=43						
FITZ	**Fitzroy Crossi**	**38.80**	**125**	P	**P**	**14 49 11.6**	**-0.6**
	3.5nm,1.0s,baz=284,slow=4.2,SNR=3.5						
H01W3	**Cape Leeuwin H**	**43.20**	**154**	T	T	15 36 12.8	
	baz=331						
H01W2	**Cape Leeuwin H**	**43.21**	**154**	T	T	15 36 25.4	
	baz=331						
H01W1	**Cape Leeuwin H**	**43.21**	**154**	T	T	15 36 03.7	
	baz=331						
MKAR	**Makanchi Array**	**43.97**	**349**	P	**P**	**14 49 54.7**	**+0.4**
	0.7nm,0.5s,baz=166,slow=8.6,SNR=9.3						
SONM	**Songino Array**	**45.52**	**13**	P	**P**	**14 50 07.3**	**+0.5**
	0.4nm,0.4s,baz=196,slow=11,SNR=3.0						
GEYT	**Alibeck**	**46.65**	**322**	P	**P**	**14 50 15.3**	**-0.5**
	1.1nm,0.6s,baz=129,slow=4.6,SNR=2.7						
WRA	**Warramunga Arr**	**46.93**	**122**	P	**P**	**14 50 17.7**	**-0.5**
	1.2nm,0.7s,baz=298,slow=9.2,SNR=6.7						
ASAR	**Alice Springs**	**48.26**	**126**	P	**P**	**14 50 28.6**	**+0.1**
	0.5nm,0.7s,baz=299,slow=7.5,SNR=9.8						
KURBB	**Kurchatov Arra**	**48.37**	**348**	P	**P**	**14 50 29.4**	**+0.6**
	0.3nm,0.5s,baz=168,slow=7.2,SNR=4.5						
ZALV	**Zalesovo Beam**	**50.58**	**354**	P	**P**	**14 50 46.1**	**+0.4**
	1.1nm,0.5s,baz=177,slow=7.3,SNR=5.5						
BVAR	**Borovoye Array**	**52.62**	**343**	P	**P**	**14 51 00.6**	**-0.4**
	0.6nm,0.7s,baz=217,slow=32,SNR=4.9						
BRTR	**Keskin Array B**	**64.33**	**313**	P	**P**	**14 52 23.3**	**+0.2**
	0.5nm,0.7s,baz=100,slow=5.0,SNR=3.4						
TIXI	**Tiksi**	**71.58**	**11**	P	**P**	**14 53 07.7**	**-0.2**
	1.8nm,0.5s,baz=205,slow=2.4,SNR=12						
VAE	**Valguarnera**	**78.69**	**307**	P	**P**	**14 53 51.0**	**+1.4**
	9.7nm,0.5s,baz=72,slow=3.2,SNR=2.7						
GERES	**GERESS Array B**	**80.18**	**319**	P	**P**	**14 53 58.5**	**+0.9**
	0.6nm,0.6s,baz=77,slow=5.8,SNR=5.0						

IDC ***13*** *14:45:33.3±1.4, 2°.73N×91°.40E, h0km, mb4.1/10, mb1 4.3/12, mb1mx3.8/75, mbtmp4.1/12, ML3.8/2, MS3.2/1, Ms1 3.2/1, ms1mx2.4/65, Error ellipse: s-maj=38.8km s-min=24.3km az=39.0*

NEIC ***13*** *14:45:34.6±0.6, 2°.77N×91°.40E, h10km, mb4.2/3, Error ellipse: s-maj=12.1km s-min=7.0km az=203.0*

ISCJB ***13*** *14:45:35.3±0.6, 2°.65N±0°.07×91°.40E±0°.04, h33km, mb4.1/12, MS3.1/1, Error ellipse: s-maj=9.6km s-min=5.0km az=13.7*

DJA ***13*** *14:45:35.9±1.3, 3°.N±7°.×9°.1E±°, h27km±15km, M4.8/12, mb4.9/12, mB5.2/7, MLv5.0/6, Mw(mB)4.7/7*

ISC 13 14:45:37.7±0.8, 2°.68N±0°.09×91°.41E±0°.06, h35km, n50, σ1§52/51, mb4.2/12, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSI	**Banda Aceh**	**4.78**	**54**	P	**Pn**	**14 46 47.3**	**0.0**
BSI				S	**Sn**	**14 47 36.1**	**-5.4**
MLSI	**Meulaboh, Aceh**	**5.23**	**72**	P	**Pn**	**14 46 54.0**	**+0.6**
	129nm,0.8s,4μm1.0nm						
MLSI				S	**Sn**	**14 47 53.2**	**+0.7**
	129nm,0.8s,4μm1.0nm						
TPTI		**5.79**	**84**	P	**Pn**	**14 47 01.5**	**+0.3**
	72nm,0.5s,3μm0.5nm						
LHMI	**Lhok Sumawe**	**6.08**	**65**	P	**Pn**	**14 47 04.8**	**-0.3**
LHMI				S	**Sn**	**14 48 16.5**	**+3.1**
LHMI	**Lhok Sumawe**	**6.08**	**65**	*e*Pn	**Pn**	**14 47 05.6**	**+0.6**
GSI	**Gunungsitoli**	**6.31**	**102**	P	**Pn**	**14 47 08.8**	**+0.5**
	94nm,0.6s,1μm0.4nm						
GSI				S	**Sn**	**14 48 15.2**	**-4.0**
	94nm,0.6s,1μm0.4nm						
GSI	**Gunungsitoli**	**6.31**	**102**	*e*Pn	**Pn**	**14 47 08.8**	**+0.5**
KCSI	**Kotacane, Aceh**	**6.41**	**82**	P	**Pn**	**14 47 09.5**	**-0.1**
KCSI				S	**Sn**	**14 48 22.4**	**+0.8**
TSI	**Tuntungan**	**7.19**	**83**	P	**Pn**	**14 47 19.7**	**-0.7**
PSI	**Prapat**	**7.50**	**89**	*e*Pn	**Pn**	**14 47 24.3**	**-0.6**
MNSI	**Mandailing Nat**	**8.38**	**103**	P	**Pn**	**14 47 36.9**	**+0.2**
	44nm,0.5s,2μm						
PKDT	**Phuket**	**8.62**	**53**	P	**Pn**	**14 47 41.0**	**+1.0**
	8.9nm,1.0s,854nm0.1nm						
SISI	**Saibi**	**8.65**	**117**	P	**Pn**	**14 47 40.2**	**-0.2**
	14nm,0.5s						
SURT	**Suratani**	**9.63**	**49**	P	**Pn**	**14 47 56.1**	**+2.2**
	5.7nm,0.8s						
TRTT	**Trang**	**9.70**	**58**	P	**Pn**	**14 47 57.4**	**+2.5**
	5.1nm,0.7s						
IPM	**Ipoh**	**9.76**	**79**	*e*Pn	**Pn**	**14 47 53.2**	**-2.5**
PALK	**Pallekele**	**11.60**	**294**	Pn	**Pn**	**14 48 19.4**	**-1.5**
	1.3nm,0.3s,baz=116,slow=13,SNR=10						
PALK				Sn	Sn	14 50 17.3	-12
	2.5nm,0.3s,baz=294,slow=2.8,SNR=8.2						
PALK	**Pallekele**	**11.60**	**294**	*e*Pn	**Pn**	**14 48 19.0**	**-2.0**
PALK				Sn	Sn	14 50 17.3	-12
PBKT	**Sadao Pong**	**16.70**	**34**	P	**Pn**	**14 49 28.8**	**-0.3**
	13nm,1.0s						
CM01	**Chiang Mai Arr**	**17.30**	**25**	*e*Pn	**Pn**	**14 49 35.3**	**-1.3**
CM31	**Chiang Mai Arr**	**17.33**	**25**	*e*Pn	**Pn**	**14 49 36.3**	**-0.7**
CMAR	**Chiang Mai Arr**	**17.33**	**25**	Pn	**Pn**	**14 49 36.2**	**-0.8**
	0.1nm,0.3s,baz=218,slow=14,SNR=19						
CHTO	**Chiang Mai**	**17.65**	**24**	P	**P**	**14 49 43.7**	**+2.0**
	25nm,1.7s						
CHTO	**Chiang Mai**	**17.65**	**24**	*e*Pn	**Pn**	**14 49 39.2**	**-1.7**
	4.6nm,0.9s						
CMMT	**Chiang Mai**	**17.65**	**24**	P	**P**	**14 49 42.6**	**+0.9**
	7.5nm,1.5s						
LSA	**Lhasa**	**26.87**	**359**	P	**P**	**14 51 13.8**	**-2.1**
	5.3nm,0.6s						
TGY	**Tagaytay City**	**31.29**	**67**	LR	LR	15 05 38.5	
	comp=Z,39nm,19.0s,baz=144,slow=38						
H01W3	**Cape Leeuwin H**	**43.03**	**152**	T	T	15 39 41.5	
	baz=320						
H01W2	**Cape Leeuwin H**	**43.04**	**152**	T	T	15 39 30.5	
	baz=320						
H01W1	**Cape Leeuwin H**	**43.04**	**152**	T	T	15 39 32.6	
	baz=320						
MK01	**Makanchi Array**	**44.63**	**351**	*e*P	**P**	**14 53 46.5**	**-0.3**
MK31	**Makanchi Array**	**44.65**	**351**	*e*P	**P**	**14 53 47.2**	**+0.3**
MK32	**Makanchi Array**	**44.65**	**351**	*e*P	**P**	**14 53 47.3**	**+0.3**
MKAR	**Makanchi Array**	**44.65**	**351**	P	**P**	**14 53 47.3**	**+0.3**
	2.4nm,0.6s,baz=169,slow=9.0,SNR=19						
GEYT	**Alibeck**	**46.47**	**323**	P	**P**	**14 54 03.0**	**+1.4**
	1.2nm,0.8s,baz=159,slow=8.6,SNR=3.5						
SONA0	**Songino Array**	**46.81**	**14**	*e*P	**P**	**14 54 05.5**	**+1.4**
SONM	**Songino Array**	**46.81**	**14**	P	**P**	**14 54 05.5**	**+1.4**
	4.1nm,0.6s,baz=193,slow=9.7,SNR=24						
SONA1	**Songino Array**	**46.82**	**14**	*e*P	**P**	**14 54 03.2**	**-1.1**
WRA	**Warramunga Arr**	**47.75**	**120**	P	**P**	**14 54 12.9**	**+1.1**
	0.7nm,0.8s,baz=302,slow=8.6,SNR=4.3						
WRAB	**Tennant Creek**	**47.76**	**120**	P	**P**	**14 54 12.9**	**+1.1**
	1.7nm,0.7s						
KURBB	**Kurchatov Arra**	**49.00**	**349**	P	**P**	**14 54 21.0**	**+0.2**
	1.5nm,0.6s,baz=173,slow=7.0,SNR=13						
KURK	**Kurchatov**	**49.07**	**349**	*e*P	**P**	**14 54 21.0**	**-0.4**
ZALV	**Zalesovo Beam**	**51.39**	**355**	P	**P**	**14 54 39.3**	**+0.4**
	2.0nm,0.6s,baz=184,slow=7.2,SNR=9.9						
ZALV	**Zalesovo Beam**	**51.39**	**355**	*e*P	**P**	**14 54 37.9**	**-1.0**
ZAA1	**Zalesovo Array**	**51.39**	**355**	*e*P	**P**	**14 54 39.3**	**+0.4**
BVAR	**Borovoye Array**	**53.11**	**344**	P	**P**	**14 54 51.7**	**-0.1**
	1.4nm,0.7s,baz=157,slow=8.0,SNR=8.9						
ABKAR	**Akbulak array**	**53.61**	**335**	*e*P	**P**	**14 54 55.4**	**0.0**
KBZ	**Khabaz**	**59.22**	**321**	P	**P**	**14 55 35.7**	**+0.2**
	1.5nm,0.8s,baz=167,slow=10,SNR=4.0						
TIXI	**Tiksi**	**72.83**	**12**	P	**P**	**14 57 02.1**	**-0.3**
	1.9nm,0.5s,baz=242,slow=5.5,SNR=11						
GERES	**GERESS Array B**	**79.90**	**319**	P	**P**	**14 57 44.5**	**+1.3**
	0.7nm,0.6s,baz=59,slow=5.1,SNR=5.9						

ISCJB ***13*** *14:46:33.1±0.3, 42°.29N±0°.04×137°.52E±0°.04, h289km, mb3.5/18, Error ellipse: s-maj=5.9km s-min=4.5km az=180.0*

JMA ***13*** *14:46:33.9±0.3, 42°.26N×137°.51E, h290km, M3.4*

IDC ***13*** *14:46:33.6±1.0, 42°.28N×137°.38E, h278km±9km, mb3.3/18, mb1 3.4/24, mb1mx3.2/76, mbtmp3.9/24, Error ellipse: s-maj=11.9km s-min=9.1km az=160.0*

ISC 13 14:46:34.1±0.6, 42°.5N±0°.06×137°.60E±0°.06, h289km, n45, σ1§42/54, mb3.5/18, Eastern Sea of Japan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JOSM	**Okushiri--Mats**	**1.40**	**96**	P	**Pn**	**14 47 15.8**	**+0.3**
JOSM				*e*S	S	**14 47 49.0**	**+0.6**
JSH	**Shimam**	**1.85**	**77**	P	**Pn**	**14 47 19.3**	**+0.6**
JKB	**Kayabe**	**2.58**	**97**	P	**Pn**	**14 47 25.6**	**+0.6**
JOT	**Ohata**	**2.72**	**107**	P	**Pn**	**14 47 26.7**	**+0.4**
JEW	**Eniwo**	**2.91**	**77**	P	**Pn**	**14 47 29.1**	**+1.0**
JANG	**Nango**	**3.49**	**121**	P	**Pn**	**14 47 34.0**	**-0.2**
JYG	**Yagishiri**	**3.54**	**51**	P	**Pn**	**14 47 35.3**	**+0.7**
JFR	**Furan**	**3.79**	**74**	P	**Pn**	**14 47 37.6**	**+0.2**
JFR				*e*S	S	**14 48 26.6**	**-1.4**
JNBK	**Urakawa-nobuka**	**3.82**	**88**	P	**Pn**	**14 47 37.7**	**-0.1**
JNBK				*e*S	S	**14 48 27.1**	**-1.5**
JYK	**Kaneyama**	**3.93**	**147**	P	**Pn**	**14 47 39.1**	**0.0**
JYK				*e*S	S	**14 48 30.7**	**-0.3**
JOM	**Ohasama**	**3.94**	**133**	P	**Pn**	**14 47 38.9**	**-0.2**
ASAJ	**Asahikawa**	**4.10**	**61**	P	**Pn**	**14 47 41.5**	**+0.7**
	8.5nm,0.3s,baz=250,slow=9.2,SNR=101						
ASAJ				S	S	**14 48 33.9**	**-0.3**
	0.3nm,0.3s,baz=49,slow=23,SNR=5.7						
JKK2	**Kamakawa 2**	**4.11**	**65**	P	**Pn**	**14 47 41.6**	**+0.7**
JKK2				*e*S	S	**14 48 33.0**	**-1.3**
JSD	**Sado**	**4.23**	**173**	P	**Pn**	**14 47 43.2**	**+0.7**
JCH	**Churui**	**4.28**	**83**	P	**Pn**	**14 47 42.4**	**-0.5**
JCH				*e*S	S	**14 48 35.1**	**-2.8**
JMK	**Ichinoseki**	**4.29**	**139**	P	**Pn**	**14 47 42.2**	**-0.9**
JWK2	**Keihoku**	**4.37**	**44**	P	**Pn**	**14 47 45.4**	**+1.6**
JSE	**Soyaes**	**4.52**	**51**	P	**Pn**	**14 47 46.4**	**+0.9**
USRK	**Ussuriysk Ar.**	**4.54**	**297**	P	**Pn**	**14 47 44.2**	**-1.6**
	1.6nm,0.3s,baz=100,slow=10,SNR=28						
JTKR	**Abashiri--Toko**	**4.93**	**67**	P	**Pn**	**14 47 50.5**	**+0.2**
JTKR				*e*S	S	**14 48 49.3**	**-2.1**
MJAR	**Matsushiro Arr**	**5.71**	**175**	P	**Pn**	**14 48 00.9**	**+1.1**
	0.5nm,0.3s,baz=355,slow=12,SNR=6.5						
NEM2	**Nemuro 2**	**6.09**	**77**	P	**Pn**	**14 48 02.4**	**-1.8**
NEM2				*e*S	S	**14 49 10.2**	**-6.4**
KLR	**Kul'dur**	**8.09**	**332**	P	**Pn**	**14 48 27.4**	**-1.2**
	0.0nm,0.3s,baz=162,slow=15,SNR=9.1						
KSRS	**Korea Array**	**8.85**	**240**	P	**Pn**	**14 48 37.8**	**-0.3**
	0.2nm,0.3s,baz=51,slow=12,SNR=4.2						
PETK	**Petropavlovsk-**	**17.29**	**44**	P	**P**	**14 50 17.6**	**+1.1**
	0.1nm,0.3s,baz=224,slow=9.6,SNR=3.2						
MA2	**Magadan**	**19.17**	**21**	P	**P**	**14 50 36.4**	**-0.1**
	1.0nm,0.3s,baz=210,slow=8.4,SNR=16						
SEY	**Seymchan**	**22.47**	**18**	P	**P**	**14 51 09.6**	**+0.7**
	1.0nm,0.5s,baz=214,slow=8.7,SNR=9.4						
SONM	**Songino Array**	**22.65**	**295**	P	**P**	**14 51 08.6**	**-2.3**
	0.5nm,0.4s,baz=95,slow=9.0,SNR=5.3						
TIXI	**Tiksi**	**29.80**	**354**	P	**P**	**14 52 13.8**	**-0.3**
	0.4nm,0.3s,baz=153,slow=7.6,SNR=3.2						
ZALV	**Zalesovo Beam**	**36.32**	**307**	P	**P**	**14 53 09.7**	**-0.8**
	0.8nm,0.4s,baz=77,slow=7.6,SNR=6.9						
MKAR	**Makanchi Array**	**39.01**	**296**	P	**P**	**14 53 31.8**	**-1.3**
	1.8nm,0.5s,baz=84,slow=12,SNR=22						
KURBB	**Kurchatov Arra**	**40.59**	**303**	P	**P**	**14 53 44.5**	**-1.4**
	2.0nm,0.5s,baz=80,slow=8.7,SNR=13						
BVAR	**Borovoye Array**	**44.97**	**308**	P	**P**	**14 54 20.2**	**-0.6**
	1.0nm,0.4s,baz=80,slow=7.4,SNR=9.8						
AAK	**Ala-Archa**	**45.58**	**293**	P	**P**	**14 54 25.0**	**-1.0**
	0.6nm,0.3s,baz=81,slow=3.1,SNR=4.2						
ILAR	**Eielson Array**	**46.78**	**35**	P	**P**	**14 54 36.1**	**+1.4**
	1.9nm,0.6s,baz=280,slow=8.7,SNR=30						
YKA	**Yellowknife Ar**	**60.80**	**30**	P	**P**	**14 56 16.8**	**+1.2**
	0.5nm,0.5s,baz=306,slow=6.7,SNR=12						
WRA	**Warramunga Arr**	**61.95**	**183**	P	**P**	**14 56 23.7**	**0.0**
	1.0nm,1.1s,baz=0.7,slow=7.0,SNR=8.9						
FINES	**FINESS Array B**	**62.84**	**330**	P	**P**	**14 56 28.8**	**-0.3**
	0.8nm,0.7s,baz=38,slow=7.0,SNR=2.7						
KBZ	**Khabaz**	**65.34**	**307**	P	**P**	**14 56 44.7**	**-0.9**
	1.1nm,0.7s,baz=90,slow=4.0,SNR=2.9						
ASAR	**Alice Springs**	**65.67**	**184**	P	**P**	**14 56 48.8**	**+1.0**
	0.2nm,0.7s,baz=6.2,slow=9.5,SNR=3.6						
NVAR	**Mina Array Bea**	**74.18**	**52**	P	**P**	**14 57 41.8**	**+2.2**
	0.5nm,0.5s,baz=292,slow=5.5,SNR=4.7						
PDAR	**Pinedale Array**	**76.06**	**44**	P	**P**	**14 57 51.7**	**+1.5**
	0.8nm,0.5s,baz=324,slow=1.6,SNR=14						
ULM	**Lac du Bonnet**	**76.71**	**32**	P	**P**	**14 57 54.0**	**+0.6**
	1.4nm,0.4s,baz=326,slow=11,SNR=3.1						
TXAR	**Lajitas Array**	**89.15**	**50**	P	**P**	**14 58 57.9**	**+0.5**
	0.3nm,0.5s,baz=298,slow=5.7,SNR=3.4						
SNAA	**Sanae**	**144.74**	**200**	PKP	**PKPab**	**15 05 35.2**	**0.0**
	0.5nm,0.4s,baz=135,slow=2.9,SNR=11						

IDC 13 14:47:01.1±2.9, 1°.69N×89°.82E, h0km, mb3.7/4, mb1 3.7/5, mb1mx3.3/74, mbtmp3.6/5, ML3.5/1, Error ellipse: s-maj=91.7km s-min=29.8km az=64.0, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PALK	**Pallekele**	**10.64**	**302**	Sn	Sn	14 51 18.2	-17
	4.4nm,0.3s,baz=299,slow=0.1,SNR=4.9						
CMAR	**Chiang Mai Arr**	**18.92**	**28**	P	P	14 51 22.8	-0.9
	0.1nm,0.3s,baz=205,slow=13,SNR=2.7						
SONM	**Songino Array**	**48.16**	**15**	P	P	14 55 44.6	+1.4
	1.3nm,0.5s,baz=200,slow=8.0,SNR=4.0						
KURBB	**Kurchatov Arra**	**49.69**	**351**	P	P	14 55 53.8	-0.9
	0.6nm,0.8s,baz=180,slow=7.1,SNR=3.1						
ASAR	**Alice Springs**	**49.71**	**123**	P	P	14 55 55.3	-0.2
	0.6nm,0.9s,baz=300,slow=8.1,SNR=2.8						
ZALV	**Zalesovo Beam**	**52.25**	**356**	P	P	14 56 13.5	-0.4
	0.6nm,0.5s,baz=164,slow=8.3,SNR=2.5						

IDC ***13*** *14:50:27.6±0.9, 2°.12N×92°.49E, h0km, mb3.7/10, mb1 3.8/12, mb1mx3.6/71, mbtmp3.7/12, ML3.8/2, MS3.6/1, Ms1 3.6/1, ms1mx2.6/67, Error ellipse: s-maj=30.3km s-min=17.0km az=56.0*

NEIC ***13*** *14:50:28.8±0.5, 2°.09N×92°.39E, h10km, mb4.6/2, Error ellipse: s-maj=10.8km s-min=6.5km az=205.0*

ISCJB ***13*** *14:50:30.7±0.5, 2°.21N±0°.05×92°.53E±0°.05, h33km, mb4.0/12, MS3.6/1, Error ellipse: s-maj=7.8km s-min=6.1km az=28.6*

DJA ***13*** *14:50:39.9±1.4, 2°.N±6°.×9°.3E±1°.8, h28km±27km, M4.8/9, mb4.8/7, mB5.1/3, MLv4.8/9, Mw(mB)4.4/3*

ISC 13 14:50:32.6±0.7, 2°.17N±0°.08×92°.51E±0°.07, h35km, n47, σ1§41/46, mb3.8/12, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSI	**Banda Aceh**	**4.32**	**40**	P	**Pn**	**14 51 36.3**	**+0.5**
BSI				S	**Sn**	**14 52 22.9**	**-2.1**
MLSI	**Meulaboh, Aceh**	**4.41**	**62**	P	**Pn**	**14 51 37.2**	**+0.1**
TPTI		**4.79**	**77**	P	**Pn**	**14 51 42.4**	**+0.1**
GSI	**Gunungsitoli**	**5.14**	**100**	P	**Pn**	**14 51 47.8**	**+0.7**
GSI				S	**Sn**	**14 52 40.1**	**-5.2**
GSI	**Gunungsitoli**	**5.14**	**100**	*e*Pn	**Pn**	**14 51 47.9**	**+0.7**
GSI				*e*Sn	**Sn**	**14 52 42.8**	**-2.5**
LHMI	**Lhok Sumawe**	**5.37**	**55**	P	**Pn**	**14 51 50.5**	**+0.2**
LHMI	**Lhok Sumawe**	**5.37**	**55**	*e*Pn	**Pn**	**14 51 52.3**	**+2.0**
KCSI	**Kotacane, Aceh**	**5.43**	**76**	P	**Pn**	**14 51 50.7**	**-0.3**
TSI	**Tuntungan**	**6.19**	**78**	P	**Pn**	**14 52 01.3**	**-0.3**
PSI	**Prapat**	**6.44**	**84**	*e*Pn	**Pn**	**14 52 03.2**	**-1.9**
MNSI	**Mandailing Nat**	**7.20**	**101**	P	**Pn**	**14 52 16.3**	**+0.9**
SISI	**Saibi**	**7.44**	**118**	P	**Pn**	**14 52 21.3**	**+2.5**
PKDT	**Phuket**	**8.12**	**45**	P	**Pn**	**14 52 33.6**	**+0.5**
PDSI	**Padang**	**8.52**	**111**	P	**Pn**	**14 52 35.1**	**+1.5**
IPM	**Ipoh**	**8.81**	**75**	*e*Pn	**Pn**	**14 52 38.3**	**+0.8**
TRTT	**Trang**	**9.10**	**52**	P	**Pn**	**14 52 41.0**	**-0.5**
SURT	**Suratani**	**9.20**	**43**	P	**Pn**	**14 52 42.7**	**-0.1**
SKLT	**Songkhla**	**9.49**	**58**	P	**Pn**	**14 52 46.4**	**-0.4**
MNAI	**Manna**	**12.29**	**122**	*e*Pn	**Pn**	**14 53 24.8**	**-0.5**
PALK	**Pallekele**	**12.80**	**294**	Pn	**Pn**	**14 53 31.3**	**-1.0**
	1.1nm,0.3s,baz=115,slow=12,SNR=4.3						
PALK

MAT	**Matsushiro**	**2.56**	**260**	P	**Pn**	**14 54**	**05.3 +1.1**
MAT				*eS*	**Sb**	**14 54**	**38.5 -2.1**
JHJ	**Hachijo jima 2**	**4.12**	**199**	Pn	**Pn**	**14 54**	**25.6 +0.1**
	15nm,0.3s,baz=328,slow=20,SNR=10.0						
JHJ				Sn	**Sn**	**14 55**	**12.8 0.0**
	37nm,0.3s,baz=278,slow=24,SNR=8.0						
JHJ				LR	LR	14 56	11.6
	comp=Z,198nm,18.4s,baz=40,slow=41						
ASAJ	**Asahikawa**	**7.13**	**7**	Pn	**Pn**	**14 55**	**06.8 -0.2**
	1.1nm,0.3s,baz=224,slow=8.9,SNR=20						
ASAJ				Sn	**Sn**	**14 56**	**27.9 +0.7**
	0.5nm,0.3s,baz=53,slow=20,SNR=2.0						
JNU	**Nakatsue**	**9.42**	**249**	LR	LR	14 59	56.0
	comp=Z,223nm,18.1s,baz=117,slow=41						
JCJ	**Chichijima**	**9.94**	**176**	Pn	**Pn**	**14 55**	**45.9 +0.3**
	2.5nm,0.3s,baz=298,slow=15,SNR=2.9						
JCJ				Sn	Sn	14 57	25.7 -11
	4.7nm,0.3s,baz=270,slow=19,SNR=2.9						
JCJ				LR	LR	15 00	03.9
	comp=Z,161nm,18.6s,baz=290,slow=40						
USRK	**Ussuriysk Ar.**	**10.08**	**318**	Pn	**Pn**	**14 55**	**50.6 +3.3**
	0.2nm,0.3s,baz=121,slow=14,SNR=2.8						
USRK				Sn	**Sn**	**14 57**	**35.8 -3.7**
	0.3nm,0.3s,baz=133,slow=42,SNR=2.2						
USRK				LR	LR	14 59	33.2
	comp=Z,444nm,18.1s,baz=127,slow=36						
KSRS	**Korea Array**	**10.70**	**276**	Pn	Pn	14 56	00.8 +4.9
	0.0nm,0.3s,baz=78,slow=13,SNR=4.4						
KSRS				LR	LR	14 59	57.2
	comp=Z,281nm,20.5s,baz=76,slow=36						
KLR	**Kul'dur**	**14.04**	**333**	Pn	**Pn**	**14 56**	**42.9 +1.5**
	0.0nm,0.3s,baz=130,slow=7.9,SNR=2.3						
PETK	**Petropavlovsk-**	**19.71**	**30**	LR	LR	15 04	50.3
	comp=Z,40nm,21.8s,baz=230,slow=35						
MA2	**Magadan**	**23.36**	**12**	P	**P**	**14 58**	**31.1 +0.5**
	3.0nm,0.8s,baz=177,slow=19,SNR=3.3						
GUMO	**Guam**	**23.57**	**17**	LR	LR	15 05	53.8
	comp=Z,35nm,21.9s,baz=72,slow=32						
SEY	**Seymchan**	**26.80**	**11**	P	**P**	**14 59**	**02.3 +0.3**
	0.7nm,0.5s,baz=203,slow=8.7,SNR=4.1						
SONM	**Songino Array**	**27.73**	**304**	P	**P**	**14 59**	**10.2 -0.6**
	1.2nm,0.7s,baz=106,slow=9.5,SNR=5.4						
H11N2	**WAKE ISLAND Hy**	**28.20**	**121**	T	T	15 28	34.9
	baz=314,slow=75,SNR=408						
H11N1	**WAKE ISLAND Hy**	**28.21**	**121**	T	T	15 28	35.9
	baz=314,slow=75,SNR=406						
H11N3	**WAKE ISLAND Hy**	**28.22**	**121**	T	T	15 28	36.4
	baz=314,slow=75,SNR=406						
H11S1	**WAKE ISLAND Hy**	**28.91**	**123**	T	T	15 29	33.3
	baz=316,slow=76,SNR=136						
H11S3	**WAKE ISLAND Hy**	**28.91**	**123**	T	T	15 29	29.0
	baz=316,slow=76,SNR=129						
H11S2	**WAKE ISLAND Hy**	**28.93**	**123**	T	T	15 29	30.0
	baz=316,slow=76,SNR=91						
CMAR	**Chiang Mai Arr**	**41.44**	**255**	P	**P**	**15 01**	**09.2 +0.2**
	0.3nm,0.6s,baz=46,slow=8.4,SNR=4.0						
ZALV	**Zalesovo Beam**	**41.87**	**312**	P	**P**	**15 01**	**12.5 +0.5**
	2.3nm,0.6s,baz=95,slow=7.1,SNR=11						
MKAR	**Makanchi Array**	**44.06**	**302**	P	**P**	**15 01**	**30.2 +0.2**
	2.1nm,0.7s,baz=89,slow=10,SNR=22						
KURBB	**Kurchatov Arra**	**45.95**	**308**	P	**P**	**15 01**	**44.8 -0.1**
	1.8nm,0.5s,baz=84,slow=8.6,SNR=14						
KDAK	**Kodiak Island**	**47.13**	**42**	P	**P**	**15 01**	**53.8 -0.3**
	3.5nm,0.6s,baz=263,slow=5.6,SNR=16						
ILAR	**Eielson Array**	**49.52**	**32**	P	**P**	**15 02**	**12.6 +0.1**
	0.9nm,0.6s,baz=266,slow=6.1,SNR=22						
BATI	**Baumata**	**49.84**	**203**	P	**P**	**15 02**	**15.6 +0.1**
	15nm,0.7s,baz=81,slow=8.1,SNR=2.7						
AAK	**Ala-Archa**	**50.43**	**298**	P	**P**	**15 02**	**20.4 +0.6**
	0.8nm,0.6s,baz=108,slow=3.2,SNR=3.0						
AAK				LR	LR	15 24	54.2
	comp=Z,208nm,19.0s,baz=55,slow=37						
BVAR	**Borovoye Array**	**50.52**	**312**	P	**P**	**15 02**	**20.7 +0.5**
	0.5nm,0.4s,baz=78,slow=8.8,SNR=4.7						
INK	**Inuvik**	**54.41**	**27**	P	**P**	**15 02**	**49.5 +0.7**
	0.6nm,0.6s,baz=26,slow=1.6,SNR=5.4						
ARU	**Arti**	**56.32**	**319**	LR	LR	15 29	04.6
	comp=Z,63nm,18.9s,baz=70,slow=38						
WRA	**Warramunga Arr**	**57.06**	**188**	P	**P**	**15 03**	**07.6 -0.7**
	1.9nm,0.6s,baz=5.1,slow=7.6,SNR=19						
AKTO	**Aktyubinsk**	**58.63**	**312**	P	**P**	**15 03**	**18.9 -0.1**
	1.2nm,0.6s,baz=68,slow=13,SNR=5.6						
ASAR	**Alice Springs**	**60.79**	**188**	P	**P**	**15 03**	**33.8 -0.3**
	1.3nm,0.7s,baz=14,slow=9.7,SNR=14						
GEYT	**Alibeck**	**63.78**	**299**	P	**P**	**15 03**	**54.5 +0.3**
	1.1nm,0.5s,baz=69,slow=7.9,SNR=3.6						
YKA	**Yellowknife Ar**	**63.83**	**30**	P	**P**	**15 03**	**54.2 +0.1**
	0.3nm,0.6s,baz=304,slow=7.1,SNR=6.1						
AFI	**Afiamalu**	**67.18**	**130**	LR	LR	15 31	31.6
	comp=Z,14nm,18.2s,baz=302,slow=34						
STKA	**Stephens Creek**	**68.56**	**180**	P	**P**	**15 04**	**23.4 -1.2**
	0.9nm,0.4s,baz=345,slow=12,SNR=8.4						
FINES	**FINESS Array B**	**68.78**	**332**	P	**P**	**15 04**	**25.8 +0.1**
	1.3nm,0.6s,baz=68,slow=6.6,SNR=4.6						
HFS	**Hagfors**	**74.06**	**336**	P	**P**	**15 04**	**58.4 +0.8**
	1.7nm,0.8s,baz=50,slow=9.7,SNR=4.0						
NB2	**NORSAR Subarra**	**74.16**	**337**	P	**P**	**15 04**	**58.2 -0.1**
	comp=Z,1.5nm,0.8s,baz=40,slow=6.2						
NOA	**NORSAR Array B**	**74.16**	**337**	P	**P**	**15 04**	**58.5 +0.2**
	comp=Z,1.0nm,0.7s,baz=39,slow=5.8,SNR=5.3						
NOA				LR	LR	15 40	05.0
	comp=Z,45nm,20.1s,baz=65,slow=38						
AKASG	**Malin Array Be**	**74.25**	**322**	P	**P**	**15 04**	**58.8 -0.1**
	comp=Z,1.3nm,0.5s,baz=48,slow=7.0,SNR=4.2						
NVAR	**Mina Array Bea**	**75.03**	**53**	P	**P**	**15 05**	**04.0 0.0**
	comp=Z,0.4nm,0.6s,baz=270,slow=2.7,SNR=3.0						
PDAR	**Pinedale Array**	**77.70**	**45**	P	**P**	**15 05**	**19.5 +0.4**
	comp=Z,0.5nm,0.6s,baz=220,slow=1.2,SNR=4.0						
GERES	**GERESS Array B**	**82.67**	**328**	P	**P**	**15 05**	**45.3 -0.3**
	comp=Z,0.5nm,0.5s,baz=57,slow=4.9,SNR=4.2						
EKA	**Eskdalemuir Ar**	**83.11**	**340**	P	**P**	**15 05**	**47.1 -0.4**
	comp=Z,0.7nm,0.6s,baz=30,slow=4.8,SNR=2.9						
IDI	**Anoyia**	**86.94**	**313**	P	**P**	**15 06**	**07.3 0.0**
	comp=Z,3.2nm,0.6s,baz=353,slow=8.1,SNR=2.3						
TXAR	**Lajitas Array**	**90.17**	**52**	P	**P**	**15 06**	**23.6 +0.8**
	comp=Z,0.3nm,0.5s,baz=310,slow=3.4,SNR=3.3						
LPAZ	**La Paz**	**146.74**	**59**	PKPbc	**PKPbc**	**15 13**	**05.4 +0.2**
	comp=Z,1.4nm,0.7s,baz=292,slow=5.4,SNR=4.9						

NIED ***13*** *15:09:00,37˚.40N×142˚.36E,h8km,Mw3.6 Best double couple: M₀2.95000×10¹⁴ NP1:φ=147.00000°,δ33.00000°, λ-68.00000°. NP2:φ=302.00000°,δ60.00000°, λ-103.00000°.*

IDC ***13*** *15:09:03.0±3.4,37˚.22N×142˚.74E,h0km,mb3.7/5, mb1 3.6/8,mb1mx3.4/70,mbtmp3.7/8,ML3.2/3,Error ellipse: s-maj=61.1km s-min=28.2km az=116.0*

ISCJB ***13*** *15:09:06.2±1.4,37˚.36N±0˚.05×142˚.34E±0˚.07,h15km±9km, mb3.6/5,Error ellipse: s-maj=10.7km s-min=7.3km az=35.9*

JMA ***13*** *15:09:07.4±0.2,37˚.39N×142˚.27E,h22km±4km,M3.6*

ISC 13 15:09:04.6±1.9,37°27'N±0'.04×142°25'E±0'.07,h3km±11km, n29,σ2$03/32,mb3.7/5,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**1.10**	**275**	P	**Pn**	**15 09 27.2**	**+0.3**
JFK				S	**Sn**	**15 09 42.1**	**-0.5**
ONAJ	**Iwakimizuishiy**	**1.17**	**262**	P	**Pg**	**15 09 28.9**	**+1.9**
JMM	**Marumori**	**1.30**	**298**	P	**Pg**	**15 09 29.6**	**+0.1**
JMM				S	**Sg**	**15 09 46.7**	**+0.3**
JIO	**Ouri**	**1.38**	**329**	P	**Pb**	**15 09 30.1**	**-0.9**
JFT	**Otama**	**1.54**	**280**	P	**Pg**	**15 09 34.5**	**+0.3**
JFT				*eS*	**Sg**	**15 09 54.0**	**-0.2**
JOU	**Okura**	**1.66**	**311**	P	**Pb**	**15 09 35.6**	**-0.3**
JOU				*eS*	**Sn**	**15 09 55.1**	**-1.4**
JMK	**Ichinoseki**	**1.86**	**334**	P	**Pb**	**15 09 37.8**	**-1.4**
JYK	**Kaneyama**	**2.22**	**318**	P	**Pb**	**15 09 43.7**	**-1.6**
JOM	**Ohasama**	**2.32**	**341**	P	**Pn**	**15 09 44.5**	**+0.8**
JAG	**Ashikaga**	**2.40**	**250**	P	**Pb**	**15 09 46.4**	**-1.9**
JRY	**Ryogami san**	**2.97**	**246**	P	**Pb**	**15 09 55.9**	**-2.2**
JRY				*eS*	**Sb**	**15 10 31.5**	**-3.3**
JANG	**Nango**	**3.15**	**350**	P	**Pb**	**15 09 57.3**	**-3.9**
JOD2	**Odawara 2**	**3.25**	**233**	P	**Pb**	**15 09 59.7**	**-3.1**
MJAR	**Matsushiro Arr**	**3.32**	**259**	Pn	**Pb**	**15 10 01.7**	**-2.4**
	1.1nm,0.3s,baz=81,slow=16,SNR=17						
MJAR				Sn	**Sb**	**15 10 46.4**	**+1.5**
	1.8nm,0.3s,baz=84,slow=18,SNR=5.0						
MAT	**Matsushiro**	**3.32**	**259**	P	**Pb**	**15 10 01.7**	**-2.4**
MAT				*eS*	**Sb**	**15 10 42.7**	**-2.2**
MAT	**Matsushiro**	**3.32**	**259**	P	**Pb**	**15 10 01.7**	**-2.4**
JHJ	**Hachijo jima 2**	**4.61**	**207**	Pn	**Pn**	**15 10 16.3**	**+1.2**
	6.9nm,0.3s,baz=72,slow=20,SNR=7.2						
JHJ				Sn	**Sn**	**15 11 08.1**	**-1.0**
	9.5nm,0.3s,baz=107,slow=19,SNR=4.0						
ASAJ	**Asahikawa**	**6.84**	**2**	Pn	**Pn**	**15 10 46.4**	**+0.6**
	0.5nm,0.3s,baz=205,slow=12,SNR=11						
ASAJ				Sn	**Sn**	**15 11 59.5**	**-4.6**
	0.3nm,0.3s,baz=108,slow=20,SNR=2.8						
H11N2	**WAKE ISLAND Hy**	**27.70**	**122**	T	T	15 43	45.9
	baz=315,slow=75,SNR=88						
H11N1	**WAKE ISLAND Hy**	**27.71**	**122**	T	T	15 43	46.3
	baz=315,slow=75,SNR=73						
H11N3	**WAKE ISLAND Hy**	**27.72**	**122**	T	T	15 43	47.1
	baz=315,slow=75,SNR=86						
SONM	**Songino Array**	**28.21**	**303**	P	**P**	**15 15**	**00.6 +2.1**
	1.0nm,0.8s,baz=106,slow=9.9,SNR=5.0						
H11S1	**WAKE ISLAND Hy**	**28.43**	**124**	T	T	15 44	42.3
	baz=317,slow=76,SNR=71						
H11S3	**WAKE ISLAND Hy**	**28.44**	**124**	T	T	15 44	38.1
	baz=317,slow=76,SNR=70						
H11S2	**WAKE ISLAND Hy**	**28.45**	**124**	T	T	15 44	39.1
	baz=317,slow=76,SNR=67						
ZALV	**Zalesovo Beam**	**42.25**	**312**	P	**P**	**15 16**	**59.6 +0.8**
	0.8nm,0.5s,baz=77,slow=7.7,SNR=3.7						
MKAR	**Makanchi Array**	**44.56**	**302**	P	**P**	**15 17**	**19.2 +1.6**
	0.3nm,0.5s,baz=89,slow=9.8,SNR=5.0						
KURBB	**Kurchatov Arra**	**46.38**	**308**	P	**P**	**15 17**	**32.9 +1.0**
	1.0nm,0.4s,baz=81,slow=7.9,SNR=9.6						
BVAR	**Borovoye Array**	**50.91**	**312**	P	**P**	**15 18**	**08.2 +1.4**
	0.3nm,0.5s,baz=99,slow=8.9,SNR=2.6						

IDC ***13*** *15:09:20.6±0.7,0˚.99N×92˚.14E,h0km,mb4.0/19, mb1 4.2/21,mb1mx3.9/73,mbtmp4.1/21,ML4.0/2,MS3.9/32, Ms1 3.9/32,ms1mx3.8/63,Error ellipse: s-maj=21.8km s-min=14.2km az=47.0*

GCMT ***13*** *15:09:22.1±0.3,1˚.01N×92˚.16E,h12km,MW4.9/83, Moment Tensor Solution. s11,c11; s83,c117; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr0.06±.08; Mθθ-1.59±.06; Mφφ 1.53±.07; Mrθ-0.31±.19; Mθφ-0.67±.06; Mφr-1.77±.22; Best double couple: M₀2.39600×10¹⁶ NP1:φ=211.00000°,δ85.00000°,λ43.00000°. NP2: φ=117.00000°,δ47.00000°,λ174.00000°. Principal axes: T 2.7470, Plg33.0000°, Azm84.0000°; N -0.6980, Plg46.0000°, Azm216.0000°; P -2.0460, Plg25.0000°, Azm336.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***13*** *15:09:22.1±0.4,1˚.04N×92˚.15E,h10km,mb4.3/9 Error ellipse: s-maj=8.4km s-min=5.8km az=211.0*

ISCJB ***13*** *15:09:23.9±0.4,1˚.12N±0˚.05×92˚.24E±0˚.04,h33km, mb4.0/24,MS4.0/31,Error ellipse: s-maj=7.1km s-min=4.6km az=22.0*

DJA ***13*** *15:09:33.8±1.2,1˚.N±5˚×.9˚3E±˚,h10km,M5.1/7,mb5.3/5, mB5.4/4,MLv5.0/7,Mw(mB)4.9/4*

ISC 13 15:09:25.5±0.6,1°.02N±0°.08×92°.16E±0°.06,h35km,n116, σ1$99/94,mb4.2/27,MS4.0/31,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLSI	**Meulaboh, Aceh**	**5.33**	**53**	P	**Pn**	**15 10 42.6**	**0.0**
GSI	**Gunungsitoli**	**5.42**	**87**	P	**Pn**	**15 10 42.5**	**-1.4**
GSI	**Gunungsitoli**	**5.42**	**87**	*e*Pn	**Pn**	**15 10 42.9**	**-1.0**
GSI				*e*Sn	**Sn**	**15 11 46.9**	**+1.7**
BSI	**Banda Aceh**	**5.44**	**35**	P	**Pn**	**15 10 43.1**	**-1.1**
BSI				S	**Sn**	**15 11 37.9**	**-7.7**
TPTI		**5.49**	**66**	P	**Pn**	**15 10 43.5**	**-1.3**
PBSI	**Pulau Batu**	**6.21**	**100**	P	Pn	15 11 00.0	+5.2
LHMI	**Lhok Sumawe**	**6.35**	**49**	P	**Pn**	**15 10 59.8**	**+3.1**
LHMI	**Lhok Sumawe**	**6.35**	**49**	*e*Pn	**Pn**	**15 10 57.7**	**+1.0**
LHMI				*e*Sn	**Sn**	**15 12 10.7**	**+2.7**
TSI	**Tuntungan**	**6.86**	**69**	P	**Pn**	**15 11 06.4**	**+2.8**
PSI	**Prapat**	**6.99**	**75**	*e*Pn	**Pn**	**15 11 04.6**	**-0.9**
SISI	**Saibi**	**7.31**	**109**	P	**Pn**	**15 11 09.7**	**-0.2**
MNSI	**Mandailing Nat**	**7.42**	**92**	P	**Pn**	**15 11 11.2**	**-0.2**
MNSI				S	**Sn**	**15 12 27.4**	**-7.1**
PDSI	**Padang**	**8.52**	**103**	P	**Pn**	**15 11 26.7**	**+0.2**
PKDT	**Phuket**	**9.19**	**42**	P	**Pn**	**15 11 33.8**	**-1.9**
	64nm,0.9s,874nm0.3nm						
IPM	**Ipoh**	**9.50**	**69**	*e*Pn	**Pn**	**15 11 38.6**	**-1.3**
IPM				*e*Sn	**Sn**	**15 13 23.1**	**-2.5**
TRTT	**Trang**	**10.11**	**48**	P	**Pn**	**15 11 46.6**	**-1.7**
	25nm,0.9s,361nm0.1nm						
SURT	**Suratani**	**10.29**	**40**	P	**Pn**	**15 11 49.0**	**-1.7**
	26nm,0.9s,293nm0.1nm						
SKLT	**Songkhla**	**10.42**	**54**	P	**Pn**	**15 11 53.1**	**+0.6**
	61nm,0.7s,691nm						
PBA	**Port Blair**	**10.59**	**3**	*e*P	Pn	15 11 52.9	-1.8
MNAI	**Manna**	**12.04**	**116**	*e*Pn	**Pn**	**15 12 12.8**	**-1.9**
DGPR	**DIGLIPUR**	**12.11**	**4**	*e*P	**Pn**	**15 12 15.3**	**-0.3**
PALK	**Pallekele**	**13.09**	**299**	Pn	**Pn**	**15 12 25.4**	**-2.5**
	0.9nm,0.3s,baz=117,slow=13,SNR=5.9						
PALK				Sn	Sn	15 14 38.3	-13
	3.4nm,0.3s,baz=122,slow=1.2,SNR=6.2						
SRDT	**SRDT**	**14.93**	**27**	P	**P**	**15 13 01.6**	**+2.3**
MDRS	**Chennai**	**16.81**	**316**	*e*P	**Pn**	**15 13 13.8**	**-4.5**
MDRS				IAmb	IAmb	15 13 25.2	
	comp=Z,12nm,0.7s						
PBKT	**Sadao Pong**	**17.73**	**29**	P	**Pn**	**15 13 28.6**	**-1.1**
	comp=Z,19nm,0.9s						
PBKT	**Sadao Pong**	**17.73**	**29**	*e*Pn	**Pn**	**15 13 27.9**	**-1.8**
	comp=Z,11nm,0.9s						
CM01	**Chiang Mai Arr**	**18.54**	**21**	*e*P	**P**	**15 13 37.9**	**-1.3**
CM31	**Chiang Mai Arr**	**18.57**	**21**	*e*P	**P**	**15 13 37.9**	**-1.7**
CMAR	**Chiang Mai Arr**	**18.57**	**21**	P	**P**	**15 13 37.9**	**-1.7**
	comp=Z,0.2nm,0.3s,baz=216,slow=13,SNR=33						
CMAR				LR	LR	15 20 53.6	
	comp=Z,235nm,18.7s,baz=210,slow=37						
VIS	**Vishakhapatnam**	**18.73**	**333**	*e*P	**P**	**15 13 40.5**	**-0.8**
VIS				IAmb	IAmb	15 13 42.5	
	comp=Z,21nm,0.9s						
CHTO	**Chiang Mai**	**18.90**	**20**	*e*P	**P**	**15 13 42.9**	**-0.3**
	comp=Z,17nm,1.3s						
CMMT	**Chiang Mai**	**18.90**	**20**	P	**P**	**15 13 42.8**	**-0.4**
	comp=Z,12nm,1.5s						
SKNT	**Sakolnakorn**	**19.67**	**36**	P	**Pn**	**15 13 59.5**	**+6.3**
HYB	**Hyderabad**	**21.09**	**321**	*i* P	**P**	**15 14 08.0**	**+0.9**
H08S2	**Diego Garcia H**	**21.42**	**246**	T	T	15 36 25.9	
	baz=66,slow=75,SNR=6.1						
H08S3	**Diego Garcia H**	**21.42**	**246**	T	T	15 36 32.8	
	baz=66,slow=75,SNR=9.2						
H08S1	**Diego Garcia H**	**21.44**	**246**	T	T	15 36 33.3	
	baz=66,slow=75,SNR=5.6						
AGT	**Agartala**	**22.75**	**358**	*e*P	**P**	**15 14 21.8**	**-2.9**
AGT				IAmb	IAmb	15 14 22.0	
	comp=Z,3μm,0.1s						
BOK	**Bokaro**	**23.44**	**345**	*e*P	**P**	**15 14 33.4**	**+1.6**
BOK				IAmb	IAmb	15 14 35.6	
	comp=Z,11nm,0.7s						
IMP	**Imphal**	**23.74**	**4**	*e*P	**P**	**15 14 33.8**	**-0.9**
SHL	**Shillong**	**24.41**	**359**	*e*P	**P**	**15 14 40.8**	**-0.2**
TURI	**Tura**	**24.45**	**356**	*e*P	**P**	**15 14 39.2**	**-2.0**
AKL	**Akola**	**24.53**	**324**	*ex*	**P**	**15 14 37.2**	**-4.8**
KOHI	**KOHIMA**	**24.63**	**4**	*e*P	**P**	**15 14 42.4**	**-0.6**
MOKO	**MOKOCHONG**	**25.26**	**5**	*e*P	**P**	**15 14 49.4**	**+0.7**
TEZP	**TEZPUR**	**25.46**	**1**	*e*P	**P**	**15 14 49.5**	**-0.8**
LKP	**Lekhapani**	**26.40**	**7**	*e*P	**P**	**15 14 58.6**	**-0.3**
ZIRO	**ZIRO**	**26.41**	**3**	*e*P	**P**	**15 14 58.8**	**-0.3**
LSA	**Lhasa**	**28.54**	**358**	*e*P	**P**	**15 15 20.7**	**+2.2**
	comp=Z,6.0nm,0.7s						
TGY	**Tagaytay City**	**31.29**	**64**	LR	LR	15 28 31.3	
	comp=Z,130nm,19.5s,baz=261,slow=37						
SMLA	**Simla**	**33.14**	**336**	*ex*	**P**	**15 16 02.9**	**+4.4**
DAV	**Davao City (W)**	**33.86**	**79**	LR	LR	15 30 20.5	
	comp=Z,205nm,21.4s,baz=264,slow=37						
DHRM	**DHARAMSHALA**	**34.48**	**336**	*e*P	**P**	**15 16 07.2**	**-3.3**
DHRM				IAmb	IAmb	15 16 08.1	
	comp=Z,5.7nm,0.6s						
FITZ	**Fitzroy Crossi**	**38.03**	**122**	P	**P**	**15 16 40.1**	**-0.6**
	comp=Z,2.7nm,1.1s,baz=270,slow=9.1,SNR=3.5						
FITZ	**Fitzroy Crossi**	**38.03**	**122**	*e*P	**P**	**15 16 40.1**	**-0.6**
	comp=Z,4.4nm,1.0s						
NWAO	**Narrogin (SRO)**	**41.23**	**147**	LR	LR	15 32 21.3	
	comp=Z,233nm,18.8s,baz=196,slow=34						
AAK	**Ala-Archa**	**44.36**	**341**	P	**P**	**15 17 32.4**	**-0.3**
	comp=Z,0.5nm,0.4s,baz=158,slow=5.1,SNR=4.1						
WR1	**Warramunga Arr**	**46.29**	**119**	*e*P	**P**	**15 17 48.7**	**+0.6**
	comp=Z,5.2nm,0.9s						
WRA	**Warramunga Arr**	**46.29**	**119**	P	**P**	**15 17 48.7**	**+0.6**
	comp=Z,2.1nm,0.7s,baz=298,slow=8.3,SNR=12						
WB2	**Warramunga Arr**	**46.30**	**119**	*e*P	**P**	**15 17 49.1**	**+0.9**
MK01	**Makanchi Array**	**46.38**	**351**	*e*P	**P**	**15 17 47.4**	**-0.9**
MK31	**Makanchi Array**	**46.40**	**351**	*e*P	**P**	**15 17 48.8**	**+0.2**
MK32	**Makanchi Array**	**46.40**	**351**	*e*P	**P**	**15 17 48.9**	**+0.3**
MKAR	**Makanchi Array**	**46.40**	**351**	P	**P**	**15 17 48.9**	**+0.3**
	comp=Z,2.4nm,0.7s,baz=168,slow=8.8,SNR=22						

AS31	**Alice Springs**	**47.40**	**124**	*e*P	**P**	**15 17 57.4**	**+0.6**
	comp=Z,0.4nm,0.7s						
ASAR	**Alice Springs**	**47.40**	**124**	P	**P**	**15 17 57.4**	**+0.6**
	comp=Z,0.4nm,0.5s,baz=298,slow=7.6,SNR=17						
ASAR				LR	LR	15 38 24.8	
	comp=Z,90nm,19.2s,baz=300,slow=37						
SONA0	**Songino Array**	**48.24**	**13**	*e*P	**P**	**15 18 04.1**	**+1.1**
SONM	**Songino Array**	**48.24**	**13**	P	**P**	**15 18 04.1**	**+1.1**
	comp=Z,3.0nm,0.8s,baz=193,slow=8.8,SNR=17						
SONM				LR	LR	15 40 27.4	
	comp=Z,159nm,21.9s,baz=192,slow=39						
GEYT	**Alibeck**	**48.24**	**324**	P	**P**	**15 18 05.2**	**+2.1**
	comp=Z,1.1nm,0.5s,baz=134,slow=8.4,SNR=4.2						
GEYT				LR	LR	15 39 39.7	
	comp=Z,190nm,20.1s,baz=70,slow=38						
SONA1	**Songino Array**	**48.25**	**13**	*e*P	**P**	**15 18 03.6**	**+0.5**
JNU	**Nakatsue**	**48.38**	**45**	LR	LR	15 40 59.7	
	comp=Z,219nm,18.1s,baz=300,slow=39						
KS15	**Wonju Array Si**	**48.95**	**38**	*e*P	**P**	**15 18 09.5**	**+1.0**
KSAR	**Wonju Array Be**	**48.95**	**38**	P	**P**	**15 18 09.5**	**+1.0**
KSRS	**Korea Array**	**48.98**	**38**	P	**P**	**15 18 09.5**	**+0.8**
	comp=Z,0.8nm,0.7s,baz=225,slow=8.4,SNR=4.5						
KSRS				LR	LR	15 42 14.1	
	comp=Z,142nm,18.2s,baz=140,slow=40						
ATD	**Arta Tunnel**	**50.03**	**284**	LR	LR	15 34 53.5	
	comp=Z,81nm,21.5s,baz=112,slow=31						
KURBB	**Kurchatov Arra**	**50.76**	**349**	P	**P**	**15 18 22.2**	**+0.2**
	comp=Z,2.4nm,0.7s,baz=173,slow=7.1,SNR=21						
KURK	**Kurchatov**	**50.83**	**349**	*e*P	**P**	**15 18 22.2**	**-0.3**
ZAA0	**Zalesovo Array**	**53.10**	**355**	*e*P	**P**	**15 18 38.1**	**-1.3**
	comp=Z,3.3nm,0.8s						
ZALV	**Zalesovo Beam**	**53.10**	**355**	P	**P**	**15 18 39.2**	**-0.2**
	comp=Z,3.9nm,0.7s,baz=188,slow=8.0,SNR=14						
ZALV				LR	LR	15 42 25.3	
	comp=Z,187nm,20.9s,baz=208,slow=37						
ZALV	**Zalesovo Beam**	**53.10**	**355**	*e*P	**P**	**15 18 38.3**	**-1.1**
ZAA1	**Zalesovo Array**	**53.10**	**355**	*e*P	**P**	**15 18 39.2**	**-0.2**
GUMO	**Guam**	**53.62**	**74**	LR	LR	15 41 05.3	
	comp=Z,80nm,20.5s,baz=308,slow=36						
BVAR	**Borovoye Array**	**54.90**	**344**	P	**P**	**15 18 52.2**	**-0.4**
	comp=Z,1.2nm,0.6s,baz=152,slow=6.7,SNR=9.1						
BVAR				LR	LR	15 42 26.9	
	comp=Z,292nm,21.6s,baz=159,slow=36						
KMBO	**Kilima Mbogo**	**54.94**	**268**	LR	LR	15 39 18.6	
	comp=Z,174nm,19.4s,baz=118,slow=33						
ABKAR	**Akbulak array**	**55.42**	**335**	*e*P	**P**	**15 18 56.1**	**-0.2**
STKA	**Stephens Creek**	**57.05**	**130**	LR	LR	15 43 33.7	
	comp=Z,138nm,19.2s,baz=282,slow=36						
AKTO	**Aktyubinsk**	**57.13**	**335**	P	**P**	**15 19 09.8**	**+1.2**
	comp=Z,0.4nm,0.4s,baz=144,slow=8.7,SNR=2.5			

GEYT	**Alibeck**	**48.30**	**324**	P	**P**	**15 24 21.9**	**+1.0**
	1.7nm,0.7s,baz=139,slow=7.5,SNR=3.5						
RAYN	**Ar Rayn**	**50.51**	**300**	*e*P	**P**	**15 24 36.5**	**-1.5**
	5.2nm,1.0s						
KURBB	**Kurchatov Arra**	**50.79**	**349**	P	**P**	**15 24 39.8**	**+0.3**
	1.9nm,0.7s,baz=171,slow=7.4,SNR=14						
KURK	**Kurchatov**	**50.86**	**349**	*e*P	**P**	**15 24 39.8**	**-0.3**
ZALV	**Zalesovo Beam**	**53.12**	**355**	P	**P**	**15 24 57.0**	**+0.2**
	1.8nm,0.4s,baz=177,slow=8.2,SNR=7.4						
ZALV	**Zalesovo Beam**	**53.12**	**355**	*e*P	**P**	**15 24 57.0**	**+0.2**
ZAA1	**Zalesovo Array**	**53.13**	**355**	*e*P	**P**	**15 24 57.0**	**+0.2**
BVAR	**Borovoye Array**	**54.94**	**344**	P	**P**	**15 25 09.6**	**-0.5**
	0.6nm,0.6s,baz=147,slow=8.3,SNR=4.3						
KLR	**Kul'dur**	**58.75**	**29**	P	**P**	**15 25 38.7**	**+1.4**
	0.1nm,0.6s,baz=303,slow=6.3,SNR=4.9						
KBZ	**Khabaz**	**61.03**	**321**	P	**P**	**15 25 54.9**	**+1.9**
	1.9nm,0.7s,baz=142,slow=8.2,SNR=7.5						
BR101	**Keskin Array S**	**65.61**	**314**	*e*P	**P**	**15 26 24.1**	**+0.5**
BRTR	**Keskin Array B**	**65.61**	**314**	P	**P**	**15 26 24.1**	**+0.5**
	1.3nm,0.7s,baz=133,slow=6.7,SNR=7.3						
BR231	**Keskin MP Arra**	**66.28**	**314**	*e*P	**P**	**15 26 25.0**	**-2.9**
LBTB	**Lobatse**	**69.36**	**243**	P	**P**	**15 26 46.2**	**-1.4**
	6.2nm,0.8s,baz=106,slow=5.1,SNR=7.4						
BOSA	**Boshof**	**70.40**	**239**	P	**P**	**15 26 53.4**	**-0.5**
	4.6nm,0.9s,baz=70,slow=3.6,SNR=4.8						
MLR	**Muntele Rosu**	**72.83**	**318**	P	**P**	**15 27 08.0**	**-0.3**
	0.7nm,0.9s,baz=141,slow=6.5,SNR=4.6						
TIXI	**Tiksi**	**74.30**	**11**	P	**P**	**15 27 16.0**	**-0.1**
	1.1nm,0.5s,baz=242,slow=4.2,SNR=7.5						
SUR	**Sutherland**	**74.91**	**236**	P	**P**	**15 27 21.7**	**+0.9**
	0.4nm,0.8s,baz=115,slow=17,SNR=4.1						
FIA0	**FINESS Array S**	**77.91**	**333**	*e*P	**P**	**15 27 38.2**	**+1.3**
FINES	**FINESS Array B**	**77.91**	**333**	P	**P**	**15 27 38.2**	**+1.3**
	1.3nm,0.9s,baz=101,slow=7.2,SNR=3.1						
GERES	**GERESS Array B**	**81.70**	**319**	P	**P**	**15 27 59.3**	**+1.4**
	0.7nm,0.7s,baz=90,slow=4.5,SNR=4.6						
LTX	**Lajitas**	**146.22**	**25**	*e*PKPdf	**PKPab**	**15 35 21.3**	**+0.2**
TXAR	**Lajitas Array**	**146.22**	**25**	PKPbc	**PKPab**	**15 35 21.3**	**+0.2**
	0.3nm,0.4s,baz=283,slow=1.2,SNR=5.0						

NEIC ***13*** *15:17:56.5±0.0, 16°.14N×99°.36W, h10km, MD4.2(MEX), After MEX.*

MEX 13 15:17:56.5±0.3, 16°.14N×99°.36W, h10km, MD4.2, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**1.21**	**78**	*i* P	Pn	15 18 15.7	-3.8
PNIG	**Pinotepa**	**1.21**	**78**	*i* P	Pn	15 18 15.7	-3.8
CAIG	**El Cayaco**	**1.25**	**316**	*i* P	Pn	15 18 16.4	-3.7
CAIG	**El Cayaco**	**1.25**	**316**	*i* P	Pn	15 18 16.4	-3.7
TLIG	**Tlapa**	**1.60**	**28**	*e*P	Pn	15 18 21.7	-3.4
TLIG	**Tlapa**	**1.60**	**28**	*e*P	Pn	15 18 21.7	-3.4
VHO	**Vista Hermosa**	**2.68**	**69**	*i* P	Pn	15 18 38.0	-2.0
VHO	**Vista Hermosa**	**2.68**	**69**	*i* P	Pn	15 18 38.0	-2.0
HUIG	**Huatulco**	**3.15**	**96**	*e*P	Pn	15 18 44.0	-2.2
HUIG	**Huatulco**	**3.15**	**96**	*e*P	Pn	15 18 44.0	-2.2
MOIG	**Morelia**	**3.92**	**334**	Pn	Pn	15 18 56.5	-0.6

NIED ***13*** *15:26:00.3, 36°.90N×141°.40E, h8km, Mw4.0 Best double couple: M0 1.23000×10^15 NP1:φs 22.00000°, δ45.00000°, λ-96.00000°. NP2:φs 210.00000°, δ45.0000°, λ-84.00000°.*

IDC ***13*** *15:26:41.5±0.5, 36°.91N×141°.15E, h0km, mb4.0/27, mb1 4.2/32, mb1mx4.1/70, mbtmp4.0/32, ML3.5/5, MS3.0/5, Ms1 3.0/5, ms1mx2.7/64, Error ellipse: s-maj=14.7km s-min=11.5km az=110.0*

ISCJB ***13*** *15:26:42.4±0.8, 36°.90N±0°.03×141°.41E±0°.05, h19km±5km, mb4.0/31, MS3.8/1, Error ellipse: s-maj=6.3km s-min=4.2km az=14.4*

JMA ***13*** *15:26:43.4±0.1, 36°.92N×141°.34E, h30km±1km, M4.2*

JMA Felt II J1.

NEIC ***13*** *15:26:46.6±0.3, 36°.94N×141°.18E, h35km, mb4.6/3, Error ellipse: s-maj=7.2km s-min=5.3km az=131.0*

NEIC Recorded [2 JMA] in Fukushima and Ibaraki.

ISC 13 15:26:44.6±0.5, 36°.92N±0°.04×141°.25E±0°.07, h21km±3km, n81, σ1°19°/91, mb4.1/31, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.40**	**296**	P	**Pb**	**15 26 52.9**	**-0.1**
ONAJ				S	**Sb**	**15 26 59.5**	**+0.8**
JFK	**Kawauchi**	**0.54**	**326**	P	**Pb**	**15 26 54.8**	**-0.6**
JFK				S	**Sb**	**15 27 02.6**	**-0.1**
JHO	**Hitachi**	**0.63**	**241**	P	**Pb**	**15 26 56.4**	**-0.6**
JHO				S	**Sb**	**15 27 06.3**	**+0.9**
JFT	**Otama**	**0.94**	**309**	P	**Pb**	**15 27 02.1**	**-0.1**
JFT				S	**Sn**	**15 27 15.0**	**-0.4**
JMM	**Marumori**	**1.01**	**339**	P	**Pb**	**15 27 01.8**	**-1.6**
JMM				S	**Sn**	**15 27 15.6**	**-1.5**
JSB	**Shiboa**	**1.07**	**273**	P	**Pn**	**15 27 04.5**	**+0.2**
JSB				S	**Sn**	**15 27 19.9**	**+1.4**
JYT	**Yasato**	**1.10**	**231**	P	**Pn**	**15 27 03.2**	**-1.5**
JYT				*e*S	**Sb**	**15 27 18.6**	**-0.1**
JFY	**Yanaizu**	**1.33**	**292**	P	**Pn**	**15 27 08.3**	**+0.4**
JFY				S	**Sb**	**15 27 26.2**	**+0.9**
MJAR	**Matsushiro Arr**	**2.47**	**262**	Pn	**Pn**	**15 27 23.1**	**-0.6**
	8.6nm,0.3s,baz=89,slow=14,SNR=138						
MJAR				Sn	**Sb**	**15 27 59.0**	**+0.7**
	13nm,0.3s,baz=88,slow=20,SNR=6.5						
MJAR				LR	LR	15 28 23.6	
	comp=Z,95nm,18.2s,baz=75,slow=43						
MAJO	**Matsushiro**	**2.47**	**262**	*e*Pn	**Pn**	**15 27 25.1**	**+1.4**
MAJO				*e*Sn	**Sb**	**15 27 59.0**	**+0.6**
MAT	**Matsushiro**	**2.47**	**262**	P	**Pn**	**15 27 25.0**	**+1.3**
MAT				*e*S	**Sb**	**15 27 57.0**	**-1.4**
MJB9	**Matsu-Tunnel**	**2.48**	**262**	*e*Pn	**Pn**	**15 27 25.1**	**+1.4**
INU	**Inuyama**	**3.77**	**247**	*e*Pn	**Pn**	**15 27 43.6**	**+2.1**
JHJ2	**Mitsune**	**3.98**	**198**	*e*Pn	**Pn**	**15 27 46.2**	**+1.8**
JHJ	**Hachijo jima 2**	**3.98**	**198**	Pn	**Pn**	**15 27 45.3**	**+0.9**
	7.0nm,0.3s,baz=328,slow=24,SNR=13						
JHJ				Sn	**Sn**	**15 28 31.3**	**+0.9**
	9.1nm,0.3s,baz=232,slow=23,SNR=3.2						
JHJ				LR	LR	15 29 34.3	
	comp=Z,114nm,19.9s,baz=108,slow=44						
ASAJ	**Asahikawa**	**7.26**	**8**	Pn	**Pn**	**15 28 28.2**	**-1.1**
	1.5nm,0.3s,baz=220,slow=9.7,SNR=24						
ASAJ				Sn	**Sn**	**15 29 54.0**	**+2.9**
	1.3nm,0.3s,baz=183,slow=18,SNR=2.6						
JNU	**Nakatsue**	**9.31**	**249**	Pn	**Pn**	**15 28 55.0**	**-2.6**
	0.1nm,0.3s,baz=41,slow=9.3,SNR=1.7						
CBIJ	**Chichi jima**	**9.83**	**175**	*e*Pn	**Pn**	**15 29 03.4**	**-1.4**
CBIJ				*e*Sn	Sn	15 30 47.5	-7.0
JCJ	**Chichijima**	**9.83**	**175**	Pn	**Pn**	**15 29 03.4**	**-1.4**
	4.1nm,0.3s,baz=285,slow=20,SNR=2.9						
JCJ				Sn	Sn	15 30 47.5	-7.0
	2.5nm,0.3s,baz=270,slow=20,SNR=4.1						
YSS	**Yuzh-Sakhalins**	**10.09**	**6**	*e*Pn	**Pn**	**15 29 07.8**	**-0.3**
USRK	**Ussuriysk Ar.**	**10.12**	**319**	Pn	Pn	15 29 13.2	+4.7
	0.2nm,0.3s,baz=136,slow=13,SNR=12						
USRK				LR	LR	15 32 44.9	
	comp=Z,96nm,18.9s,baz=91,slow=36						
KSRS	**Korea Array**	**10.65**	**277**	Pn	**Pn**	**15 29 20.2**	**+4.4**
	0.1nm,0.3s,baz=90,slow=13,SNR=7.9						
KSRS				LR	LR	15 33 03.5	
	comp=Z,80nm,20.7s,baz=54,slow=36						
MA2	**Magadan**	**23.49**	**12**	P	**P**	**15 31 53.2**	**+0.6**
	1.4nm,0.4s,baz=183,slow=11,SNR=4.0						
SONA0	**Songino Array**	**27.74**	**304**	*e*P	**P**	**15 32 29.8**	**-1.8**
SONM	**Songino Array**	**27.74**	**304**	P	**P**	**15 32 29.8**	**-1.8**
	0.9nm,0.6s,baz=111,slow=10,SNR=6.4						
H11N2	**WAKE ISLAND Hy**	**28.20**	**120**	T	T	16 02 02.3	
	baz=313,slow=75,SNR=379						
H11N1	**WAKE ISLAND Hy**	**28.21**	**120**	T	T	16 02 03.0	
	baz=313,slow=75,SNR=712						
H11N3	**WAKE ISLAND Hy**	**28.22**	**120**	T	T	16 02 03.3	
	baz=313,slow=75,SNR=372						
H11S1	**WAKE ISLAND Hy**	**28.91**	**122**	T	T	16 02 52.1	
	baz=315,slow=76,SNR=197						
H11S3	**WAKE ISLAND Hy**	**28.91**	**123**	T	T	16 02 52.0	
	baz=315,slow=76,SNR=185						
H11S2	**WAKE ISLAND Hy**	**28.93**	**123**	T	T	16 02 53.2	
	baz=315,slow=76,SNR=141						
TIXI	**Tiksi**	**35.38**	**353**	P	**P**	**15 33 37.6**	**-0.7**
	1.0nm,0.8s,baz=164,slow=6.9,SNR=3.6						
CMAR	**Chiang Mai Arr**	**41.34**	**255**	P	**P**	**15 34 28.6**	**-0.5**
	0.5nm,0.8s,baz=50,slow=7.3,SNR=5.7						
ZAA1	**Zalesovo Array**	**41.89**	**312**	*e*P	**P**	**15 34 33.4**	**+0.3**
ZALV	**Zalesovo Beam**	**41.89**	**312**	P	**P**	**15 34 33.4**	**+0.3**
	2.5nm,0.5s,baz=96,slow=6.9,SNR=14						
ZALV				PcP	**PcP**	**15 36 28.8**	**+0.3**
	0.9nm,0.4s,baz=70,slow=3.6,SNR=3.5						
MK01	**Makanchi Array**	**44.06**	**302**	*e*P	**P**	**15 34 50.7**	**-0.2**
MK31	**Makanchi Array**	**44.07**	**302**	*e*P	**P**	**15 34 50.2**	**-0.7**
MK32	**Makanchi Array**	**44.07**	**302**	*e*P	**P**	**15 34 51.2**	**+0.3**
MKAR	**Makanchi Array**	**44.07**	**302**	P	**P**	**15 34 51.2**	**+0.3**
	2.3nm,0.7s,baz=89,slow=9.9,SNR=35						
KURK	**Kurchatov**	**45.90**	**308**	*e*P	**P**	**15 35 05.3**	**-0.1**
	8.6nm,1.0s						
KURK				PcP	**PcP**	**15 36 41.6**	**-0.6**
KURBB	**Kurchatov Arra**	**45.97**	**308**	P	**P**	**15 35 05.8**	**-0.1**
	4.5nm,0.8s,baz=82,slow=8.1,SNR=26						
KURBB				PcP	**PcP**	**15 36 41.6**	**-0.8**
	0.4nm,0.6s,baz=97,slow=3.9,SNR=2.2						
KDAK	**Kodiak Island**	**47.27**	**42**	P	**P**	**15 35 16.1**	**+0.2**
	5.0nm,0.7s,baz=266,slow=6.8,SNR=7.8						
MDM	**Murphy Dome**	**49.08**	**32**	*e*P	**P**	**15 35 30.8**	**+0.9**
	4.5nm,0.9s						
IL1	**Eielson Array**	**49.66**	**32**	*e*P	**P**	**15 35 34.5**	**+0.2**
ILAR	**Eielson Array**	**49.66**	**32**	P	**P**	**15 35 35.0**	**+0.7**
	2.2nm,0.7s,baz=272,slow=6.5,SNR=27						
ILB	**Eielson Array**	**49.66**	**32**	*e*P	**P**	**15 35 34.6**	**+0.2**
BVAR	**Borovoye Array**	**50.55**	**312**	P	**P**	**15 35 41.3**	**+0.1**
	0.7nm,0.5s,baz=86,slow=8.6,SNR=7.9						
BVAR				PcP	**PcP**	**15 36 59.6**	**+0.7**
	1.2nm,0.6s,baz=78,slow=4.5,SNR=6.3						
INK	**Inuvik**	**54.55**	**27**	P	**P**	**15 36 11.3**	**+0.8**
	1.2nm,0.7s,baz=272,slow=4.8,SNR=6.0						
FITZ	**Fitzroy Crossi**	**56.67**	**198**	P	**P**	**15 36 26.6**	**+0.3**
	1.9nm,0.9s,baz=5.2,slow=11,SNR=2.7						
FITZ				PcP	**PcP**	**15 37 20.9**	**-1.5**
	1.3nm,0.8s,baz=333,slow=2.3,SNR=1.8						
WR1	**Warramunga Arr**	**56.93**	**188**	*e*P	**P**	**15 36 28.1**	**-0.2**
	7.1nm,1.1s						
WRA	**Warramunga Arr**	**56.93**	**188**	P	**P**	**15 36 28.1**	**-0.2**
	1.5nm,0.6s,baz=5.3,slow=7.3,SNR=25						
ABKAR	**Akbulak array**	**57.91**	**310**	*e*P	**P**	**15 36 33.8**	**-1.2**
AKTO	**Aktyubinsk**	**58.65**	**312**	P	**P**	**15 36 39.6**	**-0.5**
	1.5nm,0.8s,baz=56,slow=11,SNR=3.7						
ASAR	**Alice Springs**	**60.66**	**188**	P	**P**	**15 36 53.8**	**-0.3**
	1.4nm,0.8s,baz=21,slow=6.2,SNR=12						
YKA	**Yellowknife Ar**	**63.97**	**30**	P	**P**	**15 37 16.5**	**+0.7**
	0.8nm,0.8s,baz=303,slow=6.9,SNR=11						
FIA0	**FINESS Array S**	**68.85**	**332**	*e*P	**P**	**15 37 46.8**	**-0.3**
FINES	**FINESS Array B**	**68.85**	**332**	P	**P**	**15 37 46.8**	**-0.3**
	2.4nm,0.7s,baz=64,slow=8.7,SNR=6.5						
KBZ	**Khabaz**	**70.88**	**311**	P	**P**	**15 38 00.8**	**+0.9**
	3.4nm,1.1s,baz=259,slow=10,SNR=5.4						
HFS	**Hagfors**	**74.14**	**336**	P	**P**	**15 38 19.6**	**+0.6**
	0.8nm,0.5s,baz=64,slow=6.6,SNR=8.2						
NB2	**NORSAR Subarra**	**74.24**	**337**	P	**P**	**15 38 19.7**	**+0.1**
	comp=Z,2.4nm,0.8s,baz=40,slow=6.2						
NB200	**NORSAR Array S**	**74.24**	**337**	*e*P	**P**	**15 38 20.0**	**+0.3**
NOA	**NORSAR Array B**	**74.24**	**337**	P	**P**	**15 38 20.0**	**+0.3**
	comp=Z,2.0nm,0.7s,baz=39,slow=5.8,SNR=8.3						
AKASG	**Malin Array Be**	**74.30**	**322**	P	**P**	**15 38 20.1**	**0.0**
	comp=Z,1.2nm,0.4s,baz=46,slow=6.1,SNR=12						
NVAR	**Mina Array Bea**	**75.16**	**99**	P	**P**	**15 38 27.4**	**+1.7**
	comp=Z,2.3nm,0.3s,baz=263,slow=7.2,SNR=4.2						
PDAR	**Pinedale Array**	**77.84**	**45**	P	**P**	**15 38 41.4**	**+0.6**
	comp=Z,0.5nm,0.7s,baz=251,slow=4.5,SNR=5.3						
BUR04	**Bucovina Ar. S**	**78.32**	**322**	*e*P	**P**	**15 38 43.5**	**+0.4**
BR101	**Keskin Array S**	**78.83**	**311**	*e*P	**P**	**15 38 44.5**	**-1.7**
BRTR	**Keskin Array B**	**78.83**	**311**	P	**P**	**15 38 44.5**	**-1.7**
	comp=Z,0.5nm,0.7s,baz=111,slow=6.8,SNR=3.6						
DBD	**Des Bee Dove**	**79.11**	**49**	*e*P	**P**	**15 38 47.3**	**-0.6**
DNR	**Dunn Ranch,Anz**	**79.12**	**56**	*e*P	**P**	**15 38 48.0**	**+0.1**
RAR	**Rarotonga**	**80.20**	**126**	LR	LR	16 06 43.2	
	comp=Z,44nm,20.6s,baz=258,slow=30						
DPC	**Dobruska-Polom**	**80.48**	**328**	*e*P	**P**	**15 38 55.9**	**+1.1**
CLL	**Collm**	**81.13**	**330**	*i* P	**P**	**15 38 58.6**	**+0.4**
	comp=Z,4.0nm,1.0s						
CLL				LmV		16 01 00.0	
	comp=Z,100nm,20.9s						
MMAI	**Mount Meron Ar**	**81.92**	**305**	P	**P**	**15 39 03.4**	**+0.5**
	comp=Z,0.3nm,0.4s,baz=66,slow=5.2,SNR=2.2						
KHC	**Kasperske Hory**	**82.57**	**328**	*e*P	**P**	**15 39 06.4**	**+0.5**
GERES	**GERESS Array B**	**82.74**	**328**	P	**P**	**15 39 07.2**	**+0.3**
	comp=Z,0.7nm,0.4s,baz=22,slow=4.9,SNR=6.2						
LTX	**Lajitas**	**90.29**	**52**	*e*P	**P**	**15 39 45.5**	**+1.2**
TXAR	**Lajitas Array**	**90.29**	**52**	P	**P**	**15 39 45.5**	**+1.2**
	comp=Z,0.3nm,0.5s,baz=306,slow=3.1,SNR=5.3						
TOA1	**Torodi Ar. Sit**	**117.31**	**315**	*e*PKPdf	**PKPdf**	**15 45 28.1**	**-0.8**
TORD	**Torodi Ar. Bea**	**117.32**	**315**	PKP	**PKPdf**	**15 45 28.1**	**-0.8**
	comp=Z,0.8nm,1.1s,baz=153,slow=0.3,SNR=2.6						
LPAZ	**La Paz**	**146.86**	**60**	PKPbc	**PKPbc**	**15 46 26.9**	**+0.5**
	comp=Z,0.8nm,0.5s,baz=45,slow=2.9,SNR=4.5						

NEIC ***13*** *15:27:54.3±0.0, 15°.51N×98°.89W, h17km, MD4.0(MEX), After MEX.*

MEX 13 15:27:54.3±0.7, 15°.51N×98°.89W, h17km±999km, MD4.0, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**1.14**	**40**	*i* P	Pn	15 28 11.9	-3.7
PNIG				*i* S	Sb	15 28 25.7	-4.6
PNIG	**Pinotepa**	**1.14**	**40**	*i* P	Pn	15 28 11.9	-3.7
PNIG				*i* S	Sb	15 28 25.7	-4.6
TLIG	**Tlapa**	**2.06**	**9**	*e*P	Pn	15 28 24.6	-3.8
TLIG	**Tlapa**	**2.06**	**9**	*e*P	Pn	15 28 24.6	-3.8
MEIG	**Mezcala**	**2.50**	**344**	*e*P	Pn	15 28 31.9	-2.5
MEIG	**Mezcala**	**2.50**	**344**	*e*P	Pn	15 28 31.9	-2.5
JCT	**Junction City**	**14.92**	**357**	*e*Pn	Pn	15 31 21.9	-2.8

ISCJB ***13*** *15:28:23.0±2.0, 38°.1N×0°.1×38°.17E±0°.05, h12km±7km, Error ellipse: s-maj=20.6km s-min=6.6km az=7.0*

DDA ***13*** *15:28:24.1, 38°.23N×38°.18E, h7km, Ml2.5*

ISC 13 15:28:24.3±2.0, 38°.2N±0°.1×38°.18E±0°.03, h11km±12km, n5, σ0°53/10, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKCD	**Akcadag**	**0.21**	**285**	*i* P	**Pg**	**15 28 28.4**	**-0.4**
AKCD				*i* S	**Sg**	**15 28 32.4**	**+0.5**
MALT	**Malatya**	**0.21**	**71**	PG	**Pg**	**15 28 28.3**	**-0.5**
MALT				SG	**Sg**	**15 28 32.4**	**+0.5**
DARE	**Darende-Malaty**	**0.63**	**301**	*e*PG	**Pg**	**15 28 36.1**	**-0.5**
DARE				*e*SG	**Sb**	**15 28 46.9**	**+0.5**
HEKM	**Malatya_Hekimh**	**0.66**	**345**	*i* P	**Pg**	**15 28 36.8**	**-0.3**
HEKM				*i* S	**Sb**	**15 28 47.0**	**-0.1**
ELZG	**Elazig**	**0.68**	**68**	*i* P	**Pg**	**15 28 37.6**	**0.0**
ELZG				*i* S	**Sb**	**15 28 47.7**	**-0.1**

IDC 13 15:30:19.6±3.0, 0°.04S×91°.85E, h0km, mb3.5/5, mb1 3.6/6, mb1mx3.3/67, mbtmp3.5/6, ML3.4/1, Error ellipse: s-maj=91.4km s-min=31.4km az=58.0, South Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**19.66**	**20**	P	Pn	15 34 51.2	-0.4
	0.1nm,0.3s,baz=210,slow=12,SNR=5.6						
WRA	**Warramunga Arr**	**46.05**	**118**	P	P	15 38 45.4	-0.2
	0.7nm,0.8s,baz=296,slow=9.0,SNR=3.8						
MKAR	**Makanchi Array**	**47.39**	**351**	P	P	15 38 53.9	-1.8
	0.3nm,0.7s,baz=165,slow=7.4,SNR=3.9						
SONM	**Songino Array**	**49.34**	**13**	P	P	15 39 10.5	-0.3
	0.8nm,0.9s,baz=194,slow=8.5,SNR=4.5						
KURBB	**Kurchatov Arra**	**51.74**	**349**	P	P	15 39 29.2	+0.5
	0.2nm,0.3s,baz=166,slow=5.7,SNR=3.2						
ZALV	**Zalesovo Beam**	**54.12**	**355**	P	P	15 39 47.2	+0.9
	0.3nm,0.3s,baz=191,slow=7.0,SNR=2.8						

IDC ***13*** *15:33:29.6±0.8, 0°.89N×91°.84E, h0km, mb4.2/18, mb1 4.4/20, mb1mx4.1/65, mbtmp4.2/20, ML4.1/2, MS3.6/6, Ms1 3.6/6, ms1mx3.1/60, Error ellipse: s-maj=29.2km s-min=13.1km az=42.0*

ISCJB ***13*** *15:33:30.0±0.4, 0°.98N±0°.05×91°.97E±0°.03, h10km, mb4.3/32, MS3.7/7, Error ellipse: s-maj=7.0km s-min=3.9km az=15.4*

NEIC ***13*** *15:33:31.1±0.4, 0°.89N×91°.82E, h10km, mb4.4/7, Error ellipse: s-maj=9.1km s-min=4.8km az=206.0*

DJA ***13*** *15:33:39.3±0.9, 1°.1N×4°×9°.3E×, h10km, M5.2/8, mb5.5/8, mB5.5/7, MLv5.2/7, Mw(mB)5.0/7*

ISC 13 15:33:31.4±0.6, 0°.95N±0°.07×91°.94E±0°.06, h10km, n118, σ1°75/121, mb4.5/34, MS3.8/7, 3C-3D, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLSI	**Meulaboh, Aceh**	**5.55**	**53**	P	**Pn**	**15 34 55.2**	**+1.1**
MLSI				S	**Sn**	**15 35 55.7**	**-2.3**
BSI	**Banda Aceh**	**5.63**	**36**	P	**Pn**	**15 34 55.3**	**+0.1**
BSI				S	**Sn**	**15 35 53.0**	**-7.0**
GSI	**Gunungsitoli**	**5.65**	**86**	P	**Pn**	**15 34 56.6**	**+1.1**
GSI	**Gunungsitoli**	**5.65**	**86**	*e*Pn	**Pn**	**15 34 56.8**	**+1.2**
GSI				*e*Sn	**Sn**	**15 36 01.1**	**+0.6**
TPTI		**5.72**	**66**	P	**Pn**	**15 34 56.7**	**+0.2**
TPTI				S	**Sn**	**15 35 57.4**	**-4.9**
PBSI	**Pulau Batu**	**6.42**	**99**	P	**Pn**	**15 35 07.9**	**+1.8**
PBSI				S	**Sn**	**15 36 14.9**	**-4.6**
LHMI	**Lhok Sumawe**	**6.56**	**50**	P	**Pn**	**15 35 10.1**	**+2.0**
LHMI	**Lhok Sumawe**	**6.56**	**50**	*e*Pn	**Pn**	**15 35 09.8**	**+1.7**
LHMI				*e*Sn	**Sn**	**15 36 19.2**	**-3.9**
TSI	**Tuntungan**	**7.09**	**69**	P	**Pn**	**15 35 18.6**	**+3.3**
SISI	**Saibi**	**7.50**	**108**	P	**Pn**	**15 35 21.4**	**+0.4**
MNSI	**Mandailing Nat**	**7.64**	**91**	P	**Pn**	**15 35 24.8**	**+1.9**
MNSI				S	**Sn**	**15 36 43.3**	**-6.3**
PPSI	**Pulau Pagai**	**8.87**	**115**	P	**Pn**	**15 35 39.3**	**-0.5**
PPSI				S	**Sn**	**15 37 13.8**	**-6.1**
PKDT	**Phuket**	**9.39**	**43**	P	**Pn**	**15 35 46.1**	**-0.9**
	59nm,0.5s						
IPM	**Ipoh**	**9.73**	**69**	*e*Pn	**Pn**	**15 35 52.5**	**+0.9**
IPM				*e*Sn	**Sn**	**15 37 39.6**	**-1.5**
TRTT	**Trang**	**10.32**	**48**	P	**Pn**	**15 35 58.7**	**-1.0**
	33nm,0.6s						
SURT	**Suratani**	**10.48**	**40**	P	**Pn**	**15 36 02.0**	**+0.1**
	16nm,1.0s,264nm						
SKLT	**Songkhla**	**10.64**	**54**	P	**Pn**	**15 36 04.0**	**0.0**
	74nm,0.6s,680nm						
PBA	**Port Blair**	**10.67**	**4**	*e*P	Pn	15 36 02.8	-1.7
MYKOM	**Kota Tinggi**	**11.94**	**86**	*e*Pn	**Pn**	**15 36 22.8**	**+0.9**
DGPR	**DIGLIPUR**	**12.19**	**5**	*e*P	**Pn**	**15 36 25.6**	**+0.3**
MNAI	**Manna**	**12.21**	**116**	*e*Pn	**Pn**	**15 36 25.8**	**+0.2**
PALK	**Pallekele**	**12.85**	**300**	Pn	**Pn**	**15 36 31.6**	**-2.7**
	1.6nm,0.3s,baz=114,slow=12,SNR=8.8						
PALK				Sn	Sn	15 38 42.1	-15
	5.3nm,0.3s,baz=116,slow=5.3,SNR=7.6						
PALK	**Pallekele**	**12.85**	**300**	*e*Pn	**Pn**	**15 36 31.3**	**-3.0**
PALK				Sn	Sn	15 38 42.1	-15
MDRS	**Chennai**	**16.71**	**317**	*e*P	**Pn**	**15 37 23.4**	**-2.4**
MDRS				IAmb	IAmb	15 37 25.6	
	comp=Z,96nm,0.9s						
LEM	**Lembang**	**17.45**	**116**	LR	LR	15 43 21.0	
	comp=Z,87nm,19.1s,baz=200,slow=34						
PBKT	**Sadao Pong**	**17.89**	**29**	P	**P**	**15 37 42.6**	**+1.4**
	comp=Z,12nm,1.1s						
KSM	**Kuching**	**18.37**	**88**	*e*P	**P**	**15 37 49.8**	**+3.2**
	comp=Z,38nm,0.7s						
CM01	**Chiang Mai Arr**	**18.68**	**21**	*e*P	**Pn**	**15 37 51.2**	**+0.9**
VIS	**Vishakhapatnam**	**18.70**	**334**	*e*P	**P**	**15 37 49.5**	**-0.6**
VIS				*i* x	x	15 41 10.5	
VIS				*ex*	**Sn**	**15 41 16.6**	**-3.1**
	comp=E,38nm,0.9s						
CM31	**Chiang Mai Arr**	**18.71**	**21**	*e*P	**P**	**15 37 50.3**	**0.0**
CMAR	**Chiang Mai Arr**	**18.71**	**21**	P	**Pn**	**15 37 50.9**	**+0.2**
	comp=

	SNR=5.3								
AAK	**Ala-Archa**	**44.36**	**342**	*e*P		**P**	**15 41 41.7**	**-0.5**
	comp=Z,1.6nm,0.9s								
EKS2	**Erkin-Say**	**44.61**	**341**	P		**P**	**15 41 45.1**	**+0.9**
	SNR=5.2								
USP	**Ospenovka**	**44.93**	**342**	P		**P**	**15 41 46.9**	**+0.3**
	SNR=6.0								
KK31	**Karatay Array**	**46.14**	**338**	*e*P		**P**	**15 41 55.8**	**-0.4**
KKAR	**Karatay Array**	**46.14**	**338**	*e*P		**P**	**15 41 56.0**	**-0.2**
MK01	**Makanchi Array**	**46.41**	**351**	*e*P		**P**	**15 41 57.8**	**-0.4**
MK31	**Makanchi Array**	**46.44**	**351**	*e*P		**P**	**15 41 58.0**	**-0.4**
MKAR	**Makanchi Array**	**46.44**	**351**	P		**P**	**15 41 58.4**	**-0.1**
	comp=Z,3.5nm,0.7s,baz=165,slow=9.1,SNR=36								
MKAR				LR		LR	16 02 07.5		
	comp=Z,55nm,21.5s,baz=179,slow=37								
WRA	**Warramunga Arr**	**46.45**	**119**	P		**P**	**15 41 59.5**	**+0.6**
	comp=Z,5.8nm,0.7s,baz=296,slow=8.6,SNR=62								
ASAR	**Alice Springs**	**47.54**	**124**	P		**P**	**15 42 07.7**	**+0.2**
	comp=Z,1.0nm,0.8s,baz=298,slow=7.7,SNR=9.0								
GEYT	**Alibeck**	**48.17**	**324**	P		**P**	**15 42 12.4**	**+0.3**
	comp=Z,5.6nm,0.8s,baz=147,slow=8.5,SNR=12								
GEYT				LR		LR	16 03 54.1		
	comp=Z,82nm,18.3s,baz=70,slow=38								
SONM	**Songino Array**	**48.36**	**13**	P		**P**	**15 42 14.5**	**+0.9**
	comp=Z,3.3nm,0.5s,baz=193,slow=9.6,SNR=20								
SONA1	**Songino Array**	**48.37**	**13**	*e*P		**P**	**15 42 14.1**	**+0.4**
KSAR	**Wonju Array Be**	**49.14**	**38**	P		**P**	**15 42 20.7**	**+1.2**
KSRS	**Korea Array**	**49.17**	**38**	P		**P**	**15 42 20.7**	**+0.9**
	comp=Z,1.3nm,0.8s,baz=229,slow=7.1,SNR=6.1								
KURBB	**Kurchatov Arra**	**50.79**	**349**	P		**P**	**15 42 31.4**	**-0.4**
	comp=Z,4.1nm,0.7s,baz=173,slow=7.1,SNR=40								
KURK	**Kurchatov**	**50.86**	**349**	*e*P		**P**	**15 42 31.6**	**-0.7**
	comp=Z,5.8nm,0.9s								
ZAA0	**Zalesovo Array**	**53.15**	**355**	*e*P		**P**	**15 42 48.9**	**-0.4**
	comp=Z,6.3nm,0.9s								
ZALV	**Zalesovo Beam**	**53.15**	**355**	P		**P**	**15 42 49.0**	**-0.4**
	comp=Z,4.9nm,0.6s,baz=189,slow=7.9,SNR=25								
ZALV				LR		LR	16 06 55.4		
	comp=Z,54nm,20.2s,baz=248,slow=38								
ZALV	**Zalesovo Beam**	**53.15**	**355**	*e*P		**P**	**15 42 48.9**	**-0.5**
BVAR	**Borovoye Array**	**54.91**	**344**	P		**P**	**15 43 01.1**	**-1.2**
	comp=Z,2.1nm,0.8s,baz=147,slow=8.2,SNR=12								
BVAR				LR		LR	16 06 56.3		
	comp=Z,105nm,20.8s,baz=160,slow=36								
ABKAR	**Akbulak array**	**55.39**	**335**	*e*P		**P**	**15 43 05.2**	**-0.6**
KBZ	**Khabaz**	**60.89**	**321**	P		**P**	**15 43 44.1**	**-0.3**
	comp=Z,3.3nm,0.9s,baz=151,slow=6.2,SNR=7.0								
BRTR	**Keskin Array B**	**65.44**	**314**	P		**P**	**15 44 14.4**	**-0.5**
	comp=Z,1.5nm,0.8s,baz=150,slow=6.8,SNR=8.2								
KLMR	**Klimovskoe**	**71.77**	**336**	*e*P		P	15 44 46.1	-7.7	
KLMR				AMP			15 44 50.7		
	comp=Z,12nm,1.5s								
VRI	**Vrincioaia**	**72.26**	**318⇑**	*i*P		**P**	**15 44 58.0**	**+0.8**
AKASG	**Malin Array Be**	**72.29**	**324**	P		**P**	**15 44 56.2**	**-1.0**
	comp=Z,0.5nm,0.3s,baz=94,slow=4.8,SNR=7.5								
PLOR	**Plostina**	**72.31**	**318⇑**	*i*P		**P**	**15 44 58.3**	**+0.8**
TESR	**Tescani**	**72.51**	**319⇓**	*i*P		**P**	**15 44 58.0**	**-0.6**
MLR	**Muntele Rosu**	**72.67**	**318**	P		**P**	**15 44 60.0**	**+0.2**
	comp=Z,1.4nm,0.8s,baz=82,slow=3.0,SNR=7.7								
MLR	**Muntele Rosu**	**72.67**	**318⇓**	*i*P		**P**	**15 45 00.6**	**+0.8**
VOIR		**73.26**	**317⇓**	*i*P		**P**	**15 45 03.0**	**-0.2**
BURAR	**Bucovina Array**	**73.77**	**320⇑**	*i*P		**P**	**15 45 06.4**	**+0.2**
BUR04	**Bucovina Ar. S**	**73.78**	**320**	*e*P		**P**	**15 45 06.7**	**+0.5**
SEY	**Seymchan**	**76.10**	**24**	P		**P**	**15 45 19.6**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=126,slow=10,SNR=3.4								
FINES	**FINESS Array B**	**77.83**	**333**	P		**P**	**15 45 28.6**	**-0.3**
	comp=Z,0.8nm,0.7s,baz=58,slow=7.2,SNR=4.1								
ARSA	**Arzberg**	**80.10**	**318**	*e*P		**P**	**15 45 42.7**	**+1.0**
	comp=Z,8.5nm,1.4s								
DPC	**Dobruska-Polom**	**80.11**	**321**	*e*P		**P**	**15 45 43.5**	**+1.7**
GEA0	**GERESS Array S**	**81.55**	**319**	*e*P		**P**	**15 45 50.0**	**+0.5**
GERES	**GERESS Array B**	**81.55**	**319**	P		**P**	**15 45 50.4**	**+0.8**
	comp=Z,3.4nm,0.7s,baz=100,slow=5.5,SNR=25								
KHC	**Kasperske Hory**	**81.67**	**319**	*e*P		**P**	**15 45 51.0**	**+0.9**
KHC				*ex*		x	15 46 00.0		
BRG	**Berggiesshubel**	**81.69**	**321**	*e*(P)		P	15 46 02.3	+12	
	comp=Z,2.8nm,0.6s								
MOTA	**Moosalm**	**83.09**	**317**	*e*P		**P**	**15 45 57.6**	**-0.1**
	comp=Z,1.7nm,0.3s								
RETA	**Reutte**	**83.33**	**318**	*e*P		**P**	**15 45 59.2**	**+0.3**
	comp=Z,3.5nm,0.7s								
DAVA	**Damuels**	**83.91**	**317**	*e*pP		**P**	**15 46 02.8**	**+0.8**
	comp=Z,8.0nm,0.8s								
TXAR	**Lajitas Array**	**146.40**	**25**	PKPbc		**PKPbc**	**15 53 13.7**	**+0.1**
	comp=Z,1.2nm,0.5s,baz=115,slow=0.7,SNR=21								

MAN 13 15:43:40.7±2.0N×123.7±9.7E, h34km, mb4.0, ML2.8, MS2.4, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
CTBH	**Cotabato--PC H**	**0.45**	**87**	*i*P	Pn		15 43 51.5	+1.3
CTBH				*i* S	Sn		15 43 59.1	+2.0
PAGZ	**Pagadian**	**0.77**	**328**	*e*P	Pb		15 43 55.3	+0.3
PAGZ				*e*S	Sb		15 44 05.9	+0.8
IPIL	**Ipil**	**1.34**	**296**	*e*P	Pb		15 44 03.5	-1.1
IPIL				*e*S	Sn		15 44 19.8	+0.7

*IDC **13** 15:44:43.1±1.2, 3.4±2.9N×92.7±3.8E, h0km, mb3.6/10, mb1 3.7/12, mb1mx3.5/68, mbtmp3.6/12, ML3.5/2, Error ellipse: s-maj=40.2km s-min=20.5km az=49.0*
*ISCJB **13** 15:44:45.9±0.8, 3.4±1.0N×92.8±0.1, h33km, mb3.6/10, Error ellipse: s-maj=20.9km s-min=14.9km az=35.6*
ISC 13 15:44:48.2±1.1, 3.5±0.2N×92.8±0.1, h35km, n13, σ0s91/13, mb3.7/10, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
PALK	**Pallekele**	**12.61**	**288**	Pn	**Pn**		**15 47 44.1**	**-1.2**
	0.5nm,0.3s,baz=116,slow=15,SNR=3.2							
PALK				Sn	Sn		15 49 53.6	-11
	1.1nm,0.3s,baz=119,slow=19,SNR=3.9							
CMAR	**Chiang Mai Arr**	**16.08**	**22**	Pn	**Pn**		**15 48 30.1**	**-1.7**
	0.0nm,0.3s,baz=212,slow=13,SNR=4.2							
MKAR	**Makanchi Array**	**44.12**	**350**	P	**P**		**15 52 53.9**	**+0.8**
	1.0nm,0.6s,baz=168,slow=8.7,SNR=16							
SONM	**Songino Array**	**45.74**	**13**	P	**P**		**15 53 06.0**	**-0.2**
	0.4nm,0.4s,baz=192,slow=6.8,SNR=3.3							
WRA	**Warramunga Arr**	**46.96**	**121**	P	**P**		**15 53 16.1**	**+0.1**
	0.3nm,0.6s,baz=297,slow=8.8,SNR=5.0							
ASAR	**Alice Springs**	**48.27**	**126**	P	**P**		**15 53 25.4**	**-0.8**
	0.2nm,0.6s,baz=300,slow=7.4,SNR=4.4							
KURBB	**Kurchatov Arra**	**48.52**	**348**	P	**P**		**15 53 28.3**	**+0.8**
	0.5nm,0.6s,baz=166,slow=6.5,SNR=4.3							
ZALV	**Zalesovo Beam**	**50.75**	**354**	P	**P**		**15 53 45.5**	**+0.9**
	0.6nm,0.4s,baz=173,slow=8.4,SNR=3.5							
BVAR	**Borovoye Array**	**52.76**	**343**	P	**P**		**15 53 59.7**	**+0.1**
	0.5nm,0.6s,baz=141,slow=9.3,SNR=5.2							
BRTR	**Keskin Array B**	**64.35**	**313**	P	**P**		**15 55 21.8**	**+1.0**
	0.2nm,0.5s,baz=132,slow=5.0,SNR=2.5							
SEY	**Seymchan**	**73.48**	**24**	P	**P**		**15 56 17.2**	**+0.4**
	0.4nm,0.5s,baz=116,slow=18,SNR=2.6							
GERES	**GERESS Array B**	**80.22**	**319**	P	**P**		**15 56 55.8**	**+0.5**
	0.4nm,0.6s,baz=107,slow=6.3,SNR=4.2							
TXAR	**Lajitas Array**	**143.78**	**25**	PKP	**PKPdf**		**16 04 20.5**	**0.0**
	0.1nm,0.3s,baz=359,slow=3.6,SNR=3.7							

*CSEM **13** 15:44:48.8±0.5, 37.15N×38.98E, h2km, ML2.2, Error ellipse: s-maj=10.5km s-min=7.9km az=7.0*
*DDA **13** 15:44:48.6, 37.15N×39.04E, h7km, Ml2.9*
*ISK **13** 15:44:48.2, 37.21N×38.94E, h5km, ML2.2/4*
ISC 13 15:44:49.1±1.3, 37.17N±0.05×38.98E±0.03, h5km±11km, n15, σ1s04/28, Turkey

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
URFA	**Urfa**	**0.30**	**335**	PG	**Pg**		**15 44 54.1**	**-0.8**
URFA				SG	**Sg**		**15 44 58.7**	**-0.3**
URFA	**Urfa**	**0.30**	**335**	*i* Pg	**Pg**		**15 44 54.1**	**-0.8**
URFA				*i* Sg	**Sg**		**15 44 58.7**	**-0.3**
MAZI	**Mazidag**	**1.21**	**76**	PN	**Pg**		**15 45 12.9**	**+0.7**
MAZI				SN	**Sn**		**15 45 30.5**	**+1.0**
MAZI	**Mazidag**	**1.21**	**76**	*e*Pn	**Pg**		**15 45 12.9**	**+0.7**
MAZI				*e*Sn	**Sn**		**15 45 30.5**	**+1.0**
MALT	**Malatya**	**1.23**	**339**	PN	**Pn**		**15 45 11.9**	**-1.1**
MALT				SN	**Sn**		**15 45 29.9**	**-0.1**
MALT	**Malatya**	**1.23**	**339**	*e*Pn	**Pn**		**15 45 11.9**	**-1.1**
MALT				*e*Sn	**Sn**		**15 45 29.9**	**-0.1**
ELZG	**Elazig**	**1.33**	**0**	*i* P	**Pg**		**15 45 14.9**	**+0.3**
ELZG				*i* S	**Sg**		**15 45 33.0**	**+1.2**
ELZG	**Elazig**	**1.33**	**0**	P	**Pg**		**15 45 14.9**	**+0.3**
ELZG				S	**Sg**		**15 45 33.0**	**+1.2**
AKCD	**Akcadag**	**1.40**	**324**	*i* P	**Pg**		**15 45 16.0**	**0.0**
AKCD				*i* S	**Sg**		**15 45 36.5**	**+2.3**
AKCD	**Akcadag**	**1.40**	**324**	P	**Pg**		**15 45 16.0**	**0.0**
AKCD				S	**Sg**		**15 45 36.5**	**+2.3**
GAZ	**Gaziantep**	**1.41**	**271**	PN	**Pg**		**15 45 15.8**	**-0.3**
GAZ				SN	**Sg**		**15 45 35.7**	**+1.3**
GAZ	**Gaziantep**	**1.41**	**271**	*e*Pn	**Pg**		**15 45 15.8**	**-0.3**
GAZ				*e*Sn	**Sg**		**15 45 35.7**	**+1.3**
MARD	**Mardin**	**1.44**	**84**	*i* P	**Pn**		**15 45 14.7**	**-1.3**
MARD				*i* S	**Sg**		**15 45 35.0**	**-0.5**
HANI	**Diyarbakir_Han**	**1.68**	**42**	*i* S	**Sg**		**15 45 42.9**	**-0.1**
HANI	**Diyarbakir_Han**	**1.68**	**42**	S	**Sg**		**15 45 42.9**	**-0.1**

*NEIC **13** 15:46:17.4±0.0, 16.60N×100.27W, h15km, MD4.0(MEX), After MEX.*
MEX 13 15:46:17.4±0.8, 16.60N×100.27W, h15km, MD4.0, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
CAIG	**El Cayaco**	**0.45**	**1**	*i* P	Pg		15 46 24.6	-1.8
CAIG				*e*S	Sg		15 46 30.4	-2.0
CAIG	**El Cayaco**	**0.45**	**1**	*i* P	Pg		15 46 24.6	-1.8
CAIG				*e*S	Sg		15 46 30.4	-2.0
MEIG	**Mezcala**	**1.46**	**25**	*e*P	Pn		15 46 40.1	-3.2
MEIG	**Mezcala**	**1.46**	**25**	*e*P	Pn		15 46 40.1	-3.2
ZIIG	**Zihuatanejo**	**1.52**	**312**	*e*P	Pn		15 46 40.7	-3.3
ZIIG	**Zihuatanejo**	**1.52**	**312**	*e*P	Pn		15 46 40.7	-3.3
ARIG	**Puente Sto Nin**	**1.67**	**358**	*e*P	Pn		15 46 43.2	-3.0
TLIG	**Tlapa**	**1.89**	**59**	*e*P	Pn		15 46 46.2	-3.1
TLIG				*i* S	Sn		15 47 08.4	-4.6
TLIG	**Tlapa**	**1.89**	**59**	*e*P	Pn		15 46 46.2	-3.1
TLIG				*i* S	Sn		15 47 08.4	-4.6
PLIG	**Platanillo**	**1.93**	**22**	*e*P	Pn		15 46 47.9	-1.9
PLIG	**Platanillo**	**1.93**	**22**	*e*P	Pn		15 46 47.9	-1.9
PNIG	**Pinotepa**	**2.07**	**95**	*i* P	Pn		15 46 48.3	-3.3
PNIG	**Pinotepa**	**2.07**	**95**	*i* P	Pn		15 46 48.3	-3.3

JMA 13 15:48:31.5±0.1, 36.90N×141.29E, h32km±1km, M2.7, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
ONAJ	**Iwakimizuishiy**	**0.44**	**297**	P	Pb		15 48 40.9	-0.3
ONAJ				S	Sb		15 48 47.6	-0.2
JFK	**Kawauchi**	**0.57**	**325**	P	Pb		15 48 42.7	-0.5
JFK				S	Sb		15 48 50.6	-0.7
JHO	**Hitachi**	**0.65**	**244**	P	Pb		15 48 43.9	-0.5
JHO				S	Sb		15 48 52.9	-0.3
JFT	**Otama**	**0.98**	**309**	P	Pb		15 48 49.8	-0.2
JFT				S	Sb		15 49 02.8	+0.2
JMM	**Marumori**	**1.04**	**338**	P	Pn		15 48 49.9	0.0
JMM				S	Sn		15 49 03.5	+0.1
MAT	**Matsushiro**	**2.50**	**263**	P	Pn		15 49 11.7	+1.7
MAT				*e*S	Sb		15 49 44.4	-1.8

*IDC **13** 15:52:21.4±1.6, 10.66S×123.58E, h0km, mb3.9/2, mb1 3.9/4, mb1mx3.4/53, mbtmp3.7/4, ML3.5/2, Error ellipse: s-maj=34.6km s-min=11.5km az=101.0*
*ISCJB **13** 15:52:24.0±0.8, 10.52S±0.07×123.87E±0.06, h29km, mb3.8/2, Error ellipse: s-maj=11.7km s-min=6.8km az=37.0*
*DJA **13** 15:52:27.0±0.6, 10°S±4°×12°4E±°, h10km, M4.1/7, mb4.5/1, MLv3.9/7*
ISC 13 15:52:25.0±0.9, 10.58S±0.07×123.81E±0.07, h29km, n11, σ2s52/17, Timor region

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
BATI	**Baumata**	**0.40**	**339**	Pg	**Pb**		**15 52 30.6**	**-3.2**
	baz=188,slow=6.6							
BATI				Lg	Lg		15 52 36.2	
	1um,0.3s,baz=60,slow=20,SNR=172							
BATI	**Baumata**	**0.40**	**339**	P	**Pb**		**15 52 30.9**	**-2.9**
BATI				S	**Sb**		**15 52 36.7**	**-3.1**
SOEI	**Soe**	**0.94**	**29**	P	**Pb**		**15 52 44.1**	**+1.4**
MMRI	**Maumere**	**2.48**	**321**	P	**Pn**		**15 53 05.2**	**+1.8**
MMRI				S	**Sn**		**15 53 35.1**	**+2.4**
BASI	**Baing, Sumba**	**3.20**	**276**	P	**Pn**		**15 53 15.8**	**+2.5**
BASI				S	**Sn**		**15 53 53.7**	**+3.1**
WBSI	**Waikabubak, Su**	**4.45**	**282**	P	**Pn**		**15 53 31.8**	**+1.2**
WBSI				S	**Sn**		**15 54 21.6**	**+0.1**
PLAI	**Plampang**	**6.20**	**286**	P	**Pn**		**15 53 56.5**	**+1.9**
PLAI				S	**Sn**		**15 55 03.7**	**-0.8**
WRA	**Warramunga Arr**	**13.77**	**134**	Pn	**Pn**		**15 55 39.2**	**+0.8**
	0.2nm,0.3s,baz=312,slow=15,SNR=8.2							
WRA				Sn	**Sn**		**15 58 05.4**	**-5.0**
	0.2nm,0.3s,baz=297,slow=24,SNR=4.3							
ASAR	**Alice Springs**	**16.19**	**145**	Pn	**Pn**		**15 56 12.1**	**+1.5**
	0.2nm,0.3s,baz=321,slow=13,SNR=18							
CMAR	**Chiang Mai Arr**	**37.88**	**319**	P	**P**		**15 59 40.0**	**+0.4**
	0.6nm,0.7s,baz=146,slow=6.4,SNR=6.9							
ZALV	**Zalesovo Beam**	**72.27**	**337**	P	**P**		**16 03 47.6**	**+0.2**
	1.6nm,0.5s,baz=124,slow=6.3,SNR=2.1							

*ISCJB **13** 15:52:44.9±0.3, 19.03S±0.06×169.52E±0.07, h246km, mb4.3/57, Error ellipse: s-maj=10.8km s-min=6.3km az=44.2*
*NEIC **13** 15:52:47.9±1.0, 19.15S×169.51E, h268km±10km, mb4.5/31, Error ellipse: s-maj=13.4km s-min=7.5km az=154.0*
*IDC **13** 15:52:48.5±5.2, 19.16S×169.45E, h268km±48km, mb4.0/23, mb1 4.1/23, mb1mx3.9/42, mbtmp4.5/23, Error ellipse: s-maj=19.7km s-min=11.9km az=93.0*
ISC 13 15:52:46.1±0.4, 19.10S±0.09×169.51E±0.09, h246km, n108, σ1s08/110, mb4.5/57, 3C, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
DZM	**Mont Dzumac**	**4.12**	**224**	*e*Pn	**Pn**		**15 53 52.4**	**+1.1**
DZM				*e*S	**S**		**15 54 44.8**	**+1.8**
MSVF	**Nonsavu**	**8.22**	**82**	*e*Pn	**Pn**		**15 54 45.0**	**+2.7**
ARMA	**Armidale**	**19.73**	**232**	*e*P	**P**		**15 56 59.1**	**+1.4**
	14nm,0.8s							
CTA	**Charters Tower**	**21.93**	**264**	P	**P**		**15 57 19.6**	**-0.4**
	4.8nm,0.4s,baz=87,slow=10.0,SNR=13							
STKA	**Stephens Creek**	**28.13**	**238**	P	**P**		**15 58 16.1**	**+0.4**
	8.3nm,0.6s,baz=68,slow=8.8,SNR=35							
STKA				PcP	**PcP**		**16 01 23.4**	**+0.1**
	1.3nm,0.7s,baz=63,slow=4.5,SNR=5.4							
STKA	**Stephens Creek**	**28.13**	**238**	*e*P	**P**		**15 58 16.2**	**+0.5**
	1.9nm,0.7s							
STKA				PcP	**PcP**		**16 01 23.4**	**+0.1**
WRA	**Warramunga Arr**	**33.12**	**263**	P	**P**		**15 58 58.5**	**-1.1**
	1.9nm,0.3s,baz=90,slow=8.3,SNR=15							
WRA				PcP	**PcP**		**16 01 36.1**	**-0.6**
	1.6nm,0.9s,baz=92,slow=3.2,SNR=4.8							
AS01	**Alice Springs**	**33.37**	**256**	*e*P	**P**		**15 58 59.4**	**-2.3**
AS31	**Alice Springs**	**33.41**	**256**	*e*P	**P**		**15 59 01.8**	**-0.3**
	19nm,0.4s							
ASAR	**Alice Springs**	**33.41**	**256**	P	**P**		**15 59 01.6**	**-0.4**
	35nm,0.5s,baz=83,slow=8.9,SNR=369							
ASAR				PcP	**PcP**		**16 01 36.9**	**-0.6**
	0.9nm,0.7s,baz=88,slow=2.1,SNR=4.2							
VNDA	**Vanda**	**58.58**	**182**	P	**P**		**16 02 16.7**	**0.0**
	0.5nm,0.4s,baz=3.9,slow=7.9,SNR=5.9							
MJAR	**Matsushiro Arr**	**62.75**	**332**	P	**P**		**16 02 44.7**	**-0.7**
	2.5nm,0.5s,baz=170,slow=7.3,SNR=4.4							
MAT	**Matsushiro**	**62.75**	**332**	P	**P**		**16 02 45.0**	**-0.4**
JNU	**Nakatsue**	**63.70**	**324**	P	**P**		**16 02 51.0**	**-0.7**
	6.4nm,0.7s,baz=31,slow=4.4,SNR=6.6							
ASAJ	**Asahikawa**	**67.56**	**339**	P	**P**		**16 03 17.3**	**+1.3**
	7.7nm,0.5s,baz=219,slow=6.8,SNR=15							
ASAJ	**Asahikawa**	**67.56**	**339**	*e*P	**P**		**16 03 17.5**	**+1.5**
	9.3nm,0.7s							
KSRS	**Korea Array**	**68.54**	**325**	P	**P**		**16 03 22.0**	**-0.3**
	1.0nm,0.8s,baz=133,slow=6.8,SNR=4.9							
KSAR	**Wonju Array Be**	**68.55**	**325**	P	**P**		**16 03 21.9**	**-0.4**
NJ2	**Nanjing**	**70.29**	**316**	*e*P	**P**		**16 03 32.3**	**-0.8**
NJ2				pmax	pmax			
	comp=Z,10.0nm,0.6s							
QSPA	**South Pole Qui**	**70.95**	**180**	P	**P**		**16 03 36.7**	**-0.1**
	comp=Z,5.2nm,0.8s,baz=11,slow=1.6,SNR=8.5							
USRK	**Ussuriysk Ar.**	**71.73**	**333**	P	**P**		**16 03 41.0**	**-0.5**
	comp=Z,6.0nm,0.9s,baz=187,slow=2.3,SNR=6.2							
PETK	**Petropavlovsk-**	**72.63**	**353**	P	**P**		**16 03 46.9**	**+0.3**
	comp=Z,15nm,0.7s,baz=134,slow=6.1,SNR=17							
PETK	**Petropavlovsk-**	**72.63**	**353**	*e*P	**P**		**16 03 47.3**	**+0.7**
CN2	**Changchun**	**74.48**	**328**	*e*P	**P**		**16 03 57.8**	**+0.3**
CN2				pmax	pmax			
	comp=Z,20nm,0.6s							
KLR	**Kul'dur**	**75.85**	**336**	P	**P**		**16 04 06.2**	**+0.9**
	comp=Z,0.5nm,0.7s,baz=145,slow=3.4,SNR=16							
CM01	**Chiang Mai Arr**	**78.65**	**294**	*e*P	**P**		**16 04 22.6**	**+1.1**
CMAR	**Chiang Mai Arr**	**78.68**	**294**	P	**P**		**16 04 22.9**	**+1.2**
	comp=Z,2.5nm,0.7s,baz=136,slow=4.6,SNR=23							
CHTO	**Chiang Mai**	**78.83**	**294**	*e*P	**P**		**16 04 23.4**	**+1.0**
	comp=Z,3.7nm,0.7s							
HHC	**Hu-ho-hao-te**	**80.28**	**319**	*e*P	**P**		**16 04 30.8**	**+0.9**
HHC				pmax	pmax			
	comp=Z,7.0nm,1.3s							
HHC				pmax	pmax			
	comp=Z,12nm,7.8s							
OHAK	**Old Harbor**	**82.14**	**19**	*e*P	**P**		**16 04 39.9**	**+0.8**
	comp=Z,16nm,0.6s							
KDAK	**Kodiak Island**	**82.82**	**19**	P	**P**		**16 04 43.4**	**+0.8**
	comp=Z,10nm,0.9s,baz=238,slow=7.1,SNR=5.8							
LZH	**Lanzhou**	**82.83**	**312**	*e*P	**P**		**16 04 44.0**	**+0.6**
LZH				pP	pP		16 05 45.3	+3.1
LZH				sP	sP		16 06 12.3	+4.2
LZH				PP	**PP**		**16 08 01.0**	**+3.4**
LZH				pmax	pmax			
	comp=Z,24nm,1.1s							
LZH				pmax	pmax			
	comp=Z,220nm,6.4s							
SEY	**Seymchan**	**82.87**	**352**	P	**P**		**16 04 43.2**	**+0.6**
	comp=Z,1.1nm,0.5s,baz=139,slow=8.0,SNR=7.1							
GAMB	**Gambell**	**83.90**	**8**	*e*P	**P**		**16 04 48.6**	**+0.8**
	comp=Z,1.1nm,0.6s							
SVW2	**Sparrevohn**	**84.70**	**16**	*e*P	**P**		**16 04 51.9**	**-0.1**
	comp=Z,5.6nm,1.0s							
SYO	**Syowa Base**	**85.14**	**196⇑**	*e*P	**P**		**16 04 53.6**	**-0.6**
YAK	**Yakutsk**	**86.82**	**342**	P	**P**		**16 05 03.6**	**+1.2**
	comp=Z,3.9nm,0.4s,baz=113,slow=2.8,SNR=2.9							
AFDM	**Forest Hills D**	**86.88**	**47**	*e*P	**P**		**16 05 03.8**	**+0.5**
	comp=Z,5.3nm,0.8s							
ULN	**Ulaanbaatar**	**86.91**	**323**	*e*P	**P**		**16 05 03.5**	**+0.2**
	comp=Z,1.1nm,1.1s							
YBH	**Yreka Blue Hor**	**87.02**	**44**	P	**P**		**16 05 05.3**	**+1.3**
	baz=284,slow=4.2							
ISA	**Isabella, Lake**	**87.19**	**51**	*e*P	**P**		**16 05 05.5**	**+0.5**
	comp=Z,6.6nm,0.8s							
GTA	**Gaotai**	**87.22**	**313**	*e*P	**P**		**16 05 05.3**	**+0.3**
GTA				pP	pP		16 06 04.8	+0.4
GTA				sP	sP		16 06 33.4	+3.2
GTA				pmax	pmax			
	comp=Z,4.0nm,1.6s							
SONM	**Songino Array**	**87.27**	**323**	P	**P**		**16 05 05.6**	**+0.6**
	comp=Z,4.4nm,0.7s,baz=145,slow=6.1,SNR=19							
SONA1	**Songino Array**	**87.27**	**323**	*e*P	**P**		**16 05 05.1**	**0.0**
CAST	**Castle Rocks**	**87.55**	**16**	*e*P	**P**		**16 05 04.1**	**-1.8**
	comp=Z,5.8nm,0.8s							
TRF	**Thorofare Moun**	**88.06**	**17**	*e*P	**P**		**16 05 06.8**	**-1.6**
	comp=Z,4.7nm,0.9s							
PAHR	**Pah Rah Range**	**88.33**	**47**	*e*P	**P**		**16 05 09.8**	**-0.4**
	comp=Z,16nm,1.4s							
RND	**Reindeer**	**88.42**	**17**	*e*P	**P**		**16 05 08.8**	**-1.2**
	comp=Z,7.4nm,1.3s							
NV01	**Mina Array Sit**	**88.52**	**48**	*e*P	**P**		**16 05 09.5**	**-1.8**
NVAR	**Mina Array Bea**	**88.52**	**48**	P	**P**		**16

comp=Z,5.1nm,0.6s
TORD Torodi Ar. Bea 166.88 245 PKP **PKPdf 16 12 22.1 -1.1**
comp=Z,0.8nm,0.7s,baz=77,slow=1.0,SNR=4.9
TORD PKPab **PKPab 16 13 27.7 -0.3**
comp=Z,0.5nm,0.6s,baz=75,slow=3.3,SNR=3.5

NIED ***13*** *15:54:00,38˚.10N×142˚.90E,h14km,Mw4.3 Best double couple: M₀2.97000×10¹⁵ NP1:ϕs120.00000°,δ39.00000°, λ-78.00000°. NP2:ϕs284.00000°,δ52.00000°, λ-99.00000°.*
IDC ***13*** *15:54:40.8±0.5,38˚.05N×142˚.89E,h0km,mb4.3/29, mb1 4.4/34,mb1mx4.3/66,mbtmp4.3/34,ML3.8/5,MS3.6/9, Ms1 3.6/9,ms1mx3.1/68,Error ellipse: s-maj=13.4km s-min=11.4km az=122.0*
JMA ***13*** *15:54:41.4±0.2,38˚.12N×142˚.93E,h14km±3km,M4.4 JMA Felt I J1.*
ISCJB ***13*** *15:54:42.2±1.0,38˚.08N±0˚.03×142˚.90E±0˚.03,h19km±7km, mb4.4/63,MS3.9/11,Error ellipse: s-maj=5.6km s-min=3.9km az=141.2*
NEIC ***13*** *15:54:46.2±0.2,38˚.08N×142˚.81E,h35km,mb4.5/28,Error ellipse: s-maj=6.6km s-min=4.1km az=142.0*
NEIC Felt at Sendai and Tokai. Recorded [1 JMA] in Fukushima and Miyagi.
ISC 13 15:54:44.8±1.2,38°03N±0°.04×142°89E±0°.05,h28km±8km, n147,σ1$37/164,mb4.4/63,MS4.0/11,1C-5D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
JIO	**Ouri**	**1.28**	**290**	P		**Pn**	**15 55 04.7**	**-2.2**
JIO				*e*S		**Sn**	**15 55 21.4**	**-1.7**
OFUJ	**Ofunato**	**1.42**	**318**	P		**Pn**	**15 55 06.2**	**-2.5**
JMK	**Ichinoseki**	**1.60**	**306**	P		**Pn**	**15 55 09.2**	**-2.0**
JMK				*e*S		**Sn**	**15 55 30.0**	**-0.9**
JMM	**Marumori**	**1.66**	**265**	P		**Pn**	**15 55 11.5**	**-0.6**
JMM				*e*S		**Sn**	**15 55 32.1**	**-0.4**
JFK	**Kawauchi**	**1.73**	**248**	P		**Pn**	**15 55 11.4**	**-1.6**
JFK				*e*S		**Sn**	**15 55 33.7**	**-0.5**
JOU	**Okura**	**1.78**	**282**	P		**Pn**	**15 55 13.1**	**-0.7**
JOU				*e*S		**Sn**	**15 55 36.4**	**+0.9**
JOM	**Ohasama**	**1.91**	**320**	P		**Pn**	**15 55 13.7**	**-1.7**
JOM				*e*S		**Sn**	**15 55 37.0**	**-1.5**
JFT	**Otama**	**2.08**	**257**	P		**Pn**	**15 55 18.2**	**+0.3**
JFT				*e*S		**Sn**	**15 55 44.5**	**+1.6**
JYK	**Kaneyama**	**2.17**	**295**	P		**Pn**	**15 55 18.5**	**-0.6**
JRG	**Rokugo**	**2.23**	**308**	P		**Pn**	**15 55 19.5**	**-0.4**
JYS	**Shirataka**	**2.23**	**276**	P		**Pn**	**15 55 20.0**	**+0.1**
JANG	**Nango**	**2.57**	**336**	P		**Pn**	**15 55 23.0**	**-1.6**
ERM	**Erimo**	**3.99**	**3**	*e*Pn		**Pn**	**15 55 42.2**	**-1.8**
ERM				*e*Sn		**Sn**	**15 56 27.4**	**-2.4**
MJAR	**Matsushiro Arr**	**4.01**	**250**	Pn		**Pn**	**15 55 45.1**	**+0.7**
	8.9nm,0.3s,baz=56,slow=9.5,SNR=66							
MAJO	**Matsushiro**	**4.02**	**250**	*e*Pn		**Pn**	**15 55 45.9**	**+1.4**
MAJO				*e*Sn		**Sn**	**15 56 27.0**	**-3.6**
MAT	**Matsushiro**	**4.02**	**250**	P		**Pn**	**15 55 45.5**	**+1.0**
MAT				*e*S		**Sn**	**15 56 31.5**	**+0.9**
MJB9	**Matsu-Tunnel**	**4.02**	**250**	*e*Pn		**Pn**	**15 55 45.8**	**+1.3**
INU	**Inuyama**	**5.42**	**242**	*e*Pn		**Pn**	**15 56 05.1**	**+1.3**
JHJ2	**Mitsune**	**5.51**	**208**	*e*Pn		**Pn**	**15 56 04.0**	**-0.9**
JHJ2				*e*Sn		**Sn**	**15 57 04.6**	**-2.8**
JHJ	**Hachijo jima 2**	**5.51**	**208**	Pn		**Pn**	**15 56 04.0**	**-1.0**
	24nm,0.3s,baz=334,slow=18,SNR=28							
JHJ				Sn		**Sn**	**15 57 04.3**	**-3.2**
	54nm,0.3s,baz=221,slow=19,SNR=4.5							
JHJ				LR		LR	15 58 43.1	
	comp=Z,331nm,18.0s,baz=320,slow=44							
ASAJ	**Asahikawa**	**6.08**	**358**	Pn		**Pn**	**15 56 12.3**	**-0.5**
	3.0nm,0.3s,baz=213,slow=15,SNR=25							
ASAJ				Sn		**Sn**	**15 57 19.0**	**-2.5**
	5.3nm,0.3s,baz=270,slow=31,SNR=5.8							
ASAJ	**Asahikawa**	**6.08**	**358**	*e*Pn		**Pn**	**15 56 12.0**	**-0.8**
ASAJ				Sn		**Sn**	**15 57 19.0**	**-2.5**
ASAJ				*e*Sn		**Sn**	**15 57 21.9**	**+0.4**
YSS	**Yuzh-Sakhalins**	**8.92**	**359**	*e*Pn		**Pn**	**15 56 51.6**	**-0.1**
YSS				*e*Sn		**Sn**	**15 58 32.4**	**+1.2**
USRK	**Ussuriysk Ar.**	**10.27**	**310**	Pn		**Pn**	**15 57 13.5**	**+3.3**
	0.6nm,0.3s,baz=120,slow=14,SNR=9.5							
USRK				LR		LR	16 01 04.2	
	comp=Z,314nm,18.3s,baz=175,slow=37							
JNU	**Nakatsue**	**10.93**	**247**	Pn		**Pn**	**15 57 20.0**	**+0.6**
	0.4nm,0.3s,baz=50,slow=5.9,SNR=8.0							
JNU				LR		LR	16 01 40.0	
	comp=Z,168nm,21.4s,baz=293,slow=38							
KSRS	**Korea Array**	**11.86**	**272**	Pn		**Pn**	**15 57 35.8**	**+3.7**
	0.3nm,0.3s,baz=92,slow=14,SNR=18							
KS15	**Wonju Array Si**	**11.90**	**272**	*e*Pn		**Pn**	**15 57 31.1**	**-1.4**
KSAR	**Wonju Array Be**	**11.90**	**272**	Pn		**Pn**	**15 57 35.8**	**+3.2**
KLR	**Kul'dur**	**13.78**	**328**	Pn		**Pn**	**15 57 57.6**	**-0.6**
	0.0nm,0.3s,baz=137,slow=14,SNR=3.1							
PETK	**Petropavlovsk-**	**18.24**	**29**	P		**Pn**	**15 58 54.5**	**-1.2**
	0.2nm,0.3s,baz=211,slow=11,SNR=3.6							
NJ2	**Nanjing**	**20.54**	**260**	*e*P		**P**	**15 59 17.8**	**-3.2**
NJ2				pmax		pmax		
	comp=Z,16nm,0.5s							
NJ2				LR		LR		
	comp=N,380nm,12.2s							
NJ2				LR		LR		
	comp=E,470nm,14.6s							
NJ2				LR		LR		
	comp=Z,600nm,15.2s							
MA2	**Magadan**	**22.15**	**11**	P		**P**	**15 59 38.2**	**+0.1**
	comp=Z,8.0nm,0.8s,baz=188,slow=9.8,SNR=13							
MA2				LR		LR	16 09 49.8	
	comp=Z,76nm,18.1s,baz=236,slow=41							
TPUB	**Ta-pu**	**24.04**	**239**	*e*P		**P**	**15 59 56.7**	**-0.9**
	comp=Z,42nm,1.5s							
HHC	**Hu-ho-hao-te**	**24.29**	**287**	*e*P		**P**	**15 59 59.8**	**-0.1**
HHC				S		**S**	**16 04 12.9**	**-4.2**
HHC				pmax		pmax		
	comp=Z,16nm,0.8s							
HHC				pmax		pmax		
	comp=Z,64nm,4.1s							
HHC				LR		LR		
	comp=N,360nm,11.8s							
HHC				LR		LR		
	comp=E,280nm,12.0s							
HHC				LR		LR		
	comp=Z,320nm,11.5s							
YAK	**Yakutsk**	**25.38**	**345**	P		**P**	**16 00 08.9**	**-0.4**
	comp=Z,5.7nm,0.4s,baz=346,slow=2.2,SNR=7.1							
YAK				LR		LR	16 11 28.5	
	comp=Z,102nm,18.9s,baz=10,slow=40							
YAK	**Yakutsk**	**25.38**	**345**	*e*P		**P**	**16 00 09.1**	**-0.2**
	comp=Z,15nm,0.8s							
XAN	**Xi'an**	**27.66**	**272**	P		**P**	**16 00 30.6**	**+0.3**
XAN				pmax		pmax		
	comp=Z,9.0nm,0.7s							
XAN				pmax		pmax		
	comp=Z,47nm,4.8s							
H11N2	**WAKE ISLAND Hy**	**27.70**	**124**	T		T	16 29 31.3	
	baz=317,slow=75							
H11N1	**WAKE ISLAND Hy**	**27.70**	**124**	T		T	16 29 40.4	
	baz=317							
H11N3	**WAKE ISLAND Hy**	**27.71**	**124**	T		T	16 29 33.4	
	baz=317,slow=75							
ULN	**Ulaanbaatar**	**27.79**	**302**	*e*P		**P**	**16 00 31.9**	**+0.4**
	comp=Z,5.1nm,0.9s							
SONA1	**Songino Array**	**28.22**	**302**	*e*P		**P**	**16 00 35.6**	**+0.3**
SONM	**Songino Array**	**28.23**	**302**	P		**P**	**16 00 35.5**	**+0.2**
	comp=Z,2.8nm,0.6s,baz=107,slow=9.3,SNR=17							
H11S1	**WAKE ISLAND Hy**	**28.46**	**126**	T		T	16 30 34.2	
	baz=318							
H11S3	**WAKE ISLAND Hy**	**28.46**	**127**	T		T	16 30 28.9	
	baz=318							
H11S2	**WAKE ISLAND Hy**	**28.48**	**127**	T		T	16 30 33.1	
	baz=318							
LZH	**Lanzhou**	**31.07**	**279**	*e*P		**P**	**16 01 02.8**	**+2.2**
LZH				pP		sP	16 01 11.1	-1.2
LZH				sP		pP	16 01 14.0	+5.2
LZH				*e*PP		**PP**	**16 02 08.5**	**-2.4**
LZH				*e*S		**S**	**16 06 04.4**	**+0.1**
LZH				sS		sS	16 06 17.5	-0.3
LZH				SS		**SnSn**	**16 07 45.8**	**-0.4**
LZH				pmax		pmax		
	comp=Z,21nm,1.0s							
LZH				pmax		pmax		
	comp=Z,210nm,5.0s							
LZH				LR		LR		
	comp=N,250nm,13.5s							
LZH				LR		LR		
	comp=E,380nm,13.7s							
LZH				LR		LR		
	comp=Z,520nm,15.0s							
CD2	**Chengdu**	**32.85**	**269**	*e*P		**P**	**16 01 15.3**	**-0.9**
GTA	**Gaotai**	**33.40**	**286**	P		**P**	**16 01 22.3**	**+1.2**
GTA				pP		sP	16 01 34.3	+1.6
GTA				sP		pP	16 01 39.8	+11
GTA				S		**S**	**16 06 39.5**	**-1.1**
GTA				sS		sS	16 07 01.8	+7.7
GTA				SS		**SnSn**	**16 08 47.3**	**+4.5**
GTA				pmax		pmax		
	comp=Z,12nm,0.9s							
GTA				pmax		pmax		
	comp=Z,28nm,4.4s							
GTA				LR		LR		
	comp=N,160nm,13.8s							
GTA				LR		LR		
	comp=E,250nm,17.6s							
GTA				LR		LR		
	comp=Z,210nm,18.1s							
KMI	**Kunming**	**36.27**	**261**	P		**P**	**16 01 45.3**	**-0.8**
KMI				pmax		pmax		
	comp=Z,15nm,0.9s							
WMQ	**Urumqi**	**41.45**	**296**	P		**P**	**16 02 31.0**	**+2.0**
WMQ				pP		sP	16 02 39.6	-1.2
WMQ				sP		pP	16 02 44.1	+6.7
WMQ				pmax		pmax		
	comp=Z,32nm,1.1s							
WMQ				LR		LR		
	comp=N,130nm,17.1s							
WMQ				LR		LR		
	comp=E,180nm,17.9s							
WMQ				LR		LR		
	comp=Z,120nm,17.9s							
ZAA0	**Zalesovo Array**	**42.12**	**312**	*e*P		**P**	**16 02 34.7**	**+0.4**
	comp=Z,6.0nm,0.6s							
ZALV	**Zalesovo Beam**	**42.12**	**312**	P		**P**	**16 02 34.6**	**+0.3**
	comp=Z,5.9nm,0.4s,baz=89,slow=7.5,SNR=23							
ZALV				PcP		**PcP**	**16 04 28.9**	**+0.5**
	comp=Z,2.9nm,0.7s,baz=113,slow=2.7,SNR=5.2							
ZALV	**Zalesovo Beam**	**42.12**	**312**	*e*P		**P**	**16 02 33.9**	**-0.4**
ZALV				PcP		**PcP**	**16 04 28.9**	**+0.5**
CHTO	**Chiang Mai**	**42.67**	**256**	*e*P		**P**	**16 02 37.8**	**-1.4**
	comp=Z,3.2nm,1.0s							
CMAR	**Chiang Mai Arr**	**42.88**	**255**	P		**P**	**16 02 41.9**	**+1.0**
	comp=Z,1.1nm,0.7s,baz=44,slow=6.2,SNR=15							
CM01	**Chiang Mai Arr**	**42.89**	**255**	*e*P		**P**	**16 02 41.3**	**+0.3**
SVW2	**Sparrevohn**	**44.02**	**38**	*e*P		**P**	**16 02 49.0**	**-0.6**
	comp=Z,1.4nm,0.8s							
MK01	**Makanchi Array**	**44.59**	**301**	*e*P		**P**	**16 02 54.1**	**-0.2**
MK31	**Makanchi Array**	**44.59**	**302**	*e*P		**P**	**16 02 54.5**	**+0.1**
MKAR	**Makanchi Array**	**44.59**	**302**	P		**P**	**16 02 54.5**	**+0.1**
	comp=Z,3.0nm,0.6s,baz=86,slow=9.7,SNR=28							
MAKZ	**Makanchi**	**44.80**	**302**	*e*P		**P**	**16 02 56.4**	**+0.3**
	comp=Z,3.8nm,0.7s							
IM3	**Indian Mountai**	**45.20**	**31**	*e*P		**P**	**16 03 02.3**	**+3.4**
KDAK	**Kodiak Island**	**45.58**	**43**	P		**P**	**16 03 01.7**	**-0.2**
	comp=Z,4.7nm,0.6s,baz=298,slow=5.1,SNR=21							
KDAK	**Kodiak Island**	**45.58**	**43**	*e*P		**P**	**16 03 02.8**	**+0.8**
	comp=Z,18nm,0.8s							
KURK	**Kurchatov**	**46.25**	**308**	*e*P		**P**	**16 03 07.3**	**-0.1**
	comp=Z,13nm,0.8s							
KURBB	**Kurchatov Arra**	**46.32**	**307**	P		**P**	**16 03 07.6**	**-0.3**
	comp=Z,14nm,0.6s,baz=82,slow=8.0,SNR=74							
SUA	**Susitna One**	**46.36**	**37**	*e*P		**P**	**16 03 10.2**	**+2.0**
	comp=Z,5.1nm,0.8s							
MLY	**Manley**	**46.38**	**32**	*e*P		**P**	**16 03 10.4**	**+2.1**
	comp=Z,4.1nm,0.9s							
TOLK	**Toolik Lake Re**	**47.05**	**28**	*e*P		**P**	**16 03 12.1**	**-1.4**
	comp=Z,2.1nm,0.9s							
MDM	**Murphy Dome**	**47.45**	**33**	*e*P		**P**	**16 03 15.1**	**-1.5**
	comp=Z,2.5nm,1.0s							
ODAN	**Odne**	**47.52**	**273**	*e*P		**P**	**16 03 18.2**	**+0.2**
IL1	**Eielson Array**	**48.03**	**33**	*e*P		**P**	**16 03 21.2**	**+0.2**
ILAR	**Eielson Array**	**48.03**	**33**	P		**P**	**16 03 21.4**	**+0.3**
	comp=Z,1.3nm,0.8s,baz=267,slow=5.9,SNR=16							
ILB	**Eielson Array**	**48.03**	**33**	*e*P		**P**	**16 03 20.2**	**-0.9**
JIRN	**Jiri**	**48.09**	**275**	*e*P		**P**	**16 03 23.2**	**+0.6**
RAMN	**Ramite**	**48.10**	**274**	*e*P		**P**	**16 03 22.5**	**0.0**
	comp=Z,24nm,0.6s							
GUN	**Gumba**	**48.22**	**276**	*e*P		**P**	**16 03 23.8**	**+0.3**
	comp=Z,42nm,0.8s							
KKN	**Kakani**	**48.75**	**276**	*e*P		**P**	**16 03 27.7**	**+0.3**
	comp=Z,24nm,0.6s							
PKIN	**Phulchoki**	**48.76**	**275**	*e*P		**P**	**16 03 28.0**	**+0.4**
	comp=Z,18nm,0.7s							
DMN	**Daman**	**48.97**	**276**	*e*P		**P**	**16 03 29.5**	**+0.3**
	comp=Z,20nm,0.9s							
DANN	**Dangsing**	**49.69**	**277**	*e*P		**P**	**16 03 35.7**	**+1.0**
	comp=Z,4.1nm,0.8s							
PYUN	**Piuthan**	**50.40**	**277**	*e*P		**P**	**16 03 40.4**	**+0.4**
	comp=Z,60nm,1.0s							
BVAR	**Borovoye Array**	**50.77**	**312**	P		**P**	**16 03 42.3**	**0.0**
	comp=Z,2.3nm,0.5s,baz=67,slow=7.5,SNR=19							
BVAR				PcP		**PcP**	**16 04 59.0**	**+0.1**
	comp=Z,1.8nm,0.6s,baz=83,slow=4.5,SNR=4.2							
BRVK	**Borovoye**	**50.83**	**312**	*e*P		**P**	**16 03 41.6**	**-1.0**
	comp=Z,3.0nm,0.6s							
AAK	**Ala-Archa**	**51.05**	**298**	*e*P		**P**	**16 03 42.8**	**-1.8**
	comp=Z,2.6nm,0.8s							
HYT	**Haines Junctio**	**52.80**	**37**	*e*P		**P**	**16 03 59.3**	**+1.9**
	comp=Z,6.0nm,0.9s							
INK	**Inuvik**	**52.97**	**28**	P		**P**	**16 03 59.2**	**+0.9**
	comp=Z,0.8nm,0.7s,baz=271,slow=3.6,SNR=3.5							
KK31	**Karatay Array**	**53.64**	**300**	*e*P		**P**	**16 04 04.1**	**+0.4**
KKAR	**Karatay Array**	**53.64**	**300**	*e*P		**P**	**16 04 04.1**	**+0.4**
NIL	**Nilore**	**55.42**	**288**	*e*P		**P**	**16 04 16.6**	**-0.2**
	comp=Z,13nm,0.8s							
KBL	**Kabul**	**58.15**	**291**	*e*P		**P**	**16 04 33.5**	**-2.9**
	comp=Z,6.5nm,0.8s							
WB2	**Warramunga Arr**	**58.22**	**189**	*e*P		**P**	**16 04 36.7**	**+0.2**
	comp=Z,10.0nm,0.8s							
WRA	**Warramunga Arr**	**58.22**	**189**	P		**P**	**16 04 36.7**	**+0.1**
	comp=Z,12nm,0.9s,baz=8.9,slow=7.3,SNR=45							
WRA				PcP		**PcP**	**16 05 28.8**	**+1.0**
	comp=Z,1.5nm,0.5s,baz=0.2,slow=4.5,SNR=4.7							
RES	**Resolute Bay**	**61.34**	**15**	*e*P		**P**	**16 04 58.1**	**+0.7**
	comp=Z,3.8nm,0.8s							
AS01	**Alice Springs**	**61.94**	**189**	*e*P		**P**	**16 04 59.4**	**-2.6**
ASAR	**Alice Springs**	**61.95**	**189**	P		**P**	**16 05 02.5**	**+0.4**
	comp=Z,1.9nm,0.5s,baz=2.7,slow=6.4,SNR=31							
YKA	**Yellowknife Ar**	**62.36**	**31**	P		**P**	**16 05 04.6**	**+0.2**
	comp=Z,0.6nm,0.6s,baz=304,slow=6.7,SNR=20							
GEYT	**Alibeck**	**64.38**	**299**	P		**P**	**16 05 16.9**	**-1.4**
	comp=Z,3.9nm,0.8s,baz=41,slow=4.7,SNR=6.4							
FINES	**FINESS Array B**	**68.48**	**333**	P		**P**	**16 05 44.0**	**0.0**
	comp=Z,2.9nm,0.8s,baz=46,slow=8.2,SNR=7.6							
STKA	**Stephens Creek**	**69.56**	**181**	P		**P**	**16 05 51.2**	**+0.2**
	comp=Z,2.3nm,0.7s,baz=348,slow=7.9,SNR=8.2							
KBZ	**Khabaz**	**71.14**	**311**	P		**P**	**16 06 01.2**	**+0.6**
	comp=Z,2.6nm,0.8s,baz=56,slow=4.0,SNR=8.3							
FFC	**Flin Flon**	**72.23**	**33**	*e*P		**P**	**16 06 07.7**	**+0.6**
	comp=Z,5.7nm,0.8s							
FCC	**Fort Churchill**	**72.58**	**27**	*e*P		**P**	**16 06 09.6**	**-0.5**
	comp=Z,2.9nm,0.8s							
LRM	**Limekiln Ridge**	**72.62**	**45**	*e*P		**P**	**16 06 10.4**	**+0.6**
NVAR	**Mina Array Bea**	**73.46**	**54**	P		**P**	**16 06 14.8**	**-0.2**
	comp=Z,0.7nm,0.6s,baz=302,slow=6.9,SNR=4.4							
HFS	**Hagfors**	**73.66**	**336**	P		**P**	**16 06 15.5**	**0.0**
	comp=Z,4.6nm,0.9s,baz=54,slow=7.4,SNR=11							
HFS				LR		LR	16 41 25.9	
	comp=Z,122nm,19.5s,baz=96,slow=38							
NB2	**NORSAR Subarra**	**73.72**	**338**	P		**P**	**16 06 16.0**	**+0.2**
	comp=Z,6.0nm,1.0s,baz=36,slow=6.2							
NOA	**NORSAR Array B**	**73.72**	**338**	P		**P**	**16 06 16.1**	**+0.2**
	comp=Z,2.5nm,0.7s,baz=39,slow=6.0,SNR=9.6							
NOA				LR		LR	16 44 17.7	
	comp=Z,40nm,19.1s,baz=60,slow=40							
AKASG	**Malin Array Be**	**74.22**	**323**	P		**P**	**16 06 18.9**	**+0.1**
	comp=Z,2.4nm,0.7s,baz=46,slow=5.0,SNR=12							
AKBB	**Malin Array Si**	**74.22**	**323**	*e*P		**P**	**16 06 18.5**	**-0.4**
	comp=Z,4.1nm,0.9s							
KIEV	**Kiev**	**74.23**	**323**	*e*P		**P**	**16 06 18.4**	**-0.5**
	comp=Z,3.9nm,0.9s							
H17A	**Grant Village**	**74.54**	**45**	*e*P		**P**	**16 06 22.5**	**+1.3**
	comp=Z,2.6nm,0.6s							
IMW	**Indian Meadow**	**74.64**	**46**	*e*P		**P**	**16 06 24.1**	**+2.3**
	comp=Z,4.9nm,0.8s							
MOOW	**Moose Ponds**	**74.84**	**46**	*e*P		**P**	**16 06 24.6**	**+1.7**
	comp=Z,2.6nm,0.9s							
DUG	**Dugway, Tooele**	**75.82**	**50**	*e*P		**P**	**16 06 30.1**	**+1.6**
	comp=Z,4.9nm,0.6s							
PD31	**Pinedale Array**	**76.13**	**46**	*e*P		**P**	**16 06 30.3**	**-0.1**
PDAR	**Pinedale Array**	**76.13**	**46**	P		**P**	**16 06 31.1**	**+0.7**
	comp=Z,1.4nm,0.5s,baz=260,slow=2.7,SNR=20							
PDAR				LR		LR	16 37 22.2	
	comp=Z,38nm,20.0s,baz=18,slow=34							
PDAR	**Pinedale Array**	**76.13**	**46**	*e*P		**P**	**16 06 30.3**	**-0.1**
ULM	**Lac du Bonnet**	**78.03**	**34**	P		**P**	**16 06 40.4**	**-0.1**
	comp=Z,1.5nm,0.7s,baz=333,slow=9.0,SNR=2.4							
BUR08	**Bucovina Ar. S**	**78.24**	**322**	*e*P		**P**	**16 06 42.4**	**+0.5**
BUR04	**Bucovina Ar. S**	**78.25**	**322**	*e*P		**P**	**16 06 42.2**	**+0.2**
BURAR	**Bucovina Array**	**78.25**	**322**	∥*i*P		**P**	**16 06 42.5**	**+0.5**
TESR	**Tescani**	**78.31**	**321**	∥*i*P		**P**	**16 06 41.3**	**-0.9**
VRI	**Vrincioaia**	**78.72**	**320**	∥*i*P		**P**	**16 06 46.7**	**+2.2**
BRTR	**Keskin Array B**	**79.06**	**312**	P		**P**	**16 06 47.2**	**+0.6**
	comp=Z,0.8nm,1.0s,baz=142,slow=4.2,SNR=5.7							
PV10	**Paradox Valley**	**79.24**	**50**	*e*P		**P**	**16 06 49.3**	**+1.5**
BR231	**Keskin MP Arra**	**79.49**	**313**	*e*P		**P**	**16 06 47.4**	**-1.6**
VOIR		**79.86**	**321**	∥*i*P		**P**	**16 06 51.0**	**+0.2**
ARR	**Arges**	**80.12**	**321**	∥*i*P		**P**	**16 06 54.0**	**+1.8**
DPC	**Dobruska-Polom**	**80.23**	**329**	*e*P		**P**	**16 06 52.4**	**-0.3**
BRG	**Berggiesshubel**	**80.78**	**330**	*e*P		**P**	**16 06 56.2**	**+0.6**
	comp=Z,3.0nm,0.8s							
CLL	**Collm**	**80.81**	**331**	*i* P		**P**	**16 06 55.8**	**+0.1**
	comp=Z,5.0nm,1.0s							
GOPC	**GO Pecny, Ondr**	**81.20**	**329**	*e*P		**P**	**16 06 59.1**	**+1.3**
ASF	**Jabal al Asfar**	**81.92**	**305**	P		**P**	**16 07 02.3**	**+0.2**
	comp=Z,1.8nm,0.7s,baz=0.0,slow=6.1,SNR=3.4							
KHC	**Kasperske Hory**	**82.30**	**329**	*e*P		**P**	**16 07 04.0**	**+0.3**
KHC				*e*pP		**pP**	**16 07 12.1**	**-0.5**
MMAI	**Mount Meron Ar**	**82.34**	**306**	P		**P**	**16 07 04.6**	**+0.4**
	comp=Z,4.0nm,0.7s,baz=38,slow=7.3,SNR=7.0							
GERES	**GERESS Array B**	**82.47**	**329**	P		**P**	**16 07 04.2**	**-0.4**
	comp=Z,0.8nm,0.6s,baz=32,slow=3.5,SNR=6.7							
GERES				LR		LR	16 45 21.1	
	comp=Z,32nm,19.1s,baz=90,slow=37							
VTS	**Vitosha**	**82.82**	**320**	∥*i*P		**P**	**16 07 07.9**	**+1.2**
TXAR	**Lajitas Array**	**88.59**	**53**	P		**P**	**16 07 36.4**	**+0.9**
	comp=Z,0.5nm,0.6s,baz=302,slow=2.0,SNR=6.0							
SNAA	**Sanae**	**142.04**	**197**	PKP	PKPpre		16 14 07.4	
SNAA	**Sanae**	**142.04**	**197**	PKHKP	PKPpre		16 14 07.9	
	comp=Z,0.5nm,0.5s,baz=225,slow=2.9,SNR=7.2							
VNA2	**Neumayer--Watz**	**143.60**	**196**	PKP	PKPbc		16 14 14.0	+0.8
	baz=121,slow=2.8							
VNA3	**Neumayer Olymp**	**143.83**	**195**	PKP	PKPbc		16 14 13.7	-0.3
LPAZ	**La Paz**	**145.18**	**60**	PKPbc	**PKPdf**		**16 14 20.9**	**0.0**
	comp=Z,1.3nm,0.5s,baz=289,slow=4.5,SNR=7.2							
PLCA	**Paso Flores**	**154.10**	**107**	PKPbc	**PKPbc**		**16 14 41.5**	**-0.3**
	comp=Z,2.1nm,0.9s,baz=104,slow=4.2,SNR=3.7							
CPUP	**Villa Florida**	**159.34**	**62**	PKPab	**PKPab**		**16 15 18.1**	**-0.2**
	comp=Z,1.2nm,0.7s,baz=239,slow=5.9,SNR=3.3							

NIED ***13*** *15:57:00,37˚.00N×141˚.40E,h5km,Mw4.0 Best double couple: M₀9.61000×10¹⁴ NP1:ϕs26.00000°,δ41.00000°, λ-90.00000°. NP2:ϕs206.00000°,δ49.00000°, λ-90.00000°.*
IDC ***13*** *15:57:40.6±0.7,36˚.93N×141˚.20E,h0km,mb3.9/25, mb1 4.1/27,mb1mx4.0/63,mbtmp3.9/27,ML3.6/2,Error ellipse: s-maj=18.3km s-min=14.4km az=153.0*
ISCJB ***13*** *15:57:42.5±0.9,36˚.95N±0˚.03×141˚.35E±0˚.05,h24km±5km, mb4.0/29,Error ellipse: s-maj=7.4km s-min=4.7km az=19.5*
JMA ***13*** *15:57:42.2±0.1,36˚.95N×141˚.36E,h25km±1km,M4.1 JMA Felt I J1.*
NEIC ***13*** *15:57:46.1±0.2,37˚.00N×141˚.17E,h35km,mb4.6/3,Error ellipse: s-maj=6.4km s-min=4.5km az=142.0*
NEIC Recorded [1 JMA] in Fukushima.
ISC 13 15:57:43.2±1.6,36°99N±0°.04×141°23E±0°.05,h16km±9km, n68,σ0$93/75,mb4.0/29,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
ONAJ	**Iwakimizuishiy**	**0.36**	**287**	P		**Pb**	**15 57 51.6**	**+0.3**
ONAJ				S		**Sn**	**15 57 58.5**	**-2.2**
JFK	**Kawauchi**	**0.47**	**323**	P		**Pb**	**15 57 53.4**	**+0.3**
JFK

1.6nm,0.7s,baz=69,slow=7.9,SNR=3.3
YKA **Yellowknife Ar** 63.92 30 P P 16 08 15.4 +0.4
0.6nm,0.8s,baz=302,slow=6.7,SNR=7.8
FIA0 **FINESS Array S** 68.78 332 *eP* P 16 08 46.1 0.0
FINES **FINESS Array B** 68.78 332 P P 16 08 46.1 0.0
2.0nm,0.8s,baz=92,slow=6.5,SNR=5.2
KBZ **Khabaz** 70.81 311 P P 16 08 59.2 +0.3
2.6nm,1.0s,baz=69,slow=6.4,SNR=4.5
NB2 **NORSAR Subarra** 74.17 337 P P 16 09 18.1 -0.6
comp=Z,0.7nm,0.7s,baz=39,slow=5.9
NB200 **NORSAR Array S** 74.17 337 *eP* P 16 09 19.1 +0.4
NOA **NORSAR Array B** 74.17 337 P P 16 09 19.1 +0.4
comp=Z,1.0nm,0.7s,baz=38,slow=5.8,SNR=3.9
AKASG **Malin Array Be** 74.24 322 P P 16 09 18.9 -0.3
comp=Z,0.8nm,0.5s,baz=46,slow=6.0,SNR=6.7
NVAR **Mina Array Bea** 75.13 53 P P 16 09 26.4 +1.4
comp=Z,1.1nm,0.7s,baz=257,slow=3.6,SNR=3.2
PDAR **Pinedale Array** 77.80 45 P P 16 09 40.2 +0.2
comp=Z,0.5nm,0.7s,baz=337,slow=1.2,SNR=4.2
BR101 **Keskin Array S** 78.77 311 *eP* P 16 09 44.5 -0.8
BRTR **Keskin Array B** 78.77 311 P P 16 09 44.5 -0.8
comp=Z,0.5nm,0.7s,baz=74,slow=6.2,SNR=3.3
SGU **Sterling** 78.83 49 *eP* P 16 09 47.0 +1.2
BELC **Belle Mtn. Jos** 79.26 56 *eP* P 16 09 47.7 -0.4
EKU **East Kanab** 79.62 51 *eP* P 16 09 50.2 +0.1
GERES **GERESS Array B** 82.67 328 P P 16 10 05.9 -0.1
comp=Z,0.2nm,0.3s,baz=60,slow=5.8,SNR=4.6
TXAR **Lajitas Array** 90.26 52 P P 16 10 43.7 +0.1
comp=Z,0.3nm,0.7s,baz=292,slow=4.8,SNR=3.5
TKL **Tuckaleechee C** 96.51 35 P P 16 11 12.8 +0.8
comp=Z,8.4nm,0.6s,baz=191,slow=4.6,SNR=5.6
LPAZ **La Paz** 146.84 59 PKPbc PKPbc 16 17 25.9 0.0
comp=Z,0.7nm,0.6s,baz=297,slow=2.3,SNR=3.7

IDC 13 16:17:37.3±5.8, 0.87N×91.09E, h0km, mb3.4/3, mb1 3.5/3, mb1mx3.1/64, mbtmp3.4/3, Error ellipse: s-maj=194.7km s-min=32.3km az=60.0, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H08S2	**Diego Garcia H**	20.38	245	T	T	16 44 11.7	
	baz=65,slow=75,SNR=30						
H08S3	**Diego Garcia H**	20.38	245	T	T	16 44 14.5	
	baz=65,slow=75,SNR=36						
H08S1	**Diego Carcia H**	20.40	245	T	T	16 44 18.1	
	baz=65,slow=75,SNR=27						
MKAR	**Makanchi Array**	46.38	352	P	P	16 26 05.0	-0.4
	0.1nm,0.5s,baz=174,slow=7.7,SNR=3.7						
WRA	**Warramunga Arr**	47.16	118	P	P	16 26 11.8	-0.2
	0.4nm,1.0s,baz=295,slow=9.0,SNR=2.9						
SONM	**Songino Array**	48.63	14	P	P	16 26 23.2	+0.2
	0.4nm,0.6s,baz=201,slow=6.7,SNR=3.3						

IDC 13 16:18:18.7±1.5, 2.69N×92.70E, h0km, mb3.7/6, mb1 3.8/9, mb1mx3.5/66, mbtmp3.7/9, ML3.6/2, Error ellipse: s-maj=45.5km s-min=19.9km az=50.0
ISCJB 13 16:18:21.4±1.0, 2.8N±0.1×92.78E±0.09, h33km, mb3.8/6, Error ellipse: s-maj=20.7km s-min=10.3km az=21.4

ISC 13 16:18:23.6±1.2, 2.8N±0.2×92.75E±0.10, h35km, n10, σ1§08/11, mb3.8/6, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	6.16	89	Pn	Pn	16 19 52.1	-0.2
	baz=256,slow=7.7						
PSI				Sn	Sn	16 21 00.3	-1.4
	1.1nm,0.3s,baz=47,slow=19,SNR=2.9						
PALK	**Pallekele**	12.81	291	Pn	Pn	16 21 21.9	-1.5
	0.4nm,0.3s,baz=117,slow=6.9,SNR=3.1						
PALK				Sn	Sn	16 23 32.3	-13
	1.0nm,0.3s,baz=116,slow=14,SNR=4.1						
CMAR	**Chiang Mai Arr**	16.74	21	Pn	Pn	16 22 14.6	-1.0
	0.1nm,0.3s,baz=217,slow=12,SNR=8.9						
MKAR	**Makanchi Array**	44.80	350	P	P	16 26 34.9	+0.8
	1.1nm,0.8s,baz=167,slow=8.5,SNR=7.7						
SONM	**Songino Array**	46.43	13	P	P	16 26 48.0	+1.0
	0.7nm,0.7s,baz=191,slow=9.6,SNR=4.4						
WRA	**Warramunga Arr**	46.63	121	P	P	16 26 49.2	+0.3
	0.9nm,0.6s,baz=299,slow=8.7,SNR=8.0						
ASAR	**Alice Springs**	47.89	126	P	P	16 26 59.1	+0.4
	0.3nm,0.6s,baz=294,slow=7.9,SNR=4.8						
KURBB	**Kurchatov Arra**	49.19	348	P	P	16 27 08.5	+0.3
	0.4nm,0.6s,baz=166,slow=7.2,SNR=4.9						
ZALV	**Zalesovo Beam**	51.44	354	P	P	16 27 26.4	+1.2
	1.1nm,0.3s,baz=177,slow=6.4,SNR=7.3						
TXAR	**Lajitas Array**	144.42	25	PKP	PKPab	16 37 56.1	+0.8
	0.1nm,0.5s,baz=333,slow=1.2,SNR=3.1						

ISCJB 13 16:20:16.0±0.7, 24.76S±0.08×179.7E±0.1, h500km, mb3.8/13, Error ellipse: s-maj=16.8km s-min=11.1km az=173.3
IDC 13 16:20:15.3±2.8, 24.71S×179.86E, h484km±28km, mb3.5/13, mb1 3.6/14, mb1mx3.4/44, mbtmp4.3/14, Error ellipse: s-maj=20.4km s-min=15.0km az=52.0

ISC 13 16:20:16.6±0.7, 24.80S±0.09×179.8E±0.1, h500km, n24, σ1§25/24, mb3.9/13, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	13.61	189	P	P	16 23 10.8	-1.2
	0.3nm,0.3s,baz=153,slow=11,SNR=2.8						
URZ				S	S	16 25 35.3	-1.3
	0.4nm,0.3s,baz=53,slow=20,SNR=3.0						
CTA	**Charters Tower**	31.30	272	P	P	16 25 56.2	+0.9
	14nm,0.4s,baz=95,slow=11,SNR=25						
STKA	**Stephens Creek**	34.22	249	P	P	16 26 20.5	+0.5
	1.3nm,0.4s,baz=99,slow=12,SNR=13						
ASAR	**Alice Springs**	41.71	262	P	P	16 27 21.9	+0.5
	2.5nm,0.3s,baz=90,slow=8.0,SNR=78						
WRA	**Warramunga Arr**	42.16	267	P	P	16 27 25.1	+0.1
	2.9nm,0.4s,baz=99,slow=6.8,SNR=154						
WRA				ScP	ScP	16 32 13.7	+2.9
	1.0nm,1.0s,baz=102,slow=4.1,SNR=3.4						
FITZ	**Fitzroy Crossi**	50.58	266	P	P	16 28 28.9	-0.1
	1.6nm,0.5s,baz=82,slow=9.3,SNR=6.8						
SIJI	**Sorong**	52.55	289	P	P	16 28 42.9	-0.4
	15nm,0.9s,baz=126,slow=21,SNR=8.3						
VNDA	**Vanda**	53.47	185	P	P	16 28 50.1	+1.2
	0.5nm,0.6s,baz=0.4,slow=6.3,SNR=4.3						
QSPA	**South Pole Qui**	65.28	180	P	P	16 30 09.4	+1.1
	1.9nm,0.6s,baz=125,slow=3.7,SNR=6.6						
MAW	**Mawson**	76.84	201	P	P	16 31 16.8	+0.7
	2.6nm,0.8s,baz=90,slow=8.1,SNR=3.9						
PETK	**Petropavlovsk-**	79.93	347	P	P	16 31 33.1	+0.3
	5.1nm,1.1s,baz=119,slow=8.9,SNR=2.7						
SNAA	**Sanae**	83.77	179	P	P	16 31 52.0	-0.4
	0.8nm,0.6s,baz=202,slow=14,SNR=9.0						
VNA2	**Neumayer--Watz**	84.40	178	P	P	16 31 55.9	+0.5
	baz=186,slow=4.6						
TXAR	**Lajitas Array**	91.07	58	P	P	16 32 28.9	+1.3
	0.7nm,0.8s,baz=213,slow=6.7,SNR=7.8						
ILAR	**Eielson Array**	92.95	14	P	P	16 32 34.3	-1.0
	0.2nm,0.5s,baz=210,slow=7.1,SNR=3.3						
MKAR	**Makanchi Array**	112.62	312	PKiKP	PKiKP	16 37 54.7	-1.0
	0.2nm,0.6s,baz=45,slow=1.4,SNR=3.7						
BVAR	**Borovoye Array**	120.99	318	PKP	PKPdf	16 38 11.4	-0.1
	0.5nm,0.4s,baz=79,slow=2.5,SNR=5.8						
FINES	**FINESS Array B**	139.24	341	PKhKP	PKPpre	16 38 37.3	
	1.1nm,0.8s,baz=182,slow=24,SNR=4.2						
HFS	**Hagfors**	143.39	349	PKP	PKPbc	16 38 50.8	-0.7
	3.4nm,0.4s,baz=67,slow=3.7,SNR=43						
AKASG	**Malin Array Be**	145.62	326	PKPbc	PKPbc	16 38 57.9	-0.8
	0.7nm,0.4s,baz=43,slow=3.6,SNR=4.5						
MMAI	**Mount Meron Ar**	147.89	293	PKPbc	PKPab	16 39 06.6	-3.3
	1.1nm,0.4s,baz=84,slow=6.3,SNR=2.8						
BRTR	**Keskin Array B**	147.96	306	PKPbc	PKPbc	16 39 05.6	0.0
	0.5nm,0.6s,baz=142,slow=4.8,SNR=4.4						
EKA	**Eskdalemuir Ar**	149.43	3	PKPbc	PKPbc	16 39 07.9	-0.6
	1.2nm,0.7s,baz=3.8,slow=4.3,SNR=4.2						
TORD	**Torodi Ar. Bea**	168.27	189	PKPab	PKPab	16 40 37.1	-0.8
	0.7nm,0.9s,baz=178,slow=4.3,SNR=2.6						

NEIC 13 16:21:07.9±0.0, 28.47N×112.89W, h14km, MD4.0(MEX), After MEX.

MEX 13 16:21:07.9±0.7, 28.47N×112.89W, h14km±34km, MD4.0, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SRIG	**Santa Rosalia**	1.28	153	*eP*	Pn	16 21 29.3	-2.1
SRIG	**Santa Rosalia**	1.28	153	*eP*	Pn	16 21 29.3	-2.1
HSIG		1.79	72	*i* P	Pn	16 21 34.8	-3.6
HSIG		1.79	72	*i* P	Pn	16 21 34.8	-3.6
GUYB	**Guaymas**	1.87	107	*eP*	Pn	16 21 36.8	-2.6
SPIG	**San Pedro Mart**	3.41	319	*eP*	Pb	16 22 10.1	+1.9
SPIG	**San Pedro Mart**	3.41	319	*eP*	Pb	16 22 10.1	+1.9
214A	**Organ Pipe Nat**	3.47	1	*e*Pn	Pn	16 21 58.9	-2.7
214A				*e*Sn	Sn	16 22 41.5	-1.1
TUC	**Tucson**	4.23	25	*eP*	Pn	16 22 09.7	-2.4

ISCJB 13 16:30:45.0±0.8, 7.1S±0.1×155.73E±0.06, h100km, mb3.6/7, Error ellipse: s-maj=17.7km s-min=8.7km az=4.9
IDC 13 16:30:45.9±3.2, 7.10S×155.72E, h91km±33km, mb3.5/7, mb1 3.7/9, mb1mx3.4/46, mbtmp3.9/9, MS3.3/2, Ms1 3.3/2, ms1mx2.8/27, Error ellipse: s-maj=32.1km s-min=25.1km az=129.0

ISC 13 16:30:46.8±0.9, 7.0S±0.1×155.70E±0.07, h100km, n16, σ1§93/13, mb3.6/7, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	4.84	120	P	Pn	16 31 55.0	-2.5
HNR				S	Sn	16 32 57.0	+4.6
HNR	**Honiara**	4.84	120	P	Pn	16 31 55.3	-2.2
	3.4nm,0.3s,baz=207,slow=4.5,SNR=2.2						
HNR				S	Sn	16 32 53.2	+0.7
	5.9nm,0.3s,baz=350,slow=6.1,SNR=2.7						
HNR				LR		16 33 50.4	
	comp=Z,82nm,18.5s,baz=273,slow=39						
PMG	**Port Moresby**	8.78	254	P	Pn	16 32 50.5	-0.5
	0.8nm,0.3s,baz=63,slow=11,SNR=3.5						
PMG				S	Sn	16 34 29.6	+1.4
	0.6nm,0.3s,baz=148,slow=19,SNR=3.0						
WRA	**Warramunga Arr**	24.38	236	P	P	16 35 55.5	-0.4
	1.6nm,0.3s,baz=64,slow=9.8,SNR=44						
ASAR	**Alice Springs**	26.68	229	P	P	16 36 15.8	-1.0
	0.6nm,0.5s,baz=57,slow=9.7,SNR=26						
H11S3	**WAKE ISLAND Hy**	27.57	23	T	T	17 04 54.5	
	baz=202,slow=75,SNR=70						
H11S2	**WAKE ISLAND Hy**	27.57	23	T	T	17 04 51.4	
	baz=202,slow=75,SNR=67						
H11S1	**WAKE ISLAND Hy**	27.59	23	T	T	17 04 41.6	
	baz=202,slow=75,SNR=32						
STKA	**Stephens Creek**	28.02	206	P	P	16 36 28.9	+0.3
	1.2nm,0.7s,baz=48,slow=14,SNR=4.0						
H11N1	**WAKE ISLAND Hy**	28.76	22	T	T	17 06 17.3	
	baz=203,slow=76,SNR=6.9						
H11N3	**WAKE ISLAND Hy**	28.77	22	T	T	17 06 36.6	
	baz=203,slow=76,SNR=12						
H11N2	**WAKE ISLAND Hy**	28.78	22	T	T	17 06 32.9	
	baz=203,slow=76,SNR=4.6						
FITZ	**Fitzroy Crossi**	31.28	247	P	P	16 36 57.0	-0.6
	3.1nm,0.6s,baz=75,slow=10,SNR=9.2						
CMAR	**Chiang Mai Arr**	61.42	295	P	P	16 40 54.0	+0.9
	0.4nm,0.7s,baz=122,slow=5.0,SNR=7.5						
SONM	**Songino Array**	69.73	327	P	P	16 41 46.8	+0.6
	0.2nm,0.4s,baz=133,slow=6.1,SNR=2.7						
SONM				LR	LR	17 12 01.4	
	comp=Z,61nm,19.5s,baz=205,slow=36						
MKAR	**Makanchi Array**	83.88	319	P	P	16 43 05.5	-0.1
	0.3nm,0.6s,baz=103,slow=5.4,SNR=4.4						

NEIC 13 16:39:51.5±0.0, 16.34N×98.41W, h5km, MD4.0 (MEX), After MEX.

MEX 13 16:39:51.5±0.7, 16.34N×98.41W, h5km±12km, MD4.0, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	0.27	80	*i* P	Pg	16 39 56.4	-0.4
PNIG				*e*S	Sg	16 40 02.1	+1.7
PNIG	**Pinotepa**	0.27	80	*i* P	Pg	16 39 56.4	-0.4
PNIG				*e*S	Sg	16 40 02.1	+1.7
TLIG	**Tlapa**	1.22	353	*eP*	Pg	16 40 11.0	-4.0
TLIG	**Tlapa**	1.22	353	*eP*	Pg	16 40 11.0	-4.0
VHO	**Vista Hermosa**	1.76	65	*eP*	Pn	16 40 19.4	-3.4
VHO	**Vista Hermosa**	1.76	65	*eP*	Pn	16 40 19.4	-3.4
CAIG	**El Cayaco**	1.92	292	*eP*	Pn	16 40 21.5	-3.4
CAIG	**El Cayaco**	1.92	292	*eP*	Pn	16 40 21.5	-3.4
MEIG	**Mezcala**	1.96	324	*eP*	Pn	16 40 22.8	-2.6
MEIG	**Mezcala**	1.96	324	*eP*	Pn	16 40 22.8	-2.6
HUIG	**Huatulco**	2.28	104	*eP*	Pb	16 40 32.1	-1.1
HUIG	**Huatulco**	2.28	104	*eP*	Pb	16 40 32.1	-1.1

ATA 13 16:41:22.0±1.1, 39.16N×42.16E, h16km±6km, ML2.6, MW2.3
ISCJB 13 16:41:23.1±0.8, 39.14N±0.03×42.13E±0.06, h20km±11km, Error ellipse: s-maj=8.5km s-min=5.6km az=10.4
CSEM 13 16:41:24.4, 39.21N×42.21E, h6km, ML2.2
DDA 13 16:41:24.4, 39.21N×42.21E, h6km, Ml2.2

ISC 13 16:41:22.5±1.1, 39.14N±0.03×42.13E±0.03, h19km±2km, n17, σ0§66/29, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EKAR	**Karacoban**	0.13	337	*i* P	Pb	16 41 26.5	+1.8
EKAR				*e*S	Sg	16 41 29.8	0.0
EKAR				IAML		16 41 34.6	
	comp=Z,101nm,0.3s						
EKAR	**Karacoban**	0.13	337	*i* P	Pg	16 41 26.7	-0.2
EKAR				*i* S	Sg	16 41 30.6	+0.8
EKAR	**Karacoban**	0.13	337	P	Pg	16 41 26.7	-0.2
EKAR				S	Sg	16 41 30.6	+0.8
GURO	**Guroymak-BITLI**	0.59	187	*e*PG	Pg	16 41 33.8	-0.6
GURO				*e*SG	Sb	16 41 43.5	+1.2
TUTA	**Tutak**	0.59	64	*i* P	Pb	16 41 34.2	-0.2
TUTA				*e*S	Sg	16 41 42.1	-0.4
TUTA	**Tutak**	0.59	64	*i* P	Pb	16 41 34.2	-0.2
TUTA				*i* S	Sg	16 41 42.2	-0.3
TUTA	**Tutak**	0.59	64	P	Pb	16 41 34.2	-0.2
TUTA				S	Sg	16 41 42.2	-0.3
EATA	**Eleskirt**	0.77	21	*i* P	Pb	16 41 37.8	+0.2
EATA				*e*S	Sg	16 41 49.3	+1.2
EATA	**Eleskirt**	0.77	21	*i* P	Pb	16 41 37.8	+0.2
EATA				*i* S	Sb	16 41 48.1	+0.2
EATA	**Eleskirt**	0.77	21	P	Pb	16 41 37.8	+0.2
EATA				S	Sb	16 41 48.1	+0.2
AGRB	**Hanur-Agry**	0.80	57	*e*PG	Pb	16 41 38.4	+0.5
AGRB				*e*SG	Sb	16 41 48.8	+0.4
HOMI	**Horasan**	0.92	349	*i* P	Pb	16 41 39.7	-0.3
HOMI	**Horasan**	0.92	349	*i* P	Pb	16 41 39.0	-1.1
HOMI				*i* S	Sg	16 41 53.3	+0.5
ERZM	**Erzurum**	0.96	323	*eP*	Pb	16 41 40.6	-0.3
ERZM	**Erzurum**	0.96	323	*i* P	Pb	16 41 40.3	-0.5
ERZM	**Erzurum**	0.96	323	P	Pb	16 41 40.3	-0.5
GEVA	**Gevas**	1.10	138	*eP*	Pb	16 41 43.4	+0.3

MOS 13 16:42:30.7±2.4, 20.00S×177.84W, h425km, mb4.2/5, Error ellipse: s-maj=14.1km s-min=11.2km az=61.6
ISCJB 13 16:42:34.7±0.3, 20.33S±0.03×177.61W±0.06, h500km, mb4.6/71, Error ellipse: s-maj=6.9km s-min=3.3km az=175.9
WEL 13 16:42:34.0, 20.40S×177.52W, h494km
IDC 13 16:42:34.9±1.7, 20.27S×177.55W, h490km±18km, mb3.9/26, mb1 4.0/27, mb1mx3.9/42, mbtmp4.7/27, Error ellipse: s-maj=11.8km s-min=9.9km az=121.0
NEIC 13 16:42:34.8±0.7, 20.40S×177.52W, h495km±7km, mb4.8/24, Error ellipse: s-maj=9.5km s-min=7.1km az=123.0

ISC 13 16:42:35.0±0.3, 20.33S±0.05×177.41W±0.06, h500km, n264, σ1§52/279, mb4.6/71, 20C-29D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	5.01	300	*eP*	P	16 44 03.2	+0.9
MSVF	**Nonsavu**	5.01	300	*d* iP	P	16 44 02.1	-0.2
AFI	**Afiamalu**	8.35	41	P	P	16 44 34.1	-1.1
	7.0nm,0.3s,baz=212,slow=4.6,SNR=13						
AFI				S	S	16 46 07.2	-6.5
	38nm,0.3s,baz=40,slow=20,SNR=16						
AFI	**Afiamalu**	8.35	41	*eP*	P	16 44 34.5	-0.7
AFI				S	S	16 46 07.2	-6.5
AFI	**Afiamalu**	8.35	41	*eP*	P	16 44 34.5	-0.7
AFI				S	S	16 46 07.2	-6.5
RIZ	**Raoul Island**	8.89	183	P	P	16 44 39.6	-0.9
RAO	**Raoul Island**	8.89	183	P	P	16 44 39.9	-0.7
	214nm,0.3s,baz=288,slow=7.3,SNR=8.6						
RAO	**Raoul Island**	8.89	183	*eP*	P	16 44 39.4	-1.2
RAO	**Raoul Island**	8.89	183	*eP*	P	16 44 39.4	-1.2
GLKZ	**Green Lake**	8.90	183	S	S	16 46 22.2	-1.8
GLKZ	**Green Lake**	8.90	183	P	P	16 44 39.6	-1.1
FUNA	**Funafuti**	12.19	344	*eP*	P	16 45 15.0	-0.7
DZM	**Mont Dzumac**	15.16	261	*eP*	P	16 45 46.8	-0.2
	30nm,0.6s						
OUZ	**Omahuta**	16.82	206	P	P	16 46 04.9	+0.9
MXZ	**Matakaoa Point**	17.57	191	P	P	16 46 10.6	-0.6
MXZ	**Matakaoa Point**	17.57	191	S	S	16 49 07.3	-0.6
HAZ	**Te Kaha**	17.86	193	P	P	16 46 13.5	-0.4
HAZ	**Te Kaha**	17.86	193	S	S	16 49 14.9	+2.4
RUGZ	**Raukumara Rang**	18.08	193	P	P	16 46 15.6	-0.5
RUGZ	**Raukumara Rang**	18.08	193	S	S	16 49 17.7	+1.3
TGRZ	**Tauranga**	18.19	196	P	P	16 46 18.5	+1.6
OPRZ	**Ohinepanea**	18.22	195	P	P	16 46 18.1	+0.9
TWGZ	**Tauwhareparae**	18.23	192	P	P	16 46 17.8	+0.4
TWGZ	**Tauwhareparae**	18.23	192	S	S	16 49 17.7	-0.9
TOZ	**Tahuroa Road**	18.40	198	P	P	16 46 20.6	+1.7
MWZ	**Matawai**	18.47	193	P	P	16 46 18.8	-0.7
MWZ	**Matawai**	18.47	193	S	S	16 49 18.9	-3.7
CNGZ	**Carnagh Statio**	18.48	191	P	P	16 46 20.6	+1.0
CNGZ	**Carnagh Statio**	18.48	191	S	S	16 49 27.0	+4.3
URZ	**Urewera**	18.49	194	P	P	16 46 17.0	-2.7
	4.7nm,0.3s,baz=18,slow=6.4,SNR=35						
URZ				S	S	16 49 16.9	-5.9
	0.5nm,0.3s,baz=119,slow=19,SNR=4.2						
URZ	**Urewera**	18.49	194	*eP*	P	16 46 16.3	-3.4
	24nm,0.8s						
URZ				S	S	16 49 16.9	-5.9
URZ	**Urewera**	18.49	194	P	P	16 46 17.1	-2.5
URZ	**Urewera**	18.49	194	S	S	16 49 18.9	-3.8
TKGZ	**Te Karaka**	18.51	192	P	P	16 46 19.8	0.0
TKGZ	**Te Karaka**	18.51	192	S	S	16 49 29.4	+6.3
OMRZ	**Omania**	18.52	196	P	P	16 46 21.1	+1.1
RRRZ	**Republican Roa**	18.70	195	P	P	16 46 21.8	+0.1
RTZ	**Ruatahuna**	18.86	194	P	P	16 46 22.1	-1.0
RTZ	**Ruatahuna**	18.86	194	S	S	16 49 27.4	-1.6
PRRZ	**Plateau Road**	18.88	195	P	P	16 46 23.1	-0.2
TLZ	**Tolley Road**	18.95	197	P	P	16 46 24.7	+0.8
HIZ	**Hauiti**	19.32	199	P	P	16 46 29.6	+2.4
RATZ	**Rangitukua**	19.39	196	P	P	16 46 27.0	-1.0
BKZ	**Black Stump Fm**	19.49	194	*eP*	P	16 46 26.8	-2.1
	17nm,0.5s						
BKZ	**Black Stump Fm**	19.49	194	P	P	16 46 26.9	-2.0
KRVZ	**Karewarewa**	19.64	196	P	P	16 46 30.1	-0.2
TWVZ	**Taurewa**	19.67	197	P	P	16 46 30.3	-0.3
WTVZ	**West Tongariro**	19.67	196	P	P	16 46 29.9	-0.7
MCHZ	**McNeill Hill**	19.71	194	P	P	16 46 29.1	-1.8
MCHZ	**McNeill Hill**	19.71	194	S	S	16 49 42.7	0.0
NGZ	**Ngauruhoe**	19.73	196	P	P	16 46 31.7	+0.5
KWHZ	**Kaweka Forest**	19.76	194	P	P	16 46 30.3	-1.1
COVZ	**Chateau Observ**	19.76	196	P	P	16 46 31.0	-0.5
TUVZ	**Tukino**	19.80	196	P	P	16 46 31.7	-0.1
FWVZ	**Far West T-bar**	19.81	196	P	P	16 46 30.7	-1.3
WHVZ	**Whangaehu Hut**	19.83	196	P	P	16 46 32.4	+0.3
PKVZ	**Pokaka**	19.90	197	P	P	16 46 31.9	-0.7
MOVZ	**Moawhango**	19.90	196	P	P	16 46 31.7	-0.9
BHHZ	**Black Hill Sta**	19.90	195	P	P	16 46 30.1	-2.5
VRZ	**Vera Road**	19.91	198	P	P	16 46 33.0	+1.3
KRHZ	**Kereru**	19.98	194	P	P	16 46 32.2	-1.0
KRHZ	**Kereru**	19.98	194	S	S	16 49 43.5	-3.5
KAHZ	**Kahuranaki**	20.01	193	P	P	16 46 33.3	-0.3
KAHZ	**Kahuranaki**	20.01	193	S	S	16 49 47.9	+0.4
PKE	**Pukeiti**	20.21	200	P	P	16 46 38.7	+3.3
PXZ	**Pawanui**	20.24	193	P	P	16 46 35.2	-0.4
PNHZ	**Pukenui**	20.27	194	P	P	16 46 35.6	-0.4
LREZ	**Lake Rotokare**	20.33	199	P	P	16 46 38.3	+1.9
WAZ	**Wanganui**	20.43	197	P	P	16 46 36.9	-0.5
TSZ	**Takapari Road**	20.47	195	P	P	16 46 35.7	-2.1
DVHZ	**Dannevirke**	20.65	194	P	P	16 46 39.2	-0.2
ANWZ	**Angora Road**	20.73	193	P	P	16 46 39.4	-0.7
POWZ	**Post Office Ro**	20.83	195	P	P	16 46 41.5	+0.5
BFZ	**Birch Farm**	21.00	194	*eP*	P	16 46 41.3	-1.2
	19nm,0.6s						
BFZ	**Birch Farm**	21.00	194	P	P	16 46 41.3	-1.2
MRZ	**Mangatainoka R**	21.13	195	P	P	16 46 41.4	-2.3
RPZ	**Rata Peaks**	25.23	200	P	P	16 47 21.6	+1.2
	8.2nm,0.6s,baz=68,slow=3.0,SNR=4.2						
EIDS	**Eidsvold**	29.43	254	*eP*	P	16 47 56.8	-0.7
	17nm,0.6s						
ARMA	**Armidale**	29.64	244	*eP*	P	16 47 58.2	-1.2
	26nm,0.6s						
CAN	**Canberra**	33.07	236	*eP*	P	16 48 24.9	-3.7
	12nm,0.9s						
CAN	**Canberra**	33.07	236	*eP*	P	16 48 24.9	-3.7
CAN				pmax	pmax		
	comp=Z,13nm,0.9s						
PMG	**Port Moresby**	35.85	282	P	P	16 48 51.4	-0.8
	comp=Z,17nm,0.6s,baz=144,slow=19,SNR=8.7						
STKA	**Stephens Creek**	38.36	244	P	P	16 49 12

PLAI	Plampang	63.43	270	P		P	16 52 15.0	-0.7
	comp=Z,94nm,1.0s							
PCI	Palu	64.22	279	P		P	16 52 22.0	+1.3
	comp=Z,86nm,1.0s,comp=Z,751nm							
MPSI	Mapaga	64.63	280	P		P	16 52 23.0	-0.3
	comp=Z,36nm,0.6s,comp=Z,500nm							
MYLDM	Lahad Datu	67.83	285	*eP*		P	16 52 45.2	+2.0
	comp=Z,10nm,0.7s							
QSPA	South Pole Qui	69.74	180	P		P	16 52 55.3	+1.2
	comp=Z,7.1nm,0.7s,baz=68,slow=1.0,SNR=17							
QSPA	South Pole Qui	69.74	180	*eP*		P	16 52 55.7	+1.7
	comp=Z,7.7nm,0.8s							
PCJI	Pacitan	69.82	269	P		P	16 52 55.4	+0.1
	comp=Z,218nm,0.5s							
WOJI	Wonogiri, Jawa	70.17	269	P		P	16 52 57.1	-0.3
	comp=Z,38nm,1.1s							
STKI	Sintang	72.34	277	P		P	16 53 11.1	+0.9
	comp=Z,27nm,0.8s,comp=Z,3um							
JNU	Nakatsue	72.54	316	P		P	16 53 10.7	-0.2
	comp=Z,1.8nm,0.5s,baz=258,slow=3.9,SNR=4.2							
LEM	Lembang	73.60	269	P		P	16 53 17.9	+0.3
	comp=Z,61nm,0.7s,baz=37,slow=5.5,SNR=14							
LEM	Lembang	73.60	269	P		P	16 53 17.9	+0.3
	comp=Z,734nm,0.8s							
ASAJ	Asahikawa	73.85	331	P		P	16 53 18.9	+0.9
	comp=Z,8.2nm,0.6s,baz=222,slow=6.1,SNR=18							
SSLB	Suanglung	74.35	303	*eP*		P	16 53 19.9	-1.6
	comp=Z,15nm,0.5s							
YSS	Yuzh-Sakhalins	75.99	333	*eP*		P	16 53 30.7	+0.7
	comp=Z,12nm,0.8s							
YSS	Yuzh-Sakhalins	75.99	333	*eP*		P	16 53 30.7	+0.7
YSS					pmax	pmax		
	comp=Z,12nm,0.8s							
PETK	Petropavlovsk-	76.25	345	P		P	16 53 31.4	0.0
	comp=Z,6.1nm,0.8s,baz=116,slow=6.8,SNR=5.5							
KASI	Kota Agung	76.96	269	P		P	16 53 34.7	-1.5
	comp=Z,65nm,0.9s							
KSRS	Korea Array	77.13	318	P		P	16 53 36.8	+0.2
	comp=Z,1.5nm,0.6s,baz=128,slow=6.0,SNR=8.8							
KSAR	Wonju Array Be	77.15	318	P		P	16 53 36.8	+0.1
KSAR	Wonju Array Be	77.15	318	P		P	16 53 36.8	+0.1
LWLI	Liwa	77.53	269	P		P	16 53 38.4	-1.1
	comp=Z,56nm,0.7s							
MDSI	Maura Dua	77.60	270	P		P	16 53 38.4	-1.3
	comp=Z,28nm,0.8s							
USRK	Ussuriysk Ar.	79.14	326	P		P	16 53 47.9	+0.7
	comp=Z,8.4nm,0.7s,baz=122,slow=3.6,SNR=9.7							
YBH	Yreka Blue Hor	79.81	38	P		P	16 53 53.1	+2.1
	comp=Z,3.8nm,0.7s,baz=149,slow=2.6,SNR=8.2							
MASI	Maura Aman, Be	79.87	270	P		P	16 53 50.9	-1.0
NJ2	Nanjing	80.20	309	*eP*		P	16 53 54.1	+1.0
NJ2					pmax	pmax		
	comp=Z,10.0nm,0.5s							
YERR	Yerington	80.25	42	*eP*		P	16 53 55.9	+2.4
	comp=Z,13nm,1.4s							
NVAR	Mina Array Bea	80.52	43	P		P	16 53 57.0	+2.0
	comp=Z,2.6nm,0.8s,baz=220,slow=8.7,SNR=8.3							
KDAK	Kodiak Island	80.52	13	P		P	16 53 54.9	+0.7
	comp=Z,3.2nm,0.6s,baz=226,slow=4.4,SNR=7.2							
KDAK	Kodiak Island	80.52	13	*i* P		P	16 53 55.1	+1.0
MAW	Mawson	81.91	200	P		P	16 54 01.8	+0.5
	comp=Z,2.8nm,0.5s,baz=139,slow=7.1,SNR=9.8							
KLR	Kul'dur	82.67	329	P		P	16 54 05.8	+0.4
	comp=Z,0.3nm,1.0s,baz=132,slow=1.6,SNR=8.2							
MA2	Magadan	83.77	344	P		P	16 54 09.7	-1.0
	comp=Z,3.0nm,0.6s,baz=127,slow=6.5,SNR=5.3							
SEY	Seymchan	86.34	347	P		P	16 54 23.0	0.0
	comp=Z,5.3nm,0.7s,baz=152,slow=5.4,SNR=39							
TXAR	Lajitas Array	86.50	57	P		P	16 54 27.1	+2.3
	comp=Z,2.4nm,0.7s,baz=221,slow=6.4,SNR=26							
TXAR					pP	pP	16 56 19.4	+4.0
	comp=Z,1.4nm,1.0s,baz=242,slow=2.7,SNR=1.8							
ANMO	Albuquerque	86.86	51	*i* P		P	16 54 27.1	+0.6
ANMO					pmax	pmax		
	comp=Z,2.0nm,0.9s							
SYO	Syowa Base	87.01	193	*e*P		P	16 54 26.6	+0.3
GYA	Guiyang	87.05	299	*e*P		P	16 54 28.3	+0.8
GYA					pP	pP	16 56 17.8	-0.4
GYA					PP	PP	16 58 02.0	+1.8
GYA					SKS	SKSac	17 04 07.6	+0.5
GYA					S	S	17 04 24.5	-0.1
GYA					pmax	pmax		
	comp=Z,10.0nm,1.0s							
ILAR	Eielson Array	88.03	13	P		P	16 54 30.9	-0.1
	comp=Z,1.5nm,0.4s,baz=220,slow=6.0,SNR=30							
ILAR					pP	pP	16 56 20.6	-1.6
	comp=Z,0.3nm,0.7s,baz=209,slow=7.2,SNR=1.8							
SNAA	Sanae	88.16	178	P		P	16 54 31.7	-0.1
	comp=Z,0.9nm,0.5s,baz=195,slow=14,SNR=12							
VNA3	Neumayer Olymp	88.27	176	P		P	16 54 32.8	+0.6
PDAR	Pinedale Array	88.46	43	P		P	16 54 35.4	+1.5
	comp=Z,1.5nm,0.6s,baz=218,slow=3.6,SNR=15							
XAN	Xi'an	88.47	307	P		P	16 54 34.8	+0.9
XAN					pmax	pmax		
	comp=Z,19nm,0.7s							
XAN					pmax	pmax		
	comp=Z,75nm,7.0s							
VNA2	Neumayer--Watz	88.72	177	P		P	16 54 35.1	+0.7
	baz=193,slow=3.5							
VNA1	Neumayer--Stat	88.94	176	P		P	16 54 36.3	+1.0
HHC	Hu-ho-hao-te	89.63	314	*e*P		P	16 54 41.8	+2.6
HHC					pmax	pmax		
	comp=Z,10.0nm,1.4s							
HHC					pmax	pmax		
	comp=Z,21nm,8.4s							
KMI	Kunming	89.77	297	P		P	16 54 41.9	+1.6
KMI					pmax	pmax		
	comp=Z,12nm,1.0s							
CMAR	Chiang Mai Arr	90.58	289	P		P	16 54 44.8	+0.8
	comp=Z,6.9nm,1.0s,baz=116,slow=3.0,SNR=50							
CMAR					PKKPbc	PKKPbc	17 12 09.7	+1.8
	comp=Z,0.5nm,0.6s,baz=278,slow=4.6,SNR=7.3							
LZH	Lanzhou	93.11	307	*e*P		P	16 54 57.3	+1.9
LZH					pP	pP	16 56 45.5	-1.6
LZH					sP	sP	16 57 31.4	-6.3
LZH					PP	PP	16 58 49.0	+1.5
LZH					pmax	pmax		
	comp=Z,45nm,1.0s							
LZH					pmax	pmax		
	comp=Z,220nm,6.4s							
INK	Inuvik	93.97	15	P		P	16 54 58.3	0.0
	comp=Z,1.5nm,0.8s,baz=238,slow=6.9,SNR=6.2							
ULN	Ulaanbaatar	95.60	319	*i* P		P	16 55 04.7	-1.7
ULN					pmax	pmax		
	comp=Z,1.0nm,1.1s							
YKA	Yellowknife Ar	96.13	25	P		P	16 55 08.6	+0.4
	comp=Z,0.2nm,0.5s,baz=248,slow=4.4,SNR=5.1							
FFC	Flin Flon	98.30	35	*i* P		Pdif	16 55 15.5	-2.6
KURK	Kurchatov	114.25	317	*i* PKIKP		PKPdf	17 00 13.2	-3.9
BVAR	Borovoye Array	119.31	320	PKP		PKPdf	17 00 26.4	-0.4
	comp=Z,3.3nm,0.4s,baz=123,slow=2.0,SNR=35							
BRVK	Borovoye	119.37	320	*i* PKIKP		PKPdf	17 00 25.6	-1.3
SPITS	Spitsbergen Ar	121.73	357	PKP		PKPdf	17 00 30.2	-0.6
	comp=Z,3.2nm,0.7s,baz=359,slow=3.5,SNR=5.6							
ARU	Arti	125.38	326	PKP		PKPdf	17 00 38.1	-0.2
	comp=Z,3.3nm,0.5s,baz=79,slow=5.0,SNR=4.2							
ARU	Arti	125.38	326	*i* PKIKP		PKPdf	17 00 38.2	-0.1
ARU							17 02 36.8	
ARU							17 07 02.3	
ARU					SS	SS	17 18 52.6	-3.2
GEYT	Alibeck	129.16	303	PKP		PKPdf	17 00 46.3	+0.1
	comp=Z,1.5nm,0.6s,baz=8.1,slow=1.4,SNR=3.7							
FINES	FINESS Array B	135.76	344	PKhKP		PKPpre	17 00 45.1	
	comp=Z,0.4nm,0.5s,baz=32,slow=7.6,SNR=3.4							
FINES				PKP		PKPdf	17 00 56.1	-1.7
	comp=Z,0.9nm,0.6s,baz=56,slow=3.5,SNR=5.2							
NB2	NORSAR Subarra	138.88	354	PKP		PKPpre	17 00 54.2	
	comp=Z,0.8nm,0.6s,baz=20,slow=4.0							
NOA	NORSAR Array B	138.88	354	PKhKP		PKPpre	17 00 57.8	
	comp=Z,0.7nm,0.5s,baz=20,slow=3.9,SNR=3.7							
HFS	Hagfors	139.46	351	PKhKP		PKPpre	17 00 56.8	
	comp=Z,1.7nm,0.5s,baz=62,slow=3.5,SNR=13							
AKASG	Malin Array Be	143.13	332	PKhKP		PKPpre	17 01 08.5	
	comp=Z,10nm,0.6s,baz=42,slow=3.9,SNR=46							
EKA	Eskdalemuir Ar	144.78	6	PKP		PKPbc	17 01 14.6	+0.1
	comp=Z,2.5nm,0.6s,baz=336,slow=2.9,SNR=12							
SORM	Soroca	145.35	329	*i* P		PKPbc	17 01 16.1	-0.3
LVV	L'vov	145.99	335	*e*PKIKP		PKPbc	17 01 18.4	+0.2
KWP	Kalwaria Pacla	146.66	336	*e*PKP		PKPbc	17 01 20.5	+0.4
KWP	Kalwaria Pacla	146.66	336	*e*PKIKP		PKPbc	17 01 20.5	+0.4
TLCR		147.09	325	*i* P		PKPbc	17 01 21.5	+0.2
TLCR		147.09	325	*i* PKIKP		PKPbc	17 01 21.6	+0.2
BRTR	Keskin Array B	147.13	313	PKP		PKPdf	17 01 18.0	-0.9
	comp=Z,4.2nm,0.6s,baz=117,slow=3.6,SNR=20							
BRTR					PKPbc	PKPbc	17 01 21.6	-0.3
	comp=Z,4.1nm,0.6s,baz=146,slow=4.2,SNR=28							
BURAR	Bucovina Array	147.18	331	*i* P		PKPbc	17 01 22.3	+0.6
BURAR	Bucovina Array	147.18	331	PKIKP		PKPbc	17 01 22.3	+0.6
ASF	Jabal al Asfar	147.19	298	PKPbc		PKPbc	17 01 22.7	+0.5
	comp=Z,5.2nm,0.7s,baz=94,slow=0.5,SNR=12							
OJC	Ojcow	147.20	339	*e*PKP		PKPbc	17 01 21.9	+0.4
OJC	Ojcow	147.20	339	*e*PKIKP		PKPbc	17 01 21.9	+0.4
TESR	Tescani	147.31	329	*i* P		PKPbc	17 01 21.6	-0.4
STHS	Stebnicka Huta	147.38	337	*e*PKP		PKPbc	17 01 22.9	+0.8
STHS	Stebnicka Huta	147.38	337	*e*PKIKP		PKPbc	17 01 22.9	+0.8
CFR	Carcaliu	147.46	325	*i* P		PKPbc	17 01 22.8	+0.5
CFR	Carcaliu	147.46	325	*i* PKIKP		PKPbc	17 01 22.8	+0.5
UZH	Uzhgorod	147.63	335	*d* PKIKP		PKPbc	17 01 22.6	-0.1
UZH				*e*			17 01 26.8	
ANTO	Ankara	147.65	314	*i* P		PKPbc	17 01 23.4	+0.3
ANTO	Ankara	147.65	314	PKIKP		PKPbc	17 01 23.4	+0.3
KSP	Ksiaz	147.69	344	*e*PKP		PKPbc	17 01 23.6	+0.8
KSP	Ksiaz	147.69	344	*e*PKIKP		PKPbc	17 01 23.6	+0.8
NIE	Niedzica	147.71	338	*e*PKP		PKPbc	17 01 23.7	+0.7
NIE	Niedzica	147.71	338	*e*PKIKP		PKPbc	17 01 23.7	+0.7
CRVS	Cervenica-Dubn	147.72	336	*e*PKP		PKPbc	17 01 23.7	+0.7
CRVS	Cervenica-Dubn	147.72	336	*e*PKIKP		PKPbc	17 01 23.7	+0.7
VRI	Vrincioaia	147.73	328	*i* P		PKPbc	17 01 22.9	-0.2
VRI	Vrincioaia	147.73	328	PKIKP		PKPbc	17 01 22.9	-0.2
PLOR	Plostina	147.78	328	*i* P		PKPbc	17 01 23.5	+0.3
PLOR	Plostina	147.78	328	PKIKP		PKPbc	17 01 23.5	+0.3
TLB	Topalu	147.90	325	*i* P		PKPbc	17 01 23.9	+0.4
TLB	Topalu	147.90	325	PKIKP		PKPbc	17 01 23.9	+0.4
TRPA	Tarpa	147.93	335	*i* P		PKPbc	17 01 23.4	-0.1
CLL	Collm	148.02	348	*i* PKPbc		PKPbc	17 01 24.2	+0.6
	comp=Z,21nm,0.6s							
CLL	Collm	148.02	348	*i* PKIKP		PKPbc	17 01 24.2	+0.6
CLL					pmax	pmax		
	comp=Z,21nm,0.6s							
UPC	Upice	148.07	344	*e*PKP		PKPbc	17 01 24.6	+0.8
UPC	Upice	148.07	344	*e*PKIKP		PKPbc	17 01 24.6	+0.8
DPC	Dobruska-Polom	148.13	343	*e*PKP		PKPbc	17 01 24.5	+0.5
DPC				*e*	PKPab	PKPab	17 01 30.0	+1.3
DPC	Dobruska-Polom	148.13	343	*e*PKIKP		PKPbc	17 01 24.5	+0.5
DPC				*e*			17 01 30.0	
MMAI	Mount Meron Ar	148.21	300	PKPbc		PKPbc	17 01 25.4	+0.6
	comp=Z,8.3nm,0.6s,baz=70,slow=5.4,SNR=28							
LANS	Liptovska Anna	148.23	339	*e*PKP		PKPbc	17 01 25.8	+1.5
LANS				*e*			17 01 30.5	
LANS	Liptovska Anna	148.23	339	*e*PKIKP		PKPbc	17 01 25.8	+1.5
LANS				*e*			17 01 30.5	
BRG	Berggiesshubel	148.23	346	*e*PKP		PKPdf	17 01 20.9	+0.8
	comp=Z,7.7nm,1.4s							
BRG				*i*			17 01 24.6	
	comp=Z,11nm,0.6s							
BRG				*i*			17 01 29.3	
	comp=Z,6.1nm,0.9s							
KRLC	Kraliky	148.25	343	*e*PKP		PKPbc	17 01 25.0	+0.7
KRLC				*e*	PKPab	PKPab	17 01 30.2	+1.0
KRLC	Kraliky	148.25	343	*e*PKIKP		PKPbc	17 01 25.0	+0.7
KRLC				*e*			17 01 30.2	
MORC	Moravsky Berou	148.30	341	*i* P		PKPbc	17 01 25.2	+0.8
MORC	Moravsky Berou	148.30	341	PKIKP		PKPbc	17 01 25.2	+0.8
DOPR	Dopca	148.31	329	*i* P		PKPbc	17 01 25.5	+0.9
MLR	Muntele Rosu	148.38	328	PKPbc		PKPbc	17 01 24.7	-0.2
	comp=Z,0.9nm,0.6s,baz=25,slow=6.0,SNR=9.7							
MLR	Muntele Rosu	148.38	328	*i* P		PKPbc	17 01 24.7	-0.2
PVCC	Panska Ves	148.41	345	*i* PKP		PKPbc	17 01 25.5	+0.9
VOIR		148.86	329	*i* P		PKPbc	17 01 26.4	+0.4
DRGR		148.92	333	*i* P		PKPbc	17 01 26.1	0.0
PRU	Pruhonice	148.92	345	*i* PKP		PKPbc	17 01 26.6	+0.7
GOPC	GO Pecny, Ondr	148.93	345	*i* PKP		PKPbc	17 01 26.8	+0.9
VRAC	Vranov	148.99	342	*i* P		PKPbc	17 01 26.9	+0.8
VYHS	Vyhne	149.01	339	*e*PKP		PKPbc	17 01 26.7	+0.5
VYHS				*e*			17 01 33.2	
ARR	Arges	149.11	329	*i* P		PKPbc	17 01 27.8	+1.2
NKC	Novy Kostel	149.15	348	*i* PKP		PKPbc	17 01 27.2	+0.7
LOT	Lotru	149.47	330	*i* P		PKPbc	17 01 27.5	0.0
MODS	Modra-Piesok	149.62	340	*e*PKP		PKPbc	17 01 29.0	+1.3
MEM	Membach	149.66	356	PKPbc		PKPbc	17 01 28.0	+0.3
BCLA	Clavier	149.90	357	PKPbc		PKPbc	17 01 28.6	+0.4
KHC	Kasperske Hory	149.95	346	*i* PKP		PKPbc	17 01 29.1	+0.7
KHC				*e*	PKPab	PKPab	17 01 37.2	+1.0
ISP	Isparta	150.17	312	*i* P		PKPbc	17 01 28.6	-0.8
GERES	GERESS Array B	150.18	345	PKP		PKPdf	17 01 24.1	+0.6
GERES				PKPbc		PKiKP	17 01 29.4	-0.3
	comp=Z,3.3nm,0.7s,baz=45,slow=2.1,SNR=26							
DOU	Dourbes	150.26	357	PKPbc		PKPbc	17 01 29.8	+0.8
BZS	Buzias	150.31	332	*i* P		PKPbc	17 01 29.3	0.0
CONA	Conrad Observa	150.45	342	*i* PKiKP		PKiKP	17 01 30.3	0.0
	comp=Z,6.7nm,0.6s							
HERR	Herculane	150.52	331	*i* P		PKPbc	17 01 29.9	0.0
WLF	Walferdange	150.59	355	PKPbc		PKPbc	17 01 31.2	+1.3
MOA	Molln	150.97	344	*i* PKPbc		PKPbc	17 01 31.0	+0.2
	comp=Z,1.9nm,0.5s							
VTS	Vitosha	151.83	327	*i* P		PKPbc	17 01 33.2	+0.1
VTS	Vitosha	151.83	327	PKIKP		PKPbc	17 01 33.2	+0.1
WATA	Walderalm	152.09	347	*i* PKPbc		PKPbc	17 01 33.6	0.0
	comp=Z,2.1nm,0.4s							
WTTA	Wattenberg	152.14	347	*i* PKiKP		PKiKP	17 01 34.0	+0.2
	comp=Z,3.3nm,0.6s							
MOTA	Moosalm	152.18	348	*i* PKPbc		PKPbc	17 01 33.8	+0.1
	comp=Z,2.2nm,0.6s							
MYKA	Terra Mystica	152.25	344	*i* PKPbc		PKPbc	17 01 33.4	-0.4
	comp=Z,2.8nm,0.4s							
ABTA	Abfaltersbach	152.43	345	*i* PKPbc		PKPbc	17 01 33.9	-0.3
	comp=Z,6.2nm,0.6s							
FETA	Feichten	152.56	348	*i* PKPbc		PKPbc	17 01 34.4	-0.2
	comp=Z,2.1nm,0.7s							
TORD	Torodi Ar. Bea	172.81	173	PKP		PKPdf	17 01 46.1	-1.0
	comp=Z,2.3nm,1.0s,baz=104,slow=0.9,SNR=8.8							
TORD				PKPab		PKPab	17 03 17.5	+1.0
	comp=Z,0.5nm,0.7s,baz=209,slow=8.3,SNR=3.8							

IDC ***13*** *16:45:43.3±5.2,25°.49N×125°.10E,h220km±55km, mb3.1/7, mb1 3.1/9,mb1mx2.8/75,mbtmp3.7/9, Error ellipse: s-maj=87.0km s-min=57.3km az=47.0*

ISCJB ***13*** *16:45:44.2±0.4,26°.3N±0°.1×124°.96E±0°.10,h196km±12km, mb3.2/7, Error ellipse: s-maj=25.0km s-min=3.8km az=146.4*

JMA ***13*** *16:45:46.3±0.2,26°.33N×124°.83E,h176km, M3.6*

ISC 13 16:45:45.1±0.7,26°.3N±0°.1×124°.93E±0°.10,h194km±14km, n31,σ1°60/54,mb3.3/7,Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JIKM	Ikemajima	1.38	168	P	Pn	16 48 42.2	+0.9
JIKM				S	S	16 46 41.8	-0.3
JIRB	Irabujima	1.46	171	P	Pn	16 46 18.4	+0.4
JIRB				S	S	16 46 42.0	-1.4
JMJ	Miyako jima 2	1.49	167	P	Pn	16 46 19.3	+1.0
JMJ				S	S	16 46 43.2	-0.7
JOGS	Gusukube	1.57	164	P	Pn	16 46 20.2	+1.2
JOGS				*e*S	S	16 46 45.4	+0.2
JTJ	Tarama	1.64	187	P	Pn	16 46 20.2	+0.5
JTJ				S	S	16 46 44.6	-1.8
JKE	Kume jima 2	1.67	88	P	Pn	16 46 21.2	+1.4
JKE				S	S	16 46 46.4	-0.3
JISG	Ishigakijimahi	1.77	199	P	Pn	16 46 21.2	+0.3
JISG				S	S	16 46 46.7	-2.0
JIJ	Ishigaki jima	2.03	201	P	Pn	16 46 23.3	-0.3
JIJ				S	S	16 46 50.1	-3.4
JAGN	Aguni-jima	2.10	81	P	Pn	16 46 25.2	+1.0
JAGN				S	S	16 46 53.7	-0.8
JKRS	Kuro-shima	2.19	203	P	Pn	16 46 25.2	-0.1
JKRS				S	S	16 46 53.5	-3.0
IRIF	Iriomote-Funau	2.22	210	P	Pn	16 46 25.3	-0.3
IRIF				S	S	16 46 54.3	-2.7
HATJ	Hateruma jima	2.43	205	P	Pn	16 46 28.1	+0.1
HATJ				S	S	16 46 58.7	-2.6
YOJ	Yonaguni jima	2.51	224	P	Pn	16 46 29.0	+0.2
YOJ				S	S	16 47 02.2	-0.5
JYNG	Yonagunijimaku	2.56	225	P	Pn	16 46 29.7	+0.4
JYNG				*e*S	S	16 47 03.5	-0.2
JJT3	Tamagusuku3	2.57	92	P	Pn	16 46 31.1	+1.7
JJT3				S	S	16 47 03.3	-0.5
JNTH	Nagotoyohara	2.78	84	P	Pn	16 46 33.0	+1.1
JNTH				S	S	16 47 06.3	-2.0
JIH	Iheya	2.82	74	P	Pn	16 46 33.4	+1.1
JIH				*e*S	S	16 47 07.5	-1.6
JOW	Kunigami	3.04	79	P	Pn	16 46 35.5	+0.5
JOW	17nm,0.3s,baz=310,slow=16,SNR=55			S	S	16 47 11.7	-2.3
	46nm,0.3s,baz=292,slow=19,SNR=29						
JOW	Kunigami	3.04	79	P	Pn	16 46 35.8	+0.8
JOW				S	S	16 47 11.5	-2.4
JOKE	Okinoerabujima	3.43	71	P	Pn	16 46 40.0	+0.4
JOKE				S	S	16 47 19.5	-2.7
JTK	Tokunoshima	3.89	66	P	Pn	16 46 45.4	+0.1
JTK				*e*S	S	16 47 30.2	-2.3
JAMN	Amaminishikomi	4.25	62	P	Pn	16 46 49.7	-0.2
JAMN				*e*S	S	16 47 37.1	-3.6
JAM	Amami Oshima	4.67	62	P	Pn	16 46 54.8	-0.3
JAM				*e*S	S	16 47 46.5	-3.7
KSRS	Korea Array	11.43	12	P	P	16 48 31.1	+2.5
	0.1nm,0.3s,baz=201,slow=11,SNR=4.7						
MKAR	Makanchi Array	39.31	313	P	P	16 52 56.5	+1.3
	0.4nm,0.5s,baz=100,slow=9.8,SNR=11						
ZALV	Zalesovo Beam	40.45	324	P	P	16 53 04.7	+0.3
	0.5nm,0.4s,baz=118,slow=7.9,SNR=4.1						
KURBB	Kurchatov Arra	42.79	317	P	P	16 53 24.8	+1.3
	0.5nm,0.7s,baz=110,slow=8.0,SNR=7.8						
BVAR	Borovoye Array	48.28	319	P	P	16 54 06.5	0.0
	0.3nm,0.3s,baz=86,slow=7.7,SNR=3.9						
FINES	FINESS Array B	71.35	330	P	P	16 56 43.3	-0.2
	1.2nm,0.8s,baz=56,slow=5.5,SNR=3.1						
AKASG	Malin Array Be	73.56	319	P	P	16 56 56.2	-0.5
	0.3nm,0.4s,baz=62,slow=6.8,SNR=2.4						
BRTR	Keskin Array B	74.65	307	P	P	16 57 02.7	-0.8
	0.3nm,0.7s,baz=64,slow=3.4,SNR=2.6						

JMA 13 16:49:10.9±0.2,36°.94N×141°.84E,h14km±2km, M3.6, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ONAJ	Iwakimizuishiy	0.85	281	P	Pg	16 49 26.9	-0.5
ONAJ				S	Sb	16 49 38.7	0.0
JFK	Kawauchi	0.88	299	P	Pg	16 49 27.6	-0.4
JFT	Otama	1.33	296	P	Pn	16 49 34.6	-0.5

ISCJB ***13*** *16:49:10.9±1.3,36°.94N±0°.04×141°.53E±0°.06,h8km±6km, mb3.4/5, Error ellipse: s-maj=8.2km s-min=7.1km az=178.7*

IDC ***13*** *16:49:11.7±1.5,37°.02N×141°.48E,h0km, mb3.4/5, mb1 3.4/8,mb1mx3.3/75,mbtmp3.4/8,ML2.9/3, Error ellipse: s-maj=33.5km s-min=21.7km az=78.0*

JMA ***13*** *16:49:14.0±0.1,36°.95N×141°.35E,h27km±1km,M3.1*

ISC 13 16:49:12.3±4.5,36°.94N±0°.05×141°.37E±0°.10,h6km±28km, n21,σ1°89/23,mb3.5/5,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ONAJ	Iwakimizuishiy	0.48	289	P	Pb	16 49 23.4	+0.1
ONAJ				S	Sb	16 49 30.0	-0.7
JFK	Kawauchi	0.58	317	P	Pb	16 49 25.1	+0.2
JFK				S	Sb	16 49 32.9	-0.5
JHO	Hitachi	0.72	243	P	Pn	16 49 27.6	-1.5
JHO				S	Sb	16 49 37.5	0.0
JFT	Otama	1.01	305	P	Pn	16 49 32.7	-0.3
JFT				S	Sb	16 49 45.7	+0.1
JMM	Marumori	1.03	334	P	Pn	16 49 32.6	-0.7
JMM				S	Sb	16 49 46.1	-0.2
JYT	Yasato	1.19	233	P	Pb	16 49 34.4	-0.8
MJAR	Matsushiro Arr	2.57	262	Pn	Pn	16 49 55.8	+1.4
	1.2nm,0.3s,baz=90,slow=14,SNR=14						
MJAR				Sn	Sb	16 50 29.5	-1.2
	1.4nm,0.3s,baz=84,slow=15,SNR=4.2		

USRK	**Ussuriysk Ar.**	**10.07**	**318**	Pn	**Pn**	**16 54 19.8**	**+4.4**
	0.1nm,0.3s,baz=132,slow=14,SNR=5.9						
USRK				LR	LR	16 57 42.5	
	comp=Z,92nm,21.3s,baz=136,slow=35						
KSRS	**Korea Array**	**10.68**	**276**	Pn	**Pn**	**16 54 28.0**	**+4.3**
	0.1nm,0.3s,baz=87,slow=14,SNR=11						
KSAR	**Wonju Array Be**	**10.71**	**276**	Pn	**Pn**	**16 54 28.0**	**+3.9**
KLR	**Kul'dur**	**14.03**	**330**	LR	LR	17 00 15.3	
	comp=Z,7.4nm,19.9s,baz=134,slow=36						
MA2	**Magadan**	**23.39**	**12**	P	**P**	**16 56 59.6**	**+0.4**
	3.3nm,0.8s,baz=160,slow=4.1,SNR=6.1						
YAK	**Yakutsk**	**26.06**	**348**	LR	LR	17 08 00.7	
	comp=Z,125nm,19.2s,baz=274,slow=37						
SEY	**Seymchan**	**26.82**	**11**	P	**P**	**16 57 31.2**	**+0.5**
	1.7nm,0.7s,baz=182,slow=6.0,SNR=7.4						
ENH	**Enshi**	**27.24**	**265**	*e*P	**P**	**16 57 29.5**	**-5.4**
	6.3nm,0.7s						
SONM	**Songino Array**	**27.72**	**304**	P	**P**	**16 57 38.0**	**-1.0**
	0.8nm,0.7s,baz=94,slow=7.4,SNR=4.2						
H11N2	**WAKE ISLAND Hy**	**28.22**	**121**	T	T	17 27 06.0	
	baz=313,slow=75,SNR=1498						
H11N1	**WAKE ISLAND Hy**	**28.23**	**121**	T	T	17 27 09.1	
	baz=313,slow=75,SNR=1547						
H11N3	**WAKE ISLAND Hy**	**28.24**	**121**	T	T	17 27 09.8	
	baz=313,slow=75,SNR=1338						
H11S1	**WAKE ISLAND Hy**	**28.93**	**123**	T	T	17 28 04.7	
	baz=315,slow=76,SNR=485						
H11S3	**WAKE ISLAND Hy**	**28.93**	**123**	T	T	17 28 02.0	
	baz=315,slow=76,SNR=542						
H11S2	**WAKE ISLAND Hy**	**28.95**	**123**	T	T	17 28 00.5	
	baz=315,slow=76,SNR=447						
TLY	**Talaya**	**30.27**	**311**	LR	LR	17 11 07.4	
	comp=Z,183nm,20.0s,baz=266,slow=38						
DAV	**Davao City (W)**	**33.08**	**210**	LR	LR	17 10 55.8	
	comp=Z,64nm,20.1s,baz=9.0,slow=35						
TIXI	**Tiksi**	**35.29**	**353**	P	**P**	**16 58 45.6**	**+0.4**
	0.8nm,0.8s,baz=168,slow=6.0,SNR=3.5						
CMAR	**Chiang Mai Arr**	**41.41**	**255**	LR	LR	17 18 42.5	
	comp=Z,53nm,20.7s,baz=42,slow=39						
ZALV	**Zalesovo Beam**	**41.86**	**312**	P	**P**	**16 59 40.5**	**0.0**
	2.8nm,0.7s,baz=94,slow=6.6,SNR=13						
MKAR	**Makanchi Array**	**44.05**	**302**	P	**P**	**16 59 58.2**	**-0.2**
	1.5nm,0.7s,baz=85,slow=31,SNR=3.6						
KURBB	**Kurchatov Arra**	**45.94**	**308**	P	**P**	**17 00 12.7**	**-0.6**
	2.5nm,0.7s,baz=84,slow=8.1,SNR=20						
KDAK	**Kodiak Island**	**47.17**	**42**	P	**P**	**17 00 23.3**	**+0.4**
	3.4nm,0.7s,baz=265,slow=7.3,SNR=9.4						
ILAR	**Eielson Array**	**49.55**	**32**	P	**P**	**17 00 41.8**	**+0.6**
	1.5nm,0.8s,baz=264,slow=6.6,SNR=15						
BVAR	**Borovoye Array**	**50.51**	**312**	P	**P**	**17 00 48.6**	**0.0**
	0.7nm,0.6s,baz=78,slow=9.7,SNR=4.1						
BVAR				PcP	**PcP**	**17 02 07.1**	**+0.7**
	1.0nm,0.6s,baz=108,slow=4.8,SNR=4.2						
LEM	**Lembang**	**53.80**	**223**	P	**P**	**17 01 12.8**	**-0.9**
	10nm,0.8s,baz=338,slow=7.2,SNR=3.6						
INK	**Inuvik**	**54.44**	**27**	P	**P**	**17 01 18.5**	**+1.0**
	0.8nm,0.6s,baz=256,slow=4.8,SNR=5.2						
ARU	**Arti**	**56.31**	**319**	P	**P**	**17 01 30.9**	**-0.2**
	1.7nm,0.3s,baz=31,slow=1.7,SNR=4.9						
FITZ	**Fitzroy Crossi**	**56.78**	**198**	P	**P**	**17 01 35.6**	**+0.8**
	1.3nm,0.7s,baz=27,slow=6.8,SNR=2.5						
WRAB	**Tennant Creek**	**57.02**	**188**	P	**P**	**17 01 36.0**	**-0.5**
	1.3nm,0.6s						
WRA	**Warramunga Arr**	**57.03**	**188**	P	**P**	**17 01 36.2**	**-0.4**
	1.3nm,0.7s,baz=5.3,slow=7.3,SNR=8.8						
ABKAR	**Akbulak array**	**57.88**	**310**	*e*P	**P**	**17 01 41.2**	**-1.1**
SPITS	**Spitsbergen Ar**	**60.52**	**349**	LR	LR	17 31 35.4	
	comp=Z,42nm,18.9s,baz=70,slow=39						
ASAR	**Alice Springs**	**60.76**	**188**	P	**P**	**17 02 01.6**	**-0.9**
	0.8nm,0.7s,baz=3.9,slow=6.8,SNR=4.9						
GEYT	**Alibeck**	**63.76**	**299**	P	**P**	**17 02 21.9**	**-0.7**
	1.5nm,0.7s,baz=77,slow=6.5,SNR=3.7						
YKA	**Yellowknife Ar**	**63.87**	**30**	P	**P**	**17 02 23.5**	**+0.7**
	0.3nm,0.6s,baz=303,slow=6.8,SNR=9.1						
AFI	**Afiamalu**	**67.20**	**130**	LR	LR	17 26 25.8	
	comp=Z,15nm,21.6s,baz=288,slow=31						
FINES	**FINESS Array B**	**68.78**	**332**	P	**P**	**17 02 53.6**	**-0.7**
	0.7nm,0.7s,baz=46,slow=8.6,SNR=3.7						
KBZ	**Khabaz**	**70.84**	**311**	P	**P**	**17 03 06.5**	**-0.8**
	1.5nm,0.8s,baz=32,slow=4.3,SNR=4.2						
GNI	**Garni**	**71.64**	**307**	LR	LR	17 39 28.7	
	comp=Z,19nm,18.1s,baz=84,slow=40						
HFS	**Hagfors**	**74.06**	**336**	P	**P**	**17 03 26.1**	**-0.2**
	1.8nm,0.8s,baz=47,slow=8.7,SNR=3.4						
NB2	**NORSAR Subarra**	**74.16**	**337**	P	**P**	**17 03 26.7**	**-0.2**
	comp=Z,1.0nm,0.8s,baz=38,slow=6.2						
NOA	**NORSAR Array B**	**74.16**	**337**	P	**P**	**17 03 26.1**	**-0.8**
NOA				LR	LR	17 39 20.1	
	comp=Z,52nm,20.4s,baz=90,slow=38						
AKASG	**Malin Array Be**	**74.25**	**322**	P	**P**	**17 03 27.1**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=6,slow=5.8,SNR=10						
NVAR	**Mina Array Bea**	**75.07**	**53**	P	**P**	**17 03 34.4**	**+1.6**
	comp=Z,0.3nm,0.3s,baz=290,slow=6.1,SNR=3.8						
PDAR	**Pinedale Array**	**77.74**	**45**	P	**P**	**17 03 49.1**	**+1.2**
	comp=Z,0.6nm,0.7s,baz=254,slow=2.7,SNR=8.5						
TXAR	**Lajitas Array**	**90.20**	**52**	P	**P**	**17 04 52.7**	**+1.2**
	comp=Z,0.4nm,0.5s,baz=304,slow=3.2,SNR=8.0						
LPAZ	**La Paz**	**146.78**	**59**	PKPbc	**PKPbc**	**17 11 34.5**	**+0.5**
	comp=Z,1.4nm,0.8s,baz=280,slow=2.5,SNR=4.0						

SJA 13 16:54:32.2±0.5, 33°24'S×72°36'W, h18km±4km, ML3.4, MW3.5, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ROC1	**El Roble**	**1.16**	**77**	*e*P	Pg	16 54 54.6	-0.2
AUSP	**Uspallata**	**2.70**	**69**	*e*P	Pb	16 55 18.3	-1.9
AUSP				*e*S	Sb	16 55 52.2	-1.0
RTLS	**Leoncito**	**2.96**	**62**	*e*P	Pb	16 55 21.8	-2.8
RTLS				*e*S	Sb	16 55 58.2	-2.3
RTLS				IAML		16 56 01.7	
	comp=Z,52nm,0.4s						
RTCV	**Cerro Valdivia**	**3.51**	**68**	*e*P	Pn	16 55 28.9	+3.0
RTCV				*e*S	Sn	16 56 10.8	+3.9
AROD	**Rodeo**	**3.93**	**40**	*e*P	Pn	16 55 35.5	+3.6
AROD				*e*S	Sn	16 56 22.9	+5.2
AMOG	**MOGNA**	**4.00**	**56**	*e*P	Pn	16 55 35.8	+3.1
AMOG				*e*S	Sn	16 56 23.2	+3.9
ACDV	**Cuesta del Vie**	**4.12**	**43**	*e*P	Pn	16 55 37.9	+3.5
ACDV				*e*S	Sn	16 56 26.9	+4.6
ACAN	**Cantantal**	**4.46**	**79**	*e*P	Pn	16 55 42.7	+3.7
ACAN				*e*S	Sn	16 56 34.9	+4.3
AGUA	**GUANDACOL**	**4.99**	**43**	*e*P	Pn	16 55 49.6	+3.3
AGUA				*e*S	Sn	16 56 47.8	+4.0
VCA	**Vinchina**	**5.73**	**40**	*e*P	Pn	16 56 00.6	+4.0
VCA				IAML		16 57 13.7	
	comp=Z,28nm,0.6s						

MAN 13 16:55:03, 9°71N×122°81E, h33km, mb4.2, ML3.0, MS2.6, Negros

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SNPH	**Sibulan**	**0.56**	**131**	*e*P	Pn	16 55 15.5	+0.8
SNPH				*i* S	Sn	16 55 24.4	+1.4
GUIM	**Jordan**	**0.93**	**347**	*e*P	Pn	16 55 20.3	+0.5
GUIM				*e*S	Sn	16 55 32.3	+0.3
MSLP	**Maasin**	**2.07**	**78**	*e*P	Pn	16 55 36.0	+0.6
MSLP				*e*S	Sn	16 56 00.7	+0.7

IDC ***13*** *16:55:45.4±1.7, 3°56S×131°28E, h0km, mb3.5/4, mb1 3.7/7, mb1mx3.4/60, mbtmp3.5/7, ML3.3/3, MS2.7/2, Ms1 2.7/2, ms1mx2.4/29, Error ellipse: s-maj=64.4km s-min=21.5km az=79.0*

ISCJB ***13*** *16:55:47.8±0.6, 3°62S±0°06×131°07E±0°06, h30km, mb3.5/3, MS3.1/1, Error ellipse: s-maj=8.2km s-min=8.1km az=39.3*

DJA ***13*** *16:55:48.4±0.4, 4°S±5°×13°1E±°, h10km, M3.7/6, mb4.0/2, MLv3.6/6*

ISC 13 16:55:49.7±0.9, 3°56S±0°07×131°12E±0°05, h30km, n14, σ2829/16, mb3.7/3, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FAKI	**Fak Fak**	**1.29**	**61**	P	**Pn**	**16 56 12.1**	**+0.3**
BNDI	**Bandanaira**	**1.54**	**232**	P	**Pb**	**16 56 18.5**	**+0.8**
MSAI	**Masohi**	**2.19**	**275**	P	**Pn**	**16 56 26.7**	**+2.5**
MSAI				S	**Sn**	**16 56 44.4**	**-5.9**
SIJI	**Sorong**	**2.67**	**3**	Pn	**Pn**	**16 56 29.6**	**-1.2**
	4.1nm,0.3s,baz=244,slow=23,SNR=84						
SIJI				Sn	**Sn**	**16 57 00.9**	**-1.2**
	7.6nm,0.3s,baz=152,slow=13,SNR=5.4						
SIJI				LR	LR	16 57 50.5	
	comp=Z,46nm,20.9s,baz=230,slow=47						
RKPI	**Ransiki, Papua**	**3.67**	**56**	P	**Pn**	**16 56 45.8**	**+1.3**
LBMI	**Labuha**	**4.63**	**309**	P	**Pn**	**16 56 58.8**	**+1.1**
SANI	**Sanana**	**5.34**	**286**	P	**Pn**	**16 57 07.7**	**+0.3**
SANI				S	**Sn**	**16 58 07.5**	**-0.4**
FITZ	**Fitzroy Crossi**	**15.42**	**200**	Pn	**Pn**	**16 59 23.2**	**-2.0**
	0.1nm,0.3s,baz=329,slow=12,SNR=3.5						
WRA	**Warramunga Arr**	**16.59**	**169**	Pn	**Pn**	**16 59 37.0**	**-3.2**
	0.1nm,0.3s,baz=351,slow=11,SNR=6.1						
WRA				Sn	Sn	17 02 32.6	-11
	0.1nm,0.3s,baz=359,slow=22,SNR=3.5						
ASAR	**Alice Springs**	**20.17**	**173**	P	**P**	**17 00 22.8**	**+0.9**
	1.2nm,0.7s,baz=353,slow=11,SNR=22						
CMAR	**Chiang Mai Arr**	**38.51**	**306**	P	**P**	**17 03 11.1**	**+1.5**
	0.3nm,0.6s,baz=144,slow=7.7,SNR=3.4						
MJAR	**Matsushiro Arr**	**40.44**	**9**	LR	LR	17 16 07.1	
	comp=Z,32nm,21.4s,baz=225,slow=30						
MKAR	**Makanchi Array**	**66.00**	**326**	P	**P**	**17 06 34.8**	**+1.3**
	0.4nm,0.6s,baz=114,slow=7.3,SNR=5.2						
KURBB	**Kurchatov Arra**	**70.20**	**327**	P	**P**	**17 07 00.2**	**+0.6**
	0.3nm,0.4s,baz=128,slow=5.5,SNR=5.7						

MEX 13 16:58:18.8±0.7, 16°26N×98°30W, h1km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.21**	**51**	*i* P	Pg	16 58 22.7	-0.2
PNIG				*i* S	Sg	16 58 25.8	+0.1
TLIG	**Tlapa**	**1.32**	**349**	*e*P	Pg	16 58 40.4	-3.8
VHO	**Vista Hermosa**	**1.71**	**61**	*e*P	Pn	16 58 46.2	-3.7
CAIG	**El Cayaco**	**2.04**	**293**	*e*P	Pn	16 58 50.8	-3.5
HUIG	**Huatulco**	**2.16**	**103**	*e*P	Pn	16 58 56.5	+0.5

MEX 13 17:03:51.7±0.7, 16°13N×97°93W, h1km, MD4.0, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.32**	**324**	*e*P	Pg	17 03 57.8	-0.1
PNIG				*e*S	Sg	17 04 02.2	+0.2
VHO	**Vista Hermosa**	**1.48**	**51**	*e*P	Pb	17 04 21.4	+1.2
TLIG	**Tlapa**	**1.55**	**337**	*e*P	Pn	17 04 16.3	-4.3
HUIG	**Huatulco**	**1.79**	**101**	*e*P	Pg	17 04 30.7	+4.7
MEIG	**Mezcala**	**2.41**	**318**	*e*P	Pn	17 04 29.4	-3.0

KRSC ***13*** *17:04:46.9±3.0, 49°34N×156°92E, h16km±36km, ML4.7*

SKHL ***13*** *17:04:48.9±0.3, 49°30N×156°35E, h56km±3km, mb5.5/3, msh5.0/2*

ISCJB ***13*** *17:04:49.8±0.5, 49°46N±0°04×155°89E±0°05, h65km±4km, mb4.3/73, Error ellipse: s-maj=7.3km s-min=3.2km az=142.2*

MOS ***13*** *17:04:50.5±1.0, 49°53N×155°82E, h71km, mb4.3/22, Error ellipse: s-maj=10.9km s-min=4.1km az=74.2*

IDC ***13*** *17:04:50.6±2.7, 49°56N×155°74E, h52km±23km, mb3.7/25, mb1 3.9/29, mb1mx3.8/71, mbtmp4.0/29, ML4.5/2, MS3.0/4, Ms1 3.0/4, ms1mx2.6/64, Error ellipse: s-maj=16.4km s-min=11.1km az=142.0*

NEIC ***13*** *17:04:52.0±0.5, 49°52N×155°79E, h69km±5km, mb4.4/46, Error ellipse: s-maj=6.2km s-min=2.9km az=148.0*

ISC 13 17:04:50.9±0.9, 49°44N±0°05×155°95E±0°05, h59km±8km, n227, σ1832/256, mb4.3/73, 4C-4D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**1.25**	**5**	*e*P	**Pn**	**17 05 10.5**	**-1.6**
SKR				AMB	AMB	17 05 10.7	
	299nm,0.3s						
SKR				*e*S	**Sn**	**17 05 26.5**	**-1.5**
SKR				A	A	17 05 28.8	
	4μm,0.5s						
SKR				A	A	17 05 28.8	
	3μm,0.5s						
SKR	**Severo-Kuril's**	**1.25**	**5**	*e*P	**Pn**	**17 05 10.5**	**-1.6**
SKR				*e*S	**Sn**	**17 05 26.2**	**-1.8**
SKR	**Severo-Kuril's**	**1.25**	**5**	PN	**Pn**	**17 05 10.5**	**-1.6**
SKR				S	**Sn**	**17 05 26.2**	**-1.8**
KDTR	**Khodutka, Kamc**	**2.73**	**29**	*e*P	**Pn**	**17 05 30.5**	**-1.7**
KDTR				*e*S	**Sn**	**17 06 01.2**	**-2.8**
MIPR	**Malaya Ipel'ka**	**2.88**	**10**	*e*P	**Pn**	**17 05 35.0**	**+0.6**
MIPR	**Malaya Ipel'ka**	**2.88**	**10**	PN	**Pn**	**17 05 35.0**	**+0.6**
ASAK	**Asacha**	**3.19**	**22**	*e*P	**Pn**	**17 05 39.5**	**+0.8**
ASAK	**Asacha**	**3.19**	**22**	PN	**Pn**	**17 05 39.5**	**+0.8**
MTVR	**Mutnovka**	**3.35**	**24**	*e*P	**Pn**	**17 05 41.2**	**+0.2**
MTVR				*e*S	**Sn**	**17 06 19.5**	**-0.1**
MTVR	**Mutnovka**	**3.35**	**24**	PN	**Pn**	**17 05 41.2**	**+0.2**
MTVR				S	**Sn**	**17 06 19.5**	**-0.1**
RUS	**Russkaya**	**3.41**	**27**	*e*P	**Pn**	**17 05 40.0**	**-1.5**
RUS				*e*S	**Sn**	**17 06 17.5**	**-3.1**
RUS	**Russkaya**	**3.41**	**27**	PN	**Pn**	**17 05 40.0**	**-1.5**
RUS				S	**Sn**	**17 06 17.5**	**-3.1**
APC	**Apacha**	**3.57**	**12**	*e*P	**Pn**	**17 05 44.7**	**+1.0**
APC	**Apacha**	**3.57**	**12**	PN	**Pn**	**17 05 44.7**	**+1.0**
KRMR	**Karymshinskiy**	**3.66**	**21**	*e*P	**Pn**	**17 05 45.9**	**+0.9**
KRMR	**Karymshinskiy**	**3.66**	**21**	PN	**Pn**	**17 05 45.9**	**+0.9**
PEA0B	**Petropavlovsk-**	**3.83**	**16**	*e*Pn	**Pn**	**17 05 48.4**	**+1.0**
PETK	**Petropavlovsk-**	**3.83**	**16**	P	**Pn**	**17 05 47.9**	**+0.6**
	5.1nm,0.3s,baz=171,slow=13,SNR=58						
PETK				S	**Sn**	**17 06 33.9**	**+2.8**
	1.9nm,0.3s,baz=190,slow=29,SNR=2.4						
PETK				LR	LR	17 07 34.6	
	comp=Z,272nm,21.3s,baz=209,slow=44						
PEA1	**Petropavlovsk-**	**3.84**	**16**	*e*Pn	**Pn**	**17 05 47.9**	**+0.5**
PEA1				*e*Sn	**Sn**	**17 06 33.9**	**+2.7**
PEA1						17 07 34.6	
PET	**Petropavlovsk**	**3.97**	**24**	*e*P	**Pn**	**17 05 48.8**	**-0.4**
PET				AMB	AMB	17 05 50.5	
	46nm,0.5s						
PET				AMB	AMB	17 05 52.2	
	450nm,4.0s						
PET				*e*S	**Sn**	**17 06 34.0**	**-0.4**
PET				A	A	17 06 37.9	
	240nm,0.5s						
PET				A	A	17 06 37.9	
	290nm,0.5s						
PET				A	A	17 06 40.5	
	490nm,3.0s						
PET				A	A	17 06 40.5	
	690nm,3.0s						
PET	**Petropavlovsk**	**3.97**	**24**	*e*Pn	**Pn**	**17 05 48.8**	**-0.4**
PET				*e*Sn	**Sn**	**17 06 33.7**	**-0.7**
PET	**Petropavlovsk**	**3.97**	**24**	*e*P	**Pn**	**17 05 49.3**	**+0.1**
PET				*e*S	**Sn**	**17 06 34.0**	**-0.4**
PET	**Petropavlovsk**	**3.97**	**24**	*e*PN	**Pn**	**17 05 49.7**	**+0.5**
PET				*e*S	**Sn**	**17 06 33.2**	**-1.2**
PET				pmax	pmax		
	comp=Z,52nm,0.6s						
PET				smax	smax		
	comp=E,348nm,0.6s						
PET				smax	smax		
	comp=N,279nm,0.6s						
DALK	**Dalny**	**4.00**	**25**	*e*P	**Pn**	**17 05 49.7**	**+0.1**
DALK				*e*S	**Sn**	**17 06 35.4**	**+0.2**
DALK	**Dalny**	**4.00**	**25**	PN	**Pn**	**17 05 49.7**	**+0.1**
DALK				S	**Sn**	**17 06 35.4**	**+0.2**
UGLR	**Uglovaya**	**4.18**	**24**	*e*P	**Pn**	**17 05 53.3**	**+1.1**
UGLR	**Uglovaya**	**4.18**	**24**	PN	**Pn**	**17 05 53.3**	**+1.1**
KOK	**Koryaka**	**4.21**	**23**	*e*P	**Pn**	**17 05 54.7**	**+2.2**
KOK				*e*S	**Sn**	**17 06 43.2**	**+2.8**
KOK	**Koryaka**	**4.21**	**23**	PN	**Pn**	**17 05 54.7**	**+2.2**
KOK				S	**Sn**	**17 06 43.2**	**+2.8**
AVH	**Avacha**	**4.21**	**23**	*e*P	**Pn**	**17 05 54.1**	**+1.6**
AVH	**Avacha**	**4.21**	**23**	PN	**Pn**	**17 05 54.1**	**+1.6**
KRER	**Koryakskii**	**4.25**	**23**	*e*P	**Pn**	**17 05 54.2**	**+1.0**
KRER	**Koryakskii**	**4.25**	**23**	PN	**Pn**	**17 05 54.2**	**+1.0**
KRX	**Arik**	**4.27**	**22**	*e*P	**Pn**	**17 05 55.6**	**+2.1**
KRX				*e*S	**Sn**	**17 06 45.1**	**+3.1**
KRX	**Arik**	**4.27**	**22**	PN	**Pn**	**17 05 55.6**	**+2.1**
KRX				S	**Sn**	**17 06 45.1**	**+3.1**
GNL	**Ganaly**	**4.44**	**15**	*e*P	**Pn**	**17 05 57.1**	**+1.4**
GNL	**Ganaly**	**4.44**	**15**	PN	**Pn**	**17 05 57.1**	**+1.4**
SPN	**Mys Shipunski**	**4.46**	**33**	*e*P	**Pn**	**17 05 55.4**	**-0.6**
SPN	**Mys Shipunski**	**4.46**	**33**	PN	**Pn**	**17 05 55.4**	**-0.6**
TUMD	**Tumrok D**	**6.38**	**24**	*e*P	**Pn**	**17 06 22.6**	**+0.4**
TUMR	**Tumrok**	**6.39**	**22**	*e*P	**Pn**	**17 06 23.9**	**+1.5**
TUMR	**Tumrok**	**6.39**	**22**	PN	**Pn**	**17 06 23.9**	**+1.5**
KUR	**Kuril'sk**	**6.92**	**236**	*e*P	**Pn**	**17 06 31.0**	**+1.4**
KUR				AMB	AMB	17 06 35.4	
	comp=N,39nm,0.4s						
KUR				AMB	AMB	17 06 38.6	
	comp=N,1μm,4.0s						
KUR				*e*S	**Sn**	**17 07 47.5**	**+0.6**
KUR				A	A	17 07 52.9	
	comp=N,2μm,4.0s						
KUR				A	A	17 07 52.9	
	comp=N,1μm,4.0s						
KUR	**Kuril'sk**	**6.92**	**236**	*e*PN	**Pn**	**17 06 31.3**	**+1.7**
KUR				*e*S	**Sn**	**17 07 47.7**	**+0.8**
KUR				pmax	pmax		
	comp=E,22nm,0.3s						
KUR				pmax	pmax		
	comp=Z,40nm,0.3s						
KUR				smax	smax		
	comp=N,43nm,0.6s						
KUR				smax	smax		
	comp=E,32nm,0.7s						
KBTR	**Krutoberegovo**	**7.95**	**29**	*e*P	**Pn**	**17 06 42.5**	**-1.1**
KBTR	**Krutoberegovo**	**7.95**	**29**	PN	**Pn**	**17 06 42.5**	**-1.1**
SHO	**Shikotan**	**8.39**	**232**	*e*P	**Pn**	**17 06 47.8**	**-1.9**
SHO				AMB	AMB	17 06 50.4	
	comp=E,30nm,0.5s						
SHO				AMB	AMB	17 06 51.2	
	comp=E,730nm,4.0s						
SHO				*e*S	**Sn**	**17 08 19.0**	**-3.9**
SHO				A	A	17 08 27.0	
	comp=E,1μm,4.0s						
SHO				A	A	17 08 27.0	
	comp=E,790nm,4.0s						
SHO	**Shikotan**	**8.39**	**232**	*e*PN	Pn	17 06 43.8	-5.9
SHO				pmax	pmax		
	comp=Z,30nm,0.5s						
SHO				pmax	pmax		
	comp=N,8.0nm,0.2s						
SHO				pmax	pmax		
	comp=E,18nm,0.3s						
BKI	**Bering**	**8.42**	**43**	*e*P	**Pn**	**17 06 47.4**	**-2.7**
BKI	**Bering**	**8.42**	**43**	PN	**Pn**	**17 06 47.4**	**-2.7**
TYV	**Tymovskoe**	**8.66**	**284**	*e*P	**Pn**	**17 06 56.0**	**+2.6**
TYV				AMB	AMB	17 06 57.2	
	comp=E,10.0nm,0.5s						
TYV	**Tymovskoe**	**8.66**	**284**	*e*PN	**Pn**	**17 06 56.0**	**+2.6**
TYV				*e*S	**Sn**	**17 08 30.7**	**+1.3**
TYV				pmax	pmax		
	comp=Z,10.0nm,0.5s						
TYV				smax	smax		
	comp=N,5.0nm,0.8s						
YSS	**Yuzh-Sakhalins**	**9.16**	**259**	*e*P	**Pn**	**17 07 03.0**	**+2.8**
YSS	**Yuzh-Sakhalins**	**9.16**	**259**	*e*Pn	**Pn**	**17 06 59.9**	**-0.4**
YSS	**Yuzh-Sakhalins**	**9.16**	**259**	*e*PN	**Pn**	**17 06 59.9**	**-0.4**
MA2	**Magadan**	**10.59**	**346**	P	**Pn**	**17 07 18.6**	**-1.1**
	comp=N,0.7nm,0.3s,baz=161,slow=10,SNR=12						
MA2	**Magadan**	**10.59**	**346**	*e*P	**Pn**	**17 07 21.1**	**+1.4**
ASAJ	**Asahikawa**	**10.59**	**245**	P	**Pn**	**17 07 21.6**	**+1.8**
	comp=N,1.4nm,0.3s,baz=58,slow=6.9,SNR=35						
ASAJ	**Asahikawa**	**10.59**	**245**	*e*Pn	**Pn**	**17 07 21.2**	**+1.4**
ERM	**Erimo**	**11.61**	**235**	*e*P	**Pn**	**17 07 34.5**	**+0.7**
ERM	**Erimo**	**11.61**	**235**	*e*Pn	**Pn**	**17 07 32.9**	**-0.9**
ERM	**Erimo**	**11.61**	**235**	*i* PN	**Pn**	**17 07 34.5**	**+0.7**
SMY	**Shemya**	**11.87**	**67**	*e*Pn	**Pn**	**17 07 35.6**	**-1.6**
SMY	**Shemya**	**11.87**	**67**	*e*PN	**Pn**	**17 07 35.6**	**-1.6**
SEY	**Seymchan**	**13.66**	**353**	P	**Pn**	**17 08 02.5**	**+1.0**
	comp=N,0.1nm,0.3s,baz=100,slow=11,SNR=7.5						
SEY	**Seymchan**	**13.66**	**353**	*i* P	**Pn**	**17 08 03.1**	**+1.5**
KLR	**Kul'dur**	**15.77**	**278**	P	**P**	**17 08 30.9**	**-1.0**
	comp=N,0.0nm,0.3s,baz=80,slow=12,SNR=4.8						
KLR				LR	LR	17 14 58.5	
	comp=N,7.6nm,18.1s,baz=134,slow=39						
KLR	**Kul'dur**	**15.77**	**278**	*i* P	**P**	**17 08 31.7**	**-0.2**
USRK	**Ussuriysk Ar.**	**17.19**	**261**	P	**P**	**17 08 46.5**	**-1.1**
	comp=N,0.2nm,0.3s,baz=54,slow=7.3,SNR=3.2						
USRK				LR	LR	17 14 52.4	
	comp=N,56nm,20.5s,baz=333,slow=35						
MJA0	**Matsu Arr-Jizo**	**18.21**	**232**	*e*P	**Pn**	**17 08 59.8**	**+0.3**
MAJO	**Matsushiro**	**18.23**	**232**	*e*P	**Pn**	**17 09 00.4**	**+0.7**
MAJO	**Matsushiro**	**18.23**	**232**	*e*P	**P**	**17 08 58.7**	**-0.6**
	comp=N,6.4nm,0.8s						
MAJO	**Matsushiro**	**18.23**	**232**	*i* P	**Pn**	**17 08 59.4**	**-0.3**
MAJO				pmax	pmax		
	comp=Z,2.0nm,0.4s						
MAT	**Matsushiro**	**18.23**	**232**	P	**P**	**17 08 59.0**	**-0.3**
MJAR	**Matsushiro Arr**	**18.23**	**232**	P	**P**	**17 08 58.0**	**-1.3**
	comp=Z,0.4nm,0.3s,baz=34,slow=8.5,SNR=9.7						
MJAR	**Matsushiro Arr**	**18.23**	**232**	*e*P	**Pn**	**17 08 59.8**	**+0.1**
MJAR	**Matsushiro Arr**	**18.23**	**232**	P	**P**	**17 08 58.0**	**-1.3**
BILL	**Bilibino**	**19.35**	**12**	*i*/*e*P	**P**	**17 09 10.9**	**-0.4**
BILL				*e*S	**Sn**	**17 12 49.0**	**+0.1**
BILL				pmax	pmax		
	comp=Z,3.0n

RND	**Reindeer**	**32.41**	**44**	*eP*		**P**		**17 11 14.6**	**-0.3**
RND					pmax	pmax			
	comp=Z,5.0nm,1.0s								
GHO	**Glory Hole Cre**	**32.44**	**47**	*eP*		**P**		**17 11 15.2**	**+0.1**
	comp=Z,9.5nm,1.4s								
TOLK	**Toolik Lake Re**	**32.45**	**34**	*eP*		**P**		**17 11 15.7**	**+0.6**
	comp=Z,2.6nm,0.6s								
MDM	**Murphy Dome**	**32.69**	**41**	*eP*		**P**		**17 11 17.9**	**+0.6**
	comp=Z,8.2nm,1.3s								
WRH	**Wood River Hil**	**32.74**	**42**	*eP*		**P**		**17 11 17.7**	**0.0**
	comp=Z,6.9nm,1.4s								
CCB	**Clear Creek Bu**	**32.87**	**41**	*eP*		**P**		**17 11 19.1**	**+0.3**
	comp=Z,2.9nm,0.8s								
HDA	**Harding Lake**	**33.24**	**42**	*eP*		**P**		**17 11 22.1**	**+0.1**
	comp=Z,3.1nm,0.5s								
IL1	**Eielson Array**	**33.26**	**41**	*eP*		**P**		**17 11 22.2**	**0.0**
ILAR	**Eielson Array**	**33.26**	**41**	P		**P**		**17 11 21.9**	**-0.3**
	comp=Z,1.6nm,0.7s,baz=255,slow=7.6,SNR=19								
ILAR	**Eielson Array**	**33.26**	**41**	*eP*		**P**		**17 11 22.4**	**+0.2**
ILB	**Eielson Array**	**33.26**	**41**	*eP*		**P**		**17 11 22.2**	**0.0**
FYU	**Fort Yukon**	**33.95**	**38**	*eP*		**P**		**17 11 29.6**	**+1.5**
	comp=Z,6.6nm,0.8s								
HARP	**HAARP**	**34.16**	**45**	*eP*		**P**		**17 11 31.4**	**+1.3**
	comp=Z,35nm,1.8s								
RIDG	**Independ'e Rid**	**34.19**	**43**	*eP*		**P**		**17 11 30.0**	**-0.4**
	comp=Z,4.7nm,0.9s								
DOT	**Dot Lake**	**34.55**	**43**	*eP*		**P**		**17 11 33.0**	**-0.4**
	comp=Z,5.5nm,0.8s								
SCRK	**Sand Creek**	**34.55**	**42**	*eP*		**P**		**17 11 33.3**	**-0.2**
	comp=Z,3.4nm,1.0s								
BMRM	**Bremner River**	**34.59**	**48**	*eP*		**P**		**17 11 35.8**	**+1.9**
	comp=Z,4.6nm,0.8s								
MENT	**Mentasta**	**34.77**	**44**	*eP*		**P**		**17 11 35.5**	**+0.2**
	comp=Z,2.3nm,0.9s								
BALM	**Baldy**	**35.67**	**47**	*eP*		**P**		**17 11 43.6**	**+0.5**
	comp=Z,3.0nm,1.0s								
BALM	**Baldy**	**35.67**	**47**	*eP*		**P**		**17 11 43.7**	**+0.5**
BALM					pmax	pmax			
	comp=Z,3.0nm,1.0s								
EGAK	**Eagle**	**35.71**	**41**	*eP*		**P**		**17 11 43.2**	**-0.1**
	comp=Z,4.6nm,0.8s								
INK	**Inuvik**	**38.35**	**34**	P		**P**		**17 12 06.5**	**+0.9**
	comp=Z,2.4nm,0.8s,baz=300,slow=4.3,SNR=11								
INK	**Inuvik**	**38.35**	**34**	*eP*		**P**		**17 12 06.2**	**+0.5**
INK	**Inuvik**	**38.35**	**34**	*eP*		**P**		**17 12 06.2**	**+0.5**
	comp=Z,3.0nm,1.0s								
LZH	**Lanzhou**	**39.74**	**271**	*eP*		**P**		**17 12 19.3**	**+1.5**
LZH					pP	sP		17 12 35.3	-4.2
LZH					sP	pP		17 12 41.8	+9.1
LZH					pmax	pmax			
	comp=Z,29nm,1.0s								
LZH					pmax	pmax			
	comp=Z,260nm,5.0s								
LZH					LR	LR			
	comp=N,250nm,13.5s								
LZH					LR	LR			
	comp=E,380nm,10.7s								
LZH					LR	LR			
	comp=Z,520nm,15.0s								
GTA	**Gaotai**	**40.46**	**278**	*eP*		**P**		**17 12 21.8**	**-2.0**
GTA					pP	pP		17 12 36.9	-1.8
GTA					sP	sP		17 12 44.6	-0.9
GTA					pmax	pmax			
	comp=Z,2.0nm,1.1s								
ZAA1	**Zalesovo Array**	**42.62**	**304**	*eP*		**P**		**17 12 40.0**	**-1.0**
ZAA1				*e*	PcP	**PcP**		**17 14 32.9**	**+0.8**
ZALV	**Zalesovo Beam**	**42.62**	**304**	P		**P**		**17 12 40.0**	**-1.0**
	comp=Z,0.3nm,0.3s,baz=51,slow=6.8,SNR=2.1								
ZALV					PcP	**PcP**		**17 14 32.9**	**+0.7**
	comp=Z,0.7nm,0.4s,baz=86,slow=1.9,SNR=4.8								
JOHN	**Johnston Islan**	**42.94**	**127**	*eP*		**P**		**17 12 48.5**	**+4.5**
	comp=Z,157nm,0.9s								
WMQ	**Urumqi**	**45.75**	**290**	P		**P**		**17 13 05.0**	**-1.3**
WMQ					pP	pP		17 13 21.4	-0.1
WMQ					sP	sP		17 13 28.5	+0.3
WMQ					pmax	pmax			
	comp=Z,17nm,0.6s								
MK31	**Makanchi Array**	**47.42**	**296**	*eP*		**P**		**17 13 18.8**	**-0.5**
MK31	**Makanchi Array**	**47.42**	**296**	*eP*		**P**		**17 13 18.8**	**-0.5**
MK32	**Makanchi Array**	**47.42**	**296**	*eP*		**P**		**17 13 18.1**	**-1.2**
MK32				*e*	PcP	**PcP**		**17 14 49.1**	**+0.2**
MK32				*e*				17 34 32.3	
MKAR	**Makanchi Array**	**47.42**	**296**	P		**P**		**17 13 18.1**	**-1.2**
	comp=Z,0.3nm,0.7s,baz=65,slow=8.3,SNR=4.3								
MKAR					PcP	**PcP**		**17 14 49.1**	**+0.2**
	comp=Z,0.6nm,0.8s,baz=50,slow=4.1,SNR=5.0								
MKAR					LR	LR		17 34 32.3	
	comp=Z,56nm,18.7s,baz=56,slow=38								
MKAR	**Makanchi Array**	**47.42**	**296**	*eP*		**P**		**17 13 18.3**	**-0.9**
	comp=Z,6.9nm,1.1s								
MKAR					PcP	**PcP**		**17 14 49.1**	**+0.2**
MKAR	**Makanchi Array**	**47.42**	**296**	*eP*		**P**		**17 13 18.3**	**-0.9**
MKAR								17 14 49.1	
MKAR					pmax	pmax			
	comp=Z,7.0nm,1.1s								
KURK	**Kurchatov**	**47.48**	**303**	*eP*		**P**		**17 13 18.6**	**-1.0**
KURK				*e*	PcP	**PcP**		**17 14 49.5**	**+0.6**
KURK	**Kurchatov**	**47.48**	**303**	*eP*		**P**		**17 13 20.2**	**+0.6**
KURK					pmax	pmax			
	comp=Z,2.0nm,1.0s								
KURBB	**Kurchatov Arra**	**47.58**	**303**	P		**P**		**17 13 18.6**	**-1.8**
	comp=Z,0.9nm,0.8s,baz=66,slow=7.9,SNR=4.3								
KURBB					PcP	**PcP**		**17 14 49.5**	**+0.2**
	comp=Z,1.4nm,0.7s,baz=64,slow=3.5,SNR=11								
MAKZ	**Makanchi**	**47.59**	**297**	*eP*		**P**		**17 13 20.0**	**-0.6**
	comp=Z,6.1nm,1.9s								
MAKZ	**Makanchi**	**47.59**	**297**	*eP*		**P**		**17 13 20.0**	**-0.6**
MAKZ					pmax	pmax			
	comp=Z,6.0nm,1.9s								
YKA	**Yellowknife Ar**	**47.63**	**39**	P		**P**		**17 13 20.2**	**-0.4**
	comp=Z,1.0nm,0.9s,baz=298,slow=7.6,SNR=12								
YKA	**Yellowknife Ar**	**47.63**	**39**	*eP*		**P**		**17 13 21.5**	**+0.9**
SPA0	**Spitsbergen Ar**	**50.29**	**350**	*eP*		**P**		**17 13 39.2**	**-1.6**
SPITS	**Spitsbergen Ar**	**50.29**	**350**	P		**P**		**17 13 39.2**	**-1.6**
	comp=Z,11nm,0.9s,baz=44,slow=7.9,SNR=2.8								
SPITS					PcP	**PcP**		**17 14 59.1**	**+0.3**
	comp=Z,21nm,1.2s,baz=354,slow=9.1,SNR=3.1								
BVAR	**Borovoye Array**	**50.63**	**309**	P		**P**		**17 13 42.7**	**-1.0**
	comp=Z,0.5nm,0.3s,baz=54,slow=6.9,SNR=7.2								
BVAR					PcP	**PcP**		**17 15 00.7**	**+0.3**
	comp=Z,0.8nm,0.6s,baz=57,slow=5.3,SNR=5.0								
BRVK	**Borovoye**	**50.67**	**309**	*eP*		**P**		**17 13 46.8**	**+2.8**
BRVK	**Borovoye**	**50.67**	**309**	*eP*		**P**		**17 13 41.5**	**-2.4**
	comp=Z,1.4nm,0.9s								
BRVK	**Borovoye**	**50.67**	**309**	*eP*		**P**		**17 13 46.8**	**+2.8**
BRVK					pmax	pmax			
	comp=Z,1.0nm,0.9s								
D05A	**Enumclaw**	**52.01**	**59**	*eP*		**P**		**17 13 54.2**	**+0.1**
EDM	**Edmonton**	**53.09**	**49**	*eP*		**P**		**17 14 01.5**	**-0.5**
EDM	**Edmonton**	**53.09**	**49**	*eP*		**P**		**17 14 01.5**	**-0.5**
	comp=Z,5.0nm,0.8s								
EDM	**Edmonton**	**53.09**	**49**	*eP*		**P**		**17 14 01.5**	**-0.5**
EDM					pmax	pmax			
	comp=Z,5.0nm,0.8s								
ARU	**Arti**	**54.32**	**317**	*eP*		**P**		**17 14 09.8**	**-1.1**
	comp=Z,18nm,1.8s								
ARU	**Arti**	**54.32**	**317**	*c i*	P	**P**		**17 14 09.1**	**-1.8**
ARU								17 15 11.9	
ARU					S	**S**		**17 21 43.3**	**-0.8**
ARU					SS	**SS**		**17 25 22.6**	**-3.4**
ARU					pmax	pmax			
	comp=Z,6.0nm,1.2s								
CHTO	**Chiang Mai**	**54.58**	**257**	*eP*		**P**		**17 14 12.2**	**-1.1**
	comp=Z,3.5nm,0.8s								
CHTO	**Chiang Mai**	**54.58**	**257**	*eP*		**P**		**17 14 12.2**	**-1.1**
CHTO					pmax	pmax			
	comp=Z,3.0nm,0.8s								
CM31	**Chiang Mai Arr**	**54.85**	**257**	*eP*		**P**		**17 14 15.9**	**+0.7**
CMAR	**Chiang Mai Arr**	**54.85**	**257**	P		**P**		**17 14 15.8**	**+0.6**
	comp=Z,2.5nm,0.8s,baz=31,slow=6.8,SNR=22								
CMAR	**Chiang Mai Arr**	**54.85**	**257**	*eP*		**P**		**17 14 16.6**	**+1.4**
CMAR					pmax	pmax			
	comp=Z,3.0nm,0.8s								
CM01	**Chiang Mai Arr**	**54.86**	**257**	*eP*		**P**		**17 14 15.9**	**+0.6**
FCC	**Fort Churchill**	**57.96**	**35**	*eP*		**P**		**17 14 37.3**	**+0.5**
FCC	**Fort Churchill**	**57.96**	**35**	*eP*		**P**		**17 14 37.3**	**+0.5**
	comp=Z,15nm,1.9s								
FCC	**Fort Churchill**	**57.96**	**35**	*eP*		**P**		**17 14 37.3**	**+0.5**
FCC					pmax	pmax			
	comp=Z,15nm,1.9s								
ABKAR	**Akbulak array**	**58.16**	**310**	*eP*		**P**		**17 14 37.6**	**-0.7**
WAKR	**Walker**	**58.81**	**66**	*eP*		**P**		**17 14 44.8**	**+1.5**
	comp=Z,32nm,1.9s								
NV01	**Mina Array Sit**	**59.54**	**65**	*eP*		**P**		**17 14 48.4**	**+0.1**
NVAR	**Mina Array Bea**	**59.54**	**65**	P		**P**		**17 14 48.9**	**+0.5**
	comp=Z,1.3nm,0.7s,baz=300,slow=8.4,SNR=5.0								
PD31	**Pinedale Array**	**61.65**	**57**	*eP*		**P**		**17 15 03.1**	**+0.4**
PDAR	**Pinedale Array**	**61.65**	**57**	P		**P**		**17 15 03.6**	**+0.9**
	comp=Z,1.4nm,0.9s,baz=318,slow=2.0,SNR=8.7								
SFJD	**Kangerlussuaq**	**62.15**	**11**	*eP*		**P**		**17 15 05.0**	**-0.3**
	comp=Z,44nm,1.9s								
SFJD	**Kangerlussuaq**	**62.15**	**11**	*eP*		**P**		**17 15 05.0**	**-0.3**
SFJD					pmax	pmax			
	comp=Z,44nm,1.9s								
SNCC	**San Nicolas Is**	**62.25**	**70**	*eP*		**P**		**17 15 06.8**	**+0.2**
	comp=Z,57nm,1.0s								
FIA1	**FINESS Array S**	**62.40**	**335**	*eP*		**P**		**17 15 05.8**	**-1.3**
FIA0	**FINESS Array S**	**62.40**	**335**	*eP*		**P**		**17 15 05.5**	**-1.6**
FIA0	**FINESS Array S**	**62.40**	**335**	*eP*		**P**		**17 15 05.5**	**-1.6**
FINES	**FINESS Array B**	**62.40**	**335**	*eP*		**P**		**17 15 05.5**	**-1.6**
	comp=Z,1.7nm,0.9s,baz=36,slow=5.0,SNR=5.5								
FINES	**FINESS Array B**	**62.40**	**335**	*eP*		**P**		**17 15 06.0**	**-1.1**
FINES					pmax	pmax			
	comp=Z,1.0nm,0.3s								
HEC	**Hector,Ludlow**	**63.12**	**67**	*eP*		**P**		**17 15 13.5**	**+1.1**
DNR	**Dunn Ranch,Anz**	**63.80**	**68**	*eP*		**P**		**17 15 16.8**	**-0.3**
PHWY	**Pilot Hill**	**64.87**	**55**	*eP*		**P**		**17 15 24.3**	**+0.2**
	comp=Z,54nm,0.8s								
NC204	**NORSAR Array S**	**66.14**	**342**	*eP*		**P**		**17 15 30.0**	**-1.7**
NB200	**NORSAR Array S**	**66.27**	**342**	*eP*		**P**		**17 15 31.0**	**-1.4**
NOA	**NORSAR Array B**	**66.27**	**342**	P		**P**		**17 15 31.0**	**-1.4**
	comp=Z,0.3nm,0.6s,baz=28,slow=6.8,SNR=3.0								
HFS	**Hagfors**	**66.58**	**340**	P		**P**		**17 15 33.4**	**-1.0**
	comp=Z,1.1nm,0.6s,baz=38,slow=2.6,SNR=7.9								
KBZ	**Khabaz**	**70.33**	**315**	P		**P**		**17 15 57.6**	**-0.4**
	comp=Z,0.7nm,0.4s,baz=115,slow=2.3,SNR=4.2								
AKASG	**Malin Array Ir**	**70.34**	**327**	P		**P**		**17 15 56.6**	**-1.4**
	comp=Z,0.4nm,0.3s,baz=32,slow=6.7,SNR=3.1								
WR1	**Warramunga Arr**	**71.70**	**201**	*eP*		**P**		**17 16 06.5**	**0.0**
	comp=Z,35nm,1.9s								
WRA	**Warramunga Arr**	**71.70**	**201**	P		**P**		**17 16 06.5**	**0.0**
	comp=Z,2.6nm,0.8s,baz=16,slow=6.4,SNR=9.2								
EKA	**Eskdalemuir Ar**	**74.14**	**348**	P		**P**		**17 16 20.5**	**-0.1**
	comp=Z,0.5nm,0.3s,baz=21,slow=5.3,SNR=8.8								
BUR08	**Bucovina Ar. S**	**74.33**	**328**	*eP*		**P**		**17 16 21.2**	**-0.8**
BURAR	**Bucovina Array**	**74.35**	**328**	*i*	P	**P**		**17 16 21.5**	**-0.6**
LTX	**Lajitas**	**74.54**	**63**	*eP*		**P**		**17 16 24.7**	**+1.2**
LTX	**Lajitas**	**74.54**	**63**	*eP*		**P**		**17 16 24.7**	**+1.2**
TX31	**Lajitas Ar. Si**	**74.54**	**63**	*eP*		**P**		**17 16 24.6**	**+1.1**
TXAR	**Lajitas Array**	**74.54**	**63**	P		**P**		**17 16 24.7**	**+1.2**
	comp=Z,1.7nm,0.6s,baz=303,slow=4.0,SNR=19								
TRPA	**Tarpa**	**74.81**	**330**	*i*	P	**P**		**17 16 24.7**	**+0.1**
AS31	**Alice Springs**	**75.38**	**201**	*eP*		**P**		**17 16 28.7**	**+0.7**
	comp=Z,2.7nm,1.6s								
ASAR	**Alice Springs**	**75.39**	**201**	P		**P**		**17 16 29.0**	**+0.9**
	comp=Z,1.3nm,0.6s,baz=13,slow=5.6,SNR=26								
TLB	**Topalu**	**75.91**	**324**	*i*	P	**P**		**17 16 30.4**	**-0.5**
MLR	**Muntele Rosu**	**75.92**	**326**	*i*	P	**P**		**17 16 30.9**	**-0.3**
VOIR		**76.29**	**327**	*i*	P	**P**		**17 16 33.5**	**+0.3**
BR101	**Keskin Array S**	**77.69**	**318**	*eP*		**P**		**17 16 41.1**	**-0.1**
BRTR	**Keskin Array B**	**77.69**	**318**	P		**P**		**17 16 41.1**	**-0.1**
	comp=Z,1.0nm,1.0s,baz=87,slow=2.7,SNR=5.7								
BRTR	**Keskin Array B**	**77.69**	**318**	*eP*		**P**		**17 16 41.9**	**+0.6**
BRTR					pmax	pmax			
	comp=Z,1.0nm,1.0s								
VTS	**Vitosha**	**79.42**	**327**	*i*	P	**P**		**17 16 50.7**	**0.0**
MMAI	**Mount Meron Ar**	**82.41**	**313**	P		**P**		**17 17 07.4**	**+0.7**
	comp=Z,3.5nm,0.6s,baz=36,slow=6.8,SNR=16								
CPUP	**Villa Florida**	**145.48**	**60**	PKPbc		**PKPbc**		**17 24 22.2**	**0.0**
	comp=Z,1.1nm,0.5s,baz=282,slow=5.5,SNR=4.0								
PLCA	**Paso Flores**	**146.50**	**93**	*e*	PKP2	**PKPab**		**17 24 27.0**	**+0.8**
PLCA					pmax	pmax			
	comp=Z,2.0nm,0.9s								

IDC 13 17:08:09.9±1.8, 38°.50N×110°.18E, h0km, mb3.0/3, mb1 3.2/4, mb1mx3.0/70, mbtmp3.1/4, ML3.2/1, Error ellipse: s-maj=52.9km s-min=26.5km az=64.0, Western Nei Mongol

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SONM	**Songino Array**	**9.73**	**345**	Pn	Pn	17 10 30.1	-1.0
	0.2nm,0.3s,baz=160,slow=14,SNR=2.7						
SONM				Lg	Lg	17 13 11.0	
	0.1nm,0.3s,baz=165,slow=30,SNR=2.6						
MKAR	**Makanchi Array**	**22.04**	**301**	P	P	17 13 06.5	+0.5
	0.3nm,0.5s,baz=96,slow=10,SNR=6.8						
CMAR	**Chiang Mai Arr**	**22.25**	**209**	P	P	17 13 07.6	-0.8
	0.2nm,0.7s,baz=15,slow=9.6,SNR=4.5						
ASAR	**Alice Springs**	**65.72**	**156**	P	P	17 18 56.7	+0.3
	0.2nm,0.5s,baz=348,slow=6.9,SNR=6.8						

IDC 13 17:10:26.4±8.5, 4°.39S×153°.28E, h137km±58km, mb3.4/4, mb1 3.6/5, mb1mx3.0/49, mbtmp3.9/5, Error ellipse: s-maj=67.9km s-min=55.8km az=93.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**7.86**	**230**	P	Pn	17 12 18.3	+0.3
	4.3nm,0.3s,baz=48,slow=4.4,SNR=15						
PMG				S	Sn	17 13 45.7	+0.1
	0.6nm,0.3s,baz=139,slow=19,SNR=2.1						
WRA	**Warramunga Arr**	**24.08**	**228**	P	P	17 15 30.3	+0.9
	1.7nm,0.4s,baz=54,slow=10.0,SNR=33						
ASAR	**Alice Springs**	**26.78**	**222**	P	P	17 15 53.9	+0.1
	0.2nm,0.4s,baz=52,slow=8.9,SNR=8.3						
STKA	**Stephens Creek**	**29.46**	**201**	P	P	17 16 16.6	-0.9
	1.0nm,0.8s,baz=27,slow=11,SNR=2.6						
FITZ	**Fitzroy Crossi**	**30.28**	**241**	P	P	17 16 24.3	-0.5
	1.3nm,0.7s,baz=60,slow=8.1,SNR=3.9						
TORD	**Torodi Ar. Bea**	**150.63**	**289**	PKPbc	PKPbc	17 30 03.0	-0.4
	0.3nm,0.4s,baz=96,slow=2.8,SNR=2.4						

ATA 13 17:13:38.8±1.6, 39°.44N×40°.22E, h41km±7km, ML2.8, MW2.8, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BGOL	**Bingol**	**0.57**	**142**	*i* P	Pn	17 13 42.1	-8.5
BGOL				*i* S	Sn	17 13 45.4	-14
ECAT	**Cat-ERZURUM**	**0.61**	**74**	*eP*	Pn	17 13 53.2	+2.0
ECAT				*eS*	Sn	17 14 02.7	+2.6
KOPT	**Kop Dagi**	**0.61**	**20**	*eP*	Pn	17 13 52.3	+0.9
KOPT				*eS*	Sn	17 14 02.3	+2.0
TNCL	**Tunceli-Merkez**	**0.62**	**238**	*eP*	Pn	17 13 52.4	+1.1
TNCL				*eS*	Sn	17 14 02.1	+2.0
TNCL				IAML		17 14 04.6	
	comp=Z,20nm,0.4s						
TNCL	**Tunceli-Merkez**	**0.62**	**238**	*i* P	Pn	17 13 52.4	+1.2
TNCL				*i* S	Sn	17 14 02.5	+2.4
ERZM	**Erzurum**	**1.00**	**62**	*eP*	Pn	17 13 58.9	+2.3
KELT	**Kelkit**	**1.02**	**314**	*eP*	Pn	17 13 59.8	+2.8
EKAR	**Karacoban**	**1.44**	**97**	*eP*	Pn	17 14 04.4	+1.8
EKAR				*eS*	Sn	17 14 25.9	+5.4
EKAR				IAML		17 14 36.7	
	comp=Z,6.6nm,0.6s						

IDC 13 17:42:38.6±1.4, 3°.08N×92°.66E, h0km, mb3.6/9, mb1 3.7/10, mb1mx3.5/61, mbtmp3.6/10, ML3.3/1, MS3.3/3, Ms1 3.3/3, ms1mx2.6/62, Error ellipse: s-maj=51.5km s-min=19.6km az=54.0

ISCJB 13 17:42:42.0±1.0, 3°.2N±0°.1×92°.8E±0°.2, h33km, mb3.6/9, MS3.5/2, Error ellipse: s-maj=30.7km s-min=16.1km az=148.2

ISC 13 17:42:44.1±1.3, 3°.2N±0°.2×92°.8E±0°.2, h35km, n13, σ0§67/10, mb3.6/9, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**16.34**	**21**	Pn	**Pn**	**17 46 30.1**	**-0.9**
	0.0nm,0.3s,baz=217,slow=14,SNR=9.4						
LEM	**Lembang**	**17.83**	**124**	LR	LR	17 53 43.3	
	comp=Z,42nm,21.3s,baz=173,slow=37						
BATI	**Baumata**	**33.50**	**114**	LR	LR	18 03 42.4	
	comp=Z,137nm,18.5s,baz=262,slow=38						
MKAR	**Makanchi Array**	**44.39**	**350**	P		**17 50 51.3**	**0.0**
	0.6nm,0.6s,baz=170,slow=8.6,SNR=8.7						
SONM	**Songino Array**	**46.01**	**13**	P		**17 51 05.4**	**+1.1**
	0.4nm,0.6s,baz=208,slow=8.2,SNR=3.0						
WRA	**Warramunga Arr**	**46.82**	**121**	P		**17 51 10.9**	**-0.1**
	0.6nm,0.8s,baz=298,slow=8.4,SNR=2.9						
GEYT	**Alibeck**	**46.91**	**322**	P		**17 51 11.3**	**-0.1**
	1.0nm,0.7s,baz=113,slow=9.7,SNR=2.6						
ASAR	**Alice Springs**	**48.11**	**126**	P		**17 51 20.9**	**-0.1**
	0.6nm,1.2s,baz=300,slow=7.4,SNR=2.9						
KURBB	**Kurchatov Arra**	**48.79**	**348**	P		**17 51 25.9**	**+0.3**
	0.6nm,0.8s,baz=173,slow=7.1,SNR=6.2						
ZALV	**Zalesovo Beam**	**51.03**	**354**	P		**17 51 43.1**	**+0.4**
	0.7nm,0.4s,baz=173,slow=7.3,SNR=4.7						
BVAR	**Borovoye Array**	**53.02**	**343**	P		**17 51 56.6**	**-0.9**
	0.4nm,0.7s,baz=148,slow=7.2,SNR=2.3						
HNR	**Honiara**	**68.08**	**101**	LR	LR	18 25 51.6	
	comp=Z,21nm,18.9s,baz=76,slow=38						
GERES	**GERESS Array B**	**80.43**	**319**	P		**17 54 52.3**	**-0.2**
	1.1nm,0.8s,baz=95,slow=6.7,SNR=6.3						

ISCJB 13 17:52:36.3±0.5, 20°.38N±0°.07×122°.3E±0°.2, h31km, Error ellipse: s-maj=23.7km s-min=3.7km az=23.0

JMA 13 17:52:39.8±0.4, 20°.49N×122°.36E, h74km, M3.7

ISC 13 17:52:37.9±1.3, 20°.38N±0°.09×122°.2E±0°.2, h31km, n14, σ1§48/26, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
APYP	**Conner**	**2.68**	**201**	*eP*	**Pn**	**17 53 18.1**	**-0.8**
APYP				*eS*	**Sn**	**17 53 48.2**	**-2.1**
ABRA	**Dolores**	**3.08**	**208**	*eP*	**Pn**	**17 53 24.2**	**-0.3**
ABRA				*eS*	**Sn**	**17 53 58.6**	**-1.6**
CAUP	**Cauayan**	**3.44**	**187**	*eP*	**Pn**	**17 53 30.3**	**+0.9**
HATJ	**Hateruma jima**	**3.93**	**21**	P	**Pn**	**17 53 37.1**	**+0.9**
HATJ				*eS*	**Sn**	**17 54 20.2**	**-1.1**
JYNG	**Yonagunijimaku**	**4.10**	**9**	P	**Pn**	**17 53 40.3**	**+1.8**
YOJ	**Yonaguni jima**	**4.12**	**10**	P	**Pn**	**17 53 40.7**	**+1.9**
YOJ				*eS*	**Sn**	**17 54 25.4**	**-0.6**
IRIF	**Iriomote-Funau**	**4.17**	**19**	P	**Pn**	**17 53 40.6**	**+1.2**
IRIF				*eS*	**Sn**	**17 54 26.2**	**-0.9**
JKRS	**Kuro-shima**	**4.17**	**23**	P	**Pn**	**17 53 40.7**	**+1.2**
JKRS				*eS*	**Sn**	**17 54 27.0**	**-0.2**
JIJ	**Ishigaki jima**	**4.34**	**24**	P	**Pn**	**17 53 43.0**	**+1.3**
JIJ				*eS*	**Sn**	**17 54 29.9**	**-1.3**
JISG	**Ishigakijimahi**	**4.60**	**24**	P	**Pn**	**17 53 46.2**	**+0.8**
JISG				*eS*	**Sn**	**17 54 36.1**	**-1.7**
JTJ	**Tarama**	**4.81**	**28**	P	**Pn**	**17 53 50.1**	**+1.9**
JTJ				*eS*	**Sn**	**17 54 41.5**	**-1.4**
JIRB	**Irabujima**	**5.19**	**31**	P	**Pn**	**17 53 54.5**	**+1.1**
JIRB				*eS*	**Sn**	**17 54 51.2**	**-1.0**
JOGS	**Gusukube**	**5.25**	**33**	P	**Pn**	**17 53 55.9**	**+1.7**
JOGS				*eS*	**Sn**	**17 54 53.3**	**-0.4**
JKE	**Kume jima 2**	**7.24**	**34**	P	**Pn**	**17 54 22.2**	**+0.6**
JKE				*eS*	**Sn**	**17 55 39.5**	**-3.3**

NEIC 13 18:00:37.7±0.6, 2°.45N×94°.00E, h10km, mb4.8/3, Error ellipse: s-maj=10.7km s-min=5.0km az=224.0

IDC 13 18:00:37.4±11.0, 2°.54N×93°.89E, h0km, mb3.9/5, mb1 3.9/6, mb1mx3.5/69, mbtmp3.8/6, ML4.2/1, MS4.0/1, Ms1 4.0/1, ms1mx2.5/59, Error ellipse: s-maj=220.9km s-min=86.0km az=154.0

DJA 13 18:00:41.4±2.6, 3°.N±11°.×9°.4E±2°.6, h21km±30km, M4.0/5, mB5.0/1, mb4.3/2, MLv3.8/5, Mw(mB)4.3/1

ISC 13 18:00:40.8±1.2, 2°.79N±0°.08×94°.3E±0°.1, h17km, n36, σ1§39/30, mb4.0/7, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MLSI	**Meulaboh, Aceh**	**2.52**	**55**	P	**Pn**	**18 01 21.8**	**+0.7**

STKA	**Stephens Creek** 4.6nm,1.9s	**36.21**	**161**	*e*P		**P**	**18 10 27.6**	**-0.6**
H11S3	**WAKE ISLAND Hy** baz=251,slow=75,SNR=51	**40.43**	**64**	T		T	18 54 12.9	
H11S2	**WAKE ISLAND Hy** baz=251,slow=75,SNR=37	**40.44**	**64**	T		T	18 54 13.8	
H11S1	**WAKE ISLAND Hy** baz=251,slow=75,SNR=23	**40.44**	**64**	T		T	18 54 13.0	
H11N1	**WAKE ISLAND Hy** baz=250,slow=75,SNR=35	**41.01**	**62**	T		T	18 54 52.3	
H11N2	**WAKE ISLAND Hy** baz=250,slow=75,SNR=18	**41.02**	**62**	T		T	18 54 52.9	
H11N3	**WAKE ISLAND Hy** baz=250,slow=75,SNR=33	**41.03**	**62**	T		T	18 54 55.3	
SONA0	**Songino Array**	**49.20**	**340**	*e*P		**P**	**18 12 13.0**	**-0.5**
SONM	**Songino Array** 0.4nm,0.4s,baz=140,slow=7.5,SNR=3.4	**49.20**	**340**	P		**P**	**18 12 13.0**	**-0.5**
MK01	**Makanchi Array**	**59.78**	**325**	*e*P		**P**	**18 13 29.5**	**-0.9**
MK31	**Makanchi Array**	**59.80**	**325**	*e*P		**P**	**18 13 29.9**	**-0.6**
MK32	**Makanchi Array**	**59.80**	**325**	*e*P		**P**	**18 13 29.5**	**-1.0**
MKAR	**Makanchi Array** 1.0nm,0.5s,baz=118,slow=8.4,SNR=19	**59.80**	**325**	P		**P**	**18 13 29.5**	**-1.0**
MKAR	**Makanchi Array** 8.3nm,0.4s	**59.80**	**325**	*e*P		**P**	**18 13 29.6**	**-0.9**
MAKZ	**Makanchi** 1.2nm,0.8s	**59.99**	**325**	*e*P		**P**	**18 13 31.6**	**-0.2**
ZALV	**Zalesovo Beam** 0.5nm,0.3s,baz=115,slow=10,SNR=3.5	**62.69**	**332**	P		**P**	**18 13 48.0**	**-1.8**
ZAA1	**Zalesovo Array**	**62.69**	**333**	*e*P		**P**	**18 13 48.0**	**-1.9**
KURK	**Kurchatov**	**63.94**	**327**	*e*P		**P**	**18 13 57.3**	**-1.0**
KURBB	**Kurchatov Arra** 1.2nm,0.6s,baz=128,slow=5.9,SNR=21	**63.95**	**327**	P		**P**	**18 13 57.3**	**-1.0**
TIXI	**Tiksi** 5.7nm,1.7s	**69.14**	**0**	*e*P		**P**	**18 14 30.1**	**-0.9**
BVAR	**Borovoye Array** 0.8nm,0.6s,baz=111,slow=7.9,SNR=8.0	**69.53**	**327**	P		**P**	**18 14 33.0**	**-0.9**
BRVK	**Borovoye** 1.4nm,0.8s	**69.60**	**327**	*e*P		**P**	**18 14 33.1**	**-1.2**
NIKH	**Nikolski High** 341nm,1.6s	**71.73**	**34**	*e*P		**P**	**18 14 47.2**	**-0.1**

IDC ***13*** *18:12:10.9±1.4,2.00N×93.93E,h0km,mb3.6/7, mb1 3.8/10,mb1mx3.5/67,mbtmp3.7/10,ML3.8/3,MS3.3/2, Ms1 3.3/2,ms1mx2.5/57,Error ellipse: s-maj=44.6km s-min=18.3km az=50.0*

NEIC ***13*** *18:12:11.8±0.5,1.99N×93.95E,h10km,mb4.5/9,Error ellipse: s-maj=10.3km s-min=6.3km az=51.0*

ISCJB ***13*** *18:12:14.0±0.5,2.05N±0.04×94.07E±0.04,h33km, mb4.1/17,MS3.3/1,Error ellipse: s-maj=6.6km s-min=5.1km az=136.5*

DJA ***13*** *18:12:20.0±1.7,2.°N±6°×9°4E±1°8,h36km±64km,M4.5/6, mB5.2/1,mb4.6/2,MLv4.3/6,Mw(mB)4.6/1*

ISC 13 18:12:15.5±0.7,2.01N±0.06×94.08E±0.07,h35km,n52, σ1§80/57,mb4.1/17,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLSI	**Meulaboh, Aceh**	**3.23**	**46**	P	**Pn**	**18 13 03.5**	**-0.2**
MLSI				S	**Sn**	**18 13 39.8**	**-1.1**
TPTI		**3.34**	**68**	P	**Pn**	**18 13 05.2**	**0.0**
TPTI				S	**Sn**	**18 13 41.0**	**-2.7**
GSI	**Gunungsitoli**	**3.57**	**101**	P	**Pn**	**18 13 09.6**	**+1.2**
GSI	**Gunungsitoli**	**3.57**	**101**	*e*Pn	**Pn**	**18 13 09.4**	**+1.0**
GSI				*e*Sn	**Sn**	**18 13 48.2**	**-1.2**
BSI	**Banda Aceh**	**3.67**	**19**	P	**Pn**	**18 13 08.7**	**-1.1**
BSI				S	**Sn**	**18 13 48.6**	**-3.2**
KCSI	**Kotacane, Aceh**	**3.98**	**68**	P	**Pn**	**18 13 16.6**	**+2.5**
LHMI	**Lhok Sumawe**	**4.29**	**42**	P	**Pn**	**18 13 20.0**	**+1.7**
LHMI				S	**Sn**	**18 14 08.4**	**+1.2**
LHMI	**Lhok Sumawe**	**4.29**	**42**	*e*Pn	**Pn**	**18 13 20.0**	**+1.7**
PBSI	**Pulau Batu**	**4.68**	**116**	P	**Pn**	**18 13 25.0**	**+1.3**
PSI	**Prapat** 4.9nm,0.3s,baz=322,slow=12,SNR=9.4	**4.91**	**81**	Pn	**Pn**	**18 13 27.9**	**+0.9**
PSI	baz=293,slow=15			Sn	**Sn**	**18 14 17.4**	**-5.1**
PSI	**Prapat**	**4.91**	**81**	*e*Pn	**Pn**	**18 13 28.1**	**+1.1**
PSI				*e*Sn	**Sn**	**18 14 16.7**	**-5.9**
MNSI	**Mandailing Nat** 89nm,0.7s,2µm0.6nm	**5.63**	**102**	P	**Pn**	**18 13 38.4**	**+1.6**
SISI	**Saibi**	**6.01**	**123**	P	**Pn**	**18 13 42.8**	**+0.8**
SISI				S	**Sn**	**18 14 47.2**	**-2.5**
IPM	**Ipoh**	**7.36**	**70**	*e*Pn	**Pn**	**18 14 01.2**	**+0.7**
MNAI	**Manna**	**10.90**	**126**	*e*Pn	**Pn**	**18 14 49.1**	**-0.1**
PALK	**Pallekele** 0.3nm,0.3s,baz=116,slow=16,SNR=3.2	**14.31**	**292**	Pn	**Pn**	**18 15 32.9**	**-2.9**
PALK	0.7nm,0.3s,baz=105,slow=5.5,SNR=4.0			Sn	Sn	18 17 59.1	-14
PALK	**Pallekele**	**14.31**	**292**	*e*Pn	**Pn**	**18 15 33.5**	**-2.4**
PALK				Sn	Sn	18 17 59.1	-14
LEM	**Lembang** comp=Z,80nm,18.2s,baz=1.5,slow=38	**16.12**	**123**	LR	LR	18 22 27.0	
CM01	**Chiang Mai Arr**	**16.99**	**16**	*e*Pn	**Pn**	**18 16 08.8**	**-1.8**
CM31	**Chiang Mai Arr**	**17.02**	**16**	*e*Pn	**Pn**	**18 16 10.4**	**-0.6**
CMAR	**Chiang Mai Arr** 0.1nm,0.3s,baz=212,slow=12,SNR=25	**17.02**	**16**	P	**Pn**	**18 16 09.9**	**-1.1**
CHTO	**Chiang Mai** 7.7nm,1.5s	**17.36**	**16**	*e*Pn	**Pn**	**18 16 13.3**	**-1.9**
H08S2	**Diego Garcia H** baz=64,slow=76,SNR=9.3	**23.57**	**246**	T	T	18 43 11.7	
H08S3	**Diego Garcia H** baz=64,slow=76,SNR=9.5	**23.57**	**246**	T	T	18 43 09.8	
H08S1	**Diego Garcia H** baz=64,slow=76,SNR=9.5	**23.59**	**246**	T	T	18 43 09.8	
LSA	**Lhasa** 2.2nm,0.7s	**27.67**	**355**	*e*P	**P**	**18 18 00.7**	**-0.1**
LZH	**Lanzhou**	**35.09**	**14**	*e*P	**P**	**18 19 07.9**	**+2.3**
LZH				pP	pP	18 19 13.1	-2.7
LZH				sP	sP	18 19 15.3	-4.7
LZH				*e*PP	**PP**	**18 20 27.8**	**+2.1**
LZH	comp=Z,37nm,1.0s			pmax	pmax		
LZH	comp=Z,260nm,5.7s			pmax	pmax		
GTA	**Gaotai**	**37.59**	**7**	*e*P	**P**	**18 19 28.1**	**+1.2**
GTA				pP	pP	18 19 32.6	-4.5
GTA				sP	sP	18 19 35.3	-6.0
GTA	comp=Z,2.0nm,1.1s			pmax	pmax		
NWAO	**Narrogin (SRO)** comp=Z,55nm,1.7s	**41.07**	**150**	*e*P	**P**	**18 19 54.6**	**-1.3**
HHC	**Hu-ho-hao-te**	**41.77**	**20**	*e*P	**P**	**18 20 04.3**	**+2.7**
HHC	comp=Z,7.0nm,1.1s			pmax	pmax		
HHC	comp=Z,21nm,5.9s			pmax	pmax		
WMQ	**Urumqi**	**42.01**	**353**	*e*P	**P**	**18 20 04.8**	**+1.3**
WR1	**Warramunga Arr** comp=Z,41nm,1.9s	**45.12**	**121**	*e*P	**P**	**18 20 30.4**	**+1.5**
WRA	**Warramunga Arr** comp=Z,0.2nm,0.4s,baz=303,slow=8.0,SNR=9.7	**45.12**	**121**	P	**P**	**18 20 30.4**	**+1.5**
MK01	**Makanchi Array**	**45.75**	**349**	*e*P	**P**	**18 20 34.6**	**+1.2**
MK31	**Makanchi Array**	**45.77**	**349**	*e*P	**P**	**18 20 32.9**	**-0.8**
MK32	**Makanchi Array**	**45.77**	**349**	*e*P	**P**	**18 20 34.8**	**+1.1**
MKAR	**Makanchi Array** comp=Z,1.2nm,0.6s,baz=166,slow=8.2,SNR=22	**45.77**	**349**	P	**P**	**18 20 34.8**	**+1.1**
MKAR	**Makanchi Array** comp=Z,8.4nm,0.6s	**45.77**	**349**	*e*P	**P**	**18 20 34.6**	**+1.0**
MAKZ	**Makanchi** comp=Z,5.7nm,1.8s	**45.85**	**348**	*e*P	**P**	**18 20 35.0**	**+0.8**
FORT	**Forrest** comp=Z,21nm,1.0s	**45.94**	**138**	*e*P	**P**	**18 20 34.9**	**-0.2**
ASAR	**Alice Springs** comp=Z,0.2nm,0.4s,baz=294,slow=7.4,SNR=11	**46.39**	**126**	P	**P**	**18 20 40.5**	**+1.6**
AS31	**Alice Springs** comp=Z,1.2nm,1.3s	**46.39**	**126**	*e*P	**P**	**18 20 39.3**	**+0.4**
SONA0	**Songino Array**	**46.87**	**11**	*e*P	**P**	**18 20 43.4**	**+1.0**
SONM	**Songino Array** comp=Z,0.5nm,0.6s,baz=184,slow=8.5,SNR=3.8	**46.87**	**11**	P	**P**	**18 20 43.4**	**+1.0**
SONM	comp=Z,30nm,18.1s,baz=12,slow=38			LR	LR	18 41 55.5	
KURBB	**Kurchatov Arra** comp=Z,0.5nm,0.7s,baz=170,slow=7.0,SNR=7.1	**50.19**	**347**	P	**P**	**18 21 08.4**	**+0.7**
KURK	**Kurchatov**	**50.26**	**347**	*e*P	**P**	**18 21 08.4**	**+0.2**
ZAA0	**Zalesovo Array** comp=Z,5.5nm,1.6s	**52.32**	**353**	*e*P	**P**	**18 21 23.9**	**+0.3**
ZALV	**Zalesovo Beam** comp=Z,1.0nm,0.4s,baz=186,slow=7.0,SNR=7.1	**52.32**	**353**	P	**P**	**18 21 24.3**	**+0.6**
ZAA1	**Zalesovo Array**	**52.33**	**353**	*e*P	**P**	**18 21 24.3**	**+0.6**
BVAR	**Borovoye Array** comp=Z,0.3nm,0.7s,baz=155,slow=9.2,SNR=2.6	**54.51**	**343**	P	**P**	**18 21 39.7**	**0.0**
LTX	**Lajitas**	**144.50**	**27**	*e*PKPdf	**PKPab**	**18 31 48.0**	**+0.5**
TXAR	**Lajitas Array**	**144.50**	**27**	PKP	**PKPab**	**18 31 47.9**	**+0.5**

comp=Z,0.2nm,0.6s,baz=322,slow=2.0,SNR=2.8

MAN 13 18:14:03,10.21N×123.35E,h1km,mb4.3,ML3.1,MS2.8, 1C-1D,Cebu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LLP	**Lapu-Lapu**	**0.61**	**80**	*e*P	Pg	18 14 15.6	+0.8
LLP				*i* S	Sg	18 14 24.1	+1.3
TBP	**Tagbilaran**	**0.72**	**135**	*e*P	Pb	18 14 18.5	+0.1
GUIM	**Jordan**	**0.86**	**299**	*e*P	Pg	18 14 19.6	+0.1
GUIM				*e*S	Sb	18 14 32.6	-0.2
SNPH	**Sibulan**	**0.86**	**188**	*e*P	Pn	18 14 21.8	-0.5
SNPH				*i* S	Sn	18 14 35.3	-0.4
RCP	**Roxas**	**1.47**	**336**	*e*P	Pn	18 14 30.5	-0.2
RCP				*e*S	Sn	18 14 52.5	+1.9
MSLP	**Maasin**	**1.49**	**93**	*e*P	Pb	18 14 31.2	-0.2
MSLP				*e*S	Sg	18 14 49.4	-1.4
OCLP	**Ormoc**	**1.50**	**56**	*e*P	Pn	18 14 30.3	-0.7
OCLP				*e*S	Sn	18 14 52.4	+1.2

MAN 13 18:16:22,10.23N×123.29E,h21km,mb4.3,ML3.1,MS2.9, Cebu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LLP	**Lapu-Lapu**	**0.67**	**82**	*e*P	Pg	18 16 32.5	-2.5
LLP				*e*S	Sb	18 16 41.6	-2.3
TBP	**Tagbilaran**	**0.77**	**133**	*e*P	Pb	18 16 36.9	+0.1
GUIM	**Jordan**	**0.80**	**300**	*e*P	Pn	18 16 37.8	-0.3
GUIM				*e*S	Sn	18 16 50.4	+1.0
SNPH	**Sibulan**	**0.88**	**184**	*e*P	Pn	18 16 39.2	0.0
SNPH				*i* S	Sn	18 16 52.2	+0.9
OCLP	**Ormoc**	**1.53**	**57**	*e*P	Pn	18 16 47.8	-0.3
OCLP				*e*S	Sb	18 17 09.1	+0.4
MSLP	**Maasin**	**1.54**	**93**	*e*P	Pn	18 16 48.6	+0.4
MSLP				*e*S	Sb	18 17 08.9	-0.1

IDC ***13*** *18:24:04.0±1.8,3.97N×92.51E,h0km,mb3.5/4,mb1 3.7/7, mb1mx3.3/72,mbtmp3.6/7,ML3.3/2,MS3.7/3,Ms1 3.7/3, ms1mx2.7/55,Error ellipse: s-maj=49.6km s-min=22.7km az=43.0*

ISCJB ***13*** *18:24:06.5±1.1,4.0N±0.2×92.5E±0.1,h33km,mb3.6/4, MS3.7/3,Error ellipse: s-maj=22.9km s-min=12.8km az=24.1*

ISC 13 18:24:08.9±1.2,4.0N±0.2×92.6E±0.1,h35km,n13,σ1§27/8, mb3.5/4,MS3.4/3,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat** baz=270,slow=13	**6.47**	**101**	Pn	**Pn**	**18 25 43.2**	**+1.5**
PSI	baz=270,slow=17			Sn	**Sn**	**18 26 52.5**	**-1.9**
PALK	**Pallekele** 0.3nm,0.3s,baz=108,slow=15,SNR=4.0	**12.23**	**286**	Pn	**Pn**	**18 27 00.1**	**-0.7**
PALK	1.2nm,0.3s,baz=123,slow=16,SNR=6.2			Sn	Sn	18 29 04.1	-12
CMAR	**Chiang Mai Arr** 0.0nm,0.3s,baz=217,slow=15,SNR=8.6	**15.64**	**23**	Pn	**Pn**	**18 27 46.0**	**-0.7**
H08S3	**Diego Garcia H** baz=60,slow=74	**23.14**	**240**	T	T	18 54 42.5	
H08S2	**Diego Garcia H** baz=60,slow=74	**23.14**	**240**	T	T	18 54 34.4	
H08S1	**Diego Garcia H** baz=60	**23.16**	**240**	T	T	18 54 34.4	
AAK	**Ala-Archa** comp=Z,21nm,20.6s,baz=167,slow=36	**41.68**	**340**	LR	LR	18 49 17.1	
MKAR	**Makanchi Array** 0.4nm,0.7s,baz=162,slow=8.3,SNR=5.8	**43.52**	**350**	P	**P**	**18 32 09.4**	**+0.4**
NWAO	**Narrogin (SRO)** comp=Z,50nm,18.8s,baz=336,slow=33	**43.56**	**149**	LR	LR	18 48 10.6	
WRA	**Warramunga Arr** 0.5nm,1.0s,baz=297,slow=9.2,SNR=2.6	**47.45**	**122**	P	**P**	**18 32 40.4**	**-0.2**
KURBB	**Kurchatov Arra** 0.4nm,0.7s,baz=171,slow=6.6,SNR=6.2	**47.91**	**348**	P	**P**	**18 32 44.3**	**+0.6**
ZALV	**Zalesovo Beam** 1.0nm,0.5s,baz=175,slow=8.3,SNR=7.4	**50.17**	**354**	P	**P**	**18 33 01.7**	**+0.9**
NRIK	**Noril'sk** comp=Z,391nm,21.8s,baz=245,slow=39	**65.30**	**358**	LR	LR	19 07 00.9	

IDC 13 18:24:36.8±1.2,10.81N×40.80W,h0km,mb3.6/6, mb1 3.8/6,mb1mx3.5/60,mbtmp3.6/6,MS3.3/8,Ms1 3.4/8, ms1mx2.9/45,Error ellipse: s-maj=40.3km s-min=25.9km az=164.0,Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H05S1	**Guadeloupe/Mar** SNR=3.6	**19.88**	**283**	T	T	18 49 26.2	
PTGA	**Pitinga** comp=Z,69nm,20.1s,baz=54,slow=33	**22.24**	**240**	LR	LR	18 36 56.1	
H10N3	**ASCENSION HYDR** baz=304,slow=75,SNR=22	**32.07**	**124**	T	T	19 05 16.0	
H10N2	**ASCENSION HYDR** baz=304,slow=75,SNR=16	**32.08**	**124**	T	T	19 05 17.4	
H10N1	**ASCENSION HYDR** baz=304,slow=75,SNR=20	**32.09**	**124**	T	T	19 05 04.2	
H10S3	**ASCENSION HYDR** baz=306,slow=75,SNR=9.2	**32.59**	**126**	T	T	19 05 42.3	
H10S1	**ASCENSION HYDR** baz=306,slow=75,SNR=9.8	**32.59**	**126**	T	T	19 05 43.1	
H10S2	**ASCENSION HYDR** baz=306,slow=75,SNR=8.5	**32.60**	**126**	T	T	19 05 38.2	
LPAZ	**La Paz** 0.5nm,0.4s,baz=29,slow=8.7,SNR=4.1	**38.16**	**226**	P	P	18 31 58.5	-0.4
LPAZ	comp=Z,68nm,20.3s,baz=78,slow=36			LR	LR	18 47 13.1	
CPUP	**Villa Florida** comp=Z,60nm,18.6s,baz=105,slow=36	**40.26**	**203**	LR	LR	18 48 36.6	
TORD	**Torodi Ar. Bea** 1.3nm,0.8s,baz=278,slow=9.5,SNR=5.4	**41.60**	**82**	P	P	18 32 27.0	0.0
ESDC	**Sonseca Array** comp=Z,46nm,21.3s,baz=285,slow=32	**43.50**	**42**	LR	LR	18 47 48.8	
KEST	**Kesra** comp=Z,24nm,18.5s,baz=224,slow=37	**51.64**	**53**	LR	LR	18 56 18.6	
TXAR	**Lajitas Array** 0.2nm,0.7s,baz=101,slow=9.3,SNR=2.7	**61.18**	**298**	P	P	18 34 54.3	+0.6
NOA	**NORSAR Array B** comp=Z,12nm,20.4s,baz=350,slow=32	**62.80**	**26**	LR	LR	18 57 56.9	
AKASG	**Malin Array Be** 0.1nm,0.3s,baz=249,slow=6.5,SNR=2.5	**69.07**	**40**	P	P	18 35 44.5	0.0
FINES	**FINESS Array B** comp=Z,23nm,21.8s,baz=103,slow=33	**69.59**	**28**	LR	LR	19 02 32.0	
YKA	**Yellowknife Ar** 0.3nm,0.8s,baz=98,slow=5.7,SNR=6.0	**73.00**	**332**	P	P	18 36 07.4	-0.8
YKA	comp=Z,25nm,21.9s,baz=26,slow=33			LR	LR	19 04 52.5	
ILAR	**Eielson Array** 0.6nm,0.8s,baz=76,slow=3.8,SNR=4.1	**87.04**	**336**	P	P	18 37 24.3	+0.3

NIED ***13*** *18:25:00,38.40N×142.20E,h26km,Mw4.0 Best double couple: M09.98000×1014 NP1:φ=162.00000°,δ57.00000°, λ-34.00000°. NP2:φ=272.00000°,δ62.00000°, λ-142.00000°.*

ISCJB ***13*** *18:25:28.8±1.1,38.40N±0.03×142.26E±0.04,h32km±8km, mb4.0/28,Error ellipse: s-maj=5.9km s-min=4.0km az=15.2*

JMA ***13*** *18:25:29.9±0.1,38.45N×142.19E,h30km±2km,M4.1*

JMA Felt II J1.

NEIC ***13*** *18:25:30.7±0.7,38.44N×142.17E,h30km±4km,mb4.6/8, Error ellipse: s-maj=8.1km s-min=4.7km az=117.0*

NEIC Recorded [2 JMA] in Miyagi.

IDC ***13*** *18:25:31.5±4.4,38.42N×142.11E,h33km±34km,mb3.6/20, mb1 3.8/23,mb1mx3.6/70,mbtmp3.9/23,ML3.8/3,Error ellipse: s-maj=18.1km s-min=11.4km az=98.0*

ISC 13 18:25:30.2±1.9,38.43N±0.04×142.16E±0.07,h23km±12km, n103,σ1§28/81,mb4.2/28,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**0.64**	**273**	P	**Pb**	**18 25 42.7**	**0.0**
JIO				S	**Sb**	**18 25 51.2**	**+0.1**
OFUJ	**Ofunato**	**0.76**	**330**	P	**Pb**	**18 25 44.0**	**-0.7**
OFUJ				S	**Sb**	**18 25 53.8**	**-0.8**
JMK	**Ichinoseki**	**0.90**	**306**	P	**Pb**	**18 25 46.6**	**-0.6**
JMK				S	**Sb**	**18 25 58.4**	**-0.4**
JOU	**Okura**	**1.18**	**268**	P	**Pn**	**18 25 51.1**	**-0.1**
JOU				S	**Sn**	**18 26 06.4**	**-0.1**
JMM	**Marumori**	**1.21**	**243**	P	**Pn**	**18 25 50.7**	**-1.0**
JMM				S	**Sn**	**18 26 06.2**	**-1.2**
JOM	**Ohasama**	**1.25**	**327**	P	**Pn**	**18 25 51.6**	**-0.5**
JOM				S	**Sn**	**18 26 07.4**	**-0.8**
JFK	**Kawauchi**	**1.47**	**224**	P	**Pn**	**18 25 53.8**	**-1.4**
JFK				S	**Sn**	**18 26 11.6**	**-2.1**
JYK	**Kaneyama**	**1.49**	**290**	P	**Pn**	**18 25 55.8**	**+0.3**
JYK				*e*S	**Sb**	**18 26 14.9**	**-0.8**
JRG	**Rokugo**	**1.53**	**310**	P	**Pn**	**18 25 56.6**	**+0.5**
JRG				*e*S	**Sb**	**18 26 17.2**	**+0.3**
MJAR	**Matsushiro Arr** 2.9nm,0.3s,baz=58,slow=10,SNR=29	**3.66**	**240**	Pn	**Pn**	**18 26 26.6**	**+1.1**
MJAR	**Matsushiro Arr** 4.6nm,0.3s,baz=65,slow=21,SNR=5.6	**3.66**	**240**	Sn	**Sb**	**18 27 18.2**	**+0.1**
MAJO	**Matsushiro**	**3.66**	**240**	*e*Pn	**Pn**	**18 26 26.6**	**+1.2**
MAJO				*e*Sg	**Sb**	**18 27 18.2**	**0.0**
MAT	**Matsushiro**	**3.66**	**240**	P	**Pn**	**18 26 26.6**	**+1.2**
MAT				*e*S	**Sn**	**18 27 10.6**	**+2.7**
MJB9	**Matsu-Tunnel**	**3.66**	**240**	*e*Pn	**Pn**	**18 26 26.4**	**+1.0**
ERM	**Erimo**	**3.67**	**12**	*e*Pn	**Pn**	**18 26 25.3**	**-0.1**
ERM				*e*Sn	**Sn**	**18 27 06.4**	**-1.4**
INU	**Inuyama**	**5.14**	**235**	*e*Pn	**Pn**	**18 26 42.4**	**-3.3**
JHJ2	**Mitsune**	**5.63**	**200**	*e*Pn	**Pn**	**18 26 52.4**	**-0.1**
JHJ2				*e*Sn	**Sn**	**18 27 56.2**	**-0.3**
JHJ	**Hachijo jima 2** 20nm,0.3s,baz=130,slow=23,SNR=8.8	**5.64**	**201**	Pn	**Pn**	**18 26 52.1**	**-0.4**
JHJ	3.1nm,0.3s,baz=73,slow=19,SNR=3.4			Sn	**Sn**	**18 27 53.4**	**-3.1**
ASAJ	**Asahikawa** 2.6nm,0.3s,baz=221,slow=11,SNR=39	**5.70**	**3**	Pn	**Pn**	**18 26 53.6**	**+0.3**
ASAJ	baz=232,slow=18,SNR=3.0			Sn	**Sn**	**18 27 58.8**	**+0.9**
ASAJ	**Asahikawa**	**5.70**	**3**	*e*Pn	**Pn**	**18 26 53.2**	**-0.1**
ASAJ				*e*Sn	**Sn**	**18 27 57.8**	**-0.1**
YSS	**Yuzh-Sakhalins**	**8.53**	**3**	*e*Pn	**Pn**	**18 27 31.0**	**-1.3**
USRK	**Ussuriysk Ar.** 0.2nm,0.3s,baz=114,slow=16,SNR=2.6	**9.58**	**310**	Pn	**Pn**	**18 27 50.0**	**+3.4**
JNU	**Nakatsue**	**10.58**	**243**	*e*Pn	**Pn**	**18 28 01.9**	**+1.6**
KSRS	**Korea Array** 0.1nm,0.3s,baz=84,slow=14,SNR=3.0	**11.29**	**269**	Pn	**Pn**	**18 28 13.7**	**+3.7**
KSRS	**Korea Array** baz=81,slow=14,SNR=4.1	**11.29**	**269**	Pn	pPn	18 28 17.0	+1.6
KSAR	**Wonju Array Be**	**11.32**	**269**	Pn	**Pn**	**18 28 13.7**	**+3.3**
KLR	**Kul'dur** 0.0nm,0.3s,baz=138,slow=8.8,SNR=3.6	**13.14**	**329**	Pn	pPn	18 28 42.5	+1.8
KLR	**Kul'dur**	**13.14**	**329**	*e*Pn	pPn	18 28 42.5	+1.8
MA2	**Magadan** 6.4nm,0.6s,baz=189,slow=13,SNR=4.8	**21.87**	**12**	P	**P**	**18 30 20.8**	**-0.3**
YAK	**Yakutsk** 3.3nm,0.3s,baz=196,slow=4.1,SNR=3.6	**24.85**	**346**	P	**P**	**18 30 49.0**	**-1.6**
YAK	**Yakutsk** 9.2nm,0.9s	**24.85**	**346**	*e*P	**P**	**18 30 48.7**	**-1.8**
SEY	**Seymchan** 3.4nm,0.7s,baz=202,slow=8.2,SNR=12	**25.31**	**11**	P	**P**	**18 30 55.6**	**+0.9**
SONA0	**Songino Array**	**27.53**	**302**	*e*P	**P**	**18 31 15.3**	**+0.2**
SONM	**Songino Array** 0.2nm,0.5s,baz=98,slow=9.2,SNR=2.9	**27.53**	**302**	P	**P**	**18 31 15.3**	**+0.2**
H11N2	**WAKE ISLAND Hy** baz=316,slow=75	**28.39**	**124**	T	T	19 01 13.2	
H11N2	**WAKE ISLAND Hy** baz=317	**28.39**	**124**	T	T	19 01 45.8	
H11N1	**WAKE ISLAND Hy** baz=316,slow=75	**28.40**	**124**	T	T	19 01 00.9	
H11N1	**WAKE ISLAND Hy** baz=317	**28.40**	**124**	T	T	19 01 42.4	
H11N3	**WAKE ISLAND Hy** baz=316,slow=75	**28.41**	**124**	T	T	19 01 09.5	
H11N3	**WAKE ISLAND Hy** baz=317	**28.41**	**124**	T	T	19 01 46.2	
H11S1	**WAKE ISLAND Hy** baz=318	**29.16**	**126**	T	T	19 02 00.3	
H11S1	**WAKE ISLAND Hy** baz=318	**29.16**	**126**	T	T	19 02 35.3	
H11S3	**WAKE ISLAND Hy** baz=318,slow=74	**29.16**	**126**	T	T	19 02 04.3	
H11S3	**WAKE ISLAND Hy** baz=318	**29.16**	**126**	T	T	19 02 35.6	
H11S2	**WAKE ISLAND Hy** baz=318,slow=74	**29.18**	**126**	T	T	19 01 59.8	
H11S2	**WAKE ISLAND Hy** baz=318	**29.18**	**126**	T	T	19 02 37.0	
ZAA1	**Zalesovo Array**	**41.43**	**311**	*e*P	**P**	**18 33 14.9**	**+0.3**
ZALV	**Zalesovo Beam** 0.7nm,0.5s,baz=89,slow=11,SNR=4.4	**41.43**	**311**	P	**P**	**18 33 14.9**	**+0.3**
ZALV	**Zalesovo Beam** 1.7nm,0.6s,baz=75,slow=7.6,SNR=8.0	**41.43**	**311**	P	pP	18 33 22.4	+0.6
CM31	**Chiang Mai Arr**	**42.43**	**254**	*e*P	**P**	**18 33 21.5**	**-1.8**
CMAR	**Chiang Mai Arr** 0.1nm,0.6s,baz=43,slow=6.5,SNR=3.1	**42.43**	**254**	P	**P**	**18 33 22.9**	**-0.3**
CMAR	**Chiang Mai Arr** 0.3nm,0.6s,baz=43,slow=7.2,SNR=4.9	**42.43**	**254**	P	pP	18 33 31.2	+0.9
CHGN	**Chignik** 16nm,1.0s	**42.56**	**45**	*e*P	**P**	**18 33 24.6**	**+0.7**
MK32	**Makanchi Array**	**43.90**	**301**	*e*P	**P**	**18 33 34.1**	**-0.7**
MKAR	**Makanchi Array** 0.3nm,0.8s,baz=82,slow=8.5,SNR=3.8	**43.90**	**301**	P	**P**	**18 33 34.1**	**-0.7**
MKAR	**Makanchi Array** 3.6nm,0.7s,baz=86,slow=9.6,SNR=32	**43.90**	**301**	P	pP	18 33 43.0	+1.0
KURK	**Kurchatov** 8.1nm,0.8s	**45.55**	**307**	*e*P	**P**	**18 33 46.1**	**-1.8**
KURBB	**Kurchatov Arra** 1.6nm,0.5s,baz=80,slow=8.0,SNR=16	**45.62**	**307**	P	**P**	**18 33 48.3**	**-0.2**
KURBB	**Kurchatov Arra** 6.4nm,0.6s,baz=81,slow=8.1,SNR=31	**45.62**	**307**	P	pP	18 33 56.5	+0.9
JIRN	**Jiri**	**47.49**	**274**	*e*P	pP	18 34 12.8	+1.7
RAMN	**Ramite** 13nm,0.7s	**47.51**	**273**	*e*P	pP	18 34 12.2	+1.1
GUN	**Gumba** 12nm,0.6s	**47.62**	**275**	*e*P	pP	18 34 13.6	+1.5
ILAR	**Eielson Array** 0.3nm,0.8s,baz=262,slow=5.7,SNR=3.5	**48.01**	**33**	P	**P**	**18 34 07.7**	**+0.7**
ILAR	**Eielson Array** 0.5nm,0.6s,baz=266,slow=6.3,SNR=6.1	**48.01**	**33**	P	pP	18 34 15.9	+1.8
ILB	**Eielson Array**	**48.01**	**33**	*e*P	**P**	**18 34 06.2**	**-0.7**
KKN	**Kakani** 14nm,0.6s	**48.14**	**275**	*e*P	pP	18 34 17.2	+1.2
PKIN	**Phulchoki** 8.8nm,0.6s	**48.15**	**275**	*e*P	pP

HFS Hagfors 73.06 336 P pP 18 37 07.2 +1.7
1.0nm,0.5s,baz=69,slow=7.9,SNR=7.3
AKASG Malin Array Be 73.56 322 P P 18 36 59.5 -1.5
0.4nm,0.3s,baz=46,slow=6.7,SNR=5.1
AKASG Malin Array Be 73.56 322 P pP 18 37 08.9 +0.3
1.2nm,0.6s,baz=44,slow=5.9,SNR=7.0
AKBB Malin Array Si 73.56 322 *e*P P 18 36 59.9 -1.1
2.5nm,0.8s
MDPB Devils Postpil 73.66 55 *e*P P 18 37 05.7 +3.5
17nm,1.2s
BRG Berggiesshubel 80.15 330 *e*(P) pP 18 37 57.4 +12
3.5nm,1.1s
LTX Lajitas 88.81 53 *e*P P 18 38 22.8 +0.3
TXAR Lajitas Array 88.81 53 P P 18 38 22.8 +0.3
0.2nm,0.5s,baz=299,slow=3.3,SNR=3.4
VNA2 Neumayer--Watz 143.82 196 P PKPbc 18 44 59.7 -0.3
baz=110,slow=2.1
LPAZ La Paz 145.47 59 PKPbc PKPdf 18 45 07.1 -0.3
0.7nm,0.4s,baz=344,slow=5.5,SNR=3.6
LPAZ La Paz 145.47 59 PKPbc pPKPdf 18 45 16.2 +0.9
0.7nm,0.5s,baz=349,slow=4.0,SNR=3.6

MEX 13 18:31:21.3±0.5, 16°13N×99°36W, h11km±13km, MD4.1, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**1.22**	**77**	*i* P	Pn	18 31 40.7	-3.6
PNIG				*e*S	Sb	18 31 55.4	-4.7
CAIG	**El Cayaco**	**1.26**	**317**	*e*P	Pn	18 31 41.3	-3.6
CAIG				*e*S	Sb	18 31 56.6	-4.8
TLIG	**Tlapa**	**1.62**	**28**	*e*P	Pn	18 31 46.5	-3.4
TLIG				*e*S	Sn	18 32 06.0	-4.9

*ISCJB **13** 18:31:21.1±1.1, 1.0°N±0.2°×91.7°E±0.1°, h10km, mb3.7/9, MS3.4/1, Error ellipse: s-maj=25.5km s-min=18.4km az=22.4*
*IDC **13** 18:31:21.4±1.3, 0.96°N×91.73°E, h0km, mb3.7/9, mb1 3.8/11, mb1mx3.5/71, mbtmp3.7/11, ML3.5/2, MS3.2/2, Ms1 3.2/2, ms1mx2.5/61, Error ellipse: s-maj=37.5km s-min=24.2km az=40.0*
ISC 13 18:31:22.6±1.3, 1.0°N±0.2°×91.7°E±0.2°, h10km, n16, σ1°§13/12, mb3.8/9, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**12.61**	**300**	Pn	**Pn**	**18 34 21.0**	**-1.2**
PALK	0.4nm,0.3s,baz=116,slow=13,SNR=3.6			Sn	Sn	18 36 30.5	-12
PALK	1.6nm,0.3s,baz=119,slow=12,SNR=6.7			LR	LR	18 38 31.6	
CMAR	comp=Z,85nm,19.6s,baz=116,slow=34 **Chiang Mai Arr**	**16.75**	**22**	P	**P**	**18 35 40.5**	**-1.4**
H08S2	0.1nm,0.3s,baz=214,slow=14,SNR=9.2 **Diego Garcia H**	**20.99**	**246**	T	T	18 57 59.2	
H08S3	baz=65,slow=75,SNR=16 **Diego Garcia H**	**20.99**	**246**	T	T	18 57 57.0	
H08S1	baz=65,slow=75,SNR=20 **Diego Carcia H**	**21.01**	**246**	T	T	18 57 55.8	
MKAR	baz=65,slow=75,SNR=15 **Makanchi Array**	**46.35**	**351**	P	**P**	**18 39 50.4**	**+1.5**
WRA	0.9nm,0.7s,baz=163,slow=8.5,SNR=12 **Warramunga Arr**	**46.68**	**119**	P	**P**	**18 39 51.4**	**-0.5**
SONM	0.4nm,0.7s,baz=298,slow=8.5,SNR=3.6 **Songino Array**	**48.37**	**13**	P	**P**	**18 40 04.2**	**-0.5**
KURBB	0.6nm,0.7s,baz=183,slow=6.5,SNR=5.7 **Kurchatov Arra**	**50.69**	**349**	P	**P**	**18 40 23.3**	**+1.1**
ZALV	0.9nm,0.8s,baz=174,slow=7.1,SNR=10 **Zalesovo Beam**	**53.08**	**355**	P	**P**	**18 40 41.0**	**+1.0**
BVAR	0.9nm,0.5s,baz=180,slow=7.5,SNR=5.1 **Borovoye Array**	**54.80**	**344**	P	**P**	**18 40 53.7**	**+1.1**
MMAI	0.1nm,0.3s,baz=145,slow=7.9,SNR=2.5 **Mount Meron Ar**	**61.60**	**307**	LR	LR	19 09 25.8	
BRTR	comp=Z,24nm,18.4s,baz=145,slow=37 **Keskin Array B**	**65.23**	**314**	P	**P**	**18 42 04.5**	**-0.2**
MLR	0.5nm,0.7s,baz=132,slow=4.3,SNR=4.0 **Muntele Rosu**	**72.47**	**318**	P	**P**	**18 42 50.5**	**+0.8**
GERES	0.2nm,0.5s,baz=170,slow=6.1 **GERESS Array B**	**81.35**	**319**	P	**P**	**18 43 40.8**	**+1.1**
TXAR	1.6nm,0.9s,baz=102,slow=5.6,SNR=11 **Lajitas Array**	**146.45**	**25**	PKPbc	**PKPab**	**18 51 06.0**	**+0.3**
	0.1nm,0.6s,baz=319,slow=1.6,SNR=2.2						

IDC 13 18:36:21.1±2.0, 2.03°N×92.33°E, h0km, mb3.2/2, mb1 3.4/4, mb1mx3.0/67, mbtmp3.2/4, ML3.3/2, Error ellipse: s-maj=57.3km s-min=28.7km az=49.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**12.70**	**295**	Pn	Pn	18 39 24.9	+1.6
CMAR	0.3nm,0.3s,baz=120,slow=8.3,SNR=3.3 **Chiang Mai Arr**	**17.57**	**21**	P	P	18 40 29.4	+0.6
MKAR	0.0nm,0.3s,baz=230,slow=14,SNR=3.3 **Makanchi Array**	**45.44**	**350**	P	P	18 44 41.4	-0.5
WRA	0.1nm,0.6s,baz=169,slow=7.5,SNR=2.4 **Warramunga Arr**	**46.63**	**120**	P	P	18 44 51.1	-0.6
	0.3nm,0.7s,baz=300,slow=8.8,SNR=3.7						

*IDC **13** 18:38:18.0±1.1, 2.29°N×91.72°E, h0km, mb3.5/9, mb1 3.7/12, mb1mx3.5/67, mbtmp3.6/12, ML3.6/2, Error ellipse: s-maj=36.9km s-min=17.9km az=43.0*
*ISCJB **13** 18:38:20.8±0.9, 2.3°N±0.1°×91.7°E±0.1°, h33km, mb3.5/9, Error ellipse: s-maj=21.9km s-min=13.6km az=33.7*
ISC 13 18:38:22.8±1.1, 2.3°N±0.2°×91.8°E±0.1°, h35km, n15, σ1°§27/12, mb3.5/9, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**7.19**	**86**	Pn	**Pn**	**18 40 04.2**	**-1.4**
PALK	baz=270,slow=4.0 **Pallekele**	**12.05**	**294**	Pn	**Pn**	**18 41 10.1**	**-2.1**
PALK	0.8nm,0.3s,baz=116,slow=12,SNR=4.4			Sn	Sn	18 43 14.0	-11
CMAR	0.5nm,0.3s,baz=125,slow=15,SNR=3.7 **Chiang Mai Arr**	**17.51**	**23**	Pn	**Pn**	**18 42 23.1**	**-1.3**
H08S2	0.1nm,0.3s,baz=217,slow=14,SNR=6.0 **Diego Garcia H**	**21.61**	**243**	T	T	19 06 07.5	
H08S3	baz=61,slow=74,SNR=10 **Diego Garcia H**	**21.61**	**243**	T	T	19 06 03.0	
H08S1	baz=61,slow=74,SNR=10 **Diego Carcia H**	**21.63**	**243**	T	T	19 06 07.9	
MKAR	baz=61,slow=74,SNR=7.4 **Makanchi Array**	**45.05**	**351**	P	**P**	**18 46 35.4**	**+0.2**
SONM	0.3nm,0.5s,baz=172,slow=11,SNR=6.0 **Songino Array**	**47.06**	**13**	P	**P**	**18 46 52.8**	**+1.6**
WRA	0.4nm,0.5s,baz=191,slow=8.8,SNR=3.8 **Warramunga Arr**	**47.29**	**120**	P	**P**	**18 46 53.5**	**+0.2**
ASAR	1.3nm,0.5s,baz=298,slow=8.7,SNR=15 **Alice Springs**	**48.47**	**125**	P	**P**	**18 47 02.8**	**+0.4**
KURBB	0.1nm,0.4s,baz=299,slow=7.9,SNR=6.4 **Kurchatov Arra**	**49.40**	**349**	P	**P**	**18 47 09.5**	**+0.4**
ZALV	0.4nm,0.7s,baz=171,slow=7.0,SNR=4.6 **Zalesovo Beam**	**51.76**	**355**	P	**P**	**18 47 27.3**	**+0.5**
BVAR	0.4nm,0.3s,baz=185,slow=8.0,SNR=2.5 **Borovoye Array**	**53.54**	**344**	P	**P**	**18 47 41.3**	**+1.3**
BRTR	0.3nm,0.6s,baz=145,slow=8.1,SNR=4.9 **Keskin Array B**	**64.35**	**313**	P	**P**	**18 48 55.8**	**+0.3**
GERES	0.4nm,0.6s,baz=134,slow=4.7,SNR=3.4 **GERESS Array B**	**80.38**	**319**	P	**P**	**18 50 32.1**	**+1.2**
	0.2nm,0.4s,baz=114,slow=6.0,SNR=3.8						

IDC 13 18:40:56.5±4.4, 2.69°N×89.63°E, h0km, mb3.4/4, mb1 3.5/4, mb1mx3.2/64, mbtmp3.4/4, MS2.8/1, Ms1 3.0/1, ms1mx2.5/34, Error ellipse: s-maj=154.9km s-min=29.0km az=58.0, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**9.99**	**297**	Sn	Sn	18 45 03.1	-11
CMAR	3.0nm,0.3s,baz=116,slow=2.3,SNR=8.0 **Chiang Mai Arr**	**18.13**	**30**	LR	LR	18 51 56.5	
H01W3	comp=Z,31nm,20.9s,baz=45,slow=36 **Cape Leeuwin H**	**43.89**	**151**	T	T	19 35 54.3	
H01W2	baz=325,slow=75,SNR=4.5 **Cape Leeuwin H**	**43.90**	**151**	T	T	19 35 59.4	
H01W1	baz=325,slow=75,SNR=6.3 **Cape Leeuwin H**	**43.91**	**151**	T	T	19 35 56.2	
MKAR	baz=325,slow=75,SNR=5.5 **Makanchi Array**	**44.39**	**353**	P	P	18 49 08.6	-0.2
	0.2nm,0.6s,baz=169,slow=8.9,SNR=3.2						

SONM	**Songino Array**	**47.24**	**15**	P	P	18 49 31.8	+0.3
	0.6nm,0.5s,baz=198,slow=8.3,SNR=5.5						
KURBB	**Kurchatov Arra**	**48.67**	**351**	P	P	18 49 42.1	-0.3
	0.2nm,0.6s,baz=174,slow=8.1,SNR=2.3						
WRA	**Warramunga Arr**	**49.30**	**119**	P	P	18 49 47.6	-0.2
	0.6nm,1.1s,baz=296,slow=8.9,SNR=2.9						

IDC 13 18:44:34.5±19.0, 23.36°S×178.86°W, h405km±172km, mb3.3/6, mb1 3.4/6, mb1mx3.1/44, mbtmp4.0/6, Error ellipse: s-maj=116.7km s-min=73.3km az=99.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**32.52**	**269**	P	P	18 50 30.7	+0.8
	3.7nm,0.4s,baz=87,slow=12,SNR=11						
STKA	**Stephens Creek**	**35.89**	**248**	P	P	18 50 58.9	+0.6
	0.9nm,0.5s,baz=95,slow=12,SNR=2.7						
ASAR	**Alice Springs**	**43.15**	**260**	P	P	18 51 57.1	-0.5
	0.8nm,0.4s,baz=96,slow=7.3,SNR=46						
ASAR				PcP	PcP	18 53 38.3	-0.5
	0.1nm,0.6s,baz=96,slow=4.7,SNR=3.1						
WRA	**Warramunga Arr**	**43.49**	**265**	P	P	18 51 59.3	-0.9
	1.3nm,0.3s,baz=92,slow=8.5,SNR=67						
FITZ	**Fitzroy Crossi**	**51.91**	**265**	P	P	18 53 03.9	-0.1
	1.2nm,0.7s,baz=108,slow=15,SNR=4.8						
CMAR	**Chiang Mai Arr**	**90.32**	**290**	P	P	18 56 50.3	-1.0
	0.3nm,0.8s,baz=131,slow=4.9,SNR=3.0						
HFS	**Hagfors**	**142.21**	**350**	PKP	PKPdf	19 03 16.4	-2.5
	0.9nm,0.3s,baz=56,slow=4.1,SNR=16						
AKASG	**Malin Array Be**	**145.07**	**328**	PKPbc	PKPab	19 03 25.0	-0.2
	0.6nm,0.5s,baz=42,slow=3.9,SNR=3.9						
BRTR	**Keskin Array B**	**148.07**	**308**	PKPbc	PKPbc	19 03 32.1	-1.4
	0.3nm,0.6s,baz=99,slow=6.1,SNR=2.3						
MMAI	**Mount Meron Ar**	**148.42**	**295**	PKPbc	PKPbc	19 03 35.4	+0.8
	0.9nm,0.4s,baz=78,slow=5.8,SNR=8.6						

*ISCJB **13** 18:45:53.9±1.6, 27.45°N±0.04°×126.96°E±0.04°, h2km±10km, mb3.5/5, MS3.1/6, Error ellipse: s-maj=6.6km s-min=6.5km az=30.3*
*IDC **13** 18:45:54.9±1.0, 27.27°N×127.03°E, h0km, mb3.5/5, mb1 3.6/5, mb1mx3.3/61, mbtmp3.5/5, MS3.0/10, Ms1 3.1/10, ms1mx2.8/41, Error ellipse: s-maj=39.3km s-min=15.6km az=39.0*
*JMA **13** 18:45:54.0±0.2, 27.49°N×126.88°E, h18km±3km, M3.2*
ISC 13 18:45:55.5±1.9, 27.34°N±0.05°×127.01°E±0.06°, h7km±12km, n26, σ1°§02/25, mb3.3/5, MS3.1/6, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAGN	**Aguni-jima**	**0.78**	**164**	P	**Pn**	**18 46 11.7**	**-1.2**
JAGN				S	**Sn**	**18 46 24.0**	**-0.8**
JIH	**Iheya**	**0.91**	**109**	P	**Pb**	**18 46 13.6**	**0.0**
JIH				S	**Sn**	**18 46 27.4**	**-0.6**
JKE	**Kume jima 2**	**1.03**	**191**	P	**Pb**	**18 46 15.0**	**-0.7**
JKE				S	**Sn**	**18 46 30.9**	**-0.1**
JNTH	**Nagotoyohara**	**1.22**	**132**	P	**Pb**	**18 46 18.8**	**-0.2**
JOW	**Kunigami**	**1.24**	**114**	Pn	**Pn**	**18 46 18.8**	**-0.5**
	40nm,0.3s,baz=315,slow=13,SNR=145						
JOW				Sn	**Sn**	**18 46 37.7**	**+1.5**
	34nm,0.3s,baz=311,slow=20,SNR=9.4						
JOW	**Kunigami**	**1.24**	**114**	P	**Pb**	**18 46 18.9**	**-0.4**
JOW				S	**Sn**	**18 46 37.5**	**+1.3**
JJT3	**Tamagusuku3**	**1.38**	**150**	P	**Pg**	**18 46 21.8**	**-0.2**
JJT3				*e*S	**Sg**	**18 46 41.6**	**+1.7**
JOKE	**Okinoerabujima**	**1.39**	**89**	P	**Pn**	**18 46 20.5**	**-0.9**
JOKE				S	**Sg**	**18 46 40.4**	**+0.1**
JTK	**Tokunoshima**	**1.78**	**75**	P	**Pn**	**18 46 25.9**	**-0.8**
JAMN	**Amaminishikomi**	**2.12**	**64**	P	**Pn**	**18 46 30.7**	**-0.7**
JAMN				S	**Sn**	**18 46 57.6**	**-0.4**
JAM	**Amami Oshima**	**2.54**	**65**	P	**Pn**	**18 46 36.0**	**-1.1**
JAM				S	**Sn**	**18 47 07.1**	**-1.1**
JNU	**Nakatsue**	**6.66**	**29**	Pn	Pn	18 47 39.6	+5.7
	0.6nm,0.3s,baz=178,slow=9.9,SNR=13						
JNU				LR	LR	18 50 21.5	
	comp=Z,100nm,19.4s,baz=302,slow=40						
KSRS	**Korea Array**	**10.11**	**4**	LR	LR	18 52 30.8	
	comp=Z,76nm,18.7s,baz=180,slow=39						
JHJ	**Hachijo jima 2**	**12.46**	**59**	LR	LR	18 53 28.7	
	comp=Z,43nm,20.1s,baz=82,slow=36						
MJAR	**Matsushiro Ar**	**13.21**	**43**	LR	LR	18 54 24.5	
	comp=Z,34nm,20.6s,baz=280,slow=38						
DAV	**Davao City (W)**	**20.21**	**184**	LR	LR	18 57 48.6	
	comp=Z,46nm,20.5s,baz=135,slow=35						
GUMO	**Guam**	**21.58**	**126**	LR	LR	18 58 08.0	
	comp=Z,16nm,19.9s,baz=164,slow=34						
SONM	**Songino Array**	**26.03**	**327**	P	**P**	**18 51 29.0**	**-0.4**
	2.0nm,0.8s,baz=146,slow=9.7,SNR=7.4						
CMAR	**Chiang Mai Arr**	**27.27**	**257**	LR	LR	19 02 47.1	
	comp=Z,21nm,19.0s,baz=62,slow=37						
MKAR	**Makanchi Array**	**39.38**	**311**	P	**P**	**18 53 32.4**	**+1.7**
	0.5nm,0.7s,baz=101,slow=7.6,SNR=6.6						
ZALV	**Zalesovo Beam**	**40.70**	**323**	LR	LR	19 11 29.1	
	comp=Z,58nm,19.1s,baz=62,slow=38						
KURBB	**Kurchatov Arra**	**43.30**	**316**	P	**P**	**18 53 59.6**	**+1.8**
	0.6nm,1.0s,baz=100,slow=8.4,SNR=3.9						
WRA	**Warramunga Arr**	**47.54**	**171**	P	**P**	**18 54 30.5**	**-1.2**
	0.6nm,0.9s,baz=355,slow=8.7,SNR=3.0						
ASAR	**Alice Springs**	**51.15**	**172**	P	**P**	**18 54 59.5**	**+0.3**
	0.3nm,0.8s,baz=2.4,slow=6.6,SNR=4.5						
FINES	**FINESS Array B**	**71.36**	**330**	LR	LR	19 31 29.0	
	comp=Z,36nm,18.9s,baz=56,slow=38						
NOA	**NORSAR Array B**	**77.83**	**333**	LR	LR	19 35 04.1	
	comp=Z,21nm,20.2s,baz=40,slow=38						

IDC 13 18:47:54.4±1.4, 16.37S×177.43E, h0km, mb3.7/6, mb1 3.9/6, mb1mx3.6/46, mbtmp3.7/6, MS3.6/8, Ms1 3.6/8, ms1mx3.2/44, Error ellipse: s-maj=41.0km s-min=33.5km az=137.0, Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**11.82**	**240**	*e*LR	LR	18 53 49.3	
	432nm,27.0s						
CTA	**Charters Tower**	**29.82**	**258**	LR	LR	19 04 04.5	
	comp=Z,277nm,21.9s,baz=314,slow=32						
PPT2	**Papeete2**	**31.56**	**97**	*e*LQ	LQ	19 01 13.4	
	381nm,26.2s						
PPT2				*e*LR	LR	19 02 36.5	
	233nm,30.0s						
STKA	**Stephens Creek**	**35.97**	**238**	P	P	18 54 58.8	+1.7
	1.9nm,0.8s,baz=74,slow=9.0,SNR=4.2						
STKA				LR	LR	19 07 43.3	
	comp=Z,72nm,21.6s,baz=39,slow=33						
WRA	**Warramunga Arr**	**41.02**	**258**	P	P	18 55 37.9	-1.8
	0.6nm,0.9s,baz=95,slow=9.8,SNR=3.2						
ASAR	**Alice Springs**	**41.41**	**253**	P	P	18 55 42.4	-0.6
	0.8nm,0.8s,baz=84,slow=8.8,SNR=6.7						
JNU	**Nakatsue**	**66.31**	**318**	LR	LR	19 26 53.6	
	comp=Z,19nm,18.3s,baz=127,slow=35						
KSRS	**Korea Array**	**70.94**	**320**	LR	LR	19 25 37.6	
	comp=Z,33nm,21.5s,baz=128,slow=32						
QSPA	**South Pole Qui**	**73.68**	**180**	P	P	18 59 29.9	0.0
	3.7nm,0.9s,baz=54,slow=2.0,SNR=5.9						
MA2	**Magadan**	**78.72**	**347**	LR	LR	19 32 49.9	
	comp=Z,13nm,18.9s,baz=112,slow=34						
NVAR	**Mina Array Bea**	**81.14**	**46**	LR	LR	19 28 29.3	
	comp=Z,76nm,19.8s,baz=110,slow=30						
CMAR	**Chiang Mai Arr**	**84.62**	**291**	P	P	19 00 31.8	+1.3
	0.1nm,0.6s,baz=110,slow=5.1,SNR=3.0						
ILAR	**Eielson Array**	**85.34**	**15**	P	P	19 00 32.5	-0.6
	0.5nm,0.9s,baz=233,slow=5.6,SNR=4.8						
NEW	**Newport**	**86.66**	**38**	LR	LR	19 35 02.3	
	comp=Z,39nm,18.4s,baz=182,slow=33						
SONM	**Songino Array**	**89.81**	**320**	LR	LR	19 38 10.2	
	comp=Z,24nm,20.8s,baz=72,slow=34						

*IDC **13** 18:50:59.5±1.0, 16.38S×177.45E, h0km, mb4.0/9, mb1 4.2/9, mb1mx3.8/49, mbtmp4.0/9, MS3.4/3, Ms1 3.4/3, ms1mx3.0/41, Error ellipse: s-maj=38.0km s-min=22.0km az=133.0*
*ISCJB **13** 18:51:01.2±0.4, 16.37S±0.06°×177.54E±0.08, h24km, mb4.4/20, MS3.3/2, Error ellipse: s-maj=11.0km s-min=8.1km az=172.2*
*NEIC **13** 18:51:03.9±0.5, 16.49S×177.65E, h35km, mb4.7/11, Error ellipse: s-maj=17.9km s-min=11.4km az=132.0*
ISC 13 18:51:02.6±0.6, 16.40S±0.07°×177.7E±0.1°, h24km, n36, σ1°§33/31, mb4.5/20, Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**1.38**	**164**	*e*Pn	**Pn**	**18 51 24.6**	**-1.9**
MSVF				*e*Sn	**Sb**	**18 51 44.5**	**-0.4**
AFI	**Afiamalu**	**10.50**	**78**	*e*P	Pn	18 53 41.8	+10
DZM	**Mont Dzumac**	**11.99**	**240**	*e*LR	LR	18 56 53.0	
	327nm,26.1s						
HNR	**Honiara**	**18.59**	**290**	LR	LR	19 01 38.5	
	comp=Z,154nm,19.9s,baz=118,slow=35						
URZ	**Urewera**	**21.78**	**181**	*e*P	**P**	**18 55 56.0**	**+3.3**
	70nm,1.6s						
RAR	**Rarotonga**	**21.89**	**106**	LR	LR	19 02 41.3	
	comp=Z,93nm,19.3s,baz=278,slow=32						
ARMA	**Armidale**	**27.57**	**235**	*e*P	**P**	**18 56 49.8**	**+1.7**
	21nm,1.4s						
PPT2	**Papeete2**	**31.34**	**97**	*e*LQ	LQ	19 04 27.8	
	281nm,28.2s						
PPT2				*e*LR	LR	19 05 45.0	
	231nm,28.0s						
STKA	**Stephens Creek**	**36.13**	**238**	P	**P**	**18 58 03.2**	**+0.1**
	3.8nm,0.8s,baz=62,slow=9.9,SNR=11						
STKA	**Stephens Creek**	**36.13**	**238**	*e*P	**P**	**18 58 03.1**	**0.0**
	0.9nm,0.8s						
MCQ	**Macquarie Isla**	**40.69**	**197**	*e*P	**P**	**18 58 41.8**	**+0.8**
	234nm,1.3s						
BBOO	**Buckleboo**	**40.90**	**239**	*e*P	**P**	**18 58 42.6**	**-0.6**
	14nm,1.4s						
WR1	**Warramunga Arr**	**41.22**	**258**	*e*P	**P**	**18 58 43.5**	**-2.4**
	18nm,1.4s						
WRA	**Warramunga Arr**	**41.22**	**258**	P	**P**	**18 58 43.5**	**-2.5**
	0.7nm,0.8s,baz=90,slow=9.0,SNR=4.0						
AS01	**Alice Springs**	**41.56**	**253**	*e*P	**P**	**18 58 48.1**	**-0.6**
AS31	**Alice Springs**	**41.60**	**253**	*e*P	**P**	**18 58 48.0**	**-1.0**
	1.0nm,0.9s						
ASAR	**Alice Springs**	**41.60**	**253**	P	**P**	**18 58 47.7**	**-1.4**
	1.6nm,0.8s,baz=82,slow=8.3,SNR=12						
RKT	**Rikitea**	**44.93**	**106**	*e*LR	LR	19 12 00.0	
	247nm,31.5s						
FITZ	**Fitzroy Cossi**	**49.57**	**260**	P	**P**	**18 59 52.2**	**+0.1**
	4.2nm,1.0s,baz=113,slow=7.7,SNR=3.4						
FITZ	**Fitzroy Crossi**	**49.57**	**260**	*e*P	**P**	**18 59 52.5**	**+0.4**
	28nm,1.8s						
DAV	**Davao City (W)**	**56.55**	**290**	LR	LR	19 21 03.4	
	comp=Z,34nm,21.3s,baz=131,slow=32						
QSPA	**South Pole Qui**	**73.64**	**180**	P	**P**	**19 02 34.5**	**+0.5**
	3.4nm,0.9s,baz=26,slow=0.8,SNR=5.5						
DNR	**Dunn Ranch,Anz**	**79.92**	**51**	*e*P	**P**	**19 03 08.2**	**-1.7**
UMPQ	**Umpqua Communi**	**80.27**	**39**	*e*P	**P**	**19 03 12.6**	**+1.2**
SEY	**Seymchan**	**81.52**	**349**	P	**P**	**19 03 16.8**	**-0.9**
	1.1nm,0.9s,baz=135,slow=3.5,SNR=3.2						
RND	**Reindeer**	**83.71**	**14**	*e*P	**P**	**19 03 30.2**	**+1.0**
	8.3nm,1.2s						
CM31	**Chiang Mai Arr**	**84.83**	**291**	*e*P	**P**	**19 03 36.0**	**+0.2**
CMAR	**Chiang Mai Arr**	**84.83**	**291**	P	**P**	**19 03 35.5**	**-0.3**
	0.8nm,1.1s,baz=126,slow=2.5,SNR=3.6						
CCB	**Clear Creek Bu**	**85.01**	**14**	*e*P	**P**	**19 03 35.7**	**+0.1**
	8.8nm,1.7s						
MDM	**Murphy Dome**	**85.17**	**14**	*e*P	**P**	**19 03 36.1**	**-0.4**
	6.3nm,1.2s						
ILAR	**Eielson Array**	**85.33**	**14**	P	**P**	**19 03 37.9**	**+0.7**
	1.5nm,1.1s,baz=233,slow=5.5,SNR=6.2						
ILB	**Eielson Array**	**85.33**	**14**	*e*P	**P**	**19 03 37.3**	**+0.1**
IMW	**Indian Meadow**	**88.44**	**43**	*e*P	**P**	**19 03 52.7**	**-0.5**
	15nm,0.6s						
BW06	**Boulder Array**	**88.90**	**45**	*e*P	**P**	**19 03 53.9**	**-1.5**
	43nm,1.3s						
BW06				*e*S	**S**	**19 14 41.9**	**-0.2**
YKA	**Yellowknife Ar**	**94.58**	**26**	P	**P**	**19 04 22.6**	**+1.7**
	0.1nm,0.6s,baz=246,slow=4.6,SNR=3.6						
GERES	**GERESS Array B**	**145.09**	**341**	PKPbc	**PKPdf**	**19 10 39.9**	**+1.7**
	0.1nm,0.3s,baz=12,slow=2.4,SNR=2.8						

*DJA **13** 18:51:42.2±1.2, 2.1°N±4.9°×97.3°E±*, h10km, M4.7/9, mb4.8/8, mB5.0/5, MLv4.7/9, Mw(mB)4.3/5*
*IDC **13** 18:51:44.5±1.9, 1.99°N×93.14°E, h0km, mb3.5/6, mb1 3.5/8, mb1mx3.3/69, mbtmp3.4/8, ML3.5/1, Error ellipse: s-maj=58.9km s-min=20.0km az=55.0*
*ISCJB **13** 18:51:48.2±0.8, 2.14°N±0.08°×93.25°E±0.08, h33km, mb3.5/6, Error ellipse: s-maj=12.6km s-min=9.3km az=138.1*
ISC 13 18:51:50.7±1.0, 2.33°N±0.07°×93.26°E±0.10, h35km, n19, σ2°§36/22, mb3.5/6, 1C, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLSI	**Meulaboh, Aceh**	**3.68**	**58**	P	**Pn**	**18 52 46.2**	**+1.0**
BSI	**Banda Aceh**	**3.75**	**33**	P	**Pn**	**18 52 45.8**	**-0.3**
BSI				S	**Sn**	**18 53 27.0**	**-2.0**
TPTI		**4.02**	**77**	P	**Pn**	**18 52 49.8**	**0.0**
GSI	**Gunungsitoli**	**4.43**	**103**	P	**Pn**	**18 52 55.3**	**-0.1**
KCSI	**Kotacane, Aceh**	**4.66**	**75**	P	**Pn**	**18 52 59.7**	**+1.1**
LHMI	**Lhok Sumawe**	**4.67**	**52**	P	**Pn**	**18 52 59.6**	**+0.8**
TSI	**Tuntungan**	**5.42**	**77**	P	**Pn**	**18 53 09.5**	**+0.4**
PSI	**Prapat**	**5.67**	**85**	Pn	**Pn**	**18 53 13.0**	**+0.3**
PSI				Sn	**Sn**	**18 54 11.8**	**-5.0**
MNSI	**Mandailing Nat**	**6.49**	**103**	P	**Pn**	**18 53 23.5**	**-0.3**
SISI	**Saibi**	**6.86**	**122**	P	**Pn**	**18 53 27.3**	**-1.6**
	20nm,0.5s,0.1nm						
PDSI	**Padang**	**7.88**	**114**	P	**Pn**	**18 53 42.5**	**-0.5**
PDSI				S	**Sn**	**18 55 18.4**	**+7.4**
CMAR	**Chiang Mai Arr**	**16.97**	**19**	Pn	**P**	**18 55 47.4**	**+0.2**
	0.1nm,0.3s,baz=216,slow=13,SNR=4.4						
MKAR	**Makanchi Array**	**45.31**	**349**	P	**P**	**19 00 06.9**	**+1.7**
	0.6nm,0.

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
H11N3	WAKE ISLAND Hy	28.21	121	T	T	19 31 28.4	
	baz=313,slow=75,SNR=53						
H11S1	WAKE ISLAND Hy	28.91	123	T	T	19 32 20.6	
	baz=315,slow=76,SNR=32						
H11S3	WAKE ISLAND Hy	28.91	123	T	T	19 32 21.6	
	baz=315,slow=76,SNR=22						
H11S2	WAKE ISLAND Hy	28.92	123	T	T	19 32 19.7	
	baz=315,slow=76,SNR=16						
MKAR	**Makanchi Array**	**44.07**	**302**	P	**P**	**19 04 18.1**	**0.0**
	0.2nm,0.7s,baz=88,slow=7.9,SNR=3.3						
KURBB	**Kurchatov Arra**	**45.96**	**308**	P	**P**	**19 04 33.5**	**+0.6**
	0.3nm,0.5s,baz=82,slow=7.9,SNR=3.2						
WRA	**Warramunga Arr**	**57.05**	**188**	P	**P**	**19 05 57.3**	**+1.1**
	0.2nm,0.5s,baz=5.9,slow=7.7,SNR=3.9						

*NIED **13** 19:00:00,36°.50N×140°.80E,h56km,Mw3.7 Best double couple: M0 4.63000×10[14] NP1:φs182.00000°,δ29.00000°, λ69.00000°. NP2:φs26.00000°,δ63.00000°,λ101.00000°.*
*ISCJB **13** 19:00:19.5±0.6,36°.45N±0°.04×140°.88E±0°.06,h54km±4km, mb3.6/12,MS3.5/1,Error ellipse: s-maj=8.8km s-min=5.7km az=23.6*
*JMA **13** 19:00:21.2±0.1,36°.46N×140°.74E,h52km±1km,M3.8 Broadband fault plane solution: P waves. NP1: φs18.00000°,δ75.00000°,λ81.00000°. NP2:φs229.00000°, δ18.00000°,λ120.00000°. Principal axes: T Plg59.0000°, Azm275.0000°; N Plg9.0000°, Azm20.0000°; P Plg29.0000°, Azm115.0000°;*
JMA Felt III J1.
*IDC **13** 19:00:22.1±2.8,36°.45N×140°.74E,h59km±25km,mb3.4/12, mb1 3.5/14,mb1mx3.3/63,mbtmp3.7/14,ML3.5/2,MS2.9/2, Ms1 3.0/2,ms1mx2.4/34 Error ellipse: s-maj=24.1km s-min=17.0km az=77.0*
ISC 13 19:00:21.2±0.9**,36°.48N**±0°.05×**140°.86E**±0°.06**,h51**km±7km**, n33,σ1s.37**/38**,mb3.7**/12**,5D,Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JHO	**Hitachi**	**0.27**	**300**	⇓P	**Pn**	**19 00 29.8**	**-0.4**
JHO				S	**Sn**	**19 00 35.2**	**-1.3**
JYT	**Yasato**	**0.59**	**245**	⇓P	**Pn**	**19 00 32.6**	**-1.0**
JYT				S	**Sn**	**19 00 40.4**	**-2.1**
ONAJ	**Iwakimizuishiy**	**0.62**	**356**	P	**Pn**	**19 00 33.7**	**-0.4**
ONAJ				S	**Sn**	**19 00 42.6**	**-0.8**
JFK	**Kawauchi**	**0.89**	**1**	P	**Pn**	**19 00 36.9**	**-0.6**
JFK				S	**Sn**	**19 00 48.3**	**-1.1**
JSB	**Shiboa**	**0.90**	**303**	⇓P	**Pn**	**19 00 36.9**	**-0.7**
JSB				S	**Sn**	**19 00 48.4**	**-1.2**
JFT	**Otama**	**1.12**	**338**	P	**Pn**	**19 00 40.6**	**0.0**
JFT				S	**Sn**	**19 00 54.5**	**-0.4**
JAG	**Ashikaga**	**1.13**	**268**	⇓P	**Pn**	**19 00 39.7**	**-1.0**
JKT	**Katashina**	**1.32**	**283**	⇓P	**Pn**	**19 00 42.8**	**-0.6**
JKT				S	**Sn**	**19 00 58.6**	**-1.4**
MJAR	**Matsushiro Arr**	**2.13**	**272**	P	**Pn**	**19 00 53.0**	**-1.4**
	29nm,0.3s,baz=90,slow=9.2,SNR=246						
MJAR				S	**Sn**	**19 01 19.1**	**-0.6**
	10nm,0.3s,baz=87,slow=23,SNR=6.7						
MAT	**Matsushiro**	**2.13**	**272**	P	**Pn**	**19 00 53.7**	**-0.7**
MAT				*e*S	**Sn**	**19 01 21.1**	**+1.3**
JHJ	**Hachijo jima 2**	**3.47**	**195**	P	**Pn**	**19 01 13.2**	**+0.6**
	7.3nm,0.3s,baz=322,slow=24,SNR=14						
JHJ				S	**Sn**	**19 01 51.5**	**-1.0**
	22nm,0.3s,baz=90,slow=21,SNR=6.8						
ASAJ	**Asahikawa**	**7.74**	**9**	P	**Pn**	**19 02 09.2**	**-2.0**
	1.0nm,0.3s,baz=207,slow=14,SNR=21						
ASAJ				S	**Sn**	**19 03 35.7**	**-1.8**
	0.6nm,0.3s,baz=189,slow=19,SNR=4.7						
USRK	**Ussuriysk Ar.**	**10.25**	**321**	P	**Pn**	**19 02 49.9**	**+4.3**
	0.3nm,0.3s,baz=147,slow=12,SNR=4.6						
KSRS	**Korea Array**	**10.40**	**279**	P	**Pn**	**19 02 50.5**	**+2.9**
	0.1nm,0.3s,baz=92,slow=14,SNR=4.2						
KSRS				LR	LR	19 06 56.0	
	comp=Z,16nm,19.6s,baz=82,slow=38						
SONM	**Songino Array**	**27.73**	**305**	P	**P**	**19 06 03.8**	**-1.1**
	0.9nm,0.7s,baz=108,slow=9.5,SNR=7.3						
H11N2	**WAKE ISLAND Hy**	**28.26**	**119**	T	T	19 36 11.3	
	baz=312,slow=75,SNR=5.6						
H11N1	**WAKE ISLAND Hy**	**28.27**	**119**	T	T	19 36 10.7	
	baz=312,slow=75,SNR=17						
H11N3	**WAKE ISLAND Hy**	**28.28**	**119**	T	T	19 36 11.5	
	baz=312,slow=75,SNR=5.0						
H11S1	**WAKE ISLAND Hy**	**28.95**	**121**	T	T	19 37 01.4	
	baz=314,slow=75,SNR=47						
H11S3	**WAKE ISLAND Hy**	**28.95**	**121**	T	T	19 36 56.3	
	baz=314,slow=75,SNR=24						
H11S2	**WAKE ISLAND Hy**	**28.96**	**121**	T	T	19 37 03.5	
	baz=314,slow=75,SNR=28						
CMAR	**Chiang Mai Arr**	**40.92**	**255**	P	**P**	**19 07 59.2**	**+0.4**
	0.2nm,0.7s,baz=75,slow=4.5,SNR=3.4						
ZALV	**Zalesovo Beam**	**41.96**	**313**	P	**P**	**19 08 06.5**	**-0.3**
	1.0nm,0.4s,baz=84,slow=7.5,SNR=5.9						
MKAR	**Makanchi Array**	**44.04**	**303**	P	**P**	**19 08 24.2**	**+0.4**
	0.6nm,0.7s,baz=86,slow=9.9,SNR=8.1						
KURBB	**Kurchatov Arra**	**45.99**	**308**	P	**P**	**19 08 38.4**	**-0.8**
	0.6nm,0.3s,baz=82,slow=7.6,SNR=10						
ILAR	**Eielson Array**	**50.20**	**32**	P	**P**	**19 09 12.2**	**+0.6**
	0.5nm,0.7s,baz=266,slow=6.7,SNR=6.9						
ILAR				LR	LR	19 32 12.5	
	comp=Z,39nm,18.4s,baz=190,slow=38						
INK	**Inuvik**	**55.08**	**27**	P	**P**	**19 09 48.9**	**+1.4**
	0.4nm,0.5s,baz=312,slow=7.8,SNR=4.0						
WRA	**Warramunga Arr**	**56.45**	**187**	P	**P**	**19 09 56.7**	**-1.1**
	0.2nm,0.4s,baz=2.3,slow=7.5,SNR=6.3						
ASAR	**Alice Springs**	**60.18**	**187**	P	**P**	**19 10 23.3**	**-0.5**
	0.2nm,0.5s,baz=3.1,slow=6.7,SNR=5.0						
FINES	**FINESS Array B**	**69.09**	**332**	P	**P**	**19 11 21.1**	**-0.4**
	0.8nm,0.5s,baz=43,slow=6.4,SNR=9.3						
AKASG	**Malin Array Be**	**74.46**	**322**	P	**P**	**19 11 53.0**	**-0.9**
	0.6nm,0.4s,baz=49,slow=5.3,SNR=4.2						
NB2	**NORSAR Subarra**	**74.52**	**337**	P	**P**	**19 11 53.2**	**-0.9**
	comp=Z,0.9nm,0.6s,baz=41,slow=6.2						
NOA	**NORSAR Array B**	**74.52**	**337**	P	**P**	**19 11 53.8**	**-0.4**
	comp=Z,1.0nm,0.7s,baz=40,slow=6.0,SNR=4.5						

*IDC **13** 19:09:29.1±1.2,3°.89S×150°.15E,h0km,mb4.0/12, mb1 4.2/13,mb1mx3.9/52,mbtmp4.0/13,ML3.6/1,MS3.4/7, Ms1 3.4/7,ms1mx3.1/37,Error ellipse: s-maj=39.3km s-min=17.7km az=122.0*
*NEIC **13** 19:09:30.4±0.3,3°.77S×149°.92E,h10km,mb4.8/19,Error ellipse: s-maj=8.9km s-min=7.6km az=105.0*
*ISCJB **13** 19:09:32.3±0.3,3°.77S±0°.05×149°.93E±0°.06,h33km, mb4.6/32,MS3.4/5,Error ellipse: s-maj=8.1km s-min=7.2km az=3.1*
ISC 13 19:09:34.1±0.5**,3°.76S**±0°.08×**149°.92E**±0°.07**,h35**km**,n62, σ1s.43**/57**,mb4.5**/32**,MS3.4**/5**,1D,Bismarck Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**2.28**	**101**	*e*Pn	**Pn**	**19 10 07.9**	**-1.5**
MANU	**Manus Island**	**3.07**	**304**	*e*Pn	**Pn**	**19 10 18.3**	**-1.9**
HNR	**Honiara**	**11.44**	**120**	LR	LR	19 16 46.2	
	comp=Z,162nm,19.9s,baz=306,slow=39						
GUMO	**Guam**	**17.95**	**344**	LR	LR	19 19 32.0	
	comp=Z,81nm,20.2s,baz=159,slow=33						
SIJI	**Sorong**	**18.86**	**278**	P	**Pn**	**19 13 53.6**	**+1.4**
	0.2nm,0.3s,baz=90,slow=18,SNR=3.0						
MTN	**Manton Dam**	**20.64**	**243**	*e*P	**P**	**19 14 08.3**	**-2.7**
	34nm,1.4s						
WC3	**Warramunga Arr**	**22.11**	**222**	*e*P	**P**	**19 14 26.7**	**0.0**
	56nm,1.9s						
WB2	**Warramunga Arr**	**22.11**	**222**	*e*P	**P**	**19 14 24.9**	**-1.8**
WR1	**Warramunga Arr**	**22.12**	**222**	*e*P	**P**	**19 14 26.2**	**-0.6**
	11nm,1.0s						
WRA	**Warramunga Arr**	**22.12**	**222**	P	**P**	**19 14 26.2**	**-0.6**
	2.4nm,1.0s,baz=41,slow=11,SNR=6.5						
DZM	**Mont Dzumac**	**24.25**	**140**	*e*P	**P**	**19 14 48.4**	**+0.2**
	47nm,1.5s						
AS01	**Alice Springs**	**25.09**	**217**	*e*P	**P**	**19 14 54.9**	**-0.8**
AS31	**Alice Springs**	**25.11**	**217**	*e*P	**P**	**19 14 56.1**	**+0.2**
	1.9nm,1.1s						
ASAR	**Alice Springs**	**25.11**	**217**	P	**P**	**19 14 56.6**	**+0.7**
	1.4nm,0.7s,baz=51,slow=8.1,SNR=16						
ASAR				LR	LR	19 25 55.9	
	comp=Z,114nm,18.4s,baz=40,slow=39						
SOEI	**Soe**	**26.15**	**256**	*e*P	**P**	**19 15 06.0**	**+0.5**
	75nm,1.5s						
ARMA	**Armidale**	**26.56**	**177**	*e*P	**P**	**19 15 09.0**	**-0.1**
	29nm,1.5s						
FITZ	**Fitzroy Crossi**	**27.71**	**237**	P	**P**	**19 15 21.0**	**+1.6**
	7.7nm,0.7s,baz=70,slow=7.6,SNR=8.9						
FITZ	**Fitzroy Crossi**	**27.71**	**237**	*e*P	**P**	**19 15 20.2**	**+0.8**
	7.9nm,0.8s						
STKA	**Stephens Creek**	**29.04**	**195**	LR	LR	19 28 09.4	
	comp=Z,79nm,18.3s,baz=24,slow=39						
CBIJ	**Chichi jima**	**31.58**	**347**	*e*P	**P**	**19 15 52.7**	**-0.8**
	121nm,1.0s						
JCJ	**Chichijima**	**31.58**	**347**	LR	LR	19 27 00.7	
	comp=Z,77nm,20.1s,baz=342,slow=33						
JOW	**Kunigami**	**36.92**	**327**	LR	LR	19 28 29.1	
	comp=Z,72nm,21.6s,baz=309,slow=31						
JOW	**Kunigami**	**36.92**	**327**	*e*P	**P**	**19 16 38.3**	**-1.6**
	268nm,2.0s						
JHJ2	**Mitsune**	**37.90**	**346**	*e*P	**P**	**19 16 48.2**	**+0.1**
	327nm,1.1s						
SBUM	**Sibu**	**38.18**	**279**	*e*P	**P**	**19 16 49.3**	**-1.5**
	9.8nm,1.4s						
YULB	**Yu-li**	**38.83**	**315**	*e*P	**P**	**19 16 53.9**	**-2.2**
	28nm,1.5s						
MQZ	**McQueen's Vall**	**44.58**	**156**	*e*P	**P**	**19 17 42.7**	**-0.1**
	253nm,1.7s						
PYZ	**Puysegur Point**	**44.69**	**163**	*e*P	**P**	**19 17 43.5**	**-0.2**
	268nm,1.2s						
MIDW	**Midway**	**44.74**	**43**	*e*P	**P**	**19 17 44.4**	**+0.1**
	642nm,1.9s						
CM01	**Chiang Mai Arr**	**54.81**	**296**	*e*P	**P**	**19 18 60.0**	**-1.2**
CM31	**Chiang Mai Arr**	**54.84**	**296**	*e*P	**P**	**19 19 00.9**	**-0.4**
CMAR	**Chiang Mai Arr**	**54.84**	**296**	P	**P**	**19 19 01.4**	**+0.1**
	2.0nm,1.0s,baz=112,slow=5.9,SNR=8.8						
CHTO	**Chiang Mai**	**54.95**	**296**	*e*P	**P**	**19 18 59.8**	**-2.4**
	8.0nm,1.7s						
PETK	**Petropavlovsk-**	**57.04**	**6**	P	**P**	**19 19 17.4**	**+0.9**
	3.9nm,0.9s,baz=202,slow=7.2,SNR=3.0						
PEA1	**Petropavlovsk-**	**57.05**	**6**	*e*P	**P**	**19 19 17.4**	**+0.9**
HLK	**Haleakala**	**58.12**	**63**	*e*P	**P**	**19 19 23.0**	**-2.0**
	159nm,1.3s						
MLH	**Mauna Loa**	**58.51**	**65**	*e*P	**P**	**19 19 26.4**	**-1.3**
	111nm,1.1s						
SONA0	**Songino Array**	**63.94**	**329**	*e*P	**P**	**19 20 05.9**	**+2.0**
SONM	**Songino Array**	**63.94**	**329**	P	**P**	**19 20 05.9**	**+2.0**
	0.6nm,0.6s,baz=136,slow=3.9,SNR=4.1						
SEY	**Seymchan**	**66.54**	**1**	P	**P**	**19 20 22.1**	**+1.9**
	0.8nm,0.7s,baz=142,slow=6.0,SNR=4.7						
MK01	**Makanchi Array**	**77.65**	**319**	*e*P	**P**	**19 21 27.7**	**+0.5**
MK31	**Makanchi Array**	**77.67**	**319**	*e*P	**P**	**19 21 27.5**	**+0.3**
MK32	**Makanchi Array**	**77.67**	**319**	*e*P	**P**	**19 21 29.5**	**+2.2**
MKAR	**Makanchi Array**	**77.67**	**319**	P	**P**	**19 21 29.5**	**+2.2**
	0.4nm,0.7s,baz=101,slow=6.3,SNR=4.6						
MKAR	**Makanchi Array**	**77.67**	**319**	*e*P	**P**	**19 21 27.7**	**+0.4**
	5.1nm,0.6s						
ZAA0	**Zalesovo Array**	**78.71**	**327**	*e*P	**P**	**19 21 32.1**	**-0.7**
	1.2nm,0.8s						
ZALV	**Zalesovo Beam**	**78.71**	**327**	P	**P**	**19 21 35.3**	**+2.5**
	0.6nm,0.5s,baz=79,slow=3.2,SNR=4.2						
ZALV	**Zalesovo Beam**	**78.71**	**327**	*e*P	**P**	**19 21 31.2**	**-1.6**
ZAA1	**Zalesovo Array**	**78.71**	**327**	*e*P	**P**	**19 21 35.3**	**+2.5**
TARG	**Taragay, Kyrgy**	**79.27**	**314**	*e*P	**P**	**19 21 37.6**	**+0.9**
	2.1nm,0.7s						
NIL	**Nilore**	**81.03**	**305**	*e*P	**P**	**19 21 46.5**	**+0.6**
	5.1nm,0.8s						
KURK	**Kurchatov**	**81.19**	**322**	*e*P	**P**	**19 21 49.0**	**+2.7**
KURBB	**Kurchatov Arra**	**81.22**	**322**	P	**P**	**19 21 49.0**	**+2.6**
	0.8nm,0.9s,baz=111,slow=5.1,SNR=5.2						
ILAR	**Eielson Array**	**82.30**	**23**	P	**P**	**19 21 50.8**	**-1.1**
	1.5nm,0.8s,baz=246,slow=5.8,SNR=2.7						
ILAR				LR	LR	19 57 27.4	
	comp=Z,29nm,19.6s,baz=208,slow=35						
ILB	**Eielson Array**	**82.30**	**23**	*e*P	**P**	**19 21 50.0**	**-1.9**
KK31	**Karatay Array**	**84.84**	**314**	*e*P	**P**	**19 22 06.4**	**+1.0**
KKAR	**Karatay Array**	**84.84**	**314**	*e*P	**P**	**19 22 06.0**	**+0.6**
SYO	**Syowa Base**	**93.67**	**200**	⇓*e*P	**P**	**19 22 47.6**	**+0.9**
YKA	**Yellowknife Ar**	**95.85**	**28**	P	**P**	**19 22 57.2**	**+0.4**
	0.8nm,0.7s,baz=274,slow=4.6,SNR=3.1						
TOA0	**Torodi Ar. Sit**	**147.25**	**288**	*e*PKPbc	**PKPbc**	**19 29 15.9**	**+0.9**
TORD	**Torodi Ar. Bea**	**147.25**	**288**	PKPbc	**PKPbc**	**19 29 16.0**	**+1.0**
	3.0nm,0.9s,baz=71,slow=2.4,SNR=11						
TOA1	**Torodi Ar. Sit**	**147.26**	**288**	*e*PKPbc	**PKPbc**	**19 29 16.0**	**+1.0**

MEX 13 19:16:19.9±0.6**,16°.52N**×**98°.59W,h16**km±351km**,MD3.8, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.46**	**106**	*i* P	Pg	19 16 27.4	-1.7
PNIG				*i* S	Sg	19 16 33.8	-1.7
TLIG	**Tlapa**	**1.03**	**1**	*e*P	Pb	19 16 35.9	-3.6
TLIG				*e*S	Sb	19 16 47.9	-5.0
CAIG	**El Cayaco**	**1.69**	**288**	*e*P	Pn	19 16 45.9	-2.9
CAIG				*e*S	Sn	19 17 04.9	-5.2
VHO	**Vista Hermosa**	**1.86**	**73**	*e*P	Pn	19 16 48.5	-2.8
VHO				*e*S	Sn	19 17 06.1	-8.5

IDC 13 19:16:32.0±1.8**,2°.48N**×**90°.27E,h0**km**,mb3.6**/4**,mb1 3.6**/6**, mb1mx3.3**/63**,mbtmp3.5**/6**,ML3.2**/2**,Error ellipse: s-maj=47.2km s-min=26.0km az=41.0,Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**10.65**	**297**	Pn	Pn	19 19 08.1	+2.1
	0.3nm,0.3s,baz=114,slow=12,SNR=4.5						
PALK				Sn	Sn	19 20 57.3	-8.9
	2.2nm,0.3s,baz=306,slow=0.4,SNR=7.3						
CMAR	**Chiang Mai Arr**	**18.01**	**28**	P	Pn	19 20 43.9	0.0
	0.0nm,0.3s,baz=217,slow=12,SNR=2.4						
H08S2	**Diego Garcia H**	**20.39**	**240**	T	T	19 42 13.6	
	baz=60,slow=75,SNR=20						
H08S3	**Diego Garcia H**	**20.39**	**240**	T	T	19 42 13.9	
	baz=60,slow=75,SNR=29						
H08S1	**Diego Carcia H**	**20.41**	**240**	T	T	19 42 14.9	
	baz=60,slow=75,SNR=15						
H01W3	**Cape Leeuwin H**	**43.40**	**151**	T	T	20 11 44.3	
	baz=325,slow=74						
H01W2	**Cape Leeuwin H**	**43.41**	**151**	T	T	20 11 28.6	
	baz=325						
H01W1	**Cape Leeuwin H**	**43.41**	**151**	T	T	20 11 25.0	
	baz=325,slow=74						
GEYT	**Alibeck**	**45.96**	**324**	P	P	19 24 55.8	-1.1
	0.9nm,0.6s,baz=134,slow=8.2,SNR=3.1						
SONM	**Songino Array**	**47.28**	**15**	P	P	19 25 07.4	+0.2
	0.5nm,0.6s,baz=208,slow=7.2,SNR=4.5						
WRA	**Warramunga Arr**	**48.64**	**119**	P	P	19 25 18.1	0.0
	0.3nm,0.7s,baz=296,slow=8.5,SNR=3.3						
KURBB	**Kurchatov Arra**	**48.99**	**350**	P	P	19 25 20.2	0.0
	0.4nm,0.5s,baz=172,slow=7.0,SNR=5.6						

*ISCJB **13** 19:16:40.3±0.2,57°.86N±0°.03×156°.60W±0°.06, h156km±2km,mb3.5/9,Error ellipse: s-maj=6.8km s-min=3.0km az=135.9*
*IDC **13** 19:16:42.0±2.4,58°.14N×156°.70W,h137km±20km,mb3.3/9, mb1 3.5/12,mb1mx3.1/79,mbtmp3.7/12,Error ellipse: s-maj=32.3km s-min=17.2km az=28.0*
*NEIC **13** 19:16:43.0±0.0,57°.74N×156°.49W,h142km,ML3.5(AEIC), After AEIC.*
ISC 13 19:16:41.4±0.6**,57°.86N**±0°.05×**156°.47W**±0°.05**, h149**km±5km**,n120,σ1s.87**/142**,mb3.6**/9**,Alaska Peninsula**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CNTC	**Contact Creek**	**0.51**	**37**	P	**Pn**	**19 17 03.3**	**+0.5**
KJL	**Kejulik**	**0.52**	**68**	P	**Pn**	**19 17 03.6**	**+0.8**
KJL				S	**Sn**	**19 17 19.8**	**+0.7**
ANCK	**Angle Creek**	**0.62**	**57**	P	**Pn**	**19 17 04.3**	**+0.9**
ANCK				S	**Sn**	**19 17 21.1**	**+1.0**
CAHL	**Cahill**	**0.65**	**72**	P	**Pn**	**19 17 04.3**	**+0.7**
KELA	**Mount Kelaz**	**0.70**	**33**	P	**Pn**	**19 17 04.5**	**+0.6**
KELA				S	**Sn**	**19 17 21.0**	**-0.1**
KAHC	**Katmai Hardscr**	**1.11**	**44**	P	**Pn**	**19 17 08.0**	**+0.8**
KARR	**Katmai Rainbow**	**1.13**	**55**	P	**Pn**	**19 17 08.4**	**+1.1**
ANNE	**Aniakchak Nort**	**1.28**	**223**	P	**Pn**	**19 17 08.1**	**-0.6**
ANNE				S	**Sn**	**19 17 27.5**	**-2.0**
ANNW	**Aniakchak Nort**	**1.30**	**227**	P	**Pn**	**19 17 09.1**	**+0.1**
ANPK	**Aniakchak Peak**	**1.36**	**222**	P	**Pn**	**19 17 08.9**	**-0.6**
ANPK				S	**Sn**	**19 17 29.0**	**-2.0**
ANPB	**Aniakchak Plen**	**1.45**	**224**	*e*Pn	**Pn**	**19 17 09.6**	**-0.8**
FONW	**Fourpeaked Sta**	**1.66**	**53**	P	**Pn**	**19 17 14.0**	**+1.4**
FOSS	**Fourpeaked Sta**	**1.74**	**56**	*e*Pn	**Pn**	**19 17 14.6**	**+1.1**
OHAK	**Old Harbor**	**1.83**	**109**	*e*Pn	**Pn**	**19 17 14.8**	**+0.3**
OHAK				*e*Sn	**Sn**	**19 17 36.1**	**-3.7**
CDD	**Cape Douglas**	**1.83**	**53**	P	**Pn**	**19 17 15.8**	**+1.3**
CHGN	**Chignik**	**1.89**	**215**	*e*Pn	**Pn**	**19 17 14.5**	**-0.7**
CHGN				*e*Sn	**Sn**	**19 17 38.0**	**-3.0**
KDAK	**Kodiak Island**	**2.08**	**91**	P	**Pn**	**19 17 18.0**	**+0.7**
	60nm,0.3s,baz=195,slow=1.5,SNR=2242						
KDAK				S	**Sn**	**19 17 44.6**	**-0.3**
	37nm,0.3s,baz=56,slow=23,SNR=37						
AUW	**Augustine West**	**2.18**	**45**	P	**Pn**	**19 17 20.2**	**+1.7**
AUNW	**Augustine NWes**	**2.18**	**45**	P	**Pn**	**19 17 20.2**	**+1.6**
VNHG	**Veniaminof 1**	**2.21**	**223**	P	**Pn**	**19 17 18.7**	**-0.3**
VNSG	**Veniaminof 6**	**2.25**	**221**	P	**Pn**	**19 17 18.9**	**-0.6**
ILW	**Iliamna West**	**2.80**	**37**	*e*Pn	**Pn**	**19 17 27.6**	**+1.2**
IVE	**Iliamna Volcan**	**2.81**	**38**	P	**Pn**	**19 17 27.6**	**+1.3**
HOM	**Homer**	**3.09**	**52**	*e*Pn	**Pn**	**19 17 31.9**	**+2.1**
RSO	**Redoubt South**	**3.23**	**35**	*e*Pn	**Pn**	**19 17 34.7**	**+2.9**
SVW2	**Sparrevohn**	**3.28**	**8**	*e*Pn	**Pn**	**19 17 33.0**	**+0.9**
SDPT	**Sand Point**	**3.35**	**223**	*e*Pn	**Pn**	**19 17 31.6**	**-1.6**
SDPT				*e*Sn	**Sn**	**19 18 06.0**	**-7.2**
BRLK	**Bradley Lake**	**3.48**	**54**	*e*Pn	**Pn**	**19 17 34.8**	**+0.1**
PS4A	**Pavlof South-4**	**3.90**	**232**	P	**Pn**	**19 17 39.9**	**-0.4**
CKL	**Chakachamna La**	**3.95**	**30**	P	**Pn**	**19 17 43.3**	**+2.3**
SPWE	**Spurr West**	**3.96**	**29**	P	**Pn**	**19 17 43.4**	**+2.3**
SPCP	**Crater Peak Br**	**4.06**	**31**	P	**Pn**	**19 17 44.4**	**+1.9**
SPCP				S	**Sn**	**19 18 31.7**	**+1.8**
SLKM	**Skilak Lake**	**4.17**	**48**	*e*Pn	**Pn**	**19 17 44.6**	**+0.8**
DRIA	**Deer Island**	**4.33**	**230**	P	**Pn**	**19 17 45.2**	**-0.7**
STLK	**Strandline Lak**	**4.34**	**31**	P	**Pn**	**19 17 48.1**	**+2.0**
SUA	**Susitna One**	**4.63**	**36**	*e*Pn	**Pn**	**19 17 51.2**	**+1.2**
SUA				*e*Sn	**Sn**	**19 18 42.2**	**-1.2**
RC01	**Rabbit Creek A**	**4.72**	**44**	*e*Pn	**Pn**	**19 17 51.5**	**+0.6**
RC01				*e*Sn	**Sn**	**19 18 42.8**	**-2.4**
SKT	**Skwentna**	**4.82**	**29**	*e*Pn	**Pn**	**19 17 54.1**	**+1.8**
SKT				*e*Sn	**Sn**	**19 18 48.8**	**+1.2**
ISLZ	**Isanotski Laza**	**5.11**	**235**	P	**Pn**	**19 17 56.1**	**-0.1**
SSLW	**Shishaldin Wes**	**5.26**	**237**	P	**Pn**	**19 17 57.6**	**-0.7**
PMR	**Palmer**	**5.27**	**42**	P	**Pn**	**19 17 57.8**	**-0.4**
PMR				*e*Sn	**Sn**	**19 18 54.0**	**-4.2**
KNK	**Knik Glacier**	**5.40**	**45**	*e*Pn	**Pn**	**19 17 59.9**	**-0.2**
GHO	**Glory Hole Cre**	**5.46**	**41**	*e*Pn	**Pn**	**19 18 00.5**	**-0.4**
PPLA	**Purkeypile**	**5.48**	**21**	P	**Pn**	**19 18 03.6**	**+2.4**
MID	**Middleton Isla**	**5.52**	**69**	*e*Pn	**Pn**	**19 18 02.5**	**+0.9**
SML	**Sawmill**	**5.70**	**43**	*e*Pn	**Pn**	**19 18 03.3**	**-0.7**
JPK	**Jack Peak**	**5.96**	**53**	*e*Pn	**Pn**	**19 18 08.1**	**+0.6**
CAST	**Castle Rocks**	**5.98**	**19**	*e*Pn	**Pn**	**19 18 09.3**	**+1.6**
SCM	**Sheep Creek Mo**	**6.09**	**45**	*e*Pn	**Pn**	**19 18 09.0**	**-0.2**
EYAK	**Cordova Ski Ar**	**6.13**	**59**	*e*Pn	**Pn**	**19 18 10.2**	**+0.5**
EYAK				*e*Sn	Sn	19 19 08.3	-10
KTH	**Kantishna Hill**	**6.32**	**23**	*e*Pn	**Pn**	**19 18 13.2**	**+0.9**
DIV	**Divide**	**6.36**	**54**	*e*Pn	**Pn**	**19 18 13.5**	**+0.7**
DIV				*e*Sn	**Sn**	**19 19 20.5**	**-3.8**
TRF	**Thorofare Moun**	**6.38**	**26**	*e*Pn	**Pn**	**19 18 13.3**	**+0.2**
AKUT	**Akutan**	**6.42**	**238**	*e*Pn	**Pn**	**19 18 12.7**	**-0.8**
KLU	**Klutina**	**6.46**	**51**	*e*Pn	**Pn**	**19 18 14.6**	**+0.4**
KLU				*e*Sn	**Sn**	**19 19 22.8**	**-4.0**
RAGM	**Ragged Mountai**	**6.58**	**62**	*e*Pn	**Pn**	**19 18 16.4**	**+0.7**
RND	**Reindeer**	**6.70**	**31**	*e*Pn	**Pn**	**19 18 17.3**	**-0.1**
RND				*e*Sn	**Sn**	**19 19 30.9**	**-1.6**
BPAW	**Bear Paw Mtn.**	**6.80**	**21**	P	**Pn**	**19 18 18.3**	**-0.4**
BMRM	**Bremner River**	**6.81**	**58**	*e*Pn	**Pn**	**19 18 19.4**	**+0.6**
BMRM				*e*Sn	**Sn**	**19 19 33.8**	**-1.3**
DHY	**Denali Highway**	**6.89**	**37**	*e*Pn	**Pn**	**19 18 19.3**	**-0.7**
DHY				*e*Sn	**Sn**	**19 19 35.0**	**-2.3**
UNV	**Unalaska Valle**	**6.93**	**239**	*e*Pn	**Pn**	**19 18 18.8**	**-1.6**
MCK	**McKinley**	**6.94**	**29**	*e*Pn	**Pn**	**19 18 20.9**	**+0.4**
MREP	**Makushin Rep't**	**7.07**	**239**	P	**Pn**	**19 18 21.4**	**-0.9**
HARP	**HAARP**	**7.25**	**46**	*e*Pn	**Pn**	**19 18 24.7**	**0.0**
KHIT	**Khitrov Hills**	**7.27**	**64**	*e*Pn	**Pn**	**19 18 25.9**	**+0.8**
VRDI	**Verde Repeater**	**7.42**	**58**	*e*Pn	**Pn**	**19 18 28.0**	**+0.9**
PAX	**Paxson**	**7.47**	**42**	*e*Pn	**Pn**	**19 18 27.6**	**0.0**
PAX				*e*Sn	**Sn**	**19 19 47.8**	**-3.2**
KULT	**Kultieth River**	**7.48**	**66**	*e*Pn	**Pn**	**19 18 29.1**	**+1.3**
MCARA	**McCarthy VSAT**	**7.67**	**57**	*e*Pn	**Pn**	**19 18 31.6**	**+1.3**
MLY	**Manley**	**7.70**	**18**	*e*Pn	**Pn**	**19 18 31.2**	**+0.6**
ISLE	**Juniper Island**	**7.75**	**63**	*e*Pn	**Pn**	**19 18 32.6**	**+1.2**
WRH	**Wood River Hil**	**7.76**	**28**	*e*Pn	**Pn**	**19 18 30.7**	**-0.7**
PTPK	**Patty Peak**	**7.86**	**59**	*e*Pn	**Pn**	**19 18 34.3**	**+1.4**
BALM	**Baldy**	**7.87**	**60**	*e*Pn	**Pn**	**19 18 33.9**	**+1.0**
BALM				*e*Sn	**Sn**	**19 19 58.1**	**-2.4**
CCB	**Clear Creek Bu**	**7.98**	**28**	*e*Pn	**Pn**	**19 18 33.5**	**-0.8**
HDA	**Harding Lake**	**8.02**	**31**	*e*Pn	**Pn**	**19 18 33.9**	**-0.9**
HDA				*e*Sn	**Sn**	**19 19 58.8**	**-5.1**
MENT	**Mentasta**	**8.10**	**46**	*e*Pn	**Pn**	**19 18 36.5**	**+0.6**
MDM	**Murphy Dome**	**8.14**	**26**	*e*Pn	**Pn**	**19 18 36.0**	**-0.5**
RIDG	**Independ'e Rid**	**8.18**	**39**	*e*Pn	**Pn**	**19 18 36.8**	**-0.3**
RIDG				*e*Sn	**Sn**	**19 20 03.9**	**-4.1**
BARN	**Barnard Glacie**	**8.19**	**61**	*e*Pn	**Pn**	**19 18 38.8**	**+1.4**
IM3	**Indian Mountai**	**8.25**	**8**	*e*Pn	**Pn**	**19 18 37.6**	**-0.4**
ILAR	**Eielson Array**	**8.31**	**30**	P	**Pn**	**19 18 38.0**	**-0.8**
	1.5nm,0.3s,baz=216,slow=13,SNR=93						
ILAR				S	**Sn**	**19 20 04.6**	**-6.6**
	1.1nm,0.3s,baz=216,slow=24,SNR=10						
ILB	**Eielson Array**	**8.31**	**30**	*e*Pn	**Pn**	**19 18 38.3**	**-0.5**
ILB				*e*Sn	**Sn**	**19 20 05.3**	**-5.8**
IL1	**Eielson Array**	**8.32**	**30**	*e*Pn	**Pn**	**19 18 36.9**	**-1.9**
IL1				*e*Sn	**Sn**	**19 20 06.3**	**-4.8**
CTGM	**Chitina Glacie**	**8.32**	**62**	*e*Pn	**Pn**	**19 18 40.5**	**+1.5**
DOT	**Dot Lake**	**8.39**	**41**	*e*Pn	**Pn**	**19 18 39.1**	**-0.8**
LOGN	**Logan Glacier**	**8.44**	**63**	*e*Pn	**Pn**	**19 18 42.1**	**+1.4**
NIKH	**Nikolski High**	**8.57**	**240**	*e*Pn	**Pn**	**19 18 40.7**	**-1.7**
SCRK	**Sand Creek**	**8.62**	**39**	*e*Pn	**Pn**	**19 18 42.1**	**-0.9**
PNL	**Peninsula**	**9.05**	**71**	*e*Pn	**Pn**	**19 18 49.9**	**+1.2**
EGAK	**Eagle**	**10.09**	**40**	*e*Pn	**Pn**	**19 19 01.4**	**-1.0**
HYT	**Haines Junctio**	**10.12**	**65**	*e*Pn	**Pn**	**19 19 02.6**	**-0.3**
DAWY	**Dawson**	**10.35**	**46**	*e*Pn	**Pn**	**19 19 05.0**	**-0.8**
SKAG	**Skagway**	**11.12**	**73**	*e*Pn	**Pn**	**19 19 17.1**	**+1.2**
TOLK	**Toolik Lake Re**	**11.25**	**13**	*e*Pn	**Pn**	**19 19 20.4**	**+2.8**
WHY	**Whitehorse**	**11.38**	**67**	*e*Pn	**Pn**	**19 19 20.5**	**+1.0**
CRAG	**Craig**	**13.04**	**91**	*e*Pn	**Pn**	**19 19 43.0**	**+2.1**
DLBC	**Dease Lake**	**13.94**	**76**	*e*Pn	**Pn**	**19 19 53.5**	**+1.1**
INK	**Inuvik**	**14.63**	**35**	P	**Pn**	**19 20 00.2**	**-0.7**
	0.1nm,0.3s,baz=229,slow=14,SNR=3.4						
INK	**Inuvik**	**14.63**	**35**	*e*Pn	**Pn**	**19 19 59.9**	**-1.0**
YKA	**Yellowknife Ar**	**21.04**	**60**	P	**P**	**19 21 15.3**	**+2.2**
	0.6nm,0.6s,baz=276,slow=9.9,SNR=4.1						
KTRM	**Thompson Ridge**	**26.28**	**113**	*e*pP	pP	19 22 34.8	+0.9
BEKR	**Beckworth**	**29.31**	**112**	*e*pP	pP	19 23 01.4	0.0
MHC	**Mount Hamilton**	**30.66**	**117**	*e*P	P	19 22 39.6	-2.1
MHC				*e*S	**S**	**19 27 31.6**	**-1.5**
TIXI	**Tiksi**	**32.18**	**325**	P	**P**	**19 22 54.6**	**+0.2**
	0.6nm,0.3s,baz=107,slow=8.8,SNR=5.3						
BGU	**Big Grassy Mou**	**32.26**	**103**	*e*P	**P**	**19 22 56.5**	**+0.7**
PDAR	**Pinedale Array**	**32.79**	**97**	P	**P**	**19 23 04.0**	**+3.5**
	0.8nm,0.5s,baz=313,slow=5.0,SNR=10						
JLU	**Jordanelle**	**33.32**	**101**	*e*pP	pP	19 23 35.8	-1.1
DCU	**Deer Creek Res**	**33.42**	**102**	*e*pP	**pP**	**19 23 39.0**	**+1.3**
DCU				*e*S	**S**	**19 28 15.6**	**-0.5**
CHFC	**Chilao Flat St**	**34.82**	**116**	*e*P	**P**	**19 23 16.0**	**-2.0**
MWC	**Mount Wilson**	**34.90**	**116**	*e*PcP	**PcP**	**19 25 47.7**	**-0.2**
BREC	**Barre Substati**	**35.27**	**116**	*e*pP	pP	19 23 52.7	-0.8
BBRC	**Big Bear Solar**	**35.41**	**114**	*e*pP	pP	19 23 55.7	+0.6
TXAR	**Lajitas Array**	**46.05**	**105**	P	**P**	**19 24 53.3**	**+3.3**
	0.4nm,0.6s,baz=300,slow=7.2,SNR=4.3						
TLY	**Talaya**	**52.83**	**310**	*e*PcP	**PcP**	**19 26 47.2**	**-1.0**
SONM	**Songino Array**	**54.56**	**305**	P	**P**	**19 25 54.4**	**+0.5**
	0.3nm,0.5s,baz=50,slow=6.8,SNR=2.9						
HFS	**Hagfors**	**62.09**	**6**	P	**P**	**19 26 45.4**	**-0.2**
	2.4nm,0.9s,baz=14,slow=6.4,SNR=4.9						
MKAR	**Makanchi Array**	**64.94**	**320**	P	**P**	**19 27 03.9**	**-0.7**
	0.2nm,0.6s,baz=36,slow=5.7,SNR=2.1						
EKA	**Eskdalemuir Ar**	**65.12**	**16**	P	**P**	**19 27 05.3**	**-0.3**
	0.5nm,0.5s,baz=353,slow=5.0,SNR=5.0						
AKASG	**Malin Array Be**	**71.70**	**356**	P	**P**	**19 27 46.1**	**-0.4**
	0.5nm,0.4s,baz=11,slow=6.1,SNR=4.4						

*BEO **13** 19:25:37.4±0.4,44°.71N×17°.25E,h9km±2km*
*CSEM **13** 19:25:37.0±0.1,44°.77N×17°.36E,h2km,ML2.7/14,Error ellipse: s-maj=4.1km s-min=2.0km az=33.0*
*VIE **13** 19:25:40.0±0.7,44°.92N×17°.28E,h12km,mb2.2/6,ML2.3/7, Error ellipse: s-maj=6.8km s-min=3.9km az=12.0*
ISC 13 19:25:37.7±0.8**,44°.76N**±0°.02×**17°.33E**±0°.02**,h7**km±6km**, n69,σ0s.82**/118**,1C-4D,Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BLY	**Banja Luka**	**0.11**	**265**	*e*Pg	**Pg**	**19 25 40.5**	**+0.4**
	568nm,0.2s						
BLY				*e*Sg	**Sg**	**19 25 42.2**	**+0.4**
	781nm,0.1s						
BLY	**Banja Luka**	**0.11**	**265**	⇑*i*P	**Pg**	**19 25 39.9**	**-0.2**
BLY				S	**Sg**	**19 25 41.8**	**0.0**
BLY	**Banja Luka**	**0.11**	**265**	⇓*i*Pg	**Pg**	**19 25 39.7**	**-0.4**
BLY				S	**Sg**	**19 25 41.8**	**0.0**
BLY				*e*Sg	Sg	19 25 42.1	+0.3
DOB	**Doboj**	**0.55**	**92**	*e*Pg	**Pg**	**19 25 47.5**	**-0.8**
DOB				*e*Sg	**Sg**	**19 25 54.9**	**-0.5**

HAPS	**Han Pijesak,Bl**	**1.34**	**120**	*e*Pg		**Pn**	**19 26 02.1**	**-0.8**
	3.1nm,0.3s							
HAPS				*e*Sg		**Sb**	**19 26 20.4**	**-0.1**
	4.7nm,0.3s							
HAPS	**Han Pijesak,Bl**	**1.34**	**120**	*e*Pg		**Pn**	**19 26 02.1**	**-0.8**
	3.1nm,0.3s							
HAPS				*e*Sg		**Sb**	**19 26 20.4**	**-0.1**
	4.7nm,0.3s							
ZAG	**Zagreb**	**1.43**	**319**	*e*Pg		**Pn**	**19 26 03.4**	**-0.6**
ZAG				*e*Sg		**Sb**	**19 26 23.2**	**+0.2**
OZLJ	**Ozalj**	**1.57**	**304**	*e*Pn		**Pn**	**19 26 05.2**	**-0.8**
OZLJ				Sn		**Sn**	**19 26 26.8**	**+0.2**
OZLJ	**Ozalj**	**1.57**	**304**	*e*Pn		**Pn**	**19 26 05.1**	**-0.8**
OZLJ				Sn		**Sn**	**19 26 26.7**	**+0.2**
TEKS	**Tekeris**	**1.58**	**97**	*e*Pg		**Pn**	**19 26 06.1**	**0.0**
	0.8nm,0.3s							
TEKS				*e*Sg		**Sg**	**19 26 29.1**	**+0.6**
	6.8nm,0.2s							
TEKS	**Tekeris**	**1.58**	**97**	*e*Pn		**Pn**	**19 26 05.8**	**-0.3**
TEKS	**Tekeris**	**1.58**	**97**	*e*Pg		**Pn**	**19 26 06.1**	**0.0**
	0.8nm,0.3s							
TEKS				*e*Sn		**Sb**	**19 26 27.5**	**+0.1**
TEKS				*e*Sg		**Sg**	**19 26 29.1**	**+0.6**
	6.8nm,0.2s							
BOJS	**Bojanci**	**1.65**	**298**	*i* Pn		**Pn**	**19 26 07.6**	**+0.6**
BOJS				*i* Sn		**Sb**	**19 26 30.0**	**+0.6**
	comp=Z,17nm,0.2s							
BOJS	**Bojanci**	**1.65**	**298**	*i* Pn		**Pn**	**19 26 07.6**	**+0.6**
BOJS				*i* Sn		**Sb**	**19 26 30.0**	**+0.6**
	comp=Z,17nm,0.2s							
CRES	**Cresnjev**	**1.70**	**310**	*e*Sn		**Sn**	**19 26 30.2**	**+0.4**
MORH	**M˝ɬr˙igy, Hung**	**1.72**	**32**⇓	*e*Pn		**Pb**	**19 26 09.9**	**+0.3**
MORH				*e*Sn		**Sn**	**19 26 30.5**	**+0.2**
MORH	**M˝ɬr˙igy, Hung**	**1.72**	**32**⇓	*e*Pn		**Pb**	**19 26 09.9**	**+0.3**
MORH				*e*Sn		**Sn**	**19 26 30.5**	**+0.2**
BBLS	**Lazići**	**1.73**	**120**	*e*Pg		**Pb**	**19 26 09.2**	**-0.7**
	comp=Z,3.5nm,0.7s							
BBLS				*e*Sg		**Sg**	**19 26 33.3**	**-0.1**
	comp=Z,12nm,0.4s							
BBLS	**Lazići**	**1.73**	**120**	*e*Pn		**Pn**	**19 26 08.5**	**+0.2**
BBLS	**Lazići**	**1.73**	**120**	*e*Pg		**Pb**	**19 26 09.2**	**-0.7**
	comp=Z,3.5nm,0.7s							
BBLS				*e*Sn		**Sn**	**19 26 31.2**	**+0.6**
BBLS				*e*Sg		**Sg**	**19 26 33.3**	**-0.1**
	comp=Z,12nm,0.4s							
BEHE	**Becsehely**	**1.76**	**347**⇓	*e*Pn		**Pn**	**19 26 08.3**	**-0.2**
BEHE				*e*Sn		**Sg**	**19 26 37.1**	**+3.0**
BEHE	**Becsehely**	**1.76**	**347**	*e*Pn		**Pn**	**19 26 08.5**	**0.0**
BEHE				*e*Sn		**Sb**	**19 26 31.9**	**-0.5**
NVLJ	**Novalja**	**1.77**	**265**	*i* Pn		**Pb**	**19 26 09.9**	**-0.5**
NVLJ				Sn		**Sb**	**19 26 32.7**	**0.0**
NVLJ	**Novalja**	**1.77**	**265**	*i* Pn		**Pb**	**19 26 09.9**	**-0.5**
NVLJ				Sn		**Sb**	**19 26 32.7**	**0.0**
FGSL	**Fruska Gora**	**1.80**	**76**	*e*Pg		**Pb**	**19 26 11.5**	**+0.5**
	comp=Z,2.2nm,0.2s							
FGSL				*e*Sg		**Sg**	**19 26 37.6**	**+2.0**
	comp=Z,15nm,0.3s,baz=6.0							
FRGS	**Fruska Gora**	**1.80**	**76**	*e*Pg		**Pb**	**19 26 11.5**	**+0.5**
	comp=Z,2.2nm,0.2s							
FRGS				*e*Sg		**Sg**	**19 26 37.6**	**+2.0**
	comp=Z,15nm,0.3s							
FRGS	**Fruska Gora**	**1.80**	**76**	*e*Pn		**Pn**	**19 26 09.1**	**-0.1**
FRGS				*e*Sn		**Sn**	**19 26 32.6**	**+0.3**
STON	**Ston**	**1.91**	**172**	*e*Pn		**Pn**	**19 26 11.0**	**+0.5**
STON				Sn		**Sb**	**19 26 36.4**	**-0.2**
STON	**Ston**	**1.91**	**172**	*e*Pn		**Pn**	**19 26 11.0**	**+0.5**
STON				Sn		**Sb**	**19 26 36.4**	**-0.2**
DIVS	**Divibare**	**2.02**	**108**	*e*Pg		**Pb**	**19 26 14.5**	**-0.2**
	comp=Z,0.3nm,0.2s							
DIVS				*e*Sg		**Sg**	**19 26 42.8**	**+0.4**
	comp=Z,1.8nm,0.2s							
DIVS	**Divibare**	**2.02**	**108**	*e*Pn		**Pn**	**19 26 12.0**	**-0.1**
DIVS	**Divibare**	**2.02**	**108**	*e*Pg		**Pb**	**19 26 14.5**	**-0.2**
	comp=Z,0.3nm,0.2s							
DIVS				*e*Sn		**Sn**	**19 26 38.1**	**+0.5**
DIVS				*e*Sg		**Sg**	**19 26 42.8**	**+0.4**
	comp=Z,1.8nm,0.2s							
BRY	**Bratogost**	**2.05**	**154**	*e*Sn		**Sn**	**19 26 38.8**	**+0.3**
TREB	**Trebinje**	**2.17**	**160**	*e*Pn		**Pn**	**19 26 14.7**	**+0.5**
TREB				*e*Sn		**Sn**	**19 26 41.8**	**+0.5**
TRUS	**Trudelj**	**2.26**	**103**	*e*Pn		**Pn**	**19 26 15.7**	**+0.2**
	comp=Z,0.2nm,0.3s							
TRUS				*e*Sg		**Sg**	**19 26 51.8**	**+1.4**
	comp=Z,5.4nm,0.3s							
TRUS	**Trudelj**	**2.26**	**103**	*e*Pn		**Pn**	**19 26 15.7**	**+0.2**
	comp=Z,0.2nm,0.3s							
TRUS				*e*Sg		**Sg**	**19 26 51.8**	**+1.4**
	comp=Z,5.4nm,0.3s							
CEY	**Cerknica**	**2.27**	**297**	*e*Sn		**Sn**	**19 26 44.6**	**+0.7**
IVAS	**Ivanjica**	**2.35**	**119**	*e*Pg		**Pb**	**19 26 20.3**	**0.0**
	comp=Z,0.2nm,0.3s							
IVAS				*e*Sg		**Sg**	**19 26 53.4**	**+0.3**
	comp=Z,2.2nm,0.6s							
IVAS	**Ivanjica**	**2.35**	**119**	*e*Pg		**Pb**	**19 26 20.3**	**0.0**
	comp=Z,0.2nm,0.3s							
IVAS				*e*Sg		**Sg**	**19 26 53.4**	**+0.3**
	comp=Z,2.2nm,0.6s							
SJES	**Sjenica**	**2.42**	**127**	*e*Pg		**Pb**	**19 26 21.6**	**0.0**
	comp=Z,1.7nm,0.4s							
SJES				*e*Sg		**Sg**	**19 26 55.5**	**0.0**
	comp=Z,2.6nm,0.1s							
SOKA	**Soboth**	**2.51**	**321**	Pn		**Pn**	**19 26 18.2**	**-0.7**
SOKA				Sn		**Sn**	**19 26 47.2**	**-2.6**
	comp=Z,2.6nm,0.3s							
SOKA	**Soboth**	**2.51**	**321**	Pn		**Pn**	**19 26 18.2**	**-0.7**
SOKA				*e*Sn		**Sn**	**19 26 47.2**	**-2.6**
	comp=Z,2.6nm,0.3s							
GRUS	**Gruza**	**2.58**	**109**	*e*Pg		**Pb**	**19 26 24.6**	**+0.4**
	comp=Z,2.2nm,0.4s							
GRUS				*e*Sg		**Sg**	**19 26 59.9**	**-0.6**
	comp=Z,4.0nm,0.6s							
GRUS	**Gruza**	**2.58**	**109**	*e*Pg		**Pb**	**19 26 24.6**	**+0.4**
	comp=Z,2.2nm,0.4s							
GRUS				*e*Sg		**Sg**	**19 26 59.9**	**-0.6**
	comp=Z,4.0nm,0.6s							
OBKA	**Obir**	**2.62**	**313**	Pg		**Pg**	**19 26 27.8**	**-0.2**
	comp=Z,2.5nm,0.2s							
OBKA				Sg		**Sg**	**19 27 04.2**	**+2.3**
	comp=Z,12nm,0.3s							
OBKA	**Obir**	**2.62**	**313**	*e*Pg		**Pg**	**19 26 27.8**	**-0.2**
	comp=Z,2.5nm,0.2s							
OBKA				Sg		**Sg**	**19 27 04.2**	**+2.3**
	comp=Z,12nm,0.3s							
CSKK	**Cs˙ɬkako**	**2.68**	**14**	*e*Pn		**Pn**	**19 26 19.4**	**-1.9**
CSKK				*e*Sn		**Sg**	**19 27 04.5**	**+0.6**
CSKK	**Cs˙ɬkako**	**2.68**	**14**	*e*Pn		**Pn**	**19 26 19.4**	**-1.9**
PDG	**Podgorica**	**2.71**	**148**	*e*Sn		**Sn**	**19 26 55.2**	**+0.5**
ARSA	**Arzberg**	**2.79**	**334**	Pn		**Pn**	**19 26 22.5**	**-0.3**
	comp=Z,1.8nm,0.2s,SNR=4.4							
ARSA				Sg		**Sg**	**19 27 06.1**	**-1.3**
	comp=Z,3.6nm,0.3s							
ARSA	**Arzberg**	**2.79**	**334**	*e*Pn		**Pn**	**19 26 22.5**	**-0.3**
	comp=Z,1.8nm,0.2s,SNR=4.4							
ARSA				Sg		**Sg**	**19 27 06.1**	**-1.3**
	comp=Z,3.6nm,0.3s							
DRME	**Dracevica, Mon**	**2.90**	**152**	*e*Pn		**Pn**	**19 26 24.5**	**+0.2**
DRME				*e*Sn		**Sn**	**19 26 59.4**	**+0.1**
SELS	**Selova**	**3.13**	**118**	*e*Pn		**Pn**	**19 26 26.7**	**-0.8**
	comp=Z,0.6nm,0.9s							
SELS	**Selova**	**3.13**	**118**	*e*Pn		**Pn**	**19 26 26.7**	**-0.8**
	comp=Z,0.6nm,0.9s							
CONA	**Conrad Observa**	**3.33**	**343**	Pn		**Pn**	**19 26 30.1**	**-0.1**
	comp=Z,1.8nm,0.3s,SNR=9.4							
CONA	**Conrad Observa**	**3.33**	**343**	*i* Pn		**Pn**	**19 26 30.1**	**-0.1**
	comp=Z,1.8nm,0.3s,SNR=9.4							
BOVS	**Bovan**	**3.34**	**108**	*e*Pn		**Pn**	**19 26 30.5**	**+0.3**
	comp=Z,0.1nm,0.3s							
BOVS	**Bovan**	**3.34**	**108**	*e*Pn		**Pn**	**19 26 30.5**	**+0.3**
	comp=Z,0.1nm,0.3s							
MODS	**Modra-Piesok**	**3.62**	**359**	*e*Pn		**Pn**	**19 26 33.9**	**-0.2**
MODS	**Modra-Piesok**	**3.62**	**359**	*e*PN		**Pn**	**19 26 33.9**	**-0.2**
PSZ	**Piszkesteto**	**3.62**	**28**	*ex*		**Sg**	**19 27 34.8**	**+0.7**
ZAGS	**Zajecar**	**3.64**	**103**	*e*Pn		**Pn**	**19 26 34.6**	**+0.2**
	comp=Z,0.1nm,0.2s							
ZAGS	**Zajecar**	**3.64**	**103**	*e*Pn		**Pn**	**19 26 34.6**	**+0.2**
	comp=Z,0.1nm,0.2s							
MOA	**Molln**	**3.75**	**327**	Pn		**Pn**	**19 26 36.6**	**+0.7**
	comp=Z,2.6nm,0.2s,SNR=9.6							
MOA				Sn		**Sn**	**19 27 19.6**	**-0.7**
	comp=Z,1.4nm,0.2s							
MOA	**Molln**	**3.75**	**327**	*i* Pn		**Pn**	**19 26 36.6**	**+0.7**
	comp=Z,2.6nm,0.2s,SNR=9.6							
MOA				*e*Sn		**Sn**	**19 27 19.6**	**-0.7**
	comp=Z,1.4nm,0.2s							
VYHS	**Vyhne**	**3.88**	**15**	*e*Pn		**Pn**	**19 26 37.4**	**-0.3**
VYHS	**Vyhne**	**3.88**	**15**	*e*PN		**Pn**	**19 26 37.4**	**-0.3**
ZAPS	**Zavoj**	**4.10**	**109**	*e*Pn		**Pn**	**19 26 41.4**	**+0.6**
	comp=Z,0.3nm,0.4s							
ZAPS				*e*Sn		**Sn**	**19 27 27.3**	**-1.7**
	comp=Z,0.5nm,0.8s							
DRGR		**4.28**	**60**	S		Sn	19 27 23.9	-9.5

IDC ***13*** *19:35:01.4±0.6,4˙.47S×102˚.75E, h0km, mb4.5/29, mb1 4.5/29, mb1mx4.3/58, mbtmp4.4/29, MS2.9/3, Ms1 3.0/3, ms1mx2.5/57, Error ellipse: s-maj=23.1km s-min=11.0km az=39.0*

ISCJB ***13*** *19:35:09.0±0.5,4˙.57S±0˙.04×102˚.79E±0˙.04, h78km±3km, mb4.6/73, Error ellipse: s-maj=9.1km s-min=3.7km az=43.1*

NEIC ***13*** *19:35:09.4±0.5,4˙.54S×102˚.77E, h66km±4km, mb4.7/42, Error ellipse: s-maj=7.5km s-min=3.1km az=223.0*

DJA ***13*** *19:35:09.8±0.6,5˚S×4˚×10˚3E±˚, h35km±5km, M4.6/12, mb4.6/4, mB4.9/4, MLv4.7/12, Mw(mB)4.2/4*

ISC 13 19:35:09.3±0.9, 4˙.64S±0˙.07×102˚.71E±0˙.06, h67km±7km, n212, σ1s22/221, mb4.7/73, 5C, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MNAI	**Manna**	**0.37**	**41**	P		**Pn**	**19 35 20.1**	**-0.6**
MNAI				S		**Sn**	**19 35 28.2**	**-0.8**
MNAI	**Manna**	**0.37**	**41**	*e*Pn		**Pn**	**19 35 20.3**	**-0.4**
MNAI				*e*Sn		**Sn**	**19 35 27.2**	**-1.8**
LWLI	**Liwa**	**1.39**	**106**	P		**Pn**	**19 35 33.2**	**+0.4**
LWLI				S		**Sn**	**19 35 50.3**	**-0.2**
MDSI	**Maura Dua**	**1.47**	**84**	P		**Pn**	**19 35 33.8**	**+0.1**
MDSI				S		**Sn**	**19 35 52.1**	**-0.1**
MASI	**Maura Aman, Be**	**1.57**	**342**	P		**Pn**	**19 35 35.9**	**+0.8**
MASI				S		**Sn**	**19 35 56.2**	**+1.7**
KASI	**Kota Agung**	**1.98**	**116**	P		**Pn**	**19 35 40.9**	**+0.3**
KASI				S		**Sn**	**19 36 03.6**	**-0.8**
JMBI	**JAMBI**	**3.13**	**17**	P		**Pn**	**19 35 57.1**	**+0.8**
PPSI	**Pulau Pagai**	**3.28**	**305**	P		**Pn**	**19 35 59.8**	**+1.5**
RGRI	**Rengat**	**4.28**	**355**	P		**Pn**	**19 36 14.1**	**+2.1**
PDSI	**Padang**	**4.34**	**329**	P		**Pn**	**19 36 13.9**	**+1.1**
DSRI	**Dabo**	**4.54**	**24**	P		**Pn**	**19 36 16.4**	**+0.9**
SISI	**Saibi**	**4.89**	**312**	P		**Pn**	**19 36 20.9**	**+0.5**
BKNI	**Bangkinang**	**5.21**	**341**	*e*Pn		**Pn**	**19 36 23.0**	**-1.7**
LEM	**Lembang**	**5.34**	**114**	Pn		Pn	19 36 32.0	+5.4
	2.8nm,0.3s,baz=164,slow=20,SNR=6.3							
LEM				Sn		**Sn**	**19 37 31.9**	**+5.0**
	3.7nm,0.3s,baz=300,slow=20,SNR=2.2							
LEM				LR		LR	19 38 30.9	
	comp=Z,80nm,19.4s,baz=316,slow=39							
TPRI	**Tanjung Pinang**	**5.81**	**18**	P		**Pn**	**19 36 34.6**	**+1.6**
CISI	**Cisompet, Garu**	**5.84**	**120**	P		**Pn**	**19 36 33.9**	**+0.5**
CISI	**Cisompet, Garu**	**5.84**	**120**	*e*Pn		**Pn**	**19 36 33.2**	**-0.1**
CISI				*e*Sn		**Sn**	**19 37 33.5**	**-5.6**
XMIS	**Christmas Isla**	**6.49**	**154**	*e*Pn		Pn	19 36 38.7	-3.5
XMIS				*e*Sn		Sn	19 37 43.6	-11
MYKOM	**Kota Tinggi**	**6.49**	**10**	*e*Pn		**Pn**	**19 36 43.4**	**+1.1**
GSI	**Gunungsitoli**	**7.83**	**319**	*e*Pn		**Pn**	**19 36 57.9**	**-2.6**
GSI				*e*Sn		**Sn**	**19 38 22.3**	**-5.3**
UGM	**Wanagama**	**8.41**	**113**	*e*Pn		**Pn**	**19 37 08.5**	**0.0**
IPM	**Ipoh**	**9.22**	**349**	*e*Pn		**Pn**	**19 37 22.9**	**+3.4**
LHMI	**Lhok Sumawe**	**11.37**	**330**	*e*Pn		**Pn**	**19 37 48.9**	**-0.1**
SBUM	**Sibu**	**11.83**	**54**	*e*Pn		**Pn**	**19 37 57.4**	**+2.2**
JAGI	**Jajag, Banyuwa**	**11.98**	**109**	*e*Pn		**Pn**	**19 37 57.4**	**+0.1**
KKM	**Kota Kinabalu**	**17.16**	**52**	*e*Pn		**Pn**	**19 39 03.1**	**-1.8**
	51nm,1.3s							
MYLDM	**Lahad Datu**	**18.54**	**58**	*e*P		**Pn**	**19 39 20.6**	**-1.0**
	15nm,0.7s							
MMRI	**Maumere**	**19.79**	**103**	*e*P		**P**	**19 39 34.0**	**-0.4**
	42nm,1.3s							
LUWI	**Luwuk**	**20.35**	**80**	*e*P		**P**	**19 39 39.1**	**-1.3**
	16nm,0.8s							
PBKT	**Sadao Pong**	**21.15**	**355**	P		**P**	**19 39 49.8**	**+0.9**
	5.4nm,0.8s							
PBKT	**Sadao Pong**	**21.15**	**355**	*e*P		**P**	**19 39 47.4**	**-1.6**
	3.8nm,0.9s							
BATI	**Baumata**	**21.49**	**106**	P		**P**	**19 39 53.0**	**+0.3**
	14nm,0.4s,baz=355,slow=1.9,SNR=7.7							
BATI				S		**S**	**19 43 44.2**	**-3.5**
	20nm,0.8s,baz=300,slow=20,SNR=4.8							
SOEI	**Soe**	**21.97**	**105**	*e*P		**P**	**19 39 57.3**	**-0.7**
	26nm,0.9s							
CM01	**Chiang Mai Arr**	**23.22**	**351**	*e*P		**P**	**19 40 10.1**	**-0.6**
CM01				*e*PcP		**PcP**	**19 43 57.8**	**+0.9**
CM31	**Chiang Mai Arr**	**23.25**	**351**	*e*P		**P**	**19 40 09.7**	**-1.4**
CMAR	**Chiang Mai Arr**	**23.25**	**351**	P		**P**	**19 40 10.1**	**-1.1**
	3.4nm,0.7s,baz=183,slow=8.6,SNR=44							
CMAR				PcP		**PcP**	**19 43 58.5**	**+1.5**
	0.7nm,0.8s,baz=211,slow=2.8,SNR=7.1							
CMAR				LR		LR	19 49 28.2	
	comp=Z,37nm,20.5s,baz=156,slow=38							
CMMT	**Chiang Mai**	**23.60**	**351**	P		**P**	**19 40 12.4**	**-1.9**
CHTO	**Chiang Mai**	**23.60**	**351**	P		**P**	**19 40 13.5**	**-0.9**
	29nm,1.2s							
CHTO	**Chiang Mai**	**23.60**	**351**	*e*P		**P**	**19 40 13.4**	**-0.9**
	8.4nm,1.1s							
DAV	**Davao City (W)**	**25.62**	**63**	LR		LR	19 51 13.8	
	comp=Z,5nm,19.1s,baz=318,slow=38							
FITZ	**Fitzroy Crossi**	**26.10**	**123**	P		**P**	**19 40 37.5**	**+0.4**
	2.3nm,0.6s,baz=305,slow=4.9,SNR=8.2							
FITZ	**Fitzroy Crossi**	**26.10**	**123**	P		**P**	**19 40 37.7**	**+0.7**
	baz=26,SNR=5.3							
SAUI	**Saumlaki**	**28.60**	**98**	*e*P		**P**	**19 40 59.4**	**-0.1**
	251nm,1.0s							
SIJI	**Sorong**	**28.76**	**83**	P		**P**	**19 41 02.5**	**+1.6**
	3.8nm,0.7s,baz=304,slow=6.0,SNR=4.4							
MTN	**Manton Dam**	**29.22**	**108**	*e*P		**P**	**19 41 04.8**	**-0.2**
	86nm,1.8s							
H08S2	**Diego Garcia H**	**30.19**	**263**	T		T	20 13 19.9	
	baz=86							
H08S3	**Diego Garcia H**	**30.20**	**263**	T		T	20 12 54.4	
	baz=86,slow=74							
H08S1	**Diego Garcia H**	**30.21**	**263**	T		T	20 13 20.0	
	baz=86,slow=74							
WRKA	**Warakurna**	**31.86**	**132**	P		**P**	**19 41 29.5**	**+1.4**
	baz=32,SNR=5.9							
H01W3	**Cape Leeuwin H**	**31.90**	**162**	T		T	20 15 23.6	
	baz=339,slow=76,SNR=6.0							
H01W2	**Cape Leeuwin H**	**31.91**	**162**	T		T	20 15 19.5	
	baz=339,slow=76,SNR=8.1							
H01W1	**Cape Leeuwin H**	**31.91**	**162**	T		T	20 15 22.8	
	baz=339,slow=76,SNR=6.5							
WR1	**Warramunga Arr**	**34.34**	**119**	*e*P		**P**	**19 41 50.0**	**+0.1**
	29nm,1.8s							
WRA	**Warramunga Arr**	**34.34**	**119**	P		**P**	**19 41 50.0**	**+0.1**
	3.6nm,0.6s,baz=301,slow=9.1,SNR=40							
WRAB	**Tennant Creek**	**34.34**	**119**	*e*P		**P**	**19 41 50.5**	**+0.6**
	9.4nm,0.9s							
WB2	**Warramunga Arr**	**34.35**	**119**	*e*P		**P**	**19 41 50.1**	**+0.1**
ENH	**Enshi**	**35.32**	**10**	*e*P		**P**	**19 41 57.3**	**-0.8**
	6.0nm,0.6s							
CD2	**Chengdu**	**35.37**	**2**	*e*P		**P**	**19 41 59.5**	**+0.9**
CD2				pmax		pmax		
	comp=Z,10.0nm,0.5s							
CD2				pmax		pmax		
	comp=Z,120nm,5.0s							
AS31	**Alice Springs**	**35.52**	**125**	*e*P		**P**	**19 42 00.8**	**+0.7**
	comp=Z,2.0nm,0.3s							
ASAR	**Alice Springs**	**35.52**	**125**	P		**P**	**19 42 01.0**	**+0.9**
	comp=Z,2.0nm,0.6s,baz=297,slow=7.4,SNR=36							
ASAR				PcP		**PcP**	**19 44 29.4**	**+1.2**
	comp=Z,0.9nm,0.8s,baz=315,slow=3.1,SNR=5.9							
AS01	**Alice Springs**	**35.56**	**125**	*e*P		**P**	**19 42 00.7**	**+0.3**
LSA	**Lhasa**	**35.91**	**343**	*e*P		**P**	**19 42 03.4**	**-0.3**
	comp=Z,2.9nm,0.8s							
XAN	**Xi'an**	**38.92**	**8**	P		**P**	**19 42 28.3**	**-0.3**
XAN				sP		pP	19 42 35.4	-10
XAN				pmax		pmax		
	comp=Z,12nm,0.8s							
XAN				pmax		pmax		
	comp=Z,120nm,5.4s							
QIS	**Mount Isa**	**39.19**	**117**	P		**P**	**19 42 31.8**	**+0.7**
	baz=39,SNR=5.3							
NJ2	**Nanjing**	**39.59**	**22**	*e*P		**P**	**19 42 35.9**	**+1.7**
NJ2				pmax		pmax		
	comp=Z,19nm,0.5s							
LZH	**Lanzhou**	**40.53**	**1**	*e*P		P	19 42 46.8	+4.7
LZH				pP		pP	19 43 01.1	+2.3
LZH				sP		sP	19 43 06.8	+0.3
LZH				PP		**PnPn**	**19 44 24.5**	**+3.4**
LZH				pmax		pmax		
	comp=Z,31nm,1.0s							
LZH				pmax		pmax		
	comp=Z,230nm,4.3s							
LZH				LR		LR		
	comp=N,400nm,13.5s							
LZH				LR		LR		
	comp=E,400nm,14.0s							
LZH				LR		LR		
	comp=Z,440nm,17.2s							
COEN	**Coen**	**40.93**	**106**	*e*P		**P**	**19 42 45.0**	**-0.5**
	comp=Z,72nm,1.7s							
BBOO	**Buckleboo**	**41.88**	**136**	*e*P		**P**	**19 42 51.9**	**-1.2**
	comp=Z,36nm,1.8s							
MTSU	**Mount Surprise**	**42.81**	**112**	P		**P**	**19 43 01.6**	**+0.7**
	baz=43,SNR=9.7							
GTA	**Gaotai**	**43.92**	**357**	*e*P		**P**	**19 43 09.6**	**0.0**
GTA				pP		pP	19 43 30.3	+3.9
GTA				sP		sP	19 43 38.8	+4.7
GTA				pmax		pmax		
	comp=Z,6.0nm,0.7s							
HTT	**Hallett**	**44.22**	**135**	P		**P**	**19 43 14.2**	**+2.1**
	baz=44,SNR=3.8							
PMG	**Port Moresby**	**44.34**	**99**	*e*P		**P**	**19 43 13.2**	**-0.1**
	comp=Z,29nm,1.1s							
CTAO	**Charters Tower**	**45.04**	**114**	*e*P		**P**	**19 43 19.8**	**+1.0**
	comp=Z,24nm,1.0s							
STKA	**Stephens Creek**	**45.38**	**131**	P		**P**	**19 43 22.8**	**+1.5**
	comp=Z,11nm,0.6s,baz=308,slow=7.8,SNR=50							
STKA	**Stephens Creek**	**45.38**	**131**	P		**P**	**19 43 22.9**	**+1.6**
	baz=46,SNR=28							
STKA	**Stephens Creek**	**45.38**	**131**	*e*P		**P**	**19 43 22.9**	**+1.6**
	comp=Z,2.6nm,0.6s							
STKA				*e*PcP		**PcP**	**19 45 02.2**	**+2.4**
HHC	**Hu-ho-hao-te**	**45.99**	**9**	*e*P		**P**	**19 43 28.3**	**+2.3**
HHC				pmax		pmax		
	comp=Z,18nm,1.1s							
HHC				pmax		pmax		
	comp=Z,51nm,6.1s							
JNU	**Nakatsue**	**46.08**	**33**	*e*P		**P**	**19 43 27.4**	**+0.7**
	comp=Z,73nm,1.8s							
NIL	**Nilore**	**47.19**	**326**	*e*P		**P**	**19 43 35.0**	**-0.4**
	comp=Z,14nm,0.6s							
KS15	**Wonju Array Si**	**47.98**	**27**	*e*P		**P**	**19 43 40.5**	**-0.9**
KSAR	**Wonju Array Be**	**47.98**	**27**	P		**P**	**19 43 41.2**	**-0.2**
KSAR				PcP		**PcP**	**19 45 08.8**	**+0.1**
KSRS	**Korea Array**	**48.01**	**27**	P		**P**	**19 43 41.2**	**-0.4**
	comp=Z,1.2nm,0.6s,baz=226,slow=7.0,SNR=8.2							
KSRS				PcP		**PcP**	**19 45 08.8**	**0.0**
	comp=Z,1.1nm,1.0s,baz=206,slow=1.7,SNR=4.3							
CMSA	**Cobar Meteorol**	**48.35**	**129**	P		**P**	**19 43 46.4**	**+1.9**
	baz=49,SNR=11							
WMQ	**Urumqi**	**50.11**	**346**	P		**P**	**19 43 58.8**	**+1.1**
WMQ				pP		pP	19 44 16.4	+1.6
WMQ				pmax		pmax		
	comp=Z,42nm,1.3s							
KSH	**Kashi**	**50.39**	**333**	P		**P**	**19 43 58.8**	**-1.2**
KSH				pmax		pmax		
	comp=Z,15nm,0.5s							
WSAR	**Wadi Sarin**	**51.17**	**305**	P		**P**	**19 44 07.8**	**+1.8**
	comp=Z,3.6nm,1.0s,baz=90,slow=6.1,SNR=2.6							
TARG	**Taragay, Kyrgy**	**51.44**	**336**	*e*P		**P**	**19 44 07.8**	**-0.4**
	comp=Z,6.9nm,1.3s							
NRN	**Naryn**	**51.94**	**335**	*e*P		**P**	**19 44 11.8**	**0.0**
	comp=Z,4.1nm,0.6s							
NRN				*e*PcP		**PcP**	**19 45 24.5**	**+0.9**
KDJ	**Kajisay**	**52.03**	**336**	*e*P		**P**	**19 44 13.2**	**+1.0**
	comp=Z,15nm,0.6s							
SONA0

FIA1	FINESS Array S	87.70	332	*e*P		P	19 47 50.7	+0.4
FIA0	FINESS Array S	87.70	332	*e*P		P	19 47 50.6	+0.3
FINES	FINESS Array B	87.70	332	P		P	19 47 50.6	+0.3
	comp=Z,1.7nm,0.6s,baz=98,slow=5.5,SNR=12							
STHS	Stebnicka Huta	87.96	320	*e*P		P	19 47 54.1	+2.2
GEC2	GERESS Array S	92.81	319	*e*P		P	19 48 15.7	+1.0
	comp=Z,9.6nm,1.8s							
GERES	GERESS Array B	92.81	319	P		P	19 48 15.7	+1.0
	comp=Z,0.3nm,0.6s,baz=122,slow=2.0,SNR=3.6							
HFS	Hagfors	93.50	330	P		P	19 48 18.3	+0.9
	comp=Z,2.5nm,1.0s,baz=106,slow=4.4,SNR=3.6							
SPITS	Spitsbergen Ar	93.76	348	P		P	19 48 17.2	-1.1
	comp=Z,5.3nm,0.8s,baz=199,slow=4.0,SNR=3.8							
LGMM	Garner Mountai	125.87	40	*e*PKPpre	PKPpre		19 53 54.6	
NV01	Mina Array Sit	129.83	42	*e*PKPdf	PKPdf		19 54 10.6	-1.2
NVAR	Mina Array Bea	129.83	42	PKP	PKPdf		19 54 12.9	+1.1
	comp=Z,0.4nm,0.6s,baz=312,slow=3.4,SNR=3.3							
S38A	Stockton	143.82	23	P	PKPab		19 54 33.7	-0.7
	baz=331							
R40A	Maddies Statio	143.83	20	P	PKPab		19 54 34.3	-0.1
	baz=334							
R41A	Rosebud	144.13	19	P	PKPab		19 54 35.6	+0.1
	baz=336							
R42A	Luebbering	144.33	18	P	PKPab		19 54 36.2	-0.1
	baz=336							
S40A	Lebanon	144.37	21	P	PKPab		19 54 35.9	-0.5
	baz=333							
CCM	Cathedral Cave	144.39	19	P	PKPab		19 54 36.0	-0.5
	baz=336							
O56A	Blue Knob Stat	144.52	2	P	PKPab		19 54 36.7	-0.2
	baz=358							
T39A	Clever	144.56	22	P	PKPab		19 54 36.8	-0.4
	baz=332							
R43A	Red Bud	144.60	17	P	PKPab		19 54 36.9	-0.3
	baz=338							
S41A	Jillco Farms,	144.65	20	P	PKPab		19 54 37.2	-0.3
	baz=335							
T40A	Mansfield	144.76	21	P	PKPab		19 54 37.3	-0.7
	baz=333							
S42A	Caledonia	144.80	19	P	PKPab		19 54 37.3	-0.8
	baz=336							
Q47A	Bedord North L	144.87	12	P	PKPab		19 54 37.9	-0.4
	baz=344							
TX31	Lajitas Ar. Si	144.98	43	*e*PKPbc	PKPbc		19 54 39.3	+0.2
LTX	Lajitas	144.98	43	*e*PKPbc	PKPdf		19 54 39.7	0.0
TXAR	Lajitas Array	144.98	43	PKP	PKPdf		19 54 39.7	0.0
	comp=Z,4.4nm,0.7s,baz=276,slow=1.4,SNR=34							
HHAR	Hobbs	144.98	24	*e*PKPbc	PKPab		19 54 37.8	-1.1
R45A	Skylar, Fairfi	145.04	15	P	PKPab		19 54 38.5	-0.4
	baz=341							
MCWV	Mont Chateau	145.07	3	P	PKPab		19 54 38.8	-0.2
	baz=356							
U39A	Green Forest	145.08	23	P	PKPab		19 54 38.2	-0.9
	baz=331							
T41A	Mountain View	145.13	20	P	PKPab		19 54 38.8	-0.5
	baz=334							
ABTX	Abilene, Hawle	145.19	34	P	PKPab		19 54 39.6	-0.1
	baz=318							
S43A	Fulton Ridge,	145.20	18	P	PKPbc		19 54 38.9	-0.5
	baz=337							
SIUC	Southern Illin	145.32	17	*e*PKPbc	PKPbc		19 54 39.7	-0.1
S44A	Carbondale	145.33	17	P	PKPbc		19 54 39.5	-0.3
	baz=339							
U40A	Yellville	145.34	22	P	PKPbc		19 54 39.4	-0.5
	baz=332							
T42A	Van Buren	145.37	20	P	PKPbc		19 54 39.5	-0.4
	baz=335							
R47A	Wooly Knot Far	145.46	13	P	PKPbc		19 54 39.7	-0.5
	baz=344							
V39A	Pettigrew	145.49	24	P	PKPbc		19 54 39.7	-0.7
	baz=330							
R48A	Northridge Ran	145.50	12	P	PKPbc		19 54 40.4	+0.1
	baz=345							
S45A	Carrier Mills	145.54	16	P	PKPbc		19 54 40.3	-0.1
	baz=340							
WCI	Wyandotte Cave	145.58	13	P	PKPbc		19 54 40.4	-0.1
	baz=344							
WCI	Wyandotte Cave	145.58	13	*e*PKPdf	PKPbc		19 54 40.5	-0.1
T43A	Greenville	145.59	19	P	PKPbc		19 54 40.2	-0.5
	baz=337							
U41A	Viola	145.70	21	P	PKPdf		19 54 40.5	-0.1
	baz=334							
S46A	Don Dixon Farm	145.76	15	P	PKPdf		19 54 41.1	+0.4
	baz=341							
PBMO	Poplar Bluff	145.82	19	*e*PKPdf	PKPdf		19 54 41.2	+0.4
V40A	Witts Springs	145.84	23	P	PKPdf		19 54 40.8	-0.2
	baz=332							
V40A	Witts Springs	145.84	23	*e*PKPdf	PKPdf		19 54 40.9	-0.1
U42A	Revenden	145.94	20	P	PKPdf		19 54 41.3	+0.3
	baz=335							
V41A	Mountainview	146.11	22	P	PKPdf		19 54 41.7	+0.3
	baz=333							
S48A	Wiedeman Farm,	146.18	13	P	PKPbc		19 54 42.8	+0.3
	baz=344							
W40A	Ferguson Farm,	146.28	24	P	PKPbc		19 54 42.9	0.0
	baz=331							
W40A	Ferguson Farm,	146.28	24	*e*PKPdf	PKPbc		19 54 43.0	+0.2
T46A	Princeton	146.32	15	P	PKPbc		19 54 43.3	+0.4
	baz=341							
V42A	Cord	146.37	21	P	PKPbc		19 54 43.0	0.0
	baz=334							
X39A	Fountain Ranch	146.43	26	P	PKPbc		19 54 43.8	+0.5
	baz=329							
MIAR	Mount Ida	146.63	25	P	PKPbc		19 54 44.4	+0.5
	baz=330							
MIAR	Mount Ida	146.63	25	*e*PKPbc	PKPbc		19 54 44.2	+0.4
JCT	Junction City	146.67	37	P	PKPbc		19 54 44.3	+0.1
	baz=316							
IP05	Hopewell Churc	146.97	1	*e*PKPdf	PKPdf		19 54 39.6	-3.1
WVT	Waverly	147.20	16	P	PKPbc		19 54 46.0	+0.6
	baz=340							
W48A	Pulaski	148.37	15	P	PKPab		19 54 50.9	-1.0
	baz=341							
X49A	Woodville	149.12	15	P	PKPbc		19 54 49.9	-0.7
	baz=342							

DJA 13 19:50:39.5±1.5, 4°S±9°×13°0E±°, h19km±1.8km, M3.7/9, MLv3.7/9, Seram

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BNDI	Bandanaira	0.76	211	P	Pb	19 50 53.9	-0.2
MSAI	Masohi	1.46	291	P	Pn	19 51 04.7	-0.2
AAI	Ambon	2.11	275	P	Pn	19 51 14.0	+0.2
FAKI	Fak Fak	2.16	64	P	Pn	19 51 15.0	+0.5
FAKI				S	Sn	19 51 38.7	-2.2
NLAI	Namlea	3.25	281	P	Pn	19 51 32.3	+2.7
KMPI	Kaimana, Papua	3.40	87	P	Pn	19 51 31.2	-0.4
LBMI	Labuha	4.26	319	P	Pn	19 51 43.1	-0.3
RKPI	Ransiki, Papua	4.53	59	P	Pn	19 51 47.1	0.0
SANI	Sanana	4.67	293	P	Pn	19 51 47.7	-1.3

*ISCJB **13** 19:52:04.0±0.3, 1°.48N±0°.04×91°.25E±0°.03, h10km, mb4.5/46, MS3.7/21, Error ellipse: s-maj=6.7km s-min=3.9km az=28.4*

*IDC **13** 19:52:04.3±0.9, 1°.47N×91°.21E, h0km, mb4.1/15, mb1 4.3/17, mb1mx3.9/65, mbtmp4.1/17, ML4.1/2, MS3.5/19, Ms1 3.5/19, ms1mx3.3/67, Error ellipse: s-maj=33.7km s-min=14.9km az=45.0*

*NEIC **13** 19:52:05.8±0.3, 1°.57N×91°.24E, h10km, mb4.6/30, Error ellipse: s-maj=7.3km s-min=4.4km az=204.0*

*DJA **13** 19:52:07.9±0.8, 1°N±7°×9°1E±°, h110km±31km, M5.0/12, mb5.0/12, mB5.2/8, MLv5.3/6, Mw(mB)4.7/8*

ISC 13 19:52:05.5±0.5, 1°.42N±0°.07×91°.21E±0°.05, h10km, n151, σ1°93/140, mb4.5/49, MS3.7/21, 2C-2D, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSI	Banda Aceh	5.75	45	P	Pn	19 53 30.8	-0.1
MLSI	Meulaboh, Aceh	5.91	61	P	Pn	19 53 33.5	+0.4
TPTI		6.24	73	P	Pn	19 53 37.0	-0.7
GSI	Gunungsitoli	6.37	91	P	Pn	19 53 39.7	+0.3
GSI	Gunungsitoli	6.37	91	*e*Pn	Pn	19 53 38.4	-1.0
LHMI	Lhok Sumawe	6.86	56	P	Pn	19 53 49.7	+3.5
LHMI	Lhok Sumawe	6.86	56	*e*Pn	Pn	19 53 46.1	-0.2
KCSI	Kotacane, Aceh	6.88	72	P	Pn	19 53 48.5	+2.0
PBSI	Pulau Batu	7.22	102	P	Pn	19 53 52.5	+1.3
TSI	Tuntungan	7.63	74	P	Pn	19 54 06.3	+9.5
PSI	Prapat	7.83	80	*e*Pn	Pn	19 53 59.4	-0.2
SISI	Saibi	8.34	109	P	Pn	19 54 07.9	+1.4
SISI				S	Sn	19 55 34.0	-6.9
MNSI	Mandailing Nat	8.39	94	P	Pn	19 54 08.3	+1.0
PDSI	Padang	9.54	104	P	Pn	19 54 23.0	0.0
PDSI				S	Sn	19 56 02.3	-8.1
BKNI	Bangkinang	9.89	96	*e*Pn	Pn	19 54 28.6	+0.8
IPM	Ipoh	10.26	73	*e*Pn	Pn	19 54 30.6	-2.3
PBA	Port Blair	10.28	8	*e*P	Pn	19 54 28.1	-5.1
DGPR	DIGLIPUR	11.80	8	*e*P	Pn	19 54 52.9	-1.1
PALK	Pallekele	11.98	299	Pn	Pn	19 54 54.9	-1.6
	6.7nm,0.3s,baz=115,slow=12,SNR=77						
PALK				Sn	Sn	19 56 55.8	-14
	8.2nm,0.3s,baz=116,slow=8.6,SNR=7.5						
PALK				LR	LR	19 58 45.9	
	comp=Z,302nm,21.8s,baz=116,slow=34						
PALK	Pallekele	11.98	299	*e*Pn	Pn	19 54 54.3	-2.2
PALK				*e*Sn	Sn	19 56 55.8	-14
MYKOM	Kota Tinggi	12.64	88	*e*Pn	Pn	19 55 03.9	-1.6
MNAI	Manna	13.07	116	*e*Pn	Pn	19 55 11.2	-0.2
SRDT	SRDT	15.04	31	P	P	19 55 47.8	+4.2
	10nm,0.8s						
CHBT	CHBT	15.75	44	P	P	19 55 56.1	+4.6
	328nm,0.8s						
MDRS	Chennai	15.87	317	*e*P	Pn	19 55 47.6	-1.5
MDRS				IAmb	IAmb	19 55 48.9	
	comp=Z,39nm,0.5s						
PBKT	Sadao Pong	17.86	32	P	P	19 56 15.4	+0.5
	comp=Z,14nm,0.8s						
PBKT	Sadao Pong	17.86	32	*e*Pn	Pn	19 56 12.2	-2.0
VIS	Vishakhapatnam	17.95	335	*e*P	Pn	19 56 15.3	-0.1
VIS				IAmb	IAmb	19 56 18.8	
	comp=Z,21nm,0.4s						
CM01	Chiang Mai Arr	18.52	24	*e*Pn	P	19 56 20.4	-1.8
CM31	Chiang Mai Arr	18.55	24	*e*P	P	19 56 20.2	-2.3
CMAR	Chiang Mai Arr	18.55	24	P	P	19 56 21.9	-0.7
	comp=Z,0.1nm,0.3s,baz=219,slow=14,SNR=41						
CMAR				LR	LR	20 02 57.4	
	comp=Z,120nm,20.3s,baz=210,slow=35						
HMDM	Hanimaadhoo	18.74	287	*e*Sn	Sn	19 59 47.2	-7.9
HMDM				*e*S	S	20 00 00.1	+1.8
CISI	Cisompet, Garu	18.81	119	*e*P	Pn	19 56 27.0	+1.0
	comp=Z,52nm,1.1s						
CHTO	Chiang Mai	18.87	23	P	P	19 56 25.8	-0.3
	comp=Z,37nm,0.8s						
CHTO	Chiang Mai	18.87	23	*e*P	P	19 56 25.0	-1.1
	comp=Z,4.8nm,0.8s						
CMMT	Chiang Mai	18.87	23	P	P	19 56 24.8	-1.3
KSM	Kuching	19.09	90	*e*P	Pn	19 56 31.4	+2.1
	comp=Z,15nm,0.9s						
HYB	Hyderabad	20.18	323	*i* P	Pn	19 56 43.0	+0.6
HYB				*e*S	S	20 00 25.0	-2.3
H08S2	Diego Garcia H	20.73	244	T	T	20 18 01.7	
	baz=64,slow=75,SNR=10						
H08S3	Diego Garcia H	20.73	244	T	T	20 18 02.7	
	baz=64,slow=75,SNR=12						
H08S1	Diego Carcia H	20.75	244	T	T	20 18 01.6	
	baz=64,slow=75,SNR=18						
SBUM	Sibu	21.02	87	*e*P	P	19 56 50.0	+0.4
	comp=Z,11nm,0.9s						
TURI	Tura	24.00	358	*e*P	P	19 57 18.5	-2.1
SHL	Shillong	24.01	1	*e*P	P	19 57 18.6	-2.3
SHL				IAmb	IAmb	19 57 25.1	
	comp=Z,2.4nm,0.6s						
KOHI	KOHIMA	24.32	6	*e*P	P	19 57 23.1	-0.6
MOKO	MOKOCHONG	24.96	7	*e*P	P	19 57 28.8	-0.7
TEZP	TEZPUR	25.09	3	*e*P	P	19 57 30.7	+0.3
QIZ	Qiongzhong	25.29	45	P	P	19 57 32.4	+0.1
QIZ				S	S	20 01 59.9	+1.4
QIZ				LR	LR		
	comp=N,360nm,15.2s						
QIZ				LR	LR		
	comp=E,250nm,14.7s						
QIZ				LR	LR		
	comp=Z,160nm,12.7s						
ODAN	Odare	25.56	352	*e*P	P	19 57 35.9	+1.0
	comp=Z,52nm,0.8s						
RAMN	Ramite	25.76	351	*e*P	P	19 57 38.4	+1.6
	comp=Z,33nm,0.8s						
GTK	Tadong	25.87	355	*ex*	P	19 57 30.6	-7.0
KMI	Kunming	26.06	24	P	P	19 57 43.3	+3.8
KMI				pmax	pmax		
	comp=Z,7.0nm,1.0s						
KMI				LR	LR		
	comp=N,220nm,16.8s						
KMI				LR	LR		
	comp=E,190nm,14.0s						
KMI				LR	LR		
	comp=Z,130nm,20.3s						
ZIRO	ZIRO	26.08	5	*e*P	P	19 57 39.7	+0.1
JIRN	Jiri	26.53	350	*e*P	P	19 57 44.4	+0.5
KKN	Kakani	26.82	348	*e*P	P	19 57 46.8	+0.4
GUN	Gumba	26.83	350	*e*P	P	19 57 47.3	+0.7
GKN	Gorkha	27.17	347	*e*P	P	19 57 50.0	+0.6
MYLDM	Lahad Datu	27.49	82	*e*P	P	19 57 54.1	+1.7
	comp=Z,16nm,1.1s						
PYUN	Piuthan	27.67	344	*e*P	P	19 57 54.6	+0.6
LSA	Lhasa	28.12	360	P	P	19 57 59.4	+1.1
LSA				pmax	pmax		
	comp=Z,11nm,0.6s						
LSA	Lhasa	28.12	360	*e*P	P	19 57 59.2	+0.9
	comp=Z,7.8nm,0.6s						
CD2	Chengdu	31.64	21	*e*P	P	19 58 28.4	-0.6
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
TGY	Tagaytay City	31.98	65	LR	LR	20 11 45.0	
	comp=Z,46nm,18.2s,baz=241,slow=37						
SMLA	Simla	32.40	337	*e*P	P	19 58 36.6	+1.1
SMLA				IAmb	IAmb	19 58 37.1	
	comp=Z,206nm,3.5s						
DHRM	DHARAMSHALA	33.73	337	*e*P	P	19 58 46.6	-0.9
DHRM				IAmb	IAmb	19 58 47.7	
	comp=Z,13nm,1.3s						
BATI	Baumata	34.30	110	LR	LR	20 14 01.7	
	comp=Z,158nm,18.3s,baz=277,slow=38						
DAV	Davao City (W)	34.72	80	LR	LR	20 13 21.1	
	comp=Z,37nm,21.9s,baz=289,slow=37						
NIL	Nilore	36.21	334	*e*P	P	19 59 08.7	0.0
	comp=Z,8.4nm,0.8s						
LZH	Lanzhou	36.43	17	*e*P	P	19 59 13.8	+3.2
LZH				pP	sP	19 59 18.3	+3.3
LZH				sP	pP	19 59 19.8	+6.1
LZH				*e*PP	PP	20 00 35.5	+1.9
LZH				*e*S	S	20 04 52.3	-0.2
LZH				sS	sS	20 04 59.8	+2.2
LZH				SS	SnSn	20 07 20.6	0.0
LZH				pmax	pmax		
	comp=Z,26nm,0.8s						
LZH				pmax	pmax		
	comp=Z,260nm,4.3s						
LZH				LR	LR		
	comp=N,280nm,17.1s						
LZH				LR	LR		
	comp=E,320nm,15.7s						
LZH				LR	LR		
	comp=Z,260nm,17.8s						
XAN	Xi'an	36.43	25	P	P	19 59 12.4	+1.8
XAN				sP	sP	19 59 22.5	+7.6
XAN				pmax	pmax		
	comp=Z,4.0nm,0.7s						
XAN				pmax	pmax		
	comp=Z,70nm,6.2s						
GTA	Gaotai	38.62	11	*e*P	P	19 59 29.9	+0.8
GTA				pP	sP	19 59 37.0	+3.6
GTA				sP	pP	19 59 39.9	+7.7
FITZ				P	P	19 59 33.0	+0.2
	Fitzroy Crossi	39.05	121				
	comp=Z,4.6nm,0.8s,baz=274,slow=7.0,SNR=7.9						
FITZ	Fitzroy Crossi	39.05	121	*e*P	P	19 59 33.5	+0.6
	comp=Z,30nm,1.7s						
MRIV	Mauritius Mete	39.46	235	*e*P	P	19 59 39.6	+3.2
NJ2	Nanjing	40.09	38	*e*P	P	19 59 41.3	-0.1
NJ2				pmax	pmax		
	comp=Z,14nm,0.6s						
KSH	Kashi	40.38	342	P	P	19 59 44.3	+0.5
NRN	Naryn	42.13	343	*e*P	P	19 59 55.6	-2.8
	comp=Z,2.2nm,0.9s						
WMQ	Urumqi	42.33	356	P	P	20 00 01.8	+2.1
WMQ				pmax	pmax		
	comp=Z,14nm,0.9s						
WMQ				LR	LR		
	comp=N,170nm,21.3s						
WMQ				LR	LR		
	comp=E,160nm,22.9s						
WMQ				LR	LR		
	comp=Z,180nm,25.5s						
HHC	Hu-ho-hao-te	43.36	23	*e*P	P	20 00 10.0	+1.9
HHC				sP	sP	20 00 21.9	+9.4
HHC				S	S	20 06 42.0	+5.9
HHC				pmax	pmax		
	comp=Z,14nm,0.7s						
HHC				pmax	pmax		
	comp=Z,32nm,4.1s						
HHC				pmax	pmax		
	comp=Z,18nm,1.0s						
HHC				pmax	pmax		
	comp=Z,67nm,6.0s						
HHC				LR	LR		
	comp=N,610nm,16.3s						
HHC				LR	LR		
	comp=E,590nm,15.7s						
HHC				LR	LR		
	comp=Z,710nm,15.6s						
AAK	Ala-Archa	43.68	342	*e*P	P	20 00 07.7	-3.1
	comp=Z,9.3nm,1.8s						
KK31	Karatay Array	45.43	339	*e*P	P	20 00 24.7	+0.1
KKAR	Karatay Array	45.43	339	*e*P	P	20 00 24.7	+0.1
MK01	Makanchi Array	45.83	351	*e*P	P	20 00 26.6	-1.1
MK31	Makanchi Array	45.85	351	*e*P	P	20 00 27.2	-0.7
MK32	Makanchi Array	45.85	351	*e*P	P	20 00 27.7	-0.2
MKAR	Makanchi Array	45.85	351	P	P	20 00 27.7	-0.2
	comp=Z,1.0nm,0.5s,baz=173,slow=8.8,SNR=18						
MKAR	Makanchi Array	45.85	351	*e*P	P	20 00 26.9	-1.0
	comp=Z,15nm,1.0s						
MAKZ	Makanchi	45.92	351	*e*P	P	20 00 27.4	-1.0
	comp=Z,7.9nm,1.6s						
WRA	Warramunga Arr	47.31	119	P	P	20 00 40.3	+0.5
	comp=Z,3.1nm,0.8s,baz=297,slow=8.8,SNR=14						
WR1	Warramunga Arr	47.31	119	*e*P	P	20 00 40.3	+0.5
	comp=Z,12nm,1.3s						
WRAB	Tennant Creek	47.32	119	*e*P	P	20 00 39.1	-0.7
	comp=Z,14nm,1.3s						
WB2	Warramunga Arr	47.32	119	*e*P	P	20 00 39.6	-0.3
GEYT	Alibeck	47.36	324	P	P	20 00 39.3	-0.6
	comp=Z,1.1nm,0.5s,baz=158,slow=9.4,SNR=4.4						
GYA0B	ALIBECK ARRAY	47.36	324	*e*P	P	20 00 39.8	-0.1
	comp=Z,12nm,1.5s						
OPO	Ambohidiompo	47.62	243	LR	LR	20 17 38.8	
	comp=Z,91nm,20.8s,baz=2.5,slow=32						
DAMY	Dhamar	48.04	288	*e*P	P	20 00 46.4	+0.5
	comp=Z,28nm,1.3s						
SONA0	Songino Array	48.07	14	*e*P	P	20 00 46.1	+0.8
SONM	Songino Array	48.07	14	P	P	20 00 46.1	+0.8
	comp=Z,4.6nm,0.8s,baz=193,slow=9.0,SNR=36						
SONM				LR	LR	20 22 18.9	
	comp=Z,68nm,19.2s,baz=227,slow=38						
SONA1	Songino Array	48.08	14	*e*P	P	20 00 45.7	+0.3
ULN	Ulaanbaatar	48.26	14	*e*P	P	20 00 46.4	-0.4
	comp=Z,4.4nm,1.3s						
ASAR	Alice Springs	48.41	124	P	P	20 00 48.7	+0.5
	comp=Z,0.9nm,0.8s,baz=298,slow=7.7,SNR=8.0						
AS31	Alice Springs	48.41	124	*e*P	P	20 00 48.5	+0.3
	comp=Z,1.0nm,1.0s						
ATD	Arta Tunnel	49.01	284	LR	LR	20 18 41.2	
	comp=Z,39nm,18.6s,baz=108,slow=33						
RAYN	Ar Rayn	49.41	300	*e*P	P	20 00 56.2	+0.2
	comp=Z,12nm,1.6s						
KURBB	Kurchatov Arra	50.19	350	P	P	20 01 01.0	-0.3
	comp=Z,2.2nm,0.9s,baz=173,slow=6.8,SNR=13						
KURK	Kurchatov	50.26	350	*e*P	P	20 01 00.9	-0.9
	comp=Z,8.3nm,1.4s						
TLY	Talaya	51.16	10	LR	LR	20 25 42.4	
	comp=Z,32nm,18.8s,baz=168,slow=40						
CN2	Changchun	52.02	31	*e*P	P	20 01 14.0	-1.2
ZAA0	Zalesovo Array	52.62	355	*e*P	P	20 01 18.5	-1.0
	comp=Z,4.7nm,1.1s						
ZALV	Zalesovo Beam	52.62	355	P	P	20 01 18.9	-0.6
	comp=Z,2.6nm,0.4s,baz=179,slow=7.5,SNR=17						
ZALV				LR	LR	20 25 02.2	
	comp=Z,89nm,21.7s,baz=252,slow=38						
ZALV	Zalesovo Beam	52.62	355	*e*P	P	20 01 18.6	-0.9
ZAA1	Zalesovo Array	52.62	355	*e*P	P	20 01 18.9	-0.6
BVAR	Borovoye Array	54.26	345	P	P	20 01 31.2	-0.4
	comp=Z,0.7nm,0.7s,baz=136,slow=7.0,SNR=5.5						
BVAR				LR	LR	20 25 00.3	
	comp=Z,92nm,21.2s,baz=158,slow=36						
BRVK	Borovoye	54.32	345	*e*P	P	20 01 30.3	-1.7
	comp=Z,10nm,1.8s						
ABKAR	Akbulak array	54.65	335	*e*P	P	20 01 34.0	-0.5
GNI	Garni	57.07	319	LR	LR	20 28 08.6	
	comp=Z,26nm,19.0s,baz=108,slow=38						
STKA	Stephens Creek	58.04	129	LR	LR	20 24 30.0	
	comp=Z,32nm,21.5s,baz=229,slow=34						
KBZ	Khabaz	60.07	321	P	P	20 02 13.9	+1.1
	comp=Z,1.5nm,0.8s,baz=158,slow=5.8,SNR=4.8						
EIL	Elat	60.30	304	LR	LR	20 28 05.0	
	comp=Z,59nm,19.7s,baz=61,slow=36						
MBAR	Mbarara	60.50	269	*e*P	P	20 02 16.7	+0.1
	comp=Z,7.2nm,1.1s						
ARU	Arti	60.78	340	LR	LR	20 30 00.2	
	comp=Z,61nm,18.2s,baz=119,slow=38						
MMAI	Mount Meron Ar	60.96	307	LR	LR	20 29 29.6	
	comp=Z,90nm,18.1s,baz=95,slow=37						
LSZ	Lusaka	64.45	252	*e*P	P	20 02 43.8	+0.8
	comp=Z,13nm,1.5s						
BRTR	Keskin Array B	64.58	314	P	P	20 02 43.2	-0.2
	comp=Z,0.8nm,0.8s,baz=128,slow=6.3,SNR=5.7						
BR101	Keskin Array S	64.59	314	*e*P	P	20 02 43.2	-0.2
BR131	Keskin Array S	64.59	314	*e*P	P	20 02 43.4	0.0
BR231	Keskin MP Arra	65.25	314	*e*P	P	20 02 44.1	-3.6
KIS	Kishinev	70.42	320	‖ *i* P	P	20 03 13.5	-6.5
VRI	Vrincioaia	71.42	318	‖ *i* P	P	20 03 27.2	+1.1
AKASG	Malin Array Be	71.48	324	LR	LR	20 37 40.5	
	comp=Z,24nm,19.3s,baz=25,slow=38						
MLR	Muntele Rosu	71.83	318	P	P	20 03 30.0	+1.2
	comp=Z,0.6nm,0.6s,baz=140,slow=6.9,SNR=6.1						
MLR	Muntele Rosu	71.83	318	‖ P	P	20 03 30.0	+1.2
MLR	Muntele Rosu	71.83	318	*e*P	P	20 03 28.5	-0.3
	comp=Z,7.7nm,1.0s						
BURAR	Bucovina Array	72.94	320	‖ *i* P	P	20 03 37.4	+2.1
BUR04	Bucovina Ar. S	72.94	320	*e*P	P	20 03 35.2	-0.1
VTS	Vitosha	72.95	314	*e*P	P	20

CBIJ	**Chichi jima**	**4.43**	**134**	P	**P**	**19 55 48.7**	**-3.0**
CBIJ				S	**S**	**19 56 49.3**	**-6.3**
CBIJ	**Chichi jima**	**4.43**	**134**	*eP*	**P**	**19 55 49.0**	**-2.7**
JCJ	**Chichijima**	**4.43**	**134**	P	**P**	**19 55 48.6**	**-3.0**
	16nm,0.3s,baz=298,slow=9.0,SNR=16						
JCJ				S	**S**	**19 56 49.0**	**-6.6**
	148nm,0.3s,baz=342,slow=20,SNR=26						
HMMJ	**Hamamatsu 2**	**4.69**	**351**	P	**P**	**19 55 54.9**	**+1.0**
HMMJ				*eS*	**S**	**19 56 58.4**	**-1.5**
BSO3	**Boso 3**	**4.86**	**19**	*eS*	**S**	**19 56 59.5**	**-2.8**
BSO1	**Boso 1**	**4.87**	**24**	P	**P**	**19 55 53.8**	**-1.2**
BSO1				*eS*	**S**	**19 56 59.0**	**-3.0**
BSO4	**Boso 4**	**4.99**	**17**	P	**P**	**19 55 55.5**	**-1.1**
JOD2	**Odawara 2**	**5.06**	**5**	P	**P**	**19 55 56.6**	**-0.8**
JNY	**Yasuok**	**5.17**	**353**	P	**P**	**19 55 59.7**	**+1.1**
INU	**Inuyama**	**5.29**	**346**	*eP*	**P**	**19 56 00.9**	**+1.1**
JHU	**Hanno**	**5.66**	**6**	P	**P**	**19 56 02.1**	**-1.3**
JHU				*eS*	**S**	**19 57 10.9**	**-6.4**
JRY	**Ryogami san**	**5.80**	**3**	P	**P**	**19 56 04.2**	**-0.6**
JRY				S	**S**	**19 57 15.5**	**-4.5**
JYT	**Yasato**	**6.15**	**12**	P	**P**	**19 56 06.2**	**-2.2**
JYT				*eS*	**S**	**19 57 19.0**	**-7.5**
JAG	**Ashikaga**	**6.24**	**6**	P	**P**	**19 56 07.4**	**-2.0**
JAG				S	**S**	**19 57 20.3**	**-8.0**
MJAR	**Matsushiro Arr**	**6.32**	**357**	P	**P**	**19 56 09.1**	**-1.1**
	1.3nm,0.3s,baz=175,slow=11,SNR=21						
MJAR				S	**S**	**19 57 25.7**	**-4.2**
	1.2nm,0.3s,baz=199,slow=18,SNR=6.4						
MAJO	**Matsushiro**	**6.32**	**357**	*eP*	**P**	**19 56 09.1**	**-1.1**
MAT	**Matsushiro**	**6.32**	**357**	P	**P**	**19 56 09.5**	**-0.8**
MAT				S	**S**	**19 57 27.0**	**-2.9**
MJB9	**Matsu-Tunnel**	**6.33**	**357**	*eP*	**P**	**19 56 09.8**	**-0.5**
JHO	**Hitachi**	**6.59**	**14**	P	**P**	**19 56 11.2**	**-2.0**
JHO				S	**S**	**19 57 28.5**	**-6.6**
JNU	**Nakatsue**	**7.18**	**296**	P	**P**	**19 56 19.9**	**+0.3**
	0.2nm,0.3s,baz=137,slow=11,SNR=3.7						
JNU	**Nakatsue**	**7.18**	**296**	*eP*	**P**	**19 56 18.2**	**-1.4**
JFK	**Kawauchi**	**7.39**	**14**	*eS*	**S**	**19 57 45.3**	**-5.3**
JOW	**Kunigami**	**9.68**	**252**	P	**P**	**19 56 47.0**	**+0.4**
	2.3nm,0.3s,baz=330,slow=8.1,SNR=8.4						
JOW	**Kunigami**	**9.68**	**252**	*eP*	**P**	**19 56 44.5**	**-2.1**
KSRS	**Korea Array**	**11.43**	**312**	P	**P**	**19 57 06.6**	**+1.0**
	0.2nm,0.3s,baz=122,slow=11,SNR=6.7						
INCN	**Inchon**	**12.30**	**309**	*eP*	**P**	**19 57 15.5**	**+0.5**
ERM	**Erimo**	**12.34**	**16**	*eP*	**P**	**19 57 17.1**	**+1.7**
ASAJ	**Asahikawa**	**14.24**	**12**	P	**P**	**19 57 37.7**	**+1.7**
	1.4nm,0.3s,baz=230,slow=8.4,SNR=23						
ASAJ	**Asahikawa**	**14.24**	**12**	*eP*	**P**	**19 57 37.0**	**+1.0**
USRK	**Ussuriysk Ar.**	**14.91**	**341**	P	**P**	**19 57 43.6**	**+0.4**
	1.2nm,0.3s,baz=138,slow=9.0,SNR=14						
YHNB	**Yeheng**	**16.24**	**254**	*eP*	**P**	**19 57 55.8**	**-1.8**
	195nm,1.9s						
NACB	**Ninganchiao**	**16.27**	**252**	*eP*	**P**	**19 57 55.1**	**-2.7**
	18nm,0.8s						
YULB	**Yu-li**	**16.86**	**250**	*eP*	**P**	**19 58 02.0**	**-2.0**
	87nm,2.0s						
SSLB	**Suanglung**	**16.96**	**252**	*eP*	**P**	**19 58 03.8**	**-1.4**
	12nm,1.0s						
YSS	**Yuzh-Sakhalins**	**17.03**	**10**	*eP*	**P**	**19 58 05.6**	**+0.1**
	12nm,0.9s						
TWG	**Pinlang**	**17.31**	**249**	*eP*	**P**	**19 58 08.9**	**+0.1**
	41nm,0.9s						
TPUB	**Ta-pu**	**17.44**	**251**	*eP*	**P**	**19 58 08.3**	**-2.0**
	27nm,1.4s						
KLR	**Kul'dur**	**19.69**	**347**	P	**P**	**19 58 32.7**	**+0.9**
	0.1nm,0.3s,baz=160,slow=7.3,SNR=31						
HHC	**Hu-ho-hao-te**	**24.33**	**303**	*eP*	**P**	**19 59 14.0**	**+0.1**
LZH	**Lanzhou**	**29.57**	**291**	*eP*	**P**	**20 00 01.1**	**+0.8**
LZH				pP	pP	20 01 15.6	-2.9
LZH				pmax	pmax		
	comp=Z,270nm,7.1s						
LZH				pmax	pmax		
	comp=Z,220nm,1.2s						
SONA1	**Songino Array**	**30.29**	**315**	*eP*	**P**	**20 00 08.9**	**+2.6**
SONM	**Songino Array**	**30.29**	**315**	P	**P**	**20 00 05.2**	**-1.2**
	comp=Z,0.2nm,0.5s,baz=104,slow=6.1,SNR=4.2						
SONM				ScP	**ScP**	**20 05 53.6**	**+0.3**
	comp=Z,0.6nm,0.6s,baz=113,slow=3.1,SNR=4.7						
MYLDM	**Lahad Datu**	**31.28**	**221**	*eP*	**P**	**20 00 16.0**	**+0.8**
	comp=Z,8.6nm,1.0s						
SIJI	**Sorong**	**31.69**	**194**	P	**P**	**20 00 18.3**	**-0.3**
	comp=Z,1.7nm,0.3s,baz=4.5,slow=16,SNR=4.0						
GTA	**Gaotai**	**32.92**	**297**	*eP*	**P**	**20 00 29.0**	**-0.1**
GTA				pP	pP	20 01 45.3	-3.3
GTA				sP	sP	20 02 33.1	-6.8
GTA				pmax	pmax		
	comp=Z,3.0nm,1.4s						
GTA				pmax	pmax		
	comp=Z,5.0nm,1.0s						
LUWI	**Luwuk**	**34.55**	**209**	*eP*	**P**	**20 00 40.9**	**-2.1**
	comp=Z,15nm,0.6s						
PBKT	**Sadao Pong**	**36.92**	**257**	*eP*	**P**	**20 01 01.6**	**-1.2**
	comp=Z,5.7nm,1.1s						
SBUM	**Sibu**	**37.24**	**227**	*eP*	**P**	**20 01 06.5**	**+1.1**
	comp=Z,8.5nm,1.4s						
CHTO	**Chiang Mai**	**37.64**	**262**	*eP*	**P**	**20 01 08.5**	**-0.3**
	comp=Z,5.4nm,0.8s						
CM31	**Chiang Mai Arr**	**37.79**	**261**	*eP*	**P**	**20 01 10.3**	**+0.3**
CMAR	**Chiang Mai Arr**	**37.79**	**261**	P	**P**	**20 01 10.2**	**+0.1**
	comp=Z,1.3nm,0.7s,baz=68,slow=5.2,SNR=18						
CM01	**Chiang Mai Arr**	**37.80**	**261**	*eP*	**P**	**20 01 09.8**	**-0.3**
TIXI	**Tiksi**	**41.83**	**355**	*eP*	**P**	**20 01 41.5**	**-0.4**
	comp=Z,2.9nm,0.5s						
WMQ	**Urumqi**	**42.21**	**303**	*eP*	**P**	**20 01 46.3**	**+0.8**
WMQ				pmax	pmax		
	comp=Z,10.0nm,0.7s						
WMQ				LR	LR		
	comp=N,160nm,23.3s						
WMQ				LR	LR		
	comp=E,160nm,23.3s						
WMQ				LR	LR		
	comp=Z,160nm,22.1s						
MTN	**Manton Dam**	**43.40**	**191**	*eP*	**P**	**20 01 54.5**	**-0.5**
	comp=Z,79nm,1.6s						
IPM	**Ipoh**	**43.70**	**242**	*eP*	**P**	**20 01 56.9**	**-0.7**
	comp=Z,51nm,1.6s						
COEN	**Coen**	**44.13**	**174**	*eP*	**P**	**20 02 01.2**	**+0.5**
	comp=Z,48nm,1.4s						
JAGI	**Jajag, Banyuwa**	**45.06**	**215**	*eP*	**P**	**20 02 06.8**	**-1.2**
	comp=Z,132nm,1.7s						
ZALV	**Zalesovo Beam**	**45.07**	**318**	ScP	**ScP**	**20 06 48.3**	**-0.7**
	comp=Z,0.5nm,0.5s,baz=120,slow=3.3,SNR=3.3						
RAMN	**Ramite**	**45.45**	**279**	*eP*	**P**	**20 02 11.8**	**+0.5**
	comp=Z,8.0nm,0.4s						
JIRN	**Jiri**	**45.60**	**280**	*eP*	**P**	**20 02 12.9**	**+0.4**
	comp=Z,31nm,0.4s						
GUN	**Gumba**	**45.79**	**281**	*eP*	**P**	**20 02 14.3**	**+0.3**
	comp=Z,12nm,0.4s						
MK01	**Makanchi Array**	**46.06**	**307**	*eP*	**P**	**20 02 14.2**	**-1.2**
MK31	**Makanchi Array**	**46.07**	**307**	*eP*	**P**	**20 02 14.8**	**-0.7**
MKAR	**Makanchi Array**	**46.07**	**307**	P	**P**	**20 02 15.3**	**-0.1**
	comp=Z,0.8nm,0.5s,baz=86,slow=9.2,SNR=8.9						
MKAR				pP	**PcP**	**20 03 43.0**	**-0.1**
	comp=Z,0.3nm,0.5s,baz=82,slow=8.7,SNR=3.1						
MKAR				ScP	**ScP**	**20 06 53.1**	**-0.2**
	comp=Z,0.3nm,0.5s,baz=78,slow=5.4,SNR=4.4						
MKAR	**Makanchi Array**	**46.07**	**307**	*eP*	**P**	**20 02 14.9**	**-0.5**
	comp=Z,8.6nm,0.6s						
KKN	**Kakani**	**46.34**	**281**	*eP*	**P**	**20 02 18.1**	**+0.1**
GKN	**Gorkha**	**46.82**	**281**	*eP*	**P**	**20 02 21.6**	**-0.1**
	comp=Z,5.6nm,0.2s						
LEM	**Lembang**	**47.32**	**224**	P	**P**	**20 02 24.9**	**-0.6**
	comp=Z,12nm,0.7s,baz=35,slow=19,SNR=3.3						
LEM	**Lembang**	**47.32**	**224**	*eP*	**P**	**20 02 22.0**	**-3.5**
KOLN	**Koldanda**	**47.77**	**281**	*eP*	**P**	**20 02 29.1**	**+0.2**
PYUN	**Piuthan**	**48.19**	**282**	*eP*	**P**	**20 02 32.5**	**+0.4**
	comp=Z,34nm,0.4s						
KURK	**Kurchatov**	**48.56**	**313**	*eP*	**P**	**20 02 33.8**	**-0.4**
	comp=Z,10nm,1.8s						
KURBB	**Kurchatov Arra**	**48.61**	**313**	P	**P**	**20 02 34.4**	**-0.2**
	comp=Z,1.2nm,0.4s,baz=91,slow=7.4,SNR=18						
FITZ	**Fitzroy Crossi**	**49.62**	**196**	P	**P**	**20 02 42.0**	**-0.4**
	comp=Z,3.6nm,1.1s,baz=13,slow=10,SNR=4.3						
FITZ	**Fitzroy Crossi**	**49.62**	**196**	*eP*	**P**	**20 02 41.5**	**-0.9**
	comp=Z,21nm,1.6s						
KDJ	**Kajisay**	**50.00**	**302**	*eP*	**P**	**20 02 45.3**	**0.0**
	comp=Z,2.6nm,0.8s						
WRAB	**Tennant Creek**	**50.02**	**185**	*eP*	**P**	**20 02 44.8**	**-0.7**
	comp=Z,35nm,1.8s						
WB2	**Warramunga Arr**	**50.03**	**185**	*eP*	**P**	**20 02 44.3**	**-1.2**
WRA	**Warramunga Arr**	**50.03**	**185**	P	**P**	**20 02 45.1**	**-0.4**
	comp=Z,4.7nm,0.5s,baz=1.7,slow=7.9,SNR=88						
CHGN	**Chignik**	**50.60**	**40**	*eP*	**P**	**20 02 49.3**	**+0.1**
	comp=Z,24nm,1.0s						
AAK	**Ala-Archa**	**51.91**	**302**	*eP*	**P**	**20 02 58.7**	**-0.5**
	comp=Z,4.1nm,1.3s						
SVW2	**Sparrevohn**	**52.42**	**34**	*eP*	**P**	**20 03 04.0**	**+1.5**
	comp=Z,2.9nm,0.7s						
OHAK	**Old Harbor**	**53.45**	**39**	*eP*	**P**	**20 03 10.3**	**+0.5**
	comp=Z,40nm,2.0s						
BVAR	**Borovoye Array**	**53.62**	**316**	P	**P**	**20 03 11.5**	**+0.3**
	comp=Z,1.5nm,0.4s,baz=89,slow=7.4,SNR=12						
IM3	**Indian Mountai**	**53.74**	**28**	*eP*	**P**	**20 03 12.9**	**+1.1**
AS01	**Alice Springs**	**53.75**	**185**	*eP*	**P**	**20 03 12.5**	**+0.1**
AS31	**Alice Springs**	**53.76**	**185**	*eP*	**P**	**20 03 12.2**	**-0.3**
	comp=Z,1.8nm,0.7s						
ASAR	**Alice Springs**	**53.76**	**185**	P	**P**	**20 03 12.5**	**0.0**
	comp=Z,1.8nm,0.5s,baz=16,slow=12,SNR=54						
KDAK	**Kodiak Island**	**53.83**	**38**	*eP*	**P**	**20 03 13.4**	**+0.9**
	comp=Z,5.5nm,0.8s						
PPLA	**Purkeypile**	**54.15**	**32**	*eP*	**P**	**20 03 16.6**	**+1.6**
	comp=Z,20nm,1.6s						
MBWA	**Marble Bar**	**54.20**	**202**	*eP*	**P**	**20 03 15.4**	**-0.2**
	comp=Z,25nm,1.4s						
CAST	**Castle Rocks**	**54.23**	**31**	*eP*	**P**	**20 03 17.1**	**+1.8**
	comp=Z,5.7nm,0.9s						
SKT	**Skwentna**	**54.41**	**33**	*eP*	**P**	**20 03 17.8**	**+1.1**
	comp=Z,3.2nm,0.4s						
BRLK	**Bradley Lake**	**54.70**	**36**	*eP*	**P**	**20 03 20.4**	**+1.7**
	comp=Z,12nm,1.2s						
KK31	**Karatay Array**	**54.72**	**304**	*eP*	**P**	**20 03 19.2**	**0.0**
KKAR	**Karatay Array**	**54.72**	**304**	*eP*	**P**	**20 03 19.2**	**0.0**
NIL	**Nilore**	**54.73**	**292**	*eP*	**P**	**20 03 18.6**	**-0.8**
	comp=Z,7.6nm,0.4s						
BPAW	**Bear Paw Mtn.**	**54.75**	**30**	*eP*	**P**	**20 03 20.8**	**+1.7**
	comp=Z,2.9nm,0.8s						
KTH	**Kantishna Hill**	**54.75**	**31**	*eP*	**P**	**20 03 20.8**	**+1.7**
	comp=Z,17nm,1.9s						
SUA	**Susitna One**	**54.78**	**34**	*eP*	**P**	**20 03 19.6**	**+0.3**
	comp=Z,5.5nm,0.6s						
MLY	**Manley**	**54.91**	**29**	*eP*	**P**	**20 03 22.0**	**+1.9**
	comp=Z,1.6nm,0.8s						
TRF	**Thorofare Moun**	**55.03**	**31**	*eP*	**P**	**20 03 22.5**	**+1.3**
	comp=Z,8.8nm,1.4s						
RC01	**Rabbit Creek A**	**55.26**	**34**	*eP*	**P**	**20 03 23.9**	**+1.3**
	comp=Z,3.5nm,0.6s						
KEKH	**Kekaha**	**55.44**	**83**	*eP*	**P**	**20 03 24.7**	**+0.2**
	comp=Z,335nm,1.9s						
PMR	**Palmer**	**55.55**	**34**	*eP*	**P**	**20 03 24.9**	**+0.3**
	comp=Z,27nm,1.9s						
TOLK	**Toolik Lake Re**	**55.62**	**25**	*eP*	**P**	**20 03 26.9**	**+1.9**
	comp=Z,5.3nm,1.4s						
MCK	**McKinley**	**55.64**	**31**	*eP*	**P**	**20 03 25.9**	**+0.6**
	comp=Z,6.6nm,1.0s						
GHO	**Glory Hole Cre**	**55.65**	**33**	*eP*	**P**	**20 03 26.6**	**+1.2**
	comp=Z,4.9nm,1.0s						
RND	**Reindeer**	**55.68**	**31**	*eP*	**P**	**20 03 26.1**	**+0.5**
	comp=Z,5.9nm,0.6s						
SML	**Sawmill**	**55.93**	**33**	*eP*	**P**	**20 03 28.5**	**+1.2**
	comp=Z,8.8nm,1.1s						
MDM	**Murphy Dome**	**55.97**	**29**	*eP*	**P**	**20 03 29.1**	**+1.5**
	comp=Z,8.0nm,1.4s						
WRH	**Wood River Hil**	**56.02**	**30**	*eP*	**P**	**20 03 29.4**	**+1.6**
	comp=Z,13nm,2.0s						
CCB	**Clear Creek Bu**	**56.15**	**30**	*eP*	**P**	**20 03 29.9**	**+1.2**
	comp=Z,1.8nm,0.7s						
DHY	**Denali Highway**	**56.35**	**32**	*eP*	**P**	**20 03 30.8**	**+0.4**
	comp=Z,7.1nm,1.4s						
SCM	**Sheep Creek Mo**	**56.40**	**33**	*eP*	**P**	**20 03 32.0**	**+1.3**
	comp=Z,11nm,0.7s						
HDA	**Harding Lake**	**56.52**	**30**	*eP*	**P**	**20 03 31.6**	**+0.2**
	comp=Z,7.1nm,1.2s						
IL1	**Eielson Array**	**56.54**	**30**	*eP*	**P**	**20 03 31.8**	**+0.3**
ILAR	**Eielson Array**	**56.54**	**30**	P	**P**	**20 03 31.7**	**+0.2**
	comp=Z,0.9nm,0.6s,baz=259,slow=4.9,SNR=21						
ILB	**Eielson Array**	**56.54**	**30**	*eP*	**P**	**20 03 31.3**	**-0.2**
KLU	**Klutina**	**57.09**	**34**	*eP*	**P**	**20 03 36.6**	**+1.1**
	comp=Z,4.3nm,0.5s						
PAX	**Paxson**	**57.22**	**32**	*eP*	**P**	**20 03 37.5**	**+1.1**
	comp=Z,2.3nm,0.8s						
HARP	**HAARP**	**57.40**	**32**	*eP*	**P**	**20 03 39.0**	**+1.5**
RIDG	**Independ'e Rid**	**57.46**	**31**	*eP*	**P**	**20 03 38.7**	**+0.8**
	comp=Z,4.0nm,0.6s						
BMRM	**Bremner River**	**57.76**	**34**	*eP*	**P**	**20 03 41.8**	**+1.7**
	comp=Z,5.4nm,0.8s						
RAGM	**Ragged Mountai**	**57.78**	**35**	*eP*	**P**	**20 03 42.0**	**+1.9**
	comp=Z,7.1nm,0.8s						
DOT	**Dot Lake**	**57.81**	**31**	*eP*	**P**	**20 03 40.9**	**+0.5**
	comp=Z,18nm,0.9s						
SCRK	**Sand Creek**	**57.83**	**31**	*eP*	**P**	**20 03 41.0**	**+0.4**
	comp=Z,6.9nm,0.6s						
BALM	**Baldy**	**58.85**	**34**	*eP*	**P**	**20 03 48.4**	**+0.9**
	comp=Z,14nm,1.7s						
EGAK	**Eagle**	**58.99**	**30**	*eP*	**P**	**20 03 49.1**	**+0.9**
DAWY	**Dawson**	**59.83**	**30**	*eP*	**P**	**20 03 55.6**	**+1.6**
	comp=Z,7.9nm,1.8s						
ABKAR	**Akbulak array**	**60.67**	**313**	*eP*	**P**	**20 03 59.6**	**-0.1**
HYT	**Haines Junctio**	**61.22**	**34**	*eP*	**P**	**20 04 04.2**	**+0.8**
	comp=Z,2.6nm,0.8s						
FORT	**Forrest**	**61.48**	**190**	*eP*	**P**	**20 04 05.5**	**+0.3**
	comp=Z,22nm,0.6s						
INK	**Inuvik**	**61.53**	**25**	*eP*	**P**	**20 04 06.2**	**+1.0**
	comp=Z,13nm,1.9s						
ARMA	**Armidale**	**61.56**	**167**	*eP*	**P**	**20 04 06.8**	**+0.9**
	comp=Z,53nm,1.5s						
AKTO	**Aktyubinsk**	**61.60**	**314**	P	**P**	**20 04 05.7**	**-0.3**
	comp=Z,0.9nm,0.5s,baz=89,slow=15,SNR=4.5						
STKA	**Stephens Creek**	**61.81**	**177**	P	**P**	**20 04 07.8**	**+0.4**
	comp=Z,3.5nm,0.6s,baz=353,slow=7.0,SNR=17						
STKA	**Stephens Creek**	**61.81**	**177**	*eP*	**P**	**20 04 08.0**	**+0.5**
	comp=Z,0.7nm,0.6s						
WHY	**Whitehorse**	**62.51**	**34**	*eP*	**P**	**20 04 13.9**	**+2.1**
	comp=Z,19nm,1.9s						
SKAG	**Skagway**	**62.57**	**35**	*eP*	**P**	**20 04 13.2**	**+1.2**
	comp=Z,6.2nm,1.2s						
BBOO	**Buckleboo**	**62.73**	**182**	*eP*	**P**	**20 04 13.8**	**+0.5**
	comp=Z,23nm,1.5s						
NWAO	**Narrogin (SRO)**	**65.97**	**200**	P	**P**	**20 04 33.7**	**-0.4**
	comp=Z,4.5nm,0.5s,baz=280,slow=11,SNR=6.1						
NWAO	**Narrogin (SRO)**	**65.97**	**200**	*eP*	**P**	**20 04 34.3**	**+0.2**
	comp=Z,130nm,2.0s						
RES	**Resolute Bay**	**69.77**	**13**	*eP*	**P**	**20 04 57.5**	**+0.7**
	comp=Z,3.0nm,1.4s						
YKA	**Yellowknife Ar**	**70.90**	**28**	P	**P**	**20 05 04.4**	**+0.7**
	comp=Z,0.8nm,0.6s,baz=297,slow=6.0,SNR=21						
TULEG	**Thule**	**72.14**	**7**	*eP*	**P**	**20 05 11.5**	**+0.6**
	comp=Z,6.9nm,1.2s						
KBZ	**Kabaz**	**73.58**	**311**	P	**P**	**20 05 20.0**	**+0.3**
	comp=Z,2.5nm,0.8s,baz=62,slow=5.0,SNR=6.3						
FIA1	**FINESS Array S**	**73.75**	**332**	*eP*	**P**	**20 05 20.3**	**0.0**
	comp=Z,44nm,1.6s						
FINES	**FINESS Array B**	**73.75**	**332**	P	**P**	**20 05 20.2**	**-0.2**
	comp=Z,1.0nm,0.3s,baz=67,slow=5.4,SNR=12						
PINE	**Pine Mountain**	**76.62**	**47**	*eP*	**P**	**20 05 39.5**	**+2.3**
	comp=Z,25nm,1.7s						
NEW	**Newport**	**76.72**	**42**	*eP*	**P**	**20 05 38.6**	**+1.2**
	comp=Z,2.8nm,0.7s						
WALA	**Wonn Lakes**	**78.12**	**40**	*eP*	**P**	**20 05 46.5**	**+1.3**
	comp=Z,6.1nm,1.1s						
J08A	**Circle Bar Ran**	**78.39**	**47**	*eP*	**P**	**20 05 47.8**	**+1.1**
	comp=Z,6.8nm,1.3s						
CPIM	**Pinole Ridge**	**78.61**	**53**	*eP*	**P**	**20 05 50.2**	**+2.4**
SCO	**Scoresbysund**	**78.62**	**353**	*eP*	**P**	**20 05 49.4**	**+2.2**
	comp=Z,20nm,1.9s						
HFS	**Hagfors**	**79.30**	**335**	P	**P**	**20 05 50.6**	**-0.5**
	comp=Z,1.0nm,0.4s,baz=73,slow=6.2,SNR=18						
NC405	**NORSAR Array S**	**79.31**	**337**	*eP*	**P**	**20 05 50.3**	**-0.8**
NC204	**NORSAR Array S**	**79.52**	**337**	*eP*	**P**	**20 05 52.1**	**-0.2**
NB2	**NORSAR Subarra**	**79.54**	**337**	P	**P**	**20 05 52.3**	**-0.1**
	comp=Z,0.7nm,0.5s,baz=46,slow=5.1						
NOA	**NORSAR Array B**	**79.54**	**337**	P	**P**	**20 05 51.9**	**-0.5**
	comp=Z,0.8nm,0.5s,baz=44,slow=5.3,SNR=4.4						
LRM	**Limekiln Ridge**	**80.72**	**42**	*eP*	**P**	**20 06 00.8**	**+1.6**
DLMT	**Dillon**	**80.89**	**43**	*eP*	**P**	**20 06 01.3**	**+1.3**
	comp=Z,2.3nm,0.7s						
RAYN	**Ar Rayn**	**81.03**	**292**	*eP*	**P**	**20 06 01.3**	**+0.3**
	comp=Z,11nm,1.8s						
NVAR	**Mina Array Bea**	**81.04**	**51**	P	**P**	**20 06 02.2**	**+1.3**
	comp=Z,0.4nm,0.5s,baz=281,slow=6.1,SNR=4.8						
FCC	**Fort Churchill**	**81.15**	**25**	*eP*	**P**	**20 06 02.9**	**+2.1**
	comp=Z,9.5nm,1.8s						
BOZ	**Bozeman (W)**	**81.33**	**42**	*eP*	**P**	**20 06 04.2**	**+2.0**
	comp=Z,1.6nm,0.7s						
BRTR	**Keskin Array B**	**81.58**	**311**	P	**P**	**20 06 04.0**	**+0.4**
	comp=Z,0.9nm,0.6s,baz=103,slow=4.4,SNR=6.3						
YHB	**Horse Butte**	**82.06**	**42**	*eP*	**P**	**20 06 06.3**	**+0.3**
	comp=Z,2.0nm,1.8s						
BR231	**Keskin MP Arra**	**82.08**	**312**	*eP*	**P**	**20 06 04.3**	**-1.8**
BUR08	**Bucovina Ar. S**	**82.16**	**321**	*eP*	**P**	**20 06 07.2**	**+0.8**
BUR04	**Bucovina Ar. S**	**82.17**	**321**	*eP*	**P**	**20 06 07.2**	**+0.8**
H17A	**Grant Village**	**82.63**	**42**	*eP*	**P**	**20 06 11.0**	**+1.9**
	comp=Z,3.2nm,1.0s						
HVU	**Hansel Valley**	**82.79**	**46**	*eP*	**P**	**20 06 11.6**	**+1.8**
	comp=Z,2.2nm,0.7s						
RLMT	**Red Lodge**	**82.96**	**41**	*eP*	**P**	**20 06 12.3**	**+1.6**
	comp=Z,2.0nm,0.8s						
CIAC	**Catalina I. Ai**	**83.60**	**55**	*eP*	**P**	**20 06 14.6**	**+0.7**
VTV	**Victorville**	**83.75**	**54**	*eP*	**P**	**20 06 17.9**	**+3.3**
PDAR	**Pinedale Array**	**84.18**	**43**	P	**P**	**20 06 18.2**	**+1.4**
	comp=Z,0.5nm,0.8s,baz=276,slow=2.6,SNR=3.2						
SZCU	**Shurtz Canyon**	**84.95**	**49**	*eP*	**P**	**20 06 20.6**	**-0.1**
	comp=Z,11nm,0.7s						
PV09	**Paradox Valley**	**86.97**	**47**	*eP*	**P**	**20 06 29.1**	**-1.4**
TXAR	**Lajitas Array**	**96.19**	**51**	P	**P**	**20 07 14.3**	**+1.4**
	comp=Z,0.2nm,0.6s,baz=291,slow=4.3,SNR=3.5						

IDC ***13*** *20:00:27.8±1.3,3.59N×92.63E, h0km, mb4.1/12, mb1 4.2/14, mb1mx3.9/67, mbtmp4.1/14, ML3.7/2, MS3.3/1, Ms1 3.3/1, ms1mx2.5/69, Error ellipse: s-maj=34.2km s-min=26.1km az=33.0*

NEIC ***13*** *20:00:30.5±0.3, 3.81N×92.69E, h10km, mb4.6/16, Error ellipse: s-maj=7.3km s-min=4.7km az=208.0*

ISCJB ***13*** *20:00:31.8±0.3, 3.73N±0.04×92.82E±0.03, h33km, mb4.5/31, MS4.1/4, Error ellipse: s-maj=6.6km s-min=3.7km az=18.0*

DJA ***13*** *20:00:37.1±0.9, 4.4N±4.4×9.3E±, h93km±17km, M4.4/6, mB4.8/1, mb4.2/5, MLv4.6/6, Mw(mB)4.1/1*

ISC 13 20:00:33.3±0.5, 3.71N±0.06×92.78E±0.05, h35km, n104, σ1°58/115, mb4.5/31, MS4.0/4, 7C-2D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSI	**Banda Aceh**	**3.08**	**55**	P	**Pn**	**20 01 19.2**	**-0.3**
BSI				S	**Sn**	**20 01 52.3**	**-2.8**
MLSI	**Meulaboh, Aceh**	**3.66**	**81**	P	**Pn**	**20 01 27.8**	**+0.3**
MLSI				S	**Sn**	**20 02 07.6**	**-1.9**
TPTI		**4.42**	**96**	P	**Pn**	**20 01 38.6**	**+0.7**
TPTI				S	**Sn**	**20 02 23.9**	**-4.3**
LHMI	**Lhok Sumawe**	**4.42**	**70**	P	**Pn**	**20 01 39.3**	**+1.3**
LHMI				S	**Sn**	**20 02 28.1**	**-0.2**
LHMI	**Lhok Sumawe**	**4.42**	**70**	*e*Pn	**Pn**	**20 01 39.3**	**+1.3**
KCSI	**Kotacane, Aceh**	**4.99**	**92**	S	**Sn**	**20 02 39.8**	**-2.5**
GSI	**Gunungsitoli**	**5.36**	**116**	S	**Sn**	**20 02 49.9**	**-1.5**
GSI	**Gunungsitoli**	**5.36**	**116**	*e*Pn	**Pn**	**20 01 53.8**	**+2.9**
PSI	**Prapat**	**6.20**	**98**	*e*Pn	**Pn**	**20 02 02.5**	**-0.1**
MNSI	**Mandailing Nat**	**7.39**	**113**	P	**Pn**	**20 02 20.5**	**+1.7**
	24nm,0.5s,1μm						
MNSI				S	**Sn**	**20 03 38.6**	**-2.8**
	24nm,0.5s,1μm						
SURT	**Suratani**	**7.93**	**49**	P	**Pn**	**20 02 27.5**	**+1.2**
SISI	**Saibi**	**8.05**	**128**	P	**Pn**	**20 02 28.2**	**+0.3**
IPM	**Ipoh**	**8.26**	**84**	*e*Pn	**Pn**	**20 02 30.9**	**+0.1**
IPM				*e*Sn	**Sn**	**20 03 58.8**	**-4.3**
PALK	**Pallekele**	**12.53**	**287**	Pn	**Pn**	**20 03 27.4**	**-1.9**
	1.1nm,0.3s,baz=115,slow=14,SNR=7.3						
PALK				Sn	Sn	20 05 31.8	-16
	6.5nm,0.3s,baz=116,slow=2.0,SNR=9.9						
PALK				LR	LR	20 07 25.3	
	comp=Z,164nm,21.4s,baz=116,slow=34						
PALK	**Pallekele**	**12

NRN	**Naryn**	**40.47**	**340**	*e*P	**P**	**20 08 09.1**	**+0.1**
HHC	**Hu-ho-hao-te**	**40.66**	**22**	*e*P	**P**	**20 08 14.0**	**+3.6**
HHC				PP	**PnPn**	**20 09 48.3**	**-0.4**
HHC				S	**S**	**20 14 20.1**	**+1.9**
HHC				sS	sS	20 14 31.4	-3.7
HHC				pmax	pmax		
	comp=Z,14nm,1.1s						
HHC				pmax	pmax		
	comp=Z,57nm,5.8s						
HHC				LR	LR		
	comp=N,460nm,14.1s						
HHC				LR	LR		
	comp=E,500nm,14.3s						
HHC				LR	LR		
	comp=Z,610nm,15.3s						
NWAO	**Narrogin (SRO)**	**43.18**	**149**	*e*P	**P**	**20 08 32.0**	**+1.0**
	comp=Z,83nm,1.8s						
H01W3	**Cape Leeuwin H**	**43.32**	**154**	T	T	20 55 19.6	
	baz=327						
H01W2	**Cape Leeuwin H**	**43.34**	**154**	T	T	20 55 19.6	
	baz=327						
H01W1	**Cape Leeuwin H**	**43.34**	**154**	T	T	20 55 20.7	
	baz=327						
MK01	**Makanchi Array**	**43.85**	**350**	*e*P	**P**	**20 08 36.2**	**0.0**
MK31	**Makanchi Array**	**43.87**	**350**	*e*P	**P**	**20 08 36.6**	**+0.3**
MK32	**Makanchi Array**	**43.87**	**350**	*e*P	**P**	**20 08 36.8**	**+0.5**
MKAR	**Makanchi Array**	**43.87**	**350**	P	**P**	**20 08 36.8**	**+0.5**
	comp=Z,3.7nm,0.8s,baz=166,slow=8.6,SNR=44						
MKAR	**Makanchi Array**	**43.87**	**350**	*e*P	**P**	**20 08 36.6**	**+0.3**
	comp=Z,26nm,0.9s						
KK31	**Karatay Array**	**43.93**	**336**	*e*P	**P**	**20 08 37.0**	**0.0**
KKAR	**Karatay Array**	**43.93**	**336**	*e*P	**P**	**20 08 37.0**	**0.0**
MAKZ	**Makanchi**	**43.94**	**349**	*e*P	**P**	**20 08 37.2**	**+0.3**
	comp=Z,18nm,1.9s						
SONA0	**Songino Array**	**45.50**	**13**	*e*P	**P**	**20 08 50.5**	**+1.1**
SONA0				*e*PcP	**PcP**	**20 10 28.9**	**+1.0**
SONM	**Songino Array**	**45.50**	**13**	P	**P**	**20 08 50.5**	**+1.1**
	comp=Z,1.5nm,0.8s,baz=200,slow=6.3,SNR=13						
SONM				PcP	**PcP**		
	comp=Z,0.7nm,0.9s,baz=195,slow=4.5,SNR=3.4						
SONA1	**Songino Array**	**45.51**	**13**	*e*P	**P**	**20 08 50.5**	**+0.9**
GEYT	**Alibeck**	**46.49**	**322**	P	**P**	**20 08 57.7**	**+0.4**
	comp=Z,1.8nm,0.7s,baz=222,slow=2.0,SNR=5.4						
GYA0B	**ALIBECK ARRAY**	**46.49**	**322**	*e*P	**P**	**20 08 57.8**	**+0.4**
	comp=Z,3.7nm,0.9s						
KURBB	**Kurchatov Arra**	**48.27**	**348**	P	**P**	**20 09 11.4**	**+0.5**
	comp=Z,4.2nm,0.9s,baz=172,slow=7.3,SNR=28						
KURK	**Kurchatov**	**48.34**	**348**	*e*P	**P**	**20 09 11.4**	**0.0**
TLY	**Talaya**	**48.66**	**9**	*e*P	**P**	**20 09 12.7**	**-1.3**
	comp=Z,3.6nm,0.6s						
RAYN	**Ar Rayn**	**49.69**	**298**	*e*P	**P**	**20 09 22.6**	**+0.4**
	comp=Z,6.2nm,1.1s						
ZAA0	**Zalesovo Array**	**50.50**	**354**	*e*P	**P**	**20 09 28.2**	**+0.3**
	comp=Z,23nm,1.4s						
ZALV	**Zalesovo Beam**	**50.50**	**354**	P	**P**	**20 09 28.7**	**+0.8**
	comp=Z,4.4nm,0.6s,baz=184,slow=8.4,SNR=27						
ZALV	**Zalesovo Beam**	**50.50**	**354**	*e*P	**P**	**20 09 27.9**	**0.0**
ZAA1	**Zalesovo Array**	**50.51**	**354**	*e*P	**P**	**20 09 28.7**	**+0.8**
BVAR	**Borovoye Array**	**52.51**	**343**	P	**P**	**20 09 43.1**	**+0.1**
	comp=Z,2.7nm,0.9s,baz=148,slow=8.5,SNR=12						
BRVK	**Borovoye**	**52.57**	**343**	*e*P	**P**	**20 09 42.7**	**-0.7**
	comp=Z,4.1nm,0.9s						
ABKAR	**Akbulak array**	**53.28**	**334**	*e*P	**P**	**20 09 48.3**	**-0.3**
BR101	**Keskin Array S**	**64.17**	**313**	*e*P	**P**	**20 11 04.5**	**-0.4**
BRTR	**Keskin Array B**	**64.17**	**313**	P	**P**	**20 11 04.5**	**-0.4**
	comp=Z,1.2nm,0.8s,baz=127,slow=7.9,SNR=8.6						
BR231	**Keskin MP Arra**	**64.84**	**313**	*e*P	**P**	**20 11 05.3**	**-3.9**
CFR	**Carcaliu**	**69.65**	**317**⇑	*i*P	**P**	**20 11 39.7**	**+0.3**
SORM	**Soroca**	**70.35**	**320**⇑	*i*P	**P**	**20 11 43.8**	**+0.2**
AKASG	**Malin Array Be**	**70.60**	**323**	P	**P**	**20 11 43.7**	**-1.3**
	comp=Z,1.0nm,0.7s,baz=89,slow=5.4,SNR=7.5						
AKBB	**Malin Array Si**	**70.60**	**323**	*e*P	**P**	**20 11 43.2**	**-1.9**
	comp=Z,1.1nm,1.5s						
VRI	**Vrincioaia**	**70.79**	**317**⇓	*i*P	**P**	**20 11 47.5**	**+1.1**
PLOR	**Plostina**	**70.84**	**317**⇑	*i*P	**P**	**20 11 48.3**	**+1.6**
TESR	**Tescani**	**71.01**	**318**⇑	*i*P	**P**	**20 11 47.4**	**-0.3**
MLR	**Muntele Rosu**	**71.22**	**317**	P	**P**	**20 11 48.1**	**-1.1**
	comp=Z,1.2nm,0.8s,baz=66,slow=3.9,SNR=9.8						
MLR	**Muntele Rosu**	**71.22**	**317**⇑	*i*P	**P**	**20 11 50.2**	**+1.0**
TIXI	**Tiksi**	**71.56**	**11**	*e*P	**P**	**20 11 50.2**	**-0.3**
	comp=Z,7.2nm,0.9s						
ARR	**Arges**	**72.09**	**317**⇑	*i*P	**P**	**20 11 54.5**	**+0.2**
BURAR	**Bucovina Array**	**72.24**	**319**⇓	*i*P	**P**	**20 11 56.0**	**+0.8**
BUR04	**Bucovina Ar. S**	**72.24**	**319**	*e*P	**P**	**20 11 55.5**	**+0.3**
BUR08	**Bucovina Ar. S**	**72.26**	**319**	*e*P	**P**	**20 11 55.4**	**+0.1**
DRGR		**73.71**	**318**⇑	*i*P	**P**	**20 12 04.5**	**+0.6**
FIA0	**FINESS Array S**	**75.76**	**333**	*e*P	**P**	**20 12 14.9**	**-0.4**
FINES	**FINESS Array B**	**75.76**	**333**	P	**P**	**20 12 14.9**	**-0.4**
	comp=Z,1.3nm,0.8s,baz=116,slow=13,SNR=4.9						
GEA0	**GERESS Array S**	**80.03**	**319**	*e*P	**P**	**20 12 40.0**	**+0.5**
GEC2	**GERESS Array S**	**80.03**	**319**	*e*P	**P**	**20 12 40.6**	**+1.2**
	comp=Z,8.9nm,1.0s						
GERES	**GERESS Array B**	**80.03**	**319**	P	**P**	**20 12 40.7**	**+1.2**
	comp=Z,3.7nm,0.9s,baz=94,slow=5.9,SNR=26						
CLL	**Collm**	**80.72**	**321**	*e*P	**P**	**20 12 44.4**	**+1.4**
	comp=Z,6.9nm,0.8s						

ATA ***13*** *20:08:58.3±1.5, 38.°69N×43.°29E, h7km±54km, ML2.5, MW2.7*
CSEM ***13*** *20:08:59.9±0.3, 38.°62N×43.°05E, h10km, ML2.8, Error ellipse: s-maj=6.8km s-min=5.3km az=31.0*
ISK ***13*** *20:08:59.3, 38.°61N×43.°03E, h5km, ML2.3/4*
DDA ***13*** *20:09:00.3, 38.°71N×43.°19E, h7km, Ml2.8*

ISC 13 20:09:00.6±0.9, 38.°66N±0.°03×43.°06E±0.°03, h16km±7km, n23, σ1ᵗ50/40, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
VANB	**Van**	**0.27**	**104**	PG		**Pg**	**20 09 05.8**	**-0.6**
VANB	**Van**	**0.27**	**104**	*i* Pg		**Pg**	**20 09 05.8**	**-0.6**
ADCV	**BITLIS_Adilcev**	**0.30**	**299**	*i* P		**Pg**	**20 09 06.0**	**-1.2**
ADCV				*i* S		**Sg**	**20 09 13.6**	**+2.1**
ADCV	**BITLIS_Adilcev**	**0.30**	**299**	P		**Pg**	**20 09 05.9**	**-1.2**
ADCV				S		**Sg**	**20 09 13.6**	**+2.1**
TVAN	**Van**	**0.30**	**116**	*i* P		**Pg**	**20 09 05.7**	**-1.4**
TVAN				*i* S		**Sg**	**20 09 13.1**	**+1.5**
TVAN	**Van**	**0.30**	**116**	P		**Pg**	**20 09 05.7**	**-1.4**
TVAN				S		**Sg**	**20 09 13.1**	**+1.5**
GEVA	**Gevas**	**0.35**	**180**	*e*P		**Pg**	**20 09 06.2**	**-1.7**
GEVA				*e*S		**Sb**	**20 09 14.3**	**+0.4**
GEVA				IAML			20 09 17.4	
	comp=Z,32nm,0.4s							
GEVA	**Gevas**	**0.35**	**180**	*i* P		**Pg**	**20 09 06.3**	**-1.6**
GEVA				*i* S		**Sb**	**20 09 15.1**	**+1.1**
GEVA	**Gevas**	**0.35**	**180**	P		**Pg**	**20 09 06.3**	**-1.6**
TUTA	**Tutak**	**0.77**	**346**	*e*P		**Pg**	**20 09 13.9**	**-1.6**
TUTA				*e*S		**Sb**	**20 09 26.6**	**+0.5**
TUTA				IAML			20 09 28.7	
	comp=Z,16nm,0.2s							
TUTA	**Tutak**	**0.77**	**346**	*i* P		**Pg**	**20 09 14.2**	**-1.4**
TUTA				*i* S		**Sb**	**20 09 26.2**	**+0.2**
TUTA	**Tutak**	**0.77**	**346**	P		**Pg**	**20 09 14.2**	**-1.4**
TUTA				S		**Sb**	**20 09 26.2**	**+0.2**
GURO	**Guroymak-BITLI**	**0.81**	**263**	PG		**Pg**	**20 09 15.8**	**-0.6**
GURO				SG		**Sg**	**20 09 25.6**	**-1.6**
GURO	**Guroymak-BITLI**	**0.81**	**263**	*e*Pg		**Pg**	**20 09 15.8**	**-0.6**
GURO				*e*Sg		**Sg**	**20 09 25.6**	**-1.6**
CLDR	**Caldiran**	**0.82**	**54**	PG		**Pn**	**20 09 16.9**	**-0.9**
CLDR	**Caldiran**	**0.82**	**54**	*e*Pg		**Pn**	**20 09 16.9**	**-0.9**
AGRB	**Hanur-Agry**	**0.92**	**357**	PG		**Pb**	**20 09 18.5**	**+0.2**
AGRB				SG		**Sn**	**20 09 31.6**	**-0.4**
AGRB	**Hanur-Agry**	**0.92**	**357**	*e*Pg		**Pb**	**20 09 18.5**	**+0.2**
AGRB				*e*Sg		**Sn**	**20 09 31.6**	**-0.4**
EKAR	**Karacoban**	**0.98**	**308**	*e*P		**Pb**	**20 09 20.6**	**+1.3**
EKAR				*e*S		**Sn**	**20 09 36.5**	**+2.9**
EKAR				IAML			20 09 47.6	
	comp=Z,4.3nm,0.4s							
EKAR	**Karacoban**	**0.98**	**308**	*i* P		**Pb**	**20 09 20.3**	**+0.9**
EKAR				*i* S		**Sn**	**20 09 37.0**	**+3.3**
EKAR	**Karacoban**	**0.98**	**308**	P		**Pb**	**20 09 20.3**	**+0.9**
EATA	**Eleskirt**	**1.28**	**340**	*e*P		**Pb**	**20 09 24.8**	**+0.3**
EATA				*e*S		**Sn**	**20 09 43.4**	**+2.2**
EATA	**Eleskirt**	**1.28**	**340**	*i* P		**Pn**	**20 09 21.5**	**-2.6**
EATA				*i* S		**Sn**	**20 09 42.3**	**+1.1**

ISCJB ***13*** *20:12:04.3±0.9, 51.°55N±0.°04×16.°02E±0.°04, h0km, Error ellipse: s-maj=6.1km s-min=3.1km az=14.4*
CSEM ***13*** *20:12:06.2±0.5, 51.°55N×15.°98E, h2km, ML2.7/10, Error ellipse: s-maj=8.1km s-min=4.4km az=14.0*
PRU ***13*** *20:12:08.4, 51.°52N×16.°04E, h0km*
VIE ***13*** *20:12:09.4±0.9, 51.°30N×16.°08E, h0km, mb2.2/3, ML2.3/4, Error ellipse: s-maj=8.4km s-min=6.5km az=97.0, Suspected Mining induced.*

ISC 13 20:12:06.8±1.3, 51.°52N±0.°06×15.°98E±0.°03, h0km, n31, σ0ᵗ78/58, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KSP	**Ksiaz**	**0.71**	**164**	*e*Pg		**Pg**	**20 12 20.8**	**+0.4**
KSP				*e*Sg		**Sb**	**20 12 31.3**	**-1.1**
KSP	**Ksiaz**	**0.71**	**164**	*e*Pg		**Pg**	**20 12 20.8**	**+0.4**
KSP				*e*Sg		**Sb**	**20 12 31.3**	**-1.1**
UPC	**Upice**	**1.02**	**179**	*e*PG		**Pb**	**20 12 27.5**	**+0.2**
UPC				*e*SG		**Sb**	**20 12 41.2**	**0.0**
	comp=Z,17nm,0.4s							
UPC	**Upice**	**1.02**	**179**	Pg		**Pb**	**20 12 27.5**	**+0.2**
UPC				Sg		**Sb**	**20 12 41.2**	**0.0**
	17nm,0.4s							
DPC	**Dobruska-Polom**	**1.20**	**169**	*e*PG		**Pg**	**20 12 29.8**	**+0.1**
DPC				*e*SG		**Sb**	**20 12 46.3**	**-0.1**
	comp=Z,11nm,0.4s							
DPC	**Dobruska-Polom**	**1.20**	**169**	Pg		**Pg**	**20 12 29.8**	**+0.1**
DPC				Sg		**Sb**	**20 12 46.3**	**-0.1**
	11nm,0.4s							
PVCC	**Panska Ves**	**1.33**	**222**	*e*PG		**Pb**	**20 12 32.9**	**+0.2**
PVCC				*e*SG		**Sn**	**20 12 51.2**	**0.0**
	comp=Z,31nm,0.2s							
PVCC	**Panska Ves**	**1.33**	**222**	Pg		**Pb**	**20 12 32.9**	**+0.2**
PVCC				Sg		**Sn**	**20 12 51.2**	**0.0**
	31nm,0.2s							
BRG	**Berggiesshubel**	**1.44**	**244**	PG		**Pn**	**20 12 34.0**	**-0.1**
BRG				SG		**Sn**	**20 12 54.0**	**+0.3**
	22nm,0.5s							
KRLC	**Kraliky**	**1.54**	**160**	*e*PG		**Pn**	**20 12 35.0**	**-0.6**
KRLC				*e*SG		**Sn**	**20 12 57.1**	**+0.9**
	comp=Z,3.6nm,0.5s							
KRLC	**Kraliky**	**1.54**	**160**	Pg		**Pn**	**20 12 35.0**	**-0.6**
KRLC				Sg		**Sn**	**20 12 57.1**	**+0.9**
	3.6nm,0.5s							
GOPC	**GO Pecny, Ondr**	**1.78**	**206**	*e*PG		**Pg**	**20 12 40.7**	**-0.2**
GOPC	**GO Pecny, Ondr**	**1.78**	**206**	Pg		**Pg**	**20 12 40.7**	**-0.2**
PRU	**Pruhonice**	**1.79**	**211**	*e*PN		**Pn**	**20 12 38.3**	**-0.6**
PRU				*e*PG		**Pb**	**20 12 40.3**	**-0.1**
PRU				*e*SG		**Sg**	**20 13 04.8**	**+0.6**
	comp=Z,8.6nm,0.4s							
PRU	**Pruhonice**	**1.79**	**211**	Pn		**Pn**	**20 12 38.3**	**-0.6**
CLL	**Collm**	**1.88**	**265**	*e*Pg		**Pn**	**20 12 39.0**	**-1.1**
CLL				*i*			20 12 45.7	
CLL				*e*Sg		**Sg**	**20 13 07.0**	**0.0**
	comp=Z,8.0nm,0.9s							
MORC	**Moravsky Berou**	**2.01**	**150**	*e*Pn		**Pn**	**20 12 41.4**	**-0.7**
MORC				*e*Sg		**Sg**	**20 13 11.3**	**-0.2**
OKC	**Ostrava-Krasne**	**2.18**	**140**	*e*SG		**Sg**	**20 13 16.7**	**-0.1**
	comp=Z,8.2nm,0.6s							
OKC	**Ostrava-Krasne**	**2.18**	**140**	Sg		**Sg**	**20 13 16.7**	**-0.1**
	comp=Z,8.2nm,0.6s							
VRAC	**Vranov**	**2.25**	**170**	*e*Pn		**Pn**	**20 12 45.6**	**+0.2**
VRAC				*e*Sg		**Sg**	**20 13 20.4**	**+1.2**
NKC	**Novy Kostel**	**2.58**	**241**	*e*PN		**Pn**	**20 12 49.8**	**-0.1**
NKC				*e*PG		**Pg**	**20 12 55.4**	**-0.9**
NKC				*e*SG		**Sg**	**20 13 32.1**	**+2.4**
	comp=Z,8.2nm,0.3s							
NKC	**Novy Kostel**	**2.58**	**241**	Pn		**Pn**	**20 12 49.8**	**-0.1**
KHC	**Kasperske Hory**	**2.85**	**214**	*e*PN		**Pn**	**20 12 53.4**	**-0.1**
KHC				*e*PG		**Pb**	**20 12 59.6**	**+1.1**
KHC				*e*SG		**Sg**	**20 13 39.4**	**+1.2**
	comp=Z,2.1nm,0.3s							
KHC	**Kasperske Hory**	**2.85**	**214**	Pn		**Pn**	**20 12 53.4**	**-0.1**
LANS	**Liptovska Anna**	**3.26**	**135**	*e*Pg		**Pg**	**20 13 08.9**	**-0.4**
LANS				*e*Sg		**Sg**	**20 13 50.5**	**-1.1**
LANS	**Liptovska Anna**	**3.26**	**135**	*e*PG		**Pg**	**20 13 08.9**	**-0.4**
LANS				*e*SG		**Sg**	**20 13 50.4**	**-1.1**
CONA	**Conrad Observa**	**3.60**	**181**	Pn		**Pn**	**20 13 04.4**	**+0.5**
	comp=Z,0.2nm,0.1s							
CONA				Sg		**Sg**	**20 14 01.6**	**-0.8**
	comp=Z,1.5nm,0.3s							
CONA	**Conrad Observa**	**3.60**	**181**	*e*Pn		**Pn**	**20 13 04.4**	**+0.5**
	comp=Z,0.2nm,0.1s							
CONA				Sg		**Sg**	**20 14 01.6**	**-0.8**
	comp=Z,1.5nm,0.3s							
MOA	**Molln**	**3.84**	**197**	Pn		**Pn**	**20 13 07.4**	**+0.2**
	comp=Z,1.5nm,0.3s							
MOA				Sg		**Sg**	**20 14 08.7**	**-1.5**
	comp=Z,0.5nm,0.1s							
MOA	**Molln**	**3.84**	**197**	*e*Pn		**Pn**	**20 13 07.4**	**+0.2**
	comp=Z,1.5nm,0.3s							
MOA				Sg		**Sg**	**20 14 08.7**	**-1.5**
	comp=Z,0.5nm,0.1s							
STHS	**Stebnicka Huta**	**3.97**	**120**	*e*PG		**Pg**	**20 13 22.9**	**0.0**
STHS				*e*SG		**Sg**	**20 14 16.7**	**+2.4**

ISCJB ***13*** *20:12:46.0±0.3, 35.°16S±0.°07×15.°81W±0.°07, h10km, mb4.7/34, MS4.0/24, Error ellipse: s-maj=10.0km s-min=7.7km az=154.0*
IDC ***13*** *20:12:46.3±1.1, 35.°22S×15.°71W, h0km, mb4.1/12, mb1 4.1/12, mb1mx3.9/48, mbtmp4.1/12, MS3.9/24, Ms1 3.9/24, ms1mx3.8/36, Error ellipse: s-maj=33.2km s-min=19.0km az=6.0*
GCMT ***13*** *20:12:48.1±0.2, 35.°39S×15.°58W, h19km±1km, MW5.0/102, Moment Tensor Solution. s34,c35; s102,c148; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr=0.03±. 13; Mθθ=1.22±. 12; Mφφ 1.25±. 11; Mrθ=0.95±.25; Mθφ3.04±. 10; Mφr=0.07±.22; Best double couple: M=3.41800×10¹⁶ NP1:φs169.00000°, δ74.00000°, λ-178.00000°. NP2: φs169.00000°, δ74.00000°, λ-178.00000°. Principal axes: T 3.4010, Plg10.0000°, Azm125.0000°; N 0.0300, Plg74.0000°, Azm252.0000°; P -3.4350, Plg13.0000°, Azm33.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***13*** *20:12:48.1±0.8, 35.°16S×15.°82W, h11km±5km, mb4.8/23 Error ellipse: s-maj=9.5km s-min=7.4km az=161.0*

ISC 13 20:12:47.8±0.4, 35.°20S±0.°09×15.°78W±0.°08, h10km, n81, σ1ᵗ13/51, mb4.6/34, MS4.0/24, 1C, Tristan da Cunha region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
H09N1	**TRISTAN DA CUN**	**3.37**	**125**	T		T	20 17 00.3	
	SNR=60							
H09W1	**TRISTAN DA CUN**	**3.37**	**125**	T		T	20 17 00.0	
	SNR=110							
H10S2	**ASCENSION HYDR**	**26.14**	**3**	T		T	20 45 54.9	
	baz=182,slow=75,SNR=181							
H10S3	**ASCENSION HYDR**	**26.15**	**3**	T		T	20 45 57.1	
	baz=182,slow=75,SNR=166							
H10S1	**ASCENSION HYDR**	**26.16**	**3**	T		T	20 45 49.5	
	baz=182,slow=75,SNR=220							
H10N1	**ASCENSION HYDR**	**27.25**	**3**	T		T	20 47 09.3	
	baz=180,slow=74,SNR=17							
H10N3	**ASCENSION HYDR**	**27.26**	**3**	T		T	20 47 09.6	
	baz=180,slow=74,SNR=185							
H10N2	**ASCENSION HYDR**	**27.27**	**3**	T		T	20 47 10.7	
	baz=180,slow=74,SNR=66							
SUR	**Sutherland**	**30.43**	**95**	P		**P**	**20 19 00.5**	**-0.2**
	0.7nm,0.9s,baz=223,slow=5.9,SNR=3.9							
SUR	**Sutherland**	**30.43**	**95**	*e*P		**P**	**20 19 00.7**	**0.0**
	21nm,1.1s							
TSUM	**Tsumeb**	**33.49**	**70**	*e*P		**P**	**20 19 27.6**	**0.0**
	9.5nm,1.3s							
RCBR	**Riachuelo**	**34.62**	**323**	*e*P		**P**	**20 19 36.3**	**-1.0**
	24nm,1.3s							
BOSA	**Boshof**	**35.26**	**91**	P		**P**	**20 19 40.9**	**-2.0**
	6.2nm,0.9s,baz=237,slow=8.6,SNR=6.7							
BOSA						LR	20 31 06.9	
	comp=Z,332nm,20.2s,baz=241,slow=31							
CPUP	**Villa Florida**	**36.56**	**272**	P		**P**	**20 19 54.0**	**+0.1**
	1.2nm,0.6s,baz=171,slow=14,SNR=3.0							
CPUP						LR	20 31 56.3	
	comp=Z,204nm,20.4s,baz=122,slow=31							
CPUP	**Villa Florida**	**36.56**	**272**	*e*P		**P**	**20 19 52.9**	**-1.0**
	19nm,1.8s							
TRQA	**Tornquist**	**36.90**	**252**	*e*P		**P**	**20 19 55.9**	**-0.7**
	35nm,1.9s							
LBTB	**Lobatse**	**36.98**	**86**	P		**P**	**20 19 58.2**	**+0.7**
	4.0nm,0.9s,baz=229,slow=8.1,SNR=4.9							
LBTB	**Lobatse**	**36.98**	**86**	*e*P		**P**	**20 19 58.7**	**+1.1**
	35nm,1.8s							
SNAA	**Sanae**	**37.16**	**173**	LR		LR	20 31 21.7	
	comp=Z,132nm,19.8s,baz=289,slow=30							
SNAA	**Sanae**	**37.16**	**173**	*e*P		**P**	**20 19 59.7**	**+1.2**
	26nm,2.0s							
LIC	**Lamto**	**42.43**	**16**	*e*P		**P**	**20 20 42.6**	**-0.2**
	66nm,1.8s							
KIC	**Kosan Boka**	**42.63**	**16**	*e*P		**P**	**20 20 44.9**	**+0.5**
	22nm,0.9s							
TIC	**Toumodi**	**42.84**	**16**	*e*P		**P**	**20 20 46.4**	**+0.2**
DBIC	**Dimbokro**	**42.90**	**16**	P		**P**	**20 20 46.4**	**-0.2**
	4.1nm,0.9s,baz=260,slow=22,SNR=3.6							
DBIC						LR	20 34 13.2	
	comp=Z,82nm,20.2s,baz=157,slow=30							
DBIC	**Dimbokro**	**42.90**	**16**	*e*P		**P**	**20 20 46.2**	**-0.5**
	41nm,1.8s							
PLCA	**Paso Flores**	**42.94**	**246**	LR		LR	20 35 12.2	
	comp=Z,193nm,20.6s,baz=123,slow=31							
PLCA	**Paso Flores**	**42.94**	**246**	*e*P		**P**	**20 20 47.5**	**+0.5**
	25nm,1.8s							
LSZ	**Lusaka**	**44.02**	**75**	P		**P**	**20 20 54.9**	**-1.0**
	3.3nm,0.8s,baz=209,slow=5.9,SNR=8.0							
LSZ	**Lusaka**	**44.02**	**75**	*e*P		**P**	**20 20 55.7**	**-0.2**
	9.5nm,1.2s							
SIV	**San Ignacio**	**44.67**	**283**	P		**P**	**20 21 00.7**	**-0.2**
	1.7nm,1.0s,baz=97,slow=6.5,SNR=4.9							
PEL	**Peldehue**	**44.98**	**256**	*e*P		**P**	**20 21 03.6**	**+0.2**
	41nm,1.8s							
SYO	**Syowa Base**	**45.33**	**155**⇑	*e*P		**P**	**20 21 01.0**	**-4.5**
PB01	**IPOC Station P**	**48.88**	**272**	*e*P		**P**	**20 21 32.8**	**-1.2**
	34nm,1.5s							
PB11	**IPOC Station P**	**49.64**	**273**	*e*P		**P**	**20 21 38.8**	**-1.2**
	20nm,1.1s							
MNMC	**Minye Minye**	**49.91**	**274**	*e*P		**P**	**20 21 41.7**	**-0.4**
	12nm,1.0s							
LPAZ	**La Paz**	**50.18**	**278**	LR		LR	20 42 49.2	
	comp=Z,169nm,18.4s,baz=106,slow=36							
SAML	**Samuel**	**50.48**	**289**	*e*P		**P**	**20 21 47.2**	**+1.1**
	7.8nm,1.5s							
KOWA	**Kowa**	**50.67**	**15**	P		**P**	**20 21 47.9**	**+0.5**
	3.5nm,0.9s,baz=201,slow=7.3,SNR=6.7							
KOWA						LR	20 38 39.8	
	comp=Z,109nm,21.1s,baz=213,slow=31							
TOA0	**Torodi Ar. Sit**	**50.86**	**22**	*e*P		**P**	**20 21 48.2**	**-0.6**
	6.0nm,0.9s							
TORD	**Torodi Ar. Bea**	**50.86**	**22**	P		**P**	**20 21 48.9**	**0.0**
	4.7nm,1.0s,baz=199,slow=8.5,SNR=12							
TOA1	**Torodi Ar. Sit**	**50.86**	**22**	*e*P		**P**	**20 21 48.9**	**-0.1**
MAW	**Mawson**	**53.71**	**152**	LR		LR	20 40 21.7	
	comp=Z,124nm,20.3s,baz=245,slow=31							
MAW	**Mawson**	**53.71**	**152**	*e*P		**P**	**20 22 08.7**	**-0.7**
	8.3nm,1.8s							
QSPA	**South Pole Qui**	**55.05**	**180**	*e*P		**P**	**20 22 21.1**	**+1.7**
	27nm,1.8s							
MBAR	**Mbarara**	**55.28**	**62**	*e*P		**P**	**20 22 21.6**	**-0.2**
	11nm,1.2s							
OPO	**Ambohidratompo**	**57.67**	**91**	LR		LR	20 45 01.5	
	comp=Z,159nm,19.5s,baz=200,slow=34							
TAM	**Tamanrasset**	**61.11**	**23**	*e*P		**P**	**20 23 03.2**	**+0.8**
	10nm,1.8s							
BBGH	**Gun Hill**	**63.49**	**311**	*e*P		**P**	**20 23 17.5**	**-0.8**
	578nm,1.3s							
PCRV	**Puerto La Cruz**	**64.55**	**305**	LR		LR	20 49 18.9	
	comp=Z,350nm,21.5s,baz=128,slow=34							
SBA	**Scott Base**	**67.20**	**181**	*e*P		**P**	**20 23 43.4**	**+1.9**
	7.4nm,1.1s							
PRAC	**Prado**	**67.50**	**292**	*e*P		**P**	**20 23 43.6**	**-0.8**
	21nm,1.7s							
VNDA	**Vanda**	**67.53**	**179**	LR		LR	20 48 39.1	
	comp=Z,55nm,22.0s,baz=174,slow=32							
VNDA	**Vanda**	**67.53**	**179**	*e*P		**P**	**20 23 42.8**	**-0.8**
RUSC	**La Rusia**	**67.57**	**295**	*e*P		**P**	**20 23 43.9**	**-1.5**
	6.1nm,1.7s							
ROSC	**El Rosal**	**67.80**	**293**	LR		LR	20 52 03.7	
	comp=Z,276nm,18.1s,baz=188,slow=35							
SDV	**Santo Domingo**	**67.80**	**299**	LR		LR	20 52 19.3	
	comp=Z,243nm,18

baz=326
H01W2 Cape Leeuwin H 43.33 154 T T 21 08 18.6
baz=326
H01W1 Cape Leeuwin H 43.33 154 T T 21 08 27.0
baz=326
MKAR Makanchi Array 43.89 350 P **P** **20 21 25.8 +0.4**
0.7nm,0.6s,baz=168,slow=8.4,SNR=7.9
SONM Songino Array 45.53 13 P **P** **20 21 37.6 -1.0**
0.3nm,0.5s,baz=209,slow=7.5,SNR=3.3
KSRS Korea Array 46.55 39 LR LR 20 45 27.1
comp=Z,34nm,18.1s,baz=212,slow=42
WRA Warramunga Arr 47.12 122 P **P** **20 21 52.8 +1.4**
0.3nm,0.7s,baz=296,slow=9.5,SNR=4.2
KURBB Kurchatov Arra 48.29 348 P **P** **20 21 59.7 -0.2**
0.5nm,0.7s,baz=170,slow=6.7,SNR=5.8
ASAR Alice Springs 48.44 126 P **P** **20 22 03.0 +1.4**
0.1nm,0.3s,baz=281,slow=11,SNR=3.2
ZALV Zalesovo Beam 50.53 354 P **P** **20 22 18.1 +1.1**
1.9nm,0.5s,baz=179,slow=7.2,SNR=12
GUMO Guam 52.37 76 LR LR 20 46 01.6
comp=Z,11nm,19.3s,baz=92,slow=38
BVAR Borovoye Array 52.53 343 P **P** **20 22 31.9 -0.1**
0.5nm,0.6s,baz=140,slow=9.6,SNR=3.4
BRTR Keskin Array B 64.16 313 P **P** **20 23 52.7 -1.1**
0.3nm,0.6s,baz=133,slow=6.1,SNR=2.7
MLR Muntele Rosu 71.22 317 P **P** **20 24 39.6 +1.5**
0.3nm,0.6s,baz=191,slow=16,SNR=6.0
TIXI Tiksi 71.59 11 P **P** **20 24 40.3 +0.6**
0.7nm,0.6s,baz=240,slow=3.1,SNR=4.7
GERES GERESS Array B 80.02 319 P **P** **20 25 29.7 +1.2**
0.5nm,0.7s,baz=99,slow=5.8,SNR=4.2

IDC 13 20:16:11.8±1.9, 2°41N×93°39E, h0km, mb3.6/5, mb1 3.7/6, mb1mx3.3/72, mbtmp3.5/6, ML3.5/1, Error ellipse: s-maj=70.4km s-min=27.4km az=55.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**16.86**	**18**	Pn	Pn			20 20 09.8	+0.5
	0.1nm,0.3s,baz=212,slow=12,SNR=5.0								
H08S2	**Diego Garcia H**	**23.11**	**244**	T	T			20 44 27.1	
	baz=60,slow=75,SNR=35								
H08S3	**Diego Garcia H**	**23.11**	**244**	T	T			20 44 28.6	
	baz=60,slow=75,SNR=36								
H08S1	**Diego Garcia H**	**23.13**	**244**	T	T			20 44 27.5	
	baz=60,slow=75,SNR=36								
MKAR	**Makanchi Array**	**45.26**	**349**	P	P			20 24 30.4	-0.7
	0.5nm,0.7s,baz=166,slow=8.3,SNR=4.4								
WRA	**Warramunga Arr**	**45.91**	**121**	P	P			20 24 36.4	-0.3
	0.3nm,0.6s,baz=294,slow=8.6,SNR=2.9								
KURBB	**Kurchatov Arra**	**49.66**	**348**	P	P			20 25 04.1	-1.1
	0.5nm,0.7s,baz=176,slow=7.2,SNR=4.2								
ZALV	**Zalesovo Beam**	**51.86**	**354**	P	P			20 25 22.3	+0.6
	1.2nm,0.5s,baz=188,slow=6.6,SNR=5.4								
GERES	**GERESS Array B**	**81.40**	**319**	P	P			20 28 31.5	+0.7
	0.3nm,0.6s,baz=101,slow=4.9,SNR=4.2								

*ISCJB **13** 20:28:30.5±0.2, 21°.28S±0°.03×66°.53W±0°.03, h239km±2km, mb4.5/168, Error ellipse: s-maj=5.0km s-min=3.5km az=141.0*
*SCB **13** 20:28:30.6±0.4, 20°.99S×66°.40W, h234km, Ml4.3/1, Error ellipse: s-maj=30.4km s-min=4.3km az=53.0*
*NEIC **13** 20:28:30.5±0.4, 21°.31S×66°.43W, h223km±4km, mb4.5/153, Error ellipse: s-maj=6.0km s-min=4.2km az=78.0*
*IDC **13** 20:28:32.2±1.3, 21°.25S×66°.37W, h238km±11km, mb4.0/18, mb1 4.1/23, mb1mx4.0/45, mbtmp4.6/23, Error ellipse: s-maj=13.4km s-min=8.4km az=74.0*
*GUC **13** 20:28:32.3±0.3, 21°.31S×67°.18W, h277km±11km, ML5.5*
*SJA **13** 20:28:33.4±0.7, 21°.46S×66°.74W, h215km±9km, ML4.4, MW4.1*

ISC 13 20:28:31.2±0.6, 21°.36S±0°.03×66°.61W±0°.04, h233km±5km, n457, σ1s29/490, mb4.5/168, 7C-7D, Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MOCB	**Mochara**	**0.91**	**83**	*e*Pn	**Pn**			**20 29 05.8**	**+1.4**
MOCB				*e*Sn	**S**			**20 29 30.7**	**+0.4**
	3µm,0.5s								
YJA	**Yavi**	**1.30**	**129**	*e*P	**Pn**			**20 29 08.6**	**+1.7**
YJA				IAML				20 29 09.4	
	comp=Z,1µm,0.1s								
YJA				*e*S	**S**			**20 29 34.5**	**-0.2**
HJA	**Humahuaca**	**2.15**	**149**	*e*P	**Pn**			**20 29 16.0**	**+1.9**
HJA				IAML				20 29 16.4	
	comp=Z,3µm,0.4s								
HJA				*e*S	**S**			**20 29 47.1**	**-0.6**
PB09	**IPOC Station P**	**2.49**	**259**	↑*i*P	**Pn**			**20 29 19.0**	**+1.7**
PB09				*i* S	**S**			**20 29 54.7**	**+1.4**
PB09				IAML				20 29 57.1	
	comp=N,8µm,0.5s								
PB08	**IPOC Station P**	**2.67**	**297**	↓*i*P	**Pn**			**20 29 21.4**	**+2.0**
PB08				*i* S	**S**			**20 29 59.0**	**+1.8**
PB08				IAML				20 29 60.0	
	comp=E,3µm,0.9s								
PB01	**IPOC Station P**	**2.70**	**276**	*e*Pn	**Pn**			**20 29 20.4**	**+0.9**
PB01				*e*S	**S**			**20 29 58.3**	**+1.0**
PB01	**IPOC Station P**	**2.70**	**276**	↑*i*P	**Pn**			**20 29 20.4**	**+0.9**
PB01				*i* S	**S**			**20 29 57.1**	**-0.1**
PB01				IAML				20 29 59.1	
	comp=N,7µm,0.2s								
PB06	**IPOC Station P**	**3.06**	**243**	↑*i*P	**Pn**			**20 29 24.3**	**+0.9**
PB06				*e*S	**S**			**20 30 04.5**	**0.0**
PB02	**IPOC Station P**	**3.06**	**270**	↑*i*P	**Pn**			**20 29 24.3**	**+0.9**
PB02				*i* S	**S**			**20 30 03.6**	**-0.8**
PB02				IAML				20 30 05.2	
	comp=N,9µm,1.1s								
PB07	**IPOC Station P**	**3.07**	**263**	↑*i*P	**Pn**			**20 29 24.5**	**+0.9**
PB07				*i* S	**S**			**20 30 04.0**	**-0.7**
PB07				IAML				20 30 05.5	
	comp=N,10µm,0.8s								
ASTB	**Santa Barbara**	**3.26**	**143**	*e*P	**Pn**			**20 29 26.6**	**+0.9**
PB11	**IPOC Station P**	**3.27**	**299**	*e*Pn	**Pn**			**20 29 26.7**	**+0.9**
PB11				*e*S	**S**			**20 30 07.9**	**-0.8**
PB11	**IPOC Station P**	**3.27**	**299**	↓*i*P	**Pn**			**20 29 26.8**	**+0.9**
PB11				*i* S	**S**			**20 30 08.3**	**-0.4**
PB04	**IPOC Station P**	**3.43**	**253**	*e*Pn	**Pn**			**20 29 28.3**	**+0.6**
PB04				*e*S	**S**			**20 30 10.6**	**-1.5**
ALL	**LOMAS DE OLMED**	**3.45**	**136**	*e*P	**Pn**			**20 29 28.0**	**+0.3**
SLA	**San Lorenzo**	**3.50**	**163**	*e*P	**Pn**			**20 29 30.4**	**+1.9**
MNMC	**Minye Minye**	**3.57**	**308**	*e*Pn	**Pn**			**20 29 30.4**	**+0.9**
MNMC				*e*S	**S**			**20 30 15.9**	**+0.5**
MNMC	**Minye Minye**	**3.57**	**308**	↓*i*P	**Pn**			**20 29 30.9**	**+1.4**
MNMC				*i* S	**S**			**20 30 15.4**	**+0.1**
PSGC	**Pisagua**	**3.73**	**297**	↓*i*P	**Pn**			**20 29 31.2**	**0.0**
PSGC				*i* S	**S**			**20 30 16.2**	**-2.2**
PB16	**IPOC Station P**	**4.06**	**317**	↓*i*P	**Pn**			**20 29 37.5**	**+1.9**
PB16				*i* S	**S**			**20 30 27.2**	**+0.9**
PB10	**IPOC Station P**	**4.23**	**239**	*e*Pn	**Pn**			**20 29 37.4**	**+0.3**
PB10				*e*S	**S**			**20 30 26.2**	**-2.8**
PB10	**IPOC Station P**	**4.23**	**239**	*e*P	**Pn**			**20 29 37.4**	**+0.3**
PB10	**IPOC Station P**	**4.23**	**239**	↑*i*P	**Pn**			**20 29 37.4**	**+0.3**
PB10				*i* S	**S**			**20 30 26.7**	**-2.4**
PB12	**IPOC Station P**	**4.44**	**307**	↓*i*P	**Pn**			**20 29 39.0**	**-0.7**
PB12				*i* S	**S**			**20 30 30.9**	**-2.9**
BBOJ	**La Paz, Jacaqu**	**4.61**	**341**	*e*Pn	**Pn**			**20 29 43.8**	**+1.6**
PB14	**IPOC Station P**	**4.77**	**226**	*e*P	**Pn**			**20 29 44.3**	**+0.4**
PB14	**IPOC Station P**	**4.77**	**226**	↑*i*P	**Pn**			**20 29 44.3**	**+0.4**
PB14				*i* S	**S**			**20 30 38.2**	**-3.3**
BBOD	**La Paz, Gloria**	**5.06**	**338**	*e*Pn	**Pn**			**20 29 49.6**	**+1.8**
LPAZ	**La Paz**	**5.25**	**344**	P	**Pn**			**20 29 52.0**	**+1.8**
	comp=N,44nm,0.3s,baz=152,slow=7.4,SNR=386								
LPAZ				S	**S**			**20 30 53.8**	**+1.0**
	baz=246,slow=20,SNR=5.6								
LPAZ	**La Paz**	**5.25**	**344**	*e*Pn	**Pn**			**20 29 51.6**	**+1.4**
LPAZ				*e*S	**S**			**20 30 53.5**	**+0.8**
LPAZ	**La Paz**	**5.25**	**344**	*e*Pn	**Pn**			**20 29 51.6**	**+1.4**
LPAZ				*e*Sn	**S**			**20 30 50.0**	**-2.8**
BBOB	**La Paz, Bander**	**5.39**	**344**	*e*Pn	**Pn**			**20 29 53.0**	**+1.2**
BBOB				*e*Sn	**S**			**20 30 54.1**	**-1.7**
	comp=N,255nm,1.1s								
AHML	**Horco Molle**	**5.53**	**168**	*e*P	**Pn**			**20 29 54.1**	**+1.0**
ARE	**Arequipa**	**6.71**	**316**	↓*i*P	**Pn**			**20 30 07.5**	**-0.9**
ARE				*e*S	S			20 31 18.0	-7.9
SIV	**San Ignacio**	**7.49**	**45**	P	**Pn**			**20 30 17.3**	**-0.7**
	comp=N,27nm,0.3s,baz=241,slow=12,SNR=1377								
LCO	**Las Campanas**	**8.47**	**205**	*e*Pn	**Pn**			**20 30 29.2**	**-1.5**
LCO				*e*S	**S**			**20 32 00.4**	**-6.3**
CPUP	**Villa Florida**	**9.83**	**122**	P	**Pn**			**20 30 47.0**	**-0.8**
	comp=N,0.3nm,0.3s,baz=304,slow=13,SNR=10								
CPUP	**Villa Florida**	**9.83**	**122**	*e*Pn	**Pn**			**20 30 46.7**	**-1.1**
ROC1	**El Roble**	**12.21**	**198**	*e*Pn	**Pn**			**20 31 18.6**	**+0.5**
PEL	**Peldehue**	**12.28**	**196**	*e*Pn	**Pn**			**20 31 19.1**	**+0.4**
SAML	**Samuel**	**12.77**	**15**	*e*Pn	**Pn**			**20 31 24.9**	**0.0**
NNA	**Nana**	**13.52**	**312**	P	**P**			**20 31 36.5**	**+0.7**
	comp=N,4.8nm,0.3s,baz=143,slow=9.8,SNR=26								
NNA				S	**S**			**20 33 59.3**	**-4.6**
	comp=N,2.7nm,0.3s,baz=217,slow=20,SNR=3.0								
NNA	**Nana**	**13.52**	**312**	*e*Pn	**Pn**			**20 31 34.8**	**+0.6**
NNA				*e*S	**S**			**20 33 59.3**	**-4.6**
TRQA	**Tornquist**	**17.11**	**167**	*e*P	**P**			**20 32 14.5**	**-0.7**
	comp=N,16nm,0.6s								
SPB	**Sao Paulo**	**17.86**	**101**	*e*P	**P**			**20 32 23.2**	**-0.2**
	comp=N,25nm,0.8s								
PLCA	**Paso Flores**	**19.60**	**189**	P	**P**			**20 32 42.8**	**+0.7**
	comp=N,0.7nm,0.3s,baz=28,slow=11,SNR=19								
PLCA	**Paso Flores**	**19.60**	**189**	*e*P	**P**			**20 32 42.6**	**+0.5**
	comp=N,12nm,0.8s								
PTGA	**Pitinga**	**21.50**	**18**	P	**P**			**20 32 59.8**	**-2.3**
	comp=N,8.4nm,0.6s,baz=207,slow=10.0,SNR=15								
PTGA				S	**S**			**20 36 39.3**	**-5.4**
	comp=N,6.2nm,1.0s,baz=243,slow=18,SNR=4.1								
PTGA	**Pitinga**	**21.50**	**18**	*e*P	**P**			**20 32 60.0**	**-2.2**
	comp=N,8.1nm,0.7s								
PTGA				*e*S	**S**			**20 36 40.6**	**-4.1**
OTAV	**Otavalo**	**24.38**	**330**	*e*P	**P**			**20 33 30.6**	**+1.6**
	comp=N,9.8nm,0.9s								
OTAV	**Otavalo**	**24.38**	**330**	*e*P	**P**			**20 33 30.4**	**+1.4**
FLOC	**Florencia**	**24.46**	**338**	*e*P	**P**			**20 33 28.9**	**-0.3**
SOTA	**Rioblanco**	**25.32**	**336**	*e*P	**P**			**20 33 36.6**	**-0.8**
SJAC	**San Juan de Ar**	**25.51**	**343**	*e*P	**P**			**20 33 38.0**	**-0.8**
MARP	**Paez Belalcaza**	**25.73**	**338**	*e*P	**P**			**20 33 38.6**	**-2.3**
PRAC	**Prado**	**26.20**	**341**	*e*P	**P**			**20 33 44.4**	**-0.5**
	comp=N,11nm,0.6s								
PRAC	**Prado**	**26.20**	**341**	*e*P	**P**			**20 33 43.4**	**-1.5**
CHRN	**Cochrane**	**26.28**	**189**	*e*P	**P**			**20 33 44.3**	**-0.8**
	comp=N,4.9nm,0.8s								
CHIC	**Chingaza**	**26.75**	**344**	*e*P	**P**			**20 33 50.2**	**0.0**
YOTC	**Yotoco, Valle**	**26.93**	**338**	*e*P	**P**			**20 33 47.9**	**-3.5**
ROSC	**El Rosal**	**27.11**	**343**	*e*P	**P**			**20 33 53.2**	**-0.2**
	comp=N,8.1nm,0.4s								
RREF	**El Recreo**	**27.47**	**341**	*e*P	**P**			**20 33 56.9**	**+0.1**
GUYC	**Guyana, Colomb**	**27.79**	**341**	*e*P	**P**			**20 33 57.2**	**-2.2**
RUSC	**La Rusia**	**27.82**	**346**	*e*P	**P**			**20 33 59.2**	**-0.5**
	comp=N,6.9nm,0.7s								
RUSC	**La Rusia**	**27.82**	**346**	*e*P	**P**			**20 33 59.3**	**-0.4**
BARC	**Barichara**	**28.52**	**346**	*e*P	**P**			**20 34 03.9**	**-1.8**
HELC	**Santa Helena**	**28.74**	**341**	*e*P	**P**			**20 34 06.1**	**-1.7**
	comp=N,38nm,0.6s								
HELC	**Santa Helena**	**28.74**	**341**	*e*P	**P**			**20 34 05.5**	**-2.3**
PAMC	**Pamplona, Colo**	**29.14**	**348**	*e*P	**P**			**20 34 10.5**	**-0.9**
DBBC	**Dabeiba**	**29.73**	**341**	*e*P	**P**			**20 34 14.5**	**-1.7**
ZARC	**Zaragoza, Cauc**	**29.79**	**343**	*e*P	**P**			**20 34 13.9**	**-2.7**
SDV	**Santo Domingo**	**30.32**	**352**	*e*P	**P**			**20 34 19.6**	**-1.8**
	comp=N,6.9nm,0.8s								
SDV	**Santo Domingo**	**30.32**	**352**	*e*P	**P**			**20 34 18.5**	**-2.9**
EFI	**East Falkland**	**30.98**	**170**	*e*P	**P**			**20 34 25.8**	**-0.9**
	comp=N,210nm,1.7s								
PCRV	**Puerto La Cruz**	**31.40**	**4**	P	**P**			**20 34 29.8**	**-1.0**
	comp=N,8.7nm,0.6s,baz=173,slow=6.1,SNR=5.6								
BCIP	**Isla Barro Col**	**33.00**	**335**	*e*P	**P**			**20 34 44.4**	**-0.3**
	comp=N,14nm,0.8s								
URIC	**Uribia, Colomb**	**33.28**	**350**	*e*P	**P**			**20 34 43.1**	**-3.9**
RCBR	**Riachuelo**	**33.50**	**67**	*e*P	**P**			**20 34 48.1**	**-1.0**
	comp=N,24nm,1.2s								
GRGR	**Grenville**	**33.64**	**9**	*e*P	**P**			**20 34 49.1**	**-1.0**
	comp=N,172nm,1.3s								
SVB	**Belmont**	**34.81**	**9**	*e*P	**P**			**20 34 59.1**	**-1.1**
	comp=N,89nm,1.2s								
FDF	**Fort de France**	**36.27**	**9**	*e*P	**P**			**20 35 11.4**	**-1.2**
	comp=N,48nm,0.5s								
ANWB	**Willy Bob**	**39.07**	**7**	*e*P	**P**			**20 35 34.1**	**-1.9**
	comp=N,50nm,0.7s								
CRPR	**Cabo Rojo, PR**	**39.12**	**359**	*e*P	**P**			**20 35 35.5**	**-0.9**
	comp=N,56nm,1.2s								
SJG	**San Juan**	**39.23**	**1**	*e*P	**P**			**20 35 36.5**	**-0.8**
	comp=N,12nm,0.6s								
RPN	**Rapa Nui**	**39.24**	**253**	*e*P	**P**			**20 35 36.9**	**-0.5**
	comp=N,547nm,1.5s								
MPR	**Mayaguez**	**39.33**	**359**	*e*P	**P**			**20 35 36.5**	**-1.6**
	comp=N,42nm,1.4s								
CBYP	**Canovanas**	**39.39**	**1**	*e*P	**P**			**20 35 37.4**	**-1.3**
	comp=N,8.8nm,0.6s								
AOPR	**Arecibo Observ**	**39.46**	**360**	*e*P	**P**			**20 35 38.2**	**-1.0**
	comp=N,131nm,2.0s								
STVI	**Saint Thomas**	**39.50**	**2**	*e*P	**P**			**20 35 39.1**	**-0.4**
	comp=N,15nm,1.2s								
AGP	**Aguadilla**	**39.52**	**359**	*e*P	**P**			**20 35 40.3**	**+0.6**
	comp=N,120nm,1.1s								
SDDR	**Presa de Saban**	**40.35**	**353**	*e*P	**P**			**20 35 47.6**	**+1.0**
	comp=N,55nm,1.8s								
TGUH	**Tegucigalpa,Un**	**40.62**	**328**	*e*P	**P**			**20 35 49.5**	**+0.8**
	comp=N,32nm,1.2s								
GRTK	**Grand Turk**	**42.84**	**354**	*e*P	**P**			**20 36 05.8**	**-0.7**
	comp=N,111nm,1.0s								
APG	**El Apazote**	**43.06**	**325**	P	**P**			**20 36 10.6**	**+1.8**
	comp=N,8.3nm,0.6s,baz=118,slow=14,SNR=7.9								
BBSR	**BB Station**	**53.46**	**2**	*e*P	**P**			**20 37 28.8**	**+1.3**
	comp=N,296nm,2.0s								
NHSC	**New Hope**	**55.69**	**346**	*e*P	**P**			**20 37 43.5**	**+0.1**
	comp=N,88nm,1.4s								
LNIG	**Linares**	**55.98**	**324**	*e*P	**P**			**20 37 45.4**	**-0.3**
	comp=N,14nm,1.3s								
251A	**Miway**	**56.11**	**341**	P	**P**			**20 37 45.5**	**-1.0**
	baz=159								
ZAIG	**Zacatecas**	**56.14**	**319**	*e*P	**P**			**20 37 48.1**	**+0.8**
	comp=N,5.5nm,0.8s								
150A	**Eclectic**	**56.78**	**340**	P	**P**			**20 37 50.7**	**-0.5**
	baz=158								
GOGA	**Godfrey**	**56.79**	**343**	*e*P	**P**			**20 37 52.0**	**+0.7**
	comp=N,12nm,1.0s								
KVTX	**Kingsville**	**57.26**	**327**	*e*P	**P**			**20 37 56.9**	**+2.2**
	comp=N,80nm,0.6s								
Z50A	**Ashland**	**57.35**	**341**	P	**P**			**20 37 54.9**	**-0.4**
	baz=158								
LRAL	**Lakeview Retre**	**57.49**	**340**	P	**P**			**20 37 55.4**	**-0.7**
	baz=157								
LRAL	**Lakeview Retre**	**57.49**	**340**	*e*P	**P**			**20 37 54.3**	**-1.8**
	comp=N,7.2nm,1.0s								
245A	**Little AP, Sta**	**57.58**	**337**	P	**P**			**20 37 56.9**	**+0.1**
	baz=154								
KMSC	**Kings Mountain**	**57.90**	**346**	*e*P	**P**			**20 37 58.9**	**-0.1**
	comp=N,14nm,0.9s								
BG3	**Lake Jocassee**	**58.15**	**344**	*e*P	**P**			**20 37 59.4**	**-1.3**
	comp=N,19nm,0.7s								
Y48A	**Jasper**	**58.35**	**340**	P	**P**			**20 38 02.0**	**-0.2**
	baz=157								
Y47A	**UCPARC, Winfie**	**58.56**	**339**	P	**P**			**20 38 03.2**	**-0.4**
	baz=157								
833A	**Chaparral WMA,**	**58.67**	**326**	P	**P**			**20 38 05.4**	**+1.0**
	baz=144								
X48A	**Hartselle**	**58.81**	**340**	P	**P**			**20 38 04.8**	**-0.4**
	baz=158								
Y46A	**Houston**	**58.88**	**338**	P	**P**			**20 38 05.1**	**-0.7**
	baz=156								
TKL	**Tuckaleechee C**	**58.99**	**344**	P	**P**			**20 38 06.1**	**-0.4**
	comp=N,7.3nm,0.8s,baz=194,slow=12,SNR=6.7								
TKL	**Tuckaleechee C**	**58.99**	**344**	*e*P	**P**			**20 38 06.1**	**-0.4**
	comp=N,17nm,0.8s								
X47A	**Russellville**	**59.13**	**340**	P	**P**			**20 38 06.8**	**-0.6**
	baz=157								
NATX	**Nacogdoches**	**59.26**	**332**	P	**P**			**20 38 09.9**	**+1.5**
	baz=149								
NATX	**Nacogdoches**	**59.26**	**332**	*e*P	**P**			**20 38 09.3**	**+0.9**
	comp=N,39nm,0.9s								
W48A	**Pulaski**	**59.41**	**341**	P	**P**			**20 38 09.2**	**-0.2**
	baz=158								
VNA3	**Neumayer Olymp**	**59.53**	**162**	P	**P**			**20 38 11.1**	**+1.3**
140A	**Cam and Jess,**	**59.56**	**334**	P	**P**			**20 38 11.8**	**+1.3**
	baz=151								
PLAL	**Pickwick Lake**	**59.62**	**340**	*e*P	**P**			**20 38 09.8**	**-1.0**
	comp=N,9.6nm,1.2s								
OXF	**Oxford**	**59.64**	**338**	P	**P**			**20 38 10.3**	**-0.7**
	baz=155								
JSRW	**J. Sargeant Re**	**59.69**	**350**	*e*P	**P**			**20 38 08.8**	**-2.4**
W47A	**Westpoint**	**59.72**	**340**	P	**P**			**20 38 11.0**	**-0.5**
	baz=157								
435B	**Jarrell**	**59.77**	**329**	*e*P	**P**			**20 38 12.2**	**+0.3**
	comp=N,9.8nm,0.8s								
V48A	**Smith Brothers**	**59.93**	**341**	P	**P**			**20 38 12.5**	**-0.4**
	baz=158								
Z40A	**Long Farm, Mag**	**60.03**	**334**	P	**P**			**20 38 14.9**	**+1.3**
	baz=151								
VNA2	**Neumayer--Watz**	**60.08**	**161**	P	**P**			**20 38 15.0**	**+1.5**
	baz=285,slow=7.5								
W45A	**Hickory Valley**	**60.15**	**339**	P	**P**			**20 38 13.7**	**-0.7**
	baz=156								
MET	**Memphis--Engin**	**60.38**	**338**	*e*P	**P**			**20 38 15.4**	**-0.5**
	comp=N,201nm,0.4s								
WVT	**Waverly**	**60.60**	**340**	P	**P**			**20 38 16.6**	**-0.8**
	baz=157								
WVT	**Waverly**	**60.60**	**340**	*e*P	**P**			**20 38 16.9**	**-0.5**
	comp=N,19nm,0.8s								
JCT	**Junction City**	**60.62**	**327**	P	**P**			**20 38 18.4**	**+0.7**
	baz=144								
JCT	**Junction City**	**60.62**	**327**	*e*P	**P**			**20 38 17.8**	**+0.1**
	comp=N,9.1nm,0.8s								
U47A	**Clarksville**	**60.72**	**341**	P	**P**			**20 38 17.4**	**-0.8**
	baz=158								
UALR	**University of**	**60.95**	**336**	*e*P	**P**			**20 38 20.0**	**+0.2**
	comp=N,6.5nm,0.7s								
SDMD	**Soldier's Deli**	**61.20**	**351**	*e*P	**P**			**20 38 21.8**	**+0.4**
	comp=N,5.4nm,0.7s								
MIAR	**Mount Ida**	**61.22**	**335**	P	**P**			**20 38 21.8**	**+0.2**
	baz=151								
MIAR	**Mount Ida**	**61.22**	**335**	*e*P	**P**			**20 38 21.6**	**0.0**
	comp=N,6.0nm,0.6s								
W41B	**Gary Mavity, V**	**61.26**	**336**	P	**P**			**20 38 21.5**	**-0.4**
	baz=152								
X39A	**Fountain Ranch**	**61.41**	**334**	P	**P**			**20 38 23.5**	**+0.6**
	baz=151								
T46A	**Princeton**	**61.46**	**341**	P	**P**			**20 38 22.6**	**-0.5**
	baz=157								
W40A	**Ferguson Farm,**	**61.59**	**335**	P	**P**			**20 38 24.5**	**+0.4**
	baz=152								
MVL	**Millersville**	**61.71**	**352**	*e*P	**P**			**20 38 25.1**	**+0.3**
	comp=N,9.7nm,1.0s								
SNAA	**Sanae**	**61.72**	**161**	P	**P**			**20 38 25.7**	**+1.1**
SNAA	**Sanae**	**61.72**	**161**	P	**P**			**20 38 24.9**	**+0.3**
	comp=N,3.3nm,0.7s,baz=265,slow=8.4,SNR=14								
SNAA	**Sanae**	**61.72**	**161**	*e*P	**P**			**20 38 25.3**	**+0.8**
	comp=N,4.9nm,0.8s								
LTX	**Lajitas**	**61.77**	**323**	*e*P	**P**			**20 38 26.1**	**+0.6**
TXAR	**Lajitas Array**	**61.77**	**323**	P	**P**			**20 38 26.1**	**+0.6**
	comp=N,1.7nm,0.7s,baz=150,slow=8.5,SNR=22								
TX31	**Lajitas Ar. Si**	**61.77**	**323**	*e*P	**P**			**20 38 26.1**	**+0.6**
V41A	**Mountainview**	**61.77**	**337**	P	**P**			**20 38 24.8**	**-0.5**
	baz=153								
W39A	**Magazine**	**61.88**	**335**	P	**P**			**20 38 26.3**	**+0.4**
	baz=151								
W39A	**Magazine**	**61.88**	**335**	*e*P	**P**			**20 38 26.7**	**+0.7**
	comp=N,8.5nm,0.9s								
U42A	**Revenden**	**61.94**	**338**	P	**P**			**20 38 26.0**	**-0.4**
	baz=154								
V40A	**Witts Springs**	**62.04**	**336**	P	**P**			**20 38 26.8**	**-0.3**
	baz=152								
V40A	**Witts Springs**	**62.04**	**336**	*e*P	**P**			**20 38 27.1**	**0.0**
	comp=N,6.0nm,1.0s								
T44A	**Benton**	**62.04**	**339**	P	**P**			**20 38 26.5**	**-0.5**
	baz=156								
PBMO	**Poplar Bluff**	**62.04**	**338**	*e*P	**P**			**20 38 26.4**	**-0.7**
	comp=N,17nm,1.0s								
WCI	**Wyandotte Cave**	**62.09**	**343**	*e*P	**P**			**20 38 26.5**	**-0.8**
	comp=N,29nm,0.8s								
U41A	**Viola**	**62.18**	**337**	P	**P**			**20 38 27.6**	**-0.4**
	baz=153								
S45A	**Carrier Mills**	**62.26**	**340**	P	**P**			**20 38 27.6**	**-0.8**
	baz=157								
T43A	**Greenville**	**62.27**	**339**	P	**P**			**20 38 28.1**	**-0.4**
	baz=155,SNR=13								
ABTX	**Abilene, Hawle**	**62.28**	**329**	P	**P**			**20 38 29.1**	**+0.4**
	baz=145								
ABTX	**Abilene, Hawle**	**62.28**	**329**	*e*P	**P**		

N42A	Yates City	65.59	341	P		P	20 38 49.0	-1.0	
	baz=156								
P38A	Dawn	65.68	337	P		P	20 38 50.4	-0.3	
	baz=152,SNR=5.2								
M43A	Waltham Townsh	65.83	342	P		P	20 38 50.6	-0.9	
	baz=157								
P37A	Lathrop	65.94	337	P		P	20 38 51.9	-0.4	
	baz=152								
LONY	Lake Ozonia	66.06	354	P		P	20 38 53.4	+0.4	
	baz=172								
LONY	Lake Ozonia	66.06	354	eP		P	20 38 53.2	+0.2	
	comp=N,27nm,1.9s								
O38A	Galt	66.09	338	P		P	20 38 52.9	-0.4	
	baz=152								
N40A	Mertquake, Sal	66.14	340	P		P	20 38 52.8	-0.7	
	baz=154								
LIC	Lamto	66.30	73	eP		P	20 38 53.8	-1.4	
	comp=N,60nm,1.4s								
PKME	Peaks-Kenny Pk	66.35	358	eP		P	20 38 55.4	+0.7	
	comp=N,28nm,1.5s								
N39A	Derby Farms, D	66.43	339	P		P	20 38 54.8	-0.6	
	baz=154								
L43A	Garden Prairie	66.45	342	P		P	20 38 54.9	-0.7	
	baz=157								
TIC	Toumodi	66.49	72	eP		P	20 38 55.1	-1.3	
121A	Cookes Peak, D	66.49	323	P		P	20 38 58.1	+1.9	
	baz=138,SNR=5.3								
319A	Douglas	66.51	321	eP		P	20 38 57.9	+1.6	
	comp=N,12nm,0.8s								
L42A	Oliver, Polo	66.56	341	P		P	20 38 55.4	-0.8	
	baz=156								
KIC	Kosan Boka	66.61	73	eP		P	20 38 56.0	-1.2	
	comp=N,70nm,1.2s								
DBIC	Dimbokro	66.65	72	P		P	20 38 56.4	-1.0	
	comp=N,9.8nm,0.7s,baz=196,slow=7.5,SNR=12								
DBIC	Dimbokro	66.65	72	eP		P	20 38 56.2	-1.2	
	comp=N,12nm,0.8s								
PLVO	Plevna	66.76	352	eP		P	20 38 57.1	-0.3	
	comp=N,9.2nm,1.2s								
SADO	Sadowa	66.80	350	eP		P	20 38 57.1	-0.5	
	comp=N,4.8nm,0.8s								
M39A	Webster	66.86	339	P		P	20 38 57.3	-0.9	
	baz=154								
L41A	Preston	66.87	341	P		P	20 38 57.4	-0.8	
	baz=156								
N37A	Lee Faris, Mou	66.92	338	P		P	20 38 58.4	-0.1	
	baz=152								
L40A	Anamosa	67.08	340	P		P	20 38 59.3	-0.2	
	baz=155								
M38A	Pleasantville	67.15	339	P		P	20 38 59.3	-0.6	
	baz=153								
LPM	Los Pinos Moun	67.19	325	eP		P	20 39 02.2	+1.6	
N36A	Muff Farm, Cla	67.24	337	P		P	20 39 00.6	0.0	
	baz=151								
L39A	Vinton	67.39	340	P		P	20 39 00.8	-0.6	
	baz=154								
CBKS	Cedar Bluff	67.43	332	P		P	20 39 02.5	+0.7	
	baz=146								
J43A	Natural Harves	67.47	343	P		P	20 39 01.2	-0.7	
	baz=158								
N35A	Tabor	67.53	337	P		P	20 39 02.2	-0.2	
	baz=151								
JFWS	Jewell Farm	67.56	341	P		P	20 39 02.0	-0.5	
	baz=156								
JFWS	Jewell Farm	67.56	341	eP		P	20 39 01.8	-0.7	
	comp=N,16nm,1.1s								
ANMO	Albuquerque	67.58	325	P		P	20 39 04.5	+1.4	
	baz=140								
ANMO	Albuquerque	67.58	325	eP		P	20 39 04.1	+1.0	
	comp=N,3.0nm,0.8s								
K40A	Colesburg	67.64	341	P		P	20 39 02.4	-0.5	
	baz=155								
TRQ	Mont Tremblant	67.64	354	eP		P	20 39 02.9	-0.1	
PQI	Presque Isle	67.72	359	eP		P	20 39 03.7	+0.3	
	comp=N,65nm,2.0s								
M36A	Felix, Anita	67.74	337	P		P	20 39 03.6	-0.1	
	baz=152								
I43A	Langenfeld Bro	67.86	343	P		P	20 39 03.7	-0.7	
	baz=158								
K39A	Oelwein	67.88	340	P		P	20 39 03.9	-0.6	
	baz=154								
J41A	Loganville	67.91	342	P		P	20 39 04.4	-0.3	
	baz=156								
TUC	Tucson	68.07	320	P		P	20 39 07.7	+1.7	
	baz=136								
TUC	Tucson	68.07	320	eP		P	20 39 06.9	+0.9	
	comp=N,5.5nm,1.0s								
I42A	Draeger Farm,	68.08	343	P		P	20 39 05.3	-0.4	
	baz=158								
I42A	Draeger Farm,	68.08	343	eP		P	20 39 05.6	-0.1	
	comp=N,8.4nm,0.6s								
J40A	Soldiers Grove	68.15	341	P		P	20 39 05.7	-0.5	
	baz=156								
T25A	Trinidad	68.23	328	eP		P	20 39 07.8	+0.8	
	comp=N,26nm,2.0s								
L36A	Harm Buss Farm	68.27	338	P		P	20 39 06.7	-0.2	
	baz=152								
H43A	Windswept, Lux	68.31	344	P		P	20 39 06.3	-0.8	
	baz=159								
H43A	Windswept, Lux	68.31	344	eP		P	20 39 06.6	-0.5	
	comp=N,12nm,0.9s								
MHTCO	State Highway	68.36	328	eP		P	20 39 08.9	+1.0	
	comp=N,8.8nm,1.3s								
J39A	Decorah	68.39	341	P		P	20 39 07.1	-0.5	
	baz=155								
H42A	Shiocton	68.55	343	eP		P	20 39 08.5	0.0	
	comp=N,24nm,0.3s								
K36A	Gilmore City	68.66	338	P		P	20 39 09.1	-0.2	
	baz=152								
M33A	Taylor Creek F	68.73	336	P		P	20 39 09.5	-0.3	
	baz=149								
L34A	Svendsen Farm,	68.76	337	P		P	20 39 09.6	-0.4	
	baz=150								
I39A	Houston	68.80	341	P		P	20 39 09.7	-0.5	
	baz=155								
QSPA	South Pole Qui	68.83	180	P		P	20 39 12.3	+1.9	
	comp=N,9.7nm,0.8s,baz=150,slow=2.6,SNR=18								
QSPA	South Pole Qui	68.83	180	eP		P	20 39 12.2	+1.9	
	comp=N,8.3nm,0.7s								
F45A	CMU Biological	68.90	346	P		P	20 39 10.0	-0.7	
	baz=161								
H41A	Junction City	68.95	343	P		P	20 39 10.6	-0.5	
	baz=157								
H41A	Junction City	68.95	343	eP		P	20 39 10.6	-0.5	
	comp=N,5.9nm,0.6s								
BGNE	Belgrade	68.96	335	P		P	20 39 11.4	+0.2	
	baz=148								
BGNE	Belgrade	68.96	335	eP		P	20 39 11.4	+0.2	
	comp=N,44nm,0.9s								
G43A	Wallace	69.02	344	P		P	20 39 10.6	-0.8	
	baz=159								
214A	Organ Pipe Nat	69.04	319	P		P	20 39 13.9	+2.0	
	baz=134								
H40A	Chili	69.17	342	P		P	20 39 12.0	-0.4	
	baz=156								
I38A	Scanlan Farm,	69.22	340	P		P	20 39 12.4	-0.4	
	baz=154								
SDCO	Great Sand Dun	69.24	328	P		P	20 39 14.9	+1.6	
	baz=141,SNR=7.2								
SDCO	Great Sand Dun	69.24	328	eP		P	20 39 14.2	+0.8	
	comp=N,6.8nm,1.1s								
F44A	Big Bay de Noc	69.39	345	P		P	20 39 13.1	-0.6	
	baz=160								
F43A	Flat Rock, Esc	69.43	345	P		P	20 39 13.3	-0.7	
	baz=159								
W18A	Petrified Fore	69.49	323	P		P	20 39 15.9	+1.1	
	baz=137								
W18A	Petrified Fore	69.49	323	eP		P	20 39 16.7	+1.9	
	comp=N,14nm,0.9s								
G40A	Rib Lake	69.70	342	P		P	20 39 15.5	-0.2	
	baz=156								
F41A	Three Lakes	69.84	343	P		P	20 39 16.3	-0.2	
	baz=158								
E43A	Lone Tree Farm	69.90	345	P		P	20 39 16.3	-0.6	
	baz=160								
X16A	Lo Mia Camp, P	69.95	322	eP		P	20 39 19.7	+2.0	
	comp=N,4.6nm,0.9s								
G39A	Holcombe	70.00	342	P		P	20 39 17.1	-0.4	
	baz=156								
Q24A	Divide	70.02	329	P		P	20 39 19.2	+1.1	
	baz=142								
Q24A	Divide	70.02	329	eP		P	20 39 19.2	+1.1	
	comp=N,8.2nm,0.6s								
E42A	Champion	70.17	345	P		P	20 39 18.4	-0.1	
	baz=159								
K31A	O'Neill	70.23	335	P		P	20 39 19.3	+0.3	
	baz=148								
F40A	Park Falls	70.28	343	P		P	20 39 19.3	+0.2	
	baz=157								
MVCO	Mesa Verde	70.37	326	P		P	20 39 21.7	+1.6	
	baz=139								
MVCO	Mesa Verde	70.37	326	eP		P	20 39 21.8	+1.6	
	comp=N,15nm,1.4s								
ECSD	EROS Data Cent	70.38	337	P		P	20 39 19.6	-0.2	
	baz=150								
ECSD	EROS Data Cent	70.38	337	eP		P	20 39 19.8	-0.1	
	comp=N,15nm,1.5s								
WUAZ	Wupatki	70.70	323	P		P	20 39 24.1	+2.0	
	baz=136								
WUAZ	Wupatki	70.70	323	eP		P	20 39 24.2	+2.0	
	comp=N,12nm,1.1s								
E40A	Wakefield	70.70	343	P		P	20 39 21.9	+0.2	
	baz=157								
E39A	Mellen	70.82	343	P		P	20 39 22.5	+0.1	
	baz=156								
H34A	Spellman Lake,	70.91	338	P		P	20 39 22.8	-0.1	
	baz=151								
D41A	Chassel	70.92	344	P		P	20 39 22.8	-0.2	
	baz=158								
KOWA	Kowa	71.00	65	P		P	20 39 22.8	-1.4	
	comp=N,7.4nm,0.6s,baz=246,slow=8.5,SNR=18								
SMCO	Snowmass	71.08	328	eP		P	20 39 25.8	+1.2	
	comp=N,9.7nm,1.4s								
PV01	Paradox Valley	71.10	326	eP		P	20 39 24.3	-0.3	
F36A	Milaca	71.23	340	P		P	20 39 24.3	-0.6	
	baz=153								
H33A	Prehn Over Nor	71.25	338	P		P	20 39 25.1	+0.1	
	baz=150								
H32A	Carlson Farm,	71.35	337	P		P	20 39 25.5	-0.2	
	baz=150								
PV10	Paradox Valley	71.52	326	eP		P	20 39 25.6	-1.5	
BC3	Big Chuckawall	71.82	319	P		P	20 39 30.6	+1.8	
	baz=132								
N23A	Red Feather La	71.92	330	eP		P	20 39 28.9	-0.5	
	comp=N,22nm,1.3s								
IRM	Iron Mountain	71.97	319	P		P	20 39 31.6	+1.9	
	baz=133								
PHWY	Pilot Hill	72.01	330	eP		P	20 39 30.7	+0.7	
	comp=N,15nm,1.2s								
PFO	Pinyon Flats O	72.42	318	eP		P	20 39 31.9	-0.5	
O20A	White River Ci	72.44	328	P		P	20 39 34.1	+1.6	
	baz=139								
O20A	White River Ci	72.44	328	eP		P	20 39 34.0	+1.6	
	comp=N,39nm,1.8s								
CRY	Cranch	72.56	318	eP		P	20 39 34.1	+0.9	
LDFC	Landfair	72.58	320	eP		P	20 39 35.4	+2.1	
	comp=N,26nm,0.4s								
KNB	Kanab	72.59	323	eP		P	20 39 35.9	+2.5	
	comp=N,11nm,0.9s								
GMRC	Granite Mounta	72.71	319	P		P	20 39 36.0	+1.9	
	baz=132								
F31A	Hecla	72.81	337	P		P	20 39 34.3	+0.1	
	baz=149								
LCMT	Little Creek M	72.82	322	eP		P	20 39 36.0	+1.3	
	comp=N,3.6nm,0.8s								
SRU	San Rafael Swe	72.85	326	eP		P	20 39 35.3	+0.5	
	comp=N,6.7nm,0.7s								
MTPU	Mount Pierson	72.96	324	eP		P	20 39 37.7	+1.9	
	comp=N,3.3nm,0.8s								
Q16A	Castle Valley	73.05	325	eP		P	20 39 38.1	+2.1	
	comp=N,3.9nm,0.9s								
P18A	Preston Nutter	73.08	326	eP		P	20 39 38.0	+1.7	
	comp=N,8.3nm,0.6s								
SZCU	Shurtz Canyon	73.15	323	eP		P	20 39 36.3	-0.4	
	comp=N,4.9nm,0.6s								
HEC	Hector,Ludlow	73.15	319	P		P	20 39 39.0	+2.4	
	baz=132								
P17A	Butcher Ranch,	73.23	326	eP		P	20 39 38.0	+0.9	
	comp=N,7.5nm,0.9s								
CCUT	Cedar City	73.27	323	eP		P	20 39 38.3	+0.8	
	comp=N,6.5nm,0.9s								
MSU	Marale	73.30	324	eP		P	20 39 39.3	+1.8	
TMUT	Trail Mountain	73.34	325	eP		P	20 39 39.5	+1.6	
	comp=N,3.2nm,0.9s								
B35A	Bob, Littlefor	73.53	342	P		P	20 39 38.2	-0.1	
	baz=154								
B34A	Aery, Baudette	73.92	341	P		P	20 39 41.1	+0.5	
	baz=153								
MPU	Maple Canyon	74.09	326	eP		P	20 39 43.5	+1.4	
	comp=N,3.9nm,0.7s								
AGMN	Agassiz Nation	74.12	340	P		P	20 39 42.1	+0.3	
	baz=152								
AGMN	Agassiz Nation	74.12	340	eP		P	20 39 41.8	0.0	
	comp=N,6.4nm,1.1s								
NLU	North Lily Min	74.28	325	eP		P	20 39 44.0	+0.7	
	comp=N,6.6nm,1.2s								
JLU	Jordanelle	74.42	326	eP		P	20 39 45.0	+1.0	
	comp=N,4.7nm,0.7s								
B32A	Ashes, Strandq	74.43	340	P		P	20 39 43.7	+0.2	
	baz=151								
TPNV	Topopah Spring	74.52	321	P		P	20 39 46.9	+2.4	
	baz=132								
TPNV	Topopah Spring	74.52	321	eP		P	20 39 46.6	+2.0	
	comp=N,9.1nm,1.0s								
A33A	Warroad	74.54	341	P		P	20 39 44.3	+0.1	
	baz=152								
MPMC	Manual Prospec	74.67	319	P		P	20 39 47.1	+1.6	
	baz=131								
TCUT	Toone Canyon	74.78	327	eP		P	20 39 46.8	+0.7	
	comp=N,16nm,1.4s								
DUG	Dugway, Tooele	74.85	325	P		P	20 39 48.4	+2.1	
	baz=136								
DUG	Dugway, Tooele	74.85	325	eP		P	20 39 47.9	+1.5	
	comp=N,2.7nm,0.9s								
DAC	Darwin (Calif)	74.88	319	eP		P	20 39 48.5	+1.9	
	comp=N,3.7nm,0.8s								
MDND	Maddock	74.99	338	P		P	20 39 47.6	+0.7	
	baz=148								
MDND	Maddock	74.99	338	eP		P	20 39 47.8	+1.0	
	comp=N,16nm,0.8s								
ISA	Isabella, Lake	75.01	318	P		P	20 39 49.4	+2.1	
	baz=131								
ISA	Isabella, Lake	75.01	318	eP		P	20 39 49.3	+2.0	
	comp=N,5.2nm,0.8s								
BW06	Boulder Array	75.08	329	eP		P	20 39 49.3	+1.5	
	comp=N,11nm,1.3s								
PD31	Pinedale Array	75.08	329	eP		P	20 39 48.6	+0.8	
PDAR	Pinedale Array	75.08	329	P		P	20 39 48.4	+0.7	
	comp=N,1.0nm,0.5s,baz=118,slow=8.7,SNR=11								
R11A	Troy Canyon, C	75.09	322	P		P	20 39 50.0	+2.2	
	baz=133								
R11A	Troy Canyon, C	75.09	322	eP		P	20 39 49.4	+1.6	
	comp=N,3.7nm,1.3s								
WASM	Alta Sierra Ca	75.11	318	eP		P	20 39 49.0	+1.0	
BAKC	Calstate	75.20	318	eP		P	20 39 50.3	+2.0	
HWUT	Hardware Ranch	75.22	327	eP		P	20 39 48.7	+0.2	
	comp=N,3.7nm,0.8s								
CWC	Cottonwood Cre	75.28	319	P		P	20 39 50.7	+1.8	
	baz=131								
TOA1	Torodi Ar. Sit	75.30	69	eP		P	20 39 48.6	-0.6	
TORD	Torodi Ar. Bea	75.30	69	P		P	20 39 48.6	-0.6	
	comp=N,12nm,0.5s,baz=254,slow=5.4,SNR=89								
PKM	Mcpherson Peak	75.36	317	P		P	20 39 51.3	+1.9	
	baz=130								
SPUT	South Promonto	75.46	326	eP		P	20 39 50.8	+1.0	
	comp=N,8.4nm,0.8s								
BGU	Big Grassy Mou	75.48	325	eP		P	20 39 50.9	+0.9	
	comp=N,3.1nm,0.9s								
VES	Vestal, Richgr	75.51	318	P		P	20 39 52.3	+2.2	
	baz=130								
AHID	Auburn Hatcher	75.83	328	eP		P	20 39 52.1	+0.1	
	comp=N,6.6nm,0.7s								
ULM	Lac du Bonnet	75.85	341	P		P	20 39 51.6	0.0	
	comp=N,6.6nm,0.5s,baz=154,slow=7.4,SNR=12								
ULM	Lac du Bonnet	75.85	341	eP		P	20 39 51.4	-0.2	
	comp=N,6.5nm,0.6s								
SCHQ	Schefferville	75.88	360	eP		P	20 39 51.6	-0.1	
	comp=N,24nm,1.6s								
HVU	Hansel Valley	75.97	326	eP		P	20 39 53.1	+0.4	
	comp=N,3.6nm,0.9s								
REDW	Red Top Meadow	76.15	328	eP		P	20 39 55.2	+1.4	
	comp=N,22nm,1.8s								
LOHW	Long Hollow	76.22	329	eP		P	20 39 55.6	+1.4	
	comp=N,3.6nm,0.6s								
TPAW	Teton Pass	76.30	328	eP		P	20 39 55.2	+0.6	
	comp=N,4.1nm,0.7s								
MOOW	Moose Ponds	76.39	329	eP		P	20 39 56.4	+1.3	
	comp=N,2.2nm,0.8s								
IMW	Indian Meadow	76.59	329	eP		P	20 39 57.8	+1.5	
	comp=N,6.9nm,0.8s								
OMMB	Old Mammoth Mi	76.60	320	eP		P	20 39 57.8	+1.2	
	comp=N,5.8nm,1.1s								
NV01	Mina Array Sit	76.72	321	eP		P	20 39 58.4	+1.3	
NVAR	Mina Array Bea	76.72	321	P		P	20 39 59.2	+2.1	
	comp=N,1.4nm,0.8s,baz=164,slow=6.3,SNR=10								
RLMT	Red Lodge	76.73	330	P		P	20 39 58.1	+1.2	
	baz=140								
H17A	Grant Village	76.79	329	P		P	20 39 59.5	+2.2	
	baz=138								
H17A	Grant Village	76.79	329	eP		P	20 39 59.6	+2.2	
	comp=N,2.6nm,0.8s								
YFT	Old Faithful	76.96	329	eP		P	20 40 00.2	+2.0	
	comp=N,5.2nm,1.1s								
KVN	Kaiserville	77.01	321	eP		P	20 40 00.3	+1.6	
	comp=N,3.2nm,0.7s								
YMR	Madison River	77.18	329	eP		P	20 40 01.5	+2.0	
	comp=N,4.4nm,0.8s								
DGMT	Dagmar	77.21	335	eP		P	20 40 00.6	+1.3	
	comp=N,12nm,0.7s								
YHH	Holmes Hill	77.21	329	eP		P	20 40 01.9	+2.2	
	comp=N,5.8nm,0.8s								
YHB	Horse Butte	77.35	329	eP		P	20 40 02.3	+1.8	
	comp=N,5.5nm,0.8s								
VNDA	Vanda	77.35	190	P		P	20 40 02.2	+2.5	
	comp=N,0.9nm,0.8s,baz=89,slow=2.1,SNR=6.2								
VNDA	Vanda	77.35	190	eP		P	20 40 01.5	+1.7	
GCMT	Greycliff	77.42	331	eP		P	20 40 01.8	+1.1	
YERR	Yerington	77.64	321	eP		P	20 40 02.8	+0.7	
	comp=N,21nm,1.9s								
HLID	Hailey	78.08	327	P		P	20 40 06.7	+2.2	
	baz=135								
HLID	Hailey	78.08	327	eP		P	20 40 06.4	+1.9	
	comp=N,5.0nm,0.7s								
BOZ	Bozeman (W)	78.18	330	P		P	20 40 06.1	+1.1	
	baz=138								
BOZ	Bozeman (W)	78.18	330	eP		P	20 40 05.6	+0.7	
	comp=N,2.6nm,0.9s								
PAHR	Pah Rah Range	78.19	321	eP		P	20 40 06.8	+1.7	
	comp=N,8.1nm,1.0s								
MCMT	McKenzie Canyo	78.21	328	eP		P	20 40 07.0	+1.8	
DLMT	Dillon	78.47	329	eP		P	20 40 07.3	+0.7	
	comp=N,14nm,1.5s								
AFDM	Forest Hills D	78.65	320	eP		P	20 40 09.0	+1.6	
	comp=N,3.6nm,0.7s								
LRM	Limekiln Ridge	78.74	329	eP		P	20 40 09.4	+1.3	
BEKR	Beckworth	78.87	321	epP		pP	20 41 07.6	+3.4	
ORV	Oroville	79.35	320	eP		P	20 40 12.6	+1.3	
	comp=N,7.9nm,1.3s								
MSO	Missoula	80.18	329	P		P	20 40 16.9	+1.2	
	baz=136								
BMO	Blue Mountains	80.47	326	eP		P	20 40 18.0	+0.7	
	comp=N,8.3nm,1.4s								
LBFM	Black Fox Moun	80.71	321	eP		P	20 40 21.6	+2.9	
M04C	Macdoel	80.95	322	P		P	20 40 21.5	+1.6	
	baz=129								
JTMT	Jette	81.00	330	eP		P	20 40 19.2	-0.8	
	comp=N,3.7nm,0.6s								
K05A	Summer Lake	81.01	323	eP		P	20 40 21.7	+1.4	
	comp=N,48nm,1.8s								
F10A	Beach Ranch, E	81.20	327	eP		P	20 40 22.6	+1.5	
	comp=N,4.4nm,0.8s								
J05D	Fort Rock, OR	81.56	323	P		P	20 40 24.7	+1.6	
	baz=130								
FFC	Flin Flon	81.61	340	eP		P	20 40 22.5	-0.3	
	comp=N,2.9nm,0.9s								
BOSA	Boshof	81.62	117	P		P	20 40 23.9	0.0	
	comp=N,1.5nm,0.6s,baz=2.2,slow=4.0,SNR=3.5								
G08A	Pilot Rock	81.64	326	eP		P	20 40 23.3	-0.1	
	comp=N,19nm,2.0s								
PINE	Pine Mountain	81.72	324	eP		P	20 40 25.9	+1.9	
	comp=N,30nm,1.9s								
WALA	Waterton Lakes	81.77	331	eP		P	20 40 24.2	+0.2	
	comp=N,3.3nm,0.8s								
J04D	Umpqua Nationa	82.03	323	P		P	20 40 26.6	+1.0	
	baz=129								
E09A	Wood Farm, Sta	82.03	327	eP		P	20 40 26.7	+1.4	
	comp=N,4.7nm,0.6s								
HAWA	Hanford	82.67	326	eP		P	20 40 29.3	+0.7	
	comp=N,5.8nm,0.6s								
NEW	Newport	82.72	329	P		P	20 40 28.4	-0.5	
	comp=N,0.9nm,0.6s,baz=108,slow=19,SNR=2.4								
TAM	Tamanrasset	82.85	62	eP		P	20 40 30.5	+0.3	
	comp=N,17nm,1.8s								
C09A	Chrisman Ranch	82.97	328	eP		P	20 40 31.5	+1.4	
	comp=N,8.1nm,1.0s								
FCC	Fort Churchill	83.00	346	eP		P	20 40 30.1	+0.2	
	comp=N,6.1nm,0.8s								
LTY	Liberty	83.83	326	eP		P	20 40 35.8	+1.2	
	comp=N,3.3nm,0.8s								
MAW	Mawson	83.84	163	P		P	20 40 34.8	+0.6	
	comp=N,3.9nm,0.7s,baz=194,slow=7.0,SNR=3.5								
MAW	Mawson	83.84	163	eP		P	20 40 36.1	+1.8	
	comp=N,7.2nm,1.8s								
LON	Longmire	84.09	325	eP		P	20 40 36.9	+1.0	
	comp=N,20nm,1.8s								
D05A	Enumclaw	84.47	326	eP		P	20 40 38.9	+1.3	
	comp=N,92nm,1.9s								
B05A	Bryant	85.21	326	P		P	20 40 41.9	+0.7	
	baz=130								
YKA	Yellowknife Ar	91.78	340	P		P	20 41 12.9	+0.9	
	comp=N,3.6nm,0.5s,baz=128,slow=4.5,SNR=94								
SEY	Seymchan	130.80	338	PKP		PKPdf	20 47 15.4	+1.3	
	comp=N,1.7nm,0.7s,baz=68,slow=11,SNR=7.3								
ASAR	Alice Springs	130.99	205	PKP		PKPdf	20 47 16.1	+0.3	
	comp=N,0.4nm,0.8s,baz=153,slow=2.1,SNR=3.0								
WR1	Warramunga Arr	134.12	208	ePKPdf		PKPdf	20 47 23.2	+1.4	
WRA	Warramunga Arr	134.12	208	PKP		PKPdf	20 47 23.2	+1.4	
	comp=N,0.3nm,0.4s,baz=155,slow=2.0,SNR=8.8								
KURK	Kurchatov	140.02	34	ePKPdf		PKPdf	20 47 32.7	+1.1	
KURBB	Kurchatov Arra	140.03	35	PKP		PKPdf	20 47 32.7	+1.1	
	comp=N,0.3nm,0.6s,baz=303,slow=2.4,SNR=2.6								
ZAA1	Zalesovo Array	140.89	27	ePKPdf		PKPdf	20 47 32.5	-0.6	
ZALV	Zalesovo Beam	140.89	27	PKP		PKPdf	20 47 32.5	-0.6	
	comp=N,0.4nm,0.3s,baz=259,slow=1.5,SNR=4.2								
MK32	Makanchi Array	144.24

NEIC ***13*** *20:39:27.9±0.0, 39.12°S×176.31°E, h78km, ML4.1(WEL), After WEL.*
WEL ***13*** *20:39:28.1, 39.1°S±0.9×176.3°E±1.0, h72km±2km, ML4.0/55*
ISC 13 20:39:27.3±0.9, 39.18°S±0.03×176.29°E±0.03, h82km±5km, n247, σ1§26/262, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BKZ	**Black Stump Fm**	**0.16**	**85**	*e*Pn	**Pn**	**20 39 38.6**	**-0.6**
BKZ				*e*Sn	**Sn**	**20 39 46.1**	**-2.0**
BKZ				*e*Sn	Sn	20 39 46.7	-1.5
BKZ	**Black Stump Fm**	**0.16**	**85**	P	**Pn**	**20 39 38.7**	**-0.6**
BKZ	**Black Stump Fm**	**0.16**	**85**	S	**Sn**	**20 39 46.6**	**-1.5**
KWHZ	**Kaweka Forest**	**0.27**	**156**	P	**Pn**	**20 39 39.9**	**+0.2**
KWHZ	**Kaweka Forest**	**0.27**	**156**	S	**Sn**	**20 39 48.8**	**-0.1**
HATZ	**Hinemaiaia**	**0.33**	**332**	*e*Pn	**Pn**	**20 39 39.4**	**-0.7**
HATZ	**Hinemaiaia**	**0.33**	**332**	P	**Pn**	**20 39 39.4**	**-0.7**
HATZ	**Hinemaiaia**	**0.33**	**332**	S	**Sn**	**20 39 47.0**	**-2.5**
BHHZ	**Black Hill Sta**	**0.35**	**209**	*e*Pn	**Pn**	**20 39 40.6**	**+0.4**
BHHZ	**Black Hill Sta**	**0.35**	**209**	P	**Pn**	**20 39 40.7**	**+0.4**
BHHZ	**Black Hill Sta**	**0.35**	**209**	S	**Sn**	**20 39 49.8**	**0.0**
MRHZ	**Matea Rd**	**0.36**	**17**	P	**Pn**	**20 39 39.3**	**-0.9**
MRHZ	**Matea Rd**	**0.36**	**17**	S	**Sn**	**20 39 47.0**	**-2.9**
RITZ	**Rihia Road**	**0.39**	**301**	*e*Pn	**Pn**	**20 39 40.5**	**+0.1**
RITZ	**Rihia Road**	**0.39**	**301**	P	**Pn**	**20 39 40.5**	**+0.1**
NMHZ	**Naumai**	**0.41**	**79**	*e*Pn	**Pn**	**20 39 41.0**	**+0.4**
NMHZ	**Naumai**	**0.41**	**79**	P	**Pn**	**20 39 41.0**	**+0.4**
NMHZ	**Naumai**	**0.41**	**79**	S	**Sn**	**20 39 50.7**	**+0.2**
MCHZ	**McNeill Hill**	**0.41**	**130**	*e*Pn	**Pn**	**20 39 41.5**	**+1.0**
MCHZ	**McNeill Hill**	**0.41**	**130**	P	**Pn**	**20 39 41.5**	**+1.0**
KRHZ	**Kereru**	**0.47**	**172**	P	**Pn**	**20 39 41.7**	**+0.6**
KRHZ	**Kereru**	**0.47**	**172**	S	**Sn**	**20 39 51.6**	**+0.4**
MOVZ	**Moawhango**	**0.47**	**241**	*e*Pn	**Pn**	**20 39 41.5**	**+0.4**
MOVZ	**Moawhango**	**0.47**	**241**	P	**Pn**	**20 39 41.5**	**+0.4**
OTVZ	**Oturere**	**0.48**	**272**	*e*Pn	**Pn**	**20 39 41.7**	**+0.4**
TUVZ	**Tukino**	**0.50**	**260**	*e*Pn	**Pn**	**20 39 42.0**	**+0.6**
TUVZ	**Tukino**	**0.50**	**260**	P	**Pn**	**20 39 42.0**	**+0.6**
KATZ	**Kakaramea**	**0.50**	**294**	*e*Pn	**Pn**	**20 39 41.6**	**+0.2**
KATZ	**Kakaramea**	**0.50**	**294**	P	**Pn**	**20 39 41.7**	**+0.2**
RATZ	**Rangitukua**	**0.51**	**308**	*e*Pn	**Pn**	**20 39 40.9**	**-0.5**
RATZ	**Rangitukua**	**0.51**	**308**	P	**Pn**	**20 39 41.3**	**-0.1**
KRVZ	**Karewarewa**	**0.51**	**279**	*e*Pn	**Pn**	**20 39 41.8**	**+0.3**
KRVZ	**Karewarewa**	**0.51**	**279**	P	**Pn**	**20 39 41.8**	**+0.3**
NGZ	**Ngauruhoe**	**0.53**	**270**	*e*Pn	**Pn**	**20 39 42.2**	**+0.5**
NGZ	**Ngauruhoe**	**0.53**	**270**	P	**Pn**	**20 39 42.2**	**+0.5**
MTHZ	**Maungataniwha**	**0.54**	**53**	P	**Pn**	**20 39 41.2**	**-0.4**
WTVZ	**West Tongariro**	**0.54**	**277**	*e*Pn	**Pn**	**20 39 42.1**	**+0.4**
WTVZ	**West Tongariro**	**0.54**	**277**	P	**Pn**	**20 39 42.2**	**+0.4**
WHVZ	**Whangaehu Hut**	**0.55**	**259**	P*	**Pn**	**20 39 42.1**	**+0.1**
WHVZ	**Whangaehu Hut**	**0.55**	**259**	P	**Pn**	**20 39 42.5**	**+0.6**
WNVZ	**Wahianoa**	**0.55**	**254**	*e*Pn	**Pn**	**20 39 42.5**	**+0.6**
ARHZ	**Aropaoanui**	**0.56**	**99**	Pn	**Pn**	**20 39 42.2**	**+0.4**
ARHZ	**Aropaoanui**	**0.56**	**99**	P	**Pn**	**20 39 42.2**	**+0.4**
ARHZ	**Aropaoanui**	**0.56**	**99**	S	**Sn**	**20 39 52.7**	**+0.2**
DRZ	**Dome Shelter**	**0.57**	**260**	*e*Pn	**Pn**	**20 39 42.7**	**+0.5**
DRZ	**Dome Shelter**	**0.57**	**260**	P	**Pn**	**20 39 42.8**	**+0.5**
WHTZ	**Whakaora**	**0.57**	**333**	*e*Pn	**Pn**	**20 39 41.8**	**-0.2**
WHTZ	**Whakaora**	**0.57**	**333**	P	**Pn**	**20 39 41.8**	**-0.2**
FWVZ	**Far West T-bar**	**0.57**	**262**	*e*Pn	**Pn**	**20 39 42.7**	**+0.5**
FWVZ	**Far West T-bar**	**0.57**	**262**	P	**Pn**	**20 39 42.7**	**+0.5**
COVZ	**Chateau Observ**	**0.58**	**268**	P	**Pn**	**20 39 42.7**	**+0.4**
TRVZ	**Turoa**	**0.58**	**258**	P	**Pn**	**20 39 42.9**	**+0.6**
ALRZ	**Allen Road**	**0.62**	**4**	*e*Pn	**Pn**	**20 39 41.6**	**-0.7**
ALRZ	**Allen Road**	**0.62**	**4**	P	**Pn**	**20 39 41.6**	**-0.7**
WATZ	**Wairara**	**0.64**	**317**	*e*Pn	**Pn**	**20 39 42.2**	**-0.3**
WATZ	**Wairara**	**0.64**	**317**	P	**Pn**	**20 39 42.2**	**-0.3**
MTVZ	**Mangateitei**	**0.66**	**252**	*e*Pn	**Pn**	**20 39 43.8**	**+1.0**
MTVZ	**Mangateitei**	**0.66**	**252**	P	**Pn**	**20 39 43.8**	**+1.0**
WPRZ	**Whakapapatarin**	**0.67**	**352**	P*	**Pn**	**20 39 42.2**	**-0.6**
WPRZ	**Whakapapatarin**	**0.67**	**352**	P	**Pn**	**20 39 42.2**	**-0.6**
TWVZ	**Taurewa**	**0.67**	**279**	*e*Pn	**Pn**	**20 39 43.1**	**+0.2**
TWVZ	**Taurewa**	**0.67**	**279**	P	**Pn**	**20 39 43.1**	**+0.2**
PRRZ	**Plateau Road**	**0.69**	**7**	*e*Pn	**Pn**	**20 39 42.2**	**-0.8**
PRRZ	**Plateau Road**	**0.69**	**7**	P	**Pn**	**20 39 42.2**	**-0.8**
PNHZ	**Pukenui**	**0.74**	**185**	P	**Pn**	**20 39 44.4**	**+0.8**
PKVZ	**Pokaka**	**0.74**	**261**	*e*Pn	**Pn**	**20 39 44.5**	**+1.0**
PKVZ	**Pokaka**	**0.74**	**261**	P	**Pn**	**20 39 44.6**	**+1.0**
WHHZ	**Waihua**	**0.75**	**82**	P	**Pn**	**20 39 44.9**	**+0.3**
KAHZ	**Kahuranaki**	**0.77**	**143**	*e*Pn	**Pn**	**20 39 44.9**	**+1.0**
KAHZ	**Kahuranaki**	**0.77**	**143**	P	**Pn**	**20 39 44.9**	**+1.0**
CKHZ	**Cape Kidnapper**	**0.78**	**128**	*e*Pn	**Pn**	**20 39 44.7**	**+0.8**
CKHZ	**Cape Kidnapper**	**0.78**	**128**	P	**Pn**	**20 39 44.8**	**+0.8**
KUTZ	**Kaahu Road**	**0.78**	**332**	P*	**Pn**	**20 39 43.8**	**-0.2**
KUTZ	**Kaahu Road**	**0.78**	**332**	P	**Pn**	**20 39 43.8**	**-0.2**
RTZ	**Ruatahuna**	**0.78**	**44**	P	**Pn**	**20 39 43.5**	**-0.6**
HRRZ	**Handcock Road**	**0.79**	**360**	*e*Pn	**Pn**	**20 39 43.6**	**-0.5**
HRRZ	**Handcock Road**	**0.79**	**360**	P	**Pn**	**20 39 43.4**	**-0.7**
MUGZ	**Murupara**	**0.80**	**29**	P	**Pn**	**20 39 43.4**	**-0.8**
GRRZ	**Galatos Road**	**0.84**	**351**	P	**Pn**	**20 39 44.6**	**-0.1**
RRRZ	**Republican Roa**	**0.86**	**12**	*e*Pn	**Pn**	**20 39 44.2**	**-0.7**
RRRZ	**Republican Roa**	**0.86**	**12**	P	**Pn**	**20 39 44.2**	**-0.7**
RRRZ	**Republican Roa**	**0.86**	**12**	P	**Pn**	**20 39 44.2**	**-0.7**
HSRZ	**Hossack Road**	**0.87**	**358**	P	**Pn**	**20 39 44.6**	**-0.3**
WPHZ	**Waipukurau**	**0.89**	**172**	*e*Pn	**Pn**	**20 39 46.2**	**+0.9**
WPHZ	**Waipukurau**	**0.89**	**172**	P	**Pn**	**20 39 46.2**	**+0.9**
SNGZ	**Shannon Statio**	**0.91**	**65**	Pn	**Pn**	**20 39 45.5**	**0.0**
SNGZ	**Shannon Statio**	**0.91**	**65**	P	**Pn**	**20 39 45.6**	**+0.2**
SNGZ	**Shannon Statio**	**0.91**	**65**	P	**Pn**	**20 39 45.7**	**+0.2**
TSZ	**Takapari Road**	**0.91**	**196**	*e*Pn	**Pn**	**20 39 46.5**	**+1.0**
TSZ				*e*Sn	**Sn**	**20 40 00.6**	**+1.5**
TSZ	**Takapari Road**	**0.91**	**196**	P	**Pn**	**20 39 46.5**	**+1.0**
HLRZ	**Highlands Stat**	**0.93**	**3**	P	**Pn**	**20 39 46.1**	**+0.5**
TARZ	**Mount Tarawera**	**0.96**	**10**	*e*Pn	**Pn**	**20 39 45.8**	**-0.3**
TARZ	**Mount Tarawera**	**0.96**	**10**	P	**Pn**	**20 39 45.8**	**-0.3**
PXZ	**Pawanui**	**0.96**	**152**	*e*Sn	**Sn**	**20 40 02.6**	**+2.7**
PXZ	**Pawanui**	**0.96**	**152**	P	**Pn**	**20 39 46.8**	**+0.9**
UTU	**Utuhina**	**1.00**	**356**	*e*Pn	**Pn**	**20 39 46.5**	**-0.1**
UTU	**Utuhina**	**1.00**	**356**	P	**Pn**	**20 39 46.5**	**-0.1**
TLZ	**Tolley Road**	**1.03**	**325**	P*	**Pn**	**20 39 46.5**	**-0.4**
TLZ	**Tolley Road**	**1.03**	**325**	P	**Pn**	**20 39 47.0**	**+0.1**
TLZ	**Tolley Road**	**1.03**	**325**	P	**Pn**	**20 39 47.0**	**+0.1**
MKRZ	**Makatiti**	**1.05**	**8**	P	**Pn**	**20 39 47.9**	**+0.7**
OMRZ	**Omania**	**1.07**	**4**	*e*Pn	**Pn**	**20 39 47.0**	**-0.4**
OMRZ	**Omania**	**1.07**	**4**	P	**Pn**	**20 39 47.0**	**-0.4**
NGRZ	**Ngongotaha**	**1.08**	**356**	P	**Pn**	**20 39 47.4**	**-0.1**
KNZ	**Kokohu**	**1.09**	**82**	P	**Pn**	**20 39 47.3**	**-0.2**
RAGZ	**Rawiri**	**1.12**	**53**	P*	**Pn**	**20 39 47.7**	**-0.2**
RAGZ	**Rawiri**	**1.12**	**53**	P	**Pn**	**20 39 48.1**	**+0.1**
RAGZ	**Rawiri**	**1.12**	**53**	P	**Pn**	**20 39 48.3**	**+0.4**
PRHZ	**Porangahau**	**1.12**	**166**	*e*Pn	**Pn**	**20 39 48.7**	**+0.8**
PRHZ	**Porangahau**	**1.12**	**166**	P	**Pn**	**20 39 48.7**	**+0.8**
DVHZ	**Dannevirke**	**1.12**	**185**	*e*Pn	**Pn**	**20 39 48.5**	**+0.6**
DVHZ	**Dannevirke**	**1.12**	**185**	P	**Pn**	**20 39 48.5**	**+0.6**
URZ	**Urewera**	**1.12**	**35**	Pg	**Pn**	**20 39 47.5**	**-0.4**
	39nm,0.3s,baz=234,slow=12,SNR=703						
URZ				Lg	Lg	20 40 01.5	
	348nm,0.3s,baz=180,slow=12,SNR=67						
URZ				LR	LR	20 40 29.3	
	comp=Z,91nm,19.3s,baz=261,slow=57						
URZ	**Urewera**	**1.12**	**35**	*e*Pn	**Pn**	**20 39 47.1**	**-0.8**
URZ				*e*Sn	**Sn**	**20 40 00.1**	**-3.4**
URZ				*e*		20 40 29.3	
URZ	**Urewera**	**1.12**	**35**	P	**Pn**	**20 39 47.2**	**-0.8**
EDRZ	**Edgecumbe**	**1.13**	**19**	*e*Pn	**Pn**	**20 39 47.6**	**-0.5**
EDRZ	**Edgecumbe**	**1.13**	**19**	P	**Pn**	**20 39 47.6**	**-0.5**
KARZ	**Kaharoa**	**1.16**	**358**	*e*Pn	**Pn**	**20 39 48.2**	**-0.2**
KARZ	**Kaharoa**	**1.16**	**358**	P	**Pn**	**20 39 48.2**	**-0.2**
WAZ	**Wanganui**	**1.16**	**240**	*e*Pn	**Pn**	**20 39 50.7**	**+2.3**
WAZ	**Wanganui**	**1.16**	**240**	P	**Pn**	**20 39 50.7**	**+2.3**
LIRZ	**Lichensteins R**	**1.18**	**4**	P	**Pn**	**20 39 48.6**	**-0.1**
VRZ	**Vera Road**	**1.19**	**272**	*e*Pn	**Pn**	**20 39 50.0**	**+1.3**
VRZ	**Vera Road**	**1.19**	**272**	P	**Pn**	**20 39 50.3**	**+1.5**
MARZ	**Manawahe**	**1.23**	**14**	P	**Pn**	**20 39 49.2**	**-0.3**
RIGZ	**Rimuhau**	**1.25**	**58**	P	**Pn**	**20 39 49.2**	**-0.3**
MHGZ	**Mahia Peninsul**	**1.26**	**89**	*e*Pn	**Pn**	**20 39 49.9**	**+0.3**
MHGZ	**Mahia Peninsul**	**1.26**	**89**	P	**Pn**	**20 39 49.9**	**+0.3**
OHWZ	**Ohakea**	**1.27**	**216**	P	**Pn**	**20 39 52.0**	**+2.3**
OHWZ	**Ohakea**	**1.27**	**216**	P	Pn	20 39 55.4	+5.7
PRGZ	**Paritu Road**	**1.27**	**79**	*e*Pn	**Pn**	**20 39 49.7**	**-0.1**
PRGZ	**Paritu Road**	**1.27**	**79**	P	**Pn**	**20 39 49.7**	**-0.1**
POWZ	**Post Office Ro**	**1.27**	**198**	*e*Pn	**Pn**	**20 39 50.7**	**+0.8**
POWZ	**Post Office Ro**	**1.27**	**198**	P	**Pn**	**20 39 50.7**	**+0.8**
ANWZ	**Angora Road**	**1.29**	**174**	P	**Pn**	**20 39 50.8**	**+0.9**
MWZ	**Matawai**	**1.29**	**49**	*e*Pn	**Pn**	**20 39 49.6**	**-0.4**
MWZ				*e*Sn	**Sn**	**20 40 07.0**	**-0.1**
MWZ				*e*		20 40 13.7	
MWZ	**Matawai**	**1.29**	**49**	P	**Pn**	**20 39 49.6**	**-0.4**
HIZ	**Hauiti**	**1.30**	**300**	*e*Pn	**Pn**	**20 39 51.0**	**+0.8**
HIZ				*e*Sn	**Sn**	**20 40 08.3**	**+1.0**
HIZ	**Hauiti**	**1.30**	**300**	P	**Pn**	**20 39 51.1**	**+1.0**
OPRZ	**Ohinepanea**	**1.35**	**9**	P	**Pn**	**20 39 50.4**	**-0.4**
KMRZ	**Kaimai**	**1.36**	**348**	P	**Pn**	**20 39 51.1**	**+0.2**
PRWZ	**Pori Road**	**1.39**	**190**	Pn	**Pn**	**20 39 52.2**	**+0.9**
PRWZ	**Pori Road**	**1.39**	**190**	P	**Pn**	**20 39 52.2**	**+0.9**
TKGZ	**Te Karaka**	**1.43**	**59**	Pn	**Pn**	**20 39 52.1**	**+0.4**
TKGZ	**Te Karaka**	**1.43**	**59**	P	**Pn**	**20 39 52.2**	**+0.4**
WHRZ	**Whale Island**	**1.43**	**22**	P	**Pn**	**20 39 51.8**	**0.0**
TGRZ	**Tauranga**	**1.45**	**359**	P	**Pn**	**20 39 52.1**	**+0.1**
LREZ	**Lake Rotokare**	**1.49**	**259**	P	**Pn**	**20 39 55.0**	**+2.5**
BFZ	**Birch Farm**	**1.50**	**181**	*e*Pn	**Pn**	**20 39 52.9**	**+0.3**
BFZ				*e*Sn	**Sn**	**20 40 13.5**	**+1.6**
BFZ				*e*Sn	Sn	20 40 16.1	+4.2
BFZ	**Birch Farm**	**1.50**	**181**	P	**Pn**	**20 39 53.0**	**+0.3**
MHEZ	**Mangahewa**	**1.53**	**273**	P	**Pn**	**20 39 55.8**	**+2.7**
TOZ	**Tahuroa Road**	**1.57**	**337**	*e*Pn	**Pn**	**20 39 54.1**	**+0.5**
TOZ	**Tahuroa Road**	**1.57**	**337**	P	**Pn**	**20 39 54.2**	**+0.5**
MRZ	**Mangatainoka R**	**1.58**	**200**	*e*Pn	**Pn**	**20 39 54.1**	**+0.5**
MRZ	**Mangatainoka R**	**1.58**	**200**	P	**Pn**	**20 39 54.1**	**+0.5**
DREZ	**Durham Road**	**1.62**	**269**	P	**Pn**	**20 39 57.1**	**+2.9**
TIWZ	**Tintock**	**1.62**	**191**	P	**Pn**	**20 39 54.8**	**+0.5**
RUGZ	**Raukumara Rang**	**1.63**	**42**	P	**Pn**	**20 39 54.0**	**-0.5**
CNGZ	**Carnagh Statio**	**1.66**	**66**	*e*Pn	**Pn**	**20 39 55.1**	**+0.5**
CNGZ	**Carnagh Statio**	**1.66**	**66**	P	**Pn**	**20 39 55.2**	**+0.5**
PREZ	**Palmer Road**	**1.66**	**264**	Pn	**Pn**	**20 39 57.6**	**+2.9**
PREZ	**Palmer Road**	**1.66**	**264**	P	**Pn**	**20 39 57.7**	**+2.9**
TWGZ	**Tauwhareparae**	**1.66**	**53**	Pn	**Pn**	**20 39 55.0**	**+0.1**
TWGZ	**Tauwhareparae**	**1.66**	**53**	P	**Pn**	**20 39 55.2**	**+0.4**
CPWZ	**Castlepoint**	**1.73**	**182**	Pn	**Pn**	**20 39 56.5**	**+0.8**
CPWZ	**Castlepoint**	**1.73**	**182**	P	**Pn**	**20 39 56.5**	**+0.8**
KHEZ	**Kahui Hut**	**1.77**	**266**	Pn	**Pn**	**20 39 59.2**	**+3.0**
PKE	**Pukeiti**	**1.79**	**269**	*e*Pn	**Pn**	**20 39 58.7**	**+2.3**
PKE	**Pukeiti**	**1.79**	**269**	P	**Pn**	**20 39 58.7**	**+2.3**
HOWZ	**Holdsworth Sta**	**1.81**	**199**	P	**Pn**	**20 39 56.9**	**+0.1**
HAZ	**Te Kaha**	**1.84**	**40**	P	**Pn**	**20 39 56.2**	**-1.0**
OGWZ	**Otaki Gorge**	**1.85**	**207**	*e*Pn	**Pn**	**20 39 57.6**	**+0.4**
OGWZ	**Otaki Gorge**	**1.85**	**207**	P	**Pn**	**20 39 57.6**	**+0.4**
PUZ	**Puketiti**	**1.90**	**55**	*e*Pn	**Pn**	**20 39 57.6**	**-0.3**
PUZ				*e*Sn	**Sn**	**20 40 23.4**	**+2.1**
PUZ	**Puketiti**	**1.90**	**55**	P	**Pn**	**20 39 57.6**	**-0.3**
PKGZ	**Pakihiroa**	**1.91**	**48**	P	**Pn**	**20 39 57.7**	**-0.3**
TMWZ	**Te Maipa**	**1.95**	**189**	*e*Pn	**Pn**	**20 39 58.5**	**-0.1**
TMWZ	**Te Maipa**	**1.95**	**189**	P	**Pn**	**20 39 58.5**	**-0.1**
KIW	**Kapiti Island**	**1.98**	**212**	*e*Pn	**Pn**	**20 39 59.4**	**+0.4**
KIW	**Kapiti Island**	**1.98**	**212**	P	**Pn**	**20 39 59.5**	**+0.4**
MTW	**Mount Morrison**	**2.06**	**197**	*e*Pn	**Pn**	**20 39 59.7**	**-0.4**
MTW	**Mount Morrison**	**2.06**	**197**	P	**Pn**	**20 39 59.7**	**-0.4**
CAW	**Cannon Point**	**2.14**	**205**	*e*Pn	**Pn**	**20 40 00.9**	**-0.2**
CAW				*e*Sn	**Sn**	**20 40 27.5**	**+0.6**
CAW				*e*		20 40 32.2	
CAW	**Cannon Point**	**2.14**	**205**	P	**Pn**	**20 40 00.9**	**-0.2**
WMGZ	**Waiomatatini S**	**2.15**	**52**	Pn	**Pn**	**20 40 00.9**	**-0.3**
WMGZ	**Waiomatatini S**	**2.15**	**52**	P	**Pn**	**20 40 01.0**	**-0.3**
MKAZ	**Moumakai**	**2.25**	**337**	*e*Pn	**Pn**	**20 40 03.3**	**+0.7**
MKAZ	**Moumakai**	**2.25**	**337**	P	**Pn**	**20 40 03.4**	**+0.7**
TRWZ	**Traveller**	**2.26**	**191**	*e*Pn	**Pn**	**20 40 02.3**	**-0.4**
TRWZ	**Traveller**	**2.26**	**191**	P	**Pn**	**20 40 02.4**	**-0.4**
MXZ	**Matakaoa Point**	**2.27**	**45**	*e*Pn	**Pn**	**20 40 02.6**	**-0.1**
MXZ	**Matakaoa Point**	**2.27**	**45**	P	**Pn**	**20 40 02.6**	**-0.1**
PAWZ	**Paruwai Farm**	**2.29**	**196**	*e*Pn	**Pn**	**20 40 02.5**	**-0.7**
PAWZ	**Paruwai Farm**	**2.29**	**196**	P	**Pn**	**20 40 02.5**	**-0.7**
MSWZ	**Moikau Station**	**2.37**	**199**	P	**Pn**	**20 40 03.3**	**-0.8**
MSWZ	**Moikau Station**	**2.37**	**199**	P	**Pn**	**20 40 03.4**	**-0.8**
WEL	**Wellington**	**2.40**	**208**	*e*Pn	**Pn**	**20 40 04.2**	**-0.4**
WEL				*e*Sn	**Sn**	**20 40 33.9**	**+0.7**
DUWZ	**D'Urville Isla**	**2.43**	**228**	P	**Pn**	**20 40 05.3**	**+0.3**
SNZO	**South Karori**	**2.45**	**209**	*e*Pn	**Pn**	**20 40 04.7**	**-0.5**
ETAZ	**East Tamaki Re**	**2.47**	**334**	P	**Pn**	**20 40 05.4**	**+0.9**
KUZ	**Kuaotunu**	**2.47**	**349**	*e*Pn	**Pn**	**20 40 06.0**	**+0.5**
KUZ	**Kuaotunu**	**2.47**	**349**	P	**Pn**	**20 40 06.0**	**+0.5**
BHW	**Baring Head**	**2.48**	**205**	*e*Sn	**Sn**	**20 40 35.0**	**+0.1**
BHW	**Baring Head**	**2.48**	**205**	P	**Pn**	**20 40 04.8**	**-0.7**
AWAZ	**Awhitu Peninsu**	**2.48**	**328**	P	**Pn**	**20 40 06.9**	**+1.3**
PLWZ	**Palliser**	**2.51**	**198**	P	**Pn**	**20 40 05.1**	**-1.0**
TCW	**Tory Channel**	**2.55**	**217**	*e*Pn	**Pn**	**20 40 06.2**	**-0.3**
TCW	**Tory Channel**	**2.55**	**217**	P	**Pn**	**20 40 06.2**	**-0.3**
WIAZ	**Waiheke Island**	**2.55**	**339**	P	**Pn**	**20 40 07.3**	**+0.7**
WTAZ	**Waiatarua**	**2.62**	**328**	P	**Pn**	**20 40 08.8**	**+1.3**
RVAZ	**Riverhead Bore**	**2.76**	**330**	P	**Pn**	**20 40 10.7**	**+1.3**
ABAZ	**Army Bay**	**2.82**	**336**	P	**Pn**	**20 40 10.0**	**-0.2**
TUWZ	**Tuamarina**	**2.87**	**218**	*e*Pn	**Pn**	**20 40 10.3**	**-0.5**
TUWZ				*e*Sn	**Sn**	**20 40 45.9**	**+1.4**
TUWZ	**Tuamarina**	**2.87**	**218**	P	**Pn**	**20 40 10.4**	**-0.5**
GRZ	**Great Barrier**	**3.00**	**347**	P	**Pn**	**20 40 13.3**	**+0.7**
NNZ	**Nelson**	**3.02**	**227**	*e*Pn	**Pn**	**20 40 12.5**	**-0.3**
NNZ	**Nelson**	**3.02**	**227**	P	**Pn**	**20 40 12.5**	**-0.3**
BSWZ	**Blackbirch Sta**	**3.13**	**215**	*e*Pn	**Pn**	**20 40 13.7**	**-0.7**
BSWZ				*e*Sn	**Sn**	**20 40 52.4**	**+1.6**
BSWZ	**Blackbirch Sta**	**3.13**	**215**	P	**Pn**	**20 40 13.7**	**-0.7**
QRZ	**Quartz Range**	**3.32**	**239**	P	**Pn**	**20 40 16.5**	**-0.5**
WCZ	**Waipu Caves**	**3.58**	**334**	P	**Pn**	**20 40 21.8**	**+1.2**
THZ	**Tophouse**	**3.65**	**224**	*e*Pn	**Pn**	**20 40 20.8**	**-0.7**
THZ				*e*Sn	**Sn**	**20 41 04.3**	**+0.9**
THZ	**Tophouse**	**3.65**	**224**	P	**Pn**	**20 40 20.8**	**-0.7**
KHZ	**Kahutara**	**3.85**	**212**	*e*Pn	**Pn**	**20 40 24.3**	**+0.2**
KHZ				*e*Sn	**Sn**	**20 41 04.5**	**-3.6**
KHZ	**Kahutara**	**3.85**	**212**	P	**Pn**	**20 40 23.1**	**-1.0**
OUZ	**Omahuta**	**4.50**	**331**	*e*Pn	**Pn**	**20 40 31.1**	**-1.9**
OUZ	**Omahuta**	**4.50**	**331**	P	**Pn**	**20 40 34.4**	**+1.5**
LTZ	**Lake Taylor**	**4.71**	**219**	*e*Pn	**Pn**	**20 40 34.7**	**-1.2**
LTZ				*e*Sn	**Sn**	**20 41 26.3**	**-3.0**
QKCZ	**Okains Bay**	**5.15**	**207**	P	**Pn**	**20 40 40.1**	**-1.7**
CRLZ	**Canterbury Las**	**5.18**	**211**	*e*Pn	**Pn**	**20 40 39.2**	**-2.5**
CRLZ				*e*Sn	**Sn**	**20 41 34.0**	**-6.7**
OXZ	**Oxford**	**5.23**	**216**	*e*Pn	**Pn**	**20 40 40.7**	**-2.3**
OXZ				*e*Sn	**Sn**	**20 41 37.2**	**-4.8**
MQZ	**McQueen's Vall**	**5.28**	**210**	*e*Pn	**Pn**	**20 40 41.2**	**-2.4**
MQZ				*e*Sn	Sn	20 41 36.0	-7.0
RPZ	**Rata Peaks**	**6.00**	**219**	*e*Pn	Pn	20 40 50.0	-3.4
RPZ				*e*Sn	**Sn**	**20 41 55.4**	**-5.3**
FOZ	**Fox Glacier**	**6.53**	**226**	*e*Pn	**Pn**	**20 40 58.0**	**-2.6**
FOZ				*e*Sn	**Sn**	**20 42 08.6**	**-4.9**
LBZ	**Lake Benmore**	**6.92**	**219**	*e*Pn	**Pn**	**20 41 04.0**	**-1.9**
LBZ				*e*Sn	Sn	20 42 10.4	-13
CTZ	**Chatham Island**	**7.01**	**133**	P	**Pn**	**20 41 08.0**	**+0.9**
ODZ	**Otahua Downs**	**7.20**	**214**	*e*Pn	**Pn**	**20 41 07.7**	**-2.2**
ODZ				*e*Sn	Sn	20 42 21.8	-8.3
WKZ	**Wanaka**	**7.82**	**221**	*e*Pn	**Pn**	**20 41 15.5**	**-2.7**
WKZ				*e*Sn	Sn	20 42 37.9	-7.2
MLZ	**Mavora Lakes**	**8.65**	**222**	*e*Pn	**Pn**	**20 41 28.8**	**-0.8**
WHR	**Wether Hill Ro**	**9.10**	**220**	*e*Pn	**Pn**	**20 41 36.3**	**-0.4**
DCZ	**Deep Cove**	**9.22**	**224**	*e*Pn	**Pn**	**20 41 39.1**	**-1.8**
ASAR	**Alice Springs**	**38.96**	**281**	P	**P**	**20 46 47.9**	**+2.3**
	0.8nm,0.6s,baz=124,slow=7.1,SNR=21						
WR1	**Warramunga Arr**	**40.78**	**286**	*e*P	**P**	**20 47 02.8**	**+2.2**
WRA	**Warramunga Arr**	**40.78**	**286**	P	**P**	**20 47 02.8**	**+2.2**
	1.6nm,0.6s,baz=125,slow=8.1,SNR=30						
BATI	**Baumata**	**54.88**	**287**	LR	LR	21 13 48.0	
	comp=Z,67nm,18.1s,baz=274,slow=38						
FIA0	**FINESS Array S**	**151.15**	**330**	*e*PKPab	**PKPab**	**20 59 17.6**	**-0.5**
FINES	**FINESS Array B**	**151.15**	**330**	PKPbc	**PKPab**	**20 59 17.6**	**-0.5**
	1.9nm,1.1s,baz=33,slow=3.3,SNR=3.4						
H01W3	**Cape Leeuwin H**	**43.42**	**150**	T	T	21 34 06.6	
	baz=324,slow=74,SNR=5.1						
H01W2	**Cape Leeuwin H**	**43.44**	**150**	T	T	21 34 07.7	
	baz=324						
H01W1	**Cape Leeuwin H**	**43.44**	**150**	T	T	21 34 07.7	
	baz=324,slow=74,SNR=4.1						
MKAR	**Makanchi Array**	**44.92**	**353**	P	**P**	**20 47 56.9**	**-0.2**
	0.4nm,0.6s,baz=179,slow=9.3,SNR=4.3						
SONM	**Songino Array**	**47.75**	**15**	P	**P**	**20 48 20.0**	**+0.5**
	5.4nm,0.8s,baz=194,slow=10.0,SNR=26						
WRA	**Warramunga Arr**	**49.04**	**119**	P	**P**	**20 48 29.9**	**+0.2**
	0.4nm,0.6s,baz=298,slow=8.6,SNR=6.8						
KURBB	**Kurchatov Arra**	**49.20**	**351**	P	**P**	**20 48 30.1**	**-0.3**
	0.3nm,0.5s,baz=178,slow=7.3,SNR=3.5						
ASAR	**Alice Springs**	**50.12**	**123**	P	**P**	**20 48 38.3**	**+0.3**
	0.2nm,0.4s,baz=294,slow=7.0,SNR=3.9						

W39A	Magazine 36nm,1.4s	19.24	12	eP	P	20 50 35.2	-1.0
Y22D	IRIS PASSCAL I 26nm,0.6s	19.25	338	eP	P	20 50 36.5	0.0
149A	Jones baz=216	19.32	31	P	P	20 50 34.7	-2.4
X43A	Marvell 112nm,1.4s	19.34	19	eP	P	20 50 36.6	-0.6
LPM	Los Pinos Moun	19.36	339	eP	P	20 50 36.9	-0.9
LPM				eSP	sP	20 50 47.0	+0.9
W40A	Ferguson Farm, 20nm,1.0s	19.39	13	eP	P	20 50 38.0	+0.2
TUC	Tucson baz=142	19.46	327	P	Pn	20 50 40.5	+0.6
TUC	Tucson 6.8nm,1.2s	19.46	327	eP	Pn	20 50 40.2	+0.2
BCIP	Isla Barro Col 27nm,1.2s	19.47	109	eP	P	20 50 37.8	-1.1
Y46A	Houston baz=209	19.49	24	P	P	20 50 37.2	-1.7
W41B	Gary Mavity, V 18nm,1.3s	19.56	15	eP	P	20 50 37.1	-2.5
LRAL	Lakeview Retre 11nm,1.1s	19.58	30	eP	P	20 50 39.2	-0.7
Z48A	Northport baz=213,SNR=6.8	19.61	28	P	P	20 50 38.6	-1.6
LAZ	Ladron	19.62	338	eP	P	20 50 39.6	-1.0
TUL1	Leonard baz=188	19.64	6	P	P	20 50 39.6	-1.0
TUL1	Leonard 32nm,0.9s	19.64	6	eP	P	20 50 39.2	-1.3
WHAR	Wooly Hollow 20nm,1.1s	19.66	15	eP	P	20 50 39.3	-1.5
OXF	Oxford 33nm,1.1s	19.83	22	eP	P	20 50 40.9	-1.8
ANMO	Albuquerque 0.3nm,0.3s,baz=333,slow=13,SNR=12	19.88	340	P	P	20 50 43.4	0.0
ANMO				LR	LR	20 58 55.0	
	comp=Z,1µm,18.4s,baz=345,slow=38						
ANMO	Albuquerque baz=157	19.88	340	P	P	20 50 44.1	+0.7
ANMO	Albuquerque 7.6nm,0.8s	19.88	340	eP	P	20 50 43.2	-0.2
V39A	Pettigrew baz=194,SNR=9.6	19.89	11	P	P	20 50 42.0	-1.4
Y47A	UCPARC, Winfie baz=211	19.92	27	P	P	20 50 42.4	-1.2
Z49A	Columbiana baz=216	19.93	30	P	P	20 50 42.3	-1.5
V40A	Witts Springs baz=196,SNR=8.3	20.03	13	P	P	20 50 43.2	-1.6
V40A	Witts Springs 31nm,0.9s	20.03	13	eP	P	20 50 43.8	-1.1
MTDJ	Mount Denham 46nm,1.3s	20.04	82	eP	P	20 50 44.3	-0.9
V41A	Mountainview baz=198,SNR=7.1	20.17	15	P	P	20 50 45.0	-1.3
Y48A	Jasper baz=213,SNR=6.3	20.23	28	P	P	20 50 45.5	-1.4
HHAR	Hobbs 11nm,0.8s	20.27	11	eP	P	20 50 44.8	-2.6
Z50A	Ashland baz=217	20.29	32	P	P	20 50 45.9	-1.7
214A	Organ Pipe Nat baz=137	20.32	323	P	Pn	20 50 50.0	-0.1
V42A	Cord baz=200,SNR=5.8	20.39	17	P	P	20 50 47.2	-1.5
X47A	Russelville baz=210	20.45	26	P	P	20 50 47.2	-2.2
U39A	Green Forest baz=194,SNR=7.8	20.45	11	P	P	20 50 48.4	-1.0
Y49A	Blount Mountai baz=215	20.53	30	P	P	20 50 47.5	-2.8
U40A	Yellville baz=196,SNR=13	20.55	13	P	P	20 50 49.2	-1.3
X48A	Hartselle baz=212	20.74	27	P	P	20 50 49.8	-2.7
U41A	Viola baz=198	20.75	15	P	P	20 50 51.0	-1.7
PLAL	Pickwick Lake 27nm,0.9s	20.76	25	eP	P	20 50 53.0	+0.3
X18A	Snowflake 20nm,1.1s	20.86	332	eP	P	20 50 55.3	+1.3
U42A	Revenden baz=200,SNR=5.2	20.94	16	P	P	20 50 52.5	-2.2
T38A	Diamond baz=191	20.95	9	P	P	20 50 53.4	-1.3
X49A	Woodville baz=214,SNR=5.2	21.11	29	P	P	20 50 54.1	-2.4
W47A	Westpoint baz=210,SNR=5.9	21.19	25	P	P	20 50 54.8	-2.5
W18A	Petrified Fore 18nm,0.9s	21.27	334	eP	P	20 50 58.4	0.0
W48A	Pulaski baz=212,SNR=7.0	21.37	27	P	P	20 50 56.8	-2.4
T40A	Mansfield baz=196,SNR=7.5	21.39	13	P	P	20 50 57.6	-1.9
T25A	Trinidad baz=164,SNR=15	21.39	347	P	P	20 50 59.6	-0.1
T25A	Trinidad 34nm,1.0s	21.39	347	eP	P	20 51 00.6	+0.8
MHTCO	State Highway 17nm,1.2s	21.44	346	eP	P	20 50 59.4	-0.9
T41A	Mountain View baz=198,SNR=7.7	21.46	15	P	P	20 50 57.5	-2.8
V46A	Holladay baz=208	21.46	23	P	P	20 50 58.2	-2.1
113A	Mohawk Valley, 18nm,1.4s	21.46	322	eP	P	20 51 01.3	+1.0
X16A	Lo Mia Camp, P 15nm,1.0s	21.47	329	eP	P	20 51 01.7	+1.2
PBMO	Poplar Bluff 33nm,1.1s	21.57	18	eP	P	20 51 00.4	-1.0
S38A	Stockton baz=192	21.59	10	P	P	20 50 59.2	-2.4
T42A	Van Buren baz=200,SNR=8.3	21.62	16	P	P	20 50 58.8	-3.1
UTMT	University of 146nm,0.6s	21.67	21	eP	P	20 51 03.9	+1.5
GOGA	Godfrey 19nm,0.9s	21.71	36	eP	P	20 51 01.8	-1.2
V47A	Nunnelly baz=209,SNR=8.9	21.72	25	P	P	20 50 59.7	-3.3
S39A	Bolivar baz=193	21.75	11	P	P	20 51 01.8	-1.5
S40A	Lebanon baz=196,SNR=8.8	21.82	13	P	P	20 51 02.0	-2.1
WVT	Waverly baz=208	21.86	24	P	P	20 51 02.3	-2.2
WVT	Waverly 23nm,0.8s	21.86	24	eP	P	20 51 04.4	-0.1
T43A	Greenville baz=201,SNR=12	21.89	18	P	P	20 51 02.4	-2.4
Y14A	Wickenburg 13nm,0.9s	21.90	326	eP	P	20 51 05.6	+0.6
V48A	Smith Brothers baz=211,SNR=6.2	21.93	26	P	P	20 51 02.9	-2.4
S41A	Jillco Farms, baz=197,SNR=8.3	21.98	14	P	P	20 51 03.4	-2.4
R38A	Fenwick Farm, baz=192	22.13	9	P	P	20 51 05.3	-2.1
SDCO	Great Sand Dun baz=162	22.23	345	P	P	20 51 08.4	-0.4
SDCO	Great Sand Dun 4.0nm,0.9s	22.23	345	eP	P	20 51 07.9	-0.9
GLA	Glamis 54nm,2.0s	22.29	321	eP	P	20 51 08.8	-0.4
WUAZ	Wupatki baz=146	22.33	331	P	P	20 51 10.7	+0.8
WUAZ	Wupatki 22nm,1.1s	22.33	331	eP	P	20 51 10.4	+0.6
U47A	Clarksville baz=209	22.34	24	P	P	20 51 07.3	-2.4
S42A	Caledonia baz=200,SNR=14	22.39	16	P	P	20 51 09.1	-1.1
R39A	Chumby, Stover baz=194,SNR=8.2	22.41	11	P	P	20 51 08.8	-1.6
S43A	Fulton Ridge, baz=202	22.41	18	P	P	20 51 08.8	-1.6
CBKS	Cedar Bluff 21nm,1.0s	22.43	357	eP	P	20 51 12.8	+2.1
R40A	Maddies Statio baz=196,SNR=15	22.54	13	P	P	20 51 11.0	-0.8
CCM	Cathedral Cave baz=198	22.55	15	P	P	20 51 09.8	-2.1
CCM	Cathedral Cave 25nm,1.1s	22.55	15	eP	P	20 51 10.8	-1.1
S22A	4UR Ranch, Cre baz=159	22.58	342	P	P	20 51 12.9	+0.3
S22A	4UR Ranch, Cre 9.7nm,1.2s	22.58	342	eP	P	20 51 12.4	-0.2
Y12C	Blythe 6.8nm,0.5s	22.61	323	eP	P	20 51 15.2	+2.6
MVCO	Mesa Verde baz=154	22.62	339	P	P	20 51 13.3	+0.3
MVCO	Mesa Verde 20nm,1.1s	22.62	339	eP	P	20 51 12.8	-0.3
T46A	Princeton baz=207,SNR=6.0	22.64	22	P	P	20 51 11.1	-1.8
WESC	Westside Schoo	22.64	319	eSn	Sn	20 55 43.0	+8.8
U48A	Cassie Pea, Po baz=211	22.70	25	P	P	20 51 11.1	-2.5
KSU1	Kansas State U 14nm,0.9s	22.74	4	eP	P	20 51 12.8	-1.2
R41A	Rosebud baz=198	22.74	14	P	P	20 51 12.1	-1.9
S44A	Carbondale baz=203	22.77	19	P	P	20 51 12.3	-1.9
SIUC	Southern Illin 39nm,1.3s	22.80	19	eP	P	20 51 13.7	-0.9
SWSC	Sam W. Stewart	22.81	320	eSn	Sn	20 55 50.6	+12
R42A	Luebbering baz=199	22.87	16	P	P	20 51 13.0	-2.4
T47A	Sharon Grove baz=209	22.89	24	P	P	20 51 12.9	-2.6
KSCO	Kaye Shedlock' 31nm,1.1s	22.89	352	eP	P	20 51 14.7	-1.0
Q38A	Cooks Store, C baz=192	22.93	10	P	P	20 51 14.3	-1.6
HODGE	Hodges 14nm,0.9s	23.00	36	eP	P	20 51 12.7	-4.0
Q39A	Willow Grove F baz=194	23.13	11	P	P	20 51 16.7	-1.3
BG3	Lake Jocassee 9.2nm,0.9s	23.19	34	eP	P	20 51 17.1	-1.6
W13A	Hualapai Mount 11nm,1.4s	23.25	326	eP	P	20 51 20.0	+0.5
Q40A	Laux Farm, Aux baz=196	23.25	13	P	P	20 51 17.3	-1.9
IRM	Iron Mountain baz=136	23.26	323	P	P	20 51 20.2	+0.9
TKL	Tuckaleechee C 4.4nm,1.0s,baz=180,slow=4.0,SNR=5.5	23.27	31	P	P	20 51 17.4	-2.0
TKL				LR	LR	21 02 10.3	
	comp=Z,44nm,20.2s,baz=52,slow=42						
TKL	Tuckaleechee C 21nm,1.1s	23.27	31	eP	P	20 51 18.1	-1.3
T48A	Bowling Green baz=210	23.28	25	P	P	20 51 16.8	-2.7
R44A	Waltonville baz=203,SNR=5.7	23.33	19	P	P	20 51 17.6	-2.4
SLM	Saint Louis 13nm,0.6s	23.36	16	eP	P	20 51 21.3	+1.1
Q41A	Truxton baz=198,SNR=8.3	23.40	14	P	P	20 51 18.5	-2.2
BORC	Borrego Spring	23.41	319	eSn	Sn	20 55 54.0	+1.5
P37A	Lathrop baz=190	23.44	8	P	P	20 51 19.6	-1.5
CSU	Charleston Sou	23.46	42	eP	P	20 51 17.4	-3.9
NHSC	New Hope 67nm,1.0s	23.47	41	eP	P	20 51 21.8	+0.4
PV01	Paradox Valley	23.48	340	eP	P	20 51 20.4	-1.4
U15A	North Rim 20nm,1.1s	23.50	331	eP	P	20 51 22.9	+0.9
Q42A	Golden Eagle baz=199	23.54	16	P	P	20 51 19.9	-2.2
USIN	University of 73nm,1.3s	23.55	22	eP	P	20 51 20.8	-1.3
DPP	Dos Picos Cty	23.57	318	eSn	Sn	20 55 56.4	+0.1
HWB	Hans Werner Br	23.60	318	eSn	Sn	20 56 03.5	+6.4
P38A	Dawn baz=192	23.60	9	P	P	20 51 20.8	-1.8
P39B	Salisbury baz=194	23.60	11	P	P	20 51 20.2	-2.4
JSC	Jenkinsville 11nm,1.0s	23.61	38	eP	P	20 51 21.0	-1.7
PV05	Paradox Valley	23.61	339	eP	P	20 51 22.9	-0.2
XPFO	Piæon Flat 14nm,1.4s	23.66	320	eP	P	20 51 26.1	+2.6
PLM	Palomar	23.75	319	eSn	Sn	20 55 59.6	-1.3
P40A	Paris baz=195	23.77	12	P	P	20 51 22.6	-1.7
S48A	Wiedeman Farm, baz=210	23.89	25	P	P	20 51 22.9	-2.5
LDFC	Landfair 40nm,0.4s	23.90	324	eP	P	20 51 28.6	+2.8
SMCO	Snowmass 31nm,1.5s	23.96	343	eP	P	20 51 26.8	+0.3
GMRC	Granite Mounta baz=136	24.00	323	P	P	20 51 27.3	+0.6
PV09	Paradox Valley	24.00	339	eP	P	20 51 26.9	+0.1
TZTN	Tazewell baz=217	24.08	30	P	P	20 51 24.1	-3.1
TZTN	Tazewell 29nm,0.8s	24.08	30	eP	P	20 51 26.3	-0.9
OLIL	Olney 22nm,0.8s	24.09	20	eP	P	20 51 26.0	-1.3
O38A	Galt baz=192	24.09	9	P	P	20 51 25.1	-2.2
MURC	Murrieta baz=131	24.12	319	P	P	20 51 28.3	+0.6
P41A	Barry, Barry baz=198	24.13	14	P	P	20 51 26.0	-1.7
KMSC	Kings Mountain baz=224	24.18	36	P	P	20 51 24.4	-3.8
KMSC	Kings Mountain 20nm,1.1s	24.18	36	eP	P	20 51 26.8	-1.4
ISCO	Idaho Springs baz=163,SNR=8.3	24.21	346	P	P	20 51 28.3	-0.5
ISCO	Idaho Springs 39nm,1.8s	24.21	346	eP	P	20 51 28.6	-0.1
P42A	Winchester baz=199	24.22	15	P	P	20 51 27.1	-1.4
KNB	Kanab 17nm,1.3s	24.23	331	eP	P	20 51 30.9	+2.1
R47A	Wooly Knot Far baz=209,SNR=14	24.25	23	P	P	20 51 27.4	-1.4
WCI	Wyandotte Cave baz=209	24.29	24	P	P	20 51 26.9	-2.2
WCI	Wyandotte Cave 26nm,0.9s	24.29	24	eP	P	20 51 28.5	-0.6
PKCU	Pink Cliffs 13nm,1.0s	24.35	332	eP	P	20 51 28.5	-1.6
O40A	La Belle baz=196,SNR=14	24.38	12	P	P	20 51 28.7	-1.2
LCMT	Little Creek M 3.7nm,1.0s	24.42	330	eP	P	20 51 31.5	+0.9
N34A	Lincoln baz=185	24.48	4	P	P	20 51 29.9	-0.9
HELC	Santa Helena 7.4nm,0.6s	24.59	112	eP	P	20 51 29.7	-2.8
O41A	Passleys Farm, baz=198,SNR=5.2	24.59	14	P	P	20 51 30.2	-1.6
R48A	Northridge Ran baz=210	24.60	24	P	P	20 51 29.9	-2.1
OGNE	Ogallala baz=172	24.72	353	P	P	20 51 32.9	-0.3
OGNE	Ogallala 50nm,1.3s	24.72	353	eP	P	20 51 33.2	0.0
N38A	Joes South For baz=192	24.79	9	P	P	20 51 32.6	-1.1
MTPU	Mount Pierson 31nm,0.9s	24.79	333	eP	P	20 51 35.8	+1.7
SZCU	Shurtz Canyon 9.3nm,0.8s	24.82	331	eP	P	20 51 34.5	+0.3
CCUT	Cedar City 4.9nm,1.0s	24.91	331	eP	P	20 51 36.7	+1.6
SHPR	Sheep Range 3.8nm,1.1s	24.99	327	eP	P	20 51 37.0	+1.3
BGNE	Belgrade 55nm,0.3s	24.99	0	eP	P	20 51 34.7	-0.8
BLO	Bloomington 42nm,1.6s	25.03	22	eP	P	20 51 34.6	-1.2
GSC	Goldstone, Bar 12nm,1.2s	25.03	322	eP	P	20 51 36.9	+0.9
SRU	San Rafael Swe 10nm,0.9s	25.04	337	eP	P	20 51 37.4	+1.1
Q16A	Castle Valley 18nm,1.0s	25.12	336	eP	P	20 51 37.2	+0.3
N40A	Mertquake, Sal baz=196	25.17	12	P	P	20 51 34.9	-2.2
MSU	Marysvale	25.18	334	eP	P	20 51 39.1	+1.6
O20A	White River Ci baz=158	25.21	342	P	P	20 51 37.3	-0.4
O20A	White River Ci 19nm,1.0s	25.21	342	eP	P	20 51 39.0	+1.3
M37A	Trindle Farm, baz=190	25.27	8	P	P	20 51 36.5	-1.5
N23A	Red Feather La baz=163	25.33	347	P	P	20 51 38.1	-0.7
N23A	Red Feather La 14nm,1.1s	25.33	347	eP	P	20 51 38.7	-0.2
OTAV	Otavalo 13nm,1.5s	25.38	127	eP	P	20 51 39.7	0.0
TCRU	Three Creeks R 7.6nm,0.5s	25.38	334	eP	P	20 51 40.9	+1.6
P18A	Preston Nutter 20nm,1.0s	25.40	338	eP	P	20 51 40.5	+0.9
M38A	Pleasantville baz=192,SNR=5.2	25.40	9	P	P	20 51 37.5	-1.7
HDIL	Hopedale	25.41	16	eP	P	20 51 38.5	-0.7
PT2	Point Dume	25.41	318	ePcP	PcP	20 55 10.1	-1.3
DBD	Des Bee Dove	25.43	337	eP	P	20 51 40.5	+0.7
P17A	Butcher Ranch, 30nm,1.9s	25.44	337	eP	P	20 51 40.8	+1.0
TMUT	Trail Mountain 14nm,1.1s	25.46	336	eP	P	20 51 41.2	+1.0
N42A	Yates City baz=199	25.47	15	P	P	20 51 38.0	-1.8
O45A	Potomac baz=204	25.58	19	P	P	20 51 39.3	-1.6
PHWY	Pilot Hill 12nm,1.3s	25.61	348	eP	P	20 51 41.7	+0.3
M39A	Webster baz=194	25.63	11	P	P	20 51 39.8	-1.5
NCAT	North Carolina 18nm,1.1s	25.74	37	eP	P	20 51 41.3	-1.0
OSI	Osito Audit: C 69nm,1.8s	25.74	319	eP	P	20 51 44.4	+2.0
L33A	Hoskins baz=183	25.77	2	P	P	20 51 41.2	-1.3
L35A	Bielow Farm, R baz=186	25.81	5	P	P	20 51 41.8	-1.2
SCIA	State Center baz=192	25.88	9	P	P	20 51 42.5	-1.0
SCIA	State Center 41nm,0.9s	25.88	9	eP	P	20 51 42.4	-1.2
TPNV	Topopah Spring 34nm,1.9s	25.90	326	eP	P	20 51 46.7	+2.7
SFIN	Lafayette 16nm,0.9s	25.90	20	eP	P	20 51 42.3	-1.5
MPMC	Manual Prospec baz=134	25.96	323	P	P	20 51 45.0	+0.4
SDDR	Presa de Saban 18nm,1.1s	25.99	80	eP	P	20 51 42.7	-2.1
L37A	Phoenix Point, baz=190	26.02	8	P	P	20 51 43.6	-1.2
O47A	Sheridan baz=208	26.09	22	P	P	20 51 43.5	-2.0
L38A	Oak Wood Farm, baz=192,SNR=6.6	26.15	9	P	P	20 51 44.2	-1.8
DAC	Darwin (Calif) 26nm,1.9s	26.17	323	eP	P	20 51 49.2	+2.7
BLA	Blacksburg 53nm,1.8s	26.20	34	eP	P	20 51 43.9	-2.6
MPU	Maple Canyon 5.2nm,0.8s	26.25	337	eP	P	20 51 48.5	+1.3
ROSC	El Rosal 6.0nm,0.5s	26.27	113	eP	P	20 51 46.1	-1.7
ISA	Isabella, Lake 16nm,1.8s	26.27	321	eP	P	20 51 50.1	+2.8
L39A	Vinton baz=194	26.29	11	P	P	20 51 46.4	-0.9
CNNC	Cliffs of the 283nm,0.3s	26.30	40	eP	P	20 51 45.7	-1.6
PRAC	Prado 18nm,1.6s	26.31	116	eP	P	20 51 46.7	-1.1
M43A	Waltham Townsh baz=201	26.32	16	P	P	20 51 46.3	-1.2
NLU	North Lily Min 14nm,1.4s	26.37	336	eP	P	20 51 48.8	+0.5
RWWY	Rawlins 19nm,1.3s	26.38	345	eP	P	20 51 50.6	+2.2
VWCC	Virginia Weste	26.46	35	eP	P	20 51 45.2	-3.7
L41A	Preston baz=197	26.55	13	P	P	20 51 47.4	-2.1
R11A	Troy Canyon, C baz=141	26.62	329	P	P	20 51 51.3	+0.8
R11A	Troy Canyon, C 9.1nm,1.3s	26.62	329	eP	P	20 51 52.2	+1.8
L42A	Oliver, Polo baz=199	26.67	15	P	P	20 51 49.3	-1.4
VES	Vestal, Richgr baz=131	26.76	320	P	P	20 51 52.3	+0.7
DUG	Dugway, Tooele baz=148	26.87	335	P	P	20 51 52.9	+0.3
DUG	Dugway, Tooele 5.3nm,1.0s	26.87	335	eP	P	20 51 51.8	-0.8
K39A	Oelwein baz=194	26.87	11	P	P	20 51 51.4	-1.1
RUSC	La Rusia 6.7nm,1.3s	26.91	110	eP	P	20 51 53.0	-0.7
K40A	Colesburg baz=196	27.01	12	P	P	20 51 52.3	-1.5
K41A	Shullsburg baz=197	27.10	13	P	P	20 51 52.9	-1.6
TCUT	Toone Canyon 12nm,1.0s	27.13	338	eP	P	20 51 55.9	+0.7
K22A	Casper baz=163	27.13	347	P	P	20 51 54.9	-0.1
K22A	Casper 15nm,1.0s	27.13	347	eP	P	20 51 55.5	+0.5
J36A	Seneca 1, Swea baz=189	27.13	7	P	P	20 51 53.3	-1.5
J37A	Redenius Farm, baz=190	27.21	8	P	P	20 51 54.5	-1.0
ACSO	Alum Creek Sta baz=214,SNR=6.7	27.34	26	P	P	20 51 55.4	-1.3
ACSO	Alum Creek Sta 27nm,0.8s	27.34	26	eP	P	20 51 55.8	-0.9
ECSD	EROS Data Cent baz=184	27.36	3	P	P	20 51 56.3	-0.6
ECSD	EROS Data Cent 5.0nm,1.0s	27.36	3	eP	P	20 51 55.5	-1.3
J38A	Wedel Dairy, R baz=193	27.37	9	P	P	20 51 55.6	-1.4
JFWS	Jewell Farm 14nm,1.1s	27.40	13	eP	P	20 51 55.5	-1.8
BGU	Big Grassy Mou 15nm,1.7s	27.57	336	eP	P	20 51 59.5	+0.5
HWUT	Hardware Ranch 4.6nm,0.9s	27.61	338	eP	P	20 52 00.8	+1.3
SPUT	South Promonto 6.1nm,0.9s	27.68	337	eP	P	20 52 01.0	+1.1
OMMB	Old Mammoth Mi 10nm,1.5s	27.91	323	eP	P	20 52 03.2	+0.9
MDPB	Devils Postpil 7.2nm,1.1s	27.96	323	eP	P	20 52 04.8	+2.1
BW06	Boulder Array baz=157	28.01	342	P	P	20 52 03.2	+0.2
BW06	Boulder Array 5.9nm,0.9s	28.01	342	eP	P	20 52 03.1	+0.1
PD31	Pinedale Array	28.01	342	eP	P	20 52 03.1	+0.1
PDAR	Pinedale Array 2.2nm,0.7s,baz=123,slow=7.3,SNR=17	28.01	342	P	P	20 52 03.4	+0.4
PDAR				PcP	PcP	20 55 20.2	+2.5
	0.3nm,0.4s,baz=145,slow=3.3,SNR=3.0						
PDAR				LR	LR	21 04 05.3	
	comp=Z,420nm,19.0s,baz=166,slow=38						
PDAR	Pinedale Array	28.01	342	eP	P	20 52 02.6	-0.5
PDAR				PcP	PcP	20 55 20.2	+2.5
NV11	Mina Array Sit 0.4nm,1.0s	28.02	326	eP	P	20 52 04.8	+1.8
SDV	Santo Domingo 1.2nm,0.3s,baz=330,slow=18,SNR=1.6	28.09	102	P	P	20 51 59.5	-4.5
SDV				LR	LR	21 02 33.2	
	comp=Z,73nm,19.2s,baz=327,slow=36						
SDV	Santo Domingo 5.5nm,0.8s	28.09	102	eP	P	20 52 03.3	-0.6
NV01	Mina Array Sit	28.09	325	eP	P	20 52 04.5	+0.8
NVAR	Mina Array Bea 4.4nm,0.9s,baz=151,slow=9.6,SNR=16	28.09	325	P	P	20 52 05.4	+1.6
NVAR				PcP	PcP	20 55 21.8	+3.8
	0.8nm,0.9s,baz=159,slow=5.8,SNR=3.2						
NVAR				LR	LR	21 04 43.6	
	comp=Z,254nm,18.4s,baz=271,slow=40						
I38A	Scanlan Farm, baz=193,SNR=5.2	28.10	9	P	P	20 52 02.7	-0.8
RSSD	Black Hills baz=169	28.11	351	P	P	20 52 03.6	-0.1
RSSD	Black Hills 12nm,1.6s	28.11	351	eP	P	20 52 03.7	-0.1
IP04	Greensprings 10nm,1.2s	28.11	36	eP	P	20 52 02.8	-0.8

IP05	Hopewell Churc	28.11	36	eP		P	20 52 01.8	-1.9	
	8.1nm,0.9s								
HVU	Hansel Valley	28.21	337	eP		P	20 52 05.1	+0.4	
	5.7nm,0.9s								
RYN	Ryan	28.36	325	eP		P	20 52 07.1	+1.1	
	4.1nm,1.1s								
AHID	Auburn Hatcher	28.49	340	eP		P	20 52 06.3	-0.9	
	17nm,1.8s								
I42A	Draeger Farm,	28.63	14	eP		P	20 52 05.4	-2.9	
	16nm,1.1s								
REDW	Red Top Meadow	28.95	341	eP		P	20 52 11.5	+0.2	
	5.5nm,0.9s								
YERR	Yerington	29.00	325	eP		P	20 52 14.5	+2.7	
	9.5nm,1.4s								
H40A	Chili	29.01	12	P		P	20 52 10.6	-1.0	
	baz=196								
SNOW	Snow King Moun	29.01	341	eP		P	20 52 12.2	+0.3	
	9.4nm,0.4s								
BMN	Battle Mountai	29.03	330	eP		P	20 52 13.8	+1.8	
	2.8nm,0.7s								
TPAW	Teton Pass	29.09	341	eP		P	20 52 14.0	+1.3	
	7.4nm,0.9s								
LOHW	Long Hollow	29.10	342	eP		P	20 52 13.1	+0.4	
	15nm,1.5s								
H41A	Junction City	29.15	13	P		P	20 52 11.7	-1.2	
	baz=198								
H41A	Junction City	29.15	13	eP		P	20 52 11.6	-1.3	
	18nm,1.1s								
SPMN	Marine on St.	29.19	8	eP		P	20 52 11.5	-1.7	
	12nm,0.6s								
FXWY	Fox Creek	29.25	341	eP		P	20 52 15.3	+1.2	
	6.8nm,1.1s								
MOOW	Moose Ponds	29.26	342	eP		P	20 52 14.9	+0.8	
	3.9nm,1.0s								
N54A	Moraine State	29.27	29	eP		P	20 52 12.4	-1.5	
	46nm,1.5s								
WI04	River Road, Cl	29.36	14	eP		P	20 52 13.8	-0.9	
	16nm,1.0s								
IMW	Indian Meadow	29.46	341	eP		P	20 52 17.9	+2.0	
	6.3nm,1.1s								
G39A	Holcombe	29.50	10	P		P	20 52 14.5	-1.5	
	baz=194								
YMS	Mount Sheridan	29.67	342	eP		P	20 52 18.3	+0.4	
ALLY	Alegheny Colle	29.74	28	eP		P	20 52 18.4	+0.3	
	19nm,0.4s								
M54A	Oil Creek Stat	29.85	29	eP		P	20 52 17.1	-2.0	
	32nm,1.6s								
G42A	Mountain	30.02	14	P		P	20 52 19.6	-1.0	
	baz=200								
G42A	Mountain	30.02	14	eP		P	20 52 19.4	-1.2	
	9.4nm,0.9s								
RLMT	Red Lodge	30.12	345	P		P	20 52 22.1	+0.5	
	baz=159,SNR=13								
RLMT	Red Lodge	30.12	345	eP		P	20 52 21.8	+0.1	
	10nm,1.0s								
YMR	Madison River	30.16	342	eP		P	20 52 22.6	+0.5	
	3.3nm,0.8s								
ERPA	Erie	30.18	28	eP		P	20 52 21.7	-0.3	
	24nm,1.2s								
BEKR	Beckworth	30.24	325	eP		P	20 52 25.4	+2.6	
	6.5nm,0.9s								
YHH	Holmes Hill	30.24	342	eP		P	20 52 24.6	+1.8	
	4.6nm,1.2s								
F40A	Park Falls	30.31	12	P		P	20 52 22.4	-0.7	
	baz=196								
YHB	Horse Butte	30.31	342	eP		P	20 52 24.7	+1.4	
	12nm,1.6s								
HLID	Hailey	30.36	337	eP		P	20 52 24.5	+0.7	
	9.8nm,1.8s								
PAGS	Pennsylvania G	30.37	34	eP		P	20 52 23.1	-0.5	
	14nm,1.2s								
MVL	Millersville	30.41	35	eP		P	20 52 23.6	-0.4	
	19nm,1.4s								
F43A	Flat Rock, Esc	30.88	15	P		P	20 52 27.0	-1.1	
	baz=201								
F45A	CMU Biological	31.20	18	P		P	20 52 29.8	-1.2	
	baz=204								
BOZ	Bozeman (W)	31.21	342	P		P	20 52 31.9	+0.7	
	baz=155								
F44A	Big Bay de Noc	31.21	16	P		P	20 52 29.7	-1.3	
	baz=203,SNR=6.5								
WVOR	Wild Horse Val	31.25	330	eP		P	20 52 32.9	+1.3	
	8.7nm,1.3s								
E42A	Champion	31.26	14	P		P	20 52 30.4	-1.1	
	baz=200								
DLMT	Dillon	31.29	341	eP		P	20 52 32.7	+0.8	
	9.1nm,1.0s								
C34A	RKJ Ranch, Bem	31.36	5	P		P	20 52 32.1	-0.3	
	baz=187								
E43A	Lone Tree Farm	31.43	15	P		P	20 52 31.6	-1.4	
	baz=201								
MDND	Maddock	31.44	358	eP		P	20 52 30.7	-2.4	
	53nm,1.4s								
LRM	Limekiln Ridge	31.66	341	eP		P	20 52 33.9	-1.4	
J08A	Circle Bar Ran	31.89	332	eP		P	20 52 38.6	+1.4	
	9.2nm,0.6s								
AGMN	Agassiz Nation	31.95	3	eP		P	20 52 36.6	-0.9	
	11nm,1.0s								
B32A	Ashes, Strandq	32.01	2	P		P	20 52 37.7	-0.4	
	baz=184								
SADO	Sadowa	32.68	26	P		P	20 52 41.2	-2.8	
	2.1nm,0.5s,baz=276,slow=10,SNR=2.1								
SADO	Sadowa	32.68	26	eP		P	20 52 41.9	-2.0	
	11nm,1.4s								
F10A	Beach Ranch, E	33.47	336	eP		P	20 52 53.0	+2.0	
	7.4nm,0.8s								
G08A	Pilot Rock	33.62	333	eP		P	20 52 52.5	+0.1	
	4.1nm,0.6s								
ULM	Lac du Bonnet	33.90	3	LR		LR	21 07 11.5		
	comp=Z,69nm,18.6s,baz=22,slow=38								
KEBM	Edson Butte	34.47	325	eP		P	20 53 03.2	+3.5	
	75nm,1.2s								
H04A	Detroit Lake	34.64	330	eP		P	20 53 02.5	+1.5	
	18nm,1.1s								
LTY	Liberty	35.91	334	eP		P	20 53 14.0	+2.0	
	44nm,1.9s								
LON	Longmire	36.01	332	eP		P	20 53 15.0	+2.1	
	35nm,1.8s								
B08A	Colville Reser	36.25	336	eP		P	20 53 17.2	+2.4	
	2.5nm,0.9s								
D05A	Enumclaw	36.42	333	eP		P	20 53 17.7	+1.4	
	45nm,1.5s								
E03A	Lebam	36.66	331	eP		P	20 53 21.1	+2.7	
	88nm,1.6s								
FFC	Flin Flon	38.41	357	eP		P	20 53 32.5	-0.6	
	11nm,0.9s								
LLLB	Lillooet	39.05	336	eP		P	20 53 41.0	+2.5	
	35nm,1.8s								
FCC	Fort Churchill	42.48	3	eP		P	20 54 05.9	-0.7	
	6.0nm,1.0s								
SAML	Samuel	42.98	123	eP		P	20 54 10.8	-0.5	
	7.1nm,1.5s								
LPAZ	La Paz	44.09	136	P		P	20 54 19.2	-1.7	
	2.0nm,1.1s,baz=335,slow=7.9,SNR=4.1								
LPAZ	La Paz	44.09	136	eP		P	20 54 21.3	+0.4	
	10nm,1.7s								
SCHQ	Schefferville	45.48	25	eP		P	20 54 30.6	-0.2	
	32nm,1.8s								
YKA	Yellowknife Ar	47.49	350	P		P	20 54 45.7	-0.7	
	2.3nm,0.7s,baz=158,slow=7.3,SNR=20								
DLBC	Dease Lake	48.10	338	eP		P	20 54 54.0	+2.6	
	8.2nm,1.3s								
HYT	Haines Junctio	52.49	337	eP		P	20 55 28.1	+3.5	
	13nm,1.4s								
KHLH	Kahului Airpor	54.91	284	eP		P	20 55 45.8	+3.0	
	21nm,1.5s								
DAWY	Dawson	55.26	339	eP		P	20 55 46.4	+1.6	
	6.9nm,1.4s								
PEL	Peldehue	55.88	152	eP		P	20 55 51.4	+1.8	
	28nm,1.5s								
EGAK	Eagle	56.31	340	eP		P	20 55 55.2	+3.1	
	4.1nm,0.8s								
INK	Inuvik	56.53	345	eP		P	20 55 56.0	+2.4	
	6.6nm,1.0s								
DOT	Dot Lake	56.65	338	eP		P	20 55 55.8	+1.1	
	15nm,1.1s								
PAX	Paxson	56.80	336	eP		P	20 55 56.0	+0.2	
	9.7nm,1.6s								
SCRK	Sand Creek	56.81	338	eP		P	20 55 59.3	+3.3	
	5.5nm,1.2s								
RIDG	Independ'e Rid	56.99	337	eP		P	20 55 59.1	+2.0	
	11nm,1.1s								
HDA	Harding Lake	58.13	337	eP		P	20 56 07.8	+2.7	
	3.9nm,0.9s								
SUA	Susitna One	58.20	333	eP		P	20 56 09.0	+3.2	
	11nm,1.2s								
CPUP	Villa Florida	58.26	136	P		P	20 56 05.7	-0.8	
	0.6nm,0.4s,baz=300,slow=8.8,SNR=4.5								
CPUP	Villa Florida	58.26	136	eP		P	20 56 05.6	-0.9	
	16nm,1.7s								
IL1	Eielson Array	58.30	338	eP		P	20 56 09.4	+3.1	
ILAR	Eielson Array	58.30	338	P		P	20 56 08.3	+2.1	
	2.6nm,0.9s,baz=139,slow=4.9,SNR=17								
ILAR					LR	LR	21 23 20.5		
	comp=Z,196nm,18.0s,baz=130,slow=38								
ILB	Eielson Array	58.30	338	eP		P	20 56 08.8	+2.6	
RND	Reindeer	58.34	336	eP		P	20 56 09.3	+2.7	
	10.0nm,1.1s								
RES	Resolute Bay	58.39	1	LR		LR	21 21 16.5		
	comp=Z,69nm,19.4s,baz=134,slow=36								
RES	Resolute Bay	58.39	1	eP		P	20 56 09.1	+2.4	
	6.8nm,1.5s								
MCK	McKinley	58.53	336	eP		P	20 56 06.9	-1.0	
	9.2nm,1.2s								
CCB	Clear Creek Bu	58.57	337	eP		P	20 56 10.4	+2.2	
	3.1nm,1.1s								
SKT	Skwentna	58.76	334	eP		P	20 56 12.2	+2.7	
	11nm,1.2s								
TRF	Thorofare Moun	58.93	336	eP		P	20 56 11.0	+0.1	
	14nm,1.0s								
KTH	Kantishna Hill	59.23	336	eP		P	20 56 14.8	+2.0	
	7.9nm,1.0s								
BPAW	Bear Paw Mtn.	59.51	336	eP		P	20 56 16.9	+2.2	
	5.5nm,1.1s								
CAST	Castle Rocks	59.63	335	eP		P	20 56 17.5	+2.0	
	6.0nm,0.9s								
MLY	Manley	59.85	337	eP		P	20 56 19.9	+2.8	
	8.1nm,1.2s								
PLCA	Paso Flores	62.40	156	P		P	20 56 35.7	+1.1	
	4.5nm,0.9s,baz=2.3,slow=7.6,SNR=7.2								
PLCA	Paso Flores	62.40	156	eP		P	20 56 35.7	+1.1	
	12nm,1.1s								
SUMG	Summit	65.72	17	eP		P	20 56 57.9	+1.4	
	13nm,1.1s								
SPITS	Spitsbergen Ar	79.02	11	LR		LR	21 34 43.9		
	comp=Z,32nm,19.0s,baz=320,slow=37								
SEY	Seymchan	84.02	334	P		P	20 58 42.7	+0.7	
	2.1nm,0.8s,baz=97,slow=4.8,SNR=7.8								
NOA	NORSAR Array B	85.01	27	LR		LR	21 39 48.1		
	comp=Z,12nm,18.6s,baz=295,slow=38								
TIXI	Tiksi	86.63	347	eP		P	20 58 56.1	+1.3	
	6.0nm,1.2s								
FINES	FINESS Array B	90.93	23	LR		LR	21 41 01.3		
	comp=Z,41nm,21.1s,baz=27,slow=36								
TORD	Torodi Ar. Bea	95.81	75	LR		LR	21 38 41.9		
	comp=Z,31nm,21.5s,baz=255,slow=33								
LZH	Lanzhou	123.77	338	ePKP		PKPdf	21 05 07.0	-3.2	
LZH				pPKP		pPKPdf	21 05 17.3	0.0	
LZH				sPKP			21 05 21.9		
LZH				LR		LR			
	comp=N,64nm,16.0s								
LZH				LR		LR			
	comp=E,71nm,17.3s								
LZH				LR		LR			
	comp=Z,95nm,19.0s								
CM31	Chiang Mai Arr	141.43	333	ePKPdf		PKPdf	21 05 43.4	-0.2	
CMAR	Chiang Mai Arr	141.43	333	PKP		PKPdf	21 05 43.4	-0.2	
	comp=Z,0.8nm,1.0s,baz=13,slow=1.9,SNR=3.4								

NIED ***13*** *20:50:00.3, 37.50N×141.70E, h11km, Mw3.6 Best double couple: M₀2.77000×10¹⁴ NP1:φ₅211.00000°, δ30.00000°, λ-153.00000°. NP2:φ₅98.00000°, δ77.00000°, λ-62.00000°.*

IDC ***13*** *20:50:46.8±0.8, 37.48N×141.63E, h0km, mb3.7/17, mb1 3.9/19, mb1mx3.7/67, mbtmp3.8/19, ML3.6/3, MS2.7/1, Ms1 2.7/1, ms1mx2.2/55, Error ellipse: s-maj=20.5km s-min=16.7km az=144.0*

ISCJB ***13*** *20:50:47.3±1.5, 37.45N±0.03×141.80E±0.04, h14km±9km, mb3.8/19, Error ellipse: s-maj=6.0km s-min=4.5km az=138.0*

JMA ***13*** *20:50:48.7±0.1, 37.46N×141.73E, h27km±2km, M3.9*

ISC 13 20:50:48.9±1.7, 37.47N±0.04×141.66E±0.06, h15km±10km, n40, σ1s06/47, mb3.8/19, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
JFK	Kawauchi	0.63	261	P		Pb	20 51 02.0	+0.4
JFK				eS		Sb	20 51 11.2	+0.9
ONAJ	Iwakimizuishiy	0.78	242	P		Pg	20 51 04.0	-0.1
ONAJ				eS		Sg	20 51 14.4	+0.1
JMM	Marumori	0.79	300	P		Pg	20 51 04.2	-0.1
JMM				eS		Sb	20 51 15.4	+0.6
JIO	Ouri	1.01	346	P		Pb	20 51 07.3	-0.8
JIO				eS		Sb	20 51 20.4	-0.7
JFT	Otama	1.05	273	P		Pb	20 51 07.5	-1.3
JFT				eS		Sg	20 51 22.9	-0.1
JOU	Okura	1.19	319	P		Pb	20 51 11.1	0.0
JOU				eS		Sb	20 51 26.1	-0.2
JHO	Hitachi	1.22	226	P		Pn	20 51 10.4	-1.0
JHO				eS		Sb	20 51 26.1	-1.2
JYS	Shirataka	1.47	301	P		Pb	20 51 16.1	+0.3
JMK	Ichinoseki	1.52	347	P		Pn	20 51 15.3	-0.1
JMK				S		Sn	20 51 34.3	-0.6
JFY	Yanaizu	1.56	268	P		Pb	20 51 17.2	-0.2
JFY				S		Sb	20 51 37.6	+0.7
MJAR	Matsushiro Arr	2.91	252	Pn		Pn	20 51 35.6	+0.9
	1.3nm,0.3s,baz=61,slow=13,SNR=14							
MJAR				Sn		Sb	20 52 13.8	-2.1
	4.2nm,0.3s,baz=67,slow=24,SNR=6.5							
MAT	Matsushiro	2.91	252	P		Pn	20 51 36.5	+1.8
MAT				eS		Sb	20 52 13.5	-2.4
JHJ	Hachijo jima 2	4.61	200	Pn		Pn	20 51 58.3	+0.4
	18nm,0.3s,baz=66,slow=23,SNR=13							
JHJ				Sn		Sn	20 52 49.4	-1.7
	13nm,0.3s,baz=90,slow=20,SNR=4.1							
JHJ				LR		LR	20 54 05.5	
	comp=Z,84nm,20.4s,baz=81,slow=43							
ASAJ	Asahikawa	6.68	6	Pn		Pn	20 52 26.0	-0.3
	1.6nm,0.3s,baz=217,slow=13,SNR=20							
ASAJ				Sn		Sn	20 53 38.1	-4.0
	baz=162,slow=13,SNR=2.8							
SEY	Seymchan	26.32	11	P		P	20 56 23.8	0.0
	0.7nm,0.5s,baz=180,slow=20,SNR=3.8							
SONM	Songino Array	27.70	303	P		P	20 56 37.7	+1.2
	0.3nm,0.6s,baz=92,slow=7.2,SNR=2.5							
H11N2	WAKE ISLAND Hy	28.21	122	T		T	21 26 10.2	
	baz=315,slow=75,SNR=273							
H11N1	WAKE ISLAND Hy	28.22	122	T		T	21 26 10.2	
	baz=315,slow=75,SNR=161							
H11N3	WAKE ISLAND Hy	28.23	122	T		T	21 26 11.9	
	baz=315,slow=75,SNR=161							
H11S1	WAKE ISLAND Hy	28.94	124	T		T	21 27 04.4	
	baz=316,slow=76,SNR=208							
H11S3	WAKE ISLAND Hy	28.94	124	T		T	21 27 05.6	
	baz=316,slow=76,SNR=172							
H11S2	WAKE ISLAND Hy	28.95	124	T		T	21 27 06.7	
	baz=316,slow=76,SNR=140							
ZALV	Zalesovo Beam	41.77	312	P		P	20 58 37.2	0.0
	0.2nm,0.3s,baz=93,slow=13,SNR=2.5							
MKAR	Makanchi Array	44.05	302	P		P	20 58 56.6	+0.6
	0.4nm,0.7s,baz=92,slow=8.9,SNR=4.8							
KURBB	Kurchatov Arra	45.89	308	P		P	20 59 10.8	+0.3
	1.0nm,0.4s,baz=84,slow=8.3,SNR=4.6							
KDAK	Kodiak Island	46.64	42	P		P	20 59 16.7	+0.4
	2.9nm,0.7s,baz=162,slow=17,SNR=4.2							
ILAR	Eielson Array	49.02	33	P		P	20 59 35.2	+0.6
	0.7nm,0.7s,baz=270,slow=6.0,SNR=7.9							
WRA	Warramunga Arr	57.52	188	P		P	21 00 37.1	-0.5
	0.3nm,0.4s,baz=6.5,slow=7.5,SNR=8.4							
YKA	Yellowknife Ar	63.33	30	P		P	21 01 17.3	+0.5
	0.3nm,0.6s,baz=302,slow=6.4,SNR=6.8							
FINES	FINESS Array B	68.52	332	P		P	21 01 50.3	+0.1
	1.3nm,0.8s,baz=20,slow=14,SNR=3.5							
KBZ	Khabaz	70.77	311	P		P	21 02 03.2	-1.1
	0.4nm,0.4s,baz=336,slow=12,SNR=2.5							
HFS	Hagfors	73.77	336	P		P	21 02 22.0	-0.1
	0.9nm,0.5s,baz=69,slow=7.9,SNR=6.0							
NOA	NORSAR Array B	73.86	337	P		P	21 02 22.7	0.0
	0.6nm,0.6s,baz=28,slow=8.3,SNR=3.5							
AKASG	Malin Array Be	74.07	322	P		P	21 02 24.2	+0.2
	0.4nm,0.4s,baz=52,slow=4.7,SNR=3.9							
NVAR	Mina Array Bea	74.57	53	P		P	21 02 28.7	+1.3
	0.4nm,0.6s,baz=293,slow=7.6,SNR=3.4							
PDAR	Pinedale Array	77.22	46	P		P	21 02 43.2	+0.7
	0.3nm,0.5s,baz=318,slow=2.0,SNR=4.2							
IDI	Anoyia	86.83	313	P		P	21 03 33.1	+0.2
	9.2nm,0.6s,baz=65,slow=17,SNR=7.6							
TXAR	Lajitas Array	89.70	53	P		P	21 03 47.7	+1.0
	0.4nm,0.6s,baz=305,slow=6.3,SNR=3.2							
TKL	Tuckaleechee C	95.92	36	P		P	21 04 15.7	+0.5
	2.2nm,0.6s,baz=294,slow=20,SNR=4.2							
LPAZ	La Paz	146.30	59	PKPbc		PKPbc	21 10 30.0	-0.1
	0.8nm,0.6s,baz=8.5,slow=1.0,SNR=4.1							

IDC ***13*** *20:51:05.8±1.2, 13.35N×92.65E, h0km, mb3.6/8, mb1 3.7/9, mb1mx3.4/67, mbtmp3.6/9, ML3.1/1, MS3.3/2, Ms1 3.3/2, ms1mx2.5/60, Error ellipse: s-maj=48.6km s-min=20.2km az=55.0*

ISCJB ***13*** *20:51:08.6±0.9, 13.5N±0.1×92.90E±0.10, h29km, mb3.6/8, MS3.3/2, Error ellipse: s-maj=16.6km s-min=12.1km az=149.9*

ISC 13 20:51:10.6±1.2, 13.5N±0.2×92.8E±0.1, h29km, n10, σ0s64/10, mb3.6/8, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
CMAR	Chiang Mai Arr	7.71	49	Pn		Pn	20 53 01.9	+0.9
	0.1nm,0.3s,baz=238,slow=16,SNR=3.1							
CMAR				Sn		Sn	20 54 26.4	-1.0
	0.2nm,0.3s,baz=241,slow=28,SNR=5.3							
WSAR	Wadi Sarin	33.79	292	LR		LR	21 11 02.4	
	comp=Z,36nm,21.2s,baz=1.5,slow=36							
MKAR	Makanchi Array	34.38	347	P		P	20 57 55.6	+0.5
	0.6nm,0.8s,baz=160,slow=8.9,SNR=6.3							
KURBB	Kurchatov Arra	38.84	345	P		P	20 58 33.1	+0.1
	0.6nm,0.7s,baz=160,slow=7.4,SNR=4.3							
ZALV	Zalesovo Beam	40.88	353	P		P	20 58 50.0	+0.1
	0.3nm,0.4s,baz=150,slow=6.5,SNR=4.3							
WRA	Warramunga Arr	52.65	128	P		P	21 00 22.4	-0.2
	0.6nm,0.7s,baz=293,slow=9.9,SNR=6.6							
ASAR	Alice Springs	54.56	132	P		P	21 00 36.5	0.0
	0.4nm,0.6s,baz=315,slow=6.9,SNR=5.4							
FINES	FINESS Array B	67.19	331	P		P	21 02 01.2	-0.6
	1.5nm,1.0s,baz=77,slow=8.7,SNR=3.1							
GERES	GERESS Array B	72.83	317	P		P	21 02 37.0	+0.2
	0.3nm,0.5s,baz=112,slow=6.2,SNR=3.8							
GERES				LR		LR	21 39 38.6	
	comp=Z,24nm,18.4s,baz=277,slow=40							
NOA	NORSAR Array B	74.25	330	P		P	21 02 44.2	-0.7
	0.7nm,0.9s,baz=96,slow=4.5,SNR=2.6							

MEX 13 21:00:02.1±0.3, 28.43N×112.66W, h6km±8km, MD3.8, Gulf of California

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
SRIG	Santa Rosalia	1.16	161	eP		Pg	21 00 21.0	-3.4
SRIG				eS		Sg	21 00 36.0	-3.5
HSIG		1.61	68	eP		Pn	21 00 28.1	-3.1
HSIG				eS		Sn	21 00 47.4	-4.8

ISCJB ***13*** *21:03:58.5±1.1, 2.4N±0.2×89.9E±0.1, h10km, mb3.8/8, MS3.5/1, Error ellipse: s-maj=24.5km s-min=17.2km az=12.3*

IDC ***13*** *21:03:58.9±1.6, 2.44N×89.92E, h0km, mb3.8/8, mb1 3.8/10, mb1mx3.5/70, mbtmp3.7/10, ML3.3/2, MS3.5/1, Ms1 3.5/1, ms1mx2.4/59, Error ellipse: s-maj=40.5km s-min=28.7km az=35.0*

ISC 13 21:04:00.6±1.3, 2.5N±0.2×89.7E±0.1, h10km, n18, σ1s85/12, mb3.9/8, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
PALK	Pallekele	10.18	298	Pn		Pn	21 06 29.1	+2.1
	0.3nm,0.3s,baz=115,slow=16,SNR=2.7							
PALK				Sn		Sn	21 08 17.0	-4.4
	1.3nm,0.3s,baz=118,slow=1.2,SNR=5.8							
CMAR	Chiang Mai Arr	18.25	29	P		P	21 08 13.7	-0.7
	0.0nm,0.3s,baz=232,slow=15,SNR=3.3							
H08S3	Diego Garcia H	19.94	240	T		T	21 29 21.6	
	baz=60,slow=75,SNR=11							
H08S2	Diego Garcia H	19.94	240	T		T	21 29 21.6	
	baz=60,slow=75,SNR=11							
H08S1	Diego Carcia H	19.95	240	T		T	21 29 21.1	
	baz=60,slow=75,SNR=7.8							
H01W3	Cape Leeuwin H	43.66	151	T		T	21 58 44.0	
	baz=316							
H01W2	Cape Leeuwin H	43.67	151	T		T	21 58 42.9	
	baz=316							
H01W1	Cape Leeuwin H	43.67	151	T		T	21 58 41.2	
	baz=316							
MKAR	Makanchi Array	44.61	353	P		P	21 12 13.3	+0.3
	0.5nm,0.5s,baz=164,slow=8.7,SNR=6.7							
SONM	Songino Array	47.41	15	P		P	21 12 35.3	-0.1
	1.6nm,0.4s,baz=192,slow=9.8,SNR=16							
KURBB	Kurchatov Arra	48.89	351	P		P	21 12 47.0	+0.5
	0.5nm,0.2s,baz=178,slow=6.8,SNR=3.9							
WRA	Warramunga Arr	49.11	119	P		P	21 12 47.1	-1.6
	0.6nm,0.5s,baz=307,slow=8.8,SNR=2.7							
ZALV	Zalesovo Beam	51.45	356	P		P	21 13 05.8	-0.2
	0.5nm,0.4s,baz=181,slow=7.5,SNR=3.0							
USRK	Ussuriysk Ar.	55.81	36	LR		LR	21 39 14.3	
	comp=Z,40nm,19.1s,baz=11,slow=38							
BRTR	Keskin Array B	62.80	314	P		P	21 14 28.2	+1.5
	0.3nm,0.6s,baz=121,slow=5.8,SNR=3.2							
FINES	FINESS Array B	75.48	334	P		P	21 15 45.2	+0.5
	2.4nm,1.1s,baz=116,slow=4.4,SNR=3.7							
GERES	GERESS Array B	78.96	319	P		P	21 16 05.4	+0.7
	0.1nm,0.4s,baz=123,slow=3.6,SNR=2.0							
TXAR	Lajitas Array	145.85	21	PKPbc		PKPbc	21 23 40.4	-0.7
	0.4nm,0.8s,baz=48,slow=1.9,SNR=4.5							

**IDC 13 21:08:12.8±1.7, 4.74S×133.88E, h0km, mb3.7/3, mb1 4.0/7, mb1mx3.6/48, mbtmp3.8/7, ML3.9/4, Error ellipse: s-maj=82.9km s-min=20.0km az=76.0, Irian Ja

ASAR	**Alice Springs**	**31.86**	**251**	P	P	21 18 36.0	-0.8	
	4.9nm,0.7s,baz=78,slow=8.8,SNR=32							
CMAR	**Chiang Mai Arr**	**75.26**	**295**	P	P	21 23 56.5	+1.6	
	0.3nm,0.6s,baz=140,slow=4.9,SNR=3.8							
MKAR	**Makanchi Array**	**98.05**	**316**	P	P	21 25 46.8	-1.3	
	0.2nm,0.6s,baz=94,slow=4.6,SNR=2.7							
FINES	**FINESS Array B**	**126.97**	**338**	PKP	PKPdf	21 31 14.6	-0.6	
	0.6nm,0.4s,baz=73,slow=4.8,SNR=6.8							

IDC 13 21:15:16.8±3.1, 3°.69N×94°.67E, h0km, mb3.5/4, mb1 3.5/5, mb1mx3.2/67, mbtmp3.4/5, ML3.2/1, Error ellipse: s-maj=106.3km s-min=27.6km az=61.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**15.26**	**16**	Pn	Pn	21 18 55.9	+2.2
	0.0nm,0.3s,baz=218,slow=13,SNR=5.4						
MKAR	**Makanchi Array**	**44.26**	**348**	P	P	21 23 27.6	-0.5
	0.2nm,0.4s,baz=177,slow=8.5,SNR=4.3						
SONM	**Songino Array**	**45.12**	**11**	P	P	21 23 34.1	-1.0
	0.2nm,0.4s,baz=207,slow=6.1,SNR=2.3						
WRA	**Warramunga Arr**	**45.49**	**123**	P	P	21 23 38.3	-0.1
	0.5nm,0.9s,baz=300,slow=8.7,SNR=3.6						
ZALV	**Zalesovo Beam**	**50.74**	**352**	P	P	21 24 19.1	+0.7
	0.5nm,0.4s,baz=158,slow=6.0,SNR=2.9						

*ISCJB **13** 21:20:38.6±0.3, 45°.71N±0°.01×1°.76W±0°.02, h1km±2km, Error ellipse: s-maj=2.4km s-min=1.9km az=8.0*
*CSEM **13** 21:20:41.3±0.1, 45°.70N×1°.85W, h10km, ML3.7/26, Error ellipse: s-maj=2.3km s-min=1.9km az=116.0*
*LDG **13** 21:20:42.5±0.1, 45°.70N×1°.93W, h3km, Md3.6/4, Ml3.7/35, Error ellipse: s-maj=1.7km s-min=1.3km az=122.0*
*STR **13** 21:20:47.3±0.4, 45°.52N±0°.01×1°.45W±0°.03, h5km, MLv3.4/12*

ISC 13 21:20:41.5±1.1, 45°.70N±0°.02×1°.88W±0°.02, h12km±9km, n159, σ1s54/272, France

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MFF	**Saint Martin d**	**1.50**	**53**	*e*Pn	**Pb**	**21 21 09.4**	**+0.1**
MFF	**Saint Martin d**	**1.50**	**53**	*e*Pg	**Pg**	**21 21 11.4**	**+1.1**
MFF				*e*Sg	**Sg**	**21 21 31.4**	**+1.6**
	381nm,0.3s						
MFF	**Saint Martin d**	**1.50**	**53**	*e*Pn	**Pb**	**21 21 09.4**	**+0.1**
MFF	**Saint Martin d**	**1.50**	**53**	*e*Pg	**Pg**	**21 21 11.4**	**+1.1**
MFF				*e*Sg	**Sg**	**21 21 31.4**	**+1.6**
	190nm,0.3s						
LFF	**La Frestale**	**2.00**	**112**	*e*Pn	**Pn**	**21 21 16.4**	**+1.4**
LFF	**La Frestale**	**2.00**	**112**	*e*Pg	**Pg**	**21 21 19.8**	**0.0**
LFF				*e*Sg	**Sg**	**21 21 46.1**	**+0.4**
	156nm,0.4s						
LFF	**La Frestale**	**2.00**	**112**	*e*Pn	**Pn**	**21 21 16.4**	**+1.4**
LFF	**La Frestale**	**2.00**	**112**	*e*Pg	**Pg**	**21 21 19.8**	**0.0**
LFF				*e*Sg	**Sg**	**21 21 46.1**	**+0.4**
	78nm,0.4s						
QUIF	**Quistinic**	**2.38**	**339**	*e*Pn	**Pn**	**21 21 20.8**	**+0.5**
QUIF	**Quistinic**	**2.38**	**339**	*e*Pg	**Pg**	**21 21 27.5**	**+0.3**
QUIF				*e*Sg	**Sg**	**21 21 57.2**	**-0.9**
	83nm,0.2s						
QUIF	**Quistinic**	**2.38**	**339**	*e*Pn	**Pn**	**21 21 20.8**	**+0.5**
QUIF	**Quistinic**	**2.38**	**339**	*e*Pg	**Pg**	**21 21 27.5**	**+0.3**
QUIF				*e*Sg	**Sg**	**21 21 57.2**	**-0.9**
	41nm,0.2s						
RJF	**Les Rejaudoux**	**2.42**	**98**	*e*Pn	**Pn**	**21 21 21.6**	**+0.8**
RJF	**Les Rejaudoux**	**2.42**	**98**	*e*Pg	**Pg**	**21 21 27.2**	**-0.6**
RJF				*e*Sn	**Sn**	**21 21 51.0**	**+0.6**
RJF				*e*Sg	**Sg**	**21 21 57.5**	**-1.7**
	122nm,0.2s						
RJF	**Les Rejaudoux**	**2.42**	**98**	*e*Pn	**Pn**	**21 21 21.6**	**+0.8**
RJF	**Les Rejaudoux**	**2.42**	**98**	*e*Pg	**Pg**	**21 21 27.2**	**-0.6**
RJF				*e*Sn	**Sn**	**21 21 51.0**	**+0.6**
RJF				*e*Sg	**Sg**	**21 21 57.5**	**-1.7**
	61nm,0.2s						
EALK	**Alkurruntz**	**2.50**	**174**	P	**Pn**	**21 21 22.4**	**+0.4**
	5.8nm,0.7s,SNR=14						
EALK				S	**Sn**	**21 21 52.6**	**+0.2**
	18nm,0.3s,SNR=6.0						
SGMF	**Saint Gilles**	**2.59**	**350**	*e*Pn	**Pn**	**21 21 24.4**	**+1.2**
SGMF	**Saint Gilles**	**2.59**	**350**	*e*Pg	**Pg**	**21 21 31.3**	**+0.1**
SGMF				*e*Sg	**Sg**	**21 22 03.6**	**-1.2**
	53nm,0.2s						
SGMF	**Saint Gilles**	**2.59**	**350**	*e*Pn	**Pn**	**21 21 24.4**	**+1.2**
SGMF	**Saint Gilles**	**2.59**	**350**	*e*Pg	**Pg**	**21 21 31.3**	**+0.1**
SGMF				*e*Sg	**Sg**	**21 22 03.6**	**-1.2**
	27nm,0.2s						
SJPF	**Ste Jean**	**2.63**	**170**	*e*Pn	**Pn**	**21 21 23.7**	**0.0**
SJPF	**Ste Jean**	**2.63**	**170**	*e*Pg	**Pg**	**21 21 31.2**	**-0.7**
SJPF				*e*Sg	**Sg**	**21 22 04.6**	**-1.3**
	44nm,0.3s						
SJPF	**Ste Jean**	**2.63**	**170**	*e*Pn	**Pn**	**21 21 23.7**	**0.0**
SJPF	**Ste Jean**	**2.63**	**170**	*e*Pg	**Pg**	**21 21 31.2**	**-0.7**
SJPF				*e*Sg	**Sg**	**21 22 04.6**	**-1.3**
	22nm,0.3s						
ELAN	**Lanestosa**	**2.71**	**205**	P	**Pn**	**21 21 24.8**	**0.0**
	2.8nm,0.3s,SNR=26						
ELAN				S	**Sn**	**21 21 54.7**	**-2.9**
	SNR=7.9						
ATE	**Arette**	**2.75**	**162**	P	**Pn**	**21 21 25.3**	**-0.1**
	SNR=7.9						
ATE				S	**Sn**	**21 22 00.6**	**+2.1**
	SNR=7.9						
GRR	**Gorron**	**2.78**	**14**	*e*Pn	**Pn**	**21 21 26.1**	**+0.4**
GRR	**Gorron**	**2.78**	**14**	*e*Pg	**Pg**	**21 21 33.8**	**-0.8**
GRR				*e*Sg	**Sb**	**21 22 07.9**	**+3.0**
	55nm,0.2s						
GRR	**Gorron**	**2.78**	**14**	*e*Pn	**Pn**	**21 21 26.1**	**+0.4**
GRR	**Gorron**	**2.78**	**14**	*e*Pg	**Pg**	**21 21 33.8**	**-0.8**
ROSF	**Rostrenen**	**2.80**	**341**	*e*Pn	**Pn**	**21 21 26.8**	**+0.7**
ROSF	**Rostrenen**	**2.80**	**341**	*e*Pg	**Pg**	**21 21 35.0**	**-0.2**
ROSF				*e*Sn	**Sn**	**21 21 59.7**	**-0.1**
ROSF				*e*Sg	**Sg**	**21 22 09.4**	**-2.1**
	49nm,0.2s						
ROSF	**Rostrenen**	**2.80**	**341**	*e*Pn	**Pn**	**21 21 26.8**	**+0.7**
ROSF	**Rostrenen**	**2.80**	**341**	*e*Pg	**Pg**	**21 21 35.0**	**-0.2**
ROSF				*e*Sn	**Sn**	**21 21 59.7**	**-0.1**
ROSF				*e*Sg	**Sg**	**21 22 09.4**	**-2.1**
	24nm,0.2s						
EORO	**Oroz-Betelu**	**2.84**	**172**	P	**Pn**	**21 21 26.1**	**-0.5**
	3.6nm,0.6s,SNR=11						
EORO				S	**Sn**	**21 22 00.3**	**-0.5**
	8.0nm,0.3s,SNR=5.8						
REYF	**Montagne du Re**	**2.84**	**157**	Pg	**Pg**	**21 21 35.4**	**-0.5**
REYF				Sg	**Sg**	**21 22 11.0**	**-1.7**
REYF	**Montagne du Re**	**2.84**	**157**	Pg	**Pg**	**21 21 35.4**	**-0.5**
CAF	**Calviac**	**2.89**	**104**	*e*Pn	**Pn**	**21 21 28.4**	**+1.1**
CAF	**Calviac**	**2.89**	**104**	*e*Pg	**Pg**	**21 21 36.1**	**-0.7**
CAF				*e*Sn	**Sn**	**21 22 00.8**	**-1.1**
CAF				*e*Sg	**Sg**	**21 22 12.6**	**-1.6**
	64nm,0.2s						
CAF	**Calviac**	**2.89**	**104**	*e*Pn	**Pn**	**21 21 28.4**	**+1.1**
CAF	**Calviac**	**2.89**	**104**	*e*Pg	**Pg**	**21 21 36.1**	**-0.7**
CAF				*e*Sn	**Sn**	**21 22 00.8**	**-1.1**
CAF				*e*Sg	**Sg**	**21 22 12.6**	**-1.6**
	32nm,0.2s						
IELO	**Elcoad**	**2.90**	**171**	P	**Pn**	**21 21 26.9**	**-0.5**
	SNR=7.9						
IELO				S	**Sn**	**21 22 01.7**	**-0.5**
	SNR=7.9						
TCF	**Toulx Ste Croi**	**2.91**	**77**	*e*Pn	**Pn**	**21 21 28.4**	**+0.8**
TCF				*e*Sn	**Sn**	**21 22 01.8**	**-0.7**
TCF				*e*Sg	**Sb**	**21 22 11.5**	**+2.7**
	93nm,0.3s						
TCF	**Toulx Ste Croi**	**2.91**	**77**	*e*Pn	**Pn**	**21 21 28.4**	**+0.8**
TCF				*e*Sn	**Sn**	**21 22 01.8**	**-0.7**
TCF				*e*Sg	**Sb**	**21 22 11.5**	**+2.7**
	46nm,0.3s						
ETSF	**Etsaut**	**2.96**	**161**	*e*Pn	**Pn**	**21 21 27.6**	**-0.7**
ETSF	**Etsaut**	**2.96**	**161**	*e*Pg	**Pb**	**21 21 36.4**	**+2.3**
ETSF	**Etsaut**	**2.96**	**161**	*e*Pn	**Pn**	**21 21 27.6**	**-0.7**
ETSF	**Etsaut**	**2.96**	**161**	*e*Pg	**Pb**	**21 21 36.4**	**+2.3**
LABF	**Labassere**	**3.00**	**152**	Pg	**Pg**	**21 21 38.2**	**-0.7**
LABF				Sg	**Sg**	**21 22 16.2**	**-1.6**
LABF	**Labassere**	**3.00**	**152**	Pg	**Pg**	**21 21 38.3**	**-0.7**
EPF	**Esparros**	**3.11**	**148**	*e*Pn	**Pn**	**21 21 30.1**	**-0.2**
EPF	**Esparros**	**3.11**	**148**	*e*Pg	**Pg**	**21 21 39.8**	**-1.2**
EPF				*e*Sn	**Sn**	**21 22 05.9**	**-1.5**
EPF				*e*Sg	**Sg**	**21 22 19.3**	**-2.0**
	32nm,0.2s						
EPF	**Esparros**	**3.11**	**148**	*e*Pn	**Pn**	**21 21 30.1**	**-0.2**
EPF	**Esparros**	**3.11**	**148**	*e*Pg	**Pg**	**21 21 39.8**	**-1.2**
EPF				*e*Sn	**Sn**	**21 22 05.9**	**-1.5**
EPF				*e*Sg	**Sg**	**21 22 19.3**	**-2.0**
	16nm,0.2s						
LDF	**La Druitiere**	**3.13**	**22**	*e*Pn	**Pn**	**21 21 31.0**	**+0.4**
LDF	**La Druitiere**	**3.13**	**22**	*e*Pg	**Pb**	**21 21 39.2**	**+2.2**
LDF				*e*Sn	**Sn**	**21 22 07.1**	**-0.8**
LDF				*e*Sg	**Sg**	**21 22 18.9**	**-3.1**
	73nm,0.4s						
LDF	**La Druitiere**	**3.13**	**22**	*e*Pn	**Pn**	**21 21 31.0**	**+0.4**
LDF	**La Druitiere**	**3.13**	**22**	*e*Pg	**Pb**	**21 21 39.2**	**+2.2**
LDF				*e*Sn	**Sn**	**21 22 07.1**	**-0.8**
FLN	**La Foliniere**	**3.21**	**17**	*e*Pn	**Pn**	**21 21 31.9**	**+0.3**
	baz=194						
FLN				*e*Sn	**Sn**	**21 22 08.9**	**-0.8**
FLN				*e*Sg	**Sg**	**21 22 22.0**	**-2.4**
	77nm,0.4s						
FLN	**La Foliniere**	**3.21**	**17**	*e*Pn	**Pn**	**21 21 31.9**	**+0.3**
FLN				*e*Sn	**Sn**	**21 22 08.9**	**-0.8**
FLN				*e*Sg	**Sg**	**21 22 22.0**	**-2.4**
	38nm,0.4s						
EARI	**Arriondas**	**3.38**	**226**	P	**Pn**	**21 21 33.6**	**-0.5**
	10nm,1.0s,SNR=18						
EARI				S	**Sn**	**21 22 10.1**	**-4.1**
	3.5nm,0.3s,SNR=5.9						
ECHI	**Chisagues Biel**	**3.38**	**153**	P	**Pn**	**21 21 35.5**	**+1.3**
	SNR=7.9						
ECHI				S	**Sn**	**21 22 15.0**	**+0.7**
	SNR=7.9						
BGF	**Bois d'Agland**	**3.39**	**74**	*e*Pn	**Pn**	**21 21 35.1**	**+0.9**
BGF	**Bois d'Agland**	**3.39**	**74**	*e*Pg	**Pg**	**21 21 46.5**	**0.0**
BGF				*e*Sn	**Sn**	**21 22 14.5**	**+0.1**
BGF				*e*Sg	**Sg**	**21 22 29.0**	**-1.4**
	245nm,0.4s						
BGF	**Bois d'Agland**	**3.39**	**74**	*e*Pn	**Pn**	**21 21 35.1**	**+0.9**
BGF	**Bois d'Agland**	**3.39**	**74**	*e*Pg	**Pg**	**21 21 46.5**	**0.0**
BGF				*e*Sn	**Sn**	**21 22 14.5**	**+0.1**
BGF				*e*Sg	**Sg**	**21 22 29.0**	**-1.4**
	123nm,0.4s						
PYM	**Petit Puy Mans**	**3.42**	**87**	Pn	**Pn**	**21 21 35.4**	**+0.8**
PYM	**Petit Puy Mans**	**3.42**	**87**	Pg	**Pg**	**21 21 47.0**	**0.0**
PYM				Sg	**Sg**	**21 22 29.6**	**-1.7**
PYM	**Petit Puy Mans**	**3.42**	**87**	Pn	**Pn**	**21 21 35.5**	**+0.8**
PYM	**Petit Puy Mans**	**3.42**	**87**	Pg	**Pg**	**21 21 47.0**	**0.0**
HYF	**Humbligny**	**3.49**	**62**	*e*Pn	**Pn**	**21 21 36.6**	**+1.0**
HYF	**Humbligny**	**3.49**	**62**	*e*Pg	**Pg**	**21 21 48.3**	**0.0**
HYF				*e*Sg	**Sg**	**21 22 33.7**	**+0.2**
HYF	**Humbligny**	**3.49**	**62**	*e*Pn	**Pn**	**21 21 36.6**	**+1.0**
HYF	**Humbligny**	**3.49**	**62**	*e*Pg	**Pg**	**21 21 48.3**	**0.0**
HYF				*e*Sg	**Sg**	**21 22 33.7**	**+0.2**
AGO	**Saint Agoulin**	**3.52**	**82**	Pn	**Pn**	**21 21 36.7**	**+0.8**
AGO	**Saint Agoulin**	**3.52**	**82**	Pg	**Pg**	**21 21 49.2**	**+0.4**
AGO				Sg	**Sg**	**21 22 33.0**	**-1.3**
AGO	**Saint Agoulin**	**3.52**	**82**	Pn	**Pn**	**21 21 36.7**	**+0.8**
AGO	**Saint Agoulin**	**3.52**	**82**	Pg	**Pg**	**21 21 49.2**	**+0.4**
LBL	**Lubilhac**	**3.64**	**96**	Pn	**Pn**	**21 21 38.5**	**+0.9**
LBL				Sg	**Sg**	**21 22 35.9**	**-2.3**
LBL	**Lubilhac**	**3.64**	**96**	Pn	**Pn**	**21 21 38.6**	**+0.9**
MTLF	**Montolieu**	**3.76**	**127**	*e*Pn	**Pn**	**21 21 40.0**	**+0.7**
MTLF	**Montolieu**	**3.76**	**127**	*e*Pg	**Pg**	**21 21 53.1**	**-0.4**
MTLF				*e*Sg	**Sg**	**21 22 41.0**	**-1.2**
	13nm,0.2s						
MTLF	**Montolieu**	**3.76**	**127**	*e*Pn	**Pn**	**21 21 40.0**	**+0.7**
MTLF	**Montolieu**	**3.76**	**127**	*e*Pg	**Pg**	**21 21 53.1**	**-0.4**
MTLF				*e*Sg	**Sg**	**21 22 41.0**	**-1.2**
	6.4nm,0.2s						
AVF	**Avril sur Loir**	**3.79**	**71**	*e*Pn	**Pn**	**21 21 39.9**	**+0.3**
AVF	**Avril sur Loir**	**3.79**	**71**	*e*Pg	**Pg**	**21 21 53.6**	**-0.4**
AVF				*e*Sn	**Sn**	**21 22 22.8**	**-1.3**
AVF				*e*Sg	**Sg**	**21 22 41.0**	**-2.1**
	40nm,0.4s						
AVF	**Avril sur Loir**	**3.79**	**71**	*e*Pn	**Pn**	**21 21 39.9**	**+0.3**
AVF	**Avril sur Loir**	**3.79**	**71**	*e*Pg	**Pg**	**21 21 53.6**	**-0.4**
AVF				*e*Sn	**Sn**	**21 22 22.8**	**-1.3**
AVF				*e*Sg	**Sg**	**21 22 41.0**	**-2.1**
	20nm,0.4s						
SSF	**Saint Saulge**	**3.97**	**68**	*e*Pn	**Pn**	**21 21 42.3**	**+0.2**
SSF	**Saint Saulge**	**3.97**	**68**	*e*Pg	**Pg**	**21 21 57.1**	**-0.3**
SSF				*e*Sn	**Sn**	**21 22 26.8**	**-1.7**
SSF				*e*Sg	**Sg**	**21 22 46.8**	**-2.0**
	21nm,0.2s						
SSF	**Saint Saulge**	**3.97**	**68**	*e*Pn	**Pn**	**21 21 42.3**	**+0.2**
SSF	**Saint Saulge**	**3.97**	**68**	*e*Pg	**Pg**	**21 21 57.1**	**-0.3**
SSF				*e*Sn	**Sn**	**21 22 26.8**	**-1.7**
SSF				*e*Sg	**Sg**	**21 22 46.8**	**-2.0**
	10nm,0.2s						
CSOR	**Sort**	**3.97**	**146**	P	**Pn**	**21 21 43.6**	**+1.3**
	3.2nm,0.4s,SNR=15						
CSOR				S	**Sn**	**21 22 28.9**	**+0.1**
	SNR=7.9						
SMF	**Signal de Mont**	**4.08**	**75**	*e*Pn	**Pn**	**21 21 44.1**	**+0.4**
SMF	**Signal de Mont**	**4.08**	**75**	*e*Pg	**Pg**	**21 21 58.8**	**-0.8**
SMF				*e*Sn	**Sn**	**21 22 30.7**	**-0.7**
SMF				*e*Sg	**Sg**	**21 22 51.4**	**-1.1**
	16nm,0.2s						
SMF	**Signal de Mont**	**4.08**	**75**	*e*Pn	**Pn**	**21 21 44.1**	**+0.4**
SMF	**Signal de Mont**	**4.08**	**75**	*e*Pg	**Pg**	**21 21 58.8**	**-0.8**
SMF				*e*Sn	**Sn**	**21 22 30.7**	**-0.7**
SMF				*e*Sg	**Sg**	**21 22 51.4**	**-1.1**
	8.2nm,0.2s						
ESAC	**San Caprasio**	**4.11**	**165**	S	**Sn**	**21 22 30.4**	**-1.7**
	SNR=7.9						
CLLI	**Llivia**	**4.25**	**138**	P	**Pn**	**21 21 47.6**	**+1.5**
	8.3nm,1.2s,SNR=20						
CLLI				S	**Sn**	**21 22 36.3**	**+0.6**
	SNR=7.9						
LOR	**Lormes**	**4.26**	**66**	*e*Pn	**Pn**	**21 21 46.2**	**+0.1**
	baz=248						
LOR	**Lormes**	**4.26**	**66**	*e*Pg	**Pg**	**21 22 01.8**	**-1.2**
	baz=246						
LOR				*e*Sn	**Sn**	**21 22 32.7**	**-3.1**
	baz=245						
LOR				*e*Sg	**Sg**	**21 22 54.3**	**-3.9**
	22nm,0.2s,baz=236						
LOR	**Lormes**	**4.26**	**66**	*e*Pn	**Pn**	**21 21 46.2**	**+0.1**
LOR	**Lormes**	**4.26**	**66**	*e*Pg	**Pg**	**21 22 01.8**	**-1.2**
LASF	**Ste Croix**	**4.39**	**110**	*e*Pn	**Pn**	**21 21 49.3**	**+1.4**
LASF				*e*Sg	**Sg**	**21 23 01.8**	**-0.5**
	26nm,0.5s						
LASF	**Ste Croix**	**4.39**	**110**	*e*Pn	**Pn**	**21 21 49.3**	**+1.4**
LASF				*e*Sg	**Sg**	**21 23 01.8**	**-0.5**
	13nm,0.5s						
EPON	**Pontenova**	**4.46**	**240**	P	**Pn**	**21 21 48.8**	**0.0**
	14nm,0.9s,SNR=22						
EPON				S	**Sn**	**21 22 37.0**	**-3.6**
	8.0nm,0.3s,SNR=8.1						
EMIR	**Miracle**	**4.52**	**146**	P	**Pn**	**21 21 54.1**	**+4.4**
	2.6nm,0.3s,SNR=7.8						
EMIR				S	**Sn**	**21 22 43.5**	**+1.3**
	SNR=7.9						
VIVF	**Saint-Julien-l**	**4.70**	**98**	*e*Pn	**Pn**	**21 21 53.6**	**+1.4**
VIVF				*e*Sn	**Sn**	**21 22 45.1**	**-1.5**
VIVF				*e*Sg	**Sg**	**21 23 09.8**	**-2.5**
	21nm,0.4s						
VIVF	**Saint-Julien-l**	**4.70**	**98**	*e*Pn	**Pn**	**21 21 53.6**	**+1.4**
VIVF				*e*Sn	**Sn**	**21 22 45.1**	**-1.5**
VIVF				*e*Sg	**Sg**	**21 23 09.8**	**-2.5**
	10nm,0.4s						
SJAF	**Saint Jean de**	**4.70**	**131**	P	**Pn**	**21 21 53.2**	**+1.0**
	SNR=7.9						
SJAF				S	**Sn**	**21 22 45.8**	**-0.8**
	SNR=7.9						
EJON	**La Jonquera**	**4.73**	**132**	P	**Pn**	**21 21 54.0**	**+1.4**
	2.8nm,0.4s,SNR=11						
EJON				S	**Sn**	**21 22 46.3**	**-1.1**
	SNR=7.9						
EPOB	**Poblet**	**4.85**	**153**	P	**Pn**	**21 21 55.5**	**+1.2**
	SNR=7.9						
EPOB				S	**Sn**	**21 22 50.0**	**-0.4**
	SNR=7.9						
ETOR	**Torete**	**4.88**	**182**	P	**Pn**	**21 21 55.3**	**+0.5**
	1.0nm,0.4s,SNR=6.3						
ETOR				S	**Sn**	**21 22 50.1**	**-1.1**
	SNR=7.9						
ERTA	**Horta de San J**	**5.01**	**160**	P	**Pn**	**21 21 57.5**	**+1.0**
	SNR=7.9						
ERTA				S	**Sn**	**21 22 52.0**	**-2.3**
	SNR=7.9						
ECAL	**Calabor**	**5.15**	**225**	P	**Pn**	**21 21 59.3**	**+0.9**
	3.6nm,0.3s,SNR=10.0						
ECAL				S	**Sn**	**21 22 53.4**	**-4.3**
	SNR=7.9						
EAGO	**Agolada(Pontev**	**5.32**	**239**	P	**Pn**	**21 22 00.3**	**-0.4**
	SNR=7.9						
SFTF	**Sexfontaines**	**5.36**	**60**	*e*Pn	**Pn**	**21 22 01.3**	**+0.1**
	baz=229						
SFTF				*e*Sg	**Sg**	**21 23 32.7**	**-0.6**
	10nm,0.3s						
SFTF	**Sexfontaines**	**5.36**	**60**	*e*Pn	**Pn**	**21 22 01.3**	**+0.1**
SFTF				*e*Sg	**Sg**	**21 23 32.7**	**-0.6**
	5.2nm,0.3s						
EMOS	**Mosqueruela**	**5.43**	**169**	P	**Pn**	**21 22 03.6**	**+1.2**
	SNR=7.9						
EMOS				S	**Sn**	**21 23 04.7**	**-0.2**
	SNR=7.9						
MEZF	**Maizieres J'vi**	**5.50**	**57**	*e*Pn	**Pn**	**21 22 02.7**	**-0.4**
	baz=243						
MEZF	**Maizieres J'vi**	**5.50**	**57**	*e*Pg	**Pg**	**21 22 25.3**	**-1.4**
	baz=249						
MEZF				*e*Sn	**Sn**	**21 23 03.8**	**-2.4**
	baz=236						
MEZF				*e*Sg	**Sg**	**21 23 37.0**	**-0.8**
	21nm,0.4s						
MEZF	**Maizieres J'vi**	**5.50**	**57**	*e*Pn	**Pn**	**21 22 02.7**	**-0.4**
MEZF	**Maizieres J'vi**	**5.50**	**57**	*e*Pg	**Pg**	**21 22 25.3**	**-1.4**
MEZF				*e*Sn	**Sn**	**21 23 03.8**	**-2.4**
MEZF				*e*Sg	**Sg**	**21 23 37.0**	**-0.8**
	11nm,0.4s						
ORIF	**Oris-en-Rattie**	**5.53**	**95**	*e*Sn	**Sn**	**21 23 04.9**	**-2.2**
ORIF				*e*Sg	**Sg**	**21 23 38.0**	**-0.8**
	12nm,0.6s						
ORIF	**Oris-en-Rattie**	**5.53**	**95**	*e*Sn	**Sn**	**21 23 04.9**	**-2.2**
ORIF				*e*Sg	**Sg**	**21 23 38.0**	**-0.8**
	5.8nm,0.6s						
SMRF	**Simiane la Rot**	**5.57**	**105**	*e*Pn	**Pn**	**21 22 04.8**	**+0.6**
SMRF	**Simiane la Rot**	**5.57**	**105**	*e*P	**Pn**	**21 22 08.6**	**+4.4**
SMRF				*e*Sg	**Sg**	**21 23 38.3**	**-2.0**
SMRF	**Simiane la Rot**	**5.57**	**105**	*e*Pn	**Pn**	**21 22 04.8**	**+0.6**
SMRF				*e*Sg	**Sg**	**21 23 38.3**	**-2.0**
CABF	**La Chapelle**	**5.61**	**78**	*e*Sn	**Sn**	**21 23 06.8**	**-2.3**
CABF				*e*Sg	**Sg**	**21 23 39.2**	**-2.2**
	46nm,0.8s						
CABF	**La Chapelle**	**5.61**	**78**	*e*Sn	**Sn**	**21 23 06.8**	**-2.3**
CABF				*e*Sg	**Sg**	**21 23 39.2**	**-2.2**
	23nm,0.8s						
EMAZ	**Mazaricos**	**5.79**	**244**	P	**Pn**	**21 22 06.1**	**-1.0**
	SNR=7.9						
MVO	**Moncorvo**	**5.88**	**221**	P	**Pn**	**21 22 08.9**	**+0.4**
	3.2nm,0.3s,SNR=14						
ELOB	**Lobios**	**5.89**	**232**	P	**Pn**	**21 22 06.8**	**-1.8**
	6.5nm,0.7s,SNR=15						
PAGF	**Fort de Pagny**	**5.92**	**58**	*e*Pn	**Pn**	**21 22 08.8**	**-0.1**
	baz=250						
PAGF				*e*Sg	**Sg**	**21 23 50.3**	**-1.1**
	8.1nm,0.8s						
PAGF	**Fort de Pagny**	**5.92**	**58**	*e*Pn	**Pn**	**21 22 08.8**	**-0.1**
PAGF				*e*Sg	**Sg**	**21 23 50.3**	**-1.1**
	4.1nm,0.8s						
BAIF	**Baives**	**5.98**	**41**	*e*Pn	**Pn**	**21 22 10.1**	**+0.4**
BAIF				*e*Sn	**Sn**	**21 23 13.6**	**-4.4**
BAIF	**Baives**	**5.98**	**41**	*e*Pn	**Pn**	**21 22 10.1**	**+0.4**
LPL	**La Plagne**	**6.04**	**89**	*e*Sg	**Sg**	**21 23 50.6**	**-4.8**
	8.4nm,0.6s						
LPG	**La Plagne**	**6.06**	**89**	*e*Sg	**Sg**	**21 23 55.2**	**-0.7**
	11nm,0.7s						
LPG	**La Plagne**	**6.06**	**89**	*e*Sg	**Sg**	**21 23 55.2**	**-0.7**
	5.3nm,0.7s						
HAU	**Haudompre**	**6.09**	**65**	*e*Pn	**Pn**	**21 22 10.1**	**-1.2**
HAU				*e*Sn	**Sn**	**21 23 18.6**	**-2.3**
HAU				*e*Sg	**Sg**	**21 23 54.6**	**-2.3**
	16nm,0.3s						
HAU	**Haudompre**	**6.09**	**65**	*e*Pn	**Pn**	**21 22 10.1**	**-1.2**
HAU				*e*Sn	**Sn**	**21 23 18.6**	**-2.3**
HAU				*e*Sg	**Sg**	**21 23 54.6**	**-2.3**
	7.8nm,0.3s						
MBDF	**Montbardon**	**6.19**	**96**	*e*Sg	**Sg**	**21 23 57.0**	**-3.0**
MBDF	**Montbardon**	**6.19**	**96**	*e*Sg	**Sg**	**21 23 57.0**	**-3.0**
ESDC	**Sonseca

IDC 13 21:27:58.9±2.0, 7.59S×147.08E, h0km, mb3.2/2, mb1 3.5/3, mb1mx3.2/43, mbtmp3.2/3, ML2.9/1, Error ellipse: s-maj=59.9km s-min=25.9km az=100.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**1.81**	**178**	Pn	Pn	21 28 31.1	-0.3
	9.1nm,0.3s,baz=360,slow=9.7,SNR=15						
PMG				Sn	Sg	21 28 57.2	+0.1
	7.1nm,0.3s,baz=345,slow=19,SNR=11						
WRA	**Warramunga Arr**	**17.42**	**224**	P	Pn	21 32 03.3	-0.3
	0.0nm,0.3s,baz=52,slow=13,SNR=3.2						
ASAR	**Alice Springs**	**20.38**	**217**	P	P	21 32 37.5	0.0
	0.4nm,0.7s,baz=44,slow=11,SNR=3.8						
ILAR	**Eielson Array**	**86.90**	**23**	P	P	21 40 45.5	+0.1
	0.4nm,0.9s,baz=238,slow=5.2,SNR=3.3						

IDC 13 21:33:51.6±10.0, 17.93S×178.00W, h442km±94km, mb3.0/5, mb1 3.3/5, mb1mx2.9/40, mbtmp3.8/5, Error ellipse: s-maj=109.8km s-min=41.2km az=134.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**38.96**	**241**	P	P	21 40 39.0	+0.8
	2.5nm,1.1s,baz=62,slow=8.4,SNR=4.3						
WRA	**Warramunga Arr**	**45.01**	**259**	P	P	21 41 25.4	-1.1
	0.4nm,0.6s,baz=96,slow=7.0,SNR=10						
WRA				PcP	PcP	21 42 57.4	-1.3
	0.6nm,0.9s,baz=91,slow=5.7,SNR=3.7						
ASAR	**Alice Springs**	**45.16**	**254**	P	P	21 41 27.6	0.0
	3.6nm,0.5s,baz=89,slow=8.1,SNR=56						
ASAR				PcP	PcP	21 42 58.4	-0.8
	0.4nm,0.7s,baz=108,slow=3.0,SNR=3.7						
ILAR	**Eielson Array**	**85.82**	**13**	P	P	21 45 42.5	-0.3
	0.2nm,0.5s,baz=220,slow=5.2,SNR=3.8						
CMAR	**Chiang Mai Arr**	**89.26**	**290**	P	P	21 46 01.1	+1.0
	0.3nm,0.8s,baz=108,slow=2.9,SNR=4.1						
BRTR	**Keskin Array B**	**145.08**	**315**	PKPbc	PKPdf	21 52 37.6	-0.6
	0.7nm,0.9s,baz=32,slow=3.1,SNR=4.3						
MMAI	**Mount Meron Ar**	**146.48**	**303**	PKPbc	PKPbc	21 52 42.5	-0.4
	0.7nm,0.5s,baz=56,slow=3.6,SNR=7.0						
GERES	**GERESS Array B**	**147.73**	**345**	PKPbc	PKPbc	21 52 45.2	-0.6
	0.2nm,0.5s,baz=353,slow=4.2,SNR=3.0						

*CSEM **13** 21:59:22.6,38.17N×21.64E,h38km,ML1.7/6*
ATH 13 21:59:22.6,38.17N×21.64E,h38km±2km,ML1.7/6, Error ellipse: s-maj=2.9km s-min=1.3km az=175.0, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RLS	**Riolos of Patr**	**0.18**	**229**	P	Pn	21 59 29.5	-2.1
RLS				S	Sn	21 59 35.0	-4.9
RLS				AML	AML	21 59 35.2	
	comp=E,167μm,0.3s						
RLS				AML	AML	21 59 35.5	
	comp=N,261μm,0.3s						
RLS	**Riolos of Patr**	**0.18**	**229**	P	Pn	21 59 29.6	-2.0
RLS				S	Sn	21 59 35.0	-4.8
DRO	**Drossia**	**0.23**	**165**	P	Pn	21 59 30.6	-0.4
DRO				S	Sn	21 59 36.5	-1.8
DRO				AML	AML	21 59 36.6	
	comp=N,690μm,0.4s						
DRO				AML	AML	21 59 37.7	
	comp=E,995μm,0.2s						
DRO	**Drossia**	**0.23**	**165**	P	Pn	21 59 30.4	-0.6
DRO				S	Sn	21 59 36.1	-2.1
LAKA	**Lakka**	**0.28**	**76**	P	Pn	21 59 30.5	-0.3
LAKA				S	Sn	21 59 36.5	-1.1
LAKA				AML	AML	21 59 36.8	
	comp=N,176μm,0.2s						
LAKA				AML	AML	21 59 37.0	
	comp=E,98μm,0.1s						
LAKA	**Lakka**	**0.28**	**76**	P	Pn	21 59 30.6	-0.2
LAKA				S	Sn	21 59 36.6	-1.1
EFP	**Efpalio**	**0.33**	**40**	P	Pn	21 59 30.8	-0.3
EFP				S	Sn	21 59 37.6	0.0
EFP				AML	AML	21 59 38.0	
	comp=E,366μm,0.2s						
EFP				AML	AML	21 59 38.7	
	comp=N,226μm,0.2s						
EFP	**Efpalio**	**0.33**	**40**	P	Pn	21 59 31.1	+0.1
EFP				S	Sn	21 59 37.7	+0.1
TRIZ	**Trizonia**	**0.39**	**61**	P	Pn	21 59 31.9	+0.2
TRIZ				S	Sn	21 59 39.8	+1.4
TRIZ	**Trizonia**	**0.39**	**61**	P	Pn	21 59 32.0	+0.3
TRIZ				S	Sn	21 59 39.5	+1.1
SERG	**Sergoula**	**0.41**	**54**	P	Pn	21 59 32.2	+0.2
SERG				S	Sn	21 59 39.9	+1.2
SERG				AML	AML	21 59 40.8	
	comp=N,277μm,0.1s						
SERG				AML	AML	21 59 41.8	
	comp=E,215μm,0.3s						
SERG	**Sergoula**	**0.41**	**54**	P	Pn	21 59 32.3	+0.4
SERG				S	Sn	21 59 39.8	+1.1
KLV	**Kalavryta, Ach**	**0.43**	**108**	P	Pn	21 59 33.0	+0.8
KLV				S	Sn	21 59 39.6	+0.5
KLV	**Kalavryta, Ach**	**0.43**	**108**	P	Pn	21 59 32.8	+0.6
KLV				S	Sn	21 59 39.8	+0.7
KALE	**Kalithea**	**0.45**	**61**	P	Pn	21 59 32.9	+0.3
KALE				S	Sn	21 59 41.4	+1.7
KALE				AML	AML	21 59 42.3	
	comp=N,149μm,0.4s						
KALE				AML	AML	21 59 42.3	
	comp=E,90μm,0.2s						
KALE	**Kalithea**	**0.45**	**61**	P	Pn	21 59 33.0	+0.4
KALE				S	Sn	21 59 41.0	+1.3
PDO	**Prodromos**	**0.55**	**320**	P	Pn	21 59 34.6	+0.5
PDO				S	Sn	21 59 43.0	+0.9
PDO	**Prodromos**	**0.55**	**320**	P	Pn	21 59 34.5	+0.4
PDO				S	Sn	21 59 43.1	+1.0
GUR	**Goura**	**0.61**	**113**	P	Pn	21 59 35.1	+0.2
GUR	**Goura**	**0.61**	**113**	P	Pn	21 59 35.2	+0.3
EVR	**Evrytania**	**0.75**	**10**	P	Pn	21 59 38.5	+1.7
EVR	**Evrytania**	**0.75**	**10**	P	Pn	21 59 38.1	+1.3

*CSEM **13** 22:00:48.8±0.2, 43.13N×13.57E, h20km, ML2.5/5, Error ellipse: s-maj=3.9km s-min=2.8km az=63.0*
ROM 13 22:00:48.9±0.1, 43.12N×13.51E, h27km±2km, Md2.1/17, Ml2.1/10, 2D, Error ellipse: s-maj=2.0km s-min=1.2km az=65.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OFFI	**Offida**	**0.23**	**144**	Pg	Pn	22 00 56.1	-0.4
OFFI	**Offida**	**0.23**	**144**	Pg	Pn	22 00 56.1	-0.4
FDMO	**Fiordimonte**	**0.32**	**255**	Pg	Pb	22 00 56.3	-0.1
FDMO				Sg	Sb	22 01 02.1	+0.6
FDMO	**Fiordimonte**	**0.32**	**255**	Pg	Pb	22 00 56.3	-0.1
FDMO				Sg	Sb	22 01 02.1	+0.6
GUMA	**Gualdo di Mace**	**0.32**	**100**	⇓*i*Pg	Pb	22 00 54.2	-2.2
GUMA				Sg	Sb	22 00 58.3	-3.2
	1μm,0.2s						
GUMA	**Gualdo di Mace**	**0.32**	**100**	⇓*i*Pg	Pb	22 00 54.2	-2.2
GUMA				Sg	Sb	22 00 58.3	-3.2
	1μm,0.2s						
CING	**Cingoli**	**0.34**	**319**	Pg	Pb	22 00 56.7	-0.1
CING				Sg	Sb	22 01 02.7	+0.5
	112nm,0.3s						
CING	**Cingoli**	**0.34**	**319**	Pg	Pb	22 00 56.7	-0.1
CING				Sg	Sb	22 01 02.7	+0.5
	112nm,0.3s						
NRCA	**Norcia**	**0.40**	**226**	Pg	Pb	22 00 57.7	0.0
NRCA				Sg	Sb	22 01 04.2	+0.5
NRCA	**Norcia**	**0.40**	**226**	Pg	Pb	22 00 57.7	0.0
NRCA				Sg	Sb	22 01 04.2	+0.5
SNTG	**Esanatoglia**	**0.44**	**289**	Pg	Pb	22 00 58.2	0.0
SNTG				Sg	Sb	22 01 05.4	+0.9
	51nm,0.3s						
SNTG	**Esanatoglia**	**0.44**	**289**	Pg	Pb	22 00 58.2	0.0
SNTG				Sg	Sb	22 01 05.4	+0.9
	51nm,0.3s						
AOI	**Ancona**	**0.44**	**9**	Pg	Pb	22 00 58.0	-0.3
	102nm,0.3s						
AOI	**Ancona**	**0.44**	**9**	Pg	Pb	22 00 58.0	-0.3
	102nm,0.3s						
CESI	**CESI - Serrava**	**0.46**	**256**	Pg	Pb	22 00 58.6	+0.1
CESI				Sg	Sn	22 01 06.3	-0.7
	24nm,0.3s						
CESI	**CESI - Serrava**	**0.46**	**256**	Pg	Pb	22 00 58.6	+0.1
CESI				Sg	Sn	22 01 06.3	-0.7
	24nm,0.3s						
TERO	**Teramo**	**0.50**	**172**	Pg	Pb	22 00 59.0	-0.2
TERO				Sg	Sn	22 01 07.3	-0.7
TERO	**Teramo**	**0.50**	**172**	Pg	Pb	22 00 59.0	-0.2
TERO				Sg	Sn	22 01 07.3	-0.7
SMA1	**SAN MARTINO**	**0.50**	**195**	Pg	Pb	22 00 59.1	-0.2
SMA1				Sg	Sn	22 01 07.4	-0.8
	93nm,0.4s						
SMA1	**SAN MARTINO**	**0.50**	**195**	Pg	Pb	22 00 59.1	-0.2
SMA1				Sg	Sn	22 01 07.4	-0.8
	93nm,0.4s						
ARVD	**Arcevia**	**0.56**	**313**	Pg	Pb	22 01 00.1	-0.1
ARVD	**Arcevia**	**0.56**	**313**	Pg	Pb	22 01 00.1	-0.1
CAMP	**Campotosto**	**0.58**	**187**	Pg	Pb	22 01 00.5	-0.2
CAMP	**Campotosto**	**0.58**	**187**	Pg	Pb	22 01 00.5	-0.2
LNSS	**Leonessa**	**0.62**	**214**	Pg	Pb	22 01 01.1	-0.1
	72nm,0.3s						
LNSS	**Leonessa**	**0.62**	**214**	Pg	Pb	22 01 01.1	-0.1
	72nm,0.3s						
FRON	**Frontone**	**0.70**	**305**	Pg	Pn	22 01 02.9	-0.1
	54nm,0.4s						
FRON	**Frontone**	**0.70**	**305**	Pg	Pn	22 01 02.9	-0.1
	54nm,0.4s						
MPAG	**Monte Paganucc**	**0.75**	**314**	Pg	Pn	22 01 04.5	+0.7
MPAG	**Monte Paganucc**	**0.75**	**314**	Pg	Pn	22 01 04.5	+0.7
T0104	**Madonna delle**	**0.77**	**189**	Pg	Pb	22 01 03.8	+0.1
FSSB	**Fossombrone**	**0.78**	**318**	Pg	Pn	22 01 04.8	+0.6
	191nm,0.4s						
FSSB	**Fossombrone**	**0.78**	**318**	Pg	Pn	22 01 04.8	+0.6
	191nm,0.4s						
PIEI	**Pieia**	**0.82**	**301**	Pg	Pn	22 01 05.0	+0.2
	42nm,0.2s						
PIEI	**Pieia**	**0.82**	**301**	Pg	Pn	22 01 05.0	+0.2
	42nm,0.2s						
FAGN	**Fagnano**	**0.85**	**176**	Pg	Pn	22 01 05.5	+0.3
FAGN	**Fagnano**	**0.85**	**176**	Pg	Pn	22 01 05.5	+0.3
NVLJ	**Novalja**	**1.75**	**34**	*e*Pn	Pn	22 01 18.1	+0.6
NVLJ				Sn	Sn	22 01 38.9	+0.1
NVLJ	**Novalja**	**1.75**	**34**	Sn	Sn	22 01 38.9	+0.1

*ISCJB **13** 22:03:18.1±0.9, 2.2N×0.1×89.67E×0.0, h10km, mb4.0/11, MS3.3/2, Error ellipse: s-maj=20.6km s-min=8.2km az=32.1*
*IDC **13** 22:03:19.4±1.5, 2.25N×89.64E, h0km, mb3.8/8, mb1 3.8/10, mb1mx3.6/69, mbtmp3.7/10, ML3.5/2, MS3.2/4, Ms1 3.2/4, ms1mx2.7/60, Error ellipse: s-maj=39.9km s-min=25.5km az=37.0*
*NEIC **13** 22:03:20.5±0.7, 2.22N×89.67E, h10km, mb4.3/3, Error ellipse: s-maj=18.4km s-min=8.0km az=205.0*
ISC 13 22:03:20.5±1.2, 2.2N×0.2×89.6E×0.1, h10km, n26, σ0.89/19, mb3.9/11, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GSI	**Gunungsitoli**	**7.98**	**96**	*e*Pn	**Pn**	**22 05 15.1**	**-1.7**
	24nm,0.6s						
PALK	**Pallekele**	**10.22**	**300**	Pn	**Pn**	**22 05 46.6**	**-0.8**
	0.5nm,0.3s,baz=115,slow=11,SNR=16						
PALK				Sn	Sn	22 07 31.6	-11
	6.6nm,0.3s,baz=115,slow=19,SNR=17						
PALK				LR	LR	22 09 17.4	
	comp=Z,84nm,19.9s,baz=116,slow=35						
IPM	**Ipoh**	**11.58**	**79**	*e*Pn	**Pn**	**22 06 05.7**	**-0.4**
	15nm,1.0s						
CMAR	**Chiang Mai Arr**	**18.53**	**29**	P	**Pn**	**22 07 38.4**	**+0.8**
	0.1nm,0.3s,baz=221,slow=14,SNR=4.5						
CMAR				LR	LR	22 14 46.8	
	comp=Z,66nm,19.2s,baz=212,slow=37						
HYB	**Hyderabad**	**18.62**	**325**	*i* P	**Pn**	**22 07 38.5**	**-0.1**
HYB				*e*S	**Sn**	**22 11 05.0**	**-2.0**
H08S2	**Diego Garcia H**	**19.72**	**240**	T	T	22 28 17.9	
	baz=59,slow=75,SNR=54						
H08S3	**Diego Garcia H**	**19.72**	**240**	T	T	22 28 18.4	
	baz=59,slow=75,SNR=87						
H08S1	**Diego Garcia H**	**19.73**	**240**	T	T	22 28 18.3	
	baz=59,slow=75,SNR=66						
NIL	**Nilore**	**34.82**	**336**	*e*P	**P**	**22 10 12.2**	**+0.4**
	18nm,0.9s						
H01W3	**Cape Leeuwin H**	**43.48**	**150**	T	T	22 58 18.5	
	baz=314						
H01W2	**Cape Leeuwin H**	**43.49**	**150**	T	T	22 58 20.3	
	baz=314,slow=74						
H01W1	**Cape Leeuwin H**	**43.50**	**150**	T	T	22 58 20.0	
	baz=314,slow=74						
MKAR	**Makanchi Array**	**44.85**	**353**	P	**P**	**22 11 35.2**	**+0.2**
	0.9nm,0.7s,baz=170,slow=9.3,SNR=12						
SONM	**Songino Array**	**47.69**	**15**	P	**P**	**22 11 57.8**	**+0.4**
	1.9nm,0.8s,baz=193,slow=9.3,SNR=12						
WRA	**Warramunga Arr**	**49.07**	**119**	P	**P**	**22 12 08.4**	**0.0**
	0.8nm,1.0s,baz=296,slow=8.6,SNR=4.8						
WRAB	**Tennant Creek**	**49.08**	**119**	P	**P**	**22 12 09.1**	**+0.7**
	3.0nm,1.0s						
KURBB	**Kurchatov Arra**	**49.13**	**351**	P	**P**	**22 12 08.4**	**0.0**
	0.7nm,0.7s,baz=169,slow=7.0,SNR=5.2						
KURK	**Kurchatov**	**49.21**	**351**	P	**P**	**22 12 08.4**	**-0.5**
JNU	**Nakatsue**	**49.34**	**47**	LR	LR	22 34 37.9	
	comp=Z,26nm,18.2s,baz=11,slow=38						
KSRS	**Korea Array**	**49.64**	**40**	LR	LR	22 35 00.6	
	comp=Z,27nm,18.1s,baz=223,slow=38						
ZALV	**Zalesovo Beam**	**51.71**	**356**	P	**P**	**22 12 27.0**	**-0.7**
	0.8nm,0.6s,baz=187,slow=10,SNR=5.4						
BVAR	**Borovoye Array**	**53.09**	**346**	P	**P**	**22 12 37.4**	**-0.6**
	0.7nm,0.8s,baz=139,slow=9.0,SNR=4.2						
ABKAR	**Akbulak array**	**53.28**	**336**	*e*P	**P**	**22 12 40.3**	**+0.8**
	0.6nm,0.4s						
KBZ	**Khabaz**	**58.47**	**322**	P	**P**	**22 13 17.6**	**+0.8**
	1.8nm,1.0s,baz=22,slow=5.6,SNR=4.1						
BRTR	**Keskin Array B**	**62.90**	**314**	P	**P**	**22 13 48.4**	**+1.0**
	0.4nm,0.6s,baz=134,slow=6.9,SNR=3.1						
TXAR	**Lajitas Array**	**146.13**	**21**	PKPbc	**PKPab**	**22 23 02.2**	**-0.2**
	0.3nm,0.7s,baz=270,slow=0.9,SNR=2.7						

*PRU **13** 22:13:53.5, 44.05N×10.92E, h0km*
*ROM **13** 22:13:55.9±0.1, 44.08N×10.90E, h10km±1km, Ml3.3/67, Error ellipse: s-maj=1.9km s-min=1.5km az=19.0*
*GEN **13** 22:13:55.5, 44.05N×10.96E, h15km, ML3.5*
*CSEM **13** 22:13:56.1±0.1, 44.04N×10.92E, h10km, ML3.6/28, Error ellipse: s-maj=2.7km s-min=2.0km az=21.0*
*STR **13** 22:13:56.5±0.3, 44.03N±0.01×10.95E±0.03, h10km, MLv3.5/13*
*ISCJB **13** 22:13:56.2±0.2, 44.07N±0.01×10.90E±0.02, h24km±2km, mb3.4/4, Error ellipse: s-maj=2.4km s-min=1.8km az=15.2*
*IDC **13** 22:13:57.3±1.3, 44.24N×11.15E, h0km, mb3.4/4, mb1 3.6/11, mb1mx3.4/65, mbtmp3.5/11, ML3.5/7, MS2.4/1, Ms1 2.5/1, ms1mx1.9/39, Error ellipse: s-maj=29.3km s-min=15.2km az=121.0*
*LDG **13** 22:13:57.0±0.1, 44.03N×10.92E, h2km, Md3.3/3, Ml3.5/23, Error ellipse: s-maj=2.8km s-min=2.0km az=27.0*
ISC 13 22:13:56.7±0.7, 44.05N±0.02×10.90E±0.01, h13km±5km, n328, σ1.975/425, mb3.5/4, 23C-12D, Northern Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
POPM	**Popiglio**	**0.10**	**269**	P	**Pg**	**22 13 59.6**	**-0.2**
PTF	**Prato**	**0.15**	**125**	⇑*i*Pg	**Pg**	**22 14 00.6**	**+0.1**
PTF	**Prato**	**0.15**	**125**	⇑*i*Pg	**Pg**	**22 14 00.6**	**+0.1**
FNVD	**Fontana Vidola**	**0.20**	**53**	⇑*i*Pg	**Pg**	**22 14 00.2**	**-1.1**
FNVD				Sg	**Sg**	**22 14 03.2**	**-1.3**
	31μm,0.3s						
FNVD	**Fontana Vidola**	**0.20**	**53**	⇑*i*Pg	**Pg**	**22 14 00.2**	**-1.1**
FNVD				Sg	**Sg**	**22 14 03.2**	**-1.3**
	31μm,0.3s						
BDI	**Bagni Di Lucca**	**0.22**	**274**	⇑*i*Pg	**Pg**	**22 14 01.1**	**-0.4**
BDI				Sg	**Sg**	**22 14 04.9**	**+0.1**
	17μm,0.5s						
BDI	**Bagni Di Lucca**	**0.22**	**274**	⇑*i*Pg	**Pg**	**22 14 01.1**	**-0.4**
BDI				Sg	**Sg**	**22 14 04.9**	**+0.1**
	17μm,0.5s						
CRMI	**Carmignano**	**0.26**	**168**	Pg	**Pb**	**22 14 02.9**	**-0.4**
CRMI				Sg	**Sb**	**22 14 07.7**	**0.0**
	5μm,0.6s						
CRMI	**Carmignano**	**0.26**	**168**	Pg	**Pb**	**22 14 02.9**	**-0.4**
CRMI				Sg	**Sb**	**22 14 07.7**	**0.0**
	5μm,0.6s						
ZCCA	**Zocca**	**0.31**	**10**	⇑*i*Pg	**Pg**	**22 14 02.5**	**-0.7**
ZCCA				Sg	**Sb**	**22 14 07.9**	**-1.3**
	9μm,0.7s						
ZCCA	**Zocca**	**0.31**	**10**	⇑*i*Pg	**Pg**	**22 14 02.5**	**-0.7**
ZCCA				Sg	**Sb**	**22 14 07.9**	**-1.3**
	9μm,0.7s						
MAIM	**Mastiano**	**0.32**	**246**	P	**Pg**	**22 14 03.1**	**-0.2**
MAIM				S	**Sg**	**22 14 07.5**	**-0.2**
MAIM				Sg	**Sg**	**22 14 08.1**	**+0.4**
	3μm,0.5s						
MAIM	**Mastiano**	**0.32**	**246**	⇑*i*Pg	**Pg**	**22 14 03.1**	**-0.2**
MAIM				Sg	**Sg**	**22 14 08.1**	**+0.4**
	3μm,0.5s						
SEI	**Scarperia**	**0.33**	**88**	⇑*i*Pg	**Pg**	**22 14 02.8**	**-0.7**
SEI	**Scarperia**	**0.33**	**88**	⇑*i*Pg	**Pg**	**22 14 02.8**	**-0.7**
FIR	**Firenze**	**0.38**	**136**	Pg	**Pb**	**22 14 05.8**	**+0.6**
	4μm,0.6s						
FIR	**Firenze**	**0.38**	**136**	Pg	**Pb**	**22 14 05.8**	**+0.6**
	4μm,0.6s						
SARO	**Sassorosso**	**0.38**	**291**	P	**Pg**	**22 14 03.6**	**-0.9**
SARO				S	**Sg**	**22 14 09.0**	**-0.7**
VLC	**Villacollemand**	**0.39**	**287**	⇓*i*Pg	**Pg**	**22 14 03.6**	**-0.9**
VLC				Sg	**Sg**	**22 14 09.5**	**-0.2**
	4μm,0.7s						
VLC	**Villacollemand**	**0.39**	**287**	⇓*i*Pg	**Pg**	**22 14 03.6**	**-0.9**
VLC				Sg	**Sg**	**22 14 09.5**	**-0.2**
	4μm,0.7s						
ERBM	**Eremo**	**0.51**	**317**	⇓*i*Pg	**Pg**	**22 14 05.9**	**-0.9**
	2μm,0.6s						
ERBM	**Eremo**	**0.51**	**317**	⇓*i*Pg	**Pg**	**22 14 05.9**	**-0.9**
	2μm,0.6s						
CSNT	**Castellina Chi**	**0.64**	**153**	Pg	**Pb**	**22 14 10.3**	**+0.5**
CSNT				Sg	**Sb**	**22 14 19.4**	**+0.7**
	2μm,0.4s						
CSNT	**Castellina Chi**	**0.64**	**153**	Pg	**Pb**	**22 14 10.3**	**+0.5**
CSNT				Sg	**Sb**	**22 14 19.4**	**+0.7**
	2μm,0.4s						
IMOL	**Imola, Italy**	**0.68**	**62**	Pg	**Pn**	**22 14 11.0**	**-1.1**
	236μm,23.0s						
IMOL	**Imola, Italy**	**0.68**	**62**	Pg	**Pn**	**22 14 11.0**	**-1.1**
	236μm,23.0s						
ASQU	**Asqua**	**0.69**	**111**	⇓*i*Pg	**Pb**	**22 14 10.3**	**-0.4**
ASQU				Sg	**Sb**	**22 14 20.7**	**+0.6**
	941nm,0.7s						
ASQU	**Asqua**	**0.69**	**111**	⇓*i*Pg	**Pb**	**22 14 10.3**	**-0.4**
ASQU				Sg	**Sb**	**22 14 20.7**	**+0.6**
	941nm,0.7s						
SFI	**Santa Sofia**	**0.70**	**101**	Pg	**Pb**	**22 14 10.0**	**-0.8**
	2μm,0.8s						
SFI	**Santa Sofia**	**0.70**	**101**	Pg	**Pb**	**22 14 10.0**	**-0.8**
	2μm,0.8s						
RAVA	**Ravarino**	**0.73**	**13**	Pg	**Pb**	**22 14 11.2**	**0.0**
	3μm,0.7s						
RAVA	**Ravarino**	**0.73**	**13**	Pg	**Pb**	**22 14 11.2**	**0.0**
	3μm,0.7s						
FIU	**Minerbio Fiu**	**0.73**	**35**	Pg	**Pb**	**22 14 11.5**	**+0.2**
	2μm,0.6s						
FIU	**Minerbio Fiu**	**0.73**	**35**	Pg	**Pb**	**22 14 11.5**	**+0.2**
	2μm,0.6s						
GRAM	**Graiana**	**0.74**	**307**	P	**Pg**	**22 14 09.8**	**-1.4**
GRAM				S	**Sg**	**22 14 20.5**	**-0.5**
PLMA	**Palmaria, Port**	**0.76**	**271**	Pg	**Pg**	**22 14 10.9**	**-0.5**
	2μm,0.4s						
PLMA	**Palmaria, Port**	**0.76**	**271**	Pg	**Pg**	**22 14 10.9**	**-0.5**
	2μm,0.4s						
NOVE	**Novellara**	**0.76**	**350**	Pg	**Pb**	**22 14 11.7**	**-0.2**
	7μm,0.8s						
NOVE	**Novellara**	**0.76**	**350**	Pg	**Pb**	**22 14 11.7**	**-0.2**
	7μm,0.8s						
CODM	**Codolo**	**0.83**	**295**	P	**Pb**	**22 14 12.8**	**-0.2**
CODM				S	**Sg**	**22 14 22.8**	**-0.9**
PRMA	**PARMA**	**0.83**	**330**	Pg	**Pb**	**22 14 13.0**	**0.0**
	2μm,0.5s						
PRMA	**PARMA**	**0.83**	**330**	Pg	**Pb**	**22 14 13.0**	**0.0**
	2μm,0.5s						
FROS	**Frosini**	**0.86**	**167**	Pg	**Pb**	**22 14 13.5**	**0.0**
	2μm,0.7s						
FROS	**Frosini**	**0.86**	**167**	Pg	**Pb**	**22 14 13.5**	**0.0**
	2μm,0.7s						
TRIF	**Trifonti**	**0.93**	**180**	Pg	**Pn**	**22 14 15.2**	**-0.3**
	732nm,0.4s						
TRIF	**Trifonti**	**0.93**	**180**	Pg	**Pn**	**22 14 15.2**	**-0.3**
	732nm,0.4s						
MSSA	**Maissana**	**1.03**	**286**	Pg	**Pg**	**22 14 15.5**	**-1.1**
	1μm,0.5s						
MSSA	**Maissana**	**1.03**	**286**	Pg	**Pg**	**22 14 15.5**	**-1.1**
	1μm,0.5s						
PARC	**Parchiule**	**1.05**	**112**	Pg	**Pg**	**22 14 16.0**	**-1.0**
	426nm,0.7s						
PARC	**Parchiule**	**1.05**	**112**	Pg	**Pg**	**22 14 16.0**	**-1.0**
	426nm,0.7s						
CAFI	**Castiglion Fio**	**1.06**	**132**	Pg	**Pg**	**22 14 16.1**	**-1.0**
	324nm,0.5s						
CAFI	**Castiglion Fio**	**1.06**	**132**	Pg	**Pg**	**22 14 16.1**	**-1.0**
	324nm,0.5s						
CPGN	**Carpegna, Ital**	**1.06**	**103**	Pg	**Pn**	**22 14 17.1**	**-0.3**
	458μm,20.0s						
CPGN	**Carpegna, Ital**	**1.06**	**103**	Pg	**Pn**	**22 14 17.1**	**-0.3**
	458μm,20.0s						
BADI	**Badiali**	**1.11**	**118**	Pg	**Pg**	**22 14 16.8**	**-1.4**
	551nm,0.7s						
BADI	**Badiali**	**1.11**	**118**	Pg	**Pg**	**22 14 16.8**	**-1.4**
	551nm,0.7s						
ATMC	**Monte Cedrone**	**1.11**	**122**	Pg	**Pg**	**22 14 17.0**	**-1.2**
	1μm,0.9s						
ATMC	**Monte Cedrone**	**1.11**	**122**	Pg	**Pg**	**22 14 17.0**	**-1.2**
	1μm,0.9s						
CASP	**Castiglione de**	**1.25**	**181**	Pg	**Pn**	**22 14 19.7**	**-0.3**
	305nm,0.6s						
CASP	**Castiglione de**	**1.25**	**181**	Pg	**Pn**	**22 14 19.7**	**-0.3**
	305nm,0.6s						
ATPC	**Poggio Castell**	**1.26**	**116**	Pg	**Pn**

ATCC	AVT- Casa Cast	1.53	124		Pg		Pn	22 14 22.3	-1.5	
	534nm,0.8s									
ATCC	AVT- Casa Cast	1.53	124		Pg		Pn	22 14 22.3	-1.5	
	534nm,0.8s									
ARVD	Arcevia	1.58	110		Pg		Pn	22 14 23.9	-0.5	
	508nm,1.1s									
ARVD	Arcevia	1.58	110		Pg		Pn	22 14 23.9	-0.5	
	508nm,1.1s									
SALO	Salr	1.59	351		Pg		Pn	22 14 24.3	-0.4	
	2µm,0.8s									
SALO	Salr	1.59	351		Pg		Pn	22 14 24.3	-0.4	
	2µm,0.8s									
ROVR	Rover¯¤ Verone	1.60	4		Pg		Pn	22 14 23.7	-1.2	
	671nm,0.7s									
ROVR	Rover¯¤ Verone	1.60	4		Pg		Pn	22 14 23.7	-1.2	
	671nm,0.7s									
SNTG	Esanatoglia	1.68	117		Pg		Pn	22 14 24.7	-1.2	
SNTG	Esanatoglia	1.68	117		Pg		Pn	22 14 24.7	-1.2	
MAGA	Magasa	1.74	354		Pg		Pn	22 14 25.7	-1.0	
	1µm,0.5s									
MAGA	Magasa	1.74	354		Pg		Pn	22 14 25.7	-1.0	
	1µm,0.5s									
PCP	Piancastagn	1.76	287		Pg		Pn	22 14 24.9	-2.1	
	310nm,0.8s									
CESI	CESI - Serrava	1.79	125		Pg		Pn	22 14 26.0	-1.4	
	40nm,0.5s									
CESI	CESI - Serrava	1.79	125		Pg		Pn	22 14 26.0	-1.4	
	40nm,0.5s									
QLNO	Quiliano	1.86	279		Pg		Pn	22 14 26.8	-1.5	
	366nm,0.8s									
FDMO	Fiordimonte	1.89	122		Pg		Pn	22 14 27.6	-1.1	
	171nm,0.9s									
FDMO	Fiordimonte	1.89	122		Pg		Pn	22 14 27.6	-1.1	
	171nm,0.9s									
CGRP	Cima Grappa	1.94	19		Pg		Pn	22 14 28.0	-1.6	
	216nm,0.5s									
NRCA	Norcia	2.02	126		Pg		Pn	22 14 29.5	-1.0	
	79nm,0.6s									
NRCA	Norcia	2.02	126		Pg		Pn	22 14 29.5	-1.0	
	79nm,0.6s									
AOI	Ancona	2.02	103		Pg		Pb	22 14 31.5	-1.8	
	246nm,0.9s									
AOI	Ancona	2.02	103		Pg		Pb	22 14 31.5	-1.8	
	246nm,0.9s									
MABI	Malga Bissina	2.03	352		Pg		Pn	22 14 29.8	-1.0	
	109nm,0.6s									
PGF	Pioggiola	2.04	223		ePn		Pn	22 14 30.1	-0.8	
PGF	Pioggiola	2.04	223		ePg		Pg	22 14 35.3	-0.6	
PGF					eSn		Sn	22 14 54.2	-2.0	
	79nm,0.4s									
PGF	Pioggiola	2.04	223		ePn		Pn	22 14 30.1	-0.8	
PGF	Pioggiola	2.04	223		ePg		Pg	22 14 35.3	-0.6	
PGF					eSn		Sn	22 14 54.2	-2.0	
	39nm,0.4s									
CTI	Castel Tesino	2.07	15		Pg		Pn	22 14 29.7	-1.6	
	285nm,0.6s									
LNSS	Leonessa	2.13	132		Pg		Pn	22 14 31.1	-1.0	
	207nm,0.7s									
IMI	Imperia	2.17	267		Pg		Pn	22 14 30.5	-2.2	
	141nm,0.6s									
SMA1	SAN MARTINO	2.27	128		Pg		Pn	22 14 33.7	-0.4	
	241nm,1.1s									
MUGIO	Muggio	2.29	326		Pg		Pn	22 14 34.3	0.0	
	153nm,0.6s									
KOSI	Kohlern	2.44	8		Pg		Pn	22 14 35.8	-0.6	
	144nm,0.6s									
APPI	Appiano	2.44	5		Pg		Pn	22 14 35.8	-0.6	
	206nm,0.5s									
SBF	Sospel	2.51	267		ePn		Pn	22 14 36.3	-0.9	
SBF	Sospel	2.51	267		ePg		Pg	22 14 43.6	-1.2	
SBF					eSn		Sn	22 15 06.1	-1.6	
	100nm,0.4s									
SBF	Sospel	2.51	267		ePn		Pn	22 14 36.3	-0.9	
SBF	Sospel	2.51	267		ePg		Pg	22 14 43.6	-1.2	
SBF					eSn		Sn	22 15 06.1	-1.6	
	50nm,0.4s									
STAL	STALIGIAL	2.56	29		Pg		Pn	22 14 36.2	-1.7	
	131nm,0.5s									
DOI	San Damiano	2.66	281		Pg		Pn	22 14 38.1	-1.3	
	275nm,1.1s									
SKDS	Skadanscina	2.68	55	*i*	Pn		Pn	22 14 38.1	-1.4	
SKDS					eSn		Sn	22 15 10.9	-1.0	
	comp=Z,33nm,0.3s									
ABSI	Aberstueckl	2.70	6		Pg		Pn	22 14 39.1	-0.9	
	comp=Z,324nm,0.5s									
SABO	M.te Sabotino	2.72	44		Pg		Pn	22 14 39.2	-1.0	
	comp=Z,160nm,0.7s									
VINO	Villanova	2.78	37		Pg		Pn	22 14 39.7	-1.3	
	comp=Z,74nm,0.5s									
NVLJ	Novalja	2.90	78	*i*	Pn		Pn	22 14 42.7	+0.1	
NVLJ					Sn		Sn	22 15 16.2	-1.0	
NVLJ	Novalja	2.90	78	*i*	Pn		Pn	22 14 42.6	+0.1	
NVLJ					Sn		Sn	22 15 16.2	-1.0	
ABTA	Abfaltersbach	2.93	22		Pn		Pn	22 14 42.7	-0.4	
	comp=Z,7.6nm,0.2s,SNR=8.2									
ABTA					Sn		Sn	22 15 18.7	+0.5	
	comp=Z,46nm,0.6s									
ABTA	Abfaltersbach	2.93	22		ePn		Pn	22 14 42.7	-0.4	
	comp=Z,7.6nm,0.2s,SNR=8.2									
ABTA					Sn		Sn	22 15 18.7	+0.5	
	comp=Z,46nm,0.6s									
FETA	Feichten	2.98	358		Pn		Pn	22 14 44.8	+1.0	
	comp=Z,30nm,0.4s,SNR=16									
FETA					Sn		Sn	22 15 20.8	+1.4	
	comp=Z,26nm,0.5s									
FETA	Feichten	2.98	358		ePn		Pn	22 14 44.8	+1.0	
	comp=Z,30nm,0.4s,SNR=16									
FETA					eSn		Sn	22 15 20.8	+1.4	
	comp=Z,26nm,0.5s									
MBDF	Montbardon	3.04	284		ePn		Pn	22 14 44.2	-0.4	
MBDF	Montbardon	3.04	284		eP		Pn	22 14 47.6	+3.0	
MBDF					eSn		Sn	22 15 20.5	-0.4	
	comp=Z,105nm,0.7s									
MBDF	Montbardon	3.04	284		ePn		Pn	22 14 44.2	-0.4	
MBDF	Montbardon	3.04	284		eP		Pn	22 14 47.6	+3.0	
MBDF					eSn		Sn	22 15 20.5	-0.4	
	comp=Z,52nm,0.7s									
FRF	La Foret Royal	3.12	263		ePn		Pn	22 14 44.3	-1.2	
FRF					eSn		Sn	22 15 20.3	-2.3	
FRF	La Foret Royal	3.12	263		ePn		Pn	22 14 44.3	-1.2	
FRF					eSn		Sn	22 15 20.3	-2.3	
MYKA	Terra Mystica	3.23	36		Pn		Pn	22 14 46.6	-0.5	
	comp=Z,5.2nm,0.3s									
MYKA					Sn		Sn	22 15 23.5	-2.0	
	comp=Z,17nm,0.4s									
MYKA	Terra Mystica	3.23	36		ePn		Pn	22 14 46.6	-0.5	
	comp=Z,5.2nm,0.3s									
MYKA					eSn		Sn	22 15 23.5	-2.0	
	comp=Z,17nm,0.4s									
WTTA	Wattenberg	3.26	9		Pn		Pn	22 14 48.8	+1.1	
WTTA					Sn		Sn	22 15 26.0	-0.4	
	comp=Z,59nm,0.6s									
WTTA	Wattenberg	3.26	9	*i*	Pn		Pn	22 14 49.0	+1.3	
	comp=Z,19nm,0.2s,SNR=13									
WTTA					eSn		Sn	22 15 26.0	-0.4	
	comp=Z,59nm,0.6s									
LMR	La Mourre	3.26	259		ePn		Pn	22 14 46.4	-1.1	
LMR	La Mourre	3.26	259		eP		Pb	22 14 51.1	-3.4	
LMR					eSn		Sn	22 15 23.5	-2.7	
	comp=Z,13nm,0.3s									
LMR	La Mourre	3.26	259		ePn		Pn	22 14 46.4	-1.1	
LMR	La Mourre	3.26	259		eP		Pb	22 14 51.1	-3.4	
LMR					eSn		Sn	22 15 23.5	-2.7	
	comp=Z,6.4nm,0.3s									
LPG	La Plagne	3.29	298		ePn		Pn	22 14 48.6	+0.4	
LPG	La Plagne	3.29	298		eP		Pn	22 14 51.1	+2.9	
LPG					eSn		Sn	22 15 25.7	-1.6	
	comp=Z,40nm,0.6s									
LPG	La Plagne	3.29	298		ePn		Pn	22 14 48.6	+0.4	
LPG	La Plagne	3.29	298		eP		Pn	22 14 51.1	+2.9	
LPG					eSn		Sn	22 15 25.7	-1.6	
	comp=Z,20nm,0.6s									
MOTA	Moosalm	3.30	2		Pn		Pn	22 14 49.3	+1.1	
	comp=Z,18nm,0.4s,SNR=39									
MOTA					Sn		Sn	22 15 29.4	+2.0	
	comp=Z,36nm,0.8s									
MOTA	Moosalm	3.30	2	*i*	Pn		Pn	22 14 49.3	+1.1	
	comp=Z,18nm,0.4s,SNR=39									
MOTA					eSn		Sn	22 15 29.4	+2.0	
	comp=Z,36nm,0.8s									
LPL	La Plagne	3.31	298		ePn		Pn	22 14 49.2	+0.8	
LPL	La Plagne	3.31	298		eP		Pn	22 14 51.7	+3.3	
LPL					eSn		Sn	22 15 26.1	-1.6	
	comp=Z,36nm,0.4s									
LPL	La Plagne	3.31	298		ePn		Pn	22 14 49.2	+0.8	
LPL	La Plagne	3.31	298		eP		Pn	22 14 51.7	+3.3	
LPL					eSn		Sn	22 15 26.1	-1.6	
	comp=Z,18nm,0.4s									
DAVA	Damuels	3.32	348		Pn		Pn	22 14 49.9	+1.4	
	comp=Z,22nm,0.5s,SNR=11									
DAVA					Sn		Sn	22 15 29.4	+1.6	
	comp=Z,46nm,0.4s									
DAVA	Damuels	3.32	348	*i*	Pn		Pn	22 14 49.9	+1.4	
	comp=Z,22nm,0.5s,SNR=11									
DAVA					eSn		Sn	22 15 29.4	+1.6	
	comp=Z,46nm,0.4s									
WATA	Walderalm	3.32	8		Pn		Pn	22 14 50.2	+1.6	
	comp=Z,47nm,0.2s,SNR=55									
WATA	Walderalm	3.32	8	*i*	Pn		Pn	22 14 50.2	+1.6	
	comp=Z,47nm,0.2s,SNR=55									
RETA	Reutte	3.44	358		Pn		Pn	22 14 51.1	+1.0	
	comp=Z,38nm,0.3s,SNR=20									
RETA					Sn		Sn	22 15 31.4	+0.6	
	comp=Z,18nm,0.5s									
RETA	Reutte	3.44	358	*i*	Pn		Pn	22 14 51.1	+1.0	
	comp=Z,38nm,0.3s,SNR=20									
RETA					eSn		Sn	22 15 31.4	+0.6	
	comp=Z,18nm,0.5s									
KBA	Koelnbreinsper	3.48	29		Pn		Pn	22 14 50.6	-0.2	
	comp=Z,4.8nm,0.3s,SNR=8.9									
KBA					Sn		Sn	22 15 31.7	-0.3	
	comp=Z,23nm,0.6s									
KBA	Koelnbreinsper	3.48	29	*i*	Pn		Pn	22 14 50.6	-0.2	
	comp=Z,4.8nm,0.3s,SNR=8.9									
KBA					eSn		Sn	22 15 31.7	-0.3	
	comp=Z,23nm,0.6s									
OBKA	Obir	3.56	45		Pn		Pn	22 14 51.2	-0.6	
	comp=Z,8.5nm,0.3s									
OBKA	Obir	3.56	45	*i*	Pn		Pn	22 14 51.2	-0.6	
	comp=Z,8.5nm,0.3s									
OZLJ	Ozalj	3.61	63	*i*	Pn		Pn	22 14 52.0	-0.3	
OZLJ					Sn		Sn	22 15 33.2	-1.5	
OZLJ	Ozalj	3.61	63	*i*	Pn		Pn	22 14 51.9	-0.3	
OZLJ					Sn		Sn	22 15 33.2	-1.5	
ORIF	Oris-en-Rattie	3.69	285		ePn		Pn	22 14 54.5	+0.9	
ORIF	Oris-en-Rattie	3.69	285		eP		Pn	22 14 56.3	+2.7	
ORIF					eSn		Sn	22 15 35.1	-1.9	
	comp=Z,75nm,0.8s									
ORIF	Oris-en-Rattie	3.69	285		ePn		Pn	22 14 54.5	+0.9	
ORIF	Oris-en-Rattie	3.69	285		eP		Pn	22 14 56.3	+2.7	
ORIF					eSn		Sn	22 15 35.1	-1.9	
	comp=Z,38nm,0.8s									
LEPF	PUYLOUBIER	3.80	264		P		Pn	22 14 55.5	+0.6	
LEPF					S		Sn	22 15 44.1	+4.6	
LEPF	PUYLOUBIER	3.80	264		P		Pn	22 14 55.6	+0.6	
SMRF	Simiane la Rot	3.84	271		ePn		Pn	22 14 55.9	+0.4	
SMRF					eSg		Sg	22 15 57.5	-2.5	
	comp=Z,74nm,0.9s									
SMRF	Simiane la Rot	3.84	271		ePn		Pn	22 14 55.9	+0.4	
SMRF					eSg		Sg	22 15 57.5	-2.5	
	comp=Z,37nm,0.9s									
SOKA	Soboth	3.93	46		Pn		Pn	22 14 56.3	-0.4	
	comp=Z,6.7nm,0.3s									
SOKA	Soboth	3.93	46	*i*	Pn		Pn	22 14 56.3	-0.4	
	comp=Z,6.7nm,0.3s									
CABF	La Chapelle	4.25	309		ePn		Pn	22 15 02.6	+1.4	
CABF	La Chapelle	4.25	309		ePn		Pn	22 15 02.6	+1.4	
FELD	Feldberg im Sc	4.33	333		P		Pn	22 15 02.8	+0.5	
FELD	Feldberg im Sc	4.33	333		P		Pn	22 15 02.9	+0.5	
LOMF	Lomont	4.36	321		P		Pn	22 15 03.1	+0.3	
LOMF	Lomont	4.36	321		P		Pn	22 15 03.1	+0.3	
MOA	Molln	4.47	31		Pn		Pn	22 15 03.8	-0.4	
	comp=Z,10nm,0.2s,SNR=13									
MOA					Sn		Sn	22 15 56.6	+0.6	
	comp=Z,16nm,0.6s									
MOA	Molln	4.47	31	*i*	Pn		Pn	22 15 03.8	-0.4	
	comp=Z,10nm,0.2s,SNR=13									
MOA					eSn		Sn	22 15 56.6	+0.6	
	comp=Z,16nm,0.6s									
VIVF	Saint-Julien-l	4.53	282		ePn		Pn	22 15 04.5	-0.5	
VIVF	Saint-Julien-l	4.53	282		eP		Pn	22 15 08.4	+3.4	
VIVF					eSn		Sn	22 15 55.1	-2.4	
	comp=Z,6.8nm,0.4s									
VIVF	Saint-Julien-l	4.53	282		ePn		Pn	22 15 04.5	-0.5	
VIVF	Saint-Julien-l	4.53	282		eP		Pn	22 15 08.4	+3.4	
VIVF					eSn		Sn	22 15 55.1	-2.4	
	comp=Z,3.4nm,0.4s									
ARSA	Arzberg	4.56	44		Pn		Pn	22 15 04.5	-0.9	
	comp=Z,8.2nm,0.3s									
ARSA					Sn		Sn	22 15 56.6	-1.6	
	comp=Z,6.8nm,0.6s									
ARSA	Arzberg	4.56	44	*i*	Pn		Pn	22 15 04.5	-0.9	
	comp=Z,8.2nm,0.3s									
ARSA					eSn		Sn	22 15 56.6	-1.6	
	comp=Z,6.8nm,0.6s									
BLY	Banja Luka	4.56	79	⇑	*i*P		Pn	22 15 04.7	-0.7	
BLY	Banja Luka	4.56	79	*s*	Sn		Sn	22 15 50.4	-7.8	
BLY	Banja Luka	4.56	79	⇑	*i*P		Pn	22 15 04.7	-0.7	
MOF	Molkenrain	4.62	327		P		Pn	22 15 06.2	-0.1	
MOF					S		Sn	22 16 04.9	+5.0	
MOF	Molkenrain	4.62	327		P		Pn	22 15 06.2	-0.1	
HINF	Hinteralfeld	4.71	325		ePn		Pn	22 15 07.5	0.0	
HINF					eSn		Sn	22 16 00.1	-1.9	
	comp=Z,47nm,0.6s									
HINF	Hinteralfeld	4.71	325		ePn		Pn	22 15 07.5	0.0	
HINF					eSn		Sn	22 16 00.1	-1.9	
	comp=Z,24nm,0.6s									
ECH	Echery	4.91	329		P		Pn	22 15 10.7	+0.5	
ECH					S		Sn	22 16 12.6	+5.6	
ECH	Echery	4.91	329		P		Pn	22 15 10.8	+0.5	
CDF	Champ du Feu	5.04	331		ePn		Pn	22 15 11.6	-0.4	
CDF					eSn		Sn	22 16 05.0	-5.1	
	comp=Z,25nm,0.5s									
CDF	Champ du Feu	5.04	331		ePn		Pn	22 15 11.6	-0.4	
HAU	Haudompre	5.07	323		ePn		Pn	22 15 12.5	+0.1	
HAU					eSn		Sn	22 16 09.0	-1.8	
	comp=Z,78nm,0.5s									
HAU	Haudompre	5.07	323		ePn		Pn	22 15 12.5	+0.1	
HAU					eSn		Sn	22 16 09.0	-1.8	
	comp=Z,39nm,0.5s									
LASF	Ste Croix	5.08	273		ePn		Pn	22 15 11.9	-0.6	
LASF	Ste Croix	5.08	273		eP		Pn	22 15 16.4	+3.9	
LASF	Ste Croix	5.08	273		ePn		Pn	22 15 11.9	-0.6	
LASF	Ste Croix	5.08	273		eP		Pn	22 15 16.4	+3.9	
STON	Ston	5.09	101		ePn		Pn	22 15 12.4	-0.2	
STON	Ston	5.09	101		ePn		Pn	22 15 12.4	-0.2	
GERES	GERESS Array B	5.18	21		Pn		Pn	22 15 12.8	-1.1	
	comp=Z,1.6nm,0.3s,baz=194,slow=12,SNR=51									
GERES					Sn		Sn	22 16 10.4	-3.1	
	comp=Z,2.5nm,0.3s,baz=201,slow=22,SNR=9.8									
CONA	Conrad Observa	5.20	40		Pn		Pn	22 15 13.5	-0.8	
	comp=Z,9.6nm,0.5s,SNR=10									
CONA					Sn		Sn	22 16 12.7	-1.4	
CONA	Conrad Observa	5.20	40	*i*	Pn		Pn	22 15 13.5	-0.8	
	comp=Z,9.6nm,0.5s,SNR=10									
CONA					eSn		Sn	22 16 12.7	-1.4	
LANF	Langenberg	5.38	338		P		Pn	22 15 17.3	+0.7	
LANF	Langenberg	5.38	338		P		Pn	22 15 17.4	+0.7	
LANF	Langenberg	5.38	338		S		Sn	22 16 24.2	+5.8	
THEF	They Montfort	5.40	323		P		Pn	22 15 17.2	+0.4	
THEF	They Montfort	5.40	323		P		Pn	22 15 17.3	+0.4	
KHC	Kasperske Hory	5.41	19		ePN		Pn	22 15 15.9	-1.2	
KHC					eSN		Sn	22 16 15.3	-3.9	
KHC					eSG		Sg	22 16 51.2	+0.9	
KHC	Kasperske Hory	5.41	19		Pn		Pn	22 15 15.9	-1.2	
LBL	Lubilhac	5.59	285		P		Pn	22 15 19.5	-0.1	
LBL	Lubilhac	5.59	285		P		Pn	22 15 19.5	-0.1	
SMF	Signal de Mont	5.61	300		ePn		Pn	22 15 20.5	+0.7	
SMF					eSn		Sn	22 16 20.6	-3.5	
	comp=Z,22nm,0.5s									
SMF	Signal de Mont	5.61	300		ePn		Pn	22 15 20.5	+0.7	
PAGF	Fort de Pagny	5.76	323		ePn		Pn	22 15 22.3	+0.4	
	baz=135									
PAGF					eSn		Sn	22 16 25.0	-2.7	
	comp=Z,5.0nm,0.5s									
PAGF	Fort de Pagny	5.76	323		ePn		Pn	22 15 22.3	+0.4	
SFTF	Sexfontaines	5.82	318		ePn		Pn	22 15 23.1	+0.4	
	baz=132									
SFTF					eSn		Sn	22 16 26.3	-3.0	
	comp=Z,18nm,0.6s									
SFTF	Sexfontaines	5.82	318		ePn		Pn	22 15 23.1	+0.4	
AGO	Saint Agoulin	5.86	293		P		Pn	22 15 24.1	+0.9	
AGO	Saint Agoulin	5.86	293		P		Pn	22 15 24.1	+0.9	
LOR	Lormes	5.89	306		ePn		Pn	22 15 24.1	+0.4	
	baz=126									
LOR					eSn		Sn	22 16 27.9	-3.1	
	comp=Z,21nm,0.4s,baz=119									
LOR	Lormes	5.89	306		ePn		Pn	22 15 24.1	+0.4	
AVF	Avril sur Loir	5.98	300		ePn		Pn	22 15 25.3	+0.5	
AVF					eSn		Sn	22 16 29.9	-3.2	
	comp=Z,5.3nm,0.5s									
AVF	Avril sur Loir	5.98	300		ePn		Pn	22 15 25.3	+0.5	
ZST	Bratislava	5.98	44		ePn		Pn	22 15 22.7	-2.2	
ZST	Bratislava	5.98	44		ePN		Pn	22 15 22.7	-2.2	
SSF	Saint Saulge	6.00	303		ePn		Pn	22 15 26.0	+0.8	
SSF					eSn		Sn	22 16 30.5	-3.2	
	comp=Z,8.9nm,0.4s									
SSF	Saint Saulge	6.00	303		ePn		Pn	22 15 26.0	+0.8	
MEZF	Maizieres J'vi	6.02	320		ePn		Pn	22 15 26.0	+0.6	
	baz=139									
MEZF	Maizieres J'vi	6.02	320		ePn		Pn	22 15 26.0	+0.6	
TREC	Trest	6.12	29		ePN		Pn	22 15 24.9	-2.0	
TREC					eSN		Sn	22 16 32.8	-4.0	
TREC	Trest	6.12	29		Pn		Pn	22 15 24.9	-2.0	
BBLS	Lazići	6.14	89		eP		Pn	22 15 28.4	+1.2	
MODS	Modra-Piesok	6.19	43		ePn		Pn	22 15 26.5	-1.3	
MODS	Modra-Piesok	6.19	43		ePN		Pn	22 15 26.5	-1.3	
MODS					eSN		Sn	22 16 33.4	-5.0	
BGF	Bois d'Agland	6.21	297		ePn		Pn	22 15 29.0	+1.0	
BGF					eSn		Sn	22 16 35.5	-3.3	
	comp=Z,14nm,0.4s									
BGF	Bois d'Agland	6.21	297		ePn		Pn	22 15 29.0	+1.0	
TEKS	Tekeris	6.21	82		eP		Pn	22 15 28.3	+0.2	
NKC	Novy Kostel	6.28	9		ePN		Pn	22 15 27.0	-2.0	
NKC					eSN		Sn	22 16 36.3	-4.3	
NKC	Novy Kostel	6.28	9		Pn		Pn	22 15 27.0	-2.0	
PDG	Podgorica	6.32	102	⇑	iP		Pn	22 15 30.4	+0.9	
PDG	Podgorica	6.32	102	⇑	iP		Pn	22 15 30.4	+0.9	
MTLF	Montolieu	6.33	267		ePn		Pn	22 15 29.7	0.0	
MTLF	Montolieu	6.33	267		eP		Pn	22 15 33.2	+3.5	
MTLF	Montolieu	6.33	267		ePn		Pn	22 15 29.7	0.0	
SMOL	Smolenice	6.36	43		ePn		Pn	22 15 28.6	-1.5	
SMOL	Smolenice	6.36	43		ePN		Pn	22 15 28.6	-1.5	
SMOL					eSN		Sn	22 16 37.9	-4.6	
CAF	Calviac	6.38	281		ePn		Pn	22 15 30.1	-0.3	
CAF	Calviac	6.38	281		ePn		Pn	22 15 30.1	-0.3	
GOPC	GO Pecny, Ondr	6.44	23		ePN		Pn	22 15 29.8	-1.5	
GOPC	GO Pecny, Ondr	6.44	23		Pn		Pn	22 15 29.8	-1.5	
PRU	Pruhonice	6.44	21		ePN		Pn	22 15 30.1	-1.1	
PRU					eSN		Sn	22 16 40.4	-4.2	
PRU					eSG		Sg	22 17 22.1	-1.3	
	comp=Z,19nm,1.5s									
PRU	Pruhonice	6.44	21		Pn		Pn	22 15 30.1	-1.1	
PRU					Sg		Sg	22 17 22.1	-1.3	
	comp=Z,19nm,1.5s									
TCF	Toulx Ste Croi	6.54	293		ePn		Pn	22 15 33.4	+0.8	
TCF					eSn		Sn	22 16 42.9	-4.1	
	comp=Z,4.7nm,0.4s									
TCF	Toulx Ste Croi	6.54	293		ePn		Pn	22 15 33.4	+0.8	
VRAC	Vranov	6.56	35		Pn		Pn	22 15 31.3	-1.5	
	comp=Z,0.5nm,0.3s,baz=235,slow=15,SNR=3.6									
VRAC					Sn		Sn	22 16 39.9	-7.6	
	comp=Z,0.1nm,0.3s,baz=198,slow=20,SNR=2.1									
VRAC	Vranov	6.56	35	⇓	iP		Pn	22 15 31.0	-1.9	
VRAC	Vranov	6.56	35		ePn		Pn	22 15 30.6	-2.3	
VRAC	Vranov	6.56	35	⇓	iP		Pn	22 15 31.0	-1.9	
HYF	Humbligny	6.62	302		eSn		Sn	22 16 45.0	-4.0	
IVAS	Ivanjica	6.71	91		eP		Pn	22 15 34.7	-0.3	
TRUS	Trudelj	6.84	85		eP		Pn	22 15 36.5	-0.3	
PVCC	Panska Ves	6.95	20		ePN		Pn	22 15 36.8	-1.4	
PVCC	Panska Ves	6.95	20		Pn		Pn	22 15 36.8	-1.4	
VYHS	Vyhne	7.07	48

ORV	Oroville	2.72	3	*e*Pn		Pn	22 19 37.9	+0.6
TIN	Tinemaha, Big baz=268	2.77	84	P		Pn	22 19 39.5	+1.4
ISA	Isabella, Lake baz=297,SNR=18	2.84	113	P		Pn	22 19 39.1	+0.1
ISA	baz=297			S		Sn	22 20 14.4	+1.1
ISA	Isabella, Lake	2.84	113	*e*Pn		Pn	22 19 39.0	0.0
ARVC	Arvin baz=309	2.87	126	P		Pn	22 19 39.3	0.0
YERR	Yerington	2.89	41	*e*Pn		Pn	22 19 42.0	+2.2
CWC	Cottonwood Cre baz=280	2.92	97	P		Pn	22 19 40.6	+0.5
CWC	baz=280			S		Sn	22 20 17.4	+2.0
VCNR	Virginia City	2.94	32	*e*Pn		Pb	22 19 44.1	-1.9
RYN	Ryan	3.08	53	*e*Pg		Pb	22 19 49.9	+1.4
NV01	Mina Array Sit	3.12	58	*e*Pn		Pb	22 19 48.8	-0.4
NV11	Mina Array Sit	3.22	59	*e*Pn		Pb	22 19 49.7	-1.2
OSI	Osito Audit: C	3.27	132	*e*Pg		Pb	22 19 54.2	+2.6
SCZ2	Santa Cruz Isl baz=331	3.29	149	S		Sn	22 20 22.8	-1.3
DAC	Darwin (Calif)	3.34	98	*e*Pn		Pn	22 19 48.7	+2.8
PAHR	Pah Rah Range	3.39	32	*e*Pn		Pb	22 19 51.6	-2.2
O03D	Paynes Creek baz=178	3.46	358	P		Pn	22 19 50.8	+3.3
MPMC	Manual Prospec baz=285,SNR=9.7	3.47	102	P		Pn	22 19 48.1	+0.4
EDW2	Edwards Air Fo baz=305	3.57	122	P		Pn	22 19 49.0	-0.1
GSC	Goldstone, Bar baz=294	4.24	110	P		Pn	22 19 58.2	+0.1
GSC	Goldstone, Bar	4.24	110	*e*Pn		Pn	22 19 58.6	+0.5
TPNV	Topopah Spring baz=271,SNR=7.0	4.36	87	P		Pn	22 20 00.6	+0.7
TPNV	Topopah Spring	4.36	87	*e*Pn		Pn	22 20 05.1	+5.2
R11A	Troy Canyon, C	5.07	71	*e*Pg		Pg	22 20 28.7	-2.1
GMRC	Granite Mounta baz=295	5.30	111	P		Pn	22 20 11.8	-1.0
PFO	Pinyon Flats O baz=309	5.35	125	P		Pn	22 20 13.4	-0.1
KNB	Kanab	7.10	86	*e*Pn		Pn	22 20 37.7	+0.1
MTPU	Mount Pierson	7.65	78	*e*Pn		Pn	22 20 48.0	+2.6

IDC 13 22:31:10.1±9.6, 4°.95S×152°.99E, h118km±65km, mb3.2/2, mb1 3.4/3, mb1mx3.0/46, mbtmpg3.7/3, MS3.0/1, Ms1 3.0/1, ms1mx2.3/19, Error ellipse: s-maj=131.3km s-min=59.2km az=123.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	Port Moresby baz=55,slow=16,SNR=3.2	7.29	232	P	Pn	22 32 53.3	-0.6
PMG				S	Sn	22 34 17.1	+1.9
WRA	Warramunga Arr baz=321,slow=19,SNR=2.6	23.49	229	P	P	22 36 08.8	-0.6
ASAR	Alice Springs baz=53,slow=9.9,SNR=14	26.17	223	P	P	22 36 34.1	+0.4
TGY	Tagaytay City comp=Z,23nm,19.3s,baz=244,slow=36	37.00	301	LR	LR	22 53 18.8	
TORD	Torodi Ar. Bea baz=294,slow=2.0,SNR=4.0	150.53	288	PKPbc	PKPbc	22 50 49.0	-0.1

IDC 13 22:46:09.5±1.5, 0°.23N×98°.38E, h0km, mb3.6/10, mb1 3.7/11, mb1mx3.5/69, mbtmpg3.6/11, ML3.8/1, Error ellipse: s-maj=46.8km s-min=21.0km az=58.0
NEIC 13 22:46:15.7±1.2, 0°.32N×98°.45E, h43km±10km, mb4.2/2, Error ellipse: s-maj=13.0km s-min=9.4km az=218.0
ISCJB 13 22:46:16.3±0.5, 0°.58N±0°.04×98°.50E±0°.05, h43km, mb3.8/10, Error ellipse: s-maj=7.2km s-min=6.3km az=157.8
DJA 13 22:46:17.6±0.6, 0°N±4°×9°9E±°, h26km±10km, M3.7/6, MLv3.7/6

ISC 13 22:46:16.9±0.7, 0°.50N±0°.05×98°.50E±0°.05, h43km, n23, σ1§34/26, mb3.9/10, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PBSI	Pulau Batu	0.59	201	P	Pn	22 46 29.3	+0.3
PBSI				S	Sn	22 46 40.7	+3.1
MNSI	Mandailing Nat	1.12	75	P	Pn	22 46 37.0	+0.8
MNSI				S	Sn	22 46 50.7	+0.3
GSI	Gunungsitoli	1.22	311	P	Pn	22 46 39.0	+1.5
GSI	Gunungsitoli	1.22	311	*e*Pn	Pn	22 46 38.8	+1.2
GSI				*e*Sn	Sn	22 46 53.3	+0.5
SISI	Saibi	1.91	162	P	Pn	22 46 47.9	+0.9
PSI	Prapat	2.32	11	Pn	Pn	22 46 52.4	-0.4
PDSI	Padang	2.41	126	P	Pn	22 46 55.9	+1.9
IPM	Ipoh	4.69	33	*e*Pn	Pn	22 47 27.6	+2.4
CMAR	Chiang Mai Arr 0.1nm,0.3s,baz=191,slow=11,SNR=6.6	17.85	1	Pn	Pn	22 50 22.6	+0.4
PALK	Pallekele 11nm,1.3s	18.98	291	P	P	22 50 32.7	-2.2
WRA	Warramunga Arr 0.5nm,1.0s,baz=303,slow=8.9,SNR=3.0	40.57	122	P	P	22 53 50.3	-2.3
ASAR	Alice Springs 0.1nm,0.3s,baz=192,slow=37,SNR=3.6	41.94	127	P	P	22 54 02.4	-1.5
KSAR	Wonju Array Be	45.67	33	P	P	22 54 33.9	+0.4
KSRS	Korea Array 0.9nm,0.5s,baz=212,slow=9.2,SNR=4.3	45.70	33	P	P	22 54 33.9	+0.2
SONM	Songino Array 0.4nm,0.5s,baz=191,slow=9.0,SNR=5.7	47.64	7	P	P	22 54 49.9	+0.9
MKAR	Makanchi Array 1.0nm,0.5s,baz=154,slow=7.8,SNR=18	48.24	345	P	P	22 54 54.0	+0.5
KURBB	Kurchatov Arra 0.6nm,0.7s,baz=158,slow=5.8,SNR=3.8	52.74	344	P	P	22 55 28.1	+0.7
KURK	Kurchatov	52.80	344	P	P	22 55 28.1	+0.3
ZALV	Zalesovo Beam 1.2nm,0.7s,baz=182,slow=4.5,SNR=5.5	54.46	350	P	P	22 55 39.8	0.0
KLR	Kul'dur 0.0nm,0.4s,baz=150,slow=8.1,SNR=3.2	56.31	26	P	P	22 55 53.6	+0.3
BVAR	Borovoye Array 0.4nm,0.4s,baz=138,slow=9.7,SNR=4.7	57.34	340	P	P	22 56 00.4	-0.2
TAU	Tasmania Unive 2.5nm,0.7s	61.46	141	*e*P	P	22 56 27.8	-1.4
FINES	FINESS Array B 1.2nm,0.6s,baz=132,slow=2.8,SNR=5.3	81.21	332	P	P	22 58 28.0	-0.1

IDC 13 22:47:08.5±2.0, 2°.47N×89°.93E, h0km, mb3.7/2, mb1 3.9/3, mb1mx3.2/71, mbtmpg3.7/3, ML3.5/1, Error ellipse: s-maj=65.3km s-min=32.8km az=43.0, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PALK	Pallekele 0.3nm,0.3s,baz=116,slow=16,SNR=2.7	10.35	298	Pn	Pn	22 49 38.6	+0.1
PALK				Sn	Sn	22 51 23.2	-12
SONM	Songino Array 1.4nm,0.8s,baz=195,slow=9.6,SNR=7.8	47.38	15	P	P	22 55 44.6	+0.1
WRA	Warramunga Arr 0.6nm,0.8s,baz=298,slow=9.0,SNR=5.5	48.94	119	P	P	22 55 56.9	-0.1
TXAR	Lajitas Array 0.3nm,0.5s,baz=18,slow=0.9,SNR=5.2	145.80	21	PKPbc	PKPdf	23 06 49.3	-0.8

IDC 13 22:49:37.4±1.5, 0°.19N×92°.14E, h0km, mb3.6/7, mb1 3.7/8, mb1mx3.4/69, mbtmpg3.5/8, ML3.1/1, Error ellipse: s-maj=49.4km s-min=26.7km az=50.0
ISCJB 13 22:49:40.7±1.3, 0°.3N±0°.2×92°.2E±0°.2, h33km, mb3.6/7, Error ellipse: s-maj=34.4km s-min=23.4km az=145.4

ISC 13 22:49:42.8±1.4, 0°.2N±0°.2×92°.2E±0°.2, h35km, n9, σ0§71/9, mb3.7/7, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	Chiang Mai Arr 0.0nm,0.3s,baz=204,slow=11,SNR=2.9	19.27	20	P	Pn	22 54 06.0	+0.2
WRA	Warramunga Arr 0.9nm,0.6s,baz=297,slow=8.4,SNR=9.3	45.86	118	P	P	22 58 02.0	0.0
MKAR	Makanchi Array 0.3nm,0.7s,baz=166,slow=7.7,SNR=3.8	47.17	351	P	P	22 58 11.0	-1.0
SONM	Songino Array 0.5nm,0.6s,baz=201,slow=7.5,SNR=3.7	48.98	13	P	P	22 58 26.6	+0.6
KURBB	Kurchatov Arra 0.2nm,0.3s,baz=165,slow=7.7,SNR=3.3	51.53	349	P	P	22 58 44.9	-0.2
ZALV	Zalesovo Beam 0.6nm,0.4s,baz=178,slow=7.2,SNR=3.6	53.88	355	P	P	22 59 01.9	-0.5
BRTR	Keskin Array B	66.13	314	P	P	23 00 26.8	-0.3
	0.2nm,0.6s,baz=134,slow=4.8,SNR=2.5						
GERES	GERESS Array B 0.6nm,0.7s,baz=121,slow=4.7,SNR=5.9	82.27	319	P	P	23 02 01.8	+0.9
TXAR	Lajitas Array 0.1nm,0.4s,baz=224,slow=2.5,SNR=3.1	146.91	26	PKPbc	PKPbc	23 09 21.8	-0.6

IDC 13 22:51:41.2±2.3, 0°.99N×91°.35E, h0km, mb3.4/3, mb1 3.6/5, mb1mx3.3/62, mbtmpg3.5/5, ML3.4/2, Error ellipse: s-maj=57.7km s-min=30.3km az=50.0, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PALK	Pallekele 0.3nm,0.3s,baz=113,slow=7.2,SNR=3.5	12.31	301	Pn	Pn	22 54 36.7	-1.4
PALK				Sn	Sn	22 56 47.9	-8.3
CMAR	Chiang Mai Arr 0.0nm,0.3s,baz=223,slow=14,SNR=4.2	18.89	23	P	P	22 56 01.8	-1.8
MKAR	Makanchi Array 0.4nm,0.7s,baz=161,slow=8.6,SNR=5.4	46.30	351	P	P	23 00 09.3	+0.5
WRA	Warramunga Arr 0.5nm,0.6s,baz=296,slow=8.7,SNR=4.3	46.98	119	P	P	23 00 14.0	-0.6
SONM	Songino Array 0.3nm,0.6s,baz=192,slow=9.1,SNR=2.9	48.46	14	P	P	23 00 26.6	+0.9

IDC 13 22:53:36.5±2.4, 36°.08S×179°.80E, h0km, mb3.7/2, mb1 4.0/3, mb1mx3.7/39, mbtmpg3.7/3, ML3.6/1, MS2.5/1, Ms1 2.5/1, ms1mx2.3/40, Error ellipse: s-maj=66.2km s-min=33.2km az=131.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	Urewera 7.6nm,0.3s,baz=116,slow=1.3,SNR=21	3.06	224	Pn	Pn	22 54 26.3	+0.3
URZ				Sn	Sn	22 55 02.3	-0.9
URZ	9.9nm,0.3s,baz=206,slow=19,SNR=5.9			LR	LR	22 55 31.8	
ASAR	comp=Z,78nm,19.0s,baz=57,slow=38 Alice Springs 1.1nm,0.8s,baz=116,slow=7.8,SNR=9.4	41.33	274	P	P	23 01 24.1	0.0
WRA	Warramunga Arr 0.4nm,0.5s,baz=120,slow=7.7,SNR=8.8	42.84	280	P	P	23 01 36.4	0.0
FINES	FINESS Array B 1.7nm,0.8s,baz=52,slow=2.3,SNR=6.9	149.68	335	PKPbc	PKPbc	23 13 26.9	-0.3
BRTR	Keskin Array B 0.6nm,1.0s,baz=92,slow=3.3,SNR=3.2	153.15	288	PKPbc	PKPbc	23 13 35.6	-0.6

NIED 13 22:54:00, 35°.80N×140°.90E, h5km, Mw3.4 Best double couple: Mo1.46000×10^14 NP1:φs180.00000°, δ34.00000°, λ-124.00000°. NP2:φs39.00000°, δ62.00000°, λ-70.00000°.

JMA 13 22:54:15.2±0.1, 35°.78N×140°.85E, h8km±1km, M3.6, 1C-2D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CHOJ	Chosi	0.08	175	⇓P	Pg	22 54 17.1	-0.1
CHOJ				S	Sg	22 54 18.6	-0.1
JCN	Nagara	0.64	236	P	Pb	22 54 28.7	+0.1
JYT	Yasato	0.69	310	⇑P	Pg	22 54 28.6	0.0
JYT				S	Sg	22 54 38.0	+0.3
JHO	Hitachi	0.86	345	⇓P	Pg	22 54 31.0	-0.7
JHO				S	Sg	22 54 42.9	0.0
BSO4	Boso 4	0.89	208	P	Pb	22 54 32.7	-0.2
BSO3	Boso 3	1.01	196	P	Pg	22 54 34.7	0.0
MAT	Matsushiro	2.27	290	P	Pn	22 54 52.2	-0.8

ISCJB 13 22:58:53.5±0.7, 1°.90N±0°.10×89°.74E±0°.04, h10km, mb3.9/15, MS3.3/6, Error ellipse: s-maj=14.7km s-min=5.2km az=15.7
IDC 13 22:58:54.3±1.1, 1°.91N×89°.59E, h0km, mb3.8/13, mb1 4.0/15, mb1mx3.8/62, mbtmpg3.8/15, ML3.9/2, MS3.3/8, Ms1 3.3/8, ms1mx2.9/56, Error ellipse: s-maj=34.6km s-min=18.8km az=41.0
NEIC 13 22:58:55.5±0.7, 1°.89N×89°.69E, h10km, mb4.3/2, Error ellipse: s-maj=17.3km s-min=8.2km az=203.0

ISC 13 22:58:55.2±0.9, 1°.9N±0°.1×89°.65E±0°.07, h10km, n35, σ1§43/32, mb3.9/15, MS3.3/6, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BSI	Banda Aceh	6.70	57	P	Pn	23 00 32.9	-0.8
MLSI	Meulaboh, Aceh	7.16	70	P	Pn	23 00 38.7	-1.3
TPTI	52nm,0.6s,2µm0.3nm	7.65	79	P	Pn	23 00 45.8	-1.0
TPTI	52nm,0.6s,2µm0.3nm			S	Sn	23 02 16.6	+2.9
GSI	Gunungsitoli 36nm,0.6s,0.2nm	7.94	94	P	Pn	23 00 47.5	-3.3
GSI	Gunungsitoli 51nm,0.8s	7.94	94	*e*Pn	Pn	23 00 48.2	-2.7
GSI				*e*Sn	Sn	23 02 19.7	-1.1
LHMI	Lhok Sumawe	8.02	65	P	Pn	23 00 58.6	+6.8
KCSI	Kotacane, Aceh	8.28	78	P	Pn	23 00 54.5	-1.0
KCSI				S	Sn	23 02 28.3	-0.9
PALK	Pallekele 2.0nm,0.3s,baz=116,slow=10,SNR=8.7	10.41	301	Pn	Pn	23 01 24.8	+0.1
PALK	23nm,0.3s,baz=296,slow=6.2,SNR=19			Sn	Sn	23 03 07.9	-14
PALK	Pallekele 9.4nm,0.4s	10.41	301	*e*Pn	Pn	23 01 24.4	-0.4
PALK				Sn	Sn	23 03 07.9	-14
IPM	Ipoh 13nm,0.6s	11.65	77	*e*Pn	Pn	23 01 41.5	-0.2
CMAR	Chiang Mai Arr 0.1nm,0.3s,baz=218,slow=13,SNR=12	18.85	28	P	Pn	23 03 16.0	-0.1
CMAR	comp=Z,68nm,18.7s,baz=212,slow=39			LR	LR	23 11 14.6	
HYB	Hyderabad	18.92	325	*i* P	Pn	23 03 18.0	+1.0
HYB				*e*S	Sn	23 06 45.0	-4.1
H08S2	Diego Garcia H baz=59,slow=75,SNR=36	19.54	241	T	T	23 23 29.2	
H08S3	Diego Garcia H baz=59,slow=75,SNR=28	19.54	241	T	T	23 23 32.5	
H08S1	Diego Garcia H baz=59,slow=75,SNR=28	19.56	241	T	T	23 23 37.0	
LEM	Lembang comp=Z,67nm,18.1s,baz=270,slow=35	19.90	116	LR	LR	23 10 30.8	
LSA	Lhasa 6.2nm,0.8s	27.73	3	*e*P	P	23 04 45.1	+0.6
MKAR	Makanchi Array 0.4nm,0.7s,baz=163,slow=8.6,SNR=5.4	45.22	353	P	P	23 07 13.0	+0.4
MKAR	comp=Z,36nm,19.6s,baz=146,slow=38			LR	LR	23 27 44.9	
GEYT	Alibeck 1.2nm,0.8s,baz=183,slow=10,SNR=3.7	46.10	325	P	P	23 07 20.3	+0.6
SONM	Songino Array 1.3nm,0.4s,baz=194,slow=9.1,SNR=14	48.04	15	P	P	23 07 35.0	+0.2
SONM				LR	LR	23 30 20.6	
WRA	comp=Z,53nm,18.9s,baz=228,slow=39 Warramunga Arr 0.7nm,0.7s,baz=294,slow=8.4,SNR=5.8	48.89	119	P	P	23 07 42.6	+0.9
KURBB	Kurchatov Arra 0.6nm,0.7s,baz=178,slow=7.0,SNR=5.1	49.50	351	P	P	23 07 47.1	+1.3
KURK	Kurchatov	49.57	351	P	P	23 07 47.1	+0.7
KSRS	Korea Array comp=Z,24nm,18.9s,baz=230,slow=38	49.92	40	LR	LR	23 30 13.8	
ASAR	Alice Springs 0.6nm,0.6s,baz=295,slow=7.8,SNR=6.3	49.94	123	P	P	23 07 51.3	+1.5
ZALV	Zalesovo Beam 1.0nm,0.7s,baz=178,slow=10,SNR=5.2	52.07	356	P	P	23 08 05.0	-0.2
ZALV	comp=Z,24nm,20.9s,baz=266,slow=39			LR	LR	23 32 26.7	
BVAR	Borovoye Array 0.4nm,0.7s,baz=138,slow=8.9,SNR=3.3	53.45	346	P	P	23 08 14.6	-0.8
BVAR	comp=Z,25nm,18.4s,baz=133,slow=39			LR	LR	23 33 30.3	
ABKAR	Akbulak array 1.5nm,0.6s	53.62	336	*e*P	P	23 08 16.8	+0.1
MJAR	Matsushiro Arr comp=Z,17nm,19.1s,baz=215,slow=38	56.51	46	LR	LR	23 35 04.6	
KBZ	Khabaz 0.3nm,0.4s,baz=176,slow=4.9,SNR=4.3	58.76	322	P	P	23 08 53.5	0.0
BRTR	Keskin Array B 0.7nm,0.6s,baz=125,slow=6.8,SNR=7.9	63.17	314	P	P	23 09 23.7	-0.1
MLR	Muntele Rosu 0.7nm,0.6s,baz=117,slow=6.8,SNR=6.1	70.47	318	P	P	23 10 10.7	+0.4
FINES	FINESS Array B 1.6nm,0.9s,baz=133,slow=8.1,SNR=3.5	76.00	334	P	P	23 10 41.7	-0.6
GERES	GERESS Array B	79.37	319	P	P	23 11 02.2	+0.6
	0.7nm,0.7s,baz=103,slow=4.2,SNR=5.0						
TXAR	Lajitas Array 0.6nm,0.8s,baz=270,slow=3.6,SNR=6.1	146.47	21	PKPbc	PKPbc	23 18 37.6	0.0

JMA 13 23:07:40.5±0.1, 36°.77N×141°.32E, h27km±1km, M2.8, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ONAJ	Iwakimizuishiy	0.53	309	P	Pb	23 07 51.1	-0.3
JHO	Hitachi	0.62	255	P	Pb	23 07 52.6	-0.3
JHO				S	Sb	23 08 01.3	0.0
JFK	Kawauchi	0.69	329	P	Pb	23 07 53.9	-0.2
JFK				S	Sb	23 08 03.3	0.0
JFT	Otama	1.08	314	*e*S	Sb	23 08 14.7	+0.3
JMM	Marumori	1.17	339	P	Pn	23 08 01.5	+0.4
JMM				S	Sn	23 08 16.5	+0.3
MAT	Matsushiro	2.51	266	P	Pb	23 08 23.2	-1.7
MAT				*e*S	Sb	23 08 56.1	+0.6

ISCJB 13 23:10:25.4±0.7, 35°.13S±0°.05×72°.14W±0°.10, h46km±8km, Error ellipse: s-maj=14.9km s-min=5.1km az=27.5
GUC 13 23:10:26.0±0.6, 35°.15S×72°.12W, h4§1km±1km, ML3.8
SJA 13 23:11:03.7±0.8, 31°.26S×72°.08W, h54km±22km, ML4.1, MW3.8

ISC 13 23:10:26.1±1.3, 35°.14S±0°.05×72°.09W±0°.09, h42km±10km, n15, σ1§96/22, 2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GO05	HualaæØ	0.19	45	*e*P	Pn	23 10 33.4	-0.1
GO05				*i* S	Sn	23 10 38.9	+0.2
GO05	comp=E,20µm,0.3s			IAML		23 10 39.5	
NICH	Los Niches	0.72	79	⇓*i* P	Pn	23 10 39.5	-0.3
NICH				*i* S	Sn	23 10 49.7	0.0
NICH	comp=N,15µm,0.2s			IAML		23 10 51.6	
COCH	Cobquecura	1.14	210	*e*P	Pn	23 10 45.1	-0.4
COCH				*i* S	Sn	23 10 59.8	-0.2
COCH	comp=N,1µm,0.9s			IAML		23 11 04.2	
CCHI	Chillan	1.46	180	*e*P	Pn	23 10 50.1	+0.2
CCHI				*i* S	Sn	23 11 08.6	+0.8
LMEL	Las Melosas	2.02	51	*e*P	Pn	23 10 58.6	+0.7
LMEL				*i* S	Sn	23 11 23.8	+1.7
LMEL	comp=N,1µm,0.8s			IAML		23 11 28.8	
PEL	Peldehue	2.31	31	*e*P	Pn	23 11 02.2	+0.6
PEL				*i* S	Sn	23 11 28.6	-0.4
PEL	comp=N,189nm,0.9s			IAML		23 11 38.9	
ROCH	El Roble	2.34	23	*e*P	Pn	23 11 03.0	+0.7
ROCH				*i* S	Sn	23 11 31.1	+1.2
ROCH	comp=N,1µm,0.5s			IAML		23 11 43.1	
FCH	Farellones	2.35	40	⇓*i* P	Pn	23 11 03.3	+0.9
FCH				*i* S	Sn	23 11 31.9	+1.7
FCH	comp=E,716nm,0.2s			IAML		23 11 37.7	
ZON	Zonda	4.58	39	*i* S	Sn	23 12 24.1	-0.9
RTLL	Cerro Villicun	4.86	40	*i* S	Sn	23 12 24.8	-7.0
AROD	Rodeo	5.43	25	*i* P	Pn	23 11 44.1	-0.8
ACDV	Cuesta del Vie	5.55	28	*i* P	Pn	23 11 48.5	+2.1
LCO	Las Campanas	6.23	11	*i* P	Pn	23 11 44.8	-11
LCO				*i* S	Sn	23 12 06.5	-59
AGUA	GUANDACOL	6.41	29	*i* P	Pn	23 11 59.7	+1.6
AGUA				*i* S	Sn	23 12 36.0	-34
VCA	Vinchina	7.19	28	*i* P	Pn	23 12 08.0	-0.8
VCA				*i* S	Sn	23 12 53.6	-36
VCA	comp=Z,221nm,0.3s			IAML		23 12 55.4	

ISCJB 13 23:16:09.9±1.4, 1°.3N±0°.2×91°.5E±0°.1, h10km, mb3.6/4, Error ellipse: s-maj=28.0km s-min=18.8km az=25.7
IDC 13 23:16:10.7±1.9, 1°.30N×91°.56E, h0km, mb3.5/4, mb1 3.6/6, mb1mx3.3/65, mbtmpg3.5/6, ML3.2/2, Error ellipse: s-maj=55.5km s-min=26.9km az=53.0

ISC 13 23:16:11.7±1.5, 1°.3N±0°.2×91°.4E±0°.1, h10km, n10, σ1§73/8, mb3.7/4, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PALK	Pallekele 0.2nm,0.3s,baz=118,slow=17,SNR=2.7	12.21	299	Pn	Pn	23 19 07.3	+1.4
PALK				Sn	Sn	23 21 19.8	-2.3
CMAR	0.4nm,0.3s,baz=272,slow=1.1,SNR=4.0 Chiang Mai Arr 0.0nm,0.3s,baz=213,slow=13,SNR=3.3	18.57	23	P	P	23 20 27.4	-1.6
H08S2	Diego Garcia H baz=72,slow=75,SNR=12	20.86	244	T	T	23 43 03.8	
H08S3	Diego Garcia H baz=72,slow=75,SNR=11	20.87	245	T	T	23 43 04.7	
H08S1	Diego Garcia H baz=72,slow=75,SNR=11	20.88	244	T	T	23 43 04.7	
MKAR	Makanchi Array 0.2nm,0.7s,baz=155,slow=7.2,SNR=3.0	45.99	351	P	P	23 24 34.7	-0.5
WRA	Warramunga Arr 0.8nm,1.0s,baz=301,slow=8.4,SNR=3.8	47.08	119	P	P	23 24 43.3	-0.9
SONM	Songino Array 0.3nm,0.5s,baz=192,slow=13,SNR=3.0	48.12	14	P	P	23 24 52.9	+0.9
ZALV	Zalesovo Beam 0.9nm,0.7s,baz=187,slow=10,SNR=2.4	52.74	355	P	P	23 25 28.4	+1.8
TXAR	Lajitas Array 0.2nm,0.6s,baz=8.1,slow=1.9,SNR=2.3	146.28	24	PKPbc	PKPbc	23 35 53.4	-0.1

ISN 13 23:20:27.3±0.9, 38°.87N×43°.41E, h13km±31km, ML3.4
ISK 13 23:20:30.6, 38°.72N×43°.39E, h5km, ML3.3/9
DDA 13 23:20:31.7, 38°.69N×43°.43E, h7km, Ml3.3
ATA 13 23:20:31.0±1.7, 38°.71N×43°.37E, h7km±23km, ML3.6, MW3.8
CSEM 13 23:20:32.0±0.1, 38°.72N×43°.35E, h2km, ML3.3, Error ellipse: s-maj=3.9km s-min=3.1km az=139.0

ISC 13 23:20:32.8±0.8, 38°.72N±0°.02×43°.37E±0°.02, h11km±6km, n81, σ1§25/125, 6C-14D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VANB	Van	0.12	175	PG	Pg	23 20 35.6	-0.3
VANB				SG	Sg	23 20 39.9	+1.7
VANB	Van	0.12	175	*e*Pg	Pg	23 20 35.6	-0.3
VANB				*e*Sg	Sg	23 20 39.9	+1.7
TVAN	Van	0.19	172	*i* P	Pg	23 20 35.6	-1.4
TVAN	Van	0.19	172	P	Pg	23 20 35.6	-1.4
ERCV	ERCIS-VAN	0.30	355	PG	Pg	23 20 37.8	-1.2
ERCV				SG	Sg	23 20 43.7	+0.6
ERCV	ERCIS-VAN	0.30	355	*e*Pg	Pg	23 20 37.8	-1.2
ERCV				*e*Sg	Sg	23 20 43.7	+0.6
VMUR	Van-Muradiye	0.31	30	*i* P	Pg	23 20 38.2	-1.0
VMUR				*i* S	Sb	23 20 45.1	-0.6
VMUR	Van-Muradiye	0.31	30	P	Pg	23 20 38.2	-1.0
VMUR				S	Sb	23 20 45.2	-0.6
GEVA	Gevas	0.48	211	*i* P	Pg	23 20 40.3	-1.9
GEVA				*e*S	Sg	23 20 47.5	-1.0
GEVA	comp=Z,331nm,0.4s			IAML		23 20 59.3	
GEVA	Gevas	0.48	211	*i* P	Pg	23 20 40.6	-1.6
GEVA				*i* S	Sg	23 20 49.1	+0.6
GEVA	Gevas	0.48	211	P	Pg	23 20 40.6	-1.6
GEVA				S	Sg	23 20 49.1	+0.6
ADCV	BITLIS_Adilcev	0.52	280	*i* P	Pg	23 20 42.5	-0.4
ADCV				*i* S	Sb	23 20 52.0	+0.4
ADCV	BITLIS_Adilcev	0.52	280	P	Pg	23 20 42.5	-0.4
ADCV				S	Sb	23 20 52.0	+0.4
CLDR	Caldiran	0.60	45	PG	Pg	23 20 42.4	-2.1
CLDR				SG	Sg

TUTA	**Tutak**	**0.81**	**328**	P	**Pg**	**23 20 47.5**	**-1.0**
TUTA				S	**Sb**	**23 21 00.1**	**-0.1**
DYDN	**Diyadin**	**0.86**	**16**	*eP*	**Pg**	**23 20 48.8**	**-0.6**
DYDN				*eS*	**Sg**	**23 21 00.8**	**+0.1**
DYDN				IAML		23 21 10.2	
	comp=Z,95nm,0.4s						
AGRB	**Hanur-Agry**	**0.91**	**341**	PG	**Pg**	**23 20 49.2**	**-1.1**
AGRB				SG	**Sb**	**23 21 02.8**	**-0.1**
AGRB	**Hanur-Agry**	**0.91**	**341**	*ePg*	**Pg**	**23 20 49.2**	**-1.1**
AGRB				*eSg*	**Sb**	**23 21 02.8**	**-0.1**
GURO	**Guroymak-BITLI**	**1.06**	**261**	PG	**Pb**	**23 20 51.6**	**-1.7**
GURO				SG	**Sn**	**23 21 07.6**	**-1.1**
GURO	**Guroymak-BITLI**	**1.06**	**261**	*ePg*	**Pb**	**23 20 51.6**	**-1.7**
GURO				*eSg*	**Sn**	**23 21 07.6**	**-1.1**
EKAR	**Karacoban**	**1.15**	**298**	*eP*	**Pg**	**23 20 55.4**	**+0.4**
EKAR				IAML		23 21 19.9	
	comp=Z,88nm,0.3s						
EKAR	**Karacoban**	**1.15**	**298**	*i* P	**Pb**	**23 20 53.9**	**-1.0**
EKAR				*i* S	**Sn**	**23 21 14.9**	**+3.8**
EKAR	**Karacoban**	**1.15**	**298**	P	**Pb**	**23 20 53.9**	**-1.0**
IGDI	**IGDIR**	**1.27**	**25**	*eP*	**Pn**	**23 20 56.0**	**-0.7**
IGDI				*eS*	**Sg**	**23 21 14.6**	**+0.8**
IGDI				IAML		23 21 19.4	
	comp=Z,59nm,0.5s						
EATA	**Eleskirt**	**1.33**	**329**	*eP*	**Pn**	**23 20 57.1**	**-0.6**
EATA				*eS*	**Sg**	**23 21 16.7**	**+1.0**
EATA				IAML		23 21 21.1	
	comp=Z,48nm,0.4s						
EATA	**Eleskirt**	**1.33**	**329**	*i* P	**Pn**	**23 20 57.3**	**-0.4**
EATA				*i* S	**Sg**	**23 21 17.2**	**+1.4**
EATA	**Eleskirt**	**1.33**	**329**	P	**Pn**	**23 20 57.3**	**-0.4**
EATA				S	**Sg**	**23 21 17.2**	**+1.4**
SRTM	**Siirt_Merkez**	**1.35**	**238**	*i* P	**Pb**	**23 20 57.9**	**-0.4**
SRTM				*i* S	**Sg**	**23 21 18.2**	**+1.8**
SRTM	**Siirt_Merkez**	**1.35**	**238**	P	**Pb**	**23 20 57.9**	**-0.4**
SRTM				S	**Sg**	**23 21 18.2**	**+1.8**
SIRT	**Sirnak**	**1.42**	**212**	PN	**Pn**	**23 20 58.5**	**-0.2**
SIRT				SN	**Sg**	**23 21 19.1**	**+0.5**
SIRT	**Sirnak**	**1.42**	**212**	*ePn*	**Pn**	**23 20 58.5**	**-0.2**
SIRT				*eSn*	**Sg**	**23 21 19.1**	**+0.5**
TASB	**TASBURUN-IGDIR**	**1.43**	**28**	PN	**Pb**	**23 20 59.1**	**-0.5**
TASB				SN	**Sg**	**23 21 19.1**	**+0.2**
TASB	**TASBURUN-IGDIR**	**1.43**	**28**	*ePn*	**Pb**	**23 20 59.1**	**-0.5**
TASB				*eSn*	**Sg**	**23 21 19.1**	**+0.2**
HYR	**Heyderabad**	**1.52**	**49**	⇓P	**Pn**	**23 20 59.9**	**-0.2**
HYR				⇑S	**Sg**	**23 21 22.7**	**+0.9**
VRTB	**Varto-Mus**	**1.56**	**287**	PN	**Pb**	**23 21 01.2**	**-0.6**
VRTB	**Varto-Mus**	**1.56**	**287**	*ePn*	**Pb**	**23 21 01.2**	**-0.6**
DIGO	**Kars**	**1.69**	**0**	*eP*	**Pb**	**23 21 03.1**	**-1.1**
DIGO				IAML		23 21 34.9	
	comp=Z,23nm,0.6s						
NAX	**Nakhchivan**	**1.71**	**74**	⇓P	**Pn**	**23 21 03.2**	**+0.5**
NAX				⇑S	**Sg**	**23 21 29.5**	**+1.5**
HOMI	**Horasan**	**1.75**	**320**	*eP*	**Pb**	**23 21 04.3**	**-0.8**
HOMI				*eS*	**Sg**	**23 21 31.6**	**+2.6**
HOMI				IAML		23 21 36.4	
	comp=Z,42nm,0.6s						
SBZ	**Shahbuz**	**1.83**	**68**	⇓P	**Pn**	**23 21 05.0**	**+0.7**
SBZ				⇓S	**Sg**	**23 21 33.5**	**+1.9**
KARS	**Kars**	**1.92**	**353**	PN	**Pn**	**23 21 05.7**	**+0.1**
KARS	**Kars**	**1.92**	**353**	*ePn*	**Pn**	**23 21 05.7**	**+0.1**
ERZM	**Erzurum**	**1.96**	**308**	*eP*	**Pb**	**23 21 08.4**	**-0.2**
ERZM				*eS*	**Sg**	**23 21 36.5**	**+0.7**
EAK	**Akyaka**	**1.97**	**5**	*eP*	**Pg**	**23 21 09.8**	**-0.8**
EAK				IAML		23 21 51.8	
	comp=Z,34nm,0.7s						
SENK	**Senkaya-Erzuru**	**2.00**	**337**	PN	**Pn**	**23 21 07.3**	**+0.5**
SENK	**Senkaya-Erzuru**	**2.00**	**337**	*ePn*	**Pn**	**23 21 07.3**	**+0.5**
ORD	**Ordubad**	**2.06**	**83**	⇑P	**Pn**	**23 21 08.5**	**+1.1**
ORD				⇑S	**Sg**	**23 21 39.6**	**+0.7**
ECAT	**Cat-ERZURUM**	**2.06**	**296**	*eP*	**Pb**	**23 21 09.3**	**-1.1**
ECAT				IAML		23 21 50.4	
	comp=Z,15nm,0.6s						
BNGB	**Bing¨ll**	**2.12**	**278**	PN	**Pn**	**23 21 08.9**	**+0.5**
BINT	**Bingol**	**2.26**	**275**	*ePn*	**Pn**	**23 21 08.9**	**-1.4**
KOPT	**Kop Dagi**	**2.58**	**301**	*eP*	**Pb**	**23 21 19.6**	**+0.3**
KOPT				IAML		23 22 03.6	
	comp=Z,9.8nm,0.5s						
MAZI	**Mazidag**	**2.63**	**242**	PN	**Pn**	**23 21 15.4**	**+0.1**
MAZI	**Mazidag**	**2.63**	**242**	*ePn*	**Pn**	**23 21 15.4**	**+0.1**
GDB	**GEDABAY**	**2.71**	**42**	⇑P	**Pn**	**23 21 17.1**	**+0.5**
GDB				⇓S	**Sb**	**23 21 53.4**	**-1.5**
QZX	**Qazax, Azerbai**	**2.80**	**33**	⇓P	**Pn**	**23 21 17.1**	**-0.5**
QZX				⇓S	**Sn**	**23 21 53.7**	**+2.4**
EPOS	**Posof**	**2.83**	**350**	*eP*	**Pb**	**23 21 23.7**	**+0.3**
EPOS				IAML		23 21 47.9	
	comp=Z,2.5nm,0.6s						
BAYB	**BAYBURT**	**2.86**	**304**	*eP*	**Pb**	**23 21 21.2**	**-2.8**
BAYB				IAML		23 21 50.9	
	comp=Z,3.7nm,0.6s						
GANJ	**Ganja**	**2.98**	**49**	⇓P	**Pn**	**23 21 20.9**	**+0.8**
GANJ				⇓S	**Sb**	**23 22 01.0**	**-1.4**
BAYT	**Ayd¨n–ntepe-Bay**	**3.01**	**305**	PN	**Pn**	**23 21 21.4**	**+0.8**
BAYT	**Ayd¨n–ntepe-Bay**	**3.01**	**305**	*ePn*	**Pn**	**23 21 21.4**	**+0.8**
TNCL	**Tunceli-Merkez**	**3.02**	**279**	*eP*	**Pb**	**23 21 25.3**	**-1.3**
TNCL				IAML		23 22 25.2	
	comp=Z,6.2nm,0.6s						
EUZM	**Uzumlu**	**3.02**	**290**	*eP*	**Pb**	**23 21 23.9**	**-2.8**
EUZM				IAML		23 22 16.6	
	comp=Z,2.1nm,0.7s						
PTK	**Pertek**	**3.12**	**274**	PN	**Pn**	**23 21 22.9**	**+0.8**
PTK	**Pertek**	**3.12**	**274**	*ePn*	**Pn**	**23 21 22.9**	**+0.8**
DGRG	**David-gareji**	**3.13**	**29**	*eP*	**Pn**	**23 21 22.8**	**+0.7**
DGRG				IAML		23 21 54.5	
	comp=Z,6.9nm,0.6s						
TBLG	**Delisi**	**3.19**	**19**	*eP*	**Pn**	**23 21 24.8**	**+1.9**
TBLG				IAML		23 22 22.8	
	comp=Z,2.4nm,0.6s						
KELT	**Kelkit**	**3.49**	**295**	*eP*	**Pb**	**23 21 32.4**	**-2.4**
KELT				IAML		23 22 11.2	
	comp=Z,1.1nm,0.5s						
REFA	**Refahiye_ERZ¨**	**3.65**	**282**	*eP*	**Pg**	**23 21 40.9**	**-1.8**
REFA				IAML		23 22 27.0	
	comp=Z,3.7nm,0.4s						
URFA	**Urfa**	**3.81**	**252**	PN	**Pn**	**23 21 33.0**	**+1.4**
URFA	**Urfa**	**3.81**	**252**	*ePn*	**Pn**	**23 21 33.0**	**+1.4**
SEKA	**Sheki**	**3.85**	**49**	⇑P	**Pn**	**23 21 32.8**	**+0.7**
LRK	**Lerik**	**3.89**	**90**	⇓P	**Pn**	**23 21 34.1**	**+1.4**
GLBA	**Clilabad**	**3.95**	**81**	⇓P	**Pn**	**23 21 34.3**	**+1.0**
GLBA				⇓S	**Sn**	**23 22 23.2**	**+3.6**
LKRN	**Lenkeran, Azer**	**4.23**	**88**	⇓P	**Pn**	**23 21 38.8**	**+1.6**
ASTR	**Astara**	**4.25**	**90**	⇓P	**Pn**	**23 21 39.0**	**+1.6**
RTB	**Rutbah**	**6.20**	**205**	*ePn*	**Pn**	**23 22 03.0**	**-1.3**
	SNR=5.0						

*IDC **13** 23:20:42.6±13.0, 21°.29S×177°.70W, h451km±116km, mb3.1/5, mb1 3.3/5, mb1mx3.0/43, mbtmp3.8/5, Error ellipse: s-maj=155.5km s-min=43.6km az=139.0*

ISC 13 23:20:34.3±2.5, 21°.5S±0°.8×177°.3W±0°.5, h381km, n17, σ1§21/17, mb3.5/5, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**44.95**	**258**	P	**P**	**23 28 14.4**	**+1.0**
	0.3nm,0.3s,baz=88,slow=8.4,SNR=5.7						
ASAR				PcP	**PcP**	**23 29 47.5**	**+0.2**
	0.5nm,0.6s,baz=100,slow=4.2,SNR=5.7						
WRA	**Warramunga Arr**	**45.12**	**263**	P	**P**	**23 28 13.6**	**-1.2**
	0.2nm,0.3s,baz=98,slow=7.4,SNR=7.2						
FITZ	**Fitzroy Crossi**	**53.55**	**263**	P	**P**	**23 29 18.0**	**+0.2**
	2.7nm,0.8s,baz=104,slow=8.3,SNR=3.8						
ILAR	**Eielson Array**	**89.10**	**13**	P	**P**	**23 32 48.0**	**+1.2**
	0.4nm,0.5s,baz=225,slow=6.0,SNR=5.5						
CMAR	**Chiang Mai Arr**	**91.05**	**289**	P	**P**	**23 32 56.4**	**-0.5**
	0.4nm,0.6s,baz=145,slow=2.4,SNR=5.4						
MKAR	**Makanchi Array**	**112.33**	**313**	PKiKP	**PKiKP**	**23 38 24.4**	**-1.0**
	0.1nm,0.3s,baz=107,slow=2.4,SNR=4.3						
KURBB	**Kurchatov Arra**	**115.19**	**317**	PKP	**PKPdf**	**23 38 29.7**	**-0.9**
	0.1nm,0.3s,baz=95,slow=3.2,SNR=2.2						
BVAR	**Borovoye Array**	**120.23**	**320**	PKP	**PKPdf**	**23 38 39.3**	**-1.0**
	0.7nm,0.3s,baz=102,slow=2.2,SNR=7.1						
FINES	**FINESS Array B**	**136.87**	**344**	PKP	**PKPdf**	**23 39 13.9**	**+2.3**
	1.0nm,0.7s,baz=50,slow=4.3,SNR=4.2						
HFS	**Hagfors**	**140.58**	**351**	PKhKP	PKPpre	23 39 12.2	
	1.6nm,0.8s,baz=56,slow=3.6,SNR=6.0						
AKASG	**Malin Array Be**	**144.16**	**331**	PKP	**PKPdf**	**23 39 22.5**	**-2.6**
	2.7nm,0.4s,baz=43,slow=4.4,SNR=23						
EKA	**Eskdalemuir Ar**	**145.89**	**6**	PKPbc	**PKPbc**	**23 39 29.8**	**+0.5**
	0.8nm,0.7s,baz=328,slow=2.6,SNR=2.9						
ASF	**Jabal al Asfar**	**147.79**	**297**	PKPbc	**PKPbc**	**23 39 35.3**	**-0.1**
	1.3nm,0.7s,baz=106,slow=7.4,SNR=4.6						
BRTR	**Keskin Array B**	**147.96**	**312**	PKPbc	**PKPbc**	**23 39 34.8**	**-0.9**
	0.7nm,0.5s,baz=136,slow=4.8,SNR=6.4						
MMAI	**Mount Meron Ar**	**148.85**	**299**	PKPbc	**PKPbc**	**23 39 38.1**	**+0.1**
	1.1nm,0.4s,baz=76,slow=7.0,SNR=20						
MLR	**Muntele Rosu**	**149.38**	**327**	PKPbc	**PKPbc**	**23 39 38.3**	**-0.7**
	0.3nm,0.6s,baz=155,slow=18,SNR=3.3						
GERES	**GERESS Array B**	**151.29**	**345**	PKPbc	**PKPbc**	**23 39 43.6**	**+0.3**
	0.5nm,0.6s,baz=10,slow=3.0,SNR=4.8						

SJA 13 23:34:26.9±0.4, 24°.14S×67°.03W, h163km±8km, ML3.9, MW3.7, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AZAP	**Zapla**	**1.80**	**93**	*eP*	Pn	23 35 01.9	+1.0
FSA	**Cafayete**	**2.18**	**154**	*eP*	Pn	23 35 05.9	+0.9
FSA				IAML		23 35 06.9	
	comp=Z,7.6nm,0.8s						
FSA				*eS*	Sn	23 35 35.1	+0.4
ASTB	**Santa Barbara**	**2.37**	**86**	*eP*	Pn	23 35 08.4	+1.1
ASTB				IAML		23 35 08.5	
	comp=Z,25µm,0.3s						
YJA	**Yavi**	**2.41**	**36**	*eP*	Pn	23 35 09.6	+1.5
YJA				*eS*	Sn	23 35 40.8	+1.0
ALOL	**LOMAS DE OLMED**	**2.81**	**84**	*eP*	Pn	23 35 13.1	+0.6

IDC 13 23:47:28.1±3.0, 4°.56N×92°.32E, h0km, mb3.7/3, mb1 3.7/6, mb1mx3.3/68, mbtmp3.6/6, ML3.5/2, Error ellipse: s-maj=63.1km s-min=33.0km az=22.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**6.82**	**105**	Pn	Pn	23 49 10.1	+0.4
	baz=261,slow=13						
PALK	**Pallekele**	**11.86**	**284**	Pn	Pn	23 50 18.9	+0.1
	0.3nm,0.3s,baz=111,slow=15,SNR=3.6						
PALK				Sn	Sn	23 52 26.5	-5.5
	1.1nm,0.3s,baz=114,slow=8.6,SNR=7.4						
CMAR	**Chiang Mai Arr**	**15.26**	**25**	Pn	Pn	23 51 05.0	-0.1
	0.1nm,0.3s,baz=220,slow=13,SNR=5.4						
MKAR	**Makanchi Array**	**42.96**	**350**	P	P	23 55 29.6	+0.6
	0.8nm,0.6s,baz=171,slow=8.7,SNR=10						
KURBB	**Kurchatov Arra**	**47.35**	**348**	P	P	23 56 03.2	-0.5
	0.2nm,0.5s,baz=52,slow=9.6,SNR=4.1						
ZALV	**Zalesovo Beam**	**49.62**	**354**	P	P	23 56 20.4	-0.7
	0.5nm,0.3s,baz=188,slow=7.3,SNR=3.4						

*IDC **13** 23:49:10.1±1.1, 12°.77N×145°.58E, h0km, mb3.8/11, mb1 4.0/11, mb1mx3.8/59, mbtmp3.8/11, Error ellipse: s-maj=28.9km s-min=21.5km az=55.0*
*ISCJB **13** 23:49:13.4±0.6, 12°.68N±0°.09×145°.5E±0°.1, h35km, mb3.9/15, Error ellipse: s-maj=20.3km s-min=10.2km az=157.1*
*NEIC **13** 23:49:15.5±0.6, 12°.74N×145°.44E, h35km, mb4.1/4, Error ellipse: s-maj=19.0km s-min=11.5km az=79.0*

ISC 13 23:49:15.2±0.8, 12°.7N±0°.1×145°.5E±0°.2, h35km, n19, σ1§06/21, mb3.8/15, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**1.05**	**326**	Pn	**Pn**	**23 49 32.8**	**-0.8**
	161nm,0.3s,baz=139,slow=11,SNR=32						
GUMO				Sn	**Sn**	**23 49 49.2**	**+2.2**
	473nm,0.3s,baz=4.6,slow=22,SNR=34						
GUMO	**Guam**	**1.05**	**326**	Pn	**Pn**	**23 49 32.8**	**-0.8**
GUMO				*eSg*	**Sn**	**23 49 47.4**	**+0.3**
PMG	**Port Moresby**	**22.04**	**176**	*eP*	**P**	**23 54 07.2**	**+0.2**
	6.9nm,0.6s						
KSRS	**Korea Array**	**29.22**	**331**	P	**P**	**23 55 12.4**	**-1.2**
	1.0nm,0.7s,baz=145,slow=10.0,SNR=4.8						
KSAR	**Wonju Array Be**	**29.23**	**330**	P	**P**	**23 55 12.4**	**-1.3**
WRA	**Warramunga Arr**	**34.25**	**199**	P	**P**	**23 55 58.8**	**+0.7**
	0.3nm,0.6s,baz=21,slow=9.6,SNR=3.7						
CMAR	**Chiang Mai Arr**	**45.09**	**283**	P	**P**	**23 57 29.0**	**+0.6**
	2.2nm,0.6s,baz=83,slow=6.7,SNR=20						
SONM	**Songino Array**	**47.78**	**325**	P	**P**	**23 57 50.0**	**+0.7**
	0.3nm,0.5s,baz=124,slow=8.9,SNR=3.3						
MKAR	**Makanchi Array**	**62.53**	**316**	P	**P**	**23 59 35.6**	**0.0**
	0.6nm,0.7s,baz=93,slow=7.9,SNR=5.9						
ZALV	**Zalesovo Beam**	**62.68**	**325**	P	**P**	**23 59 38.4**	**+2.0**
	0.3nm,0.3s,baz=91,slow=5.8,SNR=2.3						
PALK	**Pallekele**	**63.89**	**272**	P	**P**	**23 59 43.8**	**-1.4**
KURK	**Kurchatov**	**65.63**	**320**	*eP*	**P**	**23 59 55.5**	**-0.3**
	6.3nm,0.7s						
KURBB	**Kurchatov Arra**	**65.67**	**320**	P	**P**	**23 59 55.8**	**-0.3**
	1.0nm,0.6s,baz=101,slow=6.6,SNR=11						
ILAR	**Eielson Array**	**69.11**	**25**	P	**P**	**00 00 17.1**	**-0.4**
	0.6nm,0.6s,baz=249,slow=6.0,SNR=12						
BVAR	**Borovoye Array**	**70.98**	**322**	P	**P**	**00 00 30.3**	**+1.1**
	0.7nm,0.5s,baz=237,slow=38,SNR=2.6						
INK	**Inuvik**	**74.95**	**22**	P	**P**	**00 00 52.6**	**+0.2**
	0.6nm,0.5s						
YKA	**Yellowknife Ar**	**83.36**	**27**	P	**P**	**00 01 39.2**	**+0.7**
	0.2nm,0.5s,baz=282,slow=4.7,SNR=4.7						
RES	**Resolute Bay**	**85.27**	**13**	P	**P**	**00 01 48.2**	**+0.2**
	0.4nm,0.7s						
FINES	**FINESS Array B**	**92.20**	**335**	P	**P**	**00 02 20.0**	**-1.2**
	1.7nm,0.9s,baz=57,slow=7.0,SNR=4.3						

*CSEM **13** 23:49:47.8±0.2, 38°.37N×39°.29E, h10km, ML2.6, Error ellipse: s-maj=4.8km s-min=3.5km az=6.0*
*DDA **13** 23:49:47.9, 38°.45N×39°.30E, h7km, Ml2.6*
*ISK **13** 23:49:47.6, 38°.39N×39°.25E, h19km, ML2.1/2*
*ISCJB **13** 23:49:48.1±0.5, 38°.37N±0°.03×39°.29E±0°.03, h6km±7km, Error ellipse: s-maj=5.6km s-min=3.7km az=18.0*

ISC 13 23:49:47.5±1.1, 38°.39N±0°.03×39°.31E±0°.02, h14km±9km, n16, σ0§50/31, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ELZG	**Elazig**	**0.27**	**293**	*i* P	**Pg**	**23 49 53.6**	**+0.3**
ELZG				*i* S	**Sb**	**23 49 58.1**	**-0.8**
ELZG	**Elazig**	**0.27**	**293**	P	**Pg**	**23 49 53.7**	**+0.3**
ELZG				S	**Sb**	**23 49 58.1**	**-0.8**
PTK	**Pertek**	**0.50**	**8**	PG	**Pb**	**23 49 58.5**	**+0.2**
PTK				SG	**Sb**	**23 50 06.3**	**+0.7**
PTK	**Pertek**	**0.50**	**8**	*ePg*	**Pb**	**23 49 58.5**	**+0.2**
PTK				*eSg*	**Sb**	**23 50 06.3**	**+0.7**
MALT	**Malatya**	**0.69**	**264**	PG	**Pg**	**23 50 00.8**	**-0.3**
MALT				SG	**Sb**	**23 50 10.7**	**-0.3**
MALT	**Malatya**	**0.69**	**264**	*ePg*	**Pg**	**23 50 00.8**	**-0.3**
MALT				*eSg*	**Sb**	**23 50 10.7**	**-0.3**
DYBB	**Diyarbakir**	**0.79**	**123**	PG	Pn	**23 50 04.5**	**+0.2**
DYBB				SG	**Sn**	**23 50 15.8**	**-0.2**
DIYA	**Diyarbakir**	**0.80**	**126**	*i* P	Pn	**23 50 04.4**	**0.0**
DIYA				*i* S	**Sn**	**23 50 16.5**	**+0.4**
DIYA	**Diyarbakir**	**0.80**	**126**	P	Pn	**23 50 04.4**	**0.0**
HANI	**Diyarbakir_Han**	**0.86**	**88**	*i* P	**Pg**	**23 50 03.8**	**-0.4**
HANI				*i* S	**Sn**	**23 50 17.3**	**-0.4**
HANI	**Diyarbakir_Han**	**0.86**	**88**	P	**Pg**	**23 50 03.8**	**-0.4**
HANI				S	**Sn**	**23 50 17.3**	**-0.4**
DIY	**Diyarbakir**	**0.88**	**124**	*ePg*	**Pg**	**23 50 04.5**	**-0.1**
DIY				*eSg*	**Sg**	**23 50 15.8**	**-0.3**
URFA	**Urfa**	**1.02**	**202**	PG	**Pg**	**23 50 07.1**	**-0.2**
URFA				SG	**Sb**	**23 50 21.5**	**+1.1**
URFA	**Urfa**	**1.02**	**202**	*ePg*	**Pg**	**23 50 07.1**	**-0.2**
URFA				*eSg*	**Sb**	**23 50 21.5**	**+1.1**
AKCD	**Akcadag**	**1.09**	**265**	*i* P	**Pb**	**23 50 08.1**	**-0.2**
AKCD				*i* S	**Sn**	**23 50 23.9**	**+0.4**
AKCD	**Akcadag**	**1.09**	**265**	P	**Pb**	**23 50 08.1**	**-0.2**
AKCD				S	**Sn**	**23 50 23.9**	**+0.4**

*ISCJB **13** 23:54:51.2±1.2, 1°.5N±0°.2×90°.9E±0°.1, h10km, mb3.8/8, Error ellipse: s-maj=25.3km s-min=17.8km az=18.0*
*IDC **13** 23:54:51.5±1.4, 1°.49N×90°.91E, h0km, mb3.8/8, mb1 3.9/10, mb1mx3.6/66, mbtmp3.8/10, ML3.8/2, Error ellipse: s-maj=40.0km s-min=26.4km az=39.0*

ISC 13 23:54:53.2±1.3, 1°.6N±0°.2×90°.7E±0°.1, h10km, n14, σ2§10/12, mb3.8/8, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PALK	**Pallekele**	**11.51**	**300**	Pn	**Pn**	**23 57 40.3**	**+2.6**
	1.7nm,0.3s,baz=115,slow=12,SNR=17						
PALK				Sn	**Sn**	**23 59 41.5**	**-4.9**
	1.5nm,0.3s,baz=114,slow=4.8,SNR=5.4						
CMAR	**Chiang Mai Arr**	**18.63**	**25**	P	**P**	**23 59 09.7**	**-1.4**
	0.1nm,0.3s,baz=217,slow=13,SNR=7.6						
H08S2	**Diego Garcia H**	**20.37**	**243**	T	T	00 20 48.1	
	baz=63,slow=75,SNR=10						
H08S3	**Diego Garcia H**	**20.37**	**243**	T	T	00 20 49.2	
	baz=63,slow=75,SNR=12						
H08S1	**Diego Garcia H**	**20.38**	**243**	T	T	00 20 57.2	
	baz=63,slow=75,SNR=12						
MKAR	**Makanchi Array**	**45.66**	**352**	P	**P**	**00 03 14.6**	**+0.5**
	0.5nm,0.6s,baz=174,slow=8.4,SNR=8.4						
WRA	**Warramunga Arr**	**47.78**	**119**	P	**P**	**00 03 29.2**	**-2.0**
	1.1nm,0.8s,baz=298,slow=8.5,SNR=5.0						
SONM	**Songino Array**	**48.06**	**14**	P	**P**	**00 03 33.5**	**+0.6**
	1.7nm,0.8s,baz=199,slow=8.5,SNR=12						
KURBB	**Kurchatov Arra**	**49.98**	**350**	P	**P**	**00 03 47.4**	**-0.1**
	0.6nm,0.7s,baz=169,slow=7.0,SNR=8.7						
ZALV	**Zalesovo Beam**	**52.45**	**356**	P	**P**	**00 04 06.2**	**+0.3**
	0.8nm,0.3s,baz=170,slow=6.5,SNR=5.2						
BRTR	**Keskin Array B**	**64.16**	**314**	P	**P**	**00 05 28.8**	**+0.4**
	0.3nm,0.8s,baz=99,slow=6.9,SNR=3.9						
FINES	**FINESS Array B**	**76.75**	**334**	P	**P**	**00 06 45.6**	**+1.0**
	1.2nm,0.7s,baz=146,slow=4.1,SNR=4.1						
GERES	**GERESS Array B**	**80.31**	**319**	P	**P**	**00 07 05.7**	**+1.0**
	0.6nm,0.8s,baz=98,slow=4.7,SNR=4.2						
TXAR	**Lajitas Array**	**146.34**	**23**	PKPbc	**PKPab**	**00 14 35.5**	**-0.4**
	0.2nm,0.6s,baz=359,slow=5.6,SNR=3.0						

*CSEM **14** 00:01:38.0±0.1, 45°.86N×1°.43W, h2km, ML3.5/29, Error ellipse: s-maj=2.1km s-min=1.7km az=113.0*
*LDG **14** 00:01:40.2±0.1, 45°.86N×1°.47W, h2km, Md3.4/3, Ml3.5/34, Error ellipse: s-maj=1.8km s-min=1.4km az=123.0*
*STR **14** 00:01:44.0±0.3, 45°.66N±0°.01×1°.10W±0°.02, h10km, MLv3.7/17*

ISC 14 00:01:38.0±1.1, 45°.88N±0°.02×1°.44W±0°.02, h9km±9km, n168, σ1§30/272, France

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MFF	**Saint Martin d**	**1.15**	**51**	*ePg*	**Pn**	**00 02 02.2**	**+2.0**
MFF				*eSg*	**Sn**	**00 02 17.5**	**+1.4**
	150nm,0.2s						
MFF	**Saint Martin d**	**1.15**	**51**	*ePg*	**Pn**	**00 02 02.2**	**+2.0**
MFF				*eSg*	**Sn**	**00 02 17.5**	**+1.4**
	75nm,0.2s						
LFF	**La Frestale**	**1.80**	**121**	*ePn*	**Pb**	**00 02 11.1**	**0.0**
LFF				*eSg*	**Sg**	**00 02 36.9**	**+1.1**
	126nm,0.2s						
LFF	**La Frestale**	**1.80**	**121**	*ePn*	**Pb**	**00 02 11.1**	**0.0**
LFF				*eSg*	**Sg**	**00 02 36.9**	**+1.1**
	63nm,0.2s						
RJF	**Les Rejaudoux**	**2.15**	**104**	*ePn*	**Pb**	**00 02 15.7**	**-1.4**
RJF	**Les Rejaudoux**	**2.15**	**104**	*ePg*	**Pg**	**00 02 19.3**	**+0.1**
RJF				*eSg*	**Sg**	**00 02 46.8**	**-0.3**
	89nm,0.2s						
RJF	**Les Rejaudoux**	**2.15**	**104**	*ePn*	**Pb**	**00 02 15.7**	**-1.4**
RJF	**Les Rejaudoux**	**2.15**	**104**	*ePg*	**Pg**	**00 02 19.3**	**+0.1**
RJF				*eSg*	**Sg**	**00 02 46.8**	**-0.3**
	44nm,0.2s						
QUIF	**Quistinic**	**2.36**	**330**	*ePn*	**Pb**	**00 02 19.0**	**-1.5**
QUIF	**Quistinic**	**2.36**	**330**	*ePg*	**Pg**	**00 02 23.6**	**+0.5**
QUIF				*eSg*	**Sg**	**00 02 53.7**	**0.0**
	50nm,0.2s						
QUIF	**Quistinic**	**2.36**	**330**	*ePn*	**Pb**	**00 02 19.0**	**-1.5**
QUIF	**Quistinic**	**2.36**	**330**	*ePg*	**Pg**	**00 02 23.6**	**+0.5**
QUIF				*eSg*	**Sg**	**00 02 53.7**	**0.0**
	25nm,0.2s						
SGMF	**Saint Gilles**	**2.50**	**343**	*ePn*	**Pb**	**00 02 21.2**	**-1.7**
SGMF	**Saint Gilles**	**2.50**	**343**	*ePg*	**Pg**	**00 02 26.4**	**+0.6**
SGMF				*eSg*	**Sg**	**00

1.4nm,0.1s,SNR=7.9
IELO S Sn 00 03 02.4 -0.4

SNR=7.9
ETSF Etsaut 3.05 168 ePn Pn 00 02 26.6 +0.2
ETSF Etsaut 3.05 168 ePg Pg 00 02 36.4 +0.1
ETSF Etsaut 3.05 168 ePn Pn 00 02 26.6 +0.2
ETSF Etsaut 3.05 168 ePg Pg 00 02 36.4 +0.1
BGF Bois d'Agland 3.05 76 ePn Pn 00 02 28.2 +1.8
BGF Bois d'Agland 3.05 76 ePg Pg 00 02 37.7 +1.3
BGF eSn Sn 00 03 02.0 -1.0
BGF eSg Sg 00 03 15.8 -0.1

180nm,0.4s
BGF Bois d'Agland 3.05 76 ePn Pn 00 02 28.2 +1.8
BGF Bois d'Agland 3.05 76 ePg Pg 00 02 37.7 +1.3
BGF eSn Sn 00 03 02.0 -1.0
BGF eSg Sg 00 03 15.8 -0.1

90nm,0.4s
PYM Petit Puy Mans 3.11 91 Pn Pn 00 02 28.1 +0.9
PYM Petit Puy Mans 3.11 91 Pg Pg 00 02 38.7 +1.1
PYM Sg Sg 00 03 18.2 +0.3
PYM Petit Puy Mans 3.11 91 Pn Pn 00 02 28.1 +0.9
PYM Petit Puy Mans 3.11 91 Pg Pg 00 02 38.7 +1.1
EPF Esparros 3.12 155 ePn Pn 00 02 28.2 +0.8
EPF Esparros 3.12 155 ePg Pg 00 02 36.5 -1.3
EPF eSn Sn 00 03 02.8 -1.9
EPF eSg Sg 00 03 18.0 -0.2

31nm,0.2s
EPF Esparros 3.12 155 ePn Pn 00 02 28.2 +0.8
EPF Esparros 3.12 155 ePg Pg 00 02 36.5 -1.3
EPF eSg Sg 00 03 18.0 -0.2

16nm,0.2s
HYF Humbligny 3.14 62 ePn Pn 00 02 29.0 +1.5
HYF eSn Sn 00 03 04.9 -0.2
HYF eSg Sg 00 03 21.9 +3.2
HYF Humbligny 3.14 62 ePn Pn 00 02 29.0 +1.5
HYF eSn Sn 00 03 04.9 -0.2
AGO Saint Agoulin 3.19 85 Pn Pn 00 02 29.9 +1.6
AGO Sg Sg 00 03 21.4 +0.9
AGO Saint Agoulin 3.19 85 Pn Pn 00 02 30.0 +1.6
LBL Lubilhac 3.35 99 Pn Pn 00 02 31.4 +0.8
LBL Sn Sn 00 03 10.9 +0.3
LBL Sg Sg 00 03 24.8 -0.9
LBL Lubilhac 3.35 99 Pn Pn 00 02 31.5 +0.8
MELF Melles 3.40 152 Pn Pn 00 02 31.8 +0.7
MELF Melles 3.40 152 Pn Pn 00 02 31.8 +0.7
ECHI Chisagues Biel 3.42 159 P Pn 00 02 32.6 +1.0

4.1nm,0.1s,SNR=7.9
ECHI S Sn 00 03 12.1 -0.2

SNR=7.9
AVF Avril sur Loir 3.44 73 ePn Pn 00 02 33.1 +1.4
AVF eSn Sn 00 03 12.3 -0.3

5.1nm,0.3s
AVF eSg Sg 00 03 27.8 -0.7

22nm,0.3s
AVF Avril sur Loir 3.44 73 ePn Pn 00 02 33.1 +1.4
AVF eSn Sn 00 03 12.3 -0.3

2.5nm,0.3s
AVF eSg Sg 00 03 27.8 -0.7

11nm,0.3s
SSF Saint Saulge 3.62 69 ePn Pn 00 02 35.4 +1.3
SSF Saint Saulge 3.62 69 ePg Pg 00 02 46.6 -0.6
SSF eSg Sg 00 03 31.1 -2.9

23nm,0.3s
SSF Saint Saulge 3.62 69 ePn Pn 00 02 35.4 +1.3
SSF Saint Saulge 3.62 69 ePg Pg 00 02 46.6 -0.6
MTLF Montolieu 3.64 133 ePn Pn 00 02 36.0 +1.5
MTLF Montolieu 3.64 133 ePg Pg 00 02 47.5 -0.2
MTLF eSn Sn 00 03 17.1 -0.4
MTLF eSg Sg 00 03 34.5 -0.4

22nm,0.4s
MTLF Montolieu 3.64 133 ePn Pn 00 02 36.0 +1.5
MTLF Montolieu 3.64 133 ePg Pg 00 02 47.5 -0.2
MTLF eSn Sn 00 03 17.1 -0.4
MTLF eSg Sg 00 03 34.5 -0.4

11nm,0.4s
SALF Salau 3.65 148 Pg Pg 00 02 46.0 -1.8
SALF Sn Sn 00 03 16.8 -0.9
SALF Salau 3.65 148 Pg Pg 00 02 46.1 -1.8
EARI Arriondas 3.73 228 P Pn 00 02 36.3 +0.6

0.5nm,0.1s,SNR=7.9
EARI S Sn 00 03 16.2 -3.5

SNR=7.9
SMF Signal de Mont 3.74 76 ePn Pn 00 02 37.4 +1.6
SMF Signal de Mont 3.74 76 ePg Pg 00 02 49.9 +0.3
SMF eSn Sn 00 03 18.2 -1.8
SMF eSg Sg 00 03 37.6 -0.5

15nm,0.2s
SMF Signal de Mont 3.74 76 ePn Pn 00 02 37.4 +1.6
SMF Signal de Mont 3.74 76 ePg Pg 00 02 49.9 +0.3
SMF eSg Sg 00 03 37.6 -0.5

7.3nm,0.2s
LOR Lormes 3.91 67 ePn Pn 00 02 39.2 +1.1

baz=245
LOR Lormes 3.91 67 ePg Pg 00 02 52.6 -0.2

baz=248
LOR eSn Sn 00 03 22.1 -2.0

7.5nm,0.3s
LOR eSg Sg 00 03 42.4 -1.0

baz=227
LOR Lormes 3.91 67 ePn Pn 00 02 39.2 +1.1
LOR Lormes 3.91 67 ePg Pg 00 02 52.6 -0.2
LOR eSg Sg 00 03 42.4 -1.0
CSOR Sort 3.96 151 P Pn 00 02 40.9 +1.9

3.3nm,0.2s,SNR=7.9
CSOR S Sn 00 03 28.5 +2.9

SNR=7.9
LASF Ste Croix 4.17 114 ePn Pn 00 02 43.7 +2.0
LASF eSn Sn 00 03 28.9 -1.6
LASF eSg Sg 00 03 53.2 +1.4

20nm,0.4s
LASF Ste Croix 4.17 114 ePn Pn 00 02 43.7 +2.0
LASF eSn Sn 00 03 28.9 -1.6
LASF eSg Sg 00 03 53.2 +1.4

10nm,0.4s
CLLI Llivia 4.19 143 P Pn 00 02 44.4 +2.2

1.2nm,0.1s,SNR=7.9
CLLI S Sn 00 03 33.6 +2.3

SNR=7.9
ESAC San Caprasio 4.22 170 S Sn 00 03 31.4 -0.4

SNR=7.9
VIVF Saint-Julien-l 4.43 101 ePn Pn 00 02 47.7 +2.4
VIVF Saint-Julien-l 4.43 101 ePg Pg 00 03 02.9 +0.1
VIVF eSn Sn 00 03 36.1 -0.8

5.7nm,0.3s
VIVF eSg Sg 00 03 58.9 -1.2

11nm,0.3s
VIVF Saint-Julien-l 4.43 101 ePn Pn 00 02 47.7 +2.4
VIVF Saint-Julien-l 4.43 101 ePg Pg 00 03 02.9 +0.1
VIVF eSn Sn 00 03 36.1 -0.8

2.8nm,0.3s
VIVF eSg Sg 00 03 58.9 -1.2

5.5nm,0.3s
EMIR Miracle 4.51 151 P Pn 00 02 48.6 +2.2

5.7nm,0.2s,SNR=7.9
EMIR S Sn 00 03 41.5 +2.6

SNR=7.9
SJAF Saint Jean de 4.60 136 P Pn 00 02 49.0 +1.3

3.5nm,0.1s,SNR=7.9
SJAF S Sn 00 03 38.0 -3.2

SNR=7.9
EJON La Jonquera 4.63 136 P Pn 00 02 49.7 +1.6

9.5nm,0.1s,SNR=7.9
EJON S Sn 00 03 38.4 -3.6

SNR=7.9
EPON Pontenova 4.81 240 P Pn 00 02 51.3 +0.8

3.8nm,0.1s,SNR=7.9
EPOB Poblet 4.88 157 P Pn 00 02 52.6 +1.0

0.3nm,0.1s,SNR=7.9
CFON Fontmartina 4.98 144 P Pn 00 02 53.6 +0.7

2.3nm,0.2s,SNR=7.9
CFON S Sn 00 03 51.0 +0.4

SNR=7.9
SFTF Sexfontaines 5.00 60 ePn Pn 00 02 54.1 +1.0

baz=233
SFTF Sexfontaines 5.00 60 ePg Pg 00 03 13.2 -0.5

baz=238
SFTF eSn Sn 00 03 49.7 -1.3

4.3nm,0.3s
SFTF Sexfontaines 5.00 60 ePn Pn 00 02 54.1 +1.0
SFTF Sexfontaines 5.00 60 ePg Pg 00 03 13.2 -0.5
ETOR Torete 5.08 185 S Sn 00 03 52.3 -0.8

SNR=7.9
ERTA Horta de San J 5.09 165 P Pn 00 02 56.7 +2.3

0.2nm,0.1s,SNR=7.9
ERTA S Sn 00 03 52.3 -0.9

SNR=7.9
MEZF Maizieres J'vi 5.14 57 ePn Pn 00 02 56.2 +1.1

baz=250
MEZF Maizieres J'vi 5.14 57 ePg Pg 00 03 16.1 -0.3

baz=243
MEZF eSn Sn 00 03 54.6 +0.1
MEZF eSg Sg 00 04 23.9 +0.9

22nm,0.6s
MEZF Maizieres J'vi 5.14 57 ePn Pn 00 02 56.2 +1.1
MEZF Maizieres J'vi 5.14 57 ePg Pg 00 03 16.1 -0.3
MEZF eSn Sn 00 03 54.6 +0.1
MEZF eSg Sg 00 04 23.9 +0.9

11nm,0.6s
ORIF Oris-en-Rattie 5.24 98 eSg Sg 00 04 25.2 -1.1

7.5nm,0.5s
ORIF Oris-en-Rattie 5.24 98 eSg Sg 00 04 25.2 -1.1

3.8nm,0.5s
CABF La Chapelle 5.27 79 eSg Sg 00 04 26.3 -0.9

20nm,0.6s
CABF La Chapelle 5.27 79 eSg Sg 00 04 26.3 -0.9

9.8nm,0.6s
SMRF Simiane la Rot 5.33 108 ePn Pn 00 02 59.8 +2.1
SMRF eSn Sn 00 03 55.7 -3.5
SMRF eSg Sg 00 04 30.1 +1.0

253nm,2.0s
SMRF Simiane la Rot 5.33 108 ePn Pn 00 02 59.8 +2.1
SMRF eSg Sg 00 04 30.1 +1.0

127nm,2.0s
ECAL Calabor 5.49 226 P Pn 00 03 01.5 +1.6

1.7nm,0.1s,SNR=7.9
EMOS Mosqueruela 5.56 172 P Pn 00 03 02.9 +1.9

0.1nm,0.1s,SNR=7.9
PAGF Fort de Pagny 5.56 59 ePn Pn 00 03 01.7 +0.8

baz=238
PAGF eSg Sg 00 04 35.5 -1.1
PAGF Fort de Pagny 5.56 59 ePn Pn 00 03 01.7 +0.8
PAGF eSg Sg 00 04 35.5 -1.1
GUD Guadarrama 5.60 202 P Pn 00 03 03.0 +1.5

0.3nm,0.2s,SNR=7.9
GUD S Sn 00 04 04.5 -1.4

SNR=7.9
BAIF Baives 5.64 40 ePn Pn 00 03 03.6 +1.7
BAIF Baives 5.64 40 ePn Pn 00 03 03.6 +1.7
EAGO Agolada(Pontev 5.67 240 P Pn 00 03 02.5 +0.1

1.7nm,0.1s,SNR=7.9
LPL La Plagne 5.74 91 eSg Sg 00 04 42.2 +0.1

13nm,0.7s
LPL La Plagne 5.74 91 eSg Sg 00 04 42.2 +0.1

6.4nm,0.7s
HAU Haudompre 5.74 65 ePn Pn 00 03 03.8 +0.5
HAU Haudompre 5.74 65 ePg Pg 00 03 27.9 0.0
HAU eSg Sg 00 04 41.3 -0.9

8.8nm,0.3s
HAU Haudompre 5.74 65 ePn Pn 00 03 03.8 +0.5
HAU Haudompre 5.74 65 ePg Pg 00 03 27.9 0.0
HAU eSg Sg 00 04 41.3 -0.9

4.4nm,0.3s
LPG La Plagne 5.75 91 eSg Sg 00 04 41.6 -1.0

7.8nm,0.5s
LPG La Plagne 5.75 91 eSg Sg 00 04 41.6 -1.0

3.9nm,0.5s
GIVF Givet 5.96 43 ePn Pn 00 03 07.9 +1.6
GIVF Givet 5.96 43 ePn Pn 00 03 07.9 +1.6
HINF Hinteralfeld 6.01 68 ePn Pn 00 03 07.6 +0.6
HINF eSn Sn 00 04 13.1 -2.8
HINF eSg Sg 00 04 45.1 -5.7

9.1nm,0.4s
HINF Hinteralfeld 6.01 68 ePn Pn 00 03 07.6 +0.6
EMAZ Mazaricos 6.14 244 P Pn 00 03 09.6 +0.8

2.1nm,0.1s,SNR=7.9
FRF La Foret Royal 6.21 109 ePn Pn 00 03 11.6 +1.9
FRF eSn Sn 00 04 17.8 -3.0

5.6nm,0.3s
FRF La Foret Royal 6.21 109 ePn Pn 00 03 11.6 +1.9
LMR La Mourre 6.22 111 ePn Pn 00 03 11.0 +1.2
LMR eSn Sn 00 04 17.8 -3.2
LMR La Mourre 6.22 111 ePn Pn 00 03 11.0 +1.2
MVO Moncorvo 6.22 223 P Pn 00 03 10.4 +0.4

1.8nm,0.1s,SNR=7.9
ELOB Lobios 6.24 232 P Pn 00 03 10.3 0.0

0.8nm,0.1s,SNR=7.9
CDF Champ du Feu 6.46 64 ePn Pn 00 03 12.5 -0.8
CDF Champ du Feu 6.46 64 ePg Pg 00 03 40.8 -0.8
CDF eSg Sg 00 05 04.3 -1.0

9.1nm,0.4s
CDF Champ du Feu 6.46 64 ePn Pn 00 03 12.5 -0.8
CDF Champ du Feu 6.46 64 ePg Pg 00 03 40.8 -0.8
CDF eSg Sg 00 05 04.3 -1.0

4.6nm,0.4s
ESDC Sonseca Array 6.47 198 P Pn 00 03 13.7 +0.3

0.1nm,0.2s,SNR=4.0
PAB San Pablo 6.68 200 P Pn 00 03 16.4 +0.1

0.2nm,0.1s,SNR=7.9
EPLA Plasencia 6.74 212 P Pn 00 03 17.7 +0.7

0.6nm,0.1s,SNR=7.9
EBAD Badajoz 8.23 212 P Pn 00 03 37.3 -0.1

0.3nm,0.1s,SNR=7.9
ECAB El Cabril 8.34 202 P Pn 00 03 39.1 +0.1

0.1nm,0.1s,SNR=7.9

IDC 14 00:10:37.4±1.7, 1°25'N×91°72'E, h0km, mb3.5/6, mb1 3.7/7, mb1mx3.4/66, mbtmp3.5/7, ML3.7/1, Error ellipse: s-maj=60.4km s-min=27.6km az=45.0, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PALK	Pallekele	12.51	299	Pn	Pn	00 13 36.2	-0.6
	0.4nm,0.3s,baz=118,slow=12,SNR=2.5						
PALK				Sn	Sn	00 15 46.0	-11
	0.6nm,0.3s,baz=90,slow=1.0,SNR=6.3						
H08S2	Diego Garcia H	21.12	245	T	T	00 37 13.7	
	baz=65,slow=75,SNR=13						
H08S3	Diego Garcia H	21.12	245	T	T	00 37 12.6	
	baz=65,slow=75,SNR=13						
H08S1	Diego Carcia H	21.14	245	T	T	00 37 13.3	
	baz=65,slow=75,SNR=17						
MKAR	Makanchi Array	46.10	351	P	P	00 19 02.8	-0.6
	0.2nm,0.6s,baz=153,slow=9.7,SNR=3.3						
WRA	Warramunga Arr	46.78	119	P	P	00 19 08.9	-0.2
	0.4nm,0.9s,baz=296,slow=8.2,SNR=6.6						
SONM	Songino Array	48.11	13	P	P	00 19 18.9	-0.2
	0.2nm,0.3s,baz=188,slow=8.7,SNR=2.8						
ZALV	Zalesovo Beam	52.83	355	P	P	00 19 55.3	+0.7
	0.3nm,0.3s,baz=161,slow=7.9,SNR=2.2						
GERES	GERESS Array B	81.17	319	P	P	00 22 56.2	+1.0
	0.2nm,0.6s,baz=101,slow=5.1,SNR=2.7						
NOA	NORSAR Array B	84.30	331	P	P	00 23 10.3	-0.8
	0.8nm,0.8s,baz=94,slow=5.4,SNR=3.4						

*ISCJB **14** 00:14:10.0±0.5, 13°.32S±0°.07×167°.01E±0°.09, h200km, mb3.8/18, Error ellipse: s-maj=12.1km s-min=9.0km az=154.9*

*IDC **14** 00:14:10.3±6.1, 13°.25S×167°.05E, h190km±53km, mb3.8/16, mb1 3.9/16, mb1mx3.6/50, mbtmp4.2/16, Error ellipse: s-maj=23.9km s-min=15.9km az=53.0*

*WEL **14** 00:14:13.0, 13°.28S×167°.02E, h222km*

*NEIC **14** 00:14:13.6±2.2, 13°.28S×167°.02E, h222km±21km, mb4.1/6, Error ellipse: s-maj=12.8km s-min=9.6km az=115.0*

ISC 14 00:14:11.3±0.6, 13°28S±0°.10×167°.1E±0°.1, h200km, n34, σ0s95/39, mb4.0/19, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TARA	Tarawa	15.66	22	P	P	00 17 42.6	+0.9
	1.8nm,0.6s						
PMG	Port Moresby	19.88	279	P	P	00 18 28.2	+0.6
	15nm,1.1s						
CTA	Charters Tower	21.03	248	P	P	00 18 41.5	+1.7
	8.1nm,1.0s,baz=61,slow=14,SNR=3.8						
HAZ	Te Kaha	26.19	160	P	P	00 19 28.6	+1.2
PKGZ	Pakihiroa	26.41	160	P	P	00 19 29.4	-0.1
URZ	Urewera	26.44	162	P	P	00 19 29.8	+0.1
	5.9nm,0.8s,baz=349,slow=16,SNR=2.5						
NGZ	Ngauruhoe	26.88	165	P	P	00 19 37.0	+3.2
BKZ	Black Stump Fm	27.10	164	P	P	00 19 36.0	+0.3
BHHZ	Black Hill Sta	27.29	165	P	P	00 19 37.7	+0.3
KWHZ	Kaweka Forest	27.33	164	P	P	00 19 38.1	+0.4
KRHZ	Kereru	27.52	164	P	P	00 19 39.1	-0.2
KAHZ	Kahuranaki	27.80	164	P	P	00 19 41.8	-0.1
STKA	Stephens Creek	29.79	227	P	P	00 20 00.4	+0.8
	8.7nm,0.6s,baz=51,slow=8.7,SNR=24						
STKA				PcP	PcP	00 22 58.1	+0.1

2.0nm,0.7s,baz=62,slow=3.0,SNR=4.1
WRA Warramunga Arr 32.00 254 P P 00 20 18.1 -1.0

1.5nm,0.6s,baz=85,slow=9.3,SNR=13
WRA PcP PcP 00 23 04.4 +0.2

0.5nm,0.8s,baz=81,slow=3.9,SNR=3.6
ASAR Alice Springs 33.02 247 P P 00 20 27.2 -0.8

3.3nm,0.5s,baz=76,slow=9.0,SNR=60
ASAR PcP PcP 00 23 06.4 -0.6

0.5nm,0.7s,baz=76,slow=3.9,SNR=4.2
FITZ Fitzroy Crossi 40.10 258 P P 00 21 27.2 -0.6

1.8nm,0.8s,baz=102,slow=9.3,SNR=4.9
MBWA Marble Bar 45.74 253 P P 00 22 13.2 +0.2

4.1nm,0.5s
NWAO Narrogin (SRO) 49.32 238 P P 00 22 38.7 -1.8

2.8nm,0.4s,baz=281,slow=5.2,SNR=5.7
VNDA Vanda 64.30 181 P P 00 24 25.6 +0.7

0.8nm,0.6s,baz=353,slow=6.4,SNR=11
SBA Scott Base 64.58 180 eP P 00 24 27.6 +0.9

1.7nm,0.7s
CASY Casey 64.79 202 eP P 00 24 26.8 -1.4

1.2nm,0.4s
CMAR Chiang Mai Arr 74.17 294 P P 00 25 27.4 +0.9

1.4nm,0.7s,baz=130,slow=4.5,SNR=9.6
QSPA South Pole Qui 76.74 180 P P 00 25 40.7 +0.3

5.3nm,0.6s,baz=1.4,slow=2.2
QSPA South Pole Qui 76.74 180 eP P 00 25 40.4 -0.1

5.7nm,0.7s
SONM Songino Array 81.21 324 P P 00 26 05.8 +0.8

0.3nm,0.6s,baz=104,slow=4.8,SNR=2.7
MAW Mawson 83.14 202 P P 00 26 14.5 0.0

1.8nm,0.5s,baz=122,slow=12,SNR=4.6
ILAR Eielson Array 85.22 18 P P 00 26 24.1 -0.8

0.7nm,0.7s,baz=236,slow=5.6,SNR=8.2
PDAR Pinedale Array 94.12 47 P P 00 27 07.0 -0.6

0.1nm,0.6s,baz=216,slow=4.5,SNR=2.3
MKAR Makanchi Array 96.01 317 P P 00 27 15.9 +0.1

0.8nm,0.6s,baz=93,slow=6.4,SNR=10.0
ZALV Zalesovo Beam 96.10 324 P P 00 27 14.7 -1.3

0.3nm,0.3s,baz=79,slow=3.1,SNR=4.0
FINES FINESS Array B 124.30 339 PKP PKPdf 00 32 44.8 -1.1

1.1nm,0.8s,baz=318,slow=1.9,SNR=5.7
NOA NORSAR Array B 129.18 345 PKP PKPdf 00 32 55.7 +0.3

0.5nm,0.6s,baz=29,slow=2.0,SNR=2.7
ESDC Sonseca Array 152.54 345 PKPbc PKPbc 00 33 44.6 +0.2

0.6nm,0.6s,baz=17,slow=3.4,SNR=5.2
ESDC PKPab PKPab 00 33 56.3 +0.9

0.6nm,0.7s,baz=7.0,slow=3.2,SNR=3.2
TORD Torodi Ar. Bea 165.74 271 PKP PKPdf 00 33 52.7 -0.4

0.2nm,0.6s,baz=132,slow=2.0,SNR=4.7
TORD PKPab PKPab 00 34 53.2 -0.4

0.4nm,0.7s,baz=82,slow=4.7,SNR=2.5

IDC 14 00:20:25.6±11.0, 2°.97N×93°.68E, h0km, mb3.5/4, mb1 3.6/5, mb1mx3.3/66, mbtmp3.5/5, ML3.7/1, Error ellipse: s-maj=227.0km s-min=95.1km az=158.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	Chiang Mai Arr	16.24	18	Pn	Pn	00 24 15.8	+0.5
	0.1nm,0.3s,baz=216,slow=12,SNR=3.6						
MKAR	Makanchi Array	44.76	349	P	P	00 28 40.7	-0.3
	0.5nm,0.6s,baz=170,slow=7.3,SNR=6.8						
SONM	Songino Array	46.02	12	P	P	00 28 50.5	-0.6
	0.4nm,0.8s,baz=210,slow=8.3,SNR=2.5						
KURBB	Kurchatov Arra	49.18	347	P	P	00 29 15.2	-0.2
	0.5nm,0.6s,baz=167,slow=7.1,SNR=4.3						
ZALV	Zalesovo Beam	51.34	353	P	P	00 29 32.4	+0.7
	0.4nm,0.3s,baz=172,slow=9.4,SNR=3.8						

*CSEM **14** 00:22:02.7, 43°.13N×13°.53E, h27km, MD1.8/5*

ROM 14 00:22:02.7±0.2, 43°.13N×13°.53E, h27km±1km, Md1.8/5, Ml1.4/4, Error ellipse: s-maj=1.9km s-min=1.3km az=80.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMA	Gualdo di Mace	0.30	103	Pg	Pb	00 22 08.4	-1.6
GUMA				Sg	Sb	00 22 12.5	-2.4
GUMA	Gualdo di Mace	0.30	103	Pg	Pb	00 22 08.4	-1.6
GUMA				Sg	Sb	00 22 12.5	-2.4
FDMO	Fiordimonte	0.34	254	Pg	Pb	00 22 10.5	0.0
FDMO				Sg	Sb	00 22 16.3	+0.5
	97nm,0.3s						
FDMO	Fiordimonte	0.34	254	Pg	Pb	00 22 10.5	0.0
FDMO				Sg	Sb	00 22 16.3	+0.5
	97nm,0.3s						
CING	Cingoli	0.35	315	Pg	Pb	00 22 10.9	+0.3
CING				Sg	Sb	00 22 16.8	+0.7
CING	Cingoli	0.35	315	Pg	Pb	00 22 10.9	+0.3
CING				Sg	Sb	00 22 16.8	+0.7
NRCA	Norcia	0.43	226	Pg	Pb	00 22 12.0	+0.1
NRCA				Sg	Sb	00 22 18.7	+0.6
	143nm,0.1s						
NRCA	Norcia	0.43	226	Pg	Pb	00 22 12.0	+0.1
NRCA				Sg	Sb	00 22 18.7	+0.6
	143nm,0.1s						
SNTG	Esanatoglia	0.45	286	Pg	Pb	00 22 12.3	+0.1
SNTG				Sg	Sb	00 22 19.6	+0.9
	40nm,0.3s						
SNTG	Esanatoglia	0.45	286	Pg	Pb	00 22 12.3	+0.1
SNTG				Sg	Sb	00 22 19.6	+0.9
	40nm,0.3s						
CESI	CESI - Serrava	0.48	255	Pg	Pb	00 22 12.7	0.0
CESI				Sg	Sn	00 22 20.6	-0.7
CESI	CESI - Serrava	0.48	255	Pg	Pb	00 22 12.7	0.0
CESI				Sg	Sn	00 22 20.6	-0.7
SMA1	SAN MARTINO	0.52	196	Pg	Pb	00 22 13.4	0.0
SMA1				Sg	Sn	00 22 22.0	-0.5
	74nm,0.4s						
SMA1	SAN MARTINO	0.52	196	Pg	Pb	00 22 13.4	0.0
SMA1				Sg	Sn	00 22 22.0	-0.5
	74nm,0.4s						
LNSS	Leonessa	0.64	215	Pg	Pn	00 22 15.8	-0.3
LNSS	Leonessa	0.64	215	Pg	Pn	00 22 15.8	-0.3
NVLJ	Novalja	1.73	34	ePn	Pn	00 22 31.9	+1.0
NVLJ				Sn	Sn	00 22 53.3	+1.2

UCR 14 00:22:41.2±0.8, 12°.89N×88°.93W, h36km±260km, ML3.5, 1C-5D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
UESV	Ojushtada	0.51	15	eP	Pn	00 22 55.6	+3.5
UESV				eS	Sn	00 23 06.7	+7.0
SNVI	San Vicente	0.73	7	eP	Pn	00 22 55.1	0.0
SNVI				eS	Sn	00 23 06.0	+0.9
TECA	Tecapa	0.73	34	eP	Pn	00 22 55.3	0.0
LFRS	El Faro	0.74	350	eP	Pn	00 22 55.1	-0.2
SANM	San Marcos	0.81	342	IAML		00 22 56.4	
	comp=Z,2μm,0.1s						
LCY	Lacayo	0.82	49	eP	Pn	00 22 56.3	-0.1
PACA	Pacayal	0.83	45	eP	Pn	00 22 56.6	+0.1
PACA				eS	Sn	00 23 08.8	+1.2
VSM	San Miguel	0.84	50	eP	Pn	00 22 56.8	0.0
SNET	Serv Nac Est T	0.85	340	i P	Pn	00 22 56.8	+0.1
SNET				eS	Sn	00 23 08.5	+0.5
COLS	Colinas	0.85	335	eP	Pn	00 22 56.8	-0.1
COLS				eS	Sn	00 23 09.2	+1.0
LBRS	Las Brisas	0.85	353	eP	Pn	00 22 57.1	+0.3
UESS	San Salvador	0.86	342	IAML		00 23 11.0	
	comp=Z,2μm,0.2s						
UDBS	Soyapango	0.86	345	IAML		00 23 11.5	
	comp=Z,1μm,0.2s						
OPAM	San Salvador	0.87	342	eP	Pn	00 22 56.8	-0.2
OPAM				eS	Sn	00 23 08.9	+0.4
OPAM				IAML		00 23 10.4	
	comp=Z,2μm,0.2s						
LFU	La Fuente	0.88	348	eP	Pn	00 22 57.2	+0.1
LFU				eS	Sn	00 23 09.7	+1.0
CUSC	San Salvador	0.88	343	eP	Pn	00 22 57.2	0.0
CUSC				eS	Sn	00 23 09.3	+0.5
UEES	San Salvador	0.89	340	IAML		00 22 57.7	
	comp=Z,1μm,0.2s						
BOQS	Boqueron	0.91	338	eP	Pn	00 22 57.9	+0.1
BOQS				eS	Sn	00 23 11.0	+1.3
BOQS				AML	AML	00 23 14.0	
	comp=Z,1μm,0.2s						
LCND	La Ca˜–ada	1.10	67	eP	Pn	00 22 59.8	-0.2
LCND				eS	Sn	00 23 14.0	0.0
CAHU	Cacacuatique	1.12	38	eP	Pn	00 23 01.2	+0.6
CNCH	Conchagua	1.14	70	eP	Pn	00 23 00.4	-0.3

CNCH				*e*S		Sn	00 23 15.8	+0.7
SBLS	**San Blas**	**1.16**	**325**	*e*P		Pn	00 23 01.3	+0.1
SBLS				*e*S		Sn	00 23 17.3	+1.3
SNJE	**San Jose**	**1.18**	**326**	*e*P		Pn	00 23 01.5	+0.2
SNJE				*e*S		Sn	00 23 17.3	+1.0
RTR	**El Retiro**	**1.22**	**325**	*e*P		Pn	00 23 02.6	+0.7
CSGN	**Cosiguina Volc**	**1.34**	**86**	*e*P		Pn	00 23 03.9	+0.4
CSGN				*e*S		Sn	00 23 21.5	+1.4
MTO3	**Montecristo**	**1.56**	**345**	*e*P		Pn	00 23 07.3	+0.7
IXG	**Ixpaco**	**1.96**	**311**	*e*P		Pn	00 23 11.9	-0.1
TGUH	**Tegucigalpa,Un**	**1.99**	**54**	*i*P		Pn	00 23 13.1	+0.8
MOMN	**Momotombo**	**2.38**	**101**	*e*P		Pn	00 23 17.0	-0.7
COPN	**Copaltepe**	**2.39**	**107**	*e*P		Pn	00 23 18.1	+0.3

CSEM ***14*** *00:22:55.7±0.1, 43.°13N×13.°59E, h15km, ML2.0, Error ellipse: s-maj=2.4km s-min=2.1km az=169.0*

ROM 14 00:22:56.2±0.2, 43.°12N×13.°53E, h24km±3km, MI2.0/5, Error ellipse: s-maj=2.6km s-min=1.6km az=57.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMA	**Gualdo di Mace**	**0.30**	**100**	Pg	Pb	00 23 01.3	-1.9
GUMA				Sg	Sb	00 23 05.4	-2.5
GUMA	**Gualdo di Mace**	**0.30**	**100**	Pg	Pb	00 23 01.3	-1.9
GUMA				Sg	Sb	00 23 05.4	-2.5
FDMO	**Fiordimonte**	**0.34**	**256**	Pg	Pb	00 23 03.5	-0.2
FDMO				Sg	Sb	00 23 09.2	+0.4
FDMO	**Fiordimonte**	**0.34**	**256**	Pg	Pb	00 23 03.5	-0.2
FDMO				Sg	Sb	00 23 09.2	+0.4
NRCA	**Norcia**	**0.42**	**227**	Pg	Pb	00 23 04.9	-0.1
NRCA				Sg	Sb	00 23 11.4	+0.4
NRCA	**Norcia**	**0.42**	**227**	Pg	Pb	00 23 04.9	-0.1
NRCA				Sg	Sb	00 23 11.4	+0.4
SNTG	**Esanatoglia**	**0.45**	**288**	Pg	Pb	00 23 05.4	-0.2
SNTG				Sg	Sb	00 23 12.7	+0.7
SNTG	**Esanatoglia**	**0.45**	**288**	Pg	Pb	00 23 05.4	-0.2
SNTG				Sg	Sb	00 23 12.7	+0.7
CESI	**CESI - Serrava**	**0.47**	**256**	Pg	Pb	00 23 05.9	-0.1
CESI				Sg	Sb	00 23 13.5	+0.9
CESI	**CESI - Serrava**	**0.47**	**256**	Pg	Pb	00 23 05.9	-0.1
CESI				Sg	Sb	00 23 13.5	+0.9
SMA1	**SAN MARTINO**	**0.51**	**197**	Pg	Pb	00 23 06.4	-0.2
SMA1				Sg	Sn	00 23 14.9	-1.2
SMA1	**SAN MARTINO**	**0.51**	**197**	Pg	Pb	00 23 06.4	-0.2
SMA1				Sg	Sn	00 23 14.9	-1.2
LNSS	**Leonessa** 49nm,0.3s	**0.63**	**215**	Pg	Pb	00 23 08.5	-0.1
LNSS	**Leonessa** 49nm,0.3s	**0.63**	**215**	Pg	Pb	00 23 08.5	-0.1
ATCC	**AVT- Casa Cast** 172nm,1.6s	**0.66**	**276**	Pg	Pn	00 23 09.7	-0.3
ATCC	**AVT- Casa Cast** 172nm,1.6s	**0.66**	**276**	Pg	Pn	00 23 09.7	-0.3
FRON	**Frontone** 106nm,1.1s	**0.71**	**305**	Pg	Pb	00 23 10.1	+0.1
FRON	**Frontone** 106nm,1.1s	**0.71**	**305**	Pg	Pb	00 23 10.1	+0.1
T0104	**Madonna delle**	**0.77**	**191**	Pg	Pb	00 23 11.1	+0.1
FSSB	**Fossombrone** 114nm,0.3s	**0.80**	**317**	Pg	Pn	00 23 11.8	-0.2
FSSB	**Fossombrone** 114nm,0.3s	**0.80**	**317**	Pg	Pn	00 23 11.8	-0.2
PIEI	**Pieia** 39nm,0.5s	**0.84**	**300**	Pg	Pb	00 23 12.2	+0.1
PIEI	**Pieia** 39nm,0.5s	**0.84**	**300**	Pg	Pb	00 23 12.2	+0.1
NVLJ	**Novalja**	**1.74**	**33**	*e*Pn	Pn	00 23 25.4	+0.5
NVLJ				Sn	Sn	00 23 45.6	-0.7
NVLJ	**Novalja**	**1.74**	**33**	*e*Pn	Pn	00 23 25.4	+0.5
NVLJ				Sn	Sn	00 23 45.5	-0.8

NEIC ***14*** *00:29:24.3±1.1, 0.°09S×92.°16E, h10km, mb4.3/5, Error ellipse: s-maj=24.3km s-min=10.3km az=171.0*

IDC ***14*** *00:29:24.9±0.9, 0.°23N×92.°14E, h0km, mb4.0/18, mb1 4.2/21, mb1mx4.0/64, mbtmp4.1/21, ML4.3/3, MS3.5/13, Ms1 3.5/13, ms1mx3.1/61, Error ellipse: s-maj=26.7km s-min=17.0km az=30.0*

ISCJB ***14*** *00:29:28.0±0.5, 0.°24N×0.°06×92.°40E±0.°04, h33km, mb4.2/30, MS3.6/11, Error ellipse: s-maj=9.2km s-min=4.9km az=9.2*

DJA ***14*** *00:29:34.5±1.0, 0.°N±5.°×9.°3E±.°, h30km±13km, M4.2/6, mb4.2/6, mB4.7/3, Mw(mB)3.9/3*

ISC 14 00:29:29.7±0.6, 0.°22N±0.°08×92.°30E±0.°06, h35km, n74, α2°38/74, mb4.3/30, MS3.5/11, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSI	**Gunungsitoli**	**5.38**	**78**	P	**Pn**	**00 30 47.3**	**-0.3**
GSI				S	**Sn**	**00 31 45.0**	**-3.4**
GSI	**Gunungsitoli**	**5.38**	**78**	*e*Pn	**Pn**	**00 30 47.3**	**-0.3**
TPTI		**5.74**	**58**	P	**Pn**	**00 30 50.8**	**-1.6**
TPTI				S	**Sn**	**00 31 53.0**	**-4.1**
MLSI	**Meulaboh, Aceh**	**5.74**	**45**	P	**Pn**	**00 30 51.0**	**-1.5**
PBSI	**Pulau Batu**	**5.98**	**93**	P	**Pn**	**00 30 54.4**	**-1.5**
PBSI				S	**Sn**	**00 31 59.3**	**-3.9**
BSI	**Banda Aceh**	**6.04**	**30**	P	**Pn**	**00 30 56.0**	**-0.6**
BSI				S	**Sn**	**00 31 57.2**	**-7.3**
KCSI	**Kotacane, Aceh**	**6.38**	**59**	P	**Pn**	**00 31 01.9**	**+0.6**
LHMI	**Lhok Sumawe**	**6.80**	**43**	P	**Pn**	**00 31 07.7**	**+0.6**
LHMI	**Lhok Sumawe**	**6.80**	**43**	*e*Pn	**Pn**	**00 31 08.6**	**+1.5**
SISI	**Saibi**	**6.96**	**103**	P	**Pn**	**00 31 09.7**	**+0.4**
SISI				S	**Sn**	**00 32 22.4**	**-4.8**
PSI	**Prapat** 4.8nm,0.3s,baz=245,slow=6.4,SNR=15	**7.10**	**69**	Pn	**Pn**	**00 31 11.0**	**-0.3**
PSI	baz=264,slow=19,SNR=2.3			Sn	Sn	00 32 20.9	-10
PSI	comp=Z,612nm,19.4s,baz=203,slow=40			LR	LR	00 34 12.9	
MNSI	**Mandailing Nat**	**7.30**	**85**	P	**Pn**	**00 31 14.4**	**+0.4**
PDSI	**Padang**	**8.24**	**98**	P	**Pn**	**00 31 26.9**	**+0.1**
IPM	**Ipoh**	**9.69**	**64**	*e*Pn	**Pn**	**00 31 46.1**	**-0.6**
TRTT	**Trang** 7.3nm,0.9s	**10.56**	**44**	P	**Pn**	**00 31 58.2**	**-0.5**
SKLT	**Songkhla** 38nm,0.7s,421nm	**10.79**	**50**	P	**Pn**	**00 32 01.3**	**-0.6**
MDSI	**Maura Dua** 8.3nm,0.8s	**12.75**	**112**	P	**Pn**	**00 32 28.1**	**-0.6**
PALK	**Pallekele** 3.4nm,0.3s,baz=116,slow=11,SNR=23	**13.53**	**301**	Pn	**Pn**	**00 32 35.0**	**-4.3**
PALK	2.9nm,0.3s,baz=289,slow=1.0,SNR=6.3			Sn	Sn	00 34 53.4	-15
PALK	comp=Z,224nm,20.1s,baz=116,slow=33			LR	LR	00 36 48.8	
PALK	**Pallekele**	**13.53**	**301**	*e*Pn	**Pn**	**00 32 35.6**	**-3.8**
PALK				Sn	Sn	00 34 53.4	-15
LEM	**Lembang** comp=Z,127nm,18.4s,baz=253,slow=36	**16.81**	**115**	LR	LR	00 39 31.3	
CM01	**Chiang Mai Arr**	**19.23**	**20**	*e*P	**Pn**	**00 33 54.2**	**+1.9**
CM31	**Chiang Mai Arr**	**19.26**	**19**	*e*P	**Pn**	**00 33 54.5**	**+1.9**
CMAR	**Chiang Mai Arr** 0.2nm,0.3s,baz=212,slow=11,SNR=57	**19.26**	**19**	P	**Pn**	**00 33 52.8**	**+0.2**
CMAR	comp=Z,46nm,18.8s,baz=202,slow=35			LR	LR	00 40 45.4	
CHTO	**Chiang Mai** 38nm,1.1s	**19.60**	**19**	P	**Pn**	**00 33 58.4**	**+1.8**
CHTO	**Chiang Mai** 7.7nm,1.0s	**19.60**	**19**	*e*P	**Pn**	**00 33 57.6**	**+1.0**
CMMT	**Chiang Mai** 8.4nm,1.1s	**19.60**	**19**	P	**Pn**	**00 33 57.3**	**+0.7**
SKNT	**Sakolnakorn**	**20.24**	**34**	P	Pn	00 34 04.3	+0.1
HYB	**Hyderabad**	**21.80**	**322**	*i*P	**P**	**00 34 19.0**	**0.0**
KMI	**Kunming** comp=Z,11nm,0.5s	**26.74**	**21**	P	**P**	**00 35 11.3**	**+4.9**
KMI				pmax	pmax		
ENH	**Enshi** comp=Z,0.6nm,0.3s	**34.07**	**27**	*e*P	**P**	**00 36 12.2**	**+1.3**
XAN	**Xi'an**	**37.08**	**23**	P	**P**	**00 36 36.8**	**0.0**
XAN				sP	pP	00 36 45.3	-1.7
XAN	comp=Z,6.0nm,0.8s			pmax	pmax		
XAN	comp=Z,66nm,6.0s			pmax	pmax		
LZH	**Lanzhou**	**37.27**	**16**	*e*P	**P**	**00 36 42.8**	**+4.3**
LZH				pP	pP	00 36 47.0	-1.7
LZH				sP	sP	00 36 49.5	-3.4
LZH				*e*PP	**PnPn**	**00 38 14.6**	**+10**
LZH	comp=Z,28nm,0.8s			pmax	pmax		
LZH	comp=Z,340nm,5.0s			pmax	pmax		
LZH	comp=N,140nm,13.5s			LR	LR		
LZH	comp=E,180nm,10.7s			LR	LR		
LZH	comp=Z,220nm,15.0s			LR	LR		
GTA	**Gaotai**	**39.61**	**9**	*e*P	**P**	**00 36 59.8**	**+1.7**
GTA				pP	pP	00 37 04.6	-3.7
GTA				sP	sP	00 37 07.6	-4.9
GTA	comp=Z,4.0nm,0.8s			pmax	pmax		
WMQ	**Urumqi**	**43.61**	**355**	P	**P**	**00 37 30.4**	**-0.3**
WMQ	comp=Z,13nm,0.7s			pmax	pmax		
WMQ	comp=Z,92nm,23.1s			LR	LR		
HHC	**Hu-ho-hao-te**	**44.06**	**21**	*e*P	**P**	**00 37 36.3**	**+1.8**
HHC	comp=Z,16nm,1.0s			pmax	pmax		
HHC	comp=Z,16nm,6.4s			pmax	pmax		
WRA	**Warramunga Arr** comp=Z,2.5nm,0.8s,baz=296,slow=8.5,SNR=9.5	**45.78**	**118**	P	**P**	**00 37 49.3**	**+0.9**
ASAR	**Alice Springs** comp=Z,0.6nm,0.9s,baz=303,slow=7.1,SNR=4.3	**46.84**	**123**	P	**P**	**00 37 57.9**	**+1.3**
MK01	**Makanchi Array**	**47.18**	**351**	*e*P	**P**	**00 37 58.4**	**-0.5**
MK31	**Makanchi Array**	**47.21**	**351**	*e*P	**P**	**00 37 59.0**	**-0.1**
MKAR	**Makanchi Array** comp=Z,2.5nm,0.6s,baz=168,slow=9.0,SNR=36	**47.21**	**351**	P	**P**	**00 37 58.9**	**-0.2**
MKAR	comp=Z,19nm,19.1s,baz=232,slow=38			LR	LR	00 59 04.7	
MKAR	**Makanchi Array** comp=Z,16nm,0.7s	**47.21**	**351**	*e*P	**P**	**00 37 59.0**	**-0.1**
MAKZ	**Makanchi** comp=Z,1.6nm,1.0s	**47.27**	**350**	*e*P	**P**	**00 37 58.9**	**-0.7**
JNU	**Nakatsue** comp=Z,38nm,18.7s,baz=146,slow=39	**48.84**	**44**	LR	LR	01 01 28.9	
GEYT	**Alibeck** comp=Z,0.8nm,0.6s,baz=164,slow=5.7,SNR=2.6	**48.97**	**324**	P	**P**	**00 38 13.3**	**+0.4**
GYA0B	**ALIBECK ARRAY** comp=Z,3.7nm,0.7s	**48.97**	**324**	*e*P	**P**	**00 38 11.1**	**-1.8**
SONM	**Songino Array** comp=Z,3.8nm,0.9s,baz=194,slow=9.6,SNR=14	**48.98**	**13**	P	**P**	**00 38 14.0**	**+1.1**
SONA1	**Songino Array**	**49.00**	**13**	*e*P	**P**	**00 38 14.1**	**+1.0**
KSAR	**Wonju Array Be**	**49.49**	**38**	P	**P**	**00 38 19.5**	**+2.7**
KSRS	**Korea Array** comp=Z,0.6nm,0.5s,baz=224,slow=10,SNR=5.0	**49.52**	**38**	P	**P**	**00 38 19.5**	**+2.5**
KURBB	**Kurchatov Arra** comp=Z,2.6nm,0.7s,baz=172,slow=7.2,SNR=24	**51.57**	**349**	P	**P**	**00 38 32.1**	**-0.2**
KURK	**Kurchatov** comp=Z,4.8nm,1.0s	**51.64**	**349**	*e*P	**P**	**00 38 32.7**	**-0.1**
ZAA0	**Zalesovo Array** comp=Z,3.8nm,0.9s	**53.91**	**355**	*e*P	**P**	**00 38 49.4**	**-0.1**
ZALV	**Zalesovo Beam** comp=Z,2.9nm,0.4s,baz=187,slow=7.6,SNR=20	**53.91**	**355**	P	**P**	**00 38 49.2**	**-0.3**
ZALV	comp=Z,39nm,20.9s,baz=234,slow=37			LR	LR	01 02 52.7	
ZALV	**Zalesovo Beam**	**53.91**	**355**	*e*P	**P**	**00 38 49.0**	**-0.5**
BVAR	**Borovoye Array** comp=Z,1.6nm,0.7s,baz=146,slow=10,SNR=8.0	**55.71**	**344**	P	**P**	**00 39 01.3**	**-1.4**
BVAR	comp=Z,60nm,20.8s,baz=153,slow=37			LR	LR	01 03 24.2	
KBZ	**Khabaz** comp=Z,0.8nm,0.6s,baz=106,slow=7.4,SNR=4.8	**61.68**	**321**	P	**P**	**00 39 44.8**	**+0.4**
MMAI	**Mount Meron Ar** comp=Z,0.4nm,0.6s,baz=90,slow=13,SNR=2.9	**62.55**	**308**	P	**P**	**00 39 51.4**	**+0.9**
MMAI	comp=Z,44nm,18.3s,baz=205,slow=36			LR	LR	01 07 14.4	
BR131	**Keskin Array S**	**66.20**	**314**	*e*P	**P**	**00 40 11.4**	**-3.0**
BRTR	**Keskin Array B** comp=Z,1.1nm,0.6s,baz=134,slow=6.7,SNR=12	**66.20**	**314**	P	**P**	**00 40 13.8**	**-0.5**
BR231	**Keskin MP Arra**	**66.87**	**314**	*e*P	**P**	**00 40 14.3**	**-4.3**
AKASG	**Malin Array Be** comp=Z,0.4nm,0.3s,baz=93,slow=4.2,SNR=6.3	**73.09**	**324**	P	**P**	**00 40 55.8**	**-0.7**
AKASG	comp=Z,19nm,19.5s,baz=90,slow=39			LR	LR	01 16 37.8	
MLR	**Muntele Rosu** comp=Z,1.0nm,0.7s,baz=53,slow=5.1,SNR=5.2	**73.45**	**318**	P	**P**	**00 40 59.2**	**+0.3**
BUR04	**Bucovina Ar. S**	**74.56**	**320**	*e*P	**P**	**00 41 05.2**	**-0.1**
TIXI	**Tiksi** comp=Z,6.2nm,0.7s	**75.05**	**11**	*e*P	**P**	**00 41 06.9**	**-0.6**
FINES	**FINESS Array B** comp=Z,3.8nm,1.1s,baz=99,slow=9.8,SNR=7.0	**78.64**	**333**	P	**P**	**00 41 27.5**	**-0.4**
GEA0	**GERESS Array S**	**82.33**	**319**	*e*P	**P**	**00 41 47.8**	**-0.3**
GERES	**GERESS Array B** comp=Z,2.2nm,0.7s,baz=111,slow=4.8,SNR=20	**82.33**	**319**	P	**P**	**00 41 48.5**	**+0.3**
HFS	**Hagfors** comp=Z,2.6nm,0.9s,baz=89,slow=6.3,SNR=5.1	**84.14**	**330**	P	**P**	**00 41 57.3**	**+0.3**
NOA	**NORSAR Array B** comp=Z,17nm,18.6s,baz=60,slow=38	**85.48**	**331**	LR	LR	01 23 58.3	
VNDA	**Vanda** comp=Z,67nm,19.2s,baz=274,slow=33	**85.85**	**168**	LR	LR	01 16 04.0	
SPITS	**Spitsbergen Ar** comp=Z,21nm,20.3s,baz=40,slow=39	**86.91**	**348**	LR	LR	01 25 23.6	
TORD	**Torodi Ar. Bea** comp=Z,0.4nm,0.9s,baz=81,slow=3.9,SNR=2.3	**90.54**	**283**	P	**P**	**00 42 30.4**	**+1.4**
PV05	**Paradox Valley**	**137.09**	**25**	*e*PKPdf	**PKPdf**	**00 48 45.9**	**-4.1**
TXAR	**Lajitas Array** comp=Z,0.7nm,0.7s,baz=192,slow=0.3,SNR=6.7	**146.89**	**26**	PKPbc	**PKPbc**	**00 49 09.8**	**+0.5**

ISCJB ***14*** *00:40:34.8±0.3, 0.°79S×0.°03×122.°53E±0.°03, h35km, mb4.5/33, MS3.8/5, Error ellipse: s-maj=4.7km s-min=3.9km az=150.0*

DJA ***14*** *00:40:34.7±0.2, 1.°S±2.°×12.°2E±.°, h10km, M4.7/8, mb4.6/8, mB5.4/5, MLv4.6/7, Mw(mB)4.9/5*

NEIC ***14*** *00:40:36.8±1.4, 0.°68S×122.°70E, h40km±15km, mb4.4/7, Error ellipse: s-maj=13.9km s-min=8.6km az=57.0*

IDC ***14*** *00:40:40.4±3.4, 0.°63S×122.72E, h75km±33km, mb3.9/15, mb1 4.0/17, mb1mx3.7/52, mbtmp4.2/17, MS3.2/4, Ms1 3.2/4, ms1mx2.7/52, Error ellipse: s-maj=20.7km s-min=11.6km az=68.0*

ISC 14 00:40:37.0±0.4, 0.°77S±0.°05×122.°48E±0.°04, h35km, n82, α2°13/81, mb4.5/33, MS3.9/5, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**0.40**	**133**	P	**Pn**	**00 40 42.1**	**-4.1**
LUWI				S	**Sn**	**00 40 47.4**	**-5.2**
LUWI	**Luwuk**	**0.40**	**133**	*e*Pn	**Pn**	**00 40 42.2**	**-4.1**
LUWI				*e*Sn	**Sn**	**00 40 54.6**	**+1.9**
APSI	**Ampana**	**0.84**	**260**	P	**Pn**	**00 40 49.4**	**-3.0**
APSI				S	**Sn**	**00 41 01.3**	**-2.3**
MRSI	**Marisa**	**1.35**	**336**	P	**Pn**	**00 40 56.7**	**-2.7**
KMSI	**Cibinong**	**2.01**	**48**	P	**Pn**	**00 41 07.0**	**-1.4**
MPSI	**Mapaga**	**2.81**	**293**	P	**Pn**	**00 41 20.0**	**+0.6**
KDI	**Kendari**	**3.17**	**177**	P	**Pn**	**00 41 24.0**	**-0.5**
KDI				S	**Sn**	**00 42 00.3**	**-0.8**
TTSI	**Tana Toraja**	**3.49**	**230**	P	**Pn**	**00 41 28.0**	**-0.9**
SANI	**Sanana**	**3.73**	**110**	P	**Pn**	**00 41 30.6**	**-1.6**
BNSI	**Bone**	**4.32**	**213**	P	**Pn**	**00 41 39.0**	**-1.2**
BBSI	**Bau Bau**	**4.69**	**179**	P	**Pn**	**00 41 49.0**	**+3.6**
KAPI	**Kappang** 169nm,0.8s	**5.02**	**213**	*e*Pn	**Pn**	**00 41 48.9**	**-1.0**
KAPI				*e*Sn	**Sn**	**00 42 46.2**	**-0.6**
LBMI	**Labuha**	**5.02**	**89**	P	**Pn**	**00 41 48.2**	**-1.7**
LBMI				S	**Sn**	**00 42 52.1**	**+5.3**
NLAI	**Namlea**	**5.23**	**118**	P	**Pn**	**00 41 52.7**	**-0.1**
BKB	**Balikpapan**	**5.60**	**265**	P	**Pn**	**00 41 58.2**	**+0.3**
BSSI	**Bau Bau, Buton**	**5.70**	**200**	P	**Pn**	**00 41 59.0**	**-0.2**
AAI	**Ambon**	**6.40**	**117**	P	Pn	00 42 13.8	+4.9
KBKI	**Kotabaru**	**6.79**	**248**	P	**Pn**	**00 42 12.3**	**-2.0**
MSAI	**Masohi**	**6.93**	**112**	P	Pn	00 42 29.2	+13
MYLDM	**Lahad Datu**	**7.12**	**326**	*e*Pn	Pn	00 42 24.9	+6.1
MTKI	**Muara Teweh, K**	**7.59**	**269**	P	Pn	00 42 39.7	+15
MMRI	**Maumere**	**7.82**	**182**	P	Pn	00 42 35.2	+6.8
MMRI	**Maumere** 34nm,0.4s	**7.82**	**182**	*e*Pn	**Pn**	**00 42 31.2**	**+2.8**
EDFI	**Ende, Flores**	**7.97**	**186**	P	**Pn**	**00 42 29.5**	**-1.0**
DAV	**Davao City (W)** comp=Z,167nm,20.4s,baz=166,slow=38	**8.38**	**22**	LR	LR	00 45 52.4	
SIJI	**Sorong** 4.8nm,0.3s,baz=254,slow=8.5,SNR=14	**8.79**	**91**	P	**Pn**	**00 42 41.9**	**+0.2**
SIJI	comp=Z,92nm,20.4s,baz=279,slow=43			LR	LR	00 46 46.7	
SOEI	**Soe**	**9.10**	**169**	*e*Pn	**Pn**	**00 42 45.9**	**-0.3**
FAKI	**Fak Fak**	**9.99**	**102**	P	**Pn**	**00 42 55.8**	**-2.4**
FAKI	**Fak Fak**	**9.99**	**102**	*e*Pn	**Pn**	**00 42 55.4**	**-2.8**
FITZ	**Fitzroy Crossi** 0.2nm,0.3s,baz=29,slow=9.0,SNR=5.8	**17.50**	**170**	P	**Pn**	**00 44 39.1**	**+0.7**
KASI	**Kota Agung**	**18.56**	**255**	P	**Pn**	**00 44 55.6**	**+4.1**
MDSI	**Maura Dua** 18nm,0.9s	**18.65**	**258**	P	**Pn**	**00 44 55.3**	**+2.7**
MASI	**Maura Aman, Be**	**20.36**	**263**	P	Pn	00 45 16.2	+3.1
WRAB	**Tennant Creek** 17nm,1.0s	**22.31**	**149**	*e*P	**P**	**00 45 31.1**	**-0.7**
WRA	**Warramunga Arr** 8.8nm,0.8s,baz=331,slow=9.7,SNR=30	**22.31**	**149**	P	**P**	**00 45 30.1**	**-1.7**
WB2	**Warramunga Arr**	**22.32**	**149**	*e*P	**P**	**00 45 31.5**	**-0.3**
WC3	**Warramunga Arr** 15nm,0.8s	**22.34**	**149**	*e*P	**P**	**00 45 31.1**	**-1.0**
MNSI	**Mandailing Nat** 29nm,0.5s,9µm	**22.95**	**274**	P	**P**	**00 45 43.0**	**+4.4**
PSI	**Prapat** 34nm,1.0s,baz=86,slow=1.3,SNR=17	**23.81**	**279**	P	**P**	**00 45 49.4**	**+2.2**
PSI	**Prapat** 626nm,1.2s	**23.81**	**279**	*e*P	**P**	**00 45 48.4**	**+1.3**
ASAR	**Alice Springs** 2.9nm,0.5s,baz=345,slow=14,SNR=48	**25.32**	**155**	P	**P**	**00 46 00.3**	**-0.4**
ASAR				PcP	**PcP**	**00 49 33.2**	**0.0**
AS01	**Alice Springs** 0.6nm,0.6s,baz=351,slow=1.4,SNR=5.5	**25.34**	**155**	*e*P	**P**	**00 45 59.7**	**-1.1**
TPTI	34nm,0.6s,2µm	**25.60**	**279**	P	**P**	**00 46 03.3**	**-0.1**
PMG	**Port Moresby** 14nm,0.7s,baz=304,slow=11,SNR=3.9	**26.01**	**110**	P	**P**	**00 46 06.8**	**-0.2**
MLSI	**Meulaboh, Aceh** 66nm,0.7s	**26.53**	**281**	P	**P**	**00 46 14.6**	**+2.8**
PBKT	**Sadao Pong** 5.7nm,0.9s	**27.33**	**310**	P	P	00 46 27.3	+8.4
CM01	**Chiang Mai Arr**	**29.97**	**311**	*e*P	**P**	**00 46 44.3**	**+1.9**
CMAR	**Chiang Mai Arr** 1.5nm,0.8s,baz=140,slow=7.3,SNR=13	**30.01**	**311**	P	**P**	**00 46 43.8**	**+1.0**
CMMT	**Chiang Mai** 9.3nm,1.0s	**30.22**	**311**	P	**P**	**00 46 47.4**	**+2.8**
CHTO	**Chiang Mai** 5.1nm,1.1s	**30.22**	**311**	*e*P	**P**	**00 46 47.0**	**+2.4**
KMI	**Kunming** comp=Z,15nm,0.5s	**32.06**	**325**	P	**P**	**00 47 04.1**	**+3.1**
KMI				pmax	pmax		
NWAO	**Narrogin (SRO)** comp=Z,5.8nm,0.8s,baz=213,slow=13,SNR=2.4	**32.37**	**188**	P	**P**	**00 47 04.8**	**+1.4**
ENH	**Enshi** comp=Z,1.7nm,0.3s	**33.26**	**339**	*e*P	**P**	**00 47 11.0**	**-0.2**
STKA	**Stephens Creek** comp=Z,1.6nm,0.5s,baz=336,slow=7.7,SNR=4.0	**35.83**	**152**	P	**P**	**00 47 32.7**	**-0.7**
KSRS	**Korea Array** comp=Z,18nm,19.4s,baz=130,slow=37	**38.36**	**7**	LR	LR	01 04 08.1	
MJAR	**Matsushiro Arr** comp=Z,2.6nm,0.7s,baz=195,slow=9.9,SNR=7.9	**39.90**	**20**	P	**P**	**00 48 05.3**	**-2.4**
LZH	**Lanzhou**	**40.57**	**337**	*e*P	**P**	**00 48 16.6**	**+3.2**
LZH				pP	pP	00 48 25.3	+1.6
LZH				sP	sP	00 48 29.8	+1.9
LZH				*e*PP	**PnPn**	**00 49 53.8**	**+2.4**
LZH	comp=Z,25nm,0.7s			pmax	pmax		
LZH	comp=Z,190nm,7.8s			pmax	pmax		
LZH	comp=N,140nm,13.5s			LR	LR		
LZH	comp=E,180nm,10.7s			LR	LR		
LZH	comp=Z,220nm,15.0s			LR	LR		
HHC	**Hu-ho-hao-te**	**42.60**	**348**	*e*P	**P**	**00 48 30.0**	**+0.1**
HHC	comp=Z,12nm,1.0s			pmax	pmax		
HHC	comp=Z,16nm,6.3s			pmax	pmax		
GTA	**Gaotai**	**45.06**	**335**	P	**P**	**00 48 51.9**	**+2.1**
GTA				pP	pP	00 48 59.3	-0.8
GTA				sP	sP	00 49 02.6	-1.7
GTA				S	**S**	**00 55 29.0**	**+2.4**
GTA				sS	sS	00 55 45.9	+2.3
GTA				SS	**ScS**	**00 58 43.0**	**-1.5**
GTA	comp=Z,5.0nm,0.8s			pmax	pmax		
GTA	comp=Z,40nm,4.1s			pmax	pmax		
GTA	comp=N,110nm,18.1s			LR	LR		
GTA	comp=E,110nm,18.5s			LR	LR		
GTA	comp=Z,100nm,14.7s			LR	LR		
HYB	**Hyderabad**	**46.88**	**295**	*i*P	**P**	**00 49 06.5**	**+2.2**
ASAJ	**Asahikawa** comp=Z,2.5nm,0.4s,baz=228,slow=14,SNR=4.2	**48.16**	**19**	P	**P**	**00 49 11.1**	**-2.7**
ULN	**Ulaanbaatar** comp=Z,2.7nm,0.8s	**50.27**	**347**	*e*P	**P**	**00 49 29.2**	**-0.8**
SONM	**Songino Array** comp=Z,2.1nm,0.8s,baz=161,slow=9.4,SNR=10	**50.40**	**346**	P	**P**	**00 49 30.8**	**-0.2**
SONA1	**Songino Array**	**50.41**	**346**	*e*P	**P**	**00 49 30.2**	**-0.9**
SMLA	**Simla**	**53.41**	**311**	*e*P	**P**	**00 49 53.4**	**-0.1**
WMQ	**Urumqi**	**54.18**	**329**	P	**P**	**00 50 00.8**	**+1.7**
WMQ	comp=Z,13nm,0.7s			pmax	pmax		
WMQ	comp=N,70nm,18.5s			LR	LR		
WMQ	comp=E,73nm,17.7s			LR	LR		
WMQ	comp=Z,150nm,21.9s			LR	LR		
DHRM	**DHARAMSHALA**	**54.58**	**311**	*e*P	**P**	**00 50 01.5**	**-0.9**
MK01	**Makanchi Array**	**58.97**	**329**	*e*P	**P**	**00 50 32.3**	**-0.9**
MK31	**Makanchi Array**	**58.99**	**329**	*e*P	**P**	**00 50 33.0**	**-0.2**
MKAR	**Makanchi Array** comp=Z,0.5nm,0.4s,baz=132,slow=8.9,SNR=9.0	**58.99**	**329**	P	**P**	**00 50 32.5**	**-0.8**
MKAR	**Makanchi Array** comp=Z,9.8nm,0.7s	**58.99**	**329**	*e*P	**P**	**00 50 33.0**	**-0.2**
KBL	**Kabul** comp=Z,4.4nm,0.7s	**61.04**	**311**	*e*P	**P**	**00 50 49.6**	**+1.8**
ZALV	**Zalesovo Beam** comp=Z,0.9nm,0.8s,baz=85,slow=3.1,SNR=5.9	**62.80**	**336**	P	**P**	**00 50 56.5**	**-2.5**
ZALV	**Zalesovo Beam**	**62.80**	**336**	*e*P	**P**	**00 50 57.5**

*DJA **14** 00:46:21.7±0.3,2°N±3°×9°E±°, h10km, M4.4/2, MLv4.4/2*
*ISCJB **14** 00:46:22.3±0.3,1°.63N±0°.04×99°.17E±0°.05, h35km, mb4.3/34, MS3.6/9, Error ellipse: s-maj=7.2km s-min=5.2km az=162.3*
*NEIC **14** 00:46:24.2±1.0,1°.63N×99°.08E, h39km×9km, mb4.4/9, Error ellipse: s-maj=11.6km s-min=8.6km az=48.0*

ISC 14 00:46:24.0±0.5,**1°.64N**±0°.04×**99°.15E**±0°.05,**h35**km,**n94,** σ1s**51/89, mb4.4**/34,**MS3.5**/9,**Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SBSI	**Sibolga**	**0.27**	**252**	P	**Pn**	**00 46 28.4**	**-3.2**
MNSI	**Mandailing Nat**	**0.94**	**153**	P	**Pn**	**00 46 39.3**	**-1.4**
PSI	**Prapat**	**1.18**	**349**	Pg	**Pn**	**00 46 39.8**	**-4.3**
	32nm,0.3s,baz=162,slow=14,SNR=65						
PSI				Lg	Lg	00 46 52.7	
	43nm,0.3s,baz=83,slow=19,SNR=12						
PSI				LR	LR	00 46 58.3	
	comp=Z,216nm,21.6s,baz=339,slow=38						
PSI	**Prapat**	**1.18**	**349**	*e*Pg	**Pn**	**00 46 40.1**	**-4.0**
PSI				Lg	Lg	00 46 52.7	
GSI	**Gunungsitoli**	**1.61**	**258**	P	**Pn**	**00 46 51.2**	**+1.3**
GSI	**Gunungsitoli**	**1.61**	**258**	*e*Pn	**Pn**	**00 46 49.4**	**-0.5**
PBSI	**Pulau Batu**	**1.89**	**207**	P	**Pn**	**00 46 55.2**	**+1.4**
TSI	**Tuntungan**	**1.94**	**343**	P	**Pn**	**00 46 54.5**	**0.0**
BKNI	**Bangkinang**	**2.29**	**125**	P	**Pn**	**00 46 58.1**	**-1.2**
BKNI	**Bangkinang**	**2.29**	**125**	*e*Pn	**Pn**	**00 47 01.6**	**+2.3**
TPTI		**2.54**	**309**	P	**Pn**	**00 47 04.2**	**+1.4**
PDSI	**Padang**	**2.85**	**153**	P	**Pn**	**00 47 06.2**	**-0.8**
SISI	**Saibi**	**2.94**	**181**	P	**Pn**	**00 47 08.4**	**+0.1**
IPM	**Ipoh**	**3.39**	**34**	*e*Pn	**Pn**	**00 47 14.9**	**+0.4**
RGRI	**Rengat**	**3.75**	**122**	P	Pn	00 47 30.1	+11
MLSI	**Meulaboh, Aceh**	**3.79**	**314**	P	**Pn**	**00 47 22.3**	**+2.4**
BSI	**Banda Aceh**	**5.43**	**315**	P	**Pn**	**00 47 43.3**	**+0.8**
SKLT	**Songkhla**	**5.69**	**15**	P	**Pn**	**00 47 45.3**	**-0.8**
	29nm,0.8s,670nm0.4nm						
TRTT	**Trang**	**6.18**	**5**	P	Sn	00 49 11.9	+10
	525nm31nm,0.9s						
TRTT	**Trang**	**6.18**	**5**	P	Pn	00 47 58.3	+5.5
	7.7nm,1.2s,288nm0.1nm						
SRDT	**SRDT**	**12.63**	**360**	P	**Pn**	**00 49 25.8**	**+4.5**
	12nm,1.4s						
PBKT	**Sadao Pong**	**14.95**	**7**	P	**P**	**00 49 58.5**	**+0.6**
	13nm,0.8s						
SKNT	**Sakolnakorn**	**15.97**	**17**	P	**P**	**00 50 09.8**	**+0.5**
	15nm,0.8s						
CM01	**Chiang Mai Arr**	**16.68**	**359**	*e*Pn	**P**	**00 50 17.0**	**-0.2**
CMAR	**Chiang Mai Arr**	**16.72**	**359**	Pn	**P**	**00 50 17.9**	**+0.2**
	0.2nm,0.3s,baz=192,slow=12,SNR=20						
CMAR				LR	LR	00 56 42.5	
	comp=Z,130nm,18.8s,baz=192,slow=37						
CMMT	**Chiang Mai**	**17.07**	**359**	P	**P**	**00 50 21.2**	**-0.4**
CMMT	**Chiang Mai**	**17.07**	**359**	P	**P**	**00 50 21.2**	**-0.4**
	19nm,1.1s						
CHTO	**Chiang Mai**	**17.07**	**359**	P	**P**	**00 50 22.5**	**+0.9**
	43nm,1.4s						
CHTO	**Chiang Mai**	**17.07**	**359**	P	**P**	**00 50 22.5**	**+0.9**
	43nm,1.4s						
CHTO	**Chiang Mai**	**17.07**	**359**	*e*Pn	**Pn**	**00 50 20.8**	**+0.7**
	13nm,1.2s						
PALK	**Pallekele**	**19.22**	**288**	LR	LR	00 56 37.8	
	comp=Z,130nm,20.6s,baz=116,slow=32						
MYLDM	**Lahad Datu**	**19.63**	**79**	*e*P	**Pn**	**00 50 53.2**	**+1.9**
	23nm,1.1s						
QIZ	**Qiongzhong**	**20.21**	**31**	P	**P**	**00 50 55.0**	**-1.1**
QIZ				S	**S**	**00 54 41.8**	**+0.6**
QIZ				LR	LR		
	comp=N,120nm,10.4s						
QIZ				LR	LR		
	comp=E,240nm,15.1s						
QIZ				LR	LR		
	comp=Z,170nm,13.7s						
KMI	**Kunming**	**23.61**	**8**	P	**P**	**00 51 31.8**	**-0.3**
KMI				pmax	pmax		
	comp=Z,18nm,0.5s						
HYB	**Hyderabad**	**25.61**	**309**	*i* P	**P**	**00 51 52.5**	**+2.2**
H08S2	**Diego Garcia H**	**28.14**	**251**	T	T	01 22 16.8	
	baz=65,slow=75						
H08S3	**Diego Garcia H**	**28.15**	**251**	T	T	01 22 19.2	
	baz=65,slow=75,SNR=11						
H08S1	**Diego Garcia H**	**28.16**	**251**	T	T	01 22 17.1	
	baz=65,slow=75						
LZH	**Lanzhou**	**34.55**	**7**	*e*P	**P**	**00 53 11.4**	**+1.9**
LZH				pP	pP	00 53 18.8	-0.8
LZH				sP	sP	00 53 22.1	-1.8
LZH				*e*PP	**PP**	**00 54 28.6**	**+0.4**
LZH				*e*S	**S**	**00 58 38.4**	**+2.0**
LZH				sS	sS	00 58 51.3	-1.8
LZH				SS	**SnSn**	**01 00 55.0**	**+5.3**
LZH				pmax	pmax		
	comp=Z,21nm,1.2s						
LZH				pmax	pmax		
	comp=Z,190nm,5.0s						
LZH				LR	LR		
	comp=N,380nm,13.5s						
LZH				LR	LR		
	comp=E,370nm,14.2s						
LZH				LR	LR		
	comp=Z,270nm,13.5s						
NJ2	**Nanjing**	**35.50**	**30**	*e*P	**P**	**00 53 18.3**	**+0.8**
NJ2				pmax	pmax		
	comp=Z,23nm,0.8s						
GTA	**Gaotai**	**37.60**	**1**	*e*P	**P**	**00 53 35.0**	**-0.5**
GTA				pP	pP	00 53 47.8	+2.1
GTA				sP	sP	00 53 52.9	+3.0
GTA				S	**S**	**00 59 21.4**	**-1.5**
GTA				pmax	pmax		
	comp=Z,6.0nm,1.0s						
GTA				pmax	pmax		
	comp=Z,57nm,4.2s						
GTA				LR	LR		
	comp=N,110nm,14.3s						
GTA				LR	LR		
	comp=E,110nm,12.8s						
GTA				LR	LR		
	comp=Z,100nm,14.7s						
NIL	**Nilore**	**40.03**	**325**	*e*P	**P**	**00 53 54.8**	**-1.1**
	comp=Z,4.5nm,0.5s						
HHC	**Hu-ho-hao-te**	**40.62**	**15**	*e*P	**P**	**00 54 03.4**	**+2.7**
HHC				pmax	pmax		
	comp=Z,13nm,1.0s						
HHC				pmax	pmax		
	comp=Z,17nm,6.1s						
WRA	**Warramunga Arr**	**40.63**	**124**	P	**P**	**00 54 00.8**	**-0.2**
	comp=Z,6.5nm,1.2s,baz=300,slow=9.2,SNR=6.7						
WB2	**Warramunga Arr**	**40.64**	**124**	*e*P	**P**	**00 54 00.5**	**-0.6**
ASAR	**Alice Springs**	**42.12**	**129**	P	**P**	**00 54 11.6**	**-1.7**
	comp=Z,0.5nm,0.7s,baz=313,slow=8.8,SNR=4.1						
KSH	**Kashi**	**43.21**	**334**	P	**P**	**00 54 20.5**	**-1.4**
KSH				pmax	pmax		
	comp=Z,7.0nm,0.4s						
WMQ	**Urumqi**	**43.22**	**348**	P	**P**	**00 54 22.3**	**+0.4**
WMQ				pmax	pmax		
	comp=Z,21nm,0.7s						
KSAR	**Wonju Array Be**	**44.37**	**33**	P	**P**	**00 54 29.8**	**-1.4**
KSRS	**Korea Array**	**44.40**	**33**	P	**P**	**00 54 29.7**	**-1.6**
	comp=Z,0.5nm,0.4s,baz=217,slow=9.9,SNR=3.8						
UCH	**Uchtor**	**46.06**	**335**	P	**P**	**00 54 45.2**	**+0.2**
	SNR=10						
TKM2	**Tokmak 2**	**46.18**	**336**	P	**P**	**00 54 46.2**	**+0.5**
	SNR=11						
KBK	**Karagaybulak**	**46.23**	**335**	P	**P**	**00 54 46.7**	**+0.7**
	SNR=6.7						
AML	**Almayashu**	**46.34**	**334**	P	**P**	**00 54 47.4**	**+0.2**
	SNR=8.2						
AAK	**Ala-Archa**	**46.41**	**335**	*e*P	**P**	**00 54 47.5**	**+0.1**
	comp=Z,5.8nm,1.1s						
SONM	**Songino Array**	**46.45**	**7**	P	**P**	**00 54 46.6**	**-0.9**
	comp=Z,1.4nm,0.6s,baz=188,slow=7.5,SNR=8.0						
SONA1	**Songino Array**	**46.46**	**7**	*e*P	**P**	**00 54 47.9**	**+0.2**
EKS2	**Erkin-Say**	**46.74**	**334**	P	**P**	**00 54 50.4**	**+0.5**
	SNR=7.9						
USP	**Ospenovka**	**46.92**	**335**	P	**P**	**00 54 51.4**	**+0.1**
	SNR=11						
MK01	**Makanchi Array**	**47.30**	**344**	*e*P	**P**	**00 54 53.3**	**-0.8**
MK31	**Makanchi Array**	**47.32**	**344**	*e*P	**P**	**00 54 53.9**	**-0.4**
MKAR	**Makanchi Array**	**47.32**	**344**	P	**P**	**00 54 53.5**	**-0.8**
	comp=Z,2.3nm,0.7s,baz=154,slow=8.2,SNR=19						
MKAR	**Makanchi Array**	**47.32**	**344**	*e*P	**P**	**00 54 53.9**	**-0.4**
	comp=Z,24nm,1.0s						
MAKZ	**Makanchi**	**47.42**	**344**	*e*P	**P**	**00 54 54.2**	**-0.8**
	comp=Z,3.0nm,0.8s						
KKAR	**Karatay Array**	**48.56**	**332**	*e*P	**P**	**00 55 03.5**	**-0.4**
	comp=Z,0.3nm,0.3s						
MDJ	**Mudanjiang**	**50.56**	**28**	P	**P**	**00 55 21.4**	**+2.3**
MDJ				pmax	pmax		
	comp=Z,8.0nm,0.6s						
MDJ				pmax	pmax		
	comp=Z,220nm,7.9s						
KURBB	**Kurchatov Arra**	**51.84**	**343**	P	**P**	**00 55 28.0**	**-0.6**
	comp=Z,3.4nm,0.8s,baz=164,slow=6.9,SNR=19						
KURK	**Kurchatov**	**51.90**	**344**	*e*P	**P**	**00 55 28.6**	**-0.5**
	comp=Z,7.6nm,1.0s						
GEYT	**Alibeck**	**52.15**	**319**	P	**P**	**00 55 31.1**	**-0.1**
	comp=Z,4.5nm,1.1s,baz=142,slow=7.3,SNR=7.4						
GEYT				LR	LR	01 19 08.0	
	comp=Z,31nm,21.4s,baz=75,slow=38						
GYA0B	**ALIBECK ARRAY**	**52.15**	**319**	*e*P	**P**	**00 55 30.2**	**-1.0**
	comp=Z,4.6nm,0.8s						
ZAA0	**Zalesovo Array**	**53.46**	**350**	*e*P	**P**	**00 55 39.9**	**-0.6**
	comp=Z,5.4nm,1.0s						
ZALV	**Zalesovo Beam**	**53.46**	**350**	P	**P**	**00 55 40.0**	**-0.5**
	comp=Z,2.9nm,0.6s,baz=171,slow=5.9,SNR=18						
ZALV	**Zalesovo Beam**	**53.46**	**350**	*e*P	**P**	**00 55 39.5**	**-1.0**
BVAR	**Borovoye Array**	**56.50**	**340**	P	**P**	**00 56 01.6**	**-0.9**
	comp=Z,1.5nm,0.8s,baz=142,slow=7.3,SNR=10						
AKTO	**Aktyubinsk**	**59.78**	**331**	LR	LR	01 25 16.7	
	comp=Z,33nm,18.5s,baz=122,slow=39						
GNI	**Garni**	**62.34**	**315**	LR	LR	01 25 30.2	
	comp=Z,10nm,19.3s,baz=106,slow=38						
KBZ	**Khabaz**	**65.03**	**318**	P	**P**	**00 57 00.9**	**+0.2**
	comp=Z,2.5nm,0.9s,baz=140,slow=6.7,SNR=6.9						
MMAI	**Mount Meron Ar**	**67.24**	**305**	P	**P**	**00 57 15.1**	**-0.2**
	comp=Z,1.1nm,0.8s,baz=95,slow=18,SNR=4.9						
MMAI				LR	LR	01 29 41.2	
	comp=Z,16nm,18.9s,baz=265,slow=39						
BRTR	**Keskin Array B**	**70.27**	**312**	P	**P**	**00 57 33.5**	**-0.6**
	comp=Z,1.5nm,1.0s,baz=124,slow=7.8,SNR=8.1						
BRTR				LR	LR	01 30 34.7	
	comp=Z,18nm,20.1s,baz=95,slow=38						
BR231	**Keskin MP Arra**	**70.94**	**312**	*e*P	**P**	**00 57 34.7**	**-3.4**
TIXI	**Tiksi**	**72.43**	**9**	*e*P	**P**	**00 57 45.9**	**-0.4**
	comp=Z,8.5nm,0.8s						
KLMR	**Klimovskoe**	**74.21**	**334**	*e*P	**P**	**00 57 54.6**	**-2.4**
KLMR				AMP		00 58 01.3	
	comp=Z,11nm,1.4s						
AKASG	**Malin Array Be**	**76.11**	**322**	P	**P**	**00 58 07.2**	**-1.0**
	comp=Z,0.2nm,0.3s,baz=86,slow=5.1,SNR=8.7						
BUR04	**Bucovina Ar. S**	**78.00**	**318**	*e*P	**P**	**00 58 19.6**	**+0.6**
BUR08	**Bucovina Ar. S**	**78.01**	**318**	*e*P	**P**	**00 58 20.2**	**+1.1**
FINES	**FINESS Array B**	**80.52**	**332**	P	**P**	**00 58 31.9**	**-0.5**
	comp=Z,3.9nm,1.2s,baz=107,slow=4.6,SNR=6.9						
DPC	**Doruska-Polom**	**84.16**	**320**	*e*P	**P**	**00 58 51.8**	**+0.1**
GEA0	**GERESS Array S**	**85.77**	**319**	*e*P	**P**	**00 59 00.2**	**+0.3**
GERES	**GERESS Array B**	**85.77**	**319**	P	**P**	**00 59 00.4**	**+0.5**
	comp=Z,0.5nm,0.8s,baz=86,slow=5.0,SNR=5.7						
HFS	**Hagfors**	**86.32**	**330**	P	**P**	**00 59 03.0**	**+0.9**
	comp=Z,3.0nm,0.8s,baz=104,slow=6.1,SNR=9.2						
NOA	**NORSAR Array B**	**87.58**	**331**	P	**P**	**00 59 08.5**	**+0.1**
	comp=Z,1.5nm,0.8s,baz=94,slow=4.7,SNR=3.4						
SNAA	**Sanae**	**95.31**	**198**	LR	LR	01 38 00.3	
	comp=Z,67nm,19.6s,baz=64,slow=32						
TORD	**Torodi Ar. Bea**	**96.89**	**283**	P	**P**	**00 59 52.0**	**-0.4**
	comp=Z,0.4nm,0.8s,baz=65,slow=2.6,SNR=2.3						
TXAR	**Lajitas Array**	**142.25**	**34**	PKP	**PKPdf**	**01 05 52.3**	**-1.4**
	comp=Z,0.4nm,1.0s,baz=339,slow=2.2,SNR=2.8						

MEX 14 00:48:33.8±0.4,**16°.19N**×**98°.36W, h2**km±4km,**MD3.8, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.30**	**48**	*i* P	Pg	00 48 39.3	-0.3
PNIG				*e*S	Sg	00 48 43.8	+0.2
TLIG	**Tlapa**	**1.38**	**352**	*e*P	Pn	00 48 56.7	-3.5
VHO	**Vista Hermosa**	**1.79**	**60**	*e*P	Pn	00 49 02.8	-3.1
VHO				*e*S	Sn	00 49 24.5	-4.8
CAIG	**El Cayaco**	**2.02**	**295**	*e*P	Pn	00 49 05.0	-3.9
CAIG				*e*S	Sn	00 49 26.2	-8.5
PLIG	**Platanillo**	**2.45**	**334**	*e*P	Pn	00 49 15.2	+0.3
PLIG				*e*S	Sn	00 49 44.3	-1.2

*ISCJB **14** 01:00:28.6±0.4,38°.86N±0°.02×25°.97E±0°.03, h6km±3km, Error ellipse: s-maj=3.7km s-min=2.9km az=171.6*
*ISK **14** 01:00:28.9,38°.89N×26°.03E, h10km, ML3.1/19*
*CSEM **14** 01:00:29.2±0.1,38°.86N×25°.99E, h10km, ML3.1, Error ellipse: s-maj=2.2km s-min=1.7km az=83.0*
*THE **14** 01:00:29.5,38°.87N×25°.98E, h4km±1km, ML2.6/5, Error ellipse: s-maj=1.4km s-min=0.6km az=74.0*
*DDA **14** 01:00:31.0,38°.93N×26°.15E, h40km, Ml3.1*

ISC 14 01:00:29.4±0.9,**38°.87N**±0°.02×**26°.00E**±0°.02,**h12**km±8km, **n98,** σ0s**56**/142**, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIGR	**SIGRI**	**0.36**	**341**	PG	**Pg**	**01 00 36.8**	**+0.2**
SIGR				SG	**Sg**	**01 00 41.6**	**+0.2**
SIGR	**SIGRI**	**0.36**	**341**	P	**Pg**	**01 00 36.9**	**+0.3**
SIGR				S	**Sg**	**01 00 41.1**	**-0.3**
SIGR	**SIGRI**	**0.36**	**341**	P	**Pg**	**01 00 36.9**	**+0.3**
SIGR				S	**Sg**	**01 00 41.1**	**-0.3**
PRK	**Paraskevi**	**0.43**	**29**	P	**Pb**	**01 00 38.2**	**-0.7**
PRK				S	**Sb**	**01 00 44.4**	**-0.9**
PRK	**Paraskevi**	**0.43**	**29**	P	**Pb**	**01 00 38.2**	**-0.7**
PRK				S	**Sb**	**01 00 44.4**	**-0.9**
CHOS	**Chios island**	**0.49**	**175**	PG	**Pg**	**01 00 39.2**	**+0.2**
CHOS				SG	**Sb**	**01 00 46.8**	**-0.2**
CHOS	**Chios island**	**0.49**	**175**	P	**Pg**	**01 00 39.3**	**+0.2**
CHOS				S	**Sg**	**01 00 46.2**	**+0.7**
CHOS	**Chios island**	**0.49**	**175**	*e*Pg	**Pg**	**01 00 39.2**	**+0.2**
CHOS				S	**Sg**	**01 00 46.2**	**+0.7**
KRBN	**Karaburun**	**0.51**	**123**	PG	**Pg**	**01 00 39.2**	**-0.3**
KRBN				SG	**Sg**	**01 00 46.7**	**+0.4**
KRBN	**Karaburun**	**0.51**	**123**	*e*Pg	**Pg**	**01 00 39.2**	**-0.3**
KRBN				*e*Sg	**Sg**	**01 00 46.7**	**+0.4**
FOCM	**Foˆ§a**	**0.59**	**105**	PG	**Pg**	**01 00 40.5**	**-0.4**
FOCM				SG	**Sb**	**01 00 49.1**	**-0.8**
FOCM	**Foˆ§a**	**0.59**	**105**	*e*Pg	**Pg**	**01 00 40.5**	**-0.4**
FOCM				*e*Sg	**Sb**	**01 00 49.1**	**-0.8**
GPNR	**Gulpinar-Canak**	**0.59**	**10**	PG	**Pg**	**01 00 40.4**	**-0.6**
GPNR	**Gulpinar-Canak**	**0.59**	**10**	*e*Pg	**Pg**	**01 00 40.4**	**-0.6**
AYVA	**Ayvalik**	**0.69**	**51**	*i* P	**Pb**	**01 00 43.0**	**-0.3**
AYVA				*i* S	**Sb**	**01 00 52.3**	**-0.5**
AYVA	**Ayvalik**	**0.69**	**51**	P	**Pb**	**01 00 43.0**	**-0.3**
AYVA				S	**Sb**	**01 00 52.3**	**-0.5**
URLA	**Izmir**	**0.69**	**138**	PG	**Pg**	**01 00 42.1**	**-0.7**
URLA				SG	**Sg**	**01 00 51.8**	**-0.1**
URLA	**Izmir**	**0.69**	**138**	*e*Pg	**Pg**	**01 00 42.1**	**-0.7**
URLA				*e*Sg	**Sg**	**01 00 51.8**	**-0.1**
DKL	**Dikili**	**0.73**	**74**	PG	**Pg**	**01 00 43.5**	**-0.1**
DKL	**Dikili**	**0.73**	**74**	*e*Pg	**Pg**	**01 00 43.5**	**-0.1**
BLCB	**Balcova**	**0.95**	**121**	PG	**Pg**	**01 00 47.5**	**-0.2**
BLCB	**Balcova**	**0.95**	**121**	*e*Pg	**Pg**	**01 00 47.5**	**-0.2**
BAYC	**CANAKKALE_Bayr**	**0.96**	**26**	*i* P	**Pn**	**01 00 48.5**	**-0.3**
BAYC				*i* S	**Sn**	**01 01 01.9**	**-0.5**
BAYC	**CANAKKALE_Bayr**	**0.96**	**26**	P	**Pn**	**01 00 48.5**	**-0.3**
BAYC				S	**Sn**	**01 01 01.9**	**-0.5**
BOZC	**Bozcaada**	**0.97**	**2**	PG	**Pg**	**01 00 47.2**	**-0.9**
BOZC	**Bozcaada**	**0.97**	**2**	*e*Pg	**Pg**	**01 00 47.2**	**-0.9**
EZN	**Ezine**	**0.98**	**15**	PG	**Pg**	**01 00 47.8**	**-0.6**
EZN	**Ezine**	**0.98**	**15**	P	**Pg**	**01 00 48.1**	**-0.3**
EZN				S	**Sb**	**01 01 01.6**	**+0.3**
EZN	**Ezine**	**0.98**	**15**	*e*Pg	**Pg**	**01 00 47.8**	**-0.6**
EZN	**Ezine**	**0.98**	**15**	P	**Pg**	**01 00 48.1**	**-0.3**
EZN				S	**Sb**	**01 01 01.6**	**+0.3**
LIA	**Limnos Island**	**1.21**	**328**	P	**Pn**	**01 00 52.0**	**0.0**
LIA				S	**Sn**	**01 01 08.7**	**+0.4**
LIA	**Limnos Island**	**1.21**	**328**	P	**Pn**	**01 00 52.0**	**0.0**
LIA				S	**Sn**	**01 01 08.7**	**+0.4**
GADA	**Gvkgeada**	**1.32**	**356**	PN	**Pn**	**01 00 53.9**	**+0.3**
GADA	**Gvkgeada**	**1.32**	**356**	P	**Pn**	**01 00 53.7**	**+0.1**
GADA				S	**Sg**	**01 01 12.9**	**+1.0**
GADA	**Gvkgeada**	**1.32**	**356**	*e*Pn	**Pn**	**01 00 53.9**	**+0.3**
GADA				S	**Sg**	**01 01 12.9**	**+1.0**
SMG	**Samos**	**1.33**	**150**	P	**Pg**	**01 00 55.0**	**-0.1**
SMG				S	**Sb**	**01 01 11.8**	**+0.4**
SMG	**Samos**	**1.33**	**150**	P	**Pg**	**01 00 55.0**	**-0.1**
SMG				S	**Sb**	**01 01 11.8**	**+0.4**
AKHS	**Akhisar**	**1.41**	**89**	*i* P	**Pn**	**01 00 55.1**	**+0.2**
AKHS				*i* S	**Sg**	**01 01 16.6**	**+1.7**
AKHS	**Akhisar**	**1.41**	**89**	P	**Pn**	**01 00 55.1**	**+0.2**
AKHS				S	**Sg**	**01 01 16.6**	**+1.7**
STEP	**BALIKESIR_Sava**	**1.43**	**69**	*i* P	**Pn**	**01 00 54.9**	**-0.2**
STEP				*i* S	**Sg**	**01 01 16.5**	**+1.2**
STEP	**BALIKESIR_Sava**	**1.43**	**69**	P	**Pn**	**01 00 54.9**	**-0.2**
STEP				S	**Sg**	**01 01 16.5**	**+1.2**
BALY	**Balya**	**1.52**	**55**	*i* P	**Pn**	**01 00 55.2**	**-1.3**
BALY				*i* S	**Sn**	**01 01 16.2**	**-0.1**
BALY	**Balya**	**1.52**	**55**	P	**Pn**	**01 00 55.2**	**-1.3**
BALY				S	**Sn**	**01 01 16.2**	**-0.1**
GELI	**Tayfur-Gelibol**	**1.57**	**13**	PN	**Pn**	**01 00 57.5**	**+0.5**
GELI	**Tayfur-Gelibol**	**1.57**	**13**	*e*Pn	**Pn**	**01 00 57.5**	**+0.5**
LPK	**Lapseki**	**1.61**	**21**	PN	**Pn**	**01 00 57.4**	**-0.2**
LPK	**Lapseki**	**1.61**	**21**	*e*Pn	**Pn**	**01 00 57.4**	**-0.2**
SMTH	**Samothraki Isl**	**1.64**	**347**	P	**Pn**	**01 00 58.0**	**0.0**
SMTH	**Samothraki Isl**	**1.64**	**347**	P	**Pn**	**01 00 58.0**	**0.0**
BALB	**Balikesir**	**1.65**	**62**	PN	**Pn**	**01 00 57.9**	**-0.2**
BALB	**Balikesir**	**1.65**	**62**	*e*Pn	**Pn**	**01 00 57.9**	**-0.2**
EREA	**Eretria**	**1.68**	**255**	P	**Pn**	**01 00 58.4**	**-0.3**
EREA	**Eretria**	**1.68**	**255**	P	**Pn**	**01 00 58.4**	**-0.3**
AYDB	**Zeytinkoy-Aydi**	**1.75**	**121**	PN	**Pn**	**01 00 59.5**	**-0.1**
AYDB	**Zeytinkoy-Aydi**	**1.75**	**121**	*e*Pn	**Pn**	**01 00 59.5**	**-0.1**
GONE	**Gonen-Balikesi**	**1.75**	**47**	PN	**Pn**	**01 01 00.1**	**+0.5**
GONE	**Gonen-Balikesi**	**1.75**	**47**	*e*Pn	**Pn**	**01 01 00.1**	**+0.5**
KRBG	**Karabiga-Canak**	**1.82**	**33**	PN	**Pn**	**01 01 00.6**	**+0.1**
KRBG	**Karabiga-Canak**	**1.82**	**33**	*e*Pn	**Pn**	**01 01 00.6**	**+0.1**
ERIK	**Erikli-Kesan**	**1.84**	**12**	PN	**Pn**	**01 01 01.4**	**+0.7**
ERIK	**Erikli-Kesan**	**1.84**	**12**	*e*Pn	**Pn**	**01 01 01.4**	**+0.7**
APE	**Apeiranthos**	**1.84**	**192**	P	**Pn**	**01 01 00.2**	**-0.6**
APE	**Apeiranthos**	**1.84**	**192**	P	**Pn**	**01 01 00.2**	**-0.6**
ENEZ	**Enez**	**1.86**	**3**	PN	**Pn**	**01 01 01.8**	**+0.7**
ENEZ	**Enez**	**1.86**	**3**	P	**Pn**	**01 01 01.5**	**+0.4**
ENEZ				S	**Sb**	**01 01 26.2**	**-0.4**
ENEZ	**Enez**	**1.86**	**3**	P	**Pn**	**01 01 01.5**	**+0.4**
ENEZ	**Enez**	**1.86**	**3**	*e*Pn	**Pn**	**01 01 01.8**	**+0.7**
ENEZ				S	**Sb**	**01 01 26.2**	**-0.4**
PTL	**Penteli**	**1.87**	**245**	P	**Pn**	**01 01 00.6**	**-0.6**
PTL	**Penteli**	**1.87**	**245**	P	**Pn**	**01 01 00.6**	**-0.6**
ATHU	**Athens Univers**	**1.96**	**243**	P	**Pn**	**01 01 01.7**	**-0.8**
ATHU	**Athens Univers**	**1.96**	**243**	P	**Pn**	**01 01 01.7**	**-0.8**
VLY	**Voula,Athens**	**2.01**	**240**	P	**Pn**	**01 01 02.8**	**-0.4**
VLY	**Voula,Athens**	**2.01**	**240**	P	**Pn**	**01 01 02.8**	**-0.4**
KESN	**Edirne-Kesan**	**2.02**	**15**	*i* P	**Pn**	**01 01 03.5**	**-0.1**
KESN				*i* S	**Sb**	**01 01 30.8**	**-0.7**
KESN	**Edirne-Kesan**	**2.02**	**15**	P	**Pn**	**01 01 03.5**	**-0.1**
KESN				S	**Sb**	**01 01 30.8**	**-0.7**
ALN	**Alexandroupoli**	**2.02**	**1**	PN	**Pn**	**01 01 03.0**	**-0.3**
ALN	**Alexandroupoli**	**2.02**	**1**	P	**Pn**	**01 01 03.2**	**-0.1**
ALN				S	**Sn**	**01 01 29.4**	**+0.9**
ALN	**Alexandroupoli**	**2.02**	**1**	P	**Pn**	**01 01 03.2**	**-0.1**
ALN				S	**Sn**	**01 01 29.4**	**+0.9**
RKY	**Sarkoy-Tekirda**	**2.03**	**26**	PN	**Pn**	**01 01 03.4**	**0.0**
RKY	**Sarkoy-Tekirda**	**2.03**	**26**	*e*Pn	**Pn**	**01 01 03.4**	**0.0**
SART	**Tekirdag**	**2.03**	**26**	*i* P	**Pn**	**01 01 03.5**	**+0.1**
SART				*i* S	**Sb**	**01 01 32.1**	**+0.7**
SART	**Tekirdag**	**2.03**	**26**	P	**Pn**	**01 01 03.5**	**+0.1**
SART				S	**Sb**	**01 01 32.1**	**+0.7**
DURS	**Dursunbey**	**2.05**	**68**	*i* P	**Pn**	**01 01 03.9**	**0.0**
DURS				*i* S	**Sg**	**01 01 36.4**	**+1.0**
DURS	**Dursunbey**	**2.05**	**68**	P	**Pn**	**01 01 03.8**	**0.0**
EDC	**Edincik**	**2.06**	**44**	PN	**Pn**	**01 01 03.3**	**-0.5**
EDC				SN	**Sn**	**01 01 30.1**	**+0.8**
EDC	**Edincik**	**2.06**	**44**	*e*Pn	**Pn**	**01 01 03.3**	**-0.5**
EDC				*e*Sn	**Sn**	**01 01 30.1**	**+0.8**
DEMI	**Demirci**	**2.12**	**85**	*i*

CHGB	**Renai**	**1.03**	**281**	P	**Pb**	**01 08 59.4**	**+0.4**
	baz=273						
CHGB				*eS*	**Sg**	**01 09 12.3**	**+0.7**
	baz=273						
TWF1	**Yuli**	**1.03**	**241**	*eP*	**Pb**	**01 08 58.9**	**-0.1**
	baz=229						
TWF1				*eS*	**Sb**	**01 09 12.7**	**-0.1**
	baz=229						
TDCB	**Techi**	**1.09**	**291**	P	**Pn**	**01 09 00.7**	**-0.1**
	baz=290						
TDCB				*eS*	**Sg**	**01 09 12.6**	**-1.1**
	baz=290						
FULB	**Fuli**	**1.12**	**234**	*eP*	**Pg**	**01 08 59.5**	**-0.4**
	baz=223						
FULB				*eS*	**Sg**	**01 09 13.2**	**-1.2**
	baz=223						
YHNB	**Yeheng**	**1.15**	**315**	⇓*i*P	**Pn**	**01 09 01.5**	**0.0**
	baz=314						
YHNB				*eS*	**Sg**	**01 09 15.2**	**-0.3**
	baz=314						
NWLT	**Wulai**	**1.15**	**322**	P	**Pn**	**01 09 01.6**	**+0.1**
	baz=322						
NWLT				*eS*	**Sn**	**01 09 17.2**	**-0.6**
	baz=322						
SSLB	**Suanglung**	**1.21**	**267**	*eP*	**Pg**	**01 09 01.7**	**-0.1**
	baz=266						
SSLB				*eS*	**Sg**	**01 09 15.5**	**-2.0**
	baz=266						
SMLT	**Sun Moon Lake**	**1.26**	**271**	*eP*	**Pn**	**01 09 05.0**	**+2.0**
	baz=270						
SMLT				*eS*	**Sg**	**01 09 19.1**	**+0.1**
	baz=270						
NWF	**Wu-fen Shan**	**1.29**	**340**	*eP*	**Pn**	**01 09 03.5**	**+0.1**
	baz=353						
NWF				*eS*	**Sn**	**01 09 21.7**	**+0.6**
	baz=353						
WFSB	**Wu-fen Shan**	**1.29**	**340**	*eP*	**Pn**	**01 09 03.4**	**+0.1**
	baz=353						
WFSB				*eS*	**Sn**	**01 09 21.4**	**+0.4**
	baz=353						
IRIF	**Iriomote-Funau**	**1.41**	**70**	P	**Pg**	**01 09 05.2**	**-0.4**
IRIF				*eS*	**Sn**	**01 09 24.9**	**+0.9**
HATJ	**Hateruma jima**	**1.41**	**82**	P	**Pn**	**01 09 04.4**	**-0.6**
CHN4	**Tsaushan**	**1.62**	**252**	*eP*	**Pg**	**01 09 09.6**	**0.0**
	baz=251						
CHN4				*eS*	**Sg**	**01 09 30.8**	**0.0**
	baz=251						
JKRS	**Kuro-shima**	**1.63**	**76**	S	**Sg**	**01 09 32.0**	**+1.1**
JIJ	**Ishigaki jima**	**1.78**	**73**	S	**Sn**	**01 09 33.3**	**+0.2**
JISG	**Ishigakijimahi**	**1.99**	**68**	P	**Pn**	**01 09 12.5**	**-0.5**
JISG				S	**Sb**	**01 09 40.8**	**+0.2**
JTJ	**Tarama**	**2.35**	**70**	S	**Sn**	**01 09 46.5**	**-0.7**

NIED ***14*** *01:11:00, 39.˚10N×142.˚40E, h50km, Mw4.0 Best double couple: M₀1.18000×10¹⁵ NP1:φ₈46.00000°, δ 18.00000°, λ 128.00000°. NP2:φ₈187.00000°, δ 76.00000°, λ 79.00000°.*

ISCJB ***14*** *01:11:43.8±0.6, 39.˚09N±0.˚03×142.˚39E±0.˚07, h57km±5km, mb4.1/35, Error ellipse: s-maj=9.1km s-min=4.4km az=20.3*

IDC ***14*** *01:11:45.0±0.6, 39.˚02N×142.˚36E, h53km±5km, mb3.8/25, mb1 3.9/29, mb1mx3.8/65, mbtmp4.1/29, MS3.0/6. Ms1 3.0/6, ms1mx2.6/58, Error ellipse: s-maj=13.5km s-min=10.3km az=113.0*

NEIC ***14*** *01:11:44.3±0.8, 39.˚01N×142.˚35E, h47km±6km, mb4.4/9, Error ellipse: s-maj=6.4km s-min=4.6km az=144.0*

NEIC Recorded [2 JMA] in Iwate and Miyagi.

JMA ***14*** *01:11:44.2±0.1, 39.˚09N×142.˚42E, h43km±1km, M4.1*

JMA Felt II J1.

ISC 14 01:11:45.0±0.7,**39.˚08N**±0.˚04×**142.˚35E**±0.˚07,**h51**km±5km, **n68**,σ1°**11**/82,**mb4.0**/35,**Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OFUJ	**Ofunato**	**0.53**	**271**	P	**Pn**	**01 11 56.2**	**-0.5**
OFUJ				*eS*	**Sn**	**01 12 04.6**	**-0.5**
MIYJ	**Miyakonagasawa**	**0.65**	**321**	P	**Pn**	**01 11 57.4**	**-0.7**
MIYJ				S	**Sn**	**01 12 06.7**	**-0.9**
JMK	**Ichinoseki**	**0.89**	**262**	P	**Pn**	**01 12 01.3**	**+0.1**
JMK				S	**Sn**	**01 12 13.6**	**+0.4**
JOM	**Ohasama**	**0.91**	**296**	P	**Pn**	**01 12 01.5**	**-0.1**
JOM				S	**Sn**	**01 12 13.9**	**+0.2**
JTH	**Tanohata**	**0.94**	**337**	P	**Pn**	**01 12 01.0**	**-1.0**
JTH				*eS*	**Sn**	**01 12 14.0**	**-0.4**
JIO	**Ouri**	**1.00**	**232**	P	**Pn**	**01 12 02.2**	**-0.5**
JIO				S	**Sn**	**01 12 15.0**	**-0.8**
JKZ	**Kuzumaki**	**1.20**	**319**	P	**Pn**	**01 12 05.6**	**+0.1**
JKZ				*eS*	**Sn**	**01 12 21.0**	**+0.2**
JRG	**Rokugo**	**1.37**	**284**	P	**Pn**	**01 12 08.1**	**+0.3**
JANG	**Nango**	**1.45**	**334**	P	**Pn**	**01 12 08.2**	**-0.6**
JANG				*eS*	**Sn**	**01 12 26.9**	**+0.2**
JOU	**Okura**	**1.50**	**242**	P	**Pn**	**01 12 09.7**	**+0.2**
JOU				*eS*	**Sn**	**01 12 29.4**	**+1.5**
JYK	**Kaneyama**	**1.56**	**265**	P	**Pn**	**01 12 10.9**	**+0.6**
ERM	**Erimo**	**3.00**	**12**	*e*Pn	**Pn**	**01 12 29.8**	**-0.2**
ERM				*e*Sn	**Sn**	**01 13 03.5**	**-1.2**
MAJO	**Matsushiro**	**4.14**	**234**	*e*Pn	**Pn**	**01 12 47.9**	**+2.2**
MAT	**Matsushiro**	**4.14**	**234**	P	**Pn**	**01 12 48.1**	**+2.4**
MAT				S	Sn	01 13 40.5	+7.6
MJAR	**Matsushiro Arr**	**4.14**	**234**	P	**Pn**	**01 12 47.7**	**+1.9**
	7.9nm,0.3s,baz=38,slow=11,SNR=76						
MJAR				LR	LR	01 14 36.6	
	comp=Z,176nm,20.0s,baz=5.0,slow=42						
ASAJ	**Asahikawa**	**5.04**	**2**	P	**Pn**	**01 12 58.9**	**+0.9**
	3.3nm,0.3s,baz=217,slow=11,SNR=6.5						
ASAJ				S	**Sn**	**01 13 53.1**	**-1.8**
	2.0nm,0.3s,baz=233,slow=20,SNR=3.3						
ASAJ	**Asahikawa**	**5.04**	**2**	*e*Pn	**Pn**	**01 12 57.7**	**-0.2**
	4.5nm,0.4s						
ASAJ				S	**Sn**	**01 13 53.1**	**-1.8**
JHJ2	**Mitsune**	**6.29**	**200**	*e*Pn	**Pn**	**01 13 16.4**	**+1.2**
JHJ	**Hachijo jima 2**	**6.30**	**200**	P	**Pn**	**01 13 14.6**	**-0.6**
	11nm,0.3s,baz=41,slow=20,SNR=8.7						
JHJ				S	**Sn**	**01 14 19.7**	**-6.1**
	13nm,0.3s,baz=49,slow=18,SNR=3.4						
JHJ				LR	LR	01 16 01.2	
	comp=Z,79nm,19.6s,baz=72,slow=41						
USRK	**Ussuriysk Ar.**	**9.29**	**307**	P	**Pn**	**01 13 56.1**	**-0.1**
	0.4nm,0.3s,baz=112,slow=12,SNR=14						
USRK				LR	LR	01 17 36.0	
	comp=Z,108nm,18.1s,baz=44,slow=38						
JNU	**Nakatsue**	**11.02**	**241**	LR	LR	01 18 44.8	
	comp=Z,93nm,21.2s,baz=318,slow=38						
KSRS	**Korea Array**	**11.46**	**266**	P	**Pn**	**01 14 28.1**	**+2.2**
	0.1nm,0.3s,baz=76,slow=13,SNR=8.8						
KSRS				LR	LR	01 17 58.2	
	comp=Z,67nm,20.9s,baz=132,slow=32						
KSAR	**Wonju Array Be**	**11.49**	**266**	P	**Pn**	**01 14 28.1**	**+1.8**
KLR	**Kul'dur**	**12.67**	**327**	P	**Pn**	**01 14 42.9**	**+0.5**
	0.0nm,0.3s,baz=149,slow=18,SNR=2.4						
PETK	**Petropavlovsk-**	**17.56**	**32**	LR	LR	01 21 40.1	
	comp=Z,65nm,21.1s,baz=197,slow=34						
MA2	**Magadan**	**21.21**	**12**	P	**P**	**01 16 26.3**	**+0.3**
	2.1nm,0.3s,baz=204,slow=18,SNR=4.1						
SEY	**Seymchan**	**24.65**	**11**	P	**P**	**01 17 01.1**	**+0.6**
	1.9nm,0.8s,baz=190,slow=8.8,SNR=5.6						
SONM	**Songino Array**	**27.32**	**300**	P	**P**	**01 17 24.9**	**-0.1**
	0.7nm,0.5s,baz=96,slow=8.5,SNR=4.6						
SONM				pP	**pP**	**01 17 39.0**	**+0.9**
	0.8nm,0.5s,baz=101,slow=7.5,SNR=3.0						
H11N2	**WAKE ISLAND Hy 28.64**	**125**		T	T	01 48 04.3	
	baz=318,slow=75,SNR=930						
H11N1	**WAKE ISLAND Hy 28.65**	**125**		T	T	01 48 05.0	
	baz=318,slow=75,SNR=882						
H11N3	**WAKE ISLAND Hy 28.66**	**125**		T	T	01 48 05.2	
	baz=318,slow=75,SNR=952						
H11S1	**WAKE ISLAND Hy 29.43**	**127**		T	T	01 49 01.2	
	baz=318,slow=76,SNR=84						
H11S3	**WAKE ISLAND Hy 29.43**	**127**		T	T	01 48 59.6	
	baz=318,slow=76,SNR=138						
H11S2	**WAKE ISLAND Hy 29.44**	**127**		T	T	01 49 08.0	
	baz=318,slow=76,SNR=79						
TLY	**Talaya**	**29.61**	**308**	P	**P**	**01 17 45.2**	**0.0**
	0.6nm,0.3s,baz=111,slow=2.2,SNR=3.4						
TGY	**Tagaytay City**	**31.23**	**223**	P	**P**	**01 17 59.3**	**-0.5**
	1.41nm,0.3s,baz=37,slow=20,SNR=2.1						
ZALV	**Zalesovo Beam**	**41.12**	**311**	P	**P**	**01 19 23.9**	**+0.2**
	1.9nm,0.5s,baz=100,slow=8.5,SNR=6.9						
ZALV				PcP	**PcP**	**01 21 21.9**	**-0.4**
	0.5nm,0.4s,baz=91,slow=2.0,SNR=2.6						
CMAR	**Chiang Mai Arr**	**42.75**	**254**	P	**P**	**01 19 37.3**	**-0.2**
	0.3nm,0.7s,baz=40,slow=7.1,SNR=2.7						
CMAR				PcP	**PcP**	**01 21 29.6**	**+1.3**
	0.3nm,0.4s,baz=48,slow=1.3,SNR=3.1						
MKAR	**Makanchi Array**	**43.69**	**300**	P	**P**	**01 19 44.8**	**0.0**
	1.4nm,0.6s,baz=83,slow=10,SNR=14						
MKAR				PcP	**PcP**	**01 21 29.0**	**-2.1**
	0.1nm,0.5s,baz=101,slow=4.6,SNR=1.7						
KURK	**Kurchatov**	**45.28**	**307**	*e*P	**P**	**01 19 57.1**	**-0.3**
KURBB	**Kurchatov Arra**	**45.36**	**307**	P	**P**	**01 19 58.1**	**+0.1**
	2.9nm,0.4s,baz=80,slow=8.4,SNR=20						
RC01	**Rabbit Creek A**	**46.30**	**39**	*e*P	**P**	**01 20 05.3**	**+0.1**
	2.7nm,0.9s						
SML	**Sawmill**	**46.92**	**37**	*e*P	**P**	**01 20 10.3**	**+0.2**
	0.6nm,0.6s						
ILAR	**Eielson Array**	**47.38**	**33**	P	**P**	**01 20 14.2**	**+0.6**
	4.1nm,0.7s,baz=264,slow=6.1,SNR=50						
DIV	**Divide**	**48.21**	**38**	*e*P	**P**	**01 20 20.3**	**+0.1**
	4.4nm,0.5s						
DOT	**Dot Lake**	**48.70**	**35**	*e*P	**P**	**01 20 23.7**	**-0.2**
	3.3nm,0.5s						
BMRM	**Bremner River**	**48.80**	**38**	*e*P	**P**	**01 20 25.5**	**+0.8**
	3.6nm,0.7s						
BVAR	**Borovoye Array**	**49.77**	**311**	P	**P**	**01 20 32.5**	**+0.4**
	1.1nm,0.5s,baz=76,slow=7.0,SNR=8.8						
BVAR				PcP	**PcP**	**01 21 52.7**	**+0.3**
	0.5nm,0.5s,baz=20,slow=6.3,SNR=2.7						
INK	**Inuvik**	**52.24**	**28**	P	**P**	**01 20 51.1**	**+0.7**
	1.9nm,0.5s,baz=302,slow=4.8,SNR=17						
INK				pP	**pP**	**01 21 05.7**	**+1.5**
	0.8nm,0.6s,baz=277,slow=34,SNR=3.0						
ARU	**Arti**	**55.33**	**318**	*e*P	**P**	**01 21 14.1**	**+0.8**
	2.4nm,0.3s						
ABKAR	**Akbulak array**	**57.20**	**309**	*e*P	**P**	**01 21 26.5**	**-0.1**
	1.0nm,0.3s						
SPITS	**Spitsbergen Ar**	**58.67**	**349**	P	**P**	**01 21 35.9**	**-0.6**
	15nm,1.1s,baz=27,slow=9.7,SNR=3.0						
WRAB	**Tennant Creek**	**59.17**	**189**	*e*P	**P**	**01 21 39.4**	**-1.3**
WRA	**Warramunga Arr**	**59.19**	**189**	P	**P**	**01 21 39.8**	**-0.9**
	2.7nm,0.5s,baz=6.6,slow=7.1,SNR=58						
WRA				pP	**pP**	**01 21 53.8**	**-1.1**
	2.6nm,0.7s,baz=6.7,slow=7.2,SNR=8.4						
RES	**Resolute Bay**	**60.44**	**15**	P	**P**	**01 21 48.1**	**-0.6**
	0.3nm,0.4s,baz=322,slow=7.8,SNR=7.5						
YKA	**Yellowknife Ar**	**61.68**	**31**	P	**P**	**01 21 57.5**	**+0.2**
	0.7nm,0.6s,baz=301,slow=6.6,SNR=17						
YKA				pP	**pP**	**01 22 12.0**	**+0.6**
	0.2nm,0.6s,baz=304,slow=6.6,SNR=2.9						
ASAR	**Alice Springs**	**62.91**	**189**	P	**P**	**01 22 05.5**	**-0.5**
	1.1nm,0.7s,baz=9.1,slow=5.4,SNR=12						
ASAR				pP	**pP**	**01 22 19.6**	**-0.5**
	1.1nm,0.7s,baz=9.6,slow=5.8,SNR=4.9						
FINES	**FINESS Array B**	**67.36**	**332**	P	**P**	**01 22 33.8**	**-0.5**
	2.2nm,0.9s,baz=10,slow=14,SNR=4.2						
FFC	**Flin Flon**	**71.59**	**33**	*e*P	**P**	**01 23 00.5**	**-0.2**
	3.1nm,0.8s						
HFS	**Hagfors**	**72.53**	**336**	P	**P**	**01 23 06.0**	**-0.2**
	1.4nm,0.7s,baz=45,slow=6.9,SNR=4.6						
NOA	**NORSAR Array B**	**72.59**	**337**	P	**P**	**01 23 06.3**	**-0.2**
	0.3nm,0.6s,baz=24,slow=3.4,SNR=2.5						
AKASG	**Malin Array Be**	**73.14**	**322**	P	**P**	**01 23 09.7**	**-0.2**
	0.7nm,0.4s,baz=46,slow=6.0,SNR=6.7						
NVAR	**Mina Array Bea**	**73.18**	**54**	P	**P**	**01 23 10.3**	**-0.4**
	1.0nm,0.7s,baz=297,slow=6.5,SNR=4.9						
FRB	**Frobisher Bay**	**74.62**	**14**	P	**P**	**01 23 18.0**	**-0.3**
	1.4nm,0.6s,baz=321,slow=6.2,SNR=6.0						
R11A	**Troy Canyon, C**	**74.93**	**53**	*e*P	**P**	**01 23 21.3**	**+0.4**
	0.8nm,0.7s						
PDAR	**Pinedale Array**	**75.72**	**46**	P	**P**	**01 23 25.4**	**+0.1**
	0.9nm,0.6s,baz=270,slow=1.9,SNR=8.6						
GERES	**GERESS Array B**	**81.36**	**329**	P	**P**	**01 23 56.5**	**+0.3**
	0.2nm,0.3s,baz=39,slow=6.3,SNR=2.4						
TXAR	**Lajitas Array**	**88.30**	**53**	P	**P**	**01 24 31.6**	**+0.3**
	0.3nm,0.6s,baz=299,slow=2.9,SNR=7.6						

IDC ***14*** *01:29:14.0±1.0, 1.˚68N×99.˚21E, h0km, mb3.9/9, mb1 4.0/11, mb1mx3.7/60, mbtmp3.9/11, ML3.9/2, MS3.4/1, Ms1 3.6/1, ms1mx2.5/55, Error ellipse: s-maj=35.1km s-min=13.0km az=67.0*

ISCJB ***14*** *01:29:15.1±0.4, 1.˚87N±0.˚03×99.˚21E±0.˚04, h10km, mb4.0/13, Error ellipse: s-maj=6.3km s-min=4.4km az=28.4*

NEIC ***14*** *01:29:15.4±1.1, 1.˚69N×99.˚19E, h9km±7km, mb4.1/4, Error ellipse: s-maj=10.1km s-min=7.2km az=49.0*

DJA ***14*** *01:29:19.5±0.3, 2˚N±3˚×9˚E±˚, h10km, M4.2/8, MLv4.2/8*

ISC 14 01:29:15.7±0.5,**1.˚71N**±0.˚03×**99.˚18E**±0.˚03,**h10**km,**n35**, σ1°**53**/43,**mb4.0**/13,**Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SBSI	**Sibolga**	**0.33**	**242**	P	**Pn**	**01 29 26.6**	**0.0**
SBSI				S	**Sb**	**01 29 33.0**	**+3.9**
MNSI	**Mandailing Nat**	**0.99**	**156**	P	**Pn**	**01 29 37.3**	**+1.6**
PSI	**Prapat**	**1.11**	**347**	Pg	**Pb**	**01 29 34.8**	**-2.4**
	22nm,0.3s,baz=157,slow=14,SNR=52						
PSI				Lg	Lg	01 29 48.5	
	29nm,0.3s,baz=119,slow=19,SNR=12						
PSI				LR	LR	01 29 51.3	
	comp=Z,178nm,18.5s,baz=284,slow=36						
GSI	**Gunungsitoli**	**1.65**	**256**	P	**Pg**	**01 29 47.0**	**-0.5**
GSI				S	**Sg**	**01 30 08.6**	**-0.4**
GSI	**Gunungsitoli**	**1.65**	**256**	*e*Pn	**Pn**	**01 29 44.4**	**-0.5**
GSI				*e*Sn	**Sb**	**01 30 06.8**	**-0.4**
TSI	**Tuntungan**	**1.88**	**341**	P	**Pg**	**01 29 53.4**	**+1.5**
PBSI	**Pulau Batu**	**1.97**	**207**	P	**Pb**	**01 29 50.6**	**-1.1**
BKNI	**Bangkinang**	**2.31**	**126**	P	**Pb**	**01 29 56.9**	**-0.7**
BKNI	**Bangkinang**	**2.31**	**126**	*e*Pg	**Pg**	**01 29 59.5**	**-0.6**
TPTI		**2.52**	**308**	P	**Pb**	**01 30 01.0**	**-0.2**
TPTI				S	**Sb**	**01 30 33.9**	**+1.6**
PDSI	**Padang**	**2.90**	**154**	P	**Pb**	**01 30 05.7**	**-1.9**
SISI	**Saibi**	**3.02**	**182**	P	**Pn**	**01 30 05.2**	**+1.6**
IPM	**Ipoh**	**3.31**	**34**	*e*Pn	**Pn**	**01 30 09.1**	**+1.3**
IPM				*e*Pg	**Pg**	**01 30 18.7**	**-0.6**
IPM				*e*Sg	**Sg**	**01 31 01.7**	**-0.5**
RGRI	**Rengat**	**3.76**	**123**	P	**Pg**	**01 30 26.9**	**-0.9**
MLSI	**Meulaboh, Aceh**	**3.76**	**313**	P	**Pn**	**01 30 18.1**	**+4.2**
LHMI	**Lhok Sumawe**	**4.15**	**328**	*e*Pn	**Pn**	**01 30 19.2**	**+0.1**
LHMI				*e*Pg	**Pg**	**01 30 33.1**	**-2.1**
TRTT	**Trang**	**6.11**	**5**	P	**Pg**	**01 31 14.2**	**+1.4**
	9.7nm,0.9s,549nm0.1nm						
PKDT	**Phuket**	**6.20**	**352**	P	**Pg**	**01 31 10.4**	**-4.2**
SURT	**Suratani**	**7.21**	**357**	P	**Pg**	**01 31 31.7**	**-2.2**
CMAR	**Chiang Mai Arr**	**16.65**	**359**	Pn	**P**	**01 33 11.4**	**-0.4**
	0.2nm,0.3s,baz=190,slow=9.3,SNR=11						
CMAR				LR	LR	01 39 45.4	
	comp=Z,112nm,18.1s,baz=182,slow=38						
PALK	**Pallekele**	**19.23**	**287**	P	**Pn**	**01 33 42.4**	**+1.1**
	0.3nm,0.3s,baz=110,slow=9.7,SNR=3.6						
WRA	**Warramunga Arr**	**40.65**	**124**	P	**P**	**01 36 56.2**	**-0.3**
	1.3nm,0.9s,baz=303,slow=9.2,SNR=5.6						
AAK	**Ala-Archa**	**46.36**	**335**	*e*P	**P**	**01 37 43.1**	**+0.7**
	1.3nm,0.8s						
SONM	**Songino Array**	**46.37**	**7**	P	**P**	**01 37 42.6**	**+0.3**
	0.8nm,0.6s,baz=185,slow=9.9,SNR=7.5						
SONM				PcP	**PcP**	**01 39 18.4**	**+1.0**
	0.3nm,0.5s,baz=187,slow=3.5,SNR=2.4						
MKAR	**Makanchi Array**	**47.26**	**344**	P	**P**	**01 37 49.1**	**-0.1**
	0.5nm,0.5s,baz=154,slow=8.8,SNR=9.4						
KURBB	**Kurchatov Arra**	**51.78**	**343**	P	**P**	**01 38 23.5**	**-0.1**
	0.6nm,0.7s,baz=165,slow=7.3,SNR=5.4						
KURK	**Kurchatov**	**51.84**	**344**	P	**P**	**01 38 23.6**	**-0.5**
ZALV	**Zalesovo Beam**	**53.40**	**349**	P	**P**	**01 38 34.1**	**-1.4**
	1.7nm,0.6s,baz=181,slow=7.2,SNR=7.8						
RAYN	**Ar Rayn**	**56.27**	**297**	*e*P	**P**	**01 38 56.8**	**-0.2**
	1.6nm,0.9s						
BVAR	**Borovoye Array**	**56.45**	**340**	P	**P**	**01 38 57.1**	**-0.5**
	1.3nm,0.7s,baz=156,slow=7.9,SNR=9.4						
BRVK	**Borovoye**	**56.51**	**340**	*e*P	**P**	**01 38 58.2**	**+0.2**
	2.3nm,0.4s						
ABKAR	**Akbulak array**	**58.02**	**331**	*e*P	**P**	**01 39 09.0**	**+0.2**
	1.1nm,0.7s						
BRTR	**Keskin Array B**	**70.24**	**312**	P	**P**	**01 40 28.9**	**-0.6**
	0.7nm,0.9s,baz=134,slow=6.2,SNR=5.6						
TIXI	**Tiksi**	**72.35**	**9**	P	**P**	**01 40 41.3**	**-0.1**
	3.4nm,0.8s,baz=214,slow=1.5,SNR=11						
SEY	**Seymchan**	**72.53**	**23**	P	**P**	**01 40 42.5**	**-0.2**
	0.6nm,0.3s,baz=182,slow=14,SNR=6.9						

IDC ***14*** *01:41:20.7±1.8, 3.˚47S×126.˚98E, h0km, mb3.2/2, mb1 3.7/4, mb1mx3.3/50, mbtmp3.5/4, ML3.6/2, MS3.6/1, Ms1 3.6/1, ms1mx2.4/19, Error ellipse: s-maj=48.1km s-min=29.0km az=74.0*

DJA ***14*** *01:41:33.9±0.5, 3˚S±8˚×12˚7E±˚, h11km±7km, M3.2/7, MLv3.2/7*

ISC 14 01:41:25.5±1.3,**3.˚6S**±0.˚1×**127.˚43E**±0.˚07,**h10**km,**n11**, σ3°**04**/10,**Seram**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NLAI	**Namlea**	**0.47**	**315**	P	**Pn**	**01 41 38.5**	**+0.1**
NLAI				S	**Sb**	**01 41 45.3**	**+2.3**
AAI	**Ambon**	**0.77**	**98**	P	**Sn**	**01 41 58.8**	**+4.7**
MSAI	**Masohi**	**1.51**	**81**	P	**Sn**	**01 42 07.2**	**-5.2**
SANI	**Sanana**	**2.10**	**316**	P	**Pn**	**01 41 59.2**	**-1.5**
BNDI	**Bandanaira**	**2.64**	**111**	P	Pg	01 42 24.8	+8.7
LBMI	**Labuha**	**2.92**	**1**	P	**Pn**	**01 42 13.4**	**+1.3**
SIJI	**Sorong**	**4.68**	**55**	Pn	**Pn**	**01 42 37.0**	**+0.7**
	5.5nm,0.3s,baz=239,slow=18,SNR=6.9						
SIJI				Sn	**Sn**	**01 43 28.9**	**-1.9**
	2.4nm,0.3s,baz=270,slow=20,SNR=4.1						
WRA	**Warramunga Arr**	**17.61**	**158**	P	**P**	**01 45 32.3**	**+0.1**
	0.1nm,0.3s,baz=332,slow=12,SNR=4.7						
ASAR	**Alice Springs**	**20.93**	**163**	P	**P**	**01 46 07.2**	**-1.4**
	0.7nm,0.7s,baz=346,slow=12,SNR=7.0						
CTA	**Charters Tower**	**24.62**	**133**	LR	LR	01 59 17.5	
	comp=Z,136nm,18.4s,baz=248,slow=43						
MKAR	**Makanchi Array**	**63.98**	**327**	P	P	01 51 53.8	-5.4
	0.1nm,0.3s,baz=116,slow=6.7,SNR=2.6						

IDC ***14*** *01:58:56.7±1.8, 1.˚31N×91.˚18E, h0km, mb3.5/4, mb1 3.7/6, mb1mx3.3/69, mbtmp3.6/6, ML4.2/1, Error ellipse: s-maj=57.5km s-min=24.6km az=53.0*

ISC 14 01:58:56.8±1.4,**1.˚2N**±0.˚2×**90.˚8E**±0.˚2,**h10**km,**n10**, σ0°**46**/7, **mb3.7**/4,**North Indian Ocean**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PALK	**Pallekele**	**11.79**	**301**	Pn	Pn	02 01 51.0	+5.7
	1.4nm,0.3s,baz=115,slow=11,SNR=8.5						
PALK				Sn	**Sn**	**02 03 57.0**	**0.0**
	0.9nm,0.3s,baz=114,slow=20,SNR=3.1						
CMAR	**Chiang Mai Arr**	**18.94**	**24**	Pn	**P**	**02 03 17.9**	**-0.2**
	baz=214,slow=13,SNR=3.3						
H08S2	**Diego Garcia H**	**20.29**	**244**	T	T	02 25 22.9	
	baz=65						
H08S3	**Diego Garcia H**	**20.29**	**244**	T	T	02 25 21.1	
	baz=65						
H08S1	**Diego Garcia H**	**20.30**	**244**	T	T	02 25 22.3	
	baz=65						
MKAR	**Makanchi Array**	**46.06**	**352**	P	**P**	**02 07 21.0**	**+0.1**
	0.5nm,0.7s,baz=177,slow=8.4,SNR=4.3						
WRA	**Warramunga Arr**	**47.51**	**119**	P	**P**	**02 07 32.1**	**-0.5**
	1.0nm,0.7s,baz=295,slow=8.6,SNR=6.9						
SONM	**Songino Array**	**48.41**	**14**	P	**P**	**02 07 39.5**	**+0.2**
	0.6nm,0.6s,baz=189,slow=9.3,SNR=4.2						
ASAR	**Alice Springs**	**48.57**	**123**	P	**P**	**02 07 41.4**	**+0.6**
	0.2nm,0.5s,baz=302,slow=8.7,SNR=2.7						
TXAR	**Lajitas Array**	**146.65**	**23**	PKPbc	**PKPdf**	**02 18 37.7**	**-0.5**
	0.1nm,0.7s,baz=1.9,slow=2.7,SNR=3.3						

IDC 14 01:59:27.6±3.4,**2.˚49N×94.˚92E, h0**km, **mb4.1**/5,**mb1 4.1**/5, **mb1mx3.4**/69,**mbtmp4.1**/5,**ML2.6**/1,**MS3.4**/1,**Ms1 3.4**/1, **ms1mx2.5**/66,**Error ellipse: s-maj=83.3km s-min=30.5km az=14.0,Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**4.01**	**85**	Pn	Pn	02 00 31.3	+0.8
	0.4nm,0.3s,baz=260,slow=17,SNR=5.7						
PSI				Sn	Sn	02 01 16.5	-1.8
	1.5nm,0.3s,baz=286,slow=15,SNR=4.2						
MKAR	**Makanchi Array**	**45.48**	**348**	P	P	02 07 47.9	-0.8
	1.2nm,0.7s,baz=165,slow=8.5,SNR=8.3						
KURBB	**Kurchatov Arra**	**49.93**	**346**	P	P	02 08 22.3	-0.8
	1.2nm,0.7s,baz=169,slow=7.1,SNR=7.9						
ZALV	**Zalesovo Beam**	**51.97**	**352**	P	P	02 08 39.6	+1.2
	2.7nm,0.5s,baz=178,slow=6.8,SNR=9.3						
**

CMAR	**Chiang Mai Arr**	**19.07**	**20**	P		**Pn**	**02 08 21.1**	**+0.1**
	comp=Z,0.3nm,0.3s,baz=210,slow=12,SNR=4.3							
CMAR				S		**S**	**02 11 59.6**	**+5.1**
	comp=Z,0.1nm,0.3s,baz=211,slow=19,SNR=2.1							
CMAR				LR		LR	02 16 16.5	
	comp=Z,170nm,18.1s,baz=207,slow=39							
STKI	**Sintang**	**19.13**	**91**	P		Pn	02 08 29.4	+7.6
VIS	**Vishakhapatnam**	**19.35**	**333**	*e*P		**P**	**02 08 23.3**	**+0.3**
VIS				IAmb		IAmb	02 08 25.9	
	comp=Z,50nm,1.3s							
CHTO	**Chiang Mai**	**19.40**	**19**	P		**Pn**	**02 08 28.1**	**+3.2**
	comp=Z,47nm,0.7s,comp=Z,762nm							
CHTO	**Chiang Mai**	**19.40**	**19**	*e*P		**P**	**02 08 23.9**	**+0.3**
	comp=Z,7.1nm,0.6s							
CMMT	**Chiang Mai**	**19.40**	**19**	P		**Pn**	**02 08 26.8**	**+1.9**
	comp=Z,11nm,0.7s							
SBUM	**Sibu**	**19.97**	**84**	*e*P		**Pn**	**02 08 31.6**	**-0.1**
	comp=Z,28nm,1.0s							
SKNT	**Sakolnakorn**	**20.05**	**34**	P		Pn	02 08 33.9	+1.2
	comp=Z,6.0nm,1.7s							
H08S2	**Diego Garcia H**	**21.35**	**248**	T		T	02 30 10.1	
	baz=58,slow=75							
H08S3	**Diego Garcia H**	**21.36**	**248**	T		T	02 30 10.2	
	baz=58,slow=75							
H08S1	**Diego Carcia H**	**21.37**	**248**	T		T	02 30 09.5	
	baz=58,slow=75							
HYB	**Hyderabad**	**21.67**	**322**	*i* P		**P**	**02 08 48.0**	**-0.3**
HYB	**Hyderabad**	**21.67**	**322**	*e*P		**P**	**02 08 47.2**	**-1.1**
HYB				IAmb		IAmb	02 08 48.2	
	comp=Z,19nm,0.9s							
BOK	**Bokaro**	**24.07**	**345**	*e*P		**P**	**02 09 13.9**	**+1.2**
NGP	**Nagpur**	**24.36**	**329**	*e*P		**P**	**02 09 12.9**	**-2.4**
KKM	**Kota Kinabalu**	**24.47**	**76**	*e*P		**P**	**02 09 18.7**	**+2.2**
	comp=Z,17nm,0.7s							
SHL	**Shillong**	**25.01**	**359**	*e*P		**P**	**02 09 19.9**	**-1.5**
SHL				IAmb		IAmb	02 09 22.9	
	comp=Z,7.8nm,0.5s							
QIZ	**Qiongzhong**	**25.24**	**42**	P		**P**	**02 09 22.3**	**-1.0**
QIZ				S		**S**	**02 13 51.6**	**+4.8**
QIZ				LR		LR		
	comp=N,250nm,15.4s							
QIZ				LR		LR		
	comp=E,330nm,17.8s							
QIZ				LR		LR		
	comp=Z,260nm,16.0s							
KMI	**Kunming**	**26.54**	**21**	P		**P**	**02 09 38.4**	**+3.1**
KMI				pmax		pmax		
	comp=Z,16nm,0.5s							
ODAN	**Odare**	**26.72**	**350**	*e*P		**P**	**02 09 37.8**	**+0.8**
	comp=Z,40nm,0.9s							
RAMN	**Ramite**	**26.96**	**349**	*e*P		**P**	**02 09 40.1**	**+1.0**
	comp=Z,16nm,0.6s							
JIRN	**Jiri**	**27.73**	**348**	*e*P		**P**	**02 09 47.0**	**+0.9**
GUN	**Gumba**	**28.04**	**348**	*e*P		**P**	**02 09 49.4**	**+0.6**
	comp=Z,20nm,0.8s							
KOLN	**Koldanda**	**28.46**	**344**	*e*P		**P**	**02 09 53.0**	**+0.5**
	comp=Z,19nm,0.7s							
PYUN	**Piuthan**	**28.95**	**343**	*e*P		**P**	**02 09 57.3**	**+0.4**
	comp=Z,46nm,0.9s							
LSA	**Lhasa**	**29.15**	**358**	*e*P		**P**	**02 09 57.3**	**-1.5**
	comp=Z,18nm,0.6s							
CD2	**Chengdu**	**32.20**	**19**	*e*P		**P**	**02 10 25.5**	**+0.1**
SMLA	**Simla**	**33.77**	**336**	*e*P		**P**	**02 10 39.3**	**+0.3**
SMLA				IAmb		IAmb	02 10 40.3	
	comp=Z,7.5nm,0.7s							
DAV	**Davao City (W)**	**33.80**	**78**	LR		LR	02 24 51.8	
	comp=Z,93nm,20.7s,baz=312,slow=37							
ENH	**Enshi**	**33.87**	**27**	*e*P		**P**	**02 10 41.1**	**+1.2**
	comp=Z,4.4nm,0.4s							
DHRM	**DHARAMSHALA**	**35.10**	**336**	*e*P		**P**	**02 10 50.1**	**-0.6**
DHRM				IAmb		IAmb	02 10 59.7	
	comp=Z,44nm,0.2s							
XAN	**Xi'an**	**36.88**	**23**	P		**P**	**02 11 06.5**	**+0.7**
XAN				pP		pP	02 11 10.9	-5.1
XAN				sP		sP	02 11 15.0	-5.2
XAN				PP		**PP**	**02 12 28.9**	**-1.4**
XAN				S		**S**	**02 16 45.8**	**-2.5**
XAN				sS		sS	02 16 53.3	-12
XAN				SS		**SnSn**	**02 19 09.0**	**-13**
XAN				pmax		pmax		
	comp=Z,5.0nm,0.9s							
XAN				pmax		pmax		
	comp=Z,58nm,3.5s							
XAN				LR		LR		
	comp=N,190nm,14.6s							
XAN				LR		LR		
	comp=E,170nm,15.2s							
XAN				LR		LR		
	comp=Z,230nm,16.2s							
LZH	**Lanzhou**	**37.07**	**16**	*e*P		**P**	**02 11 09.6**	**+2.1**
LZH				pP		pP	02 11 15.8	-1.9
LZH				sP		sP	02 11 18.6	-3.3
LZH				*e*PP		**PnPn**	**02 12 38.3**	**+5.4**
LZH				*e*S		**S**	**02 16 56.8**	**+5.5**
LZH				sS		sS	02 17 03.5	-4.6
LZH				SS		**SnSn**	**02 19 26.3**	**-0.7**
LZH				pmax		pmax		
	comp=Z,18nm,0.9s							
LZH				pmax		pmax		
	comp=Z,320nm,5.7s							
LZH				LR		LR		
	comp=N,390nm,14.8s							
LZH				LR		LR		
	comp=E,750nm,14.8s							
LZH				LR		LR		
	comp=Z,470nm,16.2s							
GTA	**Gaotai**	**39.41**	**9**	*e*P		**P**	**02 11 30.3**	**+3.2**
GTA				pP		pP	02 11 34.6	-2.7
GTA				sP		sP	02 11 37.3	-4.2
GTA				S		**S**	**02 17 33.3**	**+6.8**
GTA				SS		**SnSn**	**02 20 22.8**	**-0.6**
GTA				pmax		pmax		
	comp=Z,3.0nm,1.1s							
GTA				pmax		pmax		
	comp=Z,75nm,5.1s							
GTA				LR		LR		
	comp=N,100nm,20.0s							
GTA				LR		LR		
	comp=E,140nm,17.1s							
GTA				LR		LR		
	comp=Z,91nm,15.2s							
NJ2	**Nanjing**	**40.21**	**36**	*e*P		**P**	**02 11 34.0**	**+0.3**
NJ2				pmax		pmax		
	comp=Z,12nm,0.6s							
NWAO	**Narrogin (SRO)**	**40.62**	**147**	LR		LR	02 25 39.5	
	comp=Z,158nm,19.4s,baz=197,slow=32							
KSH	**Kashi**	**41.70**	**341**	P		P	02 11 52.3	+6.3
KSH				pmax		pmax		
	comp=Z,6.0nm,0.8s							
JOW	**Kunigami**	**43.38**	**50**	LR		LR	02 31 17.7	
	comp=Z,82nm,18.4s,baz=266,slow=38							
WMQ	**Urumqi**	**43.42**	**355**	P		**P**	**02 11 59.8**	**0.0**
WMQ				sP		pP	02 12 06.8	-3.4
WMQ				pmax		pmax		
	comp=Z,26nm,2.3s							
WMQ				LR		LR		
	comp=N,210nm,25.5s							
WMQ				LR		LR		
	comp=E,300nm,28.3s							
WMQ				LR		LR		
	comp=Z,220nm,24.5s							
HHC	**Hu-ho-hao-te**	**43.86**	**21**	*e*P		**P**	**02 12 04.5**	**+1.0**
HHC				pmax		pmax		
	comp=Z,11nm,1.0s							
HHC				pmax		pmax		
	comp=Z,11nm,6.4s							
AAK	**Ala-Archa**	**44.99**	**341**	*e*P		**P**	**02 12 11.8**	**-0.8**
	comp=Z,2.6nm,0.9s							
WRA	**Warramunga Arr**	**45.83**	**119**	P		**P**	**02 12 20.2**	**+0.7**
	comp=Z,4.1nm,0.8s,baz=296,slow=8.5,SNR=17							
WB2	**Warramunga Ar**	**45.84**	**119**	*e*P		**P**	**02 12 20.5**	**+0.9**
KK31	**Karatay Array**	**46.78**	**338**	*e*P		**P**	**02 12 27.1**	**+0.5**
KK31				*e*pP		**P**	**02 12 28.1**	**+1.5**
KKAR	**Karatay Array**	**46.78**	**338**	*e*P		**P**	**02 12 25.7**	**-0.9**
ASAR	**Alice Springs**	**46.91**	**124**	P		**P**	**02 12 28.6**	**+0.7**
	comp=Z,1.1nm,0.8s,baz=305,slow=8.1,SNR=8.9							
ASAR				LR		LR	02 31 45.6	
	comp=Z,75nm,20.4s,baz=308,slow=36							
MK01	**Makanchi Array**	**47.00**	**351**	*e*P		**P**	**02 12 27.0**	**-1.1**
MK31	**Makanchi Array**	**47.02**	**351**	*e*P		**P**	**02 12 27.4**	**-1.0**
MKAR	**Makanchi Array**	**47.02**	**351**	P		**P**	**02 12 28.3**	**-0.1**
	comp=Z,1.9nm,0.7s,baz=168,slow=9.2,SNR=19							
MKAR				PP		**PP**	**02 14 19.3**	**-0.1**
	comp=Z,0.5nm,0.6s,baz=162,slow=7.6,SNR=2.9							
MKAR				LR		LR	02 33 00.7	
	comp=Z,71nm,21.8s,baz=162,slow=37							
MKAR	**Makanchi Array**	**47.02**	**351**	*e*P		**P**	**02 12 27.4**	**-1.0**
	comp=Z,22nm,0.8s							
MKAR				PP		**PP**	**02 14 19.3**	**-0.1**
JNU	**Nakatsue**	**48.67**	**44**	LR		LR	02 36 12.4	
	comp=Z,101nm,18.1s,baz=296,slow=40							
SONM	**Songino Array**	**48.78**	**13**	P		**P**	**02 12 43.4**	**+1.2**
	comp=Z,3.4nm,0.6s,baz=195,slow=8.9,SNR=15							
SONA1	**Songino Array**	**48.80**	**13**	*e*P		**P**	**02 12 43.4**	**+1.2**
GEYT	**Alibeck**	**48.84**	**324**	P		**P**	**02 12 41.8**	**-0.8**
	comp=Z,0.9nm,0.4s,baz=151,slow=6.6,SNR=2.5							
GEYT				LR		LR	02 34 07.8	
	comp=Z,70nm,20.0s,baz=165,slow=37							
ULN	**Ulaanbaatar**	**48.96**	**13**	*e*P		**P**	**02 12 43.3**	**-0.2**
	comp=Z,2.8nm,0.6s							
KSAR	**Wonju Array Be**	**49.31**	**38**	P		**P**	**02 12 47.9**	**+1.8**
KS01	**Wonju Array Si**	**49.34**	**38**	*e*P		**P**	**02 12 45.8**	**-0.6**
KSRS	**Korea Array**	**49.34**	**38**	P		**P**	**02 12 47.9**	**+1.6**
	comp=Z,1.6nm,0.7s,baz=232,slow=9.7,SNR=8.4							
KSRS				LR		LR	02 34 58.1	
	comp=Z,44nm,18.9s,baz=236,slow=38							
KURBB	**Kurchatov Arra**	**51.39**	**349**	P		**P**	**02 13 01.2**	**-0.4**
	comp=Z,1.6nm,0.8s,baz=173,slow=7.1,SNR=13							
KURK	**Kurchatov**	**51.46**	**349**	*e*P		**P**	**02 12 58.8**	**-3.4**
	comp=Z,36nm,0.9s							
COEN	**Coen**	**52.30**	**108**	*e*P		**P**	**02 13 08.4**	**-0.7**
	comp=Z,8.2nm,0.8s							
GUMO	**Guam**	**53.61**	**73**	LR		LR	02 35 22.2	
	comp=Z,46nm,21.8s,baz=116,slow=35							
ZAA0	**Zalesovo Array**	**53.72**	**354**	*e*P		**P**	**02 13 18.8**	**0.0**
	comp=Z,5.6nm,0.8s							
ZALV	**Zalesovo Beam**	**53.72**	**354**	P		**P**	**02 13 18.4**	**-0.4**
	comp=Z,1.6nm,0.3s,baz=193,slow=6.0,SNR=9.0							
ZALV				LR		LR	02 37 18.5	
	comp=Z,87nm,21.2s,baz=249,slow=37							
ZALV	**Zalesovo Beam**	**53.72**	**354**	*e*P		**P**	**02 13 18.3**	**-0.5**
BVAR	**Borovoye Array**	**55.53**	**344**	P		**P**	**02 13 30.8**	**-1.3**
	comp=Z,0.9nm,0.7s,baz=157,slow=7.8,SNR=7.1							
BVAR				LR		LR	02 37 50.1	
	comp=Z,119nm,20.4s,baz=164,slow=37							
BRVK	**Borovoye**	**55.59**	**344**	*e*P		**P**	**02 13 30.9**	**-1.5**
	comp=Z,4.8nm,0.8s							
MJAR	**Matsushiro Arr**	**55.59**	**44**	LR		LR	02 38 38.4	
	comp=Z,42nm,20.5s,baz=255,slow=37							
USRK	**Ussuriysk Ar.**	**56.03**	**34**	LR		LR	02 39 56.9	
	comp=Z,123nm,18.0s,baz=211,slow=38							
STKA	**Stephens Creek**	**56.52**	**129**	LR		LR	02 37 53.8	
	comp=Z,52nm,18.2s,baz=319,slow=36							
AKTO	**Aktyubinsk**	**57.75**	**335**	LR		LR	02 40 57.9	
	comp=Z,36nm,18.2s,baz=152,slow=38							
GNI	**Garni**	**58.57**	**318**	LR		LR	02 41 26.5	
	comp=Z,32nm,20.6s,baz=113,slow=38							
GNI	**Garni**	**58.57**	**318**	*e*P		**P**	**02 13 53.0**	**-1.1**
	comp=Z,44nm,1.1s							
KLR	**Kul'dur**	**59.21**	**29**	P		**P**	**02 13 58.5**	**+0.4**
	comp=Z,0.2nm,0.9s,baz=235,slow=4.3,SNR=2.8							
MMAI	**Mount Meron Ar**	**62.47**	**307**	LR		LR	02 41 45.7	
	comp=Z,70nm,19.1s,baz=130,slow=36							
BRTR	**Keskin Array B**	**66.10**	**314**	P		**P**	**02 14 44.0**	**-0.4**
	comp=Z,0.4nm,0.6s,baz=141,slow=8.0,SNR=3.7							
BRTR				LR		LR	02 45 06.0	
	comp=Z,48nm,19.4s,baz=106,slow=37							
BOSA	**Boshof**	**70.19**	**239**	LR		LR	02 41 26.5	
	comp=Z,58nm,20.1s,baz=115,slow=32							
IDI	**Anoyia**	**71.47**	**307**	LR		LR	02 48 15.6	
	comp=Z,21nm,21.1s,baz=94,slow=37							
AKASG	**Malin Array Be**	**72.96**	**324**	LR		LR	02 51 50.6	
	comp=Z,26nm,18.3s,baz=105,slow=39							
MLR	**Muntele Rosu**	**73.34**	**318**	LR		LR	02 50 38.5	
	comp=Z,17nm,21.1s,baz=72,slow=38							
MA2	**Magadan**	**74.18**	**27**	LR		LR	02 51 26.5	
	comp=Z,78nm,18.8s,baz=258,slow=38							
BUR04	**Bucovina Ar. S**	**74.44**	**320**	*e*P		**P**	**02 15 36.2**	**+1.0**
TIXI	**Tiksi**	**74.85**	**11**	*e*P		**P**	**02 15 35.9**	**-1.0**
	comp=Z,9.3nm,0.7s							
PETK	**Petropavlovsk-**	**75.10**	**35**	LR		LR	02 49 39.8	
	comp=Z,63nm,20.0s,baz=246,slow=36							
STHS	**Stebnicka Huta**	**77.47**	**321**	*e*P		**P**	**02 15 52.9**	**+0.5**
SYO	**Syowa Base**	**77.80**	**197**	*e*P		**P**	**02 15 53.9**	**+0.2**
FINES	**FINESS Array B**	**78.48**	**333**	P		**P**	**02 15 57.0**	**-0.6**
	comp=Z,2.6nm,0.9s,baz=106,slow=8.8,SNR=5.6							
VYHS	**Vyhne**	**78.80**	**319**	*e*P		**P**	**02 16 00.7**	**+0.9**
MODS	**Modra-Piesok**	**79.80**	**319**	*e*P		**P**	**02 16 06.0**	**+0.8**
DPC	**Dobruska-Polom**	**80.78**	**321**	*e*P		**P**	**02 16 11.7**	**+1.2**
DPC				*ex*		x	02 16 21.6	
GEA0	**GERESS Array S**	**82.21**	**319**	*e*P		**P**	**02 16 19.0**	**+0.9**
GEC2	**GERESS Array S**	**82.22**	**319**	*e*P		**P**	**02 16 19.4**	**+1.2**
	comp=Z,8.8nm,1.0s							
GERES	**GERESS Array B**	**82.22**	**319**	P		**P**	**02 16 19.2**	**+1.0**
	comp=Z,2.3nm,0.7s,baz=107,slow=5.2,SNR=16							
GERES				LR		LR	02 58 49.1	
	comp=Z,23nm,18.4s,baz=81,slow=40							
KHC	**Kasperske Hory**	**82.34**	**319**	*e*P		**P**	**02 16 17.0**	**-1.7**
KHC				*ex*		x	02 16 30.3	
CLL	**Collm**	**83.01**	**322**	*e*P		**P**	**02 16 22.0**	**-0.1**
CLL				*e*			02 16 33.0	
HFS	**Hagfors**	**83.99**	**330**	P		**P**	**02 16 26.8**	**-0.2**
	comp=Z,3.4nm,1.0s,baz=105,slow=20,SNR=2.2							
HFS				LR		LR	02 57 24.1	
	comp=Z,24nm,18.6s,baz=75,slow=38							
NOA	**NORSAR Array B**	**85.34**	**331**	LR		LR	02 58 05.7	
	comp=Z,24nm,20.1s,baz=105,slow=38							
VNDA	**Vanda**	**86.03**	**168**	LR		LR	02 47 25.1	
	comp=Z,70nm,19.4s,baz=283,slow=30							
SPITS	**Spitsbergen Ar**	**86.73**	**348**	LR		LR	02 59 08.4	
	comp=Z,55nm,21.7s,baz=70,slow=38							
DBIC	**Dimbokro**	**97.11**	**277**	LR		LR	03 01 25.1	
	comp=Z,41nm,18.6s,baz=83,slow=36							
WMOK	**Wichita Mounta**	**143.51**	**16**	*e*PKPdf		**PKPdf**	**02 23 31.6**	**-0.5**
MNTX	**Cornudas Mount**	**143.91**	**26**	*e*PKPdf		**PKPdf**	**02 23 33.0**	**+0.2**
MIAR	**Mount Ida**	**144.78**	**8**	*e*PKPdf		**PKPdf**	**02 23 34.0**	**-0.3**
TXAR	**Lajitas Array**	**146.70**	**26**	PKPbc		**PKPbc**	**02 23 39.7**	**+0.3**
	comp=Z,1.3nm,0.9s,baz=190,slow=1.3,SNR=7.3							
JCT	**Junction City**	**147.17**	**20**	*e*PKPbc		**PKPab**	**02 23 42.8**	**+0.5**

CSEM **14** *02:05:16.4±0.5, 41.59N×20.23E, h15km, ML2.6, Error ellipse: s-maj=8.6km s-min=6.9km az=146.0*
TIR **14** *02:05:16.2, 41.55N×20.14E, h23km, Md2.6/4*
BEO **14** *02:05:17.9±0.4, 41.59N×20.21E, h5km*
ISC 14 02:05:15.8±1.4, 41.53N±0.03×20.19E±0.03, h14km±12km, n20, σ1°24/37, Albania

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PHP	**Peshkopia**	**0.24**	**51**	*i* Pg	**Pb**	**02 05 22.4**	**+0.3**
PHP	**Peshkopia**	**0.24**	**51**	*i* PG	**Pb**	**02 05 22.4**	**+0.3**
PHP				*i* SG	**Sb**	**02 05 27.1**	**+0.8**
TIR	**Tirane**	**0.30**	**233**	*e*Pg	**Pn**	**02 05 23.5**	**-2.4**
TIR				*e*Sg	**Sb**	**02 05 31.0**	**+3.1**
TIR	**Tirane**	**0.30**	**233**	*e*Pg	**Pn**	**02 05 23.5**	**-2.4**
TIR				*e*Sg	**Sb**	**02 05 31.0**	**+3.1**
PUK	**Puka**	**0.56**	**337**	*i* Pg	**Pb**	**02 05 26.9**	**-0.5**
PUK				*i* Sg	**Sb**	**02 05 35.5**	**+0.2**
PUK	**Puka**	**0.56**	**337**	*i* PG	**Pb**	**02 05 26.9**	**-0.5**
PUK				*i* SG	**Sb**	**02 05 35.5**	**+0.2**
KRUS	**Krusevo**	**0.81**	**101**	*i* Pg	**Pb**	**02 05 32.1**	**+0.3**
KRUS				*i* Sg	**Sn**	**02 05 44.7**	**-0.3**
BCI	**Bajram Curri**	**0.84**	**354**	*i* Pg	**Pn**	**02 05 32.5**	**-0.8**
BCI				*i* Sg	**Sb**	**02 05 44.0**	**+0.6**
BCI	**Bajram Curri**	**0.84**	**354**	*i* PG	**Pn**	**02 05 32.5**	**-0.8**
BCI				*i* SG	**Sb**	**02 05 44.0**	**+0.6**
SKO	**Skopje**	**1.04**	**64**	*e*Pg	**Pb**	**02 05 35.5**	**0.0**
SKO				*e*Sg	**Sb**	**02 05 50.1**	**+1.1**
SKO	**Skopje**	**1.04**	**64**	*e*Pg	**Pb**	**02 05 35.5**	**0.0**
SKO				*e*Sg	**Sb**	**02 05 50.1**	**+1.1**
PDG	**Podgorica**	**1.14**	**323**	*e*Pg	**Pn**	**02 05 36.9**	**-0.4**
PDG				*e*Sg	**Sn**	**02 05 52.9**	**+0.2**
PDG	**Podgorica**	**1.14**	**323**	*e*Pg	**Pn**	**02 05 36.9**	**-0.4**
PDG				*e*Sg	**Sn**	**02 05 52.9**	**+0.2**
SJES	**Sjenica**	**1.74**	**355**	*e*Pg	**Pg**	**02 05 49.0**	**-0.1**
SJES				*e*Sg	**Sg**	**02 06 11.2**	**-0.5**
SJES	**Sjenica**	**1.74**	**355**	*e*Pg	**Pg**	**02 05 49.0**	**-0.1**
SJES				*e*Sg	**Sg**	**02 06 11.2**	**-0.5**
SELS	**Selova**	**1.82**	**22**	*e*Pg	**Pb**	**02 05 48.5**	**-0.5**
SELS				*e*Sg	**Sg**	**02 06 14.1**	**-0.3**
IVAS	**Ivanjica**	**2.04**	**359**	*e*Sg	**Pb**	**02 05 54.1**	**+1.3**
IVAS	**Ivanjica**	**2.04**	**359**	*e*Pg	**Sb**	**02 06 20.8**	**+2.7**
ZAGS	**Zajecar**	**2.73**	**33**	*e*Pg	**Pb**	**02 06 05.5**	**+1.0**
ZAGS				*e*Sg	**Sg**	**02 06 42.7**	**-0.9**
ZAGS	**Zajecar**	**2.73**	**33**	*e*Pg	**Pb**	**02 06 05.5**	**+1.0**
ZAGS				*e*Sg	**Sg**	**02 06 42.7**	**-0.9**

ISCJB **14** *02:09:37.2±0.7, 6.20S±0.07×128.8E±0.1, h322km, mb3.3/3, Error ellipse: s-maj=15.7km s-min=8.1km az=26.2*
IDC **14** *02:09:37.3±1.2, 6.15S×128.69E, h291km±14km, mb3.0/3, mb1 3.7/8, mb1mx3.1/55, mbtmp4.2/8, Error ellipse: s-maj=22.3km s-min=12.3km az=110.0*
ISC 14 02:09:38.8±1.0, 6.2S±0.1×128.6E±0.1, h322km, n8, σ1°39/9, mb3.2/3, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**5.94**	**26**	P	**Pn**	**02 11 06.3**	**-1.8**
	3.8nm,0.3s,baz=217,slow=20,SNR=33						
SIJI				S	S	02 12 13.5	-6.9
	12nm,0.3s,baz=252,slow=23,SNR=17						
BATI	**Baumata**	**6.31**	**231**	P	**Pn**	**02 11 12.4**	**0.0**
	9.9nm,0.3s,baz=45,slow=1.4,SNR=4.6						
BATI				S	**S**	**02 12 26.9**	**-1.3**
	13nm,0.3s,baz=38,slow=19,SNR=10						
FITZ	**Fitzroy Crossi**	**12.14**	**194**	P	**P**	**02 12 22.8**	**-0.5**
	0.9nm,0.3s,baz=18,slow=13,SNR=2.8						
WRA	**Warramunga Arr**	**14.70**	**158**	P	**P**	**02 12 52.0**	**+0.4**
	3.3nm,0.3s,baz=332,slow=12,SNR=91						
ASAR	**Alice Springs**	**18.05**	**164**	P	**P**	**02 13 28.8**	**+0.9**
	6.4nm,0.3s,baz=345,slow=12,SNR=228						
CMAR	**Chiang Mai Arr**	**38.21**	**311**	P	**P**	**02 16 29.4**	**+0.5**
	0.6nm,0.5s,baz=138,slow=8.7,SNR=4.7						
MKAR	**Makanchi Array**	**66.86**	**327**	P	**P**	**02 19 57.0**	**+0.2**
	0.1nm,0.3s,baz=122,slow=7.3,SNR=4.0						
ZALV	**Zalesovo Beam**	**70.31**	**334**	P	**P**	**02 20 20.1**	**+2.3**
	0.6nm,0.3s,baz=134,slow=8.0,SNR=2.9						

ISCJB **14** *02:10:23.6±1.2, 35.76N±0.05×141.13E±0.07, h13km±7km, mb3.5/6, Error ellipse: s-maj=11.0km s-min=7.7km az=143.0*
IDC **14** *02:10:23.6±1.1, 35.72N×141.05E, h0km, mb3.4/6, mb1 3.8/9, mb1mx3.5/64, mbtmp3.6/9, ML3.3/2, Error ellipse: s-maj=26.3km s-min=22.3km az=107.0*
JMA **14** *02:10:26.7±0.1, 35.78N×140.90E, h14km±1km, M3.9*
JMA Felt I J1.
ISC 14 02:10:24.9±1.5, 35.80N±0.05×141.06E±0.07, h9km±9km, n20, σ0°84/20, mb3.5/6, 1C-1D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CHOJ	**Chosi**	**0.19**	**240**	⇓P	**Pg**	**02 10 29.5**	**+0.7**
CHOJ				S	**Sg**	**02 10 31.5**	**+0.1**
JYT	**Yasato**	**0.82**	**302**	P	**Pg**	**02 10 40.4**	**-0.3**
JYT				S	**Sg**	**02 10 50.0**	**-1.4**
JHO	**Hitachi**	**0.90**	**334**	⇑P	**Pb**	**02 10 42.6**	**-0.2**
JHO				S	**Sg**	**02 10 54.1**	**+0.1**
BSO3	**Boso 3**	**1.09**	**205**	P	**Pn**	**02 10 46.0**	**-0.1**
MJAR	**Matsushiro Arr**	**2.42**	**289**	Pn	**Pn**	**02 11 03.9**	**-0.8**
	5.0nm,0.3s,baz=108,slow=7.9,SNR=19						
MJAR				Sn	**Sb**	**02 11 39.1**	**+0.4**
	6.5nm,0.3s,baz=104,slow=16,SNR=7.3						
MAT	**Matsushiro**	**2.42**	**289**	P	**Pn**	**02 11 04.2**	**-0.5**
MAT				S	**Sn**	**02 11 36.0**	**+1.4**
ASAJ	**Asahikawa**	**8.39**	**8**	Pn	**Pn**	**02 12 27.3**	**+0.6**
	0.4nm,0.3s,baz=166,slow=12,SNR=2.8						
JCJ	**Chichijima**	**8.73**	**173**	Pn	**Pn**	**02 12 30.3**	**-1.0**
	baz=0.0,slow=10						
H11N2	**WAKE ISLAND Hy**	**27.79**	**118**	T	T	02 45 23.4	
	baz=310,slow=75						
H11N1	**WAKE ISLAND Hy**	**27.80**	**118**	T	T	02 45 24.0	
	baz=310,slow=75						
H11N3	**WAKE ISLAND Hy**	**27.80**	**118**	T	T	02 45 24.8	
	baz=310,slow=75						
H11S1	**WAKE ISLAND Hy**	**28.45**	**120**	T	T	02 46 11.9	
	baz=312,slow=75						
H11S3	**WAKE ISLAND Hy**	**28.45**	**121**	T	T	02 46 14.5	
	baz=312,slow=75						
H11S2	**WAKE ISLAND Hy**	**28.47**	**120**	T	T	02 46 14.4	
	baz=312,slow=75						
CMAR	**Chiang Mai Arr**	**40.92**	**256**	P	**P**	**02 18 06.8**	**-1.0**
	0.2nm,0.4s,baz=76,slow=7.6,SNR=2.4						
MKAR	**Makanchi Array**	**44.54**	**303**	P	**P**	**02 18 38.4**	**+1.4**
	0.5nm,0.8s,baz=91,slow=11,SNR=4.1						
MKAR				PcP	**PcP**	**02 20 19.5**	**-0.5**
	0.1nm,0.5s,baz=92,slow=3.5,SNR=2.5						
KURBB	**Kurchatov Arra**	**46.55**	**309**	P	**P**	**02 18 52.7**	**0.0**
	0.3nm

GUN	**Gumba**	**27.08**	**349**	*e*P	**P**	**02 23 23.4**	**+0.7**
	18nm,0.9s							
PYUN	**Piuthan**	**27.94**	**344**	*e*P	**P**	**02 23 30.7**	**+0.5**
MBWA	**Marble Bar**	**35.48**	**130**	*e*P	**P**	**02 24 36.3**	**-0.1**
NIL	**Nilore**	**36.50**	**334**	*e*P	**P**	**02 24 45.8**	**+0.8**
FITZ	**Fitzroy Crossi**	**38.72**	**121**	P	P	**02 25 04.1**	**+0.1**
	2.4nm,0.8s,baz=342,slow=6.4,SNR=2.9							
H01W3	**Cape Leeuwin H**	**41.72**	**152**	T	T	03 09 53.6		
	baz=326							
H01W2	**Cape Leeuwin H**	**41.73**	**152**	T	T	03 09 49.9		
	baz=326							
H01W1	**Cape Leeuwin H**	**41.74**	**152**	T	T	03 09 57.1		
	baz=326							
AAK	**Ala-Archa**	**43.96**	**342**	*e*P	**P**	**02 25 46.2**	**-0.6**
	1.5nm,0.7s							
KKAR	**Karatay Array**	**45.72**	**339**	*e*P	**P**	**02 26 00.6**	**-0.1**
	1.2nm,0.6s							
MKAR	**Makanchi Array**	**46.10**	**351**	P	**P**	**02 26 03.2**	**-0.4**
	2.4nm,0.7s,baz=167,slow=8.7,SNR=25							
WRA	**Warramunga Arr**	**46.99**	**119**	P	**P**	**02 26 11.7**	**+0.6**
	2.1nm,0.8s,baz=297,slow=8.6,SNR=13							
WRAB	**Tennant Creek**	**47.00**	**119**	*e*P	**P**	**02 26 10.9**	**-0.2**
GEYT	**Alibeck**	**47.67**	**324**	P	**P**	**02 26 16.0**	**-0.2**
	0.6nm,0.4s,baz=140,slow=9.4,SNR=2.2							
ASAR	**Alice Springs**	**48.08**	**124**	P	**P**	**02 26 20.0**	**+0.5**
	0.6nm,0.8s,baz=302,slow=8.7,SNR=5.3							
SONM	**Songino Array**	**48.21**	**13**	P	**P**	**02 26 20.7**	**+0.5**
	3.3nm,0.7s,baz=193,slow=8.8,SNR=21							
KURBB	**Kurchatov Arra**	**50.44**	**349**	P	**P**	**02 26 36.8**	**-0.3**
	1.8nm,0.8s,baz=173,slow=7.2,SNR=17							
KURK	**Kurchatov**	**50.51**	**349**	*e*P	**P**	**02 26 37.2**	**-0.4**
ZALV	**Zalesovo Beam**	**52.84**	**355**	P	**P**	**02 26 54.1**	**-0.9**
	0.9nm,0.5s,baz=185,slow=9.3,SNR=3.8							
BBOO	**Buckleboo**	**53.98**	**133**	*e*P	**P**	**02 27 03.1**	**-0.6**
	3.3nm,0.7s							
KLR	**Kul'dur**	**58.95**	**30**	LR	LR	02 55 05.8		
	comp=Z,4.3nm,18.1s,baz=270,slow=38							
BRTR	**Keskin Array B**	**64.91**	**314**	P	**P**	**02 28 19.1**	**-0.3**
	0.3nm,0.6s,baz=109,slow=7.8,SNR=3.4							
TIXI	**Tiksi**	**74.25**	**12**	*e*P	**P**	**02 29 15.0**	**-1.1**
	1.9nm,0.8s							
FINES	**FINESS Array B**	**77.38**	**333**	P	**P**	**02 29 34.3**	**+0.1**
	0.8nm,0.8s,baz=113,slow=11,SNR=2.1							
GERES	**GERESS Array B**	**81.03**	**319**	P	**P**	**02 29 55.8**	**+1.1**
	1.2nm,0.8s,baz=103,slow=5.8,SNR=7.8							
CLL	**Collm**	**81.84**	**322**	*e*P	**P**	**02 30 01.0**	**+2.2**
CLL				*e*		02 30 11.0		
HFS	**Hagfors**	**82.86**	**330**	P	**P**	**02 30 05.3**	**+1.3**
	2.2nm,0.9s,baz=92,slow=20,SNR=2.8							
LRAL	**Lakeview Retre**	**145.90**	**358**	*e*PKPbc	**PKPbc**	**02 37 19.4**	**-0.2**
TXAR	**Lajitas Array**	**146.35**	**24**	PKPbc	**PKPab**	**02 37 21.9**	**-0.2**
	0.4nm,0.6s,baz=41,slow=1.4,SNR=10							

IDC ***14*** *02:18:21.7±0.8,2.56N×89.94E,h0km,mb4.1/16, mb1 4.2/18,mb1mx3.9/65,mbtmp4.1/18,ML4.2/2,MS3.3/3, Ms1 3.3/3,ms1mx2.8/64,Error ellipse: s-maj=26.7km s-min=15.5km az=40.0*

NEIC ***14*** *02:18:23.1±0.4,2.55N×89.99E,h10km,mb4.3/8,Error ellipse: s-maj=8.8km s-min=5.2km az=204.0*

ISC 14 02:18:26.9±0.7,2.62N±0.09×90.12E±0.07,h35km,n54, σ0.93/50,mb4.2/23,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BSI	**Banda Aceh**	**5.90**	**61**	P	**Pn**	**02 19 51.8**	**-0.1**
MLSI	**Meulaboh, Aceh**	**6.48**	**75**	P	**Pn**	**02 20 01.0**	**+1.1**
TPTI		**7.08**	**85**	P	**Pn**	**02 20 08.8**	**+0.7**
	294nm,0.6s,7μm						
LHMI	**Lhok Sumawe**	**7.29**	**69**	P	**Pn**	**02 20 12.0**	**+1.0**
	179nm,0.7s						
LHMI	**Lhok Sumawe**	**7.29**	**69**	*e*Pn	**Pn**	**02 20 12.8**	**+1.8**
	105nm,0.6s						
GSI	**Gunungsitoli**	**7.57**	**100**	P	**Pn**	**02 20 15.1**	**+0.3**
	113nm,0.5s						
GSI	**Gunungsitoli**	**7.57**	**100**	*e*Pn	**Pn**	**02 20 14.8**	**0.0**
GSI	**Gunungsitoli**	**7.57**	**100**	*e*Sn	**Pn**	**02 20 14.9**	**+0.1**
PSI	**Prapat**	**8.80**	**89**	Pn	**Pn**	**02 20 32.1**	**+0.3**
	3.7nm,0.3s,baz=266,slow=9.1,SNR=5.8						
PSI				Sn	**Sn**	**02 22 06.0**	**-3.9**
	4.6nm,0.3s,baz=338,slow=19,SNR=3.2						
PKDT	**Phuket**	**9.71**	**57**	P	**Pn**	**02 20 44.5**	**+0.3**
	29nm,1.1s,2μm						
SISI	**Saibi**	**9.79**	**114**	P	**Pn**	**02 20 45.4**	**+0.1**
PALK	**Pallekele**	**10.45**	**297**	LR	LR	02 23 54.0	
	comp=Z,69nm,19.4s,baz=116,slow=32						
SURT	**Suratani**	**10.68**	**54**	P	**Pn**	**02 20 57.4**	**-0.1**
	32nm,0.8s,340nm						
TRTT	**Trang**	**10.85**	**61**	P	**Pn**	**02 20 58.9**	**-0.9**
	15nm,1.2s						
PDSI	**Padang**	**10.92**	**109**	P	**Pn**	**02 21 01.5**	**+0.6**
IPM	**Ipoh**	**11.04**	**80**	*e*Pn	**Pn**	**02 21 02.7**	**+0.2**
	38nm,0.6s						
SKLT	**Songkhla**	**11.39**	**66**	P	**Pn**	**02 21 08.4**	**+1.1**
	45nm,0.8s,691nm						
CMAR	**Chiang Mai Arr**	**17.96**	**28**	P	**P**	**02 22 34.9**	**+0.7**
	0.2nm,0.3s,baz=221,slow=12,SNR=7.9						
CHTO	**Chiang Mai**	**18.26**	**28**	*e*P	**Pn**	**02 22 38.9**	**+1.2**
	6.1nm,1.1s						
HYB	**Hyderabad**	**18.57**	**323**	*i* P	**Pn**	**02 22 41.5**	**-0.1**
HYB				*e*S	**Sn**	**02 26 07.0**	**-1.4**
LSA	**Lhasa**	**26.95**	**2**	*e*P	**P**	**02 24 05.7**	**0.0**
	6.2nm,0.5s						
NIL	**Nilore**	**34.66**	**335**	*e*P	**P**	**02 25 13.1**	**-0.2**
WSAR	**Wadi Sarin**	**36.73**	**307**	LR	LR	02 39 02.8	
	comp=Z,70nm,19.7s,baz=147,slow=34						
AAK	**Ala-Archa**	**42.22**	**343**	*e*P	**P**	**02 26 18.4**	**+1.6**
	3.6nm,1.0s						
H01W3	**Cape Leeuwin H**	**43.59**	**151**	T	T	03 13 09.8	
	baz=325,slow=76,SNR=33						
H01W2	**Cape Leeuwin H**	**43.60**	**151**	T	T	03 13 03.2	
	baz=325,slow=76,SNR=32						
H01W1	**Cape Leeuwin H**	**43.61**	**151**	T	T	03 13 12.1	
	baz=325,slow=76,SNR=33						
KKAR	**Karatay Array**	**43.93**	**339**	*e*P	**P**	**02 26 30.8**	**+0.3**
	3.8nm,0.6s						
MKAR	**Makanchi Array**	**44.52**	**352**	P	**P**	**02 26 35.2**	**+0.1**
	2.6nm,0.7s,baz=172,slow=9.2,SNR=9.8						
GEYT	**Alibeck**	**45.75**	**324**	P	**P**	**02 26 45.1**	**0.0**
	3.3nm,0.8s,baz=131,slow=11,SNR=4.1						
SONM	**Songino Array**	**47.18**	**15**	P	**P**	**02 26 57.5**	**+1.3**
	11nm,0.7s,baz=195,slow=9.3,SNR=22						
ULN	**Ulaanbaatar**	**47.38**	**15**	*e*P	**P**	**02 26 58.3**	**+0.4**
	1.7nm,0.8s						
RAYN	**Ar Rayn**	**47.87**	**300**	*e*P	**P**	**02 27 01.0**	**-0.9**
	2.4nm,0.7s						
KURBB	**Kurchatov Arra**	**48.82**	**350**	P	**P**	**02 27 08.6**	**-0.1**
	1.9nm,0.7s,baz=174,slow=7.5,SNR=8.1						
WRA	**Warramunga Arr**	**48.85**	**119**	P	**P**	**02 27 10.2**	**+0.8**
	2.2nm,0.6s,baz=297,slow=8.7,SNR=12						
WRAB	**Tennant Creek**	**48.85**	**119**	*e*P	**P**	**02 27 10.0**	**+0.5**
KURK	**Kurchatov**	**48.90**	**350**	*e*P	**P**	**02 27 09.1**	**-0.1**
KSAR	**Wonju Array Be**	**49.00**	**40**	P	**P**	**02 27 11.1**	**+0.8**
KSRS	**Korea Array**	**49.03**	**40**	P	**P**	**02 27 11.1**	**+0.6**
	0.5nm,0.3s,baz=219,slow=9.4,SNR=5.6						
ASAR	**Alice Springs**	**49.98**	**124**	P	**P**	**02 27 18.9**	**+0.8**
	0.3nm,0.3s,baz=295,slow=7.1,SNR=4.1						
ZALV	**Zalesovo Beam**	**51.34**	**356**	P	**P**	**02 27 27.6**	**-0.2**
	1.7nm,0.4s,baz=189,slow=8.1,SNR=4.5						
ABKAR	**Akbulak array**	**53.12**	**336**	*e*P	**P**	**02 27 41.2**	**+0.2**
	4.3nm,0.8s						
AKTO	**Aktyubinsk**	**54.82**	**335**	P	**P**	**02 27 53.2**	**-0.3**
	1.5nm,0.8s,baz=104,slow=8.3,SNR=5.4						
PMG	**Port Moresby**	**58.07**	**103**	LR	LR	02 55 18.8	
	comp=Z,31nm,19.6s,baz=239,slow=38						
MMAI	**Mount Meron Ar**	**59.37**	**307**	P	**P**	**02 28 24.9**	**-1.2**
	0.5nm,0.8s,baz=110,slow=7.8,SNR=2.1						
STKA	**Stephens Creek**	**59.64**	**130**	P	**P**	**02 28 28.6**	**+0.8**
	5.2nm,1.0s,baz=309,slow=14,SNR=5.2						
BRTR	**Keskin Array B**	**62.97**	**314**	P	**P**	**02 28 50.0**	**-0.5**
	1.1nm,0.6s,baz=131,slow=7.2,SNR=8.4						
TIXI	**Tiksi**	**73.15**	**12**	*e*P	**P**	**02 29 52.0**	**-1.5**
	4.4nm,0.8s						
FINES	**FINESS Array B**	**75.52**	**334**	P	**P**	**02 30 07.8**	**+0.3**
	4.3nm,1.0s,baz=95,slow=4.7,SNR=3.3						
CUC	**Castrocucco**	**76.30**	**310**	*e*P	**P**	**02 30 13.2**	**+0.6**
GERES	**GERESS Array B**	**79.10**	**319**	P	**P**	**02 30 27.7**	**-0.3**
	0.6nm,0.6s,baz=107,slow=5.4,SNR=2.6						
HFS	**Hagfors**	**80.98**	**330**	P	**P**	**02 30 38.1**	**+0.3**
	1.5nm,0.8s,baz=101,slow=6.0,SNR=3.7						
TORD	**Torodi Ar. Bea**	**87.88**	**283**	P	**P**	**02 31 13.3**	**-0.3**
	0.4nm,1.0s,baz=87,slow=4.2,SNR=2.7						
TXAR	**Lajitas Array**	**145.59**	**22**	PKPbc	**PKPab**	**02 38 02.8**	**0.0**
	1.4nm,0.8s,baz=299,slow=2.0,SNR=8.5						

IDC 14 02:19:23.2±4.8,3.08N×90.51E,h0km,mb3.8/5,mb1 4.0/5, mb1mx3.5/61,mbtmp3.8/5,MS3.3/1,Ms1 3.3/1, ms1mx2.6/63,Error ellipse: s-maj=178.3km s-min=27.2km az=61.0,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**44.13**	**352**	P	P	02 27 33.8	+0.4
	1.0nm,0.7s,baz=165,slow=8.8,SNR=1.8						
SONM	**Songino Array**	**46.65**	**15**	P	P	02 27 54.7	+1.2
	1.4nm,0.7s,baz=199,slow=8.9,SNR=0.8						
KSRS	**Korea Array**	**48.43**	**40**	LR	LR	02 50 06.1	
	comp=Z,30nm,18.5s,baz=232,slow=38						
WRA	**Warramunga Arr**	**48.72**	**120**	P	P	02 28 08.8	-1.1
	0.9nm,0.8s,baz=299,slow=8.8,SNR=1.4						
ASAR	**Alice Springs**	**49.90**	**125**	P	P	02 28 19.7	+0.7
	0.6nm,0.5s,baz=296,slow=8.2,SNR=2.2						
ZALV	**Zalesovo Beam**	**50.92**	**356**	P	P	02 28 24.4	-1.7
	0.9nm,0.4s,baz=181,slow=7.2,SNR=1.2						

MAN 14 02:34:54,11.41N×124.62E,h34km,mb4.5,ML3.4,MS3.2, 1C-2D,Leyte

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OCLP	**Ormoc**	**0.36**	**181**	*e*P	Pn	02 35 03.4	+0.4
OCLP				*e*S	Sb	02 35 11.8	+3.3
PLP	**Palo**	**0.43**	**125**	*e*P	Pn	02 35 06.1	+2.2
PLP				*e*S	Sn	02 35 15.4	+4.8
CNP	**Catarman**	**1.09**	**2**	*e*P	Pn	02 35 13.5	+0.6
CNP				*e*S	Sb	02 35 30.5	+2.1
LLP	**Lapu-Lapu**	**1.26**	**210**	*e*P	Pn	02 35 16.2	+0.9
LLP				*e*S	Sb	02 35 33.9	+0.6
RCP	**Roxas**	**1.84**	**275**	*e*P	Pn	02 35 23.7	+0.5

ISCJB ***14*** *02:49:13.7±0.4,2.55N±0.06×90.05E±0.04,h10km, mb4.4/38,MS3.6/9,Error ellipse: s-maj=8.5km s-min=4.6km az=20.7*

IDC ***14*** *02:49:14.1±0.8,2.60N×89.95E,h0km,mb4.1/17, mb1 4.1/20,mb1mx3.8/72,mbtmp4.1/20,ML3.5/3,MS3.4/11, Ms1 3.5/11,ms1mx3.1/59,Error ellipse: s-maj=27.7km s-min=14.4km az=45.0*

NEIC ***14*** *02:49:15.8±0.4,2.64N×90.05E,h10km,mb4.5/14,Error ellipse: s-maj=8.8km s-min=4.8km az=206.0*

ISC 14 02:49:15.8±0.6,2.58N±0.08×90.10E±0.06,h10km,n108, σ1.40/94,mb4.4/39,MS3.6/9,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BSI	**Banda Aceh**	**5.94**	**61**	P	**Pn**	**02 50 45.3**	**+1.4**
	111nm,0.7s,2μm						
BSI				S	**Sn**	**02 51 48.0**	**-4.0**
	111nm,0.7s,2μm						
MLSI	**Meulaboh, Aceh**	**6.51**	**75**	P	**Pn**	**02 50 53.6**	**+1.8**
	226nm,0.9s,4μm1.0nm						
TPTI		**7.10**	**84**	P	**Pn**	**02 51 01.0**	**+1.1**
LHMI	**Lhok Sumawe**	**7.32**	**69**	P	**Pn**	**02 51 05.6**	**+2.7**
	127nm,0.7s,2μm						
LHMI	**Lhok Sumawe**	**7.32**	**69**	*e*Pn	**Pn**	**02 51 05.5**	**+2.6**
GSI	**Gunungsitoli**	**7.58**	**100**	P	**Pn**	**02 51 07.1**	**+0.7**
	120nm,0.6s,3μm						
GSI	**Gunungsitoli**	**7.58**	**100**	*e*Pn	**Pn**	**02 51 07.3**	**+0.9**
GSI				*e*Sn	**Sn**	**02 52 30.9**	**-1.5**
PSI	**Prapat**	**8.82**	**88**	Pn	**Pn**	**02 51 25.0**	**+1.4**
	2.4nm,0.3s,baz=268,slow=7.1,SNR=7.6						
PSI				Sn	**Sn**	**02 52 58.9**	**-4.2**
	0.8nm,0.3s,baz=302,slow=9.5,SNR=1.5						
PSI				LR	LR	02 54 50.8	
	comp=Z,160nm,21.6s,baz=256,slow=38						
PBA	**Port Blair**	**9.39**	**16**	*e*P	Pn	02 51 33.0	+1.8
MNSI	**Mandailing Nat**	**9.64**	**100**	P	**Pn**	**02 51 35.9**	**+1.2**
	60nm,0.4s,2μm						
PKDT	**Phuket**	**9.75**	**57**	P	**Pn**	**02 51 36.9**	**+0.7**
	20nm,1.1s						
PALK	**Pallekele**	**10.46**	**297**	Pn	**Pn**	**02 51 45.1**	**-0.8**
	1.4nm,0.3s,baz=116,slow=15,SNR=8.9						
PALK				Sn	Sn	02 53 30.0	-13
	12nm,0.3s,baz=296,slow=0.3,SNR=25						
PALK				LR	LR	02 55 20.2	
	comp=Z,171nm,18.7s,baz=116,slow=36						
PALK	**Pallekele**	**10.46**	**297**	*e*Pn	**Pn**	**02 51 45.4**	**-0.5**
	16nm,0.3s						
PALK				*e*Sn	Sn	02 53 31.0	-12
SURT	**Suratani**	**10.72**	**53**	P	**Pn**	**02 51 49.8**	**+0.3**
	21nm,1.0s						
TRTT	**Trang**	**10.88**	**61**	P	**Pn**	**02 51 51.3**	**-0.4**
	12nm,1.5s						
DGPR	**DIGLIPUR**	**10.89**	**15**	*e*P	**Pn**	**02 51 53.1**	**+1.2**
IPM	**Ipoh**	**11.07**	**80**	*e*Pn	**Pn**	**02 51 55.9**	**+1.6**
SKLT	**Songkhla**	**11.43**	**66**	P	**Pn**	**02 52 01.0**	**+1.8**
MDRS	**Chennai**	**14.27**	**317**	*e*P	Pn	02 52 36.2	-1.8
TRD	**Trivandrum**	**14.34**	**295**	*e*P	**Pn**	**02 52 38.3**	**-0.8**
VIS	**Vishakhapatnam**	**16.45**	**337**	*e*P	**Pn**	**02 53 04.5**	**-2.4**
VIS				IAmb	IAmb	02 53 06.9	
	comp=Z,39nm,0.8s						
CM01	**Chiang Mai Arr**	**17.98**	**28**	*e*Pn	**Pn**	**02 53 24.4**	**-1.6**
CMAR	**Chiang Mai Arr**	**18.00**	**28**	P	**Pn**	**02 53 24.9**	**-1.4**
	comp=Z,0.0nm,0.3s,baz=217,slow=9.9,SNR=4.2						
CMAR				LR	LR	03 01 10.6	
	comp=Z,74nm,18.7s,baz=222,slow=40						
CHTO	**Chiang Mai**	**18.31**	**28**	*e*P	**Pn**	**02 53 29.1**	**-1.0**
	comp=Z,26nm,1.8s						
HYB	**Hyderabad**	**18.60**	**323**	*i* P	**P**	**02 53 35.0**	**+1.6**
HYB				*e*S	Sn	02 56 48.0	-14
HYB	**Hyderabad**	**18.60**	**323**	*e*P	**P**	**02 53 32.2**	**-1.2**
HYB				IAmb	IAmb	02 53 34.0	
	comp=Z,16nm,0.3s						
LEM	**Lembang**	**19.83**	**118**	LR	LR	03 00 54.1	
	comp=Z,131nm,18.3s,baz=336,slow=35						
H08S2	**Diego Garcia H**	**20.29**	**240**	T	T	03 14 21.4	
	baz=59,slow=75						
H08S3	**Diego Garcia H**	**20.29**	**240**	T	T	03 15 31.6	
	baz=59,slow=75						
H08S1	**Diego Garcia H**	**20.31**	**240**	T	T	03 14 30.1	
	baz=59,slow=75						
BOK	**Bokaro**	**21.48**	**349**	*e*P	**P**	**02 54 05.8**	**+1.0**
SBUM	**Sibu**	**22.10**	**90**	*e*P	**P**	**02 54 11.5**	**0.0**
	comp=Z,8.9nm,0.9s						
SHL	**Shillong**	**22.92**	**4**	*e*P	**P**	**02 54 19.6**	**-0.7**
SHL				IAmb	IAmb	02 54 32.0	
KOHI	**KOHIMA**	**23.33**	**9**	*e*P	**P**	**02 54 21.9**	**+0.5**
GUWA	**GUWAHATI**	**23.53**	**4**	*e*P	**P**	**02 54 27.3**	**+1.1**
ODAN	**Odare**	**24.28**	**354**	*e*P	**P**	**02 54 34.7**	**+1.0**
RAMN	**Ramite**	**24.46**	**352**	*e*P	**P**	**02 54 36.9**	**+1.5**
	comp=Z,39nm,0.7s						
ZIRO	**ZIRO**	**25.06**	**8**	*e*P	**P**	**02 54 40.2**	**-0.5**
JIRN	**Jiri**	**25.22**	**352**	*e*P	**P**	**02 54 43.4**	**+1.1**
	comp=Z,87nm,1.0s						
LKP	**Lekhapani**	**25.22**	**12**	*e*P	**P**	**02 54 40.5**	**-1.4**
PKIN	**Phulchoki**	**25.26**	**350**	*e*P	**P**	**02 54 44.5**	**+1.9**
DMN	**Daman**	**25.34**	**350**	*e*P	**P**	**02 54 45.0**	**+1.7**
GUN	**Gumba**	**25.51**	**351**	*e*P	**P**	**02 54 45.9**	**+1.0**
	comp=Z,24nm,0.8s						
KMI	**Kunming**	**25.51**	**27**	P	**P**	**02 54 47.9**	**+3.1**
KMI				pmax	pmax		
	comp=Z,12nm,0.5s						
KOLN	**Koldanda**	**25.81**	**347**	*e*P	**P**	**02 54 48.9**	**+1.4**
	comp=Z,34nm,0.9s						
GKN	**Gorkha**	**25.81**	**349**	*e*P	**P**	**02 54 48.6**	**+1.1**
KKM	**Kota Kinabalu**	**26.26**	**82**	*e*P	**P**	**02 54 51.8**	**+0.1**
	comp=Z,29nm,1.1s						
PYUN	**Piuthan**	**26.27**	**346**	*e*P	**P**	**02 54 52.9**	**+1.2**
	comp=Z,37nm,1.0s						
DANN	**Dangsing**	**26.33**	**347**	*e*P	**P**	**02 54 53.8**	**+1.5**
LSA	**Lhasa**	**26.99**	**2**	P	**P**	**02 54 59.3**	**+0.8**
LSA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
LSA	**Lhasa**	**26.99**	**2**	*e*P	**P**	**02 54 59.3**	**+0.8**
	comp=Z,28nm,0.9s						
SMLA	**Simla**	**30.91**	**338**	*ex*	P	02 55 28.6	-4.2
SMLA				IAmb	IAmb	02 55 34.8	
	comp=Z,5.0nm,0.6s						
CD2	**Chengdu**	**30.99**	**23**	*e*P	**P**	**02 55 34.0**	**+0.4**
DHRM	**DHARAMSHALA**	**32.24**	**338**	*e*P	P	02 55 42.1	-2.7
NIL	**Nilore**	**34.69**	**335**	*e*P	**P**	**02 56 04.5**	**-1.4**
	comp=Z,15nm,0.9s						
LZH	**Lanzhou**	**35.68**	**19**	*e*P	**P**	**02 56 18.3**	**+3.7**
LZH				pP	sP	02 56 22.4	+3.5
LZH				sP	pP	02 56 25.6	+7.9
LZH				*e*PP	**PP**	**02 57 39.5**	**+3.8**
LZH				pmax	pmax		
	comp=Z,17nm,1.0s						
LZH				pmax	pmax		
	comp=Z,300nm,5.0s						
SOEI	**Soe**	**36.17**	**110**	*e*P	**P**	**02 56 18.8**	**-0.2**
GTA	**Gaotai**	**37.71**	**12**	*e*P	**P**	**02 56 32.6**	**+0.8**
GTA				pP	sP	02 56 39.8	+3.7
GTA				sP	pP	02 56 43.4	+8.5
GTA				S	**S**	**03 02 25.1**	**+2.9**
GTA				sS	ScP	03 02 38.0	+1.3
GTA				pmax	pmax		
	comp=Z,6.0nm,1.0s						
GTA				pmax	pmax		
	comp=Z,30nm,4.5s						
GTA				LR	LR		
	comp=N,140nm,16.2s						
GTA				LR	LR		
	comp=E,170nm,18.2s						
GTA				LR	LR		
	comp=Z,70nm,17.1s						
WMQ	**Urumqi**	**41.12**	**357**	P	**P**	**02 57 00.8**	**+0.7**
WMQ				pmax	pmax		
	comp=Z,24nm,0.8s						
WMQ				LR	LR		
	comp=N,87nm,24.5s						
WMQ				LR	LR		
	comp=E,120nm,17.7s						
WMQ				LR	LR		
	comp=Z,69nm,22.5s						
AAK	**Ala-Archa**	**42.25**	**343**	P	**P**	**02 57 09.1**	**-0.4**
	comp=Z,2.3nm,0.7s,baz=182,slow=4.3,SNR=9.4						
AAK	**Ala-Archa**	**42.25**	**343**	*e*P	**P**	**02 57 10.0**	**+0.4**
	comp=Z,3.0nm,0.8s						
HHC	**Hu-ho-hao-te**	**42.74**	**24**	*e*P	**P**	**02 57 13.8**	**+0.3**
HHC				pmax	pmax		
	comp=Z,13nm,1.1s						
HHC				pmax	pmax		
	comp=Z,12nm,6.1s						
H01W3	**Cape Leeuwin H**	**43.56**	**151**	T	T	03 44 16.4	
	baz=325,slow=75						
H01W2	**Cape Leeuwin H**	**43.58**	**151**	T	T	03 44 19.9	
	baz=325,slow=75						
H01W1	**Cape Leeuwin H**	**43.58**	**151**	T	T	03 44 12.6	
	baz=325,slow=75						
KK31	**Karatay Array**	**43.96**	**339**	*e*P	**P**	**02 57 23.6**	**+0.5**
KKAR	**Karatay Array**	**43.96**	**339**	*e*P	**P**	**02 57 23.6**	**+0.4**
MK01	**Makanchi Array**	**44.53**	**352**	*e*P	**P**	**02 57 27.1**	**-0.6**
MK31	**Makanchi Array**	**44.56**	**352**	*e*P	**P**	**02 57 27.7**	**-0.2**
MKAR	**Makanchi Array**	**44.56**	**352**	P	**P**	**02 57 27.4**	**-0.5**
	comp=Z,4.0nm,0.7s,baz=171,slow=9.1,SNR=37						
MKAR	**Makanchi Array**	**44.56**	**352**	*e*P	**P**	**02 57 27.7**	**-0.2**
	comp=Z,22nm,0.8s						
MAKZ	**Makanchi**	**44.62**	**352**	*e*P	**P**	**02 57 28.2**	**-0.1**
	comp=Z,3.8nm,1.0s						
GEYT	**Alibeck**	**45.78**	**324**	P	P	02 57 35.7	-2.1
	comp=Z,3.4nm,0.7s,baz=153,slow=5.0,SNR=5.1						
SONM	**Songino Array**	**47.23**	**15**	P	**P**	**02 57 50.0**	**+0.9**
	comp=Z,7.8nm,0.7s,baz=194,slow=9.6,SNR=38						
SONA1	**Songino Array**	**47.24**	**15**	*e*P	**P**	**02 57 49.8**	**+0.6**
ULN	**Ulaanbaatar**	**47.43**	**15**	*e*P	**P**	**02 57 50.6**	**-0.1**
	comp=Z,3.8nm,0.9s						
RAYN	**Ar Rayn**	**47.88**	**300**	*e*P	**P**	**02 57 54.2**	**-0.3**
	comp=Z,2.5nm,0.8s						
JNU	**Nakatsue**	**48.76**	**47**	LR	LR	03 18 36.0	
	comp=Z,39nm,21.9s,baz=216,slow=36						
WRA	**Warramunga Arr**	**48.84**	**119**	P	**P**	**02 58 02.7**	**+0.8**
	comp=Z,0.9nm,0.6s,baz=297,slow=8.7,SNR=12						
WRAB	**Tennant Creek**	**48.85**	**119**	*e*P	**P**	**02 58 02.6**	**+0.6**
	comp=Z,4.2nm,0.7s						
KURBB	**Kurchatov Arra**	**48.86**	**350**	P	**P**	**02 58 01.4**	**-0.1**
	comp=Z,1.9nm,0.2s,baz=169,slow=6.6,SNR=20						
KURK	**Kurchatov**	**48.93**	**350**	*e*P	**P**	**02 58 01.3**	**-0.8**
	comp=Z,9.0nm,1.3s						
KSRS	**Korea Array**	**49.07**	**40**	LR	LR	03 22 09.5	
	comp=Z,32nm,18.6s,baz=274,slow=40						
ASAR	**Alice Springs**	**49.97**	**124**	P	**P**	**02 58 11.2**	**+0.7**
	comp=Z,0.1nm,0.3s,baz=294,slow=7.0,SNR=3.1						
ZAA0	**Zalesovo Array**	**51.38**	**356**

BRTR	**Keskin Array B**	**145.46**	**315**	PKPbc	PKPdf	03 24 36.1	+0.4
	0.6nm,0.6s,baz=46,slow=1.9,SNR=4.5						
MMAI	**Mount Meron Ar**	**146.82**	**303**	PKPbc	PKPbc	03 24 41.1	0.0
	0.8nm,0.4s,baz=96,slow=4.3,SNR=7.5						

MEX 14 03:07:24.3±0.5, 16°23.N×98°.00W, h10km±3km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.20**	**324**	*i* P		Pg	03 07 28.3	-0.2
PNIG				*i* S		Sg	03 07 31.0	-0.3
TLIG	**Tlapa**	**1.43**	**338**	*e*P		Pn	03 07 48.1	-2.4
TLIG				*e*S		Sn	03 08 04.1	-5.4
ACX	**Acapulco**	**1.89**	**290**	*e*P		Pn	03 07 55.2	-1.6
ACX				*e*S		Sn	03 08 17.9	-2.8
CAIG	**El Cayaco**	**2.32**	**291**	*e*P		Pn	03 07 59.1	-3.5
CAIG				*e*S		Sn	03 08 27.7	-3.5
PLIG	**Platanillo**	**2.58**	**327**	*e*P		Pn	03 08 04.8	-1.6
PLIG				*e*S		Sn	03 08 34.9	-3.0

IDC 14 03:10:26.9±1.1, 1°.14N×92°.63E, h0km, mb3.6/9, mb1 3.8/12, mb1mx3.6/61, mbtmp3.7/12, ML4.0/3, MS3.0/5, Ms1 3.0/5, ms1mx2.6/60, Error ellipse: s-maj=35.1km s-min=18.5km az=42.0
ISCJB 14 03:10:30.6±0.7, 1°.24N±0°.07×92°.83E±0°.06, h33km, mb3.6/9, MS3.0/2, Error ellipse: s-maj=9.9km s-min=8.3km az=14.3
DJA 14 03:10:32.7±2.0, 1°N±10°×9°.3E±1°9, h14km±28km, M5.0/5, mb5.1/4, mB5.2/3, MLv5.0/5, Mw(mB)4.6/3
ISC 14 03:10:31.7±0.8, 1°.17N±0°.09×92°.72E±0°.08, h35km, n23, σ1°§43/22, mb3.5/9, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MLSI	**Meulaboh, Aceh**	**4.79**	**50**	P		**Pn**	**03 11 42.6**	**+1.1**
GSI	**Gunungsitoli**	**4.86**	**88**	P		**Pn**	**03 11 42.4**	**0.0**
TPTI		**4.92**	**65**	P		**Pn**	**03 11 42.3**	**-0.9**
TPTI				S		**Sn**	**03 12 35.6**	**-3.3**
BSI	**Banda Aceh**	**5.01**	**31**	S		**Sn**	**03 12 39.9**	**-1.3**
KCSI	**Kotacane, Aceh**	**5.56**	**65**	P		**Pn**	**03 11 55.0**	**+2.9**
PSI	**Prapat**	**6.41**	**75**	P		**Pn**	**03 12 03.8**	**0.0**
	1.9nm,0.3s,baz=317,slow=9.6,SNR=4.4							
PSI				LR		LR	03 14 45.7	
	comp=Z,298nm,20.3s,baz=232,slow=40							
SISI	**Saibi**	**6.83**	**111**	P		**Pn**	**03 12 09.1**	**-0.5**
MNSI	**Mandailing Nat**	**6.87**	**93**	P		**Pn**	**03 12 10.6**	**+0.6**
	233nm,0.4s,5μm1.2nm							
PDSI	**Padang**	**8.01**	**105**	P		**Pn**	**03 12 25.5**	**-0.3**
	28nm,0.5s,0.4nm							
PALK	**Pallekele**	**13.43**	**297**	Pn		**Pn**	**03 13 37.0**	**-2.9**
	1.0nm,0.3s,baz=114,slow=12,SNR=4.5							
PALK				LR		LR	03 17 02.5	
	comp=Z,220nm,21.4s,baz=116,slow=30							
LEM	**Lembang**	**16.86**	**118**	LR		LR	03 19 27.5	
	comp=Z,51nm,21.0s,baz=226,slow=32							
CMAR	**Chiang Mai Arr**	**18.23**	**19**	P		**P**	**03 14 41.1**	**-1.0**
	0.2nm,0.3s,baz=211,slow=12,SNR=9.2							
AAK	**Ala-Archa**	**44.40**	**341**	LR		LR	03 38 43.3	
	comp=Z,27nm,18.9s,baz=179,slow=38							
WRA	**Warramunga Arr**	**45.87**	**119**	P		**P**	**03 18 52.1**	**+1.0**
	0.4nm,0.6s,baz=300,slow=8.6,SNR=3.9							
MKAR	**Makanchi Array**	**46.34**	**350**	P		**P**	**03 18 55.0**	**+0.6**
	0.4nm,0.5s,baz=173,slow=8.1,SNR=5.6							
ASAR	**Alice Springs**	**47.01**	**124**	P		**P**	**03 19 00.6**	**+0.5**
	0.1nm,0.4s,baz=295,slow=7.7,SNR=2.9							
SONM	**Songino Array**	**47.97**	**12**	P		**P**	**03 19 08.6**	**+1.4**
	1.1nm,0.5s,baz=196,slow=8.4,SNR=7.4							
KURBB	**Kurchatov Arra**	**50.73**	**348**	P		**P**	**03 19 28.3**	**+0.3**
	0.4nm,0.8s,baz=169,slow=6.9,SNR=4.2							
ZALV	**Zalesovo Beam**	**53.01**	**354**	P		**P**	**03 19 45.4**	**+0.4**
	0.9nm,0.3s,baz=175,slow=6.6,SNR=2.7							
ZALV				LR		LR	03 45 15.3	
	comp=Z,8.7nm,21.5s,baz=262,slow=39							
BRTR	**Keskin Array B**	**65.85**	**314**	P		**P**	**03 21 14.6**	**+0.5**
	0.2nm,0.5s,baz=134,slow=9.9,SNR=3.0							
FINES	**FINESS Array B**	**77.98**	**333**	P		**P**	**03 22 26.1**	**-0.1**
	2.3nm,0.9s,baz=92,slow=7.0,SNR=2.9							
GERES	**GERESS Array B**	**81.89**	**319**	P		**P**	**03 22 48.9**	**+1.1**
	0.1nm,0.3s,baz=86,slow=6.2,SNR=2.5							
TXAR	**Lajitas Array**	**145.86**	**26**	PKPbc		**PKPdf**	**03 30 08.2**	**+0.5**
	0.4nm,0.9s,baz=350,slow=1.1,SNR=4.0							

NEIC 14 03:10:44.0±0.0, 31°.76N×116°.08W, h0km, ML2.4(ECX), ML2.8(PAS), After ECX.
ECX 14 03:10:44.0±0.6, 31°.77N×116°.10W, h5km, MD2.4, ML2.5, 7C-4D, Baja California

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ZAX	**El Zacaton**	**0.29**	**211**	⇓*e*P		Pg	03 10 49.4	-0.4
ZAX				*e*S		Sg	03 10 53.7	+0.1
ZAX				⇑*e*			03 10 54.1	
ZAX				IAML			03 10 54.1	
	comp=E,943nm,0.2s							
ECNX	**Esteban Cantu**	**0.44**	**256**	⇑*e*P		Pg	03 10 52.0	-0.6
ECNX				⇑*e*P		Pb	03 10 52.4	-2.0
ECNX				*e*S		Sg	03 10 58.5	+0.2
ECNX				*e*S		Sb	03 10 59.5	-1.8
CCX	**Cicese**	**0.49**	**282**	*e*P		Pg	03 10 52.3	-1.2
CCX				*e*S		Sg	03 10 59.5	-0.5
PBX	**Punta Banda**	**0.54**	**268**	*e*P		Pg	03 10 53.7	-0.6
PBX				*e*S		Sg	03 11 01.4	+0.1
PBX	**Punta Banda**	**0.54**	**268**	⇑*e*P		Pg	03 10 53.7	-0.6
PBX				*e*S		Sg	03 11 01.4	+0.1
CBX	**Cerro Bola**	**0.73**	**319**	*e*P		Pg	03 10 57.0	-1.0
CBX				*e*S		Sg	03 11 06.7	-0.9
CBX	**Cerro Bola**	**0.73**	**319**	*e*P		Pg	03 10 57.0	-1.0
CBX				*e*S		Sg	03 11 06.7	-0.9
CBX				IAML			03 11 08.7	
	comp=E,247nm,0.2s							
CBX				⇑*e*			03 11 08.7	
TJIG	**Tijuana**	**0.83**	**324**	⇑*e*P		Pg	03 10 58.5	-1.4
TJIG				*e*S		Sg	03 11 09.4	-1.3
IKP	**In-Ko-Pah, Jac**	**0.88**	**359**	*e*P		Pg	03 10 59.8	-1.2
IKP				*e*S		Sg	03 11 11.4	-1.1
YUH	**Yuha Desert**	**0.89**	**9**	*e*Pg		Pg	03 10 60.0	-1.2
YUH				*e*Sg		Sg	03 11 11.5	-1.2
SPIG	**San Pedro Mart**	**0.90**	**143**	⇓*e*P		Pg	03 11 11.3	-1.3
SPIG				*e*S		Sg	03 11 11.6	-1.3
SPX	**San Pedro Mart**	**0.90**	**143**	*e*P		Pg	03 11 00.2	-1.0
SPX	**San Pedro Mart**	**0.90**	**143**	⇓*e*P		Pg	03 11 00.2	-1.0
ECBX	**El Chinero**	**0.94**	**108**	⇑*e*P		Pg	03 11 00.5	-1.4
ECBX				*e*S		Sg	03 11 13.1	-1.0
BAR	**Barrett**	**1.03**	**332**	*e*Pg		Pg	03 11 02.1	-1.8
BAR				*e*Sg		Sg	03 11 14.9	-2.4
BAR				*e*Sn		Sb	03 11 15.5	-2.9
BAR	**Barrett**	**1.03**	**332**	⇓*e*P		Pg	03 11 02.1	-1.7
WESC	**Westside Schoo**	**1.04**	**17**	*e*Pg		Pg	03 11 03.9	-0.1
WESC				*e*Sg		Sg	03 11 16.9	-0.5
CRR	**Carrizo Plain**	**1.12**	**5**	*e*Pg		Pg	03 11 04.5	-1.0
CBKC	**Canebrake**	**1.14**	**353**	*e*Pg		Pg	03 11 04.9	-1.0
CBKC				*e*Sn		Sg	03 11 20.0	-0.7
SDRC	**San Diego Road**	**1.21**	**324**	*e*P		Pg	03 11 04.8	-2.3
EML	**El Monte Cty P**	**1.29**	**331**	*e*Sg		Sg	03 11 22.9	-2.6
CPE	**Camp Elliot**	**1.41**	**323**	*e*Pg		Pn	03 11 08.2	-2.2
CPE				*e*Sn		Sb	03 11 26.2	-2.9
CPE				*e*Sg		Sn	03 11 26.4	-2.9
HWB	**Hans Werner Br**	**1.46**	**330**	*e*Sg		Sb	03 11 28.3	-2.1
FRD	**Ford Ranch, An**	**1.78**	**346**	*e*Sn		Sn	03 11 38.5	-0.1
SNDA	**J Saunders Pla**	**1.83**	**346**	*e*Sn		Sb	03 11 40.8	-0.7
DNR	**Dunn Ranch,Anz**	**1.85**	**346**	*e*Sn		Sb	03 11 41.7	-0.3
XPFO	**Piæon Flat**	**1.86**	**351**	*e*Pn		Pn	03 11 17.4	+0.6
XPFO				*e*Sn		Sn	03 11 40.5	-0.2
PFO	**Pinyon Flats O**	**1.87**	**351**	*e*Pn		Pn	03 11 17.0	+0.3
PFO				*e*Sn		Sn	03 11 40.5	-0.3
DGR	**Domenigoni Val**	**2.03**	**338**	*e*Sn		Sn	03 11 44.8	0.0
113A	**Mohawk Valley,**	**2.21**	**62**	*e*Pn		Pb	03 11 24.0	-0.4
OAT	**Oat Mountain**	**3.33**	**321**	*e*Pn		Pn	03 11 40.0	+3.2
CCCA	**Chr Cany lake**	**3.90**	**345**	*e*Pn		Pn	03 11 44.8	+0.2
GATR	**Gnd/Air Tx Cnt**	**4.62**	**308**	*e*Pg		Pg	03 12 14.9	+2.3
GATR				*e*Sn		Sn	03 12 47.9	-0.8
GATR				*e*Sg		Sb	03 13 02.6	+0.9
BLDC	**Black Mountain**	**5.50**	**314**	*e*Sg		Sb	03 13 33.3	+6.5
TIN	**Tinemaha, Big**	**5.56**	**342**	*e*Sn		Sn	03 13 10.8	-1.1
BBGB	**Big Mountain B**	**6.31**	**321**	*e*Sn		Sn	03 13 32.0	+1.7

ISN 14 03:13:07.0±1.1, 39°.65N×43°.94E, h12km±54km, ML3.5

ISK 14 03:13:08.9, 39°.45N×43°.91E, h5km, ML3.5/8
NSSP 14 03:13:09.5, 39°.35N×43°.95E, h5km, Ms3.4
ATA 14 03:13:09.2±2.0, 39°.45N×43°.87E, h4km±20km, ML3.9, MW4.1
DDA 14 03:13:09.2, 39°.49N×43°.95E, h3km, Ml3.6
CSEM 14 03:13:10.6±0.1, 39°.46N×43°.84E, h2km, ML3.6, Error ellipse: s-maj=3.2km s-min=2.2km az=156.0
ISC 14 03:13:10.5±1.1, 39°.46N±0°.02×43°.87E±0°.01, h1km±10km, n118, σ1§28/163, 18C-25D, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
DYDN	**Diyadin**	**0.16**	**302**	*e*P		**Pg**	**03 13 13.5**	**-0.2**
DYDN				IAML			03 13 27.7	
	comp=Z,8μm,0.5s							
DYDN	**Diyadin**	**0.16**	**302**	*i* P		**Pg**	**03 13 13.8**	**+0.1**
DYDN	**Diyadin**	**0.16**	**302**	P		**Pg**	**03 13 13.8**	**+0.1**
CLDR	**Caldiran**	**0.32**	**173**	PG		**Pg**	**03 13 15.4**	**-1.2**
CLDR				SG		**Sg**	**03 13 21.1**	**+0.4**
CLDR	**Caldiran**	**0.32**	**173**	*i* P		**Pg**	**03 13 15.6**	**-1.0**
CLDR	**Caldiran**	**0.32**	**173**	*e*Pg		**Pg**	**03 13 15.4**	**-1.2**
CLDR	**Caldiran**	**0.32**	**173**	P		**Pg**	**03 13 15.6**	**-1.0**
CLDR				*e*Sg		**Sg**	**03 13 21.1**	**+0.4**
IGDI	**IGDIR**	**0.44**	**21**	⇓*i*P		**Pg**	**03 13 18.2**	**-0.7**
IGDI				*e*S		**Sg**	**03 13 25.6**	**+0.9**
IGDI				IAML			03 13 37.1	
	comp=Z,816nm,0.5s							
IGDI	**IGDIR**	**0.44**	**21**	*i* P		**Pg**	**03 13 18.4**	**-0.6**
VMUR	**Van-Muradiye**	**0.52**	**206**	*i* P		**Pg**	**03 13 20.4**	**-0.1**
VMUR	**Van-Muradiye**	**0.52**	**206**	P		**Pg**	**03 13 20.4**	**-0.1**
TASB	**TASBURUN-IGDIR**	**0.60**	**28**	PG		**Pg**	**03 13 21.2**	**-0.8**
TASB				SG		**Sg**	**03 13 30.6**	**+0.9**
TASB	**TASBURUN-IGDIR**	**0.60**	**28**	*e*Pg		**Pg**	**03 13 21.2**	**-0.8**
TASB				*e*Sg		**Sg**	**03 13 30.6**	**+0.9**
ERCV	**ERCIS-VAN**	**0.60**	**223**	PG		**Pg**	**03 13 21.9**	**-0.1**
ERCV				SG		**Sb**	**03 13 31.7**	**-1.3**
ERCV	**ERCIS-VAN**	**0.60**	**223**	*e*Pg		**Pg**	**03 13 21.9**	**-0.1**
ERCV				*e*Sg		**Sb**	**03 13 31.7**	**-1.3**
AGRB	**Hanur-Agry**	**0.69**	**280**	PG		**Pg**	**03 13 23.3**	**-0.4**
AGRB				SG		**Sb**	**03 13 34.2**	**-1.4**
AGRB	**Hanur-Agry**	**0.69**	**280**	*e*Pg		**Pg**	**03 13 23.3**	**-0.4**
AGRB				*e*Sg		**Sb**	**03 13 34.2**	**-1.4**
HYR	**Heyderabad**	**0.80**	**71**	⇓P		**Pg**	**03 13 26.2**	**+0.3**
HYR				⇑S		**Sg**	**03 13 35.7**	**-0.6**
TUTA	**Tutak**	**0.82**	**266**	⇑*i*P		**Pg**	**03 13 25.5**	**-0.6**
TUTA				*e*S		**Sb**	**03 13 37.9**	**-1.5**
TUTA				IAML			03 13 42.5	
	comp=Z,1μm,0.2s							
TUTA	**Tutak**	**0.82**	**266**	*i* P		**Pg**	**03 13 25.6**	**-0.6**
TUTA				*i* S		**Sb**	**03 13 37.6**	**-1.8**
TUTA	**Tutak**	**0.82**	**266**	P		**Pg**	**03 13 25.6**	**-0.6**
TUTA				S		**Sb**	**03 13 37.6**	**-1.8**
VANB	**Van**	**0.94**	**204**	PG		**Pn**	**03 13 29.7**	**-1.3**
VANB	**Van**	**0.94**	**204**	*e*Pg		**Pn**	**03 13 29.7**	**-1.3**
GNI	**Garni**	**0.96**	**44**	⇓*i*P		**Pg**	**03 13 27.5**	**-1.5**
GNI				⇑*i*S		**Sg**	**03 13 40.8**	**-0.7**
GNI	**Garni**	**0.96**	**44**	⇓P		**Pg**	**03 13 27.5**	**-1.5**
GNI				S		**Sg**	**03 13 40.8**	**-0.7**
TVAN	**Van**	**1.00**	**201**	*i* P		**Pb**	**03 13 30.2**	**-0.5**
TVAN	**Van**	**1.00**	**201**	P		**Pb**	**03 13 30.2**	**-0.5**
DIGO	**Kars**	**1.03**	**338**	*e*P		**Pg**	**03 13 28.1**	**-2.1**
DIGO				*e*S		**Sn**	**03 13 45.8**	**-1.8**
DIGO				IAML			03 13 58.0	
	comp=Z,181nm,0.6s							
DIGO	**Kars**	**1.03**	**338**	*i* P		**Pg**	**03 13 28.6**	**-1.7**
DIGO				*i* S		**Sn**	**03 13 51.1**	**+3.5**
DIGO	**Kars**	**1.03**	**338**	P		**Pg**	**03 13 28.5**	**-1.7**
ADCV	**BITLIS_Adilcev**	**1.10**	**234**	*i* P		**Pn**	**03 13 32.0**	**-1.3**
ADCV				*i* S		**Sn**	**03 13 50.0**	**+0.7**
ADCV	**BITLIS_Adilcev**	**1.10**	**234**	P		**Pn**	**03 13 32.0**	**-1.3**
EATA	**Eleskirt**	**1.14**	**291**	*e*P		**Pg**	**03 13 31.4**	**-0.9**
EATA				*i* Pg		**Pn**	**03 13 33.5**	**-0.4**
EATA				*e*S		**Sn**	**03 13 48.5**	**-1.8**
EATA				IAML			03 13 58.8	
	comp=Z,114nm,0.4s							
EATA	**Eleskirt**	**1.14**	**291**	*i* P		**Pg**	**03 13 31.8**	**-0.5**
EATA				*i* S		**Sn**	**03 13 49.2**	**-1.1**
EATA	**Eleskirt**	**1.14**	**291**	P		**Pg**	**03 13 31.8**	**-0.5**
EAK	**Akyaka**	**1.24**	**351**	*e*P		**Pn**	**03 13 33.7**	**-1.5**
EAK				*e*S		**Sn**	**03 13 55.7**	**+2.9**
EAK				IAML			03 13 58.5	
	comp=Z,308nm,0.5s							
EAK	**Akyaka**	**1.24**	**351**	*i* P		**Pn**	**03 13 33.5**	**-1.7**
EAK	**Akyaka**	**1.24**	**351**	P		**Pn**	**03 13 33.5**	**-1.7**
NAX	**Nakhchivan**	**1.29**	**102**	⇑P		**Pb**	**03 13 35.1**	**-0.6**
NAX				⇓S		**Sb**	**03 13 51.8**	**-1.1**
SBZ	**Shahbuz**	**1.31**	**92**	⇓P		**Pb**	**03 13 35.4**	**-0.5**
SBZ				⇓S		**Sg**	**03 13 54.3**	**+1.8**
GEVA	**Gevas**	**1.31**	**209**	⇑*e*P		**Pn**	**03 13 34.5**	**-1.6**
GEVA				*i* Pg		**Pg**	**03 13 36.2**	**+0.6**
GEVA				IAML			03 14 15.5	
	comp=Z,53nm,0.6s							
GEVA	**Gevas**	**1.31**	**209**	*i* P		**Pn**	**03 13 35.0**	**-1.1**
GEVA	**Gevas**	**1.31**	**209**	P		**Pn**	**03 13 35.0**	**-1.1**
KARS	**Kars**	**1.32**	**333**	PN		**Pn**	**03 13 35.3**	**-0.9**
KARS	**Kars**	**1.32**	**333**	*e*Pn		**Pn**	**03 13 35.3**	**-0.9**
EKAR	**Karacoban**	**1.41**	**262**	*e*P		**Pn**	**03 13 36.3**	**-1.3**
EKAR				IAML			03 14 09.6	
	comp=Z,164nm,0.5s							
EKAR	**Karacoban**	**1.41**	**262**	*i* P		**Pn**	**03 13 36.5**	**-1.1**
EKAR	**Karacoban**	**1.41**	**262**	P		**Pn**	**03 13 36.5**	**-1.1**
SENK	**Senkaya-Erzuru**	**1.60**	**314**	PN		**Pb**	**03 13 40.3**	**-0.8**
SENK	**Senkaya-Erzuru**	**1.60**	**314**	*e*Pn		**Pb**	**03 13 40.3**	**-0.8**
HOMI	**Horasan**	**1.62**	**292**	*e*P		**Pn**	**03 13 39.5**	**-1.0**
HOMI				*e*S		**Sg**	**03 14 07.1**	**+4.5**
HOMI				IAML			03 14 18.4	
	comp=Z,134nm,0.7s							
HOMI	**Horasan**	**1.62**	**292**	*i* P		**Pn**	**03 13 40.0**	**-0.5**
HOMI				*i* S		**Sg**	**03 14 06.6**	**+4.0**
GURO	**Guroymak-BITLI**	**1.69**	**238**	PN		**Pb**	**03 13 41.6**	**-1.0**
GURO	**Guroymak-BITLI**	**1.69**	**238**	*e*Pn		**Pb**	**03 13 41.6**	**-1.0**
ORD	**Ordubad**	**1.73**	**107**	⇓P		**Pb**	**03 13 42.0**	**-1.2**
ORD				⇓S		**Sg**	**03 14 06.8**	**+0.6**
VRTB	**Varto-Mus**	**1.90**	**262**	PN		**Pn**	**03 13 43.8**	**-0.4**
VRTB	**Varto-Mus**	**1.90**	**262**	*i* P		**Pb**	**03 13 46.0**	**0.0**
VRTB				*i* S		**Sg**	**03 14 13.3**	**+1.9**
VRTB	**Varto-Mus**	**1.90**	**262**	*e*Pn		**Pn**	**03 13 43.8**	**-0.4**
VRTB	**Varto-Mus**	**1.90**	**262**	P		**Pb**	**03 13 46.0**	**0.0**
GRS	**Goris**	**1.91**	**88**	⇑*i*P		**Pb**	**03 13 45.0**	**-1.2**
GRS				⇑*i*S		**Sg**	**03 14 15.0**	**+3.2**
GRS	**Goris**	**1.91**	**88**	⇑P		**Pb**	**03 13 45.0**	**-1.2**
GRS				⇑S		**Sg**	**03 14 15.0**	**+3.2**
GDB	**GEDABAY**	**1.92**	**48**	⇓P		**Pb**	**03 13 45.1**	**-1.3**
GDB				⇓S		**Sb**	**03 14 11.1**	**+0.1**
QZX	**Qazax, Azerbai**	**1.97**	**35**	⇑P		**Pb**	**03 13 45.7**	**-1.5**
QZX				⇓S		**Sb**	**03 14 11.9**	**-0.4**
AKH	**Akhalkalaki**	**1.97**	**352**	PN		**Pn**	**03 13 44.9**	**-0.4**
AKH	**Akhalkalaki**	**1.97**	**352**	P		**Pb**	**03 13 47.4**	**0.0**
AKH	**Akhalkalaki**	**1.97**	**352**	*e*Pn		**Pn**	**03 13 44.9**	**-0.4**
ERZM	**Erzurum**	**1.98**	**284**	*e*P		**Pb**	**03 13 46.1**	**-1.5**
ERZM	**Erzurum**	**1.98**	**284**	*i* P		**Pb**	**03 13 46.5**	**-1.1**
ERZM	**Erzurum**	**1.98**	**284**	P		**Pb**	**03 13 46.5**	**-1.1**
SRTM	**Siirt_Merkez**	**2.11**	**227**	*i* P		**Pb**	**03 13 49.7**	**0.0**
EPOS	**Posof**	**2.22**	**337**	*e*P		**Pb**	**03 13 50.9**	**-0.7**
EPOS				*e*S		**Sg**	**03 14 24.0**	**+2.2**
EPOS				IAML			03 14 33.3	
	comp=Z,9.2nm,0.6s							
GANJ	**Ganja**	**2.23**	**57**	⇓P		**Pn**	**03 13 49.2**	**+0.6**
GANJ				⇑S		**Sb**	**03 14 17.9**	**-1.8**
ECAT	**Cat-ERZURUM**	**2.24**	**275**	*e*P		**Pb**	**03 13 51.0**	**-0.9**
ECAT				IAML			03 14 27.4	
	comp=Z,59nm,0.8s							
ECAT	**Cat-ERZURUM**	**2.24**	**275**	*i* P		**Pb**	**03 13 51.1**	**-0.9**
ECAT				*i* S		**Sg**	**03 14 23.8**	**+1.2**
SIRT	**Sirnak**	**2.25**	**210**	PN		**Pn**	**03 13 48.9**	**-0.2**
SIRT	**Sirnak**	**2.25**	**210**	*e*Pn		**Pn**	**03 13 48.9**	**-0.2**
ARTV	**Artvin**	**2.27**	**320**	*e*P		**Pg**	**03 13 53.4**	**-0.7**
ARTV				IAML			03 14 34.2	
	comp=Z,8.4nm,0.5s							
DGRG	**David-gareji**	**2.30**	**29**	*e*P		**Pn**	**03 13 50.1**	**+0.5**
DGRG				IAML			03 14 37.7	
	comp=Z,31nm,0.6s							
DGRG	**David-gareji**	**2.30**	**29**	P		**Pn**	**03 13 50.1**	**+0.5**
BTNK	**Botanikuri**	**2.33**	**17**	P		**Pn**	**03 13 51.0**	**+0.9**
TBLG	**Delisi**	**2.37**	**16**	PN		**Pn**	**03 13 50.6**	**+0.1**
TBLG	**Delisi**	**2.37**	**16**	*e*P		**Pn**	**03 13 51.0**	**+0.4**
TBLG				*e*S		**Sg**	**03 14 25.7**	**-0.7**
TBLG				IAML			03 14 39.5	
	comp=Z,9.9nm,0.7s							
TBLG	**Delisi**	**2.37**	**16**	P		**Pn**	**03 13 51.4**	**+0.9**
TBLG	**Delisi**	**2.37**	**16**	*e*Pn		**Pn**	**03 13 50.6**	**+0.1**

BNGB	**Bing¨¶**	**2.52**	**260**	PN		**Pn**	**03 13 53.1**	**+0.3**
DDFL	**Dedoflistskaro**	**2.62**	**40**	P		**Pb**	**03 13 58.7**	**+0.3**
KOPT	**Kop Dagi**	**2.66**	**283**	*e*P		**Pb**	**03 13 60.0**	**+0.8**
KOPT				IAML			03 15 03.1	
	comp=Z,12nm,0.7s							
BRDA	**Brd**	**2.67**	**71**	⇑P		**Pn**	**03 13 55.1**	**+0.4**
BRDA				⇓S		**Sn**	**03 14 28.4**	**+0.7**
BINT	**Bingol**	**2.69**	**259**	*e*Pn		**Pn**	**03 13 53.1**	**-2.0**
DUS	**Dusheti**	**2.70**	**13**	P		**Pb**	**03 13 59.2**	**-0.5**
MNGR	**Mingechevir, A**	**2.79**	**61**	⇓P		**Pn**	**03 13 57.4**	**+1.0**
MNGR				⇓S		**Sn**	**03 14 31.8**	**+1.1**
CHOM	**Cayeli-Rize**	**2.89**	**306**	*e*Pn		**Pn**	**03 13 58.2**	**+0.5**
BAYB	**BAYBURT**	**2.89**	**287**	*e*P		**Pb**	**03 14 03.7**	**+0.6**
BAYB				IAML			03 14 48.3	
	comp=Z,5.7nm,0.7s							
BAYT	**Ayd¨¨ntepe-Bay**	**3.02**	**289**	PN		**Pn**	**03 14 00.5**	**+0.9**
BAYT	**Ayd¨¨ntepe-Bay**	**3.02**	**289**	*e*Pn		**Pn**	**03 14 00.5**	**+0.9**
GUDG	**Gudauri**	**3.04**	**9**	P		**Pb**	**03 14 02.2**	**-3.4**
ZRD	**Zardab**	**3.05**	**73**	⇓P		**Pn**	**03 14 00.4**	**+0.5**
SEKA	**Sheki**	**3.09**	**54**	⇑P		**Pn**	**03 14 01.4**	**+0.9**
SEKA				⇓S		**Sn**	**03 14 40.0**	**+1.9**
MSL	**Mosul**	**3.11**	**191**	*e*Pn		**Pn**	**03 14 00.0**	**-0.8**
	SNR=5.0							
MSL				*e*Sn		**Sn**	**03 14 37.0**	**-1.6**
	SNR=5.0							
ONI	**Oni**	**3.15**	**354**	P		**Pb**	**03 14 07.8**	**+0.5**
EUZM	**Uzumlu**	**3.23**	**276**	*e*P		**Pb**	**03 14 07.1**	**-1.7**
MAZI	**Mazidag**	**3.35**	**234**	PN		**Pn**	**03 14 04.6**	**+0.5**
MAZI	**Mazidag**	**3.35**	**234**	*e*Pn		**Pn**	**03 14 04.6**	**+0.5**
TNCL	**Tunceli-Merkez**	**3.38**	**266**	*e*P		**Pn**	**03 14 06.4**	**+1.9**
GLBA	**Clilabad**	**3.51**	**92**	⇓P		**Pn**	**03 14 07.4**	**+1.1**
GLBA				⇓S		**Sn**	**03 14 49.9**	**+1.4**
PTK	**Pertek**	**3.52**	**262**	PN		**Pn**	**03 14 07.4**	**+0.8**
PTK	**Pertek**	**3.52**	**262**	*e*Pn		**Pn**	**03 14 07.4**	**+0.8**
SAAT	**Saatly**	**3.54**	**82**	⇓P		**Pn**	**03 14 06.4**	**-0.2**
IML	**Ismayilli**	**3.56**	**67**	⇑P		**Pn**	**03 14 07.4**	**+0.3**
LRK	**Lerik**	**3.58**	**102**	⇑P		**Pn**	**03 14 07.4**	**+0.1**
LRK				⇑S		**Sn**	**03 14 51.8**	**+1.5**
KELT	**Kelkit**	**3.62**	**282**	*e*P		**Pb**	**03 14 15.3**	**-0.1**
KELT				IAML			03 14

BRVK	**Borovoye**	**29.72**	**360**	*e*P		**P**	**03 29 05.1**	**+0.2**
	comp=N,3.7nm,0.8s							
SONM	**Songino Array**	**37.58**	**40**	P		**P**	**03 30 16.2**	**+2.7**
	comp=N,1.2nm,0.8s,baz=246,slow=9.6,SNR=5.6							
KSRS	**Korea Array**	**50.78**	**60**	LR		LR	03 53 47.8	
	comp=N,6.9nm,20.0s,baz=212,slow=36							
TORD	**Torodi Ar. Bea**	**65.64**	**274**	P		**P**	**03 33 44.4**	**+0.7**
	comp=N,0.3nm,0.7s,baz=67,slow=5.5,SNR=4.0							
WRA	**Warramunga Arr**	**75.63**	**119**	P		**P**	**03 34 44.8**	**+0.3**
	comp=N,0.9nm,0.8s,baz=309,slow=5.4,SNR=4.6							
ASAR	**Alice Springs**	**77.25**	**123**	P		**P**	**03 34 54.1**	**+0.5**
	comp=N,0.9nm,0.8s,baz=298,slow=6.0,SNR=7.5							

*CSEM **14** 03:35:39.3, 39.99N× 43.23E, h7km, ML2.6*
*DDA **14** 03:35:39.3, 39.99N× 43.23E, h7km, Ml2.6*
*ATA **14** 03:35:41.8± 1.5, 39.87N× 42.91E, h41km± 10km, ML2.5, MW2.5*

ISC 14 03:35:41.7± 1.4, 39.90N± 0.04× 42.99E± 0.05, h15km± 11km, n17, σ1§51/30, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AGRB	**Hanur-Agry**	**0.32**	**179**	PG	**Pb**	**03 35 49.7**	**+0.4**
EATA	**Eleskirt**	**0.38**	**265**	*e*P	**Pb**	**03 35 50.7**	**+0.2**
EATA				*i* Pg	**Pn**	**03 35 52.5**	**-0.6**
EATA				*e*S	**Sn**	**03 35 59.1**	**-1.1**
EATA				IAML		03 36 02.0	
	comp=Z,15nm,0.5s						
EATA	**Eleskirt**	**0.38**	**265**	*i* P	**Pb**	**03 35 50.6**	**+0.2**
EATA				*i* S	**Sn**	**03 35 59.3**	**-0.9**
EATA	**Eleskirt**	**0.38**	**265**	P	**Pb**	**03 35 50.6**	**+0.2**
EATA				S	**Sn**	**03 35 59.3**	**-0.9**
TUTA	**Tutak**	**0.51**	**195**	*e*P	**Pn**	**03 35 53.5**	**-1.2**
TUTA				*e*S	**Sn**	**03 36 02.5**	**-0.8**
TUTA				IAML		03 36 08.3	
	comp=Z,24nm,0.3s						
TUTA	**Tutak**	**0.51**	**195**	*i* P	**Pn**	**03 35 53.5**	**-1.2**
TUTA				*i* S	**Sn**	**03 36 03.0**	**-0.3**
TUTA	**Tutak**	**0.51**	**195**	P	**Pn**	**03 35 53.5**	**-1.2**
TUTA				S	**Sn**	**03 36 03.0**	**-0.3**
DIGO	**Kars**	**0.60**	**30**	*e*P	**Pn**	**03 35 56.3**	**+0.4**
DYDN	**Diyadin**	**0.65**	**123**	*e*P	**Pn**	**03 35 56.0**	**-0.5**
DYDN				IAML		03 36 15.1	
	comp=Z,15nm,0.7s						
HOMI	**Horasan**	**0.84**	**280**	*e*P	**Pb**	**03 35 57.4**	**-0.8**
HOMI				*e*S	**Sn**	**03 36 11.1**	**-0.5**
HOMI				IAML		03 36 24.0	
	comp=Z,7.4nm,0.6s						
HOMI	**Horasan**	**0.84**	**280**	*i* P	**Pb**	**03 35 57.3**	**-0.8**
HOMI				*i* S	**Sn**	**03 36 12.5**	**+0.9**
EKAR	**Karacoban**	**0.96**	**228**	*e*P	**Pg**	**03 35 59.6**	**-0.7**
EKAR	**Karacoban**	**0.96**	**228**	*i* P	**Pn**	**03 36 00.5**	**-0.3**
EKAR				*i* S	**Sn**	**03 36 18.7**	**+4.3**
EKAR	**Karacoban**	**0.96**	**228**	P	**Pn**	**03 36 00.5**	**-0.3**
EKAR				S	**Sn**	**03 36 18.7**	**+4.3**
ERZM	**Erzurum**	**1.25**	**271**	*e*P	**Pg**	**03 36 05.6**	**-0.2**
DDEM	**Demirkent**	**1.37**	**317**	*i* P	**Pg**	**03 36 07.0**	**-1.1**
DDEM				*i* S	**Sg**	**03 36 27.8**	**+1.8**
DDEM	**Demirkent**	**1.37**	**317**	P	**Pg**	**03 36 07.0**	**-1.1**
DDEM				S	**Sg**	**03 36 27.8**	**+1.8**

*IDC **14** 03:44:05.2± 3.9, 23.76N× 94.24E, h91km± 44km, mb3.2/3, mb1 3.3/4, mb1mx2.8/72, mbtmp3.4/4, Error ellipse: s-maj=73.7km s-min=22.3km az=55.0*

ISC 14 03:44:00.5± 1.3, 23.97N± 0.03× 94.13E± 0.06, h31km± 12km, n12, σ2§45/22, mb3.5/3, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KOHI	**KOHIMA**	**1.74**	**359**	*e*P	**Pb**	**03 44 32.9**	**+1.0**
KOHI				*e*S	**Sb**	**03 44 55.4**	**+2.0**
KOHI				IAML		03 44 57.4	
	comp=N,311nm,0.3s						
KOHI				IAML		03 44 57.4	
	comp=E,256nm,0.4s						
SAIH	**SAIHA**	**1.81**	**216**	*e*P	**Pb**	**03 44 31.9**	**-1.2**
SAIH				*e*S	**Sn**	**03 44 52.8**	**+1.0**
SAIH				*e*S	**Sb**	**03 44 57.0**	**+1.5**
SAIH				IAML		03 45 00.3	
	comp=N,179nm,0.3s						
SAIH				IAML		03 45 00.6	
	comp=E,495nm,0.5s						
MOKO	**MOKOCHONG**	**2.36**	**8**	*e*P	**Pb**	**03 44 41.0**	**-1.5**
MOKO				*e*S	**Sb**	**03 45 10.7**	**-0.6**
MOKO				IAML		03 45 19.5	
	comp=N,153nm,0.5s						
MOKO				IAML		03 45 20.8	
	comp=E,161nm,0.3s						
SHL	**Shillong**	**2.58**	**308**	*e*P	**Pn**	**03 44 43.0**	**+2.6**
SHL				*e*S	**Sn**	**03 45 11.0**	**+0.1**
TEZP	**TEZPUR**	**2.89**	**336**	*e*P	**Pn**	**03 44 46.9**	**+2.4**
TEZP				*e*S	**Sn**	**03 45 18.8**	**+0.5**
TEZP				*e*S	**Sb**	**03 45 19.3**	**-7.1**
TEZP				IAML		03 45 27.2	
	comp=N,166nm,0.2s						
TEZP				IAML		03 45 28.0	
	comp=E,124nm,0.1s						
GUWA	**GUWAHATI**	**3.12**	**316**	*e*S	**Sn**	**03 45 23.5**	**-0.4**
GUWA				IAML		03 45 26.7	
	comp=N,40nm,0.1s						
GUWA				IAML		03 45 26.8	
	comp=E,44nm,0.1s						
ZIRO	**ZIRO**	**3.55**	**356**	*e*P	**Pn**	**03 44 56.6**	**+3.0**
ZIRO				*e*S	**Sn**	**03 45 36.2**	**+1.6**
ZIRO				IAML		03 45 38.8	
	comp=N,335nm,0.3s						
ZIRO				IAML		03 45 40.0	
	comp=E,382nm,0.4s						
TURI	**Tura**	**3.79**	**295**	*e*P	**Pn**	**03 44 59.0**	**+2.2**
TURI				*e*S	**Sn**	**03 45 40.0**	**-0.4**
TURI				IAML		03 45 46.8	
	comp=N,214nm,0.2s						
TURI				IAML		03 45 47.1	
	comp=E,258nm,0.1s						
CMAR	**Chiang Mai Arr**	**7.09**	**140**	P	**Pn**	**03 45 43.0**	**+0.7**
	comp=E,0.5nm,0.3s,baz=315,slow=14,SNR=9.2						
CMAR				S	**Sn**	**03 47 01.0**	**-0.9**
	baz=318,slow=28,SNR=1.3						
MKAR	**Makanchi Array**	**24.67**	**340**	P	**P**	**03 49 19.6**	**+0.9**
	comp=E,0.5nm,0.5s,baz=150,slow=8.0,SNR=7.7						
AKTO	**Aktyubinsk**	**38.44**	**323**	P	**P**	**03 51 19.8**	**+0.4**
	comp=E,0.6nm,0.4s,baz=100,slow=11,SNR=2.5						
WRA	**Warramunga Arr**	**58.66**	**135**	P	**P**	**03 53 51.5**	**-3.7**
	comp=E,0.2nm,0.5s,baz=319,slow=7.9,SNR=1.7						

*IDC **14** 03:50:02.0± 1.0, 8.38S× 160.00E, h0km, mb3.8/9, mb1 4.0/9, mb1mx3.8/51, mbtmp3.7/9, MS3.2/2, Ms1 3.2/2, ms1mx2.6/41, Error ellipse: s-maj=33.1km s-min=15.4km az=97.0*
*ISCJB **14** 03:50:06.0± 0.7, 8.37S± 0.06× 159.8E± 0.1, h33km, mb3.8/10, MS3.1/2, Error ellipse: s-maj=21.0km s-min=7.8km az=170.3*
*NEIC **14** 03:50:09.8± 1.2, 8.72S× 160.18E, h70km± 16km, mb4.1/1, Error ellipse: s-maj=37.7km s-min=13.7km az=135.0*

ISC 14 03:50:07.2± 0.9, 8.44S± 0.08× 160.0E± 0.2, h35km, n21, σ1§09/16, mb3.9/10, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**0.98**	**184**	*i* P	**Pn**	**03 50 25.0**	**+0.5**
HNR				*i* S	**Sn**	**03 50 35.0**	**-2.2**
HNR	**Honiara**	**0.98**	**184**	Pn	**Pn**	**03 50 25.3**	**+0.8**
	526nm,0.3s,baz=212,slow=4.3,SNR=90						
HNR				Sn	**Sn**	**03 50 39.3**	**+2.1**
	775nm,0.3s,baz=46,slow=23,SNR=36						
HNR				LR	LR	03 51 01.4	
	comp=Z,219nm,20.1s,baz=351,slow=57						
WRAB	**Tennant Creek**	**27.34**	**243**	*e*P	**P**	**03 55 48.5**	**-0.6**
	3.5nm,0.6s						
WRA	**Warramunga Arr**	**27.35**	**243**	P	**P**	**03 55 48.9**	**-0.3**
	1.1nm,0.3s,baz=66,slow=9.2,SNR=20						
H11S2	**WAKE ISLAND Hy**	**27.56**	**14**	T	T	04 24 30.3	
	baz=194,slow=76						
H11S3	**WAKE ISLAND Hy**	**27.56**	**14**	T	T	04 24 30.9	
	baz=194,slow=76						
H11S1	**WAKE ISLAND Hy**	**27.58**	**14**	T	T	04 24 31.5	
	baz=194,slow=76						
H11N1	**WAKE ISLAND Hy**	**28.79**	**14**	T	T	04 26 01.3	
	baz=194,slow=76						
H11N3	**WAKE ISLAND Hy**	**28.79**	**14**	T	T	04 26 00.4	
	baz=194,slow=76						
H11N2	**WAKE ISLAND Hy**	**28.80**	**14**	T	T	04 26 01.1	
	baz=194,slow=76						
STKA	**Stephens Creek**	**28.94**	**214**	LR	LR	04 07 01.3	
	comp=Z,44nm,21.2s,baz=24,slow=35						
ASAR	**Alice Springs**	**29.23**	**236**	P	**P**	**03 56 04.9**	**-1.1**
	0.9nm,0.6s,baz=63,slow=10.0,SNR=10						
ASAR				LR	LR	04 06 32.7	
	comp=Z,54nm,18.8s,baz=22,slow=34						
KLR	**Kul'dur**	**62.55**	**340**	P	**P**	**04 00 28.0**	**+0.6**
	0.2nm,0.7s,baz=175,slow=5.6,SNR=6.5						
CMAR	**Chiang Mai Arr**	**65.91**	**294**	P	**P**	**04 00 50.7**	**+0.6**
	0.6nm,0.4s,baz=118,slow=5.8,SNR=5.2						
SONM	**Songino Array**	**73.29**	**326**	P	**P**	**04 01 36.0**	**+0.7**
	1.2nm,0.7s,baz=134,slow=8.3,SNR=4.4						
ILAR	**Eielson Array**	**82.94**	**20**	P	**P**	**04 02 27.2**	**-1.0**
	0.2nm,0.6s,baz=237,slow=6.3,SNR=3.9						
MKAR	**Makanchi Array**	**87.80**	**318**	P	**P**	**04 02 53.3**	**+0.4**
	0.8nm,0.6s,baz=93,slow=6.8,SNR=9.9						
KURK	**Kurchatov**	**91.07**	**321**	P	**P**	**04 03 07.9**	**-0.1**
KURBB	**Kurchatov Arra**	**91.10**	**321**	P	**P**	**04 03 07.9**	**-0.3**
	0.3nm,0.8s,baz=88,slow=4.7,SNR=3.3						
YKA	**Yellowknife Ar**	**95.28**	**28**	P	**P**	**04 03 27.2**	**0.0**
	0.1nm,0.5s,baz=259,slow=4.6,SNR=3.3						
TORD	**Torodi Ar. Bea**	**158.21**	**284**	PKPab	**PKPab**	**04 10 34.7**	**-1.0**
	0.3nm,0.6s,baz=92,slow=4.8,SNR=3.9						

*DJA **14** 04:00:50.2± 2.1, 3°N± 11°× 9°2E± 2°9, h30km± 57km, M4.8/6, mb4.9/5, mB5.3/3, MLv4.8/6, Mw(mB)4.7/3*
*IDC **14** 04:00:51.2± 1.9, 2.81N× 92.66E, h0km, mb3.7/4, mb1 3.9/7, mb1mx3.5/70, mbtmp3.8/7, ML3.9/3, Error ellipse: s-maj=51.6km s-min=23.4km az=42.0*
*ISCJB **14** 04:00:52.9± 0.9, 2.8N± 0.1× 92.67E± 0.07, h33km, mb3.8/4, Error ellipse: s-maj=17.8km s-min=8.1km az=17.2*

ISC 14 04:00:54.8± 1.0, 2.9N± 0.1× 92.62E± 0.07, h35km, n14, σ2§47/17, mb3.8/4, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSI	**Banda Aceh**	**3.73**	**46**	P	**Pn**	**04 01 48.1**	**-1.8**
MLSI	**Meulaboh, Aceh**	**4.02**	**70**	P	**Pn**	**04 01 53.3**	**-0.6**
TPTI		**4.57**	**85**	P	**Pn**	**04 02 00.4**	**-1.1**
KCSI	**Kotacane, Aceh**	**5.18**	**83**	P	**Pn**	**04 02 08.8**	**-1.1**
GSI	**Gunungsitoli**	**5.20**	**107**	P	**Pn**	**04 02 09.4**	**-0.7**
TSI	**Tuntungan**	**5.97**	**84**	P	**Pn**	**04 02 19.8**	**-0.9**
TSI				S	**Sn**	**04 03 30.6**	**+2.7**
PSI	**Prapat**	**6.30**	**91**	Pn	**Pn**	**04 02 24.5**	**-0.9**
	4.4nm,0.3s,baz=324,slow=7.2,SNR=12						
PSI				Sn	**Sn**	**04 03 31.0**	**-5.2**
	2.0nm,0.3s,baz=222,slow=12,SNR=3.1						
MNSI	**Mandailing Nat**	**7.26**	**106**	P	**Pn**	**04 02 37.0**	**-1.4**
PALK	**Pallekele**	**12.64**	**291**	Pn	**Pn**	**04 03 53.7**	**+1.4**
	0.7nm,0.3s,baz=115,slow=14,SNR=3.0						
PALK				Sn	**Sn**	**04 06 07.0**	**-5.0**
	3.4nm,0.3s,baz=116,slow=10,SNR=8.7						
CMAR	**Chiang Mai Arr**	**16.67**	**21**	Pn	**P**	**04 04 48.0**	**0.0**
	0.1nm,0.3s,baz=213,slow=12,SNR=4.3						
MKAR	**Makanchi Array**	**44.65**	**350**	P	**P**	**04 09 06.0**	**+2.0**
	0.8nm,0.6s,baz=171,slow=9.0,SNR=12						
WRA	**Warramunga Arr**	**46.81**	**121**	P	**P**	**04 09 22.5**	**+1.0**
	0.4nm,0.7s,baz=298,slow=8.4,SNR=3.1						
KURBB	**Kurchatov Arra**	**49.04**	**348**	P	**P**	**04 09 40.3**	**+2.1**
	0.6nm,0.6s,baz=170,slow=7.0,SNR=6.4						
ZALV	**Zalesovo Beam**	**51.30**	**354**	P	**P**	**04 09 57.5**	**+2.2**
	0.8nm,0.4s,baz=176,slow=8.0,SNR=4.2						

*IDC **14** 04:03:47.9± 0.8, 2.53N× 90.48E, h0km, mb4.0/18, mb1 4.1/21, mb1mx3.9/69, mbtmp4.0/21, ML4.0/3, MS3.3/5, Ms1 3.4/5, ms1mx2.9/51, Error ellipse: s-maj=27.9km s-min=14.6km az=42.0*
*NEIC **14** 04:03:49.0± 0.4, 2.48N× 90.43E, h10km, mb4.4/10, Error ellipse: s-maj=9.2km s-min=5.2km az=205.0*
*ISCJB **14** 04:03:50.8± 0.5, 2.53N± 0.06× 90.57E± 0.04, h33km, mb4.2/31, MS3.4/5, Error ellipse: s-maj=9.5km s-min=5.6km az=23.3*

ISC 14 04:03:52.7± 0.7, 2.49N± 0.09× 90.55E± 0.06, h35km, n84, σ1§58/74, mb4.3/35, MS3.5/5, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LHMI	**Lhok Sumawe**	**6.94**	**67**	*e*Pn	**Pn**	**04 05 33.8**	**+1.8**
GSI	**Gunungsitoli**	**7.12**	**99**	*e*Pn	**Pn**	**04 05 34.5**	**0.0**
PSI	**Prapat**	**8.37**	**88**	Pn	**Pn**	**04 05 51.8**	**+0.1**
	1.7nm,0.3s,baz=318,slow=9.3,SNR=9.4						
PSI				Sn	**Sn**	**04 07 21.7**	**-3.4**
	2.1nm,0.3s,baz=180,slow=20,SNR=2.1						
PSI	**Prapat**	**8.37**	**88**	*e*Pn	**Pn**	**04 05 52.3**	**+0.6**
PSI				Sn	**Sn**	**04 07 21.7**	**-3.4**
PBA	**Port Blair**	**9.36**	**13**	*e*P	Pn	04 06 03.8	-1.5
PKDT	**Phuket**	**9.43**	**55**	P	**Pn**	**04 06 06.2**	**+0.1**
	50nm,0.8s,2µm0.2nm						
SURT	**Suratani**	**10.42**	**52**	P	**Pn**	**04 06 19.4**	**-0.3**
	29nm,0.8s,306nm						
TRTT	**Trang**	**10.54**	**59**	P	**Pn**	**04 06 20.7**	**-0.6**
	16nm,1.1s,235nm						
IPM	**Ipoh**	**10.64**	**79**	*e*Pn	**Pn**	**04 06 23.5**	**+0.7**
DGPR	**DIGLIPUR**	**10.88**	**12**	*e*P	**Pn**	**04 06 26.7**	**+0.6**
PALK	**Pallekele**	**10.90**	**296**	Pn	**Pn**	**04 06 24.3**	**-2.1**
	2.4nm,0.3s,baz=116,slow=12,SNR=6.7						
PALK				Sn	Sn	04 08 13.8	-14
	6.6nm,0.3s,baz=297,slow=1.0,SNR=14						
PALK				LR	LR	04 09 55.1	
	comp=Z,138nm,21.4s,baz=116,slow=34						
PALK	**Pallekele**	**10.90**	**296**	*e*Pn	**Pn**	**04 06 22.9**	**-3.5**
	14nm,0.6s						
PALK				Sn	Sn	04 08 13.8	-14
SKLT	**Songkhla**	**11.05**	**65**	P	**Pn**	**04 06 28.3**	**-0.1**
	38nm,1.0s,727nm						
SRDT	**SRDT**	**14.51**	**35**	P	**P**	**04 07 19.0**	**-2.8**
	13nm,1.1s						
MDRS	**Chennai**	**14.65**	**316**	*e*P	**Pn**	**04 07 15.0**	**-2.5**
VIS	**Vishakhapatnam**	**16.72**	**335**	*e*P	**Pn**	**04 07 41.6**	**-2.8**
VIS				IAmb	IAmb	04 07 44.3	
	comp=Z,92nm,1.6s						
PBKT	**Sadao Pong**	**17.34**	**36**	P	**P**	**04 07 54.9**	**+1.6**
	comp=Z,11nm,1.2s,comp=Z,910nm						
CM01	**Chiang Mai Arr**	**17.85**	**27**	*e*Pn	**Pn**	**04 07 57.2**	**-1.3**
CMAR	**Chiang Mai Arr**	**17.88**	**27**	P	**Pn**	**04 07 58.2**	**-0.6**
	comp=Z,0.1nm,0.3s,baz=221,slow=13,SNR=5.9						
CHTO	**Chiang Mai**	**18.19**	**26**	P	P	04 08 11.9	+9.3
	comp=Z,30nm,0.9s						
CHTO	**Chiang Mai**	**18.19**	**26**	*e*P	**P**	**04 08 03.6**	**+1.0**
	comp=Z,4.9nm,0.9s						
CMMT	**Chiang Mai**	**18.19**	**26**	P	P	04 08 10.8	+8.2
	comp=Z,6.8nm,0.9s						
HYB	**Hyderabad**	**18.95**	**322**	*i* P	**P**	**04 08 10.0**	**-1.0**
HYB				*e*S	**S**	**04 11 47.0**	**+2.5**
KSM	**Kuching**	**19.77**	**93**	*e*P	**Pn**	**04 08 22.8**	**+1.1**
	comp=Z,29nm,1.1s						
H08S2	**Diego Garcia H**	**20.64**	**241**	T	T	04 29 32.5	
	baz=60,slow=75,SNR=180						
H08S3	**Diego Garcia H**	**20.64**	**241**	T	T	04 29 46.6	
	baz=60,slow=75,SNR=117						
H08S1	**Diego Garcia H**	**20.66**	**241**	T	T	04 29 30.1	
	baz=60,slow=75,SNR=106						
BOK	**Bokaro**	**21.66**	**348**	*e*P	**P**	**04 08 40.6**	**+0.2**
BOK				IAmb	IAmb	04 08 51.8	
	comp=Z,23nm,0.9s						
NGP	**Nagpur**	**21.67**	**330**	*e*P	**P**	**04 08 41.7**	**+1.2**
NGP				IAmb	IAmb	04 08 53.1	
	comp=Z,14nm,1.1s						
SHL	**Shillong**	**22.98**	**3**	*e*P	**P**	**04 08 53.8**	**-0.8**
SHL				IAmb	IAmb	04 09 02.8	
	comp=Z,8.0nm,0.8s						
ODAN	**Odare**	**24.42**	**353**	*e*P	**P**	**04 09 09.3**	**+0.9**
RAMN	**Ramite**	**24.62**	**352**	*e*P	**P**	**04 09 11.6**	**+1.4**
KMI	**Kunming**	**25.39**	**27**	P	**P**	**04 09 21.8**	**+4.6**
KMI				pmax	pmax		
	comp=Z,9.0nm,0.5s						
DMN	**Daman**	**25.52**	**349**	*e*P	**P**	**04 09 19.4**	**+1.0**
KOLN	**Koldanda**	**26.00**	**346**	*e*P	**P**	**04 09 23.8**	**+1.0**
PYUN	**Piuthan**	**26.48**	**345**	*e*P	**P**	**04 09 27.9**	**+0.9**
LSA	**Lhasa**	**27.07**	**1**	P	P	04 09 41.5	+8.9
LSA				pmax	pmax		
	comp=Z,12nm,1.0s						
LSA	**Lhasa**	**27.07**	**1**	*e*P	**P**	**04 09 33.3**	**+0.6**
	comp=Z,23nm,0.9s						
KAPI	**Kappang**	**30.11**	**104**	*e*P	**P**	**04 09 58.7**	**-0.7**
	comp=Z,3.3nm,0.6s						
SMLA	**Simla**	**31.17**	**337**	*e*P	**P**	**04 10 07.9**	**-0.5**
DHRM	**DHARAMSHALA**	**32.50**	**337**	*e*P	**P**	**04 10 22.1**	**+1.6**
DHRM				IAmb	IAmb	04 10 29.0	
	comp=Z,5.4nm,0.7s						
LZH	**Lanzhou**	**35.62**	**19**	*e*P	P	04 10 52.6	+5.1
LZH				pP	pP	04 10 56.6	-1.0
LZH				sP	sP	04 10 59.3	-2.6
LZH				*e*PP	**PP**	**04 12 14.8**	**+6.0**
LZH				pmax	pmax		
	comp=Z,20nm,0.9s						
LZH				pmax	pmax		
	comp=Z,240nm,5.0s						
WMQ	**Urumqi**	**41.24**	**357**	P	**P**	**04 11 35.1**	**+0.7**
WMQ				pmax	pmax		
	comp=Z,11nm,0.7s						
WMQ				LR	LR		
	comp=N,110nm,23.9s						
WMQ				LR	LR		
	comp=E,120nm,24.7s						
WMQ				LR	LR		
	comp=Z,77nm,27.1s						
AAK	**Ala-Archa**	**42.48**	**342**	P	**P**	**04 11 45.9**	**+1.2**
	comp=Z,1.5nm,0.6s,baz=193,slow=9.0,SNR=4.3						
AAK				LR	LR	04 28 43.7	
	comp=Z,33nm,19.0s,baz=150,slow=35						
AAK	**Ala-Archa**	**42.48**	**342**	*e*P	**P**	**04 11 44.7**	**0.0**
	comp=Z,4.3nm,0.9s						
HHC	**Hu-ho-hao-te**	**42.64**	**24**	*e*P	**P**	**04 11 49.3**	**+3.3**
HHC				pmax	pmax		
	comp=Z,12nm,1.0s						
HHC				pmax	pmax		
	comp=Z,14nm,6.3s						
H01W3	**Cape Leeuwin H**	**43.26**	**151**	T	T	04 58 11.7	
	baz=326,slow=74,SNR=15						
H01W2	**Cape Leeuwin H**	**43.27**	**151**	T	T	04 58 10.2	
	baz=326,slow=74,SNR=11						
H01W1	**Cape Leeuwin H**	**43.28**	**151**	T	T	04 58 08.8	
	baz=326,slow=74,SNR=12						
KKAR	**Karatay Array**	**44.21**	**339**	*e*P	**P**	**04 11 59.0**	**+0.5**
MK01	**Makanchi Array**	**44.69**	**352**	*e*P	**P**	**04 12 01.9**	**-0.4**
MK31	**Makanchi Array**	**44.71**	**352**	*e*P	**P**	**04 12 02.5**	**0.0**
MKAR	**Makanchi Array**	**44.71**	**352**	P	**P**	**04 12 02.3**	**-0.1**
	comp=Z,2.0nm,0.8s,baz=168,slow=9.1,SNR=14						
MKAR	**Makanchi Array**	**44.71**	**352**	*e*P	**P**	**04 12 02.5**	**0.0**
	comp=Z,13nm,0.8s						
GEYT	**Alibeck**	**46.12**	**324**	P	**P**	**04 12 14.1**	**+0.3**
	comp=Z,1.4nm,0.3s,baz=155,slow=11,SNR=3.6						
SONM	**Songino Array**	**47.20**	**15**	P	**P**	**04 12 23.0**	**+0.8**
	comp=Z,3.3nm,0.5s,baz=195,slow=9.4,SNR=18						
SONA1	**Songino Array**	**47.22**	**15**	*e*P	**P**	**04 12 23.2**	**+0.9**
ULN	**Ulaanbaatar**	**47.40**	**15**	*e*P	**P**	**04 12 23.9**	**+0.1**
	comp=Z,1.6nm,0.5s						
ATD	**Arta Tunnel**	**48.13**	**283**	LR	LR	04 30 25.7	
	comp=Z,25nm,19.6s,baz=118,slow=33						
WRA	**Warramunga Arr**	**48.40**	**119**	P	**P**	**04 12 32.7**	**+0.9**
	comp=Z,2.9nm,0.7s,baz=295,slow=8.7,SNR=12						
WRAB	**Tennant Creek**	**48.41**	**119**	*e*P	**P**	**04 12 31.4**	**-0.5**
	comp=Z,3.2nm,0.6s						
KURBB	**Kurchatov Arra**	**49.03**	**350**	P	**P**	**04 12 35.3**	**-0.8**
	comp=Z,1.9nm,0.8s,baz=172,slow=7.4,SNR=15						
KURK	**Kurchatov**	**49.10**	**350**	*e*P	**P**	**04 12 36.5**	**-0.2**
	comp=Z,3.4nm,0.9s						
ASAR	**Alice Springs**	**49.54**	**124**	P	**P**	**04 12 41.3**	**+0.7**
	comp=Z,0.3nm,0.5s,baz=299,slow=8.3,SNR=2.8						
ZALV	**Zalesovo Beam**	**51.51**	**356**	P	**P**	**04 12 54.1**	**-0.7**
	comp=Z,0.9nm,0.4s,baz=168,slow=7.3,SNR=3.0						
BVAR	**Borovoye Array**	**53.07**	**345**	P	**P**	**04 13 05.9**	**-0.6**
	comp=Z,0.7nm,0.7s,baz=182,slow=9.5,SNR=5.1						
BVAR				LR	LR	04 36 44.1	
	comp=Z,46nm,18.1s,baz=158,slow=37						
BRVK	**Borovoye**	**53.13**	**345**	*e*P	**P**	**04 13 06.0**	**-0.8**
	comp=Z,5.7nm,0.8s						
ABKAR	**Akbulak array**	**53.42**	**335**	*e*P	**P**	**04 13 08.9**	**-0.1**
	comp=Z,1.9nm,0.6s						
AKTO	**Aktyubinsk**	**55.13**	**335**	P	**P**	**04 13 20.6**	**-0.9**
	comp=Z,0.6nm,0.4s,baz=153,slow=6.4,SNR=2.7						
KBZ	**Khabaz**	**58.83**	**321**	P	**P**	**04 13 47.7**	**-0.1**
	comp=Z,1.9nm,0.9s,baz=217,slow=5.1,SNR=3.3						
STKA	**Stephens Creek**	**59.22**	**130**	P	**P**	**04 13 52.2**	**+1.4**
	comp=Z,2.0nm,0.8s,baz=293,slow=13,SNR=2.9						
BRTR	**Keskin Array B**	**63.38**	**314**	P	**P**	**04 14 19.0**	**0.0**
	comp=Z,0.7nm,0.8s,baz=116,slow=3.3,SNR=4.2						
LBTB	**Lobatse**	**68.56**	**242**	*e*P	P	04 14 46.9	-5.6
	comp=Z,21nm,1.4s						
MLR	**Muntele Rosu**	**70.61**	**318**	P	**P**	**04 15 06.0**	**+1.2**
	comp=Z,0.4nm,0.7s,baz=101,slow=5.2,SNR=4.5						
MLR	**Muntele Rosu**	**70.61**	**318**	P	**P**	**04 15 06.0**	**+1.2**
BUR04	**Bucovina Ar. S**	**71.72**	**320**	*e*P	**P**	**04 15 10.4**	**-1.1**
TIXI	**Tiksi**	**73.19**	**12**	*e*P	**P**	**04 15 18.3**	**-1.2**

0.2nm,0.4s,baz=120,slow=7.3,SNR=3.7
KURBB Kurchatov Arra 64.42 328 P P 04 20 02.1 0.0
0.5nm,0.8s,baz=120,slow=5.6,SNR=3.6

ISCJB ***14*** *04:13:22.9±0.3, 7°.39S×0°.03×128°.67E±0°.04, h151km, mb4.1/27, Error ellipse: s-maj=5.0km s-min=3.9km az=4.9*
NEIC ***14*** *04:13:24.6±0.6, 7°.42S×128°.64E, h152km±6km, mb4.3/11, Error ellipse: s-maj=7.4km s-min=5.5km az=54.0*
DJA ***14*** *04:13:25.9±0.4, 7°.5±4°×12°.9E±°, h126km±10km, M4.8/9, mb4.7/9, mB5.3/7, MLv5.0/6, Mw(mB)4.7/7*
IDC ***14*** *04:13:25.1±1.6, 7°.34S×128°.52E, h150km±14km, mb3.8/16, mb1 3.9/20, mb1mx3.7/56, mbtmp4.4/20, MS4.3/1, Ms1 4.3/1, ms1mx2.6/47, Error ellipse: s-maj=14.6km s-min=11.6km az=92.0*

ISC 14 04:13:23.9±0.4, 7°.51S±0°.04×128°.67E±0°.05, h151km, n65, σ2°18/76, mb4.2/27, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**2.65**	**100**	P	**Pn**	**04 14 43.0**	**+2.8**
SAUI	**Saumlaki**	**2.65**	**100**	*e*Pn	**Pn**	**04 14 10.1**	**+3.1**
SOEI	**Soe**	**4.89**	**243**	P	**Pn**	**04 14 38.0**	**+2.0**
SOEI	**Soe**	**4.89**	**243**	*e*Pn	**Pn**	**04 14 37.8**	**+1.7**
SOEI				*e*Sn	**Sn**	**04 15 33.6**	**+1.4**
BATI	**Baumata**	**5.62**	**241**	P	**Pn**	**04 14 47.2**	**+1.5**
	98nm,0.3s,baz=93,slow=3.0,SNR=48						
BATI				S	**Sn**	**04 15 49.9**	**+0.3**
	72nm,0.3s,baz=90,slow=20,SNR=7.9						
BATI	**Baumata**	**5.62**	**241**	P	**Pn**	**04 14 47.7**	**+2.0**
	276nm,0.5s,4µm1.1nm						
FAKI	**Fak Fak**	**5.79**	**38**	P	**Pn**	**04 14 48.2**	**+0.2**
	77nm,0.6s,1µm0.4nm						
FAKI	**Fak Fak**	**5.79**	**38**	*e*Pn	**Pn**	**04 14 46.9**	**-1.1**
FAKI				*e*Sn	**Sn**	**04 15 49.1**	**-4.5**
MTN	**Manton Dam**	**5.83**	**156**	*e*Pn	**Pn**	**04 14 51.0**	**+2.6**
MTN				*e*Sn	**Sn**	**04 15 55.2**	**+0.7**
KMPI	**Kaimana, Papua**	**6.31**	**53**	P	**Pn**	**04 14 54.7**	**-0.1**
	167nm,0.5s						
MMRI	**Maumere**	**6.46**	**260**	P	**Pn**	**04 15 00.8**	**+3.9**
	101nm,0.6s,10µm0.8nm						
SIJI	**Sorong**	**7.09**	**22**	P	**Pn**	**04 15 03.8**	**-1.5**
	9.2nm,0.3s,baz=230,slow=22,SNR=19						
SIJI				S	**Sn**	**04 16 21.0**	**-3.8**
	3.0nm,0.3s,baz=183,slow=22,SNR=8.6						
WSI	**Waingapu**	**8.55**	**255**	P	**Pn**	**04 15 23.7**	**-1.0**
	1µm,0.6s,30µm7.8nm						
KAPI	**Kappang**	**9.20**	**285**	*e*Pn	**Pn**	**04 15 34.6**	**+1.1**
FITZ	**Fitzroy Crossi**	**10.93**	**195**	P	**Pn**	**04 15 55.7**	**-0.5**
	1.0nm,0.3s,baz=15,slow=9.5,SNR=43						
FITZ				S	**Sn**	**04 17 51.7**	**-5.4**
	3.7nm,0.3s,baz=281,slow=22,SNR=9.5						
FITZ	**Fitzroy Crossi**	**10.93**	**195**	P	**Pn**	**04 15 55.7**	**-0.5**
FITZ				*e*Sn	**Sn**	**04 17 52.1**	**-5.0**
WRAB	**Tennant Creek**	**13.52**	**157**	*e*Pn	**Pn**	**04 16 30.2**	**+0.4**
WRAB				*e*Sn	**Sn**	**04 18 53.2**	**-6.5**
WRA	**Warramunga Arr**	**13.53**	**157**	P	**Pn**	**04 16 30.0**	**+0.1**
	2.2nm,0.3s,baz=342,slow=13,SNR=52						
WRA				S	**Sn**	**04 18 52.5**	**-7.3**
	3.3nm,0.3s,baz=326,slow=25,SNR=7.2						
WB2	**Warramunga Arr**	**13.53**	**157**	*e*Pn	**Pn**	**04 16 30.8**	**+0.8**
WB2				*e*Sn	**Sn**	**04 18 54.8**	**-5.1**
DAV	**Davao City (W)**	**14.81**	**348**	P	**Pn**	**04 16 43.7**	**-2.4**
	55nm,0.3s,baz=281,slow=5.2,SNR=3.4						
COEN	**Coen**	**15.62**	**115**	*e*Pn	**P**	**04 16 58.2**	**+1.1**
	92nm,1.9s						
ASAR	**Alice Springs**	**16.83**	**163**	P	**Pn**	**04 17 14.3**	**+3.5**
	0.8nm,0.3s,baz=334,slow=8.4,SNR=20						
ASAR				S	**S**	**04 20 14.5**	**-3.5**
	1.3nm,0.3s,baz=344,slow=26,SNR=6.4						
ASAR				ScP	**ScP**	**04 25 10.7**	**+0.3**
	0.2nm,0.3s,baz=359,slow=1.8,SNR=4.8						
AS01	**Alice Springs**	**16.84**	**163**	*e*P	**Pn**	**04 17 12.3**	**+1.3**
PMG	**Port Moresby**	**18.39**	**97**	P	**Pn**	**04 17 31.5**	**+2.1**
	1.3nm,0.3s,baz=282,slow=9.3,SNR=5.1						
PMG	**Port Moresby**	**18.39**	**97**	*e*P	**P**	**04 17 27.2**	**-0.3**
	20nm,0.8s						
KSM	**Kuching**	**20.37**	**295**	*e*P	**P**	**04 17 48.6**	**-0.4**
	23nm,0.9s						
BBOO	**Buckleboo**	**26.09**	**166**	*e*P	**P**	**04 18 44.5**	**+0.9**
	2.4nm,0.5s						
STKA	**Stephens Creek**	**27.07**	**155**	P	**P**	**04 18 55.0**	**+2.5**
	1.0nm,0.5s,baz=333,slow=13,SNR=2.8						
PSI	**Prapat**	**31.39**	**288**	P	**P**	**04 19 30.1**	**-0.9**
	2.7nm,0.4s,baz=56,slow=10,SNR=3.9						
CM01	**Chiang Mai Arr**	**39.03**	**312**	*e*P	**P**	**04 20 36.1**	**-0.1**
CMAR	**Chiang Mai Arr**	**39.06**	**312**	P	**P**	**04 20 36.1**	**-0.4**
	1.7nm,0.7s,baz=145,slow=7.2,SNR=15						
CHTO	**Chiang Mai**	**39.28**	**312**	*e*P	**P**	**04 20 38.7**	**+0.4**
	4.7nm,0.8s						
KMI	**Kunming**	**41.10**	**323**	P	**P**	**04 20 56.1**	**+2.6**
KMI				pmax	pmax		
	comp=Z,9.0nm,0.5s						
KSAR	**Wonju Array Be**	**44.73**	**359**	P	**P**	**04 21 22.0**	**-0.1**
KSRS	**Korea Array**	**44.74**	**359**	P	**P**	**04 21 22.0**	**-0.2**
	comp=Z,0.5nm,0.4s,baz=170,slow=8.6,SNR=3.1						
LZH	**Lanzhou**	**49.25**	**333**	*e*P	**P**	**04 21 58.3**	**+0.8**
LZH				pP	pP	04 22 35.3	+3.5
LZH				sP	sP	04 22 53.1	+4.5
LZH				pmax	pmax		
	comp=Z,27nm,0.8s						
LZH				pmax	pmax		
	comp=Z,210nm,5.0s						
PALK	**Pallekele**	**50.03**	**286**	LR	LR	04 43 25.8	
	comp=Z,334nm,21.4s,baz=297,slow=36						
PALK	**Pallekele**	**50.03**	**286**	*e*P	**P**	**04 22 03.1**	**-0.6**
	comp=Z,3.4nm,0.6s						
HHC	**Hu-ho-hao-te**	**50.63**	**343**	*e*P	**P**	**04 22 09.8**	**+2.1**
HHC				pmax	pmax		
	comp=Z,13nm,1.0s						
HHC				pmax	pmax		
	comp=Z,12nm,6.2s						
USRK	**Ussuriysk Ar.**	**51.56**	**3**	P	**P**	**04 22 14.3**	**-0.1**
	comp=Z,1.5nm,0.5s,baz=186,slow=7.4,SNR=6.0						
ASAJ	**Asahikawa**	**52.91**	**13**	P	**P**	**04 22 24.2**	**-0.2**
	comp=Z,1.8nm,0.3s,baz=194,slow=12,SNR=5.7						
GTA	**Gaotai**	**53.80**	**332**	*e*P	**P**	**04 22 31.5**	**+0.3**
GTA				pP	pP	04 23 06.8	+0.8
GTA				sP	sP	04 23 25.1	+2.4
GTA				pmax	pmax		
	comp=Z,10.0nm,0.9s						
ULN	**Ulaanbaatar**	**58.35**	**343**	*e*P	**P**	**04 23 03.4**	**0.0**
	comp=Z,3.2nm,0.8s						
SONM	**Songino Array**	**58.52**	**343**	P	**P**	**04 23 04.6**	**+0.1**
	comp=Z,2.5nm,0.8s,baz=167,slow=7.8,SNR=9.7						
SONA1	**Songino Array**	**58.53**	**343**	*e*P	**P**	**04 23 04.7**	**+0.2**
WMQ	**Urumqi**	**63.11**	**328**	P	**P**	**04 23 37.0**	**+1.4**
PETK	**Petropavlovsk-**	**65.23**	**19**	P	**P**	**04 23 50.4**	**+1.4**
	comp=Z,3.1nm,0.7s,baz=205,slow=12,SNR=3.5						
MK01	**Makanchi Array**	**67.92**	**328**	*e*P	**P**	**04 24 05.4**	**-0.9**
MKAR	**Makanchi Array**	**67.94**	**328**	P	**P**	**04 24 06.5**	**0.0**
	comp=Z,1.8nm,0.4s,baz=126,slow=8.2,SNR=24						
MKAR	**Makanchi Array**	**67.94**	**328**	*e*P	**P**	**04 24 06.9**	**+0.4**
	comp=Z,23nm,0.8s						
MAKZ	**Makanchi**	**68.11**	**327**	*e*P	**P**	**04 24 07.8**	**+0.3**
	comp=Z,2.7nm,0.9s						
AAK	**Ala-Archa**	**70.08**	**320**	P	**P**	**04 24 20.3**	**+0.4**
	comp=Z,1.2nm,0.4s,baz=96,slow=6.0,SNR=6.0						
AAK	**Ala-Archa**	**70.08**	**320**	*e*P	**P**	**04 24 20.1**	**+0.1**
	comp=Z,1.6nm,0.6s						
ZALV	**Zalesovo Beam**	**71.46**	**334**	P	**P**	**04 24 27.2**	**-0.6**
	comp=Z,2.7nm,0.5s,baz=134,slow=5.9,SNR=9.5						
ZALV	**Zalesovo Beam**	**71.46**	**334**	*e*P	**P**	**04 24 26.9**	**-0.9**
VNDA	**Vanda**	**72.11**	**173**	P	**P**	**04 24 33.9**	**+2.5**
	comp=Z,0.3nm,0.8s,baz=321,slow=6.6,SNR=2.3						
KURBB	**Kurchatov Arra**	**72.26**	**329**	P	**P**	**04 24 32.6**	**0.0**
	comp=Z,3.5nm,0.5s,baz=127,slow=5.0,SNR=46						
KURK	**Kurchatov**	**72.27**	**329**	*e*P	**P**	**04 24 32.8**	**+0.1**
	comp=Z,15nm,1.5s						
SEY	**Seymchan**	**72.56**	**11**	P	**P**	**04 24 34.7**	**+0.5**
	comp=Z,2.9nm,0.6s,baz=190,slow=6.7						
BVAR	**Borovoye Array**	**77.80**	**328**	P	**P**	**04 25 04.4**	**+0.1**
	comp=Z,1.6nm,0.5s,baz=108,slow=7.8,SNR=9.2						
ABKAR	**Akbulak array**	**82.09**	**322**	*e*P	**P**	**04 25 26.8**	**-0.8**
	comp=Z,1.3nm,0.5s						
AKTO	**Aktyubinsk**	**83.67**	**323**	P	**P**	**04 25 36.0**	**+0.3**
	comp=Z,1.5nm,0.6s,baz=183,slow=1.6,SNR=4.4						
YKA	**Yellowknife Ar**	**108.79**	**26**	PKiKP	**PKiKP**	**04 31 35.0**	**+0.2**
	comp=Z,0.1nm,0.4s,baz=288,slow=1.6,SNR=4.7						
TORD	**Torodi Ar. Bea**	**127.61**	**281**	PKP	**PKPdf**	**04 32 12.6**	**+0.4**
	comp=Z,0.6nm,0.5s,baz=70,slow=2.6,SNR=10.0						
KOWA	**Kowa**	**133.11**	**283**	PKP	**PKPdf**	**04 32 23.4**	**+0.8**
	comp=Z,0.5nm,0.3s,baz=132,slow=4.1,SNR=7.0						

MAN 14 04:16:03.9±21.1N×125°.53E, h2km, mb4.8, ML3.7, MS3.7, 2C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BUTP	**Butuan**	**0.26**	**159**	*e*P	Pg	04 16 09.0	+1.0
BUTP				*e*S	Sb	04 16 14.5	-0.9
SCPH	**Surigao**	**0.57**	**356**	*e*P	Pb	04 16 15.5	-0.2
SCPH				*e*S	Sb	04 16 25.2	+1.0
MSLP	**Maasin**	**1.13**	**324**	*e*P	Pg	04 16 24.7	+0.1
MSLP				*e*S	Sg	04 16 38.1	-1.2
BIPH	**Bislig**	**1.31**	**141**	*i*P	Pg	04 16 27.6	-0.6
BIPH				*i*S	Sg	04 16 44.7	-0.6
BUKP	**Musuan**	**1.40**	**199**	*e*P	Pb	04 16 30.0	0.0
BUKP				*e*S	Sn	04 16 51.4	+2.7
PLP	**Palo**	**2.01**	**345**	*e*P	Pb	04 16 39.3	-1.0
PLP				*e*S	Sn	04 17 04.8	+1.0
OCLP	**Ormoc**	**2.04**	**334**	*e*P	Pb	04 16 39.8	-1.0
DCPH	**Dipolog City**	**2.24**	**254**	*e*P	Pn	04 16 40.8	-0.3
DCPH				*e*S	Sb	04 17 10.9	-1.4
CNP	**Catarman**	**3.39**	**346**	*e*P	Pb	04 17 00.7	-3.1

MEX 14 04:23:01.3±0.4, 16°.32N×98°.52W, h17km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.39**	**79**	*e*P	Pg	04 23 08.0	-1.3
PNIG				*e*S	Sg	04 23 13.6	-1.2
TLIG	**Tlapa**	**1.24**	**358**	*e*P	Pn	04 23 20.6	-3.4
TLIG				*e*S	Sb	04 23 34.9	-5.3

MEX 14 04:26:44.2±0.6, 28°.02N×112°.13W, h10km, MD3.8, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SRIG	**Santa Rosalia**	**0.70**	**188**	*e*P	Pg	04 26 55.9	-1.9
SRIG				*e*S	Sg	04 27 05.8	-1.1
GUYB	**Guaymas**	**1.12**	**96**	*e*P	Pb	04 27 01.5	-4.1
GUYB				*e*S	Sb	04 27 16.8	-3.4
HSIG		**1.44**	**46**	*e*P	Pn	04 27 06.0	-4.3
HSIG				*e*S	Sn	04 27 25.0	-4.3

NIED ***14*** *04:35:00, 36°.80N×141°.30E, h5km, Mw3.7 Best double couple: M0=4.44000×10^14 NP1:φs=195.00000°, δ46.00000°, λ=105.00000°. NP2:φs=35.00000°, δ46.00000°, λ=76.00000°.*
ISCJB ***14*** *04:35:42.2±1.8, 36°.74N±0°.04×141°.40E±0°.05, h10km±12km, mb3.8/10, Error ellipse: s-maj=7.5km s-min=5.7km az=142.0*
IDC ***14*** *04:35:43.0±0.9, 36°.70N×141°.27E, h0km, mb3.8/9, mb1 3.8/11, mb1mx3.6/69, mbtmp3.7/11, ML3.0/2, MS2.7/2, Ms1 2.7/2, ms1mx2.3/67, Error ellipse: s-maj=21.6km s-min=18.7km az=137.0*
JMA ***14*** *04:35:44.1±0.1, 36°.77N×141°.32E, h27km±1km, M3.7*
NEIC ***14*** *04:35:45.6±5.0, 36°.72N×141°.31E, h19km±31km, mb4.2/1, Error ellipse: s-maj=18.0km s-min=9.0km az=135.0*

ISC 14 04:35:43.1±1.8, 36.76N±0.05×141.35E±0.06, h3km±10km, n34, σ1s03/34, mb3.8/10, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ONAJ	**Iwakimizuishiy**	**0.56**	**308**	P	**Pg**	**04 35 54.7**	**+0.9**
JHO	**Hitachi**	**0.64**	**257**	P	**Pg**	**04 35 56.0**	**+0.6**
JHO				S	**Sg**	**04 36 04.9**	**+1.2**
JFK	**Kawauchi**	**0.71**	**328**	P	**Pg**	**04 35 57.3**	**+0.5**
JFK				S	**Sg**	**04 36 08.8**	**+0.7**
JYT	**Yasato**	**1.07**	**241**	P	**Pg**	**04 36 02.8**	**-0.8**
JYT				*e*S	**Sg**	**04 36 16.6**	**-0.8**
JFT	**Otama**	**1.11**	**314**	P	**Pg**	**04 36 04.1**	**-0.3**
JMM	**Marumori**	**1.19**	**338**	P	**Pg**	**04 36 04.7**	**-1.3**
JMM				S	**Sg**	**04 36 20.3**	**-1.1**
JFY	**Yanaizu**	**1.46**	**297**	P	**Pn**	**04 36 09.7**	**-0.8**
JFY				S	**Sb**	**04 36 28.3**	**-1.7**
MJAR	**Matsushiro Arr**	**2.53**	**266**	Pn	**Pn**	**04 36 24.8**	**-0.3**
	3.4nm,0.3s,baz=92,slow=14,SNR=18						
MJAR				Sn	**Sn**	**04 36 56.7**	**+0.2**
	7.9nm,0.3s,baz=82,slow=12,SNR=7.4						
MJAR				LR	LR	04 37 11.0	
	comp=Z,62nm,19.7s,baz=75,slow=36						
MAJO	**Matsushiro**	**2.53**	**266**	*e*Pn	**Pn**	**04 36 24.8**	**-0.4**
MAT	**Matsushiro**	**2.53**	**266**	P	**Pn**	**04 36 25.4**	**+0.2**
MAT				S	**Sn**	**04 36 57.7**	**+1.2**
ERM	**Erimo**	**5.43**	**14**	*e*Pn	**Pn**	**04 37 06.6**	**+1.6**
	41nm,0.7s						
ASAJ	**Asahikawa**	**7.41**	**7**	Pn	**Pn**	**04 37 30.9**	**-1.2**
	1.2nm,0.3s,baz=211,slow=8.6,SNR=7.2						
ASAJ	**Asahikawa**	**7.41**	**7**	*e*Pn	**Pn**	**04 37 32.2**	**+0.1**
	2.2nm,0.6s						
USRK	**Ussuriysk Ar.**	**10.29**	**319**	LR	LR	04 42 14.0	
	comp=Z,76nm,18.1s,baz=153,slow=38						
KSRS	**Korea Array**	**10.74**	**278**	Pn	**Pn**	**04 38 19.6**	**+1.8**
	0.1nm,0.3s,baz=90,slow=14,SNR=2.8						
KSAR	**Wonju Array Be**	**10.78**	**278**	Pn	**Pn**	**04 38 19.6**	**+1.4**
SEY	**Seymchan**	**27.07**	**11**	P	**P**	**04 41 28.2**	**+1.6**
	0.7nm,0.5s,baz=168,slow=9.3,SNR=2.0						
H11N2	**WAKE ISLAND Hy**	**28.05**	**120**	T	T	05 10 54.5	
	baz=313,slow=75,SNR=633						
H11N1	**WAKE ISLAND Hy**	**28.06**	**120**	T	T	05 10 58.7	
	baz=313,slow=75,SNR=980						
H11N3	**WAKE ISLAND Hy**	**28.07**	**120**	T	T	05 10 59.4	
	baz=313,slow=75,SNR=642						
H11S1	**WAKE ISLAND Hy**	**28.76**	**122**	T	T	05 11 50.6	
	baz=315,slow=75,SNR=277						
H11S3	**WAKE ISLAND Hy**	**28.76**	**122**	T	T	05 11 51.7	
	baz=315,slow=75,SNR=198						
H11S2	**WAKE ISLAND Hy**	**28.77**	**122**	T	T	05 11 51.3	
	baz=315,slow=75,SNR=164						
ZALV	**Zalesovo Beam**	**42.06**	**313**	P	**P**	**04 43 35.6**	**-0.2**
	1.3nm,0.8s,baz=92,slow=7.4,SNR=3.7						
MKAR	**Makanchi Array**	**44.22**	**302**	P	**P**	**04 43 53.1**	**-0.4**
	0.3nm,0.6s,baz=92,slow=9.8,SNR=5.1						
KURK	**Kurchatov**	**46.06**	**308**	*e*P	**P**	**04 44 07.3**	**-0.7**
KURBB	**Kurchatov Arra**	**46.13**	**308**	P	**P**	**04 44 08.2**	**-0.4**
	1.6nm,1.0s,baz=83,slow=8.3,SNR=7.3						
ILAR	**Eielson Array**	**49.76**	**32**	P	**P**	**04 44 37.4**	**+0.9**
	0.6nm,0.7s,baz=267,slow=6.2,SNR=7.4						
INK	**Inuvik**	**54.66**	**27**	P	**P**	**04 45 13.8**	**+1.0**
	0.4nm,0.5s,baz=310,slow=2.4,SNR=3.2						
WRA	**Warramunga Arr**	**56.78**	**188**	P	**P**	**04 45 28.2**	**-0.3**
	0.9nm,0.6s,baz=5.8,slow=7.2,SNR=7.6						
ASAR	**Alice Springs**	**60.51**	**188**	P	**P**	**04 45 54.4**	**-0.2**
	0.3nm,0.3s,baz=353,slow=3.9,SNR=4.1						
FINES	**FINESS Array B**	**69.03**	**332**	P	**P**	**04 46 50.0**	**+0.4**
	2.3nm,0.9s,baz=203,slow=14,SNR=3.5						
BMO	**Blue Mountains**	**72.16**	**47**	*e*P	**P**	**04 47 07.1**	**-2.2**
	1.2nm,0.5s						
LPAZ	**La Paz**	**146.88**	**60**	PKPbc	**PKPbc**	**04 55 28.3**	**+0.2**
	1.0nm,0.7s,baz=153,slow=2.0,SNR=4.9						

NIED ***14*** *04:36:00, 41°.00N×145°.40E, h8km, Mw3.7 Best double couple: M0=3.40000×10^14 NP1:φs=283.00000°, δ56.00000°, λ=146.00000°. NP2:φs=34.00000°, δ62.00000°, λ=39.00000°.*

JMA 14 04:36:35.4±0.2, 40°.99N×145°.36E, h61km±2km, M3.5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JEM	**Erimo**	**1.95**	**303**	P	Pn	04 37 06.9	+0.8
JEM				S	Sn	04 37 30.0	+0.5
JAK	**Akkeshi**	**2.06**	**346**	P	Pn	04 37 08.5	+0.8
JAK				*e*S	Sn	04 37 33.1	+0.8
JCH	**Churui**	**2.21**	**318**	P	Pn	04 37 10.4	+0.8
JCH				S	Sn	04 37 35.4	-0.4
JOB	**Onbets**	**2.23**	**330**	P	Pn	04 37 11.2	+1.3
JOB				*e*S	Sn	04 37 37.6	+1.4
JNBK	**Urakawa-nobuka**	**2.34**	**304**	P	Pn	04 37 13.4	+1.9
JNBK				*e*S	Sn	04 37 40.2	+1.1
NEM2	**Nemuro 2**	**2.39**	**7**	P	Pn	04 37 13.3	+1.2
NEM2				S	Sn	04 37 40.5	+0.2
JAR	**Ashorobuto**	**2.59**	**333**	P	Pn	04 37 15.6	+0.7
JAR				*e*S	Sn	04 37 45.1	-0.1
JNK	**Nakash**	**2.64**	**350**	P	Pn	04 37 15.9	+0.4
JNK				*e*S	Sn	04 37 45.2	-1.1
JFR	**Furan**	**2.99**	**317**	P	Pn	04 37 21.5	+1.1
JFR				*e*S	Sn	04 37 54.3	-0.8
JTKR	**Abashiri--Toko**	**3.17**	**341**	P	Pn	04 37 24.6	+1.9
JTKR				S	Sn	04 38 00.8	+1.5
JEW	**Eniwo**	**3.45**	**304**	P	Pn	04 37 29.1	+2.4
JKK2	**Kamakawa 2**	**3.47**	**327**	P	Pn	04 37 29.3	+2.4

IDC ***14*** *04:37:42.3±0.9, 8°.82S×120°.15E, h0km, mb3.8/5, mb1 4.0/9, mb1mx3.7/57, mbtmp3.9/9, ML3.7/4, Error ellipse: s-maj=75.1km s-min=15.8km az=51.0*
DJA ***14*** *04:37:45.7±0.3, 9°.5S±3°×12°.0E±°, h10km, M4.1/5, MLv4.1/5*
ISCJB ***14*** *04:37:46.2±0.4, 8°.61S±0.04×120°.42E±0°.04, h33km, mb3.8/7, Error ellipse: s-maj=6.1km s-min=6.1km az=15.9*
NEIC ***14*** *04:37:46.4±3.0, 8°.71S×120°.36E, h26km±22km, mb4.2/2, Error ellipse: s-maj=17.2km s-min=6.2km az=60.0*

ISC 14 04:37:47.8±0.7, 8.68S±0.05×120.44E±0.05, h35km, n25, σ0s95/28, mb4.0/7, Flores region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WSI	**Waingapu**	**1.00**	**188**	P	**Pn**	**04 38 04.5**	**-0.9**
WSI				S	**Sn**	**04 38 18.6**	**+0.4**
EDFI	**Ende, Flores**	**1.24**	**93**	P	**Pn**	**04 38 08.2**	**-0.5**
EDFI				S	**Sn**	**04 38 26.4**	**+2.1**
WBSI	**Waikabubak, Su**	**1.41**	**227**	P	**Pn**	**04 38 10.7**	**-0.4**
WBSI				S	**Sn**	**04 38 30.4**	**+1.8**
BASI	**Baing, Sumba**	**1.54**	**175**	P	**Pn**	**04 38 11.6**	**-1.2**
MMRI	**Maumere**	**1.77**	**89**	P	**Pn**	**04 38 16.9**	**+0.8**
MMRI	**Maumere**	**1.77**	**89**	*e*Pn	**Pn**	**04 38 16.4**	**+0.3**
BSSI	**Bau Bau, Buton**	**2.52**	**1**	P	**Pn**	**04 38 24.7**	**-1.6**
PLAI	**Plampang**	**2.64**	**267**	P	**Pn**	**04 38 29.4**	**+1.4**
BATI	**Baumata**	**3.52**	**116**	Pn	**Pn**	**04 38 41.7**	**+1.5**
	4.0nm,0.3s,baz=302,slow=19,SNR=3.1						
KAPI	**Kappang**	**3.70**	**349**	*e*Pn	**Pn**	**04 38 42.5**	**-0.1**
SOEI	**Soe**	**3.92**	**106**	*e*Pn	**Pn**	**04 38 45.7**	**-0.1**
FITZ	**Fitzroy Crossi**	**10.64**	**152**	Pn	**Pn**	**04 40 16.4**	**-1.5**
	0.2nm,0.3s,baz=331,slow=13,SNR=5.1						
WRA	**Warramunga Arr**	**17.50**	**131**	P	**P**	**04 41 49.8**	**-0.3**
	0.4nm,0.3s,baz=306,slow=12,SNR=31						
WRAB	**Tennant Creek**	**17.50**	**131**	*e*Pn	**P**	**04 41 50.1**	**0.0**
ASAR	**Alice Springs**	**19.70**	**141**	P	**P**	**04 42 14.4**	**-0.1**
	0.2nm,0.3s,baz=328,slow=13,SNR=22						
COEN	**Coen**	**22.89**	**105**	*e*P	**P**	**04 42 48.7**	**-0.1**
	5.3nm,0.7s						
BBOO	**Buckleboo**	**28.03**	**151**	*e*P	**P**	**04 43 35.9**	**+0.1**
	3.3nm,0.7s						
STKA	**Stephens Creek**	**30.32**	**143**	P	**P**	**04 43 56.1**	**0.0**
	2.2nm,0.5s,baz=326,slow=9.4,SNR=7.4						
CMAR	**Chiang Mai Arr**	**34.31**	**322**	P	**P**	**04 44 31.2**	**0.0**
	0.3nm,0.6s,baz=154,slow=6.9,SNR=3.4						
CAN	**Canberra**	**37.21**	**140**	*e*P	**P**	**04 44 56.5**	**+0.4**
MKAR	**Makanchi Array**	**64.83**	**332**	P	**P**	**04 48 22.5**	**-0.8**
	0.7nm,0.7s,baz=138,slow=7.0,SNR=8.6						
ZALV	**Zalesovo Beam**	**69.26**	**338**	P	**P**	**04 48 51.1**	**-0.1**
	0.9nm,0.6s,baz=144,slow=5.2,SNR=3.3						
KURBB	**Kurchatov Arra**	**69.32**	**333**	P	**P**	**04 48 51.3**	**-0.3**
	0.2nm,0.6s,baz=139,slow=5.5,SNR=4.0						
KURK	**Kurchatov**	**69.35**	**333**	P	**P**	**04 48 51.3**	**-0.5**
TORD	**Torodi Ar. Bea**	**119.81**	**280**	PKP	**PKPdf**	**04 56 34.8**	**-0.7**
	0.7nm,1.1s,baz=140,slow=1.5,SNR=2.5						

ISCJB ***14*** *04:43:01.8±0.7, 28°.40N±0°.04×112°.58W±0°.06, h10km, mb3.6/4, MS3.1/5, Error ellipse: s-maj=8.2km s-min=5.9km az=156.0*
MEX ***14*** *04:43:03.8±0.5, 28°.41N×112°.68W, h10km, MD3.9*
IDC ***14*** *04:43:03.7±1.6, 28°.58N×112°.52W, h0km, mb3.8/4, mb1 3.8/10, mb1mx3.6/58, mbtmp3.6/10, ML3.4/5, MS3.2/9, Ms1 3.2/9, ms1mx2.9/62, Error ellipse: s-maj=26.4km s-min=12.7km az=32.0*

ISC 14 04:43:03.3±0.9, 28°.33N±0°.06×112°.52W±0°.08, h10km, n16, σ1s53/16, mb3.8/4, MS3.1/5, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SRIG	**Santa Rosalia**	**1.03**	**166**	*e*P	**Pg**	**04 43 22.7**	**-0.6**
SRIG				*i*S	**Sb**	**04 43 36.0**

H11S3	**WAKE ISLAND Hy**	**28.80**	**122**	T	T	05 20 05.7
	baz=315,slow=75,SNR=316					
H11S2	**WAKE ISLAND Hy**	**28.82**	**122**	T	T	05 20 07.9
	baz=315,slow=75,SNR=170					
MKAR	**Makanchi Array**	**44.17**	**302**	P	**P**	**04 52 08.2 +0.2**
	0.4nm,0.9s,baz=77,slow=7.6,SNR=3.0					
KURBB	**Kurchatov Arra**	**46.08**	**308**	P	**P**	**04 52 23.5 +0.5**
	0.2nm,0.4s,baz=80,slow=7.8,SNR=2.7					
WRA	**Warramunga Arr**	**56.83**	**188**	P	**P**	**04 53 43.6 -0.3**
	0.5nm,0.9s,baz=6.1,slow=7.3,SNR=4.7					

*IDC **14** 04:45:23.4±1.3,0.°98N×92.°05E, h0km, mb3.5/8, mb1 3.7/11,mb1mx3.5/74,mbtmp3.6/11,ML3.8/3,MS3.4/4, Ms1 3.5/4,ms1mx2.8/48,Error ellipse: s-maj=38.0km s-min=19.8km az=47.0*

*ISCJB **14** 04:45:26.9±1.1, 1.°1N±0.°1×92.°3E±0.°1, h33km, mb3.6/8, MS3.5/2, Error ellipse: s-maj=23.7km s-min=15.0km az=43.2*

ISC 14 04:45:28.7±1.2,1.°2N±0.°2×92.°27E±0.°09,h35km,n17, σ2°73/13,mb3.7/8,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**6.84**	**76**	Pn	**Pn**	**04 47 07.2**	**+0.4**
	1.6nm,0.3s,baz=258,slow=5.9,SNR=3.6						
PSI				Sn	**Sn**	**04 48 17.6**	**-6.0**
	1.1nm,0.3s,baz=107,slow=18,SNR=2.2						
PSI				LR	LR	04 50 16.0	
	comp=Z,264nm,18.1s,baz=205,slow=41						
PALK	**Pallekele**	**13.03**	**298**	Pn	**Pn**	**04 48 26.9**	**-4.5**
	0.5nm,0.3s,baz=116,slow=11,SNR=6.4						
PALK				Sn	Sn	04 50 41.1	-14
	4.7nm,0.3s,baz=118,slow=5.9,SNR=11						
CMAR	**Chiang Mai Arr**	**18.39**	**20**	P	**Pn**	**04 49 41.7**	**+0.7**
	0.1nm,0.3s,baz=217,slow=13,SNR=12						
CMAR				LR	LR	04 57 32.4	
	comp=Z,88nm,18.3s,baz=246,slow=39						
H08S2	**Diego Garcia H**	**21.58**	**246**	T	T	05 12 11.9	
	baz=64,slow=75,SNR=2.6						
H08S3	**Diego Garcia H**	**21.58**	**246**	T	T	05 12 11.6	
	baz=64,slow=75,SNR=2.5						
H08S1	**Diego Garcia H**	**21.60**	**246**	T	T	05 12 12.0	
	baz=64,slow=75,SNR=3.0						
WRA	**Warramunga Arr**	**46.26**	**119**	P	**P**	**04 53 51.6**	**+0.5**
	0.8nm,0.7s,baz=296,slow=8.4,SNR=5.3						
MKAR	**Makanchi Array**	**46.27**	**351**	P	**P**	**04 53 51.4**	**+0.6**
	0.7nm,0.6s,baz=166,slow=9.6,SNR=8.5						
ASAR	**Alice Springs**	**47.38**	**124**	P	**P**	**04 53 59.8**	**0.0**
	0.2nm,0.5s,baz=306,slow=7.9,SNR=3.2						
SONM	**Songino Array**	**48.07**	**13**	P	**P**	**04 54 06.4**	**+1.5**
	1.0nm,0.8s,baz=189,slow=8.1,SNR=4.3						
KURBB	**Kurchatov Arra**	**50.64**	**349**	P	**P**	**04 54 24.9**	**+0.6**
	0.4nm,0.5s,baz=172,slow=6.9,SNR=5.8						
ZALV	**Zalesovo Beam**	**52.96**	**354**	P	**P**	**04 54 42.0**	**+0.5**
	0.5nm,0.4s,baz=170,slow=8.8,SNR=2.9						
KLR	**Kul'dur**	**58.59**	**29**	P	**P**	**04 55 25.7**	**+3.7**
	0.1nm,0.5s,baz=256,slow=4.2,SNR=2.8						
BRTR	**Keskin Array B**	**65.53**	**314**	P	**P**	**04 56 09.3**	**+0.3**
	0.4nm,0.7s,baz=87,slow=5.9,SNR=2.7						
PETK	**Petropavlovsk-**	**74.53**	**35**	LR	LR	05 30 47.0	
	comp=Z,231nm,21.3s,baz=267,slow=36						
SPITS	**Spitsbergen Ar**	**85.38**	**348**	LR	LR	05 41 51.9	
	comp=Z,28nm,19.9s,baz=235,slow=39						
TXAR	**Lajitas Array**	**146.06**	**25**	PKPbc	**PKPab**	**05 05 06.8**	**+0.4**
	0.2nm,0.6s,baz=193,slow=3.3,SNR=3.4						

*IDC **14** 04:50:43.6±1.7,5.°60N×92.°03E, h0km, mb3.5/4, mb1 3.7/6, mb1mx3.4/71, mbtmp3.6/6, ML3.6/2, Error ellipse: s-maj=46.5km s-min=26.8km az=50.0*

*ISCJB **14** 04:50:45.9±1.2,5.°6N±0.°2×91.°93E±0.°08, h33km, mb3.5/4, Error ellipse: s-maj=23.5km s-min=10.9km az=176.1*

ISC 14 04:50:48.3±1.4,5.°7N±0.°2×92.°00E±0.°10,h35km,n9, σ0°94/7,mb3.5/4,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PALK	**Pallekele**	**11.34**	**279**	Pn	**Pn**	**04 53 27.6**	**-0.3**
	0.6nm,0.3s,baz=114,slow=15,SNR=3.4						
PALK				Sn	**Sn**	**04 55 33.4**	**-0.2**
	1.8nm,0.3s,baz=118,slow=2.8,SNR=6.5						
CMAR	**Chiang Mai Arr**	**14.41**	**27**	Pn	**Pn**	**04 54 09.0**	**-0.8**
	0.1nm,0.3s,baz=220,slow=14,SNR=7.2						
H08S3	**Diego Garcia H**	**23.53**	**236**	T	T	05 20 59.6	
	baz=60,slow=75,SNR=2.9						
H08S2	**Diego Garcia H**	**23.53**	**236**	T	T	05 20 59.1	
	baz=60,slow=75,SNR=3.8						
H08S1	**Diego Garcia H**	**23.54**	**236**	T	T	05 20 59.1	
	baz=60,slow=75,SNR=3.1						
MKAR	**Makanchi Array**	**41.82**	**350**	P	**P**	**04 58 35.2**	**+0.5**
	0.6nm,0.9s,baz=161,slow=9.2,SNR=4.0						
KURBB	**Kurchatov Arra**	**46.21**	**348**	P	**P**	**04 59 10.6**	**+0.9**
	0.5nm,0.9s,baz=165,slow=7.5,SNR=4.9						
ZALV	**Zalesovo Beam**	**48.49**	**354**	P	**P**	**04 59 28.7**	**+1.3**
	0.3nm,0.3s,baz=179,slow=8.4,SNR=2.5						
WRA	**Warramunga Arr**	**48.79**	**123**	P	**P**	**04 59 30.2**	**-0.1**
	0.5nm,0.9s,baz=300,slow=9.1,SNR=2.8						

DJA 14 04:51:11.0±0.6,5.°1N±9.°9×9.°5E±1.°3,h16km±15km,M3.2/2, MLv3.2/2,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BSI	**Banda Aceh**	**0.39**	**332**	P	Pb	04 51 20.2	+0.6
BSI				S	Sb	04 51 26.5	+1.1
MLSI	**Meulaboh, Aceh**	**1.27**	**134**	P	Pb	04 51 34.7	+0.1
MLSI				S	Sb	04 51 50.5	-0.2
LHMI	**Lhok Sumawe**	**1.46**	**87**	P	Pn	04 51 36.7	-0.1
TPTI		**2.53**	**138**	P	Pn	04 51 51.4	0.0
TPTI				S	Sn	04 52 22.3	+0.3
KCSI	**Kotacane, Aceh**	**2.80**	**125**	P	Pn	04 51 55.0	-0.2

*ISCJB **14** 04:56:19.3±1.0,4.°0N±0.°1×92.°69E±0.°07, h10km, mb3.5/5, Error ellipse: s-maj=19.9km s-min=8.3km az=21.0*

*IDC **14** 04:56:20.1±1.8,4.°07N×92.°75E, h0km, mb3.5/5, mb1 3.7/8, mb1mx3.4/66, mbtmp3.6/8, ML3.6/3, Error ellipse: s-maj=45.2km s-min=21.2km az=40.0*

*DJA **14** 04:56:51.0±1.8,5.°1N±8.°9×9.°5E±1.°2, h26km±23km, M3.5/3, MLv3.5/3*

ISC 14 04:56:21.1±1.1,4.°1N±0.°1×92.°80E±0.°09,h10km,n15, σ2°03/12,mb3.6/5,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BSI	**Banda Aceh**	**2.86**	**60**	P	**Pn**	**04 57 07.7**	**+0.9**
BSI				S	Sn	04 57 18.2	-23
MLSI	**Meulaboh, Aceh**	**3.60**	**87**	P	**Pn**	**04 57 19.0**	**+2.0**
MLSI				S	Sn	04 57 41.6	-18
TPTI		**4.45**	**100**	P	Pb	04 57 34.2	-5.2
TPTI				S	Sn	04 58 07.2	-13
KCSI	**Kotacane, Aceh**	**4.99**	**96**	P	**Pb**	**04 57 44.1**	**-4.6**
PSI	**Prapat**	**6.25**	**102**	Pn	**Pn**	**04 57 55.4**	**+1.9**
	0.7nm,0.3s,baz=301,slow=15,SNR=2.6						
PSI				Sn	**Sn**	**04 59 07.2**	**+2.2**
	2.1nm,0.3s,baz=36,slow=19,SNR=4.4						
PALK	**Pallekele**	**12.45**	**285**	Pn	**Pn**	**04 59 17.5**	**-1.0**
	0.7nm,0.3s,baz=116,slow=15,SNR=4.2						
PALK				Sn	Sn	05 01 22.9	-15
	2.1nm,0.3s,baz=116,slow=2.8,SNR=5.7						
CMAR	**Chiang Mai Arr**	**15.50**	**22**	Pn	**Pn**	**04 59 59.7**	**-0.3**
	0.1nm,0.3s,baz=215,slow=14,SNR=7.4						
H08S2	**Diego Garcia H**	**23.37**	**240**	T	T	05 26 57.8	
	baz=60,slow=75,SNR=6.8						
H08S3	**Diego Garcia H**	**23.37**	**240**	T	T	05 27 03.8	
	baz=60,slow=75,SNR=7.0						
H08S1	**Diego Carcia H**	**23.39**	**240**	T	T	05 26 58.4	
	baz=60,slow=75,SNR=6.6						
MKAR	**Makanchi Array**	**43.51**	**350**	P	**P**	**05 04 25.6**	**+0.7**
	0.2nm,0.6s,baz=168,slow=7.4,SNR=2.4						
SONM	**Songino Array**	**45.13**	**13**	P	**P**	**05 04 38.6**	**+0.7**
	0.5nm,0.7s,baz=182,slow=8.2,SNR=3.0						
WRA	**Warramunga Arr**	**47.28**	**122**	P	**P**	**05 04 55.8**	**+0.7**
	0.2nm,0.3s,baz=300,slow=8.3,SNR=5.9						
KURBB	**Kurchatov Arra**	**47.91**	**348**	P	**P**	**05 05 60.0**	**+0.5**
	0.5nm,0.8s,baz=171,slow=6.6,SNR=5.0						
ZALV	**Zalesovo Beam**	**50.14**	**354**	P	**P**	**05 05 17.1**	**+0.6**
	0.4nm,0.4s,baz=163,slow=5.3,SNR=2.8						

*ISCJB **14** 05:05:27.7±0.5,24.°06S±0.°05×67.°22W±0.°04, h178km, Error ellipse: s-maj=8.1km s-min=4.7km az=26.3*

*SJA **14** 05:05:27.6±0.3,24.°11S×67.°25W, h162km±9km, ML2.2, MW2.7*

*GUC **14** 05:05:29.1±0.8,24.°04S×67.°67W, h217km±17km, ML3.9*

ISC 14 05:05:27.7±1.3,24.°08S±0.°06×67.°20W±0.°05,h178km,n13, σ0°94/20,5C-1D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HJA	**Humahuaca**	**1.86**	**62**	*e*P	**Pn**	**05 06 04.2**	**+0.6**
AZAP	**Zapla**	**1.96**	**95**	*e*P	**Pn**	**05 06 04.7**	**+0.3**
AZAP				IAML		05 06 06.4	
	comp=Z,13nm,0.5s						
FSA	**Cafayete**	**2.31**	**152**	*e*P	**Pn**	**05 06 08.1**	**-0.1**
GO02	**Mina Guanaco**	**2.43**	**243**	↑*i*P	**Pn**	**05 06 10.6**	**+0.9**
GO02				*i* S	**Sn**	**05 06 42.9**	**+0.6**
GO02				IAML		05 06 44.0	
	comp=N,171nm,0.2s						
YJA	**Yavi**	**2.45**	**40**	*e*P	**Pn**	**05 06 11.2**	**+1.0**
YJA				IAML		05 06 12.2	
	comp=Z,6.1nm,0.3s						
ASTB	**Santa Barbara**	**2.52**	**88**	*e*P	**Pn**	**05 06 11.2**	**+0.5**
ASTB				*e*S	**Sn**	**05 06 43.4**	**-0.6**
PB06	**IPOC Station P**	**2.57**	**302**	↓*i*P	**Pn**	**05 06 12.2**	**+0.9**
PB06				*e*S	**Sn**	**05 06 44.5**	**-0.7**
PB06				IAML		05 06 47.3	
	comp=E,450nm,0.3s						
PB09	**IPOC Station P**	**2.95**	**320**	↑*i*P	**Pn**	**05 06 17.2**	**+1.3**
PB09				*i* S	**Sn**	**05 06 53.7**	**+0.3**
PB09				IAML		05 06 54.6	
	comp=E,508nm,0.4s						
ALOL	**LOMAS DE OLMED**	**2.96**	**86**	*e*P	**Pn**	**05 06 16.3**	**+0.5**
AHML	**Horco Molle**	**3.18**	**148**	*e*P	**Pn**	**05 06 18.6**	**+0.1**
PB04	**IPOC Station P**	**3.22**	**302**	↑*i*P	**Pn**	**05 06 19.4**	**+0.2**
PB04				*i* S	**Sn**	**05 06 57.3**	**-2.0**
PB04				IAML		05 07 01.6	
	comp=N,266nm,0.4s						
PB07	**IPOC Station P**	**3.41**	**313**	↑*i*P	**Pn**	**05 06 21.7**	**+0.2**
PB07				*i* S	**Sn**	**05 07 01.6**	**-1.8**
PB08	**IPOC Station P**	**4.32**	**335**	↑*i*P	**Pn**	**05 06 33.8**	**+0.5**
PB08				*i* S	**Sn**	**05 07 23.6**	**-0.9**

IDC 14 05:10:08.4±1.8,2.°73N×93.°59E,h0km,mb3.5/3,mb1 3.8/5, mb1mx3.4/71,mbtmp3.6/5,ML3.8/2,Error ellipse: s-maj=60.6km s-min=25.4km az=52.0,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PALK	**Pallekele**	**13.61**	**290**	Pn	Pn	05 13 21.7	-1.1
	1.0nm,0.3s,baz=115,slow=14,SNR=5.0						
CMAR	**Chiang Mai Arr**	**16.49**	**18**	Pn	Pn	05 14 00.9	-0.3
	0.1nm,0.3s,baz=200,slow=14,SNR=4.4						
MKAR	**Makanchi Array**	**44.98**	**349**	P	P	05 18 25.6	+0.2
	0.2nm,0.5s,baz=163,slow=8.0,SNR=5.0						
WRA	**Warramunga Arr**	**45.90**	**121**	P	P	05 18 32.9	-0.2
	0.6nm,0.7s,baz=304,slow=8.6,SNR=4.3						
ASAR	**Alice Springs**	**47.20**	**126**	P	P	05 18 43.3	0.0
	0.4nm,0.6s,baz=295,slow=8.1,SNR=6.4						

*ISCJB **14** 05:15:09.8±0.9, 19.°25N±0.°05×64.°90W±0.°02, h30km±5km, Error ellipse: s-maj=8.9km s-min=3.7km az=7.2*

*TRN **14** 05:15:09.7, 19.°06N×64.°93W, h20km, MD3.7*

*NEIC **14** 05:15:11.7±0.0, 19.°27N×64.°87W, h24km, MD3.4(RSPR), After RSPR.*

*RSPR **14** 05:15:11.7, 19.°27N×64.°87W, h24km±18km, MD3.4/10*

ISC 14 05:15:09.4±1.8,19.°23N±0.°07×64.°91W±0.°02,h16km±10km, n63,σ0°84/95,26C-13D,Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ABV	**Anegada**	**0.74**	**132**	↑*e*P	**Pb**	**05 15 23.7**	**-0.2**
ABV	**Anegada**	**0.74**	**132**	*e*S	**Sb**	**05 15 33.9**	**+0.1**
ABV	**Anegada**	**0.74**	**132**	↓*e*P	**Pb**	**05 15 23.7**	**-0.2**
ABV				*e*S	**Sb**	**05 15 33.9**	**+0.1**
ABVI	**Anegada Island**	**0.74**	**132**	↑*e*P	**Pb**	**05 15 23.7**	**-0.2**
ABVI				*e*S	**Sb**	**05 15 33.9**	**+0.1**
TBVI	**Tortola**	**0.85**	**161**	↑*e*P	**Pg**	**05 15 25.7**	**-0.3**
TBVI				*e*S	**Sb**	**05 15 37.7**	**+0.6**
TBVI	**Tortola**	**0.85**	**161**	↓*e*P	**Pg**	**05 15 25.7**	**-0.3**
TBVI	**Tortola**	**0.85**	**161**	↓*e*P	**Pg**	**05 15 25.7**	**-0.3**
TBVI				*e*S	**Sb**	**05 15 37.7**	**+0.6**
STVI	**Saint Thomas**	**0.87**	**183**	↑*e*P	**Pb**	**05 15 26.5**	**+0.3**
STVI	**Saint Thomas**	**0.87**	**183**	*e*S	**Sg**	**05 15 38.0**	**+0.1**
STVI	**Saint Thomas**	**0.87**	**183**	↓*e*P	**Pb**	**05 15 26.5**	**+0.3**
STVI				*e*S	**Sg**	**05 15 38.0**	**+0.1**
STVI	**Saint Thomas**	**0.87**	**183**	↓*e*P	**Pb**	**05 15 26.5**	**+0.3**
CUPR	**Culebra, Puert**	**0.98**	**201**	↓*e*P	**Pb**	**05 15 28.4**	**+0.3**
CUPR	**Culebra, Puert**	**0.98**	**201**	↓*e*P	**Sb**	**05 15 41.5**	**+0.7**
CUPR	**Culebra, Puert**	**0.98**	**201**	↓*e*P	**Pb**	**05 15 28.4**	**+0.3**
CUPR				*e*S	**Sb**	**05 15 41.5**	**+0.7**
CBYP	**Canovanas**	**1.31**	**223**	↓*e*P	**Pn**	**05 15 33.1**	**0.0**
CBYP	**Canovanas**	**1.31**	**223**	*e*S	**Sb**	**05 15 49.6**	**-0.7**
CBYP	**Canovanas**	**1.31**	**223**	↓*e*P	**Pn**	**05 15 33.1**	**0.0**
CBYP				*e*S	**Sb**	**05 15 49.6**	**-0.7**
CBYP	**Canovanas**	**1.31**	**223**	↓*e*P	**Pn**	**05 15 33.1**	**0.0**
CBYP				*e*S	**Sb**	**05 15 49.6**	**-0.7**
CDVI	**St. Croix**	**1.47**	**175**	↑*e*P	**Pn**	**05 15 35.3**	**-0.1**
CDVI	**St. Croix**	**1.47**	**175**	*e*S	**Sn**	**05 15 53.6**	**-0.7**
CDVI	**St. Croix**	**1.47**	**175**	↓*e*P	**Pn**	**05 15 35.3**	**-0.1**
CDVI				*e*S	**Sn**	**05 15 53.6**	**-0.7**
CDVI	**St. Croix**	**1.47**	**175**	↓*e*P	**Pn**	**05 15 35.3**	**-0.1**
CDVI				*e*S	**Sn**	**05 15 53.6**	**-0.7**
SJG	**San Juan**	**1.62**	**227**	*e*Pn	**Pn**	**05 15 37.1**	**-0.2**
EMPR	**Esperanza - Ma**	**1.71**	**244**	↑*e*P	**Pn**	**05 15 38.5**	**0.0**
EMPR	**Esperanza - Ma**	**1.71**	**244**	*e*S	**Sn**	**05 15 58.7**	**-1.3**
EMPR	**Esperanza - Ma**	**1.71**	**244**	↓*e*P	**Pn**	**05 15 38.5**	**0.0**
EMPR				*e*S	**Sn**	**05 15 58.7**	**-1.3**
AOPR	**Arecibo Observ**	**1.95**	**244**	↓*e*P	**Pn**	**05 15 41.9**	**-0.1**
AOPR	**Arecibo Observ**	**1.95**	**244**	*e*S	**Sn**	**05 16 05.2**	**-1.0**
AOPR	**Arecibo Observ**	**1.95**	**244**	↓*e*P	**Pn**	**05 15 41.9**	**-0.1**
AOPR				*e*S	**Sn**	**05 16 05.2**	**-1.0**
AOPR	**Arecibo Observ**	**1.95**	**244**	↓*e*P	**Pn**	**05 15 41.9**	**-0.1**
AOPR				*e*S	**Sn**	**05 16 05.2**	**-1.0**
CELP	**Cerrillos**	**1.95**	**234**	↓*e*P	**Pn**	**05 15 42.5**	**+0.5**
CELP				*e*S	**Sn**	**05 16 05.7**	**-0.5**
CELP	**Cerrillos**	**1.95**	**234**	↓*e*P	**Pn**	**05 15 42.5**	**+0.5**
CELP	**Cerrillos**	**1.95**	**234**	↓*e*P	**Pn**	**05 15 42.5**	**+0.5**
CELP				*e*S	**Sn**	**05 16 05.7**	**-0.5**
SMRT	**St. Maarten**	**2.10**	**124**	↓*e*P	**Pn**	**05 15 42.8**	**-1.1**
SMRT	**St. Maarten**	**2.10**	**124**	*e*S	**Sn**	**05 16 08.1**	**-1.7**
SMRT	**St. Maarten**	**2.10**	**124**	↓*e*P	**Pn**	**05 15 42.8**	**-1.1**
SMRT				*e*S	**Sn**	**05 16 08.1**	**-1.7**
SMRT	**St. Maarten**	**2.10**	**124**	*e*P	**Pn**	**05 15 43.7**	**-0.3**
SMRT				*e*S	**Sn**	**05 16 10.3**	**+0.6**
AGPR	**Aguadilla, PR**	**2.22**	**250**	↑*e*P	**Pn**	**05 15 46.0**	**+0.4**
AGPR	**Aguadilla, PR**	**2.22**	**250**	*e*S	**Sn**	**05 16 12.5**	**-0.1**
AGPR	**Aguadilla, PR**	**2.22**	**250**	↓*e*P	**Pn**	**05 15 46.0**	**+0.4**
AGPR				*e*S	**Sn**	**05 16 12.5**	**-0.1**
AGPR	**Aguadilla, PR**	**2.22**	**250**	↓*e*P	**Pn**	**05 15 46.0**	**+0.4**
AGPR				*e*S	**Sn**	**05 16 12.5**	**-0.1**
SABA	**Saba**	**2.25**	**135**	*e*P	**Pn**	**05 15 47.0**	**+0.9**
SABA				*e*S	**Sb**	**05 16 17.5**	**+0.1**
SABA	**Saba**	**2.25**	**135**	*e*P	**Pn**	**05 15 46.4**	**+0.4**
SABA				*e*S	**Sn**	**05 16 14.4**	**+0.9**
LSP	**Las Mesas**	**2.31**	**243**	↑*e*P	**Pn**	**05 15 47.8**	**+0.9**
LSP	**Las Mesas**	**2.31**	**243**	*e*S	**Sn**	**05 16 14.7**	**-0.4**
LSP	**Las Mesas**	**2.31**	**243**	↓*e*P	**Pn**	**05 15 47.8**	**+0.9**
LSP				*e*S	**Sn**	**05 16 14.7**	**-0.4**
LSP	**Las Mesas**	**2.31**	**243**	↓*e*P	**Pn**	**05 15 47.8**	**+0.9**
LSP				*e*S	**Sn**	**05 16 14.7**	**-0.4**
CRPR	**Cabo Rojo, PR**	**2.41**	**240**	↑*e*P	**Pn**	**05 15 49.0**	**+0.7**
CRPR	**Cabo Rojo, PR**	**2.41**	**240**	↑*e*P	**Pn**	**05 15 49.0**	**+0.7**
CRPR	**Cabo Rojo, PR**	**2.41**	**240**	↑*e*P	**Pn**	**05 15 49.0**	**+0.7**
IDE	**Isla Desecheo**	**2.57**	**251**	↑*e*P	**Pn**	**05 15 50.7**	**+0.3**
IDE	**Isla Desecheo**	**2.57**	**251**	*e*S	**Sn**	**05 16 21.0**	**-0.4**
IDE	**Isla Desecheo**	**2.57**	**251**	↑*e*P	**Pn**	**05 15 50.7**	**+0.3**
IDE				*e*S	**Sn**	**05 16 21.0**	**-0.4**
IDE	**Isla Desecheo**	**2.57**	**251**	↑*e*P	**Pn**	**05 15 50.7**	**+0.3**
IDE				*e*S	**Sn**	**05 16 21.0**	**-0.4**
NEV	**Hard Times**	**3.04**	**133**	*e*P	**Pn**	**05 15 58.0**	**+1.0**
NEV				*e*S	**Sn**	**05 16 36.0**	**+2.8**
NEV	**Hard Times**	**3.04**	**133**	*e*P	**Pn**	**05 15 58.0**	**+1.0**
NEV				*e*S	**Sn**	**05 16 32.9**	**-0.3**
ANWB	**Willy Bob**	**3.35**	**117**	*e*P	**Pn**	**05 15 59.7**	**-1.4**
ANWB				*e*S	**Sn**	**05 16 38.5**	**-2.1**
ANWB	**Willy Bob**	**3.35**	**117**	*e*P	**Pn**	**05 16 03.3**	**+2.2**
ANWB				*e*S	**Sn**	**05 16 40.0**	**-0.5**
MLYT	**Lee's Yard**	**3.59**	**133**	*e*P	**Pn**	**05 16 05.4**	**+0.9**
BPA	**Boggy Peak**	**3.62**	**126**	*e*P	**Pn**	**05 16 04.1**	**-0.9**
BPA				*e*S	**Sn**	**05 16 46.5**	**-1.0**
BPA	**Boggy Peak**	**3.62**	**126**	*e*P	**Pn**	**05 16 05.5**	**+0.5**
BPA				*e*S	**Sn**	**05 16 46.5**	**-1.0**
SDDR	**Presa de Saban**	**6.04**	**269**	*e*P	**Pn**	**05 16 38.7**	**+0.5**
SDDR				*e*S	**Sn**	**05 17 47.4**	**+0.4**
SDDR	**Presa de Saban**	**6.04**	**269**	*e*P	**Pn**	**05 16 41.3**	**+3.1**

*IDC **14** 05:16:21.7±1.2,3.°75N×92.°68E, h0km, mb3.8/10, mb1 4.0/13,mb1mx3.8/66,mbtmp3.9/13,ML3.7/3,MS3.0/1, Ms1 3.0/1,ms1mx2.5/55, Error ellipse: s-maj=35.7km s-min=21.0km az=34.0*

*ISCJB **14** 05:16:23.4±0.5,3.°76N±0.°06×92.°69E±0.°04, h24km, mb4.3/19, Error ellipse: s-maj=9.3km s-min=6.0km az=15.1*

*NEIC **14** 05:16:24.3±2.7,3.°74N×92.°67E, h18km±17km, mb4.4/11, Error ellipse: s-maj=9.5km s-min=5.8km az=224.0*

*DJA **14** 05:16:26.1±2.6,4.°N±9.°9×9.°3E±2.°1, h10km, M4.4/2, MLv4.4/2*

ISC 14 05:16:25.0±0.7,3.°73N±0.°08×92.°74E±0.°07,h24km,n48, σ1°09/51,mb4.2/19,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BSI	**Banda Aceh**	**3.09**	**55**	P	**Pn**	**05 17 12.6**	**+0.2**
BSI				S	**Sn**	**05 17 48.8**	**+0.2**
MLSI	**Meulaboh, Aceh**	**3.69**	**82**	P	**Pn**	**05 17 21.3**	**+0.7**
LHMI	**Lhok Sumawe**	**4.45**	**70**	*e*Pn	**Pn**	**05 17 33.1**	**+2.1**
TPTI		**4.46**	**96**	P	**Pn**	**05 17 31.7**	**+0.6**
KCSI	**Kotacane, Aceh**	**5.03**	**92**	P	**Pn**	**05 17 39.6**	**+0.7**
GSI	**Gunungsitoli**	**5.40**	**116**	P	**Pn**	**05 17 45.9**	**+1.9**
GSI	**Gunungsitoli**	**5.40**	**116**	*e*Pn	**Pn**	**05 17 44.7**	**+0.7**
PSI	**Prapat**	**6.24**	**98**	Pn	**Pn**	**05 17 57.1**	**+1.3**
	2.9nm,0.3s,baz=294,slow=13,SNR=6.2						
PSI				Sn	**Sn**	**05 19 03.1**	**-3.3**
	1.6nm,0.3s,baz=306,slow=19,SNR=3.2						
PSI	**Prapat**	**6.24**	**98**	*e*Pn	**Pn**	**05 17 57.6**	**+1.8**
PSI				*e*Sn	**Sn**	**05 19 03.1**	**-3.3**
PALK	**Pallekele**	**12.49**	**287**	Pn	**Pn**	**05 19 20.1**	**-1.3**
	0.5nm,0.3s,baz=114,slow=13,SNR=5.1						
PALK				Sn	Sn	05 21 27.4	-12
	1.6nm,0.3s,baz=116,slow=6.6,SNR=5.2						
PALK				LR	LR	05 23 29.5	
	comp=Z,77nm,20.1s,baz=116,slow=34						
PALK	**Pallekele**	**12.49**	**287**	*e*Pn	**Pn**	**05 19 20.1**	**-1.3**
PALK				*e*Sn	Sn	05 21 28.3	-12
CM01	**Chiang Mai Arr**	**15.82**	**22**	*e*Pn	**Pn**	**05 20 05.3**	**-1.0**
CM31	**Chiang Mai Arr**	**15.85**	**22**	*e*Pn	**Pn**	**05 20 06.2**	**-0.5**
CMAR	**Chiang Mai Arr**	**15.85**	**22**	Pn	**Pn**	**05 20 06.2**	**-0.5**
	0.1nm,0.3s,baz=218,slow=13,SNR=18						
CHTO	**Chiang Mai**	**16.17**	**22**	*e*Pn	**Pn**	**05 20 10.3**	**-0.5**
	4.6nm,1.1s						
MK01	**Makanchi Array**	**43.82**	**350**	*e*P	**P**	**05 24 30.5**	**+1.4**
MK31	**Makanchi Array**	**43.85**	**350**	*e*P	**P**	**05 24 30.1**	**+0.8**
MK32	**Makanchi Array**	**43.85**	**350**	*e*P	**P**	**05 24 29.5**	**+0.2**
MKAR	**Makanchi Array**	**43.85**	**350**	P	**P**	**05 24 29.5**	**+0.2**
	1.4nm,0.7s,baz=165,slow=8.2,SNR=15						
MKAR	**Makanchi Array**	**43.85**	**350**	*e*P	**P**	**05 24 30.1**	**+0.8**
	11nm,0.9s						
SONA0	**Songino Array**	**45.49**	**13**	*e*P	**P**	**05 24 42.4**	**0.0**
SONM	**Songino Array**	**45.49**	**13**	P	**P**	**05 24 42.4**	**0.

	comp=Z,9.4nm,0.9s							
XAN	**Xi'an**	**34.19**	**23**	P	**P**		**05 30 08.4**	**-2.7**
XAN				sP	pP		05 30 17.0	+0.7
XAN				pmax	pmax			
	comp=Z,5.0nm,0.8s							
XAN				pmax	pmax			
	comp=Z,68nm,5.4s							
LZH	**Lanzhou**	**34.47**	**14**	*e*P	P		05 30 18.3	+4.7
LZH				pP	sP		05 30 25.0	+4.0
LZH				sP	pP		05 30 28.0	+9.1
LZH				*e*PP	**PP**		**05 31 34.3**	**+2.4**
LZH				pmax	pmax			
	comp=Z,25nm,0.9s							
LZH				pmax	pmax			
	comp=Z,150nm,4.3s							
LZH				LR	LR			
	comp=N,250nm,13.5s							
LZH				LR	LR			
	comp=E,280nm,13.7s							
LZH				LR	LR			
	comp=Z,220nm,15.0s							
GTA	**Gaotai**	**36.93**	**8**	*e*P	**P**		**05 30 38.5**	**+3.8**
GTA				pP	sP		05 30 47.8	+5.8
GTA				sP	pP		05 30 51.9	+12
GTA				S	**S**		**05 36 24.6**	**+5.5**
GTA				pmax	pmax			
	comp=Z,4.0nm,0.8s							
GTA				pmax	pmax			
	comp=Z,2.0nm,1.0s							
GTA				pmax	pmax			
	comp=Z,64nm,5.8s							
GTA				LR	LR			
	comp=N,340nm,17.1s							
GTA				LR	LR			
	comp=E,270nm,21.4s							
GTA				LR	LR			
	comp=Z,130nm,17.6s							
FITZ	**Fitzroy Crossi**	**37.50**	**125**	*e*P	**P**		**05 30 40.8**	**+1.2**
HHC	**Hu-ho-hao-te**	**41.19**	**20**	*e*P	**P**		**05 31 11.8**	**+1.5**
HHC				pmax	pmax			
	comp=Z,11nm,1.0s							
HHC				pmax	pmax			
	comp=Z,12nm,6.1s							
WMQ	**Urumqi**	**41.31**	**353**	P	**P**		**05 31 09.9**	**-1.3**
WMQ				pmax	pmax			
	comp=Z,19nm,0.7s							
WMQ				LR	LR			
	comp=N,380nm,19.7s							
WMQ				LR	LR			
	comp=E,580nm,18.7s							
WMQ				LR	LR			
	comp=Z,290nm,19.7s							
H01W3	**Cape Leeuwin H**	**41.95**	**155**	T	T		06 16 49.9	
	baz=331,slow=76,SNR=8.3							
H01W2	**Cape Leeuwin H**	**41.96**	**155**	T	T		06 16 23.5	
	baz=331,slow=76,SNR=8.1							
H01W1	**Cape Leeuwin H**	**41.96**	**155**	T	T		06 16 30.6	
	baz=331,slow=76,SNR=8.6							
KDJ	**Kajisay**	**42.01**	**341**	*e*P	**P**		**05 31 16.9**	**-0.1**
	comp=Z,6.2nm,0.7s							
RER	**Riviere de l'E**	**44.24**	**236**	*e*P	**P**		**05 31 33.4**	**-1.9**
	comp=Z,166nm,1.2s							
MK01	**Makanchi Array**	**45.03**	**349**	*e*P	**P**		**05 31 40.5**	**-0.7**
MK31	**Makanchi Array**	**45.06**	**349**	*e*P	**P**		**05 31 41.0**	**-0.4**
MKAR	**Makanchi Array**	**45.06**	**349**	P	**P**		**05 31 40.3**	**-1.1**
	comp=Z,3.4nm,0.6s,baz=165,slow=8.2,SNR=20							
MKAR	**Makanchi Array**	**45.06**	**349**	*e*P	**P**		**05 31 41.0**	**-0.4**
	comp=Z,24nm,0.6s							
MAKZ	**Makanchi**	**45.13**	**348**	*e*P	**P**		**05 31 41.5**	**-0.5**
	comp=Z,2.6nm,0.8s							
KKAR	**Karatay Array**	**45.29**	**336**	*e*P	**P**		**05 31 42.8**	**-0.5**
WRA	**Warramunga Arr**	**45.64**	**121**	P	**P**		**05 31 47.6**	**+1.2**
	comp=Z,4.4nm,0.9s,baz=301,slow=8.8,SNR=22							
WRAB	**Tennant Creek**	**45.64**	**121**	*e*P	**P**		**05 31 47.7**	**+1.3**
	comp=Z,16nm,1.4s							
WB2	**Warramunga Arr**	**45.65**	**121**	*e*P	**P**		**05 31 47.4**	**+0.9**
	comp=Z,6.5nm,0.9s							
JNU	**Nakatsue**	**45.97**	**45**	LR	LR		05 52 10.7	
	comp=Z,35nm,18.7s,baz=295,slow=38							
SONM	**Songino Array**	**46.24**	**12**	P	**P**		**05 31 49.6**	**-1.2**
	comp=Z,1.5nm,0.8s,baz=190,slow=7.5,SNR=6.0							
SONA1	**Songino Array**	**46.25**	**12**	*e*P	**P**		**05 31 49.9**	**-1.0**
ASAR	**Alice Springs**	**46.95**	**126**	P	**P**		**05 31 58.2**	**+1.5**
	comp=Z,3.6nm,0.7s,baz=295,slow=7.9,SNR=38							
ASAR				PcP	**PcP**		**05 33 29.7**	**+0.5**
	comp=Z,0.7nm,0.7s,baz=316,slow=3.2,SNR=4.4							
AS31	**Alice Springs**	**46.95**	**126**	*e*P	**P**		**05 31 58.1**	**+1.4**
	comp=Z,1.2nm,0.6s							
AS01	**Alice Springs**	**46.98**	**126**	*e*P	**P**		**05 31 57.8**	**+0.9**
GEYT	**Alibeck**	**47.96**	**322**	P	**P**		**05 32 03.9**	**-0.4**
	comp=Z,2.0nm,0.3s,baz=193,slow=5.9,SNR=2.8							
KURBB	**Kurchatov Arra**	**49.48**	**347**	P	**P**		**05 32 15.1**	**-0.6**
	comp=Z,1.8nm,0.7s,baz=170,slow=6.9,SNR=18							
KURK	**Kurchatov**	**49.55**	**347**	*e*P	**P**		**05 32 15.8**	**-0.4**
	comp=Z,2.1nm,0.8s							
ZAA0	**Zalesovo Array**	**51.62**	**353**	*e*P	**P**		**05 32 31.2**	**-0.6**
	comp=Z,20nm,1.7s							
ZALV	**Zalesovo Beam**	**51.62**	**353**	P	**P**		**05 32 31.1**	**-0.7**
	comp=Z,2.7nm,0.5s,baz=185,slow=7.9,SNR=9.1							
BVAR	**Borovoye Array**	**53.79**	**343**	P	**P**		**05 32 47.1**	**-0.9**
	comp=Z,0.8nm,0.5s,baz=132,slow=8.2,SNR=4.6							
ABKAR	**Akbulak array**	**54.66**	**333**	*e*P	**P**		**05 32 53.0**	**-1.4**
	comp=Z,44nm,0.6s							
STKA	**Stephens Creek**	**56.83**	**131**	P	**P**		**05 33 11.6**	**+1.4**
	comp=Z,1.6nm,0.6s,baz=309,slow=4.3,SNR=4.0							
BRTR	**Keskin Array B**	**65.66**	**313**	P	**P**		**05 34 09.8**	**-0.4**
	comp=Z,0.6nm,0.7s,baz=101,slow=6.4,SNR=4.0							
TIXI	**Tiksi**	**72.32**	**11**	*e*P	**P**		**05 34 49.4**	**-1.3**
	comp=Z,4.5nm,1.1s							
FINES	**FINESS Array B**	**77.15**	**333**	P	**P**		**05 35 18.0**	**-0.9**
	comp=Z,3.6nm,1.1s,baz=116,slow=9.4,SNR=3.2							
GEA0	**GERESS Array S**	**81.50**	**319**	*e*P	**P**		**05 35 43.3**	**+0.2**
GERES	**GERESS Array B**	**81.51**	**319**	P	**P**		**05 35 43.1**	**0.0**
	comp=Z,1.1nm,0.7s,baz=102,slow=5.6,SNR=7.4							
BEKR	**Beckworth**	**127.27**	**33**	*e*PKPdf	**PKPdf**		**05 42 30.4**	**-0.4**

*ISCJB **14** 05:27:38.6±0.3,17°.47N±0°.04×73°.84E±0°.04, h6km, mb4.2/44, MS3.4/11, Error ellipse: s-maj=5.3km s-min=4.7km az=37.9*
*IDC **14** 05:27:38.8±0.7, 17°.23N×73°.66E, h0km, mb4.1/23, mb1 4.2/25, mb1mx4.0/65, mbtmp4.1/25, ML4.2/2, MS3.3/10, Ms1 3.3/10, ms1mx3.0/50, Error ellipse: s-maj=19.9km s-min=13.4km az=39.0*
*NEIC **14** 05:27:39.6±0.4, 17°.25N×73°.60E, h10km, mb4.4/18, Error ellipse: s-maj=9.1km s-min=6.6km az=42.0*
NEIC Felt [IV] at Ratnagiri, [III] at Pune and [II] at Bombay and Lohegaon. Felt northwest to Bhayandar, northeast to Bir, southeast to Kolhapur and south to Panaji.
*NDI **14** 05:27:41.2±2.1, 17°.40N×73°.81E, h12km, ML4.9*
ISC 14 05:27:39.1±0.4, 17°.32N±0°.03×73°.73E±0°.05, h6km, n108, o25/50/109, mb4.3/44, MS3.3/11, Southern India

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
POO	**Poona**	**1.21**	**5**	*e*P	**Pg**	**05 28 02.8**	**+0.4**
POO				*e*S	**Sg**	**05 28 18.1**	**0.0**
POO				IAML		05 28 19.2	
	comp=E,20μm,0.6s						
POO				IAML		05 28 20.5	
	comp=N,14μm,0.5s						
GOA	**Goa**	**1.82**	**177**	*e*P	**Pg**	**05 28 13.8**	**-0.1**
GOA				*e*S	**Sg**	**05 28 38.1**	**+0.6**
GOA				IAML		05 28 45.1	
	comp=E,30μm,0.5s						
GOA				IAML		05 28 45.9	
	comp=N,20μm,0.5s						
HYB	**Hyderabad**	**4.60**	**88**	*i* P	**Pn**	**05 28 49.0**	**-0.3**
HYB				*e*		05 29 02.5	
HYB				*e*Sn	**Sn**	**05 29 42.0**	**-1.2**
HYB				*e*		05 30 01.5	
HYB	**Hyderabad**	**4.60**	**88**	*e*P	**Pn**	**05 28 48.1**	**-1.2**
HYB				*e*S	**Sn**	**05 29 40.9**	**-2.3**
HYB				IAML		05 30 03.8	
	comp=E,2μm,0.9s						
HYB				IAML		05 30 04.0	
	comp=N,3μm,0.4s						
NGP	**Nagpur**	**6.30**	**52**	*e*P	**Pn**	**05 29 13.5**	**+0.8**
NGP				*e*S	**Sn**	**05 30 17.2**	**-7.9**
BHPL	**Bhopal**	**6.84**	**30**	*e*P	**Pn**	**05 29 20.2**	**+0.2**
BHPL				*e*S	**Sn**	**05 30 32.7**	**-5.5**
BHPL				IAML		05 31 19.3	
	comp=E,2μm,0.4s						
BHPL				IAML		05 31 20.5	
	comp=N,1μm,0.6s						
BHJ	**Bhuj**	**7.04**	**328**	*e*P	**Pn**	**05 29 22.9**	**+0.1**
BHJ				*e*x	x	05 30 28.1	
MDRS	**Chennai**	**7.57**	**123**	*e*P	**Pn**	**05 29 30.4**	**+0.3**
VIS	**Vishakhapatnam**	**9.16**	**86**	*e*P	**Pn**	**05 29 51.0**	**-0.9**
VIS				*e*S	Sn	05 31 25.8	-10
VIS				*e*x	x	05 32 22.8	
	comp=N,1μm,0.8s						
VIS				*e*x	x	05 32 23.7	
	comp=E,451nm,0.6s						
PALK	**Pallekele**	**12.08**	**145**	Pn	**Pn**	**05 30 30.8**	**-1.1**
	comp=E,2.6nm,0.3s,baz=296,slow=12,SNR=12						
PALK				Sn	**Sn**	**05 32 39.8**	**-7.3**
	comp=E,1.4nm,0.3s,baz=114,slow=20,SNR=3.5						
PALK				LR	LR	05 34 25.1	
	comp=E,205nm,20.1s,baz=296,slow=34						
PALK	**Pallekele**	**12.08**	**145**	*e*Pn	**Pn**	**05 30 30.7**	**-1.3**
PALK				*e*Sn	**Sn**	**05 32 43.9**	**-3.2**
BOK	**Bokaro**	**13.08**	**58**	*e*P	**Pn**	**05 30 43.2**	**-2.2**
BOK				*e*S	Sn	05 32 59.0	-12
DDI	**Dehra Dun**	**13.53**	**16**	*e*S	Sn	05 33 08.0	-15
PYUN	**Piuthan**	**13.71**	**37**	*e*P	**Pn**	**05 30 51.8**	**-2.5**
KOLN	**Koldanda**	**13.82**	**39**	*e*P	**Pn**	**05 30 52.7**	**-3.2**
	comp=E,112nm,0.5s						
GKN	**Gorkha**	**14.63**	**41**	*e*P	**Pn**	**05 31 03.6**	**-3.3**
	comp=E,138nm,0.4s						
DMN	**Daman**	**14.67**	**44**	*e*P	**Pn**	**05 31 04.0**	**-3.5**
	comp=E,112nm,0.8s						
PKIN	**Phulchoki**	**14.84**	**44**	*e*P	**Pn**	**05 31 06.1**	**-3.7**
	comp=E,184nm,0.7s						
KKN	**Kakani**	**14.90**	**44**	*e*P	**Pn**	**05 31 06.5**	**-4.1**
	comp=E,72nm,0.4s						
RAMN	**Ramite**	**15.29**	**49**	*e*P	**Pn**	**05 31 12.5**	**-3.3**
	comp=E,105nm,0.4s						
WSAR	**Wadi Sarin**	**15.34**	**295**	Pn	**Pn**	**05 31 15.5**	**-0.8**
	comp=E,0.5nm,0.3s,baz=137,slow=9.4,SNR=3.7						
WSAR				Sn	**Sn**	**05 33 56.4**	**-10**
	comp=E,0.5nm,0.3s,baz=24,slow=12,SNR=5.1						
GUN	**Gumba**	**15.38**	**45**	*e*P	**Pn**	**05 31 13.7**	**-3.4**
	comp=E,81nm,0.5s						
JIRN	**Jiri**	**15.43**	**46**	*e*P	**Pn**	**05 31 14.0**	**-3.8**
	comp=E,101nm,0.4s						
ODAN	**Odare**	**15.81**	**51**	*e*P	**Pn**	**05 31 19.0**	**-3.6**
	comp=E,58nm,0.5s						
NIL	**Nilore**	**16.27**	**359**	*e*Pn	**Pn**	**05 31 27.2**	**-1.1**
	comp=E,8.2nm,0.8s						
KBL	**Kabul**	**17.66**	**347**	*e*Pn	**Pn**	**05 31 44.4**	**-1.6**
	comp=E,14nm,1.1s						
SHL	**Shillong**	**18.77**	**61**	*e*P	**Pn**	**05 32 01.2**	**+1.5**
DGPR	**DIGLIPUR**	**18.97**	**100**	*e*P	**Pn**	**05 32 04.4**	**+2.5**
TEZP	**TEZPUR**	**19.94**	**59**	*e*P	**Pn**	**05 32 17.8**	**+4.3**
LSA	**Lhasa**	**20.14**	**49**	P	Pn	05 32 21.5	+5.1
LSA				pmax	pmax		
	comp=Z,22nm,0.6s						
LSA	**Lhasa**	**20.14**	**49**	*e*P	Pn	05 32 16.2	-0.2
	comp=Z,19nm,0.8s						
MOKO	**MOKOCHONG**	**21.25**	**61**	*e*P	**P**	**05 32 32.3**	**+6.1**
CHTO	**Chiang Mai**	**24.01**	**83**	*e*P	**P**	**05 32 56.4**	**+1.5**
	comp=Z,2.7nm,0.9s						
CM31	**Chiang Mai Arr**	**24.01**	**83**	*e*P	**P**	**05 32 56.7**	**+1.7**
CMAR	**Chiang Mai Arr**	**24.01**	**83**	P	**P**	**05 32 56.9**	**+1.9**
	comp=Z,2.4nm,0.7s,baz=276,slow=9.3,SNR=22						
CM01	**Chiang Mai Arr**	**24.03**	**84**	*e*P	**P**	**05 32 57.5**	**+0.6**
TARG	**Taragay, Kyrgy**	**24.58**	**7**	*e*P	**P**	**05 32 59.3**	**-1.1**
	comp=Z,4.1nm,0.9s						
GEYT	**Alibeck**	**24.69**	**329**	P	**P**	**05 33 03.1**	**+2.1**
	comp=Z,1.5nm,0.3s,baz=160,slow=9.3,SNR=5.0						
AML	**Almayashu**	**24.73**	**360**	P	**P**	**05 33 04.0**	**+2.3**
	SNR=10						
UCH	**Uchtor**	**24.84**	**1**	P	**P**	**05 33 05.4**	**+2.6**
	SNR=14						
KDJ	**Kajisay**	**24.91**	**6**	*e*P	**P**	**05 33 04.3**	**+1.3**
	comp=Z,19nm,1.1s						
AAK	**Ala-Archa**	**25.25**	**1**	P	**P**	**05 33 08.5**	**+2.4**
	comp=Z,3.3nm,0.7s,baz=186,slow=10,SNR=7.9						
AAK				LR	LR	05 42 00.2	
	comp=Z,87nm,19.6s,baz=176,slow=34						
AAK	**Ala-Archa**	**25.25**	**1**	P	**P**	**05 33 10.7**	**+4.6**
	SNR=5.2						
AAK	**Ala-Archa**	**25.25**	**1**	*e*P	**P**	**05 33 06.8**	**+0.7**
	comp=Z,14nm,1.4s						
EKS2	**Erkin-Say**	**25.26**	**0**	P	**P**	**05 33 08.8**	**+2.6**
	SNR=22						
KBK	**Karagaybulak**	**25.28**	**2**	P	**P**	**05 33 10.6**	**+4.2**
	SNR=12						
KK31	**Karatay Array**	**25.85**	**355**	*e*P	**P**	**05 33 11.7**	**+0.3**
KKAR	**Karatay Array**	**25.85**	**355**	*e*P	**P**	**05 33 11.7**	**+0.3**
KMI	**Kunming**	**28.09**	**69**	P	**P**	**05 33 33.8**	**+1.8**
KMI				pmax	pmax		
	comp=Z,10.0nm,0.5s						
WMQ	**Urumqi**	**28.94**	**21**	P	**P**	**05 33 40.9**	**+1.7**
WMQ				pmax	pmax		
	comp=Z,13nm,0.7s						
WMQ				LR	LR		
	comp=N,320nm,16.9s						
WMQ				LR	LR		
	comp=E,590nm,18.1s						
WMQ				LR	LR		
	comp=E,140nm,18.7s						
MAKZ	**Makanchi**	**30.19**	**11**	*e*P	**P**	**05 33 50.5**	**+0.3**
	comp=Z,1.2nm,0.6s						
MK01	**Makanchi Array**	**30.21**	**12**	*e*P	**P**	**05 33 50.3**	**-0.1**
MK31	**Makanchi Array**	**30.23**	**12**	*e*P	**P**	**05 33 51.3**	**+0.7**
MKAR	**Makanchi Array**	**30.23**	**12**	P	**P**	**05 33 51.4**	**+0.8**
	comp=Z,0.9nm,0.6s,baz=208,slow=9.4,SNR=5.3						
MKAR				LR	LR	05 44 52.6	
	comp=Z,27nm,21.8s,baz=200,slow=34						
MKAR	**Makanchi Array**	**30.23**	**12**	*e*P	**P**	**05 33 50.5**	**-0.1**
	comp=Z,8.9nm,0.5s						
GTA	**Gaotai**	**31.60**	**41**	*e*P	**P**	**05 34 04.8**	**+1.9**
GTA				pP	sP	05 34 09.4	+3.9
GTA				sP	pP	05 34 11.9	+7.2
GTA				pmax	pmax		
	comp=Z,3.0nm,1.3s						
LZH	**Lanzhou**	**32.56**	**49**	*e*P	**P**	**05 34 13.0**	**+1.6**
LZH				pP	sP	05 34 17.8	+3.8
LZH				sP	pP	05 34 19.8	+6.6
LZH				*e*PP	**PP**	**05 35 24.1**	**-0.8**
LZH				pmax	pmax		
	comp=Z,25nm,0.9s						
LZH				pmax	pmax		
	comp=Z,210nm,7.1s						
LZH				LR	LR		
	comp=N,230nm,13.3s						
LZH				LR	LR		
	comp=E,240nm,13.5s						
LZH				LR	LR		
	comp=Z,230nm,14.9s						
KURBB	**Kurchatov Arra**	**33.45**	**6**	P	**P**	**05 34 19.9**	**+1.2**
	comp=Z,2.8nm,0.8s,baz=202,slow=8.7,SNR=13						
KURK	**Kurchatov**	**33.55**	**6**	*e*P	**P**	**05 34 20.1**	**+0.5**
	comp=Z,6.3nm,0.8s						
ABKAR	**Akbulak array**	**33.77**	**344**	*e*P	**P**	**05 34 23.6**	**+2.0**
	comp=Z,44nm,0.6s						
ENH	**Enshi**	**35.01**	**62**	*e*P	**P**	**05 34 34.1**	**+1.5**
	comp=Z,6.7nm,0.8s						
AKTO	**Aktyubinsk**	**35.37**	**343**	P	**P**	**05 34 36.5**	**+1.2**
	comp=Z,1.1nm,0.6s,baz=180,slow=13,SNR=4.5						
BVAR	**Borovoye Array**	**35.73**	**357**	P	**P**	**05 34 39.6**	**+1.1**
	comp=Z,1.7nm,0.5s,baz=168,slow=10.0,SNR=11						
BRVK	**Borovoye**	**35.77**	**356**	*e*P	**P**	**05 34 35.9**	**-2.9**
	comp=Z,1.9nm,0.8s						
KBZ	**Khabaz**	**37.02**	**322**	P	**P**	**05 34 53.0**	**+3.4**
	comp=Z,1.3nm,0.8s,baz=143,slow=5.1,SNR=2.1						
KIV	**Kislovodsk**	**37.28**	**322**	*e*P	**P**	**05 34 51.3**	**-0.6**
	comp=Z,11nm,1.2s						
ZAA0	**Zalesovo Array**	**37.56**	**11**	*e*P	**P**	**05 34 54.3**	**+0.2**
	comp=Z,3.2nm,0.9s						
ZALV	**Zalesovo Beam**	**37.56**	**11**	P	**P**	**05 34 55.0**	**+1.0**
	comp=Z,1.9nm,0.5s,baz=198,slow=8.5,SNR=5.8						
ZALV				LR	LR	05 51 10.3	
	comp=Z,31nm,18.2s,baz=256,slow=38						
ZALV	**Zalesovo Beam**	**37.56**	**11**	*e*P	**P**	**05 34 53.7**	**-0.3**
HHC	**Hu-ho-hao-te**	**40.08**	**46**	*e*P	**P**	**05 35 16.3**	**+0.7**
HHC				pmax	pmax		
	comp=Z,14nm,1.0s						
HHC				pmax	pmax		
	comp=Z,12nm,6.4s						
SONM	**Songino Array**	**40.50**	**34**	P	**P**	**05 35 20.7**	**+1.8**
	comp=Z,2.1nm,0.7s,baz=224,slow=8.3,SNR=4.7						
SONA1	**Songino Array**	**40.51**	**34**	*e*P	**P**	**05 35 20.9**	**+1.9**
ARU	**Arti**	**40.70**	**347**	P	**P**	**05 35 21.3**	**+1.1**
	comp=Z,2.7nm,0.4s,baz=172,slow=2.4,SNR=6.0						
ARU	**Arti**	**40.70**	**347**	*e*P	**P**	**05 35 19.1**	**-1.2**
	comp=Z,4.3nm,0.8s						
BRTR	**Keskin Array B**	**41.25**	**311**	P	**P**	**05 35 26.4**	**+1.1**
	comp=Z,0.3nm,0.5s,baz=126,slow=7.3,SNR=3.4						
TLY	**Talaya**	**41.67**	**28**	LR	LR	05 55 42.2	
	comp=Z,40nm,19.2s,baz=252,slow=40						
OPO	**Ambohidratompo**	**44.20**	**217**	LR	LR	05 48 56.8	
	comp=Z,92nm,20.3s,baz=111,slow=29						
AKASG	**Malin Array Be**	**48.58**	**324**	P	**P**	**05 36 24.0**	**+0.7**
	comp=Z,0.4nm,0.6s,baz=115,slow=5.8,SNR=3.5						
BUR04	**Bucovina Ar. S**	**49.77**	**318**	*e*P	**P**	**05 36 30.9**	**-1.7**
DAV	**Davao City (W)**	**51.55**	**95**	LR	LR	05 59 37.2	
	comp=Z,21nm,20.9s,baz=110,slow=37						
LUWI	**Luwuk**	**51.63**	**106**	*e*P	**P**	**05 36 46.8**	**-0.2**
	comp=Z,44nm,0.4s						
FIA1	**FINESS Array S**	**55.34**	**334**	*e*P	**P**	**05 37 14.5**	**+1.0**
FINES	**FINESS Array B**	**55.35**	**334**	P	**P**	**05 37 14.3**	**+0.7**
	comp=Z,2.6nm,0.8s,baz=150,slow=7.9,SNR=4.0						
USRK	**Ussuriysk Ar.**	**55.46**	**48**	P	**P**	**05 37 15.6**	**+0.9**
	comp=Z,2.0nm,0.6s,baz=255,slow=6.9,SNR=5.4						
KLR	**Kul'dur**	**56.28**	**42**	LR	LR	06 01 14.6	
	comp=Z,4.7nm,19.5s,slow=36						
GEA0	**GERESS Array S**	**57.50**	**317**	*e*P	**P**	**05 37 26.6**	**-2.6**
GERES	**GERESS Array B**	**57.50**	**317**	P	**P**	**05 37 29.2**	**0.0**
	comp=Z,0.6nm,0.7s,baz=93,slow=8.0,SNR=3.6						
HFS	**Hagfors**	**60.34**	**330**	P	**P**	**05 37 49.3**	**+0.6**
	comp=Z,3.1nm,0.9s,baz=126,slow=9.1,SNR=4.5						
NB2	**NORSAR Subarra**	**61.77**	**331**	P	**P**	**05 37 57.9**	**-0.5**
	comp=Z,2.0nm,0.8s,baz=104,slow=7.4						
NOA	**NORSAR Array B**	**61.77**	**331**	P	**P**	**05 37 58.4**	**0.0**
	comp=Z,1.1nm,0.8s,baz=105,slow=7.2,SNR=3.8						
BOSA	**Boshof**	**65.43**	**226**	P	**P**	**05 38 26.7**	**+3.5**
	comp=Z,2.8nm,0.8s,baz=37,slow=10,SNR=3.9						
TSUM	**Tsumeb**	**66.04**	**239**	*e*P	**P**	**05 38 24.3**	**-3.0**
	comp=Z,6.6nm,1.5s						
SPA0	**Spitsbergen Ar**	**66.69**	**349**	*e*P	**P**	**05 38 32.0**	**+1.6**
SPITS	**Spitsbergen Ar**	**66.69**	**349**	P	**P**	**05 38 31.8**	**+1.3**
	comp=Z,9.4nm,1.0s,baz=95,slow=4.8,SNR=12						
MA2	**Magadan**	**68.67**	**32**	LR	LR	06 10 08.0	
	comp=Z,31nm,18.1s,baz=309,slow=37						
TOA0	**Torodi Ar. Sit**	**69.28**	**278**	*e*P	**P**	**05 38 46.3**	**-1.5**
TORD	**Torodi Ar. Bea**	**69.28**	**278**	P	**P**	**05 38 48.6**	**+0.9**
	comp=Z,0.8nm,0.7s,baz=85,slow=5.8,SNR=3.4						
ESDC	**Sonseca Array**	**69.81**	**307**	P	**P**	**05 38 51.3**	**+0.6**
	comp=Z,0.7nm,0.6s,baz=111,slow=7.0,SNR=3.6						
WRA	**Warramunga Arr**	**70.08**	**119**	P	**P**	**05 38 53.4**	**+0.9**
	comp=Z,1.6nm,0.6s,baz=306,slow=5.8,SNR=22						
WRAB	**Tennant Creek**	**70.08**	**119**	*e*P	**P**	**05 38 53.2**	**+0.6**
	comp=Z,4.5nm,1.0s						
WB2	**Warramunga Arr**	**70.09**	**119**	*e*P	**P**	**05 38 53.6**	**+1.0**
	comp=Z,3.5nm,0.6s						
ASAR	**Alice Springs**	**71.48**	**123**	P	**P**	**05 39 02.0**	**+0.9**
	comp=Z,1.9nm,0.6s,baz=302,slow=5.7,SNR=17						
AS01	**Alice Springs**	**71.52**	**123**	*e*P	**P**	**05 39 01.9**	**+0.6**
PETK	**Petropavlovsk-**	**72.75**	**39**	LR	LR	06 13 45.8	
	comp=Z,73nm,19.8s,baz=285,slow=38						
KOWA	**Kowa**	**74.34**	**281**	P	**P**	**05 39 18.7**	**+0.5**
	comp=Z,2.2nm,0.8s,baz=72,slow=3.2,SNR=5.2						
PDAR	**Pinedale Array**	**120.14**	**3**	PKP	**PKPdf**	**05 46 31.8**	**+0.2**
	comp=Z,0.7nm,0.5s,baz=91,slow=2.4,SNR=7.1						
MNMC	**Minye Minye**	**145.16**	**261**	*e*PKPdf	**PKPbc**	**05 47 16.1**	**-2.3**
PB11	**IPOC Station P**	**145.25**	**260**	*e*PKPbc	**PKPbc**	**05 47 16.3**	**-2.2**

*ISCJB **14** 05:28:53.5±0.7, 25°.2N±0°.1×124°.60E±0°.05, h112km±5km, mb3.4/3, Error ellipse: s-maj=17.6km s-min=6.1km az=162.5*
*JMA **14** 05:28:54.4±0.2, 25°.22N×124°.56E, h103km±4km, M2.9*
*IDC **14** 05:29:04.2±5.3, 25°.17N×126°.01E, h175km±39km, mb3.0/3, mb1 3.2/5, mb1mx2.9/61, mbtmp3.5/5, Error ellipse: s-maj=121.6km s-min=20.6km az=92.0*
ISC 14 05:28:53.6±0.9, 25°.3N±0°.1×124°.59E±0°.06, h104km±10km, n17, o98/30, mb3.5/3, Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTJ	**Tarama**	**0.70**	**172**	P	**Pn**	**05 29 11.4**	**0.0**
JTJ				S	**Sn**	**05 29 24.6**	**-0.1**
JIKM	**Ikemajima**	**0.72**	**125**	P	**Pn**	**05 29 12.1**	**+0.6**
JIKM				S	**Sn**	**05 29 25.7**	**+0.7**
JIRB	**Irabujima**	**0.73**	**134**	P	**Pn**	**05 29 11.7**	**+0.1**
JIRB				S	**Sn**	**05 29 24.7**	**-0.5**
JISG	**Ishigakijimahi**	**0.79**	**199**	P	**Pn**	**05 29 11.9**	**-0.3**
JISG				S	**Sn**	**05 29 25.0**	**-1.1**
JMJ	**Miyako jima 2**	**0.82**	**129**	P	**Pn**	**05 29 13.0**	**+0.5**
JMJ				S	**Sn**	**05 29 27.1**	**+0.4**
JOGS	**Gusukube**	**0.94**	**128**	P	**Pn**	**05 29 14.3**	**+0.7**
JOGS				S	**Sn**	**05 29 29.6**	**+0.9**
JIJ	**

MHGZ	Mahia Peninsul	3.37	189	Pn	Pn	05 39 28.6	+0.8
MHGZ	Mahia Peninsul	3.37	189	P	Pn	05 39 28.6	+0.9
WHHZ	Waihua	3.42	198	P	Pn	05 39 29.6	+1.2
WCZ	Waipu Caves	3.44	267	P	Pn	05 39 34.7	+6.0
NMHZ	Naumai	3.56	203	Pn	Pn	05 39 31.4	+1.2
NMHZ	Naumai	3.56	203	P	Pn	05 39 31.5	+1.3
ARHZ	Aropaoanui	3.66	200	Pn	Pn	05 39 32.1	+0.9
BKZ	Black Stump Fm	3.72	206	Pn	Pn	05 39 32.9	+0.8
BKZ	Black Stump Fm	3.72	206	P	Pn	05 39 33.0	+0.8
CKHZ	Cape Kidnapper	4.01	197	Pn	Pn	05 39 35.8	+0.3
OTVZ	Oturere	4.06	214	Pn	Pn	05 39 37.8	+1.5
BHHZ	Black Hill Sta	4.17	208	Pn	Pn	05 39 38.5	+0.8
FWVZ	Far West T-bar	4.18	214	Pn	Pn	05 39 39.6	+1.6
KAHZ	Kahuranaki	4.18	198	Pn	Pn	05 39 38.5	+0.6
KAHZ	Kahuranaki	4.18	198	P	Pn	05 39 38.4	+0.6
KRHZ	Kereru	4.19	204	P	Pn	05 39 38.0	+0.1
WNVZ	Wahianoa	4.22	213	Pn	Pn	05 39 39.6	+1.1
PXZ	Pawanui	4.41	197	Pn	Pn	05 39 40.3	-0.3
PNHZ	Pukenui	4.49	204	Pn	Pn	05 39 42.0	+0.3
PRHZ	Porangahau	4.69	198	Pn	Pn	05 39 43.9	-0.3
TSZ	Takapari Road	4.71	205	Pn	Pn	05 39 44.1	-0.3
PRWZ	Pori Road	5.15	203	Pn	Pn	05 39 50.5	+0.6
BFZ	Birch Farm	5.18	200	Pn	Pn	05 39 49.9	-0.5
MRZ	Mangatainoka R	5.37	205	Pn	Pn	05 39 52.0	-0.8
TIWZ	Tintock	5.38	202	Pn	Pn	05 39 53.1	+0.2
HOWZ	Holdsworth Sta	5.61	204	Pn	Pn	05 39 55.0	-0.8
TMWZ	Te Maipa	5.68	201	Pn	Pn	05 39 55.6	-1.2
KIW	Kapiti Island	5.79	209	Pn	Pn	05 39 58.1	-0.1
MTW	Mount Morrison	5.84	203	Pn	Pn	05 39 58.4	-0.5
CAW	Cannon Point	5.95	206	Pn	Pn	05 39 59.4	-0.8
PLWZ	Palliser	6.30	203	Pn	Pn	05 40 03.4	-1.3
TCW	Tory Channel	6.34	211	Pn	Pn	05 40 04.9	-0.5

ISCJB ***14*** *05:41:29.3±1.1, 1°.6N±0°.2×89°.5E±0°.1, h10km, mb3.7/7, MS3.2/3, Error ellipse: s-maj=25.9km s-min=14.8km az=41.1*

IDC ***14*** *05:41:29.9±1.7, 1°.61N×89°.51E, h0km, mb3.6/7, mb1 3.7/9, mb1mx3.5/70, mbtmp3.6/9, ML3.3/2, MS3.2/5, Ms1 3.2/5, ms1mx2.7/56, Error ellipse: s-maj=51.7km s-min=20.3km az=54.0*

ISC 14 05:41:31.5±1.4, 1°.6N±0°.2×89°.5E±0°.2, h10km, n15, σ0s24/9, mb3.7/7, MS3.2/3, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**10.43**	**303**	**Pn**	**Pn**	**05 44 01.2**	**-0.1**
	0.3nm,0.3s,baz=114,slow=14,SNR=2.6						
PALK				Sn	Sn	05 45 47.0	-11
	2.0nm,0.3s,baz=295,slow=4.5,SNR=5.4						
PALK				LR	LR	05 47 45.9	
	comp=Z,58nm,18.1s,baz=116,slow=36						
CMAR	**Chiang Mai Arr**	**19.09**	**28**	P	**Pn**	**05 45 55.1**	**-0.3**
	0.0nm,0.3s,baz=221,slow=11,SNR=2.8						
H08S2	**Diego Garcia H**	**19.34**	**241**	T	T	06 05 45.8	
	baz=60,slow=75,SNR=13						
H08S3	**Diego Garcia H**	**19.34**	**241**	T	T	06 05 52.9	
	baz=60,slow=75,SNR=12						
H08S1	**Diego Carcia H**	**19.36**	**241**	T	T	06 06 00.6	
	baz=60,slow=75,SNR=7.3						
LEM	**Lembang**	**19.91**	**115**	LR	LR	05 52 32.4	
	comp=Z,78nm,18.9s,baz=192,slow=33						
MKAR	**Makanchi Array**	**45.41**	**353**	P	**P**	**05 49 50.4**	**-0.1**
	0.6nm,0.7s,baz=165,slow=9.7,SNR=3.7						
SONM	**Songino Array**	**48.27**	**15**	P	**P**	**05 50 13.2**	**+0.2**
	0.8nm,0.4s,baz=194,slow=8.9,SNR=3.3						
WRA	**Warramunga Arr**	**48.89**	**118**	P	**P**	**05 50 18.2**	**+0.2**
	0.5nm,0.6s,baz=297,slow=8.6,SNR=6.1						
KURBB	**Kurchatov Arra**	**49.69**	**351**	P	**P**	**05 50 23.3**	**-0.3**
	0.5nm,0.7s,baz=175,slow=7.1,SNR=4.6						
ASAR	**Alice Springs**	**49.92**	**123**	P	**P**	**05 50 25.7**	**-0.2**
	0.3nm,0.6s,baz=295,slow=7.4,SNR=3.8						
KSRS	**Korea Array**	**50.15**	**40**	LR	LR	06 13 02.9	
	comp=Z,20nm,18.2s,baz=148,slow=38						
ZALV	**Zalesovo Beam**	**52.28**	**356**	P	**P**	**05 50 43.1**	**+0.1**
	0.6nm,0.4s,baz=190,slow=7.2,SNR=3.3						
ZALV				LR	LR	06 14 01.7	
	comp=Z,15nm,21.6s,baz=44,slow=37						
BVAR	**Borovoye Array**	**53.62**	**346**	P	**P**	**05 50 53.2**	**+0.2**
	0.6nm,0.7s,baz=184,slow=4.3,SNR=2.3						
BOSA	**Boshof**	**68.42**	**238**	LR	LR	06 20 32.0	
	comp=Z,32nm,18.4s,baz=140,slow=34						

IDC 14 05:47:16.8±2.1, 6°.74S×130°.02E, h0km, mb3.4/1, mb1 3.7/4, mb1mx3.4/50, mbtmp3.5/4, ML3.6/3, Error ellipse: s-maj=80.9km s-min=27.9km az=77.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.07**	**200**	Pn	Pn	05 50 12.2	+1.9
	0.7nm,0.3s,baz=22,slow=9.0,SNR=37						
FITZ				Sn	Sn	05 52 18.1	-7.7
	0.5nm,0.3s,baz=162,slow=20,SNR=4.9						
WRA	**Warramunga Arr**	**13.78**	**163**	Pn	Pn	05 50 31.9	-1.7
	0.2nm,0.3s,baz=340,slow=13,SNR=15						
WRA				Sn	Sn	05 52 52.3	-15
	0.7nm,0.3s,baz=340,slow=22,SNR=13						
ASAR	**Alice Springs**	**17.24**	**168**	P	Pn	05 51 19.0	-0.2
	0.1nm,0.3s,baz=345,slow=9.8,SNR=9.4						
ASAR				S	Sn	05 54 16.7	-15
	0.1nm,0.3s,baz=347,slow=15,SNR=5.3						
MKAR	**Makanchi Array**	**68.02**	**327**	P	P	05 58 18.0	0.0
	0.2nm,0.4s,baz=131,slow=6.6,SNR=3.9						

TIR ***14*** *05:49:02.6, 39°.47N×20°.09E, h7km, Md2.1/2*

CSEM ***14*** *05:49:04.0±0.1, 39°.68N×20°.39E, h5km, ML2.2, Error ellipse: s-maj=3.1km s-min=2.3km az=20.0*

THE ***14*** *05:49:04.7, 39°.65N×20°.36E, h0km±2km, ML1.8/3, Error ellipse: s-maj=2.7km s-min=0.8km az=228.0*

ATH 14 05:49:03.8, 39°.67N×20°.37E, h10km±4km, ML2.2/3, Error ellipse: s-maj=4.7km s-min=0.9km az=223.0, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGD	**Sagiada**	**0.12**	**240**	P	Pg	05 49 06.5	-0.3
SGD	**Sagiada**	**0.12**	**240**	P	Pg	05 49 06.7	-0.1
IGT	**Igoumenitsa**	**0.14**	**192**	P	Pg	05 49 06.7	-0.4
IGT				S	Sg	05 49 10.3	+0.9
IGT				AML	AML	05 49 10.8	
	comp=E,2199μm,0.4s						
IGT				AML	AML	05 49 11.3	
	comp=N,2817μm,0.4s						
IGT	**Igoumenitsa**	**0.14**	**192**	P	Pg	05 49 07.0	-0.1
IGT				S	Sg	05 49 09.3	-0.1
IGT	**Igoumenitsa**	**0.14**	**192**	P	Pg	05 49 07.0	-0.1
IGT				S	Sg	05 49 10.0	+0.6
KASA	**Kassiopi**	**0.34**	**282**	P	Pg	05 49 11.1	+0.4
KASA				S	Sb	05 49 16.8	-0.7
KASA	**Kassiopi**	**0.34**	**282**	P	Pg	05 49 10.9	+0.2
KASA				S	Sg	05 49 16.2	+0.9
SRN	**Sarande**	**0.35**	**306**	P	Pg	05 49 10.9	+0.1
SRN				S	Sb	05 49 17.7	0.0
SRN	**Sarande**	**0.35**	**306**	P	Pg	05 49 10.9	+0.1
SRN	**Sarande**	**0.35**	**306**	*i* Pg	Pg	05 49 11.2	+0.4
SRN				*i* Sg	Sb	05 49 17.5	-0.2
SRN	**Sarande**	**0.35**	**306**	*i* PG	Pg	05 49 11.2	+0.3
SRN				*i* SG	Sb	05 49 17.6	-0.2
JAN	**Janina**	**0.37**	**92**	P	Pg	05 49 11.4	+0.2
JAN				S	Sb	05 49 17.4	-0.9
JAN				AML	AML	05 49 19.0	
	comp=E,1713μm,0.2s						
JAN				AML	AML	05 49 19.3	
	comp=N,1422μm,0.3s						
JAN	**Janina**	**0.37**	**92**	P	Pg	05 49 11.3	+0.1
JAN				S	Sb	05 49 18.6	+0.3
JAN	**Janina**	**0.37**	**92**	P	Pg	05 49 11.2	0.0
JAN				S	Sg	05 49 16.9	+0.8
KEK	**Kerkira**	**0.44**	**275**	P	Pg	05 49 12.0	-0.5
KEK				S	Sb	05 49 19.9	-0.5
KEK				AML	AML	05 49 24.8	
	comp=N,462μm,0.4s						
KEK				AML	AML	05 49 26.4	
	comp=E,621μm,0.6s						
KEK	**Kerkira**	**0.44**	**275**	P	Pg	05 49 12.3	-0.2
KEK				S	Sb	05 49 20.2	-0.2
KEK	**Kerkira**	**0.44**	**275**	P	Pg	05 49 12.3	-0.2
KEK				S	Sg	05 49 19.4	+1.0
DSL	**Palaion Diesel**	**0.78**	**134**	P	Pg	05 49 17.1	-1.8
DSL				S	Sb	05 49 29.8	-0.3
DSL	**Palaion Diesel**	**0.78**	**134**	P	Pg	05 49 17.8	-1.0
DSL				S	Sb	05 49 29.6	-0.4
PENT	**Pentalofos**	**0.79**	**48**	P	Pg	05 49 18.2	-0.9
PENT	**Pentalofos**	**0.79**	**48**	P	Pg	05 49 18.5	-0.5
KPRO	**Kipourio**	**0.81**	**69**	P	Pg	05 49 18.8	-0.7
KPRO				S	Sg	05 49 29.2	-1.0
KPRO	**Kipourio**	**0.81**	**69**	P	Pg	05 49 19.4	-0.1
KPRO				S	Sb	05 49 32.1	+1.0
KPRO	**Kipourio**	**0.81**	**69**	P	Pg	05 49 19.4	-0.1
KPRO				S	Sg	05 49 29.9	-0.3
NEST	**Nestorio**	**0.90**	**35**	P	Pg	05 49 21.0	-0.3
NEST	**Nestorio**	**0.90**	**35**	P	Pn	05 49 22.2	-0.4
NEST				S	Sn	05 49 35.9	+0.1
NEST	**Nestorio**	**0.90**	**35**	P	Pg	05 49 21.0	-0.3
NEST				S	Sn	05 49 35.9	+0.1
LKD2	**Lefkada island**	**0.91**	**166**	P	Pg	05 49 19.6	-1.8
LKD2				S	Sb	05 49 34.0	+0.2
LKD2	**Lefkada island**	**0.91**	**166**	P	Pb	05 49 21.6	-0.1
LKD2				S	Sb	05 49 34.7	+0.9
LKD2	**Lefkada island**	**0.91**	**166**	P	Pb	05 49 21.6	-0.1
LKD2				S	Sb	05 49 33.9	+0.1
FSK	**Fiskardo**	**1.22**	**173**	P	Pn	05 49 25.9	-1.0
FSK	**Fiskardo**	**1.22**	**173**	P	Pn	05 49 26.6	-0.3
FSK				S	Sn	05 49 44.9	+1.5
PDO	**Prodromos**	**1.25**	**149**	P	Pg	05 49 28.2	+0.5
PDO	**Prodromos**	**1.25**	**149**	P	Pg	05 49 27.8	+0.1
THL	**Klokotos Trika**	**1.27**	**94**	P	Pg	05 49 28.4	+0.1
THL	**Klokotos Trika**	**1.27**	**94**	P	Pg	05 49 28.1	-0.2
FNA	**Florina**	**1.35**	**34**	P	Pn	05 49 28.7	0.0
FNA	**Florina**	**1.35**	**34**	P	Pg	05 49 30.7	+1.0
FNA				S	Sg	05 49 49.9	+2.6
FNA	**Florina**	**1.35**	**34**	P	Pb	05 49 29.0	-0.2
FNA				S	Sg	05 49 49.9	+2.6
AGG	**Agios Georgios**	**1.65**	**113**	P	Pb	05 49 34.0	-0.3
AGG	**Agios Georgios**	**1.65**	**113**	P	Pb	05 49 34.5	+0.2

NIED ***14*** *05:58:00, 37°.90N×144°.40E, h8km, Mw3.6 Best double couple: M0 2.91000×10^14 NP1:φs58.00000°, δ35.00000°, λ-27.00000°. NP2:φs170.00000°, δ75.00000°, λ-122.00000°.*

IDC ***14*** *05:58:42.8±1.4, 37°.72N×144°.80E, h0km, mb3.4/3, mb1 3.6/6, mb1mx3.3/63, mbtmp3.6/6, ML3.6/3, Error ellipse: s-maj=36.0km s-min=23.4km az=113.0*

ISCJB ***14*** *05:58:45.9±0.8, 37°.88N±0°.05×144°.58E±0°.07, h33km, mb3.4/3, Error ellipse: s-maj=8.0km s-min=7.2km az=138.4*

JMA ***14*** *05:58:47.9±0.2, 37°.91N×144°.37E, h27km, M3.8*

ISC 14 05:58:47.3±1.2, 37°.78N±0°.06×144°.58E±0°.09, h35km, n16, σ1s83/24, mb3.5/3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**2.63**	**300**	P	**Pn**	**05 59 27.2**	**0.0**
JIO	**Ouri**	**2.64**	**286**	P	**Pn**	**05 59 27.4**	**+0.1**
JIO				S	**Sn**	**05 59 56.3**	**-1.8**
MIYJ	**Miyakonagasawa**	**2.81**	**311**	P	**Pn**	**05 59 29.1**	**-0.6**
MIYJ				S	**Sn**	**05 59 59.9**	**-2.4**
JMK	**Ichinoseki**	**2.89**	**295**	P	**Pn**	**05 59 31.4**	**+0.6**
JOM	**Ohasama**	**3.08**	**304**	P	**Pn**	**05 59 33.6**	**+0.2**
JOM				S	**Sn**	**06 00 08.1**	**-0.9**
JFT	**Otama**	**3.38**	**267**	P	**Pn**	**05 59 39.7**	**+2.1**
JFT				S	**Sn**	**06 00 16.1**	**-0.4**
JYK	**Kaneyama**	**3.51**	**290**	P	**Pn**	**05 59 40.2**	**+0.9**
JYK				S	**Sn**	**06 00 19.1**	**-0.5**
JRY	**Ryogami san**	**4.88**	**251**	P	**Pn**	**05 59 58.7**	**+0.5**
JRY				*e*S	**Sn**	**06 00 50.7**	**-2.8**
JCH	**Churui**	**4.92**	**349**	P	**Pn**	**05 59 57.8**	**-0.9**
MJAR	**Matsushiro Arr**	**5.24**	**258**	Pn	**Pn**	**06 00 05.2**	**+2.1**
	1.0nm,0.3s,baz=82,slow=14,SNR=7.6						
JHJ	**Hachijo jima 2**	**6.08**	**222**	Pn	**Pn**	**06 00 14.5**	**-0.2**
	5.2nm,0.3s,baz=340,slow=6.9,SNR=2.9						
JHJ				Sn	**Sn**	**06 01 17.4**	**-5.6**
	9.8nm,0.3s,baz=99,slow=23,SNR=2.8						
JTKR	**Abashiri--Toko**	**6.20**	**355**	P	**Pn**	**06 00 15.3**	**-1.0**
ASAJ	**Asahikawa**	**6.50**	**347**	Pn	**Pn**	**06 00 20.4**	**0.0**
	1.2nm,0.3s,baz=190,slow=10,SNR=11						
ASAJ				Sn	**Sn**	**06 01 31.5**	**-1.9**
	0.5nm,0.3s,baz=101,slow=19,SNR=2.9						
ILAR	**Eielson Array**	**47.51**	**33**	P	**P**	**06 07 19.1**	**+0.5**
	0.2nm,0.7s,baz=270,slow=8.1,SNR=3.4						
KURBB	**Kurchatov Arra**	**47.53**	**308**	P	**P**	**06 07 21.0**	**+2.0**
	0.6nm,0.5s,baz=82,slow=7.9,SNR=7.2						
WRA	**Warramunga Arr**	**58.22**	**191**	P	**P**	**06 08 38.4**	**+0.4**
	0.3nm,0.8s,baz=10,slow=7.1,SNR=5.9						

IDC ***14*** *06:00:36.1±1.3, 37°.05N×141°.49E, h0km, mb3.5/5, mb1 3.6/6, mb1mx3.3/61, mbtmp3.4/6, ML2.9/1, Error ellipse: s-maj=27.8km s-min=25.5km az=147.0*

ISCJB ***14*** *06:00:37.4±1.3, 36°.97N±0°.05×141°.54E±0°.07, h20km±7km, mb3.4/5, Error ellipse: s-maj=10.5km s-min=8.1km az=38.9*

JMA ***14*** *06:00:39.9±0.1, 36°.97N×141°.35E, h27km±1km, M3.3*

ISC 14 06:00:38.1±2.0, 37°.03N±0°.07×141°.42E±0°.07, h12km±11km, n20, σ0s85/23, mb3.5/5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.50**	**279**	P	**Pb**	**06 00 49.2**	**+0.3**
ONAJ				S	**Sb**	**06 00 55.7**	**-0.5**
JFK	**Kawauchi**	**0.55**	**308**	P	**Pb**	**06 00 50.6**	**+0.9**
JFK				S	**Sb**	**06 00 58.0**	**+0.4**
JHO	**Hitachi**	**0.80**	**239**	P	**Pg**	**06 00 53.4**	**-0.1**
JHO				S	**Sg**	**06 01 03.5**	**-0.5**
JMM	**Marumori**	**0.97**	**329**	P	**Pn**	**06 00 58.0**	**+0.4**
JMM				S	**Sn**	**06 01 11.1**	**-0.3**
JFT	**Otama**	**0.99**	**300**	P	**Pn**	**06 00 58.3**	**+0.4**
JFT				S	**Sn**	**06 01 11.3**	**-0.6**
JSB	**Shiboa**	**1.20**	**268**	P	**Pg**	**06 01 01.1**	**-0.1**
JSB				S	**Sn**	**06 01 16.6**	**-0.4**
JFY	**Yanaizu**	**1.42**	**286**	P	**Pb**	**06 01 04.7**	**+0.2**
JFY				S	**Sb**	**06 01 22.6**	**0.0**
MJAR	**Matsushiro Arr**	**2.62**	**260**	Pn	**Pn**	**06 01 21.1**	**+0.8**
	2.0nm,0.3s,baz=81,slow=13,SNR=13						
MJAR				Sn	**Sn**	**06 01 53.6**	**+1.5**
	1.8nm,0.3s,baz=72,slow=17,SNR=4.7						
MAT	**Matsushiro**	**2.62**	**260**	P	**Pn**	**06 01 21.9**	**+1.6**
MAT				S	**Sb**	**06 01 55.3**	**-1.9**
H11N2	**WAKE ISLAND Hy**	**28.14**	**121**	T	T	06 35 54.8	
	baz=313,slow=75,SNR=65						
H11N1	**WAKE ISLAND Hy**	**28.15**	**121**	T	T	06 36 00.4	
	baz=313,slow=75,SNR=56						
H11N3	**WAKE ISLAND Hy**	**28.16**	**121**	T	T	06 35 59.1	
	baz=313,slow=75,SNR=55						
H11S1	**WAKE ISLAND Hy**	**28.85**	**123**	T	T	06 36 49.8	
	baz=315,slow=75,SNR=23						
H11S3	**WAKE ISLAND Hy**	**28.85**	**123**	T	T	06 36 50.6	
	baz=315,slow=75,SNR=22						
H11S2	**WAKE ISLAND Hy**	**28.87**	**123**	T	T	06 36 50.3	
	baz=315,slow=75,SNR=24						
ZALV	**Zalesovo Beam**	**41.92**	**312**	P	**P**	**06 08 27.3**	**-1.0**
	0.5nm,0.5s,baz=104,slow=6.3,SNR=3.7						
MKAR	**Makanchi Array**	**44.13**	**302**	P	**P**	**06 08 45.7**	**-0.6**
	0.4nm,0.6s,baz=85,slow=12,SNR=4.1						
KURBB	**Kurchatov Arra**	**46.01**	**308**	P	**P**	**06 09 01.8**	**+0.7**
	0.6nm,0.6s,baz=81,slow=7.5,SNR=6.1						
WRA	**Warramunga Arr**	**57.05**	**188**	P	**P**	**06 10 24.0**	**0.0**
	0.5nm,0.5s,baz=4.6,slow=7.3,SNR=9.1						
YKA	**Yellowknife Ar**	**63.81**	**30**	P	**P**	**06 11 09.4**	**-0.3**
	0.1nm,0.8s,baz=303,slow=6.4,SNR=3.2						

MEX 14 06:07:05.5±0.4, 15°.45N×93°.61W, h82km±9km, MD3.8, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.45**	**56**	*e*P	Pn	06 07 17.7	-1.4
PCIG				*i* S	Sn	06 07 27.6	-1.5
TGIG		**1.40**	**19**	*e*P	Pn	06 07 28.5	-1.2
TGIG				*e*S	Sn	06 07 46.6	-1.4
CCIG	**Comitan**	**1.64**	**59**	*e*P	Pn	06 07 31.0	-1.9
CCIG				*e*S	Sn	06 07 49.2	-4.4

MEX 14 06:16:37.0±0.3, 14°.94N×93°.29W, h16km±42km, MD3.5, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.77**	**5**	*e*P	Pb	06 16 48.9	-3.0
PCIG				*e*S	Sb	06 16 58.9	-3.2
CCIG	**Comitan**	**1.74**	**40**	*e*P	Pn	06 17 02.2	-4.5
CCIG				*e*S	Sn	06 17 16.1	-13

NDI 14 06:17:19.3±2.6, 17°.30N×73°.71E, h15km±17km, ML4.0, Southern India

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
POO	**Poona**	**1.23**	**6**	*e*P	Pn	06 17 41.6	-0.4
POO				*e*S	Sb	06 17 57.4	-0.5
GOA	**Goa**	**1.80**	**176**	*e*P	Pb	06 17 52.0	0.0
GOA				*e*S	Sn	06 18 11.9	-0.6
GOA				IAML		06 18 20.3	
	comp=N,634nm,0.2s						
GOA				IAML		06 18 20.4	
	comp=E,887nm,0.3s						
HYB	**Hyderabad**	**4.63**	**88**	*e*S	Sn	06 19 18.9	-3.4
HYB				IAML		06 19 43.1	
	comp=N,198nm,0.2s						
HYB				IAML		06 19 43.3	
	comp=E,61nm,0.3s						
KGF	**KGF**	**6.16**	**134**	*ex*	Pn	06 18 52.8	+2.9
KGF				*e*S	Sn	06 19 55.1	-5.2
KGD	**Kothagudem**	**6.64**	**87**	*e*S	Sn	06 20 06.5	-5.3
BHPL	**Bhopal**	**6.86**	**30**	*e*S	Sn	06 20 12.3	-5.0
BHPL				IAML		06 20 53.8	
	comp=N,30nm,0.5s						
BHPL				IAML		06 20 55.8	
	comp=E,44nm,0.4s						
JBP	**Jabalpur**	**8.29**	**44**	*e*S	Sn	06 20 42.8	-10
JBP				IAML		06 21 37.1	
	comp=E,186nm,0.0s						
JBP				IAML		06 21 37.1	
	comp=N,288nm,0.0s						
REW	**REWA**	**10.15**	**43**	*e*S	Sn	06 21 30.5	-7.6

IDC ***14*** *06:23:20.6±1.3, 20°.88S×178°.43W, h561km±14km, mb3.7/18, mb1 3.9/20, mb1mx3.7/45, mbtmp4.6/20, Error ellipse: s-maj=15.7km s-min=11.1km az=146.0*

NEIC ***14*** *06:23:25.1±0.6, 20°.64S×178°.69W, h606km±7km, mb4.5/89, Error ellipse: s-maj=7.8km s-min=4.8km az=135.0*

ISC 14 06:23:21.8±0.4, 20°.86S±0°.07×178°.37W±0°.07, h579km, n202, σ1s37/216, mb4.4/106, 15C-8D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.59**	**312**	*e*P	**P**	**06 24 52.7**	**+2.3**
RAO	**Raoul Island**	**8.37**	**177**	P	**P**	**06 25 20.6**	**-3.4**
	79nm,0.3s,baz=180,slow=20,SNR=3.3						
AFI	**Afiamalu**	**9.34**	**43**	P	**P**	**06 25 31.1**	**-2.7**
	5.6nm,0.3s,baz=94,slow=20,SNR=10.0						
AFI				S	**S**	**06 27 17.8**	**-4.2**
	14nm,0.3s,baz=100,slow=22,SNR=13						
AFI	**Afiamalu**	**9.34**	**43**	*e*P	**P**	**06 25 33.4**	**-0.4**
AFI				*e*S	**S**	**06 27 18.2**	**-3.8**
DZM	**Mont Dzumac**	**14.20**	**262**	*e*P	**P**	**06 26 25.7**	**+2.7**
OUZ	**Omahuta**	**15.96**	**205**	*e*P	**P**	**06 26 42.9**	**+3.3**
	44nm,1.0s						
URZ	**Urewera**	**17.78**	**192**	P	**P**	**06 26 54.4**	**-1.8**
	0.8nm,0.3s,baz=242,slow=6.0,SNR=8.3						
URZ				S	**S**	**06 29 45.3**	**-5.2**
	0.3nm,0.3s,baz=7.1,slow=11,SNR=2.1						
URZ	**Urewera**	**17.78**	**192**	*e*P	**P**	**06 26 56.1**	**-0.1**
	35nm,1.2s						
HIZ	**Hauiti**	**18.55**	**197**	*e*P	**P**	**06 27 07.4**	**+4.2**
	192nm,1.6s						
BKZ	**Black Stump Fm**	**18.78**	**193**	*e*P	**P**	**06 27 05.0**	**-0.4**
	61nm,1.7s						
SNZO	**South Karori**	**21.22**	**195**	*e*P	**P**	**06 27 29.9**	**+2.5**
	67nm,1.1s						
THZ	**Tophouse**	**22.11**	**198**	*e*P	**P**	**06 27 36.8**	**+1.5**
	282nm,2.0s						
LHI	**Lord Howe Isla**	**22.83**	**238**	*e*P	**P**	**06 27 40.7**	**-1.1**
	280nm,1.6s						
LTZ	**Lake Taylor**	**23.23**	**198**	*e*P	**P**	**06 27 47.2**	**+1.9**
	81nm,1.9s						
WHZ	**Wether Hill Ro**	**27.38**	**201**	*e*P	**P**	**06 28 23.8**	**+2.0**
	132nm,1.9s						
EIDS	**Eidsvold**	**28.43**	**255**	*e*P	**P**	**06 28 31.9**	**+0.7**
	26nm,1.3s						
ARMA	**Armidale**	**28.61**	**244**	*e*P	**P**	**06 28 34.3**	**+1.5**
	31nm,1.6s						
CTA	**Charters Tower**	**33.12**	**265**	P	**P**	**06 29 10.7**	**-0.7**
	4.6nm,0.4s,baz=96,slow=10.0,SNR=9.8						
CTAO	**Charters Tower**	**33.12**	**265**	*e*P	**P**	**06 29 11.2**	**-0.1**
	109nm,1.9s						
PMG	**Port Moresby**	**35.09**	**284**	P	**P**	**06 29 26.8**	**-1.1**
	13nm,0.8s,baz=322,slow=18,SNR=3.8						
STKA	**Stephens Creek**	**37.33**	**245**	P	**P**	**06 29 45.8**	**-0.3**
	2.6nm,0.7s,baz=98,slow=11,SNR=5.2						
STKA	**Stephens Creek**	**37.33**	**245**	*e*P	**P**	**06 29 46.5**	**+0.4**
	1.8nm,1.3s						
BBOO	**Buckleboo**	**42.08**	**244**	*e*P	**P**	**06 30 24.0**	**-0.2**
	45nm,1.8s						
AS01	**Alice Springs**	**44.06**	**257**	*e*P	**P**	**06 30 39.5**	**-0.2**
AS01				*e*PcP	**PcP**	**06 32 12.0**	**-0.1**
AS31	**Alice Springs**	**44.10**	**257**	*e*P	**P**	**06 30 39.9**	**-0.1**
	4.6nm,0.9s						
**

WDC	**Whiskeytown Da**	**80.16**	**40**	*eP*		**P**	**06 34 34.4**	**+1.8**
	49nm,2.0s							
OHAK	**Old Harbor**	**80.57**	**14**	*eP*		**P**	**06 34 37.7**	**+3.4**
	88nm,1.5s							
YBH	**Yreka Blue Hor**	**80.78**	**39**	P		**P**	**06 34 38.1**	**+2.3**
	5.7nm,0.8s,baz=203,slow=3.2,SNR=15							
YBH	**Yreka Blue Hor**	**80.78**	**39**	*eP*		**P**	**06 34 38.2**	**+2.3**
	9.3nm,0.9s							
HUMO	**Hull Mountain**	**81.18**	**38**	*eP*		**P**	**06 34 40.2**	**+2.4**
	12nm,1.1s							
YERR	**Yerington**	**81.24**	**43**	*eP*		**P**	**06 34 40.0**	**+1.6**
	11nm,1.2s							
NV01	**Mina Array Sit**	**81.52**	**43**	*eP*		**P**	**06 34 41.7**	**+1.8**
NVAR	**Mina Array Bea**	**81.52**	**43**	P		**P**	**06 34 41.2**	**+1.3**
	3.2nm,0.7s,baz=224,slow=8.5,SNR=11							
PAHR	**Pah Rah Range**	**81.57**	**42**	*eP*		**P**	**06 34 41.9**	**+1.9**
	4.5nm,0.8s							
NV11	**Mina Array Sit**	**81.61**	**44**	*eP*		**P**	**06 34 41.0**	**+0.6**
	0.8nm,1.3s							
KVN	**Kaiserville**	**82.00**	**43**	*eP*		**P**	**06 34 43.6**	**+1.3**
	4.0nm,0.6s							
TPNV	**Topopah Spring**	**82.03**	**46**	*eP*		**P**	**06 34 44.3**	**+1.8**
	4.9nm,0.8s							
MOD	**Modoc Plateau**	**82.31**	**40**	*eP*		**P**	**06 34 45.6**	**+1.9**
	6.5nm,0.8s							
K05A	**Summer Lake**	**82.45**	**39**	*eP*		**P**	**06 34 46.5**	**+2.0**
	15nm,0.9s							
SHPR	**Sheep Range**	**82.53**	**46**	*eP*		**P**	**06 34 45.6**	**+0.6**
	17nm,1.8s							
H04A	**Detroit Lake**	**82.92**	**37**	*eP*		**P**	**06 34 48.0**	**+1.4**
	7.2nm,0.8s							
PINE	**Pine Mountain**	**83.07**	**38**	*eP*		**P**	**06 34 49.7**	**+2.1**
	10nm,0.8s							
BRLK	**Bradley Lake**	**83.41**	**14**	*eP*		**P**	**06 34 49.1**	**+0.4**
	12nm,0.9s							
SVW2	**Sparrevohn**	**83.71**	**11**	*eP*		**P**	**06 34 50.0**	**-0.2**
	20nm,1.8s							
CCUT	**Cedar City**	**84.30**	**46**	*eP*		**P**	**06 34 55.9**	**+2.1**
	2.7nm,0.7s							
KNB	**Kanab**	**84.39**	**47**	*eP*		**P**	**06 34 56.1**	**+1.8**
	24nm,1.9s							
U15A	**North Rim**	**84.45**	**48**	*eP*		**P**	**06 34 56.9**	**+2.2**
	4.7nm,0.7s							
SUA	**Susitna One**	**84.98**	**13**	*eP*		**P**	**06 34 56.4**	**-0.1**
	7.7nm,0.7s							
G08A	**Pilot Rock**	**85.10**	**38**	*eP*		**P**	**06 34 59.2**	**+1.8**
	7.3nm,1.0s							
EYAK	**Cordova Ski Ar**	**85.32**	**16**	*eP*		**P**	**06 34 58.3**	**+0.4**
	6.8nm,1.2s							
PMR	**Palmer**	**85.44**	**14**	*eP*		**P**	**06 34 58.3**	**-0.1**
	7.5nm,1.0s							
SML	**Sawmill**	**85.81**	**14**	*eP*		**P**	**06 35 00.3**	**0.0**
	11nm,1.3s							
BMRM	**Bremner River**	**85.97**	**16**	*eP*		**P**	**06 35 01.6**	**+0.5**
	8.6nm,1.0s							
PPLA	**Purkeypile**	**86.00**	**12**	*eP*		**P**	**06 35 00.7**	**-0.6**
	7.2nm,1.0s							
SCM	**Sheep Creek Mo**	**86.06**	**14**	*eP*		**P**	**06 35 01.7**	**+0.2**
	11nm,0.7s							
KLU	**Klutina**	**86.09**	**15**	*eP*		**P**	**06 35 01.9**	**+0.2**
	3.0nm,0.8s							
D08A	**Wollman Farm,**	**86.17**	**36**	*eP*		**P**	**06 35 03.9**	**+1.6**
	5.2nm,0.8s							
F10A	**Beach Ranch, E**	**86.49**	**38**	*eP*		**P**	**06 35 05.2**	**+1.3**
	14nm,0.9s							
CAST	**Castle Rocks**	**86.49**	**12**	*eP*		**P**	**06 35 01.7**	**-1.8**
	6.9nm,0.8s							
BALM	**Baldy**	**86.61**	**17**	*eP*		**P**	**06 35 04.7**	**+0.5**
	5.0nm,0.8s							
B08A	**Colville Reser**	**86.72**	**35**	*eP*		**P**	**06 35 05.7**	**+0.8**
	5.2nm,0.6s							
HLID	**Hailey**	**86.82**	**41**	*eP*		**P**	**06 35 07.4**	**+1.7**
	4.6nm,1.0s							
KTH	**Kantishna Hill**	**86.83**	**12**	*eP*		**P**	**06 35 04.1**	**-1.1**
	5.8nm,0.8s							
TRF	**Thorofare Moun**	**86.87**	**12**	*eP*		**P**	**06 35 04.8**	**-0.7**
	12nm,0.7s							
RND	**Reindeer**	**87.12**	**13**	*eP*		**P**	**06 35 06.3**	**-0.2**
	18nm,0.8s							
DHY	**Denali Highway**	**87.14**	**14**	*eP*		**P**	**06 35 06.6**	**-0.1**
	8.9nm,1.5s							
MCK	**McKinley**	**87.39**	**13**	*eP*		**P**	**06 35 07.4**	**-0.3**
	10nm,1.0s							
TX31	**Lajitas Ar. Si**	**87.53**	**57**	*eP*		**P**	**06 35 11.6**	**+2.3**
TXAR	**Lajitas Array**	**87.53**	**57**	P		**P**	**06 35 11.2**	**+2.0**
	2.3nm,0.8s,baz=224,slow=5.2,SNR=21							
VNA3	**Neumayer Olymp**	**87.81**	**176**	P		**P**	**06 35 10.1**	**+0.3**
HYT	**Haines Junctio**	**87.82**	**19**	*eP*		**P**	**06 35 09.5**	**-0.4**
	3.0nm,0.8s							
MENT	**Mentasta**	**87.87**	**15**	*eP*		**P**	**06 35 10.7**	**+0.7**
	3.3nm,0.8s							
MLY	**Manley**	**88.21**	**11**	*eP*		**P**	**06 35 10.9**	**-0.6**
	7.8nm,1.2s							
WRH	**Wood River Hil**	**88.22**	**13**	*eP*		**P**	**06 35 11.1**	**-0.4**
	9.5nm,0.8s							
VNA2	**Neumayer--Watz**	**88.25**	**177**	P		**P**	**06 35 12.5**	**+0.7**
	baz=153,slow=3.4							
RIDG	**Independ'e Rid**	**88.29**	**14**	*eP*		**P**	**06 35 11.9**	**0.0**
	6.8nm,1.0s							
DOT	**Dot Lake**	**88.39**	**15**	*eP*		**P**	**06 35 12.8**	**+0.4**
	9.8nm,0.8s							
CCB	**Clear Creek Bu**	**88.43**	**13**	*eP*		**P**	**06 35 11.9**	**-0.6**
	8.6nm,0.8s							
MCMT	**McKenzie Canyo**	**88.44**	**40**	*eP*		**P**	**06 35 14.8**	**+1.5**
WHY	**Whitehorse**	**88.50**	**20**	*eP*		**P**	**06 35 14.5**	**+1.4**
	3.7nm,0.9s							
IM3	**Indian Mountai**	**88.56**	**10**	*eP*		**P**	**06 35 13.2**	**+0.2**
MDM	**Murphy Dome**	**88.62**	**12**	*eP*		**P**	**06 35 12.7**	**-0.8**
	8.2nm,0.8s							
COLA	**College**	**88.63**	**13**	*eP*		**P**	**06 35 12.9**	**-0.5**
	10nm,0.9s							
SCRK	**Sand Creek**	**88.69**	**14**	*eP*		**P**	**06 35 14.3**	**+0.4**
	17nm,1.9s							
ILAR	**Eielson Array**	**88.73**	**13**	P		**P**	**06 35 12.7**	**-1.2**
	2.9nm,0.8s,baz=217,slow=5.0,SNR=32							
ILB	**Eielson Array**	**88.73**	**13**	*eP*		**P**	**06 35 13.5**	**-0.4**
IL1	**Eielson Array**	**88.73**	**13**	*eP*		**P**	**06 35 13.3**	**-0.6**
REDW	**Red Top Meadow**	**88.92**	**42**	*eP*		**P**	**06 35 17.2**	**+1.6**
	9.7nm,1.1s							
TPAW	**Teton Pass**	**88.93**	**42**	*eP*		**P**	**06 35 17.4**	**+1.7**
	3.2nm,0.8s							
SNOW	**Snow King Moun**	**89.04**	**42**	*eP*		**P**	**06 35 17.6**	**+1.4**
	6.2nm,0.9s							
IMW	**Indian Meadow**	**89.14**	**42**	*eP*		**P**	**06 35 18.5**	**+1.8**
	4.1nm,0.8s							
MOOW	**Moose Ponds**	**89.19**	**42**	*eP*		**P**	**06 35 18.3**	**+1.5**
	9.4nm,2.0s							
KMI	**Kunming**	**89.21**	**297**	P		**P**	**06 35 17.5**	**+0.2**
KMI				pmax		pmax		
	comp=Z,23nm,0.5s							
LOHW	**Long Hollow**	**89.21**	**42**	*eP*		**P**	**06 35 18.5**	**+1.6**
	comp=Z,3nm,0.6s							
HHC	**Hu-ho-hao-te**	**89.36**	**315**	*eP*		**P**	**06 35 19.5**	**+2.0**
HHC				pmax		pmax		
	comp=Z,11nm,1.0s							
HHC				pmax		pmax		
	comp=Z,12nm,5.9s							
BW06	**Boulder Array**	**89.45**	**43**	*eP*		**P**	**06 35 18.9**	**+0.8**
	comp=Z,3.0nm,0.6s							
PD31	**Pinedale Array**	**89.45**	**43**	*eP*		**P**	**06 35 19.0**	**+0.9**
PDAR	**Pinedale Array**	**89.45**	**43**	P		**P**	**06 35 18.7**	**+0.6**
	comp=Z,2.6nm,0.7s,baz=212,slow=3.6,SNR=28							
PDAR	**Pinedale Array**	**89.45**	**43**	*eP*		**P**	**06 35 19.1**	**+0.9**
DAWY	**Dawson**	**89.89**	**16**	*eP*		**P**	**06 35 19.9**	**+0.5**
	comp=Z,5.4nm,0.9s							
CMAR	**Chiang Mai Ar**	**89.91**	**290**	P		**P**	**06 35 21.9**	**+1.4**
	comp=Z,4.0nm,0.9s,baz=124,slow=3.0,SNR=29							
EGAK	**Eagle**	**90.03**	**15**	*eP*		**P**	**06 35 20.4**	**+0.5**
	comp=Z,4.4nm,0.8s							
CHTO	**Chiang Mai**	**90.04**	**290**	*eP*		**P**	**06 35 21.5**	**+0.4**
	comp=Z,5.0nm,0.8s							
LZH	**Lanzhou**	**92.71**	**308**	*eP*		**P**	**06 35 34.1**	**+0.9**
LZH				pP		pP	06 37 33.3	-6.1
LZH				sP		sP	06 38 29.0	-8.1
LZH				*e*PP		**PP**	**06 39 28.4**	**+2.5**
LZH				pmax		pmax		
	comp=Z,36nm,0.9s							
LZH				pmax		pmax		
	comp=Z,230nm,5.7s							
INK	**Inuvik**	**94.70**	**15**	*eP*		**P**	**06 35 40.8**	**-0.4**
	comp=Z,12nm,1.8s							
YKA	**Yellowknife Ar**	**96.98**	**25**	P		**P**	**06 35 51.6**	**+0.1**
	comp=Z,0.3nm,0.7s,baz=246,slow=4.5,SNR=7.7							
ZALV	**Zalesovo Beam**	**110.55**	**321**	PKiKP		**PKiKP**	**06 40 47.0**	**-1.8**
	comp=Z,0.8nm,0.6s,baz=225,slow=3.9,SNR=2.6							
MKAR	**Makanchi Array**	**111.19**	**313**	PKiKP		**PKiKP**	**06 40 48.4**	**-1.9**
	comp=Z,0.5nm,0.7s,baz=70,slow=0.5,SNR=4.7							
BVAR	**Borovoye Array**	**119.13**	**320**	PKP		**PKPdf**	**06 41 04.5**	**-0.9**
	comp=Z,1.6nm,0.4s,baz=134,slow=0.8,SNR=12							
SPITS	**Spitsbergen Ar**	**122.20**	**356**	PKP		**PKPdf**	**06 41 09.7**	**-1.0**
	comp=Z,4.9nm,0.8s,baz=2.5,slow=10,SNR=5.4							
ARU	**Arti**	**125.30**	**325**	PKP		**PKPdf**	**06 41 16.6**	**-0.5**
	comp=Z,4.2nm,0.6s,baz=305,slow=1.6,SNR=6.8							
ARU	**Arti**	**125.30**	**325**	*e*PKPdf		**PKPdf**	**06 41 17.2**	**+0.1**
AKTO	**Aktyubinsk**	**127.10**	**318**	PKP		**PKPdf**	**06 41 20.4**	**-0.3**
	comp=Z,1.0nm,0.4s,baz=206,slow=1.3,SNR=5.4							
FINES	**FINESS Array B**	**136.01**	**343**	PKhKP	PKPpre		06 41 33.7	
	comp=Z,0.9nm,0.7s,baz=134,slow=4.0,SNR=2.8							
FINES				PKP		**PKPdf**	**06 41 37.8**	**+0.6**
	comp=Z,1.5nm,0.8s,baz=72,slow=6.2,SNR=5.3							
NB2	**NORSAR Subarra**	**139.29**	**353**	PKP	PKPpre		06 41 34.4	
	comp=Z,1.1nm,0.7s,baz=13,slow=3.2							
NOA	**NORSAR Array B**	**139.29**	**353**	PKhKP	PKPpre		06 41 36.5	
	comp=Z,1.4nm,0.7s,baz=20,slow=2.4,SNR=5.8							
HFS	**Hagfors**	**139.83**	**351**	PKhKP	PKPpre		06 41 36.3	
	comp=Z,2.0nm,0.5s,baz=67,slow=2.4,SNR=15							
AKASG	**Malin Array Be**	**143.16**	**331**	PKhKP	PKPpre		06 41 47.3	
	comp=Z,15nm,0.6s,baz=43,slow=4.5,SNR=45							
AKBB	**Malin Array Si**	**143.16**	**331**	*e*PKPpre	PKPpre		06 41 47.4	
KIEV	**Kiev**	**143.17**	**331**	*e*PKPpre	PKPpre		06 41 47.4	
AK11	**Malin Array Si**	**143.20**	**331**	*e*PKPpre	PKPpre		06 41 47.5	
SORM	**Soroca**	**145.33**	**328**	⇓*i*P		**PKPbc**	**06 41 55.0**	**-0.5**
EKA	**Eskdalemuir Ar**	**145.38**	**5**	PKPbc		**PKPbc**	**06 41 54.8**	**-0.6**
	comp=Z,4.3nm,0.8s,baz=342,slow=2.7,SNR=6.6							
ASF	**Jabal al Asfar**	**146.63**	**297**	PKPbc		**PKPbc**	**06 41 59.6**	**-0.2**
	comp=Z,3.6nm,0.8s,baz=22,slow=1.3,SNR=5.8							
KWP	**Kalwaria Pacla**	**146.76**	**335**	*e*PKPbc		**PKPbc**	**06 41 59.4**	**0.0**
BR131	**Keskin Array S**	**146.82**	**312**	*e*PKPbc		**PKPbc**	**06 41 59.7**	**-0.4**
BRTR	**Keskin Array B**	**146.82**	**312**	PKPbc		**PKPbc**	**06 41 59.3**	**-0.8**
	comp=Z,3.4nm,0.7s,baz=122,slow=3.8,SNR=16							
TLCR		**146.99**	**324**	⇓*i*P		**PKPbc**	**06 42 00.1**	**-0.1**
BUR08	**Bucovina Ar. S**	**147.19**	**330**	*e*PKPbc		**PKPbc**	**06 42 00.8**	**0.0**
BUR04	**Bucovina Ar. S**	**147.20**	**330**	*e*PKPbc		**PKPbc**	**06 42 00.8**	**0.0**
BR231	**Keskin MP Arra**	**147.37**	**312**	*e*PKPdf		**PKPdf**	**06 41 57.1**	**-1.0**
BR231				*e*PKPbc		**PKPbc**	**06 42 00.3**	**-1.2**
CFR	**Carcaliu**	**147.37**	**324**	⇑*i*P		**PKPbc**	**06 42 01.0**	**-0.2**
STHS	**Stebnicka Huta**	**147.50**	**336**	*e*PKP		**PKPab**	**06 42 05.8**	**+0.3**
VRI	**Vrincioaia**	**147.67**	**326**	⇑*i*P		**PKPbc**	**06 42 01.9**	**-0.1**
MMAI	**Mount Meron Ar**	**147.69**	**299**	PKPbc		**PKPbc**	**06 42 02.1**	**-0.4**
	comp=Z,7.1nm,0.6s,baz=76,slow=6.5,SNR=15							
TLB	**Topas II**	**147.80**	**323**	⇑*i*P		**PKPbc**	**06 42 02.4**	**+0.1**
CRVS	**Cervenica-Dubn**	**147.83**	**335**	*e*PKP		**PKPab**	**06 42 07.2**	**+0.3**
TRPA	**Tarpa**	**148.00**	**333**	⇓*i*P		**PKPbc**	**06 42 02.0**	**-0.7**
CLL	**Collm**	**148.33**	**346**	⇓*i*PKPbc		**PKPbc**	**06 42 03.3**	**-0.1**
	comp=Z,15nm,0.9s							
CLL				⇑*i*PKPab		**PKPab**	**06 42 08.4**	**-0.4**
	comp=Z,9.0nm,0.8s							
CLL	**Collm**	**148.33**	**346**	*e*PKPbc		**PKPbc**	**06 42 03.7**	**+0.3**
MLR	**Muntele Rosu**	**148.33**	**327**	*e*PKPbc		**PKPbc**	**06 42 03.4**	**-0.4**
DPC	**Dobruska-Polom**	**148.36**	**342**	⇓*e*PKP		**PKPbc**	**06 42 04.0**	**+0.4**
DPC				*e*PKPAB		**PKPab**	**06 42 09.6**	**+0.6**
LANS	**Liptovska Anna**	**148.38**	**337**	*e*PKP		**PKPbc**	**06 42 04.9**	**+1.2**
LANS				*e*			06 42 10.2	
KRLC	**Kraliky**	**148.47**	**341**	⇑*e*PKP		**PKPbc**	**06 42 04.0**	**+0.1**
KRLC				*e*PKPAB		**PKPab**	**06 42 09.5**	**0.0**
MORC	**Moravsky Berou**	**148.49**	**340**	⇓*i*P		**PKPbc**	**06 42 02.8**	**-1.1**
BRG	**Berggiesshubel**	**148.51**	**345**	*i* PKP		**PKPbc**	**06 42 04.0**	**+0.2**
	comp=Z,5.9nm,0.8s							
BRG				*e*			06 42 09.4	
	comp=Z,5.3nm,0.8s							
PVCC	**Panska Ves**	**148.68**	**344**	⇑*e*PKP		**PKPbc**	**06 42 04.5**	**+0.2**
PVCC				*e*PKPAB		**PKPab**	**06 42 10.9**	**+0.6**
CSS	**Mathiatis**	**148.81**	**304**	*e*PKPbc		**PKPbc**	**06 42 04.8**	**-0.4**
VOIR		**148.83**	**327**	⇑*i*P		**PKPbc**	**06 42 04.9**	**0.0**
DRGR		**148.96**	**331**	⇑*i*P		**PKPbc**	**06 42 04.7**	**-0.5**
VYHS	**Vyhne**	**149.16**	**337**	*e*PKP		**PKPbc**	**06 42 05.7**	**+0.2**
VYHS				*e*			06 42 12.2	
PRU	**Pruhonice**	**149.18**	**344**	⇑*e*PKP		**PKPbc**	**06 42 05.2**	**-0.3**
PRU				*e*PKPAB		**PKPab**	**06 42 12.7**	**+0.3**
GOPC	**GO Pecny, Ondr**	**149.18**	**343**	⇑*e*PKP		**PKPbc**	**06 42 05.7**	**+0.1**
GOPC				*e*PKPAB		**PKPab**	**06 42 12.4**	**0.0**
VRAC	**Vranov**	**149.20**	**341**	⇑*i*P		**PKPab**	**06 42 13.2**	**+0.7**
PSZ	**Piszkesteto**	**149.24**	**336**	⇓*i*P		**PKPbc**	**06 42 05.7**	**-0.1**
NKC	**Novy Kostel**	**149.46**	**346**	⇑*e*PKP		**PKPbc**	**06 42 06.3**	**+0.1**
NKC				*e*PKPAB		**PKPab**	**06 42 13.5**	**-0.1**
TREC	**Trest**	**149.54**	**342**	⇑*e*PKP		**PKPbc**	**06 42 06.3**	**-0.2**
SIRR	**Siria**	**149.83**	**332**	⇓*i*P		**PKPbc**	**06 42 07.3**	**+0.1**
KHC	**Kasperske Hory**	**150.22**	**344**	⇑*e*PKP		**PKPbc**	**06 42 07.8**	**-0.3**
KHC				*e*PKPAB		**PKPab**	**06 42 16.9**	**+0.1**
KHC	**Kasperske Hory**	**150.22**	**344**	*e*PKPbc		**PKPbc**	**06 42 08.0**	**-0.1**
KHC				*e*PKPab		**PKPab**	**06 42 17.6**	**+0.8**
GEC2	**GERESS Array S**	**150.45**	**344**	*e*PKPbc		**PKPbc**	**06 42 08.8**	**+0.1**
GERES	**GERESS Array B**	**150.45**	**344**	PKPbc		**PKPbc**	**06 42 07.9**	**-0.8**
	comp=Z,3.4nm,0.8s,baz=69,slow=4.1,SNR=18							
GEA0	**GERESS Array S**	**150.45**	**344**	*e*PKPbc		**PKPbc**	**06 42 08.4**	**-0.3**
CONA	**Conrad Observa**	**150.65**	**340**	*i* PKiKP		**PKiKP**	**06 42 09.5**	**-0.1**
	comp=Z,5.4nm,0.7s							
MOA	**Molln**	**151.20**	**342**	*i* PKPbc		**PKPbc**	**06 42 10.1**	**-0.2**
	comp=Z,1.8nm,0.6s							
VTS	**Vitosha**	**151.75**	**325**	⇓*i*P		**PKPbc**	**06 42 11.6**	**-0.3**
VTS	**Vitosha**	**151.75**	**325**	*e*PKPbc		**PKPbc**	**06 42 11.5**	**-0.4**
BFO	**Black Forest**	**152.06**	**350**	*e*PKPbc		**PKPbc**	**06 42 12.1**	**-0.2**
DIVS	**Divibare**	**152.25**	**331**	*e*PKPbc		**PKPbc**	**06 42 13.1**	**+0.2**
WATA	**Walderalm**	**152.38**	**345**	*i* PKPbc		**PKPbc**	**06 42 12.7**	**-0.4**
	comp=Z,2.7nm,0.5s							
RETA	**Reute**	**152.42**	**347**	*i* PKPbc		**PKPbc**	**06 42 12.7**	**-0.4**
	comp=Z,1.8nm,0.5s							
MOTA	**Moosalm**	**152.48**	**346**	*i* PKPbc		**PKPbc**	**06 42 12.8**	**-0.5**
	comp=Z,5.8nm,1.0s							
ABTA	**Abfaltersbach**	**152.69**	**344**	*i* PKPbc		**PKPbc**	**06 42 13.0**	**-0.7**
	comp=Z,4.5nm,0.6s							
FETA	**Feichten**	**152.87**	**346**	*e*PKiKP		**PKPbc**	**06 42 14.0**	**-0.2**
	comp=Z,4.0nm,1.0s							

*ISK **14** 06:25:46.6, 39.82N×33.07E, h5km, ML2.5/5*
*CSEM **14** 06:25:47.9±0.3, 39.81N×33.06E, h5km, ML2.5, Error ellipse: s-maj=6.5km s-min=5.6km az=78.0*
*ISCJB **14** 06:25:48.1±0.6, 39.81N±0.03×33.03E±0.05, h10km±7km, Error ellipse: s-maj=7.1km s-min=4.8km az=159.4*
*DDA **14** 06:25:48.8, 39.80N×33.10E, h7km, Ml2.7*

ISC 14 06:25:47.6±1.2, 39.81N±0.02×33.09E±0.03, h1km±11km, n20, σ0°76/36, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LOD	**Lodumlu**	**0.26**	**288**	PG	**Pg**	**06 25 52.1**	**-0.5**
LOD				SG	**Sg**	**06 25 55.9**	**-0.1**
LOD	**Lodumlu**	**0.26**	**288**	*e*Pg	**Pg**	**06 25 52.1**	**-0.5**
LOD				*e*Sg	**Sg**	**06 25 55.9**	**-0.1**
BBAL	**Bala**	**0.27**	**174**	*i* P	**Pb**	**06 25 54.8**	**-0.5**
BBAL				*i* S	**Sb**	**06 25 59.5**	**-0.8**
BBAL	**Bala**	**0.27**	**174**	P	**Pb**	**06 25 54.8**	**-0.5**
BBAL				S	**Sb**	**06 25 59.5**	**-0.8**
AFSR	**Af ar-Bala (A**	**0.36**	**182**	PG	**Pg**	**06 25 54.3**	**-0.2**
AFSR				SG	**Sg**	**06 26 00.3**	**+1.1**
AFSR	**Af ar-Bala (A**	**0.36**	**182**	*e*Pg	**Pg**	**06 25 54.3**	**-0.2**
AFSR				*e*Sg	**Sg**	**06 26 00.3**	**+1.1**
KKUL	**Konya-Kulu**	**0.65**	**192**	*i* P	**Pg**	**06 26 00.9**	**+0.9**
KKUL				*i* S	**Sb**	**06 26 11.1**	**-0.2**
KKUL	**Konya-Kulu**	**0.65**	**192**	P	**Pg**	**06 26 00.9**	**+0.9**
KKUL				S	**Sb**	**06 26 11.1**	**-0.2**
ELDT	**Eldivan**	**0.73**	**21**	*i* P	**Pb**	**06 26 02.8**	**-0.4**
ELDT				*i* S	**Sb**	**06 26 13.7**	**0.0**
ELDT	**Eldivan**	**0.73**	**21**	P	**Pb**	**06 26 02.8**	**-0.4**
ELDT				S	**Sb**	**06 26 13.7**	**0.0**
SERE	**Sereflikochisa**	**0.94**	**157**	PG	**Pg**	**06 26 05.0**	**-0.5**
SERE	**Sereflikochisa**	**0.94**	**157**	*e*Pg	**Pg**	**06 26 05.0**	**-0.5**
CDAG	**Cicekdag**	**1.01**	**100**	*i* P	**Pg**	**06 26 07.5**	**+0.7**
CDAG				*i* S	**Sn**	**06 26 22.7**	**-1.1**
CDAG	**Cicekdag**	**1.01**	**100**	P	**Pg**	**06 26 07.6**	**+0.7**
CDAG				S	**Sn**	**06 26 22.7**	**-1.1**
CORM	**Corum**	**1.24**	**72**	PN	**Pg**	**06 26 10.9**	**-0.5**
CORM				SN	**Sb**	**06 26 28.6**	**+0.1**
CORM	**Corum**	**1.24**	**72**	*e*Pn	**Pg**	**06 26 10.9**	**-0.5**
CORM				*e*Sn	**Sb**	**06 26 28.6**	**+0.1**
SVRH	**Sivrihisar-ESK**	**1.26**	**254**	PN	**Pg**	**06 26 11.2**	**-0.6**
SVRH	**Sivrihisar-ESK**	**1.26**	**254**	*e*Pn	**Pg**	**06 26 11.2**	**-0.6**
BCAM	**Yenicaga**	**1.27**	**323**	*i* P	**Pn**	**06 26 12.9**	**+0.3**
BCAM				*i* S	**Sn**	**06 26 32.2**	**+1.8**
BCAM	**Yenicaga**	**1.27**	**323**	P	**Pn**	**06 26 12.9**	**+0.3**
BCAM				S	**Sn**	**06 26 32.2**	**+1.8**

JMA 14 06:47:09.9±0.2, 38.40N×143.96E, h33km, M3.7, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OFUJ	**Ofunato**	**1.92**	**291**	P	Pn	06 47 41.5	+1.3
OFUJ				*e*S	Sn	06 48 04.7	+1.5
MIYJ	**Miyakonagasawa**	**2.04**	**306**	P	Pn	06 47 43.0	+1.1
JIO	**Ouri**	**2.05**	**272**	P	Pn	06 47 43.3	+1.2
JIO				*e*S	Sn	06 48 07.8	+1.3
JMK	**Ichinoseki**	**2.21**	**285**	P	Pn	06 47 46.0	+1.7
JMK				S	Sb	06 48 13.7	-2.6
JOM	**Ohasama**	**2.34**	**298**	P	Pn	06 47 48.1	+2.1
JOM				S	Sn	06 48 16.1	+2.5
JYK	**Kaneyama**	**2.87**	**282**	P	Pn	06 47 55.6	+2.3
JYK				*e*S	Sn	06 48 30.2	+3.6
JFT	**Otama**	**3.00**	**254**	P	Pn	06 47 57.1	+2.0
JFT				S	Sn	06 48 32.1	+2.2
JAW	**Awa shima**	**3.70**	**272**	P	Pn	06 48 07.5	+2.8
JNBK	**Urakawa-nobuka**	**3.98**	**347**	P	Pn	06 48 09.7	+1.1
JNBK				S	Sn	06 48 55.1	+0.9
JKB	**Kayabe**	**4.14**	**328**	P	Pn	06 48 14.0	+3.2
JCH	**Churui**	**4.23**	**354**	P	Pn	06 48 12.3	+0.2
JCH				*e*S	Sn	06 48 59.1	-1.2
JRY	**Ryogami san**	**4.69**	**241**	P	Pn	06 48 19.3	+1.0
JRY				*e*S	Sn	06 49 09.7	-1.9
JOD2	**Odawara 2**	**5.01**	**233**	*e*S	Sn	06 49 16.7	-2.8
NEM2	**Nemuro 2**	**5.14**	**15**	P	Pn	06 48 22.6	-1.9
NEM2				*e*S	Sn	06 49 17.9	-4.7

*ISCJB **14** 06:48:27.4±0.5, 3.81N±0.08×92.76E±0.07, h10km, mb4.0/15, MS3.4/1, Error ellipse: s-maj=13.0km s-min=7.6km az=35.4*
*IDC **14** 06:48:27.6±1.0, 3.80N×92.59E, h0km, mb3.8/11, mb1 4.0/14, mb1mx3.7/71, mbtmp3.8/14, ML3.9/3, MS3.3/1, Ms1 3.3/1, ms1mx2.5/65, Error ellipse: s-maj=36.4km s-min=17.1km az=39.0*
*NEIC **14** 06:48:29.3±0.4, 3.81N×92.67E, h10km, mb4.6/5, Error ellipse: s-maj=11.3km s-min=6.2km az=33.0*

ISC 14 06:48:29.2±0.7, 3.8N±0.1×92.74E±0.08, h10km, n34, σ1°02/31, mb4.0/15, 1C, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LHMI	**Lhok Sumawe**	**4.45**	**71**	*e*Pn	**Pn**	**06 49 38.1**	**

GRPR	**Tuman**	**1.54**	**285**	*e*PN	**Pn**	**06 59 44.3**	**+0.6**
GRPR				*e*S	**Sn**	**07 00 02.4**	**-0.1**
GRPR				pmax	pmax		
	comp=Z,396nm,0.2s						
GRPR				pmax	pmax		
	comp=N,119nm,0.1s						
GRPR				pmax	pmax		
	comp=E,128nm,0.2s						
GRPR				smax	smax		
	comp=E,3μm,0.3s						
GRPR				smax	smax		
	comp=N,1μm,0.2s						
NEM2	**Nemuro 2**	**1.54**	**261**	P	**Pn**	**06 59 44.0**	**+0.3**
NEM2				*e*S	**Sn**	**07 00 01.9**	**-0.7**
KUR	**Kuril'sk**	**1.61**	**1**	*e*P	**Pn**	**06 59 45.4**	**+0.8**
KUR				AMB	AMB	06 59 46.2	
	comp=N,190nm,0.2s						
KUR				*e*S	**Sn**	**07 00 04.3**	**-0.1**
KUR				A	A	07 00 06.1	
	comp=N,2μm,0.2s						
KUR				A	A	07 00 06.1	
	comp=N,1μm,0.2s						
KUR	**Kuril'sk**	**1.61**	**1**	*ce*PN	**Pn**	**06 59 45.5**	**+0.8**
KUR				*i* S	**Sn**	**07 00 04.2**	**-0.1**
KUR				pmax	pmax		
	comp=N,40nm,0.1s						
KUR				pmax	pmax		
	comp=Z,224nm,0.1s						
KUR				smax	smax		
	comp=E,2μm,0.2s						
KUR				smax	smax		
	comp=N,1μm,0.3s						
GLVR	**Golovnino**	**1.68**	**275**	*e*P	**Pn**	**06 59 46.8**	**+1.2**
GLVR				AMB	AMB	06 59 47.7	
	comp=N,320nm,0.2s						
GLVR				*e*S	**Sn**	**07 00 06.0**	**0.0**
GLVR				A	A	07 00 07.5	
	comp=N,6μm,0.4s						
GLVR				A	A	07 00 07.5	
	comp=N,3μm,0.4s						
GLVR	**Golovnino**	**1.68**	**275**	*e*PN	**Pn**	**06 59 46.8**	**+1.2**
GLVR				*e*S	**Sn**	**07 00 06.8**	**+0.8**
GLVR				pmax	pmax		
	comp=N,18nm,0.1s						
GLVR				pmax	pmax		
	comp=Z,324nm,0.1s						
GLVR				pmax	pmax		
	comp=E,94nm,0.2s						
GLVR				smax	smax		
	comp=N,6μm,0.4s						
GLVR				smax	smax		
	comp=E,3μm,0.3s						
JRA	**Rausu**	**1.99**	**280**	P	**Pn**	**06 59 51.0**	**+1.2**
JNK	**Nakash**	**2.26**	**270**	P	**Pn**	**06 59 54.4**	**+0.8**
JAK	**Akkeshi**	**2.37**	**256**	P	**Pn**	**06 59 55.6**	**+0.5**
JAK				*e*S	**Sn**	**07 00 21.7**	**-1.2**
JTKR	**Abashiri--Toko**	**2.86**	**278**	P	**Pn**	**07 00 03.3**	**+1.5**
JAR	**Ashorobuto**	**2.98**	**265**	P	**Pn**	**07 00 04.8**	**+1.5**
JAR				*e*S	**Sn**	**07 00 37.8**	**0.0**
JOB	**Onbets**	**3.01**	**258**	P	**Pn**	**07 00 04.8**	**+1.0**
JOB				*e*S	**Sn**	**07 00 37.5**	**-1.0**
JMP	**Maruseppu**	**3.26**	**278**	P	**Pn**	**07 00 09.2**	**+1.9**
JCH	**Churui**	**3.42**	**254**	P	**Pn**	**07 00 10.2**	**+0.7**
JCH				*e*S	**Sn**	**07 00 47.7**	**-1.1**
ERM	**Erimo**	**3.80**	**247**	*de*PN	**Pn**	**07 00 17.0**	**+2.4**
ASAJ	**Asahikawa**	**3.82**	**279**	P	**Pn**	**07 00 17.0**	**+2.1**
	comp=E,1.8nm,0.3s,baz=72,slow=19,SNR=11						
ASAJ				S	Sn	07 01 06.7	+8.2
	comp=E,3.6nm,0.3s,baz=250,slow=33,SNR=7.6						
JFR	**Furan**	**3.85**	**265**	*e*S	**Sn**	**07 00 59.7**	**+0.5**
JNBK	**Urakawa-nobuka**	**3.96**	**252**	P	**Pn**	**07 00 17.6**	**+0.7**
JNBK				*e*S	**Sn**	**07 01 00.7**	**-1.3**
JSE	**Soyaes**	**4.00**	**291**	P	**Pn**	**07 00 19.3**	**+2.0**
JWK2	**Keihoku**	**4.57**	**294**	P	**Pn**	**07 00 28.5**	**+3.3**
YSS	**Yuzh-Sakhalins**	**4.89**	**315**	*e*P	**Pn**	**07 00 31.1**	**+1.5**
YSS				AMB	AMB	07 00 31.7	
	comp=E,30nm,0.5s						
YSS				*e*S	**Sn**	**07 01 23.8**	**-1.0**
YSS				A	A	07 01 26.4	
	comp=E,25nm,0.5s						
YSS	**Yuzh-Sakhalins**	**4.89**	**315**‖	*e*PN	**Pn**	**07 00 31.1**	**+1.5**
YSS				*e*S	**Sn**	**07 01 24.3**	**-0.5**
YSS				pmax	pmax		
	comp=Z,30nm,0.4s						
YSS				smax	smax		
	comp=N,40nm,0.7s						
YSS				MLR	MLR		
	comp=Z,100nm,16.0s						
MJA0	**Matsu Arr-Jizo**	**10.19**	**229**	*e*PN	**Pn**	**07 01 42.7**	**+0.5**
MAJO	**Matsushiro**	**10.21**	**229**	*e*P	**Pn**	**07 01 42.8**	**+0.3**
MAJO	**Matsushiro**	**10.21**	**229**	*ce*PN	**Pn**	**07 01 42.8**	**+0.3**
MJAR	**Matsushiro Arr**	**10.21**	**229**	P	**Pn**	**07 01 42.8**	**+0.3**
	comp=Z,0.4nm,0.3s,baz=27,slow=13,SNR=5.2						
PETK	**Petropavlovsk-**	**11.53**	**31**	P	**Pn**	**07 01 59.8**	**-0.5**
	comp=Z,0.3nm,0.3s,baz=195,slow=10,SNR=3.6						
MA2	**Magadan**	**16.08**	**5**	P	**Pn**	**07 03 00.1**	**-0.8**
	comp=Z,0.4nm,0.3s,baz=166,slow=4.0,SNR=4.7						
MA2	**Magadan**	**16.08**	**5**	*e*P	**Pn**	**07 03 01.7**	**+0.8**
SEY	**Seymchan**	**19.53**	**6**	P	**P**	**07 03 40.1**	**-1.2**
	comp=Z,0.2nm,0.3s,baz=189,slow=10,SNR=6.6						
SEY	**Seymchan**	**19.53**	**6**‖	*e*P	**P**	**07 03 42.0**	**+0.6**
YAK	**Yakutsk**	**21.31**	**336**	*e*P	**P**	**07 04 02.0**	**+1.3**
YAK	**Yakutsk**	**21.31**	**336**	*e*P	**P**	**07 04 01.1**	**+0.4**
YAK				pmax	pmax		
	comp=Z,14nm,0.9s						
YAK				pmax	pmax		
	comp=N,3.0nm,1.0s						
ULN	**Ulaanbaatar**	**28.53**	**293**	*e*P	**P**	**07 05 10.4**	**+1.1**
ULN	**Ulaanbaatar**	**28.53**	**293**‖	*e*P	**P**	**07 05 10.4**	**+1.1**
ULN				pmax	pmax		
	comp=Z,1.0nm,1.0s						
H11N2	**WAKE ISLAND Hy**	**28.68**	**140**	T	T	07 35 59.7	
	baz=331,slow=76,SNR=14						
H11N1	**WAKE ISLAND Hy**	**28.70**	**140**	T	T	07 36 05.3	
	baz=331,slow=76,SNR=20						
H11N3	**WAKE ISLAND Hy**	**28.70**	**140**	T	T	07 36 01.0	
	baz=331,slow=76,SNR=24						
TIXI	**Tiksi**	**29.59**	**348**‖	*e*P	**P**	**07 05 16.3**	**-1.8**
TIXI				pmax	pmax		
	comp=Z,1.0nm,0.7s						
H11S1	**WAKE ISLAND Hy**	**29.66**	**142**	T	T	07 37 11.4	
	baz=332,slow=76,SNR=25						
H11S3	**WAKE ISLAND Hy**	**29.66**	**142**	T	T	07 37 11.8	
	baz=332,slow=76,SNR=24						
H11S2	**WAKE ISLAND Hy**	**29.68**	**142**	T	T	07 37 12.8	
	baz=332,slow=76,SNR=31						
COLA	**College**	**40.88**	**36**	*e*P	**P**	**07 06 56.3**	**+1.2**
COLA	**College**	**40.88**	**36**‖	*e*P	**P**	**07 06 56.3**	**+1.2**
COLA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
ILAR	**Eielson Array**	**41.30**	**36**	P	**P**	**07 06 58.0**	**-0.6**
	comp=Z,0.8nm,0.8s,baz=274,slow=8.3,SNR=9.2						
ILAR	**Eielson Array**	**41.30**	**36**	*e*P	**P**	**07 07 00.9**	**+2.4**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
MKAR	**Makanchi Array**	**45.08**	**298**	P	**P**	**07 07 28.6**	**-0.7**
	comp=Z,0.4nm,0.6s,baz=82,slow=9.5,SNR=6.2						
MKAR	**Makanchi Array**	**45.08**	**298**	*e*P	**P**	**07 07 29.2**	**-0.1**
MKAR	**Makanchi Array**	**45.08**	**298**	*e*P	**P**	**07 07 29.2**	**-0.1**
KURK	**Kurchatov**	**46.01**	**304**	P	**P**	**07 07 35.7**	**-0.8**
KURBB	**Kurchatov Arra**	**46.10**	**304**	P	**P**	**07 07 35.7**	**-1.5**
	comp=Z,0.4nm,0.3s,baz=75,slow=8.0,SNR=5.6						
INK	**Inuvik**	**46.26**	**30**	P	**P**	**07 07 38.6**	**+0.4**
	comp=Z,2.8nm,0.6s,baz=300,slow=6.9,SNR=23						
RES	**Resolute Bay**	**54.95**	**17**	P	**P**	**07 08 43.4**	**-0.2**
	comp=Z,2.7nm,0.7s,baz=323,slow=8.6,SNR=17						
YKA	**Yellowknife Ar**	**55.63**	**34**	P	**P**	**07 08 48.8**	**+0.1**
	comp=Z,0.4nm,0.6s,baz=300,slow=7.1,SNR=13						
AKTO	**Aktyubinsk**	**57.99**	**311**	P	**P**	**07 09 05.0**	**-0.6**
	comp=Z,0.9nm,0.6s,baz=82,slow=6.7,SNR=3.8						
WRA	**Warramunga Arr**	**64.45**	**194**	P	**P**	**07 09 49.0**	**-0.5**
	comp=Z,0.5nm,0.8s,baz=14,slow=6.9,SNR=3.3						
FINES	**FINESS Array B**	**65.21**	**333**	P	**P**	**07 09 52.4**	**-1.7**
	comp=Z,1.2nm,0.4s,baz=37,slow=7.1,SNR=14						
FINES	**FINESS Array B**	**65.21**	**333**	*e*P	**P**	**07 09 53.0**	**-1.0**
FINES	**FINESS Array B**	**65.21**	**333**	*e*P	**P**	**07 09 53.0**	**-1.0**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ASAR	**Alice Springs**	**68.17**	**194**	P	**P**	**07 10 15.3**	**+2.1**
	comp=Z,0.4nm,0.8s,baz=200,slow=4.6,SNR=5.5						
NB2	**NORSAR Subarra**	**69.90**	**339**	P	**P**	**07 10 22.6**	**-1.1**
	comp=Z,0.7nm,0.5s,baz=30,slow=6.5						
NOA	**NORSAR Array B**	**69.90**	**339**	P	**P**	**07 10 22.4**	**-1.3**
	comp=Z,1.1nm,0.5s,baz=32,slow=6.6,SNR=6.7						
NOA	**NORSAR Array B**	**69.90**	**339**	*e*P	**P**	**07 10 22.9**	**-0.8**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
HFS	**Hagfors**	**70.00**	**338**	P	**P**	**07 10 23.0**	**-1.2**
	comp=Z,0.9nm,0.4s,baz=28,slow=6.7,SNR=8.4						
AKASG	**Malin Array Be**	**71.97**	**324**	P	**P**	**07 10 35.0**	**-1.3**
	comp=Z,0.8nm,0.5s,baz=39,slow=6.2,SNR=5.1						
TXAR	**Lajitas Array**	**82.31**	**57**	P	**P**	**07 11 36.1**	**+1.3**
	comp=Z,0.1nm,0.6s,baz=312,slow=6.7,SNR=3.0						

IDC 14 06:59:40.7±9.1, 4°87'S×153°84'E, h124km±64km, mb3.4/4, mb1 3.7/5, mb1mx3.2/53, mbtmp3.9/5, MS3.1/2, Ms1 3.1/2, ms1mx2.6/23, Error ellipse: s-maj=80.0km s-min=36.1km az=95.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**7.57**	**127**	LR	LR	07 04 42.6	
	comp=Z,70nm,20.5s,baz=327,slow=40						
PMG	**Port Moresby**	**8.02**	**235**	P	Pn	07 01 34.2	-0.2
	4.2nm,0.3s,baz=0.0,slow=4.0,SNR=8.7						
PMG				S	Sn	07 03 04.8	+1.3
	2.8nm,0.3s,baz=128,slow=22,SNR=9.8						
WRA	**Warramunga Arr**	**24.19**	**230**	P	P	07 04 44.9	-1.0
	3.1nm,0.8s,baz=54,slow=10.0,SNR=8.1						
ASAR	**Alice Springs**	**26.81**	**224**	P	P	07 05 10.4	+0.8
	0.7nm,0.9s,baz=44,slow=8.3,SNR=6.1						
STKA	**Stephens Creek**	**29.22**	**202**	LR	LR	07 18 06.3	
	comp=Z,64nm,19.6s,baz=218,slow=38						
CMAR	**Chiang Mai Arr**	**58.84**	**295**	P	P	07 09 26.9	+0.1
	0.8nm,0.9s,baz=128,slow=4.9,SNR=5.5						
MKAR	**Makanchi Array**	**81.06**	**319**	P	P	07 11 42.4	+0.3
	0.6nm,0.9s,baz=89,slow=5.9,SNR=3.7						
TORD	**Torodi Ar. Bea**	**151.31**	**289**	PKPbc	PKPbc	07 19 20.3	-0.6
	0.8nm,0.7s,baz=76,slow=1.9,SNR=4.9						

NEIC 14 07:01:16.0±0.0, 8°23S×79°11W, h71km, mb4.6/4, ML4.3(ARE), After ARE., Near coast of northern Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NNA	**Nana**	**4.35**	**149**	*e*Pn	Pn	07 02 14.9	-4.9
NNA				*e*Sn	Sn	07 03 02.2	-7.0
SAML	**Samuel**	**15.77**	**94**	*e*P	Pn	07 04 49.2	-4.7
PB10	**IPOC Station P**	**17.27**	**153**	*e*Pn	P	07 05 12.8	-0.2
	21nm,0.9s						
TIGA	**Tifton**	**39.68**	**354**	*e*P	P	07 08 42.4	+1.1
	9.8nm,1.1s						
USIN	**University of**	**46.64**	**351**	*e*P	P	07 09 38.9	+1.5
	15nm,0.4s						
ODNJ	**Ogdensburg**	**49.24**	**4**	*e*P	P	07 09 59.5	+2.1
	6.0nm,1.0s						
LPM	**Los Pinos Moun**	**49.70**	**330**	*e*P	P	07 10 06.4	+5.2
PV09	**Paradox Valley**	**54.25**	**331**	*e*P	P	07 10 38.8	+3.7
VTV	**Victorville**	**55.84**	**322**	*e*P	P	07 10 51.2	+4.8
RPV	**Rancho Palos V**	**55.97**	**320**	*e*P	P	07 10 48.5	+1.4
SBI	**Santa Barbara**	**56.19**	**320**	*e*P	P	07 10 52.6	+3.8
FCC	**Fort Churchill**	**67.86**	**352**	*e*P	P	07 12 05.7	-0.7

IDC 14 07:04:54.4±5.3, 3°58N×93°05E, h0km, mb3.9/3, mb1 3.7/5, mb1mx3.3/73, mbtmp3.6/5, ML3.4/2, Error ellipse: s-maj=120.4km s-min=37.8km az=32.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**5.92**	**97**	Pn	Pn	07 06 23.4	0.0
	0.6nm,0.3s,baz=259,slow=16,SNR=2.1						
CMAR	**Chiang Mai Arr**	**15.88**	**21**	Pn	Pn	07 08 39.1	-0.2
	0.1nm,0.3s,baz=220,slow=12,SNR=4.3						
MKAR	**Makanchi Array**	**44.05**	**349**	P	P	07 13 03.5	-0.5
	0.7nm,0.7s,baz=168,slow=8.1,SNR=6.0						
KURBB	**Kurchatov Arra**	**48.45**	**348**	P	P	07 13 38.5	0.0
	0.5nm,0.6s,baz=176,slow=7.4,SNR=2.2						
ZALV	**Zalesovo Beam**	**50.66**	**354**	P	P	07 13 55.6	+0.2
	2.3nm,0.5s,baz=188,slow=9.5,SNR=6.3						

*ISCJB **14** 07:06:21.8±0.6, 51°53N±0°03×16°12E±0°03, h0km, Error ellipse: s-maj=4.5km s-min=2.8km az=18.0*
*CSEM **14** 07:06:23.3±0.3, 51°54N×16°07E, h2km, ML3.2/11, Error ellipse: s-maj=4.6km s-min=3.6km az=7.0*
*VIE **14** 07:06:27.3±0.9, 51°25N×16°03E, h0km, mb2.3/4, ML2.5/5, Error ellipse: s-maj=8.5km s-min=7.2km az=82.0, Suspected Mining induced.*
ISC 14 07:06:22.7±0.8, 51°59N±0°03×16°09E±0°02, h0km, n42, σ19°03/80, 1D, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.76**	**170**	*i* Pg	**Pg**	**07 06 37.8**	**+0.6**
KSP				*e*Sg	**Sg**	**07 06 47.3**	**+0.2**
KSP	**Ksiaz**	**0.76**	**170**‖	*i* Pg	**Pg**	**07 06 37.8**	**+0.6**
KSP				*e*Sg	**Sg**	**07 06 47.3**	**+0.2**
UPC	**Upice**	**1.09**	**183**	*e*PG	**Pg**	**07 06 43.6**	**+0.1**
UPC				*e*SG	**Sg**	**07 06 57.5**	**0.0**
	comp=Z,57nm,0.3s						
UPC	**Upice**	**1.09**	**183**	Pg	**Pg**	**07 06 43.6**	**+0.1**
UPC				Sg	**Sg**	**07 06 57.5**	**0.0**
	57nm,0.3s						
DPC	**Dobruska-Polom**	**1.25**	**173**	*e*PG	**Pg**	**07 06 46.5**	**-0.2**
DPC				*e*SG	**Sg**	**07 07 02.0**	**-0.8**
	comp=Z,20nm,0.3s						
DPC	**Dobruska-Polom**	**1.25**	**173**	Pg	**Pg**	**07 06 46.5**	**-0.2**
DPC				Sg	**Sg**	**07 07 02.0**	**-0.8**
	20nm,0.3s						
PVCC	**Panska Ves**	**1.43**	**223**	*e*PG	**Pn**	**07 06 49.9**	**0.0**
PVCC				*e*SG	**Sb**	**07 07 09.1**	**+0.1**
	comp=Z,99nm,0.3s						
PVCC	**Panska Ves**	**1.43**	**223**	Pg	**Pn**	**07 06 49.9**	**0.0**
PVCC				Sg	**Sb**	**07 07 09.1**	**+0.1**
	99nm,0.3s						
BRG	**Berggiesshubel**	**1.53**	**243**	PN	**Pb**	**07 06 51.8**	**0.0**
BRG				PG	**Pg**	**07 06 52.6**	**+0.6**
BRG				SG	**Sn**	**07 07 12.4**	**+0.6**
	47nm,0.3s						
KRLC	**Kraliky**	**1.58**	**164**	*e*PG	**Pn**	**07 06 51.9**	**-0.1**
KRLC				*e*SG	**Sn**	**07 07 11.9**	**-1.3**
	comp=Z,6.9nm,0.4s						
KRLC	**Kraliky**	**1.58**	**164**	Pg	**Pn**	**07 06 51.9**	**-0.1**
KRLC				Sg	**Sn**	**07 07 11.9**	**-1.3**
	6.9nm,0.4s						
PRA	**Prague**	**1.85**	**215**	*e*SG	**Sb**	**07 07 21.7**	**+0.7**
PRA	**Prague**	**1.85**	**215**	Sg	**Sb**	**07 07 21.7**	**+0.7**
GOPC	**GO Pecny, Ondr**	**1.87**	**207**	*e*PN	**Pn**	**07 06 56.6**	**+0.6**
GOPC				*e*PG	**Pb**	**07 06 58.0**	**+0.3**
GOPC	**GO Pecny, Ondr**	**1.87**	**207**	Pn	**Pn**	**07 06 56.6**	**+0.6**
PRU	**Pruhonice**	**1.88**	**212**	*e*PN	**Pn**	**07 06 55.8**	**-0.3**
PRU				*e*PG	**Pb**	**07 06 57.9**	**0.0**
PRU				*e*SG	**Sn**	**07 07 21.4**	**+0.9**
	comp=Z,16nm,0.3s						
PRU	**Pruhonice**	**1.88**	**212**	Pn	**Pn**	**07 06 55.8**	**-0.3**
CLL	**Collm**	**1.95**	**263**	*i* Pn	**Pn**	**07 06 56.8**	**-0.2**
	comp=Z,8.0nm,0.4s						
CLL				*i* Pg	**Pb**	**07 06 59.8**	**+0.7**
CLL				*i*		07 07 03.9	
CLL				*i* Sg	**Sg**	**07 07 26.1**	**+0.8**
	comp=Z,13nm,0.5s						
MORC	**Moravsky Berou**	**2.04**	**152**	*e*Pn	**Pn**	**07 06 58.0**	**-0.3**
MORC				*e*Sg	**Sb**	**07 07 25.9**	**-0.6**
OKC	**Ostrava-Krasne**	**2.19**	**142**	*e*PG	**Pg**	**07 07 04.2**	**-0.4**
OKC				*e*SG	**Sg**	**07 07 32.5**	**-0.5**
	comp=Z,40nm,0.7s						
OKC	**Ostrava-Krasne**	**2.19**	**142**	Pg	**Pg**	**07 07 04.2**	**-0.4**
OKC				Sg	**Sg**	**07 07 32.5**	**-0.5**
	comp=Z,40nm,0.7s						
VRAC	**Vranov**	**2.31**	**172**	*e*Pn	**Pn**	**07 07 02.2**	**+0.2**
VRAC				*e*Sg	**Sb**	**07 07 34.6**	**+0.4**
TREC	**Trest**	**2.33**	**190**	*e*PN	**Pn**	**07 07 03.4**	**+1.1**
TREC				*e*PG	**Pb**	**07 07 06.6**	**+1.0**
TREC	**Trest**	**2.33**	**190**	Pn	**Pn**	**07 07 03.4**	**+1.1**
NKC	**Novy Kostel**	**2.67**	**241**	*e*PN	**Pn**	**07 07 07.5**	**+0.5**
NKC				*e*PG	**Pg**	**07 07 13.9**	**0.0**
NKC				*e*SG	**Sg**	**07 07 49.5**	**+0.9**
	comp=Z,24nm,0.3s						
NKC	**Novy Kostel**	**2.67**	**241**	Pn	**Pn**	**07 07 07.5**	**+0.5**
OJC	**Ojcow**	**2.72**	**119**	*e*Pg	**Pg**	**07 07 15.1**	**+0.3**
OJC				*e*Sg	**Sg**	**07 07 51.0**	**+0.9**
OJC	**Ojcow**	**2.72**	**119**	*e*Pg	**Pg**	**07 07 15.1**	**+0.3**
OJC				*e*Sg	**Sg**	**07 07 51.0**	**+0.9**
KHC	**Kasperske Hory**	**2.94**	**214**	*e*PN	**Pn**	**07 07 10.5**	**-0.2**
KHC				*e*PG	**Pb**	**07 07 16.8**	**+0.8**
KHC				*e*SG	**Sb**	**07 07 54.7**	**+2.2**
	comp=Z,7.4nm,0.5s						
KHC	**Kasperske Hory**	**2.94**	**214**	Pn	**Pn**	**07 07 10.5**	**-0.2**
MODS	**Modra-Piesok**	**3.31**	**166**	*e*Pg	**Pg**	**07 07 26.2**	**+0.1**
MODS				*e*Sg	**Sg**	**07 08 09.5**	**+0.5**
MODS	**Modra-Piesok**	**3.31**	**166**	*e*PG	**Pg**	**07 07 26.2**	**+0.1**
MODS				*e*SG	**Sg**	**07 08 09.5**	**+0.5**
BSD	**Bornholm Skovb**	**3.60**	**349**	*i* P	**Pn**	**07 07 19.7**	**0.0**
BSD				*e*S	**Sn**	**07 08 00.5**	**-2.3**
BSD	**Bornholm Skovb**	**3.60**	**349**	*i* P	**Pn**	**07 07 19.7**	**0.0**
BSD				*e*S	**Sn**	**07 08 00.5**	**-2.3**
CONA	**Conrad Observa**	**3.67**	**182**	Pn	**Pn**	**07 07 21.3**	**+0.6**
	comp=Z,1.1nm,0.3s						
CONA				Sg	**Sg**	**07 08 17.8**	**-2.7**
	comp=Z,5.2nm,0.3s						
CONA	**Conrad Observa**	**3.67**	**182**	*e*Pn	**Pn**	**07 07 21.3**	**+0.6**
	comp=Z,1.1nm,0.3s						
CONA				Sg	**Sg**	**07 08 17.8**	**-2.7**
	comp=Z,5.2nm,0.3s						
MOA	**Molln**	**3.93**	**198**	Pn	**Pn**	**07 07 24.8**	**+0.5**
	comp=Z,2.9nm,0.3s						
MOA				Sg	**Sg**	**07 08 25.3**	**-3.5**
	comp=Z,3.4nm,0.4s						
MOA	**Molln**	**3.93**	**198**	*i* Pn	**Pn**	**07 07 24.8**	**+0.5**
	comp=Z,2.9nm,0.3s						
MOA				Sg	**Sg**	**07 08 25.3**	**-3.5**
	comp=Z,3.4nm,0.4s						
STHS	**Stebnicka Huta**	**3.95**	**121**	*e*Pg	**Pg**	**07 07 38.7**	**+0.4**
STHS				*e*Sg	**Sg**	**07 08 29.7**	**+0.3**
STHS	**Stebnicka Huta**	**3.95**	**121**	*e*PG	**Pg**	**07 07 38.7**	**+0.4**
STHS				*e*SG	**Sg**	**07 08 29.7**	**+0.3**
STHS				eLG	Lg	07 08 39.8	
ARSA	**Arzberg**	**4.36**	**185**	Sg	**Sg**	**07 08 41.2**	**-1.5**
	comp=Z,8.3nm,0.6s						
ARSA	**Arzberg**	**4.36**	**185**	Sg	**Sg**	**07 08 41.2**	**-1.5**
	comp=Z,8.3nm,0.6s						

*IDC **14** 07:22:19.8±0.9, 55°82N×162°26E, h0km, mb3.6/7, mb1 3.8/8, mb1mx3.4/75, mbtmp3.6/8, ML2.4/1, MS3.2/2, Ms1 3.2/2, ms1mx2.5/60, Error ellipse: s-maj=34.0km s-min=18.0km az=135.0*
*KRSC **14** 07:22:23.1±0.5, 55°70N×162°47E, h61km±16km, ML3.8*
*ISCJB **14** 07:22:24.7±0.4, 55°72N±0°03×162°45E±0°06, h54km±6km, mb3.5/7, MS3.3/2, Error ellipse: s-maj=5.5km s-min=4.5km az=30.5*
ISC 14 07:22:25.9±1.0, 55°76N±0°04×162°42E±0°04, h44km±11km, n44, σ0°97/52, mb3.5/7, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBTR	**Krutoberegovo**	**0.51**	**26**	*e*P	**Pn**	**07 22 36.1**	**-0.7**
KBTR				*e*S	**Sn**	**07 22 45.8**	**+1.1**
ZLN	**Zelenaya**	**0.95**	**287**	*e*P	**Pn**	**07 22 42.1**	**-0.7**
SMKR	**Semkarok**	**0.98**	**328**	*e*P	**Pn**	**07 22 42.8**	**-0.5**
SMKR				*e*S	**Sn**	**07 22 56.9**	**+0.8**
CIRR	**Tsirk**	**1.01**	**292**	*e*P	**Pn**	**07 22 43.7**	**0.0**
LGNR	**Loginova**	**1.03**	**289**	*e*P	**Pn**	**07 22 43.1**	**-1.0**
BDR	**Baidarnaya**	**1.06**	**321**	*e*P	**Pn**	**07 22 44.2**	**-0.1**
BDR				*e*S	**Sn**	**07 22 59.2**	**+1.2**
BZMR	**Bezymyannaya**	**1.10**	**280**	*e*P	**Pn**	**07 22 44.1**	**-0.9**
BZWR	**Bezymyannyi-We**	**1.11**	**282**	*e*P	**Pn**	**07 22 44.3**	**-0.7**
KLY	**Klyuchi**	**1.14**	**300**	*e*P	**Pn**	**07 22 43.2**	**-2.1**
KLY				*e*S	**Sn**	**07 22 57.5**	**-2.3**
KRSR	**Krestovskiy**	**1.14**	**295**	*e*P	**Pn**	**07 22 44.3**	**-1.2**
SRKR	**Sorokina**	**1.14**	**323**	*e*P	**Pn**	**07 22 45.2**	**-0.2**
SRKR				*e*S	**Sn**	**07 23 00.8**	**+0.9**
KMNR	**Kamenistaya**	**1.23**	**271**	*e*P	**Pn**	**07 22 46.5**	**-0.2**
KMNR				*e*S	**Sn**	**07 23 03.4**	**+1.1**
KPT	**Kopyto**	**1.26**	**281**	*e*S	**Sn**	**07 23 02.6**	**-0.2**
KZV	**Kizimen**	**1.37**	**243**	*e*P	**Pn**	**07 22 47.6**	**-1.1**
KZV				*e*S	**Sn**	**07 23 05.5**	**-0.2**
TUMR	**Tumrok**	**1.38**	**251**	*e*P	**Pn**	**07 22 48.6**	**-0.1**
TUMR				*e*S	**Sn**	**07 23 07.3**	**+1.5**
KOZ	**Kozyrevsk**	**1.47**	**283**	*e*P	**Pn**	**07 22 50.6**	**+0.8**
KOZ				*e*S	**Sn**	**07 23 10.0**	**+2.2**
BKI	**Bering**	**2.10**	**104**	*e*P	**Pn**	**07 22 58.4**	**0.0**
BKI				*e*S	**Sn**	**07 23 23.0**	**-0.2**
ESO	**Esso**	**2.11**	**276**	*e*P	**Pn**	**07 22 58.1**	**-0.5**
SPN	**Mys Shipunski**	**3.01**	**209**	*e*P	**Pn**	**07 23 09.3**	**-1.7**
SPN				*e*S	**Sn**	**07 23 44.3**	**-1.4**
KRX	**Arik**	**3.25**	**224**	*e*P	**Pn**	**07

MLSI				S	Sn	07 35 43.1	-8.5
TPTI		**6.40**	**74**	P	**Pn**	**07 34 46.1**	**-1.0**
TPTI				S	Sn	07 35 50.4	-10
GSI	**Gunungsitoli**	**6.56**	**91**	P	**Pn**	**07 34 50.7**	**+1.5**
GSI	**Gunungsitoli**	**6.56**	**91**	*e*Pn	**Pn**	**07 34 49.6**	**+0.4**
GSI				*e*Sn	**Sn**	**07 36 02.8**	**-1.3**
LHMI	**Lhok Sumawe**	**6.99**	**58**	*e*Pn	**Pn**	**07 34 55.9**	**+0.7**
LHMI				*e*Sn	**Sn**	**07 36 17.2**	**+2.5**
KCSI	**Kotacane, Aceh**	**7.04**	**73**	P	**Pn**	**07 34 54.2**	**-1.7**
PSI	**Prapat**	**8.01**	**80**	Pn	**Pn**	**07 35 09.4**	**+0.1**
	1.6nm,0.3s,baz=289,slow=4.7,SNR=6.1						
PSI				Sn	**Sn**	**07 36 33.1**	**-6.9**
	1.7nm,0.3s,baz=0.0,slow=19,SNR=3.1						
PSI				LR	LR	07 38 25.4	
	comp=Z,292nm,21.3s,baz=273,slow=39						
MNSI	**Mandailing Nat**	**8.59**	**94**	P	**Pn**	**07 35 17.9**	**+0.8**
MNSI				S	**Sn**	**07 36 45.1**	**-9.0**
PKDT	**Phuket**	**9.68**	**49**	P	**Pn**	**07 35 31.5**	**-0.6**
	20nm,0.6s,3µm						
PDSI	**Padang**	**9.74**	**104**	P	Pn	07 35 43.2	+10
BKNI	**Bangkinang**	**10.08**	**96**	*e*Pn	**Pn**	**07 35 37.4**	**-0.2**
IPM	**Ipoh**	**10.43**	**73**	*e*Pn	**Pn**	**07 35 42.5**	**+0.1**
TRTT	**Trang**	**10.70**	**54**	P	**Pn**	**07 35 45.0**	**-1.1**
	9.8nm,1.1s						
SURT	**Suratani**	**10.73**	**46**	P	**Pn**	**07 35 45.2**	**-1.2**
	16nm,0.8s						
SKLT	**Songkhla**	**11.11**	**59**	P	**Pn**	**07 35 51.6**	**-0.1**
	35nm,1.1s,463nm						
PALK	**Pallekele**	**11.78**	**300**	Pn	**Pn**	**07 36 00.5**	**-0.4**
	2.4nm,0.3s,baz=115,slow=11,SNR=14						
PALK				Sn	**Sn**	**07 38 04.7**	**-7.9**
	1.3nm,0.3s,baz=296,slow=8.5,SNR=3.2						
PALK				LR	LR	07 39 37.7	
	comp=Z,154nm,21.7s,baz=117,slow=33						
PALK	**Pallekele**	**11.78**	**300**	*e*Pn	**Pn**	**07 36 01.1**	**+0.1**
PALK				Sn	**Sn**	**07 38 04.7**	**-7.9**
PALK				*e*Sn	Sn	07 38 11.9	-0.8
LEM	**Lembang**	**18.51**	**117**	LR	LR	07 44 20.7	
	comp=Z,154nm,18.6s,baz=242,slow=36						
CM01	**Chiang Mai Arr**	**18.55**	**24**	*e*P	**Pn**	**07 37 30.0**	**+0.1**
CM31	**Chiang Mai Arr**	**18.58**	**24**	*e*P	**P**	**07 37 29.6**	**-0.4**
CMAR	**Chiang Mai Arr**	**18.58**	**24**	P	**P**	**07 37 30.1**	**+0.1**
	0.1nm,0.3s,baz=218,slow=13,SNR=20						
CMAR				LR	LR	07 43 29.7	
	comp=Z,60nm,21.5s,baz=185,slow=33						
CHTO	**Chiang Mai**	**18.90**	**24**	*e*P	**P**	**07 37 33.8**	**+0.2**
	4.3nm,1.0s						
STKI	**Sintang**	**20.50**	**94**	P	Pn	07 37 57.7	+4.4
H08S2	**Diego Garcia H**	**20.58**	**244**	T	T	07 59 07.8	
	baz=64,slow=75,SNR=22						
H08S3	**Diego Garcia H**	**20.59**	**244**	T	T	07 59 12.7	
	baz=64,slow=75,SNR=13						
H08S1	**Diego Carcia H**	**20.60**	**244**	T	T	07 59 08.5	
	baz=64,slow=75,SNR=14						
SBUM	**Sibu**	**21.21**	**87**	*e*P	**P**	**07 37 57.6**	**-1.2**
	14nm,1.1s						
KMI	**Kunming**	**26.09**	**25**	P	**P**	**07 38 50.0**	**+3.1**
KMI				pmax	pmax		
	comp=Z,18nm,0.5s						
CD2	**Chengdu**	**31.66**	**21**	*e*P	**P**	**07 39 37.8**	**+1.5**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
LZH	**Lanzhou**	**36.43**	**18**	*e*P	**P**	**07 40 20.8**	**+3.0**
LZH				pP	sP	07 40 24.3	+2.2
LZH				sP	pP	07 40 27.4	+6.5
LZH				*e*PP	**PP**	**07 41 45.3**	**+4.5**
LZH				pmax	pmax		
	comp=Z,33nm,1.0s						
LZH				pmax	pmax		
	comp=Z,210nm,4.3s						
LZH				LR	LR		
	comp=N,180nm,15.0s						
LZH				LR	LR		
	comp=E,230nm,17.1s						
LZH				LR	LR		
	comp=Z,230nm,16.4s						
GTA	**Gaotai**	**38.59**	**11**	*e*P	**P**	**07 40 40.0**	**+3.9**
GTA				pP	sP	07 40 45.9	+5.5
GTA				sP	pP	07 40 49.3	+10
GTA				pmax	pmax		
	comp=Z,3.0nm,1.0s						
FITZ	**Fitzroy Crossi**	**39.24**	**121**	P	**P**	**07 40 42.1**	**+0.5**
	comp=Z,1.9nm,0.7s,baz=356,slow=6.9,SNR=5.6						
H01W3	**Cape Leeuwin H**	**42.16**	**151**	T	T	08 26 07.7	
	baz=327,slow=75,SNR=3.6						
H01W2	**Cape Leeuwin H**	**42.17**	**151**	T	T	08 26 06.9	
	baz=327,slow=75,SNR=2.8						
H01W1	**Cape Leeuwin H**	**42.18**	**151**	T	T	08 26 05.7	
	baz=327,slow=75,SNR=2.2						
WMQ	**Urumqi**	**42.26**	**356**	P	**P**	**07 41 07.5**	**+1.2**
WMQ				LR	LR		
	comp=Z,96nm,26.3s						
HHC	**Hu-ho-hao-te**	**43.38**	**23**	*e*P	**P**	**07 41 17.3**	**+1.8**
HHC				pmax	pmax		
	comp=Z,11nm,1.0s						
HHC				pmax	pmax		
	comp=Z,10.0nm,6.1s						
KK31	**Karatay Array**	**45.31**	**339**	*e*P	**P**	**07 41 32.2**	**+1.4**
KKAR	**Karatay Array**	**45.31**	**339**	*e*P	**P**	**07 41 32.3**	**+1.5**
MK01	**Makanchi Array**	**45.75**	**352**	*e*P	**P**	**07 41 34.6**	**+0.4**
MK31	**Makanchi Array**	**45.77**	**352**	*e*P	**P**	**07 41 34.8**	**+0.4**
MKAR	**Makanchi Array**	**45.77**	**352**	P	**P**	**07 41 35.0**	**+0.7**
	comp=Z,1.2nm,0.7s,baz=161,slow=8.7,SNR=10						
MKAR				LR	LR	08 03 39.2	
	comp=Z,29nm,18.1s,baz=154,slow=40						
MKAR	**Makanchi Array**	**45.77**	**352**	*e*P	**P**	**07 41 34.8**	**+0.4**
	comp=Z,7.7nm,0.8s						
WRA	**Warramunga Arr**	**47.51**	**119**	P	**P**	**07 41 49.3**	**+0.9**
	comp=Z,1.0nm,0.7s,baz=296,slow=8.6,SNR=7.5						
SONM	**Songino Array**	**48.06**	**14**	P	**P**	**07 41 53.8**	**+1.5**
	comp=Z,3.7nm,0.7s,baz=194,slow=9.5,SNR=13						
SONA1	**Songino Array**	**48.07**	**14**	*e*P	**P**	**07 41 53.4**	**+0.9**
ASAR	**Alice Springs**	**48.60**	**124**	P	**P**	**07 41 57.5**	**+0.7**
	comp=Z,0.3nm,0.6s,baz=296,slow=7.8,SNR=5.6						
JNU	**Nakatsue**	**48.86**	**46**	LR	LR	08 01 58.8	
	comp=Z,42nm,21.8s,baz=139,slow=35						
KURBB	**Kurchatov Arra**	**50.10**	**350**	P	**P**	**07 42 08.5**	**+0.7**
	comp=Z,1.2nm,0.7s,baz=174,slow=7.4,SNR=10.0						
KURK	**Kurchatov**	**50.17**	**350**	P	**P**	**07 42 08.5**	**+0.1**
ZALV	**Zalesovo Beam**	**52.54**	**355**	P	**P**	**07 42 26.4**	**+0.4**
	comp=Z,1.8nm,0.5s,baz=190,slow=7.5,SNR=7.3						
ZALV				LR	LR	08 05 58.0	
	comp=Z,54nm,21.5s,baz=250,slow=37						
ZALV	**Zalesovo Beam**	**52.54**	**355**	*e*P	**P**	**07 42 26.6**	**+0.5**
BVAR	**Borovoye Array**	**54.16**	**345**	P	**P**	**07 42 37.7**	**-0.3**
	comp=Z,0.4nm,0.5s,baz=157,slow=7.8,SNR=2.9						
BVAR				LR	LR	08 06 15.6	
	comp=Z,76nm,19.8s,baz=166,slow=37						
ABKAR	**Akbulak array**	**54.52**	**335**	*e*P	**P**	**07 42 41.6**	**+0.9**
	comp=Z,9.9nm,0.8s						
GUMO	**Guam**	**54.59**	**74**	LR	LR	08 04 40.9	
	comp=Z,26nm,21.7s,baz=108,slow=35						
STKA	**Stephens Creek**	**58.22**	**129**	P	**P**	**07 43 07.4**	**-0.1**
	comp=Z,1.0nm,0.7s,baz=306,slow=14,SNR=2.1						
BRTR	**Keskin Array B**	**64.41**	**314**	LR	LR	08 12 20.2	
	comp=Z,21nm,21.6s,baz=80,slow=36						
BUR04	**Bucovina Ar. S**	**72.78**	**320**	*e*P	**P**	**07 44 40.9**	**-0.6**
LVZ	**Lovozero**	**76.51**	**341**	*e*P	**P**	**07 45 04.2**	**+1.6**
	comp=Z,109nm,1.7s						
FIA1	**FINESS Array S**	**76.94**	**333**	*e*P	**P**	**07 45 06.7**	**+1.6**
FINES	**FINESS Array B**	**76.94**	**333**	P	**P**	**07 45 06.2**	**+1.1**
	comp=Z,2.0nm,0.8s,baz=117,slow=4.8,SNR=3.2						
MCQ	**Macquarie Isla**	**78.57**	**147**	*e*P	**P**	**07 45 13.8**	**-0.6**
	comp=Z,799nm,1.8s						
GERES	**GERESS Array B**	**80.55**	**319**	P	**P**	**07 45 26.8**	**+1.4**
	comp=Z,0.3nm,0.4s,baz=132,slow=4.1,SNR=3.1						
CLL	**Collm**	**81.36**	**322**	*e*P	**P**	**07 45 29.0**	**-0.5**
TORD	**Torodi Ar. Bea**	**89.01**	**283**	LR	LR	08 24 41.2	
	comp=Z,21nm,18.8s,baz=140,slow=35						
DBIC	**Dimbokro**	**95.66**	**277**	LR	LR	08 30 27.0	
	comp=Z,13nm,18.4s,baz=102,slow=36						
CNNC	**Cliffs of the**	**142.02**	**345**	*e*PKPdf	**PKPdf**	**07 52 43.6**	**-1.9**
TXAR	**Lajitas Array**	**146.29**	**24**	PKPbc	**PKPab**	**07 52 56.1**	**+1.0**
	comp=Z,0.6nm,0.7s,baz=250,slow=2.5,SNR=4.7						
CRPR	**Cabo Rojo, PR**	**151.04**	**313**	*e*PKPdf	**PKPdf**	**07 52 59.1**	**-2.1**
CRPR				*e*PKPbc	**sPKPdf**	**07 53 05.8**	**0.0**

MEX 14 07:36:15.7±0.3, 16°42N×98°43W, h28km±19km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.29**	**96**	*i* P	Pb	07 36 21.6	-1.2
PNIG				*i* S	Sb	07 36 26.2	-1.5
TLIG	**Tlapa**	**1.14**	**353**	*e*P	Pn	07 36 33.5	-2.5
TLIG				*e*S	Sn	07 36 47.4	-3.4

MAN 14 07:47:06, 9.98N×124.96E, h32km, mb3.9, ML2.7, MS2.3, 2C, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSLP	**Maasin**	**0.18**	**327**	*e*P	Pn	07 47 13.5	+1.0
MSLP				*e*S	Sn	07 47 19.0	+2.4
SCPH	**Surigao**	**0.56**	**111**	*e*P	Pb	07 47 15.9	-1.6
SCPH				*e*S	Sb	07 47 23.1	-2.3
PLP	**Palo**	**1.18**	**11**	*e*P	Pn	07 47 26.8	+0.6
PLP				*e*S	Sn	07 47 41.6	+0.4

ISK ***14*** *07:51:56.9, 41.39N×35.92E, h8km, ML2.4/6*
ISCJB ***14*** *07:51:57.9±0.5, 41.35N±0.03×35.86E±0.04, h0km, Error ellipse: s-maj=5.0km s-min=3.4km az=41.5*
CSEM ***14*** *07:51:57.7±0.2, 41.35N×35.86E, h1km, ML2.9, Error ellipse: s-maj=6.1km s-min=4.1km az=44.0, Suspected Mining explosion.*
DDA ***14*** *07:51:58.3, 41.34N×35.87E, h7km, Ml2.9, Suspected Mining explosion.*

ISC 14 07:51:58.2±0.9, 41.34N±0.03×35.84E±0.03, h0km, n24, σ0.85/39, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SAMS	**Samsun-Alacam**	**0.26**	**84**	*i* P	**Pg**	**07 52 03.2**	**0.0**
SAMS				*i* S	**Sg**	**07 52 08.4**	**+1.9**
SAMS	**Samsun-Alacam**	**0.26**	**84**	P	**Pg**	**07 52 03.2**	**0.0**
SAMS				S	**Sg**	**07 52 08.4**	**+1.9**
KVT	**Kavak**	**0.30**	**149**	PG	**Pg**	**07 52 03.7**	**-0.2**
KVT				SG	**Sg**	**07 52 09.0**	**+1.3**
KVT	**Kavak**	**0.30**	**149**	*e*Pg	**Pg**	**07 52 03.7**	**-0.2**
KVT				*e*Sg	**Sg**	**07 52 09.0**	**+1.3**
DIKM	**Dikmen**	**0.54**	**306**	PG	**Pg**	**07 52 08.1**	**-0.5**
DIKM				SG	**Sg**	**07 52 16.7**	**+1.1**
DIKM	**Dikmen**	**0.54**	**306**	*e*Pg	**Pg**	**07 52 08.1**	**-0.5**
DIKM				*e*Sg	**Sg**	**07 52 16.7**	**+1.1**
SNOP	**Sinop**	**0.83**	**325**	PG	**Pg**	**07 52 13.4**	**-0.8**
SNOP	**Sinop**	**0.83**	**325**	*e*Pg	**Pg**	**07 52 13.4**	**-0.8**
SINO	**SINOP_Merkez**	**0.83**	**325**	*i* P	**Pg**	**07 52 13.6**	**-0.6**
SINO				*i* S	**Sb**	**07 52 27.6**	**+0.2**
SINO	**SINOP_Merkez**	**0.83**	**325**	P	**Pg**	**07 52 13.6**	**-0.6**
ERBA	**Erbaa**	**0.95**	**133**	*i* P	**Pg**	**07 52 16.0**	**-0.4**
ERBA				*i* S	**Sb**	**07 52 29.4**	**-1.3**
ERBA	**Erbaa**	**0.95**	**133**	P	**Pg**	**07 52 16.0**	**-0.4**
ERBA				S	**Sb**	**07 52 29.4**	**-1.3**
CTAK	**Corum_Osmancik**	**1.05**	**230**	*i* P	**Pg**	**07 52 18.0**	**-0.4**
CTAK				*i* S	**Sb**	**07 52 34.5**	**+0.7**
CTAK	**Corum_Osmancik**	**1.05**	**230**	P	**Pg**	**07 52 18.0**	**-0.4**
CTAK				S	**Sb**	**07 52 34.5**	**+0.7**
TOKT	**Tokat**	**1.15**	**152**	PN	**Pg**	**07 52 19.5**	**-0.7**
TOKT	**Tokat**	**1.15**	**152**	*e*Pn	**Pg**	**07 52 19.5**	**-0.7**
COAL	**Corum-Alaca**	**1.26**	**211**	*i* P	**Pg**	**07 52 22.2**	**-0.2**
COAL				*i* S	**Sn**	**07 52 41.6**	**+0.7**
COAL	**Corum-Alaca**	**1.26**	**211**	P	**Pg**	**07 52 22.2**	**-0.2**
COAL				S	**Sn**	**07 52 41.6**	**+0.7**
CORM	**Corum**	**1.48**	**219**	PN	**Pn**	**07 52 25.4**	**-0.8**
CORM				SN	**Sn**	**07 52 46.5**	**+0.2**
CORM	**Corum**	**1.48**	**219**	*e*Pn	**Pn**	**07 52 25.4**	**-0.8**
CORM				*e*Sn	**Sn**	**07 52 46.5**	**+0.2**
BZK	**Bozkurt**	**1.51**	**295**	PN	**Pn**	**07 52 26.1**	**-0.5**
BZK	**Bozkurt**	**1.51**	**295**	*e*Pn	**Pn**	**07 52 26.1**	**-0.5**
SVSK	**Karacayir**	**1.67**	**148**	PN	**Pn**	**07 52 27.6**	**-1.0**
SVSK	**Karacayir**	**1.67**	**148**	*e*Pn	**Pn**	**07 52 27.6**	**-1.0**

ISCJB ***14*** *07:59:55.6±1.0, 1.9N±0.1×89.5E±0.1, h10km, mb3.7/6, MS3.2/8, Error ellipse: s-maj=24.2km s-min=14.8km az=37.8*
IDC ***14*** *07:59:56.4±1.3, 1.86N×89.56E, h0km, mb3.6/6, mb1 3.9/8, mb1mx3.5/69, mbtmp3.7/8, ML3.8/1, MS3.2/11, Ms1 3.3/11, ms1mx2.9/70, Error ellipse: s-maj=43.3km s-min=20.9km az=51.0*

ISC 14 07:59:57.5±1.3, 1.9N±0.2×89.4E±0.1, h10km, n23, σ1.59/10, mb3.8/6, MS3.3/8, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**9.56**	**84**	LR	LR	08 05 57.1	
	comp=Z,245nm,19.0s,baz=260,slow=38						
PALK	**Pallekele**	**10.19**	**302**	Pn	**Pn**	**08 02 25.5**	**+1.6**
	0.7nm,0.3s,baz=114,slow=9.8,SNR=4.5						
PALK				Sn	**Sn**	**08 04 15.2**	**-3.1**
	1.2nm,0.3s,baz=300,slow=3.8,SNR=5.3						
PALK				LR	LR	08 05 51.8	
	comp=Z,174nm,20.7s,baz=116,slow=34						
CMAR	**Chiang Mai Arr**	**18.94**	**29**	P	**Pn**	**08 04 18.9**	**-0.7**
	baz=217,slow=11,SNR=4.2						
CMAR				LR	LR	08 11 05.7	
	comp=Z,80nm,19.2s,baz=212,slow=35						
H08S2	**Diego Garcia H**	**19.34**	**240**	T	T	08 24 29.2	
	baz=60,slow=75,SNR=87						
H08S3	**Diego Garcia H**	**19.34**	**241**	T	T	08 24 27.1	
	baz=60,slow=75,SNR=61						
H08S1	**Diego Carcia H**	**19.36**	**241**	T	T	08 24 28.4	
	baz=60,slow=75,SNR=76						
BATI	**Baumata**	**36.16**	**110**	LR	LR	08 23 42.7	
	comp=Z,69nm,18.5s,baz=294,slow=40						
AAK	**Ala-Archa**	**42.71**	**344**	LR	LR	08 26 09.1	
	comp=Z,22nm,18.4s,baz=153,slow=37						
H01W3	**Cape Leeuwin H**	**43.31**	**150**	T	T	08 53 59.8	
	baz=324,slow=76,SNR=15						
H01W2	**Cape Leeuwin H**	**43.32**	**150**	T	T	08 54 00.5	
	baz=324,slow=76,SNR=15						
H01W1	**Cape Leeuwin H**	**43.33**	**150**	T	T	08 54 01.8	
	baz=324,slow=76,SNR=17						
MKAR	**Makanchi Array**	**45.15**	**353**	P	**P**	**08 08 15.2**	**+0.8**
	0.4nm,0.8s,baz=170,slow=9.5,SNR=3.5						
SONM	**Songino Array**	**48.07**	**15**	P	**P**	**08 08 37.5**	**+0.1**
	0.4nm,0.4s,baz=137,slow=49,SNR=3.5						
WRA	**Warramunga Arr**	**49.12**	**118**	P	**P**	**08 08 44.3**	**-1.5**
	1.1nm,0.7s,baz=296,slow=8.5,SNR=9.2						
KSRS	**Korea Array**	**50.05**	**40**	LR	LR	08 33 57.6	
	comp=Z,13nm,19.0s,baz=225,slow=41						
ASAR	**Alice Springs**	**50.17**	**123**	P	**P**	**08 08 53.4**	**-0.4**
	0.6nm,0.7s,baz=304,slow=8.6,SNR=4.3						
TLY	**Talaya**	**51.04**	**11**	LR	LR	08 31 51.9	
	comp=Z,28nm,19.6s,baz=219,slow=38						
ZALV	**Zalesovo Beam**	**52.02**	**357**	P	**P**	**08 09 07.3**	**+0.2**
	0.5nm,0.3s,baz=185,slow=10,SNR=2.5						
ZALV				LR	LR	08 32 10.1	
	comp=Z,30nm,19.9s,baz=68,slow=37						
BVAR	**Borovoye Array**	**53.35**	**346**	LR	LR	08 32 21.4	
	comp=Z,37nm,20.9s,baz=146,slow=36						
GUMO	**Guam**	**56.04**	**75**	LR	LR	08 37 53.6	
	comp=Z,8.2nm,18.1s,baz=104,slow=41						
BRTR	**Keskin Array B**	**62.97**	**314**	LR	LR	08 39 40.2	
	comp=Z,17nm,18.6s,baz=112,slow=38						
GERES	**GERESS Array B**	**79.18**	**319**	P	**P**	**08 12 04.2**	**+1.3**
	0.2nm,0.3s,baz=89,slow=7.2,SNR=2.8						
TXAR	**Lajitas Array**	**146.53**	**21**	PKPbc	**PKPab**	**08 19 40.6**	**-0.3**
	1.1nm,0.9s,baz=265,slow=1.5,SNR=7.8						

ISCJB ***14*** *08:13:48.1±0.3, 59.64N±0.02×24.98E±0.04, h0km, Error ellipse: s-maj=3.1km s-min=2.7km az=139.8*
CSEM ***14*** *08:13:49.6±0.2, 59.64N×25.06E, h2km, ML2.0, Error ellipse: s-maj=4.2km s-min=3.2km az=135.0, Mining explosion.*
BER ***14*** *08:13:50.2±2.4, 59.65N×25.06E, h0km, ML2.1(NAO), Suspected explosion*
NAO ***14*** *08:13:50.1±1.0, 59.66N×25.07E, ML2.1*
UPP ***14*** *08:13:51.4±2.5, 59.72N×24.85E, h0km, ML1.6*
IDC ***14*** *08:13:51.2±2.1, 59.69N×25.13E, h0km, mb1 3.3/3, mb1mx2.9/66, mbtmp3.2/3, ML3.1/2, Error ellipse: s-maj=19.6km s-min=6.8km az=140.0*

ISC 14 08:13:48.6±0.7, 59.63N±0.02×25.00E±0.02, h0km, n81, σ1.33/115, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARBE	**Arbavere**	**0.54**	**111**	*e*P	**Pg**	**08 13 59.1**	**+0.2**
ARBE				*e*S	**Sg**	**08 14 05.8**	**0.0**
ARBE	**Arbavere**	**0.54**	**111**	*e*P	**Pg**	**08 13 59.1**	**+0.2**
ARBE				*e*S	**Sg**	**08 14 05.8**	**0.0**
MEF	**Metsahovi**	**0.66**	**333**	*e*P	**Pg**	**08 14 02.2**	**+0.8**
	SNR=90						
MEF				*e*S	**Sg**	**08 14 11.0**	**+1.0**
MEF	**Metsahovi**	**0.66**	**333**	*e*P	**Pg**	**08 14 02.1**	**+0.8**
MEF				*e*S	**Sg**	**08 14 11.0**	**+1.0**
PVF	**Pernaja**	**1.01**	**25**	*e*P	**Pg**	**08 14 08.1**	**+0.1**
PVF				*e*Sb	**Sg**	**08 14 21.5**	**+0.3**
PVF				*e*Sn	**Sn**	**08 14 26.5**	**+1.5**
PVF	**Pernaja**	**1.01**	**25**	*e*P	**Pg**	**08 14 08.1**	**+0.1**
PVF				*e*SB	**Sg**	**08 14 21.5**	**+0.3**
PVF				*e*SN	**Sn**	**08 14 26.5**	**+1.5**
MTSE	**Matsula**	**1.10**	**214**	*e*P	**Pg**	**08 14 10.0**	**+0.2**
MTSE				*e*S	**Sg**	**08 14 24.6**	**+0.6**
	SNR=68						
MTSE	**Matsula**	**1.10**	**214**	*e*P	**Pg**	**08 14 10.0**	**+0.2**
MTSE				*e*S	**Sg**	**08 14 24.3**	**+0.2**
VSU	**Vasula**	**1.47**	**142**	Pg	**Pg**	**08 14 16.5**	**-0.4**
VSU				Lg	Lg	08 14 35.7	
VSU	**Vasula**	**1.47**	**142**	*e*P	**Pg**	**08 14 16.6**	**-0.2**
	SNR=68						
VSU				Lg	Lg	08 14 35.7	
VSU				*e*S	**Sb**	**08 14 35.9**	**-0.2**
	110nm,0.4s,SNR=68						
VSU	**Vasula**	**1.47**	**142**	*e*P	**Pg**	**08 14 16.5**	**-0.4**
VSU	**Vasula**	**1.47**	**142**	Pg	**Pg**	**08 14 16.5**	**-0.4**
VSU				Lg	Lg	08 14 35.7	
VJF	**Virojoki**	**1.57**	**53**	*e*P	**Pn**	**08 14 17.7**	**0.0**
VJF				*e*Sn	**Sg**	**08 14 39.1**	**+0.1**
VJF	**Virojoki**	**1.57**	**53**	*e*P	**Pn**	**08 14 17.7**	**0.0**
VJF				*e*SN	**Sg**	**08 14 39.1**	**+0.1**
VJF				MSG		08 14 42.0	
	comp=Z,16nm,0.1s						
FIA0	**FINESS Array S**	**1.90**	**16**	Pg	**Pb**	**08 14 23.6**	**-0.5**
	baz=199,slow=16						
FIA0				Lg	Lg	08 14 48.0	
	baz=194,slow=37						
FIA0	**FINESS Array S**	**1.90**	**16**	Pg	**Pb**	**08 14 23.5**	**-0.5**
	SNR=216						
FIA0				Lg	Lg	08 14 48.0	
	SNR=8.2						
FIA0				*e*Sg	**Sb**	**08 14 48.6**	**+0.4**
	comp=Z,5.6nm,0.1s						
FIA0	**FINESS Array S**	**1.90**	**16**	*e*PN	**Pb**	**08 14 23.5**	**-0.5**
FIA0				*e*SG	**Sb**	**08 14 48.6**	**+0.4**
FIA0				MSG		08 14 50.1	
	comp=Z,5.6nm,0.1s						
FIA0	**FINESS Array S**	**1.90**	**16**	Pg	**Pb**	**08 14 23.6**	**-0.5**
	baz=199,slow=16						
FIA0				Lg	Lg	08 14 48.0	
	baz=194,slow=37						
FINES	**FINESS Array B**	**1.90**	**16**	Pg	**Pb**	**08 14 23.8**	**-0.2**
	comp=Z,1.2nm,0.3s,baz=197,slow=16,SNR=72						
FINES				Lg	Lg	08 14 47.7	
	comp=Z,2.3nm,0.3s,baz=193,slow=29,SNR=17						
FIA1	**FINESS Array S**	**1.90**	**16**	*e*Pn	**Pb**	**08 14 23.5**	**-0.6**
FIA1				*e*Sg	**Sb**	**08 14 48.1**	**-0.2**
	comp=Z,6.7nm,0.2s						
FIA1	**FINESS Array S**	**1.90**	**16**	*e*PN	**Pb**	**08 14 23.5**	**-0.6**
FIA1				*e*SG	**Sb**	**08 14 48.1**	**-0.2**
FIA1				MSG		08 14 51.1	
	comp=Z,6.7nm,0.2s						
RAF	**Rauma**	**2.13**	**312**	*e*P	**Pb**	**08 14 28.1**	**0.0**
	SNR=50						
RAF				*e*Sg	**Sb**	**08 14 56.4**	**+1.3**
	comp=Z,10.0nm,0.1s						
RAF				*e*S	**Sg**	**08 14 56.7**	**-0.4**
	comp=Z,25nm,0.4s,SNR=50						
RAF	**Rauma**	**2.13**	**312**	*e*PB	**Pb**	**08 14 28.0**	**-0.1**
RAF				*e*SG	**Sb**	**08 14 56.4**	**+1.3**
RAF				MSG		08 14 58.3	
	comp=Z,10.0nm,0.1s						
SLIT	**Slitere, Latvi**	**2.46**	**216**	*e*P	**Pb**	**08 14 32.7**	**-0.9**
	SNR=50						
SLIT				*e*S	**Sb**	**08 15 05.8**	**+1.4**
	comp=Z,320nm,0.7s,SNR=50						
SLIT	**Slitere, Latvi**	**2.46**	**216**	*e*PB	**Pb**	**08 14 32.6**	**-1.1**
SLIT				*e*SG	**Sg**	**08 15 06.2**	**-1.3**
KEF	**Keuruu**	**2.55**	**359**	*e*PB	**Pb**	**08 14 34.1**	**-1.1**
KEF				MSG		08 15 05.2	
	comp=Z,7.8nm,0.2s						
KEF				*e*SG	**Sb**	**08 15 08.0**	**+1.0**
KAF	**Kangasniemi**	**2.57**	**14**	*e*P	**Pn**	**08 14 33.1**	**+1.6**
KAF	**Kangasniemi**	**2.57**	**14**	*e*P	**Pn**	**08 14 33.1**	**+1.6**
KAF				MSG		08 15 05.7	
	comp=Z,5.8nm,0.2s						
KAF				*e*SG	**Sb**	**08 15 08.5**	**+0.8**
AAL	**Aland**	**2.58**	**284**	*e*P	**Pn**	**08 14 33.3**	**+1.7**
AAL	**Aland**	**2.58**	**284**	*e*P	**Pn**	**08 14 33.3**	**+1.7**
AAL				*e*SB	**Sb**	**08 15 07.7**	**-0.3**
GRAU	**Graesoe**	**3.

NB2	**NORSAR Subarra**	**6.99**	**288**	Pn		**Pn**	**08 15 31.4**	**-0.7**
	baz=95,slow=14							
NOA	**NORSAR Array B**	**6.99**	**288**	Pn		**Pn**	**08 15 32.1**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=95,slow=13,SNR=9.3							
NOA				Sn		**Sn**	**08 16 52.2**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=92,slow=13,SNR=3.1							
NOA				Lg	Lg		08 17 32.2	
	comp=Z,0.4nm,0.3s,baz=106,slow=14,SNR=3.3							
ARA0	**ARCESS Array S**	**9.95**	**1**	Pn		**Pn**	**08 16 12.4**	**-0.2**
	baz=178,slow=14							
ARA0	**ARCESS Array S**	**9.95**	**1**	Pn		**Pn**	**08 16 12.4**	**-0.2**
	baz=178,slow=14							
ARCES	**ARCESS Array B**	**9.95**	**1**	Pn		**Pn**	**08 16 12.9**	**+0.3**
	comp=Z,0.2nm,0.3s,baz=178,slow=13,SNR=13							
ARCES				Sn		**Sn**	**08 17 59.9**	**-5.0**
	comp=Z,0.1nm,0.3s,baz=182,slow=25,SNR=2.3							

ISCJB ***14*** *08:15:54.9±0.3,3˚.46N±0˚.05×92˚.77E±0˚.04, h10km, mb4.4/39, MS4.2/1, Error ellipse: s-maj=7.2km s-min=4.9km az=13.2*

IDC ***14*** *08:15:55.2±0.7, 3˚.47N×92˚.74E, h0km, mb4.1/19, mb1 4.3/22, mb1mx4.0/74, mbtmp4.2/22, ML4.1/3, MS3.3/2, Ms1 3.3/2, ms1mx2.6/65, Error ellipse: s-maj=24.5km s-min=13.9km az=45.0*

NEIC ***14*** *08:15:56.7±0.2, 3˚.47N×92˚.77E, h10km, mb4.7/19, Error ellipse: s-maj=5.4km s-min=4.0km az=202.0*

DJA ***14*** *08:15:58.8±2.1, 4˚.1N±9˚×9˚.3E±˚, h36km±44km, M4.4/7, mb4.5/7, mB4.7/4, MLv4.4/5, Mw(mB)4.0/4*

ISC 14 08:15:56.6±0.4,3˚.45N±0˚.06×92˚.83E±0˚.05,h10km,n73, σ1§30/78,mb4.4/39,1D,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSI	**Banda Aceh**	**3.19**	**50**	P	**Pn**	**08 16 47.8**	**+1.0**
MLSI	**Meulaboh, Aceh**	**3.65**	**77**	P	**Pb**	**08 16 58.3**	**-3.0**
TPTI		**4.34**	**92**	P	**Pn**	**08 17 04.2**	**+1.5**
LHMI	**Lhok Sumawe**	**4.46**	**67**	*e*Pn	**Pn**	**08 17 05.9**	**+1.5**
LHMI				*e*Sn	**Sn**	**08 17 57.8**	**+1.4**
GSI	**Gunungsitoli**	**5.20**	**114**	P	**Pn**	**08 17 16.2**	**+1.7**
	83nm,0.5s,1µm0.3nm						
GSI	**Gunungsitoli**	**5.20**	**114**	*e*Pn	**Pn**	**08 17 15.7**	**+1.2**
GSI				*e*Sn	**Sn**	**08 18 12.8**	**-1.7**
PSI	**Prapat**	**6.12**	**96**	Pn	**Pn**	**08 17 30.2**	**+3.0**
	7.1nm,0.3s,baz=284,slow=12,SNR=17						
PSI				Sn	**Sn**	**08 18 35.6**	**-1.8**
	3.6nm,0.3s,baz=274,slow=9.1,SNR=3.9						
PSI	**Prapat**	**6.12**	**96**	*e*Pn	**Pn**	**08 17 29.6**	**+2.4**
PSI				*e*Sn	**Sn**	**08 18 37.4**	**0.0**
MNSI	**Mandailing Nat**	**7.24**	**111**	P	**Pn**	**08 17 45.8**	**+3.2**
	66nm,0.4s						
IPM	**Ipoh**	**8.24**	**83**	*e*Pn	**Pn**	**08 17 56.9**	**+0.6**
IPM				*e*Sn	**Sn**	**08 19 24.4**	**-5.1**
PALK	**Pallekele**	**12.66**	**288**	Pn	**Pn**	**08 18 54.9**	**-2.0**
	1.4nm,0.3s,baz=115,slow=13,SNR=8.9						
PALK				Sn	Sn	08 21 02.7	-15
	5.5nm,0.3s,baz=293,slow=1.1,SNR=14						
PALK				LR	LR	08 22 53.9	
	comp=Z,174nm,18.8s,baz=116,slow=33						
PALK	**Pallekele**	**12.66**	**288**	*e*Pn	**Pn**	**08 18 55.5**	**-1.4**
PALK				*e*Sn	Sn	08 21 03.7	-14
CM01	**Chiang Mai Arr**	**16.04**	**22**	*e*Pn	**Pn**	**08 19 41.3**	**-1.1**
CM31	**Chiang Mai Arr**	**16.07**	**21**	*e*Pn	**Pn**	**08 19 42.5**	**-0.3**
CMAR	**Chiang Mai Arr**	**16.07**	**21**	Pn	**Pn**	**08 19 42.4**	**-0.5**
	0.2nm,0.3s,baz=217,slow=13,SNR=33						
CHTO	**Chiang Mai**	**16.39**	**21**	*e*Pn	**Pn**	**08 19 46.5**	**-0.5**
	6.9nm,0.9s						
LEM	**Lembang**	**17.95**	**125**	LR	LR	08 28 06.5	
	comp=Z,79nm,19.1s,baz=54,slow=41						
SBUM	**Sibu**	**19.39**	**92**	*e*P	**P**	**08 20 23.1**	**+0.2**
	4.4nm,0.9s						
DGAR	**Diego Garcia**	**23.02**	**242**	*e*P	**P**	**08 21 01.9**	**-0.3**
	75nm,1.0s						
KKM	**Kota Kinabalu**	**23.44**	**83**	*e*P	**P**	**08 21 07.1**	**+0.6**
	15nm,1.0s						
KMI	**Kunming**	**23.56**	**23**	P	**P**	**08 21 09.9**	**+2.2**
KMI				pmax	pmax		
	comp=Z,20nm,0.8s						
LSA	**Lhasa**	**26.15**	**357**	*e*P	**P**	**08 21 33.0**	**+1.3**
	comp=Z,14nm,0.6s						
CD2	**Chengdu**	**29.19**	**20**	*e*P	**P**	**08 21 59.4**	**+0.9**
XAN	**Xi'an**	**33.92**	**24**	P	**P**	**08 22 39.8**	**-0.3**
XAN				sP	sP	08 22 48.3	+3.9
XAN				pmax	pmax		
	comp=Z,13nm,0.6s						
XAN				pmax	pmax		
	comp=Z,53nm,8.9s						
LZH	**Lanzhou**	**34.03**	**16**	*e*P	**P**	**08 22 44.9**	**+3.8**
LZH				pP	sP	08 22 47.8	+2.4
LZH				sP	pP	08 22 51.3	+7.1
LZH				*e*PP	**PP**	**08 23 58.1**	**-0.1**
LZH				pmax	pmax		
	comp=Z,30nm,0.8s						
LZH				pmax	pmax		
	comp=Z,190nm,5.7s						
LZH				LR	LR		
	comp=N,250nm,13.5s						
LZH				LR	LR		
	comp=E,280nm,13.7s						
LZH				LR	LR		
	comp=Z,220nm,15.0s						
NIL	**Nilore**	**35.16**	**331**	*e*P	**P**	**08 22 51.0**	**+0.2**
	comp=Z,15nm,0.6s						
GTA	**Gaotai**	**36.35**	**9**	*e*P	**P**	**08 23 01.6**	**+0.6**
GTA				pP	sP	08 23 06.0	+0.6
GTA				sP	pP	08 23 08.6	+4.5
GTA				pmax	pmax		
	comp=Z,6.0nm,1.1s						
WMQ	**Urumqi**	**40.45**	**354**	P	**P**	**08 23 36.8**	**+1.4**
HHC	**Hu-ho-hao-te**	**40.88**	**22**	*e*P	P	08 23 34.1	-4.9
HHC				pmax	pmax		
	comp=Z,16nm,1.1s						
HHC				pmax	pmax		
	comp=Z,12nm,5.7s						
KDJ	**Kajisay**	**40.98**	**342**	*e*P	**P**	**08 23 40.3**	**+0.4**
	comp=Z,3.2nm,0.8s						
MK01	**Makanchi Array**	**44.11**	**350**	*e*P	**P**	**08 24 05.2**	**+0.1**
MK31	**Makanchi Array**	**44.13**	**350**	*e*P	**P**	**08 24 05.4**	**+0.1**
MKAR	**Makanchi Array**	**44.13**	**350**	P	**P**	**08 24 05.4**	**+0.1**
	comp=Z,5.8nm,0.5s,baz=169,slow=8.9,SNR=84						
MKAR	**Makanchi Array**	**44.13**	**350**	*e*P	**P**	**08 24 05.5**	**+0.1**
	comp=Z,45nm,0.6s						
KK31	**Karatay Array**	**44.19**	**336**	*e*P	**P**	**08 24 05.4**	**-0.4**
KKAR	**Karatay Array**	**44.19**	**336**	*e*P	**P**	**08 24 05.5**	**-0.4**
MAKZ	**Makanchi**	**44.20**	**349**	*e*P	**P**	**08 24 05.9**	**0.0**
	comp=Z,3.9nm,0.8s						
SONM	**Songino Array**	**45.73**	**13**	P	**P**	**08 24 18.4**	**+0.3**
	comp=Z,1.9nm,0.6s,baz=193,slow=9.5,SNR=8.1						
SONA1	**Songino Array**	**45.75**	**13**	*e*P	**P**	**08 24 19.2**	**+0.9**
GEYT	**Alibeck**	**46.73**	**322**	P	**P**	**08 24 26.7**	**+0.6**
	comp=Z,5.6nm,0.7s,baz=153,slow=8.3,SNR=8.0						
WRA	**Warramunga Arr**	**46.92**	**121**	P	**P**	**08 24 28.3**	**+0.5**
	comp=Z,1.3nm,0.5s,baz=298,slow=8.9,SNR=16						
WB2	**Warramunga Arr**	**46.93**	**121**	*e*P	**P**	**08 24 28.4**	**+0.5**
	comp=Z,29nm,1.8s						
ASAR	**Alice Springs**	**48.23**	**126**	P	**P**	**08 24 38.5**	**+0.4**
	comp=Z,0.4nm,0.5s,baz=297,slow=7.8,SNR=7.3						
ASAR				PcP	**PcP**	**08 26 05.7**	**+0.5**
	comp=Z,0.4nm,0.6s,baz=309,slow=3.1,SNR=4.9						
KURBB	**Kurchatov Arra**	**48.53**	**348**	P	**P**	**08 24 39.8**	**+0.1**
	comp=Z,3.7nm,0.7s,baz=170,slow=7.2,SNR=17						
KURK	**Kurchatov**	**48.60**	**348**	*e*P	**P**	**08 24 39.9**	**-0.4**
	comp=Z,9.2nm,1.3s						
RAYN	**Ar Rayn**	**49.85**	**298**	*e*P	**P**	**08 24 50.2**	**-0.3**
	comp=Z,3.3nm,0.8s						
ZAA0	**Zalesovo Array**	**50.76**	**354**	*e*P	**P**	**08 24 56.8**	**+0.1**
	comp=Z,17nm,1.4s						
ZALV	**Zalesovo Beam**	**50.76**	**354**	P	**P**	**08 24 57.1**	**+0.3**
	comp=Z,8.0nm,0.6s,baz=185,slow=9.1,SNR=14						
BVAR	**Borovoye Array**	**52.77**	**343**	P	**P**	**08 25 11.1**	**-0.7**
	comp=Z,2.2nm,0.8s,baz=140,slow=9.4,SNR=10.0						
BRVK	**Borovoye**	**52.83**	**343**	*e*P	**P**	**08 25 11.6**	**-0.6**
	comp=Z,3.3nm,1.0s						
ABKAR	**Akbulak array**	**53.53**	**334**	*e*P	**P**	**08 25 16.7**	**-0.8**
	comp=Z,26nm,0.8s						
STKA	**Stephens Creek**	**58.10**	**131**	P	**P**	**08 25 51.0**	**+0.4**
	comp=Z,1.5nm,0.6s,baz=341,slow=8.3,SNR=3.7						
KBZ	**Khabaz**	**59.54**	**320**	P	**P**	**08 25 59.8**	**-0.5**
	comp=Z,1.5nm,0.7s,baz=162,slow=5.4,SNR=5.0						
MMAI	**Mount Meron Ar**	**61.06**	**306**	P	**P**	**08 26 12.6**	**+1.5**
	comp=Z,0.9nm,0.5s,baz=91,slow=5.0,SNR=3.7						
CRZF	**Crozet Islands**	**61.44**	**211**	*e*P	**P**	**08 26 12.0**	**-1.2**
BRTR	**Keskin Array B**	**64.38**	**313**	P	**P**	**08 26 32.4**	**-0.8**
	comp=Z,1.0nm,0.6s,baz=132,slow=6.8,SNR=4.6						
AKASG	**Malin Array Be**	**70.83**	**323**	P	**P**	**08 27 11.9**	**-1.7**
	comp=Z,0.1nm,0.3s,baz=93,slow=5.1,SNR=5.1						
MLR	**Muntele Rosu**	**71.45**	**317**	P	**P**	**08 27 17.8**	**+0.2**
	comp=Z,1.1nm,0.9s,baz=204,slow=11,SNR=4.8						
TIXI	**Tiksi**	**71.79**	**11**	*e*P	**P**	**08 27 18.7**	**-0.3**
	comp=Z,8.7nm,0.6s						
BOSA	**Boshof**	**72.17**	**239**	P	**P**	**08 27 22.3**	**0.0**
	comp=Z,3.0nm,0.9s,baz=78,slow=2.1,SNR=5.3						
BOSA	**Boshof**	**72.17**	**239**	*e*P	**P**	**08 27 21.7**	**-0.5**
	comp=Z,53nm,2.0s						
BUR04	**Bucovina Ar. S**	**72.47**	**319**	*e*P	**P**	**08 27 23.6**	**-0.1**
FINES	**FINESS Array B**	**76.01**	**333**	*e*P	**P**	**08 27 42.4**	**-1.4**
	comp=Z,1.8nm,0.7s,baz=81,slow=12,SNR=3.7						
GEA0	**GERESS Array S**	**80.25**	**319**	*e*P	**P**	**08 28 07.9**	**+0.1**
GEC2	**GERESS Array S**	**80.26**	**319**	*e*P	**P**	**08 28 07.7**	**-0.1**
	comp=Z,4.7nm,0.8s						
GERES	**GERESS Array B**	**80.26**	**319**	P	**P**	**08 28 07.7**	**-0.1**
	comp=Z,2.4nm,0.6s,baz=96,slow=5.4,SNR=16						
BRG	**Bergqisshubel**	**80.32**	**321**	*e*P	**P**	**08 28 08.2**	**+0.2**
	comp=Z,5.4nm,1.1s						
KHC	**Kasperske Hory**	**80.37**	**319**	*e*P	**P**	**08 28 08.2**	**-0.2**
	comp=Z,5.7nm,1.9s						
SYO	**Syowa Base**	**80.83**	**197**	*e*P	**P**	**08 28 10.0**	**-0.3**
HFS	**Hagfors**	**81.61**	**330**	P	**P**	**08 28 14.0**	**-0.7**
	comp=Z,1.2nm,0.6s,baz=104,slow=6.1,SNR=4.3						
ESDC	**Sonseca Array**	**93.05**	**310**	P	**P**	**08 29 11.7**	**+0.7**
	comp=Z,0.3nm,0.4s,baz=71,slow=3.4,SNR=3.5						
IM3	**Indian Mountai**	**96.19**	**22**	*e*P	**P**	**08 29 25.3**	**+0.6**
HPIG		**144.90**	**30**	*e*PKPdf	**PKPdf**	**08 35 35.9**	**+0.7**

ISCJB ***14*** *08:28:08.8±0.4, 0˚.79N±0˚.05×92˚.92E±0˚.04, h10km, mb4.2/19, MS3.5/15, Error ellipse: s-maj=8.0km s-min=5.8km az=23.7*

IDC ***14*** *08:28:09.2±1.1, 0˚.78N×92˚.88E, h0km, mb3.8/11, mb1 3.9/14, mb1mx3.7/70, mbtmp3.9/14, ML3.9/3, MS3.5/18, Ms1 3.5/18, ms1mx3.3/57, Error ellipse: s-maj=33.0km s-min=17.8km az=41.0*

NEIC ***14*** *08:28:11.6±3.2, 0˚.75N×92˚.88E, h17km±20km, mb4.5/10, Error ellipse: s-maj=9.8km s-min=5.7km az=225.0*

DJA ***14*** *08:28:42.7±3.0, 2˚.1N±7˚×9˚5E±1˚6, h36km±31km, M4.2/6, mB4.8/2, mb4.1/6, MLv4.2/6, Mw(mB)4.0/2*

ISC 14 08:28:11.4±0.7, 0˚.90N±0˚.09×92˚.98E±0˚.06,h10km,n71, σ1§50/59,mb4.2/19,MS3.5/15,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSI	**Gunungsitoli**	**4.62**	**85**	P	**Pn**	**08 29 24.8**	**+3.6**
GSI	**Gunungsitoli**	**4.62**	**85**	*e*Pn	**Pn**	**08 29 21.7**	**+0.5**
TPTI		**4.81**	**61**	P	**Pn**	**08 29 24.2**	**+0.3**
TPTI				S	**Sn**	**08 30 15.4**	**-4.3**
BSI	**Banda Aceh**	**5.12**	**27**	P	**Pn**	**08 29 29.5**	**+1.4**
LHMI	**Lhok Sumawe**	**5.84**	**43**	*e*Pn	**Pn**	**08 29 39.9**	**+1.8**
PSI	**Prapat**	**6.24**	**72**	Pn	**Pn**	**08 29 43.9**	**+0.3**
	4.2nm,0.3s,baz=268,slow=10.0,SNR=9.1						
PSI				Sn	**Sn**	**08 30 52.2**	**-2.9**
	2.2nm,0.3s,baz=191,slow=19,SNR=4.2						
PSI				LR	LR	08 32 41.7	
	comp=Z,970nm,18.3s,baz=254,slow=43						
PSI	**Prapat**	**6.24**	**72**	*e*Pn	**Pn**	**08 29 43.9**	**+0.3**
PSI				*e*Sn	**Sn**	**08 30 55.4**	**+0.2**
MNSI	**Mandailing Nat**	**6.60**	**91**	P	**Pn**	**08 29 49.2**	**+0.6**
PDSI	**Padang**	**7.70**	**104**	P	**Pn**	**08 30 07.8**	**+4.1**
	49nm,0.5s,0.3nm						
IPM	**Ipoh**	**8.79**	**66**	*e*Pn	**Pn**	**08 30 19.4**	**+0.8**
TRTT	**Trang**	**9.60**	**44**	P	**Pn**	**08 30 34.0**	**+4.2**
SKLT	**Songkhla**	**9.84**	**7**	P	**Pn**	**08 30 33.6**	**+0.6**
MNAI	**Manna**	**11.26**	**118**	*e*Pn	**Pn**	**08 30 52.0**	**-0.5**
MDSI	**Maura Dua**	**12.41**	**116**	P	Pn	08 31 17.9	+10
	8.5nm,0.8s						
PALK	**Pallekele**	**13.78**	**298**	Pn	**Pn**	**08 31 26.6**	**-0.3**
	0.8nm,0.3s,baz=116,slow=12,SNR=3.2						
PALK				Sn	Sn	08 33 46.3	-14
	2.1nm,0.3s,baz=118,slow=6.1,SNR=5.7						
PALK				LR	LR	08 35 44.0	
	comp=Z,153nm,20.8s,baz=116,slow=33						
PALK	**Pallekele**	**13.78**	**298**	*e*Pn	**Pn**	**08 31 26.2**	**-0.7**
PALK				*e*Sn	Sn	08 33 46.3	-14
LEM	**Lembang**	**16.51**	**118**	LR	LR	08 38 11.0	
	comp=Z,110nm,19.2s,baz=43,slow=36						
PBKT	**Sadao Pong**	**17.45**	**26**	P	**Pn**	**08 32 15.9**	**+0.9**
CM01	**Chiang Mai Arr**	**18.37**	**18**	*e*P	**P**	**08 32 28.3**	**+1.9**
CM31	**Chiang Mai Arr**	**18.40**	**18**	*e*P	**P**	**08 32 26.7**	**-0.1**
CMAR	**Chiang Mai Arr**	**18.40**	**18**	P	**P**	**08 32 27.3**	**+0.5**
	0.1nm,0.3s,baz=209,slow=11,SNR=9.1						
SMRI	**Semarang**	**19.13**	**115**	*e*P	**P**	**08 32 35.7**	**+0.8**
	49nm,0.5s						
SBUM	**Sibu**	**19.30**	**85**	*e*P	**P**	**08 32 38.5**	**+1.8**
	6.3nm,0.9s						
DAV	**Davao City (W)**	**33.08**	**78**	LR	LR	08 48 48.6	
	comp=Z,62nm,21.6s,baz=184,slow=37						
NIL	**Nilore**	**37.46**	**332**	*e*P	**P**	**08 35 26.0**	**+0.7**
	7.1nm,0.6s						
SAUI	**Saumlaki**	**39.22**	**104**	*e*P	**P**	**08 35 39.0**	**-1.2**
	269nm,0.9s						
NWAO	**Narrogin (SRO)**	**40.70**	**148**	LR	LR	08 49 21.6	
	comp=Z,118nm,19.8s,baz=190,slow=31						
JOW	**Kunigami**	**42.59**	**50**	LR	LR	08 54 02.9	
	comp=Z,30nm,18.6s,baz=272,slow=36						
KDJ	**Kajisay**	**43.44**	**343**	*e*P	**P**	**08 36 15.6**	**+0.9**
	3.6nm,1.1s						
WRA	**Warramunga Arr**	**45.52**	**119**	P	**P**	**08 36 31.2**	**-0.4**
	0.8nm,0.5s,baz=299,slow=8.4,SNR=8.0						
WR1	**Warramunga Arr**	**45.52**	**119**	*e*P	**P**	**08 36 31.2**	**-0.4**
	16nm,0.9s						
WB2	**Warramunga Arr**	**45.53**	**119**	*e*P	**P**	**08 36 31.5**	**-0.2**
	4.8nm,1.0s						
KK31	**Karatay Array**	**46.57**	**337**	*e*P	**P**	**08 36 40.0**	**+0.5**
KKAR	**Karatay Array**	**46.57**	**337**	*e*P	**P**	**08 36 39.7**	**+0.2**
MK01	**Makanchi Array**	**46.62**	**350**	*e*P	**P**	**08 36 39.8**	**-0.1**
MK31	**Makanchi Array**	**46.65**	**350**	*e*P	**P**	**08 36 40.6**	**+0.6**
MK32	**Makanchi Array**	**46.65**	**350**	*e*P	**P**	**08 36 40.9**	**+0.9**
MKAR	**Makanchi Array**	**46.65**	**350**	P	**P**	**08 36 40.9**	**+0.9**
	1.2nm,0.8s,baz=164,slow=8.3,SNR=9.2						
MKAR				LR	LR	08 56 54.9	
	comp=Z,28nm,21.6s,baz=210,slow=37						
MKAR	**Makanchi Array**	**46.65**	**350**	*e*P	**P**	**08 36 40.8**	**+0.7**
	8.2nm,0.8s						
ASAR	**Alice Springs**	**46.65**	**124**	P	**P**	**08 36 40.0**	**-0.5**
	1.0nm,0.9s,baz=298,slow=8.6,SNR=7.0						
ASAR				LR	LR	08 55 59.2	
	comp=Z,45nm,18.5s,baz=321,slow=36						
AS31	**Alice Springs**	**46.66**	**124**	*e*P	**P**	**08 36 40.0**	**-0.5**
JNU	**Nakatsue**	**47.88**	**44**	LR	LR	08 58 27.6	
	comp=Z,43nm,19.4s,baz=128,slow=38						
SONA0	**Songino Array**	**48.17**	**12**	*e*P	**P**	**08 36 53.6**	**+1.6**
SONM	**Songino Array**	**48.17**	**12**	P	**P**	**08 36 53.6**	**+1.6**
	1.8nm,0.9s,baz=190,slow=8.5,SNR=7.6						
KS15	**Wonju Array Si**	**48.54**	**37**	*e*P	**P**	**08 36 54.2**	**-0.6**
KSAR	**Wonju Array Be**	**48.54**	**37**	P	**P**	**08 36 54.2**	**-0.6**
KSRS	**Korea Array**	**48.57**	**37**	P	**P**	**08 36 54.2**	**-0.8**
	0.3nm,0.4s,baz=225,slow=8.7,SNR=5.2						
GEYT	**Alibeck**	**48.82**	**323**	P	**P**	**08 36 57.4**	**+0.3**
	1.3nm,0.4s,baz=186,slow=12,SNR=3.7						
ABPO	**Ambohimpanom**	**49.08**	**244**	*e*P	P	08 36 57.0	-2.5
	7.7nm,1.0s						
KURBB	**Kurchatov Arra**	**51.03**	**348**	P	**P**	**08 37 12.8**	**-0.8**
	0.5nm,0.6s,baz=172,slow=7.2,SNR=6.7						
KURK	**Kurchatov**	**51.10**	**348**	*e*P	**P**	**08 37 12.8**	**-1.3**
ZALV	**Zalesovo Beam**	**53.30**	**354**	P	**P**	**08 37 30.9**	**+0.6**
	1.1nm,0.4s,baz=173,slow=9.4,SNR=4.7						
ZALV				LR	LR	09 01 35.6	
	comp=Z,36nm,21.4s,baz=248,slow=38						
ZAA1	**Zalesovo Array**	**53.30**	**354**	*e*P	**P**	**08 37 30.9**	**+0.6**
MJAR	**Matsushiro Arr**	**54.80**	**44**	LR	LR	09 00 53.9	
	comp=Z,40nm,21.5s,baz=35,slow=36						
BVAR	**Borovoye Array**	**55.24**	**344**	P	**P**	**08 37 44.2**	**-0.4**
	0.4nm,0.7s,baz=115,slow=5.5,SNR=3.1						
KMBO	**Kilima Mbogo**	**55.76**	**268**	LR	LR	08 57 32.2	
	comp=Z,34nm,21.3s,baz=138,slow=32						
STKA	**Stephens Creek**	**56.35**	**130**	LR	LR	09 02 11.1	
	comp=Z,47nm,18.9s,baz=13,slow=36						
MMAI	**Mount Meron Ar**	**62.68**	**307**	LR	LR	09 07 12.4	
	comp=Z,39nm,18.3s,baz=265,slow=37						
BR101	**Keskin Array S**	**66.22**	**314**	*e*P	**P**	**08 38 58.9**	**-1.0**
BRTR	**Keskin Array B**	**66.22**	**314**	P	**P**	**08 38 58.9**	**-1.0**
	0.6nm,0.6s,baz=131,slow=5.6,SNR=2.8						
BRTR				LR	LR	09 10 18.1	
	comp=Z,30nm,18.7s,baz=96,slow=38						
BOSA	**Boshof**	**70.98**	**239**	LR	LR	09 07 49.9	
	comp=Z,47nm,18.4s,baz=33,slow=34						
TIXI	**Tiksi**	**74.25**	**11**	*e*P	**P**	**08 39 48.2**	**-0.1**
	3.1nm,0.8s						
TIXI	**Tiksi**	**74.25**	**11**	*e*P	**P**	**08 39 48.4**	**+0.2**
	3.1nm,0.8s						
FIA0	**FINESS Array S**	**78.33**	**333**	*e*P	**P**	**08 40 10.9**	**-0.7**
FINES	**FINESS Array B**	**78.33**	**333**	P	**P**	**08 40 10.9**	**-0.7**
	1.0nm,0.7s,baz=107,slow=7.0,SNR=3.1						
VNDA	**Vanda**	**86.38**	**168**	LR	LR	09 13 03.2	
	comp=Z,60nm,19.5s,baz=288,slow=31						
QSPA	**South Pole Qui**	**90.85**	**180**	LR	LR	09 17 01.0	
	comp=Z,57nm,19.4s,baz=310,slow=32						
QSPA	**South Pole Qui**	**90.85**	**180**	*e*P	P	08 41 12.0	-3.0
	0.3nm,0.8s						
LTX	**Lajitas**	**145.98**	**27**	*e*PKPdf	**PKPdf**	**08 47 51.7**	**+0.1**
TXAR	**Lajitas Array**	**145.98**	**27**	PKPbc	**PKPdf**	**08 47 51.7**	**+0.1**
	1.2nm,1.2s,baz=354,slow=5.0,SNR=4.4						
SABA	**Saba**	**150.21**	**309**	*e*PKPdf	**PKPdf**	**08 47 54.7**	**-3.9**

IDC ***14*** *08:28:30.2±2.1, 29˚.12N×112˚.91W, h0km, mb3.6/4, mb1 3.9/8, mb1mx3.6/60, mbtmp3.6/8, ML3.8/4, MS3.2/8, Ms1 3.2/8, ms1mx2.9/45, Error ellipse: s-maj=32.8km s-min=12.7km az=19.0*

MEX ***14*** *08:28:30.1±0.7, 28˚.97N×113˚.16W, h2km, MD4.0*

NEIC ***14*** *08:28:30.8±0.7, 28˚.78N×113˚.11W, h10km, mb4.1/26, MD4.0(MEX), Error ellipse: s-maj=9.4km s-min=5.0km az=215.0*

ISC 14 08:28:31.3±1.5,28˚.82N±0˚.04×113˚.02W±0˚.04, h17km±10km,n112,σ2§34/116,mb4.0/11,MS3.2/5,Baja California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRIG	**Santa Rosalia**	**1.64**	**155**	*i* P	**Pn**	**08 28 59.2**	**-0.3**
SRIG				*e*S	**Sb**	**08 29 21.1**	**-0.5**
SRIG	**Santa Rosalia**	**1.64**	**155**	*e*Pn	**Pn**	**08 28 57.6**	**-1.8**
SRIG				*e*S	**Sb**	**08 29 21.1**	**-0.5**
HSIG		**1.83**	**83**	*e*P	**Pn**	**08 28 58.8**	**-3.2**
HSIG				*e*S	**Sn**	**08 29 19.7**	**-5.0**
HSIG		**1.83**	**83**	*e*Pn	**Pn**	**08 28 59.1**	**-2.9**
HSIG				*e*S	**Sn**	**08 29 19.7**	**-5.0**
GUYB	**Guaymas**	**2.10**	**115**	*e*P	**Pn**	**08 29 05.1**	**-0.6**
GUYB				*e*S	**Sb**	**08 29 34.0**	**-0.7**
SPX	**San Pedro Mart**	**3.07**	**317**	*e*P	**Pb**	**08 29 27.1**	**+1.4**
SPX				*e*S	**Sb**	**08 30 03.6**	**+0.6**
TUC	**Tucson**	**3.98**	**28**	*e*Pn	**Pn**	**08 29 30.1**	**-1.6**
113A	**Mohawk Valley,**	**3.99**	**351**	*e*Pn	**Pn**	**08 29 29.1**	**-2.6**
319A	**Douglas**	**4.12**	**51**	*e*Pn	**Pn**	**08 29 32.0**	**-1.7**
GLA	**Glamis**	**4.50**	**340**	*e*Pn	**Pn**	**08 29 37.3**	**-1.4**
BAR	**Barrett**	**4.97**	**322**	*e*Pn	**Pn**	**08 29 46.9**	**+1.7**
BAR				*e*Sg	**Sg**	**08 31 10.5**	**-0.4**
Y12C	**Blythe**	**5.08**	**346**	*e*Pn	**Pn**	**08 29 47.7**	**+0.9**
Y14A	**Wickenburg**	**5.11**	**0**	*e*Pn	**Pn**	**08 29 45.7**	**-1.4**
HWB	**Hans Werner Br**	**5.39**	**322**	*e*Pn	Pn	08 29 57.9	+6.9
PFO	**Pinyon Flats O**	**5.61**	**329**	*e*Pg	**Pg**	**08 30 15.2**	**-3.6**
PFO				*e*Lg	Lg	08 31 39.6	
DNR	**Dunn Ranch,Anz**	**5.66**	**328**	*e*Sn	**Sn**	**08 31 05.2**	**+5.8**
DNR				*e*Sg	**Sg**	**08 31 31.0**	**-1.9**
X16A	**Lo Mia Camp, P**	**5.74**	**13**	*e*Pn	**Pn**	**08 29 55.3**	**-0.7**
BELC	**Belle Mtn. Jos**	**5.76**	**335**	*e*Pn	**Pn**	**08 29 54.0**	**-2

	5.5nm,1.3s								
KSU1	**Kansas State U**	**17.02**	**49**	*e*Pn	**P**		**08 32 29.7**	**-0.6**
KSU1				*e*P	**Pn**		**08 32 30.1**	**+1.5**
MSO	**Missoula**	**18.00**	**358**	*e*P	**P**		**08 32 42.5**	**+1.4**
	5.3nm,1.2s								
LAO	**LASA Array**	**18.62**	**15**	*e*P	**Pn**		**08 32 49.2**	**+1.0**
	13nm,1.0s								
WHAR	**Wooly Hollow**	**18.70**	**65**	*e*P	**Pn**		**08 32 52.3**	**+3.0**
	9.7nm,1.1s								
JTMT	**Jette**	**18.93**	**357**	*e*P	**Pn**		**08 32 53.4**	**+1.3**
	3.9nm,1.0s								
LON	**Longmire**	**19.18**	**341**	*e*P	**Pn**		**08 32 55.6**	**+0.6**
	7.9nm,1.1s								
TBM	**Table Mountain**	**19.25**	**344**	*e*Sn	**Sn**		**08 36 30.5**	**-0.9**
NEW	**Newport**	**19.68**	**352**	P	**P**		**08 32 59.3**	**-0.2**
	0.1nm,0.3s,baz=141,slow=13,SNR=3.1								
NEW				LR	LR		08 40 01.6		
	comp=Z,41nm,20.8s,baz=290,slow=36								
NEW	**Newport**	**19.68**	**352**	*e*P	**P**		**08 32 59.5**	**0.0**
ECSD	**EROS Data Cent**	**19.86**	**37**	*e*P	**Pn**		**08 33 03.9**	**+0.8**
	3.0nm,0.9s								
B08A	**Colville Reser**	**20.11**	**348**	*e*P	Pn		08 33 05.8	-0.4	
	5.5nm,1.0s								
CMIG	**Matias Romero**	**20.34**	**121**	LR	LR		08 41 25.3		
	comp=Z,81nm,19.6s,baz=280,slow=38								
SCIA	**State Center**	**20.71**	**46**	*e*P	Pn		08 33 14.2	+1.1	
	11nm,0.9s								
DGMT	**Dagmar**	**20.77**	**17**	*e*P	Pn		08 33 13.8	0.0	
	7.7nm,0.8s								
OXF	**Oxford**	**20.86**	**68**	*e*P	Pn		08 33 13.9	-1.0	
	33nm,1.1s								
PLAL	**Pickwick Lake**	**22.02**	**67**	*e*P	**P**		**08 33 27.3**	**+2.3**
	8.1nm,1.2s								
ULM	**Lac du Bonnet**	**25.04**	**27**	P	**P**		**08 33 52.1**	**-2.3**
	1.8nm,0.7s,baz=224,slow=5.1,SNR=5.5								
ULM				LR	LR		08 43 33.2		
	comp=Z,60nm,19.5s,baz=96,slow=36								
ULM	**Lac du Bonnet**	**25.04**	**27**	*e*P	**P**		**08 33 55.8**	**+1.3**
	5.5nm,1.0s								
TKL	**Tuckaleechee C**	**25.60**	**67**	LR	LR		08 44 20.0		
	comp=Z,68nm,20.5s,baz=352,slow=37								
KMSC	**Kings Mountain**	**27.53**	**69**	*e*P	**P**		**08 34 19.0**	**+1.9**
	7.7nm,0.9s								
JTS	**JuntasAbangare**	**32.10**	**119**	LR	LR		08 48 23.5		
	comp=Z,58nm,22.0s,baz=30,slow=37								
YKA	**Yellowknife Ar**	**33.70**	**359**	P	**P**		**08 35 10.5**	**-0.8**
	0.3nm,0.9s,baz=184,slow=8.2,SNR=4.9								
INK	**Inuvik**	**41.34**	**349**	P	**P**		**08 36 13.4**	**-2.4**
	1.5nm,1.1s,baz=136,slow=6.5,SNR=2.2								
IL1	**Eielson Array**	**41.79**	**339**	*e*P	**P**		**08 36 20.1**	**+0.5**
ILAR	**Eielson Array**	**41.79**	**339**	P	**P**		**08 36 20.5**	**+0.8**
	1.3nm,0.9s,baz=143,slow=6.9,SNR=9.8								
ILB	**Eielson Array**	**41.79**	**339**	*e*P	**P**		**08 36 20.0**	**+0.3**
SCHQ	**Schefferville**	**42.04**	**39**	LR	LR		08 54 42.2		
	comp=Z,51nm,20.8s,baz=14,slow=38								
TRF	**Thorofare Moun**	**42.08**	**336**	*e*P	**P**		**08 36 23.2**	**+1.0**
	8.3nm,1.4s								
PPLA	**Purkeypile**	**42.45**	**335**	*e*P	**P**		**08 36 26.3**	**+1.1**
	11nm,1.1s								
BPAW	**Bear Paw Mtn.**	**42.72**	**337**	*e*P	**P**		**08 36 27.6**	**+0.4**
	4.1nm,1.0s								
MLY	**Manley**	**43.21**	**338**	*e*P	**P**		**08 36 31.9**	**+0.6**
	2.6nm,1.1s								
SJG	**San Juan**	**44.05**	**93**	*e*P	**P**		**08 36 36.2**	**-2.3**
	12nm,1.3s								
IM3	**Indian Mountai**	**44.79**	**338**	*e*P	**P**		**08 36 44.4**	**+0.6**

IDC ***14*** *08:30:51.3±2.6, 3°.65N×92°.63E, h0km, mb3.7/6, mb1 3.8/7, mb1mx3.4/66, mbtmp3.7/7, ML4.0/1, MS3.5/3, Ms1 3.5/3, ms1mx2.8/54, Error ellipse: s-maj=83.4km s-min=23.1km az=49.0*

ISCJB ***14*** *08:30:54.5±1.7, 3°.9N±0°.3×93°.0E±0°.2, h24km, mb3.7/6, MS3.6/3, Error ellipse: s-maj=41.5km s-min=9.9km az=29.6*

ISC 14 08:30:56.2±2.0, 3°.8N±0°.3×92°.9E±0°.2, h24km, n13, σ0s99/8, mb3.7/6, MS3.6/3, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**6.11**	**99**	Pn	**Pn**	**08 32 26.3**	**+1.2**
	3.3nm,0.3s,baz=307,slow=6.3,SNR=7.4						
PSI				Sn	**Sn**	**08 33 33.0**	**-1.3**
	1.0nm,0.3s,baz=350,slow=19,SNR=2.2						
H08S2	**Diego Garcia H**	**23.33**	**241**	T	T	08 59 49.4	
	baz=62,slow=76,SNR=5.3						
H08S3	**Diego Garcia H**	**23.33**	**241**	T	T	08 59 30.0	
	baz=62,slow=76,SNR=4.5						
H08S1	**Diego Carcia H**	**23.34**	**241**	T	T	08 59 52.1	
	baz=62,slow=76,SNR=5.2						
SIJI	**Sorong**	**38.63**	**96**	LR	LR	08 55 44.2	
	comp=Z,86nm,18.7s,baz=128,slow=38						
MKAR	**Makanchi Array**	**43.78**	**349**	P	**P**	**08 38 60.0**	**0.0**
	0.9nm,0.5s,baz=170,slow=8.9,SNR=6.8						
SONM	**Songino Array**	**45.36**	**13**	P	**P**	**08 39 13.4**	**+0.7**
	0.4nm,0.6s,baz=196,slow=9.0,SNR=1.8						
WRA	**Warramunga Arr**	**47.07**	**122**	P	**P**	**08 39 26.2**	**-0.2**
	0.3nm,0.8s,baz=299,slow=9.4,SNR=2.6						
KURBB	**Kurchatov Arra**	**48.18**	**348**	P	**P**	**08 39 34.4**	**-0.1**
	0.5nm,0.6s,baz=165,slow=7.4,SNR=4.8						
ZALV	**Zalesovo Beam**	**50.40**	**354**	P	**P**	**08 39 50.9**	**-0.6**
	1.6nm,0.5s,baz=156,slow=6.3,SNR=4.7						
BVAR	**Borovoye Array**	**52.43**	**343**	P	**P**	**08 40 05.8**	**-1.0**
	0.4nm,0.6s,baz=123,slow=7.2,SNR=2.8						
KBZ	**Khabaz**	**59.29**	**320**	LR	LR	09 06 53.0	
	comp=Z,31nm,21.2s,baz=148,slow=36						
BORG	**Borgarnes**	**96.64**	**337**	LR	LR	09 29 19.6	
	comp=Z,26nm,21.8s,baz=183,slow=36						

NIED ***14*** *08:46:00, 36°.90N×141°.40E, h74km, Mw4.0 Best double couple: M0 1.32000×10^15 NP1:φs 75.00000°, δ32.00000°, λ-29.00000°. NP2:φs 190.00000°, δ75.00000°, λ-119.00000°.*

IDC ***14*** *08:46:09.6±1.6, 36°.86N×141°.41E, h64km±15km, mb3.8/15, mb1 4.0/21, mb1mx3.7/72, mbtmp4.1/21, MS3.0/4, Ms1 3.1/4, ms1mx2.6/60, Error ellipse: s-maj=13.3km s-min=9.6km az=90.0*

ISCJB ***14*** *08:46:10.6±0.4, 36°.90N±0°.03×141°.29E±0°.04, h79km±3km, mb4.2/71, Error ellipse: s-maj=6.6km s-min=4.6km az=135.9*

JMA ***14*** *08:46:10.7±0.1, 36°.89N×141°.34E, h74km±1km, M4.2*

JMA Felt III J1.

NEIC ***14*** *08:46:11.6±0.6, 36°.97N×141°.22E, h72km±5km, mb4.3/53, Error ellipse: s-maj=6.8km s-min=5.0km az=134.0*

NEIC Felt at Tsukuba. Recorded [3 JMA] in Fukushima.

ISC 14 08:46:10.7±0.9, 36°.91N±0°.05×141°.34E±0°.06, h69km±7km, n130, σ1s29/139, mb4.3/71, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.47**	**294**	P	**Pn**	**08 46 23.7**	**+0.5**
ONAJ				S	**Sn**	**08 46 33.1**	**+0.7**
JFK	**Kawauchi**	**0.59**	**321**	P	**Pn**	**08 46 24.8**	**+0.4**
JFK				S	**Sn**	**08 46 34.9**	**+0.5**
JHO	**Hitachi**	**0.68**	**245**	P	**Pn**	**08 46 25.6**	**+0.2**
JHO				S	**Sn**	**08 46 36.4**	**+0.3**
JFT	**Otama**	**1.01**	**308**	P	**Pn**	**08 46 30.3**	**+1.1**
JFT				S	**Sn**	**08 46 44.4**	**+1.4**
JMM	**Marumori**	**1.05**	**336**	P	**Pn**	**08 46 30.2**	**+0.4**
JMM				S	**Sn**	**08 46 44.8**	**+0.8**
JFY	**Yanaizu**	**1.40**	**291**	P	**Pn**	**08 46 35.0**	**+0.7**
JFY				S	**Sn**	**08 46 53.1**	**+1.1**
JIO	**Ouri**	**1.54**	**0**	P	**Pn**	**08 46 36.1**	**-0.1**
JIO				S	**Sn**	**08 46 54.6**	**-0.9**
JOU	**Okura**	**1.55**	**340**	P	**Pn**	**08 46 36.4**	**0.0**
JAG	**Ashikaga**	**1.59**	**253**	P	**Pn**	**08 46 37.4**	**+0.6**
JAG				S	**Sn**	**08 46 57.3**	**+0.7**
JYS	**Shirataka**	**1.66**	**323**	P	**Pn**	**08 46 38.4**	**+0.7**
JYS				S	**Sn**	**08 46 59.9**	**+1.7**
JKT	**Katashina**	**1.68**	**266**	P	**Pn**	**08 46 39.3**	**+1.2**
JKT				S	**Sn**	**08 47 00.4**	**+1.5**
JNS	**Sasagawa**	**1.85**	**300**	P	**Pn**	**08 46 40.5**	**+0.2**
JNS				*e*S	**Sn**	**08 47 03.8**	**+1.0**
JHK	**Hiroka**	**1.89**	**281**	P	**Pn**	**08 46 41.6**	**+0.8**
JHK				*e*S	**Sn**	**08 47 04.7**	**+1.0**
MJAR	**Matsushiro Arr**	**2.54**	**263**	P	**Pn**	**08 46 50.7**	**+1.0**
	34nm,0.3s,baz=92,slow=15,SNR=269						
MJAR				S	**Sn**	**08 47 20.6**	**+1.1**
	87nm,0.3s,baz=92,slow=26,SNR=32						
MAJO	**Matsushiro**	**2.54**	**263**	*e*Pn	**Pn**	**08 46 51.1**	**+1.5**
MAJO				*e*Sn	**Sn**	**08 47 14.9**	**-4.7**
MAT	**Matsushiro**	**2.54**	**263**	P	**Pn**	**08 46 51.1**	**+1.4**
MAT				S	**Sn**	**08 47 22.7**	**+3.1**
MJB9	**Matsu-Tunnel**	**2.54**	**263**	*e*Pn	**Pn**	**08 46 51.2**	**+1.4**
MJB9				*e*Sn	**Sn**	**08 47 14.4**	**-5.3**
INU	**Inuyama**	**3.83**	**247**	*e*Pn	**Pn**	**08 47 08.2**	**+1.1**
JHJ2	**Mitsune**	**3.99**	**199**	*e*Pn	**Pn**	**08 47 09.2**	**-0.2**
JHJ	**Hachijo jima 2**	**3.99**	**199**	P	**Pn**	**08 47 08.4**	**-1.0**
	28nm,0.3s,baz=149,slow=23,SNR=6.7						
JHJ				S	**Sn**	**08 47 51.9**	**-3.0**
	180nm,0.3s,baz=278,slow=21,SNR=21						
ERM	**Erimo**	**5.29**	**15**	*e*Pn	**Pn**	**08 47 25.1**	**-2.1**
ASAJ	**Asahikawa**	**7.27**	**7**	P	**Pn**	**08 47 52.6**	**-1.6**
	2.5nm,0.3s,baz=212,slow=12,SNR=23						
ASAJ				S	**Sn**	**08 49 12.6**	**-2.6**
	2.8nm,0.3s,baz=339,slow=8.9,SNR=3.9						
JNU	**Nakatsue**	**9.37**	**249**	P	**Pn**	**08 48 23.4**	**+0.4**
	0.5nm,0.3s,baz=151,slow=20,SNR=6.5						
JNU	**Nakatsue**	**9.37**	**249**	*e*Pn	**Pn**	**08 48 24.0**	**+0.9**
USRK	**Ussuriysk Ar.**	**10.18**	**319**	P	**Pn**	**08 48 33.6**	**-0.3**
	1.0nm,0.3s,baz=128,slow=16,SNR=17						
KSRS	**Korea Array**	**10.72**	**277**	P	**Pn**	**08 48 41.7**	**+0.4**
	0.4nm,0.3s,baz=88,slow=14,SNR=30						
KSAR	**Wonju Array Be**	**10.75**	**277**	P	**Pn**	**08 48 41.7**	**-0.1**
KLR	**Kul'dur**	**14.15**	**333**	P	**Pn**	**08 49 25.4**	**-2.3**
	0.0nm,0.3s,baz=158,slow=11,SNR=6.5						
PETK	**Petropavlovsk-**	**19.83**	**30**	LR	LR	08 58 47.0	
	comp=Z,12nm,18.9s,baz=202,slow=38						
HHC	**Hu-ho-hao-te**	**23.45**	**289**	*e*P	**P**	**08 51 13.6**	**-0.6**
HHC				pmax	pmax		
	comp=Z,20nm,0.9s						
HHC				pmax	pmax		
	comp=Z,12nm,6.2s						
ULN	**Ulaanbaatar**	**27.38**	**304**	*e*P	**P**	**08 51 49.5**	**-0.1**
	comp=Z,3.9nm,0.8s						
SONM	**Songino Array**	**27.81**	**304**	P	**P**	**08 51 52.4**	**-1.0**
	comp=Z,6.9nm,0.8s,baz=107,slow=8.6,SNR=34						
H11N2	**WAKE ISLAND Hy**	**28.14**	**120**	T	T	09 21 52.8	
	baz=313,slow=75,SNR=25						
H11N1	**WAKE ISLAND Hy**	**28.14**	**121**	T	T	09 22 01.6	
	baz=313,slow=75,SNR=43						
H11N3	**WAKE ISLAND Hy**	**28.15**	**120**	T	T	09 22 01.0	
	baz=313,slow=75,SNR=40						
H11S1	**WAKE ISLAND Hy**	**28.84**	**123**	T	T	09 23 01.7	
	baz=314,slow=75,SNR=43						
H11S3	**WAKE ISLAND Hy**	**28.86**	**123**	T	T	09 23 02.5	
	baz=314,slow=75,SNR=35						
H11S2	**WAKE ISLAND Hy**	**28.86**	**123**	T	T	09 23 02.4	
	baz=314,slow=75,SNR=32						
LZH	**Lanzhou**	**30.03**	**280**	*e*P	**P**	**08 52 15.9**	**+2.6**
LZH				pP	pP	08 52 27.0	-2.7
LZH				sP	sP	08 52 31.5	-6.3
LZH				*e*PP	**PnPn**	**08 53 10.4**	**-2.2**
LZH				pmax	pmax		
	comp=Z,22nm,1.1s						
LZH				pmax	pmax		
	comp=Z,210nm,6.4s						
LZH				LR	LR		
	comp=N,180nm,15.0s						
LZH				LR	LR		
	comp=E,230nm,17.1s						
LZH				LR	LR		
	comp=Z,230nm,16.4s						
TLY	**Talaya**	**30.37**	**311**	LR	LR	09 03 50.1	
	comp=Z,45nm,18.7s,baz=112,slow=35						
TLY	**Talaya**	**30.37**	**311**	*e*P	**P**	**08 52 15.7**	**-0.2**
	comp=Z,3.7nm,0.8s						
GTA	**Gaotai**	**32.54**	**287**	*e*P	**P**	**08 52 35.1**	**-0.2**
GTA				pP	pP	08 52 49.8	-2.0
GTA				sP	sP	08 52 56.4	-3.5
GTA				PcP	PcP	08 55 08.8	-12
GTA				pmax	pmax		
	comp=Z,4.0nm,1.1s						
KMI	**Kunming**	**34.88**	**261**	P	**P**	**08 52 56.8**	**+0.9**
KMI				pmax	pmax		
	comp=Z,13nm,0.6s						
TIXI	**Tiksi**	**35.41**	**353**	*e*P	**P**	**08 52 59.3**	**-0.2**
	comp=Z,2.3nm,1.2s						
WMQ	**Urumqi**	**40.84**	**297**	P	**P**	**08 53 46.0**	**+0.3**
CMAR	**Chiang Mai Arr**	**41.41**	**255**	LR	LR	09 11 41.3	
	comp=Z,28nm,18.7s,baz=199,slow=37						
ZAA0	**Zalesovo Array**	**41.95**	**312**	*e*P	**P**	**08 53 54.3**	**-0.3**
	comp=Z,4.2nm,0.7s						
ZALV	**Zalesovo Beam**	**41.95**	**312**	P	**P**	**08 53 54.2**	**-0.4**
	comp=Z,4.8nm,0.7s,baz=97,slow=6.6,SNR=14						
ZALV	**Zalesovo Beam**	**41.95**	**312**	*e*P	**P**	**08 53 54.0**	**-0.5**
MK01	**Makanchi Array**	**44.13**	**302**	*e*P	**P**	**08 54 11.5**	**-0.8**
MK31	**Makanchi Array**	**44.13**	**302**	*e*P	**P**	**08 54 11.5**	**-0.8**
MKAR	**Makanchi Array**	**44.13**	**302**	P	**P**	**08 54 11.7**	**-0.7**
	comp=Z,1.3nm,0.6s,baz=86,slow=9.7,SNR=17						
MKAR	**Makanchi Array**	**44.13**	**302**	*e*P	**P**	**08 54 11.4**	**-0.9**
	comp=Z,18nm,1.0s						
MAKZ	**Makanchi**	**44.34**	**302**	*e*P	**P**	**08 54 13.3**	**-0.7**
	comp=Z,2.2nm,0.8s						
SVW2	**Sparrevohn**	**45.66**	**37**	*e*P	**P**	**08 54 24.5**	**+0.3**
	comp=Z,9.3nm,1.4s						
KURK	**Kurchatov**	**45.96**	**308**	*e*P	**P**	**08 54 25.8**	**-0.9**
	comp=Z,5.2nm,0.8s						
KURBB	**Kurchatov Arra**	**46.03**	**308**	P	**P**	**08 54 26.4**	**-0.8**
	comp=Z,3.1nm,0.4s,baz=81,slow=7.7,SNR=21						
MDM	**Murphy Dome**	**49.05**	**32**	*e*P	**P**	**08 54 51.7**	**+1.1**
	comp=Z,4.3nm,0.7s						
IL1	**Eielson Array**	**49.63**	**32**	*e*P	**P**	**08 54 55.2**	**+0.3**
ILAR	**Eielson Array**	**49.63**	**32**	P	**P**	**08 54 54.7**	**-0.2**
	comp=Z,1.2nm,0.7s,baz=267,slow=6.0,SNR=19						
ILB	**Eielson Array**	**49.63**	**32**	*e*P	**P**	**08 54 54.9**	**0.0**
MTN	**Manton Dam**	**50.41**	**193**	*e*P	**P**	**08 55 01.9**	**+0.6**
	comp=Z,19nm,1.4s						
EYAK	**Cordova Ski Ar**	**50.49**	**38**	*e*P	**P**	**08 55 02.9**	**+1.5**
	comp=Z,8.0nm,1.3s						
AAK	**Ala-Archa**	**50.50**	**298**	LR	LR	09 17 29.0	
	comp=Z,25nm,19.8s,baz=89,slow=37						
BVAR	**Borovoye Array**	**50.61**	**312**	P	**P**	**08 55 01.9**	**-0.6**
	comp=Z,0.9nm,0.5s,baz=79,slow=7.5,SNR=7.0						
DOT	**Dot Lake**	**50.94**	**34**	*e*P	**P**	**08 55 04.9**	**+0.1**
	comp=Z,6.6nm,0.8s						
SCRK	**Sand Creek**	**50.95**	**33**	*e*P	**P**	**08 55 05.5**	**+0.6**
	comp=Z,3.6nm,0.7s						
BMRM	**Bremner River**	**51.00**	**37**	*e*P	**P**	**08 55 08.2**	**+2.9**
	comp=Z,6.0nm,1.3s						
RAGM	**Ragged Mountai**	**51.04**	**38**	*e*P	**P**	**08 55 05.6**	**0.0**
	comp=Z,4.4nm,1.0s						
MENT	**Mentasta**	**51.17**	**35**	*e*P	**P**	**08 55 08.3**	**+1.8**
	comp=Z,2.3nm,1.0s						
BALM	**Baldy**	**52.08**	**37**	*e*P	**P**	**08 55 14.5**	**+1.1**
	comp=Z,3.7nm,1.0s						
EGAK	**Eagle**	**52.08**	**32**	*e*P	**P**	**08 55 13.7**	**+0.5**
	comp=Z,1.3nm,0.6s						
DAWY	**Dawson**	**52.94**	**33**	*e*P	**P**	**08 55 19.6**	**-0.1**
	comp=Z,1.8nm,1.1s						
GSI	**Gunungsitoli**	**53.68**	**239**	*e*P	**P**	**08 55 26.2**	**+0.6**
	comp=Z,2.6nm,1.1s						
HYT	**Haines Junctio**	**54.44**	**37**	*e*P	**P**	**08 55 31.9**	**+1.2**
	comp=Z,4.3nm,1.2s						
INK	**Inuvik**	**54.53**	**27**	*e*P	**P**	**08 55 31.5**	**+0.4**
	comp=Z,4.0nm,1.3s						
WHY	**Whitehorse**	**55.73**	**36**	*e*P	**P**	**08 55 41.8**	**+1.8**
	comp=Z,5.0nm,1.5s						
WB2	**Warramunga Arr**	**56.92**	**188**	*e*P	**P**	**08 55 47.9**	**-0.9**
	comp=Z,6.5nm,1.2s						
WRA	**Warramunga Arr**	**56.93**	**188**	P	**P**	**08 55 47.7**	**-1.1**
	comp=Z,0.5nm,0.4s,baz=5.2,slow=6.9,SNR=33						
ABKAR	**Akbulak array**	**57.98**	**310**	*e*P	**P**	**08 55 54.9**	**-1.1**
	comp=Z,11nm,0.8s						
ASAR	**Alice Springs**	**60.65**	**188**	P	**P**	**08 56 13.8**	**-0.9**
	comp=Z,0.4nm,0.7s,baz=355,slow=4.6,SNR=5.4						
RES	**Resolute Bay**	**62.74**	**14**	*e*P	**P**	**08 56 27.8**	**-0.2**
	comp=Z,3.0nm,1.1s						
YKA	**Yellowknife Ar**	**63.95**	**30**	P	**P**	**08 56 35.8**	**-0.4**
	comp=Z,0.4nm,0.6s,baz=305,slow=7.0,SNR=17						
STKA	**Stephens Creek**	**68.43**	**180**	P	**P**	**08 57 04.5**	**-0.6**
	comp=Z,1.5nm,0.7s,baz=326,slow=7.6,SNR=3.3						
FINES	**FINESS Array B**	**68.90**	**332**	P	**P**	**08 57 07.6**	**-0.2**
	comp=Z,1.0nm,0.7s,baz=47,slow=8.2,SNR=4.9						
PINE	**Pine Mountain**	**70.47**	**50**	*e*P	**P**	**08 57 19.5**	**+1.4**
	comp=Z,5.2nm,0.8s						
YBH	**Yreka Blue Hor**	**70.47**	**52**	*e*P	**P**	**08 57 19.8**	**+1.9**
K05A	**Summer Lake**	**71.07**	**51**	*e*P	**P**	**08 57 23.2**	**+1.5**
	comp=Z,6.0nm,1.1s						
JTMT	**Jette**	**72.13**	**43**	*e*P	**P**	**08 57 28.6**	**+0.7**
	comp=Z,2.0nm,0.7s						
ORV	**Oroville**	**72.42**	**54**	*e*P	**P**	**08 57 29.7**	**0.0**
	comp=Z,2.9nm,1.1s						
CMB	**Columbia Colle**	**73.99**	**54**	*e*P	**P**	**08 57 40.0**	**+1.0**
	comp=Z,5.4nm,1.3s						
HRY	**Holter Researc**	**74.09**	**43**	*e*P	**P**	**08 57 40.4**	**+0.9**
FCC	**Fort Churchill**	**74.14**	**26**	*e*P	**P**	**08 57 38.9**	**-0.4**
	comp=Z,1.2nm,0.6s						
LRM	**Limekiln Ridge**	**74.28**	**44**	*e*P	**P**	**08 57 41.6**	**+0.8**
AKASG	**Malin Array Be**	**74.36**	**322**	P	**P**	**08 57 39.6**	**-1.2**
	comp=Z,0.6nm,0.4s,baz=43,slow=6.3,SNR=4.0						
DLMT	**Dillon**	**74.47**	**45**	*e*P	**P**	**08 57 42.6**	**+0.8**
	comp=Z,3.3nm,0.6s						
BOZ	**Bozeman (W)**	**74.88**	**44**	*e*P	**P**	**08 57 44.6**	**+0.5**
	comp=Z,2.6nm,0.8s						
KVN	**Kaiserville**	**74.88**	**52**	*e*P	**P**	**08 57 45.7**	**+1.3**
	comp=Z,1.6nm,0.6s						
NV01	**Mina Array Sit**	**75.11**	**53**	*e*P	**P**	**08 57 46.5**	**+0.8**
NVAR	**Mina Array Bea**	**75.11**	**53**	P	**P**	**08 57 46.4**	**+0.7**
	comp=Z,1.2nm,0.6s,baz=297,slow=5.8,SNR=6.6						
NV11	**Mina Array Sit**	**75.21**	**53**	*e*P	**P**	**08 57 47.4**	**+1.2**
YHB	**Horse Butte**	**75.64**	**45**	*e*P	**P**	**08 57 49.6**	**+1.0**
	comp=Z,2.3nm,0.6s						
YHH	**Holmes Hill**	**75.81**	**44**	*e*P	**P**	**08 57 50.2**	**+0.6**
	comp=Z,1.2nm,0.7s						
YMR	**Madison River**	**75.81**	**45**	*e*P	**P**	**08 57 50.7**	**+1.1**
	comp=Z,2.1nm,0.8s						
GCMT	**Greycliff**	**75.84**	**43**	*e*P	**P**	**08 57 50.8**	**+1.1**
H17A	**Grant Village**	**76.20**	**45**	*e*P	**P**	**08 57 53.6**	**+1.7**
	comp=Z,3.7nm,0.8s						
IMW	**Indian Meadow**	**76.31**	**45**	*e*P	**P**	**08 57 54.3**	**+1.8**
	comp=Z,1.9nm,0.8s						
FXWY	**Fox Creek**	**76.42**	**45**	*e*P	**P**	**08 57 54.6**	**+1.5**
	comp=Z,1.2nm,0.9s						
RLMT	**Red Lodge**	**76.48**	**43**	*e*P	**P**	**08 57 54.0**	**+0.7**
	comp=Z,1.7nm,0.7s						
MOOW	**Moose Ponds**	**76.51**	**45**	*e*P	**P**	**08 57 55.2**	**+1.6**
	comp=Z,1.8nm,1.0s						
TPAW	**Teton Pass**	**76.55**	**45**	*e*P	**P**	**08 57 55.2**	**+1.3**
	comp=Z,2.8nm,0.8s						
SNOW	**Snow King Moun**	**76.68**	**45**	*e*P	**P**	**08 57 56.1**	**+1.5**
	comp=Z,1.2nm,0.7s						
R11A	**Troy Canyon, C**	**76.89**	**52**	*e*P	**P**	**08 57 56.5**	**+0.8**
	comp=Z,1.2nm,0.8s						
TPNV	**Topopah Spring**	**77.30**	**53**	*e*P	**P**	**08 57 58.8**	**+0.7**
	comp=Z,2.1nm,0.8s						
DUG	**Dugway, Tooele**	**77.48**	**49**	*e*P	**P**	**08 58 00.1**	**+1.1**
	comp=Z,1.9nm,0.7s						
PD31	**Pinedale Array**	**77.80**	**45**	*e*P	**P**	**08 58 01.0**	**+0.2**
PDAR	**Pinedale Array**	**77.80**	**45**	P	**P**	**08 58 00.8**	**0.0**
	comp=Z,1.1nm,0.6s,baz=265,slow=1.9,SNR=15						
PDAR	**Pinedale Array**	**77.80**	**45**	*e*P	**P**	**08 58 00.7**	**-0.1**
MPU	**Maple Canyon**	**78.31**	**49**	*e*P	**P**	**08 58 04.9**	**+1.2**
	comp=Z,6.1nm,1.5s						
P17A	**Butcher Ranch,**	**79.18**	**49**	*e*P	**P**	**08 58 09.6**	**+1.2**
	comp=Z,3.0nm,0.8s						
SRU	**San Rafael Swe**	**79.54**	**49**	*e*P	**P**	**08 58 11.3**	**+0.9**
	comp=Z,4.1nm,0.7s						
PV10	**Paradox Valley**	**80.90**	**49**	*e*P	**P**	**08 58 19.0**	**+1.1**
ISCO	**Idaho Springs**	**81.98**	**46**	*e*P	**P**	**08 58 24.6**	**+1.0**
	comp=Z,1.2nm,0.6s						
WI01	**McKinley Avenu**	**87.05**	**33**	*e*P	**P**	**08 58 47.9**	**-0.7**
	comp=Z,16nm,0.8s						
TX31	**Lajitas Ar. Si**	**90.25**	**52**	*e*P	**P**	**08 59 04.4**	**+0.3**
TXAR	**Lajitas Array**	**90.25**	**52**	P	**P**	**08 59 03.7**	**-0.5**
	comp=Z,0.6nm,0.6s,baz=308,slow=3.7,SNR=8.5						
SBA	**Scott Base**	**115.53**	**174**	*e*PKPdf	**PKPdf**	**09 04 47.3**	**+3.8**
LPAZ	**La Paz**	**146.81**	**60**	PKPbc	**PKPbc**	**09 05 45.6**	**-0.6**
	comp=Z,2.4nm,0.6s,baz=279,slow=0.9,SNR=14						
LPAZ	**La Paz**	**146.81**	**60**	*e*PKPdf	**PKPbc**	**09 05 46.0**	**-0.2**
PB11	**IPOC Station P**	**148.00**	**66**	*e*PKPbc	**PKPbc**	**09 05 49.3**	**+0.4

GNBR				smax	smax			
	comp=N,319nm,0.9s							
GROC	**Groznyy**	**0.83**	**279**	*e*Pg	Pg	08 59 09.6	-5.5	
	comp=N,36nm,0.4s							
GROC	**Groznyy**	**0.83**	**279**	*e*PG	Pg	08 59 09.6	-5.5	
GROC				pmax	pmax			
	comp=Z,36nm,0.4s							
ZKTA	**Zakatala**	**1.45**	**189**	Pg	**Pn**	**08 59 24.1**	**-1.8**	
ZKTA	**Zakatala**	**1.45**	**189**	PG	**Pn**	**08 59 24.1**	**-1.8**	
KMGR	**Komgaron**	**1.50**	**270**	*e*Pg	**Pn**	**08 59 26.2**	**-0.3**	
KMGR				*e*Sg	**Sg**	**08 59 48.2**	**+0.8**	
KMGR	**Komgaron**	**1.50**	**270**	*e*PG	**Pn**	**08 59 26.2**	**-0.3**	
KMGR				*e*S	**Sg**	**08 59 48.2**	**+0.8**	
AKT	**Akhty**	**1.71**	**159**	*e*Pg	**Pg**	**08 59 33.7**	**+1.8**	
	comp=Z,34nm,0.5s							
AKT	**Akhty**	**1.71**	**159**	*e*PN	**Pg**	**08 59 33.7**	**+1.8**	
AKT				*e*		09 00 01.5		
AKT				pmax	pmax			
	comp=Z,34nm,0.5s							
AKT				smax	smax			
	comp=N,62nm,0.6s							
TRKR	**Terskaya**	**1.72**	**293**	*e*Pn	**Pb**	**08 59 30.7**	**-0.3**	
TRKR				*e*Sg	**Sb**	**08 59 53.3**	**+0.6**	
TRKR	**Terskaya**	**1.72**	**293**	*e*PN	**Pb**	**08 59 30.7**	**-0.3**	
TRKR				*e*S	**Sb**	**08 59 53.3**	**+0.6**	
DDFL	**Dedoflistskaro**	**1.73**	**200**	P	**Pg**	**08 59 33.4**	**+0.9**	
BTKR	**Batakoyurt**	**1.76**	**280**	*e*Pn	**Pb**	**08 59 31.6**	**-0.1**	
BTKR				*e*Sg	**Sg**	**08 59 56.4**	**+0.7**	
BTKR	**Batakoyurt**	**1.76**	**280**	*e*PN	**Pb**	**08 59 31.6**	**-0.1**	
BTKR				*e*S	**Sg**	**08 59 56.4**	**+0.7**	
SEKA	**Sheki**	**1.88**	**173**	Pn	**Pb**	**08 59 32.6**	**-1.2**	
SEKA	**Sheki**	**1.88**	**173**	PN	**Pb**	**08 59 32.6**	**-1.2**	
ARNR	**Ardon**	**1.93**	**274**	*e*Pn	**Pb**	**08 59 33.9**	**-0.7**	
ARNR				*e*Sg	**Sb**	**08 59 59.1**	**+0.2**	
ARNR	**Ardon**	**1.93**	**274**	*e*PN	**Pb**	**08 59 33.9**	**-0.7**	
ARNR				*e*S	**Sb**	**08 59 59.1**	**+0.2**	
PRTR	**Priterechnaya**	**2.03**	**290**	*e*Pn	**Pb**	**08 59 36.9**	**+0.5**	
PRTR	**Priterechnaya**	**2.03**	**290**	*e*PN	**Pb**	**08 59 36.9**	**+0.5**	
PRTR				*e*S	**Sb**	**09 00 02.8**	**+1.0**	
ZEI	**Tsey**	**2.23**	**264**	*e*Pn	**Pn**	**08 59 37.2**	**+0.5**	
ZEI	**Tsey**	**2.23**	**264**	*e*PN	**Pn**	**08 59 37.2**	**+0.5**	
ZEI				*e*S	**Sb**	**09 00 06.5**	**-1.3**	
NCK	**Nalchik**	**2.46**	**281**	*e*Pn	**Pn**	**08 59 40.1**	**+0.4**	
NCK	**Nalchik**	**2.46**	**281**	*ce*PN	**Pn**	**08 59 40.1**	**+0.4**	
NEY	**Neytrino**	**3.07**	**275**	*e*Pn	**Pn**	**08 59 48.7**	**+0.5**	
NEY	**Neytrino**	**3.07**	**275**	*e*PN	**Pn**	**08 59 48.7**	**+0.5**	
KIV	**Kislovodsk**	**3.20**	**287**	*i* Pn	**Pb**	**08 59 54.6**	**-1.7**	
KIV	**Kislovodsk**	**3.20**	**287**	*i* PN	**Pb**	**08 59 54.6**	**-1.7**	
GNI	**Garni**	**3.35**	**210**	*e*Pn	**Pb**	**08 59 57.3**	**-1.6**	
GNI	**Garni**	**3.35**	**210**	*e*PN	**Pb**	**08 59 57.3**	**-1.6**	
ARU	**Arti**	**15.31**	**25**	*e*P	**Pn**	**09 02 36.3**	**+0.9**	
ARU				pmax	pmax			
	comp=Z,2.0nm,1.0s							
BRVK	**Borovoye**	**18.46**	**49**	*e*P	**Pn**	**09 03 16.4**	**+1.2**	
BRVK				pmax	pmax			
	comp=Z,1.0nm,1.0s							
AAK	**Ala-Archa**	**20.19**	**82**	*e*P	Pn	09 03 35.8	-0.6	
KURK	**Kurchatov**	**22.84**	**59**	*ce*P	**P**	**09 04 01.6**	**-1.0**	

*ISCJB **14** 09:02:42.7±0.6,50°.22N±0°.04×19°.20E±0°.03,h0km, Error ellipse: s-maj=5.7km s-min=2.5km az=15.9*
*CSEM **14** 09:02:44.0±0.4,50°.19N×19°.23E,h2km,ML2.7/5, Error ellipse: s-maj=9.5km s-min=4.5km az=13.0*
*WAR **14** 09:02:44.9,50°.18N×19°.34E,h1km,Mw2.5*
*PRU **14** 09:02:44.5,50°.20N×19°.23E,h0km*
ISC 14 09:02:44.4±0.8,50°.18N±0°.03×19°.27E±0°.02,h0km,n30, σ1§00/57,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.34**	**83**	*e*Pg	**Pg**	**09 02 50.5**	**-0.5**
OJC				*e*Sg	**Sg**	**09 02 55.1**	**-0.4**
OJC	**Ojcow**	**0.34**	**83**	*e*PG	**Pg**	**09 02 50.5**	**-0.5**
OJC				*e*SG	**Sg**	**09 02 55.1**	**-0.4**
OJC	**Ojcow**	**0.34**	**83**	*e*PG	**Pg**	**09 02 50.5**	**-0.5**
OJC				*e*SG	**Sg**	**09 02 55.1**	**-0.4**
OKC	**Ostrava-Krasne**	**0.80**	**245**	*e*PG	**Pg**	**09 02 59.9**	**+0.2**
OKC				*e*SG	**Sg**	**09 03 10.2**	**+0.2**
	comp=Z,18nm,0.4s						
OKC	**Ostrava-Krasne**	**0.80**	**245**	Pg	**Pg**	**09 02 59.9**	**+0.2**
OKC				Sg	**Sg**	**09 03 10.2**	**+0.2**
	18nm,0.4s						
NIE	**Niedzica**	**1.01**	**138**	*e*Pg	**Pg**	**09 03 04.2**	**+0.4**
NIE				*e*Sg	**Sb**	**09 03 18.9**	**+0.3**
NIE				*e*Sg	**Sb**	**09 03 19.0**	**+0.3**
NIE	**Niedzica**	**1.01**	**138**	*e*PG	**Pg**	**09 03 04.2**	**+0.4**
NIE				*e*SG	**Sb**	**09 03 18.9**	**+0.3**
NIE				*e*SG	**Sb**	**09 03 19.0**	**+0.3**
NIE	**Niedzica**	**1.01**	**138**	*e*PG	**Pg**	**09 03 04.2**	**+0.4**
NIE				*e*SG	**Sb**	**09 03 19.0**	**+0.3**
LANS	**Liptovska Anna**	**1.03**	**173**	*e*Pg	**Pg**	**09 03 04.4**	**+0.2**
LANS				*e*Sg	**Sg**	**09 03 18.4**	**+0.8**
LANS	**Liptovska Anna**	**1.03**	**173**	*e*PG	**Pg**	**09 03 04.4**	**+0.2**
LANS				*e*SG	**Sg**	**09 03 18.4**	**+0.8**
MORC	**Moravsky Berou**	**1.18**	**251**	*e*Pg	**Pg**	**09 03 07.1**	**+0.1**
MORC				*e*Sg	**Sb**	**09 03 23.3**	**-0.3**
STHS	**Stebnicka Huta**	**1.49**	**120**	*e*Pg	**Pg**	**09 03 12.9**	**0.0**
STHS				*e*Sn	**Sn**	**09 03 34.3**	**+1.7**
STHS	**Stebnicka Huta**	**1.49**	**120**	*e*PG	**Pg**	**09 03 12.9**	**0.0**
STHS				*e*SG	**Sn**	**09 03 34.3**	**+1.7**
STHS				*e*LG	Lg	09 03 35.1	
KRLC	**Kraliky**	**1.60**	**267**	*e*PG	**Pn**	**09 03 13.3**	**-0.7**
KRLC				*e*SG	**Sn**	**09 03 34.0**	**-1.4**
	comp=Z,4.5nm,0.3s						
KRLC	**Kraliky**	**1.60**	**267**	Pg	**Pn**	**09 03 13.3**	**-0.7**
KRLC				Sg	**Sn**	**09 03 34.0**	**-1.4**
	4.5nm,0.3s						
VYHS	**Vyhne**	**1.71**	**190**	*e*Pg	**Pn**	**09 03 14.8**	**-0.6**
VYHS				*e*Sn	**Sn**	**09 03 36.6**	**-1.4**
VYHS	**Vyhne**	**1.71**	**190**	*e*PG	**Pn**	**09 03 14.8**	**-0.6**
VYHS				*e*SG	**Sn**	**09 03 36.5**	**-1.4**
VYHS				*e*LG	Lg	09 03 38.5	
DPC	**Dobruska-Polom**	**1.90**	**276**	*e*PG	**Pn**	**09 03 17.5**	**-0.6**
DPC				*e*SG	**Sn**	**09 03 43.1**	**+0.4**
	comp=Z,13nm,0.4s						
DPC	**Dobruska-Polom**	**1.90**	**276**	Pg	**Pn**	**09 03 17.5**	**-0.6**
DPC				Sg	**Sn**	**09 03 43.1**	**+0.4**
	13nm,0.4s						
VRAC	**Vranov**	**1.94**	**244**	*e*Pn	**Pn**	**09 03 19.5**	**+0.9**
VRAC				*e*Sg	**Sb**	**09 03 45.6**	**+0.3**
KSP	**Ksiaz**	**2.01**	**291**	*e*Pg	**Pg**	**09 03 23.9**	**+1.0**
KSP				*e*Sg	**Sg**	**09 03 49.0**	**0.0**
KSP	**Ksiaz**	**2.01**	**291**	*e*Pg	**Pg**	**09 03 23.9**	**+1.0**
KSP				*e*Sg	**Sg**	**09 03 49.0**	**0.0**
KSP	**Ksiaz**	**2.01**	**291**	*e*Pg	**Pg**	**09 03 23.9**	**+1.0**
KSP				*e*Sg	**Sg**	**09 03 49.0**	**0.0**
UPC	**Upice**	**2.11**	**280**	*e*SG	**Sb**	**09 03 50.8**	**+0.5**
UPC	**Upice**	**2.11**	**280**	Sg	**Sb**	**09 03 50.8**	**+0.5**
PRU	**Pruhonice**	**3.05**	**268**	*e*SG	**Sb**	**09 04 19.5**	**+2.3**
	comp=Z,3.5nm,0.3s						
PRU	**Pruhonice**	**3.05**	**268**	Sg	**Sb**	**09 04 19.5**	**+2.3**
	3.5nm,0.3s						
BRG	**Berggiesshubel**	**3.47**	**284**	SG	**Sg**	**09 04 34.5**	**-1.2**
	2.3nm,0.5s						
KHC	**Kasperske Hory**	**3.84**	**256**	*e*PN	**Pn**	**09 03 45.0**	**+0.2**
KHC				*e*SG	**Sg**	**09 04 44.7**	**-3.0**
	comp=Z,3.2nm,0.4s						
KHC	**Kasperske Hory**	**3.84**	**256**	Pn	**Pn**	**09 03 45.0**	**+0.2**
KHC				Sg	**Sg**	**09 04 44.7**	**-3.0**
	3.2nm,0.4s						

*ISCJB **14** 09:05:58.2±1.1,36°.79N±0°.04×141°.43E±0°.06,h19km±6km, mb3.6/8,MS3.4/1,Error ellipse: s-maj=9.0km s-min=5.7km az=26.4*
*IDC **14** 09:05:58.0±1.1,36°.79N×141°.22E,h0km,mb3.6/8, mb1 3.7/10,mb1mx3.5/67,mbtmp3.6/10,ML3.1/2,MS3.0/2, Ms1 3.0/2,ms1mx2.3/61,Error ellipse: s-maj=25.2km s-min=18.8km az=92.0*
*NIED **14** 09:06:00,36°.80N×141°.40E,h8km,Mw3.5 Best double couple: M0 1.85000×10^14 NP1:ϕs221.00000°,δ34.00000°, λ-79.00000°. NP2:ϕs28.00000°,δ57.00000°,λ-97.00000°.*
*JMA **14** 09:06:00.2,36°.80N×141°.29E,h30km±1km,M3.7*
JMA Felt I J1.
ISC 14 09:05:58.2±2.0,36°.80N±0°.04×141°.30E±0°.07,h3km±11km, n27,σ0§63/30,mb3.7/8,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.50**	**307**	P	**Pb**	**09 06 10.2**	**+0.4**
ONAJ				S	**Sb**	**09 06 17.5**	**0.0**
JHO	**Hitachi**	**0.61**	**252**	P	**Pb**	**09 06 12.0**	**+0.4**
JHO				S	**Sb**	**09 06 20.6**	**-0.1**
JFK	**Kawauchi**	**0.66**	**329**	P	**Pb**	**09 06 12.8**	**+0.3**
JFK				S	**Sb**	**09 06 21.9**	**-0.2**
JFT	**Otama**	**1.05**	**313**	P	**Pn**	**09 06 19.5**	**-0.4**
JFT				*e*S	**Sb**	**09 06 32.8**	**-0.5**
JYT	**Yasato**	**1.05**	**238**	P	**Pb**	**09 06 18.6**	**-0.5**
JYT				*e*S	**Sg**	**09 06 32.2**	**+0.1**
JSB	**Shiboa**	**1.12**	**279**	P	**Pn**	**09 06 20.9**	**0.0**
JSB				S	**Sb**	**09 06 35.6**	**+0.4**
JMM	**Marumori**	**1.14**	**340**	P	**Pg**	**09 06 20.2**	**+0.1**
JMM				*e*S	**Sg**	**09 06 34.9**	**+0.1**
JFY	**Yanaizu**	**1.41**	**296**	P	**Sg**	**09 06 25.1**	**-0.2**
JFY				S	**Sg**	**09 06 43.1**	**-0.4**
MJAR	**Matsushiro Arr**	**2.50**	**265**	Pn	**Pn**	**09 06 40.5**	**+0.7**
	3.4nm,0.3s,baz=88,slow=15,SNR=31						
MJAR				Sn	**Sb**	**09 07 14.2**	**-0.7**
	8.2nm,0.3s,baz=131,slow=15,SNR=14						
MAT	**Matsushiro**	**2.50**	**265**	P	**Pn**	**09 06 40.8**	**+1.0**
MAT				S	**Sn**	**09 07 12.3**	**+1.5**
ASAJ	**Asahikawa**	**7.38**	**7**	Pn	**Pn**	**09 07 47.4**	**+0.6**
	0.3nm,0.3s,baz=188,slow=19,SNR=2.4						
ASAJ				Sn	**Sn**	**09 09 10.4**	**-0.7**
	0.1nm,0.3s,baz=324,slow=19,SNR=2.1						
KSRS	**Korea Array**	**10.70**	**278**	LR	LR	09 12 08.2	
	comp=Z,26nm,18.8s,baz=105,slow=35						
SONM	**Songino Array**	**27.84**	**304**	P	**P**	**09 11 48.5**	**-0.5**
	0.4nm,0.6s,baz=99,slow=9.7,SNR=4.2						
H11N2	**WAKE ISLAND Hy**	**28.11**	**120**	T	T	09 41 18.6	
	baz=313,slow=75,SNR=287						
H11N1	**WAKE ISLAND Hy**	**28.12**	**120**	T	T	09 41 22.1	
	baz=313,slow=75,SNR=181						
H11N3	**WAKE ISLAND Hy**	**28.13**	**120**	T	T	09 41 22.7	
	baz=313,slow=75,SNR=174						
H11S1	**WAKE ISLAND Hy**	**28.81**	**122**	T	T	09 42 10.2	
	baz=315,slow=75,SNR=82						
H11S3	**WAKE ISLAND Hy**	**28.81**	**122**	T	T	09 42 09.1	
	baz=315,slow=75,SNR=86						
H11S2	**WAKE ISLAND Hy**	**28.83**	**122**	T	T	09 42 09.1	
	baz=315,slow=75,SNR=82						
CMAR	**Chiang Mai Arr**	**41.35**	**255**	P	**P**	**09 13 45.3**	**-0.4**
	0.2nm,0.4s,baz=50,slow=7.2,SNR=2.9						
ZALV	**Zalesovo Beam**	**42.00**	**313**	P	**P**	**09 13 49.5**	**-1.0**
	0.7nm,0.6s,baz=98,slow=3.0,SNR=3.8						
MKAR	**Makanchi Array**	**44.16**	**302**	P	**P**	**09 14 07.9**	**-0.3**
	0.7nm,0.6s,baz=85,slow=9.9,SNR=9.0						
KURBB	**Kurchatov Arra**	**46.07**	**308**	P	**P**	**09 14 22.8**	**-0.5**
	0.7nm,0.5s,baz=84,slow=8.6,SNR=6.0						
ILAR	**Eielson Array**	**49.74**	**32**	P	**P**	**09 14 52.9**	**+1.3**
	1.0nm,1.0s,baz=262,slow=5.2,SNR=2.9						
AAK	**Ala-Archa**	**50.52**	**299**	LR	LR	09 38 06.2	
	comp=Z,41nm,20.5s,baz=68,slow=38						
WRA	**Warramunga Arr**	**56.81**	**188**	P	**P**	**09 15 43.8**	**-0.2**
	0.8nm,0.8s,baz=5.8,slow=7.4,SNR=14						
ASAR	**Alice Springs**	**60.54**	**188**	P	**P**	**09 16 09.5**	**-0.4**
	0.4nm,0.7s,baz=15,slow=7.7,SNR=4.8						

GUC 14 09:09:32.3±0.5,21°.04S×69°.04W,h116km±2km,ML3.8, 5C-6D,Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB01	**IPOC Station P**	**0.42**	**270**	⇓*i*P	Pn	09 09 50.0	+0.6
PB01				*i* S	Sn	09 10 02.7	+0.5
PB01				IAML		09 10 03.2	
	comp=N,4µm,0.4s						
PB09	**IPOC Station P**	**0.77**	**194**	⇑*i*P	Pn	09 09 52.5	+0.5
PB09				*i* S	Sn	09 10 07.8	+0.8
PB09				IAML		09 10 10.6	
	comp=E,4µm,0.3s						
PB02	**IPOC Station P**	**0.84**	**251**	⇑*i*P	Pn	09 09 53.7	+1.1
PB02				*i* S	Sn	09 10 09.3	+1.5
PB02				IAML		09 10 09.9	
	comp=N,7µm,0.3s						
PB08	**IPOC Station P**	**0.90**	**353**	⇓*i*P	Pn	09 09 54.3	+0.8
PB08				*i* S	Sn	09 10 10.6	+1.2
PB08				IAML		09 10 10.8	
	comp=E,1µm,0.1s						
PB07	**IPOC Station P**	**1.04**	**229**	⇑*i*P	Pn	09 09 55.4	+0.8
PB07				*i* S	Sn	09 10 12.5	+1.1
PB07				IAML		09 10 14.3	
	comp=N,1µm,0.4s						
PB11	**IPOC Station P**	**1.40**	**336**	⇓*i*P	Pn	09 09 59.1	+0.6
PB11				*i* S	Sn	09 10 19.6	+1.3
PB11				IAML		09 10 21.0	
	comp=N,6µm,0.1s						
PB04	**IPOC Station P**	**1.65**	**219**	⇑*i*P	Pn	09 10 02.1	+0.7
PB04				*i* S	Sn	09 10 24.7	+1.2
PB06	**IPOC Station P**	**1.73**	**196**	⇑*i*P	Pn	09 10 02.8	+0.5
PB06				*i* S	Sn	09 10 25.8	+0.6
PB06				IAML		09 10 27.7	
	comp=N,882nm,0.2s						
PSGC	**Pisagua**	**1.76**	**325**	⇓*i*P	Pn	09 10 03.1	+0.4
PSGC				*i* S	Sn	09 10 27.0	+1.2
PSGC				IAML		09 10 27.9	
	comp=E,278nm,0.3s						
MNMC	**Minye Minye**	**1.97**	**345**	⇓*i*P	Pn	09 10 06.4	+0.9
MNMC				*i* S	Sn	09 10 32.0	+1.2
MNMC				IAML		09 10 34.6	
	comp=N,887nm,0.4s						
PB12	**IPOC Station P**	**2.70**	**333**	⇓*i*P	Pn	09 10 14.4	-0.2
PB12				*i* S	Sn	09 10 45.9	-1.3
PB12				IAML		09 10 55.3	
	comp=N,607nm,0.3s						

*NEIC **14** 09:19:43.4±0.0,28°.79N×113°.17W,h6km,MD4.0(MEX), After MEX.*
MEX 14 09:19:43.4±0.6,28°.79N×113°.17W,h6km±22km,MD4.0, Baja California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRIG	**Santa Rosalia**	**1.67**	**150**	*e*P	Pn	09 20 10.1	-3.2
SRIG				*e*P	Pn	09 20 10.1	-3.2
SRIG				*e*S	Sn	09 20 30.4	-4.7
SRIG	**Santa Rosalia**	**1.67**	**150**	*e*Pn	Pb	09 20 14.0	-0.6
SRIG				*e*S	Sn	09 20 30.4	-4.7
SRIG				*e*Sn	Sb	09 20 35.1	-0.9
HSIG		**1.96**	**83**	*e*Pn	Pn	09 20 18.3	+1.1
HSIG				*e*Sn	Sb	09 20 43.3	-0.9
GUYB	**Guaymas**	**2.21**	**113**	*e*P	Pn	09 20 16.6	-4.0
GUYB				*e*S	Sn	09 20 43.9	-4.4
214A	**Organ Pipe Nat**	**3.18**	**5**	*e*Pn	Pn	09 20 31.7	-2.3
214A				*e*Sn	Sb	09 21 17.1	-2.1
TUC	**Tucson**	**4.07**	**30**	*e*Pn	Pn	09 20 44.1	-2.2
TUC				*e*Sn	Sn	09 21 29.3	-5.1
GLA	**Glamis**	**4.49**	**342**	*e*Pn	Pn	09 20 48.7	-3.2

*ISCJB **14** 09:24:02.4±0.3,18°.05S±0°.05×179°.43W±0°.08,h600km, mb4.0/23,Error ellipse: s-maj=10.5km s-min=5.5km az=16.3*
*IDC **14** 09:24:04.4±1.1,18°.09S×179°.28W,h614km±13km, mb3.6/22,mb1 3.8/23,mb1mx3.7/45,mbtmp4.6/23,Error ellipse: s-maj=13.8km s-min=9.9km az=123.0*
ISC 14 09:24:03.3±0.4,18°.00S±0°.08×179°.3W±0°.1,h600km,n102, σ1§71/104,mb4.1/23,19C,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**8.34**	**62**	P	**P**	**09 26 07.7**	**+1.7**
	2.2nm,0.3s,baz=157,slow=9.5,SNR=5.4						
AFI				S	**S**	**09 27 45.6**	**-0.9**
	0.5nm,0.3s,baz=6.3,slow=21,SNR=1.9						
RAO	**Raoul Island**	**11.27**	**174**	P	**P**	**09 26 34.7**	**+0.1**
	40nm,0.3s,baz=266,slow=23,SNR=1.7						
OUZ	**Omahuta**	**18.26**	**199**	P	**P**	**09 27 44.5**	**+3.4**
WCZ	**Waipu Caves**	**18.72**	**196**	P	**P**	**09 27 47.7**	**+2.4**
KUZ	**Kuaotunu**	**19.17**	**192**	P	**P**	**09 27 50.1**	**+0.7**
WIAZ	**Waiheke Island**	**19.34**	**193**	P	**P**	**09 27 52.3**	**+1.3**
ETAZ	**East Tamaki Re**	**19.54**	**194**	P	**P**	**09 27 54.0**	**+1.2**
MKAZ	**Moumakai**	**19.63**	**193**	P	**P**	**09 27 54.6**	**+1.1**
AWAZ	**Awhitu Peninsu**	**19.71**	**194**	P	**P**	**09 27 55.3**	**+1.0**
HAZ	**Te Kaha**	**19.84**	**187**	P	**P**	**09 27 54.6**	**-0.8**
WMGZ	**Waiomatatini S**	**19.84**	**185**	P	**P**	**09 27 57.2**	**+1.8**
PKGZ	**Pakihiroa**	**19.94**	**186**	P	**P**	**09 27 56.8**	**+0.4**
RUGZ	**Raukumara Rang**	**20.06**	**187**	P	**P**	**09 28 01.1**	**+3.5**
PUZ	**Puketiti**	**20.10**	**186**	P	**P**	**09 27 58.4**	**+0.5**

URZ	**Urewera**	**20.42**	**188**	P	**P**	**09 27 57.1**	**-3.5**	
	2.2nm,0.5s,baz=311,slow=15,SNR=1.1							
MRZ	**Mangatainoka R**	**23.00**	**190**	P	**P**	**09 28 23.6**	**0.0**	
QRZ	**Quartz Range**	**23.80**	**195**	P	**P**	**09 28 31.1**	**+0.4**	
NNZ	**Nelson**	**23.96**	**194**	P	**P**	**09 28 32.1**	**-0.1**	
TUWZ	**Tuamarina**	**24.05**	**192**	P	**P**	**09 28 32.5**	**-0.4**	
BSWZ	**Blackbirch Sta**	**24.34**	**192**	P	**P**	**09 28 36.4**	**+0.9**	
THZ	**Tophouse**	**24.59**	**194**	P	**P**	**09 28 37.0**	**-0.8**	
DSZ	**Denniston Nort**	**24.85**	**196**	P	**P**	**09 28 40.1**	**0.0**	
KHZ	**Kahutara**	**25.08**	**192**	P	**P**	**09 28 40.7**	**-1.2**	
LTZ	**Lake Taylor**	**25.71**	**194**	P	**P**	**09 28 46.3**	**-1.3**	
INZ	**Inchbonnie**	**25.86**	**196**	P	**P**	**09 28 47.7**	**-1.1**	
OXZ	**Oxford**	**26.28**	**194**	P	**P**	**09 28 51.8**	**-0.8**	
OKCZ	**Okains Bay**	**26.43**	**192**	P	**P**	**09 28 54.0**	**+0.1**	
MQZ	**McQueen's Vall**	**26.50**	**193**	P	**P**	**09 28 52.8**	**-1.7**	
RPZ	**Rata Peaks**	**26.88**	**196**	P	**P**	**09 28 56.6**	**-1.3**	
	10nm,0.6s,baz=2.0,slow=1.4,SNR=11							
STKA	**Stephens Creek**	**37.80**	**241**	P	**P**	**09 30 30.6**	**+0.4**	
	3.9nm,0.5s,baz=88,slow=10,SNR=21							
WRA	**Warramunga Arr**	**43.74**	**260**	P	**P**	**09 31 17.3**	**0.0**	
	1.6nm,0.5s,baz=90,slow=7.9,SNR=77							
ASAR	**Alice Springs**	**43.91**	**254**	P	**P**	**09 31 19.1**	**+0.6**	
	14nm,0.6s,baz=89,slow=8.2,SNR=101							
VNDA	**Vanda**	**60.28**	**185**	P	**P**	**09 33 15.0**	**+0.5**	
	2.3nm,0.6s,baz=354,slow=8.2,SNR=20							
MJAR	**Matsushiro Arr**	**67.45**	**324**	P	**P**	**09 34 01.1**	**+0.5**	
	3.4nm,0.5s,baz=161,slow=5.9,SNR=7.0							
JNU	**Nakatsue**	**69.60**	**317**	P	**P**	**09 34 14.0**	**+0.3**	
	3.4nm,0.7s,baz=204,slow=14,SNR=1.8							
ASAJ	**Asahikawa**	**70.94**	**332**	P	**P**	**09 34 23.1**	**+1.8**	
	6.3nm,0.4s,baz=222,slow=5.7,SNR=23							
PETK	**Petropavlovsk-**	**73.55**	**346**	P	**P**	**09 34 36.4**	**+0.3**	
	5.0nm,0.6s,baz=121,slow=7.7,SNR=14							
KSRS	**Korea Array**	**74.18**	**319**	P	**P**	**09 34 40.9**	**+0.9**	
	1.0nm,0.7s,baz=131,slow=6.7,SNR=6.5							
USRK	**Ussuriysk Ar.**	**76.19**	**326**	P	**P**	**09 34 52.3**	**+1.3**	
	2.8nm,0.6s,baz=118,slow=3.3,SNR=7.4							
YBH	**Yreka Blue Hor**	**79.16**	**40**	P	**P**	**09 35 08.1**	**+0.9**	
	4.0nm,0.6s,baz=251,slow=1.7,SNR=7.5							
KLR	**Kul'dur**	**79.74**	**330**	P	**P**	**09 35 10.7**	**+0.8**	
	0.1nm,0.6s,baz=104,slow=7.0,SNR=3.3							
NVAR	**Mina Aray Bea**	**80.11**	**44**	P	**P**	**09 35 13.2**	**+0.8**	
	3.1nm,0.8s,baz=226,slow=9.2,SNR=10							
MAW	**Mawson**	**83.47**	**200**	P	**P**	**09 35 28.5**	**-0.1**	
	4.1nm,0.5s,baz=142,slow=6.2,SNR=11							
SEY	**Seymchan**	**83.67**	**347**	P	**P**	**09 35 29.2**	**-0.3**	
	5.8nm,0.5s,baz=152,slow=6.3,SNR=18							
ILAR	**Eielson Array**	**86.18**	**13**	P	**P**	**09 35 40.8**	**-0.8**	
	2.3nm,0.6s,baz=234,slow=5.7,SNR=13							
TXAR	**Lajitas Array**	**86.80**	**58**	P	**P**	**09 35 46.5**	**+1.0**	
	3.4nm,0.8s,baz=220,slow=5.7,SNR=35							
PDAR	**Pinedale Array**	**88.03**	**44**	P	**P**	**09 35 51.2**	**+0.1**	
	2.2nm,0.9s,baz=213,slow=4.1,SNR=14							
CMAR	**Chiang Mai Arr**	**88.08**	**290**	P	**P**	**09 35 51.0**	**-0.6**	
	1.1nm,0.9s,baz=106,slow=2.3,SNR=5.1							
SNAA	**Sanae**	**90.52**	**179**	P	**P**	**09 36 00.5**	**-1.5**	
SNAA	**Sanae**	**90.52**	**179**	P	**P**	**09 36 00.6**	**-1.4**	
	2.2nm,0.6s,baz=82,slow=20,SNR=4.8							
VNA3	**Neumayer Olymp**	**90.70**	**177**	P	**P**	**09 36 01.3**	**-1.4**	
VNA2	**Neumayer--Watz**	**91.13**	**177**	P	**P**	**09 36 03.8**	**-0.9**	
	baz=194,slow=3.3							
VNA1	**Neumayer--Stat**	**91.36**	**177**	P	**P**	**09 36 05.6**	**-0.1**	
INK	**Inuvik**	**92.21**	**15**	P	**P**	**09 36 08.3**	**-1.2**	
	5.7nm,1.1s,baz=239,slow=2.9,SNR=5.4							
YKA	**Yellowknife Ar**	**94.79**	**25**	P	**P**	**09 36 20.0**	**-1.4**	
	0.6nm,0.6s,baz=300,slow=4.1,SNR=13							
MKAR	**Makanchi Array**	**108.56**	**

λ-84.00000°. NP2:ϕ₀202.00000°, δ57.00000°, λ-94.00000°.
JMA **14** *09:25:09.9±0.1, 36.°77N×141.°34E, h24km±1km, M5.0*
JMA Felt III J1.
IDC **14** *09:25:09.1±0.4, 36.°77N×141.°13E, h0km, mb4.5/35, mb1 4.6/39, mb1mx4.5/70, mbtmp4.5/39, ML4.0/3, MS4.0/15, Ms1 4.0/15, ms1mx3.7/35, Error ellipse: s-maj=12.4km s-min=10.6km az=125.0*
ISCJB **14** *09:25:12.3±0.5, 36.°80N±0.°02×141.°11E±0.°03, h27km±3km, mb4.8/223, MS4.5/32, Error ellipse: s-maj=4.0km s-min=2.8km az=43.3*
NEIC **14** *09:25:13.4±1.4, 36.°81N×141.°07E, h24km±10km, mb4.9/143, Error ellipse: s-maj=4.5km s-min=3.0km az=140.0*
NEIC Felt at Abiko, Fukushima, Hitachi, Tokai and Tsukuba. Recorded [3 JMA] in Ibaraki.
GCMT **14** *09:25:13.4±0.4, 36.°91N×141.°24E, h20km±1km, MW4.8/77, Moment Tensor Solution. s18,c18; s77,c97; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-2.43±.16; Mθθ0.99±.10; Mϕϕ1.44±.10; Mrθ0.40±.19; Mϕθ0.57±.06; Mrϕ0.10±.18; Best double couple: M₀2.16100×10¹⁶ NP1:ϕ₀220.00000°, δ49.00000°, λ-83.00000°. NP2: ϕ₀30.00000°, δ41.00000°, λ-98.00000°. Principal axes: T 1.8470, Plg4.0000°, Azm305.0000°; N 0.6320, Plg5.0000°, Azm35.0000°; P -2.4750, Plg84.0000°, Azm176.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
MOS **14** *09:25:13.5±1.2, 36.°76N×141.°04E, h40km, mb4.9/77, MS4.2/14 Error ellipse: s-maj=6.6km s-min=4.5km az=111.4*

ISC 14 09:25:13.1±0.7,**36.°79N**±0.°03×**141.°22E**±0.°04,**h25**km±4km, **n454,** σ1⁵**55**/476,**mb4.8**/224,**MS4.7**/31,**21C-20D,Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.46**	**313**	⇑P		**Pb**	**09 25 20.7**	**-1.9**
ONAJ				*e*S		**Sb**	**09 25 27.9**	**-1.2**
JHO	**Hitachi**	**0.55**	**251**	⇑P		**Pb**	**09 25 22.2**	**-2.0**
JHO				S		**Sb**	**09 25 31.4**	**-0.3**
JFK	**Kawauchi**	**0.64**	**334**	⇑P		**Pb**	**09 25 23.2**	**-2.4**
JFK				S		**Sb**	**09 25 33.3**	**-0.9**
JYT	**Yasato**	**1.00**	**236**	P		**Pn**	**09 25 29.1**	**-2.4**
JFT	**Otama**	**1.01**	**316**	P		**Pn**	**09 25 30.0**	**-1.7**
JMM	**Marumori**	**1.13**	**343**	⇓P		**Pn**	**09 25 30.8**	**-2.5**
JMM				S		**Sn**	**09 25 46.2**	**-1.7**
MJAR	**Matsushiro Arr**	**2.43**	**265**	Pn		**Pn**	**09 25 50.0**	**-1.2**
	33nm,0.3s,baz=95,slow=11,SNR=155							
MJAR				Sn		**Sb**	**09 26 24.5**	**-1.2**
	57nm,0.3s,baz=100,slow=13,SNR=6.0							
MJAR				LR		LR	09 26 52.2	
	comp=Z,4μm,18.2s,baz=90,slow=44							
MAJO	**Matsushiro**	**2.44**	**265**	*e*Pn		**Pn**	**09 25 51.8**	**+0.5**
MAJO	**Matsushiro**	**2.44**	**265**	*i* P		**Pn**	**09 25 51.4**	**+0.1**
MAT	**Matsushiro**	**2.44**	**265**	P		**Pn**	**09 25 51.3**	**0.0**
MAT				S		**Sb**	**09 26 27.0**	**+1.2**
MJB9	**Matsu-Tunnel**	**2.44**	**265**	*e*Pn		**Pn**	**09 25 51.8**	**+0.4**
INU	**Inuyama**	**3.70**	**248**	*e*Pn		**Pn**	**09 26 09.3**	**+0.7**
INU				*e*Sn		**Sn**	**09 26 55.3**	**+4.0**
JHJ2	**Mitsune**	**3.85**	**198**	*e*Pn		**Pn**	**09 26 09.4**	**-1.3**
JHJ2				*e*Sn		**Sn**	**09 26 57.5**	**+2.4**
JHJ	**Hachijo jima 2**	**3.85**	**198**	Pn		**Pn**	**09 26 09.2**	**-1.5**
	32nm,0.3s,baz=113,slow=18,SNR=8.8							
JHJ				Sn		**Sn**	**09 26 55.0**	**-0.2**
	32nm,0.3s,baz=243,slow=23,SNR=2.7							
JHJ				LR		LR	09 27 43.3	
	comp=Z,1μm,18.6s,baz=9.0,slow=41							
ERM	**Erimo**	**5.43**	**15**	*e*Pn		**Pn**	**09 26 29.9**	**-2.4**
ERM	**Erimo**	**5.43**	**15**	⇑*e*P		**Pn**	**09 26 30.9**	**-1.5**
ERM				pmax		pmax		
	comp=Z,48nm,0.8s							
ASAJ	**Asahikawa**	**7.39**	**8**	Pn		**Pn**	**09 26 57.1**	**-2.2**
	comp=Z,2.7nm,0.3s,baz=214,slow=10,SNR=29							
ASAJ				Sn		**Sn**	**09 28 24.3**	**+1.9**
	comp=Z,1.1nm,0.3s,baz=246,slow=20,SNR=2.4							
ASAJ	**Asahikawa**	**7.39**	**8**	*e*Pn		**Pn**	**09 26 56.1**	**-3.2**
ASAJ				Sn		**Sn**	**09 28 24.3**	**+1.9**
TEY	**Ternei**	**8.95**	**338**	*e*P		**Pn**	**09 27 25.0**	**+4.4**
TEY				MLR		MLR		
	comp=N,1μm,12.0s							
TEY				MLR		MLR		
	comp=Z,2μm,12.0s							
JNU	**Nakatsue**	**9.24**	**250**	Pn		**Pn**	**09 27 25.4**	**+0.6**
	comp=Z,0.6nm,0.3s,baz=56,slow=11,SNR=12							
JNU				LR		LR	09 31 39.2	
	comp=Z,992nm,18.6s,baz=77,slow=42							
JNU	**Nakatsue**	**9.24**	**250**	*e*Pn		**Pn**	**09 27 25.6**	**+0.7**
VLA	**Vladivostok**	**9.55**	**314**	*de*P		**Pn**	**09 27 31.2**	**+2.3**
MSHR	**Mys Shultsa**	**9.67**	**310**	⇑*e*P		**Pn**	**09 27 31.0**	**+0.4**
CBIJ	**Chichi jima**	**9.70**	**175**	Pn		**Pn**	**09 27 28.1**	**-3.0**
JCJ	**Chichijima**	**9.70**	**175**	Pn		**Pn**	**09 27 28.1**	**-3.0**
	baz=106,slow=19							
KUR	**Kuril'sk**	**9.81**	**29**	*e*P		Pn	09 27 38.3	+5.8
KUR				S		**Sn**	**09 29 27.8**	**+6.0**
KUR				MLR		MLR		
	comp=Z,1μm,15.0s							
USRK	**Ussuriysk Ar.**	**10.20**	**319**	Pn		**Pn**	**09 27 40.5**	**+2.7**
	comp=Z,0.7nm,0.3s,baz=131,slow=11,SNR=23							
USRK				LR		LR	09 31 23.1	
	comp=Z,2μm,18.1s,baz=128,slow=37							
YSS	**Yuzh-Sakhalins**	**10.22**	**6**	*e*Pn		**Pn**	**09 27 36.7**	**-1.4**
YSS	**Yuzh-Sakhalins**	**10.22**	**6**	⇓*e*P		**Pn**	**09 27 37.1**	**-1.0**
YSS				*e*S		**Sn**	**09 29 27.5**	**-4.3**
YSS				pmax		pmax		
	comp=Z,20nm,0.4s							
YSS				MLR		MLR		
	comp=Z,2μm,12.0s							
YSS				MLR		MLR		
	comp=N,2μm,13.0s							
KSRS	**Korea Array**	**10.64**	**278**	Pn		**Pn**	**09 27 42.5**	**-1.4**
	baz=92,slow=14,SNR=2.6							
KSRS				LR		LR	09 31 31.4	
	comp=N,2μm,21.9s,baz=90,slow=36							
KS01	**Wonju Array Si**	**10.66**	**278**	*e*Pn		**Pn**	**09 27 46.3**	**+2.1**
KS01				*e*Sn		Sn	09 29 21.4	-21
KS15	**Wonju Array Si**	**10.67**	**277**	*e*Pn		**Pn**	**09 27 46.5**	**+2.2**
KSAR	**Wonju Array Be**	**10.67**	**277**	Pn		**Pn**	**09 27 42.5**	**-1.8**
KSAR	**Wonju Array Be**	**10.67**	**277**	P		**Pn**	**09 27 42.5**	**-1.8**
TJN	**Taejon**	**11.15**	**272**	*de*P		Pn	09 27 57.6	+6.7
MDJ	**Mudanjiang**	**11.78**	**315**	*e*Pn		**Pn**	**09 28 03.2**	**+3.7**
	comp=N,44nm,1.0s							
CN2	**Changchun**	**13.91**	**305**	*e*P		**P**	**09 28 38.6**	**+2.1**
CN2				*e*S		**Sn**	**09 31 03.8**	**+1.6**
CN2				LR		LR		
	comp=N,3μm,12.0s							
CN2				LR		LR		
	comp=E,2μm,12.0s							
CN2				LR		LR		
	comp=Z,2μm,13.0s							
TYV	**Tymovskoe**	**14.11**	**4**	*e*P		**Pn**	**09 28 31.9**	**+0.7**
TYV				*e*S		**Sn**	**09 31 08.7**	**+1.9**
TYV				pmax		pmax		
	comp=Z,200nm,2.5s							
TYV				pmax		pmax		
	comp=Z,14nm,0.8s							
TYV				smax		smax		
	comp=E,6.0nm,0.7s							
TYV				MLR		MLR		
	comp=N,3μm,16.0s							
TYV				MLR		MLR		
	comp=Z,1μm,15.0s							
KLR	**Kul'dur**	**14.22**	**334**	Pn		**Pn**	**09 28 32.5**	**-0.2**
	comp=Z,0.0nm,0.3s,baz=124,slow=12,SNR=5.1							
KLR				LR		LR	09 33 50.3	
	comp=Z,158nm,18.8s,baz=148,slow=37							
KLR	**Kul'dur**	**14.22**	**334**	*ce*P		**Pn**	**09 28 33.0**	**+0.3**
GRNR	**Gornyy**	**14.39**	**348**	*i* P		Pn	09 28 30.2	-4.9
JOW	**Kunigami**	**14.81**	**232**	*e*Pn		**Pn**	**09 28 40.4**	**-0.5**
DL2	**Dalian**	**15.62**	**284**	P		**Pn**	**09 28 53.0**	**+1.5**
DL2				*e*S		**Sn**	**09 31 47.4**	**+3.6**
DL2				sS		**S**	**09 31 57.3**	**-1.3**
DL2				pmax		pmax		
	comp=Z,35nm,0.7s							
DL2				pmax		pmax		
	comp=Z,330nm,5.4s							
DL2				LR		LR		
	comp=N,2μm,11.2s							
DL2				LR		LR		
	comp=E,2μm,13.4s							
DL2				LR		LR		
	comp=Z,2μm,12.7s							
OKH	**Okha**	**16.80**	**4**	*e*P		**P**	**09 29 12.9**	**+4.4**
OKH				*e*S		**S**	**09 32 23.1**	**+0.6**
OKH				smax		smax		
	comp=N,200nm,9.0s							
OKH				MLR		MLR		
	comp=Z,1μm,14.0s							
SSE	**Sheshan**	**17.56**	**257**	P		**Pn**	**09 29 15.8**	**-0.2**
SSE				S		S	09 32 48.8	+11
SSE				pmax		pmax		
	comp=Z,12nm,0.6s							
SSE				pmax		pmax		
	comp=Z,150nm,4.9s							
SSE				LR		LR		
	comp=N,750nm,13.0s							
SSE				LR		LR		
	comp=E,730nm,14.3s							
NJ2	**Nanjing**	**19.04**	**262**	*e*P		**P**	**09 29 32.1**	**-1.2**
NJ2				pP		**pP**	**09 29 39.0**	**-1.0**
NJ2				S		**S**	**09 33 07.1**	**-0.6**
NJ2				pmax		pmax		
	comp=Z,21nm,0.7s							
NJ2				pmax		pmax		
	comp=Z,220nm,4.6s							
NJ2				LR		LR		
	comp=N,1μm,14.6s							
NJ2				LR		LR		
	comp=E,1μm,11.9s							
NJ2				LR		LR		
	comp=Z,2μm,15.7s							
TIA	**Tai'an**	**19.37**	**276**	P		**Pn**	**09 29 37.4**	**-0.8**
TIA				S		Sn	09 33 31.8	+17
TIA				pmax		pmax		
	comp=Z,8.0nm,1.0s							
TIA				LR		LR		
	comp=N,540nm,14.1s							
TIA				LR		LR		
	comp=E,1μm,12.9s							
TIA				LR		LR		
	comp=Z,2μm,14.1s							
ZEA	**Zeya**	**19.53**	**335**	*e*P		**P**	**09 29 39.2**	**+0.7**
ZEA				pmax		pmax		
	comp=E,24nm,1.0s							
ZEA				pmax		pmax		
	comp=N,52nm,0.8s							
ZEA				pmax		pmax		
	comp=Z,56nm,0.8s							
ZEA				MLR		MLR		
	comp=E,900nm,12.0s							
ZEA				MLR		MLR		
	comp=N,1μm,13.0s							
ZEA				MLR		MLR		
	comp=Z,1μm,15.0s							
PETK	**Petropavlovsk-**	**19.98**	**30**	P		**P**	**09 29 43.2**	**-0.2**
	comp=Z,4.2nm,0.8s,baz=204,slow=13,SNR=4.0							
PETK				LR		LR	09 37 54.0	
	comp=Z,122nm,21.9s,baz=214,slow=38							
NACB	**Ninganchiao**	**21.03**	**239**	*e*P		**P**	**09 29 55.0**	**0.0**
	comp=Z,83nm,1.7s							
TWG	**Pinlang**	**22.29**	**237**	*e*P		**P**	**09 30 08.4**	**-0.1**
	comp=Z,78nm,0.9s							
CLNS	**Chul'man**	**22.84**	**337**	*e*P		**P**	**09 30 20.7**	**+6.5**
CLNS				pmax		pmax		
	comp=N,3.0nm,0.9s							
CLNS				pmax		pmax		
	comp=Z,10.0nm,0.8s							
CLNS				pmax		pmax		
	comp=E,6.0nm,0.9s							
WHN	**Wuhan**	**23.17**	**262**	⇓P		**P**	**09 30 17.5**	**-0.3**
WHN				S		**S**	**09 34 26.1**	**-1.8**
WHN				pmax		pmax		
	comp=Z,36nm,0.6s							
WHN				LR		LR		
	comp=N,2μm,11.0s							
WHN				LR		LR		
	comp=E,2μm,11.7s							
WHN				LR		LR		
	comp=Z,4μm,15.1s							
GUMO	**Guam**	**23.34**	**171**	LR		LR	09 39 11.6	
	comp=Z,274nm,20.9s,baz=16,slow=36							
HHC	**Hu-ho-hao-te**	**23.40**	**289**	*e*P		**P**	**09 30 18.1**	**-2.0**
HHC				S		**S**	**09 34 25.3**	**-6.5**
HHC				pmax		pmax		
	comp=Z,21nm,0.7s							
HHC				pmax		pmax		
	comp=Z,73nm,4.0s							
HHC				LR		LR		
	comp=N,570nm,11.4s							
HHC				LR		LR		
	comp=E,930nm,11.3s							
HHC				LR		LR		
	comp=Z,910nm,11.5s							
MA2	**Magadan**	**23.62**	**12**	P		**P**	**09 30 21.6**	**-0.4**
	comp=Z,9.8nm,0.7s,baz=196,slow=11,SNR=11							
MA2				LR		LR	09 40 42.2	
	comp=Z,391nm,18.2s,baz=188,slow=39							
YAK	**Yakutsk**	**26.27**	**348**	LR		LR	09 41 06.6	
	comp=Z,426nm,20.7s,baz=94,slow=36							
YAK	**Yakutsk**	**26.27**	**348**	*e*P		**P**	**09 30 44.2**	**-1.9**
	comp=Z,58nm,0.8s							
YAK	**Yakutsk**	**26.27**	**348**	*e*P		**P**	**09 30 45.0**	**-1.1**
YAK				*e*PPP		PPP	09 31 30.0	
YAK				*e*			09 34 15.2	
YAK				*e*S		**S**	**09 35 14.5**	**-2.4**
YAK				*e*SSS		SSS	09 36 40.2	
YAK				pmax		pmax		
	comp=Z,28nm,0.9s							
YAK				pmax		pmax		
	comp=N,8.0nm,1.3s							
YAK				pmax		pmax		
	comp=Z,108nm,2.8s							
YAK				pmax		pmax		
	comp=N,48nm,2.4s							
YAK				pmax		pmax		
	comp=E,52nm,2.5s							
YAK				smax		smax		
	comp=N,129nm,3.8s							
YAK				smax		smax		
	comp=E,96nm,3.4s							
YAK				MLR		MLR		
	comp=Z,540nm,18.0s							
YAK				MLR		MLR		
	comp=N,878nm,19.0s							
YAK				MLR		MLR		
	comp=E,342nm,16.0s							
XAN	**Xi'an**	**26.40**	**274**	P		**P**	**09 30 50.1**	**+2.5**
XAN				pP		sP	09 30 58.8	+0.7
XAN				sP		pP	09 31 01.9	+6.9
XAN				PP		**PnPn**	**09 31 32.4**	**+4.8**
XAN				S		**S**	**09 35 18.6**	**-1.1**
XAN				sS		sS	09 35 34.3	+2.5
XAN				SS		**SnSn**	**09 36 28.1**	**+7.0**
XAN				pmax		pmax		
	comp=Z,8.0nm,0.7s							
XAN				pmax		pmax		
	comp=Z,150nm,4.5s							
XAN				LR		LR		
	comp=N,1μm,14.6s							
XAN				LR		LR		
	comp=E,1μm,12.5s							
XAN				LR		LR		
	comp=Z,1μm,13.0s							
SEY	**Seymchan**	**27.06**	**11**	P		**P**	**09 30 53.0**	**-0.1**
	comp=Z,7.3nm,0.9s,baz=204,slow=6.7,SNR=16							
SEY	**Seymchan**	**27.06**	**11**	⇑*e*P		**P**	**09 30 53.8**	**+0.6**
ENH	**Enshi**	**27.16**	**265**	*e*P		**P**	**09 30 54.0**	**-0.5**
	comp=Z,13nm,0.6s							
ULN	**Ulaanbaatar**	**27.36**	**305**	*e*P		**P**	**09 30 55.3**	**-1.0**
	comp=Z,6.6nm,1.0s							
ULN	**Ulaanbaatar**	**27.36**	**305**	P		**P**	**09 30 57.0**	**+0.7**
	SNR=5.0							
ULN	**Ulaanbaatar**	**27.36**	**305**	P		**P**	**09 30 57.0**	**+0.7**
	SNR=5.0							
ULN	**Ulaanbaatar**	**27.36**	**305**	⇑*e*P		**P**	**09 30 56.9**	**+0.6**
ULN				pmax		pmax		
	comp=Z,10.0nm,1.7s							
BOD	**Bodaibo**	**27.65**	**328**	*e*P		**P**	**09 30 57.1**	**-1.5**
BOD				pmax		pmax		
	comp=Z,18nm,0.8s							
SONA1	**Songino Array**	**27.79**	**304**	*e*P		**P**	**09 30 59.7**	**-0.5**
SONM	**Songino Array**	**27.79**	**304**	P		**P**	**09 30 59.0**	**-1.2**
	comp=Z,9.1nm,0.8s,baz=107,slow=9.1,SNR=24							
SONM				LR		LR	09 42 31.2	
	comp=Z,950nm,19.3s,baz=91,slow=38							
SONM	**Songino Array**	**27.79**	**304**	P		**P**	**09 30 59.0**	**-1.2**
SONM				pmax		pmax		
	comp=Z,10.0nm,0.8s							
SONM				MLR		MLR		
	comp=Z,950nm,19.3s							
H11N2	**WAKE ISLAND Hy**	**28.16**	**120**	T		T	10 00 23.1	
	baz=314							
H11N1	**WAKE ISLAND Hy**	**28.17**	**120**	T		T	10 00 26.2	
	baz=314							
H11N3	**WAKE ISLAND Hy**	**28.18**	**120**	T		T	10 00 27.0	
	baz=314							
H11S1	**WAKE ISLAND Hy**	**28.86**	**122**	T		T	10 01 18.4	
	baz=320							
H11S3	**WAKE ISLAND Hy**	**28.86**	**122**	T		T	10 01 18.5	
	baz=320							
H11S2	**WAKE ISLAND Hy**	**28.88**	**122**	T		T	10 01 19.3	
	baz=320							
LZH	**Lanzhou**	**29.95**	**280**	*e*P		**P**	**09 31 21.5**	**+2.0**
LZH				pP		sP	09 31 28.9	-1.1
LZH				sP		pP	09 31 31.4	+4.5
LZH				PP		**PnPn**	**09 32 19.3**	**+3.1**
LZH				S		**S**	**09 36 15.0**	**-0.8**
LZH				sS		sS	09 36 28.3	+0.3
LZH				SS		**SnSn**	**09 37 52.9**	**+5.0**
LZH				pmax		pmax		
	comp=Z,36nm,0.9s							
LZH				pmax		pmax		
	comp=Z,230nm,6.4s							
LZH				LR		LR		
	comp=N,2μm,12.8s							
LZH				LR		LR		
	comp=E,3μm,15.7s							
LZH				LR		LR		
	comp=Z,4μm,15.7s							
ZAK	**Zakamensk**	**30.30**	**309**	*e*P		**P**	**09 31 20.3**	**-2.0**
ZAK				pmax		pmax		
	comp=Z,2.0nm,1.0s							
ZAK				pmax		pmax		
	comp=Z,3.0nm,1.3s							
TLY	**Talaya**	**30.37**	**311**	*e*P		**P**	**09 31 20.3**	**-2.6**
TLY				*e*			09 32 34.2	
TLY				*e*			09 34 18.8	
TLY				*e*S		**S**	**09 36 16.3**	**-5.5**
TLY				*e*SS		**SnSn**	**09 37 56.6**	**-0.9**
TLY				*e*SSS		SSS	09 38 21.7	
TLY				pmax		pmax		
	comp=Z,4.0nm,0.6s							
TLY				MLR		MLR		
	comp=Z,877nm,14.0s							
GYA	**Guiyang**	**31.03**	**261**	P		**P**	**09 31 27.3**	**-1.7**
GYA				pmax		pmax		
	comp=Z,10.0nm,0.8s							
CD2	**Chengdu**	**31.52**	**270**	P		**P**	**09 31 32.0**	**-1.2**
CD2				pP		pP	09 31 38.9	-1.7
CD2				PP		**PP**	**09 32 42.9**	**-1.6**
CD2				S		**S**	**09 36 38.8**	**-1.4**
CD2				sS		sS	09 36 50.4	-2.0
CD2				SS		**SS**	**09 38 53.8**	**-1.6**
CD2				pmax		pmax		
	comp=Z,10.0nm,0.5s							
CD2				pmax		pmax		
	comp=Z,120nm,5.0s							
CD2				LR		LR		
	comp=N,2μm,13.4s							
CD2				LR		LR		
	comp=E,1μm,15.9s							
CD2				LR		LR		
	comp=Z,2μm,15.4s							
GTA	**Gaotai**	**32.49**	**287**	P		**P**	**09 31 41.9**	**+0.2**
GTA				pP		sP	09 31 51.6	-0.6
GTA				sP		pP	09 31 55.6	+6.5
GTA				PP		**PnPn**	**09 32 46.8**	**-2.3**
GTA				PcP		**PcP**	**09 34 32.3**	**+4.0**
GTA				S		**S**	**09 36 54.1**	**-1.2**
GTA				sS		sS	09 37 10.4	+2.9
GTA				ScP		**ScP**	**09 38 08.6**	**-1.9**
GTA				SS		**SnSn**	**09 38 50.6**	**+1.2**
GTA				pmax		pmax		
	comp=Z,4.0nm,0.8s							
GTA				pmax		pmax		
	comp=Z,46nm,5.0s							
GTA				LR		LR		
	comp=N,850nm,15.7s							
GTA				LR		LR		
	comp=E,780nm,13.3s							
GTA				LR		LR		
	comp=Z,690nm,13.3s							
QIZ	**Qiongzhong**	**32.69**	**246**	P		**P**	**09 31 44.9**	**+1.4**
QIZ				S		**S**	**09 36 59.6**	**+1.2**
QIZ				pmax		pmax		
	comp=Z,6.0nm,0.9s							
QIZ				LR		LR		
	comp=N,650nm,11.4s							
QIZ				LR		LR		
	comp=E,460nm,13.2s							
QIZ				LR		LR		
	comp=Z,640nm,12.8s							
BILL	**Bilibino**	**34.30**	**16**	⇑*i* P		**P**	**09 31 55.4**	**-1.7**
BILL				*e*			09 33 11.1	
BILL				*e*SS		SS	09 39 27.6	-24
BILL				pmax		pmax		
	comp=Z,4.0nm,1.3s							
BILL				MLR		MLR		
	comp=Z,350nm,16.0s							
KMI	**Kunming**	**34.77**	**262**	P		**P**	**09 32 03.9**	**+2.0**
KMI				pP		sP	09 32 13.5	+1.2
KMI				S		**S**	**09 37 29.6**	**-1.5**
KMI				SS		**SnSn**	**09 39 44.6**	**-0.6**
KMI				pmax		pmax		
	comp=Z,16nm,0.5s							
KMI				LR		LR		
	comp=N,510nm,13.0s							
KMI				LR		LR		
	comp=E,850nm,13.6s							
KMI				LR		LR		
	comp=Z,570nm,15.8s							
TIXI	**Tiksi**	**35.51**	**353**	*e*P		**P**	**09 32 06.3**	**-1.1**
	comp=Z,8.8nm,0.9s							
TIXI	**Tiksi**	**35.51**	**353**	*ce*P		**P**	**09 32 06.6**	**-0.8**
TIXI				pmax		pmax		
	comp=Z,9.0nm,0.8s							
SKNT	**Sakolnakorn**	**38.31**	**249**	P		**P**	**09 32 33.3**	**+1.4**
	comp=Z,6.3nm,2.0s							
FAKI	**Fak Fak**	**40.38**	**194**	*e*P		**P**	**09 32 49.1**	**+0.1**
	comp=Z,18nm,0.7s							
DGZ	**Jazzator, Alta**	**40.41**	**306**	*e*P		**P**	**09 32 49.5**	**+0.3**
DGZ				pmax		pmax		
	comp=Z,26nm,0.7s							
WMQ	**Urumqi**	**40.81**	**297**	P		**P**	**09 32 53.3**	**+0.8**
WMQ				pP		sP	09 33 02.8	-0.3
WMQ				sP		pP	09 33 10.9	+11
WMQ				pmax		pmax		
	comp=Z,56nm,0.9s							
WMQ				pmax		pmax		
	comp=Z,430nm,4.5s							
WMQ				LR		LR		
	comp=N,1μm,18.1s							
WMQ				LR		LR		
	comp=E,1μm,16.9s							
WMQ				LR		LR		
	comp=Z,870nm,18.7s							
PBKT	**Sadao Pong**	**40.84**	**251**	P		**P**	**09 32 51.8**	**-1.1**
	comp=Z,13nm,1.5s							
CMMT	**Chiang Mai**	**41.08**	**256**	P		**P**	**09 32 56.0**	**+1.1**
	comp=Z,6.4nm,1.9s							
CHTO	**Chiang Mai**	**41.08**	**256**	P		**P**	**09 32 57.0**	**+2.1**
	comp=Z,29nm,1.9s							
CHTO	**Chiang Mai**	**41.08**	**256**	*e*P		**P**	**09 32 53.0**	**-1.9**
	comp=Z,8.0nm,1.1s							
CHTO	**Chiang Mai**	**41.08**	**256**	P		**P**	**09 32 56.1**	**+1.2**
	SNR=6.8							
CHTO	**Chiang Mai**	**41.08**	**256**	P		**P**	**09 32 56.1**	**+1.2**
	SNR=6.8							
CHTO	**Chiang Mai**	**41.08**	**256**	*e*P		**P**	**09 32 53.0**	**-1.9**
CHTO				pmax		pmax		
	comp=Z,8.0nm,1.1s							
CMAR	**Chiang Mai Arr**	**41.28**	**255**	P		**P**	**09 32 55.5**	**-1.1**
	comp=Z,0.6nm,0.6s,baz=51,slow=7.3,SNR=5.2							
CM01	**Chiang Mai Arr**	**41.29**	**255**	*e*P		**P**	**09 32 57.3**	**+0.6**
ZAA0	**Zalesovo Array**	**41.96**	**313**	*e*P		**P**	**09 33 01.3**	**-0.4**
	comp=Z,21nm,0.9s							
ZALV	**Zalesovo Beam**	**41.96**	**313**	P		**P**	**09 33 01.2**	**-0.5**
	comp=Z,18nm,0.8s,baz=94,slow=6.9,SNR=29							
ZALV				LR		LR	09 51 12.7	
	comp=Z,703nm,18.6s,baz=70,slow=37							
ZALV	**Zalesovo Beam**	**41.96**	**313**	*e*P

NVS				pmax	pmax		
	comp=E,22nm,1.2s						
NVS				pmax	pmax		
	comp=Z,28nm,1.2s						
SBUM	**Sibu**	**43.38**	**225**	*e*P	**P**	**09 33 13.2**	**-0.4**
	comp=Z,11nm,1.0s						
SRDT	**SRDT**	**43.60**	**250**	P	**P**	**09 33 17.6**	**+2.2**
	comp=Z,16nm,1.2s						
MK01	**Makanchi Array**	**44.11**	**302**	*e*P	**P**	**09 33 18.9**	**-0.4**
MK31	**Makanchi Array**	**44.12**	**302**	*e*P	**P**	**09 33 19.0**	**-0.3**
MK31	**Makanchi Array**	**44.12**	**302**	*e*P	**P**	**09 33 19.0**	**-0.3**
MKAR	**Makanchi Array**	**44.12**	**302**	P	**P**	**09 33 19.1**	**-0.3**
	comp=Z,7.6nm,0.7s,baz=89,slow=9.9,SNR=44						
MKAR	**Makanchi Array**	**44.12**	**302**	*e*P	**P**	**09 33 19.0**	**-0.3**
	comp=Z,63nm,0.8s						
MAKZ	**Makanchi**	**44.33**	**302**	*e*P	**P**	**09 33 20.5**	**-0.5**
	comp=Z,11nm,0.8s						
MAKZ	**Makanchi**	**44.33**	**302**	*e*P	**P**	**09 33 20.5**	**-0.5**
MAKZ				pmax	pmax		
	comp=Z,11nm,0.8s						
KSM	**Kuching**	**45.27**	**226**	*e*P	**P**	**09 33 29.2**	**+0.5**
	comp=Z,22nm,0.9s						
SVW2	**Sparrevohn**	**45.81**	**37**	*e*P	**P**	**09 33 33.3**	**+0.8**
	comp=Z,13nm,1.0s						
KURK	**Kurchatov**	**45.96**	**308**	*e*P	**P**	**09 33 32.9**	**-0.9**
	comp=Z,47nm,1.1s						
KURK	**Kurchatov**	**45.96**	**308**	P	**P**	**09 33 33.2**	**-0.6**
	SNR=22						
KURK	**Kurchatov**	**45.96**	**308**	P	**P**	**09 33 33.2**	**-0.6**
	SNR=22						
KURK	**Kurchatov**	**45.96**	**308**	*ce*P	**P**	**09 33 33.3**	**-0.6**
KURK				pmax	pmax		
	comp=Z,57nm,1.2s						
KURBB	**Kurchatov Arra**	**46.03**	**308**	P	**P**	**09 33 32.3**	**-2.1**
	comp=Z,14nm,0.8s,baz=86,slow=8.0,SNR=38						
KAPI	**Kappang**	**46.17**	**210**	*e*P	**P**	**09 33 36.4**	**+0.5**
	comp=Z,96nm,1.4s						
KAPI	**Kappang**	**46.17**	**210**	P	**P**	**09 33 38.4**	**+2.6**
	SNR=7.9						
KAPI	**Kappang**	**46.17**	**210**	P	**P**	**09 33 38.4**	**+2.6**
	SNR=7.9						
PDGK	**Podgornoye**	**46.75**	**298**	P	**P**	**09 33 39.5**	**-0.8**
PDGK				pmax	pmax		
	comp=Z,24nm,0.9s						
IM3	**Indian Mountai**	**46.94**	**31**	*e*P	**P**	**09 33 41.2**	**-0.1**
SURT	**Suratani**	**47.34**	**245**	P	**P**	**09 33 47.3**	**+2.3**
	comp=Z,9.0nm,1.5s						
KDAK	**Kodiak Island**	**47.38**	**42**	P	**P**	**09 33 44.4**	**-0.4**
	comp=Z,22nm,0.9s,baz=44,slow=5.0,SNR=5.4						
KDAK	**Kodiak Island**	**47.38**	**42**	*i* P	**P**	**09 33 45.4**	**+0.6**
TRTT	**Trang**	**47.45**	**243**	P	**P**	**09 33 48.5**	**+2.6**
	comp=Z,5.5nm,1.5s						
PPLA	**Purkeypile**	**47.46**	**35**	*e*P	**P**	**09 33 47.0**	**+1.5**
	comp=Z,17nm,1.0s						
CAST	**Castle Rocks**	**47.51**	**34**	*e*P	**P**	**09 33 47.6**	**+1.7**
	comp=Z,9.9nm,0.7s						
BPAW	**Bear Paw Mtn.**	**48.01**	**33**	*e*P	**P**	**09 33 50.6**	**+0.9**
	comp=Z,7.1nm,0.9s						
KTH	**Kantishna Hill**	**48.04**	**34**	*e*P	**P**	**09 33 51.0**	**+1.1**
	comp=Z,22nm,1.0s						
MLY	**Manley**	**48.14**	**32**	*e*P	**P**	**09 33 52.3**	**+1.6**
	comp=Z,12nm,0.8s						
SUA	**Susitna One**	**48.15**	**37**	*e*P	**P**	**09 33 51.9**	**+1.0**
	comp=Z,14nm,0.9s						
TRF	**Thorofare Moun**	**48.32**	**34**	*e*P	**P**	**09 33 53.1**	**+0.8**
	comp=Z,9.5nm,0.7s						
TARG	**Taragay, Kyrgy**	**48.37**	**296**	*e*P	**P**	**09 33 53.8**	**+0.6**
	comp=Z,12nm,0.8s						
PKDT	**Phuket**	**48.39**	**244**	P	**P**	**09 33 55.9**	**+2.7**
	comp=Z,12nm,1.1s,comp=Z,3μm						
COLD	**Coldfoot**	**48.44**	**29**	*e*P	**P**	**09 33 53.5**	**+0.6**
	comp=Z,4.3nm,0.8s						
KDJ	**Kajisay**	**48.70**	**297**	*e*P	**P**	**09 33 55.2**	**-0.3**
	comp=Z,11nm,1.3s						
TOLK	**Toolik Lake Re**	**48.76**	**27**	*e*P	**P**	**09 33 56.9**	**+1.4**
	comp=Z,11nm,0.8s						
PMR	**Palmer**	**48.91**	**37**	*e*P	**P**	**09 33 56.7**	**+0.1**
	comp=Z,11nm,1.0s						
PMR	**Palmer**	**48.91**	**37**	*e*P	**P**	**09 33 56.7**	**+0.1**
PMR				pmax	pmax		
	comp=Z,11nm,1.0s						
MCK	**McKinley**	**48.92**	**34**	*e*P	**P**	**09 33 56.7**	**0.0**
	comp=Z,9.6nm,0.9s						
MCK	**McKinley**	**48.92**	**34**	*e*P	**P**	**09 33 56.7**	**0.0**
MCK				pmax	pmax		
	comp=Z,10.0nm,0.9s						
SOEI	**Soe**	**48.96**	**202**	*e*P	**P**	**09 33 58.2**	**+0.5**
	comp=Z,51nm,0.8s						
RND	**Reindeer**	**48.97**	**34**	*e*P	**P**	**09 33 57.3**	**+0.2**
	comp=Z,13nm,0.9s						
RND	**Reindeer**	**48.97**	**34**	*e*P	**P**	**09 33 57.3**	**+0.2**
RND				pmax	pmax		
	comp=Z,13nm,0.9s						
MDM	**Murphy Dome**	**49.20**	**32**	*e*P	**P**	**09 33 59.3**	**+0.5**
	comp=Z,23nm,0.9s						
WRH	**Wood River Hil**	**49.27**	**33**	*e*P	**P**	**09 33 59.5**	**+0.1**
	comp=Z,7.1nm,0.9s						
SML	**Sawmill**	**49.28**	**36**	*e*P	**P**	**09 33 59.9**	**+0.4**
	comp=Z,15nm,0.8s						
SML	**Sawmill**	**49.28**	**36**	*e*P	**P**	**09 33 59.9**	**+0.4**
SML				pmax	pmax		
	comp=Z,15nm,0.8s						
COLA	**College**	**49.37**	**32**	*e*P	**P**	**09 34 00.7**	**+0.7**
	comp=Z,9.9nm,0.8s						
COLA	**College**	**49.37**	**32**	*e*P	**P**	**09 34 00.7**	**+0.7**
COLA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
CCB	**Clear Creek Bu**	**49.39**	**32**	*e*P	**P**	**09 34 00.1**	**-0.1**
	comp=Z,4.4nm,0.6s						
TKM2	**Tokmak 2**	**49.61**	**299**	P	**P**	**09 34 02.3**	**-0.2**
TKM2				pmax	pmax		
	comp=Z,11nm,0.8s						
DHY	**Denali Highway**	**49.65**	**34**	*e*P	**P**	**09 34 01.9**	**-0.6**
	comp=Z,28nm,1.8s						
SCM	**Sheep Creek Mo**	**49.75**	**36**	*e*P	**P**	**09 34 03.2**	**0.0**
	comp=Z,18nm,0.6s						
SCM	**Sheep Creek Mo**	**49.75**	**36**	*e*P	**P**	**09 34 03.2**	**0.0**
SCM				pmax	pmax		
	comp=Z,18nm,0.6s						
ILAR	**Eielson Array**	**49.78**	**32**	P	**P**	**09 34 03.5**	**+0.3**
	comp=Z,9.7nm,0.8s,baz=269,slow=6.5,SNR=70						
ILB	**Eielson Array**	**49.78**	**32**	*e*P	**P**	**09 34 03.4**	**+0.1**
IL1	**Eielson Array**	**49.78**	**32**	*e*P	**P**	**09 34 02.7**	**-0.6**
MTN	**Manton Dam**	**50.27**	**193**	*e*P	**P**	**09 34 07.4**	**0.0**
	comp=Z,31nm,1.0s						
KSH	**Kashi**	**50.36**	**294**	P	**P**	**09 34 12.3**	**+4.1**
KSH				pP	sP	09 34 21.6	+2.7
KSH				S	**S**	**09 41 22.1**	**+2.2**
KSH				ScS	**ScS**	**09 43 57.4**	**-0.4**
KSH	**Kashi**	**50.36**	**294**	SS	**SS**	**09 44 50.6**	**-2.8**
KSH				pmax	pmax		
	comp=Z,13nm,1.0s						
KSH				pmax	pmax		
	comp=Z,180nm,4.2s						
KSH				LR	LR		
	comp=N,500nm,6.9s						
KSH				LR	LR		
	comp=E,390nm,10.0s						
KSH				LR	LR		
	comp=Z,1μm,13.5s						
KLU	**Klutina**	**50.45**	**36**	*e*P	**P**	**09 34 08.8**	**+0.3**
	comp=Z,9.3nm,1.0s						
AAK	**Ala-Archa**	**50.47**	**298**	*e*P	**P**	**09 34 08.8**	**-0.2**
	comp=Z,5.5nm,0.9s						
AAK	**Ala-Archa**	**50.47**	**298**	*ce*P	**P**	**09 34 09.3**	**+0.3**
AAK				pmax	pmax		
	comp=Z,2.0nm,0.9s						
PAX	**Paxson**	**50.52**	**35**	*e*P	**P**	**09 34 09.5**	**+0.5**
	comp=Z,4.3nm,0.8s						
PAX	**Paxson**	**50.52**	**35**	*e*P	**P**	**09 34 09.5**	**+0.5**
PAX				pmax	pmax		
	comp=Z,4.0nm,0.8s						
DIV	**Divide**	**50.56**	**37**	*e*P	**P**	**09 34 10.3**	**+1.0**
	comp=Z,16nm,1.0s						
BVA0	**Borovoye Array**	**50.62**	**312**	*i* P	**P**	**09 34 09.3**	**-0.5**
BVA0				pmax	pmax		
	comp=Z,7.0nm,1.0s						
BVAR	**Borovoye Array**	**50.62**	**312**	P	**P**	**09 34 09.3**	**-0.4**
	comp=Z,3.9nm,0.6s,baz=78,slow=7.3,SNR=15						
EYAK	**Cordova Ski Ar**	**50.64**	**38**	*e*P	**P**	**09 34 10.6**	**+0.9**
	comp=Z,13nm,1.0s						
BRVK	**Borovoye**	**50.68**	**312**	*e*P	**P**	**09 34 10.0**	**-0.2**
	comp=Z,9.4nm,0.9s						
BRVK	**Borovoye**	**50.68**	**312**	P	**P**	**09 34 10.5**	**+0.3**
	SNR=6.4						
BRVK	**Borovoye**	**50.68**	**312**	P	**P**	**09 34 10.5**	**+0.3**
	SNR=6.4						
BRVK	**Borovoye**	**50.68**	**312**	*ce*P	**P**	**09 34 10.0**	**-0.2**
BRVK				pmax	pmax		
	comp=Z,19nm,1.7s						
HARP	**HAARP**	**50.72**	**35**	*e*P	**P**	**09 34 11.9**	**+1.5**
	comp=Z,13nm,0.8s						
RIDG	**Independ'e Rid**	**50.74**	**34**	*e*P	**P**	**09 34 10.4**	**-0.2**
	comp=Z,10nm,1.1s						
DOT	**Dot Lake**	**51.09**	**34**	*e*P	**P**	**09 34 13.3**	**+0.1**
	comp=Z,22nm,0.8s						
SCRK	**Sand Creek**	**51.09**	**33**	*e*P	**P**	**09 34 12.9**	**-0.4**
	comp=Z,13nm,0.9s						
BMRM	**Bremner River**	**51.15**	**37**	*e*P	**P**	**09 34 14.1**	**+0.5**
BMRM				*e*PcP	**PcP**	**09 35 28.3**	**-0.6**
RAGM	**Ragged Mountai**	**51.19**	**38**	*e*P	**P**	**09 34 15.0**	**+1.1**
	comp=Z,20nm,0.9s						
MENT	**Mentasta**	**51.32**	**34**	*e*P	**P**	**09 34 16.4**	**+1.5**
	comp=Z,11nm,1.0s						
PSI	**Prapat**	**51.54**	**239**	P	**P**	**09 34 16.7**	**-0.5**
	comp=Z,6.7nm,0.7s,baz=353,slow=9.6,SNR=3.3						
MNAS	**Manas**	**51.91**	**299**	P	**P**	**09 34 19.8**	**0.0**
MNAS				pmax	pmax		
	comp=Z,8.0nm,1.0s						
BKNI	**Bangkinang**	**51.93**	**235**	*e*P	**P**	**09 34 22.7**	**+2.8**
EGAK	**Eagle**	**52.23**	**32**	*e*P	**P**	**09 34 22.2**	**+0.6**
	comp=Z,7.7nm,0.9s						
DAWY	**Dawson**	**53.09**	**33**	*e*P	**P**	**09 34 28.1**	**0.0**
	comp=Z,4.8nm,0.9s						
KK31	**Karatay Array**	**53.11**	**300**	*e*P	**P**	**09 34 28.4**	**-0.1**
KK31	**Karatay Array**	**53.11**	**300**	*e*P	**P**	**09 34 28.4**	**-0.1**
KKAR	**Karatay Array**	**53.11**	**300**	*e*P	**P**	**09 34 28.2**	**-0.3**
KKAR	**Karatay Array**	**53.11**	**300**	*e*P	**P**	**09 34 28.2**	**-0.3**
GSI	**Gunungsitoli**	**53.54**	**239**	*e*P	**P**	**09 34 31.7**	**-0.2**
	comp=Z,80nm,1.0s						
LEM	**Lembang**	**53.59**	**223**	LR	LR	09 57 55.7	
	comp=Z,33nm,21.9s,baz=349,slow=37						
NIL	**Nilore**	**54.54**	**288**	*e*P	**P**	**09 34 39.0**	**-0.2**
NIL				*e*PcP	**PcP**	**09 35 40.5**	**-1.7**
NIL	**Nilore**	**54.54**	**288**	*e*P	**P**	**09 34 39.0**	**-0.2**
NIL				*e*		09 35 40.5	
HYT	**Haines Junctio**	**54.59**	**36**	*e*P	**P**	**09 34 39.1**	**0.0**
	comp=Z,29nm,1.3s						
INK	**Inuvik**	**54.67**	**27**	P	**P**	**09 34 40.1**	**+0.6**
	comp=Z,5.4nm,0.8s,baz=280,slow=6.5,SNR=15						
INK	**Inuvik**	**54.67**	**27**	*e*P	**P**	**09 34 39.6**	**+0.1**
	comp=Z,8.1nm,0.9s						
SVE	**Sverdlovsk**	**55.23**	**319**	*e*P	**P**	**09 34 43.6**	**-0.1**
SVE				pmax	pmax		
	comp=Z,33nm,1.1s						
WHY	**Whitehorse**	**55.88**	**36**	*e*P	**P**	**09 34 47.8**	**-0.7**
	comp=Z,10nm,0.9s						
ARU	**Arti**	**56.44**	**319**	*e*P	**P**	**09 34 51.8**	**-0.6**
	comp=Z,26nm,0.9s						
ARU	**Arti**	**56.44**	**319**	*d i*P	**P**	**09 34 51.6**	**-0.8**
ARU						09 35 48.5	
ARU						09 36 56.3	
ARU				S	**S**	**09 42 39.9**	**-1.7**
ARU				SS	**SS**	**09 46 29.2**	**+0.9**
ARU				pmax	pmax		
	comp=Z,28nm,0.8s						
ARU				MLR	MLR		
	comp=Z,438nm,15.0s						
BESE	**Bessie Mountai**	**56.47**	**39**	*e*P	**P**	**09 34 51.3**	**-1.3**
	comp=Z,8.0nm,0.7s						
FITZ	**Fitzroy Crossi**	**56.54**	**198**	*e*P	**P**	**09 34 53.0**	**-0.4**
WRAB	**Tennant Creek**	**56.79**	**188**	*e*P	**P**	**09 34 54.8**	**-0.4**
	comp=Z,29nm,1.0s						
WRAB	**Tennant Creek**	**56.79**	**188**	*de*P	**P**	**09 34 54.2**	**-1.0**
WRAB				pmax	pmax		
	comp=Z,46nm,1.7s						
WB2	**Warramunga Arr**	**56.80**	**188**	*e*P	**P**	**09 34 54.7**	**-0.6**
	comp=Z,27nm,0.9s						
WRA	**Warramunga Arr**	**56.80**	**188**	P	**P**	**09 34 54.3**	**-0.9**
	comp=Z,12nm,0.7s,baz=5.6,slow=7.4,SNR=88						
AB31	**Akbulak array**	**57.98**	**310**	P	**P**	**09 35 01.5**	**-1.8**
AB31				pmax	pmax		
	comp=Z,6.0nm,0.9s						
ABKAR	**Akbulak array**	**57.98**	**310**	*e*P	**P**	**09 35 02.4**	**-0.9**
	comp=Z,44nm,0.8s						
HYB	**Hyderabad**	**58.04**	**268**	*i* P	**P**	**09 35 05.0**	**+0.7**
AKTO	**Aktyubinsk**	**58.72**	**312**	P	**P**	**09 35 08.2**	**-0.3**
	comp=Z,3.3nm,0.8s,baz=80,slow=8.1,SNR=7.7						
DLBC	**Dease Lake**	**58.91**	**38**	*e*P	**P**	**09 35 12.2**	**+2.4**
	comp=Z,7.1nm,0.9s						
AS01	**Alice Springs**	**60.52**	**188**	*e*P	**P**	**09 35 20.8**	**-0.3**
AS31	**Alice Springs**	**60.52**	**188**	*e*P	**P**	**09 35 21.0**	**-0.2**
	comp=Z,2.7nm,0.9s						
ASAR	**Alice Springs**	**60.53**	**188**	P	**P**	**09 35 20.8**	**-0.4**
	comp=Z,7.6nm,0.9s,baz=10.0,slow=6.9,SNR=32						
MBWA	**Marble Bar**	**61.10**	**203**	*e*P	**P**	**09 35 24.9**	**-0.2**
	comp=Z,14nm,0.9s						
PALK	**Pallekele**	**62.16**	**258**	P	**P**	**09 35 32.7**	**+0.1**
	comp=Z,6.4nm,0.7s,baz=109,slow=4.1,SNR=5.1						
PALK	**Pallekele**	**62.16**	**258**	*e*P	**P**	**09 35 32.4**	**-0.2**
	comp=Z,17nm,1.2s						
PALK	**Pallekele**	**62.16**	**258**	*i* P	**P**	**09 35 33.6**	**+1.0**
LVZ	**Lovozero**	**62.27**	**336**⇓	*e*P	**P**	**09 35 34.3**	**+1.8**
LVZ				pmax	pmax		
	comp=Z,45nm,1.3s						
RES	**Resolute Bay**	**62.87**	**14**	*e*P	**P**	**09 35 36.4**	**0.0**
	comp=Z,20nm,1.5s						
RES	**Resolute Bay**	**62.87**	**14**	*e*P	**P**	**09 35 36.4**	**0.0**
RES				pmax	pmax		
	comp=Z,20nm,1.5s						
TMCR	**Tamitsa**	**62.88**	**331**	*e*P	**P**	**09 35 36.5**	**-0.1**
TMCR				pmax	pmax		
	comp=Z,18nm,1.3s						
DZM	**Mont Dzumac**	**63.20**	**154**	*e*LR	LR	09 54 31.8	
	comp=Z,334nm,21.4s						
GEYT	**Alibeck**	**63.82**	**299**	P	**P**	**09 35 42.8**	**-0.5**
	comp=Z,5.2nm,0.7s,baz=59,slow=4.0,SNR=10.0						
GYA0B	**ALIBECK ARRAY**	**63.82**	**299**	*e*P	**P**	**09 35 43.4**	**+0.1**
	comp=Z,10nm,0.8s						
KLMR	**Klimovskoe**	**63.88**	**328**	*e*P	**P**	**09 35 41.1**	**-2.1**
KLMR				AMP		09 35 46.6	
	comp=Z,12nm,1.0s						
KLMR				*e*PP	**PP**	**09 38 00.7**	**-2.7**
KLMR				LQ	LQ	09 59 16.7	
KLMR				LQ	LQ	09 59 16.7	
KLMR	**Klimovskoe**	**63.88**	**328**	*e*P	**P**	**09 35 41.1**	**-2.1**
KLMR				*e*		09 38 00.6	
KLMR				pmax	pmax		
	comp=Z,12nm,1.0s						
YKA	**Yellowknife Ar**	**64.10**	**30**	P	**P**	**09 35 44.6**	**0.0**
	comp=Z,1.7nm,0.8s,baz=300,slow=6.2,SNR=22						
ARCES	**ARCESS Array B**	**64.17**	**339**	P	**P**	**09 35 44.5**	**-0.5**
	comp=Z,2.9nm,0.7s,baz=56,slow=5.0,SNR=9.0						
MOS	**Moscow**	**67.35**	**323**	*e*P	**P**	**09 36 06.3**	**+0.6**
MOS				*e*		09 36 30.5	
MOS				pmax	pmax		
	comp=Z,27nm,0.8s						
VRH	**Novokhopyorsk**	**67.66**	**318**	*e*P	**P**	**09 36 05.9**	**-1.8**
VRH				pmax	pmax		
	comp=Z,10.0nm,1.2s						
OBN	**Obninsk**	**68.20**	**323**	*de*P	**P**	**09 36 13.6**	**+2.6**
OBN				*e*		09 36 36.5	
OBN				*e*		09 38 45.1	
OBN				pmax	pmax		
	comp=Z,11nm,1.0s						
OBN				MLR	MLR		
	comp=Z,377nm,16.0s						
STKA	**Stephens Creek**	**68.31**	**180**	P	**P**	**09 36 11.7**	**-0.2**
	comp=Z,3.8nm,0.7s,baz=345,slow=6.0,SNR=12						
STKA	**Stephens Creek**	**68.31**	**180**	*e*P	**P**	**09 36 11.3**	**-0.6**
	comp=Z,2.5nm,1.0s						
STKA	**Stephens Creek**	**68.31**	**180**	*e*P	**P**	**09 36 11.3**	**-0.6**
STKA				pmax	pmax		
	comp=Z,3.0nm,1.0s						
FORT	**Forrest**	**68.34**	**192**	*e*P	**P**	**09 36 12.6**	**+0.5**
	comp=Z,601nm,0.8s						
LPSR	**Galich'ya Gora**	**68.39**	**320**	*e*P	**P**	**09 36 10.8**	**-1.5**
LPSR				pmax	pmax		
	comp=Z,10.0nm,0.8s						
FIA1	**FINESS Array S**	**68.95**	**332**	*e*P	**P**	**09 36 15.4**	**-0.2**
FINES	**FINESS Array B**	**68.96**	**332**	P	**P**	**09 36 15.4**	**-0.3**
	comp=Z,8.5nm,0.7s,baz=54,slow=8.2,SNR=17						
VSR	**Storozhevoye**	**69.01**	**319**	*e*P	**P**	**09 36 14.9**	**-1.3**
VSR				pmax	pmax		
	comp=Z,10.0nm,1.3s						
H04A	**Detroit Lake**	**69.38**	**49**	*e*P	P	09 36 23.6	+4.9
	comp=Z,12nm,0.9s						
EDM	**Edmonton**	**69.63**	**38**	*e*P	**P**	**09 36 20.9**	**+0.8**
	comp=Z,14nm,1.2s						
EDM	**Edmonton**	**69.63**	**38**	*e*P	**P**	**09 36 20.9**	**+0.8**
EDM				pmax	pmax		
	comp=Z,14nm,1.2s						
NEW	**Newport**	**70.41**	**44**	*e*P	**P**	**09 36 24.6**	**-0.4**
	comp=Z,13nm,1.5s						
NEW	**Newport**	**70.41**	**44**	*e*P	**P**	**09 36 24.6**	**-0.4**
NEW				pmax	pmax		
	comp=Z,13nm,1.5s						
PINE	**Pine Mountain**	**70.61**	**50**	*e*P	**P**	**09 36 28.3**	**+1.8**
	comp=Z,19nm,0.9s						
YBH	**Yreka Blue Hor**	**70.61**	**52**	P	**P**	**09 36 27.8**	**+1.4**
	comp=Z,4.5nm,0.9s,baz=284,slow=7.0,SNR=5.2						
WSAR	**Wadi Sarin**	**70.78**	**285**	P	**P**	**09 36 28.1**	**+0.5**
	comp=Z,14nm,1.0s,baz=107,slow=9.2,SNR=4.6						
ZEI	**Tsey**	**70.83**	**309**	*e*P	**P**	**09 36 26.3**	**-1.6**
ZEI				pmax	pmax		
	comp=Z,14nm,2.0s						
KBZ	**Khabaz**	**70.94**	**311**	P	**P**	**09 36 28.4**	**+0.2**
	comp=Z,9.1nm,0.9s,baz=61,slow=5.1,SNR=13						
KIV	**Kislovodsk**	**70.95**	**311**	*e*P	**P**	**09 36 29.1**	**+0.8**
	comp=Z,23nm,0.9s						
KIV	**Kislovodsk**	**70.95**	**311**	P	**P**	**09 36 29.2**	**+0.8**
	SNR=8.9						
KIV	**Kislovodsk**	**70.95**	**311**	P	**P**	**09 36 29.2**	**+0.8**
	SNR=8.9						
KIV	**Kislovodsk**	**70.95**	**311**	*e*P	**P**	**09 36 28.6**	**+0.2**
KIV				pmax	pmax		
	comp=Z,28nm,1.1s						
K05A	**Summer Lake**	**71.22**	**50**	*e*P	**P**	**09 36 31.8**	**+1.6**
	comp=Z,28nm,1.1s						
WDC	**Whiskeytown Da**	**71.34**	**53**	*e*P	**P**	**09 36 30.5**	**-0.2**
	comp=Z,15nm,1.1s						
WDC	**Whiskeytown Da**	**71.34**	**53**	*e*P	**P**	**09 36 30.5**	**-0.2**
WDC				pmax	pmax		
	comp=Z,15nm,1.1s						
GNI	**Garni**	**71.73**	**307**⇑	*e*P	**P**	**09 36 35.5**	**+2.2**
GNI				pmax	pmax		
	comp=Z,21nm,1.2s						
BMO	**Blue Mountains**	**72.21**	**47**	*e*P	**P**	**09 36 35.9**	**-0.1**
	comp=Z,8.2nm,1.2s						
BMO	**Blue Mountains**	**72.21**	**47**	*e*P	**P**	**09 36 35.9**	**-0.1**
BMO				pmax	pmax		
	comp=Z,8.0nm,1.2s						
JTMT	**Jette**	**72.28**	**43**	*e*P	**P**	**09 36 35.7**	**-0.7**
	comp=Z,5.9nm,1.0s						
J08A	**Circle Bar Ran**	**72.35**	**49**	*e*P	**P**	**09 36 36.1**	**-0.8**
	comp=Z,48nm,1.9s						
ORV	**Oroville**	**72.57**	**53**	*e*P	**P**	**09 36 38.6**	**+0.5**
	comp=Z,8.4nm,1.0s						
ORV	**Oroville**	**72.57**	**53**	*e*P	**P**	**09 36 38.6**	**+0.5**
ORV				pmax	pmax		
	comp=Z,8.0nm,1.0s						
WVOR	**Wild Horse Val**	**72.77**	**50**	*e*P	**P**	**09 36 37.8**	**-1.6**
	comp=Z,15nm,1.4s						
WVOR	**Wild Horse Val**	**72.77**	**50**	*e*P	**P**	**09 36 37.8**	**-1.6**
WVOR				pmax	pmax		
	comp=Z,15nm,1.4s						
MSO	**Missoula**	**73.00**	**44**	*e*P	**P**	**09 36 41.5**	**+0.8**
	comp=Z,6.5nm,1.0s						
ANN	**Anapa**	**73.59**	**314**	*e*P	**P**	**09 36 45.8**	**+1.8**
ANN				pmax	pmax		
	comp=Z,35nm,1.4s						
PAHR	**Pah Rah Range**	**73.84**	**52**	*e*P	**P**	**09 36 46.4**	**+0.6**
	comp=Z,9.3nm,1.0s						
MFID	**Camas Ranch**	**73.90**	**48**	*e*P	**P**	**09 36 46.8**	**+0.7**
	comp=Z,12nm,1.3s						
FFC	**Flin Flon**	**73.99**	**33**	*e*P	**P**	**09 36 47.3**	**+1.1**
	comp=Z,8.2nm,1.0s						
FFC	**Flin Flon**	**73.99**	**33**	*e*P	**P**	**09 36 47.3**	**+1.1**
FFC				pmax	pmax		
	comp=Z,8.0nm,1.0s						
CMB	**Columbia Colle**	**74.14**	**54**	*e*P	**P**	**09 36 48.2**	**+0.8**
	comp=Z,9.9nm,1.0s						
CMB	**Columbia Colle**	**74.14**	**54**	*e*P	**P**	**09 36 48.2**	**+0.8**
CMB				pmax	pmax		
	comp=Z,10.0nm,1.0s						
HRY	**Holter Researc**	**74.24**	**43**	*e*P	**P**	**09 36 49.2**	**+1.3**
HFS	**Hagfors**	**74.25**	**336**	P	**P**	**09 36 47.5**	**0.0**
	comp=Z,2.8nm,0.7s,baz=4.3,slow=5.9,SNR=6.1						
FCC	**Fort Churchill**	**74.29**	**26**	*e*P	**P**	**09 36 48.0**	**+0.2**
	comp=Z,16nm,1.4s						
FCC	**Fort Churchill**	**74.29**	**26**	*e*P	**P**	**09 36 48.0**	**+0.2**
FCC				pmax	pmax		
	comp=Z,16nm,1.4s						
YERR	**Yerington**	**74.34**	**53**	*e*P	**P**	**09 36 50.4**	**+1.6**
	comp=Z,13nm,1.0s						
NB2	**NORSAR Subarra**	**74.35**	**337**	P	**P**	**09 36 47.8**	**-0.4**
	comp=Z,6.7nm,0.8s,baz=38,slow=5.9						
NOA	**NORSAR Array B**	**74.35**	**337**	P	**P**	**09 36 48.2**	**-0.1**
	comp=Z,6.6nm,0.8s,baz=38,slow=5.8,SNR=15						
NOA	**NORSAR Array B**	**74.35**	**337**	P	**P**	**09 36 48.2**	**-0.1**
NOA				pmax	pmax		
	comp=Z,6.0nm,0.8s						
AKASG	**Malin Array Be**	**74.39**	**322**	P	**P**	**09 36 48.2**	**-0.4**
	comp=Z,3.5nm,0.6s,baz=46,slow=6.4,SNR=11						
AKBB	**Malin Array Si**	**74.39**	**322**	*e*P	**P**	**09 36 48.4**	**-0.2**
	comp=Z,6.2nm,0.7s						
AKBB	**Malin Array Si**	**74.39**	**322**	*e*P	**P**	**09 36 48.4**	**-0.2**
AKBB				pmax	pmax		
	comp=Z,6.0nm,0.7s						
KIEV	**Kiev**	**74.41**	**322**	*e*P	**P**	**09 36 47.9**	**-0.8**
	comp=Z,6.0nm,0.7s						
KIEV	**Kiev**	**74.41**	**322**⇓	*e*P	**P**	**09 36 48.6**	**-0.1**
KIEV				pmax	pmax		
	comp=Z,6.0nm,1.0s						
LRM	**Limekiln Ridge**	**74.43**	**44**	*e*P	**P**	**09 36 50.5**	**+1.2**
WAKR	**Walker**	**74.49**	**53**	*e*P	**P**	**09 36 51.8**	**+2.1**
	comp=Z,7.4nm,0.9s						
DLMT	**Dillon**	**74.62**	**45**	*e*P	**P**	**09 36 50.9**	**+0.7**
	comp=Z,9.5nm,0.9s						
HLID	**Hailey**	**74.65**	**47**	*e*P	**P**	**09 36 52.1**	**+1.6**
	comp=Z,5.8nm,1.2s						
BMN	**Battle Mountai**	**74.78**	**51**	*e*P	**P**	**09 36 53.1**	**+1.8**
	comp=Z,10.0nm,1.0s						
BMN	**Battle Mountai**	**74.78**	**51**	*e*P	**P**	**09 36 53.1**	**+1.8**
BMN				pmax	pmax		
	comp=Z,10.0nm,1.0s						
BOZ	**Bozeman (W)**	**75.02**	**44**	*e*P	**P**	**09 36 53.5**	**+0.9**
	comp=Z,7.5nm,0.9s						
BOZ	**Bozeman (W)**	**75.02**	**44**	*e*P	**P**	**09 36 53.5**	**+0.9**
BOZ				pmax	pmax		
	comp=Z,8.0nm,0.9s						
NV01	**Mina Array Sit**	**75.26**	**53**	*e*P	**P**	**09 36 55.3**	**+1.1**
NVAR	**Mina Array Bea**	**75.26**	**53**	P	**P**	**09 36 55.2**	**+1.1**
	comp=Z,5.0nm,0.8s,baz=293,slow=5.8,SNR=11						
NV11	**Mina Array Sit**	**75.35**	**53**	*e*P	**P**	**09 36 56.1**	**+1.5**
	comp=Z,1.6nm,1.6s						
YHB	**Horse Butte**	**75.78**	**44**	*e*P	**P**	**09 36 58.7**	**+1.7**
	comp=Z,9.6nm,1.1s						
YHH	**Holmes Hill**	**75.95**	**44**	*e*P	**P**	**09 36 59.6**	**+1.5**
	comp=Z,13nm,1.7s						
YMR	**Madison River**	**75.96**	**44**	*e*P	**P**	**09 36 59.8**	**+1.7**
	comp=Z,10nm,1.2s						
GCMT	**Greycliff**	**75.99**	**43**	*e*P	**P**	**09 36 59.5**	**+1.4**
SFJD	**Kangerlussuaq**	**76.14**	**5**	LR	LR	10 12 45.4	
	comp=Z,39nm,19.6s,baz=350,slow=38						
YFT	**Old Faithful**	**76.17**	**45**	*e*P	**P**	**09 37 02.4**	**+3.1**
	comp=Z,9.9nm,1.0s						
YPP	**Pitchstone Pla**	**76.30**	**45**	*e*P	**P**	**09 37 02.7**	**+2.6**
	comp=Z,22nm,1.9s						
H17A	**Grant Village**	**76.35**	**44**	*e*P	**P**	**09 37 03.5**	**+3.1**
	comp=Z,11nm,0.9s						
IMW	**Indian Meadow**	**76.45**	**45**	*e*P	**P**	**09 37 03.1**	**+2.1**
	comp=Z,8.1nm,0.9s						
FXWY	**Fox Creek**	**76.56**	**45**	*e*P	**P**	**09 37 03.5**	**+1.9**
	comp=Z,5.5nm,1.0s						
RLMT	**Red Lodge**	**76.63**	**43**	*e*P	**P**	**09 37 03.3**	**+1.5**
	comp=Z,10nm,1.4s						
MOOW	**Moose Ponds**	**76.66**	**45**	*e*P	**P**	**09 37 03.9**	**+1.9**
	comp=Z,7.0nm,1.1s						
TPAW	**Teton Pass**	**76.70**	**45**	*e*P	**P**	**09 37 04.3**	**+1.9**
	comp=Z,5.0nm,0.9s						
SNOW	**Snow King Moun**	**76.83**	**45**	*e*P	**P**	**09 37 05.0**	**+1.9**
	comp=Z,12nm,1.4s						
KIS	**Kishinev**	**76.98**	**319**	*e*P	**P**	**09 37 03.0**	**-0.5**
KIS	**Kishinev**	**76.98**	**319**	*e*PP	PP	09 39 52.0	-4.3
KIS	**Kishinev**	**76.98**	**319**	*e*P	**P**	**09 37 03.0**	**-0.5**
KIS				*e*		09 39 52.0	
KIS				MLR	MLR		
	comp=Z,1μm,16.0s						
KIS				MLR	MLR		
	comp=N,300nm,17.0s						
KIS				MLR	MLR		
	comp=E,900nm,18.0s						
KIS				MLR	MLR		
	comp=Z,800nm,16.0s						
R11A	**Troy Canyon, C**	**77.03**	**52**	*e*P	**P**	**09 37 05.4**	**+1.2**
	comp=Z,16nm,1.3s						
LAO	**LASA Array**	**77.26**	**41**	*e*P	**P**	**09 37 06.5**	**+1.3**
	comp=Z,15nm,1.1s						
TPNV	**Topopah Spring**	**77.44**	**53**	*e*P	**P**	**09 37 07.9**	**+1.4**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=Z,14nm,1.2s						
TPNV	Topopah Spring	77.44	53	eP	P	09 37 07.9	+1.4
TPNV				pmax	pmax		
	comp=Z,14nm,1.2s						
HWUT	Hardware Ranch	77.51	47	eP	P	09 37 08.4	+1.6
	comp=Z,57nm,2.0s						
DUG	Dugway, Tooele	77.63	49	eP	P	09 37 08.8	+1.3
	comp=Z,7.4nm,0.9s						
DUG	Dugway, Tooele	77.63	49	eP	P	09 37 08.8	+1.3
DUG				pmax	pmax		
	comp=Z,7.0nm,0.9s						
TCUT	Toone Canyon	77.90	48	eP	P	09 37 11.2	+2.1
	comp=Z,12nm,1.1s						
PD31	Pinedale Array	77.95	45	eP	P	09 37 10.0	+0.7
PDAR	Pinedale Array	77.95	45	P	P	09 37 09.9	+0.7
	comp=Z,2.4nm,0.8s,baz=264,slow=2.6,SNR=17						
PDAR	Pinedale Array	77.95	45	eP	P	09 37 09.1	-0.2
CTU	Camp Tracy	77.96	48	eP	P	09 37 10.9	+1.6
	comp=Z,34nm,1.4s						
JLU	Jordanelle	78.20	48	eP	P	09 37 13.0	+2.2
	comp=Z,22nm,1.7s						
NLU	North Lily Min	78.23	49	eP	P	09 37 12.2	+1.3
	comp=Z,6.2nm,1.0s						
KWP	Kalwaria Pacla	78.24	324	eP	P	09 37 10.9	+0.4
KWP	Kalwaria Pacla	78.24	324	eP	P	09 37 10.9	+0.4
BUR08	Bucovina Ar. S	78.39	322	eP	P	09 37 11.5	0.0
BUR04	Bucovina Ar. S	78.41	322	eP	P	09 37 11.4	-0.1
BURAR	Bucovina Array	78.41	322	⇑iP	P	09 37 11.4	-0.2
BURAR	Bucovina Array	78.41	322	⇑P	P	09 37 11.4	-0.2
SHPR	Sheep Range	78.41	53	eP	P	09 37 13.6	+1.7
	comp=Z,36nm,1.9s						
TESR	Tescani	78.42	320	⇑iP	P	09 37 09.3	-2.3
VRI	Vrincioaia	78.81	320	⇓iP	P	09 37 14.0	+0.3
VRI	Vrincioaia	78.81	320	⇓P	P	09 37 14.0	+0.3
BR131	Keskin Array S	78.90	311	eP	P	09 37 17.9	+3.4
BRTR	Keskin Array B	78.90	311	P	P	09 37 15.3	+0.8
	comp=Z,2.1nm,0.8s,baz=94,slow=3.7,SNR=14						
MSU	Marysvale	79.06	50	eP	P	09 37 17.2	+1.7
MSU	Marysvale	79.06	50	eP	P	09 37 17.2	+1.7
UZH	Uzhgorod	79.13	324	eP	P	09 37 17.5	+2.1
UZH				i		09 37 26.7	
UZH				i		09 37 37.7	
OJC	Ojcow	79.15	326	eP	P	09 37 15.8	+0.3
OJC	Ojcow	79.15	326	eP	P	09 37 15.4	-0.1
	comp=Z,55nm,1.8s						
OJC	Ojcow	79.15	326	eP	P	09 37 15.8	+0.3
TMUT	Trail Mountain	79.16	49	eP	P	09 37 18.4	+2.2
	comp=Z,6.1nm,1.1s						
P17A	Butcher Ranch,	79.33	48	eP	P	09 37 18.7	+1.8
	comp=Z,13nm,0.9s						
BR231	Keskin MP Arra	79.34	312	eP	P	09 37 15.8	-1.1
MTPU	Mount Pierson	79.34	50	eP	P	09 37 18.1	+0.8
	comp=Z,20nm,1.5s						
TRPA	Tarpa	79.36	323	⇓iP	P	09 37 17.3	+0.7
Q16A	Castle Valley	79.42	49	eP	P	09 37 19.2	+1.8
	comp=Z,54nm,1.9s						
MLR	Muntele Rosu	79.47	320	P	P	09 37 17.1	-0.3
	comp=Z,0.4nm,0.6s,baz=293,slow=12,SNR=2.1						
NIE	Niedzica	79.50	325	eP	P	09 37 11.1	-6.4
NIE	Niedzica	79.50	325	eP	P	09 37 11.1	-6.4
P18A	Preston Nutter	79.53	48	eP	P	09 37 20.4	+2.3
	comp=Z,12nm,0.7s						
KNB	Kanab	79.58	51	eP	P	09 37 20.9	+2.6
	comp=Z,69nm,1.8s						
KNB	Kanab	79.58	51	eP	P	09 37 20.9	+2.6
KNB				pmax	pmax		
	comp=Z,69nm,1.8s						
SRU	San Rafael Swe	79.69	49	eP	P	09 37 20.2	+1.3
	comp=Z,11nm,0.8s						
SRU	San Rafael Swe	79.69	49	eP	P	09 37 20.2	+1.3
SRU				pmax	pmax		
	comp=Z,11nm,0.8s						
K22A	Casper	79.73	44	P	P	09 37 19.9	+0.8
	comp=Z,8.6nm,1.0s						
ULM	Lac du Bonnet	79.79	33	P	P	09 37 18.5	-0.4
	comp=Z,4.0nm,1.0s,baz=338,slow=9.7,SNR=4.1						
RSSD	Black Hills	80.11	42	eP	P	09 37 22.9	+1.8
	comp=Z,28nm,1.9s						
RSSD	Black Hills	80.11	42	eP	P	09 37 22.9	+1.8
RSSD				pmax	pmax		
	comp=Z,28nm,1.9s						
OKC	Ostrava-Krasne	80.17	327	AMS	AMS	10 15 50.0	
	comp=Z,400nm,14.6s						
DRGR		80.21	322	⇓iP	P	09 37 21.6	+0.2
DRGR		80.21	322	⇓P	P	09 37 21.7	+0.3
KSP	Ksiaz	80.23	328	eP	P	09 37 21.9	+0.6
KSP	Ksiaz	80.23	328	eP	P	09 37 21.9	+0.6
ARR	Arges	80.23	320	⇑iP	P	09 37 21.8	+0.3
MORC	Moravsky Berou	80.48	327	⇓iP	P	09 37 22.2	-0.5
MORC	Moravsky Berou	80.48	327	eP	P	09 37 23.3	+0.6
	comp=Z,108nm,1.8s						
MORC	Moravsky Berou	80.48	327	⇓P	P	09 37 22.2	-0.5
DPC	Dobruska-Polom	80.58	328	eP	P	09 37 24.1	+0.8
DPC				ePCP	PcP	09 37 27.0	-3.1
DPC	Dobruska-Polom	80.58	328	eP	P	09 37 24.1	+0.8
KRLC	Kraliky	80.59	327	eP	P	09 37 23.5	+0.2
KRLC				ex	x	09 37 28.2	
KRLC	Kraliky	80.59	327	eP	P	09 37 23.5	+0.2
UPC	Upice	80.59	328	AMS	AMS	10 15 50.0	
	comp=Z,400nm,15.9s						
RAYN	Ar Rayn	80.60	292	eP	P	09 37 24.1	+0.2
	comp=Z,20nm,1.1s						
PSZ	Piszkesteto	80.76	324	eP	P	09 37 24.9	+0.6
	comp=Z,59nm,1.8s						
PSZ	Piszkesteto	80.76	324	eP	P	09 37 25.0	+0.6
PSZ				pmax	pmax		
	comp=Z,59nm,1.8s						
VYHS	Vyhne	80.84	325	eP	P	09 37 25.6	+0.9
VYHS	Vyhne	80.84	325	eP	P	09 37 25.7	+1.0
PV09	Paradox Valley	80.92	48	eP	P	09 37 27.3	+1.7
PV10	Paradox Valley	81.05	48	eP	P	09 37 27.9	+1.6
BRG	Berggiesshubel	81.18	329	eP	P	09 37 26.7	+0.3
	comp=Z,5.7nm,1.1s						
BRG				e		09 37 29.6	
	comp=Z,8.0nm,1.2s						
BRG	Berggiesshubel	81.18	329	eP	P	09 37 26.7	+0.3
BRG				pmax	pmax		
	comp=Z,6.0nm,1.1s						
BRG				pmax	pmax		
	comp=Z,8.0nm,1.2s						
PVCC	Panska Ves	81.19	329	AMS	AMS	10 16 40.0	
	comp=Z,300nm,15.5s						
PV05	Paradox Valley	81.21	49	eP	P	09 37 28.5	+1.4
N23A	Red Feather La	81.22	45	eP	P	09 37 28.8	+1.6
	comp=Z,10nm,1.0s						
CLL	Collm	81.23	330	eP	P	09 37 26.0	-0.7
	comp=Z,11nm,1.1s						
CLL				i sP	sP	09 37 37.5	-0.1
CLL	Collm	81.23	330	eP	P	09 37 29.6	+3.0
	comp=Z,9.0nm,1.0s						
CLL	Collm	81.23	330	eP	P	09 37 29.7	+3.0
CLL				pmax	pmax		
	comp=Z,9.0nm,1.0s						
VRAC	Vranov	81.24	327	⇓iP	P	09 37 27.5	+0.7
VRAC	Vranov	81.24	327	⇓P	P	09 37 27.5	+0.7
WUAZ	Wupatki	81.43	52	eP	P	09 37 30.0	+1.7
	comp=Z,7.2nm,0.9s						
PV01	Paradox Valley	81.49	48	eP	P	09 37 29.9	+1.3
GOPC	GO Pecny, Ondr	81.56	328	eP	P	09 37 29.0	+0.5
GOPC				ePCP	PcP	09 37 32.6	-1.8
GOPC				AMS	AMS	10 16 20.0	
	comp=Z,400nm,19.0s						
GOPC	GO Pecny, Ondr	81.56	328	eP	P	09 37 29.0	+0.5
GOPC				MLR	MLR		
	comp=Z,400nm,19.0s						
PRU	Pruhonice	81.61	328	eP	P	09 37 29.1	+0.4
PRU				ePCP	PcP	09 37 32.4	-2.1
PRU				AMS	AMS	10 16 40.0	
	comp=Z,400nm,15.3s						
PRU	Pruhonice	81.61	328	eP	P	09 37 29.1	+0.4
PRU				MLR	MLR		
	comp=Z,400nm,15.3s						
TREC	Trest	81.73	328	AMS	AMS	10 17 30.0	
	comp=Z,300nm,16.7s						
SMCO	Snowmass	81.75	47	eP	P	09 37 31.7	+1.4
	comp=Z,4.7nm,0.8s						
MVCO	Mesa Verde	82.13	49	eP	P	09 37 33.3	+1.3
	comp=Z,38nm,1.6s						
ISCO	Idaho Springs	82.13	46	eP	P	09 37 33.5	+1.4
	comp=Z,4.1nm,0.9s						
ISCO	Idaho Springs	82.13	46	eP	P	09 37 33.5	+1.4
ISCO				pmax	pmax		
	comp=Z,4.0nm,0.9s						
NKC	Novy Kostel	82.28	330	AMS	AMS	10 17 20.0	
	comp=Z,400nm,15.1s						
KHC	Kasperske Hory	82.67	328	eP	P	09 37 34.4	+0.1
KHC				ex	x	09 37 37.1	
KHC				AMS	AMS	10 17 10.0	
	comp=Z,400nm,15.8s						
KHC	Kasperske Hory	82.67	328	eP	P	09 37 34.7	+0.4
	comp=Z,2.2nm,0.9s						
KHC	Kasperske Hory	82.67	328	eP	P	09 37 34.7	+0.4
KHC				pmax	pmax		
	comp=Z,2.0nm,0.9s						
S22A	4UR Ranch, Cre	82.78	48	eP	P	09 37 37.3	+1.8
	comp=Z,7.1nm,1.0s						
GERES	GERESS Array B	82.84	328	P	P	09 37 34.8	-0.5
	comp=Z,1.4nm,0.6s,baz=43,slow=6.0,SNR=7.3						
GEA0	GERESS Array S	82.84	328	eP	P	09 37 34.9	-0.5
VTS	Vitosha	82.89	319	⇑iP	P	09 37 35.5	-0.3
VTS	Vitosha	82.89	319	⇑P	P	09 37 35.5	-0.3
SDCO	Great Sand Dun	83.57	47	eP	P	09 37 40.5	+0.9
	comp=Z,4.5nm,1.0s						
ECSD	EROS Data Cent	84.20	38	eP	P	09 37 42.6	+0.3
	comp=Z,4.7nm,0.9s						
PMOR	Pomariorio Ree	84.22	113	eT	T	11 10 04.6	
	comp=Z,36nm,0.2s						
MHTCO	State Highway	84.46	47	eP	P	09 37 45.8	+1.8
	comp=Z,9.7nm,1.1s						
RPZ	Rata Peaks	84.59	159	LR	LR	10 11 20.0	
	comp=Z,139nm,19.4s,baz=318,slow=33						
T25A	Trinidad	84.62	47	eP	P	09 37 44.8	0.0
	comp=Z,13nm,0.9s						
PPT2	Papeete2	84.68	116	eLR	LR	10 03 54.5	
	comp=Z,264nm,21.8s,baz=311						
PPT2	Papeete2	84.68	116	eT	T	11 10 39.5	
	comp=Z,5.4nm,0.3s						
PAE	Paea	84.72	116	eT	T	11 10 42.0	
	comp=Z,1.4nm,0.3s						
LAZ	Ladron	84.80	51	eP	P	09 37 49.4	+3.6
TIAR	Tiarei	84.82	116	eT	T	11 10 49.6	
	comp=Z,6.9nm,0.3s						
ANMO	Albuquerque	84.86	50	eP	P	09 37 47.5	+1.5
	comp=Z,6.9nm,1.1s						
ANMO	Albuquerque	84.86	50	ceP	P	09 37 47.2	+1.2
ANMO				pmax	pmax		
	comp=Z,11nm,1.7s						
BNM	Barren Site	85.29	50	eP	P	09 37 49.5	+1.3
BFO	Black Forest	85.44	331	eP	P	09 37 48.3	-0.1
	comp=Z,44nm,2.0s						
BFO	Black Forest	85.44	331	i P	P	09 37 48.8	+0.3
ECH	Echery	85.99	331	eP	P	09 37 51.1	-0.1
	comp=Z,6.5nm,0.9s						
ECH	Echery	85.99	331	eP	P	09 37 51.1	-0.1
ECH				pmax	pmax		
	comp=Z,7.0nm,0.9s						
SCIA	State Center	87.23	37	eP	P	09 37 58.4	+1.1
	comp=Z,66nm,1.9s						
KSU1	Kansas State U	87.59	41	eP	P	09 37 59.8	+0.7
	comp=Z,11nm,0.9s						
TUL1	Leonard	90.38	43	eP	P	09 38 13.0	+0.7
	comp=Z,6.5nm,0.8s						
TX31	Lajitas Ar. Si	90.39	52	eP	P	09 38 13.4	+0.8
TXAR	Lajitas Array	90.39	52	P	P	09 38 13.4	+0.8
	comp=Z,2.1nm,0.7s,baz=303,slow=3.4,SNR=22						
MIAR	Mount Ida	92.60	42	eP	P	09 38 23.3	+0.7
	comp=Z,6.6nm,0.9s						
MIAR	Mount Ida	92.60	42	eP	P	09 38 23.3	+0.7
MIAR				pmax	pmax		
	comp=Z,7.0nm,0.9s						
WHAR	Wooly Hollow	92.73	41	eP	P	09 38 23.5	+0.3
	comp=Z,7.0nm,0.8s						
RKT	Rikitea	98.81	112	eLR	LR	10 11 10.5	
	comp=Z,303nm,30.0s						
TORD	Torodi Ar. Bea	117.39	315	PKP	PKPdf	09 43 56.5	-0.5
	comp=Z,0.4nm,0.7s,baz=12,slow=2.0,SNR=3.0						
KOWA	Kowa	119.37	321	PKP	PKPdf	09 44 00.5	-0.3
	comp=Z,1.9nm,0.7s,baz=129,slow=11,SNR=2.6						
QSPA	South Pole Qui	126.53	180	PKP	PKPdf	09 44 12.0	-1.0
	comp=Z,1.8nm,0.7s,baz=252,slow=1.2,SNR=3.4						
LPAZ	La Paz	146.95	60	PKPbc	PKPbc	09 44 54.9	+0.2
	comp=Z,10nm,0.8s,baz=336,slow=2.9,SNR=37						

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*NIED **14** 09:26:00, 36°.80N×141°.30E, h5km, Mw4.7 Best double couple: M₀1.21000×10¹⁶ NP1:φs5.00000°, δ33.00000°, λ-120.00000°. NP2:φs220.00000°, δ62.00000°, λ-71.00000°.*

*ISCJB **14** 09:26:40.0±2.2, 36°.73N±0°.03×141°.30E±0°.06, h11km±13km, mb4.4/39, Error ellipse: s-maj=8.2km s-min=5.4km az=12.9*

*IDC **14** 09:26:39.7±0.5, 36°.73N×141°.24E, h0km, mb4.3/25, mb1 4.5/30, mb1mx4.3/71, mbtmp4.3/30, ML3.6/2, Error ellipse: s-maj=15.5km s-min=11.9km az=92.0*

*JMA **14** 09:26:41.2±0.1, 36°.76N×141°.31E, h21km±2km, M4.9*

JMA Felt II J1.

*NEIC **14** 09:26:44.4±2.9, 36°.71N×141°.21E, h30km±20km, mb4.7/10, Error ellipse: s-maj=8.7km s-min=7.0km az=110.0*

ISC 14 09:26:41.2±1.8**, 36°.76N**±0°.05×**141°.27E**±0°.07**, h10**km±10km**, n60, σ0s.93**/59**, mb4.4**/39**, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	Iwakimizuishiy	0.51	313	P	Pg	09 26 51.6	+0.4
JHO	Hitachi	0.58	256	P	Pg	09 26 53.1	+0.6
JHO				eS	Sb	09 27 01.6	-0.3
JFK	Kawauchi	0.69	333	P	Pg	09 26 54.5	0.0
JFK				S	Sg	09 27 04.0	+0.5
JYT	Yasato	1.01	239	P	Pg	09 27 00.2	-0.5
JMM	Marumori	1.17	341	P	Pb	09 27 02.2	-1.4
JMM				S	Sb	09 27 17.7	-1.2
MJAR	Matsushiro Arr	2.47	266	Pn	Pn	09 27 21.6	0.0
	16nm,0.3s,baz=101,slow=14,SNR=2.0						
MJAR				Sn	Sb	09 27 55.4	-0.8
	20nm,0.3s,baz=82,slow=15,SNR=6.7						
MAT	Matsushiro	2.47	266	P	Pn	09 27 23.8	+2.2
MAT				S	Sb	09 27 56.2	-0.1
JHJ	Hachijo jima 2	3.83	199	Pn	Pn	09 27 40.0	-0.2
	10nm,0.3s,baz=73,slow=19,SNR=1.6						
JHJ				Sn	Sn	09 28 26.1	+0.7
	49nm,0.3s,baz=59,slow=19,SNR=2.0						
JNU	Nakatsue	9.27	250	Pn	Pn	09 28 55.3	+0.3
	baz=312,slow=16,SNR=1.2						
JNU	Nakatsue	9.27	250	Pn	Pn	09 28 55.3	+0.3
JNU				eSn	Sn	09 30 26.9	-12
USRK	Ussuriysk Ar.	10.25	319	Pn	Pn	09 29 09.9	+1.5
	baz=117,slow=12,SNR=1.6						
KSRS	Korea Array	10.68	278	Pn	Pn	09 29 15.4	+1.1
	baz=93,slow=14,SNR=1.9						
KSAR	Wonju Array Be	10.71	278	Pn	Pn	09 29 15.4	+0.6
SONM	Songino Array	27.85	304	P	P	09 32 30.5	-0.5
	1.5nm,0.5s,baz=93,slow=11,SNR=4.5						
H11N2	WAKE ISLAND Hy	28.11	120	T	T	10 01 51.3	
	baz=313,slow=75						
H11N1	WAKE ISLAND Hy	28.11	120	T	T	10 01 56.6	
	baz=313,slow=75						
H11N3	WAKE ISLAND Hy	28.12	120	T	T	10 01 57.4	
	baz=313,slow=75						
H11S1	WAKE ISLAND Hy	28.81	122	T	T	10 02 48.5	
	baz=315,slow=76						
H11S3	WAKE ISLAND Hy	28.81	122	T	T	10 02 49.2	
	baz=315,slow=76						
H11S2	WAKE ISLAND Hy	28.82	122	T	T	10 02 47.8	
	baz=315,slow=76						
SIJI	Sorong	38.57	196	P	P	09 34 04.7	+0.3
	12nm,0.6s,baz=338,slow=13,SNR=6.7						
CMAR	Chiang Mai Arr	41.31	255	P	P	09 34 27.2	0.0
	0.9nm,0.6s,baz=45,slow=7.6,SNR=5.0						
ZALV	Zalesovo Beam	42.02	313	P	P	09 34 32.0	-0.6
	6.2nm,0.7s,baz=89,slow=5.9,SNR=4.2						
MKAR	Makanchi Array	44.17	302	P	P	09 34 50.0	-0.2
	4.0nm,0.7s,baz=81,slow=10,SNR=11						
KSM	Kuching	45.28	226	eP	P	09 34 59.5	+0.3
	17nm,0.8s						
KURK	Kurchatov	46.01	308	P	P	09 35 05.6	+0.9
KURBB	Kurchatov Arra	46.08	308	P	P	09 35 05.6	+0.4
	2.5nm,0.4s,baz=82,slow=8.0,SNR=5.0						
PPLA	Purkeypile	47.46	35	eP	P	09 35 16.1	+0.1
	13nm,1.2s						
TRF	Thorofare Moun	48.33	34	eP	P	09 35 31.8	+8.9
	8.7nm,0.7s						
TRF				ePP	PP	09 37 14.4	-0.7
IPM	Ipoh	48.90	239	eP	P	09 35 26.9	-0.7
	8.9nm,0.9s						
ILAR	Eielson Array	49.79	32	P	P	09 35 34.5	+0.8
	3.4nm,0.9s,baz=269,slow=6.8,SNR=4.5						
FITZ	Fitzroy Crossi	56.52	198	P	P	09 36 21.8	-1.9
	2.4nm,0.9s,baz=107,slow=12,SNR=1.8						
WRA	Warramunga Arr	56.77	188	P	P	09 36 24.9	-0.7
	16nm,0.9s,baz=5.0,slow=7.2,SNR=10						
WRAK	Wrangell Islan	58.43	41	eP	P	09 36 31.3	-5.6
	15nm,0.6s						
ASAR	Alice Springs	60.50	188	P	P	09 36 51.6	+0.1
	9.9nm,0.9s,baz=8.5,slow=5.7,SNR=13						
GEYT	Alibeck	63.87	299	P	P	09 37 13.1	-1.1
	2.2nm,0.8s,baz=44,slow=9.9,SNR=2.6						
YKA	Yellowknife Ar	64.11	30	P	P	09 37 15.2	0.0
	1.2nm,0.9s,baz=304,slow=6.7,SNR=3.1						
ARCES	ARCESS Array B	64.22	339	P	P	09 37 14.9	-1.0
	1.4nm,0.5s,baz=51,slow=10,SNR=5.0						
STKA	Stephens Creek	68.28	180	P	P	09 37 42.0	-0.2
	6.2nm,0.8s,baz=358,slow=7.6,SNR=5.8						
FINES	FINESS Array B	69.01	332	P	P	09 37 46.9	+0.3
	2.7nm,0.6s,baz=45,slow=6.2,SNR=4.1						
KBZ	Khabaz	71.00	311	P	P	09 37 59.4	+0.3
	6.4nm,1.1s,baz=38,slow=5.2,SNR=4.4						
HFS	Hagfors	74.29	336	P	P	09 38 19.0	+0.5
	1.4nm,0.5s,baz=90,slow=12,SNR=4.1						
FCC	Fort Churchill	74.30	26	eP	P	09 38 18.4	-0.1
	5.3nm,1.3s						
NOA	NORSAR Array B	74.40	337	P	P	09 38 19.1	0.0
	3.6nm,0.9s,baz=40,slow=5.8,SNR=3.9						
LRM	Limekiln Ridge	74.43	44	eP	P	09 38 21.2	+1.3
	7.1nm,0.8s						
AKASG	Malin Array Be	74.45	322	P	P	09 38 19.1	-0.4
	1.5nm,0.4s,baz=46,slow=6.1,SNR=6.2						
BOZ	Bozeman (W)	75.02	44	eP	P	09 38 23.8	+0.7
	4.0nm,0.9s						
NVAR	Mina Array Bea	75.25	53	P	P	09 38 25.3	+0.6
	2.5nm,0.8s,baz=286,slow=4.8,SNR=4.7						
H17A	Grant Village	76.35	45	eP	P	09 38 33.9	+3.0
	7.4nm,1.1s						
PDAR	Pinedale Array	77.94	45	P	P	09 38 40.9	+1.0
	0.5nm,0.5s,baz=307,slow=5.4,SNR=3.9						
BRTR	Keskin Array B	78.95	312	P	P	09 38 46.0	+0.6
	3.9nm,1.1s,baz=103,slow=2.7,SNR=5.6						
RAYN	Ar Rayn	80.65	292	eP	P	09 38 54.5	-0.3
	16nm,1.1s						
CLL	Collm	81.28	330	eP	P	09 39 00.0	+2.5
	comp=Z,13nm,1.4s						
GERES	GERESS Array B	82.89	328	P	P	09 39 06.0	-0.2
	comp=Z,0.7nm,0.5s,baz=39,slow=6.3,SNR=3.6						
EKA	Eskdalemuir Ar	83.36	340	P	P	09 39 09.0	+0.7
	comp=Z,1.9nm,0.8s,baz=23,slow=6.9,SNR=3.5						
SDCO	Great Sand Dun	83.56	47	eP	P	09 39 11.3	+1.2
	comp=Z,2.2nm,1.0s						
ANMO	Albuquerque	84.86	50	eP	P	09 39 16.4	-0.2
	comp=Z,4.7nm,1.1s						
TXAR	Lajitas Array	90.38	52	P	P	09 39 43.9	+0.7
	comp=Z,0.9nm,0.7s,baz=292,slow=3.7,SNR=5.6						
OLIL	Olney	92.16	36	eP	P	09 39 50.5	-0.7
	comp=Z,15nm,0.8s						
LPAZ	La Paz	146.93	60	PKPbc	PKPbc	09 46 24.6	-0.7
	comp=Z,5.5nm,0.8s,baz=12,slow=3.2,SNR=5.2						

IDC 14 09:28:21.8±1.9**, 0°.09N**×**125°.91E, h0**km**, mb3.3**/3**, mb1 3.5**/3**, mb1mx3.2**/57**, mbtmp3.3**/3**, Error ellipse: s-maj=189.3km s-min=25.9km az=65.0, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	21.55	158	P	P	09 33 12.1	-0.8
	1.3nm,0.9s,baz=336,slow=11,SNR=3.1						
ASAR	Alice Springs	24.86	162	P	P	09 33 47.0	+0.8
	0.5nm,0.7s,baz=344,slow=7.7,SNR=4.1						
MKAR	Makanchi Array	60.10	327	P	P	09 38 30.9	-0.1
	0.2nm,0.6s,baz=126,slow=7.6,SNR=2.7						

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*ISCJB **14** 09:30:40.8±0.5, 18°.1S±0°.1×179°.4W±0°.1, h622km, mb3.7/13, Error ellipse: s-maj=19.0km s-min=11.6km az=138.9*

*IDC **14** 09:30:42.8±1.7, 18°.12S×179°.34W, h634km±22km, mb3.2/13, mb1 3.4/14, mb1mx3.1/50, mbtmp4.2/14, Error ellipse: s-maj=17.4km s-min=11.3km az=141.0*

ISC 14 09:30:41.9±0.6**, 18°.1S**±0°.1×**179°.3W**±0°.1**, h622**km**, n15, σ1s.01**/17**, mb3.8**/13**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	8.37	61	P	P	09 32 45.4	-0.3
	2.8nm,0.3s,baz=125,slow=7.4,SNR=6.5						
RPZ	Rata Peaks	26.80	196	P	P	09 35 33.8	-0.9
	4.9nm,0.6s,baz=6.3,slow=18,SNR=4.8						
STKA	Stephens Creek	37.77	241	P	P	09 37 08.4	+1.3
	5.5nm,0.5s,baz=86,slow=10.0,SNR=16						
WRA	Warramunga Arr	43.73	260	P	P	09 37 54.0	-0.4
	1.6nm,0.4s,baz=94,slow=7.9,SNR=18						
ASAR	Alice Springs	43.89	254	P	P	09 37 56.0	+0.4
	20nm,0.6s,baz=89,slow=8.2,SNR=136						
ASAR				PcP	PcP	09 39 27.0	-0.6
	0.4nm,0.6s,baz=101,slow=3.0,SNR=2.5						
ASAR				S	S	09 43 42.1	-1.5
	0.5nm,0.7s,baz=89,slow=15,SNR=3.5						
VNDA	Vanda	60.19	185	P	P	09 39 51.8	+0.9
	1.1nm,0.7s,baz=17,slow=6.2,SNR=5.3						
ASAJ	Asahikawa	71.02	332	P	P	09 41 00.2	+1.7
	4.6nm,1.0s,baz=222,slow=7.4,SNR=6.4						
QSPA	South Pole Qui	71.96	180	P	P	09 41 04.2	+0.3
	2.3nm,0.7s,baz=121,slow=2.0,SNR=5.5						
YBH	Yreka Blue Hor	79.23	40	P	P	09 41 45.0	+0.8
	0.7nm,0.5s,baz=230,slow=12,SNR=3.9						
NVAR	Mina Array Bea	80.17	44	P	P	09 41 48.9	-0.5
	0.2nm,0.3s,baz=225,slow=8.4,SNR=2.3						
SEY	Seymchan	83.76	347	P	P	09 42 06.1	-0.5
	0.6nm,0.3s,baz=204,slow=8.7,SNR=6.1						
ILAR	Eielson Array	86.27	13	P	P	09 42 17.5	-1.2
	0.5nm,0.8s,baz=237,slow=5.0,SNR=6.3						
TXAR	Lajitas Array	86.84	58	P	P	09 42 23.1	+0.7
	0.5nm,0.9s,baz=296,slow=4.0,SNR=3.7						
SNAA	Sanae	90.43	179	P	P	09 42 37.4	-0.8
	0.6nm,0.5s,baz=215,slow=16,SNR=7.1						
GERES	GERESS Array B	147.55	344	PKPbc	PKPbc	09 49 16.5	-1.1
	0.4nm,0.5s,baz=43,slow=4.4,SNR=2.8						

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*ISCJB **14** 09:30:47.9±0.8, 18°.1S±0°.2×179°.4W±0°.2, h622km, mb3.7/9, Error ellipse: s-maj=30.5km s-min=17.2km az=139.9*

*IDC **14** 09:30:51.9±5.1, 18°.17S×179°.35W, h659km±63km, mb3.2/9, mb1 3.3/9, mb1mx3.0/49, mbtmp4.2/9, Error ellipse: s-maj=28.7km s-min=23.7km az=100.0*

ISC 14 09:30:48.9±0.9**, 18°.1S**±0°.2×**179°.3W**±0°.2**, h622**km**, n12, σ0s.96**/12**, mb3.7**/9**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	37.81	241	P	P	09 37 15.2	+0.8
	2.8nm,0.5s,baz=113,slow=8.9,SNR=6.0						
WRA	Warramunga Arr	43.78	260	P	P	09 38 01.6	-0.2
	1.1nm,0.4s,baz=92,slow=7.9,SNR=7.6						
ASAR	Alice Springs	43.94	254	P	P	09 38 03.0	+0.1
	10.0nm,0.6s,baz=88,slow=8.3,SNR=17						
ASAJ	Asahikawa	71.05	332	P	P	09 41 06.6	+1.0
	1.1nm,0.4s,baz=332,slow=33,SNR=4.5						
QSPA	South Pole Qui	71.96	180	P	P	09 41 10.3	-0.5
	1.0nm,0.4s,baz=152,slow=3.3,SNR=5.7						
YBH	Yreka Blue Hor	79.20	39	P	P	09 41 52.0	+1.0
	1.9nm,0.9s,baz=217,slow=5.1,SNR=4.1						
SEY	Seymchan	83.77	347	P	P	09 42 13.2	-0.5
	1.2nm,0.5s,baz=8.3,slow=21,SNR=6.4						
ILAR	Eielson Array	86.26	13	P	P	09 42 24.2	-1.4
	0.5nm,0.7s,baz=236,slow=5.0,SNR=5.5						
TXAR	Lajitas Array	86.80	58	P	P	09 42 30.1	+1.0
	1.0nm,0.9s,baz=227,slow=5.0,SNR=4.7						
ARCES	ARCESS Array B	126.35	349	PKP	PKPdf	09 48 40.4	-1.2
	2.1nm,0.8s,baz=38,slow=3.4,SNR=4.2						
MMAI	Mount Meron Ar	145.54	302	PKPbc	PKPbc	09 49 18.9	-0.8
	0.3nm,0.3s,baz=92,slow=4.3,SNR=2.5						
GERES	GERESS Array B	147.57	344	PKPbc	PKPbc	09 49 24.3	-0.3
	0.5nm,0.5s,baz=24,slow=3.8,SNR=2.2						

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*IDC **14** 09:34:01.6±1.1, 3°.17N×92°.89E, h0km, mb4.0/10, mb1 4.1/13, mb1mx3.8/71, mbtmp4.0/13, ML3.7/3, Error ellipse: s-maj=35.6km s-min=17.5km az=42.0*

*NEIC **14** 09:34:04.2±0.4, 3°.32N×92°.83E, h10km, mb4.1/6, Error ellipse: s-maj=9.3km s-min=6.0km az=46.0*

*ISCJB **14** 09:34:05.3±0.5, 3°.28N±0°.06×92°.86E±0°.05, h33km, mb4.3/18, Error ellipse: s-maj=8.6km s-min=6.4km az=30.9*

ISC 14 09:34:07.3±0.7**, 3°.24N**±0°.08×**92°.93E**±0°.06**, h35**km**, n39,**

σ1ᵍ64/43, mb4.4/18, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LHMI	**Lhok Sumawe**	**4.47**	**64**	*e*Pn	**Pn**	**09 35 13.6**	**+1.0**
LHMI				*e*Sn	**Sn**	**09 36 05.6**	**+2.2**
GSI	**Gunungsitoli**	**5.03**	**112**	*e*Pn	**Pn**	**09 35 22.2**	**+1.9**
PSI	**Prapat**	**6.01**	**94**	Pn	**Pn**	**09 35 33.4**	**-0.4**
	1.6nm,0.3s,baz=309,slow=11,SNR=5.9						
PSI				Sn	**Sn**	**09 36 36.7**	**-4.8**
	2.7nm,0.3s,baz=297,slow=7.2,SNR=4.9						
PSI	**Prapat**	**6.01**	**94**	*e*Pn	**Pn**	**09 35 34.1**	**+0.3**
PSI				Sn	**Sn**	**09 36 36.7**	**-4.8**
MNAI	**Manna**	**12.55**	**127**	*e*Pn	**Pn**	**09 37 05.8**	**+2.4**
PALK	**Pallekele**	**12.81**	**289**	Pn	**Pn**	**09 37 05.4**	**-1.7**
	0.6nm,0.3s,baz=113,slow=11,SNR=4.2						
PALK				Sn	Sn	09 39 16.4	-12
	2.6nm,0.3s,baz=116,slow=7.8,SNR=6.2						
PALK	**Pallekele**	**12.81**	**289**	*e*Pn	**Pn**	**09 37 04.7**	**-2.4**
PALK				*e*Sn	Sn	09 39 17.3	-11
COCO	**West Island**	**15.81**	**166**	*e*Pn	**Pn**	**09 37 49.0**	**+1.6**
	676nm,1.8s						
CM01	**Chiang Mai Arr**	**16.20**	**21**	*e*Pn	**Pn**	**09 37 52.1**	**-0.4**
CM31	**Chiang Mai Arr**	**16.23**	**21**	*e*Pn	**Pn**	**09 37 51.4**	**-1.4**
CMAR	**Chiang Mai Arr**	**16.23**	**21**	Pn	**Pn**	**09 37 51.5**	**-1.3**
	0.1nm,0.3s,baz=217,slow=14,SNR=12						
CHTO	**Chiang Mai**	**16.56**	**20**	*e*Pn	**Pn**	**09 37 54.8**	**-2.2**
	3.1nm,0.8s						
SBUM	**Sibu**	**19.29**	**92**	*e*P	**Pn**	**09 38 30.9**	**+0.3**
	4.1nm,0.8s						
KMI	**Kunming**	**23.72**	**23**	P	**P**	**09 39 17.4**	**+0.9**
KMI				pmax	pmax		
	comp=Z,17nm,0.5s						
LSA	**Lhasa**	**26.37**	**357**	*e*P	**P**	**09 39 42.6**	**+1.7**
	comp=Z,7.1nm,0.6s						
LZH	**Lanzhou**	**34.21**	**16**	*e*P	**P**	**09 40 52.9**	**+3.1**
LZH				pP	pP	09 40 57.8	-2.1
LZH				sP	sP	09 40 59.6	-4.6
LZH				*e*PP	**PP**	**09 42 08.6**	**+0.9**
LZH				pmax	pmax		
	comp=Z,16nm,0.9s						
LZH				pmax	pmax		
	comp=Z,320nm,5.0s						
WMQ	**Urumqi**	**40.68**	**354**	*e*P	**P**	**09 41 44.8**	**+0.4**
HHC	**Hu-ho-hao-te**	**41.04**	**22**	*e*P	**P**	**09 41 45.8**	**-1.7**
HHC				pmax	pmax		
	comp=Z,10.0nm,1.1s						
HHC				pmax	pmax		
	comp=Z,10.0nm,6.6s						
MK01	**Makanchi Array**	**44.34**	**350**	*e*P	**P**	**09 42 14.0**	**0.0**
MK31	**Makanchi Array**	**44.36**	**350**	*e*P	**P**	**09 42 14.1**	**-0.1**
MKAR	**Makanchi Array**	**44.36**	**350**	P	**P**	**09 42 14.7**	**+0.4**
	comp=Z,3.6nm,0.7s,baz=167,slow=8.8,SNR=30						
MKAR	**Makanchi Array**	**44.36**	**350**	*e*P	**P**	**09 42 14.2**	**0.0**
	comp=Z,22nm,0.6s						
KKAR	**Karatay Array**	**44.42**	**336**	*e*P	**P**	**09 42 15.2**	**+0.5**
SONM	**Songino Array**	**45.92**	**13**	P	**P**	**09 42 26.5**	**-0.3**
	comp=Z,1.1nm,0.6s,baz=195,slow=8.8,SNR=1.7						
WRA	**Warramunga Arr**	**46.73**	**121**	P	**P**	**09 42 32.5**	**-0.9**
	comp=Z,1.4nm,0.9s,baz=297,slow=9.0,SNR=5.3						
WRAB	**Tennant Creek**	**46.74**	**121**	*e*P	**P**	**09 42 35.3**	**+1.9**
	comp=Z,4.0nm,0.8s						
GEYT	**Alibeck**	**46.95**	**322**	P	**P**	**09 42 33.5**	**-1.4**
	comp=Z,3.1nm,0.6s,baz=160,slow=9.3,SNR=6.1						
ASAR	**Alice Springs**	**48.03**	**126**	P	**P**	**09 42 42.9**	**-0.6**
	comp=Z,0.6nm,0.9s,baz=289,slow=7.7,SNR=4.1						
KURBB	**Kurchatov Arra**	**48.76**	**348**	P	**P**	**09 42 49.2**	**+0.6**
	comp=Z,2.1nm,0.5s,baz=170,slow=7.1,SNR=14						
KURK	**Kurchatov**	**48.83**	**348**	P	**P**	**09 42 49.2**	**+0.1**
ZALV	**Zalesovo Beam**	**50.98**	**354**	P	**P**	**09 43 04.8**	**-0.7**
	comp=Z,2.3nm,0.5s,baz=190,slow=10,SNR=8.2						
ZALV	**Zalesovo Beam**	**50.98**	**354**	*e*P	**P**	**09 43 05.2**	**-0.2**
BVAR	**Borovoye Array**	**53.01**	**343**	P	**P**	**09 43 20.6**	**0.0**
	comp=Z,1.3nm,0.7s,baz=150,slow=6.3,SNR=6.0						
ABKAR	**Akbulak array**	**53.76**	**334**	*e*P	**P**	**09 43 25.8**	**-0.3**
	comp=Z,0.4nm,0.5s						
BRTR	**Keskin Array B**	**64.60**	**313**	P	**P**	**09 44 41.5**	**-0.1**
	comp=Z,0.5nm,0.7s,baz=141,slow=7.1,SNR=3.4						
ILGA	**Ilgaz**	**64.96**	**314**	*e*P	**P**	**09 44 43.3**	**-0.7**
	comp=Z,14nm,0.5s						
TIXI	**Tiksi**	**71.99**	**11**	*e*P	**P**	**09 45 26.8**	**-0.1**
	comp=Z,4.1nm,0.7s						
GEA0	**GERESS Array S**	**80.48**	**319**	*e*P	**P**	**09 46 15.4**	**-0.4**
GERES	**GERESS Array B**	**80.48**	**319**	P	**P**	**09 46 16.4**	**+0.5**
	comp=Z,1.2nm,0.8s,baz=110,slow=3.1,SNR=6.0						

IDC 14 09:37:08.3±1.1, 2.6°0N×128.7°7E, h0km, mb3.7/7, mb1 3.8/8, mb1mx3.5/62, mbtmp3.7/8, ML3.8/1, MS3.5/2, Ms1 3.5/2, ms1mx2.8/49, Error ellipse: s-maj=94.3km s-min=16.7km az=67.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**4.25**	**144**	Pn	Pn	09 38 14.0	-0.4
	4.9nm,0.3s,baz=284,slow=24,SNR=8.9						
SIJI				Sn	Sn	09 38 59.8	-5.0
	2.1nm,0.3s,baz=210,slow=20,SNR=3.8						
WRA	**Warramunga Arr**	**23.06**	**167**	P	P	09 42 14.9	-0.6
	0.7nm,0.7s,baz=344,slow=10,SNR=8.1						
ASAR	**Alice Springs**	**26.58**	**169**	P	P	09 42 48.4	0.0
	0.8nm,0.9s,baz=352,slow=7.9,SNR=7.5						
PSI	**Prapat**	**29.81**	**271**	LR	LR	09 56 28.9	
	comp=Z,181nm,21.6s,baz=46,slow=39						
SONM	**Songino Array**	**49.03**	**340**	P	P	09 45 55.8	-1.4
	0.4nm,0.5s,baz=145,slow=5.3,SNR=3.1						
PETK	**Petropavlovsk-**	**55.73**	**21**	LR	LR	10 09 21.4	
	comp=Z,390nm,20.8s,baz=255,slow=35						
MKAR	**Makanchi Array**	**59.65**	**325**	P	P	09 47 15.4	+1.0
	0.6nm,0.5s,baz=120,slow=8.2,SNR=8.5						
ZALV	**Zalesovo Beam**	**62.52**	**332**	P	P	09 47 31.9	-1.8
	0.5nm,0.5s,baz=136,slow=6.4,SNR=2.5						
KURBB	**Kurchatov Arra**	**63.79**	**327**	P	P	09 47 43.1	+0.9
	1.0nm,0.2s,baz=131,slow=5.8,SNR=9.0						
BVAR	**Borovoye Array**	**69.38**	**327**	P	P	09 48 19.0	+1.1
	0.4nm,0.4s,baz=120,slow=7.0,SNR=4.1						

IDC 14 09:45:07.8±1.8, 2.5°3N×90.°32E, h0km, mb3.7/5, mb1 3.7/7, mb1mx3.3/73, mbtmp3.6/7, ML3.6/2, Error ellipse: s-maj=51.9km s-min=26.2km az=50.0

ISCJB 14 09:45:10.3±1.4, 2.°5N±0.°2×90.°3E±0.°1, h33km, mb3.8/5, Error ellipse: s-maj=26.6km s-min=18.3km az=19.0

ISC 14 09:45:12.8±1.5, 2.°5N±0.°2×90.°3E±0.°2, h35km, n11, σ0ᵍ99/8, mb3.9/5, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**10.68**	**297**	Pn	**Pn**	**09 47 43.4**	**0.0**
	0.6nm,0.3s,baz=115,slow=14,SNR=8.4						
PALK				Sn	Sn	09 49 31.7	-10
	2.0nm,0.3s,baz=113,slow=3.5,SNR=4.8						
CMAR	**Chiang Mai Arr**	**17.95**	**28**	Pn	**Pn**	**09 49 19.2**	**-0.5**
	0.1nm,0.3s,baz=223,slow=11,SNR=2.7						
H08S3	**Diego Garcia H**	**20.45**	**240**	T	T	10 10 43.7	
	baz=59,slow=75,SNR=35						
H08S2	**Diego Garcia H**	**20.46**	**240**	T	T	10 10 43.7	
	baz=59,slow=75,SNR=40						
H08S1	**Diego Garcia H**	**20.47**	**240**	T	T	10 10 45.1	
	baz=59,slow=75,SNR=40						
MKAR	**Makanchi Array**	**44.64**	**352**	P	**P**	**09 53 22.5**	**+0.5**
	0.5nm,0.6s,baz=173,slow=9.2,SNR=5.7						
SONM	**Songino Array**	**47.22**	**15**	P	**P**	**09 53 43.6**	**+1.2**
	1.5nm,0.5s,baz=196,slow=9.0,SNR=9.7						
WRA	**Warramunga Arr**	**48.62**	**119**	P	**P**	**09 53 53.6**	**0.0**
	0.3nm,0.6s,baz=298,slow=8.5,SNR=2.9						
KURBB	**Kurchatov Arra**	**48.95**	**350**	P	**P**	**09 53 55.4**	**-0.2**
	0.8nm,0.5s,baz=172,slow=7.4,SNR=8.9						
ZALV	**Zalesovo Beam**	**51.45**	**356**	P	**P**	**09 54 12.8**	**-1.7**
	0.7nm,0.5s,baz=166,slow=7.1,SNR=3.3						
TXAR	**Lajitas Array**	**145.60**	**22**	PKPbc	**PKPab**	**10 04 48.6**	**-0.2**
	0.2nm,0.6s,baz=333,slow=1.3,SNR=4.5						

NEIC 14 09:52:12.6±0.0, 17.°25N×94.°85W, h129km, MD4.1(MEX), After MEX.

MEX 14 09:52:12.6±1.1, 17.°25N×94.°86W, h128km±38km, MD4.1, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TUIG	**Tuzandepetl**	**0.89**	**28**	*i* P	Pn	09 52 32.9	-1.4
TUIG				*i* S	Sn	09 52 49.2	-1.5
TUIG	**Tuzandepetl**	**0.89**	**28**	*i* P	Pn	09 52 32.9	-1.4
TUIG				*i* S	Sn	09 52 49.2	-1.5
TUIG	**Tuzandepetl**	**0.89**	**28**	*i* P	Pn	09 52 32.9	-1.4
TUIG				*i* S	Sn	09 52 49.2	-1.5
TGIG		**1.72**	**105**	*e*P	Pn	09 52 42.1	-1.1
TGIG				*e*S	Sn	09 53 04.5	-2.1
TGIG		**1.72**	**105**	*e*P	Pn	09 52 42.1	-1.1
TGIG				*e*S	Sn	09 53 04.5	-2.1
VHO	**Vista Hermosa**	**1.80**	**265**	*e*P	Pn	09 52 43.7	-0.6
VHO				*e*S	Sn	09 53 06.2	-2.3
VHO	**Vista Hermosa**	**1.80**	**265**	*e*P	Pn	09 52 43.7	-0.6
VHO				*e*S	Sn	09 53 06.2	-2.3
PCIG		**2.19**	**134**	*e*P	Pn	09 52 48.2	-0.7
PCIG				*e*S	Sn	09 53 15.5	-1.2
PCIG		**2.19**	**134**	*e*P	Pn	09 52 48.2	-0.7
PCIG				*e*S	Sn	09 53 15.5	-1.2
PNIG	**Pinotepa**	**3.25**	**255**	*e*P	Pn	09 52 59.0	-3.4
PNIG				*e*S	Sn	09 53 33.1	-7.8
PNIG	**Pinotepa**	**3.25**	**255**	*e*P	Pn	09 52 59.0	-3.4
PNIG				*e*S	Sn	09 53 33.1	-7.8
TLIG	**Tlapa**	**3.56**	**276**	*e*P	Pn	09 53 05.3	-1.3
TLIG				*e*S	Sn	09 53 44.2	-4.2
TLIG	**Tlapa**	**3.56**	**276**	*e*P	Pn	09 53 05.3	-1.3
TLIG				*e*S	Sn	09 53 44.2	-4.2

GUC 14 09:54:43.3±0.5, 18.°86S×69.°70W, h102km±2km, ML3.7, 8C, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNMC	**Minye Minye**	**0.28**	**159**	*i* P	Pn	09 54 58.5	+0.1
MNMC				*i* S	Sn	09 55 09.8	+0.2
MNMC				IAML		09 55 10.3	
	comp=N,7μm,0.2s						
PB12	**IPOC Station P**	**0.64**	**293**	*i* P	Pn	09 55 00.8	+0.3
PB12				*i* S	Sn	09 55 14.0	+0.6
PB12				IAML		09 55 14.3	
	comp=E,12μm,0.3s						
PSGC	**Pisagua**	**0.83**	**209**	*i* P	Pn	09 55 02.7	+0.5
PSGC				*i* S	Sn	09 55 17.3	+0.8
PSGC				IAML		09 55 18.1	
	comp=E,603nm,0.4s						
PB11	**IPOC Station P**	**0.89**	**177**	*i* P	Pn	09 55 03.5	+0.6
PB11				*i* S	Sn	09 55 18.8	+1.2
PB11				IAML		09 55 20.0	
	comp=E,4μm,0.2s						
PB08	**IPOC Station P**	**1.37**	**158**	*i* P	Pn	09 55 09.6	+1.1
PB08				*i* S	Sn	09 55 29.2	+1.6
PB08				IAML		09 55 30.9	
	comp=N,509nm,0.1s						
PB01	**IPOC Station P**	**2.18**	**175**	*i* P	Pn	09 55 18.9	+0.6
PB01				*i* S	Sn	09 55 46.2	+1.1
PB01				IAML		09 55 54.1	
	comp=N,250nm,0.2s						
PB02	**IPOC Station P**	**2.45**	**184**	*i* P	Pn	09 55 23.2	+1.3
PB02				*i* S	Sn	09 55 51.3	-0.2
PB02				IAML		09 56 03.3	
	comp=E,325nm,0.3s						
PB07	**IPOC Station P**	**2.85**	**183**	*e*P	Pn	09 55 28.6	+1.2
PB07				*e*S	Sn	09 56 03.1	+1.9
PB09	**IPOC Station P**	**2.95**	**172**	*i* P	Pn	09 55 30.1	+1.5
PB09				*i* S	Sn	09 56 04.2	+0.8
PB09				IAML		09 56 25.4	
	comp=N,344nm,0.4s						

NIED 14 09:57:00.36°.90N×141.°40E, h8km, Mw3.6 Best double couple: M₀2.69000×10¹⁴ NP1:φ₀s27.00000°, δ45.00000°, λ-85.00000°. NP2:φ₀s201.00000°, δ45.00000°, λ-95.00000°.

ISCJB 14 09:57:01.7±1.2, 36.°95N±0.°04×141.°49E±0.°06, h19km±7km, mb3.5/7, Error ellipse: s-maj=9.0km s-min=6.2km az=35.6

IDC 14 09:57:01.3±0.9, 36.°98N×141.°34E, h0km, mb3.6/7, mb1 3.7/9, mb1mx3.5/64, mbtmp3.5/9, ML3.2/2, Error ellipse: s-maj=23.2km s-min=18.2km az=105.0

JMA 14 09:57:03.6±0.1, 36.°93N×141.°35E, h30km±1km, M3.8

JMA Felt I J1.

ISC 14 09:57:01.4±1.9, 36.°96N±0.°06×141.°43E±0.°06, h2km±11km, n24, σ0ᵍ82/28, mb3.5/7, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.53**	**286**	P	**Pb**	**09 57 13.1**	**-0.3**
ONAJ				S	**Sg**	**09 57 19.8**	**+1.5**
JFK	**Kawauchi**	**0.60**	**313**	P	**Pb**	**09 57 14.9**	**+0.2**
JFK				S	**Sb**	**09 57 22.5**	**-1.2**
JHO	**Hitachi**	**0.77**	**244**	P	**Pg**	**09 57 16.7**	**+0.5**
JHO				S	**Sg**	**09 57 26.6**	**+0.4**
JFT	**Otama**	**1.04**	**303**	P	**Pb**	**09 57 22.3**	**+0.2**
JFT				S	**Sb**	**09 57 35.3**	**-0.8**
JMM	**Marumori**	**1.04**	**331**	P	**Pb**	**09 57 21.9**	**-0.2**
JMM				S	**Sb**	**09 57 35.7**	**-0.5**
JSB	**Shiboa**	**1.21**	**271**	P	**Pg**	**09 57 24.9**	**+0.3**
JSB				S	**Sg**	**09 57 40.1**	**-0.2**
JYT	**Yasato**	**1.23**	**234**	P	**Pg**	**09 57 23.5**	**-1.5**
JFY	**Yanaizu**	**1.45**	**289**	P	**Pn**	**09 57 28.6**	**-0.1**
JFY				S	**Sb**	**09 57 46.4**	**-1.6**
MJAR	**Matsushiro Arr**	**2.62**	**262**	Pn	**Pn**	**09 57 45.0**	**+0.2**
	3.9nm,0.3s,baz=90,slow=14,SNR=52						
MJAR				Sn	**Sn**	**09 58 17.9**	**+0.8**
	8.1nm,0.3s,baz=341,slow=12,SNR=7.4						
MAT	**Matsushiro**	**2.62**	**262**	P	**Pn**	**09 57 45.3**	**+0.5**
MAT				S	**Sn**	**09 58 17.9**	**+0.7**
ASAJ	**Asahikawa**	**7.21**	**7**	Pn	**Pn**	**09 58 47.7**	**0.0**
	0.5nm,0.3s,baz=266,slow=23,SNR=5.8						
ASAJ				Sn	**Sn**	**10 00 09.8**	**-0.3**
	0.2nm,0.3s,baz=144,slow=19,SNR=3.3						
H11N2	**WAKE ISLAND Hy**	**28.10**	**121**	T	T	10 32 22.2	
	baz=313,slow=75,SNR=25						
H11N1	**WAKE ISLAND Hy**	**28.11**	**121**	T	T	10 32 21.5	
	baz=313,slow=75,SNR=17						
H11N3	**WAKE ISLAND Hy**	**28.12**	**121**	T	T	10 32 23.5	
	baz=313,slow=75,SNR=110						
H11S1	**WAKE ISLAND Hy**	**28.81**	**123**	T	T	10 33 12.6	
	baz=315,slow=76,SNR=49						
H11S3	**WAKE ISLAND Hy**	**28.81**	**123**	T	T	10 33 15.4	
	baz=315,slow=76,SNR=46						
H11S2	**WAKE ISLAND Hy**	**28.82**	**123**	T	T	10 33 13.8	
	baz=315,slow=76,SNR=24						
ZALV	**Zalesovo Beam**	**41.98**	**312**	P	**P**	**10 04 52.1**	**-1.5**
	0.6nm,0.5s,baz=131,slow=7.4,SNR=3.2						
MKAR	**Makanchi Array**	**44.17**	**302**	P	**P**	**10 05 11.3**	**-0.2**
	0.5nm,0.7s,baz=86,slow=8.2,SNR=4.3						
KURBB	**Kurchatov Arra**	**46.06**	**308**	P	**P**	**10 05 25.5**	**-0.9**
	0.6nm,0.2s,baz=89,slow=7.3,SNR=4.7						
ILAR	**Eielson Array**	**49.55**	**32**	P	**P**	**10 05 54.0**	**+0.7**
	0.4nm,0.7s,baz=264,slow=5.8,SNR=5.4						
WRA	**Warramunga Arr**	**56.99**	**188**	P	**P**	**10 06 48.4**	**-0.1**
	0.6nm,0.6s,baz=5.5,slow=7.3,SNR=14						
ASAR	**Alice Springs**	**60.71**	**188**	P	**P**	**10 07 14.5**	**+0.1**
	0.3nm,0.8s,baz=0.0,slow=7.4,SNR=4.8						
YKA	**Yellowknife Ar**	**63.87**	**30**	P	**P**	**10 07 36.1**	**+1.0**
	0.1nm,0.7s,baz=303,slow=6.7,SNR=4.1						

ISCJB 14 10:08:43.7±0.3, 3.°70N±0.°04×89.°89E±0.°03, h10km, mb4.4/47, MS3.9/25, Error ellipse: s-maj=6.6km s-min=4.4km az=18.5

IDC 14 10:08:43.8±0.7, 3.°73N×89.°85E, h0km, mb4.1/21, mb1 4.2/23, mb1mx4.0/64, mbtmp4.1/23, ML4.1/2, MS3.8/22, Ms1 3.8/22, ms1mx3.5/68, Error ellipse: s-maj=22.1km s-min=13.3km az=46.0

NEIC 14 10:08:45.7±0.3, 3.°76N×89.°92E, h10km, mb4.6/17, Error ellipse: s-maj=7.9km s-min=4.6km az=207.0

DJA 14 10:08:51.0±0.3, 4.°N±5.°×9.°0E±.°, h10km, M4.6/11, mb4.7/11, mB5.0/7, MLv4.8/2, Mw(mB)4.3/7

ISC 14 10:08:46.1±0.5, 3.°78N±0.°06×89.°94E±0.°05, h10km, n148, σ2ᵍ07/136, mb4.5/51, MS3.9/25, 9C, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSI	**Banda Aceh**	**5.60**	**72**	P	**Pn**	**10 10 08.9**	**-0.6**
MLSI	**Meulaboh, Aceh**	**6.46**	**85**	P	**Pn**	**10 10 22.9**	**+1.5**
LHMI	**Lhok Sumawe**	**7.13**	**78**	*e*Pn	**Pn**	**10 10 30.5**	**0.0**
TPTI		**7.24**	**94**	P	**Pn**	**10 10 34.0**	**+2.0**
GSI	**Gunungsitoli**	**8.01**	**108**	P	**Pn**	**10 10 44.6**	**+2.0**
GSI	**Gunungsitoli**	**8.01**	**108**	*e*Pn	**Pn**	**10 10 41.6**	**-1.0**
GSI				*e*Sn	**Sn**	**10 12 05.5**	**-7.8**
PBA	**Port Blair**	**8.30**	**19**	*e*P	Pn	10 10 45.5	-1.1
PSI	**Prapat**	**9.02**	**96**	Pn	**Pn**	**10 10 54.1**	**-2.4**
	2.6nm,0.3s,baz=214,slow=7.1,SNR=3.0						
PSI				Sn	**Sn**	**10 12 31.6**	**-6.7**
	baz=283,slow=14,SNR=5.3						
PSI				LR	LR	10 14 33.4	
	comp=Z,556nm,20.0s,baz=229,slow=38						
PSI	**Prapat**	**9.02**	**96**	*e*Pn	**Pn**	**10 10 54.6**	**-2.0**
PSI				Sn	**Sn**	**10 12 31.6**	**-6.7**
PKDT	**Phuket**	**9.29**	**64**	P	**Pn**	**10 10 58.0**	**-2.2**
	90nm,0.6s,3μm0.3nm						
DGPR	**DIGLIPUR**	**9.79**	**17**	*e*P	**Pn**	**10 11 05.9**	**-1.2**
PALK	**Pallekele**	**9.83**	**291**	Pn	**Pn**	**10 11 07.2**	**-0.5**
	3.2nm,0.3s,baz=116,slow=16,SNR=15						
PALK				Sn	Sn	10 12 43.3	-15
	16nm,0.3s,baz=116,slow=14,SNR=12						
PALK				LR	LR	10 14 29.4	
	comp=Z,385nm,19.0s,baz=116,slow=35						
PALK	**Pallekele**	**9.83**	**291**	*e*Pn	**Pn**	**10 11 07.0**	**-0.7**
PALK				*e*Sn	Sn	10 12 41.3	-17
MNSI	**Mandailing Nat**	**10.07**	**107**	P	**Pn**	**10 11 13.1**	**+2.2**
SURT	**Suratani**	**10.19**	**59**	P	**Pn**	**10 11 10.6**	**-1.9**
	61nm,1.1s,629nm0.2nm						
TRTT	**Trang**	**10.50**	**67**	P	**Pn**	**10 11 14.6**	**-2.2**
	24nm,1.3s,302nm						
IPM	**Ipoh**	**11.07**	**86**	*e*Pn	**Pn**	**10 11 23.4**	**-1.3**
SKLT	**Songkhla**	**11.15**	**72**	P	**Pn**	**10 11 24.8**	**-0.9**
	64nm,1.5s,817nm						
MDRS	**Chennai**	**13.31**	**315**	*e*P	**Pn**	**10 11 52.0**	**-3.2**
MDRS				IAmb	IAmb	10 11 53.4	
	comp=Z,55nm,1.0s						
TRD	**Trivandrum**	**13.74**	**291**	*e*P	**Pn**	**10 12 01.4**	**+0.3**
MYKOM	**Kota Tinggi**	**14.03**	**98**	*e*Pn	**Pn**	**10 12 01.7**	**-3.4**
VIS	**Vishakhapatnam**	**15.30**	**335**	*e*P	**Pn**	**10 12 17.4**	**-4.9**
VIS				*i* x	x	10 14 55.7	
MDSI	**Maura Dua**	**16.42**	**120**	P	**P**	**10 12 42.3**	**+2.7**
	comp=Z,31nm,0.8s						
PBKT	**Sadao Pong**	**16.70**	**40**	P	**P**	**10 12 41.6**	**-1.1**
	comp=Z,32nm,1.2s,comp=Z,952nm						
CM01	**Chiang Mai Arr**	**17.02**	**31**	*e*Pn	**Pn**	**10 12 44.9**	**+0.5**
CM31	**Chiang Mai Arr**	**17.04**	**30**	*e*Pn	**Pn**	**10 12 45.2**	**+0.6**
CMAR	**Chiang Mai Arr**	**17.04**	**30**	P	**Pn**	**10 12 44.0**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=228,slow=15,SNR=12						
KASI	**Kota Agung**	**17.22**	**122**	P	**P**	**10 12 54.3**	**+5.8**
	comp=Z,49nm,1.1s						
CHTO	**Chiang Mai**	**17.34**	**30**	P	**P**	**10 12 53.8**	**+4.0**
	comp=Z,49nm,0.9s,comp=Z,972nm						
CHTO	**Chiang Mai**	**17.34**	**30**	*e*Pn	**Pn**	**10 12 48.3**	**-0.2**
	comp=Z,10nm,1.0s						
CMMT	**Chiang Mai**	**17.34**	**30**	P	**P**	**10 12 52.8**	**+3.0**
	comp=Z,11nm,0.9s,comp=Z,578nm						
HYB	**Hyderabad**	**17.56**	**321**	*i* P	**P**	**10 12 52.0**	**-0.3**
HYB	**Hyderabad**	**17.56**	**321**	*e*P	**Pn**	**10 12 50.8**	**-0.5**
HYB				IAmb	IAmb	10 12 55.6	
	comp=Z,29nm,1.4s						
SKNT	**Sakolnakorn**	**19.02**	**45**	P	**Pn**	**10 13 12.5**	**+3.4**
	comp=Z,17nm,1.4s						
NGP	**Nagpur**	**20.26**	**329**	*ex*	**P**	**10 13 21.1**	**-0.8**
BOK	**Bokaro**	**20.28**	**349**	*ex*	**P**	**10 13 25.3**	**+3.2**
BOK				IAmb	IAmb	10 13 28.8	
	comp=Z,132nm,1.3s						
KSM	**Kuching**	**20.47**	**96**	*e*P	**P**	**10 13 25.1**	**+0.8**
	comp=Z,65nm,1.2s						
LEM	**Lembang**	**20.55**	**121**	P	Pn	10 13 31.0	+3.6
	comp=Z,40nm,0.9s,baz=357,slow=1.2,SNR=9.6						
LEM				LR	LR	10 20 34.7	
	comp=Z,122nm,18.9s,baz=287,slow=34						
H08S3	**Diego Garcia H**	**20.78**	**237**	T	T	10 35 05.6	
	baz=57,slow=75,SNR=210						
H08S2	**Diego Garcia H**	**20.78**	**237**	T	T	10 34 54.1	
	baz=57,slow=75,SNR=215						
H08S1	**Diego Garcia H**	**20.80**	**237**	T	T	10 35 06.9	
	baz=57,slow=75,SNR=178						
CISI	**Cisompet, Garu**	**21.09**	**122**	P	P	10 13 38.9	+7.9
	comp=Z,127nm,1.4s,comp=Z,3μm						
H08N1	**Diego Garcia H**	**21.41**	**242**	P	**P**	**10 13 31.7**	**-2.3**
	baz=84,slow=9.2,SNR=3.5						
H08N2	**Diego Garcia H**	**21.41**	**242**	P	**P**	**10 13 37.1**	**+3.1**
	baz=84,slow=9.2,SNR=2.0						
H08N3	**Diego Garcia H**	**21.43**	**242**	P	**P**	**10 13 34.4**	**+0.2**
	baz=84,slow=9.2,SNR=3.2						
TURI	**Tura**	**21.65**	**1**	*e*P	**P**	**10 13 37.0**	**+0.2**
SHL	**Shillong**	**21.75**	**5**	*e*P	**P**	**10 13 36.6**	**-1.4**
SHL				IAmb	IAmb	10 13 39.4	
	comp=Z,16nm,0.5s						
STKI	**Sintang**	**21.83**	**99**	P	**P**	**10 13 45.2**	**+6.3**
KOHI	**K

comp=N,270nm,15.2s
XAN LR LR
comp=E,250nm,16.3s
XAN LR LR
comp=Z,200nm,14.6s
WHN Wuhan 35.21 38 P P 10 15 49.3 +8.6
TWG Pinlang 35.58 55 *eP* **P 10 15 44.4 +0.5**
comp=Z,57nm,0.9s
DAV Davao City (W) 35.62 83 LR LR 10 33 30.5
comp=Z,128nm,19.4s,baz=246,slow=42
BATI Baumata 36.34 113 LR LR 10 31 58.4
comp=Z,308nm,20.0s,baz=290,slow=38
GTA Gaotai 36.59 13 P **P 10 15 53.4 +0.9**
GTA pP sP 10 15 58.5 +1.7
GTA sP pP 10 16 02.0 +6.4
GTA S **S 10 21 37.4 +2.1**
GTA pmax pmax
comp=Z,9.0nm,0.7s
GTA pmax pmax
comp=Z,55nm,5.8s
GTA LR LR
comp=N,140nm,20.4s
GTA LR LR
comp=E,220nm,19.0s
GTA LR LR
comp=Z,97nm,17.6s
KSH Kashi 37.77 342 P **P 10 16 01.4 -1.1**
NJ2 Nanjing 39.08 41 *eP* **P 10 16 15.3 +1.8**
NJ2 pmax pmax
comp=Z,11nm,0.5s
KDJ Kajisay 39.86 345 *eP* **P 10 16 20.5 +0.4**
comp=Z,3.7nm,0.8s
WMQ Urumqi 39.93 357 P **P 10 16 20.8 +0.3**
WMQ pP sP 10 16 25.8 +0.9
WMQ sP pP 10 16 27.6 +4.0
WMQ pmax pmax
comp=Z,18nm,0.7s
WMQ LR LR
comp=N,470nm,24.1s
WMQ LR LR
comp=E,210nm,31.1s
WMQ LR LR
comp=Z,400nm,24.1s
AAK Ala-Archa 41.07 343 P **P 10 16 30.4 +0.3**
comp=Z,1.8nm,0.8s,baz=175,slow=7.9,SNR=5.2
AAK Ala-Archa 41.07 343 *eP* **P 10 16 31.4 +1.2**
comp=Z,4.7nm,0.9s
FITZ Fitzroy Crossi 41.36 123 P **P 10 16 33.1 +0.5**
comp=Z,6.3nm,1.0s,baz=218,slow=3.7,SNR=4.0
HHC Hu-ho-hao-te 41.72 25 *eP* **P 10 16 36.1 +0.6**
HHC pmax pmax
comp=Z,15nm,1.0s
HHC pmax pmax
comp=Z,16nm,6.2s
KK31 Karatay Array 42.80 339 *eP* **P 10 16 44.1 +0.1**
KKAR Karatay Array 42.80 339 *eP* **P 10 16 44.1 +0.1**
FAKI Fak Fak 42.80 98 *eP* **P 10 16 45.6 +1.0**
comp=Z,20nm,1.2s
JOW Kunigami 43.21 54 LR LR 10 35 27.5
comp=Z,161nm,19.7s,baz=282,slow=37
MK01 Makanchi Array 43.34 352 *eP* **P 10 16 47.1 -1.3**
MK31 Makanchi Array 43.36 352 *eP* **P 10 16 47.7 -0.9**
MKAR Makanchi Array 43.36 352 P **P 10 16 47.5 -1.1**
comp=Z,2.0nm,0.8s,baz=171,slow=9.1,SNR=20
MKAR LR LR 10 36 15.5
comp=Z,80nm,18.0s,baz=163,slow=38
MKAR Makanchi Array 43.36 352 *eP* **P 10 16 47.7 -0.9**
comp=Z,16nm,0.9s
H01W3 Cape Leeuwin H 44.68 151 T T 11 04 38.4
baz=326,slow=75,SNR=42
H01W2 Cape Leeuwin H 44.69 151 T T 11 04 38.0
baz=326,slow=75,SNR=36
H01W1 Cape Leeuwin H 44.70 151 T T 11 04 41.7
baz=326,slow=75,SNR=57
GEYT Alibeck 44.73 324 P **P 10 16 59.3 -0.5**
comp=Z,4.4nm,0.8s,baz=134,slow=8.5,SNR=7.8
GEYT LR LR 10 36 42.2
comp=Z,152nm,21.0s,baz=185,slow=38
SONM Songino Array 46.12 15 P **P 10 17 10.8 +0.1**
comp=Z,6.1nm,0.6s,baz=194,slow=9.3,SNR=36
SONM LR LR 10 38 29.4
comp=Z,220nm,19.8s,baz=223,slow=39
SONA1 Songino Array 46.13 15 *eP* **P 10 17 10.9 +0.1**
ULN Ulaanbaatar 46.33 16 *eP* **P 10 17 11.9 -0.5**
comp=Z,3.8nm,0.9s
ATD Arta Tunnel 47.25 282 LR LR 10 33 48.2
comp=Z,63nm,19.3s,baz=36,slow=32
KURBB Kurchatov Arra 47.66 350 P **P 10 17 21.6 -1.0**
comp=Z,2.8nm,0.7s,baz=174,slow=7.3,SNR=19
KURK Kurchatov 47.74 350 *eP* **P 10 17 22.6 -0.5**
comp=Z,5.8nm,1.0s
KSRS Korea Array 48.27 41 LR LR 10 38 56.2
comp=Z,123nm,19.6s,baz=95,slow=38
WRA Warramunga Ar 49.57 120 P **P 10 17 36.8 -0.9**
comp=Z,2.1nm,1.1s,baz=298,slow=8.7,SNR=6.2
WRAB Tennant Creek 49.57 120 *eP* **P 10 17 37.0 -0.7**
comp=Z,0.8nm,0.4s
ZALV Zalesovo Beam 50.19 356 P **P 10 17 40.9 -1.0**
comp=Z,1.2nm,0.5s,baz=180,slow=7.3,SNR=5.8
ZALV LR LR 10 40 09.0
comp=Z,232nm,21.3s,baz=244,slow=38
ASAR Alice Springs 50.77 125 P **P 10 17 46.6 -0.2**
comp=Z,0.7nm,0.7s,baz=294,slow=7.1,SNR=8.8
ASAR LR LR 10 41 16.0
comp=Z,52nm,18.7s,baz=300,slow=38
BVAR Borovoye Array 51.67 345 P **P 10 17 52.0 -1.1**
comp=Z,1.6nm,0.7s,baz=139,slow=6.8,SNR=7.8
BVAR LR LR 10 40 22.4
comp=Z,275nm,20.9s,baz=147,slow=37
ABKAR Akbulak array 52.00 335 *eP* **P 10 17 55.4 -0.2**
comp=Z,5.7nm,1.0s
AKTO Aktyubinsk 53.71 335 P **P 10 18 07.1 -1.1**
comp=Z,1.9nm,0.8s,baz=137,slow=7.4,SNR=6.0
AKTO LR LR 10 41 32.8
comp=Z,69nm,21.0s,baz=154,slow=37
GNI Garni 54.48 318 LR LR 10 43 33.2
comp=Z,62nm,21.3s,baz=103,slow=38
MJAR Matsushiro Arr 54.99 47 P **P 10 18 17.6 -0.2**
comp=Z,0.8nm,0.9s,baz=288,slow=5.0,SNR=3.4
KBZ Khabaz 57.45 321 P **P 10 18 34.6 -0.6**
comp=Z,3.2nm,0.9s,baz=166,slow=5.1,SNR=6.0
KLR Kul'dur 57.52 31 P **P 10 18 37.4 +1.7**
comp=Z,0.1nm,0.5s,baz=204,slow=12,SNR=3.6
MMAI Mount Meron Ar 58.54 307 LR LR 10 44 34.8
comp=Z,105nm,19.6s,baz=45,slow=37
STKA Stephens Creek 60.51 130 P **P 10 18 55.8 -0.9**
comp=Z,2.3nm,0.7s,baz=295,slow=9.0,SNR=6.5
STKA LR LR 10 45 53.4
comp=Z,98nm,18.8s,baz=268,slow=37
STKA Stephens Creek 60.51 130 *eP* **P 10 18 57.6 +0.9**
comp=Z,3.0nm,1.5s
BRTR Keskin Array B 62.06 313 P **P 10 19 05.9 -1.4**
comp=Z,1.0nm,0.7s,baz=122,slow=5.8,SNR=5.8
BRTR LR LR 10 47 17.9
comp=Z,32nm,19.0s,baz=112,slow=37
BR231 Keskin MP Arra 62.72 313 *eP* **P 10 19 14.6 +2.9**
VRI Vrincioaia 68.84 318⇑*i*P **P 10 19 48.7 -2.2**
AKASG Malin Array Be 68.85 324 P **P 10 19 49.3 -1.5**
comp=Z,0.4nm,0.4s,baz=101,slow=4.5,SNR=6.5
AKASG LR LR 10 51 49.7
comp=Z,61nm,21.7s,baz=90,slow=38
PLOR Plostina 68.89 318⇑*i*P **P 10 19 51.8 +0.6**
TESR Tescani 69.08 319⇑*i*P **P 10 19 51.7 -0.7**
MLR Muntele Rosu 69.25 317 P **P 10 19 53.9 +0.3**
comp=Z,1.3nm,0.8s,baz=170,slow=6.1,SNR=8.6
MLR LR LR 10 53 41.3
comp=Z,21nm,20.6s,baz=46,slow=39
MLR Muntele Rosu 69.25 317⇑*i*P **P 10 19 54.1 +0.5**
DOPR Dopca 69.76 318⇑*i*P P 10 20 04.3 +7.7
BOSA Boshof 69.88 238 P **P 10 19 56.5 -1.3**
comp=Z,3.8nm,1.0s,baz=48,slow=7.1,SNR=4.0
ARR Arges 70.11 317⇑*i*P **P 10 19 55.8 -3.0**
BURAR Bucovina Array 70.34 319⇑*i*P **P 10 20 00.9 +0.7**
BUR04 Bucovina Ar. S 70.34 319 *eP* **P 10 20 00.7 +0.4**
BUR08 Bucovina Ar. S 70.36 320 *eP* **P 10 20 00.8 +0.4**
VTS Vitosha 70.42 314⇑*i*P **P 10 19 59.4 -1.5**
TIXI Tiksi 72.06 12 *eP* **P 10 20 08.1 -1.9**
comp=Z,7.0nm,0.7s
SIRR Siria 72.35 317⇑*i*P **P 10 20 12.9 +0.6**
FINES FINESS Array B 74.42 333 P **P 10 20 23.0 -1.1**
comp=Z,2.0nm,0.7s,baz=74,slow=6.8,SNR=8.6
ARCES ARCESS Array B 77.72 341 P **P 10 20 41.7 -1.2**
comp=Z,1.4nm,0.7s,baz=95,slow=5.1,SNR=4.9
GEA0 GERESS Array S 78.12 319 *eP* **P 10 20 45.6 +0.1**
GEC2 GERESS Array S 78.12 319 *eP* **P 10 20 46.2 +0.6**
comp=Z,10nm,1.2s
GERES GERESS Array B 78.12 319 P **P 10 20 45.5 -0.1**
comp=Z,1.6nm,0.8s,baz=101,slow=6.9,SNR=8.4
KHC Kasperske Hory 78.24 319 *eP* **P 10 20 47.5 +1.3**
KHC *ex* x 10 21 02.5
BRG Berggiesshubel 78.25 321 *e*(P) P 10 20 57.0 +11
comp=Z,3.1nm,0.6s
CLL Collm 78.90 321 *eP* **P 10 20 48.0 -1.7**
CLL *e* 10 20 58.0
SPITS Spitsbergen Ar 82.98 349 LR LR 11 02 31.6
comp=Z,121nm,19.7s,baz=345,slow=39
TXAR Lajitas Array 144.58 21 PKP PKPbc 10 28 22.6 +0.1
comp=Z,0.3nm,0.5s,baz=113,slow=0.9,SNR=9.2

*ISCJB **14** 10:13:22.5±0.8,2.˚5N×0.˚1×90.˚01E±0.˚09,h10km,mb3.9/9, Error ellipse: s-maj=20.5km s-min=9.3km az=26.3*
*IDC **14** 10:13:23.8±1.4,2.˚52N×89.˚98E,h0km,mb3.8/7,mb1 3.9/9, mb1mx3.5/70,mbtmp3.8/9,ML3.9/2,Error ellipse: s-maj=37.7km s-min=25.0km az=38.0*
*NEIC **14** 10:13:24.6±0.6,2.˚45N×89.˚99E,h10km,mb4.1/2,Error ellipse: s-maj=15.3km s-min=7.1km az=205.0*
ISC 14 10:13:24.3±1.1,2.˚5N±0.˚2×89.˚87E±0.˚09,h10km,n25, σ2$00/21,mb3.8/9,North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GSI	**Gunungsitoli**	**7.79**	**98**	*e*Pn	**Pn**	**10 15 15.7**	**-2.1**
PALK	**Pallekele**	**10.31**	**298**	Pn	**Pn**	**10 15 55.5**	**+3.1**
	0.8nm,0.3s,baz=114,slow=15,SNR=2.9						
PALK				Sn	**Sn**	**10 17 43.4**	**-4.8**
	4.3nm,0.3s,baz=296,slow=2.1,SNR=6.2						
PALK	**Pallekele**	**10.31**	**298**	*e*Pn	**Pn**	**10 15 54.0**	**+1.6**
PALK				Sn	**Sn**	**10 17 43.4**	**-4.8**
IPM	**Ipoh**	**11.31**	**79**	*e*Pn	**Pn**	**10 16 05.0**	**-1.1**
	6.4nm,0.5s						
CMAR	**Chiang Mai Arr**	**18.21**	**29**	P	**P**	**10 17 38.1**	**+0.5**
	0.2nm,0.3s,baz=219,slow=12,SNR=4.5						
H08S3	**Diego Garcia H**	**20.04**	**240**	T	T	10 38 32.3	
	baz=56						
H08S2	**Diego Garcia H**	**20.04**	**240**	T	T	10 38 32.5	
	baz=56						
H08S1	**Diego Carcia H**	**20.05**	**240**	T	T	10 38 30.8	
	baz=56						
KSM	**Kuching**	**20.45**	**92**	*e*P	**P**	**10 18 01.2**	**-1.0**
NDI	**New Delhi**	**28.73**	**336**	*e*P	**P**	**10 19 22.0**	**0.0**
H01W3	**Cape Leeuwin H**	**43.57**	**151**	T	T	11 07 06.2	
	baz=328						
H01W2	**Cape Leeuwin H**	**43.58**	**151**	T	T	11 07 07.6	
	baz=328						
H01W1	**Cape Leeuwin H**	**43.59**	**151**	T	T	11 07 05.5	
	baz=328						
MKAR	**Makanchi Array**	**44.65**	**353**	P	**P**	**10 21 37.3**	**+0.2**
	0.5nm,0.4s,baz=175,slow=8.8,SNR=4.8						
SONM	**Songino Array**	**47.40**	**15**	P	**P**	**10 21 59.5**	**+0.6**
	7.4nm,0.7s,baz=194,slow=9.5,SNR=30						
ULN	**Ulaanbaatar**	**47.60**	**16**	*e*P	**P**	**10 22 00.1**	**-0.4**
	1.7nm,0.5s						
KURBB	**Kurchatov Arra**	**48.94**	**350**	P	**P**	**10 22 10.5**	**-0.1**
	0.4nm,0.6s,baz=177,slow=7.0,SNR=3.7						
WRA	**Warramunga Arr**	**48.98**	**119**	P	**P**	**10 22 12.1**	**+0.6**
	0.4nm,0.9s,baz=298,slow=8.7,SNR=3.8						
WRAB	**Tennant Creek**	**48.99**	**119**	*e*P	**P**	**10 22 10.7**	**-0.9**
	0.4nm,0.4s						
KURK	**Kurchatov**	**49.02**	**351**	P	**P**	**10 22 10.5**	**-0.7**
ZALV	**Zalesovo Beam**	**51.49**	**356**	P	**P**	**10 22 30.7**	**+0.8**
	0.4nm,0.3s,baz=142,slow=5.4,SNR=2.3						
ABKAR	**Akbulak array**	**53.16**	**336**	P	**P**	**10 22 43.0**	**+0.6**
BRTR	**Keskin Array B**	**62.91**	**314**	P	**P**	**10 23 52.3**	**+1.1**
	0.4nm,0.4s,baz=95,slow=6.2,SNR=2.6						
GERES	**GERESS Array B**	**79.06**	**319**	P	**P**	**10 25 30.6**	**+1.6**
	0.4nm,0.7s,baz=93,slow=7.9,SNR=1.9						
TXAR	**Lajitas Array**	**145.83**	**21**	PKPbc	**PKPdf**	**10 33 04.4**	**+0.2**
	0.5nm,0.7s,baz=294,slow=0.9,SNR=4.2						

IDC 14 10:44:56.7±2.1,1.˚59N×94.˚10E,h0km,mb3.6/4,mb1 3.9/4, mb1mx3.4/69,mbtmp3.6/4,Error ellipse: s-maj=124.6km s-min=26.8km az=48.0,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**44.89**	**121**	P	P	10 53 13.8	+0.4
	0.8nm,0.6s,baz=296,slow=8.5,SNR=13						
ASAR	**Alice Springs**	**46.12**	**125**	P	P	10 53 22.2	-1.0
	0.5nm,0.9s,baz=307,slow=9.2,SNR=3.2						
MKAR	**Makanchi Array**	**46.18**	**349**	P	P	10 53 23.0	-0.3
	0.4nm,0.8s,baz=152,slow=6.5,SNR=2.1						
GERES	**GERESS Array B**	**82.48**	**319**	P	P	10 57 21.6	+0.2
	0.2nm,0.3s,baz=98,slow=5.5,SNR=4.1						

*ISCJB **14** 10:46:22.8±1.3,1.˚3N±0.˚2×91.˚8E±0.˚1,h10km,mb3.4/3, Error ellipse: s-maj=27.0km s-min=14.4km az=16.4*
*IDC **14** 10:46:24.4±1.8,1.˚33N×91.˚90E,h0km,mb3.4/3,mb1 3.7/6, mb1mx3.4/74,mbtmp3.5/6,ML3.6/3,MS3.2/4,Ms1 3.2/4, ms1mx3.0/59,Error ellipse: s-maj=49.1km s-min=27.7km az=28.0*
ISC 14 10:46:25.3±1.4,1.˚3N±0.˚2×91.˚9E±0.˚1,h10km,n10,σ1$25/6, mb3.5/3,North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**7.22**	**78**	Pn	**Pn**	**10 48 10.7**	**-0.4**
	0.8nm,0.3s,baz=294,slow=18,SNR=2.1						
PSI				Sn	Sn	10 49 24.8	-8.5
	1.8nm,0.3s,baz=268,slow=9.5,SNR=5.8						
PSI				LR	LR	10 51 17.0	
	comp=Z,310nm,20.0s,baz=249,slow=41						
PALK	**Pallekele**	**12.59**	**298**	Pn	**Pn**	**10 49 23.6**	**-1.2**
	0.5nm,0.3s,baz=116,slow=14,SNR=1.7						
PALK				Sn	Sn	10 51 32.4	-13
	0.5nm,0.3s,baz=116,slow=17,SNR=2.6						
PALK				LR	LR	10 53 44.7	
	comp=Z,167nm,18.7s,baz=116,slow=35						
LEM	**Lembang**	**17.69**	**117**	LR	LR	10 56 32.1	
	comp=Z,84nm,19.9s,baz=15,slow=34						
CMAR	**Chiang Mai Arr**	**18.41**	**22**	P	**P**	**10 50 40.7**	**-0.1**
	0.1nm,0.3s,baz=224,slow=13,SNR=1.9						
CMAR				LR	LR	10 57 07.4	
	comp=Z,25nm,21.7s,baz=60,slow=35						
H08S2	**Diego Garcia H**	**21.26**	**245**	T	T	11 12 56.7	
	baz=65,slow=75,SNR=9.4						
H08S3	**Diego Garcia H**	**21.26**	**245**	T	T	11 12 58.8	
	baz=65,slow=75,SNR=9.6						
H08S1	**Diego Carcia H**	**21.28**	**245**	T	T	11 13 01.8	
	baz=65,slow=75,SNR=9.4						
MKAR	**Makanchi Array**	**46.07**	**351**	P	**P**	**10 54 49.5**	**+0.2**
	0.1nm,0.4s,baz=165,slow=7.3,SNR=2.1						
WRA	**Warramunga Arr**	**46.70**	**119**	P	**P**	**10 54 54.5**	**-0.3**
	0.4nm,0.8s,baz=296,slow=8.6,SNR=2.1						
GERES	**GERESS Array B**	**81.22**	**319**	P	**P**	**10 58 43.4**	**+1.7**
	0.5nm,0.5s,baz=104,slow=6.3,SNR=2.8						

*NIED **14** 10:48:00,37.˚20N×141.˚50E,h5km,Mw4.4 Best double couple: M0 4.95000×10^15 NP1:φs22.00000°,δ42.00000°, λ-90.00000°. NP2:φs202.00000°,δ48.00000°, λ-90.00000°.*
*IDC **14** 10:48:46.6±0.5,37.˚16N×141.˚26E,h0km,mb4.3/35, mb1 4.4/38,mb1mx4.3/70,mbtmp4.3/38,ML3.9/3,Error ellipse: s-maj=14.0km s-min=10.8km az=98.0*
*JMA **14** 10:48:47.9±0.1,37.˚18N×141.˚33E,h22km±1km,M4.6*
JMA Felt II J1.
*ISCJB **14** 10:48:48.1±0.6,37.˚13N±0.˚02×141.˚33E±0.˚03,h21km±4km, mb4.5/84,MS4.8/1,Error ellipse: s-maj=5.0km s-min=3.4km az=28.9*
*NEIC **14** 10:48:52.7±0.5,37.˚13N×141.˚23E,h42km±4km,mb4.7/37, Error ellipse: s-maj=4.5km s-min=3.1km az=125.0*
NEIC Recorded [2 JMA] in Fukushima and Ibaraki.
ISC 14 10:48:49.2±0.9,37.˚15N±0.˚03×141.˚27E±0.˚04,h16km±4km, n147,σ1$50/166,mb4.5/84,5C-4D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ONAJ	**Iwakimizuishiy**	**0.38**	**263**	P	**Pg**	**10 48 56.4**	**-0.6**
ONAJ				S	**Sg**	**10 49 02.8**	**+0.5**
JFK	**Kawauchi**	**0.38**	**304**	P	**Pg**	**10 48 56.0**	**-1.0**
JFK				*e*S	**Sg**	**10 49 02.2**	**-0.1**
JHO	**Hitachi**	**0.78**	**226**	P	**Pb**	**10 49 02.7**	**-1.7**
JHO				*e*S	**Sb**	**10 49 13.9**	**-0.9**
JMM	**Marumori**	**0.81**	**332**	P	**Pb**	**10 49 03.1**	**-1.8**
JMM				*e*S	**Sb**	**10 49 14.5**	**-1.1**
JFT	**Otama**	**0.83**	**296**	P	**Pb**	**10 49 04.2**	**-1.1**
JFT				S	**Sg**	**10 49 16.3**	**0.0**
JSB	**Shiboa**	**1.10**	**261**	P	**Pb**	**10 49 09.7**	**-0.1**
JSB				*e*S	**Sg**	**10 49 25.2**	**+0.5**
JFY	**Yanaizu**	**1.27**	**282**	P	**Pn**	**10 49 12.1**	**-0.3**
JFY				*e*S	**Sn**	**10 49 29.3**	**0.0**
JIO	**Ouri**	**1.30**	**3**	P	**Pn**	**10 49 10.6**	**-2.2**
JIO				*e*S	**Sb**	**10 49 26.6**	**-3.2**
JOU	**Okura**	**1.30**	**339**	P	**Pn**	**10 49 11.8**	**-1.1**
JOU				*e*S	**Sb**	**10 49 29.3**	**-0.6**
JYS	**Shirataka**	**1.43**	**319**	P	**Pn**	**10 49 14.4**	**-0.2**
JYS				S	**Sb**	**10 49 34.3**	**+0.7**
MJAR	**Matsushiro Arr**	**2.53**	**257**	Pn	**Pn**	**10 49 30.3**	**+0.6**
	13nm,0.3s,baz=86,slow=14,SNR=131						
MJAR				Sn	**Sb**	**10 50 06.5**	**+1.3**
	51nm,0.3s,baz=79,slow=19,SNR=6.2						
MAJO	**Matsushiro**	**2.53**	**257**	*e*Pn	**Pn**	**10 49 30.8**	**+1.1**
MAJO				*e*Sn	**Sn**	**10 49 59.5**	**-0.7**
MAT	**Matsushiro**	**2.53**	**257**	P	**Pn**	**10 49 30.5**	**+0.8**
MAT				S	**Sb**	**10 50 03.6**	**-1.7**
MJB9	**Matsu-Tunnel**	**2.53**	**257**	*e*Pn	**Pn**	**10 49 30.9**	**+1.1**
INU	**Inuyama**	**3.88**	**244**	*e*Pn	**Pn**	**10 49 49.8**	**+1.6**
JHJ2	**Mitsune**	**4.20**	**197**	*e*Pn	**Pn**	**10 49 52.2**	**-0.5**
JHJ	**Hachijo jima 2**	**4.20**	**197**	Pn	**Pn**	**10 49 52.2**	**-0.5**
	51nm,0.3s,baz=62,slow=15,SNR=4.4						
JHJ				Sn	**Sn**	**10 50 42.4**	**+0.9**
	34nm,0.3s,baz=248,slow=19,SNR=2.4						
ERM	**Erimo**	**5.07**	**16**	*e*Pn	**Pn**	**10 50 05.8**	**+1.3**
ASAJ	**Asahikawa**	**7.03**	**8**	Pn	**Pn**	**10 50 30.2**	**-1.2**
	1.8nm,0.3s,baz=222,slow=9.0,SNR=21						
ASAJ				Sn	**Sn**	**10 51 53.4**	**+2.3**
	baz=252,slow=20,SNR=2.3						
JNU	**Nakatsue**	**9.41**	**248**	Pn	**Pn**	**10 51 06.3**	**+2.1**
	0.2nm,0.3s,baz=67,slow=14,SNR=3.1						
YSS	**Yuzh-Sakhalins**	**9.86**	**6**	*e*Pn	**Pn**	**10 51 11.8**	**+1.6**
USRK	**Ussuriysk Ar.**	**9.96**	**318**	Pn	**Pn**	**10 51 14.6**	**+3.0**
	0.6nm,0.3s,baz=130,slow=14,SNR=10.0						
KSRS	**Korea Array**	**10.64**	**276**	Pn	**Pn**	**10 51 24.8**	**+3.8**
	0.2nm,0.3s,baz=90,slow=13,SNR=20						
KS01	**Wonju Array Si**	**10.66**	**276**	*e*Pn	**Pn**	**10 51 25.9**	**+4.6**
KS15	**Wonju Array Si**	**10.67**	**276**	*e*Pn	Pn	10 51 26.7	+5.3
KSAR	**Wonju Array Be**	**10.67**	**276**	Pn	**Pn**	**10 51 24.8**	**+3.3**
MDJ	**Mudanjiang**	**11.56**	**314**	*e*Pn	**Pn**	**10 51 35.3**	**+1.8**
	7.4nm,0.6s						
CN2	**Changchun**	**13.74**	**304**	*e*P	**Pn**	**10 52 07.4**	**+4.0**
CN2				*e*S	**Sn**	**10 54 40.9**	**+5.2**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
CN2				pmax	pmax		
	comp=Z,200nm,5.0s						
CN2				LR	LR		
	comp=N,650nm,13.0s						
CN2				LR	LR		
	comp=E,650nm,13.0s						
CN2				LR	LR		
	comp=Z,600nm,16.0s						
KLR	**Kul'dur**	**13.91**	**333**	Pn	**Pn**	**10 52 07.2**	**+1.5**
	comp=Z,0.0nm,0.3s,baz=152,slow=13,SNR=2.3						
NJ2	**Nanjing**	**19.13**	**261**	*e*P	**Pn**	**10 53 12.4**	**-0.1**
NJ2				pmax	pmax		
	comp=Z,11nm,0.6s						
NJ2				LR	LR		
	comp=N,680nm,15.2s						
NJ2				LR	LR		
	comp=E,390nm,16.8s						
NJ2				LR	LR		
	comp=Z,530nm,15.7s						
MA2	**Magadan**	**23.26**	**12**	P	**P**	**10 53 55.3**	**-0.5**
	comp=Z,8.6nm,0.8s,baz=170,slow=8.6,SNR=4.6						
WHN	**Wuhan**	**23.26**	**261**	P	**P**	**10 53 52.5**	**-3.6**
HHC	**Hu-ho-hao-te**	**23.33**	**288**	*e*P	**P**	**10 53 55.9**	**-0.9**
HHC				S	**S**	**10 58 03.6**	**-5.3**
HHC				pmax	pmax		
	comp=Z,30nm,1.1s						
HHC				pmax	pmax		
	comp=Z,100nm,6.1s						
HHC				LR	LR		
	comp=N,670nm,12.1s						
HHC				LR	LR		
	comp=E,600nm,11.8s						
HHC				LR	LR		
	comp=Z,670nm,12.0s						
YAK	**Yakutsk**	**25.93**	**347**	*e*P	**P**	**10 54 21.0**	**+0.5**
	comp=Z,24nm,0.8s						
XAN	**Xi'an**	**26.42**	**273**	P	**P**	**10 54 22.8**	**-2.5**
XAN				pP	pP	10 54 29.8	-0.2
XAN				pmax	pmax		
	comp=Z,4.0nm,0.7s						
SEY	**Seymchan**	**26.70**	**11**	P	**P**	**10 54 27.9**	**+0.5**
	comp=Z,6.0nm,1.0s,baz=194,slow=6.2,SNR=13						
ULN	**Ulaanbaatar**	**27.19**	**304**	*e*P	**P**	**10 54 32.5**	**+0.3**
	comp=Z,3.9nm,0.9s						
ENH	**Enshi**	**27.23**	**265**	*e*P	**P**	**10 54 33.2**	**+0.6**
	comp=Z,9.9nm,0.8s						
SONA1	**Songino Array**	**27.62**	**304**	*e*P	**P**	**10 54 35.8**	**-0.2**
SONM	**Songino Array**	**27.62**	**304**	P	**P**	**10 54 35.4**	**-0.7**
	comp=Z,2.3nm,0.5s,baz=109,slow=9.6,SNR=13						
H11N2	**WAKE ISLAND Hy 28.31 121**			T	T	11 24 19.2	
	baz=313,slow=75,SNR=2516						
H11N1	**WAKE ISLAND Hy 28.31 121**			T	T	11 24 16.8	
	baz=313,slow=75,SNR=3003						
H11N3	**WAKE ISLAND Hy 28.32 121**			T	T	11 24 17.5	
	baz=313,slow=75,SNR=2469						
H11S1	**WAKE ISLAND Hy 29.02 123**			T	T	11 25 06.4	
	baz=320,slow=74						
H11S3	**WAKE ISLAND Hy 29.02 123**			T	T	11 25 10.2	
	baz=320						
H11S2	**WAKE ISLAND Hy 29.04 123**			T	T	11 25 11.5	
	baz=320,slow=74						
LZH	**Lanzhou**	**29.93**	**279**	*e*P	**P**	**10 54 58.3**	**+1.5**
LZH				pP	sP	10 55 05.6	+2.1
LZH				sP	pP	10 55 08.4	+6.9
LZH				PP	**PnPn**	**10 55 54.3**	**+1.2**
LZH				*e*S	**S**	**10 59 50.8**	**-3.0**
LZH				sS	sS	11 00 04.4	+2.7
LZH				SS	**SnSn**	**11 01 28.9**	**+3.8**
LZH				pmax	pmax		
	comp=Z,34nm,1.0s						
LZH				pmax	pmax		
	comp=Z,310nm,7.1s						
LZH				LR	LR		
	comp=N,810nm,12.8s						
LZH				LR	LR		
	comp=E,1μm,14.9s						
LZH				LR	LR		
	comp=Z,2μm,15.0s						
TLY	**Talaya**	**30.17**	**311**	P	**P**	**10 54 58.2**	**-0.3**
	comp=Z,0.8nm,0.3s,baz=87,slow=3.7,SNR=4.0						
CD2	**Chengdu**	**31.56**	**270**	P	**P**	**10 55 10.5**	**-0.5**
CD2				pP	sP	10 55 22.8	+5.1
CD2				sP	pP	10 55 28.4	+13
CD2				S	**S**	**11 00 16.3**	**-2.8**
CD2				sS	sS	11 00 37.3	+10
CD2				SS	**SS**	**11 02 32.8**	**-1.4**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,120nm,5.0s						
CD2				LR	LR		
	comp=N,750nm,14.4s						
CD2				LR	LR		
	comp=E,770nm,15.4s						
CD2				LR	LR		
	comp=Z,530nm,15.4s						
GTA	**Gaotai**	**32.42**	**287**	P	P	10 55 24.3	+5.7
GTA				pP	sP	10 55 31.8	+6.5
GTA				sP	pP	10 55 35.3	+12
GTA				S	S	11 00 42.3	+10
GTA				SS	**SS**	**11 02 44.9**	**-6.9**
GTA				pmax	pmax		
	comp=Z,4.0nm,1.0s						
GTA				pmax	pmax		
	comp=Z,44nm,4.9s						
GTA				LR	LR		
	comp=N,290nm,17.1s						
GTA

WMQ LR LR
comp=N,350nm,19.1s
WMQ LR LR
comp=E,190nm,25.1s
WMQ LR LR
comp=Z,260nm,27.5s
CMAR Chiang Mai Arr 41.42 255 P **P 10 56 34.8 -0.3**
comp=Z,0.5nm,0.4s,baz=42,slow=5.4,SNR=5.8
CMAR PcP **PcP 10 58 33.8 +0.7**
comp=Z,0.7nm,0.7s,baz=3.9,slow=3.5,SNR=5.2
ZAA0 Zalesovo Array 41.75 312 *eP* **P 10 56 36.9 -0.5**
comp=Z,5.8nm,0.9s
ZALV Zalesovo Beam 41.75 312 P **P 10 56 36.9 -0.6**
comp=Z,5.1nm,0.8s,baz=101,slow=6.8,SNR=14
ZALV Zalesovo Beam 41.75 312 *eP* **P 10 56 36.7 -0.7**
MK01 Makanchi Array 43.96 302 *eP* **P 10 56 55.0 -0.5**
MK31 Makanchi Array 43.96 302 *eP* **P 10 56 55.0 -0.5**
MKAR Makanchi Array 43.96 302 P **P 10 56 55.1 -0.5**
comp=Z,3.4nm,0.8s,baz=88,slow=10,SNR=30
MKAR Makanchi Array 43.96 302 *eP* **P 10 56 55.0 -0.5**
comp=Z,25nm,0.8s
MAKZ Makanchi 44.17 302 *eP* **P 10 56 56.7 -0.5**
comp=Z,6.3nm,1.0s
SVW2 Sparrevohn 45.50 37 *eP* **P 10 57 08.1 +0.5**
comp=Z,11nm,1.2s
KSM Kuching 45.55 226 *eP* **P 10 57 09.0 +0.5**
comp=Z,9.5nm,0.7s
KURK Kurchatov 45.77 308 *eP* **P 10 57 09.4 -0.4**
comp=Z,12nm,0.7s
KURBB Kurchatov Arra 45.84 308 P **P 10 57 09.9 -0.5**
comp=Z,5.9nm,0.7s,baz=83,slow=8.4,SNR=25
KAPI Kappang 46.51 210 *eP* **P 10 57 15.7 -0.3**
comp=Z,47nm,1.4s
KDAK Kodiak Island 47.09 42 P **P 10 57 19.6 -0.5**
comp=Z,7.6nm,0.7s,baz=284,slow=6.7,SNR=5.0
CAST Castle Rocks 47.19 34 *eP* **P 10 57 21.8 +1.0**
comp=Z,21nm,2.0s
KTH Kantishna Hill 47.71 34 *eP* **P 10 57 26.2 +1.2**
comp=Z,12nm,1.3s
MLY Manley 47.81 32 *eP* **P 10 57 27.1 +1.4**
comp=Z,3.8nm,0.9s
SUA Susitna One 47.83 37 *eP* **P 10 57 26.3 +0.3**
comp=Z,10.0nm,1.2s
TOLK Toolik Lake Re 48.42 27 *eP* **P 10 57 30.8 +0.5**
comp=Z,8.8nm,1.2s
KDJ Kajisay 48.58 297 *eP* **P 10 57 32.5 +0.4**
comp=Z,4.1nm,1.0s
RND Reindeer 48.65 34 *eP* **P 10 57 32.5 +0.4**
comp=Z,4.2nm,0.9s
MDM Murphy Dome 48.88 32 *eP* **P 10 57 34.9 +1.0**
comp=Z,7.6nm,1.0s
SML Sawmill 48.97 36 *eP* **P 10 57 35.3 +0.7**
comp=Z,9.3nm,1.0s
SOEI Soe 49.31 202 *eP* **P 10 57 37.8 0.0**
comp=Z,62nm,1.1s
IL1 Eielson Array 49.46 32 *eP* **P 10 57 38.2 -0.1**
ILAR Eielson Array 49.46 32 P **P 10 57 38.6 +0.3**
comp=Z,3.2nm,0.7s,baz=267,slow=6.4,SNR=39
ILB Eielson Array 49.46 32 *eP* **P 10 57 38.4 +0.1**
KLU Klutina 50.14 37 *eP* **P 10 57 44.4 +0.7**
comp=Z,4.7nm,0.8s
KSH Kashi 50.25 294 P P 10 57 51.5 +6.6
BVAR Borovoye Array 50.41 312 P **P 10 57 45.4 -0.3**
comp=Z,0.9nm,0.6s,baz=69,slow=8.4,SNR=5.8
BVAR PcP **PcP 10 59 03.6 -0.3**
comp=Z,1.2nm,0.5s,baz=64,slow=5.1,SNR=3.7
DOT Dot Lake 50.77 34 *eP* **P 10 57 47.6 -0.7**
comp=Z,50nm,1.9s
SCRK Sand Creek 50.77 33 *eP* **P 10 57 48.9 +0.5**
comp=Z,6.0nm,1.0s
MENT Mentasta 51.00 35 *eP* **P 10 57 50.8 +0.7**
comp=Z,4.6nm,0.9s
KKAR Karatay Array 52.97 300 *eP* **P 10 58 04.7 -0.3**
comp=Z,1.6nm,0.6s
HYT Haines Junctio 54.27 37 *eP* **P 10 58 14.9 +0.5**
HYT *ep*P **pP 10 58 19.8 +0.4**
ARU Arti 56.20 318 P **P 10 58 27.8 -0.4**
comp=Z,1.7nm,0.3s,baz=99,slow=12,SNR=6.0
FITZ Fitzroy Crossi 56.90 198 P **P 10 58 33.6 +0.1**
comp=Z,3.2nm,0.7s,baz=33,slow=11,SNR=7.6
WRAB Tennant Creek 57.15 188 *eP* **P 10 58 34.4 -0.9**
comp=Z,24nm,1.5s
WB2 Warramunga Arr 57.16 188 *eP* **P 10 58 34.2 -1.2**
comp=Z,33nm,1.8s
WRA Warramunga Arr 57.16 188 P **P 10 58 34.5 -0.9**
comp=Z,3.4nm,0.5s,baz=5.2,slow=7.2,SNR=72
ABKAR Akbulak array 57.78 310 *eP* **P 10 58 38.6 -0.8**
comp=Z,28nm,0.6s
AKTO Aktyubinsk 58.51 312 P **P 10 58 43.8 -0.9**
comp=Z,1.6nm,0.6s,baz=75,slow=13,SNR=6.0
SPITS Spitsbergen Ar 60.38 349 P **P 10 58 57.1 0.0**
comp=Z,8.0nm,1.1s,baz=31,slow=6.7,SNR=3.5
AS01 Alice Springs 60.88 188 *eP* **P 10 59 00.4 -0.7**
AS31 Alice Springs 60.89 188 *eP* **P 10 59 00.6 -0.6**
comp=Z,0.9nm,0.6s
ASAR Alice Springs 60.89 188 P **P 10 59 00.7 -0.5**
comp=Z,2.1nm,0.7s,baz=8.6,slow=8.5,SNR=24
RES Resolute Bay 62.52 14 *eP* **P 10 59 11.4 -0.1**
comp=Z,5.7nm,1.4s
KLMR Klimovskoe 63.59 328 *eP* P 10 59 14.0 -4.9
KLMR AMP 10 59 28.3
comp=Z,10.0nm,1.5s
GEYT Alibeck 63.68 299 P **P 10 59 20.1 +0.1**
comp=Z,3.6nm,0.8s,baz=336,slow=3.3,SNR=6.1
YKA Yellowknife Ar 63.76 30 P **P 10 59 19.8 -0.2**
comp=Z,0.8nm,0.7s,baz=302,slow=6.4,SNR=17
ARCES ARCESS Array B 63.85 339 P **P 10 59 20.1 -0.3**
comp=Z,1.4nm,0.5s,baz=72,slow=7.8,SNR=4.3
FINES FINESS Array B 68.66 332 P **P 10 59 51.0 -0.4**
comp=Z,4.6nm,0.7s,baz=60,slow=9.1,SNR=12
STKA Stephens Creek 68.67 180 P **P 10 59 51.7 0.0**
comp=Z,2.5nm,0.7s,baz=329,slow=9.5,SNR=7.1
PINE Pine Mountain 70.35 50 *eP* **P 11 00 04.2 +1.7**
comp=Z,11nm,0.9s
KBZ Khabaz 70.74 311 P **P 11 00 04.7 +0.1**
comp=Z,4.1nm,0.8s,baz=32,slow=2.9,SNR=10
NWAO Narrogin (SRO) 73.24 201 P **P 11 00 20.0 +0.6**
comp=Z,4.3nm,0.9s,baz=238,slow=15,SNR=2.4
FFC Flin Flon 73.67 33 *eP* **P 11 00 21.9 +0.1**
comp=Z,2.1nm,0.8s
HFS Hagfors 73.93 336 P **P 11 00 23.2 -0.1**
comp=Z,3.8nm,0.9s,baz=57,slow=10,SNR=6.6
NB2 NORSAR Subarra 74.03 337 P **P 11 00 23.5 -0.5**
comp=Z,8.1nm,1.1s,baz=40,slow=5.9
NOA NORSAR Array B 74.03 337 P **P 11 00 23.6 -0.4**
comp=Z,2.8nm,0.7s,baz=39,slow=5.8,SNR=8.4
AKASG Malin Array Be 74.13 322 P **P 11 00 24.0 -0.7**
comp=Z,1.4nm,0.3s,baz=47,slow=6.2,SNR=13
DLMT Dillon 74.34 45 *eP* **P 11 00 27.2 +1.0**
comp=Z,4.1nm,0.9s
BOZ Bozeman (W) 74.74 44 *eP* **P 11 00 28.8 +0.3**
comp=Z,4.5nm,1.1s
NVAR Mina Array Bea 75.01 53 P **P 11 00 30.1 -0.2**
comp=Z,0.3nm,0.3s,baz=290,slow=5.7,SNR=2.4
H17A Grant Village 76.07 45 *eP* **P 11 00 34.7 -1.6**
comp=Z,4.7nm,0.8s
IMW Indian Meadow 76.17 45 *eP* **P 11 00 38.4 +1.5**
comp=Z,3.2nm,0.8s
HWUT Hardware Ranch 77.23 47 *eP* **P 11 00 43.8 +0.9**
comp=Z,8.4nm,1.4s
HWUT *e*S **S 11 10 35.9 +3.8**
PDAR Pinedale Array 77.67 45 P **P 11 00 45.8 +0.5**
comp=Z,0.7nm,0.6s,baz=298,slow=1.4,SNR=9.2
PDAR Pinedale Array 77.67 45 *eP* **P 11 00 45.6 +0.3**
BUR04 Bucovina Ar. S 78.15 322 *eP* **P 11 00 47.8 0.0**
BURAR Bucovina Array 78.15 322 *i*P **P 11 00 48.0 +0.3**
TESR Tescani 78.17 320 *i*P **P 11 00 45.9 -1.9**
TIRR Tirgusor 78.61 318 *i*P **P 11 00 49.1 -1.1**
BRTR Keskin Array B 78.69 311 P **P 11 00 51.1 +0.2**
comp=Z,0.9nm,0.5s,baz=98,slow=5.1,SNR=4.3
STHS Stebnicka Huta 78.80 325 *eP* **P 11 00 51.2 0.0**
TRPA Tarpa 79.10 323 *i*P **P 11 00 53.0 +0.2**
MLR Muntele Rosu 79.22 320 P **P 11 00 54.1 +0.4**
comp=Z,0.2nm,0.4s,baz=112,slow=19,SNR=3.1
MLR Muntele Rosu 79.22 320 *i*P **P 11 00 52.3 -1.4**
DRGR 79.95 322 *i*P **P 11 00 55.9 -1.7**
ARR Arges 79.98 320 *i*P **P 11 00 57.3 -0.5**
MORC Moravsky Berou 80.20 327 *i*P **P 11 00 58.7 -0.1**
MORC Moravsky Berou 80.20 327 *eP* **P 11 00 58.9 +0.1**
comp=Z,26nm,1.1s
RAYN Ar Rayn 80.50 292 *eP* **P 11 01 00.0 -0.9**
comp=Z,15nm,1.9s
PV10 Paradox Valley 80.78 49 *eP* **P 11 01 02.1 -0.3**
CLL Collm 80.94 330 *i* P **P 11 01 02.3 -0.4**
comp=Z,6.0nm,0.9s
CLL *i* P(2) 11 01 06.5
comp=Z,6.0nm,1.0s
CLL *e* 11 01 11.0
BZS Buzias 81.32 322 *i*P **P 11 01 03.9 -0.9**
MMAI Mount Meron Ar 81.80 305 P **P 11 01 08.1 +0.4**
comp=Z,1.7nm,0.8s,baz=50,slow=12,SNR=4.1
KHC Kasperske Hory 82.38 328 *eP* **P 11 01 09.5 -0.9**
GERES GERESS Array B 82.55 328 P **P 11 01 11.0 -0.4**
comp=Z,1.0nm,0.5s,baz=2.9,slow=2.7,SNR=5.8
EKA Eskdalemuir Ar 82.98 340 P **P 11 01 13.7 +0.4**
comp=Z,4.0nm,1.0s,baz=19,slow=4.5,SNR=2.1
TXAR Lajitas Array 90.14 52 P **P 11 01 49.4 +0.4**
comp=Z,0.5nm,0.6s,baz=314,slow=2.5,SNR=8.5
BLO Bloomington 92.23 35 *eP* **P 11 01 57.2 -1.2**
comp=Z,17nm,0.4s
CVRD Centerville Ro 96.91 30 *eP* **P 11 02 20.3 +0.4**
comp=Z,57nm,0.1s
CVRD *e*S **S 11 13 42.6 +0.9**
SPRD Spring Road, M 96.92 30 *eP* **P 11 02 18.9 -1.0**
comp=Z,11nm,1.3s
SPRD *e*S **S 11 13 42.6 +0.8**

JMA 14 10:50:15.2±0.2, 37°.19N×141°.31E, h21km±2km, M3.5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**0.39**	**297**	P	Pb	10 50 23.1	-0.2
JFK				*e*S	Sb	10 50 29.1	+0.3
ONAJ	**Iwakimizuishiy**	**0.42**	**258**	P	Pb	10 50 23.5	-0.3
ONAJ				S	Sb	10 50 30.7	+1.0
JMM	**Marumori**	**0.79**	**329**	P	Pb	10 50 30.5	+0.3
JMM				S	Sn	10 50 42.0	-0.3
JHO	**Hitachi**	**0.83**	**226**	P	Pb	10 50 30.1	-0.8
JHO				S	Sb	10 50 40.8	-0.8
JFT	**Otama**	**0.84**	**293**	S	Sn	10 50 43.3	-0.3
JSB	**Shiboa**	**1.13**	**259**	S	Sn	10 50 51.8	+1.0
JOU	**Okura**	**1.28**	**337**	S	Sb	10 50 56.6	+2.0
JFY	**Yanaizu**	**1.30**	**280**	S	Sb	10 50 56.8	+1.7

*NIED **14** 10:51:00, 37°.20N×141°.30E, h5km, Mw4.6 Best double couple: M₀8.03000×10¹⁵ NP1:φs17.00000°, δ33.00000°, λ-92.00000°. NP2:φs199.00000°, δ57.00000°, λ-89.00000°.*
*IDC **14** 10:51:20.2±0.4, 37°.20N×141°.22E, h0km, mb4.3/37, mb1 4.4/40, mb1mx4.4/69, mbtmp4.3/40, ML3.5/3, MS3.7/7, Ms1 3.7/7, ms1mx3.3/80, Error ellipse: s-maj=12.5km s-min=10.4km az=86.0*
*ISCJB **14** 10:51:21.4±0.8, 37°.15N±0°.03×141°.36E±0°.05, h20km±5km, mb4.4/54, MS3.1/1, Error ellipse: s-maj=6.5km s-min=4.3km az=16.5*
*JMA **14** 10:51:22.0±0.1, 37°.17N×141°.30E, h22km±1km, M4.7*
JMA Felt II J1.
*NEIC **14** 10:51:23.5±1.8, 37°.22N×141°.25E, h20km±12km, mb4.5/10, Error ellipse: s-maj=6.3km s-min=4.7km az=128.0*
NEIC Recorded [2 JMA] in Fukushima and Ibaraki.

ISC 14 10:51:21.5±1.5, 37°.19N±0°.03×141°.32E±0°.05, h9km±8km, n105, σ1⅋36/108, mb4.4/54, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**0.40**	**297**	P	**Pb**	**10 51 30.0**	**-0.7**
JFK				S	**Sb**	**10 51 35.8**	**-1.1**
ONAJ	**Iwakimizuishiy**	**0.42**	**259**	P	**Pg**	**10 51 30.2**	**+0.4**
ONAJ				S	**Sg**	**10 51 36.2**	**+0.9**
JMM	**Marumori**	**0.80**	**329**	P	**Pg**	**10 51 37.0**	**+0.2**
JMM				*e*S	**Sb**	**10 51 48.2**	**-0.2**
JHO	**Hitachi**	**0.83**	**226**	P	**Pg**	**10 51 36.8**	**-0.7**
JHO				S	**Sg**	**10 51 47.6**	**-0.7**
JFT	**Otama**	**0.85**	**293**	P	**Pb**	**10 51 38.2**	**-0.2**
JFT				*e*S	**Sb**	**10 51 49.7**	**-0.2**
JSB	**Shiboa**	**1.14**	**259**	P	**Pg**	**10 51 43.4**	**+0.1**
JSB				S	**Sn**	**10 51 58.6**	**-0.8**
JIO	**Ouri**	**1.27**	**1**	P	**Pn**	**10 51 44.8**	**-0.6**
JIO				*e*S	**Sb**	**10 52 01.6**	**-0.3**
JOU	**Okura**	**1.28**	**336**	P	**Pb**	**10 51 45.9**	**0.0**
JOU				S	**Sn**	**10 52 03.5**	**+0.4**
JFY	**Yanaizu**	**1.30**	**280**	P	**Pn**	**10 51 45.9**	**0.0**
JFY				S	**Sg**	**10 52 03.1**	**-0.3**
MJAR	**Matsushiro Arr**	**2.58**	**256**	Pn	**Pn**	**10 52 04.5**	**+1.1**
	10nm,0.3s,baz=87,slow=16,SNR=5.5						
MJAR				Sn	**Sb**	**10 52 40.0**	**+0.4**
	55nm,0.3s,baz=101,slow=16,SNR=6.4						
MJAR				LR	LR	10 53 17.3	
	comp=Z,2μm,19.0s,baz=80,slow=47						
MAT	**Matsushiro**	**2.58**	**256**	P	**Pn**	**10 52 04.5**	**+1.1**
MAT				S	**Sb**	**10 52 39.5**	**-0.2**
JHJ	**Hachijo jima 2**	**4.25**	**198**	Pn	**Pn**	**10 52 26.1**	**-0.3**
	39nm,0.3s,baz=252,slow=19,SNR=2.5						
JHJ				Sn	**Sn**	**10 53 13.1**	**-3.0**
	31nm,0.3s,baz=240,slow=20,SNR=2.7						
ASAJ	**Asahikawa**	**6.99**	**8**	Pn	**Pn**	**10 53 04.0**	**0.0**
	1.2nm,0.3s,baz=308,slow=19,SNR=4.2						
ASAJ				Sn	**Sn**	**10 54 21.2**	**-2.5**
	baz=217,slow=20,SNR=1.7						
JNU	**Nakatsue**	**9.46**	**248**	Pn	**Pn**	**10 53 39.7**	**+1.7**
	0.1nm,0.3s,baz=0.0,slow=7.1,SNR=2.5						
JNU				LR	LR	10 57 31.1	
	comp=Z,742nm,18.6s,baz=65,slow=40						
JNU	**Nakatsue**	**9.46**	**248**	*e*Pn	**Pn**	**10 53 39.1**	**+1.1**
	27nm,1.4s						
USRK	**Ussuryisk Ar.**	**9.96**	**318**	Pn	Pn	10 53 49.7	+5.0
	0.5nm,0.3s,baz=128,slow=14,SNR=5.7						
USRK				LR	LR	10 57 17.9	
	comp=Z,899nm,18.5s,baz=125,slow=36						
KSRS	**Korea Array**	**10.67**	**275**	Pn	Pn	10 54 00.3	+5.8
	0.3nm,0.3s,baz=90,slow=14,SNR=13						
KSRS				LR	LR	10 57 29.9	
	comp=Z,800nm,21.4s,baz=73,slow=35						
KSAR	**Wonju Array Be**	**10.70**	**275**	Pn	Pn	10 54 00.3	+5.4
MDJ	**Mudanjiang**	**11.56**	**314**	*e*Pn	**Pn**	**10 54 05.3**	**-1.3**
	24nm,1.1s						
KLR	**Kul'dur**	**13.90**	**333**	Pn	**Pn**	**10 54 39.1**	**+0.6**
	0.0nm,0.3s,baz=144,slow=14,SNR=2.2						
KLR				LR	LR	10 59 43.5	
	comp=Z,52nm,19.7s,baz=150,slow=36						
PETK	**Petropavlovsk-**	**19.59**	**30**	P	**Pn**	**10 55 50.8**	**-0.3**
	0.1nm,0.3s,baz=202,slow=7.5,SNR=3.8						
PETK				LR	LR	11 03 00.5	
	comp=Z,115nm,18.3s,baz=215,slow=36						
MA2	**Magadan**	**23.22**	**12**	P	**P**	**10 56 27.3**	**-1.3**
	8.1nm,0.9s,baz=178,slow=6.7,SNR=4.3						
MA2				LR	LR	11 05 09.3	
	comp=Z,70nm,18.7s,baz=186,slow=36						
WHN	**Wuhan**	**23.31**	**261**	P	**P**	**10 56 30.3**	**+0.5**
SEY	**Seymchan**	**26.66**	**11**	P	**P**	**10 56 58.9**	**-1.4**
	6.6nm,1.0s,baz=197,slow=11,SNR=3.5						
ULN	**Ulaanbaatar**	**27.20**	**304**	*e*P	**P**	**10 57 05.8**	**+0.1**
	7.8nm,1.0s						
SONM	**Songino Array**	**27.64**	**304**	P	**P**	**10 57 08.4**	**-1.1**
	1.7nm,0.4s,baz=117,slow=9.9,SNR=5.1						
H11N2	**WAKE ISLAND Hy**	**28.29**	**121**	T	T	11 26 49.3	
	baz=314,slow=75,SNR=127						
H11N1	**WAKE ISLAND Hy**	**28.30**	**121**	T	T	11 26 50.0	
	baz=314,slow=75,SNR=110						
H11N3	**WAKE ISLAND Hy**	**28.31**	**121**	T	T	11 26 50.2	
	baz=314,slow=75,SNR=108						
H11S1	**WAKE ISLAND Hy**	**29.01**	**123**	T	T	11 27 38.0	
	baz=316						
H11S3	**WAKE ISLAND Hy**	**29.01**	**123**	T	T	11 27 38.1	
	baz=316,slow=74						
H11S2	**WAKE ISLAND Hy**	**29.02**	**123**	T	T	11 27 39.1	
	baz=316,slow=74						
TLY	**Talaya**	**30.17**	**311**	P	**P**	**10 57 31.9**	**0.0**
	1.4nm,0.5s,baz=36,slow=19,SNR=2.7						
CMAR	**Chiang Mai Arr**	**41.46**	**255**	P	**P**	**10 59 08.4**	**-0.4**
	0.8nm,0.7s,baz=40,slow=6.9,SNR=5.9						
CMAR				PcP	**PcP**	**11 01 07.1**	**+0.4**
	0.9nm,0.9s,baz=62,slow=2.1,SNR=4.1						
ZALV	**Zalesovo Beam**	**41.76**	**312**	P	**P**	**10 59 10.3**	**-0.6**
	4.2nm,0.8s,baz=93,slow=5.7,SNR=7.0						
ZALV				PcP	**PcP**	**11 01 08.0**	**+1.0**
	0.7nm,0.4s,baz=143,slow=5.0,SNR=2.3						
MKAR	**Makanchi Array**	**43.97**	**302**	P	**P**	**10 59 28.3**	**-0.6**
	4.8nm,0.8s,baz=89,slow=9.9,SNR=10.0						
KURK	**Kurchatov**	**45.78**	**308**	*e*P	**P**	**10 59 42.4**	**-0.8**
	105nm,0.9s						
KURBB	**Kurchatov Arra**	**45.85**	**308**	P	**P**	**10 59 43.6**	**-0.2**
	6.2nm,0.7s,baz=83,slow=8.5,SNR=9.0						
KAPI	**Kappang**	**46.55**	**210**	*e*P	**P**	**10 59 49.3**	**-0.3**
	94nm,1.5s						
KDAK	**Kodiak Island**	**47.04**	**42**	P	**P**	**10 59 53.1**	**+0.1**
	10nm,0.7s,baz=320,slow=4.1,SNR=4.0						
PMR	**Palmer**	**48.55**	**37**	*e*P	**P**	**11 00 05.5**	**+0.8**
	3.2nm,1.0s						
ILAR	**Eielson Array**	**49.41**	**32**	P	**P**	**11 00 12.1**	**+0.9**
	3.9nm,0.8s,baz=269,slow=6.4,SNR=19						
BATI	**Baumata**	**49.97**	**203**	P	**P**	**11 00 15.9**	**-0.1**
	20nm,0.7s,baz=2.3,slow=2.6,SNR=4.2						
AAK	**Ala-Archa**	**50.35**	**298**	*e*P	**P**	**11 00 20.3**	**+1.4**
	5.6nm,1.0s						
BVAR	**Borovoye Array**	**50.41**	**312**	P	**P**	**11 00 20.2**	**+1.1**
	3.6nm,1.0s,baz=79,slow=7.7,SNR=5.9						
DOT	**Dot Lake**	**50.72**	**34**	*e*P	**P**	**11 00 21.4**	**+0.1**
	8.2nm,0.9s						
PSI	**Prapat**	**51.81**	**239**	P	**P**	**11 00 32.8**	**+2.7**
	3.8nm,0.8s,baz=302,slow=4.2,SNR=3.4						
KKAR	**Karatay Array**	**52.98**	**300**	*e*P	**P**	**11 00 38.6**	**+0.1**
	1.5nm,0.5s						
NIL	**Nilore**	**54.49**	**288**	*e*P	**P**	**11 00 49.8**	**+0.1**
	21nm,0.8s						
ARU	**Arti**	**56.20**	**318**	P	**P**	**11 01 00.8**	**-0.7**
	2.9nm,0.5s,baz=62,slow=6.5,SNR=5.2						
WRA	**Warramunga Arr**	**57.20**	**188**	P	**P**	**11 01 07.9**	**-1.1**
	4.6nm,0.7s,baz=6.3,slow=7.4,SNR=12						
ABKAR	**Akbulak array**	**57.78**	**310**	*e*P	**P**	**11 01 12.5**	**-0.4**
	2.1nm,0.6s						
AKTO	**Aktyubinsk**	**58.52**	**312**	P	**P**	**11 01 15.0**	**-3.0**
	1.6nm,0.7s,baz=52,slow=12,SNR=2.8						
ASAR	**Alice Springs**	**60.93**	**188**	P	**P**	**11 01 34.3**	**-0.5**
	2.4nm,0.7s,baz=12,slow=6.3,SNR=9.3						
RES	**Resolute Bay**	**62.47**	**14**	*e*P	**P**	**11 01 44.6**	**0.0**
	4.5nm,1.2s						
KLMR	**Klimovskoe**	**63.59**	**328**	*e*P	**P**	**11 01 49.8**	**-2.4**
KLMR				AMP		11 01 56.8	
	comp=Z,12nm,1.4s						
GEYT	**Alibeck**	**63.69**	**299**	P	**P**	**11 01 52.8**	**-0.7**
	comp=Z,3.5nm,0.8s,baz=63,slow=4.0,SNR=5.5						
YKA	**Yellowknife Ar**	**63.71**	**30**	P	**P**	**11 01 53.4**	**+0.3**
	comp=Z,0.9nm,0.8s,baz=300,slow=6.6,SNR=8.7						
ARCES	**ARCESS Array B**	**63.83**	**339**	P	**P**	**11 01 53.4**	**-0.3**
	comp=Z,6.7nm,0.9s,baz=62,slow=8.4,SNR=6.7						
AFI	**Afiamalu**	**67.29**	**130**	P	**P**	**11 02 17.2**	**+0.4**
	comp=Z,12nm,0.9s,baz=79,slow=16,SNR=1.9						
FINES	**FINESS Array B**	**68.64**	**332**	P	**P**	**11 02 24.6**	**-0.1**
	comp=Z,7.1nm,0.8s,baz=69,slow=6.5,SNR=9.6						
STKA	**Stephens Creek**	**68.71**	**180**	P	**P**	**11 02 25.0**	**-0.3**
	comp=Z,3.9nm,0.9s,baz=359,slow=5.5,SNR=7.3						
NEW	**Newport**	**70.07**	**44**	P	**P**	**11 02 34.0**	**+0.1**
	comp=Z,2.0nm,0.8s,baz=225,slow=5.7,SNR=3.4						
KVAR	**Kislovodsk Ar**	**70.74**	**311**	P	**P**	**11 02 38.5**	**+0.4**
	comp=Z,12nm,1.0s,baz=63,slow=2.3,SNR=3.3						
KBZ	**Khabaz**	**70.74**	**311**	P	**P**	**11 02 37.4**	**-0.5**
	comp=Z,4.4nm,0.7s,baz=18,slow=6.2,SNR=5.7						
NWAO	**Narrogin (SRO)**	**73.29**	**201**	P	**P**	**11 02 53.9**	**+0.8**
	comp=Z,4.5nm,0.7s,baz=34,slow=15,SNR=2.6						
HFS	**Hagfors**	**73.92**	**336**	P	**P**	**11 02 56.1**	**-0.5**
	comp=Z,4.9nm,0.9s,baz=19,slow=6.1,SNR=3.1						
NB2	**NORSAR Subarra**	**74.02**	**337**	P	**P**	**11 02 57.0**	**-0.3**
	comp=Z,2.5nm,0.9s,baz=36,slow=6.2						
NOA	**NORSAR Array B**	**74.02**	**337**	P	**P**	**11 02 57.0**	**-0.3**
	comp=Z,4.6nm,0.9s,baz=38,slow=5.8,SNR=7.8						
LRM	**Limekiln Ridge**	**74.09**	**44**	*e*P	**P**	**11 02 58.8**	**+0.5**
	comp=Z,7.2nm,1.0s						
AKASG	**Malin Array Be**	**74.13**	**322**	P	**P**	**11 02 56.9**	**-1.1**
	comp=Z,1.5nm,0.5s,baz=44,slow=6.5,SNR=9.3						
NVAR	**Mina Array Bea**	**74.96**	**53**	P	**P**	**11 03 04.7**	**+1.3**
	comp=Z,2.5nm,0.9s,baz=278,slow=6.3,SNR=3.2						
ELK	**Elko**	**75.51**	**50**	P	**P**	**11 03 07.3**	**+0.8**
	comp=Z,0.4nm,0.4s,baz=266,slow=13,SNR=3.9						
H17A	**Grant Village**	**76.01**	**45**	*e*P	**P**	**11 03 10.6**	**+1.1**
	comp=Z,6.2nm,0.9s						
GLKZ	**Green Lake**	**76.36**	**144**	P	P	11 03 17.2	+6.3
PDAR	**Pinedale Array**	**77.61**	**45**	P	**P**	**11 03 19.1**	**+0.6**
	comp=Z,0.7nm,0.6s,baz=251,slow=2.9,SNR=6.7						
BRTR	**Keskin Array B**	**78.69**	**311**	P	**P**	**11 03 24.6**	**+0.3**
	comp=Z,0.7nm,0.6s,baz=77,slow=6.5,SNR=4.3						
STHS	**Stebnicka Huta**	**78.79**	**325**	*e*P	**P**	**11 03 25.6**	**+1.1**
ULM	**Lac du Bonnet**	**79.42**	**33**	P	**P**	**11 03 28.0**	**+0.1**
	comp=Z,1.5nm,0.7s,baz=236,slow=3.2,SNR=3.7						
KUZ	**Kuaotunu**	**80.17**	**153**	P	**P**	**11 03 36.3**	**+4.4**
BRG	**Berggiesshubel**	**80.88**	**329**	*e*P	**P**	**11 03 36.1**	**+0.3**
	comp=Z,3.0nm,1.0s						
CLL	**Collm**	**80.92**	**330**	*i* P	**P**	**11 03 35.6**	**-0.4**
	comp=Z,6.0nm,0.8s						
CLL				*i* P(2)		11 03 39.9	
	comp=Z,10.0nm,1.1s						
CLL				*es*P	**PcP**	**11 03 45.0**	**+2.4**
KMRZ	**Kaimai**	**81.22**	**153**	P	P	11 03 44.5	+6.9
MMAI	**Mount Meron Ar**	**81.81**	**305**	P	**P**	**11 03 40.6**	**-0.6**
	comp=Z,1.5nm,0.4s,baz=34,slow=10,SNR=4.3						
HAZ	**Te Kaha**	**81.83**	**152**	P	**P**	**11 03 36.6**	**-4.2**
MXZ	**Matakaoa Point**	**81.86**	**151**	P	P	11 03 34.7	-6.2
RUGZ	**Raukumara Rang**	**81.97**	**152**	P	**P**	**11 03 39.8**	**-1.8**
URZ	**Urewera**	**82.02**	**152**	P	**P**	**11 03 42.6**	**+0.9**
	comp=Z,10nm,0.3s,baz=274,slow=3.9,SNR=46						
URZ	**Urewera**	**82.02**	**152**	P	**P**	**11 03 43.0**	**+1.2**
PKGZ	**Pukihiroa**	**82.06**	**151**	P	**P**	**11 03 38.1**	**-4.0**
WMGZ	**Waiomatini S**	**82.13**	**151**	P	P	11 03 37.3	-5.0
MWZ	**Matawai**	**82.24**	**152**	P	**P**	**11 03 44.1**	**+1.1**
TWGZ	**Tauwhareparae**	**82.27**	**152**	P	**P**	**11 03 41.6**	**-1.5**
RTZ	**Ruatahuna**	**82.29**	**153**	P	**P**	**11 03 48.0**	**+4.7**
PUZ	**Puketiti**	**82.29**	**151**	P	**P**	**11 03 39.4**	**-3.8**
RAGZ	**Rawiri**	**82.34**	**152**	P	**P**	**11 03 46.3**	**+2.8**
KHC	**Kasperske Hory**	**82.37**	**328**	*e*P	**P**	**11 03 43.5**	**-0.3**
TKGZ	**Te Karaka**	**82.45**	**

λ8.00000°. NP2:φ₀201.00000°, δ82.00000°, λ179.00000°. Principal axes: T 2.2870, Plg6.0000°, Azm156.0000°; N 1.0930, Plg82.0000°, Azm295.0000°; P -3.3790, Plg5.0000°, Azm66.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.

NEIC ***14*** *10:56:19.4±0.1,57.68S×65.31W,h15km,mb6.1/89, ME6.4,MS6.1/156,MW6.2,MW6.2 Error ellipse: s-maj=7.8km s-min=4.8km az=91.0,Moment Tensor Solution. s35 Moment tensor: Scale 10¹⁸Nm; Mrr0.61; Mθθ1.43; Mφφ-2.04; Mrθ-0.59; Mrφ1.85; Mθφ-0.39; Best double couple: M₀2.70000×10¹⁸ NP1:φ₀200.00000°, δ77.00000°, λ164.00000°. NP2:φ₀293.00000°, δ74.00000°, λ13.00000°. Principal axes: T 2.4900, Plg20.0000°, Azm156.0000°; N 0.3600, Plg70.0000°, Azm342.0000°; P -2.8500, Plg2.0000°, Azm247.0000°; Broadband fault plane solution: P waves. NP1:φ₀287.00000°, δ85.00000°, λ20.00000°. NP2:φ₀195.00000°, δ70.00000°, λ175.00000°. Principal axes: T Plg17.0000°, Azm153.0000°; N Plg0.0000°, Azm0.0000°; P Plg11.0000°, Azm59.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*

NEIC Felt [III] at Ushuaia, Argentina. Also felt at Punta Arenas, Chile.

ISC 14 10:56:18.3±0.4,57.58S±0.03,65.37W±0.04,h8km±2km, h9km:pP-P,n1369,σ2.18/1360,mb6.0/110,MS6.0/236, 62C-19D,Drake Passage

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I02AR	**USHUAIA INFRAS**	**3.19**	**339**	Pn	**Pn**	**10 57 07.7**	**-1.0**
	baz=167,slow=22,SNR=0.8						
I02AR				Sn	**Sn**	**10 57 43.7**	**-3.2**
	baz=168,slow=20						
PMSA	**Palmer Station**	**7.25**	**176**	*e*Pn	**Pn**	**10 58 01.3**	**-3.0**
	1μm,0.8s						
PMSA				*e*Sn	**Sn**	**10 59 33.6**	**+6.9**
EFI	**East Falkland**	**7.27**	**39**	*e*Pn	**Pn**	**10 58 04.2**	**-0.5**
EFI				*e*Sn	**Sn**	**10 59 19.7**	**-7.6**
EFI	**East Falkland**	**7.27**	**39**	*c i*P	**Pn**	**10 58 04.1**	**-0.6**
GO09	**Cerro Castillo**	**7.51**	**324**	⇑*i*P	Pn	10 58 02.1	-5.8
GO09				*e*S	Sn	10 59 22.6	-11
CHRN	**Cochrane**	**11.23**	**334**	*e*Pn	**Pn**	**10 58 59.7**	**+0.7**
CHRN	**Cochrane**	**11.23**	**334**	*e*P	Pn	10 58 53.8	-5.2
CHRN				*e*S	Sn	11 00 52.8	-12
HOPE	**Hope Point**	**16.45**	**91**	*e*Pn	**P**	**11 00 11.5**	**-0.4**
	3μm,1.4s						
PLCA	**Paso Flores**	**17.19**	**347**	P	**P**	**11 00 19.6**	**-0.7**
	5.5nm,0.3s,baz=193,slow=12,SNR=188						
PLCA				LR	LR	11 06 47.8	
	comp=Z,85μm,19.8s,baz=202,slow=37						
PLCA	**Paso Flores**	**17.19**	**347**	*e*Pn	**P**	**11 00 19.5**	**-0.7**
	2μm,1.4s						
PLCA	**Paso Flores**	**17.19**	**347**	*e*P	**P**	**11 00 19.5**	**-0.7**
PLCA				pmax	pmax		
	comp=Z,2μm,1.4s						
TRQA	**Tornquist**	**19.66**	**8**	*e*P	**Pn**	**11 00 48.4**	**-0.4**
	comp=Z,2μm,1.2s						
TRQA				*e*S	**Sn**	**11 04 29.6**	**+0.1**
CANA	**Caviahue**	**20.05**	**347**	*i*P	**P**	**11 00 51.1**	**-0.8**
CCHI	**Chillan**	**21.45**	**345**	*i*P	**P**	**11 01 06.5**	**-0.3**
COCH	**Cobquecura**	**22.02**	**344**	*i*P	**P**	**11 01 14.2**	**+1.3**
RFA	**San Rafael**	**22.91**	**353**	*i*P	**P**	**11 01 23.1**	**+0.7**
PEL	**Peldehue**	**24.70**	**349**	*e*P	**P**	**11 01 39.0**	**-0.7**
	comp=Z,2μm,1.1s						
PEL	**Peldehue**	**24.70**	**349**	*e*P	**P**	**11 01 39.0**	**-0.7**
PEL				pmax	pmax		
	comp=Z,2μm,1.1s						
ROC1	**El Roble**	**24.90**	**349**	*e*P	**P**	**11 01 41.8**	**+0.1**
	comp=Z,1μm,1.3s						
ROC1	**El Roble**	**24.90**	**349**	*i*P	**P**	**11 01 42.4**	**+0.7**
ACAN	**Cantantal**	**25.33**	**356**	*i*P	**P**	**11 01 46.5**	**+1.2**
AUSP	**Uspallata**	**25.50**	**352**	*i*P	**P**	**11 01 47.4**	**+0.2**
RTCV	**Cerro Valdivia**	**25.80**	**354**	*i*P	**P**	**11 01 48.3**	**-1.4**
RTLS	**Leoncito**	**25.92**	**352**	*i*P	**P**	**11 01 52.0**	**+1.0**
ZON	**Zonda**	**26.13**	**354**	*i*P	**P**	**11 01 54.1**	**+1.5**
TCA	**Tanti**	**26.24**	**2**	*i*P	**P**	**11 01 54.3**	**+0.6**
RTLL	**Cerro Villicun**	**26.33**	**354**	*i*P	**P**	**11 01 56.3**	**+1.9**
VNA3	**Neumayer Olymp**	**26.44**	**143**	*i*P	**P**	**11 01 56.2**	**+1.1**
AMOG	**MOGNA**	**26.72**	**354**	*i*P	**P**	**11 01 58.7**	**+0.7**
VNA1	**Neumayer--Stat**	**26.90**	**142**	P	**P**	**11 02 00.6**	**+1.5**
VNA2	**Neumayer--Watz**	**27.18**	**142**	P	**P**	**11 02 02.8**	**+1.0**
	baz=272,slow=10						
AROD	**Rodeo**	**27.55**	**352**	*i*P	**P**	**11 02 05.5**	**-0.3**
AGUA	**GUANDACOL**	**28.16**	**354**	*i*P	**P**	**11 02 10.9**	**0.0**
SNAA	**Sanae**	**28.62**	**144**	P	**P**	**11 02 15.5**	**+0.8**
SNAA	**Sanae**	**28.62**	**144**	P	**P**	**11 02 15.0**	**+0.3**
	comp=Z,163nm,0.8s,baz=264,slow=7.6,SNR=140						
SNAA				LR	LR	11 11 49.8	
	comp=Z,35μm,20.3s,baz=270,slow=32						
SNAA	**Sanae**	**28.62**	**144**	*e*P	**P**	**11 02 14.9**	**+0.3**
	comp=Z,389nm,1.2s						
SNAA	**Sanae**	**28.62**	**144**	*c i*P	**P**	**11 02 14.8**	**+0.1**
LCO	**Las Campanas**	**28.80**	**350**	*e*P	**P**	**11 02 15.9**	**-0.9**
	comp=Z,467nm,1.4s						
LCO				*e*S	**S**	**11 07 05.9**	**-0.8**
LCO				LR	LR		
	comp=Z,63μm,20.0s						
CPUP	**Villa Florida**	**31.75**	**14**	P	**P**	**11 02 42.5**	**0.0**
	comp=Z,22nm,1.0s,baz=195,slow=7.5,SNR=26						
CPUP				LR	LR	11 16 19.5	
	comp=Z,53μm,19.3s,baz=192,slow=38						
CPUP	**Villa Florida**	**31.75**	**14**	*e*P	**P**	**11 02 43.9**	**+1.4**
	comp=Z,199nm,1.5s						
CPUP	**Villa Florida**	**31.75**	**14**	*e*P	**P**	**11 02 43.9**	**+1.4**
CPUP				pmax	pmax		
	comp=Z,200nm,1.5s						
QSPA	**South Pole Qui**	**32.66**	**180**	P	**P**	**11 02 49.6**	**-0.9**
	comp=Z,424nm,1.0s,baz=155,slow=4.3,SNR=269						
QSPA				LR	LR	11 15 28.1	
	comp=Z,32μm,19.4s,baz=154,slow=35						
QSPA	**South Pole Qui**	**32.66**	**180**	*e*P	**P**	**11 02 50.1**	**-0.4**
	comp=Z,978nm,1.1s						
QSPA				*e*PP	**PnPn**	**11 04 00.5**	**+2.6**
QSPA				*e*S	**S**	**11 08 09.7**	**+3.3**
PB14	**IPOC Station P**	**33.12**	**352**	*i*P	**P**	**11 02 53.5**	**-1.5**
NVL	**N'lazarevskaya**	**33.45**	**144**	⇑*i*P	**P**	**11 02 55.6**	**-1.4**
NVL				*e*S	**S**	**11 08 20.6**	**+2.5**
NVL				*e*SS	**SS**	**11 10 40.4**	**-1.4**
NVL				pmax	pmax		
	comp=Z,368nm,0.8s						
NVL				MLR	MLR		
	comp=Z,15μm,13.0s						
PB10	**IPOC Station P**	**34.23**	**352**	*e*P	**P**	**11 03 03.6**	**-0.7**
	comp=Z,553nm,1.5s						
PB10	**IPOC Station P**	**34.23**	**352**	*i*P	**P**	**11 03 04.3**	**0.0**
PB04	**IPOC Station P**	**35.38**	**352**	*e*P	**P**	**11 03 13.1**	**-1.3**
	comp=Z,560nm,1.6s						
SPB	**Sao Paulo**	**36.34**	**28**	*e*P	**P**	**11 03 23.2**	**+0.7**
	comp=Z,163nm,1.1s						
SPB				LR	LR		
	comp=Z,23μm,21.0s						
PB01	**IPOC Station P**	**36.61**	**354**	*e*P	**P**	**11 03 24.5**	**-0.4**
	comp=Z,1μm,1.7s						
PB11	**IPOC Station P**	**37.90**	**353**	*e*P	**P**	**11 03 35.7**	**-0.2**
	comp=Z,568nm,1.3s						
MNMC	**Minye Minye**	**38.52**	**354**	*e*P	**P**	**11 03 41.4**	**+0.1**
	comp=Z,814nm,1.7s						
H09W1	**TRISTAN DA CUN**	**40.09**	**83**	P	**P**	**11 03 52.0**	**-1.9**
H09N1	**TRISTAN DA CUN**	**40.13**	**83**	T	T	11 46 54.4	
	SNR=3.6						
SBA	**Scott Base**	**41.12**	**195**	*e*P	**P**	**11 04 02.8**	**+0.8**
	comp=Z,286nm,1.3s						
SBA				LR	LR		
	comp=Z,12μm,20.0s						
SBA	**Scott Base**	**41.12**	**195**	*e*P	**P**	**11 04 02.8**	**+0.8**
SBA				pmax	pmax		
	comp=Z,290nm,1.3s						
LPAZ	**La Paz**	**41.27**	**356**	P	**P**	**11 04 03.5**	**-1.0**
	comp=Z,33nm,1.0s,baz=152,slow=6.8,SNR=53						
LPAZ				LR	LR	11 22 25.4	
	comp=Z,41μm,18.3s,baz=163,slow=38						
LPAZ	**La Paz**	**41.27**	**356**	*e*P	**P**	**11 04 04.0**	**-0.5**
	comp=Z,504nm,1.4s						
LPAZ	**La Paz**	**41.27**	**356**	*e*P	**P**	**11 04 04.0**	**-0.5**
LPAZ				pmax	pmax		
	comp=Z,500nm,1.4s						
SIV	**San Ignacio**	**41.64**	**6**	P	**P**	**11 04 05.9**	**-1.0**
	comp=Z,72nm,1.1s,baz=200,slow=7.9,SNR=72						
VNDA	**Vanda**	**42.04**	**194**	P	**P**	**11 04 11.0**	**+1.6**
	comp=Z,16nm,1.0s,baz=150,slow=7.3,SNR=50						
VNDA				LR	LR	11 20 52.1	
	comp=Z,9μm,18.2s,baz=149,slow=35						
VNDA	**Vanda**	**42.04**	**194**	*e*P	**P**	**11 04 11.1**	**+1.6**
	comp=Z,286nm,1.7s						
VNDA	**Vanda**	**42.04**	**194**	*e*P	**P**	**11 04 11.1**	**+1.6**
VNDA				pmax	pmax		
	comp=Z,290nm,1.7s						
SYO	**Syowa Base**	**42.63**	**149**	⇑*e*P	**P**	**11 04 10.4**	**-4.0**
SYO	**Syowa Base**	**42.63**	**149**	⇓*i*pP	**P**	**11 04 12.9**	**-1.5**
RPN	**Rapa Nui**	**43.31**	**296**	P	**P**	**11 04 19.7**	**-0.6**
	comp=Z,112nm,1.1s,baz=66,slow=10.0,SNR=3.2						
RPN				LR	LR	11 18 25.1	
	comp=Z,11μm,18.3s,baz=154,slow=31						
NNA	**Nana**	**46.33**	**344**	P	**P**	**11 04 43.8**	**-0.8**
	comp=Z,87nm,1.2s,baz=205,slow=13,SNR=7.3						
NNA				LR	LR	11 21 32.7	
	comp=Z,18μm,18.8s,baz=149,slow=33						
NNA	**Nana**	**46.33**	**344**	P	**P**	**11 04 43.8**	**-0.8**
NNA				pmax	pmax		
	comp=Z,79nm,1.2s						
SAML	**Samuel**	**48.54**	**3**	*e*P	**P**	**11 05 01.1**	**-0.6**
	comp=Z,419nm,1.4s						
SAML				LR	LR		
	comp=Z,31μm,20.0s						
MAW	**Mawson**	**49.43**	**157**	P	**P**	**11 05 08.0**	**+0.1**
	comp=Z,55nm,1.0s,baz=210,slow=8.4,SNR=40						
MAW				LR	LR	11 26 31.2	
	comp=Z,39μm,18.4s,baz=221,slow=37						
MAW	**Mawson**	**49.43**	**157**	*e*P	**P**	**11 05 07.6**	**-0.4**
	comp=Z,56nm,1.4s						
ATAH	**Atahualpa**	**51.33**	**343**	P	**P**	**11 05 25.1**	**+1.7**
	comp=Z,192nm,1.1s,baz=184,slow=5.6,SNR=25						
ATAH				LR	LR	11 24 03.8	
	comp=Z,17μm,21.6s,baz=204,slow=32						
MIR	**Mirnyy**	**55.14**	**170**	⇑*iP*	**P**	**11 05 51.0**	**+0.7**
MIR				*i*		11 05 52.0	
MIR				*e*		11 07 58.0	
MIR				*e*PPP	PPP	11 09 03.0	
MIR				pmax	pmax		
	comp=Z,648nm,1.8s						
MIR				pmax	pmax		
	comp=Z,5μm,7.0s						
MIR				MLR	MLR		
	comp=N,17μm,18.0s						
MIR				MLR	MLR		
	comp=E,13μm,18.0s						
MIR				MLR	MLR		
	comp=Z,52μm,18.0s						
PTCN	**Pitcairn Islan**	**55.69**	**277**	PFAKE		11 06 10.0	+15
PTCN				LR	LR		
	comp=Z,11μm,19.0s						
CASY	**Casey**	**56.42**	**178**	*e*P	**P**	**11 05 59.1**	**-0.5**
	comp=Z,1μm,2.0s						
CASY				LR	LR		
	comp=Z,3μm,19.0s						
RCBR	**Riachuelo**	**56.52**	**36**	*e*P	**P**	**11 06 01.4**	**+0.5**
	comp=Z,131nm,1.5s						
RCBR				LR	LR		
	comp=Z,28μm,19.0s						
PTGA	**Pitinga**	**56.84**	**6**	P	**P**	**11 06 02.3**	**-0.8**
	comp=Z,73nm,1.2s,baz=195,slow=5.2,SNR=12						
PTGA				LR	LR	11 32 07.6	
	comp=Z,27μm,18.9s,baz=181,slow=38						
PTGA	**Pitinga**	**56.84**	**6**	*e*P	**P**	**11 06 02.6**	**-0.5**
	comp=Z,199nm,1.4s						
OTAV	**Otavalo**	**58.58**	**345**	*e*P	**P**	**11 06 16.7**	**+0.8**
	comp=Z,698nm,1.5s						
OTAV				LR	LR		
	comp=Z,15μm,20.0s						
OTAV	**Otavalo**	**58.58**	**345**	*e*P	**P**	**11 06 18.1**	**+2.2**
CMBC	**Cumbal**	**59.19**	**345**	*e*P	**P**	**11 06 22.7**	**+2.6**
GCUF	**Volcan Galeras**	**59.40**	**346**	*e*P	**P**	**11 06 22.7**	**+1.1**
FLOC	**Florencia**	**59.55**	**348**	*e*P	**P**	**11 06 21.4**	**-0.7**
CRUC	**La Cruz**	**59.69**	**347**	*e*P	**P**	**11 06 26.1**	**+2.6**
RKT	**Rikitea**	**59.88**	**274**	*e*S	**S**	**11 14 37.2**	**+1.0**
	comp=Z,23μm,27.2s						
RKT				*e*LQ	LQ	11 21 34.2	
	comp=Z,28μm,32.0s						
RKT				*e*LR	LR	11 24 08.5	
	comp=Z,26μm,28.5s,baz=145						
RKT	**Rikitea**	**59.88**	**274**	*e*T	T	12 09 15.8	
	comp=Z,6.6nm,0.3s						
TUMC	**Tumaco**	**60.18**	**345**	*e*P	**P**	**11 06 25.8**	**-0.6**
	comp=Z,960nm,1.6s						
TUMC	**Tumaco**	**60.18**	**345**	*e*P	**P**	**11 06 26.7**	**+0.3**
TUMC				*e*P	**P**	**11 06 28.7**	**+2.3**
SOTA	**Rioblanco**	**60.21**	**347**	*e*P	**P**	**11 06 28.0**	**+0.9**
PCON	**Cinco Dias**	**60.37**	**347**	*e*P	**P**	**11 06 29.4**	**+1.0**
SHEL	**Horse Pasture**	**60.51**	**72**	PFAKE		11 06 40.0	+11
SHEL				LR	LR		
	comp=Z,3μm,20.0s						
BETC	**Betania**	**60.61**	**348**	*e*P	**P**	**11 06 33.4**	**+4.0**
POPC	**Popayan, Colom**	**60.61**	**347**	*e*P	**P**	**11 06 28.7**	**-0.9**
MARP	**Paez Belalcaza**	**60.83**	**348**	*e*P	**P**	**11 06 34.0**	**+2.9**
GRGC	**Isla de Gorgon**	**61.26**	**345**	*e*P	**P**	**11 06 33.4**	**-0.4**
SUR	**Sutherland**	**61.36**	**106**	P	**P**	**11 06 35.9**	**+1.3**
	comp=Z,5.7nm,0.8s,baz=201,slow=8.8,SNR=29						
SUR	**Sutherland**	**61.36**	**106**	*e*P	**P**	**11 06 35.4**	**+0.8**
	comp=Z,125nm,0.9s						
SUR				LR	LR		
	comp=Z,38μm,20.0s						
SUR	**Sutherland**	**61.36**	**106**	P	**P**	**11 06 36.3**	**+1.7**
	SNR=5.4						
SUR	**Sutherland**	**61.36**	**106**	P	**P**	**11 06 36.3**	**+1.7**
	SNR=5.4						
SUR	**Sutherland**	**61.36**	**106**	P	**P**	**11 06 36.3**	**+1.7**
	SNR=5.4						
PRAC	**Prado**	**61.57**	**349**	*e*P	**P**	**11 06 35.8**	**-0.1**
	comp=Z,718nm,1.7s						
PRAC	**Prado**	**61.57**	**349**	*e*P	**P**	**11 06 36.7**	**+0.8**
YOTC	**Yotoco, Valle**	**62.00**	**348**	*e*P	**P**	**11 06 38.7**	**-0.2**
H10S3	**ASCENSION HYDR**	**62.14**	**60**	T	T	12 14 30.1	
	baz=207,slow=75,SNR=51						
H10S2	**ASCENSION HYDR**	**62.14**	**60**	T	T	12 14 30.5	
	baz=207,slow=75,SNR=43						
MALC	**Bahia Malaga**	**62.15**	**346**	*e*P	**P**	**11 06 44.0**	**+4.3**
H10S1	**ASCENSION HYDR**	**62.16**	**60**	T	T	12 14 31.2	
	baz=207,slow=75,SNR=58						
CHIC	**Chingaza**	**62.37**	**351**	*e*P	**P**	**11 06 42.0**	**+0.3**
ANIL	**Santa Ana**	**62.40**	**349**	*e*P	**P**	**11 06 42.0**	**+0.3**
ROSC	**El Rosal**	**62.63**	**350**	P	**P**	**11 06 44.0**	**+0.6**
	comp=Z,74nm,1.1s,baz=174,slow=5.2,SNR=13						
ROSC				LR	LR	11 34 26.1	
	comp=Z,15μm,19.9s,baz=212,slow=37						
ROSC				PKP2ab		11 36 02.3	
	comp=Z,4.6nm,0.4s,baz=147,slow=5.4,SNR=6.4						
ROSC	**El Rosal**	**62.63**	**350**	*e*P	**P**	**11 06 44.0**	**+0.6**
MAPC	**Malpelo**	**62.77**	**342**	*e*P	**P**	**11 06 44.0**	**+0.1**
RREF	**El Recreo**	**62.79**	**349**	*e*P	**P**	**11 06 48.0**	**+3.2**
PLMC	**San Jos¨ del**	**62.90**	**348**	*e*P	**P**	**11 06 44.6**	**-0.2**
GUYC	**Guyana, Colomb**	**63.12**	**349**	*e*P	**P**	**11 06 48.0**	**+1.2**
ASCN	**Ascension**	**63.17**	**60**	*e*P	**P**	**11 06 46.6**	**-0.1**
	comp=Z,473nm,1.5s						
ASCN				LR	LR		
	comp=Z,5μm,22.0s						
H10N3	**ASCENSION HYDR**	**63.19**	**59**	P	**P**	**11 06 49.2**	**+2.8**
H10N3				T	T	12 15 46.3	
	baz=207,slow=75,SNR=55						
H10N1	**ASCENSION HYDR**	**63.20**	**59**	P	**P**	**11 06 49.2**	**+2.8**
H10N1				T	T	12 15 43.5	
	baz=207,slow=75,SNR=66						
H10N2	**ASCENSION HYDR**	**63.21**	**59**	P	**P**	**11 06 49.3**	**+2.8**
H10N2				T	T	12 15 47.6	
	baz=207,slow=75,SNR=52						
NORC	**Norcasia**	**63.40**	**349**	*e*P	**P**	**11 06 45.3**	**-2.8**
RUSC	**La Rusia**	**63.56**	**351**	*e*P	**P**	**11 06 48.8**	**-1.0**
	comp=Z,275nm,1.4s						
RUSC	**La Rusia**	**63.56**	**351**	*e*P	**P**	**11 06 50.0**	**+0.2**
HELC	**Santa Helena**	**64.09**	**349**	*e*P	**P**	**11 06 52.1**	**-1.0**
	comp=Z,431nm,1.5s						
HELC	**Santa Helena**	**64.09**	**349**	*e*P	**P**	**11 06 51.3**	**-1.7**
PTBC	**PUERTO BERRIO,**	**64.33**	**350**	*e*P	**P**	**11 06 51.3**	**-2.9**
BRRC	**Barranca, Sant**	**64.82**	**351**	*e*P	**P**	**11 06 56.0**	**-1.4**
PAMC	**Pamplona, Colo**	**64.97**	**352**	*e*P	**P**	**11 06 56.6**	**-2.3**
DBBC	**Dabeiba**	**64.98**	**348**	*e*P	**P**	**11 06 58.6**	**+0.1**
ZARC	**Zaragoza, Cauc**	**65.31**	**350**	*e*P	**P**	**11 06 59.3**	**-1.3**
OCAC	**Ocana**	**65.91**	**351**	*e*P	**P**	**11 07 05.2**	**+0.7**
SDV	**Santo Domingo**	**66.37**	**354**	P	**P**	**11 07 06.5**	**-1.1**
	comp=Z,33nm,1.0s,baz=196,slow=3.6,SNR=16						
SDV				PKP2bc		11 35 42.7	
	comp=Z,2.9nm,0.4s,baz=342,slow=9.6,SNR=6.3						
SDV				LR	LR	11 38 21.3	
	comp=Z,18μm,18.2s,baz=176,slow=38						
SDV	**Santo Domingo**	**66.37**	**354**	*e*P	**P**	**11 07 07.0**	**-0.6**
	comp=Z,242nm,1.5s						
SDV				⇑*e*		11 35 42.8	
SDV	**Santo Domingo**	**66.37**	**354**	*e*P	**P**	**11 07 07.2**	**-0.4**
MOTC	**Monteria, Cord**	**66.66**	**349**	*e*P	**P**	**11 07 08.6**	**-0.6**
BOSA	**Boshof**	**66.66**	**107**	P	**P**	**11 07 09.6**	**+0.2**
	comp=Z,30nm,0.9s,baz=195,slow=6.5,SNR=28						
BOSA				LR	LR	11 30 07.1	
	comp=Z,16μm,21.0s,baz=214,slow=30						
BOSA				PKP2ab		11 35 43.4	
	comp=Z,8.5nm,1.2s,baz=78,slow=4.9,SNR=4.1						
BOSA	**Boshof**	**66.66**	**107**	*e*P	**P**	**11 07 09.4**	**0.0**
	comp=Z,331nm,1.8s						
BOSA				P'P'ab	**P'P'ab**	**11 35 43.4**	**-5.3**
BOSA	**Boshof**	**66.66**	**107**	*e*P	**P**	**11 07 09.4**	**0.0**
BOSA				pmax	pmax		
	comp=Z,330nm,1.8s						
CAPC	**Capurgana**	**66.71**	**347**	*e*P	**P**	**11 07 12.6**	**+3.0**
PAF	**Port-aux-Franc**	**67.31**	**150**	PFAKE		11 07 20.0	+7.0
PAF				LR	LR		
	comp=Z,11μm,21.0s						
PCRV	**Puerto La Cruz**	**67.51**	**1**	P	**P**	**11 07 13.5**	**-1.2**
	comp=Z,60nm,0.9s,baz=158,slow=0.5,SNR=26						
PCRV				LR	LR	11 39 52.9	
	comp=Z,20μm,18.2s,baz=158,slow=39						
BCIP	**Isla Barro Col**	**67.56**	**345**	*e*P	**P**	**11 07 14.8**	**-0.1**
	comp=Z,993nm,1.6s						
BCIP				LR	LR		
	comp=Z,8μm,21.0s						
CODC	**Agust¨›n Codaz**	**67.60**	**351**	*e*P	**P**	**11 07 11.9**	**-3.3**
ODZ	**Otahua Downs**	**67.62**	**219**	*e*P	**P**	**11 07 16.0**	**+0.8**
	comp=Z,203nm,1.6s						
WHZ	**Wether Hill Ro**	**67.78**	**217**	*e*P	**P**	**11 07 17.6**	**+1.5**
	comp=Z,309nm,1.8s						
TBH	**Brigand Hill**	**67.91**	**5**	*e*P	**P**	**11 07 20.7**	**+3.6**
TRN	**Trinidad (W)**	**68.06**	**4**	*e*P	**P**	**11 07 18.0**	**-0.1**
MQZ	**McQueen's Vall**	**68.09**	**222**	*e*P	**P**	**11 07 19.6**	**+1.5**
	comp=Z,637nm,1.8s						
MLZ	**Mavora Lakes**	**68.19**	**218**	*e*P	**P**	**11 07 18.4**	**-0.3**
	comp=Z,149nm,1.5s						
CRLZ	**Canterbury Las**	**68.21**	**222**	*e*P	**P**	**11 07 19.1**	**+0.3**
	comp=Z,630nm,1.8s						
LBZ	**Lake Benmore**	**68.36**	**220**	*e*P	**P**	**11 07 19.9**	**+0.1**
	comp=Z,240nm,1.6s						
DCZ	**Deep Cove**	**68.42**	**217**	*e*P	**P**	**11 07 20.1**	**+0.1**
	comp=Z,78nm,1.1s						
BOT	**Bacolet**	**68.60**	**5**	*e*P	**P**	**11 07 26.2**	**+4.8**
OXZ	**Oxford**	**68.64**	**221**	*e*P	**P**	**11 07 21.1**	**-0.4**
	comp=Z,187nm,1.4s						
RPZ	**Rata Peaks**	**68.65**	**220**	P	**P**	**11 07 21.4**	**-0.2**
	comp=Z,23nm,1.0s,baz=122,slow=6.4,SNR=8.0						
RPZ	**Rata Peaks**	**68.65**	**220**	*e*P	**P**	**11 07 21.8**	**+0.2**
	comp=Z,452nm,1.9s						
TOSP	**Speyside**	**68.74**	**5**	*e*P	**P**	**11 07 25.8**	**+3.5**
KHZ	**Kahutara**	**68.89**	**223**	*e*P	**P**	**11 07 23.5**	**+0.4**
	comp=Z,308nm,1.8s						
LTZ	**Lake Taylor**	**69.03**	**222**	*e*P	**P**	**11 07 23.9**	**-0.1**
	comp=Z,207nm,1.2s						
HDC	**Heredia**	**69.07**	**340**	*e*P	**P**	**11 07 28.7**	**+4.1**
	comp=Z,1μm,1.6s						
FOZ	**Fox Glacier**	**69.24**	**220**	*e*P	**P**	**11 07 24.4**	**-0.8**
	comp=Z,309nm,1.6s						
BFZ	**Birch Farm**	**69.37**	**226**	*e*P	**P**	**11 07 25.7**	**-0.5**
	comp=Z,337nm,1.5s						
SNZO	**South Karori**	**69.42**	**224**	PFAKE		11 07 40.0	+14
SNZO				LR	LR		
	comp=Z,8μm,22.0s						
JTS	**JuntasAbangare**	**69.51**	**339**	P	**P**	**11 07 27.0**	**-0.2**
	comp=Z,134nm,1.2s,baz=234,slow=2.7,SNR=29						
JTS				LR	LR	11 33 00.0	
	comp=Z,6μm,18.4s,baz=219,slow=32						
JTS				PKP2bc		11 35 32.4	
	comp=Z,1.3nm,0.4s,baz=334,slow=18,SNR=2.1						
JTS	**JuntasAbangare**	**69.51**	**339**	*e*P	**P**	**11 07 27.4**	**+0.2**
	comp=Z,666nm,1.6s						
JTS				*e*PP	**PP**	**11 10 02.8**	**+1.7**
JTS				⇑*e*		11 35 32.4	
JTS	**JuntasAbangare**	**69.51**	**339**	P	**P**	**11 07 27.0**	**-0.2**
JTS				pmax	pmax		
	comp=Z,128nm,1.2s						
THZ	**Tophouse**	**69.69**	**223**	*e*P	**P**	**11 07 28.6**	**+0.4**
	comp=Z,527nm,1.7s						
LBTB	**Lobatse**	**69.76**	**105**	P	**P**	**11 07 28.9**	**+0.1**
	comp=Z,55nm,0.9s,baz=207,slow=7.3,SNR=38						
LBTB	**Lobatse**	**69.76**	**105**	*e*P	**P**	**11 07 28.8**	**-0.1**
	comp=Z,185nm,1.3s						
TSUM	**Tsumeb**	**70.25**	**95**	P	**P**	**11 07 32.7**	**+0.8**
	comp=Z,29nm,0.9s,baz=206,slow=5.5,SNR=36						
TSUM				LR	LR	11 33 19.8	
	comp=Z,9μm,19.1s,baz=210,slow=32						
TSUM				PKP2bc		11 35 31.9	
	comp=Z,3.5nm,1.1s,baz=38,slow=7.1,SNR=4.4						
TSUM	**Tsumeb**	**70.25**	**95**	*e*P	**P**	**11 07 32.5**	**+0.5**
	comp=Z,62nm,1.0s	

RAR LR LR
comp=Z,8µm,22.0s
RAR Rarotonga 74.66 255 *e*P **P 11 07 57.8 -0.3**
RAR pmax pmax
comp=Z,460nm,1.6s
SEUS St. Eustatius 74.81 2 *e*P **P 11 08 02.8 +4.1**
comp=Z,418nm,1.4s
SEUS St. Eustatius 74.81 2 *e*P **P 11 08 01.0 +2.2**
SABA Saba 74.93 2 *e*P **P 11 07 59.9 +0.5**
comp=Z,331nm,1.3s
SABA Saba 74.93 2 *e*P **P 11 08 01.9 +2.4**
SABA Saba 74.93 2 *e* P 11 08 04.3 +4.9
ANWB Willy Bob 75.02 4 *e*P **P 11 07 59.5 -0.4**
comp=Z,118nm,0.9s
ANWB LR LR
comp=Z,8µm,19.0s
ANWB Willy Bob 75.02 4 *e*P **P 11 07 60.0 0.0**
CDVI St. Croix 75.04 1 *e*P **P 11 08 00.6 +0.6**
comp=Z,140nm,1.2s
OUZ Omahuta 75.15 227 *e*P **P 11 08 00.2 -0.6**
comp=Z,163nm,1.1s
APG El Apazote 75.24 335 P **P 11 08 01.2 -0.3**
comp=Z,201nm,1.2s,baz=180,slow=3.7,SNR=16
APG LR LR 11 36 11.4
comp=Z,16µm,18.6s,baz=148,slow=32
CRPR Cabo Rojo, PR 75.31 358 *e*P **P 11 08 00.8 -0.8**
comp=Z,452nm,1.3s
SMRT St. Maarten 75.36 2 *e*P **P 11 08 01.1 -0.8**
comp=Z,580nm,1.5s
SMRT St. Maarten 75.36 2 *e*P **P 11 08 02.1 +0.1**
SJG San Juan 75.40 359 *e*P **P 11 08 02.0 -0.1**
comp=Z,166nm,1.4s
SJG LR LR
comp=Z,10µm,22.0s
SJG San Juan 75.40 359 *e*P **P 11 08 02.0 -0.1**
SJG pmax pmax
comp=Z,170nm,1.4s
MPR Mayaguez 75.51 358 *e*P **P 11 08 04.8 +2.1**
comp=Z,74nm,1.3s
CBYP Canovanas 75.56 360 *e*P **P 11 08 01.5 -1.6**
comp=Z,303nm,1.5s
STVI Saint Thomas 75.64 0 *e*P **P 11 08 05.2 +1.7**
comp=Z,100nm,1.2s
MTDJ Mount Denham 76.19 348 *e*P **P 11 08 08.9 +2.2**
comp=Z,2µm,2.3s
MTDJ LR LR
comp=Z,9µm,19.0s
TAU Tasmania Unive 76.21 204 *e*P **P 11 08 06.5 -0.1**
comp=Z,134nm,1.1s
TAU LR LR
comp=Z,7µm,21.0s
TAU Tasmania Unive 76.21 204 *e*P **P 11 08 06.5 -0.1**
TAU pmax pmax
comp=Z,130nm,1.1s
SDDR Presa de Saban 76.43 354 *e*P **P 11 08 08.9 +0.9**
comp=Z,369nm,1.9s
SDDR LR LR
comp=Z,10µm,21.0s
SDDR Presa de Saban 76.43 354 *e*P **P 11 08 10.3 +2.3**
RAO Raoul Island 76.76 236 PFAKE 11 08 20.0 +10
RAO LR LR
comp=Z,5µm,19.0s
GTBY Guantanamo Bay 77.63 351 *e*P **P 11 08 18.3 +3.6**
comp=Z,266nm,1.4s
GTBY LR LR
comp=Z,7µm,21.0s
WBCY West Bay, Gran 77.82 345 *e*P **P 11 08 18.7 +2.9**
LCCY Blossom Villag 77.92 346 *e*P **P 11 08 19.7 +3.4**
CBCY The Bluff, Cay 77.95 346 *e*P **P 11 08 20.1 +3.6**
CMIG Matias Romero 78.33 331 P **P 11 08 18.1 -0.6**
comp=Z,266nm,1.0s,baz=161,slow=4.6,SNR=53
GRTK Grand Turk 78.93 355 *e*P **P 11 08 22.5 +0.7**
GRTK LR LR
comp=Z,14µm,20.0s
LSZ Lusaka 79.15 101 P **P 11 08 23.7 +0.1**
comp=Z,31nm,0.8s,baz=200,slow=5.3,SNR=33
LSZ LR LR 11 39 42.3
comp=Z,10µm,18.9s,baz=208,slow=33
LSZ Lusaka 79.15 101 *e*P **P 11 08 24.2 +0.6**
LSZ Lusaka 79.15 101 P **P 11 08 25.0 +1.4**
SNR=23
LSZ Lusaka 79.15 101 P **P 11 08 25.0 +1.4**
SNR=23
LSZ Lusaka 79.15 101 P **P 11 08 25.0 +1.4**
SNR=23
LSZ Lusaka 79.15 101 *e*P **P 11 08 24.2 +0.6**
LIC Lamto 79.96 61 *e*P **P 11 08 27.2 -0.6**
comp=Z,465nm,1.5s
SACV Santiago Islan 80.09 41 PFAKE 11 08 40.0 +12
SACV LR LR
comp=Z,3µm,19.0s
KIC Kosan Boka 80.22 62 *e*P **P 11 08 28.2 -1.0**
comp=Z,210nm,1.0s
TIC Toumodi 80.33 61 *e*P **P 11 08 29.4 -0.4**
DBIC Dimbokro 80.43 61 P **P 11 08 30.2 -0.1**
comp=Z,43nm,0.8s,baz=195,slow=6.4,SNR=42
DBIC LR LR 11 39 37.7
comp=Z,2µm,19.4s,baz=204,slow=32
DBIC Dimbokro 80.43 61 *e*P **P 11 08 30.0 -0.3**
DBIC Dimbokro 80.43 61 *e*P **P 11 08 30.0 -0.3**
MYIG MØrida 80.84 337 *e*P **P 11 08 35.8 +3.6**
LVIG Laguna Verde 81.25 331 *e*P **P 11 08 37.6 +3.2**
BBTS Babate 82.45 47 P **P 11 08 42.6 +1.7**
comp=Z,82nm,0.9s,baz=212,slow=3.4,SNR=8.8
BBTS LR LR 11 44 32.1
comp=Z,2µm,18.1s,baz=216,slow=35
MOIG Morelia 82.55 326 *e*P **P 11 08 45.4 +3.8**
CAN Canberra 83.03 208 *e*P **P 11 08 43.0 -1.0**
CAN LR LR
comp=Z,2µm,20.0s
CAN Canberra 83.03 208 *e*P **P 11 08 43.0 -1.0**
059Z Ave Maria 84.67 346 P **P 11 08 54.0 +1.9**
baz=171
H06S1 SOCORRO T 84.93 317 P **P 11 08 58.3 +4.7**
H06E1 SOCORRO T-PHAS 84.96 317 P **P 11 08 57.0 +3.3**
H06N1 SOCORRO T-PHAS 85.06 317 P **P 11 08 57.3 +3.1**
059A Moore Haven 85.25 346 P **P 11 08 58.0 +3.1**
baz=172
058A Arcadia 85.43 345 P **P 11 08 58.8 +3.0**
baz=171
ABPO Ambohimpanom 85.58 119 *e*P **P 11 08 58.3 +1.0**
ABPO LR LR
comp=Z,3µm,21.0s
ABPO Ambohimpanom 85.58 119 *e*P **P 11 08 58.3 +1.0**
959A Okeechobee 85.77 346 P **P 11 09 00.6 +3.1**
baz=172
ZAIG Zacatecas 85.88 326 *e*P **P 11 08 58.9 +0.3**
958A Wauchula 85.94 345 P **P 11 09 01.3 +3.0**
baz=171
OPO Ambohidratompo 85.95 119 P **P 11 09 00.6 +1.6**
comp=Z,32nm,0.9s,baz=208,slow=4.8,SNR=18
OPO LR LR 11 39 34.3
comp=Z,6µm,21.2s,baz=196,slow=30
957A Wimauma 86.09 345 P **P 11 09 01.4 +2.3**
baz=171
DWPF Disney Wildern 86.42 346 P **P 11 09 03.0 +2.3**
baz=171
DWPF Disney Wildern 86.42 346 *e*P **P 11 09 03.5 +2.9**
comp=Z,2µm,1.6s
858A St. Cloud 86.51 346 P **P 11 09 03.6 +2.5**
baz=172
857A Zephyrhills 86.68 345 P **P 11 09 04.5 +2.5**
baz=171
AFI Afiamalu 86.93 249 P **P 11 09 04.8 +1.1**
comp=Z,14nm,0.9s,baz=210,slow=9.4,SNR=5.3
AFI LR LR 11 42 19.8
comp=Z,2µm,18.2s,baz=153,slow=32
AFI Afiamalu 86.93 249 *e*P **P 11 09 04.9 +1.1**
comp=Z,154nm,1.4s
AFI Afiamalu 86.93 249 *e*P **P 11 09 04.9 +1.1**
AFI pmax pmax
comp=Z,154nm,1.4s
ARMA Armidale 86.98 211 *e*P **P 11 09 03.5 -0.4**
LNIG Linares 86.99 329 *e*P **P 11 09 02.5 -1.1**
757A Oxford 87.32 345 P **P 11 09 07.7 +2.6**
baz=171
RER Riviere de l'E 87.57 127 *e*P **P 11 09 08.7 +1.8**
RER LR LR
comp=Z,6µm,20.0s
KOWA Kowa 87.67 58 P **P 11 09 07.3 +0.2**
comp=Z,33nm,0.7s,baz=212,slow=4.4,SNR=55
KOWA LR LR 11 41 19.8
comp=Z,3µm,21.6s,baz=218,slow=31
KOWA Kowa 87.67 58 *e*P **P 11 09 07.1 0.0**
658A Bunnell 87.69 346 P **P 11 09 09.8 +2.9**
baz=172

656A Willston 87.81 345 P **P 11 09 09.8 +2.4**
baz=171
657A Interlachen 87.93 346 P **P 11 09 09.3 +1.3**
baz=171
STKA Stephens Creek 88.04 203 P **P 11 09 08.1 -0.8**
comp=Z,10nm,1.1s,baz=144,slow=6.6,SNR=17
STKA PKKP **PKKPdf 11 26 42.0 -1.8**
comp=Z,0.7nm,0.5s,baz=316,slow=13,SNR=3.4
655A Horseshoe Beac 88.05 344 P **P 11 09 11.0 +2.4**
baz=170
BBOO Buckleboo 88.17 198 *e*P **P 11 09 08.0 -1.5**
556A Lake Butler 88.41 345 P **P 11 09 10.0 -0.3**
baz=171
MSVF Nonsavu 88.55 238 *e*P **P 11 09 13.8 +2.2**
MSVF LR LR
comp=Z,6µm,22.0s
MSVF Nonsavu 88.55 238 *e*P **P 11 09 13.3 +1.7**
MSVF pmax pmax
comp=Z,19nm,1.3s
555A McAlpin 88.61 345 P **P 11 09 13.9 +2.7**
baz=171
554A Perry 88.67 344 P **P 11 09 14.3 +2.8**
baz=170
553A Crawfordville 88.89 344 P **P 11 09 15.6 +3.1**
baz=170,SNR=6.5
457A Yulee 88.91 346 P **P 11 09 15.0 +2.4**
baz=171
552A Lynn Haven 88.97 343 P **P 11 09 15.9 +3.1**
baz=170
456A Hilliard 89.07 346 P **P 11 09 15.5 +2.2**
baz=171
MRIV Mauritius Mete 89.08 128 *e*P **P 11 09 16.0 +2.1**
KVTX Kingsville 89.09 331 PFAKE 11 09 30.0 +16
KVTX LR LR
comp=Z,5µm,19.0s
TORD Torodi Ar. Bea 89.19 64 P **P 11 09 14.6 +0.2**
comp=Z,16nm,1.0s,baz=214,slow=1.6,SNR=27
TORD PP **PP 11 12 42.6 -2.2**
comp=Z,10nm,1.1s,baz=218,slow=7.8,SNR=3.8
TORD PKKPbc **PKKPbc 11 26 49.9 +1.0**
comp=Z,0.8nm,0.9s,baz=5.1,slow=3.7,SNR=3.5
TORD LR LR 11 46 36.1
comp=Z,3µm,18.1s,baz=220,slow=34
455A Stateville 89.23 345 P **P 11 09 15.3 +1.2**
baz=171,SNR=6.3
645A Chauvin 89.26 338 P **P 11 09 16.3 +2.0**
baz=167
454A Quitman 89.29 344 P **P 11 09 14.2 -0.2**
baz=170,SNR=7.0
451A Vernon 89.51 343 P **P 11 09 17.5 +2.1**
baz=169,SNR=6.8
453A Whigham 89.53 344 P **P 11 09 17.6 +2.1**
baz=170,SNR=9.5
BBSR BB Station 89.60 1 PFAKE 11 09 30.0 +14
BBSR LR LR
comp=Z,5µm,20.0s
LPIG La Paz 89.63 320 P **P 11 09 17.5 +1.4**
comp=Z,243nm,1.2s,baz=355,slow=2.2,SNR=11
LPIG LR LR 11 41 55.6
comp=Z,4µm,18.5s,baz=152,slow=31
452A Marianna 89.65 343 P **P 11 09 18.1 +2.1**
baz=170,SNR=15
DZM Mont Dzumac 89.67 227 *e*P **P 11 09 16.2 -0.6**
comp=Z,193nm,1.4s
DZM Mont Dzumac 89.67 227 *e*S **S 11 20 08.5 +0.1**
comp=Z,6µm,27.1s
DZM Mont Dzumac 89.67 227 *e*LR LR 11 37 48.7
comp=Z,36µm,32.5s
DZM Mont Dzumac 89.67 227 *e*P **P 11 09 16.5 -0.3**
356A Blackshear 89.68 346 P **P 11 09 18.3 +2.2**
baz=171,SNR=7.8
357A Townsend 89.69 346 P **P 11 09 18.4 +2.2**
baz=171
355A Pearson 89.79 345 P **P 11 09 18.8 +2.0**
baz=171
NWAO Narrogin (SRO) 89.82 182 P **P 11 09 16.4 -0.8**
comp=Z,44nm,1.1s,baz=52,slow=5.5,SNR=12
NWAO Narrogin (SRO) 89.82 182 *e*P **P 11 09 16.2 -1.1**
NWAO LR LR
comp=Z,9µm,22.0s
NWAO Narrogin (SRO) 89.82 182 P **P 11 09 17.0 -0.3**
SNR=8.7
NWAO Narrogin (SRO) 89.82 182 P **P 11 09 17.0 -0.3**
SNR=8.7
NWAO Narrogin (SRO) 89.82 182 P **P 11 09 17.0 -0.3**
SNR=8.7
NWAO Narrogin (SRO) 89.82 182 *e*P **P 11 09 16.2 -1.1**
450A Crestview 89.84 342 P **P 11 09 18.7 +1.7**
baz=169,SNR=8.0
546A Slidell 89.84 339 P **P 11 09 18.9 +2.0**
baz=167
449A Pace 89.90 341 P **P 11 09 19.2 +2.0**
baz=168,SNR=6.1
TIGA Tifton 89.99 345 P **P 11 09 19.4 +1.8**
baz=170,SNR=10
TIGA Tifton 89.99 345 *e*P **P 11 09 19.3 +1.6**
353A Camilla 89.99 344 P **P 11 09 19.0 +1.4**
baz=170
351A Pinckard 90.14 343 P **P 11 09 18.6 +0.3**
baz=169,SNR=11
257A Skidaway Islan 90.18 347 P **P 11 09 20.5 +2.0**
baz=172
448A Bay Minette 90.18 341 P **P 11 09 19.1 +0.5**
baz=168
447A Lucedale 90.19 340 P **P 11 09 19.0 +0.4**
baz=168,SNR=18
833A Chaparral WMA, 90.23 330 P **P 11 09 19.1 +0.3**
baz=163,SNR=11
352A Blakely 90.23 343 P **P 11 09 19.3 +0.6**
baz=170,SNR=9.6
BRAL Brewton 90.27 342 P **P 11 09 19.5 +0.5**
baz=169,SNR=9.4
BRAL Brewton 90.27 342 *e*P **P 11 09 20.4 +1.4**
BRAL LR LR
comp=Z,4µm,20.0s
256A Glennville 90.29 346 P **P 11 09 20.3 +1.2**
baz=171,SNR=6.6
446A Poplarville 90.32 340 P **P 11 09 20.1 +0.9**
baz=167,SNR=8.7
350A Dozier 90.40 342 P **P 11 09 19.7 +0.2**
baz=169,SNR=9.3
254A Abbeville 90.45 345 P **P 11 09 20.5 +0.7**
baz=170,SNR=9.5
445A Amite 90.45 339 P **P 11 09 20.3 +0.5**
baz=167
349A Repton 90.47 341 P **P 11 09 20.4 +0.5**
baz=168,SNR=12
444A Pine Grove 90.51 338 P **P 11 09 21.7 +1.6**
baz=167
348A Jackson 90.66 341 P **P 11 09 21.3 +0.5**
baz=168
253A Americus 90.68 344 P **P 11 09 23.0 +2.2**
baz=170
252A Lumpkin 90.71 344 P **P 11 09 21.6 +0.6**
baz=170,SNR=10
HPIG 90.73 325 *e*P **P 11 09 22.0 +0.5**
347A Saraland 90.76 340 P **P 11 09 21.5 +0.3**
baz=168,SNR=13
443A Delano Plantat 90.77 337 P **P 11 09 23.3 +2.0**
baz=166
HKT Hockley 90.88 334 *e*P **P 11 09 22.0 +0.2**
HKT Hockley 90.88 334 *e*P **P 11 09 22.0 +0.2**
251A Midway 90.91 343 P **P 11 09 21.4 -0.6**
baz=169,SNR=28
346A Big Creek Wild 90.92 340 P **P 11 09 22.1 +0.1**
baz=167,SNR=9.3
250A Grady 90.93 342 P **P 11 09 21.6 -0.4**
baz=169,SNR=30
345A Thompson Farm, 90.95 339 P **P 11 09 22.4 +0.3**
baz=167,SNR=5.9
RGRS Roger Stewart 91.00 348 *e*P **P 11 09 25.5 +3.2**
comp=Z,2.8nm,0.4s
155A Kite 91.00 346 P **P 11 09 23.9 +1.5**
baz=171,SNR=8.5
CSU Charleston Sou 91.06 348 *e*P **P 11 09 25.9 +3.3**
249A Camden 91.07 342 P **P 11 09 22.6 -0.1**
baz=168,SNR=12
154A Montrose 91.08 345 P **P 11 09 22.4 -0.3**
baz=171,SNR=8.0
NHSC New Hope 91.19 348 P **P 11 09 25.5 +2.3**
baz=172,SNR=8.7
NHSC New Hope 91.19 348 *e*P **P 11 09 24.0 +0.8**
NHSC LR LR
comp=Z,6µm,20.0s
153A Fort Valley 91.22 345 P **P 11 09 22.7 -0.6**
baz=170
344A Westbrook Farm 91.22 339 P **P 11 09 24.4 +1.0**
baz=167,SNR=25

343A Vidalia 91.24 338 P **P 11 09 25.6 +2.1**
baz=166
FORT Forrest 91.26 192 *e*P **P 11 09 23.5 -0.5**
248A Dixon Mills 91.29 341 P **P 11 09 24.0 +0.3**
baz=168,SNR=13
151A Opelika 91.32 343 P **P 11 09 23.4 -0.4**
baz=169,SNR=12
247A Quitman 91.41 340 P **P 11 09 24.3 0.0**
baz=168,SNR=10.0
246A Jackson Lee, B 91.47 340 P **P 11 09 24.4 -0.1**
baz=168
342A Flagon Creek P 91.47 337 P **P 11 09 25.8 +1.2**
baz=166,SNR=7.2
150A Eclectic 91.51 343 P **P 11 09 23.9 -0.8**
baz=169,SNR=35
341A Kurthwood 91.61 336 P **P 11 09 26.0 +0.8**
baz=166,SNR=8.3
149A Jones 91.62 342 P **P 11 09 24.5 -0.7**
baz=169,SNR=20
245A Little AP, Sta 91.63 339 P **P 11 09 25.5 +0.3**
baz=167,SNR=13
244A Avery, Jackson 91.79 339 P **P 11 09 26.8 +0.8**
baz=167,SNR=10.0
243A Waterproof 91.79 338 P **P 11 09 26.1 +0.1**
baz=166,SNR=5.5
148A Greensboro 91.80 341 P **P 11 09 25.7 -0.3**
baz=168,SNR=5.4
EIDS Eidsvold 91.89 213 *e*P **P 11 09 26.2 -0.8**
GOGA Godfrey 91.91 345 P **P 11 09 27.0 +0.5**
baz=170,SNR=8.5
GOGA Godfrey 91.91 345 *e*P **P 11 09 25.9 -0.6**
GOGA LR LR
comp=Z,9µm,21.0s
GOGA Godfrey 91.91 345 *e*P **P 11 09 25.9 -0.6**
VBMS Vicksburg 91.93 339 P **P 11 09 27.1 +0.5**
baz=167,SNR=10.0
VBMS Vicksburg 91.93 339 *e*P **P 11 09 28.0 +1.4**
147A Livingston 91.95 341 P **P 11 09 26.7 -0.1**
baz=168,SNR=12
146A Union 92.06 340 P **P 11 09 27.5 +0.3**
baz=168
LRAL Lakeview Retre 92.09 342 P **P 11 09 26.4 -0.9**
baz=169,SNR=23
LRAL Lakeview Retre 92.09 342 *e*P **P 11 09 26.4 -0.9**
242A Grayson 92.10 337 P **P 11 09 27.4 0.0**
baz=166,SNR=13
435B Jarrell 92.11 333 P **P 11 09 27.0 -0.5**
baz=163,SNR=8.8
Z50A Ashland 92.13 343 P **P 11 09 26.9 -0.7**
baz=169,SNR=36
Z49A Columbiana 92.17 342 P **P 11 09 27.3 -0.4**
baz=169,SNR=36
145A Houston Renfro 92.19 339 P **P 11 09 28.1 +0.3**
baz=167,SNR=9.1
241A Mo Tay, Goldon 92.22 337 P **P 11 09 28.0 0.0**
baz=166,SNR=7.1
144A Alexander Plac 92.31 339 P **P 11 09 28.5 +0.2**
baz=167,SNR=5.7
NATX Nacogdoches 92.35 335 P **P 11 09 30.0 +1.4**
baz=165
NATX Nacogdoches 92.35 335 *e*P **P 11 09 29.2 +0.6**
NATX LR LR
comp=Z,4µm,20.0s
TXAR Lajitas Array 92.37 327 P **P 11 09 29.2 +0.3**
comp=Z,25nm,1.1s,baz=150,slow=7.2,SNR=47
TXAR PP **PP 11 13 10.4 +0.2**
comp=Z,6.7nm,1.3s,baz=152,slow=4.1,SNR=5.1
TXAR PKKP **PKKPdf 11 26 37.0 -3.2**
comp=Z,0.8nm,1.0s,baz=329,slow=1.1,SNR=4.3
TXAR PKKPbc **PKKPbc 11 26 42.6 +0.9**
comp=Z,0.6nm,0.7s,baz=182,slow=1.2,SNR=6.0
TXAR PKPPKP **P'P'df 11 34 54.4 +5.7**
comp=Z,0.7nm,1.1s,baz=197,slow=3.9,SNR=4.6
TXAR LR LR 11 44 41.4
comp=Z,13µm,19.1s,baz=0.0,slow=32
TX31 Lajitas Ar. Si 92.37 327 *e*P **P 11 09 29.2 +0.3**
JCT Junction City 92.38 331 P **P 11 09 28.3 -0.6**
baz=162
JCT Junction City 92.38 331 *e*P **P 11 09 28.5 -0.4**
JCT LR LR
comp=Z,4µm,21.0s
JCT Junction City 92.38 331 *e*P **P 11 09 28.5 -0.4**
Z47A Carrollton 92.43 341 P **P 11 09 28.5 -0.4**
baz=168,SNR=8.8
JSC Jenkinsville 92.48 347 *e*P **P 11 09 29.3 +0.2**
JSC Jenkinsville 92.48 347 *e*P **P 11 09 29.3 +0.2**
Z48A Northport 92.51 342 P **P 11 09 28.9 -0.4**
baz=168,SNR=12
HODGE Hodges 92.56 346 *e*P **P 11 09 29.1 -0.4**
143A Socs Landing, 92.57 338 P **P 11 09 29.2 -0.3**
baz=166
Z46A Louisville 92.58 340 P **P 11 09 29.7 +0.1**
baz=168,SNR=6.4
Y50A Piedmont 92.72 343 P **P 11 09 30.0 -0.3**
baz=169,SNR=6.5
141A Papa Simpson, 92.78 337 P **P 11 09 31.0 +0.4**
baz=168,SNR=7.0
MBAR Mbarara 92.78 95 P **P 11 09 32.7 +1.3**
comp=Z,2.6nm,0.2s,baz=196,slow=2.4,SNR=16
MBAR Mbarara 92.78 95 *e*P **P 11 09 32.8 +1.3**
MBAR LR LR
comp=Z,710nm,20.0s
Y49A Blount Mountai 92.80 343 P **P 11 09 29.6 -1.1**
baz=169,SNR=24
Z45A Winona 92.89 340 P **P 11 09 30.6 -0.4**
baz=167,SNR=6.1
Z44A Pea Ridge, Bel 92.94 339 P **P 11 09 30.6 -0.7**
baz=167
140A Cam and Jess, 92.96 336 P **P 11 09 32.3 +0.9**
baz=165
Y48A Jasper 92.97 342 P **P 11 09 30.1 -1.3**
baz=168,SNR=11
CNNC Cliffs of the 93.06 350 P **P 11 09 32.0 +0.2**
baz=173
CNNC Cliffs of the 93.06 350 PFAKE 11 09 40.0 +8.2
CNNC LR LR
comp=Z,8µm,19.0s
Y47A UCPARC, Winfie 93.08 341 P **P 11 09 31.0 -0.9**
baz=168,SNR=8.4
PAULI Pauline 93.08 347 *e*P **P 11 09 35.0 +3.1**
WHTX Lake Whitney, 93.23 333 P **P 11 09 32.6 -0.1**
baz=163
WHTX Lake Whitney, 93.23 333 *e*P **P 11 09 35.5 +2.8**
Z42A Norrel Spur, H 93.23 338 P **P 11 09 32.7 0.0**
baz=166
Y46A Houston 93.23 341 P **P 11 09 33.1 +0.4**
baz=168,SNR=9.5
SRIG Santa Rosalia 93.26 319 *e*P **P 11 09 37.2 +4.3**
KMSC Kings Mountain 93.34 347 P **P 11 09 32.9 -0.2**
baz=172,SNR=8.7
KMSC Kings Mountain 93.34 347 *e*P **P 11 09 32.3 -0.8**
Y45A Yeager Farm, C 93.34 340 P **P 11 09 33.1 -0.1**
baz=167,SNR=10
Z41A Richland Creek 93.39 337 P **P 11 09 33.0 -0.4**
baz=166,SNR=11
BG3 Lake Jocassee 93.40 346 *e*P **P 11 09 33.2 -0.1**
X49A Woodville 93.42 343 P **P 11 09 32.7 -0.8**
baz=169,SNR=12
X48A Hartselle 93.48 342 P **P 11 09 33.6 -0.2**
baz=169,SNR=24
Z40A Long Farm, Mag 93.52 337 P **P 11 09 33.8 -0.1**
baz=165,SNR=8.4
Y44A Strider, Charl 93.56 340 P **P 11 09 34.3 +0.2**
baz=167
Y43A Makayla and Ka 93.65 339 P **P 11 09 33.8 -0.7**
baz=167
X47A Russelville 93.68 342 P **P 11 09 34.0 -0.7**
baz=168,SNR=12
Y42A Garnett, Star 93.75 338 P **P 11 09 35.0 0.0**
baz=166,SNR=9.0
CCAR Cane Creek 93.82 338 *e*P **P 11 09 39.0 +3.7**
X46A Booneville 93.84 341 P **P 11 09 34.5 -0.9**
baz=168,SNR=7.5
X45A UM Field Stati 93.86 340 P **P 11 09 33.8 -1.7**
baz=167,SNR=19
WLAR White Oak Lake 93.87 337 *e*P **P 11 09 35.8 +0.2**
OXF Oxford 93.95 340 P **P 11 09 34.1 -1.8**
baz=167,SNR=7.5
OXF Oxford 93.95 340 *e*P **P 11 09 34.9 -1.0**
OXF Oxford 93.95 340 *e*P **P 11 09 34.9 -1.0**
Y41A Eaglette Beard 93.95 338 P **P 11 09 35.3 -0.6**
baz=166,SNR=36
SWET Sewanee 94.05 343 *e*P **P 11 09 35.4 -1.0**
comp=Z,35nm,1.5s
CPCT Cooper Cave 94.07 344 *e*P **P 11 09 37.8 +1.4**
X44A Crenshaw 94.07 340 P **P 11 09 35.4 -1.1**
baz=167,SNR=5.1

NCAT North Carolina 94.08 348 eP P 11 09 36.1 -0.4
W48A Pulaski 94.13 342 P P 11 09 35.7 -1.0
baz=169,SNR=10
TKL Tuckaleechee C 94.17 345 P P 11 09 37.5 +0.5
comp=Z,15nm,1.1s,baz=179,slow=3.1,SNR=13
TKL PP PP 11 13 19.9 -4.1
comp=Z,16nm,1.2s,baz=157,slow=5.4,SNR=3.6
TKL LR LR 11 52 26.2
comp=Z,3µm,18.6s,baz=148,slow=36
TKL Tuckaleechee C 94.17 345 eP P 11 09 39.1 +2.2
TKL PP PP 11 13 19.9 -4.1
TKL Tuckaleechee C 94.17 345 eP P 11 09 39.1 +2.2
PLAL Pickwick Lake 94.17 341 eP P 11 09 35.6 -1.3
Y40A Okolona 94.22 337 P P 11 09 37.4 +0.3
baz=165,SNR=5.7
X43A Marvell 94.23 339 P P 11 09 37.0 -0.2
baz=167,SNR=7.1
W47A Westpoint 94.35 342 P P 11 09 37.1 -0.7
baz=168,SNR=12
W46A Michie 94.37 341 P P 11 09 38.5 +0.7
baz=168
ABTX Abilene, Hawle 94.38 332 P P 11 09 38.2 +0.2
baz=162,SNR=9.9
ABTX Abilene, Hawle 94.38 332 eP P 11 09 40.6 +2.6
HSIG 94.38 321 eP P 11 09 37.3 -0.7
X42A Stuttgart 94.41 339 P P 11 09 37.6 -0.5
baz=166,SNR=7.2
W45A Hickory Valley 94.53 341 P P 11 09 37.4 -1.2
baz=167,SNR=7.2
X40A Basin Creek Fa 94.59 338 P P 11 09 39.9 +1.0
baz=166,SNR=5.6
W44A Shelby Farms P 94.63 340 P P 11 09 38.6 -0.4
baz=167
MET Memphis--Engin 94.64 340 eP P 11 09 42.1 +3.1
V48A Smith Brothers 94.70 343 P P 11 09 39.9 +0.6
baz=169,SNR=9.3
UALR University of 94.77 338 eP P 11 09 42.1 +2.5
MIAR Mount Ida 94.80 337 P P 11 09 38.9 -0.9
baz=165,SNR=13
MIAR Mount Ida 94.80 337 eP P 11 09 39.3 -0.5
MIAR LR LR
comp=Z,4µm,19.0s
MIAR Mount Ida 94.80 337 eP P 11 09 39.3 -0.5
X39A Fountain Ranch 94.88 337 P P 11 09 39.2 -1.0
baz=165,SNR=18
V47A Nunnelly 94.90 342 P P 11 09 39.3 -0.9
baz=168,SNR=12
V46A Holladay 94.98 342 P P 11 09 39.4 -1.2
baz=168,SNR=8.7
TZTN Tazewell 95.01 345 P P 11 09 40.6 -0.2
baz=170,SNR=11
TZTN Tazewell 95.01 345 eP P 11 09 40.5 -0.3
V45A Humboldt 95.06 341 P P 11 09 41.3 +0.3
baz=168
W42A Bald Knob 95.08 339 P P 11 09 42.3 +1.2
baz=166
MNTX Cornudas Mount 95.09 327 P P 11 09 40.4 -0.9
baz=160,SNR=14
MNTX Cornudas Mount 95.09 327 eP P 11 09 41.4 +0.1
MNTX LR LR
comp=Z,7µm,20.0s
W41B Gary Mavity, V 95.13 338 P P 11 09 41.7 +0.4
baz=166,SNR=25
HBAR Harrisburg 95.19 340 eP P 11 09 44.4 +2.8
WVT Waverly 95.25 342 P P 11 09 41.4 -0.4
baz=168
WVT Waverly 95.25 342 eP P 11 09 40.8 -1.0
WVT Waverly 95.25 342 eP P 11 09 40.8 -1.0
WHAR Wooly Hollow 95.25 338 eP P 11 09 41.4 -0.5
VWCC Virginia Weste 95.26 348 eP P 11 09 44.4 +2.6
GDL2 Guadalupe Moun 95.27 328 eP P 11 09 44.6 +2.4
comp=Z,54nm,1.6s
BLA Blacksburg 95.28 348 P P 11 09 42.1 +0.1
baz=172
BLA Blacksburg 95.28 348 eP P 11 09 45.0 +3.0
BLA LR LR
comp=Z,7µm,21.0s
BLA Blacksburg 95.28 348 eP P 11 09 45.0 +3.0
W40A Ferguson Farm, 95.32 338 P P 11 09 42.9 +0.8
baz=166,SNR=10
W40A Ferguson Farm, 95.32 338 eP P 11 09 42.3 +0.1
U48A Cassie Pea, Po 95.41 343 P P 11 09 43.3 +0.7
baz=169,SNR=5.7
U47A Clarksville 95.46 342 P P 11 09 42.0 -0.8
baz=168,SNR=11
W39A Magazine 95.47 337 P P 11 09 42.6 -0.3
baz=165,SNR=7.7
JSRW J. Sargeant Re 95.49 350 eP P 11 09 42.3 -0.6
EPT El Paso 95.50 326 eP P 11 09 47.2 +4.0
U46A Springville 95.53 342 P P 11 09 41.0 -2.2
baz=168
V42A Cord 95.58 339 P P 11 09 44.1 +0.8
baz=166,SNR=14
IP05 Hopewell Churc 95.62 350 eP P 11 09 46.7 +3.3
U45A Rockin P Farm, 95.62 341 P P 11 09 44.5 +0.9
baz=168
UTMT University of 95.63 341 eP P 11 09 45.5 +1.9
UTMT ePP PP 11 13 36.3 +0.9
V41A Mountainview 95.70 338 P P 11 09 43.7 -0.3
baz=166,SNR=15
U44B Burton Farm, H 95.72 341 P P 11 09 42.8 -1.2
baz=167
IP07 Quail 95.73 350 eP P 11 09 44.5 +0.5
IP06 Yanceyville 95.74 350 eP P 11 09 47.7 +3.7
IP01 Cuckoo 95.76 350 eP P 11 09 47.0 +2.9
KMBO Kilima Mbogo 95.81 101 P P 11 09 46.5 +1.1
comp=Z,1.1nm,0.5s,baz=208,slow=5.9,SNR=6.7
KMBO PP PP 11 13 37.1 +0.1
comp=Z,0.7nm,0.4s,baz=187,slow=8.9,SNR=3.8
KMBO LR LR 11 49 00.8
comp=Z,4µm,20.3s,baz=186,slow=33
KMBO Kilima Mbogo 95.81 101 eP P 11 09 47.7 +2.3
comp=Z,53nm,2.0s
KMBO ePP PP 11 13 36.5 -0.5
KMBO Kilima Mbogo 95.81 101 P P 11 09 49.0 +3.6
SNR=5.9
KMBO Kilima Mbogo 95.81 101 P P 11 09 49.0 +3.6
SNR=5.9
KMBO Kilima Mbogo 95.81 101 P P 11 09 49.0 +3.6
SNR=5.9
KMBO Kilima Mbogo 95.81 101 P P 11 09 47.9 +2.5
KMBO Kilima Mbogo 95.81 101 eP P 11 09 47.7 +2.3
KMBO e 11 13 36.5
KMBO pmax pmax
comp=Z,53nm,2.0s
SPRD Spring Road, M 95.82 350 eP P 11 09 46.1 +1.7
IP03 Louisa 95.83 350 eP P 11 09 47.2 +2.7
V40A Witts Springs 95.86 338 P P 11 09 43.6 -1.1
baz=166,SNR=7.9
CVRD Centerville Ro 95.86 350 eP P 11 09 47.1 +2.6
IP04 Greensprings 95.91 350 eP P 11 09 47.5 +2.7
U43A Rector 95.94 340 P P 11 09 43.6 -1.3
baz=167
CBN Corbin Frederi 95.95 351 eP P 11 09 48.5 +3.5
CBN LR LR
comp=Z,7µm,21.0s
T48A Bowling Green 95.97 343 P P 11 09 45.1 0.0
baz=169,SNR=6.5
FUNA Funafuti 96.01 244 PFAKE 11 10 00.0 +14
FUNA LR LR
comp=Z,7µm,19.0s
V39A Pettigrew 96.06 337 P P 11 09 45.2 -0.5
baz=165,SNR=12
U42A Revenden 96.08 339 P P 11 09 45.5 -0.1
baz=166,SNR=16
T46A Princeton 96.15 342 P P 11 09 45.7 -0.2
baz=168,SNR=9.6
WMOK Wichita Mounta 96.17 333 P P 11 09 45.9 -0.3
baz=163
WMOK Wichita Mounta 96.17 333 eP P 11 09 48.3 +2.2
WMOK LR LR
comp=Z,4µm,21.0s
WMOK Wichita Mounta 96.17 333 eP P 11 09 48.3 +2.2
U41A Viola 96.20 339 P P 11 09 46.9 +0.7
baz=166,SNR=6.5
T45A Paducah 96.25 341 P P 11 09 47.0 +0.6
baz=168
PBMO Poplar Bluff 96.34 340 eP P 11 09 49.0 +2.3
U40A Yellville 96.40 338 P P 11 09 46.4 -0.7
baz=166,SNR=14
S48A Wiedeman Farm, 96.46 344 P P 11 09 46.9 -0.4
baz=169
MSTX Muleshoe 96.48 329 P P 11 09 47.2 -0.5
baz=161,SNR=8.7
MSTX Muleshoe 96.48 329 eP P 11 09 47.2 -0.5
U39A Green Forest 96.55 337 P P 11 09 47.4 -0.4
baz=165,SNR=17
TUL1 Leonard 96.59 336 P P 11 09 47.4 -0.6
baz=164,SNR=9.1
TUL1 Leonard 96.59 336 eP P 11 09 50.3 +2.3
121A Cookes Peak, D 96.60 325 P P 11 09 47.4 -0.9
baz=159
121A Cookes Peak, D 96.60 325 eP P 11 09 49.3 +0.9
comp=Z,331nm,2.7s
T43A Greenville 96.61 340 P P 11 09 46.7 -1.3
baz=167,SNR=8.1
T42A Van Buren 96.71 340 P P 11 09 48.0 -0.5
baz=166,SNR=10.0
S46A Don Dixon Farm 96.75 342 P P 11 09 47.8 -0.8
baz=168,SNR=5.5
T41A Mountain View 96.85 339 P P 11 09 47.9 -1.3
baz=166,SNR=15
S45A Carrier Mills 96.89 342 P P 11 09 49.2 -0.1
baz=168
USIN University of 97.01 342 eP Pdif 11 09 52.2 +2.3
S44A Carbondale 97.02 341 P Pdif 11 09 50.0 +0.1
baz=167
S43A Fulton Ridge, 97.04 340 P Pdif 11 09 50.4 +0.3
baz=167,SNR=8.7
AMTX Amarillo 97.05 331 eP Pdif 11 09 53.4 +3.1
WCI Wyandotte Cave 97.06 344 P Pdif 11 09 50.1 0.0
baz=169
WCI Wyandotte Cave 97.06 344 eP Pdif 11 09 51.7 +1.6
WCI Wyandotte Cave 97.06 344 eP Pdif 11 09 51.7 +1.6
T40A Mansfield 97.10 338 P Pdif 11 09 51.1 +0.7
baz=166,SNR=8.3
SDMD Soldier's Deli 97.10 351 eP Pdif 11 09 52.2 +1.9
comp=Z,63nm,1.2s
T39A Clever 97.15 338 P P 11 09 49.8 -0.7
baz=165,SNR=7.7
R47A Wooly Knot Far 97.16 343 P P 11 09 50.2 -0.3
baz=169,SNR=7.3
R48A Northridge Ran 97.16 344 P P 11 09 50.4 -0.1
baz=169
R46A Gibon Southern 97.23 343 P Pdif 11 09 51.0 +0.1
baz=168
TUC Tucson 97.35 323 P P 11 09 50.5 -1.1
baz=157
TUC Tucson 97.35 323 eP Pdif 11 09 55.3 +3.6
TUC LR LR
comp=Z,7µm,20.0s
TUC Tucson 97.35 323 eP Pdif 11 09 55.3 +3.6
T38A Diamond 97.35 337 P Pdif 11 09 52.7 +1.2
baz=165
S42A Caledonia 97.37 340 P Pdif 11 09 51.8 +0.3
baz=167
S41A Jillco Farms, 97.37 339 P Pdif 11 09 52.1 +0.5
baz=166,SNR=13
R45A Skylar, Fairfi 97.44 342 P Pdif 11 09 52.0 +0.2
baz=168
AS01 Alice Springs 97.46 198 eP P 11 09 49.9 -2.7
ASAR Alice Springs 97.47 198 P P 11 09 50.7 -1.9
comp=Z,6.1nm,1.0s,baz=158,slow=4.0,SNR=20
ASAR PP PP 11 13 49.1 +0.5
comp=Z,5.1nm,0.9s,baz=168,slow=7.0,SNR=8.5
ASAR PKKPbc PKKPbc 11 26 26.9 -0.1
comp=Z,0.8nm,0.9s,baz=360,slow=2.5,SNR=4.9
ASAR LR LR 11 48 55.9
comp=Z,3µm,21.8s,baz=183,slow=32
AS31 Alice Springs 97.47 198 eP P 11 09 51.0 -1.5
PSUB Penn St. - Bra 97.51 352 eP Pdif 11 09 55.4 +3.3
R44A Waltonville 97.53 341 P Pdif 11 09 52.5 +0.3
baz=167
S40A Lebanon 97.53 339 P Pdif 11 09 52.8 +0.5
baz=166,SNR=12
MCWV Mont Chateau 97.63 349 P Pdif 11 09 53.3 +0.7
baz=172
MVL Millersville 97.65 352 eP Pdif 11 09 55.6 +2.9
R43A Red Bud 97.70 341 P P 11 09 52.6 -0.4
baz=167
CCM Cathedral Cave 97.73 340 P P 11 09 51.3 -1.7
baz=166
CCM Cathedral Cave 97.73 340 eP Pdif 11 09 55.0 +1.9
CCM Cathedral Cave 97.73 340 eP Pdif 11 09 55.0 +1.9
BNM Barren Site 97.75 327 eP Pdif 11 09 57.9 +4.3
S39A Bolivar 97.78 338 P P 11 09 51.9 -1.4
baz=165
S38A Stockton 97.84 337 P P 11 09 52.2 -1.4
baz=165
R42A Luebbering 97.86 340 P P 11 09 53.7 0.0
baz=167
LPM Los Pinos Moun 97.90 327 eP Pdif 11 09 58.5 +4.3
R41A Rosebud 97.99 340 P Pdif 11 09 54.3 +0.1
baz=166
BLO Bloomington 98.01 344 eP Pdif 11 09 56.4 +2.1
BLO Bloomington 98.01 344 eP Pdif 11 09 56.4 +2.1
O56A Blue Knob Stat 98.11 350 P Pdif 11 09 55.8 +1.0
baz=173
O56A Blue Knob Stat 98.11 350 eP Pdif 11 09 57.9 +3.1
LAZ Ladron 98.14 326 eP Pdif 11 09 58.8 +3.5
R40A Maddies Statio 98.15 339 P P 11 09 54.5 -0.4
baz=166
CTA Charters Tower 98.25 210 LR LR 11 47 46.6
comp=Z,129nm,20.9s,baz=177,slow=32
CTAO Charters Tower 98.25 210 PFAKE 11 10 10.0 +14
CTAO LR LR
comp=Z,5µm,19.0s
R39A Chumby, Stover 98.33 338 P P 11 09 54.1 -1.7
baz=165
R38A Fenwick Farm, 98.38 338 P P 11 09 54.4 -1.5
baz=165
SSPA Standing Stone 98.41 350 eP Pdif 11 09 56.9 +0.8
ANMO Albuquerque 98.44 327 P Pdif 11 09 59.5 +2.9
comp=Z,1.4nm,0.4s,baz=346,slow=5.8,SNR=17
ANMO PP PP 11 13 56.2 -1.2
comp=Z,3.5nm,1.2s,baz=360,slow=6.7,SNR=4.2
ANMO Albuquerque 98.44 327 eP Pdif 11 09 59.7 +3.1
ANMO PP PP 11 13 56.2 -1.2
ANMO LR LR
comp=Z,9µm,20.0s
ANMO Albuquerque 98.44 327 eP Pdif 11 09 59.7 +3.1
N59A State Game Lan 98.52 352 eP Pdif 11 09 59.5 +2.9
ACSO Alum Creek Sta 98.56 346 eP Pdif 11 09 59.4 +2.7
ACSO LR LR
comp=Z,9µm,22.0s
ODNJ Ogdensburg 98.60 353 eP Pdif 11 09 59.2 +2.3
P44A Sand Creek, Wi 98.64 342 P Pdif 11 09 58.7 +1.6
baz=168
PMOZ Porto Moniz, M 98.74 39 ePdif Pdif 11 10 02.9 +5.0
PMOZ Porto Moniz, M 98.74 39 ePP PP 11 14 03.8 +4.2
PMOZ eSKSac SKSac 11 20 42.4 +6.6
PMOZ eSS SS 11 28 25.5 +11
PMOZ Porto Moniz, M 98.74 39 eLR LR 11 42 08.6
comp=Z,6µm,18.0s
Q40A Laux Farm, Aux 98.80 339 P Pdif 11 09 59.5 +1.7
baz=166,SNR=6.8
N54A Moraine State 98.94 349 P Pdif 11 10 00.5 +2.1
baz=172
N54A Moraine State 98.94 349 eP Pdif 11 10 01.5 +3.1
P43A Skaggs, Pawnee 98.96 341 P P 11 10 00.4 +1.8
baz=167
O47A Sheridan 99.00 344 P Pdif 11 09 59.0 +0.3
baz=169
Q39A Willow Grove F 99.02 339 P Pdif 11 09 59.4 +0.6
baz=165
Q38A Cooks Store, C 99.07 338 P Pdif 11 10 00.8 +1.8
baz=165
Q37A Longview Farm, 99.16 337 P Pdif 11 10 00.4 +0.9
baz=168
O45A Potomac 99.25 343 P Pdif 11 10 01.3 +1.4
baz=168
P41A Barry, Barry 99.27 340 P Pdif 11 10 01.4 +1.5
baz=166
O44A Mansfield 99.28 342 P Pdif 11 10 01.4 +1.4
baz=168
SFIN Lafayette 99.28 343 P Pdif 11 10 01.4 +1.5
baz=168
P40A Paris 99.31 339 P Pdif 11 10 02.0 +1.9
baz=166,SNR=9.0
TAM Tamanrasset 99.31 62 eP Pdif 11 10 06.6 +5.9
TAM LR LR
comp=Z,5µm,21.0s
TAM Tamanrasset 99.31 62 eP Pdif 11 10 06.6 +5.9
TAM MLR MLR
comp=Z,5µm,21.0s
P39B Salisbury 99.40 339 P Pdif 11 10 01.8 +1.3
baz=166
M54A Oil Creek Stat 99.44 349 P Pdif 11 10 02.7 +2.1
baz=172
O43A Sugar Creek Fa 99.55 342 P Pdif 11 10 02.7 +1.6
baz=167
O42A Bath 99.60 341 P Pdif 11 10 02.7 +1.3
baz=167
ALLY Allegheny Colle 99.63 349 ePdif Pdif 11 10 02.3 +0.8
comp=Z,70nm,1.4s
O41A Passleys Farm, 99.66 340 P Pdif 11 10 03.1 +1.4
baz=166
P38A Dawn 99.69 338 P Pdif 11 10 03.2 +1.5
baz=165
N46A Monticello 99.73 344 P Pdif 11 10 03.2 +1.3
baz=169
BINY Binghamton 99.81 352 P Pdif 11 10 04.5 +2.2
baz=174
BINY Binghamton 99.81 352 PFAKE 11 10 10.0 +7.7
BINY LR LR
comp=Z,7µm,20.0s
N45A Kentland 99.81 343 P Pdif 11 10 04.0 +1.7
baz=168
HDIL Hopedale 99.81 342 P Pdif 11 10 04.2 +1.9
baz=167
HDIL Hopedale 99.81 342 PFAKE 11 10 10.0 +7.7
HDIL LR LR
comp=Z,5µm,20.0s
P37A Lathrop 99.82 338 P Pdif 11 10 03.7 +1.4
baz=165
KSU1 Kansas State U 99.83 336 P Pdif 11 10 04.3 +1.8
baz=164
KSU1 Kansas State U 99.83 336 ePdif Pdif 11 10 03.6 +1.1
comp=Z,34nm,1.5s
KSU1 LR LR
comp=Z,5µm,20.0s
O40A La Belle 99.85 340 P Pdif 11 10 04.0 +1.6
baz=166
HRV Adam Dziewonsk 99.85 355 P Pdif 11 10 04.7 +2.2
baz=177
N44A Piper City 99.85 343 P Pdif 11 10 04.4 +2.0
baz=168
T25A Trinidad 99.91 329 P Pdif 11 10 05.5 +2.4
baz=160,SNR=6.3
ERPA Erie 100.08 349 P Pdif 11 10 06.6 +3.1
baz=172
O39A Kirksville 100.10 339 P Pdif 11 10 04.7 +1.1
baz=166
PSMA Santa Maria 100.11 32 ePP PP 11 14 10.0 +0.2
PSMN Pico do Norte, 100.14 32 ePP PP 11 14 10.1 0.0
PSMN Pico do Norte, 100.14 32 eLR LR 11 43 31.1
comp=Z,238nm,19.7s
O38A Galt 100.16 338 P Pdif 11 10 04.7 +0.8
baz=165
N43A Stutzman Famil 100.17 342 P Pdif 11 10 05.8 +1.9
baz=167
M46A Old House Fiel 100.18 344 P Pdif 11 10 05.5 +1.6
baz=169
N42A Yates City 100.20 341 P Pdif 11 10 05.6 +1.5
baz=167
N41A Harden Midland 100.23 341 P Pdif 11 10 05.6 +1.4
baz=166
CBKS Cedar Bluff 100.28 333 P Pdif 11 10 06.4 +1.9
baz=162
CBKS Cedar Bluff 100.28 333 ePdif Pdif 11 10 02.4 -2.1
comp=Z,17nm,1.0s
CBKS LR LR
comp=Z,5µm,19.0s
CBKS Cedar Bluff 100.28 333 eP Pdif 11 10 02.4 -2.1
CBKS pmax pmax
comp=Z,17nm,1.0s
CBKS MLR MLR
comp=Z,5µm,19.0s
M45A Boilermakers S 100.30 343 P Pdif 11 10 06.5 +2.1
baz=168
O37A Wolven Farm, M 100.33 338 P Pdif 11 10 06.3 +1.6
baz=165
PFO Pinyon Flats O 100.47 319 PFAKE 11 10 20.0 +14
PFO LR LR
comp=Z,6µm,22.0s
WUAZ Wupatki 100.48 323 P Pdif 11 10 07.2 +1.6
baz=157
WUAZ Wupatki 100.48 323 PFAKE 11 10 20.0 +14
WUAZ LR LR
comp=Z,5µm,22.0s
PCAN Candelaria 100.58 29 ePP PP 11 14 13.5 +0.1
AAM Ann Arbor 100.69 346 PFAKE 11 10 20.0 +14
AAM LR LR
comp=Z,8µm,20.0s
N39A Derby Farms, D 100.70 339 P Pdif 11 10 08.1 +1.9
baz=166
CMLA Cha da Macela 100.72 31 ePP PP 11 14 14.2 -0.3
CMLA Cha da Macela 100.72 31 eLR LR 11 43 57.6
comp=Z,1µm,18.2s
CMLA Cha da Macela 100.72 31 PFAKE 11 10 20.0 +14
CMLA LR LR
comp=Z,7µm,19.0s
PSET Sete Cidades 100.72 31 ePP PP 11 14 14.8 +0.3
PSET Sete Cidades 100.72 31 eLR LR 11 44 07.4
comp=Z,266nm,15.6s
PCALD Caldeiras da R 100.76 31 ePP PP 11 14 14.7 -0.1
H07S1 FLORES T-PHASB 100.77 26 ePP PP 11 14 14.9 0.0
H07S1 FLORES T-PHASB 100.77 26 eLR LR 11 43 44.4
SDCO Great Sand Dun 100.78 329 P Pdif 11 10 09.8 +2.7
baz=159
SDCO Great Sand Dun 100.78 329 ePdif Pdif 11 10 09.3 +2.2
comp=Z,63nm,2.3s
SDCO LR LR
comp=Z,6µm,19.0s
M41A Milan 100.82 341 P Pdif 11 10 07.1 +0.4
baz=167
BART Pico Bartolome 100.83 31 ePP PP 11 14 15.4 0.0
PMAN Manadas 100.84 29 ePP PP 11 14 15.5 +0.1
O34A Beatrice 100.89 336 P Pdif 11 10 08.0 +0.8
baz=164
N37A Lee Faris, Mou 100.92 338 P Pdif 11 10 08.9 +1.6
baz=165
MEDO Medina 100.97 350 P Pdif 11 10 09.6 +2.2
baz=173
O33A Hebron 100.98 335 P Pdif 11 10 09.3 +1.7
baz=163
WRA Warramunga Arr 101.04 199 P Pdif 11 10 06.7 -1.8
comp=Z,5.9nm,0.9s,baz=175,slow=4.1,SNR=18
WRA PP PP 11 14 14.3 -1.6
comp=Z,3.3nm,0.9s,baz=184,slow=5.8,SNR=4.8
WRA PKKP PKKPdf 11 26 19.4 -1.7
comp=Z,1.0nm,1.0s,baz=348,slow=3.2,SNR=3.2
WRAB Tennant Creek 101.05 199 ePdif Pdif 11 10 06.6 -2.0
comp=Z,30nm,1.0s
WRAB ePP PP 11 14 15.9 0.0
WRAB LR LR
comp=Z,4µm,19.0s
WRAB Tennant Creek 101.05 199 ceP Pdif 11 10 05.9 -2.7
WRAB pmax pmax
comp=Z,31nm,1.3s
N36A Muff Farm, Cla 101.12 338 P Pdif 11 10 09.4 +1.3
baz=164
MVCO Mesa Verde 101.15 326 PFAKE 11 10 20.0 +11
MVCO LR LR
comp=Z,5µm,21.0s
S22A 4UR Ranch, Cre 101.16 328 P Pdif 11 10 11.9 +3.1
baz=159,SNR=8.7
PGRA Graciosa 101.24 29 ePP PP 11 14 18.2 -0.2
PGRA Graciosa 101.24 29 eLR LR 11 44 20.7
comp=Z,107nm,13.8s
ELFO Elginfield 101.29 348 P Pdif 11 10 10.7 +2.0
baz=171
MBWA Marble Bar 101.45 185 PFAKE 11 10 20.0 +10
MBWA LR LR
comp=Z,9µm,19.0s
M37A Trindle Farm, 101.51 338 P Pdif 11 10 11.7 +1.9
baz=165
L40A Anamosa 101.61 341 P Pdif 11 10 11.7 +1.5
baz=166
Q24A Divide 101.82 329 P Pdif 11 10 13.3 +1.6
baz=160
SCIA State Center 101.83 339 PFAKE 11 10 20.0 +8.7
SCIA LR LR
comp=Z,6µm,22.0s
LONY Lake Ozonia 102.12 353 P Pdif 11 10 13.4 +0.9
baz=175
LONY Lake Ozonia 102.12 353 PFAKE 11 10 20.0 +7.5
LONY LR LR
comp=Z,6µm,20.0s
DELO Delore Mine 102.24 351 P Pdif 11 10 15.2 +2.2
baz=173
JFWS Jewell Farm 102.27 342 PFAKE 11 10 30.0 +17
JFWS LR LR
comp=Z,6µm,21.0s
L36A Harm Buss Farm 102.30 338 P Pdif 11 10 14.6 +1.2
baz=164
L35A Bielow Farm, R 102.49 337 P Pdif 11 10 16.0 +1.8
baz=164
PKME Peaks-Kenny Pk 102.53 357 PFAKE 11 10 30.0 +16
PKME LR LR

comp=Z,7µm,20.0s
SADO Sadowa 102.62 350 P **Pdif** **11 10 16.6 +1.9**
comp=Z,3.1nm,0.7s,baz=198,slow=6.2,SNR=6.3
SADO PP **PP** **11 14 26.6 -2.1**
comp=Z,4.8nm,0.9s,baz=230,slow=15,SNR=3.3
SADO PKKP **PKKPdf** **11 26 21.4 -0.5**
comp=Z,2.1nm,0.8s,baz=350,slow=22,SNR=3.5
PLVO Plevna 102.72 352 P **Pdif** **11 10 17.4 +2.3**
baz=174
ISCO Idaho Springs 102.73 329 P **Pdif** **11 10 18.3 +2.6**
baz=159
ISCO Idaho Springs 102.73 329 *e*Pdif **Pdif** **11 10 18.8 +3.1**
comp=Z,84nm,2.4s
ISCO LR LR
comp=Z,4µm,20.0s
ISCO Idaho Springs 102.73 329 *e*P **Pdif** **11 10 18.8 +3.1**
ISCO pmax pmax
comp=Z,84nm,2.4s
ISCO MLR MLR
comp=Z,4µm,20.0s
BANO Bancroft 102.77 351 P **Pdif** **11 10 18.6 +3.2**
baz=173
OGNE Ogallala 102.86 332 PFAKE 11 10 30.0 +14
OGNE LR LR
comp=Z,5µm,20.0s
ALFO Alfred 103.14 353 P **Pdif** **11 10 18.8 +1.8**
baz=175
DAC Darwin (Calif) 103.27 319 *e*Pdif **Pdif** **11 10 13.2 -4.9**
comp=Z,7.5nm,0.3s
DAC Darwin (Calif) 103.27 319 *e*P **Pdif** **11 10 13.2 -4.9**
DAC pmax pmax
comp=Z,7.0nm,0.3s
GLMI Grayling 103.29 346 PFAKE 11 10 30.0 +12
GLMI LR LR
comp=Z,7µm,20.0s
RTC Rabat Centre 103.59 47 PFAKE 11 10 30.0 +11
RTC LR LR
comp=Z,18µm,19.0s
HNR Honiara 103.69 226 PFAKE 11 10 30.0 +10
HNR LR LR
comp=Z,3µm,22.0s
N23A Red Feather La 103.84 329 P **Pdif** **11 10 23.3 +2.8**
baz=159
FITZ Fitzroy Crossi 104.06 191 PP PP 11 14 38.4 0.0
comp=Z,3.3nm,0.9s,baz=154,slow=9.0,SNR=4.0
ECSD EROS Data Cent 104.27 337 P **Pdif** **11 10 23.1 +1.0**
baz=163
ECSD EROS Data Cent 104.27 337 *e*Pdif **Pdif** **11 10 22.7 +0.6**
comp=Z,13nm,1.4s
ECSD LR LR
comp=Z,5µm,20.0s
I32A Karley and Nic 104.73 337 P **PKiKP** **11 14 44.1 +4.6**
baz=163
G39A Holcombe 104.73 341 P **PKiKP** **11 14 45.7 +6.3**
baz=166
G38A Ridgeland 104.73 341 P **PKiKP** **11 14 45.7 +6.3**
baz=166
F41A Three Lakes 104.83 343 P **PKiKP** **11 14 46.2 +6.6**
baz=167
H35A Sunnyside Ranc 104.83 339 P **PKiKP** **11 14 44.8 +5.2**
baz=164
SPMN Marine on St. 104.96 340 P **PKiKP** **11 14 44.5 +4.7**
baz=165
SPMN Marine on St. 104.96 340 *e*PKPdf **PKiKP** **11 14 40.4 +0.6**
I31A Royce, Wessing 104.96 336 P **PKiKP** **11 14 45.6 +5.7**
baz=162
H34A Spellman Lake, 104.99 338 P **PKiKP** **11 14 45.9 +6.0**
baz=164
G36A St. Michael 105.14 340 P **PKiKP** **11 14 46.7 +6.6**
baz=165
JLU Jordanelle 105.17 325 *e*PKPdf **PKiKP** **11 14 40.6 -0.1**
JLU *e*PP **PP** **11 14 49.4 +1.4**
F40A Park Falls 105.17 342 PP PP 11 14 48.9 +1.2
baz=166
H32A Carlson Farm, 105.18 337 P **PKiKP** **11 14 45.2 +4.9**
baz=163
COWI Conover 105.19 343 PFAKE 11 14 50.0
COWI LR LR
comp=Z,5µm,20.0s
H33A Prehn Over Nor 105.20 337 PP PP 11 14 51.0 +3.0
baz=163
DUG Dugway, Tooele 105.22 324 PFAKE 11 14 50.0
DUG LR LR
comp=Z,4µm,20.0s
F39A Loretta 105.30 342 PP PP 11 14 50.3 +1.7
baz=166
H31A Wolsey 105.38 336 PP PP 11 14 49.3 0.0
baz=162
F37A Hinrichs Farm, 105.41 341 PP PP 11 14 50.2 +0.7
baz=165
SUSD Miller 105.45 336 PP PP 11 14 50.4 +0.6
baz=162
NVAR Mina Array Bea 105.45 319 PP PP 11 14 46.5 -3.6
comp=Z,3.5nm,1.1s,baz=120,slow=8.8,SNR=4.3
NVAR PKKPbc **PKKPbc** **11 26 07.2 +2.1**
comp=Z,0.6nm,0.5s,baz=214,slow=0.5,SNR=3.8
NVAR PKKP **PKKPdf** **11 26 14.7 -1.7**
comp=Z,0.4nm,0.4s,baz=301,slow=3.9,SNR=2.3
NVAR PKKPab **PKKPab** **11 26 23.9 +3.7**
comp=Z,4.5nm,0.9s,baz=316,slow=3.8,SNR=6.5
F38A Pierce - Schro 105.50 341 PP PP 11 14 52.2 +2.0
baz=166
G34A Benson 105.52 338 PP PP 11 14 50.4 +0.2
baz=164
E41A Kenton 105.52 343 PP PP 11 14 51.8 +1.6
baz=167
PFVI Vila Bisbo 105.61 44 *e*Pdif **Pdif** **11 10 27.3 -0.9**
PFVI Vila Bisbo 105.61 44 *e*PP PP 11 14 54.1 +3.1
PFVI *e*SKSac **SKSac** **11 21 11.3 +3.4**
K22A Casper 105.63 330 PP PP 11 14 52.5 +1.1
baz=158
E40A Wakefield 105.64 343 PP PP 11 14 53.3 +2.0
baz=167
E39A Mellen 105.69 342 PP PP 11 14 53.7 +2.2
baz=166
F36A Milaca 105.71 340 PP PP 11 14 53.6 +1.9
baz=165
MORF Marmelete 105.83 44 *e*PP PP 11 14 53.5 +0.8
MORF *e*SKSac **SKSac** **11 21 10.4 +1.4**
MORF *e*SS **SS** **11 29 54.7 +2.5**
MORF AMS AMS 12 04 21.4
comp=Z,6µm,15.0s
MORF Marmelete 105.83 44 *e*PP PP 11 14 58.1 +5.4
MORF *e*SKSac **SKSac** **11 21 15.7 +6.7**
MORF *e*SS **SS** **11 29 57.0 +4.8**
F35A Swanville 105.90 339 PP PP 11 14 54.1 +1.0
baz=164
G32A Webster 105.91 337 PP PP 11 14 54.0 +0.8
baz=163
F34A Alexandria 105.97 339 PP PP 11 14 54.6 +0.9
baz=164
D41A Chassel 106.04 344 PP PP 11 14 56.5 +2.4
baz=167
PBDV Barranco-do-Ve 106.04 44 *e*Pdif **Pdif** **11 10 38.1 +8.0**
PBDV Barranco-do-Ve 106.04 44 *e*PP PP 11 14 59.2 +4.9
PBDV *e*SKSac **SKSac** **11 21 16.2 +6.3**
PBDV *e*SS **SS** **11 29 58.9 +3.8**
E38A The Farm, Brul 106.08 342 PP PP 11 14 55.9 +1.5
baz=166
HWUT Hardware Ranch 106.12 326 *e*Pdif **Pdif** **11 10 32.3 +1.7**
comp=Z,12nm,1.4s
HWUT *e*PKPdf **PKiKP** **11 14 41.4 -0.9**
HWUT LR LR
comp=Z,5µm,20.0s
F33A 5 Mile Ranch, 106.22 338 PP PP 11 14 56.0 +0.6
baz=163
PVAQ Vaqueiros 106.26 44 *e*Pdif **Pdif** **11 10 36.4 +5.3**
PVAQ Vaqueiros 106.26 44 *e*PP PP 11 15 00.0 +4.1
PVAQ Vaqueiros 106.26 44 *e*LR LR 11 45 53.0
comp=Z,4µm,20.0s
E36A McGregor 106.29 340 PP PP 11 14 57.1 +1.1
baz=165
PCVE Castro Verde 106.34 44 *e*PP PP 11 14 58.8 +2.3
RSSD Black Hills 106.35 332 PP PP 11 14 58.2 +1.4
baz=160
ELK Elko 106.49 323 Pdiff **Pdif** **11 10 38.0 +5.6**
comp=Z,0.2nm,0.4s,baz=173,slow=5.1,SNR=2.8
ELK PP **PP** **11 14 55.8 -2.1**
comp=Z,1.8nm,1.0s,baz=202,slow=11,SNR=3.5
POHA Pohakuloa 106.53 281 PFAKE 11 15 00.0
POHA LR LR
comp=Z,5µm,20.0s
E35A Pequot Lakes 106.54 340 PP PP 11 14 58.5 +0.6
baz=164
PNCL Nicolau / Gran 106.58 44 *e*Pdif **Pdif** **11 10 37.7 +5.2**
PNCL Nicolau / Gran 106.58 44 *e*PP PP 11 14 59.8 +1.6
PNCL *e*SKSac **SKSac** **11 21 18.5 +6.3**
PNCL *e*SS **SS** **11 30 07.7 +5.4**
BW06 Boulder Array 106.59 328 PP PP 11 14 57.9 -0.6
baz=157
BW06 Boulder Array 106.59 328 PFAKE 11 14 50.0
BW06 LR LR
comp=Z,9µm,20.0s
PDAR Pinedale Array 106.59 328 Pdiff **Pdif** **11 10 36.5 +3.8**
comp=Z,0.1nm,0.4s,baz=150,slow=9.3,SNR=3.3
PDAR PP **PP** **11 14 57.5 -1.1**
comp=Z,8.5nm,1.2s,baz=140,slow=4.8,SNR=13
PDAR PKKPbc **PKKPbc** **11 26 00.8 -1.0**
comp=Z,1.0nm,0.9s,baz=252,slow=1.4,SNR=5.3
PDAR PKKP **PKKPab** **11 26 18.0 +3.2**
comp=Z,0.7nm,0.8s,baz=0.0,slow=3.1,SNR=4.2
PDAR PKPPKP **P'P'df** **11 34 28.6 +6.4**
comp=Z,0.8nm,1.0s,baz=352,slow=3.8,SNR=3.2
PDAR Pinedale Array 106.59 328 *e*S **Pdif** **11 10 36.3 +3.6**
E34A Wadena 106.64 339 PP PP 11 14 59.8 +1.2
baz=164
F31A Hecla 106.64 337 PP PP 11 14 59.5 +0.9
baz=162
DGAR Diego Garcia 106.74 136 PFAKE 11 15 00.0
DGAR LR LR
comp=Z,2µm,19.0s
D37A Cotton 106.76 341 PP PP 11 15 00.8 +1.4
baz=165
E33A Westby DABS, E 106.80 338 PP PP 11 14 59.9 +0.2
baz=163
LIS Lisbon 106.89 43 *e*PP PP 11 15 01.1 +0.7
LIS *e*SS SS 11 30 08.8 +2.4
LIS AMS AMS 12 05 55.4
comp=E,4µm,16.6s
C40A Isle Royale Na 106.96 344 PP PP 11 15 04.4 +3.5
baz=167
D35A Remer 106.98 340 PP PP 11 15 02.1 +1.0
baz=164
C39A Grand Marais 107.02 343 PP PP 11 15 04.7 +3.4
baz=166
AHID Auburn Hatcher 107.04 327 *e*PKPdf **PKiKP** **11 14 43.6 -0.4**
AHID *e*PP **PP** **11 15 03.0 +1.2**
AHID LR LR
comp=Z,8µm,19.0s
PMAFR Mafra 107.05 43 *e*Pdif **Pdif** **11 10 42.1 +7.6**
PMAFR Mafra 107.05 43 *e*PP PP 11 15 03.5 +1.8
PMAFR Mafra 107.05 43 *e*SS SS 11 30 17.6 +8.9
E32A Braaten, Kindr 107.10 338 PP PP 11 15 02.0 +0.1
baz=163
PBAR Barrancos 107.19 45 *e*Pdif **Pdif** **11 10 41.9 +6.7**
PBAR Barrancos 107.19 45 *e*PP PP 11 15 05.8 +3.1
PBAR *e*SKSac **SKSac** **11 21 21.3 +6.4**
PBAR *e*SS **SS** **11 30 14.5 +3.8**
D34A Park Rapids 107.20 339 PP PP 11 15 03.4 +0.8
baz=164
C37A Embarrass 107.27 341 PP PP 11 15 05.1 +1.9
baz=165
EYMN Ely 107.36 342 PP PP 11 15 05.6 +1.7
baz=166
EYMN Ely 107.36 342 *e*PKPdf **PKiKP** **11 14 43.2 -1.0**
EYMN *e*PP **PP** **11 15 05.3 +1.4**
EYMN LR LR
comp=Z,5µm,19.0s
D33A AnnSam, Wauburn 107.38 339 PP PP 11 15 04.7 +0.7
baz=163
ALMR Almeirim 107.48 43 *e*SS SS 11 30 17.0 +2.5
ALMR AMS AMS 12 05 19.4
comp=E,4µm,19.8s
PMTG Montargil 107.54 43 *e*Pdif **Pdif** **11 10 44.2 +7.5**
PMTG Montargil 107.54 43 *e*PP PP 11 15 05.3 +0.1
PMTG *e*SKSac **SKSac** **11 21 25.1 +8.8**
PMTG *e*SS **SS** **11 30 17.7 +2.4**
C35A Jirik Farms, M 107.56 340 PP PP 11 15 06.0 +0.7
baz=164
PESTR Estremoz 107.59 44 *e*Pdif **Pdif** **11 10 39.9 +2.9**
PESTR Estremoz 107.59 44 *e*PP PP 11 15 08.1 +2.4
PESTR *e*SKSac **SKSac** **11 21 23.1 +6.4**
PESTR *e*SS SS 11 30 27.5 +11
D32A Dogwood Acres, 107.60 338 PP PP 11 15 05.7 +0.1
baz=163
TARA Tarawa 107.63 243 PFAKE 11 15 00.0
TARA LR LR
comp=Z,142nm,20.0s
PMG Port Moresby 108.14 214 PFAKE 11 15 00.0
PMG LR LR
comp=Z,4µm,22.0s
PMRV Marv??o 108.16 44 *e*Pdif **Pdif** **11 10 46.3 +6.8**
PMRV Marv??o 108.16 44 *e*PP PP 11 15 12.3 +2.5
PMRV *e*SKSac **SKSac** **11 21 25.4 +6.3**
PMRV *e*SS **SS** **11 30 27.5 +3.7**
PCAS Casmilo, Conde 108.30 43 *e*Pdif **Pdif** **11 10 44.1 +4.0**
PCAS Casmilo, Conde 108.30 43 *e*PP PP 11 15 11.8 +1.0
PCAS *e*SKSac **SKSac** **11 21 25.0 +5.4**
PCAS *e*SS **SS** **11 30 29.8 +4.2**
LKWY Lake 108.48 328 PFAKE 11 15 00.0
LKWY LR LR
comp=Z,4µm,20.0s
AGMN Agassiz Nation 108.49 339 PFAKE 11 15 00.0
AGMN LR LR
comp=Z,6µm,20.0s
RLMT Red Lodge 108.67 329 PFAKE 11 15 00.0
RLMT LR LR
comp=Z,7µm,19.0s
HLID Hailey 108.77 325 PFAKE 11 15 00.0
HLID LR LR
comp=Z,4µm,19.0s
COCO West Island 108.95 162 PFAKE 11 15 00.0
COCO LR LR
comp=Z,8µm,20.0s
MTE Manteigas 108.95 43 *e*Pdif **Pdif** **11 10 49.9 +6.8**
MTE Manteigas 108.95 43 *e*PP PP 11 15 12.8 -2.9
MTE *e*SKSac **SKSac** **11 21 27.1 +4.6**
MTE *e*SS **SS** **11 30 38.8 +4.2**
MTE Manteigas 108.95 43 PFAKE 11 15 00.0
MTE LR LR
comp=Z,5µm,19.0s
MFID Camas Ranch 109.09 324 *e*PKPdf **PKiKP** **11 14 48.1 +0.4**
MFID *e*PP **PP** **11 15 13.9 -2.8**
WVOR Wild Horse Val 109.14 321 *e*PKPdf **PKiKP** **11 14 47.2 -0.7**
WVOR *e*PP **PP** **11 15 15.8 -1.2**
WVOR LR LR
comp=Z,3µm,20.0s
KIP Kipapa 109.21 280 PFAKE 11 15 00.0
KIP LR LR
comp=Z,9µm,20.0s
LAO LASA Array 109.30 332 PFAKE 11 15 00.0
LAO LR LR
comp=Z,4µm,19.0s
PAB San Pablo 109.42 46 PFAKE 11 15 00.0
PAB LR LR
comp=Z,6µm,21.0s
ESDC Sonseca Array 109.68 46 PP PP 11 15 25.5 +4.6
comp=Z,1.8nm,0.9s,baz=201,slow=4.8,SNR=4.5
POLO Lamas de Olo 109.72 42 *e*Pdif **Pdif** **11 10 53.5 +7.0**
POLO Lamas de Olo 109.72 42 *e*SKSac **SKSac** **11 21 31.7 +5.9**
POLO *e*SS **SS** **11 30 49.9 +5.0**
BOZ Bozeman (W) 109.78 327 PFAKE 11 15 00.0
BOZ LR LR
comp=Z,20µm,20.0s
MVO Moncorvo 109.81 43 *e*Pdif **Pdif** **11 10 53.7 +6.8**
MVO Moncorvo 109.81 43 *e*PP PP 11 15 25.2 +3.3
MVO *e*SKSac **SKSac** **11 21 28.9 +2.8**
MVO *e*SS SS 11 31 01.2 +15
YBH Yreka Blue Hor 109.94 318 PP PP 11 15 23.1 +0.2
comp=Z,2.9nm,1.1s,baz=221,slow=3.5,SNR=4.2
PGAV Gavieira, Arco 110.06 42 *e*Pdif **Pdif** **11 10 55.2 +7.2**
PGAV Gavieira, Arco 110.06 42 *e*PP PP 11 15 24.4 +0.7
PGAV *e*SKSac **SKSac** **11 21 36.3 +9.1**
PGAV *e*SS **SS** **11 30 56.4 +6.9**
ULM Lac du Bonnet 110.36 340 PP PP 11 15 22.8 -2.8
comp=Z,2.2nm,0.8s,baz=175,slow=7.5,SNR=3.5
ULM PKKPbc **PKKPbc** **11 25 48.7 -0.9**
comp=Z,3.2nm,0.9s,baz=331,slow=4.4,SNR=5.4
ULM PKKPab **PKKPab** **11 25 57.3 -0.1**
comp=Z,5.4nm,1.1s,baz=294,slow=3.3,SNR=3.9
DGMT Dagmar 110.46 334 PFAKE 11 15 00.0
DGMT LR LR
comp=Z,3µm,21.0s
PBRG Braganca 110.48 43 *e*Pdif **Pdif** **11 10 55.0 +5.2**
PBRG Braganca 110.48 43 *e*PP PP 11 15 29.8 +3.1
BMO Blue Mountains 110.85 323 *e*PKPdf **PKiKP** **11 14 52.3 +1.4**
BMO *e*PP **PP** **11 15 31.0 +1.6**
BMO LR LR
comp=Z,5µm,21.0s
BMO Blue Mountains 110.85 323 *e*PKIKP **PKiKP** **11 14 52.3 +1.4**
BMO *e* 11 15 31.0
BMO MLR MLR
comp=Z,5µm,21.0s
JOHN Johnston Islan 111.55 267 PFAKE 11 15 00.0
JOHN LR LR
comp=Z,335nm,20.0s
SCHQ Schefferville 112.06 359 PP PP 11 15 38.6 +0.8
comp=Z,9.7nm,1.1s,baz=187,slow=5.0,SNR=6.0
WSI Waingapu 112.83 186 P **Pdif** **11 11 16.9 +16**
HAWA Hanford 112.94 322 PFAKE 11 15 10.0
HAWA LR LR
comp=Z,5µm,22.0s
NEW Newport 113.82 325 PP PP 11 15 50.2 -0.3
comp=Z,5.4nm,1.1s,baz=147,slow=10,SNR=8.3
NEW PKKPab **PKKPab** **11 25 43.5 +0.8**
comp=Z,2.4nm,0.8s,baz=353,slow=8.1,SNR=2.6
NEW Newport 113.82 325 *e*PKPdf **PKiKP** **11 14 55.1 -1.2**
NEW PP **PP** **11 15 50.2 -0.4**
NEW PKKPab **PKKPab** **11 25 43.5 +0.8**
NEW LR LR
comp=Z,5µm,20.0s
NEW Newport 113.82 325 *e*PKIKP **PKiKP** **11 14 55.2 -1.2**
NEW 11 15 50.2
NEW MLR MLR
comp=Z,5µm,20.0s
WDD Wied Dalam 114.47 62 PFAKE 11 15 10.0 +12
WDD LR LR
comp=Z,7µm,19.0s
VSL Villasalto 115.09 56 PFAKE 11 15 10.0 +11
VSL LR LR
comp=Z,3µm,20.0s
NLWA Neilton Lookou 115.27 320 PFAKE 11 15 10.0 +11
NLWA LR LR
comp=Z,4µm,20.0s
FFC Flin Flon 115.81 337 *e*PKPdf **PKPdf** **11 14 59.9 0.0**
FFC LR LR
comp=Z,6µm,21.0s
FFC Flin Flon 115.81 337 *e*PKIKP **PKPdf** **11 14 59.9 0.0**
FFC MLR MLR
comp=Z,6µm,21.0s
GENI Genyem 116.60 209 PKP **PKPdf** **11 15 08.1 +5.3**
CEL Celeste 117.07 61 PFAKE 11 15 10.0 +7.0
CEL LR LR
comp=Z,5µm,21.0s
EDM Edmonton 117.15 330 *e*PKPdf **PKPdf** **11 15 01.9 -0.7**
EDM Edmonton 117.15 330 *e*PKIKP **PKPdf** **11 15 01.9 -0.7**
KAPI Kappang 117.48 186 *e*PKPdf **PKPdf** **11 15 03.7 -0.9**
KAPI *e*PP **PP** **11 16 09.7 -5.6**
KAPI LR LR
comp=Z,6µm,20.0s
SSB Saint Sauveur 117.77 49 PFAKE 11 15 20.0 +16
SSB LR LR
comp=Z,6µm,21.0s
VAL Valentia 118.09 35 *e*PP PP 11 16 12.4 -7.9
VAL *e*PS **PS** **11 26 03.6 -1.3**
VAL *i* SS SS 11 32 45.4 +10
TIP Timpagrande 118.21 61 PFAKE 11 15 20.0 +15
TIP LR LR
comp=Z,4µm,21.0s
FCC Fort Churchill 118.22 343 *e*PKPdf **PKPdf** **11 15 02.8 -1.6**
FCC Fort Churchill 118.22 343 *e*PKIKP **PKPdf** **11 15 02.8 -1.6**
CUC Castrocucco 118.42 60 PFAKE 11 15 20.0 +14
CUC LR LR
comp=Z,4µm,20.0s
BNI Bardonecchia 118.46 50 PFAKE 11 15 20.0 +14
BNI LR LR
comp=Z,7µm,20.0s
AQU L'Aquila 119.19 56 PFAKE 11 15 20.0 +13
AQU LR LR
comp=Z,4µm,19.0s
VLC Villacollemand 119.31 53 PFAKE 11 15 20.0 +13
VLC LR LR
comp=Z,3µm,22.0s
SANI Sanana 119.86 193 PKP **PKPdf** **11 15 09.1 0.0**
EIL Elat 119.93 81 PKP **PKPdf** **11 15 09.4 +0.7**
comp=Z,2.7nm,0.4s,baz=91,slow=1.6,SNR=5.2
SIJI Sorong 120.23 199 PP PP 11 16 34.6 +0.3
comp=Z,4.9nm,0.6s,baz=24,slow=10.0,SNR=3.1
SANT Santorini 120.25 69 PFAKE 11 15 20.0 +11
SANT LR LR
comp=Z,2µm,20.0s
RAYN Ar Rayn 120.70 94 *e*PKPdf **PKPdf** **11 15 10.4 0.0**
RAYN LR LR
comp=Z,5µm,19.0s
TUE Stuetta 120.71 51 *e*PKPdf **PKPdf** **11 15 09.8 -0.2**
TUE LR LR
comp=Z,5µm,20.0s
LUWI Luwuk 121.20 190 *e*PKPdf **PKPdf** **11 15 11.1 -0.6**
LUWI *e*PP **PP** **11 16 39.5 -1.4**
ECH Echery 121.21 48 *e*PKPdf **PKPdf** **11 15 10.0 -0.6**
ECH LR LR
comp=Z,4µm,19.0s
ECH Echery 121.21 48 *e*PKIKP **PKPdf** **11 15 10.0 -0.6**
ECH MLR MLR
comp=Z,4µm,19.0s
MNCY Minicoy 121.27 130 *e*P **PKPdf** **11 15 08.7 -3.1**
TIR Tirane 121.38 62 PFAKE 11 15 20.0 +8.9
TIR LR LR
comp=Z,4µm,21.0s
DAVA Damuels 121.58 51 *e*PKPdf **PKPdf** **11 15 11.5 0.0**
comp=Z,25nm,1.2s
DOU Dourbes 121.71 45 ⇑PKP **PKPdf** **11 15 15.2 +3.8**
FETA Feichten 121.73 51 *e*PKPdf **PKPdf** **11 15 12.2 +0.4**
comp=Z,18nm,1.4s
BFO Black Forest 121.77 49 *e*PKPdf **PKPdf** **11 15 13.4 +1.8**
BFO LR LR
comp=Z,4µm,19.0s
BFO Black Forest 121.77 49 *e*PKIKP **PKPdf** **11 15 13.4 +1.8**
BFO MLR MLR
comp=Z,4µm,19.0s
WLF Walferdange 121.97 47 PFAKE 11 15 20.0 +8.1
WLF LR LR
comp=Z,5µm,22.0s
RETA Reutte 122.11 51 *i* PKPdf **PKPdf** **11 15 12.3 -0.1**
comp=Z,16nm,1.2s
MOTA Moosalm 122.14 51 *e*PKPdf **PKPdf** **11 15 11.4 -1.2**
comp=Z,21nm,1.2s
ABTA Abfaltersbach 122.27 53 *e*PKPdf **PKPdf** **11 15 12.9 +0.2**
comp=Z,16nm,1.3s
GSI Gunungsitoli 122.27 160 *e*PKPdf **PKPdf** **11 15 13.1 -0.7**
GSI *e*PP **PP** **11 16 50.8 +2.5**
WTTA Wattenberg 122.30 52 *e*PKPdf **PKPdf** **11 15 11.9 -1.1**
comp=Z,10nm,0.9s
WATA Walderalm 122.33 52 *e*PKPdf **PKPdf** **11 15 12.9 0.0**
comp=Z,10nm,1.0s
MEM Membach 122.66 46 ⇑PKP **PKPdf** **11 15 17.0 +3.8**
MYKA Terra Mystica 122.66 53 *e*PKPdf **PKPdf** **11 15 13.3 -0.2**
comp=Z,10nm,1.0s
MMAI Mount Meron Ar 122.78 79 PKP **PKPdf** **11 15 13.9 -0.3**
comp=Z,5.6nm,0.9s,baz=224,slow=4.7,SNR=7.1
MMAI PP **PP** **11 16 55.8 +3.0**
comp=Z,0.4nm,0.3s,baz=181,slow=12,SNR=3.9
KBA Koelnbreinsper 122.89 53 *e*PKPdf **PKPdf** **11 15 15.1 +1.1**
comp=Z,12nm,1.2s
ASF Jabal al Asfar 122.92 81 PKP **PKPdf** **11 15 15.0 +0.5**
comp=Z,3.1nm,0.4s,baz=172,slow=2.2,SNR=9.4
ASF PP **PP** **11 16 58.3 +4.5**
comp=Z,0.9nm,0.3s,baz=156,slow=2.4,SNR=4.5
OBKA Obir 122.97 54 *e*PKPdf **PKPdf** **11 15 13.1 -1.0**
comp=Z,26nm,1.4s
TRD Trivandrum 123.07 134 *e*P **PKPdf** **11 15 12.2 -3.0**
H02S1 DAWSON INLET T 123.15 319 PKP **PKPdf** **11 15 14.4 +0.3**
ESK Eskdalemuir 123.19 37 *e*PKPdf **PKPdf** **11 15 15.8 +1.7**
ESK LR LR
comp=Z,7µm,20.0s
ESK Eskdalemuir 123.19 37 *e*PKIKP **PKPdf** **11 15 15.8 +1.7**
ESK MLR MLR
comp=Z,7µm,20.0s
CSS Mathiatis 123.20 76 *e*PKPdf **PKPdf** **11 15 14.6 -0.2**
CSS LR LR
comp=Z,902nm,21.0s
EKA Eskdalemuir Ar 123.22 37 PKP **PKPdf** **11 15 13.3 -0.8**
comp=Z,3.6nm,0.9s,baz=181,slow=1.0,SNR=6.0
SOKA Soboth 123.31 54 *e*PKiKP **PKiKP** **11 15 16.8 +1.8**
comp=Z,18nm,1.2s
PALK Pallekele 123.33 138 PKP **PKPdf** **11 15 15.2 -0.5**
comp=Z,12nm,0.9s,baz=297,slow=3.7,SNR=5.7
PALK Pallekele 123.33 138 *i* PKIKP **PKPdf** **11 15 17.7 +1.9**
MOA Molln 123.88 53 *e*PKPdf **PKPdf** **11 15 15.4 -0.3**
comp=Z,20nm,1.2s
VTS Vitosha 123.93 63 ⇑*j*P **PKPdf** **11 15 16.1 -0.1**
VTS Vitosha 123.93 63 ⇑PKIKP **PKPdf** **11 15 16.1 -0.1**
ISP Isparta 123.94 72 PFAKE 11 15 30.0 +14
ISP LR LR
comp=Z,2µm,20.0s
KSM Kuching 123.96 175 *e*PKPdf **PKPdf** **11 15 15.5 -1.5**

KSM *e*PP **PP** 11 16 55.0 -4.6
KSM LR LR
comp=Z,4µm,21.0s
ARSA Arzberg 123.96 54 *e*PKPdf **PKPdf** 11 15 15.9 0.0
comp=Z,20nm,1.2s
PSI Prapat 123.98 161 PKP **PKPdf** 11 15 15.7 -1.5
comp=Z,29nm,0.9s,baz=198,slow=3.7,SNR=21
GERES GERESS Array B 124.40 52 PKP **PKPdf** 11 15 16.2 -0.5
comp=Z,4.9nm,0.8s,baz=220,slow=1.0,SNR=19
GERES PP **PP** 11 17 00.3 -3.3
comp=Z,1.7nm,0.9s,baz=231,slow=6.2,SNR=2.4
GERES PKKPbc **PKKPbc** 11 25 04.7 +5.6
comp=Z,0.8nm,0.9s,baz=57,slow=7.2,SNR=4.4
KHC Kasperske Hory 124.57 52 *e*PKP **PKPdf** 11 15 16.2 -0.8
KHC *ep*PKP **sPKPdf** 11 15 25.1 +4.2
KHC *e*PP **PP** 11 17 04.1 -0.6
KHC *e*SS SS 11 33 59.4 +1.3
KHC AMS AMS 12 03 20.0
comp=Z,5µm,22.3s
KHC Kasperske Hory 124.57 52 *e*PKPdf **PKPdf** 11 15 16.4 -0.6
KHC *e*PP **PP** 11 17 04.0 -0.6
KHC Kasperske Hory 124.57 52 *e*PKIKP **PKPdf** 11 15 16.4 -0.6
KHC *e* 11 17 04.0
CONA Conrad Observa 124.63 54 *e*PKPdf **PKPdf** 11 15 17.2 0.0
comp=Z,13nm,1.1s
SFJD Kangerlussuaq 124.74 7 PP PP 11 17 07.8 +2.4
comp=Z,18nm,1.2s,baz=180,slow=8.8,SNR=4.6
SFJD Kangerlussuaq 124.74 7 PP PP 11 17 07.8 +2.4
SFJD LR LR
comp=Z,6µm,19.0s
NKC Novy Kostel 124.94 50 *e*PKP **PKPdf** 11 15 18.0 +0.3
NKC *e*PP **PP** 11 17 08.7 +1.6
NKC *e*SP SP 11 27 03.0 -2.3
NKC *ex* x 11 28 36.3
NKC AMS AMS 12 16 00.0
comp=Z,4µm,20.1s
NKC Novy Kostel 124.94 50 *e*PKIKP **PKPdf** 11 15 18.0 +0.3
NKC *e* 11 17 08.7
NKC *e* 11 27 03.0
NKC *e* 11 28 36.3
NKC MLR MLR
comp=Z,4µm,20.1s
MIDW Midway 125.05 268 PFAKE 11 15 30.0 +11
MIDW LR LR
comp=Z,4µm,19.0s
CRAG Craig 125.20 320 *e*PKPdf **PKPdf** 11 15 18.6 +0.7
ZST Bratislava 125.37 54 *e*SS SS 11 34 16.2 +8.1
BZS Buzias 125.47 59 ⇓ *i*P **PKPdf** 11 15 18.6 -0.2
BZS Buzias 125.47 59 ⇓PKIKP **PKPdf** 11 15 18.6 -0.2
TREC Trest 125.51 53 AMS AMS 12 19 50.0
comp=Z,3µm,18.0s
MODS Modra-Piesok 125.58 54 *e*PKP **PKPdf** 11 15 20.6 +1.6
MODS *e*PP **PP** 11 17 05.5 -5.9
MODS *e*SS SS 11 34 08.6 -2.2
MODS Modra-Piesok 125.58 54 *e*PKIKP **PKPdf** 11 15 20.6 +1.6
MODS *e*SS SS 11 34 08.6 -2.2
PRU Pruhonice 125.63 51 *e*PKP **PKPdf** 11 15 18.9 -0.1
PRU *e*SKKP 11 28 46.1
PRU *e*SS SS 11 34 11.1 -0.2
PRU AMS AMS 12 04 20.0
comp=Z,4µm,20.9s
PRU Pruhonice 125.63 51 *e*PKIKP **PKPdf** 11 15 18.9 -0.1
PRU *e* 11 28 46.1
PRU *e*SS SS 11 34 11.1 -0.2
PRU MLR MLR
comp=Z,4µm,20.9s
PRA Prague 125.65 51 *e*PKP **PKPdf** 11 15 19.1 +0.1
PRA AMS AMS 12 11 30.0
comp=Z,4µm,19.6s
PRA Prague 125.65 51 *e*PKIKP **PKPdf** 11 15 19.1 +0.1
PRA MLR MLR
comp=Z,4µm,19.6s
YKA Yellowknife Ar 125.65 334 PKP **PKPdf** 11 15 17.4 -1.1
comp=Z,5.1nm,0.8s,baz=140,slow=2.5,SNR=43
YKA PP **PP** 11 17 06.7 -4.8
comp=Z,1.2nm,0.9s,baz=142,slow=2.9,SNR=2.8
YKA PKKPbc **PKKPbc** 11 24 53.4 -0.9
comp=Z,0.3nm,0.8s,baz=328,slow=4.7,SNR=3.7
GOPC GO Pecny, Ondr 125.68 52 *e*PKP **PKPdf** 11 15 19.2 +0.1
GOPC *e*SKKP 11 28 43.2
GOPC *e*SS SS 11 34 14.7 +2.8
GOPC AMS AMS 12 07 50.0
comp=Z,4µm,20.6s
GOPC GO Pecny, Ondr 125.68 52 *e*PKIKP **PKPdf** 11 15 19.2 +0.1
GOPC *e* 11 28 43.2
GOPC *e*SS SS 11 34 14.7 +2.8
GOPC MLR MLR
comp=Z,4µm,20.6s
WRAK Wrangell Islan 125.68 321 *e*PKPdf **PKPdf** 11 15 19.0 +0.2
WRAK LR LR
comp=Z,3µm,21.0s
IPM Ipoh 125.97 163 *e*PKPdf **PKPdf** 11 15 20.0 -0.8
SIRR Siria 125.97 59 ⇑ *i*P **PKPdf** 11 15 19.6 -0.2
VRAC Vranov 125.99 53 PKP **PKPdf** 11 15 19.3 -0.4
comp=Z,31nm,1.3s,baz=278,slow=1.2,SNR=7.6
VRAC Vranov 125.99 53 ⇓ *i*P **PKPdf** 11 15 20.3 +0.6
VRAC Vranov 125.99 53 ⇓PKIKP **PKPdf** 11 15 20.3 +0.6
CLL Collm 125.99 49 *e*Pdif **Pdif** 11 11 57.0 -1.4
CLL *i* PKPdf **PKPdf** 11 15 19.7 +0.1
comp=Z,29nm,1.2s
CLL *e*PP **PP** 11 17 15.0 +1.0
CLL *e* 11 17 26.0
CLL *e* 11 18 30.0
CLL *e*SKSac **SKSac** 11 22 23.0 -1.1
CLL *e*SKKSac **SKKSac** 11 24 14.0 +3.1
CLL *e*Sdif **Sdif** 11 25 24.0 +10
CLL *e*PS **PS** 11 27 18.0 +2.7
CLL *e*PPS PPS 11 28 42.0
CLL *e*SKKPdf **SKKPdf** 11 29 15.0 +2.3
CLL *e*SS **SS** 11 34 05.0 -11
CLL *e*SSS SSS 11 38 42.0
CLL *e*SSSS 11 42 18.0
CLL LV 12 09 00.0
comp=Z,4µm,20.8s
CLL Collm 125.99 49 *i* PKIKP **PKPdf** 11 15 19.7 +0.1
CLL *e* 11 17 15.0
CLL *e* 11 22 23.0
CLL pmax pmax
comp=Z,29nm,1.2s
CLL MLR MLR
comp=Z,4µm,20.8s
BRG Berggiesshubel 126.05 50 *e*PKP **PKPdf** 11 15 18.9 -0.8
comp=Z,12nm,1.3s
BRG PP **PP** 11 17 11.0 -3.4
BRG PS **PS** 11 27 15.0 -0.9
BRG *e*PKKS 11 28 42.8
comp=Z,38nm,2.0s
BRG SS SS 11 34 19.0 +2.5
comp=N,2µm,16.4s
comp=E,2µm,17.7s
comp=Z,3µm,17.5s
BRG Berggiesshubel 126.05 50 *e*PKIKP **PKPdf** 11 15 18.9 -0.8
BRG 11 17 11.0
BRG PS **PS** 11 27 15.0 -0.9
BRG *e* 11 28 42.8
BRG SS SS 11 34 19.0 +2.5
BRG pmax pmax
comp=Z,12nm,1.3s
BRG pmax pmax
comp=Z,38nm,2.0s
BRG MLR MLR
comp=N,2µm,16.4s
BRG MLR MLR
comp=E,2µm,17.7s
BRG MLR MLR
comp=Z,3µm,17.5s
BRG Berggiesshubel 126.05 50 PDIFF **Pdif** 11 11 59.0 +0.3
PVCC Panska Ves 126.05 51 *e*PKP **PKPdf** 11 15 19.9 +0.2
PVCC AMS AMS 12 12 10.0
comp=Z,4µm,20.1s
PVCC Panska Ves 126.05 51 *e*PKIKP **PKPdf** 11 15 19.9 +0.2
PVCC MLR MLR
comp=Z,4µm,20.1s
WAKE Wake Island 126.13 247 PFAKE 11 15 30.0 +9.1
WAKE LR LR
comp=Z,2µm,21.0s
DEV Deva 126.27 60 ⇑ *i*P **PKPdf** 11 15 22.5 +2.2
DEV Deva 126.27 60 ⇑PKIKP **PKPdf** 11 15 22.5 +2.2
VYHS Vyhne 126.36 55 *e*PKP **PKPdf** 11 15 19.9 -0.5
VYHS *e*PP **PP** 11 17 15.1 -1.5
VYHS *e*SS SS 11 34 20.1 -0.4
VYHS Vyhne 126.36 55 *e*PKIKP **PKPdf** 11 15 19.9 -0.5
VYHS *e* 11 17 15.1
VYHS *e*SS SS 11 34 20.1 -0.4

PSZ Piszkesteto 126.40 56 *e*PKPdf **PKPdf** 11 15 20.1 -0.5
PSZ LR LR
comp=Z,4µm,19.0s
PSZ Piszkesteto 126.40 56 *e*PKIKP **PKPdf** 11 15 20.1 -0.5
PSZ MLR MLR
comp=Z,4µm,19.0s
BORG Borgarnes 126.51 22 PFAKE 11 15 30.0 +10
BORG LR LR
comp=Z,2µm,21.0s
DLBC Dease Lake 126.53 324 *e*PKPdf **PKPdf** 11 15 19.9 -0.6
ALNE Al Ain 126.59 103 *i* P **PKPdf** 11 15 21.2 -0.5
SNR=9.4
AJN Ajban 126.60 102 P **PKPdf** 11 15 21.0 -0.6
ANTO Ankara 126.64 72 *e*PKPdf **PKPdf** 11 15 21.3 -0.1
ANTO LR LR
comp=Z,2µm,21.0s
ANTO Ankara 126.64 72 *e*PKIKP **PKPdf** 11 15 21.3 -0.1
ANTO MLR MLR
comp=Z,2µm,21.0s
UPC Upice 126.64 52 *e*PKP **PKPdf** 11 15 21.2 +0.3
UPC *e*SP SP 11 27 26.7 +6.5
UPC *e*SS **SS** 11 34 28.5 +4.5
UPC AMS AMS 12 15 40.0
comp=Z,4µm,19.0s
UPC Upice 126.64 52 *e*PKIKP **PKPdf** 11 15 21.2 +0.3
UPC *e* 11 27 26.7
UPC *e*SS SS 11 34 28.5 +4.5
UPC MLR MLR
comp=Z,4µm,19.0s
KRLC Kraliky 126.65 53 *e*PKP **PKPdf** 11 15 21.3 +0.3
KRLC Kraliky 126.65 53 *e*PKIKP **PKPdf** 11 15 21.3 +0.3
DPC Dobruska-Polom 126.66 52 *e*PKP **PKPdf** 11 15 21.0 0.0
DPC *ep*PKP **sPKPdf** 11 15 28.9 +4.1
DPC AMS AMS 12 17 30.0
comp=Z,3µm,19.4s
DPC Dobruska-Polom 126.66 52 *e*PKIKP **PKPdf** 11 15 21.0 0.0
DPC *e* 11 15 28.9
DPC MLR MLR
comp=Z,3µm,19.4s
ARR Arges 126.70 62 ⇑ *i*P **PKPdf** 11 15 21.4 +0.1
MORC Moravsky Berou 126.75 53 ⇑ *i*P **PKPdf** 11 15 21.0 -0.2
MORC Moravsky Berou 126.75 53 *e*PKPdf **PKPdf** 11 15 21.5 +0.3
MORC Moravsky Berou 126.75 53 ⇑PKIKP **PKPdf** 11 15 21.0 -0.2
DRGR 126.85 59 ⇑ *i*P **PKPdf** 11 15 21.5 0.0
DRGR 126.85 59 ⇑PKIKP **PKPdf** 11 15 21.5 0.0
ILULI Ilulissat 126.91 6 *i* P **PKPdf** 11 15 19.7 -1.1
comp=Z,9µm,24.0s
ILULI **Ilulissat** 126.91 6 *i* PKIKP **PKPdf** 11 15 19.7 -1.1
ILULI MLR MLR
comp=Z,9µm,24.0s
VOIR 126.94 62 ⇓ *i*P **PKPdf** 11 15 21.8 +0.1
VOIR 126.94 62 ⇓PKIKP **PKPdf** 11 15 21.8 +0.1
BRTR Keskin Array B 126.97 72 PKP **PKPdf** 11 15 21.9 -0.1
comp=Z,7.9nm,0.8s,baz=196,slow=2.6,SNR=19
BRTR PP **PP** 11 17 19.1 -1.8
comp=Z,2.6nm,1.1s,baz=219,slow=1.8,SNR=2.2
BRTR SKKPbc SKKPbc 11 28 40.5 -0.2
comp=Z,1.5nm,1.0s,baz=83,slow=4.5,SNR=2.9
KSP Ksiaz 127.01 52 *e*PKPdf **PKPdf** 11 15 23.4 +1.8
KSP *e*PKS PKSdf 11 19 19.3 +21
KSP *e*PPS PPS 11 29 13.8
KSP *e*SS SS 11 34 39.0 +10
KSP Ksiaz 127.01 52 *e*PKIKP **PKPdf** 11 15 23.4 +1.8
OKC Ostrava-Krasne 127.06 54 *e*PKP **PKPdf** 11 15 21.2 -0.5
OKC AMS AMS 12 15 30.0
comp=Z,3µm,20.9s
OKC Ostrava-Krasne 127.06 54 *e*PKIKP **PKPdf** 11 15 21.2 -0.5
OKC MLR MLR
comp=Z,3µm,20.9s
SOHO SOHO 127.06 104 *i* P **PKPdf** 11 15 21.3 -1.3
SNR=8.0
ASHO Ashiyiah 127.26 103 PKPdf **PKPdf** 11 15 26.9 +3.9
SNR=5.3
ASHO Ashiyiah 127.26 103 P **PKPdf** 11 15 26.9 +3.9
SNR=5.3
ASHO Ashiyiah 127.26 103 *i* P **PKPdf** 11 15 23.7 +0.7
SNR=10
NAZ Nazwa, Dubai 127.30 102 P **PKPdf** 11 15 21.9 -1.0
MLR Muntele Rosu 127.41 62 PKP **PKPdf** 11 15 22.0 -0.7
comp=Z,3.4nm,0.9s,baz=132,slow=3.5,SNR=18
MLR PP **PP** 11 17 23.4 -0.3
comp=Z,0.5nm,0.8s,baz=221,slow=7.8,SNR=2.8
MLR Muntele Rosu 127.41 62 ⇑ *i*P **PKPdf** 11 15 22.1 -0.6
MLR Muntele Rosu 127.41 62 ⇑PKIKP **PKPdf** 11 15 22.1 -0.6
HATD Hatta, Dubai 127.42 103 P **PKPdf** 11 15 23.0 -0.3
SNR=5.9
HATD Hatta, Dubai 127.42 103 PKPdf **PKPdf** 11 15 23.0 -0.3
SNR=5.9
HATD Hatta, Dubai 127.42 103 P **PKPdf** 11 15 23.0 -0.3
SNR=5.9
HATD Hatta, Dubai 127.42 103 *i* P **PKPdf** 11 15 22.0 -1.2
SNR=7.9
WSAR Wadi Sarin 127.42 106 PKP **PKPdf** 11 15 22.1 -1.1
comp=Z,37nm,1.2s,baz=200,slow=3.7,SNR=5.0
UOSS Minazif 127.55 103 P **PKPdf** 11 15 21.8 -1.7
NIE Niedzica 127.69 55 *e*PKPdf **PKPdf** 11 15 20.3 -2.7
NIE *e*PP **PP** 11 17 28.3 +2.9
NIE *e*PKS PKSdf 11 18 47.3 -12
NIE *e*PPP PPP 11 20 11.2
NIE *e*SS SS 11 35 07.3 +30
NIE Niedzica 127.69 55 *e*PKIKP **PKPdf** 11 15 20.3 -2.7
NIE *e* 11 17 28.3
NIE *e*PPP PPP 11 20 11.1
NIE *e*SS SS 11 35 07.3 +30
TRPA Tarpa 127.76 58 ⇓ *i*P **PKPdf** 11 15 22.3 -0.8
ARCR ARCALIA 127.83 60 ⇑ *i*P **PKPdf** 11 15 23.8 +0.5
CRVS Cervenica-Dubn 127.83 57 *e*PKP **PKPdf** 11 15 22.9 -0.3
CRVS *e*PP **PP** 11 17 29.5 +3.2
CRVS *e*SS SS 11 34 40.1 +1.2
CRVS Cervenica-Dubn 127.83 57 *e*PKIKP **PKPdf** 11 15 22.9 -0.3
CRVS *e* 11 17 29.5
CRVS *e*SS SS 11 34 40.1 +1.2
MSFE Esma-Masafi 127.86 102 P **PKPdf** 11 15 22.9 -1.2
PLOR Plostina 128.01 62 ⇓ *i*P **PKPdf** 11 15 23.2 -0.5
PLOR Plostina 128.01 62 ⇓PKIKP **PKPdf** 11 15 23.2 -0.5
UZH Uzhgorod 128.01 57 *i* PKIKP **PKPdf** 11 15 26.3 +2.8
UZH *i* 11 17 26.0
UZH *i* 11 22 25.0
UZH *e*SP SP 11 27 34.5 +2.2
UZH *e*SS **SS** 11 34 47.3 +6.3
VRI Vrincioaia 128.06 62 ⇑ *i*P **PKPdf** 11 15 23.1 -0.7
VRI Vrincioaia 128.06 62 ⇑PKIKP **PKPdf** 11 15 23.1 -0.7
OJC Ojcow 128.06 54 *e*PKPdf **PKPdf** 11 15 23.3 -0.3
OJC *e*PP **PP** 11 17 29.6 +1.8
OJC *e*PKS PKSdf 11 18 43.1 -17
OJC *e*PPS PPS 11 29 09.7
OJC *e*SS SS 11 35 12.6 +31
OJC Ojcow 128.06 54 *e*PKIKP **PKPdf** 11 15 23.3 -0.3
OJC *e* 11 17 29.6
OJC *e*PPS PPS 11 29 09.7
OJC *e*SS SS 11 35 12.6 +31
GOA Goa 128.08 127 *e*P **PKPdf** 11 15 21.7 -3.0
STHS Stebnicka Huta 128.11 56 *e*PKP **PKPdf** 11 15 24.9 +1.1
STHS Stebnicka Huta 128.11 56 *e*PKIKP **PKPdf** 11 15 24.9 +1.1
CFR Carcaliu 128.23 64 ⇓ *i*P **PKPdf** 11 15 23.1 -1.0
CFR Carcaliu 128.23 64 ⇓PKIKP **PKPdf** 11 15 23.1 -1.0
BANOM Banah 128.39 102 P **PKPdf** 11 15 23.6 -1.5
SHME Shamm 128.41 102 *i* P **PKPdf** 11 15 24.0 -1.1
SNR=11
TESR Tescani 128.49 62 ⇑ *i*P **PKPdf** 11 15 22.7 -1.9
MDRS Chennai 128.50 135 *e*P **PKPdf** 11 15 21.9 -3.7
MDRS IAmb IAmb 11 15 29.8
comp=Z,23nm,0.5s
MDRS IAMs_20 IAMs_20 11 58 21.0
comp=Z,4µm,23.0s
SKLT Songkhla 128.55 162 P **PKPdf** 11 15 24.6 -1.1
KKM Kota Kinabalu 128.59 182 PFAKE 11 15 40.0 +14
KKM LR LR
comp=Z,4µm,22.0s
BURAR Bucovina Array 128.62 60 ⇓ *i*P **PKPdf** 11 15 25.4 +0.5
DAV Davao City (W) 128.90 194 PFAKE 11 15 40.0 +14
DAV LR LR
comp=Z,2µm,21.0s
SKHT Srikalahasti 128.91 134 *e*PKPdf **PKPdf** 11 15 24.7 -1.6
KWP Kalwaria Pacla 128.93 57 *e*PKPdf **PKPdf** 11 15 24.9 -0.4
KWP Kalwaria Pacla 128.93 57 *e*PKIKP **PKPdf** 11 15 24.9 -0.4
STAV Stavanger 129.03 39 *e*PKPdf **PKPdf** 11 15 25.7 +0.6
URV Uravakonda 129.04 131 *e*PKPdf **PKPdf** 11 15 25.4 -1.2
TRTT Trang 129.04 161 P **PKPdf** 11 15 25.1 -1.5
SKAG Skagway 129.05 322 *e*PKPdf **PKPdf** 11 15 25.3 +0.2
SKAG *e*PP **PP** 11 17 35.3 +1.3
GKP Gorka Klasztor 129.19 50 *e*PKPdf **PKPdf** 11 15 25.4 -0.2
GKP *e*PKS PKSdf 11 18 51.2 -11

GKP Gorka Klasztor 129.19 50 *e*PKIKP **PKPdf** 11 15 25.4 -0.2
HOMB Homborsund 129.50 41 *e*PKPdf **PKPdf** 11 15 27.8 +1.7
BLS5 Blasjo 129.65 39 *e*PKPdf **PKPdf** 11 15 29.0 +2.6
LVV L'vov 129.66 57 *e*PKIKP **PKPdf** 11 15 30.5 +3.8
BEL Belsk 129.66 54 *e*PKPdf **PKPdf** 11 15 26.5 -0.1
BEL *e*PKS PKSdf 11 18 50.9 -12
BEL Belsk 129.66 54 *e*PKIKP **PKPdf** 11 15 26.5 -0.1
KIS Kishinev 129.88 63 ⇑ *i*PKP **PKPdf** 11 15 25.0 -2.1
KIS M M 11 15 26.0
comp=Z,250nm,2.0s
KIS Kishinev 129.88 63 *i* PsP 11 15 32.0
KIS Kishinev 129.88 63 *i* PP PP 11 17 40.0 +0.3
comp=Z,900nm,4.0s
KIS *i* SKP 11 18 38.0
KIS Kishinev 129.88 63 *i* PPP PPP 11 19 28.0
KIS *i* SKS SKSdf 11 22 13.0 -25
KIS *e*SKKS **SKKSac** 11 24 30.0 -5.5
KIS Kishinev 129.88 63 *e*PS PS 11 27 42.0 -7.3
KIS Kishinev 129.88 63 α *i*PKIKP **PKPdf** 11 15 25.0 -2.1
KIS *i* PS **sPKPdf** 11 15 32.0 +1.0
KIS *i* 11 17 40.0
KIS *e*PS **PS** 11 27 42.0 -7.3
KIS pmax pmax
comp=Z,250nm,2.0s
KIS pmax pmax
comp=Z,600nm,3.0s
KIS pmax pmax
comp=Z,900nm,4.0s
BER Bergen 130.00 38 *e*PKPdf **PKPdf** 11 15 28.4 +1.4
SUE Sulen 130.32 37 *e* **PKPdf** 11 15 29.8 +2.3
SORM Soroca 130.46 61 ⇓ *i*P **PKPdf** 11 15 28.2 0.0
SORM Soroca 130.46 61 ⇓PKIKP **PKPdf** 11 15 28.2 0.0
GUMO Guam 130.49 220 PFAKE 11 15 40.0 +11
GUMO LR LR
comp=Z,2µm,21.0s
SRLM Srisailam 130.74 132 *e*PKPdf **PKPdf** 11 15 28.9 -0.9
POO Poona 130.78 125 *e*P **PKPdf** 11 15 27.6 -2.3
FOO Floro 130.81 37 *e*PKPdf **PKPdf** 11 15 29.4 +1.0
KONO Kongsberg 130.91 40 *e*PKPdf **PKPdf** 11 15 30.0 +1.4
KONO Kongsberg 130.91 40 ⇓ *i*PKIKP **PKPdf** 11 15 32.4 +3.7
KONO MLR MLR
comp=Z,9µm,21.0s
ADKI Addanki 130.93 134 *e*PKPdf **PKPdf** 11 15 28.9 -1.1
SIM Simferopol' 131.01 68 *ce*PKIKP **PKPdf** 11 15 29.3 -0.1
SIM *e* 11 17 50.2
SIM PPP PPP 11 20 37.6
SIM PPS PPS 11 29 44.5
SIM pmax pmax
comp=Z,30nm,0.8s
SUMG Summit 131.19 10 *i* P **PKPdf** 11 15 29.6 +0.2
comp=Z,290nm,1.8s
SUMG Summit 131.19 10 *e*PKPdf **PKPdf** 11 15 28.9 -0.5
SUMG Summit 131.19 10 *e*PKIKP **PKPdf** 11 15 28.9 -0.5
PBA Port Blair 131.21 151 *e*P PKPdf 11 15 26.9 -3.8
PBA IAMs_20 IAMs_20 12 04 42.7
comp=Z,7µm,27.6s
NJS Nagarjunasagar 131.31 132 *e*PKPdf **PKPdf** 11 15 29.5 -1.4
KLNR Kaliningrad 131.38 51 ⇑ *i*PKIKP **PKPdf** 11 15 33.2 +3.5
SCO Scoresbysund 131.45 18 *i* P **PKPdf** 11 15 28.7 -0.7
comp=Z,5µm,22.0s
SCO Scoresbysund 131.45 18 *e*PKIKP **PKPdf** 11 15 28.7 -0.7
SCO MLR MLR
comp=Z,5µm,22.0s
KLRI Killari 131.56 128 *e*PKPdf **PKPdf** 11 15 29.9 -1.4
HYB Hyderabad 131.79 131 *i* PKP **PKPdf** 11 15 32.0 +0.2
HYB *e*PP **PP** 11 17 50.0 -1.7
HYB *e*SKP 11 18 56.0
HYB Hyderabad 131.79 131 *e*P **PKPdf** 11 15 28.8 -2.9
HYB IAMs_20 IAMs_20 12 09 09.9
comp=Z,7µm,7.2s
HYBB Hyderabad (bro 131.79 131 *e*PKPdf **PKPdf** 11 15 29.2 -2.5
AKN Aaknes 131.87 37 *e*PKPdf **PKPdf** 11 15 32.0 +1.5
KULLO Kullorsuaq 132.00 3 ⇑ *i*P **PKPdf** 11 15 29.5 -0.8
comp=Z,30nm,1.2s
KULLO *i* 11 17 44.2
comp=Z,6µm,20.0s
KULLO Kullorsuaq 132.00 3 ⇑ *i*PKIKP **PKPdf** 11 15 29.5 -0.8
KULLO pmax pmax
comp=Z,30nm,1.2s
KULLO MLR MLR
comp=Z,6µm,20.0s
SUW Suwalki 132.23 53 *e*PKPdf **PKPdf** 11 15 30.7 -0.7
SUW Suwalki 132.23 53 *e*PKIKP **PKPdf** 11 15 30.7 -0.7
NC602 NORSAR Array S 132.36 40 *e*PKPdf **PKPdf** 11 15 31.2 -0.2
DOMB Dombas 132.45 38 *e*PKPdf **PKPdf** 11 15 32.0 +0.4
NB2 NORSAR Subarra 132.46 40 PKPdf **PKPdf** 11 15 31.2 -0.5
comp=Z,264nm,2.0s,baz=241,slow=1.9
NB2 NORSAR Subarra 132.46 40 PKPdf **PKPdf** 11 15 31.2 -0.5
baz=241,slow=1.9
NOA NORSAR Array B 132.46 40 PKP **PKPdf** 11 15 32.0 +0.3
comp=Z,4.6nm,0.9s,baz=166,slow=11,SNR=7.8
NOA PKKP PKKPdf 11 25 12.8 -12
comp=Z,1.0nm,0.8s,baz=64,slow=1.6,SNR=3.3
NOA NORSAR Array B 132.46 40 PKIKP **PKPdf** 11 15 32.0 +0.3
NOA pmax pmax
comp=Z,1.0nm,0.9s
NOA pmax pmax
comp=Z,1.0nm,0.8s
ANN Anapa 132.58 71 *i* PKIKP **PKPdf** 11 15 32.1 -0.2
ANN *e* 11 15 35.7
ANN *e* 11 15 36.3
ANN *e* 11 17 55.4
ANN *e*PPP PPP 11 20 48.2
ANN *e*SS SS 11 35 41.2 +4.0
ANN pmax pmax
comp=N,44nm,1.8s
ANN pmax pmax
comp=E,34nm,1.7s
ANN pmax pmax
comp=Z,91nm,1.8s
ANN pmax pmax
comp=N,337nm,5.3s
ANN pmax pmax
comp=Z,671nm,5.3s
KIEV Kiev 132.65 60 *e*PKPdf **PKPdf** 11 15 31.0 -1.3
KIEV *e*PP **PP** 11 17 55.5 -2.0
KIEV *e*SKPbc **SKPbc** 11 18 57.7 -1.6
KIEV LR LR
comp=Z,3µm,22.0s
KIEV Kiev 132.65 60 *i* P **PKPdf** 11 15 31.3 -1.0
SNR=10.0
KIEV Kiev 132.65 60 ⇑ *e*PKIKP **PKPdf** 11 15 31.1 -1.2
AKASG Malin Array Be 132.66 60 PKP **PKPdf** 11 15 31.6 -0.6
comp=Z,1.4nm,0.4s,baz=262,slow=1.6,SNR=22
AKASG PP **PP** 11 17 59.1 +1.5
comp=Z,0.3nm,0.3s,baz=228,slow=6.4,SNR=3.0
HFS Hagfors 132.70 42 PKP **PKPdf** 11 15 31.4 -0.7
comp=Z,5.2nm,0.8s,baz=147,slow=3.0,SNR=13
HFS PP **PP** 11 17 57.4 -0.3
comp=Z,5.9nm,1.1s,baz=226,slow=3.8,SNR=3.8
DGPR DIGLIPUR 132.72 151 *e*P **PKPdf** 11 15 32.1 -1.4
DGPR IAMs_20 IAMs_20 12 22 13.4
comp=Z,3µm,18.6s
PVM Polavaram 132.85 135 *e*PKPdf **PKPdf** 11 15 33.1 -0.6
SOC Sochi 132.90 73 *c* *i*PKIKP **PKPdf** 11 15 32.3 -0.7
SOC *i* 11 15 32.4
SOC *e* 11 17 59.9
SOC *e*PPP PPP 11 20 48.4
SOC *e* 11 22 47.1
SOC *e*SS SS 11 35 34.3 -6.8
SOC pmax pmax
comp=Z,7.0nm,0.4s
SOC MLR MLR
comp=Z,1µm,18.0s
MID Middleton Isla 132.91 316 *e*PKPdf **PKPdf** 11 15 31.2 -1.2
MID *e*SKPbc **SKPbc** 11 18 59.4 -0.5
MID Middleton Isla 132.91 316 *e*PKIKP **PKPdf** 11 15 31.2 -1.2
BHJ Bhuj 132.94 117 *e*P **PKPdf** 11 15 29.5 -4.2
BHJ IAMs_20 IAMs_20 12 14 55.6
comp=Z,3µm,18.7s
SRSP Sriramsagar 133.06 130 *e*PKPdf **PKPdf** 11 15 32.6 -1.5
GNI Garni 133.09 80 PKP **PKPdf** 11 15 33.5 -0.1
comp=Z,8.2nm,0.3s,baz=303,slow=0.9,SNR=9.2
GNI PP **PP** 11 18 02.5 +1.9
comp=Z,10nm,0.4s,baz=114,slow=10.0,SNR=2.5
GNI Garni 133.09 80 PKP **PKPdf** 11 15 33.5 -0.1
GNI PP **PP** 11 18 02.5 +1.9
GNI LR LR
comp=Z,5µm,21.0s
GNI Garni 133.09 80 P **PKPdf** 11 15 35.0 +1.3
SNR=7.5
GNI Garni 133.09 80 PKPdf **PKPdf** 11 15 35.0 +1.3
SNR=7.5
GNI Garni 133.09 80 *i* P **PKPdf** 11 15 34.0 +0.3

SNR=11
GNI Garni 133.09 80 PKIKP **PKPdf** 11 15 33.6 -0.1
GNI 11 18 02.6
GNI MLR MLR
comp=Z,5μm,21.0s
BMRM Bremner River 133.34 319 *e*PKPdf **PKPdf** 11 15 33.4 0.0
BMRM *e*PP **PP** 11 18 04.0 +2.1
BMRM *e*SKPbc **SKPbc** 11 19 01.5 +0.1
RPR Rampur 133.38 131 *e*PKPdf **PKPdf** 11 15 33.5 -1.1
RES Resolute Bay 133.44 350 PKP **PKPdf** 11 15 33.0 -0.1
comp=Z,5.5nm,1.1s,baz=121,slow=1.2,SNR=13
RES PP **PP** 11 18 05.5 +3.4
comp=Z,8.8nm,1.3s,baz=207,slow=5.3,SNR=2.6
RES Resolute Bay 133.44 350 *e*PKPdf **PKPdf** 11 15 31.8 -1.2
RES *e*PP **PP** 11 17 59.2 -2.9
RES PP PP 11 18 05.5 +3.4
RES *e*SKPbc **SKPbc** 11 18 59.9 -1.4
DAWY Dawson 133.74 324 *e*PKPdf **PKPdf** 11 15 33.1 -0.9
DAWY *e*PP **PP** 11 18 05.9 +1.5
DAWY *e*SKPbc **SKPbc** 11 19 01.7 -1.0
DIV Divide 133.87 318 *e*PKPdf **PKPdf** 11 15 33.7 -0.6
DIV *e*PP **PP** 11 18 06.7 +1.4
DIV *e*SKPbc **SKPab** 11 19 05.0 -0.9
VIS Vishakhapatnam 133.92 137 *e*P **PKPdf** 11 15 34.3 -1.4
KDAK Kodiak Island 134.22 312 PKP **PKPdf** 11 15 34.5 -0.5
comp=Z,56nm,1.3s,baz=153,slow=6.8,SNR=3.6
KDAK Kodiak Island 134.22 312 PKP **PKPdf** 11 15 34.5 -0.5
KDAK LR LR
comp=Z,4μm,19.0s
NEY Neytrino 134.22 76*de*PKIKP **PKPdf** 11 15 35.9 +0.2
NEY MLR MLR
comp=Z,2μm,17.0s
JMIC Jan Mayen 134.38 23 *e*PKPdf **PKPdf** 11 15 34.0 -1.0
NACGM Naroch 134.38 54 *e*PKP **PKPdf** 11 15 35.0 -0.4
NACGM *e*PKP **PKPdf** 11 15 35.0 -0.4
NACGM *e*PP PP 11 17 50.0 -19
NACGM *e*SKP 11 18 49.0
NACGM *e*PPP PPP 11 21 22.0
NACGM *e*SKS SKSdf 11 22 25.0 -21
NACGM *e*SKKS 11 23 50.0
NACGM *e*SKKKS 11 25 24.0
NACGM *e*PS PS 11 28 12.0 -16
NACGM *e*SS SS 11 36 22.0 +23
NACGM *e*SSS SSS 11 40 46.0
NACGM *e*LR LR 12 12 32.0
NACGM LRM MLR 12 18 46.0
comp=Z,5.1nm,20.0s
IIGN Ignalina 134.44 53 *e*P **PKPdf** 11 15 32.2 -3.3
IIGN IAmb IAmb 11 15 38.4
comp=Z,9.0nm,0.9s
ZEI Tsey 134.52 77 *e*PKIKP **PKPdf** 11 15 29.8 -6.6
ZEI pmax pmax
comp=Z,17nm,1.2s
MICGM Minsk 134.60 55 *e*PKP **PKPdf** 11 15 35.0 -0.8
MICGM *e*PKP **PKPdf** 11 15 35.0 -0.8
MICGM *e*PP **PP** 11 18 14.0 +4.1
MICGM *e*PS PS 11 28 12.0 -18
MICGM *e*SS SS 11 36 10.0 +8.6
MICGM *e*SSS SSS 11 41 10.0
MICGM *e*LQ LQ 12 11 50.0
MICGM *e*LR LR 12 19 22.0
MICGM LRM MLR 12 26 04.0
comp=Z,4.2nm,16.0s
MNK Minsk 134.60 55 *e*PKIKP **PKPdf** 11 15 35.0 -0.8
MNK *e* 11 15 35.0
MNK *e* 11 18 14.0
IDID Didziasalis 134.63 53 *e*P **PKPdf** 11 15 32.4 -3.5
IDID IAmb IAmb 11 15 38.6
comp=Z,6.4nm,0.8s
KBZ Khabaz 134.65 75 PKP **PKPdf** 11 15 36.9 +0.7
comp=Z,12nm,0.9s,baz=159,slow=6.8,SNR=3.9
KBZ PP **PP** 11 18 09.4 -0.9
comp=Z,2.0nm,0.8s,baz=216,slow=8.7,SNR=3.6
KIV Kislovodsk 134.69 75 *e*PKPdf **PKPdf** 11 15 35.6 -0.9
KIV *e*PP **PP** 11 18 09.7 -1.1
KIV LR LR
comp=Z,3μm,20.0s
KIV Kislovodsk 134.69 75 P **PKPdf** 11 15 36.2 -0.3
SNR=8.7
KIV Kislovodsk 134.69 75 PKPdf **PKPdf** 11 15 36.2 -0.3
SNR=8.7
KIV Kislovodsk 134.69 75 *i* P **PKPdf** 11 15 36.0 -0.5
SNR=7.5
KIV Kislovodsk 134.69 75 *i* PKIKP **PKPdf** 11 15 36.4 -0.1
KIV *e* 11 18 08.1
KIV *e*PS **PS** 11 28 28.5 -2.5
KIV *e*SS SS 11 36 01.1 -1.9
KIV *e*SSS SSS 11 41 00.5
KIV pmax pmax
comp=Z,27nm,1.1s
KIV MLR MLR
comp=Z,3μm,23.0s
KVAR Kislovodsk Arr 134.70 75 PKP **PKPdf** 11 15 36.4 -0.1
comp=Z,11nm,0.8s,baz=241,slow=7.2,SNR=9.2
IZAR Zarasai 134.71 53 *e*P **PKPdf** 11 15 32.2 -3.8
IZAR IAmb IAmb 11 15 38.8
comp=Z,8.3nm,0.6s
EGAK Eagle 134.79 324 *e*PKPdf **PKPdf** 11 15 35.0 -0.9
EGAK *e*PP **PP** 11 18 13.5 +2.6
EGAK *e*SKPbc **SKPbc** 11 19 03.5 -2.5
EGAK LR LR
comp=Z,6μm,20.0s
NCK Nalchik 134.85 76⇑ *e*PKIKP **PKPdf** 11 15 37.6 +0.9
NCK MLR MLR
comp=Z,2μm,19.0s
CHLP Challavanipeta 134.91 137 *e*PKPdf **PKPdf** 11 15 36.3 -1.2
DOT Dot Lake 134.97 322 *e*PKPdf **PKPdf** 11 15 36.0 -0.3
PAX Paxson 135.00 320 *e*PKPdf **PKPdf** 11 15 34.7 -1.8
PAX *e*PP **PP** 11 18 14.2 +1.8
PAX *e*SKPbc **SKPbc** 11 19 05.4 -1.4
PAX Paxson 135.00 320 *e*PKIKP **PKPdf** 11 15 34.7 -1.8
PAX *e* 11 18 14.2
INK Inuvik 135.03 331 PKhKP PKPpre 11 15 22.1
comp=Z,0.8nm,0.6s,baz=125,slow=1.7,SNR=5.4
INK PKP **PKiKP** 11 15 37.3 -0.4
comp=Z,36nm,1.3s,baz=109,slow=3.1,SNR=22
INK PP **PP** 11 18 11.1 -1.3
comp=Z,6.9nm,1.1s,baz=122,slow=4.1,SNR=3.0
INK Inuvik 135.03 331 PKPpre PKPpre 11 15 22.1
INK *e*PKPdf **PKPdf** 11 15 35.4 -0.8
INK PP **PP** 11 18 11.1 -1.3
INK *e*SKPbc **SKPbc** 11 19 05.2 -1.4
NSS Namsos 135.12 37 *e*PKPdf **PKPdf** 11 15 36.1 -0.4
SML Sawmill 135.24 318 *e*PKPdf **PKPdf** 11 15 35.6 -1.3
SML *e*PP **PP** 11 18 16.7 +2.8
SML *e*SKPbc **SKPbc** 11 19 06.8 -0.7
SML Sawmill 135.24 318 *e*PKIKP **PKPdf** 11 15 35.6 -1.3
SML *e* 11 18 16.7
RC01 Rabbit Creek A 135.28 317 *e*PKPdf **PKPdf** 11 15 36.1 -0.8
RC01 *e*PP **PP** 11 18 16.3 +2.2
RC01 *e*SKPbc **SKPbc** 11 19 05.9 -1.8
NGP Nagpur 135.33 129 *e*P **PKPdf** 11 15 36.2 -2.1
PMR Palmer 135.39 317 *e*PKPdf **PKPdf** 11 15 36.3 -0.7
PMR *e*PP **PP** 11 18 17.8 +3.1
PMR *e*SKPbc **SKPab** 11 19 11.3 -1.2
PMR Palmer 135.39 317 *e*PKIKP **PKPdf** 11 15 36.3 -0.7
PMR *e* 11 18 17.8
AKT Akhty 135.62 81 *i* PKIKP **PKPdf** 11 15 38.8 +0.5
AKT *e* 11 18 21.6
AKT pmax pmax
comp=Z,56nm,1.1s
GROC Groznyy 135.80 78 *e*PKIKP **PKPdf** 11 15 38.1 -0.3
GROC *e* 11 18 18.0
GROC pmax pmax
comp=Z,49nm,1.2s
BHPL Bhopal 136.49 126 *e*P **PKPdf** 11 15 38.0 -2.5
BHPL IAmb IAmb 11 16 08.4
comp=Z,11nm,0.8s
BHPL IAMs_20 IAMs_20 12 02 18.5
comp=Z,4μm,31.9s
MAK Makhachkala 136.54 79 *i* P **Pdif** 11 12 43.1 -2.4
MAK *i* 11 15 41.5
MAK *e* 11 18 20.4
MAK *e*SP SP 11 28 41.6 -4.4
MAK *e*SS **SS** 11 36 21.1 -3.8
MAK pmax pmax
comp=Z,16nm,0.3s
ILAR Eielson Array 136.64 322 PKhKP PKPpre 11 15 30.1
comp=Z,5.0nm,1.1s,baz=154,slow=1.0,SNR=8.8
ILAR PKP **PKPdf** 11 15 38.9 -0.4
comp=Z,34nm,1.1s,baz=161,slow=1.2,SNR=46
ILAR PP **PP** 11 18 22.5 -0.1
comp=Z,4.9nm,1.2s,baz=139,slow=1.9,SNR=4.0
ILAR SKKPbc SKKPbc 11 28 07.1 -0.1
comp=Z,0.9nm,1.0s,baz=316,slow=6.5,SNR=2.8
VSU Vasula 136.65 50‖ *e*PKIKP **PKPdf** 11 15 39.8 +0.3
MCK McKinley 136.69 320 *e*PKPdf **PKPdf** 11 15 39.8 +0.3
MCK McKinley 136.69 320 *e*PKIKP **PKPdf** 11 15 39.8 +0.3
MOR8 Moi Rana 136.98 36 *e*PKPdf **PKPdf** 11 15 40.1 +0.2
TRF Thorofare Moun 136.98 319 *e*PKPdf **PKPdf** 11 15 39.1 -1.1
TRF *e*PP **PP** 11 18 26.4 +1.4
COLA College 137.03 322 *e*PKPdf **PKPdf** 11 15 38.5 -1.5
COLA *e*PP **PP** 11 18 24.4 -0.6
COLA *e*SKPbc **SKPbc** 11 19 14.6 +1.7
COLA LR LR
comp=Z,4μm,22.0s
COLA College 137.03 322 *e*PKIKP **PKPdf** 11 15 38.5 -1.5
COLA *e* 11 18 24.4
COLA MLR MLR
comp=Z,4μm,22.0s
KTH Kantishna Hill 137.27 319 *e*PKPdf **PKPdf** 11 15 40.4 -0.3
KTH *e*PP **PP** 11 18 27.8 +1.2
DAG Danmarks Havn 137.29 14⇑ *i*P **PKPdf** 11 15 38.8 -1.4
comp=Z,4μm,20.0s
DAG Danmarks Havn 137.29 14⇑ *i*PKIKP **PKPdf** 11 15 38.8 -1.4
DAG MLR MLR
comp=Z,4μm,20.0s
PPLA Purkeypile 137.32 318 *e*PKPdf **PKPdf** 11 15 42.9 +2.0
BPAW Bear Paw Mtn. 137.63 319 *e*PKPdf **PKPdf** 11 15 39.7 -1.5
BPAW *e*PP **PP** 11 18 28.4 -0.4
VSR Storozhevoye 137.74 65 *e*PKIKP **PKPdf** 11 15 39.5 -2.2
VSR pmax pmax
comp=Z,10.0nm,1.3s
PBKT Sadao Pong 137.80 160 P **PKPdf** 11 15 40.0 -2.9
comp=Z,26nm,1.6s
LOF Lofoten 137.93 33 *e*PKPdf **PKPdf** 11 15 35.9 -5.6
FINES FINESS Array B 138.19 46 PKhKP PKPpre 11 15 33.2
comp=Z,4.9nm,0.9s,baz=251,slow=5.8,SNR=6.3
FINES PKP **PKPdf** 11 15 40.1 -2.1
comp=Z,5.1nm,1.0s,baz=210,slow=11,SNR=7.2
FINES PP **PP** 11 18 32.6 +0.3
comp=Z,4.9nm,1.0s,baz=250,slow=19,SNR=3.4
FINES FINESS Array B 138.19 46 *i* PKHKP PKPpre 11 15 33.2
FINES 11 15 40.1
FINES 11 18 32.6
FINES pmax pmax
comp=Z,5.0nm,1.0s
FINES pmax pmax
comp=Z,5.0nm,1.0s
FINES pmax pmax
comp=Z,5.0nm,1.0s
LPSR Galich'ya Gora 138.49 63 *e*PKIKP **PKPdf** 11 15 41.9 -1.2
LPSR pmax pmax
comp=Z,20nm,1.0s
GEYT Alibeck 138.66 93 PKhKP PKPpre 11 15 35.4
comp=Z,1.2nm,0.4s,baz=270,slow=4.3,SNR=3.4
GEYT PKP **PKPdf** 11 15 43.5 -0.5
comp=Z,4.0nm,0.9s,baz=270,slow=1.5,SNR=5.9
GEYT PP **PP** 11 18 36.3 +0.7
comp=Z,2.2nm,0.5s,baz=333,slow=1.6,SNR=3.3
OBN Obninsk 138.90 59 PKhKP PKPpre 11 15 37.2
comp=Z,8.9nm,0.4s,baz=199,slow=7.8,SNR=5.3
OBN Obninsk 138.90 59 PKPpre PKPpre 11 15 37.2
OBN LR LR
comp=Z,3μm,20.0s
OBN Obninsk 138.90 59*ce*PKIKP **PKPdf** 11 15 42.3 -1.4
OBN *e* 11 18 35.7
OBN *e*PPP PPP 11 21 39.5
OBN *i* SSS SSS 11 41 59.7
OBN pmax pmax
comp=Z,61nm,2.5s
VRH Novokhopyorsk 138.98 66 *e*PKIKP **PKPdf** 11 15 42.3 -1.7
VRH pmax pmax
comp=Z,6.0nm,0.4s
COLD Coldfoot 139.21 324 *e*PKPdf **PKPdf** 11 15 42.4 -1.6
COLD *e*PP **PP** 11 18 40.6 +2.1
COLD *e*SKPbc **SKiKP** 11 19 21.5 -0.7
CMAR Chiang Mai Arr 139.24 157 PKhKP PKPpre 11 15 35.6
comp=Z,2.0nm,0.8s,baz=230,slow=3.4,SNR=16
CMAR PKP **PKPdf** 11 15 45.0 -0.6
comp=Z,21nm,0.9s,baz=226,slow=2.8,SNR=33
CMAR PP **PP** 11 18 36.9 -1.5
comp=Z,2.5nm,0.9s,baz=202,slow=6.8,SNR=5.2
CMAR SKKPbc SKKPbc 11 27 51.3 -1.5
comp=Z,2.3nm,1.1s,baz=358,slow=4.7,SNR=4.2
CHTO Chiang Mai 139.59 157 P PKPpre 11 15 37.1
comp=Z,68nm,1.1s
CHTO Chiang Mai 139.59 157 *e*PKPdf **PKPdf** 11 15 44.4 -1.8
CHTO *e*PP **PP** 11 18 34.4 -6.2
CHTO *e*SKPbc **SKPbc** 11 19 20.1 -1.6
CHTO LR LR
comp=Z,5μm,20.0s
CHTO Chiang Mai 139.59 157 PKPdf PKPpre 11 15 37.9
SNR=19
CHTO Chiang Mai 139.59 157 *e*PKIKP **PKPdf** 11 15 44.4 -1.8
CHTO MLR MLR
comp=Z,5μm,20.0s
CMMT Chiang Mai 139.59 157 P PKPpre 11 15 36.0
comp=Z,25nm,2.9s
MOS Moscow 139.76 59 *i* PKIKP **PKPdf** 11 15 42.6 -2.7
MOS *e* 11 37 09.7
MOS pmax pmax
comp=Z,28nm,0.6s
TOLK Toolik Lake Re 139.81 326 P PKPpre 11 15 39.1
baz=124
TRO Tromso 140.39 33 *e* PKPpre 11 15 37.0
BOK Bokaro 140.41 136 *e*P PKPpre 11 15 43.0
BOK IAMs_20 IAMs_20 12 22 06.1
comp=Z,2μm,14.6s
QIZ Qiongzhong 141.35 173 PKP **PKPdf** 11 15 51.1 +1.7
QIZ PP **PP** 11 18 53.6 +2.4
QIZ SS SS 11 37 24.9 +4.8
QIZ AMB AMB
comp=Z,1μm,11.3s
QIZ LR LR
comp=Z,950nm,22.1s
QIZ LR LR
comp=Z,2μm,18.6s
QIZ LR LR
comp=Z,4μm,24.7s
QIZ Qiongzhong 141.35 173 PFAKE 11 16 00.0 +11
QIZ LR LR
comp=Z,5μm,20.0s
HAMF Hammerfest 142.31 33 *e*PKPdf **PKPdf** 11 15 45.9 -3.6
ARCES ARCESS Array B 142.33 35 PKhKP PKPpre 11 15 44.6
comp=Z,6.9nm,0.8s,baz=282,slow=0.9,SNR=17
ARE0 ARCESS Array S 142.33 35 *e*PKPdf **PKPdf** 11 15 47.4 -2.2
DDI Dehra Dun 142.88 121 *e*P **PKPdf** 11 15 46.7 -5.2
KEV Kevo 142.90 35 PFAKE 11 16 00.0 +9.5
KEV LR LR
comp=Z,3μm,19.0s
BJO Bjornoya 142.91 26 *e*PKPdf **PKPdf** 11 15 47.4 -3.1
KOLN Koldanda 143.09 130 *e*P PKPab 11 15 47.1 -0.8
comp=Z,127nm,0.9s
PYUN Piuthan 143.13 129 *e*P PKPab 11 15 47.0 -1.1
comp=Z,166nm,1.0s
SMLA Simla 143.14 120 *e*P PKPab 11 15 48.0 +0.3
SMLA IAmb IAmb 11 15 49.0
comp=Z,4μm,5.0s
HSPB Hornsund (broa 143.26 22 *e*PKPdf PKPbc 11 15 49.5 +1.3
HSPB Hornsund (broa 143.26 22 *e*PKIKP PKPbc 11 15 48.7 +0.6
HSPB *e* 11 15 52.7
NIL Nilore 143.31 113 *e*PKPdf PKPab 11 15 47.6 -0.8
NIL LR LR
comp=Z,2μm,19.0s
KLMR Klimovskoe 143.36 52 *e*PKPdf PKPab 11 15 47.9 +0.2
KLMR *e*PP **PP** 11 19 03.8 -0.1
KLMR *e*PKS **PKSdf** 11 19 26.3 -0.6
KLMR *e*PKS **PKSdf** 11 19 26.3 -0.6
KLMR *e*SS **SS** 11 37 42.9 -1.5
KLMR *e*SS **SS** 11 37 42.9 -1.5
KLMR LQ LQ 12 09 56.4
KLMR LQ LQ 12 09 56.4
KLMR LR LR 12 16 42.8
KLMR AMP 12 21 24.3
comp=Z,1μm,22.2s
KLMR Klimovskoe 143.36 52 *e*PKIKP PKPab 11 15 47.8 +0.1
KLMR *e* 11 19 03.7
KLMR *e*SS SS 11 37 42.9 -1.5
KLMR MLR MLR
comp=Z,1μm,22.0s
KBS Kingsbay 143.49 18 *e*PKPdf **PKPdf** 11 15 50.9 -0.5
KBS LR LR
comp=Z,2μm,19.0s
KBS Kingsbay 143.49 18 *e*PKPdf PKPbc 11 15 50.0 +1.2
KBS Kingsbay 143.49 18 *e*PKIKP **PKPdf** 11 15 50.9 -0.5
KBS MLR MLR
comp=Z,2μm,19.0s
RAMN Ramite 143.54 135 *e*P PKPab 11 15 49.1 -0.7
comp=Z,242nm,0.9s
DMN Daman 143.55 133 *e*P PKPab 11 15 49.1 -0.7
comp=Z,180nm,1.0s
PKIN Phulchoki 143.64 133 *e*P PKPab 11 15 49.5 -0.7
DHRM DHARAMSHALA 143.66 118 *e*P PKPab 11 15 48.9 -1.1
DHRM IAMs_20 IAMs_20 12 05 40.1
comp=Z,3μm,27.6s
DANN Dangsing 143.66 130 *e*P PKPab 11 15 49.8 -0.5
GKN Gorkha 143.71 132 *e*P PKPab 11 15 48.9 -1.4
comp=Z,226nm,1.1s
ODAN Odare 143.76 136 *e*P PKPab 11 15 49.7 -0.9
comp=Z,260nm,1.0s
KKN Kakani 143.78 133 *e*P PKPab 11 15 49.4 -1.3
comp=Z,113nm,0.9s
SPA0 Spitsbergen Ar 143.94 20 *e*PKPdf PKPab 11 15 49.5 -0.1
SPITS Spitsbergen Ar 143.94 20 PKP PKPbc 11 15 50.0 -0.2
comp=Z,64nm,1.0s,baz=235,slow=2.9,SNR=18
SPITS Spitsbergen Ar 143.94 20 PKIKP PKPbc 11 15 50.0 -0.2
SPITS pmax pmax
comp=Z,64nm,1.0s
JIRN Jiri 144.02 134 *e*P **PKPab** 11 15 50.9 -0.9
APA Apatity 144.05 40⇑ *i*PKIKP **PKPab** 11 15 49.6 -0.6
APA *i* 11 15 54.2
APA pmax pmax
comp=Z,97nm,0.8s
GUN Gumba 144.12 133 *e*P **PKPab** 11 15 50.9 -1.2
SHL Shillong 144.13 143 *e*P **PKPab** 11 15 51.7 -0.2
SHL IAMs_20 IAMs_20 12 20 14.4
comp=Z,3μm,27.0s
TMCR Tamitsa 144.29 47 *e*PKIKP **PKPab** 11 15 51.0 -0.1
TMCR pmax pmax
comp=Z,70nm,1.0s
LVZ Lovozero 144.62 40 *e*PKPdf **PKPab** 11 15 52.3 0.0
LVZ LR LR
comp=Z,6μm,21.0s
LVZ Lovozero 144.62 40*ce*PKIKP **PKPab** 11 15 52.2 -0.2
LVZ MLR MLR
comp=Z,5μm,19.0s
HKC Hong Kong Obse 144.76 179 ⇑P **PKPab** 11 15 54.0 -0.1
TWG Pinlang 144.97 190 *e*PKPdf **PKPab** 11 15 52.6 -2.3
HOPEN Hopen 145.06 24 *e*PKPbc **PKPdf** 11 15 54.5 +0.4
GAMB Gambell 145.29 312 *e*PKPdf **PKPbc** 11 15 52.1 -2.6
TPUB Ta-pu 145.48 190 *e*PKPbc **PKPdf** 11 15 55.4 -1.2
TPUB *e*PP **PP** 11 19 14.1 -2.1
YULB Yu-li 145.51 191 *e*PKPbc **PKPdf** 11 15 53.6 -3.0
GZH Guangzhou 145.53 178 PKPbc **PKPab** 11 15 58.6 +1.7
SSLB Suanglung 145.94 190 *e*PKPbc **PKPdf** 11 15 57.0 -0.3
NACB Ninganchiao 146.25 192 *e*PKPdf **PKPdf** 11 15 56.0 -1.8
KMI Kunming 146.47 160 PKPbc **PKPdf** 11 15 57.8 -0.7
KMI pPKP PKPab 11 16 00.9 +0.1
KMI PKS **PKSdf** 11 19 33.3 -0.8
KMI SKKS 11 26 14.4
KMI SS **SS** 11 38 26.9 +7.3
KMI LR LR
comp=Z,1μm,21.6s
KMI LR LR
comp=Z,3μm,19.2s
KMI LR LR
comp=Z,6μm,21.0s
SMY Shemya 146.64 288 *e*PKPdf **PKPdf** 11 15 57.2 -0.3
SMY Shemya 146.64 288 *e*PKIKP **PKPdf** 11 15 57.2 -0.3
YHNB Yeheng 146.77 191 *e*PKPdf **PKPdf** 11 15 59.0 +0.2
YHNB LR LR
comp=Z,2μm,21.0s
AKTO Aktyubinsk 146.85 78 PKPbc **PKPdf** 11 15 58.7 +0.7
comp=Z,48nm,0.9s,baz=194,slow=3.2,SNR=30
AKTO Aktyubinsk 146.85 78 PKP2 **PKPdf** 11 15 58.0 0.0
AKTO pmax pmax
comp=Z,76nm,1.1s
TATO Taipei 147.06 191 *e*PKPdf **PKPdf** 11 15 59.7 +0.5
TATO LR LR
comp=Z,2μm,20.0s
AB31 Akbulak array 147.19 81 *i* PKIKP **PKPdf** 11 15 57.0 -1.6
AB31 pmax pmax
comp=Z,170nm,1.1s
ABKAR Akbulak array 147.19 81 *e*PKPdf **PKPdf** 11 15 57.7 -0.9
ABKAR *e*PKPbc **PKPbc** 11 16 00.4 -0.5
QZH Quanzhou 147.27 187 *i* PKPbc **PKPdf** 11 15 58.8 -0.7
QZH AMB AMB
comp=Z,1μm,10.6s
QZH LR LR
comp=Z,2μm,19.7s
QZH LR LR
comp=Z,900nm,17.3s
QZH LR LR
comp=Z,2μm,24.7s
LSA Lhasa 147.70 140 PKPbc **PKPdf** 11 16 00.1 -0.6
LSA Lhasa 147.70 140 *e*PKPdf **PKPdf** 11 16 00.4 -0.3
LSA *e*PKPbc **pPKPdf** 11 16 03.9 +0.3
LSA *e*PP **PP** 11 19 26.7 -3.4
LSA LR LR
comp=Z,5μm,21.0s
LSA Lhasa 147.70 140 P **PKPdf** 11 16 00.3 -0.3
LSA Lhasa 147.70 140 *e*PKIKP **PKPdf** 11 16 00.4 -0.3
LSA *e* 11 16 03.9
LSA *e* 11 19 26.7
LSA MLR MLR
comp=Z,5μm,21.0s
JOW Kunigami 147.78 203 PKPbc **PKPbc** 11 16 03.1 -0.2
comp=Z,55nm,0.9s,baz=146,slow=2.5,SNR=12
JOW Kunigami 147.78 203 *e*PKPbc **PKPbc** 11 16 03.0 -0.2
CHM Chimkent 147.94 99⇑ *i*PKP **PKPdf** 11 15 58.5 -1.7
CHM *e*PP **PP** 11 19 29.7 -1.7
CHM LR LR 12 23 08.0
comp=Z,719nm,17.7s
IUG Iuzhnay 148.05 99 *i* PKP **PKPdf** 11 15 58.9 -1.5
IUG *e*PP **PP** 11 19 30.5 -1.7
IUG LR LR 12 23 53.1
comp=Z,1μm,17.7s
SFK Sufi-Kurgan 148.34 106 PKP2 **PKPbc** 11 16 03.4 -1.2
SFK pmax pmax
comp=Z,205nm,1.3s
GYA Guiyang 148.39 166 PKPbc **PKPdf** 11 16 02.0 +0.5
GYA PKPab **pPKPab** 11 16 11.8 +0.8
GYA PKS **PKSdf** 11 19 35.4 -1.4
GYA PP **PP** 11 19 38.6 +5.2
GYA SKKS 11 26 25.3
GYA SS **SS** 11 38 43.0 +2.0
GYA AMB AMB
comp=Z,160nm,8.9s
GYA LR LR
comp=Z,360nm,23.0s
GYA LR LR
comp=Z,220nm,23.4s
KK31 Karatay Array 148.97 98 *i* PKIKP **PKPdf** 11 16 00.2 -1.6
KK31 pmax pmax
comp=Z,162nm,1.2s
KKAR Karatay Array 148.97 98 *e*PKPdf **PKPdf** 11 16 00.4 -1.4
KKAR *e*PKPbc **sPKPdf** 11 16 06.0 +0.4
KKAR *e*PKPab **sPKPbc** 11 16 10.6 +1.0
KKAR Karatay Array 148.97 98 *e*PKIKP **PKPdf** 11 16 00.4 -1.4
KKAR *e* 11 16 06.0
KSH Kashi 149.25 109 PKPbc **PKPdf** 11 16 01.8 -0.7
KSH PP **PP** 11 19 37.3 -1.7
KSH SS SS 11 38 45.4 -6.4
KSH AMB AMB
comp=Z,4μm,5.6s
KSH LR LR
comp=Z,1μm,11.5s
KSH LR LR
comp=Z,1μm,13.3s
KSH LR LR
comp=Z,3μm,21.0s
DZA Taraz 149.26 100 *i* PKP **PKPdf** 11 16 00.8 -1.5
MNAS Manas 149.60 101 PKIKP **PKPdf** 11 16 00.9 -2.1
MNAS pmax pmax
comp=Z,52nm,1.0s
AML Almayashu 149.98 103 P **PKPbc** 11 16 07.4 -1.4
SNR=22
ARU Arti 150.18 68 PKP **PKPdf** 11 16 02.5 -0.7
comp=Z,1.5nm,0.3s,baz=313,slow=4.2,SNR=6.5
ARU PKPbc **PKPbc** 11 16 08.0 -0.3
comp=Z,16nm,0.5s,baz=250,slow=1.8,SNR=35
ARU Arti 150.18 68 *e*PKPdf **PKPdf** 11 16 01.9 -1.3
ARU *e*PKPbc **PKPbc** 11 16 08.1 -0.2
ARU LR LR
comp=Z,4μm,20.0s
ARU Arti 150.18 68 *i* PKIKP **PKPdf** 11 16 01.4 -1.8
EKS2 Erkin-Say 150.39 102 P **PKPdf** 11 16 03.5 -0.6
SNR=10.0
UCH Uchtor 150.47 104 P **PKPdf** 11 16 04.2 -0.5
SNR=18

KZA	**Kyzart**	**150.75**	**105**	P	**PKPdf**	**11 16 04.7**	**-0.5**
	SNR=17						
AAK	**Ala-Archa**	**150.75**	**103**	PKP	**PKPdf**	**11 16 04.3**	**-0.5**
	comp=Z,11nm,1.0s,baz=214,slow=2.7,SNR=23						
AAK				PKPbc	**PKiKP**	**11 16 10.9**	**-0.1**
	comp=Z,110nm,0.9s,baz=226,slow=5.5,SNR=57						
AAK	**Ala-Archa**	**150.75**	**103**	P	**PKPdf**	**11 16 04.1**	**-0.7**
	SNR=8.8						
AAK	**Ala-Archa**	**150.75**	**103**	*e*PKPdf	**PKPdf**	**11 16 02.1**	**-2.7**
AAK				*e*PKPbc	**PKPbc**	**11 16 09.8**	**-0.6**
AAK				*e*PKPab	**PKPab**	**11 16 17.2**	**-0.3**
AAK				LR	LR		
	comp=Z,4μm,20.0s						
AAK	**Ala-Archa**	**150.75**	**103**	P	**PKPdf**	**11 16 04.5**	**-0.3**
	SNR=122						
AAK	**Ala-Archa**	**150.75**	**103**	PKPdf	**PKPdf**	**11 16 04.5**	**-0.3**
	SNR=122						
AAK	**Ala-Archa**	**150.75**	**103**	*i* P	**PKPdf**	**11 16 04.2**	**-0.5**
	SNR=33						
AAK	**Ala-Archa**	**150.75**	**103**	PKIKP	**PKPdf**	**11 16 04.3**	**-0.5**
AAK				pmax	pmax		
	comp=Z,164nm,1.1s						
FRU	**Bishkek**	**150.95**	**103**	*e*PKIKP	**PKPdf**	**11 16 03.0**	**-1.9**
FRU				*i*		11 16 10.0	
FRU				pmax	pmax		
	comp=Z,660nm,2.0s						
KBK	**Karagaybulak**	**151.00**	**104**	P	**PKPbc**	**11 16 11.3**	**+0.3**
	SNR=16						
CHMS	**Chumaysh**	**151.14**	**103**	P	**PKPbc**	**11 16 10.8**	**-0.3**
	SNR=18						
USP	**Ospenovka**	**151.19**	**102**	P	**PKPdf**	**11 16 04.5**	**-0.8**
	SNR=6.7						
SVE	**Sverdlovsk**	**151.39**	**68**	*e*PKIKP	**PKPbc**	**11 16 10.9**	**-0.2**
SVE				pmax	pmax		
	comp=Z,208nm,1.4s						
ULHL	**Ulahol**	**151.39**	**106**	P	**PKPbc**	**11 16 12.1**	**+0.2**
	SNR=11						
TKM2	**Tokmak 2**	**151.53**	**104**	P	**PKPdf**	**11 16 04.9**	**-1.2**
	SNR=8.4						
TKM2	**Tokmak 2**	**151.53**	**104**	PKIKP	**PKPdf**	**11 16 05.9**	**-0.1**
TKM2				pmax	pmax		
	comp=Z,92nm,1.2s						
BMNS	**Besmoynak**	**151.70**	**104**	⇑*i*PKP	**PKPdf**	**11 16 05.0**	**-1.2**
BMNS				LR	LR	12 23 38.3	
	comp=Z,734nm,21.4s						
BTLS	**Baital**	**152.16**	**99**	*i* PKP	**PKPdf**	**11 16 04.7**	**-1.9**
BTLS				*e*PP	**PP**	**11 19 53.3**	**-2.4**
BTLS				LR	LR	12 26 35.0	
	comp=Z,693nm,16.3s						
CD2	**Chengdu**	**152.30**	**160**	PKPbc	**PKPdf**	**11 16 06.6**	**-0.8**
CD2				pPKP	pPKPdf	11 16 10.0	-0.2
CD2				sPKP		11 16 11.3	
CD2				SKS	**SKSdf**	**11 23 14.0**	**-0.7**
CD2				SKKS	**SKKSac**	**11 26 46.0**	**-0.7**
CD2				SS	**SS**	**11 39 26.4**	**+2.0**
CD2				AMB	AMB		
	comp=Z,3μm,7.0s						
CD2				LR	LR		
	comp=Z,5μm,20.9s						
CD2				LR	LR		
	comp=Z,3μm,22.4s						
CD2				LR	LR		
	comp=Z,5μm,21.9s						
AAA	**Alma-Ata**	**152.42**	**105**	⇑*i*PKP	**PKPdf**	**11 16 06.4**	**-0.8**
AAA				*i* PP	**PP**	**11 19 56.2**	**-1.0**
AAA				LR	LR	12 25 04.8	
	comp=Z,630nm,21.4s						
MDOK	**Medeo**	**152.46**	**105**	*i* PKP	**PKPdf**	**11 16 06.3**	**-1.0**
MDOK				LR	LR	12 24 59.6	
	comp=Z,1μm,21.4s						
ENH	**Enshi**	**152.47**	**170**	*e*PKPdf	**PKPdf**	**11 16 05.4**	**-2.2**
ENH				*e*PKPbc	**PKPbc**	**11 16 14.1**	**-0.4**
ENH				LR	LR		
	comp=Z,5μm,20.0s						
KUU	**Kurty**	**152.59**	**103**	⇑*i*PKP	**PKPdf**	**11 16 05.8**	**-1.6**
KUU				*i* PP	**PP**	**11 19 56.1**	**-2.1**
KUU				LR	LR	12 26 57.1	
	comp=Z,685nm,19.9s						
WHN	**Wuhan**	**152.97**	**179**	PKPbc	**PKPdf**	**11 16 07.0**	**-1.3**
WHN				SS	SS	11 39 32.5	+1.0
WHN				LR	LR		
	comp=Z,8μm,24.6s						
WHN				LR	LR		
	comp=Z,3μm,20.9s						
WHN				LR	LR		
	comp=Z,10μm,23.0s						
SATY	**Saty**	**153.09**	**107**	⇑*i*PKP	**PKPdf**	**11 16 07.0**	**-1.2**
SATY				*i* PP	**PP**	**11 19 59.5**	**-1.6**
SATY				LR	LR	12 25 54.3	
	comp=Z,1μm,20.0s						
SSE	**Sheshan**	**153.14**	**193**	PKPbc	**PKPdf**	**11 16 07.3**	**-1.2**
SSE				SS	SS	11 39 31.9	-1.4
SSE				AMB	AMB		
	comp=Z,700nm,7.3s						
SSE				LR	LR		
	comp=Z,1μm,20.1s						
SSE				LR	LR		
	comp=Z,760nm,19.6s						
JNU	**Nakatsue**	**153.15**	**211**	PKP	**PKPdf**	**11 16 07.7**	**-0.9**
	comp=Z,6.3nm,0.9s,baz=90,slow=5.1,SNR=4.2						
JNU				PKPbc	**PKPbc**	**11 16 15.2**	**-0.7**
	comp=Z,50nm,1.0s,baz=341,slow=2.7,SNR=4.5						
JNU	**Nakatsue**	**153.15**	**211**	*e*PKPdf	**PKPdf**	**11 16 07.6**	**-0.9**
JNU				*e*PKPbc	**PKiKP**	**11 16 16.3**	**+0.2**
JNU				*e*PKPab	**PKPab**	**11 16 25.7**	**-1.9**
ZHN	**Zhinishke**	**153.18**	**107**	⇑*i*PKP	**PKPdf**	**11 16 06.7**	**-1.6**
ZHN				LR	LR	12 25 49.9	
	comp=Z,674nm,16.3s						
OTUK	**Ortayu**	**153.25**	**92**	PKIKP	**PKPdf**	**11 16 08.0**	**-0.2**
OTUK				pmax	pmax		
	comp=Z,82nm,1.2s						
UZB	**Uzynbulak**	**153.47**	**107**	⇑*i*PKP	**PKPdf**	**11 16 07.7**	**-1.1**
KPKS	**Kokpek**	**153.52**	**107**	*i* PKP	**PKPdf**	**11 16 07.5**	**-1.4**
KPKS				LR	LR	12 25 52.1	
	comp=Z,2μm,18.5s						
MJAR	**Matsushiro Arr**	**153.78**	**227**	PKP	**PKPdf**	**11 16 07.5**	**-1.8**
	comp=Z,1.6nm,0.8s,baz=179,slow=2.4,SNR=4.5						
MJAR				PKPbc	**PKPbc**	**11 16 16.9**	**-0.3**
	comp=Z,4.1nm,1.0s,baz=266,slow=0.5,SNR=5.1						
MJAR				PKPab	**PKPab**	**11 16 27.7**	**-2.4**
	comp=Z,12nm,1.0s,baz=162,slow=3.2,SNR=6.5						
MAJO	**Matsushiro**	**153.78**	**227**	*e*PKPdf	**PKPdf**	**11 16 08.5**	**-0.8**
MAJO				*e*PKPab	**PKPab**	**11 16 35.1**	**+5.0**
MAJO				LR	LR		
	comp=Z,2μm,21.0s						
MAJO	**Matsushiro**	**153.78**	**227**	*e*PKIKP	**PKPdf**	**11 16 08.5**	**-0.8**
MAJO				MLR	MLR		
	comp=Z,2μm,21.0s						
MAT	**Matsushiro**	**153.78**	**227**	PKP	**PKPdf**	**11 16 07.7**	**-1.6**
PDGK	**Podgornoye**	**153.84**	**108**	PKIKP	**PKPdf**	**11 16 07.6**	**-1.7**
PDGK				pmax	pmax		
	comp=Z,54nm,1.1s						
NJ2	**Nanjing**	**154.31**	**188**	*e*PKPbc	**PKPdf**	**11 16 10.0**	**-0.1**
NJ2				PKPab	**PKPab**	**11 16 32.3**	**-0.1**
NJ2				SKKS		11 26 59.1	
NJ2				SS	**SS**	**11 39 47.0**	**+0.9**
NJ2				AMB	AMB		
	comp=Z,2μm,6.9s						
NJ2				LR	LR		
	comp=Z,3μm,18.4s						
NJ2				LR	LR		
	comp=Z,2μm,17.3s						
NJ2				LR	LR		
	comp=Z,4μm,16.3s						
BRZS	**Berezniki**	**154.43**	**89**	⇑*i*PKP	**PKPdf**	**11 16 08.2**	**-1.6**
BRVK	**Borovoye**	**154.72**	**81**	*e*PKPdf	**PKPdf**	**11 16 08.5**	**-1.5**
BRVK				LR	LR		
	comp=Z,3μm,20.0s						
BRVK	**Borovoye**	**154.72**	**81**	P	**PKPdf**	**11 16 09.5**	**-0.5**
	SNR=19						
BRVK	**Borovoye**	**154.72**	**81**	PKPdf	**PKPdf**	**11 16 09.5**	**-0.5**
	SNR=19						
BRVK	**Borovoye**	**154.72**	**81**	PKIKP	**PKPdf**	**11 16 08.6**	**-1.4**
BRVK				pmax	pmax		
	comp=Z,18nm,1.1s						
BVA0	**Borovoye Array**	**154.76**	**81**	PKIKP	**PKPdf**	**11 16 10.0**	**-0.1**
BVA0				pmax	pmax		
	comp=Z,59nm,1.4s						
BVAR	**Borovoye Array**	**154.76**	**81**	PKP	**PKPdf**	**11 16 08.7**	**-1.4**
	comp=Z,7.8nm,1.0s,baz=240,slow=1.2,SNR=20						
BVAR				PKPbc	**pPKPbc**	**11 16 21.2**	**-0.3**
	comp=Z,18nm,0.9s,baz=222,slow=1.9,SNR=21						
BVAR				PKPab	**PKPab**	**11 16 32.7**	**-1.2**
	comp=Z,14nm,0.9s,baz=193,slow=2.9,SNR=7.4						
BVAR				PP	**PP**	**11 20 13.2**	**+2.8**
	comp=Z,5.6nm,0.9s,baz=251,slow=4.4,SNR=4.4						
PET	**Petropavlovsk**	**154.88**	**279**	*e*PKPdf	**PKPdf**	**11 16 09.9**	**-0.3**
PET				*e*PKPbc	**PKPbc**	**11 16 17.9**	**-1.0**
PET				*e*PKPab	**pPKPab**	**11 16 36.0**	**-1.1**
PET				LR	LR		
	comp=Z,2μm,21.0s						
PET	**Petropavlovsk**	**154.88**	**279**	*i* PKIKP	PKPpre	11 15 57.0	
PET				*e*		11 20 18.0	
BILL	**Bilibino**	**155.01**	**316**	⇑*i*PKIKP	**PKPdf**	**11 16 08.4**	**-1.6**
BILL				*e*		11 23 12.9	
BILL				*i* SS	SS	11 39 54.0	-0.4
BILL				pmax	pmax		
	comp=Z,6.0nm,1.2s						
BILL				pmax	pmax		
	comp=Z,92nm,1.7s						
SKR	**Severo-Kuril's**	**155.06**	**272**	*e*PKIKP	**PKPab**	**11 16 28.5**	**-6.7**
SKR				pmax	pmax		
	comp=Z,600nm,9.5s						
SKR				pmax	pmax		
	comp=Z,900nm,7.8s						
PETK	**Petropavlovsk-**	**155.43**	**278**	PKP	**PKPdf**	**11 16 16.3**	**+5.3**
	comp=Z,20nm,1.0s,baz=64,slow=3.4,SNR=8.7						
PETK				PKPab	**PKPab**	**11 16 37.6**	**+0.9**
	comp=Z,33nm,1.0s,baz=107,slow=8.3,SNR=6.2						
ERM	**Erimo**	**156.14**	**242**	PFAKE		11 16 20.0	+7.7
ERM				LR	LR		
	comp=Z,4μm,20.0s						
KUR	**Kuril'sk**	**156.14**	**253**	*e*PKP2	**PKPab**	**11 16 42.0**	**+2.0**
KUR				pmax	pmax		
	comp=Z,205nm,1.6s						
XAN	**Xi'an**	**156.14**	**168**	PKP	**PKPdf**	**11 16 11.3**	**-1.4**
XAN				SKS	**SKSdf**	**11 23 16.4**	**-2.5**
XAN				SKKS	**SKKSac**	**11 27 04.3**	**-3.0**
XAN				LR	LR		
	comp=Z,4μm,18.4s						
XAN				LR	LR		
	comp=Z,2μm,19.0s						
XAN				LR	LR		
	comp=Z,6μm,18.4s						
YUK	**Yuzh-Kuril'sk**	**156.32**	**249**	*e*PKIKP	PKPpre	11 16 06.1	
YUK				*e*PPP	PPP	11 23 55.6	
YUK				*e*SS	SS	11 40 03.4	-5.6
YUK				*e*SSS	SSS	11 46 12.3	
LZH	**Lanzhou**	**157.33**	**157**	⇑PKP	**PKPdf**	**11 16 11.3**	**-3.0**
LZH				pPKP	sPKPdf	11 16 21.8	+3.7
LZH				SKS	**SKSdf**	**11 23 17.1**	**-3.2**
LZH				AMB	AMB		
	comp=Z,3μm,8.5s						
LZH				LR	LR		
	comp=Z,5μm,19.1s						
LZH				LR	LR		
	comp=Z,4μm,19.4s						
LZH				LR	LR		
	comp=Z,7μm,20.6s						
MAKZ	**Makanchi**	**157.50**	**104**	PKIKP	**PKPdf**	**11 16 12.5**	**-1.4**
MAKZ				pmax	pmax		
	comp=Z,12nm,1.3s						
MK31	**Makanchi Array**	**157.65**	**105**	*i* PKIKP	**PKPdf**	**11 16 12.3**	**-1.8**
MK31				pmax	pmax		
	comp=Z,17nm,1.1s						
MKAR	**Makanchi Array**	**157.65**	**105**	PKP	**PKPdf**	**11 16 12.7**	**-1.5**
	comp=Z,5.6nm,1.0s,baz=264,slow=1.2,SNR=20						
MKAR				PKPab	**PKPab**	**11 16 46.4**	**-0.1**
	comp=Z,20nm,0.9s,baz=243,slow=3.3,SNR=13						
MKAR				PP	**PP**	**11 20 28.4**	**+2.0**
	comp=Z,2.9nm,0.9s,baz=262,slow=4.4,SNR=3.8						
KURBB	**Kurchatov Arra**	**157.93**	**93**	PKP	**PKPdf**	**11 16 13.6**	**-0.7**
	comp=Z,6.1nm,1.0s,baz=242,slow=1.6,SNR=29						
KURBB				PKPab	**PKPab**	**11 16 47.3**	**-0.2**
	comp=Z,39nm,0.9s,baz=241,slow=5.1,SNR=21						
KURBB				PP	**PP**	**11 20 29.4**	**+1.5**
	comp=Z,5.2nm,1.2s,baz=242,slow=5.4,SNR=6.7						
ASAJ	**Asahikawa**	**157.99**	**244**	PKP	**PKPdf**	**11 16 12.1**	**-2.5**
	comp=Z,3.9nm,1.0s,baz=204,slow=9.3,SNR=3.6						
ASAJ				PKPab	**pPKPab**	**11 16 49.9**	**-0.9**
	comp=Z,10nm,0.7s,baz=296,slow=2.3,SNR=11						
ASAJ	**Asahikawa**	**157.99**	**244**	*e*PKPdf	**PKPdf**	**11 16 12.2**	**-2.4**
ASAJ				*e*PKPab	**PKPab**	**11 16 48.8**	**+0.8**
KURK	**Kurchatov**	**158.03**	**93**	*e*PKPdf	**PKPdf**	**11 16 12.3**	**-2.1**
KURK				*e*PKPab	**PKPab**	**11 16 47.5**	**-0.5**
KURK				PP	**PP**	**11 20 29.4**	**+0.9**
KURK				LR	LR		
	comp=Z,11μm,22.0s						
KURK	**Kurchatov**	**158.03**	**93**	P	**PKPdf**	**11 16 14.4**	**0.0**
	SNR=26						
KURK	**Kurchatov**	**158.03**	**93**	PKPdf	**PKPdf**	**11 16 14.4**	**0.0**
	SNR=26						
KURK	**Kurchatov**	**158.03**	**93**	*e*PKIKP	**PKPdf**	**11 16 12.3**	**-2.1**
KURK				*e*		11 16 47.5	
KURK						11 20 29.4	
KURK				MLR	MLR		
	comp=Z,11μm,22.0s						
KSAR	**Wonju Array Be**	**158.03**	**209**	PKP	**PKPdf**	**11 16 13.6**	**-1.3**
KSAR				PKPab	**PKPab**	**11 16 48.2**	**-0.1**
KSAR				PP	**PP**	**11 20 27.9**	**-0.1**
KSAR	**Wonju Array Be**	**158.03**	**209**	PKIKP	**PKPdf**	**11 16 13.6**	**-1.3**
KSAR						11 16 48.2	
KSAR						11 20 27.9	
KSRS	**Korea Array**	**158.03**	**209**	PKP	**PKPdf**	**11 16 13.6**	**-1.2**
	comp=Z,3.7nm,0.9s,baz=171,slow=1.3,SNR=13						
KSRS				PKPab	**PKPab**	**11 16 48.2**	**-0.1**
	comp=Z,10nm,1.2s,baz=154,slow=4.0,SNR=6.8						
KSRS				PP	**PP**	**11 20 27.9**	**0.0**
	comp=Z,1.0nm,0.8s,baz=179,slow=6.8,SNR=3.8						
WMQ	**Urumqi**	**158.27**	**118**	PKP	**PKPdf**	**11 16 14.8**	**-0.3**
WMQ				PKPab	**PKPab**	**11 16 49.8**	**+0.5**
WMQ				PP	**PP**	**11 20 32.3**	**+2.5**
WMQ				AMB	AMB		
	comp=Z,3μm,7.9s						
WMQ				LR	LR		
	comp=Z,4μm,22.9s						
WMQ				LR	LR		
	comp=Z,5μm,22.9s						
WMQ				LR	LR		
	comp=Z,5μm,19.1s						
INCN	**Inchon**	**158.39**	**207**	PFAKE		11 16 30.0	+15
INCN				LR	LR		
	comp=Z,3μm,20.0s						
TIA	**Tai'an**	**158.56**	**186**	PKP	**PKPdf**	**11 16 14.8**	**-0.8**
TIA				SKKS		11 27 21.1	
TIA				AMB	AMB		
	comp=Z,2μm,9.9s						
TIA				LR	LR		
	comp=Z,2μm,22.9s						
TIA				LR	LR		
	comp=Z,2μm,21.0s						
TIA				LR	LR		
	comp=Z,3μm,25.5s						
SEM	**Semipalatinsk**	**158.74**	**95**	⇑*i*PKP	**PKPdf**	**11 16 13.7**	**-1.9**
SEM				LR	LR	12 34 15.4	
	comp=Z,1μm,20.7s						
ZSN	**Zaisan**	**159.41**	**107**	*i* PKP	**PKPdf**	**11 16 14.9**	**-1.3**
ZSN				LR	LR	12 37 22.9	
	comp=Z,479nm,20.1s						
GTA	**Gaotai**	**159.43**	**146**	⇑PKP	**PKPdf**	**11 16 16.1**	**-0.6**
GTA				PKPab	**PKPab**	**11 16 54.5**	**0.0**
GTA				SKS	**SKSdf**	**11 23 15.3**	**-6.8**
GTA				AMB	AMB		
	comp=Z,2μm,6.9s						
GTA				LR	LR		
	comp=Z,3μm,20.4s						
GTA				LR	LR		
	comp=Z,2μm,20.0s						
GTA				LR	LR		
	comp=Z,3μm,20.0s						
YSS	**Yuzh-Sakhalins**	**159.92**	**250**	*e*PKPdf	**PKPdf**	**11 16 15.5**	**-1.2**
YSS				*e*PKPab	**pPKPab**	**11 16 58.2**	**-0.9**
YSS				LR	LR		
	comp=Z,2μm,21.0s						
YSS	**Yuzh-Sakhalins**	**159.92**	**250**α	*i*PKIKP	**PKPdf**	**11 16 13.9**	**-2.8**
YSS				*e*		11 20 37.0	
YSS				*e*SS	SS	11 40 41.0	-6.4
YSS				pmax	pmax		
	comp=Z,10.0nm,1.3s						
YSS				pmax	pmax		
	comp=Z,1μm,6.3s						
TIY	**Taiyuan**	**160.07**	**175**	*e*PKP	**PKPdf**	**11 16 15.8**	**-1.6**
TIY				AMB	AMB		
	comp=Z,1μm,8.3s						
TIY				LR	LR		
	comp=Z,3μm,22.4s						
TIY				LR	LR		
	comp=Z,3μm,24.1s						
TIY				LR	LR		
	comp=Z,3μm,19.7s						
SEY	**Seymchan**	**160.74**	**302**	PKP	**PKPdf**	**11 16 12.2**	**-4.9**
	comp=Z,22nm,1.3s,baz=62,slow=3.4,SNR=7.6						
SEY				PKPab	**PKPab**	**11 16 58.6**	**-0.9**
	comp=Z,50nm,1.2s,baz=96,slow=4.4,SNR=3.6						
DL2	**Dalian**	**160.76**	**197**	⇑*i*PKP	**PKPdf**	**11 16 15.5**	**-2.5**
DL2				PKPab	**PKPab**	**11 17 00.3**	**+0.2**
DL2				SKKS		11 27 28.3	
DL2				AMB	AMB		
	comp=Z,1μm,8.0s						
DL2				LR	LR		
	comp=Z,2μm,18.1s						
DL2				LR	LR		
	comp=Z,1μm,18.0s						
DL2				LR	LR		
	comp=Z,3μm,19.9s						
MA2	**Magadan**	**161.20**	**291**	PKP	**PKPdf**	**11 16 17.7**	**-0.1**
	comp=Z,1.4nm,0.5s,baz=169,slow=2.1,SNR=4.0						
MA2				PKPab	**PKPab**	**11 17 01.9**	**+0.3**
	comp=Z,107nm,1.2s,baz=131,slow=2.9,SNR=12						
TEY	**Ternei**	**161.50**	**237**	*e*PKIKP	**PKPdf**	**11 16 18.0**	**-0.5**
TEY				pmax	pmax		
	comp=Z,2μm,6.0s						
BJT	**Baijiatuau**	**162.40**	**184**	PFAKE		11 16 30.0	+10
BJT				LR	LR		
	comp=Z,5μm,20.0s						
NVS	**Novosibirsk**	**162.41**	**86**	⇑*i*PKIKP	**PKPdf**	**11 16 18.6**	**-0.5**
NVS				*i*		11 17 04.5	
NVS				pmax	pmax		
	comp=Z,142nm,2.3s						
NVS				pmax	pmax		
	comp=N,33nm,2.5s						
NVS				pmax	pmax		
	comp=E,41nm,2.5s						
BJI	**Beijing**	**162.42**	**184**	PKP	**PKPdf**	**11 16 18.3**	**-1.3**
BJI				PP	**PP**	**11 20 51.4**	**0.0**
BJI				SS	SS	11 41 16.3	+4.0
BJI				AMB	AMB		
	comp=E,3μm,6.7s						
BJI				LR	LR		
	comp=E,4μm,22.4s						
BJI				LR	LR		
	comp=E,3μm,20.4s						
BTO	**Baotou**	**162.76**	**168**	*e*PKP	**PKPdf**	**11 16 15.8**	**-4.3**
USRK	**Ussuriysk Ar.**	**162.78**	**226**	PKP	**PKPdf**	**11 16 19.9**	**0.0**
	comp=E,2.7nm,0.8s,baz=26,slow=11,SNR=5.1						
USRK				PKPab	**PKPab**	**11 17 08.3**	**-0.5**
	comp=E,10nm,1.1s,baz=69,slow=4.1,SNR=10.0						
ZALV	**Zalesovo Beam**	**162.91**	**90**	PKP	**PKPdf**	**11 16 17.8**	**-1.9**
	comp=E,4.1nm,0.9s,baz=254,slow=2.6,SNR=10.0						
ZALV				PKPab	**PKPab**	**11 17 08.2**	**-1.1**
	comp=E,9.2nm,0.9s,baz=266,slow=5.4,SNR=7.4						
ZALV				PP	**PP**	**11 20 54.7**	**-0.1**
	comp=E,4.3nm,0.9s,baz=228,slow=5.6,SNR=3.7						
HHC	**Hu-ho-hao-te**	**163.14**	**172**	*e*PKP	**PKPdf**	**11 16 15.8**	**-4.7**
HHC				PKS	**PKSdf**	**11 19 54.5**	**+1.0**
HHC				AMB	AMB		
	comp=E,680nm,7.6s						
HHC				LR	LR		
	comp=E,4μm,19.4s						
HHC				LR	LR		
	comp=E,2μm,20.0s						
HHC				LR	LR		
	comp=E,4μm,20.5s						
SNY	**Shenyang**	**163.23**	**204**	⇑PKP	**PKPdf**	**11 16 16.8**	**-3.6**
SNY				AMB	AMB		
	comp=E,940nm,11.8s						
SNY				LR	LR		
	comp=E,2μm,18.0s						
SNY				LR	LR		
	comp=E,2μm,18.2s						
SNY				LR	LR		
	comp=E,4μm,21.8s						
MDJ	**Mudanjiang**	**164.03**	**222**	PKP	**PKPdf**	**11 16 17.1**	**-3.9**
MDJ				PP	**PP**	**11 21 01.5**	**+1.2**
MDJ				SS	SS	11 41 30.6	+0.9
MDJ				LR	LR		
	comp=E,1μm,23.0s						
MDJ				LR	LR		
	comp=E,2μm,23.4s						
MDJ				LR	LR		
	comp=E,4μm,24.5s						
MDJ	**Mudanjiang**	**164.03**	**222**	*e*PKPdf	**PKPdf**	**11 16 19.6**	**-1.4**
MDJ				*e*PKPab	**PKPab**	**11 17 12.6**	**-1.7**
MDJ				LR	LR		
	comp=Z,2μm,21.0s						
NKL	**Nikolayevsk**	**164.59**	**264**	*e*PKIKP	PKPpre	11 16 17.0	
NKL				*e*		11 17 15.2	
NKL				*e*		11 21 00.0	
NKL				pmax	pmax		
	comp=Z,290nm,2.0s						
NKL				pmax	pmax		
	comp=Z,1μm,6.0s						
TIXI	**Tiksi**	**164.69**	**343**	*e*PKPdf	PKPpre	11 16 12.7	
TIXI				LR	LR		
	comp=Z,3μm,19.0s						
TIXI	**Tiksi**	**164.69**	**343**	*e*PKIKP	PKPpre	11 16 12.7	
TIXI				MLR	MLR		
	comp=Z,3μm,19.0s						
GRNR	**Gornyy**	**165.57**	**251**	*i* PKIKP	PKPpre	11 16 12.7	
KLR	**Kul'dur**	**166.84**	**238**	PKP	**PKPdf**	**11 16 20.1**	**-3.1**
	comp=Z,0.6nm,1.2s,baz=192,slow=1.9,SNR=10						
KLR				PKPab	**PKPab**	**11 17 27.0**	**+0.4**
	baz=153,slow=3.0						
KLR				PP	**PP**	**11 21 19.8**	**+4.7**
	comp=Z,0.3nm,1.0s,baz=136,slow=2.4,SNR=2.5						
SONM	**Songino Array**	**169.05**	**149**	PKP	**PKPdf**	**11 16 23.7**	**-1.3**
	comp=Z,11nm,1.2s,baz=192,slow=4.8,SNR=25						
SONM				PKPab	**PKPab**	**11 17 35.9**	**-0.7**
	comp=Z,10nm,1.0s,baz=226,slow=1.4,SNR=6.6						
SONM				PP	**PP**	**11 21 27.7**	**+1.5**
	comp=Z,7.6nm,1.3s,baz=212,slow=4.3,SNR=4.6						
ULN	**Ulaanbaatar**	**169.25**	**152**	*e*PKPdf	**PKPdf**	**11 16 23.5**	**-1.6**
ULN				LR	LR		
	comp=Z,4μm,21.0s						
ULN	**Ulaanbaatar**	**169.25**	**152**	P	**PKPdf**	**11 16 24.3**	**-0.9**
	SNR=58						
ULN	**Ulaanbaatar**	**169.25**	**152**	PKPdf	**PKPdf**	**11 16 24.3**	**-0.9**
	SNR=58						
ULN	**Ulaanbaatar**	**169.25**	**152**	*e*PKIKP	**PKPdf**	**11 16 23.5**	**-1.6**
ULN				MLR	MLR		
	comp=Z,4μm,21.0s						
MOY	**Mondy**	**170.13**	**121**	*e*PKIKP	**PKPdf**	**11 16 25.2**	**-0.3**
MOY				pmax	pmax		
	comp=Z,129nm,2.5s						
ZAK	**Zakamensk**	**170.18**	**132**	*e*PKIKP	**PKPdf**	**11 16 24.4**	**-1.1**
ZAK				*e*		11 17 38.6	
ZAK				pmax	pmax		
	comp=Z,28nm,1.8s						
ZAK				pmax	pmax		
	comp=Z,16nm,2.0s						
HIA	**Hailar**	**171.14**	**202**	PFAKE		11 16 40.0	+14
HIA				LR	LR		
	comp=Z,4μm,22.0s						
YAK	**Yakutsk**	**171.21**	**307**	PFAKE		11 16 40.0	+14
YAK				LR	LR		
	comp=Z,4μm,22.0s						
YAK	**Yakutsk**	**171.21**	**307**	*e*

ZEA	**Zeya**	**171.90**	**247**	*i* PKIKP	**PKPdf**	**11 16 22.2**	**-3.9**
ZEA				*e*		11 17 47.0	
ZEA				*e*		11 21 43.0	
ZEA				pmax	pmax		
	comp=Z,72nm,1.8s						
ZEA				pmax	pmax		
	comp=Z,700nm,7.0s						
ZEA				pmax	pmax		
	comp=Z,600nm,6.0s						
ZEA				pmax	pmax		
	comp=E,300nm,5.0s						
ZEA				pmax	pmax		
	comp=N,500nm,6.0s						
ZEA				pmax	pmax		
	comp=Z,1μm,6.0s						
ZEA				pmax	pmax		
	comp=N,400nm,7.0s						
IRK	**Irkutsk**	**172.00**	**127**	*e*PKIKP	**PKPdf**	**11 16 25.3**	**-1.0**
IRK				*e*		11 21 37.0	
IRK				pmax	pmax		
	comp=Z,157nm,2.4s						
CLNS	**Chul'man**	**174.37**	**267**	*e*PKP2	**PKPab**	**11 18 00.0**	**+0.1**
CLNS				pmax	pmax		
	comp=E,8.0nm,1.1s						
CLNS				pmax	pmax		
	comp=Z,26nm,1.1s						
CLNS				pmax	pmax		
	comp=N,10.0nm,1.3s						
CIT	**Chita**	**174.40**	**173**	*e*PKP2	**PKPab**	**11 17 59.4**	**-0.6**
BOD	**Bodaibo**	**179.59**	**54**	*e*PKIKP	**PKPdf**	**11 16 23.9**	**-4.0**
BOD				pmax	pmax		
	comp=Z,30nm,1.7s						

*ISCJB **14** 10:59:56.8±1.5,36°.76N±0°.06×141°.51E±0°.07, h5km±7km, mb3.6/5, Error ellipse: s-maj=11.1km s-min=8.1km az=140.0*
*IDC **14** 10:59:58.4±1.3,36°.94N×141°.28E, h0km, mb3.7/5, mb1 3.8/6, mb1mx3.5/76, mbtmp3.6/6, ML2.6/1, MS2.8/1, Ms1 2.8/1, ms1mx2.4/67, Error ellipse: s-maj=30.6km s-min=27.2km az=81.0*
*NIED **14** 11:00:00, 36°.80N×141°.30E, h5km, Mw3.8 Best double couple: M₀5.45000×10¹⁴ NP1:φ₉200.00000°, δ44.00000°, λ-82.00000°. NP2:φ₉10.00000°, δ46.00000°, λ-97.00000°.*
*JMA **14** 11:00:01.1±0.1, 36°.80N×141°.28E, h27km±1km, M3.6*
JMA Felt I J1.

ISC 14 10:59:59.8±2.2, 36°.79N±0°.06×141°.32E±0°.09, h11km±13km, n19, σ0°81/18, mb3.6/5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
ONAJ	**Iwakimizuishiy**	**0.52**	**307**	P		**Pb**	**11 00 11.1**	**+0.2**
ONAJ				S		**Sb**	**11 00 18.7**	**+0.2**
JHO	**Hitachi**	**0.63**	**254**	P		**Pb**	**11 00 12.9**	**+0.2**
JHO				S		**Sb**	**11 00 21.3**	**-0.2**
JFK	**Kawauchi**	**0.68**	**329**	P		**Pb**	**11 00 13.6**	**0.0**
JFK				S		**Sg**	**11 00 22.8**	**+1.0**
JYT	**Yasato**	**1.06**	**239**	P		**Pg**	**11 00 19.5**	**-0.7**
JYT				S		**Sb**	**11 00 33.2**	**-0.9**
JFT	**Otama**	**1.07**	**313**	P		**Pn**	**11 00 20.3**	**-0.4**
MJAR	**Matsushiro Arr**	**2.51**	**265**	Pn		**Pn**	**11 00 41.3**	**+0.7**
	1.4nm,0.3s,baz=96,slow=12,SNR=22							
MJAR				Sn		**Sb**	**11 01 15.7**	**0.0**
	6.5nm,0.3s,baz=90,slow=11,SNR=2.6							
MAT	**Matsushiro**	**2.51**	**265**	P		**Pn**	**11 00 41.8**	**+1.2**
MAT				S		**Sb**	**11 01 15.7**	**-0.1**
KSRS	**Korea Array**	**10.72**	**278**	LR		LR	11 06 20.8	
	comp=Z,54nm,20.1s,baz=68,slow=36							
H11N2	**WAKE ISLAND Hy**	**28.09**	**120**	T		T	11 35 17.7	
	baz=313,slow=75,SNR=245							
H11N1	**WAKE ISLAND Hy**	**28.10**	**120**	T		T	11 35 19.3	
	baz=313,slow=75,SNR=353							
H11N3	**WAKE ISLAND Hy**	**28.11**	**120**	T		T	11 35 20.1	
	baz=313,slow=75,SNR=230							
H11S1	**WAKE ISLAND Hy**	**28.79**	**122**	T		T	11 36 10.9	
	baz=315,slow=75,SNR=77							
H11S3	**WAKE ISLAND Hy**	**28.79**	**122**	T		T	11 36 11.3	
	baz=315,slow=75,SNR=83							
H11S2	**WAKE ISLAND Hy**	**28.81**	**122**	T		T	11 36 09.0	
	baz=315,slow=75,SNR=51							
ZALV	**Zalesovo Beam**	**42.02**	**313**	P		**P**	**11 07 50.1**	**-0.9**
	1.0nm,0.8s,baz=91,slow=5.8,SNR=2.2							
MKAR	**Makanchi Array**	**44.18**	**302**	P		**P**	**11 08 07.2**	**-1.4**
	0.6nm,0.7s,baz=94,slow=8.1,SNR=5.6							
KURBB	**Kurchatov Arra**	**46.09**	**308**	P		**P**	**11 08 23.2**	**-0.4**
	0.5nm,0.3s,baz=85,slow=8.2,SNR=6.2							
ILAR	**Eielson Array**	**49.74**	**32**	P		**P**	**11 08 51.6**	**-0.1**
	0.4nm,0.8s,baz=265,slow=6.9,SNR=5.5							
WRA	**Warramunga Arr**	**56.81**	**188**	P		**P**	**11 09 45.4**	**+1.2**
	0.9nm,0.7s,baz=5.6,slow=7.3,SNR=14							

IDC 14 11:08:14.7±598.0, 47°.22N×48°.11E, h0km, Error ellipse: s-maj=221.6km s-min=143.6km az=45.0, Western Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
I31KZ	**AKTYUBINSK INF**	**7.29**	**60**	*i*			11 51 10.0	
	baz=249,slow=316,SNR=17							
I43RU	**DUBNA INFRASON**	**11.63**	**329**	*i*			12 20 30.0	
	baz=140,slow=324,SNR=0.7							
I46RU	**ZALESOVO INFRA**	**24.05**	**60**	*i*			13 37 10.0	
	baz=265,slow=374,SNR=1.9							

*NIED **14** 11:08:00, 39°.80N×142°.30E, h8km, Mw3.9 Best double couple: M₀7.08000×10¹⁴ NP1:φ₉206.00000°, δ71.00000°, λ170.00000°. NP2:φ₉300.00000°, δ80.00000°, λ20.00000°.*
*IDC **14** 11:08:45.3±0.6, 39°.68N×142°.34E, h0km, mb3.9/16, mb1 4.1/18, mb1mx3.9/76, mbtmp3.9/18, ML3.7/1, Error ellipse: s-maj=19.8km s-min=15.3km az=91.0*
*ISCJB **14** 11:08:47.5±1.0, 39°.77N±0°.03×142°.30E±0°.08, h25km±6km, mb3.9/17, Error ellipse: s-maj=10.7km s-min=5.0km az=12.3*
*JMA **14** 11:08:47.8, 39°.78N×142°.30E, h21km±1km, M4.2*
JMA Felt II J1.
*NEIC **14** 11:08:51.3±1.1, 39°.76N×142°.46E, h41km±9km, mb4.1/2, Error ellipse: s-maj=13.7km s-min=7.7km az=117.0*
NEIC Recorded [2 JMA] in Iwate.

ISC 14 11:08:46.4±1.8, 39.78N±0°.04×142°.36E±0°.07, h6km±11km, n40, σ1°25/41, mb4.1/17, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JTH	**Tanohata**	**0.41**	**293**	P		**Pb**	**11 08 55.6**	**-0.5**
JTH				S		**Sb**	**11 09 01.1**	**-1.6**
MIYJ	**Miyakonagasawa**	**0.46**	**244**	P		**Pb**	**11 08 56.4**	**-0.5**
MIYJ				S		**Sg**	**11 09 02.2**	**+0.9**
JKZ	**Kuzumaki**	**0.81**	**285**	P		**Pb**	**11 09 02.4**	**-0.7**
JKZ				S		**Sg**	**11 09 12.5**	**-0.2**
JOM	**Ohasama**	**0.88**	**250**	P		**Pg**	**11 09 03.3**	**+0.1**
JOM				S		**Sg**	**11 09 14.3**	**-0.3**
OFUJ	**Ofunato**	**0.88**	**218**	P		**Pg**	**11 09 03.2**	**0.0**
OFUJ				S		**Sg**	**11 09 14.0**	**-0.6**
JANG	**Nango**	**0.88**	**313**	P		**Pg**	**11 09 02.9**	**-0.4**
JANG				S		**Sg**	**11 09 13.9**	**-0.8**
JMK	**Ichinoseki**	**1.21**	**227**	P		**Pg**	**11 09 08.9**	**-0.6**
JMK				*e*S		**Sg**	**11 09 23.5**	**-1.7**
ERM	**Erimo**	**2.32**	**15**	*e*Pn		**Pn**	**11 09 25.9**	**+0.7**
ASAJ	**Asahikawa**	**4.34**	**2**	Pn		**Pn**	**11 09 54.3**	**+1.3**
	3.3nm,0.3s,baz=216,slow=13,SNR=30							
ASAJ				Sn		**Sn**	**11 10 42.0**	**-1.9**
	2.0nm,0.3s,baz=24,slow=20,SNR=3.1							
MJAR	**Matsushiro Arr**	**4.59**	**227**	Pn		**Pn**	**11 09 59.2**	**+2.7**
	2.7nm,0.3s,baz=32,slow=11,SNR=12							
MAT	**Matsushiro**	**4.59**	**227**	P		**Pn**	**11 09 56.7**	**+0.2**
MAT				S		**Sn**	**11 10 48.2**	**-2.0**
USRK	**Ussuriysk Ar.**	**8.89**	**303**	Pn		**Pn**	**11 10 56.6**	**+1.2**
	0.1nm,0.3s,baz=105,slow=16,SNR=2.4							
KSRS	**Korea Array**	**11.53**	**263**	Pn		Pn	11 11 36.4	+4.8
	0.6nm,0.3s,baz=72,slow=14,SNR=7.1							
KSAR	**Wonju Array Be**	**11.56**	**263**	Pn		**Pn**	**11 11 36.4**	**+4.4**
SEY	**Seymchan**	**23.96**	**11**	P		**P**	**11 14 02.4**	**+1.1**
	0.7nm,0.4s,baz=204,slow=10.0,SNR=5.1							
SONM	**Songino Array**	**26.98**	**299**	P		**P**	**11 14 29.6**	**+0.7**
	0.4nm,0.5s,baz=120,slow=9.6,SNR=2.4							
H11N2	**WAKE ISLAND Hy**	**29.05**	**126**	T		T	11 45 18.4	
	baz=319,slow=75,SNR=2486							
H11N1	**WAKE ISLAND Hy**	**29.05**	**126**	T		T	11 45 19.1	
	baz=319,slow=75,SNR=2713							
H11N3	**WAKE ISLAND Hy**	**29.06**	**126**	T		T	11 45 22.0	
	baz=319,slow=75,SNR=2024							
H11S1	**WAKE ISLAND Hy**	**29.85**	**128**	T		T	11 46 20.9	
	baz=320,slow=76,SNR=340							
H11S3	**WAKE ISLAND Hy**	**29.85**	**128**	T		T	11 46 22.0	
	baz=320,slow=76,SNR=161							
H11S2	**WAKE ISLAND Hy**	**29.87**	**128**	T		T	11 46 22.5	
	baz=320,slow=76,SNR=150							
ZALV	**Zalesovo Beam**	**40.66**	**310**	P		**P**	**11 16 26.7**	**-0.5**
	2.8nm,0.7s,baz=83,slow=4.8,SNR=8.6							
ILAR	**Eielson Array**	**46.80**	**34**	P		**P**	**11 17 17.6**	**+1.1**
	3.4nm,1.1s,baz=254,slow=5.8,SNR=2.4							
BVAR	**Borovoye Array**	**49.31**	**311**	P		**P**	**11 17 36.2**	**+0.2**
	3.3nm,0.8s,baz=48,slow=4.3,SNR=1.8							
INK	**Inuvik**	**51.62**	**28**	P		**P**	**11 17 53.8**	**+0.5**
	4.3nm,1.1s,baz=303,slow=2.6,SNR=3.9							
INK	**Inuvik**	**51.62**	**28**	*e*P		**P**	**11 17 53.1**	**-0.2**
	0.7nm,0.4s							
WRAB	**Tennant Creek**	**59.87**	**189**	*e*P		**P**	**11 18 52.6**	**-0.4**
	0.6nm,0.4s							
WRA	**Warramunga Arr**	**59.88**	**189**	P		**P**	**11 18 52.4**	**-0.7**
	1.7nm,0.5s,baz=6.9,slow=7.0,SNR=23							
YKA	**Yellowknife Ar**	**61.07**	**31**	P		**P**	**11 19 01.8**	**+1.0**
	0.2nm,0.6s,baz=304,slow=6.4,SNR=3.5							
ASAR	**Alice Springs**	**63.60**	**189**	P		**P**	**11 19 18.0**	**-0.2**
	0.7nm,0.6s,baz=5.5,slow=6.2,SNR=10							
FINES	**FINESS Array B**	**66.74**	**332**	P		**P**	**11 19 36.9**	**-1.2**
	1.5nm,0.6s,baz=69,slow=7.6,SNR=4.3							
STKA	**Stephens Creek**	**71.30**	**181**	P		**P**	**11 20 05.0**	**-1.6**
	0.7nm,0.3s,baz=350,slow=11,SNR=3.1							
HFS	**Hagfors**	**71.89**	**336**	P		**P**	**11 20 10.6**	**+0.6**
	1.8nm,0.7s,baz=46,slow=8.5,SNR=5.7							
NB2	**NORSAR Subarra**	**71.94**	**337**	P		**P**	**11 20 11.0**	**+0.6**
	comp=Z,4.3nm,1.1s,baz=39,slow=6.2							
NOA	**NORSAR Array B**	**71.94**	**337**	P		**P**	**11 20 10.6**	**+0.2**
	comp=Z,0.5nm,0.7s,baz=49,slow=5.3,SNR=3.0							
AKASG	**Malin Array Be**	**72.58**	**322**	P		**P**	**11 20 14.6**	**+0.3**
	comp=Z,0.7nm,0.4s,baz=45,slow=6.5,SNR=3.7							
NVAR	**Mina Array Bea**	**72.77**	**54**	P		**P**	**11 20 14.9**	**-1.1**
	comp=Z,0.4nm,0.3s,baz=304,slow=9.7,SNR=2.6							
TXAR	**Lajitas Array**	**87.87**	**53**	P		**P**	**11 21 37.4**	**+0.2**
	comp=Z,0.3nm,0.9s,baz=302,slow=5.2,SNR=3.4							
H06E1	**SOCORRO T-PHAS**	**90.35**	**65**	T		T	13 02 34.9	

*IDC **14** 11:21:55.3±1.5, 2°.38N×93°.07E, h0km, mb3.6/5, mb1 3.8/6, mb1mx3.3/77, mbtmp3.7/6, ML4.1/1, Error ellipse: s-maj=70.6km s-min=22.2km az=48.0*
*ISCJB **14** 11:21:56.2±1.0, 2°.3N±0°.2×92°.9E±0°.2, h21km, mb3.6/5, Error ellipse: s-maj=39.9km s-min=16.1km az=36.1*

ISC 14 11:21:58.3±1.2, 2°.3N±0°.3×93°.0E±0°.2, h21km, n7, σ0°43/7, mb3.5/5, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PALK	**Pallekele**	**13.19**	**292**	Pn		**Pn**	**11 25 04.3**	**-0.2**
	1.0nm,0.3s,baz=116,slow=12,SNR=6.3							
PALK				Sn		Sn	11 27 19.6	-11
	2.5nm,0.3s,baz=292,slow=1.6,SNR=3.7							
MKAR	**Makanchi Array**	**45.28**	**350**	P		**P**	**11 30 14.7**	**+0.2**
	0.4nm,0.6s,baz=165,slow=8.2,SNR=4.5							
WRA	**Warramunga Arr**	**46.21**	**121**	P		**P**	**11 30 21.9**	**-0.3**
	0.4nm,0.6s,baz=308,slow=9.6,SNR=8.4							
ASAR	**Alice Springs**	**47.45**	**125**	P		**P**	**11 30 32.0**	**+0.1**
	0.2nm,0.9s,baz=303,slow=7.3,SNR=4.3							
ZALV	**Zalesovo Beam**	**51.91**	**354**	P		**P**	**11 31 04.8**	**-0.5**
	0.5nm,0.3s,baz=132,slow=4.3,SNR=2.4							
HFS	**Hagfors**	**82.67**	**330**	P		**P**	**11 34 20.6**	**+0.5**
	3.0nm,1.0s,baz=96,slow=15,SNR=2.2							
TXAR	**Lajitas Array**	**144.74**	**26**	PKP		**PKPdf**	**11 41 34.5**	**+0.1**
	0.1nm,0.3s,baz=174,slow=1.8,SNR=4.1							

*ISCJB **14** 11:24:29.0±0.7, 51°.46N±0°.03×16°.08E±0°.03, h0km, Error ellipse: s-maj=4.6km s-min=2.6km az=16.8*
*CSEM **14** 11:24:30.1±0.4, 51°.50N×16°.04E, h2km, ML3.2/11, Error ellipse: s-maj=6.0km s-min=3.5km az=4.0*
*VIE **14** 11:24:32.2±1.0, 51°.34N×16°.10E, h0km, mb2.4/4, ML2.6/5, Error ellipse: s-maj=10.2km s-min=7.5km az=55.0, Suspected Mining induced.*

ISC 14 11:24:30.3±1.1, 51°.52N±0°.05×16°.04E±0°.02, h0km, n42, σ0°75/76, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KSP	**Ksiaz**	**0.69**	**167**	*i* Pg		**Pg**	**11 24 43.9**	**+0.4**
KSP				*e*Sg		**Sg**	**11 24 53.2**	**+0.8**
KSP	**Ksiaz**	**0.69**	**167**	*i* Pg		**Pg**	**11 24 43.9**	**+0.4**
KSP				*e*Sg		**Sg**	**11 24 53.2**	**+0.8**
UPC	**Upice**	**1.01**	**181**	*e*PG		**Pg**	**11 24 49.9**	**+0.3**
UPC				*e*SG		**Sg**	**11 25 03.0**	**+0.4**
	comp=Z,50nm,0.3s							
UPC	**Upice**	**1.01**	**181**	Pg		**Pg**	**11 24 49.9**	**+0.3**
UPC				Sg		**Sg**	**11 25 03.0**	**+0.4**
	50nm,0.3s							
DPC	**Dobruska-Polom**	**1.18**	**171**	*e*PG		**Pg**	**11 24 52.6**	**-0.2**
DPC				*e*SG		**Sg**	**11 25 07.9**	**-0.2**
	comp=Z,19nm,0.3s							
DPC	**Dobruska-Polom**	**1.18**	**171**	Pg		**Pg**	**11 24 52.6**	**-0.2**
DPC				Sg		**Sg**	**11 25 07.9**	**-0.2**
	19nm,0.3s							
PVCC	**Panska Ves**	**1.36**	**224**	*e*PG		**Pn**	**11 24 56.3**	**-0.1**
PVCC				*e*SG		**Sb**	**11 25 15.2**	**+0.8**
	comp=Z,110nm,0.3s							
PVCC	**Panska Ves**	**1.36**	**224**	Pg		**Pn**	**11 24 56.3**	**-0.1**
PVCC				Sg		**Sb**	**11 25 15.2**	**+0.8**
	110nm,0.3s							
BRG	**Berggiesshubel**	**1.47**	**245**	PN		**Pn**	**11 24 57.0**	**-0.9**
BRG				PG		**Pg**	**11 24 58.7**	**+0.3**
BRG				SG		**Sn**	**11 25 18.8**	**+0.9**
	42nm,0.4s							
KRLC	**Kraliky**	**1.52**	**162**	*e*PG		**Pn**	**11 24 58.0**	**-0.7**
KRLC				*e*SG		**Sg**	**11 25 18.0**	**-0.9**
	comp=Z,8.8nm,0.6s							
KRLC	**Kraliky**	**1.52**	**162**	Pg		**Pn**	**11 24 58.0**	**-0.7**
KRLC				Sg		**Sg**	**11 25 18.0**	**-0.9**
	8.8nm,0.6s							
PRA	**Prague**	**1.77**	**216**	*e*SG		**Sg**	**11 25 27.8**	**+0.7**
PRA	**Prague**	**1.77**	**216**	Sg		**Sg**	**11 25 27.8**	**+0.7**
GOPC	**GO Pecny, Ondr**	**1.79**	**207**	*e*PN		**Pn**	**11 25 02.1**	**-0.3**
GOPC				*e*PG		**Pb**	**11 25 03.6**	**-0.3**
GOPC	**GO Pecny, Ondr**	**1.79**	**207**	Pn		**Pn**	**11 25 02.1**	**-0.3**
PRU	**Pruhonice**	**1.80**	**213**	*e*PN		**Pn**	**11 25 02.0**	**-0.6**
PRU				*e*PG		**Pb**	**11 25 04.1**	**0.0**
PRU				*e*SG		**Sb**	**11 25 27.9**	**+0.7**
	comp=Z,18nm,0.3s							
PRU	**Pruhonice**	**1.80**	**213**	Pn		**Pn**	**11 25 02.0**	**-0.6**
CLL	**Collm**	**1.91**	**265**	*e*Pn		**Pn**	**11 25 03.0**	**-1.1**
	comp=Z,7.0nm,0.4s							
CLL				*i* Pg		**Pb**	**11 25 05.9**	**-0.1**
CLL				*i*			11 25 10.0	
CLL				*i* Sg		**Sg**	**11 25 31.8**	**+0.1**
	comp=Z,12nm,0.5s							
MORC	**Moravsky Berou**	**1.98**	**151**	*e*Pn		**Pn**	**11 25 04.1**	**-1.0**
MORC				*e*Sg		**Sb**	**11 25 32.2**	**-0.3**
OKC	**Ostrava-Krasne**	**2.15**	**141**	*e*PG		**Pb**	**11 25 10.0**	**0.0**
OKC				*e*SG		**Sb**	**11 25 37.2**	**0.0**
	comp=Z,40nm,0.7s							
OKC	**Ostrava-Krasne**	**2.15**	**141**	Pg		**Pb**	**11 25 10.0**	**0.0**
OKC				Sg		**Sb**	**11 25 37.2**	**0.0**
	comp=Z,40nm,0.7s							
VRAC	**Vranov**	**2.24**	**171**	*e*Pn		**Pn**	**11 25 08.5**	**-0.1**
VRAC				*e*Sg		**Sg**	**11 25 41.2**	**-0.9**
NKC	**Novy Kostel**	**2.61**	**242**	*e*PN		**Pn**	**11 25 13.8**	**+0.1**
NKC				*e*PG		**Pg**	**11 25 19.9**	**-0.4**
NKC				*e*SG		**Sg**	**11 25 55.1**	**+0.9**
	comp=Z,21nm,0.3s							
NKC	**Novy Kostel**	**2.61**	**242**	Pn		**Pn**	**11 25 13.8**	**+0.1**
OJC	**Ojcow**	**2.71**	**117**	*e*Pg		**Pg**	**11 25 21.2**	**-1.0**
OJC				*e*Sg		**Sg**	**11 25 56.8**	**-0.5**
OJC	**Ojcow**	**2.71**	**117**	*e*Pg		**Pg**	**11 25 21.2**	**-1.0**
OJC				*e*Sg		**Sg**	**11 25 56.8**	**-0.5**
KHC	**Kasperske Hory**	**2.86**	**214**	*e*PN		**Pn**	**11 25 16.6**	**-0.6**
KHC				*e*PG		**Pb**	**11 25 22.9**	**+0.7**
KHC				*e*SN		**Sn**	**11 25 50.5**	**-1.8**
KHC				*e*SG		**Sg**	**11 26 01.5**	**-0.6**
	comp=Z,6.2nm,0.3s							
KHC	**Kasperske Hory**	**2.86**	**214**	Pn		**Pn**	**11 25 16.6**	**-0.6**
SMOL	**Smolenice**	**3.13**	**163**	*e*Sg		**Sg**	**11 26 10.1**	**-0.8**
SMOL	**Smolenice**	**3.13**	**163**	*e*SG		**Sg**	**11 26 10.1**	**-0.8**
MODS	**Modra-Piesok**	**3.24**	**165**	*e*Sg		**Sg**	**11 26 15.6**	**+1.2**
MODS	**Modra-Piesok**	**3.24**	**165**	*e*SG		**Sg**	**11 26 15.6**	**+1.2**
VYHS	**Vyhne**	**3.52**	**148**	*e*Sg		**Sg**	**11 26 23.9**	**+0.6**
VYHS	**Vyhne**	**3.52**	**148**	*e*SG		**Sg**	**11 26 23.9**	**+0.6**
CONA	**Conrad Observa**	**3.59**	**182**	Pn		**Pn**	**11 25 27.7**	**+0.4**
	comp=Z,0.6nm,0.2s							
CONA				Sg		**Sg**	**11 26 25.1**	**-0.5**
	comp=Z,6.8nm,0.4s							
CONA	**Conrad Observa**	**3.59**	**182**	*i* Pn		**Pn**	**11 25 27.7**	**+0.4**
	comp=Z,0.6nm,0.2s							
CONA				Sg		**Sg**	**11 26 25.1**	**-0.5**
	comp=Z,6.8nm,0.4s							
MOA	**Molln**	**3.85**	**198**	Pn		**Pn**	**11 25 30.8**	**+0.1**
	comp=Z,1.8nm,0.2s							
MOA				Sg		**Sg**	**11 26 32.4**	**-1.3**
	comp=Z,5.6nm,0.3s							
MOA	**Molln**	**3.85**	**198**	*i* Pn		**Pn**	**11 25 30.8**	**+0.1**
	comp=Z,1.8nm,0.2s							
MOA				Sg		**Sg**	**11 26 32.4**	**-1.3**
	comp=Z,5.6nm,0.3s							
STHS	**Stebnicka Huta**	**3.93**	**120**	*e*Pg		**Pg**	**11 25 46.8**	**+1.2**
STHS				*e*Sg		**Sg**	**11 26 38.3**	**+1.8**
STHS	**Stebnicka Huta**	**3.93**	**120**	*e*PG		**Pg**	**11 25 46.8**	**+1.2**
STHS				*e*SG		**Sg**	**11 26 38.3**	**+1.8**
STHS				*e*LG		Lg	11 26 49.2	
ARSA	**Arzberg**	**4.28**	**185**	Sg		**Sg**	**11 26 48.2**	**+0.5**
	comp=Z,8.5nm,0.6s							
ARSA	**Arzberg**	**4.28**	**185**	Sg		**Sg**	**11 26 48.2**	**+0.5**
	comp=Z,8.5nm,0.6s							

*TIR **14** 11:33:02.2, 41°.27N×21°.16E, h7km, Md2.4/3*
*CSEM **14** 11:33:03.2±0.2, 41°.25N×21°.13E, h15km, ML2.0, Error ellipse: s-maj=6.7km s-min=4.1km az=70.0*

THE 14 11:33:03.5, 41°.25N×21°.12E, h14km±1km, ML2.0/1, Error ellipse: s-maj=1.7km s-min=0.7km az=57.0, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
BIA	**Bitola**	**0.28**	**147**	P		**Pg**	**11 33 09.4**	**0.0**
BIA				S		**Sb**	**11 33 14.4**	**-0.5**
BIA	**Bitola**	**0.28**	**147**	P		**Pg**	**11 33 09.4**	**0.0**
BIA				S		**Sb**	**11 33 14.4**	**-0.5**
FNA	**Florina**	**0.51**	**157**	P		**Pg**	**11 33 12.9**	**-0.6**
FNA				S		**Sg**	**11 33 20.5**	**+0.2**
FNA	**Florina**	**0.51**	**157**	P		**Pg**	**11 33 12.9**	**-0.6**
FNA				S		**Sg**	**11 33 20.5**	**+0.2**
PHP	**Peshkopia**	**0.67**	**310**	P		**Pg**	**11 33 16.0**	**-0.6**
PHP				S		**Sb**	**11 33 26.4**	**+0.3**
PHP	**Peshkopia**	**0.67**	**310**	P		**Pg**	**11 33 16.0**	**-0.6**
PHP				*i* Sg		**Sb**	**11 33 25.9**	**-0.2**
	baz=308							
PHP				S		Sg	11 33 26.4	+1.0
PHP	**Peshkopia**	**0.67**	**310**	*i* PG		**Pg**	**11 33 15.9**	**-0.7**
PHP				*i* SG		**Sb**	**11 33 25.9**	**-0.3**
KBN	**Korca**	**0.68**	**202**	P		**Pg**	**11 33 16.7**	**0.0**
KBN				S		**Sb**	**11 33 26.7**	**+0.3**
KBN	**Korca**	**0.68**	**202**	P		**Pg**	**11 33 16.7**	**0.0**
KBN				S		**Sb**	**11 33 26.7**	**+0.3**
SKO	**Skopje**	**0.76**	**18**	P		**Pg**	**11 33 18.3**	**+0.1**
SKO	**Skopje**	**0.76**	**18**	P		**Pg**	**11 33 18.3**	**+0.1**
NEST	**Nestorio**	**0.84**	**184**	P		**Pg**	**11 33 18.9**	**-0.9**
NEST				S		**Sb**	**11 33 31.9**	**+0.9**
NEST	**Nestorio**	**0.84**	**184**	P		**Pg**	**11 33 18.9**	**-0.9**
NEST				S		**Sb**	**11 33 31.9**	**+0.9**
GRG	**Griva**	**1.01**	**107**	P		**Pb**	**11 33 22.7**	**-0.1**
GRG	**Griva**	**1.01**	**107**	P		**Pb**	**11 33 22.7**	**-0.1**

*ISCJB **14** 11:34:28.8±0.3, 33°.00N±0°.02×116°.47W±0°.02, h7km±3km, Error ellipse: s-maj=3.5km s-min=2.6km az=164.8*
*NEIC **14** 11:34:29.4±0.0, 33°.00N×116°.48W, h7km, ML2.7(PAS), After PAS.*
NEIC Felt at Jamul, Julian and Pine Valley.
*ECX **14** 11:34:30.0±0.6, 32°.99N×116°.48W, h5km, MD2.6, ML2.7*

ISC 14 11:34:28.9±0.9, 33°.00N±0°.02×116°.46W±0°.02, h8km±7km, n35, σ0°76/53, 4C-4D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MONP2	**Monument Peak**	**0.11**	**163**	P		**Pg**	**11 34 31.6**	**0.0**
	baz=345,SNR=171							
MONP2				S		**Sg**	**11 34 33.6**	**+0.2**
	baz=345							
CBKC	**Canebrake**	**0.20**	**119**	⇑*i*P		**Pg**	**11 34 33.4**	**+0.5**
BAR	**Barrett**	**0.36**	**210**	*e*Pg		**Pg**	**11 34 36.5**	**+0.5**
BAR				*e*Sg		**Sg**	**11 34 41.3**	**+0.5**
BAR	**Barrett**	**0.36**	**210**	*e*P		**Pg**	**11 34 36.3**	**+0.3**

IDC 14 12:03:31.4±3.2, 3°91'N×92°00'E, h0km, mb3.6/3, mb1 3.7/4, mb1mx3.3/77, mbtmp3.6/4, ML3.4/1, Error ellipse: s-maj=108.1km s-min=32.8km az=60.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**15.97**	**25**	Pn	Pn	12 07 17.5	-0.2
	0.1nm,0.3s,baz=207,slow=13,SNR=4.1						
H08S3	**Diego Garcia H**	**22.60**	**240**	T	T	12 31 40.5	
	baz=60,slow=74						
H08S2	**Diego Garcia H**	**22.60**	**239**	T	T	12 31 46.1	
	baz=60						
H08S1	**Diego Carcia H**	**22.61**	**240**	T	T	12 31 43.8	
	baz=60,slow=74						
MKAR	**Makanchi Array**	**43.54**	**350**	P	P	12 11 37.4	+0.4
	0.4nm,0.5s,baz=170,slow=9.9,SNR=5.9						
WRA	**Warramunga Arr**	**47.87**	**121**	P	P	12 12 11.7	+0.1
	0.4nm,0.9s,baz=295,slow=9.9,SNR=3.4						
ZALV	**Zalesovo Beam**	**50.23**	**354**	P	P	12 12 28.1	-0.9
	0.5nm,0.4s,baz=152,slow=9.1,SNR=3.6						

IDC 14 12:07:40.7±1.7, 35°.63N×141°.71E, h0km, mb3.4/5, mb1 3.4/7, mb1mx3.2/76, mbtmp3.3/7, ML2.9/2, Error ellipse: s-maj=52.0km s-min=20.7km az=69.0
ISCJB 14 12:07:42.5±0.9, 35°.70N±0°.10×141°.57E±0°.08, h25km, mb3.4/5, Error ellipse: s-maj=14.1km s-min=9.3km az=8.7
JMA 14 12:07:44.5±0.2, 35°.74N×141°.43E, h29km±2km, M3.3
ISC 14 12:07:44.8±1.3, 35°.7N±0°.1×141°.48E±0°.09, h25km, n17, σ1§24/13, mb3.4/5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHOJ	**Chosi**	**0.50**	**267**	P	**Pb**	**12 07 54.1**	**-0.9**
CHOJ				S	**Sb**	**12 08 01.2**	**-0.8**
JHO	**Hitachi**	**1.15**	**320**	P	**Pn**	**12 08 04.3**	**-1.0**
JYT	**Yasato**	**1.15**	**296**	P	**Pn**	**12 08 03.8**	**-1.5**
MJAR	**Matsushiro Arr**	**2.77**	**288**	Pn	**Pn**	**12 08 28.1**	**+0.5**
	2.4nm,0.3s,baz=89,slow=9.4,SNR=23						
MAT	**Matsushiro**	**2.77**	**288**	P	**Pn**	**12 08 28.5**	**+0.9**
MAT				*e*S	**Sn**	**12 09 00.2**	**0.0**
ASAJ	**Asahikawa**	**8.42**	**6**	Pn	**Pn**	**12 09 44.3**	**-0.9**
	0.1nm,0.3s,baz=324,slow=19,SNR=2.3						
H11N2	**WAKE ISLAND Hy**	**27.46**	**119**	T	T	12 42 29.7	
	baz=311,slow=75,SNR=56						
H11N1	**WAKE ISLAND Hy**	**27.46**	**119**	T	T	12 42 24.6	
	baz=311,slow=75,SNR=65						
H11N3	**WAKE ISLAND Hy**	**27.47**	**119**	T	T	12 42 25.5	
	baz=311,slow=75,SNR=53						
H11S1	**WAKE ISLAND Hy**	**28.13**	**121**	T	T	12 43 18.4	
	baz=313,slow=76,SNR=28						
H11S3	**WAKE ISLAND Hy**	**28.13**	**121**	T	T	12 43 17.0	
	baz=313,slow=76,SNR=29						
H11S2	**WAKE ISLAND Hy**	**28.14**	**121**	T	T	12 43 20.4	
	baz=313,slow=76,SNR=30						
MKAR	**Makanchi Array**	**44.87**	**303**	P	**P**	**12 15 58.7**	**+1.8**
	0.2nm,0.6s,baz=97,slow=7.4,SNR=2.9						
KURBB	**Kurchatov Arra**	**46.85**	**309**	P	**P**	**12 16 14.4**	**+1.9**
	0.6nm,0.4s,baz=83,slow=7.7,SNR=8.6						
BVAR	**Borovoye Array**	**51.49**	**313**	P	**P**	**12 16 48.8**	**+0.7**
	0.2nm,0.4s,baz=46,slow=6.2,SNR=2.3						
WRA	**Warramunga Arr**	**55.78**	**188**	P	**P**	**12 17 19.3**	**-0.4**
	0.4nm,0.7s,baz=4.1,slow=7.7,SNR=3.8						
ASAR	**Alice Springs**	**59.50**	**188**	P	**P**	**12 17 44.8**	**-1.1**
	0.1nm,0.7s,baz=13,slow=9.5,SNR=3.3						

IDC 14 12:11:04.5±11.0, 22°.20S×176°.64W, h0km, mb3.7/3, mb1 3.7/3, mb1mx3.4/46, mbtmp3.6/3, Error ellipse: s-maj=356.9km s-min=74.9km az=135.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**45.39**	**258**	P	P	12 19 24.1	-1.0
	0.2nm,0.4s,baz=94,slow=8.5,SNR=4.2						
WRA	**Warramunga Arr**	**45.64**	**263**	P	P	12 19 27.6	+0.5
	0.3nm,0.3s,baz=101,slow=8.3,SNR=20						
SONM	**Songino Array**	**97.86**	**319**	P	P	12 24 41.9	-0.2
	0.2nm,0.5s,baz=108,slow=3.2,SNR=2.4						

MEX 14 12:12:56.8±0.8, 19°.07N×98°.68W, h2km, MD3.6, Central Mexico

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PPM	**Popocatepetl**	**0.05**	**93**	*i* P	Pg	12 12 57.5	-0.6
PPM				*e*S	Sg	12 12 58.6	-0.3
AMVM	**AMECAMECA**	**0.12**	**301**	*e*P	Pg	12 13 00.3	+1.1
YAIG	**Yautepec**	**0.42**	**241**	*e*P	Pg	12 13 04.6	-0.3
YAIG				*e*S	Sg	12 13 11.2	+0.7
PBVM	**Pinon**	**0.53**	**314**	*e*P	Pg	12 13 07.5	+0.5
PBVM				*e*S	Sb	12 13 16.4	-0.7
TPIG	**Tehuac#an**	**1.40**	**117**	*e*P	Pn	12 13 21.7	-1.9
TPIG				*e*S	Sg	12 13 38.3	-3.7

ISCJB 14 12:18:23.0±1.0, 2°.59N±0°.02×90°.38E±0°.02, h3km±6km, mb5.0/144, Error ellipse: s-maj=4.4km s-min=2.8km az=35.2
IDC 14 12:18:23.9±0.3, 2°.54N×90°.34E, h0km, mb4.7/46, mb1 4.8/50, mb1mx4.7/71, mbtmp4.8/50, ML4.6/4, MS4.6/2, Ms1 4.6/2, ms1mx3.7/72, Error ellipse: s-maj=11.4km s-min=8.8km az=38.0
NEIC 14 12:18:25.9±0.2, 2°.59N×90°.35E, h10km, mb5.1/49, Error ellipse: s-maj=4.5km s-min=3.1km az=209.0
MOS 14 12:18:26.6±1.0, 2°.63N×90°.40E, h27km, mb5.2/66, Error ellipse: s-maj=6.5km s-min=4.6km az=100.0
DJA 14 12:18:26.8±0.9, 3°N±2°×9°E±°, h15km±7km, M5.6/48, mb5.4/48, mB5.8/16, MLv6.1/5, Mw(mB)5.4/16
ISC 14 12:18:27.9±0.5, 2°.58N±0°.04×90°.39E±0°.04, h24km±3km, h24km:pP-P, n453, σ1§62/485, mb5.1/148, 32C-13D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSI	**Banda Aceh**	**5.68**	**59**	P	**Pn**	**12 19 51.3**	**+0.4**
BSI				S	**Sn**	**12 20 52.4**	**-3.1**
MLSI	**Meulaboh, Aceh**	**6.23**	**74**	P	**Pn**	**12 19 58.9**	**+0.5**
TPTI		**6.81**	**84**	P	**Pn**	**12 20 06.6**	**+0.2**
TPTI				S	**Sn**	**12 21 17.1**	**-6.1**
LHMI	**Lhok Sumawe**	**7.05**	**68**	P	**Pn**	**12 20 10.7**	**+1.1**
LHMI				S	**Sn**	**12 21 31.6**	**+2.5**
LHMI	**Lhok Sumawe**	**7.05**	**68**	*e*Pn	**Pn**	**12 20 11.0**	**+1.4**
LHMI				*e*Sn	**Sn**	**12 21 31.8**	**+2.7**
GSI	**Gunungsitoli**	**7.29**	**100**	P	**Pn**	**12 20 12.4**	**-0.5**
GSI	**Gunungsitoli**	**7.29**	**100**	*e*Pn	**Pn**	**12 20 12.8**	**-0.2**
GSI				*e*Sn	**Sn**	**12 21 33.0**	**-2.0**
TSI	**Tuntungan**	**8.21**	**83**	P	**Pn**	**12 20 26.4**	**+0.8**
	375nm,0.6s						
TSI				S	**Sn**	**12 21 52.9**	**-4.8**
	375nm,0.6s						
PBSI	**Pulau Batu**	**8.31**	**108**	P	**Pn**	**12 20 26.2**	**-0.7**
PBSI				S	**Sn**	**12 21 51.8**	**-8.2**
PSI	**Prapat**	**8.52**	**88**	Pn	**Pn**	**12 20 29.7**	**-0.3**
	4.2nm,0.3s,baz=281,slow=7.5,SNR=56						
PSI				Sn	**Sn**	**12 22 02.1**	**-3.4**
	19nm,0.3s,baz=192,slow=14,SNR=7.5						
PSI	**Prapat**	**8.52**	**88**	*e*Pn	**Pn**	**12 20 30.6**	**+0.6**
PSI				*e*Sn	**Sn**	**12 22 03.0**	**-2.6**
PSI	**Prapat**	**8.52**	**88**	*e*P	**Pn**	**12 20 30.6**	**+0.6**
PSI				*e*		12 22 03.0	
PBA	**Port Blair**	**9.31**	**14**	*e*P	Pn	12 20 37.6	-3.2
MNSI	**Mandailing Nat**	**9.35**	**101**	P	**Pn**	**12 20 42.2**	**+0.9**
PKDT	**Phuket**	**9.51**	**56**	P	**Pn**	**12 20 42.8**	**-0.6**
	441nm,0.9s,8μm						
SISI	**Saibi**	**9.52**	**114**	P	**Pn**	**12 20 42.0**	**-1.6**
SISI				S	**Sn**	**12 22 21.6**	**-8.3**
SURT	**Suratani**	**10.49**	**52**	P	**Pn**	**12 20 56.5**	**-0.3**
	242nm,1.1s,2μm						
TRTT	**Trang**	**10.63**	**60**	P	**Pn**	**12 20 57.4**	**-1.4**
	99nm,1.2s,1μm						
PDSI	**Padang**	**10.64**	**109**	P	**Pn**	**12 20 58.4**	**-0.6**
PALK	**Pallekele**	**10.72**	**296**	Pn	**Pn**	**12 20 58.8**	**-1.3**
	6.5nm,0.3s,baz=116,slow=14,SNR=39						
PALK				Sn	Sn	12 22 48.5	-11
	42nm,0.3s,baz=295,slow=1.0,SNR=12						
PALK	**Pallekele**	**10.72**	**296**	*e*Pn	**Pn**	**12 20 59.4**	**-0.7**
PALK				Sn	Sn	12 22 48.5	-11
PALK	**Pallekele**	**10.72**	**296**	Pn	**Pn**	**12 20 59.9**	**-0.2**
	SNR=5.8						
PALK	**Pallekele**	**10.72**	**296**	P	**Pn**	**12 20 59.9**	**-0.2**
	SNR=5.8						
PALK	**Pallekele**	**10.72**	**296**	*ce*P	**Pn**	**12 20 59.7**	**-0.4**
IPM	**Ipoh**	**10.78**	**80**	*e*Pn	**Pn**	**12 21 00.8**	**0.0**
DGPR	**DIGLIPUR**	**10.83**	**13**	*e*P	**Pn**	**12 21 02.6**	**+1.2**
BKNI	**Bangkinang**	**10.87**	**102**	P	**Pn**	**12 21 03.0**	**+0.8**
BKNI	**Bangkinang**	**10.87**	**102**	*e*Pn	**Pn**	**12 21 02.2**	**0.0**
PPSI	**Pulau Pagai**	**10.98**	**119**	P	**Pn**	**12 21 01.8**	**-1.8**
SKLT	**Songkhla**	**11.16**	**66**	P	**Pn**	**12 21 05.1**	**-1.0**
	201nm,1.2s						
MASI	**Maura Aman, Be**	**13.13**	**116**	P	**Pn**	**12 21 31.8**	**-1.3**
MYKOM	**Kota Tinggi**	**13.47**	**93**	*e*Pn	**Pn**	**12 21 38.7**	**+1.1**
MNAI	**Manna**	**14.32**	**119**	P	**Pn**	**12 21 47.9**	**-1.4**
MNAI	**Manna**	**14.32**	**119**	*e*Pn	**Pn**	**12 21 51.5**	**+2.1**
MDRS	**Chennai**	**14.47**	**317**	*e*P	**Pn**	**12 21 49.4**	**-2.0**
SRDT	**SRDT**	**14.53**	**36**	P	**Pn**	**12 21 51.5**	**-0.6**
	121nm,1.1s						
TRD	**Trivandrum**	**14.61**	**294**	*e*P	**Pn**	**12 21 52.5**	**-0.7**
SKHT	**Srikalahasti**	**15.31**	**317**	*e*P	**Pn**	**12 22 01.9**	**-0.8**
MDSI	**Maura Dua**	**15.46**	**117**	P	**Pn**	**12 22 03.9**	**-0.6**
CHBT	**CHBT**	**15.55**	**49**	P	**P**	**12 22 08.2**	**-1.6**
	395nm,0.8s,171μm						
LWLI	**Liwa**	**15.60**	**119**	P	**Pn**	**12 22 08.1**	**+1.6**
COCO	**West Island**	**16.01**	**157**	*e*Pn	**Pn**	**12 22 11.9**	**+0.3**
	314nm,1.1s						
COCO	**West Island**	**16.01**	**157**	*ce*P	**P**	**12 22 17.6**	**+2.7**
KASI	**Kota Agung**	**16.22**	**120**	P	**Pn**	**12 22 14.3**	**-0.1**
KLI	**Kotabumi**	**16.23**	**117**	P	**Pn**	**12 22 15.8**	**+1.3**
	168nm,0.9s						
VIS	**Vishakhapatnam**	**16.57**	**336**	*e*P	**Pn**	**12 22 18.3**	**-0.5**
VIS				*i* S	**Sn**	**12 25 21.7**	**-0.5**
ADKI	**Addanki**	**16.71**	**323**	*e*P	**Pn**	**12 22 19.9**	**-0.6**
PVM	**Polavaram**	**16.93**	**330**	*e*P	**Pn**	**12 22 23.4**	**0.0**
CHLP	**Challavaripeta**	**17.00**	**339**	*e*P	**Pn**	**12 22 23.4**	**-0.9**
PBKT	**Sadao Pong**	**17.36**	**36**	P	**Pn**	**12 22 27.4**	**-1.4**
	177nm,0.8s,2μm						
SRLM	**Srisailam**	**17.57**	**321**	*e*P	**Pn**	**12 22 30.5**	**-0.9**
NJS	**Nagarjunasagar**	**17.66**	**323**	*e*P	**Pn**	**12 22 31.0**	**-1.4**
CM01	**Chiang Mai Arr**	**17.84**	**27**	*e*Pn	**Pn**	**12 22 34.0**	**-0.7**
URV	**Uravakonda**	**17.86**	**314**	*e*P	**Pn**	**12 22 34.4**	**-0.5**
CM31	**Chiang Mai Arr**	**17.87**	**27**	*e*P	**Pn**	**12 22 34.8**	**-0.2**
CMAR	**Chiang Mai Arr**	**17.87**	**27**	P	**Pn**	**12 22 34.4**	**-0.6**
	0.4nm,0.3s,baz=224,slow=13,SNR=6.4						
SBJI	**Serang**	**17.93**	**119**	P	**P**	**12 22 41.7**	**+5.4**
MNCY	**Minicoy**	**18.18**	**289**	*e*P	**Pn**	**12 22 38.6**	**-0.2**
CHTO	**Chiang Mai**	**18.18**	**27**	P	**Pn**	**12 22 38.0**	**-0.8**
	268nm,1.1s						
CHTO	**Chiang Mai**	**18.18**	**27**	*e*Pn	**Pn**	**12 22 37.7**	**-1.1**
	64nm,0.8s						
CHTO	**Chiang Mai**	**18.18**	**27**	Pn	**Pn**	**12 22 38.4**	**-0.5**
	SNR=36						
CHTO	**Chiang Mai**	**18.18**	**27**	P	**Pn**	**12 22 38.4**	**-0.5**
	SNR=36						
CHTO	**Chiang Mai**	**18.18**	**27**	*e*P	**Pn**	**12 22 37.7**	**-1.1**
CHTO				pmax	pmax		
	comp=Z,64nm,0.8s						
CMMT	**Chiang Mai**	**18.18**	**27**	P	**Pn**	**12 22 36.9**	**-2.0**
	comp=Z,92nm,1.0s						
CBJI	**Citeko**	**18.70**	**119**	P	**Pn**	**12 22 48.3**	**+3.0**
HYB	**Hyderabad**	**18.78**	**323**	*i* P	**Pn**	**12 22 46.0**	**-0.2**
	comp=Z,212nm,1.4s						
HYB				*e*		12 26 10.0	
HYB	**Hyderabad**	**18.78**	**323**	*e*P	**Pn**	**12 22 46.0**	**-0.2**
HYB				IAmb	IAmb	12 22 46.8	
	comp=Z,60nm,0.4s						
HYBB	**Hyderabad (bro**	**18.78**	**323**	*e*P	**Pn**	**12 22 46.1**	**-0.2**
RPR	**Rampur**	**19.49**	**327**	*e*P	**P**	**12 22 54.0**	**+0.6**
LEM	**Lembang**	**19.57**	**119**	P	**P**	**12 22 54.5**	**0.0**
	comp=Z,63nm,0.3s,baz=64,slow=9.1,SNR=12						
SKNT	**Sakolnakorn**	**19.57**	**42**	P	**P**	**12 22 53.6**	**-0.7**
	comp=Z,40nm,1.2s						
KSM	**Kuching**	**19.93**	**93**	*e*P	**Pn**	**12 23 00.1**	**0.0**
	comp=Z,38nm,0.9s						
JCJI	**Jatiwangi**	**19.99**	**117**	P	**Pn**	**12 23 01.9**	**+1.2**
	comp=Z,215nm,1.3s,comp=Z,6μm						
SRSP	**Sriramsagar**	**20.08**	**325**	*e*P	**P**	**12 23 00.6**	**+0.8**
CISI	**Cisompet, Garu**	**20.09**	**120**	P	Pn	12 23 01.7	-0.2
	comp=Z,250nm,1.1s,comp=Z,2μm						
CISI	**Cisompet, Garu**	**20.09**	**120**	*e*P	**P**	**12 23 00.9**	**+0.9**
	comp=Z,658nm,1.6s						
DGAR	**Diego Garcia**	**20.47**	**241**	*e*P	**P**	**12 23 05.0**	**+1.0**
	comp=Z,111nm,0.6s						
DGAR	**Diego Garcia**	**20.47**	**241**	*e*P	**P**	**12 23 04.7**	**+0.6**
KLRI	**Killari**	**20.50**	**320**	*e*P	**P**	**12 23 04.9**	**+0.5**
H08S2	**Diego Garcia H**	**20.55**	**240**	T	T	12 44 05.1	
	baz=60,slow=75						
H08S3	**Diego Garcia H**	**20.55**	**240**	T	T	12 44 06.7	
	baz=60,slow=75						
H08S1	**Diego Carcia H**	**20.56**	**240**	T	T	12 44 09.3	
	baz=60,slow=75						
GOA	**Goa**	**20.77**	**309**	*e*P	**P**	**12 23 08.4**	**+1.1**
GOA				IAmb	IAmb	12 23 11.9	
	comp=Z,116nm,1.1s						
KPJI	**Karang Pucung**	**20.95**	**118**	P	**P**	**12 23 10.6**	**+1.3**
	comp=Z,202nm,0.7s						
STKI	**Sintang**	**21.22**	**96**	P	**P**	**12 23 14.2**	**+1.9**
NGP	**Nagpur**	**21.52**	**330**	*e*P	**P**	**12 23 14.9**	**-0.4**
NGP				*ex*	x	12 27 09.2	
BOK	**Bokaro**	**21.54**	**349**	*e*P	**P**	**12 23 15.5**	**0.0**
BOK				IAmb	IAmb	12 23 24.6	
	comp=Z,66nm,0.8s						
SBUM	**Sibu**	**21.80**	**90**	*e*P	**P**	**12 23 20.0**	**+1.4**
	comp=Z,46nm,0.9s						
SMRI	**Semarang**	**22.18**	**116**	P	**P**	**12 23 22.8**	**+0.3**
SMRI	**Semarang**	**22.18**	**116**	*e*P	**P**	**12 23 23.0**	**+0.5**
	comp=Z,134nm,0.9s						
POO	**Poona**	**22.67**	**315**	*e*P	**P**	**12 23 27.8**	**0.0**
POO				*i* S	**S**	**12 27 34.0**	**-0.9**
SHL	**Shillong**	**22.90**	**3**	*e*P	**P**	**12 23 29.5**	**-0.8**
SHL				*e*S	**S**	**12 27 40.0**	**+1.0**
WOJI	**Wonogiri, Jawa**	**22.95**	**117**	P	**P**	**12 23 31.5**	**+0.9**
BHPL	**Bhopal**	**24.08**	**330**	*e*P	**P**	**12 23 41.9**	**+0.2**
BHPL				IAmb	IAmb	12 23 44.2	
	comp=Z,30nm,0.7s						
ODAN	**Odare**	**24.32**	**353**	*e*P	**P**	**12 23 45.4**	**+1.3**
	comp=Z,190nm,0.7s						
RAMN	**Ramite**	**24.51**	**352**	*e*P	**P**	**12 23 47.7**	**+1.9**
	comp=Z,152nm,0.6s						
MTKI	**Muara Teweh, K**	**24.74**	**98**	P	**P**	**12 23 50.5**	**+2.6**
QIZ	**Qiongzhong**	**25.09**	**48**	P	**P**	**12 23 52.1**	**+1.2**
QIZ				S	**S**	**12 28 17.8**	**+3.4**
QIZ				pmax	pmax		
	comp=Z,110nm,1.4s						
QIZ	**Qiongzhong**	**25.09**	**48**	*e*P	**P**	**12 23 50.9**	**-0.1**
	comp=Z,188nm,0.9s						
JIRN	**Jiri**	**25.26**	**351**	*e*P	**P**	**12 23 54.2**	**+1.4**
	comp=Z,394nm,1.2s						
KMI	**Kunming**	**25.38**	**27**	P	**P**	**12 23 55.9**	**+2.2**
KMI				pmax	pmax		
	comp=Z,110nm,1.0s						
KMI				LR	LR		
	comp=Z,2μm,17.5s						
KMI				LR	LR		
	comp=Z,1μm,16.3s						
KMI				LR	LR		
	comp=Z,2μm,17.5s						
DMN	**Daman**	**25.40**	**349**	*e*P	**P**	**12 23 55.1**	**+1.2**
GUN	**Gumba**	**25.56**	**351**	*e*P	**P**	**12 23 56.8**	**+1.3**
	comp=Z,176nm,1.1s						
GKN	**Gorkha**	**25.88**	**348**	*e*P	**P**	**12 23 59.5**	**+1.4**
	comp=Z,92nm,0.6s						
KOLN	**Koldanda**	**25.88**	**346**	*e*P	**P**	**12 23 59.8**	**+1.6**
	comp=Z,88nm,0.6s						
KKM	**Kota Kinabalu**	**25.97**	**82**	*e*P	**P**	**12 24 00.0**	**+0.9**
	comp=Z,55nm,0.8s						
PYUN	**Piuthan**	**26.35**	**345**	*e*P	**P**	**12 24 04.1**	**+1.6**
	comp=Z,124nm,0.9s						
DANN	**Dangsing**	**26.40**	**347**	*e*P	**P**	**12 24 04.7**	**+1.7**
LSA	**Lhasa**	**26.98**	**1**	P	**P**	**12 24 09.9**	**+1.4**
LSA				pmax	pmax		
	comp=Z,73nm,0.9s						
LSA	**Lhasa**	**26.98**	**1**	*e*P	**P**	**12 24 09.6**	**+1.1**
	comp=Z,65nm,0.7s						
LSA	**Lhasa**	**26.98**	**1**	*e*P	**P**	**12 24 09.6**	**+1.1**
LSA				pmax	pmax		
	comp=Z,65nm,0.7s						
MYLDM	**Lahad Datu**	**28.16**	**84**	*e*P	**P**	**12 24 20.0**	**+1.4**
MYLDM				*ep*P	**pP**	**12 24 20.7**	**-5.1**
GYA	**Guiyang**	**28.42**	**32**	⇑*i*P	**P**	**12 24 21.3**	**+0.3**
GYA				PP	**PnPn**	**12 25 15.8**	**+5.3**
GYA				PcP	**PcP**	**12 27 35.0**	**+1.9**
GYA				S	**S**	**12 29 08.9**	**+1.9**
GYA				SS	**SnSn**	**12 30 34.3**	**+8.1**
GYA				ScP	**ScP**	**12 31 15.5**	**+2.5**
GYA				pmax	pmax		
	comp=Z,30nm,0.8s						
GYA				pmax	pmax		
	comp=Z,130nm,5.2s						
GYA				LR	LR		
	comp=Z,560nm,16.0s						
GYA				LR	LR		
	comp=Z,520nm,16.4s						
GYA				LR	LR		
	comp=Z,570nm,16.2s						
MPSI	**Mapaga**	**29.58**	**94**	P	**P**	**12 24 32.4**	**+1.1**
CD2	**Chengdu**	**30.88**	**23**	P	**P**	**12 24 44.0**	**+1.3**
CD2				S	**S**	**12 29 49.8**	**+4.3**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,120nm,5.0s						
SMLA	**Simla**	**31.03**	**338**	*e*P	**P**	**12 24 45.4**	**+1.5**
MRSI	**Marisa**	**31.60**	**93**	P	**P**	**12 24 49.6**	**+0.4**
TGY	**Tagaytay City**	**32.26**	**67**	P	**P**	**12 24 56.3**	**+1.2**
	comp=Z,168nm,0.3s,baz=135,slow=7.1,SNR=5.7						
DHRM	**DHARAMSHALA**	**32.36**	**337**	*e*P	**P**	**12 24 56.1**	**+0.3**
LUWI	**Luwuk**	**32.57**	**96**	*e*P	**P**	**12 24 59.0**	**+1.3**
	comp=Z,113nm,0.5s						
ENH	**Enshi**	**32.95**	**31**	*e*P	**P**	**12 25 00.9**	**+0.1**
	comp=Z,60nm,0.7s						
KMSI	**Cibinong**	**33.63**	**93**	P	**P**	**12 25 08.2**	**+1.2**
MMRI	**Maumere**	**33.65**	**110**	*e*P	**P**	**12 25 08.3**	**+1.3**
	comp=Z,40nm,1.0s						
NIL	**Nilore**	**34.82**	**334**	*e*P	**P**	**12 25 17.2**	**+0.1**
	comp=Z,67nm,0.6s						
NIL	**Nilore**	**34.82**	**334**	*e*P	**P**	**12 25 17.2**	**+0.1**
NIL				pmax	pmax		
	comp=Z,67nm,0.6s						
QZH	**Quanzhou**	**35.11**	**48**	⇑*i*P	**P**	**12 25 20.1**	**+0.5**
BATI	**Baumata**	**35.48**	**111**	LR	LR	12 41 13.0	
	comp=Z,927nm,19.6s,baz=40,slow=39						
LZH	**Lanzhou**	**35.59**	**19**	⇑P	**P**	**12 25 24.0**	**+0.2**
LZH				pP	pP	12 25 31.3	+0.3
LZH				sP	sP	12 25 34.0	+0.1
LZH				PP	**PP**	**12 26 44.3**	**-0.6**
LZH				pmax	pmax		
	comp=Z,64nm,1.2s						
LZH				pmax	pmax		
	comp=Z,3μm,8.0s						
LZH				LR	LR		
	comp=Z,3μm,17.2s						
LZH				LR	LR		
	comp=Z,4μm,17.4s						
LZH				LR	LR		
	comp=Z,5μm,18.4s						
XAN	**Xi'an**	**35.76**	**27**	P	**P**	**12 25 24.4**	**-0.8**
XAN				pP	pP	12 25 28.8	-3.6
XAN				sP	sP	12 25 31.5	-3.8
XAN				S	**S**	**12 30 54.9**	**-6.2**
XAN				pmax	pmax		
	comp=Z,46nm,0.9s						
XAN				LR	LR		
	comp=Z,2μm,17.4s						
XAN				LR	LR		
	comp=Z,2μm,19.5s						
XAN				LR	LR		
	comp=Z,2μm,23.3s						
SANI	**Sanana**	**35.88**	**97**	P	**P**	**12 25 25.3**	**-1.1**
WHN	**Wuhan**	**35.88**	**37**	P	**P**	**12 25 27.3**	**+1.1**
WHN				pmax	pmax		
	comp=Z,120nm,1.0s						
TWG	**Pinlang**	**35.91**	**53**	*e*P	**P**	**12 25 28.6**	**+2.0**
	comp=Z,156nm,1.1s						
SSLB	**Suanglung**	**36.30**	**52**	*e*P	**P**	**12 25 31.5**	**+1.6**
	comp=Z,63nm,1.4s						
YULB	**Yu-li**	**36.37**	**53**	*e*P	**P**	**12 25 32.4**	**+1.8**
	comp=Z,44nm,0.9s						
YHNB	**Yeheng**	**37.08**	**51**	*e*P	**P**	**12 25 35.9**	**-0.8**
	comp=Z,118nm,1.6s						
MBWA	**Marble Bar**	**37.17**	**131**	*e*P	**P**	**12 25 37.3**	**0.0**
	comp=Z,91nm,1.4s						
LBMI	**Labuha**	**37.23**	**94**	P	**P**	**12 25 38.1**	**+0.1**
KBL	**Kabul**	**37.51**	**330**	*e*P	**P**	**12 25 40.8**	**+0.6**
	comp=Z,23nm,1.2s						
KBL	**Kabul**	**37.51**	**330**	*e*P	**P**	**12 25 40.8**	**+0.6**
KBL				pmax	pmax		
	comp=Z,23nm,1.2s						
GTA	**Gaotai**	**37.65**	**12**	⇑P	**P**	**12 25 42.3**	**+1.0**
GTA				pP	pP	12 25 46.1	-2.4
GTA				sP	sP	12 25 48.4	-3.1
GTA				PcP	**PcP**	**12 28 03.5**	**+4.9**
GTA				pmax	pmax		
	comp=Z,58nm,1.1s						
KSH	**Kashi**	**39.04**	**342**	P	**P**	**12 25 51.8**	**-1.2**
KSH				sP	pP	12 25 58.4	-1.8
KSH				S	**S**	**12 31 49.6**	**-1.3**
KSH				SS	**SnSn**	**12 34 31.3**	**-12**
KSH				ScS	**ScS**	**12 35 57.8**	**-3.5**
KSH				pmax	pmax		
	comp=Z,67nm,0.6s						
KSH				LR	LR		
	comp=Z,3μm,17.5s						
KSH				LR	LR		
	comp=Z,2μm,14.0s						
KSH				LR	LR		
	com

AAK	**Ala-Archa**	**42.34**	**343**	*c*	*i*	P		**P**	**12 26 21.1**	**+0.8**
AAK						pmax		pmax		
	comp=Z,16nm,0.7s									
EKS2	**Erkin-Say**	**42.58**	**342**			P		**P**	**12 26 23.8**	**+1.6**
	SNR=16									
HHC	**Hu-ho-hao-te**	**42.62**	**24**		*e*	P		**P**	**12 26 23.4**	**+0.9**
HHC						S		**S**	**12 32 45.8**	**+1.5**
HHC						pmax		pmax		
	comp=Z,35nm,1.1s									
HHC						pmax		pmax		
	comp=Z,86nm,5.9s									
HHC						LR		LR		
	comp=Z,610nm,16.0s									
HHC						LR		LR		
	comp=Z,760nm,15.9s									
HHC						LR		LR		
	comp=Z,890nm,14.7s									
KLBR	**Kellerberrin**	**42.79**	**145**			P		**P**	**12 26 24.3**	**+0.4**
	baz=43,SNR=6.6									
USP	**Ospenovka**	**42.92**	**343**			P		**P**	**12 26 25.4**	**+0.6**
	SNR=40									
MTN	**Manton Dam**	**43.25**	**112**			P		**P**	**12 26 28.1**	**+0.3**
	baz=43,SNR=5.2									
H01W3	**Cape Leeuwin H**	**43.42**	**151**			T		T	13 12 52.4	
	baz=325,slow=75									
H01W2	**Cape Leeuwin H**	**43.43**	**151**			T		T	13 12 51.0	
	baz=325,slow=75									
H01W1	**Cape Leeuwin H**	**43.44**	**151**			T		T	13 12 47.5	
	baz=325,slow=75									
NWAO	**Narrogin (SRO)**	**43.49**	**147**			P		**P**	**12 26 29.6**	**+0.1**
	comp=Z,26nm,0.7s,baz=195,slow=7.6,SNR=19									
NWAO	**Narrogin (SRO)**	**43.49**	**147**			P		**P**	**12 26 29.7**	**+0.2**
	baz=44,SNR=12									
NWAO						P		**P**	**12 26 29.7**	**+0.2**
	baz=44,SNR=12									
NWAO	**Narrogin (SRO)**	**43.49**	**147**		*e*	P		**P**	**12 26 29.6**	**+0.1**
	comp=Z,31nm,0.8s									
JOW	**Kunigami**	**43.56**	**53**			P		**P**	**12 26 30.9**	**+0.7**
	comp=Z,39nm,0.8s,baz=251,slow=1.8,SNR=12									
JOW	**Kunigami**	**43.56**	**53**		*e*	P		**P**	**12 26 29.2**	**-1.0**
	comp=Z,50nm,0.9s									
BJT	**Baijiatuau**	**43.99**	**29**		*e*	P		**P**	**12 26 34.9**	**+1.5**
	comp=Z,33nm,0.8s									
BJT	**Baijiatuau**	**43.99**	**29**		*e*	P		**P**	**12 26 34.9**	**+1.5**
BJT						pmax		pmax		
	comp=Z,33nm,0.8s									
BJI	**Beijing**	**44.01**	**29**			P		**P**	**12 26 34.9**	**+1.4**
BJI						pmax		pmax		
	comp=Z,76nm,0.8s									
KK31	**Karatay Array**	**44.07**	**339**		*e*	P		**P**	**12 26 34.6**	**+0.5**
KK31	**Karatay Array**	**44.07**	**339**		*e*	P		**P**	**12 26 34.6**	**+0.5**
KKAR	**Karatay Array**	**44.07**	**339**		*e*	P		**P**	**12 26 34.5**	**+0.4**
	comp=Z,14nm,0.6s									
KKAR	**Karatay Array**	**44.07**	**339**		*e*	P		**P**	**12 26 34.5**	**+0.4**
KKAR						pmax		pmax		
	comp=Z,14nm,0.6s									
MK01	**Makanchi Array**	**44.58**	**352**		*e*	P		**P**	**12 26 36.9**	**-1.2**
MK31	**Makanchi Array**	**44.60**	**352**		*e*	P		**P**	**12 26 38.1**	**-0.2**
MK31	**Makanchi Array**	**44.60**	**352**		*e*	P		**P**	**12 26 38.1**	**-0.2**
MKAR	**Makanchi Array**	**44.60**	**352**			P		**P**	**12 26 38.1**	**-0.1**
	comp=Z,40nm,0.7s,baz=171,slow=9.2,SNR=328									
MKAR						PcP		**PcP**	**12 28 20.4**	**-0.5**
	comp=Z,1.9nm,0.7s,baz=180,slow=4.3,SNR=1.8									
MKAR	**Makanchi Array**	**44.60**	**352**		*e*	P		**P**	**12 26 38.1**	**-0.1**
	comp=Z,217nm,0.8s									
MKAR						PcP		**PcP**	**12 28 20.4**	**-0.5**
RKGY	**Rocky Gully**	**44.63**	**148**			P		**P**	**12 26 39.9**	**+1.2**
	baz=45,SNR=6.5									
MAKZ	**Makanchi**	**44.66**	**352**		*e*	P		**P**	**12 26 38.6**	**-0.1**
	comp=Z,17nm,0.8s									
MAKZ	**Makanchi**	**44.66**	**352**		*e*	P		**P**	**12 26 38.6**	**-0.1**
MAKZ						pmax		pmax		
	comp=Z,17nm,0.8s									
KMBL	**Kambalda**	**45.12**	**141**			P		**P**	**12 26 43.1**	**+0.5**
	baz=45									
WRKA	**Warakurna**	**45.87**	**129**			P		**P**	**12 26 49.0**	**+0.3**
	baz=46,SNR=8.6									
GEYT	**Alibeck**	**45.95**	**324**			P		**P**	**12 26 50.2**	**+1.1**
	comp=Z,20nm,0.6s,baz=157,slow=9.2,SNR=37									
GYA0B	**ALIBECK ARRAY**	**45.95**	**324**		*e*	P		**P**	**12 26 50.5**	**+1.4**
	comp=Z,22nm,0.6s									
DGZ	**Jazzator, Alta**	**47.02**	**357**		*i*	P		**P**	**12 26 58.0**	**+0.6**
DGZ						pmax		pmax		
	comp=Z,4.0nm,0.7s									
SONM	**Songino Array**	**47.16**	**15**			P		**P**	**12 26 59.5**	**+1.0**
	comp=Z,113nm,0.7s,baz=195,slow=9.4,SNR=623									
SONA1	**Songino Array**	**47.17**	**15**		*e*	P		**P**	**12 26 56.1**	**-2.5**
ULN	**Ulaanbaatar**	**47.35**	**15**		*e*	P		**P**	**12 27 00.7**	**+0.6**
	comp=Z,37nm,0.9s									
ULN	**Ulaanbaatar**	**47.35**	**15**			P		**P**	**12 27 01.0**	**+0.9**
	SNR=19									
ULN	**Ulaanbaatar**	**47.35**	**15**			P		**P**	**12 27 01.0**	**+0.9**
	SNR=19									
ULN	**Ulaanbaatar**	**47.35**	**15**	*c*	*i*	P		**P**	**12 27 00.5**	**+0.4**
ULN						pmax		pmax		
	comp=Z,56nm,1.2s									
ABPO	**Ambohimpanom**	**47.55**	**241**		*e*	P		**P**	**12 27 03.3**	**+1.2**
	comp=Z,19nm,0.9s									
ABPO	**Ambohimpanom**	**47.55**	**241**		*e*	P		**P**	**12 27 03.3**	**+1.2**
ABPO						pmax		pmax		
	comp=Z,19nm,0.9s									
TJN	**Taejon**	**47.89**	**41**	*c*	*i*	P		**P**	**12 27 04.4**	**+0.1**
ATD	**Arta Tunnel**	**47.95**	**283**			P		**P**	**12 27 04.8**	**-0.4**
	comp=Z,6.1nm,0.7s,baz=50,slow=7.9,SNR=2.8									
RAYN	**Ar Rayn**	**48.14**	**300**		*e*	P		**P**	**12 27 06.8**	**+0.4**
	comp=Z,11nm,1.0s									
HVS	**Khovu-Aksy**	**48.47**	**3**	*d*	*i*	P		**P**	**12 27 09.2**	**+0.6**
HVS						pmax		pmax		
	comp=Z,95nm,0.9s									
JNU	**Nakatsue**	**48.55**	**47**			P		**P**	**12 27 09.9**	**+0.4**
	comp=Z,23nm,0.8s,baz=187,slow=2.4,SNR=19									
JNU	**Nakatsue**	**48.55**	**47**		*e*	P		**P**	**12 27 10.3**	**+0.8**
	comp=Z,23nm,0.8s									
WRA	**Warramunga Arr**	**48.58**	**119**			P		**P**	**12 27 10.0**	**+0.1**
	comp=Z,11nm,0.5s,baz=297,slow=8.6,SNR=118									
WRA	**Warramunga Arr**	**48.58**	**119**			P		**P**	**12 27 10.0**	**+0.1**
WRA						pmax		pmax		
	comp=Z,9.0nm,0.6s									
WRAB	**Tennant Creek**	**48.59**	**119**		*e*	P		**P**	**12 27 10.2**	**+0.3**
	comp=Z,34nm,0.9s									
WRAB	**Tennant Creek**	**48.59**	**119**	*d*	*i*	P		**P**	**12 27 10.1**	**+0.2**
WRAB						pmax		pmax		
	comp=Z,35nm,1.2s									
WB2	**Warramunga Arr**	**48.59**	**119**		*e*	P		**P**	**12 27 10.2**	**+0.3**
KS15	**Wonju Array Si**	**48.86**	**40**		*e*	P		**P**	**12 27 13.0**	**+1.3**
KSAR	**Wonju Array Be**	**48.86**	**40**			P		**P**	**12 27 11.8**	**+0.1**
KSAR						PcP		**PcP**	**12 28 35.8**	**-0.3**
KSAR	**Wonju Array Be**	**48.86**	**40**			P		**P**	**12 27 11.8**	**+0.1**
KSAR									12 28 35.8	
FORT	**Forrest**	**48.86**	**136**			P		**P**	**12 27 13.0**	**+1.2**
	baz=49,SNR=20									
FORT	**Forrest**	**48.86**	**136**		*e*	P		**P**	**12 27 13.1**	**+1.2**
	comp=Z,471nm,0.6s									
ZAK	**Zakamensk**	**48.87**	**11**		*e*	P		**P**	**12 27 09.5**	**-2.2**
ZAK						pmax		pmax		
	comp=Z,11nm,1.3s									
KS01	**Wonju Array Si**	**48.88**	**40**		*e*	P		**P**	**12 27 11.4**	**-0.5**
KSRS	**Korea Array**	**48.89**	**40**			P		**P**	**12 27 11.8**	**-0.1**
	comp=Z,20nh,1.1s,baz=228,slow=8.9,SNR=55									
KSRS						PcP		**PcP**	**12 28 35.8**	**-0.4**
	comp=Z,1.0nm,0.7s,baz=230,slow=2.5,SNR=2.6									
KURBB	**Kurchatov Arra**	**48.91**	**350**			P		**P**	**12 27 11.8**	**0.0**
	comp=Z,38nm,0.7s,baz=173,slow=7.2,SNR=291									
KURBB						PcP		**PcP**	**12 28 35.9**	**-0.1**
	comp=Z,4.4nm,0.7s,baz=167,slow=4.1,SNR=2.7									
KURK	**Kurchatov**	**48.99**	**350**		*e*	P		**P**	**12 27 12.3**	**-0.2**
	comp=Z,50nm,1.0s									
KURK						PcP		**PcP**	**12 28 35.9**	**-0.4**
KURK	**Kurchatov**	**48.99**	**350**			P		**P**	**12 27 12.7**	**+0.2**
	SNR=16									
KURK	**Kurchatov**	**48.99**	**350**			P		**P**	**12 27 12.7**	**+0.2**
	SNR=16									
KURK	**Kurchatov**	**48.99**	**350**	*c*	*i*	P		**P**	**12 27 12.2**	**-0.2**
KURK						pmax		pmax		
	comp=Z,61nm,1.2s									
MOY	**Mondy**	**49.72**	**9**		*e*	P		**P**	**12 27 19.1**	**+0.9**
MOY						pmax		pmax		
	comp=Z,25nm,3.0s									
ASAR	**Alice Springs**	**49.72**	**124**			P		**P**	**12 27 18.6**	**0.0**
	comp=Z,10nm,1.1s,baz=298,slow=7.4,SNR=53									
ASAR						PcP		**PcP**	**12 28 38.9**	**-0.7**
	comp=Z,3.5nm,0.7s,baz=296,slow=3.3,SNR=7.0									
AS31	**Alice Springs**	**49.72**	**124**		*e*	P		**P**	**12 27 18.9**	**+0.3**
	comp=Z,1.6nm,0.7s									
AS01	**Alice Springs**	**49.76**	**124**		*e*	P		**P**	**12 27 17.7**	**-1.2**
TLY	**Talaya**	**50.18**	**11**			P		**P**	**12 27 22.2**	**+0.6**
	comp=Z,5.9nm,0.7s,baz=231,slow=7.0,SNR=17									
TLY	**Talaya**	**50.18**	**11**		*e*	P		**P**	**12 27 22.3**	**+0.7**
	comp=Z,9.1nm,0.8s									
TLY	**Talaya**	**50.18**	**11**			P		**P**	**12 27 23.0**	**+1.4**
	SNR=8.3									
TLY	**Talaya**	**50.18**	**11**			P		**P**	**12 27 23.0**	**+1.4**
	SNR=8.3									
TLY	**Talaya**	**50.18**	**11**		*e*	P		**P**	**12 27 22.6**	**+1.0**
TLY						pmax		pmax		
	comp=Z,27nm,1.9s									
IRK	**Irkutsk**	**50.83**	**11**		*e*	P		**P**	**12 27 27.1**	**+0.6**
IRK						pmax		pmax		
	comp=Z,30nm,2.2s									
ZALV	**Zalesovo Beam**	**51.41**	**356**			P		**P**	**12 27 30.5**	**-0.3**
	comp=Z,46nm,0.5s,baz=186,slow=7.7,SNR=81									
CN2	**Changchun**	**51.47**	**32**	⇑	*i*	P		**P**	**12 27 31.5**	**+0.1**
CN2						*e*S		**S**	**12 34 50.6**	**+0.5**
CN2						pmax		pmax		
	comp=Z,30nm,0.8s									
CN2						LR		LR		
	comp=Z,2μm,17.0s									
CN2						LR		LR		
	comp=Z,2μm,17.0s									
CN2						LR		LR		
	comp=Z,2μm,20.0s									
NVS	**Novosibirsk**	**52.42**	**355**	⇑	*i*	P		**P**	**12 27 37.9**	**-0.4**
NVS					*i*				12 27 47.9	
NVS						pmax		pmax		
	comp=Z,27nm,1.0s									
NVS						pmax		pmax		
	comp=N,22nm,0.9s									
NVS						pmax		pmax		
	comp=E,15nm,0.9s									
HIA	**Hailar**	**52.83**	**24**		*e*	P		**P**	**12 27 42.2**	**+0.8**
	comp=E,44nm,1.0s									
HIA	**Hailar**	**52.83**	**24**	*c*	*i*	P		**P**	**12 27 42.0**	**+0.5**
HIA						pmax		pmax		
	comp=Z,44nm,1.0s									
BVAR	**Borovoye Array**	**52.94**	**345**			P		**P**	**12 27 41.5**	**-0.7**
	comp=Z,12nm,0.7s,baz=146,slow=8.4,SNR=82									
BRVK	**Borovoye**	**53.00**	**345**		*e*	P		**P**	**12 27 41.9**	**-0.7**
	comp=Z,12nm,0.6s									
BRVK	**Borovoye**	**53.00**	**345**	*c*	*i*	P		**P**	**12 27 41.6**	**-1.0**
BRVK						pmax		pmax		
	comp=Z,10.0nm,0.6s									
KMBO	**Kilima Mbogo**	**53.26**	**267**			P		**P**	**12 27 45.2**	**-0.3**
	comp=Z,1.4nm,0.4s,baz=72,slow=13,SNR=4.0									
KMBO	**Kilima Mbogo**	**53.26**	**267**		*e*	P		**P**	**12 27 45.6**	**+0.1**
	comp=Z,10nm,0.9s									
KMBO	**Kilima Mbogo**	**53.26**	**267**		*e*	P		**P**	**12 27 45.6**	**+0.1**
KMBO						pmax		pmax		
	comp=Z,10.0nm,0.9s									
AB31	**Akbulak array**	**53.27**	**336**		*i*	P		**P**	**12 27 44.6**	**-0.1**
AB31						pmax		pmax		
	comp=Z,12nm,0.6s									
ABKAR	**Akbulak array**	**53.27**	**336**		*e*	P		**P**	**12 27 44.8**	**+0.1**
	comp=Z,16nm,0.6s									
QIS	**Mount Isa**	**53.42**	**118**			P		**P**	**12 27 47.2**	**+0.9**
	baz=54,SNR=5.2									
MSHR	**Mys Shultsa**	**53.91**	**37**	*c*	*e*	P		**P**	**12 27 49.9**	**+0.4**
INU	**Inuyama**	**54.08**	**47**		*e*	P		**P**	**12 27 51.2**	**+0.3**
MDJ	**Mudanjiang**	**54.26**	**34**			P		**P**	**12 27 51.1**	**-0.9**
MDJ						S		**S**	**12 35 32.0**	**+3.9**
MDJ						pmax		pmax		
	comp=Z,44nm,1.3s									
MDJ	**Mudanjiang**	**54.26**	**34**		*e*	P		**P**	**12 27 52.7**	**+0.7**
	comp=Z,59nm,1.3s									
VLA	**Vladivostok**	**54.66**	**36**	*c*	*e*	P		**P**	**12 27 55.3**	**+0.4**
VLA						pmax		pmax		
	comp=Z,28nm,0.9s									
AKTO	**Aktyubinsk**	**54.98**	**335**			P		**P**	**12 27 56.9**	**-0.2**
	comp=Z,5.8nm,0.6s,baz=132,slow=7.5,SNR=26									
USRK	**Ussuriysk Ar.**	**55.36**	**35**			P		**P**	**12 28 00.2**	**+0.3**
	comp=Z,15nm,0.9s,baz=244,slow=6.2,SNR=18									
MJB9	**Matsu-Tunnel**	**55.47**	**46**		*e*	P		**P**	**12 28 01.9**	**+0.9**
MAJO	**Matsushiro**	**55.48**	**46**		*e*	P		**P**	**12 28 01.4**	**+0.4**
	comp=Z,40nm,0.6s									
MAJO	**Matsushiro**	**55.48**	**46**	*d*	*i*	P		**P**	**12 28 01.5**	**+0.5**
MAJO						pmax		pmax		
	comp=Z,23nm,1.3s									
MAT	**Matsushiro**	**55.48**	**46**			P		**P**	**12 28 01.1**	**+0.1**
MJAR	**Matsushiro Arr**	**55.48**	**46**			P		**P**	**12 28 01.5**	**+0.5**
	comp=Z,17nm,0.9s,baz=234,slow=8.2,SNR=40									
GNI	**Garni**	**55.67**	**318**			P		**P**	**12 28 03.2**	**+0.7**
	comp=Z,6.4nm,0.4s,baz=267,slow=6.9,SNR=3.0									
GNI	**Garni**	**55.67**	**318**	⇑	*e*	P		**P**	**12 28 03.3**	**+0.7**
GNI						pmax		pmax		
	comp=Z,22nm,1.0s									
BBOO	**Buckleboo**	**55.68**	**133**			P		**P**	**12 28 02.3**	**-0.1**
	baz=56,SNR=31									
BBOO	**Buckleboo**	**55.68**	**133**		*e*	P		**P**	**12 28 02.3**	**-0.1**
GROC	**Groznyy**	**56.59**	**322**		*e*	P		**P**	**12 28 07.8**	**-1.0**
GROC					*e*				12 29 02.8	
GROC						pmax		pmax		
	comp=Z,20nm,0.5s									
MTSU	**Mount Surprise**	**56.93**	**113**			P		**P**	**12 28 12.6**	**+0.8**
	baz=57,SNR=6.5									
ZEI	**Tsey**	**57.55**	**321**		*e*	P		**P**	**12 28 16.0**	**+0.1**
ZEI						pmax		pmax		
	comp=Z,8.0nm,0.9s									
HTT	**Hallett**	**58.08**	**132**			P		**P**	**12 28 20.2**	**+0.6**
	baz=58,SNR=9.2									
ASF	**Jabal al Asfar**	**58.15**	**307**			P		**P**	**12 28 21.3**	**+1.1**
	comp=Z,3.9nm,1.0s,baz=343,slow=6.7,SNR=3.8									
BOD	**Bodaibo**	**58.16**	**15**	⇓	*i*	P		**P**	**12 28 19.3**	**-0.3**
BOD						pmax		pmax		
	comp=Z,39nm,0.9s									
KLR	**Kul'dur**	**58.31**	**31**	*c*	*i*	P		**P**	**12 28 20.7**	**-0.1**
NEY	**Neytrino**	**58.53**	**321**	⇑	*e*	P		**P**	**12 28 24.2**	**+1.5**
NEY						pmax		pmax		
	comp=Z,1.0nm,0.7s									
KBZ	**Khabaz**	**58.66**	**321**			P		**P**	**12 28 23.8**	**+0.4**
	comp=Z,4.2nm,0.8s,baz=118,slow=7.6,SNR=9.9									
KVAR	**Kislovodsk Arr**	**58.90**	**321**			P		**P**	**12 28 25.1**	**-0.2**
	comp=Z,5.9nm,0.5s,baz=104,slow=5.0,SNR=9.6									
KIV	**Kislovodsk**	**58.91**	**321**		*e*	P		**P**	**12 28 27.3**	**+2.1**
KIV	**Kislovodsk**	**58.91**	**321**			P		**P**	**12 28 26.0**	**+0.7**
	SNR=11									
KIV	**Kislovodsk**	**58.91**	**321**			P		**P**	**12 28 26.0**	**+0.7**
	SNR=11									
KIV	**Kislovodsk**	**58.91**	**321**		*e*	P		**P**	**12 28 25.7**	**+0.5**
KIV						pmax		pmax		
	comp=Z,20nm,1.0s									
CTAO	**Charters Tower**	**59.22**	**115**		*e*	P		**P**	**12 28 29.2**	**+1.5**
CTAO	**Charters Tower**	**59.22**	**115**		*e*	P		**P**	**12 28 29.2**	**+1.5**
STKA	**Stephens Creek**	**59.40**	**130**			P		**P**	**12 28 29.2**	**+0.5**
	comp=Z,24nm,0.7s,baz=304,slow=6.0,SNR=69									
STKA	**Stephens Creek**	**59.40**	**130**			P		**P**	**12 28 29.2**	**+0.5**
	baz=60,SNR=31									
ARU	**Arti**	**59.42**	**340**			P		**P**	**12 28 27.7**	**-0.8**
	comp=Z,16nm,0.8s,baz=121,slow=3.9,SNR=19									
ARU	**Arti**	**59.42**	**340**		*e*	P		**P**	**12 28 27.6**	**-0.8**
	comp=Z,2.0nm,0.9s									
ARU	**Arti**	**59.42**	**340**	*c*	*i*	P		**P**	**12 28 27.6**	**-0.8**
ARU									12 29 14.7	
ARU									12 30 38.2	
ARU						S		**S**	**12 36 38.1**	**+2.1**
ARU						SS		**SS**	**12 40 25.1**	**-6.2**
ARU						pmax		pmax		
	comp=Z,19nm,0.8s									
MMAI	**Mount Meron Ar**	**59.62**	**307**			P		**P**	**12 28 30.0**	**-0.3**
	comp=Z,0.6nm,0.4s,baz=134,slow=8.2,SNR=3.8									
SOC	**Sochi**	**60.61**	**320**		*e*	P		**P**	**12 28 38.1**	**+1.3**
SOC						MLR		MLR		
	comp=Z,2μm,21.0s									
CLNS	**Chul'man**	**60.67**	**21**		*e*	P		**P**	**12 28 37.0**	**0.0**
CLNS						pmax		pmax		
	comp=Z,60nm,1.0s									
CLNS						pmax		pmax		
	comp=N,28nm,0.9s									
CLNS						pmax		pmax		
	comp=E,21nm,0.9s									
ERM	**Erimo**	**61.30**	**43**	⇑	*e*	P		**P**	**12 28 42.5**	**+1.0**
ERM						pmax		pmax		
	comp=Z,13nm,0.9s									
GRNR	**Gornyy**	**61.64**	**31**		*e*	P		**P**	**12 28 45.0**	**+1.3**
GRNR						pmax		pmax		
	comp=Z,84nm,1.0s									
ARPS	**Mount Arapiles**	**61.75**	**135**			P		**P**	**12 28 45.3**	**+0.7**
	baz=62,SNR=10.0									
ASAJ	**Asahikawa**	**61.84**	**40**			P		**P**	**12 28 45.4**	**+0.2**
	comp=Z,11nm,0.8s,baz=259,slow=8.9,SNR=15									
ASAJ	**Asahikawa**	**61.84**	**40**		*e*	P		**P**	**12 28 45.3**	**+0.2**
	comp=Z,4.1nm,0.8s									
CMSA	**Cobar Meteorol**	**62.46**	**128**			P		**P**	**12 28 50.4**	**+0.9**
	baz=63,SNR=113									
BRTR	**Keskin Array B**	**63.20**	**314**			P		**P**	**12 28 54.2**	**-0.3**
	comp=Z,2.7nm,0.6s,baz=132,slow=7.0,SNR=16									
YSS	**Yuzh-Sakhalins**	**63.23**	**37**		*e*	P		**P**	**12 28 54.2**	**-0.1**
	comp=Z,22nm,0.8s									
YSS	**Yuzh-Sakhalins**	**63.23**	**37**		*e*	P		**P**	**12 28 54.3**	**-0.1**
YSS						pmax		pmax		
	comp=Z,30nm,0.8s									
YSS						MLR		MLR		
	comp=Z,1μm,16.0s									
VRH	**Novokhopyorsk**	**63.27**	**328**		*e*	P		**P**	**12 28 53.8**	**-0.7**
VRH						pmax		pmax		
	comp=Z,10.0nm,0.7s									
LSZ	**Lusaka**	**64.03**	**252**			P		**P**	**12 29 00.1**	**-0.2**
	comp=Z,1.9nm,0.5s,baz=99,slow=5.3,SNR=3.8									
LSZ	**Lusaka**	**64.03**	**252**		*e*	P		**P**	**12 29 00.2**	**-0.2**
	comp=Z,15nm,1.3s									
LSZ	**Lusaka**	**64.03**	**252**		*e*	P		**P**	**12 29 00.2**	**-0.2**
LSZ						pmax		pmax		
	comp=Z,15nm,1.3s									
VSR	**Storozhevoye**	**64.65**	**327**		*e*	P		**P**	**12 29 02.3**	**-1.3**
VSR						pmax		pmax		
	comp=Z,10.0nm,0.6s									
TOO	**Toolangi**	**64.72**	**134**			P		**P**	**12 29 05.9**	**+1.5**
	baz=65									
EIDS	**Eidsvold**	**64.95**	**119**			P		**P**	**12 29 07.2**	**+1.1**
	baz=65,SNR=6.8									
TYV	**Tymovskoe**	**65.04**	**34**		*e*	P		**P**	**12 29 04.9**	**-1.2**
TYV					*e*				12 37 48.9	
TYV						pmax		pmax		
	comp=Z,19nm,1.5s									
TYV						MLR		MLR		
	comp=Z,1μm,18.0s									
NKL	**Nikolayevsk**	**65.16**	**31**		*i*	P		**P**	**12 29 06.8**	**-0.1**
NKL						pmax		pmax		
	comp=N,23nm,0.9s									
NKL						pmax		pmax		
	comp=E,10.0nm,0.9s									
NKL						pmax		pmax		
	comp=Z,73nm,0.9s									
LPSR	**Galich'ya Gora**	**65.48**	**328**		*e*	P		**P**	**12 29 08.1**	**-0.9**
LPSR						pmax		pmax		
	comp=Z,20nm,0.6s									
YNG	**Young**	**65.59**	**130**			P		**P**	**12 29 11.0**	**+0.8**
	baz=66,SNR=8.2									
KUR	**Kuril'sk**	**65.72**	**41**	⇓	*e*	P		**P**	**12 29 11.4**	**+0.7**
YAK	**Yakutsk**	**66.18**	**19**		*e*	P		**P**	**12 29 12.5**	**-0.8**
	comp=Z,95nm,0.9s									
YAK	**Yakutsk**	**66.18**	**19**		*e*	P		**P**	**12 29 11.0**	**-2.3**
YAK					*e*	*PP		**sP**	**12 29 26.0**	**+2.3**
YAK					*e*				12 29 42.6	
YAK					*e*	S		**S**	**12 37 56.9**	**-3.6**
YAK					*e*	*SS		sS	12 38 32.0	+19
YAK						pmax		pmax		
	comp=Z,74nm,0.9s									
YAK						pmax		pmax		
	comp=N,13nm,1.1s									
YAK						pmax		pmax		
	comp=E,21nm,1.1s									
YAK						pmax		pmax		
	comp=Z,1μm,14.6s									
YAK						pmax		pmax		
	comp=N,1μm,17.0s									
YAK						pmax		pmax		
	comp=E,551nm,12.9s									
YAK						smax		smax		
	comp=N,2μm,16.1s									
YAK						smax		smax		
	comp=E,989nm,16.9s									
CNB	**Canberra Magne**	**66.71**	**130**			P		**P**	**12 29 17.9**	**+0.6**
	baz=67,SNR=6.8									
ARMA	**Armidale**	**66.87**	**125**			P		**P**	**12 29 20.5**	**+2.0**
	baz=67,SNR=21									
ARMA	**Armidale**	**66.87**	**125**		*e*	P		**P**	**12 29 20.3**	**+1.7**
	comp=E,87nm,1.5s									
MOS	**Moscow**	**67.75**	**331**		*e*	P

PRU	**Pruhonice**	**78.95**	**320**	*e*P	**P**	**12 30 29.7**	**+0.1**
PRU				*e*		12 30 40.0	
ARCES	**ARCESS Array B**	**78.99**	**341**	P	**P**	**12 30 28.9**	**-0.5**
	comp=Z,14nm,1.0s,baz=87,slow=5.9,SNR=20						
ARCES	**ARCESS Array B**	**78.99**	**341**	P	**P**	**12 30 29.0**	**-0.5**
ARCES				pmax	pmax		
	comp=Z,14nm,1.0s						
SYO	**Syowa Base**	**79.29**	**197**⇑	*e*P	**P**	**12 30 32.8**	**+1.8**
GERES	**GERESS Array B**	**79.31**	**319**	P	**P**	**12 30 32.4**	**+0.6**
	comp=Z,3.9nm,0.6s,baz=120,slow=5.5,SNR=21						
KHC	**Kasperske Hory**	**79.44**	**319**	*e*P	**P**	**12 30 32.8**	**+0.5**
KHC				*e*PCP	**PcP**	**12 30 41.0**	**+0.6**
KHC	**Kasperske Hory**	**79.44**	**319**	*e*P	**P**	**12 30 32.3**	**-0.1**
	comp=Z,3.4nm,1.0s						
KHC	**Kasperske Hory**	**79.44**	**319**	*e*P	**P**	**12 30 32.8**	**+0.5**
KHC				*e*		12 30 41.0	
BRG	**Berggiesshubel**	**79.47**	**321**	*e*P	**P**	**12 30 33.0**	**+0.6**
	comp=Z,4.4nm,0.7s						
BRG				*i*		12 30 42.2	
	comp=Z,10nm,1.2s						
BRG	**Berggiesshubel**	**79.47**	**321**	*e*P	**P**	**12 30 33.0**	**+0.6**
BRG				*i*		12 30 42.2	
BRG				pmax	pmax		
	comp=Z,4.0nm,0.7s						
BRG				pmax	pmax		
	comp=Z,10.0nm,1.2s						
CLL	**Collm**	**80.12**	**322**⇑	*i*P	**P**	**12 30 36.1**	**+0.2**
	comp=Z,9.0nm,1.1s						
CLL				*e*		12 30 46.0	
CLL	**Collm**	**80.12**	**322**	*e*P	**P**	**12 30 32.0**	**-3.9**
CLL				pmax	pmax		
	comp=Z,9.0nm,1.1s						
WTTA	**Wattenberg**	**80.48**	**317**	*e*P	**P**	**12 30 38.3**	**0.0**
	comp=Z,8.4nm,1.0s						
MOTA	**Moosalm**	**80.85**	**317**	*e*P	**P**	**12 30 40.0**	**-0.2**
	comp=Z,8.1nm,0.9s						
FETA	**Feichten**	**81.07**	**317**	*e*pP	**P**	**12 30 43.0**	**+1.6**
	comp=Z,8.2nm,1.1s						
RETA	**Reutte**	**81.10**	**318**	*e*P	**P**	**12 30 41.8**	**+0.4**
	comp=Z,6.8nm,1.0s						
HFS	**Hagfors**	**81.16**	**330**	P	**P**	**12 30 41.4**	**+0.1**
	comp=Z,4.5nm,0.5s,baz=116,slow=6.6,SNR=36						
DAVA	**Damuels**	**81.67**	**317**	*e*P	**P**	**12 30 44.8**	**+0.3**
	comp=Z,10.0nm,0.8s						
TUE	**Stuetta**	**81.97**	**316**	*e*P	**P**	**12 30 46.6**	**+0.5**
	comp=Z,14nm,1.3s						
BILL	**Bilibino**	**82.35**	**22**⇓	*i*P	**P**	**12 30 46.7**	**-0.8**
BILL				*e*		12 33 55.5	
BILL				*e*PPP	PPP	12 35 52.7	
BILL				*e*S	**S**	**12 40 55.5**	**-6.3**
BILL				pmax	pmax		
	comp=Z,8.0nm,1.0s						
NB2	**NORSAR Subarra**	**82.51**	**331**	P	**P**	**12 30 47.8**	**-0.7**
	comp=Z,7.5nm,1.1s,baz=98,slow=5.1						
NOA	**NORSAR Array B**	**82.51**	**331**	P	**P**	**12 30 48.1**	**-0.4**
	comp=Z,3.0nm,0.8s,baz=100,slow=5.3,SNR=5.4						
BFO	**Black Forest**	**82.80**	**318**	*e*P	**P**	**12 30 49.4**	**-0.8**
	comp=Z,9.0nm,1.0s						
BFO	**Black Forest**	**82.80**	**318**	*e*P	**P**	**12 30 49.4**	**-0.8**
BFO				pmax	pmax		
	comp=Z,9.0nm,1.0s						
ECH	**Echery**	**83.58**	**318**	*e*P	**P**	**12 30 54.6**	**+0.3**
	comp=Z,5.1nm,0.9s						
ECH	**Echery**	**83.58**	**318**	*e*P	**P**	**12 30 54.6**	**+0.3**
ECH				pmax	pmax		
	comp=Z,5.0nm,0.9s						
SPITS	**Spitsbergen Ar**	**84.24**	**349**	P	**P**	**12 30 56.4**	**-0.6**
	comp=Z,4.9nm,0.7s,baz=63,slow=5.7,SNR=14						
TAM	**Tamanrasset**	**84.28**	**293**	*e*P	**P**	**12 30 60.0**	**+1.4**
	comp=Z,6.0nm,0.9s						
TAM	**Tamanrasset**	**84.28**	**293**	*e*P	**P**	**12 31 00.0**	**+1.4**
TAM				pmax	pmax		
	comp=Z,6.0nm,0.9s						
TORD	**Torodi Ar. Bea**	**88.16**	**283**	P	**P**	**12 31 16.8**	**-0.8**
	comp=Z,0.3nm,0.4s,baz=70,slow=4.6,SNR=4.6						
VNDA	**Vanda**	**88.54**	**168**	P	**P**	**12 31 17.3**	**-0.8**
	comp=Z,2.8nm,0.8s,baz=307,slow=4.6,SNR=12						
EKA	**Eskdalemuir Ar**	**89.93**	**325**	P	**P**	**12 31 25.1**	**0.0**
	comp=Z,1.4nm,0.5s,baz=89,slow=5.0,SNR=7.5						
ESDC	**Sonseca Array**	**91.73**	**310**	P	**P**	**12 31 34.6**	**+0.7**
	comp=Z,0.7nm,0.4s,baz=64,slow=3.8,SNR=6.9						
DAG	**Danmarks Havn**	**91.81**	**347**	*i* P	**P**	**12 31 32.6**	**-0.8**
	comp=Z,8.2nm,1.0s						
DAG	**Danmarks Havn**	**91.81**	**347**	*i* P	**P**	**12 31 32.6**	**-0.8**
DAG				pmax	pmax		
	comp=Z,8.0nm,1.0s						
KOWA	**Kowa**	**93.63**	**285**	P	**P**	**12 31 43.8**	**+0.8**
	comp=Z,1.1nm,0.4s,baz=90,slow=4.0,SNR=3.4						
KIC	**Kosan Boka**	**94.82**	**277**	*e*P	P	12 31 59.3	+11
	comp=Z,84nm,1.9s						
TIC	**Toumodi**	**95.08**	**277**	*e*P	P	12 31 59.5	+10
LIC	**Lamto**	**95.11**	**276**	*e*P	P	12 32 03.3	+13
	comp=Z,53nm,1.8s						
TOLK	**Toolik Lake Re**	**98.14**	**19**	P	**P**	**12 32 02.2**	**-0.3**
	baz=299						
YKA	**Yellowknife Ar**	**112.38**	**12**	PKiKP	**PKiKP**	**12 37 01.6**	**0.0**
	comp=Z,0.2nm,0.7s,baz=335,slow=2.8,SNR=3.8						
MSO	**Missoula**	**126.33**	**21**	P	**PKPdf**	**12 37 28.1**	**-0.9**
	baz=329						
ULM	**Lac du Bonnet**	**127.10**	**5**	PKP	**PKPdf**	**12 37 30.9**	**+0.6**
	comp=Z,1.2nm,0.7s,baz=326,slow=3.6,SNR=2.3						
PDAR	**Pinedale Array**	**131.40**	**20**	PKP	**PKPdf**	**12 37 36.9**	**-2.1**
	comp=Z,0.3nm,0.6s,baz=0.0,slow=0.4,SNR=4.3						
PLCA	**Paso Flores**	**138.30**	**202**	PKP	**PKPdf**	**12 37 51.7**	**-0.1**
	comp=Z,2.8nm,1.2s,baz=45,slow=1.4,SNR=2.2						
MNTX	**Cornudas Mount**	**142.76**	**23**	P	**PKPdf**	**12 37 56.0**	**-4.0**
	baz=334						
X39A	**Fountain Ranch**	**142.87**	**6**	P	**PKPdf**	**12 37 55.7**	**-4.4**
	baz=353						
MIAR	**Mount Ida**	**142.88**	**5**	P	**PKPdf**	**12 37 55.9**	**-4.2**
	baz=354						
X49A	**Woodville**	**142.98**	**356**	P	**PKPdf**	**12 37 56.1**	**-4.2**
	baz=5.5						
Z49A	**Columbiana**	**144.30**	**356**	P	**PKPab**	**12 38 00.3**	**-0.2**
	baz=5.3						
LRAL	**Lakeview Retre**	**144.50**	**356**	P	**PKPab**	**12 38 00.2**	**-1.0**
	baz=4.5						
150A	**Eclectic**	**144.84**	**355**	P	**PKPab**	**12 38 02.2**	**-0.3**
	baz=6.3						
146A	**Union**	**144.97**	**359**	P	**PKPab**	**12 38 02.6**	**-0.4**
	baz=1.0						
253A	**Americus**	**145.16**	**352**	P	**PKPbc**	**12 38 03.1**	**-0.5**
	baz=9.6						
251A	**Midway**	**145.29**	**354**	P	**PKPbc**	**12 38 03.4**	**-0.6**
	baz=7.4						
252A	**Lumpkin**	**145.31**	**353**	P	**PKPbc**	**12 38 03.5**	**-0.5**
	baz=8.6						
VBMS	**Vicksburg**	**145.38**	**1**	P	**PKPbc**	**12 38 04.1**	**-0.2**
	baz=358						
248A	**Dixon Mills**	**145.47**	**357**	P	**PKPbc**	**12 38 04.3**	**-0.3**
	baz=3.4						
250A	**Grady**	**145.49**	**355**	P	**PKPbc**	**12 38 03.9**	**-0.8**
	baz=6.0						
NATX	**Nacogdoches**	**145.51**	**8**	*e*PKPbc	**PKPab**	**12 38 05.1**	**+0.2**
TXAR	**Lajitas Array**	**145.53**	**22**	PKPbc	**PKPdf**	**12 38 04.8**	**-0.2**
	comp=Z,22nm,1.0s,baz=10,slow=1.6,SNR=52						
247A	**Quitman**	**145.55**	**359**	P	**PKPbc**	**12 38 04.8**	**0.0**
	baz=1.8						
249A	**Camden**	**145.56**	**356**	P	**PKPdf**	**12 38 04.5**	**-0.3**
	baz=4.5						
245A	**Little AP, Sta**	**145.58**	**0**	P	**PKPdf**	**12 38 04.8**	**-0.1**
	baz=360						
355A	**Pearson**	**145.66**	**350**	P	**PKPdf**	**12 38 04.8**	**-0.2**
	baz=12						
TIGA	**Tifton**	**145.69**	**351**	P	**PKPdf**	**12 38 05.1**	**0.0**
	baz=11						
TIGA	**Tifton**	**145.69**	**351**	*e*PKPbc	**PKPbc**	**12 38 05.3**	**0.0**
JCT	**Junction City**	**145.72**	**16**	P	**PKPdf**	**12 38 04.4**	**-0.8**
	baz=342						
JCT	**Junction City**	**145.72**	**16**	*e*PKPbc	**PKPdf**	**12 38 04.7**	**-0.5**
JCT	**Junction City**	**145.72**	**16**	*e*PKP2	**PKPdf**	**12 38 04.7**	**-0.5**
352A	**Blakely**	**145.84**	**353**	P	**PKPdf**	**12 38 05.5**	**+0.2**
	baz=8.4						
353A	**Camilla**	**145.88**	**352**	P	**PKPbc**	**12 38 05.7**	**-0.2**
	baz=9.7						
349A	**Repton**	**146.18**	**356**	P	**PKPbc**	**12 38 06.8**	**0.0**
	baz=4.4						
347A	**Saraland**	**146.19**	**358**	P	**PKPbc**	**12 38 07.0**	**+0.1**
	baz=2.0						
ZAIG	**Zacatecas**	**151.81**	**26**	*e*PKPab	**PKPab**	**12 38 31.1**	**+0.3**
LPAZ	**La Paz**	**154.86**	**236**	PKPbc	**PKPbc**	**12 38 28.3**	**-0.9**
	comp=Z,1.0nm,0.6s,baz=191,slow=5.9,SNR=3.7						
APG	**El Apazote**	**162.51**	**3**	PKPab	**PKPab**	**12 39 14.7**	**-2.0**
	comp=Z,12nm,0.9s,baz=315,slow=10.0,SNR=8.1						

*ISCJB **14** 12:29:19.6±2.2, 36.78S±0.07×73.5W±0.1, h7km±11km, Error ellipse: s-maj=15.7km s-min=10.8km az=24.3*
*GUC **14** 12:29:20.6±0.6, 36.87S×73.45W, h20km±7km, ML3.1*
*SJA **14** 12:29:20.6±0.5, 36.79S×73.43W, h29km±8km, ML2.7, MW3.3*

ISC 14 12:29:19.0±2.4, **36.83S**±0.06×**73.6W**±0.1, **h11**km±11km, **n8, σ0.75/14, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CCSP	**San Pedro de C**	**0.36**	**93**	*e*P	**Pg**	**12 29 26.5**	**+0.3**
CCSP				*e*S	**Sg**	**12 29 30.4**	**-0.5**
CCSP				IAML		12 29 32.1	
	comp=N,7μm,0.2s						
COCH	**Cobquecura**	**0.93**	**42**	*e*P	**Pb**	**12 29 37.2**	**+0.1**
COCH				*e*S	**Sb**	**12 29 49.4**	**0.0**
COCH	**Cobquecura**	**0.93**	**42**	*e*P	**Pb**	**12 29 36.5**	**-0.7**
COCH				*e*S	**Sb**	**12 29 48.0**	**-1.4**
COCH				IAML		12 29 51.7	
	comp=N,550nm,0.3s						
CCHI	**Chillan**	**1.21**	**80**	*e*P	**Pb**	**12 29 42.1**	**+0.3**
CCHI				*e*S	**Sn**	**12 29 57.6**	**-0.5**
CCHI	**Chillan**	**1.21**	**80**	*e*P	**Pb**	**12 29 42.1**	**+0.3**
CCHI				*e*S	**Sb**	**12 29 57.0**	**-0.5**
CCHI				IAML		12 30 03.9	
	comp=N,926nm,0.3s						
TMU	**Temuco**	**2.05**	**159**	*e*P	**Pb**	**12 29 55.5**	**-0.7**
GO05	**HualaæØ**	**2.24**	**37**	*e*P	**Pn**	**12 29 56.9**	**+0.8**
GO05				*e*S	**Sn**	**12 30 23.7**	**-0.1**
GO05				IAML		12 30 39.1	
	comp=N,113nm,0.5s						
CANA	**Caviahue**	**2.25**	**119**	*e*P	**Pn**	**12 29 57.3**	**+1.0**
CANA				IAML		12 30 10.1	
	comp=Z,49nm,0.6s						

IDC 14 12:33:49.9±1.7, **0.33N**×**126.42E**, **h0**km, **mb3.3**/4, **mb1 3.5**/4, **mb1mx3.2**/56, **mbtmp3.4**/4, **Error ellipse: s-maj=159.9km s-min=23.5km az=66.0, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.59**	**159**	P	P	12 38 41.0	-0.5
	0.7nm,0.7s,baz=338,slow=11,SNR=7.0						
ASAR	**Alice Springs**	**24.93**	**164**	P	P	12 39 15.4	+0.4
	0.6nm,0.8s,baz=340,slow=7.7,SNR=7.9						
MKAR	**Makanchi Array**	**60.18**	**327**	P	P	12 44 00.1	+0.5
	0.3nm,0.5s,baz=126,slow=8.2,SNR=3.3						
KURBB	**Kurchatov Arra**	**64.44**	**328**	P	P	12 44 27.6	-0.5
	0.3nm,0.6s,baz=119,slow=5.6,SNR=2.6						

MEX 14 12:34:20.1±0.6, **27.21N**×**111.36W**, **h10**km, **MD3.5, Gulf of California**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SRIG	**Santa Rosalia**	**0.79**	**278**	*e*P	Pg	12 34 33.4	-1.9
SRIG				*e*S	Sg	12 34 43.3	-2.3
GUYB	**Guaymas**	**0.81**	**32**	*e*P	Pg	12 34 33.4	-2.4
GUYB				*e*S	Sg	12 34 42.9	-3.4
HSIG		**1.84**	**11**	*e*P	Pn	12 34 50.4	-1.3

*NIED **14** 12:39:00, 30.00N×130.40E, h47km, Mw4.9 Best double couple: M₀2.42000×10¹⁶ NP1:φ=85.00000°, δ24.00000°, λ-44.00000°. NP2:φ=216.00000°, δ74.00000°, λ-108.00000°.*
*MOS **14** 12:39:54.5±1.1, 30.02N×130.32E, h42km, mb4.6/45, MS4.5/6, Error ellipse: s-maj=8.9km s-min=4.9km az=92.2*
*JMA **14** 12:39:55.5, 30.03N×130.42E, h42km±1km, M4.4*
JMA Felt III J1.
*ISCJB **14** 12:39:55.3±0.3, 30.06N±0.02×130.35E±0.03, h48km±2km, mb4.5/80, MS4.6/5, Error ellipse: s-maj=5.4km s-min=2.4km az=25.8*
*IDC **14** 12:39:56.0±0.4, 30.07N×130.32E, h43km±3km, mb4.1/34, mb1 4.2/38, mb1mx4.1/66, mbtmp4.3/38, ML3.9/5, MS4.5/3, Ms1 4.5/3, ms1mx3.6/69, Error ellipse: s-maj=10.9km s-min=6.3km az=102.0*
*NEIC **14** 12:39:57.7±0.7, 30.06N×130.31E, h56km±6km, mb4.7/31, Error ellipse: s-maj=6.4km s-min=4.9km az=118.0*
NEIC Recorded [3 JMA] on Kuchino-shima and Yaku-shima.

ISC 14 12:39:55.8±0.4, **30.03N**±0.03×**130.42E**±0.04, **h40**km±3km, **n191, σ1.938/225, mb4.5/80, MS4.6/5, 21C-10D, Kyushu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JYAK	**Yakushimahirau**	**0.22**	**21**	P	**Pn**	**12 40 03.0**	**-0.3**
JYAK				*e*S	**Sn**	**12 40 07.9**	**-0.6**
JKC	**Kuchinoerabu**	**0.47**	**336**	⇑P	**Pn**	**12 40 08.1**	**-0.1**
JKC				*e*S	**Sn**	**12 40 13.3**	**-0.1**
JNN	**Nakanoshima**	**0.51**	**248**	⇓P	**Pn**	**12 40 06.3**	**-0.4**
JNN				*e*S	**Sn**	**12 40 14.4**	**0.0**
JTN	**Tanegashima 3**	**0.79**	**38**	⇑P	**Pn**	**12 40 10.5**	**+0.1**
JTN				*e*S	**Sn**	**12 40 21.3**	**+0.3**
JTSR	**Tashiro 2**	**1.21**	**21**	⇑P	**Pn**	**12 40 16.3**	**0.0**
JTSR				S	**Sn**	**12 40 31.3**	**-0.2**
JTAJ	**Takarajima**	**1.38**	**231**	P	**Pn**	**12 40 18.5**	**0.0**
JTAJ				*e*S	**Sn**	**12 40 35.7**	**+0.2**
JSU	**Suzuyama**	**1.47**	**1**	⇑P	**Pn**	**12 40 19.8**	**0.0**
JSU				S	**Sn**	**12 40 37.3**	**-0.5**
JZK	**Kikaishima**	**1.76**	**193**	P	**Pn**	**12 40 26.0**	**+2.2**
JZK				*e*S	**Sn**	**12 40 47.3**	**+2.4**
JAM	**Amami Oshima**	**1.77**	**204**	P	**Pn**	**12 40 25.6**	**+1.7**
JAM				S	**Sn**	**12 40 48.9**	**+3.8**
JAMN	**Amaminishikomi**	**2.09**	**212**	P	**Pn**	**12 40 27.9**	**-0.4**
JAMN				S	**Sn**	**12 40 52.1**	**-1.0**
JTK	**Tokunoshima**	**2.58**	**210**	P	**Pn**	**12 40 35.0**	**-0.1**
JTK				*e*S	**Sn**	**12 41 03.5**	**-1.8**
JNU	**Nakatsue**	**3.10**	**7**	P	**Pn**	**12 40 44.0**	**+1.8**
	38nm,0.3s,baz=219,slow=5.3,SNR=379						
JNU				S	**Sn**	**12 41 20.6**	**+2.4**
	33nm,0.3s,baz=58,slow=19,SNR=5.9						
JOKE	**Okinoerabujima**	**3.12**	**212**	P	**Pn**	**12 40 43.5**	**+1.0**
JOKE				S	**Sn**	**12 41 19.4**	**+0.9**
JIH	**Iheya**	**3.69**	**216**	P	**Pn**	**12 40 51.4**	**+1.2**
JIH				*e*S	**Sn**	**12 41 32.4**	**0.0**
JOW	**Kunigami**	**3.71**	**211**	P	**Pn**	**12 40 51.5**	**+1.0**
	14nm,0.3s,baz=274,slow=22,SNR=51						
JOW				S	**Sn**	**12 41 35.0**	**+2.0**
	69nm,0.3s,baz=226,slow=28,SNR=8.2						
JOW	**Kunigami**	**3.71**	**211**	P	**Pn**	**12 40 51.5**	**+1.0**
JOW				*e*S	**Sn**	**12 41 33.3**	**+0.3**
JNTH	**Nagotoyohara**	**4.09**	**212**	P	**Pn**	**12 40 57.1**	**+1.3**
JNTH				*e*S	**Sn**	**12 41 43.1**	**+0.7**
JMZ	**Minamidaito 2**	**4.26**	**170**	P	**Pn**	**12 40 57.7**	**-0.4**
JMZ				*e*S	**Sn**	**12 41 42.4**	**-4.2**
JAGN	**Aguni-jima**	**4.43**	**220**	P	**Pn**	**12 41 01.8**	**+1.3**
JAGN				*e*S	**Sn**	**12 41 52.0**	**+1.2**
JKE	**Kume jima 2**	**4.89**	**222**	⇑P	**Pn**	**12 41 08.1**	**+1.3**
JKE				*e*S	**Sn**	**12 42 03.0**	**+0.8**
TJN	**Taejon**	**6.82**	**339**	*de*P	**Pn**	**12 41 37.3**	**+4.0**
KSAR	**Wonju Array Be**	**7.68**	**345**	P	**Pn**	**12 41 47.1**	**+2.0**
KSAR				S	**Sn**	**12 43 11.4**	**+0.6**
KSAR	**Wonju Array Be**	**7.68**	**345**	P	**Pn**	**12 41 47.1**	**+2.0**
KSAR				S	**Sn**	**12 43 11.5**	**+0.6**
KSRS	**Korea Array**	**7.69**	**345**	P	**Pn**	**12 41 47.1**	**+2.0**
	1.7nm,0.3s,baz=161,slow=14,SNR=37						
KSRS				S	**Sn**	**12 43 11.4**	**+0.6**
	0.6nm,0.3s,baz=162,slow=25,SNR=2.9						
JHJ	**Hachijo jima 2**	**8.56**	**67**	P	**Pn**	**12 42 01.6**	**+4.5**
	55nm,0.3s,baz=78,slow=20,SNR=2.6						
MAJO	**Matsushiro**	**9.20**	**43**	*e*Pn	**Pn**	**12 42 07.6**	**+1.7**
	18nm,0.6s						
MAJO	**Matsushiro**	**9.20**	**43**	*ce*P	**Pn**	**12 42 07.9**	**+2.0**
MAT	**Matsushiro**	**9.20**	**43**	P	**Pn**	**12 42 07.6**	**+1.7**
MAT				*e*S	**Sn**	**12 43 49.8**	**+1.7**
MJAR	**Matsushiro Arr**	**9.20**	**43**	P	**Pn**	**12 42 08.4**	**+2.6**
	2.3nm,0.3s,baz=236,slow=16,SNR=20						
SSLB	**Suanglung**	**10.49**	**236**	*e*Pn	Pn	12 42 29.9	+6.3
	20nm,0.9s						
MSHR	**Mys Shultsa**	**12.54**	**3**⇑	*e*P	Pn	12 42 56.5	+5.0
TIA	**Tai'an**	**12.73**	**302**	P	**Pn**	**12 42 55.3**	**+1.1**
TIA				pmax	pmax		
	comp=Z,18nm,1.3s						
VLA	**Vladivostok**	**13.11**	**5**	*de*P	**P**	**12 43 05.3**	**-3.4**
WHN	**Wuhan**	**13.90**	**276**	P	**Pn**	**12 43 10.0**	**-0.1**
USRK	**Ussuriysk Ar.**	**14.20**	**5**	P	**P**	**12 43 21.1**	**+0.3**
	comp=Z,0.2nm,0.3s,baz=186,slow=13,SNR=4.9						
BJT	**Baijiatuau**	**15.33**	**314**	*e*Pn	**Pn**	**12 43 30.1**	**+0.9**
	comp=Z,37nm,0.9s						
BJT	**Baijiatuau**	**15.33**	**314**	*e*P	**Pn**	**12 43 30.1**	**+0.9**
BJT				pmax	pmax		
	comp=Z,37nm,0.9s						
TEY	**Ternei**	**15.75**	**16**	*e*P	**P**	**12 43 38.8**	**+0.8**
TEY				MLR	MLR		
	comp=N,1μm,19.0s						
TEY				MLR	MLR		
	comp=Z,2μm,17.0s						
ERM	**Erimo**	**15.76**	**37**⇓	*e*P	**Pn**	**12 43 35.9**	**+1.1**
ASAJ	**Asahikawa**	**17.06**	**31**	P	**Pn**	**12 43 50.4**	**-0.8**
	comp=Z,1.2nm,0.3s,baz=44,slow=6.4,SNR=16						
ASAJ	**Asahikawa**	**17.06**	**31**	*e*Pn	**Pn**	**12 43 50.4**	**-0.8**
	comp=Z,3.3nm,0.6s						
ENH	**Enshi**	**18.11**	**276**	*e*Pn	**P**	**12 44 06.3**	**+2.1**
	comp=Z,32nm,0.7s						
XAN	**Xi'an**	**18.65**	**288**	P	**Pn**	**12 44 11.8**	**+0.9**
XAN				pP	pP	12 44 19.3	-1.0
XAN				sP	sP	12 44 22.6	-2.8
XAN				pmax	pmax		
	comp=Z,13nm,0.9s						
KLR	**Kul'dur**	**19.20**	**3**	P	**Pn**	**12 44 16.9**	**-0.3**
	comp=Z,0.1nm,0.3s,baz=188,slow=7.6,SNR=25						
KLR	**Kul'dur**	**19.20**	**3**⇓	*e*P	**Pn**	**12 44 17.6**	**+0.3**
YSS	**Yuzh-Sakhalins**	**19.42**	**26**	*e*P	**Pn**	**12 44 19.9**	**0.0**
	comp=Z,17nm,0.7s						
YSS	**Yuzh-Sakhalins**	**19.42**	**26**	*e*P	**Pn**	**12 44 21.5**	**+1.6**
YSS				pmax	pmax		
	comp=Z,20nm,1.0s						
YSS				MLR	MLR		
	comp=Z,1μm,16.0s						
BTO	**Baotou**	**19.66**	**308**	*e*P	**Pn**	**12 44 23.0**	**0.0**
KUR	**Kuril'sk**	**20.45**	**37**⇑	*e*P	Pn	12 44 33.9	+1.8
HIA	**Hailar**	**20.85**	**340**	*e*P	**P**	**12 44 33.1**	**-1.0**
	comp=Z,44nm,1.3s						
HIA	**Hailar**	**20.85**	**340**⇑	*e*P	Pn	12 44 35.0	-1.8
HIA				pmax	pmax		
	comp=Z,8.0nm,0.8s						
GRNR	**Gornyy**	**21.20**	**11**	*e*P	**P**	**12 44 37.8**	**+0.1**
GRNR				pmax	pmax		
	comp=Z,21nm,1.0s						
ZEA	**Zeya**	**23.80**	**355**	*e*P	**P**	**12 45 04.2**	**-0.4**
ZEA				pmax	pmax		
	comp=Z,17nm,1.0s						
NKL	**Nikolayevsk**	**24.29**	**15**	*e*P	**P**	**12 45 10.0**	**+0.9**
NKL				pmax	pmax		
	comp=N,28nm,1.2s						
NKL				pmax	pmax		
	comp=Z,110nm,1.2s						
ULN	**Ulaanbaatar**	**25.28**	**321**	*e*P	**P**	**12 45 18.0**	**-0.4**
	comp=Z,11nm,0.6s						
ULN	**Ulaanbaatar**	**25.28**	**321**	*de*P	**P**	**12 45 18.8**	**+0.4**
ULN				pmax	pmax		
	comp=Z,19nm,1.2s						
SONM	**Songino Array**	**25.62**	**321**	P	**P**	**12 45 20.8**	**-0.7**
	comp=Z,10nm,0.7s,baz=138,slow=9.8,SNR=57						
SONM				pP	**pP**	**12 45 32.6**	**+0.1**
	comp=Z,21nm,0.9s,baz=138,slow=10.0,SNR=17						
GTA	**Gaotai**	**26.73**	**299**	*e*P	**P**	**12 45 31.5**	**-0.1**
GTA				pP	pP	12 45 39.0	-3.6
GTA				sP	sP	12 45 42.6	-4.9
GTA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
ZAK	**Zakamensk**	**28.76**	**323**	*e*P	**P**	**12 45 45.3**	**-4.3**
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.4s						
BOD	**Bodaibo**	**30.02**	**342**	*e*P	**P**	**12 46 00.1**	**-0.4**
BOD				pmax	pmax		
	comp=Z,4.0nm,2.1s						
PETK	**Petropavlovsk-**	**30.46**	**33**	P	**P**	**12 46 06.0**	**+1.5**
	comp=Z,3.9nm,0.8s,baz=193,slow=4.4,SNR=5.1						
CHTO	**Chiang Mai**	**30.66**	**256**	P	**P**	**12 46 07.5**	**+0.9**
	comp=Z,4.0nm,0.9s						
CHTO	**Chiang Mai**	**30.66**	**256**	P	**P**	**12 46 07.5**	**+0.9**
CHTO				pmax	pmax		
	comp=Z,4.0nm,0.9s						
CMAR	**Chiang Mai Arr**	**30.83**	**255**	P	**P**	**12 46 09.0**	**+0.9**
	comp=Z,0.3nm,0.4s,baz=40,slow=7.1,SNR=3.9						
CMAR				pP	**pP**	**12 46 20.6**	**+1.4**
	comp=Z,1.2nm,0.9s,baz=46,slow=9.1,SNR=5.3						
CMAR				PcP	**PcP**	**12 49 05.7**	**+1.1**
	comp=Z,0.7nm,0.6s,baz=30,slow=2.5,SNR=5.9						
YAK	**Yakutsk**	**32.01**	**359**	*e*P	**P**	**12 46 19.4**	**+1.4**
YAK				pmax	pmax		
	comp=Z,10.0nm,0.4s						
MA2	**Magadan**	**32.60**	**19**	P	**P**	**12 46 22.7**	**-0.5**
	comp=Z,7.2nm,0.8s,baz=183,slow=13,SNR=5.6						
FAKI	**Fak Fak**	**32.81**	**177**	*e*P	**P**	**12 46 26.1**	**+0.7**
	comp=Z,73nm,0.9s						
KSM	**Kuching**	**34.23**	**218**	*e*P	**P**	**12 46 37.2**	**-0.7**
	comp=Z,9.6nm,0.9s		

comp=Z,4.0nm,0.7s
CTA Charters Tower 52.11 161 P P 12 49 02.9 +0.8
comp=Z,3.4nm,0.6s,baz=322,slow=6.6,SNR=6.4
CTA LR LR 13 10 05.9
comp=Z,423nm,20.4s,baz=359,slow=35
ASAR Alice Springs 53.50 176 P P 12 49 12.3 0.0
comp=Z,2.0nm,0.8s,baz=6.0,slow=9.8,SNR=89
ASAR pP **pP 12 49 25.1 +1.2**
comp=Z,2.0nm,0.5s,baz=10,slow=14,SNR=9.1
ASAR Alice Springs 53.50 176 P P 12 49 12.3 0.0
ASAR *PP **pP 12 49 25.2 +1.2**
ASAR pmax pmax
comp=Z,2.0nm,0.8s
ASAR pmax pmax
comp=Z,2.0nm,0.5s
ABKAR Akbulak array 55.52 311 *eP* **P 12 49 27.6 +0.8**
comp=Z,1.6nm,0.6s
ARU Arti 55.66 320 *eP* **P 12 49 27.1 -0.5**
comp=Z,6.0nm,0.8s
ARU Arti 55.66 320 *d iP* **P 12 49 28.0 +0.4**
ARU 12 50 25.6
ARU 12 51 29.2
ARU S **S 12 57 16.1 +5.3**
ARU SS **SS 13 00 59.0 +3.1**
ARU pmax pmax
comp=Z,10.0nm,1.2s
AKTO Aktyubinsk 56.60 313 P P 12 49 35.1 +0.7
comp=Z,0.4nm,0.3s,baz=102,slow=16,SNR=3.5
AKTO LR LR 13 15 08.3
comp=Z,583nm,21.6s,baz=95,slow=37
PPLA Purkeypile 58.04 32 *eP* **P 12 49 45.4 +0.9**
comp=Z,12nm,1.2s
KDAK Kodiak Island 58.33 38 *i* P **P 12 49 46.6 +0.2**
COLD Coldfoot 58.61 27 *eP* **P 12 49 48.6 +0.3**
comp=Z,7.8nm,1.2s
COLA College 59.76 29⇑ *iP* **P 12 49 57.8 +1.6**
COLA pmax pmax
comp=Z,2.0nm,0.5s
ILAR Eielson Array 60.19 29 P **P 12 50 00.1 +0.9**
comp=Z,1.5nm,0.7s,baz=289,slow=7.2,SNR=12
ILAR pP **pP 12 50 11.6 +0.6**
comp=Z,2.4nm,0.7s,baz=277,slow=5.1,SNR=9.3
STKA Stephens Creek 62.48 169 P **P 12 50 15.3 +0.3**
comp=Z,6.1nm,0.6s,baz=344,slow=6.6,SNR=18
EGAK Eagle 62.60 29 *eP* **P 12 50 15.9 +0.4**
comp=Z,5.5nm,1.0s
INK Inuvik 64.64 24 P **P 12 50 28.6 -0.3**
comp=Z,1.5nm,0.5s,baz=284,slow=6.5,SNR=13
SPITS Spitsbergen Ar 65.52 348 P **P 12 50 33.1 -1.4**
comp=Z,6.4nm,0.8s,baz=46,slow=8.3,SNR=13
SKAG Skagway 66.71 34 *eP* **P 12 50 43.5 +1.2**
comp=Z,12nm,1.1s
ARCES ARCESS Array B 67.19 338 P **P 12 50 44.9 -0.4**
comp=Z,2.4nm,0.8s,baz=59,slow=8.7,SNR=4.4
ZEI Tsey 67.92 308 *eP* **P 12 50 50.8 +0.2**
ZEI pmax pmax
comp=Z,5.0nm,1.0s
KBZ Khabaz 68.27 309 P **P 12 50 52.6 +0.1**
comp=Z,5.6nm,1.1s,baz=101,slow=5.2,SNR=7.2
KIV Kislovodsk 68.33 309 *eP* **P 12 50 52.6 -0.4**
KIV pmax pmax
comp=Z,8.0nm,1.0s
FINES FINESS Array B 70.52 330 P **P 12 51 03.9 -2.1**
comp=Z,4.3nm,0.8s,baz=67,slow=6.5,SNR=14
FINES pP **pP 12 51 16.2 -1.9**
comp=Z,1.3nm,0.4s,baz=74,slow=5.6,SNR=2.8
RES Resolute Bay 71.45 11 *eP* **P 12 51 11.3 -0.2**
comp=Z,7.7nm,1.0s
RES Resolute Bay 71.45 11 *eP* **P 12 51 11.3 -0.2**
RES pmax pmax
comp=Z,8.0nm,1.0s
DAG Danmarks Havn 71.74 353 *i* P **P 12 51 11.9 -1.3**
DAG Danmarks Havn 71.74 353 *eP* **P 12 51 11.9 -1.3**
AKASG Malin Array Be 73.90 320 P **P 12 51 24.8 -1.7**
comp=Z,0.5nm,0.3s,baz=55,slow=6.2,SNR=4.9
AKASG LR LR 13 26 56.7
comp=Z,304nm,18.1s,baz=35,slow=38
YKA Yellowknife Ar 74.27 26 P **P 12 51 28.4 0.0**
comp=Z,1.2nm,0.9s,baz=299,slow=5.6,SNR=22
YKA pP **pP 12 51 40.2 -0.3**
comp=Z,1.6nm,0.7s,baz=302,slow=5.0,SNR=16
BRTR Keskin Array B 76.23 308 P **P 12 51 39.9 -0.4**
comp=Z,1.9nm,1.0s,baz=29,slow=3.3,SNR=3.4
HFS Hagfors 76.35 333 P **P 12 51 38.4 -2.1**
comp=Z,2.4nm,0.6s,baz=60,slow=8.5,SNR=8.3
NB2 NORSAR Subarra 76.75 334 P **P 12 51 40.4 -2.4**
comp=Z,7.9nm,1.1s,baz=50,slow=5.6
NOA NORSAR Array B 76.75 334 P **P 12 51 40.7 -2.0**
comp=Z,3.7nm,0.8s,baz=50,slow=5.5,SNR=9.1
SUMG Summit 77.38 357 *i* P **P 12 51 46.2 -0.3**
comp=Z,6.3nm,0.7s
SUMG Summit 77.38 357 *eP* **P 12 51 46.1 -0.3**
comp=Z,7.8nm,0.6s
SUMG Summit 77.38 357 *eP* **P 12 51 46.2 -0.3**
SUMG pmax pmax
comp=Z,6.0nm,0.7s
BURAR Bucovina Array 77.71 318⇑ *iP* **P 12 51 47.9 -0.5**
BURAR Bucovina Array 77.71 318 P **P 12 51 47.9 -0.5**
VRI Vrincioaia 77.71 316⇑ *iP* **P 12 51 51.7 +3.3**
VRI Vrincioaia 77.71 316 P **P 12 51 51.7 +3.3**
PLOR Plostina 77.77 316⇑ *iP* P 12 51 54.4 +5.7
PLOR Plostina 77.77 316 P P 12 51 54.4 +5.7
SCO Scoresbysund 77.83 351 *i* P **P 12 51 48.9 +0.4**
SCO Scoresbysund 77.83 351 *eP* **P 12 51 48.9 +0.4**
MLR Muntele Rosu 78.38 316⇑ *iP* P 12 51 57.8 +5.6
MLR Muntele Rosu 78.38 316 P P 12 51 57.8 +5.6
STHS Stebnicka Huta 78.98 321 *eP* **P 12 51 55.9 +0.6**
STHS Stebnicka Huta 78.98 321 *eP* **P 12 51 55.9 +0.6**
ARR Arges 79.23 316⇑ *iP* P 12 51 50.7 -6.1
DRGR 79.59 318⇑ *iP* **P 12 51 59.1 +0.3**
DRGR 79.59 318 P **P 12 51 59.1 +0.3**
EDM Edmonton 80.36 33 *eP* **P 12 52 03.1 +0.3**
comp=Z,4.1nm,0.8s
EDM Edmonton 80.36 33 *eP* **P 12 52 03.1 +0.3**
EDM pmax pmax
comp=Z,4.0nm,0.8s
MORC Moravsky Berou 80.76 323⇓ *iP* **P 12 52 05.0 0.0**
MORC Moravsky Berou 80.76 323 P **P 12 52 05.0 0.0**
VYHS Vyhne 80.81 321 *eP* **P 12 52 06.1 +0.8**
VYHS Vyhne 80.81 321 *eP* **P 12 52 06.2 +0.9**
VYHS pmax pmax
comp=Z,32nm,3.1s
VRAC Vranov 81.53 323⇑ *iP* **P 12 52 10.9 +1.8**
VRAC Vranov 81.53 323 P **P 12 52 10.9 +1.8**
MODS Modra-Piesok 81.73 322 *eP* **P 12 52 12.3 +2.2**
MODS Modra-Piesok 81.73 322 *eP* **P 12 52 12.3 +2.2**
YBH Yreka Blue Hor 81.84 46 P **P 12 52 12.0 +1.1**
comp=Z,3.5nm,1.0s,baz=290,slow=4.2,SNR=4.1
CLL Collm 82.12 326 *eP* **P 12 52 11.0 -1.1**
comp=Z,6.0nm,0.9s
CLL Lm MLR 13 32 00.0
comp=Z,500nm,18.7s
CLL Collm 82.12 326 *eP* **P 12 52 11.0 -1.1**
CLL pmax pmax
comp=Z,6.0nm,0.9s
CLL MLR MLR
comp=Z,500nm,18.7s
CONA Conrad Observa 82.75 322 *eP* **P 12 52 16.2 +0.7**
comp=Z,3.0nm,0.6s
GERES GERESS Array B 83.32 324 P **P 12 52 17.4 -1.1**
comp=Z,0.5nm,0.4s,baz=29,slow=3.0,SNR=5.2
GERES GERESS Array B 83.32 324 P **P 12 52 17.4 -1.1**
GERES pmax pmax
comp=Z,2.0nm,1.0s
MOA Molln 83.65 323 *eP* **P 12 52 21.2 +1.1**
comp=Z,5.2nm,1.2s
SOKA Soboth 83.96 321 *eP* **P 12 52 22.8 +1.0**
comp=Z,9.6nm,1.3s
PDG Podgorica 84.09 316⇑ *iP* **P 12 52 19.2 -3.2**
FCC Fort Churchill 84.10 22 *eP* **P 12 52 21.8 -0.3**
comp=Z,15nm,1.0s
FCC Fort Churchill 84.10 22 *eP* **P 12 52 21.8 -0.3**
FCC pmax pmax
comp=Z,15nm,1.0s
FFC Flin Flon 84.34 28 *eP* **P 12 52 23.8 +0.4**
comp=Z,2.0nm,0.7s
FFC Flin Flon 84.34 28 *eP* **P 12 52 23.8 +0.4**
FFC pmax pmax
comp=Z,2.0nm,0.7s
KBA Koelnbreinsper 84.62 322 *eP* **P 12 52 25.3 0.0**
comp=Z,2.7nm,0.6s
HRY Holter Researc 85.21 38 *eP* **P 12 52 28.6 +0.5**
comp=Z,2.2nm,0.5s
CMB Columbia Colle 85.39 48 *eP* **P 12 52 29.8 +0.7**
comp=Z,62nm,1.0s
CMB Columbia Colle 85.39 48 *eP* **P 12 52 29.8 +0.7**
CMB pmax pmax
comp=Z,63nm,1.0s
LRM Limekiln Ridge 85.44 39 *eP* **P 12 52 30.3 +0.8**
comp=Z,24nm,1.7s
HLID Hailey 85.76 41 *eP* **P 12 52 32.6 +1.6**
comp=Z,9.1nm,1.1s
EKA Eskdalemuir Ar 86.15 335 P **P 12 52 30.5 -2.0**
comp=Z,2.6nm,0.8s,baz=46,slow=3.9,SNR=6.5
NVAR Mina Array Bea 86.50 47 P **P 12 52 35.7 +0.9**
comp=Z,1.7nm,0.4s,baz=295,slow=5.8,SNR=10
NVAR pP **pP 12 52 47.4 +0.2**
comp=Z,2.0nm,0.7s,baz=295,slow=3.7,SNR=3.6
LAO LASA Array 88.11 35 *eP* **P 12 52 43.4 +1.1**
comp=Z,4.5nm,0.9s
HWUT Hardware Ranch 88.63 41 *eP* **P 12 52 46.7 +1.7**
comp=Z,13nm,1.1s
PDAR Pinedale Array 89.00 40 P **P 12 52 47.6 +0.8**
comp=Z,1.6nm,0.8s,baz=8.9,slow=1.1,SNR=15
PDAR pP **pP 12 52 58.8 -0.4**
comp=Z,2.3nm,0.8s,baz=298,slow=1.5,SNR=11
ULM Lac du Bonnet 90.16 28 P **P 12 52 51.9 +0.1**
comp=Z,4.5nm,0.7s,baz=330,slow=4.6,SNR=11
ULM pP **pP 12 53 03.6 -0.5**
comp=Z,18nm,0.8s,baz=314,slow=5.4,SNR=19
MSU Marysvale 90.25 44 *eP* **P 12 52 54.8 +2.1**
comp=Z,0.9nm,1.3s
MSU Marysvale 90.25 44 *eP* **P 12 52 54.8 +2.1**
MSU pmax pmax
comp=Z,1.0nm,1.3s
SRU San Rafael Swe 90.85 43 *eP* **P 12 52 56.8 +1.4**
comp=Z,6.2nm,0.9s
SRU San Rafael Swe 90.85 43 *eP* **P 12 52 56.8 +1.4**
SRU pmax pmax
comp=Z,6.0nm,0.9s
RSSD Black Hills 91.01 36 *eP* **P 12 52 57.4 +1.3**
comp=Z,8.2nm,0.9s
RSSD Black Hills 91.01 36 *eP* **P 12 52 57.4 +1.3**
RSSD pmax pmax
comp=Z,8.0nm,0.9s
PV01 Paradox Valley 92.64 43 *eP* **P 12 53 05.4 +1.6**
comp=Z,1µm,1.2s
TXAR Lajitas Array 101.62 46 P **Pdif 12 53 46.1 +1.7**
comp=Z,0.6nm,0.8s,baz=302,slow=2.7,SNR=5.0
TXAR pP pP 12 53 59.0 +2.0
comp=Z,0.5nm,0.8s,baz=307,slow=4.2,SNR=3.4
DBIC Dimbokro 123.68 303 PKP **PKPdf 12 58 49.4 -0.5**
comp=Z,0.8nm,0.4s,baz=0.4,slow=5.0,SNR=2.4
SDV Santo Domingo 136.33 31 PKP **PKPdf 12 59 14.3 +0.2**
comp=Z,3.4nm,0.5s,baz=356,slow=4.8,SNR=4.8
SDV Santo Domingo 136.33 31 *e*PKPdf **PKPdf 12 59 14.1 0.0**
SDV PKP **PKPdf 12 59 14.3 +0.2**
LPAZ La Paz 158.18 55 PKPab **PKPab 13 00 22.2 -1.6**
comp=Z,3.9nm,1.1s,baz=315,slow=4.3,SNR=7.5

*ISCJB **14** 12:43:44.2±1.2, 41°.19N±0°.05×30°.70E±0°.07, h1km±7km, Error ellipse: s-maj=10.7km s-min=6.1km az=42.8*
*ISK **14** 12:43:44.9, 41°.13N×30°.66E, h9km, ML2.5/10*
*CSEM **14** 12:43:44.7±0.3, 41°.17N×30°.70E, h8km, ML2.7, Error ellipse: s-maj=5.9km s-min=3.0km az=42.0*
*DDA **14** 12:43:44.5, 41°.18N×30°.70E, h7km, Ml2.7*
ISC 14 12:43:45.1±1.5, **41°.16N**±0°.06×**30°.69E**±0°.04, **h9**km±10km, **n32**, σ**0°45/42**, **Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SAHE	**Sakarya_HENDEK**	**0.33**	**157**	*i* P		**Pg**	**12 43 51.8**	**+0.1**
SAHE				*i* S		**Sg**	**12 43 56.2**	**+0.1**
SAHE	**Sakarya_HENDEK**	**0.33**	**157**	P		**Pg**	**12 43 51.8**	**+0.1**
SAHE				S		**Sg**	**12 43 56.2**	**+0.1**
KAND	**Kocaeli-Kandir**	**0.38**	**260**	*i* P		**Pg**	**12 43 53.0**	**+0.5**
KAND				*i* S		**Sg**	**12 43 58.2**	**+0.7**
KAND	**Kocaeli-Kandir**	**0.38**	**260**	P		**Pg**	**12 43 53.0**	**+0.5**
KAND				S		**Sg**	**12 43 58.2**	**+0.7**
SAUV	**Serdivan-Sakar**	**0.50**	**213**	PG		**Pg**	**12 43 54.9**	**+0.1**
SAUV				SG		**Sg**	**12 44 01.2**	**-0.1**
SAUV	**Serdivan-Sakar**	**0.50**	**213**	*e*Pg		**Pg**	**12 43 54.9**	**+0.1**
SAUV				*e*Sg		**Sg**	**12 44 01.2**	**-0.1**
GEYV	**SAKARYA_Geyve**	**0.73**	**204**	*i* P		**Pg**	**12 43 59.3**	**0.0**
GEYV				*i* S		**Sg**	**12 44 08.8**	**-0.1**
GEYV	**SAKARYA_Geyve**	**0.73**	**204**	P		**Pg**	**12 43 59.3**	**0.0**
GEYV				S		**Sg**	**12 44 08.8**	**-0.1**
GULT	**Gulveren**	**0.74**	**190**	PG		**Pg**	**12 43 59.3**	**0.0**
GULT	**Gulveren**	**0.74**	**190**	*e*Pg		**Pg**	**12 43 59.3**	**0.0**
SILT	**Sile**	**0.79**	**270**	PG		**Pg**	**12 44 00.2**	**-0.1**
SILT	**Sile**	**0.79**	**270**	*e*Pg		**Pg**	**12 44 00.2**	**-0.1**
MDUB	**Mudurnu**	**0.79**	**150**	PG		**Pg**	**12 44 00.0**	**-0.3**
MDUB	**Mudurnu**	**0.79**	**150**	*e*Pg		**Pg**	**12 44 00.0**	**-0.3**
HRT	**Hereke**	**0.84**	**247**	PG		**Pg**	**12 44 01.2**	**-0.1**
HRT	**Hereke**	**0.84**	**247**	*e*Pg		**Pg**	**12 44 01.2**	**-0.1**
ADVT	**Abdulvahap**	**1.02**	**225**	PG		**Pg**	**12 44 04.1**	**-0.6**
ADVT	**Abdulvahap**	**1.02**	**225**	*e*Pg		**Pg**	**12 44 04.1**	**-0.6**
CAVI	**Cavuskoy**	**1.15**	**214**	PN		**Pg**	**12 44 06.6**	**-0.6**
CAVI	**Cavuskoy**	**1.15**	**214**	*e*Pn		**Pg**	**12 44 06.6**	**-0.6**
YLV	**Yalova**	**1.16**	**240**	PN		**Pg**	**12 44 06.9**	**-0.5**
YLV	**Yalova**	**1.16**	**240**	*e*Pn		**Pg**	**12 44 06.9**	**-0.5**
ISK	**Istanbul-Kandi**	**1.23**	**266**	PN		**Pg**	**12 44 08.5**	**-0.3**
ISK	**Istanbul-Kandi**	**1.23**	**266**	*e*Pn		**Pg**	**12 44 08.5**	**-0.3**
KLYT	**Kilyos**	**1.24**	**275**	PN		**Pg**	**12 44 08.7**	**-0.3**
KLYT	**Kilyos**	**1.24**	**275**	*e*Pn		**Pg**	**12 44 08.7**	**-0.3**
BORA	**Eskisehir**	**1.29**	**188**	*i* P		**Pg**	**12 44 09.8**	**-0.1**
BORA				*i* S		**Sn**	**12 44 28.1**	**+1.2**
BORA	**Eskisehir**	**1.29**	**188**	P		**Pg**	**12 44 09.8**	**-0.1**
BORA				S		**Sn**	**12 44 28.1**	**+1.2**
BGKT	**Bogazkoy**	**1.44**	**272**	PN		**Pb**	**12 44 11.7**	**-0.5**
BGKT	**Bogazkoy**	**1.44**	**272**	*e*Pn		**Pb**	**12 44 11.7**	**-0.5**
ARMT	**Armutlu**	**1.50**	**247**	PN		**Pn**	**12 44 12.2**	**-0.2**
ARMT	**Armutlu**	**1.50**	**247**	*e*Pn		**Pn**	**12 44 12.2**	**-0.2**

*IDC **14** 12:44:43.4±1.8, 37°.87N×144°.29E, h0km, mb3.6/3, mb1 3.6/5, mb1mx3.3/65, mbtmp3.5/5, ML3.1/2, Error ellipse: s-maj=49.6km s-min=25.5km az=82.0*
*ISCJB **14** 12:44:46.1±0.7, 38°.00N±0°.04×144°.11E±0°.05, h33km, mb3.7/3, Error ellipse: s-maj=6.3km s-min=4.9km az=21.3*
*JMA **14** 12:44:48.3±0.1, 37°.95N×143°.94E, h43km, M3.6*
ISC 14 12:44:48.3±1.3, **37°.95N**±0°.06×**144°.05E**±0°.09, **h35**km, **n21**, σ**1°§63/34**, **mb3.6/3**, **Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OFUJ	**Ofunato**	**2.18**	**302**	P		**Pn**	**12 45 22.2**	**+0.2**
OFUJ				S		**Sn**	**12 45 47.4**	**-0.4**
JIO	**Ouri**	**2.19**	**284**	P		**Pn**	**12 45 22.1**	**0.0**
JIO				S		**Sn**	**12 45 46.9**	**-1.0**
MIYJ	**Miyakonagasawa**	**2.38**	**314**	P		**Pn**	**12 45 24.8**	**0.0**
MIYJ				*e*S		**Sn**	**12 45 52.1**	**-0.6**
JMK	**Ichinoseki**	**2.44**	**295**	P		**Pn**	**12 45 25.8**	**+0.3**
JMK				S		**Sn**	**12 45 54.1**	**0.0**
JOM	**Ohasama**	**2.64**	**306**	P		**Pn**	**12 45 29.3**	**+1.0**
JOM				S		**Sn**	**12 45 59.8**	**+0.7**
JFT	**Otama**	**2.98**	**263**	P		**Pn**	**12 45 33.7**	**+0.7**
JFT				S		**Sn**	**12 46 06.6**	**-0.8**
JYK	**Kaneyama**	**3.06**	**290**	P		**Pn**	**12 45 34.9**	**+0.9**
JYK				S		**Sn**	**12 46 09.9**	**+0.5**
JANG	**Nango**	**3.12**	**322**	*e*S		**Sn**	**12 46 10.6**	**-0.4**
JOT	**Ohata**	**4.13**	**327**	*e*S		**Sn**	**12 46 34.7**	**-1.3**
JRY	**Ryogami san**	**4.55**	**246**	P		**Pn**	**12 45 54.4**	**-0.3**
JRY				S		**Sn**	**12 46 42.3**	**-4.0**
JKB	**Kayabe**	**4.56**	**330**	*e*S		**Sn**	**12 46 44.2**	**-2.3**
JCH	**Churui**	**4.69**	**354**	P		**Pn**	**12 45 56.7**	**+0.3**
JCH				*e*S		**Sn**	**12 46 47.4**	**-2.2**
JOD2	**Odawara 2**	**4.81**	**238**	*e*S		**Sn**	**12 46 47.7**	**-5.0**
MJAR	**Matsushiro Arr**	**4.87**	**255**	Pn		**Pn**	**12 46 00.3**	**+1.3**
	0.6nm,0.3s,baz=66,slow=14,SNR=7.4						
MJAR				Sn		**Sn**	**12 46 54.2**	**0.0**
	0.5nm,0.3s,baz=141,slow=10,SNR=4.2						
NEM2	**Nemuro 2**	**5.56**	**13**	P		**Pn**	**12 46 07.8**	**-0.6**
NEM2				*e*S		**Sn**	**12 47 07.5**	**-3.5**
JHJ	**Hachijo jima 2**	**5.95**	**217**	Pn		**Pn**	**12 46 13.5**	**-0.3**
	37nm,0.3s,baz=90,slow=18,SNR=3.0						
JTKR	**Abashiri--Toko**	**6.01**	**359**	P		**Pn**	**12 46 15.3**	**+0.6**
JTKR				*e*S		**Sn**	**12 47 20.4**	**-1.8**
ASAJ	**Asahikawa**	**6.26**	**350**	Pn		**Pn**	**12 46 19.3**	**+1.3**
	0.5nm,0.3s,baz=187,slow=19,SNR=6.6						
ASAJ				Sn		**Sn**	**12 47 27.0**	**-1.2**
	0.3nm,0.3s,baz=49,slow=30,SNR=3.7						
BVAR	**Borovoye Array**	**51.51**	**312**	P		**P**	**12 53 51.7**	**+1.5**
	0.5nm,0.8s,baz=116,slow=6.6,SNR=3.4						
WRA	**Warramunga Arr**	**58.31**	**191**	P		**P**	**12 54 39.3**	**-0.3**
	1.8nm,0.9s,baz=12,slow=7.3,SNR=12						
ASAR	**Alice Springs**	**62.03**	**191**	P		**P**	**12 55 05.5**	**+0.5**
	0.3nm,0.6s,baz=8.0,slow=7.8,SNR=5.2						

*ISCJB **14** 12:46:45.9±1.7, 36°.77N±0°.05×141°.4E±0°.1, h20km±10km, mb3.4/5, Error ellipse: s-maj=15.1km s-min=6.9km az=17.2*
*IDC **14** 12:46:45.1±1.3, 36°.74N×141°.29E, h0km, mb3.4/5, mb1 3.6/6, mb1mx3.3/64, mbtmp3.4/6, ML2.9/1, Error ellipse: s-maj=29.7km s-min=27.1km az=80.0*
*JMA **14** 12:46:46.3±0.1, 36°.79N×141°.36E, h28km±1km, M3.5*
ISC 14 12:46:46.6±2.0, **36°.81N**±0°.05×**141°.28E**±0°.08, **h12**km±11km, **n20**, σ**0°89/22**, **mb3.5/5**, **Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ONAJ	**Iwakimizuishiy**	**0.49**	**307**	P		**Pb**	**12 46 57.1**	**-0.1**
ONAJ				S		**Sb**	**12 47 05.0**	**+0.6**
JHO	**Hitachi**	**0.61**	**252**	P		**Pb**	**12 46 59.0**	**-0.2**
JHO				S		**Sb**	**12 47 08.2**	**+0.5**
JFK	**Kawauchi**	**0.65**	**330**	P		**Pg**	**12 46 59.5**	**+0.3**
JFK				*e*S		**Sb**	**12 47 09.3**	**+0.3**
JFT	**Otama**	**1.04**	**313**	P		**Pb**	**12 47 06.4**	**-0.2**
JFT				S		**Sb**	**12 47 20.6**	**+0.4**
JYT	**Yasato**	**1.05**	**237**	P		**Pb**	**12 47 05.7**	**-1.0**
JYT				S		**Sg**	**12 47 20.1**	**-0.4**
JSB	**Shiboa**	**1.11**	**279**	P		**Pg**	**12 47 07.8**	**-0.1**
JMM	**Marumori**	**1.13**	**340**	P		**Pn**	**12 47 07.1**	**-1.2**
JMM				S		**Sb**	**12 47 22.5**	**-0.2**
MJAR	**Matsushiro Arr**	**2.49**	**265**	Pn		**Pn**	**12 47 28.2**	**+1.2**
	2.5nm,0.3s,baz=88,slow=15,SNR=11						
MJAR				Sn		**Sb**	**12 48 03.3**	**+1.5**
	4.2nm,0.3s,baz=68,slow=17,SNR=4.7						
MAT	**Matsushiro**	**2.49**	**265**	P		**Pn**	**12 47 27.2**	**+0.2**
MAT				S		**Sn**	**12 47 55.0**	**-2.3**
H11N2	**WAKE ISLAND Hy**	**28.12**	**120**	T		T	13 22 00.2	
	baz=313							
H11N1	**WAKE ISLAND Hy**	**28.13**	**120**	T		T	13 22 02.7	
	baz=313							
H11N3	**WAKE ISLAND Hy**	**28.14**	**120**	T		T	13 22 01.6	
	baz=313							
H11S1	**WAKE ISLAND Hy**	**28.82**	**122**	T		T	13 22 53.1	
	baz=314							
H11S3	**WAKE ISLAND Hy**	**28.82**	**122**	T		T	13 22 53.2	
	baz=314							
H11S2	**WAKE ISLAND Hy**	**28.84**	**122**	T		T	13 22 54.7	
	baz=314							
ZALV	**Zalesovo Beam**	**41.99**	**313**	P		**P**	**12 54 38.0**	**+0.6**
	0.5nm,0.4s,baz=93,slow=7.2,SNR=3.6							
MKAR	**Makanchi Array**	**44.15**	**302**	P		**P**	**12 54 55.4**	**+0.3**
	0.3nm,0.6s,baz=86,slow=7.9,SNR=3.5							
KURBB	**Kurchatov Arra**	**46.06**	**308**	P		**P**	**12 55 09.9**	**-0.2**
	0.3nm,0.4s,baz=81,slow=8.2,SNR=3.4							
ILAR	**Eielson Array**	**49.74**	**32**	P		**P**	**12 55 39.5**	**+1.0**
	0.3nm,0.8s,baz=267,slow=6.5,SNR=4.2							
WRA	**Warramunga Arr**	**56.82**	**188**	P		**P**	**12 56 30.7**	**-0.2**
	0.5nm,0.9s,baz=4.0,slow=7.1,SNR=4.3							

*ISK **14** 13:06:39.7, 38°.89N×43°.57E, h16km, ML2.6/5*
*ATA **14** 13:06:39.7±1.1, 38°.85N×43°.49E, h13km±11km, ML2.9, MW3.0*
*DDA **14** 13:06:40.5, 38°.90N×43°.52E, h7km, Ml2.9*
*CSEM **14** 13:06:40.0±0.3, 38°.89N×43°.57E, h15km, ML2.6, Error ellipse: s-maj=6.8km s-min=4.4km az=119.0*
ISC 14 13:06:39.9±1.0, **38°.88N**±0°.02×**43°.57E**±0°.03, **h14**km±8km, **n32**, σ**0°82/55**, **Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ERCV	**ERCIS-VAN**	**0.23**	**308**	PG		**Pg**	**13 06 44.7**	**-0.4**
ERCV	**ERCIS-VAN**	**0.23**	**308**	*e*Pg		**Pg**	**13 06 44.7**	**-0.4**
VANB	**Van**	**0.32**	**206**	PG		**Pb**	**13 06 48.0**	**+0.6**
VANB				SG		**Sn**	**13 06 54.9**	**-1.8**
VANB	**Van**	**0.32**	**206**	*e*Pg		**Pb**	**13 06 48.0**	**+0.6**
TVAN	**Van**	**0.37**	**200**	*i* P		**Pg**	**13 06 48.0**	**+0.4**
TVAN				*i* S		**Sb**	**13 06 55.2**	**+1.0**
TVAN	**Van**	**0.37**	**200**	P		**Pg**	**13 06 48.0**	**+0.4**
TVAN				S		**Sb**	**13 06 55.2**	**+1.0**
CLDR	**Caldiran**	**0.38**	**46**	PG		**Pg**	**13 06 47.2**	**-0.5**
CLDR				SG		**Sb**	**13 06 53.8**	**-0.5**
CLDR	**Caldiran**	**0.38**	**46**	*i* P		**Pg**	**13 06 47.4**	**-0.3**
CLDR				*i* S		**Sb**	**13 06 54.6**	**+0.3**
CLDR	**Caldiran**	**0.38**	**46**	*e*Pg		**Pg**	**13 06 47.2**	**-0.5**
CLDR	**Caldiran**	**0.38**	**46**	P		**Pg**	**13 06 47.4**	**-0.3**
CLDR				*e*Sg		**Sb**	**13 06 53.8**	**-0.5**
CLDR				S		**Sb**	**13 06 54.6**	**+0.3**
ADCV	**BITLIS_Adilcev**	**0.66**	**264**	*i* P		**Pg**	**13 06 52.6**	**-0.3**
ADCV				*i* S		**Sb**	**13 07 03.2**	**+0.7**
ADCV	**BITLIS_Adilcev**	**0.66**	**264**	P		**Pg**	**13 06 52.6**	**-0.3**
ADCV				S		**Sb**	**13 07 03.2**	**+0.7**
DYDN	**Diyadin**	**0.67**	**8**	*e*P		**Pb**	**13 06 53.6**	**+0.1**
DYDN				*e*S		**Sn**	**13 07 04.8**	**-0.8**
DYDN				IAML			13 07 11.1	
	comp=Z,38nm,0.6s							
DYDN	**Diyadin**	**0.67**	**8**	*i* P		**Pn**	**13 06 54.4**	**-0.7**
DYDN				*i* S		**Sn**	**13 07 04.7**	**-0.8**
DYDN	**Diyadin**	**0.67**	**8**	P		**Pn**	**13 06 54.4**	**-0.7**
DYDN				S		**Sn**	**13 07 04.7**	**-0.8**
GEVA	**Gevas**	**0.69**	**215**	*i* P		**Pg**	**13 06 52.7**	**-0.8**
GEVA				*e*S		**Sg**	**13 07 02.1**	**-0.6**
GEVA				IAML			13 07 08.7	
	comp=Z,31nm,0.4s							
GEVA	**Gevas**	**0.69**	**215**	*i* P		**Pg**	**13 06 53.0**	**-0.5**
GEVA				*i* S		**Sn**	**13 07 05.8**	**-0.2**
GEVA	**Gevas**	**0.69**	**215**	P		**Pg**	**13 06 53.0**	**-0.5**
GEVA				S		**Sn**	**13 07 05.8**	**-0.2**
TUTA	**Tutak**	**0.78**	**312**	*i* P		**Pg**	**13 06 54.6**	**-0.6**
TUTA				*e*S		**Sb**	**13 07 06.2**	**+0.2**
TUTA				IAML			13 07 12.4	
	comp=Z,90nm,0.2s							
TUTA	**Tutak**	**0.78**	**312**	*i* P		**Pg**	**13 06 54.8**	**-0.4**
TUTA				*i* S		**Sn**	**13 07 07.6**	**-0.7**
TUTA	**Tutak**	**0.78**	**312**	P		**Pg**	**13 06 54.8**	**-0.4**
TUTA				S		**Sn**	**13 07 07.6**	**-0.7**
AGRB	**Hanur-Agry**	**0.82**	**327**	PG		**Pg**	**13 06 55.9**	**-0.1**
AGRB				SG		**Sb**	**13 07 07.9**	**+0.7**
AGRB	**Hanur-Agry**	**0.82**	**327**	*e*Pg		**Pg**	**13 06 55.9**	**-0.1**
AGRB				*e

MIPR	**Malaya Ipel'ka**	**2.43**	**39**	*eP*	**Pn**	**13 10 38.1**	**+2.1**
MIPR	**Malaya Ipel'ka**	**2.43**	**39**	PN	**Pn**	**13 10 38.1**	**+2.1**
KDTR	**Khodutka, Kamc**	**2.78**	**58**	*eP*	**Pn**	**13 10 40.3**	**+0.4**
KDTR				*eS*	**S**	**13 11 13.8**	**-2.6**
KDTR	**Khodutka, Kamc**	**2.78**	**58**	PN	**Pn**	**13 10 40.3**	**+0.4**
ASAK	**Asacha**	**3.01**	**48**	*eP*	**Pn**	**13 10 44.2**	**+1.5**
ASAK	**Asacha**	**3.01**	**48**	PN	**Pn**	**13 10 44.2**	**+1.5**
MTVR	**Mutnovka**	**3.21**	**48**	*eP*	**Pn**	**13 10 46.6**	**+1.5**
MTVR	**Mutnovka**	**3.21**	**48**	PN	**Pn**	**13 10 46.6**	**+1.5**
RUS	**Russkaya**	**3.34**	**51**	*eP*	**Pn**	**13 10 47.9**	**+1.5**
RUS				*eS*	**S**	**13 11 27.5**	**-0.7**
RUS	**Russkaya**	**3.34**	**51**	PN	**Pn**	**13 10 47.9**	**+1.5**
RUS				S	**S**	**13 11 27.5**	**-0.7**
KRMR	**Karymshinskiy**	**3.41**	**43**	*eP*	**Pn**	**13 10 48.7**	**+1.4**
KRMR				*eS*	**S**	**13 11 30.7**	**+0.9**
KRMR	**Karymshinskiy**	**3.41**	**43**	PN	**Pn**	**13 10 48.7**	**+1.4**
KRMR				S	**S**	**13 11 30.7**	**+0.9**
PETK	**Petropavlovsk-**	**3.44**	**37**	P	**Pn**	**13 10 49.5**	**+1.9**
	0.7nm,0.3s,baz=170,slow=12,SNR=7.8						
PET	**Petropavlovsk**	**3.78**	**45**	*eP*	**Pn**	**13 10 54.5**	**+2.8**
PET				*eS*	**S**	**13 11 39.1**	**+1.3**
PET	**Petropavlovsk**	**3.78**	**45**	PN	**Pn**	**13 10 54.5**	**+2.8**
PET				S	**S**	**13 11 39.1**	**+1.3**
DALK	**Dalny**	**3.83**	**45**	*eP*	**Pn**	**13 10 54.3**	**+2.0**
DALK				*eS*	**S**	**13 11 38.5**	**-0.4**
DALK	**Dalny**	**3.83**	**45**	PN	**Pn**	**13 10 54.3**	**+2.0**
DALK				S	**S**	**13 11 38.5**	**-0.4**
UGLR	**Uglovaya**	**3.98**	**44**	*eP*	**Pn**	**13 10 57.4**	**+3.1**
UGLR	**Uglovaya**	**3.98**	**44**	PN	**Pn**	**13 10 57.4**	**+3.1**
AVH	**Avacha**	**3.98**	**42**	*eP*	**Pn**	**13 10 57.3**	**+3.0**
AVH	**Avacha**	**3.98**	**42**	PN	**Pn**	**13 10 57.3**	**+3.0**
GNL	**Ganaly**	**3.99**	**33**	*eP*	**Pn**	**13 10 56.2**	**+1.7**
GNL	**Ganaly**	**3.99**	**33**	PN	**Pn**	**13 10 56.2**	**+1.7**
SMAR	**Somma**	**4.01**	**43**	*eP*	**Pn**	**13 10 56.4**	**+1.6**
SMAR	**Somma**	**4.01**	**43**	PN	**Pn**	**13 10 56.4**	**+1.6**
KRX	**Arik**	**4.01**	**41**	*eP*	**Pn**	**13 10 56.9**	**+2.2**
KRX	**Arik**	**4.01**	**41**	PN	**Pn**	**13 10 56.9**	**+2.2**
KRER	**Koryakskii**	**4.01**	**42**	*eP*	**Pn**	**13 10 57.2**	**+2.4**
KRER	**Koryakskii**	**4.01**	**42**	PN	**Pn**	**13 10 57.2**	**+2.4**
SPN	**Mys Shipunski**	**4.47**	**51**	*eP*	**Pn**	**13 11 00.2**	**-0.2**
SPN				*eS*	**S**	**13 11 48.8**	**-4.6**
SPN	**Mys Shipunski**	**4.47**	**51**	PN	**Pn**	**13 11 00.2**	**-0.2**
KBTR	**Krutoberegovo**	**7.74**	**38**	*eP*	**Pn**	**13 11 42.0**	**-0.2**
KBTR	**Krutoberegovo**	**7.74**	**38**	PN	**Pn**	**13 11 42.0**	**-0.2**
BKI	**Bering**	**8.56**	**51**	*eP*	**Pn**	**13 11 52.1**	**-0.8**
BKI				*eS*	S	13 13 19.3	-10
BKI	**Bering**	**8.56**	**51**	PN	**Pn**	**13 11 52.1**	**-0.8**
ASAJ	**Asahikawa**	**10.12**	**236**	P	**Pn**	**13 12 15.1**	**+1.8**
	0.9nm,0.3s,baz=71,slow=14,SNR=16						
KLR	**Kul'dur**	**14.57**	**274**	P	**Pn**	**13 13 08.2**	**-1.0**
	0.0nm,0.3s,baz=135,slow=5.7,SNR=2.1						
YAK	**Yakutsk**	**17.81**	**320**	P	**P**	**13 13 45.7**	**+0.1**
	0.0nm,0.3s,baz=1.1,slow=1.9,SNR=4.7						
KSRS	**Korea Array**	**22.83**	**246**	P	**P**	**13 14 37.6**	**0.0**
	1.1nm,0.7s,baz=42,slow=11,SNR=5.8						
JNU	**Nakatsue**	**24.39**	**234**	P	**P**	**13 14 52.1**	**+0.2**
	2.9nm,0.7s,baz=11,slow=8.9,SNR=4.1						
SONM	**Songino Array**	**31.01**	**284**	P	**P**	**13 15 49.9**	**-0.8**
	0.3nm,0.6s,baz=68,slow=8.0,SNR=1.9						
ILAR	**Eielson Array**	**33.26**	**42**	P	**P**	**13 16 10.4**	**+0.4**
	0.3nm,0.6s,baz=266,slow=5.3,SNR=9.6						
ZALV	**Zalesovo Beam**	**41.17**	**303**	P	**P**	**13 17 15.3**	**-1.2**
	0.7nm,0.5s,baz=77,slow=6.2,SNR=3.3						
MKAR	**Makanchi Array**	**46.01**	**295**	P	**P**	**13 17 54.3**	**-0.9**
	1.1nm,0.7s,baz=63,slow=8.3,SNR=10						
KURK	**Kurchatov**	**46.04**	**301**	P	**P**	**13 17 55.4**	**+0.1**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.5s						
KURBB	**Kurchatov Arra**	**46.14**	**301**	P	**P**	**13 17 55.4**	**-0.7**
	comp=Z,1.9nm,0.5s,baz=65,slow=8.1,SNR=7.9						
YKA	**Yellowknife Ar**	**47.56**	**39**	P	**P**	**13 18 07.4**	**+0.6**
	comp=Z,0.1nm,0.6s,baz=297,slow=6.8,SNR=3.6						
BVAR	**Borovoye Array**	**49.17**	**307**	P	**P**	**13 18 18.9**	**-0.4**
	comp=Z,0.7nm,0.3s,baz=46,slow=8.9,SNR=5.9						
CMAR	**Chiang Mai Arr**	**54.03**	**255**	P	**P**	**13 18 55.4**	**-0.3**
	comp=Z,0.5nm,0.6s,baz=30,slow=7.1,SNR=5.2						
FINES	**FINESS Array B**	**61.05**	**334**	P	**P**	**13 19 42.1**	**-1.9**
	comp=Z,2.4nm,1.0s,baz=356,slow=7.6,SNR=4.5						
FINES	**FINESS Array B**	**61.05**	**334**	P	**P**	**13 19 42.1**	**-1.9**
FINES				pmax	pmax		
	comp=Z,3.0nm,1.0s						
PDAR	**Pinedale Array**	**62.01**	**56**	P	**P**	**13 19 52.1**	**+1.0**
	comp=Z,0.2nm,0.5s,baz=325,slow=1.1,SNR=3.1						
WRA	**Warramunga Arr**	**72.23**	**200**	P	**P**	**13 20 54.4**	**-0.7**
	comp=Z,0.2nm,0.3s,baz=18,slow=6.3,SNR=7.6						
TXAR	**Lajitas Array**	**75.06**	**62**	P	**P**	**13 21 12.8**	**+1.0**
	comp=Z,0.3nm,0.4s,baz=297,slow=5.4,SNR=7.9						
ASAR	**Alice Springs**	**75.93**	**199**	P	**P**	**13 21 16.2**	**-0.2**
	comp=Z,0.2nm,0.6s,baz=20,slow=5.9,SNR=5.0						

*ISCJB **14** 13:12:59.2±1.5,36.76N±0.04×141.41E±0.08,h15km±9km, mb3.4/3,Error ellipse: s-maj=11.5km s-min=6.9km az=18.8*
*JMA **14** 13:12:59.7±0.1,36.78N×141.38E,h28km±1km,M3.3*
*IDC **14** 13:12:59.5±2.5,36.64N×141.33E,h0km,mb3.4/3, mb1 3.4/4,mb1mx3.2/68,mbtmp3.3/4,ML2.6/1,Error ellipse: s-maj=62.9km s-min=30.2km az=62.0*

ISC 14 13:12:58.2±2.1,36.79N±0.05×141.34E±0.08,h4km±11km, n19,σ1§16/22,mb3.5/3,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ONAJ	**Iwakimizuishiy**	**0.53**	**306**	P	**Pb**	**13 13 10.7**	**+0.5**
ONAJ				*eS*	**Sb**	**13 13 18.6**	**+0.3**
JHO	**Hitachi**	**0.65**	**254**	P	**Pn**	**13 13 12.4**	**-1.8**
JHO				S	**Sb**	**13 13 21.8**	**+0.3**
JFK	**Kawauchi**	**0.68**	**327**	P	**Pn**	**13 13 13.1**	**-1.7**
JFK				S	**Sb**	**13 13 22.8**	**+0.2**
JFT	**Otama**	**1.08**	**312**	P	**Pg**	**13 13 20.0**	**+1.0**
JFT				S	**Sb**	**13 13 34.3**	**+0.3**
JYT	**Yasato**	**1.08**	**239**	P	**Pn**	**13 13 19.2**	**-1.0**
JYT				*eS*	**Sg**	**13 13 33.2**	**+0.2**
JSB	**Shiboa**	**1.15**	**279**	P	**Pg**	**13 13 21.8**	**+1.5**
JSB				S	**Sn**	**13 13 37.2**	**-0.2**
JMM	**Marumori**	**1.16**	**338**	P	**Pg**	**13 13 20.6**	**+0.1**
JMM				S	**Sb**	**13 13 35.8**	**-0.4**
JFY	**Yanaizu**	**1.45**	**296**	P	**Pg**	**13 13 26.1**	**+0.2**
JFY				S	**Sn**	**13 13 44.7**	**0.0**
MJAR	**Matsushiro Arr**	**2.53**	**265**	Pn	**Pb**	**13 13 41.5**	**-2.7**
	1.4nm,0.3s,baz=90,slow=15,SNR=15						
MJAR				Sn	**Sb**	**13 14 16.9**	**+1.1**
	2.8nm,0.3s,baz=104,slow=40,SNR=5.3						
MAT	**Matsushiro**	**2.53**	**265**	P	**Pb**	**13 13 42.9**	**-1.4**
MAT				*eS*	**Sn**	**13 14 11.3**	**-0.2**
H11N2	**WAKE ISLAND Hy**	**28.07**	**120**	T	T	13 48 12.2	
	baz=313,slow=75,SNR=277						
H11N1	**WAKE ISLAND Hy**	**28.08**	**120**	T	T	13 48 14.5	
	baz=313,slow=75,SNR=273						
H11N3	**WAKE ISLAND Hy**	**28.09**	**120**	T	T	13 48 16.7	
	baz=313,slow=75,SNR=154						
H11S1	**WAKE ISLAND Hy**	**28.78**	**122**	T	T	13 49 06.1	
	baz=315,slow=75,SNR=51						
H11S3	**WAKE ISLAND Hy**	**28.78**	**122**	T	T	13 49 08.6	
	baz=315,slow=75,SNR=44						
H11S2	**WAKE ISLAND Hy**	**28.79**	**122**	T	T	13 49 09.3	
	baz=315,slow=75,SNR=44						
MKAR	**Makanchi Array**	**44.20**	**302**	P	**P**	**13 21 09.6**	**+1.3**
	0.2nm,0.5s,baz=90,slow=7.7,SNR=3.1						
KURBB	**Kurchatov Arra**	**46.10**	**308**	P	P	13 21 26.4	+3.1
	0.3nm,0.4s,baz=86,slow=8.4,SNR=3.6						
WRA	**Warramunga Arr**	**56.81**	**188**	P	**P**	**13 22 44.7**	**+0.9**
	0.4nm,0.8s,baz=6.7,slow=7.5,SNR=5.8						

*ISCJB **14** 13:17:07.3±1.0,37.14N±0.04×141.43E±0.04,h6km±6km, mb3.9/17,Error ellipse: s-maj=7.0km s-min=5.1km az=155.5*
*IDC **14** 13:17:08.2±0.7,37.11N×141.35E,h0km,mb3.8/17, mb1 3.9/18,mb1mx3.8/70,mbtmp3.8/18,ML3.0/2,Error ellipse: s-maj=18.1km s-min=16.1km az=131.0*
*JMA **14** 13:17:09.7±0.1,37.18N×141.31E,h22km±1km,M3.6*

ISC 14 13:17:09.1±1.7,37.19N±0.05×141.36E±0.06,h6km±10km, n69,σ0§94/76,mb4.0/17,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**0.43**	**295**	P	**Pg**	**13 17 17.7**	**+0.2**
JFK				S	**Sg**	**13 17 23.5**	**+0.4**
ONAJ	**Iwakimizuishiy**	**0.46**	**260**	P	**Pg**	**13 17 17.9**	**-0.1**
ONAJ				*eS*	**Sg**	**13 17 24.3**	**+0.3**
JMM	**Marumori**	**0.82**	**327**	P	**Pg**	**13 17 24.7**	**-0.1**
JMM				*eS*	**Sg**	**13 17 36.2**	**+0.8**
JHO	**Hitachi**	**0.85**	**228**	P	**Pg**	**13 17 24.6**	**-1.0**
JFT	**Otama**	**0.88**	**292**	P	**Pg**	**13 17 26.0**	**-0.1**
JFT				*eS*	**Sg**	**13 17 37.1**	**-0.4**
JSB	**Shiboa**	**1.17**	**260**	P	**Pb**	**13 17 31.4**	**-0.4**
JSB				*eS*	**Sb**	**13 17 46.2**	**-1.0**
JIO	**Ouri**	**1.27**	**360**	P	**Pn**	**13 17 32.3**	**-1.0**
JOU	**Okura**	**1.30**	**335**	P	**Pn**	**13 17 33.3**	**-0.5**
JFY	**Yanaizu**	**1.34**	**280**	P	**Pn**	**13 17 33.7**	**-0.6**
JFY				*eS*	**Sb**	**13 17 51.1**	**-0.9**
MJAR	**Matsushiro Arr**	**2.61**	**257**	Pn	**Pn**	**13 17 51.4**	**-0.4**
	4.7nm,0.3s,baz=47,slow=13,SNR=14						
MJAR				Sn	**Sb**	**13 18 27.6**	**-1.0**
	8.4nm,0.3s,baz=72,slow=14,SNR=6.6						
MJAR	**Matsushiro Arr**	**2.61**	**257**	Pn	**Pn**	**13 17 51.4**	**-0.4**
MJAR				Sn	**Sb**	**13 18 27.6**	**-1.0**
MAJO	**Matsushiro**	**2.61**	**257**	*e*Pn	**Pn**	**13 17 51.4**	**-0.4**
MAJO				*e*Sn	**Sb**	**13 18 27.6**	**-1.0**
MAJO				*e*Sg	**Sg**	**13 18 32.6**	**-0.3**
MAT	**Matsushiro**	**2.61**	**257**	P	**Pn**	**13 17 52.1**	**+0.3**
MAT				S	**Sn**	**13 18 24.7**	**+0.9**
MJB9	**Matsu-Tunnel**	**2.61**	**257**	*e*Pn	**Pn**	**13 17 52.3**	**+0.5**
ERM	**Erimo**	**5.02**	**15**	*e*Pn	**Pn**	**13 18 24.3**	**-0.6**
ASAJ	**Asahikawa**	**6.99**	**7**	Pn	**Pn**	**13 18 52.0**	**+0.1**
	0.3nm,0.3s,baz=246,slow=10.0,SNR=4.3						
ASAJ				Sn	**Sn**	**13 20 09.6**	**-2.1**
	0.5nm,0.3s,baz=270,slow=4.0,SNR=1.8						
ASAJ	**Asahikawa**	**6.99**	**7**	*e*Pn	**Pn**	**13 18 51.9**	**-0.1**
ASAJ				*e*Sn	**Sn**	**13 20 08.5**	**-3.2**
KSRS	**Korea Array**	**10.71**	**275**	Pn	**Pn**	**13 19 45.9**	**+2.9**
	0.1nm,0.3s,baz=91,slow=12,SNR=2.8						
MA2	**Magadan**	**23.21**	**12**	P	**P**	**13 22 17.4**	**+0.8**
	3.2nm,0.7s,baz=108,slow=20,SNR=2.5						
MA2	**Magadan**	**23.21**	**12**	*eP*	**P**	**13 22 17.4**	**+0.8**
SEY	**Seymchan**	**26.65**	**11**	P	**P**	**13 22 50.1**	**+1.9**
	2.7nm,0.3s,baz=186,slow=11.5,SNR=35						
SEY	**Seymchan**	**26.65**	**11**	*eP*	**P**	**13 22 50.1**	**+1.9**
SONA0	**Songino Array**	**27.67**	**304**	*eP*	**P**	**13 22 58.0**	**+0.2**
SONM	**Songino Array**	**27.67**	**304**	P	**P**	**13 22 58.0**	**+0.2**
	1.5nm,0.6s,baz=101,slow=7.5,SNR=2.9						
SONM	**Songino Array**	**27.67**	**304**	P	**P**	**13 22 58.0**	**+0.2**
H11N2	**WAKE ISLAND Hy**	**28.26**	**121**	T	T	13 52 39.5	
	baz=314,slow=75,SNR=173						
H11N1	**WAKE ISLAND Hy**	**28.27**	**121**	T	T	13 52 41.6	
	baz=314,slow=75,SNR=248						
H11N3	**WAKE ISLAND Hy**	**28.28**	**121**	T	T	13 52 42.4	
	baz=314,slow=75,SNR=267						
H11S1	**WAKE ISLAND Hy**	**28.98**	**123**	T	T	13 53 35.8	
	baz=316,slow=76,SNR=81						
H11S3	**WAKE ISLAND Hy**	**28.98**	**123**	T	T	13 53 38.0	
	baz=316,slow=76,SNR=61						
H11S2	**WAKE ISLAND Hy**	**28.99**	**123**	T	T	13 53 39.4	
	baz=316,slow=76,SNR=54						
ZAA1	**Zalesovo Array**	**41.78**	**312**	*eP*	**P**	**13 24 59.6**	**+0.5**
ZALV	**Zalesovo Beam**	**41.78**	**312**	P	**P**	**13 24 59.6**	**+0.5**
	2.4nm,0.7s,baz=127,slow=3.8,SNR=3.6						
ZALV	**Zalesovo Beam**	**41.78**	**312**	*eP*	**P**	**13 24 59.9**	**+0.8**
MK32	**Makanchi Array**	**44.00**	**302**	*eP*	**P**	**13 25 17.5**	**+0.2**
MKAR	**Makanchi Array**	**44.00**	**302**	P	**P**	**13 25 17.5**	**+0.2**
	2.0nm,0.8s,baz=88,slow=7.4,SNR=4.4						
KURK	**Kurchatov**	**45.81**	**308**	*eP*	**P**	**13 25 31.7**	**+0.3**
KURBB	**Kurchatov Arra**	**45.88**	**308**	P	**P**	**13 25 31.7**	**-0.3**
	4.3nm,0.9s,baz=84,slow=8.2,SNR=4.8						
ILAR	**Eielson Array**	**49.39**	**32**	P	**P**	**13 26 00.2**	**+1.1**
	0.7nm,0.9s,baz=273,slow=6.5,SNR=7.3						
ILAR	**Eielson Array**	**49.39**	**32**	P	**P**	**13 26 00.2**	**+1.1**
BVAR	**Borovoye Array**	**50.44**	**312**	P	**P**	**13 26 09.3**	**+2.0**
	0.4nm,0.5s,baz=57,slow=10,SNR=3.1						
BVAR	**Borovoye Array**	**50.44**	**312**	P	**P**	**13 26 09.3**	**+2.0**
INK	**Inuvik**	**54.27**	**27**	P	**P**	**13 26 36.1**	**+0.7**
	0.5nm,0.8s,baz=280,slow=6.1,SNR=2.4						
INK	**Inuvik**	**54.27**	**27**	P	**P**	**13 26 36.1**	**+0.7**
WRAB	**Tennant Creek**	**57.19**	**188**	P	**P**	**13 26 56.0**	**-1.0**
	1.6nm,0.6s						
WR1	**Warramunga Arr**	**57.20**	**188**	*eP*	**P**	**13 26 55.9**	**-1.1**
WRA	**Warramunga Arr**	**57.20**	**188**	P	**P**	**13 26 55.9**	**-1.1**
	0.5nm,0.6s,baz=4.2,slow=6.8,SNR=5.6						
WRA	**Warramunga Arr**	**57.20**	**188**	P	**P**	**13 26 55.9**	**-1.1**
ABKAR	**Abkulak array**	**57.81**	**310**	P	**P**	**13 27 00.5**	**-0.6**
AKTO	**Aktyubinsk**	**58.54**	**312**	P	**P**	**13 27 06.2**	**0.0**
	0.7nm,0.5s,baz=30,slow=14,SNR=1.8						
AKTO	**Aktyubinsk**	**58.54**	**312**	*eP*	**P**	**13 27 06.2**	**0.0**
ASAR	**Alice Springs**	**60.93**	**188**	P	**P**	**13 27 22.6**	**-0.2**
	0.8nm,1.0s,baz=4.2,slow=5.1,SNR=2.6						
ASAR	**Alice Springs**	**60.93**	**188**	P	**P**	**13 27 22.6**	**-0.2**
YKA	**Yellowknife Ar**	**63.70**	**30**	P	**P**	**13 27 40.5**	**-0.5**
	0.0nm,0.3s,baz=297,slow=5.6,SNR=2.9						
YKA	**Yellowknife Ar**	**63.70**	**30**	P	**P**	**13 27 40.5**	**-0.5**
ARA0	**ARCESS Array S**	**63.84**	**339**	*eP*	**P**	**13 27 41.2**	**-0.6**
ARCES	**ARCESS Array B**	**63.84**	**339**	P	**P**	**13 27 41.2**	**-0.6**
	3.8nm,1.0s,baz=52,slow=7.3,SNR=2.7						
ARCES	**ARCESS Array B**	**63.84**	**339**	P	**P**	**13 27 41.2**	**-0.6**
FIA0	**FINESS Array S**	**68.66**	**332**	*eP*	**P**	**13 28 12.5**	**-0.3**
FINES	**FINESS Array B**	**68.66**	**332**	P	**P**	**13 28 12.5**	**-0.3**
	3.4nm,0.9s,baz=83,slow=11,SNR=4.8						
FINES	**FINESS Array B**	**68.66**	**332**	P	**P**	**13 28 12.5**	**-0.3**
PDAR	**Pinedale Array**	**77.59**	**45**	P	**P**	**13 29 06.9**	**+0.6**
	0.2nm,0.6s,baz=342,slow=5.7,SNR=2.5						
PDAR	**Pinedale Array**	**77.59**	**45**	P	**P**	**13 29 06.9**	**+0.6**
LTX	**Lajitas**	**90.06**	**52**	*eP*	**P**	**13 30 10.6**	**+0.4**
TXAR	**Lajitas Array**	**90.06**	**52**	P	**P**	**13 30 10.6**	**+0.4**
	0.1nm,0.4s,baz=129,slow=1.3,SNR=2.8						
TXAR	**Lajitas Array**	**90.06**	**52**	P	**P**	**13 30 10.6**	**+0.4**
LPAZ	**La Paz**	**146.65**	**59**	PKPbc	**PKPbc**	**13 36 52.9**	**0.0**
	0.3nm,0.4s,baz=50,slow=7.9,SNR=2.1						
LPAZ	**La Paz**	**146.65**	**59**	PKPbc	**PKPbc**	**13 36 52.9**	**0.0**
SIV	**San Ignacio**	**151.02**	**49**	PKPbc	**PKPbc**	**13 37 03.2**	**-0.2**
	1.8nm,0.8s,baz=291,slow=4.6,SNR=3.7						

*NIED **14** 13:17:00,37.10N×141.50E,h5km,Mw4.1 Best double couple: M01.81000×10^15 NP1:φs29.00000°,δ38.00000°, λ-98.00000°. NP2:φs219.00000°,δ53.00000°, λ-84.00000°.*
*IDC **14** 13:17:13.2±0.6,37.12N×141.24E,h0km,mb4.0/21, mb1 4.2/24,mb1mx4.0/73,mbtmp4.0/24,ML3.1/3,Error ellipse: s-maj=17.0km s-min=14.2km az=95.0*
*NEIC **14** 13:17:13.3±0.4,37.14N×141.37E,h35km,mb4.2/1,Error ellipse: s-maj=10.2km s-min=6.9km az=138.0*
NEIC Recorded [1 JMA] in Fukushima and Miyagi.
*JMA **14** 13:17:15.9±0.2,37.19N×141.27E,h22km±1km,M4.2*
JMA Felt I J1.
*ISCJB **14** 13:17:16.3±0.5,37.14N±0.04×141.24E±0.05,h35km, mb4.0/21,Error ellipse: s-maj=6.1km s-min=5.2km az=23.8*

ISC 14 13:17:18.4±0.6,37.19N±0.05×141.22E±0.07,h35km,n41, σ1§80/42,mb4.1/21,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**0.33**	**303**	S	**Sn**	**13 17 28.8**	**-3.7**
ONAJ	**Iwakimizuishiy**	**0.35**	**256**	*eS*	**Sn**	**13 17 29.3**	**-3.6**
JMM	**Marumori**	**0.76**	**334**	P	**Pn**	**13 17 30.4**	**-2.2**
JMM				S	**Sn**	**13 17 41.2**	**-1.6**
JHO	**Hitachi**	**0.78**	**222**	*eS*	**Sn**	**13 17 40.8**	**-2.5**
JFT	**Otama**	**0.78**	**295**	S	**Sn**	**13 17 42.4**	**-1.0**
JSB	**Shiboa**	**1.06**	**259**	*eS*	**Sn**	**13 17 51.9**	**+1.5**
JFY	**Yanaizu**	**1.23**	**281**	*eS*	**Sn**	**13 17 55.8**	**+1.3**
JOU	**Okura**	**1.26**	**340**	*eS*	**Sn**	**13 17 55.9**	**+0.7**
JIO	**Ouri**	**1.27**	**5**	*eS*	**Sn**	**13 17 54.6**	**-0.9**
MJAR	**Matsushiro Arr**	**2.50**	**256**	Pn	**Pn**	**13 17 56.6**	**+0.1**
	4.9nm,0.3s,baz=76,slow=16,SNR=26						
MJAR				Sn	**Sn**	**13 18 32.6**	**+6.8**
	11nm,0.3s,baz=103,slow=17,SNR=7.7						
INU	**Inuyama**	**3.86**	**243**	*e*Pn	**Pn**	**13 18 12.3**	**-2.9**
ASAJ	**Asahikawa**	**7.00**	**8**	Pn	**Pn**	**13 18 56.9**	**-1.5**
	0.8nm,0.3s,baz=174,slow=17,SNR=10						
USRK	**Ussuriysk Ar.**	**9.90**	**318**	Pn	**Pn**	**13 19 39.7**	**+1.5**
	0.3nm,0.3s,baz=110,slow=12,SNR=6.1						
KSRS	**Korea Array**	**10.59**	**275**	Pn	Pn	13 19 52.2	+4.6
	0.1nm,0.3s,baz=91,slow=13,SNR=8.2						
KSAR	**Wonju Array Be**	**10.62**	**275**	Pn	**Pn**	**13 19 45.9**	**-2.2**
SEY	**Seymchan**	**26.67**	**11**	P	**P**	**13 22 55.1**	**+1.4**
	3.7nm,0.9s,baz=194,slow=9.6,SNR=8.0						
SONM	**Songino Array**	**27.57**	**304**	P	**P**	**13 23 02.5**	**+0.4**
	1.5nm,0.6s,baz=112,slow=8.9,SNR=7.5						
ZALV	**Zalesovo Beam**	**41.70**	**312**	P	**P**	**13 25 04.0**	**+0.4**
	2.4nm,0.7s,baz=92,slow=6.3,SNR=8.1						
MK01	**Makanchi Array**	**43.90**	**302**	*eP*	**P**	**13 25 19.7**	**-1.9**
MK31	**Makanchi Array**	**43.91**	**302**	*eP*	**P**	**13 25 19.6**	**-2.0**
MKAR	**Makanchi Array**	**43.91**	**302**	P	**P**	**13 25 21.7**	**+0.1**
	2.0nm,0.8s,baz=88,slow=9.9,SNR=21						
KURBB	**Kurchatov Arra**	**45.78**	**308**	P	**P**	**13 25 36.6**	**+0.2**
	3.9nm,0.8s,baz=83,slow=8.1,SNR=20						
ILAR	**Eielson Array**	**49.45**	**32**	P	**P**	**13 26 05.0**	**+0.4**
	2.2nm,0.7s,baz=270,slow=6.3,SNR=18						
INK	**Inuvik**	**54.32**	**27**	P	**P**	**13 26 41.7**	**+0.9**
	1.2nm,0.8s,baz=255,slow=6.1,SNR=4.6						
FITZ	**Fitzroy Crossi**	**56.92**	**198**	P	**P**	**13 26 59.9**	**-0.1**
	2.4nm,0.9s,baz=0.0,slow=8.1,SNR=2.4						
WRA	**Warramunga Arr**	**57.19**	**188**	P	**P**	**13 27 01.1**	**-0.9**
	1.8nm,0.7s,baz=6.0,slow=7.5,SNR=7.7						
AKTO	**Aktyubinsk**	**58.46**	**312**	P	**P**	**13 27 11.1**	**+0.5**
	0.7nm,0.4s,baz=74,slow=11,SNR=5.6						
ASAR	**Alice Springs**	**60.92**	**188**	P	**P**	**13 27 27.8**	**0.0**
	0.8nm,0.8s,baz=16,slow=9.7,SNR=4.3						
YKA	**Yellowknife Ar**	**63.75**	**30**	P	**P**	**13 27 46.3**	**+0.1**
	0.4nm,0.7s,baz=302,slow=6.8,SNR=9.5						
ARCES	**ARCESS Array B**	**63.80**	**339**	P	**P**	**13 27 46.8**	**+0.2**
	3.2nm,0.9s,baz=64,slow=8.2,SNR=3.7						
FINES	**FINESS Array B**	**68.61**	**332**	P	**P**	**13 28 17.2**	**-0.2**
	2.3nm,0.7s,baz=89,slow=7.8,SNR=3.3						
STKA	**Stephens Creek**	**68.71**	**180**	P	**P**	**13 28 17.5**	**-0.8**
	0.8nm,0.7s,baz=345,slow=11,SNR=2.2						
KBZ	**Khabaz**	**70.68**	**311**	P	**P**	**13 28 31.4**	**+0.9**
	1.7nm,0.7s,baz=48,slow=2.3,SNR=3.7						
NB2	**NORSAR Subarra**	**73.98**	**337**	P	**P**	**13 28 50.0**	**0.0**
	comp=Z,1.2nm,0.7s,baz=39,slow=6.2						
NOA	**NORSAR Array B**	**73.98**	**337**	P	**P**	**13 28 50.3**	**+0.3**
	comp=Z,1.8nm,0.8s,baz=39,slow=5.8,SNR=6.5						
AKASG	**Malin Array Be**	**74.08**	**322**	P	**P**	**13 28 50.5**	**-0.2**
	comp=Z,1.8nm,0.7s,baz=51,slow=6.0,SNR=6.5						
PDAR	**Pinedale Array**	**77.67**	**45**	P	**P**	**13 29 12.2**	**+0.6**
	comp=Z,0.4nm,0.7s,baz=267,slow=1.7,SNR=4.9						
GERES	**GERESS Array B**	**82.50**	**328**	P	**P**	**13 29 37.6**	**+0.2**
	comp=Z,0.6nm,0.6s,baz=57,slow=7.2,SNR=3.0						
TXAR	**Lajitas Array**	**90.15**	**52**	P	**P**	**13 30 16.1**	**+0.7**
	comp=Z,0.3nm,0.6s,baz=300,slow=2.1,SNR=4.8						
LPAZ	**La Paz**	**146.75**	**59**	PKPbc	**PKPab**	**13 36 58.

NIED ***14*** *14:13:00.37°00N×141°40E,h5km,Mw4.0 Best double couple: M0 1.04000×10^15 NP1:ϕ=206.00000°, δ=43.00000°, λ=-95.00000°. NP2:ϕ=33.00000°, δ=47.00000°, λ=-85.00000°.*

ISCJB ***14*** *14:13:18.3±1.1,36°98N±0°03×141°47E±0°04,h9km±5km, mb3.9/17,MS3.4/1,Error ellipse: s-maj=6.4km s-min=5.2km az=42.1*

IDC ***14*** *14:13:19.1±0.7,36°96N×141°19E,h0km,mb3.9/15, mb1 4.0/16,mb1mx3.8/65,mbtmp3.9/16,ML3.0/2,MS3.1/5, Ms1 3.1/5,ms1mx2.8/65,Error ellipse: s-maj=18.7km s-min=17.4km az=113.0*

JMA ***14*** *14:13:20.4±0.1,37°00N×141°37E,h23km±1km,M3.9*

JMA Felt I J1.

NEIC ***14*** *14:13:24.4±0.6,37°07N×141°22E,h35km,mb4.2/2,Error ellipse: s-maj=13.0km s-min=8.2km az=147.0*

NEIC Recorded [1 JMA] in Fukushima.

ISC 14 14:13:20.2±1.7,37°05N±0°05×141°29E±0°06,h6km±10km, n51,σ1°03/54,mb3.9/17,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.40**	**278**	P	**Pb**	**14 13 29.5**	**-0.2**
ONAJ				S	**Sb**	**14 13 36.1**	**0.0**
JFK	**Kawauchi**	**0.46**	**314**	P	**Pb**	**14 13 31.0**	**+0.3**
JFK				*e*S	**Sb**	**14 13 38.4**	**+0.5**
JHO	**Hitachi**	**0.72**	**233**	P	**Pg**	**14 13 34.4**	**+0.3**
JHO				*e*S	**Sb**	**14 13 45.0**	**-0.4**
JFT	**Otama**	**0.90**	**302**	P	**Pn**	**14 13 38.7**	**-0.6**
JFT				S	**Sn**	**14 13 51.8**	**-0.8**
JMM	**Marumori**	**0.91**	**334**	P	**Pb**	**14 13 38.2**	**-0.1**
JMM				S	**Sb**	**14 13 51.4**	**+0.7**
JSB	**Shiboa**	**1.10**	**266**	P	**Pn**	**14 13 42.4**	**+0.2**
JSB				*e*S	**Sn**	**14 13 57.6**	**-0.1**
JFY	**Yanaizu**	**1.32**	**286**	P	**Pn**	**14 13 45.4**	**+0.3**
JFY				S	**Sn**	**14 14 03.5**	**+0.5**
JIO	**Ouri**	**1.41**	**2**	P	**Pn**	**14 13 45.8**	**-0.5**
JIO				S	**Sg**	**14 14 04.3**	**-1.1**
JOU	**Okura**	**1.41**	**339**	P	**Pb**	**14 13 46.6**	**-0.3**
JOU				S	**Sn**	**14 14 06.0**	**+0.7**
MJAR	**Matsushiro Arr**	**2.52**	**259**	Pn	**Pn**	**14 14 01.6**	**-0.2**
	2.1nm,0.3s,baz=90,slow=14,SNR=26						
MJAR				Sn	**Sb**	**14 14 35.8**	**-1.5**
	4.2nm,0.3s,baz=314,slow=28,SNR=4.5						
MJAR				LR	LR	14 14 49.0	
	comp=Z,94nm,19.7s,baz=95,slow=38						
MAJO	**Matsushiro**	**2.53**	**259**	*e*Pn	**Pn**	**14 14 02.8**	**+1.0**
MAT	**Matsushiro**	**2.53**	**259**	P	**Pn**	**14 14 02.0**	**+0.2**
MAT				S	**Sb**	**14 14 37.7**	**+0.4**
MJB9	**Matsu-Tunnel**	**2.53**	**260**	*e*Pn	**Pn**	**14 14 03.2**	**+1.4**
INU	**Inuyama**	**3.85**	**245**	*e*Pn	**Pn**	**14 14 20.0**	**+0.1**
ASAJ	**Asahikawa**	**7.13**	**8**	Pn	**Pn**	**14 15 04.7**	**-0.3**
	0.4nm,0.3s,baz=221,slow=16,SNR=10						
ASAJ	**Asahikawa**	**7.13**	**8**	*e*Pn	**Pn**	**14 15 03.9**	**-1.2**
JNU	**Nakatsue**	**9.39**	**248**	LR	LR	14 19 48.9	
	comp=Z,81nm,18.8s,baz=114,slow=42						
USRK	**Ussuriysk Ar.**	**10.05**	**318**	Pn	Pn	14 15 51.0	+6.0
	0.1nm,0.3s,baz=124,slow=12,SNR=3.8						
USRK				LR	LR	14 19 20.7	
	comp=Z,193nm,19.9s,baz=114,slow=36						
KSRS	**Korea Array**	**10.67**	**276**	Pn	**Pn**	**14 15 56.8**	**+3.3**
	0.1nm,0.3s,baz=89,slow=14,SNR=7.1						
KSRS				LR	LR	14 19 41.4	
	comp=Z,174nm,20.8s,baz=81,slow=36						
KSAR	**Wonju Array Be**	**10.70**	**276**	Pn	**Pn**	**14 15 56.8**	**+2.9**
SEY	**Seymchan**	**26.80**	**11**	P	**P**	**14 19 02.5**	**+1.8**
	1.5nm,0.8s,baz=192,slow=12,SNR=4.5						
SONA0	**Songino Array**	**27.70**	**304**	*e*P	**P**	**14 19 08.0**	**-1.2**
SONM	**Songino Array**	**27.70**	**304**	P	**P**	**14 19 08.0**	**-1.2**
	0.3nm,0.4s,baz=92,slow=7.5,SNR=2.7						
H11N2	**WAKE ISLAND Hy**	**28.24**	**121**	T	T	14 48 43.3	
	baz=313,slow=75,SNR=233						
H11N1	**WAKE ISLAND Hy**	**28.25**	**121**	T	T	14 48 42.8	
	baz=313,slow=75,SNR=186						
H11N3	**WAKE ISLAND Hy**	**28.26**	**121**	T	T	14 48 42.2	
	baz=313,slow=75,SNR=146						
H11S1	**WAKE ISLAND Hy**	**28.95**	**123**	T	T	14 49 33.0	
	baz=315,slow=76,SNR=49						
H11S3	**WAKE ISLAND Hy**	**28.95**	**123**	T	T	14 49 33.5	
	baz=315,slow=76,SNR=54						
H11S2	**WAKE ISLAND Hy**	**28.96**	**123**	T	T	14 49 34.2	
	baz=315,slow=76,SNR=50						
ZAA0	**Zalesovo Array**	**41.83**	**312**	*e*P	**P**	**14 21 10.1**	**-0.5**
	3.1nm,0.9s						
ZAA1	**Zalesovo Array**	**41.83**	**312**	*e*P	**P**	**14 21 10.6**	**0.0**
ZALV	**Zalesovo Beam**	**41.83**	**312**	P	**P**	**14 21 10.6**	**0.0**
	2.2nm,0.8s,baz=98,slow=8.7,SNR=9.0						
ZALV	**Zalesovo Beam**	**41.83**	**312**	*e*P	**P**	**14 21 08.0**	**-2.6**
MK01	**Makanchi Array**	**44.03**	**302**	*e*P	**P**	**14 21 27.9**	**-0.7**
MK31	**Makanchi Array**	**44.03**	**302**	*e*P	**P**	**14 21 27.3**	**-1.3**
MK32	**Makanchi Array**	**44.03**	**302**	*e*P	**P**	**14 21 28.1**	**-0.4**
MKAR	**Makanchi Array**	**44.03**	**302**	P	**P**	**14 21 28.1**	**-0.4**
	1.1nm,0.7s,baz=90,slow=9.5,SNR=14						
MKAR				PcP	**PcP**	**14 23 12.9**	**-1.1**
	0.7nm,1.0s,baz=60,slow=2.9,SNR=3.7						
KURK	**Kurchatov**	**45.85**	**308**	*e*P	**P**	**14 21 42.4**	**-0.5**
	4.1nm,0.8s						
KURBB	**Kurchatov Arra**	**45.92**	**308**	P	**P**	**14 21 43.1**	**-0.3**
	2.4nm,0.8s,baz=85,slow=8.4,SNR=15						
ILAR	**Eielson Array**	**49.53**	**32**	P	**P**	**14 22 12.1**	**+0.7**
	0.7nm,0.6s,baz=267,slow=5.6,SNR=14						
ARU	**Arti**	**56.29**	**319**	P	**P**	**14 23 01.5**	**+0.2**
	1.9nm,0.5s,baz=301,slow=7.1,SNR=4.8						
WRA	**Warramunga Arr**	**57.06**	**188**	P	**P**	**14 23 05.7**	**-1.5**
	1.4nm,0.8s,baz=5.9,slow=7.4,SNR=11						
ASAR	**Alice Springs**	**60.79**	**188**	P	**P**	**14 23 32.5**	**-0.5**
	0.9nm,0.8s,baz=12,slow=6.0,SNR=7.9						
YKA	**Yellowknife Ar**	**63.84**	**30**	P	**P**	**14 23 53.8**	**+0.7**
	0.3nm,0.8s,baz=296,slow=6.6,SNR=6.6						
FINES	**FINESS Array B**	**68.76**	**332**	P	**P**	**14 24 24.9**	**+0.3**
	3.9nm,0.9s,baz=152,slow=7.5,SNR=4.6						
KBZ	**Khabaz**	**70.82**	**311**	P	**P**	**14 24 37.3**	**-0.3**
	1.8nm,0.9s,baz=224,slow=12,SNR=3.7						
NOA	**NORSAR Array B**	**74.14**	**337**	LR	LR	15 00 20.9	
	comp=Z,18nm,19.8s,baz=200,slow=38						
AKASG	**Malin Array Be**	**74.23**	**322**	P	**P**	**14 24 56.9**	**-0.9**
	0.5nm,0.4s,baz=48,slow=6.1,SNR=4.9						
PDAR	**Pinedale Array**	**77.73**	**45**	P	**P**	**14 25 18.9**	**+0.7**
	0.4nm,0.7s,baz=256,slow=1.9,SNR=4.1						
TXAR	**Lajitas Array**	**90.19**	**52**	P	**P**	**14 26 22.5**	**+0.6**
	0.5nm,0.8s,baz=312,slow=3.3,SNR=5.2						
LPAZ	**La Paz**	**146.77**	**59**	PKPbc	**PKPbc**	**14 33 04.3**	**-0.1**
	1.4nm,0.8s,baz=25,slow=10,SNR=3.9						

IDC ***14*** *14:13:37.4±7.1,37°15N×71°40E,h97km±35km,mb3.5/1, mb1 3.4/7,mb1mx3.0/70,mbtmp3.8/7,Error ellipse: s-maj=106.7km s-min=28.6km az=157.0*

NNC ***14*** *14:13:40.7±2.7,37°71N×71°10E,h0km,mb4.1,mpv3.8, Error ellipse: s-maj=21.2km s-min=16.2km az=171.0*

ISC 14 14:13:37.2±1.7,37°3N±0°1×71°23E±0°09,h68km,n22, σ1°90/29,5C-6D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**3.28**	**32**	⇓P	**Pn**	**14 14 29.4**	**+3.1**
	7.0nm,0.3s						
SFK				⇓S	**Sn**	**14 15 07.7**	**+3.4**
	51nm,0.3s						
AML	**Almayashu**	**5.22**	**21**	P	**Pn**	**14 14 55.1**	**+2.0**
	SNR=281						
MNAS	**Manas**	**5.32**	**10**	⇑P	**Pn**	**14 14 56.4**	**+2.3**
	7.0nm,0.5s						
MNAS				⇑S	**Sn**	**14 15 54.7**	**+0.7**
	8.4nm,0.3s						
UCH	**Uchtor**	**5.57**	**26**	P	**Pn**	**14 14 59.8**	**+1.9**
	SNR=13						
KZA	**Kyzart**	**5.73**	**32**	P	**Pn**	**14 15 01.2**	**+1.3**
	SNR=6.2						
EKS2	**Erkin-Say**	**5.74**	**19**	P	**Pn**	**14 15 02.6**	**+2.7**
	SNR=11						
KK31	**Karatay Array**	**5.87**	**355**	⇑P	**Pn**	**14 15 04.1**	**+2.6**
	7.9nm,0.5s,baz=172,slow=12,SNR=138						
KK31				⇑S	**Sn**	**14 16 07.0**	**-0.3**
	1.0nm,0.3s,baz=180,slow=26,SNR=4.9						
AAK	**Ala-Archa**	**5.93**	**24**	P	**Pn**	**14 15 04.7**	**+2.2**
	5.2nm,0.3s,baz=170,slow=6.0,SNR=60						
AAK				S	**Sn**	**14 16 07.5**	**-1.6**
	0.2nm,0.3s,baz=307,slow=20,SNR=6.5						
AAK	**Ala-Archa**	**5.93**	**24**	⇓P	**Pn**	**14 15 04.4**	**+1.9**
	6.6nm,0.3s						
AAK				⇓S	**Sn**	**14 16 09.0**	**-0.1**
	5.9nm,0.6s						
AAK	**Ala-Archa**	**5.93**	**24**	P	**Pn**	**14 15 04.7**	**+2.2**
	SNR=22						
CHMS	**Chumysh**	**6.34**	**24**	P	**Pn**	**14 15 09.9**	**+1.9**
	SNR=9.6						
USP	**Ospenovka**	**6.50**	**22**	P	**Pn**	**14 15 11.9**	**+1.6**
	SNR=13						
TKM2	**Tokmak 2**	**6.57**	**29**	⇓P	**Pn**	**14 15 12.5**	**+1.2**
	5.6nm,0.6s						
TKM2				⇑S	**Sn**	**14 16 25.4**	**+0.5**
	1.2nm,0.3s						
TKM2	**Tokmak 2**	**6.57**	**29**	P	**Pn**	**14 15 13.1**	**+1.7**
	SNR=10						
GEYT	**Alibeck**	**10.43**	**278**	P	**Pn**	**14 16 05.3**	**+1.4**
	0.8nm,0.3s,baz=83,slow=10,SNR=7.3						
MKAR	**Makanchi Array**	**12.57**	**37**	P	**Pn**	**14 16 32.2**	**-0.8**
	0.1nm,0.3s,baz=226,slow=14,SNR=8.4						
KURBB	**Kurchatov Arra**	**14.35**	**19**	P	**P**	**14 16 59.4**	**-2.4**
	0.0nm,0.3s,baz=207,slow=11,SNR=5.1						
AB31	**Akbulak array**	**14.52**	**329**	P	**Pn**	**14 16 58.9**	**0.0**
	0.3nm,0.3s,baz=140,slow=13,SNR=25						
AB31				⇓S	**Sn**	**14 19 37.7**	**-0.8**
	1.2nm,0.8s,baz=154,slow=23,SNR=4.4						
BVAR	**Borovoye Array**	**15.78**	**358**	P	**Pn**	**14 17 13.7**	**-1.3**
	0.2nm,0.3s,baz=170,slow=16,SNR=3.8						
AKTO	**Aktyubinsk**	**16.23**	**328**	P	**P**	**14 17 22.2**	**-0.4**
	0.2nm,0.3s,baz=138,slow=9.0,SNR=5.0						
ZALV	**Zalesovo Beam**	**19.15**	**25**	P	**P**	**14 17 52.7**	**-2.1**
	0.3nm,0.3s,baz=212,slow=9.8,SNR=4.7						
ARCES	**ARCESS Array B**	**40.52**	**337**	P	**P**	**14 21 08.1**	**-1.1**
	1.3nm,0.8s,baz=101,slow=9.3,SNR=3.8						

ISCJB ***14*** *14:19:45.7±0.8,0°4S±0°1×91°8E±0°1,h10km,mb3.8/10, Error ellipse: s-maj=20.9km s-min=14.4km az=42.8*

IDC ***14*** *14:19:46.1±0.9,0°46S×91°78E,h0km,mb3.8/11, mb1 3.9/12,mb1mx3.7/62,mbtmp3.8/12,ML3.8/1,Error ellipse: s-maj=28.9km s-min=18.9km az=51.0*

ISC 14 14:19:47.9±0.9,0°4S±0°2×91°6E±0°1,h10km,n16, σ1°97/13,mb3.9/10,South Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**13.27**	**305**	Pn	**Pn**	**14 22 57.9**	**+1.3**
	0.5nm,0.3s,baz=116,slow=12,SNR=4.1						
PALK				Sn	**Sn**	**14 25 19.8**	**-4.6**
	0.5nm,0.3s,baz=121,slow=1.9,SNR=3.3						
CMAR	**Chiang Mai Arr**	**20.07**	**21**	P	Pn	14 24 21.9	-1.5
	1.1nm,0.8s,baz=212,slow=11,SNR=13						
H08S2	**Diego Garcia H**	**20.37**	**249**	T	T	14 44 23.1	
	baz=62,slow=74,SNR=5.3						
H08S3	**Diego Garcia H**	**20.37**	**249**	T	T	14 44 19.5	
	baz=62						
H08S1	**Diego Carcia H**	**20.39**	**249**	T	T	14 44 18.0	
	baz=62,slow=74,SNR=5.4						
WRA	**Warramunga Arr**	**46.11**	**118**	P	**P**	**14 28 10.8**	**-2.0**
	0.9nm,0.9s,baz=296,slow=8.7,SNR=6.7						
ASAR	**Alice Springs**	**47.09**	**123**	P	**P**	**14 28 18.6**	**-1.9**
	0.2nm,0.5s,baz=300,slow=7.4,SNR=4.2						
MKAR	**Makanchi Array**	**47.69**	**351**	P	**P**	**14 28 25.4**	**+0.8**
	1.1nm,0.7s,baz=165,slow=9.1,SNR=17						
GEYT	**Alibeck**	**49.05**	**325**	P	**P**	**14 28 34.9**	**-0.4**
	1.0nm,0.5s,baz=131,slow=12,SNR=2.4						
SONM	**Songino Array**	**49.73**	**13**	P	**P**	**14 28 40.8**	**+0.4**
	1.3nm,0.7s,baz=195,slow=8.9,SNR=8.7						
KURBB	**Kurchatov Arra**	**52.03**	**349**	P	**P**	**14 28 57.8**	**+0.3**
	0.6nm,0.6s,baz=183,slow=7.0,SNR=10.0						
ZALV	**Zalesovo Beam**	**54.44**	**355**	P	**P**	**14 29 14.7**	**-0.5**
	0.7nm,0.5s,baz=194,slow=12,SNR=4.6						
BRTR	**Keskin Array B**	**66.12**	**314**	P	**P**	**14 30 37.3**	**+1.6**
	0.5nm,0.6s,baz=121,slow=6.9,SNR=3.1						
BOSA	**Boshof**	**69.15**	**140**	P	**P**	**14 30 55.7**	**+0.6**
	3.5nm,0.9s,baz=34,slow=7.3,SNR=3.1						
GERES	**GERESS Array B**	**82.33**	**319**	P	**P**	**14 32 12.1**	**+1.9**
	0.7nm,0.8s,baz=111,slow=3.4,SNR=6.4						
TXAR	**Lajitas Array**	**147.74**	**26**	PKPbc	**PKPbc**	**14 39 32.8**	**-1.0**
	0.6nm,0.6s,baz=303,slow=0.5,SNR=6.9						

IDC ***14*** *14:32:52.3±2.2,37°56N×141°69E,h0km,mb3.1/3, mb1 3.2/4,mb1mx3.0/65,mbtmp3.0/4,ML2.6/1,Error ellipse: s-maj=43.3km s-min=32.8km az=69.0*

JMA ***14*** *14:32:54.5±0.1,37°00N×141°34E,h18km±1km,M2.7*

ISC 14 14:32:55.8±2.3,37°03N±0°05×141°3E±0°1,h9km±12km, n13,σ1°59/15,mb3.3/3,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.38**	**281**	P	**Pg**	**14 33 03.3**	**0.0**
JFK	**Kawauchi**	**0.46**	**317**	P	**Pg**	**14 33 04.9**	**+0.1**
JHO	**Hitachi**	**0.70**	**233**	P	**Pg**	**14 33 08.1**	**-1.2**
JHO				S	**Sg**	**14 33 18.1**	**-0.3**
JFT	**Otama**	**0.89**	**304**	P	**Pg**	**14 33 12.6**	**-0.3**
JFT				S	**Sg**	**14 33 25.2**	**+0.8**
JMM	**Marumori**	**0.92**	**336**	P	**Pg**	**14 33 12.3**	**-1.1**
JMM				S	**Sg**	**14 33 25.3**	**0.0**
MJAR	**Matsushiro Arr**	**2.50**	**260**	Pn	**Pb**	**14 33 41.4**	**+0.5**
	0.8nm,0.3s,baz=87,slow=16,SNR=6.2						
MJAR				Sn	**Sg**	**14 34 15.8**	**-0.3**
	0.6nm,0.3s,baz=80,slow=28,SNR=6.3						
MAT	**Matsushiro**	**2.50**	**260**	P	**Pn**	**14 33 39.3**	**+2.6**
MAT				*e*S	**Sb**	**14 34 10.3**	**-1.5**
H11N2	**WAKE ISLAND Hy**	**28.25**	**121**	T	T	15 08 17.1	
	baz=313,slow=75,SNR=16						
H11N1	**WAKE ISLAND Hy**	**28.25**	**121**	T	T	15 08 17.7	
	baz=313,slow=75,SNR=12						
H11N3	**WAKE ISLAND Hy**	**28.27**	**121**	T	T	15 08 18.4	
	baz=313,slow=75,SNR=14						
MKAR	**Makanchi Array**	**44.02**	**302**	P	**P**	**14 41 01.2**	**-2.4**
	0.1nm,0.6s,baz=74,slow=11,SNR=2.2						
KURBB	**Kurchatov Arra**	**45.91**	**308**	P	**P**	**14 41 16.1**	**-2.4**
	0.2nm,0.6s,baz=84,slow=9.0,SNR=3.4						
WRA	**Warramunga Arr**	**57.04**	**188**	P	**P**	**14 42 43.9**	**+1.8**
	0.4nm,0.9s,baz=3.9,slow=7.1,SNR=4.7						

CSEM ***14*** *14:38:31.9±0.4,40°73N×43°31E,h5km,ML2.5,Error ellipse: s-maj=7.2km s-min=5.5km az=89.0*

ISCJB ***14*** *14:38:33.0±0.7,40°76N±0°03×43°31E±0°06,h8km±7km, Error ellipse: s-maj=7.9km s-min=5.6km az=178.0*

ISK ***14*** *14:38:32.2,40°81N×43°13E,h5km,ML2.5/2*

ATA ***14*** *14:38:33.0±1.3,40°72N×43°20E,h4km±15km,ML2.6, MW2.5*

DDA ***14*** *14:38:41.4,40°35N×42°19E,h7km,Ml2.1*

ISC 14 14:38:33.9±1.1,40°76N±0°03×43°18E±0°03,h7km±8km, n26,σ1°60/44,1D,Turkey-Georgia-Armenia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARS	**Kars**	**0.15**	**210**	PG	**Pg**	**14 38 36.4**	**-0.7**
KARS				SG	**Sg**	**14 38 41.1**	**+1.7**
KARS	**Kars**	**0.15**	**210**	*e*Pg	**Pg**	**14 38 36.4**	**-0.7**
KARS				*e*Sg	**Sg**	**14 38 41.1**	**+1.7**
EAK	**Akyaka**	**0.33**	**103**	*e*P	**Pg**	**14 38 40.2**	**-0.3**
DIGO	**Kars**	**0.38**	**157**	*e*P	**Pg**	**14 38 39.5**	**-1.8**
DIGO				IAML		14 39 00.9	
	comp=Z,41nm,0.6s						
DIGO	**Kars**	**0.38**	**157**	*i* P	**Pg**	**14 38 38.7**	**-2.6**
DIGO				*i* S	**Sb**	**14 38 54.3**	**+5.1**
DIGO	**Kars**	**0.38**	**157**	P	**Pg**	**14 38 38.7**	**-2.6**
DIGO				S	**Sb**	**14 38 54.3**	**+5.1**
AKH	**Akhalkalaki**	**0.69**	**20**	PG	**Pg**	**14 38 46.2**	**-1.0**
AKH	**Akhalkalaki**	**0.69**	**20**	*e*Pg	**Pg**	**14 38 46.2**	**-1.0**
EPOS	**Posof**	**0.82**	**335**	*e*P	**Pg**	**14 38 49.9**	**+0.3**
EPOS				*e*S	**Sn**	**14 39 04.0**	**-0.5**
EPOS				IAML		14 39 07.1	
	comp=Z,19nm,0.7s						
EPOS	**Posof**	**0.82**	**335**	*i* P	**Pg**	**14 38 49.1**	**-0.5**
EPOS				*i* S	**Sb**	**14 39 03.4**	**+1.6**
EPOS	**Posof**	**0.82**	**335**	P	**Pg**	**14 38 49.1**	**-0.5**
EPOS				S	**Sb**	**14 39 03.4**	**+1.6**
ARTV	**Artvin**	**1.04**	**295**	*e*P	**Pg**	**14 38 53.4**	**-0.4**
ARTV				⇓*e*S	**Sn**	**14 39 09.7**	**-0.3**
ARTV				IAML		14 39 14.8	
	comp=Z,10nm,0.6s						
ARTV	**Artvin**	**1.04**	**295**	*i* P	**Pg**	**14 38 53.5**	**-0.4**
ARTV				*i* S	**Sn**	**14 39 09.6**	**-0.3**
ARTV	**Artvin**	**1.04**	**295**	P	**Pg**	**14 38 53.5**	**-0.4**
ARTV				S	**Sn**	**14 39 09.6**	**-0.3**
EATA	**Eleskirt**	**1.04**	**211**	*e*P	**Pb**	**14 38 53.0**	**-1.4**
EATA				*i* Pg	**Pn**	**14 38 53.9**	**-1.3**
EATA				*e*S	**Sn**	**14 39 09.4**	**-0.7**
EATA				IAML		14 39 17.5	
	comp=Z,4.1nm,0.5s						
EATA	**Eleskirt**	**1.04**	**211**	*i* P	**Pb**	**14 38 53.0**	**-1.4**
EATA	**Eleskirt**	**1.04**	**211**	P	**Pb**	**14 38 53.0**	**-1.4**
DDEM	**Demirkent**	**1.09**	**277**	*i* P	**Pg**	**14 38 54.3**	**-0.6**
DDEM				*i* S	**Sn**	**14 39 11.2**	**0.0**
DDEM	**Demirkent**	**1.09**	**277**	P	**Pg**	**14 38 54.3**	**-0.6**
DDEM				S	**Sn**	**14 39 11.1**	**0.0**
DBAD	**Bademkaya**	**1.16**	**283**	*i* P	**Pb**	**14 38 56.0**	**-0.2**
DBAD				*i* S	**Sn**	**14 39 14.1**	**+1.4**
DBAD	**Bademkaya**	**1.16**	**283**	P	**Pb**	**14 38 56.0**	**-0.2**
DBAD				S	**Sn**	**14 39 14.1**	**+1.4**
HOMI	**Horasan**	**1.21**	**234**	*e*P	**Pn**	**14 38 56.8**	**-0.7**
HOMI				IAML		14 39 36.3	
	comp=Z,8.6nm,0.6s						
BCA	**Borcka**	**1.36**	**301**	PN	**Pn**	**14 38 58.3**	**-1.0**
BCA				SN	**Sb**	**14 39 17.4**	**+0.1**
BCA	**Borcka**	**1.36**	**301**	*e*Pn	**Pn**	**14 38 58.3**	**-1.0**
BCA				*e*Sn	**Sb**	**14 39 17.4**	**+0.1**
TUTA	**Tutak**	**1.39**	**192**	*e*P	**Pb**	**14 38 59.6**	**-0.7**
ERZM	**Erzurum**	**1.63**	**239**	*e*P	**Pg**	**14 39 04.1**	**-1.0**

IDC ***14*** *14:42:28.3±1.5,2°78N×89°13E,h0km,mb3.5/6,mb1 3.7/9, mb1mx3.5/67,mbtmp3.6/9,ML3.6/2,MS3.1/3,Ms1 3.1/3, ms1mx2.8/55,Error ellipse: s-maj=43.1km s-min=19.7km az=51.0*

ISC 14 14:42:28.5±1.4,2°7N±0°2×88°9E±0°1,h10km,n17, σ0°68/10,mb3.6/6,North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**9.34**	**299**	Pn	Pn	14 44 48.5	+5.1
	0.3nm,0.3s,baz=117,slow=15,SNR=5.3						
PALK				Sn	**Sn**	**14 46 27.9**	**-0.7**
	2.1nm,0.3s,baz=116,slow=11,SNR=3.6						
PALK				LR	LR	14 48 04.5	
	comp=Z,81nm,20.8s,baz=116,slow=35						
PSI	**Prapat**	**10.02**	**89**	Pn	**Pn**	**14 44 52.3**	**-0.4**
	1.1nm,0.3s,baz=311,slow=11,SNR=3.0						
PSI				Sn	Sn	14 46 30.8	-15
	1.0nm,0.3s,baz=230,slow=7.9,SNR=1.9						
PSI				LR	LR	14 48 38.1	
	comp=Z,234nm,19.1s,baz=208,slow=38						
CMAR	**Chiang Mai Arr**	**18.50**	**31**	P	**P**	**14 46 44.6**	**-0.3**
	baz=234,slow=14,SNR=2.0						
H08S3	**Diego Garcia H**	**19.32**	**238**	T	T	15 07 24.4	
	baz=58,slow=74,SNR=74						
H08S2	**Diego Garcia H**	**19.32**	**238**	T	T	15 07 16.5	
	baz=58,slow=74,SNR=101						
H08S1	**Diego Carcia H**	**19.34**	**238**	T	T	15 07 17.7	
	baz=58,slow=74,SNR=41						
H01W3	**Cape Leeuwin H**	**44.26**	**150**	T	T	15 37 44.4	
	baz=326,slow=75,SNR=8.1						
H01W2	**Cape Leeuwin H**	**44.27**	**150**	T	T	15 37 47.5	
	baz=326,slow=75,SNR=9.1						
H01W1	**Cape Leeuwin H**	**44.28**	**150**	T	T	15 37 46.4	
	baz=326,slow=75,SNR=8.2						
MKAR	**Makanchi Array**	**44.30**	**354**	P	**P**	**14 50 38.9**	**+0.4**
	0.4nm,0.7s,baz=167,slow=10,SNR=5.2						
SONM	**Songino Array**	**47.43**	**16**	P	**P**	**14 51 03.5**	**+0.1**
	2.2nm,0.6s,baz=195,slow=9.0,SNR=14						
KURBB	**Kurchatov Arra**	**48.55**	**351**	P	**P**	**14 51 12.9**	**+1.1**
	0.7nm,0.9s,baz=178,slow=7.2,SNR=4.2						
WRA	**Warramunga Arr**	**49.95**	**119**	P	**P**	**14 51 22.4**	**-0.6**
	0.6nm,0.8s,baz=296,slow=9.4,SNR=4.3						
ASAR	**Alice Springs**	**51.03**	**123**	P	**P**	**14 51 31.9**	**+0.7**
	0.1nm,0.3s,baz=306,slow=7.9,SNR=2.7						
ZALV	**Zalesovo Beam**	**51.19**	**357**	P	**P**	**14 51 32.1**	**+0.3**
	0.3nm,0.4s,baz=182,slow=7.2,SNR=2.3						
ASAJ	**Asahikawa**	**62.72**	**41**	LR	LR	15 21 16.7	
	comp=Z,6.3nm,18.1s,baz=76,slow=37						
TXAR	**Lajitas Array**	**145.95**	**20**	PKPbc	**PKPbc**	**15 02 09.2**	**-0.1**
	0.2nm,0.5s,baz=8.1,slow=1.3,SNR=3.4						

IDC 14 14:48:45.6±1.0,13°28N×57°71E,h0km,mb3.6/6, mb1 3.7/6,mb1mx3.3/64,mbtmp3.6/6,Error ellipse: s-maj=37.0km s-min=22.4km az=155.0,Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08N2	**Diego Garcia H**	**23.53**	**145**	T	T	15 18 29.8	
	baz

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.41**	**279**	P	**Pb**	**15 05 00.5**	**-0.7**
ONAJ				S	**Sb**	**15 05 06.9**	**-0.6**
JFK	**Kawauchi**	**0.47**	**314**	P	**Pb**	**15 05 01.9**	**-0.4**
JFK				S	**Sb**	**15 05 08.7**	**-0.6**
JHO	**Hitachi**	**0.73**	**234**	P	**Pg**	**15 05 05.3**	**-0.7**
JHO				*e*S	**Sg**	**15 05 15.2**	**-0.3**
JFT	**Otama**	**0.91**	**302**	P	**Pn**	**15 05 09.7**	**-0.9**
JFT				S	**Sn**	**15 05 22.3**	**-1.4**
JMM	**Marumori**	**0.92**	**334**	P	**Pb**	**15 05 09.2**	**-0.6**
JMM				S	**Sn**	**15 05 22.5**	**-1.5**
JSB	**Shiboa**	**1.11**	**267**	P	**Pb**	**15 05 12.9**	**-0.2**
JSB				S	**Sn**	**15 05 28.2**	**-0.6**
JFY	**Yanaizu**	**1.33**	**286**	P	**Pn**	**15 05 16.2**	**-0.2**
JFY				S	**Sg**	**15 05 34.2**	**-0.4**
JIO	**Ouri**	**1.41**	**1**	P	**Pn**	**15 05 16.4**	**-1.1**
JIO				*e*S	**Sn**	**15 05 34.9**	**-1.2**
JOU	**Okura**	**1.42**	**339**	P	**Pn**	**15 05 17.5**	**-0.1**
JOU				S	**Sg**	**15 05 36.9**	**-0.6**
MJAR	**Matsushiro Arr**	**2.53**	**260**	Pn	**Pn**	**15 05 33.3**	**+0.3**
	6.2nm,0.3s,baz=89,slow=14,SNR=39						
MJAR				Sn	**Sb**	**15 06 06.6**	**-2.0**
	12nm,0.3s,baz=72,slow=16,SNR=4.7						
MAJO	**Matsushiro**	**2.54**	**260**	*e*Pn	**Pn**	**15 05 33.8**	**+0.7**
MAT	**Matsushiro**	**2.54**	**260**	P	**Pn**	**15 05 33.6**	**+0.6**
MAT				S	**Sb**	**15 06 06.2**	**-2.4**
MJB9	**Matsu-Tunnel**	**2.54**	**260**	*e*Pn	**Pn**	**15 05 33.8**	**+0.8**
INU	**Inuyama**	**3.86**	**245**	*e*Pn	**Pn**	**15 05 52.7**	**+1.5**
ERM	**Erimo**	**5.17**	**16**	*e*Pn	**Pn**	**15 06 07.0**	**-2.2**
ASAJ	**Asahikawa**	**7.14**	**8**	Pn	**Pn**	**15 06 35.9**	**-0.3**
	1.6nm,0.3s,baz=225,slow=12,SNR=19						
ASAJ				Sn	**Sn**	**15 07 56.8**	**-0.5**
	baz=102,slow=14,SNR=2.2						
ASAJ	**Asahikawa**	**7.14**	**8**	*e*Pn	**Pn**	**15 06 35.0**	**-1.2**
ASAJ				Sn	**Sn**	**15 07 56.8**	**-0.5**
JNU	**Nakatsue**	**9.39**	**248**	Pn	**Pn**	**15 07 10.2**	**+2.9**
	0.1nm,0.3s,baz=86,slow=11,SNR=3.9						
USRK	**Ussuriysk Ar.**	**10.06**	**318**	Pn	**Pn**	**15 07 20.5**	**+4.3**
	0.5nm,0.3s,baz=134,slow=14,SNR=12						
KSRS	**Korea Array**	**10.68**	**276**	Pn	Pn	15 07 29.4	+4.7
	0.2nm,0.3s,baz=88,slow=14,SNR=11						
KSAR	**Wonju Array Be**	**10.71**	**276**	Pn	**Pn**	**15 07 29.4**	**+4.3**
KLR	**Kul'dur**	**14.02**	**333**	Pn	**Pn**	**15 08 13.1**	**+2.7**
	0.0nm,0.3s,baz=125,slow=7.9,SNR=6.5						
NJ2	**Nanjing**	**19.14**	**262**	*e*P	**P**	**15 09 13.4**	**-1.7**
NJ2				pmax	pmax		
	comp=Z,28nm,0.6s						
PETK	**Petropavlovsk-**	**19.73**	**30**	P	**Pn**	**15 09 22.4**	**-0.4**
	comp=Z,0.1nm,0.3s,baz=289,slow=9.2,SNR=4.2						
MA2	**Magadan**	**23.36**	**12**	P	**P**	**15 10 00.2**	**0.0**
	comp=Z,7.0nm,0.9s,baz=170,slow=11,SNR=4.0						
HHC	**Hu-ho-hao-te**	**23.39**	**289**	*e*P	**P**	**15 09 59.1**	**-1.6**
HHC				pmax	pmax		
	comp=Z,18nm,0.9s						
HHC				pmax	pmax		
	comp=Z,66nm,4.0s						
YAK	**Yakutsk**	**26.04**	**348**	P	**P**	**15 10 24.5**	**-0.4**
	comp=Z,10nm,0.6s,baz=123,slow=0.4,SNR=5.5						
YAK	**Yakutsk**	**26.04**	**348**	P	**P**	**15 10 24.5**	**-0.4**
	comp=Z,13nm,0.7s						
SEY	**Seymchan**	**26.80**	**11**	P	**P**	**15 10 32.7**	**+1.0**
	comp=Z,3.0nm,0.9s,baz=215,slow=10.0,SNR=12						
SONM	**Songino Array**	**27.71**	**304**	P	**P**	**15 10 39.6**	**-0.7**
	comp=Z,1.0nm,0.6s,baz=105,slow=9.0,SNR=6.0						
H11N2	**WAKE ISLAND Hy**	**28.23**	**121**	T	T	15 40 10.3	
	baz=313,slow=75,SNR=195						
H11N1	**WAKE ISLAND Hy**	**28.23**	**121**	T	T	15 40 12.2	
	baz=313,slow=75,SNR=177						
H11N3	**WAKE ISLAND Hy**	**28.24**	**121**	T	T	15 40 14.2	
	baz=313,slow=75,SNR=175						
H11S1	**WAKE ISLAND Hy**	**28.94**	**123**	T	T	15 41 07.7	
	baz=315,slow=76,SNR=72						
H11S3	**WAKE ISLAND Hy**	**28.94**	**123**	T	T	15 41 03.3	
	baz=315,slow=76,SNR=48						
H11S2	**WAKE ISLAND Hy**	**28.95**	**123**	T	T	15 41 04.4	
	baz=315,slow=76,SNR=42						
LZH	**Lanzhou**	**29.98**	**280**	*e*P	**P**	**15 11 02.3**	**+1.7**
LZH				pP	sP	15 11 13.8	+8.7
LZH				sP	pP	15 11 19.8	+16
LZH				*e*PP	**PnPn**	**15 12 00.6**	**+3.7**
LZH				pmax	pmax		
	comp=Z,26nm,0.8s						
LZH				pmax	pmax		
	comp=Z,300nm,4.6s						
CD2	**Chengdu**	**31.59**	**270**	*e*P	**P**	**15 11 13.0**	**-1.7**
GTA	**Gaotai**	**32.48**	**287**	*e*P	**P**	**15 11 24.9**	**+2.4**
GTA				pP	sP	15 11 37.3	+10
GTA				sP	pP	15 11 42.3	+17
GTA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
KMI	**Kunming**	**34.88**	**261**	P	**P**	**15 11 44.5**	**+0.9**
KMI				pmax	pmax		
	comp=Z,12nm,0.6s						
WMQ	**Urumqi**	**40.76**	**297**	P	**P**	**15 12 34.4**	**+1.4**
WMQ				pmax	pmax		
	comp=Z,14nm,0.9s						
CMAR	**Chiang Mai Arr**	**41.41**	**255**	P	**P**	**15 12 39.0**	**+0.5**
	comp=Z,0.5nm,0.7s,baz=52,slow=0.5,SNR=5.5						
ZAA0	**Zalesovo Array**	**41.84**	**312**	*e*P	**P**	**15 12 41.0**	**-0.6**
	comp=Z,5.8nm,0.8s						
ZALV	**Zalesovo Beam**	**41.84**	**312**	P	**P**	**15 12 41.8**	**+0.1**
	comp=Z,4.7nm,0.7s,baz=90,slow=6.5,SNR=23						
ZALV				PcP	**PcP**	**15 14 36.7**	**-0.7**
	comp=Z,1.5nm,0.6s,baz=118,slow=2.0,SNR=4.1						
ZALV	**Zalesovo Beam**	**41.84**	**312**	*e*P	**P**	**15 12 39.8**	**-1.9**
ZALV				PcP	**PcP**	**15 14 36.7**	**-0.7**
SBUM	**Sibu**	**43.61**	**225**	*e*P	**P**	**15 12 56.4**	**0.0**
	comp=Z,7.1nm,1.1s						
MK01	**Makanchi Array**	**44.04**	**302**	*e*P	**P**	**15 12 58.3**	**-1.3**
MK31	**Makanchi Array**	**44.04**	**302**	*e*P	**P**	**15 12 58.9**	**-0.7**
MKAR	**Makanchi Array**	**44.04**	**302**	P	**P**	**15 12 59.4**	**-0.2**
	comp=Z,3.1nm,0.7s,baz=90,slow=9.9,SNR=43						
MKAR				PcP	**PcP**	**15 14 44.5**	**-0.4**
	comp=Z,1.1nm,0.9s,baz=83,slow=4.5,SNR=2.6						
KSM	**Kuching**	**45.49**	**226**	*e*P	**P**	**15 13 09.6**	**-1.8**
	comp=Z,12nm,0.8s						
KURK	**Kurchatov**	**45.86**	**308**	*e*P	**P**	**15 13 12.9**	**-1.1**
	comp=Z,8.9nm,0.8s						
KURBB	**Kurchatov Arra**	**45.93**	**308**	P	**P**	**15 13 13.9**	**-0.6**
	comp=Z,5.7nm,0.8s,baz=82,slow=8.3,SNR=45						
IL1	**Eielson Array**	**49.53**	**32**	*e*P	**P**	**15 13 42.6**	**+0.3**
ILAR	**Eielson Array**	**49.53**	**32**	P	**P**	**15 13 43.0**	**+0.6**
	comp=Z,1.7nm,0.6s,baz=266,slow=5.9,SNR=56						
ILB	**Eielson Array**	**49.53**	**32**	*e*P	**P**	**15 13 41.8**	**-0.5**
BATI	**Baumata**	**49.83**	**203**	P	**P**	**15 13 46.1**	**+1.0**
	comp=Z,24nm,0.9s,baz=18,slow=6.4,SNR=3.4						
BVAR	**Borovoye Array**	**50.50**	**312**	P	**P**	**15 13 49.5**	**-0.3**
	comp=Z,0.9nm,0.5s,baz=79,slow=7.2,SNR=6.4						
BVAR				PcP	**PcP**	**15 15 08.1**	**+0.3**
	comp=Z,1.7nm,0.7s,baz=85,slow=3.0,SNR=6.4						
MENT	**Mentasta**	**51.08**	**35**	*e*P	**P**	**15 13 53.8**	**-0.2**
	comp=Z,6.6nm,1.3s						
INK	**Inuvik**	**54.42**	**27**	P	**P**	**15 14 19.6**	**+1.0**
	comp=Z,1.0nm,0.5s,baz=297,slow=5.8,SNR=11						
INK	**Inuvik**	**54.42**	**27**	*e*P	**P**	**15 14 19.4**	**+0.8**
	comp=Z,3.7nm,1.3s						
ARU	**Arti**	**56.30**	**319**	*e*P	**P**	**15 14 30.5**	**-1.8**
	comp=Z,7.6nm,0.8s						
WRA	**Warramunga Arr**	**57.06**	**188**	P	**P**	**15 14 37.3**	**-0.7**
	comp=Z,2.5nm,0.5s,baz=4.5,slow=7.4,SNR=42						
ABKAR	**Akbulak array**	**57.87**	**310**	*e*P	**P**	**15 14 42.3**	**-1.2**
	comp=Z,20nm,0.5s						
SPITS	**Spitsbergen Ar**	**60.50**	**349**	P	**P**	**15 15 01.3**	**0.0**
	comp=Z,4.4nm,0.9s,baz=354,slow=13,SNR=3.5						
AS01	**Alice Springs**	**60.78**	**188**	*e*P	**P**	**15 15 01.9**	**-1.9**
ASAR	**Alice Springs**	**60.78**	**188**	P	**P**	**15 15 03.5**	**-0.4**
	comp=Z,1.5nm,0.8s,baz=16,slow=14,SNR=16						
GEYT	**Alibeck**	**63.76**	**299**	P	**P**	**15 15 23.1**	**-0.7**
	comp=Z,2.5nm,0.7s,baz=52,slow=2.4,SNR=5.3						
YKA	**Yellowknife Ar**	**63.84**	**30**	P	**P**	**15 15 24.7**	**+0.7**
	comp=Z,1.4nm,1.1s,baz=298,slow=6.5,SNR=16						
ARCES	**ARCESS Array B**	**63.96**	**339**	P	**P**	**15 15 24.6**	**-0.1**
	comp=Z,2.8nm,0.8s,baz=55,slow=9.1,SNR=5.7						
FINES	**FINESS Array B**	**68.77**	**332**	P	**P**	**15 15 55.5**	**0.0**
	comp=Z,3.4nm,0.8s,baz=90,slow=8.2,SNR=7.6						
KBZ	**Khabaz**	**70.83**	**311**	P	**P**	**15 16 08.8**	**+0.3**
	comp=Z,4.1nm,0.9s,baz=33,slow=3.3,SNR=9.9						
FCC	**Fort Churchill**	**74.03**	**26**	*e*P	**P**	**15 16 27.1**	**-0.2**
	comp=Z,5.4nm,1.0s						
HFS	**Hagfors**	**74.05**	**336**	P	**P**	**15 16 27.1**	**-0.4**
	comp=Z,4.2nm,1.0s,baz=80,slow=9.5,SNR=4.7						
NB2	**NORSAR Subarra**	**74.15**	**337**	P	**P**	**15 16 27.9**	**-0.2**
	comp=Z,1.2nm,0.8s,baz=38,slow=5.9						
NOA	**NORSAR Array B**	**74.15**	**337**	P	**P**	**15 16 28.2**	**+0.2**
	comp=Z,1.7nm,0.8s,baz=40,slow=5.9,SNR=5.8						
LRM	**Limekiln Ridge**	**74.20**	**44**	*e*P	**P**	**15 16 29.1**	**+0.1**
AKASG	**Malin Array Be**	**74.24**	**322**	P	**P**	**15 16 28.6**	**-0.2**
	comp=Z,2.5nm,0.6s,baz=47,slow=6.1,SNR=19						
BOZ	**Bozeman (W)**	**74.80**	**44**	*e*P	**P**	**15 16 33.2**	**+0.9**
	comp=Z,3.2nm,0.8s						
NVAR	**Mina Array Bea**	**75.05**	**53**	P	**P**	**15 16 35.7**	**+1.7**
	comp=Z,1.3nm,0.7s,baz=274,slow=5.0,SNR=4.5						
PDAR	**Pinedale Array**	**77.72**	**45**	P	**P**	**15 16 50.2**	**+1.1**
	comp=Z,1.0nm,0.6s,baz=268,slow=2.9,SNR=14						
PDAR	**Pinedale Array**	**77.72**	**45**	*e*P	**P**	**15 16 47.7**	**-1.4**
BUR04	**Bucovina Ar. S**	**78.25**	**322**	*e*P	**P**	**15 16 50.8**	**-1.0**
BRTR	**Keskin Array B**	**78.78**	**311**	P	**P**	**15 16 54.6**	**-0.2**
	comp=Z,1.0nm,1.0s,baz=123,slow=5.3,SNR=4.3						
ULM	**Lac du Bonnet**	**79.55**	**33**	P	**P**	**15 16 58.7**	**+0.1**
	comp=Z,2.2nm,0.9s,baz=315,slow=14,SNR=3.0						
RAYN	**Ar Rayn**	**80.57**	**292**	*e*P	**P**	**15 17 03.4**	**-1.4**
	comp=Z,3.6nm,1.0s						
CLL	**Collm**	**81.05**	**330**	*e*P	**P**	**15 17 07.0**	**+0.3**
MMAI	**Mount Meron Ar**	**81.89**	**305**	P	**P**	**15 17 11.6**	**-0.1**
	comp=Z,1.5nm,0.7s,baz=53,slow=9.9,SNR=4.7						
GERES	**GERESS Array B**	**82.66**	**328**	P	**P**	**15 17 14.7**	**-0.8**
	comp=Z,0.9nm,0.8s,baz=72,slow=8.6,SNR=4.9						
TXAR	**Lajitas Array**	**90.19**	**52**	P	**P**	**15 17 53.9**	**+1.2**
	comp=Z,0.8nm,0.6s,baz=313,slow=3.5,SNR=7.1						
LPAZ	**La Paz**	**146.76**	**59**	PKPbc	**PKPbc**	**15 24 35.6**	**+0.4**
	comp=Z,3.2nm,0.8s,baz=330,slow=3.9,SNR=9.1						

NIED ***14*** *15:07:00.9±2.0,37.20N×141.30E,h5km,Mw4.3 Best double couple: M0 2.84000×10^15 NP1:φs22.00000°,δ42.00000°, λ-90.00000°. NP2:φs202.00000°,δ48.00000°, λ-90.00000°.*

ISCJB ***14*** *15:07:50.9±0.9,37.13N±0.03×141.41E±0.05,h19km±5km, mb4.1/31, Error ellipse: s-maj=7.2km s-min=5.0km az=25.4*

JMA ***14*** *15:07:52.2±0.1,37.19N×141.31E,h23km±1km,M4.4*

JMA Felt II J1.

IDC ***14*** *15:07:55.4±4.2,37.16N×141.15E,h33km±31km,mb3.9/27, mb1 4.1/31,mb1mx4.0/64,mbtmp4.1/31,ML3.2/4, Error ellipse: s-maj=14.9km s-min=11.9km az=109.0*

NEIC ***14*** *15:07:55.5±0.3,37.21N×141.16E,h35km,mb4.5/3, Error ellipse: s-maj=8.7km s-min=6.1km az=144.0*

NEIC Recorded [2 JMA] in Fukushima.

ISC 14 15:07:51.6±1.5,37.19N±0.04×141.26E±0.05,h10km±8km, n78,σ1s07/89,mb4.2/31,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.36**	**300**	P	**Pb**	**15 08 00.2**	**+0.1**
JFK				S	**Sb**	**15 08 06.0**	**+0.3**
ONAJ	**Iwakimizuishiy**	**0.38**	**257**	P	**Pb**	**15 08 00.5**	**0.0**
ONAJ				S	**Sb**	**15 08 07.0**	**+0.6**
JMM	**Marumori**	**0.77**	**331**	P	**Pb**	**15 08 07.1**	**0.0**
JHO	**Hitachi**	**0.80**	**224**	P	**Pg**	**15 08 07.0**	**-0.1**
JHO				*e*S	**Sg**	**15 08 18.0**	**+0.5**
JFT	**Otama**	**0.81**	**294**	P	**Pn**	**15 08 08.5**	**-0.5**
JFT				S	**Sn**	**15 08 20.2**	**-0.9**
JSB	**Shiboa**	**1.10**	**259**	P	**Pn**	**15 08 13.6**	**+0.6**
JSB				S	**Sn**	**15 08 29.1**	**+0.9**
JFY	**Yanaizu**	**1.26**	**280**	P	**Pg**	**15 08 16.3**	**+0.5**
JFY				S	**Sn**	**15 08 33.6**	**+1.3**
JIO	**Ouri**	**1.27**	**3**	P	**Pb**	**15 08 14.7**	**-0.8**
JIO				*e*S	**Sn**	**15 08 31.1**	**-1.2**
JOU	**Okura**	**1.27**	**338**	P	**Pg**	**15 08 16.0**	**+0.1**
JOU				S	**Sn**	**15 08 33.6**	**+1.2**
JYS	**Shirataka**	**1.40**	**318**	P	**Pg**	**15 08 18.5**	**0.0**
JYS				S	**Sg**	**15 08 37.8**	**+1.1**
MJAR	**Matsushiro Arr**	**2.53**	**256**	Pn	**Pn**	**15 08 34.2**	**+1.5**
	18nm,0.3s,baz=207,slow=24,SNR=14						
MJAR				Sn	**Sb**	**15 09 09.4**	**+1.1**
	50nm,0.3s,baz=103,slow=16,SNR=9.9						
MAJO	**Matsushiro**	**2.53**	**256**	*e*Pn	**Pn**	**15 08 34.2**	**+1.5**
MAJO				*e*Pg	**Pb**	**15 08 34.4**	**-2.7**
MAJO				*e*Sn	**Sb**	**15 09 09.4**	**+1.1**
MAT	**Matsushiro**	**2.53**	**256**	P	**Pn**	**15 08 34.4**	**+1.6**
MAT				S	**Sb**	**15 09 07.5**	**-0.9**
MJB9	**Matsu-Tunnel**	**2.54**	**256**	*e*Pn	**Pn**	**15 08 34.5**	**+1.7**
INU	**Inuyama**	**3.89**	**243**	*e*Pn	**Pn**	**15 08 52.8**	**+1.4**
ASAJ	**Asahikawa**	**6.99**	**8**	Pn	**Pn**	**15 09 34.1**	**+0.1**
	0.7nm,0.3s,baz=224,slow=19,SNR=6.1						
ASAJ	**Asahikawa**	**6.99**	**8**	*e*Pn	**Pn**	**15 09 32.6**	**-1.4**
JNU	**Nakatsue**	**9.42**	**248**	Pn	**Pn**	**15 10 09.3**	**+2.0**
	0.1nm,0.3s,baz=86,slow=15,SNR=3.5						
JNU	**Nakatsue**	**9.42**	**248**	*e*Pn	**Pn**	**15 10 06.2**	**-1.1**
USRK	**Ussuriysk Ar.**	**9.93**	**318**	Pn	Pn	15 10 20.3	+6.1
	0.2nm,0.3s,baz=122,slow=13,SNR=4.7						
KSRS	**Korea Array**	**10.63**	**275**	Pn	**Pn**	**15 10 26.4**	**+2.6**
	0.1nm,0.3s,baz=86,slow=14,SNR=4.1						
KS01	**Wonju Array Si**	**10.65**	**276**	*e*Pn	**Pn**	**15 10 24.1**	**-0.1**
KSAR	**Wonju Array Be**	**10.66**	**275**	Pn	**Pn**	**15 10 26.4**	**+2.2**
KLR	**Kul'dur**	**13.88**	**333**	Pn	**P**	**15 11 13.7**	**-2.8**
	0.0nm,0.3s,baz=119,slow=19,SNR=2.1						
YAK	**Yakutsk**	**25.89**	**347**	P	**P**	**15 13 22.7**	**-0.6**
	2.7nm,0.3s,baz=157,slow=1.9,SNR=2.2						
SEY	**Seymchan**	**26.66**	**11**	P	**P**	**15 13 31.5**	**+1.2**
	5.6nm,0.9s,baz=187,slow=8.0,SNR=8.3						
SONA1	**Songino Array**	**27.59**	**304**	*e*P	**P**	**15 13 36.6**	**-2.4**
SONA0	**Songino Array**	**27.60**	**304**	*e*P	**P**	**15 13 38.3**	**-0.7**
SONM	**Songino Array**	**27.60**	**304**	P	**P**	**15 13 38.3**	**-0.7**
	1.9nm,0.7s,baz=103,slow=9.3,SNR=9.1						
H11N2	**WAKE ISLAND Hy**	**28.33**	**121**	T	T	15 43 19.7	
	baz=313,slow=75,SNR=99						
H11N1	**WAKE ISLAND Hy**	**28.34**	**121**	T	T	15 43 19.1	
	baz=313,slow=75,SNR=136						
H11N3	**WAKE ISLAND Hy**	**28.35**	**121**	T	T	15 43 21.4	
	baz=313,slow=75,SNR=140						
H11S1	**WAKE ISLAND Hy**	**29.05**	**123**	T	T	15 44 09.4	
	baz=315,slow=75,SNR=154						
H11S3	**WAKE ISLAND Hy**	**29.05**	**123**	T	T	15 44 13.0	
	baz=315,slow=75,SNR=74						
H11S2	**WAKE ISLAND Hy**	**29.06**	**123**	T	T	15 44 10.0	
	baz=315,slow=75,SNR=84						
CMAR	**Chiang Mai Arr**	**41.42**	**255**	P	**P**	**15 15 36.5**	**-1.8**
	0.6nm,0.8s,baz=36,slow=7.8,SNR=4.8						
CMAR				PcP	**PcP**	**15 17 37.5**	**+1.1**
	0.6nm,0.9s,baz=33,slow=2.2,SNR=4.4						
ZAA1	**Zalesovo Array**	**41.72**	**312**	*e*P	**P**	**15 15 40.5**	**+0.1**
ZAA1				*e*PcP	**PcP**	**15 17 37.1**	**+0.4**
ZALV	**Zalesovo Beam**	**41.72**	**312**	P	**P**	**15 15 40.5**	**+0.1**
	3.2nm,0.7s,baz=91,slow=7.2,SNR=10						
ZALV				PcP	**PcP**	**15 17 37.1**	**+0.4**
	0.7nm,0.6s,baz=72,slow=4.7,SNR=2.5						
ZALV	**Zalesovo Beam**	**41.72**	**312**	*e*P	**P**	**15 15 38.4**	**-2.1**
ZALV				PcP	**PcP**	**15 17 37.1**	**+0.4**
MK01	**Makanchi Array**	**43.93**	**302**	*e*P	**P**	**15 15 58.2**	**-0.3**
MK31	**Makanchi Array**	**43.93**	**302**	*e*P	**P**	**15 15 58.0**	**-0.6**
MK32	**Makanchi Array**	**43.93**	**302**	*e*P	**P**	**15 15 59.0**	**+0.4**
MKAR	**Makanchi Array**	**43.93**	**302**	P	**P**	**15 15 59.0**	**+0.4**
	2.7nm,0.8s,baz=91,slow=9.7,SNR=15						
KSM	**Kuching**	**45.57**	**226**	*e*P	**P**	**15 16 11.4**	**-0.4**
	6.1nm,0.8s						
KURK	**Kurchatov**	**45.74**	**308**	*e*P	**P**	**15 16 12.0**	**-0.8**
	8.0nm,0.8s						
KURBB	**Kurchatov Arra**	**45.81**	**308**	P	**P**	**15 16 13.9**	**+0.5**
	5.1nm,0.8s,baz=83,slow=8.4,SNR=27						
ILAR	**Eielson Array**	**49.43**	**32**	P	**P**	**15 16 42.2**	**+0.9**
	2.7nm,0.8s,baz=270,slow=6.5,SNR=23						
BVAR	**Borovoye Array**	**50.38**	**312**	P	**P**	**15 16 49.1**	**+0.4**
	0.4nm,0.5s,baz=75,slow=6.1,SNR=3.8						
BVAR				PcP	**PcP**	**15 18 07.2**	**+0.2**
	0.8nm,0.6s,baz=48,slow=2.1,SNR=3.4						
PSI	**Prapat**	**51.77**	**239**	P	**P**	**15 16 58.8**	**-0.9**
	1.6nm,0.3s,baz=343,slow=11,SNR=3.2						
INK	**Inuvik**	**54.30**	**27**	P	**P**	**15 17 18.8**	**+1.3**
	1.9nm,0.9s,baz=289,slow=10,SNR=6.0						
WR1	**Warramunga Arr**	**57.20**	**188**	*e*P	**P**	**15 17 38.3**	**-0.5**
	3.0nm,1.1s						
WRA	**Warramunga Arr**	**57.20**	**188**	P	**P**	**15 17 38.3**	**-0.5**
	3.0nm,0.6s,baz=4.8,slow=7.0,SNR=26						
AKTO	**Aktyubinsk**	**58.48**	**312**	P	**P**	**15 17 45.8**	**-1.8**
	1.2nm,0.6s,baz=83,slow=8.1,SNR=2.7						
ASAR	**Alice Springs**	**60.92**	**188**	P	**P**	**15 18 04.8**	**+0.1**
	1.4nm,0.7s,baz=10.0,slow=6.4,SNR=14						
GEYT	**Alibeck**	**63.65**	**299**	P	**P**	**15 18 22.7**	**-0.3**
	2.1nm,0.8s,baz=219,slow=1.9,SNR=4.5						
YKA	**Yellowknife Ar**	**63.73**	**30**	P	**P**	**15 18 23.6**	**+0.6**
	0.8nm,0.9s,baz=300,slow=6.5,SNR=12						
ARA0	**ARCESS Array S**	**63.81**	**339**	*e*P	**P**	**15 18 23.6**	**+0.1**
ARCES	**ARCESS Array B**	**63.81**	**339**	P	**P**	**15 18 23.6**	**+0.1**
	2.5nm,0.7s,baz=39,slow=7.8,SNR=5.0						
FIA0	**FINESS Array S**	**68.62**	**332**	*e*P	**P**	**15 18 54.8**	**+0.4**
FINES	**FINESS Array B**	**68.62**	**332**	P	**P**	**15 18 54.8**	**+0.4**
	6.2nm,0.9s,baz=54,slow=9.7,SNR=10						
STKA	**Stephens Creek**	**68.71**	**180**	P	**P**	**15 18 54.6**	**-0.6**
	2.2nm,0.8s,baz=350,slow=8.2,SNR=7.7						
KBZ	**Khabaz**	**70.71**	**311**	P	**P**	**15 19 07.8**	**+0.2**
	3.0nm,0.8s,baz=94,slow=6.2,SNR=8.5						
NB2	**NORSAR Subarra**	**74.00**	**337**	P	**P**	**15 19 27.3**	**+0.3**
	comp=Z,1.2nm,0.7s,baz=40,slow=6.2						
NB200	**NORSAR Array S**	**74.00**	**337**	*e*P	**P**	**15 19 27.6**	**+0.6**
NOA	**NORSAR Array B**	**74.00**	**337**	P	**P**	**15 19 27.6**	**+0.6**
	comp=Z,2.3nm,0.8s,baz=39,slow=5.8,SNR=6.6						
AKASG	**Malin Array Be**	**74.10**	**322**	P	**P**	**15 19 27.6**	**-0.2**
	comp=Z,1.9nm,0.6s,baz=46,slow=6.1,SNR=12						
NVAR	**Mina Array Bea**	**74.99**	**53**	P	**P**	**15 19 34.6**	**+1.2**
	comp=Z,0.5nm,0.3s,baz=288,slow=5.2,SNR=3.6						
PDAR	**Pinedale Array**	**77.64**	**45**	P	**P**	**15 19 47.5**	**-1.0**
	comp=Z,0.5nm,0.6s,baz=291,slow=1.8,SNR=5.5						
BR101	**Keskin Array S**	**78.66**	**311**	*e*P	**P**	**15 19 54.4**	**+0.4**
BRTR	**Keskin Array B**	**78.66**	**311**	P	**P**	**15 19 54.4**	**+0.4**
	comp=Z,0.7nm,0.7s,baz=46,slow=6.2,SNR=3.3						
CLL	**Collm**	**80.90**	**330**	*i* P	**P**	**15 20 06.1**	**+0.3**
	comp=Z,5.0nm,1.0s						
GERES	**GERESS Array B**	**82.52**	**328**	P	**P**	**15 20 14.9**	**+0.5**
	comp=Z,0.8nm,0.6s,baz=35,slow=8.1,SNR=6.4						
LTX	**Lajitas**	**90.12**	**52**	*e*P	**P**	**15 20 53.5**	**+1.3**
TXAR	**Lajitas Array**	**90.12**	**52**	P	**P**	**15 20 53.5**	**+1.3**
	comp=Z,0.3nm,0.7s,baz=298,slow=2.7,SNR=3.6						
SNAA	**Sanae**	**140.86**	**197**	PKP	**PKPdf**	**15 27 20.6**	**0.0**
	comp=Z,1.3nm,0.8s,baz=233,slow=5.1,SNR=3.3						
LPAZ	**La Paz**	**146.72**	**59**	PKPbc	**PKPbc**	**15 27 35.1**	**+0.2**
	comp=Z,1.1nm,0.6s,baz=3.1,slow=8.3,SNR=4.1						
SIV	**San Ignacio**	**151.07**	**49**	PKPbc	**PKPbc**	**15 27 46.4**	**+1.0**
	comp=Z,2.8nm,0.8s,baz=301,slow=5.1,SNR=5.4						
PLCA	**Paso Flores**	**155.08**	**108**	PKPab	**PKPab**	**15 28 10.6**	**+1.2**
	comp=Z,1.7nm,0.9s,baz=0.0,slow=4.0,SNR=3.4						

NNC 14 15:12:13.4±4.4,37.09N×70.66E,h0km,mb3.5,mpv3.1, 5C-3D,Error ellipse: s-maj=34.5km s-min=29.0km az=161.0,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**

700nm,0.5s
PET eS Sn 15 14 59.9 -1.4
PET A A 15 15 01.8
7µm,0.5s
PET Petropavlovsk 4.18 25 ePn **Pn 15 14 13.3 -0.4**
PET eSn **Sn 15 15 01.0 -0.3**
PET Petropavlovsk 4.18 25 PN **Pn 15 14 13.3 -0.4**
PET S **Sn 15 14 59.4 -1.9**
INSR Institute 4.21 25 eP **Pn 15 14 13.3 -0.7**
INSR eS **Sn 15 15 00.7 -1.2**
INSR Institute 4.21 25 PN **Pn 15 14 13.3 -0.7**
INSR S **Sn 15 15 00.7 -1.2**
DALK Dalny 4.22 26 eP **Pn 15 14 13.7 -0.5**
DALK eS **Sn 15 14 59.7 -2.4**
DALK Dalny 4.22 26 PN **Pn 15 14 13.7 -0.5**
DALK S **Sn 15 14 59.7 -2.4**
UGLR Uglovaya 4.40 25 eP **Pn 15 14 16.9 +0.2**
UGLR Uglovaya 4.40 25 PN **Pn 15 14 16.9 +0.2**
KOK Koryaka 4.42 23 eP **Pn 15 14 18.0 +1.0**
KOK Koryaka 4.42 23 PN **Pn 15 14 18.0 +1.0**
AVH Avacha 4.42 24 *i* P **Pn 15 14 17.7 +0.7**
AVH Avacha 4.42 24 PN **Pn 15 14 17.7 +0.7**
SMAR Somma 4.44 25 eP **Pn 15 14 17.4 0.0**
SMAR eS **Sn 15 15 06.5 -1.3**
SMAR Somma 4.44 25 PN **Pn 15 14 17.4 0.0**
SMAR S **Sn 15 15 06.5 -1.3**
KRER Koryakskii 4.46 24 eP **Pn 15 14 18.2 +0.5**
KRER Koryakskii 4.46 24 PN **Pn 15 14 18.2 +0.5**
SDLR Sedlovina 4.47 25 eP **Pn 15 14 17.3 -0.5**
SDLR Sedlovina 4.47 25 PN **Pn 15 14 17.3 -0.5**
KRX Arik 4.48 23 eP **Pn 15 14 18.7 +0.8**
KRX eS **Sn 15 15 08.9 0.0**
KRX Arik 4.48 23 PN **Pn 15 14 18.7 +0.8**
KRX S **Sn 15 15 08.9 0.0**
NLC Nalytchevo 4.52 29 eP **Pn 15 14 16.6 -1.6**
NLC eS **Sn 15 15 03.8 -5.6**
NLC Nalytchevo 4.52 29 PN **Pn 15 14 16.6 -1.6**
NLC S **Sn 15 15 03.8 -5.6**
GNL Ganaly 4.64 17 eP **Pn 15 14 21.1 +1.1**
GNL Ganaly 4.64 17 PN **Pn 15 14 21.1 +1.1**
SPN Mys Shipunski 4.69 34 eP **Pn 15 14 19.0 -1.6**
SPN eS **Sn 15 15 09.5 -4.1**
SPN Mys Shipunski 4.69 34 PN **Pn 15 14 19.0 -1.6**
SPN S **Sn 15 15 09.5 -4.1**
KII Karymskiy 5.30 25 eP **Pn 15 14 29.5 +0.5**
KII eS **Sn 15 15 28.4 -0.4**
KII Karymskiy 5.30 25 PN **Pn 15 14 29.5 +0.5**
KII S **Sn 15 15 28.4 -0.4**
KZV Kizimen 6.49 24 eP **Pn 15 14 44.9 -0.4**
KZV Kizimen 6.49 24 PN **Pn 15 14 44.9 -0.4**
TUMR Tumrok 6.60 23 eP **Pn 15 14 47.0 +0.2**
TUMR Tumrok 6.60 23 PN **Pn 15 14 47.0 +0.2**
KUR Kuril'sk 6.70 236 eP **Pn 15 14 50.3 +2.3**
KUR AMB AMB 15 14 59.4
650nm,0.4s
KUR eS **Sn 15 16 03.1 +0.3**
KUR Kuril'sk 6.70 236 *de*PN **Pn 15 14 50.0 +2.0**
KUR *i* S **Sn 15 16 05.4 +2.6**
KUR pmax pmax
comp=Z,940nm,0.6s
KUR pmax pmax
comp=N,268nm,0.3s
KUR pmax pmax
comp=E,274nm,0.3s
KUR pmax pmax
comp=Z,2µm,1.0s
KUR smax smax
comp=N,2µm,0.6s
KUR smax smax
comp=E,2µm,0.6s
KUR smax smax
comp=N,6µm,1.6s
KUR smax smax
comp=E,3µm,1.7s
ESO Esso 6.90 14 eP **Pn 15 14 51.7 +0.9**
ESO Esso 6.90 14 PN **Pn 15 14 51.7 +0.9**
KMNR Kamenistaya 7.05 21 eP **Pn 15 14 53.6 +0.7**
KMNR Kamenistaya 7.05 21 PN **Pn 15 14 53.6 +0.7**
KOZ Kozyrevsk 7.25 19 eP **Pn 15 14 55.2 -0.3**
KOZ Kozyrevsk 7.25 19 PN **Pn 15 14 55.2 -0.3**
BZMR Bezymyannaya 7.28 22 eP **Pn 15 14 56.1 +0.1**
BZMR Bezymyannaya 7.28 22 PN **Pn 15 14 56.1 +0.1**
BZWR Bezymyannyi-We 7.30 22 eP **Pn 15 14 56.6 +0.2**
BZWR Bezymyannyi-We 7.30 22 PN **Pn 15 14 56.6 +0.2**
ZLN Zelenaya 7.43 23 eP **Pn 15 14 58.6 +0.6**
ZLN Zelenaya 7.43 23 PN **Pn 15 14 58.6 +0.6**
LGNR Loginova 7.46 22 eP **Pn 15 14 59.7 +1.1**
LGNR Loginova 7.46 22 PN **Pn 15 14 59.7 +1.1**
CIRR Tsirk 7.50 22 eP **Pn 15 14 59.9 +0.8**
CIRR Tsirk 7.50 22 PN **Pn 15 14 59.9 +0.8**
KRSR Krestovskiy 7.55 21 eP **Pn 15 14 59.0 -0.7**
KRSR Krestovskiy 7.55 21 PN **Pn 15 14 59.0 -0.7**
KLY Klyuchi 7.66 21 eP **Pn 15 15 01.6 +0.6**
KLY Klyuchi 7.66 21 PN **Pn 15 15 01.6 +0.6**
BDR Baidarnaya 8.02 22 eP **Pn 15 15 05.8 -0.3**
BDR Baidarnaya 8.02 22 PN **Pn 15 15 05.8 -0.3**
SRKR Sorokina 8.09 22 eP **Pn 15 15 06.6 -0.4**
SRKR Sorokina 8.09 22 PN **Pn 15 15 06.6 -0.4**
SMKR Semkarok 8.10 23 eP **Pn 15 15 06.2 -1.0**
SMKR Semkarok 8.10 23 PN **Pn 15 15 06.2 -1.0**
SHO Shikotan 8.16 232 eP **Pn 15 15 05.7 -2.3**
SHO AMB AMB 15 15 17.4
comp=E,285nm,0.4s
SHO eS **Sn 15 16 31.7 -6.9**
SHO Shikotan 8.16 232 ePN **Pn 15 15 05.3 -2.7**
SHO pmax pmax
comp=Z,283nm,0.5s
SHO pmax pmax
comp=E,195nm,0.6s
SHO pmax pmax
comp=N,274nm,0.3s
KBTR Krutoberegovo 8.17 29 eP **Pn 15 15 06.2 -1.9**
KBTR Krutoberegovo 8.17 29 PN **Pn 15 15 06.2 -1.9**
TYV Tymovskoe 8.55 286 eP **Pn 15 15 16.5 +3.2**
TYV AMB AMB 15 15 19.7
comp=N,147nm,0.5s
TYV Tymovskoe 8.55 286 ePN Pn 15 15 18.0 +4.7
TYV eS **Sn 15 16 53.4 +5.4**
TYV pmax pmax
comp=Z,147nm,0.5s
TYV pmax pmax
comp=Z,3µm,2.9s
TYV smax smax
comp=E,139nm,0.9s
YUK Yuzh-Kuril'sk 8.56 236 eP **Pn 15 15 14.6 +1.1**
YUK AMB AMB 15 15 17.0
comp=E,920nm,0.4s
YUK eS **Sn 15 16 46.6 -1.8**
YUK Yuzh-Kuril'sk 8.56 236 ePN **Pn 15 15 13.5 0.0**
YUK pmax pmax
comp=N,303nm,0.4s
YUK pmax pmax
comp=E,558nm,0.4s
YUK pmax pmax
comp=Z,917nm,0.4s
BKI Bering 8.65 43 eP **Pn 15 15 11.3 -3.3**
BKI eS Sn 15 16 37.8 -13
BKI Bering 8.65 43 PN **Pn 15 15 11.3 -3.3**
YSS Yuzh-Sakhalins 8.97 260 ePn **Pn 15 15 23.2 +4.1**
YSS eSn Sn 15 17 08.2 +10
YSS Yuzh-Sakhalins 8.97 260 ⇑*i*PN Pn 15 15 24.5 +5.4
YSS pmax pmax
comp=Z,570nm,0.7s
YSS pmax pmax
comp=N,290nm,0.5s
YSS pmax pmax
comp=E,590nm,0.5s
YSS pmax pmax
comp=Z,1µm,3.2s
YSS pmax pmax
comp=E,2µm,3.0s
YSS MLR MLR
comp=Z,2µm,15.0s
YSS MLR MLR
comp=N,1µm,14.0s
OKH Okha 9.06 303 ⇑*i*PN Pn 15 15 25.1 +4.9
OKH *i* S Sn 15 17 12.0 +12
OKH pmax pmax
comp=Z,2µm,10.6s
OKH smax smax
comp=N,5µm,11.7s
OKH MLR MLR
comp=Z,2µm,14.0s

PALN Palana 10.14 13 eP **Pn 15 15 33.9 -1.0**
PALN Palana 10.14 13 PN **Pn 15 15 33.9 -1.0**
NKL Nikolayevsk 10.20 298 *i* PN **Pn 15 15 40.0 +4.3**
NKL eS **Sn 15 17 32.0 +3.9**
NKL pmax pmax
comp=N,1µm,7.0s
NKL pmax pmax
comp=E,4µm,7.0s
NKL pmax pmax
comp=Z,3µm,7.0s
NKL pmax pmax
comp=N,62nm,0.9s
NKL pmax pmax
comp=E,77nm,0.9s
NKL pmax pmax
comp=Z,430nm,0.9s
NKL smax smax
comp=N,2µm,10.0s
NKL smax smax
comp=E,4µm,10.0s
NKL MLR MLR
comp=N,2µm,16.0s
NKL MLR MLR
comp=E,2µm,16.0s
ASAJ Asahikawa 10.38 245 P **Pn 15 15 40.8 +2.5**
comp=E,10nm,0.3s,baz=64,slow=13,SNR=63
ASAJ Asahikawa 10.38 245 ePn **Pn 15 15 40.5 +2.3**
MA2 Magadan 10.71 346 P **Pn 15 15 43.9 +1.2**
comp=E,19nm,0.3s,baz=161,slow=10,SNR=78
MA2 S **Sn 15 17 48.9 +8.3**
comp=E,2.7nm,0.3s,baz=80,slow=12,SNR=1.6
MA2 LR LR 15 20 29.6
comp=E,4µm,19.3s,baz=166,slow=41
MA2 Magadan 10.71 346 eP **Pn 15 15 43.7 +1.0**
OSSR Ossora 10.87 20 eP **Pn 15 15 44.7 -0.1**
OSSR Ossora 10.87 20 PN **Pn 15 15 44.7 -0.1**
ERM Erimo 11.39 235 eP **Pn 15 15 51.2 -0.8**
ERM Erimo 11.39 235 ePn **Pn 15 15 51.2 -0.8**
ERM eSn **Sn 15 17 50.5 -6.9**
ERM Erimo 11.39 235 ePN **Pn 15 15 51.2 -0.8**
SMY Shemya 12.08 66 ePn **Pn 15 15 58.9 -2.5**
SMY eSn Sn 15 18 04.3 -10
SMY Shemya 12.08 66 ePN **Pn 15 15 58.9 -2.5**
GRNR Gornyy 12.49 284 ⇑*i*PN **P 15 16 12.1 -3.8**
GRNR eS **Sn 15 18 27.7 +3.4**
GRNR pmax pmax
comp=E,96nm,1.0s
GRNR pmax pmax
comp=Z,84nm,1.0s
GRNR smax smax
comp=N,140nm,1.1s
TILK Tilichiki 12.68 24 eP **Pn 15 16 07.5 -2.0**
TILK Tilichiki 12.68 24 PN **Pn 15 16 07.5 -2.0**
TEY Ternei 13.67 259 eP **Pn 15 16 22.8 +0.1**
TEY pmax pmax
comp=E,1µm,5.0s
TEY pmax pmax
comp=Z,1µm,5.0s
SEY Seymchan 13.81 354 P **Pn 15 16 24.7 +0.2**
comp=Z,1.5nm,0.3s,baz=160,slow=9.4,SNR=66
SEY S **Sn 15 19 02.7 +6.6**
comp=Z,0.8nm,0.3s,baz=22,slow=19,SNR=1.7
SEY LR LR 15 22 28.7
comp=Z,5µm,19.5s,baz=162,slow=40
SEY Seymchan 13.81 354 eP **Pn 15 16 24.6 +0.1**
SEY Seymchan 13.81 354 *ce*P **Pn 15 16 24.6 +0.1**
KLR Kul'dur 15.63 279 P **P 15 16 51.2 +0.4**
comp=Z,0.3nm,0.3s,baz=76,slow=12,SNR=200
KLR S **Sn 15 19 45.6 +5.2**
baz=338,slow=11,SNR=1.6
KLR LR LR 15 23 29.1
comp=Z,498nm,18.7s,baz=83,slow=39
KLR Kul'dur 15.63 279 *ci*P **P 15 16 51.1 +0.3**
USRK Ussuriysk Ar. 17.01 262 P **Pn 15 17 05.3 +0.1**
comp=Z,1.8nm,0.3s,baz=66,slow=11,SNR=32
USRK S **Sn 15 20 10.4 -3.2**
baz=133,slow=53,SNR=1.6
USRK LR LR 15 23 26.3
comp=Z,1µm,19.4s,baz=67,slow=36
VLA Vladivostok 17.57 259 *i* P Pn 15 17 00.4 -12
MJB9 Matsu-Tunnel 18.01 232 eP **P 15 17 17.0 -0.1**
comp=Z,104nm,0.8s
MAJO Matsushiro 18.01 232 eP **Pn 15 17 18.3 +0.8**
MAJO Matsushiro 18.01 232 eP **P 15 17 15.8 -1.3**
comp=Z,103nm,0.8s
MAJO Matsushiro 18.01 232 *ce*P **P 15 17 16.9 -0.2**
MAT Matsushiro 18.01 232 P **P 15 17 16.9 -0.2**
MAT S **S 15 20 39.6 +0.9**
MJAR Matsushiro Arr 18.01 232 P **Pn 15 17 18.7 +1.2**
comp=Z,5.5nm,0.3s,baz=24,slow=8.0,SNR=95
MJAR S **Sn 15 20 36.7 -1.1**
comp=Z,0.2nm,0.3s,baz=220,slow=28,SNR=2.4
MJAR LR LR 15 24 36.6
comp=Z,1µm,20.2s,baz=40,slow=38
MJAR ScP **ScP 15 25 14.8 -2.0**
baz=96,slow=2.5,SNR=4.1
ZEA Zeya 18.21 295 eP **P 15 17 19.4 +0.3**
ZEA eS **S 15 20 42.0 -0.5**
ZEA pmax pmax
comp=E,140nm,1.0s
ZEA pmax pmax
comp=N,73nm,0.8s
ZEA pmax pmax
comp=Z,220nm,1.2s
ZEA pmax pmax
comp=E,1µm,9.0s
ZEA pmax pmax
comp=Z,2µm,9.0s
ZEA smax smax
comp=N,2µm,9.0s
ZEA smax smax
comp=E,1µm,9.0s
ZEA MLR MLR
comp=E,2µm,15.0s
ZEA MLR MLR
comp=Z,3µm,15.0s
MSHR Mys Shultsa 18.30 258 *ce*P **Pn 15 17 22.3 +1.3**
MDJ Mudanjiang 18.39 265 P **P 15 17 19.4 -1.8**
MDJ S **S 15 20 37.9 -8.6**
MDJ ScP **ScP 15 25 14.0 -3.5**
MDJ ScS **ScS 15 28 56.9 -1.5**
MDJ pmax pmax
comp=Z,73nm,0.9s
MDJ pmax pmax
comp=Z,2µm,6.4s
MDJ LR LR
comp=Z,2µm,10.3s
MDJ LR LR
comp=Z,2µm,23.5s
MDJ LR LR
comp=Z,5µm,34.5s
MDJ Mudanjiang 18.39 265 eP **P 15 17 20.6 -0.6**
comp=Z,258nm,1.2s
YAK Yakutsk 19.29 321 P **P 15 17 30.1 -0.6**
comp=Z,0.2nm,0.3s,baz=61,slow=2.9,SNR=234
YAK S **S 15 21 02.3 -2.6**
baz=337,slow=24,SNR=8.4
YAK Yakutsk 19.29 321 eP **P 15 17 30.2 -0.6**
comp=Z,1µm,0.7s
YAK eS **S 15 21 04.5 -0.4**
YAK Yakutsk 19.29 321 *ci*P **P 15 17 30.3 -0.5**
YAK eS **S 15 21 05.5 +0.5**
YAK pmax pmax
comp=Z,627nm,0.9s
YAK pmax pmax
comp=N,154nm,1.1s
YAK pmax pmax
comp=E,311nm,1.1s
YAK smax smax
comp=N,198nm,1.4s
YAK smax smax
comp=E,684nm,1.5s
INU Inuyama 19.54 232 eP **Pn 15 17 34.9 -0.9**
comp=E,106nm,1.0s
CLNS Chul'man 19.87 304 eP **P 15 17 38.0 +0.7**
CLNS Chul'man 19.87 304 eP **P 15 17 38.0 +0.7**
CLNS eS **S 15 21 18.1 +1.3**
CLNS *e* 15 21 51.5
CLNS eSS SnSn 15 21 58.1 +20
CLNS pmax pmax
comp=Z,195nm,1.0s
CLNS pmax pmax
comp=E,138nm,1.1s
CLNS pmax pmax
comp=N,105nm,1.2s
CLNS smax smax
comp=E,987nm,12.3s
CLNS smax smax
comp=N,647nm,9.0s
CLNS MLR MLR
comp=Z,2µm,13.0s
CLNS MLR MLR
comp=E,2µm,13.0s
CLNS MLR MLR
comp=N,636nm,11.0s
JHJ Hachijo jima 2 20.04 222 LR LR 15 25 26.1
comp=N,229nm,21.7s,baz=168,slow=36
CN2 Changchun 21.44 267 ⇑P **P 15 17 51.1 -3.1**
CN2 PP **PnPn 15 18 16.9 -0.6**
CN2 eS **S 15 21 40.0 -7.8**
CN2 pmax pmax
comp=N,30nm,0.8s
CN2 LR LR
comp=N,1µm,13.0s
CN2 LR LR
comp=N,860nm,13.0s
CN2 LR LR
comp=N,1µm,17.0s
GAMB Gambell 22.75 38 eP **P 15 18 07.2 -0.8**
comp=N,93nm,0.8s
KSRS Korea Array 23.26 250 P **P 15 18 13.7 +0.4**
comp=N,149nm,0.9s,baz=48,slow=9.3,SNR=272
KSRS PcP **PcP 15 21 59.2 +0.9**
comp=N,11nm,0.8s,baz=15,slow=1.5,SNR=8.0
KSRS S **S 15 22 20.7 +1.2**
comp=N,6.9nm,1.0s,baz=24,slow=1.5,SNR=4.5
KSRS LR LR 15 28 22.5
comp=N,730nm,18.3s,baz=68,slow=39
KSRS Korea Array 23.26 250 P **P 15 18 13.7 +0.4**
KSRS 15 21 59.2
KSRS S **S 15 22 20.7 +1.2**
KSRS pmax pmax
comp=Z,147nm,0.9s
KSRS smax smax
comp=N,7.0nm,1.0s
KSRS MLR MLR
comp=Z,730nm,18.3s
KS01 Wonju Array Si 23.27 250 eP **P 15 18 12.9 -0.5**
KS01 *e*PcP **PcP 15 21 59.2 +0.9**
KS15 Wonju Array Si 23.30 250 eP **P 15 18 14.2 +0.7**
KSAR Wonju Array Be 23.30 250 P **P 15 18 13.7 +0.1**
KSAR PcP **PcP 15 21 59.2 +0.8**
KSAR S **S 15 22 20.7 +0.7**
KSAR Wonju Array Be 23.30 250 P **P 15 18 13.7 +0.1**
KSAR 15 21 59.2
KSAR S **S 15 22 20.7 +0.7**
HIA Hailar 23.34 284 eP **P 15 18 12.2 -1.7**
comp=Z,41nm,0.7s
HIA LR LR
comp=Z,3µm,20.0s
HIA Hailar 23.34 284 eP **P 15 18 12.2 -1.7**
HIA pmax pmax
comp=Z,41nm,0.7s
SNY Shenyang 23.57 264 ⇑P **P 15 18 15.6 -0.4**
SNY S **S 15 22 17.1 -7.3**
SNY pmax pmax
comp=Z,57nm,0.9s
SNY pmax pmax
comp=Z,520nm,5.3s
SNY LR LR
comp=Z,2µm,28.5s
SNY LR LR
comp=Z,1µm,23.5s
SNY LR LR
comp=Z,4µm,34.9s
INCN Inchon 24.04 252 eP **P 15 18 21.6 +1.3**
comp=Z,60nm,0.8s
INCN LR LR
comp=Z,2µm,20.0s
INCN Inchon 24.04 252 P **P 15 18 21.9 +1.6**
SNR=10.0
INCN Inchon 24.04 252 P **P 15 18 21.9 +1.6**
SNR=10.0
TJN Taejon 24.30 249 *ci*P **P 15 18 24.2 +1.6**
JCJ Chichijima 24.49 210 LR LR 15 30 08.8
comp=Z,178nm,18.7s,baz=4.0,slow=41
JNU Nakatsue 24.53 238 P **P 15 18 26.0 +1.2**
comp=Z,51nm,0.8s,baz=39,slow=4.1,SNR=37
JNU S **S 15 22 40.5 +0.4**
comp=Z,5.9nm,1.0s,baz=8.1,slow=7.1,SNR=1.9
JNU LR LR 15 28 24.7
comp=Z,717nm,20.9s,baz=52,slow=37
JNU Nakatsue 24.53 238 eP **P 15 18 26.1 +1.3**
comp=Z,49nm,0.8s
JNU S **S 15 22 40.5 +0.4**
TIXI Tiksi 25.59 341 eP **P 15 18 31.8 -2.3**
comp=Z,121nm,0.7s
TIXI Tiksi 25.59 341 *ce*P **P 15 18 31.7 -2.3**
TIXI pmax pmax
comp=Z,106nm,0.6s
TIXI MLR MLR
comp=Z,1µm,15.0s
BOD Bodaibo 25.84 305 eP **P 15 18 34.4 -2.0**
BOD *e* 15 18 54.9
BOD pmax pmax
comp=Z,41nm,1.0s
DL2 Dalian 26.38 260 P **P 15 18 42.1 +0.6**
DL2 pP **pP 15 18 57.3 -1.6**
DL2 S **S 15 23 10.8 +1.7**
DL2 pmax pmax
comp=Z,70nm,0.7s
DL2 pmax pmax
comp=Z,310nm,6.4s
DL2 LR LR
comp=Z,730nm,22.1s
DL2 LR LR
comp=Z,850nm,27.0s
DL2 LR LR
comp=Z,2µm,32.7s
CIT Chita 26.60 292 eP **P 15 18 42.2 -1.3**
CIT pmax pmax
comp=Z,125nm,1.4s
BJI Beijing 29.31 267 P **P 15 19 07.8 +0.2**
BJI S **S 15 23 53.3 -1.9**
BJI pmax pmax
comp=Z,42nm,1.1s
BJI LR LR
comp=Z,1µm,27.0s
BJI LR LR
comp=Z,2µm,26.1s
BJI LR LR
comp=Z,3µm,32.4s
BJT Baijiatuan 29.32 267 PFAKE 15 19 20.0 +12
BJT LR LR
comp=Z,2µm,22.0s
SVW2 Sparrevohn 29.48 48 eP **P 15 19 09.0 0.0**
comp=Z,28nm,0.7s
IM3 Indian Mountai 30.70 38 eP **P 15 19 19.1 -0.5**
IM3 *e*PcP **PcP 15 22 16.1 +0.6**
H11N2 WAKE ISLAND Hy 30.81 159 T T 15 51 44.6
baz=343,slow=76,SNR=101
H11N1 WAKE ISLAND Hy 30.83 159 T T 15 52 06.8
baz=343,slow=76,SNR=166
H11N3 WAKE ISLAND Hy 30.83 159 T T 15 52 03.7
baz=343,slow=76,SNR=163
JOW Kunigami 30.83 233 P **P 15 19 21.9 +0.7**
comp=Z,54nm,0.8s,baz=352,slow=3.8,SNR=15
JOW LR LR 15 31 14.3
comp=Z,511nm,21.3s,baz=48,slow=35
JOW Kunigami 30.83 233 eP **P 15 19 21.8 +0.6**
comp=Z,57nm,0.8s
TIA Tai'an 30.85 260 P **P 15 19 21.4 +0.1**
TIA S **S 15 24 23.8 +4.2**
TIA pmax pmax
comp=Z,29nm,0.8s
TIA pmax pmax
comp=Z,360nm,10.0s
TIA LR LR
comp=Z,900nm,24.1s
TIA LR LR
comp=Z,630nm,33.0s
TIA LR LR
comp=Z,2µm,33.7s
PPLA Purkeypile 31.13 44 eP **P 15 19 23.4 -0.2**
comp=Z,40nm,0.9s
PPLA *e*PcP **PcP 15 22 17.1 +0.2**
KDAK Kodiak Island 31.18 54 P **P 15 19 22.7 -1.2**
comp=Z,38nm,0.7s,baz=294,slow=8.2,SNR=15
KDAK Kodiak Island 31.18 54 P **P 15 19 22.7 -1.2**
KDAK LR LR
comp=Z,470nm,20.0s
CAST Castle Rocks 31.19 43 eP **P 15 19 24.2 +0.2**

comp=Z,34nm,0.8s
CAST *ePcP* **PcP** 15 22 12.9 -4.0
SSE Sheshan 31.65 248 P **P** 15 19 30.8 +2.5
SSE S **S** 15 24 35.6 +3.5
SSE pmax pmax
comp=Z,23nm,0.6s
SSE LR LR
comp=Z,320nm,18.1s
SSE LR LR
comp=Z,450nm,16.1s
BPAW Bear Paw Mtn. 31.70 42 *eP* **P** 15 19 28.8 +0.3
comp=Z,65nm,1.0s
KTH Kantishna Hill 31.71 43 *eP* **P** 15 19 29.5 +0.8
comp=Z,148nm,1.1s
ULN Ulaanbaatar 31.79 286 *eP* **P** 15 19 28.5 -1.1
comp=Z,11nm,0.9s
ULN Ulaanbaatar 31.79 286 P **P** 15 19 29.0 -0.6
SNR=11
ULN Ulaanbaatar 31.79 286 P **P** 15 19 29.0 -0.6
SNR=11
ULN Ulaanbaatar 31.79 286 *eP* **P** 15 19 28.5 -1.1
ULN pmax pmax
comp=Z,11nm,0.9s
SUA Susitna One 31.82 47 *eP* **P** 15 19 29.1 -0.6
comp=Z,46nm,0.8s
SUA *ePcP* **PcP** 15 22 18.5 -0.3
MLY Manley 31.85 40 *eP* **P** 15 19 30.2 +0.4
comp=Z,79nm,1.2s
MLY *ePcP* **PcP** 15 22 19.3 +0.5
BRLK Bradley Lake 31.86 50 *eP* **P** 15 19 28.8 -1.1
comp=Z,33nm,0.7s
HHC Hu-ho-hao-te 31.91 272 *eP* **P** 15 19 30.3 -0.4
HHC sP pP 15 19 50.4 +2.0
HHC S **S** 15 24 31.9 -4.3
HHC sS sS 15 25 01.3 -5.3
HHC SS **SnSn** 15 26 30.0 -1.5
HHC pmax pmax
comp=Z,47nm,1.0s
HHC pmax pmax
comp=Z,100nm,6.0s
HHC LR LR
comp=Z,4μm,12.9s
HHC LR LR
comp=Z,4μm,15.0s
HHC LR LR
comp=Z,5μm,14.6s
H11S1 WAKE ISLAND Hy 31.95 160 T T 15 53 19.5
baz=346,slow=76,SNR=1557
H11S3 WAKE ISLAND Hy 31.96 160 T T 15 53 22.7
baz=346,slow=76,SNR=5150
H11S2 WAKE ISLAND Hy 31.97 160 T T 15 53 21.0
baz=346,slow=76,SNR=3196
TRF Thorofare Moun 32.00 43 *eP* **P** 15 19 31.0 -0.3
comp=Z,60nm,0.9s
IRK Irkutsk 32.12 295 *eP* **P** 15 19 31.0 -1.3
IRK pmax pmax
comp=Z,136nm,0.9s
SONA1 Songino Array 32.20 287 *eP* **P** 15 19 31.1 -2.2
SONA1 *ePcP* **PcP** 15 22 19.8 -0.3
SONM Songino Array 32.21 287 P **P** 15 19 32.3 -1.0
comp=Z,4.5nm,0.5s,baz=74,slow=7.2,SNR=28
SONM PcP **PcP** 15 22 20.3 +0.1
comp=Z,9.8nm,0.8s,baz=115,slow=2.9,SNR=5.1
SONM ScP **ScP** 15 25 57.3 +0.4
comp=Z,4.6nm,1.1s,baz=79,slow=2.2,SNR=5.7
SONM LR LR 15 34 08.1
comp=Z,2μm,18.5s,baz=72,slow=39
COLD Coldfoot 32.26 36 *eP* **P** 15 19 33.4 0.0
comp=Z,71nm,0.9s
RC01 Rabbit Creek A 32.32 48 *eP* **P** 15 19 33.7 -0.2
comp=Z,48nm,0.8s
RC01 *ePcP* **PcP** 15 22 20.2 +0.2
NJ2 Nanjing 32.43 252 *eP* **P** 15 19 35.6 +0.5
NJ2 pP **pP** 15 19 48.0 -4.8
NJ2 PP **PnPn** 15 20 45.8 +1.2
NJ2 S **S** 15 24 42.3 -1.8
NJ2 sS **sS** 15 25 13.1 -1.4
NJ2 pmax pmax
comp=Z,47nm,0.8s
NJ2 pmax pmax
comp=Z,360nm,5.2s
NJ2 LR LR
comp=Z,1μm,19.0s
NJ2 LR LR
comp=Z,1μm,15.2s
NJ2 LR LR
comp=Z,1μm,15.7s
PMR Palmer 32.58 47 *eP* **P** 15 19 31.9 -4.3
comp=Z,29nm,0.8s
PMR *ePcP* **PcP** 15 22 19.9 -0.7
PMR Palmer 32.58 47 *eP* **P** 15 19 31.9 -4.3
PMR *e* 15 22 19.9
PMR pmax pmax
comp=Z,29nm,0.8s
MCK McKinley 32.60 43 *eP* **P** 15 19 36.1 -0.3
MCK McKinley 32.60 43 *eP* **P** 15 19 36.1 -0.3
comp=Z,104nm,0.9s
MCK McKinley 32.60 43 *eP* **P** 15 19 36.1 -0.3
MCK pmax pmax
comp=Z,100nm,0.9s
RND Reindeer 32.64 43 *eP* **P** 15 19 36.2 -0.6
comp=Z,114nm,0.8s
RND Reindeer 32.64 43 *eP* **P** 15 19 36.2 -0.6
RND pmax pmax
comp=Z,110nm,0.8s
TLY Talaya 32.65 294 LR LR 15 33 27.4
comp=Z,1μm,21.4s,baz=64,slow=37
TLY Talaya 32.65 294 *eP* **P** 15 19 37.0 +0.1
TLY Talaya 32.65 294 *eP* **P** 15 19 36.9 +0.1
comp=Z,126nm,0.8s
TLY Talaya 32.65 294 P **P** 15 19 37.2 +0.3
SNR=50
TLY Talaya 32.65 294 P **P** 15 19 37.2 +0.3
SNR=50
TLY Talaya 32.65 294 *eP* **P** 15 19 37.0 +0.1
TLY *e* 15 20 56.3
TLY *eS* **S** 15 24 49.9 +2.6
TLY pmax pmax
comp=Z,136nm,0.8s
TLY MLR MLR
comp=Z,1μm,19.0s
TOLK Toolik Lake Re 32.67 34 P **P** 15 19 36.9 -0.1
baz=262
TOLK Toolik Lake Re 32.67 34 *eP* **P** 15 19 37.3 +0.3
comp=Z,62nm,0.7s
MDM Murphy Dome 32.92 41 *eP* **P** 15 19 39.0 -0.1
comp=Z,93nm,1.0s
WRH Wood River Hil 32.97 41 *eP* **P** 15 19 39.0 -0.5
comp=Z,75nm,0.9s
TIY Taiyuan 33.02 266 *eP* **P** 15 19 41.8 +1.4
TIY S **S** 15 24 53.8 +0.3
TIY SS **SnSn** 15 26 56.9 -1.5
TIY pmax pmax
comp=Z,36nm,0.7s
TIY pmax pmax
comp=Z,250nm,4.1s
TIY LR LR
comp=Z,560nm,17.0s
TIY LR LR
comp=Z,2μm,18.7s
TIY LR LR
comp=Z,430nm,18.3s
BTO Baotou 33.04 272 *eP* **P** 15 19 39.3 -1.3
COLA College 33.08 41 *eP* **P** 15 19 40.5 +0.1
COLA College 33.08 41 *eP* **P** 15 19 40.0 -0.4
comp=Z,175nm,0.9s
COLA LR LR
comp=Z,850nm,21.0s
COLA College 33.08 41 *eP* **P** 15 19 40.0 -0.4
COLA pmax pmax
comp=Z,180nm,0.9s
CCB Clear Creek Bu 33.09 41 *eP* **P** 15 19 40.4 -0.2
comp=Z,86nm,1.0s
ZAK Zakamensk 33.26 292 *eP* **P** 15 19 42.0 -0.4
ZAK *e* 15 22 22.0
ZAK pmax pmax
comp=Z,67nm,1.0s
DHY Denali Highway 33.32 44 *eP* **P** 15 19 42.6 -0.2
comp=Z,78nm,1.0s
HDA Harding Lake 33.47 42 *eP* **P** 15 19 43.3 -0.6
comp=Z,49nm,0.7s
ILAR Eielson Array 33.49 41 P **P** 15 19 43.5 -0.5
comp=Z,53nm,1.0s,baz=257,slow=8.4,SNR=87
ILAR P3KPbc 15 50 54.5
comp=Z,0.7nm,0.7s,baz=87,slow=3.7,SNR=7.2
ILB Eielson Array 33.49 41 *eP* **P** 15 19 43.4 -0.7
IL1 Eielson Array 33.49 41 *eP* **P** 15 19 43.2 -0.8
KLU Klutina 34.12 47 *eP* **P** 15 19 48.5 -1.2
comp=Z,60nm,0.9s
PAX Paxson 34.20 44 *eP* **P** 15 19 49.7 -0.6
comp=Z,24nm,0.8s
PAX *ePcP* **PcP** 15 22 25.3 0.0
PAX Paxson 34.20 44 *eP* **P** 15 19 49.7 -0.6
PAX *e* 15 22 25.3
PAX pmax pmax
comp=Z,24nm,0.8s
MOY Mondy 34.23 295 *eP* **P** 15 19 50.4 -0.3
MOY pmax pmax
comp=Z,79nm,2.7s
EYAK Cordova Ski Ar 34.32 48 *eP* **P** 15 19 50.5 -0.8
comp=Z,44nm,0.8s
HARP HAARP 34.39 45 *eP* **P** 15 19 51.3 -0.6
comp=Z,83nm,0.9s
RIDG Independ'e Rid 34.42 43 *eP* **P** 15 19 51.2 -1.0
comp=Z,127nm,1.0s
DOT Dot Lake 34.77 43 *eP* **P** 15 19 53.8 -1.4
comp=Z,101nm,0.7s
SCRK Sand Creek 34.78 42 *eP* **P** 15 19 54.6 -0.8
comp=Z,88nm,1.1s
BMRM Bremner River 34.82 48 *eP* **P** 15 19 55.0 -0.7
comp=Z,100nm,0.9s
BMRM *ePcP* **PcP** 15 22 27.8 +0.6
RAGM Ragged Mountai 34.87 49 *eP* **P** 15 19 53.3 -2.8
comp=Z,64nm,0.9s
MENT Mentasta 34.99 44 *eP* **P** 15 19 56.5 -0.6
comp=Z,40nm,0.7s
BALM Baldy 35.90 47 *eP* **P** 15 20 05.2 +0.2
comp=Z,49nm,0.8s
BALM Baldy 35.90 47 *eP* **P** 15 20 05.2 +0.2
BALM pmax pmax
comp=Z,49nm,0.8s
EGAK Eagle 35.94 41 *eP* **P** 15 20 04.6 -0.6
comp=Z,94nm,0.8s
EGAK LR LR
comp=Z,658nm,19.0s
WHN Wuhan 36.27 254 ⇑P **P** 15 20 08.8 +0.4
WHN S **S** 15 25 39.8 -3.6
WHN pmax pmax
comp=Z,220nm,0.7s
WHN LR LR
comp=Z,3μm,11.5s
WHN LR LR
comp=Z,3μm,12.6s
WHN LR LR
comp=Z,4μm,14.1s
YHNB Yeheng 36.32 240 *eP* **P** 15 20 05.1 -3.8
comp=Z,32nm,0.7s
GUMO Guam 36.69 198 LR LR 15 32 42.3
comp=Z,373nm,21.0s,baz=40,slow=32
DAWY Dawson 36.78 42 *eP* **P** 15 20 11.8 -0.6
comp=Z,37nm,0.9s
SSLB Suanglung 37.25 240 *eP* **P** 15 20 16.8 0.0
comp=Z,40nm,1.4s
YULB Yu-li 37.37 239 *eP* **P** 15 20 18.8 +1.0
comp=Z,18nm,0.7s
XAN Xi'an 37.49 264 P **P** 15 20 18.3 -0.5
XAN pP pP 15 20 33.4 -3.4
XAN sP sP 15 20 40.8 -4.6
XAN PP **PnPn** 15 21 52.3 +5.2
XAN S **S** 15 26 01.8 -0.3
XAN sS sS 15 26 28.1 -4.8
XAN SS **SnSn** 15 28 38.5 -8.0
XAN pmax pmax
comp=Z,9.0nm,1.0s
XAN pmax pmax
comp=Z,290nm,4.9s
XAN LR LR
comp=Z,1μm,19.1s
XAN LR LR
comp=Z,1μm,18.1s
XAN LR LR
comp=Z,870nm,19.0s
QZH Quanzhou 37.72 244 ⇑*i*P **P** 15 20 21.8 +1.1
QZH S **S** 15 26 02.3 -3.2
QZH pmax pmax
comp=Z,290nm,9.2s
TPUB Ta-pu 37.82 240 *eP* **P** 15 20 21.8 +0.2
comp=Z,57nm,0.8s
TWG Pinlang 37.95 239 *eP* **P** 15 20 22.6 0.0
comp=Z,151nm,0.9s
HYT Haines Junctio 38.26 47 *eP* **P** 15 20 25.3 +0.3
comp=Z,67nm,0.9s
INK Inuvik 38.58 34 P **P** 15 20 28.0 +0.6
comp=Z,49nm,0.8s,baz=286,slow=7.4,SNR=175
INK Inuvik 38.58 34 *eP* **P** 15 20 28.0 +0.6
comp=Z,54nm,0.8s
INK Inuvik 38.58 34 *eP* **P** 15 20 28.0 +0.6
INK pmax pmax
comp=Z,54nm,0.8s
HVS Khovu-Aksy 38.69 297 *eP* **P** 15 20 28.6 -0.1
HVS Khovu-Aksy 38.69 297 *ceP* **P** 15 20 28.6 -0.1
HVS pmax pmax
comp=Z,107nm,0.6s
WHY Whitehorse 39.54 46 *eP* **P** 15 20 37.1 +1.4
comp=Z,59nm,1.0s
WHY *ePcP* **PcP** 15 22 42.1 +0.5
ENH Enshi 39.55 259 *eP* **P** 15 20 36.4 +0.3
comp=Z,82nm,1.3s
ENH *ePcP* **PcP** 15 22 41.7 -0.4
ENH LR LR
comp=Z,781nm,19.0s
LZH Lanzhou 39.58 271 ⇑P **P** 15 20 37.0 +0.6
LZH pP pP 15 20 51.4 -3.1
LZH sP sP 15 20 56.6 -6.5
LZH PP **PnPn** 15 22 12.3 +0.2
LZH S **S** 15 26 34.9 +1.2
LZH sS sS 15 26 59.8 -4.8
LZH SS **SS** 15 29 22.4 -8.5
LZH pmax pmax
comp=Z,140nm,1.1s
LZH pmax pmax
comp=Z,410nm,8.5s
LZH LR LR
comp=Z,3μm,15.7s
LZH LR LR
comp=Z,2μm,16.6s
LZH LR LR
comp=Z,3μm,17.9s
SKAG Skagway 39.66 48 *eP* **P** 15 20 38.2 +1.6
comp=Z,82nm,1.2s
BESE Bessie Mountai 40.16 50 *eP* **P** 15 20 42.2 +1.4
comp=Z,30nm,0.9s
GTA Gaotai 40.33 278 ⇑P **P** 15 20 42.4 -0.1
GTA pP pP 15 20 55.3 -5.4
GTA PP **PnPn** 15 22 19.8 -1.0
GTA ScP **ScP** 15 26 30.8 +3.9
GTA PcS **PcS** 15 26 38.3 +3.1
GTA S **S** 15 26 45.3 +0.5
GTA SS **SS** 15 29 37.0 -8.7
GTA ScS **ScS** 15 30 40.6 -0.5
GTA pmax pmax
comp=Z,52nm,1.0s
GTA pmax pmax
comp=Z,280nm,4.8s
GTA LR LR
comp=Z,1μm,17.1s
GTA LR LR
comp=Z,1μm,18.1s
GTA LR LR
comp=Z,2μm,16.2s
SIT Sitka 40.41 52 *eP* **P** 15 20 44.1 +1.3
comp=Z,23nm,0.8s
SIT Sitka 40.41 52 *eP* **P** 15 20 44.1 +1.3
SIT pmax pmax
comp=Z,23nm,0.8s
CRAG Craig 42.13 53 *eP* **P** 15 20 58.7 +1.9
comp=Z,16nm,0.6s
WRAK Wrangell Islan 42.18 52 *eP* **P** 15 20 58.2 +1.0
comp=Z,40nm,0.8s
GZH Guangzhou 42.25 247 P **P** 15 20 54.1 -4.1
ZAA0 Zalesovo Array 42.59 304 *eP* **P** 15 20 59.1 -1.5
comp=Z,38nm,0.6s
ZAA0 *ePcP* **PcP** 15 22 51.7 +0.2
ZALV Zalesovo Beam 42.59 304 P **P** 15 20 59.1 -1.4
comp=Z,55nm,0.8s,baz=62,slow=7.3,SNR=160
ZALV PcP **PcP** 15 22 51.8 +0.3
comp=Z,36nm,0.8s,baz=64,slow=3.4,SNR=14
ZALV ScP **ScP** 15 26 35.6 +0.2
comp=Z,1.4nm,0.7s,baz=88,slow=5.2,SNR=2.4
ZALV LR LR 15 39 09.9
comp=Z,741nm,20.1s,baz=65,slow=37
ZALV Zalesovo Beam 42.59 304 *eP* **P** 15 20 58.6 -2.0
ZALV *ePcP* **PcP** 15 22 51.7 +0.3
ZALV ScP **ScP** 15 26 35.6 +0.2
ZALV Zalesovo Beam 42.59 304 *eP* **P** 15 20 58.6 -2.0
ZALV *e* 15 22 51.7
DLBC Dease Lake 42.60 48 *eP* **P** 15 21 02.5 +1.8
comp=Z,53nm,0.9s
CD2 Chengdu 42.84 264 ⇑*i*P **P** 15 21 03.3 +0.3
CD2 pP pP 15 21 19.3 -2.0
CD2 sP sP 15 21 27.0 -2.9
CD2 S **S** 15 27 22.9 +1.0
CD2 sS sS 15 27 50.9 -2.3
CD2 pmax pmax
comp=Z,150nm,0.6s
CD2 pmax pmax
comp=Z,490nm,5.6s
CD2 LR LR
comp=Z,1μm,21.9s
CD2 LR LR
comp=Z,2μm,20.9s
CD2 LR LR
comp=Z,2μm,26.8s
DGZ Jazzator, Alta 42.94 298 *i*P **P** 15 21 03.8 +0.1
DGZ pmax pmax
comp=Z,38nm,0.9s
NVS Novosibirsk 43.07 306 ⇓*i*P **P** 15 21 04.3 -0.2
NVS *i*S **S** 15 27 22.3 -2.3
NVS pmax pmax
comp=Z,274nm,1.9s
NVS pmax pmax
comp=N,55nm,1.4s
NVS pmax pmax
comp=E,180nm,1.4s
NVS smax smax
comp=N,60nm,1.9s
NVS smax smax
comp=E,56nm,1.9s
DIB Dawson Inlet, 43.40 56 *eP* **P** 15 21 08.2 +1.1
comp=E,24nm,0.7s
H02S1 DAWSON INLET T 43.40 56 P **P** 15 21 07.9 +0.8
GYA Guiyang 43.97 257 ⇑*i*P **P** 15 21 12.4 +0.2
GYA pP pP 15 21 29.8 -0.8
GYA sP sP 15 21 36.0 -3.1
GYA PP **PcP** 15 22 57.5 +0.7
GYA ScP **ScP** 15 26 43.0 +1.4
GYA S **S** 15 27 39.8 +1.2
GYA sS sS 15 28 07.5 -2.4
GYA SS **SS** 15 30 49.3 -8.3
GYA pmax pmax
comp=E,120nm,0.9s
GYA pmax pmax
comp=E,210nm,5.9s
GYA LR LR
comp=E,5μm,17.0s
GYA LR LR
comp=E,3μm,17.4s
GYA LR LR
comp=E,4μm,17.2s
TGY Tagaytay City 45.18 231 P **P** 15 21 23.5 +1.7
comp=E,104nm,0.3s,baz=253,slow=11,SNR=4.0
ZSN Zaisan 45.51 296 ⇑*i*P **P** 15 21 23.8 -0.3
comp=E,122nm,1.2s
ZSN *i*pP **pP** 15 21 41.1 -1.4
ZSN LR LR 15 41 42.8
comp=E,274nm,12.1s
WMQ Urumqi 45.66 290 P **P** 15 21 25.3 -0.1
WMQ pP pP 15 21 45.5 +1.6
WMQ PcP **PcP** 15 23 03.6 +1.3
WMQ PP **PP** 15 23 13.5 +0.1
WMQ S **S** 15 27 59.3 -3.3
WMQ ScS **ScS** 15 31 14.6 +0.6
WMQ pmax pmax
comp=E,130nm,0.9s
WMQ pmax pmax
comp=E,620nm,5.1s
WMQ LR LR
comp=E,3μm,26.7s
WMQ LR LR
comp=E,3μm,30.1s
WMQ LR LR
comp=E,3μm,35.9s
KIP Kipapa 45.88 110 *eP* **P** 15 21 26.5 -0.8
comp=E,40nm,0.8s
KIP Kipapa 45.88 110 ⇓*eP* **P** 15 21 25.9 -1.3
KIP pmax pmax
comp=Z,220nm,0.8s
MK31 Makanchi Array 47.35 296 *eP* **P** 15 21 37.8 -0.8
MK31 Makanchi Array 47.35 296 *eP* **P** 15 21 37.8 -0.8
MKAR Makanchi Array 47.35 296 P **P** 15 21 37.7 -0.9
comp=Z,52nm,0.7s,baz=63,slow=8.0,SNR=467
MKAR ScP **ScP** 15 26 55.5 +0.2
comp=Z,2.2nm,0.8s,baz=38,slow=5.9,SNR=4.6
MKAR LR LR 15 42 21.1
comp=Z,2μm,21.5s,baz=48,slow=37
MKAR Makanchi Array 47.35 296 *eP* **P** 15 21 37.8 -0.8
MKAR pmax pmax
comp=Z,480nm,1.0s
MK01 Makanchi Array 47.36 296 *eP* **P** 15 21 36.6 -2.0
KMI Kunming 47.42 259 P **P** 15 21 40.3 +0.7
KMI pP pP 15 21 59.6 +1.5
KMI PP **PP** 15 23 33.8 +2.5
KMI S **S** 15 28 28.4 0.0
KMI SS **SS** 15 31 54.8 -1.9
KMI pmax pmax
comp=Z,99nm,1.0s
KMI pmax pmax
comp=Z,420nm,3.1s
KMI LR LR
comp=Z,630nm,10.7s
KMI LR LR
comp=Z,2μm,12.4s
KMI LR LR
comp=Z,930nm,14.0s
KURK Kurchatov 47.44 303 *eP* **P** 15 21 38.1 -1.0
KURK Kurchatov 47.44 303 PcP **PcP** 15 23 08.8 +0.4
comp=Z,12nm,0.8s
KURK LR LR
comp=Z,1μm,22.0s
KURK Kurchatov 47.44 303 P **P** 15 21 38.6 -0.5
SNR=70
KURK Kurchatov 47.44 303 P **P** 15 21 38.6 -0.5
SNR=70
KURK Kurchatov 47.44 303 *c*P **P** 15 21 38.1 -1.0
KURK pmax pmax
comp=Z,172nm,0.9s
KURK MLR MLR
comp=Z,1μm,23.0s
QIZ Qiongzhong 47.44 247 P **P** 15 21 39.8 +0.3
QIZ S **S** 15 28 28.6 +0.3
QIZ pmax pmax
comp=Z,15nm,1.8s
QIZ LR LR
comp=Z,3μm,11.0s
QIZ LR LR
comp=Z,970nm,14.9s
QIZ LR LR
comp=Z,2μm,11.0s
QIZ Qiongzhong 47.44 247 *eP* **P** 15 21 41.9 +2.4
comp=Z,32nm,0.9s
MAKZ Makanchi 47.53 297 *eP* **P** 15 21 39.0 -0.9
comp=Z,160nm,1.4s
MAKZ Makanchi 47.53 297 *eP* **P** 15 21 39.0 -0.9
MAKZ pmax pmax
comp=Z,160nm,1.4s
KURBB Kurchatov Arra 47.54 303 P **P** 15 21 38.9 -1.0
comp=Z,134nm,0.7s,baz=65,slow=8.2,SNR=607
KURBB PcP **PcP** 15 23 08.8 +0.1
comp=Z,37nm,0.7s,baz=65,slow=3.2,SNR=9.6
KURBB ScP **ScP** 15 26 56.4 +0.5
comp=Z,3.9nm,1.1s,baz=68,slow=4.0,SNR=5.9
KURBB S S 15 28 19.7 -9.3
comp=Z,0.6nm,0.6s,baz=57,slow=6.8,SNR=2.2
YKA Yellowknife Ar 47.86 39 P **P** 15 21 42.2 +0.1
comp=Z,34nm,0.8s,baz=298,slow=7.5,SNR=431
YKA pP **pP** 15 22 02.5 +1.8
comp=Z,20nm,0.7s,baz=298,slow=7.5,SNR=6.2
YKA PcP **PcP** 15 23 09.8 +0.2
comp=Z,8.0nm,0.8s,baz=313,slow=3.0,SNR=5.3
YKA S **S** 15 28 31.2 -2.1
comp=Z,0.2nm,0.7s,baz=299,slow=13,SNR=2.9
YKA PKPPKP P'P'df 15 52 33.0 -24
comp=Z,0.2nm,0.6s,baz=159,slow=2.6,SNR=4.9
RES Resolute Bay 47.88 20 *eP* **P** 15 21 42.5 +0.4
comp=Z,107nm,0.8s
RES Resolute Bay 47.88 20 *eP* **P** 15 21 42.5 +0.4
RES pmax pmax
comp=Z,110nm,0.8s

HPAH Hawaii Prepara 48.35 109 *e*P P 15 21 46.3 -0.3
comp=Z,66nm,0.8s
POHA Pohakuloa 48.65 109 *e*P P 15 21 48.9 -0.2
comp=Z,108nm,0.8s
DAV Davao City (W) 49.11 221 PFAKE 15 22 00.0 +7.6
DAV LR LR
comp=Z,787nm,22.0s
KBS Kingsbay 50.26 351 *e*P P 15 21 59.4 -0.9
KBS Kingsbay 50.26 351 *e*P P 15 21 58.2 -2.1
comp=Z,38nm,0.6s
KBS LR LR
comp=Z,612nm,19.0s
KBS Kingsbay 50.26 351 *e*P P 15 21 58.4 -2.0
KBS IAmb IAmb 15 22 00.7
comp=Z,38nm,0.7s
KBS Kingsbay 50.26 351 *e*P P 15 21 58.2 -2.1
KBS pmax pmax
comp=Z,38nm,0.6s
KBS MLR MLR
comp=Z,612nm,19.0s
LLLB Lillooet 50.39 55 *e*P P 15 22 02.1 +0.4
comp=Z,15nm,0.8s
SPA0 Spitsbergen Ar 50.43 350 *e*P P 15 22 00.1 -1.6
SPA0 *e*PcP PcP 15 23 19.1 +0.3
SPA0 Spitsbergen Ar 50.43 350 *e*P P 15 21 59.5 -2.1
SPITS Spitsbergen Ar 50.43 350 P P 15 21 59.6 -2.1
comp=Z,17nm,0.5s,baz=26,slow=10,SNR=116
SPITS PcP PcP 15 23 19.3 +0.6
comp=Z,31nm,0.7s,baz=46,slow=6.2,SNR=5.7
PGC Sidney 50.60 58 *e*P P 15 22 03.5 +0.3
comp=Z,15nm,0.6s
BVAR Borovoye Array 50.62 309 P P 15 22 02.6 -0.8
comp=Z,37nm,0.5s,baz=57,slow=7.0,SNR=213
BVAR PcP PcP 15 23 19.4 -0.5
comp=Z,26nm,0.7s,baz=79,slow=3.9,SNR=5.7
BVAR S S 15 29 01.1 -11
comp=Z,1.3nm,0.8s,baz=118,slow=5.2,SNR=2.1
BRVK Borovoye 50.65 309 *e*P P 15 22 03.0 -0.6
comp=Z,64nm,0.8s
BRVK *e*PcP PcP 15 23 20.4 +0.4
BRVK LR LR
comp=Z,697nm,22.0s
BRVK Borovoye 50.65 309 P P 15 22 03.2 -0.4
SNR=44
BRVK Borovoye 50.65 309 P P 15 22 03.2 -0.4
SNR=44
BRVK Borovoye 50.65 309 *c i*P P 15 22 02.7 -0.9
BRVK pmax pmax
comp=Z,64nm,0.9s
BRVK MLR MLR
comp=Z,1μm,21.0s
PDGK Podgornoye 50.91 294 P P 15 22 04.1 -1.8
PDGK pmax pmax
comp=Z,69nm,1.0s
NLWA Neilton Lookou 51.06 59 P P 15 22 04.6 -2.2
comp=Z,34nm,1.0s
NLWA LR LR
comp=Z,935nm,21.0s
BRZS Berezniki 51.07 305⇑ *i*P P 15 22 05.9 -0.9
comp=Z,305nm,1.0s
TULEG Thule 51.30 12 *e*P P 15 22 07.5 -0.6
comp=Z,96nm,0.9s
KPKS Kokpek 51.31 295⇑ *i*P P 15 22 08.6 -0.3
comp=Z,1μm,0.9s
KPKS *i* PcP PcP 15 23 22.5 -0.3
KPKS *i* PP PP 15 24 05.7 -0.4
KPKS *e*S S 15 29 23.2 +1.0
KPKS LR LR 15 45 06.4
comp=Z,834nm,13.5s
HSPB Hornsund (broa 51.52 349 *e*P P 15 22 06.9 -2.9
B05A Bryant 51.56 58 P P 15 22 10.4 -0.1
baz=304,SNR=15
ZHN Zhinishke 51.63 294⇑ *i*P P 15 22 11.0 -0.3
comp=Z,477nm,1.1s
ZHN *e*S S 15 29 27.7 +1.0
SATY Saty 51.71 294⇑ *i*P P 15 22 11.7 -0.2
comp=Z,1μm,1.1s
SATY *e*S S 15 29 28.7 +0.9
LSA Lhasa 51.88 273 P P 15 22 14.8 +1.1
LSA pmax pmax
comp=Z,29nm,1.0s
LSA Lhasa 51.88 273 *e*P P 15 22 15.1 +1.4
comp=Z,41nm,0.6s
LSA LR LR
comp=Z,2μm,20.0s
LSA Lhasa 51.88 273 P P 15 22 15.0 +1.3
LSA Lhasa 51.88 273 *e*P P 15 22 15.1 +1.4
LSA pmax pmax
comp=Z,41nm,0.7s
OTUK Ortayu 52.22 303 P P 15 22 14.5 -1.0
OTUK pmax pmax
comp=Z,83nm,1.2s
D05A Enumclaw 52.23 59 *e*P P 15 22 14.6 -0.8
comp=Z,32nm,0.8s
KUU Kurty 52.45 296⇑ *i*P P 15 22 15.1 -2.1
comp=Z,277nm,1.2s
KUU LR LR 15 46 04.0
comp=Z,345nm,13.1s
MDOK Medeo 52.46 295 *i* P P 15 22 17.1 -0.4
comp=Z,375nm,1.1s
MDOK LR LR 15 45 21.4
comp=Z,1μm,17.4s
AAA Alma-Ata 52.51 295⇑ *i*P P 15 22 18.0 +0.3
comp=Z,257nm,1.2s
AAA LR LR 15 45 06.9
comp=Z,459nm,16.0s
SKNT Sakolnakorn 52.59 251 P P 15 22 18.7 +0.2
comp=Z,62nm,1.2s
G03D McMinnville, O 52.65 61 P P 15 22 18.9 +0.4
baz=306
LTY Liberty 52.92 58 *e*P P 15 22 20.4 -0.3
comp=Z,13nm,0.8s
KDJ Kajisay 52.99 294 *e*P P 15 22 21.3 -0.1
comp=Z,120nm,1.2s
B08A Colville Reser 53.02 56 *e*P P 15 22 21.2 -0.2
comp=Z,21nm,0.8s
BAKI Biak 53.04 205 P P 15 22 21.8 0.0
BTLS Baital 53.11 299⇑ *i*P P 15 22 21.1 -0.9
comp=Z,242nm,1.2s
BTLS *e*S S 15 29 47.1 +0.6
BJO Bjornoya 53.12 347 *e*P P 15 22 19.1 -2.5
SVE Sverdlovsk 53.17 317 *d i*P P 15 22 21.8 -0.5
SVE pmax pmax
comp=Z,137nm,0.9s
BMNS Besmoynak 53.31 296⇑ *i*P P 15 22 23.2 -0.5
comp=Z,488nm,1.1s
BMNS LR LR 15 46 28.6
comp=Z,670nm,14.5s
EDM Edmonton 53.32 49 *e*P P 15 22 23.6 +0.1
EDM Edmonton 53.32 49 *e*P P 15 22 23.6 +0.1
comp=Z,149nm,0.8s
EDM Edmonton 53.32 49 *e*P P 15 22 23.6 +0.1
EDM pmax pmax
comp=Z,150nm,0.8s
RABL Rabaul 53.34 184 *e*P P 15 22 24.4 +0.4
comp=Z,89nm,1.4s
TKM2 Tokmak 2 53.46 296 P P 15 22 24.7 -0.1
SNR=37
TKM2 Tokmak 2 53.46 296 P P 15 22 23.8 -1.1
TKM2 pmax pmax
comp=Z,36nm,1.1s
ULHL Ulahol 53.48 295 P P 15 22 25.5 +0.4
SNR=12
I03D Drain, OR 53.48 63 P P 15 22 25.7 +0.9
baz=307,SNR=7.5
H04A Detroit Lake 53.57 61 *e*P P 15 22 25.7 +0.3
comp=Z,22nm,0.9s
G05D Wamic, OR 53.74 60 P P 15 22 27.4 +0.7
baz=306,SNR=6.5
USP Ospenovka 53.90 297 P P 15 22 27.5 -0.4
SNR=66
CHMS Chumysh 53.91 296 P P 15 22 27.8 -0.2
SNR=22
I04A Tendick Farm, 53.97 62 P P 15 22 28.7 +0.3
baz=307,SNR=11
KBK Karagaybulak 54.00 296 P P 15 22 28.6 -0.2
SNR=24
MYLDM Lahad Datu 54.04 228 *e*P P 15 22 30.5 +1.4
comp=Z,41nm,1.0s
HAWA Hanford 54.06 58 *e*P P 15 22 28.4 -0.6
comp=Z,23nm,0.8s
HAWA LR LR
comp=Z,420nm,21.0s
FRU Bishkek 54.09 296⇑ *e*P P 15 22 28.0 -1.3
FRU pmax pmax
comp=Z,100nm,1.6s
F07A Phinny Hill Vi 54.14 59 *e*P P 15 22 29.7 +0.2
comp=Z,50nm,0.8s
KZA Kyzart 54.17 295 P P 15 22 30.7 +0.4
SNR=32
DAG Danmarks Havn 54.18 358⇑ *i*P P 15 22 27.8 -1.5
comp=Z,52nm,0.9s
DAG Danmarks Havn 54.18 358⇑ *i*P P 15 22 27.8 -1.5
DAG pmax pmax
comp=Z,52nm,0.9s
SHL Shillong 54.18 269 *e*P P 15 22 30.9 +0.6
L02D Cave Junction, 54.26 65 P P 15 22 30.9 +0.4
baz=308,SNR=6.1
I05D Terrebonne, OR 54.27 61 P P 15 22 30.9 +0.4
baz=307
NEW Newport 54.28 55 P P 15 22 30.5 0.0
baz=306,SNR=14
NEW Newport 54.28 55 *e*P P 15 22 30.6 0.0
comp=Z,30nm,1.4s
NEW LR LR
comp=Z,918nm,22.0s
NEW Newport 54.28 55 *e*P P 15 22 30.6 +0.1
NEW pmax pmax
comp=Z,30nm,1.4s
AAK Ala-Archa 54.28 296 LR LR 15 46 52.3
comp=Z,2μm,20.5s,baz=38,slow=37
AAK Ala-Archa 54.28 296 *e*P P 15 22 30.2 -0.6
AAK Ala-Archa 54.28 296 P P 15 22 30.7 -0.2
SNR=47
AAK Ala-Archa 54.28 296 *e*P P 15 22 30.6 -0.2
comp=Z,65nm,1.2s
AAK Ala-Archa 54.28 296 P P 15 22 30.6 -0.2
SNR=20
AAK Ala-Archa 54.28 296 P P 15 22 30.6 -0.2
SNR=20
AAK Ala-Archa 54.28 296 *i* P P 15 22 30.6 -0.2
SNR=62
AAK Ala-Archa 54.28 296 *c i*P P 15 22 30.2 -0.6
AAK pmax pmax
comp=Z,41nm,1.1s
ARU Arti 54.33 317 *e*P P 15 22 29.8 -0.9
comp=Z,167nm,0.7s
ARU LR LR
comp=Z,855nm,22.0s
ARU Arti 54.33 317 *c i*P P 15 22 29.7 -1.0
ARU 15 23 33.4
ARU 15 24 29.1
ARU S S 15 30 02.2 -0.5
ARU 15 32 08.7
ARU SS SKiKP 15 33 38.9 +5.7
ARU SSS SSS 15 35 41.6
ARU pmax pmax
comp=Z,406nm,1.7s
ARU MLR MLR
comp=Z,867nm,19.0s
HUMO Hull Mountain 54.37 64 *e*P P 15 22 31.6 +0.4
comp=Z,80nm,0.9s
CMMT Chiang Mai 54.39 257 P P 15 22 31.7 0.0
comp=Z,145nm,1.1s
CHTO Chiang Mai 54.39 257 P P 15 22 32.8 +1.1
comp=Z,656nm,1.1s,comp=Z,6μm
CHTO Chiang Mai 54.39 257 *e*P P 15 22 33.3 +1.6
comp=Z,124nm,0.9s
CHTO LR LR
comp=Z,1μm,22.0s
CHTO Chiang Mai 54.39 257 P P 15 22 33.5 +1.8
SNR=76
CHTO Chiang Mai 54.39 257 P P 15 22 33.5 +1.8
SNR=76
CHTO Chiang Mai 54.39 257 *e*P P 15 22 33.3 +1.6
CHTO pmax pmax
comp=Z,120nm,0.9s
KKM Kota Kinabalu 54.43 231 PFAKE 15 22 40.0 +7.9
KKM LR LR
comp=Z,2μm,19.0s
KULLO Kullorsuaq 54.47 10⇑ *i*P P 15 22 30.9 -0.6
comp=Z,213nm,0.9s
KULLO Kullorsuaq 54.47 10⇑ *i*P P 15 22 30.9 -0.6
KULLO pmax pmax
comp=Z,210nm,0.9s
J04D Umpqua Nationa 54.48 63 P P 15 22 32.9 +0.7
baz=307,SNR=25
UCH Uchtor 54.52 296 P P 15 22 32.8 -0.1
SNR=12
CM31 Chiang Mai Arr 54.66 257 *e*P P 15 22 35.4 +1.8
CMAR Chiang Mai Arr 54.66 257 P P 15 22 35.2 +1.7
comp=Z,37nm,0.8s,baz=33,slow=7.1,SNR=319
CMAR PcP PcP 15 23 36.8 +1.2
comp=Z,9.3nm,0.9s,baz=6.0,slow=3.3,SNR=5.9
CMAR LR LR 15 47 39.6
comp=Z,243nm,19.2s,baz=245,slow=38
CMAR Chiang Mai Arr 54.66 257 P P 15 22 35.3 +1.7
CMAR 15 23 36.8
CMAR pmax pmax
comp=Z,38nm,0.8s
CMAR MLR MLR
comp=Z,243nm,19.2s
CM01 Chiang Mai Arr 54.67 257 *e*P P 15 22 34.3 +0.6
EKS2 Erkin-Say 54.69 296 P P 15 22 33.7 0.0
SNR=31
E09A Wood Farm, Sta 54.76 58 *e*P P 15 22 33.8 -0.2
comp=Z,36nm,0.8s
PBKT Sadao Pong 54.78 253 P P 15 22 34.4 0.0
comp=Z,47nm,0.8s,comp=Z,646nm
PINE Pine Mountain 54.83 62 *e*P P 15 22 35.5 +0.7
comp=Z,33nm,0.9s
J05D Fort Rock, OR 54.96 62 P P 15 22 36.6 +0.9
baz=308,SNR=36
KHMM Horse Mountain 54.96 66 *e*P P 15 22 35.7 0.0
comp=Z,16nm,0.7s
YBH Yreka Blue Hor 55.05 65 *e*P P 15 22 37.3 +1.0
comp=Z,27nm,0.7s
YBH Yreka Blue Hor 55.05 65 *e*P P 15 22 37.3 +1.0
YBH pmax pmax
comp=Z,27nm,0.7s
AML Almayashu 55.06 296 P P 15 22 36.9 +0.1
SNR=29
K04D Chiloquin, OR 55.06 63 P P 15 22 37.0 +0.7
baz=308,SNR=6.0
LVZ Lovozero 55.14 337 *e*P P 15 22 35.1 -1.3
comp=Z,83nm,0.8s
LVZ LR LR
comp=Z,676nm,19.0s
LVZ Lovozero 55.14 337 *d i*P P 15 22 34.8 -1.6
LVZ pmax pmax
comp=Z,99nm,1.0s
M02C Callahan 55.17 65 P P 15 22 37.5 +0.4
baz=308,SNR=6.8
KSH Kashi 55.31 292 P P 15 22 41.8 +3.6
KSH pP pP 15 22 58.3 +1.1
KSH PcP PcP 15 23 41.5 +3.5
KSH PP PP 15 24 49.0 +6.8
KSH S S 15 30 19.8 +3.3
KSH ScS ScS 15 32 20.4 +0.1
KSH pmax pmax
comp=Z,120nm,1.1s
KSH pmax pmax
comp=Z,800nm,4.9s
KSH LR LR
comp=Z,2μm,13.3s
KSH LR LR
comp=Z,2μm,10.7s
KSH LR LR
comp=Z,2μm,11.6s
LBMI Labuha 55.34 215 P P 15 22 38.6 +0.1
K05A Summer Lake 55.50 63 *e*P P 15 22 40.7 +1.1
comp=Z,70nm,1.0s
WALA Waterton Lakes 55.50 53 *e*P P 15 22 39.6 +0.2
comp=Z,39nm,0.8s
N02D Trinity Center 55.51 65 P P 15 22 40.6 +1.0
baz=308,SNR=12
M04C Macloel 55.53 64 P P 15 22 40.3 +0.5
baz=308,SNR=11
KEV Kevo 55.54 341 *e*P P 15 22 37.0 -2.2
comp=Z,36nm,0.9s
KEV LR LR
comp=Z,1μm,20.0s
KEV Kevo 55.54 341 *e*P P 15 22 37.0 -2.2
KEV pmax pmax
comp=Z,36nm,0.9s
MNAS Manas 55.54 297 P P 15 22 38.2 -1.7
MNAS pmax pmax
comp=Z,22nm,0.9s
F10A Beach Ranch, E 55.60 58 *e*P P 15 22 40.4 +0.3
comp=Z,7.8nm,0.8s
KMSI Cibinong 55.63 220 P P 15 22 38.6 -1.9
APA Apatity 55.70 337⇓ *i*P P 15 22 38.2 -2.2
APA pmax pmax
comp=Z,43nm,0.7s
FAKI Fak Fak 55.82 209 P P 15 22 41.8 -0.1
comp=Z,68nm,1.0s,comp=Z,747nm
FAKI Fak Fak 55.82 209 *e*P P 15 22 41.9 -0.1
comp=Z,30nm,0.9s
WDC Whiskeytown Da 55.86 66 *e*P P 15 22 42.5 +0.6
comp=Z,12nm,0.8s
WDC Whiskeytown Da 55.86 66 *e*P P 15 22 42.5 +0.6
WDC pmax pmax
comp=Z,13nm,0.8s
DZA Taraz 55.97 298⇑ *i*P P 15 22 42.7 -0.1
comp=Z,820nm,1.4s
ARCES ARCESS Array B 56.03 341 P P 15 22 40.5 -2.3
comp=Z,36nm,0.8s,baz=38,slow=8.0,SNR=45
ARCES PcP PcP 15 23 40.1 0.0
comp=Z,20nm,0.7s,baz=33,slow=5.4,SNR=6.9
ARCES LR LR 15 51 38.0
comp=Z,1μm,19.5s,baz=38,slow=41
ARCES PKPPKP P'P'df 15 52 45.5 0.0
comp=Z,3.9nm,0.9s,baz=204,slow=2.0,SNR=5.7
ARCES ARCESS Array B 56.03 341 *e*P P 15 22 40.9 -1.9
ARCES PcP PcP 15 23 40.1 0.0
ARCES P'P' 15 52 45.5
ARCES ARCESS Array B 56.03 341 *e*P P 15 22 40.9 -1.9
ARE0 ARCESS Array S 56.03 341 *e*P P 15 22 41.3 -1.5
comp=Z,45nm,0.9s
ARE0 ARCESS Array S 56.03 341 *e*P P 15 22 40.8 -2.0
JTMT Jette 56.11 54 *e*P P 15 22 44.1 +0.3
comp=Z,21nm,0.7s
ODAN Odare 56.24 273 *e*P P 15 22 45.9 +0.7
comp=Z,29nm,0.5s
BMO Blue Mountains 56.24 59 *e*P P 15 22 45.2 +0.4
comp=Z,16nm,0.8s
BMO LR LR
comp=Z,482nm,21.0s
BMO Blue Mountains 56.24 59 *e*P P 15 22 45.2 +0.4
BMO pmax pmax
comp=Z,16nm,0.8s
KK31 Karatay Array 56.31 299 *e*P P 15 22 44.5 -0.6
KK31 Karatay Array 56.31 299 *e*P P 15 22 44.6 -0.6
KKAR Karatay Array 56.31 299 *e*P P 15 22 44.5 -0.7
KKAR Karatay Array 56.31 299 *e*P P 15 22 44.5 -0.7
MOD Modoc Plateau 56.35 63 *e*P P 15 22 46.3 +0.6
comp=Z,40nm,0.8s
O03D Paynes Creek 56.48 65 P P 15 22 46.2 -0.3
baz=309,SNR=14
JIRN Jiri 56.48 275 *e*P P 15 22 47.9 +0.9
J08A Circle Bar Ran 56.51 61 *e*P P 15 22 47.4 +0.7
comp=Z,36nm,1.0s
GUN Gumba 56.52 275 *e*P P 15 22 47.7 +0.5
comp=Z,84nm,0.5s
MRSI Marisa 56.59 222 P P 15 22 47.5 +0.1
RAMN Ramite 56.69 274 *e*P P 15 22 48.9 +0.5
comp=Z,369nm,0.9s
CHBT CHBT 56.85 249 P P 15 22 55.8 +6.6
comp=Z,571nm,1.1s,comp=Z,109μm
MSO Missoula 56.86 55 P P 15 22 48.9 -0.3
baz=309,SNR=20
MSO Missoula 56.86 55 *e*P P 15 22 49.1 0.0
comp=Z,54nm,1.4s
TMCR Tamitsa 56.91 332 *e*P P 15 22 46.2 -2.8
TMCR pmax pmax
comp=Z,88nm,0.6s
KTK1 Kautokeino 56.93 342 *e*P P 15 22 47.4 -1.8
KTK1 IAmb IAmb 15 22 48.6
comp=Z,41nm,0.7s
KKN Kakani 56.99 275 *e*P P 15 22 51.0 +0.6
comp=Z,210nm,1.0s
WVOR Wild Horse Val 56.99 62 *e*P P 15 22 50.7 +0.6
comp=Z,33nm,0.9s
WVOR Wild Horse Val 56.99 62 *e*P P 15 22 50.7 +0.6
WVOR pmax pmax
comp=Z,33nm,1.0s
PKIN Phulchoki 57.06 275 *e*P P 15 22 51.7 +0.7
comp=Z,84nm,0.6s
ORV Oroville 57.12 66 *e*P P 15 22 50.6 -0.4
comp=Z,12nm,0.9s
ORV Oroville 57.12 66 *e*P P 15 22 50.6 -0.4
ORV pmax pmax
comp=Z,12nm,0.9s
IUG Iuzhnay 57.19 298⇑ *i*P P 15 22 51.6 +0.1
comp=Z,685nm,1.1s
SANI Sanana 57.21 216 P P 15 22 51.1 -0.7
DMN Daman 57.22 275 *e*P P 15 22 53.0 +0.9
comp=Z,338nm,1.1s
GKN Gorkha 57.26 276 *e*P P 15 22 52.9 +0.6
comp=Z,83nm,0.5s
TRO Tromso 57.26 343 *e*P P 15 22 50.3 -1.2
MSAI Masohi 57.33 212 P P 15 22 53.2 +0.6
LUWI Luwuk 57.59 220 P P 15 22 52.7 -1.8
LUWI Luwuk 57.59 220 *e*P P 15 22 52.9 -1.6
comp=Z,32nm,0.5s
DANN Dangsing 57.60 277 *e*P P 15 22 56.0 +1.2
comp=Z,17nm,0.8s
SRDT SRDT 57.61 253 P P 15 22 55.9 +1.2
comp=Z,70nm,0.9s
MPSI Mapaga 57.62 224 P P 15 22 54.8 +0.1
FFC Flin Flon 57.69 42 *e*P P 15 22 54.9 +0.2
comp=Z,69nm,0.8s
FFC LR LR
comp=Z,666nm,21.0s
FFC Flin Flon 57.69 42 *e*P P 15 22 54.9 +0.2
FFC pmax pmax
comp=Z,69nm,0.9s
AFDM Forest Hills D 57.82 66 *e*P P 15 22 56.1 +0.2
comp=Z,19nm,1.4s
AAI Ambon 57.90 213 P P 15 22 56.8 +0.2
comp=Z,62nm,0.7s
APSI Ampana 57.96 221 P P 15 22 56.6 -0.4
MFID Camas Ranch 57.97 59 *e*P P 15 22 57.3 +0.3
comp=Z,18nm,0.8s
SUMG Summit 58.04 5⇑ *i*P P 15 22 57.7 +0.3
comp=Z,406nm,0.9s
SUMG Summit 58.04 5⇑ *i*P P 15 22 57.7 +0.3
HRY Holter Researc 58.06 54 *e*P P 15 22 57.9 +0.3
BNDI Bandanaira 58.09 211 P P 15 22 58.1 +0.2
KOLN Koldanda 58.09 277 *e*P P 15 22 58.8 +0.6
comp=Z,168nm,0.9s
FCC Fort Churchill 58.19 35 *e*P P 15 22 58.0 -0.1
comp=Z,78nm,1.0s
FCC Fort Churchill 58.19 35 *e*P P 15 22 58.0 -0.1
FCC pmax pmax
comp=Z,78nm,1.0s
PYUN Piuthan 58.27 277 *e*P P 15 23 00.1 +0.7
comp=Z,329nm,1.0s
PAHR Pah Rah Range 58.28 65 *e*P P 15 22 59.3 0.0
comp=Z,16nm,0.8s
LRM Limekiln Ridge 58.30 55 *e*P P 15 22 59.8 +0.4
AKTO Aktyubinsk 58.34 312 P P 15 22 58.4 -1.0
comp=Z,41nm,0.5s,baz=70,slow=10,SNR=118
AKTO LR LR 15 49 59.4
comp=Z,443nm,19.3s,baz=84,slow=38
HNR Honiara 58.57 175 LR LR 15 46 50.7
comp=Z,531nm,19.4s,baz=326,slow=34
HLID Hailey 58.67 58 P P 15 23 02.3 +0.4
baz=310,SNR=49
HLID Hailey 58.67 58 *e*P P 15 23 02.4 +0.4
comp=Z,23nm,0.8s
MCMT McKenzie Canyo 58.72 56 *e*P P 15 23 02.1 -0.2
PCI Palu 58.75 223 P P 15 23 01.8 -0.8
CMB Columbia Colle 58.76 67 *e*P P 15 23 02.0 -0.5
comp=Z,8.6nm,0.8s
CMB Columbia Colle 58.76 67 *e*P P 15 23 02.0 -0.5
CMB pmax pmax
comp=Z,9.0nm,0.8s
YERR Yerington 58.83 65 *e*P P 15 23 03.6 +0.4
comp=Z,25nm,0.6s
KLMR Klimovskoe 58.84 329 *e*P P 15 22 58.8 -3.8
KLMR AMP 15 23 02.6
comp=Z,143nm,1.1s
KLMR *e*S S 15 30 58.9 -3.1
KLMR *e*S S 15 30 58.9 -3.1
KLMR LQ LQ 15 44 24.5
KLMR LQ LQ 15 44 24.5
KLMR LR LR 15 50 39.7
KLMR Klimovskoe 58.84 329 *e*P P 15 22 58.7 -3.8
KLMR *e*S S 15 30 58.9 -3.1
KLMR pmax pmax
comp=Z,143nm,1.1s
BOZ Bozeman (W) 58.88 55 P P 15 23 03.7 +0.4
baz=310,SNR=64
BOZ Bozeman (W) 58.88 55 *e*P P 15 23 03.8 +0.4
BOZ Bozeman (W) 58.88 55 *e*P P 15 23 03.8 +0.4
comp=Z,35nm,0.8s
BOZ LR LR
comp=Z,440nm,20.0s
BOZ Bozeman (W) 58.88 55 *e*P P 15 23 03.8 +0.4

BOZ pmax pmax
comp=Z,35nm,0.8s
PMG Port Moresby 58.91 190 P **P 15 23 03.7 +0.1**
comp=Z,13nm,0.6s,baz=346,slow=10,SNR=7.5
PMG Port Moresby 58.91 190 *eP* **P 15 23 05.6 +2.1**
comp=Z,20nm,0.8s
PMG Port Moresby 58.91 190⇑ *eP* **P 15 23 04.5 +0.9**
PMG pmax pmax
comp=Z,240nm,1.5s
WAKR Walker 59.03 66 *eP* **P 15 23 04.5 0.0**
comp=Z,19nm,0.6s
BMN Battle Mountai 59.09 63 *eP* **P 15 23 05.0 +0.1**
comp=Z,33nm,0.8s
BMN Battle Mountai 59.09 63 *eP* **P 15 23 05.4 +0.5**
BMN pmax pmax
comp=Z,33nm,0.9s
BOK Bokaro 59.33 272 *eP* **P 15 23 06.1 -0.4**
BOK IAmb IAmb 15 23 08.5
comp=Z,24nm,0.7s
QLMT Earthquake Lak 59.49 56 *eP* **P 15 23 07.8 +0.1**
LOF Lofoten 59.55 345 *eP* **P 15 23 05.5 -1.8**
LOF IAmb IAmb 15 23 06.7
comp=Z,109nm,1.2s
SBUM Sibu 59.55 233 *eP* **P 15 23 09.7 +1.6**
comp=Z,34nm,0.8s
YHB Horse Butte 59.67 56 *eP* **P 15 23 09.5 +0.6**
comp=Z,71nm,1.2s
NV01 Mina Array Sit 59.75 65 *eP* **P 15 23 08.9 -0.7**
NVAR Mina Array Bea 59.75 65 P **P 15 23 09.9 +0.4**
comp=Z,20nm,0.6s,baz=303,slow=7.2,SNR=64
NVAR pP **pP 15 23 31.2 +2.5**
comp=Z,14nm,0.6s,baz=296,slow=6.9,SNR=5.2
DHRM DHARAMSHALA 59.78 285 *eP* **P 15 23 08.4 -1.5**
DHRM IAmb IAmb 15 23 09.5
comp=Z,41nm,0.7s
GCMT Greycliff 59.80 54 *eP* **P 15 23 10.1 +0.4**
YHH Holmes Hill 59.83 55 *eP* **P 15 23 10.2 +0.1**
comp=Z,29nm,0.9s
NV11 Mina Array Sit 59.84 65 *eP* **P 15 23 09.9 -0.1**
comp=Z,22nm,1.2s
YMR Madison River 59.84 55 *eP* **P 15 23 10.6 +0.5**
comp=Z,76nm,1.2s
DDI Dehra Dun 59.95 283 *eP* **P 15 23 11.2 +0.4**
SMLA Simla 59.98 284 *eP* **P 15 23 10.2 -0.7**
YFT Old Faithful 60.06 56 *eP* **P 15 23 11.7 +0.1**
comp=Z,49nm,0.8s
ILULI Ilulissat 60.18 11⇑ *iP* **P 15 23 11.0 -0.7**
comp=Z,153nm,0.9s
ILULI Ilulissat 60.18 11 *eP* **P 15 23 10.8 -0.9**
comp=Z,168nm,0.9s
ILULI Ilulissat 60.18 11⇑ *iP* **P 15 23 11.0 -0.7**
ILULI pmax pmax
comp=Z,150nm,0.9s
YPP Pitchstone Pla 60.19 56 *eP* **P 15 23 13.9 +1.4**
comp=Z,11nm,0.9s
LKWY Lake 60.22 55 PFAKE 15 23 20.0 +7.3
LKWY LR LR
comp=Z,226nm,22.0s
H17A Grant Village 60.23 55 P **P 15 23 14.6 +1.8**
baz=311,SNR=32
H17A Grant Village 60.23 55 *eP* **P 15 23 14.7 +1.8**
comp=Z,51nm,1.0s
IMW Indian Meadow 60.37 56 *eP* **P 15 23 14.5 +0.8**
comp=Z,29nm,1.3s
BKB Balikpapan 60.42 226 P **P 15 23 14.2 +0.2**
RLMT Red Lodge 60.45 54 P **P 15 23 15.0 +0.8**
baz=312,SNR=80
RLMT Red Lodge 60.45 54 *eP* **P 15 23 15.2 +0.9**
comp=Z,62nm,0.9s
RLMT LR LR
comp=Z,801nm,22.0s
FXWY Fox Creek 60.49 56 *eP* **P 15 23 15.3 +0.8**
comp=Z,14nm,0.8s
SCO Scoresbysund 60.54 359⇑ *iP* **P 15 23 14.3 +0.2**
comp=Z,50nm,0.9s
SCO Scoresbysund 60.54 359 *eP* **P 15 23 13.8 -0.3**
comp=Z,123nm,1.2s
SCO Scoresbysund 60.54 359⇑ *iP* **P 15 23 14.3 +0.2**
SCO pmax pmax
comp=Z,50nm,0.9s
MOOW Moose Ponds 60.57 56 *eP* **P 15 23 15.9 +0.8**
comp=Z,16nm,0.9s
TPAW Teton Pass 60.63 56 *eP* **P 15 23 17.0 +1.5**
comp=Z,32nm,0.9s
TTSI Tana Toraja 60.66 222 P **P 15 23 15.5 -0.2**
LOHW Long Hollow 60.73 56 *eP* **P 15 23 17.3 +1.1**
comp=Z,28nm,1.0s
HVU Hansel Valley 60.75 59 *eP* **P 15 23 13.9 -2.3**
comp=Z,15nm,0.8s
HVU Hansel Valley 60.75 59 *eP* **P 15 23 13.9 -2.3**
HVU pmax pmax
comp=Z,15nm,0.8s
NIL Nilore 60.76 289 *eP* **P 15 23 16.6 +0.4**
comp=Z,202nm,0.8s
NIL LR LR
comp=Z,1μm,19.0s
NIL Nilore 60.76 289 *eP* **P 15 23 16.6 +0.4**
NIL pmax pmax
comp=Z,200nm,0.9s
SMMC Simmler 60.78 69 P **P 15 23 16.7 +0.3**
baz=312
DGMT Dagmar 60.81 49 P **P 15 23 16.9 +0.5**
baz=313,SNR=35
DGMT Dagmar 60.81 49 *eP* **P 15 23 16.8 +0.4**
comp=Z,157nm,0.9s
DGMT LR LR
comp=Z,851nm,19.0s
LAO LASA Array 61.00 51 P **P 15 23 18.6 +0.9**
baz=312,SNR=60
LAO LASA Array 61.00 51 *eP* **P 15 23 18.2 +0.5**
comp=Z,134nm,0.9s
LAO LR LR
comp=Z,711nm,21.0s
AHID Auburn Hatcher 61.02 57 PFAKE 15 23 30.0 +12
AHID LR LR
comp=Z,382nm,20.0s
MTKI Muara Teweh, K 61.10 228 P **P 15 23 19.6 +0.9**
MOR8 Moi Rana 61.12 343 *eP* **P 15 23 14.6 -3.6**
MOR8 IAmb IAmb 15 23 16.6
comp=Z,41nm,0.7s
BGU Big Grassy Mou 61.17 60 *eP* **P 15 23 18.3 -0.8**
comp=Z,9.3nm,0.8s
CWC Cottonwood Cre 61.20 67 P **P 15 23 19.2 -0.2**
baz=312
SPUT South Promonto 61.24 59 *eP* **P 15 23 19.4 -0.2**
comp=Z,29nm,0.8s
GRAC Grapevine Rang 61.25 66 P **P 15 23 19.9 +0.3**
baz=312,SNR=19
KSM Kuching 61.38 234 *eP* **P 15 23 20.1 -0.5**
comp=Z,42nm,1.0s
KSM LR LR
comp=Z,668nm,19.0s
R11A Troy Canyon, C 61.41 64 P **P 15 23 20.6 -0.2**
baz=312,SNR=46
R11A Troy Canyon, C 61.41 64 *eP* **P 15 23 20.8 0.0**
comp=Z,20nm,0.8s
ISA Isabella, Lake 61.48 68 P **P 15 23 20.3 -0.8**
baz=312
ISA Isabella, Lake 61.48 68 *eP* **P 15 23 19.7 -1.4**
comp=Z,7.4nm,0.8s
ISA Isabella, Lake 61.48 68 *eP* **P 15 23 19.7 -1.4**
ISA pmax pmax
comp=Z,7.0nm,0.8s
HWUT Hardware Ranch 61.54 58 *eP* **P 15 23 22.1 +0.5**
comp=Z,21nm,0.7s
HWUT LR LR
comp=Z,189nm,19.0s
DAC Darwin (Calif) 61.60 67 *eP* **P 15 23 21.1 -1.0**
comp=Z,36nm,1.5s
DAC Darwin (Calif) 61.60 67 *eP* **P 15 23 21.1 -1.0**
DAC pmax pmax
comp=Z,36nm,1.5s
BNSI Bone 61.75 221 P **P 15 23 23.4 +0.4**
comp=Z,70nm,0.8s,comp=Z,570nm
DUG Dugway, Tooele 61.78 60 P **P 15 23 23.6 +0.4**
baz=312,SNR=61
DUG Dugway, Tooele 61.78 60 *eP* **P 15 23 23.0 -0.1**
DUG Dugway, Tooele 61.78 60 *eP* **P 15 23 23.1 -0.1**
comp=Z,37nm,0.8s
DUG LR LR
comp=Z,390nm,22.0s
DUG Dugway, Tooele 61.78 60 *eP* **P 15 23 23.1 -0.1**
DUG pmax pmax
comp=Z,37nm,0.9s
MPMC Manual Prospec 61.80 67 P **P 15 23 23.2 -0.3**
baz=312,SNR=10
BW06 Boulder Array 61.87 56 P **P 15 23 24.0 +0.1**
baz=312,SNR=49
BW06 Boulder Array 61.87 56 *eP* **P 15 23 24.1 +0.3**
comp=Z,45nm,1.1s
BW06 LR LR
comp=Z,511nm,21.0s
PD31 Pinedale Array 61.87 56 *eP* **P 15 23 24.1 +0.2**
PDAR Pinedale Array 61.87 56 P **P 15 23 24.1 +0.2**
comp=Z,18nm,0.8s,baz=288,slow=2.1,SNR=113
PDAR pP **pP 15 23 47.0 +3.8**
comp=Z,20nm,0.9s,baz=74,slow=0.2,SNR=5.7
PDAR PKP2bc 15 52 43.9
comp=Z,0.7nm,0.8s,baz=104,slow=6.3,SNR=4.3
FURC Furnace Creek, 61.91 66 P **P 15 23 24.0 +0.2**
baz=312,SNR=17
TPNV Topopah Spring 61.95 65 P **P 15 23 24.3 -0.1**
baz=312,SNR=25
TPNV Topopah Spring 61.95 65 *eP* **P 15 23 24.4 -0.1**
comp=Z,26nm,0.8s
TPNV Topopah Spring 61.95 65 *eP* **P 15 23 24.4 0.0**
TPNV pmax pmax
comp=Z,26nm,0.8s
TCUT Toone Canyon 61.95 59 *eP* **P 15 23 24.0 -0.5**
comp=Z,32nm,0.7s
STKI Sintang 61.96 232 P **P 15 23 26.1 +1.7**
OSI Osito Audit: C 62.02 69 P **P 15 23 24.6 -0.3**
baz=313
OSI Osito Audit: C 62.02 69 *eP* **P 15 23 24.5 -0.3**
comp=Z,34nm,0.6s
CTU Camp Tracy 62.05 59 *eP* **P 15 23 25.3 +0.2**
comp=Z,19nm,0.7s
JLU Jordanelle 62.28 59 *eP* **P 15 23 27.5 +0.9**
comp=Z,22nm,1.1s
EDW2 Edwards Air Fo 62.29 68 P **P 15 23 26.3 -0.2**
baz=313,SNR=6.1
SFJD Kangerlussuaq 62.34 11 P **P 15 23 25.8 -0.5**
comp=Z,112nm,0.7s,baz=344,slow=7.8,SNR=77
SFJD Kangerlussuaq 62.34 11⇑ *iP* **P 15 23 25.8 -0.5**
comp=Z,113nm,0.8s
SFJD Kangerlussuaq 62.34 11 *eP* **P 15 23 25.9 -0.5**
comp=Z,122nm,0.8s
SFJD Kangerlussuaq 62.34 11⇑ *iP* **P 15 23 25.8 -0.5**
SFJD pmax pmax
comp=Z,110nm,0.8s
NLU North Lily Min 62.36 60 *eP* **P 15 23 27.6 +0.4**
comp=Z,31nm,0.8s
DGPR DIGLIPUR 62.42 258 *eP* **P 15 23 28.3 +0.8**
KAPI Kappang 62.45 221 *eP* **P 15 23 27.4 -0.3**
KAPI comp=Z,32nm,1.1s LR LR
comp=Z,1μm,20.0s
FIA1 FINESS Array S 62.48 335 *eP* **P 15 23 25.8 -1.5**
FINES FINESS Array B 62.48 335 P **P 15 23 25.9 -1.5**
comp=Z,25nm,0.5s,baz=38,slow=7.5,SNR=226
FINES PcP **PcP 15 24 06.0 +0.1**
comp=Z,17nm,0.5s,baz=53,slow=5.4,SNR=5.9
KBKI Kotabaru 62.55 226 P **P 15 23 28.3 0.0**
MPU Maple Canyon 62.57 60 *eP* **P 15 23 29.0 +0.5**
comp=Z,34nm,0.8s
PUL Pulkovo 62.62 332⇓ *eP* **P 15 23 27.6 -0.7**
PUL pmax pmax
comp=Z,112nm,0.5s
SHOC Shoshone, Teco 62.64 66 P **P 15 23 29.0 +0.2**
baz=313,SNR=5.1
GSC Goldstone, Bar 62.72 67 P **P 15 23 29.4 -0.1**
baz=313
GSC Goldstone, Bar 62.72 67 *eP* **P 15 23 29.3 -0.2**
comp=Z,17nm,0.9s
GSC Goldstone, Bar 62.72 67 *eP* **P 15 23 29.3 -0.2**
GSC pmax pmax
comp=Z,17nm,0.9s
KBL Kabul 62.75 292 *eP* **P 15 23 28.6 -1.2**
comp=Z,47nm,0.8s
KBL Kabul 62.75 292 *eP* **P 15 23 28.6 -1.2**
KBL pmax pmax
comp=Z,47nm,0.8s
SHPR Sheep Range 62.89 65 *eP* **P 15 23 31.0 +0.3**
comp=Z,39nm,1.3s
FMP Fort Macarthur 62.90 69 P **P 15 23 30.8 +0.3**
baz=313
BFSC Mount Baldy Ra 62.93 68 P **P 15 23 30.1 -0.9**
baz=313
NSS Namsos 63.06 343 *eP* **P 15 23 29.3 -1.8**
PKDT Phuket 63.07 249 P **P 15 23 32.6 +0.7**
comp=Z,26nm,1.1s,comp=Z,972nm
TUQ Turquoise Moun 63.16 66 P **P 15 23 32.0 -0.4**
baz=313,SNR=10.0
CCUT Cedar City 63.24 63 *eP* **P 15 23 33.5 +0.4**
comp=Z,24nm,0.9s
MSU Marysvale 63.28 61 *eP* **P 15 23 33.9 +0.6**
MSU Marysvale 63.28 61 *eP* **P 15 23 33.9 +0.6**
TMUT Trail Mountain 63.30 60 *eP* **P 15 23 33.9 +0.3**
comp=Z,31nm,0.8s
HEC Hector,Ludlow 63.33 67 P **P 15 23 32.7 -0.8**
baz=313
MOS Moscow 63.33 326 *eP* **P 15 23 31.1 -1.9**
MOS *e* 15 24 09.4
MOS *e* 15 25 49.9
MOS *eS* **S 15 31 58.8 -0.3**
MOS *e* 15 32 19.9
MOS pmax pmax
comp=Z,78nm,1.0s
SZCU Shurtz Canyon 63.37 63 *eP* **P 15 23 34.4 +0.5**
comp=Z,16nm,0.9s
P17A Butcher Ranch, 63.44 60 *eP* **P 15 23 34.8 +0.5**
comp=Z,32nm,0.9s
MDND Maddock 63.47 47 P **P 15 23 34.7 +0.6**
baz=315,SNR=19
MDND Maddock 63.47 47 *eP* **P 15 23 34.2 +0.1**
comp=Z,149nm,0.8s
ULM Lac du Bonnet 63.48 43 P **P 15 23 33.9 -0.2**
comp=Z,36nm,0.8s,baz=315,slow=7.1,SNR=84
ULM PKP2ab 15 52 42.3
comp=Z,2.4nm,0.8s,baz=72,slow=4.4,SNR=4.4
ULM Lac du Bonnet 63.48 43 *eP* **P 15 23 33.7 -0.4**
ULM Lac du Bonnet 63.48 43 *eP* **P 15 23 33.7 -0.4**
comp=Z,45nm,0.8s
ULM P'P'ab **P'P'ab 15 52 42.3 -4.2**
ULM Lac du Bonnet 63.48 43 *eP* **P 15 23 33.7 -0.4**
ULM pmax pmax
comp=Z,45nm,0.9s
Q16A Castle Valley 63.58 60 *eP* **P 15 23 35.3 +0.1**
comp=Z,24nm,0.8s
K22A Casper 63.59 55 P **P 15 23 35.4 +0.2**
baz=314,SNR=13
MTPU Mount Pierson 63.59 62 *eP* **P 15 23 36.4 +0.8**
comp=Z,24nm,0.7s
P18A Preston Nutter 63.62 59 *eP* **P 15 23 35.8 +0.2**
comp=Z,29nm,1.2s
MURC Murrieta 63.64 68 P **P 15 23 35.3 -0.2**
baz=313,SNR=6.1
LCMT Little Creek M 63.68 63 *eP* **P 15 23 36.4 +0.5**
comp=Z,38nm,0.8s
PBA Port Blair 63.69 257 *eP* P 15 23 35.9 0.0
GMRC Granite Mounta 63.76 67 P **P 15 23 36.1 -0.3**
baz=313,SNR=12
SRU San Rafael Swe 63.81 60 *eP* **P 15 23 37.1 +0.3**
comp=Z,74nm,0.8s
SRU San Rafael Swe 63.81 60 *eP* **P 15 23 37.1 +0.3**
SRU pmax pmax
comp=Z,74nm,0.8s
A31A Linda, St. Vin 63.83 45 P **P 15 23 36.8 +0.3**
baz=316
RSSD Black Hills 63.88 52 P **P 15 23 37.1 0.0**
baz=314
RSSD Black Hills 63.88 52 *eP* **P 15 23 37.2 0.0**
comp=Z,94nm,0.8s
RSSD Black Hills 63.88 52 *eP* **P 15 23 37.2 0.0**
RSSD pmax pmax
comp=Z,94nm,0.8s
RWWY Rawlins 63.88 56 *eP* **P 15 23 37.2 -0.1**
comp=Z,36nm,1.0s
KNB Kanab 63.92 63 *eP* **P 15 23 38.2 +0.7**
comp=Z,45nm,1.0s
KNB Kanab 63.92 63 *eP* **P 15 23 38.2 +0.7**
KNB pmax pmax
comp=Z,45nm,1.0s
COEN Coen 63.92 194 *eP* **P 15 23 37.4 0.0**
comp=Z,26nm,0.9s
PKCU Pink Cliffs 63.93 62 *eP* **P 15 23 38.9 +1.1**
comp=Z,42nm,1.5s
B31A Greenbush Farm 63.98 45 P **P 15 23 37.7 +0.3**
baz=316,SNR=36
PFO Pinyon Flats O 64.08 68 PFAKE 15 23 50.0 +11
PFO LR LR
comp=Z,1μm,19.0s
IPM Ipoh 64.15 245 *eP* **P 15 23 38.7 -0.3**
comp=Z,35nm,1.0s
A32A Rocking H Ranc 64.16 44 P **P 15 23 38.4 -0.2**
baz=316,SNR=9.3
OBN Obninsk 64.20 326 *eP* **P 15 23 37.5 -1.2**
comp=Z,64nm,1.0s
OBN LR LR
comp=Z,686nm,20.0s
OBN Obninsk 64.20 326 *c iP* **P 15 23 37.2 -1.5**
OBN *e* 15 24 12.3
OBN *e* 15 25 58.3
OBN *i S* **S 15 32 12.3 +2.4**
OBN pmax pmax
comp=Z,47nm,0.9s
OBN MLR MLR
comp=Z,717nm,21.0s
PBKI Pangkalan Bun 64.22 230 P **P 15 23 40.6 +1.2**
O20A White River Ci 64.39 58 P **P 15 23 40.2 -0.3**
baz=314,SNR=7.1
O20A White River Ci 64.39 58 *eP* **P 15 23 40.4 -0.1**
comp=Z,17nm,0.9s
C31A Landman Farms, 64.39 46 P **P 15 23 40.1 -0.1**
baz=316,SNR=44
NEE2 Needles Airpor 64.40 66 P **P 15 23 40.3 -0.2**
baz=314
IRM Iron Mountain 64.50 67 P **P 15 23 41.0 -0.2**
baz=314,SNR=17
B32A Ashes, Strandq 64.51 45 P **P 15 23 40.5 -0.5**
baz=316,SNR=28
TBLU Trondheim 64.54 343 *eP* **P 15 23 37.4 -3.4**
TBLU IAmb IAmb 15 23 39.8
comp=Z,38nm,1.0s
MONP2 Monument Peak 64.60 69 P **P 15 23 40.7 -1.3**
baz=314
W13A Hualapai Mount 64.61 65 *eP* **P 15 23 41.7 -0.4**
comp=Z,19nm,0.9s
U15A North Rim 64.64 63 *eP* **P 15 23 42.7 +0.4**
comp=Z,23nm,0.9s
A33A Warroad 64.64 44 P **P 15 23 41.5 -0.3**
baz=317,SNR=35
BC3 Big Chickawall 64.66 67 P **P 15 23 42.3 0.0**
baz=314
MYKOM Kota Tinggi 64.68 240 *eP* **P 15 23 44.4 +1.9**
comp=Z,34nm,1.0s
MMRI Maumere 64.69 217 P **P 15 23 42.8 +0.3**
comp=Z,154nm,0.9s,comp=Z,3μm
MMRI Maumere 64.69 217 *eP* **P 15 23 42.7 +0.3**
comp=Z,107nm,0.7s
VSU Vasula 64.76 333 *c iP* **P 15 23 41.4 -1.0**
VSU pmax pmax
comp=Z,134nm,0.8s
AGMN Agassiz Nation 64.89 44 P **P 15 23 42.9 -0.5**
baz=317,SNR=25
AGMN Agassiz Nation 64.89 44 *eP* **P 15 23 43.2 -0.2**
comp=Z,55nm,0.9s
AGMN LR LR
comp=Z,364nm,20.0s
C32A Crookston 64.93 45 P **P 15 23 43.4 -0.3**
baz=317,SNR=8.4
D31A Mcclaflin, Tow 64.93 46 P **P 15 23 43.4 -0.3**
baz=316,SNR=26
SOEI Soe 64.94 215 P **P 15 23 44.1 -0.1**
SOEI Soe 64.94 215 *eP* **P 15 23 43.3 -0.9**
comp=Z,55nm,0.9s
SWSC Sam W. Stewart 64.94 68 P **P 15 23 43.7 -0.2**
baz=314
ANGG Ammassalik, Gr 64.98 6 *eP* **P 15 23 42.6 -1.1**
comp=Z,69nm,0.8s
PDMCI Parker Dam,Lak 65.00 66 P **P 15 23 44.1 -0.2**
baz=314,SNR=13
TPRI Tanjung Pinang 65.01 239 P **P 15 23 45.9 +1.3**
comp=Z,61nm,1.0s
PV09 Paradox Valley 65.02 60 *eP* **P 15 23 44.1 -0.7**
B33A Robert and Kas 65.04 44 P **P 15 23 43.9 -0.5**
baz=317,SNR=14
PHWY Pilot Hill 65.09 55 *eP* **P 15 23 44.6 -0.6**
comp=Z,22nm,1.4s
N23A Red Feather La 65.12 56 P **P 15 23 46.0 +0.6**
baz=315,SNR=28
N23A Red Feather La 65.12 56 *eP* **P 15 23 45.5 +0.2**
comp=Z,35nm,0.8s
Y12C Blythe 65.16 67 P **P 15 23 45.4 +0.1**
baz=314,SNR=5.8
Y12C Blythe 65.16 67 *eP* **P 15 23 45.4 +0.1**
comp=Z,20nm,0.8s
PV10 Paradox Valley 65.16 60 *eP* **P 15 23 46.6 +0.9**
VRH Novokhopyorsk 65.17 321 *eP* **P 15 23 43.2 -2.0**
VRH *eS* **S 15 32 18.3 -3.7**
VRH pmax pmax
comp=Z,70nm,0.6s
VRH smax smax
comp=N,110nm,1.8s
D32A Dogwood Acres, 65.20 46 P **P 15 23 45.1 -0.4**
baz=317,SNR=27
E31A Nome 65.21 47 P **P 15 23 45.1 -0.4**
baz=316,SNR=33
PV04 Paradox Valley 65.22 60 *eP* **P 15 23 43.3 -2.7**
LPSR Galich'ya Gora 65.24 323 *eP* **P 15 23 44.3 -1.3**
LPSR *eS* **S 15 32 18.8 -4.0**
LPSR pmax pmax
comp=Z,90nm,0.7s
LPSR smax smax
comp=E,30nm,1.3s
BHPL Bhopal 65.24 277 *eP* **P 15 23 45.5 -0.6**
B34A Aery, Baudette 65.31 44 P **P 15 23 45.2 -0.9**
baz=317,SNR=29
VIS Vishakhapatnam 65.32 269 *eP* **P 15 23 46.5 -0.1**
C33A Trail 65.33 45 P **P 15 23 45.7 -0.5**
baz=317
PV05 Paradox Valley 65.33 60 *eP* **P 15 23 47.0 +0.3**
F31A Hecla 65.54 48 P **P 15 23 47.0 -0.7**
baz=316,SNR=8.7
MTN Manton Dam 65.55 206 *eP* **P 15 23 48.0 +0.1**
comp=E,41nm,0.8s
E32A Braaten, Kindr 65.57 46 P **P 15 23 46.6 -1.3**
baz=317,SNR=8.1
BATI Baumata 65.58 215 P **P 15 23 48.0 -0.3**
comp=E,44nm,0.7s,baz=324,slow=2.7,SNR=14
BATI Baumata 65.58 215 P **P 15 23 47.9 -0.3**
PV01 Paradox Valley 65.59 60 *eP* **P 15 23 49.3 +0.9**
NGP Nagpur 65.66 275 *eP* **P 15 23 49.1 +0.3**
MOL Molde 65.66 344 *eP* **P 15 23 46.1 -2.0**
D33A AnnSam, Waubun 65.75 45 P **P 15 23 48.7 -0.3**
baz=317,SNR=11
SMCO Snowmass 65.75 58 *eP* **P 15 23 49.4 -0.3**
comp=E,23nm,0.8s
WUAZ Wupatki 65.80 63 P **P 15 23 50.1 +0.3**
baz=314,SNR=13
WUAZ Wupatki 65.80 63 *eP* **P 15 23 50.2 +0.5**
comp=E,27nm,0.9s
C34A RKJ Ranch, Bem 65.80 44 P **P 15 23 48.8 -0.5**
baz=318
B35A Bob, Littlefor 65.82 43 P **P 15 23 48.7 -0.7**
baz=318,SNR=19
DOMB Dombas 65.88 344 *eP* **P 15 23 48.2 -1.4**
DOMB IAmb IAmb 15 23 49.5
comp=Z,65nm,1.3s
Y14A Wickenburg 65.94 66 *eP* **P 15 23 50.5 +0.1**
comp=Z,21nm,0.8s
G31A Conde 66.02 48 P **P 15 23 50.1 -0.7**
baz=317,SNR=10
ISCO Idaho Springs 66.06 56 P **P 15 23 51.9 +0.4**
baz=315,SNR=64
ISCO Idaho Springs 66.06 56 *eP* **P 15 23 51.3 -0.2**
comp=Z,43nm,1.0s
ISCO LR LR
comp=Z,557nm,22.0s
ISCO Idaho Springs 66.06 56 *eP* **P 15 23 51.3 -0.2**
ISCO pmax pmax
comp=Z,43nm,1.0s
F32A Veblen 66.07 47 P **P 15 23 50.3 -0.7**
baz=317
D34A Park Rapids 66.09 45 P **P 15 23 50.8 -0.4**
baz=318,SNR=23
AKN Aaknes 66.12 345 *eP* **P 15 23 50.6 -0.6**
E33A Westby DABS, E 66.14 46 P **P 15 23 51.3 -0.2**
baz=317,SNR=23
NC303 NORSAR Array S 66.18 342 *eP* **P 15 23 50.0 -1.5**
C35A Jirik Farms, M 66.19 44 P **P 15 23 51.1 -0.8**
baz=318,SNR=10
VSR Storozhevoye 66.21 322 *eP* **P 15 23 50.4 -1.4**
VSR *eS* **S 15 32 33.0 -1.6**
VSR pmax pmax
comp=Z,40nm,0.7s
VSR smax smax
comp=N,160nm,2.7s
NC405 NORSAR Array S 66.21 342 *eP* **P 15 23 49.6 -2.2**
SUSD Miller 66.22 49 P **P 15 23 51.7 -0.3**
baz=317

NC204 **NORSAR Array S** 66.25 342 *e*P P 15 23 51.2 -0.8
MVCO **Mesa Verde** 66.28 60 P P 15 23 52.6 -0.2
baz=315,SNR=19
MVCO **Mesa Verde** 66.28 60 *e*P P 15 23 53.0 +0.1
comp=N,30nm,0.8s
MVCO LR LR
comp=Z,362nm,22.0s
BORG **Borgarnes** 66.29 359 P P 15 23 52.8 +0.7
comp=Z,232nm,0.9s,baz=16,slow=3.7,SNR=61
BORG LR LR 15 53 43.0
comp=Z,201nm,19.1s,baz=7.6,slow=37
BORG **Borgarnes** 66.29 359 *e*P P 15 23 53.2 +1.1
comp=Z,347nm,1.0s
BORG **Borgarnes** 66.29 359 *e*P P 15 23 53.2 +1.1
BORG pmax pmax
comp=Z,350nm,1.0s
113A **Mohawk Valley,** 66.29 67 *e*P P 15 23 52.1 -0.6
comp=Z,11nm,0.8s
G32A **Webster** 66.34 48 P P 15 23 52.5 -0.3
baz=317,SNR=9.8
NB201 **NORSAR Array S** 66.36 342 *e*P P 15 23 50.6 -2.1
NB2 **NORSAR Subarra** 66.38 342 P P 15 23 51.5 -1.4
comp=Z,36nm,0.7s,baz=24,slow=6.9
NB2 **NORSAR Subarra** 66.38 342 P P 15 23 51.5 -1.4
baz=24,slow=6.9
NOA **NORSAR Array B** 66.38 342 P P 15 23 51.5 -1.4
comp=Z,36nm,0.7s,baz=25,slow=6.5,SNR=102
TSI **Tuntungan** 66.39 246 P P 15 23 46.9 -6.6
H31A **Wolsey** 66.43 49 P P 15 23 52.7 -0.7
baz=317,SNR=6.4
NBO02 **NORSAR Array S** 66.44 342 *e*P P 15 23 52.0 -1.2
NBO00 **NORSAR Array S** 66.48 342 *e*P P 15 23 52.7 -0.8
F33A **5 Mile Ranch,** 66.49 46 P P 15 23 53.4 -0.3
baz=317,SNR=49
E34A **Wadena** 66.52 45 P P 15 23 53.7 -0.3
baz=318
X16A **Lo Mia Camp, P** 66.53 64 *e*P P 15 23 54.9 +0.5
comp=Z,23nm,0.9s
NC602 **NORSAR Array S** 66.59 342 *e*P P 15 23 52.8 -1.3
NC602 **NORSAR Array S** 66.59 342 *e*P P 15 23 52.6 -1.5
D35A **Remer** 66.62 44 P P 15 23 53.9 -0.6
baz=318,SNR=16
NAO01 **NORSAR Array S** 66.62 342 *e*P P 15 23 53.5 -0.8
C36A **Pine Crest Far** 66.66 43 P P 15 23 54.4 -0.5
baz=319,SNR=9.5
HFS **Hagfors** 66.68 340 P P 15 23 54.2 -0.5
comp=Z,34nm,0.7s,baz=35,slow=3.5,SNR=74
HFS S S 15 32 39.4 -0.7
comp=Z,5.4nm,0.9s,baz=60,slow=12,SNR=5.0
PLAI **Plampang** 66.72 221 P P 15 23 54.2 -1.3
I31A **Royce, Wessing** 66.72 49 P P 15 23 54.8 -0.5
baz=317
PSI **Prapat** 66.73 245 LR LR 15 54 22.6
comp=Z,292nm,19.0s,baz=26,slow=37
GEYT **Alibeck** 66.79 301 P P 15 23 56.2 +0.4
comp=Z,48nm,0.5s,baz=26,slow=3.1,SNR=132
GYA0B **ALIBECK ARRAY** 66.79 301 *e*P P 15 23 56.1 +0.3
comp=Z,63nm,0.6s
S22A **4UR Ranch, Cre** 66.84 59 P P 15 23 56.9 +0.4
baz=315,SNR=38
S22A **4UR Ranch, Cre** 66.84 59 *e*P P 15 23 57.2 +0.7
comp=Z,50nm,1.4s
E35A **Pequot Lakes** 66.84 45 P P 15 23 55.5 -0.5
baz=318,SNR=9.7
G33A **Ortonville** 66.89 47 P P 15 23 56.0 -0.3
baz=318
Q24A **Divide** 66.91 57 P P 15 23 57.0 +0.1
baz=316,SNR=7.3
Q24A **Divide** 66.91 57 *e*P P 15 23 57.4 +0.5
comp=Z,20nm,1.1s
H32A **Carlson Farm,** 66.92 48 P P 15 23 55.7 -0.8
baz=317,SNR=24
D36A **Goodland** 66.95 44 P P 15 23 55.8 -0.9
baz=319,SNR=8.4
C37A **Embarrass** 66.98 43 P P 15 23 56.2 -0.6
baz=319,SNR=6.3
F34A **Alexandria** 67.01 46 P P 15 23 56.6 -0.4
baz=318,SNR=8.9
W18A **Petrified Fore** 67.04 63 P P 15 23 58.0 +0.4
baz=315,SNR=6.9
W18A **Petrified Fore** 67.04 63 *e*P P 15 23 58.6 +1.0
comp=Z,20nm,0.8s
EYMN **Ely** 67.12 42 P P 15 23 57.0 -0.7
baz=319,SNR=16
EYMN **Ely** 67.12 42 *e*P P 15 23 57.5 -0.2
EYMN comp=Z,76nm,0.8s LR LR
comp=Z,420nm,20.0s
H33A **Prehn Over Nor** 67.12 48 P P 15 23 57.3 -0.5
baz=318,SNR=20
J31A **Geddes** 67.16 50 P P 15 23 57.8 -0.2
baz=317,SNR=9.5
OGNE **Ogallala** 67.17 53 P P 15 23 58.6 +0.3
baz=316,SNR=11
OGNE **Ogallala** 67.17 53 *e*P P 15 23 58.8 +0.6
comp=Z,175nm,0.9s
OGNE LR LR
comp=Z,374nm,20.0s
IZAR **Zarasai** 67.17 332 *e*P P 15 23 57.4 -0.5
IZAR IAmb IAmb 15 24 01.1
comp=Z,35nm,0.5s
HYA **Hoyanger** 67.21 345 *e*P P 15 23 57.4 -0.6
G34A **Benson** 67.24 47 P P 15 23 58.3 -0.2
baz=318,SNR=9.9
I32A **Karley and Nic** 67.25 48 P P 15 23 57.7 -0.9
baz=317,SNR=7.3
F35A **Swanville** 67.29 45 P P 15 23 58.3 -0.5
baz=318,SNR=12
D37A **Cotton** 67.30 43 P P 15 23 58.0 -0.9
baz=319
AKL **Akola** 67.31 276 *e*P P 15 23 59.1 -0.2
X18A **Snowflake** 67.33 63 *e*P P 15 23 60.0 +0.5
comp=Z,20nm,0.8s
IDID **Didziasalis** 67.38 331 *e*P P 15 23 58.7 -0.5
IDID IAmb IAmb 15 23 59.2
comp=Z,23nm,0.8s
C38A **Sawbill Land.** 67.39 42 P P 15 23 58.7 -0.7
baz=319,SNR=8.7
E36A **McGregor** 67.40 44 P P 15 23 59.2 -0.4
baz=319,SNR=23
214A **Organ Pipe Nat** 67.44 67 P P 15 24 00.1 +0.1
baz=315
214A **Organ Pipe Nat** 67.44 67 P P 15 23 59.7 -0.3
comp=Z,198nm,1.3s
OSL **Oslo** 67.49 342 *e*P P 15 23 59.5 -0.3
IIGN **Ignalina** 67.52 332 *e*P P 15 23 59.6 -0.5
IIGN IAmb IAmb 15 24 00.1
comp=Z,30nm,0.7s
J32A **Parkston** 67.55 49 P P 15 23 59.6 -0.8
baz=317,SNR=20
I33A **Coleman** 67.56 48 P P 15 24 00.3 -0.3
baz=318
SDCO **Great Sand Dun** 67.58 58 P P 15 24 01.4 +0.2
baz=316,SNR=24
SDCO **Great Sand Dun** 67.58 58 *e*P P 15 24 01.4 +0.2
comp=Z,13nm,0.9s
SDCO LR LR
comp=Z,367nm,19.0s
H34A **Spellman Lake,** 67.60 47 P P 15 24 00.4 -0.4
baz=318,SNR=26
K31A **O'Neill** 67.64 50 P P 15 24 01.2 +0.1
baz=317,SNR=9.3
MICGM **Minsk** 67.69 330⇑ *e*P P 15 24 01.0 -0.2
MICGM PM 15 24 02.0
comp=Z,0.2nm,1.2s
MNK **Minsk** 67.69 330⇑ *e*P P 15 24 01.0 -0.2
MNK pmax pmax
comp=Z,210nm,1.2s
NACGM **Naroch** 67.71 331 *e*P P 15 24 00.0 -1.3
NACGM *e*S S 15 32 48.0 -4.6
NACGM *e*PS PnS 15 33 28.0 +2.9
NACGM *e*LQ LQ 15 46 17.0
NACGM *e*LR LR 15 53 48.0
F36A **Milaca** 67.77 45 P P 15 24 01.1 -0.8
baz=319,SNR=12
G35A **Watkins** 67.80 46 P P 15 24 01.9 -0.1
baz=318,SNR=18
C39A **Grand Marais** 67.81 42 P P 15 24 01.3 -0.8
baz=320,SNR=5.1
ECSD **EROS Data Cent** 67.89 48 P P 15 24 02.1 -0.5
baz=318,SNR=115
ECSD **EROS Data Cent** 67.89 48 *e*P P 15 24 02.0 -0.6
comp=Z,83nm,0.8s
ECSD LR LR
comp=Z,613nm,22.0s
KONO **Kongsberg** 67.98 342 *e*P P 15 24 03.1 +0.2
comp=Z,39nm,1.0s
KONO **Kongsberg** 67.98 342 *e*P P 15 24 02.6 -0.3
KONO **Kongsberg** 67.98 342 *c i*P P 15 24 02.6 -0.3
KONO pmax pmax
comp=Z,34nm,1.0s
K32A **Verdigre** 68.01 50 P P 15 24 02.8 -0.6
baz=318,SNR=5.8
J33A **Davis** 68.02 49 P P 15 24 02.9 -0.6
baz=318,SNR=22
I34A **Hadley** 68.03 48 P P 15 24 03.2 -0.3
baz=318,SNR=12
H35A **Sunnyside Ranc** 68.03 46 P P 15 24 03.6 +0.1
baz=318,SNR=17
BER **Bergen** 68.09 345 *e*P P 15 24 03.5 -0.1
E38A **The Farm, Brul** 68.11 43 P P 15 24 03.3 -0.6
baz=320,SNR=7.7
G36A **St. Michael** 68.14 45 P P 15 24 04.0 -0.2
baz=319,SNR=8.6
KSCO **Kaye Shedlock'** 68.25 55 P P 15 24 05.2 +0.1
baz=317
KSCO **Kaye Shedlock'** 68.25 55 *e*P P 15 24 05.6 +0.4
comp=Z,33nm,1.0s
ODD1 **Odda** 68.31 344 *e*P P 15 24 04.5 -0.5
ODD1 IAmb IAmb 15 24 08.1
comp=Z,80nm,1.2s
TUC **Tucson** 68.40 65 P P 15 24 06.0 -0.1
baz=316
TUC **Tucson** 68.40 65 *e*P P 15 24 06.2 +0.1
comp=Z,14nm,0.8s
TUC **Tucson** 68.40 65 *e*P P 15 24 06.2 +0.1
TUC pmax pmax
comp=Z,13nm,0.8s
F38A **Pierce - Schro** 68.45 44 P P 15 24 06.0 -0.1
baz=320,SNR=35
L32A **Elgin** 68.47 50 P P 15 24 06.0 -0.4
baz=318,SNR=6.3
MHTCO **State Highway** 68.47 58 *e*P P 15 24 08.2 +1.5
comp=Z,57nm,1.0s
J34A **George** 68.54 48 P P 15 24 06.1 -0.6
baz=318,SNR=6.9
H36A **Jessenland, He** 68.55 46 P P 15 24 07.1 +0.3
baz=319,SNR=40
SPMN **Marine on St.** 68.58 45 P P 15 24 06.5 -0.5
baz=319,SNR=20
SPMN **Marine on St.** 68.58 45 *e*P P 15 24 06.7 -0.3
comp=Z,76nm,0.8s
I35A **Creekview Farm** 68.58 47 P P 15 24 06.5 -0.5
baz=319,SNR=17
NRS **Narsarsuaq** 68.61 11 *i*P P 15 24 06.1 -0.7
comp=Z,86nm,0.9s
NRS **Narsarsuaq** 68.61 11 *e*P P 15 24 06.4 -0.4
comp=Z,90nm,0.9s
NRS **Narsarsuaq** 68.61 11 *e*P P 15 24 06.4 -0.4
NRS pmax pmax
comp=Z,90nm,0.9s
T25A **Trinidad** 68.62 58 P P 15 24 07.6 0.0
baz=316,SNR=18
T25A **Trinidad** 68.62 58 *e*P P 15 24 07.6 0.0
comp=Z,42nm,1.2s
HYB **Hyderabad** 68.67 272 *i*P P 15 24 08.5 +0.6
comp=Z,190nm,1.0s
HYB *e* 15 24 29.0
HYB *e* 15 24 45.0
HYB **Hyderabad** 68.67 272 *e*P P 15 24 07.2 -0.6
MAK **Makhachkala** 68.72 312 *e*P P 15 24 06.6 -1.2
MAK *e* 15 26 44.4
MAK *e*S S 15 33 03.0 -1.9
MAK pmax pmax
comp=Z,196nm,1.4s
MAK MLR MLR
comp=Z,722nm,15.0s
E39A **Mellen** 68.73 43 P P 15 24 07.0 -0.9
baz=320,SNR=19
BLS5 **Blasjo** 68.80 344 *e*P P 15 24 07.8 -0.3
BGNE **Belgrade** 68.84 51 P P 15 24 08.1 -0.5
baz=318,SNR=7.0
BGNE **Belgrade** 68.84 51 *e*P P 15 24 08.2 -0.4
comp=Z,112nm,0.8s
J35A **Milford** 68.84 48 P P 15 24 08.1 -0.5
baz=319,SNR=9.3
K34A **Le Mars** 68.92 49 P P 15 24 08.4 -0.7
baz=318,SNR=13
F39A **Loretta** 68.92 43 P P 15 24 08.7 -0.4
baz=320,SNR=20
I36A **Fitzsimmons Fa** 68.93 46 P P 15 24 08.7 -0.4
baz=319,SNR=13
E40A **Wakefield** 68.97 42 P P 15 24 09.1 -0.2
baz=320,SNR=28
H37A **Dierke Farm, C** 69.02 45 P P 15 24 09.7 +0.1
baz=319,SNR=20
ANMO **Albuquerque** 69.05 61 P P 15 24 10.4 +0.2
baz=316
ANMO **Albuquerque** 69.05 61 *e*P P 15 24 10.5 +0.2
comp=Z,14nm,0.8s
ANMO LR LR
comp=Z,278nm,21.0s
ANMO **Albuquerque** 69.05 61 *d i*P P 15 24 10.2 0.0
ANMO pmax pmax
comp=Z,12nm,0.9s
LAZ **Ladron** 69.05 61 *e*P P 15 24 11.2 +1.0
G38A **Ridgeland** 69.06 44 P P 15 24 09.0 -0.9
baz=320,SNR=25
D41A **Chassel** 69.07 41 P P 15 24 09.5 -0.5
baz=321,SNR=6.9
AFI **Afiamalu** 69.16 146 LR LR 15 55 28.2
comp=Z,408nm,18.0s,baz=314,slow=37
M33A **Taylor Creek F** 69.20 50 P P 15 24 10.4 -0.5
baz=318,SNR=12
KMY **Karmoy** 69.21 344 *e* P 15 24 03.9 -6.7
I37A **Lemond, Waseca** 69.22 46 P P 15 24 11.0 0.0
baz=319,SNR=42
H38A **Maiden Rock** 69.24 45 P P 15 24 10.6 -0.4
baz=320,SNR=13
GOF **Gofitskoye** 69.25 316⇑ *e*P P 15 24 11.4 +0.3
GOF *e*S SKiKP 15 33 38.0 -15
GOF pmax pmax
comp=Z,213nm,0.7s
F40A **Park Falls** 69.27 43 P P 15 24 10.4 -0.9
baz=320,SNR=17
G39A **Holcombe** 69.29 44 P P 15 24 10.3 -1.0
baz=320,SNR=16
J36A **Seneca 1, Swea** 69.29 47 P P 15 24 10.8 -0.5
baz=319,SNR=26
K35A **Storm Lake** 69.31 48 P P 15 24 10.7 -0.9
baz=319,SNR=24
L34A **Svendsen Farm,** 69.31 49 P P 15 24 10.8 -0.8
baz=318,SNR=11
E41A **Ken** 69.36 42 P P 15 24 11.2 -0.6
baz=321,SNR=12
GROC **Groznyy** 69.37 313 *e*P P 15 24 10.5 -1.3
GROC *e* 15 24 33.1
GROC pmax pmax
comp=Z,58nm,0.7s
STAV **Stavanger** 69.39 344 *e*P P 15 24 11.3 -0.3
SAN1 **Sandwick** 69.47 348⇑ *e*P P 15 24 11.4 -0.7
HOMB **Homborsund** 69.48 342 *e*P P 15 24 11.6 -0.5
HOMB IAmb IAmb 15 24 13.2
comp=Z,136nm,1.5s
BNM **Barren Site** 69.52 61 *e*P P 15 24 14.5 +1.3
M34A **Aspy Farms, Fr** 69.56 50 P P 15 24 12.6 -0.4
baz=318,SNR=5.9
CTA **Charters Tower** 69.56 189 LR LR 15 50 43.3
comp=Z,345nm,21.7s,baz=331,slow=32
CTAO **Charters Tower** 69.56 189 *e*P P 15 24 13.1 0.0
comp=Z,24nm,1.1s
CTAO LR LR
comp=Z,1μm,20.0s
CTAO **Charters Tower** 69.56 189 *e*P P 15 24 13.1 0.0
CTAO pmax pmax
comp=Z,24nm,1.1s
COWI **Conover** 69.57 42 *e*P P 15 24 12.3 -0.8
comp=Z,38nm,0.9s
COWI LR LR
comp=Z,452nm,21.0s
SUW **Suwalki** 69.59 332 *i*P P 15 24 11.8 -1.2
SUW **Suwalki** 69.59 332 *e*P P 15 24 11.8 -1.2
comp=Z,200nm,1.1s
SUW **Suwalki** 69.59 332⇑ *i*P P 15 24 11.8 -1.2
MSVF **Nonsavu** 69.60 157 *e*P P 15 24 14.4 +0.9
comp=Z,76nm,1.3s
MSVF LR LR
comp=Z,2μm,21.0s
MSVF **Nonsavu** 69.60 157 *ce*P P 15 24 14.6 +1.1
MSVF pmax pmax
comp=Z,51nm,1.2s
L35A **Bielow Farm, R** 69.62 49 P P 15 24 12.3 -1.1
baz=319,SNR=10
MASI **Maura Aman, Be** 69.63 239 P P 15 24 14.3 +0.5
SNART **Snartemo** 69.67 343 *e*P P 15 24 13.1 -0.3
SNART IAmb IAmb 15 24 15.5
comp=Z,73nm,0.8s
J37A **Redenius Farm,** 69.68 47 P P 15 24 13.4 -0.4
baz=319,SNR=33
H39A **Augusta** 69.70 44 P P 15 24 13.5 -0.4
baz=320,SNR=7.4
I38A **Scanlan Farm,** 69.70 45 P P 15 24 13.2 -0.7
baz=320,SNR=18
AKT **Akhty** 69.71 310⇑ *i*P P 15 24 14.2 +0.1
AKT *e**SP PcP 15 24 35.3 -1.2
AKT *e* 15 26 49.4
AKT pmax pmax
comp=Z,128nm,0.7s
G40A **Rib Lake** 69.74 43 P P 15 24 13.4 -0.7
baz=321,SNR=18
K36A **Gilmore City** 69.76 48 P P 15 24 13.7 -0.6
baz=319,SNR=15
LEM **Lembang** 69.81 232 P P 15 24 14.0 -1.0
comp=Z,17nm,0.5s,baz=175,slow=10,SNR=4.7
E42A **Champion** 69.85 41 P P 15 24 14.1 -0.6
baz=322,SNR=16
F41A **Three Lakes** 69.86 42 P P 15 24 14.5 -0.4
baz=321,SNR=20
CBKS **Cedar Bluff** 69.93 54 P P 15 24 14.7 -0.7
baz=318,SNR=5.8
CBKS **Cedar Bluff** 69.93 54 *e*P P 15 24 15.0 -0.4
comp=Z,48nm,0.8s
CBKS LR LR
comp=Z,343nm,21.0s
CBKS **Cedar Bluff** 69.93 54 *e*P P 15 24 15.0 -0.4
CBKS pmax pmax
comp=Z,48nm,0.8s
KLNR **Kaliningrad** 69.95 334 *c i*P P 15 24 14.0 -1.2
KLNR pmax pmax
comp=Z,109nm,0.8s
319A **Douglas** 69.96 65 *e*P P 15 24 15.7 -0.1
comp=Z,58nm,0.8s
121A **Cookes Peak,** 70.01 63 P P 15 24 16.6 +0.4
baz=316,SNR=6.8
121A **Cookes Peak, D** 70.01 63 *e*P P 15 24 12.8 -3.4
comp=Z,18nm,0.9s
M35A **Neola** 70.03 49 P P 15 24 15.6 -0.3
baz=319,SNR=13
K37A **Belmond** 70.05 47 P P 15 24 15.3 -0.7
baz=320,SNR=23
L36A **Harm Buss Farm** 70.06 48 P P 15 24 15.4 -0.7
baz=319,SNR=5.3
N34A **Lincoln** 70.10 50 P P 15 24 15.2 -1.2
baz=319
O33A **Hebron** 70.11 51 P P 15 24 15.3 -1.2
baz=318
H40A **Chili** 70.15 44 P P 15 24 16.0 -0.6
baz=321,SNR=24
LWLI **Liwa** 70.17 236 P pP 15 24 36.3 -0.6
J38A **Wedel Dairy, R** 70.19 46 P P 15 24 16.1 -0.8
baz=320,SNR=16
NCK **Nalchik** 70.19 314 *ce*P P 15 24 17.4 +0.5
NCK *i**PP pP 15 24 31.6 -5.0
NCK pmax pmax
comp=Z,131nm,0.8s
I39A **Houston** 70.22 45 P P 15 24 16.1 -0.9
baz=320,SNR=24
G41A **Antigo** 70.24 43 P P 15 24 16.4 -0.8
baz=321,SNR=5.1
BHJ **Bhuj** 70.24 283 *e*P P 15 24 19.0 +1.6
KVAR **Kislovodsk Arr** 70.26 315 LR LR 15 59 41.0
comp=Z,255nm,19.7s,baz=30,slow=40
KIV **Kislovodsk** 70.26 315 *e*P P 15 24 17.4 0.0
KIV **Kislovodsk** 70.26 315 *e*P P 15 24 17.8 +0.4
comp=Z,72nm,0.7s
KIV LR LR
comp=Z,754nm,20.0s
KIV **Kislovodsk** 70.26 315 P P 15 24 18.0 +0.5
SNR=36
KIV **Kislovodsk** 70.26 315 P P 15 24 18.0 +0.5
SNR=36
KIV **Kislovodsk** 70.26 315 *i*P P 15 24 18.0 +0.5
SNR=18
KIV **Kislovodsk** 70.26 315 *e*P P 15 24 17.4 0.0
KIV *e* 15 26 53.3
KIV *e*PPP PPP 15 28 36.0
KIV *e*S S 15 33 24.4 +1.1
KIV pmax pmax
comp=Z,95nm,1.0s
KIV pmax pmax
comp=Z,164nm,3.2s
KIV MLR MLR
comp=Z,680nm,18.0s
F42A **Maple Grove Fa** 70.28 42 P P 15 24 16.8 -0.5
baz=322
E43A **Lone Tree Farm** 70.28 41 P P 15 24 16.8 -0.6
baz=322,SNR=7.5
SCHQ **Schefferville** 70.29 25 P P 15 24 17.1 -0.2
comp=Z,28nm,0.8s,baz=337,slow=6.1,SNR=18
SCHQ **Schefferville** 70.29 25 *e*P P 15 24 17.1 -0.2
comp=Z,35nm,0.8s
KBZ **Khabaz** 70.34 315 P P 15 24 18.2 +0.4
comp=Z,95nm,0.8s,baz=79,slow=3.6,SNR=121
KBZ LR LR 16 01 13.4
comp=Z,679nm,18.4s,baz=64,slow=41
KASI **Kota Agung** 70.36 235 P pP 15 24 38.8 +0.9
AKASG **Malin Array Be** 70.39 327 P P 15 24 16.7 -1.3
comp=Z,16nm,0.4s,baz=33,slow=6.7,SNR=146
AKASG LR LR 15 59 25.0
comp=Z,511nm,19.0s,baz=45,slow=39
AKBB **Malin Array Si** 70.39 327 *e*P P 15 24 16.8 -1.2
comp=Z,93nm,1.1s
AKBB **Malin Array Si** 70.39 327 *e*P P 15 24 16.8 -1.2
AKBB pmax pmax
comp=Z,93nm,1.1s
KIEV **Kiev** 70.41 327 *e*P P 15 24 16.4 -1.6
KIEV **Kiev** 70.41 327 *e*P P 15 24 16.1 -1.9
comp=Z,100nm,1.2s
KIEV LR LR
comp=Z,844nm,22.0s
KIEV **Kiev** 70.41 327 *i*P P 15 24 16.8 -1.2
SNR=44
KIEV **Kiev** 70.41 327 *c i*P P 15 24 16.4 -1.6
KIEV pmax pmax
comp=Z,69nm,1.2s
AK11 **Malin Array Si** 70.43 327 *e*P P 15 24 16.6 -1.6
L37A **Phoenix Point,** 70.48 48 P P 15 24 18.1 -0.6
baz=320,SNR=49
O34A **Beatrice** 70.49 51 P P 15 24 17.5 -1.2
baz=319,SNR=25
H41A **Junction City** 70.49 44 P P 15 24 17.9 -0.8
baz=321,SNR=18
H41A **Junction City** 70.49 44 *e*P P 15 24 18.1 -0.6
comp=Z,68nm,0.8s
N35A **Tabor** 70.51 50 P P 15 24 18.5 -0.4
baz=319,SNR=26
J39A **Decorah** 70.53 46 P P 15 24 17.8 -1.2
baz=320,SNR=25
G42A **Mountain** 70.55 42 P P 15 24 18.3 -0.7
baz=322,SNR=9.1
G42A **Mountain** 70.55 42 *e*P P 15 24 18.5 -0.5
comp=Z,44nm,0.9s
K38A **Parkersburg** 70.56 47 P P 15 24 18.3 -0.8
baz=320,SNR=5.3
ZEI **Tsey** 70.59 314 *e*P P 15 24 16.2 -3.4
ZEI pmax pmax
comp=Z,73nm,1.0s
I40A **Norwalk** 70.61 45 P P 15 24 18.7 -0.7
baz=321,SNR=15
F43A **Flat Rock, Esc** 70.64 41 P P 15 24 19.0 -0.6
baz=322,SNR=11
MDRS **Chennai** 70.73 268 *e*P P 15 24 21.7 +1.2
NEY **Neytrino** 70.79 315 *de*P P 15 24 21.7 +0.9
NEY pmax pmax
comp=Z,4.0nm,0.8s
O35A **Humboldt** 70.82 50 P P 15 24 19.3 -1.5
baz=319
I41A **Arkdale** 70.82 44 P P 15 24 20.2 -0.5
baz=321,SNR=6.2
F44A **Big Bay de Noc** 70.85 41 P P 15 24 20.3 -0.5
baz=322,SNR=7.9
L38A **Oak Wood Farm,** 70.85 47 P P 15 24 20.2 -0.7
baz=320,SNR=24
G43A **Wallace** 70.86 42 P P 15 24 20.6 -0.3
baz=322,SNR=19
G43A **Wallace** 70.86 42 *e*P P 15 24 20.6 -0.3
comp=Z,108nm,0.8s
WI04 **River Road, Cl** 70.86 43 *e*P P 15 24 20.5 -0.5
comp=Z,45nm,0.9s
WI03 **Lunz Road, Cli** 70.87 43 *e*P P 15 24 20.7 -0.3
comp=Z,48nm,0.6s

M37A	Trindle Farm, baz=320	70.88	48	P		P	15 24 20.8	-0.3		
N36A	Muff Farm, Cla baz=319	70.88	49	P		P	15 24 20.7	-0.5		
WI01	McKinley Avenu comp=Z,51nm,0.9s	70.88	43	*e*P		P	15 24 20.7	-0.3		
SCIA	State Center baz=320,SNR=48	70.91	47	P		P	15 24 21.1	-0.2		
SCIA	State Center comp=Z,204nm,0.8s	70.91	47	*e*P		P	15 24 21.3	0.0		
BSD	Bornholm Skovb comp=Z,52nm,0.8s	70.92	337⇑	*i*P		P	15 24 20.3	-0.8		
BSD	Bornholm Skovb comp=Z,52nm,0.8s	70.92	337	*i*P		P	15 24 20.3	-0.8		
BSD					pmax	pmax				
K39A	Oelwein baz=320,SNR=17	70.93	46	P		P	15 24 20.1	-1.3		
POO	Poona comp=Z,62nm,1.0s	70.93	276⇑	*i*P		P	15 24 20.0	-1.8		
POO					*e*PP	pP	15 24 33.5	-8.0		
POO					*e*PPP	PPP	15 24 42.0			
POO					*i* SSS	SSS	15 27 54.0			
POO					*i* LR	LR	15 28 05.0			
POO	Poona	70.93	276	*e*P		P	15 24 23.1	+1.3		
J40A	Soldiers Grove baz=321,SNR=11	70.94	45	P		P	15 24 20.3	-1.1		
TBLG	Delisi comp=Z,139nm,1.1s	70.99	312	*e*P		P	15 24 22.8	+1.0		
TBLG	Delisi comp=Z,140nm,1.1s	70.99	312	*e*P		P	15 24 22.8	+1.0		
TBLG					pmax	pmax				
COP	Copenhagen comp=Z,66nm,0.8s	71.00	339⇑	*i*P		P	15 24 22.4	+0.9		
COP	Copenhagen comp=Z,66nm,0.8s	71.00	339⇑	*i*P		P	15 24 22.4	+0.9		
COP					pmax	pmax				
MUD	Monsted U'grnd	71.02	341⇑	*i*P		P	15 24 21.9	+0.2		
MUD	Monsted U'grnd	71.02	341⇑	*i*P		P	15 24 21.9	+0.2		
H42A	Shiocton baz=322,SNR=7.3	71.08	43	P		P	15 24 21.6	-0.7		
H42A	Shiocton comp=Z,42nm,0.8s	71.08	43	*e*P		P	15 24 21.8	-0.4		
K40A	Colesburg baz=321,SNR=9.1	71.29	46	P		P	15 24 22.8	-0.8		
M38A	Pleasantville baz=320,SNR=18	71.29	48	P		P	15 24 23.1	-0.5		
BIGH	Upper Bighouse comp=Z,260nm,0.9s	71.30	349⇑	*e*P		P	15 24 23.0	-0.3		
BIGH					IAmb	IAmb	15 24 23.9			
J41A	Loganville baz=321,SNR=15	71.30	45	P		P	15 24 22.6	-1.0		
N37A	Lee Faris, Mou baz=320,SNR=33	71.30	49	P		P	15 24 23.2	-0.5		
L39A	Vinton baz=320,SNR=31	71.33	47	P		P	15 24 23.1	-0.6		
KSU1	Kansas State U baz=319,SNR=6.5	71.34	51	P		P	15 24 22.6	-1.4		
KSU1	Kansas State U comp=Z,47nm,0.8s	71.34	51	*e*P		P	15 24 22.8	-1.2		
KSU1					LR	LR				
LLD	Lille Linde comp=Z,789nm,21.0s	71.38	339	*i* P		P	15 24 23.1	-0.7		
LLD	Lille Linde comp=Z,140nm,0.8s	71.38	339	*i* P		P	15 24 23.1	-0.7		
LLD					pmax	pmax				
I42A	Draeger Farm, baz=322,SNR=13	71.39	44	P		P	15 24 23.4	-0.7		
I42A	Draeger Farm, comp=Z,59nm,0.9s	71.39	44	*e*P		P	15 24 23.4	-0.7		
MLA1	Latheron	71.41	349⇑	*i*P		P	15 24 23.7	-0.3		
H43A	Windswept, Lux baz=322,SNR=10	71.44	43	P		P	15 24 23.8	-0.7		
H43A	Windswept, Lux comp=Z,94nm,0.8s	71.44	43	*e*P		P	15 24 23.9	-0.5		
F45A	CMU Biological baz=323	71.46	40	P		P	15 24 23.5	-1.0		
WRAB	Tennant Creek comp=Z,47nm,0.8s	71.47	201	*e*P		P	15 24 24.6	-0.2		
WRAB	Tennant Creek comp=Z,45nm,0.9s	71.47	201	*d i*P		P	15 24 24.4	-0.4		
WRAB					pmax	pmax				
WB2	Warramunga Arr	71.48	201	*e*P		P	15 24 24.7	-0.2		
WRA	Warramunga Arr comp=Z,48nm,0.7s,baz=13,slow=6.0,SNR=351	71.49	201	P		P	15 24 24.5	-0.3		
JFWS	Jewell Farm baz=321	71.54	45	P		P	15 24 23.8	-1.3		
JFWS	Jewell Farm comp=Z,20nm,0.8s	71.54	45	*e*P		P	15 24 23.9	-1.1		
JFWS					LR	LR				
JFWS	Jewell Farm comp=Z,568nm,22.0s	71.54	45	*e*P		P	15 24 23.9	-1.1		
JFWS					pmax	pmax				
RSC	Scourie comp=Z,20nm,0.9s	71.59	350⇑	*i*P		P	15 24 24.8	-0.2		
DZM	Mont Dzumac comp=Z,98nm,1.2s	71.67	170	*e*P		P	15 24 28.6	+2.6		
DZM					*e*S	S	15 33 44.6	+4.9		
DZM	Mont Dzumac comp=Z,317nm,23.7s	71.67	170	*e*LR		LR	15 46 24.6			
DZM	Mont Dzumac comp=Z,3µm,32.1s	71.67	170	*e*P		P	15 24 27.5	+1.5		
F46A	Macinaw City C comp=Z,47nm,1.1s	71.71	40	P		P	15 24 25.2	-0.8		
I43A	Langenfeld Bro baz=323,SNR=11	71.74	43	P		P	15 24 25.4	-0.8		
M39A	Webster baz=322,SNR=13	71.74	47	P		P	15 24 25.8	-0.5		
J42A	Columbus baz=320,SNR=58	71.74	44	P		P	15 24 25.3	-0.9		
L40A	Anamosa baz=322,SNR=21	71.74	46	P		P	15 24 25.3	-1.0		
K41A	Shullsburg baz=321,SNR=27	71.75	45	P		P	15 24 25.5	-0.9		
N38A	Joes South For baz=321,SNR=9.8	71.75	48	P		P	15 24 25.6	-0.7		
AMTX	Amarillo baz=320,SNR=25	71.78	58	*e*P		P	15 24 27.6	+0.9		
O37A	Wolven Farm, M comp=Z,32nm,1.0s	71.78	49	P		P	15 24 25.9	-0.6		
RGN	Rugen baz=320,SNR=15	71.83	338	*e*P		P	15 24 27.1	+0.6		
AKH	Akhalkalaki comp=Z,444nm,1.2s	71.84	313↓	*i*P		P	15 24 27.6	+0.5		
AKH	Akhalkalaki comp=Z,88nm,0.9s	71.84	313	*e*P		P	15 24 27.8	+0.7		
AKH	Akhalkalaki comp=Z,88nm,0.9s	71.84	313	*e*P		P	15 24 27.8	+0.7		
AKH					pmax	pmax				
MSTX	Muleshoe baz=318,SNR=12	71.84	59	P		P	15 24 26.7	-0.5		
MSTX	Muleshoe comp=Z,34nm,0.9s	71.84	59	*e*P		P	15 24 27.6	+0.4		
SOC	Sochi	71.91	317	*c i*P		P	15 24 26.8	-0.4		
SOC					*e**PP	PcP	15 24 45.9	+0.3		
SOC					*e**SP	sP	15 24 56.3	+1.0		
SOC					*e*S	S	15 33 38.9	-3.2		
SOC					pmax	pmax				
SOC	comp=Z,102nm,0.7s				MLR	MLR				
ANN	comp=Z,528nm,15.0s Anapa	71.95	319	*c i*P		P	15 24 26.7	-0.8		
ANN					*e**PP	PcP	15 24 45.6	-0.1		
ANN					*e*		15 27 05.1			
ANN					*e*PPP	PPP	15 28 50.0			
ANN					*e*S	S	15 33 43.1	+0.5		
ANN					*e*		15 34 24.8			
ANN	comp=Z,149nm,1.6s				pmax	pmax				
ANN	comp=E,25nm,1.6s				pmax	pmax				
ANN	comp=N,33nm,1.6s				pmax	pmax				
ANN	comp=Z,343nm,6.4s				pmax	pmax				
GKP	Gorka Klasztor	71.96	335	*e*P		P	15 24 27.1	-0.3		
GKP	Gorka Klasztor	71.96	335⇑	*e*P		P	15 24 27.1	-0.3		
J43A	Natural Harves baz=322,SNR=5.1	72.01	44	P		P	15 24 26.9	-1.0		
MNTX	Cornudas Mount baz=317,SNR=16	72.02	62	P		P	15 24 28.0	-0.1		
MNTX	Cornudas Mount comp=Z,17nm,0.9s	72.02	62	*e*P		P	15 24 27.6	-0.6		
MNTX					LR	LR				
N39A	comp=Z,627nm,21.0s Derby Farms, D baz=320,SNR=22	72.04	48	P		P	15 24 27.5	-0.6		
K42A	Prairie Point, baz=322,SNR=15	72.06	45	P		P	15 24 27.1	-1.0		
L41A	Preston baz=321,SNR=34	72.07	46	P		P	15 24 27.2	-1.0		
MCD	Coleburn Disti	72.10	348⇑	*i*P		P	15 24 27.7	-0.4		
M40A	Post Highland baz=321,SNR=23	72.11	47	P		P	15 24 27.8	-0.7		
P37A	Lathrop baz=320,SNR=27	72.12	50	P		P	15 24 27.7	-0.9		
EPOS	Posof	72.13	313	*i* P		P	15 24 28.2	-0.6		
O38A	Galt baz=320,SNR=8.7	72.15	49	P		P	15 24 28.1	-0.6		
RRR	Rubha Reidh	72.15	350⇑	*i*P		P	15 24 27.9	-0.5		
RRH	Rhenigidale	72.19	350⇑	*i*P		P	15 24 28.3	-0.3		
GNI	Garni comp=Z,73nm,0.6s,baz=280,slow=1.1,SNR=45	72.20	311	P		P	15 24 30.6	+1.3		
GNI	Garni comp=Z,130nm,0.8s	72.20	311	*e*P		P	15 24 30.4	+1.1		
GNI					LR	LR				
GNI	Garni comp=Z,2µm,22.0s	72.20	311	P		P	15 24 30.4	+1.1		
GNI	Garni SNR=40	72.20	311	P		P	15 24 30.9	+1.6		
GNI	Garni SNR=40	72.20	311	P		P	15 24 30.9	+1.6		
GNI	Garni SNR=20	72.20	311	*i* P		P	15 24 30.6	+1.3		
GNI	Garni comp=Z,130nm,0.8s	72.20	311	*e*P		P	15 24 30.4	+1.1		
GNI					pmax	pmax				
BEL	Belsk	72.20	333	*i* P		P	15 24 29.1	+0.3		
BEL	Belsk	72.20	333⇑	*i*P		P	15 24 29.1	+0.3		
MME1	Meikle Cairn	72.32	348⇑	*e*P		P	15 24 28.8	-0.7		
EAK	Akyaka	72.34	312	*i* P		P	15 24 29.8	-0.3		
MDO	Dochfour	72.38	349⇑	*i*P		P	15 24 29.7	-0.1		
KAC	Achnashellach	72.44	349⇑	*i*P		P	15 24 29.9	-0.2		
N40A	Mertquake, Sal baz=321,SNR=38	72.48	47	P		P	15 24 30.2	-0.5		
P38A	Dawn baz=320,SNR=67	72.50	49	P		P	15 24 30.1	-0.8		
O39A	Kirksville baz=321,SNR=18	72.50	48	P		P	15 24 30.2	-0.7		
L42A	Oliver, Polo baz=322,SNR=18	72.52	45	P		P	15 24 29.6	-1.3		
GLMI	Grayling baz=324	72.53	40	P		P	15 24 30.4	-0.5		
GLMI	Grayling comp=Z,555nm,21.0s	72.53	40	PFAKE			15 24 40.0	+9.0		
GLMI					LR	LR				
K43A	Burlington baz=322,SNR=18	72.58	44	P		P	15 24 30.2	-1.1		
M41A	Milan baz=321,SNR=15	72.59	46	P		P	15 24 30.5	-0.9		
Q37A	Longview Farm, baz=320,SNR=5.2	72.61	50	P		P	15 24 30.2	-1.3		
KPL	Plockton comp=Z,238nm,1.0s	72.64	350⇑	*i*P		P	15 24 30.5	-0.8		
KPL					IAmb	IAmb	15 24 32.0			
DIGO	Kars	72.66	312	*i* P		P	15 24 31.8	-0.4		
IGDI	IGDIR	72.74	311	*i* P		P	15 24 33.0	+0.6		
DBOC	Borcka	72.76	314	*i* P		P	15 24 32.7	+0.3		
ARTV	Artvin	72.76	314	*i* P		P	15 24 31.5	-1.2		
L43A	Garden Prairie baz=322,SNR=7.7	72.80	45	P		P	15 24 31.4	-1.2		
SORM	Soroca	72.85	326⇑	*i*P		P	15 24 31.7	-1.1		
M42A	Sheffield baz=322	72.90	46	P		P	15 24 32.1	-1.1		
LVV	L'vov	72.92	330	*e*P		P	15 24 33.3	+0.1		
O40A	La Belle baz=321,SNR=59	72.93	48	P		P	15 24 32.8	-0.6		
Q38A	Cooks Store, C baz=320,SNR=78	72.96	50	P		P	15 24 32.5	-1.1		
N41A	Harden Midland baz=321,SNR=50	72.97	47	P		P	15 24 33.0	-0.6		
P39B	Salisbury baz=321,SNR=25	72.99	49	P		P	15 24 33.1	-0.7		
DBAD	Bademkaya	73.00	314	*i* P		P	15 24 33.7	-0.3		
EDU	Dundee	73.07	348⇑	*i*P		P	15 24 33.2	-0.8		
DDEM	Demirkent	73.07	314	*i* P		P	15 24 34.6	+0.2		
GOA	Goa	73.16	274	*e*P		P	15 24 36.3	+1.2		
DYDN	Diyadin	73.18	312	*i* P		P	15 24 36.2	+1.0		
L44A	Lake County Fo baz=322	73.19	44	P		P	15 24 34.1	-0.8		
Q39A	Willow Grove F baz=321,SNR=73	73.22	49	P		P	15 24 34.4	-0.7		
SIM	Simferopol' comp=Z,65nm,1.2s	73.24	321	*c e*P		P	15 24 34.7	-0.4		
SIM					*e*S	S	15 33 57.8	+0.6		
SIM					pmax	pmax				
N42A	Yates City baz=322,SNR=26	73.26	46	P		P	15 24 34.5	-0.8		
M43A	Waltham Townsh baz=322,SNR=11	73.29	45	P		P	15 24 34.6	-0.9		
P40A	Paris baz=321,SNR=61	73.30	48	P		P	15 24 35.1	-0.5		
CLDR	Caldiran	73.38	311	*i* P		P	15 24 36.4	0.0		
R38A	Fenwick Farm, baz=320,SNR=54	73.41	50	P		P	15 24 34.7	-1.6		
O41A	Passleys Farm, baz=321,SNR=41	73.41	47	P		P	15 24 35.7	-0.5		
WMOK	Wichita Mounta baz=319,SNR=26	73.47	56	P		P	15 24 36.3	-0.5		
WMOK	Wichita Mounta comp=Z,30nm,0.8s	73.47	56	*e*P		P	15 24 36.4	-0.3		
WMOK	Wichita Mounta comp=Z,31nm,0.9s	73.47	56	*e*P		P	15 24 36.4	-0.3		
WMOK					pmax	pmax				
TOBO	Tobermory, Bru baz=325	73.49	38	P		P	15 24 35.2	-1.4		
EATA	Eleskirt	73.52	312	*i* P		P	15 24 38.3	+1.0		
KWP	Kalwaria Pacla	73.52	330	*i* P		P	15 24 36.9	+0.2		
KWP	Kalwaria Pacla	73.52	330⇑	*i*P		P	15 24 36.9	+0.2		
N43A	Stutzman Famil baz=322	73.58	46	P		P	15 24 36.5	-0.7		
EAB	Aberfoyle	73.60	349⇑	*i*P		P	15 24 36.8	-0.2		
ESY	Stoneypath	73.62	347⇑	*e*P		P	15 24 36.7	-0.5		
KIS	Kishinev comp=Z,400nm,1.2s	73.63	325⇑	*i*P		P	15 24 35.0	-2.4		
KIS	Kishinev	73.63	325	*a i*P		P	15 24 35.0	-2.4		
KIS					*e*		15 27 20.0			
KIS	comp=Z,400nm,1.2s				pmax	pmax				
KIS	comp=Z,900nm,4.0s				pmax	pmax				
HOMI	Horasan	73.66	313	*i* P		P	15 24 37.7	-0.3		
P41A	Barry, Barry baz=321,SNR=47	73.67	48	P		P	15 24 37.2	-0.5		
EDI	Edinburgh comp=Z,109nm,0.9s	73.70	348⇑	*i*P		P	15 24 37.1	-0.5		
EDI					IAmb	IAmb	15 24 38.1			
Q40A	Laux Farm, Aux baz=321,SNR=15	73.70	49	P		P	15 24 37.5	-0.5		
O42A	Bath baz=322	73.73	47	P		P	15 24 37.3	-0.8		
R39A	Chumby, Stover baz=321,SNR=80	73.75	50	P		P	15 24 37.1	-1.2		
M44A	Midewin, Midew baz=322,SNR=14	73.75	45	P		P	15 24 37.3	-0.9		
HDIL	Hopedale baz=322,SNR=27	73.82	46	P		P	15 24 38.1	-0.6		
HDIL	Hopedale comp=Z,140nm,0.8s	73.82	46	*e*P		P	15 24 38.2	-0.4		
HDIL					LR	LR				
S38A	Stockton baz=320,SNR=35	73.84	51	P		P	15 24 37.4	-1.3		
KLBO	Killbear Provi baz=326,SNR=15	73.91	37	P		P	15 24 37.9	-1.2		
OJC	Ojcow	73.92	332	*i* P		P	15 24 39.0	0.0		
OJC	Ojcow	73.92	332	*e*P		P	15 24 39.1	0.0		
OJC	Ojcow comp=Z,300nm,1.1s	73.92	332	*e*P		P	15 24 39.1	0.0		
OJC	Ojcow	73.92	332	*i*P		P	15 24 39.0	0.0		
IAS	Iasi	73.93	326⇑	*i*P		P	15 24 38.8	-0.3		
PGBU	Glenifferbraes comp=Z,591nm,1.1s	73.98	349⇑	*i*P		P	15 24 39.2	0.0		
PGBU					IAmb	IAmb	15 24 40.2			
ERZM	Erzurum	74.03	313	*i* P		P	15 24 40.0	-0.1		
O43A	Sugar Creek Fa baz=322,SNR=7.5	74.03	46	P		P	15 24 39.1	-0.7		
P42A	Winchester baz=322,SNR=23	74.08	47	P		P	15 24 39.7	-0.5		
S39A	Bolivar baz=321,SNR=30	74.09	50	P		P	15 24 38.8	-1.4		
T38A	Diamond baz=320,SNR=78	74.10	51	P		P	15 24 39.5	-0.8		
BMRO	Meriville Lake baz=325,SNR=6.4	74.13	38	P		P	15 24 39.6	-0.7		
Q41A	Truxton baz=321,SNR=84	74.15	48	P		P	15 24 40.1	-0.5		
R40A	Maddies Statio baz=321,SNR=68	74.15	49	P		P	15 24 39.5	-1.1		
STHS	Stebnicka Huta	74.18	331	*e*P		P	15 24 41.1	+0.5		
STHS				*e*			15 31 52.4			
STHS	Stebnicka Huta	74.18	331	*e*P		P	15 24 41.1	+0.5		
STHS					pmax	pmax				
STHS	comp=Z,137nm,0.9s				pmax	pmax				
N44A	Piper City baz=323,SNR=15	74.18	45	P		P	15 24 39.8	-0.8		
TUL1	Leonard baz=320,SNR=19	74.18	53	P		P	15 24 40.4	-0.4		
TUL1	Leonard comp=N,58nm,0.7s	74.18	53	*e*P		P	15 24 39.8	-1.1		
EKAR	Karacoban	74.20	312	*i* P		P	15 24 42.1	+0.9		
EKA	Eskdalemuir Ar comp=N,85nm,0.6s,baz=21,slow=5.4,SNR=373	74.27	348	P		P	15 24 40.9	-0.1		
EKA	Eskdalemuir Ar comp=Z,84nm,0.6s	74.27	348	P		P	15 24 40.9	-0.1		
EKA					pmax	pmax				
PRAR	RASCA	74.27	327⇑	*i*P		P	15 24 40.6	-0.6		
BAYB	BAYBURT	74.27	314	*i* P		P	15 24 42.2	+0.6		
LEOM	Leova	74.29	325⇑	*i*P		P	15 24 41.2	0.0		
ESK	Eskdalemuir comp=Z,128nm,0.8s	74.29	348	*e*P		P	15 24 41.0	-0.1		
ESK					LR	LR				
BRCO	Bruce Peninsul baz=325	74.33	39	P		P	15 24 40.6	-0.9		
KSP	Ksiaz	74.39	335	*i* P		P	15 24 41.8	0.0		
KSP	Ksiaz	74.39	335⇑	*i*P		P	15 24 41.8	0.0		
BUR08	Bucovina Ar. S	74.39	328	*e*P		P	15 24 41.7	-0.3		
BUR04	Bucovina Ar. S	74.41	328	*e*P		P	15 24 41.6	-0.5		
BURAR	Bucovina Array	74.41	328⇑	*i*P		P	15 24 41.7	-0.4		
ECK	Cauldkaine Hil	74.41	348⇑	*i*P		P	15 24 41.6	-0.2		
EIDS	Eidsvold comp=Z,27nm,0.6s	74.42	184	*e*P		P	15 24 42.9	+0.8		
N45A	Kentland baz=323,SNR=5.2	74.42	45	P		P	15 24 41.6	-0.6		
BASO	Ashfield baz=325,SNR=9.8	74.42	39	P		P	15 24 41.7	-0.4		
P43A	Skaggs, Pawnee baz=322,SNR=8.9	74.44	47	P		P	15 24 41.6	-0.6		
GEVA	Gevas	74.45	311	*i* P		P	15 24 42.1	-0.4		
NIE	Niedzica	74.47	332	*i* P		P	15 24 42.8	+0.5		
NIE	Niedzica	74.47	332⇑	*i*P		P	15 24 42.8	+0.5		
M46A	Old House Fiel baz=323,SNR=7.7	74.51	44	P		P	15 24 41.8	-0.8		
BHH	Howats Hill	74.51	348⇑	*i*P		P	15 24 42.4	0.0		
Q42A	Golden Eagle baz=322,SNR=13	74.52	48	P		P	15 24 42.4	-0.3		
RAC	Raciborz comp=Z,1µm,21.8s	74.52	333	*e*P		P	15 24 43.1	+0.6		
RAC					MLR	MLR				
UZH	Uzhgorod	74.53	330	*d i*P		P	15 24 41.0	-1.6		
UZH					*i* *PP	PcP	15 24 55.1	-1.6		
UZH					*e*		15 27 34.5			
UZH					*i* PPP	PPP	15 29 13.0			
UZH					*i* S	S	15 34 07.7	-3.8		
UZH					*e*PS	PnS	15 34 37.9	-17		
O44A	Mansfield baz=322,SNR=8.2	74.53	46	P		P	15 24 41.9	-0.8		
CRVS	Cervenica-Dubn	74.56	331	*e*P		P	15 24 42.9	+0.1		
CRVS				*e*			15 32 00.2			
CRVS	Cervenica-Dubn	74.56	331	*e*P		P	15 24 42.9	+0.1		
S40A	Lebanon baz=321,SNR=55	74.57	50	P		P	15 24 42.0	-1.0		
T39A	Clever baz=321,SNR=15	74.57	51	P		P	15 24 41.9	-1.2		
EDMD	Edmundbyers	74.58	347⇑	*i*P		P	15 24 42.4	-0.4		
EDMD					IAmb	IAmb	15 24 44.6			
R41A	comp=Z,119nm,0.9s Rosebud baz=322,SNR=26	74.58	49	P		P	15 24 42.5	-0.6		
ABTX	Abilene, Hawle baz=319,SNR=6.3	74.59	58	P		P	15 24 43.3	0.0		
ABTX	Abilene, Hawle comp=Z,37nm,1.0s	74.59	58	*e*P		P	15 24 42.8	-0.4		
GRSN	GIRESUNGRSN	74.67	316	*i* P		P	15 24 41.4	-2.2		
HAKT	HAKKARI	74.71	310	*i* P		P	15 24 43.9	-0.3		
N46A	Monticello baz=323,SNR=6.7	74.74	44	P		P	15 24 43.0	-1.0		
PALK	Pallekele comp=Z,40nm,0.8s,baz=120,slow=0.3,SNR=21	74.75	263	P		P	15 24 45.2	+0.9		
PALK	Pallekele comp=Z,58nm,0.9s	74.75	263	*e*P		P	15 24 45.3	+0.9		
PALK	Pallekele SNR=6.7	74.75	263	P		P	15 24 45.7	+1.3		
PALK	Pallekele SNR=6.7	74.75	263	P		P	15 24 45.7	+1.3		
PALK	Pallekele SNR=14	74.75	263	*i* P		P	15 24 45.1	+0.7		
OKC	Ostrava-Krasne comp=Z,700nm,23.5s	74.76	333⇑	*i*P		P	15 24 44.2	+0.3		
OKC					AMS	AMS	15 59 30.0			
TX31	Lajitas Ar. Si	74.76	63	*e*P		P	15 24 43.7	-0.7		
TXAR	Lajitas Array comp=Z,39nm,0.7s,baz=300,slow=4.5,SNR=248	74.76	63	P		P	15 24 44.3	-0.1		
TXAR	Lajitas Array comp=Z,38nm,0.7s	74.76	63	P		P	15 24 44.3	-0.1		
TXAR					pmax	pmax				
UPC	Upice comp=Z,1µm,23.5s	74.77	335⇑	*i*P		P	15 24 44.1	+0.1		
UPC					AMS	AMS	15 58 10.0			
UPC	Upice comp=Z,1µm,23.5s	74.77	335⇑	*i*P		P	15 24 44.1	+0.1		
UPC					MLR	MLR				
PEMO	Pembroke baz=327,SNR=14	74.80	35	P		P	15 24 42.7	-1.5		
O45A	Potomac baz=323,SNR=29	74.80	45	P		P	15 24 43.9	-0.5		
SADO	Sadowa comp=Z,40nm,1.3s	74.82	37	*e*P		P	15 24 43.0	-1.4		
DPC	Dobruska-Polom comp=Z,1µm,24.9s	74.83	334⇑	*i*P		P	15 24 44.7	+0.3		
DPC					AMS	AMS	15 58 10.0			
KELT	Kelkit	74.83	315	*i* P		P	15 24 45.1	+0.3		
CCM	Cathedral Cave baz=322	74.84	49	P		P	15 24 43.8	-0.7		
CCM	Cathedral Cave comp=Z,52nm,0.8s	74.84	49	*e*P		P	15 24 43.9	-0.7		
CCM	Cathedral Cave comp=Z,52nm,0.9s	74.84	49	*e*P		P	15 24 43.9	-0.7		
CCM					pmax	pmax				
TESR	Tescani	74.84	326⇑	*i*P		P	15 24 43.5	-1.0		
CLL	Collm	74.86	337	*e*P		P	15 24 43.9	-0.5		
CLL	Collm comp=Z,312nm,1.0s	74.86	337⇑	*i*P		P	15 24 44.2	-0.2		
CLL					*e*Pmax		15 24 45.0			
CLL					*e*PP	PP	15 27 32.0	+0.1		
CLL					*e*PPP	PPP	15 29 18.0			
CLL					*e*S	S	15 34 10.0	-5.2		
CLL					*e*sS	SKSac	15 34 45.0	-1.2		
CLL					*e*PS	PnS	15 34 58.0	-0.9		
CLL					*e*SS	SS	15 39 18.0	+15		
CLL					*e*SSS		15 43 24.0			
CLL					*e*SSSS		15 44 30.0			
CLL	Collm	74.86	337⇑	*i*P		P	15 24 44.2	-0.2		
CLL					*e*S	S	15 34 10.0	-5.2		
CLL					pmax	pmax				
HHAR	comp=Z,312nm,1.0s Hobbs comp=Z,45nm,0.8s	74.86	52	*e*P		P	15 24 44.0	-0.8		
BBO1	Bothel	74.86	348⇑	*e*P		P	15 24 44.4	0.0		
TRPA	Tarpa	74.88	330⇑	*i*P		P	15 24 44.9	+0.3		
SLM	Saint Louis comp=Z,102nm,0.8s	74.88	48	*e*P		P	15 24 44.0	-0.8		
SLM	Saint Louis comp=Z,100nm,0.8s	74.88	48	*e*P		P	15 24 44.0	-0.8		
SLM					pmax	pmax				
R42A	Luebbering baz=322,SNR=36	74.89	48	P		P	15 24 44.3	-0.5		
CLGH	Cloghs, Cushen comp=Z,343nm,1.0s	74.90	349⇑	*e*P		P	15 24 44.4	-0.2		
CLGH					IAmb	IAmb	15 24 45.4			

Q43A **New Douglas** 74.90 47 P P 15 24 44.5 -0.4
baz=322,SNR=12
T40A **Mansfield** 74.91 50 P P 15 24 43.7 -1.3
baz=321,SNR=13
GAL1 **Galloway** 74.93 348⇑ *i*P P 15 24 44.5 -0.3
KRLC **Kraliky** 74.94 334⇑ *i*P P 15 24 45.4 +0.4
KRLC **Kraliky** 74.94 334⇑ *i*P P 15 24 45.4 +0.4
BMR **Baia Mare** 74.95 329⇑ *i*P P 15 24 45.4 +0.3
S41A **Jillco Farms,** 74.96 49 P P 15 24 44.3 -1.0
baz=321,SNR=41
LANS **Liptovska Anna** 74.97 332 *e*P P 15 24 46.1 +0.9
LANS *e* 15 31 42.9
LANS **Liptovska Anna** 74.97 332 *e*P P 15 24 46.1 +0.9
AAM **Ann Arbor** 74.98 41 P P 15 24 45.1 -0.2
baz=324,SNR=6.3
AAM **Ann Arbor** 74.98 41 *e*P P 15 24 44.7 -0.6
comp=Z,94nm,0.8s
AAM LR LR
comp=Z,430nm,20.0s
AAM **Ann Arbor** 74.98 41 *e*P P 15 24 45.4 +0.1
AAM pmax pmax
comp=Z,94nm,0.8s
KESW **Keswick, Cumbr** 74.98 347⇑ *i*P P 15 24 45.1 0.0
KESW lAmb lAmb 15 24 46.1
comp=Z,419nm,1.0s
SFIN **Lafayette** 74.99 45 P P 15 24 44.6 -0.8
baz=323,SNR=15
SFIN **Lafayette** 74.99 45 *e*P P 15 24 44.6 -0.8
comp=Z,54nm,0.8s
MORC **Moravsky Berou** 74.99 333⇑ *i*P P 15 24 45.6 +0.3
MORC **Moravsky Berou** 74.99 333 *e*P P 15 24 45.0 -0.3
P44A **Sand Creek, Wi** 75.00 46 P P 15 24 45.1 -0.4
baz=323,SNR=42
BRG **Berggiesshubel** 75.01 336⇑ *i*P P 15 24 45.1 -0.2
comp=Z,116nm,1.1s
BRG **Berggiesshubel** 75.01 336⇑ *i*P P 15 24 45.1 -0.2
BRG pmax pmax
comp=Z,116nm,1.1s
U39A **Green Forest** 75.02 51 P P 15 24 44.7 -1.0
baz=321,SNR=106
IDGL **Inch Island, C** 75.07 350⇑ P P 15 24 45.6 +0.1
IDGL lAmb lAmb 15 24 46.4
comp=Z,376nm,0.7s
BGOL **Bingol** 75.08 313 *i* P P 15 24 47.1 +1.1
BANO **Bancroft** 75.09 36 P P 15 24 44.9 -1.0
baz=327,SNR=22
PVCC **Panska Ves** 75.15 336⇑ *i*P P 15 24 46.1 -0.1
PVCC AMS AMS 16 00 00.0
comp=Z,900nm,18.6s
TLCR 75.15 324⇓ *i*P P 15 24 46.0 -0.2
AS01 **Alice Springs** 75.16 201 *e*P P 15 24 46.9 +0.5
ARCR **ARCALIA** 75.17 328⇓ *i*P P 15 24 47.3 +1.0
AS31 **Alice Springs** 75.17 201 *e*P P 15 24 47.2 +0.7
comp=Z,14nm,0.6s
ASAR **Alice Springs** 75.17 201 P P 15 24 47.1 +0.6
comp=Z,34nm,0.6s,baz=18,slow=5.1,SNR=897
ASAR pP **pP** 15 25 10.0 +3.6
comp=Z,24nm,0.7s,baz=15,slow=5.3,SNR=7.1
ASAR PKPPKP **P'P'df** 15 52 06.2 -0.8
comp=Z,0.4nm,0.8s,baz=187,slow=1.6,SNR=3.0
ELFO **Elginfield** 75.24 39 P P 15 24 46.5 -0.3
baz=326
Q44A **Meyer Farm, Va** 75.26 47 P P 15 24 46.4 -0.5
baz=322
S42A **Caledonia** 75.29 49 P P 15 24 46.6 -0.5
baz=322,SNR=54
PETR **Petresti** 75.30 325⇑ *i*P P 15 24 47.8 +0.8
R43A **Red Bud** 75.31 48 P P 15 24 46.6 -0.7
baz=322,SNR=19
ODBI **Odobesti** 75.33 326⇓ *i*P P 15 24 48.1 +0.9
TRQ **Mont Tremblant** 75.33 33 *e*P P 15 24 46.3 -1.1
V39A **Pettigrew** 75.35 52 P P 15 24 46.8 -0.8
baz=321,SNR=37
HPIG 75.36 66 *e*P P 15 24 47.3 -0.7
comp=Z,24nm,0.7s
U40A **Yellville** 75.36 51 P P 15 24 46.5 -1.1
baz=321,SNR=57
VRI **Vrincioaia** 75.36 326⇑ *i*P P 15 24 47.4 -0.1
P45A **Graceland, Par** 75.36 46 P P 15 24 46.9 -0.6
baz=323,SNR=14
T41A **Mountain View** 75.37 50 P P 15 24 46.5 -1.1
baz=322,SNR=36
HPK **Haverah Park** 75.38 346⇑ *i*P P 15 24 47.6 +0.2
HPK lAmb lAmb 15 24 48.4
comp=Z,824nm,1.2s
PLVO **Plevna** 75.40 36 P P 15 24 46.4 -1.2
baz=328,SNR=16
PLVO **Plevna** 75.40 36 *e*P P 15 24 47.0 -0.7
comp=Z,39nm,0.9s
PLOR **Plostina** 75.40 326⇓ *i*P P 15 24 47.6 -0.1
ACTO **Acton** 75.42 38 P P 15 24 47.2 -0.6
baz=326,SNR=8.0
CFR **Carcaliu** 75.42 325⇑ *i*P P 15 24 47.4 -0.3
IOMK **Kirk Michael** 75.51 348⇑ *i*P P 15 24 47.8 -0.3
IOMK lAmb lAmb 15 24 48.8
comp=Z,237nm,1.1s
PKRO **Pickering** 75.52 38 P P 15 24 48.1 -0.3
baz=327,SNR=5.1
O47A **Sheridan** 75.53 44 P P 15 24 47.2 -1.3
baz=324,SNR=8.1
P46A **Rosedale** 75.54 45 P P 15 24 48.4 -0.2
baz=323,SNR=14
ERBA **Erbaa** 75.55 317 *i*P P 15 24 49.5 +0.8
PRA **Prague** 75.60 335⇑ *i*P P 15 24 49.1 +0.4
PRA AMS AMS 16 01 30.0
comp=Z,1μm,18.2s
PRA **Prague** 75.60 335⇑ *i*P P 15 24 49.1 +0.4
PRA MLR MLR
comp=Z,1μm,18.2s
DELO **Deloro Mine** 75.63 36 P P 15 24 47.9 -1.1
baz=327,SNR=17
GOPC **GO Pecny, Ondr** 75.65 335⇑ *i*P P 15 24 49.3 +0.2
GOPC AMS AMS 16 00 40.0
comp=Z,1μm,21.6s
PRU **Pruhonice** 75.65 335⇑ *i*P P 15 24 49.3 +0.3
PRU AMS AMS 16 01 40.0
comp=Z,1μm,21.0s
BTMN **Batman** 75.65 312 *i*P P 15 24 50.5 +1.1
LMK **Market Rasen** 75.65 345⇑ *e*P P 15 24 48.0 -1.0
LMK lAmb lAmb 15 24 48.7
comp=Z,598nm,1.3s
HANI **Diyarbakir_Han** 75.66 313 *i* P P 15 24 50.0 +0.6
Q45A **Warren Harvey,** 75.67 46 P P 15 24 49.0 -0.4
baz=323,SNR=29
GRER 75.68 325⇓ *i*P P 15 24 50.6 +1.3
VRAC **Vranov** 75.69 334 LR LR 16 02 17.1
comp=Z,952nm,18.4s,baz=22,slow=39
VRAC **Vranov** 75.69 334⇑ *i*P P 15 24 50.0 +0.7
HAVZ **Havza** 75.69 317 *i* P P 15 24 50.7 +1.2
GMM **Mts of Mourne** 75.71 349⇑ *i*P P 15 24 48.9 -0.3
T42A **Van Buren** 75.72 49 P P 15 24 48.7 -1.0
baz=322,SNR=22
WTSB **Winterswijk** 75.72 341 *i* P P 15 24 49.4 +0.1
comp=Z,307nm,0.8s
WTSB *e*S SKiKP 15 33 50.1 -13
ALFO **Alfred** 75.72 34 P P 15 24 48.1 -1.4
baz=329,SNR=21
CUZAR **Zara_SIVAS** 75.72 315 *i* P P 15 24 50.2 +0.4
DRWO **Darlington Wes** 75.73 37 P P 15 24 49.1 -0.5
baz=327,SNR=18
VYHS **Vyhne** 75.74 332 *e*P P 15 24 50.0 +0.4
VYHS *e* 15 31 46.7
VYHS **Vyhne** 75.74 332 *e*P P 15 24 50.1 +0.4
VYHS pmax pmax
comp=Z,78nm,0.8s
R44A **Waltonville** 75.74 47 P P 15 24 49.2 -0.6
baz=322,SNR=38
CJR **Cluj-Napoca** 75.75 328⇑ *i*P P 15 24 50.2 +0.5
DOPR **Dopca** 75.76 327⇑ *i*P P 15 24 50.4 +0.6
BOYT **Boyabat** 75.77 318 *i* P P 15 24 50.0 0.0
W39A **Magazine** 75.78 52 P P 15 24 49.3 -0.7
baz=321,SNR=21
S43A **Fulton Ridge,** 75.79 48 P P 15 24 49.4 -0.7
baz=322,SNR=31
V40A **Witts Springs** 75.80 51 P P 15 24 49.2 -1.0
baz=321,SNR=34
WLVO **Wesleyville** 75.82 37 P P 15 24 49.4 -0.7
baz=327,SNR=24
OLIL **Olney** 75.83 46 *e*P P 15 24 50.0 -0.2
comp=Z,62nm,0.8s
U41A **Viola** 75.84 50 P P 15 24 49.3 -1.0
baz=322,SNR=17
KEMA **Kemaliye** 75.89 315 *i* P P 15 24 50.7 0.0
HARR **Harsova** 75.91 324⇑ *i*P P 15 24 50.5 -0.1
TYNO **Tyneside** 75.92 39 P P 15 24 49.9 -0.8
baz=326,SNR=8.6

TIRR **Tirgusor** 75.92 324⇑ *i*P P 15 24 50.7 +0.1
TIRR **Tirgusor** 75.92 324 *e*P P 15 24 50.6 0.0
comp=Z,151nm,0.9s
TIRR **Tirgusor** 75.92 324 *e*P P 15 24 50.6 0.0
TIRR pmax pmax
comp=Z,150nm,0.9s
PSZ **Piszkesteto** 75.92 331⇑ *i*P P 15 24 51.1 +0.4
PSZ **Piszkesteto** 75.92 331 *e*P P 15 24 51.1 +0.4
comp=Z,169nm,1.1s
PSZ LR LR
comp=Z,980nm,22.0s
PSZ **Piszkesteto** 75.92 331 *e*P P 15 24 51.1 +0.4
PSZ pmax pmax
comp=Z,170nm,1.1s
LBWR **Ladybower, Pea** 75.93 346⇑ *i*P P 15 24 50.6 +0.1
LBWR lAmb lAmb 15 24 51.5
comp=Z,602nm,1.3s
Q46A **CEJHS Indians,** 75.95 46 P P 15 24 50.4 -0.5
baz=323
TLB **Topalu** 75.95 324⇑ *i*P P 15 24 50.8 0.0
MLR **Muntele Rosu** 75.97 326 P P 15 24 51.0 -0.1
comp=Z,32nm,0.7s,baz=204,slow=2.7,SNR=176
MLR **Muntele Rosu** 75.97 326⇑ *i*P P 15 24 50.6 -0.5
MLR **Muntele Rosu** 75.97 326 *e*P P 15 24 50.9 -0.2
MLR pmax pmax
comp=Z,150nm,0.8s
MDB **Medias** 75.97 327⇓ *i*P P 15 24 51.2 +0.3
NKC **Novy Kostel** 75.98 337⇑ *i*P P 15 24 51.2 +0.2
NKC **Novy Kostel** 75.98 337⇑ *i*P P 15 24 51.2 +0.2
DRGR 75.99 329⇑ *i*P P 15 24 51.0 -0.1
TREC **Trest** 76.01 334⇑ *i*P P 15 24 51.5 +0.4
TREC AMS AMS 15 58 50.0
comp=Z,1μm,24.1s
TREC **Trest** 76.01 334⇑ *i*P P 15 24 51.5 +0.4
TREC MLR MLR
comp=Z,1μm,24.1s
ISR **Istrita** 76.07 326⇑ *i*P P 15 24 52.0 +0.4
T43A **Greenville** 76.07 49 P P 15 24 51.1 -0.6
baz=322,SNR=14
P47A **Martinsville** 76.08 45 P P 15 24 50.9 -0.8
baz=324,SNR=24
PGOR **Pogoanele** 76.08 325⇓ *i*P P 15 24 52.2 +0.7
R45A **Skylar, Fairfi** 76.09 47 P P 15 24 51.3 -0.5
baz=323,SNR=11
S44A **Carbondale** 76.10 48 P P 15 24 51.4 -0.4
baz=322,SNR=18
STCO **Saint Catharin** 76.11 38 P P 15 24 51.2 -0.6
baz=327
JCT **Junction City** 76.12 59 P P 15 24 51.8 -0.2
baz=320,SNR=13
JCT **Junction City** 76.12 59 *e*P P 15 24 51.0 -1.1
comp=Z,29nm,0.7s
JCT LR LR
comp=Z,288nm,20.0s
JCT **Junction City** 76.12 59 *e*P P 15 24 52.0 -0.1
JCT pmax pmax
comp=Z,29nm,0.7s
X39A **Fountain Ranch** 76.13 53 P P 15 24 51.7 -0.4
baz=321,SNR=40
W40A **Ferguson Farm,** 76.15 52 P P 15 24 51.7 -0.4
baz=321,SNR=22
W40A **Ferguson Farm,** 76.15 52 *e*P P 15 24 51.8 -0.3
comp=Z,112nm,0.8s
SMOL **Smolenice** 76.15 333 *e*P P 15 24 52.8 +0.9
SMOL **Smolenice** 76.15 333 *e*P P 15 24 52.9 +1.0
V41A **Mountainview** 76.15 51 P P 15 24 51.1 -1.0
baz=322,SNR=53
CVDA **Cernavoda** 76.17 324⇑ *i*P P 15 24 52.8 +0.8
U42A **Revenden** 76.17 50 P P 15 24 51.3 -0.9
baz=322,SNR=9.7
DIYA **Diyarbakir** 76.19 313 *i* P P 15 24 53.5 +1.1
WACR **West Acre** 76.20 345⇑ *e*P P 15 24 52.2 +0.2
WACR lAmb lAmb 15 24 53.0
comp=Z,422nm,1.1s
AMRR **Amara** 76.20 325⇑ *i*P P 15 24 51.9 -0.3
BLO **Bloomington** 76.22 45 *e*P P 15 24 52.2 -0.2
comp=Z,39nm,0.8s
BLO **Bloomington** 76.22 45 *e*P P 15 24 52.2 -0.2
BLO pmax pmax
comp=Z,39nm,0.8s
TRD **Trivandrum** 76.27 267 *e*P P 15 24 54.0 +1.0
ELZG **Elazig** 76.27 314 *i* P P 15 24 54.3 +1.3
WHTX **Lake Whitney,** 76.27 57 P P 15 24 52.8 -0.1
baz=320
WHTX **Lake Whitney,** 76.27 57 *e*P P 15 24 52.6 -0.3
comp=Z,41nm,0.8s
SECR 76.31 326⇓ *i*P P 15 24 52.8 -0.1
MODS **Modra-Piesok** 76.32 333 *e*P P 15 24 53.7 +0.8
MODS **Modra-Piesok** 76.32 333 *e*P P 15 24 53.7 +0.8
WPS **Cemaes, Angles** 76.34 348⇑ *e*P P 15 24 52.1 -0.7
WPS lAmb lAmb 15 24 53.2
comp=Z,81nm,0.9s
VOIR 76.34 327⇑ *i*P P 15 24 53.6 +0.5
MARD **Mardin** 76.35 312 *i* P P 15 24 52.6 -0.8
MIAR **Mount Ida** 76.39 53 P P 15 24 53.0 -0.4
baz=321,SNR=51
MIAR **Mount Ida** 76.39 53 *e*P P 15 24 52.6 -0.9
comp=Z,64nm,0.8s
MIAR LR LR
comp=Z,548nm,19.0s
MIAR **Mount Ida** 76.39 53 *e*P P 15 24 52.6 -0.9
MIAR pmax pmax
comp=Z,64nm,0.9s
T44A **Benton** 76.41 48 P P 15 24 53.3 -0.3
baz=322,SNR=13
WLF1 **Llynfaes** 76.43 348⇑ *i*P P 15 24 52.9 -0.5
WLF1 lAmb lAmb 15 24 53.4
comp=Z,114nm,0.7s
MEDO **Medina** 76.43 38 P P 15 24 52.9 -0.7
baz=327,SNR=10
S45A **Carrier Mills** 76.44 47 P P 15 24 53.3 -0.4
baz=323,SNR=16
HEKM **Malatya_Hekimh** 76.45 315 *i* P P 15 24 55.0 +1.0
CTAK **Corum_Osmancik** 76.45 318 *i* P P 15 24 54.6 +0.6
Q47A **Bedord North L** 76.45 45 P P 15 24 53.3 -0.4
baz=324,SNR=18
WHAR **Wooly Hollow** 76.47 51 *e*P P 15 24 53.0 -1.0
comp=Z,139nm,1.1s
SRO **Srobarova** 76.51 332 *e*P P 15 24 54.5 +0.6
SRO **Srobarova** 76.51 332 *e*P P 15 24 54.6 +0.6
MTUR **Matau** 76.52 327⇓ *i*P P 15 24 54.6 +0.5
R46A **Gibon Southern** 76.52 46 P P 15 24 53.8 -0.4
baz=323,SNR=25
V42A **Cord** 76.53 50 P P 15 24 53.2 -1.0
baz=322,SNR=19
ZST **Bratislava** 76.53 333 *e*P P 15 24 53.9 -0.2
ZST **Bratislava** 76.53 333 *e*P P 15 24 53.9 -0.2
ZST pmax pmax
comp=Z,149nm,1.0s
ARR **Arges** 76.55 327⇓ *i*P P 15 24 55.1 +0.8
SULR 76.55 326⇓ *i*P P 15 24 54.4 +0.2
U43A **Rector** 76.58 49 P P 15 24 54.0 -0.5
baz=322
BANOM **Banah** 76.58 294 P P 15 24 55.7 +0.9
SNR=19
BANOM **Banah** 76.58 294 P P 15 24 55.7 +0.9
SNR=19
BANOM **Banah** 76.58 294 *i* P P 15 24 55.2 +0.5
SNR=53
SHME **Shamm** 76.58 294 *i* P P 15 24 54.8 +0.1
SNR=25
W41B **Gary Mavity, V** 76.58 51 P P 15 24 53.9 -0.6
baz=322,SNR=41
ILGA **Ilgaz** 76.59 319 *i* P P 15 24 55.6 +0.8
USIN **University of** 76.64 47 *e*P P 15 24 55.1 +0.2
comp=Z,148nm,0.8s
FOEL **Foel Wylfa** 76.65 347⇑ *i*P P 15 24 53.6 -1.1
FOEL lAmb lAmb 15 24 54.6
comp=Z,222nm,1.0s
PSN **Preselentsi** 76.66 324 P P 15 24 55.3 +0.4
CUALT **Altinyayla-SIV** 76.68 316 *i* P P 15 24 56.6 +1.3
ERPA **Erie** 76.68 39 P P 15 24 54.5 -0.5
baz=326,SNR=8.4
ERPA **Erie** 76.68 39 *e*P P 15 24 54.5 -0.5
comp=Z,80nm,0.9s
COAL **Corum-Alaca** 76.68 317 *i* P P 15 24 55.6 +0.4
KHC **Kasperske Hory** 76.69 336⇑ *i*P P 15 24 55.6 +0.6
KHC *ex* x 15 25 02.0
KHC *ep*P **sP** 15 25 20.5 -2.7
KHC AMS AMS 16 02 20.0
comp=Z,1μm,19.4s
KHC **Kasperske Hory** 76.69 336 *e*P P 15 24 55.5 +0.6
comp=Z,90nm,0.9s
KHC **Kasperske Hory** 76.69 336⇑ *i*P P 15 24 55.6 +0.6
KHC *e* 15 25 02.0

KHC *e* 15 25 20.5
KHC MLR MLR
comp=Z,1μm,19.4s
LONY **Lake Ozonia** 76.69 34 P P 15 24 53.6 -1.4
baz=329,SNR=11
LONY **Lake Ozonia** 76.69 34 *e*P P 15 24 53.9 -1.1
comp=Z,23nm,0.9s
LONY LR LR
comp=Z,351nm,19.0s
DEV **Deva** 76.71 328⇑ *i*P P 15 24 55.2 +0.1
BTIN **Bart¯–n** 76.73 320 *i* P P 15 24 55.1 -0.2
LLW **Llanuwychllyn** 76.76 347⇑ *i*P P 15 24 55.1 -0.1
LOT **Lotru** 76.79 327⇑ *i*P P 15 24 55.3 -0.4
GRFO **Grafenberg** 76.80 337 *e*P P 15 24 56.3 +0.8
GRFO pmax pmax
comp=Z,400nm,1.0s
SIRR **Siria** 76.80 329⇓ *i*P P 15 24 55.9 +0.3
CUSAR **Sarkisla-SIVAS** 76.80 316 *i* P P 15 24 54.6 -1.3
X40A **Basin Creek Fa** 76.82 52 P P 15 24 55.5 -0.4
baz=322,SNR=19
BUC **Bucharest** 76.83 325⇓ *i*P P 15 24 56.2 +0.4
S46A **Don Dixon Farm** 76.84 47 P P 15 24 55.5 -0.5
baz=323,SNR=12
UALR **University of** 76.85 52 *e*P P 15 24 55.6 -0.5
comp=Z,23nm,0.9s
GOLR 76.88 326⇓ *i*P P 15 24 55.8 -0.3
CUGUR **Gurin_S¯VAS** 76.89 315 *i* P P 15 24 57.7 +1.3
GEC2 **GERESS Array S** 76.92 335 *e*P P 15 24 56.5 +0.2
comp=Z,83nm,0.7s
GEC2 **GERESS Array S** 76.92 335 *e*P P 15 24 56.6 +0.2
GEC2 pmax pmax
comp=Z,83nm,0.7s
GERES **GERESS Array B** 76.92 335 P P 15 24 56.4 +0.1
comp=Z,63nm,0.6s,baz=34,slow=5.6,SNR=385
GERES LR LR 16 03 14.7
comp=Z,1μm,19.5s,baz=44,slow=39
R47A **Wooly Knot Far** 76.92 46 P P 15 24 56.0 -0.4
baz=324,SNR=40
GEA0 **GERESS Array S** 76.92 335 *e*P P 15 24 56.4 0.0
AKCD **Akcadag** 76.93 314 *i* P P 15 24 57.2 +0.5
Y40A **Okolona** 76.95 53 P P 15 24 56.3 -0.4
baz=321
ACSO **Alum Creek Sta** 76.96 42 P P 15 24 56.0 -0.6
baz=325,SNR=12
ACSO **Alum Creek Sta** 76.96 42 *e*P P 15 24 56.0 -0.6
comp=Z,53nm,0.9s
ACSO LR LR
comp=Z,468nm,22.0s
ALLY **Alegheny Colle** 77.01 40 *e*P P 15 24 56.5 -0.3
comp=Z,67nm,0.8s
MMNY **Mt. Morris Dam** 77.02 37 *e*P P 15 24 55.6 -1.3
comp=Z,62nm,0.8s
HGN **Heimansgroeve** 77.04 341 *i* P P 15 24 56.9 +0.1
comp=Z,459nm,1.1s
HGN *e*S **SKiKP** 15 34 10.1 +5.3
SGRR **Singureni** 77.04 325⇑ *i*P P 15 24 56.4 -0.6
MDH **Madha** 77.04 294 *i* P P 15 24 56.6 -0.7
SNR=18
BEBN **Eben Emael** 77.06 341 ⇑P P 15 24 57.1 +0.2
WCI **Wyandotte Cave** 77.08 46 P P 15 24 57.0 -0.3
baz=324
WCI **Wyandotte Cave** 77.08 46 *e*P P 15 24 57.1 -0.2
comp=Z,147nm,0.8s
WCI **Wyandotte Cave** 77.08 46 *e*P P 15 24 57.1 -0.2
WCI pmax pmax
comp=Z,150nm,0.8s
MSFE **Esma-Masafi** 77.08 294 *i* P P 15 24 57.8 +0.2
SNR=20
MBWA **Marble Bar** 77.08 214 *e*P P 15 24 57.2 -0.1
comp=Z,46nm,0.8s
MBWA LR LR
comp=Z,617nm,19.0s
CONA **Conrad Observa** 77.14 334 *i* P P 15 24 58.4 +0.8
comp=Z,188nm,0.8s,SNR=93
R48A **Northridge Ran** 77.14 45 P P 15 24 57.5 -0.2
baz=324,SNR=37
HUMR **Humele** 77.15 326⇓ *i*P P 15 24 56.5 -1.1
WSAR **Wadi Sarin** 77.16 291 P P 15 24 58.8 +0.7
comp=Z,74nm,1.0s,baz=70,slow=6.6,SNR=25
MEM **Membach** 77.17 341 ⇑P P 15 24 57.6 0.0
comp=Z,311nm,1.0s
PQI **Presque Isle** 77.17 29 *e*P P 15 24 56.8 -0.9
comp=Z,22nm,1.0s
UMQ **Umm Al-Quwin** 77.26 294 *i* P P 15 24 59.6 +1.2
SNR=9.3
BIDO **Bidbid** 77.26 291 P P 15 25 00.2 +1.7
SNR=6.0
BIDO **Bidbid** 77.26 291 P P 15 25 00.2 +1.7
SNR=6.0
T46A **Princeton** 77.27 47 P P 15 24 58.6 +0.2
baz=323,SNR=53
ELBS **KAHRAMANMARAS** 77.28 315 *i* P P 15 24 59.7 +1.1
M54A **Oil Creek Stat** 77.32 39 P P 15 24 58.0 -0.6
baz=327,SNR=16
M54A **Oil Creek Stat** 77.32 39 *e*P P 15 24 58.1 -0.6
comp=Z,55nm,0.9s
UCC **Uccle** 77.33 342 ⇑P P 15 24 58.4 -0.1
UCC **Uccle** 77.33 342 *e*P P 15 24 58.6 +0.1
comp=Z,102nm,0.8s
UCC **Uccle** 77.33 342 *e*P P 15 24 58.6 +0.1
UCC pmax pmax
comp=Z,100nm,0.8s
SSW **Stow on the Wo** 77.34 346⇑ *i*P P 15 24 58.6 +0.1
UOSS **Minazif** 77.36 293 *i* P P 15 24 59.0 -0.2
SNR=51
PRD **Provadia** 77.38 324 P P 15 24 59.1 +0.2
NCB **Newcomb** 77.38 34 *e*P P 15 24 58.4 -0.5
comp=Z,26nm,0.9s
BZS **Buzias** 77.38 329⇓ *i*P P 15 24 58.5 -0.4
Y41A **Eaglette Beard** 77.41 52 P P 15 24 59.2 0.0
baz=322
SKP1 **Sophil** 77.41 345⇑ *i*P P 15 24 58.5 -0.4
TIM **Timisoara** 77.41 329⇑ *i*P P 15 24 59.5 +0.5
CDAG **Cicekdag** 77.47 317 *i* P P 15 24 59.4 -0.3
Z40A **Long Farm, Mag** 77.48 53 P P 15 24 59.8 +0.2
baz=321
MCH1 **Michaelchurch** 77.49 347⇑ *i*P P 15 24 59.1 -0.2
MCH1 lAmb lAmb 15 24 59.8
comp=Z,87nm,0.8s
BCAM **Yenicaga** 77.49 320 *i* P P 15 25 00.2 +0.5
BCLA **Clavier** 77.50 341 ⇑P P 15 24 59.4 0.0
comp=Z,178nm,1.2s
HATD **Hatta, Dubai** 77.50 293 P P 15 25 00.5 +0.6
SNR=40
HATD **Hatta, Dubai** 77.50 293 P P 15 25 00.5 +0.6
SNR=40
HATD **Hatta, Dubai** 77.50 293 *i* P P 15 25 00.2 +0.3
SNR=84
LPW **Lampeter** 77.53 347⇑ *i*P P 15 24 59.1 -0.4
LPW lAmb lAmb 15 25 00.3
comp=Z,97nm,1.1s
STRD **Stroud** 77.57 346⇑ *i*P P 15 24 59.9 +0.1
STRD lAmb lAmb 15 25 00.8
comp=Z,465nm,1.0s
CMDR **Camlidere-ANKA** 77.58 319 *i* P P 15 25 00.3 +0.1
VT1 **Waterbury** 77.61 33 *e*P P 15 24 59.8 -0.4
comp=Z,34nm,0.8s
MONM **Monmouth** 77.61 347⇑ *i*P P 15 24 60.0 0.0
MONM lAmb lAmb 15 25 01.1
comp=Z,223nm,0.8s
SNF **Seneffe** 77.62 342 ⇑P P 15 25 00.2 +0.1
comp=Z,164nm,0.8s
IWEX **Carrickbyrne,** 77.64 349⇑ *e*P P 15 25 00.1 -0.1
IWEX lAmb lAmb 15 25 01.1
comp=Z,150nm,0.9s
N54A **Moraine State** 77.64 40 P P 15 24 60.0 -0.5
baz=327,SNR=19
N54A **Moraine State** 77.64 40 *e*P P 15 25 00.2 -0.2
comp=Z,71nm,0.9s
ASHO **Ashiyiah** 77.65 293 P P 15 25 01.7 +0.9
SNR=36
ASHO **Ashiyiah** 77.65 293 P P 15 25 01.7 +0.9
SNR=36
ASHO **Ashiyiah** 77.65 293 *i* P P 15 25 01.0 +0.2
SNR=55
SMDO **Samad** 77.65 291 P P 15 25 08.0 +7.1
SNR=6.7
S48A **Wiedeman Farm,** 77.65 46 P P 15 25 00.1 -0.4
baz=324,SNR=53
NAZ **Nazwa, Dubai** 77.66 294 P P 15 25 01.2 +0.4
SNR=19
NAZ **Nazwa, Dubai** 77.66 294 P P 15 25 01.2 +0.4
SNR=19
NAZ **Nazwa, Dubai** 77.66 294 *i* P P 15 25 01.0 +0.3
SNR=44
MOA **Molln** 77.67 335 *i* P P 15 25 00.9 +0.4

comp=Z,109nm,0.8s,SNR=62
SRE Strehaia 77.67 327⇑iP P 15 25 00.6 +0.1
U46A Springville 77.68 48 P P 15 25 00.4 -0.3
baz=323
T47A Sharon Grove 77.69 47 P P 15 25 00.6 -0.2
baz=324,SNR=29
BR131 Keskin Array S 77.71 318 eP P 15 25 01.2 +0.2
BRTR Keskin Array B 77.71 318 P P 15 25 01.2 +0.2
comp=Z,114nm,0.9s,baz=60,slow=3.0,SNR=321
HOQ Hoqain 77.71 292 P P 15 25 04.0 +2.9
SNR=7.4
HOQ Hoqain 77.71 292 P P 15 25 04.0 +2.9
SNR=7.4
OLDB Oldbury-Upon-S 77.75 346⇑iP P 15 25 00.6 -0.1
OLDB IAmb IAmb 15 25 01.1
comp=Z,96nm,0.9s
CRAR CRAIOVA 77.75 327⇑iP P 15 25 01.7 +0.8
BANR Banloc 77.75 329⇑iP P 15 25 01.6 +0.7
ZIMR 77.75 326⇑iP P 15 25 00.6 -0.4
SWN1 Swindon 77.77 346⇑iP P 15 25 01.4 +0.5
SWN1 IAmb IAmb 15 25 02.2
comp=Z,693nm,0.7s
SOHO SOHO 77.77 293 iP P 15 25 01.3 -0.1
SNR=44
Z41A Richland Creek 77.79 53 P P 15 25 01.5 +0.1
baz=322
X43A Marvell 77.79 51 P P 15 25 01.3 0.0
baz=322
HGH Gray Hill 77.81 346⇑iP P 15 25 01.1 0.0
ARSA Arzberg 77.85 334 iP P 15 25 02.2 +0.7
comp=Z,156nm,1.1s,SNR=60
Y42A Garnett, Star 77.86 52 P P 15 25 01.9 +0.2
baz=322
WOL Wolverton 77.87 345⇑iP P 15 25 01.4 0.0
WOL IAmb IAmb 15 25 02.3
comp=Z,331nm,0.7s
SZH Strazhica 77.88 325 P P 15 25 01.3 -0.4
BATH Bath 77.92 346⇑iP P 15 25 01.7 0.0
BATH IAmb IAmb 15 25 02.5
comp=Z,226nm,1.0s
AVNS Nevsehir-Avano 77.93 317 iP P 15 25 02.1 -0.1
T48A Bowling Green 77.93 46 P P 15 25 01.6 -0.5
baz=324,SNR=22
DOU Dourbes 77.95 341 ⇑P P 15 25 02.0 0.0
comp=Z,88nm,1.2s
ANTO Ankara 77.96 319⇑iP P 15 25 02.9 +0.6
ANTO Ankara 77.96 319 eP P 15 25 02.9 +0.6
comp=Z,340nm,1.3s
ANTO LR LR
comp=Z,967nm,20.0s
ANTO Ankara 77.96 319 P P 15 25 03.2 +0.9
SNR=31
ANTO Ankara 77.96 319 P P 15 25 03.2 +0.9
SNR=31
ANTO Ankara 77.96 319 eP P 15 25 02.9 +0.6
ANTO pmax pmax
comp=Z,340nm,1.3s
NATX Nacogdoches 77.97 55 P P 15 25 02.9 +0.5
baz=321
NATX Nacogdoches 77.97 55 eP P 15 25 02.5 +0.1
comp=Z,94nm,0.9s
NATX LR LR
comp=Z,714nm,22.0s
833A Chaparral WMA, 77.98 61 P P 15 25 02.8 +0.3
baz=320
LBNH Lisbon 77.98 33 P P 15 25 02.1 -0.2
baz=330,SNR=5.1
LBNH Lisbon 77.98 33 eP P 15 25 02.4 +0.1
comp=Z,24nm,0.9s
LBNH Lisbon 77.98 33 eP P 15 25 02.4 +0.1
LBNH pmax pmax
comp=Z,24nm,0.9s
BR231 Keskin MP Arra 77.99 319 eP P 15 25 01.8 -0.7
PKME Peaks-Kenny Pk 78.00 31 P P 15 25 01.9 -0.4
baz=332,SNR=6.3
PKME Peaks-Kenny Pk 78.00 31 eP P 15 25 02.5 +0.2
comp=Z,54nm,1.2s
WLF Walferdange 78.02 340 ⇓P P 15 25 02.7 +0.3
WLF Walferdange 78.02 340 eP P 15 25 02.8 +0.4
comp=Z,156nm,1.3s
WLF Walferdange 78.02 340 eP P 15 25 02.8 +0.4
WLF pmax pmax
comp=Z,160nm,1.3s
WVT Waverly 78.03 48 P P 15 25 02.2 -0.5
baz=323
WVT Waverly 78.03 48 eP P 15 25 02.5 -0.1
comp=Z,42nm,0.8s
WVT Waverly 78.03 48 eP P 15 25 02.5 -0.1
WVT pmax pmax
comp=Z,42nm,0.9s
HMNX Herstmonceux 78.03 344⇑iP P 15 25 02.2 -0.2
HMNX IAmb IAmb 15 25 02.6
comp=Z,335nm,0.7s
KAND Kocaeli-Kandir 78.04 321 iP P 15 25 01.1 -1.5
U47A Clarksville 78.04 47 P P 15 25 02.4 -0.3
baz=324,SNR=16
H06N1 SOCORRO T-PHAS 78.05 75 T T 16 51 41.3
SNR=26
BBAL Bala 78.09 318 iP P 15 25 03.0 -0.1
ACCN Adirondack Com 78.09 34 eP P 15 25 02.2 -0.6
comp=Z,36nm,0.9s
W45A Hickory Valley 78.14 49 P P 15 25 03.2 0.0
baz=323
BTAS Taskesti 78.14 320 iP P 15 25 01.9 -1.4
H06E1 SOCORRO T-PHAS 78.15 75 T T 16 51 47.5
SNR=36
STU Stuttgart 78.15 338 eP P 15 25 03.0 0.0
comp=Z,331nm,1.3s
STU Stuttgart 78.15 338 eP P 15 25 03.1 0.0
STU pmax pmax
comp=Z,330nm,1.3s
V46A Holladay 78.15 48 P P 15 25 02.9 -0.5
baz=323,SNR=17
H06S1 SOCORRO T 78.16 75 T T 16 51 56.1
SNR=3.2
X44A Crenshaw 78.18 50 P P 15 25 03.5 0.0
baz=323
BINY Binghamton 78.22 37 P P 15 25 02.9 -0.8
baz=328
BINY Binghamton 78.22 37 eP P 15 25 02.8 -0.8
comp=Z,24nm,1.1s
BINY LR LR
comp=Z,527nm,21.0s
Z42A Norrel Spur, H 78.22 52 P P 15 25 04.0 +0.3
baz=322,SNR=7.8
ANDN Andirin 78.24 315 iP P 15 25 03.8 -0.2
Y43A Makayla and Ka 78.25 51 P P 15 25 04.3 +0.5
baz=322
141A Papa Simpson, 78.25 53 P P 15 25 04.2 +0.3
baz=322,SNR=5.4
ALNE Al Ain 78.30 293 iP P 15 25 04.8 +0.4
SNR=6.8
HNH Hanover 78.32 33 eP P 15 25 04.0 -0.1
comp=Z,24nm,0.9s
U48A Cassie Pea, Po 78.35 47 P P 15 25 04.0 -0.3
baz=324,SNR=26
ARQ Araqi 78.37 292 P P 15 25 09.0 +4.2
SNR=11
ARQ Araqi 78.37 292 PcP P 15 25 09.0 +4.2
SNR=11
AJN Ajban 78.38 294 iP P 15 25 04.7 0.0
SNR=15
BSY Bisya 78.40 291 P P 15 25 06.1 +1.2
SNR=14
BSY Bisya 78.40 291 P P 15 25 06.1 +1.2
SNR=14
V47A Nunnelly 78.42 48 P P 15 25 04.4 -0.5
baz=324,SNR=18
VAL Valentia 78.45 351⇑iP P 15 25 05.0 +0.3
KKUL Konya-Kulu 78.48 318 iP P 15 25 04.8 -0.5
WVL Waterville 78.49 31 eP P 15 25 05.1 +0.1
comp=Z,63nm,1.4s
GEYV SAKARYA_Geyve 78.51 321 iP P 15 25 04.5 -0.7
SOKA Soboth 78.51 334 iP P 15 25 05.7 +0.5
comp=Z,202nm,0.9s,SNR=104
AUMIH MIHALICIK 78.52 320 iP P 15 25 05.2 -0.3
PERS Pernice 78.53 333 eP P 15 25 05.6 +0.3
OXF Oxford 78.54 50 P P 15 25 05.0 -0.5
baz=323,SNR=10
OXF Oxford 78.54 50 eP P 15 25 04.5 -1.0
comp=Z,79nm,0.8s
OXF Oxford 78.54 50 eP P 15 25 05.5 0.0
OXF pmax pmax
comp=Z,79nm,0.8s
AKSY AKSARAY - Alti 78.54 317 iP P 15 25 04.5 -1.0
W46A Michie 78.56 49 P P 15 25 04.9 -0.6
baz=323

MPEP Malo Peshtene 78.61 326 P P 15 25 05.8 +0.1
X45A UM Field Stati 78.62 50 P P 15 25 05.6 -0.3
baz=323,SNR=6.1
KBA Koelnbreinsper 78.63 335 iP P 15 25 06.8 +0.8
comp=Z,399nm,0.7s,SNR=204
TRY Troy 78.65 35 eP P 15 25 05.3 -0.6
comp=Z,25nm,0.9s
HTL Hartland 78.68 347⇑eP P 15 25 05.6 -0.3
HTL IAmb IAmb 15 25 07.0
comp=Z,90nm,0.8s
HKT Hockley 78.73 57 eP P 15 25 06.7 +0.2
HKT pmax pmax
comp=Z,74nm,1.1s
FFD Franklin Falls 78.75 33 eP P 15 25 06.9 +0.4
comp=Z,40nm,1.0s
BFO Black Forest 78.77 338 eP P 15 25 06.7 +0.1
comp=Z,232nm,1.3s
BFO LR LR
comp=Z,689nm,22.0s
BFO Black Forest 78.77 338 eP P 15 25 06.3 -0.3
BFO pmax pmax
comp=Z,230nm,1.3s
SSPA Standing Stone 78.79 39 P P 15 25 06.1 -0.6
baz=328
SSPA Standing Stone 78.79 39 eP P 15 25 06.3 -0.5
comp=Z,34nm,0.9s
MCWV Mont Chateau 78.79 40 P P 15 25 06.6 -0.2
baz=327,SNR=12
MCWV Mont Chateau 78.79 40 eP P 15 25 06.3 -0.5
comp=Z,52nm,0.8s
OBKA Obir 78.81 334 iP P 15 25 07.1 +0.3
comp=Z,81nm,0.7s,SNR=19
O56A Blue Knob Stat 78.82 39 P P 15 25 06.2 -0.8
baz=327,SNR=20
O56A Blue Knob Stat 78.82 39 eP P 15 25 06.0 -1.0
comp=Z,47nm,0.8s
PLAL Pickwick Lake 78.83 49 eP P 15 25 05.6 -1.5
comp=Z,37nm,0.7s
V48A Smith Brothers 78.83 47 P P 15 25 06.6 -0.5
baz=324,SNR=21
W47A Westpoint 78.85 48 P P 15 25 06.6 -0.6
baz=324,SNR=14
WATA Walderalm 78.87 336 iP P 15 25 08.0 +0.7
comp=Z,428nm,1.3s,SNR=85
X46A Booneville 78.92 49 P P 15 25 06.9 -0.7
baz=323,SNR=5.1
WTTA Wattenberg 78.92 336 iP P 15 25 08.5 +0.9
comp=Z,263nm,0.9s,SNR=86
RETA Reutte 78.95 337 iP P 15 25 08.0 +0.4
comp=Z,120nm,0.8s,SNR=46
143A Socs Landing, 78.95 52 P P 15 25 08.1 +0.3
baz=322
MYKA Terra Mystica 78.95 334 eP P 15 25 07.8 +0.2
comp=Z,79nm,0.8s,SNR=23
Y45A Yeager Farm, C 78.99 50 P P 15 25 08.0 +0.1
baz=323,SNR=5.4
MOTA Moosalm 78.99 336 iP P 15 25 08.5 +0.5
comp=Z,308nm,1.0s,SNR=185
MNCY Minicoy 79.02 270 eP P 15 25 09.3 +1.0
AUKUT KUTAHYA 79.06 321 iP P 15 25 10.7 +2.3
242A Grayson 79.07 53 P P 15 25 08.7 +0.4
baz=322
DIM Dimitrovgrad 79.07 325 P P 15 25 08.7 +0.4
EMMW East Machias 79.09 30 eP P 15 25 07.7 -0.6
comp=Z,28nm,0.9s
AUBOZ BOZOYUK 79.10 320 iP P 15 25 08.3 -0.3
DYA Yadsworthy 79.15 347⇑iP P 15 25 07.5 -1.1
DYA IAmb IAmb 15 25 08.4
comp=Z,205nm,0.8s
PGB Panagyurishte 79.15 326 P P 15 25 08.8 0.0
ECH Echery 79.16 339 eP P 15 25 08.6 0.0
comp=Z,195nm,1.2s
ECH LR LR
comp=Z,424nm,19.0s
ECH Echery 79.16 339 eP P 15 25 07.3 -1.4
ECH pmax pmax
comp=Z,200nm,1.2s
ABTA Abfaltersbach 79.16 335 iP P 15 25 08.8 0.0
comp=Z,202nm,1.2s,SNR=43
GULE Gulek 79.20 316 iP P 15 25 09.4 +0.1
W48A Pulaski 79.26 48 P P 15 25 08.9 -0.5
baz=324,SNR=29
Z45A Winona 79.30 51 P P 15 25 09.8 +0.1
baz=323
X47A Russelville 79.31 49 P P 15 25 08.9 -0.8
baz=324,SNR=11
Y46A Houston 79.32 50 P P 15 25 09.4 -0.3
baz=323,SNR=17
PLD Plovdiv 79.34 325 P P 15 25 09.3 -0.4
OZLJ Ozalj 79.34 333 P P 15 25 09.5 -0.1
DAVA Damuels 79.36 337 iP P 15 25 10.3 +0.3
comp=Z,167nm,0.9s,SNR=57
VISS Visnje 79.36 333 eP P 15 25 09.4 -0.4
FETA Feichten 79.39 336 iP P 15 25 10.8 +0.7
comp=Z,141nm,1.0s,SNR=58
KERG Konya-Eregli 79.39 316 iP P 15 25 08.6 -1.7
N59A State Game Lan 79.40 37 P P 15 25 09.5 -0.7
baz=329,SNR=12
N59A State Game Lan 79.40 37 eP P 15 25 09.4 -0.7
comp=Z,35nm,0.9s
ARMA Armidale 79.42 184 eP P 15 25 11.2 +1.1
comp=Z,25nm,0.8s
KVTX Kingsville 79.43 60 PFAKE 15 25 20.0 +10
KVTX LR LR
comp=Z,1µm,21.0s
KDZ Kurdzhali 79.46 324 P P 15 25 10.8 +0.4
VTS Vitosha 79.47 326⇑iP P 15 25 10.4 -0.2
VTS Vitosha 79.47 326 eP P 15 25 10.6 0.0
comp=Z,160nm,0.8s
VTS Vitosha 79.47 326 P P 15 25 10.6 0.0
VTS Vitosha 79.47 326 P P 15 25 10.6 0.0
VTS Vitosha 79.47 326 eP P 15 25 10.1 -0.5
VTS pmax pmax
comp=Z,160nm,0.8s
JAVS Javornik 79.50 334 eP P 15 25 09.9 -0.7
BOJS Bojanci 79.51 333 iP P 15 25 10.5 -0.1
342A Flagon Creek P 79.51 54 P P 15 25 11.5 +0.7
baz=322
144A Alexander Plac 79.52 52 P P 15 25 11.2 +0.3
baz=323
243A Waterproof 79.56 53 P P 15 25 11.7 +0.6
baz=322
BLY Banja Luka 79.60 331⇑iP P 15 25 10.8 -0.3
BLY Banja Luka 79.60 331 eP P 15 25 10.4 -0.7
comp=Z,37nm,0.6s
PAGS Pennsylvania G 79.61 38 eP P 15 25 10.8 -0.4
comp=Z,34nm,0.9s
HRV Adam Dziewonsk 79.62 34 P P 15 25 10.9 -0.4
baz=331
HRV Adam Dziewonsk 79.62 34 eP P 15 25 11.1 -0.1
comp=Z,36nm,1.0s
HRV Adam Dziewonsk 79.62 34 eP P 15 25 11.4 +0.1
HRV pmax pmax
comp=Z,36nm,1.0s
KESN Edirne-Kesan 79.68 323 iP P 15 25 11.2 -0.9
SWET Sewanee 79.68 47 eP P 15 25 10.9 -0.8
comp=Z,22nm,0.7s
RZN Rozhen 79.69 325 P P 15 25 11.9 0.0
BOLV Bolvadin 79.71 319 iP P 15 25 11.9 -0.1
ODNJ Ogdensburg 79.71 36 eP P 15 25 11.0 -0.8
comp=Z,16nm,0.9s
TZTN Tazewell 79.72 45 P P 15 25 11.7 -0.3
baz=325,SNR=12
TZTN Tazewell 79.72 45 eP P 15 25 11.8 -0.1
comp=Z,39nm,0.8s
X48A Hartselle 79.76 48 P P 15 25 11.2 -0.9
baz=324,SNR=11
TRI Trieste 79.76 334 eP P 15 25 11.3 -0.6
TRI pmax pmax
comp=Z,270nm,1.4s
VBMS Vicksburg 79.79 52 eP P 15 25 13.2 +0.8
comp=Z,61nm,0.8s
Y47A UCPARC, Winfie 79.80 49 P P 15 25 11.5 -0.8
baz=324,SNR=13
WES Weston 79.81 33 eP P 15 25 11.7 -0.6
comp=Z,44nm,1.0s
WES Weston 79.81 33 eP P 15 25 12.4 +0.1
WES pmax pmax
comp=Z,44nm,1.0s
Z46A Louisville 79.82 50 P P 15 25 12.4 -0.1
baz=323
LUPA Lehigh Univers 79.83 37 eP P 15 25 12.0 -0.4
comp=Z,2.8nm,1.1s
244A Avery, Jackson 79.85 52 P P 15 25 13.1 +0.5
baz=323,SNR=8.8
RDO Rodhopi 79.85 324 P P 15 25 12.7 +0.2
RDO Rodhopi 79.85 324 P P 15 25 12.7 +0.2

ALN Alexandroupoli 79.87 324 P P 15 25 12.4 -0.2
ALN Alexandroupoli 79.87 324 P P 15 25 12.4 -0.2
ALN Alexandroupoli 79.87 324 P P 15 25 12.4 -0.2
DOGA KONYA_Doganhis 79.91 318 iP P 15 25 13.3 +0.2
BCX Boston College 79.91 33 eP P 15 25 12.8 0.0
comp=Z,24nm,0.9s
MVL Millersville 79.95 38 eP P 15 25 12.7 -0.4
comp=Z,26nm,0.9s
DURS Dursunbey 80.00 321 iP P 15 25 13.1 -0.4
JQE Queens East 80.05 345⇑iP P 15 25 13.3 0.0
PAL Palisades 80.05 36 P P 15 25 12.9 -0.7
baz=330,SNR=7.0
PAL Palisades 80.05 36 eP P 15 25 12.6 -1.0
comp=Z,35nm,0.8s
PAL Palisades 80.05 36 eP P 15 25 12.6 -1.0
PAL pmax pmax
comp=Z,35nm,0.9s
X49A Woodville 80.06 48 P P 15 25 13.2 -0.5
baz=324,SNR=25
JRS Jersey 80.06 345⇑iP P 15 25 13.5 0.0
BRNJ Basking Ridge 80.07 36 eP P 15 25 13.4 -0.3
comp=Z,36nm,1.0s
Y48A Jasper 80.13 49 P P 15 25 13.1 -1.0
baz=324,SNR=11
BRYW Bryant College 80.14 34 eP P 15 25 13.4 -0.7
comp=Z,39nm,0.9s
KKB Krupnik 80.14 326 P P 15 25 14.3 +0.2
MMB Musomiste 80.15 326 P P 15 25 14.2 0.0
PLE Pljevlja 80.15 329⇑iP P 15 25 14.5 +0.2
KIZK Mersin 80.15 316 iP P 15 25 14.0 -0.2
CPCT Cooper Cave 80.16 46 eP P 15 25 12.6 -1.7
146A Union 80.21 51 P P 15 25 15.1 +0.5
baz=323,SNR=7.8
CPNY Central Park 80.21 36 eP P 15 25 14.1 -0.3
comp=Z,36nm,0.8s
BALY Balya 80.23 322 iP P 15 25 11.8 -2.8
SDMD Soldier's Deli 80.25 39 eP P 15 25 14.0 -0.7
comp=Z,17nm,0.9s
TUE Stuetta 80.25 337 PFAKE 15 25 30.0 +15
TUE LR LR
comp=Z,707nm,22.0s
Z47A Carrollton 80.26 50 P P 15 25 14.4 -0.4
baz=324,SNR=15
245A Little AP, Sta 80.26 52 P P 15 25 15.4 +0.5
baz=323,SNR=9.2
344A Westbrook Farm 80.29 53 P P 15 25 15.8 +0.7
baz=323,SNR=5.8
NVR Nevrokopi 80.31 325 P P 15 25 14.9 -0.1
NVR Nevrokopi 80.31 325 P P 15 25 14.9 -0.1
ZAIG Zacatecas 80.33 66 eP P 15 25 16.7 +0.9
TKL Tuckaleechee C 80.34 45 P P 15 25 14.8 -0.5
comp=Z,25nm,0.7s,baz=283,slow=1.1,SNR=30
TKL Tuckaleechee C 80.34 45 eP P 15 25 14.9 -0.3
comp=Z,32nm,0.8s
KAVA Kavala 80.37 325 P P 15 25 15.2 -0.1
KAVA Kavala 80.37 325 P P 15 25 15.2 -0.1
PSUB Penn St. - Bra 80.37 37 eP P 15 25 14.8 -0.6
comp=Z,23nm,0.9s
Z48A Northport 80.37 49 P P 15 25 14.4 -1.0
baz=324,SNR=10
IVA Berane 80.39 329⇑iP P 15 25 15.5 0.0
BAGO Egridir - ISPA 80.39 319 iP P 15 25 14.6 -1.0
SMTH Samothraki Isl 80.43 324 P P 15 25 16.7 +1.0
SMTH Samothraki Isl 80.43 324 P P 15 25 16.7 +1.0
NVLJ Novalja 80.48 333 P P 15 25 14.7 -0.9
KOME Kolasin 80.53 329⇑iP P 15 25 16.7 +0.4
LNIG Linares 80.55 63 eP P 15 25 15.8 -0.8
comp=Z,20nm,1.1s
Y49A Blount Mountai 80.55 48 P P 15 25 15.7 -0.7
baz=324,SNR=13
147A Livingston 80.58 50 P P 15 25 16.4 -0.2
baz=324,SNR=14
ERMK Ermenek 80.58 317 iP P 15 25 16.0 -0.7
BLA Blacksburg 80.58 42 P P 15 25 16.1 -0.4
baz=327,SNR=16
BLA Blacksburg 80.58 42 eP P 15 25 16.2 -0.4
comp=Z,54nm,0.8s
BLA LR LR
comp=Z,345nm,22.0s
BLA Blacksburg 80.58 42 eP P 15 25 16.2 -0.4
BLA pmax pmax
comp=Z,54nm,0.9s
SRS Serrai 80.61 325 P P 15 25 16.2 -0.4
SRS Serrai 80.61 325 P P 15 25 16.2 -0.4
SRS Serrai 80.61 325 P P 15 25 16.2 -0.4
PVY Plav 80.61 329⇑iP P 15 25 16.3 -0.4
ISP Isparta 80.64 319 eP P 15 25 16.2 -0.8
comp=Z,45nm,0.6s
ISP LR LR
comp=Z,1µm,20.0s
ISP Isparta 80.64 319 P P 15 25 16.4 -0.6
ISP Isparta 80.64 319 eP P 15 25 16.2 -0.8
ISP pmax pmax
comp=Z,45nm,0.6s
SKO Skopje 80.64 327 P P 15 25 17.1 +0.3
SKO Skopje 80.64 327 P P 15 25 17.1 +0.3
SKO Skopje 80.64 327⇑eP P 15 25 17.0 +0.3
SKO Skopje 80.64 327 P P 15 25 17.1 +0.3
GULN MERSIN_Gulnar 80.67 316 iP P 15 25 15.7 -1.4
EZN Ezine 80.67 323 P P 15 25 16.8 -0.1
EZN Ezine 80.67 323 P P 15 25 16.8 -0.1
EZN Ezine 80.67 323 P P 15 25 16.8 -0.1
VWCC Virginia Weste 80.75 42 eP P 15 25 17.0 -0.4
NKME Niksic 80.80 329⇑iP P 15 25 16.7 -0.9
BRY Bratogost 80.81 330⇑iP P 15 25 16.8 -1.0
KNT Kendrikon 80.83 326 P P 15 25 17.8 0.0
KNT Kendrikon 80.83 326 P P 15 25 17.8 0.0
KNT Kendrikon 80.83 326 P P 15 25 17.8 0.0
IP04 Greensprings 80.84 40 eP P 15 25 18.1 +0.2
comp=Z,67nm,0.9s
Y50A Piedmont 80.85 48 P P 15 25 17.3 -0.7
baz=325,SNR=18
247A Quitman 80.90 51 P P 15 25 19.1 +0.8
baz=324,SNR=6.7
LRAL Lakeview Retre 80.92 49 P P 15 25 17.3 -1.1
baz=324,SNR=14
LRAL Lakeview Retre 80.92 49 eP P 15 25 17.6 -0.8
comp=Z,27nm,0.8s
KEPZ Antalya-Kepez 80.94 318 iP P 15 25 17.4 -1.2
BRDR BURDUR-Merkez 80.95 319 iP P 15 25 17.9 -0.6
SOH Sokhos 80.95 325 P P 15 25 17.8 -0.7
SOH Sokhos 80.95 325 P P 15 25 17.8 -0.7
SOH Sokhos 80.95 325 P P 15 25 17.8 -0.7
SPRD Spring Road, M 80.99 40 eP P 15 25 18.4 -0.3
comp=Z,38nm,1.0s
PDG Podgorica 81.00 329⇑iP P 15 25 18.0 -0.5
PDG Podgorica 81.00 329 P P 15 25 18.1 -0.5
TTG Podgorica 81.00 329⇑iP P 15 25 18.1 -0.5
TTG Podgorica 81.00 329 eP P 15 25 17.0 -1.6
TTG pmax pmax
comp=Z,240nm,1.1s
346A Big Creek Wild 81.00 52 P P 15 25 19.3 +0.5
baz=323
CEME Cevo 81.00 329⇑iP P 15 25 17.9 -0.9
IP07 Quail 81.02 40 eP P 15 25 19.0 +0.2
comp=Z,50nm,0.9s
Z49A Columbiana 81.02 49 P P 15 25 18.2 -0.7
baz=324,SNR=15
PMOR Pomariorio Ree 81.03 125 eP P 15 25 25.2 +6.2
comp=Z,90nm,1.1s
PMOR Pomariorio Ree 81.03 125 eT T 16 54 45.8
comp=Z,18nm,0.2s
CBN Corbin Frederi 81.05 40 PFAKE 15 25 30.0 +11
CBN LR LR
comp=Z,509nm,21.0s
LIA Limnos Island 81.06 324 P P 15 25 18.8 -0.2
LIA Limnos Island 81.06 324 P P 15 25 18.8 -0.2
HWQ Hawqa 81.12 313 eP P 15 25 19.5 -0.1
STON Ston 81.12 330 P P 15 25 16.8 -2.4
GRG Griva 81.19 326 P P 15 25 19.5 -0.2
GRG Griva 81.19 326 P P 15 25 19.5 -0.2
GRG Griva 81.19 326 P P 15 25 19.5 -0.2
PRK Paraskevi 81.19 323 P P 15 25 19.5 -0.2
PRK Paraskevi 81.19 323 P P 15 25 19.5 -0.2
PRK Paraskevi 81.19 323 P P 15 25 19.5 -0.2
IP05 Hopewell Churc 81.21 40 eP P 15 25 19.9 0.0
comp=Z,46nm,0.8s
BUM Brajici-Budva 81.23 329⇑iP P 15 25 20.0 0.0
DRME Dracevica, Mon 81.23 329⇑iP P 15 25 19.5 -0.4
HCY Herceg Novi 81.23 329⇑iP P 15 25 19.6 -0.3
KRUS Krusevo 81.24 327⇑iP P 15 25 19.7 -0.4
HORT Hortiatis 81.24 325 P P 15 25 18.9 -1.2
HORT Hortiatis 81.24 325 P P 15 25 18.9 -1.2
PHP Peshkopia 81.25 328 P P 15 25 19.5 -0.6

PHP **Peshkopia** 81.25 328 P **P** 15 25 19.5 -0.6
PHP **Peshkopia** 81.25 328 P **P** 15 25 19.5 -0.6
THE **Thessaloniki** 81.26 326 P **P** 15 25 18.8 -1.3
THE **Thessaloniki** 81.26 326 P **P** 15 25 18.8 -1.3
THE **Thessaloniki** 81.26 326 P **P** 15 25 18.8 -1.3
Z50A **Ashland** 81.27 48 P **P** 15 25 19.6 -0.7
baz=325,SNR=62
BG3 **Lake Jocassee** 81.28 45 eP **P** 15 25 20.4 +0.1
comp=Z,65nm,0.8s
248A **Dixon Mills** 81.31 50 P **P** 15 25 20.7 +0.3
baz=324,SNR=6.3
PLG **Polygyros** 81.31 325 P **P** 15 25 19.7 -0.7
PLG **Polygyros** 81.31 325 P **P** 15 25 19.7 -0.7
PLG **Polygyros** 81.31 325 P **P** 15 25 19.7 -0.7
149A **Jones** 81.38 49 P **P** 15 25 20.5 -0.3
baz=324,SNR=14
SIGR **SIGRI** 81.39 323 P **P** 15 25 20.2 -0.5
SIGR **SIGRI** 81.39 323 P **P** 15 25 20.2 -0.5
ULC **Ulcinj** 81.41 329⇑ iP **P** 15 25 20.1 -0.8
347A **Saraland** 81.46 51 P **P** 15 25 21.9 +0.6
baz=324,SNR=6.0
446A **Poplarville** 81.52 52 P **P** 15 25 22.4 +0.8
baz=323
BHL **Bhannes** 81.56 313 eP **P** 15 25 21.9 0.0
PAIG **Paliouri** 81.61 325 P **P** 15 25 21.1 -0.8
PAIG **Paliouri** 81.61 325 P **P** 15 25 21.1 -0.8
PAIG **Paliouri** 81.61 325 P **P** 15 25 21.1 -0.8
OHR **Ohrid** 81.63 327⇑ eP **P** 15 25 21.5 -0.6
MAMC **Mammari** 81.66 316 P **P** 15 25 21.6 -0.7
FNA **Florina** 81.71 327 P **P** 15 25 21.7 -0.8
FNA **Florina** 81.71 327 P **P** 15 25 21.7 -0.8
FNA **Florina** 81.71 327 P **P** 15 25 21.7 -0.8
249A **Camden** 81.71 50 P **P** 15 25 22.6 0.0
baz=324,SNR=26
TIR **Tirane** 81.75 328⇑ iP **P** 15 25 22.3 -0.4
TIR **Tirane** 81.75 328 eP **P** 15 25 22.2 -0.4
comp=Z,116nm,0.7s
TIR LR LR
comp=Z,2µm,21.0s
TIR **Tirane** 81.75 328 eP **P** 15 25 22.2 -0.4
TIR pmax pmax
comp=Z,120nm,0.7s
150A **Eclectic** 81.75 49 P **P** 15 25 22.2 -0.6
baz=325,SNR=27
DQRL **Deir Qamar** 81.76 313 eP **P** 15 25 23.2 +0.2
STKA **Stephens Creek** 81.77 192 P **P** 15 25 22.9 +0.3
comp=Z,16nm,0.6s,baz=355,slow=6.5,SNR=87
STKA **Stephens Creek** 81.77 192 eP **P** 15 25 22.5 -0.1
comp=Z,3.1nm,0.6s
STKA **Stephens Creek** 81.77 192 eP **P** 15 25 22.9 +0.3
STKA pmax pmax
comp=Z,3.0nm,0.7s
348A **Jackson** 81.77 51 P **P** 15 25 23.8 +0.9
baz=324
CSS **Mathiatis** 81.78 316 eP **P** 15 25 22.9 0.0
comp=Z,19nm,0.7s
CSS LR LR
comp=Z,475nm,20.0s
CSS **Mathiatis** 81.78 316 P **P** 15 25 23.0 0.0
RCY **Rachaya** 81.81 313 eP **P** 15 25 23.3 0.0
NCAT **North Carolina** 81.81 42 eP **P** 15 25 22.5 -0.6
comp=Z,54nm,0.8s
KMSC **Kings Mountain** 81.89 44 P **P** 15 25 22.9 -0.6
baz=326,SNR=13
KMSC **Kings Mountain** 81.89 44 eP **P** 15 25 23.0 -0.5
comp=Z,32nm,0.8s
LIT **Litokhoron** 81.90 326 P **P** 15 25 22.3 -1.2
LIT **Litokhoron** 81.90 326 P **P** 15 25 22.3 -1.2
LIT **Litokhoron** 81.90 326 P **P** 15 25 22.3 -1.2
PAULI **Pauline** 81.94 45 eP **P** 15 25 23.5 -0.2
comp=Z,19nm,0.8s
ALFC **Alefka** 81.95 316 P **P** 15 25 23.4 -0.5
SHBL **Chebaa** 81.97 313 eP **P** 15 25 24.2 0.0
KZN **Kozani** 81.99 326 P **P** 15 25 23.0 -1.0
KZN **Kozani** 81.99 326 P **P** 15 25 23.0 -1.0
KZN **Kozani** 81.99 326 P **P** 15 25 23.0 -1.0
KBN **Korca** 82.06 327 P **P** 15 25 24.0 -0.4
KBN **Korca** 82.06 327 P **P** 15 25 24.0 -0.4
KBN **Korca** 82.06 327 P **P** 15 25 24.0 -0.4
VLC **Villacollemand** 82.13 336 PFAKE 15 25 40.0 +15
VLC LR LR
comp=Z,877nm,22.0s
250A **Grady** 82.14 49 P **P** 15 25 24.6 -0.2
baz=324,SNR=12
151A **Opelika** 82.16 48 P **P** 15 25 24.3 -0.7
baz=325,SNR=7.7
SZAC **Souni** 82.16 316 P **P** 15 25 24.9 0.0
SKY **Skiros Island** 82.19 324 P **P** 15 25 23.4 -1.6
SKY **Skiros Island** 82.19 324 P **P** 15 25 23.4 -1.6
HODGE **Hodges** 82.22 45 eP **P** 15 25 24.9 -0.3
comp=Z,38nm,0.8s
BNI **Bardonecchia** 82.24 338 eP **P** 15 25 25.1 -0.2
comp=Z,36nm,0.7s
BNI LR LR
comp=Z,1µm,21.0s
BNI **Bardonecchia** 82.24 338 eP **P** 15 25 25.1 -0.2
BNI pmax pmax
comp=Z,36nm,0.7s
XOR **Xorichti** 82.28 325 P **P** 15 25 24.2 -1.3
XOR **Xorichti** 82.28 325 P **P** 15 25 24.2 -1.3
PPCY **Paphos** 82.29 316 P **P** 15 25 25.2 -0.4
PPT2 **Papeete2** 82.31 128 eP P 15 25 31.8 +6.0
comp=Z,54nm,1.1s
PPT2 **Papeete2** 82.31 128 eS S 15 35 44.8 +9.3
comp=Z,536nm,30.0s
PPT2 **Papeete2** 82.31 128 eLR LR 15 50 51.9
comp=Z,2µm,34.0s
PPT2 **Papeete2** 82.31 128 eT T 16 56 19.4
comp=Z,12nm,0.3s
PENT **Pentalofos** 82.31 327 P **P** 15 25 25.0 -0.8
GOGA **Godfrey** 82.33 46 P **P** 15 25 25.4 -0.4
baz=326,SNR=9.7
GOGA **Godfrey** 82.33 46 eP **P** 15 25 25.3 -0.4
comp=Z,22nm,0.8s
GOGA LR LR
comp=Z,469nm,21.0s
GOGA **Godfrey** 82.33 46 eP **P** 15 25 25.6 -0.2
GOGA pmax pmax
comp=Z,22nm,0.8s
FYTO **Fytoko, Volos** 82.34 325 P **P** 15 25 24.6 -1.2
FYTO **Fytoko, Volos** 82.34 325 P **P** 15 25 24.6 -1.2
SKIA **Skiathos** 82.35 325 P **P** 15 25 24.9 -1.0
PAE **Paea** 82.36 128 eT T 16 56 23.2
comp=Z,2.5nm,0.2s
ASF **Jabal al Asfar** 82.37 311 P **P** 15 25 26.8 +0.6
comp=Z,39nm,0.8s,baz=338,slow=1.2
TIAR **Tiarei** 82.40 128 eT T 16 56 25.9
comp=Z,5.5nm,0.3s
BRAL **Brewton** 82.40 50 PFAKE 15 25 40.0 +14
BRAL LR LR
comp=Z,440nm,22.0s
MMAI **Mount Meron Ar** 82.41 313 P **P** 15 25 27.3 +0.9
comp=Z,103nm,0.6s,baz=37,slow=6.0,SNR=174
KPRO **Kipourio** 82.44 326 P **P** 15 25 26.4 0.0
251A **Midway** 82.47 49 P **P** 15 25 26.2 -0.3
baz=325,SNR=12
SSB **Saint Sauveur** 82.53 340 eP **P** 15 25 26.7 0.0
comp=Z,49nm,0.8s
SSB LR LR
comp=Z,504nm,21.0s
SSB **Saint Sauveur** 82.53 340 eP **P** 15 25 26.7 0.0
SSB pmax pmax
comp=Z,49nm,0.8s
350A **Dozier** 82.56 50 P **P** 15 25 27.7 +0.7
baz=325
JSC **Jenkinsville** 82.64 44 eP **P** 15 25 26.8 -0.6
comp=Z,38nm,0.9s
JSC **Jenkinsville** 82.64 44 eP **P** 15 25 27.4 0.0
JSC pmax pmax
comp=Z,38nm,0.9s
449A **Pace** 82.65 51 P **P** 15 25 28.7 +1.2
baz=324
SMIA **Simia** 82.70 325 P **P** 15 25 26.7 -1.0
153A **Fort Valley** 82.78 47 P **P** 15 25 28.1 -0.1
baz=326
EREA **Eretria** 82.83 324 P **P** 15 25 25.8 -2.5
252A **Lumpkin** 82.88 48 P **P** 15 25 28.2 -0.5
baz=325,SNR=7.7
JAN **Janina** 82.89 327 P **P** 15 25 28.5 -0.2
JAN **Janina** 82.89 327 P **P** 15 25 28.5 -0.2
JAN **Janina** 82.89 327 P **P** 15 25 28.5 -0.2
AGG **Agios Georgios** 82.91 325 eP **P** 15 25 26.7 -2.1
comp=Z,48nm,0.7s
AGG **Agios Georgios** 82.91 325 eP **P** 15 25 26.7 -2.1
AGG pmax pmax
comp=Z,48nm,0.7s
SHAO **Shalim** 82.92 289 P **P** 15 25 29.2 +0.1
450A **Crestview** 82.93 50 P **P** 15 25 29.8 +0.8
baz=324
AQU **L'Aquila** 82.93 333 eP **P** 15 25 28.4 -0.5
comp=Z,149nm,1.0s
AQU LR LR
comp=Z,803nm,19.0s
AQU **L'Aquila** 82.93 333 eP **P** 15 25 29.5 +0.7
AQU pmax pmax
comp=Z,150nm,1.0s
LKR **Lokris** 82.98 325 P **P** 15 25 27.5 -1.6
LKR **Lokris** 82.98 325 P **P** 15 25 27.5 -1.6
351A **Pinckard** 83.04 49 P **P** 15 25 29.6 +0.1
baz=325,SNR=8.4
253A **Americus** 83.12 48 P **P** 15 25 29.5 -0.4
baz=326
SGD **Sagiada** 83.15 327 P **P** 15 25 29.3 -0.7
154A **Montrose** 83.16 47 P **P** 15 25 30.1 0.0
baz=326,SNR=14
352A **Blakely** 83.20 49 P **P** 15 25 30.4 +0.1
baz=325,SNR=8.7
DSL **Palaion Diasel** 83.27 326 P **P** 15 25 30.5 -0.1
DSL **Palaion Diasel** 83.27 326 P **P** 15 25 30.5 -0.1
VILL **Villia** 83.29 324 P **P** 15 25 30.1 -0.7
CNNC **Cliffs of the** 83.34 42 P **P** 15 25 31.1 +0.1
baz=328,SNR=5.7
CNNC **Cliffs of the** 83.34 42 eP **P** 15 25 30.9 -0.1
comp=Z,66nm,0.9s
CNNC LR LR
comp=Z,473nm,21.0s
APE **Apeiranthos** 83.36 322⇓ eP **P** 15 25 29.0 -2.2
APE pmax pmax
comp=Z,48nm,1.1s
DSF **Desfina** 83.37 325 P **P** 15 25 29.2 -2.0
DSF **Desfina** 83.37 325 P **P** 15 25 29.2 -2.0
MATE **Matera** 83.44 330⇑ iP **P** 15 25 30.9 -0.5
155A **Kite** 83.45 46 P **P** 15 25 31.6 0.0
baz=326,SNR=6.6
451A **Vernon** 83.50 50 P **P** 15 25 32.8 +0.9
baz=325
254A **Abbeville** 83.62 47 P **P** 15 25 32.6 +0.1
baz=326,SNR=16
353A **Camilla** 83.66 48 P **P** 15 25 33.0 +0.3
baz=326,SNR=14
PDO **Prodromos** 83.71 326 P **P** 15 25 32.2 -0.6
LAKA **Lakka** 83.73 325 P **P** 15 25 31.8 -1.2
LAKA **Lakka** 83.73 325 P **P** 15 25 31.8 -1.2
KLV **Kalavryta, Ach** 83.83 325 P **P** 15 25 32.2 -1.4
KLV **Kalavryta, Ach** 83.83 325 P **P** 15 25 32.2 -1.4
GUR **Goura** 83.86 325 P **P** 15 25 31.5 -2.2
GUR **Goura** 83.86 325 P **P** 15 25 31.5 -2.2
DID **Didima** 83.89 324 P **P** 15 25 31.5 -2.3
DID **Didima** 83.89 324 P **P** 15 25 31.5 -2.3
TIGA **Tifton** 83.89 48 P **P** 15 25 34.2 +0.3
baz=326,SNR=12
SANT **Santorini** 83.99 322 PFAKE 15 25 40.0 +5.6
SANT LR LR
comp=Z,858nm,19.0s
KARP **Karpathos** 84.00 320 eP **P** 15 25 33.4 -1.0
comp=Z,60nm,1.0s
453A **Whigham** 84.01 49 P **P** 15 25 34.9 +0.4
baz=325
DRO **Drossia** 84.08 325 P **P** 15 25 34.3 -0.5
NHSC **New Hope** 84.11 44 P **P** 15 25 35.5 +0.5
baz=327,SNR=5.5
NHSC **New Hope** 84.11 44 eP **P** 15 25 35.5 +0.5
comp=Z,107nm,0.9s
NHSC LR LR
comp=Z,790nm,22.0s
WHFO **Wadi Hawf** 84.14 291 P **P** 15 25 36.1 +0.7
SNR=5.3
WHFO **Wadi Hawf** 84.14 291 P **P** 15 25 36.1 +0.7
SNR=5.3
CUC **Castrocucco** 84.32 330 PFAKE 15 25 50.0 +14
CUC LR LR
comp=Z,1µm,22.0s
355A **Pearson** 84.32 47 P **P** 15 25 36.4 +0.3
baz=326,SNR=9.1
VLX **Vlachokerasia** 84.34 324 P P 15 25 26.3 -10
CAN **Canberra** 84.44 186 eP **P** 15 25 36.8 +0.5
comp=Z,13nm,0.6s
CAN LR LR
comp=Z,3µm,21.0s
CAN **Canberra** 84.44 186 eP **P** 15 25 36.8 +0.5
CAN pmax pmax
comp=Z,13nm,0.6s
454A **Quitman** 84.47 48 P **P** 15 25 37.2 +0.4
baz=326
553A **Crawfordville** 84.50 49 P **P** 15 25 37.6 +0.6
baz=325
356A **Blackshear** 84.69 47 P **P** 15 25 38.1 +0.2
baz=326
RAYN **Ar Rayn** 84.71 300 PFAKE 15 25 50.0 +12
RAYN LR LR
comp=Z,2µm,20.0s
455A **Stateville** 84.74 48 P **P** 15 25 38.6 +0.4
baz=326
TIP **Timpagrande** 84.75 329⇑ iP **P** 15 25 38.3 +0.1
TIP **Timpagrande** 84.75 329 eP **P** 15 25 37.2 -1.0
comp=Z,67nm,0.9s
TIP LR LR
comp=Z,1µm,21.0s
ZKR **Zakros** 84.77 321 P **P** 15 25 37.6 -0.7
ZKR **Zakros** 84.77 321 P **P** 15 25 37.6 -0.7
554A **Perry** 84.96 48 P **P** 15 25 40.0 +0.8
baz=326
IDI **Anoyia** 85.16 322 P **P** 15 25 38.1 -2.3
comp=Z,25nm,0.5s,baz=34,slow=8.1,SNR=22
IDI **Anoyia** 85.16 322⇑ iP **P** 15 25 38.2 -2.1
IDI **Anoyia** 85.16 322 eP **P** 15 25 38.9 -1.5
comp=Z,36nm,0.7s
456A **Hilliard** 85.23 47 P **P** 15 25 41.2 +0.6
baz=326
555A **McAlpin** 85.28 48 P **P** 15 25 41.2 +0.3
baz=326
VAM **Vamos** 85.34 322 P **P** 15 25 41.7 +0.6
VAM **Vamos** 85.34 322 P **P** 15 25 41.7 +0.6
VAM **Vamos** 85.34 322 P **P** 15 25 41.7 +0.6
IMMV **Iera Moni Meta** 85.38 322 P **P** 15 25 39.8 -1.5
SIVA **Sivas** 85.43 322 P **P** 15 25 40.9 -0.6
SIVA **Sivas** 85.43 322 P **P** 15 25 40.9 -0.6
556A **Lake Butler** 85.65 48 P **P** 15 25 43.6 +0.9
baz=326,SNR=6.7
CEL **Celeste** 85.86 329 PFAKE 15 25 50.0 +6.2
CEL LR LR
comp=Z,841nm,20.0s
557A **Orange Park** 85.96 47 P **P** 15 25 45.2 +1.0
baz=327,SNR=5.7
656A **Willston** 86.11 48 P **P** 15 25 45.8 +0.8
baz=326,SNR=5.7
657A **Interlachen** 86.25 47 P **P** 15 25 46.4 +0.7
baz=327
VSL **Villasalto** 86.73 335 eP **P** 15 25 48.2 +0.2
comp=Z,69nm,0.9s
VAE **Valguarnera** 87.06 330 LR LR 16 10 05.5
comp=Z,756nm,18.3s,baz=16,slow=39
858A **St. Cloud** 87.64 48 P **P** 15 25 53.1 +0.6
baz=327
DWPF **Disney Wildern** 87.69 48 P **P** 15 25 53.5 +0.8
baz=327
958A **Wauchula** 87.97 48 P **P** 15 25 54.9 +0.9
baz=327
859A **Kempfer Cattle** 87.99 48 P **P** 15 25 55.1 +1.0
baz=327
PBRG **Braganca** 88.00 347 eP **P** 15 25 53.3 -0.7
PBRG **Braganca** 88.00 347 ePcP **PcP** 15 25 55.9 +0.1
PGAV **Gavieira, Arco** 88.05 348 ePcP **PcP** 15 25 56.1 0.0
PGAV **Gavieira, Arco** 88.05 348 eSKS **SKSac** 15 36 18.0 +1.9
PGAV **Gavieira, Arco** 88.05 348 eLR LR 15 56 04.9
comp=Z,295nm,22.0s
PCAB **Cabril** 88.27 348 eP **P** 15 25 55.2 -0.1
058A **Arcadia** 88.38 49 P **P** 15 25 56.6 +0.6
baz=327
959A **Okeechobee** 88.45 48 P **P** 15 25 57.1 +0.8
baz=327
POLO **Lamas de Olo** 88.57 348 eP **P** 15 25 56.4 -0.4
POLO **Lamas de Olo** 88.57 348 ePcP **PcP** 15 25 58.5 +0.1
PVRL **Vila Real** 88.65 348 eP **P** 15 25 56.8 -0.3
MVO **Moncorvo** 88.67 347 eP **P** 15 25 56.2 -1.0
comp=Z,60nm,2.1s
MVO **Moncorvo** 88.67 347 ePcP **PcP** 15 25 58.8 0.0
MVO **Moncorvo** 88.67 347 eSKS **SKSac** 15 36 24.3 +4.5
MVO **Moncorvo** 88.67 347 eLR LR 15 56 18.5
comp=Z,267nm,20.0s
NWAO **Narrogin (SRO)** 88.72 212 P **P** 15 25 56.5 -0.7
comp=Z,32nm,0.9s,baz=251,slow=4.9,SNR=17
NWAO pP **pP** 15 26 20.0 +2.4
comp=Z,44nm,0.7s,baz=257,slow=4.6,SNR=10
NWAO **Narrogin (SRO)** 88.72 212 eP **P** 15 25 56.8 -0.4
comp=Z,38nm,0.9s
NWAO pP **pP** 15 26 20.0 +2.4
NWAO **Narrogin (SRO)** 88.72 212 eP **P** 15 25 57.6 +0.4
NWAO pmax pmax
comp=Z,38nm,1.0s
URZ **Urewera** 89.20 163 P **P** 15 25 58.6 -0.6
comp=Z,14nm,1.1s,baz=307,slow=5.1,SNR=3.6
PVIS **Viseu** 89.23 348 eP **P** 15 25 59.3 -0.5
MTE **Manteigas** 89.49 347 eP **P** 15 26 00.7 -0.4
comp=Z,92nm,1.0s
MTE **Manteigas** 89.49 347 eSKS **SKSac** 15 36 29.8 +5.2
MTE **Manteigas** 89.49 347 eLR LR 15 56 32.1
comp=Z,296nm,18.0s
MTE **Manteigas** 89.49 347 eP **P** 15 25 59.8 -1.3
comp=Z,34nm,0.7s
MTE LR LR
comp=Z,552nm,19.0s
ES19 **SONSECA Array** 89.59 344 eP **P** 15 26 00.6 -1.0
ESDC **Sonseca Array** 89.63 344 P **P** 15 26 00.1 -1.6
comp=Z,15nm,0.6s,baz=359,slow=3.9,SNR=50
ESLA **Sonseca Array** 89.63 344 eP **P** 15 26 00.0 -1.7
comp=Z,26nm,0.8s
PAB **San Pablo** 89.82 345 eP **P** 15 26 01.1 -1.6
comp=Z,21nm,0.7s
PAB LR LR
comp=Z,593nm,20.0s
PAB **San Pablo** 89.82 345 eP **P** 15 26 02.0 -0.7
PAB pmax pmax
comp=Z,21nm,0.7s
CMAH **Djebel Manchou** 89.96 335 P **P** 15 26 03.3 -0.1
PCAS **Casmilo, Conde** 89.96 348 eP **P** 15 26 02.5 -0.7
CAEH **'Ain El Ouahch** 89.97 335 P **P** 15 26 04.3 +0.9
PCBR **Castelo Branco** 90.03 347 eP **P** 15 26 02.8 -0.7
KEST **Kesra** 90.25 333 P **P** 15 26 05.3 +0.6
comp=Z,46nm,0.7s,baz=297,slow=3.0,SNR=26
KEST **Kesra** 90.25 333 eP **P** 15 26 04.2 -0.6
comp=Z,56nm,0.8s
ABSA **Djebel Ababsia** 90.28 335 P **P** 15 26 04.1 -0.8
CKFL **Kef-Lekhel** 90.37 335 P **P** 15 26 06.1 +0.8
PMRV **Marv??o** 90.42 347 eP **P** 15 26 06.1 +0.7
PMRV **Marv??o** 90.42 347 eSKS **SKSac** 15 36 35.9 +5.9
PMRV **Marv??o** 90.42 347 eLR LR 15 56 50.8
comp=Z,469nm,18.0s
DFRA **Djebel Bou Aff** 90.46 336 P **P** 15 26 07.5 +1.8
CTEI **Djebel Teioual** 90.77 336 P **P** 15 26 08.7 +1.5
ALMR **Almeirim** 90.86 348 eP **P** 15 26 07.3 -0.1
ALMR AMb AMB 15 26 09.2
comp=Z,87nm,0.7s
ALMR **Almeirim** 90.86 348 ePcP **PcP** 15 26 08.5 +0.1
ALMR **Almeirim** 90.86 348 eP **P** 15 26 07.3 -0.1
PESTR **Estremoz** 91.00 347 ePcP **PcP** 15 26 09.2 +0.2
PESTR **Estremoz** 91.00 347 eSKS **SKSac** 15 36 38.6 +5.3
PESTR **Estremoz** 91.00 347 eP **PcP** 15 26 09.2 +0.2
comp=Z,11nm,0.8s
CKHR **Kef el Ahmar** 91.05 336 P **P** 15 26 10.6 +2.1
BBSR **BB Station** 91.11 33 PFAKE 15 26 20.0 +11
BBSR LR LR
comp=Z,1µm,21.0s
PMAFR **Mafra** 91.15 348 eSKS **SKSac** 15 36 37.3 +3.2
DGAR **Diego Garcia** 91.18 260 PFAKE 15 26 20.0 +11
DGAR LR LR
comp=Z,121nm,20.0s
H08S3 **Diego Garcia H** 91.32 260 P **P** 15 26 10.2 +0.7
baz=7.9,slow=11,SNR=11
H08S2 **Diego Garcia H** 91.33 260 P **P** 15 26 08.6 -0.9
baz=7.9,slow=11,SNR=6.8
H08S1 **Diego Garcia H** 91.34 260 P **P** 15 26 10.6 +1.0
baz=7.9,slow=11,SNR=8.7
EVO **Evora** 91.39 347 ePcP **PcP** 15 26 11.1 +0.3
PBAR **Barrancos** 91.59 346 ePcP **PcP** 15 26 12.2 +0.5
PBAR **Barrancos** 91.59 346 eSKS **SKSac** 15 36 42.3 +5.6
PBEJ **Beja** 91.86 347 eP **P** 15 26 12.0 -0.1
comp=Z,71nm,1.6s
PNCL **Nicolau / Gran** 91.88 348 eSKS **SKSac** 15 36 41.5 +3.3
TAU **Tasmania Unive** 92.10 186 PFAKE 15 26 20.0 +7.4
TAU LR LR
comp=Z,2µm,21.0s
PCVE **Castro Verde** 92.28 347 eP **P** 15 26 13.8 -0.2
DAMY **Dhamar** 92.39 295 P **P** 15 26 14.2 -1.0
comp=Z,24nm,1.0s
PVAQ **Vaqueiros** 92.45 347 eSKS **SKSac** 15 36 50.0 +8.5
PVAQ **Vaqueiros** 92.45 347 eLR LR 15 57 38.0
comp=Z,437nm,20.0s
PBDV **Barranco-do-Ve** 92.64 347 eSKS **SKSac** 15 36 48.3 +5.7
MORF **Marmelete** 92.68 348 eP **P** 15 26 15.8 -0.2
MORF AMb AMB 15 26 20.2
comp=Z,79nm,1.6s
MORF **Marmelete** 92.68 348 eP **P** 15 26 15.7 -0.2
MORF pmax pmax
comp=Z,79nm,1.5s
APG **El Apazote** 93.51 62 LR LR 16 06 32.7
comp=Z,81nm,21.9s,baz=353,slow=34
RKT **Rikitea** 94.71 120 eSKSac **SKSac** 15 37 02.9 +9.2
comp=Z,197nm,26.5s
RKT **Rikitea** 94.71 120 ePS PS 15 39 03.0 +5.1
comp=Z,403nm,35.2s
RKT **Rikitea** 94.71 120 eLR LR 15 56 31.3
comp=Z,2µm,37.0s,baz=320
RTC **Rabat Centre** 95.66 346 PFAKE 15 26 40.0 +10
RTC LR LR
comp=Z,2µm,22.0s
ATD **Arta Tunnel** 95.70 295 P **P** 15 26 29.4 -0.7
comp=Z,10nm,0.7s,baz=246,slow=20,SNR=4.5
ATD LR LR 16 13 56.8
comp=Z,444nm,21.8s,baz=34,slow=38
GTBY **Guantanamo Bay** 97.66 47 PFAKE 15 26 50.0 +11
GTBY LR LR
comp=Z,588nm,20.0s
MTDJ **Mount Denham** 97.91 50 PFAKE 15 26 50.0 +10
MTDJ LR LR
comp=Z,361nm,21.0s
PMOZ **Porto Moniz, M** 98.02 354 eSKS SKSac 15 37 24.0 +12
PMOZ **Porto Moniz, M** 98.02 354 eLR LR 16 00 17.5
comp=Z,327nm,22.0s
JTS **JuntasAbangare** 100.47 61 PFAKE 15 27 00.0 +8.5
JTS LR LR
comp=Z,222nm,19.0s
TAM **Tamanrasset** 103.49 332 PFAKE 15 27 20.0 +15
TAM LR LR
comp=Z,482nm,20.0s
BCIP **Isla Barro Col** 104.25 57 PFAKE 15 27 20.0 +12
BCIP LR LR
comp=Z,220nm,22.0s
ANWB **Willy Bob** 105.51 37 PFAKE 15 31 40.0
ANWB LR LR
comp=Z,274nm,20.0s
FDF **Fort de France** 108.42 38 PFAKE 15 31 40.0
FDF LR LR
comp=Z,275nm,21.0s
KMBO **Kilima Mbogo** 109.07 292 PFAKE 15 31 50.0
KMBO LR LR
comp=Z,419nm,20.0s
GRGR **Grenville** 110.56 39 PFAKE 15 31 50.0
GRGR LR LR
comp=Z,221nm,19.0s
OTAV **Otavalo** 112.36 61 PFAKE 15 31 50.0
OTAV LR LR
comp=Z,296nm,22.0s
TORD **Torodi Ar. Bea** 113.75 332 Pdiff **Pdif** 15 27 51.5 +0.9
comp=Z,0.5nm,0.7s,baz=19,slow=3.6,SNR=2.9
TORD PKiKP **PKiKP** 15 31 41.5 -1.0
comp=Z,1.6nm,0.6s,baz=4.6,slow=2.2,SNR=8.8
TORD PKKPbc **PKKPbc** 15 42 23.9 +0.6
comp=Z,0.9nm,0.5s,baz=218,slow=1.5,SNR=9.6
TORD PKKP **PKKPdf** 15 42 47.1 +3.2
comp=Z,1.5nm,0.7s,baz=230,slow=1.9,SNR=4.9
KOWA **Kowa** 114.02 338 PKiKP **PKiKP** 15 31 42.8 -0.2
comp=Z,2.3nm,0.7s,baz=34,slow=3.6,SNR=5.5
SACV **Santiago Islan** 116.04 359 PFAKE 15 32 00.0 +13
SACV LR LR
comp=Z,254nm,19.0s
CASY **Casey** 120.29 199 PFAKE 15 32 00.0 +6.7
CASY LR LR
comp=Z,79nm,19.0s
DBIC **Dimbokro** 121.76 337 PKP **PKPdf** 15 31 57.3 -0.6
comp=Z,7.3nm,0.7s,baz=15,slow=1.7,SNR=12
TIC **Toumodi** 121.82 337 ePKIKP **PKPdf** 15 31 57.4 -0.7
KIC **Kosan Boka** 122.02 337 ePKIKP **PKPdf** 15 31 57.7 -0.8
comp=Z,14nm,0.8s
LIC **Lamto** 122.23 337 ePKIKP **PKPdf** 15 31 57.2 -1.6
comp=Z,42nm,1.1s
PTGA **Pitinga** 122.79 44 PKP **PKPdf** 15 31 59.5 -0.4

comp=Z,2.5nm,0.5s,baz=173,slow=2.1,SNR=6.6
NNA **Nana** **123.06 68** PFAKE 15 32 10.0 +10
NNA LR LR
comp=Z,304nm,22.0s
LSZ **Lusaka** **125.65 290** *e*PKPdf **PKPdf** **15 32 05.9 +0.5**
LSZ LR LR
comp=Z,629nm,21.0s
LSZ **Lusaka** **125.65 290** *e*PKIKP **PKPdf** **15 32 05.9 +0.5**
VNDA **Vanda** **126.58 178** PKP **PKPdf** **15 32 05.7 +0.5**
comp=Z,3.9nm,0.7s,baz=318,slow=4.7,SNR=35
VNDA **Vanda** **126.58 178** *e*PKPdf **PKPdf** **15 32 04.9 -0.3**
VNDA **Vanda** **126.58 178** *e*PKIKP **PKPdf** **15 32 04.9 -0.3**
SBA **Scott Base** **127.04 177** *e*PKPdf **PKPdf** **15 32 06.7 +0.6**
SBA **Scott Base** **127.04 177** *e*PKIKP **PKPdf** **15 32 06.7 +0.6**
SAML **Samuel** **128.34 52** *e*PKPdf **PKPdf** **15 32 09.6 -0.9**
LPAZ **La Paz** **131.63 63** PKP **PKPdf** **15 32 17.3 -0.1**
comp=Z,3.2nm,0.7s,baz=0.4,slow=5.0,SNR=12
LPAZ **La Paz** **131.63 63** *e*PKPdf **PKPdf** **15 32 17.7 +0.3**
MAW **Mawson** **135.27 213** PKP **PKPdf** **15 32 22.3 +0.4**
comp=Z,5.9nm,1.0s,baz=198,slow=3.8,SNR=5.0
SIV **San Ignacio** **135.35 55** PKHKP PKPpre 15 32 10.2
comp=Z,1.7nm,0.5s,baz=322,slow=5.0,SNR=11
SIV PKP **PKPdf** **15 32 23.4 -0.3**
comp=Z,3.8nm,0.7s,baz=146,slow=2.2,SNR=15
BOSA **Boshof** **137.19 280** PKhKP PKPpre 15 32 16.5
comp=Z,0.9nm,0.4s,baz=21,slow=2.5,SNR=3.4
BOSA PKP **PKPdf** **15 32 26.6 -0.2**
comp=Z,5.4nm,0.6s,baz=37,slow=2.3,SNR=8.5
QSPA **South Pole Qui** **139.01 180** PKhKP PKPpre 15 32 21.0
comp=Z,5.9nm,0.6s,baz=231,slow=0.7,SNR=20
QSPA PKP **PKPdf** **15 32 29.2 +0.3**
comp=Z,18nm,0.8s,baz=212,slow=0.7,SNR=16
AMOG **MOGNA** **142.19 78** *e*P PKPpre 15 32 30.2
RTCV **Cerro Valdivia** **142.76 79** *e*P PKPpre 15 32 29.9
RTCV *e*S pPKPdf 15 32 55.1 -3.0
APLL **PUNTA DE LOS L** **143.07 75** *e*P PKPab 15 32 30.9 -2.0
SYO **Syowa Base** **143.98 213**⇑ *i*X PKPab 15 32 33.6 -1.6
TCA **Tanti** **144.93 74** *e*P PKPbc 15 32 39.1 -0.9
TCA IAML 15 32 39.9
comp=Z,26nm,0.6s
CPUP **Villa Florida** **145.70 60** PKPbc **PKPdf** **15 32 42.0 0.0**
comp=Z,19nm,0.7s,baz=322,slow=2.5,SNR=53
CPUP pPKPbc pPKPbc 15 33 03.6 +0.1
comp=Z,17nm,0.8s,baz=306,slow=4.6,SNR=4.4
CPUP **Villa Florida** **145.70 60** *e*PKP2 **PKPdf** **15 32 41.8 -0.2**
PLCA **Paso Flores** **146.65 93** PKPbc **PKPbc** **15 32 44.5 -0.5**
comp=Z,28nm,0.7s,baz=304,slow=3.2,SNR=107
PLCA **Paso Flores** **146.65 93** *e*PKPdf **PKPbc** **15 32 44.3 -0.7**
PLCA **Paso Flores** **146.65 93** *e*PKP2 **PKPbc** **15 32 44.3 -0.7**
CHRN **Cochrane** **148.21 105** *e*PKPbc **PKPbc** **15 32 49.8 +0.8**
SPB **Sao Paulo** **148.56 44** PFAKE 15 33 00.0 +5.8
SPB LR LR
comp=Z,421nm,20.0s
TRQA **Tornquist** **150.81 82** *e*PKPbc **PKPbc** **15 32 54.9 -0.8**
NVL **N'lazarevskaya** **152.66 205** *e*PKIKP **PKPbc** **15 32 55.8 -3.0**
NVL *e* 15 36 41.1
SNAA **Sanae** **155.47 196** P PKPdf 15 33 04.2 +8.4
SNAA **Sanae** **155.47 196** PKP **PKPdf** **15 32 54.8 -0.9**
comp=Z,1.5nm,0.8s,baz=209,slow=14,SNR=3.3
SNAA PKPbc PKPbc 15 33 04.4
comp=Z,3.9nm,0.6s,baz=211,slow=6.0,SNR=23
SNAA PKPab **PKPab** **15 33 21.6 -0.3**
comp=Z,14nm,0.7s,baz=170,slow=4.9,SNR=19
SNAA pPKPab **pPKPab** **15 33 42.8 +0.2**
comp=Z,27nm,1.0s,baz=152,slow=1.7,SNR=6.9
VNA2 **Neumayer--Watz** **156.88 194** P PKPdf 15 33 07.1 +10
baz=132,slow=3.5
VNA3 **Neumayer Olymp** **156.94 192** P PKPdf 15 33 06.8 +9.2
VNA1 **Neumayer--Stat** **157.26 194** P PKPdf 15 33 05.8 +7.9

ISCJB ***14*** *15:13:21.3±0.4,24.˙91N±0.˙02×122.˙05E±0.˙02, h97km±3km, Error ellipse: s-maj=3.9km s-min=2.9km az=166.5*
JMA ***14*** *15:13:21.7±0.3,24.˙85N×122.˙04E, h93km±3km, M2.1*
TAP ***14*** *15:13:21.1,24.˙87N×122.˙06E, h98km, ML3.0, C*
ISC 14 15:13:22.2±1.3**,24.˙89N**±0.˙04×**122.˙05E**±0.˙03**, h93**km±6km**, n82**,σ0**.6**5/146**, 4C, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
EGS		**0.12**	**246**	*e*P		**Pn**	**15 13 34.9**	**-0.3**
	baz=253							
EGS				*e*S		**Sn**	**15 13 45.3**	**+0.3**
	baz=253							
TWB1	**Santiao Chiao**	**0.13**	**334**⇑	*i*P		**Pn**	**15 13 35.2**	**-0.1**
	baz=337							
TWB1				S		**Sn**	**15 13 45.0**	**0.0**
	baz=337							
NTC	**Toucheng**	**0.20**	**259**	P		**Pn**	**15 13 35.2**	**-0.3**
	baz=274							
NTC				*e*S		**Sn**	**15 13 46.3**	**+0.9**
	baz=274							
NWF	**Wu-fen Shan**	**0.30**	**306**	*e*S		**Sn**	**15 13 46.2**	**-0.1**
	baz=300							
ILA	**Ilan**	**0.30**	**245**	*e*P		**Pn**	**15 13 35.6**	**-0.4**
	baz=248							
TWC	**Suao**	**0.34**	**213**	P		**Pn**	**15 13 35.8**	**-0.4**
	baz=214							
TWC				S		**Sn**	**15 13 45.8**	**-0.7**
	baz=214							
EOS1	**EOS1**	**0.35**	**168**	*e*P		**Pn**	**15 13 36.2**	**0.0**
	baz=170							
EOS1				*e*S		**Sn**	**15 13 47.3**	**+0.7**
	baz=170							
TWE	**Neicheng**	**0.39**	**244**	P		**Pn**	**15 13 36.2**	**-0.2**
	baz=245							
TWE				S		**Sn**	**15 13 49.1**	**+2.1**
	baz=245							
TWA	**Mucha**	**0.43**	**282**⇑	*i*P		**Pn**	**15 13 36.4**	**-0.3**
	baz=283							
TWA				*e*S		**Sn**	**15 13 47.0**	**-0.6**
	baz=283							
YM07	**YM07**	**0.48**	**306**	*e*P		**Pn**	**15 13 36.0**	**-1.2**
	baz=307							
YM07				*e*S		**Sn**	**15 13 47.0**	**-1.2**
	baz=307							
ENAH	**Nanao**	**0.49**	**206**	*e*P		**Pn**	**15 13 37.2**	**0.0**
	baz=209							
ENAH				*e*S		**Sn**	**15 13 49.1**	**+0.8**
	baz=209							
ENTT	**Nioudou**	**0.51**	**240**	*i*P		**Pn**	**15 13 37.3**	**0.0**
	baz=241							
ENTT				S		**Sn**	**15 13 50.0**	**+1.5**
	baz=241							
NWLT	**Wulai**	**0.51**	**257**⇑	*i*P		**Pn**	**15 13 36.9**	**-0.4**
	baz=261							
NWLT				*e*S		**Sn**	**15 13 48.9**	**+0.2**
	baz=261							
YM08	**YM08**	**0.51**	**305**	*e*P		**Pn**	**15 13 37.0**	**-0.3**
	baz=306							
YM08				*e*S		**Sn**	**15 13 48.0**	**-0.6**
	baz=306							
YM05	**YM05**	**0.52**	**302**	*e*P		**Pn**	**15 13 37.2**	**-0.2**
	baz=300							
YM05				*e*S		**Sn**	**15 13 49.1**	**+0.3**
	baz=300							
YM10	**YM10**	**0.52**	**301**	P		**Pn**	**15 13 37.2**	**-0.2**
	baz=299							
YM10				*e*S		**Sn**	**15 13 49.0**	**+0.3**
	baz=299							
TATO	**Taipei**	**0.52**	**279**	*e*P		**Pn**	**15 13 36.9**	**-0.4**
	baz=283							
TATO				*e*S		**Sn**	**15 13 47.5**	**-1.1**
	baz=283							
YM04	**YM04**	**0.53**	**299**	*e*P		**Pn**	**15 13 37.2**	**-0.3**
	baz=295							
YM04				*e*S		**Sn**	**15 13 48.1**	**-0.8**
	baz=295							
NANB	**Nanao**	**0.54**	**211**⇑	*e*P		**Pn**	**15 13 37.6**	**0.0**
	baz=212							
NANB				*e*S		**Sn**	**15 13 49.8**	**+0.8**
	baz=212							
ENA	**Nanau**	**0.54**	**211**	P		**Pn**	**15 13 37.7**	**+0.1**
	baz=212							
ENA				*e*S		**Sn**	**15 13 49.8**	**+0.8**
	baz=212							
YM03	**YM03**	**0.54**	**302**	*e*P		**Pn**	**15 13 37.5**	**-0.1**
	baz=303							
TWY	**Chenhua**	**0.56**	**313**	*e*P		**Pn**	**15 13 37.7**	**+0.1**
	baz=314							
TWY				*e*S		**Sn**	**15 13 49.7**	**+0.5**
	baz=314							
NTST	**Danshui**	**0.61**	**297**	*e*P		**Pn**	**15 13 38.0**	**-0.1**
	baz=299							
NTST				*e*S		**Sn**	**15 13 50.5**	**+0.5**
	baz=299							
TWS1	**Kuangyinshan**	**0.61**	**290**	*e*P		**Pn**	**15 13 38.1**	**0.0**
	baz=295							
YHNB	**Yeheng**	**0.65**	**250**	*e*P		**Pn**	**15 13 38.4**	**-0.2**
	baz=251							
YHNB				*e*S		**Sn**	**15 13 50.8**	**-0.1**
	baz=251							
NNSB	**Datong**	**0.76**	**233**	*e*P		**Pn**	**15 13 39.8**	**+0.1**
	baz=239							
NNSB				*e*S		**Sn**	**15 13 53.1**	**+0.3**
	baz=239							
NNS	**Nan Shan**	**0.76**	**234**	P		**Pn**	**15 13 39.9**	**+0.2**
	baz=240							
NNS				S		**Sn**	**15 13 53.2**	**+0.4**
	baz=240							
NCU	**National Centr**	**0.79**	**276**	*e*P		**Pn**	**15 13 40.2**	**+0.4**
	baz=276							
NCU				*e*S		**Sn**	**15 13 54.0**	**+1.0**
	baz=276							
NCUH	**Zhongli**	**0.79**	**276**	*e*P		**Pn**	**15 13 39.8**	**0.0**
	baz=276							
NCUH				*e*S		**Sn**	**15 13 53.7**	**+0.6**
	baz=276							
NACB	**Ninganchiao**	**0.83**	**210**	*e*P		**Pn**	**15 13 39.4**	**-0.8**
	baz=211							
TWD	**Chiawan**	**0.91**	**207**	*i*P		**Pn**	**15 13 40.2**	**-0.9**
	baz=217							
TWD				*e*S		**Sn**	**15 13 54.2**	**-1.0**
	baz=217							
JYNG	**Yonagunijimaku**	**0.93**	**118**	P		**Pn**	**15 13 41.2**	**0.0**
JYNG				*e*S		**Sn**	**15 13 55.2**	**-0.3**
LIOB	**Emei**	**0.97**	**256**	P		**Pn**	**15 13 41.8**	**0.0**
	baz=248							
LIOB				S		**Sn**	**15 13 56.4**	**-0.1**
	baz=248							
SBCB	**Hsinchu**	**0.97**	**264**	*e*P		**Pn**	**15 13 42.2**	**+0.5**
	baz=265							
SBCB				*e*S		**Sn**	**15 13 57.0**	**+0.5**
	baz=265							
YOJ	**Yonaguni jima**	**0.97**	**116**	*e*P		**Pn**	**15 13 41.4**	**-0.4**
	baz=119							
YOJ				*e*S		**Sn**	**15 13 56.6**	**+0.2**
	baz=119							
YOJ	**Yonaguni jima**	**0.97**	**116**	P		**Pn**	**15 13 41.3**	**-0.4**
YOJ				*e*S		**Sn**	**15 13 56.0**	**-0.5**
NSTT	**Nanjuang**	**0.99**	**255**	P		**Pn**	**15 13 41.8**	**-0.2**
	baz=247							
NSTT				S		**Sn**	**15 13 56.4**	**-0.4**
	baz=247							
HWA	**Hwalien**	**1.00**	**204**	*e*P		**Pn**	**15 13 41.6**	**-0.5**
	baz=197							
TWT	**Tachien**	**1.02**	**232**	*e*P		**Pn**	**15 13 43.2**	**+0.7**
	baz=226							
TWT				*e*S		**Sn**	**15 13 58.3**	**+0.6**
	baz=226							
TDCB	**Techi**	**1.03**	**232**	*e*P		**Pn**	**15 13 42.9**	**+0.3**
	baz=226							
TDCB				*e*S		**Sn**	**15 13 58.3**	**+0.3**
	baz=226							
WHF	**Hehuan Shan**	**1.03**	**224**	P		**Pn**	**15 13 42.8**	**-0.2**
	baz=219							
WHF				S		**Sn**	**15 13 58.3**	**-0.1**
	baz=219							
ENLB	**Shoufeng**	**1.07**	**203**	P		**Pn**	**15 13 42.5**	**-0.3**
	baz=196							
ENLB				*e*S		**Sn**	**15 13 59.3**	**+1.0**
	baz=196							
CHGB	**Renai**	**1.15**	**224**	*e*P		**Pn**	**15 13 44.2**	**+0.1**
	baz=218							
CHGB				*e*S		**Sn**	**15 14 00.4**	**-0.1**
	baz=218							
NMLH	**Miaoli**	**1.20**	**253**	*e*P		**Pn**	**15 13 44.4**	**0.0**
	baz=253							
NMLH				*e*S		**Sn**	**15 14 00.8**	**-0.3**
	baz=253							
ESL	**Shilin**	**1.21**	**208**	P		**Pn**	**15 13 43.0**	**-1.6**
	baz=214							
OWD	**Renai**	**1.23**	**221**	P		**Pn**	**15 13 44.6**	**-0.3**
	baz=221							
OWD				*e*S		**Sn**	**15 14 01.5**	**-0.4**
	baz=221							
NSY	**Sanyi**	**1.27**	**248**	*e*P		**Pn**	**15 13 45.4**	**+0.2**
	baz=248							
NSY				*e*S		**Sn**	**15 14 02.8**	**+0.2**
	baz=248							
TWQ1	**Liyutan**	**1.28**	**245**	*e*P		**Pn**	**15 13 45.5**	**+0.1**
	baz=245							
TWQ1				*e*S		**Sn**	**15 14 03.2**	**+0.3**
	baz=245							
EGFH	**Guangfu**	**1.34**	**205**	*e*P		**Pn**	**15 13 44.8**	**-1.4**
	baz=199							
SMLT	**Sun Moon Lake**	**1.45**	**226**	*e*P		**Pn**	**15 13 47.8**	**+0.2**
	baz=234							
SMLT				*e*S		**Sn**	**15 14 07.7**	**+0.8**
	baz=234							
TCU	**Taichung**	**1.46**	**240**	*e*P		**Pn**	**15 13 47.3**	**-0.2**
	baz=239							
TCU				*e*S		**Sn**	**15 14 05.8**	**-0.8**
	baz=239							
TYC	**Yuchr**	**1.47**	**228**	*e*P		**Pn**	**15 13 47.8**	**+0.1**
	baz=234							
TYC				*e*S		**Sn**	**15 14 07.3**	**+0.4**
	baz=234							
SSLB	**Suanglung**	**1.49**	**223**	*e*P		**Pn**	**15 13 48.1**	**+0.1**
	baz=223							
SSLB				*e*S		**Sn**	**15 14 07.9**	**+0.5**
	baz=223							
HGSD	**Ruisui**	**1.51**	**202**	*e*P		**Pn**	**15 13 47.5**	**-0.7**
	baz=211							
HGSD				*e*S		**Sn**	**15 14 07.7**	**-0.1**
	baz=211							
EHY	**Hungye**	**1.53**	**206**	*e*P		**Pn**	**15 13 47.0**	**-1.5**
	baz=200							
WCHH	**Zhanghua**	**1.58**	**240**	*e*P		**Pn**	**15 13 48.8**	**-0.3**
	baz=239							
WCHH				*e*S		**Sn**	**15 14 08.6**	**-0.9**
	baz=239							
WJS	**Zhushan**	**1.61**	**229**	*e*P		**Pn**	**15 13 49.8**	**+0.3**
	baz=238							
WJS				*e*S		**Sn**	**15 14 10.1**	**-0.1**
	baz=238							
IRIF	**Iriomote-Funau**	**1.63**	**110**	P		**Pn**	**15 13 49.6**	**-0.1**
IRIF				*e*S		**Sn**	**15 14 10.3**	**-0.2**
YULB	**Yu-li**	**1.64**	**205**	*e*P		**Pn**	**15 13 48.2**	**-1.8**
	baz=199							
TWF1	**Yuli**	**1.68**	**204**	*e*P		**Pn**	**15 13 48.7**	**-1.7**
	baz=205							
ALS	**Alishan**	**1.79**	**220**	*e*P		**Pn**	**15 13 52.7**	**+0.7**
	baz=228							
ALS				*e*S		**Sn**	**15 14 15.9**	**+1.3**
	baz=228							
CHN5	**Tsauling**	**1.80**	**224**	*e*P		**Pn**	**15 13 52.0**	**0.0**
	baz=224							
CHN5				*e*S		**Sn**	**15 14 14.8**	**+0.2**
	baz=224							
FULB	**Fuli**	**1.82**	**202**	*e*P		**Pn**	**15 13 51.4**	**-0.8**
	baz=211							
FULB				*e*S		**Sn**	**15 14 15.2**	**+0.1**
	baz=211							
WDLH	**Douliu**	**1.83**	**229**	*e*P		**Pn**	**15 13 52.2**	**-0.1**
	baz=238							
WDLH				*e*S		**Sn**	**15 14 15.2**	**+0.1**
	baz=238							
RLNB	**Erlin**	**1.84**	**237**	*e*P		**Pn**	**15 13 52.2**	**-0.2**
	baz=237							
RLNB				*e*S		**Sn**	**15 14 15.4**	**+0.1**
	baz=237							
CHKT	**Chengkung**	**1.89**	**199**	*e*P		**Pn**	**15 13 51.8**	**-1.3**
	baz=200							
JKRS	**Kuro-shima**	**1.90**	**110**	P		**Pn**	**15 13 53.3**	**+0.1**
JKRS				S		**Sn**	**15 14 16.5**	**-0.3**
JIJ	**Ishigaki jima**	**1.98**	**105**	P		**Pn**	**15 13 54.1**	**-0.1**
JIJ				S		**Sn**	**15 14 17.6**	**-1.0**
CHN4	**Tsaushan**	**2.03**	**221**	*e*P		**Pn**	**15 13 55.7**	**+0.8**
	baz=221							
CHN4				*e*S		**Sn**	**15 14 21.5**	**+1.6**
	baz=221							
TPUB	**Ta-pu**	**2.05**	**220**	*e*P		**Pn**	**15 13 55.0**	**-0.2**
	baz=221							
JISG	**Ishigakijimahi**	**2.08**	**98**	P		**Pn**	**15 13 55.8**	**+0.3**
JISG				*e*S		**Sn**	**15 14 21.0**	**+0.1**
STYT	**Tauyuan**	**2.09**	**215**	*e*P		**Pn**	**15 13 56.3**	**+0.6**
	baz=207							
TWK	**Hsinying**	**2.16**	**222**	*e*P		**Pn**	**15 13 56.8**	**+0.2**
	baz=221							
TWK				*e*S		**Sn**	**15 14 23.1**	**+0.1**
	baz=221							
CHN1	**Nanshi**	**2.20**	**220**	*e*P		**Pn**	**15 13 57.2**	**+0.1**
	baz=219							
CHN1				*e*S		**Sn**	**15 14 23.7**	**-0.2**
	baz=219							
TWG	**Pinlang**	**2.25**	**204**	*e*P		**Pn**	**15 13 57.3**	**-0.5**
	baz=199							
TWGBT	**Beinan**	**2.25**	**203**	*e*P		**Pn**	**15 13 57.3**	**-0.5**
	baz=199							
MATB	**Ma-tsu**	**2.28**	**304**	*e*P		**Pn**	**15 13 57.7**	**-0.4**
	baz=302							
MATB				*e*S		**Sn**	**15 14 25.3**	**-0.3**
	baz=302							
SLGT	**Liugui**	**2.29**	**214**	*e*P		**Pn**	**15 13 59.4**	**+1.1**
	baz=223							
SLGT				*e*S		**Sn**	**15 14 26.6**	**+0.7**
	baz=223							
VWUC	**VWUC**	**2.36**	**273**	*e*P		**Pn**	**15 13 58.6**	**-0.7**
	baz=272							
JTJ	**Tarama**	**2.42**	**95**	P		**Pn**	**15 14 01.1**	**+1.0**
JTJ				*e*S		**Sn**	**15 14 30.6**	**+1.5**
ECL	**Taimali**	**2.50**	**204**	*e*P		**Pn**	**15 14 00.1**	**-0.9**
	baz=200							
MASBT	**Mashibuluo**	**2.62**	**210**	*e*P		**Pn**	**15 14 03.0**	**+0.3**
	baz=209							
MASBT				*e*S		**Sn**	**15 14 33.6**	**-0.1**
	baz=209							

BJI ***14*** *15:21:48.1,0.˙40S×91.˙96E, h15km, mb5.2/76, mB5.5/53, Ms5.1/63, Ms7 4.9/59*
IDC ***14*** *15:21:52.6±0.3,0.˙22N×92.˙17E, h0km, mb5.0/56, mb1 5.0/60, mb1mx4.9/74, mbtmp5.0/60, ML4.7/4, MS4.7/41, Ms1 4.7/41, ms1mx4.5/69, Error ellipse: s-maj=10.4km s-min=7.9km az=38.0*
ISCJB ***14*** *15:21:54.9±0.1,0.˙28N±0.˙02×92.˙18E±0.˙02, h24km, mb5.3/176, MS4.8/64, Error ellipse: s-maj=3.4km s-min=2.5km az=28.4*
MOS ***14*** *15:21:55.7±0.9,0.˙32N×92.˙21E, h30km, mb5.5/85, MS4.9/20, Error ellipse: s-maj=6.7km s-min=4.5km az=108.7*
NEIC ***14*** *15:21:56.3±1.5,0.˙24N×92.˙14E, h23km±10km, mb5.3/61, Error ellipse: s-maj=4.8km s-min=3.2km az=221.0*
GCMT ***14*** *15:21:56.3±0.2,0.˙21N×92.˙16E, h12km, MW5.4/127, Moment Tensor Solution. s55,c75; s127,c229; Duration: 1§3 Moment tensor: Scale 10^17 Nm; Mrr1.49±.03; Mθθ-0.80±.02; Mϕϕ-0.68±.03; Mrθ-0.92±.09; Mθϕ-0.69±.02; Mϕr-0.15±.09; Best double couple: M◎1.72900×10^17 NP1:ϕs243.00000°, δ61.00000°, λ105.00000°. NP2:ϕs34.00000°, δ33.00000°, λ65.00000°. Principal axes: T 1.8150, Plg70.0000°, Azm187.0000°; N -0.1740, Plg13.0000°, Azm56.0000°; P -1.6430, Plg15.0000°, Azm322.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
DJA ***14*** *15:22:02.4±0.7,0.˙7N±2.˙9×97.˙3E±, h32km±8km, M5.3/29, mb5.3/29, mB5.8/27, MLv5.5/10, Mw(mB)5.3/27, Mwp5.4/2*
ISC 14 15:21:57.6±0.5**,0.˙24N**±0.˙04×**92.˙12E**±0.˙04**, h32**km±3km**, h32**km**:pP-P, n748,**σ1§**36/780, mb5.3**/181**, MS4.9/64, 61C-18D, Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
GSI	**Gunungsitoli**	**5.56**	**79**	P		**Pn**	**15 23 16.9**	**-1.2**
	581nm,1.3s,9μm18μm3.7nm							
GSI				S		**Sn**	**15 24 13.6**	**-7.4**
	581nm,1.3s,9μm18μm3.7nm							
GSI	**Gunungsitoli**	**5.56**	**79**	*e*Pn		**Pn**	**15 23 16.7**	**-1.4**
MLSI	**Meulaboh, Aceh**	**5.86**	**47**	P		**Pn**	**15 23 20.5**	**-1.8**
MLSI				S		**Sn**	**15 24 24.4**	**-4.0**
TPTI		**5.88**	**59**	P		**Pn**	**15 23 20.9**	**-1.7**
	358nm,0.8s,7μm1.9nm							
TPTI				S		**Sn**	**15 24 21.7**	**-7.2**
	358nm,0.8s,7μm1.9nm							
BSI	**Banda Aceh**	**6.11**	**31**	P		**Pn**	**15 23 23.5**	**-2.2**
BSI				S		Sn	15 24 24.9	-10
BSI	**Banda Aceh**	**6.11**	**31**	P		**Pn**	**15 23 24.1**	**-1.6**
PBSI	**Pulau Batu**	**6.17**	**93**	P		**Pn**	**15 23 24.7**	**-1.8**
PBSI				S		Sn	15 24 27.7	-8.3
LHMI	**Lhok Sumawe**	**6.91**	**44**	P		**Pn**	**15 23 36.9**	**+0.1**
	506nm,1.1s,9μm2.6nm							
LHMI				S		**Sn**	**15 24 52.6**	**-1.8**
	506nm,1.1s,9μm2.6nm							
LHMI	**Lhok Sumawe**	**6.91**	**44**	*e*Pn		**Pn**	**15 23 36.8**	**0.0**
SISI	**Saibi**	**7.14**	**103**	P		**Pn**	**15 23 38.0**	**-1.9**
TSI	**Tuntungan**	**7.21**	**63**	P		**Pn**	**15 23 38.6**	**-2.2**
PSI	**Prapat**	**7.26**	**69**	Pn		**Pn**	**15 23 40.0**	**-1.7**
	1.8nm,0.3s,baz=300,slow=5.3,SNR=22							
PSI				Sn		**Sn**	**15 24 57.0**	**-6.2**
	5.5nm,0.3s,baz=246,slow=9.8,SNR=3.9							
PSI				LR		LR	15 26 54.2	
	comp=Z,5μm,19.3s,baz=250,slow=42							
PSI	**Prapat**	**7.26**	**69**	*e*P		**Pn**	**15 23 39.8**	**-1.9**
PSI							15 24 57.0	
MNSI	**Mandailing Nat**	**7.48**	**86**	P		**Pn**	**15 23 43.4**	**-1.2**
MNSI				S		Sn	15 24 59.7	-8.7
PDSI	**Padang**	**8.42**	**98**	P		**Pn**	**15 23 55.5**	**-2.0**
BKNI	**Bangkinang**	**8.92**	**89**	P		**Pn**	**15 24 05.7**	**+1.4**
SDSI	**Sungai Dareh**	**9.38**	**97**	P		**Pn**	**15 24 11.4**	**+0.7**
KRJI	**Kerinci**	**9.62**	**104**	P		**Pn**	**15 24 11.9**	**-2.2**
PKDT	**Phuket**	**9.81**	**39**	P		**Pn**	**15 24 13.6**	**-2.9**
RGRI	**Rengat**	**10.23**	**93**	P		**Pn**	**15 24 20.7**	**-1.6**
TRTT	**Trang**	**10.67**	**45**	P		**Pn**	**15 24 28.7**	**+0.3**
	34nm,2.0s,650nm							
SURT	**Suratani**	**10.92**	**37**	P		**Pn**	**15 24 36.2**	**+4.5**
	35nm,0.9s,507nm							
SKLT	**Songkhla**	**10.92**	**51**	P		**Pn**	**15 24 31.4**	**-0.4**
	126nm,1.1s,2μm							
PBA	**Port Blair**	**11.36**	**3**	*e*P		Pn	15 24 37.8	+0.1
MNAI	**Manna**	**11.75**	**113**	P		**Pn**	**15 24 41.0**	**-2.2**
	485nm,0.8s,6μm							
MNAI				S		Sn	15 26 43.5	-10
	485nm,0.8s,6μm							
MYKOM	**Kota Tinggi**	**11.83**	**82**	*e*Pn		**Pn**	**15 24 43.3**	**-0.9**
DGPR	**DIGLIPUR**	**12.88**	**4**	*e*P		**Pn**	**15 24 57.2**	**-1.3**
MDSI	**Maura Dua**	**12.93**	**111**	P		**Pn**	**15 24 57.2**	**-2.1**
PALK	**Pallekele**	**13.36**	**302**	Pn		**Pn**	**15 25 03.2**	**-1.9**
	7.4nm,0.3s,baz=116,slow=13,SNR=22							
PALK				Sn		Sn	15 27 19.6	-13
	24nm,0.3s,baz=294,slow=0.5,SNR=10							
PALK				LR		LR	15 29 25.3	
	comp=Z,10μm,19.9s,baz=117,slow=34							
PALK	**Pallekele**	**13.36**	**302**	*e*Pn		**Pn**	**15 25 02.7**	**-2.4**
PALK				Sn		Sn	15 27 19.6	-13
PALK	**Pallekele**	**13.36**	**302**	*e*P		**Pn**	**15 25 02.7**	**-2.4**
KLI	**Kotabumi**	**13.70**	**112**	P		P	15 25 25.9	+7.9
PPBI	**Pangkal Pinang**	**14.22**	**100**	P		**P**	**15 25 28.3**	**+4.5**
SBJI	**Serang**	**15.35**	**115**	P		P	15 25 44.0	+7.6
SRDT	**SRDT**	**15.64**	**26**	P		**P**	**15 25 40.8**	**+1.2**
	117nm,1.3s						

VIS IAmb IAmb 15 26 24.2
comp=Z,2μm,3.7s
CHTO Chiang Mai 19.64 20 P **P** **15 26 24.9 +1.2**
comp=Z,671nm,1.0s,comp=Z,9μm
CHTO Chiang Mai 19.64 20 *e*P **P** **15 26 24.1 +0.4**
comp=Z,168nm,1.4s
CHTO Chiang Mai 19.64 20 P **P** **15 26 25.4 +1.7**
SNR=26
CHTO Chiang Mai 19.64 20 P **P** **15 26 25.4 +1.7**
SNR=26
CHTO Chiang Mai 19.64 20 *e*P **P** **15 26 24.1 +0.4**
CHTO pmax pmax
comp=Z,168nm,1.4s
CMMT Chiang Mai 19.64 20 P **P** **15 26 23.8 0.0**
comp=Z,125nm,1.2s,comp=Z,2μm
SMRI Semarang 19.66 112 P **Pn** **15 26 28.3 +2.7**
SMRI Semarang 19.66 112 *e*P **Pn** **15 26 27.3 +1.7**
comp=Z,276nm,1.0s
PBKI Pangkalan Bun 19.76 99 P **Pn** **15 26 28.2 +1.4**
SBUM Sibu 20.21 84 *e*P **P** **15 26 31.1 +1.0**
comp=Z,44nm,0.9s
SKNT Sakolnakorn 20.32 34 P **P** **15 26 30.4 -0.8**
comp=Z,36nm,1.6s
WOJI Wonogiri, Jawa 20.39 114 P **P** **15 26 32.7 +0.7**
MNCY Minicoy 20.62 293 *e*P **P** **15 26 34.3 -0.2**
PCJI Pacitan 20.76 114 P **P** **15 26 37.6 +1.6**
DGAR Diego Garcia 21.04 248 P **P** **15 26 40.1 +1.1**
SNR=5.9
DGAR Diego Garcia 21.04 248 P **P** **15 26 40.1 +1.1**
SNR=5.9
DGAR Diego Garcia 21.04 248 *d* iP **P** **15 26 39.4 +0.4**
H08S2 Diego Garcia H 21.08 248 P **P** **15 26 38.8 -0.3**
H08S3 Diego Garcia H 21.08 248 P **P** **15 26 39.1 -0.1**
H08S1 Diego Garcia H 21.10 248 P **P** **15 26 39.1 -0.3**
HYB Hyderabad 21.67 323 *e*P **P** **15 26 45.2 -0.6**
HYB IAmb IAmb 15 26 47.5
comp=Z,170nm,1.8s
H08N1 Diego Carcia H 22.05 252 P **P** **15 26 46.6 -3.0**
baz=78,slow=6.8,SNR=4.6
H08N2 Diego Garcia H 22.06 252 P **P** **15 26 46.1 -3.6**
baz=78,slow=6.8,SNR=8.3
H08N3 Diego Garcia H 22.08 252 P **P** **15 26 46.3 -3.6**
baz=78,slow=6.8,SNR=8.6
GOA Goa 23.58 311 *e*P **P** **15 27 06.3 +0.6**
BOK Bokaro 24.18 346 *e*P **P** **15 27 12.7 +1.4**
NGP Nagpur 24.39 329 *e*P **P** **15 27 15.1 +1.9**
NGP IAmb IAmb 15 27 16.5
NGP *ex* x 15 31 39.5
KKM Kota Kinabalu 24.73 76 *e*P **P** **15 27 17.4 +0.9**
comp=Z,54nm,1.0s
SHL Shillong 25.18 360 *e*P **P** **15 27 20.9 +0.4**
QIZ Qiongzhong 25.52 42 P **P** **15 27 23.8 +0.4**
QIZ S **S** **15 31 51.3 +2.2**
QIZ pmax pmax
comp=Z,21nm,1.3s
QIZ LR LR
comp=Z,3μm,10.7s
QIZ LR LR
comp=Z,1μm,11.3s
QIZ LR LR
comp=Z,2μm,11.2s
POO Poona 25.54 316 *e*P **P** **15 27 23.7 0.0**
POO IAmb IAmb 15 27 27.4
comp=Z,52nm,0.5s
POO Poona 25.54 316 *i* S **P** **15 27 22.0 -1.7**
KMI Kunming 26.78 22 P **P** **15 27 36.8 +1.7**
KMI pP pP 15 27 41.5 -2.8
KMI sP sP 15 27 43.9 -4.2
KMI PP **PnPn** **15 28 23.1 +5.8**
KMI S **S** **15 32 06.8 -2.6**
KMI pmax pmax
comp=Z,60nm,1.4s
KMI pmax pmax
comp=Z,410nm,3.1s
KMI LR LR
comp=Z,2μm,15.5s
KMI LR LR
comp=Z,2μm,15.5s
KMI LR LR
comp=Z,2μm,14.2s
MYLDM Lahad Datu 26.80 79 *e*P **P** **15 27 35.9 +0.8**
comp=Z,99nm,1.3s
ODAN Odare 26.85 351 *e*P **P** **15 27 36.7 +1.0**
comp=Z,523nm,1.4s
BHPL Bhopal 26.96 329 *e*P **P** **15 27 37.2 +0.7**
BHPL IAmb IAmb 15 27 38.4
comp=Z,147nm,0.2s
RAMN Ramite 27.08 349 *e*P **P** **15 27 39.1 +1.3**
comp=Z,793nm,1.5s
JIRN Jiri 27.85 349 *e*P **P** **15 27 45.7 +0.9**
comp=Z,567nm,1.5s
PKIN Phulchoki 27.94 347 *e*P **P** **15 27 46.2 +0.7**
comp=Z,48nm,0.9s
DMN Daman 28.03 347 *e*P **P** **15 27 46.8 +0.5**
GUN Gumba 28.16 348 *e*P **P** **15 27 48.3 +0.8**
comp=Z,85nm,0.7s
KKN Kakani 28.17 347 *e*P **P** **15 27 47.9 +0.4**
GKN Gorkha 28.52 346 *e*P **P** **15 27 51.2 +0.7**
KOLN Koldanda 28.57 344 *e*P **P** **15 27 51.8 +0.8**
comp=Z,68nm,0.7s
PYUN Piuthan 29.05 343 *e*P **P** **15 27 55.9 +0.6**
comp=Z,198nm,1.2s
DANN Dangsing 29.07 345 *e*P **P** **15 27 56.4 +0.8**
LSA Lhasa 29.31 358 P **P** **15 27 59.5 +1.6**
LSA S **S** **15 32 55.8 +6.2**
LSA pmax pmax
comp=Z,59nm,1.3s
LSA LR LR
comp=Z,980nm,26.2s
LSA LR LR
comp=Z,890nm,19.7s
LSA LR LR
comp=Z,1μm,24.6s
GYA Guiyang 29.59 27⇑ *i*P **P** **15 28 00.6 +0.6**
GYA S **S** **15 32 54.6 +1.2**
GYA ScP **ScP** **15 34 46.4 +2.0**
GYA pmax pmax
comp=Z,40nm,0.8s
GYA pmax pmax
comp=Z,140nm,5.3s
GYA LR LR
comp=Z,630nm,17.0s
GYA LR LR
comp=Z,560nm,17.4s
GYA LR LR
comp=Z,570nm,17.2s
LUWI Luwuk 30.68 92 *e*P **P** **15 28 09.3 -0.4**
comp=Z,71nm,1.3s
TGY Tagaytay City 31.67 63 LR LR 15 42 19.0
comp=Z,236nm,18.8s,baz=72,slow=39
CD2 Chengdu 32.44 19 P **P** **15 28 25.5 +0.5**
CD2 pP pP 15 28 30.0 -4.3
CD2 PP **PP** **15 29 39.1 +0.4**
CD2 S **S** **15 33 41.3 +3.5**
CD2 pmax pmax
comp=Z,150nm,0.5s
CD2 pmax pmax
comp=Z,230nm,5.0s
CD2 LR LR
comp=Z,2μm,14.5s
CD2 LR LR
comp=Z,3μm,13.9s
CD2 LR LR
comp=Z,2μm,14.5s
DDI Dehra Dun 32.77 337 *e*P **P** **15 28 27.5 -0.4**
BATI Baumata 33.05 109 P **P** **15 28 28.2 -2.3**
comp=Z,59nm,0.9s,baz=341,slow=4.3,SNR=9.1
SMLA Simla 33.84 337 *e*P **P** **15 28 37.2 +0.1**
DAV Davao City (W) 34.05 78 LR LR 15 43 08.5
comp=Z,1μm,20.7s,baz=233,slow=38
DAV Davao City (W) 34.05 78 P **P** **15 28 42.1 +2.8**
SNR=5.3
DAV Davao City (W) 34.05 78 P **P** **15 28 42.1 +2.8**
SNR=5.3
MBWA Marble Bar 34.35 130 *e*P **P** **15 28 41.2 -0.6**
comp=Z,30nm,1.1s
DHRM DHARAMSHALA 35.17 336 *e*P **P** **15 28 48.4 -0.6**
DHRM IAmb IAmb 15 28 49.4
TNTI Ternate 35.25 89 *e*P **P** **15 28 48.0 -1.7**
comp=Z,23nm,1.0s
QZH Quanzhou 35.48 44⇑ *i*P **P** **15 28 51.4 0.0**
QZH *e*S **S** **15 34 28.5 +3.7**
QZH pmax pmax
comp=Z,480nm,6.5s
QZH LR LR
comp=Z,1μm,10.1s
QZH LR LR
comp=Z,2μm,11.1s
QZH LR LR
comp=Z,2μm,11.4s
SSLB Suanglung 36.47 48 *e*P **P** **15 29 00.7 +0.7**
comp=Z,79nm,1.4s
YULB Yu-li 36.50 49 *e*P **P** **15 29 01.1 +0.9**
comp=Z,40nm,1.2s
WHN Wuhan 36.80 33⇓ P **P** **15 29 04.1 +1.4**
WHN pmax pmax
comp=Z,180nm,1.1s
MEEK Meekatharra 36.95 138 P **P** **15 29 05.4 +1.4**
baz=37,SNR=9.5
MORW Morawa 37.04 144 P **P** **15 29 06.0 +1.2**
baz=37
XAN Xi'an 37.13 23 P **P** **15 29 05.4 -0.1**
XAN pP pP 15 29 09.6 -5.2
XAN sP sP 15 29 12.4 -6.3
XAN pmax pmax
comp=Z,74nm,1.0s
XAN LR LR
comp=Z,1μm,13.3s
XAN LR LR
comp=Z,1μm,13.0s
LZH Lanzhou 37.29 16⇓ P **P** **15 29 07.3 +0.3**
LZH pP pP 15 29 13.5 -2.8
LZH sP sP 15 29 16.0 -4.2
LZH PP **PnPn** **15 30 36.3 +3.2**
LZH S **S** **15 34 56.3 +3.7**
LZH pmax pmax
comp=Z,120nm,1.6s
LZH pmax pmax
comp=Z,720nm,6.3s
LZH LR LR
comp=Z,3μm,15.0s
LZH LR LR
comp=Z,3μm,15.7s
LZH LR LR
comp=Z,4μm,16.7s
FITZ Fitzroy Crossi 37.66 121 LR LR 15 42 22.6
comp=Z,1μm,21.4s,baz=309,slow=33
FITZ Fitzroy Crossi 37.66 121 P **P** **15 29 10.3 +0.1**
baz=38,SNR=9.6
FITZ Fitzroy Crossi 37.66 121 *e*P **P** **15 29 09.6 -0.5**
comp=Z,39nm,1.0s
NIL Nilore 37.66 334 *e*P **P** **15 29 10.0 0.0**
comp=Z,34nm,0.8s
NIL Nilore 37.66 334 *e*P **P** **15 29 10.0 0.0**
NIL pmax pmax
comp=Z,34nm,0.8s
GTA Gaotai 39.61 9⇑ P **P** **15 29 26.8 +0.4**
GTA pP pP 15 29 32.4 -3.4
GTA sP sP 15 29 34.9 -4.7
GTA PcP **PcP** **15 31 34.8 +1.6**
GTA ScP **ScP** **15 35 19.5 -0.3**
GTA PcS **PcS** **15 35 22.5 -0.8**
GTA S **S** **15 35 29.3 +1.8**
GTA pmax pmax
comp=Z,28nm,1.7s
GTA pmax pmax
comp=Z,410nm,4.9s
GTA LR LR
comp=Z,790nm,20.0s
GTA LR LR
comp=Z,840nm,20.0s
GTA LR LR
comp=Z,960nm,19.5s
WSAR Wadi Sarin 39.76 307 P **P** **15 29 27.4 -0.3**
comp=Z,17nm,1.1s,baz=167,slow=11,SNR=3.8
WSAR LR LR 15 44 20.9
comp=Z,5μm,19.2s,baz=126,slow=34
KLBR Kellerberrin 39.90 145 P **P** **15 29 29.4 +0.6**
baz=40
KBL Kabul 40.38 330 *e*P **P** **15 29 32.5 -0.4**
comp=Z,29nm,1.3s
KBL Kabul 40.38 330 *e*P **P** **15 29 32.5 -0.4**
KBL pmax pmax
comp=Z,29nm,1.3s
NJ2 Nanjing 40.48 36 *e*P **P** **15 29 34.3 +0.7**
NJ2 sP **pP** **15 29 42.4 -0.6**
NJ2 S **S** **15 35 40.3 -0.2**
NJ2 pmax pmax
comp=Z,40nm,1.0s
NJ2 pmax pmax
comp=Z,730nm,4.7s
NJ2 LR LR
comp=Z,860nm,12.5s
NJ2 LR LR
comp=Z,2μm,11.9s
NJ2 LR LR
comp=Z,2μm,10.8s
NWAO Narrogin (SRO) 40.60 147 LR LR 15 44 05.6
comp=Z,2μm,20.2s,baz=216,slow=33
MTN Manton Dam 40.81 110 P **P** **15 29 36.6 0.0**
baz=41,SNR=7.3
TIY Taiyuan 41.73 24 *e*P **P** **15 29 44.9 +1.1**
TIY S **S** **15 36 01.1 +2.1**
TIY pmax pmax
comp=Z,37nm,1.1s
TIY pmax pmax
comp=Z,320nm,5.2s
TIY LR LR
comp=Z,940nm,13.7s
TIY LR LR
comp=Z,1μm,12.4s
TIY LR LR
comp=Z,2μm,13.3s
RKGY Rocky Gully 41.75 149 P **P** **15 29 45.3 +1.4**
baz=42,SNR=4.1
KSH Kashi 41.78 341 P **P** **15 29 42.3 -2.0**
KSH sP pP 15 29 50.3 -3.4
KSH PP **PP** **15 31 24.9 +3.5**
KSH PcP **PcP** **15 31 39.8 -0.4**
KSH S **S** **15 35 55.8 -4.1**
KSH SS **SS** **15 38 58.9 -7.7**
KSH pmax pmax
comp=Z,100nm,1.4s
KSH pmax pmax
comp=Z,770nm,5.1s
KSH LR LR
comp=Z,3μm,19.2s
KSH LR LR
comp=Z,3μm,14.2s
KSH LR LR
comp=Z,6μm,22.1s
KMBL Kambalda 42.24 141 P **P** **15 29 49.1 +1.1**
baz=42,SNR=8.2
TIA Tai'an 42.66 30 P **P** **15 29 51.9 +0.5**
TIA pmax pmax
comp=Z,31nm,1.3s
SFK Sufi-Kurgan 43.07 339 P **P** **15 29 54.8 -0.1**
SFK pmax pmax
comp=Z,50nm,1.3s
WRKA Warakurna 43.08 128 P **P** **15 29 55.6 +0.7**
baz=43,SNR=5.8
TARG Taragay, Kyrgy 43.28 344 *e*P **P** **15 29 56.8 +0.1**
comp=Z,34nm,1.2s
WMQ Urumqi 43.57 355 P **P** **15 29 59.6 +0.9**
WMQ pP pP 15 30 04.1 -4.0
WMQ sP sP 15 30 08.5 -3.4
WMQ PcP **PcP** **15 31 45.6 -0.4**
WMQ PcS **PcS** **15 35 36.8 -1.9**
WMQ S **S** **15 36 26.9 +1.0**
WMQ pmax pmax
comp=Z,87nm,1.5s
WMQ pmax pmax
comp=Z,1μm,4.7s
WMQ LR LR
comp=Z,3μm,27.7s
WMQ LR LR
comp=Z,2μm,24.7s
WMQ LR LR
comp=Z,3μm,24.7s
JOW Kunigami 43.67 50 LR LR 15 49 14.2
comp=Z,251nm,18.8s,baz=248,slow=38
KDJ Kajisay 43.82 344 *e*P **P** **15 30 01.1 +0.2**
comp=Z,82nm,1.4s
HHC Hu-ho-hao-te 44.11 21 *e*P **P** **15 30 04.3 +1.2**
HHC pP pP 15 30 11.8 -0.8
HHC sP sP 15 30 18.8 +2.4
HHC S **S** **15 36 38.3 +4.4**
HHC pmax pmax
comp=Z,36nm,1.2s
HHC pmax pmax
comp=Z,100nm,6.2s
HHC LR LR
comp=Z,870nm,14.1s
HHC LR LR
comp=Z,910nm,13.8s
HHC LR LR
comp=Z,1μm,14.1s
KZA Kyzart 44.34 342 P **P** **15 30 05.6 +0.3**
SNR=9.4
PDGK Podgornoye 44.36 347 P **P** **15 30 04.6 -0.5**
PDGK pmax pmax
comp=Z,65nm,1.4s
SATY Saty 44.37 346⇑ *i*P **P** **15 30 05.6 +0.5**
comp=Z,714nm,1.5s
SATY *i* S **S** **15 36 38.0 +0.3**
ZHN Zhinishke 44.46 346⇑ *i*P **P** **15 30 06.1 +0.2**
comp=Z,240nm,1.6s
ZHN *i* PP **PcP** **15 31 50.1 +0.9**
ZHN *i* S **S** **15 36 39.1 +0.1**
ZHN LR LR 15 48 45.4
comp=Z,421nm,18.0s
KPKS Kokpek 44.68 346⇑ *i*P **P** **15 30 07.8 +0.2**
comp=Z,370nm,1.5s
KPKS *e*S **S** **15 36 41.9 -0.2**
KPKS LR LR 15 48 28.6
comp=Z,755nm,16.8s
UCH Uchtor 44.71 341 P **P** **15 30 08.4 +0.1**
SNR=11
MDOK Medeo 44.82 344 *i* P **P** **15 30 09.2 +0.4**
comp=Z,555nm,1.7s
MDOK *e*S **S** **15 36 44.4 +0.2**
MDOK LR LR 15 48 55.3
comp=Z,764nm,16.8s
AML Almayashu 44.89 341 P **P** **15 30 10.2 +0.6**
SNR=17
AAA Alma-Ata 44.90 344⇑ *i*P **P** **15 30 10.1 +0.7**
comp=Z,186nm,2.0s
AAA *e*S **S** **15 36 45.8 +0.5**
AAA LR LR 15 49 08.6
comp=Z,292nm,16.8s
KBK Karagaybulak 44.96 342 P **P** **15 30 11.1 +1.2**
SNR=13
TKM2 Tokmak 2 45.00 343 P **P** **15 30 10.5 +0.2**
SNR=18
TKM2 Tokmak 2 45.00 343 P **P** **15 30 10.3 0.0**
TKM2 pmax pmax
comp=Z,54nm,1.5s
AAK Ala-Archa 45.08 342 P **P** **15 30 11.5 +0.6**
comp=Z,10nm,1.1s,baz=138,slow=9.2,SNR=13
AAK PcP **PcP** **15 31 51.6 +0.3**
comp=Z,8.2nm,0.9s,baz=138,slow=7.7,SNR=4.4
AAK Ala-Archa 45.08 342 P **P** **15 30 11.9 +1.0**
SNR=7.2
AAK Ala-Archa 45.08 342 *e*P **P** **15 30 10.9 0.0**
comp=Z,27nm,1.4s
AAK PcP **PcP** **15 31 51.6 +0.3**
AAK Ala-Archa 45.08 342 P **P** **15 30 12.3 +1.4**
SNR=12
AAK Ala-Archa 45.08 342 P **P** **15 30 12.3 +1.4**
SNR=12
AAK Ala-Archa 45.08 342 *c* iP **P** **15 30 10.4 -0.5**
AAK pmax pmax
comp=Z,13nm,1.2s
CHMS Chumysh 45.33 342 P **P** **15 30 13.0 +0.3**
SNR=5.3
EKS2 Erkin-Say 45.33 341 P **P** **15 30 14.0 +1.1**
SNR=6.5
MNAS Manas 45.61 340 P **P** **15 30 13.7 -1.4**
MNAS pmax pmax
comp=Z,19nm,1.4s
USP Ospenovka 45.65 342 P **P** **15 30 15.3 +0.1**
SNR=14
KUU Kurty 45.69 344⇑ *i*P **P** **15 30 14.9 -0.6**
comp=Z,303nm,1.5s
KUU *i* PP **PP** **15 32 02.5 -0.4**
KUU *e*S **S** **15 36 56.0 -0.5**
WRA Warramunga Arr 45.95 118 P **P** **15 30 17.7 -0.3**
comp=Z,41nm,0.8s,baz=295,slow=8.4,SNR=83
WRA S **S** **15 37 01.7 +0.7**
comp=Z,0.6nm,1.0s,baz=279,slow=16,SNR=5.0
WRA LR LR 15 51 40.2
comp=Z,704nm,18.7s,baz=270,slow=39
WRAB Tennant Creek 45.96 118 *e*P **P** **15 30 18.1 +0.1**
comp=Z,46nm,0.8s
WRAB Tennant Creek 45.96 118 *c* iP **P** **15 30 18.1 +0.1**
WRAB pmax pmax
comp=Z,41nm,0.8s
WB2 Warramunga Arr 45.96 118 *e*P **P** **15 30 17.9 -0.2**
comp=Z,55nm,0.8s
IUG Iuzhnay 46.22 337⇑ *i*P **P** **15 30 20.1 +0.3**
comp=Z,256nm,1.5s
IUG *i* PP **PP** **15 32 09.1 +0.3**
IUG LR LR 15 49 48.0
comp=Z,341nm,16.2s
KK31 Karatay Array 46.86 338 *e*P **P** **15 30 24.9 +0.1**
KK31 Karatay Array 46.86 338 *e*P **P** **15 30 24.9 +0.1**
KKAR Karatay Array 46.86 338 *e*P **P** **15 30 24.9 +0.1**
KKAR Karatay Array 46.86 338 *e*P **P** **15 30 24.9 +0.1**
ASAR Alice Springs 47.00 123 P **P** **15 30 26.1 0.0**
comp=Z,15nm,0.9s,baz=300,slow=7.4,SNR=29
ASAR PcP **PcP** **15 31 59.1 +0.8**
comp=Z,5.8nm,0.8s,baz=314,slow=2.5,SNR=5.9
ASAR LR LR 15 49 31.9
comp=Z,1μm,20.2s,baz=307,slow=35
ASAR Alice Springs 47.00 123 P **P** **15 30 26.2 0.0**
ASAR 15 31 59.2
ASAR pmax pmax
comp=Z,14nm,0.9s
ASAR MLR MLR
comp=Z,1μm,20.2s
AS31 Alice Springs 47.00 123 *e*P **P** **15 30 25.7 -0.5**
comp=Z,3.6nm,0.7s
DL2 Dalian 47.03 32 P **P** **15 30 27.3 +1.2**
DL2 S **S** **15 37 16.1 +0.3**
DL2 pmax pmax
comp=Z,72nm,0.9s
DL2 pmax pmax
comp=Z,620nm,4.9s
DL2 LR LR
comp=Z,900nm,14.5s
DL2 LR LR
comp=Z,520nm,13.9s
DL2 LR LR
comp=Z,1μm,13.5s
AS01 Alice Springs 47.04 123 *e*P **P** **15 30 25.9 -0.7**
MKAR Makanchi Array 47.16 351 P **P** **15 30 26.7 -0.3**
comp=Z,16nm,0.7s,baz=163,slow=8.6,SNR=20
MAKZ Makanchi 47.22 351 *e*P **P** **15 30 27.6 +0.1**
comp=Z,40nm,1.4s
MAKZ Makanchi 47.22 351 *e*P **P** **15 30 27.6 +0.1**
MAKZ pmax pmax
comp=Z,40nm,1.4s
BTLS Baital 47.40 343⇑ *i*P **P** **15 30 28.5 -0.3**
comp=Z,150nm,1.5s
BTLS *i* PP **PP** **15 32 20.1 -0.4**
BTLS *e*S **S** **15 37 20.8 -0.1**
ZSN Zaisan 47.44 353⇑ *i*P **P** **15 30 30.2 +1.0**
comp=Z,165nm,1.5s
ZSN *i* PP **PP** **15 32 21.8 +0.9**
ZSN *e*S **S** **15 37 22.9 +1.4**
OPO Ambohidratompo 47.92 245 P **P** **15 30 34.1 +0.6**
comp=Z,15nm,0.7s,baz=60,slow=6.2,SNR=11
OPO LR LR 15 45 50.7
comp=Z,225nm,21.8s,baz=52,slow=30
ABPO Ambohimpanom 48.02 244 *e*P **P** **15 30 34.7 +0.4**
comp=Z,106nm,1.4s
ABPO Ambohimpanom 48.02 244 *e*P **P** **15 30 34.7 +0.4**
ABPO pmax pmax
comp=Z,106nm,1.4s
TJN Taejon 48.58 38 *c* iP **P** **15 30 37.8 -0.4**
GEYT Alibeck 48.84 324 P **P** **15 30 41.2 +0.9**
comp=Z,14nm,0.7s,baz=155,slow=8.2,SNR=21
GEYT LR LR 15 51 57.5
comp=Z,2μm,21.2s,baz=110,slow=37
GYA0B ALIBECK ARRAY 48.84 324 *e*P **P** **15 30 39.7 -0.5**
comp=Z,29nm,1.0s
JNU Nakatsue 48.95 44 P **P** **15 30 41.6 +0.4**
comp=Z,7.1nm,1.0s,baz=302,slow=5.1,SNR=4.4
JNU LR LR 15 51 11.7
comp=Z,275nm,21.9s,baz=228,slow=36
JNU Nakatsue 48.95 44 *e*P **P** **15 30 41.3 +0.1**
comp=Z,26nm,1.3s
SONM Songino Array 49.00 13 P **P** **15 30 42.2 +0.8**
comp=Z,38nm,0.8s,baz=195,slow=7.9,SNR=80
SONM LR LR 15 53 20.8
comp=Z,881nm,20.8s,baz=202,slow=38
SONA1 Songino Array 49.02 13 *e*P **P** **15 30 41.4 -0.1**
ULN Ulaanbaatar 49.18 13 *e*P **P** **15 30 42.7 -0.1**
comp=Z,39nm,1.3s

ULN Ulaanbaatar 49.18 13 P P 15 30 43.5 +0.7
SNR=17
ULN Ulaanbaatar 49.18 13 P P 15 30 43.5 +0.7
SNR=17
ULN Ulaanbaatar 49.18 13 *c i*P **P 15 30 42.6 -0.1**
ULN pmax pmax
comp=Z,34nm,1.4s
DAMY Dhamar 49.28 289 *e*P **P 15 30 45.8 +1.5**
comp=Z,181nm,1.5s
DGZ Jazzator, Alta 49.44 356 *i* P **P 15 30 44.6 -0.1**
DGZ pmax pmax
comp=Z,6.0nm,0.8s
KS15 Wonju Array Si 49.58 38 *e*P **P 15 30 46.3 +0.5**
KSAR Wonju Array Be 49.58 38 P **P 15 30 46.0 +0.2**
KSAR PcP **PcP 15 32 08.2 +1.0**
KSAR Wonju Array Be 49.58 38 P **P 15 30 46.1 +0.2**
KSAR 15 32 08.2
KS01 Wonju Array Si 49.61 38 *e*P **P 15 30 45.3 -0.8**
KSRS Korea Array 49.61 38 P **P 15 30 46.0 0.0**
comp=Z,9.1nm,0.8s,baz=232,slow=8.2,SNR=40
KSRS PcP **PcP 15 32 08.2 +0.9**
comp=Z,1.4nm,0.7s,baz=190,slow=4.2,SNR=2.7
KSRS LR LR 15 52 43.3
comp=Z,268nm,19.1s,baz=232,slow=37
ATD Arta Tunnel 50.19 285 P **P 15 30 51.1 +0.2**
comp=Z,26nm,1.0s,baz=96,slow=2.9,SNR=8.4
ATD LR LR 15 48 01.9
comp=Z,974nm,21.1s,baz=50,slow=31
HVS Khovu-Aksy 50.73 1*d i*P **P 15 30 54.8 +0.4**
HVS pmax pmax
comp=Z,156nm,1.0s
QIS Mount Isa 50.82 117 P **P 15 30 55.1 -0.4**
baz=51,SNR=5.7
KURBB Kurchatov Arra 51.51 349 P **P 15 30 59.8 -0.4**
comp=Z,20nm,0.8s,baz=172,slow=6.7,SNR=64
KURBB PcP **PcP 15 32 14.1 +0.1**
comp=Z,5.3nm,0.9s,baz=190,slow=2.6,SNR=3.0
KURK Kurchatov 51.58 349 *e*P **P 15 31 00.1 -0.6**
comp=Z,117nm,1.4s
KURK PcP **PcP 15 32 14.1 -0.2**
KURK Kurchatov 51.58 349 P **P 15 31 00.6 -0.1**
SNR=20
KURK Kurchatov 51.58 349 P **P 15 31 00.6 -0.1**
SNR=20
KURK Kurchatov 51.58 349 P **P 15 30 59.8 -0.9**
KURK 15 32 14.1
KURK pmax pmax
comp=Z,20nm,0.9s
MOY Mondy 51.79 7 *e*P **P 15 31 03.1 +0.7**
MOY pmax pmax
comp=Z,62nm,2.5s
TLY Talaya 52.17 9 P **P 15 31 05.3 +0.3**
comp=Z,6.5nm,0.7s,baz=214,slow=10.0,SNR=3.7
TLY Talaya 52.17 9 *e*P **P 15 31 05.4 +0.3**
comp=Z,22nm,1.1s
TLY Talaya 52.17 9 P **P 15 31 06.8 +1.7**
SNR=10
TLY Talaya 52.17 9 P **P 15 31 06.8 +1.7**
SNR=10
TLY Talaya 52.17 9 *e*P **P 15 31 06.3 +1.2**
TLY pmax pmax
comp=Z,54nm,1.6s
TLY MLR MLR
comp=Z,394nm,16.0s
CN2 Changchun 52.57 30 *e*P **P 15 31 08.1 0.0**
CN2 *e*S **S 15 38 33.3 +0.2**
CN2 pmax pmax
comp=Z,10.0nm,1.2s
CN2 LR LR
comp=Z,510nm,14.0s
CN2 LR LR
comp=Z,390nm,14.0s
CN2 LR LR
comp=Z,840nm,15.0s
IRK Irkutsk 52.81 9 *e*P **P 15 31 10.5 +0.6**
IRK pmax pmax
comp=Z,113nm,2.0s
BBOO Buckleboo 52.83 133 P **P 15 31 10.2 -0.2**
baz=53
BBOO Buckleboo 52.83 133 *e*P **P 15 31 10.2 -0.2**
comp=Z,12nm,0.9s
ZAA0 Zalesovo Array 53.87 355 *e*P **P 15 31 17.1 -0.4**
comp=Z,83nm,1.3s
ZALV Zalesovo Beam 53.87 355 P **P 15 31 17.1 -0.4**
comp=Z,34nm,0.6s,baz=177,slow=6.8,SNR=78
ZALV LR LR 15 55 19.7
comp=Z,1μm,20.9s,baz=196,slow=37
ZALV Zalesovo Beam 53.87 355 *e*P **P 15 31 16.0 -1.5**
ZALV Zalesovo Beam 53.87 355 *e*P **P 15 31 16.0 -1.5**
GUMO Guam 53.88 73 LR LR 15 53 27.4
comp=Z,144nm,21.1s,baz=234,slow=35
HIA Hailar 54.30 22 *c i*P **P 15 31 21.1 +0.3**
HIA pmax pmax
comp=Z,34nm,1.0s
INU Inuyama 54.45 45 *e*P **P 15 31 20.5 -1.6**
comp=Z,27nm,1.1s
CIT Chita 54.66 16 *e*P **P 15 31 23.6 +0.2**
CIT *e* 15 31 29.0
CIT *e* 15 32 25.8
CIT pmax pmax
comp=Z,146nm,1.5s
MSHR Mys Shultsa 54.80 35 *ce*P **P 15 31 24.8 +0.3**
KMBO Kilima Mbogo 54.88 268 P **P 15 31 26.7 +0.7**
comp=Z,11nm,1.0s,baz=61,slow=8.2,SNR=15
KMBO LR LR 15 51 10.6
comp=Z,752nm,19.4s,baz=80,slow=32
KMBO Kilima Mbogo 54.88 268 *e*P **P 15 31 26.8 +0.8**
comp=Z,32nm,1.3s
KMBO Kilima Mbogo 54.88 268 P **P 15 31 27.1 +1.2**
SNR=8.9
KMBO Kilima Mbogo 54.88 268 PKiKP **P 15 31 27.1 +1.2**
SNR=8.9
NVS Novosibirsk 54.91 354⇓ *i*P **P 15 31 24.5 -0.6**
NVS pmax pmax
comp=Z,86nm,1.3s
NVS pmax pmax
comp=N,42nm,1.4s
NVS pmax pmax
comp=E,27nm,1.2s
HTT Hallett 55.24 132 P **P 15 31 28.6 +0.6**
baz=55,SNR=6.1
VLA Vladivostok 55.55 35 *ce*P **P 15 31 30.6 +0.7**
VLA pmax pmax
comp=Z,47nm,1.3s
PMG Port Moresby 55.62 102 P **P 15 31 30.3 -0.6**
comp=Z,25nm,1.0s,baz=288,slow=6.4,SNR=3.4
PMG LR LR 15 57 19.9
comp=Z,596nm,20.9s,baz=289,slow=38
PMG Port Moresby 55.62 102⇑ *e*P **P 15 31 30.4 -0.5**
PMG pmax pmax
comp=Z,114nm,1.2s
BVAR Borovoye Array 55.64 344 P **P 15 31 29.4 -1.0**
comp=Z,8.5nm,0.7s,baz=142,slow=7.5,SNR=17
BVAR LR LR 15 55 30.0
comp=Z,2μm,21.3s,baz=120,slow=36
BRVK Borovoye 55.70 344 *e*P **P 15 31 29.6 -1.2**
comp=Z,23nm,1.2s
BRVK Borovoye 55.70 344 P **P 15 31 29.9 -0.9**
SNR=7.3
BRVK Borovoye 55.70 344 P **P 15 31 29.9 -0.9**
SNR=7.3
BRVK Borovoye 55.70 344 *c i*P **P 15 31 29.0 -1.8**
BRVK pmax pmax
comp=Z,16nm,1.0s
MJB9 Matsu-Tunnel 55.87 44 *e*P **P 15 31 32.4 0.0**
comp=Z,6.3nm,1.1s
MAJO Matsushiro 55.88 44 *e*P **P 15 31 32.2 -0.2**
comp=Z,7.1nm,1.2s
MAJO Matsushiro 55.88 44⇑ *e*P **P 15 31 30.9 -1.5**
MAJO pmax pmax
comp=Z,43nm,1.6s
MAT Matsushiro 55.88 44 P **P 15 31 31.5 -0.9**
MJAR Matsushiro Arr 55.88 44 P **P 15 31 32.5 +0.1**
comp=Z,2.0nm,0.5s,baz=242,slow=6.7,SNR=16
MJAR PcP **PcP 15 32 30.7 -0.3**
comp=Z,5.6nm,1.0s,baz=252,slow=5.0,SNR=6.3
MJAR LR LR 15 55 57.9
comp=Z,175nm,21.9s,baz=215,slow=37
AB31 Akbulak array 56.10 335 *i* P **P 15 31 31.6 -2.2**
AB31 pmax pmax
comp=Z,36nm,1.3s
USRK Ussuriysk Ar. 56.30 34 P **P 15 31 36.4 +1.2**
comp=Z,7.4nm,0.8s,baz=240,slow=6.4,SNR=23
USRK LR LR 15 55 45.7
comp=Z,295nm,21.9s,baz=214,slow=36
STKA Stephens Creek 56.59 129 P **P 15 31 38.1 +0.5**
comp=Z,14nm,1.0s,baz=294,slow=6.7,SNR=13
STKA LR LR 15 54 50.1
comp=Z,1μm,21.3s,baz=315,slow=35
STKA Stephens Creek 56.59 129 P **P 15 31 37.9 +0.3**
baz=57,SNR=8.9
STKA Stephens Creek 56.59 129 *e*P **P 15 31 37.8 +0.1**
comp=Z,4.9nm,1.0s
STKA Stephens Creek 56.59 129 *e*P **P 15 31 37.8 +0.1**
STKA pmax pmax
comp=Z,5.0nm,1.0s
CTAO Charters Tower 56.69 114 *e*P **P 15 31 38.3 -0.2**
comp=Z,44nm,1.1s
CTAO Charters Tower 56.69 114 *e*P **P 15 31 38.3 -0.2**
CTAO pmax pmax
comp=Z,44nm,1.1s
AKT Akhty 57.34 321 *e*P **P 15 31 43.1 +0.2**
AKT *e* 15 32 34.1
AKT *e* 15 33 45.1
AKT pmax pmax
comp=Z,118nm,1.4s
AKTO Aktyubinsk 57.81 335 P **P 15 31 44.8 -1.1**
comp=Z,7.9nm,1.1s,baz=129,slow=12,SNR=8.0
MAK Makhachkala 58.30 323 *e*P **P 15 31 46.6 -2.8**
MAK *e* 15 33 55.3
MAK *e*S **S 15 39 46.1 -3.7**
MAK pmax pmax
comp=Z,22nm,0.3s
GNI Garni 58.55 319 P **P 15 31 51.7 +0.2**
comp=Z,4.7nm,0.3s,baz=143,slow=3.0,SNR=14
GNI Garni 58.55 319 *e*P **P 15 31 52.0 +0.6**
comp=Z,54nm,1.4s
GNI Garni 58.55 319 P **P 15 31 53.0 +1.5**
SNR=10
GNI Garni 58.55 319 P **P 15 31 53.0 +1.5**
SNR=10
GNI Garni 58.55 319 *c i*P **P 15 31 52.1 +0.6**
GNI pmax pmax
comp=Z,104nm,1.4s
ARPS Mount Arapiles 58.89 134 P **P 15 31 54.1 +0.4**
baz=59,SNR=6.5
TBLG Delisi 59.36 320 *e*P **P 15 31 57.8 +0.9**
comp=Z,100nm,1.3s
TBLG Delisi 59.36 320 *e*P **P 15 31 57.8 +0.9**
TBLG pmax pmax
comp=Z,100nm,1.3s
KLR Kul'dur 59.47 29 P **P 15 31 57.9 +0.5**
comp=Z,2.0nm,1.0s,baz=247,slow=6.9,SNR=41
KLR LR LR 16 00 21.0
comp=Z,31nm,18.1s,baz=224,slow=39
KLR Kul'dur 59.47 29 *c i*P **P 15 31 57.4 0.0**
GROC Groznyy 59.48 322 *e*P **P 15 31 55.9 -1.7**
GROC *e* 15 32 41.6
GROC *e* 15 34 07.5
GROC pmax pmax
comp=Z,141nm,1.4s
CMSA Cobar Meteorol 59.68 127 P **P 15 32 00.1 +0.9**
baz=60,SNR=31
BOD Bodaibo 59.99 13⇓ *i*P **P 15 32 00.8 -0.1**
BOD pmax pmax
comp=Z,118nm,1.7s
AKH Akhalkalaki 60.01 319⇑ *i*P **P 15 32 02.8 +1.3**
ZEI Tsey 60.44 321 *e*P **P 15 32 03.5 -1.0**
ZEI pmax pmax
comp=Z,24nm,1.4s
RMQ Roma 60.59 121 P **P 15 32 07.0 +1.4**
baz=61,SNR=5.3
ZEA Zeya 60.71 23 *e*P **P 15 32 06.0 +0.1**
ZEA pmax pmax
comp=N,43nm,1.2s
ZEA pmax pmax
comp=E,29nm,1.2s
ZEA pmax pmax
comp=Z,71nm,1.2s
ZEA MLR MLR
comp=Z,1μm,15.0s
ZEA MLR MLR
comp=E,400nm,12.0s
ZEA MLR MLR
comp=N,500nm,15.0s
ASF Jabal al Asfar 60.93 307 P **P 15 32 09.3 +1.4**
comp=N,22nm,1.2s,baz=87,slow=2.3,SNR=20
ASF LR LR 15 58 51.3
comp=N,1μm,18.5s,baz=36,slow=36
NCK Nalchik 61.00 321 *ce*P **P 15 32 08.9 +0.8**
NCK pmax pmax
comp=Z,60nm,1.1s
NEY Neytrino 61.42 321⇑ *e*P **P 15 32 09.9 -1.2**
NEY pmax pmax
comp=Z,12nm,1.8s
KBZ Khabaz 61.55 321 P **P 15 32 12.6 +0.8**
comp=Z,14nm,0.9s,baz=113,slow=4.9,SNR=26
EIL Elat 61.71 304 P P 15 32 21.0 +7.8
comp=Z,41nm,1.0s,baz=112,slow=3.0,SNR=32
KVAR Kislovodsk Arr 61.79 322 P **P 15 32 13.8 +0.3**
comp=Z,57nm,1.2s,baz=135,slow=2.9,SNR=30
KIV Kislovodsk 61.80 322 *e*P **P 15 32 14.3 +0.7**
comp=Z,126nm,1.5s
KIV Kislovodsk 61.80 322 P **P 15 32 14.4 +0.8**
SNR=18
KIV Kislovodsk 61.80 322 P **P 15 32 14.4 +0.8**
SNR=18
KIV Kislovodsk 61.80 322 *e*P **P 15 32 13.6 0.0**
KIV *e*S **S 15 40 34.6 -0.3**
KIV pmax pmax
comp=Z,53nm,1.1s
KIV pmax pmax
comp=Z,77nm,3.0s
SVE Sverdlovsk 61.82 341 *de*P **P 15 32 12.5 -0.8**
SVE pmax pmax
comp=Z,70nm,1.5s
TOO Toolangi 61.87 134 P **P 15 32 15.5 +1.4**
baz=62,SNR=4.0
ERM Erimo 61.88 41⇑ *e*P **P 15 32 13.1 -0.9**
ERM pmax pmax
comp=Z,21nm,1.9s
GOF Gofitskoye 62.15 323⇑ *e*P **P 15 32 15.9 +0.2**
ARU Arti 62.20 340 P **P 15 32 14.5 -1.4**
comp=Z,7.2nm,0.8s,baz=125,slow=4.5,SNR=10.0
ARU LR LR 16 00 56.3
comp=Z,628nm,18.4s,baz=122,slow=38
ARU Arti 62.20 340 *e*P **P 15 32 14.6 -1.2**
comp=Z,26nm,1.2s
ARU Arti 62.20 340 *c i*P **P 15 32 14.4 -1.4**
ARU 15 32 54.4
ARU 15 34 29.7
ARU S **S 15 40 39.5 +0.2**
ARU SS **SS 15 44 46.3 +3.5**
ARU pmax pmax
comp=Z,52nm,1.7s
ARU MLR MLR
comp=Z,1μm,23.0s
CLNS Chul'man 62.25 20 *e*P **P 15 32 15.8 -0.5**
CLNS pmax pmax
comp=N,33nm,1.2s
CLNS pmax pmax
comp=Z,50nm,1.0s
CLNS pmax pmax
comp=E,29nm,1.1s
MMAI Mount Meron Ar 62.40 308 P **P 15 32 18.5 +0.8**
comp=E,6.9nm,0.8s,baz=91,slow=8.3,SNR=8.7
ASAJ Asahikawa 62.53 39 P **P 15 32 19.2 +0.9**
comp=E,7.8nm,0.9s,baz=277,slow=8.1,SNR=10
ASAJ Asahikawa 62.53 39 *e*P **P 15 32 18.9 +0.6**
comp=E,16nm,0.9s
YNG Young 62.79 129 P **P 15 32 20.9 +0.5**
baz=63,SNR=7.8
SOC Sochi 63.50 320 *c i*P **P 15 32 24.2 -0.6**
SOC *i* *PP **pP 15 32 32.7 -1.9**
SOC *e*PPP PPP 15 36 19.7
SOC *e*S **S 15 40 56.4 +0.4**
SOC pmax pmax
comp=Z,36nm,1.0s
SOC MLR MLR
comp=Z,528nm,15.0s
YSS Yuzh-Sakhalins 64.06 36 *e*P **P 15 32 29.0 +0.7**
comp=Z,95nm,1.4s
YSS Yuzh-Sakhalins 64.06 36⇑ *e*P **P 15 32 28.7 +0.3**
YSS *e* 15 32 37.1
YSS pmax pmax
comp=Z,40nm,1.5s
YSS MLR MLR
comp=Z,500nm,16.0s
ARMA Armidale 64.14 124 P **P 15 32 31.3 +1.9**
baz=64,SNR=4.4
ARMA Armidale 64.14 124 *e*P **P 15 32 30.1 +0.7**
comp=Z,36nm,1.0s
CSS Mathiatis 64.66 309 *e*P **P 15 32 33.4 +0.8**
comp=Z,26nm,1.5s
ANN Anapa 65.51 320 *e*P **P 15 32 36.5 -1.4**
ANN *e*S **S 15 41 19.9 -0.9**
ANN pmax pmax
comp=Z,35nm,1.3s
ANN MLR MLR
comp=Z,857nm,17.0s
BRTR Keskin Array B 66.06 314 P **P 15 32 41.5 -0.2**
comp=Z,8.9nm,0.8s,baz=133,slow=7.1,SNR=32
BR131 Keskin Array S 66.06 314 *e*P **P 15 32 41.1 -0.7**
KUR Kuril'sk 66.38 40⇑ *e*P **P 15 32 43.9 +0.4**
ANTO Ankara 66.72 314⇑ *i*P **P 15 32 46.1 +0.2**
ANTO Ankara 66.72 314 *e*P **P 15 32 46.0 +0.2**
comp=Z,39nm,1.1s
ANTO Ankara 66.72 314 P **P 15 32 46.4 +0.5**
SNR=7.4
ANTO Ankara 66.72 314 P **P 15 32 46.4 +0.5**
SNR=7.4
ANTO Ankara 66.72 314 *e*P **P 15 32 46.0 +0.2**
ANTO pmax pmax
comp=Z,39nm,1.1s
VSR Storozhevoye 67.53 327 *e*P **P 15 32 49.7 -1.0**
VSR pmax pmax
comp=Z,50nm,1.3s
SIM Simferopol' 67.72 319 *ce*P **P 15 32 52.5 +0.5**
SIM *e*S **S 15 41 48.0 +0.4**
SIM pmax pmax
comp=Z,49nm,0.9s
SIM MLR MLR
comp=Z,540nm,15.0s
YAK Yakutsk 67.83 18 P **P 15 32 51.6 -0.7**
comp=Z,49nm,0.7s,baz=294,slow=1.0,SNR=45
YAK LR LR 16 05 25.2
comp=Z,657nm,18.0s,baz=269,slow=38
YAK Yakutsk 67.83 18 *c i*P **P 15 32 51.8 -0.5**
YAK *e**PP **pP 15 32 59.6 -2.6**
YAK *e* 15 33 08.2
YAK *e* 15 35 23.1
YAK *e*PPP PPP 15 36 58.6
YAK *e*S **S 15 41 47.5 -0.7**
YAK *e**SS **sS 15 42 08.1 +3.6**
YAK *e* 15 42 46.7
YAK *e*SS **SS 15 46 02.9 -7.3**
YAK pmax pmax
comp=Z,94nm,1.0s
YAK pmax pmax
comp=N,26nm,1.1s
YAK pmax pmax
comp=E,47nm,1.3s
YAK pmax pmax
comp=Z,155nm,4.4s
YAK pmax pmax
comp=N,57nm,3.5s
YAK pmax pmax
comp=E,100nm,4.1s
YAK smax smax
comp=N,25nm,2.5s
YAK smax smax
comp=E,53nm,2.4s
HNR Honiara 68.18 100 P **P 15 32 53.6 -1.9**
comp=E,45nm,0.9s,baz=185,slow=7.4,SNR=6.3
HNR LR LR 16 03 23.2
comp=E,368nm,21.9s,baz=267,slow=37
LPSR Galich'ya Gora 68.36 328 *e*P **P 15 32 55.0 -0.9**
LPSR pmax pmax
comp=Z,30nm,1.2s
LBTB Lobatse 68.92 243 *e*P **P 15 33 00.3 +0.2**
comp=Z,71nm,1.0s
LBTB Lobatse 68.92 243 *e*P **P 15 33 00.3 +0.2**
LBTB pmax pmax
comp=Z,71nm,1.0s
BOSA Boshof 69.91 239 P **P 15 33 05.5 -0.7**
comp=Z,36nm,1.1s,baz=86,slow=8.7,SNR=9.2
MOS Moscow 70.61 331 *e*P **P 15 33 07.0 -2.7**
MOS *e* 15 33 16.0
MOS *e* 15 35 52.0
MOS pmax pmax
comp=Z,152nm,1.4s
MOS pmax pmax
comp=Z,300nm,1.7s
MAW Mawson 70.70 191 P **P 15 33 09.8 -0.2**
comp=Z,13nm,0.7s,baz=336,slow=9.2,SNR=5.9
MAW LR LR 15 59 22.1
comp=Z,259nm,18.3s,baz=58,slow=32
OBN Obninsk 70.83 330 P **P 15 33 10.3 -0.7**
comp=Z,16nm,0.6s,baz=123,slow=4.1,SNR=18
OBN Obninsk 70.83 330 *e*P **P 15 33 10.4 -0.7**
comp=Z,110nm,1.3s
OBN Obninsk 70.83 330 *c i*P **P 15 33 10.3 -0.7**
OBN *e* 15 33 33.4
OBN pmax pmax
comp=Z,59nm,1.3s
OBN MLR MLR
comp=Z,1μm,23.0s
TLCR 71.30 318⇓ *i*P **P 15 33 14.9 +0.8**
TIRR Tirgusor 71.33 317⇑ *i*P **P 15 33 13.7 -0.6**
IDI Anoyia 71.39 307 P **P 15 33 15.8 +0.8**
comp=Z,27nm,0.8s,baz=76,slow=8.3,SNR=17
IDI Anoyia 71.39 307⇓ *i*P **P 15 33 14.6 -0.4**
TLB Topalu 71.62 317⇓ *i*P **P 15 33 16.4 +0.3**
KIS Kishinev 71.91 320⇑ *i*P **P 15 33 17.0 -0.7**
comp=Z,1μm,1.5s
KIS Kishinev 71.91 320 *i* PcP P 15 33 26.0 +8.3
KIS *e*S S 15 42 46.0 +9.3
KIS Kishinev 71.91 320 *e*PS **PnS 15 43 10.0 +0.8**
KIS LRM MLR 16 05 38.0
comp=Z,300nm,17.0s
KIS Kishinev 71.91 320 *α i*P **P 15 33 17.0 -0.7**
KIS *i* 15 33 26.0
KIS *e*PS **PnS 15 43 10.0 +0.8**
KIS pmax pmax
comp=Z,400nm,1.5s
KIS pmax pmax
comp=Z,600nm,4.0s
KIS MLR MLR
comp=Z,1μm,19.0s
KIS MLR MLR
comp=N,300nm,17.0s
KIS MLR MLR
comp=E,500nm,18.0s
KIS MLR MLR
comp=Z,900nm,20.0s
LEOM Leova 72.10 319⇓ *i*P **P 15 33 19.2 +0.3**
KLMR Klimovskoe 72.48 336 *e*P **P 15 33 18.1 -2.8**
KLMR AMP 15 33 22.4
comp=Z,57nm,1.1s
KLMR *e*S **S 15 42 36.3 -6.4**
KLMR *e*S **S 15 42 36.3 -6.4**
KLMR Klimovskoe 72.48 336 *e*P **P 15 33 18.1 -2.8**
KLMR *e*S **S 15 42 36.3 -6.4**
KLMR pmax pmax
comp=Z,57nm,1.1s
SORM Soroca 72.59 321⇓ *i*P **P 15 33 21.8 0.0**
SZH Strazhica 72.67 316 P **P 15 33 22.2 -0.2**
VRI Vrincioaia 72.91 318⇑ *i*P **P 15 33 24.8 +1.0**
PLOR Plostina 72.95 318⇑ *i*P **P 15 33 25.2 +1.1**
AKASG Malin Array Be 72.97 324 P **P 15 33 23.6 -0.4**
comp=Z,12nm,0.9s,baz=90,slow=4.9,SNR=70
AKASG Malin Array Be 72.97 324 P **P 15 33 23.6 -0.4**
AKASG pmax pmax
comp=Z,19nm,0.9s
AKBB Malin Array Si 72.97 324 *e*P **P 15 33 24.0 0.0**
comp=Z,75nm,1.4s
AKBB Malin Array Si 72.97 324 *e*P **P 15 33 24.0 0.0**
AKBB pmax pmax
comp=Z,75nm,1.4s
KIEV Kiev 72.97 324 *e*P **P 15 33 23.4 -0.6**
comp=Z,79nm,1.4s
KIEV Kiev 72.97 324 *c i*P **P 15 33 23.2 -0.8**
KIEV pmax pmax
comp=Z,34nm,1.2s
AK11 Malin Array Si 72.99 324 *e*P **P 15 33 23.6 -0.5**
SECR 73.10 317⇑ *i*P **P 15 33 26.4 +1.5**
TESR Tescani 73.16 319⇓ *i*P **P 15 33 25.0 -0.2**
MLR Muntele Rosu 73.31 318 P **P 15 33 27.1 +0.8**
comp=Z,16nm,1.0s,baz=94,slow=1.3,SNR=48
MLR Muntele Rosu 73.31 318⇓ *i*P **P 15 33 27.2 +0.8**
HUMR Humele 73.69 317⇑ *i*P **P 15 33 28.9 +0.5**
PRAR RASCA 73.69 320⇓ *i*P **P 15 33 28.9 +0.5**
PGB Panagyurishte 73.73 314 P **P 15 33 29.4 +0.7**
VOIR 73.90 318⇑ *i*P **P 15 33 29.5 -0.2**
MPEP Malo Peshtene 74.24 315 P **P 15 33 31.7 +0.1**
KKB Krupnik 74.33 314 P **P 15 33 31.4 -0.9**
VTS Vitosha 74.42 314⇑ *i*P **P 15 33 33.1 +0.2**
VTS Vitosha 74.42 314 *e*P **P 15 33 32.5 -0.4**

comp=Z,29nm,1.1s
VTS Vitosha 74.42 314 P **P** **15 33 32.4 -0.5**
VTS Vitosha 74.42 314 *e*P **P** **15 33 32.5 -0.4**
VTS pmax pmax
comp=Z,29nm,1.1s
BURAR Bucovina Array 74.42 320⇑ *i*P **P** **15 33 33.9 +1.1**
BUR04 Bucovina Ar. S 74.43 320 *e*P **P** **15 33 33.7 +0.9**
MA2 Magadan 74.43 27 *i* P **P** **15 33 31.8 -0.6**
MA2 pmax pmax
comp=Z,34nm,1.0s
TMCR Tamitsa 74.88 338 *e*P **P** **15 33 34.8 -0.1**
TMCR pmax pmax
comp=Z,50nm,0.8s
TIXI Tiksi 75.06 11 *e*P **P** **15 33 34.7 -1.1**
comp=Z,59nm,0.8s
TIXI Tiksi 75.06 11*c i*P **P** **15 33 34.4 -1.4**
TIXI pmax pmax
comp=Z,49nm,0.9s
MICGM Minsk 75.11 327 *e*P **P** **15 33 36.0 -0.4**
MICGM *e*LR LR 15 47 06.0
MNK Minsk 75.11 327 *e*P **P** **15 33 36.0 -0.4**
CJR Cluj-Napoca 75.23 319⇑ *i*P **P** **15 33 38.5 +1.1**
PETK Petropavlovsk- 75.37 35 P **P** **15 33 36.7 -1.3**
comp=Z,4.0nm,0.7s,baz=177,slow=3.0,SNR=3.9
DEV Deva 75.47 318⇑ *i*P **P** **15 33 38.8 +0.1**
KRUS Krusevo 75.56 313 *e*P **P** **15 33 38.3 -1.2**
DZM Mont Dzumac 75.58 113 *e*P **P** **15 33 40.2 +0.3**
comp=Z,102nm,1.6s
DZM Mont Dzumac 75.58 113 *e*LR LR 15 57 04.7
comp=Z,1µm,23.9s
LVV L'vov 75.82 322 *e*P **P** **15 33 42.3 +1.7**
NACGM Naroch 75.85 327 *e*P **P** **15 33 40.0 -0.7**
PET Petropavlovsk 75.89 35⇓ *i*P **P** **15 33 40.2 -0.7**
PET pmax pmax
comp=Z,75nm,1.4s
IDID Didziasalis 76.02 328 *e*P **P** **15 33 42.3 +0.7**
IDID IAmb IAmb 15 33 43.9
comp=Z,32nm,1.1s
BZS Buzias 76.28 317⇓ *i*P **P** **15 33 43.5 +0.2**
TRPA Tarpa 76.30 320⇑ *i*P **P** **15 33 44.6 +1.2**
IIGN Ignalina 76.31 328 *e*P **P** **15 33 43.9 +0.6**
IIGN IAmb IAmb 15 33 45.6
comp=Z,41nm,1.1s
SIRR Siria 76.41 318⇑ *i*P **P** **15 33 44.5 +0.4**
IZAR Zarasai 76.44 328 *e*P **P** **15 33 44.4 +0.5**
IZAR IAmb IAmb 15 33 45.9
comp=Z,15nm,0.8s
KWP Kalwaria Pacla 76.59 321 *e*P **P** **15 33 47.0 +2.0**
KWP Kalwaria Pacla 76.59 321 *e*P **P** **15 33 47.0 +2.0**
SEY Seymchan 76.67 24⇑ *e*P **P** **15 33 44.4 -0.7**
DIVS Divibare 77.06 315 *e*P **P** **15 33 48.0 +0.1**
comp=Z,50nm,1.3s
VSU Vasula 77.14 331*c i*P **P** **15 33 47.6 -0.3**
VSU pmax pmax
comp=Z,127nm,1.2s
SUW Suwalki 77.56 326 *e*P **P** **15 33 50.1 -0.2**
SUW Suwalki 77.56 326 *e*P **P** **15 33 50.1 -0.2**
LVZ Lovozero 78.03 341⇑ *e*P **P** **15 33 51.4 -1.4**
LVZ pmax pmax
comp=Z,32nm,1.1s
NIE Niedzica 78.06 321 *e*P **P** **15 33 54.4 +1.1**
NIE Niedzica 78.06 321 *e*P **P** **15 33 54.4 +1.1**
BEL Belsk 78.35 323 *e*P **P** **15 33 55.9 +1.1**
BEL Belsk 78.35 323 *e*P **P** **15 33 55.9 +1.1**
FINES FINESS Array B 78.53 333 P **P** **15 33 55.5 -0.1**
comp=Z,18nm,0.8s,baz=114,slow=8.5,SNR=23
OJC Ojcow 78.56 321 *e*P **P** **15 33 56.8 +0.8**
OJC Ojcow 78.56 321 *e*P **P** **15 33 56.8 +0.8**
VYHS Vyhne 78.79 319 *e*P **P** **15 33 58.2 +0.9**
VYHS Vyhne 78.79 319 *e*P **P** **15 33 58.2 +0.9**
VYHS pmax pmax
comp=Z,78nm,1.5s
VYHS pmax pmax
comp=N,37nm,1.4s
MATE Matera 78.80 311⇑ *i*P **P** **15 33 57.9 +0.4**
BLY Banja Luka 79.16 316⇑ *i*P **P** **15 33 59.5 +0.1**
BLY Banja Luka 79.16 316 *e*P **P** **15 34 00.0 +0.7**
comp=N,74nm,1.4s
KLNR Kaliningrad 79.39 326*ce*P **P** **15 34 00.2 -0.2**
KLNR pmax pmax
comp=Z,175nm,1.1s
OKC Ostrava-Krasne 79.52 321 *e*P **P** **15 34 02.4 +1.2**
OKC *ep*P **pP** **15 34 11.2 -0.1**
OKC Ostrava-Krasne 79.52 321 *ex* **P** **15 34 02.2 +1.0**
MODS Modra-Piesok 79.78 319 *e*P **P** **15 34 03.9 +1.2**
MODS Modra-Piesok 79.78 319 *e*P **P** **15 34 03.9 +1.2**
ZST Bratislava 79.86 319 *e*P **P** **15 34 03.0 -0.1**
ZST Bratislava 79.86 319 *e*P **P** **15 34 03.0 -0.1**
KRLC Kraliky 80.43 321 *e*P **P** **15 34 07.3 +1.1**
KRLC *ep*P **pP** **15 34 16.0 -0.3**
KRLC Kraliky 80.43 321 *e*P **P** **15 34 07.3 +1.1**
KRLC *e* 15 34 16.0
BOJS Bojanci 80.63 316 *i* P **P** **15 34 07.7 +0.4**
DPC Dobruska-Polom 80.77 321 *e*P **P** **15 34 09.6 +1.5**
DPC *ep*P **pP** **15 34 18.1 0.0**
DPC Dobruska-Polom 80.77 321 *e*S **P** **15 34 09.4 +1.3**
KSP Ksiaz 80.88 321 *e*P **P** **15 34 09.4 +0.8**
KSP Ksiaz 80.88 321 *e*P **P** **15 34 09.4 +0.8**
PERS Pernice 80.91 317 *i* P **P** **15 34 09.6 +0.7**
UPC Upice 80.99 321 *e*S **P** **15 34 10.6 +1.4**
UPC Upice 80.99 321 *e*S **P** **15 34 10.6 +1.4**
TREC Trest 81.11 320 *e*P **P** **15 34 10.8 +0.9**
TREC Trest 81.11 320 *e*P **P** **15 34 10.8 +0.9**
TREC Trest 81.11 320 *ex* **P** **15 34 10.8 +0.9**
JAVS Javornik 81.52 316 *i* P **P** **15 34 12.0 -0.2**
GOPC GO Pecny, Ondr 81.67 320 *e*P **P** **15 34 14.0 +1.2**
GOPC GO Pecny, Ondr 81.67 320 *e*S **P** **15 34 13.8 +1.0**
ARCES ARCESS Array B 81.75 341 P **P** **15 34 13.0 +0.2**
comp=Z,22nm,0.8s,baz=80,slow=6.7,SNR=40
ARCES LR LR 16 12 52.2
comp=Z,1µm,18.3s,baz=114,slow=37
PRU Pruhonice 81.83 320 *e*P **P** **15 34 15.0 +1.4**
PRU Pruhonice 81.83 320 *e*S **P** **15 34 14.7 +1.1**
PVCC Panska Ves 81.91 321 *e*P **P** **15 34 15.4 +1.4**
PVCC Panska Ves 81.91 321 *e*S **P** **15 34 15.3 +1.3**
PRA Prague 81.92 321 *e*S **P** **15 34 15.2 +1.1**
PRA Prague 81.92 321 *e*S **P** **15 34 15.2 +1.1**
RPZ Rata Peaks 82.17 134 P **P** **15 34 15.0 -0.5**
comp=Z,13nm,0.9s,baz=104,slow=6.6,SNR=3.8
GERES GERESS Array B 82.20 319 P **P** **15 34 16.8 +1.1**
comp=Z,55nm,0.9s,baz=98,slow=4.6,SNR=25
GERES GERESS Array B 82.20 319 P **P** **15 34 16.8 +1.1**
GERES pmax pmax
comp=Z,54nm,0.9s
KHC Kasperske Hory 82.32 319 *e*P **P** **15 34 17.1 +0.8**
KHC *ep*P **pP** **15 34 27.2 +0.8**
KHC Kasperske Hory 82.32 319 *e*P **P** **15 34 17.1 +0.8**
KHC *e* 15 34 27.2
KHC Kasperske Hory 82.32 319 *ex* **P** **15 34 17.5 +1.2**
BRG Berggiesshubel 82.35 321 *i* P **P** **15 34 17.5 +1.2**
comp=Z,214nm,1.7s
BRG S **P** **15 34 17.0 +0.7**
BRG *i* 15 34 26.1
comp=Z,48nm,1.1s
comp=N,813nm,16.0s
comp=E,399nm,21.9s
comp=Z,839nm,16.2s
BRG Berggiesshubel 82.35 321 *i* P **P** **15 34 17.5 +1.2**
BRG *i* 15 34 26.1
BRG pmax pmax
comp=Z,214nm,1.7s
BRG pmax pmax
comp=Z,48nm,1.1s
BRG MLR MLR
comp=N,813nm,16.0s
BRG MLR MLR
comp=E,399nm,21.9s
BRG MLR MLR
comp=Z,839nm,16.2s
CLL Collm 83.01 322 *i* P **P** **15 34 20.6 +0.9**
comp=Z,61nm,1.2s
CLL *i* sP **pP** **15 34 29.2 -0.6**
CLL *e* 15 34 57.0
CLL Collm 83.01 322 *i* P **P** **15 34 20.6 +0.9**
CLL *i* 15 34 29.2
CLL pmax pmax
comp=Z,61nm,1.2s
NKC Novy Kostel 83.20 320 *e*S **P** **15 34 21.8 +1.0**
NKC Novy Kostel 83.20 320 *e*S **P** **15 34 21.8 +1.0**
BILL Bilibino 83.88 21*c i*P **P** **15 34 23.1 -0.8**
BILL *e* 15 37 35.2
BILL pmax pmax
comp=Z,17nm,1.4s
BILL MLR MLR
comp=Z,407nm,17.0s
KEST Kesra 83.98 306 P **P** **15 34 26.8 +1.6**
comp=Z,23nm,1.1s,baz=247,slow=3.9,SNR=7.8
HFS Hagfors 84.03 330 P **P** **15 34 25.1 +0.3**
comp=Z,17nm,0.8s,baz=119,slow=5.2,SNR=19
NC602 NORSAR Array S 85.18 331 *e*P **P** **15 34 30.4 -0.2**
NB2 NORSAR Subarra 85.38 331 P **P** **15 34 31.3 -0.4**
comp=Z,35nm,1.1s,baz=96,slow=5.3
NB2 NORSAR Subarra 85.38 331 P **P** **15 34 31.3 -0.4**
baz=96,slow=5.3
NOA NORSAR Array B 85.38 331 P **P** **15 34 31.2 -0.4**
comp=Z,11nm,0.9s,baz=95,slow=5.7,SNR=14
NOA LR LR 16 14 47.8
comp=Z,425nm,19.6s,baz=110,slow=37
OSL Oslo 85.47 330 *e*P **P** **15 34 33.2 +1.1**
MUD Monsted U'grnd 85.89 326 *e*P **P** **15 34 35.5 +1.3**
VNDA Vanda 85.91 168 P **P** **15 34 34.1 +0.2**
comp=Z,6.3nm,1.0s,baz=292,slow=6.6,SNR=11
VNDA LR LR 16 06 06.2
comp=Z,687nm,21.4s,baz=326,slow=31
KONO Kongsberg 86.00 330 *e*P **P** **15 34 34.3 -0.4**
comp=Z,78nm,1.3s
KONO Kongsberg 86.00 330 *e*P **P** **15 34 34.5 -0.2**
KONO Kongsberg 86.00 330*c i*P **P** **15 34 34.2 -0.5**
KONO pmax pmax
comp=Z,47nm,1.3s
MSVF Nonsavu 86.19 108⇓ *e*P **P** **15 34 36.7 +0.1**
MSVF pmax pmax
comp=Z,12nm,1.1s
URZ Urewera 86.21 128 P **P** **15 34 35.2 -1.0**
comp=Z,23nm,1.0s,baz=289,slow=5.7,SNR=5.2
URZ LR LR 16 10 20.7
comp=Z,1µm,21.7s,baz=292,slow=34
HOMB Homborsund 86.43 328 *e*P **P** **15 34 37.8 +1.0**
BNI Bardonecchia 86.60 315 *e*P **P** **15 34 38.3 +0.1**
comp=Z,11nm,0.8s
BNI Bardonecchia 86.60 315 *e*P **P** **15 34 38.3 +0.1**
BNI pmax pmax
comp=Z,11nm,0.8s
TAM Tamanrasset 86.77 293 *e*P **P** **15 34 41.2 +1.7**
comp=Z,89nm,1.3s
TAM Tamanrasset 86.77 293 *e*P **P** **15 34 41.2 +1.7**
TAM pmax pmax
comp=Z,89nm,1.3s
SPA0 Spitsbergen Ar 86.86 348 *e*P **P** **15 34 38.9 +0.3**
SPITS Spitsbergen Ar 86.86 348 P **P** **15 34 38.5 -0.2**
comp=Z,21nm,0.9s,baz=74,slow=6.2,SNR=14
SPITS LR LR 16 17 40.4
comp=Z,953nm,21.3s,baz=105,slow=38
NVL N'lazarevskaya 87.02 199 *e*P **P** **15 34 40.5 +1.0**
NVL pmax pmax
comp=Z,86nm,1.3s
HYA Hoyanger 87.82 331 *e*P **P** **15 34 43.8 +0.3**
STAV Stavanger 87.94 329 *e*P **P** **15 34 44.1 0.0**
SSB Saint Sauveur 88.12 315 *e*P **P** **15 34 46.0 +0.6**
comp=Z,22nm,1.0s
SSB Saint Sauveur 88.12 315 *e*P **P** **15 34 46.0 +0.6**
SSB pmax pmax
comp=Z,22nm,1.0s
SUE Sulen 88.51 331 *e*P **P** **15 34 43.9 -2.8**
QSPA South Pole Qui 90.20 180 P **P** **15 34 55.4 +0.6**
comp=Z,24nm,1.1s,baz=291,slow=0.6,SNR=9.1
QSPA LR LR 16 09 08.5
comp=Z,746nm,21.0s,baz=343,slow=31
TORD Torodi Ar. Bea 90.36 283 P **P** **15 34 57.1 +0.7**
comp=Z,16nm,1.1s,baz=89,slow=3.9,SNR=21
TORD PP PP 15 38 22.1 -9.0
comp=Z,0.3nm,0.6s,baz=85,slow=37,SNR=2.8
SNAA Sanae 91.79 199 P **P** **15 35 02.7 +0.7**
comp=Z,11nm,1.2s,baz=76,slow=5.4,SNR=3.6
GAMB Gambell 92.53 26 *e*P **P** **15 35 04.7 -0.7**
comp=Z,30nm,1.4s
EKA Eskdalemuir Ar 92.82 325 P **P** **15 35 07.4 +0.4**
comp=Z,5.1nm,0.8s,baz=102,slow=7.0,SNR=6.3
EKA LR LR 16 21 54.5
comp=Z,253nm,18.6s,baz=70,slow=39
JMIC Jan Mayen 93.24 341 LR LR 16 18 01.7
comp=Z,249nm,19.2s,baz=72,slow=36
ES19 SONSECA Array 94.49 310 *e*P **P** **15 35 14.5 -0.6**
ESDC Sonseca Array 94.54 310 P **P** **15 35 15.9 +0.5**
comp=Z,1.6nm,0.7s,baz=81,slow=3.9,SNR=8.2
ESDC PP **PP** **15 39 03.5 +0.1**
comp=Z,1.3nm,0.8s,baz=81,slow=9.0,SNR=5.2
KOWA Kowa 95.88 285 P **P** **15 35 22.4 +0.5**
comp=Z,21nm,1.1s,baz=92,slow=5.0,SNR=18
AFI Afiamalu 95.98 104 LR LR 16 16 44.1
comp=Z,138nm,18.4s,baz=263,slow=34
KIC Kosan Boka 96.79 276 *e*P **P** **15 35 27.2 +1.1**
comp=Z,17nm,0.7s
DBIC Dimbokro 96.90 277 P **P** **15 35 27.1 +0.5**
comp=Z,4.9nm,0.8s,baz=98,slow=5.7,SNR=4.1
TIC Toumodi 97.06 277 *e*P **P** **15 35 27.4 +0.1**
LIC Lamto 97.08 276 *e*P Pdif 15 35 28.6 +1.1
comp=Z,78nm,1.9s
BORG Borgarnes 99.61 336 LR LR 16 21 46.3
comp=Z,573nm,21.6s,baz=69,slow=36
TOLK Toolik Lake Re 99.78 19 P **Pdif** **15 35 37.9 -0.4**
baz=297
ILAR Eielson Array 102.53 22 PP PP 15 39 43.6 -20
comp=Z,0.4nm,0.7s,baz=300,slow=6.0,SNR=3.4
ILAR PKiKP **PKiKP** **15 40 12.1 +0.4**
comp=Z,0.4nm,0.8s,baz=291,slow=2.8,SNR=4.6
ILAR PKKPbc **PKKPbc** **15 51 51.1 -2.5**
comp=Z,0.4nm,0.7s,baz=126,slow=2.4,SNR=4.4
INK Inuvik 104.84 16 PKiKP **PKiKP** **15 40 16.2 +0.5**
comp=Z,0.5nm,0.4s,baz=10,slow=3.7,SNR=3.5
INK PKKPbc **PKKPbc** **15 51 40.9 -5.8**
comp=Z,1.5nm,0.9s,baz=120,slow=5.4,SNR=4.7
YKA Yellowknife Ar 114.27 13 PKP PKPdf 15 40 32.5 -1.2
comp=Z,0.7nm,0.8s,baz=320,slow=2.1,SNR=12
YKA PP PP 15 41 19.2 -9.4
comp=Z,0.4nm,0.7s,baz=330,slow=0.9,SNR=4.6
YKA PKKPbc **PKKPbc** **15 51 16.8 +0.6**
comp=Z,0.6nm,0.7s,baz=146,slow=4.0,SNR=9.0
PPT2 Papeete2 116.97 110 *e*LR LR 16 16 13.5
comp=Z,965nm,24.5s
B05A Bryant 123.33 27 P **PKPdf** **15 40 51.7 +0.1**
baz=318
NEW Newport 125.44 24 P **PKPdf** **15 40 55.5 -0.2**
baz=323
G05D Wamic, OR 125.92 29 P **PKPdf** **15 40 57.0 +0.4**
baz=317
I03D Drain, OR 126.00 31 P **PKPdf** **15 40 58.2 +1.4**
baz=314
I04A Tendick Farm, 126.42 31 P **PKPdf** **15 40 57.3 -0.4**
baz=315
I05D Terrebonne, OR 126.56 30 P **PKPdf** **15 40 58.9 +0.9**
baz=317
J04D Umpqua Nationa 126.97 31 P **PKPdf** **15 40 59.0 0.0**
baz=315
J05D Fort Rock, OR 127.38 30 P **PKPdf** **15 41 00.4 +0.7**
baz=316
M02C Callahan 127.86 33 P **PKPdf** **15 41 00.9 +0.3**
baz=314
MSO Missoula 127.86 22 P **PKPdf** **15 41 00.3 -0.2**
baz=326,SNR=12
M04C Macdoel 128.14 32 P **PKPdf** **15 41 01.4 +0.2**
baz=315
N02D Trinity Center 128.23 33 P **PKPdf** **15 41 02.1 +0.8**
baz=313
RKT Rikitea 128.93 120 *e*LR LR 16 21 48.0
comp=Z,697nm,23.5s
O03D Paynes Creek 129.20 33 P **PKPdf** **15 41 03.2 +0.1**
baz=314
ULM Lac du Bonnet 129.24 7 PKP **PKPdf** **15 41 02.1 -0.7**
comp=Z,9.0nm,1.1s,baz=349,slow=6.3,SNR=9.0
ULM PP **PP** **15 43 05.9 -4.4**
comp=Z,5.0nm,1.1s,baz=346,slow=12,SNR=3.9
BOZ Bozeman (W) 129.77 22 P **PKPdf** **15 41 04.1 -0.1**
baz=328,SNR=12
HLID Hailey 130.35 25 P **PKPdf** **15 41 05.9 +0.5**
baz=324
A32A Rocking H Ranc 130.47 7 P **PKPdf** **15 41 05.9 +0.7**
baz=349
LAO LASA Array 130.57 17 P **PKPdf** **15 41 06.4 +0.8**
baz=336
A33A Warroad 130.59 7 P **PKPdf** **15 41 05.2 -0.2**
baz=350
B31A Greenbush Farm 130.79 9 P **PKPdf** **15 41 05.9 +0.1**
baz=347
B32A Ashes, Strandq 130.98 8 P **PKPdf** **15 41 06.4 +0.2**
baz=348
RLMT Red Lodge 131.02 20 P **PKPdf** **15 41 07.6 +0.9**
baz=331
B34A Aery, Baudette 131.11 6 P **PKPdf** **15 41 06.5 +0.1**
baz=351
AGMN Agassiz Nation 131.16 7 P **PKPdf** **15 41 06.0 -0.5**
baz=349
H17A Grant Village 131.18 22 P **PKPdf** **15 41 08.5 +1.4**
baz=329,SNR=6.3
B33A Robert and Kas 131.22 7 P **PKPdf** **15 41 07.2 +0.5**
baz=350
C31A Landman Farms, 131.40 9 P **PKPdf** **15 41 07.2 +0.2**
baz=347
EYMN Ely 131.90 3 P **PKPdf** **15 41 09.1 +1.1**
baz=355
NVAR Mina Array Bea 132.43 33 PKP **PKPdf** **15 41 10.8 +1.3**
comp=Z,3.3nm,0.8s,baz=272,slow=2.9,SNR=9.3
ALFO Alfred 132.90 348 P **PKPdf** **15 41 10.3 +0.5**
baz=18
BW06 Boulder Array 132.96 22 P **PKPdf** **15 41 11.1 +0.6**
baz=330
PDAR Pinedale Array 132.96 22 PKhKP PKPpre 15 41 03.8
comp=Z,0.6nm,0.8s,baz=191,slow=2.3,SNR=4.1
PDAR PKP **PKPdf** **15 41 11.1 +0.7**
comp=Z,2.7nm,0.8s,baz=22,slow=1.4,SNR=17
PDAR PP **PP** **15 43 35.5 +0.5**
comp=Z,1.6nm,1.0s,baz=29,slow=3.4,SNR=5.0
F31A Hecla 133.19 10 P **PKPdf** **15 41 10.7 +0.3**
baz=346
E36A McGregor 133.20 5 P **PKPdf** **15 41 10.6 +0.1**
baz=353
F33A 5 Mile Ranch, 133.52 8 P **PKPdf** **15 41 09.9 -1.2**
baz=348
RSSD Black Hills 133.54 16 P **PKPdf** **15 41 11.3 -0.2**
baz=338
DUG Dugway, Tooele 133.78 27 P **PKPdf** **15 41 12.1 +0.1**
baz=324
LONY Lake Ozonia 133.79 347 P **PKPdf** **15 41 11.7 +0.1**
baz=18
F36A Milaca 133.82 5 P **PKPdf** **15 41 11.4 -0.2**
baz=352
PLVO Plevna 133.91 349 P **PKPdf** **15 41 12.1 +0.3**
baz=15
R11A Troy Canyon, C 133.91 30 P **PKPdf** **15 41 13.1 +0.8**
baz=320
F40A Park Falls 133.99 2 P **PKPdf** **15 41 12.1 +0.1**
baz=357
BANO Bancroft 134.08 350 P **PKPdf** **15 41 12.5 +0.3**
baz=14
K22A Casper 134.12 19 P **PKPdf** **15 41 12.3 -0.2**
baz=334
DELO Deloro Mine 134.51 350 P **PKPdf** **15 41 13.3 +0.3**
baz=14
G39A Holcombe 134.57 3 P **PKPdf** **15 41 13.5 +0.4**
baz=355
MPMC Manual Prospec 134.59 34 P **PKPdf** **15 41 14.2 +0.6**
baz=316
G38A Ridgeland 134.65 4 P **PKPdf** **15 41 12.4 -0.8**
baz=354
G42A Mountain 134.71 1 P **PKPdf** **15 41 13.4 0.0**
baz=359
I33A Coleman 135.19 9 P **PKPdf** **15 41 13.8 -0.5**
baz=347
ECSD EROS Data Cent 135.53 9 P **PKPdf** **15 41 15.3 +0.4**
baz=348
I37A Lemond, Waseca 135.66 6 P **PKPdf** **15 41 15.4 +0.3**
baz=352
MEDO Medina 135.97 350 P **PKPdf** **15 41 16.2 +0.5**
baz=14
I39A Houston 135.98 4 P **PKPdf** **15 41 14.6 -1.1**
baz=355
K31A O'Neill 136.22 12 P **PKPdf** **15 41 16.8 +0.6**
baz=344
K32A Verdigre 136.34 11 P **PKPdf** **15 41 17.0 +0.6**
baz=345
J37A Redenius Farm, 136.34 6 P **PKPdf** **15 41 16.5 0.0**
baz=352
J38A Wedel Dairy, R 136.44 5 P **PKPdf** **15 41 16.2 -0.4**
baz=353
J40A Soldiers Grove 136.48 3 P **PKPdf** **15 41 14.9 -1.7**
baz=356
J39A Decorah 136.48 4 P **PKPdf** **15 41 15.2 -1.5**
baz=354
PLCA Paso Flores 136.73 199 PKhKP PKPpre 15 41 14.0
comp=Z,7.3nm,1.2s,baz=225,slow=5.7,SNR=3.5
PLCA PKP **PKPdf** **15 41 18.7 +1.4**
comp=Z,7.0nm,1.1s,baz=175,slow=7.0,SNR=5.7
K37A Belmond 136.87 6 P **PKPdf** **15 41 16.6 -0.8**
baz=352
K36A Gilmore City 136.91 7 P **PKPdf** **15 41 17.4 -0.1**
baz=350
ISCO Idaho Springs 136.98 20 P **PKPdf** **15 41 18.9 +0.8**
baz=334
JFWS Jewell Farm 136.99 3 P **PKPdf** **15 41 17.5 -0.1**
baz=356
K39A Oelwein 137.10 4 P **PKPdf** **15 41 17.4 -0.4**
baz=354
K40A Colesburg 137.15 4 P **PKPdf** **15 41 17.1 -0.9**
baz=355
K42A Prairie Point, 137.15 2 P **PKPdf** **15 41 17.2 -0.7**
baz=358
K43A Burlington 137.25 0 P **PKPdf** **15 41 18.2 +0.1**
baz=359
L35A Bielow Farm, R 137.28 8 P **PKPdf** **15 41 18.1 -0.1**
baz=349
IRM Iron Mountain 137.29 34 P **PKPdf** **15 41 19.3 +0.8**
baz=318
K41A Shullsburg 137.29 3 P **PKPdf** **15 41 18.3 +0.1**
baz=356
BGNE Belgrade 137.51 11 P **PKPdf** **15 41 19.3 +0.6**
baz=345
L39A Vinton 137.66 5 P **PKPdf** **15 41 18.8 -0.1**
baz=354
L40A Anamosa 137.78 4 P **PKPdf** **15 41 17.3 -1.9**
baz=355
M54A Oil Creek Stat 137.78 351 P **PKPdf** **15 41 19.7 +0.5**
baz=12
L41A Preston 137.81 3 P **PKPdf** **15 41 19.4 +0.2**
baz=356
L42A Oliver, Polo 137.92 2 P **PKPdf** **15 41 19.0 -0.4**
baz=357
MVCO Mesa Verde 138.13 25 P **PKPdf** **15 41 20.8 +0.5**
baz=328
M38A Pleasantville 138.25 6 P **PKPdf** **15 41 19.5 -0.5**
baz=352
M43A Waltham Townsh 138.50 1 P **PKPdf** **15 41 20.0 -0.4**
baz=358
SDCO Great Sand Dun 138.85 21 P **PKPdf** **15 41 21.2 -0.4**
baz=333
N39A Derby Farms, D 138.86 5 P **PKPdf** **15 41 19.9 -1.2**
baz=353
N46A Monticello 139.04 359 P **PKPdf** **15 41 21.4 0.0**
baz=1.7
N44A Piper City 139.16 0 P **PKPdf** **15 41 22.6 +0.9**
baz=360
W18A Petrified Fore 139.33 28 P **PKPdf** **15 41 23.1 +0.6**
baz=325
O40A La Belle 139.66 5 P **PKPdf** **15 41 20.8 -1.8**
baz=354
P38A Dawn 139.99 7 P **PKPdf** **15 41 22.2 -1.1**
baz=351
P47A Martinsville 140.44 358 P **PKPdf** **15 41 20.9 -3.1**
baz=2.5
Q39A Willow Grove F 140.62 6 P **PKPdf** **15 41 24.1 -0.3**
baz=352
Q38A Cooks Store, C 140.63 7 P **PKPdf** **15 41 23.9 -0.5**
baz=351
CPUP Villa Florida 140.78 226 PKhKP PKPpre 15 41 19.4
comp=Z,6.6nm,1.1s,baz=62,slow=3.8,SNR=3.6
CPUP PKP **PKPdf** **15 41 26.3 +1.3**
comp=Z,5.2nm,1.0s,baz=136,slow=0.4,SNR=7.6
Q41A Truxton 140.87 4 P **PKPdf** **15 41 24.5 -0.4**
baz=355
ANMO Albuquerque 140.92 25 P **PKPdf** **15 41 25.8 +0.5**
baz=330
TUC Tucson 141.06 32 P **PKPdf** **15 41 26.7 +1.2**
baz=322
R39A Chumby, Stover 141.34 6 P PKPpre 15 41 18.4
baz=352
R40A Maddies Statio 141.44 6 P PKPpre 15 41 19.2
baz=353
R41A Rosebud 141.51 4 P PKPpre 15 41 21.4
baz=354
R42A Luebbering 141.57 4 P PKPpre 15 41 20.8
baz=355
R43A Red Bud 141.62 3 P PKPpre 15 41 20.7
baz=357
R47A Wooly Knot Far 141.63 358 P PKPpre 15 41 20.8
baz=2.1
CCM Cathedral Cave 141.77 4 P PKPpre 15 41 21.3
baz=355
S38A Stockton 141.91 8 P PKPpre 15 41 22.4
baz=350

S39A	Bolivar	141.92	7	P		PKPpre	15 41 22.0
	baz=351						
S42A	Caledonia	142.08	4	P		PKPpre	15 41 21.1
	baz=355						
S40A	Lebanon	142.11	6	P		PKPpre	15 41 21.3
	baz=352						
S41A	Jillco Farms,	142.19	5	P		PKPpre	15 41 22.4
	baz=354						
S43A	Fulton Ridge,	142.32	3	P		PKPpre	15 41 23.2
	baz=356						
T41A	Mountain View	142.73	5	P		PKPpre	15 41 24.4
	baz=354						
T43A	Greenville	142.79	3	P		PKPpre	15 41 23.9
	baz=356						
T42A	Van Buren	142.80	4	P		PKPpre	15 41 23.3
	baz=355						
T48A	Bowling Green	142.81	358	P		PKPpre	15 41 23.9
	baz=2.4						
TZTN	Tazewell	143.18	354	P		PKPab	15 41 24.8 +0.2
	baz=7.2						
U39A	Green Forest	143.19	8	P		PKPab	15 41 25.6 +0.9
	baz=351						
MSTX	Muleshoe	143.21	21	P		PKPab	15 41 25.8 +0.8
	baz=335						
U40A	Yellville	143.30	7	P		PKPab	15 41 26.2 +1.1
	baz=352						
U41A	Viola	143.41	5	P		PKPab	15 41 26.4 +0.8
	baz=353						
U48A	Cassie Pea, Po	143.41	358	P		PKPab	15 41 25.8 +0.3
	baz=2.2						
U42A	Revenden	143.46	5	P		PKPab	15 41 26.4 +0.7
	baz=354						
U47A	Clarksville	143.50	359	P		PKPab	15 41 26.6 +0.7
	baz=0.9						
V39A	Pettigrew	143.71	8	P		PKPab	15 41 26.9 +0.1
	baz=356						
AUSP	Uspallata	143.71	207	*eP*		PKPbc	15 41 30.0 +2.0
WMOK	Wichita Mounta	143.74	15	P		PKPab	15 41 26.8 -0.1
	baz=341						
APLL	PUNTA DE LOS L	143.79	212	*eP*		PKPbc	15 41 29.1 +1.2
WVT	Waverly	143.81	360	P		PKPab	15 41 27.0 0.0
	baz=0.1						
V40A	Witts Springs	143.84	7	P		PKPab	15 41 27.4 +0.1
	baz=352						
V41A	Mountainview	143.94	6	P		PKPab	15 41 27.7 +0.1
	baz=353,SNR=8.1						
V42A	Cord	143.99	5	P		**PKPab**	**15 41 28.0 +0.3**
	baz=354						
RTLS	Leoncito	144.02	208	*eP*		PKPbc	15 41 30.4 +1.4
TKL	Tuckaleechee C	144.08	354		PKhKP	PKPpre	15 41 25.5
	comp=Z,9.4nm,0.9s,baz=143,slow=3.1,SNR=7.7						
V47A	Nunnelly	144.11	360	P		**PKPab**	**15 41 27.8 -0.4**
	baz=0.6						
V46A	Holladay	144.14	0	P		**PKPab**	**15 41 28.1 -0.2**
	baz=360						
MNTX	Cornudas Mount	144.17	26	P		**PKPab**	**15 41 28.8 +0.2**
	baz=329						
V48A	Smith Brothers	144.19	359	P		**PKPab**	**15 41 28.1 -0.4**
	baz=1.8						
KMSC	Kings Mountain	144.27	351	P		**PKPab**	**15 41 28.9 +0.1**
	baz=11,SNR=8.2						
W39A	Magazine	144.32	8	P		**PKPab**	**15 41 29.2 +0.2**
	baz=350,SNR=10						
AMOG	MOGNA	144.35	209	*eP*		**PKPab**	**15 41 30.1 +0.7**
W40A	Ferguson Farm,	144.42	7	P		**PKPab**	**15 41 29.2 -0.2**
	baz=351						
W41B	Gary Mavity, V	144.53	6	P		**PKPab**	**15 41 29.2 -0.6**
	baz=352,SNR=11						
W47A	Westpoint	144.69	360	P		**PKPab**	**15 41 29.6 -0.7**
	baz=0.5,SNR=19						
W43A	Forest City	144.75	4	P		**PKPab**	**15 41 30.1 -0.5**
	baz=355						
W45A	Hickory Valley	144.76	2	P		**PKPab**	**15 41 29.9 -0.7**
	baz=358,SNR=8.9						
W48A	Pulaski	144.79	359	P		**PKPab**	**15 41 29.6 -1.1**
	baz=1.6,SNR=14						
W46A	Michie	144.81	1	P		**PKPab**	**15 41 29.9 -0.9**
	baz=359,SNR=5.4						
X39A	Fountain Ranch	144.94	9	P		**PKPab**	**15 41 31.5 +0.2**
	baz=349,SNR=60						
MIAR	Mount Ida	144.99	8	P		**PKPab**	**15 41 31.5 +0.1**
	baz=350,SNR=62						
X40A	Basin Creek Fa	145.14	7	P		**PKPbc**	**15 41 31.4 -0.5**
	baz=351,SNR=15						
X41A	Kaden, Bauxite	145.17	7	P		**PKPbc**	**15 41 31.5 -0.6**
	baz=352						
X42A	Stuttgart	145.21	5	P		**PKPbc**	**15 41 31.5 -0.7**
	baz=353						
X43A	Marvell	145.31	4	P		**PKPbc**	**15 41 31.9 -0.6**
	baz=355						
X44A	Crenshaw	145.38	3	P		**PKPbc**	**15 41 32.2 -0.5**
	baz=356						
X46A	Booneville	145.38	1	P		**PKPbc**	**15 41 32.2 -0.5**
	baz=359,SNR=8.6						
X49A	Woodville	145.40	358	P		**PKPbc**	**15 41 31.8 -1.0**
	baz=2.7,SNR=18						
OXF	Oxford	145.40	2	P		**PKPbc**	**15 41 32.3 -0.5**
	baz=357,SNR=9.8						
X47A	Russelville	145.42	360	P		**PKPbc**	**15 41 31.7 -1.2**
	SNR=17						
AROD	Rodeo	145.47	209	*eP*		**PKPbc**	**15 41 33.6 0.0**
ABTX	Abilene, Hawle	145.48	18	P		**PKPdf**	**15 41 32.4 -0.8**
	baz=339						
X48A	Hartselle	145.48	359	P		**PKPdf**	**15 41 32.0 -1.1**
	baz=1.4,SNR=19						
X45A	UM Field Stati	145.49	2	P		**PKPdf**	**15 41 32.5 -0.6**
	baz=357,SNR=7.4						
AGUA	GUANDACOL	145.53	211	*eP*		**PKPdf**	**15 41 33.2 -0.3**
Y40A	Okolona	145.55	8	P		**PKPdf**	**15 41 33.2 0.0**
	baz=350,SNR=14						
Y41A	Eaglette Beard	145.77	7	P		**PKPdf**	**15 41 33.8 +0.2**
	baz=352,SNR=18						
Y42A	Garnett, Star	145.90	6	P		**PKPdf**	**15 41 34.4 +0.6**
	baz=353						
Y43A	Makayla and Ka	145.91	5	P		**PKPdf**	**15 41 34.4 +0.6**
	baz=354,SNR=5.8						
VCA	Vinchina	145.99	212	*eP*		**PKPdf**	**15 41 33.0 -1.3**
Y50A	Piedmont	145.99	357	P		**PKPdf**	**15 41 34.0 0.0**
	baz=3.8,SNR=10						
Y48A	Jasper	146.02	359	P		**PKPdf**	**15 41 33.6 -0.4**
	baz=1.2,SNR=21						
Y47A	UCPARC, Winfie	146.04	360	P		**PKPdf**	**15 41 33.8 -0.2**
	SNR=33						
Y45A	Yeager Farm, C	146.04	2	P		**PKPdf**	**15 41 34.3 +0.2**
	baz=357,SNR=7.7						
Y46A	Houston	146.04	1	P		**PKPdf**	**15 41 34.0 0.0**
	baz=358,SNR=21						
NHSC	New Hope	146.04	348	P		**PKPdf**	**15 41 34.9 +0.8**
	baz=14						
Y49A	Blount Mountai	146.05	358	P		**PKPdf**	**15 41 34.0 -0.1**
	baz=2.6,SNR=23						
GOGA	Godfrey	146.27	353	P		**PKPdf**	**15 41 34.9 +0.4**
	baz=7.9,SNR=22						
Z40A	Long Farm, Mag	146.28	8	P		**PKPdf**	**15 41 35.5 +1.0**
	baz=350						
Z41A	Richland Creek	146.36	7	P		**PKPdf**	**15 41 35.8 +1.2**
	baz=351						
Z42A	Norrel Spur, H	146.44	6	P		**PKPdf**	**15 41 36.3 +1.6**
	baz=353						
Z45A	Winona	146.52	3	P		**PKPdf**	**15 41 35.5 +0.6**
	baz=357						
Z48A	Northport	146.56	360	P		**PKPdf**	**15 41 35.5 +0.5**
	baz=0.6,SNR=16						
Z50A	Ashland	146.63	357	P		**PKPdf**	**15 41 35.5 +0.4**
	baz=3.5,SNR=9.1						
WHTX	Lake Whitney,	146.69	15	P		**PKPbc**	**15 41 37.5 +0.7**
	baz=342						
Z49A	Columbiana	146.72	358	P		**PKPdf**	**15 41 36.0 +0.8**
	baz=2.4,SNR=12						
FSA	Cafayete	146.72	218	*eP*		**PKPdf**	**15 41 34.6 -1.1**
Z46A	Louisville	146.73	2	P		**PKPdf**	**15 41 36.9 +1.6**
	baz=358						
Z47A	Carrollton	146.74	0	P		**PKPdf**	**15 41 35.6 +0.4**
	baz=360,SNR=13						
140A	Cam and Jess,	146.86	9	P		**PKPdf**	**15 41 36.2 +0.8**
	baz=350						
LRAL	Lakeview Retre	146.89	359	P		**PKPdf**	**15 41 36.8 +1.3**
	baz=1.6,SNR=7.9						
155A	Kite	146.92	352	P		**PKPdf**	**15 41 36.7 +1.1**
	baz=9.9,SNR=10						
TXAR	Lajitas Array	146.95	26		PKPbc	**PKPdf**	**15 41 36.9 +1.0**
	comp=Z,15nm,0.8s,baz=320,slow=0.7,SNR=87						
141A	Papa Simpson,	146.99	8	P		**PKPbc**	**15 41 37.8 +0.2**
	baz=351						
154A	Montrose	147.01	353	P		**PKPdf**	**15 41 37.3 +1.6**
	baz=8.7,SNR=10						
ALOL	LOMAS DE OLMED	147.03	223	*eP*		**PKPdf**	**15 41 34.2 -1.9**
143A	Socs Landing,	147.06	5	P		**PKPdf**	**15 41 36.7 +0.9**
	baz=354						
144A	Alexander Plac	147.22	4	P		**PKPdf**	**15 41 37.5 +1.4**
	baz=355						
147A	Livingston	147.26	1	P		**PKPdf**	**15 41 37.0 +0.8**
	baz=359,SNR=10						
ASTB	Santa Barbara	147.26	222	*eP*		**PKPdf**	**15 41 35.4 -1.3**
145A	Houston Renfro	147.27	3	P		**PKPdf**	**15 41 37.3 +1.1**
	baz=356						
146A	Union	147.28	2	P		**PKPdf**	**15 41 38.0 +1.8**
	baz=358,SNR=9.6						
150A	Eclectic	147.28	357	P		**PKPdf**	**15 41 37.8 +1.6**
	baz=3.4,SNR=11						
148A	Greensboro	147.29	360	P		**PKPdf**	**15 41 37.7 +1.5**
	baz=0.5						
151A	Opelika	147.32	356	P		**PKPdf**	**15 41 36.7 +0.5**
	baz=4.7,SNR=7.8						
149A	Jones	147.32	358	P		**PKPdf**	**15 41 36.7 +0.4**
	baz=2.0,SNR=6.9						
JCT	Junction City	147.41	19	P		**PKPdf**	**15 41 36.9 +0.4**
	baz=338						
AZAP	Zapla	147.48	221	*eP*		**PKPdf**	**15 41 36.0 -1.1**
NATX	Nacogdoches	147.53	11	P		**PKPbc**	**15 41 39.1 -0.1**
	baz=347						
VBMS	Vicksburg	147.62	4	P		**PKPdf**	**15 41 38.5 +1.7**
	baz=355						
253A	Americus	147.68	354	P		**PKPdf**	**15 41 38.1 +1.2**
	baz=7.0						
254A	Abbeville	147.69	353	P		**PKPbc**	**15 41 39.3 -0.3**
	baz=8.5,SNR=10						
251A	Midway	147.76	356	P		**PKPdf**	**15 41 37.6 +0.6**
	baz=4.6,SNR=21						
244A	Avery, Jackson	147.78	4	P		**PKPbc**	**15 41 39.7 -0.2**
	baz=355						
435B	Jarrell	147.80	16	P		**PKPdf**	**15 41 37.7 +0.6**
	baz=342						
252A	Lumpkin	147.80	355	P		**PKPdf**	**15 41 38.0 +0.9**
	baz=5.8,SNR=14						
248A	Dixon Mills	147.84	360	P		**PKPbc**	**15 41 39.9 -0.2**
	baz=0.2						
245A	Little AP, Sta	147.84	3	P		**PKPbc**	**15 41 40.0 0.0**
	baz=356						
247A	Quitman	147.87	1	P		**PKPbc**	**15 41 40.5 +0.4**
	baz=359						
250A	Grady	147.92	357	P		**PKPdf**	**15 41 37.9 +0.6**
	baz=3.0						
249A	Camden	147.95	359	P		**PKPdf**	**15 41 38.7 +1.4**
	baz=1.4						
341A	Kurthwood	148.20	9	P		**PKPbc**	**15 41 40.8 -0.2**
	baz=350						
355A	Pearson	148.23	352	P		**PKPdf**	**15 41 39.7 +1.9**
	baz=9.5						
342A	Flagon Creek P	148.28	7	P		**PKPdf**	**15 41 40.2 +2.3**
	baz=352						
352A	Blakely	148.33	355	P		**PKPdf**	**15 41 39.6 +1.7**
	baz=5.6						
344A	Westbrook Farm	148.36	5	P		**PKPdf**	**15 41 39.5 +1.5**
	baz=354						
353A	Camilla	148.39	354	P		**PKPbc**	**15 41 40.9 -0.7**
	baz=6.9						
HJA	Humahuaca	148.41	222	*eP*		**PKPdf**	**15 41 37.4 -1.4**
348A	Jackson	148.52	0	P		**PKPdf**	**15 41 40.3 +2.1**
	baz=360						
347A	Saraland	148.52	1	P		**PKPdf**	**15 41 40.4 +2.2**
	baz=359						
YJA	Yavi	149.18	224	*eP*		**PKPdf**	**15 41 39.0 -1.1**
SIV	San Ignacio	149.27	238	PKP		**PKPdf**	**15 41 40.2 +0.3**
	comp=Z,18nm,1.0s,baz=111,slow=5.1,SNR=10						
SIV				PKPbc		**PKPbc**	**15 41 43.8 -0.4**
	comp=Z,18nm,1.0s,baz=125,slow=3.9,SNR=39						
556A	Lake Butler	149.48	351	P		**PKPbc**	**15 41 44.0 -0.3**
	baz=11						
833A	Chaparral WMA,	149.53	20	P		**PKPdf**	**15 41 41.5 +1.5**
	baz=337						
FDF	Fort de France	149.66	300	*eP*		**PKPbc**	**15 41 44.7 -0.5**
BIM	Bigot	149.69	300	*eP*		**PKPbc**	**15 41 45.3 0.0**
657A	Interlachen	149.79	350	P		**PKPbc**	**15 41 45.0 -0.1**
	baz=12						
LPAZ	La Paz	154.83	230	PKP		**PKPdf**	**15 41 49.6 +0.7**
	comp=Z,10nm,1.0s,baz=59,slow=1.1,SNR=26						
LPAZ				PKPbc		**PKPbc**	**15 41 57.9 +0.3**
	comp=Z,16nm,1.0s,baz=9.5,slow=4.3,SNR=17						
SDV	Santo Domingo	160.57	298	PKP		**PKPdf**	**15 41 55.1 -0.5**
	comp=Z,1.9nm,0.4s,baz=124,slow=3.2,SNR=7.2						
SDV				PKPab		**PKPab**	**15 42 36.3 -0.7**
	comp=Z,5.1nm,0.7s,baz=60,slow=4.4,SNR=6.3						
NNA	Nana	163.99	223	PKPab		**PKPab**	**15 42 51.6 -0.1**
	comp=Z,8.7nm,0.6s,baz=155,slow=6.2,SNR=3.4						
RUSC	La Rusia	164.02	293	*eP*		**PKPdf**	**15 41 57.6 -1.9**
APG	El Apazote	164.64	9	PKP		**PKPdf**	**15 41 58.9 -0.7**
	comp=Z,2.4nm,0.7s,baz=342,slow=8.1,SNR=3.8						
APG				PKPab		**PKPab**	**15 42 53.8 -0.8**
	comp=Z,21nm,1.2s,baz=316,slow=9.5,SNR=7.7						
PTBC	PUERTO BERRIO	165.00	297	*eP*		**PKPdf**	**15 41 59.6 -0.1**
ROSC	El Rosal	165.54	291	PKP		**PKPdf**	**15 42 00.7 +0.1**
	comp=Z,6.3nm,0.4s,baz=68,slow=3.0,SNR=12						
ROSC				PKPab		**PKPab**	**15 42 58.5 -0.7**
	comp=Z,4.5nm,0.4s,baz=162,slow=20,SNR=3.5						
YOTC	Yotoco, Valle	167.73	290	*eP*		**PKPdf**	**15 41 59.6 -2.4**
ATAH	Atahualpa	168.32	234	PKP		**PKPdf**	**15 42 03.9 +1.1**
	comp=Z,2.8nm,0.4s,baz=177,slow=2.8,SNR=5.1						
SOTA	Rioblanco	168.49	282	*eP*		PKPpre	15 41 57.0
OTAV	Otavalo	170.56	273	*eP*		PKPpre	15 41 59.4

*ISCJB **14** 15:27:29.6±0.8,25°.93S±0°.09×178°.3E±0°.1, h600km, mb4.1/8, Error ellipse: s-maj=14.8km s-min=11.6km az=162.2*

*IDC **14** 15:27:30.6±1.8,25°.84S×178°.30E, h596km±19km, mb3.5/8, mb1 3.6/11,mb1mx3.2/48,mbtmp4.6/11, Error ellipse: s-maj=17.3km s-min=13.9km az=28.0*

ISC 14 15:27:30.6±0.8,26°.00S±0°.10×178°.3E±0°.1, h600km, n23, σ1§68/27, mb4.1/8, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	Urewera	12.27	185	P		**P**	15 30 11.7 -0.2
	2.7nm,0.3s,baz=277,slow=1.0,SNR=15						
URZ				S		**S**	15 32 19.6 -4.8
	1.3nm,0.3s,baz=190,slow=22,SNR=11						
AFI	Afiamalu	15.19	40	P		**P**	15 30 37.9 -2.9
	1.8nm,0.3s,baz=158,slow=4.7,SNR=4.4						
RPZ	Rata Peaks	18.64	197	P		**P**	15 31 12.7 +0.8
	2.2nm,0.3s,baz=359,slow=2.8,SNR=14						
CAN	Canberra	26.80	243	P		**P**	15 32 26.7 +2.0
	baz=64						
STKA	Stephens Creek	32.57	251	P		**P**	15 33 15.1 +0.9
	2.7nm,0.4s,baz=100,slow=13,SNR=7.3						
PMG	Port Moresby	33.84	293	P		**P**	15 33 25.1 +0.1
	18nm,0.9s,baz=221,slow=15,SNR=3.8						
ASAR	Alice Springs	40.24	263	P		**P**	15 34 17.4 +0.2
	3.8nm,0.4s,baz=94,slow=7.1,SNR=37						
ASAR				S		**S**	15 39 41.3 -1.4
	2.5nm,0.8s,baz=101,slow=17,SNR=13						
WRA	Warramunga Arr	40.80	269	P		**P**	15 34 21.4 -0.3
	1.1nm,0.4s,baz=103,slow=7.2,SNR=31						
WRA				ScP		**ScP**	15 39 02.2 +1.2
	0.5nm,0.6s,baz=102,slow=3.6,SNR=5.0						
WRA				S		**S**	15 39 47.5 -3.3
	1.1nm,0.8s,baz=102,slow=15,SNR=5.0						
FITZ	Fitzroy Crossi	49.19	268	P		**P**	15 35 25.7 +0.1
	3.7nm,0.8s,baz=122,slow=7.0,SNR=15						
VNDA	Vanda	52.18	184	P		**P**	15 35 48.2 +2.0
	1.6nm,0.5s,baz=4.8,slow=10,SNR=5.3						
MAW	Mawson	75.26	201	P		**P**	15 38 13.8 +1.1
	3.6nm,0.6s,baz=161,slow=6.6,SNR=6.4						
SNAA	Sanae	82.60	180	P		**P**	15 38 51.7 +0.1
SNAA	Sanae	82.60	180	P		**P**	15 38 52.2 +0.6
	3.7nm,0.6s,baz=201,slow=8.3,SNR=16						
VNA3	Neumayer Olymp	82.87	177	P		**P**	15 38 53.8 +1.0
VNA2	Neumayer−Watz	83.27	178	P		**P**	15 38 55.8 +1.0
	baz=183,slow=4.2						
BVAR	Borovoye Array	120.99	318	PKP		**PKPdf**	**15 45 15.4 -0.1**
	0.6nm,0.4s,baz=108,slow=2.3,SNR=6.7						
ARCES	ARCESS Array B	133.60	347	PKP		**PKPdf**	**15 45 39.9 +0.8**
	3.2nm,1.0s,baz=29,slow=2.8,SNR=4.4						
FINES	FINESS Array B	139.91	340	PKP		**PKPdf**	**15 45 52.5 +1.6**
	2.2nm,0.9s,baz=108,slow=1.8,SNR=3.3						
AKASG	Malin Array Be	145.84	324	PKPbc		**PKPbc**	**15 46 03.6 +0.1**
	0.3nm,0.5s,baz=39,slow=3.6,SNR=3.1						
MMAI	Mount Meron Ar	147.11	291	PKPbc		**PKPbc**	**15 46 08.6 +1.0**
	1.4nm,0.4s,baz=75,slow=6.1,SNR=3.8						
BRTR	Keskin Array B	147.55	304	PKPbc		**PKPbc**	**15 46 07.5 -1.2**
	0.4nm,0.5s,baz=48,slow=2.1,SNR=2.9						
EKA	Eskdalemuir Ar	150.67	2	PKPbc		**PKPbc**	**15 46 13.6 -1.9**
	0.5nm,0.6s,baz=344,slow=2.3,SNR=3.2						
TORD	Torodi Ar. Bea	166.83	195	PKPab		**PKPab**	**15 47 36.8 +0.3**
	1.1nm,0.4s,baz=164,slow=4.2,SNR=13						

*ISCJB **14** 15:30:49.6±0.2,51°.51N±0°.02×16°.15E±0°.02, h0km, mb3.7/10, Error ellipse: s-maj=2.2km s-min=1.9km az=18.7*

*CSEM **14** 15:30:51.3±0.1,51°.51N×16°.14E, h2km, ML4.0/17, Error ellipse: s-maj=2.7km s-min=2.5km az=46.0*

*IDC **14** 15:30:52.2±0.5,51°.43N×16°.07E, h0km, mb3.7/10, mb1 3.8/17,mb1mx3.6/73,mbtmp3.7/17, ML3.4/7, Error ellipse: s-maj=10.8km s-min=6.6km az=108.0*

*BGR **14** 15:30:52.7±0.6,51°.45N×16°.13E, h1km, ML3.5/12, Error ellipse: s-maj=8.9km s-min=4.4km az=25.0*

*PRU **14** 15:30:52.8,51°.46N×16°.10E, h0km*

*UPP **14** 15:30:53.1±3.3,51°.55N×15°.44E, h0km, ML1.7*

*VIE **14** 15:30:54.6±0.7,51°.28N×15°.98E, h0km, mb3.0/12, ML3.1/16, Error ellipse: s-maj=6.3km s-min=5.5km az=56.0, Suspected Mining induced.*

ISC 14 15:30:51.2±0.5,51°.52N±0°.02×16°.10E±0°.02, h0km, n164, σ1§32/248, mb3.6/10, 8C-21D, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSP	Ksiaz	0.69	170	*i* Pg	Pg	15 31 04.8	+0.5
KSP				*e*Sg	Sg	15 31 13.3	+0.1
KSP				*e*		15 31 16.7	
KSP	Ksiaz	0.69	170	*e*Pg	Pg	15 31 04.8	+0.5
KSP	Ksiaz	0.69	170	Pg	Pg	15 31 04.8	+0.5
KSP				*e*Sg	Sg	15 31 13.3	+0.1
UPC	Upice	1.01	183	‖ *i*PG	Pg	15 31 10.8	+0.2
UPC				*e*SG	Sg	15 31 23.8	+0.1
	comp=Z,276nm,0.4s						
UPC	Upice	1.01	183	Pg	Pg	15 31 10.8	+0.2
UPC				Sg	Sg	15 31 23.8	+0.1
	276nm,0.4s						
DPC	Dobruska-Polom	1.18	173	*e*Pg	Pg	15 31 13.6	-0.1
DPC				*e*Sg	Sg	15 31 29.0	0.0
DPC	Dobruska-Polom	1.18	173	‖ *i*PG	Pg	15 31 13.6	-0.1
DPC				*e*SG	Sg	15 31 28.8	-0.2
	comp=Z,217nm,0.6s						
DPC	Dobruska-Polom	1.18	173	Pg	Pg	15 31 13.6	-0.1
DPC				Sg	Sg	15 31 28.8	-0.2
	217nm,0.6s						
PVCC	Panska Ves	1.38	225	‖ *e*PG	Pb	15 31 17.9	0.0
PVCC				*e*SG	Sn	15 31 37.6	+0.9
	comp=Z,449nm,0.3s						
PVCC	Panska Ves	1.38	225	Pg	Pb	15 31 17.9	0.0
PVCC				Sg	Sn	15 31 37.6	+0.9
	449nm,0.3s						
BRG	Berggiesshubel	1.50	245	PN	Pn	15 31 19.0	-0.3
BRG				PG	Pg	15 31 20.9	+1.0
BRG				SG	Sn	15 31 41.0	+1.4
	243nm,0.5s						
BRG	Berggiesshubel	1.50	245	*e*Pn	Pn	15 31 18.9	-0.4
BRG				*e*Sg	Sn	15 31 40.7	+1.1
BRG	Berggiesshubel	1.50	245	Pn	Pn	15 31 18.9	-0.4
BRG				Sg	Sn	15 31 40.7	+1.1
KRLC	Kraliky	1.51	163	‖ *e*PG	Pn	15 31 19.1	-0.4
KRLC				*e*SG	Sg	15 31 39.0	-0.6
KRLC	Kraliky	1.51	163	Pg	Pn	15 31 19.1	-0.4
KRLC				Sg	Sg	15 31 39.0	-0.6
PRA	Prague	1.79	217	‖ *e*PG	Pg	15 31 25.8	+0.3
PRA				*e*SG	Sg	15 31 49.3	+0.6
PRA	Prague	1.79	217	Pg	Pg	15 31 25.8	+0.3
PRA				Sg	Sg	15 31 49.3	+0.6
GOPC	GO Pecny, Ondr	1.81	208	‖ *e*PN	Pn	15 31 23.3	-0.3
GOPC				*e*PG	Pb	15 31 25.4	+0.2
GOPC				*e*SG	Sb	15 31 48.5	+0.1
	comp=Z,176nm,0.7s						
GOPC	GO Pecny, Ondr	1.81	208	Pn	Pn	15 31 23.3	-0.3
PRU	Pruhonice	1.82	213	‖ *e*PN	Pn	15 31 23.5	-0.2
PRU				*e*PG	Pb	15 31 25.4	0.0
PRU				*e*SG	Sb	15 31 48.5	-0.2
	comp=Z,168nm,0.6s						
PRU	Pruhonice	1.82	213	Pn	Pn	15 31 23.5	-0.2
FBE	Freiberg	1.83	252	*e*Pn	Pn	15 31 23.8	0.0
FBE	Freiberg	1.83	252	Pn	Pn	15 31 23.8	0.0
CLL	Collm	1.95	265	*e*Pn	Pn	15 31 25.2	-0.3
CLL				*e*Sg	Sg	15 31 54.8	+1.0
CLL	Collm	1.95	265	*e*Pn	Pn	15 31 25.0	-0.5
CLL				*e*Pg	Pg	15 31 29.0	+0.5
CLL				*i*		15 31 32.7	
CLL				*e*		15 31 43.0	
CLL				*e*Sg	Sg	15 31 54.0	+0.2
	comp=Z,168nm,0.7s						
CLL	Collm	1.95	265	Pn	Pn	15 31 25.2	-0.3
CLL				Sg	Sg	15 31 54.8	+1.0
RAC	Raciborz	1.96	136	*e*Pg	Pg	15 31 28.6	0.0
RAC				*e*Sg	Sg	15 31 54.9	+0.9
MORC	Moravsky Berou	1.97	152	*e*Pn	Pn	15 31 25.3	-0.5
MORC	Moravsky Berou	1.97	152	‖ *i*P	Pn	15 31 25.5	-0.3
MORC	Moravsky Berou	1.97	152	‖ *i*P	Pn	15 31 25.5	-0.3
MORC				S	Sn	15 31 50.9	-0.4
MORC				*e*Sg	Sb	15 31 52.1	-0.9
OKC	Ostrava-Krasne	2.13	141	*e*Pn	Pn	15 31 26.9	-1.0
OKC	Ostrava-Krasne	2.13	141	‖ *e*PG	Pg	15 31 31.3	-0.6
OKC				*e*SG	Sb	15 31 57.6	+0.1
	comp=Z,323nm,0.8s						
OKC	Ostrava-Krasne	2.13	141	Pn	Pn	15 31 26.9	-1.0
OKC	Ostrava-Krasne	2.13	141	Pg	Pg	15 31 31.3	-0.6
OKC				Sg

MODS	Modra-Piesok	3.24	166	*e*PG	Pg	15 31 52.8	-0.4
MODS				*e*SG	Sg	15 32 32.8	-2.3
ZST	Bratislava	3.39	169	*e*PG	Pg	15 31 54.9	-1.2
ZST				*e*Sg	Sg	15 32 37.7	-2.3
ZST	Bratislava	3.39	169	*e*PG	Pg	15 31 54.8	-1.3
ZST				*e*SG	Sg	15 32 37.7	-2.3
ZST				*e*LG	Lg	15 32 45.6	
NIE	Niedzica	3.41	126	*e*Pn	Pn	15 31 46.3	+0.7
NIE				*e*Pg	Pg	15 31 56.0	-0.5
NIE				*e*Sg	Sg	15 32 41.5	+0.9
NIE	Niedzica	3.41	126	*e*Pn	Pn	15 31 46.3	+0.7
VYHS	Vyhne	3.50	149	*e*Pg	Pg	15 31 57.3	-1.0
VYHS				*e*Sg	Sg	15 32 42.3	-1.4
VYHS	Vyhne	3.50	149	*e*PG	Pg	15 31 57.3	-1.0
VYHS				*e*SG	Sg	15 32 42.3	-1.4
VYHS				*e*LG	Lg	15 33 09.0	
CLZ	Clausthal	3.58	277	*e*Pn	Pn	15 31 48.9	+1.0
CLZ	Clausthal	3.58	277	Pn	Pn	15 31 48.9	+1.0
CONA	Conrad Observa	3.60	183	Pn	Pn	15 31 48.8	+0.6
	comp=Z,4.7nm,0.4s,SNR=8.6						
CONA				Sg	Sg	15 32 44.4	-2.3
	comp=Z,43nm,0.4s						
CONA	Conrad Observa	3.60	183	*i* Pn	Pn	15 31 48.8	+0.6
	comp=Z,4.7nm,0.4s,SNR=8.6						
CONA				*e*Sg	Sg	15 32 44.4	-2.3
	comp=Z,43nm,0.4s						
GRA1	Grafenberg Arr	3.60	241	Pn	Pn	15 31 49.1	+0.8
GRF	Grafenberg Arr	3.60	241	*e*Pn	Pn	15 31 49.1	+0.8
BSD	Bornholm Skovb	3.67	349	*i* P	Pn	15 31 48.9	-0.2
BSD				*i* S	Sn	15 32 29.5	-3.6
	comp=Z,1μm,23.0s						
BSD	Bornholm Skovb	3.67	349	*i* P	Pn	15 31 49.5	+0.4
BSD	Bornholm Skovb	3.67	349	*i* P	Pn	15 31 48.9	-0.2
BSD				*i* S	Sn	15 32 29.5	-3.6
MOA	Molln	3.86	199	Pn	Pn	15 31 52.2	+0.4
	comp=Z,18nm,0.6s,SNR=11						
MOA				Sg	Sg	15 32 54.5	-0.6
	comp=Z,83nm,0.6s						
MOA	Molln	3.86	199	*e*Pn	Pn	15 31 52.2	+0.4
	comp=Z,18nm,0.6s,SNR=11						
MOA				Sg	Sg	15 32 54.5	-0.6
	comp=Z,83nm,0.6s						
STHS	Stebnicka Huta	3.90	121	*e*Pg	Pg	15 32 06.4	+0.5
STHS				*e*Sg	Sg	15 33 00.7	+4.3
STHS	Stebnicka Huta	3.90	121	*e*PG	Pg	15 32 06.4	+0.5
STHS				*e*SG	Sg	15 33 00.7	+4.3
STHS				*e*LG	Lg	15 33 05.0	
ARSA	Arzberg	4.29	185	Pn	Pn	15 31 59.2	+1.5
	comp=Z,2.9nm,0.3s						
ARSA				Sg	Sg	15 33 08.8	-0.1
	comp=Z,72nm,0.8s						
ARSA	Arzberg	4.29	185	*e*Pn	Pn	15 31 59.2	+1.5
	comp=Z,2.9nm,0.3s						
ARSA				Sg	Sg	15 33 08.8	-0.1
	comp=Z,72nm,0.8s						
CRVS	Cervenica-Dubn	4.33	125	*e*Pg	Pg	15 32 14.0	0.0
CRVS				*e*Sg	Sg	15 33 09.4	-0.7
CRVS	Cervenica-Dubn	4.33	125	*e*PG	Pg	15 32 14.0	0.0
CRVS				*e*SG	Sg	15 33 09.4	-0.7
PSZ	Piszkesteto	4.36	144	⇑*i*P	Pn	15 31 59.4	+0.7
PSZ	Piszkesteto	4.36	144	⇑*i*P	Pn	15 31 59.4	+0.7
LUNU	Lund	4.41	340	P	Pn	15 31 58.8	-0.5
LUNU				S	Sn	15 32 48.1	-3.3
LUNU	Lund	4.41	340	P	Pn	15 31 58.8	-0.5
LUNU				S	Sn	15 32 48.1	-3.3
LLD	Lille Linde	4.47	330	*i* P	Pn	15 31 58.6	-1.5
LLD				*i*		15 32 23.5	
LLD	Lille Linde	4.47	330	*i* P	Pn	15 31 59.2	-0.9
LLD	Lille Linde	4.47	330	*e*P	Pn	15 31 58.6	-1.5
KWP	Kalwaria Pacla	4.62	112	*e*Pg	Pg	15 32 16.8	-2.8
KWP				*e*Sg	Sg	15 33 27.3	+8.0
KWP	Kalwaria Pacla	4.62	112	*e*PG	Pg	15 32 16.8	-2.8
KBA	Koelnbreinsper	4.79	203	Pn	Pn	15 32 05.7	+0.9
	comp=Z,2.1nm,0.2s,SNR=5.7						
KBA				Sg	Sg	15 33 25.5	+0.4
	comp=Z,56nm,0.7s						
KBA	Koelnbreinsper	4.79	203	*i* Pn	Pn	15 32 05.7	+0.9
	comp=Z,2.1nm,0.2s,SNR=5.7						
KBA				Sg	Sg	15 33 25.5	+0.4
	comp=Z,56nm,0.7s						
SOKA	Soboth	4.89	189	Pn	Pn	15 32 07.8	+1.8
	comp=Z,2.8nm,0.6s						
SOKA	Soboth	4.89	189	*e*Pn	Pn	15 32 07.8	+1.8
	comp=Z,2.8nm,0.6s						
BJUU	Bjuv	4.92	339	P	Pn	15 32 04.9	-1.3
BJUU	Bjuv	4.92	339	P	Pn	15 32 04.9	-1.3
PERS	Pernice	4.93	188	*e*Pn	Pn	15 32 08.7	+2.2
PERS	Pernice	4.93	188	*e*Pn	Pn	15 32 08.7	+2.2
OBKA	Obir	5.12	192	Pn	Pn	15 32 09.6	+0.5
OBKA				Sg	Sg	15 33 32.2	-3.2
	comp=Z,58nm,0.8s						
OBKA	Obir	5.12	192	*e*Pn	Pn	15 32 09.6	+0.5
OBKA				Sg	Sg	15 33 32.2	-3.2
	comp=Z,58nm,0.8s						
WATA	Walderalm	5.12	217	Pn	Pn	15 32 10.3	+1.1
	comp=Z,12nm,0.5s						
WATA	Walderalm	5.12	217	*i* Pn	Pn	15 32 10.3	+1.1
	comp=Z,12nm,0.5s						
MYKA	Terra Mystica	5.15	199	Sg	Sg	15 33 36.6	0.0
	comp=Z,36nm,0.7s						
MYKA	Terra Mystica	5.15	199	Sg	Sg	15 33 36.6	0.0
	comp=Z,36nm,0.7s						
WTTA	Wattenberg	5.16	216	Pn	Pn	15 32 11.2	+1.4
	comp=Z,3.3nm,0.3s						
WTTA				Sg	Sg	15 33 35.5	-1.3
	comp=Z,25nm,0.6s						
WTTA	Wattenberg	5.16	216	*e*Pn	Pn	15 32 11.2	+1.4
	comp=Z,3.3nm,0.3s						
WTTA				Sg	Sg	15 33 35.5	-1.3
	comp=Z,25nm,0.6s						
MOTA	Moosalm	5.30	220	Pn	Pn	15 32 12.0	+0.4
	comp=Z,5.6nm,0.5s,SNR=8.5						
MOTA				Sg	Sg	15 33 42.2	+0.9
	comp=Z,38nm,0.8s						
MOTA	Moosalm	5.30	220	*i* Pn	Pn	15 32 12.0	+0.4
	comp=Z,5.6nm,0.5s,SNR=8.5						
MOTA				*e*Sg	Sg	15 33 42.2	+0.9
	comp=Z,38nm,0.8s						
ABTA	Abfaltersbach	5.32	208	Pn	Pn	15 32 13.3	+1.4
	comp=Z,7.7nm,0.6s						
ABTA				Sg	Sg	15 33 40.4	-1.7
	comp=Z,37nm,0.8s						
ABTA	Abfaltersbach	5.32	208	*e*Pn	Pn	15 32 13.3	+1.4
	comp=Z,7.7nm,0.6s						
ABTA				Sg	Sg	15 33 40.4	-1.7
	comp=Z,37nm,0.8s						
RETA	Reutte	5.33	223	Pn	Pn	15 32 12.0	+0.1
	comp=Z,4.1nm,0.3s						
RETA				Sg	Sg	15 33 41.5	-0.6
	comp=Z,26nm,0.8s						
RETA	Reutte	5.33	223	*e*Pn	Pn	15 32 12.0	+0.1
	comp=Z,4.1nm,0.3s						
RETA				Sg	Sg	15 33 41.5	-0.6
	comp=Z,26nm,0.8s						
OSKU	Oskarshamn	5.69	0	P	Pn	15 32 16.9	+0.1
OSKU	Oskarshamn	5.69	0	P	Pn	15 32 16.9	+0.1
FETA	Feichten	5.71	220	Pn	Pn	15 32 18.2	+0.9
	comp=Z,5.3nm,0.7s						
FETA	Feichten	5.71	220	*e*Pn	Pn	15 32 18.2	+0.9
	comp=Z,5.3nm,0.7s						
VISS	Visnje	5.78	189	*e*Pn	Pn	15 32 19.3	+1.2
VISS	Visnje	5.78	189	*e*Pn	Pn	15 32 19.3	+1.2
BYXU	Byxelkrok	5.81	5	P	Pn	15 32 18.9	+0.5
BYXU	Byxelkrok	5.81	5	P	Pn	15 32 18.9	+0.5
ASPU	Aespoe	5.92	3	P	Pn	15 32 20.3	+0.3
BOJS	Bojanci	6.04	186	*e*Pn	Pn	15 32 23.1	+1.4
BOJS	Bojanci	6.04	186	*e*Pn	Pn	15 32 23.1	+1.4
EKSU	Eksjoe	6.08	356	P	Pn	15 32 22.3	0.0
EKSU	Eksjoe	6.08	356	P	Pn	15 32 22.3	0.0
VSTU	Vaestervik	6.16	2	P	Pn	15 32 24.0	+0.7
SIRR	Siria	6.41	143	⇓*i*P	Pn	15 32 28.5	+1.8
SIRR	Siria	6.41	143	⇓*i*P	Pn	15 32 28.5	+1.8
DRGR		6.42	135	⇑*i*P	Pn	15 32 27.1	+0.2
DRGR		6.42	135	⇑*i*P	Pn	15 32 27.1	+0.2
BZS	Buzias	6.95	146	⇓*i*P	Pn	15 32 32.7	-1.4
BZS	Buzias	6.95	146	⇓*i*P	Pn	15 32 32.7	-1.4
VIKU	Vikbolandet	7.01	3	P	Pn	15 32 35.0	+0.1
VIKU	Vikbolandet	7.01	3	P	Pn	15 32 35.0	+0.1
BURAR	Bucovina Array	7.10	120	⇑*i*P	Pn	15 32 36.5	+0.2
BURAR	Bucovina Array	7.10	120	⇑*i*P	Pn	15 32 36.5	+0.2
DOPR	Dopca	8.28	129	⇑*i*P	Pg	15 33 29.5	-0.1
AKASG	Malin Array Be	8.30	91	Pn	Pn	15 32 51.4	-1.3
	comp=Z,1.8nm,0.3s,baz=280,slow=12,SNR=18						
AKASG				Lg	Lg	15 35 15.9	
	comp=Z,0.1nm,0.3s,baz=270,slow=24,SNR=2.5						
ARR	Arges	8.37	134	⇓*i*P	Pg	15 33 31.3	0.0
HFS	Hagfors	8.74	352	Pn	Pn	15 32 58.6	-0.1
	comp=Z,0.3nm,0.3s,baz=178,slow=12,SNR=9.5						
NOA	NORSAR Array B	9.92	346	Pn	Pn	15 33 13.8	-1.0
	comp=Z,0.3nm,0.3s,baz=211,slow=12,SNR=7.2						
CFR	Carcaliu	10.21	124	⇓*i*P	Pn	15 33 16.3	-2.6
CFR	Carcaliu	10.21	124	⇓*i*P	Pn	15 33 16.3	-2.6
FINES	FINESS Array B	11.36	25	Pn	Pn	15 33 33.2	-1.2
	comp=Z,0.3nm,0.3s,baz=203,slow=9.7,SNR=10						
EKA	Eskdalemuir Ar	12.10	296	Pn	Pn	15 33 41.1	-3.5
	baz=100,slow=14,SNR=5.6						
ARCES	ARCESS Array B	18.62	10	Pn	P	15 35 07.0	-2.7
	comp=Z,0.5nm,0.3s,baz=193,slow=12,SNR=8.0						
ARU	Arti	25.14	62	P	P	15 36 17.5	0.0
	comp=Z,2.0nm,0.5s,baz=284,slow=8.3,SNR=4.0						
AKTO	Aktyubinsk	26.16	76	P	P	15 36 27.3	+0.4
	comp=Z,1.5nm,0.6s,baz=288,slow=9.6,SNR=4.2						
BVAR	Borovoye Array	32.59	66	P	P	15 37 25.6	+1.6
	comp=Z,0.7nm,0.5s,baz=297,slow=8.1,SNR=5.3						
KURBB	Kurchatov Arra	38.18	66	P	P	15 38 12.9	+0.8
	comp=Z,0.8nm,0.8s,baz=297,slow=9.4,SNR=4.2						
TORD	Torodi Ar. Bea	40.01	202	P	P	15 38 27.4	-0.2
	comp=Z,1.2nm,0.9s,baz=357,slow=7.8,SNR=3.7						
MKAR	Makanchi Array	42.22	69	P	P	15 38 46.9	+1.3
	comp=Z,0.5nm,0.9s,baz=328,slow=5.3,SNR=3.3						
SONM	Songino Array	54.92	55	P	P	15 40 25.2	+1.7
	comp=Z,0.5nm,0.8s,baz=297,slow=6.3,SNR=2.7						
YKA	Yellowknife Ar	59.85	336	P	P	15 40 58.8	+0.9
	comp=Z,0.8nm,0.6s,baz=30,slow=6.7,SNR=13						
CMAR	Chiang Mai Arr	71.36	84	P	P	15 42 13.8	+0.9
	comp=Z,0.5nm,0.8s,baz=298,slow=6.0,SNR=4.9						
PDAR	Pinedale Array	74.93	322	P	P	15 42 35.3	+1.3
	comp=Z,0.3nm,0.6s,baz=53,slow=6.2,SNR=3.0						

*ISCJB **14** 15:33:29.9±0.4, 1°.36N±0°.07×91°.60E±0°.06, h10km, mb4.3/32, MS4.2/1, Error ellipse: s-maj=11.2km s-min=8.1km az=37.7*

*IDC **14** 15:33:30.4±0.6, 1°.38N×91°.59E, h0km, mb4.3/28, mb1 4.4/31, mb1mx4.2/79, mbtmp4.3/31, ML3.8/3, MS4.2/1, Ms1 4.2/1, ms1mx3.1/72, Error ellipse: s-maj=18.3km s-min=11.9km az=36.0*

*NEIC **14** 15:33:31.8±0.3, 1°.41N×91°.59E, h10km, mb4.6/4, Error ellipse: s-maj=9.8km s-min=6.5km az=208.0*

ISC 14 15:33:31.8±0.6, 1°.4N±0°.1×91°.68E±0°.07, h10km, n73, σ1s33/79, mb4.4/32, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
PSI	Prapat	7.37	79	Pn	P	Pn	15 35 18.7	-1.0
	0.5nm,0.3s,baz=328,slow=17,SNR=2.1							
PSI				Sn	S	Sn	15 36 38.9	-4.7
	0.3nm,0.3s,baz=354,slow=18,SNR=2.5							
PALK	Pallekele	12.38	298	Pn	P	Pn	15 36 26.1	-2.3
	3.6nm,0.3s,baz=116,slow=11,SNR=8.5							
PALK				Sn	S	Sn	15 38 31.0	-16
	6.0nm,0.3s,baz=112,slow=2.3,SNR=6.8							
PBKT	Sadao Pong	17.61	31	*e*Pn	P	P	15 37 42.7	+4.2
	7.7nm,1.3s							
CM01	Chiang Mai Arr	18.34	22	*e*P	P	P	15 37 43.5	-3.1
CMAR	Chiang Mai Arr	18.37	22	P	P	P	15 37 47.0	+0.1
	0.1nm,0.3s,baz=216,slow=12,SNR=9.3							
H08S2	Diego Garcia H	21.15	245	T	T	T	15 59 59.1	
	baz=65,slow=75,SNR=18							
H08S3	Diego Garcia H	21.15	245	T	T	T	15 59 52.5	
	baz=65,slow=75,SNR=21							
H08S1	Diego Garcia H	21.17	245	T	T	T	15 59 58.4	
	baz=65,slow=75,SNR=16							
ODAN	Odare	25.62	351	*e*P	P	P	15 39 03.5	+1.6
	57nm,0.9s							
RAMN	Ramite	25.84	350	*e*P	P	P	15 39 05.8	+1.9
	46nm,0.8s							
JIRN	Jiri	26.61	349	*e*P	P	P	15 39 12.0	+1.0
GUN	Gumba	26.91	349	*e*P	P	P	15 39 15.0	+1.3
	45nm,1.0s							
KKN	Kakani	26.92	347	*e*P	P	P	15 39 14.6	+0.9
GKN	Gorkha	27.27	346	*e*P	P	P	15 39 18.0	+1.3
KOLN	Koldanda	27.31	344	*e*P	P	P	15 39 18.4	+1.2
	10nm,0.7s							
PYUN	Piuthan	27.80	343	*e*P	P	P	15 39 22.6	+1.1
	27nm,0.9s							
LSA	Lhasa	28.12	359	*e*P	P	P	15 39 25.6	+1.0
	8.3nm,0.8s							
FITZ	Fitzroy Crossi	38.65	122	P	P	P	15 40 56.0	+0.1
	3.0nm,0.8s,baz=221,slow=3.0,SNR=5.2							
H01W3	Cape Leeuwin H	41.80	152	T	T	T	16 25 42.1	
	baz=326,slow=76,SNR=12							
H01W2	Cape Leeuwin H	41.81	152	T	T	T	16 25 45.6	
	baz=326,slow=76,SNR=15							
H01W1	Cape Leeuwin H	41.82	152	T	T	T	16 25 46.8	
	baz=326,slow=76,SNR=9.9							
AAK	Ala-Archa	43.83	342	P	P	P	15 41 39.1	+0.8
	1.7nm,0.6s,baz=6.9,slow=3.8,SNR=8.2							
AAK				PcP	PcP	PcP	15 43 25.5	+0.7
	1.0nm,0.5s,baz=180,slow=7.1,SNR=3.4							
AAK				LR	LR	LR	15 59 17.2	
	comp=Z,316nm,21.2s,baz=256,slow=35							
KK31	Karatay Array	45.60	338	*e*P	P	P	15 41 50.3	-2.0
KKAR	Karatay Array	45.60	338	*e*P	P	P	15 41 50.3	-2.0
MK01	Makanchi Array	45.90	351	*e*P	P	P	15 41 54.5	-0.1
MK32	Makanchi Array	45.92	351	*e*P	P	P	15 41 55.1	+0.3
MK32				*e*PcP	PcP	PcP	15 43 31.7	-0.1
MKAR	Makanchi Array	45.92	351	P	P	P	15 41 55.1	+0.3
	5.3nm,0.7s,baz=168,slow=9.0,SNR=48							
MKAR				PcP	PcP	PcP	15 43 31.7	-0.1
	0.9nm,0.8s,baz=158,slow=4.2,SNR=3.1							
WR1	Warramunga Arr	46.91	119	*e*P	P	P	15 42 03.1	+0.1
	9.9nm,1.4s							
WR1				*e*PcP	PcP	PcP	15 43 35.9	+0.1
WRA	Warramunga Arr	46.91	119	P	P	P	15 42 03.1	+0.1
	4.2nm,0.8s,baz=297,slow=8.6,SNR=20							
WRA				PcP	PcP	PcP	15 43 35.9	+0.1
	1.0nm,0.9s,baz=311,slow=3.0,SNR=4.8							
GEYT	Alibeck	47.63	324	P	P	P	15 42 08.9	+0.6
	5.2nm,0.7s,baz=147,slow=8.3,SNR=13							
SONA0	Songino Array	47.96	13	*e*P	P	P	15 42 12.2	+1.4
SONA0				*e*PcP	PcP	PcP	15 43 39.8	+0.8
SONM	Songino Array	47.96	13	P	P	P	15 42 12.2	+1.4
	14nm,0.8s,baz=192,slow=9.3,SNR=51							
SONM				PcP	PcP	PcP	15 43 39.8	+0.8
	1.4nm,0.9s,baz=198,slow=3.0,SNR=2.8							
SONA1	Songino Array	47.97	13	*e*P	P	P	15 42 12.2	+1.3
ASAR	Alice Springs	48.02	124	P	P	P	15 42 11.9	+0.3
	0.7nm,0.7s,baz=305,slow=7.1,SNR=7.5							
ASAR				PcP	PcP	PcP	15 43 40.0	+0.3
	1.2nm,0.6s,baz=294,slow=3.0,SNR=12							
KSAR	Wonju Array Be	48.93	39	P	P	P	15 42 20.2	+1.9
KSRS	Korea Array	48.96	39	P	P	P	15 42 20.2	+1.6
	1.6nm,0.7s,baz=226,slow=9.0,SNR=6.1							
KURBB	Kurchatov Arra	50.27	349	P	P	P	15 42 28.2	-0.1
	4.9nm,0.9s,baz=173,slow=7.1,SNR=30							
KURBB				PcP	PcP	PcP	15 43 47.7	+0.5
	0.8nm,0.9s,baz=176,slow=3.2,SNR=6.1							
KURK	Kurchatov	50.34	349	*e*P	P	P	15 42 28.2	-0.6
KURK				*e*PcP	PcP	PcP	15 43 47.7	+0.2
ZAA0	Zalesovo Array	52.65	355	*e*P	P	P	15 42 45.7	-0.4
	8.8nm,1.0s							
ZALV	Zalesovo Beam	52.65	355	P	P	P	15 42 46.0	-0.1
	3.8nm,0.6s,baz=185,slow=7.6,SNR=20							
ZALV	Zalesovo Beam	52.65	355	*e*P	P	P	15 42 44.9	-1.2
ZAA1	Zalesovo Array	52.66	355	*e*P	P	P	15 42 46.0	-0.1
BVAR	Borovoye Array	54.38	344	P	P	P	15 42 58.1	-0.7
	2.1nm,0.9s,baz=150,slow=9.4,SNR=12							
BVAR				PcP	PcP	PcP	15 44 03.0	+0.3
	1.0nm,0.8s,baz=143,slow=3.1,SNR=3.2							
KMBO	Kilima Mbogo	54.48	268	P	P	P	15 43 00.6	+0.1
	0.9nm,0.5s,baz=54,slow=19,SNR=3.3							
ABKAR	Akbulak array	54.85	335	*e*P	P	P	15 43 02.1	-0.2
MAJO	Matsushiro	55.35	45	*e*P	P	P	15 43 07.0	+0.8
MJAR	Matsushiro Arr	55.35	45	P	P	P	15 43 07.0	+0.8
	1.3nm,0.8s,baz=231,slow=8.0,SNR=5.4							
AKTO	Aktyubinsk	56.56	335	P	P	P	15 43 13.8	-0.8
	1.8nm,0.9s,baz=156,slow=8.8,SNR=3.8							
STKA	Stephens Creek	57.68	130	P	P	P	15 43 23.9	+1.0
	1.6nm,0.9s,baz=323,slow=14,SNR=3.2							
KLR	Kul'dur	58.66	30	P	P	P	15 43 30.9	+1.5
	0.3nm,0.8s,baz=269,slow=6.4,SNR=12							
KBZ	Khabaz	60.36	321	P	P	P	15 43 41.7	+0.5
	7.0nm,0.8s,baz=128,slow=5.5,SNR=20							
KVAR	Kislovodsk Arr	60.60	321	P	P	P	15 43 42.3	-0.7
	10nm,0.9s,baz=46,slow=1.4,SNR=5.9							
BR101	Keskin Array S	64.92	314	*e*P	P	P	15 44 11.7	-0.3
BRTR	Keskin Array B	64.92	314	P	P	P	15 44 11.7	-0.3
	2.2nm,0.8s,baz=126,slow=6.3,SNR=10							
BR231	Keskin MP Arra	65.58	314	*e*P	P	P	15 44 11.5	-4.8
YAK	Yakutsk	66.85	18	P	P	P	15 44 23.6	-0.1
	3.2nm,0.3s,baz=90,slow=2.0,SNR=6.9							
AKASG	Malin Array Be	71.75	324	P	P	P	15 44 53.7	-0.7
	0.2nm,0.3s,baz=92,slow=4.8,SNR=9.1							
MLR	Muntele Rosu	72.14	318	P	P	P	15 44 57.5	+0.5
	3.2nm,0.9s,baz=147,slow=3.5,SNR=13							
BUR04	Bucovina Ar. S	73.25	320	*e*P	P	P	15 45 03.1	-0.3
BUR08	Bucovina Ar. S	73.26	320	*e*P	P	P	15 45 03.9	+0.4
SEY	Seymchan	75.77	24	P	P	P	15 45 18.1	+0.3
	1.5nm,0.8s,baz=176,slow=23,SNR=6.9							
FIA0	FINESS Array S	77.28	333	*e*P	P	P	15 45 25.7	-0.6
FINES	FINESS Array B	77.28	333	P	P	P	15 45 25.7	-0.6
	1.9nm,0.7s,baz=110,slow=4.5,SNR=9.5							
GEA0	GERESS Array S	81.02	319	*e*P	P	P	15 45 47.5	+0.3
GERES	GERESS Array B	81.02	319	P	P	P	15 45 47.8	+0.6
	6.4nm,0.8s,baz=98,slow=5.5,SNR=33							
HFS	Hagfors	82.78	330	P	P	P	15 45 58.0	+1.9
	1.3nm,0.4s,baz=101,slow=1.7,SNR=15							
SPA0	Spitsbergen Ar	85.61	348	*e*P	P	P	15 46 09.0	-1.1
SPITS	Spitsbergen Ar	85.61	348	P	P	P	15 46 09.0	-1.1
	4.1nm,0.9s,baz=66,slow=4.0,SNR=4.1							
TORD	Torodi Ar. Bea	89.66	283	P	P	P	15 46 30.0	-0.9
	0.6nm,0.8s,baz=130,slow=3.3,SNR=2.7							
TOA1	Torodi Ar. Sit	89.66	283	*e*P	P	P	15 46 30.0	-0.9
KOWA	Kowa	95.16	285	P	P	P	15 46 55.5	-0.8
	3.4nm,1.0s,baz=92,slow=10,SNR=4.9							
LTX	Lajitas	146.07	24	*e*PKPdf	PKPbc	PKPbc	15 53 13.2	+0.2
TXAR	Lajitas Array	146.07	24	PKPbc	PKPbc	PKPbc	15 53 13.2	+0.2
	2.4nm,0.6s,baz=306,slow=0.9,SNR=19							

*NNC **14** 15:45:37.4±2.0, 44°.48N×83°.06E, h0km, mb3.8, mpv3.4, Error ellipse: s-maj=22.4km s-min=8.1km az=118.0*

*SOME **14** 15:45:41.8, 44°.30N×82°.85E, h15km*

ISC 14 15:45:36.0±1.9, 44°.43N±0°.09×83°.5E±0°.1, h10km, n17, σ2s08/28, 8C-5D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
MK31	Makanchi Array	2.52	341	⇑Pn	P	Pn	15 46 17.2	+0.2
	1.2nm,0.2s,baz=157,slow=17,SNR=9.1							
MK31				⇓Lg	Lg	Lg	15 46 55.0	
	16nm,0.3s,baz=160,slow=30,SNR=14							
MAKZ	Makanchi	2.62	336	⇑Pn	P	Pn	15 46 18.7	+0.4
	5.3nm,0.3s							
MAKZ				⇑Lg	Lg	Lg	15 46 53.6	
	19nm,0.6s							
KAPS	Kapalarasan	3.08	288	*e*P	P	Pb	15 46 31.1	+0.3
	20nm,0.2s							
KAPS				*e*S	S	Sb	15 47 06.4	-2.0
	25nm,0.2s							
PDGK	Podgornoye	3.10	251	⇓Pn	P	Pn	15 46 24.9	-0.2
	22nm,0.7s							
PDGK				⇑Lg	Lg	Lg	15 47 05.8	
	22nm,0.3s							
ZSN	Zaisan	3.17	17	*e*P	P	Pg	15 46 37.1	+0.4
	4.9nm,0.3s							
ZSN				*e*S	S	Sg	15 47 16.6	-1.2
	19nm,0.3s							
KPKS	Kokpek	3.61	256	*e*P	P	Pb	15 46 38.0	-2.0
	71nm,0.4s							
KPKS				*e*S	S	Sn	15 47 18.4	+3.6
	91nm,0.4s							
SATY	Saty	3.94	252	*e*P	P	Pb	15 46 43.8	-1.8
	29nm,0.2s							
SATY				*e*S	S	Sb	15 47 28.6	-4.8
	54nm,0.2s							
KURS	Kuram	3.97	258	*e*P	P	Pb	15

SJMP	**San Jose**	**1.54**	**163**	*e*P		**Pn**	**15 54 17.1**	**-1.0**
SJMP				*e*S		**S**	**15 54 42.7**	**-2.1**
PCPH	**Palayan**	**1.66**	**15**⇑	*e*P		**Pn**	**15 54 19.2**	**+0.2**
PCPH				*e*S		**S**	**15 54 50.8**	**+4.2**
GQP	**Guinayangan**	**1.73**	**91**⇑	*e*P		**Pn**	**15 54 20.1**	**+0.3**
SCZP	**Santa Cruz**	**1.96**	**338**	*e*P		**Pn**	**15 54 22.0**	**0.0**
SCZP				*e*S		**S**	**15 54 50.1**	**-1.6**
BALP	**Baler**	**1.99**	**26**	*e*P		**Pn**	**15 54 23.3**	**+1.0**
BUSP	**Coron**	**1.99**	**193**	*e*P		**Pn**	**15 54 21.8**	**-0.5**
BUSP				*e*S		**S**	**15 54 50.4**	**-1.8**
AUQP	**San Andres**	**2.05**	**107**	*e*P		**Pn**	**15 54 24.0**	**+1.1**
OTRP	**Odiongan**	**2.06**	**140**	*e*P		**Pn**	**15 54 22.2**	**-0.8**
OTRP				*e*S		**S**	**15 54 52.1**	**-1.3**
BOLP	**Bolinao**	**2.52**	**343**	*e*P		**Pn**	**15 54 28.2**	**+0.3**
BOLP				*e*S		**S**	**15 54 59.8**	**-2.6**
ENPP	**El Nido**	**2.98**	**204**	*e*P		**Pn**	**15 54 33.3**	**+0.1**
RCP	**Roxas**	**3.12**	**139**⇑	*e*P		**Pn**	**15 54 35.2**	**+0.4**
JAP	**San Jose, Anti**	**3.42**	**158**⇑	*e*P		**Pn**	**15 54 38.8**	**+0.4**
ABRA	**Dolores**	**3.68**	**1**	*e*P		**Pn**	**15 54 41.4**	**0.0**
ABRA				*e*S		**S**	**15 55 24.8**	**-1.8**
APYP	**Conner**	**3.93**	**8**	*e*P		**Pn**	**15 54 44.9**	**+0.3**
APYP				*e*S		**S**	**15 55 35.8**	**+3.6**
CNP	**Catarman**	**4.15**	**110**	*e*P		**Pn**	**15 54 48.1**	**+0.9**
PPR	**Puerto Princes**	**4.56**	**205**⇓	*e*P		**Pn**	**15 54 53.3**	**+0.8**
TWG	**Pinlang**	**8.83**	**2**	*e*Pn		Pn	15 55 40.6	-6.9
MYLDM	**Lahad Datu**	**8.97**	**194**	*e*Pn		**Pn**	**15 55 51.3**	**+2.0**
KKM	**Kota Kinabalu**	**8.99**	**210**	*e*Pn		**Pn**	**15 55 49.9**	**+0.2**
TPUB	**Ta-pu**	**9.30**	**360**	*e*Pn		**Pn**	**15 55 51.8**	**-1.7**
YULB	**Yu-li**	**9.41**	**4**	*e*Pn		**Pn**	**15 55 54.3**	**-0.7**
YULB				*e*S		**S**	**15 57 36.1**	**-4.5**
SSLB	**Suanglung**	**9.79**	**2**	Pn		Pn	15 55 54.4	-5.5
YHNB	**Yeheng**	**10.69**	**3**	*e*Pn		**Pn**	**15 56 10.3**	**-1.2**
SBUM	**Sibu**	**14.15**	**217**	*e*P		**Pn**	**15 56 56.0**	**-0.6**
JOW	**Kunigami**	**14.66**	**28**	P		**Pn**	**15 57 00.7**	**-0.5**
	2.7nm,0.3s,baz=70,slow=1.3,SNR=12							
JOW	**Kunigami**	**14.66**	**28**	*e*Pn		**Pn**	**15 56 58.4**	**-2.9**
SKNT	**Sakolnakorn**	**16.36**	**283**	P		**Pn**	**15 57 22.5**	**+0.6**
	15nm,1.1s							
CHBT	**CHBT**	**17.88**	**268**	P		Pn	15 57 50.7	+11
PBKT	**Sadao Pong**	**19.18**	**280**	P		**P**	**15 57 52.6**	**+0.9**
	26nm,0.9s							
ENH	**Enshi**	**19.24**	**329**	P		**P**	**15 57 53.4**	**+1.1**
	4.7nm,0.7s							
KMI	**Kunming**	**20.20**	**306**	P		**P**	**15 58 04.8**	**+2.0**
KMI				pmax		pmax		
	comp=Z,9.0nm,0.6s							
SKLT	**Songkhla**	**20.82**	**253**	P		**P**	**15 58 10.0**	**+0.8**
	comp=Z,44nm,0.7s							
JNU	**Nakatsue**	**21.23**	**24**	P		**P**	**15 58 13.0**	**-0.4**
	comp=Z,5.6nm,0.8s,baz=338,slow=3.3,SNR=8.3							
CM01	**Chiang Mai Arr**	**21.31**	**285**	*e*P		**P**	**15 58 15.0**	**+0.7**
CM31	**Chiang Mai Arr**	**21.33**	**285**	*e*P		**P**	**15 58 15.6**	**+1.0**
CMAR	**Chiang Mai Arr**	**21.33**	**285**	P		**P**	**15 58 15.6**	**+1.0**
	comp=Z,21nm,1.0s,baz=95,slow=7.9,SNR=127							
CMMT	**Chiang Mai**	**21.38**	**286**	P		**P**	**15 58 14.5**	**-0.6**
	comp=Z,16nm,1.0s							
CHTO	**Chiang Mai**	**21.39**	**286**	P		**P**	**15 58 15.6**	**+0.5**
	comp=Z,71nm,1.0s							
CHTO	**Chiang Mai**	**21.39**	**286**	*e*P		**P**	**15 58 14.4**	**-0.7**
	comp=Z,12nm,0.9s							
TRTT	**Trang**	**21.46**	**256**	P		**P**	**15 58 15.4**	**-0.6**
	comp=Z,15nm,0.9s							
IPM	**Ipoh**	**21.53**	**246**	*e*P		**P**	**15 58 13.6**	**-3.0**
	comp=Z,11nm,0.8s							
SURT	**Suratani**	**22.00**	**259**	P		**P**	**15 58 20.3**	**-0.9**
	comp=Z,15nm,1.0s							
PSI	**Prapat**	**24.16**	**245**	P		**P**	**15 58 41.1**	**0.0**
	comp=Z,18nm,0.7s,baz=58,slow=5.6,SNR=20							
KSRS	**Korea Array**	**24.29**	**14**	P		**P**	**15 58 41.5**	**-0.3**
	comp=Z,6.2nm,1.1s,baz=192,slow=12,SNR=16							
KS01	**Wonju Array Si**	**24.30**	**14**	*e*P		**P**	**15 58 39.5**	**-2.5**
MDSI	**Maura Dua**	**24.56**	**223**	P		**P**	**15 58 47.9**	**+3.4**
LZH	**Lanzhou**	**26.72**	**329**	*e*P		**P**	**15 59 07.0**	**+3.1**
LZH				pP		pP	15 59 48.3	+2.9
LZH				*e*PP		**PnPn**	**16 00 01.5**	**+3.1**
LZH				sP		sP	16 00 13.8	+4.4
LZH				pmax		pmax		
	comp=Z,26nm,0.9s							
LZH				pmax		pmax		
	comp=Z,220nm,5.7s							
HHC	**Hu-ho-hao-te**	**27.95**	**345**	*e*P		**P**	**15 59 17.6**	**+2.8**
HHC				pmax		pmax		
	comp=Z,17nm,0.8s							
HHC				pmax		pmax		
	comp=Z,46nm,4.0s							
GTA	**Gaotai**	**31.31**	**328**	*e*P		**P**	**15 59 46.4**	**+1.9**
GTA				pP		pP	16 00 29.4	+2.9
GTA				sP		sP	16 00 51.8	+1.4
GTA				pmax		pmax		
	comp=Z,3.0nm,1.1s							
ODAN	**Odare**	**33.62**	**298**	*e*P		**P**	**16 00 05.3**	**+0.5**
	comp=Z,45nm,0.7s							
RAMN	**Ramite**	**34.32**	**298**	*e*P		**P**	**16 00 11.6**	**+0.7**
	comp=Z,25nm,0.7s							
JIRN	**Jiri**	**34.86**	**299**	*e*P		**P**	**16 00 16.2**	**+0.6**
	comp=Z,55nm,0.4s							
GUN	**Gumba**	**35.20**	**299**	*e*P		**P**	**16 00 19.0**	**+0.5**
	comp=Z,37nm,0.5s							
ASAJ	**Asahikawa**	**35.43**	**28**	P		**P**	**16 00 20.4**	**+0.6**
	comp=Z,0.7nm,0.3s,baz=128,slow=19,SNR=3.9							
PKIN	**Phulchoki**	**35.52**	**298**	*e*P		**P**	**16 00 21.4**	**+0.3**
	comp=Z,15nm,0.4s							
KKN	**Kakani**	**35.67**	**298**	*e*P		**P**	**16 00 22.3**	**-0.1**
DMN	**Daman**	**35.77**	**298**	*e*P		**P**	**16 00 23.4**	**+0.1**
SONM	**Songino Array**	**35.81**	**344**	P		**P**	**16 00 23.7**	**+0.5**
	comp=Z,2.4nm,0.5s,baz=161,slow=10,SNR=14							
SONA1	**Songino Array**	**35.82**	**344**	*e*P		**P**	**16 00 21.9**	**-1.3**
WRA	**Warramunga Arr**	**36.27**	**158**	P		**P**	**16 00 25.1**	**-2.1**
	comp=Z,2.1nm,0.7s,baz=337,slow=9.3,SNR=18							
GKN	**Gorkha**	**36.28**	**298**	*e*P		**P**	**16 00 27.2**	**-0.3**
KLR	**Kul'dur**	**36.34**	**12**	P		**P**	**16 00 27.8**	**+0.3**
	comp=Z,0.9nm,0.7s,baz=232,slow=8.6,SNR=27							
KOLN	**Koldanda**	**37.11**	**298**	*e*P		**P**	**16 00 34.5**	**0.0**
	comp=Z,5.1nm,0.4s							
PYUN	**Piuthan**	**37.71**	**298**	*e*P		**P**	**16 00 39.8**	**+0.2**
ASAR	**Alice Springs**	**39.56**	**161**	P		**P**	**16 00 53.0**	**-1.8**
	comp=Z,1.5nm,0.7s,baz=333,slow=7.1,SNR=14							
HYB	**Hyderabad**	**40.63**	**281**	*i* P		**P**	**16 01 05.0**	**+1.3**
WMQ	**Urumqi**	**40.99**	**323**	P		**P**	**16 01 08.0**	**+1.7**
WMQ				pmax		pmax		
	comp=Z,19nm,0.7s							
MK01	**Makanchi Array**	**45.79**	**323**	*e*P		**P**	**16 01 45.5**	**+1.0**
MK31	**Makanchi Array**	**45.81**	**323**	*e*P		**P**	**16 01 45.0**	**+0.3**
MKAR	**Makanchi Array**	**45.81**	**323**	P		**P**	**16 01 46.0**	**+1.3**
	comp=Z,1.7nm,0.8s,baz=130,slow=8.6,SNR=17							
MKAR	**Makanchi Array**	**45.81**	**323**	*e*P		**P**	**16 01 44.9**	**+0.3**
	comp=Z,9.9nm,0.6s							
YAK	**Yakutsk**	**48.45**	**6**	P		**P**	**16 02 04.3**	**-0.3**
	comp=Z,10nm,0.5s,baz=330,slow=0.8,SNR=8.7							
YAK	**Yakutsk**	**48.45**	**6**	*e*P		**P**	**16 02 02.4**	**-2.2**
	comp=Z,18nm,0.6s							
ZALV	**Zalesovo Beam**	**48.82**	**333**	P		**P**	**16 02 07.5**	**-0.1**
	comp=Z,1.1nm,0.3s,baz=124,slow=6.5,SNR=8.4							
PETK	**Petropavlovsk-**	**48.82**	**29**	P		**P**	**16 02 08.4**	**+0.6**
	comp=Z,2.8nm,0.7s,baz=209,slow=4.9,SNR=4.1							
KURBB	**Kurchatov Arra**	**49.96**	**326**	P		**P**	**16 02 17.2**	**+0.9**
	comp=Z,1.4nm,0.7s,baz=116,slow=9.4,SNR=14							
KURK	**Kurchatov**	**49.97**	**326**	*e*P		**P**	**16 02 16.6**	**+0.2**
	comp=Z,5.0nm,0.7s							
SEY	**Seymchan**	**53.78**	**17**	P		**P**	**16 02 45.5**	**+1.1**
	comp=Z,5.1nm,0.7s,baz=197,slow=3.9,SNR=43							
BVAR	**Borovoye Array**	**55.55**	**326**	P		**P**	**16 02 57.6**	**+0.3**
	comp=Z,0.4nm,0.4s,baz=128,slow=9.3,SNR=3.5							
TIXI	**Tiksi**	**57.89**	**3**	*e*P		**P**	**16 03 12.6**	**-0.7**
ABKAR	**Akbulak array**	**60.52**	**319**	*e*P		**P**	**16 03 28.0**	**-3.8**
AKTO	**Aktyubinsk**	**62.00**	**320**	P		**P**	**16 03 42.5**	**+0.8**
	comp=Z,0.8nm,0.5s,baz=85,slow=8.8,SNR=4.0							
ARU	**Arti**	**63.16**	**327**	P		**P**	**16 03 49.2**	**+0.1**
	comp=Z,1.5nm,0.4s,baz=76,slow=8.3,SNR=3.3							
RAYN	**Ar Rayn**	**71.14**	**290**	*e*P		**P**	**16 04 40.2**	**+0.1**
	comp=Z,3.2nm,0.9s							
CAST	**Castle Rocks**	**76.42**	**28**	*e*P		**P**	**16 05 10.0**	**+0.1**
	comp=Z,2.2nm,0.6s							
ILAR	**Eielson Array**	**78.54**	**26**	P		**P**	**16 05 20.1**	**-1.5**
	comp=Z,0.7nm,1.0s,baz=309,slow=5.7,SNR=5.0							
ARCES	**ARCESS Array B**	**78.84**	**339**	P		**P**	**16 05 22.4**	**-0.7**
	comp=Z,1.0nm,0.4s,baz=76,slow=6.9,SNR=15							
SPITS	**Spitsbergen Ar**	**79.34**	**348**	P		**P**	**16 05 25.6**	**-0.2**
	comp=Z,1.1nm,0.4s,baz=53,slow=4.6,SNR=18							
FINES	**FINESS Array B**	**80.05**	**331**	P		**P**	**16 05 30.0**	**+0.2**
	comp=Z,3.3nm,1.0s,baz=4.8,slow=2.3,SNR=4.8							
INK	**Inuvik**	**82.88**	**21**	P		**P**	**16 05 44.2**	**-0.3**
	comp=Z,0.7nm,0.6s,baz=287,slow=5.8,SNR=4.6							
HFS	**Hagfors**	**86.24**	**331**	P		**P**	**16 06 00.7**	**-0.8**
	comp=Z,1.1nm,0.5s,baz=89,slow=13,SNR=5.8							
NOA	**NORSAR Array B**	**87.02**	**333**	P		**P**	**16 06 04.8**	**-0.6**
	comp=Z,0.6nm,0.6s,baz=68,slow=4.7,SNR=3.4							
YKA	**Yellowknife Ar**	**92.56**	**22**	P		**P**	**16 06 30.7**	**-0.3**
	comp=Z,0.4nm,0.7s,baz=311,slow=4.3,SNR=12							

DJA 14 15:54:55.5±0.4, 1°S±3°×12°4E±°, h66km±16km, M3.9/10, mb4.2/2, MLv3.8/10, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMSI	**Cibinong**	**1.11**	**347**	P	Pn	15 55 14.6	-0.7
KMSI				S	Sn	15 55 30.0	0.0
LUWI	**Luwuk**	**1.55**	**250**	P	Pn	15 55 20.1	-0.9
LUWI				S	Sn	15 55 42.3	+2.1
SANI	**Sanana**	**2.32**	**131**	P	Pn	15 55 30.9	-0.6
MRSI	**Marisa**	**2.49**	**293**	P	Pn	15 55 34.2	+0.4
MRSI				S	Sn	15 56 02.9	-0.2
APSI	**Ampana**	**2.61**	**261**	P	Pn	15 55 35.2	-0.2
LBMI	**Labuha**	**3.27**	**92**	P	Pn	15 55 42.9	-1.5
LBMI				S	Sn	15 56 22.3	+0.1
NLAI	**Namlea**	**3.94**	**133**	P	Pn	15 55 54.8	+1.3
MPSI	**Mapaga**	**4.42**	**281**	P	Pn	15 56 01.8	+1.8
TTSI	**Tana Toraja**	**5.07**	**240**	P	Pn	15 56 08.5	-0.5
BNSI	**Bone**	**5.64**	**227**	P	Pn	15 56 17.2	+0.4
BNSI				S	Sn	15 57 19.2	-1.1

*IDC **14** 15:56:16.5±1.8, 35°.54N×141°.07E, h0km, mb3.7/3, mb1 3.7/5, mb1mx3.3/73, mbtmp3.6/5, ML3.3/2, MS3.7/3, Ms1 3.7/3, ms1mx3.0/64, Error ellipse: s-maj=44.5km s-min=24.8km az=61.0*
*ISCJB **14** 15:56:17.8±0.9, 35°.62N±0°.04×141°.09E±0°.08, h20km±5km, mb3.9/3, MS3.8/3, Error ellipse: s-maj=10.7km s-min=6.3km az=170.0*
*JMA **14** 15:56:19.9±0.1, 35°.62N×140°.89E, h15km±1km, M3.7*
JMA Felt I J1.

ISC 14 15:56:18.8±1.4, 35°.64N±0°.05×141°.00E±0°.09, h15km±6km, n23, σ0°.90/20, mb4.0/3, MS3.7/3, 1C-2D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHOJ	**Chosi**	**0.13**	**298**	⇑P	**Pg**	**15 56 22.9**	**+0.4**
CHOJ				S	**Sg**	**15 56 25.3**	**+0.4**
I30JP	**ISUMI INFRASON**	**0.65**	**240**	Pn	**Pb**	**15 56 31.7**	**-0.2**
	baz=3.2,slow=132						
I30JP				Sn	**Sb**	**15 56 41.1**	**+0.4**
	baz=100,slow=257						
I30JP				*i*		15 58 40.0	
	baz=57,slow=325,SNR=0.4						
KTR	**Katsuura**	**0.75**	**229**	P	**Pb**	**15 56 32.7**	**-0.7**
BSO4	**Boso 4**	**0.85**	**220**	P	**Pn**	**15 56 35.2**	**-0.8**
JYT	**Yasato**	**0.88**	**312**	⇓P	**Pg**	**15 56 35.2**	**-0.7**
JYT				S	**Sg**	**15 56 46.5**	**-1.0**
BSO3	**Boso 3**	**0.93**	**206**	⇓P	**Pn**	**15 56 36.6**	**-0.4**
BSO1	**Boso 1**	**0.98**	**181**	P	**Pn**	**15 56 37.0**	**-0.5**
JHO	**Hitachi**	**1.03**	**340**	P	**Pg**	**15 56 38.1**	**-0.6**
JHO				S	**Sg**	**15 56 52.1**	**-0.1**
MJAR	**Matsushiro Arr**	**2.44**	**293**	Pn	**Pn**	**15 56 58.0**	**0.0**
	3.4nm,0.3s,baz=100,slow=14,SNR=42						
MJAR				Sn	**Sn**	**15 57 29.6**	**+2.1**
	5.4nm,0.3s,baz=90,slow=27,SNR=7.2						
MAT	**Matsushiro**	**2.44**	**293**	P	**Pn**	**15 56 58.5**	**+0.4**
MAT				*e*S	**Sb**	**15 57 30.8**	**-1.4**
ASAJ	**Asahikawa**	**8.55**	**8**	Pn	**Pn**	**15 58 22.2**	**+0.1**
	0.5nm,0.3s,baz=250,slow=8.4,SNR=6.8						
H11N2	**WAKE ISLAND Hy**	**27.75**	**118**	T	T	16 31 06.7	
	baz=311,slow=75,SNR=18						
H11N1	**WAKE ISLAND Hy**	**27.76**	**118**	T	T	16 31 04.4	
	baz=311,slow=75,SNR=22						
H11N3	**WAKE ISLAND Hy**	**27.77**	**118**	T	T	16 31 07.7	
	baz=311,slow=75,SNR=22						
H11S1	**WAKE ISLAND Hy**	**28.41**	**120**	T	T	16 31 54.3	
	baz=312,slow=75,SNR=217						
H11S3	**WAKE ISLAND Hy**	**28.41**	**120**	T	T	16 31 54.5	
	baz=312,slow=75,SNR=106						
H11S2	**WAKE ISLAND Hy**	**28.43**	**120**	T	T	16 31 57.3	
	baz=312,slow=75,SNR=112						
MKAR	**Makanchi Array**	**44.59**	**303**	P	**P**	**16 04 31.3**	**+1.1**
	0.9nm,0.8s,baz=97,slow=9.9,SNR=4.8						
KURBB	**Kurchatov Arra**	**46.61**	**309**	P	**P**	**16 04 47.0**	**+1.0**
	1.7nm,0.9s,baz=86,slow=8.2,SNR=9.5						
BATI	**Baumata**	**48.45**	**203**	LR	LR	16 22 42.3	
	comp=Z,130nm,20.9s,baz=54,slow=33						
WRA	**Warramunga Arr**	**55.64**	**188**	P	**P**	**16 05 53.4**	**-0.7**
	1.4nm,0.9s,baz=6.1,slow=7.7,SNR=8.7						
JMIC	**Jan Mayen**	**71.46**	**350**	LR	LR	16 41 37.7	
	comp=Z,43nm,18.7s,baz=259,slow=38						
KVAR	**Kislovodsk Arr**	**71.56**	**311**	LR	LR	16 40 06.1	
	comp=Z,33nm,19.1s,slow=37						

IDC 14 15:57:09.2±4.4, 1°.83N×89°.68E, h0km, mb3.9/9, mb1 3.9/11, mb1mx3.6/76, mbtmp3.9/11, ML3.4/2, Error ellipse: s-maj=91.7km s-min=33.6km az=169.0, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PALK	**Pallekele**	**10.45**	**301**	Pn	Pn	15 59 40.9	+0.4
	0.6nm,0.3s,baz=115,slow=12,SNR=6.5						
PALK				Sn	Sn	16 01 25.1	-13
	3.6nm,0.3s,baz=119,slow=3.2,SNR=7.1						
CMAR	**Chiang Mai Arr**	**18.86**	**28**	P	P	16 01 31.2	+0.2
	0.0nm,0.3s,baz=225,slow=12,SNR=5.9						
H08S2	**Diego Garcia H**	**19.55**	**241**	T	T	16 21 57.7	
	baz=60,slow=75,SNR=27						
H08S3	**Diego Garcia H**	**19.55**	**241**	T	T	16 22 09.3	
	baz=60,slow=75,SNR=30						
H08S1	**Diego Carcia H**	**19.57**	**241**	T	T	16 22 00.0	
	baz=60,slow=75,SNR=23						
AAK	**Ala-Archa**	**42.84**	**343**	P	P	16 05 10.4	+1.1
	0.7nm,0.4s,baz=144,slow=8.1,SNR=4.4						
H01W3	**Cape Leeuwin H**	**43.12**	**150**	T	T	16 51 32.2	
	baz=326,slow=74,SNR=3.1						
H01W2	**Cape Leeuwin H**	**43.13**	**150**	T	T	16 51 50.1	
	baz=326,slow=74,SNR=5.1						
H01W1	**Cape Leeuwin H**	**43.14**	**150**	T	T	16 52 03.6	
	baz=326						
MKAR	**Makanchi Array**	**45.25**	**353**	P	P	16 05 28.1	-0.2
	1.2nm,0.6s,baz=170,slow=9.1,SNR=11						
SONM	**Songino Array**	**48.06**	**15**	P	P	16 05 50.6	+0.1
	6.4nm,0.7s,baz=195,slow=9.3,SNR=27						
KURBB	**Kurchatov Arra**	**49.53**	**351**	P	P	16 06 01.2	-0.4
	0.9nm,0.6s,baz=178,slow=7.9,SNR=8.4						
ZALV	**Zalesovo Beam**	**52.10**	**356**	P	P	16 06 20.2	-0.7
	1.6nm,0.5s,baz=189,slow=8.2,SNR=8.7						
BVAR	**Borovoye Array**	**53.48**	**346**	P	P	16 06 30.3	-0.9
	0.8nm,0.7s,baz=116,slow=6.8,SNR=4.0						
KLR	**Kul'dur**	**59.32**	**31**	P	P	16 07 13.2	+0.3
	0.1nm,0.8s,baz=251,slow=8.8,SNR=5.6						
BRTR	**Keskin Array B**	**63.20**	**314**	P	P	16 07 40.0	+0.3
	0.3nm,0.5s,baz=146,slow=8.4,SNR=2.8						
FINES	**FINESS Array B**	**76.03**	**334**	P	P	16 08 57.7	-0.5
	2.4nm,1.0s,baz=100,slow=7.9,SNR=3.9						

*ISCJB **14** 15:57:28.6±0.4, 24°.70N±0°.02×122°.13E±0°.02, h78km±3km, Error ellipse: s-maj=3.9km s-min=3.0km az=153.8*
*TAP **14** 15:57:28.1, 24°.69N×122°.09E, h83km, ML2.9, B*
*JMA **14** 15:57:28.6±0.2, 24°.58N×122°.11E, h82km±2km, M2.1*

ISC 14 15:57:29.1±1.3, 24°.69N±0°.03×122°.13E±0°.03, h77km±6km, n69, σ0°.90/133, 4C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EOS1	**EOS1**	**0.14**	**180**	P	**Pn**	**15 57 40.5**	**+0.3**
	baz=158						
EOS1				S	**Sn**	**15 57 49.3**	**+0.9**
	baz=158						
EGS		**0.24**	**312**	*e*P	**Pn**	**15 57 40.7**	**0.0**
	baz=312						
EGS				*e*S	**Sn**	**15 57 49.6**	**+0.4**
	baz=312						
TWC	**Suao**	**0.27**	**253**	*i* P	**Pn**	**15 57 40.5**	**-0.3**
	baz=249						
TWC				*e*S	**Sn**	**15 57 50.0**	**+0.5**
	baz=249						
NTC	**Toucheng**	**0.32**	**302**	*e*P	**Pn**	**15 57 40.8**	**-0.4**
	baz=305						
NTC				*e*S	**Sn**	**15 57 50.6**	**+0.6**
	baz=305						
TWB1	**Santiao Chiao**	**0.34**	**338**⇑	*i*P	**Pn**	**15 57 41.1**	**-0.3**
	baz=337						
TWB1				S	**Sn**	**15 57 50.0**	**-0.3**
	baz=337						
ILA	**Ilan**	**0.35**	**283**	*i* P	**Pn**	**15 57 41.5**	**+0.1**
	baz=291						
ILA				*e*S	**Sn**	**15 57 50.8**	**+0.4**
	baz=291						
ENAH	**Nanao**	**0.37**	**231**	*i* P	**Pn**	**15 57 41.5**	**0.0**
	baz=228						
ENAH				*e*S	**Sn**	**15 57 51.5**	**+0.9**
	baz=228						
TWE	**Neicheng**	**0.42**	**275**⇑	*i*P	**Pn**	**15 57 41.9**	**0.0**
	baz=281						
TWE				*e*S	**Sn**	**15 57 51.5**	**+0.2**
	baz=281						
NANB	**Nanao**	**0.43**	**233**⇑	*i*P	**Pn**	**15 57 41.8**	**-0.1**
	baz=226						
NANB				S	**Sn**	**15 57 51.9**	**+0.5**
	baz=226						
ENA	**Nanau**	**0.44**	**234**	*i* P	**Pn**	**15 57 41.9**	**-0.1**
	baz=226						
ENA				*e*S	**Sn**	**15 57 52.2**	**+0.7**
	baz=226						
NWF	**Wu-fen Shan**	**0.50**	**321**	*e*P	**Pn**	**15 57 42.6**	**0.0**
	baz=318						
NWF				*e*S	**Sn**	**15 57 52.2**	**-0.4**
	baz=318						
WFSB	**Wu-fen Shan**	**0.50**	**321**	*e*P	**Pn**	**15 57 42.6**	**+0.1**
	baz=318						
WFSB				*e*S	**Sn**	**15 57 53.0**	**+0.6**
	baz=318						
ENTT	**Nioudou**	**0.51**	**265**	*i* P	**Pn**	**15 57 43.0**	**+0.4**
	baz=263						
ENTT				*e*S	**Sn**	**15 57 53.8**	**+1.0**
	baz=263						
TWA	**Mucha**	**0.58**	**301**	*e*P	**Pn**	**15 57 42.9**	**-0.4**
	baz=302						
TWA				*e*S	**Sn**	**15 57 53.2**	**-0.5**
	baz=302						
NWLT	**Wulai**	**0.58**	**279**	P	**Pn**	**15 57 43.2**	**-0.1**
	baz=288						
NWLT				*e*S	**Sn**	**15 57 54.0**	**+0.2**
	baz=288						
YM07	**YM07**	**0.67**	**317**	*e*P	**Pn**	**15 57 42.9**	**-1.4**
	baz=313						
YM07				*e*S	**Sn**	**15 57 53.8**	**-1.7**
	baz=313						
YHNB	**Yeheng**	**0.69**	**269**⇑	*e*P	**Pn**	**15 57 44.4**	**-0.1**
	baz=268						
YHNB				*e*S	**Sn**	**15 57 55.9**	**+0.1**
	baz=268						
YM10	**YM10**	**0.70**	**312**	*e*P	**Pn**	**15 57 44.2**	**-0.4**
	baz=314						
YM10				*e*S	**Sn**	**15 57 55.2**	**-0.8**
	baz=314						
YM05	**YM05**	**0.70**	**313**	*e*P	**Pn**	**15 57 44.1**	**-0.5**
	baz=315						
YM05				*e*S	**Sn**	**15 57 55.1**	**-0.9**
	baz=315						
NACB	**Ninganchiao**	**0.70**	**224**	*e*P	**Pn**	**15 57 43.6**	**-0.9**
	baz=213						
NACB				*e*S	**Sn**	**15 57 55.3**	**-0.7**
	baz=213						
YM04	**YM04**	**0.71**	**311**	*e*P	**Pn**	**15 57 44.3**	**-0.4**
	baz=313						
YM04				*e*S	**Sn**	**15 57 55.2**	**-1.1**
	baz=313						
NNSB	**Datong**	**0.73**	**249**	*e*P	**Pn**	**15 57 44.8**	**-0.1**
	baz=240						
NNSB				*e*S	**Sn**	**15 57 56.5**	**-0.2**
	baz=240						
NNS	**Nan Shan**	**0.73**	**251**	*i* P	**Pn**	**15 57 44.9**	**-0.1**
	baz=241						
NNS				*i* S	**Sn**	**15 57 56.7**	**-0.1**
	baz=241						
TWS1	**Kuangyinshan**	**0.77**	**303**	*e*P	**Pn**	**15 57 45.5**	**+0.3**
	baz=311						
TWS1				*e*S	**Sn**	**15 57 57.3**	**0.0**
	baz=311						
TWD	**Chiawan**	**0.78**	**219**	*i* P	**Pn**	**15 57 44.7**	**-0.7**
	baz=228						
TWD				*e*S	**Sn**	**15 57 56.6**	**-0.8**
	baz=228						
**JY

TWF1				*e*S		**Sn**	**15 58 11.8**	**-2.3**
	baz=213								
FULB	**Fuli**	**1.67 207**	*e*P			**Pn**	**15 57 55.7**	**-0.8**
	baz=211								
FULB				*e*S		**Sn**	**15 58 16.3**	**-1.0**
	baz=211								
ALS	**Alishan**	**1.68 226**	P			**Pn**	**15 57 57.6**	**+0.6**
	baz=237								
ALS				*e*S		**Sn**	**15 58 18.9**	**+0.8**
	baz=237								
CHN5	**Tsauling**	**1.71 231**	*e*P			**Pn**	**15 57 57.8**	**+0.6**
	baz=240								
CHN5				*e*S		**Sn**	**15 58 19.5**	**+1.0**
	baz=240								
CHKT	**Chengkung**	**1.73 204**	*e*P			**Pn**	**15 57 55.9**	**-1.4**
	baz=211								
CHKT				*e*S		**Sn**	**15 58 15.9**	**-2.8**
	baz=211								
WGK	**Gukeng**	**1.74 235**	*e*P			**Pn**	**15 57 58.0**	**+0.5**
	baz=244								
WGK				*e*S		**Sn**	**15 58 19.9**	**+0.8**
	baz=244								
JKRS	**Kuro-shima**	**1.77 104**	P			**Pn**	**15 57 58.3**	**+0.4**
ELDTW	**Lidau**	**1.80 215**	*e*P			**Pn**	**15 57 57.3**	**-1.2**
	baz=207								
ELDTW				*e*S		**Sn**	**15 58 18.9**	**-1.8**
	baz=207								
JIJ	**Ishigaki jima**	**1.86 100**	P			**Pn**	**15 57 59.2**	**+0.1**
JIJ				*e*S		**Sn**	**15 58 21.5**	**-0.4**
CHN4	**Tsaushan**	**1.93 227**	*e*P			**Pn**	**15 58 01.1**	**+1.0**
	baz=237								
CHN4				*e*S		**Sn**	**15 58 26.2**	**+2.6**
	baz=237								
TPUB	**Ta-pu**	**1.94 225**	*e*P			**Pn**	**15 58 01.2**	**+1.0**
	baz=235								
TPUB				*e*S		**Sn**	**15 58 24.4**	**+0.5**
	baz=235								
STYT	**Tauyuan**	**1.97 220**	*e*P			**Pn**	**15 58 01.3**	**+0.7**
	baz=209								
STYT				*e*S		**Sn**	**15 58 25.9**	**+1.4**
	baz=209								
JISG	**Ishigakijimahi**	**1.99 92**	P			**Pn**	**15 58 01.1**	**+0.4**
WTP	**Ta-pu**	**1.99 224**	*e*P			**Pn**	**15 58 02.2**	**+1.3**
	baz=235								
WTP				*e*S		**Sn**	**15 58 26.0**	**+0.9**
	baz=235								
TWK	**Hsinying**	**2.06 227**	*e*P			**Pn**	**15 58 03.0**	**+1.2**
	baz=238								
TWK				*e*S		**Sn**	**15 58 27.2**	**+0.5**
	baz=238								
CHN1	**Nanshi**	**2.09 225**	*e*P			**Pn**	**15 58 02.7**	**+0.5**
	baz=235								
CHN1				*e*S		**Sn**	**15 58 27.5**	**0.0**
	baz=235								
SGST	**Jiashian**	**2.13 222**	*e*P			**Pn**	**15 58 04.1**	**+1.4**
	baz=219								
SGST				*e*S		**Sn**	**15 58 29.5**	**+1.1**
	baz=219								
SLGT	**Liugui**	**2.16 219**	*e*P			**Pn**	**15 58 03.9**	**+0.7**
	baz=217								
SLGT				*e*S		**Sn**	**15 58 30.4**	**+1.3**
	baz=217								
JTJ	**Tarama**	**2.34 91**	P			**Pn**	**15 58 06.2**	**+0.7**
MATB	**Ma-tsu**	**2.46 307**	*e*P			**Pn**	**15 58 06.2**	**-0.8**
	baz=306								
MATB				*e*S		**Sn**	**15 58 35.2**	**-0.9**
	baz=306								
MASBT	**Mashibuluo**	**2.48 214**	*e*P			**Pn**	**15 58 08.1**	**+0.8**
	baz=211								

*IDC **14** 16:08:21.0±1.1,0.2′1N×92.2′06E,h0km,mb3.8/8,mb1 3.9/9, mb1mx3.5/66,mbtmp3.8/9,ML3.3/1,Error ellipse: s-maj=42.1km s-min=19.5km az=53.0*

*ISCJB **14** 16:08:24.4±1.1,0.3′N±0.2′×92.2′E±0.2′,h33km,mb3.8/8, Error ellipse: s-maj=33.6km s-min=17.3km az=146.5*

ISC 14 16:08:26.4±1.2,0.2′N±0.2′×92.1′E±0.2′,h35km,n10, ₀0ŝ75/11,mb3.8/8,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**19.34**	**20**	P	**P**	**16 12 49.1**	**+0.1**
	0.0nm,0.3s,baz=214,slow=11,SNR=12						
WRA	**Warramunga Arr**	**45.95**	**118**	P	**P**	**16 16 46.2**	**-0.1**
	1.0nm,0.8s,baz=296,slow=8.5,SNR=8.5						
WRA				PcP	**PcP**	**16 18 23.0**	**+0.1**
	0.2nm,0.7s,baz=287,slow=3.9,SNR=2.4						
ASAR	**Alice Springs**	**47.00**	**123**	P	**P**	**16 16 54.5**	**-0.1**
	0.2nm,0.7s,baz=305,slow=7.6,SNR=4.1						
MKAR	**Makanchi Array**	**47.19**	**351**	P	**P**	**16 16 55.4**	**-0.2**
	0.7nm,0.7s,baz=161,slow=9.0,SNR=10						
SONM	**Songino Array**	**49.04**	**13**	P	**P**	**16 17 10.8**	**+0.7**
	1.3nm,0.7s,baz=198,slow=9.0,SNR=7.7						
KURBB	**Kurchatov Arra**	**51.54**	**349**	P	**P**	**16 17 27.0**	**-1.8**
	0.8nm,0.7s,baz=172,slow=7.3,SNR=10						
ZALV	**Zalesovo Beam**	**53.90**	**355**	P	**P**	**16 17 45.4**	**-0.7**
	1.4nm,0.4s,baz=183,slow=8.0,SNR=8.4						
BRTR	**Keskin Array B**	**66.06**	**314**	P	**P**	**16 19 10.3**	**+0.2**
	0.4nm,0.6s,baz=126,slow=6.6,SNR=3.4						
GERES	**GERESS Array B**	**82.21**	**319**	P	**P**	**16 20 44.6**	**+0.5**
	2.1nm,0.8s,baz=92,slow=4.4,SNR=12						
TXAR	**Lajitas Array**	**146.99**	**26**	PKPbc	**PKPbc**	**16 28 06.2**	**0.0**
	0.4nm,0.5s,baz=323,slow=1.9,SNR=3.5						

*KRSC **14** 16:09:26.0±0.8,54.′31N×160.′59E,h123km±9km,ML4.3*

*ISCJB **14** 16:09:27.3±0.3,54.′34N±0.′03×160.′47E±0.′08, h125km±2km,mb3.8/17,Error ellipse: s-maj=8.0km s-min=2.7km az=25.1*

*MOS **14** 16:09:27.1±0.7,54.′33N×160.′51E,h126km,mb4.0/9,Error ellipse: s-maj=11.9km s-min=4.2km az=74.9*

*IDC **14** 16:09:29.2±1.0,54.′47N×160.′00E,h132km±10km, mb3.4/13,mb1 3.6/16,mb1mx3.3/70,mbtmp3.8/16,Error ellipse: s-maj=18.9km s-min=10.9km az=135.0*

ISC 14 16:09:27.6±0.7,54.′32N±0.′03×160.′53E±0.′04,h122km±5km, n115,₀0ŝ92/165,mb3.8/17,6C-4D,Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KII	**Karymskiy**	**0.70**	**246**	*e*P	**Pn**	**16 09 47.3**	**0.0**
KII				*e*S	**Sn**	**16 10 01.7**	**-0.4**
KII	**Karymskiy**	**0.70**	**246**	PN	**Pn**	**16 09 47.3**	**0.0**
KII				S	**Sn**	**16 10 01.7**	**-0.4**
KZV	**Kizimen**	**0.80**	**350**	*e*P	**Pn**	**16 09 48.3**	**+0.1**
KZV				*e*S	**Sn**	**16 10 03.3**	**-0.5**
KZV	**Kizimen**	**0.80**	**350**	PN	**Pn**	**16 09 48.3**	**+0.1**
KZV				S	**Sn**	**16 10 03.3**	**-0.5**
TUMR	**Tumrok**	**0.99**	**347**	*i* P	**Pn**	**16 09 50.1**	**+0.3**
TUMR	**Tumrok**	**0.99**	**347**	PN	**Pn**	**16 09 50.1**	**+0.3**
SPN	**Mys Shipunski**	**1.27**	**194**	*i* P	**Pn**	**16 09 52.2**	**-0.3**
SPN				*i* S	**Sn**	**16 10 10.3**	**-1.1**
SPN	**Mys Shipunski**	**1.27**	**194**	PN	**Pn**	**16 09 52.2**	**-0.3**
SPN				S	**Sn**	**16 10 10.3**	**-1.1**
NLC	**Nalytchevo**	**1.35**	**212**	*e*P	**Pn**	**16 09 53.6**	**+0.1**
NLC				*e*S	**Sn**	**16 10 13.0**	**-0.1**
NLC	**Nalytchevo**	**1.35**	**212**	PN	**Pn**	**16 09 53.6**	**+0.1**
NLC				S	**Sn**	**16 10 13.0**	**-0.1**
SDLR	**Sedlovina**	**1.43**	**224**	*i* P	**Pn**	**16 09 55.0**	**+0.5**
SDLR				*e*S	**Sn**	**16 10 15.4**	**+0.4**
SDLR	**Sedlovina**	**1.43**	**224**	PN	**Pn**	**16 09 55.0**	**+0.5**
SDLR				S	**Sn**	**16 10 15.4**	**+0.4**
KMNR	**Kamenistaya**	**1.45**	**353**	*e*P	**Pn**	**16 09 55.1**	**+0.5**
KMNR				*e*S	**Sn**	**16 10 15.4**	**+0.2**
KMNR	**Kamenistaya**	**1.45**	**353**	PN	**Pn**	**16 09 55.1**	**+0.5**
KMNR				S	**Sn**	**16 10 15.4**	**+0.2**
KRER	**Koryakskii**	**1.47**	**227**	*e*P	**Pn**	**16 09 55.6**	**+0.6**
KRER				*e*S	**Sn**	**16 10 16.5**	**+0.6**
KRER	**Koryakskii**	**1.47**	**227**	PN	**Pn**	**16 09 55.6**	**+0.6**
KRER				S	**Sn**	**16 10 16.5**	**+0.6**
KRX	**Arik**	**1.48**	**230**	*e*P	**Pn**	**16 09 55.8**	**+0.7**
KRX				*e*S	**Sn**	**16 10 16.8**	**+0.9**
KRX	**Arik**	**1.48**	**230**	PN	**Pn**	**16 09 55.8**	**+0.7**
KRX				S	**Sn**	**16 10 16.8**	**+0.9**
SMAR	**Somma**	**1.48**	**225**	*e*P	**Pn**	**16 09 55.7**	**+0.6**
SMAR				*e*S	**Sn**	**16 10 16.5**	**+0.5**
SMAR	**Somma**	**1.48**	**225**	PN	**Pn**	**16 09 55.7**	**+0.6**
SMAR				S	**Sn**	**16 10 16.5**	**+0.5**
AVH	**Avacha**	**1.50**	**226**	*e*P	**Pn**	**16 09 56.1**	**+0.8**
AVH				*e*S	**Sn**	**16 10 17.0**	**+0.7**
AVH	**Avacha**	**1.50**	**226**	PN	**Pn**	**16 09 56.1**	**+0.8**
AVH				S	**Sn**	**16 10 17.0**	**+0.7**
UGLR	**Uglovaya**	**1.51**	**223**	*i* P	**Pn**	**16 09 56.1**	**+0.7**
UGLR				*i* S	**Sn**	**16 10 17.1**	**+0.6**
UGLR	**Uglovaya**	**1.51**	**223**	PN	**Pn**	**16 09 56.1**	**+0.7**
UGLR				S	**Sn**	**16 10 17.1**	**+0.6**
KOK	**Koryaka**	**1.53**	**228**	*e*P	**Pn**	**16 09 56.2**	**+0.6**
KOK				*e*S	**Sn**	**16 10 17.3**	**+0.5**
KOK	**Koryaka**	**1.53**	**228**	PN	**Pn**	**16 09 56.2**	**+0.6**
KOK				S	**Sn**	**16 10 17.3**	**+0.5**
BZMR	**Bezymyannaya**	**1.61**	**359**	*e*P	**Pn**	**16 09 57.1**	**+0.5**
BZMR	**Bezymyannaya**	**1.61**	**359**	PN	**Pn**	**16 09 57.1**	**+0.5**
BZWR	**Bezymyannyi-We**	**1.64**	**359**	*e*P	**Pn**	**16 09 57.7**	**+0.7**
BZWR	**Bezymyannyi-We**	**1.64**	**359**	PN	**Pn**	**16 09 57.7**	**+0.7**
GNL	**Ganaly**	**1.65**	**249**	*e*P	**Pn**	**16 09 57.4**	**+0.3**
GNL				*e*S	**Sn**	**16 10 19.4**	**-0.1**
GNL	**Ganaly**	**1.65**	**249**	PN	**Pn**	**16 09 57.4**	**+0.3**
GNL				S	**Sn**	**16 10 19.4**	**-0.1**
DALK	**Dalny**	**1.67**	**220**	*e*P	**Pn**	**16 09 57.6**	**+0.4**
DALK				*e*S	**Sn**	**16 10 19.7**	**0.0**
DALK	**Dalny**	**1.67**	**220**	PN	**Pn**	**16 09 57.6**	**+0.4**
DALK				S	**Sn**	**16 10 19.7**	**0.0**
ZLN	**Zelenaya**	**1.70**	**5**	*e*P	**Pn**	**16 09 58.5**	**+0.9**
ZLN	**Zelenaya**	**1.70**	**5**	PN	**Pn**	**16 09 58.5**	**+0.9**
PET	**Petropavlovsk**	**1.72**	**221**	⇓*i* PN	**Pn**	**16 09 58.2**	**+0.5**
PET				*e*S	**Sn**	**16 10 21.0**	**+0.4**
PET				pmax	pmax		
	comp=Z,166nm,0.3s						
PET				smax	smax		
	comp=N,907nm,0.6s						
PET				smax	smax		
	comp=E,1μm,0.4s						
LGNR	**Loginova**	**1.77**	**3**	*e*P	**Pn**	**16 09 59.8**	**+1.2**
LGNR	**Loginova**	**1.77**	**3**	PN	**Pn**	**16 09 59.8**	**+1.2**
KOZ	**Kozyrevsk**	**1.78**	**348**	*e*P	**Pn**	**16 09 58.6**	**+0.2**
KOZ				*e*S	**Sn**	**16 10 21.6**	**-0.4**
KOZ	**Kozyrevsk**	**1.78**	**348**	PN	**Pn**	**16 09 58.6**	**+0.2**
KOZ				S	**Sn**	**16 10 21.6**	**-0.4**
CIRR	**Tsirk**	**1.80**	**4**	*e*P	**Pn**	**16 09 59.7**	**+0.9**
CIRR	**Tsirk**	**1.80**	**4**	PN	**Pn**	**16 09 59.7**	**+0.9**
KRSR	**Krestovskiy**	**1.90**	**1**	*e*P	**Pn**	**16 10 00.4**	**+0.4**
KRSR	**Krestovskiy**	**1.90**	**1**	PN	**Pn**	**16 10 00.4**	**+0.4**
ESO	**Esso**	**1.92**	**327**	*e*P	**Pn**	**16 09 59.9**	**-0.2**
ESO				*e*S	**Sn**	**16 10 24.3**	**-0.7**
ESO	**Esso**	**1.92**	**327**	PN	**Pn**	**16 09 59.9**	**-0.2**
ESO				S	**Sn**	**16 10 24.3**	**-0.7**
KLY	**Klyuchi**	**2.00**	**2**	*e*P	**Pn**	**16 10 01.6**	**+0.6**
KLY				*e*S	**Sn**	**16 10 26.6**	**0.0**
KLY	**Klyuchi**	**2.00**	**2**	PN	**Pn**	**16 10 01.6**	**+0.6**
KLY				S	**Sn**	**16 10 26.6**	**0.0**
KRMR	**Karymshinskiy**	**2.07**	**225**	*e*P	**Pn**	**16 10 02.4**	**+0.4**
KRMR				*e*S	**Sn**	**16 10 27.9**	**-0.4**
KRMR	**Karymshinskiy**	**2.07**	**225**	PN	**Pn**	**16 10 02.4**	**+0.4**
KRMR				S	**Sn**	**16 10 27.9**	**-0.4**
PETK	**Petropavlovsk-**	**2.08**	**235**	P	**Pn**	**16 10 02.5**	**+0.4**
	comp=E,8.4nm,0.3s,baz=70,slow=18,SNR=200						
PETK				S	**Sn**	**16 10 28.1**	**-0.5**
	comp=E,9.9nm,0.3s,baz=84,slow=19,SNR=6.9						
RUS	**Russkaya**	**2.25**	**213**	*e*P	**Pn**	**16 10 04.1**	**-0.1**
RUS				*e*P	**Pn**	**16 10 04.2**	**0.0**
RUS				*e*S	**Sn**	**16 10 31.0**	**-1.3**
RUS				*e*S	**Sn**	**16 10 31.2**	**-1.1**
RUS	**Russkaya**	**2.25**	**213**	PN	**Pn**	**16 10 04.1**	**-0.1**
RUS				S	**Sn**	**16 10 31.2**	**-1.1**
BDR	**Baidarnaya**	**2.28**	**9**	*e*P	**Pn**	**16 10 05.6**	**+0.9**
BDR	**Baidarnaya**	**2.28**	**9**	PN	**Pn**	**16 10 05.6**	**+0.9**
KBTR	**Krutoberegovo**	**2.30**	**34**	*e*P	**Pn**	**16 10 05.4**	**+0.6**
KBTR				*e*S	**Sn**	**16 10 32.9**	**-0.5**
KBTR	**Krutoberegovo**	**2.30**	**34**	PN	**Pn**	**16 10 05.4**	**+0.6**
KBTR				S	**Sn**	**16 10 32.9**	**-0.5**
MTVR	**Mutnovka**	**2.32**	**218**	*e*P	**Pn**	**16 10 06.1**	**+0.8**
MTVR				*e*S	**Sn**	**16 10 34.5**	**+0.3**
MTVR	**Mutnovka**	**2.32**	**218**	PN	**Pn**	**16 10 06.1**	**+0.8**
MTVR				S	**Sn**	**16 10 34.5**	**+0.3**
SMKR	**Semkarok**	**2.33**	**13**	*e*P	**Pn**	**16 10 05.5**	**+0.2**
SMKR	**Semkarok**	**2.33**	**13**	PN	**Pn**	**16 10 05.5**	**+0.2**
SRKR	**Sorokina**	**2.36**	**9**	*i* P	**Pn**	**16 10 06.4**	**+0.6**
SRKR				*e*S	**Sn**	**16 10 35.0**	**0.0**
SRKR	**Sorokina**	**2.36**	**9**	PN	**Pn**	**16 10 06.4**	**+0.6**
SRKR				S	**Sn**	**16 10 35.0**	**0.0**
APC	**Apacha**	**2.45**	**236**	*e*P	**Pn**	**16 10 07.7**	**+0.9**
APC				*e*S	**Sn**	**16 10 37.1**	**+0.2**
APC	**Apacha**	**2.45**	**236**	PN	**Pn**	**16 10 07.7**	**+0.9**
APC				S	**Sn**	**16 10 37.1**	**+0.2**
ASAK	**Asacha**	**2.50**	**220**	*e*P	**Pn**	**16 10 08.3**	**+0.7**
ASAK	**Asacha**	**2.50**	**220**	PN	**Pn**	**16 10 08.3**	**+0.7**
KDTR	**Khodutka, Kamc**	**2.92**	**211**	*e*P	**Pn**	**16 10 12.5**	**-0.4**
KDTR				*e*S	**Sn**	**16 10 45.1**	**-2.7**
MIPR	**Malaya Ipel'ka**	**3.06**	**229**	*e*P	**Pn**	**16 10 16.1**	**+1.4**
MIPR	**Malaya Ipel'ka**	**3.06**	**229**	PN	**Pn**	**16 10 16.1**	**+1.4**
BKI	**Bering**	**3.27**	**72**	*e*P	**Pn**	**16 10 17.9**	**+0.5**
BKI				*e*S	**Sn**	**16 10 53.6**	**-2.4**
BKI	**Bering**	**3.27**	**72**	PN	**Pn**	**16 10 17.9**	**+0.5**
BKI				S	**Sn**	**16 10 53.6**	**-2.4**
PAU	**Pauzhetka**	**3.64**	**220**	*e*P	**Pn**	**16 10 23.8**	**+1.4**
PAU	**Pauzhetka**	**3.64**	**220**	PN	**Pn**	**16 10 23.8**	**+1.4**
SKR	**Severo-Kuril's**	**4.54**	**218**	*e*P	**Pn**	**16 10 34.5**	**+0.2**
SKR				*e*S	**Sn**	**16 11 24.8**	**-1.3**
SKR	**Severo-Kuril's**	**4.54**	**218**	PN	**Pn**	**16 10 34.5**	**+0.2**
SKR				S	**Sn**	**16 11 24.8**	**-1.3**
PALN	**Palana**	**4.79**	**356**	*e*P	**Pn**	**16 10 37.4**	**-0.2**
PALN	**Palana**	**4.79**	**356**	PN	**Pn**	**16 10 37.4**	**-0.2**
OSSR	**Ossora**	**5.13**	**15**	*e*P	**Pn**	**16 10 42.2**	**0.0**
OSSR	**Ossora**	**5.13**	**15**	PN	**Pn**	**16 10 42.2**	**0.0**
MA2	**Magadan**	**7.49**	**319**	P	**Pn**	**16 11 14.4**	**+0.3**
	comp=E,3.1nm,0.3s,baz=135,slow=11,SNR=25						
SEY	**Seymchan**	**9.61**	**337**	P	**Pn**	**16 11 42.4**	**-0.2**
	comp=E,0.0nm,0.3s,baz=134,slow=18,SNR=3.9						
SEY	**Seymchan**	**9.61**	**337**	⇓*e*PN	**Pn**	**16 11 42.7**	**+0.1**
ASAJ	**Asahikawa**	**15.50**	**236**	P	**Pn**	**16 12 58.6**	**-0.8**
	comp=E,0.3nm,0.3s,baz=51,slow=10,SNR=4.2						
ERM	**Erimo**	**16.85**	**230**	⇓*e*P	**Pn**	**16 13 14.5**	**-1.5**
YAK	**Yakutsk**	**17.86**	**308**	P	**P**	**16 13 25.0**	**-1.9**
	comp=E,0.0nm,0.3s,baz=70,slow=0.8,SNR=4.7						
YAK	**Yakutsk**	**17.86**	**308**	⇓*i* P	**P**	**16 13 25.0**	**-1.9**
KLR	**Kul'dur**	**18.45**	**266**	*ce*P	**Pn**	**16 13 36.2**	**+1.1**
TIXI	**Tiksi**	**22.08**	**334**	⇓*e*P	**P**	**16 14 11.9**	**-0.4**
TIXI				pmax	pmax		
	comp=Z,4.0nm,1.7s						
MJA0	**Matsu Arr-Jizo**	**23.51**	**230**	*e*P	**P**	**16 14 26.7**	**+0.3**
MJA0				pmax	pmax		
	comp=Z,2.0nm,0.5s						
MAJO	**Matsushiro**	**23.53**	**230**	⇓*i* P	**P**	**16 14 26.2**	**-0.4**
MAJO				pmax	pmax		
	comp=Z,5.0nm,0.6s						
MJAR	**Matsushiro Arr**	**23.53**	**230**	P	**P**	**16 14 26.8**	**+0.2**
	comp=Z,2.0nm,0.5s,baz=24,slow=7.5,SNR=20						
HIA	**Hailar**	**25.46**	**275**	⇓*e*P	**P**	**16 14 46.8**	**+2.8**
HIA				pmax	pmax		
	comp=Z,4.0nm,0.7s						
ILAR	**Eielson Array**	**27.77**	**47**	P	**P**	**16 15 05.3**	**+0.9**
	comp=Z,0.5nm,0.7s,baz=273,slow=10,SNR=8.7						
INK	**Inuvik**	**32.74**	**39**	P	**P**	**16 15 49.6**	**+1.5**
	comp=Z,0.2nm,0.3s,baz=285,slow=2.1,SNR=3.5						
H11N2	**WAKE ISLAND Hy**	**34.88**	**169**	T	T	16 53 36.3	
	baz=355,slow=76,SNR=58						
H11N3	**WAKE ISLAND Hy**	**34.89**	**169**	T	T	16 53 48.0	
	baz=355,slow=76,SNR=80						
H11N1	**WAKE ISLAND Hy**	**34.89**	**169**	T	T	16 53 49.4	
	baz=355,slow=76,SNR=64						
H11S1	**WAKE ISLAND Hy**	**36.06**	**170**	T	T	16 55 00.6	
	baz=348						
H11S3	**WAKE ISLAND Hy**	**36.08**	**170**	T	T	16 55 06.1	
	baz=348,SNR=5.8						
H11S2	**WAKE ISLAND Hy**	**36.08**	**170**	T	T	16 55 07.9	
	baz=348						
YKA	**Yellowknife Ar**	**42.08**	**44**	P	**P**	**16 17 08.1**	**+1.3**
	comp=Z,0.5nm,0.7s,baz=299,slow=8.1,SNR=8.5						
YKA				PcP	**PcP**	**16 18 59.6**	**+0.5**
	comp=Z,0.2nm,0.5s,baz=309,slow=3.8,SNR=6.0						
MKAR	**Makanchi Array**	**47.86**	**295**	P	**P**	**16 17 49.8**	**-3.0**
	comp=Z,0.2nm,0.6s,baz=60,slow=7.7,SNR=3.3						
BRVK	**Borovoye**	**49.86**	**308**	⇓*e*P	**P**	**16 18 07.0**	**-0.9**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.9s						
ARU	**Arti**	**52.67**	**317**	⇓*e*P	**P**	**16 18 26.4**	**-2.4**
ARU				pmax	pmax		
	comp=Z,7.0nm,2.3s						
NVAR	**Mina Array Bea**	**55.09**	**71**	P	**P**	**16 18 49.7**	**+2.8**
	comp=Z,0.5nm,0.4s,baz=295,slow=8.6,SNR=2.7						
PDAR	**Pinedale Array**	**56.70**	**62**	P	**P**	**16 19 00.5**	**+2.1**
	comp=Z,0.6nm,0.5s,baz=315,slow=2.4,SNR=7.5						
CMAR	**Chiang Mai Arr**	**58.70**	**258**	P	**P**	**16 19 11.1**	**-1.3**
	comp=Z,0.3nm,0.7s,baz=23,slow=9.8,SNR=4.1						
FINES	**FINESS Array B**	**59.09**	**336**	P	**P**	**16 19 12.4**	**-2.0**
	comp=Z,2.7nm,0.9s,baz=25,slow=11,SNR=4.7						
FINES	**FINESS Array B**	**59.09**	**336**	P	**P**	**16 19 12.4**	**-2.0**
FINES				pmax	pmax		
	comp=Z,4.0nm,0.9s						
TXAR	**Lajitas Array**	**69.92**	**68**	P	**P**	**16 20 27.5**	**+2.0**
	comp=Z,1.1nm,0.4s,baz=304,slow=4.8,SNR=14						
WRA	**Warramunga Arr**	**77.31**	**205**	P	**P**	**16 21 08.7**	**+0.2**
	comp=Z,0.9nm,0.4s,baz=221,slow=6.1,SNR=26						
ASAR	**Alice Springs**	**80.99**	**205**	P	**P**	**16 21 29.2**	**+0.8**
	comp=Z,0.9nm,0.4s,baz=17,slow=5.0,SNR=22						
ESDC	**Sonseca Array**	**85.43**	**348**	P	**P**	**16 21 51.8**	**+0.5**
	comp=Z,0.7nm,0.6s,baz=2.6,slow=4.8,SNR=3.8						

IDC 14 16:19:08.3±3.2,3.′44N×89.′98E,h0km,mb3.4/4,mb1 3.5/4, mb1mx3.1/63,mbtmp3.4/4,Error ellipse: s-maj=122.7km s-min=28.6km az=59.0,North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**43.70**	**352**	P	P	**16 27 14.9**	**-0.3**
	0.2nm,0.5s,baz=163,slow=10,SNR=3.6						
SONM	**Songino Array**	**46.44**	**15**	P	P	**16 27 37.4**	**+0.3**
	0.7nm,0.5s,baz=191,slow=8.7,SNR=5.4						
KURBB	**Kurchatov Arra**	**48.00**	**350**	P	P	**16 27 48.5**	**-0.5**
	0.3nm,0.6s,baz=174,slow=8.3,SNR=2.7						
WRA	**Warramunga Arr**	**49.36**	**120**	P	P	**16 27 59.7**	**-0.3**
	0.3nm,0.7s,baz=297,slow=8.5,SNR=3.2						
TXAR	**Lajitas Array**	**144.88**	**21**	PKP	PKPdf	**16 38 48.4**	**0.0**
	1.9nm,1.1s,baz=339,slow=4.8,SNR=3.4						

WEL 14 16:29:10.6,38.′9S±0.′6×174.′8E±0.′7,h17km±1km,ML3.7/24, North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VRZ	**Vera Road**	**0.19**	**179**	P	Pb	**16 29 16.2**	**+0.5**
VRZ	**Vera Road**	**0.19**	**179**	S	Sb	**16 29 20.2**	**+1.1**
MHEZ	**Mangahewa**	**0.37**	**247**	P	Pb	**16 29 19.2**	**+0.5**
MHEZ	**Mangahewa**	**0.37**	**247**	S	Sb	**16 29 25.6**	**+1.5**
HIZ	**Hauiti**	**0.43**	**11**	P	Pb	**16 29 20.0**	**+0.3**
HIZ	**Hauiti**	**0.43**	**11**	S	Sb	**16 29 26.8**	**+0.9**
DREZ	**Durham Road**	**0.50**	**239**	P	Pb	**16 29 21.4**	**+0.4**
TWVZ	**Taurewa**	**0.55**	**105**	P	Pg	**16 29 21.7**	**+0.1**
PKVZ	**Pokaka**	**0.58**	**128**	P	Pb	**16 29 22.5**	**+0.1**
PKVZ	**Pokaka**	**0.58**	**128**	S	Sb	**16 29 30.9**	**+0.5**
LREZ	**Lake Rotokare**	**0.59**	**207**	P	Pb	**16 29 22.7**	**+0.1**
LREZ	**Lake Rotokare**	**0.59**	**207**	S	Sb	**16 29 32.1**	**+1.4**
PREZ	**Palmer Road**	**0.62**	**228**	P	Pb	**16 29 23.3**	**+0.3**
PREZ	**Palmer Road**	**0.62**	**228**	S	Sn	**16 29 33.2**	**-1.0**
PKE	**Pukeiti**	**0.65**	**246**	P	Pb	**16 29 23.9**	**+0.3**
PKE	**Pukeiti**	**0.65**	**246**	S	Sb	**16 29 33.4**	**+1.0**
COVZ	**Chateau Observ**	**0.67**	**114**	P	Pg	**16 29 23.7**	**-0.1**
COVZ	**Chateau Observ**	**0.67**	**114**	S	Sb	**16 29 33.5**	**+0.5**
WTVZ	**West Tongariro**	**0.68**	**106**	P	Pg	**16 29 23.9**	**-0.1**
FWVZ	**Far West T-bar**	**0.70**	**118**	P	Pg	**16 29 24.3**	**-0.1**
FWVZ	**Far West T-bar**	**0.70**	**118**	S	Sb	**16 29 34.6**	**+0.7**
NGZ	**Ngauruhoe**	**0.70**	**110**	P	Pg	**16 29 24.3**	**-0.1**
NGZ	**Ngauruhoe**	**0.70**	**110**	S	Sb	**16 29 34.6**	**+0.7**
KRVZ	**Karewarewa**	**0.71**	**103**	P	Pg	**16 29 24.5**	**-0.1**
KRVZ	**Karewarewa**	**0.71**	**103**	S	Sb	**16 29 34.3**	**+0.2**
DRZ	**Dome

FOZ	**Fox Glacier**	**5.91**	**217**	P	Pn	16 30 37.5 +0.2

MAN 14 16:31:13.9±0.83N×123°05.E±0.61, h61km±1km, mb4.1, ML2.8, MS2.5, Negros

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNPH	**Sibulan**	**0.51**	**159**	*eP*	Pn	16 31 27.2	+1.9
SNPH				*i* S	Sn	16 31 37.5	+3.3
GUIM	**Jordan**	**0.92**	**331**	*eP*	Pn	16 31 31.2	+1.2
GUIM				*eS*	Sn	16 31 44.4	+1.9
MSLP	**Maasin**	**1.81**	**80**	*eP*	Pn	16 31 42.7	+0.7
MSLP				*eS*	Sn	16 32 05.2	+1.3

SJA 14 16:31:17.8±0.3, 29°34S×68°56W, h107km±2km, ML2.8, MW3.6, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGUA	**GUANDACOL**	**0.16**	**158**	*eP*	Pn	16 31 33.5	+0.6
AGUA				*eS*	Sn	16 31 44.9	+0.8
VCA	**Vinchina**	**0.68**	**27**	*eP*	Pn	16 31 36.5	+0.6
VCA				IAML		16 31 51.2	
	comp=Z,215nm,0.3s						
ACDV	**Cuesta del Vie**	**0.96**	**210**	*eP*	Pn	16 31 39.6	+1.1
ACDV				*eS*	Sn	16 31 55.7	+1.5
AROD	**Rodeo**	**1.15**	**224**	*eP*	Pn	16 31 42.0	+1.4
AROD				*eS*	Sn	16 31 59.8	+1.9
AMOG	**MOGNA**	**1.59**	**178**	*eP*	Pn	16 31 46.6	+1.0
APLL	**PUNTA DE LOS L**	**2.05**	**121**	*eP*	Pn	16 31 52.5	+1.1

ISCJB ***14*** *16:33:20.2±0.7, 2°.02N±0°.06×92°.39E±0°.05, h10km, mb3.6/7, Error ellipse: s-maj=9.5km s-min=7.2km az=16.0*
IDC ***14*** *16:33:20.2±1.5, 1°.98N×92°.39E, h0km, mb3.5/6, mb1 3.7/9, mb1mx3.4/73, mbtmp3.6/9, ML3.9/3, Error ellipse: s-maj=44.0km s-min=19.5km az=51.0*
DJA ***14*** *16:33:24.7±1.3, 2°N±5°×9°2E±°, h30km±16km, M4.7/11, mb4.9/11, mB5.2/9, MLv5.0/8, Mw(mB)4.5/9*
ISC 14 16:33:22.0±0.9, 1°.97N±0°.07×92°.52E±0°.07, h10km, n29, σ2§79/34, mb3.5/7, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSI	**Banda Aceh**	**4.47**	**38**	P	**Pn**	**16 34 30.9**	**+1.0**
BSI				S	**Sn**	**16 35 17.0**	**-5.0**
MLSI	**Meulaboh, Aceh**	**4.50**	**59**	P	**Pn**	**16 34 32.3**	**+2.0**
MLSI				S	**Sn**	**16 35 18.8**	**-4.0**
TPTI		**4.83**	**75**	P	**Pn**	**16 34 36.5**	**+1.7**
TPTI				S	**Sn**	**16 35 27.9**	**-3.0**
GSI	**Gunungsitoli**	**5.10**	**97**	P	**Pn**	**16 34 41.3**	**+2.8**
	137nm,0.7s,3µm0.7nm						
GSI				S	**Sn**	**16 35 33.9**	**-3.6**
	137nm,0.7s,3µm0.7nm						
KCSI	**Kotacane, Aceh**	**5.47**	**73**	P	**Pn**	**16 34 47.6**	**+4.0**
LHMI	**Lhok Sumawe**	**5.48**	**54**	P	**Pn**	**16 34 46.9**	**+3.2**
LHMI				S	**Sn**	**16 35 49.5**	**+2.6**
TSI	**Tuntungan**	**6.23**	**76**	P	**Pn**	**16 34 54.6**	**+0.6**
TSI				S	**Sn**	**16 36 09.0**	**+3.6**
PSI	**Prapat**	**6.45**	**83**	Pn	**Pn**	**16 34 59.6**	**+2.3**
	6.7nm,0.3s,baz=297,slow=9.1,SNR=32						
PSI				Sn	Sn	16 36 04.5	-6.6
	1.6nm,0.3s,baz=42,slow=12,SNR=1.6						
MNSI	**Mandailing Nat**	**7.16**	**99**	P	**Pn**	**16 35 10.0**	**+3.2**
MNSI				S	**Sn**	**16 36 23.2**	**-5.0**
SISI	**Saibi**	**7.34**	**116**	P	**Pn**	**16 35 11.9**	**+2.6**
	23nm,1.1s						
SISI				S	**Sn**	**16 36 28.1**	**-4.7**
	23nm,1.1s						
PKDT	**Phuket**	**8.26**	**44**	P	**Pn**	**16 35 22.5**	**+0.6**
	26nm,0.6s,572nm0.1nm						
PDSI	**Padang**	**8.44**	**110**	P	**Pn**	**16 35 27.2**	**+2.7**
PDSI				S	**Sn**	**16 36 56.1**	**-3.9**
TRTT	**Trang**	**9.22**	**51**	P	**Pn**	**16 35 35.5**	**+0.3**
	16nm,0.8s,0.1nm						
SKLT	**Songkhla**	**9.59**	**57**	P	**Pn**	**16 35 40.8**	**+0.6**
	54nm,1.2s,743nm0.2nm						
MNAI	**Manna**	**12.18**	**121**	P	**Pn**	**16 36 18.4**	**+2.7**
PALK	**Pallekele**	**12.90**	**294**	Pn	**Pn**	**16 36 25.4**	**-0.2**
	0.6nm,0.3s,baz=117,slow=12,SNR=4.9						
PALK				Sn	Sn	16 38 33.5	-16
	4.1nm,0.3s,baz=294,slow=0.4,SNR=14						
PBKT	**Sadao Pong**	**16.73**	**29**	P	**Pn**	**16 37 19.6**	**+3.0**
	5.4nm,0.8s						
CMAR	**Chiang Mai Arr**	**17.56**	**21**	P	**Pn**	**16 37 26.2**	**-0.8**
	0.1nm,0.3s,baz=215,slow=12,SNR=13						
H08S2	**Diego Garcia H**	**22.14**	**244**	T	T	17 00 26.4	
	baz=66,slow=74,SNR=2.8						
H08S3	**Diego Garcia H**	**22.14**	**244**	T	T	17 00 27.1	
	baz=66,SNR=0.9						
H08S1	**Diego Carcia H**	**22.16**	**244**	T	T	17 00 31.5	
	baz=66,slow=74,SNR=2.8						
MKAR	**Makanchi Array**	**45.53**	**350**	P	**P**	**16 41 41.7**	**-0.2**
	0.4nm,0.6s,baz=163,slow=8.9,SNR=5.1						
WRA	**Warramunga Arr**	**46.44**	**120**	P	**P**	**16 41 51.2**	**+1.8**
	0.2nm,0.7s,baz=298,slow=8.6,SNR=3.3						
SONM	**Songino Array**	**47.24**	**13**	P	**P**	**16 41 55.6**	**+0.2**
	1.9nm,0.7s,baz=192,slow=8.5,SNR=9.5						
ASAR	**Alice Springs**	**47.63**	**125**	P	**P**	**16 41 58.2**	**-0.6**
	0.1nm,0.7s,baz=298,slow=7.4,SNR=4.4						
KSRS	**Korea Array**	**48.02**	**38**	P	P	16 42 16.1	+15
	0.9nm,0.8s,baz=215,slow=9.2,SNR=4.3						
KURBB	**Kurchatov Arra**	**49.91**	**348**	P	**P**	**16 42 14.2**	**-1.5**
	0.4nm,0.8s,baz=168,slow=6.9,SNR=3.4						
ZALV	**Zalesovo Beam**	**52.20**	**354**	P	**P**	**16 42 32.5**	**-0.4**
	0.6nm,0.4s,baz=185,slow=13,SNR=3.0						
TXAR	**Lajitas Array**	**145.23**	**25**	PKPbc	**PKPbc**	**16 52 59.0**	**-1.5**
	0.3nm,0.7s,baz=204,slow=2.7,SNR=3.4						

IDC ***14*** *16:33:40.7±6.6, 2°.80N×92°.56E, h0km, mb3.9/6, mb1 4.0/7, mb1mx3.6/70, mbtmp3.9/7, ML4.2/1, MS3.3/1, Ms1 3.3/1, ms1mx2.5/64, Error ellipse: s-maj=129.1km s-min=47.6km az=175.0*
ISC 14 16:33:41.3±7.3, 2°.4N±0°.9×93°.1E±0°.4, h35km, n9, σ0§90/9, mb4.0/5, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SURT	**Suratani**	**8.64**	**41**	P	**Pn**	**16 35 43.6**	**-0.3**
	6.7nm,0.8s,0.0nm						
CMAR	**Chiang Mai Arr**	**16.96**	**19**	Pn	**Pn**	**16 37 36.4**	**+0.3**
	0.3nm,0.3s,baz=224,slow=12,SNR=16						
CHTO	**Chiang Mai**	**17.30**	**19**	P	**Pn**	**16 37 40.4**	**+0.2**
	17nm,1.1s						
CMMT	**Chiang Mai**	**17.30**	**19**	P	**Pn**	**16 37 39.3**	**-0.9**
	6.5nm,1.1s						
MKAR	**Makanchi Array**	**45.22**	**350**	P	**P**	**16 41 56.0**	**+0.9**
	0.7nm,0.3s,baz=170,slow=8.1,SNR=14						
GEYT	**Alibeck**	**47.73**	**322**	P	**P**	**16 42 14.0**	**-1.0**
	2.6nm,0.8s,baz=157,slow=8.0,SNR=6.3						
GEYT				LR	LR	17 02 40.3	
	comp=Z,32nm,19.3s,baz=20,slow=37						
KURBB	**Kurchatov Arra**	**49.62**	**348**	P	**P**	**16 42 30.1**	**+1.0**
	0.6nm,0.6s,baz=168,slow=6.8,SNR=6.7						
ZALV	**Zalesovo Beam**	**51.84**	**354**	P	**P**	**16 42 46.9**	**+1.0**
	2.5nm,0.4s,baz=175,slow=6.8,SNR=13						
BVAR	**Borovoye Array**	**53.87**	**343**	P	**P**	**16 43 01.2**	**+0.4**
	0.7nm,0.7s,baz=140,slow=9.1,SNR=4.9						

ISCJB ***14*** *16:54:34.5±0.5, 51°.44N±0°.03×16°.12E±0°.03, h0km, Error ellipse: s-maj=3.8km s-min=2.3km az=7.4*
CSEM ***14*** *16:54:35.8±0.3, 51°.46N×16°.10E, h2km, ML3.3/12*
IDC ***14*** *16:54:36.5±0.9, 51°.50N×15°.93E, h0km, mb1 3.5/4, mb1mx3.1/64, mbtmp3.3/4, ML2.8/4, Error ellipse: s-maj=16.4km s-min=8.1km az=130.0*
VIE ***14*** *16:54:39.8±0.9, 51°.16N×16°.16E, h0km, mb2.3/5, ML2.8/5, Error ellipse: s-maj=9.1km s-min=5.9km az=100.0, Suspected Mining induced.*
ISC 14 16:54:34.1±0.7, 51°.55N±0°.03×16°.10E±0°.02, h0km, n55, σ1§55/105, 1D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.71**	**170**	*i* Pg	**Pg**	**16 54 48.5**	**+0.8**
KSP				*i* Sg	**Sg**	**16 54 57.0**	**+0.1**
KSP	**Ksiaz**	**0.71**	**170**	↓*i* Pg	**Pg**	**16 54 48.5**	**+0.8**
KSP				*i* Sg	**Sg**	**16 54 57.0**	**+0.1**
UPC	**Upice**	**1.04**	**183**	*e*Pg	**Pg**	**16 54 54.6**	**+0.6**
UPC				*e*SG	**Sg**	**16 55 07.6**	**+0.1**
	comp=Z,129nm,0.5s						
UPC	**Upice**	**1.04**	**183**	Pg	**Pg**	**16 54 54.6**	**+0.6**
UPC				Sg	**Sg**	**16 55 07.6**	**+0.1**
	129nm,0.5s						
DPC	**Dobruska-Polom**	**1.21**	**173**	*e*PG	**Pg**	**16 54 57.2**	**+0.1**
DPC				*e*SG	**Sg**	**16 55 11.6**	**-1.1**
	comp=Z,44nm,0.4s						
DPC	**Dobruska-Polom**	**1.21**	**173**	Pg	**Pg**	**16 54 57.2**	**+0.1**
DPC				Sg	**Sg**	**16 55 11.6**	**-1.1**
	44nm,0.4s						
PVCC	**Panska Ves**	**1.41**	**224**	*e*PG	**Pg**	**16 55 01.7**	**+0.7**
PVCC				*e*SG	**Sb**	**16 55 20.6**	**+1.0**
	comp=Z,152nm,0.3s						
PVCC	**Panska Ves**	**1.41**	**224**	Pg	**Pg**	**16 55 01.7**	**+0.7**
PVCC				Sg	**Sb**	**16 55 20.6**	**+1.0**
	152nm,0.3s						
BRG	**Berggiesshubel**	**1.52**	**244**	PN	**Pn**	**16 55 02.9**	**+0.4**
BRG				PG	**Pb**	**16 55 04.1**	**+1.1**
BRG				SG	**Sn**	**16 55 24.5**	**+1.6**
	75nm,0.4s						
KRLC	**Kraliky**	**1.53**	**163**	*e*PG	**Pn**	**16 55 02.9**	**+0.2**
KRLC				*e*SG	**Sg**	**16 55 21.4**	**-1.9**
	comp=Z,10nm,0.4s						
KRLC	**Kraliky**	**1.53**	**163**	Pg	**Pn**	**16 55 02.9**	**+0.2**
KRLC				Sg	**Sg**	**16 55 21.4**	**-1.9**
	10nm,0.4s						
PRA	**Prague**	**1.82**	**216**	*e*SG	**Sg**	**16 55 33.2**	**+0.8**
	comp=Z,26nm,0.6s						
PRA	**Prague**	**1.82**	**216**	Sg	**Sg**	**16 55 33.2**	**+0.8**
	26nm,0.6s						
GOPC	**GO Pecny, Ondr**	**1.83**	**208**	*e*PG	**Pb**	**16 55 09.2**	**+0.7**
GOPC				*e*SG	**Sb**	**16 55 32.9**	**+0.9**
	comp=Z,25nm,0.3s						
GOPC	**GO Pecny, Ondr**	**1.83**	**208**	Pg	**Pb**	**16 55 09.2**	**+0.7**
GOPC				Sg	**Sb**	**16 55 32.9**	**+0.9**
	25nm,0.3s						
PRU	**Pruhonice**	**1.85**	**213**	*e*PN	**Pn**	**16 55 07.3**	**+0.3**
PRU				*e*PG	**Pb**	**16 55 09.1**	**+0.4**
PRU				*e*SG	**Sb**	**16 55 33.0**	**+0.7**
	comp=Z,32nm,0.6s						
PRU	**Pruhonice**	**1.85**	**213**	Pn	**Pn**	**16 55 07.3**	**+0.3**
CLL	**Collm**	**1.96**	**264**	*e*Pn	**Pn**	**16 55 09.0**	**+0.5**
CLL				*e*Pg	**Pb**	**16 55 12.0**	**+1.5**
CLL				*i*		16 55 15.2	
CLL				*i*		16 55 16.5	
CLL				*e*		16 55 27.0	
CLL				*i* Sg	**Sg**	**16 55 38.3**	**+1.4**
	comp=Z,32nm,0.4s						
MORC	**Moravsky Berou**	**1.99**	**152**	*e*Pn	**Pn**	**16 55 09.2**	**+0.1**
MORC				*e*Sg	**Sb**	**16 55 36.1**	**-0.5**
OKC	**Ostrava-Krasne**	**2.15**	**142**	*e*PN	**Pn**	**16 55 11.1**	**0.0**
OKC				*e*PG	**Pb**	**16 55 14.6**	**+0.8**
OKC				*e*SG	**Sb**	**16 55 41.1**	**+0.1**
	comp=Z,42nm,0.7s						
OKC	**Ostrava-Krasne**	**2.15**	**142**	Pn	**Pn**	**16 55 11.1**	**0.0**
CHZP	**Chorzow**	**2.22**	**123**	*e*Pg	**Pg**	**16 55 18.8**	**+2.2**
CHZP				*e*Sg	**Sg**	**16 55 47.6**	**+2.3**
VRAC	**Vranov**	**2.26**	**172**	*e*Pn	**Pn**	**16 55 14.1**	**+1.4**
VRAC				*e*Sg	**Sb**	**16 55 44.6**	**+0.3**
TREC	**Trest**	**2.29**	**190**	*e*PN	**Pn**	**16 55 14.9**	**+1.8**
TREC				*e*PG	**Pb**	**16 55 17.4**	**+1.2**
TREC	**Trest**	**2.29**	**190**	Pn	**Pn**	**16 55 14.9**	**+1.8**
NKC	**Novy Kostel**	**2.66**	**242**	*e*PN	**Pn**	**16 55 19.6**	**+1.4**
NKC				*e*PG	**Pg**	**16 55 25.6**	**+0.5**
NKC				*e*SG	**Sg**	**16 56 00.8**	**+1.3**
	comp=Z,37nm,0.3s						
NKC	**Novy Kostel**	**2.66**	**242**	Pn	**Pn**	**16 55 19.6**	**+1.4**
OJC	**Ojcow**	**2.69**	**118**	*e*Pn	**Pn**	**16 55 20.5**	**+1.9**
OJC				*e*Pg	**Pg**	**16 55 27.0**	**+1.4**
OJC				*e*Sg	**Sg**	**16 56 01.8**	**+1.4**
OJC	**Ojcow**	**2.69**	**118**	*e*Pn	**Pn**	**16 55 20.5**	**+1.9**
KHC	**Kasperske Hory**	**2.91**	**215**	*e*PN	**Pn**	**16 55 22.5**	**+0.9**
KHC				*e*PG	**Pb**	**16 55 28.2**	**+1.4**
KHC				*e*SN	**Sn**	**16 55 56.4**	**-0.9**
KHC				*e*SG	**Sg**	**16 56 06.5**	**-1.0**
	comp=Z,17nm,0.4s						
KHC	**Kasperske Hory**	**2.91**	**215**	Pn	**Pn**	**16 55 22.5**	**+0.9**
GERES	**GERESS Array B**	**3.11**	**211**	Pn	**Pn**	**16 55 25.4**	**+0.9**
	comp=Z,1.0nm,0.3s,baz=26,slow=12,SNR=26						
GERES				Pg	**Pb**	**16 55 31.5**	**+1.2**
	comp=Z,2.7nm,0.3s,baz=31,slow=17,SNR=30						
GERES				Lg	Lg	16 56 12.1	
	comp=Z,5.1nm,0.3s,baz=38,slow=27,SNR=9.0						
LANS	**Liptovska Anna**	**3.22**	**137**	*e*Pg	**Pg**	**16 55 38.2**	**+2.4**
LANS				*e*Sg	**Sg**	**16 56 17.0**	**-0.6**
LANS	**Liptovska Anna**	**3.22**	**137**	*e*PG	**Pg**	**16 55 38.2**	**+2.4**
LANS				*e*SG	**Sg**	**16 56 17.0**	**-0.6**
MODS	**Modra-Piesok**	**3.26**	**166**	*e*Pg	**Pg**	**16 55 36.4**	**-0.2**
MODS				*e*Sg	**Sg**	**16 56 17.9**	**-1.0**
MODS	**Modra-Piesok**	**3.26**	**166**	*e*	**Pn**	**16 55 28.9**	**+2.4**
MODS	**Modra-Piesok**	**3.26**	**166**	*e*PG	**Pg**	**16 55 36.4**	**-0.2**
MODS				*e*SG	**Sg**	**16 56 17.9**	**-1.0**
NIE	**Niedzica**	**3.42**	**127**	*e*P	**Pg**	**16 55 39.6**	**0.0**
NIE				*e*S	**Sg**	**16 56 24.1**	**+0.1**
VYHS	**Vyhne**	**3.53**	**149**	*e*Pg	**Pg**	**16 55 41.8**	**+0.2**
VYHS				*e*Sg	**Sg**	**16 56 27.6**	**+0.3**
VYHS	**Vyhne**	**3.53**	**149**	*e*	**Pn**	**16 55 30.4**	**+0.3**
VYHS	**Vyhne**	**3.53**	**149**	*e*PG	**Pg**	**16 55 41.8**	**+0.2**
VYHS				*e*SG	**Sg**	**16 56 27.6**	**+0.3**
CONA	**Conrad Observa**	**3.62**	**183**	Pn	**Pn**	**16 55 32.8**	**+1.3**
	comp=Z,0.8nm,0.2s						
CONA				Sg	**Sb**	**16 56 25.9**	**+2.3**
	comp=Z,9.7nm,0.3s						
CONA	**Conrad Observa**	**3.62**	**183**	*i* Pn	**Pn**	**16 55 32.8**	**+1.3**
	comp=Z,0.8nm,0.2s						
CONA				*e*Sg	**Sb**	**16 56 25.9**	**+2.3**
	comp=Z,9.7nm,0.3s						
BSD	**Bornholm Skovb**	**3.65**	**349**	*i* P	**Pn**	**16 55 33.0**	**+1.3**
BSD				*i* S	**Sn**	**16 56 13.4**	**-1.9**
BSD	**Bornholm Skovb**	**3.65**	**349**	*i* P	**Pn**	**16 55 33.0**	**+1.3**
MOA	**Molln**	**3.89**	**199**	Pn	**Pn**	**16 55 36.2**	**+1.1**
	comp=Z,1.7nm,0.3s						
MOA				Sg	**Sg**	**16 56 38.1**	**-0.8**
	comp=Z,15nm,0.5s						
MOA	**Molln**	**3.89**	**199**	*i* Pn	**Pn**	**16 55 36.2**	**+1.1**
	comp=Z,1.7nm,0.3s						
MOA				Sg	**Sg**	**16 56 38.1**	**-0.8**
	comp=Z,15nm,0.5s						
STHS	**Stebnicka Huta**	**3.91**	**121**	*e*Pg	**Pg**	**16 55 49.9**	**+0.9**
STHS				*e*Sg	**Sg**	**16 56 44.0**	**+4.3**
STHS	**Stebnicka Huta**	**3.91**	**121**	*e*	**Pn**	**16 55 36.2**	**+0.8**
STHS	**Stebnicka Huta**	**3.91**	**121**	*e*PG	**Pg**	**16 55 49.9**	**+0.9**
STHS				*e*SG	**Sg**	**16 56 44.0**	**+4.3**
STHS				*e*LG	Lg	16 56 45.9	
ARSA	**Arzberg**	**4.32**	**185**	Pn	**Pn**	**16 55 42.7**	**+1.8**
	comp=Z,1.3nm,0.3s						
ARSA				Sg	**Sg**	**16 56 49.6**	**-3.0**
	comp=Z,7.2nm,0.5s						
ARSA	**Arzberg**	**4.32**	**185**	*e*Pn	**Pn**	**16 55 42.7**	**+1.8**
	comp=Z,1.3nm,0.3s						
ARSA				Sg	**Sg**	**16 56 49.6**	**-3.0**
	comp=Z,7.2nm,0.5s						
AKASG	**Malin Array Be**	**8.30**	**91**	Pn	**Pn**	**16 56 37.1**	**+1.5**
	comp=Z,0.7nm,0.3s,baz=281,slow=12,SNR=4.5						
AKASG				Sn	**Sn**	**16 58 05.3**	**-4.7**
	comp=Z,0.6nm,0.3s,baz=276,slow=22,SNR=3.8						
FINES	**FINESS Array B**	**11.33**	**25**	Pn	**Pn**	**16 57 16.3**	**-0.8**
	comp=Z,0.1nm,0.3s,baz=210,slow=16,SNR=4.0						
FINES				Sn	**Sn**	**16 59 18.4**	**-5.8**
	comp=Z,0.1nm,0.3s,baz=203,slow=19,SNR=3.4						
ARCES	**ARCESS Array B**	**18.59**	**10**	Pn	**P**	**16 58 50.1**	**-2.3**
	comp=Z,0.1nm,0.3s,baz=204,slow=13,SNR=4.4						

DJA ***14*** *16:56:43.5±3.7, 2°N±8°×9°1E±3°1, h132km±33km, M5.0/13, mb5.2/13, mB5.2/11, MLv5.5/6, Mw(mB)4.6/11*
IDC ***14*** *16:56:53.0±0.7, 2°.67N×91°.88E, h0km, mb4.1/21, mb1 4.3/24, mb1mx4.1/70, mbtmp4.1/24, ML4.1/3, MS3.9/34, Ms1 3.9/34, ms1mx3.7/65, Error ellipse: s-maj=22.0km s-min=12.4km az=42.0*
NEIC ***14*** *16:56:54.2±0.4, 2°.70N×91°.86E, h10km, mb4.3/12, Error ellipse: s-maj=9.4km s-min=5.8km az=203.0*
ISCJB ***14*** *16:56:55.9±0.3, 2°.67N±0°.05×92°.00E±0°.03, h33km, mb4.2/31, MS3.9/34, Error ellipse: s-maj=6.8km s-min=3.5km az=19.7*
ISC 14 16:56:57.7±0.5, 2°.66N±0°.06×91°.91E±0°.05, h35km, n142, σ1§62/129, mb4.3/33, MS3.9/34, 8C, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSI	**Banda Aceh**	**4.39**	**50**	P	**Pn**	**16 58 01.3**	**-0.7**
BSI				S	**Sn**	**16 58 46.5**	**-5.5**

MLSI	**Meulaboh, Aceh**	**4.76**	**70**	P	**Pn**	**16 58 06.8**	**-0.1**
	777nm,0.9s,9µm					
TPTI		**5.29**	**83**	P	**Pn**	**16 58 13.9**	**-0.4**
TPTI				S	**Sn**	**16 59 11.0**	**-3.1**
LHMI	**Lhok Sumawe**	**5.63**	**63**	P	**Pn**	**16 58 19.8**	**+0.8**
LHMI	**Lhok Sumawe**	**5.63**	**63**	*e*Pn	**Pn**	**16 58 16.6**	**-2.3**
LHMI				*e*Sn	**Sn**	**16 59 25.7**	**+3.2**
GSI	**Gunungsitoli**	**5.82**	**103**	P	**Pn**	**16 58 20.7**	**-0.8**
	238nm,0.8s,2µm						
GSI				S	**Sn**	**16 59 21.7**	**-5.4**
	238nm,0.8s,2µm						
GSI	**Gunungsitoli**	**5.82**	**103**	*e*Pn	**Pn**	**16 58 20.6**	**-0.8**
GSI				*e*Sn	**Sn**	**16 59 29.5**	**+2.4**
KCSI	**Kotacane, Aceh**	**5.91**	**82**	P	**Pn**	**16 58 24.5**	**+1.7**
	629nm,0.6s						
TSI	**Tuntungan**	**6.69**	**83**	P	**Pn**	**16 58 34.2**	**+0.6**
	239nm,0.7s,3µm						
PBSI	**Pulau Batu**	**6.91**	**113**	P	**Pn**	**16 58 34.2**	**-2.4**
PSI	**Prapat**	**7.00**	**89**	Pn	**Pn**	**16 58 37.6**	**-0.3**
	2.6nm,0.3s,baz=291,slow=6.7,SNR=42						
PSI				Sn	**Sn**	**16 59 53.7**	**-2.8**
	1.8nm,0.3s,baz=196,slow=20,SNR=1.7						
MNSI	**Mandailing Nat**	**7.88**	**103**	P	**Pn**	**16 58 49.4**	**-0.5**
SISI	**Saibi**	**8.20**	**119**	P	**Pn**	**16 58 51.5**	**-2.7**
PKDT	**Phuket**	**8.24**	**51**	P	**Pn**	**16 58 53.6**	**-1.2**
	61nm,0.9s,768nm0.2nm						
PBA	**Port Blair**	**8.97**	**5**	*e*P	Pn	16 59 01.6	-3.3
SURT	**Suratani**	**9.27**	**47**	P	**Pn**	**16 59 07.9**	**-1.0**
	41nm,0.9s,397nm						
IPM	**Ipoh**	**9.27**	**79**	*e*Pn	**Pn**	**16 59 08.2**	**-0.8**
IPM				*e*Sn	**Sn**	**17 00 49.1**	**-3.1**
TRTT	**Trang**	**9.29**	**56**	P	**Pn**	**16 59 07.6**	**-1.7**
	41nm,0.7s,453nm						
BKNI	**Bangkinang**	**9.41**	**104**	P	Pn	16 59 18.9	+8.0
SKLT	**Songkhla**	**9.76**	**62**	P	**Pn**	**16 59 14.5**	**-1.2**
	79nm,0.8s,751nm						
SDSI	**Sungai Dareh**	**10.16**	**110**	P	Pn	16 59 15.9	-5.2
DGPR	**DIGLIPUR**	**10.50**	**5**	*e*P	**Pn**	**16 59 24.0**	**-1.7**
PALK	**Pallekele**	**12.07**	**293**	Pn	**Pn**	**16 59 44.6**	**-2.7**
	2.2nm,0.3s,baz=115,slow=13,SNR=18						
PALK				Sn	Sn	17 01 48.9	-12
	4.6nm,0.3s,baz=117,slow=3.3,SNR=10						
PALK				LR	LR	17 03 47.9	
	comp=Z,401nm,18.8s,baz=116,slow=34						
PALK	**Pallekele**	**12.07**	**293**	*e*Pn	**Pn**	**16 59 45.1**	**-2.3**
PALK				*e*Sn	Sn	17 01 48.7	-12
PALK				Sn	Sn	17 01 48.9	-12
CHBT	**CHBT**	**14.38**	**45**	P	P	17 00 30.2	+4.9
MDRS	**Chennai**	**15.50**	**312**	*e*P	**Pn**	**17 00 31.4**	**-2.3**
TRD	**Trivandrum**	**15.97**	**292**	*e*P	**Pn**	**17 00 37.5**	**-2.3**
PBKT	**Sadao Pong**	**16.44**	**32**	P	**Pn**	**17 00 44.7**	**-1.1**
	14nm,1.1s						
CM01	**Chiang Mai Arr**	**17.12**	**23**	*e*Pn	**Pn**	**17 00 53.5**	**-0.8**
CM31	**Chiang Mai Arr**	**17.14**	**23**	*e*Pn	**Pn**	**17 00 53.8**	**-0.9**
CMAR	**Chiang Mai Arr**	**17.14**	**23**	Pn	**Pn**	**17 00 54.0**	**-0.7**
	0.2nm,0.3s,baz=220,slow=14,SNR=21						
CMAR				LR	LR	17 07 25.0	
	comp=Z,219nm,20.5s,baz=218,slow=37						
VIS	**Vishakhapatnam**	**17.17**	**331**	*e*P	**Pn**	**17 00 53.6**	**-1.4**
CHTO	**Chiang Mai**	**17.47**	**23**	P	**P**	**17 01 01.0**	**+1.4**
	55nm,0.9s						
CHTO	**Chiang Mai**	**17.47**	**23**	*e*Pn	**Pn**	**17 00 57.9**	**-0.8**
	4.1nm,1.0s						
CMMT	**Chiang Mai**	**17.47**	**23**	P	**P**	**17 00 59.9**	**+0.3**
	12nm,0.9s						
LEM	**Lembang**	**18.29**	**121**	LR	LR	17 07 54.9	
	comp=Z,277nm,18.6s,baz=303,slow=36						
KSM	**Kuching**	**18.42**	**93**	*e*P	**Pn**	**17 01 11.8**	**+1.4**
	12nm,0.8s						
SKNT	**Sakolnakorn**	**18.52**	**39**	P	**P**	**17 01 10.3**	**-0.9**
	10nm,1.0s						
HYB	**Hyderabad**	**19.68**	**319**	*i* P	**Pn**	**17 01 25.0**	**-0.5**
HYB				*e*S	S	17 04 53.0	-11
HYB	**Hyderabad**	**19.68**	**319**	*e*P	**P**	**17 01 23.3**	**-0.7**
SBUM	**Sibu**	**20.29**	**90**	*e*P	**P**	**17 01 31.1**	**+0.5**
	16nm,0.9s						
AGT	**Agartala**	**21.11**	**358**	*e*P	**P**	**17 01 39.4**	**0.0**
BOK	**Bokaro**	**21.80**	**345**	*e*P	**P**	**17 01 47.5**	**+0.7**
**H08

WMQ				pmax	pmax			
	comp=Z,24nm,0.7s							
WMQ				LR	LR			
	comp=N,220nm,24.7s							
WMQ				LR	LR			
	comp=E,230nm,27.9s							
WMQ				LR	LR			
	comp=Z,240nm,28.7s							
KDJ	**Kajisay**	**41.46**	**343**	*eP*	**P**		**17 04 40.2**	**-1.2**
	comp=Z,5.8nm,0.8s							
JOW	**Kunigami**	**42.31**	**52**	LR	LR		17 22 21.7	
	comp=Z,131nm,20.9s,baz=215,slow=36							
NWAO	**Narrogin (SRO)**	**42.74**	**148**	LR	LR		17 20 16.3	
	comp=Z,228nm,19.7s,baz=200,slow=33							
AAK	**Ala-Archa**	**42.74**	**341**	P	**P**		**17 04 52.5**	**+0.7**
	comp=Z,0.8nm,0.5s,baz=76,slow=1.9,SNR=5.2							
AAK	**Ala-Archa**	**42.74**	**341**	*eP*	**P**		**17 04 49.8**	**-2.0**
	comp=Z,4.1nm,1.4s							
KK31	**Karatay Array**	**44.55**	**338**	*eP*	**P**		**17 05 06.9**	**+0.7**
KKAR	**Karatay Array**	**44.55**	**338**	*eP*	**P**		**17 05 06.4**	**+0.2**
MK01	**Makanchi Array**	**44.73**	**351**	*eP*	**P**		**17 05 07.8**	**+0.2**
MKAR	**Makanchi Array**	**44.75**	**351**	P	**P**		**17 05 08.2**	**+0.5**
	comp=Z,5.1nm,0.7s,baz=168,slow=8.8,SNR=74							
MKAR				LR	LR		17 24 43.5	
	comp=Z,105nm,20.5s,baz=170,slow=37							
MK31	**Makanchi Array**	**44.75**	**351**	*eP*	**P**		**17 05 07.8**	**+0.1**
MAKZ	**Makanchi**	**44.81**	**350**	*eP*	**P**		**17 05 08.6**	**+0.4**
	comp=Z,3.6nm,0.9s							
SONM	**Songino Array**	**46.71**	**13**	P	**P**		**17 05 24.7**	**+1.4**
	comp=Z,1.5nm,0.6s,baz=196,slow=9.6,SNR=11							
SONM				LR	LR		17 26 42.1	
	comp=Z,146nm,19.3s,baz=202,slow=38							
SONA1	**Songino Array**	**46.72**	**13**	*eP*	**P**		**17 05 23.9**	**+0.5**
GEYT	**Alibeck**	**46.79**	**323**	P	**P**		**17 05 25.7**	**+1.7**
	comp=Z,5.2nm,0.8s,baz=154,slow=8.2,SNR=15							
GEYT				LR	LR		17 25 57.9	
	comp=Z,141nm,21.0s,baz=105,slow=37							
WRA	**Warramunga Arr**	**47.31**	**120**	P	**P**		**17 05 28.9**	**+0.6**
	comp=Z,3.8nm,0.7s,baz=298,slow=8.7,SNR=39							
WB2	**Warramunga Arr**	**47.32**	**120**	*eP*	**P**		**17 05 27.6**	**-0.8**
JNU	**Nakatsue**	**47.40**	**46**	LR	LR		17 25 23.0	
	comp=Z,157nm,21.6s,baz=283,slow=36							
KSAR	**Wonju Array Be**	**47.83**	**39**	P	**P**		**17 05 31.2**	**-0.8**
KS01	**Wonju Array Si**	**47.85**	**39**	*eP*	**P**		**17 05 32.3**	**+0.1**
KSRS	**Korea Array**	**47.86**	**39**	P	**P**		**17 05 31.2**	**-1.0**
	comp=Z,1.1nm,0.8s,baz=225,slow=8.7,SNR=6.3							
KSRS				LR	LR		17 28 37.1	
	comp=Z,139nm,18.4s,baz=225,slow=40							
ASAR	**Alice Springs**	**48.52**	**125**	P	**P**		**17 05 37.9**	**+0.2**
	comp=Z,0.6nm,0.7s,baz=299,slow=7.6,SNR=10							
KURBB	**Kurchatov Arra**	**49.11**	**349**	P	**P**		**17 05 42.1**	**+0.5**
	comp=Z,3.4nm,0.9s,baz=172,slow=7.2,SNR=29							
KURK	**Kurchatov**	**49.18**	**349**	*eP*	**P**		**17 05 42.6**	**+0.4**
	comp=Z,7.8nm,1.1s							
RAYN	**Ar Rayn**	**49.42**	**299**	*eP*	**P**		**17 05 43.3**	**-1.3**
	comp=Z,2.1nm,0.8s							
ZAA0	**Zalesovo Array**	**51.45**	**355**	*eP*	**P**		**17 05 57.7**	**-1.6**
	comp=Z,6.1nm,1.1s							
ZALV	**Zalesovo Beam**	**51.45**	**355**	P	**P**		**17 06 00.1**	**+0.8**
	comp=Z,2.6nm,0.5s,baz=188,slow=8.3,SNR=18							
ZALV				LR	LR		17 29 31.3	
	comp=Z,168nm,20.2s,baz=250,slow=38							
ZALV	**Zalesovo Beam**	**51.45**	**355**	*eP*	**P**		**17 05 58.4**	**-1.0**
BVAR	**Borovoye Array**	**53.27**	**344**	P	**P**		**17 06 12.5**	**-0.4**
	comp=Z,2.4nm,0.8s,baz=141,slow=7.4,SNR=19							
BVAR				LR	LR		17 29 11.9	
	comp=Z,243nm,21.5s,baz=158,slow=36							
GUMO	**Guam**	**53.42**	**75**	LR	LR		17 30 12.5	
	comp=Z,83nm,19.1s,baz=294,slow=37							
ABKAR	**Akbulak array**	**53.84**	**335**	*eP*	**P**		**17 06 17.0**	**-0.1**
MJAR	**Matsushiro Arr**	**54.33**	**46**	P	**P**		**17 06 23.1**	**+2.2**
	comp=Z,0.8nm,0.6s,baz=230,slow=5.7,SNR=4.6							
MJAR				LR	LR		17 32 40.0	
	comp=Z,90nm,18.2s,baz=240,slow=40							
USRK	**Ussuriysk Ar.**	**54.42**	**35**	LR	LR		17 31 46.9	
	comp=Z,153nm,18.1s,baz=289,slow=38							
KMBO	**Kilima Mbogo**	**54.78**	**267**	LR	LR		17 26 48.0	
	comp=Z,190nm,19.6s,baz=98,slow=33							
AKTO	**Aktyubinsk**	**55.55**	**334**	P	**P**		**17 06 28.0**	**-1.5**
	comp=Z,1.2nm,0.8s,baz=146,slow=10,SNR=3.2							
AKTO				LR	LR		17 31 10.5	
	comp=Z,83nm,19.3s,baz=159,slow=37							
STKA	**Stephens Creek**	**58.29**	**130**	P	**P**		**17 06 50.8**	**+1.5**
	comp=Z,1.0nm,0.8s,baz=293,slow=7.1,SNR=4.9							
KBZ	**Khabaz**	**59.55**	**321**	P	**P**		**17 06 57.8**	**0.0**
	comp=Z,3.0nm,0.8s,baz=124,slow=5.2,SNR=11							
KBZ				LR	LR		17 34 37.6	
	comp=Z,61nm,22.0s,baz=94,slow=38							
BR131	**Keskin Array S**	**64.25**	**313**	*eP*	**P**		**17 07 28.3**	**-1.4**
BRTR	**Keskin Array B**	**64.25**	**313**	P	**P**		**17 07 30.2**	**+0.5**
	comp=Z,1.4nm,0.6s,baz=136,slow=7.6,SNR=12							
BRTR				LR	LR		17 36 07.3	
	comp=Z,63nm,20.7s,baz=150,slow=37							
BR231	**Keskin MP Arra**	**64.92**	**313**	*eP*	**P**		**17 07 30.9**	**-3.0**
SORM	**Soroca**	**70.60**	**321**	*iP*	**P**		**17 08 09.6**	**+0.2**
AKASG	**Malin Array Be**	**70.91**	**323**	P	**P**		**17 08 11.3**	**0.0**
	comp=Z,0.3nm,0.4s,baz=97,slow=4.5,SNR=5.0							
AKASG				LR	LR		17 42 53.3	
	comp=Z,36nm,18.6s,baz=80,slow=39							
BOSA	**Boshof**	**70.97**	**239**	P	**P**		**17 08 13.6**	**+1.3**
	comp=Z,5.2nm,1.2s,baz=179,slow=11,SNR=3.2							
BOSA				LR	LR		17 36 33.1	
	comp=Z,97nm,19.0s,baz=36,slow=34							
VRI	**Vrincioaia**	**70.98**	**318**	*iP*	**P**		**17 08 13.6**	**+1.7**
PLOR	**Plostina**	**71.03**	**318**	*iP*	**P**		**17 08 13.9**	**+1.7**
TESR	**Tescani**	**71.21**	**319**	*iP*	**P**		**17 08 13.8**	**+0.5**
MLR	**Muntele Rosu**	**71.40**	**317**	P	**P**		**17 08 15.7**	**+1.1**
	comp=Z,1.2nm,0.8s,baz=17,slow=19,SNR=7.6							
MLR				LR	LR		17 43 06.1	
	comp=Z,11nm,19.3s,baz=139,slow=39							
MLR	**Muntele Rosu**	**71.40**	**317**	*iP*	**P**		**17 08 15.7**	**+1.1**
BURAR	**Bucovina Array**	**72.46**	**319**	*iP*	**P**		**17 08 22.6**	**+1.7**
BUR04	**Bucovina Ar. S**	**72.47**	**319**	*eP*	**P**		**17 08 22.1**	**+1.2**
BUR08	**Bucovina Ar. S**	**72.48**	**319**	*eP*	**P**		**17 08 20.6**	**-0.4**
VTS	**Vitosha**	**72.60**	**314**	*iP*	**P**		**17 08 22.6**	**+0.7**
PETK	**Petropavlovsk-**	**73.51**	**35**	LR	LR		17 45 16.4	
	comp=Z,65nm,19.0s,baz=174,slow=40							
TRPA	**Tarpa**	**74.34**	**319**	*iP*	**P**		**17 08 32.0**	**+0.3**
FINES	**FINESS Array B**	**76.30**	**333**	P	**P**		**17 08 42.7**	**0.0**
	comp=Z,2.8nm,0.7s,baz=111,slow=8.4,SNR=7.2							
FINES				LR	LR		17 44 20.2	
	comp=Z,108nm,19.8s,baz=198,slow=37							
GEA0	**GERESS Array S**	**80.24**	**319**	*eP*	**P**		**17 09 06.0**	**+1.0**
GEC2	**GERESS Array S**	**80.25**	**319**	*eP*	**P**		**17 09 04.0**	**-1.0**
	comp=Z,5.0nm,0.8s							
GERES	**GERESS Array B**	**80.25**	**319**	P	**P**		**17 09 06.5**	**+1.5**
	comp=Z,2.9nm,0.7s,baz=98,slow=5.2,SNR=26							
KHC	**Kasperske Hory**	**80.36**	**319**	*eP*	**P**		**17 09 04.5**	**-1.0**
HFS	**Hagfors**	**81.84**	**330**	LR	LR		17 48 33.7	
	comp=Z,48nm,19.8s,baz=166,slow=38							
NOA	**NORSAR Array B**	**83.17**	**331**	LR	LR		17 48 28.3	
	comp=Z,59nm,19.2s,baz=225,slow=37							
SPITS	**Spitsbergen Ar**	**84.46**	**348**	LR	LR		17 50 50.7	
	comp=Z,108nm,22.0s,baz=110,slow=38							
TORD	**Torodi Ar. Bea**	**89.62**	**283**	LR	LR		17 47 55.1	
	comp=Z,98nm,19.6s,baz=250,slow=34							
DBIC	**Dimbokro**	**96.41**	**277**	LR	LR		17 54 31.9	
	comp=Z,27nm,18.0s,baz=90,slow=36							
BORG	**Borgarnes**	**97.32**	**337**	LR	LR		17 55 09.7	
	comp=Z,76nm,20.2s,baz=41,slow=36							
TXAR	**Lajitas Array**	**144.86**	**24**	PKP	**PKPdf**		**17 16 32.5**	**+0.6**
	comp=Z,0.9nm,0.7s,baz=299,slow=2.6,SNR=5.4							

*ISCJB **14** 16:58:54.1±1.2,20.52S±0.02×70.53W±0.07,h19km±8km, mb3.8/3,Error ellipse: s-maj=11.5km s-min=4.1km az=178.4*

*GUC **14** 16:58:55.7±0.5,20.53S×70.45W,h22km±17km,ML3.8*

*IDC **14** 16:59:03.1±3.6,20.52S×70.02W,h86km±29km,mb3.4/4, mb1 3.5/6,mb1mx3.4/41,mbtmp3.8/6,Error ellipse: s-maj=52.1km s-min=24.7km az=102.0*

ISC 14 16:58:53.9±1.6,20.53S±0.03×70.48W±0.08,h16km±9km, n24,σ0?71/26,mb3.9/3,2C-5D,Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PB02	**IPOC Station P**	**0.96**	**146**	*eP*		**Pg**	**16 59 11.9**	**-0.6**
PB02				*eS*		**Sb**	**16 59 24.5**	**-0.1**
PB02				IAML			16 59 27.4	
	comp=E,17μm,0.3s							
PSGC	**Pisagua**	**0.98**	**20**	*eP*		**Pg**	**16 59 13.0**	**+0.1**
PSGC				*eS*		**Sg**	**16 59 25.9**	**0.0**
PSGC				IAML			16 59 26.4	
	comp=E,3μm,0.4s							
PB01	**IPOC Station P**	**1.06**	**119**	*iP*		**Pb**	**16 59 13.9**	**+0.1**
PB01				*eS*		**Sb**	**16 59 27.5**	**0.0**
PB01				IAML			16 59 32.1	
	comp=E,4μm,0.2s							
PB11	**IPOC Station P**	**1.08**	**45**	*iP*		**Pb**	**16 59 14.7**	**+0.4**
PB11				*eS*		**Sb**	**16 59 28.7**	**+0.4**
PB08	**IPOC Station P**	**1.30**	**73**	*iP*		**Pg**	**16 59 18.2**	**-0.8**
PB08				*eS*		**Sn**	**16 59 35.4**	**+0.5**
PB08				IAML			16 59 35.8	
	comp=N,3μm,0.2s							
PB07	**IPOC Station P**	**1.31**	**155**	*eP*		**Pn**	**16 59 18.2**	**+0.5**
PB07				*eS*		**Sb**	**16 59 35.3**	**+0.3**
PB07				IAML			16 59 43.1	
	comp=E,2μm,0.3s							
MNMC	**Minye Minye**	**1.62**	**311**	*eP*		**Pn**	**16 59 23.1**	**+1.2**
MNMC				*eS*		**Sb**	**16 59 43.9**	**+0.1**
MNMC				IAML			16 59 51.4	
	comp=N,3μm,0.5s							
PB09	**IPOC Station P**	**1.71**	**138**	*eP*		**Pb**	**16 59 24.9**	**-0.1**
PB09				*eS*		**Sb**	**16 59 47.0**	**+0.7**
PB04	**IPOC Station P**	**1.82**	**170**	*eP*		**Pn**	**16 59 26.3**	**+1.6**
PB04				*eS*		**Sn**	**16 59 48.0**	**+0.4**
PB04				IAML			16 59 58.6	
	comp=E,1μm,0.4s							
PB12	**IPOC Station P**	**1.91**	**4**	*eP*		**Pn**	**16 59 26.3**	**+0.5**
PB12				*eS*		**Sn**	**16 59 48.8**	**-0.8**
LPAZ	**La Paz**	**4.77**	**28**	P		Pn	17 00 11.7	+6.0
	comp=E,2.0nm,0.3s,baz=239,slow=6.5,SNR=28							
SIV	**San Ignacio**	**10.01**	**65**	P		**Pn**	**17 01 17.7**	**+0.6**
	comp=E,1.0nm,0.3s,baz=261,slow=9.3,SNR=21							
PLCA	**Paso Flores**	**20.14**	**180**	P		Pn	17 03 30.7	+1.4
	comp=E,1.2nm,0.9s,baz=359,slow=16,SNR=3.1							
PTGA	**Pitinga**	**22.20**	**29**	P		**P**	**17 03 50.1**	**+0.5**
	comp=E,2.9nm,0.4s,baz=191,slow=12,SNR=6.3							
TORD	**Torodi Ar. Bea**	**78.42**	**71**	P		**P**	**17 10 52.6**	**-1.7**
	comp=E,0.6nm,0.5s,baz=262,slow=6.0,SNR=5.8							
YKA	**Yellowknife Ar**	**89.79**	**341**	P		**P**	**17 11 50.8**	**-0.3**
	comp=E,0.3nm,0.9s,baz=134,slow=5.0,SNR=4.1							
H11S2	**WAKE ISLAND Hyd**	**126.30**	**278**	T		T	19 37 07.8	
	baz=103,slow=75,SNR=109							
H11S1	**WAKE ISLAND Hyd**	**126.31**	**278**	T		T	19 37 12.6	
	baz=103,slow=75,SNR=68							
H11S3	**WAKE ISLAND Hyd**	**126.31**	**278**	T		T	19 36 58.1	
	baz=103,slow=75,SNR=60							
H11N3	**WAKE ISLAND Hyd**	**126.36**	**280**	T		T	19 37 23.6	
	baz=102,slow=75,SNR=22							
H11N2	**WAKE ISLAND Hyd**	**126.37**	**280**	T		T	19 37 04.1	
	baz=102,slow=75,SNR=20							
H11N1	**WAKE ISLAND Hyd**	**126.37**	**280**	T		T	19 37 04.0	
	baz=102,slow=75,SNR=16							
ZALV	**Zalesovo Beam**	**141.67**	**23**	PKP		**PKPdf**	**17 18 24.1**	**-0.1**
	comp=E,0.6nm,0.5s,baz=231,slow=2.6,SNR=3.5							
MKAR	**Makanchi Array**	**145.68**	**34**	PKPbc		**PKPdf**	**17 18 31.6**	**+0.1**
	comp=E,0.7nm,0.7s,baz=327,slow=4.0,SNR=8.4							

*IDC **14** 17:03:25.4±2.2,14.53S×166.96E,h0km,mb3.7/6, mb1 3.9/7,mb1mx3.7/49,mbtmp3.8/7,ML4.5/1,Error ellipse: s-maj=63.5km s-min=31.2km az=141.0*

*ISCJB **14** 17:03:31.6±0.8,14.27S±0.09×166.5E±0.1,h35km, mb4.1/11,Error ellipse: s-maj=18.2km s-min=9.6km az=149.4*

*NEIC **14** 17:03:33.3±1.6,14.25S×166.65E,h41km±14km,mb4.9/3, Error ellipse: s-maj=18.5km s-min=11.4km az=73.0*

ISC 14 17:03:32.8±1.0,14.29S±0.09×166.6E±0.1,h35km,n15, σ1?38/17,mb3.8/11,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DZM	**Mont Dzumac**	**7.74**	**181**	*ePn*		**Pn**	**17 05 24.4**	**+1.2**
DZM				*eSn*		**Sn**	**17 06 46.7**	**-3.0**
HNR	**Honiara**	**8.11**	**306**	Pn		**Pn**	**17 05 28.6**	**+0.5**
	5.6nm,0.3s,baz=157,slow=7.7,SNR=4.0							
HNR				Sn		**Sn**	**17 06 56.4**	**-2.2**
	3.0nm,0.3s,baz=83,slow=17,SNR=2.0							
BKZ	**Black Stump Fm**	**26.27**	**162**	*eP*		**P**	**17 09 05.0**	**0.0**
	33nm,1.4s							
STKA	**Stephens Creek**	**28.80**	**228**	*eP*		**P**	**17 09 28.5**	**+0.9**
	3.3nm,1.7s							
WR1	**Warramunga Arr**	**31.31**	**255**	*eP*		**P**	**17 09 49.4**	**-0.6**
	18nm,0.9s							
WRA	**Warramunga Arr**	**31.31**	**255**	P		**P**	**17 09 49.4**	**-0.6**
	0.8nm,1.3s,baz=86,slow=9.3,SNR=3.3							
ASAR	**Alice Springs**	**32.23**	**248**	P		**P**	**17 09 57.6**	**-0.5**
	0.3nm,0.6s,baz=74,slow=9.1,SNR=3.8							
BBOO	**Buckleboo**	**33.35**	**231**	*eP*		**P**	**17 10 08.7**	**+0.9**
	34nm,1.8s							
NWAO	**Narrogin (SRO)**	**48.42**	**239**	*eP*		**P**	**17 12 12.4**	**+0.5**
	76nm,1.8s							
CMAR	**Chiang Mai Arr**	**74.18**	**294**	P		**P**	**17 15 08.4**	**+1.9**
	0.3nm,0.8s,baz=129,slow=3.8,SNR=3.7							
SONA0	**Songino Array**	**81.76**	**324**	*eP*		**P**	**17 15 48.5**	**+0.4**
SONM	**Songino Array**	**81.76**	**324**	P		**P**	**17 15 48.5**	**+0.4**
	0.6nm,1.1s,baz=164,slow=5.8,SNR=2.8							
ILAR	**Eielson Array**	**86.31**	**18**	P		**P**	**17 16 08.8**	**-1.9**
	0.7nm,0.7s,baz=239,slow=4.8,SNR=8.1							
MK32	**Makanchi Array**	**96.44**	**317**	*eP*		**P**	**17 16 58.2**	**-0.3**
MKAR	**Makanchi Array**	**96.44**	**317**	P		**P**	**17 16 58.2**	**-0.3**
	0.2nm,0.7s,baz=101,slow=7.5,SNR=3.7							

*ISCJB **14** 17:06:44.6±3.0,6.1S±0.1×148.2E±0.5,h65km,mb3.5/3, Error ellipse: s-maj=76.7km s-min=13.5km az=6.1*

*IDC **14** 17:06:46.0±2.8,6.22S×148.47E,h69km±25km,mb3.3/3, mb1 3.5/5,mb1mx3.2/46,mbtmp3.6/5,Error ellipse: s-maj=84.5km s-min=16.1km az=109.0*

ISC 14 17:06:45.9±2.7,6.1S±0.2×148.4E±0.5,h65km,n6,σ0?29/8, mb3.5/3,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PMG	**Port Moresby**	**3.46**	**200**	P		**Pn**	**17 07 37.4**	**+0.1**
	12nm,0.3s,baz=13,slow=5.0,SNR=43							
PMG				S		**Sn**	**17 08 17.0**	**0.0**
	8.2nm,0.3s,baz=136,slow=20,SNR=6.7							
WRA	**Warramunga Arr**	**19.34**	**224**	P		**P**	**17 11 06.1**	**-0.1**
	0.2nm,0.3s,baz=51,slow=11,SNR=14							
ASAR	**Alice Springs**	**22.30**	**217**	P		**P**	**17 11 37.7**	**-0.4**
	0.9nm,0.4s,baz=49,slow=9.5,SNR=21							
ASAR				S		**S**	**17 15 39.8**	**+0.4**
	0.3nm,0.5s,baz=42,slow=22,SNR=3.6							
FITZ	**Fitzroy Crossi**	**25.16**	**240**	P		**P**	**17 12 05.3**	**0.0**
	2.4nm,0.8s,baz=46,slow=9.7,SNR=8.2							
SONM	**Songino Array**	**65.19**	**330**	P		**P**	**17 17 20.5**	**0.0**
	0.3nm,0.6s,baz=134,slow=4.2,SNR=2.7							
TORD	**Torodi Ar. Bea**	**146.44**	**284**	PKPbc		**PKPbc**	**17 26 20.9**	**+0.2**
	0.1nm,0.3s,baz=88,slow=3.0,SNR=4.1							

*ISCJB **14** 17:09:58.4±0.2,14.22S±0.03×166.55E±0.04,h35km, mb4.7/80,MS4.1/21,Error ellipse: s-maj=6.4km s-min=4.8km az=160.7*

*NEIC **14** 17:10:01.7±0.9,14.20S×166.58E,h51km±8km,mb4.8/54, Error ellipse: s-maj=5.3km s-min=4.7km az=69.0*

*IDC **14** 17:10:03.2±3.2,14.22S×166.56E,h58km±28km,mb4.2/27, mb1 4.3/28,mb1mx4.1/48,mbtmp4.5/28,ML4.9/1,MS4.0/19, Ms1 4.0/19,ms1mx3.7/41,Error ellipse: s-maj=15.1km s-min=12.7km az=84.0*

ISC 14 17:10:00.4±0.3,14.25S±0.05×166.55E±0.06,h35km,n151, σ1?22/150,mb4.8/79,MS4.1/21,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DZM	**Mont Dzumac**	**7.78**	**181**	*ePn*		**Pn**	**17 11 51.0**	**-0.3**
	17nm,0.3s							
DZM				*eSn*		**Sn**	**17 13 14.9**	**-3.3**
	21nm,0.3s							
DZM				eLR		LR	17 13 40.6	
	1μm,24.8s							
DZM	**Mont Dzumac**	**7.78**	**181**	*ePn*		**Pn**	**17 11 52.3**	**+1.0**
DZM				*eSn*		**Sn**	**17 13 16.4**	**-1.8**
HNR	**Honiara**	**8.04**	**306**	*eP*		**Pn**	**17 11 56.0**	**+1.1**
HNR	**Honiara**	**8.04**	**306**	P		**Pn**	**17 11 55.8**	**+1.0**
	16nm,0.3s,baz=176,slow=9.3,SNR=9.5							
HNR				S		**Sn**	**17 13 24.3**	**-0.3**
	8.2nm,0.3s,baz=156,slow=20,SNR=2.7							
HNR				LR		LR	17 15 03.1	
	comp=Z,611nm,19.4s,baz=182,slow=37							
HNR	**Honiara**	**8.04**	**306**	*ePn*		**Pn**	**17 11 54.1**	**-0.8**
HNR				*eSn*		**Sn**	**17 13 23.6**	**-1.1**
MSVF	**Nonsavu**	**11.59**	**109**	*ePn*		**Pn**	**17 12 46.0**	**+2.4**
EIDS	**Eidsvold**	**18.26**	**230**	*eP*		**Pn**	**17 14 13.8**	**+2.7**
	49nm,1.5s							
PMG	**Port Moresby**	**19.57**	**282**	LR		LR	17 20 57.2	
	comp=Z,446nm,18.3s,baz=70,slow=33							

CTA	**Charters Tower**	**20.23**	**251**	P		**P**	**17 14 34.0**	**+1.2**
	19nm,1.2s,baz=74,slow=17,SNR=3.9							
CTAO	**Charters Tower**	**20.23**	**251**	*eP*		**P**	**17 14 33.6**	**+0.8**
	56nm,1.4s							
AFI	**Afiamalu**	**21.03**	**92**	P		**P**	**17 14 43.7**	**+2.2**
	25nm,0.9s,baz=256,slow=19,SNR=3.3							
AFI				LR		LR	17 20 52.9	
	comp=Z,251nm,18.6s,baz=269,slow=31							
AFI	**Afiamalu**	**21.03**	**92**	*eP*		**P**	**17 14 42.1**	**+0.7**
ARMA	**Armidale**	**21.16**	**218**	*eP*		**P**	**17 14 43.7**	**+0.9**
	38nm,1.5s							
OUZ	**Omahuta**	**21.82**	**164**	*eP*		**P**	**17 14 49.3**	**-0.4**
	29nm,1.0s							
COEN	**Coen**	**22.67**	**268**	*eP*		**P**	**17 14 58.3**	**-0.7**
	79nm,1.7s							
URZ	**Urewera**	**25.68**	**161**	P		**P**	**17 15 29.0**	**+1.9**
	10nm,0.9s,baz=270,slow=1.0,SNR=3.3							
BKZ	**Black Stump Fm**	**26.32**	**162**	*eP*		**P**	**17 15 32.8**	**-0.3**
	95nm,1.9s							
BFZ	**Birch Farm**	**27.66**	**164**	*eP*		**P**	**17 15 44.8**	**-0.2**
	103nm,1.5s							
SNZO	**South Karori**	**27.88**	**167**	*eP*		**P**	**17 15 45.9**	**-1.0**
	152nm,1.8s							
THZ	**Tophouse**	**27.96**	**170**	*eP*		**P**	**17 15 47.4**	**-0.4**
	102nm,1.9s							
STKA	**Stephens Creek**	**28.78**	**228**	P		**P**	**17 15 56.7**	**+1.6**
	2.4nm,0.5s,baz=49,slow=8.5,SNR=14							
STKA				LR		LR	17 27 37.8	
	comp=Z,748nm,18.4s,baz=54,slow=37							
STKA	**Stephens Creek**	**28.78**	**228**	*eP*		**P**	**17 15 56.3**	**+1.2**
	3.0nm,1.4s							
LTZ	**Lake Taylor**	**28.86**	**171**	*eP*		**P**	**17 15 56.3**	**+0.6**
	43nm,1.5s							
OXZ	**Oxford**	**29.36**	**172**	*eP*		**P**	**17 16 01.2**	**+1.2**
	32nm,1.4s							
RPZ	**Rata Peaks**	**29.62**	**173**	P		**P**	**17 16 03.3**	**+0.9**
	10nm,0.9s,baz=182,slow=4.7,SNR=4.9							
LBZ	**Lake Benmore**	**30.19**	**175**	*eP*		**P**	**17 16 06.9**	**-0.6**
	76nm,1.7s							
WB2	**Warramunga Arr**	**31.26**	**255**	*eP*		**P**	**17 16 16.2**	**-1.0**
	42nm,2.0s							
WR1	**Warramunga Arr**	**31.27**	**255**	*eP*		**P**	**17 16 17.0**	**-0.3**
	25nm,0.8s							
WRA	**Warramunga Arr**	**31.27**	**255**	P		**P**	**17 16 17.0**	**-0.3**
	2.0nm,0.6s,baz=87,slow=9.3,SNR=18							
WRA				LR		LR	17 28 46.7	
	comp=Z,430nm,18.4s,baz=85,slow=36							
AS01	**Alice Springs**	**32.15**	**248**	*eP*		**P**	**17 16 24.3**	**-0.8**
AS31	**Alice Springs**	**32.19**	**248**	*eP*		**P**	**17 16 24.3**	**-1.2**
	1.0nm,0.8s							
ASAR	**Alice Springs**	**32.20**	**248**	P		**P**	**17 16 24.9**	**-0.5**
	1.2nm,0.5s,baz=74,slow=9.3,SNR=33							
ASAR				S		S	17 21 22.6	-14
	0.6nm,1.1s,baz=73,slow=26,SNR=4.1							
ASAR				LR		LR	17 28 44.0	
	comp=Z,259nm,19.2s,baz=56,slow=35							
RAR	**Rarotonga**	**32.77**	**107**	LR		LR	17 26 49.6	
	comp=Z,146nm,22.0s,baz=283,slow=31							
BBOO	**Buckleboo**	**33.33**	**231**	*eP*		**P**	**17 16 36.3**	**+1.1**
	8.5nm,0.6s							
FORT	**Forrest**	**38.95**	**238**	*eP*		**P**	**17 17 23.0**	**-0.3**
	26nm,0.7s							
FITZ	**Fitzroy Crossi**	**39.42**	**259**	P		**P**	**17 17 27.5**	**+0.2**
	6.5nm,0.7s,baz=130,slow=7.9,SNR=6.6							
FITZ	**Fitzroy Crossi**	**39.42**	**259**	*eP*		**P**	**17 17 27.6**	**+0.2**
	6.9nm,0.9s							

QSPA	South Pole Qui	75.77	180	P		P		17 21 42.8	+0.2
	comp=Z,9.0nm,1.0s,baz=30,slow=2.5,SNR=9.4								
QSPA	South Pole Qui	75.77	180	*eP*		P		17 21 41.8	-0.8
	comp=Z,18nm,1.3s								
LZH	Lanzhou	77.48	312	*eP*		P		17 21 55.8	+3.0
LZH				pP		sP		17 22 08.1	+0.3
LZH				sP		pP		17 22 13.8	+10
LZH				*eP*P		PP		17 24 52.0	+4.0
LZH				pmax		pmax			
	comp=Z,24nm,1.2s								
LZH				pmax		pmax			
	comp=Z,240nm,5.7s								
LZH				LR		LR			
	comp=N,180nm,15.0s								
LZH				LR		LR			
	comp=E,230nm,17.1s								
LZH				LR		LR			
	comp=Z,230nm,16.4s								
GAMB	Gambell	79.58	10	*eP*		P		17 22 02.9	-0.6
	comp=Z,4.8nm,0.8s								
ULN	Ulaanbaatar	81.34	324	*eP*		P		17 22 12.8	-0.7
	comp=Z,6.9nm,1.0s								
YAK	Yakutsk	81.37	343	*eP*		P		17 22 12.2	-0.9
	comp=Z,24nm,0.8s								
SONA0	Songino Array	81.70	324	*eP*		P		17 22 15.4	0.0
SONM	Songino Array	81.70	324	P		P		17 22 15.4	0.0
	comp=Z,1.7nm,0.9s,baz=151,slow=7.0,SNR=11								
SONA1	Songino Array	81.70	324	*eP*		P		17 22 14.1	-1.4
GTA	Gaotai	81.83	314	P		P		17 22 17.9	+1.6
GTA				pP		sP		17 22 32.1	+0.7
GTA				sP		pP		17 22 38.3	+11
GTA	Gaotai	81.83	314	S		S		17 32 28.9	+1.4
GTA				pmax		pmax			
	comp=Z,8.0nm,1.3s								
GTA				pmax		pmax			
	comp=Z,88nm,5.0s								
GTA				LR		LR			
	comp=N,180nm,17.6s								
GTA				LR		LR			
	comp=E,95nm,16.7s								
GTA				LR		LR			
	comp=Z,76nm,17.6s								
CAST	Castle Rocks	83.75	17	*eP*		P		17 22 23.9	-1.7
	comp=Z,6.6nm,0.9s								
KTH	Kantishna Hill	84.19	18	*eP*		P		17 22 26.2	-1.7
	comp=Z,6.9nm,1.0s								
TRF	Thorofare Moun	84.30	18	*eP*		P		17 22 26.8	-1.8
	comp=Z,6.5nm,1.0s								
RND	Reindeer	84.70	19	*eP*		P		17 22 29.3	-1.2
	comp=Z,8.4nm,1.0s								
MCK	McKinley	84.92	18	*eP*		P		17 22 30.3	-1.2
	comp=Z,39nm,2.0s								
TLY	Talaya	85.21	326	*eP*		P		17 22 32.4	-0.9
	comp=Z,6.1nm,1.0s								
IM3	Indian Mountai	85.29	15	*eP*		P		17 22 32.5	-0.7
YBH	Yreka Blue Hor	85.58	45	LR		LR		17 53 17.5	
	comp=Z,67nm,18.6s,baz=272,slow=30								
WRH	Wood River Hil	85.71	18	*eP*		P		17 22 34.0	-1.4
	comp=Z,7.4nm,1.1s								
HDA	Harding Lake	86.01	18	*eP*		P		17 22 34.2	-2.7
	comp=Z,121nm,1.2s								
MDM	Murphy Dome	86.03	18	*eP*		P		17 22 35.3	-1.7
	comp=Z,9.5nm,1.2s								
IL1	Eielson Array	86.29	18	*eP*		P		17 22 36.0	-2.2
ILAR	Eielson Array	86.29	18	P		P		17 22 36.2	-2.1
	comp=Z,2.0nm,0.7s,baz=236,slow=5.0,SNR=31								
ILAR				pP		**sP**		17 22 58.2	+4.8
	comp=Z,1.4nm,0.6s,baz=244,slow=5.0,SNR=2.5								
ILAR				sP		pP		17 23 03.3	+14
	comp=Z,1.5nm,0.7s,baz=239,slow=5.1,SNR=4.6								
ILAR				LR		LR		17 55 35.5	
	comp=Z,119nm,19.8s,baz=242,slow=32								
ILB	Eielson Array	86.29	18	*eP*		P		17 22 35.9	-2.3
BBB	Bella Bella	86.77	34	LR		LR		17 53 51.8	
	comp=Z,74nm,20.6s,baz=176,slow=30								
COLD	Coldfoot	87.16	15	*eP*		P		17 22 42.5	+0.1
	comp=Z,2.5nm,0.8s								
NVAR	Mina Array Bea	87.49	49	LR		LR		17 54 52.4	
	comp=Z,231nm,20.0s,baz=100,slow=31								
TIXI	Tiksi	89.37	349	*eP*		P		17 22 51.0	-1.9
	comp=Z,3.2nm,0.9s								
LPIG	La Paz	89.63	65	LR		LR		17 59 54.7	
	comp=Z,54nm,18.1s,baz=218,slow=33								
NEW	Newport	91.65	41	LR		LR		17 58 13.4	
	comp=Z,52nm,19.3s,baz=192,slow=32								
WMQ	Urumqi	91.90	315	P		P		17 23 04.4	-1.0
WMQ				pmax		pmax			
	comp=Z,12nm,1.1s								
WMQ				LR		LR			
	comp=N,100nm,25.3s								
WMQ				LR		LR			
	comp=Z,86nm,26.7s								
SNAA	Sanae	93.98	183	P		P		17 23 14.1	-0.5
SNAA	Sanae	93.98	183	P		P		17 23 14.0	-0.5
	comp=Z,2.2nm,1.0s,baz=168,slow=20,SNR=3.2								
SNAA	Sanae	93.98	183	*eP*		P		17 23 13.6	-0.9
	comp=Z,18nm,1.6s								
VNA3	Neumayer Olymp	94.68	181	P		P		17 23 17.0	-0.6
VNA2	Neumayer--Watz	94.93	182	P		P		17 23 18.7	-0.1
	baz=174,slow=4.6								
PDAR	Pinedale Array	95.14	47	LR		LR		18 01 00.4	
	comp=Z,56nm,18.4s,baz=294,slow=32								
MK01	Makanchi Array	96.37	317	*eP*		P		17 23 24.6	-1.1
MK31	Makanchi Array	96.38	317	*eP*		P		17 23 25.4	-0.5
MK32	Makanchi Array	96.38	317	*eP*		P		17 23 26.0	+0.2
MKAR	Makanchi Array	96.38	317	P		P		17 23 26.0	+0.2
	comp=Z,0.9nm,0.6s,baz=99,slow=6.6,SNR=7.3								
MKAR	Makanchi Array	96.38	317	*eP*		P		17 23 25.5	-0.3
	comp=Z,7.6nm,0.8s								
MAKZ	Makanchi	96.59	316	*eP*		P		17 23 26.7	0.0
	comp=Z,3.8nm,1.3s								
ZALV	Zalesovo Beam	96.60	324	P		P		17 23 25.2	-1.3
	comp=Z,1.2nm,0.6s,baz=119,slow=5.2,SNR=4.6								
ZAA1	Zalesovo Array	96.60	324	*eP*		P		17 23 25.2	-1.3
TXAR	Lajitas Array	96.66	62	LR		LR		17 58 13.7	
	comp=Z,58nm,22.0s,baz=0.0,slow=30								
YKA	Yellowknife Ar	97.44	27	P		P		17 23 28.1	-2.1
	comp=Z,0.2nm,0.7s,baz=260,slow=4.5,SNR=3.9								
YKA				PKiKP		**PKiKP**		17 28 05.2	+0.3
	comp=Z,0.1nm,0.6s,baz=225,slow=1.3,SNR=3.8								
PHWY	Pilot Hill	97.77	49	*eP*		P		17 23 31.7	-0.9
	comp=Z,13nm,0.8s								
KURK	Kurchatov	99.59	320	*e*Pdif		Pdif		17 23 39.4	-0.7
KURBB	Kurchatov Arra	99.63	320	P		Pdif		17 23 39.4	-0.9
	comp=Z,0.2nm,0.6s,baz=121,slow=4.6,SNR=2.5								
ARA0	ARCESS Array S	119.61	345	*e*PKPdf		**PKPdf**		17 28 45.0	-1.1
ARCES	ARCESS Array B	119.61	345	PKP		**PKPdf**		17 28 45.0	-1.0
	comp=Z,2.7nm,0.7s,baz=32,slow=3.6,SNR=12								
FIA0	FINESS Array S	125.02	338	*e*PKPdf		**PKPdf**		17 28 55.6	-1.0
FINES	FINESS Array B	125.02	338	PKP		**PKPdf**		17 28 55.6	-1.0
	comp=Z,2.1nm,0.7s,baz=20,slow=4.4,SNR=8.1								
AKASG	Malin Array Be	129.95	326	PKP		**PKPdf**		17 29 06.3	0.0
	comp=Z,0.1nm,0.3s,baz=38,slow=1.6,SNR=4.9								
NB2	NORSAR Subarra	129.98	345	PKPdf		**PKPdf**		17 29 04.2	-2.0
	comp=Z,2.2nm,1.1s,baz=31,slow=1.9								
NB200	NORSAR Array S	129.98	345	*e*PKPdf		**PKPdf**		17 29 05.8	-0.3
NOA	NORSAR Array B	129.98	345	PKP		**PKPdf**		17 29 05.9	-0.3
	comp=Z,1.2nm,0.8s,baz=28,slow=1.9,SNR=4.3								
BR101	Keskin Array S	131.67	311	*e*PKPdf		**PKPdf**		17 29 10.7	+0.5
BRTR	Keskin Array B	131.67	311	PKP		**PKPdf**		17 29 10.7	+0.5
	comp=Z,0.7nm,0.9s,baz=20,slow=4.6,SNR=3.0								
BNI	Bardonecchia	144.87	335	*e*PKPdf		**PKPab**		17 29 32.8	-0.4
SSB	Saint Sauveur	145.52	337	*e*PKPdf		**PKPdf**		17 29 34.3	-0.8
KEST	Kesra	150.40	320	PKPbc		**PKPbc**		17 29 48.3	-0.5
	comp=Z,9.7nm,1.0s,baz=118,slow=23,SNR=3.9								
KEST	Kesra	150.40	320	*e*PKPbc		**PKPbc**		17 29 47.8	-1.0
ESDC	Sonseca Array	153.34	344	PKPbc		**PKPbc**		17 29 55.1	-0.2
	comp=Z,0.4nm,0.6s,baz=8.4,slow=1.6,SNR=4.6								
TORD	Torodi Ar. Bea	165.24	268	PKP		**PKPdf**		17 30 01.2	-0.9
	comp=Z,0.4nm,0.7s,baz=100,slow=0.6,SNR=3.5								
TORD				PKPab		**PKPab**		17 30 59.4	-0.3
	comp=Z,1.4nm,1.1s,baz=66,slow=3.5,SNR=4.3								
TOA1	Torodi Ar. Sit	165.24	268	*e*PKPdf		**PKPdf**		17 30 01.2	-0.9
TOA1				*e*PKPab		**PKPab**		17 30 59.4	-0.3

*IDC **14** 17:11:40.4±1.0, 10°.69S×112°.63E, h0km, mb4.0/13, mb1 4.1/16, mb1mx3.9/54, mbtmp4.0/16, ML3.9/3, Error ellipse: s-maj=45.2km s-min=14.4km az=43.0*

*ISCJB **14** 17:11:03.0±0.3, 10°.75S±0°.03×112°.46E±0°.03, h33km, mb4.2/22, Error ellipse: s-maj=4.5km s-min=3.5km az=33.6*

*NEIC **14** 17:11:44.3±0.4, 10°.845×112°.58E, h35km, mb4.5/11, Error ellipse: s-maj=11.0km s-min=5.9km az=216.0*

*DJA **14** 17:11:44.5±0.4, 11°.3±3°×11°.2E±°, h15km, M4.5/19, mB5.4/1, mb4.6/6, MLv4.5/19, Mw(mB)4.8/1*

ISC 14 17:11:44.0±0.5, 10°.86S±0°.06×112°.52E±0°.04, h35km, n76, σ1s79/89, mb4.2/22, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GMJI	Gumukmas	2.73	20	P	Pn	17 12 24.9	-0.4
GMJI				S	Sn	17 12 54.4	-2.7
JAGI	Jajag, Banyuwa	2.87	34	P	Pn	17 12 27.7	+0.4
JAGI				S	Sn	17 12 59.3	-1.4
JAGI	Jajag, Banyuwa	2.87	34	*e*Pn	Pn	17 12 27.3	0.0
JAGI				*e*Sn	Sn	17 12 60.0	-0.7
PCJI	Pacitan	2.96	333	P	Pn	17 12 26.3	-2.2
PCJI				S	Sn	17 12 59.2	-3.7
BLJI	Banyuglugur	3.27	19	P	Pn	17 12 34.0	+1.2
BLJI				S	Sn	17 13 09.4	-1.2
IGBI	Denpasar	3.29	52	P	Pn	17 12 33.3	+0.2
WOJI	Wonogiri, Jawa	3.39	332	P	Pn	17 12 32.9	-1.6
WOJI				S	Sn	17 13 10.9	-2.6
DNP	Denpasar	3.43	51	P	Pn	17 12 36.3	+1.3
UGM	Wanagama	3.53	326	P	Pn	17 12 35.7	-0.7
UGM				S	Sn	17 13 14.4	-2.6
UGM	Wanagama	3.53	326	*e*Pn	Pn	17 12 35.4	-1.0
UGM				*e*Sn	Sn	17 13 14.4	-2.6
SRBI	Singaraja	3.83	44	P	Pn	17 12 41.2	+0.7
SRBI				S	Sn	17 13 23.7	-0.6
GRJI	Gresik	3.92	359	P	Pn	17 12 44.2	+2.4
GRJI				S	Sn	17 13 25.9	-0.7
KMMI	Kalianget	4.05	21	P	Pn	17 12 47.6	+4.1
SMRI	Semarang	4.31	331	*e*Pn	Pn	17 12 46.6	-0.5
SMRI				*e*Sn	Sn	17 13 32.8	-3.3
KPJI	Karang Pucung	4.98	314	P	Pn	17 12 56.2	-0.2
KPJI				S	Sn	17 13 52.0	-0.8
PLAI	Plampang	5.56	69	P	Pn	17 13 06.1	+1.8
CISI	Cisompet, Garu	5.69	305	P	Pn	17 13 05.1	-1.0
CISI	Cisompet, Garu	5.69	305	*e*Pn	Pn	17 13 05.2	-1.0
CISI				*e*Sn	Sn	17 14 04.5	-5.7
LEM	Lembang	6.29	309	Pn	Pn	17 13 15.5	+1.1
	2.8nm,0.3s,baz=139,slow=19,SNR=2.3						
LEM				Sn	Sn	17 14 24.9	-0.3
	5.7nm,0.3s,baz=323,slow=20,SNR=2.7						
LEM	Lembang	6.29	309	P	Pn	17 13 17.4	+3.0
XMIS	Christmas Isla	6.76	273	*e*Pn	Pn	17 13 18.6	-2.2
XMIS				*e*Sn	Sn	17 14 23.9	-13
WBSI	Waikabubak, Su	6.87	80	P	Pn	17 13 22.7	+0.3
KAPI	Kappang	9.22	52	*e*Pn	Pn	17 13 52.7	-1.9
KASI	Kota Agung	9.55	303	P	Pn	17 13 58.8	-0.2
MMRI	Maumere	9.83	78	*e*Pn	Pn	17 14 01.1	-1.9
BATI	Baumata	10.98	88	Pn	Pn	17 14 16.5	-2.2
	1.1nm,0.3s,baz=294,slow=18,SNR=2.9						
BATI				Sn	Sn	17 16 14.6	-5.8
	1.1nm,0.3s,baz=256,slow=17,SNR=2.5						
MNAI	Manna	11.47	304	*e*Pn	Pn	17 14 23.9	-1.4
SOEI	Soe	11.61	86	*e*Pn	Pn	17 14 26.0	-1.5
MBWA	Marble Bar	12.36	147	*e*Pn	Pn	17 14 34.7	-2.9
MBWA				*e*Sn	Sn	17 16 37.6	-17
FITZ	Fitzroy Crossi	14.60	121	Pn	Pn	17 15 07.0	-1.0
	0.4nm,0.3s,baz=309,slow=9.6,SNR=8.7						
FITZ	Fitzroy Crossi	14.60	121	*e*Pn	Pn	17 15 05.1	-2.9
KKM	Kota Kinabalu	17.19	13	*e*Pn	P	17 15 42.3	-0.7
	39nm,1.3s						
GSI	Gunungsitoli	19.16	308	*e*P	Pn	17 16 06.1	+0.5
	13nm,1.1s						
NWAO	Narrogin (SRO)	22.39	170	*e*P	P	17 16 42.5	+3.2
	28nm,1.3s						
WR1	Warramunga Arr	22.87	116	*e*P	P	17 16 44.9	+0.3
	30nm,0.8s						
WR1				*e*S	S	17 20 52.2	+0.2
WRA	Warramunga Arr	22.87	116	P	P	17 16 44.9	+0.3
	4.8nm,0.9s,baz=291,slow=11,SNR=13						
WRA				S	S	17 20 52.2	+0.2
	0.3nm,0.7s,baz=284,slow=25,SNR=3.1						
WB2	Warramunga Arr	22.88	116	*e*P	P	17 16 45.5	+0.8
	42nm,2.0s						
ASAR	Alice Springs	24.02	125	P	P	17 16 57.9	+2.0
	1.5nm,0.8s,baz=304,slow=9.9,SNR=12						
AS31	Alice Springs	24.02	125	*e*P	P	17 16 54.3	-1.6
	1.3nm,0.9s						
FORT	Forrest	24.51	146	*e*P	P	17 17 02.3	+2.1
	26nm,0.7s						
CM01	Chiang Mai Arr	32.03	335	*e*P	P	17 18 08.6	+1.2
CM31	Chiang Mai Arr	32.07	335	*e*P	P	17 18 08.8	+1.0
CMAR	Chiang Mai Arr	32.07	335	P	P	17 18 09.0	+1.2
	1.2nm,0.6s,baz=168,slow=8.7,SNR=19						
STKA	Stephens Creek	34.02	132	P	P	17 18 27.4	+2.6
	2.0nm,0.7s,baz=304,slow=9.6,SNR=4.5						
STKA	Stephens Creek	34.02	132	*e*P	P	17 18 25.1	+0.3
	4.4nm,1.8s						
H08S2	Diego Garcia H	39.61	271	T	T	18 01 39.2	
	baz=96,slow=74,SNR=4.6						
H08S3	Diego Garcia H	39.62	271	T	T	18 01 39.8	
	baz=96,slow=74,SNR=4.8						
H08S1	Diego Carcia H	39.63	271	T	T	18 01 42.4	
	baz=96,slow=74,SNR=4.3						
KSAR	Wonju Array Be	50.17	16	P	P	17 20 37.8	+1.7
KSRS	Korea Array	50.19	16	P	P	17 20 37.8	+1.5
	0.8nm,0.7s,baz=209,slow=9.1,SNR=4.6						
SONA0	Songino Array	58.69	355	*e*P	P	17 21 38.3	+0.2
SONM	Songino Array	58.69	355	P	P	17 21 38.3	+0.2
	0.5nm,0.7s,baz=167,slow=7.1,SNR=3.9						
MK01	Makanchi Array	63.42	337	*e*P	P	17 22 10.7	+0.6
MK31	Makanchi Array	63.44	337	*e*P	P	17 22 10.9	+0.7
MK32	Makanchi Array	63.44	337	*e*P	P	17 22 10.8	+0.6
MKAR	Makanchi Array	63.44	337	P	P	17 22 10.8	+0.6
	1.4nm,0.4s,baz=147,slow=8.0,SNR=34						
MKAR	Makanchi Array	63.44	337	*e*P	P	17 22 10.9	+0.7
	11nm,0.4s						
KK31	Karatay Array	65.97	328	*e*P	P	17 22 27.3	+0.4
KKAR	Karatay Array	65.97	328	*e*P	P	17 22 26.9	0.0
KURBB	Kurchatov Arra	68.01	337	P	P	17 22 40.3	+0.8
	0.7nm,0.6s,baz=152,slow=5.8,SNR=7.6						
KURK	Kurchatov	68.05	338	*e*P	P	17 22 39.9	+0.1
	10nm,1.8s						
ZAA0	Zalesovo Array	68.71	343	*e*P	P	17 22 44.0	+0.1
	3.8nm,1.3s						
ZALV	Zalesovo Beam	68.71	343	P	P	17 22 44.2	+0.4
	0.9nm,0.5s,baz=165,slow=6.2,SNR=4.5						
ZALV	Zalesovo Beam	68.71	343	*e*P	P	17 22 44.0	+0.2
ZAA1	Zalesovo Array	68.71	343	*e*P	P	17 22 44.2	+0.4
BVAR	Borovoye Array	73.09	335	P	P	17 23 11.4	+0.8
	1.7nm,0.7s,baz=133,slow=8.1,SNR=7.4						
ABKAR	Akbulak array	75.54	327	*e*P	P	17 23 25.7	+0.9
AKTO	Aktyubinsk	77.24	328	P	P	17 23 36.0	+1.5
	1.2nm,0.5s,baz=152,slow=6.4,SNR=5.4						
JOHN	Johnston Islan	81.78	71	*e*P	P	17 23 56.2	-3.7
	118nm,0.9s						
TIXI	Tiksi	83.05	5	*e*P	P	17 24 05.1	-0.2
	2.2nm,0.8s						
KBZ	Khabaz	83.16	317	P	P	17 24 08.6	+2.1
	1.7nm,0.8s,baz=193,slow=4.1,SNR=5.7						
BR101	Keskin Array S	88.46	311	*e*P	P	17 24 34.8	+1.7
BR131	Keskin Array S	88.46	311	*e*P	P	17 24 34.5	+1.4
BRTR	Keskin Array B	88.46	311	P	P	17 24 34.8	+1.7
	1.4nm,0.8s,baz=140,slow=7.3,SNR=11						
BR231	Keskin MP Arra	89.13	311	*e*P	P	17 24 34.6	-1.6
YKA	Yellowknife Ar	118.44	23	PKP	**PKPdf**	17 30 29.4	+1.9
	0.4nm,0.7s,baz=300,slow=1.6,SNR=6.8						

*ISCJB **14** 17:12:42.2±1.4, 37°.00N±0°.04×141°.44E±0°.06, h11km±7km, mb3.4/5, Error ellipse: s-maj=8.9km s-min=6.9km az=25.3*

*JMA **14** 17:12:43.5±0.1, 37°.01N×141°.36E, h23km±1km, M3.3*

*IDC **14** 17:12:44.2±3.2, 37°.23N×141°.18E, h0km, mb3.4/5, mb1 3.4/8, mb1mx3.3/61, mbtmp3.4/8, ML2.6/3, MS2.8/1, Ms1 2.8/1, ms1mx2.3/45, Error ellipse: s-maj=62.5km s-min=27.8km az=151.0*

ISC 14 17:12:43.9±1.8, 37°.08N±0°.06×141°.26E±0°.07, h8km±11km, n25, σ0s85/25, mb3.5/5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ONAJ	Iwakimizuishiy	0.37	274	P	Pb	17 12 52.6	-0.2
JFK	Kawauchi	0.42	313	P	Pb	17 12 53.9	+0.3
JFK				*e*S	Sb	17 13 01.5	+1.3
JHO	Hitachi	0.72	230	P	Pg	17 12 57.6	-0.2
JFT	Otama	0.86	301	P	Pn	17 13 01.7	-0.6
JFT				*e*S	Sn	17 13 14.2	-0.9
JMM	Marumori	0.87	335	P	Pb	17 13 01.3	0.0
JMM				*e*S	Sn	17 13 14.5	-0.9
JSB	Shiboa	1.08	265	P	Pn	17 13 05.3	-0.1
JFY	Yanaizu	1.28	285	*e*S	Sn	17 13 26.1	+0.5
JOU	Okura	1.37	340	P	Pb	17 13 09.8	0.0
JOU				*e*S	Sg	17 13 28.9	+1.0
JIO	Ouri	1.38	3	P	Pn	17 13 08.5	-0.9
JIO				*e*S	Sb	17 13 27.0	-0.7
MJAR	Matsushiro Arr	2.50	259	Pn	Pn	17 13 25.9	+0.9
	0.9nm,0.3s,baz=88,slow=15,SNR=15						
MJAR				Sn	Sg	17 14 04.1	-0.2
	2.5nm,0.3s,baz=159,slow=27,SNR=5.6						
MAT	Matsushiro	2.51	259	P	Pn	17 13 25.6	+0.6
MAT				S	Sb	17 13 57.8	-2.4
ASAJ	Asahikawa	7.11	8	Pn	Pn	17 14 27.6	-0.5
	0.2nm,0.3s,baz=200,slow=12,SNR=3.3						
JCJ	Chichijima	9.98	175	LR	LR	17 20 03.1	
	comp=Z,50nm,18.3s,baz=156,slow=43						
USRK	Ussuriysk Ar.	10.01	318	Pn	Pn	17 15 07.5	-0.4
	0.2nm,0.3s,baz=137,slow=43,SNR=3.6						
SONM	Songino Array	27.66	304	P	P	17 18 32.7	+0.4
	0.2nm,0.4s,baz=99,slow=9.2,SNR=2.2						
H11N2	WAKE ISLAND Hy	28.28	121	T	T	17 48 04.1	
	baz=313,slow=75,SNR=58						
H11N1	WAKE ISLAND Hy	28.29	121	T	T	17 48 04.4	
	baz=313,slow=75,SNR=69						
H11N3	WAKE ISLAND Hy	28.30	121	T	T	17 48 05.4	
	baz=313,slow=75,SNR=44						
H11S1	WAKE ISLAND Hy	28.99	123	T	T	17 48 59.3	
	baz=315,slow=75,SNR=22						
H11S3	WAKE ISLAND Hy	28.99	123	T	T	17 48 56.2	
	baz=315,slow=75,SNR=15						
H11S2	WAKE ISLAND Hy	29.00	123	T	T	17 48 58.7	
	baz=315,slow=75,SNR=16						
ZALV	Zalesovo Beam	41.79	312	P	P	17 20 34.2	+0.5
	0.6nm,0.6s,baz=90,slow=5.8,SNR=3.1						
MKAR	Makanchi Array	43.99	302	P	P	17 20 52.1	+0.4
	0.6nm,0.9s,baz=85,slow=8.8,SNR=4.5						
KURBB	Kurchatov Arra	45.88	308	P	P	17 21 06.2	-0.4
	0.7nm,0.8s,baz=87,slow=8.1,SNR=7.3						
ILAR	Eielson Array	49.52	32	P	P	17 21 35.5	+0.8
	0.4nm,0.7s,baz=265,slow=5.1,SNR=4.2						

*SJA **14** 17:31:00.4±0.5, 31°.95S×71°.52W, h57km±14km, ML3.4, MW3.6*

*GUC **14** 17:31:01.3±0.4, 31°.76S×70°.00W, h55km±11km, ML3.1*

ISC 14 17:30:58.3±2.1, 31°.98S±0°.05×71°.7W±0°.1, h16km±13km, n11, σ0s90/16, 2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ROCH	El Roble	1.14	151	*e*P	Pg	17 31 20.4	0.0
ROCH				*e*S	Sg	17 31 34.6	-0.8
ROCH				IAML		17 31 36.8	
	comp=N,385nm,0.2s						
FCH	Farellones	1.79	139	*e*P	Pn	17 31 29.1	+0.4
FCH				*e*S	Sn	17 31 50.7	-0.6
FCH				IAML		17 31 53.2	
	comp=E,191nm,0.3s						
GO04	Tololo Observa	1.95	23	*e*P	Pn	17 31 31.2	+0.3
GO04				*e*S	Sn	17 31 54.2	-1.0
TLL	Tololo Astrono	1.95	23	*e*P	Pn	17 31 31.4	+0.4
TLL				*e*S	Sn	17 31 54.1	-1.2
TLL				IAML		17 31 56.3	
	comp=N,460nm,1.0s						
AUSP	Uspallata	1.96	98	*e*S	Sn	17 31 55.2	-0.4
RTLS	Leoncito	2.03	86	*e*P	Pn	17 31 32.6	+0.4
LMEL	Las Melosas	2.24	147	*e*P	Pn	17 31 35.9	+1.0
LMEL				*e*S	Sn	17 32 01.8	-0.5
LMEL				IAML		17 32 03.7	
	comp=N,371nm,0.2s						
AROD	Rodeo	2.61	47	*e*P	Pn	17 31 41.5	+1.3
RTCV	Cerro Valdivia	2.67	88	*e*P	Pn	17 31 41.5	+0.8
AMOG	MOGNA	2.91	70	*e*P	Pn	17 31 44.6	+0.6
VCA	Vinchina	4.41	44	*e*P	Pn	17 32 06.0	+1.3
VCA				IAML		17 32 37.2	
	comp=Z,40nm,0.3s						

IDC 14 17:39:10.0±1.9, 5°.09N×92°.06E, h0km, mb3.1/2, mb1 3.5/4, mb1mx3.1/64, mbtmp3.4/4, ML3.4/2, Error ellipse: s-maj=45.5km s-min=29.6km az=30.0, Off west coast of northern Sumatera

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

comp=Z,280nm,18.5s,baz=37,slow=36
STKA Stephens Creek 28.91 228 *e*P **P 17 58 14.3 +0.5**
3.7nm,1.8s
RPZ Rata Peaks 29.66 174 LR LR 18 10 22.1
comp=Z,184nm,18.3s,baz=359,slow=36
WR1 Warramunga Arr 31.40 255 *e*P **P 17 58 35.1 -0.9**
21nm,0.8s
WRA Warramunga Arr 31.40 255 P **P 17 58 35.1 -0.9**
1.1nm,0.8s,baz=85,slow=8.9,SNR=5.4
WRA LR LR 18 11 30.1
comp=Z,212nm,19.4s,baz=120,slow=37
AS31 Alice Springs 32.33 248 *e*P **P 17 58 42.4 -1.8**
1.6nm,1.3s
ASAR Alice Springs 32.33 248 P **P 17 58 42.9 -1.3**
0.9nm,0.8s,baz=70,slow=9.5,SNR=10
ASAR LR LR 18 10 30.1
comp=Z,115nm,20.9s,baz=96,slow=34
BBOO Buckleboo 33.46 231 *e*P **P 17 58 53.7 -0.2**
7.4nm,1.0s
NWAO Narrogin (SRO) 48.53 239 LR LR 18 21 45.8
comp=Z,145nm,18.3s,slow=36
NWAO Narrogin (SRO) 48.53 239 *e*P **P 18 00 57.3 -0.6**
36nm,1.4s
TGY Tagaytay City 53.29 300 LR LR 18 22 40.9
comp=Z,309nm,21.9s,baz=124,slow=34
MJAR Matsushiro Arr 57.17 333 P **P 18 02 01.7 +0.2**
1.0nm,0.6s,baz=166,slow=7.4,SNR=4.9
MAJO Matsushiro 57.17 333 *e*P **P 18 02 01.7 +0.2**
KSRS Korea Array 62.98 326 P **P 18 02 42.1 +0.9**
0.7nm,0.8s,baz=134,slow=7.1,SNR=3.4
KS15 Wonju Array Si 62.99 326 *e*P **P 18 02 41.6 +0.4**
KSAR Wonju Array Be 62.99 326 P **P 18 02 42.1 +0.8**
VNDA Vanda 63.38 181 P **P 18 02 44.0 +0.6**
1.2nm,0.8s,baz=358,slow=5.4,SNR=3.3
VNDA Vanda 63.38 181 *e*P **P 18 02 44.0 +0.6**
SBA Scott Base 63.67 180 *e*P **P 18 02 45.9 +0.7**
6.9nm,1.0s
CM01 Chiang Mai Arr 74.18 294 *e*P **P 18 03 51.0 -0.5**
CM31 Chiang Mai Arr 74.21 294 *e*P **P 18 03 52.5 +0.8**
CMAR Chiang Mai Arr 74.21 294 P **P 18 03 52.0 +0.3**
1.1nm,1.1s,baz=104,slow=3.8,SNR=5.8
CMAR LR LR 18 35 30.0
comp=Z,16nm,21.5s,baz=275,slow=35
QSPA South Pole Qui 75.83 180 P **P 18 04 00.4 0.0**
4.0nm,0.9s,baz=348,slow=1.6,SNR=5.4
QSPA LR LR 18 33 35.9
comp=Z,38nm,19.8s,baz=168,slow=33
QSPA South Pole Qui 75.83 180 *e*P **P 18 04 00.1 -0.3**
12nm,1.4s
YAK Yakutsk 81.36 343 P **P 18 04 31.4 +0.9**
5.4nm,0.4s,baz=164,slow=1.3,SNR=4.4
YAK Yakutsk 81.36 343 *e*P **P 18 04 31.1 +0.6**
8.4nm,0.8s
SONA0 Songino Array 81.73 324 *e*P **P 18 04 33.4 +0.4**
SONM Songino Array 81.73 324 P **P 18 04 33.4 +0.4**
1.4nm,1.1s,baz=141,slow=7.5,SNR=5.7
SONA1 Songino Array 81.73 324 *e*P **P 18 04 32.8 -0.2**
IM3 Indian Mountai 85.20 15 *e*P **P 18 04 50.3 +0.1**
ILAR Eielson Array 86.20 18 P **P 18 04 54.3 -1.0**
0.7nm,0.6s,baz=236,slow=5.3,SNR=12
ILAR LR LR 18 37 43.0
comp=Z,51nm,19.1s,baz=224,slow=32
ILB Eielson Array 86.20 18 *e*P **P 18 04 54.8 -0.5**
NVAR Mina Array Bea 87.36 49 LR LR 18 36 40.8
comp=Z,97nm,20.5s,baz=106,slow=30
TIXI Tiksi 89.34 349 *e*P **P 18 05 09.4 -0.6**
4.7nm,1.4s
PDAR Pinedale Array 95.01 47 LR LR 18 43 17.0
comp=Z,35nm,18.1s,baz=258,slow=32
MK32 Makanchi Array 96.42 317 *e*P **P 18 05 43.8 +0.4**
MKAR Makanchi Array 96.42 317 P **P 18 05 43.8 +0.4**
0.5nm,0.9s,baz=89,slow=6.2,SNR=4.0
ARA0 ARCESS Array S 119.59 345 *e*PKPdf **PKPdf 18 11 02.8 -0.6**
ARCES ARCESS Array B 119.59 345 PKP **PKPdf 18 11 02.8 -0.6**
1.7nm,0.7s,baz=70,slow=3.0,SNR=4.2
FIA0 FINESS Array S 125.02 338 *e*PKPdf **PKPdf 18 11 14.9 +0.9**
FINES FINESS Array B 125.02 338 PKP **PKPdf 18 11 14.9 +0.9**
4.1nm,1.0s,baz=35,slow=3.4,SNR=4.1

*IDC **14** 17:54:57.2±1.7, 8˚.52N×127˚.66E, h0km, mb3.6/7, mb1 3.7/7, mb1mx3.4/60, mbtmp3.6/7, Error ellipse: s-maj=121.9km s-min=17.3km az=69.0*
*ISCJB **14** 17:55:00.7±0.9, 8˚.4N±0˚.1×127˚.40E±0˚.08, h34km, mb3.5/7, Error ellipse: s-maj=16.5km s-min=11.6km az=13.9*

ISC 14 17:55:03.0±1.2, 8˚.3N±0˚.2×127˚.27E±0˚.10, h34km, n8, σ1§26/9, mb3.5/7, 1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
BIPH	**Bislig**	**0.91**	**261**	⇓*e*P		**Pb**	**17 55 20.3**	**0.0**
BIPH				*i* S		**Sb**	**17 55 32.1**	**-0.1**
FITZ	**Fitzroy Crossi**	**26.30**	**183**	P		**P**	**18 00 37.0**	**+1.4**
	1.8nm,0.6s,baz=23,slow=7.7,SNR=6.8							
WRA	**Warramunga Arr**	**28.94**	**166**	P		**P**	**18 00 59.8**	**+0.5**
	0.5nm,0.6s,baz=348,slow=9.9,SNR=3.3							
ASAR	**Alice Springs**	**32.45**	**169**	P		**P**	**18 01 28.9**	**-1.3**
	0.3nm,0.7s,baz=350,slow=7.5,SNR=6.0							
STKA	**Stephens Creek**	**42.25**	**162**	P		**P**	**18 02 53.4**	**+0.2**
	1.4nm,0.8s,baz=357,slow=13,SNR=4.3							
MKAR	**Makanchi Array**	**54.17**	**323**	P		**P**	**18 04 26.2**	**+1.1**
	0.1nm,0.3s,baz=133,slow=7.1,SNR=4.5							
KURBB	**Kurchatov Arra**	**58.23**	**326**	P		**P**	**18 04 54.5**	**+0.6**
	0.2nm,0.4s,baz=126,slow=5.9,SNR=5.9							
BVAR	**Borovoye Array**	**63.82**	**326**	P		**P**	**18 05 29.9**	**-1.9**
	0.3nm,0.6s,baz=118,slow=8.3,SNR=2.7							

IDC 14 18:00:33.4±2.1, 0˚.79N×92˚.64E, h0km, mb3.5/5, mb1 3.7/5, mb1mx3.3/65, mbtmp3.5/5, MS3.1/1, Ms1 3.1/1, ms1mx2.4/48, Error ellipse: s-maj=99.5km s-min=23.0km az=52.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JOW	**Kunigami**	**42.92**	**50**	LR		LR	18 26 44.0	
	comp=Z,24nm,19.2s,baz=105,slow=37							
WRA	**Warramunga Arr**	**45.76**	**119**	P		P	18 08 57.1	+0.1
	0.4nm,0.7s,baz=296,slow=8.3,SNR=4.5							
MKAR	**Makanchi Array**	**46.70**	**350**	P		P	18 09 03.1	-0.9
	0.2nm,0.5s,baz=156,slow=8.3,SNR=4.3							
ASAR	**Alice Springs**	**46.87**	**124**	P		P	18 09 05.3	-0.4
	0.3nm,0.9s,baz=303,slow=7.6,SNR=2.7							
ZALV	**Zalesovo Beam**	**53.37**	**354**	P		P	18 09 55.1	+0.6
	0.5nm,0.4s,baz=186,slow=7.3,SNR=2.7							
GERES	**GERESS Array B**	**82.12**	**319**	P		P	18 12 56.1	-0.1
	0.5nm,0.6s,baz=107,slow=4.5,SNR=4.5							

MEX 14 18:07:22.8±0.3, 14˚.97N×93˚.09W, h16km±34km, MD3.6, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PCIG		**0.74**	**350**	*i* P		Pg	18 07 34.5	-2.8
PCIG				*e*S		Sg	18 07 43.8	-3.3

MAN 14 18:08:03, 12˚.37N×125˚.13E, h7km, mb4.4, ML3.3, MS3.0, 1D, Samar

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CNP	**Catarman**	**0.48**	**288**	*e*P		Pb	18 08 13.6	-0.2
CNP				*e*S		Sb	18 08 25.1	+4.1
BESP	**Borongan**	**0.82**	**158**	*e*P		Pg	18 08 18.8	+0.1
BESP				*e*S		Sn	18 08 32.3	-1.0
PLP	**Palo**	**1.20**	**187**	⇓*e*P		Pg	18 08 24.9	-1.2
PLP				*e*S		Sn	18 08 43.4	+0.6
MSLP	**Maasin**	**2.23**	**187**	*e*P		Pb	18 08 42.5	-1.2
MSLP				*e*S		Sg	18 09 18.9	+4.1

*IDC **14** 18:11:12.8±0.7, 3˚.36N×92˚.73E, h0km, mb4.0/15, mb1 4.1/18, mb1mx3.9/65, mbtmp4.0/18, ML3.8/3, Error ellipse: s-maj=30.2km s-min=12.5km az=45.0*
*NEIC **14** 18:11:14.4±0.2, 3˚.44N×92˚.79E, h10km, mb4.4/23, Error ellipse: s-maj=5.8km s-min=3.4km az=225.0*
*ISCJB **14** 18:11:17.2±1.2, 3˚.45N±0˚.04×92˚.96E±0˚.05, h44km±11km, mb4.3/37, MS4.2/1, Error ellipse: s-maj=9.8km s-min=5.7km az=151.5*
*DJA **14** 18:11:22.9±0.8, 4˚.1N±4˚×9˚.3E±˚, h119km±19km, M4.2/8, mB4.5/2, mb4.1/5, MLv4.2/8, Mw(mB)3.6/2*

ISC 14 18:11:18.8±1.8, 3˚.48N±0˚.06×92˚.95E±0˚.09, h41km±17km, n84, σ1§37/99, mb4.3/37, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
BSI	**Banda Aceh**	**3.08**	**49**	P		**Pn**	**18 12 06.0**	**+1.0**
BSI				S		**Sn**	**18 12 40.5**	**0.0**
MLSI	**Meulaboh, Aceh**	**3.53**	**77**	P		**Pn**	**18 12 13.1**	**+1.9**
MLSI				S		**Sn**	**18 12 51.9**	**+0.2**
TPTI		**4.22**	**93**	P		**Pn**	**18 12 22.3**	**+1.6**
TPTI				S		**Sn**	**18 13 08.1**	**-0.8**
LHMI	**Lhok Sumawe**	**4.34**	**66**	P		**Pn**	**18 12 24.9**	**+2.5**
LHMI	**Lhok Sumawe**	**4.34**	**66**	*e*Pn		**Pn**	**18 12 22.3**	**-0.1**
LHMI				*e*Sn		**Sn**	**18 13 07.7**	**-4.1**
KCSI	**Kotacane, Aceh**	**4.81**	**89**	P		**Pn**	**18 12 33.4**	**+4.6**
KCSI				S		**Sn**	**18 13 22.5**	**-0.8**
GSI	**Gunungsitoli**	**5.10**	**115**	P		**Pn**	**18 12 33.8**	**+1.0**
GSI				S		**Sn**	**18 13 28.4**	**-2.1**
GSI	**Gunungsitoli**	**5.10**	**115**	*e*Pn		**Pn**	**18 12 33.0**	**+0.2**
GSI				*e*Sn		**Sn**	**18 13 29.0**	**-1.4**
PSI	**Prapat**	**6.00**	**96**	Pn		**Pn**	**18 12 47.1**	**+1.8**
	2.6nm,0.3s,baz=335,slow=8.9,SNR=10							
PSI				Sn		**Sn**	**18 13 52.8**	**0.0**
	1.0nm,0.3s,baz=237,slow=6.3,SNR=2.7							
PSI	**Prapat**	**6.00**	**96**	*e*Pn		**Pn**	**18 12 46.7**	**+1.5**
PSI				*e*Sn		**Sn**	**18 13 52.5**	**-0.3**
MNSI	**Mandailing Nat**	**7.14**	**112**	P		**Pn**	**18 13 01.8**	**+1.0**
SISI	**Saibi**	**7.77**	**128**	P		**Pn**	**18 13 09.5**	**0.0**
IPM	**Ipoh**	**8.11**	**83**	*e*Pn		**Pn**	**18 13 14.1**	**-0.1**
IPM				*e*Sn		**Sn**	**18 14 38.0**	**-6.7**
MNAI	**Manna**	**12.67**	**128**	*e*Pn		**Pn**	**18 14 16.4**	**-0.2**
PALK	**Pallekele**	**12.76**	**288**	Pn		Pn	18 14 12.7	-5.2
	0.7nm,0.3s,baz=120,slow=13,SNR=7.2							
PALK				Sn		Sn	18 16 23.3	-16
	1.8nm,0.3s,baz=116,slow=2.6,SNR=7.2							
PALK	**Pallekele**	**12.76**	**288**	*e*Pn		Pn	18 14 12.3	-5.6
PALK				*e*Sn		Sn	18 16 21.5	-17
PBKT	**Sadao Pong**	**15.21**	**31**	*e*Pn		**Pn**	**18 14 52.1**	**+1.3**
	3.4nm,0.9s							
CM01	**Chiang Mai Arr**	**15.97**	**21**	*e*Pn		**Pn**	**18 14 59.9**	**-0.8**
CM31	**Chiang Mai Arr**	**16.00**	**21**	*e*Pn		**Pn**	**18 15 00.1**	**-1.0**
CMAR	**Chiang Mai Arr**	**16.00**	**21**	Pn		**Pn**	**18 15 00.8**	**-0.3**
	0.1nm,0.3s,baz=218,slow=14,SNR=27							
COCO	**West Island**	**16.04**	**166**	*e*Pn		**Pn**	**18 15 01.3**	**-0.3**
	115nm,1.0s							
CHTO	**Chiang Mai**	**16.33**	**21**	*e*Pn		**Pn**	**18 15 04.2**	**-1.1**
	2.6nm,0.9s							
KSM	**Kuching**	**17.45**	**96**	*e*Pn		**Pn**	**18 15 18.8**	**-0.5**
	6.7nm,1.0s							
CISI	**Cisompet, Garu**	**18.44**	**127**	*e*P		**P**	**18 15 30.9**	**-0.3**
	77nm,1.4s							
SBUM	**Sibu**	**19.27**	**93**	*e*P		**P**	**18 15 40.4**	**+0.2**
	3.9nm,1.0s							
KMI	**Kunming**	**23.49**	**23**	P		**P**	**18 16 27.3**	**+2.0**
KMI				pmax		pmax		
	comp=Z,8.0nm,0.6s							
LSA	**Lhasa**	**26.13**	**356**	*e*P		**P**	**18 16 50.7**	**+1.0**
	comp=Z,6.7nm,0.6s							
LZH	**Lanzhou**	**33.97**	**16**	*e*P		**P**	**18 18 01.3**	**+2.6**
LZH				pP		pP	18 18 09.1	-0.9
LZH				sP		sP	18 18 12.4	-2.5
LZH				*e*PP		**PP**	**18 19 16.8**	**+0.6**
LZH				pmax		pmax		
	comp=Z,21nm,1.0s							
LZH				pmax		pmax		
	comp=Z,120nm,4.3s							
LZH				LR		LR		
	comp=N,250nm,13.5s							
LZH				LR		LR		
	comp=E,280nm,13.7s							
LZH				LR		LR		
	comp=Z,220nm,15.0s							
NIL	**Nilore**	**35.20**	**331**	*e*P		**P**	**18 18 08.7**	**-0.5**
	comp=Z,6.3nm,0.6s							
GTA	**Gaotai**	**36.30**	**9**	*e*P		**P**	**18 18 20.0**	**+1.3**
GTA				pP		pP	18 18 28.5	-1.6
GTA				sP		sP	18 18 32.8	-2.1
GTA				pmax		pmax		
	comp=Z,3.0nm,0.9s							
FITZ	**Fitzroy Crossi**	**38.70**	**125**	P		**P**	**18 18 38.7**	**-0.5**
	comp=Z,1.8nm,0.8s,baz=346,slow=17,SNR=3.0							
FITZ	**Fitzroy Crossi**	**38.70**	**125**	*e*P		**P**	**18 18 39.0**	**-0.1**
WMQ	**Urumqi**	**40.44**	**354**	P		**P**	**18 18 54.3**	**+0.9**
HHC	**Hu-ho-hao-te**	**40.81**	**22**	*e*P		**P**	**18 18 58.6**	**+2.1**
HHC				pmax		pmax		
	comp=Z,11nm,1.0s							
HHC				pmax		pmax		
	comp=Z,34nm,6.0s							
KDJ	**Kajisay**	**40.99**	**342**	*e*P		**P**	**18 18 58.5**	**+0.5**
	comp=Z,1.9nm,0.8s							
UOSS	**Minazif**	**41.29**	**305**	*e*P		**P**	**18 19 00.5**	**-0.1**
	comp=Z,14nm,1.4s							
AAK	**Ala-Archa**	**42.32**	**340**	*e*P		**P**	**18 19 09.1**	**+0.2**
	comp=Z,2.3nm,1.2s							
NWAO	**Narrogin (SRO)**	**42.90**	**149**	*e*P		**P**	**18 19 15.2**	**+1.6**
	comp=Z,31nm,1.4s							
MK01	**Makanchi Array**	**44.10**	**349**	*e*P		**P**	**18 19 23.4**	**+0.3**
MK31	**Makanchi Array**	**44.13**	**349**	*e*P		**P**	**18 19 23.4**	**+0.1**
MK32	**Makanchi Array**	**44.13**	**349**	*e*P		**P**	**18 19 23.6**	**+0.3**
MKAR	**Makanchi Array**	**44.13**	**349**	P		**P**	**18 19 23.6**	**+0.3**
	comp=Z,3.5nm,0.7s,baz=167,slow=8.7,SNR=42							
MKAR	**Makanchi Array**	**44.13**	**349**	*e*P		**P**	**18 19 23.3**	**0.0**
MAKZ	**Makanchi**	**44.20**	**349**	*e*P		**P**	**18 19 23.9**	**0.0**
	comp=Z,1.7nm,0.8s							
KK31	**Karatay Array**	**44.21**	**336**	*e*P		**P**	**18 19 23.5**	**-0.5**
KKAR	**Karatay Array**	**44.21**	**336**	*e*P		**P**	**18 19 23.1**	**-1.0**
SONA0	**Songino Array**	**45.68**	**13**	*e*P		**P**	**18 19 37.0**	**+1.2**
SONA0				*e*PcP		**PcP**	**18 21 14.4**	**+1.1**
SONM	**Songino Array**	**45.68**	**13**	P		**P**	**18 19 37.0**	**+1.2**
	comp=Z,0.9nm,0.7s,baz=198,slow=8.6,SNR=6.6							
SONM				PcP		**PcP**	**18 21 14.4**	**+1.1**
	comp=Z,0.4nm,0.6s,baz=227,slow=3.2,SNR=2.7							
SONA1	**Songino Array**	**45.69**	**13**	*e*P		**P**	**18 19 36.9**	**+1.0**
ULN	**Ulaanbaatar**	**45.85**	**13**	*e*P		**P**	**18 19 38.1**	**+0.9**
	comp=Z,11nm,2.0s							
GEYT	**Alibeck**	**46.78**	**322**	P		**P**	**18 19 45.0**	**+0.5**
	comp=Z,2.0nm,0.6s,baz=148,slow=8.7,SNR=7.2							
GYA0B	**ALIBECK ARRAY**	**46.78**	**322**	*e*P		**P**	**18 19 44.6**	**+0.1**
	comp=Z,3.6nm,0.6s							
WRA	**Warramunga Arr**	**46.84**	**121**	P		**P**	**18 19 46.3**	**+1.1**
	comp=Z,1.2nm,0.6s,baz=298,slow=8.9,SNR=13							
WRA				PcP		**PcP**	**18 21 18.6**	**+0.8**
	comp=Z,0.7nm,1.1s,baz=311,slow=3.2,SNR=3.1							
WR1	**Warramunga Arr**	**46.84**	**121**	*e*P		**P**	**18 19 46.3**	**+1.1**
	comp=Z,39nm,0.8s							
WR1				*e*PcP		**PcP**	**18 21 18.6**	**+0.8**
WRAB	**Tennant Creek**	**46.84**	**121**	*e*P		**P**	**18 19 45.6**	**+0.4**
	comp=Z,32nm,1.4s							
WB2	**Warramunga Arr**	**46.85**	**121**	*e*P		**P**	**18 19 46.0**	**+0.8**
ASAR	**Alice Springs**	**48.15**	**126**	P		**P**	**18 19 56.3**	**+0.9**
	comp=Z,0.4nm,0.8s,baz=289,slow=7.7,SNR=7.6							
ASAR				PcP		**PcP**	**18 21 23.7**	**+1.2**
	comp=Z,0.5nm,0.8s,baz=299,slow=3.5,SNR=6.1							
AS01	**Alice Springs**	**48.19**	**126**	*e*P		**P**	**18 19 55.8**	**+0.1**
AS01				*e*PcP		**PcP**	**18 21 23.9**	**+1.3**
KURBB	**Kurchatov Arra**	**48.53**	**348**	P		**P**	**18 19 58.0**	**+0.3**
	comp=Z,1.7nm,0.8s,baz=170,slow=7.1,SNR=23							
KURK	**Kurchatov**	**48.59**	**348**	*e*P		**P**	**18 19 58.0**	**-0.2**
TLY	**Talaya**	**48.86**	**9**	*e*P		**P**	**18 20 00.8**	**+0.5**
	comp=Z,3.2nm,1.4s							
RAYN	**Ar Rayn**	**49.95**	**298**	*e*P		**P**	**18 20 08.4**	**-0.8**
	comp=Z,3.3nm,1.1s							
ZAA0	**Zalesovo Array**	**50.75**	**354**	*e*P		**P**	**18 20 14.7**	**+0.2**
	comp=Z,2.7nm,0.5s							
ZALV	**Zalesovo Beam**	**50.75**	**354**	P		**P**	**18 20 15.2**	**+0.6**
	comp=Z,2.6nm,0.5s,baz=186,slow=7.9,SNR=13							
ZALV	**Zalesovo Beam**	**50.75**	**354**	*e*P		**P**	**18 20 14.3**	**-0.3**
ZAA1	**Zalesovo Array**	**50.75**	**354**	*e*P		**P**	**18 20 15.2**	**+0.6**
BVAR	**Borovoye Array**	**52.78**	**343**	P		**P**	**18 20 28.7**	**-1.1**
	comp=Z,0.8nm,0.7s,baz=143,slow=8.4,SNR=7.5							
BRVK	**Borovoye**	**52.84**	**343**	*e*P		**P**	**18 20 29.5**	**-0.7**
	comp=Z,7.7nm,1.8s							
ABKAR	**Akbulak array**	**53.56**	**334**	*e*P		**P**	**18 20 34.8**	**-0.8**
STKA	**Stephens Creek**	**58.03**	**131**	P		**P**	**18 21 07.3**	**-0.7**
	comp=Z,2.2nm,0.7s,baz=291,slow=4.1,SNR=4.9							
STKA	**Stephens Creek**	**58.03**	**131**	*e*P		**P**	**18 21 07.7**	**-0.3**
	comp=Z,4.4nm,1.8s							
KBZ	**Khabaz**	**59.59**	**320**	P		**P**	**18 21 17.8**	**-0.7**
	comp=Z,1.2nm,0.8s,baz=109,slow=9.9,SNR=3.8							
BRTR	**Keskin Array B**	**64.45**	**313**	P		**P**	**18 21 50.5**	**-1.0**
	comp=Z,0.4nm,0.7s,baz=94,slow=3.8,SNR=3.0							
BR101	**Keskin Array S**	**64.45**	**313**	*e*P		**P**	**18 21 50.5**	**-1.0**
IDI	**Anoyia**	**70.14**	**306**	P		**P**	**18 22 27.4**	**-0.1**
	comp=Z,8.0nm,0.9s,baz=153,slow=0.5,SNR=1.9							
MLR	**Muntele Rosu**	**71.51**	**317**	P		**P**	**18 22 36.0**	**+0.3**
	comp=Z,0.8nm,0.8s,baz=145,slow=16,SNR=4.3							
MLR	**Muntele Rosu**	**71.51**	**317**	*e*P		**P**	**18 22 34.8**	**-1.0**
	comp=Z,6.6nm,1.0s							
LHI	**Lord Howe Isla**	**71.71**	**125**	*e*P		**P**	**18 22 36.6**	**-0.4**
	comp=Z,121nm,1.2s							
TIXI	**Tiksi**	**71.74**	**11**	*e*P		**P**	**18 22 36.2**	**-0.2**
	comp=Z,4.5nm,0.8s							
TARA	**Tarawa**	**79.91**	**89**	*e*P		**P**	**18 23 21.6**	**-2.7**
	comp=Z,243nm,1.4s							
GEA0	**GERESS Array S**	**80.31**	**319**	*e*P		**P**	**18 23 25.7**	**-0.2**
GEC2	**GERESS Array S**	**80.31**	**319**	*e*P		**P**	**18 23 23.7**	**-2.1**
	comp=Z,2.5nm,0.8s							
GERES	**GERESS Array B**	**80.31**	**319**	P		**P**	**18 23 25.6**	**-0.2**
	comp=Z,1.6nm,0.8s,baz=97,slow=4.6,SNR=8.0							
NC303	**NORSAR Array S**	**82.91**	**331**	*e*P		**P**	**18 23 38.3**	**-0.9**

IDC 14 18:14:29.9±20.0, 2˚.70N×91˚.95E, h0km, mb3.4/3, mb1 3.4/4, mb1mx3.1/62, mbtmp3.4/4, ML3.2/1, Error ellipse: s-maj=405.1km s-min=101.7km az=150.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**17.09**	**23**	Pn		Pn	18 18 30.7	+0.3
	0.0nm,0.3s,baz=215,slow=12,SNR=3.9							
MKAR	**Makanchi Array**	**44.72**	**351**	P		P	18 22 43.6	-1.3
	0.5nm,0.6s,baz=171,slow=9.2,SNR=5.2							
KURBB	**Kurchatov Arra**	**49.08**	**349**	P		P	18 23 19.7	+0.8
	0.1nm,0.6s,baz=176,slow=5.9,SNR=3.1							
ZALV	**Zalesovo Beam**	**51.41**	**355**	P		P	18 23 36.4	-0.1
	0.3nm,0.4s,baz=159,slow=4.6,SNR=2.4							

IDC 14 18:15:35.0±14.0, 3˚.17N×92˚.71E, h0km, mb3.5/3, mb1 3.6/5, mb1mx3.2/63, mbtmp3.5/5, ML3.4/2, Error ellipse: s-maj=261.9km s-min=53.4km az=161.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PSI	**Prapat**	**6.22**	**93**	Sn		Sn	18 18 07.3	-13
	1.4nm,0.3s,baz=238,slow=9.5,SNR=2.5							
PALK	**Pallekele**	**12.63**	**289**	Pn		Pn	18 18 37.0	+0.9
	0.2nm,0.3s,baz=116,slow=15,SNR=2.6							
PALK				Sn		Sn	18 20 43.3	-14
	0.4nm,0.3s,baz=114,slow=12,SNR=3.9							
CMAR	**Chiang Mai Arr**	**16.38**	**21**	Pn		Pn	18 19 27.8	+1.3
	0.1nm,0.3s,baz=216,slow=12,SNR=5.5							
MKAR	**Makanchi Array**	**44.39**	**350**	P		P	18 23 45.8	-1.6
	0.3nm,0.7s,baz=179,slow=7.6,SNR=3.6							
KURBB	**Kurchatov Arra**	**48.78**	**348**	P		P	18 24 22.0	+0.3
	0.2nm,0.8s,baz=163,slow=4.8,SNR=3.6							
ZALV	**Zalesovo Beam**	**51.03**	**354**	P		P	18 24 39.3	+0.5
	0.6nm,0.5s,baz=157,slow=8.2,SNR=3.5							

*ATH **14** 18:18:27.2, 35˚.41N×27˚.85E, h15km±3km, ML2.3/3, Error ellipse: s-maj=6.2km s-min=1.2km az=323.0*
*CSEM **14** 18:18:27.2, 35˚.41N×27˚.85E, h15km, ML2.3/3*
*DDA **14** 18:19:03.2, 34˚.38N×27˚.60E, h19km, Ml3.3*

ISC 14 18:18:27.0±2.2, 35˚.4N±0˚.1×27˚.87E±0˚.09, h13km±11km, n15, σ1§43/24, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.60**	**283**	P		**Pg**	**18 18 37.6**	**-1.1**
KARP				S		**Sb**	**18 18 46.9**	**-0.8**
KARP				AML		AML	18 18 47.8	
	comp=N,962μm,0.5s							
KARP				AML		AML	18 18 49.4	
	comp=E,713μm,0.2s							
KARP	**Karpathos**	**0.60**	**283**	P		**Pg**	**18 18 38.0**	**-0.7**
KARP				S		**Sb**	**18 18 46.8**	**-0.9**
ARG	**Arkhangelos**	**0.82**	**14**	P		**Pg**	**18 18 43.6**	**+0.6**
ARG				S		**Sb**	**18 18 54.5**	**+0.2**
ARG				AML		AML	18 18 55.5	
	comp=E,421μm,0.3s							
ARG				AML		AML	18 18 58.3	
	comp=N,288μm,0.4s							
ARG	**Arkhangelos**	**0.82**	**14**	P		**Pb**	**18 18 43.4**	**+0.1**
ARG				S		**Sb**	**18 18 54.6**	**+0.2**
ZKR	**Zakros**	**1.39**	**258**	P		**Pb**	**18 18 53.0**	**+0.1**
ZKR				S		**Sg**	**18 19 12.1**	**+0.3**
ZKR				AML		AML	18 19 22.1	
	comp=E,502μm,1.0s							
ZKR				AML		AML	18 19 23.5	
	comp=N,141μm,0.6s							
ZKR	**Zakros**	**1.39**	**258**	P		**Pb**	**18 18 53.0**	**+0.1**
ZKR				S		**Sg**	**18 19 11.9**	**+0.1**
TURN	**Turunc**	**1.57**	**22**	*i* P		**Pn**	**18 18 50.6**	**-4.0**
TURN				*i* S		**Sn**	**18 19 15.3**	**+0.5**
BDRM	**Kayabasi**	**1.68**	**348**	*i* P		**Pn**	**18 18 54.8**	**-1.5**
BDRM				*i* S		**Sb**	**18 19 19.9**	**+0.8**
NPS	**Neapolis**	**1.85**	**266**	P		**Pb**	**18 18 59.7**	**-1.1**
NPS	**Neapolis**	**1.85**	**266**	P		**Pb**	**18 19 00.1**	**-0.7**
LAST	**Lasithi**	**1.98**	**263

BVAR	**Borovoye Array**	**76.31**	**328**	P		**P**	**18 40 29.4**	**+0.4**
	0.2nm,0.4s,baz=121,slow=9.1,SNR=2.8							

MEX 14 18:47:22.7±0.6, 16°36'N×98°09'W, h12km±2km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.05**	**317**	*i* P	Pg	18 47 24.0	-1.1
PNIG				*e*S	Sg	18 47 26.5	-0.4
TLIG	**Tlapa**	**1.28**	**339**	*e*P	Pn	18 47 44.1	-2.6
TLIG				*e*S	Sb	18 47 58.6	-4.8
VHO	**Vista Hermosa**	**1.48**	**61**	*e*P	Pn	18 47 46.0	-3.4
VHO				*e*S	Sn	18 48 04.0	-4.8
CAIG	**El Cayaco**	**2.20**	**289**	*e*P	Pn	18 47 55.9	-3.1
CAIG				*i* S	Sn	18 48 22.0	-4.1
PLIG	**Platanillo**	**2.43**	**327**	*e*P	Pn	18 48 03.9	+1.5
PLIG				*e*S	Sn	18 48 27.9	-4.2

MAN 14 18:48:29, 13°69'N×120°06'E, h34km, mb3.7, ML2.4, MS1.9, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LUBP	**Lubang**	**0.18**	**76**	*e*P	Pb	18 48 38.0	+2.4
LUBP				*e*S	Sb	18 48 42.6	+2.6
SJMP	**San Jose**	**1.60**	**140**	*e*P	Pb	18 48 56.9	-1.1
SJMP				*e*S	Sn	18 49 15.9	+1.6
BUSP	**Coron**	**1.68**	**175**	*e*P	Pn	18 48 57.6	+1.6
BUSP				*e*S	Sn	18 49 17.2	+0.8
ENPP	**El Nido**	**2.54**	**194**	*e*P	Pn	18 49 09.6	+1.7
ENPP				*e*S	Sn	18 49 37.5	-0.3
GUIM	**Jordan**	**3.92**	**141**	*e*P	Pb	18 49 32.9	-4.5

*IDC **14** 18:50:16.1±1.5, 2°11'N×92°79'E, h0km, mb3.3/6, mb1 3.5/9, mb1mx3.3/66, mbtmp3.4/9, ML3.6/3, Error ellipse: s-maj=44.1km s-min=19.5km az=52.0*
*ISCJB **14** 18:50:18.5±1.0, 2°1'N±0°1'×92°18'E±0°1, h33km, mb3.4/6, Error ellipse: s-maj=21.7km s-min=13.1km az=30.8*
ISC 14 18:50:21.2±1.2, 2°2'N±0°2'×92°96'E±0°09, h35km, n13, σ1s74/11, mb3.4/6, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**5.99**	**84**	Pn	**Pn**	**18 51 48.0**	**+0.4**
	1.0nm,0.3s,baz=227,slow=6.6,SNR=4.1						
PSI				Sn	**Sn**	**18 52 51.4**	**-3.6**
	1.2nm,0.3s,baz=261,slow=19,SNR=3.4						
PALK	**Pallekele**	**13.21**	**293**	Pn	**Pn**	**18 53 24.0**	**-2.4**
	0.4nm,0.3s,baz=117,slow=14,SNR=4.0						
PALK				Sn	Sn	18 55 39.0	-13
	1.2nm,0.3s,baz=118,slow=3.7,SNR=7.7						
CMAR	**Chiang Mai Arr**	**17.19**	**20**	P	**P**	**18 54 21.1**	**+1.1**
	0.1nm,0.3s,baz=219,slow=11,SNR=7.2						
H08S2	**Diego Garcia H**	**22.64**	**244**	T	T	19 18 11.6	
	baz=61,slow=75,SNR=7.7						
H08S3	**Diego Garcia H**	**22.64**	**244**	T	T	19 18 11.2	
	baz=61,slow=75,SNR=9.7						
H08S1	**Diego Garcia H**	**22.66**	**244**	T	T	19 18 14.7	
	baz=61,slow=75,SNR=9.4						
MKAR	**Makanchi Array**	**45.38**	**350**	P	**P**	**18 58 36.8**	**+0.6**
	0.4nm,0.6s,baz=168,slow=9.3,SNR=5.4						
WRA	**Warramunga Arr**	**46.17**	**120**	P	**P**	**18 58 44.0**	**+1.0**
	0.4nm,0.8s,baz=301,slow=8.5,SNR=2.9						
SONM	**Songino Array**	**46.92**	**12**	P	**P**	**18 58 49.7**	**+1.2**
	0.2nm,0.4s,baz=199,slow=10,SNR=2.9						
ASAR	**Alice Springs**	**47.40**	**125**	P	**P**	**18 58 52.9**	**+0.4**
	0.2nm,0.8s,baz=310,slow=7.5,SNR=3.8						
KURBB	**Kurchatov Arra**	**49.77**	**348**	P	**P**	**18 59 10.5**	**+0.3**
	0.2nm,0.6s,baz=173,slow=6.6,SNR=3.4						
ZALV	**Zalesovo Beam**	**52.02**	**354**	P	**P**	**18 59 27.0**	**0.0**
	0.4nm,0.3s,baz=140,slow=8.4,SNR=2.5						
TXAR	**Lajitas Array**	**144.84**	**26**	PKP	**PKPdf**	**19 09 56.4**	**+1.0**
	0.3nm,0.5s,baz=347,slow=7.4,SNR=2.5						

MEX 14 18:52:14.3±0.7, 16°41'N×98°57'W, h15km±19km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.42**	**92**	*e*P	Pg	18 52 21.7	-1.1
PNIG				*e*S	Sg	18 52 27.3	-1.3
TLIG	**Tlapa**	**1.15**	**360**	*i* P	Pb	18 52 33.9	-2.1
TLIG				*e*S	Sb	18 52 45.6	-5.2
CAIG	**El Cayaco**	**1.75**	**292**	*e*P	Pn	18 52 42.4	-1.7
CAIG				*e*S	Sn	18 53 01.8	-4.3
PLIG	**Platanillo**	**2.17**	**336**	*e*P	Pn	18 52 49.9	0.0
PLIG				*e*S	Sn	18 53 12.3	-4.4

*IDC **14** 18:58:53.1±2.9, 53°82'N×158°04'W, h0km, mb3.4/2, mb1 3.6/5, mb1mx3.2/79, mbtmp3.5/5, ML3.5/3, Error ellipse: s-maj=60.5km s-min=23.1km az=148.0*
*NEIC **14** 18:58:56.0±0.0, 53°59'N×157°83'W, h19km, ML3.5(AEIC), After AEIC.*
ISC 14 18:58:55.0±2.8, 53°76'N±0°09×157°74'W±0°06, h24km±20km, n81, σ1s98/97, South of Alaska

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SDPT	**Sand Point**	**2.25**	**316**	*e*Pn	**Pn**	**18 59 32.5**	**+1.8**
SDPT				*e*Sn	**Sb**	**19 00 00.8**	**-1.6**
VNSG	**Veniaminof 6**	**2.50**	**342**	P	**Pn**	**18 59 36.7**	**+2.6**
VNSG				S	**Sb**	**19 00 09.3**	**-0.1**
CHGN	**Chignik**	**2.58**	**352**	*e*Pn	**Pn**	**18 59 37.0**	**+1.9**
CHGN				*e*Sn	**Sn**	**19 00 09.0**	**+3.4**
VNHG	**Veniaminof 1**	**2.60**	**342**	P	**Pn**	**18 59 37.9**	**+2.3**
VNHG				S	**Sb**	**19 00 11.7**	**-0.7**
DOL	**Dolgoi Island**	**2.78**	**302**	P	**Pn**	**18 59 39.1**	**+1.1**
DOL				S	**Sn**	**19 00 11.7**	**+1.0**
PS4A	**Pavlof South-4**	**2.88**	**305**	P	**Pn**	**18 59 41.3**	**+2.1**
DRIA	**Deer Island**	**2.91**	**299**	P	**Pn**	**18 59 40.3**	**+0.6**
DTI	**Dutton Round H**	**2.98**	**299**	*e*Pn	**Pn**	**18 59 41.1**	**+0.5**
ANPK	**Aniakchak Peak**	**3.10**	**356**	P	**Pn**	**18 59 44.6**	**+2.3**
ANNE	**Aniakchak Nort**	**3.17**	**357**	P	**Pn**	**18 59 45.7**	**+2.4**
FALS	**False Pass**	**3.50**	**291**	*e*Pn	**Pn**	**18 59 48.1**	**+0.3**
FALS				*e*Sn	**Sn**	**19 00 30.6**	**+2.2**
ISLZ	**Isanotski Laza**	**3.63**	**288**	P	**Pn**	**18 59 50.2**	**+0.5**
SSLN	**Shishaldin Nor**	**3.81**	**289**	*e*Pn	**Pn**	**18 59 53.7**	**+1.5**
SSLN				*e*Sn	**Sn**	**19 00 38.0**	**+1.8**
WESN	**West Dahl Nort**	**4.10**	**284**	*e*Pn	**Pn**	**18 59 57.1**	**+0.9**
WESP	**Westdahl Peak**	**4.17**	**283**	*e*Pn	**Pn**	**18 59 57.3**	**+0.2**
OHAK	**Old Harbor**	**4.30**	**34**	*e*Pn	**Pn**	**18 59 59.3**	**+0.6**
OHAK				*e*Sn	**Sn**	**19 00 46.4**	**-1.7**
CAHL	**Cahill**	**4.52**	**17**	P	**Pn**	**19 00 03.9**	**+2.1**
AKSA	**Akutan Strait**	**4.71**	**278**	*e*Pn	**Pn**	**19 00 04.9**	**+0.4**
AKUT	**Akutan**	**4.76**	**278**	*e*Pn	**Pn**	**19 00 04.1**	**-1.0**
AKUT				*e*Sn	**Sn**	**19 00 56.8**	**-2.6**
ZRO	**Akutan Zero**	**4.88**	**277**	*e*Pn	**Pn**	**19 00 07.1**	**+0.3**
KDAK	**Kodiak Island**	**4.97**	**34**	Pn	**Pn**	**19 00 08.6**	**+0.6**
	0.9nm,0.3s,baz=185,slow=11,SNR=21						
KDAK				Sn	**Sn**	**19 01 02.5**	**-2.2**
	1.6nm,0.3s,baz=162,slow=19,SNR=3.8						
KDAK	**Kodiak Island**	**4.97**	**34**	*e*Pn	**Pn**	**19 00 07.2**	**-0.8**
KDAK				*e*Sn	**Sn**	**19 01 03.0**	**-1.7**
KDAK				*e*Sg	**Sn**	**19 01 03.6**	**-1.1**
UNV	**Unalaska Valle**	**5.19**	**274**	*e*Pn	**Pn**	**19 00 10.7**	**-0.4**
UNV				*e*Sn	**Sn**	**19 01 09.1**	**-1.0**
MSOM	**Makushin Julie**	**5.46**	**274**	*e*Pn	**Pn**	**19 00 14.2**	**-0.5**
OKTU	**Okmok Mt. Tuli**	**6.15**	**271**	*e*Pn	**Pn**	**19 00 24.3**	**+0.1**
NIKH	**Nikolski High**	**6.70**	**268**	*e*Pn	**Pn**	**19 00 31.1**	**-0.7**
BRLK	**Bradley Lake**	**7.10**	**29**	*e*Pn	**Pn**	**19 00 38.2**	**+1.0**
BRLK				*e*Sn	**Sn**	**19 01 55.9**	**-1.1**
SVW2	**Sparrevohn**	**7.45**	**8**	*e*Pn	**Pn**	**19 00 44.2**	**+2.2**
RC01	**Rabbit Creek A**	**8.52**	**27**	*e*Pn	**Pn**	**19 00 57.7**	**+1.0**
RC01				*e*Sn	**Sn**	**19 02 28.0**	**-3.9**
SUA	**Susitna One**	**8.59**	**23**	*e*Pn	**Pn**	**19 00 59.6**	**+2.0**
SUA				*e*Sn	**Sn**	**19 02 31.6**	**-2.1**
SKT	**Skwentna**	**8.88**	**19**	*e*Pn	**Pn**	**19 01 03.6**	**+2.0**
SKT				*e*Sn	**Sn**	**19 02 41.5**	**+0.7**
GHO	**Glory Hole Cre**	**9.30**	**27**	*e*Pn	**Pn**	**19 01 08.8**	**+1.3**
EYAK	**Cordova Ski Ar**	**9.41**	**39**	*e*Pn	**Pn**	**19 01 10.8**	**+2.0**
SML	**Sawmill**	**9.50**	**28**	*e*Pn	**Pn**	**19 01 12.0**	**+1.9**
PPLA	**Purkeypile**	**9.61**	**15**	*e*Pn	**Pn**	**19 01 14.2**	**+2.4**
RAGM	**Ragged Mountai**	**9.72**	**42**	*e*Pn	**Pn**	**19 01 15.3**	**+2.1**
DIV	**Divide**	**9.79**	**36**	*e*Pn	**Pn**	**19 01 16.5**	**+2.3**
SCM	**Sheep Creek Mo**	**9.81**	**30**	*e*Pn	**Pn**	**19 01 15.4**	**+1.0**
SCM				*e*Sn	**Sn**	**19 03 01.9**	**-1.7**
KLU	**Klutina**	**10.00**	**34**	*e*Pn	**Pn**	**19 01 17.1**	**+0.1**
KLU				*e*Sn	**Sn**	**19 03 07.2**	**-1.1**
BMRM	**Bremner River**	**10.11**	**39**	*e*Pn	**Pn**	**19 01 20.6**	**+2.0**
BMRM				*e*Sn	**Sn**	**19 03 08.3**	**-2.7**
CAST	**Castle Rocks**	**10.12**	**15**	*e*Pn	**Pn**	**19 01 21.8**	**+3.1**
KTH	**Kantishna Hill**	**10.44**	**17**	*e*Pn	**Pn**	**19 01 24.6**	**+1.6**
TRF	**Thorofare Moun**	**10.46**	**19**	*e*Pn	**Pn**	**19 01 24.7**	**+1.3**
RND	**Reindeer**	**10.72**	**22**	*e*Pn	**Pn**	**19 01 27.5**	**+0.7**
DHY	**Denali Highway**	**10.79**	**26**	*e*Pn	**Pn**	**19 01 28.5**	**+0.5**
DHY				*e*Sn	**Sn**	**19 03 23.9**	**-3.9**
HARP	**HAARP**	**10.91**	**32**	*e*Pn	**Pn**	**19 01 32.4**	**+3.0**
HARP				*e*Sn	**Sn**	**19 03 29.2**	**-1.4**
BPAW	**Bear Paw Mtn.**	**10.94**	**16**	*e*Pn	**Pn**	**19 01 33.5**	**+3.7**
MCK	**McKinley**	**10.98**	**21**	*e*Pn	**Pn**	**19 01 30.9**	**+0.4**
BALM	**Baldy**	**11.03**	**42**	*e*Pn	**Pn**	**19 01 32.3**	**+1.2**
BALM				*e*Sn	**Sn**	**19 03 30.5**	**-3.1**
PAX	**Paxson**	**11.24**	**30**	*e*Pn	**Pn**	**19 01 35.5**	**+1.6**
YKU2	**Yakutat**	**11.48**	**53**	*e*Pn	**Pn**	**19 01 38.2**	**+1.1**
MENT	**Mentasta**	**11.76**	**33**	*e*Pn	Pn	19 01 34.4	-6.6
WRH	**Wood River Hil**	**11.81**	**21**	*e*Pn	**Pn**	**19 01 39.3**	**-2.4**
MLY	**Manley**	**11.85**	**15**	*e*Pn	**Pn**	**19 01 38.0**	**-4.2**
RIDG	**Independ'e Rid**	**12.01**	**28**	*e*Pn	**Pn**	**19 01 45.7**	**+1.2**
HDA	**Harding Lake**	**12.01**	**23**	*e*Pn	**Pn**	**19 01 45.1**	**+0.7**
CCB	**Clear Creek Bu**	**12.03**	**21**	*e*Pn	**Pn**	**19 01 43.9**	**-0.7**
DOT	**Dot Lake**	**12.17**	**30**	*e*Pn	**Pn**	**19 01 49.3**	**+2.7**
MDM	**Murphy Dome**	**12.22**	**19**	*e*Pn	**Pn**	**19 01 46.2**	**-1.1**
ILAR	**Eielson Array**	**12.34**	**22**	Pn	Pn	19 01 43.4	-5.4
	0.1nm,0.3s,baz=213,slow=8.1,SNR=4.9						
ILAR				Sn	**Sn**	**19 03 58.3**	**-7.1**
	0.0nm,0.3s,baz=206,slow=23,SNR=2.4						
ILB	**Eielson Array**	**12.34**	**22**	*e*Pn	**Pn**	**19 01 49.3**	**+0.5**
IL1	**Eielson Array**	**12.34**	**22**	*e*Pn	**Pn**	**19 01 49.8**	**+1.0**
IM3	**Indian Mountai**	**12.42**	**8**	*e*Pn	**Pn**	**19 01 51.8**	**+1.8**
SCRK	**Sand Creek**	**12.44**	**29**	*e*Pn	**Pn**	**19 01 50.9**	**+0.5**
HYT	**Haines Junctio**	**12.99**	**49**	*e*Pn	**Pn**	**19 01 56.8**	**-1.2**
SKAG	**Skagway**	**13.56**	**56**	*e*Pn	**Pn**	**19 02 07.5**	**+2.0**
BESE	**Bessie Mountai**	**13.60**	**60**	*e*Pn	**Pn**	**19 02 06.0**	**-0.2**
EGAK	**Eagle**	**13.87**	**31**	*e*Pn	**Pn**	**19 02 11.0**	**+1.3**
DAWY	**Dawson**	**13.96**	**35**	*e*Pn	**Pn**	**19 02 11.9**	**+0.9**
WHY	**Whitehorse**	**14.13**	**52**	*e*Pn	**Pn**	**19 02 15.4**	**+2.0**
FYU	**Fort Yukon**	**14.23**	**21**	*e*Pn	**Pn**	**19 02 16.5**	**+1.9**
INK	**Inuvik**	**18.51**	**29**	P	**Pn**	**19 03 10.8**	**+1.5**
	0.3nm,0.3s,baz=215,slow=12,SNR=10						
INK	**Inuvik**	**18.51**	**29**	*e*P	**Pn**	**19 03 12.5**	**+3.1**
YKA	**Yellowknife Ar**	**23.96**	**51**	P	**P**	**19 04 10.0**	**+3.0**
	0.2nm,0.6s,baz=266,slow=9.8,SNR=7.0						
PETK	**Petropavlovsk-**	**26.23**	**287**	P	**P**	**19 04 27.6**	**-0.2**
	3.4nm,1.0s,baz=75,slow=15,SNR=2.7						
H11N2	**WAKE ISLAND Hy**	**43.43**	**232**	T	T	19 53 13.5	
	baz=30,slow=76,SNR=22						
H11N3	**WAKE ISLAND Hy**	**43.44**	**232**	T	T	19 53 14.6	
	baz=30,slow=76,SNR=25						
H11N1	**WAKE ISLAND Hy**	**43.45**	**232**	T	T	19 53 16.1	
	baz=30,slow=76,SNR=18						
H11S1	**WAKE ISLAND Hy**	**44.58**	**232**	T	T	19 54 40.3	
	baz=30,slow=76,SNR=13						
H11S2	**WAKE ISLAND Hy**	**44.59**	**232**	T	T	19 54 41.5	
	baz=30,slow=76,SNR=14						
H11S3	**WAKE ISLAND Hy**	**44.60**	**232**	T	T	19 54 41.5	
	baz=30,slow=76,SNR=14						

*ISCJB **14** 18:59:05.5±0.4, 2°53'N±0°05×89°91'E±0°05, h10km, mb4.3/38, Error ellipse: s-maj=8.7km s-min=5.5km az=38.0*
*IDC **14** 18:59:06.6±0.7, 2°61'N×89°81'E, h0km, mb3.9/17, mb1 4.0/20, mb1mx3.8/69, mbtmp3.9/20, ML3.7/3, MS3.0/2, Ms1 3.1/2, ms1mx2.6/65, Error ellipse: s-maj=25.6km s-min=12.8km az=45.0*
*NEIC **14** 18:59:07.3±0.3, 2°59'N×89°86'E, h10km, mb4.6/27, Error ellipse: s-maj=7.7km s-min=5.2km az=212.0*
ISC 14 18:59:07.6±0.5, 2°62'N±0°08×89°87'E±0°07, h10km, n103, σ1s25/98, mb4.3/38, 1C-1D, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LHMI	**Lhok Sumawe**	**7.52**	**70**	*e*Pn	**Pn**	**19 00 56.4**	**-1.1**
GSI	**Gunungsitoli**	**7.81**	**100**	*e*Pn	**Pn**	**19 01 00.9**	**-0.5**
PSI	**Prapat**	**9.04**	**89**	Pn	**Pn**	**19 01 17.9**	**-0.6**
	1.6nm,0.3s,baz=243,slow=5.6,SNR=2.7						
PSI	**Prapat**	**9.04**	**89**	*e*Pn	**Pn**	**19 01 17.7**	**-0.8**
PALK	**Pallekele**	**10.23**	**297**	Pn	**Pn**	**19 01 33.1**	**-1.6**
	0.9nm,0.3s,baz=117,slow=13,SNR=6.9						
PALK				Sn	Sn	19 03 18.9	-11
	3.3nm,0.3s,baz=114,slow=2.1,SNR=7.6						
PALK				LR		19 05 14.0	
	comp=Z,115nm,18.4s,baz=116,slow=36						
PALK	**Pallekele**	**10.23**	**297**	*e*Pn	**Pn**	**19 01 32.4**	**-2.4**
PALK				*e*Sn	Sn	19 03 17.6	-12
IPM	**Ipoh**	**11.29**	**80**	*e*Pn	**Pn**	**19 01 49.0**	**-0.1**
PBKT	**Sadao Pong**	**17.64**	**38**	*e*Pn	**Pn**	**19 03 11.6**	**-2.1**
	7.5nm,1.2s						
CM01	**Chiang Mai Arr**	**18.05**	**29**	*e*Pn	**Pn**	**19 03 16.8**	**-2.0**
CM31	**Chiang Mai Arr**	**18.07**	**29**	*e*Pn	**P**	**19 03 19.7**	**+0.3**
CMAR	**Chiang Mai Arr**	**18.07**	**29**	P	**P**	**19 03 21.1**	**+1.7**
	0.0nm,0.3s,baz=221,slow=12,SNR=12						
CMAR				LR		19 11 00.4	
	comp=Z,28nm,18.7s,baz=199,slow=39						
CHTO	**Chiang Mai**	**18.38**	**28**	*e*P	**P**	**19 03 21.5**	**-1.3**
	3.7nm,1.4s						
HYB	**Hyderabad**	**18.43**	**324**	*i* P	**Pn**	**19 03 25.0**	**+1.6**
DGAR	**Diego Garcia**	**20.04**	**240**	*e*P	**P**	**19 03 38.6**	**-2.4**
	327nm,1.8s						
H08S3	**Diego Garcia H**	**20.11**	**239**	T	T	19 24 21.3	
	baz=59,slow=75,SNR=32						
H08S2	**Diego Garcia H**	**20.12**	**239**	T	T	19 24 21.3	
	baz=59,slow=75,SNR=27						
H08S1	**Diego Garcia H**	**20.13**	**239**	T	T	19 24 22.6	
	baz=59,slow=75,SNR=27						
XMIS	**Christmas Isla**	**20.40**	**130**	*e*P	**P**	**19 03 42.2**	**-2.8**
	66nm,0.9s						
H08N1	**Diego Garcia H**	**20.83**	**245**	T	T	19 25 25.4	
	baz=58						
H08N2	**Diego Garcia H**	**20.83**	**245**	T	T	19 25 23.7	
	baz=58						
H08N3	**Diego Garcia H**	**20.85**	**245**	T	T	19 25 23.6	
	baz=58						
ODAN	**Odare**	**24.22**	**355**	*e*P	**P**	**19 04 26.8**	**+1.9**
	18nm,0.6s						
RAMN	**Ramite**	**24.39**	**353**	*e*P	**P**	**19 04 28.6**	**+2.0**
	39nm,0.9s						
JIRN	**Jiri**	**25.14**	**352**	*e*P	**P**	**19 04 35.0**	**+1.5**
PKIN	**Phulchoki**	**25.18**	**351**	*e*P	**P**	**19 04 35.3**	**+1.6**
	7.1nm,0.6s						
DMN	**Daman**	**25.26**	**350**	*e*P	**P**	**19 04 36.5**	**+2.1**
	14nm,0.8s						
KKN	**Kakani**	**25.41**	**350**	*e*P	**P**	**19 04 37.4**	**+1.7**
	19nm,0.8s						
GUN	**Gumba**	**25.43**	**352**	*e*P	**P**	**19 04 37.7**	**+1.6**
	50nm,1.1s						
KOLN	**Koldanda**	**25.71**	**347**	*e*P	**P**	**19 04 40.4**	**+1.9**
	14nm,0.7s						
GKN	**Gorkha**	**25.73**	**349**	*e*P	**P**	**19 04 40.5**	**+1.9**
	32nm,0.9s						
PYUN	**Piuthan**	**26.17**	**346**	*e*P	**P**	**19 04 44.8**	**+2.1**
LSA	**Lhasa**	**26.96**	**2**	*e*P	**P**	**19 04 51.9**	**+1.9**
	10nm,0.8s						
NIL	**Nilore**	**34.56**	**335**	*e*P	**P**	**19 05 57.0**	**+0.4**
	13nm,0.9s						
SOEI	**Soe**	**36.40**	**110**	*e*P	**P**	**19 06 13.6**	**+0.8**
	39nm,1.2s						
TARG	**Taragay, Kyrgy**	**40.41**	**346**	*e*P	**P**	**19 06 47.6**	**+1.0**
	3.2nm,0.8s						
NRN	**Naryn**	**40.60**	**344**	*e*P	**P**	**19 06 47.1**	**-0.9**
	2.3nm,0.8s						
FITZ	**Fitzroy Crossi**	**40.81**	**122**	P	**P**	**19 06 51.1**	**+1.5**
	2.4nm,1.1s,baz=257,slow=11,SNR=2.3						
FITZ	**Fitzroy Crossi**	**40.81**	**122**	*e*P	**P**	**19 06 50.9**	**+1.3**
	14nm,1.5s						
KDJ	**Kajisay**	**40.95**	**346**	*e*P	**P**	**19 06 50.5**	**-0.2**
	3.9nm,0.9s						
PRZ	**Przheval'sk**	**40.99**	**347**	*e*P	**P**	**19 06 51.2**	**+0.2**
	10nm,1.0s						
AAK	**Ala-Archa**	**42.15**	**343**	P	**P**	**19 07 00.9**	**+0.5**
	0.5nm,0.4s,baz=142,slow=18						
H01W3	**Cape Leeuwin H**	**43.71**	**151**	T	T	19 53 46.3	
	baz=325,slow=76,SNR=22						
H01W2	**Cape Leeuwin H**	**43.72**	**151**	T	T	19 53 48.0	
	baz=325,slow=76,SNR=18						
H01W1	**Cape Leeuwin H**	**43.73**	**151**	T	T	19 53 48.0	
	baz=325,slow=76,SNR=25						
KK31	**Karatay Array**	**43.84**	**339**	*e*P	**P**	**19 07 14.2**	**+0.2**
KKAR	**Karatay Array**	**43.84**	**339**	*e*P	**P**	**19 07 14.2**	**+0.2**
MK01	**Makanchi Array**	**44.46**	**353**	*e*P	**P**	**19 07 19.0**	**0.0**
MK31	**Makanchi Array**	**44.49**	**353**	*e*P	**P**	**19 07 19.3**	**+0.1**
MK32	**Makanchi Array**	**44.49**	**353**	*e*P	**P**	**19 07 19.6**	**+0.5**
MK32				*e*PcP	**PcP**	**19 09 02.1**	**-0.4**
MKAR	**Makanchi Array**	**44.49**	**353**	P	**P**	**19 07 19.6**	**+0.5**
	1.3nm,0.7s,baz=173,slow=8.7,SNR=7.0						
MKAR				PcP	**PcP**	**19 09 02.2**	**-0.4**
	0.3nm,0.8s,baz=185,slow=5.4,SNR=2.4						
MKAR	**Makanchi Array**	**44.49**	**353**	*e*P	**P**	**19 07 18.9**	**-0.3**
	17nm,0.9s						
MKAR				PcP	**PcP**	**19 09 02.1**	**-0.4**
MAKZ	**Makanchi**	**44.54**	**352**	*e*P	**P**	**19 07 20.3**	**+0.7**
	2.6nm,1.1s						
GEYT	**Alibeck**	**45.61**	**324**	P	**P**	**19 07 28.9**	**+0.6**
	4.1nm,0.7s,baz=157,slow=8.0,SNR=13						
GYA0B	**ALIBECK ARRAY**	**45.61**	**324**	*e*P	**P**	**19 07 27.6**	**-0.7**
	6.5nm,0.8s						
SONA0	**Songino Array**	**47.25**	**15**	*e*P	**P**	**19 07 42.3**	**+1.2**
SONM	**Songino Array**	**47.25**	**15**	P	**P**	**19 07 42.3**	**+1.2**
	5.4nm,0.7s,baz=195,slow=9.5,SNR=38						
SONA1	**Songino Array**	**47.26**	**15**	*e*P	**P**	**19 07 42.5**	**+1.3**
ULN	**Ulaanbaatar**	**47.45**	**16**	*e*P	**P**	**19 07 42.7**	**0.0**
	4.9nm,1.2s						
RAYN	**Ar Rayn**	**47.66**	**300**	*e*P	**P**	**19 07 44.0**	**-0.6**
	2.2nm,0.9s						
KURBB	**Kurchatov Arra**	**48.78**	**350**	P	**P**	**19 07 52.8**	**+0.1**
	1.1nm,0.7s,baz=177,slow=7.3,SNR=10						
KURBB				PcP	**PcP**	**19 09 19.0**	**+1.5**
	0.2nm,0.5s,baz=172,slow=2.8,SNR=3.3						
KURK	**Kurchatov**	**48.86**	**351**	*e*P	**P**	**19 07 52.8**	**-0.5**
KURK				*e*PcP	**PcP**	**19 09 19.0**	**+1.2**
WR1	**Warramunga Arr**	**49.06**	**119**	*e*P	**P**	**19 07 55.9**	**+0.5**
	23nm,0.8s						
WRA	**Warramunga Arr**	**49.06**	**119**	P	**P**	**19 07 55.9**	**+0.5**
	2.6nm,0.6s,baz=297,slow=8.6,SNR=15						
WB2	**Warramunga Arr**	**49.07**	**119**	*e*P	**P**	**19 07 55.3**	**-0.2**
	37nm,1.9s						
FORT	**Forrest**	**49.26**	**135**	*e*P	**P**	**19 07 55.7**	**-1.0**
	72nm,1.8s						
AS31	**Alice Springs**	**50.18**	**124**	*e*P	**P**	**19 08 03.1**	**-0.9**
	1.0nm,1.1s						
ASAR	**Alice Springs**	**50.18**	**124**	P	**P**	**19 08 04.7**	**+0.7**
	0.3nm,0.5s,baz=297,slow=7.1,SNR=15						
ZAA0	**Zalesovo Array**	**51.33**	**356**	*e*P	**P**	**19 08 11.2**	**-0.8**
	6.6nm,1.3s						
ZALV	**Zalesovo Beam**	**51.33**	**356**	P	**P**	**19 08 11.7**	**-0.3**
	1.3nm,0.6s,baz=192,slow=6.5,SNR=5.5						
ZAA1	**Zalesovo Array**	**51.33**	**356**	*e*P	**P**	**19 08 11.7**	**-0.4**
BVAR	**Borovoye Array**	**52.76**	**345**	P	**P**	**19 08 22.6**	**-0.1**
	0.4nm,0.3s,baz=156,slow=11,SNR=2.2						
BRVK	**Borovoye**	**52.82**	**345**	*e*P	**P**	**19 08 22.5**	**-0.6**
	3.6nm,1.0s						
ABKAR	**Akbulak array**	**53.02**	**336**	*e*P	**P**	**19 08 24.4**	**-0.3**
KBZ	**Khabaz**	**58.30**	**321**	P	**P**	**19 09 04.2**	**+1.5**
	1.9nm,1.0s,baz=158,slow=6.2,SNR=4.7						
KLR	**Kul'dur**	**58.54**	**31**	P	**P**	**19 09 05.4**	**+1.1**
	0.0nm,0.4s,baz=252,slow=9.7,SNR=3.0						
**KIV

ISCJB ***14*** *19:10:37.1±1.3, 38˚.53N±0˚.07×37˚.36E±0˚.08, h13km±4km, Error ellipse: s-maj=14.4km s-min=6.1km az=45.0*

ISK ***14*** *19:10:37.8, 38˚.68N×37˚.53E, h8km, ML1.8/2*

DDA ***14*** *19:10:38.7, 38˚.62N×37˚.38E, h7km, Ml2.6*

CSEM ***14*** *19:10:38.0±0.5, 38˚.66N×37˚.43E, h10km, ML1.8, Error ellipse: s-maj=13.8km s-min=7.4km az=57.0*

ISC 14 19:10:38.5±0.9, 38˚.67N±0˚.04×37˚.48E±0˚.05, h9km±10km, n16, σ0s86/25, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DARE	**Darende-Malaty**	**0.10**	**180**	PG	**Pg**	**19 10 40.8**	**-0.3**
DARE				SG	**Sg**	**19 10 42.9**	**0.0**
DARE	**Darende-Malaty**	**0.10**	**180**	*e*Pg	**Pg**	**19 10 40.8**	**-0.3**
DARE				*e*Sg	**Sg**	**19 10 42.9**	**0.0**
CUGUR	**Gurin_S˜VAS**	**0.17**	**287**	*i* P	**Pg**	**19 10 41.9**	**-0.3**
CUGUR				*i* S	**Sg**	**19 10 45.5**	**+0.6**
CUGUR	**Gurin_S˜VAS**	**0.17**	**287**	P	**Pg**	**19 10 41.9**	**-0.3**
HEKM	**Malatya_Hekimh**	**0.42**	**61**	*i* P	**Pb**	**19 10 48.9**	**+0.5**
HEKM				*i* S	**Sb**	**19 10 57.6**	**+2.6**
HEKM	**Malatya_Hekimh**	**0.42**	**61**	P	**Pb**	**19 10 48.8**	**+0.5**
AKCD	**Akcadag**	**0.51**	**137**	*i* P	**Pg**	**19 10 48.9**	**+0.4**
AKCD				*i* S	**Sb**	**19 10 57.7**	**+0.4**
AKCD	**Akcadag**	**0.51**	**137**	P	**Pg**	**19 10 48.8**	**+0.4**
AKCD				S	**Sb**	**19 10 57.7**	**+0.4**
CUKAN	**kangal_SIVAS**	**0.64**	**359**	*i* P	**Pg**	**19 10 50.4**	**-0.6**
CUKAN				*i* S	**Sb**	**19 11 02.3**	**+1.1**
CUKAN	**kangal_SIVAS**	**0.64**	**359**	P	**Pg**	**19 10 50.3**	**-0.6**
MALT	**Malatya**	**0.82**	**116**	PG	**Pg**	**19 10 53.4**	**-1.0**
MALT				SG	**Sg**	**19 11 05.0**	**-0.1**
MALT	**Malatya**	**0.82**	**116**	*e*Pg	**Pg**	**19 10 53.4**	**-1.0**
MALT				*e*Sg	**Sg**	**19 11 05.0**	**-0.1**
SVSK	**Karacayir**	**1.30**	**343**	PN	**Pg**	**19 11 02.9**	**-0.5**
SVSK	**Karacayir**	**1.30**	**343**	*e*Pn	**Pg**	**19 11 02.9**	**-0.5**
PTK	**Pertek**	**1.51**	**81**	PN	**Pn**	**19 11 04.8**	**-1.1**
PTK	**Pertek**	**1.51**	**81**	*e*Pn	**Pn**	**19 11 04.8**	**-1.1**

IDC 14 19:12:20.2±1.7, 2˚.69N×91˚.47E, h0km, mb3.3/5, mb1 3.5/6, mb1mx3.2/63, mbtmp3.2/6, ML3.3/1, Error ellipse: s-maj=54.5km s-min=27.9km az=55.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**17.30**	**25**	P	Pn	19 16 21.4	-1.9
	0.0nm,0.3s,baz=222,slow=11,SNR=2.8						
MKAR	**Makanchi Array**	**44.65**	**351**	P	P	19 20 35.5	+0.9
	0.1nm,0.3s,baz=178,slow=6.8,SNR=2.2						
SONM	**Songino Array**	**46.78**	**14**	P	P	19 20 51.5	-0.1
	0.4nm,0.4s,baz=199,slow=8.5,SNR=5.1						
WRA	**Warramunga Arr**	**47.71**	**120**	P	P	19 20 59.1	-0.1
	0.2nm,0.6s,baz=307,slow=10,SNR=2.5						
KURBB	**Kurchatov Arra**	**48.99**	**349**	P	P	19 21 08.6	0.0
	0.3nm,0.7s,baz=163,slow=6.7,SNR=2.7						
GERES	**GERESS Array B**	**79.93**	**319**	P	P	19 24 30.8	-0.6
	0.3nm,0.6s,baz=156,slow=5.1,SNR=3.0						

BJI ***14*** *19:26:33.1, 7˚.61S×105˚.47E, h48km, mb5.5/82, mB5.5/80, Ms5.7/93, Ms7 5.5/85*

IDC ***14*** *19:26:41.3±1.0, 6˚.76S×105˚.47E, h40km±8km, mb5.6/58, mb1 5.5/60, mb1mx5.5/65, mbtmp5.8/60, ML5.3/2, MS5.2/54, Ms1 5.2/54, ms1mx5.2/59, Error ellipse: s-maj=8.8km s-min=6.7km az=46.0*

DJA ***14*** *19:26:41.4±0.2, 7˚.S±2˚×10˚.5E±˚, h70km±2km, MS.8/94, mb5.9/94, mB6.1/90, MLv6.2/29, Mw(mB)5.8/90, Mwp5.8/31*

ISCJB ***14*** *19:26:42.5±0.3, 6˚.80S±0˚.02×105˚.46E±0˚.02, h66km±2km, mb5.7/283, Error ellipse: s-maj=3.4km s-min=2.1km az=36.5*

MOS ***14*** *19:26:42.9±1.1, 6˚.68S×105˚.50E, h70km, mb6.0/100, MS5.2/50, Error ellipse: s-maj=6.6km s-min=4.2km az=115.3*

NEIC ***14*** *19:26:42.0±0.0, 6˚.97S×105˚.38E, h50km, Moment Tensor Solution. s23 Moment tensor: Scale 10^17Nm; Mrr2.56; Mθθ-0.88; Mφφ-1.68; Mrθ4.45; Mθφ0.86; Mφr-4.11; Best double couple: M0 6.50000×10^17 NP1:φs134.00000°, δ79.00000°, λ86.00000°. NP2:φs335.00000°, δ11.00000°, λ110.00000°. Principal axes: T 6.7300, Plg55.0000°, Azm39.0000°; N -0.4400, Plg3.0000°, Azm134.0000°; P -6.2900, Plg34.0000°, Azm227.0000°;*

GCMT ***14*** *19:26:43.2±0.1, 7˚.16S×105˚.25E, h41km, MW5.9/139, Moment Tensor Solution. s139,c271; s124,c310; Duration: 2s1 Moment tensor: Scale 10^17Nm; Mrr4.92±.06; Mθθ-1.88±.05; Mφφ-3.04±.06; Mrθ4.64±.09; Mθφ2.29±.04; Mφr-4.54±.09; Best double couple: M0 8.11500×10^17 NP1:φs136.00000°, δ72.00000°, λ86.00000°. NP2:φs328.00000°, δ19.00000°, λ101.00000°. Principal axes: T 8.1920, Plg63.0000°, Azm40.0000°; N -0.1520, Plg4.0000°, Azm137.0000°; P -8.0390, Plg27.0000°, Azm229.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

NEIC ***14*** *19:26:43.2±0.6, 6˚.81S×105˚.46E, h63km±4km, mb5.9/167, MW5.8, MW5.8 Error ellipse: s-maj=4.8km s-min=2.9km az=223.0, Moment Tensor Solution. s70 Moment tensor: Scale 10^17Nm; Mrr2.91; Mθθ-0.76; Mφφ-2.14; Mrθ4.35; Mθφ1.73; Mφr-3.47; Best double couple: M0 6.40000×10^17 NP1:φs131.00000°, δ76.00000°, λ81.00000°. NP2: φs343.00000°, δ16.00000°, λ121.00000°. Principal axes: T 6.3100, Plg58.0000°, Azm29.0000°; N 0.1600, Plg8.0000°, Azm133.0000°; P -6.4700, Plg30.0000°, Azm228.0000°;*

NEIC Felt [III] at Depok, Jakarta, Serpong and Tangerang. Also felt at Bandung, Bogor, Ciputat, Labuhan, Pamulang and Pondokaren.

ISC 14 19:26:42.4±0.3, 6˚.86S±0˚.03×105˚.35E±0˚.03, h58km±2km, h58km:pP-P, n1890, σ1s81/2064, mb5.8/293, MS5.3/114, 96C-38D, Sunda Strait

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SBJI	**Serang**	**1.07**	**47**	P	**Pn**	**19 27 03.1**	**+1.9**
SBJI				S	**Sn**	**19 27 21.1**	**+5.9**
SKJI	**Sukabumi**	**1.21**	**97**	P	**Pn**	**19 27 02.8**	**-0.3**
SKJI				S	**Sn**	**19 27 22.3**	**+3.7**
TNG	**Tangerang**	**1.46**	**62**	P	**Pn**	**19 27 08.7**	**+2.3**
TNG				P	**Pn**	**19 27 08.8**	**+2.3**
TNG				S	**Sn**	**19 27 31.3**	**+6.7**
TNG				S	**Sn**	**19 27 31.6**	**+7.0**
BLSI	**Bandar Lampung**	**1.48**	**356**	P	**Pn**	**19 27 09.5**	**+2.7**
BLSI				S	**Sn**	**19 27 33.1**	**+7.9**
CBJI	**Citeko**	**1.55**	**74**	P	**Pn**	**19 27 09.6**	**+1.9**
CBJI				S	**Sn**	**19 27 33.7**	**+6.8**
KASI	**Kota Agung**	**1.57**	**327**	P	**Pn**	**19 27 09.4**	**+1.4**
KASI				S	**Sn**	**19 27 32.1**	**+4.8**
KLI	**Kotabumi**	**2.04**	**346**	P	**Pn**	**19 27 17.4**	**+3.0**
KLI				S	**Sn**	**19 27 45.1**	**+6.4**
LWLI	**Liwa**	**2.23**	**325**	P	**Pn**	**19 27 19.2**	**+2.1**
LWLI				S	**Sn**	**19 27 47.5**	**+3.9**
LEM	**Lembang**	**2.25**	**89**	Pn	**Pn**	**19 27 19.2**	**+1.8**
	965nm,0.3s,baz=234,slow=5.6,SNR=346						
LEM				Sn	**Sn**	**19 27 52.5**	**+8.3**
	3μm,0.3s,baz=289,slow=18,SNR=5.4						
LEM				LR	LR	19 28 22.1	
	comp=Z,163μm,20.7s,baz=264,slow=47						
LEM	**Lembang**	**2.25**	**89**	P	**Pn**	**19 27 19.5**	**+2.1**
LEM				S	**Sn**	**19 27 51.4**	**+7.2**
CISI	**Cisompet, Garu**	**2.54**	**106**	P	**Pn**	**19 27 20.3**	**-1.0**
CISI	**Cisompet, Garu**	**2.54**	**106**	*e*Pn	**Pn**	**19 27 19.6**	**-1.7**
CISI				*e*Sn	**Sn**	**19 27 45.5**	**-5.7**
MDSI	**Maura Dua**	**2.63**	**334**	P	**Pn**	**19 27 25.0**	**+2.6**
MDSI				S	**Sn**	**19 27 57.6**	**+4.5**
JCJI	**Jatiwangi**	**2.92**	**83**	P	**Pn**	**19 27 27.7**	**+1.2**
JCJI				S	**Sn**	**19 28 07.0**	**+6.6**
MNAI	**Manna**	**3.44**	**316**	P	**Pn**	**19 27 34.2**	**+0.7**
MNAI				S	**Sn**	**19 28 13.6**	**+0.5**
MNAI	**Manna**	**3.44**	**316**	*e*Pn	**Pn**	**19 27 33.5**	**0.0**
MNAI				*e*Sn	**Sn**	**19 28 12.8**	**-0.3**
KPJI	**Karang Pucung**	**3.59**	**98**	P	**Pn**	**19 27 36.7**	**+1.2**
KPJI				S	**Sn**	**19 28 22.5**	**+5.8**
XMIS	**Christmas Isla**	**3.61**	**175**	*e*Pn	Pn	19 27 28.2	-7.7
XMIS				*e*Sn	Sn	19 27 59.9	-18
PPBI	**Pangkal Pinang**	**4.73**	**10**	P	**Pn**	**19 27 55.0**	**+3.8**
MASI	**Maura Aman, Be**	**4.82**	**320**	P	**Pn**	**19 27 54.0**	**+1.5**
MASI				S	**Sn**	**19 28 45.9**	**-1.1**
SMRI	**Semarang**	**5.06**	**92**	P	**Pn**	**19 27 59.1**	**+3.4**
SMRI				S	**Sn**	**19 29 01.3**	**+8.4**
SMRI	**Semarang**	**5.06**	**92**	*e*Pn	**Pn**	**19 27 56.7**	**+1.0**
UGM	**Wanagama**	**5.24**	**102**	P	**Pn**	**19 28 00.1**	**+1.9**
UGM				S	**Sn**	**19 28 57.0**	**-0.3**
UGM	**Wanagama**	**5.24**	**102**	*e*Pn	**Pn**	**19 27 59.1**	**+0.9**
JMBI	**JAMBI**	**5.46**	**342**	P	**Pn**	**19 28 04.5**	**+3.3**
WOJI	**Wonogiri, Jawa**	**5.61**	**100**	P	**Pn**	**19 28 05.4**	**+2.1**
WOJI				S	**Sn**	**19 29 09.3**	**+2.8**
PCJI	**Pacitan**	**5.93**	**103**	P	**Pn**	**19 28 09.0**	**+1.3**
DSRI	**Dabo**	**6.38**	**353**	P	**Pn**	**19 28 17.4**	**+3.5**
TBJI	**Tambak Boyo**	**6.45**	**90**	P	**Pn**	**19 28 17.4**	**+2.6**
PWJI	**Pagerwojo**	**6.50**	**101**	P	**Pn**	**19 28 16.8**	**+1.3**
	3μm,0.8s,30μm24nm						
PPSI	**Pulau Pagai**	**6.70**	**307**	P	**Pn**	**19 28 17.4**	**-0.8**
SDSI	**Sungai Dareh**	**7.07**	**326**	P	**Pn**	**19 28 23.8**	**+0.6**
GRJI	**Gresik**	**7.08**	**91**	P	**Pn**	**19 28 26.5**	**+3.1**
RGRI	**Rengat**	**7.13**	**335**	P	**Pn**	**19 28 26.1**	**+2.0**
BWJI	**Bawean**	**7.33**	**83**	P	**Pn**	**19 28 29.3**	**+2.4**
	188nm,0.6s,4μm2.7nm						
PBKI	**Pangkalan Bun**	**7.53**	**57**	P	**Pn**	**19 28 32.4**	**+2.8**
PDSI	**Padang**	**7.66**	**320**	P	**Pn**	**19 28 29.7**	**-1.7**
TPRI	**Tanjung Pinang**	**7.77**	**354**	P	**Pn**	**19 28 36.1**	**+3.2**
GMJI	**Gumukmas**	**8.15**	**100**	P	**Pn**	**19 28 39.8**	**+1.7**
BLJI	**Banyuglugur**	**8.23**	**97**	P	**Pn**	**19 28 40.6**	**+1.4**
SISI	**Saibi**	**8.31**	**311**	P	**Pn**	**19 28 38.7**	**-1.7**
BKNI	**Bangkinang**	**8.33**	**329**	P	**Pn**	**19 28 40.6**	**0.0**
BKNI	**Bangkinang**	**8.33**	**329**	*e*Pn	**Pn**	**19 28 40.8**	**+0.2**
KMMI	**Kalianget**	**8.56**	**92**	P	**Pn**	**19 28 45.5**	**+1.8**
MYKOM	**Kota Tinggi**	**8.72**	**350**	*e*Pn	**Pn**	**19 28 48.5**	**+2.6**
ABJI	**Asem Bagus**	**8.86**	**97**	P	**Pn**	**19 28 49.1**	**+1.2**
JAGI	**Jajag, Banyuwa**	**8.87**	**101**	P	**Pn**	**19 28 48.7**	**+0.7**
JAGI	**Jajag, Banyuwa**	**8.87**	**101**	*e*Pn	**Pn**	**19 28 47.3**	**-0.7**
JAGI				*e*Sn	**Sn**	**19 30 21.0**	**-5.5**
STKI	**Sintang**	**9.20**	**42**	P	**Pn**	**19 28 55.7**	**+3.2**
MNSI	**Mandailing Nat**	**9.54**	**323**	P	**Pn**	**19 28 55.5**	**-1.6**
KSM	**Kuching**	**9.64**	**31**	*e*Pn	**Pn**	**19 29 01.6**	**+3.0**
SRBI	**Singaraja**	**9.86**	**98**	P	**Pn**	**19 29 01.8**	**+0.3**
IGBI	**Denpasar**	**9.90**	**102**	P	**Pn**	**19 29 00.8**	**-1.2**
COCO	**West Island**	**9.93**	**237**	*e*Pn	**Pn**	**19 28 58.5**	**-3.9**
COCO				*e*Sn	Sn	19 30 37.0	-15
COCO	**West Island**	**9.93**	**237**	Pn	**Pn**	**19 28 59.3**	**-3.1**
	SNR=32						
COCO	**West Island**	**9.93**	**237**	*e*P	**Pn**	**19 28 58.5**	**-3.9**
DNP	**Denpasar**	**9.94**	**101**	P	**Pn**	**19 29 02.4**	**-0.2**
MTKI	**Muara Teweh, K**	**11.19**	**59**	P	**Pn**	**19 29 23.0**	**+3.3**
GSI	**Gunungsitoli**	**11.22**	**316**	P	**Pn**	**19 29 16.7**	**-3.4**
GSI	**Gunungsitoli**	**11.22**	**316**	*e*Pn	**Pn**	**19 29 16.1**	**-4.0**
KBKI	**Kotabaru**	**11.34**	**72**	P	**Pn**	**19 29 24.8**	**+3.1**
	376nm,1.1s,5μm28μm						
SBUM	**Sibu**	**11.51**	**37**	*e*Pn	**Pn**	**19 29 28.7**	**+4.6**
PSI	**Prapat**	**11.54**	**326**	Pn	**Pn**	**19 29 21.9**	**-2.7**
	5.5nm,0.3s,baz=141,slow=8.5,SNR=14						
PSI				PcP	**PcP**	**19 35 14.8**	**+2.2**
	0.7nm,0.3s,baz=234,slow=19,SNR=3.8						
PSI	**Prapat**	**11.54**	**326**	*e*Pn	**Pn**	**19 29 21.1**	**-3.5**
PSI				PcP	**PcP**	**19 35 14.8**	**+2.2**
PSI	**Prapat**	**11.54**	**326**	*e*P	**Pn**	**19 29 21.1**	**-3.5**
IPM	**Ipoh**	**12.06**	**339**	*e*Pn	**Pn**	**19 29 32.6**	**+1.0**
TSI	**Tuntungan**	**12.32**	**326**	P	**Pn**	**19 29 35.0**	**-0.1**
PLAI	**Plampang**	**12.47**	**100**	P	**Pn**	**19 29 33.8**	**-3.3**
BKB	**Balikpapan**	**12.79**	**65**	P	**P**	**19 29 46.3**	**-4.3**
TPTI		**12.94**	**321**	P	**Pn**	**19 29 42.3**	**-1.3**
SMKI	**Samarinda**	**13.43**	**62**	P	**P**	**19 29 59.6**	**+1.7**
SGKI	**Sangatta, Kali**	**13.74**	**63**	P	**P**	**19 30 03.5**	**+2.2**
WBSI	**Waikabubak, Su**	**14.17**	**102**	P	Pn	19 29 53.6	-6.7
MLSI	**Meulaboh, Aceh**	**14.21**	**321**	P	Pn	19 29 54.0	-6.7
KAPI	**Kappang**	**14.44**	**84**	Pn	**Pn**	**19 30 05.4**	**+1.6**
	SNR=73						
KAPI	**Kappang**	**14.44**	**84**	P	**Pn**	**19 30 05.4**	**+1.6**
	SNR=73						
LHMI	**Lhok Sumawe**	**14.64**	**325**	P	**Pn**	**19 30 02.7**	**-3.7**
LHMI	**Lhok Sumawe**	**14.64**	**325**	*e*Pn	**Pn**	**19 30 03.5**	**-2.9**
BNSI	**Bone**	**14.89**	**81**	P	**P**	**19 30 12.0**	**-2.0**
TTSI	**Tana Toraja**	**14.90**	**76**	P	**P**	**19 30 12.7**	**-1.5**
WSI	**Waingapu**	**15.05**	**102**	P	**Pn**	**19 30 07.9**	**-3.9**
BSSI	**Bau Bau, Buton**	**15.06**	**88**	P	**Pn**	**19 30 11.9**	**0.0**
BASI	**Baing, Sumba**	**15.43**	**104**	P	**Pn**	**19 30 11.3**	**-5.2**
PCI	**Palu**	**15.61**	**68**	P	**P**	**19 30 21.7**	**-0.4**
TRTT	**Trang**	**15.65**	**339**	P	**Pn**	**19 30 17.8**	**-1.6**
	22nm,1.1s,599nm						
BSI	**Banda Aceh**	**15.85**	**320**	P	**Pn**	**19 30 17.2**	**-4.8**
MPSI	**Mapaga**	**16.18**	**64**	P	**P**	**19 30 28.9**	**+0.5**
PKDT	**Phuket**	**16.23**	**334**	P	**Pn**	**19 30 27.4**	**+0.6**
	19nm,0.8s,525nm						
EDFI	**Ende, Flores**	**16.30**	**98**	P	**Pn**	**19 30 24.7**	**-3.1**
KKM	**Kota Kinabalu**	**16.79**	**40**	*e*Pn	**P**	**19 30 35.6**	**+0.4**
	594nm,0.7s						
MMRI	**Maumere**	**16.83**	**97**	P	**Pn**	**19 30 28.9**	**-5.4**
MMRI	**Maumere**	**16.83**	**97**	*e*Pn	**Pn**	**19 30 29.3**	**-4.9**
	1μm,0.6s						
SURT	**Suratani**	**17.01**	**337**	P	**Pn**	**19 30 35.6**	**-0.9**
	22nm,0.8s,676nm						
BBSI	**Bau Bau**	**17.18**	**86**	P	**P**	**19 30 39.9**	**+0.5**
APSI	**Ampana**	**17.30**	**71**	P	**P**	**19 30 42.2**	**+1.5**
MYLDM	**Lahad Datu**	**17.75**	**48**	*e*Pn	**P**	**19 30 49.4**	**+3.6**
	962nm,1.0s						
MRSI	**Marisa**	**18.09**	**67**	P	**Pn**	**19 30 50.4**	**+0.7**
LUWI	**Luwuk**	**18.31**	**72**	P	**Pn**	**19 30 52.7**	**+0.3**
LUWI	**Luwuk**	**18.31**	**72**	*e*P	**Pn**	**19 30 52.5**	**+0.1**
	2μm,1.2s						
BATI	**Baumata**	**18.41**	**102**	P	**P**	**19 30 50.7**	**-2.4**
	29nm,0.3s,baz=288,slow=9.3,SNR=29						
BATI				S	Sn	19 34 06.4	-13
	28nm,0.3s,baz=288,slow=6.4,SNR=7.5						
BATI	**Baumata**	**18.41**	**102**	P	**P**	**19 30 50.3**	**-2.8**
SOEI	**Soe**	**18.94**	**100**	P	**P**	**19 30 57.2**	**-1.8**
SOEI	**Soe**	**18.94**	**100**	*e*P	**P**	**19 30 56.8**	**-2.2**
	2μm,0.7s						
CHBT	**CHBT**	**19.71**	**351**	P	**P**	**19 31 07.9**	**+0.7**
	293nm,0.7s						
MBWA	**Marble Bar**	**19.89**	**137**	*e*P	**P**	**19 31 09.0**	**-0.2**
	113nm,0.8s						
BATP	**Bataraza**	**19.90**	**39**	*e*P	**Pn**	**19 31 11.0**	**-0.4**
KMSI	**Cibinong**	**20.00**	**69**	P	**P**	**19 31 09.3**	**-1.2**
SANI	**Sanana**	**21.12**	**78**	P	**P**	**19 31 21.5**	**-1.0**
PPR	**Puerto Princes**	**21.23**	**39**	*i*P	**P**	**19 31 26.9**	**+3.3**
SRDT	**SRDT**	**21.96**	**344**	P	**P**	**19 31 30.2**	**-1.2**
	83nm,1.0s,1μm						
NLAI	**Namlea**	**21.96**	**82**	P	**P**	**19 31 31.0**	**-0.5**
PBA	**Port Blair**	**22.26**	**326**	*e*P	P	19 31 30.9	-3.8
IPIL	**Ipil**	**22.51**	**50**	*e*P	**P**	**19 31 39.1**	**+1.7**
FITZ	**Fitzroy Crossi**	**22.71**	**121**	P	**P**	**19 31 38.8**	**-0.7**
	106nm,0.7s,baz=300,slow=6.7,SNR=84						
FITZ				S	**S**	**19 35 45.0**	**+0.9**
	36nm,0.9s,baz=317,slow=19,SNR=3.5						
FITZ	**Fitzroy Crossi**	**22.71**	**121**	P	**P**	**19 31 38.9**	**-0.7**
	baz=23,SNR=150						
FITZ	**Fitzroy Crossi**	**22.71**	**121**	*e*P	**P**	**19 31 38.5**	**-1.1**
	277nm,1.2s						
FITZ				S	**S**	**19 35 45.0**	**+0.9**
ENPP	**El Nido**	**22.76**	**38**	*e*P	**P**	**19 31 40.0**	**-0.1**
LBMI	**Labuha**	**22.94**	**75**	P	**P**	**19 31 41.4**	**-0.6**
AAI	**Ambon**	**22.96**	**83**	P	**P**	**19 31 39.9**	**-2.3**
TNTI	**Ternate**	**23.24**	**72**	*e*P	**P**	**19 31 41.8**	**-3.2**
	4μm,1.5s						
MEEK	**Meekatharra**	**23.38**	**149**	P	**P**	**19 31 46.3**	**+0.2**
	baz=24,SNR=16						
GSPH	**General Santos**	**23.41**	**57**	*i*P	**P**	**19 31 49.5**	**+2.9**
DGPR	**DIGLIPUR**	**23.42**	**328**	*e*P	**P**	**19 31 43.0**	**-3.5**
DGPR					IAmb	IAmb	19 31 45.6
CTBH	**Cotabato--PC H**	**23.47**	**54**	*e*P	**P**	**19 31 48.4**	**+1.4**
DCPH	**Dipolog City**	**23.61**	**50**	*e*P	**P**	**19 31 51.6**	**+3.3**
PBKT	**Sadao Pong**	**23.68**	**349**	P	**P**	**19 31 46.4**	**-2.5**
	104nm,1.0s,1μm						
PBKT	**Sadao Pong**	**23.68**	**349**	*e*P	**P**	**19 31 47.8**	**-1.1**
	93nm,1.0s						
MSAI	**Masohi**	**23.74**	**83**	P	**P**	**19 31 45.8**	**-3.8**
BUSP	**Coron**	**23.86**	**38**	*e*P	**P**	**19 31 51.7**	**+1.1**
KCP	**Kidapawan**	**24.03**	**55**	*i*P	**P**	**19 31 53.5**	**+1.2**
JAP	**San Jose, Anti**	**24.06**	**44**	*i*P	**P**	**19 31 54.4**	**+2.0**
MORW	**Morawa**	**24.29**	**157**	P	**P**	**19 31 55.6**	**+1.2**
	baz=24,SNR=15						
DAV	**Davao City (W)**	**24.47**	**56**	P	**P**	**19 31 57.0**	**+0.8**
	772nm,0.9s,baz=180,slow=3.0,SNR=39						
DAV				LR	LR	19 42 01.1	
	comp=Z,6μm,20.8s,baz=242,slow=38						
DAV	**Davao City (W)**	**24.47**	**56**	*e*P	**P**	**19 31 54.6**	**-1.6**
	1μm,1.1s						
DAV	**Davao City (W)**	**24.47**	**56**	P	**P**	**19 31 57.9**	**+1.7**
	SNR=59						
DAV	**Davao City (W)**	**24.47**	**56**	P	**P**	**19 31 57.9**	**+1.7**
	SNR=59						
BUKP	**Musuan**	**24.51**	**54**	*e*P	**P**	**19 31 58.0**	**+1.4**
BNDI	**Bandanaira**	**24.54**	**86**	P	**P**	**19 31 54.6**	**-2.3**
KNRA	**Kununurra**	**24.55**	**113**	P	**P**	**19 31 56.4**	**-0.6**
	baz=25						
SJMP	**San Jose**	**24.78**	**39**	*e*P	**P**	**19 31 59.0**	**0.0**
RCP	**Roxas**	**25.18**	**44**	*i*P	**P**	**19 32 04.6**	**+1.9**
LLP	**Lapu-Lapu**	**25.19**	**48**	*i*P	**P**	**19 32 05.4**	**+2.6**
LUBP	**Lubang**	**25.24**	**36**	*e*P	**P**	**19 32 03.2**	**0.0**
OTRP	**Odiongan**	**25.28**	**41**	*e*P	**P**	**19 32 06.0**	**+2.4**
BUTP	**Butuan**	**25.60**	**52**	*e*P	**P**	**19 32 07.9**	**+1.4**
MSLP	**Maasin**	**25.74**	**49**	*e*P	**P**	**19 32 07.4**	**-0.3**
SAUI	**Saumlaki**	**25.76**	**94**	P	**P**	**19 32 06.8**	**-1.1**
SAUI	**Saumlaki**	**25.76**	**94**	*e*P	**P**	**19 32 05.7**	**-2.2**
	1μm,1.0s						
CM01	**Chiang Mai Arr**	**25.90**	**346**	*e*P	**P**	**19 32 07.2**	**-1.9**
BLDU	**Ballidu**	**25.93**	**157**	P	**P**	**19 32 10.0**	**+0.7**
	baz=26,SNR=12						
CM31	**Chiang Mai Arr**	**25.93**	**346**	*e*P	**P**	**19 32 08.7**	**-0.7**
CM31				*e*ScP	**ScP**	**19 39 14.1**	**+2.1**
CM31				*e*		19 43 17.4	
CMAR	**Chiang Mai Arr**	**25.93**	**346**	P	**P**	**19 32 08.1**	**-1.4**
	38nm,0.6s,baz=180,slow=5.7,SNR=140						
CMAR				PcP	**PcP**	**19 35 38.7**	**+1.6**
	14nm,0.7s,baz=204,slow=3.2,SNR=8.3						
CMAR				S	**S**	**19 36 36.0**	**+0.2**
	4.0nm,1.0s,baz=184,slow=12,SNR=2.6						
CMAR				ScP	**ScP**	**19 39 14.1**	**+2.1**
	9.7nm,0.9s,baz=199,slow=3.6,SNR=8.0						
CMAR				LR	LR	19 43 07.8	
	comp=Z,9μm,21.5s,baz=182,slow=38						
CMAR				PKiKP	**PKiKP**	**19 43 17.4**	**+0.3**
	1.4nm,0.8s,baz=241,slow=2.0,SNR=4.9						
TGY	**Tagaytay City**	**25.94**	**37**	P	**P**	**19 32 09.9**	**+0.3**
	494nm,0.4s,baz=227,slow=1.9,SNR=12						
TGY				LR	LR	19 42 31.6	
	comp=Z,3μm,19.3s,baz=204,slow=37						
BOAC	**Boac**	**25.99**	**39**	*e*P	**P**	**19 32 10.6**	**+0.6**
MTN	**Manton Dam**	**26.08**	**105**	P	**P**	**19 32 09.8**	**-1.0**
	baz=26,SNR=660						
MTN	**Manton Dam**	**26.08**	**105**	*e*P	**P**	**19 32 09.6**	**-1.3**
	343nm,0.5s						
QIZ	**Qiongzhong**	**26.10**	**10**	P	**P**	**19 32 13.8**	**+2.9**
QIZ				S	**S**	**19 36 42.0**	**+3.6**
QIZ				pmax	pmax		
	comp=Z,25nm,0.9s						
QIZ				pmax	pmax		
	comp=Z,1μm,11.7s						
QIZ				LR	LR		
	comp=N,13μm,20.2s						
QIZ				LR	LR		
	comp=E,6μm,17.6s						
QIZ				LR	LR		
	comp=Z,19μm,22.4s						
QIZ	**Qiongzhong**	**26.10**	**10**	*e*P	**P**	**19 32 11.4**	**+0.5**
	50nm,0.9s						
CMMT	**Chiang Mai**	**26.28**	**346**	P	**P**	**19 32 09.9**	**-2.6**
	62nm,0.9s,898nm						
CHTO	**Chiang Mai**	**26.28**	**346**	P	**P**	**19 32 10.9**	**-1.6**
	252nm,0.8s,4μm						
CHTO	**Chiang Mai**	**26.28**	**346**	*e*P	**P**	**19 32 11.2**	**-1.4**
	40nm,0.7s						
CHTO	**Chiang Mai**	**26.28**	**346**	P	**P**	**19 32 11.2**	**-1.4**
	SNR=32						
CHTO	**Chiang Mai**	**26.28**	**346**	*e*P	**P**	**19 32 11.2**	**-1.4**
CHTO				pmax	pmax		
	comp=Z,40nm,0.7s						
AUQP	**San Andres**	**26.42**	**

KMI LR LR
comp=Z,16µm,18.4s
FORT Forrest 31.93 141 P **P** **19 33 03.4 +0.7**
baz=32,SNR=7.4
FORT Forrest 31.93 141 *e*P **P** **19 33 01.5 -1.2**
comp=Z,114nm,0.9s
ASAR Alice Springs 32.11 124 P **P** **19 33 04.7 +0.2**
comp=Z,27nm,0.5s,baz=303,slow=8.6,SNR=198
ASAR PcP **PcP** **19 35 53.5 +0.8**
comp=Z,32nm,0.8s,baz=314,slow=2.4,SNR=13
ASAR LR LR 19 46 09.0
comp=Z,9µm,21.8s,baz=302,slow=36
ASAR P3KPbc 20 04 34.1
comp=Z,1.6nm,0.8s,baz=117,slow=4.2,SNR=21
ASAR P3KP 20 05 50.0
comp=Z,0.5nm,0.8s,baz=51,slow=3.1,SNR=4.7
ASAR Alice Springs 32.11 124 P **P** **19 33 04.7 +0.2**
ASAR 19 35 53.6
ASAR pmax pmax
comp=Z,22nm,0.4s
ASAR MLR MLR
comp=Z,9µm,21.8s
AS31 Alice Springs 32.11 124 *e*P **P** **19 33 04.1 -0.3**
comp=Z,22nm,0.5s
AS31 *e*PcP **PcP** **19 35 53.5 +0.8**
AS01 Alice Springs 32.15 124 *e*P **P** **19 33 04.2 -0.6**
TRD Trivandrum 32.16 298 *e*P **P** **19 33 08.2 +3.4**
PALU Palau 32.29 65 P **P** **19 33 05.5 -0.6**
baz=32,SNR=7.9
H08S2 Diego Garcia H 32.60 267 T T 20 07 27.2
baz=91,slow=76,SNR=133
H08S3 Diego Garcia H 32.61 267 T T 20 07 25.9
baz=91,slow=76,SNR=136
H08S1 Diego Carcia H 32.62 267 T T 20 07 25.0
baz=91,slow=76,SNR=159
DGAR Diego Garcia 32.64 267 *e*P **P** **19 33 09.8 +0.7**
comp=Z,426nm,1.8s
DGAR Diego Garcia 32.64 267‖ *e*P **P** **19 33 11.1 +2.0**
SKHT Srikalahasti 32.66 309 *e*P **P** **19 33 11.5 +2.2**
VIS Vishakhapatnam 32.70 319 *e*P **P** **19 33 10.0 +0.5**
VIS IAmb IAmb 19 33 13.4
comp=Z,479nm,1.9s
VIS *i* S **S** **19 38 23.0 +0.9**
CHLP Challavanipeta 32.81 321 *e*P **P** **19 33 10.9 +0.4**
GYA Guiyang 33.14 2⇑ *i*P **P** **19 33 13.1 -0.3**
GYA pP pP 19 33 30.3 +2.3
GYA PP **PP** **19 34 30.0 +0.6**
GYA S **S** **19 38 33.8 +4.9**
GYA sS sS 19 38 56.3 +2.7
GYA SS **SnSn** **19 40 38.8 +5.7**
GYA ScS **ScS** **19 43 36.3 +0.5**
GYA pmax pmax
comp=Z,80nm,0.8s
GYA pmax pmax
comp=Z,190nm,6.2s
GYA LR LR
comp=Z,13µm,17.2s
GYA LR LR
comp=Z,11µm,17.8s
GYA LR LR
comp=Z,12µm,17.6s
TWG Pinlang 33.27 27 *e*P **P** **19 33 14.6 +0.2**
comp=Z,253nm,0.7s
TPUB Ta-pu 33.49 26 *e*P **P** **19 33 16.5 +0.1**
comp=Z,121nm,0.7s
PVM Polavaram 33.52 316 *e*P **P** **19 33 18.1 +1.4**
ADKI Addanki 33.77 312 *e*P **P** **19 33 20.7 +1.8**
YULB Yu-li 33.86 27 *e*P **P** **19 33 19.6 0.0**
comp=Z,54nm,0.8s
SSLB Suanglung 34.06 26 *e*P **P** **19 33 20.9 -0.4**
comp=Z,100nm,0.8s
H08N1 Diego Carcia H 34.11 269 T T 20 09 40.3
baz=135,slow=74,SNR=91
H08N2 Diego Garcia H 34.12 269 T T 20 09 40.7
baz=135,slow=74,SNR=323
H08N3 Diego Garcia H 34.13 269 T T 20 09 41.8
baz=135,slow=74,SNR=349
QZH Quanzhou 34.14 22⇑ *i*P **P** **19 33 21.3 -0.6**
QZH sP **sP** **19 33 41.1 -2.3**
QZH PP **PnPn** **19 34 35.8 -1.6**
QZH S **S** **19 38 43.3 -0.8**
QZH pmax pmax
comp=Z,840nm,9.0s
QZH LR LR
comp=Z,3µm,16.1s
QZH LR LR
comp=Z,3µm,16.7s
QZH LR LR
comp=Z,7µm,23.2s
NACB Ninganchiao 34.68 27 *e*P **P** **19 33 26.5 -0.1**
comp=Z,79nm,0.7s
NJS Nagarjunasagar 34.71 312 *e*P **P** **19 33 28.3 +1.2**
SRLM Srisailam 34.73 311 *e*P **P** **19 33 28.8 +1.5**
SHL Shillong 34.79 338 *e*P **P** **19 33 26.5 -1.3**
SHL *ex* x 19 38 50.0
GENI Genyem 34.95 85 P **P** **19 33 27.5 -1.7**
YHNB Yeheng 35.01 26 *e*P **P** **19 33 30.6 +1.0**
comp=Z,74nm,0.6s
URV Uravakonda 35.28 308 *e*P **P** **19 33 33.8 +1.7**
TATO Taipei 35.33 26 *e*P **P** **19 33 32.2 0.0**
comp=Z,62nm,0.7s
JAY Jayapura 35.49 85 P **P** **19 33 31.7 -2.2**
MNCY Minicoy 35.55 294 *e*P **P** **19 33 38.0 +3.7**
YOJ Yonaguni jima 35.57 28 *e*P **P** **19 33 34.1 -0.2**
comp=Z,339nm,0.7s
YOJ Yonaguni jima 35.57 28 *e*P **P** **19 33 34.1 -0.2**
YOJ pmax pmax
comp=Z,339nm,0.7s
HYB Hyderabad 35.81 313 *i* P **P** **19 33 38.0 +1.4**
comp=Z,162nm,1.4s
HYB *e*S **S** **19 39 10.0 -0.3**
HYB Hyderabad 35.81 313 *e*P **P** **19 33 37.1 +0.5**
HYB IAmb IAmb 19 33 40.8
comp=Z,118nm,1.4s
HYBB Hyderabad (bro 35.82 313 *e*P **P** **19 33 37.7 +1.1**
QIS Mount Isa 35.86 116 P **P** **19 33 37.1 +0.2**
baz=36,SNR=116
BOK Bokaro 35.91 329 *e*P **P** **19 33 36.6 -0.7**
BOK IAmb IAmb 19 33 40.3
comp=Z,332nm,1.1s
RPR Rampur 36.23 315 *e*P **P** **19 33 41.3 +1.2**
SRSP Sriramsagar 36.95 314 *e*P **P** **19 33 47.2 +1.0**
ENH Enshi 37.13 6 *e*P **P** **19 33 46.6 -1.0**
comp=Z,82nm,0.6s
CD2 Chengdu 37.58 358⇑P **P** **19 33 53.0 +1.6**
CD2 pP pP 19 34 05.8 -0.4
CD2 sP sP 19 34 11.8 -1.2
CD2 S **S** **19 39 37.3 +0.4**
CD2 sS sS 19 40 03.3 +1.5
CD2 pmax pmax
comp=Z,120nm,0.5s
CD2 pmax pmax
comp=Z,920nm,5.8s
CD2 LR LR
comp=Z,8µm,15.1s
CD2 LR LR
comp=Z,11µm,14.5s
CD2 LR LR
comp=Z,10µm,15.3s
KLRI Killari 37.67 312 *e*P **P** **19 33 53.8 +1.4**
ODAN Odare 37.77 333 *e*P **P** **19 33 52.8 -0.5**
comp=Z,192nm,0.4s
COEN Coen 37.83 104 P **P** **19 33 53.1 -0.6**
baz=38,SNR=110
COEN Coen 37.83 104 *e*P **P** **19 33 53.0 -0.8**
comp=Z,233nm,0.8s
NGP Nagpur 37.97 318 *e*P **P** **19 33 55.2 +0.4**
NGP *e*S **S** **19 39 41.4 -1.5**
WHN Wuhan 38.17 13 P **P** **19 33 56.1 -0.3**
WHN PP **PnPn** **19 35 27.8 +1.0**
WHN S **S** **19 39 47.9 +2.2**
WHN pmax pmax
comp=Z,2µm,9.7s
WHN LR LR
comp=Z,5µm,14.2s
WHN LR LR
comp=Z,4µm,10.4s
WHN LR LR
comp=Z,17µm,20.6s
RAMN Ramite 38.20 332 *e*P **P** **19 33 57.5 +0.5**
comp=Z,169nm,0.4s
GOA Goa 38.32 306 *e*P **P** **19 34 00.6 +2.8**
GOA IAmb IAmb 19 34 05.3
comp=Z,69nm,0.3s
BBOO Buckleboo 38.48 136 P **P** **19 33 58.4 -0.6**
baz=39,SNR=51
BBOO Buckleboo 38.48 136 *e*P **P** **19 33 58.4 -0.6**
comp=Z,117nm,1.6s
LSA Lhasa 38.83 340 P **P** **19 34 01.8 -0.7**
LSA S **S** **19 39 55.6 -0.9**
LSA pmax pmax
comp=Z,17nm,1.0s
LSA LR LR
comp=Z,2µm,21.0s
LSA LR LR
comp=Z,2µm,24.0s
LSA LR LR
comp=Z,5µm,22.5s
LSA Lhasa 38.83 340 *e*P **P** **19 34 01.7 -0.7**
comp=Z,71nm,0.6s
LSA Lhasa 38.83 340 P **P** **19 34 01.5 -1.0**
LSA Lhasa 38.83 340 *e*P **P** **19 34 01.7 -0.7**
LSA pmax pmax
comp=Z,71nm,0.6s
JIRN Jiri 39.00 332 *e*P **P** **19 34 03.1 -0.7**
comp=Z,316nm,0.3s
PKIN Phulchoki 39.30 331 *e*P **P** **19 34 05.9 -0.3**
comp=Z,69nm,0.5s
GUN Gumba 39.35 332 *e*P **P** **19 34 06.1 -0.6**
comp=Z,211nm,0.3s
DMN Daman 39.46 331 *e*P **P** **19 34 07.7 +0.2**
KKN Kakani 39.53 331 *e*P **P** **19 34 07.1 -1.0**
comp=Z,277nm,0.8s
MTSU Mount Surprise 39.57 110 P **P** **19 34 08.5 +0.1**
baz=40,SNR=176
GKN Gorkha 40.02 331 *e*P **P** **19 34 11.3 -0.7**
comp=Z,235nm,0.3s
POO Poona 40.02 310 *e*P **P** **19 34 14.0 +2.0**
POO IAmb IAmb 19 34 16.2
comp=Z,256nm,1.8s
JOW Kunigami 40.19 33 P **P** **19 34 13.9 +0.6**
comp=Z,90nm,0.3s,baz=274,slow=9.5,SNR=55
JOW LR LR 19 52 43.9
comp=Z,2µm,19.4s,baz=222,slow=39
JOW Kunigami 40.19 33 *e*P **P** **19 34 14.2 +1.0**
comp=Z,119nm,0.5s
KOLN Koldanda 40.34 330 *e*P **P** **19 34 14.3 -0.4**
comp=Z,302nm,0.5s
BHPL Bhopal 40.50 318 *e*P **P** **19 34 16.1 +0.1**
BHPL IAmb IAmb 19 34 18.6
comp=Z,563nm,1.9s
SSE Sheshan 40.67 21 P **P** **19 34 13.8 -3.3**
SSE S **S** **19 40 22.9 -0.2**
SSE pmax pmax
comp=Z,20nm,0.7s
SSE pmax pmax
comp=Z,470nm,6.7s
SSE LR LR
comp=Z,2µm,23.5s
SSE LR LR
comp=Z,1µm,22.9s
NJ2 Nanjing 40.78 18 *e*P **P** **19 34 16.8 -1.2**
NJ2 sP **pP** **19 34 34.3 +1.4**
NJ2 S **S** **19 40 26.4 +1.6**
NJ2 sS **sS** **19 40 45.4 -4.5**
NJ2 pmax pmax
comp=Z,48nm,0.8s
NJ2 pmax pmax
comp=Z,1µm,10.3s
NJ2 LR LR
comp=Z,4µm,15.2s
NJ2 LR LR
comp=Z,2µm,14.6s
NJ2 LR LR
comp=Z,5µm,15.2s
HTT Hallett 40.81 135 P **P** **19 34 18.5 0.0**
baz=41,SNR=59
XAN Xi'an 40.81 5 P **P** **19 34 17.6 -0.8**
XAN pP pP 19 34 29.8 -3.4
XAN sP sP 19 34 35.3 -4.7
XAN PP **PP** **19 35 55.1 +1.6**
XAN S **S** **19 40 21.3 -4.0**
XAN pmax pmax
comp=Z,20nm,0.6s
XAN pmax pmax
comp=Z,890nm,5.5s
XAN LR LR
comp=Z,7µm,22.2s
XAN LR LR
comp=Z,5µm,20.6s
XAN LR LR
comp=Z,10µm,21.1s
PYUN Piuthan 40.91 329 *e*P **P** **19 34 19.0 -0.5**
comp=Z,793nm,1.0s
PMG Port Moresby 41.45 96 P **P** **19 34 24.0 +0.1**
comp=Z,322nm,0.5s,baz=192,slow=1.1,SNR=212
PMG LR LR 19 55 40.4
comp=Z,2µm,19.3s,baz=277,slow=42
PMG Port Moresby 41.45 96 *e*P **P** **19 34 23.3 -0.6**
comp=Z,690nm,0.9s
PMG Port Moresby 41.45 96*c i*P **P** **19 34 23.7 -0.2**
PMG pmax pmax
comp=Z,6µm,1.7s
CTA Charters Tower 41.77 112 P **P** **19 34 27.2 +0.8**
comp=Z,63nm,0.8s,baz=286,slow=11
CTA PcP **PcP** **19 36 21.3 -0.6**
comp=Z,34nm,1.0s,baz=290,slow=14,SNR=3.0
CTA ScP **ScP** **19 40 10.2 +2.7**
comp=Z,9.1nm,0.8s,baz=296,slow=11,SNR=3.7
CTA Charters Tower 41.77 112 P **P** **19 34 27.4 +0.9**
baz=42
CTAO Charters Tower 41.77 112 *e*P **P** **19 34 27.2 +0.8**
comp=Z,96nm,0.9s
CTAO Charters Tower 41.77 112 *e*P **P** **19 34 27.2 +0.8**
CTAO pmax pmax
comp=Z,96nm,0.9s
QLP Quilpie 41.85 123 P **P** **19 34 28.3 +1.3**
baz=42,SNR=110
STKA Stephens Creek 41.96 131 P **P** **19 34 28.4 +0.6**
comp=Z,210nm,0.6s,baz=308,slow=7.6,SNR=432
STKA LR LR 19 52 59.1
comp=Z,8µm,20.7s,baz=300,slow=38
STKA Stephens Creek 41.96 131 P **P** **19 34 28.4 +0.6**
baz=42,SNR=543
STKA Stephens Creek 41.96 131 *e*P **P** **19 34 27.8 0.0**
comp=Z,48nm,0.7s
STKA Stephens Creek 41.96 131 *e*P **P** **19 34 27.8 0.0**
STKA pmax pmax
comp=Z,48nm,0.7s
MANU Manus Island 42.15 85 *e*P **P** **19 34 29.1 -0.5**
comp=Z,325nm,0.6s
LZH Lanzhou 42.74 358⇑P **P** **19 34 33.8 -0.4**
LZH pP pP 19 34 45.3 -3.9
LZH sP sP 19 34 50.1 -5.8
LZH PP **PP** **19 36 16.8 +2.4**
LZH S **S** **19 40 54.6 +0.6**
LZH sS sS 19 41 15.9 -3.3
LZH SS **SS** **19 44 01.8 -4.9**
LZH pmax pmax
comp=Z,67nm,0.9s
LZH pmax pmax
comp=Z,630nm,7.1s
LZH LR LR
comp=Z,12µm,15.8s
LZH LR LR
comp=Z,7µm,15.8s
LZH LR LR
comp=Z,12µm,18.4s
GUMO Guam 44.18 63 P **P** **19 34 43.9 -2.0**
comp=Z,390nm,0.7s,baz=193,slow=2.9,SNR=22
GUMO PcP **PP** **19 36 29.0 -0.9**
comp=Z,79nm,0.7s,baz=195,slow=16,SNR=3.5
GUMO LR LR 19 53 56.8
comp=Z,1µm,22.0s,baz=232,slow=37
TIA Tai'an 44.24 14 P **P** **19 34 45.5 -0.6**
TIA S **S** **19 41 14.3 -1.4**
TIA pmax pmax
comp=Z,17nm,0.8s
TIA pmax pmax
comp=Z,670nm,10.4s
TIA LR LR
comp=Z,4µm,17.2s
TIA LR LR
comp=Z,2µm,15.2s
TIA LR LR
comp=Z,5µm,18.0s
ARPS Mount Arapiles 44.63 137 P **P** **19 34 50.5 +1.2**
baz=45,SNR=65
TIY Taiyuan 44.83 8 *e*P **P** **19 34 50.5 -0.4**
TIY pP **pP** **19 35 06.0 +0.1**
TIY PP **PP** **19 36 36.3 -0.3**
TIY S **S** **19 41 23.8 -0.4**
TIY pmax pmax
comp=Z,74nm,0.6s
TIY pmax pmax
comp=Z,740nm,5.1s
TIY LR LR
comp=Z,5µm,15.0s
TIY LR LR
comp=Z,2µm,15.0s
TIY LR LR
comp=Z,4µm,16.4s
CMSA Cobar Meteorol 44.93 128 P **P** **19 34 52.7 +0.9**
baz=45,SNR=156
DDI Dehra Dun 45.30 326 *e*P **P** **19 34 54.4 -0.3**
DDI IAmb IAmb 19 34 57.3
comp=Z,358nm,1.2s
RMQ Roma 45.65 121 P **P** **19 34 59.1 +1.6**
baz=46,SNR=66
BHJ Bhuj 45.96 312 *e*P **P** **19 35 01.6 +1.6**
BHJ IAmb IAmb 19 35 06.7
comp=Z,176nm,1.1s
GTA Gaotai 46.32 354⇑P **P** **19 35 02.8 +0.1**
GTA pP pP 19 35 16.4 -1.4
GTA sP sP 19 35 21.8 -2.7
GTA PcP **PcP** **19 36 38.8 +1.6**
GTA ScP **ScP** **19 40 27.0 +1.3**
GTA PcS **PcS** **19 40 30.4 -1.5**
GTA S **S** **19 41 45.0 -0.8**
GTA sS sS 19 42 06.8 -4.5
GTA ScS **ScS** **19 44 50.9 -2.0**
GTA pmax pmax
comp=Z,25nm,1.0s
GTA pmax pmax
comp=Z,980nm,5.4s
GTA LR LR
comp=Z,6µm,20.9s
GTA LR LR
comp=Z,4µm,22.8s
GTA LR LR
comp=Z,6µm,22.8s
SMLA Simla 46.41 326 *e*P **P** **19 35 03.7 +0.4**
JNU Nakatsue 46.57 30 P **P** **19 35 04.4 -0.3**
comp=Z,82nm,0.4s,baz=292,slow=2.5,SNR=142
JNU LR LR 19 57 11.4
comp=Z,2µm,18.1s,baz=202,slow=39
JNU Nakatsue 46.57 30 *e*P **P** **19 35 03.5 -1.2**
comp=Z,214nm,1.2s
RABL Rabaul 46.66 89 *e*P **P** **19 35 03.0 -2.7**
comp=Z,204nm,0.8s
EIDS Eidsvold 47.35 118 P **P** **19 35 11.8 +0.9**
baz=47,SNR=18
EIDS Eidsvold 47.35 118 *e*P **P** **19 35 11.3 +0.4**
comp=Z,618nm,1.9s
BTO Baotou 47.42 5 *e*P **P** **19 35 10.8 -0.4**
BJT Baijiatuau 47.70 11 *e*P **P** **19 35 12.8 -0.5**
BJT *e*PcP **PcP** **19 36 44.1 +2.2**
BJT Baijiatuau 47.70 11 *e*P **P** **19 35 12.8 -0.5**
BJT *e* 19 36 44.1
TJN Taejon 47.71 24*c i*P **P** **19 35 13.0 -0.4**
BJI Beijing 47.72 11 P **P** **19 35 13.3 -0.1**
BJI S **S** **19 42 03.0 -2.4**
BJI pmax pmax
comp=Z,50nm,0.9s
BJI LR LR
comp=Z,9µm,19.8s
BJI LR LR
comp=Z,2µm,17.0s
BJI LR LR
comp=Z,6µm,18.8s
DHRM DHARAMSHALA 47.74 326 *e*P **P** **19 35 13.2 -0.7**
HHC Hu-ho-hao-te 47.81 6 *e*P **P** **19 35 14.3 0.0**
HHC pP pP 19 35 22.3 -7.1
HHC sP sP 19 35 28.1 -8.0
HHC PP **PP** **19 37 08.5 +1.8**
HHC S **S** **19 42 09.6 +2.6**
HHC SS **SS** **19 45 36.8 +0.4**
HHC pmax pmax
comp=Z,37nm,1.1s
HHC pmax pmax
comp=Z,98nm,6.4s
HHC LR LR
comp=Z,2µm,15.7s
HHC LR LR
comp=Z,2µm,16.2s
HHC LR LR
comp=Z,3µm,16.0s
DL2 Dalian 47.97 17⇑ *i*P **P** **19 35 14.9 -0.5**
DL2 PP **PP** **19 37 10.0 +2.0**
DL2 S **S** **19 42 09.9 +0.9**
DL2 sS **sS** **19 42 31.6 -3.0**
DL2 pmax pmax
comp=Z,96nm,0.8s
DL2 pmax pmax
comp=Z,890nm,4.8s
DL2 LR LR
comp=Z,3µm,18.9s
DL2 LR LR
comp=Z,2µm,18.3s
DL2 LR LR
comp=Z,4µm,16.6s
YNG Yong 48.14 131 P **P** **19 35 18.4 +1.4**
baz=48,SNR=62
MRIV Mauritius Mete 48.22 249 *e*P **P** **19 35 16.4 -1.2**
comp=Z,72nm,0.9s
INCN Inchon 48.38 23 *e*P **P** **19 35 17.3 -1.3**
comp=Z,115nm,0.8s
INCN Inchon 48.38 23 P **P** **19 35 18.9 +0.3**
SNR=11
INCN Inchon 48.38 23 P **P** **19 35 18.9 +0.3**
SNR=11
KS15 Wonju Array Si 48.84 24 *e*P **P** **19 35 22.6 +0.5**
KS15 *e*PcP **PcP** **19 36 46.6 +0.6**
KSAR Wonju Array Be 48.84 24 P **P** **19 35 22.6 +0.5**
KSAR PcP **PcP** **19 36 47.6 +1.6**
KSAR Wonju Array Be 48.84 24 P **P** **19 35 22.6 +0.5**
KSAR 19 36 47.7
KSRS Korea Array 48.87 24 P **P** **19 35 22.6 +0.3**
comp=Z,43nm,0.5s,baz=220,slow=7.4,SNR=264
KSRS PcP **PcP** **19 36 47.6 +1.6**
comp=Z,20nm,0.8s,baz=211,slow=3.8,SNR=6.7
KSRS LR LR 19 56 44.4
comp=Z,1µm,20.1s,baz=240,slow=37
KS01 Wonju Array Si 48.87 24 *e*P **P** **19 35 21.0 -1.4**
KS01 *e*PcP **PcP** **19 36 45.8 -0.3**
CAN Canberra 49.02 132 *e*P **P** **19 35 24.2 +0.5**
comp=Z,324nm,1.7s
CAN Canberra 49.02 132 *e*P **P** **19 35 24.2 +0.5**
CAN pmax pmax
comp=Z,324nm,1.7s
CBIJ Chichi jima 49.10 45 *e*P **P** **19 35 21.9 -2.4**
comp=Z,437nm,0.7s
JCJ Chichijima 49.10 45 P **P** **19 35 21.9 -2.4**
comp=Z,375nm,0.7s,baz=277,slow=12,SNR=12
JCJ LR LR 19 58 26.3
comp=Z,879nm,18.9s,baz=268,slow=39
ARMA Armidale 49.27 125 P **P** **19 35 28.2 +2.5**
baz=49,SNR=28
ARMA Armidale 49.27 125 *e*P **P** **19 35 27.7 +2.0**
comp=Z,124nm,1.1s
CNB Canberra Magne 49.29 131 P **P** **19 35 27.2 +1.4**
baz=49,SNR=18
MGCD Mangrove Creek 49.80 128 P **P** **19 35 30.1 +0.4**
baz=50,SNR=34
RIV Riverview 50.07 129 P **P** **19 35 33.8 +2.2**
baz=50,SNR=6.8
NIL Nilore 50.49 325 *e*P **P** **19 35 34.1 -0.6**
comp=Z,935nm,1.4s
NIL Nilore 50.49 325 *e*P **P** **19 35 34.1 -0.6**
NIL pmax pmax
comp=Z,935nm,1.4s
SNY Shenyang 51.24 17⇑P **P** **19 35 38.9 -1.3**
SNY pmax pmax
comp=Z,38nm,1.3s
SNY pmax pmax
comp=Z,960nm,7.1s
SNY LR LR
comp=Z,1µm,20.6s
SNY LR LR
comp=Z,3µm,22.4s
SNY LR LR
comp=Z,5µm,24.1s
TAU Tasmania Unive 51.48 141 *e*P **P** **19 35 44.0 +2.0**
comp=Z,185nm,1.6s
TAU Tasmania Unive 51.48 141 *e*P **P** **19 35 44.0 +2.0**
TAU pmax pmax
comp=Z,185nm,1.6s
JHJ Hachijo jima 2 51.48 37 LR LR 19 56 54.7

comp=Z,3μm,21.9s,baz=254,slow=35
INU Inuyama 51.50 33 *e*P **P 19 35 41.1 -1.2**
comp=Z,89nm,0.6s
PAF Port-aux-Franc 51.63 209 *e*P **P 19 35 42.3 -0.7**
comp=Z,820nm,1.7s
PAF Port-aux-Franc 51.63 209 *e*P **P 19 35 42.3 -0.7**
PAF pmax pmax
comp=Z,820nm,1.7s
WMQ Urumqi 52.91 344 P **P 19 35 54.8 +2.1**
WMQ pP pP 19 36 07.3 -0.8
WMQ PcP **PcP 19 37 02.0 +0.9**
WMQ PP **PP 19 37 51.0 -1.9**
WMQ S **S 19 43 17.0 -0.7**
WMQ ScS **ScS 19 45 36.9 -0.4**
WMQ pmax pmax
comp=Z,190nm,0.9s
WMQ pmax pmax
comp=Z,2μm,4.3s
WMQ LR LR
comp=Z,5μm,26.7s
WMQ LR LR
comp=Z,6μm,22.7s
WMQ LR LR
comp=Z,8μm,27.9s
MAJO Matsushiro 53.03 33 *e*P **P 19 35 51.8 -1.8**
comp=Z,141nm,0.8s
MAJO *e*PcP **PcP 19 37 03.2 +1.6**
MAJO Matsushiro 53.03 33*c i*P **P 19 35 51.5 -2.1**
MAJO pmax pmax
comp=Z,87nm,0.8s
MAT Matsushiro 53.03 33 P **P 19 35 51.4 -2.2**
MAT S **S 19 43 16.0 -3.4**
MJAR Matsushiro Arr 53.03 33 P **P 19 35 52.3 -1.3**
comp=Z,99nm,0.6s,baz=213,slow=8.6,SNR=11
MJAR PcP **PcP 19 37 03.2 +1.6**
comp=Z,15nm,0.8s,baz=212,slow=5.2,SNR=2.5
MJAR LR LR 19 58 35.2
comp=Z,1μm,21.6s,baz=235,slow=36
MJB9 Matsu-Tunnel 53.03 33 *e*P **P 19 35 52.1 -1.6**
KSH Kashi 53.55 332 P **P 19 35 56.1 -1.4**
KSH pP pP 19 36 09.4 -3.5
KSH S **S 19 43 19.6 -7.0**
KSH ScS **ScS 19 45 33.9 -8.2**
KSH pmax pmax
comp=Z,140nm,0.9s
KSH pmax pmax
comp=Z,2μm,4.7s
KSH LR LR
comp=Z,5μm,16.4s
KSH LR LR
comp=Z,3μm,15.9s
KSH LR LR
comp=Z,4μm,16.0s
KBL Kabul 53.59 323 *e*P **P 19 35 57.6 -0.4**
comp=Z,134nm,1.0s
KBL Kabul 53.59 323 *e*P **P 19 35 57.6 -0.4**
KBL pmax pmax
comp=Z,134nm,1.0s
CN2 Changchun 53.60 18 ⇑P **P 19 35 57.0 -0.7**
CN2 PcP **PcP 19 37 02.4 -1.2**
CN2 *e*S **S 19 43 26.8 -0.1**
CN2 pmax pmax
comp=Z,10.0nm,1.0s
CN2 LR LR
comp=Z,3μm,22.0s
CN2 LR LR
comp=Z,3μm,22.0s
CN2 LR LR
comp=Z,4μm,23.0s
HNR Honiara 54.07 97 *e*P **P 19 36 02.0 +0.4**
HNR Honiara 54.07 97 P **P 19 36 00.2 -1.4**
comp=Z,265nm,0.6s,baz=239,slow=5.9,SNR=30
HNR Honiara 54.07 97 *e*P **P 19 35 59.9 -1.7**
comp=Z,498nm,0.7s
HNR Honiara 54.07 97 *e*P **P 19 35 59.9 -1.7**
HNR pmax pmax
comp=Z,498nm,0.7s
SONA0 Songino Array 54.46 1 *e*P **P 19 36 04.6 +0.6**
SONA0 *e*PcP **PcP 19 37 07.7 +0.8**
SONA0 *e*ScP **ScP 19 41 01.1 +0.6**
SONA0 ⇑*e* 20 06 09.7
SONM Songino Array 54.46 1 P **P 19 36 04.6 +0.6**
comp=Z,37nm,0.5s,baz=176,slow=8.2,SNR=154
SONM PcP **PcP 19 37 07.7 +0.8**
comp=Z,68nm,0.7s,baz=179,slow=3.9,SNR=18
SONM ScP **ScP 19 41 01.1 +0.6**
comp=Z,5.0nm,0.9s,baz=176,slow=4.3,SNR=4.1
SONM LR LR 20 02 04.3
comp=Z,13μm,19.7s,baz=182,slow=39
SONM PKPPKP **P'P'df 20 06 09.7 -5.0**
comp=Z,0.7nm,0.9s,baz=333,slow=1.7,SNR=3.8
SONA1 Songino Array 54.47 1 *e*P **P 19 36 05.0 +0.9**
ULN Ulaanbaatar 54.51 1 *e*P **P 19 36 04.8 +0.4**
comp=Z,68nm,0.9s
ULN Ulaanbaatar 54.51 1 P **P 19 36 04.9 +0.5**
SNR=33
ULN Ulaanbaatar 54.51 1 P **P 19 36 04.9 +0.5**
SNR=33
ULN Ulaanbaatar 54.51 1*c i*P **P 19 36 04.6 +0.2**
ULN pmax pmax
comp=Z,65nm,0.9s
TARG Taragay, Kyrgy 54.52 335 *e*P **P 19 36 03.8 -1.2**
comp=Z,116nm,1.4s
MSHR Mys Shultsa 54.53 23*c i*P **P 19 36 04.1 -0.3**
PATS Pohnpei 54.56 77 P **P 19 36 05.2 0.0**
baz=55
PATS Pohnpei 54.56 77 *e*P **P 19 36 04.9 -0.3**
comp=Z,618nm,2.0s
WSAR Wadi Sarin 54.58 305 P **P 19 36 07.3 +2.2**
comp=Z,29nm,0.8s,baz=162,slow=5.8,SNR=15
WSAR S **S 19 43 43.3 +2.6**
comp=Z,3.1nm,0.8s,baz=198,slow=3.2,SNR=2.3
WSAR LR LR 19 56 39.5
comp=Z,4μm,21.5s,baz=140,slow=33
PRZ Przheval'sk 54.90 336 *e*P **P 19 36 08.0 +0.6**
comp=Z,164nm,1.4s
PRZ Przheval'sk 54.90 336 *e*P **P 19 36 08.0 +0.6**
PRZ pmax pmax
comp=Z,164nm,1.4s
SMDO Samad 54.97 304 P P 19 36 17.0 +8.8
SNR=9.7
BIDO Bidbid 55.12 305 P **P 19 36 12.0 +2.9**
SNR=14
BIDO Bidbid 55.12 305 P **P 19 36 12.0 +2.9**
SNR=14
KDJ Kajisay 55.12 335 *e*P **P 19 36 09.2 +0.3**
comp=Z,164nm,1.3s
PDGK Podgornoye 55.19 337 P **P 19 36 08.5 -0.9**
PDGK pmax pmax
comp=Z,56nm,0.7s
VLA Vladivostok 55.27 23*c i*P **P 19 36 09.5 -0.3**
VLA pmax pmax
comp=Z,158nm,0.9s
SATY Saty 55.38 336 ⇑*i*P **P 19 36 10.9 +0.2**
comp=Z,1μm,1.0s
SATY *i* S **S 19 43 52.7 +1.5**
SATY *e*S **sS 19 44 16.2 -1.0**
SATY LR LR 20 03 14.7
comp=Z,799nm,18.2s
ZHN Zhinishke 55.46 336 ⇑*i*P **P 19 36 11.2 -0.2**
comp=Z,325nm,1.2s
ZHN *i* S **S 19 43 53.1 +0.9**
KPKS Kokpek 55.61 337 ⇑*i*P **P 19 36 12.2 -0.2**
comp=Z,744nm,1.2s
KPKS *i* sP **sP 19 36 32.0 -2.5**
KPKS *e*S **S 19 43 55.2 +1.0**
KPKS LR LR 20 01 39.5
comp=Z,2μm,19.9s
ULHL Ulahol 55.62 334 P **P 19 36 12.8 +0.2**
SNR=21
MDJ Mudanjiang 55.70 21 P **P 19 36 10.8 -2.0**
MDJ pP pP 19 36 23.8 -4.5
MDJ sP sP 19 36 29.6 -5.3
MDJ PP **PP 19 38 16.4 -1.4**
MDJ ScP **ScP 19 41 01.5 -4.3**
MDJ PcS **PcS 19 41 07.0 -4.7**
MDJ S **S 19 43 53.6 -1.4**
MDJ ScS **ScS 19 45 54.6 -2.3**
MDJ SS **SS 19 47 40.4 -0.9**
MDJ pmax pmax
comp=Z,270nm,0.7s
MDJ pmax pmax
comp=Z,710nm,9.7s
MDJ LR LR
comp=Z,2μm,16.8s
MDJ LR LR
comp=Z,3μm,15.4s
MDJ Mudanjiang 55.70 21 *e*P **P 19 36 12.7 -0.1**
comp=Z,165nm,0.7s
LHI Lord Howe Isla 55.70 124 P **P 19 36 15.0 +1.8**
baz=56,SNR=10
LHI Lord Howe Isla 55.70 124 *e*P **P 19 36 13.8 +0.6**
comp=Z,239nm,0.8s
KZA Kyzart 55.92 333 P **P 19 36 15.2 +0.2**
SNR=150
RBK Rabkut 56.01 296 P P 19 36 21.0 +5.3
SNR=5.7
RBK Rabkut 56.01 296 P **P 19 36 21.0 +5.3**
SNR=5.7
MDOK Medeo 56.02 335 *i* P **P 19 36 15.2 -0.2**
comp=Z,360nm,1.2s
MDOK LR LR 20 05 48.0
comp=Z,751nm,16.4s
AAA Alma-Ata 56.12 335 ⇑*i*P **P 19 36 16.2 +0.2**
comp=Z,235nm,1.2s
AAA *i* S **S 19 44 02.4 +1.6**
AAA LR LR 20 05 46.2
comp=Z,397nm,19.1s
AAA Alma-Ata 56.12 335 *e*P **P 19 36 16.1 +0.2**
AAA *e*S **S 19 43 59.2 -1.6**
AAA pmax pmax
comp=Z,600nm,9.8s
AAA smax smax
comp=E,1μm,11.9s
USRK Ussuriysk Ar. 56.22 23 P **P 19 36 16.7 +0.1**
comp=E,244nm,0.6s,baz=198,slow=6.2,SNR=286
UCH Uchtor 56.37 333 P **P 19 36 18.3 0.0**
SNR=62
TKM2 Tokmak 2 56.44 334 P **P 19 36 18.1 -0.4**
SNR=159
TKM2 Tokmak 2 56.44 334 P **P 19 36 17.1 -1.4**
TKM2 pmax pmax
comp=Z,96nm,1.1s
KBK Karagaybulak 56.52 333 P **P 19 36 19.2 +0.3**
SNR=45
BMNS Besmoynak 56.56 334 ⇑*i*P **P 19 36 18.9 -0.4**
comp=Z,600nm,1.2s
BMNS *e*S **S 19 44 07.9 +1.0**
AML Almayashu 56.67 332 P **P 19 36 20.6 +0.2**
SNR=11
SOHO SOHO 56.69 305 *i* P **P 19 36 21.8 +1.5**
SNR=5.9
AAK Ala-Archa 56.70 333 P **P 19 36 20.4 +0.1**
SNR=63
AAK Ala-Archa 56.70 333 *e*P **P 19 36 20.9 +0.7**
comp=Z,51nm,0.9s
AAK Ala-Archa 56.70 333 P **P 19 36 20.7 +0.4**
SNR=32
AAK Ala-Archa 56.70 333 P **P 19 36 20.7 +0.4**
SNR=32
AAK Ala-Archa 56.70 333 *i* P **P 19 36 20.4 +0.1**
SNR=88
AAK Ala-Archa 56.70 333 P **P 19 36 19.9 -0.4**
AAK pmax pmax
comp=Z,74nm,1.4s
FRU Bishkek 56.80 333 ⇑*e*P **P 19 36 20.0 -0.8**
FRU *e* 19 36 42.0
FRU *e* 19 44 08.0
FRU pmax pmax
comp=Z,200nm,1.4s
FRU MLR MLR
comp=E,3μm,20.0s
CHMS Chmyrsh 56.88 334 P **P 19 36 20.7 -0.6**
SNR=35
KUU Kurty 56.92 335 ⇑*i*P **P 19 36 20.9 -0.7**
comp=E,579nm,1.2s
KUU LR LR 20 01 30.8
comp=E,494nm,19.9s
ZSN Zaisan 57.03 344 ⇑*i*P **P 19 36 22.3 0.0**
comp=E,348nm,0.8s
ZSN *i* S **S 19 44 14.7 +2.1**
ZAK Zakamensk 57.03 358 *e*P **P 19 36 22.2 -0.2**
ZAK *e* 19 37 15.6
ZAK pmax pmax
comp=Z,46nm,0.9s
ZAK pmax pmax
comp=Z,176nm,1.1s
EKS2 Erkin-Say 57.05 333 P **P 19 36 22.9 +0.2**
SNR=234
MK01 Makanchi Array 57.19 341 *e*P **P 19 36 23.2 -0.2**
USP Ospenovka 57.20 334 P **P 19 36 23.1 -0.5**
SNR=31
MK31 Makanchi Array 57.21 341 *e*P **P 19 36 23.1 -0.5**
MK31 Makanchi Array 57.21 341 *e*P **P 19 36 23.1 -0.5**
MK32 Makanchi Array 57.21 341 *e*P **P 19 36 23.4 -0.2**
MK32 *e*S **S 19 44 15.4 +0.3**
MK32 ⇑*e* 20 06 18.1
MKAR Makanchi Array 57.21 341 P **P 19 36 23.4 -0.2**
comp=Z,41nm,0.5s,baz=149,slow=7.7,SNR=196
MKAR S **S 19 44 15.4 +0.3**
comp=Z,1.6nm,0.7s,baz=157,slow=8.9,SNR=2.5
MKAR LR LR 20 04 42.9
comp=Z,2μm,21.6s,baz=152,slow=40
MKAR PKP2bc 20 06 18.1
comp=Z,0.7nm,0.8s,baz=0.0,slow=3.6,SNR=6.5
MKAR Makanchi Array 57.21 341 *e*P **P 19 36 23.2 -0.4**
comp=Z,290nm,0.5s
MKAR S **S 19 44 15.4 +0.3**
MKAR ⇑*e* 20 06 18.1
MKAR Makanchi Array 57.21 341 *e*P **P 19 36 23.2 -0.4**
MKAR S **S 19 44 15.4 +0.3**
MKAR pmax pmax
comp=Z,290nm,0.5s
HIA Hailar 57.29 11 *e*P **P 19 36 23.2 -0.9**
comp=Z,131nm,0.8s
HIA Hailar 57.29 11 *e*P **P 19 36 23.2 -0.9**
HIA pmax pmax
comp=Z,131nm,0.8s
ALNE Al Ain 57.30 304 *i* P **P 19 36 26.0 +1.3**
SNR=24
MAKZ Makanchi 57.32 341 *e*P **P 19 36 24.0 -0.4**
comp=Z,24nm,1.0s
MAKZ Makanchi 57.32 341 P **P 19 36 23.3 -1.1**
MAKZ pmax pmax
comp=Z,22nm,1.2s
UOSS Minazif 57.32 305 *e*P **P 19 36 25.7 +0.9**
comp=Z,152nm,1.5s
UOSS Minazif 57.32 305 *i* P **P 19 36 26.6 +1.8**
SNR=13
ASHO Ashiyiah 57.33 305 P **P 19 36 28.7 +3.8**
SNR=12
ASHO Ashiyiah 57.33 305 P **P 19 36 28.7 +3.8**
SNR=12
ASHO Ashiyiah 57.33 305 *i* P **P 19 36 26.2 +1.3**
SNR=32
HATD Hatta, Dubai 57.33 305 P **P 19 36 29.0 +4.1**
SNR=13
HATD Hatta, Dubai 57.33 305 P **P 19 36 29.0 +4.1**
SNR=13
HATD Hatta, Dubai 57.33 305 *i* P **P 19 36 26.3 +1.4**
SNR=22
MDH Madha 57.41 306 *i* P **P 19 36 26.0 +0.7**
SNR=8.2
MNAS Manas 57.50 332 P **P 19 36 25.8 -0.1**
MNAS pmax pmax
comp=Z,368nm,0.8s
MSFE Esma-Masafi 57.55 306 *i* P **P 19 36 28.5 +2.1**
SNR=18
ABPO Ambohimpanom 57.69 252 *e*P **P 19 36 29.4 +1.7**
comp=Z,69nm,1.2s
ABPO Ambohimpanom 57.69 252 *e*P **P 19 36 29.4 +1.7**
ABPO pmax pmax
comp=Z,69nm,1.2s
BANOM Banah 57.69 306 P P 19 36 34.7 +7.3
SNR=5.2
BANOM Banah 57.69 306 P P 19 36 34.7 +7.3
SNR=5.2
BANOM Banah 57.69 306 *i* P **P 19 36 29.2 +1.8**
SNR=14
OPO Ambohidratompo 57.70 252 P **P 19 36 29.4 +1.7**
comp=Z,13nm,0.6s,baz=79,slow=5.4,SNR=17
OPO LR LR 19 56 19.6
comp=Z,4μm,21.1s,baz=64,slow=31
NAZ Nazwa, Dubai 57.78 305 P **P 19 36 32.0 +4.0**
SNR=14
NAZ Nazwa, Dubai 57.78 305 P **P 19 36 32.0 +4.0**
SNR=14
NAZ Nazwa, Dubai 57.78 305 *i* P **P 19 36 30.0 +2.0**
SNR=25
SHME Shamm 57.88 306 *i* P **P 19 36 30.6 +1.9**
SNR=10.0
TLY Talaya 58.32 359 *e*P **P 19 36 32.0 +0.7**
comp=Z,46nm,1.0s
TLY Talaya 58.32 359 P **P 19 36 31.7 +0.4**
SNR=23
TLY Talaya 58.32 359 P **P 19 36 31.7 +0.4**
SNR=23
TLY Talaya 58.32 359*c i*P **P 19 36 32.0 +0.7**
TLY *e*S **S 19 44 31.4 +2.0**
TLY *e*PS **PnS 19 44 48.6 0.0**
TLY *e* 19 46 14.9
TLY pmax pmax
comp=Z,42nm,0.9s
TLY MLR MLR
comp=Z,6μm,20.0s
DZA Taraz 58.37 331 ⇑*i*P **P 19 36 31.5 -0.4**
comp=Z,2μm,0.7s
DZA *i* LR LR 20 02 36.0
comp=Z,928nm,19.6s
MOY Mondy 58.41 357 *e*P **P 19 36 32.2 +0.2**
MOY pmax pmax
comp=Z,92nm,2.6s
DGZ Jazzator, Alta 58.45 346 *i* P **P 19 36 32.2 -0.2**
DGZ pmax pmax
comp=Z,65nm,0.7s
IUG Iuzhnay 58.45 330 ⇑*i*P **P 19 36 32.6 +0.1**
comp=Z,5μm,1.0s
IUG LR LR 20 03 55.4
comp=Z,710nm,19.1s
HVS Khovu-Aksy 58.63 351*c i*P **P 19 36 33.8 +0.3**
HVS pmax pmax
comp=Z,68nm,0.8s
TEY Ternei 58.79 25 *e*P **P 19 36 31.0 -3.6**
TEY pmax pmax
comp=Z,1μm,5.0s
TEY pmax pmax
comp=Z,52nm,1.0s
BTLS Baital 58.81 334 ⇑*i*P **P 19 36 34.0 -0.9**
comp=Z,451nm,1.1s
IRK Irkutsk 58.88 359 *e*P **P 19 36 34.7 -0.4**
IRK pmax pmax
comp=Z,70nm,2.0s
KK31 Karatay Array 58.92 331 *e*P **P 19 36 35.3 -0.4**
KK31 Karatay Array 58.92 331 *e*P **P 19 36 35.3 -0.4**
KKAR Karatay Array 58.92 331 *e*P **P 19 36 35.5 -0.2**
KKAR Karatay Array 58.92 331 *e*P **P 19 36 35.5 -0.2**
CIT Chita 59.06 6 *e*P **P 19 36 37.0 +0.5**
CIT *e* 19 37 02.6
CIT *e* 19 37 26.2
CIT pmax pmax
comp=Z,100nm,2.5s
BRLS Borolday 59.20 330 ⇑*i*P **P 19 36 36.6 -1.0**
comp=Z,68nm,1.1s
CASY Casey 59.44 178 *e*P **P 19 36 39.0 +0.2**
comp=Z,92nm,0.9s
ERM Erimo 59.63 32 *e*P **P 19 36 40.3 -0.2**
comp=Z,135nm,0.7s
ERM Erimo 59.63 32*d i*P **P 19 36 39.7 -0.8**
ERM pmax pmax
comp=Z,138nm,0.7s
MIR Mirnyy 60.21 186 ⇓*i*P **P 19 36 47.0 +2.9**
MIR *i* 19 37 04.0
MIR pmax pmax
comp=Z,126nm,1.0s
CRZF Crozet Islands 60.38 220 *e*P **P 19 36 44.4 -1.2**
comp=Z,71nm,0.4s
KLR Kul'dur 60.43 20*c i*P **P 19 36 44.8 -1.1**
DZM Mont Dzumac 60.69 111 *e*P **P 19 36 48.6 +0.3**
comp=Z,235nm,1.1s
DZM *e*S **S 19 45 07.0 +5.8**
comp=Z,4μm,32.7s
DZM *e*LR LR 19 55 07.0
comp=Z,9μm,25.1s
DZM Mont Dzumac 60.69 111 *e*P **P 19 36 49.2 +0.9**
comp=Z,80nm,0.9s
ASAJ Erimo 60.85 30 P **P 19 36 48.6 -0.3**
comp=Z,188nm,0.7s,baz=244,slow=8.3,SNR=145
ASAJ Asahikawa 60.85 30 *e*P **P 19 36 48.5 -0.3**
comp=Z,192nm,0.7s
KURBB Kurchatov Arra 61.77 341 P **P 19 36 55.4 +0.5**
comp=Z,57nm,0.8s,baz=150,slow=6.5,SNR=109
KURBB PcP **PcP 19 37 36.9 +1.4**
comp=Z,20nm,0.5s,baz=153,slow=3.6,SNR=6.0
KURK Kurchatov 61.82 341 *e*P **P 19 36 55.0 -0.2**
comp=Z,135nm,1.1s
KURK *e*PcP **PcP 19 37 36.9 +1.2**
KURK Kurchatov 61.82 341 P **P 19 36 55.2 0.0**
SNR=59
KURK Kurchatov 61.82 341 P **P 19 36 55.2 0.0**
SNR=59
KURK Kurchatov 61.82 341*c i*P **P 19 36 54.9 -0.3**
KURK pmax pmax
comp=Z,145nm,1.2s
OTUK Ortayu 62.07 336 P **P 19 36 56.4 -0.6**
OTUK pmax pmax
comp=Z,236nm,0.8s
YUK Yuzh-Kuril'sk 62.46 32*c i*P **P 19 37 00.5 +0.9**
YUK *e* 19 37 37.2
YUK *e* 19 39 18.3
YUK *e*PPP PPP 19 40 45.6
YUK *i* S **S 19 45 23.9 +1.4**
YUK pmax pmax
comp=Z,205nm,10.3s
YUK pmax pmax
comp=N,98nm,12.3s
YUK pmax pmax
comp=Z,206nm,10.3s
YUK MLR MLR
comp=Z,2μm,25.0s
YUK MLR MLR
comp=N,987nm,23.0s
GEYT Alibeck 62.58 319 P **P 19 37 01.6 +1.0**
comp=N,169nm,1.0s,baz=142,slow=7.5,SNR=123
GEYT LR LR 20 06 00.2
comp=N,3μm,22.0s,baz=120,slow=38
GEYT PKP2bc 20 06 11.2
comp=N,2.9nm,0.9s,baz=291,slow=6.2,SNR=13
GYA0B ALIBECK ARRAY 62.58 319 *e*P **P 19 37 01.5 +0.9**
comp=N,218nm,1.1s
NFK Norfolk Island 62.77 119 P **P 19 37 03.7 +1.6**
baz=63,SNR=6.8
ZAA0 Zalesovo Array 63.00 347 *e*P **P 19 37 02.1 -0.9**
comp=N,196nm,1.0s
ZALV Zalesovo Beam 63.00 347 P **P 19 37 02.6 -0.4**
comp=N,115nm,0.5s,baz=166,slow=5.3,SNR=196
ZALV S **S 19 45 27.9 -1.0**
comp=N,3.0nm,0.6s,baz=138,slow=16,SNR=5.0
ZALV PKP2bc 20 06 03.1
comp=N,1.1nm,0.6s,baz=276,slow=5.8,SNR=6.4
ZALV LR LR 20 06 54.6
comp=N,6μm,19.8s,baz=152,slow=38
ZALV Zalesovo Beam 63.00 347 P **P 19 37 02.6 -0.4**
ZALV S **S 19 45 27.9 -1.0**
ZALV pmax pmax
comp=Z,112nm,0.5s
ZALV smax smax
comp=N,3.0nm,0.6s
ZALV MLR MLR
comp=Z,6μm,19.8s
YSS Yuzh-Sakhalins 63.00 28 *e*P **P 19 37 03.1 -0.1**
comp=Z,567nm,0.9s
YSS Yuzh-Sakhalins 63.00 28α *i*P **P 19 37 02.9 -0.3**
YSS *e**SP **sP 19 37 24.3 -1.2**
YSS *e* 19 39 21.3
YSS *e*S **S 19 45 28.0 -1.2**
YSS *e*SS **SS 19 49 33.0 -2.9**
YSS pmax pmax
comp=Z,1μm,2.7s
YSS pmax pmax
comp=N,300nm,3.6s
YSS pmax pmax
comp=E,600nm,2.4s
YSS pmax pmax
comp=Z,560nm,0.9s
YSS pmax pmax
comp=N,160nm,0.8s
YSS pmax pmax
comp=E,210nm,0.9s
YSS MLR MLR
comp=Z,1μm,20.0s
YSS MLR MLR
comp=N,1μm,18.0s
YSS MLR MLR
comp=E,1μm,19.0s
ZAA1 Zalesovo Array 63.00 347 *e*P **P 19 37 02.6 -0.5**
ZAA1 *e*S **S 19 45 27.9 -1.1**
ZAA1 ⇑*e* 20 06 03.1
ZAA1 *e* 20 06 54.6
ZEA Zeya 63.13 14 *e*P **P 19 37 04.2 +0.3**

ZEA eS S 19 45 30.0 -0.6
ZEA pmax pmax
comp=N,160nm,0.8s
ZEA pmax pmax
comp=E,100nm,0.8s
ZEA pmax pmax
comp=Z,330nm,0.8s
ZEA pmax pmax
comp=Z,1μm,9.0s
ZEA smax smax
comp=E,200nm,11.0s
ZEA smax smax
comp=N,500nm,9.0s
ZEA MLR MLR
comp=E,2μm,17.0s
ZEA MLR MLR
comp=Z,3μm,17.0s
ZEA MLR MLR
comp=N,2μm,16.0s
BRZS Berezniki 63.32 337⇑ *i*P P 19 37 05.2 0.0
comp=N,106nm,1.3s
BRZS eS S 19 45 34.3 +1.2
GRNR Gornyy 63.36 22⇑ *i*P P 19 37 06.8 +1.3
GRNR pmax pmax
comp=N,80nm,1.0s
GRNR pmax pmax
comp=Z,92nm,1.0s
DAMY Dhamar 64.08 290 *e*P P 19 37 10.0 -1.3
comp=Z,78nm,1.1s
NVS Novosibirsk 64.19 346 *i*P P 19 37 10.5 -0.4
NVS *e* 19 37 33.9
NVS *i*S S 19 45 41.8 -1.9
NVS *i*PS PnS 19 46 09.7 +1.0
NVS pmax pmax
comp=Z,98nm,1.3s
NVS pmax pmax
comp=N,61nm,1.0s
NVS pmax pmax
comp=E,39nm,1.0s
NVS smax smax
comp=N,15nm,1.4s
NVS smax smax
comp=E,46nm,1.7s
KUR Kuril'sk 64.33 32 *i*P P 19 37 11.6 -0.3
ATD Arta Tunnel 64.80 286 LR LR 20 01 20.7
comp=E,1μm,20.6s,baz=98,slow=32
BOD Bodaibo 64.84 5⇑ *i*P P 19 37 14.9 -0.1
BOD pmax pmax
comp=Z,112nm,0.9s
PYZ Puysegur Point 65.40 138 *e*P P 19 37 17.6 -1.4
comp=Z,82nm,0.8s
DCZ Deep Cove 65.52 137 *e*P P 19 37 20.7 +1.0
comp=Z,64nm,0.9s
WAKE Wake Island 65.71 65 *e*P P 19 37 20.3 -1.1
comp=Z,104nm,0.9s
RAYN Ar Rayn 65.75 299 *e*P P 19 37 22.7 +1.0
comp=Z,42nm,0.8s
TYV Tymovskoe 65.87 25 *e*P P 19 37 22.3 +0.4
TYV pmax pmax
comp=Z,900nm,7.2s
TYV pmax pmax
comp=Z,53nm,1.2s
MLZ Mavora Lakes 66.15 137 *e*P P 19 37 24.9 +1.1
comp=Z,119nm,1.0s
WHZ Wether Hill Ro 66.17 137 *e*P P 19 37 24.5 +0.5
comp=Z,70nm,1.0s
BVAR Borovoye Array 66.61 338 P P 19 37 27.5 +0.9
comp=Z,141nm,0.6s,baz=145,slow=8.5,SNR=280
BVAR LR LR 20 10 59.5
comp=Z,2μm,19.4s,baz=146,slow=40
WKZ Wanaka 66.63 136 *e*P P 19 37 27.4 +0.5
comp=Z,78nm,0.9s
BRVK Borovoye 66.67 338 *e*P P 19 37 27.3 +0.3
comp=Z,143nm,0.7s
BRVK Borovoye 66.67 338 P P 19 37 27.3 +0.3
SNR=61
BRVK Borovoye 66.67 338 P P 19 37 27.3 +0.3
SNR=61
BRVK Borovoye 66.67 338 *c i*P P 19 37 26.6 -0.4
BRVK pmax pmax
comp=Z,258nm,1.2s
NKL Nikolayevsk 66.84 22 *i*P P 19 37 28.0 0.0
NKL pmax pmax
comp=N,43nm,1.0s
NKL pmax pmax
comp=Z,180nm,1.0s
NKL pmax pmax
comp=Z,1μm,10.0s
NKL MLR MLR
comp=Z,2μm,19.0s
NKL MLR MLR
comp=N,1μm,19.0s
FOZ Fox Glacier 66.88 134 *e*P P 19 37 28.1 -0.4
comp=N,330nm,1.8s
MAW Mawson 67.03 196 P P 19 37 30.0 +1.0
comp=N,59nm,0.8s,baz=59,slow=7.5,SNR=32
MAW LR LR 20 00 26.0
comp=N,3μm,21.6s,baz=30,slow=30
MAW PKP2bc 20 05 56.9
comp=N,15nm,1.0s,baz=258,slow=7.7,SNR=5.2
MAW Mawson 67.03 196 P P 19 37 30.0 +1.0
baz=67,SNR=38
MAW Mawson 67.03 196 *e*P P 19 37 29.2 +0.2
comp=N,16nm,1.0s
MAW ⇑*e* 20 05 56.9
MAW Mawson 67.03 196 *e*P P 19 37 29.2 +0.2
MAW pmax pmax
comp=Z,16nm,1.0s
LBZ Lake Benmore 67.33 135 *e*P P 19 37 31.4 0.0
comp=Z,56nm,0.8s
RPZ Rata Peaks 67.80 134 *e*P P 19 37 35.1 +0.7
comp=Z,394nm,1.5s
ODZ Otahua Downs 67.80 136 *e*P P 19 37 34.4 +0.1
comp=Z,31nm,0.8s
TARA Tarawa 67.92 86 *e*P P 19 37 36.0 +0.3
comp=Z,221nm,0.9s
KMBO Kilima Mbogo 68.12 272 P P 19 37 38.3 +1.1
comp=Z,16nm,1.1s,baz=63,slow=9.8,SNR=16
KMBO LR LR 20 01 59.0
comp=Z,7μm,22.0s,baz=94,slow=31
KMBO Kilima Mbogo 68.12 272 *e*P P 19 37 37.2 0.0
comp=Z,32nm,1.0s
KMBO Kilima Mbogo 68.12 272 P P 19 37 38.6 +1.3
KMBO Kilima Mbogo 68.12 272 *e*P P 19 37 37.2 0.0
KMBO pmax pmax
comp=Z,32nm,1.0s
OUZ Omahuta 68.32 125 *e*P P 19 37 37.9 +0.1
comp=Z,53nm,1.1s
OXZ Oxford 68.42 134 *e*P P 19 37 38.4 +0.1
comp=Z,77nm,0.7s
AB31 Akbulak array 68.46 330 *i*P P 19 37 38.7 +0.4
AB31 pmax pmax
comp=Z,349nm,0.7s
ABKAR Akbulak array 68.46 330 *e*P P 19 37 39.1 +0.8
LTZ Lake Taylor 68.48 133 *e*P P 19 37 39.2 +0.4
comp=Z,286nm,1.7s
THZ Tophouse 68.76 132 *e*P P 19 37 41.2 +0.7
comp=Z,224nm,0.7s
CRLZ Canterbury Las 68.88 134 *e*P P 19 37 42.5 +1.4
comp=Z,95nm,0.8s
MQZ McQueen's Vall 68.93 134 *e*P P 19 37 42.8 +1.4
comp=Z,76nm,0.8s
KHZ Kahutara 69.34 133 *e*P P 19 37 44.4 +0.4
comp=Z,95nm,0.8s
HIZ Hauiti 69.74 128 *e*P P 19 37 46.2 -0.4
comp=Z,145nm,0.9s
WAZ Wanganui 70.01 130 P P 19 37 50.0 +1.8
SNZO South Karori 70.02 131 *e*P P 19 37 48.2 +0.1
comp=Z,112nm,0.8s
KIW Kapiti Island 70.11 131 P P 19 37 49.2 +0.4
BHW Baring Head 70.16 131 P P 19 37 49.4 +0.3
AKTO Aktyubinsk 70.17 330 P P 19 37 50.0 +1.1
comp=Z,102nm,0.9s,baz=104,slow=11,SNR=125
AKTO LR LR 20 13 48.5
comp=Z,2μm,20.0s,baz=131,slow=40
AKTO Aktyubinsk 70.17 330 P P 19 37 50.0 +1.1
AKTO pmax pmax
comp=Z,102nm,0.9s
AKTO MLR MLR
comp=Z,2μm,20.0s
PKVZ Pokaka 70.22 129 P P 19 37 51.4 +1.8
COVZ Chateau Observ 70.36 129 P P 19 37 52.0 +1.5
FWVZ Far West T-bar 70.38 129 P P 19 37 52.1 +1.4
WHVZ Whangaehu Hut 70.41 129 P P 19 37 52.2 +1.3
RATZ Rangitukua 70.50 129 P P 19 37 52.6 +1.4
BFZ Birch Farm 71.09 131 *e*P P 19 37 55.4 +0.7
comp=Z,163nm,0.8s

BKZ Black Stump Fm 71.09 129 *e*P P 19 37 55.6 +0.7
comp=Z,228nm,0.8s
YAK Yakutsk 71.22 12 P P 19 37 54.6 -0.3
comp=Z,560nm,0.7s,baz=325,slow=2.2,SNR=128
YAK LR LR 20 13 27.6
comp=Z,2μm,18.1s,baz=264,slow=40
YAK Yakutsk 71.22 12 *e*P P 19 37 54.9 -0.1
comp=Z,802nm,0.7s
YAK Yakutsk 71.22 12 *c i*P P 19 37 54.2 -0.8
YAK *e* 19 38 15.4
YAK *e* 19 40 31.2
YAK *e*S S 19 47 06.9 -0.6
YAK *e**SS sS 19 47 35.8 +1.2
YAK *e* 19 47 52.9
YAK *e*SS SS 19 51 38.1 -4.5
YAK pmax pmax
comp=Z,606nm,0.8s
YAK pmax pmax
comp=N,99nm,1.1s
YAK pmax pmax
comp=E,130nm,1.1s
YAK pmax pmax
comp=Z,144nm,4.4s
YAK pmax pmax
comp=N,83nm,3.3s
YAK pmax pmax
comp=E,67nm,2.8s
YAK smax smax
comp=N,210nm,4.7s
YAK smax smax
comp=E,144nm,4.9s
AKT Akhty 71.26 318⇑ *i*P P 19 37 56.7 +0.9
AKT *e* 19 38 23.4
AKT *e* 19 40 32.9
AKT *e*S S 19 47 07.0 -2.1
AKT pmax pmax
comp=Z,123nm,1.2s
URZ Urewera 71.47 128 *e*P P 19 37 57.1 0.0
comp=Z,40nm,0.8s
MSVF Nonsavu 71.50 106 *e*P P 19 37 58.7 +1.0
comp=Z,77nm,0.8s
MSVF Nonsavu 71.50 106 *de*P P 19 37 59.1 +1.4
MSVF pmax pmax
comp=Z,67nm,0.8s
SKR Severo-Kuril's 72.06 31 *e*P P 19 38 01.9 +1.6
SKR *e*S SKiKP 19 47 42.0 +10
SKR pmax pmax
comp=Z,515nm,0.8s
SKR pmax pmax
comp=Z,800nm,12.8s
SKR pmax pmax
comp=Z,1μm,11.2s
SKR MLR MLR
comp=Z,900nm,18.0s
SKR MLR MLR
comp=Z,1μm,19.0s
MAK Makhachkala 72.10 319 *e*P P 19 38 00.0 -0.7
MAK *e**SP PcP 19 38 18.1 -0.7
MAK *e* 19 40 38.3
MAK *e*S S 19 47 17.7 -0.7
MAK *e**SS pS 19 47 41.0 +3.0
MAK *e*SS SS 19 51 54.8 -2.0
MAK pmax pmax
comp=Z,87nm,0.9s
MAK MLR MLR
comp=Z,1μm,20.0s
MXZ Matakaoa Point 72.35 127 *e*P P 19 38 03.0 +0.7
comp=Z,118nm,0.7s
GNI Garni 72.70 316 P P 19 38 04.3 -0.3
comp=Z,32nm,1.0s,baz=182,slow=7.8,SNR=16
GNI LR LR 20 13 30.2
comp=Z,417nm,21.6s,baz=108,slow=39
GNI Garni 72.70 316 *e*P P 19 38 04.2 -0.4
comp=Z,85nm,1.0s
GNI Garni 72.70 316 P P 19 38 06.2 +1.6
SNR=12
GNI Garni 72.70 316 P P 19 38 06.2 +1.6
SNR=12
GNI Garni 72.70 316 *i*P P 19 38 05.6 +1.0
SNR=12
GNI Garni 72.70 316 *c i*P P 19 38 05.3 +0.7
GNI pmax pmax
comp=Z,93nm,1.0s
CLDR Caldiran 72.86 314 *e*P P 19 38 06.0 +0.4
TASB TASBURUN-IGDIR 72.98 315 *e*P P 19 38 07.4 +1.3
VANB Van 73.02 314 *e*P P 19 38 08.9 +2.5
FUNA Funafuti 73.10 97 *e*P P 19 38 06.4 -0.8
comp=Z,244nm,0.8s
SVE Sverdlovsk 73.21 336 *d i*P P 19 38 08.0 +1.0
SVE *e*S S 19 47 30.1 -0.5
SVE pmax pmax
comp=Z,679nm,1.2s
SVE pmax pmax
comp=Z,442nm,7.5s
SVE MLR MLR
comp=Z,3μm,25.0s
SIRT Sirnak 73.28 312 *e*P P 19 38 08.2 +0.2
GROC Groznyy 73.32 319 *e*P P 19 38 08.4 +0.5
GROC *e* 19 38 23.7
GROC *e* 19 40 53.6
GROC *e*S S 19 47 32.8 +0.5
GROC pmax pmax
comp=Z,204nm,1.3s
TBLG Delisi 73.38 317 *e*P P 19 38 09.9 +1.5
TBLG Delisi 73.38 317 *e*P P 19 38 09.5 +1.1
comp=Z,117nm,1.0s
TBLG Delisi 73.38 317 *e*P P 19 38 09.5 +1.1
TBLG pmax pmax
comp=Z,117nm,1.0s
ARU Arti 73.79 335 *e*P P 19 38 11.2 +0.8
comp=Z,354nm,1.1s
ARU Arti 73.79 335 *c i*P P 19 38 10.9 +0.5
ARU *PP pP 19 38 26.7 +0.2
ARU PPP PPP 19 42 35.3
ARU *e*S S 19 47 37.4 +0.2
ARU 19 48 03.6
ARU SS SS 19 52 16.3 -5.9
ARU SSS SSS 19 55 33.4
ARU pmax pmax
comp=Z,442nm,1.2s
ARU MLR MLR
comp=Z,3μm,20.0s
GURO Guroymak-BITLI 73.98 313 *e*P P 19 38 12.3 +0.2
KARS Kars 74.05 316 *e*P P 19 38 14.3 +1.8
AKH Akhalkalaki 74.09 316 ⇓ *i*P P 19 38 14.6 +1.9
AKH Akhalkalaki 74.09 316 *e*P P 19 38 12.8 +0.1
comp=Z,356nm,1.0s
AKH Akhalkalaki 74.09 316 *e*P P 19 38 12.8 +0.1
AKH pmax pmax
comp=Z,356nm,1.0s
PEA0B Petropavlovsk- 74.27 30 *e*P P 19 38 13.0 -0.3
comp=Z,158nm,0.7s
PETK Petropavlovsk- 74.27 30 P P 19 38 13.2 -0.1
comp=Z,173nm,0.7s,baz=164,slow=1.6,SNR=260
PETK LR LR 20 12 46.5
comp=Z,807nm,19.1s,baz=232,slow=37
PETK Petropavlovsk- 74.27 30 *e*P P 19 38 12.7 -0.6
PETK Petropavlovsk- 74.27 30 *e*P P 19 38 12.7 -0.6
PEA1 Petropavlovsk- 74.28 30 *e*P P 19 38 13.2 -0.1
ZEI Tsey 74.39 318 *e*P P 19 38 14.5 0.0
ZEI pmax pmax
comp=Z,54nm,0.6s
SENK Senkaya-Erzuru 74.54 315 *e*P P 19 38 17.1 +1.7
VRTB Varto-Mus 74.63 314 *e*P P 19 38 16.9 +1.0
MBAR Mbarara 74.65 271 *e*P P 19 38 16.8 +0.2
comp=Z,45nm,1.0s
MBAR Mbarara 74.65 271 *e*P P 19 38 16.8 +0.2
MBAR pmax pmax
comp=Z,45nm,1.0s
PET Petropavlovsk 74.70 30 *e*P P 19 38 15.2 -0.5
comp=Z,375nm,0.7s
PET Petropavlovsk 74.70 30 *e*P P 19 38 15.3 -0.4
PET *e* 19 41 04.8
PET *e*S S 19 47 47.2 -0.2
PET *e*PS PnS 19 48 20.7 -8.3
PET pmax pmax
comp=Z,552nm,0.7s
PET pmax pmax
comp=Z,800nm,12.4s
PET MLR MLR
comp=Z,1μm,20.0s
PET MLR MLR
comp=Z,800nm,20.0s
MAZI Mazidag 74.73 312 *e*P P 19 38 16.6 +0.1
NCK Nalchik 74.89 318 *ce*P P 19 38 18.1 +1.0

NCK pmax pmax
comp=Z,56nm,1.0s
SYO Syowa Base 75.08 200⇑ *i*P P 19 38 17.0 -0.7
SYO Syowa Base 75.08 200⇓ *i*PcP PcP 19 38 31.0 -0.1
BNGB Bing¯ll 75.12 313 *e*P P 19 38 20.1 +1.4
MA2 Magadan 75.37 22 P P 19 38 19.6 +0.2
comp=Z,327nm,0.8s,baz=213,slow=5.2,SNR=97
MA2 LR LR 20 11 40.3
comp=Z,1μm,21.4s,baz=238,slow=36
NEY Neytrino 75.37 318 *ce*P P 19 38 21.4 +1.3
NEY pmax pmax
comp=Z,8.0nm,0.9s
BCA Borcka 75.39 316 *e*P P 19 38 21.7 +1.6
KBZ Khabaz 75.45 318 P P 19 38 21.6 +1.3
comp=Z,78nm,1.1s,baz=109,slow=3.6,SNR=61
KBZ LR LR 20 14 49.4
comp=Z,802nm,21.9s,baz=114,slow=38
KBZ Khabaz 75.45 318 P P 19 38 21.6 +1.3
KBZ pmax pmax
comp=Z,59nm,1.0s
KBZ MLR MLR
comp=Z,802nm,21.9s
KIV Kislovodsk 75.68 319 *e*P P 19 38 22.3 +0.5
comp=Z,45nm,0.8s
KIV Kislovodsk 75.68 319 P P 19 38 22.9 +1.2
SNR=19
KIV Kislovodsk 75.68 319 P P 19 38 22.9 +1.2
SNR=19
KIV Kislovodsk 75.68 319 *i*P P 19 38 22.7 +1.0
SNR=22
KIV Kislovodsk 75.68 319 *e*P P 19 38 22.2 +0.4
KIV *e* 19 38 36.4
KIV *e* 19 41 12.5
KIV *e*S S 19 47 59.7 +0.7
KIV pmax pmax
comp=Z,67nm,1.1s
KIV pmax pmax
comp=Z,391nm,5.1s
KIV MLR MLR
comp=Z,903nm,18.0s
ASF Jabal al Asfar 75.73 306 P P 19 38 24.7 +2.4
comp=Z,35nm,0.8s,baz=58,slow=4.0,SNR=37
ASF LR LR 20 10 59.7
comp=Z,2μm,21.2s,baz=56,slow=35
LSZ Lusaka 75.88 256 *e*P P 19 38 24.3 +0.8
comp=Z,53nm,1.0s
LSZ Lusaka 75.88 256 P P 19 38 24.8 +1.3
SNR=6.8
LSZ Lusaka 75.88 256 P P 19 38 24.8 +1.3
SNR=6.8
LSZ Lusaka 75.88 256 *e*P P 19 38 24.3 +0.8
LSZ pmax pmax
comp=Z,53nm,1.0s
GOF Gofitskoye 75.91 320⇑ *e*P P 19 38 23.8 +0.9
GOF pmax pmax
comp=Z,107nm,1.3s
URFA Urfa 75.94 311 *e*P P 19 38 24.2 +0.8
BAYT Ayd¯ntepe-Bay 76.03 314 *e*P P 19 38 24.5 +0.6
ERZN Erzincan 76.03 314 *e*P P 19 38 24.5 +0.6
VNDA Vanda 76.41 169 P P 19 38 26.0 +0.8
comp=Z,13nm,0.8s,baz=315,slow=5.0,SNR=28
VNDA LR LR 20 06 52.4
comp=Z,3μm,21.9s,baz=316,slow=32
VNDA Vanda 76.41 169 *e*P P 19 38 25.7 +0.5
VNDA *e*PcP P 19 38 25.8 +0.6
VNDA Vanda 76.41 169 *e*P P 19 38 25.7 +0.5
MALT Malatya 76.53 312 *e*P P 19 38 28.3 +1.6
EIL Elat 76.61 303 *e*P P 19 38 29.1 +1.8
HRFI Mount Harif 76.64 303 *e*P P 19 38 30.1 +2.7
ILIC ilic-Erzincan 76.82 313 *e*P P 19 38 30.3 +1.9
SHBL Chebaa 77.01 306 *e*P P 19 38 31.7 +2.1
NRIK Noril'sk 77.02 354 P P 19 38 28.7 0.0
comp=Z,163nm,0.8s,baz=151,slow=1.6
NRIK LR LR 20 16 13.6
comp=Z,2μm,21.8s,baz=242,slow=39
GAZ Gaziantep 77.06 310 *e*P P 19 38 31.4 +1.7
HWQ Hawqa 77.13 307 *e*P P 19 38 31.9 +1.7
MMAI Mount Meron Ar 77.19 306 P P 19 38 33.2 +2.7
comp=Z,30nm,0.6s,baz=96,slow=7.8,SNR=80
MMAI LR LR 20 12 18.8
comp=Z,2μm,21.1s,baz=110,slow=35
ESPY Espiye-Giresun 77.22 314 *e*P P 19 38 31.6 +1.2
BHL Bhannes 77.25 307 *e*P P 19 38 32.7 +1.8
DQRL Deir Qamar 77.26 307 *e*P P 19 38 33.2 +2.3
DARE Darende-Malaty 77.31 312 *e*P P 19 38 33.1 +2.0
KMRS Kahramanmaras 77.40 311 *e*P P 19 38 32.6 +1.0
SBA Scott Base 77.49 169 *e*P P 19 38 33.0 +1.7
comp=Z,34nm,1.0s
SBA Scott Base 77.49 169 *e*P P 19 38 33.0 +1.7
SBA pmax pmax
comp=Z,34nm,1.0s
SOC Sochi 77.51 317 *c i*P P 19 38 31.6 -0.4
SOC *e**PP PcP 19 38 44.2 +2.1
SOC *e**SP pP 19 38 48.6 +0.4
SOC *i*S S 19 48 15.7 -3.0
SOC *e* 19 48 37.7
SOC *e*SSS SSS 19 56 36.6
SOC pmax pmax
comp=Z,68nm,0.7s
SOC MLR MLR
comp=Z,651nm,19.0s
YAYL Yayladag 77.54 309 *e*P P 19 38 32.6 +0.1
LBTB Lobatse 77.87 246 *e*P P 19 38 35.4 +0.8
comp=Z,37nm,0.7s
LBTB Lobatse 77.87 246 *e*P P 19 38 35.4 +0.8
LBTB pmax pmax
comp=Z,37nm,0.7s
RSDY Resadiye-TOKAT 78.04 314 *e*P P 19 38 34.6 -0.4
BOSA Boshof 78.07 242 P P 19 38 36.6 +1.0
comp=Z,34nm,0.6s,baz=96,slow=4.5,SNR=74
BOSA PKKPbc PKKPbc 19 57 36.4 +0.8
comp=Z,3.1nm,0.8s,baz=276,slow=5.9,SNR=4.6
BOSA LR LR 20 06 26.8
comp=Z,2μm,21.7s,baz=69,slow=30
BOSA Boshof 78.07 242 *e*P P 19 38 36.2 +0.6
comp=Z,37nm,0.6s
BOSA *e*PKKPbc PKKPbc 19 57 36.4 +0.8
BOSA Boshof 78.07 242 *e*P P 19 38 36.2 +0.6
BOSA pmax pmax
comp=Z,37nm,0.6s
CEYT Ceyhan 78.11 310 *e*P P 19 38 38.5 +3.0
SVSK Karacayir 78.12 313 *e*P P 19 38 37.3 +1.9
YURE YUREGIR 78.15 310 *e*P P 19 38 37.7 +2.0
KOZT Kozan 78.20 310 *e*P P 19 38 37.4 +1.4
SEY Seymchan 78.22 20 P P 19 38 36.0 +0.5
comp=Z,137nm,0.7s,baz=234,slow=5.4,SNR=155
SEY PKKPbc PKKPbc 19 57 33.8 -3.4
comp=Z,0.2nm,0.3s,baz=165,slow=16,SNR=2.9
SEY Seymchan 78.22 20 *ce*P P 19 38 35.5 0.0
KRTS Karatas 78.27 309 *e*P P 19 38 38.2 +1.9
TOKT Tokat 78.58 313 *e*P P 19 38 39.5 +1.5
BNN Bunyan 78.62 312 *e*P P 19 38 38.9 +0.5
KARA Karaisali 78.72 310 *e*P P 19 38 40.4 +1.6
KVT Kavak 79.18 314 *e*P P 19 38 42.0 +0.7
KIZK Mersin 79.19 309 *e*P P 19 38 42.5 +1.1
VRH Novokhopyorsk 79.32 325 *e*P P 19 38 42.3 +0.5
VRH *e* 19 38 43.5
VRH *e*S S 19 48 35.5 -2.3
VRH pmax pmax
comp=Z,180nm,0.7s
VRH pmax pmax
comp=Z,190nm,0.7s
VRH smax smax
comp=N,1μm,4.0s
VRH MLR MLR
comp=Z,1μm,21.0s
SILI Silifke-Mersin 79.32 309 *e*P P 19 38 41.8 -0.3
CSS Mathiatis 79.39 307 *e*P P 19 38 44.2 +1.6
CSS Mathiatis 79.39 307 *e*P P 19 38 43.8 +1.2
comp=Z,47nm,0.9s
CSS Mathiatis 79.39 307 P P 19 38 44.0 +1.4
ANN Anapa 79.48 318 *e*P P 19 38 41.3 -1.5
ANN *e**PP pP 19 38 55.8 -3.3
ANN *e*PPP PPP 19 43 38.2
ANN *e*S S 19 48 37.8 -2.0
ANN pmax pmax
comp=Z,56nm,1.2s
ANN pmax pmax
comp=N,34nm,1.3s
ANN pmax pmax
comp=N,233nm,8.1s
ANN pmax pmax
comp=Z,698nm,8.1s
ANN MLR MLR
comp=Z,1μm,21.0s

ANN MLR MLR
comp=N,1μm,21.0s
AKKU Akkuyu-Mersin 79.55 309 *e*P **P** **19 38 44.5 +1.1**
GULA Gulagac 79.66 311 *e*P **P** **19 38 44.3 +0.2**
TEVE Tevekalti-Mers 79.71 309 *e*P **P** **19 38 45.3 +0.9**
LEF Lefka 79.78 307 *e*P **P** **19 38 46.1 +1.5**
TIXI Tiksi 79.87 7 *e*P **P** **19 38 43.2 -1.0**
comp=N,369nm,0.7s
TIXI Tiksi 79.87 7*c i*P **P** **19 38 43.3 -1.0**
TIXI pmax pmax
comp=Z,382nm,0.9s
TIXI MLR MLR
comp=Z,3μm,18.0s
TEKE Tekeli-Mersin 79.89 308 *e*P **P** **19 38 46.5 +1.3**
CORM Corum 79.92 313 *e*P **P** **19 38 45.6 +0.1**
DIKM Dikmen 79.93 314 *e*P **P** **19 38 47.1 +1.8**
SULT Sultanhani-AKS 80.16 311 *e*P **P** **19 38 48.1 +1.3**
BR101 Keskin Array S 80.51 312 *e*P **P** **19 38 49.4 +0.7**
BR101 *e*PKKPbc **PKKPbc** **19 57 29.8 -1.3**
BR131 Keskin Array S 80.51 312 *e*P **P** **19 38 48.9 +0.2**
BRTR Keskin Array B 80.51 312 P **P** **19 38 49.4 +0.7**
comp=Z,76nm,0.9s,baz=137,slow=6.3,SNR=130
BRTR PKKPbc **PKKPbc** **19 57 29.8 -1.3**
comp=Z,0.9nm,0.7s,baz=328,slow=0.5,SNR=6.7
BRTR LR LR 20 15 01.6
comp=Z,1μm,21.9s,baz=96,slow=36
VSR Storozhevoye 80.79 324 *e*P **P** **19 38 49.8 +0.1**
VSR *e*S **S** **19 48 49.8 -3.5**
VSR pmax pmax
comp=Z,180nm,0.8s
VSR pmax pmax
comp=Z,490nm,2.0s
VSR smax smax
comp=N,900nm,4.5s
VSR MLR MLR
comp=Z,1μm,25.0s
ILGA Ilgaz 80.85 313 *e*P **P** **19 38 51.7 +1.1**
comp=Z,144nm,1.3s
AFSR Af'ar-Bala (A 80.85 312 *e*P **P** **19 38 50.8 +0.3**
BZK Bozkurt 80.92 314 *e*P **P** **19 38 51.7 +1.1**
VORR Voronezh 80.95 325 *e*P **P** **19 38 50.0 -0.5**
LADK Ladik-KONYA 81.03 310 *e*P **P** **19 38 50.7 -0.8**
ANTO Ankara 81.18 312 *e*P **P** **19 38 52.7 +0.5**
ANTO Ankara 81.18 312⇑ *i*P **P** **19 38 53.0 +0.9**
ANTO Ankara 81.18 312 *e*P **P** **19 38 53.0 +0.9**
comp=Z,79nm,0.9s
ANTO Ankara 81.18 312 P **P** **19 38 53.6 +1.4**
SNR=13
ANTO Ankara 81.18 312 P **P** **19 38 53.6 +1.4**
SNR=13
ANTO Ankara 81.18 312 *e*P **P** **19 38 53.0 +0.9**
ANTO pmax pmax
comp=Z,79nm,0.9s
BR231 Keskin MP Arra 81.18 312 *e*P **P** **19 38 49.9 -2.4**
LOD Lodumlu 81.20 312 *e*P **P** **19 38 50.7 -1.6**
LPSR Galich'ya Gora 81.47 326 *e*P **P** **19 38 53.9 +0.6**
LPSR *e*S **S** **19 48 58.9 -1.4**
LPSR pmax pmax
comp=Z,190nm,0.7s
LPSR pmax pmax
comp=Z,190nm,0.7s
LPSR smax smax
comp=N,20nm,1.2s
AFI Afiamalu 81.49 103 P **P** **19 38 55.7 +1.4**
comp=N,70nm,0.8s,baz=223,slow=5.4,SNR=18
AFI LR LR 20 14 57.0
comp=N,602nm,21.1s,baz=267,slow=36
AFI Afiamalu 81.49 103 *e*P **P** **19 38 55.5 +1.2**
AFI *e*PcP **P** **19 38 55.6 +1.4**
AFI Afiamalu 81.49 103 *e*P **P** **19 38 55.5 +1.2**
SIM Simferopol' 81.76 317*c e*P **P** **19 38 56.2 +1.2**
SIM *e* 19 42 03.9
SIM pmax pmax
comp=Z,90nm,0.9s
SUR Sutherland 81.77 238 *e*P **P** **19 38 57.7 +2.1**
comp=Z,80nm,0.9s
KURC Kurucasile-Bar 81.78 314 *e*P **P** **19 38 54.5 -0.7**
SUTC Sutluce-Ispart 81.88 309 *e*P **P** **19 38 58.3 +2.3**
ANTB Antalya 82.00 309 *e*P **P** **19 38 59.5 +3.1**
SVRH Sivrihisar-ESK 82.00 311 *e*P **P** **19 38 57.9 +1.4**
MIDW Midway 82.12 60 *e*P **P** **19 38 58.5 +1.3**
comp=Z,85nm,0.8s
KORT Korkueli 82.26 309 *e*P **P** **19 38 57.8 -0.2**
ISP Isparta 82.33 310 *e*P **P** **19 39 01.8 +3.5**
ISP Isparta 82.33 310⇓ *i*P **P** **19 39 00.1 +1.8**
ISP Isparta 82.33 310 *e*P **P** **19 38 59.5 +1.2**
comp=Z,46nm,1.0s
ISP Isparta 82.33 310⇑ *e*P **P** **19 38 59.8 +1.5**
ISP pmax pmax
comp=Z,23nm,0.8s
SHUT Suhut-Afyon 82.50 310 *e*P **P** **19 38 58.8 -0.4**
MDUB Mudurnu 82.52 312 *e*P **P** **19 38 59.5 +0.3**
ELL Elmali 82.54 308 *e*P **P** **19 39 00.9 +1.5**
AKAS Kas 82.65 308 *e*P **P** **19 38 58.3 -1.7**
KNTN Kanton 82.66 92 *e*P **P** **19 39 02.0 +1.6**
comp=Z,89nm,0.9s
SMY Shemya 82.83 35 *e*P **P** **19 39 00.2 -0.2**
comp=Z,147nm,0.8s
SMY Shemya 82.83 35 *e*P **P** **19 39 00.2 -0.2**
SMY pmax pmax
comp=Z,147nm,0.8s
GULT Gulveren 83.01 312 *e*P P 19 38 55.3 -6.5
QSPA South Pole Qui 83.13 180 P **P** **19 39 02.9 +0.9**
comp=Z,50nm,0.8s,baz=302,slow=1.8,SNR=4.9
QSPA PKKPbc **PKKPbc** **19 57 23.0 -3.3**
comp=Z,3.6nm,0.7s,baz=271,slow=0.6,SNR=7.6
QSPA LR LR 20 13 26.1
comp=Z,2μm,19.4s,baz=324,slow=34
QSPA South Pole Qui 83.13 180 *e*P **P** **19 39 02.6 +0.6**
comp=Z,60nm,0.9s
QSPA *e*PKKPbc **PKKPbc** **19 57 23.0 -3.3**
FETY Fethiye 83.16 308 *e*P **P** **19 39 01.1 -1.4**
SPNC Sapanca-Adapaz 83.23 312 *e*P **P** **19 39 04.7 +1.9**
MOS Moscow 83.39 328 *e*P **P** **19 39 02.8 -0.4**
MOS *e* 19 39 29.3
MOS *e*S **S** **19 49 19.4 -0.3**
MOS pmax pmax
comp=Z,190nm,0.9s
MOS pmax pmax
comp=Z,200nm,1.0s
MOS smax smax
comp=N,2μm,4.4s
MOS smax smax
comp=E,1μm,4.4s
ADVT Abdulvahap 83.58 312 *e*P **P** **19 39 06.0 +1.4**
OBN Obninsk 83.72 327 P **P** **19 39 05.8 +0.9**
comp=E,118nm,0.8s,baz=98,slow=2.6,SNR=37
OBN Obninsk 83.72 327 *e*P **P** **19 39 05.6 +0.8**
comp=E,155nm,0.9s
OBN Obninsk 83.72 327*c i*P **P** **19 39 05.7 +0.9**
OBN *e* 19 42 16.6
OBN *i*S **S** **19 49 19.0 -4.0**
OBN *e*SS **SS** **19 54 47.5 -3.7**
OBN pmax pmax
comp=Z,152nm,0.8s
OBN MLR MLR
comp=Z,1μm,21.0s
HRT Hereke 83.73 312 *e*P **P** **19 39 04.4 -1.0**
SILT Sile 83.84 313 *e*P **P** **19 39 07.9 +2.1**
YLV Yalova 83.89 312 *e*P **P** **19 39 07.6 +1.4**
YER Yerkesik 83.90 308 *e*P **P** **19 39 04.4 -1.9**
KULA Kula-Manisa 83.93 310 *e*P P 19 38 59.8 -6.7
MANT Manisa 84.00 310 *e*P **P** **19 39 08.2 +1.2**
comp=Z,165nm,0.9s
ISK Istanbul-Kandi 84.24 312 *e*P **P** **19 39 07.9 0.0**
KLYT Kilyos 84.30 313 *e*P **P** **19 39 03.9 -4.3**
AYDB Zeytinkoy-Aydi 84.39 309 *e*P **P** **19 39 09.8 +0.9**
KARP Karpathos 84.43 307 *e*P **P** **19 39 08.9 -0.1**
KARP Karpathos 84.43 307 *e*P **P** **19 39 10.9 +1.9**
comp=Z,159nm,1.0s
KARP Karpathos 84.43 307 P **P** **19 39 12.1 +3.1**
BGKT Bogazkoy 84.48 312 *e*P **P** **19 39 09.8 +0.7**
KLMR Klimovskoe 84.51 333 *e*P **P** **19 39 06.8 -2.0**
KLMR AMP 19 39 13.7
comp=Z,132nm,0.8s
KLMR *e*PP **PP** **19 42 23.7 -1.2**
KLMR *e*S **SKSac** **19 49 25.1 -2.4**
KLMR *e*S **SKSac** **19 49 25.1 -2.4**
KLMR LQ LQ 20 11 39.8
KLMR LQ LQ 20 11 39.8
KLMR LR LR 20 17 42.9
KLMR Klimovskoe 84.51 333 *e*P **P** **19 39 06.8 -2.0**
KLMR *e* 19 42 23.7
KLMR *e*S **SKSac** **19 49 25.1 -2.4**
KLMR pmax pmax
comp=Z,132nm,0.8s
CTKS Kestanelik-??a 84.69 312 *e*P **P** **19 39 08.5 -1.6**
NVL N'lazarevskaya 84.74 199 *e*P **P** **19 39 10.3 +0.4**
NVL *e*S **SKSac** **19 49 26.6 -2.2**
NVL *e* 19 58 36.4
NVL pmax pmax
comp=Z,27nm,0.7s
GCAM G?zelcaml? 84.84 309 *e*P **P** **19 39 13.8 +2.8**
GMLD Gumuldur 85.17 309 *e*P **P** **19 39 09.3 -3.3**
TLCR 85.43 316⇓ *i*P **P** **19 39 15.6 +1.8**
URLA Izmir 85.47 309 *e*P **P** **19 39 14.6 +0.4**
PSN Preselentsi 85.50 315 P **P** **19 39 16.9 +2.7**
TIRR Tirgusor 85.53 316⇑ *i*P **P** **19 39 16.2 +1.9**
TIRR Tirgusor 85.53 316 *e*P **P** **19 39 14.8 +0.5**
comp=Z,61nm,0.9s
TIRR Tirgusor 85.53 316 *e*P **P** **19 39 14.8 +0.5**
TIRR pmax pmax
comp=Z,61nm,0.9s
NPS Neapolis 85.61 306 P **P** **19 39 18.5 +3.6**
TSUM Tsumeb 85.68 251 *e*P **P** **19 39 16.7 +0.9**
comp=Z,19nm,0.9s
LPK Lapseki 85.78 311 *e*P **P** **19 39 16.6 +0.9**
KIS Kishinev 85.88 318⇑ *i*P **P** **19 39 16.0 0.0**
comp=Z,200nm,1.5s
KIS Kishinev 85.88 318 *e*PP PP 19 42 40.0 +3.6
KIS *i*S **S** **19 49 44.0 -0.9**
comp=Z,2μm,12.0s
KIS LRM MLR 20 27 44.0
comp=Z,700nm,20.0s
KIS Kishinev 85.88 318α *i*P **P** **19 39 16.0 0.0**
KIS *e* 19 42 40.0
KIS *e* 19 44 37.0
KIS *i*S **S** **19 49 44.0 -0.9**
KIS *e* 19 50 48.0
KIS *e* 19 55 30.0
KIS pmax pmax
comp=Z,200nm,1.5s
KIS pmax pmax
comp=Z,900nm,5.0s
KIS smax smax
comp=N,2μm,12.0s
KIS MLR MLR
comp=N,500nm,20.0s
KIS MLR MLR
comp=E,1μm,20.0s
KIS MLR MLR
comp=Z,1μm,20.0s
KIS MLR MLR
comp=Z,700nm,20.0s
BILL Bilibino 85.89 19*c i*P **P** **19 39 14.8 -0.8**
BILL *e* 19 42 32.2
BILL *i*S **SKSac** **19 49 32.2 -3.9**
BILL pmax pmax
comp=Z,58nm,0.8s
CHOS Chios island 85.89 309 *e*P **P** **19 39 18.8 +2.4**
CHOS Chios island 85.89 309 *e*P **P** **19 39 19.6 +3.2**
CHOS Chios island 85.89 309 P **P** **19 39 19.6 +3.2**
CFR Carcaliu 85.89 316⇑ *i*P **P** **19 39 17.6 +1.5**
HARR Harsova 85.92 316⇑ *i*P **P** **19 39 18.5 +2.3**
PRD Provadia 85.95 314 P **P** **19 39 18.3 +1.9**
SANT Santorini 85.95 307 *e*P **P** **19 39 17.2 +0.5**
comp=Z,436nm,1.4s
EZN Ezine 85.99 311 *e*P **P** **19 39 19.4 +2.7**
EZN Ezine 85.99 311 P **P** **19 39 19.4 +2.7**
EZN Ezine 85.99 311 *e*P **P** **19 39 19.4 +2.7**
ERIK Erikli-Kesan 86.03 312 *e*P **P** **19 39 18.6 +1.7**
APE Apeiranthos 86.03 308⇓ *i*P **P** **19 39 19.4 +2.4**
APE Apeiranthos 86.03 308 P P 19 39 11.5 -5.5
EDRB Edirne 86.11 313 *e*P **P** **19 39 18.2 +0.9**
LEOM Leova 86.13 318 *e*P **P** **19 39 19.5 +2.3**
LEOM Leova 86.13 318⇓ *i*P **P** **19 39 19.0 +1.8**
IDI Anoyia 86.19 306 P **P** **19 39 19.2 +1.3**
comp=Z,30nm,0.6s,baz=127,slow=10,SNR=17
IDI LR LR 20 18 16.4
comp=Z,811nm,21.6s,baz=97,slow=36
IDI Anoyia 86.19 306 *e*P **P** **19 39 20.3 +2.4**
IDI Anoyia 86.19 306⇑ *i*P **P** **19 39 20.4 +2.5**
IDI Anoyia 86.19 306 *e*P **P** **19 39 19.6 +1.7**
comp=Z,62nm,1.0s
SIVA Sivas 86.20 306 P **P** **19 39 21.2 +3.3**
SIGR SIGRI 86.22 310 *e*P P 19 39 11.3 -6.5
ENEZ Enez 86.31 312 P P 19 39 23.5 +5.3
JMB Yambol 86.37 313 P **P** **19 39 21.6 +3.1**
GADA Gvkgeada 86.39 311 *e*P **P** **19 39 19.4 +0.8**
ALN Alexandroupoli 86.42 312 *e*P **P** **19 39 18.8 0.0**
ALN Alexandroupoli 86.42 312 *e*P **P** **19 39 19.8 +1.0**
comp=Z,68nm,1.4s
ALN Alexandroupoli 86.42 312 P **P** **19 39 20.3 +1.5**
ALN Alexandroupoli 86.42 312 *e*P **P** **19 39 19.8 +1.0**
ALN pmax pmax
comp=Z,69nm,1.4s
SORM Soroca 86.47 319⇑ *i*P **P** **19 39 19.5 +0.7**
TMCR Tamitsa 86.49 336 *e*P **P** **19 39 18.0 -0.6**
TMCR *e*S **SKSac** **19 49 40.0 +0.2**
TMCR pmax pmax
comp=Z,31nm,0.6s
AKASG Malin Array Be 86.57 322 P **P** **19 39 19.4 +0.1**
comp=Z,50nm,0.8s,baz=84,slow=5.1,SNR=66
AKASG PP **PP** **19 42 40.0 -1.8**
comp=Z,9.8nm,0.8s,baz=89,slow=6.2,SNR=5.5
AKASG PKKPbc **PKKPbc** **19 57 15.7 -1.5**
comp=Z,0.8nm,0.6s,baz=294,slow=2.6,SNR=4.1
AKASG LR LR 20 24 43.2
comp=Z,525nm,19.3s,baz=95,slow=40
AKBB Malin Array Si 86.57 322 *e*P **P** **19 39 19.3 0.0**
comp=Z,69nm,0.8s
AKBB Malin Array Si 86.57 322 *e*P **P** **19 39 19.3 0.0**
AKBB pmax pmax
comp=Z,69nm,0.8s
KIEV Kiev 86.57 322 *e*P **P** **19 39 19.2 -0.1**
comp=Z,71nm,0.9s
KIEV Kiev 86.57 322 *i*P **P** **19 39 19.3 0.0**
SNR=56
KIEV Kiev 86.57 322*c i*P **P** **19 39 18.9 -0.4**
KIEV pmax pmax
comp=Z,44nm,0.9s
AK11 Malin Array Si 86.59 322 *e*P **P** **19 39 18.9 -0.5**
PETR Petresti 86.64 317⇓ *i*P **P** **19 39 22.8 +3.1**
GRER 86.74 316⇑ *i*P **P** **19 39 22.9 +2.6**
GVD Gavdhos 86.75 305 P P 19 39 41.2 +21
VAM Vamos 86.77 306 P **P** **19 39 24.2 +3.6**
ODBI Odobesti 86.77 317⇓ *i*P **P** **19 39 23.3 +2.9**
RDO Rodhopi 86.85 312 *e*P **P** **19 39 23.6 +2.7**
RDO Rodhopi 86.85 312 P **P** **19 39 23.6 +2.7**
LIA Limnos Island 86.86 311 P P 19 39 31.7 +11
ISR Istrita 86.98 316⇑ *i*P **P** **19 39 23.6 +2.1**
SZH Strazhica 87.01 314 P **P** **19 39 24.1 +2.5**
VRI Vrincioaia 87.02 317 *e*P **P** **19 39 23.8 +2.2**
VRI Vrincioaia 87.02 317⇑ *i*P **P** **19 39 23.5 +1.9**
DIM Dimitrovgrad 87.04 313 P **P** **19 39 23.5 +1.7**
KDZ Kurdzhali 87.04 312 P **P** **19 39 22.8 +0.9**
PLOR Plostina 87.07 317⇓ *i*P **P** **19 39 24.6 +2.7**
KARY Karystos 87.07 309 P **P** **19 39 25.8 +3.7**
SULR 87.08 315⇓ *i*P **P** **19 39 24.3 +2.4**
TESR Tescani 87.21 317⇑ *i*P **P** **19 39 23.6 +1.0**
SECR 87.29 316⇓ *i*P **P** **19 39 25.3 +2.3**
JOHN Johnston Islan 87.31 73 *e*P **P** **19 39 23.9 +0.3**
comp=Z,218nm,1.0s
PVL Pavlikeni 87.42 314 P **P** **19 39 27.1 +3.5**
MLR Muntele Rosu 87.47 316 P **P** **19 39 25.6 +1.6**
comp=Z,20nm,0.7s,baz=142,slow=0.5,SNR=109
MLR PP **PP** **19 42 44.4 -5.0**
comp=Z,2.7nm,0.9s,baz=155,slow=19,SNR=3.2
MLR PKKPbc **PKKPbc** **19 57 14.9 0.0**
comp=Z,0.6nm,0.8s,baz=160,slow=9.2,SNR=4.3
MLR LR LR 20 25 03.5
comp=Z,236nm,19.6s,baz=84,slow=40
MLR Muntele Rosu 87.47 316⇓ *i*P **P** **19 39 25.9 +1.9**
MLR Muntele Rosu 87.47 316 *e*P **P** **19 39 25.1 +1.1**
comp=Z,310nm,1.3s
MLR PP **PP** **19 42 44.4 -5.0**
MLR PKKPbc **PKKPbc** **19 57 14.9 0.0**
MLR Muntele Rosu 87.47 316 *e*P **P** **19 39 25.1 +1.1**
MLR 19 42 44.4
MLR pmax pmax
comp=Z,310nm,1.3s
ZIMR 87.49 314⇑ *i*P **P** **19 39 26.5 +2.6**
ATHU Athens Univers 87.57 309 *e*P **P** **19 39 26.9 +2.5**
ATHU Athens Univers 87.57 309 P **P** **19 39 26.9 +2.5**
RZN Rozhen 87.57 312 P **P** **19 39 25.9 +1.3**
KAVA Kavala 87.58 312 *e*P **P** **19 39 27.0 +2.6**
KAVA Kavala 87.58 312 P **P** **19 39 27.0 +2.6**
PLD Plovdiv 87.66 313 P **P** **19 39 26.1 +1.3**
PRAR RASCA 87.68 318⇑ *i*P **P** **19 39 26.4 +1.6**
DID Didima 87.91 308 *e*P **P** **19 39 28.2 +2.1**
DID Didima 87.91 308 P **P** **19 39 28.2 +2.1**
HUMR Humele 87.94 315⇑ *i*P **P** **19 39 27.3 +1.2**
DOPR Dopca 87.95 317⇑ *i*P **P** **19 39 27.4 +1.3**
VILL Villia 87.97 309 P **P** **19 39 28.2 +1.8**
PAIG Paliouri 88.00 310 *e*P **P** **19 39 29.5 +3.0**
PAIG Paliouri 88.00 310 P **P** **19 39 29.5 +3.0**
PAIG Paliouri 88.00 310 *e*P **P** **19 39 29.5 +3.0**
MTUR Matau 88.02 316⇑ *i*P **P** **19 39 28.6 +2.0**
VOIR 88.08 316⇓ *i*P **P** **19 39 27.7 +0.9**
NVR Nevrokopi 88.13 312 *e*P **P** **19 39 29.6 +2.5**
NVR Nevrokopi 88.13 312 P **P** **19 39 29.6 +2.5**
PGB Panagyurishte 88.13 313 P **P** **19 39 28.4 +1.3**
LTK Loutraki 88.21 308 *e*P **P** **19 39 28.7 +1.2**
LTK Loutraki 88.21 308 P **P** **19 39 28.7 +1.2**
PLG Polygyros 88.26 311 P **P** **19 39 30.0 +2.3**
MMB Musomiste 88.28 312 P **P** **19 39 29.9 +2.1**
SRS Serrai 88.29 312 *e*P **P** **19 39 29.5 +1.7**
SRS Serrai 88.29 312 P **P** **19 39 29.5 +1.7**
SRS Serrai 88.29 312 *e*P **P** **19 39 29.5 +1.7**
LKR Lokris 88.30 309 P **P** **19 39 28.9 +1.0**
MICGM Minsk 88.32 325 *e*P **P** **19 39 28.0 +0.4**
MICGM *e*P **P** **19 39 28.0 +0.4**
MICGM *e*pP **pP** **19 39 42.0 -2.1**
MICGM *e*PP PP 19 42 38.0 -18
MICGM *e*S **S** **19 50 08.0 0.0**
MICGM *e*sS **sS** **19 50 40.0 +4.0**
MICGM *e*LR LR 20 21 12.0
MICGM LRM MLR 20 23 04.0
comp=Z,1.7nm,22.0s
MNK Minsk 88.32 325 *e*P **P** **19 39 28.0 +0.4**
MNK *e*S **S** **19 50 08.0 0.0**
MNK MLR MLR
comp=Z,2μm,22.0s
ARR Arges 88.35 316⇓ *i*P **P** **19 39 29.5 +1.4**
BURAR Bucovina Array 88.41 318⇓ *i*P **P** **19 39 30.6 +2.3**
BUR04 Bucovina Ar. S 88.41 318 *e*P **P** **19 39 29.5 +1.1**
SOH Sokhos 88.41 311 *e*P **P** **19 39 30.6 +2.1**
SOH Sokhos 88.41 311 P **P** **19 39 30.6 +2.1**
SOH Sokhos 88.41 311 *e*P **P** **19 39 30.6 +2.1**
BUR08 Bucovina Ar. S 88.42 318 *e*P **P** **19 39 29.9 +1.4**
PUL Pulkovo 88.42 331⇓ *e*P **P** **19 39 28.5 +0.5**
PUL pmax pmax
comp=Z,123nm,0.8s
VLX Vlachokerasia 88.56 308 P **P** **19 39 33.6 +4.3**
VLX Vlachokerasia 88.56 308 P **P** **19 39 33.6 +4.3**
HORT Hortiatis 88.56 311 P **P** **19 39 30.4 +1.2**
AXAR Agios Charalam 88.58 309 *e*P **P** **19 39 33.1 +3.9**
AXAR Agios Charalam 88.58 309 P **P** **19 39 33.1 +3.9**
MPEP Malo Peshtene 88.59 314 P **P** **19 39 30.8 +1.6**
THE Thessaloniki 88.67 311 *e*P **P** **19 39 31.6 +2.0**
THE Thessaloniki 88.67 311 P **P** **19 39 31.6 +2.0**
THE Thessaloniki 88.67 311 *e*P **P** **19 39 31.6 +2.0**
MDB Medias 88.67 317⇓ *i*P **P** **19 39 31.9 +2.4**
GUR Goura 88.68 308 *e*P **P** **19 39 31.1 +1.2**
GUR Goura 88.68 308 P **P** **19 39 31.1 +1.2**
KKB Krupnik 88.80 312 P **P** **19 39 30.9 +0.7**
KNT Kendrikon 88.81 312 *e*P **P** **19 39 31.1 +0.8**
KNT Kendrikon 88.81 312 *e*P **P** **19 39 32.8 +2.5**
KNT Kendrikon 88.81 312 P **P** **19 39 32.8 +2.5**
KNT Kendrikon 88.81 312 *e*P **P** **19 39 32.8 +2.5**
VTS Vitosha 88.84 313⇑ *i*P **P** **19 39 31.6 +1.0**
VTS Vitosha 88.84 313 *e*P **P** **19 39 31.4 +0.9**
comp=Z,76nm,0.8s
VTS Vitosha 88.84 313 P **P** **19 39 31.7 +1.1**
VTS Vitosha 88.84 313 P **P** **19 39 33.6 +3.0**
VTS Vitosha 88.84 313 *e*P **P** **19 39 31.4 +0.9**
VTS pmax pmax
comp=Z,77nm,0.8s
KLV Kalavryta, Ach 88.85 308 *e*P **P** **19 39 33.2 +2.6**
KLV Kalavryta, Ach 88.85 308 P **P** **19 39 33.2 +2.6**
AGG Agios Georgios 88.87 309 *e*P **P** **19 39 31.1 +0.4**
AGG Agios Georgios 88.87 309 *e*P **P** **19 39 30.9 +0.3**
comp=Z,184nm,1.0s
AGG Agios Georgios 88.87 309 P **P** **19 39 33.2 +2.5**
AGG Agios Georgios 88.87 309 *e*P **P** **19 39 30.9 +0.3**
AGG pmax pmax
comp=Z,184nm,1.0s
ARCR ARCALIA 88.88 318⇑ *i*P **P** **19 39 32.4 +2.0**
ITM Ithomi 88.88 307 *e*P **P** **19 39 31.3 +0.6**
comp=Z,220nm,1.6s
KALE Kalithea 88.92 309 *e*P **P** **19 39 32.9 +2.0**
KALE Kalithea 88.92 309 P **P** **19 39 32.9 +2.0**
LIT Litokhoron 88.94 310 *e*P **P** **19 39 33.0 +2.1**
LIT Litokhoron 88.94 310 P **P** **19 39 33.0 +2.1**
LIT Litokhoron 88.94 310 *e*P **P** **19 39 33.0 +2.1**
LOT Lotru 88.96 316 *e*P **P** **19 39 33.9 +2.9**
LOT Lotru 88.96 316⇓ *i*P **P** **19 39 32.5 +1.5**
SERG Sergoula 88.98 309 P **P** **19 39 32.8 +1.6**
LAKA Lakka 89.02 309 *e*P **P** **19 39 33.5 +2.2**
LAKA Lakka 89.02 309 P **P** **19 39 33.5 +2.2**
NACGM Naroch 89.03 326 *e*P **P** **19 39 31.0 0.0**
NACGM PM 19 39 37.0
comp=Z,0.6nm,0.8s
NACGM *e*PP **PP** **19 43 03.0 +1.5**
NACGM *e*S **S** **19 50 14.0 -0.8**
NACGM *e*PS **PS** **19 51 30.0 +3.4**
NACGM *e*SS **SS** **19 56 06.0 -3.1**
NACGM *e*LQ LQ 20 12 40.0
NACGM *e*LR LR 20 20 34.0
GRG Griva 89.15 311 *e*P **P** **19 39 32.4 +0.5**
GRG Griva 89.15 311 *e*P **P** **19 39 33.1 +1.2**
GRG Griva 89.15 311 P **P** **19 39 33.1 +1.2**
GRG Griva 89.15 311 *e*P **P** **19 39 33.1 +1.2**
IDID Didziasalis 89.15 326 *e*P **P** **19 39 32.8 +1.3**
IDID lAmb lAmb 19 39 38.7
comp=Z,87nm,0.8s
SNAA Sanae 89.17 197 P **P** **19 39 33.4 +1.9**
SNAA Sanae 89.17 197 P **P** **19 39 33.4 +1.9**
comp=Z,46nm,0.8s,baz=97,slow=6.7,SNR=103
SNAA PKKPbc **PKKPdf** **19 57 08.1 +2.5**
comp=Z,1.7nm,0.6s,baz=217,slow=7.0,SNR=8.8
SNAA LR LR 20 13 27.4
comp=Z,1μm,20.7s,baz=101,slow=31
SNAA Sanae 89.17 197 *e*P **P** **19 39 32.8 +1.3**
comp=Z,63nm,1.0s
SNAA PKKPbc **PKKPdf** **19 57 08.1 +2.5**
SNAA Sanae 89.17 197 *e*P **P** **19 39 32.8 +1.3**
SNAA pmax pmax
comp=Z,63nm,1.0s
LVZ Lovozero 89.17 339 *e*P **P** **19 39 32.0 +0.6**
comp=Z,94nm,0.8s
LVZ Lovozero 89.17 339*de*P **P** **19 39 32.6 +1.2**
LVZ pmax pmax
comp=Z,179nm,1.2s
THL Klokotos Trika 89.21 310 P **P** **19 39 33.5 +1.4**
SRE Strehaia 89.21 315⇓ *i*P **P** **19 39 34.3 +2.2**
EVR Evrytania 89.26 309 P **P** **19 39 35.7 +3.2**
CJR Cluj-Napoca 89.31 317⇓ *i*P **P** **19 39 34.9 +2.3**
RLS Riolos of Patr 89.39 308 P **P** **19 39 35.9 +2.9**
IIGN Ignalina 89.45 326 *e*P **P** **19 39 34.2 +1.3**
IIGN lAmb lAmb 19 39 40.2
comp=Z,78nm,0.7s
APA Apatity 89.51 339⇓ *i*P **P** **19 39 32.5 -0.4**
APA *i*S **S** **19 50 14.0 -4.7**
APA pmax pmax
comp=Z,34nm,1.0s
APA MLR MLR
comp=Z,2μm,28.0s
IZAR Zarasai 89.52 326 *e*P **P** **19 39 34.5 +1.2**
IZAR lAmb lAmb 19 39 39.3
comp=Z,41nm,1.0s
BMR Baia Mare 89.56 318⇓ *i*P **P** **19 39 35.6 +2.0**
LVV L'vov 89.61 320 *i*P **P** **19 39 35.1 +1.3**
LVV *i* 19 43 05.5
LVV *e* 19 45 10.3
LVV *i*S **S** **19 50 14.2 -6.2**
LVV *i* 19 51 21.3
LVV *i* 19 56 11.6
LVV pmax pmax
comp=Z,100nm,1.2s
LVV MLR MLR
comp=N,400nm,19.0s
LVV MLR MLR
comp=E,300nm,19.0s
LVV MLR MLR
comp=Z,500nm,19.0s
DEV Deva 89.64 316⇑ *i*P **P** **19 39 36.7 +2.7**
PDO Prodromos 89.69 309 P P 19 39 41.7 +7.3
DSL Palaion Diasel 89.84 309 *e*P **P** **19 39 38.0 +2.8**

DSL Palaion Diasel 89.84 309 P P 19 39 38.0 +2.8
VSU Vasula 89.88 329‖ eP P 19 39 35.9 +1.1
VSU pmax pmax
comp=Z,647nm,0.8s
FNA Florina 89.89 311 eP P 19 39 36.6 +1.2
FNA Florina 89.89 311 eP P 19 39 35.6 +0.2
comp=Z,36nm,0.9s
FNA Florina 89.89 311 P P 19 39 39.1 +3.7
FNA Florina 89.89 311 eP P 19 39 35.6 +0.2
FNA pmax pmax
comp=Z,36nm,0.9s
DRGR 89.93 317⇑ iP P 19 39 36.9 +1.4
KRUS Krusevo 90.07 312⇑ iP P 19 39 36.5 +0.2
NEST Nestorio 90.07 311 P P 19 39 37.7 +1.4
TRPA Tarpa 90.28 318⇑ iP P 19 39 37.8 +0.9
TRPA Tarpa 90.28 318 eP P 19 39 38.0 +1.1
OHR Ohrid 90.37 311⇑ iP P 19 39 39.4 +1.8
KWP Kalwaria Pacla 90.42 320 eP P 19 39 34.2 -3.4
KWP e 19 43 14.8
KWP eS S 19 50 29.6 +1.6
KWP Kalwaria Pacla 90.42 320 eP P 19 39 34.2 -3.4
KWP e 19 43 14.8
KWP eS S 19 50 29.6 +1.6
BZS Buzias 90.48 316⇑ iP P 19 39 39.1 +1.1
IGT Igoumenitsa 90.49 310 eP P 19 39 41.1 +3.0
IGT Igoumenitsa 90.49 310 P P 19 39 41.1 +3.0
IGT Igoumenitsa 90.49 310 eP P 19 39 41.1 +3.0
UZH Uzhgorod 90.52 319 dP P 19 39 40.2 +2.1
UZH e*PP pP 19 39 55.6 +1.0
UZH i S S 19 50 30.6 +1.8
UZH MLR MLR
comp=N,2µm,21.5s
UZH MLR MLR
comp=E,500nm,21.5s
UZH MLR MLR
comp=Z,400nm,21.5s
SIRR Siria 90.56 316‖ iP P 19 39 39.9 +1.6
SGD Sagiada 90.57 310 P P 19 39 44.2 +5.7
PHP Peshkopia 90.72 312 eP P 19 39 40.0 +0.7
PHP Peshkopia 90.72 312 P P 19 39 40.0 +0.7
PHP Peshkopia 90.72 312 eP P 19 39 40.0 +0.7
VNA2 Neumayer--Watz 90.81 198 P P 19 39 41.1 +2.0
baz=85,slow=3.8
FIA0 FINESS Array S 90.87 332 eP P 19 39 40.4 +1.0
FIA0 ePKiKP PKiKP 19 44 33.2 +0.5
FIA0 FINESS Array S 90.87 332 eP P 19 39 40.4 +1.0
FIA1 FINESS Array S 90.87 332 eP P 19 39 39.8 +0.4
FINES FINESS Array B 90.87 332 P P 19 39 40.4 +1.0
comp=Z,84nm,0.8s,baz=114,slow=4.4,SNR=76
FINES PKiKP PKiKP 19 44 33.2 +0.5
comp=Z,2.5nm,0.5s,baz=102,slow=3.6,SNR=5.1
FINES LR LR 20 25 32.7
comp=Z,882nm,20.2s,baz=108,slow=39
SUW Suwalki 90.91 324 eP P 19 39 40.1 +0.3
SUW e 19 43 17.6
SUW eS S 19 51 05.4 +33
SUW Suwalki 90.91 324 eP P 19 39 40.0 +0.3
comp=Z,168nm,0.9s
SUW Suwalki 90.91 324 eP P 19 39 40.0 +0.3
SUW pmax pmax
comp=Z,168nm,0.9s
TIR Tirane 91.10 311⇑ iP P 19 39 43.1 +2.2
CRVS Cervenica-Dubn 91.11 319 eP P 19 39 42.0 +1.2
CRVS Cervenica-Dubn 91.11 319 eS S 19 50 35.2 +0.9
CRVS Cervenica-Dubn 91.11 319 eP P 19 39 42.0 +1.2
CRVS eS S 19 50 35.2 +0.9
VNA1 Neumayer--Stat 91.19 198 P P 19 39 42.9 +2.1
STHS Stebnicka Huta 91.33 319 eP P 19 39 43.4 +1.5
STHS Stebnicka Huta 91.33 319 eP P 19 39 43.4 +1.5
STHS pmax pmax
comp=Z,27nm,0.8s
VNA3 Neumayer Olymp 91.35 197 P P 19 39 43.2 +1.6
DIVS Divibare 91.39 314 eP P 19 39 43.1 +0.8
comp=Z,44nm,0.9s
PDG Podgorica 91.70 312⇑ iP P 19 39 45.2 +1.5
TTG Podgorica 91.70 312 eP P 19 39 44.8 +1.1
comp=Z,286nm,2.0s
TTG Podgorica 91.70 312 eP P 19 39 44.8 +1.1
TTG pmax pmax
comp=Z,286nm,2.0s
NIE Niedzica 91.94 319 eP P 19 39 46.1 +1.4
NIE e 19 43 26.8
NIE eS S 19 50 40.7 -1.1
NIE e 19 56 48.6
NIE Niedzica 91.94 319 eP P 19 39 46.1 +1.4
NIE e 19 43 26.8
NIE eS S 19 50 40.7 -1.1
NIE e 19 56 48.6
BEL Belsk 91.98 322 eP P 19 39 46.1 +1.3
BEL e 19 43 25.0
BEL eS S 19 50 44.5 +2.5
BEL Belsk 91.98 322 eP P 19 39 46.1 +1.3
BEL e 19 43 25.0
BEL eS S 19 50 44.5 +2.5
PSZ Piszkesteto 92.00 318⇑ iP P 19 39 45.8 +0.8
PSZ Piszkesteto 92.00 318‖ eP P 19 39 47.6 +2.6
PSZ Piszkesteto 92.00 318 eP P 19 39 45.6 +0.6
comp=Z,18nm,0.8s
PSZ Piszkesteto 92.00 318 eP P 19 39 45.6 +0.6
PSZ pmax pmax
comp=Z,18nm,0.8s
RAR Rarotonga 92.07 112 LR LR 20 19 44.5
comp=Z,1µm,21.8s,baz=260,slow=35
RAR Rarotonga 92.07 112 eP P 19 39 45.6 -0.3
comp=Z,65nm,1.4s
RAR Rarotonga 92.07 112 eP P 19 39 45.6 -0.3
RAR pmax pmax
comp=Z,65nm,1.4s
KEV Kevo 92.37 340 eP P 19 39 47.6 +1.5
comp=Z,74nm,1.3s
KEV Kevo 92.37 340 eP P 19 39 47.6 +1.5
KEV pmax pmax
comp=Z,74nm,1.3s
OJC Ojcow 92.37 320 eP P 19 39 47.8 +1.1
OJC e 19 43 27.0
OJC eS S 19 50 44.3 -1.3
OJC e 19 56 53.6
OJC Ojcow 92.37 320 eP P 19 39 47.3 +0.7
comp=Z,13nm,0.9s
OJC Ojcow 92.37 320 eP P 19 39 47.3 +0.7
OJC pmax pmax
comp=Z,13nm,0.9s
LANS Liptovska Anna 92.44 319 eP P 19 39 48.5 +1.5
LANS Liptovska Anna 92.44 319 eP P 19 39 48.5 +1.5
MORH M ‡r ¡gy, Hung 92.62 316 eP P 19 39 48.6 +0.8
KLNR Kaliningrad 92.72 325 cP P 19 39 49.5 +1.4
KLNR pmax pmax
comp=Z,82nm,0.6s
VYHS Vyhne 92.77 318 eP P 19 39 49.4 +0.9
VYHS ePP PP 19 43 30.4 -0.9
VYHS eS S 19 50 48.0 -1.3
VYHS Vyhne 92.77 318 eP P 19 39 49.4 +0.9
VYHS pmax pmax
comp=Z,8.0nm,1.3s
ARA0 ARCESS Array S 92.83 340 eP P 19 39 48.8 +0.4
ARCES ARCESS Array B 92.83 340 P P 19 39 48.8 +0.4
comp=Z,32nm,0.8s,baz=98,slow=4.9,SNR=57
ARCES LR LR 20 27 02.9
comp=Z,3µm,21.0s,baz=104,slow=39
ARCES ARCESS Array B 92.83 340 eP P 19 39 48.3 -0.1
ARCES ARCESS Array B 92.83 340 eP P 19 39 48.3 -0.1
ARE0 ARCESS Array S 92.83 340 eP P 19 39 48.8 +0.4
comp=Z,42nm,0.8s
ARE0 ARCESS Array S 92.83 340 eP P 19 39 48.6 +0.2
GAMB Gambell 92.99 26 eP P 19 39 49.8 +0.7
comp=Z,58nm,0.9s
CSKK Cs ‡kako 93.02 317 eP P 19 39 51.0 +1.3
SRO Srobarova 93.04 318 eP P 19 39 51.2 +1.5
SRO Srobarova 93.04 318 eP P 19 39 51.2 +1.5
TIP Timpagrande 93.19 309⇑ iP P 19 39 51.7 +0.9
OKC Ostrava-Krasne 93.38 320 eP P 19 39 52.6 +1.3
OKC ePP PP 19 43 30.4 -5.6
OKC eS S 19 50 53.5 -1.0
OKC AMS AMS 20 36 00.0
comp=Z,800nm,18.4s
OKC Ostrava-Krasne 93.38 320 eP P 19 39 52.6 +1.3
OKC e 19 50 53.5
OKC MLR MLR
comp=Z,800nm,18.4s
BLY Banja Luka 93.47 314⇑ iP P 19 39 53.3 +1.5
BLY Banja Luka 93.47 314 eP P 19 39 53.0 +1.1
comp=Z,28nm,0.8s
KTK1 Kautokeino 93.53 339 eP P 19 39 51.8 +0.2

HAMF Hammerfest 93.66 341 eP P 19 39 53.8 +1.7
MORC Moravsky Berou 93.77 320⇑ iP P 19 39 55.7 +2.6
MORC Moravsky Berou 93.77 320 eP P 19 39 54.0 +0.9
comp=Z,68nm,0.8s
MORC Moravsky Berou 93.77 320 eP P 19 39 54.0 +0.9
MORC pmax pmax
comp=Z,69nm,0.8s
MODS Modra-Piesok 93.79 318 eP P 19 39 54.0 +0.8
MODS Modra-Piesok 93.79 318 eS S 19 50 57.6 -0.6
MODS Modra-Piesok 93.79 318 eP P 19 39 54.0 +0.8
MODS eS S 19 50 57.6 -0.6
BEHE Becsehely 93.94 316 eP P 19 39 55.6 +1.7
KRLC Kraliky 94.28 320 eP P 19 39 57.4 +1.9
KRLC ePP PP 19 43 43.0 -0.1
KRLC Kraliky 94.28 320 eP P 19 39 57.4 +1.9
KRLC e 19 43 43.0
VRAC Vranov 94.33 319 P P 19 39 57.0 +1.3
comp=Z,1.9nm,0.6s,baz=129,slow=8.9,SNR=3.9
VRAC PP PP 19 43 42.5 -1.0
comp=Z,10nm,1.2s,baz=76,slow=9.8,SNR=3.6
HOPEN Hopen 94.37 347 eP P 19 39 56.2 +0.9
UNV Unalaska Valle 94.39 36 eP P 19 39 55.6 -0.2
comp=Z,126nm,0.7s
DPC Dobruska-Polom 94.60 320 eP P 19 39 58.4 +1.4
DPC ePP PP 19 43 41.3 -4.3
DPC eS S 19 51 05.0 -0.3
DPC AMS AMS 20 29 50.0
comp=Z,1µm,19.1s
DPC Dobruska-Polom 94.60 320 eP P 19 39 58.4 +1.4
DPC e 19 43 41.3
DPC e 19 51 05.0
DPC MLR MLR
comp=Z,1µm,19.1s
KSP Ksiaz 94.67 321 eP P 19 39 58.4 +1.2
KSP e 19 43 47.3
KSP eS S 19 51 05.3 -0.4
KSP e 19 57 29.3
KSP Ksiaz 94.67 321 eP P 19 39 58.4 +1.2
KSP e 19 43 47.3
KSP eS S 19 51 05.3 -0.4
KSP e 19 57 29.3
CONA Conrad Observa 94.69 318 ePcP PcP 19 39 59.2 +1.4
comp=Z,5.0nm,0.8s
CONA ePP PP 19 43 46.9 +0.4
comp=Z,20nm,1.3s
UPC Upice 94.81 320 ePP PP 19 43 39.0 -8.2
UPC eS S 19 51 07.2 +0.2
UPC AMS AMS 20 30 00.0
comp=Z,1µm,21.1s
AKUT Akutan 94.84 36 eP P 19 39 57.6 -0.3
comp=Z,230nm,0.8s
ARSA Arzberg 94.86 317 ePcP PcP 19 40 00.2 +1.7
comp=Z,16nm,0.9s
ARSA ePP PP 19 43 48.6 +0.9
comp=Z,16nm,1.2s
VAE Valguarnera 94.86 307 LR LR 20 26 28.8
comp=Z,363nm,20.7s,baz=109,slow=38
BOJS Bojanci 94.91 315 iP P 19 40 01.1 +2.7
TREC Trest 95.05 319 eP P 19 40 01.3 +2.3
TREC Trest 95.05 319 eP P 19 40 01.3 +2.3
PERS Pernice 95.09 316 iP P 19 40 00.1 +0.8
TRO Tromso 95.13 339 eP P 19 40 00.1 +1.2
SOKA Soboth 95.15 316 ePcP PcP 19 40 01.5 +1.6
comp=Z,21nm,1.0s,SNR=14
VISS Visnje 95.22 315 eP P 19 40 02.5 +2.7
OBKA Obir 95.47 316 ePcP PcP 19 40 02.9 +1.6
comp=Z,15nm,1.2s
GOPC GO Pecny, Ondr 95.55 319 eP P 19 40 02.4 +1.1
GOPC ePP PP 19 43 53.3 +0.3
GOPC ex x 19 50 54.5
GOPC AMS AMS 20 30 30.0
comp=Z,1µm,21.0s
GOPC GO Pecny, Ondr 95.55 319 eP P 19 40 02.4 +1.1
GOPC e 19 43 53.3
GOPC MLR MLR
comp=Z,1µm,21.0s
PRU Pruhonice 95.72 320 eP P 19 40 04.3 +2.3
PRU ePP PP 19 43 48.5 -5.7
PRU ex x 19 50 53.5
PRU AMS AMS 20 30 40.0
comp=Z,1µm,21.1s
PRU Pruhonice 95.72 320 eP P 19 40 04.3 +2.3
PRU MLR MLR
comp=Z,1µm,21.1s
PVCC Panska Ves 95.73 320 eP P 19 40 04.8 +2.7
PVCC AMS AMS 20 32 40.0
comp=Z,1µm,20.8s
PVCC Panska Ves 95.73 320 eP P 19 40 04.8 +2.7
PVCC MLR MLR
comp=Z,1µm,20.8s
MOA Molln 95.76 317 ePcP PcP 19 40 03.9 +1.4
comp=Z,5.7nm,1.2s
MOA ePP PP 19 43 56.3 +1.7
comp=Z,19nm,1.1s
JAVS Javornik 95.76 315 iP P 19 40 04.8 +2.3
PRA Prague 95.79 320 ePP PP 19 43 55.4 +0.6
PRA eS S 19 51 15.6 +0.1
PRA AMS AMS 20 30 30.0
comp=Z,2µm,24.6s
BSD Bornholm Skovb 95.82 325 iP P 19 40 04.8 +2.5
comp=Z,16nm,1.0s
comp=Z,1µm,24.0s
BSD Bornholm Skovb 95.82 325 eP P 19 40 04.8 +2.5
BSD pmax pmax
comp=Z,16nm,1.0s
BSD MLR MLR
comp=Z,2µm,24.0s
BRG Berggiesshubel 96.15 320 eP P 19 40 05.6 +1.7
comp=Z,7.9nm,0.8s
BRG ePP PP 19 43 57.1 -0.4
comp=Z,15nm,1.2s
BRG Berggiesshubel 96.15 320 eP P 19 40 05.6 +1.7
BRG e 19 43 57.1
BRG pmax pmax
comp=Z,8.0nm,0.8s
BRG pmax pmax
comp=Z,15nm,1.2s
GEA0 GERESS Array S 96.19 318 eP P 19 40 04.6 +0.3
GEC2 GERESS Array S 96.19 318 eP P 19 40 04.3 0.0
comp=Z,7.1nm,0.8s
GEC2 GERESS Array S 96.19 318 eP P 19 40 04.3 0.0
GEC2 pmax pmax
comp=Z,7.0nm,0.8s
GERES GERESS Array B 96.19 318 P P 19 40 05.1 +0.8
comp=Z,3.8nm,0.6s,baz=76,slow=5.6,SNR=20
GERES PP PP 19 43 55.2 -2.9
comp=Z,6.3nm,1.0s,baz=90,slow=5.7,SNR=8.3
GERES PKiKP PKiKP 19 44 42.7 +0.3
comp=Z,1.4nm,0.7s,baz=40,slow=7.7,SNR=2.3
GERES LR LR 20 29 06.3
comp=Z,368nm,20.9s,baz=84,slow=39
KHC Kasperske Hory 96.29 319 eP P 19 40 06.5 +1.8
KHC ePP PP 19 43 55.5 -3.2
KHC ex x 19 50 58.1
KHC eS S 19 51 18.7 -1.3
KHC AMS AMS 20 29 40.0
comp=Z,1µm,25.4s
KHC Kasperske Hory 96.29 319 eP P 19 40 04.8 +0.1
comp=Z,1.6nm,0.7s
KHC Kasperske Hory 96.29 319 eP P 19 40 06.5 +1.8
KHC e 19 43 55.5
KHC e 19 51 18.7
KHC MLR MLR
comp=Z,1µm,25.4s
KBA Koelnbreinsper 96.33 317 ePP PP 19 43 59.3 0.0
comp=Z,13nm,1.4s
SPA0 Spitsbergen Ar 96.45 348 eP P 19 40 04.3 -0.5
SPA0 Spitsbergen Ar 96.45 348 eP P 19 40 04.6 -0.2
SPITS Spitsbergen Ar 96.45 348 P P 19 40 04.7 -0.1
comp=Z,44nm,0.7s,baz=116,slow=7.5,SNR=33
SPITS LR LR 20 29 51.5
comp=Z,2µm,21.5s,baz=100,slow=39
MOR8 Moi Rana 96.59 336 eP P 19 40 05.3 -0.3
HSPB Hornsund (broa 96.59 347 eP P 19 40 04.9 -0.5
HFS Hagfors 96.72 330 P P 19 40 07.1 +0.8
comp=Z,39nm,0.8s,baz=99,slow=7.7,SNR=32
HFS PP PP 19 44 02.3 +0.6
comp=Z,15nm,0.8s,baz=106,slow=11,SNR=5.7
HFS LR LR 20 28 49.2
comp=Z,1µm,21.9s,baz=88,slow=39
CLL Collm 96.77 321 eP P 19 40 07.0 +0.3
comp=Z,6.0nm,1.1s
CLL ePP PP 19 44 04.0 +1.7
CLL i 19 44 10.4
CLL eSKKSac S 19 51 06.0 -18
CLL eS S 19 51 23.0 -0.9
CLL eSP SP 19 52 44.0 -0.4
CLL eSS SS 19 58 03.0 +3.0
CLL e(SSS) 20 02 36.0
CLL eSSSS 20 05 00.0
CLL LmV 20 31 00.0
comp=Z,900nm,19.8s
CLL Collm 96.77 321 eP P 19 40 07.1 +0.4
comp=Z,8.0nm,1.1s
CLL Collm 96.77 321 eP P 19 40 07.0 +0.3
CLL eS S 19 51 23.0 -0.9
CLL pmax pmax
comp=Z,6.0nm,1.1s
CLL MLR MLR
comp=Z,900nm,19.8s
LOF Lofoten 96.99 338 eP P 19 40 08.5 +1.2
NKC Novy Kostel 97.08 320 AMS AMS 20 33 30.0
comp=Z,1µm,20.6s
STOK Stokkvaagen 97.17 336 eP Pdif 19 40 09.3 +1.0
KBS Kingsbay 97.34 349 eP Pdif 19 40 09.4 +0.5
comp=Z,34nm,1.0s
KBS Kingsbay 97.34 349 eP Pdif 19 40 09.4 +0.6
KBS Kingsbay 97.34 349 eP Pdif 19 40 09.4 +0.6
KBS pmax pmax
comp=Z,34nm,1.0s
LLD Lille Linde 97.37 325 iP Pdif 19 40 13.9 +4.5
LLD Lille Linde 97.37 325 iP Pdif 19 40 13.9 +4.5
WTTA Wattenberg 97.51 317 iPcP Pdif 19 40 11.9 +1.4
comp=Z,5.8nm,0.6s
WTTA ePP PP 19 44 09.7 +1.4
comp=Z,7.8nm,0.8s
WATA Walderalm 97.55 317 ePP PP 19 44 10.6 +2.0
comp=Z,15nm,1.2s
NC405 NORSAR Array S 97.71 331 eP P 19 40 10.5 -0.3
NC602 NORSAR Array S 97.80 330 eP P 19 40 09.7 -1.5
NC602 NORSAR Array S 97.80 330 eP Pdif 19 40 13.3 +2.1
MOTA Moosalm 97.87 317 ePcP Pdif 19 40 14.0 +1.9
comp=Z,8.6nm,0.7s
MOTA ePP PP 19 44 10.2 -0.8
comp=Z,18nm,1.3s
NC303 NORSAR Array S 97.88 331 eP Pdif 19 40 12.6 +1.0
NB2 NORSAR Subarra 97.96 331 P Pdif 19 40 13.3 +1.3
comp=Z,9.3nm,0.9s,baz=87,slow=4.4
NB2 NORSAR Subarra 97.96 331 P Pdif 19 40 13.3 +1.3
baz=87,slow=4.4
NB200 NORSAR Array S 97.96 331 eP Pdif 19 40 12.8 +0.9
NB200 ePKKPbc PKKPbc 19 56 45.0 -3.2
NB200 e 20 00 22.1
NOA NORSAR Array B 97.96 331 P Pdif 19 40 12.8 +0.9
comp=Z,7.4nm,0.9s,baz=77,slow=4.6,SNR=11
NOA PKKPbc PKKPbc 19 56 45.0 -3.2
comp=Z,0.9nm,0.7s,baz=270,slow=2.4,SNR=4.5
NOA SKKPbc SKKPbc 20 00 22.1 -2.8
comp=Z,0.7nm,0.9s,baz=280,slow=4.7,SNR=3.4
NOA LR LR 20 28 50.5
comp=Z,1µm,21.9s,baz=140,slow=38
NOA NORSAR Array B 97.96 331 P Pdif 19 40 12.8 +0.8
NOA pmax pmax
comp=Z,17nm,1.1s
NOA pmax pmax
comp=Z,1.0nm,0.7s
NOA MLR MLR
comp=Z,1µm,21.9s
RETA Reutte 98.11 317 ePcP Pdif 19 40 14.5 +1.5
comp=Z,12nm,0.9s,SNR=5.4
RETA ePP PP 19 44 11.5 -1.3
comp=Z,14nm,1.6s
FETA Feichten 98.12 316 ePcP Pdif 19 40 14.5 +1.3
comp=Z,6.8nm,1.0s
FETA ePP PP 19 44 12.9 -0.1
comp=Z,18nm,1.1s
NBO02 NORSAR Array S 98.13 331 eP P 19 40 11.5 -1.2
NC204 NORSAR Array S 98.17 331 eP Pdif 19 40 13.9 +1.0
DAVA Damuels 98.70 317 ePdiff P 19 40 15.3 -0.4
comp=Z,12nm,0.8s
KONO Kongsberg 98.78 329 eP Pdif 19 40 15.9 +0.3
comp=Z,20nm,1.1s
KONO Kongsberg 98.78 329 eP Pdif 19 40 17.9 +2.3
KONO Kongsberg 98.78 329‖ eP Pdif 19 40 16.2 +0.6
KONO pmax pmax
comp=Z,8.0nm,0.9s
KEST Kesra 98.83 305 P P 19 40 16.2 -0.2
comp=Z,9.8nm,1.1s,baz=146,slow=15,SNR=2.4
MUD Monsted U'grnd 99.09 326 iP Pdif 19 40 19.4 +2.4
comp=Z,2µm,22.0s
MUD Monsted U'grnd 99.09 326 eP Pdif 19 40 19.4 +2.4
MUD MLR MLR
comp=Z,2µm,22.0s
IM3 Indian Mountai 100.67 24 ePdif Pdif 19 40 23.9 +0.1
CAST Castle Rocks 101.72 27 ePdif Pdif 19 40 29.8 +1.1
TOLK Toolik Lake Re 101.83 21 P Pdif 19 40 29.6 +0.5
baz=282
TOLK Toolik Lake Re 101.83 21 ePdif Pdif 19 40 29.5 +0.5
COLD Coldfoot 101.87 23 ePdif Pdif 19 40 29.5 +0.3
MLY Manley 102.05 25 ePdif Pdif 19 40 30.4 +0.3
BPKW Bear Paw Mtn. 102.10 26 ePdif Pdif 19 40 30.3 0.0
PPT2 Papeete2 102.16 110 ePdif Pdif 19 40 27.2 -4.5
comp=Z,138nm,27.8s
PPT2 Papeete2 102.16 110 ePP PP 19 44 34.4 -10
comp=Z,261nm,31.2s
PPT2 eSdif Sdif 19 52 09.0 -1.9
comp=Z,1µm,34.2s
PPT2 Papeete2 102.16 110 ePS PS 19 53 51.5 +0.1
comp=Z,411nm,30.2s
PPT2 eSS SS 19 59 14.8 -2.2
comp=Z,2µm,32.2s
PPT2 Papeete2 102.16 110 eLR LR 20 14 21.8
comp=Z,2µm,21.8s
SKT Skwentna 102.18 28 ePdif Pdif 19 40 31.2 +0.5
KDAK Kodiak Island 102.20 32 P Pdif 19 40 30.1 -0.7
comp=Z,20nm,0.9s,baz=290,slow=7.2,SNR=5.0
TRF Thorofare Moun 102.51 26 ePdif Pdif 19 40 33.1 +0.8
SUA Susitna One 102.63 29 ePdif Pdif 19 40 32.0 -0.8
BRLK Bradley Lake 102.82 30 ePdif Pdif 19 40 34.0 +0.4
MCK McKinley 103.06 26 ePdif Pdif 19 40 34.5 -0.1
MCK McKinley 103.06 26 eP Pdif 19 40 34.5 -0.1
MDM Murphy Dome 103.11 25 ePdif Pdif 19 40 35.2 +0.4
RND Reindeer 103.15 26 ePdif Pdif 19 40 35.9 +0.8
RND Reindeer 103.15 26 eP Pdif 19 40 35.9 +0.8
WRH Wood River Hil 103.27 25 ePdif Pdif 19 40 35.5 0.0
CCB Clear Creek Bu 103.35 25 ePdif Pdif 19 40 35.9 +0.1
PMR Palmer 103.37 28 ePdif Pdif 19 40 36.2 +0.3
PMR Palmer 103.37 28 eP Pdif 19 40 36.3 +0.3
IL1 Eielson Array 103.71 25 ePdif Pdif 19 40 36.7 -0.7
ILAR Eielson Array 103.71 25 Pdiff Pdif 19 40 36.0 -1.4
comp=Z,1.2nm,0.7s,baz=292,slow=3.4,SNR=14
ILAR PKiKP PKiKP 19 44 55.9 +0.6
comp=Z,5.0nm,0.9s,baz=289,slow=6.5,SNR=5.2
ILAR PKKPbc PKKPbc 19 56 30.2 -1.4
comp=Z,0.5nm,0.6s,baz=101,slow=1.9,SNR=6.1
ILB Eielson Array 103.71 25 ePdif Pdif 19 40 36.8 -0.7
DHY Denali Highway 103.88 27 ePdif Pdif 19 40 38.6 +0.2
DAG Danmarks Havn 104.08 349 iP Pdif 19 40 38.6 -0.2
comp=Z,12nm,0.7s
comp=Z,3µm,21.0s
DAG Danmarks Havn 104.08 349 iP Pdif 19 40 38.6 -0.2
DAG pmax pmax
comp=Z,12nm,0.7s
DAG MLR MLR
comp=Z,3µm,21.0s
TORD Torodi Ar. Bea 104.78 282 Pdiff Pdif 19 40 42.6 -0.7
comp=Z,1.4nm,1.1s,baz=112,slow=2.5,SNR=3.0
TORD PKiKP PKiKP 19 44 59.3 +0.7
comp=Z,1.6nm,0.7s,baz=100,slow=2.2,SNR=5.0
TORD PKKPbc PKKPbc 19 56 26.8 0.0
comp=Z,0.7nm,0.5s,baz=304,slow=3.4,SNR=11
TORD P3KPbc 19 58 32.3
comp=Z,0.6nm,0.6s,baz=263,slow=4.3,SNR=4.6
TOA1 Torodi Ar. Sit 104.78 282 ePdif Pdif 19 40 42.6 -0.7
TOA1 ePKiKP PKiKP 19 44 59.3 +0.7
TOA1 ePKKPbc PKKPbc 19 56 26.8 0.0
TOA1 e 19 58 32.3
RIDG Independ'e Rid 104.83 26 ePdif Pdif 19 40 42.5 0.0
SCRK Sand Creek 105.13 25 ePdif Pdif 19 40 44.6 +0.7
DOT Dot Lake 105.19 26 ePdif Pdif 19 40 45.6 +1.5
EKA Eskdalemuir Ar 106.11 326 Pdiff Pdif 19 40 49.4 +1.1
comp=Z,3.1nm,0.9s,baz=115,slow=4.8,SNR=2.8
EKA PKiKP PKiKP 19 44 58.4 -1.5
comp=Z,4.2nm,0.9s,baz=96,slow=6.7,SNR=5.1
BALM Baldy 106.68 28 ePdif Pdif 19 40 52.2 +1.3
BALM Baldy 106.68 28 eP Pdif 19 40 52.2 +1.3
INK Inuvik 107.51 19 Pdiff Pdif 19 40 54.5 +0.3
comp=Z,1.5nm,0.8s,baz=287,slow=7.4,SNR=5.6
INK PKiKP PKiKP 19 45 03.3 +1.1
comp=Z,6.2nm,0.9s,baz=1.1,slow=2.2,SNR=8.6

INK PKKPbc **PKKPbc** **19 56 18.2 -1.8**
comp=Z,1.4nm,0.7s,baz=63,slow=3.1,SNR=5.1
INK Inuvik 107.51 19 *e*Pdif **Pdif** **19 40 55.3 +1.1**
INK PKiKP **PKiKP** **19 45 03.3 +1.1**
INK PKKPbc **PKKPbc** **19 56 18.2 -1.8**
INK Inuvik 107.51 19 *e*P **Pdif** **19 40 55.3 +1.1**
ESDC Sonseca Array 109.20 310 PKiKP **PKiKP** **19 45 07.5 +1.2**
comp=Z,2.2nm,0.8s,baz=17,slow=3.2,SNR=9.0
ESDC PKKPbc **PKKPbc** **19 56 13.9 0.0**
comp=Z,0.5nm,0.6s,baz=282,slow=5.0,SNR=3.9
KOWA Kowa 110.39 283 PKiKP **PKiKP** **19 45 08.8 -0.3**
comp=Z,1.4nm,0.7s,baz=36,slow=1.1,SNR=4.1
KOWA PKKPbc **PKKPbc** **19 56 09.9 +0.6**
comp=Z,3.3nm,0.7s,baz=275,slow=3.1,SNR=9.3
KIC Kosan Boka 110.61 274 *e*P **PKKPab** **19 56 21.3 +2.0**
comp=Z,52nm,1.6s
DBIC Dimbokro 110.75 275 PP PP 19 45 43.1 -4.5
comp=Z,3.5nm,0.7s,baz=47,slow=5.8,SNR=3.6
DBIC PKKPbc **PKKPbc** **19 56 09.3 +1.4**
comp=Z,1.7nm,0.5s,baz=321,slow=2.1,SNR=4.3
LIC Lamto 110.89 274 *e*P **PKKPab** **19 56 20.1 +2.0**
comp=Z,84nm,1.7s
TIC Toumodi 110.91 274 *e*P **PKKPab** **19 56 19.2 +1.2**
RES Resolute Bay 111.22 6 Pdiff **Pdif** **19 41 11.6 +1.0**
comp=Z,0.6nm,0.6s,baz=360,slow=15,SNR=6.2
RES PKiKP **PKiKP** **19 45 09.7 +0.7**
comp=Z,10.0nm,0.8s,baz=309,slow=1.8,SNR=22
RES Resolute Bay 111.22 6 *e*Pdif **Pdif** **19 41 12.0 +1.4**
RES *e*PKiKP **PKiKP** **19 45 10.2 +1.3**
RES Resolute Bay 111.22 6 *e*P **Pdif** **19 41 12.0 +1.4**
RES *i* 19 45 10.3
MORF Marmelete 113.18 308 *e*PP PP 19 46 04.4 +0.1
MORF AMS AMS 20 37 11.1
comp=N,659nm,16.6s
LIS Lisbon 113.33 309 *e*PP PP 19 46 05.4 +0.2
LIS AMS AMS 20 53 07.1
comp=N,987nm,31.5s
RKT Rikitea 113.97 119 *e*PP PP 19 46 08.0 -2.1
comp=N,185nm,31.8s
RKT Rikitea 113.97 119 *e*PS PS 19 55 46.0 -2.3
comp=N,450nm,28.8s
RKT Rikitea 113.97 119 *e*LR LR 20 19 48.9
comp=N,2μm,25.8s
BBB Bella Bella 117.22 34 PKP **PKPdf** **19 45 21.5 +0.4**
comp=N,14nm,0.8s,baz=300,slow=6.1,SNR=6.8
BBB Bella Bella 117.22 34 *e*PKPdf **PKPdf** **19 45 21.5 +0.4**
BBB *e*PKPdf **PKiKP** **19 45 22.4 +1.4**
YKA Yellowknife Ar 117.29 20 PKP **PKPdf** **19 45 21.1 +0.2**
comp=N,8.3nm,0.7s,baz=310,slow=1.8,SNR=64
YKA PKKPbc **PKKPab** **19 55 48.4 -0.2**
comp=N,3.0nm,0.7s,baz=122,slow=4.2,SNR=17
YKA SKKPbc SKKPbc 19 59 25.1 -4.9
comp=N,0.3nm,0.8s,baz=160,slow=2.5,SNR=4.9
YKB5 Yellowknife Ar 117.29 20 *e*PKPdf **PKPdf** **19 45 20.8 -0.1**
SFJD Kangerlussuaq 117.74 350 PKP **PKPdf** **19 45 21.5 -0.2**
comp=N,15nm,0.9s,baz=353,slow=2.5,SNR=8.1
LLLB Lillooet 121.40 33 *e*PKPdf **PKPdf** **19 45 29.6 +0.3**
NRS Narsarsuaq 121.59 344 *e*PKPdf **PKPdf** **19 45 30.1 +0.8**
NRS Narsarsuaq 121.59 344 *e*PKIKP **PKPdf** **19 45 30.1 +0.8**
A04D Lummi Island 121.90 35 P **PKPdf** **19 45 31.3 +1.1**
baz=300
IVI Ivigtut 122.28 345 *e*PKPdf **PKPdf** **19 45 31.0 +0.5**
E03A Lebam 122.43 38 *e*PKPdf **PKPdf** **19 45 31.8 +0.5**
B05A Bryant 122.47 36 P **PKPdf** **19 45 32.4 +1.1**
baz=300
B06A Marblemount 122.70 35 *e*PKPdf **PKPdf** **19 45 32.2 +0.5**
F03A Seaside 122.71 39 *e*PKPdf **PKPdf** **19 45 33.1 +1.2**
D05A Enumclaw 123.07 37 *e*PKPdf **PKPdf** **19 45 33.8 +1.2**
D05A *e*PP **PP** **19 47 09.7 -2.5**
G03D McMinnville, O 123.22 39 P **PKPdf** **19 45 34.2 +1.3**
baz=297
LON Longmire 123.39 37 *e*PKPdf **PKPdf** **19 45 34.2 +1.0**
LON *e*PP **PP** **19 47 12.2 -2.2**
LON Longmire 123.39 37 *e*PKIKP **PKPdf** **19 45 34.3 +1.0**
LON *e* 19 47 12.2
LTY Liberty 123.81 36 *e*PKPdf **PKPdf** **19 45 34.5 +0.4**
I03D Drain, OR 123.85 41 P **PKPdf** **19 45 35.7 +1.6**
baz=296,SNR=17
B08A Colville Reser 124.00 34 *e*PKPdf **PKPdf** **19 45 34.7 +0.4**
B08A *e*PP **PP** **19 47 14.6 -3.8**
H04A Detroit Lake 124.15 39 *e*PKPdf **PKPdf** **19 45 35.2 +0.5**
H04A *e*PP **PP** **19 47 16.7 -2.8**
L02D Cave Junction, 124.34 43 P **PKPdf** **19 45 36.2 +1.0**
baz=295
I04A Tendick Farm, 124.41 41 P **PKPdf** **19 45 36.3 +1.1**
baz=297,SNR=19
G05D Wamic, OR 124.43 39 P **PKPdf** **19 45 37.3 +2.0**
baz=299
HUMO Hull Mountain 124.58 42 *e*PKPdf **PKPdf** **19 45 36.8 +1.2**
KHMM Horse Mountain 124.78 44 *e*PKPdf **PKPdf** **19 45 37.6 +1.4**
I05D Terrebonne, OR 124.84 40 P **PKPdf** **19 45 37.5 +1.3**
baz=298
G06A Carlson Farm, 124.85 38 *e*PKPdf **PKPdf** **19 45 37.6 +1.5**
G06A *e*PP **PP** **19 47 18.9 -5.4**
J04D Umpqua Nationa 124.86 41 P **PKPdf** **19 45 37.4 +1.0**
baz=297,SNR=57
C09A Chrisman Ranch 124.90 35 *e*PKPdf **PKPdf** **19 45 36.8 +0.7**
C09A *e*PP **PP** **19 47 17.9 -6.5**
HAWA Hanford 124.93 37 *e*PKPdf **PKPdf** **19 45 37.2 +1.1**
HAWA *e*PP **PP** **19 47 17.2 -7.5**
D08A Wollman Farm, 124.94 36 *e*PKPdf **PKPdf** **19 45 37.3 +1.1**
YBH Yreka Blue Hor 125.12 43 PKP **PKPdf** **19 45 38.1 +1.4**
comp=N,8.8nm,0.7s,baz=338,slow=5.2,SNR=17
YBH PP **PP** **19 47 23.9 -2.4**
comp=N,4.0nm,1.0s,baz=281,slow=5.1,SNR=3.8
YBH Yreka Blue Hor 125.12 43 *e*PKPdf **PKPdf** **19 45 39.0 +2.2**
YBH *e*PP **PP** **19 47 20.1 -6.2**
YBH Yreka Blue Hor 125.12 43 *e*PKIKP **PKPdf** **19 45 39.0 +2.2**
E08A Dider Farm, El 125.16 36 *e*PKPdf **PKPdf** **19 45 38.0 +1.4**
E08A *e*PP **PP** **19 47 24.5 -1.6**
M02C Callahan 125.17 43 P **PKPdf** **19 45 38.3 +1.4**
baz=295,SNR=16
NEW Newport 125.28 34 PKP **PKPdf** **19 45 37.9 +1.1**
comp=N,14nm,0.7s,baz=4,slow=1.5,SNR=25
NEW Newport 125.28 34 P **PKPdf** **19 45 38.1 +1.3**
baz=305
NEW Newport 125.28 34 *e*PKPdf **PKPdf** **19 45 38.5 +1.7**
NEW Newport 125.28 34 *e*PKIKP **PKPdf** **19 45 38.5 +1.7**
PINE Pine Mountain 125.36 40 *e*PKPdf **PKPdf** **19 45 38.6 +1.3**
PINE *e*PP **PP** **19 47 24.1 -3.8**
K04D Chiloquin, OR 125.37 42 P **PKPdf** **19 45 38.7 +1.4**
baz=297
J05D Fort Rock, OR 125.41 41 P **PKPdf** **19 45 38.8 +1.4**
baz=298,SNR=5.3
N02D Trinity Center 125.45 44 P **PKPdf** **19 45 38.6 +1.2**
baz=295,SNR=16
E09A Wood Farm, Sta 125.68 36 *e*PKPdf **PKPdf** **19 45 38.7 +1.2**
M04C Macdoel 125.69 42 P **PKPdf** **19 45 39.2 +1.3**
baz=296,SNR=17
WDC Whiskeytown Da 125.73 44 *e*PKPdf **PKPdf** **19 45 39.0 +1.2**
WDC Whiskeytown Da 125.73 44 *e*PKIKP **PKPdf** **19 45 39.0 +1.2**
G08A Pilot Rock 125.84 37 *e*PKPdf **PKPdf** **19 45 39.4 +1.3**
K05A Summer Lake 125.89 41 *e*PKPdf **PKPdf** **19 45 39.6 +1.2**
FCC Fort Churchill 126.10 12 *e*PKPpre PKPpre 19 45 28.6
FCC *e*PKPdf **PKiKP** **19 45 38.5 +0.2**
FCC *e*PP **PP** **19 47 24.4 -7.2**
O03D Paynes Creek 126.36 44 P **PKPdf** **19 45 40.0 +0.8**
baz=295,SNR=20
F10A Beach Ranch, E 126.51 36 *e*PKPdf **PKPdf** **19 45 40.6 +1.3**
WALA Waterton Lakes 126.52 31 *e*PKPdf **PKPdf** **19 45 39.6 +0.4**
MOD Modoc Plateau 126.66 42 *e*PKPdf **PKPdf** **19 45 40.9 +1.1**
MOD *e*PP **PP** **19 47 31.1 -5.4**
ORV Oroville 126.89 45 *e*PKPdf **PKPdf** **19 45 40.7 +0.6**
ORV *e*PP PP 19 47 29.8 -8.2
ORV Oroville 126.89 45 *e*PKIKP **PKPdf** **19 45 40.7 +0.6**
BMO Blue Mountains 127.07 37 *e*PKPdf **PKPdf** **19 45 40.8 +0.4**
BMO Blue Mountains 127.07 37 *e*PKIKP **PKPdf** **19 45 40.8 +0.4**
JTMT Jette 127.13 33 *e*PKPdf **PKPdf** **19 45 40.9 +0.4**
J08A Circle Bar Ran 127.13 39 *e*PKPdf **PKPdf** **19 45 41.0 +0.4**
FFC Flin Flon 127.47 20 *e*PKPdf **PKPdf** **19 45 41.6 +0.9**
FFC Flin Flon 127.47 20 *e*PKIKP **PKPdf** **19 45 41.6 +0.9**
WVOR Wild Horse Val 127.49 40 *e*PKPdf **PKPdf** **19 45 41.3 0.0**
WVOR *e*PP **PP** **19 47 38.8 -3.2**
WVOR Wild Horse Val 127.49 40 *e*PKIKP **PKPdf** **19 45 41.3 0.0**
WVOR *e* 19 47 38.8
AFDM Forest Hills D 127.52 45 *e*PKPdf **PKPdf** **19 45 41.9 +0.5**
BEKR Beckworth 127.54 44 *e*PKPdf **PKPdf** **19 45 42.5 +0.9**
MSO Missoula 127.87 33 P **PKPdf** **19 45 42.4 +0.6**
baz=307
MSO Missoula 127.87 33 *e*PKPdf **PKPdf** **19 45 42.5 +0.6**
PAHR Pah Rah Range 128.29 44 *e*PKPdf **PKPdf** **19 45 43.6 +0.6**
VCNR Virginia City 128.29 44 *e*PKPdf **PKPdf** **19 45 44.3 +1.3**
CMB Columbia Colle 128.32 46 *e*PKPdf **PKPdf** **19 45 43.8 +0.9**
CMB *e*PP **PP** **19 47 43.0 -4.5**
CMB Columbia Colle 128.32 46 *e*PKIKP **PKPdf** **19 45 43.8 +0.9**
CMB *e* 19 47 43.0
YERR Yerington 128.71 45 *e*PKPdf **PKPdf** **19 45 44.3 +0.5**
YERR *e*PP **PP** **19 47 44.3 -5.9**
MFID Camas Ranch 128.74 38 *e*PKPdf **PKPdf** **19 45 45.1 +1.5**
MFID *e*PP **PP** **19 47 43.0 -7.0**
WAKR Walker 128.79 45 *e*PKPdf **PKPdf** **19 45 45.4 +1.4**
HRY Holter Researc 129.08 32 *e*PKPdf **PKPdf** **19 45 46.0 +1.8**
EGMT Eagleton 129.29 30 *e*PKPdf **PKPdf** **19 45 43.8 -0.7**
LRM Limekiln Ridge 129.30 34 *e*PKPdf **PKPdf** **19 45 45.8 +0.9**
RYN Ryan 129.37 45 *e*PKPdf **PKPdf** **19 45 45.6 +0.5**
KVN Kaiserville 129.47 44 *e*PKPdf **PKPdf** **19 45 46.1 +0.8**
KVN Kaiserville 129.47 44 *e*PKIKP **PKPdf** **19 45 46.1 +0.8**
OMMB Old Mammoth Mi 129.49 46 *e*PKPdf **PKPdf** **19 45 43.1 -2.4**
DLMT Dillon 129.50 34 *e*PKPdf **PKPdf** **19 45 46.4 +1.3**
HLID Hailey 129.51 37 P **PKPdf** **19 45 46.9 +1.7**
baz=305
HLID Hailey 129.51 37 *e*PKPdf **PKPdf** **19 45 44.8 -0.4**
NV01 Mina Array Sit 129.62 45 *e*PKPpre PKPpre 19 45 32.5
NV01 *e*PKPdf **PKiKP** **19 45 46.2 -0.2**
NV01 *e*PP **PP** **19 47 51.9 -4.3**
NVAR Mina Array Bea 129.62 45 PKhKP PKPpre 19 45 32.9
comp=N,1.1nm,0.8s,baz=272,slow=5.5,SNR=3.9
NVAR PKP **PKiKP** **19 45 48.2 +1.8**
comp=N,11nm,0.7s,baz=284,slow=2.2,SNR=33
NVAR PP **PP** **19 47 51.8 -4.4**
comp=N,5.8nm,0.8s,baz=274,slow=7.0,SNR=6.8
MCMT McKenzie Canyo 129.69 35 *e*PKPdf **PKPdf** **19 45 46.3 +0.7**
SMMC Simmler 129.72 49 P **PKPdf** **19 45 47.6 +1.9**
baz=293
NV11 Mina Array Sit 129.72 45 *e*PKPdf **PKPdf** **19 45 43.0 -2.7**
NV11 *e*PP **PP** **19 47 53.2 -3.5**
BOZ Bozeman (W) 129.89 33 P **PKPdf** **19 45 46.8 +1.0**
baz=309
BOZ Bozeman (W) 129.89 33 *e*PKPdf **PKPdf** **19 45 45.9 0.0**
BOZ *e*PP **PP** **19 47 53.8 -3.7**
BOZ Bozeman (W) 129.89 33 *e*PKIKP **PKPdf** **19 45 45.9 0.0**
BOZ *e* 19 47 53.8
PKM Mcpherson Peak 130.02 50 P **PKPdf** **19 45 48.3 +1.9**
baz=293
VES Vestal, Richgr 130.18 48 P **PKPdf** **19 45 47.7 +1.3**
baz=295
QLMT Earthquake Lak 130.48 34 *e*PKPdf **PKPdf** **19 45 47.6 +0.5**
QLMT *e*PP **PP** **19 47 57.6 -3.7**
QLMT *e*SKPbc **SKPbc** **19 49 08.1 +2.3**
CWC Cottonwood Cre 130.66 47 P **PKPdf** **19 45 48.9 +1.3**
baz=296
YHB Horse Butte 130.66 34 *e*PKPdf **PKPdf** **19 45 46.9 -0.6**
ISA Isabella, Lake 130.71 48 *e*PKPdf **PKPdf** **19 45 44.6 -3.0**
ISA *e*PKPdf **PKiKP** **19 45 50.5 +2.0**
ISA Isabella, Lake 130.71 48 *e*PKIKP **PKPdf** **19 45 44.6 -3.0**
GCMT Greycliff 130.82 32 *e*PKPdf **PKPdf** **19 45 48.5 +0.9**
YHH Holmes Hill 130.83 34 *e*PKPdf **PKPdf** **19 45 47.4 -0.4**
DAC Darwin (Calif) 131.09 47 *e*PKPdf **PKPdf** **19 45 49.4 +0.9**
DAC Darwin (Calif) 131.09 47 *e*PKIKP **PKPdf** **19 45 49.4 +0.9**
YPP Pitchstone Pla 131.18 34 *e*PKPdf **PKPdf** **19 45 48.9 +0.4**
YPP *e*PP **PP** **19 48 00.7 -5.3**
H17A Grant Village 131.23 34 P **PKPdf** **19 45 51.1 +2.5**
baz=309
MPMC Manual Prospec 131.26 47 P **PKPdf** **19 45 51.0 +2.2**
baz=296,SNR=17
IMW Indian Meadow 131.34 35 *e*PKPdf **PKPdf** **19 45 48.7 -0.2**
LRMC Laurel Mtn Rad 131.37 48 P **PKPdf** **19 45 51.5 +2.5**
baz=296
EDW2 Edwards Air Fo 131.39 49 P **PKPdf** **19 45 50.9 +2.0**
baz=295
FXWY Fox Creek 131.45 35 *e*PKPdf **PKPdf** **19 45 48.2 -0.8**
RLMT Red Lodge 131.47 32 P **PKPdf** **19 45 50.0 +1.1**
baz=311
RLMT Red Lodge 131.47 32 *e*PKPdf **PKPdf** **19 45 47.8 -1.1**
HVU Hansel Valley 131.53 38 *e*PKPdf **PKPdf** **19 45 49.3 +0.2**
HVU Hansel Valley 131.53 38 *e*PKIKP **PKPdf** **19 45 49.3 +0.2**
FURC Furnace Creek, 131.53 46 P **PKPdf** **19 45 50.7 +1.7**
baz=297,SNR=7.4
R11A Troy Canyon, C 131.53 43 P **PKPdf** **19 45 50.9 +1.7**
baz=300,SNR=22
R11A Troy Canyon, C 131.53 43 *e*PKPpre PKPpre 19 45 38.8
R11A *e*PKPdf **PKiKP** **19 45 51.0 +0.8**
MOOW Moose Ponds 131.54 35 *e*PKPpre PKPpre 19 45 40.3
MOOW *e*PKPdf **PKiKP** **19 45 50.1 0.0**
MOOW *e*PP **PP** **19 48 01.6 -6.7**
DGMT Dagmar 131.56 26 P **PKPdf** **19 45 49.9 +1.1**
baz=319
DGMT Dagmar 131.56 26 *e*PKPdf **PKPdf** **19 45 48.5 -0.2**
TPAW Teton Pass 131.59 35 *e*PKPpre PKPpre 19 45 43.2
TPAW *e*PKPdf **PKiKP** **19 45 50.5 +0.2**
LOHW Long Hollow 131.71 35 *e*PKPpre PKPpre 19 45 42.1
LOHW *e*PKPdf **PKPdf** **19 45 49.9 +0.5**
SNOW Snow King Moun 131.72 35 *e*PKPdf **PKPdf** **19 45 48.8 -0.7**
REDW Red Top Meadow 131.72 35 *e*PKPdf **PKPdf** **19 45 49.5 0.0**
TPNV Topopah Spring 131.75 45 P **PKPdf** **19 45 51.8 +2.1**
baz=298,SNR=6.9
TPNV Topopah Spring 131.75 45 *e*PKPdf **PKPdf** **19 45 47.4 -2.3**
TPNV Topopah Spring 131.75 45 *e*PKIKP **PKPdf** **19 45 47.4 -2.3**
SCHQ Schefferville 131.75 354 PKhKP PKPpre 19 45 37.0
comp=N,3.2nm,0.5s,baz=40,slow=12,SNR=1.7
SCHQ PKP **PKiKP** **19 45 50.2 +0.4**
comp=N,17nm,0.7s,baz=38,slow=4.4,SNR=7.8
SCHQ SKPbc **SKPab** **19 49 11.4 +0.9**
comp=N,26nm,0.8s,baz=32,slow=4.1,SNR=9.4
SCHQ Schefferville 131.75 354 PKPpre PKPpre 19 45 37.0
SCHQ *e*PKPdf **PKiKP** **19 45 49.9 0.0**
SCHQ *e*SKPbc **SKPab** **19 49 11.4 +0.9**
BGU Big Grassy Mou 131.85 39 *e*PKPdf **PKPdf** **19 45 48.4 -1.3**
LAO LASA Array 131.94 29 P **PKPdf** **19 45 51.8 +2.2**
baz=316
LAO LASA Array 131.94 29 *e*PKPpre PKPpre 19 45 39.7
LAO *e*PKPdf **PKiKP** **19 45 50.5 -0.1**
AHID Auburn Hatcher 131.94 36 *e*PKPpre PKPpre 19 45 44.1
AHID *e*PKPdf **PKPdf** **19 45 50.2 +0.3**
GSC Goldstone, Bar 132.09 48 P **PKPdf** **19 45 52.7 +2.5**
baz=296,SNR=14
GSC Goldstone, Bar 132.09 48 *e*PKPdf **PKPdf** **19 45 51.7 +1.4**
GSC Goldstone, Bar 132.09 48 *e*PKIKP **PKPdf** **19 45 51.7 +1.4**
RRX Edison Barstow 132.14 48 P **PKPdf** **19 45 53.8 +3.5**
baz=296
SHOC Shoshone, Teco 132.21 47 P **PKPdf** **19 45 51.7 +1.4**
baz=297,SNR=6.2
DUG Dugway, Tooele 132.40 40 P **PKPdf** **19 45 52.6 +1.9**
baz=304
DUG Dugway, Tooele 132.40 40 *e*PKPpre PKPpre 19 45 41.6
DUG *e*PKPdf **PKiKP** **19 45 51.7 -0.1**
PLCA Paso Flores 132.50 184 PKhKP PKPpre 19 45 37.4
comp=N,1.6nm,1.0s,baz=114,slow=10.0,SNR=3.5
PLCA PKP **PKiKP** **19 45 52.5 +0.5**
comp=N,4.0nm,0.7s,baz=266,slow=1.1,SNR=8.4
PLCA SKPbc **SKPab** **19 49 14.9 +0.7**
comp=N,3.7nm,0.8s,baz=220,slow=2.2,SNR=5.4
TUQ Turquoise Moun 132.68 47 P **PKPdf** **19 45 53.1 +1.7**
baz=297,SNR=7.1
SHPR Sheep Range 132.73 45 *e*PKPdf **PKPdf** **19 45 52.8 +1.2**
SHPR *e*PP **PP** **19 48 13.0 -3.2**
TCUT Toone Canyon 132.75 38 *e*PKPpre PKPpre 19 45 38.5
TCUT *e*PKPdf **PKPdf** **19 45 51.4 -0.1**
TCUT *e*PP **PP** **19 48 15.5 -0.7**
CTU Camp Tracy 132.78 39 *e*PKPpre PKPpre 19 45 39.4
CTU *e*PKPdf **PKiKP** **19 45 52.3 -0.3**
BW06 Boulder Array 132.83 35 P **PKPdf** **19 45 53.0 +1.4**
baz=309
BW06 Boulder Array 132.83 35 *e*PKPpre PKPpre 19 45 42.0
BW06 *e*PKPdf **PKiKP** **19 45 52.3 -0.5**
PD31 Pinedale Array 132.83 35 *e*PKPpre PKPpre 19 45 42.5
PD31 *e*PKPdf **PKiKP** **19 45 52.7 -0.1**
PD31 *e*PP **PP** **19 48 11.1 -5.5**
PDAR Pinedale Array 132.83 35 PKhKP PKPpre 19 45 42.5
comp=N,0.7nm,0.6s,baz=90,slow=0.4,SNR=5.8
PDAR PKP **PKPdf** **19 45 51.0 -0.6**
comp=N,5.9nm,0.5s,baz=85,slow=3.9,SNR=14
PDAR PP **PP** **19 48 11.2 -5.5**
comp=N,3.0nm,0.8s,baz=287,slow=2.9,SNR=5.1
PDAR SKPbc **SKPab** **19 49 16.5 +0.6**
comp=N,4.6nm,0.9s,baz=325,slow=2.3,SNR=3.8
PDAR Pinedale Array 132.83 35 *e*PKPpre PKPpre 19 45 42.3
PDAR *e*PKPdf **PKiKP** **19 45 53.0 +0.2**
PDAR *e*PP **PP** **19 48 10.1 -6.4**
PDAR SKPbc **SKPab** **19 49 16.5 +0.6**
NLU North Lily Min 133.00 40 *e*PKPpre PKPpre 19 45 40.9
NLU *e*PKPdf **PKiKP** **19 45 53.3 +0.1**
PFO Pinyon Flats O 133.08 50 P **PKPdf** **19 45 53.9 +1.7**
baz=295
PFO Pinyon Flats O 133.08 50 *i* PKIKP **PKPdf** **19 45 57.4 +5.2**
TPFO Pinon Flats 133.08 50 P **PKPdf** **19 45 54.6 +2.4**
baz=295
GMRC Granite Mounta 133.16 48 P **PKPdf** **19 45 55.1 +2.8**
baz=297,SNR=27
MPU Maple Canyon 133.24 39 *e*PKPpre PKPpre 19 45 40.4
MPU *e*PKPdf **PKPdf** **19 45 52.9 +0.5**
MPU *e*PP **PP** **19 48 13.5 -5.9**
ULM Lac du Bonnet 133.25 19 PKhKP PKPpre 19 45 43.6
comp=N,3.2nm,0.8s,baz=354,slow=2.2,SNR=5.4
ULM PKP **PKPdf** **19 45 51.1 -0.7**
comp=N,32nm,0.8s,baz=328,slow=3.9,SNR=23
ULM SKPbc **SKPab** **19 49 16.0 -1.1**
comp=N,14nm,0.8s,baz=332,slow=2.9,SNR=9.5
ULM Lac du Bonnet 133.25 19 *e*PKPpre PKPpre 19 45 42.0
ULM *e*PKPdf **PKPdf** **19 45 51.7 -0.1**
ULM SKPbc **SKPab** **19 49 16.0 -1.1**
ULM Lac du Bonnet 133.25 19 *e*PKHKP PKPpre 19 45 42.0
ULM *e* 19 45 51.7
BELC Belle Mtn. Jos 133.26 49 P **PKPdf** **19 45 55.6 +3.0**
baz=296,SNR=7.8
MONP2 Monument Peak 133.41 50 P **PKPdf** **19 45 56.0 +3.1**
baz=294
CCUT Cedar City 133.45 43 *e*PKPdf **PKPdf** **19 45 50.1 -2.9**
CCUT *e*PP **PP** **19 48 15.5 -5.4**
SZCU Shurtz Canyon 133.62 43 *e*PKPdf **PKPdf** **19 45 51.1 -2.2**
SZCU *e*PP **PP** **19 48 14.6 -7.3**
IKP In-Ko-Pah, Jac 133.75 51 P **PKPdf** **19 45 56.6 +3.2**
baz=295
LCMT Little Creek M 133.81 44 *e*PKPpre PKPpre 19 45 45.8
LCMT *e*PKPdf **PKiKP** **19 45 56.0 +1.2**
BC3 Big Chuckawall 133.82 49 P **PKPdf** **19 45 57.3 +3.8**
baz=296,SNR=5.6
IRM Iron Mountain 133.82 48 P **PKPdf** **19 45 57.0 +3.6**
baz=297,SNR=7.9
SWSC Sam W. Stewart 133.86 50 P **PKPdf** **19 45 57.7 +4.2**
baz=295
KNB Kanab 134.10 44 *e*PKPpre PKPpre 19 45 46.7
KNB *e*PKPdf **PKiKP** **19 45 56.5 +1.1**
P17A Butcher Ranch, 134.12 39 *e*PKPdf **PKPdf** **19 45 55.4 +1.3**
A32A Rocking H Ranc 134.19 20 P **PKPdf** **19 45 55.4 +1.7**
baz=329
B31A Greenbush Farm 134.21 21 P **PKPdf** **19 45 55.9 +2.2**
baz=327
P18A Preston Nutter 134.34 39 *e*PKPpre PKPpre 19 45 43.0
P18A *e*PKPdf **PKiKP** **19 45 55.8 -0.2**
SRU San Rafael Swe 134.47 40 *e*PKPdf **PKPdf** **19 45 53.5 -1.3**
SRU San Rafael Swe 134.47 40 *e*PKIKP **PKPdf** **19 45 53.5 -1.3**
Y12C Blythe 134.47 48 P **PKPdf** **19 45 58.0 +3.4**
baz=297,SNR=5.9
PDMCI Parker Dam,Lak 134.50 48 P **PKPdf** **19 45 57.8 +3.1**
baz=298,SNR=5.1
A33A Warroad 134.54 19 P **PKPdf** **19 45 56.0 +1.7**
baz=330,SNR=12
GLA Glamis 134.55 49 P **PKPdf** **19 45 56.4 +1.5**
baz=296
K22A Casper 134.60 33 P **PKPdf** **19 45 55.0 +0.1**
baz=313
K22A Casper 134.60 33 *e*PKPpre PKPpre 19 45 46.0
K22A *e*PKPdf **PKPdf** **19 45 55.2 +0.3**
K22A *e*PP **PP** **19 48 24.1 -3.6**
B32A Ashes, Strandq 134.63 20 P **PKPdf** **19 45 55.9 +1.4**
baz=329
C31A Landman Farms, 134.71 22 P **PKPdf** **19 45 56.3 +1.7**
baz=327
U15A North Rim 134.77 44 *e*PKPpre PKPpre 19 45 45.1
U15A *e*PKPdf **PKPdf** **19 45 53.9 -1.6**
RSSD Black Hills 134.86 30 P **PKPdf** **19 45 55.5 +0.1**
baz=317
RSSD Black Hills 134.86 30 *e*PKPpre PKPpre 19 45 40.6
RSSD *e*PKPdf **PKPdf** **19 45 55.1 -0.2**
RSSD *e*PP **PP** **19 48 23.6 -5.6**
RSSD *e*SKPbc **SKPab** **19 49 22.7 -1.9**
RSSD Black Hills 134.86 30 *e*PKHKP PKPpre 19 45 40.6
RSSD *e* 19 45 55.1
RWWY Rawlins 134.86 35 *e*PKPpre PKPpre 19 45 45.9
RWWY *e*PKPdf **PKPdf** **19 45 53.9 -1.6**
AGMN Agassiz Nation 134.94 20 P **PKPdf** **19 45 57.0 +1.9**
baz=329
AGMN Agassiz Nation 134.94 20 *e*PKPpre PKPpre 19 45 45.5
AGMN *e*PKPdf **PKiKP** **19 45 56.2 -0.3**
B33A Robert and Kas 135.06 20 P **PKPdf** **19 45 55.8 +0.5**
baz=330
B34A Aery, Baudette 135.18 19 P **PKPdf** **19 45 57.6 +2.1**
baz=331,SNR=7.7
O20A White River Ci 135.26 37 P **PKPdf** **19 45 58.0 +1.8**
baz=309
O20A White River Ci 135.26 37 *e*PKPpre PKPpre 19 45 48.9
O20A *e*PKPdf **PKiKP** **19 45 57.4 -0.4**
D31A Mcclaflin, Tow 135.34 22 P **PKPdf** **19 45 57.4 +1.6**
baz=326
C33A Trail 135.44 20 P **PKPdf** **19 45 57.8 +1.8**
baz=329
D32A Dogwood Acres, 135.53 22 P **PKPdf** **19 45 57.9 +1.7**
baz=327
B35A Bob, Littlefor 135.58 18 P **PKPdf** **19 45 57.2 +0.9**
baz=332,SNR=6.1
E31A Nome 135.68 23 P **PKPdf** **19 45 58.3 +1.8**
baz=326
PV09 Paradox Valley 135.70 40 *e*PKPpre PKPpre 19 45 45.7
PV09 *e*PKPdf **PKiKP** **19 45 58.3 -0.5**
PV10 Paradox Valley 135.84 40 *e*PKPpre PKPpre 19 45 40.7
PV10 *e*PKPdf **PKiKP** **19 45 58.3 -0.7**
E32A Braaten, Kindr 135.96 22 P **PKPdf** **19 45 59.0 +2.0**
baz=327
PV05 Paradox Valley 135.97 40 *e*PKPpre PKPpre 19 45 44.4
PV05 *e*PKPdf **PKiKP** **19 45 59.4 +0.1**
C35A Jirik Farms, M 136.08 19 P **PKPdf** **19 45 58.3 +1.0**
baz=332
N23A Red Feather La 136.10 35 *e*PKPdf **PKPdf** **19 45 56.5 -1.3**
N23A *e*PP PP 19 48 27.7 -10
PV01 Paradox Valley 136.28 40 *e*PKPpre PKPpre 19 45 41.9
PV01 *e*PKPdf **PKPdf** **19 45 57.0 -1.2**
C36A Pine Crest Far 136.39 18 P **PKPdf** **19 45 59.4 +1.5**
baz=333
X16A Lo Mia Camp, P 136.39 46 *e*PKPpre PKPpre 19 45 44.9
X16A *e*PKPdf **PKiKP** **19 45 59.5 -0.7**
D35A Remer 136.60 19 P **PKPdf** **19 46 00.1 +1.8**
baz=331,SNR=7.9
EYMN Ely 136.61 16 P **PKPdf** **19 46 00.3 +2.0**
baz=335
EYMN Ely 136.61 16 *e*PKPdf **PKPdf** **19 45 56.6 -1.6**
SMCO Snowmass 136.62 37 *e*PKPdf **PKPdf** **19 45 55.6 -3.4**
SMCO *e*PKPdf **PKiKP** **19 46 00.7 0.0**
SMCO *e*PP PP 19 48 30.3 -11
SMCO *e*SKPbc **SKPbc** **19 49 27.4 +0.6**
MVCO Mesa Verde 136.87 41 P **PKPdf** **19 46 01.9 +2.6**
baz=306,SNR=13
MVCO Mesa Verde 136.87 41 *e*PKPdf **PKPdf** **19 45 55.9 -3.4**
F33A 5 Mile Ranch, 136.89 22 P **PKPdf** **19 46 00.5 +1.8**
baz=328
G32A Webster 136.91 24 P **PKPdf** **19 46 00.8 +2.0**
baz=326
E35A Pequot Lakes 136.94 20 P **PKPdf** **19 46 00.8 +1.9**
baz=330,SNR=6.8
SUSD Miller 136.97 26 P **PKPdf** **19 46 00.6 +1.6**
baz=323
ISCO Idaho Springs 137.02 36 P **PKPdf** **19 46 01.3 +1.6**
baz=312
ISCO Idaho Springs 137.02 36 *e*PKPdf **PKPdf** **19 45 57.1 -2.5**
ISCO Idaho Springs 137.02 36 *e*PKIKP **PKPdf** **19 45 57.1 -2.5**
D37A Cotton 137.05 18 P **PKPdf** **19 46 01.1 +2.0**
baz=334,SNR=8.8
C39A Grand Marais 137.10 15 P **PKPdf** **19 46 00.9 +1.8**
baz=337
W18A Petrified Fore 137.22 44 P **PKPdf** **19 46 01.7 +1.7**
baz=303,SNR=7.0
C40A Isle Royale Na 137.26 14 P **PKPdf** **19 46 01.4 +2.0**
baz=338
E36A McGregor 137.36 19 P **PKPdf** **19 46 01.2 +1.6**
baz=332,SNR=7.7
G33A Ortonville 137.38 23 P **PKPdf** **19 46 01.4 +1.7**
baz=327
F35A Swanville 137.49 21 P **PKPdf** **19 46 01.6 +1.7**
baz=330
H32A Carlson Farm, 137.55 24 P **PKPdf** **19 46 02.0 +1.9**
baz=325
S22A 4UR Ranch, Cre 137.60 39 P **PKPdf** **19 46 02.3 +1.5**
baz=308,SNR=9.9
**S22A

TUC	Tucson	137.91	48	ePKPpre	PKPpre	19 45 52.7		
TUC				ePKPdf	PKPdf	19 45 59.6	-1.6	
TUC	Tucson	137.91	48	ePKHKP	PKPpre	19 45 52.7		
TUC				e		19 45 59.6		
I32A	Karley and Nic baz=325	137.93	25	P	PKPdf	19 46 02.6	+1.8	
H34A	Spellman Lake, baz=328	138.07	23	P	PKPdf	19 46 01.0	0.0	
G35A	Watkins baz=330	138.08	21	P	PKPdf	19 46 01.8	+0.8	
OGNE	Ogallala baz=317	138.19	32	P	PKPdf	19 46 02.8	+1.4	
I33A	Coleman baz=326	138.19	24	P	PKPdf	19 46 02.8	+1.5	
D41A	Chassel baz=339	138.20	14	P	PKPdf	19 46 03.4	+2.2	
F38A	Pierce - Schro baz=334	138.29	18	P	PKPdf	19 46 02.7	+1.3	
E39A	Mellen baz=336	138.31	17	P	PKPdf	19 46 03.4	+2.0	
G36A	St. Michael baz=331,SNR=6.7	138.32	20	P	PKPdf	19 46 03.9	+2.5	
H35A	Sunnyside Ranc baz=329	138.40	22	P	PKPdf	19 46 03.4	+1.8	
SDCO	Great Sand Dun baz=310,SNR=17	138.42	38	P	PKPdf	19 46 03.3	+1.1	
SDCO	Great Sand Dun	138.42	38	ePKPpre	PKPpre	19 45 54.2		
SDCO				ePKPdf	PKPdf	19 46 02.1	-0.1	
E40A	Wakefield baz=337	138.43	16	P	PKPdf	19 46 03.8	+2.2	
ECSD	EROS Data Cent baz=326	138.52	24	P	PKPdf	19 46 02.6	+0.7	
ECSD	EROS Data Cent	138.52	24	ePKPpre	PKPpre	19 45 53.7		
ECSD				ePKPdf	PKPdf	19 46 02.2	+0.3	
I34A	Hadley baz=327	138.57	23	P	PKPdf	19 46 02.7	+0.7	
F39A	Loretta baz=335	138.62	17	P	PKPdf	19 46 03.5	+1.5	
SPMN	Marine on St.	138.65	19	ePKPpre	PKPpre	19 45 52.5		
SPMN				ePKPdf	PKPdf	19 46 02.4	+0.4	
E41A	Kenton baz=338	138.66	15	P	PKPdf	19 46 03.5	+1.5	
J33A	Davis baz=325	138.72	25	P	PKPdf	19 46 03.8	+1.5	
H36A	Jessenland, He baz=330,SNR=7.0	138.83	21	P	PKPdf	19 46 03.8	+1.4	
F40A	Park Falls baz=336	138.85	16	P	PKPdf	19 46 03.9	+1.5	
COWI	Conover	138.95	15	ePKPdf	PKPdf	19 46 00.2	-2.4	
E42A	Champion baz=340	138.95	14	P	PKPdf	19 46 04.1	+1.5	
G38A	Ridgeland baz=333	139.01	19	P	PKPdf	19 46 04.0	+1.3	
I35A	Creekview Farm baz=328	139.06	23	P	PKPdf	19 46 04.4	+1.5	
G39A	Holcombe baz=334,SNR=11	139.12	18	P	PKPdf	19 46 04.6	+1.7	
J34A	George baz=326	139.16	24	P	PKPdf	19 46 04.4	+1.4	
H37A	Dierke Farm, C baz=332	139.18	20	P	PKPdf	19 46 04.7	+1.7	
E43A	Lone Tree Farm baz=341	139.21	13	P	PKPdf	19 46 05.2	+2.2	
KSCO	Kaye Shedlock' baz=314	139.25	34	P	PKPdf	19 46 04.8	+1.3	
KSCO	Kaye Shedlock'	139.25	34	ePKPdf	PKPdf	19 46 02.9	-0.7	
F41A	Three Lakes baz=338	139.29	16	P	PKPdf	19 46 04.5	+1.3	
MHTCO	State Highway	139.31	38	ePKPdf	PKPdf	19 46 01.9	-1.9	
LAZ	Ladron	139.40	43	ePKPpre	PKPpre	19 45 59.5		
G40A	Rib Lake baz=336	139.42	17	P	PKPdf	19 46 05.0	+1.5	
T25A	Trinidad baz=311,SNR=9.1	139.47	38	P	PKPdf	19 46 06.5	+2.4	
T25A	Trinidad	139.47	38	ePKPdf	PKPdf	19 46 01.2	-2.9	
I37A	Lemond, Waseca baz=330,SNR=5.6	139.51	21	P	PKPdf	19 46 05.5	+1.8	
F42A	Maple Grove Fa baz=339	139.52	15	P	PKPdf	19 46 05.6	+1.9	
ANMO	Albuquerque comp=N,12nm,0.9s,baz=39,slow=1.1,SNR=18	139.54	42	PKP	PKPdf	19 46 02.8	-1.5	
ANMO				SKPbc	SKiKP	19 49 37.9	-0.1	
	comp=N,7.5nm,0.9s,baz=65,slow=3.1,SNR=7.7							
ANMO	Albuquerque baz=306	139.54	42	P	PKPdf	19 46 05.2	+0.9	
ANMO	Albuquerque	139.54	42	ePKPdf	PKPdf	19 46 02.3	-2.0	
ANMO				eSKPbc	SKiKP	19 49 38.2	+0.3	
ANMO	Albuquerque	139.54	42	c iPKIKP	PKPdf	19 46 06.0	+1.7	
ANMO				pmax	pmax			
	comp=Z,36nm,1.7s							
H39A	Augusta baz=334	139.63	18	P	PKPpre	19 45 56.7		
F43A	Flat Rock, Esc baz=340	139.69	14	P	PKPpre	19 45 57.1		
J36A	Seneca 1, Swea baz=329	139.76	22	P	PKPpre	19 45 58.6		
I38A	Scanlan Farm, baz=332	139.85	20	P	PKPpre	19 45 58.0		
BNM	Barren Site	139.89	43	ePKPdf	PKPdf	19 46 01.5		
PQI	Presque Isle	139.92	353	ePKPpre	PKPpre	19 45 56.7		
PQI				ePKPdf	PKPdf	19 46 03.0	-1.3	
H40A	Chili baz=335	139.95	18	P	PKPpre	19 45 58.1		
M33A	Taylor Creek F baz=324	140.04	27	P	PKPpre	19 46 01.1		
J37A	Redenius Farm, baz=330	140.06	22	P	PKPpre	19 45 59.4		
G43A	Wallace baz=340	140.10	14	P	PKPpre	19 45 59.9		
H41A	Junction City	140.17	17	ePKPpre	PKPpre	19 45 57.3		
F45A	CMU Biological baz=343	140.19	12	P	PKPpre	19 45 59.1		
F46A	Macinaw City C baz=344	140.25	11	P	PKPpre	19 45 58.8		
I39A	Houston baz=333,SNR=11	140.29	19	P	PKPpre	19 45 58.5		
K36A	Gilmore City baz=328	140.30	23	P	PKPpre	19 45 58.2		
L35A	Bielow Farm, R baz=326	140.31	25	P	PKPpre	19 45 59.3		
WI04	River Road, CI	140.40	16	ePKPpre	PKPpre	19 45 59.5		
J38A	Wedel Dairy, R baz=331	140.44	21	P	PKPpre	19 46 00.1		
K37A	Belmond baz=329,SNR=10	140.50	22	P	PKPpre	19 45 59.4		
I40A	Norwalk baz=334	140.54	18	P	PKPpre	19 45 58.4		
H42A	Shiocton	140.58	16	ePKPpre	PKPpre	19 45 54.7		
H42A				ePKPdf	PKPdf	19 46 05.0	-0.5	
I41A	Arkdale baz=336	140.62	17	P	PKPpre	19 45 58.3		
L36A	Harm Buss Farm baz=328	140.67	24	P	PKPpre	19 45 59.9		
J39A	Decorah baz=333,SNR=9.6	140.69	20	P	PKPpre	19 45 59.2		
TRQ	Mont Tremblant	140.78	360	ePKPpre	PKPpre	19 45 58.3		
H43A	Windswept, Lux	140.82	15	ePKPpre	PKPpre	19 45 59.5		
H43A				ePKPdf	PKPdf	19 46 06.8	+0.8	
CBKS	Cedar Bluff baz=318	140.95	32	P	PKPpre	19 46 02.2		
CBKS	Cedar Bluff	140.95	32	ePKPpre	PKPpre	19 45 58.3		
CBKS				ePKPdf	PKPdf	19 46 02.3	-4.2	
CBKS				eSKPdf	PKiKP	19 46 08.8	-0.4	
CBKS	Cedar Bluff	140.95	32	ePKHKP	PKPpre	19 45 58.3		
CBKS				e		19 46 02.3		
J40A	Soldiers Grove baz=334	140.95	19	P	PKPpre	19 45 59.8		
L37A	Phoenix Point, baz=329	141.01	23	P	PKPpre	19 46 00.8		
I42A	Draeger Farm, baz=337	141.05	16	P	PKPpre	19 46 00.7		
I42A	Draeger Farm,	141.05	16	ePKPpre	PKPpre	19 46 00.2		
O33A	Hebron baz=322,SNR=7.3	141.05	28	P	PKPpre	19 46 01.9		
K39A	Oelwein baz=332,SNR=7.8	141.19	20	P	PKPpre	19 46 00.8		
J41A	Loganville baz=335	141.21	18	P	PKPpre	19 46 00.9		
PEMO	Pembroke baz=356,SNR=6.9	141.26	3	P	PKPpre	19 46 01.0		
I43A	Langenfeld Bro baz=338	141.27	16	P	PKPpre	19 46 01.5		
L38A	Oak Wood Farm, baz=330	141.29	22	P	PKPpre	19 46 01.7		
KLBO	Killbear Provi baz=351	141.34	6	P	PKPpre	19 46 01.6		
ALFO	Alfred baz=360,SNR=5.6	141.37	0	P	PKPpre	19 46 02.4		
O34A	Beatrice baz=323	141.38	27	P	PKPpre	19 46 02.4		
SCIA	State Center baz=330	141.40	22	P	PKPpre	19 46 02.5		
SCIA	State Center	141.40	22	ePKPpre	PKPpre	19 46 02.7		
K40A	Colesburg baz=333	141.44	20	P	PKPpre	19 46 02.6		
PKME	Peaks-Kenny Pk baz=8.3,SNR=6.4	141.46	354	P	PKPpre	19 46 02.3		
PKME	Peaks-Kenny Pk	141.46	354	ePKPdf	PKPpre	19 46 04.3		
M37A	Trindle Farm, baz=328	141.50	24	P	PKPpre	19 46 03.3		
J42A	Columbus baz=336	141.51	17	P	PKPpre	19 46 03.4		
JFWS	Jewell Farm baz=334	141.54	19	P	PKPpre	19 46 02.5		
JFWS	Jewell Farm	141.54	19	ePKPpre	PKPpre	19 46 00.0		
JFWS				ePKPdf	PKPdf	19 46 06.9	-0.5	
JFWS	Jewell Farm	141.54	19	ePKHKP	PKPpre	19 46 00.0		
JFWS				e		19 46 06.9		
N36A	Muff Farm, Cla baz=326	141.63	25	P	PKPpre	19 46 02.8		
J43A	Natural Harves baz=338	141.66	16	P	PKPpre	19 46 02.1		
L39A	Vinton baz=331,SNR=20	141.66	21	P	PKPpre	19 46 02.1		
K41A	Shullsburg baz=334,SNR=14	141.80	19	P	PKPpre	19 46 02.7		
M38A	Pleasantville baz=329,SNR=22	141.83	23	P	PKPpre	19 46 03.9		
BANO	Bancroft baz=355,SNR=14	141.88	4	P	PKPpre	19 46 05.2		
PLVO	Plevna baz=356,SNR=8.3	141.91	3	P	PKPpre	19 46 03.4		
K42A	Prairie Point, baz=336	141.94	18	P	PKPpre	19 46 03.6		
BMRO	Melville Lake baz=349	141.97	8	P	PKPpre	19 46 04.9		
L40A	Anamosa baz=333,SNR=15	141.98	20	P	PKPpre	19 46 03.4		
N37A	Lee Faris, Mou baz=327	141.99	24	P	PKPpre	19 46 03.5		
SADO	Sadowa comp=Z,11nm,0.8s,baz=327,slow=2.9,SNR=4.1	142.03	5	SKPbc	SKiKP	19 49 43.2	+0.7	
SADO	Sadowa	142.03	5	ePKPpre	PKPpre	19 46 02.4		
SADO				eSKPbc	SKiKP	19 49 43.1	+0.6	
MNTX	Cornudas Mount baz=304	142.14	45	P	PKPpre	19 46 05.3		
MNTX	Cornudas Mount	142.14	45	ePKPpre	PKPpre	19 46 05.4		
FRNY	Flat Rock	142.16	359	ePKPpre	PKPpre	19 46 03.3		
M39A	Webster baz=331,SNR=9.8	142.16	22	P	PKPpre	19 46 04.1		
WVL	Waterville	142.19	354	ePKPpre	PKPpre	19 46 03.2		
L41A	Preston baz=334,SNR=8.7	142.22	19	P	PKPpre	19 46 03.9		
SLBS	Sierra La Lagu	142.22	60	ePKPpre	PKPpre	19 46 04.3		
KSU1	Kansas State U baz=323	142.28	28	P	PKPdf	19 46 06.0	-2.8	
KSU1	Kansas State U	142.28	28	ePKPpre	PKPpre	19 46 05.5		
K43A	Burlington baz=337	142.31	17	P	PKPpre	19 46 04.3		
N38A	Joes South For baz=329	142.35	23	P	PKPpre	19 46 05.5		
LONY	Lake Ozonia baz=360,SNR=24	142.38	360	P	PKPpre	19 46 04.7		
LONY	Lake Ozonia	142.38	360	ePKPpre	PKPpre	19 46 04.5		
DELO	Deloro Mine baz=355,SNR=16	142.40	3	P	PKPpre	19 46 04.6		
M40A	Post Highland baz=332,SNR=7.8	142.46	21	P	PKPpre	19 46 05.0		
BASO	Ashfield baz=348	142.48	8	P	PKPpre	19 46 06.0		
O37A	Wolven Farm, M baz=327,SNR=10	142.51	25	P	PKPpre	19 46 04.6		
MSTX	Muleshoe	142.54	40	ePKPdf	PKPdf	19 46 09.2	-0.4	
N39A	Derby Farms, D baz=330,SNR=8.2	142.56	22	P	PKPpre	19 46 04.9		
L43A	Garden Prairie baz=336	142.67	17	P	PKPpre	19 46 04.6		
LBNH	Lisbon baz=4.3,SNR=7.7	142.69	357	P	PKPpre	19 46 05.9		
LBNH	Lisbon	142.69	357	ePKPpre	PKPpre	19 46 05.6		
LBNH	Lisbon	142.69	357	ePKIKP	PKPpre	19 46 05.6		
O38A	Galt baz=328	142.83	24	P	PKPpre	19 46 05.5		
M41A	Milan baz=333,SNR=6.9	142.83	20	P	PKPpre	19 46 05.3		
N40A	Mertquake, Sal baz=331,SNR=13	142.90	21	P	PKPpre	19 46 05.6		
P37A	Lathrop baz=326,SNR=27	142.91	26	P	PKPpre	19 46 05.7		
WLVO	Wesleyville baz=354,SNR=14	142.93	4	P	PKPpre	19 46 06.7		
DRWO	Darlington Wes baz=353,SNR=17	142.96	5	P	PKPpre	19 46 06.9		
CPUP	Villa Florida comp=Z,11nm,0.9s,baz=129,slow=2.5,SNR=19	142.97	206	PKhKP	PKPpre	19 46 08.0		
CPUP	Villa Florida	142.97	206	ePKPdf	PKPdf	19 46 08.0	-2.4	
NCB	Newcomb	143.03	359	ePKPpre	PKPpre	19 46 05.8		
O39A	Kirksville baz=329,SNR=8.9	143.08	23	P	PKPbc	19 46 06.8	-0.3	
ACTO	Acton baz=351,SNR=14	143.09	7	P	PKPbc	19 46 08.1	+1.1	
P38A	Dawn baz=328,SNR=26	143.22	25	P	PKPbc	19 46 07.2	-0.3	
M43A	Waltham Townsh baz=326,SNR=19	143.28	18	P	PKPab	19 46 07.0	+0.6	
N41A	Harden Midland baz=332	143.31	21	P	PKPab	19 46 06.4	-0.1	
ELFO	Elginfield baz=349	143.34	8	P	PKPbc	19 46 07.9	+0.2	
FFD	Franklin Falls	143.44	356	ePKPpre	PKPpre	19 46 06.8		
Q37A	Longview Farm, baz=326	143.45	26	P	PKPab	19 46 07.1	0.0	
O40A	La Belle baz=330,SNR=45	143.45	22	P	PKPbc	19 46 07.7	-0.4	
N42A	Yates City baz=334,SNR=17	143.49	20	P	PKPab	19 46 07.5	+0.3	
STCO	Saint Catharin baz=352	143.57	6	P	PKPbc	19 46 09.3	+0.9	
M44A	Midewin, Midew baz=337,SNR=15	143.60	17	P	PKPab	19 46 07.8	+0.2	
ACCN	Adirondack Com	143.61	359	ePKPpre	PKPpre	19 46 07.9		
TYNO	Tyneside baz=351,SNR=12	143.62	6	P	PKPbc	19 46 09.3	+0.8	
P39B	Salisbury baz=329,SNR=38	143.66	24	P	PKPab	19 46 08.0	+0.1	
N43A	Stutzman Famil baz=335	143.67	19	P	PKPab	19 46 08.2	+0.3	
MEDO	Medina baz=354,SNR=29	143.68	5	P	PKPbc	19 46 09.1	+0.4	
Q38A	Cooks Store, C baz=327,SNR=79	143.74	25	P	PKPab	19 46 08.4	+0.1	
AAM	Ann Arbor baz=345,SNR=6.7	143.81	11	P	PKPab	19 46 08.7	+0.3	
AAM	Ann Arbor	143.81	11	ePKPpre	PKPpre	19 46 08.0		
AAM	Ann Arbor	143.81	11	ePKIKP	PKPab	19 46 08.0	-0.4	
O41A	Passleys Farm, baz=332,SNR=101	143.82	21	P	PKPab	19 46 08.4	-0.1	
P40A	Paris baz=330,SNR=117	143.90	23	P	PKPbc	19 46 09.2	-0.3	
Q39A	Willow Grove F baz=328,SNR=118	143.94	25	P	PKPbc	19 46 09.3	-0.3	
HDIL	Hopedale baz=335,SNR=14	143.98	19	P	PKPab	19 46 09.2	+0.1	
O42A	Bath baz=333,SNR=19	144.04	20	P	PKPab	19 46 09.4	+0.1	
N44A	Piper City baz=337,SNR=29	144.12	18	P	PKPab	19 46 09.8	+0.2	
LCO	Las Campanas	144.14	186	ePKPdf	PKPab	19 46 10.3	-0.1	
P41A	Barry, Barry baz=331,SNR=169	144.15	22	P	PKPab	19 46 09.8	+0.1	
O43A	Sugar Creek Fa baz=334,SNR=42	144.22	19	P	PKPab	19 46 09.9	-0.1	
N45A	Kentland baz=338,SNR=45	144.26	17	P	PKPbc	19 46 10.3	-0.2	
TRY	Troy	144.26	359	ePKPdf	PKPab	19 46 10.0	-0.1	
R38A	Fenwick Farm, baz=326,SNR=73	144.26	26	P	PKPab	19 46 09.5	-0.7	
Q40A	Laux Farm, Aux baz=329,SNR=211	144.35	24	P	PKPab	19 46 10.6	+0.1	
HRV	Adam Dziewonsk baz=5.1	144.39	356	P	PKPbc	19 46 11.0	+0.1	
HRV	Adam Dziewonsk	144.39	356	ePKPdf	PKPbc	19 46 10.8	0.0	
HRV	Adam Dziewonsk	144.39	356	ePKIKP	PKPbc	19 46 10.9	0.0	
HPIG		144.40	52	ePKPdf	PKPab	19 46 10.2	-1.2	
N46A	Monticello baz=339,SNR=131	144.43	16	P	PKPab	19 46 10.8	+0.1	
WMOK	Wichita Mounta baz=316,SNR=7.2	144.44	35	P	PKPab	19 46 11.0	0.0	
WMOK	Wichita Mounta	144.44	35	ePKPdf	PKPab	19 46 10.8	-0.3	
WMOK	Wichita Mounta	144.44	35	ePKIKP	PKPab	19 46 10.8	-0.3	
P42A	Winchester baz=332,SNR=111	144.49	21	P	PKPab	19 46 10.7	-0.3	
WES	Weston	144.50	356	ePKPdf	PKPab	19 46 10.8	-0.1	
WES	Weston	144.50	356	ePKIKP	PKPab	19 46 10.8	-0.1	
R39A	Chumby, Stover baz=327,SNR=173	144.53	25	P	PKPab	19 46 11.1	-0.2	
ERPA	Erie baz=351,SNR=40	144.57	7	P	PKPab	19 46 11.3	+0.1	
ERPA	Erie	144.57	7	ePKPdf	PKPab	19 46 10.9	-0.3	
O44A	Mansfield baz=336,SNR=38	144.61	18	P	PKPab	19 46 11.3	-0.1	
QUA2	Belchertown	144.66	357	ePKPdf	PKPab	19 46 11.1	-0.5	
TX31	Lajitas Ar. Si	144.69	47	ePKPdf	PKPbc	19 46 12.8	+0.4	
TX31				ePKPdf	PKPdf	19 46 12.9	-0.5	
LTX	Lajitas	144.69	47	ePKPdf	PKPdf	19 46 13.6	+0.2	
LTX				eSKPbc	SKiKP	19 49 49.7	+1.1	
LTX	Lajitas	144.69	47	ePKIKP	PKPdf	19 46 13.6	+0.2	
TXAR	Lajitas Array comp=Z,47nm,0.6s,baz=282,slow=1.0,SNR=129	144.69	47	PKP	PKPdf	19 46 13.6	+0.2	
TXAR				SKPbc	SKiKP	19 49 49.7	+1.1	
	comp=Z,4.3nm,0.8s,baz=289,slow=2.5,SNR=4.6							
Q41A	Truxton baz=331,SNR=104	144.71	23	P	PKPab	19 46 11.6	-0.3	
S38A	Stockton baz=325,SNR=98	144.72	27	P	PKPab	19 46 11.4	-0.6	
P43A	Skaggs, Pawnee baz=334,SNR=51	144.72	20	P	PKPab	19 46 11.8	-0.1	
O45A	Potomac baz=337,SNR=184	144.75	17	P	PKPbc	19 46 12.3	+0.2	
BINY	Binghamton baz=358,SNR=158	144.78	2	P	PKPbc	19 46 12.2	+0.1	
BINY	Binghamton	144.78	2	ePKPdf	PKPab	19 46 11.9	-0.1	
SFIN	Lafayette baz=338,SNR=182	144.81	17	P	PKPbc	19 46 12.2	0.0	
SFIN	Lafayette	144.81	17	ePKPdf	PKPab	19 46 12.0	-0.2	
R40A	Maddies Statio baz=328,SNR=330	144.87	24	P	PKPab	19 46 12.3	-0.2	
S39A	Bolivar baz=326,SNR=130	144.93	26	P	PKPab	19 46 12.2	-0.5	
BRYW	Bryant College	144.97	356	ePKPbc	PKPab	19 46 12.5	-0.3	
ALLY	Alegheny Colle	145.01	7	ePKPbc	PKPbc	19 46 12.2	-0.7	
Q42A	Golden Eagle baz=332,SNR=52	145.01	22	P	PKPbc	19 46 12.7	-0.2	
T38A	Diamond baz=324,SNR=132	145.03	28	P	PKPbc	19 46 12.9	-0.3	
P44A	Sand Creek, Wi baz=335,SNR=143	145.18	19	P	PKPab	19 46 13.6	+0.1	
TUL1	Leonard baz=321,SNR=32	145.19	31	P	PKPab	19 46 13.9	+0.1	
TUL1	Leonard	145.19	31	ePKPbc	PKPbc	19 46 13.4	-0.2	
O47A	Sheridan baz=340,SNR=82	145.19	16	P	PKPbc	19 46 13.1	-0.4	
M54A	Oil Creek Stat baz=351,SNR=259	145.21	7	P	PKPbc	19 46 13.4	-0.1	
M54A	Oil Creek Stat	145.21	7	ePKPbc	PKPbc	19 46 13.0	-0.6	
R41A	Rosebud baz=330,SNR=178	145.22	23	P	PKPbc	19 46 13.7	0.0	
Q43A	New Douglas baz=333,SNR=55	145.29	21	P	PKPbc	19 46 13.6	-0.2	
S40A	Lebanon baz=328,SNR=200	145.36	25	P	PKPbc	19 46 13.9	-0.2	
SLM	Saint Louis	145.37	22	ePKPdf	PKPbc	19 46 13.6	-0.5	
SLM	Saint Louis	145.37	22	ePKIKP	PKPbc	19 46 13.6	-0.5	
ABTX	Abilene, Hawle baz=312,SNR=26	145.40	39	P	PKPab	19 46 15.2	+0.6	
ABTX	Abilene, Hawle	145.40	39	ePKPdf	PKPab	19 46 14.7	+0.1	
P45A	Graceland, Par baz=337,SNR=158	145.40	18	P	PKPab	19 46 14.4	0.0	
T39A	Clever baz=326,SNR=295	145.46	27	P	PKPbc	19 46 14.6	+0.1	
R42A	Luebbering baz=331,SNR=202	145.47	23	P	PKPbc	19 46 14.4	0.0	
P46A	Rosedale baz=338,SNR=89	145.48	17	P	PKPab	19 46 14.6	-0.1	
CCM	Cathedral Cave baz=330	145.49	23	P	PKPdf	19 46 14.3	-0.2	
CCM	Cathedral Cave	145.49	23	ePKPdf	PKPdf	19 46 14.2	-0.2	
CCM	Cathedral Cave	145.49	23	ePKIKP	PKPdf	19 46 14.2	-0.2	
Q44A	Meyer Farm, Va baz=334,SNR=98	145.56	20	P	PKPbc	19 46 14.7	0.0	
YLE	Yale	145.65	358	ePKPdf	PKPdf	19 46 14.1	-0.5	
S41A	Jillco Farms, baz=329,SNR=282	145.69	24	P	PKPbc	19 46 15.2	0.0	
N54A	Moraine State baz=350,SNR=110	145.71	7	P	PKPbc	19 46 15.0	-0.1	
N54A	Moraine State	145.71	7	ePKPdf	PKPdf	19 46 14.9	+0.1	
T40A	Mansfield baz=327,SNR=89	145.73	26	P	PKPdf	19 46 14.9	0.0	
R43A	Red Bud baz=332,SNR=187	145.79	22	P	PKPbc	19 46 15.3	-0.2	
HHAR	Hobbs	145.81	28	ePKPdf	PKPdf	19 46 14.8	-0.3	
Q45A	Warren Harvey, baz=336,SNR=84	145.85	19	P	PKPbc	19 46 15.8	+0.2	
P47A	Martinsville baz=339,SNR=63	145.87	16	P	PKPbc	19 46 15.6	-0.1	
S42A	Caledonia baz=330,SNR=327	145.91	23	P	PKPdf	19 46 15.4	+0.2	
ODNJ	Ogdensburg	145.92	360	ePKPdf	PKPdf	19 46 15.1	0.0	
U39A	Green Forest baz=325,SNR=134	145.94	28	P	PKPdf	19 46 15.5	+0.2	
ACSO	Alum Creek Sta baz=345,SNR=108	145.94	11	P	PKPbc	19 46 15.8	0.0	
ACSO	Alum Creek Sta	145.94	11	ePKPdf	PKPbc	19 46 15.5	-0.3	
Q46A	CEJHS Indians, baz=337,SNR=6.5	145.98	18	P	PKPbc	19 46 15.8	-0.2	
PAL	Palisades baz=1.1,SNR=48	145.99	359	P	PKPbc	19 46 16.1	+0.1	
PAL	Palisades	145.99	359	ePKPdf	PKPdf	19 46 15.5	+0.3	
PAL	Palisades	145.99	359	ePKP2	PKPdf	19 46 15.5	+0.3	
OLIL	Olney	146.02	19	ePKPdf	PKPbc	19 46 15.9	-0.2	
N59A	State Game Lan baz=358,SNR=187	146.07	2	P	PKPab	19 46 16.7	-0.2	
N59A	State Game Lan	146.07	2	ePKPdf	PKPbc	19 46 16.3	0.0	
BLO	Bloomington	146.09	17	ePKPdf	PKPbc	19 46 16.1	-0.3	
BLO	Bloomington	146.09	17	ePKP2	PKPbc	19 46 16.1	-0.3	
R44A	Waltonville baz=334,SNR=127	146.12	21	P	PKPbc	19 46 16.3	-0.1	
T41A	Mountain View baz=328,SNR=157	146.14	25	P	PKPbc	19 46 16.4	-0.2	
FSA	Cafayete	146.16	194	eP	PKPab	19 46 18.4	+0.5	
CPNY	Central Park	146.20	359	ePKPdf	PKPbc	19 46 16.4	-0.2	
SSPA	Standing Stone baz=354	146.24	4	P	PKPbc	19 46 16.8	+0.1	
SSPA	Standing Stone	146.24	4	ePKPdf	PKPbc	19 46 16.4	-0.3	
U40A	Yellville baz=326,SNR=348	146.25	27	P	PKPbc	19 46 16.5	-0.4	
V39A	Pettigrew baz=324,SNR=176	146.30	28	P	PKPbc	19 46 16.6	-0.6	
BRNJ	Hawkwing Ridge	146.32	360	ePKPdf	PKPbc	19 46 17.2	+0.3	
Q47A	Bedord North L baz=338,SNR=129	146.34	17	P	PKPbc	19 46 16.8	-0.3	
R45A	Skylar, Fairfi baz=335,SNR=103	146.36	20	P	PKPbc	19 46 17.2	0.0	
S43A	Fulton Ridge, baz=332,SNR=37	146.36	22	P	PKPbc	19 46 16.7	-0.5	
LUPA	Lehigh Univers	146.40	1	ePKPdf	PKPbc	19 46 16.7	-0.5	
T42A	Van Buren baz=329,SNR=267	146.43	24	P	PKPbc	19 46 17.4	0.0	
O56A	Blue Knob Stat baz=353,SNR=230	146.55	5	P	PKPbc	19 46 17.1	-0.6	
O56A	Blue Knob Stat	146.55	5	ePKPdf	PKPdf	19 46 17.0	+0.7	
SIUC	Southern Illin	146.55	21	ePKPdf	PKPdf	19 46 16.7	+0.5	
S44A	Carbondale baz=333,SNR=55	146.56	21	P	PKPbc	19 46 17.9	+0.1	
U41A	Viola baz=328,SNR=117	146.67	26	P	PKPdf	19 46 17.3	+0.7	
R46A	Gibon Southern baz=336,SNR=39	146.68	19	P	PKPbc	19 46 18.0	-0.1	
JCT	Junction City baz=310	146.70	42	P	PKPbc	19 46 18.0	-0.5	
JCT	Junction City	146.70	42	ePKPdf	PKPdf	19 46 17.6	+0.8	

	baz=324,SNR=46							
W39A	**Magazine**	**146.76**	**29**	*e*PKPdf	**PKPdf**	19 46 16.6	**0.0**
S45A	**Carrier Mills**	**146.81**	**20**	P	**PKPbc**	19 46 18.3	**-0.2**
	baz=334,SNR=31						
USIN	**University of**	**146.86**	**19**	*e*PKPdf	**PKPdf**	19 46 17.1	**+0.3**
R47A	**Wooly Knot Far**	**146.90**	**17**	P	**PKPbc**	19 46 18.5	**-0.3**
	baz=338,SNR=110						
PBMO	**Poplar Bluff**	**146.92**	**24**	*e*PKPdf	**PKPdf**	19 46 17.3	**+0.4**
U42A	**Revenden**	**146.95**	**25**	P	**PKPbc**	19 46 18.8	**-0.2**
	baz=329,SNR=152						
MVL	**Millersville**	**146.97**	**2**	*e*PKPdf	**PKPdf**	19 46 17.4	**+0.6**
T44A	**Benton**	**146.97**	**22**	P	**PKPbc**	19 46 19.1	**+0.1**
	baz=332,SNR=9.4						
R48A	**Northridge Ran**	**147.00**	**16**	P	**PKPbc**	19 46 19.1	**+0.1**
	baz=339,SNR=78						
MCWV	**Mont Chateau**	**147.01**	**7**	P	**PKPbc**	19 46 19.2	**+0.1**
	baz=350,SNR=68						
MCWV	**Mont Chateau**	**147.01**	**7**	*e*PKPdf	**PKPdf**	19 46 17.3	**+0.4**
V41A	**Mountainview**	**147.03**	**27**	P	**PKPbc**	19 46 18.6	**-0.6**
	baz=327,SNR=104						
WCI	**Wyandotte Cave**	**147.03**	**17**	P	**PKPbc**	19 46 19.0	**-0.2**
	baz=338						
WCI	**Wyandotte Cave**	**147.03**	**17**	*e*PKPdf	**PKPdf**	19 46 17.4	**+0.3**
WCI	**Wyandotte Cave**	**147.03**	**17**	*e*PKP2	**PKPdf**	19 46 17.4	**+0.3**
PSUB	**Penn St. - Bra**	**147.06**	**1**	*e*PKPdf	**PKPdf**	19 46 17.4	**+0.4**
S46A	**Don Dixon Farm**	**147.09**	**19**	P	**PKPbc**	19 46 19.0	**-0.3**
	baz=336,SNR=13						
W40A	**Ferguson Farm,**	**147.10**	**28**	P	**PKPbc**	19 46 18.9	**-0.5**
	baz=325,SNR=128						
W40A	**Ferguson Farm,**	**147.10**	**28**	*e*PKPdf	**PKPdf**	19 46 17.4	**+0.1**
X39A	**Fountain Ranch**	**147.14**	**30**	P	**PKPbc**	19 46 19.7	**+0.1**
	baz=322,SNR=95						
WHTX	**Lake Whitney,**	**147.17**	**37**	P	**PKPbc**	19 46 20.4	**+0.7**
	baz=315,SNR=26						
WHTX	**Lake Whitney,**	**147.17**	**37**	*e*PKPbc	**PKPbc**	19 46 19.9	**+0.2**
U43A	**Rector**	**147.28**	**24**	P	**PKPab**	19 46 21.2	**-0.4**
	baz=330						
V42A	**Cord**	**147.35**	**26**	P	**PKPbc**	19 46 19.7	**-0.4**
	baz=328,SNR=126						
T45A	**Paducah**	**147.38**	**21**	P	**PKPbc**	19 46 20.3	**+0.2**
	baz=334,SNR=9.1						
MIAR	**Mount Ida**	**147.38**	**30**	P	**PKPbc**	19 46 20.5	**+0.3**
	baz=323,SNR=279						
MIAR	**Mount Ida**	**147.38**	**30**	*e*PKPdf	**PKPdf**	19 46 18.2	**+0.5**
MIAR				*e*PKPbc	**PKPab**	19 46 21.8	**-0.3**
MIAR	**Mount Ida**	**147.38**	**30**	*e*PKP2	**PKPdf**	19 46 18.2	**+0.5**
WHAR	**Wooly Hollow**	**147.38**	**27**	*e*PKPdf	**PKPdf**	19 46 18.1	**+0.4**
WHAR				*e*PKPbc	**PKPab**	19 46 22.1	**0.0**
W41B	**Gary Mavity, V**	**147.50**	**27**	P	**PKPbc**	19 46 20.1	**-0.4**
	baz=326,SNR=79						
W41B	**Gary Mavity, V**	**147.50**	**27**	*e*PKPdf	**PKPdf**	19 46 17.9	**0.0**
W41B				*e*PKPbc	**PKPab**	19 46 22.3	**-0.3**
SDMD	**Soldier's Deli**	**147.53**	**3**	*e*PKPbc	**PKPbc**	19 46 21.2	**+0.7**
T46A	**Princeton**	**147.62**	**20**	P	**PKPbc**	19 46 20.8	**0.0**
	baz=335,SNR=69						
S48A	**Wiedeman Farm,**	**147.63**	**17**	P	**PKPbc**	19 46 20.4	**-0.4**
	baz=338,SNR=97						
U44B	**Burton Farm, H**	**147.72**	**23**	P	**PKPab**	19 46 22.4	**-1.0**
	baz=332						
V43A	**Jonesboro**	**147.73**	**25**	P	**PKPbc**	19 46 21.5	**+0.5**
	baz=329						
ALOL	**LOMAS DE OLMED**	**147.78**	**199**	*e*P	**PKPab**	19 46 26.3	**+2.2**
UALR	**University of**	**147.78**	**28**	*e*PKPdf	**PKPdf**	19 46 17.7	**-0.7**
UALR				*e*PKPbc	**PKiKP**	19 46 22.8	**-0.5**
X40A	**Basin Creek Fa**	**147.79**	**29**	P	**PKPbc**	19 46 21.9	**+0.6**
	baz=324,SNR=54						
X40A	**Basin Creek Fa**	**147.79**	**29**	*e*PKPdf	**PKPdf**	19 46 18.5	**+0.1**
ASTB	**Santa Barbara**	**147.81**	**198**	*e*P	**PKPab**	19 46 23.5	**-0.8**
UTMT	**University of**	**147.90**	**22**	*e*PKPdf	**PKPdf**	19 46 18.7	**+0.1**
UTMT				*e*PKPbc	**PKiKP**	19 46 23.1	**-0.3**
T47A	**Sharon Grove**	**147.93**	**19**	P	**PKPbc**	19 46 21.6	**0.0**
	baz=336,SNR=64						
435B	**Jarrell**	**147.93**	**39**	P	**PKPbc**	19 46 21.5	**-0.3**
	baz=313,SNR=9.7						
435B	**Jarrell**	**147.93**	**39**	*e*PKPdf	**PKPdf**	19 46 18.4	**-0.3**
U45A	**Rockin P Farm,**	**147.93**	**22**	P	**PKPbc**	19 46 22.1	**+0.4**
	baz=333,SNR=10						
X41A	**Kaden, Bauxite**	**147.93**	**29**	P	**PKPbc**	19 46 22.7	**+1.0**
	baz=325,SNR=27						
Y40A	**Okolona**	**147.95**	**30**	P	**PKPbc**	19 46 21.9	**+0.2**
	baz=323,SNR=13						
V44A	**Blytheville**	**147.95**	**24**	P	**PKPbc**	19 46 22.1	**+0.4**
	baz=330						
T48A	**Bowling Green**	**148.04**	**18**	P	**PKPbc**	19 46 21.0	**-1.0**
	baz=338,SNR=88						
U46A	**Springville**	**148.13**	**21**	P	**PKPbc**	19 46 21.5	**-0.6**
	baz=334,SNR=19						
WLAR	**White Oak Lake**	**148.30**	**30**	*e*PKPdf	**PKPdf**	19 46 19.7	**+0.5**
X42A	**Stuttgart**	**148.30**	**27**	P	**PKPbc**	19 46 22.8	**+0.2**
	baz=326						
833A	**Chaparral WMA,**	**148.32**	**45**	P	**PKPdf**	19 46 21.1	**+1.7**
	baz=308						
U47A	**Clarksville**	**148.37**	**20**	P	**PKPbc**	19 46 22.8	**+0.1**
	baz=336,SNR=88						
Y41A	**Eaglette Beard**	**148.39**	**29**	P	**PKPbc**	19 46 23.1	**+0.2**
	baz=324,SNR=21						
V45A	**Humboldt**	**148.40**	**23**	P	**PKPbc**	19 46 22.8	**0.0**
	baz=332,SNR=8.1						
WVT	**Waverly**	**148.46**	**21**	P	**PKPbc**	19 46 23.3	**+0.3**
	baz=334						
WVT	**Waverly**	**148.46**	**21**	*e*PKPdf	**PKPdf**	19 46 19.5	**0.0**
WVT				*e*PKPbc	**PKPbc**	19 46 23.8	**+0.7**
WVT	**Waverly**	**148.46**	**21**	*e*PKIKP	**PKPdf**	19 46 19.5	**0.0**
WVT				*e*		19 46 23.8	
Z40A	**Long Farm, Mag**	**148.49**	**31**	P	**PKPbc**	19 46 23.9	**+0.7**
	baz=322,SNR=11						
U48A	**Cassie Pea, Po**	**148.55**	**19**	P	**PKPbc**	19 46 23.4	**+0.2**
	baz=337,SNR=109						
V46A	**Holladay**	**148.66**	**21**	P	**PKPbc**	19 46 23.3	**-0.2**
	baz=334,SNR=43						
X43A	**Marvell**	**148.66**	**26**	P	**PKPbc**	19 46 24.1	**+0.5**
	baz=328						
CBN	**Corbin Frederi**	**148.70**	**4**	P	**PKPbc**	19 46 23.8	**+0.3**
	baz=355						
CBN	**Corbin Frederi**	**148.70**	**4**	*e*PKPdf	**PKPdf**	19 46 19.7	**0.0**
CBN				*e*PKPbc	**PKiKP**	19 46 25.0	**0.0**
IP04	**Greensprings**	**148.75**	**5**	*e*PKPdf	**PKPdf**	19 46 21.3	**+1.4**
CCAR	**Cane Creek**	**148.76**	**28**	*e*PKPdf	**PKPdf**	19 46 20.2	**+0.2**
CCAR				*e*PKPbc	**PKiKP**	19 46 26.1	**+0.9**
HJA	**Humahuaca**	**148.78**	**197**	*e*P	**PKPdf**	19 46 15.2	**-5.6**
Z41A	**Richland Creek**	**148.79**	**30**	P	**PKPbc**	19 46 24.5	**+0.5**
	baz=323,SNR=13						
Z41A	**Richland Creek**	**148.79**	**30**	*e*PKPdf	**PKPdf**	19 46 20.4	**+0.3**
ZAIG	**Zacatecas**	**148.81**	**57**	*e*PKPdf	**PKPdf**	19 46 21.5	**+0.7**
ZAIG				*e*PKPbc	**PKiKP**	19 46 26.5	**+0.4**
Y42A	**Garnett, Star**	**148.82**	**28**	P	**PKPbc**	19 46 24.5	**+0.4**
	baz=326,SNR=27						
W45A	**Hickory Valley**	**148.82**	**23**	P	**PKPbc**	19 46 24.0	**0.0**
	baz=331,SNR=16						
SPRD	**Spring Road, M**	**148.84**	**5**	*e*PKPdf	**PKPdf**	19 46 19.3	**-0.7**
SPRD				*e*PKPbc	**PKiKP**	19 46 25.5	**+0.2**
V47A	**Nunnelly**	**148.84**	**20**	P	**PKPbc**	19 46 24.0	**0.0**
	baz=335,SNR=42						
IP01	**Cuckoo**	**148.90**	**5**	*e*PKPdf	**PKPdf**	19 46 18.7	**-1.4**
IP01				*e*PKPbc	**PKiKP**	19 46 25.8	**+0.4**
IP07	**Quail**	**148.93**	**5**	*e*PKPdf	**PKPdf**	19 46 20.9	**+0.7**
IP07				*e*PKPbc	**PKiKP**	19 46 25.6	**+0.1**
NATX	**Nacogdoches**	**148.97**	**34**	P	**PKPbc**	19 46 25.4	**+1.0**
	baz=319,SNR=7.8						
NATX	**Nacogdoches**	**148.97**	**34**	*e*PKPdf	**PKPdf**	19 46 19.6	**-0.8**
NATX				*e*PKPbc	**PKiKP**	19 46 25.8	**0.0**
X44A	**Crenshaw**	**149.00**	**25**	P	**PKPbc**	19 46 24.7	**+0.3**
	baz=329,SNR=11						
IP05	**Hopewell Churc**	**149.04**	**5**	*e*PKPdf	**PKPdf**	19 46 21.4	**+1.0**
Y43A	**Makayla and Ka**	**149.15**	**27**	P	**PKPbc**	19 46 25.4	**+0.5**
	baz=327						
W46A	**Michie**	**149.15**	**22**	P	**PKPbc**	19 46 24.3	**-0.5**
	baz=333,SNR=11						
V48A	**Smith Brothers**	**149.16**	**20**	P	**PKPbc**	19 46 24.6	**-0.3**
	baz=336,SNR=39						
JSRW	**J. Sargeant Re**	**149.16**	**5**	*e*PKPdf	**PKPdf**	19 46 21.4	**+0.9**
Z42A	**Norrel Spur, H**	**149.20**	**29**	P	**PKPbc**	19 46 25.8	**+0.8**
	baz=325,SNR=18						
141A	**Papa Simpson,**	**149.26**	**31**	P	**PKPbc**	19 46 26.0	**+0.8**
	baz=322						
OXF	**Oxford**	**149.29**	**24**	P	**PKPbc**	19 46 25.1	**-0.1**
	baz=330,SNR=18						
OXF	**Oxford**	**149.29**	**24**	*e*PKPdf	**PKPdf**	19 46 21.9	**+1.0**
OXF	**Oxford**	**149.29**	**24**	*e*PKIKP	**PKPdf**	19 46 21.9	**+1.0**
BLA	**Blacksburg**	**149.33**	**9**	P	**PKPbc**	19 46 25.1	**-0.2**
	baz=349,SNR=11						
BLA	**Blacksburg**	**149.33**	**9**	*e*PKPdf	**PKPdf**	19 46 21.0	**+0.1**
BLA				*e*PKPbc	**PKPbc**	19 46 25.6	**+0.3**
BLA	**Blacksburg**	**149.33**	**9**	*e*PKIKP	**PKPdf**	19 46 21.0	**+0.1**
BLA				*e*		19 46 25.6	
W47A	**Westpoint**	**149.34**	**21**	P	**PKPbc**	19 46 25.1	**-0.2**
	baz=334,SNR=114						
TZTN	**Tazewell**	**149.35**	**14**	P	**PKPbc**	19 46 25.4	**+0.1**
	baz=342,SNR=71						
TZTN	**Tazewell**	**149.35**	**14**	*e*PKPdf	**PKPdf**	19 46 20.9	**0.0**
TZTN				*e*PKPbc	**PKiKP**	19 46 26.1	**-0.3**
VWCC	**Virginia Weste**	**149.36**	**8**	*e*PKPdf	**PKPdf**	19 46 20.9	**0.0**
VWCC				*e*PKPbc	**PKiKP**	19 46 26.0	**-0.4**
X45A	**UM Field Stati**	**149.38**	**24**	P	**PKPbc**	19 46 25.4	**0.0**
	baz=330						
PLAL	**Pickwick Lake**	**149.40**	**22**	*e*PKPdf	**PKPdf**	19 46 20.8	**-0.2**
PLAL				*e*PKPbc	**PKiKP**	19 46 26.2	**-0.3**
Y44A	**Strider, Charl**	**149.43**	**26**	P	**PKPbc**	19 46 26.2	**+0.7**
	baz=328,SNR=19						
X46A	**Booneville**	**149.58**	**23**	P	**PKPbc**	19 46 25.8	**-0.1**
	baz=332,SNR=18						
HKT	**Hockley**	**149.59**	**38**	*e*PKPdf	**PKPdf**	19 46 22.2	**+0.8**
HKT				*e*PKPbc	**PKiKP**	19 46 27.8	**+0.8**
HKT	**Hockley**	**149.59**	**38**	*e*PKHKP	PKPpre	19 46 22.2	
HKT				*e*		19 46 27.8	
W48A	**Pulaski**	**149.67**	**20**	P	**PKPbc**	19 46 25.9	**-0.2**
	baz=335,SNR=67						
142A	**Monroe**	**149.79**	**30**	P	**PKPbc**	19 46 27.2	**+0.7**
	baz=324						
YJA	**Yavi**	**149.79**	**197**	*e*P	PKPpre	19 46 12.1	
Y45A	**Yeager Farm, C**	**149.79**	**25**	P	**PKPbc**	19 46 26.4	**0.0**
	baz=330						
X47A	**Russelville**	**149.90**	**22**	P	**PKPbc**	19 46 26.2	**-0.5**
	baz=333,SNR=30						
Z44A	**Pea Ridge, Bel**	**149.91**	**27**	P	**PKPbc**	19 46 27.2	**+0.5**
	baz=327						
143A	**Scos Landing,**	**149.93**	**29**	P	**PKPbc**	19 46 27.3	**+0.5**
	baz=325						
Y46A	**Houston**	**150.06**	**24**	P	**PKPbc**	19 46 27.3	**+0.2**
	baz=331,SNR=25						
242A	**Grayson**	**150.08**	**31**	P	**PKPbc**	19 46 28.0	**+0.8**
	baz=323,SNR=5.3						
341A	**Kurthwood**	**150.12**	**33**	P	**PKPbc**	19 46 27.9	**+0.6**
	baz=321,SNR=19						
TKL	**Tuckaleechee C**	**150.14**	**15**	PKP	**PKPdf**	19 46 23.0	**+0.8**
	comp=Z,45nm,1.1s,baz=315,slow=1.4,SNR=16						
TKL				PKPbc	**PKiKP**	19 46 28.0	**-0.1**
	comp=Z,122nm,0.8s,baz=18,slow=1.9,SNR=63						
TKL	**Tuckaleechee C**	**150.14**	**15**	*e*PKPdf	**PKPdf**	19 46 22.6	**+0.4**
TKL				*e*PKPbc	**PKiKP**	19 46 28.1	**-0.1**
TKL	**Tuckaleechee C**	**150.14**	**15**	*e*PKHKP	PKPpre	19 46 22.6	
TKL				*e*		19 46 28.1	
Z45A	**Winona**	**150.16**	**26**	P	**PKPbc**	19 46 27.9	**+0.6**
	baz=329						
LNIG	**Linares**	**150.24**	**50**	*e*PKPdf	**PKPdf**	19 46 22.9	**+0.3**
LNIG				*e*PKPbc	**PKPbc**	19 46 28.2	**+0.4**
X48A	**Hartselle**	**150.25**	**21**	P	**PKPbc**	19 46 27.3	**-0.2**
	baz=334,SNR=68						
X49A	**Woodville**	**150.44**	**20**	P	**PKPbc**	19 46 28.2	**+0.2**
	baz=336,SNR=144						
Y47A	**UCPARC, Winfie**	**150.44**	**23**	P	**PKPbc**	19 46 27.8	**-0.2**
	baz=333,SNR=49						
144A	**Alexander Plac**	**150.45**	**28**	P	**PKPbc**	19 46 29.6	**+1.5**
	baz=327,SNR=7.4						
342A	**Flagon Creek P**	**150.53**	**32**	P	**PKPbc**	19 46 29.6	**+1.3**
	baz=322,SNR=6.9						
NCAT	**North Carolina**	**150.54**	**8**	*e*PKPdf	**PKPdf**	19 46 23.7	**+0.9**
NCAT				*e*PKPbc	**PKPbc**	19 46 27.9	**-0.3**
243A	**Waterproof**	**150.56**	**30**	P	**PKPbc**	19 46 29.2	**+0.8**
	baz=324						
Z46A	**Louisville**	**150.63**	**25**	P	**PKPbc**	19 46 29.4	**+0.9**
	baz=330,SNR=20						
Y48A	**Jasper**	**150.69**	**22**	P	**PKPbc**	19 46 28.3	**-0.3**
	baz=334,SNR=29						
145A	**Houston Renfro**	**150.70**	**27**	P	**PKPbc**	19 46 29.1	**+0.5**
	baz=328,SNR=9.3						
244A	**Avery, Jackson**	**150.82**	**29**	P	**PKPbc**	19 46 29.6	**+0.7**
	baz=324,SNR=13						
BG3	**Lake Jocassee**	**150.98**	**14**	*e*PKPdf	**PKPdf**	19 46 24.6	**+1.1**
BG3				*e*PKPbc	**PKiKP**	19 46 30.1	**+0.3**
Z47A	**Carrollton**	**150.98**	**24**	P	**PKPbc**	19 46 29.7	**+0.4**
	baz=332,SNR=25						
Y49A	**Blount Mountai**	**151.01**	**20**	P	**PKPbc**	19 46 29.6	**+0.2**
	baz=335,SNR=57						
Z48A	**Northport**	**151.02**	**23**	P	**PKPbc**	19 46 29.1	**-0.3**
	baz=333,SNR=32						
146A	**Union**	**151.06**	**26**	P	**PKPbc**	19 46 30.4	**+0.9**
	baz=329,SNR=12						
KMSC	**Kings Mountain**	**151.19**	**11**	P	**PKPdf**	19 46 25.9	**+2.1**
	baz=346,SNR=42						
KMSC	**Kings Mountain**	**151.19**	**11**	*e*PKPdf	**PKPdf**	19 46 23.6	**-0.2**
KMSC				*e*PKPbc	**PKiKP**	19 46 30.2	**-0.1**
245A	**Little AP, Sta**	**151.20**	**28**	P	**PKPdf**	19 46 25.2	**+1.3**
	baz=327,SNR=5.1						
Y50A	**Piedmont**	**151.21**	**19**	P	**PKPbc**	19 46 25.8	**+1.9**
	baz=337,SNR=22						
MOIG	**Morelia**	**151.26**	**61**	*e*PKPdf	**PKPdf**	19 46 24.6	**-0.1**
MOIG				*e*PKPbc	**PKiKP**	19 46 31.2	**0.0**
344A	**Westbrook Farm**	**151.28**	**30**	P	**PKPdf**	19 46 25.6	**+1.6**
	baz=325,SNR=5.4						
147A	**Livingston**	**151.36**	**24**	P	**PKPdf**	19 46 25.4	**+1.3**
	baz=331,SNR=15						
PAULI	**Pauline**	**151.40**	**12**	*e*PKPdf	**PKPdf**	19 46 23.4	**-0.8**
PAULI				*e*PKPbc	**PKiKP**	19 46 30.9	**+0.2**
LRAL	**Lakeview Retre**	**151.54**	**22**	P	**PKPdf**	19 46 26.0	**+1.6**
	baz=334,SNR=32						
LRAL	**Lakeview Retre**	**151.54**	**22**	*e*PKPdf	**PKPdf**	19 46 23.8	**-0.6**
LRAL				*e*PKPbc	**PKPbc**	19 46 30.7	**+0.1**
Z49A	**Columbiana**	**151.57**	**21**	P	**PKPdf**	19 46 26.0	**+1.6**
	baz=334,SNR=37						
CNNC	**Cliffs of the**	**151.60**	**6**	*e*PKPdf	**PKPdf**	19 46 22.7	**-1.7**
CNNC				*e*PKPbc	**PKiKP**	19 46 31.4	**+0.3**
148A	**Greensboro**	**151.66**	**23**	P	**PKPdf**	19 46 25.6	**+1.0**
	baz=332,SNR=11						
Z50A	**Ashland**	**151.73**	**20**	P	**PKPdf**	19 46 25.7	**+1.0**
	baz=336,SNR=20						
345A	**Thompson Farm,**	**151.74**	**29**	P	**PKPdf**	19 46 26.7	**+2.0**
	baz=326,SNR=8.2						
247A	**Quitman**	**151.75**	**26**	P	**PKPdf**	19 46 26.4	**+1.7**
	baz=328,SNR=13						
HODGE	**Hodges**	**151.87**	**13**	*e*PKPdf	**PKPdf**	19 46 25.6	**+0.7**
HODGE				*e*PKPbc	**PKiKP**	19 46 32.7	**+1.0**
346A	**Big Creek Wild**	**151.94**	**28**	P	**PKPdf**	19 46 26.2	**+1.2**
	baz=327						
149A	**Jones**	**152.00**	**22**	P	**PKPdf**	19 46 26.4	**+1.3**
	baz=334,SNR=14						
JSC	**Jenkinsville**	**152.03**	**12**	*e*PKPdf	**PKPdf**	19 46 25.7	**+0.6**
JSC				*e*PKPbc	**PKiKP**	19 46 32.1	**+0.1**
JSC	**Jenkinsville**	**152.03**	**12**	*e*PKIKP	**PKPdf**	19 46 25.7	**+0.6**
248A	**Dixon Mills**	**152.08**	**24**	P	**PKPdf**	19 46 26.7	**+1.4**
	baz=335,SNR=16						
150A	**Eclectic**	**152.28**	**21**	P	**PKPdf**	19 46 27.0	**+1.5**
	baz=335,SNR=25						
347A	**Saraland**	**152.34**	**26**	P	**PKPdf**	19 46 27.2	**+1.6**
	baz=329,SNR=8.4						
GOGA	**Godfrey**	**152.34**	**16**	P	**PKPdf**	19 46 27.8	**+2.2**
	baz=341,SNR=12						
GOGA	**Godfrey**	**152.34**	**16**	*e*PKPdf	**PKPdf**	19 46 26.7	**+1.1**
GOGA				*e*PKPbc	**PKiKP**	19 46 32.6	**-0.1**
GOGA	**Godfrey**	**152.34**	**16**	*e*PKIKP	**PKPdf**	19 46 26.7	**+1.1**
249A	**Camden**	**152.43**	**23**	P	**PKPdf**	19 46 27.3	**+1.5**
	baz=332,SNR=15						
151A	**Opelika**	**152.59**	**20**	P	**PKPdf**	19 46 27.1	**+1.1**
	baz=336,SNR=8.4						
348A	**Jackson**	**152.60**	**25**	P	**PKPdf**	19 46 27.5	**+1.5**
	baz=330,SNR=5.6						
250A	**Grady**	**152.76**	**22**	P	**PKPdf**	19 46 27.2	**+0.9**
	baz=334,SNR=7.3						
349A	**Repton**	**152.95**	**24**	P	**PKPdf**	19 46 28.5	**+1.9**
	baz=332						
251A	**Midway**	**152.96**	**20**	P	**PKPdf**	19 46 28.6	**+2.0**
	baz=336,SNR=20						
BBSR	**BB Station**	**152.97**	**341**	*e*PKPdf	**PKPdf**	19 46 26.1	**-0.4**
BBSR				*e*PKPbc	**PKPbc**	19 46 33.8	**0.0**
PB11	**IPOC Station P**	**153.10**	**190**	*e*PKPdf	**PKPdf**	19 46 28.5	**+1.2**
PB11				*e*PKPbc	**PKiKP**	19 46 35.3	**+0.5**
BRAL	**Brewton**	**153.17**	**24**	*e*PKPdf	**PKPdf**	19 46 27.3	**+0.5**
BRAL				*e*PKPbc	**PKiKP**	19 46 36.6	**+2.2**
252A	**Lumpkin**	**153.28**	**19**	P	**PKPdf**	19 46 28.7	**+1.7**
	baz=337,SNR=8.7						
155A	**Kite**	**153.35**	**15**	P	**PKPdf**	19 46 28.4	**+1.3**
	baz=342						
NHSC	**New Hope**	**153.38**	**10**	*e*PKPdf	**PKPdf**	19 46 28.2	**+1.1**
253A	**Americus**	**153.41**	**18**	P	**PKPdf**	19 46 29.1	**+1.9**
	baz=338,SNR=7.7						
RGRS	**Roger Stewart**	**153.57**	**11**	*e*PKPdf	**PKPdf**	19 46 28.7	**+1.4**
RGRS				*e*PKPbc	**PKiKP**	19 46 37.2	**+2.0**
SIV	**San Ignacio**	**153.62**	**211**	PKP	**PKPdf**	19 46 29.0	**+1.0**
	comp=Z,7.0nm,1.2s,baz=186,slow=2.1,SNR=10.0						
SIV				PKPbc	**PKiKP**	19 46 36.9	**+1.0**
	comp=Z,5.7nm,0.7s,baz=150,slow=2.7,SNR=12						
SIV				PKPab	**PKPab**	19 46 49.5	**+1.2**
	comp=Z,52nm,0.8s,baz=142,slow=6.3,SNR=33						
351A	**Pinckard**	**153.63**	**21**	P	**PKPdf**	19 46 30.1	**+2.5**
	baz=335						
450A	**Crestview**	**153.68**	**24**	P	**PKPbc**	19 46 38.2	**+2.8**
	baz=332						
352A	**Blakely**	**153.69**	**20**	P	**PKPbc**	19 46 37.5	**+2.0**
	baz=336						
254A	**Abbeville**	**153.77**	**17**	P	**PKPbc**	19 46 37.7	**+2.1**
	baz=340,SNR=11						
353A	**Camilla**	**154.04**	**19**	P	**PKPbc**	19 46 38.5	**+2.3**
	baz=338,SNR=8.5						
TIGA	**Tifton**	**154.15**	**18**	P	**PKPbc**	19 46 38.4	**+2.0**
	baz=339						
TIGA	**Tifton**	**154.15**	**18**	*e*PKPdf	**PKPdf**	19 46 29.5	**+1.3**
TIGA				*e*PKPbc	**PKiKP**	19 46 38.8	**+2.4**
452A	**Marianna**	**154.17**	**21**	P	**PKPbc**	19 46 38.7	**+2.3**
	baz=335						
355A	**Pearson**	**154.46**	**16**	P	**PKPbc**	19 46 39.2	**+2.1**
	baz=341						
453A	**Whigham**	**154.46**	**20**	P	**PKPbc**	19 46 39.9	**+2.8**
	baz=337						
356A	**Blackshear**	**154.67**	**15**	P	**PKPbc**	19 46 39.9	**+2.4**
	baz=342						
455A	**Stateville**	**154.97**	**17**	P	**PKPbc**	19 46 40.4	**+2.2**
	baz=340						
555A	**McAlpin**	**155.57**	**18**	P	PKPdf	19 46 42.1	**+12**
	baz=340						
556A	**Lake Butler**	**155.85**	**17**	P	PKPdf	19 46 42.8	**+12**
	baz=341						
LPAZ	**La Paz**	**156.12**	**196**	PKP	**PKPdf**	19 46 32.4	**+0.2**
	comp=Z,13nm,1.2s,baz=14,slow=2.3,SNR=18						
LPAZ				PKPab	**PKPab**	19 47 02.4	**+2.8**
	comp=Z,6.0nm,0.6s,baz=83,slow=4.8,SNR=10						
LPAZ	**La Paz**	**156.12**	**196**	*e*PKPdf	**PKPdf**	19 46 32.1	**0.0**
LPAZ	**La Paz**	**156.12**	**196**	*e*PKIKP	**PKPdf**	19 46 32.1	**0.0**
CMIG	**Matias Romero**	**157.77**	**61**	PKP	**PKPdf**	19 46 34.2	**+0.7**
	comp=Z,14nm,0.8s,baz=334,slow=2.7,SNR=23						
CMIG				PKPab	**PKPab**	19 47 07.8	**+1.6**
	comp=Z,17nm,0.8s,baz=289,slow=5.2,SNR=8.8						
MYIG	**MØrida**	**159.75**	**45**	*e*PKPab	**PKPab**	19 47 16.0	**+1.4**
SAML	**Samuel**	**160.58**	**216**	*e*PKPdf	**PKPdf**	19 46 35.1	**-1.7**
SAML				*e*PKPab	**PKPab**	19 47 17.9	**-0.3**
PTGA	**Pitinga**	**163.52**	**243**	*e*PKPdf	**PKPdf**	19 46 40.1	**+0.3**
SMRT	**St. Maarten**	**164.15**	**316**	*e*PKPdf	**PKPdf**	19 46 41.1	**+0.8**
SMRT				*e*PKPab	**PKPab**	19 47 32.0	**-1.9**
**

JYNG S Sn 19 29 31.5 -1.3
NTST Danshui 0.78 294 *e*P Pn 19 29 21.2 -0.5
baz=308
TWS1 Kuangyinshan 0.79 289 *e*P Pn 19 29 21.6 -0.2
baz=291
TWS1 *e*S Sb 19 29 31.9 +0.8
baz=291
YHNB Yeheng 0.80 258 P Pg 19 29 20.0 -0.1
baz=266
YHNB *e*S Sg 19 29 29.6 -0.9
baz=266
YOJ Yonaguni jima 0.80 118 *e*P Pn 19 29 23.1 +1.1
baz=116
YOJ *e*S Sn 19 29 36.0 +2.0
baz=116
YOJ Yonaguni jima 0.80 118 P Pn 19 29 21.5 -0.5
YOJ S Sn 19 29 32.8 -1.2
NNSB Datong 0.88 242 *e*P Pg 19 29 21.8 +0.2
baz=238
NNSB *e*S Sg 19 29 32.8 -0.3
baz=238
NNS Nan Shan 0.88 243 *e*P Pg 19 29 21.8 +0.1
baz=239
NNS *e*S Sg 19 29 32.7 -0.4
baz=239
NACB Ninganchiao 0.89 221 P Pg 19 29 21.9 +0.2
baz=216
NACB *e*S Sg 19 29 32.5 -0.8
baz=216
TWD Chiawan 0.96 218 *e*P Pg 19 29 23.0 -0.1
baz=219
TWD *e*S Sg 19 29 35.0 -0.6
baz=219
NCUH Zhongli 0.96 278 *e*P Pn 19 29 24.3 0.0
baz=277
WHF Hehuan Shan 1.12 232 *e*P Pg 19 29 26.2 -0.1
baz=227
WHF *e*S Sg 19 29 40.4 -0.6
baz=227
LIOB Emei 1.13 260 *e*P Pg 19 29 26.5 +0.2
baz=258
NSTT Nanjuang 1.14 260 *e*P Pn 19 29 26.9 +0.2
baz=251
NSTT *e*S Sg 19 29 42.1 +0.6
baz=251
TDCB Techi 1.14 239 *e*P Pb 19 29 26.2 -0.4
baz=236
CHGB Renai 1.24 231 P Pg 19 29 28.8 +0.3
baz=222
CHGB *e*S Sb 19 29 44.4 -0.1
baz=222
ESL Shilin 1.26 216 *e*P Pn 19 29 28.5 +0.1
baz=220
OWD Renai 1.31 228 *e*P Pb 19 29 29.5 +0.1
baz=229
OWD *e*S Sb 19 29 46.3 -0.1
baz=229
EGFH Guangfu 1.38 212 *e*P Pg 19 29 31.6 +0.5
baz=216
DPDB Guoxing 1.44 236 *e*P Pg 19 29 32.5 +0.2
baz=221
IRIF Iriomote-Funau 1.45 110 P Pn 19 29 30.0 -0.9
HGSD Ruisui 1.54 209 *e*P Pb 19 29 33.5 +0.3
baz=189
SMLT Sun Moon Lake 1.55 232 *e*P Pg 19 29 34.1 -0.2
baz=227
SMLT *e*S Sg 19 29 54.4 -0.1
baz=227
TYC Yuchr 1.57 234 *e*P Pb 19 29 34.3 +0.6
baz=230
EHY Hungye 1.57 212 *e*P Pn 19 29 33.2 +0.6
baz=215
SSLB Suanglung 1.57 228 *e*P Pb 19 29 34.0 +0.1
baz=235
YULB Yu-li 1.68 211 *e*P Pn 19 29 34.3 +0.1
baz=208
WJS Zhushan 1.71 234 *e*P Pg 19 29 37.6 +0.1
baz=222
WNT Mingjian 1.71 236 *e*P Pg 19 29 37.9 +0.4
baz=222
WNT *e*S Sg 19 30 01.7 +2.0
baz=222
TWF1 Yuli 1.71 210 *e*P Pb 19 29 35.6 -0.6
baz=207
JKRS Kuro-shima 1.73 110 P Pn 19 29 34.5 -0.2
JIJ Ishigaki jima 1.80 105 P Pb 19 29 38.0 +0.3
ALS Alishan 1.86 225 *e*P Pb 19 29 39.5 +0.5
baz=206
ALS *e*S Sg 19 30 04.3 -0.3
baz=206
CHN5 Tsauling 1.89 229 *e*P Pg 19 29 40.3 -0.5
baz=224
JISG Ishigakijimahi 1.91 97 P Pb 19 29 39.2 -0.3
CHKT Chengkung 1.91 205 *e*P Pn 19 29 37.5 +0.2
baz=184
WGK Gukeng 1.91 233 *e*P Pb 19 29 39.9 +0.3
baz=228
WDLH Douliu 1.93 234 *e*P Pb 19 29 40.3 +0.4
baz=229
ELDTW Lidau 1.99 214 *e*P Pn 19 29 39.7 +1.2
baz=199
CHN4 Tsaushan 2.11 226 *e*P Pb 19 29 43.2 +0.1
baz=208
CHN4 *e*S Sg 19 30 12.0 -0.6
baz=208
TPUB Ta-pu 2.12 224 *e*P Pb 19 29 43.0 -0.3
baz=207
TPUB *e*S Sg 19 30 12.2 -0.8
baz=207
STYT Tauyuan 2.15 219 *e*P Pb 19 29 43.4 -0.4
baz=215
STYT *e*S Sb 19 30 11.4 +0.8
baz=215
WTP Ta-pu 2.17 223 *e*P Pb 19 29 44.7 +0.6
baz=218
TWK Hsinying 2.24 226 *e*P Pb 19 29 44.8 -0.4
baz=220
CHN1 Nanshi 2.27 224 *e*P Pb 19 29 45.3 -0.5
baz=219
SGST Jiashian 2.32 221 *e*P Pb 19 29 46.5 0.0
baz=217
SLGT Liugui 2.35 219 *e*P Pb 19 29 46.4 -0.7
baz=214
SLGT *e*S Sb 19 30 16.7 +0.6
baz=214
MASBT Mashibuluo 2.66 214 *e*P Pb 19 29 50.5 -1.9
baz=195

MOS **14** *19:31:46.4±1.4,6˙93S×105˙14E,h67km,mb5.4/49,Error ellipse: s-maj=12.2km s-min=10.4km az=21.4*
ISCJB **14** *19:31:46.1±0.2,6˙81S±0˙03×105˙34E±0˙03,h50km, mb5.1/123,Error ellipse: s-maj=5.6km s-min=2.9km az=37.7*
IDC **14** *19:31:46.5±2.2,6˙81S×105˙44E,h37km±17km,mb4.7/39, mb1 4.7/40,mb1mx4.6/67,mbtmp4.9/40,Error ellipse: s-maj=13.3km s-min=9.9km az=48.0*
DJA **14** *19:31:46.0±0.8,7˚S±3˚×10˚5E±˚,h21km±8km,M5.4/21, mb5.3/6,MLv5.4/21*
BJI **14** *19:31:47.0,6˙90S×105˙30E,h68km,mb5.0/7,mB5.2/3, Ms5.4/1,Ms7 5.3/1*
NEIC **14** *19:31:50.0±0.7,6˙78S×105˙44E,h68km±6km,mb5.3/87, Error ellipse: s-maj=6.0km s-min=3.2km az=51.0*
ISC 14 19:31:47.5±0.8,7.00S±0.04×105.26E±0.04,h51km±7km, n441,σ1§36/469,mb5.1/123,**9C-7D,Sunda Strait**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SBJI	**Serang**	**1.23**	**45**	P	**Pn**	**19 32 09.2**	**+0.9**
SBJI				S	**Sn**	**19 32 26.2**	**+2.4**
SKJI	**Sukabumi**	**1.28**	**90**	P	**Pn**	**19 32 09.7**	**+0.6**
SKJI				S	**Sn**	**19 32 27.1**	**+1.9**
TNG	**Tangerang**	**1.60**	**59**	P	**Pn**	**19 32 15.3**	**+1.9**
TNG				P	**Pn**	**19 32 15.2**	**+1.9**
TNG				S	**Sn**	**19 32 36.7**	**+3.8**
TNG				S	**Sn**	**19 32 37.0**	**+4.1**
BLSI	**Bandar Lampung**	**1.62**	**359**	P	**Pn**	**19 32 15.3**	**+1.6**
BLSI				S	**Sn**	**19 32 38.2**	**+4.8**
KASI	**Kota Agung**	**1.65**	**332**	P	**Pn**	**19 32 15.2**	**+1.1**
KASI				S	**Sn**	**19 32 36.7**	**+2.6**
CBJI	**Citeko**	**1.68**	**70**	P	**Pn**	**19 32 16.2**	**+1.8**
CBJI				S	**Sn**	**19 32 40.1**	**+5.3**
KLI	**Kotabumi**	**2.16**	**349**	P	**Pn**	**19 32 23.6**	**+2.6**
KLI				S	**Sn**	**19 32 50.7**	**+4.1**
LWLI	**Liwa**	**2.30**	**329**	P	**Pn**	**19 32 24.8**	**+1.7**

LEM Lembang 2.34 86 Pn **Pn** 19 32 26.2 +2.5
272nm,0.3s,baz=195,slow=20,SNR=48
LEM Sn **Sn** 19 32 55.7 +4.3
661nm,0.3s,baz=295,slow=11,SNR=5.5
LEM Lembang 2.34 86 P **Pn** 19 32 27.0 +3.3
LEM S **Sn** 19 32 57.6 +6.2
CISI Cisompet, Garu 2.59 103 P **Pn** 19 32 26.7 -0.3
CISI S **Sn** 19 32 58.1 +0.7
CISI Cisompet, Garu 2.59 103 *e*Pn **Pn** 19 32 28.2 +1.2
CISI *e*Sn **Sn** 19 32 58.5 +1.1
MDSI Maura Dua 2.72 337 P **Pn** 19 32 30.3 +1.6
JCJI Jatiwangi 3.03 81 P **Pn** 19 32 34.4 +1.5
XMIS Christmas Isla 3.48 174 *e*Pn **Pn** 19 32 35.0 -4.2
XMIS *e*Sn Sn 19 33 10.8 -8.4
MNAI Manna 3.48 319 P **Pn** 19 32 40.2 +1.0
MNAI S **Sn** 19 33 18.9 -0.3
MNAI Manna 3.48 319 *e*Pn **Pn** 19 32 41.3 +2.1
KPJI Karang Pucung 3.66 95 P **Pn** 19 32 42.7 +1.2
KPJI S **Sn** 19 33 29.7 +6.3
MASI Maura Aman, Be 4.87 322 P **Pn** 19 32 59.7 +1.4
PPBI Pangkal Pinang 4.88 10 P **Pn** 19 33 01.2 +2.8
SMRI Semarang 5.14 91 P **Pn** 19 33 03.8 +1.9
934nm,1.0s,6.6nm
SMRI Semarang 5.14 91 *e*Pn Pn 19 33 08.1 +6.1
UGM Wanagama 5.29 100 P **Pn** 19 33 05.5 +1.4
UGM S **Sn** 19 34 03.6 -0.3
UGM Wanagama 5.29 100 *e*Pn **Pn** 19 33 05.5 +1.4
WOJI Wonogiri, Jawa 5.67 99 P **Pn** 19 33 11.1 +1.8
PCJI Pacitan 5.98 102 P **Pn** 19 33 14.0 +0.5
297nm,0.8s,3.9nm
PCJI S **Sn** 19 34 17.9 -2.8
297nm,0.8s,3.9nm
PWJI Pagerwojo 6.56 99 P **Pn** 19 33 23.6 +2.1
JAGI Jajag, Banyuwa 8.93 100 *e*Pn **Pn** 19 33 53.8 -0.1
JAGI *e*Sn **Sn** 19 35 31.2 -2.0
COCO West Island 9.78 238 *e*Pn **Pn** 19 34 04.0 -1.6
COCO West Island 9.78 238 *e*P **Pn** 19 34 04.0 -1.6
GSI Gunungsitoli 11.26 317 *e*Pn **Pn** 19 34 23.0 -2.9
MMRI Maumere 16.90 97 *e*Pn **Pn** 19 35 38.8 -1.8
249nm,0.8s
KKM Kota Kinabalu 16.95 40 *e*Pn **Pn** 19 35 41.1 -0.2
51nm,0.7s
MYLDM Lahad Datu 17.91 48 *e*Pn **P** 19 35 55.0 +1.8
164nm,1.2s
LUWI Luwuk 18.43 72 *e*P **Pn** 19 35 59.4 0.0
381nm,1.3s
BATI Baumata 18.47 101 P **P** 19 35 58.0 -1.4
baz=304,slow=15,SNR=1.6
BATI S Sn 19 39 10.5 -15
3.1nm,0.3s,baz=274,slow=16,SNR=4.5
SOEI Soe 19.00 100 *e*P **Pn** 19 36 06.0 -0.4
1μm,1.1s
FITZ Fitzroy Crossi 22.72 121 S **S** 19 40 51.3 +1.0
17nm,1.1s,baz=342,slow=20,SNR=2.2
TNTI Ternate 23.37 72 *e*P **P** 19 36 48.7 -3.1
325nm,1.2s
PBKT Sadao Pong 23.80 350 *e*P **P** 19 36 53.6 -2.1
34nm,1.3s
CMAR Chiang Mai Arr 26.05 346 P **P** 19 37 16.6 +0.3
6.7nm,0.8s,baz=181,slow=8.6,SNR=6.2
CMAR PcP **PcP** 19 40 44.9 +1.6
2.1nm,0.8s,baz=208,slow=3.4,SNR=3.0
CMAR ScP **ScP** 19 44 20.7 +1.7
1.0nm,1.0s,baz=171,slow=6.1,SNR=3.5
CMAR Chiang Mai Arr 26.05 346 P **P** 19 37 16.6 +0.3
CMAR 19 40 44.9
CMAR pmax pmax
comp=Z,5.0nm,0.7s
CMAR pmax pmax
comp=N,1.0nm,1.0s
MTN Manton Dam 26.12 105 *e*P P 19 37 06.5 -10
CHTO Chiang Mai 26.39 346 *e*P **P** 19 37 19.0 -0.3
comp=N,17nm,1.4s
CHTO Chiang Mai 26.39 346 *e*P **P** 19 37 19.0 -0.3
CHTO pmax pmax
comp=Z,17nm,1.4s
SIJI Sorong 26.63 78 P **P** 19 37 20.5 -1.1
comp=Z,40nm,0.7s,baz=305,slow=2.7,SNR=10
MUN Mundaring 26.87 159 P **P** 19 37 22.8 -0.7
baz=27
KLBR Kellerberrin 27.11 156 P **P** 19 37 28.0 +2.3
baz=27
FAKI Fak Fak 27.18 83 *e*P **P** 19 37 26.1 -0.4
comp=Z,101nm,0.9s
H01W3 Cape Leeuwin H 28.93 165 T T 20 08 02.9
baz=344,slow=76,SNR=128
H01W1 Cape Leeuwin H 28.94 165 T T 20 08 04.5
baz=344,slow=76,SNR=94
H01W2 Cape Leeuwin H 28.94 165 T T 20 08 02.0
baz=344,slow=76,SNR=117
WR1 Warramunga Arr 31.00 117 *e*P **P** 19 38 00.5 +0.1
comp=Z,48nm,0.8s
WR1 *e*PcP **PcP** 19 40 55.8 +0.1
WRA Warramunga Arr 31.00 117 P **P** 19 38 00.5 +0.1
comp=Z,35nm,0.8s,baz=291,slow=10,SNR=8.3
WRA PcP **PcP** 19 40 55.8 +0.1
comp=Z,12nm,0.9s,baz=306,slow=1.3,SNR=3.6
WRAB Tennant Creek 31.00 117 *e*P **P** 19 38 01.4 +0.9
comp=Z,75nm,1.0s
WRAB Tennant Creek 31.00 117⇑ *e*P **P** 19 38 01.1 +0.6
WRAB pmax pmax
comp=Z,54nm,0.9s
AS31 Alice Springs 32.10 124 *e*P **P** 19 38 11.0 +0.9
comp=Z,7.7nm,0.9s
ASAR Alice Springs 32.10 124 P **P** 19 38 10.5 +0.3
comp=Z,31nm,1.2s,baz=305,slow=8.2,SNR=7.6
ASAR PcP **PcP** 19 40 59.2 +0.6
comp=Z,4.7nm,0.7s,baz=309,slow=2.4,SNR=3.5
ASAR Alice Springs 32.10 124 P **P** 19 38 10.5 +0.3
ASAR 19 40 59.2
ASAR pmax pmax
comp=Z,13nm,0.9s
H08S2 Diego Garcia H 32.51 267 T T 20 12 28.9
baz=90,slow=76,SNR=53
H08S3 Diego Garcia H 32.52 267 T T 20 12 29.2
baz=90,slow=76,SNR=40
H08S1 Diego Garcia H 32.52 267 T T 20 12 29.9
baz=90,slow=76,SNR=80
TPUB Ta-pu 33.65 26 *e*P **P** 19 38 23.1 -0.5
comp=Z,11nm,0.7s
H08N1 Diego Garcia H 34.02 269 T T 20 14 46.7
baz=147,slow=74,SNR=10
YULB Yu-li 34.03 27 *e*P **P** 19 38 26.5 -0.4
comp=Z,68nm,1.9s
H08N2 Diego Garcia H 34.03 269 T T 20 14 48.4
baz=147,slow=74,SNR=11
H08N3 Diego Garcia H 34.04 269 T T 20 14 43.1
baz=147,slow=74,SNR=15
SSLB Suanglung 34.22 26 *e*P **P** 19 38 27.6 -0.9
comp=Z,14nm,0.8s
NACB Ninganchiao 34.84 27 *e*P **P** 19 38 35.0 +1.2
comp=Z,16nm,0.8s
YHNB Yeheng 35.18 26 *e*P **P** 19 38 35.0 -1.8
comp=Z,71nm,1.5s
YOJ Yonaguni jima 35.74 28 *e*P **P** 19 38 40.5 -1.0
comp=Z,406nm,1.8s
YOJ Yonaguni jima 35.74 28 *e*P **P** 19 38 40.5 -1.0
YOJ pmax pmax
comp=Z,406nm,1.8s
HYB Hyderabad 35.85 313 *i*P **P** 19 38 44.0 +1.4
QIS Mount Isa 35.88 116 P **P** 19 38 43.3 +0.5
baz=36
COEN Coen 37.88 104 P **P** 19 38 59.5 -0.4
baz=38,SNR=5.5
COEN Coen 37.88 104 *e*P **P** 19 38 58.9 -1.0
comp=Z,33nm,0.8s
BBOO Buckleboo 38.43 136 P **P** 19 39 04.6 +0.2
baz=39
BBOO Buckleboo 38.43 136 *e*P **P** 19 39 03.7 -0.7
comp=Z,25nm,1.1s
LSA Lhasa 38.93 340 *e*P **P** 19 39 07.5 -1.6
comp=Z,34nm,1.0s
LSA Lhasa 38.93 340 *e*P **P** 19 39 07.5 -1.6
LSA pmax pmax
comp=Z,34nm,1.0s
MTSU Mount Surprise 39.60 110 P **P** 19 39 15.1 +0.7
baz=40
HTT Hallett 40.77 135 P **P** 19 39 24.7 +0.8
baz=41,SNR=4.8
PMG Port Moresby 41.52 96 P **P** 19 39 30.0 -0.2
comp=Z,111nm,0.8s,baz=247,slow=3.7,SNR=17
PMG Port Moresby 41.52 96 *e*P **P** 19 39 30.1 -0.2
comp=Z,104nm,0.8s
PMG Port Moresby 41.52 96 *ce*P **P** 19 39 30.1 -0.2
PMG pmax pmax
comp=Z,369nm,0.7s

CTA Charters Tower 41.79 112 P **P** 19 39 32.1 -0.4
comp=Z,18nm,0.9s,baz=264,slow=12,SNR=3.9
CTA Charters Tower 41.79 112 P **P** 19 39 33.8 +1.4
baz=42
CTAO Charters Tower 41.79 112 *e*P **P** 19 39 32.5 0.0
comp=Z,91nm,1.5s
CTAO Charters Tower 41.79 112 *e*P **P** 19 39 32.5 0.0
CTAO pmax pmax
comp=Z,91nm,1.5s
QLP Quilpie 41.84 122 P **P** 19 39 34.5 +1.7
baz=42,SNR=5.1
STKA Stephens Creek 41.93 131 P **P** 19 39 34.6 +1.2
comp=Z,64nm,0.7s,baz=302,slow=8.7,SNR=16
STKA Stephens Creek 41.93 131 P **P** 19 39 34.7 +1.2
baz=42,SNR=22
STKA Stephens Creek 41.93 131 *e*P **P** 19 39 34.4 +1.0
comp=Z,13nm,0.8s
MANU Manus Island 42.24 85 *e*P **P** 19 39 35.3 -0.9
comp=Z,35nm,0.6s
GUMO Guam 44.33 63 P **P** 19 39 50.1 -2.8
comp=Z,48nm,0.6s,baz=198,slow=20,SNR=4.9
ARPS Mount Arapiles 44.58 137 P **P** 19 39 56.3 +1.6
baz=45,SNR=6.2
CMSA Cobar Meteorol 44.91 128 P **P** 19 39 59.2 +1.8
baz=45,SNR=11
RMQ Roma 45.65 120 P **P** 19 40 05.3 +2.0
baz=46,SNR=5.1
JNU Nakatsue 46.74 30 *e*P **P** 19 40 10.7 -1.1
RABL Rabaul 46.75 89 *e*P **P** 19 40 09.9 -2.2
comp=Z,35nm,0.8s
EIDS Eidsvold 47.36 118 P **P** 19 40 18.3 +1.5
baz=48,SNR=4.0
EIDS Eidsvold 47.36 118 *e*P **P** 19 40 17.8 +1.1
comp=Z,44nm,1.3s
MRIV Mauritius Mete 48.09 249 *e*P **P** 19 40 26.7 +4.2
comp=Z,171nm,1.6s
YNG Young 48.12 131 P **P** 19 40 24.5 +1.9
baz=48
INCN Inchon 48.55 23 *e*P **P** 19 40 24.0 -1.7
comp=Z,15nm,0.5s
CAN Canberra 48.99 131 P **P** 19 40 31.4 +2.1
baz=49
CAN Canberra 48.99 131 *e*P **P** 19 40 30.7 +1.4
comp=Z,67nm,1.6s
CAN Canberra 48.99 131 *e*P **P** 19 40 30.7 +1.4
CAN pmax pmax
comp=Z,67nm,1.6s
KS15 Wonju Array Si 49.00 24 *e*P **P** 19 40 28.5 -0.6
KSAR Wonju Array Be 49.00 24 P **P** 19 40 28.9 -0.2
KSAR PcP **PcP** 19 41 52.4 -0.1
KSAR Wonju Array Be 49.00 24 P **P** 19 40 28.9 -0.2
KSAR 19 41 52.4
KSRS Korea Array 49.03 24 P **P** 19 40 28.9 -0.4
comp=Z,3.5nm,0.5s,baz=219,slow=7.6,SNR=15
KSRS PcP **PcP** 19 41 52.4 -0.2
comp=Z,4.1nm,1.0s,baz=200,slow=3.4,SNR=5.0
KS01 Wonju Array Si 49.04 24 *e*P **P** 19 40 28.6 -0.8
ARMA Armidale 49.26 124 P **P** 19 40 34.1 +2.6
baz=50
ARMA Armidale 49.26 124 *e*P **P** 19 40 34.0 +2.6
comp=Z,24nm,1.3s
NIL Nilore 50.55 325 *e*P **P** 19 40 40.4 -0.7
comp=Z,45nm,0.8s
NIL Nilore 50.55 325 *e*P **P** 19 40 40.4 -0.7
NIL pmax pmax
comp=Z,45nm,0.8s
TAU Tasmania Unive 51.42 141 *e*P **P** 19 40 49.7 +2.2
comp=Z,66nm,1.3s
TAU Tasmania Unive 51.42 141 *e*P **P** 19 40 49.7 +2.2
TAU pmax pmax
comp=Z,66nm,1.3s
INU Inuyama 51.66 33 *e*P **P** 19 40 47.6 -1.8
comp=Z,82nm,2.0s
MAJO Matsushiro 53.19 33 *e*P **P** 19 40 57.5 -3.1
comp=Z,15nm,0.8s
MAJO *e*PcP **PcP** 19 42 07.5 -0.7
MAJO Matsushiro 53.19 33 *de*P **P** 19 40 58.0 -2.7
MAJO pmax pmax
comp=Z,13nm,0.9s
MJAR Matsushiro Arr 53.19 33 P **P** 19 40 58.1 -2.6
comp=Z,12nm,0.8s,baz=212,slow=8.3,SNR=17
MJAR PcP **PcP** 19 42 07.5 -0.7
comp=Z,2.7nm,0.9s,baz=222,slow=4.0,SNR=2.8
MJAR Matsushiro Arr 53.19 33 P **P** 19 40 58.1 -2.6
MJAR 19 42 07.5
MJAR pmax pmax
comp=Z,9.0nm,0.7s
MJB9 Matsu-Tunnel 53.20 33 *e*P **P** 19 40 57.5 -3.1
comp=Z,15nm,0.8s
CN2 Changchun 53.76 18 *e*P **P** 19 41 02.9 -1.8
CN2 pmax pmax
comp=Z,40nm,1.0s
HNR Honiara 54.13 97 *e*P **P** 19 41 06.8 -1.2
comp=Z,79nm,0.8s
HNR Honiara 54.13 97 *e*P **P** 19 41 06.8 -1.2
HNR pmax pmax
comp=Z,79nm,0.8s
WSAR Wadi Sarin 54.59 305 P **P** 19 41 12.9 +1.9
comp=Z,5.7nm,0.8s,baz=135,slow=4.3,SNR=2.5
SONA0 Songino Array 54.60 1 *e*P **P** 19 41 10.8 -0.1
SONA0 *e*PcP **PcP** 19 42 13.6 +0.1
SONA0 *e*ScP **ScP** 19 46 08.2 +0.4
SONM Songino Array 54.60 1 P **P** 19 41 10.8 -0.1
comp=Z,2.7nm,0.3s,baz=180,slow=9.3,SNR=15
SONM PcP **PcP** 19 42 13.6 +0.1
comp=Z,9.5nm,0.8s,baz=185,slow=4.5,SNR=8.1
SONM ScP **ScP** 19 46 08.2 +0.4
comp=Z,0.8nm,0.7s,baz=193,slow=4.6,SNR=2.9
TARG Taragay, Kyrgy 54.62 335 *e*P **P** 19 41 11.4 0.0
comp=Z,9.4nm,1.0s
ULN Ulaanbaatar 54.65 1 *e*P **P** 19 41 10.7 -0.5
comp=Z,9.0nm,1.1s
ULN Ulaanbaatar 54.65 1 *ce*P **P** 19 41 07.3 -4.0
ULN pmax pmax
comp=Z,8.0nm,1.0s
NRN Naryn 55.16 333 *e*P **P** 19 41 14.9 -0.3
comp=Z,9.9nm,1.0s
NRN Naryn 55.16 333 *e*P **P** 19 41 14.9 -0.3
NRN pmax pmax
comp=Z,10.0nm,1.0s
KDJ Kajisay 55.21 335 *e*P **P** 19 41 15.7 +0.2
comp=Z,15nm,1.1s
LHI Lord Howe Isla 55.69 123 *e*P **P** 19 41 19.3 +0.3
comp=Z,113nm,1.2s
MDJ Mudanjiang 55.86 21 P **P** 19 41 16.8 -3.0
MDJ pmax pmax
comp=Z,21nm,0.7s
MDJ Mudanjiang 55.86 21 *e*P **P** 19 41 18.1 -1.7
comp=Z,16nm,0.9s
USRK Ussuriysk Ar. 56.39 23 P **P** 19 41 22.5 -1.1
comp=Z,20nm,0.7s,baz=193,slow=4.4,SNR=30
MK01 Makanchi Array 57.29 341 *e*P **P** 19 41 29.0 -1.1
MK31 Makanchi Array 57.32 341 *e*P **P** 19 41 29.0 -1.2
MK31 Makanchi Array 57.32 341 *e*P **P** 19 41 29.0 -1.2
MK32 Makanchi Array 57.32 341 *e*P **P** 19 41 29.6 -0.6
MK32 *e*PcP **PcP** 19 42 23.9 +0.1
MKAR Makanchi Array 57.32 341 P **P** 19 41 29.6 -0.6
comp=Z,3.1nm,0.4s,baz=151,slow=8.3,SNR=12
MKAR PcP **PcP** 19 42 23.9 +0.1
comp=Z,3.9nm,0.9s,baz=156,slow=11,SNR=2.6
MKAR Makanchi Array 57.32 341 *e*P **P** 19 41 29.3 -0.9
comp=Z,32nm,1.0s
MKAR PcP **PcP** 19 42 23.9 +0.1
MAKZ Makanchi 57.43 341 *e*P **P** 19 41 31.4 +0.4
comp=Z,12nm,1.4s
MAKZ Makanchi 57.43 341 *e*P **P** 19 41 31.4 +0.4
MAKZ pmax pmax
comp=Z,12nm,1.4s
HIA Hailar 57.44 11 *e*P **P** 19 41 30.4 -0.6
comp=Z,16nm,1.1s
HIA Hailar 57.44 11 *e*P **P** 19 41 30.5 -0.6
HIA pmax pmax
comp=Z,16nm,1.1s
DGZ Jazzator, Alta 58.56 347 *e*P **P** 19 41 38.6 -0.4
DGZ pmax pmax
comp=Z,6.0nm,0.7s
KK31 Karatay Array 59.01 331 *e*P **P** 19 41 41.5 -0.6
KK31 Karatay Array 59.01 331 *e*P **P** 19 41 41.5 -0.6
KKAR Karatay Array 59.01 331 *e*P **P** 19 41 41.5 -0.6
KKAR Karatay Array 59.01 331 *e*P **P** 19 41 41.5 -0.6
ERM Erimo 59.80 32 *e*P **P** 19 41 45.8 -1.7
comp=Z,18nm,0.8s
ERM Erimo 59.80 32⇑ *e*P **P** 19 41 46.2 -1.3
ERM pmax pmax
comp=Z,15nm,0.8s
KLR Kul'dur 60.59 20 P **P** 19 41 51.4 -1.4

comp=Z,1.6nm,0.7s,baz=239,slow=5.0,SNR=11
KLR **Kul'dur** 60.59 20*c i*P P 19 41 51.2 -1.6
DZM **Mont Dzumac** 60.72 111 *e*P P 19 41 55.0 +0.6
comp=Z,105nm,1.9s
ASAJ **Asahikawa** 61.02 30 P P 19 41 54.2 -1.6
comp=Z,17nm,0.7s,baz=236,slow=7.8,SNR=12
ASAJ **Asahikawa** 61.02 30 *e*P P 19 41 53.9 -1.9
comp=Z,19nm,0.8s
KURBB **Kurchatov Arra** 61.87 341 P P 19 42 01.8 +0.3
comp=Z,5.3nm,0.9s,baz=160,slow=5.8,SNR=8.8
KURBB PcP **PcP** 19 42 42.8 +0.9
comp=Z,2.3nm,0.8s,baz=155,slow=3.9,SNR=2.5
KURBB ScP **ScP** 19 46 42.1 +2.4
comp=Z,0.7nm,0.8s,baz=124,slow=4.3,SNR=2.8
KURK **Kurchatov** 61.93 341 *e*P P 19 42 01.8 0.0
KURK *e*PcP **PcP** 19 42 42.8 +0.7
KURK *e*ScP **ScP** 19 46 42.1 +2.2
KURK **Kurchatov** 61.93 341 *de*P P 19 42 01.7 0.0
KURK pmax pmax
comp=Z,13nm,0.9s
GEYT **Alibeck** 62.63 319 P P 19 42 06.9 +0.1
comp=Z,14nm,0.9s,baz=151,slow=6.6,SNR=8.4
GYA0B **ALIBECK ARRAY** 62.63 319 *e*P P 19 42 07.0 +0.1
comp=Z,18nm,0.8s
ZALV **Zalesovo Beam** 63.12 347 P P 19 42 08.7 -1.0
comp=Z,13nm,0.6s,baz=149,slow=5.7,SNR=14
ZALV ScP 19 46 47.5
comp=Z,1.1nm,0.6s,baz=132,slow=4.1,SNR=2.4
ZALV **Zalesovo Beam** 63.12 347 *e*P P 19 42 08.8 -0.9
ZAA1 **Zalesovo Array** 63.12 347 *e*P P 19 42 08.7 -1.0
ZAA1 *e*ScP 19 46 47.5
YSS **Yuzh-Sakhalins** 63.17 28 *e*P P 19 42 08.6 -1.5
comp=Z,64nm,0.9s
YSS **Yuzh-Sakhalins** 63.17 28 *e*P P 19 42 08.6 -1.5
YSS pmax pmax
comp=Z,64nm,0.9s
ZEA **Zeya** 63.29 14 *e*P P 19 42 10.0 -0.8
ZEA pmax pmax
comp=N,35nm,1.0s
ZEA pmax pmax
comp=Z,41nm,1.0s
KUR **Kuril'sk** 64.49 32 *e*P P 19 42 17.6 -1.3
BOD **Bodaibo** 64.99 5 *e*P P 19 42 19.7 -2.2
BOD pmax pmax
comp=Z,20nm,1.2s
DCZ **Deep Cove** 65.47 137 *e*P P 19 42 27.0 +1.6
comp=Z,22nm,0.9s
RAYN **Ar Rayn** 65.74 300 *e*P P 19 42 28.1 +0.6
comp=Z,4.6nm,0.8s
MLZ **Mavora Lakes** 66.10 137 *e*P P 19 42 29.8 +0.3
comp=Z,127nm,1.8s
WHZ **Wether Hill Ro** 66.12 137 *e*P P 19 42 30.8 +1.2
comp=Z,131nm,1.9s
WKZ **Wanaka** 66.58 136 *e*P P 19 42 33.8 +1.2
comp=Z,149nm,1.7s
BVAR **Borovoye Array** 66.70 338 P P 19 42 33.2 +0.1
comp=Z,13nm,0.6s,baz=144,slow=9.5,SNR=19
BRVK **Borovoye** 66.77 338 *e*P P 19 42 33.3 -0.1
comp=Z,13nm,0.7s
BRVK **Borovoye** 66.77 338 *ce*P P 19 42 32.6 -0.9
BRVK pmax pmax
comp=Z,12nm,1.2s
MAW **Mawson** 66.88 196 P P 19 42 36.3 +2.4
comp=Z,3.9nm,0.7s,baz=70,slow=12,SNR=3.9
MAW **Mawson** 66.88 196 *e*P P 19 42 36.5 +2.6
comp=Z,2.0nm,0.6s
MAW **Mawson** 66.88 196 *e*P P 19 42 36.5 +2.6
MAW pmax pmax
comp=Z,2.0nm,0.6s
LBZ **Lake Benmore** 67.29 135 *e*P P 19 42 37.4 +0.4
comp=Z,115nm,1.9s
ODZ **Otahua Downs** 67.76 136 *e*P P 19 42 41.2 +1.2
comp=Z,163nm,2.0s
RPZ **Rata Peaks** 67.76 134 *e*P P 19 42 41.4 +1.4
comp=Z,193nm,2.0s
OXZ **Oxford** 68.38 134 *e*P P 19 42 43.7 -0.2
comp=Z,123nm,1.8s
LTZ **Lake Taylor** 68.45 133 *e*P P 19 42 45.0 +0.6
comp=Z,61nm,1.7s
ABKAR **Akbulak array** 68.54 330 *e*P P 19 42 44.7 +0.1
THZ **Tophouse** 68.73 132 *e*P P 19 42 46.6 +0.5
comp=Z,30nm,0.7s
MQZ **McQueen's Vall** 68.89 134 *e*P P 19 42 48.5 +1.4
comp=Z,132nm,1.7s
KHZ **Kahutara** 69.30 133 *e*P P 19 42 50.2 +0.5
comp=Z,109nm,1.8s
HIZ **Hauiti** 69.72 128 *e*P P 19 42 52.9 +0.6
comp=Z,142nm,1.5s
AKTO **Aktyubinsk** 70.25 330 P P 19 42 55.3 +0.1
comp=Z,18nm,1.1s,baz=122,slow=8.1,SNR=9.2
BFZ **Birch Farm** 71.06 131 *e*P P 19 43 01.4 +0.9
comp=Z,225nm,2.0s
BKZ **Black Stump Fm** 71.07 129 *e*P P 19 43 01.2 +0.5
comp=Z,49nm,0.8s
AKT **Akhty** 71.31 318 ⇓ *i*P P 19 43 03.0 +1.0
AKT *e* 19 43 19.3
AKT *e* 19 45 40.8
AKT pmax pmax
comp=Z,15nm,0.9s
YAK **Yakutsk** 71.37 12 P P 19 43 00.6 -1.2
comp=Z,26nm,0.5s,baz=29,slow=2.3,SNR=12
YAK **Yakutsk** 71.37 12 *e*P P 19 43 00.1 -1.7
comp=Z,78nm,0.8s
YAK **Yakutsk** 71.37 12 *i*P P 19 43 00.1 -1.7
YAK pmax pmax
comp=Z,82nm,0.9s
URZ **Urewera** 71.45 128 *e*P P 19 43 04.9 +2.0
comp=Z,40nm,1.4s
MSVF **Nonsavu** 71.54 106 ⇓ *e*P P 19 43 04.6 +0.7
MSVF pmax pmax
comp=Z,20nm,1.0s
MXZ **Matakaoa Point** 72.33 127 *e*P P 19 43 08.9 +0.7
comp=Z,54nm,1.1s
SVE **Sverdlovsk** 73.31 336 *e*P P 19 43 14.0 +0.6
SVE pmax pmax
comp=Z,75nm,1.1s
ARU **Arti** 73.89 335 P P 19 43 17.3 +0.5
comp=Z,14nm,0.8s,baz=186,slow=2.1,SNR=4.9
ARU **Arti** 73.89 335 *e*P P 19 43 17.2 +0.3
comp=Z,40nm,1.1s
ARU **Arti** 73.89 335 *c i*P P 19 43 16.5 -0.3
ARU 19 46 00.5
ARU S **S** 19 52 47.3 +2.6
ARU SS **SS** 19 57 28.4 -1.6
ARU pmax pmax
comp=Z,50nm,1.2s
PEA0B **Petropavlovsk-** 74.44 30 *e*P P 19 43 18.9 -1.2
comp=Z,22nm,0.8s
PETK **Petropavlovsk-** 74.44 30 P P 19 43 19.1 -1.1
comp=Z,17nm,0.7s,baz=40,slow=1.2,SNR=16
PETK **Petropavlovsk-** 74.44 30 *e*P P 19 43 18.6 -1.6
PETK **Petropavlovsk-** 74.44 30 *e*P P 19 43 18.6 -1.6
PEA1 **Petropavlovsk-** 74.44 30 *e*P P 19 43 19.1 -1.1
PET **Petropavlovsk** 74.86 30 *e*P P 19 43 21.1 -1.4
comp=Z,47nm,0.8s
PET **Petropavlovsk** 74.86 30 *e*P P 19 43 21.4 -1.2
PET pmax pmax
comp=Z,72nm,0.8s
SYO **Syowa Base** 74.92 200 ⇓ *e*P P 19 43 25.2 +2.6
KBZ **Khabaz** 75.50 318 P P 19 43 27.2 +0.8
comp=Z,7.7nm,0.9s,baz=122,slow=7.1,SNR=4.3
MA2 **Magadan** 75.53 22 P P 19 43 25.0 -1.3
comp=Z,30nm,0.8s,baz=197,slow=6.0,SNR=10
KVAR **Kislovodsk Arr** 75.73 319 P P 19 43 27.4 -0.5
comp=Z,9.9nm,1.1s,baz=180,slow=6.1,SNR=2.3
KIV **Kislovodsk** 75.73 319 *e*P P 19 43 28.1 +0.1
comp=Z,11nm,1.0s
KIV **Kislovodsk** 75.73 319 *e*P P 19 43 25.0 -2.9
KIV pmax pmax
comp=Z,10.0nm,1.1s
ASF **Jabal al Asfar** 75.75 306 P P 19 43 28.8 +0.5
comp=Z,7.5nm,0.8s,baz=85,slow=2.0,SNR=9.9
VNDA **Vanda** 76.29 169 P P 19 43 31.6 +1.2
comp=Z,2.2nm,0.8s,baz=312,slow=3.9,SNR=3.7
VNDA **Vanda** 76.29 169 *e*P P 19 43 31.3 +0.9
VNDA **Vanda** 76.29 169 *e*P P 19 43 31.3 +0.9
MMAI **Mount Meron Ar** 77.20 306 P P 19 43 38.9 +2.4
comp=Z,4.1nm,0.6s,baz=91,slow=7.7,SNR=12
SBA **Scott Base** 77.37 169 *e*P P 19 43 38.8 +2.3
comp=Z,11nm,1.4s
SBA **Scott Base** 77.37 169 *e*P P 19 43 38.8 +2.3
SBA pmax pmax
comp=Z,11nm,1.4s
BOSA **Boshof** 77.93 242 P P 19 43 41.1 +0.4
comp=Z,4.8nm,1.0s,baz=162,slow=3.2,SNR=4.0
SEY **Seymchan** 78.38 20 P P 19 43 41.7 -0.5
comp=Z,13nm,0.8s,baz=230,slow=5.1,SNR=7.1
SEY **Seymchan** 78.38 20 ⇓ *e*P P 19 43 42.0 -0.3
CSS **Mathiatis** 79.41 307 *e*P P 19 43 49.8 +1.2
comp=Z,5.7nm,0.9s
TIXI **Tiksi** 80.02 7 *e*P P 19 43 49.8 -1.2
comp=Z,44nm,0.9s
TIXI **Tiksi** 80.02 7 *c i*P P 19 43 49.2 -1.8
TIXI pmax pmax
comp=Z,36nm,0.7s
BR101 **Keskin Array S** 80.54 312 *e*P P 19 43 55.7 +0.9
BRTR **Keskin Array B** 80.54 312 P P 19 43 55.7 +0.9
comp=Z,8.0nm,0.7s,baz=133,slow=7.0,SNR=11
BR131 **Keskin Array S** 80.54 312 *e*P P 19 43 54.6 -0.1
ANTO **Ankara** 81.21 312 *e*P P 19 43 58.7 +0.5
comp=Z,25nm,1.4s
ANTO **Ankara** 81.21 312 *e*P P 19 43 58.7 +0.5
ANTO pmax pmax
comp=Z,25nm,1.4s
BR231 **Keskin MP Arra** 81.21 312 *e*P P 19 43 55.7 -2.6
AFI **Afiamalu** 81.54 103 *e*P P 19 44 00.2 -0.3
comp=Z,47nm,1.3s
AFI **Afiamalu** 81.54 103 *e*P P 19 44 00.2 -0.3
AFI pmax pmax
comp=Z,47nm,1.3s
OBN **Obninsk** 83.79 327 *e*P P 19 44 11.6 +0.4
comp=Z,22nm,1.0s
OBN **Obninsk** 83.79 327 *de*P P 19 44 11.8 +0.6
OBN *e* 19 47 22.5
OBN *e*PPP PPP 19 49 20.2
OBN pmax pmax
comp=Z,22nm,1.2s
OBN MLR MLR
comp=Z,964nm,20.0s
OBN **Obninsk** 83.79 327 *e*PPP P 19 44 11.5 +0.4
KARP **Karpathos** 84.44 307 *e*P P 19 44 17.0 +2.0
comp=Z,56nm,1.0s
KLMR **Klimovskoe** 84.60 333 *e*P P 19 44 14.4 -0.8
KLMR AMP 19 44 17.4
comp=Z,25nm,0.9s
KLMR **Klimovskoe** 84.60 333 *e*P P 19 44 14.3 -0.9
KLMR pmax pmax
comp=Z,25nm,0.9s
BILL **Bilibino** 86.05 19 *c i*P P 19 44 20.8 -1.5
BILL *e*PPP PPP 19 49 37.4
BILL pmax pmax
comp=Z,9.0nm,0.9s
AKASG **Malin Array Be** 86.62 322 P P 19 44 25.3 -0.2
comp=Z,4.6nm,0.7s,baz=86,slow=4.4,SNR=6.7
KIEV **Kiev** 86.63 322 *e*P P 19 44 25.1 -0.4
comp=Z,5.9nm,0.7s
KIEV **Kiev** 86.63 322 *i*P P 19 44 25.1 -0.4
KIEV pmax pmax
comp=Z,8.0nm,0.9s
AK11 **Malin Array Si** 86.65 322 *e*P P 19 44 25.8 +0.2
MLR **Muntele Rosu** 87.51 316 *e*P P 19 44 31.3 +1.2
comp=Z,2.9nm,0.8s,baz=257,slow=2.8,SNR=4.5
MLR **Muntele Rosu** 87.51 316 *e*P P 19 44 31.0 +0.9
comp=Z,18nm,0.9s
BUR04 **Bucovina Ar. S** 88.46 318 *e*P P 19 44 36.1 +1.6
BUR08 **Bucovina Ar. S** 88.47 318 *e*P P 19 44 34.6 0.0
VTS **Vitosha** 88.87 313 *e*P P 19 44 37.1 +0.5
comp=Z,11nm,0.9s
VTS **Vitosha** 88.87 313 *e*P P 19 44 37.1 +0.5
VTS pmax pmax
comp=Z,11nm,0.9s
SNAA **Sanae** 89.01 198 P P 19 44 38.0 +1.3
comp=Z,3.2nm,1.0s,baz=146,slow=11,SNR=2.6
SNAA **Sanae** 89.01 198 *e*P P 19 44 38.0 +1.3
comp=Z,10nm,1.3s
SNAA **Sanae** 89.01 198 P P 19 44 38.0 +1.3
SNAA pmax pmax
comp=Z,3.0nm,1.0s
FIA0 **FINESS Array S** 90.95 332 *e*P P 19 44 45.6 0.0
FIA0 **FINESS Array S** 90.95 332 *e*P P 19 44 45.7 0.0
FINES **FINESS Array B** 90.95 332 P P 19 44 45.6 0.0
comp=Z,6.1nm,0.7s,baz=88,slow=2.4,SNR=5.1
GAMB **Gambell** 93.15 26 *e*P P 19 44 55.9 +0.2
comp=Z,9.3nm,1.0s
SPA0 **Spitsbergen Ar** 96.57 348 *e*P P 19 45 09.9 -1.3
SPITS **Spitsbergen Ar** 96.57 348 P P 19 45 09.9 -1.3
comp=Z,5.0nm,0.8s,baz=82,slow=11,SNR=6.3
CLL **Collm** 96.82 321 *i*P P 19 45 10.9 -2.0
comp=Z,3.0nm,0.7s
CLL *e* 19 45 21.0
CLL *e*PP PP 19 49 10.0 +1.5
CLL **Collm** 96.82 321 *i*P P 19 45 10.9 -2.0
CLL pmax pmax
comp=Z,3.0nm,0.7s
YKA **Yellowknife Ar** 117.45 20 PKP PKPdf 19 50 26.3 -0.9
comp=Z,1.3nm,0.8s,baz=301,slow=1.6,SNR=4.2
LLLB **Lillooet** 121.56 33 *e*PKPdf PKPdf 19 50 35.3 -0.3
I04A **Tendick Farm,** 124.58 41 P PKPdf 19 50 41.7 +0.2
baz=297
J04D **Umpqua Nationa** 125.02 41 P PKPdf 19 50 43.2 +0.5
baz=297
M02C **Callahan** 125.33 43 P PKPdf 19 50 44.3 +1.2
baz=295
NEW **Newport** 125.45 34 P PKPdf 19 50 43.7 +0.6
baz=305
J05D **Fort Rock, OR** 125.57 41 P PKPdf 19 50 44.7 +1.1
baz=298
M04C **Macdoel** 125.85 43 P PKPdf 19 50 44.8 +0.6
baz=296
FCC **Fort Churchill** 126.26 12 *e*PKPdf PKPdf 19 50 44.2 0.0
FCC **Fort Churchill** 126.26 12 *e*PKIKP PKPdf 19 50 44.2 0.0
O03D **Paynes Creek** 126.52 44 P PKPdf 19 50 45.7 +0.3
baz=295
FFC **Flin Flon** 127.63 20 *e*PKPdf PKPdf 19 50 47.4 +0.4
FFC **Flin Flon** 127.63 20 *e*PKIKP PKPdf 19 50 47.4 +0.4
MPMC **Manual Prospec** 131.42 47 P PKPdf 19 50 56.9 +1.9
baz=296
GMRC **Granite Mounta** 133.32 48 P PKPdf 19 51 00.2 +1.6
baz=297
O40A **La Belle** 143.62 22 P PKPab 19 51 13.0 -0.7
baz=330
Q38A **Cooks Store, C** 143.91 25 P PKPab 19 51 14.3 -0.5
baz=327
O41A **Passleys Farm,** 143.99 21 P PKPab 19 51 14.3 -0.8
baz=332
P40A **Paris** 144.06 23 P PKPab 19 51 14.9 -0.4
baz=330
Q39A **Willow Grove F** 144.10 25 P PKPab 19 51 15.2 -0.3
baz=328
HDIL **Hopedale** 144.14 19 P PKPab 19 51 15.3 -0.3
baz=335
O42A **Bath** 144.20 20 P PKPab 19 51 15.3 -0.5
baz=333
P41A **Barry, Barry** 144.31 22 P PKPab 19 51 15.9 -0.4
baz=331
O43A **Sugar Creek Fa** 144.38 19 P PKPab 19 51 15.7 -0.8
baz=334
R38A **Fenwick Farm,** 144.43 26 P PKPab 19 51 15.4 -1.4
baz=326
Q40A **Laux Farm, Aux** 144.51 24 P PKPab 19 51 16.6 -0.5
baz=329
HRV **Adam Dziewonsk** 144.53 356 P PKPab 19 51 16.8 -0.2
baz=5.1
HRV **Adam Dziewonsk** 144.53 356 *e*PKPdf PKPab 19 51 16.4 -0.6
HRV **Adam Dziewonsk** 144.53 356 *e*PKIKP PKPab 19 51 16.4 -0.6
N46A **Monticello** 144.59 16 P PKPab 19 51 17.2 -0.1
baz=339
WMOK **Wichita Mounta** 144.61 35 P PKPab 19 51 13.8 -3.8
baz=316
P42A **Winchester** 144.65 21 P PKPab 19 51 16.7 -0.9
baz=332
R39A **Chumby, Stover** 144.69 25 P PKPab 19 51 17.0 -0.8
baz=327
ERPA **Erie** 144.72 7 P PKPab 19 51 17.3 -0.4
baz=351
O44A **Mansfield** 144.77 18 P PKPab 19 51 17.3 -0.7
baz=336
QUA2 **Belchertown** 144.80 357 *e*PKPdf PKPab 19 51 17.9 -0.1
LTX **Lajitas** 144.84 47 *e*PKPdf PKPdf 19 51 19.2 -0.4
LTX **Lajitas** 144.84 47 *e*PKIKP PKPdf 19 51 19.3 -0.4
TXAR **Lajitas Array** 144.84 47 PKP PKPdf 19 51 19.2 -0.4
comp=Z,9.5nm,0.8s,baz=5,2,slow=1.3,SNR=19
Q41A **Truxton** 144.88 23 P PKPab 19 51 17.6 -0.8
baz=331
S38A **Stockton** 144.88 27 P PKPab 19 51 17.4 -1.1
baz=326
P43A **Skaggs, Pawnee** 144.89 20 P PKPab 19 51 17.8 -0.6
baz=334
O45A **Potomac** 144.91 17 P PKPab 19 51 18.2 -0.3
baz=337
BINY **Binghamton** 144.93 2 P PKPab 19 51 18.1 -0.4
baz=358
BINY **Binghamton** 144.93 2 *e*PKPdf PKPab 19 51 18.1 -0.4
SFIN **Lafayette** 144.97 17 P PKPab 19 51 18.2 -0.5
baz=338
SFIN **Lafayette** 144.97 17 *e*PKPdf PKPab 19 51 18.6 0.0
R40A **Maddies Statio** 145.04 24 P PKPbc 19 51 18.2 -0.8
baz=328
S39A **Bolivar** 145.09 26 P PKPbc 19 51 18.2 -1.1
baz=326
BRYW **Bryant College** 145.11 356 *e*PKPbc PKPbc 19 51 18.6 -0.5
Q42A **Golden Eagle** 145.18 22 P PKPbc 19 51 18.7 -0.7
baz=332
T38A **Diamond** 145.19 28 P PKPbc 19 51 18.8 -0.8
baz=324
P44A **Sand Creek, Wi** 145.34 19 P PKPbc 19 51 19.6 -0.3
baz=335
O47A **Sheridan** 145.35 15 P PKPbc 19 51 19.1 -0.9
baz=340
M54A **Oil Creek Stat** 145.36 7 P PKPbc 19 51 19.3 -0.7
baz=351
TUL1 **Leonard** 145.36 31 P PKPbc 19 51 19.8 -0.3
baz=321
R41A **Rosebud** 145.39 23 P PKPbc 19 51 19.5 -0.6
baz=330
Q43A **New Douglas** 145.45 21 P PKPbc 19 51 19.7 -0.6
baz=333
S40A **Lebanon** 145.53 25 P PKPdf 19 51 19.5 -1.0
baz=328
ABTX **Abilene, Hawle** 145.56 39 P PKPbc 19 51 20.9 -0.1
baz=312
ABTX **Abilene, Hawle** 145.56 39 *e*PKPdf PKPab 19 51 21.4 +0.2
P45A **Graceland, Par** 145.56 18 P PKPdf 19 51 20.2 -0.2
baz=337
T39A **Clever** 145.62 27 P PKPdf 19 51 20.3 -0.4
baz=326
R42A **Luebbering** 145.63 23 P PKPdf 19 51 20.2 -0.4
baz=331
P46A **Rosedale** 145.64 17 P PKPdf 19 51 20.5 -0.1
baz=338
CCM **Cathedral Cave** 145.65 23 P PKPdf 19 51 20.1 -0.6
baz=330
Q44A **Meyer Farm, Va** 145.72 20 P PKPdf 19 51 20.6 -0.1
baz=334
S41A **Jillco Farms,** 145.85 24 P PKPdf 19 51 21.1 0.0
baz=329
N54A **Moraine State** 145.86 7 P PKPdf 19 51 21.0 0.0
baz=350
N54A **Moraine State** 145.86 7 *e*PKPdf PKPdf 19 51 21.0 0.0
T40A **Mansfield** 145.90 26 P PKPdf 19 51 20.8 -0.4
baz=327
R43A **Red Bud** 145.96 22 P PKPdf 19 51 21.1 -0.1
baz=332
P47A **Martinsville** 146.03 16 P PKPdf 19 51 21.4 +0.1
baz=339
ODNJ **Ogdensburg** 146.06 360 *e*PKPdf PKPdf 19 51 21.4 +0.1
S42A **Caledonia** 146.07 23 P PKPdf 19 51 21.5 +0.1
baz=330
ACSO **Alum Creek Sta** 146.09 11 P PKPdf 19 51 21.5 +0.1
baz=345
U39A **Green Forest** 146.10 28 P PKPbc 19 51 22.4 -0.1
baz=325
PAL **Palisades** 146.13 359 P PKPbc 19 51 21.9 -0.4
baz=1.1
PAL **Palisades** 146.13 359 *e*PKPdf PKPdf 19 51 21.5 +0.1
PAL **Palisades** 146.13 359 *e*PKP2 PKPdf 19 51 21.5 +0.1
OLIL **Olney** 146.18 19 *e*PKPdf PKPdf 19 51 21.4 -0.1
N59A **State Game Lan** 146.21 1 P PKPbc 19 51 22.6 -0.1
baz=358
N59A **State Game Lan** 146.21 1 *e*PKPdf PKPdf 19 51 21.9 +0.3
BLO **Bloomington** 146.25 17 *e*PKPdf PKPbc 19 51 22.3 -0.5
BLO **Bloomington** 146.25 17 *e*PKP2 PKPbc 19 51 22.3 -0.5
R44A **Waltonville** 146.29 21 P PKPbc 19 51 22.3 -0.6
baz=334
T41A **Mountain View** 146.31 25 P PKPbc 19 51 22.5 -0.5
baz=328
SSPA **Standing Stone** 146.39 4 P PKPbc 19 51 22.8 -0.3
baz=354
SSPA **Standing Stone** 146.39 4 *e*PKPdf PKPdf 19 51 22.1 +0.2
U40A **Yellville** 146.41 27 P PKPdf 19 51 22.6 +0.6
baz=326
BRNJ **Basking Ridge** 146.46 360 *e*PKPdf PKPdf 19 51 22.5 +0.5
V39A **Pettigrew** 146.47 28 P PKPbc 19 51 23.6 0.0
baz=324
Q47A **Bedord North L** 146.50 17 P PKPbc 19 51 23.1 -0.4
baz=338
R45A **Skylar, Fairfi** 146.52 20 P PKPbc 19 51 23.3 -0.3
baz=335
LUPA **Lehigh Univers** 146.54 1 *e*PKPdf PKPbc 19 51 23.7 +0.1
T42A **Van Buren** 146.60 24 P PKPbc 19 51 23.6 -0.2
baz=330
O56A **Blue Knob Stat** 146.70 5 P PKPbc 19 51 24.0 -0.1
baz=353
O56A **Blue Knob Stat** 146.70 5 *e*PKPdf PKPbc 19 51 23.5 -0.6
SIUC **Southern Illin** 146.71 21 *e*PKPdf PKPbc 19 51 24.1 -0.1
S44A **Carbondale** 146.72 21 P PKPbc 19 51 23.7 -0.5
baz=333
U41A **Viola** 146.83 26 P PKPbc 19 51 23.9 -0.7
baz=328
R46A **Gibson Southern** 146.84 19 P PKPbc 19 51 23.9 -0.6
baz=336
JCT **Junction City** 146.86 42 P PKPdf 19 51 23.8 +0.8
baz=310
JCT **Junction City** 146.86 42 *e*PKPdf PKPbc 19 51 24.0 -0.9
JCT **Junction City** 146.86 42 *e*PKP2 PKPbc 19 51 24.0 -0.9
PAGS **Pennsylvania G** 146.87 3 *e*PKPdf PKPdf 19 51 22.9 +0.2
V40A **Witts Springs** 146.88 28 P PKPbc 19 51 24.0 -0.7
baz=326
S45A **Carrier Mills** 146.97 20 P PKPbc 19 51 24.4 -0.5
baz=334
R47A **Wooly Knot Far** 147.06 17 P PKPbc 19 51 24.6 -0.6
baz=338
U42A **Revenden** 147.12 25 P PKPbc 19 51 24.7 -0.6
baz=329
R48A **Northridge Ran** 147.15 16 P PKPbc 19 51 25.0 -0.4
baz=339
MCWV **Mont Chateau** 147.16 7 P PKPbc 19 51 25.3 0.0
baz=350
WCI **Wyandotte Cave** 147.19 17 P PKPbc 19 51 24.9 -0.6
baz=338
WCI **Wyandotte Cave** 147.19 17 *e*PKPdf PKPbc 19 51 24.7 -0.8
WCI **Wyandotte Cave** 147.19 17 *e*PKP2 PKPbc 19 51 24.7 -0.8
V41A **Mountainview** 147.20 27 P PKPbc 19 51 24.8 -0.8
baz=327
PSUB **Penn St. - Bra** 147.21 1 *e*PKPdf PKPdf 19 51 24.3 +1.1
S46A **Don Dixon Farm** 147.26 19 P PKPbc 19 51 25.0 -0.7
baz=336
W40A **Ferguson Farm,** 147.27 28 P PKPbc 19 51 25.2 -0.6
baz=325
X39A **Fountain Ranch** 147.30 30 P PKPbc 19 51 25.8 -0.1
baz=322
WHTX **Lake Whitney,** 147.34 37 P PKPbc 19 51 26.2 +0.1
baz=315
MIAR **Mount Ida** 147.54 30 P PKPbc 19 51 26.5 -0.1
baz=323
MIAR **Mount Ida** 147.54 30 *e*PKPdf PKPbc 19 51 26.5 -0.1
MIAR **Mount Ida** 147.54 30 *e*PKP2 PKPbc 19 51 26.5 -0.1
W41B **Gary Mavity, V** 147.66 27 P PKPbc 19 51 27.2 +0.3
baz=326
SDMD **Soldier's Deli** 147.68 3 *e*PKPdf PKPdf 19 51 25.1 +1.0
T46A **Princeton** 147.78 20 P PKPbc 19 51 27.2 +0.1
baz=335
S48A **Wiedeman Farm,** 147.79 17 P PKPbc 19 51 26.7 -0.4
baz=338
T47A **Sharon Grove** 148.09 19 P PKPbc 19 51 27.5 -0.5
baz=336
X41A **Kaden, Bauxite** 148.10 29 P PKPbc 19 51 28.3 +0.2
baz=325
T48A **Bowling Green** 148.20 18 P PKPbc 19 51 27.9 -0.4
baz=338
U46A **Springville** 148.30 21 P PKPbc 19 51 28.8 +0.3
baz=334
U47A **Clarksville** 148.53 20 P PKPbc 19 51 29.0 -0.2
baz=336
Y41A **Eaglette Beard** 148.55 29 P PKPbc 19 51 29.3 0.0
baz=324
WVT **Waverly** 148.62 21 P PKPbc 19 51 29.2 -0.3
baz=334
WVT **Waverly** 148.62 21 *e*PKPbc PKPbc 19 51 29.1 -0.3
WVT **Waverly** 148.62 21 *e*PKP2 PKPbc 19 51 29.1 -0.3
U48A **Cassie Pea, Po** 148.71 18 P PKPbc 19 51 29.3 -0.3
baz=337
V46A **Holladay** 148.82 21 P PKPbc 19 51 29.3 -0.6
baz=334
Z41A **Richland Creek** 148.96 30 P PKPbc 19 51 30.5 +0.1
baz=323
V47A **Nunnelly** 149.00 20 P PKPbc 19 51 29.9 -0.5
baz=335
JSRW **J. Sargeant Re** 149.31 5 *e*PKPdf PKPdf 19 51 24.8 -2.0
JSRW *e*PKPbc PKPbc 19 51 31.1 0.0

V48A	**Smith Brothers** baz=336	**149.32**	**20**	P		**PKPbc**	**19 51 30.5**	**-0.7**
W47A	**Westpoint** baz=334	**149.50**	**21**	P		**PKPbc**	**19 51 31.1**	**-0.6**
TZTN	**Tazewell** baz=342	**149.51**	**14**	P		**PKPbc**	**19 51 31.2**	**-0.4**
X46A	**Booneville** baz=332	**149.75**	**23**	P		**PKPbc**	**19 51 31.8**	**-0.5**
W48A	**Pulaski** baz=335	**149.83**	**20**	P		**PKPbc**	**19 51 31.9**	**-0.6**
Y45A	**Yeager Farm, C** baz=330	**149.96**	**25**	P		**PKPbc**	**19 51 32.9**	**+0.1**
X47A	**Russelville** baz=333	**150.06**	**22**	P		**PKPbc**	**19 51 31.9**	**-1.1**
Y46A	**Houston** baz=331	**150.23**	**24**	P		**PKPbc**	**19 51 33.1**	**-0.4**
TKL	**Tuckaleechee C** comp=Z,20nm,0.9s,baz=68,slow=8.5,SNR=6.4	**150.29**	**15**	PKPbc		**PKPbc**	**19 51 32.5**	**-1.1**
TKL	**Tuckaleechee C**	**150.29**	**15**	*e*PKPbc		**PKPbc**	**19 51 32.7**	**-0.9**
Z45A	**Winona** baz=329	**150.32**	**26**	P		**PKPbc**	**19 51 33.9**	**+0.2**
LNIG	**Linares**	**150.40**	**50**	*e*PKPbc		**PKPbc**	**19 51 33.3**	**-0.8**
X48A	**Hartselle** baz=335	**150.41**	**21**	P		**PKPbc**	**19 51 33.1**	**-0.8**
X49A	**Woodville** baz=336	**150.60**	**20**	P		**PKPbc**	**19 51 33.9**	**-0.5**
Y48A	**Jasper** baz=334	**150.85**	**22**	P		**PKPbc**	**19 51 33.9**	**-1.1**
Z47A	**Carrollton** baz=332	**151.14**	**24**	P		**PKPbc**	**19 51 35.4**	**-0.2**
Y49A	**Blount Mountai** baz=335	**151.17**	**20**	P		**PKPbc**	**19 51 35.4**	**-0.3**
KMSC	**Kings Mountain** baz=346	**151.34**	**11**	P		**PKPbc**	**19 51 35.6**	**-0.5**
KMSC	**Kings Mountain**	**151.34**	**11**	*e*PKPbc		**PKPbc**	**19 51 36.0**	**0.0**
Z49A	**Columbiana** baz=335	**151.73**	**21**	P		**PKPbc**	**19 51 36.8**	**-0.2**
Z50A	**Ashland** baz=336	**151.89**	**20**	P		**PKPbc**	**19 51 37.1**	**-0.3**
149A	**Jones** baz=334	**152.17**	**22**	P		**PKPbc**	**19 51 37.9**	**-0.2**
150A	**Eclectic** baz=335	**152.44**	**21**	P		**PKPbc**	**19 51 38.8**	**+0.2**
249A	**Camden** baz=332	**152.59**	**23**	P		**PKPbc**	**19 51 39.4**	**+0.4**
251A	**Midway** baz=336	**153.12**	**20**	P		**PKPbc**	**19 51 40.5**	**+0.4**
CMIG	**Matias Romero** comp=Z,3.8nm,0.9s,baz=326,slow=7.3,SNR=4.2	**157.91**	**61**	PKPab		**PKPab**	**19 52 09.9**	**-2.8**

*ISCJB **14** 19:37:56.9±0.5,39°09N±0°03×29°09E±0°03, h4km±5km, Error ellipse: s-maj=6.0km s-min=3.5km az=152.6*
*DDA **14** 19:37:56.7, 39°10N×29°08E, h7km, Ml2.7*
*CSEM **14** 19:37:56.9±0.1, 39°08N×29°10E, h8km, ML2.7, Error ellipse: s-maj=4.1km s-min=2.4km az=139.0*
*ISK **14** 19:37:56.2, 39°10N×29°16E, h6km, ML2.7/8*
ISC 14 19:37:57.1±0.9,**39°10N**±0°03×**29°10E**±0°02,**h10**km±6km, **n34**,σ0°**53**/52,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIMA	**Simav-Kutahya**	**0.09**	**262**	PG	**Pg**	**19 37 59.9**	**+0.2**
SIMA				SG	**Sg**	**19 38 01.5**	**0.0**
SIMA	**Simav-Kutahya**	**0.09**	**262**	*e*Pg	**Pg**	**19 37 59.9**	**+0.2**
SIMA				*e*Sg	**Sg**	**19 38 01.5**	**0.0**
GDZ	**Gediz**	**0.30**	**91**	*i* P	**Pg**	**19 38 02.9**	**-0.4**
GDZ				*i* S	**Sg**	**19 38 07.8**	**+0.6**
GDZ	**Gediz**	**0.30**	**91**	P	**Pg**	**19 38 02.8**	**-0.4**
GDZ				S	**Sg**	**19 38 07.8**	**+0.6**
DEMI	**Demirci**	**0.30**	**260**	*i* P	**Pg**	**19 38 03.0**	**-0.2**
DEMI				*i* S	**Sg**	**19 38 07.2**	**-0.1**
DEMI	**Demirci**	**0.30**	**260**	P	**Pg**	**19 38 03.0**	**-0.2**
DEMI				S	**Sg**	**19 38 07.2**	**-0.1**
TVSB	**Tavsanli**	**0.45**	**39**	PG	**Pg**	**19 38 04.8**	**-1.2**
TVSB				SG	**Sg**	**19 38 11.0**	**-1.0**
TVSB	**Tavsanli**	**0.45**	**39**	*e*Pg	**Pg**	**19 38 04.8**	**-1.2**
TVSB				*e*Sg	**Sg**	**19 38 11.0**	**-1.0**
KULA	**Kula-Manisa**	**0.67**	**211**	PG	**Pg**	**19 38 09.9**	**-0.3**
KULA	**Kula-Manisa**	**0.67**	**211**	*e*Pg	**Pg**	**19 38 09.9**	**-0.3**
DURS	**Dursunbey**	**0.70**	**316**	*i* P	**Pg**	**19 38 10.3**	**-0.3**
DURS				*i* S	**Sb**	**19 38 20.8**	**-0.4**
DURS	**Dursunbey**	**0.70**	**316**	P	**Pg**	**19 38 10.4**	**-0.3**
DURS				S	**Sb**	**19 38 20.8**	**-0.4**
MANT	**Manisa**	**0.74**	**215**	*i* P	**Pg**	**19 38 11.1**	**-0.3**
MANT				*i* S	**Sg**	**19 38 20.8**	**-0.3**
MANT	**Manisa**	**0.74**	**215**	P	**Pg**	**19 38 11.1**	**-0.3**
MANT				S	**Sg**	**19 38 20.8**	**-0.3**
ORLT	**Orhaneli**	**0.96**	**351**	PG	**Pg**	**19 38 15.5**	**-0.2**
ORLT	**Orhaneli**	**0.96**	**351**	*e*Pg	**Pg**	**19 38 15.5**	**-0.2**
AKHS	**Akhisar**	**1.02**	**258**	*i* P	**Pg**	**19 38 16.2**	**-0.6**
AKHS				*i* S	**Sg**	**19 38 29.9**	**-0.2**
AKHS	**Akhisar**	**1.02**	**258**	P	**Pg**	**19 38 16.2**	**-0.6**
AKHS				S	**Sg**	**19 38 29.9**	**-0.2**
AUBOZ	**BOZOYUK**	**1.09**	**41**	*i* P	**Pn**	**19 38 18.4**	**-0.1**
AUBOZ				*i* S	**Sn**	**19 38 35.1**	**+1.4**
AUBOZ	**BOZOYUK**	**1.09**	**41**	P	**Pn**	**19 38 18.4**	**-0.1**
AUBOZ				S	**Sn**	**19 38 35.1**	**+1.4**
BALB	**Balikesir**	**1.09**	**300**	PN	**Pn**	**19 38 18.7**	**+0.3**
BALB	**Balikesir**	**1.09**	**300**	*e*Pn	**Pn**	**19 38 18.7**	**+0.3**
CAVI	**Cavuskoy**	**1.25**	**27**	PN	**Pb**	**19 38 20.7**	**-0.1**
CAVI	**Cavuskoy**	**1.25**	**27**	*e*Pn	**Pb**	**19 38 20.7**	**-0.1**
MDNY	**Mudanya-Bursa**	**1.28**	**353**	PN	**Pg**	**19 38 21.8**	**0.0**
MDNY	**Mudanya-Bursa**	**1.28**	**353**	*e*Pn	**Pg**	**19 38 21.8**	**0.0**
KCTX	**Karacabey (Bur**	**1.30**	**334**	PN	**Pg**	**19 38 22.1**	**0.0**
KCTX	**Karacabey (Bur**	**1.30**	**334**	*e*Pn	**Pg**	**19 38 22.1**	**0.0**
BORA	**Eskisehir**	**1.31**	**53**	*i* P	**Pb**	**19 38 21.8**	**-0.1**
BORA				*i* S	**Sg**	**19 38 40.0**	**+0.7**
BORA	**Eskisehir**	**1.31**	**53**	P	**Pb**	**19 38 21.8**	**-0.1**
BORA				S	**Sg**	**19 38 40.0**	**+0.7**
YLV	**Yalova**	**1.48**	**8**	PN	**Pn**	**19 38 23.9**	**-0.1**
YLV	**Yalova**	**1.48**	**8**	*e*Pn	**Pn**	**19 38 23.9**	**-0.1**
AYDB	**Zeytinkoy-Aydi**	**1.49**	**220**	PN	**Pb**	**19 38 24.7**	**-0.2**
AYDB	**Zeytinkoy-Aydi**	**1.49**	**220**	*e*Pn	**Pb**	**19 38 24.7**	**-0.2**

*NEIC **14** 19:39:50.0±0.0, 18°52N×101°42W, h40km, MD4.0(MEX), After MEX.*
MEX 14 19:39:50.0±0.5,**18°52N×101°42W**,**h40**km±26km,**MD4.0, Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.90**	**183**	*e*P	Pn	19 40 04.8	-1.5
ZIIG				*e*S	Sn	19 40 15.8	-2.3
ZIIG	**Zihuatanejo**	**0.90**	**183**	*e*Pn	Pn	19 40 04.8	-1.5
ZIIG				*e*Sn	Sn	19 40 15.8	-2.3
ARIG	**Puente Sto Nin**	**1.05**	**103**	*e*P	Pn	19 40 06.6	-1.6
ARIG				*e*S	Sn	19 40 19.1	-2.6
MOIG	**Morelia**	**1.18**	**11**	*e*Pn	Pn	19 40 08.5	-1.8
MOIG				*e*Sn	Sn	19 40 21.6	-3.6
MEIG	**Mezcala**	**1.81**	**109**	*e*P	Pn	19 40 17.4	-1.3
MEIG				*i* S	Sn	19 40 35.8	-4.7
MEIG	**Mezcala**	**1.81**	**109**	*e*Pn	Pn	19 40 17.4	-1.3
MEIG				*e*Sn	Sn	19 40 35.8	-4.7
CAIG	**El Cayaco**	**1.83**	**143**	*e*P	Pn	19 40 17.1	-1.8
CAIG				*i* S	Sn	19 40 39.2	-1.6
CAIG	**El Cayaco**	**1.83**	**143**	*e*Pn	Pn	19 40 17.1	-1.8
CAIG				*e*Sn	Sn	19 40 39.2	-1.6
MMIG	**Aquila**	**1.84**	**263**	*e*P	Pn	19 40 17.4	-1.7
MMIG				*i* S	Sn	19 40 39.2	-2.0
UNM	**Universidad Na**	**2.27**	**69**	*e*Pn	Pn	19 40 21.9	-3.4
JRQG	**Juriquilla Cam**	**2.36**	**23**	*e*Pn	Pn	19 40 24.6	-1.9
JRQG				*e*Sn	Sn	19 40 41.7	-13
ZAIG	**Zacatecas**	**4.37**	**346**	*e*Pn	Pn	19 40 52.4	-1.7
LNIG	**Linares**	**6.61**	**16**	*e*Pn	Pn	19 41 19.6	-5.0

WEL 14 19:45:37.9±0.9,**45°S**±4°×**167°E**±°,**h5**km,**ML3.7**/9,**Off west coast of South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.35**	**155**	P	Pb	19 45 46.4	-0.2
DCZ	**Deep Cove**	**0.35**	**155**	S	Sb	19 45 51.8	-0.6
MSZ	**Milford Sound**	**0.85**	**56**	P	Pg	19 45 53.3	-0.8
MSZ	**Milford Sound**	**0.85**	**56**	S	Sg	19 46 04.4	-0.7
MLZ	**Mavora Lakes**	**0.86**	**105**	P	Pg	19 45 54.7	+0.4
MLZ	**Mavora Lakes**	**0.86**	**105**	S	Sb	19 46 06.5	-0.6
WHZ	**Wether Hill Ro**	**1.03**	**137**	P	Pg	19 45 57.3	-0.2
WHZ	**Wether Hill Ro**	**1.03**	**137**	S	Sg	19 46 11.4	+0.5
PYZ	**Puysegur Point**	**1.03**	**190**	P	Pg	19 45 56.6	-1.1
PYZ	**Puysegur Point**	**1.03**	**190**	S	Sg	19 46 09.8	-1.3
WKZ	**Wanaka**	**1.51**	**78**	P	Pb	19 46 06.2	-0.2
WKZ	**Wanaka**	**1.51**	**78**	S	Sn	19 46 25.0	-0.6
EAZ	**Earnscleugh**	**1.68**	**94**	P	Pn	19 46 08.1	+0.2
EAZ	**Earnscleugh**	**1.68**	**94**	S	Sn	19 46 28.7	-1.1
JCZ	**Jackson Bay**	**1.70**	**51**	P	Pb	19 46 09.2	-0.5
JCZ	**Jackson Bay**	**1.70**	**51**	S	Sb	19 46 31.2	-0.2
APZ	**The Paps**	**1.83**	**157**	P	Pb	19 46 11.0	-0.9
TUZ	**Tuapeka**	**2.06**	**114**	P	Pn	19 46 13.7	+0.7
SYZ	**Scrubby Hill**	**2.07**	**133**	P	Pn	19 46 13.0	-0.2
LBZ	**Lake Benmore**	**2.43**	**73**	P	Pn	19 46 17.9	-0.4
FOZ	**Fox Glacier**	**2.62**	**53**	P	Pn	19 46 18.3	-2.5
ODZ	**Otahua Downs**	**2.63**	**89**	P	Pn	19 46 20.8	-0.1
HHSZ	**Highcliff Hill**	**2.67**	**107**	P	Pn	19 46 21.3	-0.3

*IDC **14** 20:03:01.1±1.7, 34°64N×117°91E, h0km, mb3.4/6, mb1 3.5/7, mb1mx3.3/67, mbtmp3.4/7, ML2.3/1, Error ellipse: s-maj=39.2km s-min=21.4km az=164.0*
*ISCJB **14** 20:03:04.0±1.2, 34°7N±0°2×118°0E±0°1, h33km, mb3.3/6, Error ellipse: s-maj=28.3km s-min=15.8km az=168.5*
ISC 14 20:03:05.9±1.4,**34°6N**±0°3×**117°9E**±0°1,**h35**km,**n7**, σ0°**68**/7,**mb3.4**/6,**Southeastern China**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array** 0.0nm,0.3s,baz=259,slow=14,SNR=3.2	**8.61**	**68**	Pn	**Pn**	**20 05 07.8**	**-0.1**
KSRS				Lg	Lg	20 07 30.9	
	0.1nm,0.3s,baz=264,slow=27,SNR=4.6						
CMAR	**Chiang Mai Arr** 0.2nm,0.5s,baz=41,slow=8.4,SNR=4.7	**23.29**	**231**	P	**P**	**20 08 10.8**	**+0.1**
MKAR	**Makanchi Array** 0.3nm,0.8s,baz=98,slow=7.4,SNR=2.6	**29.39**	**305**	P	**P**	**20 09 04.7**	**-1.0**
ZALV	**Zalesovo Beam** 0.9nm,0.7s,baz=106,slow=9.4,SNR=3.6	**30.20**	**320**	P	**P**	**20 09 13.0**	**+0.3**
KURBB	**Kurchatov Arra** 1.2nm,0.9s,baz=104,slow=9.3,SNR=6.4	**32.67**	**312**	P	**P**	**20 09 34.2**	**-0.3**
BVAR	**Borovoye Array** 0.5nm,0.8s,baz=95,slow=7.7,SNR=4.1	**38.11**	**314**	P	**P**	**20 10 22.1**	**+0.8**
YKA	**Yellowknife Ar** 0.3nm,0.8s,baz=327,slow=5.0,SNR=7.6	**74.50**	**22**	P	**P**	**20 14 40.6**	**+0.1**

*ISK **14** 20:04:10.7, 38°73N×43°15E, h6km, ML2.4/2*
*ISCJB **14** 20:04:11.9±0.4, 38°76N±0°03×43°16E±0°03, h8km±7km, Error ellipse: s-maj=4.6km s-min=4.3km az=160.1*
*CSEM **14** 20:04:11.5±0.2, 38°77N×43°16E, h10km, ML2.4, Error ellipse: s-maj=5.5km s-min=4.9km az=103.0*
*DDA **14** 20:04:11.3, 38°78N×43°24E, h7km, Ml2.7*
ISC 14 20:04:11.8±0.9,**38°75N**±0°02×**43°17E**±0°02,**h13**km±8km, **n28**,σ0°**98**/45,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.23**	**132**	PG	**Pg**	**20 04 16.8**	**-0.1**
VANB				SG	**Sg**	**20 04 21.9**	**+1.5**
VANB	**Van**	**0.23**	**132**	*e*Pg	**Pg**	**20 04 16.8**	**-0.1**
VANB				*e*Sg	**Sg**	**20 04 21.9**	**+1.5**
TVAN	**Van**	**0.29**	**140**	*i* P	**Pg**	**20 04 16.5**	**-1.4**
TVAN				*i* S	**Sg**	**20 04 21.8**	**-0.3**
TVAN	**Van**	**0.29**	**140**	P	**Pg**	**20 04 16.5**	**-1.4**
TVAN				S	**Sg**	**20 04 21.8**	**-0.3**
ERCV	**ERCIS-VAN**	**0.30**	**27**	PG	**Pg**	**20 04 17.1**	**-0.9**
ERCV	**ERCIS-VAN**	**0.30**	**27**	*e*Pg	**Pg**	**20 04 17.1**	**-0.9**
ADCV	**BITLIS_Adilcev**	**0.35**	**279**	*i* P	**Pg**	**20 04 18.5**	**-0.4**
ADCV				*i* S	**Sb**	**20 04 25.5**	**0.0**
ADCV	**BITLIS_Adilcev**	**0.35**	**279**	P	**Pg**	**20 04 18.5**	**-0.4**
ADCV				S	**Sb**	**20 04 25.5**	**0.0**
VMUR	**Van-Muradiye**	**0.39**	**53**	*i* P	**Pg**	**20 04 19.1**	**-0.6**
VMUR				*i* S	**Sb**	**20 04 26.9**	**+0.1**
VMUR	**Van-Muradiye**	**0.39**	**53**	P	**Pg**	**20 04 19.1**	**-0.6**
VMUR				S	**Sb**	**20 04 26.9**	**+0.1**
GEVA	**Gevas**	**0.45**	**191**	*i* P	**Pn**	**20 04 23.3**	**-0.7**
GEVA				*i* S	**Sb**	**20 04 28.3**	**0.0**
GEVA	**Gevas**	**0.45**	**191**	P	**Pn**	**20 04 23.3**	**-0.7**
GEVA				S	**Sb**	**20 04 28.3**	**0.0**
CLDR	**Caldiran**	**0.70**	**56**	PG	**Pg**	**20 04 25.2**	**-0.3**
CLDR	**Caldiran**	**0.70**	**56**	*e*Pg	**Pg**	**20 04 25.2**	**-0.3**
TUTA	**Tutak**	**0.70**	**337**	*i* P	**Pg**	**20 04 24.4**	**-1.1**
TUTA				*i* S	**Sb**	**20 04 35.6**	**-0.2**
TUTA	**Tutak**	**0.70**	**337**	P	**Pg**	**20 04 24.4**	**-1.1**
TUTA				S	**Sb**	**20 04 35.6**	**-0.2**
AGRB	**Hanur-Agry**	**0.83**	**351**	PG	**Pg**	**20 04 27.7**	**-0.3**
AGRB	**Hanur-Agry**	**0.83**	**351**	*e*Pg	**Pg**	**20 04 27.7**	**-0.3**
GURO	**Guroymak-BITLI**	**0.91**	**258**	PG	**Pg**	**20 04 28.1**	**-1.3**
GURO				SG	**Sg**	**20 04 41.3**	**-0.1**
GURO	**Guroymak-BITLI**	**0.91**	**258**	*e*Pg	**Pg**	**20 04 28.1**	**-1.3**
GURO				*e*Sg	**Sg**	**20 04 41.3**	**-0.1**
EATA	**Eleskirt**	**1.23**	**335**	*i* P	**Pn**	**20 04 34.5**	**-0.4**
EATA				*i* S	**Sn**	**20 04 52.3**	**+0.8**
EATA	**Eleskirt**	**1.23**	**335**	P	**Pn**	**20 04 34.5**	**-0.4**
EATA				S	**Sn**	**20 04 52.3**	**+0.8**
SRTM	**Siirt_Merkez**	**1.24**	**233**	*i* P	**Pb**	**20 04 35.1**	**0.0**
SRTM				*i* S	**Sg**	**20 04 56.1**	**+4.3**
SRTM	**Siirt_Merkez**	**1.24**	**233**	P	**Pb**	**20 04 35.1**	**0.0**
SIRT	**Sirnak**	**1.38**	**205**	PN	**Pn**	**20 04 36.6**	**-0.1**
SIRT	**Sirnak**	**1.38**	**205**	*e*Pn	**Pn**	**20 04 36.6**	**-0.1**
TASB	**TASBURUN-IGDIR**	**1.48**	**34**	PN	**Pb**	**20 04 39.1**	**-0.1**
TASB	**TASBURUN-IGDIR**	**1.48**	**34**	*e*Pn	**Pb**	**20 04 39.1**	**-0.1**

*ISCJB **14** 20:07:37.4±0.5, 26°79N±0°06×127°55E±0°06, h66km±5km, mb3.4/6, Error ellipse: s-maj=11.7km s-min=6.4km az=144.9*
*IDC **14** 20:07:37.2±2.3, 26°72N×127°51E, h46km±36km, mb3.2/6, mb1 3.3/7, mb1mx3.0/64, mbtmp3.5/7, ML3.5/1, Error ellipse: s-maj=41.7km s-min=20.6km az=67.0*
*JMA **14** 20:07:38.0±0.2, 26°78N×127°55E, h62km±2km, M3.5*
ISC 14 20:07:38.4±0.8,**26°77N**±0°06×**127°56E**±0°05,**h59**km±8km, **n16**,σ0°**70**/24,**mb3.5**/6,**Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAGN	**Aguni-jima**	**0.34**	**237**	P	**Pn**	**20 07 48.4**	**-0.3**
JAGN				S	**Sn**	**20 07 56.4**	**+0.3**
JIH	**Iheya**	**0.45**	**54**	P	**Pn**	**20 07 49.8**	**+0.1**
JIH				S	**Sn**	**20 07 58.2**	**+0.2**
JNTH	**Nagotoyohara**	**0.49**	**121**	P	**Pn**	**20 07 49.9**	**-0.2**
JNTH				S	**Sn**	**20 07 58.4**	**-0.2**
JOW	**Kunigami** 314nm,0.3s,baz=306,slow=17,SNR=838	**0.64**	**85**	P	**Pn**	**20 07 51.8**	**-0.1**
JOW				S	**Sn**	**20 08 01.9**	**+0.1**
	856nm,0.3s,baz=315,slow=20,SNR=45						
JOW	**Kunigami**	**0.64**	**85**	P	**Pn**	**20 07 51.8**	**-0.1**
JOW				S	**Sn**	**20 08 01.5**	**-0.3**
JJT3	**Tamagusuku3**	**0.66**	**162**	P	**Pn**	**20 07 52.4**	**+0.3**
JJT3				S	**Sn**	**20 08 03.5**	**+1.4**
JKE	**Kume jima 2**	**0.82**	**237**	P	**Pn**	**20 07 53.8**	**-0.3**
JKE				S	**Sn**	**20 08 05.7**	**+0.1**
JOKE	**Okinoerabujima**	**1.08**	**57**	P	**Pn**	**20 07 57.1**	**-0.3**
JTK	**Tokunoshima**	**1.60**	**51**	P	**Pn**	**20 08 04.2**	**-0.2**
JTK				S	**Sn**	**20 08 23.2**	**-0.8**
JNU	**Nakatsue** 0.9nm,0.3s,baz=205,slow=5.3,SNR=13	**6.95**	**24**	P	**Pn**	**20 09 19.4**	**+1.7**
SONM	**Songino Array** 0.5nm,0.4s,baz=139,slow=11,SNR=6.6	**26.77**	**327**	P	**P**	**20 13 14.2**	**+1.4**
CMAR	**Chiang Mai Arr** 0.3nm,0.7s,baz=70,slow=7.8,SNR=3.6	**27.63**	**259**	P	**P**	**20 13 20.2**	**-0.4**
MKAR	**Makanchi Array** 0.5nm,0.5s,baz=103,slow=9.1,SNR=9.1	**40.72**	**312**	P	**P**	**20 15 12.7**	**-0.7**
KURBB	**Kurchatov Arra** 0.2nm,0.4s,baz=106,slow=8.9,SNR=3.4	**44.05**	**316**	P	**P**	**20 15 39.3**	**-0.9**
BVAR	**Borovoye Array** 0.4nm,0.6s,baz=80,slow=8.9,SNR=4.3	**49.47**	**318**	P	**P**	**20 16 22.4**	**-0.1**
ASAR	**Alice Springs** 0.4nm,0.9s,baz=1.0,slow=14,SNR=10.0	**50.52**	**172**	P	**P**	**20 16 30.9**	**+0.1**

IDC 14 20:15:04.6±13.0,**2°72N×92°80E**,**h0**km,**mb3.4**/3, **mb1 3.5**/5,**mb1mx3.1**/66,**mbtmp3.4**/5,**ML3.4**/2,**Error ellipse: s-maj=251.8km s-min=54.9km az=161.0,Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	**Pallekele** 0.3nm,0.3s,baz=112,slow=16,SNR=2.9	**12.88**	**291**	Pn	Pn	20 18 09.8	+0.7
PALK				Sn	Sn	20 20 17.1	-16
	1.0nm,0.3s,baz=114,slow=3.0,SNR=6.5						
CMAR	**Chiang Mai Arr**	**16.76**	**21**	Pn	Pn	20 19 01.4	+0.5
	0.0nm,0.3s,baz=216,slow=12,SNR=4.7						
MKAR	**Makanchi Array** 0.3nm,0.8s,baz=170,slow=7.4,SNR=3.9	**44.85**	**350**	P	P	20 23 20.2	-0.4
ZALV	**Zalesovo Beam** 0.4nm,0.4s,baz=152,slow=6.4,SNR=2.4	**51.49**	**354**	P	P	20 24 12.0	+0.2
BVAR	**Borovoye Array** 0.3nm,0.8s,baz=163,slow=5.6,SNR=2.4	**53.47**	**343**	P	P	20 24 26.0	-0.5

*SJA **14** 20:21:32.1±0.7, 32°13S×72°63W, h14km±13km, ML3.5, MW3.7*
*GUC **14** 20:21:40.2±0.5, 31°87S×71°69W, h14km±15km, ML3.2*
ISC 14 20:21:38.3±1.9,**31°85S**±0°03×**71°87W**±0°08,**h10**km±15km, **n17**,σ1°**93**/31,**1C-1D**,**Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROCH	**El Roble**	**1.34**	**147**	*e*P	**Pg**	**20 22 04.4**	**+0.4**
ROCH				*e*S	**Sg**	**20 22 22.4**	**+0.9**
ROCH				IAML		20 22 26.5	
	comp=N,1μm,0.4s						
ROC1	**El Roble**	**1.34**	**147**	*e*P	**Pg**	**20 22 04.2**	**+0.1**
ROC1				*e*S	**Sg**	**20 22 24.8**	**+3.3**
PEL	**Peldehue**	**1.64**	**143**	*e*P	**Pb**	**20 22 08.9**	**+0.3**
PEL				*e*S	**Sg**	**20 22 30.2**	**-0.8**
PEL				IAML		20 22 36.0	
	comp=N,157nm,0.4s						
GO04	**Tololo Observa**	**1.91**	**29**↑	*e*P	**Pn**	**20 22 12.1**	**+0.9**
GO04				*e*S	**Sg**	**20 22 39.9**	**+0.2**
TLL	**Tololo Astrono**	**1.91**	**29**	*e*P	**Pb**	**20 22 13.9**	**+0.5**
TLL				*e*S	**Sg**	**20 22 39.9**	**+0.2**
TLL				IAML		20 22 49.0	
	comp=E,518nm,0.4s						
FCH	**Farellones**	**1.99**	**138**	*e*P	**Pb**	**20 22 14.2**	**-0.6**
FCH				*e*S	**Sg**	**20 22 40.1**	**-2.3**
FCH				IAML		20 22 44.4	
	comp=E,276nm,0.3s						
AUSP	**Uspallata**	**2.14**	**101**	*e*P	**Pg**	**20 22 18.9**	**-0.6**
AUSP				*e*S	Sg	20 22 53.5	+6.2
RTLS	**Leoncito**	**2.19**	**89**	*e*P	**Pg**	**20 22 20.2**	**-0.3**
RTLS				*e*S	**Sg**	**20 22 49.1**	**+0.2**
RTLS				IAML		20 23 01.1	
	comp=Z,105nm,0.5s						
LMEL	**Las Melosas**	**2.44**	**145**↓	*e*P	**Pb**	**20 22 20.9**	**-1.5**
LMEL				*e*S	**Sb**	**20 22 52.5**	**-0.1**
LMEL				IAML		20 23 04.5	
	comp=N,301nm,0.7s						
AROD	**Rodeo**	**2.66**	**52**	*e*P	**Pb**	**20 22 27.5**	**+1.3**
RTCV	**Cerro Valdivia**	**2.84**	**91**	*e*P	**Pb**	**20 22 28.9**	**-0.2**
RTCV				*e*S	**Sg**	**20 23 11.1**	**+1.6**
ACDV	**Cuesta del Vie**	**2.89**	**55**	*e*P	**Pb**	**20 22 30.8**	**+0.7**
ACDV				*e*S	**Sg**	**20 23 13.5**	**+2.2**
RTLL	**Cerro Villicun**	**2.94**	**81**	*e*P	**Pb**	**20 22 31.2**	**+0.2**
RTLL				*e*S	**Sg**	**20 23 14.9**	**+1.9**
RTLL				IAML		20 23 27.8	
	comp=Z,55nm,0.4s						
AMOG	**MOGNA**	**3.03**	**73**	*e*P	**Pb**	**20 22 32.6**	**+0.2**
AMOG				*e*S	**Sg**	**20 23 17.4**	**+1.8**
AGUA	**GUANDACOL**	**3.74**	**52**	*e*P	**Pb**	**20 22 42.4**	**-2.2**
AGUA				*e*S	**Sg**	**20 23 34.1**	**-4.5**
ACAN	**Cantantal**	**4.00**	**97**	*e*P	**Pb**	**20 22 45.0**	**-3.9**
VCA	**Vinchina**	**4.43**	**47**	*e*P	**Pb**	**20 22 52.0**	**-4.4**
VCA				*e*S	**Sb**	**20 23 51.4**	**+1.4**
VCA				IAML		20 24 00.8	
	comp=Z,67nm,0.5s						

IDC 14 20:30:59.0±1.6,**14°92S×72°25W**,**h134**km±18km,**mb3.5**/2, **mb1 3.5**/6,**mb1mx3.2**/43,**mbtmp3.9**/6,**Error ellipse: s-maj=43.5km s-min=11.0km az=27.0,Central Peru**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz** 1.3nm,0.3s,baz=293,slow=11,SNR=29	**4.20**	**110**	P	Pn	20 32 03.0	+0.9
LPAZ				S	Sn	20 32 50.9	-0.1
	0.5nm,0.3s,baz=241,slow=19,SNR=7.3						
NNA	**Nana** 5.3nm,0.3s,baz=135,slow=11,SNR=6.3	**5.33**	**303**	P	Pn	20 32 17.5	+0.8
NNA				S	Sn	20 33 17.3	+0.1
	2.8nm,0.3s,baz=192,slow=19,SNR=3.0						
CPUP	**Villa Florida** 0.1nm,0.3s,baz=315,slow=10.0,SNR=4.0	**17.98**	**132**	P	Pn	20 35 00.1	-0.5
PTGA	**Pitinga** 0.5nm,0.3s,baz=32,slow=10,SNR=4.9	**18.60**	**42**	P	P	20 35 04.8	-1.3
SDV	**

GTA Gaotai 10.10 359 *e*P Pn 20 33 52.9 +5.8
GTA pP 20 33 56.3
GTA sP 20 33 59.3
GTA S Sn 20 35 51.3 +11
GTA LR LR
comp=E,950nm,13.3s
GTA LR LR
comp=E,250nm,14.5s
CHTO Chiang Mai 10.48 186 *e*Pn **Pn 20 33 53.8 +1.5**
CHTO Chiang Mai 10.48 186 *e*P **Pn 20 33 53.8 +1.5**
CM31 Chiang Mai Arr 10.83 186 *e*Pn **Pn 20 33 58.5 +1.4**
CM31 eLg Lg 20 37 12.8
CMAR Chiang Mai Arr 10.83 186 P **Pn 20 34 00.5 +3.4**
comp=E,0.1nm,0.3s,baz=357,slow=16,SNR=18
CMAR Lg Lg 20 37 08.0
comp=E,0.0nm,0.3s,baz=5.4,slow=30,SNR=5.1
CMAR LR LR 20 38 04.3
comp=E,177nm,21.3s,baz=320,slow=36
CM01 Chiang Mai Arr 10.87 186 *e*Pn **Pn 20 34 01.6 +4.1**
ODAN Odare 11.45 261 *e*P **Pn 20 34 05.2 -0.6**
comp=E,38nm,0.6s
RAMN Ramite 12.11 262 *e*P **Pn 20 34 14.7 -0.1**
comp=E,34nm,0.5s
JIRN Jiri 12.32 266 *e*P **Pn 20 34 17.3 -0.4**
WHN Wuhan 12.46 81 P **Pn 20 34 21.5 +2.3**
GUN Gumba 12.54 267 *e*P **Pn 20 34 20.4 -0.4**
comp=E,39nm,0.5s
PBKT Sadao Pong 12.69 176 *e*Pn **Pn 20 34 21.3 -1.2**
PKIN Phulchoki 13.02 266 *e*P **Pn 20 34 25.9 -1.4**
comp=E,35nm,0.4s
KKN Kakani 13.09 267 *e*P **Pn 20 34 27.2 -0.9**
comp=E,27nm,0.5s
DMN Daman 13.27 266 *e*P **Pn 20 34 29.6 -1.1**
comp=E,27nm,0.7s
GKN Gorkha 13.61 268 *e*P **Pn 20 34 32.5 -2.7**
comp=E,19nm,0.5s
KOLN Koldanda 14.56 268 *e*P **Pn 20 34 44.8 -3.4**
comp=E,20nm,0.6s
HHC Hu-ho-hao-te 14.87 36 *e*P **Pn 20 34 51.4 -0.9**
HHC S **Sn 20 37 37.1 -0.1**
HHC pmax pmax
comp=E,50nm,1.0s
HHC pmax pmax
comp=E,190nm,4.0s
PYUN Piuthan 15.04 270 *e*P **Pn 20 34 50.6 -4.1**
comp=E,30nm,0.6s
NJ2 Nanjing 16.40 76 *e*P **Pn 20 35 12.8 +0.6**
NJ2 S **Sn 20 38 11.4 -2.8**
NJ2 pmax pmax
comp=E,12nm,0.5s
NJ2 pmax pmax
comp=E,130nm,4.9s
NJ2 LR LR
comp=E,490nm,8.1s
NJ2 LR LR
comp=E,460nm,9.2s
NJ2 LR LR
comp=E,300nm,11.4s
BJT Baijiatuau 17.00 47 *e*Pn **Pn 20 35 17.0 -2.8**
comp=E,15nm,1.3s
BJT Baijiatuau 17.00 47 *e*P **Pn 20 35 17.0 -2.8**
BJT pmax pmax
comp=E,15nm,1.3s
WMQ Urumqi 17.55 329 *e*P **Pn 20 35 26.5 -0.2**
WMQ pmax pmax
comp=E,16nm,0.7s
SONA0 Songino Array 19.16 13 *e*P **Pn 20 35 46.7 +0.4**
SONM Songino Array 19.16 13 P **Pn 20 35 46.7 +0.4**
comp=Z,0.1nm,0.3s,baz=191,slow=12,SNR=7.0
SONA1 Songino Array 19.17 13 *e*P **P 20 35 44.7 -1.0**
ULN Ulaanbaatar 19.32 14 *e*P **P 20 35 46.6 -0.7**
comp=Z,12nm,1.1s
ULN Ulaanbaatar 19.32 14*ce*P **Pn 20 35 48.4 +0.1**
ULN pmax pmax
comp=Z,11nm,1.7s
ZAK Zakamensk 21.21 6 *e*P **P 20 36 07.1 -0.6**
ZAK pmax pmax
comp=Z,4.0nm,1.4s
ZAK pmax pmax
comp=Z,2.0nm,1.3s
PDGK Podgornoye 21.63 316 *i*P **P 20 36 11.6 -0.8**
PDGK pmax pmax
comp=Z,29nm,1.3s
PRZ Przheval'sk 21.87 313 *e*P **P 20 36 16.7 +1.7**
PRZ Przheval'sk 21.87 313 *e*P **P 20 36 16.7 +1.7**
TARG Taragay, Kyrgy 21.89 310 *e*P **P 20 36 17.1 +1.6**
comp=Z,13nm,0.7s
MK01 Makanchi Array 22.28 326 *e*P **P 20 36 19.5 +0.2**
KSH Kashi 22.28 304 P **P 20 36 21.8 +2.4**
KSH pP sP 20 36 27.4 +3.8
KSH S **S 20 40 22.1 -2.6**
KSH SS **SnSn 20 41 02.3 +10**
KSH pmax pmax
comp=Z,27nm,0.8s
KSH pmax pmax
comp=Z,180nm,4.9s
KSH LR LR
comp=Z,280nm,8.2s
KSH LR LR
comp=Z,350nm,6.5s
KSH LR LR
comp=Z,470nm,12.2s
MK31 Makanchi Array 22.30 326 *e*P **P 20 36 19.8 +0.3**
MK31 Makanchi Array 22.30 326 *e*P **P 20 36 19.8 +0.3**
MK32 Makanchi Array 22.30 326 *e*P **P 20 36 20.1 +0.6**
MKAR Makanchi Array 22.30 326 P **P 20 36 20.1 +0.6**
comp=Z,13nm,0.5s,baz=133,slow=13,SNR=140
MKAR Makanchi Array 22.30 326 *e*P **P 20 36 19.8 +0.3**
comp=Z,122nm,0.9s
MKAR Makanchi Array 22.30 326 *e*P **P 20 36 19.8 +0.3**
MKAR pmax pmax
comp=Z,123nm,0.9s
HVS Khovu-Aksy 22.34 349*ce*P **P 20 36 20.6 +0.7**
HVS pmax pmax
comp=Z,40nm,0.9s
MOY Mondy 22.36 2 *e*P **P 20 36 25.5 +5.3**
MAKZ Makanchi 22.47 326 *e*P **P 20 36 20.8 -0.4**
comp=Z,10nm,0.9s
MAKZ Makanchi 22.47 326 *i*P **P 20 36 20.8 -0.4**
MAKZ pmax pmax
comp=Z,10.0nm,0.8s
KDJ Kajisay 22.49 311 *e*P **P 20 36 22.2 +0.5**
comp=Z,31nm,1.4s
TLY Talaya 22.53 6 *e*P **P 20 36 23.2 +1.4**
comp=Z,3.3nm,0.9s
TLY Talaya 22.53 6 *e*P **P 20 36 23.2 +1.4**
TLY pmax pmax
comp=Z,3.0nm,0.9s
DGZ Jazzator, Alta 22.54 338 *e*P **P 20 36 22.9 +0.8**
DGZ pmax pmax
comp=Z,8.0nm,1.0s
HYB Hyderabad 22.97 244 *i*P **P 20 36 26.5 -0.3**
HYB *e*S **S 20 40 31.0 -6.3**
NRN Naryn 22.98 308 *e*P **P 20 36 27.3 +0.3**
comp=Z,13nm,1.0s
NRN Naryn 22.98 308 *e*P **P 20 36 27.3 +0.3**
NRN pmax pmax
comp=Z,13nm,1.0s
NIL Nilore 23.25 288 *e*P **P 20 36 28.2 -1.4**
comp=Z,70nm,0.6s
NIL Nilore 23.25 288 *e*P **P 20 36 28.2 -1.4**
NIL pmax pmax
comp=Z,70nm,0.6s
KZA Kyzart 23.76 309 P **P 20 36 36.3 +1.4**
SNR=30
TKM2 Tokmak 2 23.89 311 P **P 20 36 36.9 +0.9**
SNR=9.4
TKM2 Tokmak 2 23.89 311 *i*P **P 20 36 37.1 +1.1**
TKM2 pmax pmax
comp=Z,10.0nm,1.2s
KBK Karagaybulak 24.21 310 P **P 20 36 40.8 +1.9**
SNR=16
UCH Uchtor 24.32 309 P **P 20 36 41.8 +1.5**
SNR=8.2
CHMS Chumysh 24.48 311 P **P 20 36 43.5 +2.3**
SNR=7.6
AAK Ala-Archa 24.50 310 P **P 20 36 41.1 -0.5**
comp=Z,14nm,0.5s,baz=124,slow=7.1,SNR=63
AAK Ala-Archa 24.50 310 P **P 20 36 43.1 +1.5**
SNR=26
AAK Ala-Archa 24.50 310*d*iP **P 20 36 43.2 +1.6**
AAK pmax pmax
comp=Z,14nm,0.6s
KS15 Wonju Array Si 24.55 63 *e*P **P 20 36 42.2 +0.3**
KSAR Wonju Array Be 24.55 63 P **P 20 36 42.4 +0.6**
KSAR Wonju Array Be 24.55 63 P **P 20 36 42.4 +0.6**
KS01 Wonju Array Si 24.57 63 *e*P **P 20 36 41.5 -0.5**
KSRS Korea Array 24.58 63 P **P 20 36 42.4 +0.3**
comp=Z,3.8nm,0.8s,baz=257,slow=10,SNR=14
IPM Ipoh 24.69 178 *e*P **P 20 36 43.4 +0.2**
comp=Z,41nm,0.6s
USP Ospenovka 24.77 311 P **P 20 36 45.4 +1.6**
SNR=35
AML Almayashu 24.84 308 P **P 20 36 46.8 +1.9**
SNR=24
JOW Kunigami 24.99 89 P **P 20 36 46.7 +0.8**
comp=Z,5.0nm,0.6s,baz=37,slow=2.9,SNR=4.6
JOW Kunigami 24.99 89 *e*P **P 20 36 46.3 +0.4**
comp=Z,98nm,1.8s
EKS2 Erkin-Say 24.99 309 P **P 20 36 47.9 +1.9**
SNR=48
MNAS Manas 25.79 308 *i*P **P 20 36 53.4 +0.2**
MNAS pmax pmax
comp=Z,11nm,0.6s
JNU Nakatsue 26.58 74 *e*P **P 20 36 59.3 -1.0**
comp=Z,16nm,1.3s
KURBB Kurchatov Arra 26.77 329 P **P 20 37 02.4 +0.6**
comp=Z,8.4nm,0.8s,baz=141,slow=9.3,SNR=66
KBL Kabul 26.79 289 *e*P **P 20 37 02.6 +0.2**
comp=Z,49nm,0.9s
KBL Kabul 26.79 289 *e*P **P 20 37 02.6 +0.2**
KBL pmax pmax
comp=Z,49nm,0.9s
KURK Kurchatov 26.80 329 *e*P **P 20 37 02.0 0.0**
comp=Z,18nm,0.7s
KURK Kurchatov 26.80 329*d*iP **P 20 37 02.5 +0.5**
KURK pmax pmax
comp=Z,18nm,0.7s
ZAA0 Zalesovo Array 27.03 340 *e*P **P 20 37 03.4 -0.7**
comp=Z,5.2nm,0.8s
ZALV Zalesovo Beam 27.03 340 P **P 20 37 04.3 +0.2**
comp=Z,3.0nm,0.4s,baz=145,slow=9.6,SNR=22
ZALV Zalesovo Beam 27.03 340 *e*P **P 20 37 03.6 -0.4**
ZALV Zalesovo Beam 27.03 340 *e*P **P 20 37 03.7 -0.4**
ZAA1 Zalesovo Array 27.03 340 *e*P **P 20 37 04.3 +0.2**
KK31 Karatay Array 27.38 308 *e*P **P 20 37 07.3 -0.2**
KK31 Karatay Array 27.38 308*ce*P **P 20 37 08.1 +0.7**
KK31 pmax pmax
comp=Z,3.0nm,0.6s
KKAR Karatay Array 27.38 308 *e*P **P 20 37 07.3 -0.2**
KKAR Karatay Array 27.38 308 *e*P **P 20 37 07.3 -0.2**
OTUK Ortayu 28.49 319 *i*P **P 20 37 17.5 +0.2**
OTUK pmax pmax
comp=Z,4.0nm,0.6s
BVAR Borovoye Array 32.18 326 P **P 20 37 50.5 +0.7**
comp=Z,3.5nm,0.7s,baz=117,slow=9.2,SNR=31
BVAR Borovoye Array 32.18 326 P **P 20 37 50.5 +0.7**
BVAR pmax pmax
comp=Z,3.0nm,0.7s
BRVK Borovoye 32.26 326 *e*P **P 20 37 50.7 +0.3**
comp=Z,8.3nm,0.6s
BRVK Borovoye 32.26 326*d*iP **P 20 37 51.0 +0.6**
BRVK pmax pmax
comp=Z,14nm,1.2s
GEYT Alibeck 35.74 295 P **P 20 38 22.6 +1.6**
comp=Z,3.0nm,0.7s,baz=111,slow=6.5,SNR=11
GYA0B ALIBECK ARRAY 35.74 295 *e*P **P 20 38 22.6 +1.6**
comp=Z,8.2nm,1.0s
AB31 Akbulak array 36.36 315*ce*P **P 20 38 26.9 +0.9**
AB31 pmax pmax
comp=Z,2.0nm,0.6s
ABKAR Akbulak array 36.36 315 *e*P **P 20 38 26.4 +0.4**
ASAJ Asahikawa 36.75 54 P **P 20 38 29.5 +0.1**
comp=Z,3.0nm,0.8s,baz=76,slow=11,SNR=5.7
ASAJ Asahikawa 36.75 54 *e*P **P 20 38 28.9 -0.5**
comp=Z,5.8nm,1.0s
ERM Erimo 36.88 58 *e*P **P 20 38 30.6 +0.1**
comp=Z,12nm,1.0s
ERM Erimo 36.88 58 *e*P **P 20 38 30.6 +0.1**
ERM pmax pmax
comp=Z,12nm,1.0s
AKTO Aktyubinsk 37.91 316 P **P 20 38 39.9 +0.7**
comp=Z,1.6nm,0.5s,baz=119,slow=8.9,SNR=6.4
YAK Yakutsk 38.07 22⇑*e*P **P 20 38 40.8 +0.5**
YAK pmax pmax
comp=Z,6.0nm,0.9s
ARU Arti 39.81 325 P **P 20 38 55.8 +0.7**
comp=Z,9.4nm,0.6s,baz=102,slow=5.8,SNR=25
ARU Arti 39.81 325 *e*P **P 20 38 55.2 +0.2**
comp=Z,12nm,0.8s
ARU Arti 39.81 325*d*iP **P 20 38 55.6 +0.5**
ARU 20 40 23.8
ARU 20 40 57.3
ARU S **S 20 44 59.9 +0.7**
ARU SS **SS 20 47 49.3 -5.7**
ARU pmax pmax
comp=Z,12nm,0.8s
TIXI Tiksi 45.24 12 *e*P **P 20 39 38.6 -0.3**
comp=Z,6.2nm,1.7s
TIXI Tiksi 45.24 12 *e*P **P 20 39 38.6 -0.3**
TIXI pmax pmax
comp=Z,6.0nm,1.7s
GNI Garni 46.09 299 P **P 20 39 47.1 +0.7**
comp=Z,2.3nm,0.5s,baz=198,slow=8.8,SNR=3.9
GNI Garni 46.09 299*de*P **P 20 39 48.3 +1.9**
GNI pmax pmax
comp=Z,28nm,1.2s
AKH Akhalkalaki 46.95 301 *e*P **P 20 39 54.2 +1.1**
comp=Z,6.6nm,1.0s
AKH Akhalkalaki 46.95 301 *e*P **P 20 39 54.2 +1.1**
AKH pmax pmax
comp=Z,7.0nm,1.0s
KBZ Khabaz 47.27 304 P **P 20 39 54.7 -0.6**
comp=Z,1.3nm,0.7s,baz=356,slow=7.9,SNR=5.2
SEY Seymchan 47.38 29 P **P 20 39 54.9 -1.1**
comp=Z,0.7nm,0.5s,baz=59,slow=14,SNR=4.5
KVAR Kislovodsk Arr 47.40 304 P **P 20 39 55.5 -1.1**
comp=Z,8.7nm,0.9s,baz=348,slow=9.3,SNR=8.9
KIV Kislovodsk 47.41 304 *e*P **P 20 39 57.1 +0.5**
comp=Z,14nm,1.0s
KIV Kislovodsk 47.41 304 *e*P **P 20 39 57.2 +0.6**
KIV pmax pmax
comp=Z,16nm,1.1s
NEY Neytrino 47.41 303⇑*e*P **P 20 39 58.8 +2.1**
NEY pmax pmax
comp=Z,1.0nm,0.9s
RAYN Ar Rayn 48.85 277 *e*P **P 20 40 07.4 -0.5**
comp=Z,3.6nm,1.1s
KLMR Klimovskoe 50.60 327 *e*P **P 20 40 20.4 -0.2**
KLMR AMP 20 40 21.8
comp=Z,14nm,0.7s
KLMR Klimovskoe 50.60 327 *e*P **P 20 40 20.3 -0.3**
KLMR pmax pmax
comp=Z,14nm,0.7s
OBN Obninsk 51.51 319⇑*e*P **P 20 40 27.6 0.0**
OBN *e* 20 42 28.2
OBN *e*SS SS 20 50 20.1 -63
OBN pmax pmax
comp=Z,6.0nm,0.4s
OBN MLR MLR
comp=Z,111nm,19.0s
TMCR Tamitsa 51.90 331 *e*P **P 20 40 33.1 +2.8**
TMCR pmax pmax
comp=Z,15nm,1.2s
ASF Jabal al Asfar 53.68 290 P **P 20 40 43.2 -0.9**
comp=Z,2.1nm,0.6s,baz=20,slow=5.5,SNR=5.4
BILL Bilibino 54.30 25⇑*i*P **P 20 40 48.1 +0.1**
BILL *e* 20 42 51.7
BILL *e*PPP PPP 20 44 05.2
BILL *e*S **S 20 48 23.1 -2.3**
BILL pmax pmax
comp=Z,4.0nm,1.2s
BILL MLR MLR
comp=Z,211nm,19.0s
BR101 Keskin Array S 54.60 300 *e*P **P 20 40 50.3 -0.5**
BRTR Keskin Array B 54.60 300 P **P 20 40 50.3 -0.5**
comp=Z,0.5nm,0.6s,baz=117,slow=6.6,SNR=5.0
AKASG Malin Array Be 56.09 314 P **P 20 41 00.7 -0.4**
comp=Z,0.5nm,0.4s,baz=75,slow=6.4,SNR=8.8
AKBB Malin Array Si 56.09 314 *e*P **P 20 41 00.8 -0.3**
comp=Z,11nm,1.6s
AKBB Malin Array Si 56.09 314 *e*P **P 20 41 00.8 -0.3**
AKBB pmax pmax
comp=Z,11nm,1.6s
VSU Vasula 56.92 323*ce*P **P 20 41 06.6 -0.3**
VSU pmax pmax
comp=Z,93nm,1.7s
SORM Soroca 56.98 311⇓*i*P **P 20 41 06.9 -0.6**
SORM Soroca 56.98 311⇓P **P 20 41 06.9 -0.6**
FIA1 FINESS Array S 57.14 327 *e*P **P 20 41 08.4 0.0**
FIA0 FINESS Array S 57.14 327 *e*P **P 20 41 08.7 +0.3**
FIA0 FINESS Array S 57.14 327 *e*P **P 20 41 08.7 +0.3**
FINES FINESS Array B 57.14 327 P **P 20 41 08.7 +0.3**
comp=Z,9.3nm,0.6s,baz=86,slow=8.3,SNR=68
ARA0 ARCESS Array S 57.49 336 *e*P **P 20 41 10.7 -0.1**
ARA0 *e*PcP **PcP 20 42 02.9 -1.4**
ARCES ARCESS Array B 57.49 336 P **P 20 41 10.7 -0.1**
comp=Z,2.8nm,0.8s,baz=86,slow=7.7,SNR=19
ARCES PcP **PcP 20 42 02.9 -1.4**
comp=Z,2.6nm,0.9s,baz=76,slow=3.8,SNR=4.2
ARCES ARCESS Array B 57.49 336 *e*P **P 20 41 10.7 -0.1**
ARCES *e*PcP **PcP 20 42 03.4 -0.9**
ARE0 ARCESS Array S 57.49 336 *e*P **P 20 41 11.1 +0.3**
comp=Z,125nm,1.9s
VRI Vrincioaia 58.45 308⇑*i*P **P 20 41 16.8 -1.2**
VRI Vrincioaia 58.45 308⇑P **P 20 41 16.8 -1.2**
PLOR Plostina 58.51 308⇓*i*P **P 20 41 18.2 -0.2**
PLOR Plostina 58.51 308⇓P **P 20 41 18.2 -0.2**
WRAB Tennant Creek 59.06 142*ce*P **P 20 41 22.4 0.0**
WRAB pmax pmax
comp=Z,11nm,1.0s
WR1 Warramunga Arr 59.06 142 *e*P **P 20 41 22.3 -0.1**
comp=Z,27nm,0.9s
WRA Warramunga Arr 59.06 142 P **P 20 41 22.3 -0.1**
comp=Z,8.6nm,0.9s,baz=329,slow=7.7,SNR=47
MLR Muntele Rosu 59.06 308 P **P 20 41 23.0 +0.7**
comp=Z,1.6nm,0.9s,baz=108,slow=3.2,SNR=7.6
MLR Muntele Rosu 59.06 308⇑*i*P **P 20 41 23.5 +1.1**
MLR Muntele Rosu 59.06 308 *e*P **P 20 41 22.6 +0.2**
comp=Z,8.9nm,1.0s
MLR Muntele Rosu 59.06 308⇑P **P 20 41 23.5 +1.1**
WB2 Warramunga Arr 59.07 142 *e*P **P 20 41 21.1 -1.4**
BURAR Bucovina Array 59.15 310⇑*i*P **P 20 41 23.3 +0.4**
BURAR Bucovina Array 59.15 310⇑P **P 20 41 23.3 +0.4**
BUR04 Bucovina Ar. S 59.15 310 *e*P **P 20 41 22.9 0.0**
BUR08 Bucovina Ar. S 59.15 311 *e*P **P 20 41 23.2 +0.3**
SUW Suwalki 59.34 318 *e*P **P 20 41 24.1 +0.1**
SUW Suwalki 59.34 318 *e*P **P 20 41 23.9 -0.1**
comp=Z,25nm,0.9s
SUW Suwalki 59.34 318 *e*P **P 20 41 24.1 +0.1**
PMG Port Moresby 59.48 123⇓*e*P **P 20 41 28.2 +2.8**
PMG pmax pmax
comp=Z,61nm,1.0s
VOIR 59.69 308⇑*i*P **P 20 41 27.4 +0.7**
VOIR 59.69 308⇑P **P 20 41 27.4 +0.7**
ARR Arges 59.99 308⇑*i*P **P 20 41 28.9 +0.2**
SPA0 Spitsbergen Ar 60.26 346 *e*P **P 20 41 29.2 -0.8**
SPITS Spitsbergen Ar 60.26 346 P **P 20 41 29.2 -0.8**
comp=Z,10nm,1.1s,baz=64,slow=7.5,SNR=4.7
KWP Kalwaria Pacla 60.39 313 *e*P **P 20 41 31.7 +0.4**
KWP Kalwaria Pacla 60.39 313 *e*P **P 20 41 31.4 +0.1**
comp=Z,241nm,1.3s
KWP Kalwaria Pacla 60.39 313 *e*P **P 20 41 31.7 +0.4**
TRPA Tarpa 60.81 311⇑*i*P **P 20 41 34.2 +0.1**
DRGR 60.99 310⇑*i*P **P 20 41 36.3 +0.8**
DRGR 60.99 310⇑P **P 20 41 36.3 +0.8**
CRVS Cervenica-Dubn 61.34 313 *e*P **P 20 41 39.0 +1.2**
CRVS Cervenica-Dubn 61.34 313 *e*P **P 20 41 39.0 +1.2**
SIRR Siria 61.81 310⇓*i*P **P 20 41 41.9 +0.9**
ASAR Alice Springs 61.90 145 P **P 20 41 41.4 -0.4**
comp=Z,2.2nm,0.9s,baz=326,slow=6.5,SNR=11
AS01 Alice Springs 61.92 145 *e*P **P 20 41 40.7 -1.2**
NIE Niedzica 61.97 313 *e*P **P 20 41 43.2 +1.2**
NIE Niedzica 61.97 313 *e*P **P 20 41 43.2 +1.2**
BZS Buzias 62.00 309⇓*i*P **P 20 41 41.8 -0.5**
BZS Buzias 62.00 309⇓P **P 20 41 41.8 -0.5**
OJC Ojcow 62.10 314 *e*P **P 20 41 42.0 -0.9**
comp=Z,32nm,2.0s
OJC Ojcow 62.10 314 *e*P **P 20 41 42.0 -0.9**
OJC pmax pmax
comp=Z,32nm,2.0s
VYHS Vyhne 63.13 313 *e*P **P 20 41 50.6 +0.8**
VYHS Vyhne 63.13 313 *e*P **P 20 41 50.6 +0.8**
AGG Agios Georgios 63.27 302 *e*P **P 20 41 48.7 -2.2**
comp=Z,271nm,2.0s
AGG Agios Georgios 63.27 302 *e*P **P 20 41 48.7 -2.2**
AGG pmax pmax
comp=Z,271nm,2.0s
HFS Hagfors 63.32 326 P **P 20 41 50.7 0.0**
comp=Z,3.1nm,0.5s,baz=76,slow=6.1,SNR=16
MORC Moravsky Berou 63.62 314 *e*P **P 20 41 53.3 +0.2**
comp=Z,11nm,0.7s
MORC Moravsky Berou 63.62 314 *e*P **P 20 41 53.3 +0.2**
MORC pmax pmax
comp=Z,11nm,0.7s
NWAO Narrogin (SRO) 63.98 164 *e*P **P 20 41 55.1 -0.3**
comp=Z,46nm,1.5s
NWAO Narrogin (SRO) 63.98 164 *e*P **P 20 41 55.1 -0.3**
NWAO pmax pmax
comp=Z,46nm,1.5s
NC405 NORSAR Array S 64.04 327 *e*P **P 20 41 54.4 -1.2**
ITM Ithomi 64.13 300 *e*P **P 20 41 55.8 -0.8**
comp=Z,178nm,1.7s
NC602 NORSAR Array S 64.22 327 *e*P **P 20 41 56.8 +0.1**
NB201 NORSAR Array S 64.26 327 *e*P **P 20 41 56.1 -0.9**
NB2 NORSAR Subarra 64.30 327 P **P 20 41 56.8 -0.5**
comp=Z,3.3nm,0.7s,baz=75,slow=6.5
NB200 NORSAR Array S 64.30 327 *e*P **P 20 41 57.0 -0.3**
NOA NORSAR Array B 64.30 327 P **P 20 41 57.0 -0.3**
comp=Z,2.3nm,0.6s,baz=76,slow=6.6,SNR=13
NOA NORSAR Array B 64.30 327 P **P 20 41 57.0 -0.3**
NOA pmax pmax
comp=Z,3.0nm,0.6s
VRAC Vranov 64.34 314 P **P 20 41 58.7 +0.9**
comp=Z,3.2nm,0.7s,baz=54,slow=9.2,SNR=5.0
NC204 NORSAR Array S 64.45 326 *e*P **P 20 41 57.3 -1.0**
NAO01 NORSAR Array S 64.50 327 *e*P **P 20 41 58.0 -0.6**
TTG Podgorica 64.50 306 *e*P **P 20 41 57.9 -1.0**
comp=Z,152nm,1.9s
TTG Podgorica 64.50 306 *e*P **P 20 41 57.9 -1.0**
TTG pmax pmax
comp=Z,152nm,1.9s
CONA Conrad Observa 65.20 313 *i*P **P 20 42 04.3 +0.8**
comp=Z,4.1nm,0.8s
KONO Kongsberg 65.44 326 *e*P **P 20 42 04.2 -0.5**
comp=Z,30nm,1.7s
KONO Kongsberg 65.44 326 *e*P **P 20 42 04.2 -0.5**
KONO pmax pmax
comp=Z,30nm,1.7s
BRG Berggiesshubel 65.55 316 *e*P **P 20 42 06.3 +0.8**
comp=Z,2.1nm,0.6s
BRG *i* 20 42 09.2
BRG Berggiesshubel 65.55 316 *e*P **P 20 42 06.3 +0.8**
BRG *i* 20 42 09.2
BRG pmax pmax
comp=Z,2.0nm,0.6s
BRG pmax pmax
comp=Z,3.0nm,0.6s
CLL Collm 65.98 317 *e*P **P 20 42 08.0 -0.4**
comp=Z,4.0nm,0.9s
CLL Collm 65.98 317 *e*P **P 20 42 08.0 -0.4**
CLL pmax pmax
comp=Z,4.0nm,0.9s
KHC Kasperske Hory 66.29 314 *e*P **P 20 42 10.2 -0.2**
comp=Z,8.1nm,2.0s
KHC Kasperske Hory 66.29 314 *e*P **P 20 42 10.2 -0.2**
KHC pmax pmax
comp=Z,8.0nm,2.0s
GEC2 GERESS Array S 66.30 314 *e*P **P 20 42 10.1 -0.4**
comp=Z,8.0nm,1.5s
GEC2 GERESS Array S 66.30 314 *e*P **P 20 42 10.1 -0.4**
GEC2 pmax pmax
comp=Z,8.0nm,1.5s
GERES GERESS Array B 66.30 314 P **P 20 42 11.2 +0.7**
comp=Z,1.3nm,0.6s,baz=64,slow=6.1,SNR=7.5
GEA0 GERESS Array S 66.30 314 *e*P **P 20 42 09.8 -0.7**
KMBO Kilima Mbogo 67.08 255 P **P 20 42 16.1 -0.1**
comp=Z,3.3nm,0.7s,baz=51,slow=11,SNR=9.4
KMBO Kilima Mbogo 67.08 255 *e*P **P 20 42 15.8 -0.4**
comp=Z,4.6nm,0.9s
KMBO Kilima Mbogo 67.08 255 *e*P **P 20 42 15.8 -0.4**
KMBO pmax pmax
comp=Z,5.0nm,0.9s
TRI Trieste 67.25 311 *e*P **P 20 42 15.4 -1.1**
comp=Z,113nm,1.8s
TRI Trieste 67.25 311 *e*P **P 20 42 15.4 -1.1**
TRI pmax pmax
comp=Z,113nm,1.8s
ABTA Abfaltersbach 67.73 312 *e*pP pP 20 42 22.7 -0.3
comp=Z,2.7nm,0.8s
WTTA Wattenberg 68.12 313 *i*pP pP 20 42 24.3 -1.2
comp=Z,6.0nm,0.9s
MOTA Moosalm 68.43 313 *e*P **P 20 42 24.1 -0.1**
comp=Z,2.7nm,0.7s
RETA Reutte 68.60 313 *e*pP **P 20 42 26.2 +1.0**
comp=Z,4.4nm,0.9s

FETA	**Feichten**	**68.78**	**313**	*i* P		**P**		**20 42 26.5**	**+0.1**
	comp=Z,3.2nm,0.7s									
BFO	**Black Forest**	**69.83**	**315**	*e*P		**P**		**20 42 31.9**	**-0.8**
	comp=Z,21nm,1.7s									
BFO	**Black Forest**	**69.83**	**315**	*e*P		**P**		**20 42 31.9**	**-0.8**
BFO				pmax	pmax					
	comp=Z,21nm,1.7s									
IM3	**Indian Mountai**	**69.85**	**25**	*e*P		**P**		**20 42 32.2**	**-0.2**
TUE	**Stuetta**	**69.87**	**313**	*e*P		**P**		**20 42 33.9**	**+0.7**
	comp=Z,24nm,1.9s									
TOLK	**Toolik Lake Re**	**70.03**	**21**	*e*P		**P**		**20 42 35.0**	**+1.4**
	comp=Z,18nm,1.8s									
VLC	**Villacollemand**	**70.04**	**310**	*e*P		**P**		**20 42 34.7**	**+0.7**
	comp=Z,16nm,1.1s									
BBOO	**Buckleboo**	**70.57**	**148**	*e*P		**P**		**20 42 36.9**	**-0.3**
	comp=Z,11nm,1.2s									
WLF	**Walferdange**	**70.66**	**317**	*e*P		**P**		**20 42 37.6**	**-0.1**
	comp=Z,13nm,1.0s									
WLF	**Walferdange**	**70.66**	**317**	*e*P		**P**		**20 42 37.6**	**-0.1**
WLF				pmax	pmax					
	comp=Z,13nm,1.0s									
SVW2	**Sparrevohn**	**71.32**	**30**	*e*P		**P**		**20 42 42.1**	**+0.6**
	comp=Z,38nm,1.8s									
MLY	**Manley**	**71.41**	**25**	*e*P		**P**		**20 42 42.1**	**+0.1**
	comp=Z,20nm,1.8s									
CAST	**Castle Rocks**	**71.69**	**27**	*e*P		**P**		**20 42 43.9**	**+0.2**
	comp=Z,22nm,1.8s									
BPAW	**Bear Paw Mtn.**	**71.78**	**26**	*e*P		**P**		**20 42 44.4**	**+0.1**
	comp=Z,3.3nm,0.8s									
PPLA	**Purkeypile**	**71.90**	**27**	*e*P		**P**		**20 42 44.1**	**-1.0**
	comp=Z,54nm,1.9s									
KTH	**Kantishna Hill**	**72.08**	**26**	*e*P		**P**		**20 42 45.6**	**-0.5**
	comp=Z,22nm,1.6s									
BNI	**Bardonecchia**	**72.14**	**312**	*e*P		**P**		**20 42 47.5**	**+0.6**
	comp=Z,34nm,1.9s									
BNI	**Bardonecchia**	**72.14**	**312**	*e*P		**P**		**20 42 47.5**	**+0.6**
BNI				pmax	pmax					
	comp=Z,34nm,1.9s									
MDM	**Murphy Dome**	**72.37**	**25**	*e*P		**P**		**20 42 47.8**	**0.0**
	comp=Z,7.4nm,0.9s									
TRF	**Thorofare Moun**	**72.37**	**26**	*e*P		**P**		**20 42 49.1**	**+1.1**
	comp=Z,34nm,1.9s									
STKA	**Stephens Creek**	**72.51**	**144**	P		**P**		**20 42 48.8**	**-0.1**
	comp=Z,1.6nm,0.5s,baz=321,slow=7.4,SNR=11									
VSL	**Villasalto**	**72.53**	**306**	*e*P		**P**		**20 42 49.4**	**+0.2**
	comp=Z,226nm,2.0s									
SKT	**Skwentna**	**72.62**	**28**	*e*P		**P**		**20 42 49.2**	**-0.1**
	comp=Z,40nm,1.9s									
WRH	**Wood River Hil**	**72.67**	**25**	*e*P		**P**		**20 42 49.0**	**-0.5**
	comp=Z,16nm,1.7s									
CCB	**Clear Creek Bu**	**72.69**	**25**	*e*P		**P**		**20 42 49.6**	**+0.1**
	comp=Z,13nm,1.7s									
MCK	**McKinley**	**72.75**	**26**	*e*P		**P**		**20 42 50.4**	**+0.4**
	comp=Z,21nm,1.7s									
MCK	**McKinley**	**72.75**	**26**	*e*P		**P**		**20 42 50.4**	**+0.4**
MCK				pmax	pmax					
	comp=Z,21nm,1.7s									
RND	**Reindeer**	**72.95**	**26**	*e*P		**P**		**20 42 50.9**	**-0.4**
	comp=Z,35nm,2.0s									
RND	**Reindeer**	**72.95**	**26**	*e*P		**P**		**20 42 50.9**	**-0.4**
RND				pmax	pmax					
	comp=Z,35nm,2.0s									
IL1	**Eielson Array**	**72.95**	**24**	*e*P		**P**		**20 42 50.1**	**-1.1**
ILAR	**Eielson Array**	**72.95**	**24**	P		**P**		**20 42 50.2**	**-1.0**
	comp=Z,2.2nm,1.1s,baz=298,slow=5.1,SNR=10									
ILB	**Eielson Array**	**72.95**	**24**	*e*P		**P**		**20 42 50.8**	**-0.4**
SUA	**Susitna One**	**73.20**	**28**	*e*P		**P**		**20 42 52.7**	**-0.2**
	comp=Z,21nm,1.3s									
GHO	**Glory Hole Cre**	**73.78**	**28**	*e*P		**P**		**20 42 56.1**	**-0.1**
	comp=Z,56nm,2.0s									
PMR	**Palmer**	**73.80**	**28**	*e*P		**P**		**20 42 55.8**	**-0.4**
	comp=Z,55nm,2.0s									
PMR	**Palmer**	**73.80**	**28**	*e*P		**P**		**20 42 55.8**	**-0.4**
PMR				pmax	pmax					
	comp=Z,55nm,2.0s									
RC01	**Rabbit Creek A**	**73.81**	**28**	*e*P		**P**		**20 42 55.9**	**-0.5**
	comp=Z,17nm,1.2s									
SML	**Sawmill**	**74.00**	**27**	*e*P		**P**		**20 42 57.5**	**0.0**
	comp=Z,54nm,1.9s									
SML	**Sawmill**	**74.00**	**27**	*e*P		**P**		**20 42 57.5**	**0.0**
SML				pmax	pmax					
	comp=Z,54nm,1.9s									
BRLK	**Bradley Lake**	**74.01**	**30**	*e*P		**P**		**20 42 56.6**	**-0.9**
	comp=Z,152nm,2.0s									
TULEG	**Thule**	**74.20**	**357**	*e*P		**P**		**20 42 58.4**	**+0.1**
	comp=Z,6.1nm,1.1s									
KDAK	**Kodiak Island**	**74.25**	**32**	*e*P		**P**		**20 42 58.2**	**-0.7**
	comp=Z,379nm,2.0s									
KDAK	**Kodiak Island**	**74.25**	**32**	*e*P		**P**		**20 42 58.2**	**-0.7**
KDAK				pmax	pmax					
	comp=Z,379nm,2.0s									
RIDG	**Independ'e Rid**	**74.27**	**25**	*e*P		**P**		**20 42 58.3**	**-0.7**
	comp=Z,21nm,1.7s									
SCM	**Sheep Creek Mo**	**74.39**	**27**	*e*P		**P**		**20 43 00.1**	**+0.3**
	comp=Z,76nm,2.0s									
SCM	**Sheep Creek Mo**	**74.39**	**27**	*e*P		**P**		**20 43 00.1**	**+0.3**
SCM				pmax	pmax					
	comp=Z,76nm,2.0s									
SCRK	**Sand Creek**	**74.44**	**24**	*e*P		**P**		**20 42 59.5**	**-0.7**
	comp=Z,4.7nm,1.1s									
PAX	**Paxson**	**74.47**	**26**	*e*P		**P**		**20 43 00.3**	**0.0**
	comp=Z,8.5nm,1.6s									
PAX	**Paxson**	**74.47**	**26**	*e*P		**P**		**20 43 00.3**	**0.0**
PAX				pmax	pmax					
	comp=Z,9.0nm,1.6s									
EGAK	**Eagle**	**74.95**	**23**	*e*P		**P**		**20 43 03.4**	**+0.5**
	comp=Z,22nm,2.0s									
INK	**Inuvik**	**74.99**	**18**	P		**P**		**20 43 03.3**	**+0.3**
	comp=Z,4.2nm,1.0s,baz=329,slow=5.1,SNR=9.2									
INK	**Inuvik**	**74.99**	**18**	*e*P		**P**		**20 43 03.2**	**+0.2**
	comp=Z,7.4nm,1.2s									
INK	**Inuvik**	**74.99**	**18**	*e*P		**P**		**20 43 03.2**	**+0.2**
INK				pmax	pmax					
	comp=Z,7.0nm,1.2s									
KLU	**Klutina**	**75.14**	**27**	*e*P		**P**		**20 43 03.6**	**-0.5**
	comp=Z,8.0nm,0.6s									
BMRM	**Bremner River**	**75.96**	**27**	*e*P		**P**		**20 43 08.8**	**0.0**
	comp=Z,12nm,0.8s									
SFJD	**Kangerlussuaq**	**81.48**	**349**	P		**P**		**20 43 38.3**	**-0.7**
	comp=Z,4.3nm,0.6s,baz=90,slow=2.0,SNR=4.0									
YKA	**Yellowknife Ar**	**84.41**	**15**	P		**P**		**20 43 53.8**	**-0.4**
	comp=Z,0.3nm,0.7s,baz=334,slow=4.9,SNR=5.1									
TOA1	**Torodi Ar. Sit**	**90.80**	**285**	*e*P		**P**		**20 44 25.6**	**-0.3**
TORD	**Torodi Ar. Bea**	**90.80**	**285**	P		**P**		**20 44 25.6**	**-0.3**
	comp=Z,0.7nm,1.0s,baz=28,slow=3.4,SNR=2.6									
YBH	**Yreka Blue Hor**	**99.04**	**31**	LR		LR		21 31 34.9		
	comp=Z,367nm,20.0s,baz=104,slow=36									
RUSC	**La Rusia**	**144.41**	**348**	*e*PKPdf		**PKPab**		**20 50 56.4**	**-1.4**

IDC ***14*** *20:35:17.5±0.6,3.˚82N×92.˚54E,h0km,mb4.1/22, mb1 4.3/25,mb1mx4.1/72,mbtmp4.2/25,ML4.2/3,MS3.6/1, Ms1 3.6/1,ms1mx2.9/70,Error ellipse: s-maj=22.6km s-min=11.3km az=46.0*

NEIC ***14*** *20:35:18.9±0.3,3.˚90N×92.˚64E,h10km,mb4.4/23,Error ellipse: s-maj=7.2km s-min=4.2km az=212.0*

ISCJB ***14*** *20:35:20.7±0.3,3.˚86N±0.˚03×92.˚73E±0.˚03,h33km, mb4.4/44,MS3.9/2,Error ellipse: s-maj=5.5km s-min=3.1km az=28.3*

DJA ***14*** *20:35:23.2±1.0,4˚N±3˚×9˚3E±˚,h22km±10km,M4.9/23, mb4.8/23,mB5.5/11,MLv5.0/9,Mw(mB)4.9/11*

ISC 14 20:35:22.2±0.5,3.˚84N±0.˚06×92.˚66E±0.˚05,h35km,n122, σ1s59/128,mb4.4/44,2D,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BSI	**Banda Aceh**	**3.10**	**58**	P		**Pn**	**20 36 08.4**	**-0.2**
BSI				S		**Sn**	**20 36 42.4**	**-2.1**
MLSI	**Meulaboh, Aceh**	**3.75**	**83**	P		**Pn**	**20 36 18.0**	**+0.3**
MLSI				S		**Sn**	**20 36 59.1**	**-1.6**
LHMI	**Lhok Sumawe**	**4.49**	**72**	P		**Pn**	**20 36 29.3**	**+1.6**
LHMI				S		**Sn**	**20 37 17.8**	**-1.0**
LHMI	**Lhok Sumawe**	**4.49**	**72**	*e*Pn		**Pn**	**20 36 25.6**	**-2.1**
LHMI				*e*Sn		**Sn**	**20 37 17.2**	**-1.5**
TPTI		**4.54**	**97**	P		**Pn**	**20 36 28.5**	**0.0**
TPTI				S		**Sn**	**20 37 15.9**	**-4.2**
GSI	**Gunungsitoli**	**5.51**	**117**	P		**Pn**	**20 36 41.6**	**-0.3**
GSI	**Gunungsitoli**	**5.51**	**117**	*e*Pn		**Pn**	**20 36 41.0**	**-0.9**
GSI				*e*Sn		**Sn**	**20 37 38.1**	**-6.0**
TSI	**Tuntungan**	**5.90**	**93**	P		**Pn**	**20 36 49.0**	**+1.9**
PSI	**Prapat**	**6.33**	**99**	Pn		**Pn**	**20 36 54.8**	**+1.6**
	15nm,0.3s,baz=300,slow=9.9,SNR=54							
PSI				Sn		**Sn**	**20 38 03.6**	**-0.9**
	5.1nm,0.3s,baz=280,slow=19,SNR=3.4							
PSI	**Prapat**	**6.33**	**99**	*e*Pn		**Pn**	**20 36 54.5**	**+1.2**
PSI				*e*Sn		**Sn**	**20 38 00.9**	**-3.6**
PKDT	**Phuket**	**6.93**	**54**	P		**Pn**	**20 37 00.8**	**-0.5**
	62nm,0.7s,794nm0.3nm							
MNSI	**Mandailing Nat**	**7.54**	**113**	P		**Pn**	**20 37 09.8**	**+0.1**
SURT	**Suratani**	**7.94**	**50**	P		**Pn**	**20 37 16.5**	**+1.4**
	18nm,0.8s,260nm0.1nm							
TRTT	**Trang**	**8.04**	**60**	P		**Pn**	**20 37 16.3**	**-0.3**
	23nm,0.8s,276nm0.1nm							
SISI	**Saibi**	**8.22**	**128**	P		**Pn**	**20 37 18.6**	**-0.4**
IPM	**Ipoh**	**8.36**	**85**	*e*Pn		**Pn**	**20 37 21.4**	**+0.4**
BKNI	**Bangkinang**	**9.07**	**112**	P		Pn	20 37 43.3	+13
PDSI	**Padang**	**9.11**	**121**	P		**Pn**	**20 37 29.3**	**-2.0**
SDSI	**Sungai Dareh**	**9.96**	**118**	P		**Pn**	**20 37 46.1**	**+3.2**
MYKOM	**Kota Tinggi**	**11.36**	**100**	*e*Pn		**Pn**	**20 38 02.6**	**+0.6**
MASI	**Maura Aman, Be**	**11.82**	**126**	P		**Pn**	**20 38 08.5**	**+0.1**
SRDT	**SRDT**	**12.23**	**31**	P		**Pn**	**20 38 13.9**	**-0.1**
	12nm,1.0s							
PALK	**Pallekele**	**12.38**	**287**	Pn		**Pn**	**20 38 12.9**	**-3.2**
	2.2nm,0.3s,baz=116,slow=14,SNR=29							
PALK				Sn		Sn	20 40 18.4	-15
	2.0nm,0.3s,baz=117,slow=5.3,SNR=6.3							
PALK	**Pallekele**	**12.38**	**287**	*e*Pn		**Pn**	**20 38 13.3**	**-2.9**
PALK				*e*Sn		Sn	20 40 16.0	-17
CHBT	**CHBT**	**13.03**	**47**	P		**P**	**20 38 30.8**	**-4.0**
	398nm,1.0s,78µm							
MDSI	**Maura Dua**	**14.17**	**126**	P		**Pn**	**20 38 41.1**	**+0.6**
	20nm,1.1s							
LWLI	**Liwa**	**14.38**	**128**	P		**Pn**	**20 38 44.0**	**+0.4**
KASI	**Kota Agung**	**15.04**	**128**	P		**Pn**	**20 38 50.1**	**-2.1**
PBKT	**Sadao Pong**	**15.06**	**32**	P		**Pn**	**20 38 53.8**	**+1.4**
	11nm,1.3s							
PBKT	**Sadao Pong**	**15.06**	**32**	*e*Pn		**Pn**	**20 38 50.9**	**-1.6**
	9.9nm,1.0s							
CM01	**Chiang Mai Arr**	**15.75**	**23**	*e*Pn		**Pn**	**20 38 58.4**	**-3.1**
CM31	**Chiang Mai Arr**	**15.78**	**22**	*e*Pn		**Pn**	**20 38 60.0**	**-1.9**
CMAR	**Chiang Mai Arr**	**15.78**	**22**	Pn		**Pn**	**20 39 00.0**	**-1.9**
	0.1nm,0.3s,baz=216,slow=13,SNR=21							
CHTO	**Chiang Mai**	**16.10**	**22**	*e*Pn		**Pn**	**20 39 04.5**	**-1.5**
	7.1nm,0.8s							
SKNT	**Sakolnakorn**	**17.14**	**40**	P		**P**	**20 39 21.7**	**+1.2**
	6.5nm,0.8s							
KSM	**Kuching**	**17.78**	**97**	*e*Pn		**Pn**	**20 39 25.1**	**-2.0**
	13nm,0.8s							
STKI	**Sintang**	**19.17**	**101**	P		**Pn**	**20 39 45.1**	**+1.1**
HYB	**Hyderabad**	**19.33**	**315**	*i* P		**P**	**20 39 45.0**	**+0.3**
HYB				*e*S		**S**	**20 43 18.0**	**-3.7**
SBUM	**Sibu**	**19.57**	**93**	*e*P		**P**	**20 39 46.6**	**-0.8**
	12nm,0.8s							
MTKI	**Muara Teweh, K**	**22.72**	**102**	P		**P**	**20 40 23.5**	**+2.2**
KMI	**Kunming**	**23.28**	**24**	P		**P**	**20 40 28.5**	**+1.4**
KMI				pmax	pmax			
	comp=Z,13nm,0.5s							
ODAN	**Odare**	**23.44**	**348**	*e*P		**P**	**20 40 29.8**	**+1.1**
RAMN	**Ramite**	**23.70**	**346**	*e*P		**P**	**20 40 32.3**	**+1.0**
	comp=Z,27nm,0.7s							
JIRN	**Jiri**	**24.48**	**346**	*e*P		**P**	**20 40 39.0**	**+0.4**
PKIN	**Phulchoki**	**24.61**	**344**	*e*P		**P**	**20 40 40.3**	**+0.7**
	comp=Z,55nm,1.4s							
DMN	**Daman**	**24.72**	**344**	*e*P		**P**	**20 40 41.8**	**+1.2**
	comp=Z,25nm,0.9s							
GUN	**Gumba**	**24.80**	**346**	*e*P		**P**	**20 40 41.9**	**+0.5**
	comp=Z,51nm,0.8s							
KKN	**Kakani**	**24.84**	**344**	*e*P		**P**	**20 40 42.1**	**+0.4**
	comp=Z,49nm,1.0s							
GKN	**Gorkha**	**25.22**	**343**	*e*P		**P**	**20 40 45.6**	**+0.6**
	comp=Z,48nm,1.0s							
KOLN	**Koldanda**	**25.32**	**341**	*e*P		**P**	**20 40 46.9**	**+0.9**
	comp=Z,30nm,0.8s							
LSA	**Lhasa**	**25.76**	**357**	*e*P		**P**	**20 40 50.6**	**+0.4**
	comp=Z,10nm,1.0s							
MYLDM	**Lahad Datu**	**25.79**	**86**	*e*P		**P**	**20 40 52.0**	**+1.8**
	comp=Z,29nm,1.0s							
PYUN	**Piuthan**	**25.83**	**340**	*e*P		**P**	**20 40 51.4**	**+0.8**
	comp=Z,30nm,0.8s							
MPSI	**Mapaga**	**27.43**	**97**	P		**P**	**20 41 06.3**	**+1.3**
WHN	**Wuhan**	**33.54**	**35**	||P	P	20 42 08.3	+10
XAN	**Xi'an**	**33.65**	**25**	P		**P**	**20 41 56.8**	**-2.9**
XAN				sP		pP	20 42 07.3	-2.6
XAN				pmax	pmax			
	comp=Z,11nm,0.8s							
XAN				pmax	pmax			
	comp=Z,29nm,2.5s							
LZH	**Lanzhou**	**33.71**	**16**	*e*P		**P**	**20 42 04.3**	**+3.9**
LZH				pP		pP	20 42 11.3	+0.8
LZH				sP		sP	20 42 14.3	-0.4
LZH				PP		**PnPn**	**20 43 15.0**	**+1.9**
LZH				pmax	pmax			
	comp=Z,19nm,1.0s							
LZH				pmax	pmax			
	comp=Z,220nm,5.7s							
LZH				LR		LR		
	comp=N,280nm,13.5s							
LZH				LR		LR		
	comp=E,450nm,17.8s							
LZH				LR		LR		
	comp=Z,340nm,18.5s							
NIL	**Nilore**	**34.75**	**331**	*e*P		**P**	**20 42 09.2**	**-0.1**
	comp=Z,17nm,0.8s							
GTA	**Gaotai**	**36.00**	**9**	||P	**P**	**20 42 21.3**	**+1.2**
GTA				pP		pP	20 42 28.5	-1.7
GTA				sP		sP	20 42 31.8	-2.7
GTA				pmax	pmax			
	comp=Z,11nm,1.1s							
NJ2	**Nanjing**	**37.31**	**38**	*e*P		**P**	**20 42 32.3**	**+1.2**
NJ2				pmax	pmax			
	comp=Z,16nm,0.6s							
FITZ	**Fitzroy Crossi**	**39.14**	**125**	P		**P**	**20 42 47.0**	**+0.3**
	comp=Z,3.7nm,0.7s,baz=285,slow=7.2,SNR=9.7							
FITZ	**Fitzroy Crossi**	**39.14**	**125**	*e*P		**P**	**20 42 46.6**	**-0.2**
	comp=Z,3.8nm,0.8s							
WMQ	**Urumqi**	**40.06**	**354**	P		**P**	**20 42 55.1**	**+0.9**
WMQ				pmax	pmax			
	comp=Z,6.0nm,0.7s							
NRN	**Naryn**	**40.31**	**341**	*e*P		**P**	**20 42 56.9**	**+0.3**
	comp=Z,6.2nm,1.3s							
PRZ	**Przheval'sk**	**40.53**	**344**	*e*P		**P**	**20 42 59.8**	**+1.5**
	comp=Z,10nm,1.0s							
HHC	**Hu-ho-hao-te**	**40.59**	**22**	*e*P		**P**	**20 43 00.8**	**+2.2**
HHC				S		**S**	**20 49 03.4**	**-2.5**
HHC				pmax	pmax			
	comp=Z,15nm,1.0s							
HHC				pmax	pmax			
	comp=Z,48nm,6.1s							
HHC				LR		LR		
	comp=N,260nm,14.9s							
HHC				LR		LR		
	comp=E,330nm,15.9s							
HHC				LR		LR		
	comp=Z,130nm,16.5s							
AAK	**Ala-Archa**	**41.89**	**340**	*e*P		**P**	**20 43 09.4**	**0.0**
	comp=Z,6.8nm,1.3s							
NWAO	**Narrogin (SRO)**	**43.35**	**149**	P		**P**	**20 43 22.2**	**+1.1**
	comp=Z,9.5nm,1.2s,baz=230,slow=7.9,SNR=3.1							
H01W3	**Cape Leeuwin H**	**43.49**	**154**	T		T	21 30 29.1	
	baz=331,slow=76,SNR=5.4							
H01W2	**Cape Leeuwin H**	**43.50**	**154**	T		T	21 30 29.7	
	baz=331,slow=76,SNR=6.8							
H01W1	**Cape Leeuwin H**	**43.50**	**154**	T		T	21 30 26.8	
	baz=331,slow=76,SNR=7.1							
MK01	**Makanchi Array**	**43.70**	**350**	*e*P		**P**	**20 43 23.5**	**-0.4**
MK31	**Makanchi Array**	**43.73**	**350**	*e*P		**P**	**20 43 24.2**	**+0.2**
MK32	**Makanchi Array**	**43.73**	**350**	*e*P		**P**	**20 43 24.4**	**+0.4**
MKAR	**Makanchi Array**	**43.73**	**350**	P		**P**	**20 43 24.4**	**+0.4**
	comp=Z,2.8nm,0.7s,baz=166,slow=8.7,SNR=34							
MKAR	**Makanchi Array**	**43.73**	**350**	*e*P		**P**	**20 43 23.9**	**-0.1**
	comp=Z,23nm,0.8s							
KK31	**Karatay Array**	**43.77**	**336**	*e*P		**P**	**20 43 24.4**	**-0.1**
KKAR	**Karatay Array**	**43.77**	**336**	*e*P		**P**	**20 43 23.9**	**-0.5**
MAKZ	**Makanchi**	**43.80**	**349**	*e*P		**P**	**20 43 24.6**	**0.0**
	comp=Z,2.7nm,1.0s							
SONA0	**Songino Array**	**45.40**	**13**	*e*P		**P**	**20 43 38.0**	**+0.5**
SONM	**Songino Array**	**45.40**	**13**	P		**P**	**20 43 38.0**	**+0.5**
	comp=Z,2.2nm,0.7s,baz=194,slow=8.4,SNR=14							
SONA1	**Songino Array**	**45.41**	**13**	*e*P		**P**	**20 43 37.9**	**+0.2**
GEYT	**Alibeck**	**46.33**	**322**	P		**P**	**20 43 45.5**	**+0.7**
	comp=Z,3.3nm,0.8s,baz=148,slow=8.7,SNR=11							
GYA0B	**ALIBECK ARRAY**	**46.33**	**322**	*e*P		**P**	**20 43 45.1**	**+0.3**
	comp=Z,6.5nm,0.9s							
KSAR	**Wonju Array Be**	**46.45**	**39**	P		**P**	**20 43 46.8**	**+1.0**
KSRS	**Korea Array**	**46.48**	**39**	P		**P**	**20 43 46.8**	**+0.8**
	comp=Z,1.1nm,0.9s,baz=232,slow=6.0,SNR=4.4							
KSRS				LR		LR	21 03 56.3	
	comp=Z,66nm,18.5s,baz=50,slow=37							
WRA	**Warramunga Arr**	**47.27**	**122**	P		**P**	**20 43 53.6**	**+1.1**
	comp=Z,4.6nm,0.8s,baz=300,slow=8.9,SNR=13							
WR1	**Warramunga Arr**	**47.27**	**122**	*e*P		**P**	**20 43 53.6**	**+1.1**
	comp=Z,32nm,0.8s							
KURBB	**Kurchatov Arra**	**48.12**	**348**	P		**P**	**20 43 59.0**	**+0.4**
	comp=Z,2.2nm,0.8s,baz=171,slow=7.2,SNR=18							
KURK	**Kurchatov**	**48.19**	**348**	*e*P		**P**	**20 43 59.0**	**-0.1**
TLY	**Talaya**	**48.56**	**9**	P		**P**	**20 44 03.8**	**+1.9**
	comp=Z,3.2nm,0.8s,baz=259,slow=4.5,SNR=8.1							
TLY	**Talaya**	**48.56**	**9**	*e*P		**P**	**20 44 02.3**	**+0.3**
	comp=Z,3.9nm,0.9s							
ASAR	**Alice Springs**	**48.59**	**126**	P		**P**	**20 44 03.9**	**+1.1**
	comp=Z,1.9nm,0.9s,baz=297,slow=7.5,SNR=12							
AS31	**Alice Springs**	**48.59**	**126**	*e*P		**P**	**20 44 03.1**	**+0.4**
	comp=Z,1.4nm,1.2s							
AS01	**Alice Springs**	**48.63**	**126**	*e*P		**P**	**20 44 03.3**	**+0.3**
RAYN	**Ar Rayn**	**49.53**	**298**	*e*P		**P**	**20 44 09.1**	**-0.8**
	comp=Z,5.1nm,0.9s							
ZAA0	**Zalesovo Array**	**50.37**	**354**	*e*P		**P**	**20 44 15.8**	**+0.1**
	comp=Z,8.2nm,1.1s							
ZALV	**Zalesovo Beam**	**50.37**	**354**	P		**P**	**20 44 16.5**	**+0.9**
	comp=Z,3.9nm,0.5s,baz=179,slow=6.7,SNR=23							
ZALV	**Zalesovo Beam**	**50.37**	**354**	*e*P		**P**	**20 44 15.7**	**0.0**
ZAA1	**Zalesovo Array**	**50.37**	**354**	*e*P		**P**	**20 44 16.5**	**+0.8**
BVAR	**Borovoye Array**	**52.36**	**343**	P		**P**	**20 44 30.5**	**-0.1**
	comp=Z,1.3nm,0.8s,baz=147,slow=8.2,SNR=6.5							
ABKAR	**Akbulak array**	**53.11**	**334**	*e*P		**P**	**20 44 36.0**	**-0.3**
STKA	**Stephens Creek**	**58.48**	**131**	P		**P**	**20 45 16.9**	**+1.8**
	comp=Z,8.6nm,0.7s,baz=316,slow=6.0,SNR=32							
STKA	**Stephens Creek**	**58.48**	**131**	*e*P		**P**	**20 45 16.4**	**+1.3**
	comp=Z,1.9nm,0.7s							
KBZ	**Khabaz**	**59.14**	**320**	P		**P**	**20 45 20.1**	**+0.7**
	comp=Z,2.0nm,1.1s,baz=148,slow=7.9,SNR=2.8							
ASF	**Jabal al Asfar**	**59.25**	**305**	P		**P**	**20 45 21.0**	**+0.4**
	comp=Z,0.6nm,0.3s,baz=167,slow=7.2,SNR=2.6							
MMAI	**Mount Meron Ar**	**60.70**	**306**	P		**P**	**20 45 30.6**	**+0.2**
	comp=Z,1.6nm,0.9s,baz=105,slow=11,SNR=3.8							
BR101	**Keskin Array S**	**64.00**	**313**	*e*P		**P**	**20 45 52.9**	**+0.4**
BRTR	**Keskin Array B**	**64.00**	**313**	P		**P**	**20 45 52.9**	**+0.4**
	comp=Z,0.9nm,0.8s,baz=126,slow=5.7,SNR=6.3							
BR231	**Keskin MP Arra**	**64.67**	**313**	*e*P		**P**	**20 45 53.3**	**-3.5**
AKASG	**Malin Array Be**	**70.43**	**323**	P		**P**	**20 46 31.4**	**-1.4**
	comp=Z,0.1nm,0.2s,baz=82,slow=5.2,SNR=4.8							
AKBB	**Malin Array Si**	**70.43**	**323**	*e*P		**P**	**20 46 31.0**	**-1.9**
	comp=Z,6.3nm,1.3s							
MLR	**Muntele Rosu**	**71.06**	**317**	P		**P**	**20 46 37.1**	**+0.1**
	comp=Z,0.7nm,0.9s,baz=180,slow=20,SNR=3.5							
TIXI	**Tiksi**	**71.45**	**11**	*e*P		**P**	**20 46 38.3**	**-0.4**
	comp=Z,10nm,0.8s							
SEY	**Seymchan**	**73.19**	**24**	P		**P**	**20 46 50.4**	**+1.2**
	comp=Z,0.7nm,0.6s,baz=252,slow=9.6,SNR=5.0							
GEA0	**GERESS Array S**	**79.86**	**319**	*e*P		**P**	**20 47 28.2**	**+0.8**
GEC2	**GERESS Array S**	**79.86**	**319**	*e*P		**P**	**20 47 27.6**	**+0.2**
	comp=Z,6.3nm,1.0s							
GERES	**GERESS Array B**	**79.86**	**319**	P		**P**	**20 47 28.4**	**+1.0**
	comp=Z,2.1nm,0.8s,baz=99,slow=8.5,SNR=7.7							
KHC	**

KURBB	**Kurchatov Arra**	**46.11**	**308**	P		**P**	**20 49 51.9**	**+0.2**
	1.7nm,0.6s,baz=86,slow=8.2,SNR=11							
SPU	**Mount Spurr**	**47.47**	**37**	*eS*		**S**	**20 56 55.2**	**-0.8**
ILAR	**Eielson Array**	**49.74**	**32**	P		**P**	**20 50 22.1**	**+2.5**
	1.0nm,0.8s,baz=272,slow=6.2,SNR=9.5							
ILB	**Eielson Array**	**49.74**	**32**	*eP*		**P**	**20 50 22.3**	**+2.7**
KLU	**Klutina**	**50.41**	**36**	*eS*		**S**	**20 57 34.0**	**-3.4**
BVAR	**Borovoye Array**	**50.70**	**312**	P		**P**	**20 50 27.4**	**+0.4**
	0.5nm,0.7s,baz=79,slow=7.5,SNR=3.3							
RAGM	**Ragged Mountai**	**51.14**	**38**	*eS*		**S**	**20 57 47.0**	**-0.5**
ARU	**Arti**	**56.51**	**319**	P		**P**	**20 51 09.8**	**+0.3**
	1.5nm,0.4s,baz=41,slow=2.7,SNR=6.2							
ARU	**Arti**	**56.51**	**319**	*eP*		**P**	**20 51 09.5**	**-0.1**
	3.0nm,0.7s							
WB2	**Warramunga Arr**	**56.80**	**188**	*eP*		**P**	**20 51 11.7**	**-0.2**
WR1	**Warramunga Arr**	**56.80**	**188**	*eP*		**P**	**20 51 12.2**	**+0.2**
	27nm,0.8s							
WRA	**Warramunga Arr**	**56.80**	**188**	P		**P**	**20 51 12.2**	**+0.2**
	1.4nm,0.6s,baz=5.5,slow=7.3,SNR=19							
ABKAR	**Akbulak array**	**58.06**	**310**	*eP*		**P**	**20 51 19.4**	**-1.1**
AS31	**Alice Springs**	**60.53**	**188**	*eP*		**P**	**20 51 38.1**	**+0.2**
	3.0nm,1.6s							
ASAR	**Alice Springs**	**60.53**	**188**	P		**P**	**20 51 38.6**	**+0.8**
	1.1nm,0.8s,baz=13,slow=6.8,SNR=10							
GEYT	**Alibeck**	**63.90**	**299**	P		**P**	**20 52 01.6**	**+1.0**
	0.5nm,0.5s,baz=342,slow=3.8,SNR=3.9							
YKA	**Yellowknife Ar**	**64.06**	**30**	P		**P**	**20 52 03.0**	**+1.9**
	0.1nm,0.7s,baz=298,slow=6.6,SNR=4.4							
YKA	**Yellowknife Ar**	**64.06**	**7**	P		**P**	**20 52 03.0**	**+1.9**
FIA0	**FINESS Array S**	**69.01**	**332**	*eP*		**P**	**20 52 32.2**	**-0.5**
FINES	**FINESS Array B**	**69.01**	**332**	P		**P**	**20 52 32.2**	**-0.5**
	4.0nm,0.9s,baz=58,slow=3.4,SNR=3.8							
KBZ	**Khabaz**	**71.02**	**311**	P		**P**	**20 52 44.1**	**-1.3**
	1.5nm,0.8s,baz=91,slow=5.5,SNR=4.5							
BEKR	**Beckworth**	**73.06**	**53**	*eP*		**P**	**20 52 57.5**	**-0.5**
	24nm,0.7s							
LRM	**Limekiln Ridge**	**74.37**	**44**	*eP*		**P**	**20 53 07.4**	**+1.7**
NB2	**NORSAR Subarra**	**74.40**	**337**	P		**P**	**20 53 06.2**	**+0.9**
	comp=Z,2.5nm,0.9s,baz=37,slow=5.9							
NB200	**NORSAR Array S**	**74.40**	**337**	*eP*		**P**	**20 53 06.0**	**+0.8**
NOA	**NORSAR Array B**	**74.40**	**337**	P		**P**	**20 53 06.0**	**+0.8**
	comp=Z,1.2nm,0.8s,baz=21,slow=2.5,SNR=4.5							
AKASG	**Malin Array Be**	**74.46**	**322**	P		**P**	**20 53 05.8**	**+0.1**
	comp=Z,0.6nm,0.4s,baz=46,slow=6.0,SNR=7.9							
AKBB	**Malin Array Si**	**74.46**	**322**	*eP*		**P**	**20 53 05.1**	**-0.6**
	comp=Z,13nm,1.8s							
PD31	**Pinedale Array**	**77.89**	**45**	*eP*		**P**	**20 53 26.8**	**+1.1**
PDAR	**Pinedale Array**	**77.89**	**45**	P		**P**	**20 53 27.9**	**+2.2**
	comp=Z,0.3nm,0.6s,baz=273,slow=3.3,SNR=4.0							
LPAZ	**La Paz**	**146.88**	**60**	PKPbc		**PKPab**	**21 01 13.2**	**+0.7**
	comp=Z,1.7nm,0.6s,baz=28,slow=13,SNR=7.4							
LPAZ	**La Paz**	**146.88**	**60**	*e*PKPbc		**PKPab**	**21 01 12.9**	**+0.4**
SIV	**San Ignacio**	**151.29**	**50**	PKPbc		**PKPbc**	**21 01 23.3**	**+1.5**
	comp=Z,1.4nm,0.8s,baz=297,slow=4.5,SNR=7.0							

MAN 14 20:43:51,9.99N×123.23E,h1km,mb4.2,ML3.0,MS2.7, 3C-2D,Negros

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SNPH	**Sibulan**	**0.64**	**180**	*i*P	Pg	20 44 04.0	+0.8
SNPH				*i*S	Sg	20 44 12.9	+1.3
LLP	**Lapu-Lapu**	**0.79**	**65**	*e*P	Pg	20 44 05.3	-0.9
LLP				*e*S	Sb	20 44 19.2	+0.3
GUIM	**Jordan**	**0.90**	**315**	*e*P	Pg	20 44 08.1	-0.2
GUIM				*e*S	Sb	20 44 20.9	-1.0
DCPH	**Dipolog City**	**1.40**	**175**	*e*P	Pn	20 44 15.7	-2.0
DCPH				*e*S	Sg	20 44 34.6	-1.4
JAP	**San Jose, Anti**	**1.48**	**301**	*e*P	Pg	20 44 20.0	+0.6
MSLP	**Maasin**	**1.61**	**85**	*e*P	Pb	20 44 21.2	-0.3
MSLP				*e*S	Sg	20 44 43.8	+1.1
RCP	**Roxas**	**1.64**	**343**	*e*P	Pb	20 44 22.1	+0.1
RCP				*e*S	Sg	20 44 47.0	+3.3
OCLP	**Ormoc**	**1.72**	**52**	*e*P	Pb	20 44 23.1	-0.3
IPIL	**Ipil**	**2.28**	**197**	*e*P	Pn	20 44 29.9	+0.2
IPIL				*e*S	Sb	20 45 01.6	-0.1

MEX 14 20:46:01.2±0.3,16.30N×98.04W,h19km±6km,MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.12**	**316**	*i*P	Pg	20 46 04.5	-0.9
PNIG				*e*S	Sg	20 46 07.0	-1.2
TLIG	**Tlapa**	**1.35**	**338**	*e*P	Pn	20 46 24.4	-0.7
TLIG				*e*S	Sn	20 46 38.2	-4.5
VHO	**Vista Hermosa**	**1.47**	**58**	*e*P	Pn	20 46 23.6	-3.2
VHO				*e*S	Sn	20 46 41.1	-4.4
PLIG	**Platanillo**	**2.51**	**326**	*e*P	Pn	20 46 42.9	+1.9
PLIG				*e*S	Sn	20 47 07.4	-3.7

CSEM 14 20:47:32.7±0.3,38.92N×43.59E,h18km±2km, ML2.5, Error ellipse: s-maj=7.6km s-min=4.8km az=120.0
DDA 14 20:47:32.6,38.90N×43.57E,h21km, Ml2.5
ATA 14 20:47:32.1±1.4,38.87N×43.49E,h38km±11km,ML2.6, MW2.8
ISK 14 20:47:32.1,38.90N×43.58E,h20km, ML2.3/3
ISCJB 14 20:47:33.1±0.6,38.89N±0.03×43.62E±0.05,h23km±5km, Error ellipse: s-maj=7.2km s-min=4.7km az=24.6

ISC 14 20:47:33.1±0.8,38.90N±0.02×43.58E±0.03,h16km±3km, **n30,σ0°83/49,Turkey**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VMUR	**Van-Muradiye**	**0.09**	**358**	*i*P	**Pb**	**20 47 36.3**	**-0.3**
VMUR				*i*S	**Sb**	**20 47 39.7**	**+0.8**
VMUR	**Van-Muradiye**	**0.09**	**358**	P	**Pb**	**20 47 36.3**	**-0.3**
VMUR				S	**Sb**	**20 47 39.7**	**+0.8**
VANB	**Van**	**0.34**	**205**	PG	**Pb**	**20 47 41.2**	**+0.4**
VANB				SG	**Sb**	**20 47 47.7**	**+1.7**
VANB	**Van**	**0.34**	**205**	*e*Pg	**Pb**	**20 47 41.2**	**+0.4**
VANB				*e*Sg	**Sb**	**20 47 47.7**	**+1.7**
CLDR	**Caldiran**	**0.36**	**48**	PG	**Pg**	**20 47 39.9**	**-0.7**
CLDR				SG	**Sg**	**20 47 46.1**	**+0.4**
CLDR	**Caldiran**	**0.36**	**48**	*i*P	**Pg**	**20 47 39.8**	**-0.7**
CLDR				*i*S	**Sb**	**20 47 47.1**	**+0.4**
CLDR	**Caldiran**	**0.36**	**48**	*e*Pg	**Pg**	**20 47 39.9**	**-0.7**
CLDR				*e*Sg	**Sg**	**20 47 46.1**	**+0.4**
CLDR				S	**Sb**	**20 47 47.1**	**+0.4**
TVAN	**Van**	**0.40**	**200**	*i*P	**Pg**	**20 47 40.5**	**-0.7**
TVAN				*i*S	**Sb**	**20 47 47.9**	**+0.2**
TVAN	**Van**	**0.40**	**200**	P	**Pg**	**20 47 40.5**	**-0.7**
TVAN				S	**Sb**	**20 47 47.9**	**+0.2**
DYDN	**Diyadin**	**0.65**	**8**	*e*P	**Pg**	**20 47 46.3**	**+0.5**
DYDN				IAML		20 47 57.8	
	comp=Z,14nm,0.2s						
ADCV	**BITLIS_Adilcev**	**0.67**	**262**	*i*P	**Pg**	**20 47 45.6**	**-0.7**
ADCV				*i*S	**Sg**	**20 47 56.0**	**+0.8**
ADCV	**BITLIS_Adilcev**	**0.67**	**262**	P	**Pg**	**20 47 45.6**	**-0.7**
ADCV				S	**Sg**	**20 47 56.0**	**+0.8**
GEVA	**Gevas**	**0.71**	**215**	*e*P	**Pg**	**20 47 45.8**	**-1.3**
TUTA	**Tutak**	**0.78**	**310**	*e*P	**Pb**	**20 47 47.0**	**-1.3**
TUTA				*e*S	**Sb**	**20 47 58.9**	**+0.2**
TUTA				IAML		20 48 01.6	
	comp=Z,34nm,0.2s						
TUTA	**Tutak**	**0.78**	**310**	*i*P	**Pb**	**20 47 47.3**	**-1.0**
TUTA				*i*S	**Sb**	**20 47 58.5**	**-0.2**
TUTA	**Tutak**	**0.78**	**310**	P	**Pb**	**20 47 47.3**	**-1.0**
TUTA				S	**Sb**	**20 47 58.5**	**-0.2**
AGRB	**Hanur-Agry**	**0.81**	**326**	PG	**Pb**	**20 47 48.5**	**-0.4**
AGRB				SG	**Sb**	**20 48 00.2**	**+0.5**
AGRB	**Hanur-Agry**	**0.81**	**326**	*e*Pg	**Pb**	**20 47 48.5**	**-0.4**
AGRB				*e*Sg	**Sb**	**20 48 00.2**	**+0.5**
IGDI	**IGDIR**	**1.04**	**22**	*e*P	**Pb**	**20 47 53.6**	**+0.8**
IGDI				IAML		20 48 14.6	
	comp=Z,3.8nm,0.4s						
TASB	**TASBURUN-IGDIR**	**1.20**	**25**	PN	**Pn**	**20 47 54.2**	**-1.0**
TASB	**TASBURUN-IGDIR**	**1.20**	**25**	*e*Pn	**Pn**	**20 47 54.2**	**-1.0**
EKAR	**Karacoban**	**1.23**	**287**	*e*P	**Pn**	**20 47 55.4**	**-0.4**
GURO	**Guroymak-BITLI**	**1.26**	**254**	PN	**Pn**	**20 47 55.3**	**-0.8**
GURO	**Guroymak-BITLI**	**1.26**	**254**	*e*Pn	**Pn**	**20 47 55.3**	**-0.8**
EATA	**Eleskirt**	**1.27**	**319**	*e*P	**Pn**	**20 47 56.6**	**0.0**
EATA				*e*S	**Sg**	**20 48 15.4**	**+1.0**
EATA	**Eleskirt**	**1.27**	**319**	*i*P	**Pn**	**20 47 57.5**	**+1.0**
EATA				*i*S	**Sg**	**20 48 16.3**	**+1.9**
EATA	**Eleskirt**	**1.27**	**319**	P	**Pn**	**20 47 57.5**	**+1.0**
DIGO	**Kars**	**1.52**	**354**	*e*P	**Pn**	**20 47 59.3**	**-0.5**
HOMI	**Horasan**	**1.73**	**312**	*e*P	**Pn**	**20 48 02.0**	**-0.6**
ERZM	**Erzurum**	**1.98**	**301**	*e*P	**Pn**	**20 48 06.5**	**+0.3**

IDC 14 20:50:48.0±0.7,34.10N×79.67E,h0km,mb3.8/17, mb1 3.9/20,mb1mx3.7/69,mbtmp3.8/20,ML3.4/3,Error ellipse: s-maj=23.2km s-min=13.7km az=51.0
ISCJB 14 20:50:51.8±0.2,34.28N±0.03×79.80E±0.04,h35km, mb4.0/26,Error ellipse: s-maj=5.9km s-min=3.0km az=150.0
BJI 14 20:50:51.4,34.09N×79.80E,h30km,mb4.1/14,mB4.5/8, ML3.6/6,Ms3.6/4,Ms7 3.4/4
NEIC 14 20:50:52.7±1.9,34.19N×79.77E,h30km±14km,mb4.0/12, Error ellipse: s-maj=7.8km s-min=5.4km az=217.0

ISC 14 20:50:53.7±0.5,34.24N±0.06×79.77E±0.05,h35km,**n88,** σ1°**92**/98,**mb3.9**/26,**Kashmir-Xizang border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NIL	**Nilore**	**5.45**	**266**	*e*Pn	**Pn**	**20 52 12.8**	**+0.3**
KSH	**Kashi**	**6.08**	**331**	Pn	**Pn**	**20 52 22.1**	**+0.9**
KSH				Sn	**Sn**	**20 53 35.9**	**+6.4**
KSH				smax	smax		
	comp=N,68nm,1.0s						
KSH				smax	smax		
	comp=E,80nm,1.0s						
PYUN	**Piuthan**	**6.71**	**155**	*e*Pn	**Pn**	**20 52 31.4**	**+1.4**
	12nm,0.3s						
KOLN	**Koldanda**	**7.24**	**152**	*e*P	**Pn**	**20 52 38.4**	**+1.2**
	6.2nm,0.3s						
GKN	**Gorkha**	**7.49**	**145**	*e*P	**Pn**	**20 52 41.8**	**+1.3**
	7.3nm,0.3s						
TARG	**Taragay, Kyrgy**	**7.63**	**349**	*e*Pn	**Pn**	**20 52 45.2**	**+2.5**
NRN	**Naryn**	**7.77**	**339**	*e*Pn	**Pn**	**20 52 47.6**	**+3.0**
NRN				*e*Sn	Sn	20 54 23.0	+12
KKN	**Kakani**	**7.98**	**142**	*e*P	**Pn**	**20 52 47.8**	**+0.4**
	5.7nm,0.4s						
DMN	**Daman**	**8.04**	**144**	*e*P	**Pn**	**20 52 49.4**	**+1.1**
	9.9nm,0.6s						
KDJ	**Kajisay**	**8.13**	**346**	*e*Pn	**Pn**	**20 52 52.4**	**+3.0**
GUN	**Gumba**	**8.20**	**139**	*e*P	**Pn**	**20 52 51.1**	**+0.6**
	13nm,0.4s						
PKIN	**Phulchoki**	**8.21**	**143**	*e*P	**Pn**	**20 52 51.1**	**+0.5**
	6.0nm,0.4s						
PRZ	**Przheval'sk**	**8.30**	**353**	*e*Pn	**Pn**	**20 52 51.1**	**-0.5**
JIRN	**Jiri**	**8.57**	**138**	*e*P	**Pn**	**20 52 56.5**	**+1.0**
KZA	**Kyzart**	**8.59**	**337**	P	**Pn**	**20 52 58.7**	**+2.8**
	SNR=11						
KBL	**Kabul**	**8.88**	**275**	*e*Pn	**Pn**	**20 52 57.5**	**-2.1**
UCH	**Uchtor**	**8.98**	**334**	P	**Pn**	**20 53 03.5**	**+2.3**
	SNR=30						
AML	**Almayashu**	**9.21**	**331**	P	**Pn**	**20 53 07.3**	**+3.0**
	SNR=12						
TKM2	**Tokmak 2**	**9.26**	**341**	P	**Pn**	**20 53 07.7**	**+2.9**
	SNR=9.5						
AAK	**Ala-Archa**	**9.35**	**335**	Pn	**Pn**	**20 53 08.8**	**+2.8**
	0.5nm,0.3s,baz=141,slow=17,SNR=16						
AAK				Sn	**Sn**	**20 54 45.1**	**-4.8**
	0.1nm,0.3s,baz=324,slow=8.7,SNR=2.0						
AAK				Lg	Lg	20 55 31.2	
	0.1nm,0.3s,baz=53,slow=18,SNR=2.2						
AAK	**Ala-Archa**	**9.35**	**335**	P	**Pn**	**20 53 08.1**	**+2.1**
	SNR=7.2						
AAK	**Ala-Archa**	**9.35**	**335**	*e*Pn	**Pn**	**20 53 08.3**	**+2.3**
RAMN	**Ramite**	**9.35**	**139**	*e*P	**Pn**	**20 53 06.9**	**+0.7**
	8.0nm,0.3s						
ODAN	**Odare**	**9.86**	**136**	*e*P	**Pn**	**20 53 13.2**	**+0.1**
	9.4nm,0.4s						
LSA	**Lhasa**	**10.67**	**112**	*e*Pn	**Pn**	**20 53 24.0**	**-0.4**
WMQ	**Urumqi**	**11.37**	**30**	P	**Pn**	**20 53 35.0**	**+1.4**
KK31	**Karatay Array**	**11.42**	**323**	*e*Pn	**Pn**	**20 53 33.5**	**-0.8**
KK31				*e*Sn	**Sn**	**20 55 41.5**	**+0.9**
KKAR	**Karatay Array**	**11.42**	**323**	*e*Pn	**Pn**	**20 53 33.5**	**-0.8**
KKAR				*e*Sn	**Sn**	**20 55 41.1**	**+0.5**
MK01	**Makanchi Array**	**12.66**	**8**	*e*Pn	**Pn**	**20 53 49.9**	**-1.3**
MK01				*e*Sn	**Sn**	**20 56 11.6**	**+0.8**
MAKZ	**Makanchi**	**12.66**	**7**	*e*Pn	**Pn**	**20 53 50.6**	**-0.6**
MAKZ				*e*Sn	**Sn**	**20 56 08.9**	**-1.9**
MK31	**Makanchi Array**	**12.68**	**8**	*e*Pn	**Pn**	**20 53 50.4**	**-1.0**
MK31				*e*Sn	**Sn**	**20 56 03.4**	**-7.9**
MK32	**Makanchi Array**	**12.68**	**8**	*e*Pn	**Pn**	**20 53 50.6**	**-0.8**
MK32				*e*Sn	**Sn**	**20 56 11.1**	**-0.2**
MKAR	**Makanchi Array**	**12.68**	**8**	Pn	**Pn**	**20 53 50.6**	**-0.8**
	0.4nm,0.3s,baz=183,slow=13,SNR=20						
MKAR				Sn	**Sn**	**20 56 11.1**	**-0.2**
	0.1nm,0.3s,baz=191,slow=22,SNR=7.5						
MKAR	**Makanchi Array**	**12.68**	**8**	*e*Pn	**Pn**	**20 53 50.8**	**-0.6**
MKAR				*e*Sn	**Sn**	**20 56 07.9**	**-3.5**
KURBB	**Kurchatov Arra**	**16.39**	**357**	Pn	**Pn**	**20 54 39.4**	**-1.5**
	0.1nm,0.3s,baz=186,slow=11,SNR=24						
KURBB				Sn	**Sn**	**20 57 45.8**	**+4.1**
	0.1nm,0.3s,baz=185,slow=12,SNR=4.3						
KURK	**Kurchatov**	**16.48**	**357**	*e*Pn	**Pn**	**20 54 39.4**	**-2.6**
GTA	**Gaotai**	**16.84**	**66**	*e*P	**P**	**20 54 51.1**	**+2.5**
GTA				pP	pP	20 54 56.3	-1.5
GTA				sP	sP	20 54 59.8	-2.4
GTA				S	**Sn**	**20 57 56.0**	**+3.1**
GTA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
GTA				pmax	pmax		
	comp=Z,97nm,4.6s						
GTA				LR	LR		
	comp=N,160nm,11.4s						
GTA				LR	LR		
	comp=E,150nm,10.5s						
GTA				LR	LR		
	comp=Z,170nm,13.3s						
GEYT	**Alibeck**	**17.88**	**288**	P	**Pn**	**20 54 54.7**	**-4.9**
	0.2nm,0.3s,baz=98,slow=7.4,SNR=2.9						
GYA0B	**ALIBECK ARRAY**	**17.88**	**288**	*e*Pn	**Pn**	**20 54 59.0**	**-0.7**
	4.3nm,1.0s						
LZH	**Lanzhou**	**19.76**	**78**	*e*P	**Pn**	**20 55 22.8**	**+0.4**
LZH				pP	pP	20 55 30.6	+0.7
LZH				sP	sP	20 55 34.5	+0.1
LZH				*e*PP	**PnPn**	**20 55 40.9**	**+4.4**
LZH				pmax	pmax		
	comp=Z,21nm,0.8s						
LZH				pmax	pmax		
	comp=Z,210nm,5.0s						
BVAR	**Borovoye Array**	**19.93**	**343**	P	**P**	**20 55 22.1**	**-0.2**
	2.6nm,0.7s,baz=156,slow=12,SNR=18						
BRVK	**Borovoye**	**19.99**	**343**	*e*P	**P**	**20 55 22.9**	**0.0**
	4.3nm,0.8s						
ZAA0	**Zalesovo Array**	**20.02**	**9**	*e*P	**P**	**20 55 21.2**	**-2.0**
	3.7nm,1.2s						
ZALV	**Zalesovo Beam**	**20.02**	**9**	P	Pn	20 55 25.2	+0.1
	1.2nm,0.6s,baz=207,slow=12,SNR=6.7						
ZALV	**Zalesovo Beam**	**20.02**	**9**	*e*P	Pn	20 55 23.5	-1.7
ZAA1	**Zalesovo Array**	**20.02**	**9**	*e*P	Pn	20 55 25.2	0.0
ABKAR	**Akbulak array**	**20.98**	**322**	*e*P	**P**	**20 55 33.4**	**-0.3**
KMI	**Kunming**	**21.89**	**108**	P	**P**	**20 55 44.3**	**+0.4**
KMI				pmax	pmax		
	comp=Z,5.0nm,0.5s						
AKTO	**Aktyubinsk**	**22.68**	**322**	P	**P**	**20 55 51.8**	**-0.2**
	1.7nm,0.5s,baz=114,slow=11,SNR=6.7						
CHTO	**Chiang Mai**	**22.97**	**127**	*e*P	**P**	**20 55 54.3**	**-0.9**
	4.6nm,1.5s						
CM31	**Chiang Mai Arr**	**23.22**	**128**	*e*P	**P**	**20 55 57.4**	**-0.3**
CMAR	**Chiang Mai Arr**	**23.22**	**128**	P	**P**	**20 55 56.9**	**-0.8**
	0.9nm,0.6s,baz=309,slow=11,SNR=13						
CM01	**Chiang Mai Arr**	**23.26**	**128**	*e*P	**P**	**20 55 57.0**	**-1.1**
SONA0	**Songino Array**	**24.09**	**48**	*e*P	**P**	**20 56 07.8**	**+1.8**
SONM	**Songino Array**	**24.09**	**48**	P	**P**	**20 56 07.8**	**+1.8**
	0.8nm,0.7s,baz=249,slow=10.0,SNR=6.9						
SONA1	**Songino Array**	**24.10**	**48**	*e*P	**P**	**20 56 05.4**	**-0.6**
ULN	**Ulaanbaatar**	**24.51**	**48**	*e*P	**P**	**20 56 11.2**	**+1.3**
	5.2nm,1.4s						
PBKT	**Sadao Pong**	**25.91**	**127**	*e*P	**P**	**20 56 22.2**	**-0.3**
	1.9nm,0.9s						
HHC	**Hu-ho-hao-te**	**25.96**	**66**	*e*P	**P**	**20 56 22.3**	**-0.7**
HHC				pmax	pmax		
	comp=Z,20nm,0.7s						
HHC				pmax	pmax		
	comp=Z,40nm,4.0s						
ARU	**Arti**	**26.52**	**333**	P	**P**	**20 56 28.2**	**+0.5**
	1.4nm,0.4s,baz=117,slow=14,SNR=3.1						
ARU	**Arti**	**26.52**	**333**	*e*P	**P**	**20 56 28.3**	**+0.6**
	16nm,1.9s						
ANTO	**Ankara**	**37.57**	**293**	*e*P	**P**	**20 58 04.8**	**+0.1**
	6.1nm,0.8s						
AKASG	**Malin Array Be**	**39.91**	**310**	P	**P**	**20 58 24.0**	**-0.1**
	0.4nm,0.4s,baz=77,slow=7.4,SNR=4.3						
AKBB	**Malin Array Si**	**39.91**	**310**	*e*P	**P**	**20 58 24.2**	**0.0**
	4.6nm,1.2s						
KIEV	**Kiev**	**39.92**	**310**	*e*P	**P**	**20 58 24.3**	**+0.1**
	4.4nm,1.2s						
BUR04	**Bucovina Ar. S**	**42.49**	**305**	*e*P	**P**	**20 58 46.1**	**+0.6**
ALN	**Alexandroupoli**	**42.54**	**295**	*e*P	**P**	**20 58 47.5**	**+1.6**
	26nm,1.5s						
FIA1	**FINESS Array S**	**43.37**	**326**	*e*P	**P**	**20 58 51.5**	**-0.8**
FIA0	**FINESS Array S**	**43.37**	**326**	*e*P	**P**	**20 58 52.5**	**+0.2**
FINES	**FINESS Array B**	**43.37**	**326**	P	**P**	**20 58 52.5**	**+0.2**
	1.2nm,0.6s,baz=112,slow=8.8,SNR=8.4						
ARA0	**ARCESS Array S**	**46.01**	**337**	*e*P	**P**	**20 59 12.8**	**-0.5**
ARCES	**ARCESS Array B**	**46.01**	**337**	P	**P**	**20 59 12.8**	**-0.5**
	3.7nm,0.9s,baz=95,slow=6.5,SNR=7.8						
ARCES	**ARCESS Array B**	**46.01**	**337**	*e*P	**P**	**20 59 12.9**	**-0.3**
MYLDM	**Lahad Datu**	**46.06**	**120**	*e*P	**P**	**20 59 12.9**	**-1.4**
	12nm,1.3s						
HFS	**Hagfors**	**49.23**	**323**	P	**P**	**20 59 38.4**	**+0.1**
	1.2nm,0.6s,baz=113,slow=11,SNR=3.5						
NB200	**NORSAR Array S**	**50.45**	**324**	*e*P	**P**	**20 59 46.7**	**-1.0**
NOA	**NORSAR Array B**	**50.45**	**324**	P	**P**	**20 59 46.7**	**-1.0**
	0.8nm,0.6s,baz=90,slow=7.5,SNR=3.4						
NC204	**NORSAR Array S**	**50.67**	**324**	*e*P	**P**	**20 59 49.4**	**0.0**
ESDC	**Sonseca Array**	**64.79**	**302**	P	**P**	**21 01 28.4**	**-0.4**
	0.6nm,0.6s,baz=56,slow=6.2,SNR=6.5						
TOA0	**Torodi Ar. Sit**	**72.94**	**274**	*e*P	**P**	**21 02 19.2**	**-0.7**
TOA1	**Torodi Ar. Sit**	**72.94**	**274**	*e*P	**P**	**21 02 19.4**	**-0.5**
TORD	**Torodi Ar. Bea**	**72.94**	**274**	P	**P**	**21 02 19.4**	**-0.5**
	1.3nm,0.7s,baz=44,slow=4.9,SNR=9.7						
ILAR	**Eielson Array**	**74.79**	**19**	P	**P**	**21 02 30.1**	**+0.3**
	0.6nm,0.9s,baz=314,slow=5.2,SNR=6.2						
WR1	**Warramunga Arr**	**74.82**	**127**	*e*P	**P**	**21 02 30.2**	**-0.4**
	29nm,0.8s						
WRA	**Warramunga Arr**	**74.82**	**127**	P	**P**	**21 02 30.2**	**-0.4**
	0.9nm,0.9s,baz=320,slow=6.2,SNR=4.1						
ASAR	**Alice Springs**	**77.20**	**130**	P	**P**	**21 02 43.7**	**-0.5**
	0.6nm,0.7s,baz=317,slow=5.4,SNR=8.7						
YKA	**Yellowknife Ar**	**82.90**	**7**	P	**P**	**21 03 14.4**	**0.0**
	0.9nm,0.7s,baz=343,slow=5.0,SNR=28						
YKB5	**Yellowknife Ar**	**82.90**	**7**	*e*P	**P**	**21 03 14.4**	**0.0**

IDC 14 20:53:50.1±1.3,34.22N×79.81E,h0km,mb3.0/2, mb1 3.3/4,mb1mx3.0/67,mbtmp3.1/4,ML3.0/2,MS3.7/2, Ms1 3.7/2,ms1mx2.9/67,Error ellipse: s-maj=36.9km s-min=25.8km az=67.0,Kashmir-Xizang border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**12.70**	**8**	Pn	Pn	20 56 51.5	-0.4
	0.0nm,0.3s,baz=184,slow=14,SNR=2.3						
MKAR				Sn	Sn	20 59 11.4	-2.5
	0.0nm,0.3s,baz=182,slow=23,SNR=2.0						
MKAR				LR	LR	21 02 53.9	
	comp=Z,125nm,21.1s,baz=359,slow=43						
BVAR	**Borovoye Array**	**19.96**	**343**	P	P	20 58 24.1	+0.5
	0.1nm,0.3s,baz=164,slow=12,SNR=3.5						
CMAR	**Chiang Mai Arr**	**23.19**	**128**	P	P	20 58 58.6	+0.1
	0.2nm,0.7s,baz=311,slow=12,SNR=3.1						
YAK	**Yakutsk**	**41.80**	**33**	LR	LR	21 19 04.5	
	comp=Z,278nm,21.1s,baz=140,slow=36						
TORD	**Torodi Ar. Bea**	**72.98**	**274**	P	P	21 05 21.8	-0.1
	6.4nm,1.0s,baz=49,slow=5.0,SNR=49						
YKA	**Yellowknife Ar**	**82.92**	**7**	P	P	21 06 16.5	+0.2
	0.2nm,0.6s,baz=344,slow=5.0,SNR=5.9						

IDC 14 20:53:52.5±0.3,56.83S×25.23W,h0km,mb4.9/19, mb1 4.9/20,mb1mx4.8/31,mbtmp4.9/20,ML4.9/1,MS4.6/23, Ms1 4.6/23,ms1mx4.5/31,Error ellipse: s-maj=14.2km s-min=11.2km az=47.0
*ISCJB 14 20:53:

comp=Z,1.2nm,0.8s,baz=277,slow=19,SNR=2.1
CPUP Villa Florida 38.19 309 *e*P **P 21 01 12.7 -0.7**
comp=Z,30nm,0.8s
CPUP S **S 21 07 03.4 -2.2**
CPUP Villa Florida 38.19 309 *e*P **P 21 01 12.7 -0.7**
CPUP pmax pmax
comp=Z,30nm,0.8s
MAW Mawson 38.82 142 P **P 21 01 18.9 +0.7**
comp=Z,19nm,0.8s,baz=234,slow=8.4,SNR=13
MAW LR LR 21 14 43.5
comp=Z,1µm,21.4s,baz=250,slow=32
MAW Mawson 38.82 142 *e*P **P 21 01 20.0 +1.7**
MAW Mawson 38.82 142 *e*P **P 21 01 20.0 +1.7**
PEL Peldehue 38.94 288 *e*P **P 21 01 18.1 -1.7**
comp=Z,82nm,1.6s
PEL Peldehue 38.94 288 *e*P **P 21 01 18.1 -1.7**
PEL pmax pmax
comp=Z,82nm,1.6s
ROC1 El Roble 39.25 288 *e*P **P 21 01 21.5 -1.0**
comp=Z,21nm,0.5s
SUR Sutherland 39.83 72 P **P 21 01 27.6 +0.3**
comp=Z,0.6nm,0.9s,baz=225,slow=14,SNR=4.0
SUR LR LR 21 14 17.7
comp=Z,145nm,18.8s,baz=210,slow=31
SUR Sutherland 39.83 72 *e*P **P 21 01 27.8 +0.5**
comp=Z,230nm,1.9s
LCO Las Campanas 42.24 292 *e*P **P 21 01 46.3 -1.0**
comp=Z,22nm,1.0s
LCO LR LR
comp=Z,2µm,21.0s
SHEL Horse Pasture 43.43 28 PFAKE 21 02 10.0 +13
SHEL LR LR
comp=Z,513nm,22.0s
BOSA Boshof 45.13 73 P **P 21 02 09.7 -0.8**
comp=Z,6.1nm,1.0s,baz=229,slow=6.7,SNR=6.2
BOSA LR LR 21 18 02.5
comp=Z,2µm,18.5s,baz=216,slow=32
BOSA Boshof 45.13 73 *e*P **P 21 02 09.6 -0.8**
comp=Z,55nm,1.7s
BOSA Boshof 45.13 73 *e*P **P 21 02 09.6 -0.8**
BOSA pmax pmax
comp=Z,55nm,1.7s
SBA Scott Base 45.32 184 *e*P **P 21 02 13.0 +1.9**
comp=Z,49nm,1.3s
SBA Scott Base 45.32 184 *e*P **P 21 02 13.0 +1.9**
SBA pmax pmax
comp=Z,49nm,1.3s
VNDA Vanda 45.78 182 P **P 21 02 16.1 +1.3**
comp=Z,11nm,0.7s,baz=187,slow=6.7,SNR=104
VNDA ScP **ScP 21 07 47.3 +4.0**
comp=Z,7.2nm,0.9s,baz=241,slow=3.4,SNR=10
VNDA LR LR 21 21 24.4
comp=Z,382nm,18.0s,baz=170,slow=36
VNDA Vanda 45.78 182 *e*P **P 21 02 16.0 +1.2**
VNDA *e*ScP **ScP 21 07 48.5 +5.2**
VNDA Vanda 45.78 182 *e*P **P 21 02 16.0 +1.2**
PB10 IPOC Station P 46.71 296 *e*P **P 21 02 21.8 -1.0**
comp=Z,116nm,1.5s
PB04 IPOC Station P 47.50 297 *e*P **P 21 02 28.8 -0.4**
comp=Z,128nm,1.3s
LBTB Lobatse 48.22 71 P **P 21 02 34.8 +0.1**
comp=Z,7.1nm,1.0s,baz=222,slow=10,SNR=5.4
LBTB Lobatse 48.22 71 *e*P **P 21 02 33.8 -0.8**
comp=Z,15nm,1.0s
PB01 IPOC Station P 48.28 299 *e*P **P 21 02 34.6 -0.4**
comp=Z,83nm,0.9s
H10S2 ASCENSION HYDR 48.52 14 T T 21 55 38.6
baz=189,slow=75,SNR=101
H10S3 ASCENSION HYDR 48.52 14 T T 21 55 37.8
baz=189,slow=75,SNR=61
H10S1 ASCENSION HYDR 48.53 14 T T 21 55 38.9
baz=189,slow=75,SNR=109
SIV San Ignacio 48.95 312 P **P 21 02 40.1 -0.1**
comp=Z,14nm,0.6s,baz=155,slow=8.8,SNR=50
TSUM Tsumeb 49.16 58 P **P 21 02 41.9 0.0**
comp=Z,9.4nm,0.9s,baz=205,slow=4.0,SNR=15
PB11 IPOC Station P 49.46 300 *e*P **P 21 02 43.4 -0.8**
comp=Z,166nm,1.3s
ASCN Ascension 49.56 14 *e*P **P 21 02 45.1 +0.3**
comp=Z,289nm,1.4s
H10N1 ASCENSION HYDR 49.63 14 T T 21 56 49.8
baz=186
H10N3 ASCENSION HYDR 49.64 14 T T 21 56 54.6
baz=186
H10N2 ASCENSION HYDR 49.65 14 T T 21 56 49.7
baz=186
MNMC Minye Minye 49.97 300 *e*P **P 21 02 48.9 +0.7**
comp=Z,142nm,1.1s
LPAZ La Paz 51.76 304 P **P 21 03 02.8 +0.7**
comp=Z,200nm,0.6s,baz=116,slow=4.2,SNR=384
LPAZ ScP **ScP 21 08 10.0 -0.3**
comp=Z,2.5nm,1.0s,baz=157,slow=2.9,SNR=4.4
LPAZ LR LR 21 24 18.3
comp=Z,680nm,21.7s,baz=36,slow=35
LPAZ La Paz 51.76 304 *e*P **P 21 03 02.6 +0.5**
LPAZ *e*sP **P 21 03 03.2 +1.1**
LPAZ *e*ScP **ScP 21 08 11.6 +1.3**
LPAZ La Paz 51.76 304 *e*P **P 21 03 03.2 +1.1**
LPAZ pmax pmax
comp=Z,180nm,0.7s
CASY Casey 52.74 159 *e*P **P 21 03 09.5 +1.4**
comp=Z,40nm,0.8s
CASY LR LR
comp=Z,449nm,19.0s
SAML Samuel 56.17 313 *e*P **P 21 03 33.9 +0.2**
comp=Z,30nm,0.7s
LSZ Lusaka 57.67 66 *e*P **P 21 03 44.9 +0.5**
comp=Z,42nm,1.8s
LSZ LR LR
comp=Z,755nm,20.0s
LSZ Lusaka 57.67 66 *e*P **P 21 03 44.9 +0.5**
LSZ pmax pmax
comp=Z,42nm,1.7s
NNA Nana 59.61 297 PFAKE 21 04 10.0 +12
NNA LR LR
comp=Z,574nm,22.0s
PTGA Pitinga 62.52 320 LR LR 21 30 44.5
comp=Z,328nm,20.9s,baz=146,slow=35
PTGA Pitinga 62.52 320 *e*P **P 21 04 17.3 -0.1**
comp=Z,15nm,0.8s
RPN Rapa Nui 64.58 259 LR LR 21 28 26.2
comp=Z,398nm,21.9s,baz=92,slow=32
RPN Rapa Nui 64.58 259 *e*P **P 21 04 30.5 -0.5**
comp=Z,544nm,1.5s
RPN Rapa Nui 64.58 259 *e*P **P 21 04 30.5 -0.5**
RPN pmax pmax
comp=Z,540nm,1.5s
LIC Lamto 65.03 22 *e*P **P 21 04 34.6 +0.7**
comp=Z,67nm,1.3s
OPO Ambohidratompo 65.03 86 LR LR 21 28 25.1
comp=Z,441nm,18.7s,baz=208,slow=32
KIC Kosan Boka 65.22 23 *e*P **P 21 04 32.9 -2.3**
comp=Z,83nm,1.6s
TIC Toumodi 65.44 22 *e*P **P 21 04 36.9 +0.3**
DBIC Dimbokro 65.50 22 P **P 21 04 36.6 -0.3**
comp=Z,5.3nm,0.8s,baz=168,slow=6.7,SNR=8.7
DBIC LR LR 21 27 04.3
comp=Z,453nm,18.5s,baz=200,slow=30
DBIC Dimbokro 65.50 22 *e*P **P 21 04 36.6 -0.3**
comp=Z,14nm,1.1s
RER Riviere de l'E 67.64 95 *e*P **P 21 04 52.8 +2.0**
comp=Z,181nm,1.3s
FLOC Florencia 70.94 305 *e*P **P 21 05 11.0 -0.3**
OTAV Otavalo 71.03 302 *e*P **P 21 05 13.7 +1.4**
comp=Z,74nm,1.2s
OTAV Otavalo 71.03 302 *e*P **P 21 05 13.0 +0.7**
CMBC Cumbal 71.36 303 *e*P **P 21 05 14.9 +0.7**
GCUF Volcan Galeras 71.39 304 *e*P **P 21 05 14.9 +0.4**
CRUC La Cruz 71.52 304 *e*P **P 21 05 16.9 +1.8**
MBAR Mbarara 71.58 61 *e*P **P 21 05 15.0 -0.3**
comp=Z,15nm,1.4s
MBAR Mbarara 71.58 61 *e*P **P 21 05 15.0 -0.3**
MBAR pmax pmax
comp=Z,15nm,1.4s
SACV Santiago Islan 71.60 2 PFAKE 21 05 30.0 +15
SACV LR LR
comp=Z,304nm,19.0s
BBTS Babate 71.64 9 LR LR 21 29 39.2
comp=Z,483nm,20.1s,baz=242,slow=30
SJAC San Juan de Ar 71.70 308 *e*P **P 21 05 16.3 +0.4**
BETC Betania 71.83 306 *e*P **P 21 05 16.3 -0.3**
SOTA Rioblanco 71.86 305 *e*P **P 21 05 18.3 +1.0**
PCON Cinco Dias 71.94 305 *e*P **P 21 05 20.3 +2.4**
MARP Paez Belalcaza 72.20 306 *e*P **P 21 05 18.9 -0.2**
POPC Popayan, Colom 72.25 305 *e*P **P 21 05 18.9 -0.4**
VILC Villavicencio, 72.34 308 *e*P **P 21 05 20.3 +0.6**
PRAC Prado 72.50 307 *e*P **P 21 05 20.6 0.0**
comp=Z,57nm,0.6s
PRAC Prado 72.50 307 *e*P **P 21 05 20.3 -0.3**
TUMC Tumaco 72.56 303 *e*P **P 21 05 21.8 +1.0**
comp=Z,92nm,0.7s
CHIC Chingaza 72.82 309 *e*P **P 21 05 24.2 +1.3**
ROSC El Rosal 73.26 308 P **P 21 05 26.0 +0.5**
comp=Z,8.4nm,0.4s,baz=93,slow=8.1,SNR=7.7
ROSC LR LR 21 39 43.3
comp=Z,412nm,19.0s,baz=186,slow=38
ROSC El Rosal 73.26 308 *e*P **P 21 05 24.9 -0.6**
comp=Z,14nm,0.8s
ROSC El Rosal 73.26 308 *e*P **P 21 05 25.0 -0.6**
TOA0 Torodi Ar. Sit 73.27 27 *e*P **P 21 05 24.3 -0.7**
comp=Z,12nm,0.8s
TORD Torodi Ar. Bea 73.27 27 P **P 21 05 25.1 +0.1**
comp=Z,7.9nm,0.5s,baz=201,slow=6.4,SNR=77
TOA1 Torodi Ar. Sit 73.27 27 *e*P **P 21 05 25.1 +0.1**
KOWA Kowa 73.28 21 P **P 21 05 25.5 +0.5**
comp=Z,3.3nm,0.8s,baz=177,slow=13,SNR=6.2
KOWA Kowa 73.28 21 *e*P **P 21 05 25.0 0.0**
comp=Z,21nm,1.5s
GRGC Isla de Gorgon 73.34 304 *e*P **P 21 05 27.0 +1.4**
YOTC Yotoco, Valle 73.39 306 *e*P **P 21 05 24.3 -1.6**
RUSC La Rusia 73.68 310 *e*P **P 21 05 26.9 -1.2**
comp=Z,23nm,1.2s
RUSC La Rusia 73.68 310 *e*P **P 21 05 27.0 -1.1**
RREF El Recreo 73.76 307 *e*P **P 21 05 30.3 +1.5**
MALC Bahia Malaga 73.86 305 *e*P **P 21 05 29.6 +1.1**
GUYC Guyana, Colomb 74.07 307 *e*P **P 21 05 27.6 -2.8**
NORC Norcasia 74.15 308 *e*P **P 21 05 28.9 -1.4**
PLMC San Jos˜ del 74.18 306 *e*P **P 21 05 28.9 -1.6**
PCRV Puerto La Cruz 74.30 319 P **P 21 05 32.4 +1.2**
comp=Z,107nm,0.9s,baz=41,slow=1.5,SNR=15
PCRV LR LR 21 39 32.8
comp=Z,360nm,20.4s,baz=146,slow=37
KMBO Kilima Mbogo 74.33 67 LR LR 21 35 42.2
comp=Z,332nm,18.5s,baz=238,slow=34
KMBO Kilima Mbogo 74.33 67 PFAKE 21 05 40.0 +8.3
KMBO LR LR
comp=Z,566nm,19.0s
BARC Barichara 74.35 310 *e*P **P 21 05 28.2 -3.5**
PAMC Pamplona, Colo 74.82 311 *e*P **P 21 05 33.6 -1.1**
HELC Santa Helena 75.00 308 *e*P **P 21 05 34.2 -1.4**
comp=Z,31nm,1.0s
HELC Santa Helena 75.00 308 *e*P **P 21 05 33.6 -2.0**
GRGR Grenville 75.09 323 *e*P **P 21 05 34.2 -1.5**
comp=Z,127nm,0.9s
GRGR LR LR
comp=Z,483nm,21.0s
BBGH Gun Hill 75.37 325 PFAKE 21 05 50.0 +13
BBGH LR LR
comp=Z,759nm,19.0s
SDV Santo Domingo 75.38 313 P **P 21 05 38.0 +0.4**
comp=Z,20nm,0.8s,baz=180,slow=2.7,SNR=20
SDV LR LR 21 41 25.3
comp=Z,808nm,18.0s,baz=156,slow=38
SDV Santo Domingo 75.38 313 *e*P **P 21 05 37.8 +0.2**
comp=Z,26nm,0.9s
SDV Santo Domingo 75.38 313 *e*P **P 21 05 38.2 +0.6**
SOLC Bahia Solano 75.85 306 *e*P **P 21 05 40.2 +0.1**
ZARC Zaragoza, Cauc 75.87 309 *e*P **P 21 05 38.3 -1.9**
OCAC Ocana 75.89 311 *e*P **P 21 05 38.9 -1.6**
SVB Belmont 76.03 324 *e*P **P 21 05 42.6 +1.6**
comp=Z,65nm,1.1s
WHZ Wether Hill Ro 77.00 189 *e*P **P 21 05 44.7 -1.6**
comp=Z,86nm,1.6s
FDF Fort de France 77.37 324 *e*P **P 21 05 49.7 +1.1**
comp=Z,75nm,1.0s
FDF LR LR
comp=Z,334nm,21.0s
FDF Fort de France 77.37 324 *e*P **P 21 05 49.7 +1.1**
FDF pmax pmax
comp=Z,75nm,1.0s
MOTC Monteria, Cord 77.37 309 *e*P **P 21 05 45.6 -3.1**
MLZ Mavora Lakes 77.51 190 *e*P **P 21 05 50.2 +1.0**
comp=Z,94nm,1.6s
ODZ Otahua Downs 77.57 191 *e*P **P 21 05 52.0 +2.5**
comp=Z,67nm,1.6s
LBZ Lake Benmore 78.27 191 *e*P **P 21 05 54.4 +0.9**
comp=Z,120nm,1.8s
RPZ Rata Peaks 78.84 192 P **P 21 05 57.7 +1.2**
comp=Z,20nm,0.9s,baz=84,slow=5.7,SNR=6.3
RPZ Rata Peaks 78.84 192 *e*P **P 21 05 57.6 +1.1**
comp=Z,38nm,1.1s
GDHS Morne Mazeau, 79.01 324 *e*P **P 21 05 58.5 +0.9**
comp=Z,221nm,1.0s
FOZ Fox Glacier 79.16 191 *e*P **P 21 05 58.7 +0.5**
comp=Z,225nm,2.0s
BCIP Isla Barro Col 79.55 305 *e*P **P 21 06 00.4 -0.2**
comp=Z,33nm,0.8s
BCIP LR LR
comp=Z,308nm,21.0s
LTZ Lake Taylor 79.62 193 *e*P **P 21 06 02.3 +1.4**
comp=Z,51nm,1.2s
KHZ Kahutara 79.81 194 *e*P **P 21 06 04.7 +2.9**
comp=Z,106nm,1.8s
ANWB Willy Bob 80.32 325 *e*P **P 21 06 06.6 +1.9**
comp=Z,74nm,1.0s
ANWB LR LR
comp=Z,304nm,19.0s
TAU Tasmania Unive 80.37 174 *e*P **P 21 06 04.3 -0.6**
comp=Z,67nm,1.1s
TAU LR LR
comp=Z,1µm,20.0s
TAU Tasmania Unive 80.37 174 *e*P **P 21 06 04.3 -0.6**
TAU pmax pmax
comp=Z,67nm,1.1s
THZ Tophouse 80.54 194 *e*P **P 21 06 07.1 +1.2**
comp=Z,28nm,0.8s
SNZO South Karori 80.74 195 *e*P **P 21 06 07.7 +0.8**
comp=Z,56nm,1.0s
SABA Saba 80.75 323 *e*P **P 21 06 07.4 +0.4**
comp=Z,82nm,1.0s
RKT Rikitea 81.06 241 *e*LQ LQ 21 27 50.8
comp=Z,656nm,33.0s
RKT *e*LR LR 21 31 20.3
comp=Z,428nm,24.5s
SMRT St. Maarten 81.09 324 *e*P **P 21 06 09.1 +0.3**
comp=Z,55nm,1.2s
CDVI St. Croix 81.37 322 *e*P **P 21 06 10.4 +0.1**
comp=Z,42nm,0.6s
STVI Saint Thomas 82.00 322 *e*P **P 21 06 14.5 +0.9**
comp=Z,42nm,0.9s
SJG San Juan 82.18 321 *e*P P 21 06 19.4 +4.9
CBYP Canovanas 82.23 321 *e*P **P 21 06 14.9 0.0**
comp=Z,40nm,0.8s
AOPR Arecibo Observ 82.61 321 *e*P **P 21 06 17.2 +0.4**
comp=Z,76nm,1.2s
JTS JuntasAbangare 82.89 301 P **P 21 06 18.9 +0.4**
comp=Z,2.8nm,0.4s,baz=153,slow=3.8,SNR=11
JTS LR LR 21 47 34.7
comp=Z,90nm,18.3s,baz=183,slow=39
JTS JuntasAbangare 82.89 301 PFAKE 21 06 30.0 +12
JTS LR LR
comp=Z,296nm,20.0s
URZ Urewera 83.35 198 *e*P **P 21 06 20.0 -0.6**
comp=Z,24nm,0.9s
TAM Tamanrasset 83.49 28 *e*P **P 21 06 22.5 +1.0**
comp=Z,28nm,1.8s
TAM LR LR
comp=Z,381nm,20.0s
TAM Tamanrasset 83.49 28 *e*P **P 21 06 22.5 +1.0**
TAM pmax pmax
comp=Z,27nm,1.8s
NWAO Narrogin (SRO) 85.05 149 LR LR 21 39 41.8
comp=Z,330nm,21.0s,baz=74,slow=32
MTDJ Mount Denham 86.62 311 PFAKE 21 06 50.0 +13
MTDJ LR LR
comp=Z,543nm,20.0s
OUZ Omahuta 86.88 195 *e*P **P 21 06 38.3 0.0**
comp=Z,78nm,1.3s
GTBY Guantanamo Bay 87.17 314 *e*P **P 21 06 38.3 -1.4**
comp=Z,85nm,1.1s
GTBY LR LR
comp=Z,652nm,19.0s
TGUH Tegucigalpa,Un 87.26 301 *e*P **P 21 06 39.0 -1.3**
comp=Z,15nm,0.6s
ATD Ata Tunnel 87.99 65 LR LR 21 44 57.0
comp=Z,646nm,18.0s,baz=204,slow=35
CAN Canberra 88.02 175 PFAKE 21 07 00.0 +16
CAN LR LR
comp=Z,644nm,19.0s
DGAR Diego Garcia 88.02 100 PFAKE 21 07 00.0 +16
DGAR LR LR
comp=Z,348nm,20.0s
CBCY The Bluff, Cay 88.90 310 *e*P **P 21 06 47.9 0.0**
comp=Z,98nm,0.9s
BBOO Buckleboo 89.25 164 *e*P **P 21 06 49.6 -0.2**
comp=Z,15nm,0.7s
APG El Apazote 89.60 299 P **P 21 06 52.2 +0.6**
comp=Z,5.3nm,0.7s,baz=272,slow=6.7,SNR=4.5
APG LR LR 21 45 07.5
comp=Z,115nm,21.2s,baz=92,slow=34
FORT Forrest 89.79 157 *e*P **P 21 06 53.6 +1.3**
comp=Z,56nm,0.9s
STKA Stephens Creek 90.88 169 P **P 21 06 57.6 +0.3**
comp=Z,7.0nm,1.1s,baz=194,slow=2.5,SNR=12
STKA Stephens Creek 90.88 169 *e*P **P 21 06 58.0 +0.7**
comp=Z,4.7nm,1.4s
STKA Stephens Creek 90.88 169 *e*P **P 21 06 58.0 +0.7**
RTC Rabat Centre 91.85 15 PFAKE 21 07 10.0 +8.7
RTC LR LR
comp=Z,3µm,19.0s
PPT2 Papeete2 92.55 232 *e*LR LR 21 36 39.4
comp=Z,712nm,25.8s
BBSR BB Station 94.99 327 PFAKE 21 07 30.0 +14
BBSR LR LR
comp=Z,548nm,22.0s
KEST Kesra 96.79 28 LR LR 21 47 24.8
comp=Z,365nm,18.7s,baz=172,slow=33
MBWA Marble Bar 96.86 147 PFAKE 21 07 40.0 +15
MBWA LR LR
comp=Z,678nm,19.0s
ASAR Alice Springs 97.85 161 P Pdif 21 07 29.6 +0.2
comp=Z,7.6nm,1.0s,baz=187,slow=4.3,SNR=48
ASAR PP **PP 21 11 26.6 -0.2**
comp=Z,2.2nm,1.0s,baz=196,slow=6.5,SNR=7.3
AS31 Alice Springs 97.85 161 *e*P **P 21 07 28.3 -1.1**
comp=Z,3.8nm,1.4s
ESDC Sonseca Array 97.86 16 LR LR 21 48 27.1
comp=Z,168nm,18.8s,baz=130,slow=34
AS01 Alice Springs 97.86 161 *e*P **P 21 07 28.9 -0.5**
MTE Manteigas 98.06 14 PFAKE 21 07 40.0 +10
MTE LR LR
comp=Z,552nm,19.0s
RAYN Ar Rayn 99.52 61 PFAKE 21 07 50.0 +13
RAYN LR LR
comp=Z,494nm,22.0s
VSL Villasalto 100.36 27 PFAKE 21 07 50.0 +10
VSL LR LR
comp=Z,668nm,21.0s
DZM Mont Dzumac 100.74 191 *e*LR LR 21 40 41.3
comp=Z,320nm,23.0s
NHSC New Hope 100.95 316 PFAKE 21 07 50.0 +7.3
NHSC LR LR
comp=Z,450nm,20.0s
WR1 Warramunga Arr 101.56 160 *e*Pdif **Pdif 21 07 46.4 +0.4**
WR1 *e*PP **PP 21 11 54.5 -0.6**
WR1 *e*PKKPdf **PKKPdf 21 23 53.9 -1.5**
WRA Warramunga Arr 101.56 160 P **Pdif 21 07 46.4 +0.4**
comp=Z,1.1nm,0.6s,baz=195,slow=4.4,SNR=14
WRA PP **PP 21 11 54.5 -0.6**
comp=Z,0.8nm,0.8s,baz=193,slow=6.3,SNR=4.7
WRA PKKP **PKKPdf 21 23 53.9 -1.5**
comp=Z,1.4nm,1.0s,baz=359,slow=2.9,SNR=6.9
WRAB Tennant Creek 101.57 160 PFAKE 21 08 00.0 +14
WRAB LR LR
comp=Z,522nm,19.0s
CNNC Cliffs of the 101.99 318 PFAKE 21 08 00.0 +13
CNNC LR LR
comp=Z,723nm,20.0s
BRAL Brewton 102.03 309 PFAKE 21 08 00.0 +12
BRAL LR LR
comp=Z,423nm,19.0s
TIP Timpagrande 102.05 32 PFAKE 21 08 00.0 +12
TIP LR LR
comp=Z,158nm,20.0s
GOGA Godfrey 102.51 313 PFAKE 21 08 00.0 +10
GOGA LR LR
comp=Z,300nm,20.0s
CTAO Charters Tower 102.99 172 PFAKE 21 08 00.0 +7.7
CTAO LR LR
comp=Z,1µm,19.0s
MSVF Nonsavu 103.15 203 PFAKE 21 08 00.0 +6.8
MSVF LR LR
comp=Z,20µm,20.0s
MSVF Nonsavu 103.15 203⇓ *e*P **Pdif 21 07 44.4 -8.8**
MSVF pmax pmax
comp=Z,6.0nm,1.1s
CSS Mathiatis 103.98 46 PFAKE 21 08 10.0 +14
CSS LR LR
comp=Z,105nm,21.0s
AQU L'Aquila 104.07 28 PFAKE 21 08 10.0 +14
AQU LR LR
comp=Z,352nm,21.0s
CBN Corbin Frederi 104.45 320 PFAKE 21 08 10.0 +12
CBN LR LR
comp=Z,325nm,22.0s
BLA Blacksburg 104.67 317 PFAKE 21 08 10.0 +11
BLA LR LR
comp=Z,260nm,19.0s
SSB Saint Sauveur 104.80 21 PFAKE 21 08 10.0 +10
SSB LR LR
comp=Z,328nm,21.0s
VLC Villacollemand 105.02 26 PFAKE 21 08 10.0 +9.5
VLC LR LR
comp=Z,345nm,22.0s
BNI Bardonecchia 105.03 23 PFAKE 21 08 10.0 +9.3
BNI LR LR
comp=Z,652nm,20.0s
ISP Isparta 105.41 43 PFAKE 21 12 30.0
ISP LR LR
comp=Z,347nm,19.0s
NATX Nacogdoches 105.89 304 PFAKE 21 12 30.0
NATX LR LR
comp=Z,349nm,19.0s
TUE Stuetta 106.96 24 PFAKE 21 12 30.0
TUE LR LR
comp=Z,400nm,22.0s
JCT Junction City 107.22 299 PFAKE 21 12 30.0
JCT LR LR
comp=Z,213nm,21.0s
BINY Binghamton 107.55 323 PFAKE 21 12 30.0
BINY LR LR
comp=Z,427nm,22.0s
MIAR Mount Ida 107.75 306 PFAKE 21 12 30.0
MIAR LR LR
comp=Z,250nm,19.0s
ANTO Ankara 108.05 43 PFAKE 21 12 30.0
ANTO LR LR
comp=Z,307nm,19.0s
ECH Echery 108.14 22 PFAKE 21 12 30.0
ECH LR LR
comp=Z,239nm,21.0s
ACSO Alum Creek Sta 108.28 317 PFAKE 21 12 30.0
ACSO LR LR
comp=Z,312nm,19.0s
BFO Black Forest 108.50 23 PFAKE 21 12 30.0
BFO LR LR
comp=Z,397nm,19.0s
LONY Lake Ozonia 109.26 325 PFAKE 21 12 30.0
LONY LR LR
comp=Z,398nm,21.0s
WLF Walferdange 109.32 21 PFAKE 21 12 30.0
WLF LR LR
comp=Z,302nm,20.0s
AAM Ann Arbor 110.33 318 PFAKE 21 12 40.0
AAM LR LR
comp=Z,312nm,22.0s
MNTX Cornudas Mount 110.93 296 PFAKE 21 12 40.0
MNTX LR LR
comp=Z,327nm,19.0s
PSZ Piszkesteto 110.97 31 PFAKE 21 12 40.0
PSZ LR LR
comp=Z,275nm,21.0s
HDIL Hopedale 111.02 313 PFAKE 21 12 40.0
HDIL LR LR
comp=Z,420nm,21.0s
FUNA Funafuti 111.79 206 PFAKE 21 12 40.0
FUNA LR LR
comp=Z,77µm,20.0s
KAPI Kappang 112.03 142 PFAKE 21 12 40.0
KAPI LR LR
comp=Z,255nm,22.0s
GLMI Grayling 112.86 318 PFAKE 21 12 40.0
GLMI LR LR
comp=Z,447nm,20.0s
KSU1 Kansas State U 112.88 307 PFAKE 21 12 40.0
KSU1 LR LR
comp=Z,378nm,22.0s
GNI Garni 113.12 52 PFAKE 21 12 40.0
GNI LR LR
comp=Z,570nm,20.0s

ESK	**Eskdalemuir**	**113.26**	**13**	PFAKE			21 12 40.0				
ESK				LR	LR						
	comp=Z,423nm,19.0s										
JFWS	**Jewell Farm**	**113.39**	**313**	PFAKE			21 12 40.0				
JFWS				LR	LR						
	comp=Z,319nm,20.0s										
HNR	**Honiara**	**113.78**	**186**	PFAKE			21 12 40.0				
HNR				LR	LR						
	comp=Z,88µm,19.0s										
ANMO	**Albuquerque**	**114.08**	**297**	PFAKE			21 12 40.0	+7.4			
ANMO				LR	LR						
	comp=Z,402nm,21.0s										
KSM	**Kuching**	**114.38**	**130**	PFAKE			21 12 50.0	+16			
KSM				LR	LR						
	comp=Z,351nm,19.0s										
KIV	**Kislovodsk**	**115.40**	**48**	PFAKE			21 12 50.0	+15			
KIV				LR	LR						
	comp=Z,306nm,20.0s										
KIV	**Kislovodsk**	**115.40**	**48**	*i* PKIKP	**PKPdf**		**21 12 34.6**	**-0.1**			
KIV				pmax	pmax						
	comp=Z,3.0nm,1.0s										
COWI	**Conover**	**115.63**	**316**	PFAKE			21 12 50.0	+15			
COWI				LR	LR						
	comp=Z,428nm,19.0s										
SDCO	**Great Sand Dun**	**115.86**	**300**	P	**PKPdf**		**21 12 37.3**	**+1.2**			
	baz=143										
SDCO	**Great Sand Dun**	**115.86**	**300**	PFAKE			21 12 50.0	+14			
SDCO				LR	LR						
	comp=Z,212nm,19.0s										
X16A	**Lo Mia Camp, P**	**116.14**	**293**	*e*PKPdf	**PKPdf**		**21 12 37.0**	**+0.4**			
KIEV	**Kiev**	**116.23**	**35**	PFAKE			21 12 50.0	+14			
KIEV				LR	LR						
	comp=Z,195nm,20.0s										
S22A	**4UR Ranch, Cre**	**116.50**	**299**	P	**PKPdf**		**21 12 38.1**	**+0.8**			
	baz=143										
ECSD	**EROS Data Cent**	**116.68**	**310**	P	**PKPdf**		**21 12 36.8**	**-0.3**			
	baz=144										
ECSD	**EROS Data Cent**	**116.68**	**310**	*e*PKPdf	**PKPdf**		**21 12 36.1**	**-1.0**			
ECSD				LR	LR						
	comp=Z,504nm,22.0s										
OGNE	**Ogallala**	**116.80**	**304**	PFAKE			21 12 50.0	+12			
OGNE				LR	LR						
	comp=Z,653nm,20.0s										
MVCO	**Mesa Verde**	**116.88**	**297**	P	**PKPdf**		**21 12 38.2**	**+0.2**			
	baz=142										
MVCO	**Mesa Verde**	**116.88**	**297**	PFAKE			21 12 50.0	+12			
MVCO				LR	LR						
	comp=Z,327nm,19.0s										
KLNR	**Kaliningrad**	**117.11**	**28⇑**	*i* PKIKP	**PKPdf**		**21 12 41.8**	**+4.3**			
F36A	**Milaca**	**117.14**	**313**	P	**PKPdf**		**21 12 38.0**	**+0.2**			
	baz=145										
ISCO	**Idaho Springs**	**117.55**	**301**	PFAKE			21 12 50.0	+11			
ISCO				LR	LR						
	comp=Z,322nm,19.0s										
EYMN	**Ely**	**118.06**	**316**	PFAKE			21 12 50.0	+10			
EYMN				LR	LR						
	comp=Z,985nm,19.0s										
G32A	**Webster**	**118.28**	**310**	P	**PKPdf**		**21 12 40.1**	**0.0**			
	baz=144										
N23A	**Red Feather La**	**118.56**	**302**	P	**PKPdf**		**21 12 41.3**	**+0.2**			
	baz=142										
O20A	**White River Ci**	**119.06**	**299**	P	**PKPdf**		**21 12 42.3**	**+0.2**			
	baz=142										
O20A	**White River Ci**	**119.06**	**299**	*e*PKPdf	**PKPdf**		**21 12 42.2**	**+0.2**			
SRU	**San Rafael Swe**	**119.36**	**297**	*e*PKPdf	**PKPdf**		**21 12 42.5**	**-0.1**			
SRU	**San Rafael Swe**	**119.36**	**297**	*e*PKIKP	**PKPdf**		**21 12 42.5**	**-0.1**			
SZCU	**Shurtz Canyon**	**119.45**	**294**	*e*PKPdf	**PKPdf**		**21 12 43.3**	**+0.4**			
CCUT	**Cedar City**	**119.55**	**294**	*e*PKPdf	**PKPdf**		**21 12 44.3**	**+1.2**			
P18A	**Preston Nutter**	**119.63**	**298**	*e*PKPdf	**PKPdf**		**21 12 43.7**	**+0.4**			
MSU	**Marysvale**	**119.71**	**296**	*e*PKPdf	**PKPdf**		**21 12 44.5**	**+1.1**			
MSU	**Marysvale**	**119.71**	**296**	*e*PKIKP	**PKPdf**		**21 12 44.5**	**+1.1**			
B34A	**Aery, Baudette**	**119.72**	**314**	P	**PKPdf**		**21 12 42.5**	**-0.2**			
	baz=144										
RWWY	**Rawlins**	**119.78**	**301**	*e*PKPdf	**PKPdf**		**21 12 43.2**	**-0.3**			
TMUT	**Trail Mountain**	**119.84**	**297**	*e*PKPdf	**PKPdf**		**21 12 44.4**	**+0.6**			
AGMN	**Agassiz Nation**	**120.05**	**313**	P	**PKPdf**		**21 12 43.2**	**-0.2**			
	baz=143										
AGMN	**Agassiz Nation**	**120.05**	**313**	*e*PKPdf	**PKPdf**		**21 12 43.3**	**-0.1**			
AGMN				LR	LR						
	comp=Z,653nm,21.0s										
K22A	**Casper**	**120.21**	**302**	P	**PKPdf**		**21 12 43.3**	**-0.8**			
	baz=141										
RSSD	**Black Hills**	**120.22**	**305**	P	**PKPdf**		**21 12 43.7**	**-0.5**			
	baz=142										
RSSD	**Black Hills**	**120.22**	**305**	*e*PKPdf	**PKPdf**		**21 12 43.6**	**-0.5**			
RSSD	**Black Hills**	**120.22**	**305**	*e*PKIKP	**PKPdf**		**21 12 43.6**	**-0.5**			
A33A	**Warroad**	**120.38**	**314**	P	**PKPdf**		**21 12 43.0**	**-1.0**			
	baz=143										
B32A	**Ashes, Strandq**	**120.40**	**313**	P	**PKPdf**		**21 12 43.6**	**-0.4**			
	baz=143										
MPMC	**Manual Prospec**	**120.50**	**290**	P	**PKPdf**		**21 12 46.5**	**+1.6**			
	baz=141										
TPNV	**Topopah Spring**	**120.55**	**292**	*e*PKPdf	**PKPdf**		**21 12 45.7**	**+0.7**			
TPNV	**Topopah Spring**	**120.55**	**292**	*e*PKIKP	**PKPdf**		**21 12 45.7**	**+0.7**			
NLU	**North Lily Min**	**120.77**	**297**	*e*PKPdf	**PKPdf**		**21 12 46.1**	**+0.8**			
A32A	**Rocking H Ranc**	**120.80**	**313**	P	**PKPdf**		**21 12 44.8**	**0.0**			
	baz=143										
B31A	**Greenbush Farm**	**120.87**	**312**	P	**PKPdf**		**21 12 44.8**	**-0.1**			
	baz=142										
KKM	**Kota Kinabalu**	**120.94**	**134**	PFAKE			21 13 00.0	+14			
KKM				LR	LR						
	comp=Z,6µm,21.0s										
JLU	**Jordanelle**	**120.96**	**298**	*e*PKPdf	**PKPdf**		**21 12 46.9**	**+1.2**			
CTU	**Camp Tracy**	**121.18**	**297**	*e*PKPdf	**PKPdf**		**21 12 46.6**	**+0.6**			
R11A	**Troy Canyon, C**	**121.29**	**293**	P	**PKPdf**		**21 12 46.3**	**-0.1**			
	baz=140										
DUG	**Dugway, Tooele**	**121.32**	**296**	*e*PKPdf	**PKPdf**		**21 12 46.6**	**+0.4**			
DUG				LR	LR						
	comp=Z,1µm,19.0s										
DUG	**Dugway, Tooele**	**121.32**	**296**	*e*PKIKP	**PKPdf**		**21 12 46.7**	**+0.4**			
DUG				MLR	MLR						
	comp=Z,1µm,19.0s										
TCUT	**Toone Canyon**	**121.34**	**298**	*e*PKPdf	**PKPdf**		**21 12 47.4**	**+0.9**			
BORG	**Borgarnes**	**121.34**	**2**	PFAKE			21 13 00.0	+15			
BORG				LR	LR						
	comp=Z,160nm,19.0s										
ULM	**Lac du Bonnet**	**121.62**	**315**	PKP	**PKPdf**		**21 12 45.5**	**-0.8**			
	comp=Z,5.5nm,0.6s,baz=134,slow=1.1,SNR=15										
ULM				PP	**PP**		**21 14 20.9**	**+1.0**			
	comp=Z,3.1nm,0.8s,baz=164,slow=5.0,SNR=3.7										
ULM	**Lac du Bonnet**	**121.62**	**315**	*e*PKPdf	**PKPdf**		**21 12 45.9**	**-0.4**			
ULM				PP	**PP**		**21 14 20.9**	**+1.0**			
ULM	**Lac du Bonnet**	**121.62**	**315**	*e*PKIKP	**PKPdf**		**21 12 45.9**	**-0.4**			
ULM							21 14 20.9				
BW06	**Boulder Array**	**121.72**	**301**	PFAKE			21 13 00.0	+13			
BW06				LR	LR						
	comp=Z,479nm,21.0s										
PD31	**Pinedale Array**	**121.72**	**301**	*e*PKPdf	**PKPdf**		**21 12 46.2**	**-0.9**			
PDAR	**Pinedale Array**	**121.72**	**301**	PKP	**PKPdf**		**21 12 46.5**	**-0.6**			
	comp=Z,1.0nm,0.7s,baz=92,slow=4.5,SNR=9.6										
PDAR				PKKPbc	**PKKPbc**		**21 22 45.4**	**+0.5**			
	comp=Z,0.5nm,0.9s,baz=282,slow=1.8,SNR=3.1										
PDAR	**Pinedale Array**	**121.72**	**301**	*e*PKPdf	**PKPdf**		**21 12 44.8**	**-2.3**			
PDAR				PKP	**PKPdf**		**21 12 46.5**	**-0.6**			
PDAR				PKKPbc	**PKKPbc**		**21 22 45.4**	**+0.5**			
HWUT	**Hardware Ranch**	**121.79**	**298**	*e*PKPdf	**PKPdf**		**21 12 46.8**	**-0.5**			
HWUT				LR	LR						
	comp=Z,307nm,19.0s										
NIL	**Nilore**	**121.90**	**76**	*e*PKPdf	**PKPdf**		**21 12 47.1**	**-0.4**			
NIL				LR	LR						
	comp=Z,281nm,21.0s										
NIL	**Nilore**	**121.90**	**76**	*e*PKIKP	**PKPdf**		**21 12 47.1**	**-0.4**			
NIL				MLR	MLR						
	comp=Z,281nm,21.0s										
BGU	**Big Grassy Mou**	**121.98**	**297**	*e*PKPdf	**PKPdf**		**21 12 48.5**	**+0.9**			
SPUT	**South Promonto**	**121.99**	**297**	*e*PKPdf	**PKPdf**		**21 12 47.7**	**+0.1**			
OBN	**Obninsk**	**122.35**	**37**	PFAKE			21 13 00.0	+12			
OBN				LR	LR						
	comp=Z,221nm,20.0s										
AHID	**Auburn Hatcher**	**122.45**	**299**	PFAKE			21 13 00.0	+12			
AHID				LR	LR						
	comp=Z,792nm,20.0s										
HVU	**Hansel Valley**	**122.51**	**298**	*e*PKPdf	**PKPdf**		**21 12 49.2**	**+0.6**			
HVU	**Hansel Valley**	**122.51**	**298**	*e*PKIKP	**PKPdf**		**21 12 49.2**	**+0.6**			
NV11	**Mina Array Sit**	**122.66**	**291**	*e*PKPdf	**PKPdf**		**21 12 49.6**	**+0.7**			
NV01	**Mina Array Sit**	**122.73**	**291**	*e*PKPdf	**PKPdf**		**21 12 49.8**	**+0.6**			
NVAR	**Mina Array Bea**	**122.73**	**291**	PKP	**PKPdf**		**21 12 49.4**	**+0.2**			
	comp=Z,1.4nm,0.7s,baz=118,slow=3.4,SNR=9.0										
REDW	**Red Top Meadow**	**122.78**	**300**	*e*PKPdf	**PKPdf**		**21 12 49.2**	**+0.1**			
LOHW	**Long Hollow**	**122.86**	**300**	*e*PKPdf	**PKPdf**		**21 12 49.2**	**0.0**			
TPAW	**Teton Pass**	**122.93**	**300**	*e*PKPdf	**PKPdf**		**21 12 49.6**	**+0.2**			
MOOW	**Moose Ponds**	**123.03**	**300**	*e*PKPdf	**PKPdf**		**21 12 49.7**	**+0.1**			
FXWY	**Fox Creek**	**123.08**	**300**	*e*PKPdf	**PKPdf**		**21 12 50.0**	**+0.3**			
KVN	**Kaiserville**	**123.10**	**292**	*e*PKPdf	**PKPdf**		**21 12 52.1**	**+2.3**			
KVN	**Kaiserville**	**123.10**	**292**	*e*PKIKP	**PKPdf**		**21 12 52.2**	**+2.3**			
LAO	**LASA Array**	**123.18**	**306**	PFAKE			21 13 00.0	+10			
LAO				LR	LR						
	comp=Z,392nm,19.0s										
PBKT	**Sadao Pong**	**123.21**	**112**	*e*PKPdf	**PKPdf**		**21 12 49.6**	**-0.8**			
IMW	**Indian Meadow**	**123.23**	**300**	*e*PKPdf	**PKPdf**		**21 12 49.8**	**-0.3**			
RLMT	**Red Lodge**	**123.38**	**303**	P	**PKPdf**		**21 12 50.5**	**+0.3**			
	baz=139										
RLMT	**Red Lodge**	**123.38**	**303**	*e*PKPdf	**PKPdf**		**21 12 49.9**	**-0.3**			
RLMT				LR	LR						
	comp=Z,222nm,19.0s										
LKWY	**Lake**	**123.48**	**301**	PFAKE			21 13 00.0	+10			
LKWY				LR	LR						
	comp=Z,373nm,22.0s										
CMB	**Columbia Colle**	**123.50**	**289**	*e*PKPdf	**PKPdf**		**21 12 50.7**	**+0.3**			
CMB	**Columbia Colle**	**123.50**	**289**	*e*PKIKP	**PKPdf**		**21 12 50.7**	**+0.3**			
YFT	**Old Faithful**	**123.60**	**301**	*e*PKPdf	**PKPdf**		**21 12 52.3**	**+1.6**			
YERR	**Yerington**	**123.63**	**291**	*e*PKPdf	**PKPdf**		**21 12 52.2**	**+1.3**			
DGMT	**Dagmar**	**123.65**	**308**	PFAKE			21 13 00.0	+10			
DGMT				LR	LR						
	comp=Z,481nm,19.0s										
BMN	**Battle Mountai**	**123.69**	**294**	*e*PKPdf	**PKPdf**		**21 12 51.2**	**+0.3**			
BMN	**Battle Mountai**	**123.69**	**294**	*e*PKIKP	**PKPdf**		**21 12 51.2**	**+0.3**			
CM01	**Chiang Mai Arr**	**123.72**	**109**	*e*PKPdf	**PKPdf**		**21 12 51.6**	**+0.2**			
CM31	**Chiang Mai Arr**	**123.75**	**109**	*e*PKPdf	**PKPdf**		**21 12 51.6**	**+0.2**			
CMAR	**Chiang Mai Arr**	**123.75**	**109**	PKP	**PKPdf**		**21 12 51.5**	**0.0**			
	comp=Z,6.4nm,0.9s,baz=232,slow=3.5,SNR=45										
YHH	**Holmes Hill**	**123.86**	**301**	*e*PKPdf	**PKPdf**		**21 12 51.4**	**+0.2**			
CHTO	**Chiang Mai**	**124.05**	**109**	*e*PKPdf	**PKPdf**		**21 12 52.2**	**+0.2**			
CHTO				LR	LR						
	comp=Z,3µm,20.0s										
CHTO	**Chiang Mai**	**124.05**	**109**	*e*PKIKP	**PKPdf**		**21 12 52.2**	**+0.2**			
CHTO				MLR	MLR						
	comp=Z,3µm,20.0s										
GCMT	**Greycliff**	**124.06**	**303**	*e*PKPdf	**PKPdf**		**21 12 52.1**	**+0.7**			
AFDM	**Forest Hills D**	**124.49**	**290**	*e*PKPdf	**PKPdf**		**21 12 53.0**	**+0.7**			
FIA0	**FINESS Array S**	**124.62**	**27**	*e*PKPdf	**PKPdf**		**21 12 52.1**	**+0.4**			
FIA0	**FINESS Array S**	**124.62**	**27**	*e*PKIKP	**PKPdf**		**21 12 52.1**	**+0.4**			
FINES	**FINESS Array B**	**124.62**	**27**	PKP	**PKPdf**		**21 12 52.1**	**+0.4**			
	comp=Z,4.7nm,0.8s,baz=162,slow=1.7,SNR=21										
HLID	**Hailey**	**124.64**	**298**	P	**PKPdf**		**21 12 53.7**	**+1.1**			
	baz=138										
HLID	**Hailey**	**124.64**	**298**	*e*PKPdf	**PKPdf**		**21 12 53.0**	**+0.4**			
HLID				LR	LR						
	comp=Z,303nm,19.0s										
BOZ	**Bozeman (W)**	**124.83**	**301**	P	**PKPdf**		**21 12 53.4**	**+0.6**			
	baz=138										
BOZ	**Bozeman (W)**	**124.83**	**301**	*e*PKPdf	**PKPdf**		**21 12 53.2**	**+0.3**			
BOZ				LR	LR						
	comp=Z,952nm,22.0s										
BOZ	**Bozeman (W)**	**124.83**	**301**	*e*PKIKP	**PKPdf**		**21 12 53.2**	**+0.3**			
BOZ				MLR	MLR						
	comp=Z,952nm,22.0s										
MCMT	**McKenzie Canyo**	**124.83**	**300**	*e*PKPdf	**PKPdf**		**21 12 54.2**	**+1.2**			
BEKR	**Beckworth**	**124.86**	**291**	*e*PKPdf	**PKPdf**		**21 12 54.9**	**+1.7**			
ORV	**Oroville**	**125.22**	**290**	*e*PKPdf	**PKPdf**		**21 12 54.8**	**+1.2**			
ORV	**Oroville**	**125.22**	**290**	*e*PKIKP	**PKPdf**		**21 12 54.8**	**+1.2**			
DAV	**Davao City (W)**	**125.29**	**144**	PFAKE			21 13 10.0	+15			
DAV				LR	LR						
	comp=Z,6µm,19.0s										
LRM	**Limekiln Ridge**	**125.38**	**301**	*e*PKPdf	**PKPdf**		**21 12 54.7**	**+0.7**			
EGMT	**Eagleton**	**125.77**	**305**	P	**PKPdf**		**21 12 55.2**	**+0.7**			
	baz=138										
EGMT	**Eagleton**	**125.77**	**305**	*e*PKPdf	**PKPdf**		**21 12 54.1**	**-0.4**			
EGMT				LR	LR						
	comp=Z,735nm,22.0s										
WVOR	**Wild Horse Val**	**125.89**	**294**	*e*PKPdf	**PKPdf**		**21 12 56.5**	**+1.5**			
WVOR	**Wild Horse Val**	**125.89**	**294**	*e*PKIKP	**PKPdf**		**21 12 56.5**	**+1.5**			
O03D	**Paynes Creek**	**125.92**	**290**	P	**PKPdf**		**21 12 55.3**	**+0.2**			
	baz=138										
MOD	**Modoc Plateau**	**126.34**	**293**	*e*PKPdf	**PKPdf**		**21 12 57.3**	**+1.4**			
J08A	**Circle Bar Ran**	**126.49**	**295**	*e*PKPdf	**PKPdf**		**21 12 56.8**	**+0.8**			
WDC	**Whiskeytown Da**	**126.51**	**290**	*e*PKPdf	**PKPdf**		**21 12 55.4**	**-0.6**			
WDC	**Whiskeytown Da**	**126.51**	**290**	*e*PKIKP	**PKPdf**		**21 12 55.4**	**-0.6**			
MSO	**Missoula**	**126.83**	**301**	P	**PKPdf**		**21 12 57.0**	**+0.4**			
	baz=137										
MSO	**Missoula**	**126.83**	**301**	*e*PKPdf	**PKPdf**		**21 12 56.8**	**+0.2**			
N02D	**Trinity Center**	**126.89**	**290**	P	**PKPdf**		**21 12 57.7**	**+0.9**			
	baz=137										
ABKAR	**Akbulak array**	**126.95**	**55**	*e*PKPdf	**PKPdf**		**21 12 56.7**	**+0.1**			
AKTO	**Aktyubinsk**	**126.96**	**53**	PKP	**PKPdf**		**21 12 57.4**	**+0.8**			
	comp=Z,4.7nm,1.0s,baz=165,slow=3.9,SNR=11										
BMO	**Blue Mountains**	**127.00**	**297**	*e*PKPdf	**PKPdf**		**21 12 57.4**	**+0.4**			
BMO				LR	LR						
	comp=Z,2µm,20.0s										
BMO	**Blue Mountains**	**127.00**	**297**	*e*PKIKP	**PKPdf**		**21 12 57.4**	**+0.4**			
BMO				MLR	MLR						
	comp=Z,2µm,20.0s										
M04C	**Macdoel**	**127.03**	**291**	P	**PKPdf**		**21 12 58.1**	**+0.9**			
	baz=137										
K05A	**Summer Lake**	**127.24**	**293**	*e*PKPdf	**PKPdf**		**21 12 58.4**	**+0.8**			
M02C	**Callahan**	**127.27**	**290**	P	**PKPdf**		**21 12 58.7**	**+1.1**			
	baz=137										
FFC	**Flin Flon**	**127.44**	**315**	*e*PKPdf	**PKPdf**		**21 12 57.2**	**-0.2**			
FFC				LR	LR						
	comp=Z,429nm,22.0s										
FFC	**Flin Flon**	**127.44**	**315**	*e*PKIKP	**PKPdf**		**21 12 57.2**	**-0.2**			
FFC				MLR	MLR						
	comp=Z,429nm,22.0s										
I07A	**Izee**	**127.53**	**295**	*e*PKPdf	**PKPdf**		**21 12 59.2**	**+1.2**			
KK31	**Karatay Array**	**127.53**	**67**	*e*PKPdf	**PKPdf**		**21 12 57.9**	**-0.1**			
KK31	**Karatay Array**	**127.53**	**67**	*e*PKIKP	**PKPdf**		**21 12 57.9**	**-0.1**			
KKAR	**Karatay Array**	**127.53**	**67**	*e*PKPdf	**PKPdf**		**21 12 57.6**	**-0.4**			
KKAR	**Karatay Array**	**127.53**	**67**	*e*PKIKP	**PKPdf**		**21 12 57.6**	**-0.4**			
FCC	**Fort Churchill**	**127.61**	**322**	*e*PKPdf	**PKPdf**		**21 12 57.2**	**-0.2**			
FCC	**Fort Churchill**	**127.61**	**322**	*e*PKIKP	**PKPdf**		**21 12 57.3**	**-0.2**			
KSH	**Kashi**	**127.74**	**74**	PKP	**PKPdf**		**21 12 59.3**	**+0.7**			
KSH				sPKP			21 13 10.8				
KSH				PP	**PP**		**21 14 58.6**	**-2.6**			
KSH				SKS	**SKSdf**		**21 20 03.8**	**-4.9**			
KSH				SKKS	**SKKSac**		**21 21 51.3**	**-5.1**			
KSH				AMB	AMB						
	comp=Z,310nm,4.8s										
KSH				LR	LR						
	comp=Z,310nm,7.1s										
KSH				LR	LR						
	comp=Z,410nm,8.7s										
F10A	**Beach Ranch, E**	**127.77**	**298**	*e*PKPdf	**PKPdf**		**21 12 57.7**	**-0.7**			
J05D	**Fort Rock, OR**	**127.82**	**293**	P	**PKPdf**		**21 12 59.4**	**+0.8**			
	baz=136										
KLMR	**Klimovskoe**	**127.89**	**34**	*e*PKPdf	**PKPdf**		**21 12 57.2**	**-0.8**			
KLMR				AMP			21 13 00.0				
	comp=Z,15nm,1.2s										
KLMR				*e*SKP			21 16 25.9				
KLMR	**Klimovskoe**	**127.89**	**34**	*e*PKIKP	**PKPdf**		**21 12 57.1**	**-0.9**			
KLMR				pmax	pmax						
	comp=Z,15nm,1.2s										
PINE	**Pine Mountain**	**128.03**	**294**	*e*PKPdf	**PKPdf**		**21 13 00.1**	**+0.9**			
G08A	**Pilot Rock**	**128.13**	**296**	*e*PKPdf	**PKPdf**		**21 13 00.1**	**+1.0**			
HUMO	**Hull Mountain**	**128.20**	**291**	*e*PKPdf	**PKPdf**		**21 12 59.7**	**+0.5**			
J04D	**Umpqua Nationa**	**128.23**	**293**	P	**PKPdf**		**21 13 00.4**	**+0.9**			
	baz=136										
WALA	**Waterton Lakes**	**128.42**	**303**	*e*PKPdf	**PKPdf**		**21 12 59.5**	**-0.1**			
AML	**Almayashu**	**128.45**	**70**	P	**PKPdf**		**21 13 01.3**	**+1.0**			
	SNR=12										
LSA	**Lhasa**	**128.62**	**94**	PFAKE			21 13 10.0	+9.0			
LSA				LR	LR						
	comp=Z,2µm,19.0s										
I04A	**Tendick Farm,**	**128.78**	**293**	P	**PKPdf**		**21 13 01.4**	**+1.1**			
	baz=136										
EKS2	**Erkin-Say**	**128.88**	**69**	P	**PKPdf**		**21 13 01.4**	**+0.7**			
	SNR=11										
UCH	**Uchtor**	**128.94**	**70**	P	**PKPdf**		**21 13 02.3**	**+1.1**			
	SNR=8.1										
NRN	**Naryn**	**129.15**	**72**	*e*PKPdf	**PKPdf**		**21 13 00.8**	**-0.7**			
NRN	**Naryn**	**129.15**	**72**	*e*PKIKP	**PKPdf**		**21 13 00.8**	**-0.7**			
HAWA	**Hanford**	**129.19**	**297**	PFAKE			21 13 10.0	+9.0			
HAWA				LR	LR						
	comp=Z,2µm,21.0s										
KZA	**Kyzart**	**129.22**	**71**	P	**PKPdf**		**21 13 02.9**	**+1.2**			
	SNR=8.5										
AAK	**Ala-Archa**	**129.23**	**70**	PKP	**PKPdf**		**21 13 01.8**	**+0.4**			
	comp=Z,5.7nm,1.1s,baz=182,slow=2.9,SNR=11										
AAK	**Ala-Archa**	**129.23**	**70**	P	**PKPdf**		**21 13 02.2**	**+0.8**			
	SNR=7.6										
AAK	**Ala-Archa**	**129.23**	**70**	*e*PKPdf	**PKPdf**		**21 13 01.6**	**+0.2**			
AAK				LR	LR						
	comp=Z,569nm,20.0s										
AAK	**Ala-Archa**	**129.23**	**70***c*	*i* PKIKP	**PKPdf**		**21 13 02.1**	**+0.7**			
NEW	**Newport**	**129.36**	**300**	PKP	**PKPdf**		**21 13 01.3**	**0.0**			
	comp=Z,1.3nm,0.5s,baz=200,slow=5.1,SNR=4.0										
NEW	**Newport**	**129.36**	**300**	P	**PKPdf**		**21 13 01.1**	**-0.2**			
	baz=135										
NEW	**Newport**	**129.36**	**300**	PKP	**PKPdf**		**21 13 01.3**	**0.0**			
NEW				LR	LR						
	comp=Z,1µm,19.0s										
NEW	**Newport**	**129.36**	**300**	PKIKP	**PKPdf**		**21 13 01.3**	**0.0**			
NEW				pmax	pmax						
	comp=Z,2.0nm,0.9s										
SUMG	**Summit**	**129.50**	**355**	*i* P	**PKPdf**		**21 13 03.0**	**+1.7**			
	comp=Z,7.8nm,1.1s										
SUMG	**Summit**	**129.50**	**355**	*e*PKIKP	**PKPdf**		**21 13 03.0**	**+1.7**			
SUMG				pmax	pmax						
	comp=Z,8.0nm,1.1s										
USP	**Ospenovka**	**129.68**	**69**	P	**PKPdf**		**21 13 02.9**	**+0.8**			
	SNR=5.3										
TMCR	**Tamitsa**	**130.02**	**31**	*e*PKIKP	**PKPdf**		**21 12 59.6**	**-2.3**			
TMCR				pmax	pmax						
	comp=Z,22nm,1.3s										
LTY	**Liberty**	**130.36**	**297**	*e*PKPdf	**PKPdf**		**21 13 03.1**	**-0.1**			
B08A	**Colville Reser**	**130.48**	**299**	*e*PKPdf	**PKPdf**		**21 13 04.2**	**+0.8**			
KIP	**Kipapa**	**130.62**	**244**	PFAKE			21 13 20.0	+16			
KIP				LR	LR						
	comp=Z,32µm,21.0s										
EDM	**Edmonton**	**131.09**	**307**	*e*PKPdf	**PKPdf**		**21 13 04.5**	**+0.1**			
EDM	**Edmonton**	**131.09**	**307**	*e*PKIKP	**PKPdf**		**21 13 04.5**	**+0.1**			
ARCES	**ARCESS Array B**	**131.32**	**21**	PKP	**PKPdf**		**21 13 05.4**	**+1.1**			
	comp=Z,1.5nm,0.6s,baz=185,slow=1.3,SNR=16										
ARA0	**ARCESS Array S**	**131.32

XAN SKS **SKSdf 21 20 26.4 -6.5**
XAN AMB AMB
comp=E,130nm,12.5s
XAN LR LR
comp=E,160nm,23.3s
XAN LR LR
comp=E,140nm,24.4s
XAN LR LR
comp=E,160nm,26.6s
DLBC Dease Lake 141.70 305 *e*PKPdf **PKPdf 21 13 22.8 -1.1**
ZAA0 Zalesovo Array 141.75 64 *e*PKPpre PKPpre 21 13 19.2
ZAA0 *e*PKPdf **PKiKP 21 13 26.8 -0.2**
ZALV Zalesovo Beam 141.75 64 PKhKP PKPpre 21 13 18.2
comp=E,0.9nm,0.5s,baz=256,slow=4.1,SNR=4.4
ZALV SKPbc **SKiKP 21 17 02.9 +1.6**
comp=E,0.6nm,0.6s,baz=247,slow=3.0,SNR=3.6
ZALV Zalesovo Beam 141.75 64 *e*PKPpre PKPpre 21 13 18.1
ZALV *e*PKPdf **PKiKP 21 13 27.0 +0.1**
ZALV SKPbc **SKiKP 21 17 02.9 +1.6**
ZALV Zalesovo Beam 141.75 64 *e*PKHKP PKPpre 21 13 18.1
ZAA1 Zalesovo Array 141.75 64 *e*PKPpre PKPpre 21 13 18.2
ZAA1 *e*SKPbc **SKiKP 21 17 02.9 +1.5**
JOW Kunigami 144.50 137 PKP **PKPdf 21 13 30.0 +0.2**
comp=E,33nm,0.9s,baz=255,slow=4.9,SNR=9.1
JOW Kunigami 144.50 137 *e*PKPdf **PKPdf 21 13 29.5 -0.3**
SKAG Skagway 144.60 304 *e*PKPdf **PKPdf 21 13 28.2 -0.7**
WHY Whitehorse 144.93 306 *e*PKPdf **PKPab 21 13 28.7 -0.3**
NJ2 Nanjing 144.97 120 *e*PKPbc **PKPdf 21 13 31.3 +0.9**
MIDW Midway 145.23 226 PFAKE 21 13 40.0 +9.0
MIDW LR LR
comp=Z,14μm,20.0s
HYT Haines Junctio 146.17 305 *e*PKPdf **PKPdf 21 13 32.1 +0.4**
TIY Taiyuan 146.19 106 *e*PKPbc **PKPbc 21 13 33.3 -0.2**
BTO Baotou 146.99 100 *e*PKPbc **PKPdf 21 13 32.6 -1.2**
INK Inuvik 147.15 319 PKPbc **PKPbc 21 13 35.4 +0.1**
comp=Z,25nm,0.6s,baz=78,slow=3.0,SNR=68
INK SKPbc **SKiKP 21 17 14.0 +2.0**
comp=Z,4.9nm,0.9s,baz=62,slow=3.5,SNR=3.4
INK Inuvik 147.15 319 *e*PKPbc **PKPbc 21 13 35.0 -0.2**
INK *e*SKPbc **SKiKP 21 17 13.6 +1.5**
HHC Hu-ho-hao-te 148.00 101 *e*PKPbc **PKPdf 21 13 33.0 -2.4**
HHC PP **PP 21 17 05.4 -1.6**
HHC SKKS 21 23 51.3
HHC SS **SS 21 36 11.8 +0.1**
HHC AMB AMB
comp=Z,89nm,8.9s
HHC LR LR
comp=Z,440nm,19.2s
HHC LR LR
comp=Z,690nm,21.2s
HHC LR LR
comp=Z,750nm,22.0s
DAWY Dawson 148.17 310 *e*PKPbc **PKPbc 21 13 38.1 -0.1**
BALM Baldy 148.44 304 *e*PKPdf **PKPdf 21 13 34.1 -1.3**
BALM *e*PKPbc **PKPbc 21 13 38.7 -0.4**
BALM Baldy 148.44 304 *e*PKHKP **PKPdf 21 13 34.2 -1.3**
BALM *e* 21 13 38.7
MOY Mondy 148.86 76 *e*PKP2 **PKPbc 21 13 41.2 +0.7**
MOY pmax pmax
comp=Z,48nm,1.9s
EGAK Eagle 149.11 311 *e*PKPbc **PKPbc 21 13 40.1 -0.4**
EGAK LR LR
comp=Z,4μm,19.0s
ZAK Zakamensk 149.41 80 *e*PKHKP PKPpre 21 13 37.1
ZAK pmax pmax
comp=Z,20nm,1.4s
BMRM Bremner River 149.44 303 *e*PKPdf **PKPdf 21 13 35.9 -1.1**
BMRM *e*PKPbc **PKPbc 21 13 41.8 +0.3**
MENT Mentasta 149.67 307 *e*PKPdf **PKPdf 21 13 36.0 -1.3**
MENT *e*PKPbc **PKPbc 21 13 41.1 -0.9**
SONA0 Songino Array 149.68 86 *e*PKPdf **PKPdf 21 13 38.0 0.0**
SONA0 *e*PKPbc **PKPbc 21 13 42.9 +0.3**
SONM Songino Array 149.68 86 PKP **PKPdf 21 13 38.0 0.0**
comp=Z,3.0nm,0.9s,baz=250,slow=2.9,SNR=8.2
SONM PKPbc **PKPbc 21 13 42.9 +0.3**
comp=Z,16nm,0.9s,baz=196,slow=4.3,SNR=46
SONA1 Songino Array 149.69 86 *e*PKPdf **PKPdf 21 13 37.2 -0.8**
SONA1 *e*PKPbc **PKiKP 21 13 43.0 -0.7**
EYAK Cordova Ski Ar 149.83 302 *e*PKPbc **PKPbc 21 13 43.3 +0.9**
BJT Baijiatuau 149.85 107 PFAKE 21 13 50.0 +1.3
BJT LR LR
comp=Z,14μm,19.0s
BJI Beijing 149.87 107 PKPbc **PKPbc 21 13 44.3 +1.1**
DOT Dot Lake 150.03 309 *e*PKPdf **PKPdf 21 13 36.1 -1.8**
DOT *e*PKPbc **PKiKP 21 13 43.8 +0.1**
DIV Divide 150.03 303 *e*PKPdf **PKPdf 21 13 36.3 -1.7**
DIV *e*PKPbc **PKiKP 21 13 43.9 0.0**
ULN Ulaanbaatar 150.06 87 *e*PKPdf **PKPdf 21 13 36.9 -1.7**
ULN *e*PKPbc **PKPbc 21 13 43.5 -0.1**
ULN Ulaanbaatar 150.06 87 *e*PKIKP **PKPdf 21 13 36.9 -1.7**
ULN *e* 21 13 43.5
SCRK Sand Creek 150.08 309 *e*PKPdf **PKPdf 21 13 37.2 -1.4**
SCRK *e*PKPbc **PKPbc 21 13 43.9 +0.8**
SCRK *e*PKPab **PKPab 21 13 54.3 +5.1**
HARP HAARP 150.15 306 *e*PKPbc **PKPbc 21 13 43.2 0.0**
KLU Klutina 150.22 304 *e*PKPdf **PKPdf 21 13 36.3 -2.0**
KLU *e*PKPbc **PKiKP 21 13 44.4 +0.2**
TLY Talaya 150.28 78 PKPbc **PKPbc 21 13 44.5 +0.6**
comp=Z,7.1nm,0.7s,baz=201,slow=3.0,SNR=4.3
TLY Talaya 150.28 78 PFAKE 21 13 50.0 -0.3
TLY LR LR
comp=Z,3μm,21.0s
TLY Talaya 150.28 78 *e*PKIKP **PKPbc 21 13 45.1 +1.3**
TLY pmax pmax
comp=Z,25nm,1.0s
RIDG Independ'e Rid 150.38 309 *e*PKPdf **PKPdf 21 13 36.9 -1.6**
RIDG *e*PKPbc **PKiKP 21 13 44.8 +0.3**
PAX Paxson 150.45 307 *e*PKPbc **PKPbc 21 13 44.1 +0.1**
PAX Paxson 150.45 307 *e*PKIKP **PKPbc 21 13 44.1 +0.1**
IRK Irkutsk 150.90 77 *e*PKIKP **PKPbc 21 13 44.1 -1.2**
IRK pmax pmax
comp=Z,32nm,2.1s
SCM Sheep Creek Mo 150.96 304 *e*PKPbc **PKPbc 21 13 45.6 +0.4**
SCM Sheep Creek Mo 150.96 304 *e*PKIKP **PKPbc 21 13 45.6 +0.4**
JNU Nakatsue 151.13 135 PKPbc **PKPbc 21 13 47.1 +0.7**
comp=Z,18nm,0.9s,baz=169,slow=2.3,SNR=11
FYU Fort Yukon 151.16 314 *e*PKPdf **PKPdf 21 13 39.3 -0.2**
FYU *e*PKPbc **PKPbc 21 13 46.4 +1.0**
DHY Denali Highway 151.32 307 *e*PKPbc **PKPbc 21 13 46.5 +0.4**
SML Sawmill 151.41 304 *e*PKPbc **PKPbc 21 13 46.8 +0.6**
SML Sawmill 151.41 304 *e*PKIKP **PKPbc 21 13 46.8 +0.6**
HDA Harding Lake 151.44 309 *e*PKPbc **PKPbc 21 13 46.3 +0.2**
ILAR Eielson Array 151.49 310 PKPbc **PKPbc 21 13 46.4 +0.1**
comp=Z,59nm,1.0s,baz=122,slow=1.4,SNR=126
ILB Eielson Array 151.49 310 *e*PKPdf **PKPdf 21 13 38.2 -1.9**
ILB *e*PKPbc **PKPbc 21 13 46.4 +0.1**
GHO Glory Hole Cre 151.67 304 *e*PKPdf **PKPdf 21 13 39.1 -1.4**
GHO *e*PKPbc **PKPbc 21 13 47.3 +0.5**
PMR Palmer 151.72 303 *e*PKPbc **PKPbc 21 13 47.4 +0.6**
PMR Palmer 151.72 303 *e*PKIKP **PKPbc 21 13 47.4 +0.6**
RC01 Rabbit Creek A 151.85 302 *e*PKPbc **PKPbc 21 13 48.0 +0.8**
CCB Clear Creek Bu 151.86 310 *e*PKPdf **PKPdf 21 13 38.5 -2.1**
CCB *e*PKPbc **PKPbc 21 13 46.8 -0.2**
CCB *e*PKPab **sPKPbc 21 13 57.6 +0.5**
COLA College 151.92 310 *e*PKPbc **PKPbc 21 13 46.8 -0.4**
COLA LR LR
comp=Z,2μm,20.0s
COLA College 151.92 310 *e*PKIKP **PKPbc 21 13 46.8 -0.4**
COLA MLR MLR
comp=Z,2μm,20.0s
WRH Wood River Hil 151.94 309 *e*PKPdf **PKPdf 21 13 38.0 -2.7**
WRH *e*PKPbc **PKPbc 21 13 47.5 +0.2**
WRH *e*PKPab **PKPab 21 13 58.6 +1.9**
BRLK Bradley Lake 152.00 299 *e*PKPdf **PKPdf 21 13 38.8 -2.2**
BRLK *e*PKPbc **pPKPdf 21 13 48.6 +0.2**
RND Reindeer 152.04 307 *e*PKPbc **PKPbc 21 13 48.3 +0.7**
RND Reindeer 152.04 307 *e*PKIKP **PKPbc 21 13 48.3 +0.7**
MDM Murphy Dome 152.09 310 *e*PKPdf **PKPdf 21 13 39.6 -1.4**
MDM *e*PKPbc **PKPbc 21 13 47.4 -0.2**
MDM *e*PKPab **PKPab 21 13 57.1 -0.3**
MCK McKinley 152.15 308 *e*PKPbc **PKPbc 21 13 48.6 +0.8**
MCK *e*PKPab **sPKPbc 21 13 59.6 +1.8**
MCK McKinley 152.15 308 *e*PKIKP **PKPbc 21 13 48.6 +0.8**
MCK *e* 21 13 59.6
KDAK Kodiak Island 152.17 294 PKPbc **PKPbc 21 13 49.0 +1.1**
comp=Z,27nm,0.9s,baz=126,slow=1.8,SNR=10
KDAK Kodiak Island 152.17 294 *e*PKPbc **PKPbc 21 13 48.3 +0.3**
KDAK LR LR
comp=Z,6μm,20.0s
SUA Susitna One 152.42 302 *e*PKPbc **PKPbc 21 13 48.9 +0.3**
TRF Thorofare Moun 152.69 307 *e*PKPbc **PKPbc 21 13 48.0 -1.2**
SKT Skwentna 152.92 303 *e*PKPdf **PKPdf 21 13 42.2 -0.1**
SKT *e*PKPbc **pPKPdf 21 13 50.3 +0.5**
SKT *e*PKPab **PKPab 21 14 00.8 -0.2**
KTH Kantishna Hill 152.98 307 *e*PKPbc **PKPbc 21 13 49.8 +0.1**
KTH *e*PKPab **PKPab 21 14 01.7 +0.4**
TOLK Toolik Lake Re 153.03 318 P **PKPbc 21 13 50.1 +0.5**
baz=92
TOLK Toolik Lake Re 153.03 318 *e*PKPdf **PKPdf 21 13 40.1 -2.3**
TOLK *e*PKPbc **PKiKP 21 13 50.0 +0.2**
INCN Inchon 153.06 124 PFAKE 21 13 50.0 -0.7
INCN LR LR
comp=Z,13μm,22.0s
BPAW Bear Paw Mtn. 153.11 308 *e*PKPdf **PKPdf 21 13 42.5 -0.1**
BPAW *e*PKPbc **PKiKP 21 13 50.1 +0.1**
BPAW *e*PKPab **PKPab 21 14 01.7 0.0**
MLY Manley 153.16 310 *e*PKPdf **PKPdf 21 13 43.5 +0.9**
MLY *e*PKPbc **PKiKP 21 13 50.4 +0.2**
COLD Coldfoot 153.19 315 *e*PKPdf **PKPdf 21 13 41.1 -1.4**
COLD *e*PKPbc **PKiKP 21 13 50.8 +0.7**
PPLA Purkeypile 153.42 305 *e*PKPdf **PKPdf 21 13 42.0 -1.2**
PPLA *e*PKPbc **PKPbc 21 13 50.3 -0.5**
CAST Castle Rocks 153.47 306 *e*PKPbc **PKPbc 21 13 50.3 -0.5**
CAST *e*PKPab **PKPab 21 14 02.0 -1.3**
KSAR Wonju Array Be 153.59 126 PKP **PKPdf 21 13 43.8 -0.2**
KSAR PKPbc **PKPbc 21 13 52.8 +1.0**
KSAR PKPab **PKPab 21 14 05.0 +0.6**
KSAR Wonju Array Be 153.59 126 PKIKP **PKPdf 21 13 43.8 -0.2**
KSAR 21 13 52.8
KSAR 21 14 05.0
KSRS Korea Array 153.62 126 PKP **PKPdf 21 13 43.8 -0.3**
comp=Z,1.8nm,1.0s,baz=225,slow=0.9,SNR=5.5
KSRS PKPbc **PKPbc 21 13 52.8 +0.9**
comp=Z,3.4nm,1.0s,baz=213,slow=1.8,SNR=13
KSRS PKPab **PKPab 21 14 05.0 +0.5**
comp=Z,3.1nm,0.8s,baz=215,slow=3.5,SNR=6.1
KS01 Wonju Array Si 153.62 126 *e*PKPdf **PKPdf 21 13 42.9 -1.1**
KS01 *e*PKPbc **PKiKP 21 13 52.0 0.0**
IM3 Indian Mountai 154.51 312 *e*PKPdf **PKPdf 21 13 42.8 -1.6**
IM3 *e*PKPbc **PKPbc 21 13 53.6 +0.8**
MAJO Matsushiro 156.81 144 *e*PKPab **PKPab 21 14 16.9 -1.3**
MAJO LR LR
comp=Z,9μm,21.0s
MAJO Matsushiro 156.81 144 *e*PKP2 **PKPab 21 14 16.9 -1.3**
MAJO MLR MLR
comp=Z,9μm,21.0s
MJAR Matsushiro Arr 156.81 144 PKPab **PKPab 21 14 16.9 -1.3**
comp=Z,3.4nm,0.9s,baz=189,slow=4.3,SNR=6.5
HIA Hailar 157.81 95 PFAKE 21 14 00.0 +11
HIA LR LR
comp=Z,7μm,19.0s
BOD Bodaibo 158.21 70 *e*PKIKP **PKPdf 21 13 46.9 -2.6**
BOD *e* 21 14 22.8
BOD pmax pmax
comp=Z,7.0nm,1.8s
MDJ Mudanjiang 160.02 117 PKP **PKPdf 21 13 50.3 -1.7**
MDJ Mudanjiang 160.02 117 PFAKE 21 14 00.0 +8.0
MDJ LR LR
comp=Z,11μm,22.0s
USRK Ussuriysk Ar. 160.85 122 PKPab **PKPab 21 14 35.8 +0.2**
comp=Z,5.0nm,1.0s,baz=202,slow=1.6,SNR=6.5
TIXI Tiksi 161.66 26 *e*PKPab **PKPab 21 14 39.2 +0.8**
TIXI Tiksi 161.66 26 *e*PKP2 **PKPab 21 14 39.2 +0.8**
ERM Erimo 163.34 148 PFAKE 21 14 10.0 +14
ERM LR LR
comp=Z,32μm,21.0s
ZEA Zeya 164.06 90 *e*PKIKP **PKPdf 21 13 54.0 -1.8**
ZEA pmax pmax
comp=Z,14nm,1.4s
KLR Kul'dur 164.23 109 PKPab **PKPab 21 14 50.5 +0.2**
comp=Z,0.3nm,0.8s,baz=233,slow=6.3,SNR=7.5
SEY Seymchan 173.81 10 PKP **PKPdf 21 13 59.7 -2.0**
comp=Z,2.6nm,0.9s,baz=177,slow=4.6,SNR=4.7
SEY PKPab **PKPab 21 15 31.1 -1.1**
comp=Z,1.3nm,0.6s,baz=356,slow=2.7,SNR=4.3
PETK Petropavlovsk- 175.86 205 PKPab **PKPab 21 15 41.4 -0.2**
comp=Z,5.5nm,0.9s,baz=112,slow=9.8,SNR=4.1
PEA1 Petropavlovsk- 175.87 205 *e*PKPab **PKPab 21 15 41.4 -0.2**

IDC **14** *21:10:32.8±0.4,2.80N×94.06E,h0km,mb4.4/46, mb1 4.4/49,mb1mx4.3/79,mbtmp4.4/49,ML4.1/3,MS4.0/17, Ms1 4.0/17,ms1mx3.7/70,Error ellipse: s-maj=13.2km s-min=8.7km az=36.0*
GCMT **14** *21:10:34.6±0.6,2.75N×94.36E,h22km±1km,MW5.0/64, Moment Tensor Solution. s19,c26; s64,c85; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr2.06±.33; Mθθ-2.26±.22; Mφφ0.20±.22; Mrθ-0.30±.31; Mθφ1.65±.12; Mφr2.72±.47; Best double couple: Mo3.83500×10^16 NP1:φs331.00000°,δ70.00000°,λ124.00000°. NP2: φs87.00000°,δ39.00000°,λ33.00000°. Principal axes: T 4.0920, Plg52.0000°, Azm281.0000°; N -0.5110, Plg32.0000°, Azm138.0000°; P -3.5780, Plg18.0000°, Azm36.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISCJB **14** *21:10:34.0±0.2,2.81N±0.03×94.12E±0.02,h18km, mb4.7/128,MS4.3/31 Error ellipse: s-maj=4.4km s-min=2.8km az=20.5*
NEIC **14** *21:10:34.6±0.2,2.84N×94.08E,h10km,mb5.0/37,Error ellipse: s-maj=6.0km s-min=3.7km az=30.0*
MOS **14** *21:10:35.8±1.0,2.89N×94.15E,h30km,mb5.0/55, MS4.1/8,Error ellipse: s-maj=8.0km s-min=4.5km az=113.3*
DJA **14** *21:10:40.8±0.9,3°N±3°×9°4E±°,h32km±14km,M4.7/12, mb4.9/12,mB5.3/11,MLv4.7/11,Mw(mB)4.7/11*
ISC 14 21:10:36.1±0.3,**2.83N**±0.04×**94.08E**±0.04,**h18km**,**n352,** σt**85**/383,**mb4.8**/131,**MS4.3**/32,**34C-13D,Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MLSI	**Meulaboh, Aceh**	**2.72**	**58**	P		P	**Pn**	**21 11 18.2**	**-0.7**
MLSI				S		S	**Sn**	**21 11 46.3**	**-5.1**
TPTI		**3.12**	**82**	P		P	**Pn**	**21 11 23.5**	**-0.9**
TPTI				S		S	**Sn**	**21 11 54.2**	**-7.1**
LHMI	**Lhok Sumawe**	**3.72**	**50**	P		P	**Pn**	**21 11 32.8**	**+0.2**
LHMI				S		S	**Sn**	**21 12 15.8**	**-0.2**
LHMI	**Lhok Sumawe**	**3.72**	**50**	*e*Pn		P	**Pn**	**21 11 32.9**	**+0.3**
KCSI	**Kotacane, Aceh**	**3.75**	**79**	P		P	**Pn**	**21 11 34.3**	**+1.3**
GSI	**Gunungsitoli**	**3.81**	**113**	P		P	**Pn**	**21 11 32.8**	**-1.1**
GSI				S		S	**Sn**	**21 12 15.5**	**-2.7**
GSI	**Gunungsitoli**	**3.81**	**113**	*e*Pn		P	**Pn**	**21 11 33.0**	**-0.9**
TSI	**Tuntungan**	**4.53**	**81**	P		P	**Pn**	**21 11 44.7**	**+1.0**
PSI	**Prapat**	**4.84**	**90**	Pn		P	**Pn**	**21 11 47.1**	**-1.0**
	5.7nm,0.3s,baz=294,slow=8.9,SNR=41								
PSI				Sn		S	**Sn**	**21 12 45.7**	**+1.9**
	4.8nm,0.3s,baz=346,slow=19,SNR=3.1								
PSI	**Prapat**	**4.84**	**90**	*e*Pn		P	**Pn**	**21 11 47.5**	**-0.6**
PSI				Sn		S	**Sn**	**21 12 45.7**	**+1.9**
MNSI	**Mandailing Nat**	**5.86**	**110**	P		P	**Pn**	**21 12 01.6**	**-0.4**
	158nm,0.5s,4μm0.9nm								
MNSI				S		S	**Sn**	**21 13 05.4**	**-3.4**
	158nm,0.5s,4μm0.9nm								
SISI	**Saibi**	**6.49**	**129**	P		P	**Pn**	**21 12 09.6**	**-1.2**
PKDT	**Phuket**	**6.57**	**40**	P		P	**Pn**	**21 12 10.2**	**-1.7**
	27nm,1.5s,532nm0.1nm								
IPM	**Ipoh**	**7.12**	**77**	*e*Pn		P	**Pn**	**21 12 18.9**	**-0.5**
PDSI	**Padang**	**7.38**	**120**	P		P	**Pn**	**21 12 21.9**	**-1.2**
BKNI	**Bangkinang**	**7.39**	**110**	P		P	**Pn**	**21 12 20.3**	**-2.8**
BKNI	**Bangkinang**	**7.39**	**110**	*e*Pn		P	**Pn**	**21 12 23.6**	**+0.5**
TRTT	**Trang**	**7.48**	**48**	P		P	**Pn**	**21 12 23.2**	**-1.1**
	14nm,1.3s,341nm0.1nm								
SURT	**Suratani**	**7.68**	**37**	P		P	**Pn**	**21 12 25.5**	**-1.6**
	21nm,1.4s,307nm0.1nm								
SKLT	**Songkhla**	**7.81**	**56**	P		P	**Pn**	**21 12 30.9**	**+2.0**
	167nm,1.2s,2μm0.5nm								
PPSI	**Pulau Pagai**	**8.12**	**133**	P		Pn		21 12 25.9	-7.3
MYKOM	**Kota Tinggi**	**9.81**	**96**	*e*Pn		P	**Pn**	**21 12 56.3**	**-0.2**
MASI	**Maura Aman, Be**	**10.09**	**126**	P		P	**Pn**	**21 13 00.9**	**+0.7**
TPRI	**Tanjung Pinang**	**10.61**	**100**	P		Pn		21 13 16.9	+10
MNAI	**Manna**	**11.39**	**129**	*e*Pn		P	**Pn**	**21 13 18.0**	**0.0**
MDSI	**Maura Dua**	**12.44**	**126**	P		P	**Pn**	**21 13 31.9**	**-0.4**
SRDT	**SRDT**	**12.48**	**23**	P		P	**P**	**21 13 42.1**	**-2.5**
LWLI	**Liwa**	**12.66**	**128**	P		P	**P**	**21 13 50.2**	**+3.5**
PALK	**Pallekele**	**14.04**	**289**	Pn		P	**Pn**	**21 13 53.3**	**-0.9**
	0.3nm,0.3s,baz=111,slow=15,SNR=3.0								
PALK				Sn		Sn		21 16 16.5	-13
	2.5nm,0.3s,baz=114,slow=10,SNR=6.9								
PALK				LR		LR		21 18 23.8	
	comp=Z,496nm,19.7s,baz=116,slow=34								
PALK	**Pallekele**	**14.04**	**289**	*e*Pn		P	**Pn**	**21 13 57.1**	**+2.9**
PALK				*e*Sn		P	**Sn**	**21 16 31.9**	**+2.2**
PALK	**Pallekele**	**14.04**	**289**	*e*P		P	**Pn**	**21 13 57.1**	**+2.9**
PALK				*e*				21 16 31.9	
PBKT	**Sadao Pong**	**15.24**	**26**	P		P	**Pn**	**21 14 09.5**	**-1.0**
	21nm,0.9s								
CM01	**Chiang Mai Arr**	**16.21**	**17**	*e*Pn		P	**Pn**	**21 14 23.5**	**+0.4**
CM31	**Chiang Mai Arr**	**16.24**	**17**	*e*Pn		P	**Pn**	**21 14 23.3**	**-0.2**
CMAR	**Chiang Mai Arr**	**16.24**	**17**	Pn		P	**Pn**	**21 14 22.3**	**-1.2**
	0.6nm,0.3s,baz=213,slow=12,SNR=43								
CMAR				LR		LR		21 20 21.6	
	comp=Z,359nm,21.1s,baz=204,slow=36								
KSM	**Kuching**	**16.27**	**94**	*e*Pn		P	**P**	**21 14 27.4**	**+0.5**
	84nm,1.0s								
CHTO	**Chiang Mai**	**16.58**	**16**	P		P	**Pn**	**21 14 26.8**	**-1.0**
	104nm,1.0s,2μm								
CHTO	**Chiang Mai**	**16.58**	**16**	*e*Pn		P	**Pn**	**21 14 26.3**	**-1.5**
	29nm,0.9s								
CHTO	**Chiang Mai**	**16.58**	**16**	Pn		P	**Pn**	**21 14 26.2**	**-1.6**
	SNR=16								
CHTO	**Chiang Mai**	**16.58**	**16**	P		Pn		**21 14 26.2**	**-1.6**
	SNR=16								
CHTO	**Chiang Mai**	**16.58**	**16**	*e*P		P	**Pn**	**21 14 26.3**	**-1.5**
CHTO				pmax		pmax			
	comp=Z,29nm,0.9s								
CMMT	**Chiang Mai**	**16.58**	**16**	P		P	**Pn**	**21 14 25.8**	**-2.0**
	comp=Z,41nm,1.2s,comp=Z,546nm								
SKNT	**Sakolnakorn**	**17.09**	**34**	P		P	**Pn**	**21 14 34.0**	**-0.2**
	comp=Z,18nm,1.7s								
STKI	**Sintang**	**17.60**	**99**	P		P	**Pn**	**21 14 40.4**	**-0.3**
SBUM	**Sibu**	**18.12**	**91**	*e*P		P	**Pn**	**21 14 46.4**	**-0.6**
	comp=Z,18nm,1.3s								
HYB	**Hyderabad**	**21.03**	**315**	*i* P		P	**P**	**21 15 20.0**	**+0.8**
MTKI	**Muara Teweh, K**	**21.14**	**100**	P		P	**P**	**21 15 26.0**	**+5.7**
QIZ	**Qiongzhong**	**22.29**	**43**	P		P	**P**	**21 15 33.5**	**+0.9**
QIZ				S		S	**S**	**21 19 38.3**	**+1.0**
QIZ				pmax		pmax			
	comp=Z,17nm,1.1s								
QIZ				LR		LR			
	comp=N,410nm,11.2s								
QIZ				LR		LR			
	comp=E,1μm,15.5s								
QIZ				LR		LR			
	comp=Z,760nm,14.1s								
SHL	**Shillong**	**22.70**	**355**	*e*P		P	**P**	**21 15 37.0**	**-0.1**
SHL				*e*S		P	**S**	**21 19 42.0**	**-3.0**
KMI	**Kunming**	**23.68**	**20**	P		P	**P**	**21 15 47.8**	**+0.7**
KMI				pP		sP		21 15 55.6	+0.8
KMI				sP		pP		21 15 59.4	+6.9
KMI				S		S	**S**	**21 19 57.8**	**-3.7**
KMI				sS		sS		21 20 10.3	-0.2
KMI				pmax		pmax			
	comp=Z,31nm,1.2s								
KMI				pmax		pmax			
	comp=Z,220nm,4.8s								
KMI				LR		LR			
	comp=Z,1μm,11.7s								
H08S2	**Diego Garcia H**	**23.92**	**244**	T		T		21 39 41.8	
	baz=126,slow=75,SNR=777								
H08S3	**Diego Garcia H**	**23.92**	**244**	T		T		21 39 42.1	
	baz=126,slow=75,SNR=1307								
H08S1	**Diego Garcia H**	**23.94**	**244**	T		T		21 39 49.9	
	baz=126,slow=75,SNR=846								
MYLDM	**Lahad Datu**	**24.47**	**84**	*e*P		P	**P**	**21 15 55.7**	**+1.3**
	comp=Z,95nm,1.2s								
GYA	**Guiyang**	**26.41**	**26**	P		P	**P**	**21 16 12.4**	**+0.4**
GYA				PP		PP	**PnPn**	**21 16 58.8**	**+6.9**
GYA				S		S	**S**	**21 20 44.0**	**-0.9**
GYA				SS		SnSn	**SnSn**	**21 21 54.3**	**+8.0**
GYA				ScP		ScP	**ScP**	**21 23 16.8**	**+0.1**
GYA				pmax		pmax			
	comp=Z,20nm,0.8s								
GYA				pmax		pmax			
	comp=Z,120nm,5.5s								
GYA				LR		LR			
	comp=N,490nm,17.0s								
GYA				LR		LR			
	comp=E,460nm,17.4s								
GYA				LR		LR			
	comp=Z,470nm,17.2s								
LSA	**Lhasa**	**26.86**	**354**	P		P	**P**	**21 16 17.6**	**+1.2**
LSA				pmax		pmax			
	comp=Z,16nm,1.5s								
LSA	**Lhasa**	**26.86**	**354**	*e*P		P	**P**	**21 16 16.8**	**+0.4**
	comp=Z,43nm,0.9s								
LSA	**Lhasa**	**26.86**	**354**	P		P	**P**	**21 16 17.1**	**+0.7**
LSA	**Lhasa**	**26.86**	**354**	*e*P		P	**P**	**21 16 16.8**	**+0.4**
LSA				pmax		pmax			
	comp=Z,43nm,0.9s								
TGY	**Tagaytay City**	**28.78**	**66**	LR		LR		21 28 22.2	
	comp=Z,205nm,19.1s,baz=244,slow=37								
CD2	**Chengdu**	**29.39**	**17**	P		P	**P**	**21 16 38.6**	**+0.2**
CD2				pP		sP		21 16 48.5	+2.3
CD2				sP		pP		21 16 53.0	+9.1
CD2				S		S	**S**	**21 21 31.4**	**-0.1**
CD2				sS		sS		21 21 48.4	+7.8
CD2				SS		SS	**SS**	**21 23 48.8**	**+12**
CD2				pmax		pmax			
	comp=Z,20nm,0.5s								
CD2				pmax		pmax			
	comp=Z,180nm,5.6s								
CD2				LR		LR			
	comp=N,1μm,11.5s								
CD2				LR		LR			
	comp=E,1μm,15.1s								
CD2				LR		LR			
	comp=Z,1μm,11.1s								
DAV	**Davao City (W)**	**31.65**	**81**	LR		LR		21 31 04.2	
	comp=Z,270nm,19.6s,baz=154,slow=39								
BATI	**Baumata**	**32.18**	**114**	P		P	**P**	**21 17 03.2**	**0.0**
	comp=Z,9.1nm,0.8s,baz=328,slow=13,SNR=1.8								
QZH	**Quanzhou**	**32.27**	**45**	*e*P		P	**P**	**21 17 07.8**	**+4.0**
QZH				S		S	**S**	**21 22 21.3**	**+4.7**
QZH				LR		LR			
	comp=N,580nm,12.3s								
QZH				LR		LR			
	comp=E,550nm,12.8s								
QZH				LR		LR			
	comp=Z,990nm,13.3s								
WHN	**Wuhan**	**33.58**	**33**	P		P		21 17 23.3	+8.1
XAN	**Xi'an**	**34.00**	**22**	P		P	**P**	**21 17 17.8**	**-1.1**
XAN				pP		sP		21 17 25.8	-0.9
XAN				sP		pP		21 17 28.9	+4.4
XAN				PP		PP	**PP**	**21 18 34.3**	**-1.8**
XAN				S		S	**S**	**21 22 41.4**	**-2.1**
XAN				sS		sS		21 22 53.4	+0.8
XAN				SS		SnSn	**SnSn**	**21 24 49.8**	**-0.8**
XAN				pmax		pmax			
	comp=Z,14nm,1.3s								
XAN				pmax		pmax			
	comp=Z,56nm,3.6s								
XAN				LR		LR			
	comp=N,680nm,11.9s								
XAN				LR		LR			
	comp=E,460nm,11.4s								
XAN				LR		LR			
	comp=Z,820nm,10.8s								
LZH	**Lanzhou**	**34.30**	**14**	*e*P		P	**P**	**21 17 25.3**	**+3.6**
LZH				pP		sP		21 17 31.6	+2.1
LZH				sP		pP		21 17 35.

comp=Z,3.0nm,1.5s
GTA pmax pmax
comp=Z,17nm,1.4s
GTA pmax pmax
comp=Z,83nm,5.9s
GTA LR LR
comp=N,260nm,13.3s
GTA LR LR
comp=E,310nm,12.4s
GTA LR LR
comp=Z,250nm,12.6s
NJ2 Nanjing 37.25 36 *e*P **P 21 17 47.8 +1.0**
NJ2 S **S 21 23 40.5 +7.2**
NJ2 pmax pmax
comp=Z,13nm,0.6s
NJ2 LR LR
comp=N,760nm,10.1s
NJ2 LR LR
comp=E,620nm,10.2s
NJ2 LR LR
comp=Z,820nm,10.8s
SIJI Sorong 37.35 95 P **P 21 17 47.8 -0.2**
comp=Z,10.0nm,0.9s,baz=309,slow=8.3,SNR=11
FITZ Fitzroy Crossi 37.41 125 P **P 21 17 47.3 -1.1**
comp=Z,2.0nm,1.0s,baz=320,slow=7.9,SNR=1.9
FAKI Fak Fak 38.58 98 *e*P **P 21 17 57.8 -0.5**
comp=Z,15nm,0.8s
KSH Kashi 40.05 338 P **P 21 18 08.8 -1.7**
KSH pP sP 21 18 19.4 +1.1
KSH PP **PnPn 21 19 48.3 +2.1**
KSH S **S 21 24 11.1 -4.7**
KSH Kashi 40.05 338 ScS ScS 21 28 14.9 -2.1
KSH pmax pmax
comp=Z,34nm,1.4s
KSH pmax pmax
comp=Z,190nm,2.8s
KSH LR LR
comp=N,380nm,7.3s
KSH LR LR
comp=E,360nm,8.8s
KSH LR LR
comp=Z,440nm,9.9s
JOW Kunigami 40.51 51 LR LR 21 36 28.8
comp=Z,212nm,19.3s,baz=303,slow=38
HHC Hu-ho-hao-te 41.00 20 *e*P **P 21 18 18.8 +0.5**
HHC pP pP 21 18 23.8 -0.1
HHC sP sP 21 18 27.9 +1.8
HHC S **S 21 24 28.3 -1.6**
HHC SS **SS 21 27 29.1 -3.1**
HHC pmax pmax
comp=Z,27nm,1.1s
HHC pmax pmax
comp=Z,86nm,5.7s
HHC LR LR
comp=N,530nm,14.3s
HHC LR LR
comp=E,360nm,14.4s
HHC LR LR
comp=Z,470nm,14.6s
WMQ Urumqi 41.21 353 P **P 21 18 20.9 +1.1**
WMQ pP sP 21 18 30.3 +2.6
WMQ sP pP 21 18 35.4 +10
WMQ pmax pmax
comp=Z,35nm,2.3s
WMQ LR LR
comp=N,240nm,17.7s
WMQ LR LR
comp=E,260nm,23.7s
WMQ LR LR
comp=Z,170nm,23.7s
KDJ Kajisay 41.95 341 *e*P **P 21 18 26.9 +0.8**
comp=Z,29nm,1.1s
H01W3 Cape Leeuwin H 41.98 155 T T 22 03 12.6
baz=331,slow=76,SNR=33
H01W2 Cape Leeuwin H 41.99 155 T T 22 03 22.6
baz=331,slow=76,SNR=30
H01W1 Cape Leeuwin H 41.99 155 T T 22 03 24.6
baz=331,slow=76,SNR=29
PDGK Podgornoye 42.36 344 *i* P **P 21 18 29.6 +0.2**
PDGK pmax pmax
comp=Z,47nm,1.3s
KZA Kyzart 42.56 339 P **P 21 18 32.3 +0.9**
SNR=9.1
UOSS Minazif 42.59 305 P **P 21 18 31.0 -0.4**
HATD Hatta, Dubai 42.59 304 P **P 21 18 32.3 +0.9**
ASHO Ashiyiah 42.60 304 P **P 21 18 32.7 +1.2**
MSFE Esma-Masafi 42.80 305 P **P 21 18 34.5 +1.4**
BANOM Banah 42.93 306 P **P 21 18 36.0 +1.8**
UCH Uchtor 42.96 339 P **P 21 18 35.0 +0.3**
SNR=11
KBK Karagaybulak 43.18 339 P **P 21 18 37.6 +1.5**
SNR=12
AML Almayashu 43.18 338 P **P 21 18 36.8 +0.4**
SNR=23
TKM2 Tokmak 2 43.19 340 P **P 21 18 36.4 +0.2**
SNR=14
TKM2 Tokmak 2 43.19 340 *i* P **P 21 18 34.7 -1.5**
TKM2 pmax pmax
comp=Z,15nm,1.3s
AAK Ala-Archa 43.32 339 P **P 21 18 37.7 +0.5**
comp=Z,6.0nm,1.1s,baz=155,slow=8.8,SNR=13
AAK Ala-Archa 43.32 339 P **P 21 18 37.9 +0.6**
SNR=9.7
AAK Ala-Archa 43.32 339 *e*P **P 21 18 38.2 +0.9**
comp=Z,22nm,1.4s
AAK Ala-Archa 43.32 339 P **P 21 18 38.7 +1.5**
SNR=8.7
AAK Ala-Archa 43.32 339 P **P 21 18 38.7 +1.5**
SNR=8.7
AAK Ala-Archa 43.32 339 *i* P **P 21 18 37.9 +0.6**
SNR=13
AAK Ala-Archa 43.32 339*c* *i*P **P 21 18 37.4 +0.2**
AAK pmax pmax
comp=Z,19nm,1.4s
FRU Bishkek 43.45 339 *e*P **P 21 18 38.0 -0.1**
FRU *e* 21 18 52.0
FRU pmax pmax
comp=Z,60nm,2.0s
EKS2 Erkin-Say 43.60 338 P **P 21 18 40.8 +1.3**
SNR=11
USP Ospennovka 43.87 339 P **P 21 18 41.7 +0.2**
SNR=17
MNAS Manas 43.94 337 *i* P **P 21 18 42.5 +0.3**
MNAS pmax pmax
comp=Z,10.0nm,1.1s
MK01 Makanchi Array 44.95 349 *e*P **P 21 18 50.0 -0.1**
MK31 Makanchi Array 44.97 349 *e*P **P 21 18 50.2 0.0**
MK31 Makanchi Array 44.97 349 *e*P **P 21 18 50.2 0.0**
MKAR Makanchi Array 44.97 349 P **P 21 18 50.2 0.0**
comp=Z,11nm,0.8s,baz=167,slow=9.2,SNR=81
MKAR LR LR 21 40 23.9
comp=Z,104nm,20.9s,baz=208,slow=40
MKAR Makanchi Array 44.97 349 *e*P **P 21 18 50.2 0.0**
comp=Z,73nm,0.8s
MKAR Makanchi Array 44.97 349 *e*P **P 21 18 50.2 0.0**
MKAR pmax pmax
comp=Z,73nm,0.8s
MAKZ Makanchi 45.05 348 *e*P **P 21 18 50.9 0.0**
comp=Z,19nm,1.1s
MAKZ Makanchi 45.05 348 *i* P **P 21 18 49.0 -1.9**
MAKZ pmax pmax
comp=Z,16nm,1.0s
KK31 Karatay Array 45.26 336 *e*P **P 21 18 52.3 -0.2**
KK31 Karatay Array 45.26 336 *e*P **P 21 18 52.3 -0.2**
KKAR Karatay Array 45.26 336 *e*P **P 21 18 52.3 -0.3**
KKAR Karatay Array 45.26 336 *e*P **P 21 18 52.3 -0.3**
TJN Taejon 45.34 39*de*P **P 21 18 53.4 +0.1**
WRA Warramunga Arr 45.54 122 P **P 21 18 54.6 -0.5**
comp=Z,5.1nm,1.0s,baz=296,slow=8.8,SNR=18
WRA PcP **PcP 21 20 32.7 -1.1**
comp=Z,0.8nm,0.9s,baz=341,slow=2.5,SNR=3.0
WRA Warramunga Arr 45.54 122 P **P 21 18 54.6 -0.5**
WRA 21 20 32.7
WRA pmax pmax
comp=Z,6.0nm,1.0s
WRA pmax pmax
comp=Z,1.0nm,0.9s
WRAB Tennant Creek 45.54 122 *e*P **P 21 18 55.4 +0.2**
comp=Z,15nm,0.9s
WRAB Tennant Creek 45.54 122*de*P **P 21 18 55.0 -0.2**
WRAB pmax pmax
comp=Z,16nm,1.7s
WB2 Warramunga Arr 45.55 122 *e*P **P 21 18 54.9 -0.3**
JNU Nakatsue 45.74 45 P **P 21 18 55.9 -0.7**
comp=Z,7.3nm,1.2s,baz=210,slow=8.1,SNR=2.2
JNU LR LR 21 40 53.7

comp=Z,584nm,18.3s,baz=286,slow=40
SONM Songino Array 46.07 12 P **P 21 18 58.8 -0.3**
comp=Z,9.7nm,1.0s,baz=194,slow=8.5,SNR=31
SONM LR LR 21 39 57.1
comp=Z,149nm,19.4s,baz=197,slow=38
SONA1 Songino Array 46.09 12 *e*P **P 21 18 58.8 -0.4**
ULN Ulaanbaatar 46.24 12 *e*P **P 21 18 60.0 -0.4**
comp=Z,9.5nm,1.0s
ULN Ulaanbaatar 46.24 12 P **P 21 19 00.7 +0.3**
SNR=5.8
ULN Ulaanbaatar 46.24 12 P **P 21 19 00.7 +0.3**
SNR=5.8
ULN Ulaanbaatar 46.24 12*de*P **P 21 19 00.1 -0.3**
ULN pmax pmax
comp=Z,21nm,2.5s
KSAR Wonju Array Be 46.35 38 P **P 21 19 01.1 0.0**
KSAR Wonju Array Be 46.35 38 P **P 21 19 01.2 0.0**
KS01 Wonju Array Si 46.37 38 *e*P **P 21 19 00.9 -0.5**
KSRS Korea Array 46.38 38 P **P 21 19 01.1 -0.3**
comp=Z,3.2nm,1.0s,baz=230,slow=8.8,SNR=7.1
KSRS LR LR 21 41 48.3
comp=Z,188nm,18.6s,baz=236,slow=40
ASAR Alice Springs 46.86 126 P **P 21 19 04.7 -0.9**
comp=Z,2.6nm,0.9s,baz=302,slow=6.9,SNR=19
ASAR PcP **PcP 21 20 38.3 -0.1**
comp=Z,1.5nm,0.9s,baz=309,slow=3.8,SNR=4.3
AS31 Alice Springs 46.86 126 *e*P **P 21 19 05.1 -0.5**
comp=Z,5.2nm,1.5s
AS01 Alice Springs 46.90 126 *e*P **P 21 19 04.3 -1.5**
DGZ Jazzator, Alta 47.04 354 *i* P **P 21 19 07.5 +0.9**
DGZ pmax pmax
comp=Z,2.0nm,1.1s
GEYT Alibeck 47.99 321 P **P 21 19 14.1 0.0**
comp=Z,11nm,0.9s,baz=146,slow=8.6,SNR=31
GYA0B ALIBECK ARRAY 47.99 321 *e*P **P 21 19 14.6 +0.5**
comp=Z,17nm,1.0s
ZAK Zakamensk 48.02 8 *e*P **P 21 19 13.0 -1.2**
ZAK pmax pmax
comp=Z,8.0nm,1.6s
HVS Khovu-Aksy 48.13 360*de*P **P 21 19 16.0 +1.0**
HVS pmax pmax
comp=Z,30nm,1.1s
OTUK Ortayu 48.96 341 *i* P **P 21 19 21.0 -0.3**
OTUK pmax pmax
comp=Z,39nm,1.1s
TLY Talaya 49.34 8 P **P 21 19 24.5 +0.3**
comp=Z,1.5nm,0.3s,baz=197,slow=11,SNR=2.2
TLY LR LR 21 42 20.0
comp=Z,130nm,20.6s,baz=194,slow=39
TLY Talaya 49.34 8 *e*P **P 21 19 24.6 +0.5**
comp=Z,7.0nm,0.9s
TLY Talaya 49.34 8 *e*P **P 21 19 25.5 +1.3**
TLY pmax pmax
comp=Z,15nm,1.8s
TLY MLR MLR
comp=Z,90nm,11.0s
KURBB Kurchatov Arra 49.40 347 P **P 21 19 24.9 +0.3**
comp=Z,9.3nm,0.9s,baz=167,slow=6.9,SNR=34
KURK Kurchatov 49.47 347 *e*P **P 21 19 25.0 -0.1**
comp=Z,40nm,1.2s
KURK Kurchatov 49.47 347 P **P 21 19 26.4 +1.3**
SNR=14
KURK Kurchatov 49.47 347 P **P 21 19 26.4 +1.3**
SNR=14
KURK Kurchatov 49.47 347*c* *i*P **P 21 19 24.8 -0.4**
KURK pmax pmax
comp=Z,50nm,1.7s
IRK Irkutsk 49.97 8 *e*P **P 21 19 27.4 -1.6**
IRK pmax pmax
comp=Z,35nm,2.0s
DAMY Dhamar 50.37 287 *e*P **P 21 19 34.5 +1.6**
comp=Z,3.6nm,0.7s
HIA Hailar 51.18 21*d* *i*P **P 21 19 38.7 +0.5**
HIA pmax pmax
comp=Z,13nm,1.0s
RAYN Ar Rayn 51.24 298 *e*P **P 21 19 39.9 +0.7**
comp=Z,20nm,1.8s
GUMO Guam 51.28 75 LR LR 21 40 47.2
comp=Z,159nm,20.9s,baz=297,slow=35
ZAA0 Zalesovo Array 51.52 353 *e*P **P 21 19 40.5 -0.1**
comp=Z,37nm,1.1s
ZALV Zalesovo Beam 51.52 353 P **P 21 19 40.7 +0.1**
comp=Z,21nm,1.0s,baz=181,slow=7.5,SNR=50
ZALV Zalesovo Beam 51.52 353 *e*P **P 21 19 39.6 -1.0**
ZALV Zalesovo Beam 51.52 353 *e*P **P 21 19 39.6 -1.0**
MDJ Mudanjiang 52.05 32 P **P 21 19 42.8 -1.9**
MDJ pP pP 21 19 51.1 +0.6
MDJ sP sP 21 19 54.5 +1.8
MDJ PcP PcP 21 20 48.8 -8.0
MDJ PP **PP 21 21 38.4 -4.6**
MDJ ScP ScP 21 24 40.3 -13
MDJ S **S 21 27 13.3 +5.6**
MDJ Mudanjiang 52.05 32 SS **SKiKP 21 31 00.0 -9.3**
MDJ pmax pmax
comp=Z,12nm,1.1s
MDJ pmax pmax
comp=Z,220nm,7.9s
MDJ LR LR
comp=N,480nm,13.7s
MDJ LR LR
comp=E,440nm,12.8s
MDJ LR LR
comp=Z,670nm,12.3s
NVS Novosibirsk 52.59 352⇑ *i*P **P 21 19 48.6 0.0**
NVS *i* *PP **sP 21 19 59.1 +2.6**
NVS *e*S **S 21 27 17.8 +3.0**
NVS pmax pmax
comp=Z,30nm,1.5s
NVS pmax pmax
comp=N,19nm,1.4s
NVS pmax pmax
comp=E,11nm,1.4s
NVS smax smax
comp=N,14nm,1.7s
NVS smax smax
comp=E,23nm,2.2s
MJAR Matsushiro Arr 52.67 45 P **P 21 19 50.2 +0.6**
comp=E,1.2nm,1.0s,baz=202,slow=9.2,SNR=4.0
MJAR LR LR 21 44 37.8
comp=E,264nm,18.2s,baz=255,slow=39
USRK Ussuriysk Ar. 52.06 34 P **P 21 19 52.8 +0.5**
comp=E,4.4nm,1.0s,baz=245,slow=8.2,SNR=11
BVAR Borovoye Array 53.73 342 P **P 21 19 56.3 -0.7**
comp=E,5.6nm,0.8s,baz=134,slow=6.4,SNR=23
BRVK Borovoye 53.79 342 *e*P **P 21 19 57.4 0.0**
comp=E,20nm,1.3s
BRVK Borovoye 53.79 342 P **P 21 19 57.5 0.0**
SNR=6.3
BRVK Borovoye 53.79 342 P **P 21 19 57.5 0.0**
SNR=6.3
BRVK Borovoye 53.79 342⇑ *i*P **P 21 19 56.3 -1.2**
BRVK pmax pmax
comp=Z,18nm,1.7s
AB31 Akbulak array 54.64 333 *i* P **P 21 20 02.7 -1.0**
AB31 pmax pmax
comp=Z,13nm,1.0s
ABKAR Akbulak array 54.64 333 *e*P **P 21 20 03.1 -0.6**
comp=Z,58nm,0.9s
KLR Kul'dur 56.27 29 P **P 21 20 15.4 0.0**
comp=Z,0.9nm,1.1s,baz=239,slow=6.7,SNR=17
KLR LR LR 21 45 11.0
comp=Z,16nm,20.9s,baz=210,slow=37
KLR Kul'dur 56.27 29*de*P **P 21 20 16.0 +0.6**
AKTO Aktyubinsk 56.35 333 P **P 21 20 14.5 -1.6**
comp=Z,1.7nm,0.7s,baz=155,slow=8.5,SNR=7.8
STKA Stephens Creek 56.76 131 P **P 21 20 19.1 -0.1**
comp=Z,1.0nm,0.3s,baz=307,slow=17,SNR=10
STKA LR LR 21 46 08.9
comp=Z,350nm,18.1s,baz=193,slow=38
STKA Stephens Creek 56.76 131 *e*P **P 21 20 20.1 +0.8**
comp=Z,1.5nm,1.0s
KMBO Kilima Mbogo 56.95 267 P **P 21 20 21.7 +0.5**
comp=Z,3.0nm,1.0s,baz=43,slow=11,SNR=4.8
KMBO Kilima Mbogo 56.95 267 *e*P **P 21 20 21.9 +0.6**
comp=Z,48nm,2.1s
BOD Bodaibo 57.04 13 *e*P **P 21 20 19.8 -1.0**
BOD pmax pmax
comp=Z,23nm,1.4s
ZEA Zeya 57.58 23 *e*P **P 21 20 25.0 +0.4**
ZEA pmax pmax
comp=Z,25nm,1.2s
ZEA MLR MLR
comp=Z,500nm,12.0s
GNI Garni 57.97 317 P **P 21 20 28.3 +0.4**
comp=Z,5.3nm,0.8s,baz=179,slow=4.1,SNR=10.0
GNI Garni 57.97 317 *e*P **P 21 20 28.4 +0.5**
comp=Z,73nm,1.9s

GNI Garni 57.97 317 P **P 21 20 28.9 +1.0**
SNR=6.1
GNI Garni 57.97 317 P **P 21 20 28.9 +1.0**
SNR=6.1
GNI Garni 57.97 317 *i* P **P 21 20 28.3 +0.4**
SNR=6.7
GNI Garni 57.97 317*ce*P **P 21 20 27.9 0.0**
GNI pmax pmax
comp=Z,70nm,1.2s
GROC Groznyy 58.70 320 *e*P **P 21 20 30.3 -2.4**
GROC *e* 21 21 21.1
GROC pmax pmax
comp=Z,30nm,1.3s
ASAJ Asahikawa 59.30 39 P **P 21 20 37.9 +1.0**
comp=Z,1.4nm,0.6s,baz=223,slow=15,SNR=2.2
SVE Sverdlovsk 60.05 340⇑ *e*P **P 21 20 41.4 -0.4**
SVE pmax pmax
comp=Z,46nm,1.5s
NCK Nalchik 60.26 320⇑ *e*P **P 21 20 43.8 +0.3**
NCK pmax pmax
comp=Z,7.0nm,1.2s
ARU Arti 60.50 338 P **P 21 20 44.1 -0.7**
comp=Z,5.1nm,0.8s,baz=124,slow=4.0,SNR=14
ARU Arti 60.50 338 *e*P **P 21 20 44.1 -0.7**
comp=Z,22nm,1.2s
ARU Arti 60.50 338*c* *i*P **P 21 20 43.6 -1.3**
ARU 21 21 28.2
ARU 21 22 55.1
ARU S **S 21 28 57.7 -1.8**
ARU pmax pmax
comp=Z,32nm,1.7s
NEY Neytrino 60.71 319⇓ *e*P **P 21 20 48.7 +1.9**
NEY pmax pmax
comp=Z,1.0nm,0.8s
KBZ Khabaz 60.81 320 P **P 21 20 46.9 -0.3**
comp=Z,5.9nm,1.1s,baz=90,slow=8.6,SNR=11
YSS Yuzh-Sakhalins 60.82 36 *e*P **P 21 20 48.1 +0.9**
YSS *e* 21 20 56.1
YSS pmax pmax
comp=Z,10.0nm,1.2s
ASF Jabal al Asfar 60.98 305 P **P 21 20 49.2 +0.4**
comp=Z,3.5nm,0.9s,baz=70,slow=2.7,SNR=8.6
KVAR Kislovodsk Arr 61.05 320 P **P 21 20 48.7 -0.3**
comp=Z,9.2nm,1.1s,baz=63,slow=2.3,SNR=12
KIV Kislovodsk 61.05 320 *e*P **P 21 20 47.8 -1.2**
comp=Z,22nm,1.2s
KIV Kislovodsk 61.05 320 P **P 21 20 49.4 +0.4**
SNR=6.7
KIV Kislovodsk 61.05 320 P **P 21 20 49.4 +0.4**
SNR=6.7
KIV Kislovodsk 61.05 320 *i* P **P 21 20 48.7 -0.3**
SNR=8.1
KIV Kislovodsk 61.05 320 *e*P **P 21 20 48.8 -0.2**
KIV pmax pmax
comp=Z,17nm,1.1s
GOF Gofitskoye 61.33 321⇑ *e*P **P 21 20 50.0 -0.7**
MMAI Mount Meron Ar 62.43 306 P **P 21 20 57.3 -1.2**
comp=Z,5.2nm,0.9s,baz=102,slow=7.8,SNR=12
MMAI LR LR 21 51 22.9
comp=Z,719nm,18.9s,baz=220,slow=39
TYV Tymovskoe 62.82 32 *e*P **P 21 20 57.2 -3.4**
TYV *e*S **S 21 29 22.5 -6.6**
TYV pmax pmax
comp=Z,200nm,5.4s
TYV pmax pmax
comp=Z,5.0nm,1.5s
TYV smax smax
comp=N,7.0nm,1.9s
TYV MLR MLR
comp=Z,600nm,19.0s
SOC Sochi 62.83 318 *e*P **P 21 20 58.2 -2.7**
SOC *e* 21 23 24.1
SOC *e*PPP PPP 21 24 58.5
SOC *e*S **S 21 29 24.8 -4.7**
SOC *e*SS **SS 21 33 32.6 -2.2**
SOC *e*SSS SSS 21 36 21.6
SOC pmax pmax
comp=Z,17nm,0.9s
SOC MLR MLR
comp=Z,97nm,17.0s
CSS Mathiatis 64.61 308 *e*P **P 21 21 12.5 -0.3**
comp=Z,7.3nm,1.4s
YAK Yakutsk 64.78 18 P **P 21 21 12.3 -1.0**
comp=Z,5.8nm,0.4s,baz=322,slow=1.6,SNR=7.7
YAK Yakutsk 64.78 18 *e*P **P 21 21 12.9 -0.3**
comp=Z,36nm,1.2s
YAK Yakutsk 64.78 18 *e*P **P 21 21 11.8 -1.5**
YAK *e**PP **sP 21 21 26.0 +4.7**
YAK *e* 21 23 32.8
YAK *e*S **S 21 29 47.7 -5.3**
YAK *e**SS **sS 21 30 08.1 +5.5**
YAK *e* 21 30 55.9
YAK pmax pmax
comp=Z,17nm,1.0s
YAK pmax pmax
comp=N,5.0nm,1.4s
YAK pmax pmax
comp=E,6.0nm,1.3s
YAK pmax pmax
comp=Z,122nm,3.8s
YAK pmax pmax
comp=N,47nm,3.3s
YAK pmax pmax
comp=E,41nm,2.8s
YAK smax smax
comp=N,51nm,4.7s
YAK smax smax
comp=E,73nm,5.2s
VRH Novokhopyorsk 65.05 327 *e*P **P 21 21 13.8 -1.4**
VRH pmax pmax
comp=Z,7.0nm,0.8s
BR131 Keskin Array S 65.72 313 *e*P **P 21 21 20.2 +0.2**
BRTR Keskin Array B 65.72 313 P **P 21 21 19.2 -0.8**
comp=Z,2.8nm,0.8s,baz=127,slow=7.8,SNR=21
BRTR LR LR 21 53 46.5
comp=Z,121nm,18.8s,baz=232,slow=40
BR231 Keskin MP Arra 66.39 313 *e*P **P 21 21 21.0 -3.3**
VSR Storozhevoye 66.47 326 *e*P **P 21 21 22.4 -2.0**
VSR pmax pmax
comp=Z,10.0nm,1.3s
HNR Honiara 66.74 101 P **P 21 21 26.4 -0.5**
comp=Z,15nm,0.3s,baz=247,slow=13,SNR=3.0
SIM Simferopol' 67.07 318*ce*P **P 21 21 27.9 -0.5**
SIM pmax pmax
comp=Z,15nm,0.8s
LPSR Galich'ya Gora 67.23 327 *e*P **P 21 21 27.1 -2.2**
LPSR pmax pmax
comp=Z,10.0nm,1.3s
MOS Moscow 69.35 330 *e*P **P 21 21 40.1 -2.4**
MOS pmax pmax
comp=Z,34nm,0.8s
OBN Obninsk 69.61 329 P **P 21 21 43.2 -0.8**
comp=Z,4.5nm,0.3s,baz=133,slow=22,SNR=5.2
OBN Obninsk 69.61 329⇓ *e*P **P 21 21 43.3 -0.8**
OBN *e* 21 24 17.4
OBN *e*S SKiKP 21 31 19.0 -13
OBN *e*SS **SS 21 35 24.8 +5.3**
OBN pmax pmax
comp=Z,23nm,1.7s
OBN MLR MLR
comp=Z,145nm,21.0s
KLMR Klimovskoe 70.96 335 *e*P **P 21 21 49.7 -2.5**
KLMR AMP 21 21 52.9
comp=Z,24nm,1.5s
KLMR *e*PP **PP 21 24 26.6 -3.0**
KLMR Klimovskoe 70.96 335 *e*P **P 21 21 49.7 -2.5**
KLMR *e* 21 24 26.6
KLMR pmax pmax
comp=Z,24nm,1.5s
IDI Anoyia 71.43 306 P **P 21 21 55.6 -0.2**
comp=Z,19nm,1.2s,baz=63,slow=4.5,SNR=3.0
LBTB Lobatse 71.84 243 *e*P **P 21 21 58.6 +0.2**
comp=Z,34nm,1.4s
LBTB Lobatse 71.84 243 *e*P **P 21 21 58.6 +0.2**
LBTB pmax pmax
comp=Z,34nm,1.4s
SORM Soroca 71.85 320⇑ *i*P **P 21 21 56.5 -1.4**
SORM Soroca 71.85 320⇑ P **P 21 21 56.5 -1.4**
AKASG Malin Array Be 72.08 323 P **P 21 21 58.1 -1.1**
comp=Z,1.6nm,0.8s,baz=87,slow=5.4,SNR=18
KIEV Kiev 72.08 323⇑ *i*P **P 21 21 58.6 -0.6**
KIEV pmax pmax
comp=Z,5.0nm,1.1s
TIXI Tiksi 72.16 11 *e*P **P 21 21 58.0 -1.3**
comp=Z,16nm,1.2s
TIXI Tiksi 72.16 11*ce*P **P 21 21 58.4 -0.9**

TIXI				pmax	pmax		
	comp=Z,35nm,1.7s						
VRI	**Vrincioaia**	**72.31 317**	⇑	*i*P	**P**	**21 22 00.7**	**-0.1**
VRI	**Vrincioaia**	**72.31 317**	⇑	P	**P**	**21 22 00.7**	**-0.1**
PLOR	**Plostina**	**72.36 317**	⇑	*i*P	**P**	**21 22 01.1**	**0.0**
PLOR	**Plostina**	**72.36 317**	⇑	P	**P**	**21 22 01.1**	**0.0**
TESR	**Tescani**	**72.53 318**	⇓	*i*P	**P**	**21 22 00.3**	**-1.7**
MLR	**Muntele Rosu**	**72.75 317**		P	**P**	**21 22 03.9**	**+0.4**
	comp=Z,2.9nm,1.0s,baz=111,slow=4.0,SNR=8.4						
MLR				LR	LR	21 59 21.7	
	comp=Z,67nm,18.4s,baz=250,slow=40						
MLR	**Muntele Rosu**	**72.75 317**	⇑	*i*P	**P**	**21 22 02.6**	**-0.9**
MLR	**Muntele Rosu**	**72.75 317**		*e*P	**P**	**21 22 03.3**	**-0.2**
	comp=Z,33nm,1.3s						
MLR	**Muntele Rosu**	**72.75 317**	⇑	P	**P**	**21 22 02.6**	**-0.9**
BOSA	**Boshof**	**72.91 239**		P	**P**	**21 22 04.0**	**-0.8**
	comp=Z,2.0nm,0.8s,baz=84,slow=4.8,SNR=2.7						
BOSA	**Boshof**	**72.91 239**		P	**P**	**21 22 04.0**	**-0.8**
BOSA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
TMCR	**Tamitsa**	**73.23 338**		*e*P	**P**	**21 22 05.5**	**-0.3**
TMCR				pmax	pmax		
	comp=Z,25nm,1.4s						
SEY	**Seymchan**	**73.52 24**		P	**P**	**21 22 07.1**	**-0.4**
	comp=Z,2.2nm,0.9s,baz=78,slow=8.4,SNR=4.9						
SEY	**Seymchan**	**73.52 24**	⇓	*e*P	**P**	**21 22 07.3**	**-0.2**
ARR	**Arges**	**73.62 317**	⇑	*i*P	**P**	**21 22 07.7**	**-0.9**
BURAR	**Bucovina Array**	**73.75 319**	⇑	*i*P	**P**	**21 22 09.4**	**0.0**
BURAR	**Bucovina Array**	**73.75 319**	⇑	P	**P**	**21 22 09.4**	**0.0**
BUR04	**Bucovina Ar. S**	**73.75 319**		*e*P	**P**	**21 22 09.1**	**-0.3**
BUR08	**Bucovina Ar. S**	**73.77 319**		*e*P	**P**	**21 22 09.7**	**+0.2**
VTS	**Vitosha**	**74.05 313**	⇓	*i*P	**P**	**21 22 08.8**	**-2.5**
VTS	**Vitosha**	**74.05 313**		P	**P**	**21 22 10.6**	**-0.7**
	comp=Z,10nm,1.1s						
VTS	**Vitosha**	**74.05 313**	⇓	P	**P**	**21 22 08.8**	**-2.5**
CJR	**Cluj-Napoca**	**74.62 318**	⇑	*i*P	**P**	**21 22 15.6**	**+1.2**
CJR	**Cluj-Napoca**	**74.62 318**	⇑	P	**P**	**21 22 15.6**	**+1.2**
IDID	**Didziasalis**	**74.92 327**		*e*P	**P**	**21 22 14.2**	**-1.6**
IDID				IAmb	IAmb	21 22 25.9	
	comp=Z,6.1nm,1.1s						
DEV	**Deva**	**74.92 317**	⇑	*i*P	**P**	**21 22 15.4**	**-0.6**
DEV	**Deva**	**74.92 317**	⇑	P	**P**	**21 22 15.4**	**-0.6**
LVV	**L'vov**	**75.04 321**		*e*P	**P**	**21 22 17.3**	**+0.6**
IIGN	**Ignalina**	**75.21 327**		*e*P	**P**	**21 22 15.8**	**-1.8**
IIGN				IAmb	IAmb	21 22 18.9	
	comp=Z,9.7nm,1.2s						
DRGR		**75.23 318**	⇑	P	**P**	**21 22 18.1**	**+0.1**
DRGR		**75.23 318**	⇑	P	**P**	**21 22 18.1**	**+0.1**
IZAR	**Zarasai**	**75.31 327**		*e*P	**P**	**21 22 16.5**	**-1.6**
IZAR				IAmb	IAmb	21 22 18.1	
	comp=Z,6.3nm,1.0s						
TRPA	**Tarpa**	**75.62 319**	⇑	*i*P	**P**	**21 22 19.7**	**-0.3**
BZS	**Buzias**	**75.75 316**	⇑	*i*P	**P**	**21 22 20.7**	**-0.1**
BZS	**Buzias**	**75.75 316**	⇑	P	**P**	**21 22 20.7**	**-0.1**
KWP	**Kalwaria Pacla**	**75.83 321**		*e*P	**P**	**21 22 20.8**	**-0.5**
KWP	**Kalwaria Pacla**	**75.83 321**		*e*P	**P**	**21 22 20.8**	**-0.5**
SIRR	**Siria**	**75.84 317**	⇓	*i*P	**P**	**21 22 21.2**	**-0.2**
CRVS	**Cervenica-Dubn**	**76.48 320**		*e*P	**P**	**21 22 26.9**	**+1.9**
CRVS	**Cervenica-Dubn**	**76.48 320**		*e*P	**P**	**21 22 26.9**	**+1.9**
SUW	**Suwalki**	**76.56 325**		*e*P	**P**	**21 22 24.8**	**-0.4**
SUW	**Suwalki**	**76.56 325**		*e*P	**P**	**21 22 25.2**	**0.0**
	comp=Z,40nm,1.1s						
SUW	**Suwalki**	**76.56 325**		*e*P	**P**	**21 22 24.8**	**-0.4**
STHS	**Stebnicka Huta**	**76.72 320**		*e*P	**P**	**21 22 27.1**	**+0.8**
STHS	**Stebnicka Huta**	**76.72 320**		*e*P	**P**	**21 22 27.1**	**+0.8**
STHS				pmax	pmax		
	comp=Z,5.0nm,0.9s						
FINES	**FINESS Array B**	**77.13 333**		P	**P**	**21 22 27.1**	**-1.2**
	comp=Z,1.5nm,0.7s,baz=94,slow=5.3,SNR=10.0						
PSZ	**Piszkesteto**	**77.33 318**		*e*P	**P**	**21 22 30.6**	**+0.8**
	comp=Z,39nm,1.9s						
PSZ	**Piszkesteto**	**77.33 318**		*e*P	**P**	**21 22 30.6**	**+0.8**
PSZ				pmax	pmax		
	comp=Z,39nm,1.9s						
NIE	**Niedzica**	**77.33 320**		*e*P	**P**	**21 22 30.6**	**+0.8**
NIE	**Niedzica**	**77.33 320**		*e*P	**P**	**21 22 30.6**	**+0.8**
OJC	**Ojcow**	**77.79 321**		*e*P	**P**	**21 22 32.6**	**+0.3**
OJC	**Ojcow**	**77.79 321**		*e*P	**P**	**21 22 32.6**	**+0.3**
	comp=Z,8.1nm,1.0s						
OJC	**Ojcow**	**77.79 321**		*e*P	**P**	**21 22 32.6**	**+0.3**
VYHS	**Vyhne**	**78.12 319**		*e*P	**P**	**21 22 34.4**	**+0.2**
VYHS				*e*PCP		21 46 25.2	
VYHS				*e*		21 46 31.6	
VYHS	**Vyhne**	**78.12 319**		*e*P	**P**	**21 22 34.4**	**+0.2**
VYHS				pmax	pmax		
	comp=Z,9.0nm,1.4s						
OKC	**Ostrava-Krasne**	**78.78 320**		*e*P	**P**	**21 22 38.8**	**+1.0**
OKC	**Ostrava-Krasne**	**78.78 320**		*e*P	**P**	**21 22 38.8**	**+1.0**
MODS	**Modra-Piesok**	**79.13 319**		*e*P	**P**	**21 22 40.7**	**+1.0**
MODS				*e*PCP		21 46 29.9	
MODS				*e*		21 46 37.7	
MODS	**Modra-Piesok**	**79.13 319**		*e*P	**P**	**21 22 40.7**	**+1.0**
MORC	**Moravsky Berou**	**79.16 320**		*e*P	**P**	**21 22 40.4**	**+0.5**
	comp=Z,56nm,1.3s						
MORC	**Moravsky Berou**	**79.16 320**		*e*P	**P**	**21 22 40.4**	**+0.5**
MORC				pmax	pmax		
	comp=Z,56nm,1.3s						
KRLC	**Kraliky**	**79.69 320**		*e*P	**P**	**21 22 43.9**	**+1.1**
KRLC				AMS	AMS	21 22 50.0	
KRLC	**Kraliky**	**79.69 320**		*e*P	**P**	**21 22 43.9**	**+1.1**
VRAC	**Vranov**	**79.70 320**		P	**P**	**21 22 42.7**	**-0.2**
	comp=Z,1.0nm,0.4s,baz=76,slow=4.5,SNR=3.3						
ARCES	**ARCESS Array B**	**79.96 341**		P	**P**	**21 22 43.3**	**-0.6**
	comp=Z,2.7nm,0.9s,baz=28,slow=14,SNR=5.7						
CONA	**Conrad Observa**	**80.01 318**		*e*P	**P**	**21 22 45.3**	**+0.6**
	comp=Z,6.4nm,1.3s						
DPC	**Dobruska-Polom**	**80.02 321**		*e*P	**P**	**21 22 45.3**	**+0.7**
DPC				AMS	AMS	21 22 50.0	
DPC	**Dobruska-Polom**	**80.02 321**		*e*P	**P**	**21 22 45.3**	**+0.7**
KSP	**Ksiaz**	**80.10 321**		*e*P	**P**	**21 22 45.7**	**+0.8**
KSP	**Ksiaz**	**80.10 321**		*e*P	**P**	**21 22 45.7**	**+0.8**
ARSA	**Arzberg**	**80.16 317**		*e*P	**P**	**21 22 45.8**	**+0.5**
	comp=Z,18nm,1.3s,SNR=7.2						
SOKA	**Soboth**	**80.43 317**		*e*P	**P**	**21 22 48.0**	**+1.1**
	comp=Z,19nm,1.2s						
SYO	**Syowa Base**	**80.60 197**	⇑	*e*pP	pP	21 22 52.0	-1.2
OBKA	**Obir**	**80.75 317**		*e*P	**P**	**21 22 49.6**	**+1.0**
	comp=Z,15nm,1.4s						
BILL	**Bilibino**	**80.77 21**	⇑	*i*P	**P**	**21 22 47.8**	**-0.4**
BILL				*e*		21 25 53.6	
BILL				*e*S	**S**	**21 32 52.9**	**-2.2**
BILL				pmax	pmax		
	comp=Z,4.0nm,1.4s						
BILL				MLR	MLR		
	comp=Z,373nm,17.0s						
GOPC	**GO Pecny, Ondr**	**80.94 320**		*e*P	**P**	**21 22 50.3**	**+0.8**
GOPC	**GO Pecny, Ondr**	**80.94 320**		*e*P	**P**	**21 22 50.3**	**+0.8**
PRU	**Pruhonice**	**81.11 320**		*e*P	**P**	**21 22 51.1**	**+0.7**
PRU				AMS	AMS	21 23 00.0	
PRU	**Pruhonice**	**81.11 320**		*e*P	**P**	**21 22 51.1**	**+0.7**
GEA0	**GERESS Array S**	**81.54 319**		*e*P	**P**	**21 22 52.5**	**-0.3**
GEC2	**GERESS Array S**	**81.54 319**		*e*P	**P**	**21 22 53.1**	**+0.3**
	comp=Z,22nm,1.2s						
GEC2	**GERESS Array S**	**81.54 319**		*e*P	**P**	**21 22 53.1**	**+0.3**
GEC2				pmax	pmax		
	comp=Z,22nm,1.2s						
GERES	**GERESS Array B**	**81.54 319**		P	**P**	**21 22 53.0**	**+0.2**
	comp=Z,5.3nm,0.9s,baz=98,slow=5.7,SNR=15						
GERES	**GERESS Array B**	**81.54 319**		P	**P**	**21 22 53.0**	**+0.2**
GERES				pmax	pmax		
	comp=Z,5.0nm,0.9s						
BRG	**Berggiesshubel**	**81.58 321**		*e*P	**P**	**21 22 52.5**	**-0.4**
	comp=Z,26nm,1.9s						
BRG				*e*		21 23 00.0	
	comp=Z,4.8nm,0.9s						
BRG	**Berggiesshubel**	**81.58 321**		*e*P	**P**	**21 22 52.5**	**-0.4**
BRG				*e*		21 23 00.0	
BRG				pmax	pmax		
	comp=Z,26nm,1.9s						
BRG				pmax	pmax		
	comp=Z,5.0nm,1.0s						
KHC	**Kasperske Hory**	**81.65 319**		*e*P	**P**	**21 22 53.9**	**+0.6**
KHC				AMS	AMS	21 23 00.0	
KHC				*ex*	x	21 23 01.5	
KHC	**Kasperske Hory**	**81.65 319**		*e*P	**P**	**21 22 53.9**	**+0.6**
KHC				*e*		21 23 01.5	
ABTA	**Abfaltersbach**	**82.16 317**		*e*P	**P**	**21 22 56.4**	**+0.2**
	comp=Z,7.5nm,1.4s						
CLL	**Collm**	**82.22 321**		*e*P	**P**	**21 22 55.0**	**-1.2**
	comp=Z,15nm,1.7s						
CLL				*e*		21 22 59.0	
CLL				*i*		21 23 05.4	
CLL				*e*PP	**PP**	**21 26 02.0**	**-2.6**
CLL				LmV		21 57 00.0	
	comp=Z,200nm,20.5s						
CLL	**Collm**	**82.22 321**		*e*P	**P**	**21 22 55.0**	**-1.2**
CLL				*i*		21 23 05.4	
CLL				pmax	pmax		
	comp=Z,15nm,1.7s						
WTTA	**Wattenberg**	**82.80 317**		*e*P	**P**	**21 22 59.7**	**+0.1**
	comp=Z,6.9nm,0.9s						
MOTA	**Moosalm**	**83.16 317**		*i* P	**P**	**21 23 01.4**	**0.0**
	comp=Z,7.6nm,1.0s						
FETA	**Feichten**	**83.40 317**		*e*P	**P**	**21 23 03.1**	**+0.5**
	comp=Z,7.6nm,1.2s						
RETA	**Reutte**	**83.40 317**		*e*P	**P**	**21 23 02.9**	**+0.4**
	comp=Z,9.6nm,1.2s						
DAVA	**Damuels**	**83.99 317**		*e*P	**P**	**21 23 06.5**	**+0.8**
	comp=Z,13nm,1.2s						
NB2	**NORSAR Subarra**	**84.07 331**		P	P	21 22 55.4	-10
	comp=Z,8.6nm,1.2s,baz=91,slow=5.1						
NOA	**NORSAR Array B**	**84.07 331**		P	**P**	**21 23 05.0**	**-0.6**
	comp=Z,1.4nm,0.8s,baz=96,slow=5.1,SNR=3.4						
KEST	**Kesra**	**84.08 305**		P	**P**	**21 23 07.3**	**+1.1**
	comp=Z,13nm,1.1s,baz=54,slow=6.1,SNR=4.8						
SPITS	**Spitsbergen Ar**	**84.73 348**		P	**P**	**21 23 08.1**	**-0.5**
	comp=Z,1.5nm,0.7s,baz=49,slow=3.8,SNR=5.3						
SPITS	**Spitsbergen Ar**	**84.73 348**		P	**P**	**21 23 08.1**	**-0.5**
SPITS				pmax	pmax		
	comp=Z,3.0nm,0.8s						
URZ	**Urewera**	**86.26 128**		P	**P**	**21 23 16.6**	**-0.4**
	comp=Z,6.1nm,0.9s,baz=243,slow=2.3,SNR=2.4						
TAM	**Tamanrasset**	**87.59 293**		*e*P	**P**	**21 23 25.0**	**+1.0**
	comp=Z,7.7nm,1.5s						
TAM				*e*pP	**sP**	**21 23 35.3**	**+3.1**
TAM	**Tamanrasset**	**87.59 293**		*e*P	**P**	**21 23 25.0**	**+1.0**
TAM				*e**PP	**sP**	**21 23 35.3**	**+3.1**
TAM				pmax	pmax		
	comp=Z,8.0nm,1.5s						
VNDA	**Vanda**	**88.04 168**		P	**P**	**21 23 24.3**	**-0.5**
	comp=Z,0.3nm,0.5s,baz=308,slow=7.8,SNR=3.2						
TORD	**Torodi Ar. Bea**	**91.69 281**		P	**P**	**21 23 44.0**	**+0.8**
	comp=Z,1.2nm,1.1s,baz=64,slow=3.0,SNR=5.3						
ILAR	**Eielson Array**	**99.40 22**		PP	PP	21 28 20.9	+0.7
	comp=Z,0.3nm,0.8s,baz=263,slow=4.0,SNR=4.2						
YKA	**Yellowknife Ar**	**111.31 14**		PP	PP	21 29 58.6	+11
	comp=Z,0.2nm,0.8s,baz=335,slow=7.1,SNR=3.9						
PDAR	**Pinedale Array**	**129.84 23**		PKP	**PKPdf**	**21 29 45.6**	**+0.5**
	comp=Z,0.3nm,0.7s,baz=122,slow=1.9,SNR=4.8						
ECSD	**EROS Data Cent**	**132.66 11**		*e*PKPdf	**PKPdf**	**21 29 51.9**	**+1.7**
BBSR	**BB Station**	**139.62 332**		*e*PKPdf	**PKPdf**	**21 30 02.9**	**-0.5**
HHAR	**Hobbs**	**140.37 10**		*e*PKPdf	**PKPdf**	**21 30 05.2**	**+0.4**
TXAR	**Lajitas Array**	**143.77 27**		PKP	PKPbc	21 30 08.5	-0.1
	comp=Z,0.7nm,0.6s,baz=354,slow=0.9,SNR=6.9						
CPUP	**Villa Florida**	**143.97 227**		PKP	PKPbc	21 30 08.5	-0.6
	comp=Z,2.6nm,0.9s,baz=143,slow=4.2,SNR=4.5						
CPUP	**Villa Florida**	**143.97 227**		*e*PKPdf	**PKPdf**	**21 30 10.1**	**-1.3**
SIV	**San Ignacio**	**152.27 240**		PKPbc	**PKPbc**	**21 30 30.7**	**-1.2**
	comp=Z,0.6nm,0.6s,baz=158,slow=5.4,SNR=3.5						
LPAZ	**La Paz**	**157.98 231**		PKPab	**PKPab**	**21 31 07.1**	**+0.3**
	comp=Z,2.6nm,1.1s,baz=138,slow=3.2,SNR=4.5						

*ISCJB **14** 21:13:08.8±0.8,28°.86N±0°.05×112°.89W±0°.07,h17km, mb3.6/4,MS4.0/1, Error ellipse: s-maj=8.8km s-min=6.8km az=176.5*
*MEX **14** 21:13:08.7±0.4,28°.98N×113°.14W,h16km±668km, MD3.9*
*IDC **14** 21:13:12.2±4.3,28°.82N×112°.99W,h29km±31km, mb3.6/4, mb1 3.8/9, mb1mx3.5/71, mbtmp3.7/9, ML3.7/5, MS4.1/1, Ms1 4.1/1, ms1mx3.1/48, Error ellipse: s-maj=24.5km s-min=14.7km az=24.0*

ISC 14 21:13:10.6±0.9,28°.90N±0°.06×112°.95W±0°.09,h17km,n13, σ2s50/17,mb3.7/4,Gulf of California

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
SRIG	**Santa Rosalia**	**1.69**	**158**	*e*P		**Pn**	**21 13 35.9**	**-3.4**
SRIG				*i* S		**Sn**	**21 13 57.8**	**-2.8**
HSIG		**1.76**	**86**	*e*P		**Pn**	**21 13 37.5**	**-2.8**
HSIG				*e*S		**Sn**	**21 13 59.7**	**-2.6**
LPIG	**La Paz**	**5.33**	**153**	Pn		**Pn**	**21 14 29.9**	**+0.5**
	5.0nm,0.3s,baz=49,slow=20,SNR=2.1							
LPIG				Sn		**Sn**	**21 15 36.9**	**+6.4**
	4.6nm,0.3s,baz=166,slow=11,SNR=2.1							
TXAR	**Lajitas Array**	**8.13**	**85**	Pn		**Pn**	**21 15 09.4**	**+1.4**
	0.3nm,0.3s,baz=252,slow=14,SNR=12							
TXAR				Sn		**Sn**	**21 16 39.8**	**+0.1**
	0.2nm,0.3s,baz=279,slow=18,SNR=4.1							
TXAR				Lg		Lg	21 17 28.0	
	0.3nm,0.3s,baz=289,slow=11,SNR=4.5							
ANMO	**Albuquerque**	**8.17**	**41**	Pn		**Pn**	**21 15 10.8**	**+2.2**
	0.1nm,0.3s,baz=234,slow=8.7,SNR=3.5							
ANMO				Sn		**Sn**	**21 16 41.5**	**+0.9**
	0.1nm,0.3s,baz=333,slow=14,SNR=2.0							
ANMO				Lg		Lg	21 17 32.4	
	0.6nm,0.3s,baz=147,slow=22,SNR=5.6							
PDAR	**Pinedale Array**	**14.11**	**10**	Pn		**P**	**21 16 36.5**	**-0.9**
	0.1nm,0.3s,baz=217,slow=12,SNR=5.9							
NEW	**Newport**	**19.60**	**352**	P		**Pn**	**21 17 38.3**	**-1.1**
	0.2nm,0.3s,baz=180,slow=13,SNR=2.2							
ULM	**Lac du Bonnet**	**24.94**	**27**	P		**P**	**21 18 33.4**	**+0.5**
	2.5nm,0.8s,baz=216,slow=9.6,SNR=3.6							
YKA	**Yellowknife Ar**	**33.62**	**359**	P		**P**	**21 19 49.6**	**-0.2**
	0.2nm,0.6s,baz=179,slow=8.0,SNR=2.8							
ILAR	**Eielson Array**	**41.74**	**339**	P		**P**	**21 20 59.1**	**+0.7**
	0.8nm,0.9s,baz=139,slow=8.8,SNR=4.3							
SCHQ	**Schefferville**	**41.94**	**39**	P		**P**	**21 21 00.8**	**+0.6**
	3.2nm,0.6s,baz=247,slow=15,SNR=1.9							
SJG	**San Juan**	**43.99**	**93**	LR		LR	21 42 35.3	
	comp=Z,208nm,20.2s,baz=136,slow=40							
CMAR	**Chiang Mai Arr**	**123.73**	**323**	PKP		**PKPdf**	**21 32 07.5**	**-0.7**
	0.4nm,0.8s,baz=200,slow=1.8,SNR=3.8							

IDC 14 21:23:49.7±6.2,8°.15S×127°.74E,h111km±65km,mb3.1/2, mb1 3.3/6,mb1mx3.0/61,mbtmp3.6/6,Error ellipse: s-maj=56.3km s-min=21.9km az=34.0,Timor region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
BATI	**Baumata**	**4.51**	**243**	P		Pn	21 24 55.8	-0.3
	1.7nm,0.3s,baz=61,slow=19,SNR=3.8							
BATI				S		Sn	21 25 48.5	+0.9
	2.8nm,0.3s,baz=112,slow=19,SNR=9.1							
FITZ	**Fitzroy Crossi**	**10.10**	**191**	P		Pn	21 26 11.5	-0.2
	0.3nm,0.3s,baz=19,slow=12,SNR=8.4							
FITZ				S		Sn	21 28 03.0	-0.1
	0.3nm,0.3s,baz=117,slow=11,SNR=4.1							
WRA	**Warramunga Arr**	**13.35**	**152**	P		Pn	21 26 53.7	-1.3
	0.5nm,0.3s,baz=320,slow=13,SNR=18							
WRA				S		Sn	21 29 18.4	-3.7
	0.4nm,0.3s,baz=325,slow=24,SNR=8.9							
ASAR	**Alice Springs**	**16.52**	**160**	P		P	21 27 37.0	+1.3
	0.3nm,0.3s,baz=340,slow=12,SNR=21							
ASAR				S		Sn	21 30 35.5	-3.1
	0.1nm,0.3s,baz=328,slow=33,SNR=3.2							
MKAR	**Makanchi Array**	**67.98**	**328**	P		P	21 34 36.3	-0.6
	2.2nm,0.4s,baz=130,slow=7.1,SNR=4.3							
KURBB	**Kurchatov Arra**	**72.34**	**330**	P		P	21 35 03.8	+0.4
	0.2nm,0.4s,baz=119,slow=5.4,SNR=2.9							

MAN 14 21:25:04,5°.94N×126°.20E,h13km,mb5.1,ML4.0,MS4.1, 3C-1D,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
GSPH	**General Santos**	**1.25**	**277**	⇑ *i*P		Pn	21 25 24.9	-2.5
GSPH				*i* S		Sb	21 25 42.7	-1.0
DMPH	**Davao City--Mi**	**1.33**	**329**	⇓ *e*P		Pn	21 25 26.2	-2.1
DMPH				*e*S		Sg	21 25 47.1	+0.2
KCP	**Kidapawan**	**1.53**	**314**	⇑ *i*P		Pn	21 25 30.2	-1.0
KCP				*i* S		Sb	21 25 51.4	-0.3
BUKP	**Musuan**	**2.23**	**330**	*e*P		Pn	21 25 41.0	+0.2
BUKP				*e*S		Sn	21 26 10.1	+1.8
BIPH	**Bislig**	**2.24**	**4**	⇓ *e*P		Pn	21 25 42.2	+1.4
BIPH				*i* S		Sn	21 26 09.6	+1.3
BUTP	**Butuan**	**3.07**	**349**	*e*P		Pn	21 25 53.6	+1.4
BUTP				*e*S		Sb	21 26 34.3	-1.5

*IDC **14** 21:26:17.6±0.5,6°.13N×126°.79E, h0km, mb3.9/18, mb1 4.0/19, mb1mx3.8/70, mbtmp3.9/19, ML4.1/1, Error ellipse: s-maj=25.5km s-min=11.2km az=72.0*
*MAN **14** 21:26:21,6°.02N×126°.45E, h9km, mb4.8, ML3.7, MS3.7*
*NEIC **14** 21:26:23.1±1.7,6°.08N×126°.71E, h36km±15km, mb4.4/2, Error ellipse: s-maj=20.4km s-min=6.8km az=75.0*

*ISCJB **14** 21:26:24.7±0.7,5°.89N±0°.04×126°.22E±0°.07, h65km±7km, mb3.8/20, Error ellipse: s-maj=12.2km s-min=7.0km az=171.5*

ISC 14 21:26:25.8±1.0,5°.91N±0°.05×126°.19E±0°.08,h60km±10km, n36,σ1s66/40,mb3.8/19,1C-2D,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
GSPH	**General Santos**	**1.25**	**278**	⇑ *i*P		**Pn**	**21 26 44.8**	**-2.5**
GSPH				*i* S		**Sn**	**21 27 01.8**	**-1.6**
DAV	**Davao City (W)**	**1.30**	**332**	Pn		**Pn**	**21 26 47.3**	**-0.6**
	115nm,0.3s,baz=105,slow=20,SNR=3.8							
DAV				Sn		**Sn**	**21 27 06.8**	**+2.5**
	182nm,0.3s,baz=316,slow=15,SNR=6.8							
DMPH	**Davao City--Mi**	**1.35**	**330**	⇓ *e*P		**Pn**	**21 26 46.3**	**-2.1**
DMPH				*e*S		**Sn**	**21 27 07.1**	**+1.7**
BUKP	**Musuan**	**2.25**	**330**	*e*P		**Pn**	**21 27 00.1**	**-0.7**
BUKP				*e*S		**Sn**	**21 27 29.6**	**+2.1**
BIPH	**Bislig**	**2.26**	**4**	⇓ *i*P		**Pn**	**21 27 01.2**	**+0.4**
BIPH				*i* S		**Sn**	**21 27 28.1**	**+0.5**
BUTP	**Butuan**	**3.09**	**349**	*e*P		Pn	21 27 15.1	+3.0
BUTP				*e*S		Sn	21 27 54.9	+7.0
SIJI	**Sorong**	**8.43**	**143**	Pn		**Pn**	**21 28 25.4**	**+0.1**
	0.8nm,0.3s,baz=323,slow=20,SNR=3.1							
BATI	**Baumata**	**16.21**	**189**	Pn		**Pn**	**21 30 11.1**	**+1.2**
	0.8nm,0.3s,baz=10,slow=18,SNR=2.1							
FITZ	**Fitzroy Crossi**	**23.87**	**181**	P		**P**	**21 31 35.0**	**+1.2**
	2.5nm,0.8s,baz=353,slow=9.0,SNR=5.5							
WRA	**Warramunga Arr**	**26.91**	**163**	P		**P**	**21 32 01.7**	**+0.2**
	0.6nm,0.6s,baz=344,slow=10,SNR=4.6							
WRA				PcP		**PcP**	**21 35 23.3**	**+0.7**
	0.3nm,0.5s,baz=329,slow=2.7,SNR=4.6							
CMAR	**Chiang Mai Arr**	**29.35**	**298**	P		**P**	**21 32 27.1**	**+3.8**
	0.4nm,0.7s,baz=90,slow=7.3,SNR=6.6							
ASAR	**Alice Springs**	**30.35**	**166**	P		**P**	**21 32 32.0**	**0.0**
	0.4nm,0.6s,baz=345,slow=7.1,SNR=6.0							
ASAR				PcP		**PcP**	**21 35 31.8**	**+0.7**
	0.6nm,0.5s,baz=356,slow=2.3,SNR=8.6							
USRK	**Ussuriysk Ar.**	**38.47**	**7**	P		**P**	**21 33 37.7**	**-4.2**
	0.3nm,0.5s,baz=193,slow=8.0,SNR=2.3							
NWAO	**Narrogin (SRO)**	**39.55**	**192**	P		**P**	**21 33 52.3**	**+1.2**
	6.3nm,0.9s,baz=344,slow=6.5,SNR=3.6							
STKA	**Stephens Creek**	**40.35**	**160**	P		**P**	**21 33 57.9**	**+0.2**
	1.4nm,0.6s,baz=326,slow=9.2,SNR=6.1							
H11S3	**WAKE ISLAND Hy**	**41.40**	**69**	T		T	22 17 48.2	
	baz=186,slow=73,SNR=7.7							
H11S1	**WAKE ISLAND Hy**	**41.40**	**69**	T		T	22 17 55.5	
	baz=186,slow=73,SNR=5.1							
H11S2	**WAKE ISLAND Hy**	**41.41**	**69**	T		T	22 17 49.8	
	baz=186,slow=73,SNR=7.3							
KLR	**Kul'dur**	**43.42**	**5**	P		**P**	**21 34 20.7**	**-1.9**
	0.0nm,0.4s,baz=150,slow=14,SNR=2.3							
SONM	**Songino Array**	**45.07**	**341**	P		**P**	**21 34 36.3**	**+0.3**
	0.3nm,0.5s,baz=152,slow=6.5,SNR=2.3							
SONM				PcP		**PcP**	**21 36 16.2**	**+0.3**
	0.7nm,0.7s,baz=167,slow=5.2,SNR=5.2							
MKAR	**Makanchi Array**	**55.47**	**325**	P		**P**	**21 35 56.1**	**+1.6**
	0.5nm,0.6s,baz=120,slow=7.2,SNR=7.3							
MKAR				PcP		**PcP**	**21 36 53.7**	**-0.3**
	0.5nm,0.7s,baz=111,slow=3.9,SNR=4.8							
ZALV	**

PDSI	**Padang**	**7.80**	**103**	P		**Pn**	**21 36 09.6**	**+2.3**
PDSI				S		**Sn**	**21 37 31.1**	**-5.0**
PPSI	**Pulau Pagai**	**8.00**	**117**	P		**Pn**	**21 36 12.5**	**+2.6**
SDSI	**Sungai Dareh**	**8.75**	**102**	P		**Pn**	**21 36 22.5**	**+2.2**
PKDT	**Phuket**	**8.88**	**38**	P		Pn	21 36 30.1	+8.1
	19nm,0.8s,857nm0.1nm							
IPM	**Ipoh**	**8.92**	**66**	*e*Pn		**Pn**	**21 36 25.1**	**+2.4**
TRTT	**Trang**	**9.73**	**44**	P		Pn	21 36 38.6	+5.0
	5.8nm,0.8s							
MASI	**Maura Aman, Be**	**10.18**	**113**	P		**Pn**	**21 36 41.4**	**+1.5**
MYKOM	**Kota Tinggi**	**11.03**	**85**	*e*Pn		**Pn**	**21 36 54.1**	**+2.5**
MNAI	**Manna**	**11.34**	**117**	*e*Pn		**Pn**	**21 36 57.8**	**+2.1**
MDSI	**Maura Dua**	**12.49**	**115**	P		**Pn**	**21 37 12.9**	**+1.4**
LWLI	**Liwa**	**12.62**	**118**	P		**Pn**	**21 37 14.6**	**+1.3**
PALK	**Pallekele**	**13.70**	**298**	Pn		**Pn**	**21 37 26.9**	**-1.1**
	5.0nm,0.3s,baz=115,slow=12,SNR=41							
PALK				Sn		Sn	21 39 46.4	-14
	3.8nm,0.3s,baz=114,slow=5.0,SNR=5.5							
PALK	**Pallekele**	**13.70**	**298**	*e*Pn		**Pn**	**21 37 26.7**	**-1.2**
PALK				*e*Sn		Sn	21 39 46.1	-15
LEM	**Lembang**	**16.59**	**118**	Pn		**Pn**	**21 38 06.4**	**-0.2**
	1.7nm,0.3s,baz=300,slow=20,SNR=2.0							
CISI	**Cisompet, Garu**	**17.10**	**119**	*e*Pn		**Pn**	**21 38 13.7**	**+0.8**
	15nm,0.5s							
KSM	**Kuching**	**17.46**	**88**	*e*Pn		**P**	**21 38 20.8**	**+2.1**
	28nm,1.0s							
PBKT	**Sadao Pong**	**17.55**	**27**	P		**P**	**21 38 20.8**	**+1.2**
	8.9nm,1.1s							
CM01	**Chiang Mai Arr**	**18.46**	**19**	*e*P		**P**	**21 38 28.5**	**-1.2**
CM31	**Chiang Mai Arr**	**18.49**	**19**	*e*P		**Pn**	**21 38 30.9**	**+0.8**
CMAR	**Chiang Mai Arr**	**18.49**	**19**	P		**P**	**21 38 30.4**	**+0.4**
	0.3nm,0.3s,baz=215,slow=13,SNR=39							
CMAR				PcP		**PcP**	**21 43 00.5**	**+0.1**
	baz=219,slow=3.5,SNR=4.6							
STKI	**Sintang**	**18.64**	**92**	P		**Pn**	**21 38 34.5**	**+2.6**
CHTO	**Chiang Mai**	**18.83**	**18**	P		**Pn**	**21 38 36.1**	**+1.9**
	33nm,1.1s							
CHTO	**Chiang Mai**	**18.83**	**18**	*e*P		**P**	**21 38 34.4**	**+0.7**
	5.0nm,0.8s							
CMMT	**Chiang Mai**	**18.83**	**18**	P		**Pn**	**21 38 35.1**	**+0.9**
	7.3nm,1.1s							
VIS	**Vishakhapatnam**	**19.21**	**331**	*i* P		**Pn**	**21 38 42.3**	**+3.5**
VIS				*i* S		Sn	21 42 00.0	-14
VIS				*i* S		Sn	21 42 00.2	-14
SBUM	**Sibu**	**19.42**	**85**	*e*P		**Pn**	**21 38 42.5**	**+1.1**
	14nm,0.8s							
HYB	**Hyderabad**	**21.66**	**320**	*i* P		**P**	**21 39 05.0**	**+0.5**
H08S2	**Diego Garcia H**	**21.99**	**247**	T		T	22 01 10.3	
	baz=64,slow=75,SNR=4.8							
H08S3	**Diego Garcia H**	**21.99**	**247**	T		T	22 01 09.7	
	baz=64,slow=75,SNR=5.6							
H08S1	**Diego Carcia H**	**22.01**	**247**	T		T	22 01 11.6	
	baz=64,slow=75,SNR=5.5							
KMI	**Kunming**	**25.95**	**21**	P		**P**	**21 39 49.8**	**+3.1**
KMI				pmax		pmax		
	comp=Z,7.0nm,0.5s							
MYLDM	**Lahad Datu**	**25.96**	**80**	*e*P		**P**	**21 39 46.9**	**+0.2**
	comp=Z,12nm,0.8s							
ODAN	**Odare**	**26.39**	**349**	*e*P		**P**	**21 39 51.3**	**+0.6**
	comp=Z,28nm,0.5s							
RAMN	**Ramite**	**26.64**	**347**	*e*P		**P**	**21 39 54.2**	**+1.2**
	comp=Z,36nm,0.7s							
JIRN	**Jiri**	**27.42**	**347**	*e*P		**P**	**21 40 00.4**	**+0.3**
DMN	**Daman**	**27.63**	**345**	*e*P		**P**	**21 40 02.1**	**+0.3**
	comp=Z,12nm,0.8s							
GUN	**Gumba**	**27.73**	**347**	*e*P		**P**	**21 40 03.3**	**+0.5**
	comp=Z,26nm,0.6s							
KKN	**Kakani**	**27.76**	**345**	*e*P		**P**	**21 40 03.1**	**+0.1**
	comp=Z,12nm,0.6s							
GKN	**Gorkha**	**28.13**	**344**	*e*P		**P**	**21 40 06.6**	**+0.4**
	comp=Z,16nm,0.4s							
KOLN	**Koldanda**	**28.20**	**342**	*e*P		**P**	**21 40 07.2**	**+0.3**
	comp=Z,14nm,0.6s							
PYUN	**Piuthan**	**28.70**	**342**	*e*P		**P**	**21 40 11.5**	**+0.2**
	comp=Z,16nm,0.7s							
LSA	**Lhasa**	**28.74**	**357**	P		**P**	**21 40 13.0**	**+1.0**
LSA				pmax		pmax		
	comp=Z,9.0nm,1.0s							
LSA	**Lhasa**	**28.74**	**357**	*e*P		**P**	**21 40 13.0**	**+1.0**
	comp=Z,25nm,0.5s							
BATI	**Baumata**	**32.56**	**110**	P		**P**	**21 40 44.0**	**-1.4**
	comp=Z,11nm,0.5s,baz=294,slow=10.0,SNR=4.4							
NLAI	**Namlea**	**34.47**	**97**	P		**P**	**21 41 05.5**	**+3.4**
LBMI	**Labuha**	**34.68**	**92**	P		**P**	**21 41 03.2**	**-0.7**
WHN	**Wuhan**	**35.90**	**33**	P		**P**	**21 41 14.1**	**0.0**
XAN	**Xi'an**	**36.29**	**23**	P		**P**	**21 41 17.1**	**-0.4**
XAN				pP		sP	21 41 27.3	+7.2
XAN				sP		pP	21 41 31.1	+12
XAN				pmax		pmax		
	comp=Z,5.0nm,0.9s							
XAN				pmax		pmax		
	comp=Z,110nm,6.2s							
LZH	**Lanzhou**	**36.52**	**15**	*e*P		**P**	**21 41 23.9**	**+4.3**
LZH				pP		sP	21 41 27.4	+5.3
LZH				sP		pP	21 41 30.1	+8.7
LZH				*e*PP		**PP**	**21 42 45.4**	**+2.7**
LZH				pmax		pmax		
	comp=Z,22nm,1.2s							
LZH				pmax		pmax		
	comp=Z,240nm,5.7s							
LZH				LR		LR		
	comp=N,250nm,13.5s							
LZH				LR		LR		
	comp=E,280nm,13.7s							
LZH				LR		LR		
	comp=Z,220nm,15.0s							
FITZ	**Fitzroy Crossi**	**37.34**	**122**	P		**P**	**21 41 26.8**	**+0.2**
	comp=Z,3.2nm,0.5s,baz=288,slow=7.2,SNR=14							
NIL	**Nilore**	**37.46**	**333**	*e*P		**P**	**21 41 26.3**	**-1.2**
	comp=Z,13nm,0.5s							
GTA	**Gaotai**	**38.90**	**9**	*e*P		**P**	**21 41 40.3**	**+0.6**
GTA				pP		sP	21 41 49.3	+7.0
NWAO	**Narrogin (SRO)**	**40.71**	**148**	LR		LR	21 58 06.7	
	comp=Z,116nm,18.4s,baz=194,slow=35							
WMQ	**Urumqi**	**43.03**	**355**	P		**P**	**21 42 14.0**	**+0.4**
WMQ				pmax		pmax		
	comp=Z,31nm,0.7s							
HHC	**Hu-ho-hao-te**	**43.28**	**21**	*e*P		**P**	**21 42 18.3**	**+2.6**
HHC				pmax		pmax		
	comp=Z,18nm,1.1s							
HHC				pmax		pmax		
	comp=Z,100nm,6.2s							
KDJ	**Kajisay**	**43.45**	**343**	*e*P		**P**	**21 42 16.4**	**-0.7**
KDJ				*e*pP		**pP**	**21 42 17.7**	**-1.3**
AAK	**Ala-Archa**	**44.75**	**341**	P		**P**	**21 42 28.2**	**+0.7**
	comp=Z,0.4nm,0.4s,baz=146,slow=11,SNR=3.3							
AAK	**Ala-Archa**	**44.75**	**341**	*e*P		**P**	**21 42 28.5**	**+0.9**
	comp=Z,13nm,1.6s							
WRA	**Warramunga Arr**	**45.60**	**119**	P		**P**	**21 42 34.7**	**+0.3**
	comp=Z,11nm,0.6s,baz=297,slow=8.6,SNR=98							
WRA				PcP		**PcP**	**21 44 12.7**	**-0.4**
	comp=Z,0.7nm,0.8s,baz=292,slow=2.3,SNR=3.1							
WRAB	**Tennant Creek**	**45.60**	**119**	*e*P		**P**	**21 42 34.8**	**+0.3**
	comp=Z,14nm,0.8s							
WB2	**Warramunga Arr**	**45.61**	**119**	*e*P		**P**	**21 42 34.8**	**+0.2**
FORT	**Forrest**	**45.92**	**136**	*e*P		**P**	**21 42 36.7**	**-0.1**
	comp=Z,298nm,1.1s							
KK31	**Karatay Array**	**46.58**	**337**	*e*P		**P**	**21 42 41.2**	**-0.7**
KKAR	**Karatay Array**	**46.58**	**337**	*e*P		**P**	**21 42 41.2**	**-0.7**
MK01	**Makanchi Array**	**46.66**	**350**	*e*P		**P**	**21 42 41.5**	**-0.9**
MK31	**Makanchi Array**	**46.68**	**350**	*e*P		**P**	**21 42 42.3**	**-0.3**
MKAR	**Makanchi Array**	**46.68**	**350**	P		**P**	**21 42 42.2**	**-0.3**
	comp=Z,1.4nm,0.6s,baz=165,slow=9.0,SNR=24							
MKAR	**Makanchi Array**	**46.68**	**350**	*e*P		**P**	**21 42 42.3**	**-0.3**
MKAR				*e*pP		**pP**	**21 42 42.6**	**-1.9**
AS31	**Alice Springs**	**46.72**	**124**	*e*P		**P**	**21 42 43.3**	**-0.1**
	comp=Z,1.1nm,0.5s							
ASAR	**Alice Springs**	**46.72**	**124**	P		**P**	**21 42 43.5**	**+0.2**
	comp=Z,3.2nm,0.8s,baz=300,slow=7.9,SNR=35							
ASAR				PcP		**PcP**	**21 44 16.6**	**-0.4**
	comp=Z,1.5nm,0.7s,baz=304,slow=3.5,SNR=6.8							
AS01	**Alice Springs**	**46.76**	**124**	*e*P		**P**	**21 42 43.5**	**-0.1**
AS01				*e*PcP		**PcP**	**21 44 16.5**	**-0.6**
SONM	**Songino Array**	**48.26**	**12**	P		**P**	**21 42 55.3**	**+0.4**
	comp=Z,1.0nm,0.7s,baz=196,slow=8.7,SNR=7.2							
SONA1	**Songino Array**	**48.27**	**12**	*e*P		**P**	**21 42 55.5**	**+0.4**
SONA1				*e*pP		**sP**	**21 42 58.5**	**+0.8**
KSAR	**Wonju Array Be**	**48.66**	**37**	P		**P**	**21 42 58.8**	**+0.8**
KS01	**Wonju Array Si**	**48.68**	**37**	*e*P		**P**	**21 42 58.1**	**-0.1**
KS01				*e*sP		**pP**	**21 42 59.0**	**-1.1**
KSRS	**Korea Array**	**48.69**	**37**	P		**P**	**21 42 58.8**	**+0.6**
	comp=Z,2.3nm,0.7s,baz=230,slow=8.0,SNR=12							
GEYT	**Alibeck**	**48.80**	**323**	P		**P**	**21 42 59.3**	**+0.2**
	comp=Z,2.7nm,0.7s,baz=141,slow=9.6,SNR=7.2							
KURBB	**Kurchatov Arra**	**51.07**	**348**	P		**P**	**21 43 15.7**	**-0.4**
	comp=Z,1.3nm,0.8s,baz=169,slow=7.3,SNR=16							
RAYN	**Ar Rayn**	**51.12**	**300**	*e*P		**P**	**21 43 15.4**	**-1.8**
	comp=Z,2.2nm,0.9s							
KURK	**Kurchatov**	**51.14**	**348**	*e*P		**P**	**21 43 16.1**	**-0.6**
	comp=Z,13nm,1.2s							
TLY	**Talaya**	**51.46**	**9**	P		**P**	**21 43 19.0**	**-0.1**
	comp=Z,1.4nm,0.2s,baz=169,slow=16,SNR=3.3							
ZAA0	**Zalesovo Array**	**53.34**	**354**	*e*P		**P**	**21 43 32.5**	**-0.5**
ZALV	**Zalesovo Beam**	**53.34**	**354**	P		**P**	**21 43 32.4**	**-0.6**
	comp=Z,1.6nm,0.5s,baz=182,slow=8.1,SNR=12							
ZALV	**Zalesovo Beam**	**53.34**	**354**	*e*P		**P**	**21 43 32.1**	**-0.9**
MJAR	**Matsushiro Arr**	**54.93**	**44**	P		**P**	**21 43 45.3**	**+0.3**
	comp=Z,1.3nm,1.0s,baz=229,slow=9.1,SNR=3.4							
BVAR	**Borovoye Array**	**55.26**	**344**	P		**P**	**21 43 45.4**	**-1.6**
	comp=Z,0.6nm,0.7s,baz=134,slow=8.3,SNR=4.4							
USRK	**Ussuriysk Ar.**	**55.39**	**33**	P		**P**	**21 43 48.4**	**+0.3**
	comp=Z,1.2nm,0.9s,baz=174,slow=3.6,SNR=4.4							
ABKAR	**Akbulak array**	**55.87**	**335**	*e*P		**P**	**21 43 50.4**	**-1.1**
	comp=Z,54nm,0.8s							
CTA	**Charters Tower**	**56.27**	**115**	P		**P**	**21 43 55.0**	**+0.1**
	comp=Z,5.7nm,0.7s,baz=307,slow=8.3,SNR=3.5							
STKA	**Stephens Creek**	**56.41**	**130**	P		**P**	**21 43 55.8**	**+0.1**
	comp=Z,3.2nm,0.7s,baz=309,slow=5.1,SNR=16							
AKTO	**Aktyubinsk**	**57.58**	**334**	P		**P**	**21 44 01.8**	**-1.8**
	comp=Z,0.5nm,0.4s,baz=101,slow=19,SNR=2.1							
KLR	**Kul'dur**	**58.59**	**29**	P		**P**	**21 44 10.8**	**+0.1**
	comp=Z,0.4nm,0.9s,baz=260,slow=5.3,SNR=11							
GNI	**Garni**	**58.59**	**318**	P		**P**	**21 44 12.8**	**+1.7**
	comp=Z,1.2nm,0.4s,baz=197,slow=10,SNR=2.6							
KBZ	**Khabaz**	**61.55**	**321**	P		**P**	**21 44 32.0**	**+0.9**
	comp=Z,1.2nm,0.8s,baz=131,slow=5.3,SNR=4.5							
ASAJ	**Asahikawa**	**61.60**	**39**	P		**P**	**21 44 32.0**	**+0.5**
	comp=Z,0.6nm,0.4s,baz=260,slow=18,SNR=3.4							
KVAR	**Kislovodsk Arr**	**61.78**	**321**	P		**P**	**21 44 32.4**	**-0.5**
	comp=Z,2.6nm,0.8s,baz=90,slow=3.0,SNR=2.4							
ARU	**Arti**	**61.89**	**339**	P		**P**	**21 44 34.3**	**+1.1**
	comp=Z,0.5nm,0.3s,baz=121,slow=18,SNR=2.0							
BRTR	**Keskin Array B**	**66.17**	**314**	P		**P**	**21 45 01.4**	**-0.6**
	comp=Z,0.8nm,0.7s,baz=126,slow=5.2,SNR=5.2							
BR231	**Keskin MP Arra**	**66.83**	**313**	*e*P		**P**	**21 45 02.2**	**-3.9**
BOSA	**Boshof**	**70.85**	**239**	P		**P**	**21 45 30.2**	**-1.1**
	comp=Z,3.7nm,0.7s,baz=68,slow=3.6,SNR=6.6							
MAW	**Mawson**	**71.44**	**192**	P		**P**	**21 45 34.5**	**+0.5**
	comp=Z,2.8nm,0.8s,baz=342,slow=6.6,SNR=3.4							
IDI	**Anoyia**	**71.62**	**307**	P		**P**	**21 45 35.5**	**-0.3**
	comp=Z,6.2nm,0.9s,baz=78,slow=9.3,SNR=3.7							
AKASG	**Malin Array Be**	**72.92**	**323**	P		**P**	**21 45 42.3**	**-0.9**
	comp=Z,0.2nm,0.5s,baz=92,slow=4.9,SNR=2.9							
MLR	**Muntele Rosu**	**73.36**	**318**	P		**P**	**21 45 46.0**	**-0.1**
	comp=Z,0.3nm,0.7s,baz=117,slow=16,SNR=2.5							
MLR	**Muntele Rosu**	**73.36**	**318**	P		**P**	**21 45 46.0**	**-0.1**
TIXI	**Tiksi**	**74.33**	**11**	*e*P		**P**	**21 45 50.0**	**-1.0**
BUR04	**Bucovina Ar. S**	**74.45**	**319**	*e*P		**P**	**21 45 52.6**	**+0.3**
BUR04				*e*PcP		**PcP**	**21 46 07.0**	**0.0**
PETK	**Petropavlovsk-**	**74.46**	**35**	P		**P**	**21 45 53.1**	**+0.9**
	comp=Z,1.5nm,0.5s,baz=278,slow=10.0,SNR=4.1							
LOT	**Lotnia**	**74.83**	**317**	*i* P		**P**	**21 45 51.7**	**-3.0**
FINES	**FINESS Array B**	**78.33**	**333**	P		**P**	**21 46 13.4**	**-0.5**
	comp=Z,1.6nm,0.8s,baz=120,slow=6.8,SNR=3.5							
ARCES	**ARCESS Array B**	**81.42**	**341**	P		**P**	**21 46 32.0**	**+1.4**
	comp=Z,2.2nm,1.0s,baz=99,slow=5.6,SNR=5.0							
GERES	**GERESS Array B**	**82.22**	**319**	P		**P**	**21 46 36.3**	**+1.0**
	comp=Z,0.5nm,0.5s,baz=145,slow=3.6,SNR=2.9							
KHC	**Kasperske Hory**	**82.34**	**319**	*e*P		P	21 46 42.5	+6.6
WATA	**Walderalm**	**83.46**	**317**	*i* P		**P**	**21 46 41.9**	**0.0**
	comp=Z,0.9nm,0.5s							
MOTA	**Moosalm**	**83.78**	**317**	*i* P		**P**	**21 46 42.7**	**-0.9**
	comp=Z,2.2nm,0.8s							
RETA	**Reutte**	**84.03**	**318**	*i* P		**P**	**21 46 44.3**	**-0.4**
	comp=Z,9.5nm,0.9s							
KEST	**Kesra**	**84.23**	**306**	PP		PP	21 50 03.7	+3.2
	comp=Z,4.3nm,0.8s,baz=80,slow=5.8,SNR=3.8							
DAVA	**Damuels**	**84.61**	**317**	*e*P		**P**	**21 46 45.8**	**-1.9**
	comp=Z,14nm,0.9s							
QSPA	**South Pole Qui**	**90.80**	**180**	P		**P**	**21 47 17.5**	**+0.4**
	comp=Z,2.4nm,0.8s,baz=235,slow=1.0,SNR=5.3							
TORD	**Torodi Ar. Bea**	**90.94**	**283**	P		**P**	**21 47 18.0**	**-0.7**
	comp=Z,0.8nm,1.1s,baz=7.6,slow=4.5,SNR=3.7							
SNAA	**Sanae**	**92.60**	**198**	P		**P**	**21 47 25.2**	**-0.1**
	comp=Z,1.3nm,1.0s,baz=90,slow=2.0,SNR=3.0							
PDAR	**Pinedale Array**	**132.13**	**22**	PKP		**PKPdf**	**21 53 27.6**	**-1.0**
	comp=Z,0.4nm,0.8s,baz=45,slow=2.3,SNR=4.4							
MIAR	**Mount Ida**	**144.28**	**9**	*e*PKPdf		**PKPab**	**21 53 48.2**	**-0.3**
TXAR	**Lajitas Array**	**146.09**	**26**	PKPbc		**PKPdf**	**21 53 54.3**	**+0.2**
	comp=Z,3.8nm,0.8s,baz=273,slow=1.1,SNR=17							

*ISCJB **14** 21:34:26.7±0.5, 0.°92N±0.°07×92.°81E±0.°07, h10km, mb4.3/29, Error ellipse: s-maj=10.8km s-min=9.8km az=16.9*

*IDC **14** 21:34:27.2±0.7, 0.°93N×92.°71E, h0km, mb4.3/21, mb1 4.4/22, mb1mx4.1/73, mbtmp4.3/22, ML4.5/1, Error ellipse: s-maj=21.9km s-min=17.0km az=45.0*

*NEIC **14** 21:34:28.7±0.5, 0.°95N×92.°68E, h10km, mb4.3/6, Error ellipse: s-maj=13.3km s-min=12.2km az=115.0*

ISC 14 21:34:28.9±0.5, 0.°93N±0.°09×92.°68E±0.°09, h10km, n66, σ0§86/59, mb4.5/29, 5C-1D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
BKNI	**Bangkinang**	**8.38**	**94**	P		**Pn**	**21 36 33.6**	**+3.1**
SURT	**Suratani**	**10.03**	**37**	P		**Pn**	**21 36 53.5**	**+0.4**
TPRI	**Tanjung Pinang**	**11.84**	**90**	P		Pn	21 37 14.8	-3.2
CISI	**Cisompet, Garu**	**17.29**	**119**	P		**Pn**	**21 38 27.5**	**-3.1**
CMAR	**Chiang Mai Arr**	**18.47**	**19**	P		**P**	**21 38 45.4**	**+0.4**
	0.5nm,0.3s,baz=225,slow=13,SNR=18							
CMAR	**Chiang Mai Arr**	**18.47**	**19**	P		**P**	**21 38 45.4**	**+0.4**
LSA	**Lhasa**	**28.65**	**357**	*e*P		**P**	**21 40 26.4**	**0.0**
	9.7nm,0.8s							
GTA	**Gaotai**	**38.85**	**9**	*e*P		**P**	**21 41 54.3**	**-0.1**
GTA				pP		pP	21 42 00.8	+3.3
GTA				sP		sP	21 42 04.0	+5.2
GTA				pmax		pmax		
	comp=Z,2.0nm,1.2s							
GTA				pmax		pmax		
	comp=Z,3.0nm,0.9s							
AAK	**Ala-Archa**	**44.61**	**341**	P		**P**	**21 42 41.8**	**+0.1**
	comp=Z,1.9nm,0.6s,baz=353,slow=15,SNR=5.6							
AAK	**Ala-Archa**	**44.61**	**341**	P		**P**	**21 42 41.8**	**+0.1**
WRA	**Warramunga Arr**	**45.79**	**119**	P		**P**	**21 42 50.3**	**-0.8**
	comp=Z,4.5nm,0.9s,baz=302,slow=8.2,SNR=5.5							
WRA	**Warramunga Arr**	**45.79**	**119**	P		**P**	**21 42 50.3**	**-0.8**
MKAR	**Makanchi Array**	**46.57**	**350**	P		**P**	**21 42 56.8**	**-0.2**
	comp=Z,9.6nm,0.7s,baz=170,slow=8.7,SNR=32							
MKAR	**Makanchi Array**	**46.57**	**350**	P		**P**	**21 42 56.8**	**-0.2**
ASAR	**Alice Springs**	**46.91**	**124**	P		**P**	**21 43 00.1**	**+0.1**
	comp=Z,0.7nm,0.5s,baz=289,slow=7.8,SNR=5.2							
ASAR				PcP		**PcP**	**21 44 32.2**	**-0.6**
	comp=Z,0.7nm,0.5s,baz=296,slow=3.0,SNR=3.6							
ASAR	**Alice Springs**	**46.91**	**124**	P		**P**	**21 43 00.1**	**+0.1**
ASAR				PcP		**PcP**	**21 44 32.2**	**-0.6**
SONM	**Songino Array**	**48.21**	**12**	P		**P**	**21 43 10.2**	**+0.4**
	comp=Z,4.7nm,0.8s,baz=191,slow=9.1,SNR=13							
SONM	**Songino Array**	**48.21**	**12**	P		**P**	**21 43 10.2**	**+0.4**
GEYT	**Alibeck**	**48.62**	**323**	P		**P**	**21 43 13.8**	**+0.7**
	comp=Z,3.7nm,0.8s,baz=141,slow=9.6,SNR=6.3							
KSAR	**Wonju Array Be**	**48.70**	**38**	P		**P**	**21 43 12.9**	**-0.6**
KSRS	**Korea Array**	**48.73**	**38**	P		**P**	**21 43 12.9**	**-0.8**
	comp=Z,2.4nm,0.7s,baz=233,slow=7.6,SNR=8.1							
KURBB	**Kurchatov Arra**	**50.95**	**348**	P		**P**	**21 43 29.9**	**-0.5**
	comp=Z,1.3nm,0.8s,baz=170,slow=7.1,SNR=22							
KURK	**Kurchatov**	**51.02**	**349**	P		**P**	**21 43 29.9**	**-1.0**
TLY	**Talaya**	**51.41**	**9**	P		**P**	**21 43 32.9**	**-1.0**
	comp=Z,0.6nm,0.3s							
ZALV	**Zalesovo Beam**	**53.24**	**354**	P		**P**	**21 43 47.2**	**-0.2**
	comp=Z,9.7nm,0.5s,baz=188,slow=7.3,SNR=20							
ZALV	**Zalesovo Beam**	**53.24**	**354**	P		**P**	**21 43 47.2**	**-0.2**
MJAR	**Matsushiro Arr**	**54.99**	**45**	P		**P**	**21 43 59.6**	**-1.0**
	comp=Z,0.9nm,0.8s,baz=222,slow=5.0,SNR=2.7							
MJAR	**Matsushiro Arr**	**54.99**	**45**	P		**P**	**21 43 59.6**	**-1.0**
BVAR	**Borovoye Array**	**55.13**	**344**	P		**P**	**21 44 00.3**	**-1.0**
	comp=Z,3.7nm,0.7s,baz=139,slow=9.2,SNR=13							
BVAR	**Borovoye Array**	**55.13**	**344**	P		**P**	**21 44 00.3**	**-1.0**
AKTO	**Aktyubinsk**	**57.43**	**334**	P		P	21 44 16.5	-1.3
	comp=Z,3.0nm,1.0s,baz=126,slow=20,SNR=5.3							
AKTO	**Aktyubinsk**	**57.43**	**334**	P		**P**	21 44 16.5	-1.3
KLR	**Kul'dur**	**58.59**	**29**	P		**P**	**21 44 25.9**	**0.0**
	comp=Z,0.5nm,0.8s,baz=245,slow=6.7,SNR=7.7							
KLR	**Kul'dur**	**58.59**	**29**	P		**P**	**21 44 25.9**	**0.0**
KIV	**Kislovodsk**	**61.62**	**321**	*e*P		P	21 44 42.4	-4.5
	comp=Z,5.5nm,1.1s							
LSZ	**Lusaka**	**65.71**	**253**	P		**P**	**21 45 14.3**	**-0.2**
	comp=Z,1.3nm,0.6s							
BRTR	**Keskin Array B**	**65.99**	**314**	P		**P**	**21 45 16.1**	**+0.2**
	comp=Z,2.6nm,0.7s,baz=129,slow=6.5,SNR=13							
BRTR	**Keskin Array B**	**65.99**	**314**	P		**P**	**21 45 16.1**	**+0.2**
BOSA	**Boshof**	**70.75**	**239**	P		**P**	**21 45 45.2**	**-0.7**
	comp=Z,4.8nm,1.0s,baz=76,slow=6.0,SNR=2.9							
BOSA	**Boshof**	**70.75**	**239**	P		**P**	**21 45 45.2**	**-0.7**
SORM	**Soroca**	**72.42**	**321**	*i* P		P	21 45 47.9	-7.5
AKASG	**Malin Array Be**	**72.75**	**323**	P		**P**	**21 45 56.7**	**-0.6**
	comp=Z,0.6nm,0.5s,baz=90,slow=5.0,SNR=8.8							
AKASG	**Malin Array Be**	**72.75**	**323**	P		**P**	**21 45 56.7**	**-0.6**
VRI	**Vrincioaia**	**72.77**	**318**	*i* P		P	21 45 51.3	-6.3
PLOR	**Plostina**	**72.82**	**318**	*i* P		P	21 45 50.1	-7.8
MLR	**Muntele Rosu**	**73.19**	**318**	*i* P		P	21 45 54.1	-6.1
BURAR	**Bucovina Array**	**74.27**	**320**	*i* P		P	21 46 00.6	-5.9
VTS	**Vitosha**	**74.35**	**314**	*i* P		P	21 46 01.4	-5.7
TSUM	**Tsumeb**	**76.25**	**250**	P		**P**	**21 46 19.0**	**+0.5**
	comp=Z,1.5nm,0.8s							
FINES	**FINESS Array B**	**78.17**	**333**	P		**P**	**21 46 27.9**	**-0.3**
	comp=Z,4.1nm,0.7s,baz=102,slow=5.9,SNR=4.7							
FINES	**FINESS Array B**	**78.17**	**333**	P		**P**	**21 46 27.9**	**-0.3**
ARCES	**ARCESS Array B**	**81.28**	**341**	P		**P**	**21 46 45.2**	**+0.2**
	comp=Z,4.2nm,0.8s,baz=91,slow=5.1,SNR=4.9							
ARCES	**ARCESS Array B**	**81.28**	**341**	P		**P**	**21 46 45.2**	**+0.2**
GERES	**GERESS Array B**	**82.05**	**319**	P		**P**	**21 46 50.5**	**+0.9**
	comp=Z,5.8nm,0.8s,baz=101,slow=6.9,SNR=13							
GERES	**GERESS Array B**	**82.05**	**319**	P		**P**	**21 46 50.5**	**+0.9**
KHC	**Kasperske Hory**	**82.17**	**319**	*e*P		**P**	**21 46 50.5**	**+0.4**
BRG	**Berggiesshubel**	**82.17**	**321**	*e*P		**P**	**21 46 50.9**	**+0.8**
	comp=Z,4.6nm,1.0s							
KEST	**Kesra**	**84.04**	**306**	P		**P**	**21 47 01.8**	**+1.6**
	comp=Z,10nm,0.8s,baz=286,slow=4.1,SNR=5.7							
KEST	**Kesra**	**84.04**	**306**	P		**P**	**21 47 01.8**	**+1.6**
TAM	**Tamanrasset**	**

IDC ***14*** *22:03:38.0±2.3,21˙48S×69˚36W,h0km,mb3.7/3, mb1 4.0/5,mb1mx3.7/38,mbtmp3.7/5,ML3.7/2,Error ellipse: s-maj=57.7km s-min=35.7km az=8.0*

ISCJB ***14*** *22:03:59.0±0.7,20˙09S±0˙04×69˚0W±0˙1,h132km±6km, mb3.5/3,Error ellipse: s-maj=17.9km s-min=6.4km az=173.8*

GUC ***14*** *22:04:00.1±0.4,20˙09S×68˚90W,h111km±3km,ML3.7*

ISC 14 22:03:59.1±0.9,20˙07S±0˙05×68˚90W±0˙10,h121km±8km, n14,σ1§10/23,mb3.6/3,6C,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PB08	**IPOC Station P**	**0.25**	**253**	*e*P		**Pn**	**22 04 16.8**	**+0.3**
PB08				*e*S		**Sn**	**22 04 29.4**	**-0.1**
PB08				IAML			22 04 30.2	
	comp=E,4μm,0.3s							
PB11	**IPOC Station P**	**0.77**	**293**	*e*P		**Pn**	**22 04 19.6**	**+0.3**
PB11				*e*S		**Sn**	**22 04 34.9**	**+0.4**
PB01	**IPOC Station P**	**1.12**	**209**	*e*P		**Pn**	**22 04 23.0**	**+0.5**
PB01				*e*S		**Sn**	**22 04 40.4**	**+0.2**
PB01				IAML			22 04 41.6	
	comp=N,2μm,0.2s							
MNMC	**Minye Minye**	**1.14**	**325**	*e*P		**Pn**	**22 04 23.7**	**+0.8**
MNMC				*e*S		**Sn**	**22 04 41.9**	**+1.0**
MNMC				IAML			22 04 44.0	
	comp=N,2μm,0.2s							
PSGC	**Pisagua**	**1.24**	**292**	*e*P		**Pn**	**22 04 24.1**	**+0.3**
PSGC				*e*S		**Sn**	**22 04 42.8**	**+0.3**
PSGC				IAML			22 04 43.4	
	comp=N,922nm,0.2s							
PB02	**IPOC Station P**	**1.56**	**217**	*e*P		**Pn**	**22 04 28.0**	**+0.6**
PB02				*e*S		**Sn**	**22 04 49.4**	**+0.5**
PB02				IAML			22 04 51.1	
	comp=E,716nm,0.6s							
PB09	**IPOC Station P**	**1.75**	**190**	*e*P		**Pn**	**22 04 30.8**	**+1.1**
PB09				*e*S		**Sn**	**22 04 54.0**	**+1.0**
PB09				IAML			22 04 55.3	
	comp=N,868nm,0.3s							
PB07	**IPOC Station P**	**1.89**	**209**	*e*P		**Pn**	**22 04 31.8**	**+0.4**
PB07				*e*S		**Sn**	**22 04 55.9**	**-0.2**
PB12	**IPOC Station P**	**1.98**	**317**	*e*P		**Pn**	**22 04 32.4**	**0.0**
PB12				*e*S		**Sn**	**22 04 58.0**	**+0.1**
PB12				IAML			22 05 04.8	
	comp=N,1μm,0.4s							
LPAZ	**La Paz**	**3.83**	**11**	Pn		**Pn**	**22 04 59.7**	**+2.7**
	comp=N,0.6nm,0.3s,baz=195,slow=5.0,SNR=14							
SIV	**San Ignacio**	**8.48**	**63**	Pn		**Pn**	**22 05 56.2**	**-2.9**
	comp=N,1.9nm,0.3s,baz=252,slow=12,SNR=22							
TXAR	**Lajitas Array**	**59.47**	**325**	P		**P**	**22 13 48.7**	**-0.9**
	comp=N,0.5nm,0.6s,baz=137,slow=7.8,SNR=3.1							
TORD	**Torodi Ar. Bea**	**76.87**	**71**	P		**P**	**22 15 37.5**	**-0.9**
	comp=N,0.4nm,0.4s,baz=256,slow=5.4,SNR=7.2							
YKA	**Yellowknife Ar**	**89.84**	**341**	P		**P**	**22 16 44.3**	**+0.6**
	comp=N,0.3nm,0.5s,baz=134,slow=4.6,SNR=9.2							

MOS ***14*** *22:05:24.5±1.0,18˙93S×168˙72E,h10km,mb6.1/111, MS6.2/69,Error ellipse: s-maj=6.6km s-min=6.1km az=96.1*

IDC ***14*** *22:05:24.2±0.3,19˙02S×168˙84E,h0km,mb5.6/38, mb1 5.7/40,mb1mx5.6/44,mbtmp5.7/40,ML5.7/2,MS6.0/34, Ms1 6.0/34,ms1mx5.7/43,Error ellipse: s-maj=10.8km s-min=9.4km az=36.0*

BJI ***14*** *22:05:24.0,18.85S×168˙90E,h15km,mb5.7/80,mB6.5/83, Ms6.4/89,Ms7 6.1/79*

ISCJB ***14*** *22:05:25.4±1.2,18˙95S±0˙02×168˙72E±0˙02,h14km±7km, mb5.9/321,MS6.2/245,Error ellipse: s-maj=3.3km s-min=2.6km az=170.7*

NEIC ***14*** *22:05:26.0±0.0,18˙80S×168˙67E,h13km,Moment Tensor Solution. s21 Moment tensor: Scale 10¹⁸Nm; Mrr=2.28; Mθθ2.56; Mφφ=0.28; Mrθ-0.40; Mθφ1.32; Mφr0.17; Best double couple: M₀2.80000×10¹⁸ NP1:ϕs79.00000°, δ49.00000°,λ-75.00000°. NP2:ϕs237.00000°,δ43.00000°, λ-106.00000°. Principal axes: T 3.1000, Plg3.0000°, Azm158.0000°; N -0.7400, Plg10.0000°, Azm249.0000°; P -2.3600, Plg78.0000°, Azm52.0000°;*

WEL ***14*** *22:05:26.0,18˙97S×168˙74E,h11km*

NEIC ***14*** *22:05:26.4±0.1,18˙97S×168˙74E,h11km,mb6.0/250, ME6.1,MS6.2/157,MW6.2,MW6.3,MW6.2,Error ellipse: s-maj=4.0km s-min=3.2km az=146.0,Moment Tensor Solution. s51 Moment tensor: Scale 10¹⁸Nm; Mrr=1.35; Mθθ2.20; Mφφ-0.85; Mrθ0.53; Mθφ0.17; Mφr1.09; Best double couple: M₀2.30000×10¹⁸ NP1:ϕs235.00000°, δ64.00000°,λ-131.00000°. NP2:ϕs119.00000°, δ47.00000°,λ-36.00000°. Principal axes: T 2.3100, Plg10.0000°, Azm353.0000°; N -0.0700, Plg36.0000°, Azm256.0000°; P -2.2400, Plg52.0000°, Azm97.0000°; Broadband fault plane solution: P waves. NP1: ϕs113.00000°,δ63.00000°,λ-53.00000°. NP2: ϕs234.00000°,δ45.00000°,λ-140.00000°. Principal axes: T Plg10.0000°, Azm177.0000°; N Plg0.0000°, Azm0.0000°; P Plg55.0000°, Azm72.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*

NEIC Felt [IV] at Port-Vila. Also felt at Isangel and Port-Olry. Felt at Noumea and Yate, New Caledonia.

GCMT ***14*** *22:05:26.4±0.0,19˙01S×168˙66E,h12km,MW6.3/147, Moment Tensor Solution. s147,c343; s142,c614; Duration: 3ᵗ5 Moment tensor: Scale 10¹⁸Nm; Mrr-3.20±.01; Mθθ3.63±.01; Mφφ-0.42±.01; Mrθ-0.88±.04; Mθφ1.32±.01; Mφr0.39±.04; Best double couple: M₀3.75900×10¹⁸ NP1:ϕs86.00000°,δ52.00000°, λ-73.00000°. NP2:ϕs240.00000°,δ41.00000°, λ-111.00000°. Principal axes: T 4.0950, Plg6.0000°, Azm164.0000°; N -0.6680, Plg13.0000°, Azm256.0000°; P -3.4220, Plg75.0000°, Azm51.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

NEIC ***14*** *22:05:45.9±0.0,18˙61S×168˙61E,h10km,Moment Tensor Solution. s95 Moment tensor: Scale 10¹⁸Nm; Mrr-3.00; Mθθ3.31; Mφφ-0.31; Mrθ-0.61; Mθφ1.22; Mφr1.43; Best double couple: M₀3.70000×10¹⁸ NP1:ϕs229.00000°, δ49.00000°,λ-126.00000°. NP2:ϕs97.00000°,δ52.00000°, λ-56.00000°. Principal axes: T 3.6900, Plg2.0000°, Azm163.0000°; N 0.0900, Plg27.0000°, Azm254.0000°; P -3.7800, Plg63.0000°, Azm70.0000°;*

ISC 14 22:05:26.6±0.5,18˙99S±0˙03×168˙77E±0˙03,h11km±2km, h12km:pP-P,n1603,σ1§75/1550,mb6.0/320,MS6.2/267, 49C-89D,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.76**	**215**	*e*Pn		**Pn**	**22 06 23.8**	**-0.8**
	1μm,0.3s							
DZM				*e*Sn		**Sn**	**22 07 08.3**	**-0.6**
	7μm,0.4s							
DZM				*e*LR		LR	22 07 13.1	
	270μm,24.2s							
DZM	**Mont Dzumac**	**3.76**	**215**	*e*Pn		**Pn**	**22 06 23.2**	**-1.4**
MSVF	**Nonsavu**	**8.90**	**83**	*e*Pn		**Pn**	**22 07 38.1**	**+2.8**
MSVF	**Nonsavu**	**8.90**	**83**	*e*P		**Pn**	**22 07 38.1**	**+2.8**
HNR	**Honiara**	**12.77**	**317**	*e*P		**Pn**	**22 08 30.0**	**+1.8**
HNR	**Honiara**	**12.77**	**317**	Pn		**Pn**	**22 08 29.6**	**+1.4**
	154nm,0.3s,baz=228,slow=1.1,SNR=40							
HNR				Sn		**Sn**	**22 10 50.3**	**-0.2**
	14nm,0.3s,baz=240,slow=20,SNR=1.8							
HNR				LR		LR	22 12 57.2	
	comp=Z,98μm,21.5s,baz=162,slow=35							
HNR	**Honiara**	**12.77**	**317**	*e*Pn		**Pn**	**22 08 30.1**	**+1.8**
HNR				Sn		**Sn**	**22 10 50.3**	**-0.2**
FUNA	**Funafuti**	**14.51**	**46**	*e*Pn		**Pn**	**22 08 52.8**	**+0.9**
LHI	**Lord Howe Isla**	**15.24**	**213**	*e*Pn		**Pn**	**22 09 03.5**	**+1.8**
	431nm,0.9s							
RAO	**Raoul Island**	**15.87**	**133**	Pn		**Pn**	**22 09 10.8**	**+0.9**
	31nm,0.3s,baz=168,slow=20,SNR=2.3							
RAO				Sn		**Sn**	**22 12 08.0**	**+2.2**
	116nm,0.3s,baz=108,slow=20,SNR=4.3							
RAO				LR		LR	22 13 53.5	
	comp=Z,163μm,22.0s,baz=299,slow=32							
RAO	**Raoul Island**	**15.87**	**133**	*e*Pn		**P**	**22 09 12.4**	**-1.2**
	2μm,1.1s							
RAO				Sn		**Sn**	**22 12 08.0**	**+2.2**
OUZ	**Omahuta**	**16.73**	**166**	*e*Pn		**Pn**	**22 09 22.0**	**+1.2**
	952nm,1.3s							
OUZ	**Omahuta**	**16.73**	**166**	P		**Pn**	**22 09 21.0**	**+0.2**
EIDS	**Eidsvold**	**17.56**	**246**	P		**P**	**22 09 35.4**	**+3.0**
	baz=18,SNR=44							
EIDS	**Eidsvold**	**17.56**	**246**	*e*P		**P**	**22 09 32.9**	**+0.5**
	219nm,0.8s							
WCZ	**Waipu Caves**	**17.59**	**165**	P		**P**	**22 09 35.3**	**+2.6**
GRZ	**Great Barrier**	**18.18**	**162**	P		**P**	**22 09 42.6**	**+3.5**
KUZ	**Kuaotunu**	**18.72**	**162**	P		**Pn**	**22 09 50.3**	**+4.9**
ARMA	**Armidale**	**19.26**	**231**	P		**Pn**	**22 09 54.7**	**+2.5**
	baz=19,SNR=25							
ARMA	**Armidale**	**19.26**	**231**	*e*P		**Pn**	**22 09 52.8**	**+0.6**
	285nm,0.9s							
AFI	**Afiamalu**	**19.33**	**78**	P		**P**	**22 09 51.1**	**-1.0**
	7.1nm,0.3s,baz=278,slow=8.5,SNR=41							
AFI				LR		LR	22 15 42.8	
	comp=Z,27μm,19.9s,baz=246,slow=32							
AFI	**Afiamalu**	**19.33**	**78**	*e*P		**P**		
AFI				pmax		pmax	**22 09 51.2**	**-0.8**
	comp=Z,1μm,1.1s							
RMQ	**Roma**	**19.89**	**244**	P		**Pn**	**22 10 01.2**	**+1.5**
	baz=20,SNR=95							
NIUE	**Niue**	**20.14**	**94**	P		**P**	**22 09 59.7**	**-1.2**
	baz=20,SNR=24							
HIZ	**Hauiti**	**20.16**	**166**	*e*P		Pn	22 10 02.3	-0.5
	comp=Z,615nm,1.0s							
HIZ				LR		LR		
	comp=Z,120μm,18.0s							
HAZ	**Te Kaha**	**20.29**	**159**	P		**P**	**22 10 03.4**	**+1.1**
MXZ	**Matakaoa Point**	**20.30**	**158**	*e*P		**P**	**22 10 02.4**	**0.0**
	comp=Z,475nm,1.2s							
MXZ				LR		LR		
	comp=Z,127μm,22.0s							
MXZ	**Matakaoa Point**	**20.30**	**158**	P		**P**	**22 10 03.4**	**+1.0**
RUGZ	**Raukumara Rang**	**20.45**	**159**	P		**P**	**22 10 04.9**	**+0.8**
PKGZ	**Pakihiroa**	**20.51**	**159**	P		**P**	**22 10 06.2**	**+1.4**
URZ	**Urewera**	**20.53**	**161**	P		**P**	**22 10 05.5**	**+0.6**
	comp=Z,239nm,0.8s,baz=333,slow=4.1,SNR=66							
URZ				S		Sn	22 13 59.4	+0.8
	comp=Z,33nm,0.8s,baz=218,slow=19,SNR=7.1							
URZ				LR		LR	22 16 46.7	
	comp=Z,122μm,19.5s,baz=340,slow=33							
URZ	**Urewera**	**20.53**	**161**	*e*P		**P**	**22 10 05.2**	**+0.3**
	comp=Z,746nm,0.9s							
URZ				S		Sn	22 13 59.4	+0.8
URZ	**Urewera**	**20.53**	**161**	P		**P**	**22 10 05.7**	**+0.8**
WMGZ	**Waiomatatini S**	**20.57**	**158**	P		**P**	**22 10 06.3**	**+1.0**
TARA	**Tarawa**	**20.62**	**12**	*e*P		**P**	**22 10 07.1**	**+1.1**
	comp=Z,4μm,1.8s							
TARA				LR		LR		
	comp=Z,63μm,22.0s							
MWZ	**Matawai**	**20.73**	**160**	P		**P**	**22 10 08.2**	**+1.0**
PUZ	**Puketiti**	**20.74**	**158**	P		**P**	**22 10 07.5**	**+0.3**
TWGZ	**Tauwhareparae**	**20.74**	**159**	P		**P**	**22 10 08.1**	**+0.9**
RTZ	**Ruatahuna**	**20.82**	**162**	P		**P**	**22 10 09.2**	**+1.1**
RAGZ	**Rawiri**	**20.84**	**161**	P		Pn	22 10 10.2	-0.6
TKGZ	**Te Karaka**	**20.93**	**160**	P		**P**	**22 10 10.1**	**+0.8**
RIGZ	**Rimuhau**	**21.15**	**160**	P		**P**	**22 10 11.6**	**0.0**
BKZ	**Black Stump Fm**	**21.19**	**163**	*e*P		**P**	**22 10 12.4**	**+0.3**
	comp=Z,513nm,1.0s							
BKZ				LR		LR		
	comp=Z,82μm,21.0s							
MGCD	**Mangrove Creek**	**21.21**	**225**	P		**P**	**22 10 15.5**	**+3.1**
	baz=21,SNR=36							
CTA	**Charters Tower**	**21.24**	**263**	P		**P**	**22 10 15.8**	**+3.0**
	comp=Z,493nm,0.8s,baz=89,slow=13,SNR=89							
CTA				S		**S**	**22 14 08.0**	**-0.9**
	comp=Z,11nm,0.8s,baz=277,slow=19,SNR=2.0							
CTA				LR		LR	22 17 59.3	
	comp=Z,26μm,18.2s,baz=79,slow=35							
CTA	**Charters Tower**	**21.24**	**263**	P		**P**	**22 10 14.8**	**+2.0**
	baz=21							
CTAO	**Charters Tower**	**21.24**	**263**	*e*P		**P**	**22 10 14.5**	**+1.7**
	comp=Z,832nm,1.0s							
CTAO				LR		LR		
	comp=Z,27μm,18.0s							
CTAO	**Charters Tower**	**21.24**	**263**	*e*P		**P**	**22 10 14.5**	**+1.7**
CTAO				pmax		pmax		
	comp=Z,830nm,1.0s							
CTAO				MLR		MLR		
	comp=Z,27μm,18.0s							
RIV	**Riverview**	**21.57**	**223**	P		**P**	**22 10 19.1**	**+3.1**
	baz=22,SNR=33							
RABL	**Rabaul**	**21.89**	**310**	*e*P		**P**	**22 10 20.3**	**+0.5**
	comp=Z,1μm,1.4s							
BFZ	**Birch Farm**	**22.55**	**165**	*e*P		**P**	**22 10 26.2**	**-0.4**
BFZ	comp=Z,1μm,1.4s							
				*e*S		**S**	**22 14 33.7**	**-0.1**
BFZ				LR		LR		
	comp=Z,97μm,19.0s							
SNZO	**South Karori**	**22.82**	**168**	*e*P		**P**	**22 10 30.3**	**+0.8**
	comp=Z,537nm,1.1s							
SNZO				*e*S		**S**	**22 14 41.7**	**+3.2**
SNZO				LR		LR		
	comp=Z,142μm,21.0s							
THZ	**Tophouse**	**22.97**	**172**	*e*P		**P**	**22 10 31.5**	**+0.4**
	comp=Z,248nm,0.7s							
THZ				LR		LR		
	comp=Z,103μm,20.0s							
PMG	**Port Moresby**	**22.98**	**291**	P		**P**	**22 10 33.3**	**+1.9**
	comp=Z,364nm,0.9s,baz=102,slow=8.0,SNR=23							
PMG				S		**S**	**22 14 44.4**	**+2.5**
	comp=Z,25nm,1.1s,baz=205,slow=16,SNR=1.8							
PMG				LR		LR	22 18 39.2	
	comp=Z,72μm,18.1s,baz=114,slow=34							
PMG	**Port Moresby**	**22.98**	**291**	*e*P		**P**	**22 10 31.5**	**+0.1**
	comp=Z,508nm,1.0s							
PMG				S		**S**	**22 14 44.4**	**+2.5**
PMG	**Port Moresby**	**22.98**	**291**	*d* iP		**P**	**22 10 32.0**	**+0.6**
PMG				pmax		pmax		
	comp=Z,869nm,1.0s							
MTSU	**Mount Surprise**	**23.19**	**268**	P		**P**	**22 10 34.1**	**+0.6**
	baz=23,SNR=94							
CNB	**Canberra Magne**	**23.65**	**223**	P		**P**	**22 10 38.7**	**+0.7**
	baz=24,SNR=312							
YNG	**Young**	**23.68**	**226**	P		**P**	**22 10 39.8**	**+1.5**
	baz=24,SNR=81							
KHZ	**Kahutara**	**23.70**	**171**	*e*P		**P**	**22 10 37.9**	**-0.4**
	comp=Z,538nm,1.3s							
KHZ				LR		LR		
	comp=Z,79μm,20.0s							
QLP	**Quilpie**	**23.82**	**247**	P		**P**	**22 10 40.1**	**+0.5**
	baz=24,SNR=310							
CAN	**Canberra**	**23.89**	**223**	*e*P		**P**	**22 10 40.6**	**+0.3**
	comp=Z,377nm,1.0s							
CAN				LR		LR		
	comp=Z,32μm,20.0s							
CAN	**Canberra**	**23.89**	**223**	*e*P		**P**	**22 10 40.6**	**+0.3**
CAN				pmax		pmax		
	comp=Z,380nm,1.0s							
LTZ	**Lake Taylor**	**23.91**	**174**	*e*P		**P**	**22 10 40.5**	**+0.1**
	comp=Z,295nm,1.0s							
LTZ				LR		LR		
	comp=Z,106μm,18.0s							
CMSA	**Cobar Meteorol**	**24.26**	**235**	P		**P**	**22 10 44.0**	**+0.2**
	baz=24,SNR=79							
OXZ	**Oxford**	**24.42**	**174**	*e*P		**P**	**22 10 45.0**	**-0.1**
	comp=Z,251nm,0.7s							
FOZ	**Fox Glacier**	**24.49**	**178**	*e*P		**P**	**22 10 46.5**	**+0.9**
	comp=Z,632nm,1.0s							
CRLZ	**Canterbury Las**	**24.73**	**173**	*e*P		**P**	**22 10 49.0**	**+1.2**
	comp=Z,360nm,1.1s							
RPZ	**Rata Peaks**	**24.73**	**176**	P		**P**	**22 10 48.5**	**+0.7**
	comp=Z,38nm,0.5s,baz=307,slow=2.7,SNR=22							
RPZ				S		**S**	**22 15 18.3**	**+8.6**
	comp=Z,18nm,1.0s,baz=123,slow=17,SNR=2.8							
RPZ				LR		LR	22 20 23.3	
	comp=Z,108μm,18.2s,baz=2.5,slow=36							
RPZ	**Rata Peaks**	**24.73**	**176**	*e*P		**P**	**22 10 47.9**	**+0.1**
	comp=Z,312nm,0.9s							
RPZ				S		**S**	**22 15 18.3**	**+8.6**
MQZ	**McQueen's Vall**	**24.86**	**173**	*e*P		**P**	**22 10 49.6**	**+0.6**
	comp=Z,387nm,1.3s							
MILA	**Mila**	**24.89**	**220**	P		**P**	**22 10 50.8**	**+1.4**
	baz=25,SNR=29							
KNTN	**Kanton**	**24.99**	**52**	*e*P		**P**	**22 10 50.3**	**-0.1**
	comp=Z,476nm,1.0s							
COEN	**Coen**	**25.03**	**278**	P		**P**	**22 10 52.5**	**+1.6**
	baz=25,SNR=109							
COEN	**Coen**	**25.03**	**278**	*e*P		**P**	**22 10 52.6**	**+1.7**
	comp=Z,270nm,0.8s							
LBZ	**Lake Benmore**	**25.35**	**178**	*e*P		**P**	**22 10 54.0**	**+0.5**
	comp=Z,173nm,1.0s							
WKZ	**Wanaka**	**25.77**	**180**	*e*P		**P**	**22 10 58.8**	**+1.5**
	comp=Z,2μm,2.0s							
ODZ	**Otahua Downs**	**26.03**	**177**	*e*P		**P**	**22 10 59.5**	**-0.1**
	comp=Z,202nm,1.1s							
MLZ	**Mavora Lakes**	**26.31**	**181**	*e*P		**P**	**22 11 02.7**	**+0.5**
	comp=Z,447nm,1.5s							
DCZ	**Deep Cove**	**26.44**	**183**	*e*P		**P**	**22 11 04.3**	**+1.0**
	comp=Z,289nm,1.0s							
WHZ	**Wether Hill Ro**	**26.84**	**181**	*e*P		**P**	**22 11 06.9**	**0.0**
	comp=Z,278nm,1.3s							
MANU	**Manus Island**	**26.88**	**306**	*e*P		**P**	**22 11 08.5**	**+0.8**
	comp=Z,490nm,1.2s							
QIS	**Mount Isa**	**27.47**	**262**	P		**P**	**22 11 13.7**	**+0.8**
	baz=28,SNR=33							
TOO	**Toolangi**	**27.50**	**223**	P		**P**	**22 11 13.8**	**+0.8**
	baz=28,SNR=22							
STKA	**Stephens Creek**	**27.60**	**237**	P		**P**	**22 11 14.4**	**+0.4**
	comp=Z,69nm,0.7s,baz=70,slow=11,SNR=7.2							
STKA				PcP		**PcP**	**22 14 33.0**	**+1.4**
	comp=Z,54nm,1.1s,baz=332,slow=1.7,SNR=4.8							
STKA				LR		LR	22 21 52.5	
	comp=Z,38μm,18.8s,baz=64,slow=36							
STKA	**Stephens Creek**	**27.60**	**237**	P		**P**	**22 11 14.2**	**+0.3**
	baz=28,SNR=106							
STKA	**Stephens Creek**	**27.60**	**237**	*e*P		**P**	**22 11 14.3**	**+0.4**
	comp=Z,51nm,1.1s							
STKA				PcP		**PcP**	**22 14 33.0**	**+1.4**
PATS	**Pohnpei**	**27.65**	**337**	P		**P**	**22 11 14.9**	**+0.4**
	baz=28,SNR=4.9							
PATS	**Pohnpei**	**27.65**	**337**	*e*P		**P**	**22 11 16.1**	**+1.6**
	comp=Z,1μm,1.9s							
ARPS	**Mount Arapiles**	**29.52**	**228**	P		**P**	**22 11 31.8**	**+0.8**
	baz=30,SNR=32							
RAR	**Rarotonga**	**29.61**	**100**	P		**P**	**22 11 29.5**	**-2.4**
	comp=Z,4.3nm,0.4s,baz=270,slow=7.8,SNR=3.0							
RAR				LR		LR	22 20 34.2	
	comp=Z,15μm,21.0s,baz=262,slow=31							
RAR	**Rarotonga**	**29.61**	**100**	*e*P		**P**	**22 11 32.4**	**+0.5**
	comp=Z,357nm,1.9s							
RAR	**Rarotonga**	**29.61**	**100**	*e*P		**P**		
RAR				pmax		pmax	**22 11 32.4**	**+0.5**
	comp=Z,360nm,1.9s							
MOO	**Moorlands**	**29.68**	**213**	P		**P**	**22 11 33.8**	**+1.5**
	baz=30,SNR=22							
TAU	**Tasmania Unive**	**29.95**	**213**	*e*P		**P**	**22 11 34.5**	**-0.2**
	comp=Z,175nm,1.2s							
TAU				LR		LR		
	comp=Z,41μm,20.0s							
TAU	**Tasmania Unive**	**29.95**	**213**	*e*P		**P**	**22 11 34.5**	**-0.2**
TAU				pmax		pmax		
	comp=Z,180nm,1.2s							
HTT	**Hallett**	**30.26**	**236**	P		**P**	**22 11 37.9**	**+0.2**
	baz=30,SNR=84							
JAY	**Jayapura**	**31.97**	**297**	P		**P**	**22 11 52.5**	**-0.4**
BBOO	**Buckleboo**	**32.34**	**238**	P		**P**	**22 11 55.8**	**-0.1**
	baz=32,SNR=34							
BBOO	**Buckleboo**	**32.34**	**238**	*e*P		**P**	**22 11 56.6**	**+0.7**
	comp=Z,150nm,1.0s							
GENI	**Genyem**	**32.38**	**297**	P		**P**	**22 11 57.4**	**+1.0**
WB2	**Warramunga Arr**	**32.43**	**263**	*e*P		**P**	**22 11 56.1**	**-0.8**
	comp=Z,126nm,0.9s							
WRAB	**Tennant Creek**	**32.43**	**263**	*e*P		**P**	**22 11 56.2**	**-0.7**
	comp=Z,116nm,0.9s							
WRAB				LR		LR		
	comp=Z,22μm,22.0s							
WRAB	**Tennant Creek**	**32.43**	**263**	*d* iP		**P**	**22 11 55.6**	**-1.3**
WRAB				pmax		pmax		
	comp=Z,192nm,1.2s							
WRA	**Warramunga Arr**	**32.44**	**263**	P		**P**	**22 11 55.3**	**-1.7**
	comp=Z,75nm,0.9s,baz=83,slow=5.9,SNR=101							
WRA				PcP		**PcP**	**22 14 44.3**	**0.0**
	comp=Z,12nm,0.8s,baz=94,slow=2.6,SNR=3.2							
WRA				ScP		**ScP**	**22 18 28.4**	**+0.2**
	comp=Z,10nm,1.1s,baz=100,slow=3.2,SNR=4.3							
WRA				PKiKP		**PKiKP**	**22 22 11.6**	**-0.3**
	comp=Z,2.6nm,0.8s,baz=20,slow=0.3,SNR=7.5							
WRA				LR		LR	22 24 20.3	
	comp=Z,17μm,18.8s,baz=80,slow=35							
WRA				P3KPbc			22 43 24.4	
	comp=Z,3.5nm,1.1s,baz=294,slow=2.9,SNR=9.7							
WRA	**Warramunga Arr**	**32.44**	**263**	P		**P**	**22 11 55.3**	**-1.7**
WRA							22 14 44.3	
WRA				pmax		pmax		
	comp=Z,135nm,1.0s							
WRA				pmax		pmax		
	comp=N,10.0nm,1.1s							
WRA				pmax		pmax		
	comp=Z,3.0nm,0.8s							
WRA				MLR		MLR		
	comp=Z,17μm,18.8s							
AS01	**Alice Springs**	**32.71**	**256**	*e*P		**P**	**22 11 56.7**	**-2.6**
AS31	**Alice Springs**	**32.75**	**256**	*e*P		**P**	**22 11 58.4**	**-1.4**
	comp=Z,144nm,0.6s							
ASAR	**Alice Springs**	**32.75**	**256**	P		**P**	**22 11 58.4**	**-1.4**
	comp=Z,310nm,0.8s,baz=83,slow=9.0,SNR=498							
ASAR				S		**S**	**22 17 10.6**	**-6.0**
	comp=Z,2.0nm,0.7s,baz=36,slow=36,SNR=2.6							
ASAR				ScP		**ScP**	**22 18 32.1**	**+2.9**
	comp=Z,8.2nm,1.0s,baz=100,slow=3.6,SNR=5.5							
ASAR				P		**PKiKP**	**22 22 11.2**	**-0.9**
	comp=Z,1.5nm,0.8s,baz=102,slow=1.0,SNR=5.0							
ASAR				LR		LR	22 25 19.9	
	comp=Z,31μm,18.2s,baz=90,slow=36							
ASAR				P3KPbc			22 43 22.7	
	comp=Z,1.4nm,0.9s,baz=271,slow=3.4,SNR=8.2							
MTN	**Manton Dam**	**36.65**	**274**	P		**P**	**22 12 32.4**	**-1.0**
	baz=37,SNR=90							
MTN	**Manton Dam**	**36.65**	**274**	*e*P		**P**	**22 12 32.8**	**-0.6**
	comp=Z,381nm,0.7s							
WRKA	**Warakurna**	**37.90**	**253**	P		**P**	**22 12 42.7**	**-1.3**
	baz=38,SNR=182							
RKPI	**Ransiki, Papua**	**38.07**	**293**	P		**P**	**22 12 46.8**	**+1.3**
WAKE	**Wake Island**	**38.09**	**357**	PFAKE			22 13 00.0	+15
WAKE				LR		LR		
	comp=Z,33μm,19.0s							
FORT	**Forrest**	**38.55**	**244**	P

BATI **Baumata** 44.40 275 P **P** 22 13 38.9 +1.2
comp=Z,452nm,1.0s,baz=17,slow=0.8,SNR=35
BATI S **S** 22 20 14.3 +1.8
comp=Z,5.0nm,0.3s,baz=37,slow=20,SNR=3.5
BATI LR LR 22 31 41.4
comp=Z,18μm,19.1s,baz=125,slow=36
BATI Baumata 44.40 275 P **P** 22 13 39.3 +1.6
SANI Sanana 45.12 287 P **P** 22 13 43.4 +0.1
TNTI Ternate 45.14 291 *e*P **P** 22 13 44.5 +1.1
comp=Z,230nm,1.5s
MBWA Marble Bar 45.96 259 *e*P **P** 22 13 50.0 +0.1
comp=Z,209nm,0.8s
MBWA LR LR
comp=Z,16μm,19.0s
MBWA Marble Bar 45.96 259 P **P** 22 13 50.4 +0.4
SNR=36
MMRI Maumere 46.21 276 P **P** 22 13 51.3 -0.7
MMRI Maumere 46.21 276 *e*P **P** 22 13 52.6 +0.6
comp=Z,303nm,0.9s
MEEK Meekatharra 46.61 251 P **P** 22 13 54.0 -1.0
baz=47,SNR=283
BBSI Bau Bau 46.94 280 P **P** 22 13 59.2 +1.5
BASI Baing, Sumba 47.31 274 P **P** 22 14 02.2 +1.6
KLBR Kellerberrin 47.42 244 P **P** 22 14 00.2 -1.1
baz=48,SNR=114
NWAO Narrogin (SRO) 47.93 243 P **P** 22 14 05.2 0.0
comp=Z,266nm,1.1s,baz=318,slow=5.5,SNR=40
NWAO Narrogin (SRO) 47.93 243 P **P** 22 14 04.6 -0.6
baz=48,SNR=31
NWAO P **P** 22 14 04.6 -0.6
baz=48,SNR=31
NWAO Narrogin (SRO) 47.93 243 *e*P **P** 22 14 05.2 0.0
comp=Z,272nm,0.9s
NWAO LR LR
comp=Z,33μm,19.0s
NWAO Narrogin (SRO) 47.93 243 P **P** 22 14 05.3 0.0
SNR=16
KMSI Cibinong 48.06 289 P **P** 22 14 07.4 +1.0
RKGY Rocky Gully 48.27 240 P **P** 22 14 07.7 -0.1
baz=48,SNR=29
BLDU Ballidu 48.28 246 P **P** 22 14 07.9 0.0
baz=48,SNR=54
LUWI Luwuk 48.46 286 P **P** 22 14 10.4 +0.9
LUWI Luwuk 48.46 286 *e*P **P** 22 14 10.7 +1.2
comp=Z,985nm,1.6s
WBSI Waikabubak, Su 48.60 274 P **P** 22 14 10.9 +0.3
BSSI Bau Bau, Buton 48.65 279 P **P** 22 14 11.4 +0.4
MUN Mundaring 48.75 244 P **P** 22 14 11.4 -0.1
baz=49,SNR=31
MIDW Midway 48.80 16 PFAKE 22 14 20.0 +8.2
MIDW LR LR
comp=Z,14μm,20.0s
MORW Morawa 48.85 248 P **P** 22 14 12.3 -0.1
baz=49,SNR=55
APSI Ampana 49.54 286 P **P** 22 14 19.0 +1.3
KAPI Kappang 49.73 280 *e*P **P** 22 14 19.0 -0.2
comp=Z,471nm,1.4s
KAPI LR LR
comp=Z,7μm,20.0s
KAPI Kappang 49.73 280 P **P** 22 14 20.0 +0.7
SNR=42
DAV Davao City (W) 49.82 297 P **P** 22 14 20.9 +1.0
comp=Z,165nm,0.4s,baz=94,slow=4.3,SNR=16
DAV Davao City (W) 49.82 297⇓ *i*P **P** 22 14 18.9 -1.0
DAV Davao City (W) 49.82 297 *e*P **P** 22 14 21.2 +1.3
DAV *e*pP **P** 22 14 22.1 +2.3
DAV LR LR
comp=Z,9μm,21.0s
DAV Davao City (W) 49.82 297 P **P** 22 14 21.1 +1.3
SNR=22
MRSI Marisa 49.85 287 P **P** 22 14 18.9 -1.2
KCP Kidapawan 50.20 297⇑ *e*P **P** 22 14 22.9 +0.1
PLAI Plampang 50.36 274 P **P** 22 14 24.6 +0.6
TTSI Tana Toraja 50.38 282 P **P** 22 14 24.9 +0.7
H01W1 Cape Leeuwin H 50.61 240 P **P** 22 14 27.1 +1.7
H01W3 Cape Leeuwin H 50.62 240 P **P** 22 14 27.2 +1.7
H01W2 Cape Leeuwin H 50.62 240 P **P** 22 14 27.2 +1.7
BUKP Musuan 50.68 298 *e*P **P** 22 14 27.4 +0.9
BUTP Butuan 50.80 299 *e*P **P** 22 14 27.3 0.0
KEKH Kekaha 51.08 39 *e*P **P** 22 14 29.3 +0.1
comp=Z,364nm,1.5s
SCPH Surigao 51.36 300⇑ *e*P **P** 22 14 33.3 +1.8
KHU Kahuku 51.63 45 *e*P **P** 22 14 32.8 -0.9
comp=Z,284nm,1.2s
KHU Kahuku 51.63 45 *e*P **P** 22 14 32.8 -0.9
KHU pmax pmax
comp=Z,280nm,1.1s
MPSI Mapaga 51.64 286 P **P** 22 14 33.8 +0.1
KIP Kipapa 51.67 41 *e*P **P** 22 14 33.3 -0.4
comp=Z,441nm,2.0s
KIP LR LR
comp=Z,32μm,21.0s
KIP Kipapa 51.67 41 *e*P **P** 22 14 33.3 -0.4
KIP pmax pmax
comp=Z,440nm,2.0s
KHLU Kahalu'u 51.69 44 *e*P **P** 22 14 32.9 -1.0
KHLU *e*pP **P** 22 14 36.3 +2.3
HUH Hualalai 51.79 44 *e*P **P** 22 14 34.7 -0.2
comp=Z,343nm,1.5s
MWH Moku'aweowe 51.81 44 *e*P **P** 22 14 32.8 -2.5
comp=Z,152nm,1.0s
AIN Ainahou 51.82 45 *e*P **P** 22 14 34.1 -1.0
comp=Z,154nm,0.9s
MLOA Mauna Loa Obse 51.86 44 *e*P **P** 22 14 34.9 -0.7
comp=Z,528nm,1.7s
HLP Hilina Pali 51.87 45 *e*P **P** 22 14 35.6 +0.3
comp=Z,376nm,1.3s
OPA Opana 51.88 40 *e*P **P** 22 14 35.8 +0.6
comp=Z,156nm,1.0s
OPA Opana 51.88 40 *e*P **P** 22 14 35.8 +0.6
OPA pmax pmax
comp=Z,160nm,1.0s
SDHHI Sand Hill 51.94 45 *e*P **P** 22 14 34.9 -1.0
comp=Z,117nm,0.9s
WRMHI West Rim 51.95 45 *e*P **P** 22 14 35.2 -0.8
WRMHI *e*pP **P** 22 14 36.5 +0.6
MLH Mauna Loa 51.95 45 *e*P **P** 22 14 35.4 -0.7
comp=Z,103nm,0.9s
MLH Mauna Loa 51.95 45 *e*P **P** 22 14 35.4 -0.7
MLH pmax pmax
comp=Z,100nm,0.9s
RIM Rim 51.96 45 *e*P **P** 22 14 36.1 +0.1
comp=Z,193nm,1.2s
UWE Uwekahuna 51.97 45 *e*P **P** 22 14 36.7 +0.7
comp=Z,168nm,1.0s
KKO Keanakako'i 51.97 45 *e*P **P** 22 14 36.3 +0.2
comp=Z,356nm,1.6s
NPH North Pit 51.97 45 *e*P **P** 22 14 37.0 +0.9
comp=Z,133nm,1.3s
NPH North Pit 51.97 45 *e*P **P** 22 14 37.0 +0.9
NPH pmax pmax
comp=Z,130nm,1.2s
HMH Humu'ula Sheep 51.97 44 *e*P **P** 22 14 37.2 +0.9
comp=Z,580nm,1.2s
OBL Observatory Le 51.97 45 *e*P **P** 22 14 36.3 +0.2
comp=Z,129nm,1.0s
UWB Uwekahuna B 51.98 45 *e*P **P** 22 14 36.8 +0.7
comp=Z,118nm,1.1s
BYL Byron's Ledge 51.98 45 *e*P **P** 22 14 36.7 +0.5
comp=Z,128nm,1.1s
PUH Pauahi 51.98 45 *e*P **P** 22 14 36.1 -0.1
comp=Z,288nm,1.4s
SBLHI Steaming Bluff 51.99 45 *e*P **P** 22 14 36.3 +0.1
comp=Z,149nm,1.2s
HATHI Halema'uma'u T 51.99 45 *e*P **P** 22 14 36.7 +0.5
comp=Z,162nm,1.1s
POHA Pohakuloa 52.04 44 PFAKE 22 14 50.0 +13
POHA LR LR
comp=Z,16μm,19.0s
MSLP Maasin 52.07 300 *e*P **P** 22 14 36.3 -0.5
HPAH Hawaii Prepara 52.13 44 *e*P **P** 22 14 37.9 +0.7
comp=Z,413nm,1.2s
HULD Heiheiahulu Di 52.17 45 *e*P **P** 22 14 38.3 +0.8
comp=Z,486nm,1.1s
KHLH Kahului Airpor 52.28 42 *e*P **P** 22 14 39.4 +1.1
comp=Z,720nm,1.7s
HLK Haleakala 52.30 43 *e*P **P** 22 14 39.3 +0.7
comp=Z,404nm,1.5s
RKT Rikitea 52.40 105 *e*P **P** 22 14 39.7 +0.5
comp=Z,187nm,1.1s
RKT *e*S **S** 22 22 05.0 -0.3
comp=Z,10μm,28.2s
RKT *e*LQ LQ 22 27 33.2
comp=Z,29μm,32.8s
RKT *e*LR LR 22 29 38.8
comp=Z,33μm,34.0s,baz=266

PLP Palo 52.55 301⇓ *e*P **P** 22 14 37.3 -3.0
CBIJ Chichi jima 52.56 330 *e*P **P** 22 14 41.0 +0.7
CBIJ *e*pP **P** 22 14 41.7 +1.5
JCJ Chichijima 52.56 330 P **P** 22 14 40.5 +0.3
comp=Z,170nm,0.7s,baz=129,slow=8.3,SNR=4.0
JCJ LR LR 22 35 05.3
comp=Z,15μm,21.8s,baz=156,slow=34
OCLP Ormoc 52.78 301 *e*P **P** 22 14 42.4 +0.3
DNP Denpasar 52.83 273 P **P** 22 14 43.0 +0.5
IGBI Denpasar 52.84 273 P **P** 22 14 43.2 +0.6
SRBI Singaraja 53.00 274 P **P** 22 14 44.0 +0.3
SGKI Sangatta, Kali 53.39 284 P **P** 22 14 55.5 +8.8
CNP Catarman 53.56 302 *e*P **P** 22 14 48.2 +0.5
KBKI Kotabaru 53.68 280 P **P** 22 14 48.5 -0.3
BKB Balikpapan 53.76 283 P **P** 22 14 51.5 +2.2
SMKI Samarinda 53.79 284 P **P** 22 14 51.5 +1.9
JAGI Jajag, Banyuwa 53.89 273 P **P** 22 14 49.5 -0.8
JAGI Jajag, Banyuwa 53.89 273 *e*P **P** 22 14 49.5 -0.8
comp=Z,227nm,0.9s
KMMI Kalianget 54.49 275 P **P** 22 14 55.3 +0.6
GMJI Gumukmas 54.61 273 P **P** 22 14 55.3 -0.3
BLJI Banyuglugur 54.63 274 P **P** 22 14 55.6 -0.1
MYLDM Lahad Datu 55.01 291 *e*P **P** 22 14 59.4 +1.0
MYLDM *e*pP **P** 22 14 59.9 +1.4
OTRP Odiongan 55.61 300 *e*P **P** 22 15 03.1 +0.4
MTKI Muara Teweh, K 55.73 282 P **P** 22 15 03.2 -0.4
GQP Guinayangan 56.12 302⇓ *e*P **P** 22 15 05.7 -0.7
PWJI Pagerwojo 56.24 273 P **P** 22 15 06.8 -0.5
BOAC Boac 56.36 301 *e*P **P** 22 15 08.4 +0.3
SJMP San Jose 56.40 300 *e*P **P** 22 15 08.9 +0.5
TBJI Tambak Boyo 56.56 274 P **P** 22 15 09.7 +0.1
PTCN Pitcairn Islan 56.60 108 PFAKE
PTCN LR LR 22 15 20.0 +10
comp=Z,9μm,22.0s
PCJI Pacitan 56.78 273 P **P** 22 15 11.6 +0.5
WOJI Wonogiri, Jawa 57.12 273 P **P** 22 15 13.3 -0.3
ENPP El Nido 57.15 298 *e*P **P** 22 15 13.2 -0.4
KKM Kota Kinabalu 57.43 290 PFAKE
KKM LR LR 22 15 30.0 +14
comp=Z,6μm,20.0s
TGY Tagaytay City 57.45 301 P **P** 22 15 17.1 +1.2
comp=Z,410nm,0.4s,baz=244,slow=1.3,SNR=20
TGY LR LR 22 37 48.6
comp=Z,8μm,21.4s,baz=168,slow=34
UGM Wanagama 57.48 273 P **P** 22 15 17.3 +1.1
UGM Wanagama 57.48 273 *e*P **P** 22 15 15.6 -0.6
comp=Z,1μm,1.5s
LUBP Lubang 57.81 301 *e*P **P** 22 15 16.2 -2.1
SMRI Semarang 57.82 274 P **P** 22 15 18.7 +0.2
SMRI Semarang 57.82 274 *e*P **P** 22 15 19.1 +0.6
comp=Z,2μm,2.0s
BALP Baler 57.86 303 *e*P **P** 22 15 18.1 -0.5
PBKI Pangkalan Bun 58.09 279 P **P** 22 15 21.2 +0.8
VNDA Vanda 58.67 182 P **P** 22 15 22.3 -1.1
comp=Z,8.9nm,0.6s,baz=353,slow=7.7,SNR=30
VNDA S **S** 22 23 23.2 -4.2
comp=Z,0.6nm,0.9s,baz=45,slow=13,SNR=2.0
VNDA LR LR 22 36 55.3
comp=Z,21μm,21.6s,baz=14,slow=32
VNDA PKPPKP **P'P'df** 22 45 00.8 -4.1
comp=Z,1.0nm,0.7s,baz=268,slow=10.0,SNR=7.2
VNDA Vanda 58.67 182 *e*P **P** 22 15 22.4 -1.0
comp=Z,191nm,1.7s
VNDA S **S** 22 23 23.2 -4.2
VNDA P'P' 22 45 00.8
VNDA Vanda 58.67 182 *e*P **P** 22 15 22.4 -1.0
VNDA pmax pmax
comp=Z,190nm,1.7s
SBA Scott Base 58.91 180 *e*P **P** 22 15 24.9 -0.2
comp=Z,196nm,1.0s
SBA LR LR
comp=Z,19μm,20.0s
SBA Scott Base 58.91 180 *e*P **P** 22 15 24.9 -0.2
SBA pmax pmax
comp=Z,200nm,1.0s
KPJI Karang Pucung 59.16 273 P **P** 22 15 28.3 +0.4
STKI Sintang 59.27 282 P **P** 22 15 29.9 +1.3
APYP Conner 59.34 305 *e*P **P** 22 15 28.7 -0.2
SBUM Sibu 59.51 285 *e*P **P** 22 15 30.8 +0.5
comp=Z,305nm,1.7s
JCJI Jatiwangi 60.04 273 P **P** 22 15 34.1 +0.2
JOW Kunigami 60.14 318 P **P** 22 15 35.1 +0.7
comp=Z,26nm,0.8s,baz=136,slow=4.4,SNR=11
JOW LR LR 22 41 40.6
comp=Z,8μm,18.7s,baz=131,slow=36
JOW Kunigami 60.14 318 *e*P **P** 22 15 34.9 +0.5
comp=Z,427nm,1.9s
CISI Cisompet, Garu 60.15 272 P **P** 22 15 34.3 -0.5
CISI Cisompet, Garu 60.15 272 *e*P **P** 22 15 33.6 -1.2
comp=Z,2μm,1.8s
CASY Casey 60.18 203 *e*P **P** 22 15 33.8 -0.2
comp=Z,177nm,1.3s
CASY LR LR
comp=Z,2μm,21.0s
LEM Lembang 60.55 273 P **P** 22 15 38.1 +0.4
comp=Z,350nm,0.7s,baz=89,slow=4.9,SNR=50
LEM LR LR 22 41 48.5
comp=Z,7μm,20.5s,baz=110,slow=36
KSM Kuching 60.88 283 *e*P **P** 22 15 39.9 +0.2
comp=Z,145nm,0.8s
KSM LR LR
comp=Z,5μm,22.0s
XMIS Christmas Isla 61.36 268 *e*P **P** 22 15 43.7 +0.8
comp=Z,553nm,1.4s
SKJI Sukabumi 61.50 272 P **P** 22 15 43.8 -0.1
INU Inuyama 61.87 331 *e*P **P** 22 15 45.9 0.0
comp=Z,319nm,1.4s
YOJ Yonaguni jima 62.06 312 *e*P **P** 22 15 47.2 -0.2
YOJ *es*P **P** 22 15 48.1 +0.7
YOJ Yonaguni jima 62.06 312 *e*P **P** 22 15 47.2 -0.2
YOJ *e**SP **P** 22 15 48.1 +0.7
SBJI Serang 62.18 273 P **P** 22 15 48.5 +0.1
MJAR Matsushiro Arr 62.32 332 P **P** 22 15 48.3 -0.6
comp=Z,33nm,0.8s,baz=171,slow=7.9,SNR=37
MAJO Matsushiro 62.32 332 *e*P **P** 22 15 48.1 -0.9
comp=Z,147nm,1.0s
MAJO LR LR
comp=Z,9μm,21.0s
MAJO Matsushiro 62.32 332 *d i*P **P** 22 15 47.4 -1.6
MAJO pmax pmax
comp=Z,338nm,2.1s
MAT Matsushiro 62.32 332 P **P** 22 15 47.7 -1.3
MAT S **S** 22 24 16.6 +1.3
MJB9 Matsu-Tunnel 62.33 332 *e*P **P** 22 15 48.5 -0.5
comp=Z,156nm,1.1s
TWG Pinang 62.42 310 *e*P **P** 22 15 50.8 +0.9
comp=Z,910nm,1.7s
YULB Yu-li 62.61 310 *e*P **P** 22 15 53.1 +2.0
comp=Z,195nm,1.5s
NACB Ninganchiao 62.88 311 *e*P **P** 22 15 52.9 0.0
comp=Z,494nm,1.5s
TPUB Ta-pu 63.04 310 *e*P **P** 22 15 53.8 -0.2
comp=Z,155nm,0.9s
SSLB Suanglung 63.10 310 *e*P **P** 22 15 53.5 -1.0
SSLB *es*P **P** 22 15 54.0 -0.5
JNU Nakatsue 63.20 325 P **P** 22 15 54.4 -0.6
comp=Z,78nm,0.9s,baz=111,slow=5.5,SNR=22
JNU S **S** 22 24 24.3 -2.2
comp=Z,3.1nm,0.8s,baz=124,slow=18,SNR=2.2
JNU LR LR 22 40 06.1
comp=Z,12μm,21.9s,baz=142,slow=33
JNU Nakatsue 63.20 325 *e*P **P** 22 15 54.8 -0.1
JNU *es*P **P** 22 15 55.1 +0.2
JNU S **S** 22 24 24.3 -2.2
BLSI Bandar Lampung 63.25 274 P **P** 22 15 54.8 -0.8
YHNB Yeheng 63.35 311 *e*P **P** 22 15 54.2 -1.8
comp=Z,323nm,1.1s
YHNB LR LR
comp=Z,15μm,22.0s
PPBI Pangkal Pinang 63.46 277 P **P** 22 15 56.5 -0.5
TATO Taipei 63.46 312 *e*P **P** 22 15 57.2 +0.5
comp=Z,356nm,1.3s
TATO LR LR
comp=Z,15μm,22.0s
KLI Kotabumi 63.77 274 P **P** 22 15 57.9 -1.2
KASI Kota Agung 63.91 273 P **P** 22 15 59.2 -0.7
LWLI Liwa 64.48 274 P **P** 22 16 02.9 -1.0
MDSI Maura Dua 64.53 274 P **P** 22 16 02.5 -1.6
ERM Erimo 65.15 339 *e*P **P** 22 16 08.6 +1.2
comp=Z,36nm,0.8s
ERM LR LR
comp=Z,32μm,21.0s
ERM Erimo 65.15 339 *de*P **P** 22 16 08.4 +1.0
ERM pmax pmax
comp=Z,22nm,0.8s

QZH Quanzhou 65.51 310⇓ *i*P **P** 22 16 10.3 +0.2
QZH S **S** 22 24 50.6 -4.6
QZH pmax pmax
comp=Z,6μm,8.4s
QZH LR LR
comp=Z,4μm,22.7s
QZH LR LR
comp=Z,7μm,21.4s
QZH LR LR
comp=Z,9μm,21.4s
MNAI Manna 65.73 274 P **P** 22 16 09.6 -2.3
MNAI Manna 65.73 274 *e*P **P** 22 16 11.5 -0.4
comp=Z,685nm,0.9s
JMBI JAMBI 65.98 277 P **P** 22 16 14.9 +1.4
TPRI Tanjung Pinang 66.04 280 P **P** 22 16 14.2 +0.3
YUK Yuzh-Kuril'sk 66.13 342 *d i*P **P** 22 16 13.2 -0.5
YUK *e* 22 16 42.4
YUK *e* 22 18 39.1
YUK *e*PPP PPP 22 20 12.3
YUK *i* S **S** 22 25 03.5 +1.5
YUK *e* 22 26 08.6
YUK *e*SS **SS** 22 29 11.3 -7.0
YUK pmax pmax
comp=Z,2μm,10.1s
YUK pmax pmax
comp=N,1μm,11.0s
YUK pmax pmax
comp=Z,87nm,10.7s
YUK pmax pmax
comp=Z,2μm,11.1s
KUR Kuril'sk 66.69 344 *de*P **P** 22 16 16.5 -0.7
KUR *i* S **S** 22 25 16.0 +7.3
KUR pmax pmax
comp=Z,249nm,2.1s
KUR pmax pmax
comp=E,94nm,2.0s
KUR pmax pmax
comp=N,121nm,1.8s
KUR pmax pmax
comp=Z,4μm,6.0s
KUR MLR MLR
comp=Z,8μm,16.0s
KUR MLR MLR
comp=N,5μm,13.0s
MASI Maura Aman, Be 66.80 275 P **P** 22 16 17.1 -1.7
MYKOM Kota Tinggi 66.99 280 *e*P **P** 22 16 19.4 -0.5
comp=N,116nm,1.1s
MIR Mirnyy 67.07 205⇑ *i*P **P** 22 16 21.0 +1.5
MIR *i* 22 16 22.0
MIR *e* 22 16 51.0
MIR *e*S **S** 22 25 14.0 +1.0
MIR pmax pmax
comp=Z,270nm,1.5s
MIR pmax pmax
comp=Z,8μm,6.0s
ASAJ Asahikawa 67.21 340 P **P** 22 16 21.1 +0.4
comp=Z,77nm,0.8s,baz=215,slow=5.1,SNR=19
HKC Hong Kong Obse 67.31 305 ⇑P **P** 22 16 23.0 +1.3
TJN Taejon 67.55 325 *d i*P **P** 22 16 21.6 -1.4
SSE Sheshan 67.58 317 P **P** 22 16 25.9 +2.6
SSE S **S** 22 25 26.4 +6.3
SSE pmax pmax
comp=Z,36nm,1.0s
SSE pmax pmax
comp=Z,2μm,6.7s
SSE LR LR
comp=Z,3μm,20.2s
SSE LR LR
comp=Z,3μm,17.1s
RGRI Rengat 67.65 278 P **P** 22 16 25.0 +0.9
MCO Taipa Grande 67.69 305 P **P** 22 16 26.0 +1.8
KSRS Korea Array 68.05 326 P **P** 22 16 26.9 +0.8
comp=Z,13nm,0.9s,baz=147,slow=5.3,SNR=22
KSRS PKPPKP **P'P'df** 22 44 43.5 +1.5
comp=Z,4.2nm,1.1s,baz=313,slow=2.6,SNR=12
KSRS LR LR 22 44 51.4
comp=Z,6μm,19.9s,baz=117,slow=35
KSRS Korea Array 68.05 326 P **P** 22 16 26.9 +0.8
KSRS pmax pmax
comp=Z,15nm,1.0s
KSRS pmax pmax
comp=Z,4.0nm,1.1s
KSRS MLR MLR
comp=Z,6μm,19.9s
KS15 Wonju Array Si 68.06 326 *e*P **P** 22 16 27.1 +1.0
KSAR Wonju Array Be 68.06 326 P **P** 22 16 26.9 +0.7
KSAR P'P' 22 44 43.5
KSAR Wonju Array Be 68.06 326 P **P** 22 16 26.9 +0.7
KS01 Wonju Array Si 68.08 326 *e*P **P** 22 16 24.4 -1.8
SDSI Sungai Dareh 68.30 277 P **P** 22 16 26.5 -1.7
GZH Guangzhou 68.38 305 P **P** 22 16 29.3 +0.8
GZH S **S** 22 25 25.9 -4.1
GZH pmax pmax
comp=Z,6μm,6.3s
INCN Inchon 68.76 325 *e*P **P** 22 16 31.1 +0.5
comp=Z,637nm,1.9s
INCN LR LR
comp=Z,13μm,22.0s
INCN Inchon 68.76 325 P **P** 22 16 30.4 -0.2
SNR=34
INCN Inchon 68.76 325 P **P** 22 16 30.4 -0.2
SNR=34
QIZ Qiongzhong 69.07 300 P **P** 22 16 33.8 +0.9
QIZ PP **PP** 22 19 08.0 +2.3
QIZ S **S** 22 25 43.4 +5.1
QIZ SS **SS** 22 30 03.3 -1.4
QIZ pmax pmax
comp=Z,86nm,1.5s
QIZ pmax pmax
comp=Z,4μm,6.4s
QIZ LR LR
comp=Z,2μm,14.9s
QIZ LR LR
comp=Z,4μm,18.6s
QIZ LR LR
comp=Z,9μm,19.6s
QIZ Qiongzhong 69.07 300 *e*P **P** 22 16 34.1 +1.3
comp=Z,290nm,1.4s
QIZ LR LR
comp=Z,10μm,20.0s
BKNI Bangkinang 69.09 278 P **P** 22 16 33.4 +0.2
BKNI Bangkinang 69.09 278 *e*P **P** 22 16 33.9 +0.7
comp=Z,757nm,1.0s
PDSI Padang 69.21 276 P **P** 22 16 32.2 -1.8
COCO West Island 69.22 264 *e*P **P** 22 16 35.8 +1.9
comp=Z,782nm,1.4s
COCO LR LR
comp=Z,9μm,19.0s
COCO West Island 69.22 264 P **P** 22 16 36.0 +2.1
SNR=6.3
COCO West Island 69.22 264 P **P** 22 16 36.0 +2.1
SNR=6.3
COCO West Island 69.22 264 *e*P **P** 22 16 35.8 +1.9
COCO pmax pmax
comp=Z,780nm,1.4s
YSS Yuzh-Sakhalins 69.70 341 *e*P **P** 22 16 36.1 0.0
comp=Z,141nm,1.1s
YSS LR LR
comp=Z,10μm,22.0s
YSS Yuzh-Sakhalins 69.70 341 κ *i*P **P** 22 16 36.3 +0.2
YSS *e* 22 19 11.0
YSS *e*S **S** 22 25 46.4 +1.8
YSS *e*SS **SS** 22 30 07.0 -6.5
YSS pmax pmax
comp=Z,60nm,1.1s
YSS pmax pmax
comp=N,30nm,1.0s
YSS pmax pmax
comp=Z,1μm,8.1s
YSS pmax pmax
comp=N,1μm,9.4s
YSS MLR MLR
comp=N,11μm,19.0s
YSS MLR MLR
comp=Z,10μm,19.0s
NJ2 Nanjing 69.72 316 *e*P **P** 22 16 36.1 -0.5
NJ2 PP **PP** 22 19 12.6 +1.5
NJ2 S **S** 22 25 46.9 +1.4
NJ2 SS **SS** 22 30 14.8 +0.5
NJ2 pmax pmax
comp=Z,110nm,1.5s
NJ2 pmax pmax
comp=Z,6μm,8.4s
NJ2 LR LR
comp=Z,6μm,21.7s
NJ2 LR LR

NJ2 LR LR
comp=Z,7μm,19.5s
comp=Z,13μm,19.5s
TEY Ternei 70.13 336 *e*P **P 22 16 36.4 -2.4**
TEY pmax pmax
comp=Z,7μm,8.0s
SKR Severo-Kuril's 70.26 351 *e*P **P 22 16 37.8 -1.6**
SKR *e* 22 16 58.4
SKR *e*S **S 22 25 56.4 +5.4**
SKR *e* 22 26 21.8
SKR *e*SS **SS 22 30 20.1 -1.8**
SKR *e*SSS SSS 22 33 27.7
SKR pmax pmax
comp=Z,123nm,1.0s
SKR pmax pmax
comp=Z,4μm,9.4s
SKR MLR MLR
comp=Z,4μm,17.0s
SKR MLR MLR
comp=Z,4μm,18.0s
SISI Saibi 70.37 276 P **P 22 16 40.7 -0.3**
MSHR Mys Shultsa 70.39 331*d i*P **P 22 16 39.9 -0.6**
VLA Vladivostok 70.49 332*d i*P **P 22 16 40.4 -0.7**
VLA pmax pmax
comp=Z,255nm,2.0s
VLA MLR MLR
comp=Z,5μm,19.0s
IPM Ipoh 70.59 282 *e*P **P 22 16 41.6 -0.8**
comp=Z,99nm,0.7s
MNSI Mandailing Nat 70.62 278 P **P 22 16 41.3 -1.3**
QSPA South Pole Qui 71.06 180 P **P 22 16 43.2 -1.4**
comp=Z,97nm,0.9s,baz=26,slow=2.2,SNR=88
QSPA S **S 22 25 58.3 -2.3**
comp=Z,0.6nm,0.4s,baz=0.0,slow=20,SNR=9.0
QSPA LR LR 22 46 17.7
comp=Z,16μm,18.3s,baz=25,slow=34
USRK Ussuriysk Ar. 71.31 333 P **P 22 16 46.5 +0.5**
comp=Z,10.0nm,0.7s,baz=144,slow=4.2,SNR=28
USRK S **S 22 26 04.7 +1.1**
comp=Z,3.0nm,0.6s,baz=143,slow=43,SNR=3.9
USRK LR LR 22 45 00.5
comp=Z,8μm,21.1s,baz=128,slow=33
SMY Shemya 71.56 3 *e*P **P 22 16 48.5 +1.2**
comp=Z,143nm,1.2s
SMY Shemya 71.56 3 *e*P **P 22 16 48.5 +1.2**
SMY pmax pmax
comp=Z,140nm,1.2s
WHN Wuhan 71.85 312 ⇓P **P 22 16 48.8 -0.8**
WHN S **S 22 26 09.6 -0.8**
WHN pmax pmax
comp=Z,2μm,1.7s
WHN LR LR
comp=Z,11μm,15.7s
WHN LR LR
comp=Z,14μm,21.5s
WHN LR LR
comp=Z,28μm,26.0s
PSI Prapat 71.94 280 P **P 22 16 48.9 -1.8**
comp=Z,109nm,1.1s,baz=173,slow=5.9,SNR=74
PSI LR LR 22 47 30.0
comp=Z,8μm,21.9s,baz=130,slow=35
PSI Prapat 71.94 280 *e*P **P 22 16 48.7 -2.0**
comp=Z,128nm,0.9s
PSI Prapat 71.94 280 *e*P **P 22 16 48.7 -2.0**
PSI pmax pmax
comp=Z,130nm,0.9s
SKLT Songkhla 71.97 284 P **P 22 16 50.7 0.0**
comp=Z,318nm,0.7s,comp=Z,4μm
PET Petropavlovsk 72.24 354 *e*P **P 22 16 49.7 -1.8**
comp=Z,83nm,1.2s
PET LR LR
comp=Z,24μm,22.0s
PET Petropavlovsk 72.24 354 *e*P **P 22 16 49.0 -2.4**
PET *e*S **S 22 26 09.6 -4.3**
PET *e*PS **PnS 22 26 43.7 -0.7**
PET pmax pmax
comp=Z,40nm,1.8s
PET pmax pmax
comp=Z,4μm,9.7s
PET pmax pmax
comp=Z,5μm,10.0s
PEA0B Petropavlovsk- 72.43 353 *e*P **P 22 16 53.4 +0.7**
comp=Z,190nm,1.4s
PETK Petropavlovsk- 72.43 353 P **P 22 16 52.4 -0.2**
comp=Z,30nm,0.9s,baz=131,slow=6.1,SNR=17
PETK Petropavlovsk- 72.43 353 *e*P **P 22 16 52.0 -0.6**
PETK Petropavlovsk- 72.43 353 *e*P **P 22 16 52.0 -0.6**
TSI Tuntungan 72.52 280 P **P 22 16 53.6 -0.4**
DL2 Dalian 72.55 323 ⇓*i*P **P 22 16 52.9 -0.7**
DL2 PP **PP 22 19 39.6 +4.3**
DL2 S **S 22 26 19.8 +1.8**
DL2 SS **SS 22 30 59.8 +2.3**
DL2 pmax pmax
comp=Z,240nm,1.0s
DL2 pmax pmax
comp=Z,5μm,8.5s
DL2 LR LR
comp=Z,7μm,25.5s
DL2 LR LR
comp=Z,9μm,23.7s
DL2 LR LR
comp=Z,18μm,24.4s
CHBT CHBT 72.65 290 P **P 22 16 58.6 +3.9**
comp=Z,852nm,1.1s
GSI Gunungsitoli 72.68 278 P **P 22 16 55.0 0.0**
GSI Gunungsitoli 72.68 278 *e*P **P 22 16 55.0 0.0**
comp=Z,368nm,1.3s
MDJ Mudanjiang 72.69 332 P **P 22 16 52.3 -2.0**
MDJ PcP **PcP 22 17 08.0 -3.7**
MDJ PP **PP 22 19 34.9 -1.5**
MDJ S **S 22 26 22.6 +3.1**
MDJ pmax pmax
comp=Z,98nm,1.5s
MDJ pmax pmax
comp=Z,7μm,7.3s
MDJ LR LR
comp=Z,9μm,15.9s
MDJ LR LR
comp=Z,10μm,17.5s
MDJ LR LR
comp=Z,14μm,18.6s
MDJ Mudanjiang 72.69 332 *e*P **P 22 16 54.7 +0.4**
comp=Z,92nm,0.9s
MDJ LR LR
comp=Z,11μm,22.0s
SKNT Sakolnakorn 73.03 295 P **P 22 16 56.2 -0.7**
comp=Z,186nm,1.9s,comp=Z,3μm
TRTT Trang 73.08 285 P **P 22 16 56.8 -0.5**
comp=Z,71nm,0.8s,comp=Z,1μm
TYV Tymovskoe 73.24 343 *e*P **P 22 16 57.3 -0.1**
TYV *e*S **SKiKP 22 26 28.2 -1.2**
TYV pmax pmax
comp=Z,5μm,10.9s
TYV pmax pmax
comp=Z,60nm,1.4s
TYV smax smax
comp=N,3μm,13.5s
TIA Tai'an 73.46 319 P **P 22 16 58.5 -0.6**
TIA S **S 22 26 28.5 -0.1**
TIA pmax pmax
comp=N,59nm,1.7s
TIA pmax pmax
comp=N,5μm,8.1s
TIA LR LR
comp=N,6μm,23.9s
TIA LR LR
comp=N,5μm,19.2s
TIA LR LR
comp=N,13μm,25.3s
SNY Shenyang 73.53 326 ⇓P **P 22 16 58.8 -0.5**
SNY S **S 22 26 28.3 -0.8**
SNY pmax pmax
comp=N,110nm,2.5s
SNY pmax pmax
comp=N,6μm,6.7s
SNY LR LR
comp=N,7μm,17.1s
SNY LR LR
comp=N,6μm,17.1s
SNY LR LR
comp=N,14μm,18.6s
CN2 Changchun 74.01 329 *e*P **P 22 17 01.8 -0.4**
CN2 *e*PP **PP 22 19 49.3 +1.6**
CN2 *e*S **S 22 26 33.5 -1.0**
CN2 pmax pmax
comp=N,80nm,1.0s
CN2 LR LR
comp=N,8μm,22.0s
CN2 LR LR
comp=N,7μm,22.0s
CN2 LR LR
comp=N,13μm,23.0s
SURT Suratani 74.33 285 P **P 22 17 04.4 -0.2**
comp=N,83nm,2.0s,comp=N,2μm
PKDT Phuket 74.34 284 P **P 22 17 04.3 -0.5**
comp=N,90nm,1.1s,comp=N,1μm
RPN Rapa Nui 74.60 114 LR LR 22 44 52.1
comp=N,3μm,18.4s,baz=256,slow=32
LHMI Lhok Sumawe 74.65 281 *e*P **P 22 17 10.3 +3.8**
MLSI Meulaboh, Aceh 74.81 280 P **P 22 17 06.1 -1.4**
GRNR Gornyy 75.06 339 *e*P **P 22 17 09.8 +1.7**
GRNR pmax pmax
comp=Z,210nm,1.2s
ENH Enshi 75.17 310 *e*P **P 22 17 09.1 -0.2**
comp=Z,629nm,1.6s
ENH LR LR
comp=Z,7μm,20.0s
PBKT Sadao Pong 75.45 293 P **P 22 17 10.8 -0.2**
comp=Z,127nm,0.8s,comp=Z,4μm
KLR Kul'dur 75.46 336 P **P 22 17 10.2 -0.2**
comp=Z,2.0nm,1.0s,baz=147,slow=6.0
KLR Kul'dur 75.46 336*d i*P **P 22 17 09.9 -0.5**
UNV Unalaska Valle 75.60 15 *e*P **P 22 17 14.8 +3.7**
comp=Z,122nm,1.2s
NKL Nikolayevsk 75.84 343 *i* P **P 22 17 12.0 -0.5**
NKL pmax pmax
comp=N,34nm,1.0s
NKL pmax pmax
comp=Z,120nm,1.0s
NKL pmax pmax
comp=N,1μm,11.0s
NKL pmax pmax
comp=E,1μm,11.0s
NKL pmax pmax
comp=Z,4μm,11.0s
SRDT SRDT 76.15 291 P **P 22 17 15.4 +0.3**
comp=Z,184nm,0.7s,comp=Z,4μm
BJT Baijiatuau 76.45 321 *e*P **P 22 17 16.8 +0.5**
comp=Z,106nm,0.8s
BJT LR LR
comp=Z,11μm,21.0s
BJT Baijiatuau 76.45 321 *e*P **P 22 17 16.8 +0.5**
BJT pmax pmax
comp=Z,106nm,0.8s
BJT MLR MLR
comp=Z,11μm,21.0s
BJI Beijing 76.46 321 P **P 22 17 15.9 -0.4**
BJI S **S 22 27 04.6 +2.8**
BJI pmax pmax
comp=Z,8μm,5.3s
BJI LR LR
comp=Z,9μm,16.1s
BJI LR LR
comp=Z,7μm,17.7s
TIY Taiyuan 77.35 317 *e*P **P 22 17 22.4 +0.9**
TIY S **S 22 27 12.9 +1.1**
TIY pmax pmax
comp=Z,290nm,1.6s
TIY pmax pmax
comp=Z,5μm,6.8s
TIY LR LR
comp=Z,4μm,14.2s
TIY LR LR
comp=Z,3μm,15.9s
TIY LR LR
comp=Z,7μm,20.2s
XAN Xi'an 77.61 313 P **P 22 17 22.6 -0.4**
XAN pP pP 22 17 25.8 -1.0
XAN sP sP 22 17 28.5 +0.3
XAN PP **PP 22 20 17.8 -0.6**
XAN S **S 22 27 12.9 -1.9**
XAN sS sS 22 27 20.6 -0.4
XAN SKS **SKSac 22 27 30.3 -6.3**
XAN SS **SS 22 32 11.5 -3.4**
XAN pmax pmax
comp=Z,110nm,2.0s
XAN pmax pmax
comp=Z,5μm,4.5s
XAN LR LR
comp=Z,8μm,20.6s
XAN LR LR
comp=Z,7μm,19.6s
XAN LR LR
comp=Z,13μm,21.7s
KMI Kunming 77.76 302 P **P 22 17 24.9 +0.6**
KMI pP pP 22 17 27.6 -0.5
KMI sP sP 22 17 29.5 +0.1
KMI PP **PP 22 20 23.3 +3.3**
KMI S **S 22 27 16.5 -0.6**
KMI sS pS 22 27 21.6 -0.3
KMI SKS **SKSac 22 27 34.1 -4.4**
KMI SS **SS 22 32 20.6 +2.8**
KMI pmax pmax
comp=Z,410nm,1.1s
KMI pmax pmax
comp=Z,5μm,7.1s
KMI LR LR
comp=Z,4μm,21.8s
KMI LR LR
comp=Z,4μm,27.9s
KMI LR LR
comp=Z,9μm,23.8s
CM01 Chiang Mai Arr 77.96 294 *e*P **P 22 17 25.2 0.0**
CM31 Chiang Mai Arr 77.99 294 *e*P **P 22 17 26.9 +1.4**
CMAR Chiang Mai Arr 77.99 294 P **P 22 17 26.9 +1.4**
comp=Z,92nm,1.1s,baz=126,slow=3.8,SNR=126
CMAR PKKPbc **PKKPbc 22 36 26.1 0.0**
comp=Z,1.4nm,0.8s,baz=265,slow=3.7,SNR=4.8
CMMT Chiang Mai 78.14 295 P **P 22 17 25.6 -0.6**
comp=Z,129nm,1.4s,comp=Z,5μm
CHTO Chiang Mai 78.14 295 P **P 22 17 26.7 +0.4**
comp=Z,680nm,1.2s,comp=Z,25μm
CHTO Chiang Mai 78.14 295 *e*P **P 22 17 26.4 +0.2**
comp=Z,350nm,1.5s
CHTO LR LR
comp=Z,4μm,19.0s
CHTO Chiang Mai 78.14 295 P **P 22 17 27.0 +0.7**
SNR=120
CHTO Chiang Mai 78.14 295 P **P 22 17 27.0 +0.7**
SNR=120
CHTO Chiang Mai 78.14 295 *e*P **P 22 17 26.4 +0.2**
CHTO pmax pmax
comp=Z,350nm,1.5s
MAW Mawson 78.50 202 P **P 22 17 26.8 -0.6**
comp=Z,38nm,0.8s,baz=100,slow=7.7,SNR=21
MAW LR LR 22 48 39.1
comp=Z,15μm,19.4s,baz=93,slow=33
MAW Mawson 78.50 202 P **P 22 17 27.7 +0.4**
baz=78,SNR=19
MAW Mawson 78.50 202 *e*P **P 22 17 27.4 0.0**
comp=Z,20nm,1.0s
MAW Mawson 78.50 202 *e*P **P 22 17 27.4 0.0**
MAW pmax pmax
comp=Z,20nm,1.0s
MA2 Magadan 79.65 351 P **P 22 17 32.6 -1.0**
comp=Z,29nm,0.9s,baz=153,slow=8.5
CD2 Chengdu 79.73 308 ⇓*i*P **P 22 17 35.4 +0.6**
CD2 pP pP 22 17 38.5 -0.1
CD2 PP **PP 22 20 36.6 +0.4**
CD2 S **S 22 27 39.3 +1.7**
CD2 SS **SS 22 32 49.9 +3.1**
CD2 pmax pmax
comp=Z,200nm,0.9s
CD2 pmax pmax
comp=Z,8μm,6.4s
CD2 LR LR
comp=Z,9μm,20.9s
CD2 LR LR
comp=Z,11μm,24.8s
CD2 LR LR
comp=Z,11μm,27.8s
HHC Hu-ho-hao-te 79.74 320 *e*P **P 22 17 34.8 +0.1**
HHC sP PcP 22 17 42.5 +0.1
HHC PP **PP 22 20 32.0 -4.1**
HHC S **S 22 27 41.4 +4.0**
HHC SS **SS 22 32 47.8 +1.0**
HHC pmax pmax
comp=Z,89nm,1.4s
HHC pmax pmax
comp=Z,5μm,8.2s
HHC LR LR
comp=Z,10μm,17.9s
HHC LR LR
comp=Z,11μm,17.9s
HHC LR LR
comp=Z,12μm,17.7s
BTO Baotou 80.55 319 *e*P **P 22 17 38.1 -1.0**
HIA Hailar 80.67 330 *e*P **P 22 17 39.3 -0.1**
comp=Z,232nm,1.4s
HIA LR LR
comp=Z,7μm,19.0s
HIA Hailar 80.67 330 *e*P **P 22 17 39.3 -0.1**
HIA pmax pmax
comp=Z,232nm,1.4s
HIA MLR MLR
comp=Z,7μm,19.0s
ZEA Zeya 80.75 336*de*P **P 22 17 39.4 -0.3**
ZEA *e* 22 20 46.0
ZEA *e*S **S 22 27 51.0 +3.8**
ZEA *e*PS **PnS 22 28 36.0 +2.3**
ZEA *e*SS **SS 22 33 08.0 +6.9**
ZEA pmax pmax
comp=E,64nm,1.8s
ZEA pmax pmax
comp=N,110nm,1.4s
ZEA pmax pmax
comp=Z,180nm,1.4s
ZEA pmax pmax
comp=E,1μm,8.0s
ZEA pmax pmax
comp=Z,6μm,8.0s
ZEA pmax pmax
comp=N,2μm,7.0s
ZEA pmax pmax
comp=Z,2μm,9.0s
ZEA pmax pmax
comp=E,500nm,1.0s
ZEA smax smax
comp=N,3μm,12.0s
ZEA MLR MLR
comp=N,4μm,17.0s
ZEA MLR MLR
comp=E,3μm,17.0s
ZEA MLR MLR
comp=Z,7μm,17.0s
PAF Port-aux-Franc 81.22 221 *e*P **P 22 17 44.8 +2.3**
comp=Z,304nm,0.8s
PAF LR LR
comp=Z,10μm,20.0s
PAF Port-aux-Franc 81.22 221 *e*P **P 22 17 44.8 +2.3**
PAF pmax pmax
comp=Z,300nm,0.8s
LZH Lanzhou 82.23 312 ⇓P **P 22 17 48.8 +0.6**
LZH pP PcP 22 17 53.8 +0.3
LZH sP sP 22 17 55.4 +2.1
LZH PP **PP 22 21 00.4 +3.5**
LZH S **S 22 28 02.6 -1.1**
LZH sS sS 22 28 10.4 +0.4
LZH SS **SS 22 33 27.3 +3.1**
LZH pmax pmax
comp=Z,230nm,1.4s
LZH pmax pmax
comp=Z,13μm,7.8s
LZH LR LR
comp=Z,9μm,19.2s
LZH LR LR
comp=Z,15μm,20.8s
LZH LR LR
comp=Z,26μm,20.8s
OHAK Old Harbor 82.27 20 *e*P **P 22 17 49.6 +2.0**
comp=Z,120nm,0.6s
SEY Seymchan 82.66 353*de*P **P 22 17 49.0 -0.6**
KDAK Kodiak Island 82.95 20 P **P 22 17 52.6 +1.5**
comp=Z,44nm,1.1s,baz=166,slow=4.4,SNR=5.4
KDAK Kodiak Island 82.95 20 *e*P **P 22 17 53.5 +2.4**
comp=Z,529nm,1.8s
KDAK LR LR
comp=Z,6μm,20.0s
GAMB Gambell 83.89 9 *e*P **P 22 17 55.6 -0.2**
comp=Z,104nm,1.6s
CLNS Chul'man 83.99 337 *e*P **P 22 17 55.6 -1.0**
CLNS *e* 22 17 59.6
CLNS *e* 22 21 08.6
CLNS *e*PPP PPP 22 22 59.4
CLNS *e*S **S 22 28 15.1 -5.3**
CLNS *e*SS **SS 22 33 45.1 -4.1**
CLNS *e*SSS SSS 22 37 20.8
CLNS pmax pmax
comp=Z,116nm,1.4s
CLNS pmax pmax
comp=N,47nm,1.2s
CLNS pmax pmax
comp=E,23nm,1.4s
CLNS pmax pmax
comp=E,9.0nm,1.0s
CLNS pmax pmax
comp=Z,11nm,1.5s
CLNS pmax pmax
comp=N,14nm,1.3s
CLNS smax smax
comp=N,2μm,15.4s
CLNS smax smax
comp=E,2μm,17.5s
CLNS MLR MLR
comp=E,2μm,14.0s
CLNS MLR MLR
comp=Z,4μm,16.0s
CLNS MLR MLR
comp=N,4μm,16.0s
SVW2 Sparrevohn 84.79 17 *e*P **P 22 18 00.0 -0.5**
comp=N,368nm,1.7s
SYO Syowa Base 85.05 196 ⇓*i*P **P 22 17 59.4 -2.5**
SYO Syowa Base 85.05 196 ⇓*i*PcP **P 22 18 02.4 +0.5**
BRLK Bradley Lake 85.06 19 *e*P **P 22 18 02.1 +0.1**
comp=N,435nm,1.9s
CIT Chita 85.45 329 *e*P **P 22 18 03.2 -0.9**
CIT pmax pmax
comp=Z,264nm,2.6s
SNCC San Nicolas Is 85.85 53 P **P 22 18 06.0 -0.5**
baz=244
KCPM Cahto Peak 85.88 46 *e*P **P 22 18 07.2 +0.5**
comp=Z,580nm,1.8s
HOPS Hopland Field 85.89 46 *e*P **P 22 18 06.8 +0.2**
comp=Z,263nm,1.6s
SAO San Andreas Ge 86.00 49 *e*P **P 22 18 10.0 +2.9**
comp=Z,211nm,1.4s
SAO San Andreas Ge 86.00 49 *e*P **P 22 18 10.0 +2.9**
SAO pmax pmax
comp=Z,210nm,1.4s
KMRM Mail Ridge 86.05 45 *e*P **P 22 18 08.9 +1.5**
comp=Z,113nm,0.8s
RDG13 Poverty Ridge 86.09 48 *e*P **P 22 18 10.6 +2.9**
comp=Z,129nm,1.1s
SCZ2 Santa Cruz Isl 86.09 52 P **P 22 18 06.9 -0.8**
baz=244
PMPB Monarch Peak 86.21 50 *e*P **P 22 18 10.8 +2.4**
comp=Z,206nm,1.3s
SBC Santa Barbara 86.23 52 P **P 22 18 08.2 -0.1**
baz=244
KHMM Horse Mountain 86.35 45 *e*P **P 22 18 09.6 +0.7**
comp=Z,83nm,0.8s
PKM Mcpherson Peak 86.35 51 P **P 22 18 08.6 -0.6**
baz=244
ULN Ulaanbaatar 86.40 324 *e*P **P 22 18 08.3 -0.8**
comp=Z,160nm,0.8s
ULN LR LR
comp=Z,5μm,22.0s
ULN Ulaanbaatar 86.40 324 P **P 22 18 08.6 -0.4**
SNR=179
ULN Ulaanbaatar 86.40 324 P **P 22 18 08.6 -0.4**
SNR=179
ULN Ulaanbaatar 86.40 324*d i*P **P 22 18 08.2 -0.8**
ULN pmax pmax
comp=Z,255nm,1.2s
PAGB Antelope Grade 86.40 50 *e*P **P 22 18 12.0 +2.8**
comp=Z,85nm,1.0s
SMMC Simmler 86.40 51 P **P 22 18 08.9 -0.4**
baz=244
SUA Susitna One 86.45 18 *e*P **P 22 18 07.6 -1.3**
comp=Z,28nm,0.9s
RC01 Rabbit Creek A 86.46 19 *e*P **P 22 18 09.7 +0.9**
comp=Z,65nm,1.4s
YAK Yakutsk 86.50 343 *e*P **P 22 18 08.1 -0.8**
comp=Z,538nm,1.3s
YAK LR LR
comp=Z,17μm,22.0s
YAK Yakutsk 86.50 343*d i*P **P 22 18 07.6 -1.4**
YAK *e* 22 18 11.2
YAK *e*S **SKSac 22 28 30.0 -5.0**

YAK e 22 28 47.7
YAK eSS **SS** **22 34 30.8 +5.0**
YAK eSSS SSS 22 37 50.4
YAK pmax pmax
comp=Z,65nm,1.1s
YAK pmax pmax
comp=N,15nm,1.2s
YAK pmax pmax
comp=E,13nm,1.4s
YAK pmax pmax
comp=Z,753nm,5.7s
YAK pmax pmax
comp=N,432nm,5.0s
YAK pmax pmax
comp=E,269nm,4.7s
YAK smax smax
comp=N,256nm,3.4s
YAK smax smax
comp=E,286nm,4.1s
BLG Laguna Peak, P 86.57 52 P **P** **22 18 09.1 -0.9**
baz=244
GTA Gaotai 86.63 314 ⇓P **P** **22 18 09.8 -0.6**
GTA pP sP 22 18 16.8 +1.3
GTA sP pP 22 18 21.0 +6.8
GTA PP **PP** **22 21 33.8 +1.1**
GTA SKS **SKSac** **22 28 33.4 -3.8**
GTA S **SKKSac** **22 28 46.8 +1.4**
GTA sS ScS 22 28 59.5 +3.9
GTA pmax pmax
comp=E,55nm,2.2s
GTA pmax pmax
comp=E,4μm,8.3s
GTA LR LR
comp=E,4μm,18.5s
GTA LR LR
comp=E,6μm,21.4s
GTA LR LR
comp=E,8μm,20.4s
SONM Songino Array 86.75 323 P **P** **22 18 09.6 -1.2**
comp=E,99nm,0.9s,baz=147,slow=5.6,SNR=92
SONM PKKPbo **PKKPbc** **22 36 06.5 -0.8**
comp=E,3.7nm,0.9s,baz=249,slow=2.2,SNR=7.4
SONM PKPPKP **P'P'df** **22 44 12.7 +3.1**
comp=E,1.9nm,1.0s,baz=230,slow=2.1,SNR=8.9
SONM LR LR 22 54 27.8
comp=E,6μm,21.9s,baz=120,slow=34
SONA1 Songino Array 86.75 323 *eP* **P** **22 18 08.9 -1.9**
CIS Catalina Islan 86.75 53 P **P** **22 18 10.2 -0.7**
baz=245
BILL Bilibino 86.79 359 *d iP* **P** **22 18 08.3 -2.0**
BILL *e* 22 21 33.2
BILL *eS* **SKSac** **22 28 34.9 -1.7**
BILL pmax pmax
comp=Z,54nm,1.0s
SHL Shillong 86.84 298 ⇓ *iP* **P** **22 18 12.0 +0.2**
SHL *eS* **SKSac** **22 28 36.0 -3.2**
KEBM Edson Butte 86.92 43 *eP* **P** **22 18 14.6 +3.0**
comp=Z,199nm,1.6s
FMP Fort Macarthur 86.98 53 P **P** **22 18 11.4 -0.6**
baz=245
WDC Whiskeytown Da 87.00 45 *eP* **P** **22 18 11.5 -0.5**
comp=Z,151nm,1.4s
WDC Whiskeytown Da 87.00 45 *eP* **P** **22 18 11.5 -0.5**
WDC pmax pmax
comp=Z,150nm,1.3s
PMR Palmer 87.04 19 *eP* **P** **22 18 11.8 +0.2**
comp=Z,71nm,1.5s
PMR Palmer 87.04 19 *eP* **P** **22 18 11.8 +0.2**
PMR pmax pmax
comp=Z,71nm,1.5s
OSI Osito Audit: C 87.04 52 P **P** **22 18 11.9 -0.4**
baz=245
OSI Osito Audit: C 87.04 52 *eP* **P** **22 18 14.9 +2.5**
comp=Z,229nm,1.8s
L02D Cave Junction, 87.05 44 P **P** **22 18 12.1 -0.1**
baz=241,SNR=6.7
N02D Trinity Center 87.08 45 P **P** **22 18 12.4 -0.1**
baz=242,SNR=29
M02C Callahan 87.18 44 P **P** **22 18 12.7 -0.2**
baz=242,SNR=32
DECC Green Verdugo 87.18 52 P **P** **22 18 11.7 -1.3**
baz=245
ARVC Arvin 87.18 51 P **P** **22 18 12.3 -0.7**
baz=244
PPLA Purkeypile 87.19 17 *eP* **P** **22 18 13.7 +1.2**
comp=Z,31nm,1.4s
ORV Oroville 87.23 47 *eP* **P** **22 18 12.1 -1.1**
comp=Z,185nm,1.4s
ORV Oroville 87.23 47 *eP* **P** **22 18 12.1 -1.1**
ORV pmax pmax
comp=Z,180nm,1.4s
PASC Pasadena Art C 87.25 53 *eP* **P** **22 18 15.4 +2.0**
comp=Z,46nm,1.0s
PMSA Palmer Station 87.30 160 PFAKE 22 18 20.0 +7.0
PMSA LR LR
comp=Z,16μm,22.0s
VES Vestal, Richgr 87.30 51 P **P** **22 18 12.4 -1.2**
baz=244
AFDM Forest Hills D 87.32 47 *eP* **P** **22 18 13.0 -0.6**
comp=Z,211nm,1.6s
CMB Columbia Colle 87.32 48 *eP* **P** **22 18 12.8 -0.9**
comp=Z,56nm,0.9s
CMB Columbia Colle 87.32 48 *eP* **P** **22 18 12.8 -0.9**
CMB pmax pmax
comp=Z,56nm,0.9s
O03D Paynes Creek 87.37 46 P **P** **22 18 12.8 -1.0**
baz=242,SNR=42
MWC Mount Wilson 87.37 53 *eP* **P** **22 18 14.5 +0.3**
comp=Z,157nm,1.6s
MWC Mount Wilson 87.37 53 *eP* **P** **22 18 14.5 +0.3**
MWC pmax pmax
comp=Z,160nm,1.6s
RCTC Rector, Farmer 87.38 50 P **P** **22 18 12.7 -1.2**
baz=244
YBH Yreka Blue Hor 87.43 44 P **P** **22 18 13.8 -0.3**
comp=Z,35nm,1.1s,baz=185,slow=3.3,SNR=32
YBH LR LR 22 48 41.0
comp=Z,16μm,22.0s,baz=246,slow=30
YBH Yreka Blue Hor 87.43 44 *eP* **P** **22 18 14.2 0.0**
comp=Z,150nm,1.4s
YBH Yreka Blue Hor 87.43 44 *eP* **P** **22 18 14.2 0.0**
YBH pmax pmax
comp=Z,150nm,1.3s
SML Sawmill 87.45 19 *eP* **P** **22 18 16.7 +3.0**
comp=Z,97nm,1.7s
SML Sawmill 87.45 19 *eP* **P** **22 18 16.7 +3.0**
SML pmax pmax
comp=Z,97nm,1.6s
109C Camp Elliot, M 87.54 54 P **P** **22 18 13.9 -0.9**
baz=246
CAST Castle Rocks 87.64 17 *eP* **P** **22 18 11.9 -2.7**
comp=Z,26nm,0.7s
ISA Isabella, Lake 87.67 51 P **P** **22 18 14.8 -0.6**
baz=245
ISA Isabella, Lake 87.67 51 *eP* **P** **22 18 15.4 -0.1**
comp=Z,104nm,1.1s
ISA Isabella, Lake 87.67 51 *eP* **P** **22 18 15.4 -0.1**
ISA pmax pmax
comp=Z,100nm,1.1s
BFSC Mount Baldy Ra 87.68 53 P **P** **22 18 14.0 -1.6**
baz=245
HUMO Hull Mountain 87.68 43 *eP* **P** **22 18 14.9 -0.4**
comp=Z,112nm,1.3s
EDW2 Edwards Air Fo 87.70 52 P **P** **22 18 15.0 -0.6**
baz=245
DIV Divide 87.75 20 *eP* **P** **22 18 15.2 +0.1**
comp=Z,68nm,1.4s
MURC Murrieta 87.76 53 P **P** **22 18 15.1 -0.8**
baz=246
DIB Dawson Inlet, 87.89 31 *eP* **P** **22 18 15.8 -0.1**
H02S1 DAWSON INLET T 87.89 31 P **P** **22 18 17.1 +1.3**
I03D Drain, OR 87.95 42 P **P** **22 18 16.1 -0.3**
baz=241,SNR=11
KLU Klutina 87.97 20 *eP* **P** **22 18 16.5 +0.3**
comp=Z,91nm,1.5s
BMRM Bremner River 88.02 21 *eP* **P** **22 18 17.1 +0.7**
comp=Z,144nm,1.7s
M04C Macdoel 88.03 44 P **P** **22 18 16.8 -0.3**
baz=242,SNR=9.5
KTH Kantishna Hill 88.06 17 *eP* **P** **22 18 15.8 -0.8**
comp=Z,21nm,0.8s
MONP2 Monument Peak 88.06 54 P **P** **22 18 16.8 -0.7**
baz=246
TRF Thorofare Moun 88.15 17 *eP* **P** **22 18 16.7 -0.5**
LRMC Laurel Mtn Rad 88.18 52 P **P** **22 18 17.2 -0.7**
baz=245
WAKR Walker 88.20 48 *eP* **P** **22 18 17.8 -0.3**
comp=Z,337nm,1.7s
IKP In-Ko-Pah, Jac 88.21 55 P **P** **22 18 17.6 -0.5**
baz=246
BBRC Big Bear Solar 88.24 53 P **P** **22 18 17.8 -0.6**
baz=246
MLAC Mammoth, Mammo 88.25 49 P **P** **22 18 17.8 -0.6**
baz=244
CWC Cottonwood Cre 88.29 51 P **P** **22 18 17.7 -0.8**
baz=245
PFO Pinyon Flats O 88.33 54 P **P** **22 18 17.9 -0.8**
baz=246
PFO Pinyon Flats O 88.33 54 *eP* **P** **22 18 20.9 +2.2**
comp=Z,58nm,1.3s
PFO LR LR
comp=Z,8μm,20.0s
PFO Pinyon Flats O 88.33 54 *eP* **P** **22 18 20.9 +2.2**
PFO pmax pmax
comp=Z,58nm,1.3s
TPFO Pinon Flats 88.33 54 P **P** **22 18 18.0 -0.7**
baz=246
XPFO Piæon Flat 88.33 54 *eP* **P** **22 18 20.9 +2.2**
comp=Z,62nm,1.3s
VCNR Virginia City 88.40 47 *eP* **P** **22 18 19.3 +0.3**
comp=Z,200nm,1.9s
COR Corvallis 88.41 41 *eP* **P** **22 18 21.3 +2.7**
comp=Z,358nm,1.8s
COR Corvallis 88.41 41 *eP* **P** **22 18 21.3 +2.7**
COR pmax pmax
comp=Z,360nm,1.7s
RRX Edison Barstow 88.44 52 P **P** **22 18 18.3 -0.8**
baz=246
TIN Tinemaha, Big 88.44 50 P **P** **22 18 18.3 -0.8**
baz=245
BPAW Bear Paw Mtn. 88.47 16 *eP* **P** **22 18 17.8 -0.7**
comp=Z,14nm,1.1s
K04D Chiloquin, OR 88.48 44 P **P** **22 18 18.5 -0.7**
baz=242
RND Reindeer 88.52 18 *eP* **P** **22 18 18.1 -0.7**
comp=Z,153nm,1.6s
RND Reindeer 88.52 18 *eP* **P** **22 18 18.1 -0.7**
RND pmax pmax
comp=Z,150nm,1.5s
J04D Umpqua Nationa 88.53 43 P **P** **22 18 18.8 -0.7**
baz=242,SNR=12
YERR Yerington 88.55 48 *eP* **P** **22 18 19.5 -0.2**
comp=Z,176nm,1.6s
MPMC Manual Prospec 88.56 51 P **P** **22 18 19.1 -0.8**
baz=245
SWSC Sam W. Stewart 88.56 54 P **P** **22 18 19.0 -0.6**
baz=246
DAC Darwin (Calif) 88.58 51 *eP* **P** **22 18 19.6 -0.3**
comp=Z,129nm,1.4s
DAC Darwin (Calif) 88.58 51 *eP* **P** **22 18 19.6 -0.3**
DAC pmax pmax
comp=Z,130nm,1.4s
I04A Tendick Farm, 88.60 42 P **P** **22 18 18.6 -1.0**
baz=242,SNR=20
DHY Denali Highway 88.70 18 *eP* **P** **22 18 20.0 +0.2**
G03D McMinnville, O 88.73 41 P **P** **22 18 20.0 -0.1**
baz=241
MCK McKinley 88.75 17 *eP* **P** **22 18 19.5 -0.3**
comp=Z,39nm,1.2s
MCK McKinley 88.75 17 *eP* **P** **22 18 19.5 -0.3**
MCK pmax pmax
comp=Z,39nm,1.1s
GSC Goldstone, Bar 88.76 52 P **P** **22 18 20.1 -0.5**
baz=246
GSC Goldstone, Bar 88.76 52 *eP* **P** **22 18 20.4 -0.2**
comp=Z,163nm,1.5s
GSC Goldstone, Bar 88.76 52 *eP* **P** **22 18 20.4 -0.2**
GSC pmax pmax
comp=Z,160nm,1.5s
PAHR Pah Rah Range 88.76 47 *eP* **P** **22 18 20.4 -0.2**
comp=Z,183nm,1.3s
BALM Baldy 88.83 22 *eP* **P** **22 18 20.5 +0.1**
comp=Z,43nm,1.4s
BALM Baldy 88.83 22 *eP* **P** **22 18 20.5 +0.1**
BALM pmax pmax
comp=Z,43nm,1.4s
BELC Belle Mtn. Jos 88.84 53 P **P** **22 18 20.5 -0.6**
baz=246
HARP HAARP 88.89 20 *eP* **P** **22 18 22.3 +1.9**
F03A Seaside 88.90 40 *eP* **P** **22 18 23.8 +2.9**
comp=Z,516nm,1.8s
RYN Ryan 88.90 48 *eP* **P** **22 18 21.1 -0.2**
comp=Z,146nm,1.4s
BOD Bodaibo 88.91 334 ⇓ *iP* **P** **22 18 19.3 -1.4**
BOD pmax pmax
comp=Z,218nm,1.6s
HEC Hector,Ludlow 88.92 53 P **P** **22 18 20.3 -1.0**
baz=246
CRAG Craig 88.92 29 *eP* **P** **22 18 23.1 +2.4**
comp=Z,115nm,1.6s
NV01 Mina Array Sit 88.97 49 *eP* **P** **22 18 20.2 -1.5**
NVAR Mina Array Bea 88.97 49 P **P** **22 18 21.6 -0.1**
comp=Z,25nm,1.2s,baz=230,slow=5.9,SNR=18
NVAR PKPPKP **P'P'df** **22 44 09.3 +2.5**
comp=Z,0.4nm,0.3s,baz=74,slow=11,SNR=4.5
NVAR LR LR 22 52 39.4
comp=Z,10μm,19.2s,baz=110,slow=32
LSA Lhasa 89.02 302 P **P** **22 18 22.3 -0.1**
LSA pmax pmax
comp=Z,44nm,1.5s
LSA Lhasa 89.02 302 *eP* **P** **22 18 22.4 0.0**
comp=Z,37nm,0.8s
LSA LR LR
comp=Z,3μm,22.0s
LSA Lhasa 89.02 302 *eP* **P** **22 18 22.4 0.0**
LSA pmax pmax
comp=Z,37nm,0.8s
LSA MLR MLR
comp=Z,3μm,22.0s
GRAC Grapevine Rang 89.04 50 P **P** **22 18 21.7 -0.2**
baz=245
NVL N'lazarevskaya 89.05 187 *eP* **P** **22 18 18.6 -2.7**
NVL *eS* **SKSac** **22 28 47.2 -3.5**
NVL pmax pmax
comp=Z,98nm,0.9s
NVL MLR MLR
comp=Z,13μm,17.0s
NV11 Mina Array Sit 89.08 49 *eP* **P** **22 18 21.1 -1.0**
comp=Z,9.4nm,1.3s
K05A Summer Lake 89.09 44 *eP* **P** **22 18 22.3 +0.1**
comp=Z,247nm,1.2s
MOD Modoc Plateau, 89.11 45 *eP* **P** **22 18 22.0 -0.2**
comp=Z,165nm,1.4s
BC3 Big Chuckawall 89.11 54 P **P** **22 18 21.8 -0.5**
baz=246
J05D Fort Rock, OR 89.12 43 P **P** **22 18 22.0 -0.2**
baz=243,SNR=46
H04A Detroit Lake 89.16 42 *eP* **P** **22 18 21.7 -0.5**
comp=Z,208nm,1.3s
E03A Lebam 89.19 40 *eP* **P** **22 18 22.6 +0.4**
comp=Z,254nm,1.2s
FURC Furnace Creek, 89.19 51 P **P** **22 18 22.2 -0.3**
baz=246
PAX Paxson 89.20 19 *eP* **P** **22 18 21.9 -0.2**
comp=Z,57nm,1.6s
PAX Paxson 89.20 19 *eP* **P** **22 18 21.9 -0.2**
PAX pmax pmax
comp=Z,57nm,1.5s
SRIG Santa Rosalia 89.25 61 *eP* **P** **22 18 24.7 +1.8**
MLY Manley 89.28 16 *eP* **P** **22 18 20.6 -1.7**
comp=Z,79nm,1.9s
IM3 Indian Mountai 89.30 14 *eP* **P** **22 18 20.0 -2.3**
F04D Rainier, OR 89.31 40 P **P** **22 18 22.6 -0.2**
baz=241
GLA Glamis 89.36 55 P **P** **22 18 23.3 -0.1**
baz=247
GLA Glamis 89.36 55 *eP* **P** **22 18 24.7 +1.3**
comp=Z,213nm,1.4s
GLA Glamis 89.36 55 *eP* **P** **22 18 24.7 +1.3**
GLA pmax pmax
comp=Z,210nm,1.3s
SNAA Sanae 89.39 183 P **P** **22 18 21.3 -1.7**
SNAA Sanae 89.39 183 P **P** **22 18 21.0 -2.0**
comp=Z,35nm,0.6s,baz=181,slow=6.0,SNR=63
SNAA LR LR 22 57 05.3
comp=Z,10μm,18.0s,baz=177,slow=35
SNAA Sanae 89.39 183 *eP* **P** **22 18 19.8 -3.2**
SNAA Sanae 89.39 183 P **P** **22 18 21.0 -2.0**
SNAA pmax pmax
comp=Z,35nm,0.6s
SNAA MLR MLR
comp=Z,10μm,18.0s
SHOC Shoshone, Teco 89.39 52 P **P** **22 18 22.6 -0.9**
baz=246
GMRC Granite Mounta 89.41 53 P **P** **22 18 23.2 -0.6**
baz=246
NLWA Neilton Lookou 89.42 39 *eP* **P** **22 18 23.8 +0.5**
comp=Z,162nm,1.4s
NLWA LR LR
comp=Z,6μm,21.0s
TUQ Turquoise Moun 89.47 52 P **P** **22 18 23.0 -1.0**
baz=246
BBB Bella Bella 89.51 33 *eP* **P** **22 18 23.6 +0.1**
I05D Terrebonne, OR 89.53 42 P **P** **22 18 23.5 -0.5**
baz=243
PINE Pine Mountain 89.54 43 *eP* **P** **22 18 24.0 -0.2**
comp=Z,253nm,1.3s
IRM Iron Mountain 89.55 54 P **P** **22 18 23.6 -0.7**
baz=247
WRH Wood River Hil 89.56 17 *eP* **P** **22 18 21.1 -2.4**
comp=Z,54nm,1.2s
LPIG La Paz 89.71 64 P **P** **22 18 24.9 -0.3**
comp=Z,22nm,0.3s,baz=283,slow=4.8,SNR=5.9
LPIG LR LR 22 50 41.1
comp=Z,6μm,19.6s,baz=253,slow=30
MENT Mentasta 89.73 20 *eP* **P** **22 18 24.6 +0.2**
comp=Z,34nm,1.5s
CCB Clear Creek Bu 89.77 17 *eP* **P** **22 18 22.1 -2.4**
comp=Z,89nm,1.8s
ZAK Zakamensk 89.83 324 *eP* **P** **22 18 24.5 -0.8**
ZAK *e* 22 28 52.7
ZAK pmax pmax
comp=Z,96nm,1.6s
HDA Harding Lake 89.84 18 *eP* **P** **22 18 25.2 +0.3**
TPNV Topopah Spring 89.84 51 P **P** **22 18 25.3 -0.5**
baz=246
TPNV Topopah Spring 89.84 51 *eP* **P** **22 18 25.5 -0.3**
comp=Z,192nm,1.4s
TPNV Topopah Spring 89.84 51 *eP* **P** **22 18 25.5 -0.3**
TPNV pmax pmax
comp=Z,190nm,1.4s
WRAK Wrangell Islan 89.84 28 *eP* **P** **22 18 24.7 -0.3**
comp=Z,155nm,1.5s
WRAK LR LR
comp=Z,13μm,20.0s
Y12C Blythe 89.86 54 P **P** **22 18 25.5 -0.2**
baz=247
Y12C Blythe 89.86 54 *eP* **P** **22 18 25.8 +0.1**
comp=Z,172nm,1.4s
MDM Murphy Dome 89.89 17 *eP* **P** **22 18 22.6 -2.6**
COLA College 89.93 17 *eP* **P** **22 18 25.1 -0.1**
comp=Z,29nm,0.9s
COLA LR LR
comp=Z,12μm,20.0s
COLA College 89.93 17 *eP* **P** **22 18 25.1 -0.1**
COLA pmax pmax
comp=Z,29nm,0.9s
LDFC Landfair 89.94 53 *eP* **P** **22 18 29.2 +3.0**
G05D Wamic, OR 89.96 42 P **P** **22 18 25.1 -0.9**
baz=243
RIDG Independ'e Rid 89.96 19 *eP* **P** **22 18 25.8 +0.3**
comp=Z,22nm,1.0s
VNA3 Neumayer Olymp 90.00 181 P **P** **22 18 23.9 -1.9**
BESE Bessie Mountai 90.06 26 *eP* **P** **22 18 25.4 -0.7**
113A Mohawk Valley, 90.07 55 *eP* **P** **22 18 26.9 +0.2**
ILAR Eielson Array 90.13 17 P **P** **22 18 25.1 -0.2**
comp=Z,8.8nm,0.7s,baz=238,slow=5.9,SNR=33
ILAR PKKP **PKKPdf** **22 35 55.1 -0.9**
comp=Z,2.1nm,1.1s,baz=340,slow=2.6,SNR=5.3
ILAR LR LR 22 53 24.4
comp=Z,15μm,20.8s,baz=233,slow=32
ILAR Eielson Array 90.13 17 P **P** **22 18 25.0 -1.2**
ILAR pmax pmax
comp=Z,9.0nm,0.7s
ILAR pmax pmax
comp=Z,2.0nm,1.1s
ILAR MLR MLR
comp=Z,15μm,20.8s
ILB Eielson Array 90.13 17 *eP* **P** **22 18 23.5 -2.7**
DOT Dot Lake 90.14 19 *eP* **P** **22 18 26.2 -0.1**
NEE2 Needles Airpor 90.19 53 P **P** **22 18 26.6 -0.7**
baz=247
IRK Irkutsk 90.26 326 *eP* **P** **22 18 25.0 -2.1**
IRK pmax pmax
comp=Z,160nm,1.7s
PGC Sidney 90.28 38 *eP* **P** **22 18 27.3 +0.1**
VNA2 Neumayer--Watz 90.28 181 P **P** **22 18 25.6 -1.5**
baz=180,slow=4.0
TLY Talaya 90.30 326 P **P** **22 18 26.6 -0.8**
comp=Z,29nm,0.7s,baz=152,slow=2.6,SNR=41
TLY Talaya 90.30 326 *eP* **P** **22 18 25.5 -1.8**
comp=Z,78nm,0.8s
TLY LR LR
comp=Z,10μm,22.0s
TLY Talaya 90.30 326 P **P** **22 18 27.0 -0.4**
SNR=54
TLY Talaya 90.30 326 P **P** **22 18 27.0 -0.4**
SNR=54
TLY Talaya 90.30 326 *c iP* **P** **22 18 26.0 -1.4**
TLY *eS* **SKSac** **22 28 56.8 -1.6**
TLY *eSS* **SS** **22 35 25.8 +4.0**
TLY pmax pmax
comp=Z,96nm,0.9s
TLY MLR MLR
comp=Z,2μm,17.0s
LON Longmire 90.35 40 *eP* **P** **22 18 27.2 -0.6**
comp=Z,105nm,1.3s
LON Longmire 90.35 40 *eP* **P** **22 18 27.2 -0.6**
LON pmax pmax
comp=Z,100nm,1.2s
PDMCI Parker Dam,Lak 90.37 54 P **P** **22 18 27.8 -0.3**
baz=247
G06A Carlson Farm, 90.39 42 *eP* **P** **22 18 27.6 -0.3**
comp=Z,161nm,1.4s
SCRK Sand Creek 90.40 19 *eP* **P** **22 18 26.3 -1.3**
comp=Z,15nm,1.0s
HYT Haines Junctio 90.44 23 *eP* **P** **22 18 26.5 -1.5**
D05A Enumclaw 90.45 40 *eP* **P** **22 18 28.2 +0.1**
comp=Z,699nm,1.4s
SHPR Sheep Range 90.46 51 *eP* **P** **22 18 28.8 +0.1**
comp=Z,186nm,1.6s
214A Organ Pipe Nat 90.51 56 P **P** **22 18 28.4 -0.4**
baz=248
214A Organ Pipe Nat 90.51 56 *eP* **P** **22 18 29.0 +0.1**
comp=Z,815nm,1.5s
PALK Pallekele 90.51 277 P **P** **22 18 29.3 +0.1**
comp=Z,52nm,1.2s,baz=116,slow=5.0,SNR=8.4
PALK Pallekele 90.51 277 *eP* **P** **22 18 29.9 +0.7**
comp=Z,78nm,1.3s
PALK Pallekele 90.51 277 P **P** **22 18 29.8 +0.5**
SNR=7.4
PALK Pallekele 90.51 277 P **P** **22 18 29.8 +0.5**
SNR=7.4
PALK Pallekele 90.51 277 *i* P **P** **22 18 30.4 +1.1**
SNR=8.3
BMN Battle Mountai 90.57 47 *eP* **P** **22 18 28.9 -0.2**
comp=Z,151nm,1.4s
BMN Battle Mountai 90.57 47 *eP* **P** **22 18 28.9 -0.2**
BMN pmax pmax
comp=Z,150nm,1.3s
VNA1 Neumayer--Stat 90.58 181 P **P** **22 18 26.6 -1.8**
I07A Izee 90.60 43 *eP* **P** **22 18 29.1 0.0**
comp=Z,139nm,1.4s
A04D Lummi Island 90.74 38 P **P** **22 18 29.2 -0.2**
baz=242
R11A Troy Canyon, C 90.88 50 P **P** **22 18 29.7 -0.9**
baz=246
R11A Troy Canyon, C 90.88 50 *eP* **P** **22 18 29.3 -1.3**
comp=Z,53nm,1.3s
B05A Bryant 90.89 39 P **P** **22 18 29.5 -0.6**
baz=242
HSIG 90.93 60 *eP* **P** **22 18 30.6 -0.2**
J08A Circle Bar Ran 90.96 44 *eP* **P** **22 18 30.2 -0.6**
comp=Z,194nm,1.5s
ODAN Odare 91.06 298 *eP* **P** **22 18 31.1 -0.7**
comp=Z,88nm,0.8s
CHLP Challavanipeta 91.10 289 *eP* **P** **22 18 31.0 -0.8**
Y14A Wickenburg 91.10 54 *eP* **P** **22 18 31.5 -0.1**
F07A Phinny Hill Vi 91.13 41 *eP* **P** **22 18 34.0 +2.7**
comp=Z,92nm,1.0s
COLD Coldfoot 91.15 15 *eP* **P** **22 18 30.1 -0.8**
comp=Z,102nm,1.9s
LTY Liberty 91.28 40 *eP* **P** **22 18 31.5 -0.6**
comp=Z,104nm,1.1s
WHY Whitehorse 91.33 24 *eP* **P** **22 18 30.8 -1.3**
B06A Marblemount 91.36 39 *eP* **P** **22 18 31.9 -0.4**
comp=Z,157nm,1.4s
E07A Sunnyside 91.47 41 *eP* **P** **22 18 33.1 +0.2**
comp=Z,86nm,0.8s
G08A Pilot Rock 91.47 42 *eP* **P** **22 18 32.9 -0.3**
comp=Z,244nm,1.5s

VIS Vishakhapatnam 91.50 288 *i* S **P** **22 18 33.6 0.0**
HAWA Hanford 91.59 41 *e*P **P** **22 18 33.4 -0.1**
comp=Z,162nm,1.1s
HAWA LR LR
comp=Z,8µm,20.0s
MOY Mondy 91.72 325 *e*P **P** **22 18 33.2 -0.9**
MOY pmax pmax
comp=Z,226nm,2.7s
RAMN Ramite 91.76 298 *e*P **P** **22 18 34.0 -1.0**
comp=Z,158nm,1.3s
EGAK Eagle 91.83 19 *e*P **P** **22 18 32.6 -1.6**
comp=Z,74nm,1.5s
EGAK LR LR
comp=Z,11µm,20.0s
DAWY Dawson 91.92 20 *e*P **P** **22 18 34.1 -0.5**
FYU Fort Yukon 91.92 17 *e*P **P** **22 18 37.3 +2.8**
comp=Z,61nm,1.7s
E08A Dider Farm, El 91.93 41 *e*P **P** **22 18 35.0 0.0**
comp=Z,232nm,1.5s
DLBC Dease Lake 92.03 27 *e*P **P** **22 18 34.6 -0.7**
LCMT Little Creek M 92.08 52 *e*P **P** **22 18 35.5 -0.6**
comp=Z,126nm,1.3s
LLLB Lillooet 92.10 37 *e*P **P** **22 18 35.5 -0.3**
CCUT Cedar City 92.19 51 *e*P **P** **22 18 36.3 -0.4**
comp=Z,112nm,1.4s
TUC Tucson 92.24 57 P **P** **22 18 36.5 -0.4**
baz=249
TUC Tucson 92.24 57 PFAKE 22 18 50.0 +13
TUC LR LR
comp=Z,6µm,20.0s
TUC Tucson 92.24 57 *e*P **P** **22 18 37.2 +0.3**
TUC pmax pmax
comp=Z,130nm,1.4s
D08A Wollman Farm, 92.26 41 *e*P **P** **22 18 36.4 -0.2**
comp=Z,163nm,1.6s
JIRN Jiri 92.34 298 *e*P **P** **22 18 37.2 -0.7**
BMO Blue Mountains 92.35 43 *e*P **P** **22 18 36.6 -0.6**
comp=Z,80nm,1.5s
BMO LR LR
comp=Z,13µm,22.0s
BMO Blue Mountains 92.35 43 *e*P **P** **22 18 36.6 -0.6**
BMO pmax pmax
comp=Z,79nm,1.5s
KNB Kanab 92.39 52 *e*P **P** **22 18 37.8 +0.1**
comp=Z,188nm,1.4s
KNB Kanab 92.39 52 *e*P **P** **22 18 37.8 +0.1**
KNB pmax pmax
comp=Z,190nm,1.4s
TOLK Toolik Lake Re 92.41 14 P **P** **22 18 35.7 -1.0**
baz=219
TOLK Toolik Lake Re 92.41 14 *e*P **P** **22 18 36.0 -0.7**
comp=Z,26nm,1.1s
SZCU Shurtz Canyon 92.41 51 *e*P **P** **22 18 37.9 +0.1**
comp=Z,124nm,1.4s
X16A Lo Mia Camp, P 92.48 55 *e*P **P** **22 18 37.6 -0.5**
E09A Wood Farm, Sta 92.51 41 *e*P **P** **22 18 38.1 +0.4**
comp=Z,128nm,1.4s
U15A North Rim 92.57 52 *e*P **P** **22 18 38.2 -0.4**
B08A Colville Reser 92.58 39 *e*P **P** **22 18 37.1 -0.9**
comp=Z,62nm,1.3s
GUN Gumba 92.69 298 *e*P **P** **22 18 38.4 -1.0**
comp=Z,120nm,1.2s
MFID Camas Ranch 92.74 45 *e*P **P** **22 18 38.7 -0.3**
comp=Z,33nm,0.9s
F10A Beach Ranch, E 92.86 42 *e*P **P** **22 18 38.0 -1.4**
comp=Z,38nm,0.9s
PVM Polavaram 92.88 287 *e*P **P** **22 18 38.9 -1.1**
PKCU Pink Cliffs 92.93 51 *e*P **P** **22 18 43.5 +3.2**
comp=Z,285nm,2.0s
WUAZ Wupatki 92.93 54 P **P** **22 18 39.4 -0.8**
baz=249
WUAZ Wupatki 92.93 54 *e*P **P** **22 18 40.2 +0.1**
comp=Z,121nm,1.3s
WUAZ LR LR
comp=Z,8µm,22.0s
C09A Chrisman Ranch 92.98 40 *e*P **P** **22 18 41.9 +2.0**
PKIN Phulchoki 92.98 298 *e*P **P** **22 18 39.3 -1.4**
comp=Z,142nm,1.3s
KKN Kakani 93.15 298 *e*P **P** **22 18 40.4 -1.0**
comp=Z,123nm,1.2s
DMN Daman 93.23 298 *e*P **P** **22 18 40.9 -0.9**
comp=Z,325nm,1.2s
MTPU Mount Pierson 93.24 51 *e*P **P** **22 18 41.3 -0.4**
comp=Z,60nm,1.3s
MSU Marysvale 93.42 50 *e*P **P** **22 18 42.2 -0.2**
MSU Marysvale 93.42 50 *e*P **P** **22 18 42.2 -0.2**
H08S2 Diego Garcia H 93.42 261 P **P** **22 18 43.3 +1.0**
baz=23,slow=7.0,SNR=4.7
H08S3 Diego Garcia H 93.44 261 P **P** **22 18 43.3 +0.8**
baz=23,slow=7.0,SNR=5.3
H08S1 Diego Carcia H 93.44 261 P **P** **22 18 43.8 +1.3**
baz=23,slow=7.0,SNR=8.1
SKHT Srikalahasti 93.51 283 *e*P **P** **22 18 42.6 -0.4**
DGAR Diego Garcia 93.54 261 PFAKE 22 18 50.0 +6.8
DGAR LR LR
comp=Z,4µm,20.0s
DGAR Diego Garcia 93.54 261⇑ *e*P **P** **22 18 43.0 -0.2**
DUG Dugway, Tooele 93.58 49 P **P** **22 18 42.0 -1.0**
baz=248
DUG Dugway, Tooele 93.58 49 *e*P **P** **22 18 42.3 -0.7**
comp=Z,29nm,1.3s
DUG LR LR
comp=Z,12µm,19.0s
DUG Dugway, Tooele 93.58 49 *e*P **P** **22 18 42.3 -0.7**
DUG pmax pmax
comp=Z,29nm,1.3s
BGU Big Grassy Mou 93.70 48 *e*P **P** **22 18 43.1 -0.5**
comp=Z,31nm,1.5s
HLID Hailey 93.74 45 P **P** **22 18 43.1 -0.6**
baz=247
HLID Hailey 93.74 45 *e*P **P** **22 18 43.4 -0.3**
HLID LR LR
comp=Z,15µm,19.0s
GKN Gorkha 93.75 298 *e*P **P** **22 18 42.8 -1.3**
comp=Z,161nm,1.2s
NEW Newport 93.87 40 P **P** **22 18 42.5 -1.5**
baz=246
NEW Newport 93.87 40 *e*P **P** **22 18 44.1 +0.1**
NEW LR LR
comp=Z,7µm,19.0s
NEW Newport 93.87 40 *e*P **P** **22 18 44.1 +0.1**
ADKI Addanki 93.94 285 *e*P **P** **22 18 44.4 -0.5**
NLU North Lily Min 94.02 49 *e*P **P** **22 18 44.8 -0.4**
comp=Z,31nm,1.4s
W18A Petrified Fore 94.05 54 P **P** **22 18 44.4 -0.9**
baz=250
W18A Petrified Fore 94.05 54 *e*P **P** **22 18 45.3 0.0**
HVU Hansel Valley 94.19 47 *e*P **P** **22 18 47.9 +2.1**
comp=Z,28nm,1.0s
HVU Hansel Valley 94.19 47 *e*P **P** **22 18 47.9 +2.1**
HVU pmax pmax
comp=Z,28nm,1.0s
SPUT South Promonto 94.25 48 *e*P **P** **22 18 46.0 -0.1**
comp=Z,23nm,1.1s
Q16A Castle Valley 94.30 50 *e*P **P** **22 18 46.6 +0.2**
comp=Z,49nm,1.2s
MPU Maple Canyon 94.36 49 *e*P **P** **22 18 47.2 +0.5**
comp=Z,40nm,1.4s
TIXI Tiksi 94.41 348 *e*P **P** **22 18 46.8 +0.9**
comp=Z,26nm,1.2s
TIXI LR LR
comp=Z,9µm,20.0s
TIXI Tiksi 94.41 348 *de*P **P** **22 18 43.0 -2.8**
TIXI pmax pmax
comp=Z,31nm,1.3s
TMUT Trail Mountain 94.41 50 *e*P **P** **22 18 46.9 -0.2**
comp=Z,34nm,1.3s
CTU Camp Tracy 94.52 49 *e*P **P** **22 18 47.5 +0.2**
comp=Z,19nm,1.0s
KOLN Koldanda 94.54 298 *e*P **P** **22 18 46.4 -1.4**
comp=Z,52nm,1.1s
DANN Dangsing 94.60 298 *e*P **P** **22 18 47.4 -0.7**
JLU Jordanelle 94.70 49 *e*P **P** **22 18 48.0 -0.3**
comp=Z,32nm,1.4s
121A Cookes Peak, D 94.70 57 P **P** **22 18 47.6 -0.7**
baz=250
121A Cookes Peak, D 94.70 57 *e*P **P** **22 18 48.7 +0.3**
comp=Z,106nm,1.6s
NJS Nagarjunasagar 94.76 286 *e*P **P** **22 18 47.6 -1.1**
P17A Butcher Ranch, 94.81 50 *e*P **P** **22 18 48.4 -0.3**
comp=Z,52nm,1.7s
SRU San Rafael Swe 94.84 50 *e*P **P** **22 18 48.3 -0.6**
comp=Z,35nm,1.3s
SRU San Rafael Swe 94.84 50 *e*P **P** **22 18 48.3 -0.6**
SRU pmax pmax
comp=Z,35nm,1.2s
TCUT Toone Canyon 94.91 48 *e*P **P** **22 18 49.5 +0.3**
comp=Z,32nm,0.9s
HWUT Hardware Ranch 94.97 48 *e*P **P** **22 18 48.5 -0.9**
HWUT LR LR
comp=Z,5µm,19.0s
SRLM Srisailam 95.00 285 *e*P **P** **22 18 48.9 -1.0**
PYUN Piuthan 95.16 298 *e*P **P** **22 18 49.0 -1.6**
comp=Z,142nm,1.2s
P18A Preston Nutter 95.22 50 *e*P **P** **22 18 50.5 -0.3**
comp=Z,14nm,1.1s
H08N1 Diego Carcia H 95.24 262 P **P** **22 18 50.3 -0.4**
baz=152,slow=5.0,SNR=5.4
MCMT McKenzie Canyo 95.26 44 *e*P **P** **22 18 50.2 -0.5**
H08N2 Diego Garcia H 95.26 262 P **P** **22 18 50.3 -0.4**
baz=152,slow=5.0,SNR=7.9
H08N3 Diego Garcia H 95.26 261 P **P** **22 18 50.3 -0.4**
baz=152,slow=5.0,SNR=5.2
MSO Missoula 95.29 42 P **P** **22 18 48.2 -2.4**
baz=248
MSO Missoula 95.29 42 *e*P **P** **22 18 53.0 +2.4**
comp=Z,34nm,1.9s
EPT El Paso 95.48 58 *e*P **P** **22 18 54.3 +2.4**
RPR Rampur 95.49 288 *e*P **P** **22 18 50.5 -1.5**
PV05 Paradox Valley 95.53 52 *e*P **P** **22 18 53.8 +1.6**
HVS Khovu-Aksy 95.59 322⇑ *e*P **P** **22 18 50.4 -1.5**
HVS pmax pmax
comp=Z,71nm,0.7s
DLMT Dillon 95.62 44 *e*P **P** **22 18 54.4 +2.2**
PV09 Paradox Valley 95.65 51 *e*P **P** **22 18 52.7 0.0**
PV10 Paradox Valley 95.68 51 *e*P **P** **22 18 55.1 +2.3**
MVCO Mesa Verde 95.69 53 P **P** **22 18 51.7 -1.1**
baz=251
MVCO Mesa Verde 95.69 53 *e*P **P** **22 18 54.9 +2.0**
comp=Z,20nm,1.4s
MVCO LR LR
comp=Z,7µm,20.0s
AHID Auburn Hatcher 95.70 47 PFAKE 22 19 00.0 +7.2
AHID LR LR
comp=Z,6µm,19.0s
HYB Hyderabad 95.71 286 *i* P **P** **22 18 52.0 -1.1**
HYB *e*SKS **SKSac** **22 29 28.0 -1.8**
HYB *e* 22 30 14.0
HYB eSS **SS** **22 36 44.0 +3.3**
HYBB Hyderabad (bro 95.72 286 *e*P **P** **22 18 52.0 -1.2**
PV04 Paradox Valley 95.78 52 *e*P **P** **22 18 53.1 -0.1**
LAZ Ladron 95.82 56 *e*P **P** **22 18 54.8 +1.3**
LRM Limekiln Ridge 95.88 44 *e*P **P** **22 18 52.8 -0.7**
PV01 Paradox Valley 95.95 52 *e*P **P** **22 18 54.4 +0.4**
ZAIG Zacatecas 95.98 68 *e*P **P** **22 18 57.1 +2.5**
FXWY Fox Creek 96.06 46 *e*P **P** **22 18 53.8 -0.6**
TPAW Teton Pass 96.06 46 *e*P **P** **22 18 56.5 +2.0**
REDW Red Top Meadow 96.08 46 *e*P **P** **22 18 53.0 -1.5**
URV Uravakonda 96.14 284 *e*P **P** **22 18 54.1 -1.0**
BNM Barren Site 96.14 56 *e*P **P** **22 18 54.8 -0.2**
WALA Waterton Lakes 96.14 40 *e*P **P** **22 18 55.9 +1.4**
comp=Z,14nm,1.3s
SNOW Snow King Moun 96.18 46 *e*P **P** **22 18 56.5 +1.5**
QLMT Earthquake Lak 96.20 45 *e*P **P** **22 18 56.8 +1.8**
IMW Indian Meadow 96.21 46 *e*P **P** **22 18 54.7 -0.5**
MOOW Moose Ponds 96.29 46 *e*P **P** **22 18 54.8 -0.6**
YHB Horse Butte 96.33 45 *e*P **P** **22 18 58.1 +2.5**
LOHW Long Hollow 96.34 46 *e*P **P** **22 18 57.5 +1.8**
BOZ Bozeman (W) 96.34 44 P **P** **22 18 54.3 -1.2**
baz=249
BOZ Bozeman (W) 96.34 44 *e*P **P** **22 18 54.8 -0.7**
comp=Z,22nm,1.3s
BOZ LR LR
comp=Z,13µm,21.0s
BOZ Bozeman (W) 96.34 44 *e*P **P** **22 18 54.8 -0.7**
BOZ pmax pmax
comp=Z,22nm,1.2s
MNTX Cornudas Mount 96.36 59 P **P** **22 18 54.4 -1.4**
baz=252
MNTX Cornudas Mount 96.36 59 *e*P **P** **22 18 55.0 -0.8**
comp=Z,64nm,1.6s
MNTX LR LR
comp=Z,5µm,20.0s
SRSP Sriramsagar 96.37 288 *e*P **P** **22 18 54.6 -1.4**
YPP Pitchstone Pla 96.43 45 *e*P **P** **22 19 00.4 +4.2**
INK Inuvik 96.45 18 P **P** **22 18 53.6 -1.6**
comp=Z,14nm,1.2s,baz=238,slow=4.5,SNR=19
INK PKKP **PKKPbc** **22 35 40.3 -2.5**
comp=Z,0.9nm,0.5s,baz=49,slow=7.9,SNR=6.8
YMR Madison River 96.46 45 *e*P **P** **22 18 58.6 +2.4**
comp=Z,20nm,1.0s
YFT Old Faithful 96.47 45 *e*P **P** **22 18 58.8 +2.6**
comp=Z,5.9nm,0.6s
ANMO Albuquerque 96.53 55 P **P** **22 18 55.3 -1.3**
baz=252
ANMO Albuquerque 96.53 55 *e*P **P** **22 18 55.8 -0.9**
ANMO LR LR
comp=Z,4µm,19.0s
ANMO Albuquerque 96.53 55 *de*P **P** **22 18 55.2 -1.5**
ANMO pmax pmax
comp=Z,24nm,1.3s
YHH Holmes Hill 96.58 45 *e*P **P** **22 18 57.6 +0.8**
comp=Z,29nm,1.8s
HRY Holter Researc 96.60 43 *e*P **P** **22 18 57.6 +1.0**
H17A Grant Village 96.62 45 P **P** **22 18 57.0 0.0**
baz=250
H17A Grant Village 96.62 45 *e*P **P** **22 19 00.1 +3.1**
WMQ Urumqi 96.71 314 P **P** **22 18 56.8 -0.3**
WMQ pP pP 22 19 00.0 -1.0
WMQ PP **PP** **22 22 55.8 +3.6**
WMQ SKS **SKSac** **22 29 33.5 -0.5**
WMQ S **ScS** **22 30 20.8 +1.7**
WMQ pmax pmax
comp=Z,120nm,1.7s
WMQ LR LR
comp=Z,9µm,23.5s
WMQ LR LR
comp=Z,18µm,23.5s
WMQ LR LR
comp=Z,22µm,25.5s
BW06 Boulder Array 96.77 47 P **P** **22 18 58.5 +0.9**
baz=250
BW06 Boulder Array 96.77 47 *e*P **P** **22 18 58.9 +1.3**
BW06 LR LR
comp=Z,7µm,19.0s
PD31 Pinedale Array 96.77 47 *e*P **P** **22 18 56.9 -0.8**
PDAR Pinedale Array 96.77 47 P **P** **22 18 56.2 -1.5**
comp=Z,3.4nm,1.1s,baz=264,slow=9.7,SNR=13
PDAR PP **PP** **22 22 55.3 +2.4**
comp=Z,2.9nm,1.1s,baz=243,slow=4.8,SNR=4.4
PDAR PKKP **PKKPbc** **22 35 39.2 -2.1**
comp=Z,1.4nm,1.0s,baz=72,slow=4.8,SNR=6.1
PDAR PKPPKP **P'P'df** **22 43 54.6 +2.4**
comp=Z,1.5nm,1.0s,baz=70,slow=2.2,SNR=7.6
PDAR LR LR 22 59 30.7
comp=Z,3µm,18.1s,baz=270,slow=34
PDAR Pinedale Array 96.77 47 *e*P **P** **22 18 54.9 -2.8**
PDAR PP **PP** **22 22 55.3 +2.4**
PDAR PKKP **PKKPbc** **22 35 39.2 -2.1**
PDAR P'P' 22 43 54.6
LKWY Lake 96.80 45 PFAKE 22 19 10.0 +12
LKWY LR LR
comp=Z,8µm,19.0s
O20A White River Ci 96.84 50 P **P** **22 18 58.1 +0.1**
baz=251
O20A White River Ci 96.84 50 *e*P **P** **22 19 00.0 +2.0**
TX31 Lajitas Ar. Si 97.04 62 *e*P **P** **22 18 58.8 -0.2**
TXAR Lajitas Array 97.04 62 P **P** **22 18 58.8 -0.2**
comp=Z,6.1nm,0.9s,baz=268,slow=3.8,SNR=22
TXAR PKKP **PKKPbc** **22 35 37.9 -2.0**
comp=Z,2.3nm,1.0s,baz=104,slow=2.6,SNR=5.4
TXAR LR LR 22 55 11.8
comp=Z,7µm,20.0s,baz=0.0,slow=31
S22A 4UR Ranch, Cre 97.12 53 P **P** **22 18 58.5 -0.9**
baz=252
S22A 4UR Ranch, Cre 97.12 53 *e*P Pdif 22 19 00.2 +0.6
SMCO Snowmass 97.47 51 *e*P **P** **22 19 00.4 -0.7**
KLRI Killari 97.69 286 *e*P **P** **22 19 00.5 -1.6**
GCMT Greyclifff 97.70 44 *e*P Pdif 22 19 02.7 +1.0
RLMT Red Lodge 97.75 45 P **P** **22 19 00.6 -1.3**
baz=251
RLMT Red Lodge 97.75 45 *e*P Pdif 22 19 04.0 +2.0
RLMT LR LR
comp=Z,20µm,22.0s
RWWY Rawlins 98.08 49 *e*P **P** **22 19 02.4 -1.2**
SDCO Great Sand Dun 98.13 53 P **P** **22 19 02.6 -1.3**
baz=252
SDCO Great Sand Dun 98.13 53 *e*P **P** **22 19 02.9 -1.1**
SDCO LR LR
comp=Z,7µm,22.0s
EGMT Eagleton 98.37 42 P **P** **22 19 03.1 -1.5**
baz=251
EGMT Eagleton 98.37 42 *e*P **P** **22 19 04.5 0.0**
EGMT LR LR
comp=Z,6µm,19.0s
EFI East Falkland 98.63 153 PFAKE 22 19 20.0 +14
EFI LR LR
comp=Z,11µm,21.0s
ISCO Idaho Springs 98.66 51 P **P** **22 19 05.2 -1.2**
baz=253
ISCO Idaho Springs 98.66 51 *e*P **P** **22 19 05.7 -0.6**
ISCO LR LR
comp=Z,6µm,20.0s
ISCO Idaho Springs 98.66 51 *e*P **P** **22 19 05.7 -0.6**
N23A Red Feather La 98.74 50 P **P** **22 19 05.8 -0.9**
baz=253
N23A Red Feather La 98.74 50 *e*P **P** **22 19 06.2 -0.4**
Q24A Divide 98.75 52 P **P** **22 19 05.7 -1.1**
baz=253
T25A Trinidad 98.77 54 P **P** **22 19 04.9 -1.9**
baz=253
DGZ Jazzator, Alta 98.82 319 *i* P **P** **22 19 05.4 -1.2**
DGZ pmax pmax
comp=Z,15nm,1.0s
K22A Casper 98.86 48 P **P** **22 19 05.0 -1.9**
baz=252
K22A Casper 98.86 48 *e*P **P** **22 19 06.3 -0.7**
PLCA Paso Flores 99.02 139 P **Pdif** **22 19 09.1 +1.3**
comp=Z,1.0nm,0.5s,baz=271,slow=6.7,SNR=6.4
PLCA PKKPbc **PKKPbc** **22 35 33.5 -1.0**
comp=Z,2.0nm,0.9s,baz=92,slow=6.4,SNR=3.1
PLCA LR LR 22 55 30.5
comp=Z,4µm,21.5s,baz=262,slow=30
LAO LASA Array 100.25 44 P **Pdif** **22 19 12.4 -0.5**
baz=253
LAO LASA Array 100.25 44 PFAKE 22 19 20.0 +7.1
LAO LR LR
comp=Z,10µm,21.0s
833A Chaparral WMA, 100.34 64 P **Pdif** **22 19 12.8 -0.9**
baz=254
JCT Junction City 100.58 61 P **Pdif** **22 19 13.4 -1.4**
baz=254
YKA Yellowknife Ar 100.65 27 P **Pdif** **22 19 14.0 -0.2**
comp=Z,4.4nm,0.7s,baz=253,slow=4.8,SNR=31
YKA PKKPbc **PKKPbc** **22 35 30.2 -0.5**
comp=Z,0.5nm,0.6s,baz=57,slow=2.7,SNR=7.8
YKA PKPPKP **P'P'df** **22 43 46.3 +3.5**
comp=Z,0.5nm,0.9s,baz=59,slow=3.4,SNR=6.4
YKA Yellowknife Ar 100.65 27 P **Pdif** **22 19 14.0 -0.2**
YKA pmax pmax
comp=Z,4.0nm,0.7s
YKA pmax pmax
comp=Z,1.0nm,0.6s
YKA pmax pmax
comp=Z,1.0nm,0.9s
RSSD Black Hills 101.02 47 P **Pdif** **22 19 14.6 -2.0**
baz=254
MKAR Makanchi Array 101.25 316 P **Pdif** **22 19 16.8 -0.5**
comp=Z,4.4nm,0.5s,baz=100,slow=6.0,SNR=38
MKAR PKIKP **PKiKP** **22 23 39.3 -2.6**
comp=Z,3.1nm,0.8s,baz=106,slow=2.7,SNR=4.3
MKAR PKKPbc **PKKPbc** **22 35 25.8 -2.8**
comp=Z,1.5nm,0.7s,baz=272,slow=3.1,SNR=10
MKAR PKPPKP **P'P'df** **22 43 44.5 +1.2**
comp=Z,0.9nm,1.1s,baz=314,slow=4.2,SNR=4.5
ABTX Abilene, Hawle 101.29 59 P **Pdif** **22 19 16.3 -1.5**
baz=255
ABTX Abilene, Hawle 101.29 59 *e*Pdif **Pdif** **22 19 18.5 +0.6**
comp=Z,39nm,1.3s
KVTX Kingsville 101.41 65 PFAKE 22 19 30.0 +12
KVTX LR LR
comp=Z,3µm,19.0s
OGNE Ogallala 101.60 51 P **Pdif** **22 19 17.4 -1.7**
baz=255
OGNE Ogallala 101.60 51 PFAKE 22 19 30.0 +11
OGNE LR LR
comp=Z,7µm,20.0s
ZALV Zalesovo Beam 101.65 323 P **Pdif** **22 19 17.6 -1.3**
comp=Z,6.2nm,0.7s,baz=109,slow=4.0,SNR=15
ZALV PKiKP **PKiKP** **22 23 40.3 -2.1**
comp=Z,3.2nm,0.8s,baz=85,slow=3.3,SNR=3.9
ZALV PKKPbc **PKKPbc** **22 35 23.7 -3.9**
comp=Z,0.9nm,0.5s,baz=276,slow=4.6,SNR=4.2
DGMT Dagmar 102.06 43 PFAKE 22 19 30.0 +9.1
DGMT LR LR
comp=Z,5µm,19.0s
435B Jarrell 102.51 62 P **Pdif** **22 19 21.8 -1.5**
baz=255
WMOK Wichita Mounta 102.52 57 PFAKE 22 19 30.0 +6.7
WMOK LR LR
comp=Z,7µm,20.0s
NVS Novosibirsk 102.78 324⇓ *i* P **Pdif** **22 19 22.4 -1.4**
NVS *e* 22 25 53.4
NVS *i* 22 30 03.0
NVS pmax pmax
comp=Z,55nm,1.9s
NVS pmax pmax
comp=N,10.0nm,1.8s
NVS pmax pmax
comp=E,23nm,1.8s
CBKS Cedar Bluff 102.78 53 P **Pdif** **22 19 25.5 +1.2**
baz=256
CBKS Cedar Bluff 102.78 53 PFAKE 22 19 40.0 +16
CBKS LR LR
comp=Z,5µm,20.0s
WHTX Lake Whitney, 102.92 60 P **Pdif** **22 19 24.2 -0.8**
baz=256
RER Riviere de l'E 103.26 242 PFAKE 22 19 40.0 +13
RER LR LR
comp=Z,9µm,19.0s
HOPE Hope Point 103.88 165 PFAKE 22 19 40.0 +11
HOPE LR LR
comp=Z,6µm,21.0s
KURK Kurchatov 104.55 319 *e*Pdif **Pdif** **22 19 31.9 +0.1**
KURK PKiKP **PKiKP** **22 23 46.5 -1.3**
KURK PKKPbc **PKKPbc** **22 35 16.4 -2.4**
KURK LR LR
comp=Z,9µm,22.0s
KURK Kurchatov 104.55 319 P **Pdif** **22 19 31.4 -0.4**
SNR=6.3
KURK Kurchatov 104.55 319 *e*P **Pdif** **22 19 31.9 +0.1**
KURBB Kurchatov Arra 104.58 319 Pdiff **Pdif** **22 19 32.3 +0.3**
comp=Z,5.9nm,1.1s,baz=102,slow=3.8,SNR=12
KURBB PKiKP **PKiKP** **22 23 46.5 -1.4**
comp=Z,3.9nm,0.9s,baz=116,slow=1.7,SNR=7.2
KURBB PKKPbc **PKKPbc** **22 35 16.4 -2.3**
comp=Z,2.1nm,0.9s,baz=281,slow=3.6,SNR=11
NIL Nilore 104.73 301 PFAKE 22 19 40.0 +6.9
NIL LR LR
comp=Z,2µm,20.0s
FFC Flin Flon 104.85 37 PFAKE 22 19 40.0 +6.9
FFC LR LR
comp=Z,13µm,20.0s
MDND Maddock 104.90 44 P **PKiKP** **22 23 51.7 +3.1**
baz=258
N33A J Bar K, Exete 104.93 52 P **PKiKP** **22 23 50.9 +2.0**
baz=258
H31A Wolsey 104.98 48 P **PKiKP** **22 23 51.1 +2.3**
baz=258
NATX Nacogdoches 105.17 61 PFAKE 22 24 00.0
NATX LR LR
comp=Z,8µm,20.0s
TUL1 Leonard 105.17 57 P **PKiKP** **22 23 53.7 +4.3**
baz=257
J32A Parkston 105.19 49 P **PKiKP** **22 23 51.9 +2.6**
baz=258
KSU1 Kansas State U 105.22 53 P **PKiKP** **22 23 53.3 +3.9**
baz=258
M33A Taylor Creek F 105.30 51 P **PKiKP** **22 23 52.4 +2.9**
baz=258
G31A Conde 105.31 47 P **PKiKP** **22 23 52.6 +3.2**
baz=258
L33A Hoskins 105.36 50 P **PKiKP** **22 23 53.6 +4.0**
baz=258
LCO Las Campanas 105.37 129 PFAKE 22 24 00.0
LCO LR LR
comp=Z,7µm,21.0s
O34A Beatrice 105.38 52 P **PKiKP** **22 23 54.5 +4.8**
baz=258
AAK Ala-Archa 105.68 310 Pdiff **Pdif** **22 19 37.4 +0.1**
comp=Z,0.3nm,0.5s,baz=330,slow=8.1,SNR=2.9
AAK PKiKP **PKiKP** **22 23 50.2 -0.2**
comp=Z,4.1nm,1.1s,baz=114,slow=7.0,SNR=3.7
AAK PKKPbc **PKKPbc** **22 35 14.0 -1.3**
comp=Z,3.3nm,0.9s,baz=302,slow=1.9,SNR=4.9
AAK Ala-Archa 105.68 310 Pdif **Pdif** **22 19 37.4 +0.1**
AAK PKiKP **PKiKP** **22 23 50.2 -0.2**
AAK PKKPbc **PKKPbc** **22 35 14.0 -1.3**
AAK LR LR

comp=Z,5µm,21.0s
AAK Ala-Archa 105.68 310 P PKiKP 22 23 42.3 -8.0
TRQA Tornquist 105.91 141 PFAKE 22 24 00.0
TRQA LR LR
comp=Z,6µm,21.0s
MIAR Mount Ida 106.66 59 PFAKE 22 24 00.0
MIAR LR LR
comp=Z,6µm,19.0s
AGMN Agassiz Nation 107.45 44 PFAKE 22 24 00.0
AGMN LR LR
comp=Z,9µm,22.0s
ULM Lac du Bonnet 107.74 42 PKKPbc PKKPbc 22 35 06.8 -2.1
comp=Z,4.1nm,1.1s,baz=14,slow=2.7,SNR=3.9
TEIG Tepich 108.08 74 PFAKE 22 24 10.0
TEIG LR LR
comp=Z,6.0nm,19.0s
RES Resolute Bay 109.85 16 PKiKP **PKiKP 22 23 56.1 -0.9**
baz=271,slow=4.6
RES Resolute Bay 109.85 16 *e*PKP **PKiKP 22 23 57.1 +0.2**
BVAR Borovoye Array 109.94 321 Pdiff **Pdif 22 19 56.9 +1.1**
comp=Z,1.8nm,0.7s,baz=122,slow=5.4,SNR=10
BVAR PKiKP **PKiKP 22 23 56.8 -1.0**
comp=Z,5.0nm,0.8s,baz=93,slow=2.9,SNR=12
BVAR PKKPbc **PKKPbc 22 35 00.4 -1.6**
comp=Z,3.4nm,0.8s,baz=270,slow=3.3,SNR=12
BRVK Borovoye 110.00 321 *e*Pdif **Pdif 22 19 55.4 -0.6**
BRVK *e*PKP **PKiKP 22 23 57.8 0.0**
BRVK LR LR
comp=Z,5µm,22.0s
BRVK Borovoye 110.00 321 *e*P **Pdif 22 19 55.4 -0.6**
BRVK MLR MLR
comp=Z,5µm,22.0s
EYMN Ely 110.31 45 PFAKE 22 24 10.0
EYMN LR LR
comp=Z,13µm,22.0s
JFWS Jewell Farm 110.60 50 PFAKE 22 24 10.0
JFWS LR LR
comp=Z,10µm,20.0s
ABPO Ambohimpanom 111.32 240 PFAKE 22 24 10.0
ABPO LR LR
comp=Z,4µm,19.0s
BRAL Brewton 111.43 63 PFAKE 22 24 10.0
BRAL LR LR
comp=Z,4µm,20.0s
COWI Conover 111.73 47 PFAKE 22 24 10.0
COWI LR LR
comp=Z,8µm,22.0s
SOTA Rioblanco 113.95 96 *e*P **PKiKP 22 24 10.7 +3.5**
LPAZ La Paz 113.97 118 PKiKP **PKiKP 22 24 07.7 +0.3**
comp=Z,3.8nm,0.9s,baz=258,slow=2.2,SNR=6.3
LPAZ PKKPbc **PKKPbc 22 34 52.6 +4.2**
comp=Z,3.9nm,1.0s,baz=5.5,slow=5.9,SNR=5.7
CPCT Cooper Cave 114.14 59 *e*PKP PKPdf 22 24 08.1 +1.8
GOGA Godfrey 114.76 61 PFAKE 22 24 20.0 +12
GOGA LR LR
comp=Z,5µm,19.0s
GLMI Grayling 114.82 49 PFAKE 22 24 20.0 +13
GLMI LR LR
comp=Z,7µm,22.0s
AAM Ann Arbor 115.40 52 PFAKE 22 24 20.0 +12
AAM LR LR
comp=Z,7µm,20.0s
SVE Sverdlovsk 115.60 325⇑ *i*PKIKP **PKPdf 22 24 05.6 -2.8**
SVE pmax pmax
comp=Z,33nm,1.4s
ACSO Alum Creek Sta 115.78 54 PFAKE 22 24 20.0 +11
ACSO LR LR
comp=Z,6µm,21.0s
DBBC Dabeiba 115.89 91 *e*P **PKPdf 22 24 10.3 -0.1**
RREF El Recreo 116.05 94 *e*P **PKPdf 22 24 11.8 +0.4**
GUYC Guyana, Colomb 116.11 94 *e*P **PKPdf 22 24 08.8 -2.5**
HELC Santa Helena 116.28 92 *e*P **PKPdf 22 24 14.1 +2.6**
ABKAR Akbulak array 116.38 316 *e*PKPdf **PKPdf 22 24 10.0 -0.2**
CPUP Villa Florida 116.50 134 PKP **PKPdf 22 24 10.0 -1.2**
comp=Z,6.5nm,0.9s,baz=247,slow=2.4,SNR=4.4
CPUP PKKPbc **PKKPbc 22 34 40.0 +0.8**
comp=Z,5.2nm,0.8s,baz=48,slow=3.5,SNR=9.8
ARU Arti 116.77 324 PKP **PKPdf 22 24 09.3 -1.4**
comp=Z,5.1nm,0.4s,baz=49,slow=1.6,SNR=15
ARU Arti 116.77 324 *e*PKPdf **PKPdf 22 24 09.1 -1.6**
ARU LR LR
comp=Z,6µm,20.0s
ARU Arti 116.77 324 *i* PKIKP **PKPdf 22 24 08.6 -2.1**
ARU 22 31 20.6
ARU PS **PS 22 34 56.6 -5.7**
ARU SS SS 22 41 29.7 +4.1
ARU SSS SSS 22 45 47.3
SOHO SOHO 117.30 288 *i* P **PKPdf 22 24 10.3 -2.4**
SNR=12
ZARC Zaragoza, Cauc 117.31 91 *e*P **PKPdf 22 24 10.3 -2.7**
NHSC New Hope 117.46 62 PFAKE 22 24 20.0 +7.3
NHSC LR LR
comp=Z,4µm,19.0s
GEYT Alibeck 117.50 303 PKP **PKPdf 22 24 11.5 -1.2**
comp=Z,6.7nm,0.8s,baz=259,slow=2.4,SNR=13
MTDJ Mount Denham 117.52 79 PFAKE 22 24 20.0 +6.6
MTDJ LR LR
comp=Z,2µm,20.0s
AKTO Aktyubinsk 117.58 318 PKP **PKPdf 22 24 10.8 -1.7**
comp=Z,5.1nm,0.5s,baz=103,slow=4.5,SNR=22
BLA Blacksburg 117.59 57 PFAKE 22 24 20.0 +7.0
BLA LR LR
comp=Z,6µm,19.0s
UOSS Minazif 117.72 289 P **PKPdf 22 24 11.1 -2.4**
HATD Hatta, Dubai 117.77 289 *i* P **PKPdf 22 24 10.7 -2.9**
SNR=5.8
ASHO Ashiyiah 117.81 288 *i* P **PKPdf 22 24 10.7 -3.0**
SNR=6.5
ALNE Al Ain 117.99 288 *i* P **PKPdf 22 24 11.7 -2.3**
SNR=10
OCAC Ocana 118.98 91 *e*P **PKPdf 22 24 16.0 -0.4**
SPA0 Spitsbergen Ar 119.30 354 *e*PKPdf **PKPdf 22 24 14.1 -0.9**
SPITS Spitsbergen Ar 119.30 354 PKP **PKPdf 22 24 14.3 -0.7**
comp=Z,20nm,0.8s,baz=15,slow=7.4,SNR=35
PAMC Pamplona, Colo 119.30 92 *e*P **PKPdf 22 24 14.8 -2.6**
CNNC Cliffs of the 119.52 60 PFAKE 22 24 30.0 +13
CNNC LR LR
comp=Z,5µm,19.0s
CBN Corbin Frederi 120.05 56 PFAKE 22 24 30.0 +12
CBN LR LR
comp=Z,9µm,19.0s
GTBY Guantanamo Bay 120.11 78 PFAKE 22 24 30.0 +12
GTBY LR LR
comp=Z,3µm,19.0s
HSPB Hornsund (broa 120.42 353 *e*PKIKP **PKPdf 22 24 21.1 +3.9**
HSPB *e* 22 25 41.1
HSPB *e* 22 31 14.0
HSPB MLR MLR
comp=Z,8µm,24.6s
BOSA Boshof 120.98 218 PKP **PKPdf 22 24 19.1 -0.8**
comp=Z,22nm,0.8s,baz=128,slow=1.7,SNR=30
BOSA PKKPab **PKKPab 22 34 27.8 +2.1**
comp=Z,5.8nm,1.1s,baz=314,slow=6.0,SNR=4.1
BINY Binghamton 121.09 52 PFAKE 22 24 30.0 +11
BINY LR LR
comp=Z,7µm,19.0s
SDV Santo Domingo 121.71 91 *e*PKPdf **PKPdf 22 24 19.4 -2.3**
SDV LR LR
comp=Z,3µm,22.0s
SDV Santo Domingo 121.71 91⇓ *e*P **PKPdf 22 24 20.5 -1.2**
SAML Samuel 121.75 114 PFAKE 22 24 30.0 +8.4
SAML LR LR
comp=Z,4µm,22.0s
LONY Lake Ozonia 121.97 49 PFAKE 22 24 30.0 +8.9
LONY LR LR
comp=Z,11µm,20.0s
DAG Danmarks Havn 122.06 2 *i* P **PKPdf 22 24 16.6 -3.7**
comp=Z,6µm,23.0s
DAG Danmarks Havn 122.06 2 *e*PKIKP **PKPdf 22 24 16.6 -3.7**
DAG MLR MLR
comp=Z,6µm,23.0s
LVZ Lovozero 123.27 341 *e*PKPdf **PKPdf 22 24 22.2 -0.8**
LVZ LR LR
comp=Z,13µm,22.0s
LVZ Lovozero 123.27 341 *c i*PKIKP **PKPdf 22 24 22.4 -0.5**
LVZ pmax pmax
comp=Z,77nm,1.7s
SDDR Presa de Saban 123.47 79 PFAKE 22 24 40.0 +15
SDDR LR LR
comp=Z,5µm,20.0s
APA Apatity 123.85 341⇓ *i*PKIKP **PKPdf 22 24 22.5 -1.5**
APA *i* 22 24 26.7
APA pmax pmax
comp=Z,17nm,1.0s
APA MLR MLR
comp=Z,14µm,22.0s
GRTK Grand Turk 124.04 76 PFAKE 22 24 40.0 +14
GRTK LR LR
comp=Z,3µm,20.0s
TMCR Tamitsa 124.14 336 *e*PKIKP **PKPdf 22 24 22.9 -1.7**
TMCR pmax pmax
comp=Z,55nm,0.9s
ILULI Ilulissat 124.15 16 *i* P **PKPdf 22 24 25.3 +0.8**
comp=Z,20nm,0.9s
ILULI *i* 22 26 04.2
comp=Z,13µm,22.0s
ILULI Ilulissat 124.15 16 *e*PKIKP **PKPdf 22 24 25.3 +0.8**
ILULI pmax pmax
comp=Z,20nm,0.9s
ILULI MLR MLR
comp=Z,13µm,22.0s
KEV Kevo 124.19 345 *e*PKPdf **PKPdf 22 24 24.8 +0.2**
KEV LR LR
comp=Z,11µm,21.0s
KEV Kevo 124.19 345 *e*PKIKP **PKPdf 22 24 24.8 +0.2**
KEV MLR MLR
comp=Z,11µm,21.0s
SUMG Summit 124.19 10 *i* P PKPpre 22 24 17.5
SUMG *i* 22 26 05.5
SUMG Summit 124.19 10 *e*PKPdf **PKPdf 22 24 24.0 -1.1**
SUMG Summit 124.19 10 *e*PKIKP **PKPdf 22 24 24.0 -1.1**
HAMF Hammerfest 124.31 347 *e*PKPdf **PKPdf 22 24 25.6 +0.8**
ARCES ARCESS Array B 124.71 345 PKP **PKPdf 22 24 24.3 -1.3**
comp=Z,6.8nm,0.5s,baz=64,slow=2.8,SNR=3.8
ARCES PKKPbc **PKKPbc 22 34 09.0 -0.3**
comp=Z,3.5nm,1.0s,baz=234,slow=1.0,SNR=7.6
ARE0 ARCESS Array S 124.71 345 *e*PKPdf **PKPdf 22 24 24.3 -1.3**
SPB Sao Paulo 124.88 139 *e*PKPdf **PKPdf 22 24 28.3 +1.0**
SPB LR LR
comp=Z,10µm,22.0s
SCHQ Schefferville 124.97 36 PKP **PKPdf 22 24 26.4 -0.1**
comp=Z,6.8nm,0.9s,baz=352,slow=4.6,SNR=6.1
SCHQ PKKPbc **PKKPbc 22 34 12.3 +4.4**
comp=Z,3.1nm,0.7s,baz=77,slow=5.4,SNR=8.1
KLMR Klimovskoe 125.11 332 *e*PKPdf **PKPdf 22 24 23.3 -3.3**
KLMR AMP 22 24 33.7
comp=Z,120nm,1.3s
KLMR *e*SSS SSS 22 47 48.9
KLMR *e*SSS SSS 22 47 48.9
KLMR LQ LQ 23 10 10.8
KLMR LQ LQ 23 10 10.8
KLMR LR LR 23 14 16.1
KLMR AMP 23 24 10.6
comp=Z,1µm,19.9s
KLMR Klimovskoe 125.11 332 *e*PKIKP **PKPdf 22 24 23.3 -3.3**
KLMR *e*SSS SSS 22 47 48.9
KLMR pmax pmax
comp=Z,120nm,1.3s
AKT Akhty 125.45 308 *i* PKIKP **PKPdf 22 24 26.3 -1.7**
AKT *e* 22 26 18.8
AKT pmax pmax
comp=Z,29nm,0.9s
MAK Makhachkala 125.46 310 *i* P **Pdif 22 20 57.9 -7.1**
MAK *i* 22 24 26.0
MAK *e*PPP PPP 22 28 55.5
MAK *e* 22 31 22.5
MAK pmax pmax
comp=Z,116nm,1.2s
PKME Peaks-Kenny Pk 125.63 48 *e*PKPdf **PKPdf 22 24 26.3 -1.8**
PKME LR LR
comp=Z,9µm,22.0s
KTK1 Kautokeino 125.64 345 *e*PKPdf **PKPdf 22 24 24.7 -2.7**
SFJD Kangerlussuaq 125.79 18 PFAKE 22 24 40.0 +12
SFJD LR LR
comp=Z,10µm,20.0s
HEF Hetta 126.00 345 *e*PKPdf **PKPdf 22 24 27.0 -1.1**
TRO Tromso 126.11 347 *e*PKPdf **PKPdf 22 24 26.8 -1.4**
KIF Kilpisjarvi 126.21 346 *e*PKPdf **PKPdf 22 24 26.2 -2.2**
GROC Groznyy 126.67 310 *i* PKIKP **PKPdf 22 24 27.5 -2.6**
GROC *e* 22 26 23.1
GROC pmax pmax
comp=Z,93nm,1.2s
DAMY Dhamar 126.74 274 *e*PKPdf **PKPdf 22 24 31.9 +0.4**
ATD Arta Tunnel 127.47 270 PKP **PKPdf 22 24 34.2 +1.6**
comp=Z,11nm,1.0s,baz=101,slow=1.7,SNR=4.6
VRH Novokhopyorsk 127.59 321 *e*PKIKP **PKPdf 22 24 28.8 -2.8**
VRH pmax pmax
comp=Z,50nm,1.9s
GNI Garni 127.85 306 PKP **PKPdf 22 24 32.7 0.0**
comp=Z,16nm,1.0s,baz=154,slow=1.6,SNR=12
GNI Garni 127.85 306 *e*PKPdf **PKPdf 22 24 32.0 -0.7**
GNI LR LR
comp=Z,4µm,20.0s
GNI Garni 127.85 306 PKPdf **PKPdf 22 24 32.9 +0.2**
SNR=13
GNI Garni 127.85 306 P **PKPdf 22 24 32.9 +0.2**
SNR=13
GNI Garni 127.85 306 *i* P **PKPdf 22 24 31.8 -0.9**
SNR=10
GNI Garni 127.85 306 *d i*PKIKP **PKPdf 22 24 31.7 -1.0**
GNI pmax pmax
comp=Z,131nm,1.2s
SCO Scoresbysund 128.10 5 *i* P **PKPdf 22 24 29.4 -2.6**
SCO *i* 22 26 30.5
comp=Z,6µm,24.0s
SCO Scoresbysund 128.10 5 *e*PKIKP **PKPdf 22 24 29.4 -2.6**
SCO MLR MLR
comp=Z,6µm,24.0s
SJG San Juan 128.11 82 *e*PKPdf **PKPdf 22 24 31.1 -2.5**
SJG LR LR
comp=Z,2µm,22.0s
SJG San Juan 128.11 82 *e*P **PKPdf 22 24 32.3 -1.3**
SJG San Juan 128.11 82 *e*PKIKP **PKPdf 22 24 31.1 -2.5**
SJG MLR MLR
comp=Z,2µm,22.0s
NCK Nalchik 128.20 311 *c i*PKIKP **PKPdf 22 24 32.8 -0.3**
MOS Moscow 128.23 327 *e*PKIKP **PKPdf 22 24 29.3 -3.4**
MOS *i* 22 26 34.7
MOS pmax pmax
comp=Z,177nm,1.6s
MOS pmax pmax
comp=Z,200nm,1.6s
STEI Steigen 128.28 348 *e*PKPdf **PKPdf 22 24 31.7 -0.8**
GOF Gofitskoye 128.30 313⇑ *e*PKIKP **PKPdf 22 24 32.8 -0.4**
GOF pmax pmax
comp=Z,57nm,1.3s
PTGA Pitinga 128.31 107 PFAKE 22 24 50.0 +16
PTGA LR LR
comp=Z,13µm,21.0s
KMBO Kilima Mbogo 128.37 253 PKP **PKPdf 22 24 33.6 -1.0**
comp=Z,17nm,1.0s,baz=45,slow=3.7,SNR=20
KMBO Kilima Mbogo 128.37 253 *e*PKPdf **PKPdf 22 24 34.0 -0.5**
KMBO LR LR
comp=Z,6µm,20.0s
KMBO Kilima Mbogo 128.37 253 P PKPpre 22 24 26.8
LSZ Lusaka 128.37 231 *e*PKPdf **PKPdf 22 24 34.5 +0.1**
LSZ LR LR
comp=Z,8µm,21.0s
LSZ Lusaka 128.37 231 PKPdf **PKPdf 22 24 34.7 +0.3**
SNR=8.5
LSZ Lusaka 128.37 231 P **PKPdf 22 24 34.7 +0.3**
SNR=8.5
LSZ Lusaka 128.37 231 *e*PKIKP **PKPdf 22 24 34.5 +0.1**
LSZ MLR MLR
comp=Z,8µm,21.0s
AKH Akhalkalaki 128.62 308⇑ *i*P **PKPdf 22 24 32.1 -2.1**
KBZ Khabaz 128.66 311 PKP **PKPdf 22 24 33.3 -0.6**
comp=Z,7.4nm,1.0s,baz=77,slow=5.1,SNR=13
KBZ PP **PP 22 26 40.5 +0.5**
comp=Z,2.7nm,0.9s,baz=95,slow=4.4,SNR=4.8
LPSR Galich'ya Gora 128.76 323 *e*PKIKP **PKPdf 22 24 32.5 -1.3**
LPSR pmax pmax
comp=Z,70nm,1.1s
KVAR Kislovodsk Arr 128.76 312 PKP **PKPdf 22 24 33.3 -1.0**
comp=Z,40nm,1.2s,baz=358,slow=2.4,SNR=5.6
KIV Kislovodsk 128.77 312 *e*PKPdf **PKPdf 22 24 33.2 -1.0**
KIV LR LR
comp=Z,4µm,20.0s
KIV Kislovodsk 128.77 312 PKPdf **PKPdf 22 24 33.8 -0.4**
SNR=23
KIV Kislovodsk 128.77 312 P **PKPdf 22 24 33.8 -0.4**
SNR=23
KIV Kislovodsk 128.77 312 *i* P **PKPdf 22 24 32.9 -1.3**
SNR=16
KIV Kislovodsk 128.77 312 *i* PKIKP **PKPdf 22 24 32.3 -1.9**
KIV *e* 22 26 38.2
KIV *e*PS **PS 22 36 46.7 -2.8**
KIV *e*SS SS 22 43 58.5 -0.4
KIV *e*SSS SSS 22 48 38.4
KIV pmax pmax
comp=Z,36nm,1.1s
NEY Neytrino 128.88 311 *c i*PKIKP **PKPdf 22 24 34.4 -0.2**
VORR Voronezh 128.93 322 *e*PKIKP PKPpre 22 24 30.0
OBN Obninsk 129.04 327 PKP **PKPdf 22 24 33.2 -1.0**
comp=Z,33nm,1.0s,baz=345,slow=1.1,SNR=5.8
OBN Obninsk 129.04 327 *e*PKPdf **PKPdf 22 24 33.5 -0.8**
OBN LR LR
comp=Z,6µm,20.0s
OBN Obninsk 129.04 327 *d i*PKIKP PKPpre 22 24 31.5
OBN *e* 22 26 39.1
OBN pmax pmax
comp=Z,114nm,1.7s
VSR Storozhevoye 129.11 321 *e*PKIKP PKPpre 22 24 32.2
VSR pmax pmax
comp=Z,60nm,1.8s
KONS Konsvik 129.94 348 *e*PKPdf **PKPdf 22 24 35.0 -0.6**
MOR8 Moi Rana 129.94 347 *e*P **PKPdf 22 24 34.7 -1.0**
FINES FINESS Array B 130.19 338 PKhKP PKPpre 22 24 20.9
comp=Z,5.5nm,1.1s,baz=261,slow=5.0,SNR=4.3
FINES PKP **PKPdf 22 24 34.2 -2.1**
comp=Z,26nm,1.0s,baz=82,slow=4.2,SNR=15
FINES SKPbc **SKPbc 22 28 00.1 +1.0**
comp=Z,6.1nm,0.7s,baz=77,slow=6.1,SNR=3.9
BBSR BB Station 130.47 63 PFAKE 22 24 50.0 +12
BBSR LR LR
comp=Z,3µm,20.0s
AAE Adis Abeba 130.63 266 *e*P PKPpre 22 24 27.4
AAE *i* S **SKPab 22 28 09.4 +6.7**
AAE Adis Abeba 130.63 266 *e*P PKPpre 22 24 27.4
AAE *i* S **SKPab 22 28 09.4 +6.7**
AAE Adis Abeba 130.63 266 *e*P PKPpre 22 24 27.4
AAE *i* S **SKPab 22 28 09.4 +6.7**
SABA Saba 130.75 83 *e*P **PKPdf 22 24 46.0 +7.4**
SOC Sochi 130.95 312 *d i*P **Pdif 22 21 19.8 -10**
SOC *i* 22 24 35.9
SOC *i* 22 26 54.0
SOC *e*SS SS 22 44 26.8 +1.3
SOC *e*SSS SSS 22 49 16.6
SOC pmax pmax
comp=Z,41nm,1.5s
SOC MLR MLR
comp=Z,4µm,20.0s
SEUS St. Eustatius 130.97 83 *e*P **PKPdf 22 24 37.0 -2.1**
SMRT St. Maarten 130.98 82 *e*P PKPpre 22 24 35.3
NEV Hard Times 131.30 84 *e*P **PKPdf 22 24 37.2 -2.4**
MLYT Lee's Yard 131.58 84 *e*P **PKPdf 22 24 38.0 -2.2**
SVB Belmont 131.74 89 *e*P **PKPdf 22 24 39.4 -1.2**
SSV Crater Summit 131.81 89 *e*P **PKPdf 22 24 41.2 +0.4**
VSU Vasula 131.85 334 *d i*PKIKP **PKPdf 22 24 40.4 +0.9**
TOSP Speyside 131.93 92 *e*P **PKPdf 22 24 39.8 -1.1**
MDPO Dominica; Chan 132.06 86 *e*P **PKPdf 22 24 42.8 +1.7**
MDVC Dominica, Viel 132.11 86 *e*P **PKPdf 22 24 41.0 -0.2**
ANWB Willy Bob 132.13 83 *e*PKPdf **PKPdf 22 24 40.9 -0.4**
ANWB LR LR
comp=Z,2µm,20.0s
ANWB Willy Bob 132.13 83 *e*P PKPpre 22 24 37.2
CXM Morne La Croix 132.16 87 *e*P PKPpre 22 24 39.0
FDF Fort de France 132.16 87 *e*PKPdf **PKPdf 22 24 41.5 +0.2**
FDF LR LR
comp=Z,2µm,19.0s
FDF Fort de France 132.16 87 *e*P PKPpre 22 24 38.7
FDF Fort de France 132.16 87 *e*PKIKP **PKPdf 22 24 41.6 +0.2**
FDF MLR MLR
comp=Z,2µm,19.0s
ANN Anapa 132.22 314 *i* P **Pdif 22 21 38.3 +3.3**
ANN *i* 22 24 38.4
ANN *e* 22 24 41.7
ANN *e* 22 27 01.1
ANN *e*PS **PS 22 37 07.7 -11**
ANN *e*SSS SSS 22 49 34.2
ANN pmax pmax
comp=E,15nm,1.6s
ANN pmax pmax
comp=Z,65nm,1.6s
ANN pmax pmax
comp=N,31nm,1.6s
ANN pmax pmax
comp=N,178nm,6.7s
ANN pmax pmax
comp=E,157nm,6.7s
ANN pmax pmax
comp=Z,801nm,6.7s
ANN MLR MLR
comp=E,9µm,25.0s
ANN MLR MLR
comp=N,12µm,25.0s
ANN MLR MLR
comp=Z,12µm,25.0s
TSUM Tsumeb 132.67 218 SKPbc **SKPab 22 28 11.9 +0.9**
comp=Z,2.5nm,0.7s,baz=150,slow=3.7,SNR=4.6
TSUM Tsumeb 132.67 218 *e*PKPdf **PKPdf 22 24 43.3 +0.8**
TSUM SKPbc **SKPab 22 28 11.9 +0.9**
TSUM LR LR
comp=Z,9µm,19.0s
BBGH Gun Hill 133.31 90 PFAKE 22 25 00.0 +16
BBGH LR LR
comp=Z,3µm,20.0s
BBGH Gun Hill 133.31 90 *e*P **PKPdf 22 24 49.3 +5.8**
MICGM Minsk 133.70 329 *e*PKP **PKPdf 22 24 42.0 -1.1**
MICGM *e*PKP **PKPdf 22 24 42.0 -1.1**
MICGM *e*PP **PP 22 27 10.0 -1.9**
MICGM *e*PPP PPP 22 30 26.0
MICGM *e*SKS **SKSdf 22 32 04.0 +10**
MICGM *e*LQ LQ 23 08 50.0
MICGM *e*LR LR 23 14 30.0
MICGM LRM MLR 23 17 20.0
comp=N,6.8nm,26.0s
MICGM LRM MLR 23 17 24.0
comp=Z,16nm,26.0s
MICGM LRM MLR 23 17 26.0
comp=Z,11nm,26.0s
MNK Minsk 133.70 329 *e*PKIKP **PKPdf 22 24 42.0 -1.1**
MNK *e* 22 24 42.0
MNK *e* 22 27 10.0
IZAR Zarasai 133.74 332 *e*P **PKPdf 22 24 40.0 -3.2**
IZAR IAmb IAmb 22 24 49.4
comp=Z,16nm,0.9s
BORG Borgarnes 133.77 6 PFAKE 22 24 50.0 +7.1
BORG LR LR
comp=Z,3µm,22.0s
IDID Didziasalis 133.77 331 *e*P **PKPdf 22 24 42.1 -1.1**
IDID IAmb IAmb 22 24 50.3
comp=Z,25nm,0.8s
IIGN Ignalina 133.99 331 *e*P **PKPdf 22 24 42.4 -1.2**
IIGN IAmb IAmb 22 24 50.0
comp=Z,29nm,1.1s
NACGM Naroch 133.99 330 *e*PKP **PKPdf 22 24 42.0 -1.6**
NACGM *e*PKP **PKPdf 22 24 42.0 -1.6**
NACGM *e*PP **PP 22 27 11.0 -2.7**
NACGM *e*SKP 22 28 12.0
NACGM *e*PPP PPP 22 29 34.0
NACGM *e*SKS SKSdf 22 32 08.0 +13
NACGM *e*SKKS SKKSac 22 33 38.0 -31
NACGM *e*PS **PS 22 37 29.0 -4.8**
NACGM *e*SS **SS 22 45 08.0 +6.7**
NACGM *e*SSS SSS 22 50 10.0
NACGM *e*LQ LQ 23 10 42.0
NACGM *e*LR LR 23 16 52.0
NACGM LRM MLR 23 26 28.0
comp=Z,18nm,21.0s
SIM Simferopol' 134.42 315 *de*PKIKP **PKPdf 22 24 43.8 -1.0**
SIM *e* 22 27 15.6
SIM pmax pmax
comp=Z,310nm,8.5s
ASF Jabal al Asfar 134.99 297 PKP **PKPdf 22 24 46.5 +0.1**
comp=Z,6.5nm,0.9s,baz=203,slow=0.7,SNR=14
AKN Aaknes 135.01 348 *e*P PKPpre 22 24 41.0
AKASG Malin Array Be 135.03 324 PKhKP PKPpre 22 24 31.8
comp=Z,1.1nm,0.4s,baz=57,slow=3.5,SNR=7.0
AKASG PKP **PKPdf 22 24 45.5 -0.2**
comp=Z,6.4nm,0.7s,baz=60,slow=2.2,SNR=21
AKASG SKPbc **SKPbc 22 28 17.1 +0.8**
comp=Z,13nm,1.1s,baz=48,slow=4.5,SNR=7.0
AKASG P4KPbc 22 56 35.8
comp=Z,0.1nm,0.2s,baz=22,slow=18,SNR=4.0
KIEV Kiev 135.04 324 *i* P **PKPdf 22 24 43.7 -2.0**
SNR=7.9
KIEV Kiev 135.04 324 *de*PKIKP **PKPdf 22 24 43.6 -2.1**
NB2 NORSAR Subarra1 135.09 345 PKPdf PKPpre 22 24 38.5
comp=Z,20nm,1.1s,baz=31,slow=1.9
NB2 NORSAR Subarra1 135.09 345 PKPdf PKPpre 22 24 38.5
baz=31,slow=1.9
NOA NORSAR Array B 135.09 345 PKhKP PKPpre 22 24 35.4
comp=Z,7.0nm,0.9s,baz=54,slow=2.0,SNR=11

HFS	**Hagfors**	**135.19 343**	PKhKP	PKPpre	22 24 36.0			
	comp=Z,2.5nm,0.6s,baz=61,slow=3.7,SNR=5.8							
HFS			PKP	**PKPdf**	**22 24 45.6**	**-0.1**		
	comp=Z,5.6nm,0.6s,baz=115,slow=2.1,SNR=13							
HFS			SKPbc	**SKPab**	**22 28 20.4**	**-0.1**		
	comp=Z,5.8nm,0.8s,baz=59,slow=12,SNR=4.7							
NC602	**NORSAR Array S**	**135.26 344**	*e*	PKPpre	22 24 37.8			
MMAI	**Mount Meron Ar**	**136.16 298**	PKhKP	PKPpre	22 24 37.8			
	comp=Z,1.5nm,0.7s,baz=87,slow=7.1,SNR=4.6							
MMAI			PKP	**PKPdf**	**22 24 47.4**	**-1.1**		
	comp=Z,4.3nm,0.5s,baz=76,slow=3.5,SNR=15							
MMAI			SKPbc	**SKPbc**	**22 28 21.2**	**+0.7**		
	comp=Z,17nm,1.1s,baz=94,slow=2.5,SNR=7.0							
SUW	**Suwalki**	**136.20 331**	*e*PKPdf	**PKPdf**	**22 24 45.7**	**-2.1**		
SUW			*e*PP	**PP**	**22 27 24.2**	**-3.4**		
SUW			*e*SKPdf	**SKiKP**	**22 28 27.2**	**+1.6**		
SUW			*e*SKSdf	**SKSdf**	**22 31 57.9**	**-0.7**		
SUW			*e*SSS	SSS	22 50 37.5			
SUW			LMZ	LR	23 20 26.2			
	comp=Z,7μm,25.2s							
SUW	**Suwalki**	**136.20 331**	*e*PKIKP	**PKPdf**	**22 24 45.7**	**-2.1**		
SUW			*e*		22 27 24.2			
SUW			*e*		22 31 57.9			
SUW			*e*SSS	SSS	22 50 37.5			
SUW			MLR	MLR				
	comp=Z,7μm,25.2s							
BRTR	**Keskin Array B**	**136.31 308**	PKhKP	PKPpre	22 24 35.4			
	comp=Z,0.8nm,0.8s,baz=134,slow=5.3,SNR=4.6							
BRTR			PKP	**PKPdf**	**22 24 48.5**	**-0.2**		
	comp=Z,5.4nm,0.9s,baz=125,slow=1.4,SNR=12							
KONO	**Kongsberg**	**136.70 345**	*e*PKPdf	PKPpre	22 24 42.5			
KONO	**Kongsberg**	**136.70 345**	*de*PKIKP	PKPpre	22 24 45.9			
SORM	**Soroca**	**136.77 321**	⇓*i*P	PKPpre	22 24 45.4			
SORM	**Soroca**	**136.77 321**	⇓PKIKP	PKPpre	22 24 45.4			
EIL	**Elat**	**136.84 293**	PKP	**PKPdf**	**22 24 50.4**	**+0.6**		
	comp=Z,2.1nm,0.8s,baz=286,slow=15,SNR=2.7							
ANTO	**Ankara**	**136.90 308**	⇑*i*P	PKPpre	22 24 45.4			
ANTO	**Ankara**	**136.90 308**	*e*PKPdf	PKPpre	22 24 47.5			
ANTO			LR	LR				
	comp=Z,4μm,22.0s							
ANTO	**Ankara**	**136.90 308**	PKPdf	**PKPdf**	**22 24 51.2**	**+1.6**		
	SNR=10							
ANTO	**Ankara**	**136.90 308**	P	**PKPdf**	**22 24 51.2**	**+1.6**		
	SNR=10							
ANTO	**Ankara**	**136.90 308**	⇑PKIKP	PKPpre	22 24 45.4			
KIS	**Kishinev**	**137.02 320**	*e*PKP	PKPpre	22 24 47.0			
KIS			M	M	22 24 48.0			
	comp=Z,200nm,2.5s							
KIS	**Kishinev**	**137.02 320**	*i* PsP		22 25 10.0			
KIS	**Kishinev**	**137.02 320**	*i* PP	PP	22 27 30.0	-3.1		
KIS			*i* SKP		22 28 30.0			
KIS	**Kishinev**	**137.02 320**	*e*PS	PS	22 37 50.0	-10		
KIS	**Kishinev**	**137.02 320**	*e*PPS	PPS	22 39 40.0			
KIS			LRM	MLR	23 23 48.0			
	comp=Z,12μm,24.0s							
KIS	**Kishinev**	**137.02 320**	*e*PKIKP	**PKPdf**	**22 24 47.0**	**-2.5**		
KIS			*i*		22 27 30.0			
KIS			*i*		22 31 59.0			
KIS			*e*PS	**PS**	**22 37 50.0**	**-10**		
KIS			*e*PPS	PPS	22 39 40.0			
KIS			pmax	pmax				
	comp=Z,200nm,2.5s							
KIS			pmax	pmax				
	comp=Z,1μm,6.0s							
KIS			pmax	pmax				
	comp=Z,3μm,8.0s							
KIS			pmax	pmax				
	comp=E,1μm,7.0s							
KIS			pmax	pmax				
	comp=Z,4μm,12.0s							
KIS			MLR	MLR				
	comp=N,9μm,22.0s							
KIS			MLR	MLR				
	comp=E,6μm,22.0s							
KIS			MLR	MLR				
	comp=Z,11μm,22.0s							
KIS			MLR	MLR				
	comp=Z,12μm,24.0s							
KLNR	**Kaliningrad**	**137.12 334**	*de*PKIKP	**PKPdf**	**22 24 50.4**	**+1.0**		
CSS	**Mathiatis**	**137.58 301**	P	**PKPdf**	**22 24 51.0**	**0.0**		
CSS			LR	LR				
	comp=Z,888nm,20.0s							
CSS	**Mathiatis**	**137.58 301**	P	**PKPdf**	**22 24 51.0**	**0.0**		
BLS5	**Blasjo**	**137.63 347**	*e*PKPdf	**PKPdf**	**22 24 48.8**	**-1.6**		
KMY	**Karmoy**	**138.08 347**	*e*PKPdf	**PKPdf**	**22 24 49.1**	**-2.0**		
CFR	**Carcaliu**	**138.25 318**	⇓*i*P	**PKPdf**	**22 24 49.3**	**-2.5**		
CFR	**Carcaliu**	**138.25 318**	⇓PKIKP	**PKPdf**	**22 24 49.3**	**-2.5**		
LVV	**L'vov**	**138.32 326**	*e*PKIKP	**PKPdf**	**22 24 51.1**	**-0.8**		
PRAR	**RASCA**	**138.40 321**	⇑*i*P	PKPpre	22 24 46.7			
SNART	**Snartemo**	**138.44 345**	*e*PKPdf	**PKPdf**	**22 24 50.3**	**-1.5**		
TLB	**Topalu**	**138.56 317**	⇑*i*P	PKPpre	22 24 44.5			
TLB	**Topalu**	**138.56 317**	⇑PKHKP	PKPpre	22 24 44.5			
TESR	**Tescani**	**138.56 320**	⇑*i*P	PKPpre	22 24 45.3			
BEL	**Belsk**	**138.71 330**	*e*PKPdf	**PKPdf**	**22 24 51.5**	**-1.0**		
BEL			*e*PP	**PP**	**22 27 40.9**	**-2.4**		
BEL			LMZ	LR	23 23 23.5			
	comp=Z,9μm,23.5s							
BEL	**Belsk**	**138.71 330**	*e*PKIKP	**PKPdf**	**22 24 51.5**	**-1.0**		
BEL			*e*		22 27 40.9			
BEL			MLR	MLR				
	comp=Z,9μm,23.5s							
VRI	**Vrincioaia**	**138.82 319**	⇓*i*P	PKPpre	22 24 45.8			
VRI	**Vrincioaia**	**138.82 319**	⇓PKHKP	PKPpre	22 24 45.8			
BSD	**Bornholm Skovb**	**138.83 337**	*i* P	PKPpre	22 24 44.0			
	comp=Z,85nm,1.3s							
	comp=Z,14μm,24.0s							
BSD	**Bornholm Skovb**	**138.83 337**	*e*PKHKP	PKPpre	22 24 44.0			
BSD			pmax	pmax				
	comp=Z,85nm,1.3s							
BSD			MLR	MLR				
	comp=Z,14μm,24.0s							
BURAR	**Bucovina Array**	**138.86 322**	⇑*i*P	PKPpre	22 24 47.0			
BURAR	**Bucovina Array**	**138.86 322**	⇑PKIKP	PKPpre	22 24 47.0			
PLOR	**Plostina**	**138.88 319**	⇑*i*P	PKPpre	22 24 44.4			
PLOR	**Plostina**	**138.88 319**	⇑PKHKP	PKPpre	22 24 44.4			
KWP	**Kalwaria Pacla**	**139.13 326**	*e*PKPdf	**PKPdf**	**22 24 51.9**	**-1.5**		
KWP			*e*PP	**PP**	**22 27 48.6**	**+2.6**		
KWP			LMZ	LR	23 20 13.4			
	comp=Z,6μm,29.8s							
KWP	**Kalwaria Pacla**	**139.13 326**	*e*PKIKP	**PKPdf**	**22 24 51.9**	**-1.5**		
KWP			*e*		22 27 48.6			
KWP			MLR	MLR				
	comp=Z,6μm,29.8s							
ISP	**Isparta**	**139.16 306**	PFAKE		22 25 10.0	+16		
ISP			LR	LR				
	comp=Z,4μm,20.0s							
COP	**Copenhagen**	**139.23 340**	*i* P	PKPpre	22 24 49.3			
	comp=Z,7μm,23.0s							
COP	**Copenhagen**	**139.23 340**	*e*PKIKP	PKPpre	22 24 49.3			
COP			MLR	MLR				
	comp=Z,8μm,23.0s							
GKP	**Gorka Klasztor**	**139.31 334**	*e*PKPdf	**PKPdf**	**22 24 52.2**	**-1.3**		
GKP			*e*PP	**PP**	**22 27 48.5**	**+1.7**		
GKP			*e*SKPdf	**SKiKP**	**22 28 33.7**	**+1.7**		
GKP			LMZ	LR	23 19 26.5			
	comp=Z,25μm,28.1s							
GKP	**Gorka Klasztor**	**139.31 334**	*e*PKIKP	**PKPdf**	**22 24 52.2**	**-1.3**		
GKP			*e*		22 27 48.5			
GKP			MLR	MLR				
	comp=Z,25μm,28.1s							
MLR	**Muntele Rosu**	**139.48 319**	PKhKP	PKPpre	22 24 46.2			
	comp=Z,0.9nm,0.6s,baz=324,slow=8.1,SNR=12							
MLR			SKPbc	**SKPbc**	**22 28 29.6**	**-0.2**		
	comp=Z,4.1nm,1.2s,baz=0.9,slow=1.8,SNR=3.4							
MLR	**Muntele Rosu**	**139.48 319**	⇑*i*P	PKPpre	22 24 47.3			
MUD	**Monsted U'grnd**	**139.58 343**	*i* P	PKPpre	22 24 48.1			
	comp=Z,19μm,24.0s							
MUD	**Monsted U'grnd**	**139.58 343**	*i* PKIKP	PKPpre	22 24 48.1			
MUD			MLR	MLR				
	comp=Z,19μm,24.0s							
LLD	**Lille Linde**	**139.59 339**	*i* P	**PKPdf**	**22 24 51.9**	**-2.1**		
LLD	**Lille Linde**	**139.59 339**	*i* PKIKP	**PKPdf**	**22 24 51.9**	**-2.1**		
DOPR	**Dopca**	**139.59 320**	⇓*i*P	PKPpre	22 24 47.2			
SECR		**139.62 318**	⇓*i*P	PKPpre	22 24 45.7			
BMR	**Baia Mare**	**139.81 323**	⇑*i*P	PKPpre	22 24 49.9			
BMR	**Baia Mare**	**139.81 323**	⇑PKIKP	PKPpre	22 24 49.9			
UZH	**Uzhgorod**	**139.93 325**	*e*PKHKP	PKPpre	22 24 46.6			
UZH			*e*		22 24 55.4			
STHS	**Stebnicka Huta**	**140.02 327**	*e*PKP	PKPpre	22 24 49.0			
STHS			*e*		22 25 03.8			
STHS	**Stebnicka Huta**	**140.02 327**	*e*PKIKP	PKPpre	22 24 49.0			
VOIR		**140.06 320**	⇑*i*P	PKPpre	22 24 52.8			
VOIR		**140.06 320**	⇑PKIKP	PKPpre	22 24 52.8			
TRPA	**Tarpa**	**140.09 325**	⇓*i*P	PKPpre	22 24 48.6			
CRVS	**Cervenica-Dubn**	**140.22 326**	*e*PKP	PKPpre	22 24 51.8			
CRVS			*e*		22 24 56.3			
CRVS			*e*PP	**PP**	**22 27 51.2**	**-1.6**		
CRVS			*e*SS	SS	22 46 18.9	+3.3		
CRVS			*e*		22 51 35.5			
CRVS	**Cervenica-Dubn**	**140.22 326**	*e*PKIKP	PKPpre	22 24 51.8			
CRVS			*e*		22 24 56.3			
CRVS			*e*		22 27 51.2			
CRVS			*e*SS	SS	22 46 18.9	+3.3		
CRVS			*e*		22 51 35.5			
OJC	**Ojcow**	**140.24 329**	*e*PKPdf	**PKPdf**	**22 24 53.9**	**-1.5**		
OJC			*e*PP	**PP**	**22 27 49.0**	**-3.7**		
OJC			*e*PPS	PPS	22 40 14.6			
OJC			*e*SSS	SSS	22 51 47.6			
OJC			LMZ	LR	23 23 11.2			
	comp=Z,10μm,26.1s							
OJC	**Ojcow**	**140.24 329**	*e*PKIKP	**PKPdf**	**22 24 53.9**	**-1.5**		
OJC			*e*		22 27 49.1			
OJC			*e*PPS	PPS	22 40 14.6			
OJC			MLR	MLR				
	comp=Z,10μm,26.1s							
CJR	**Cluj-Napoca**	**140.28 322**	⇑*i*P	PKPpre	22 24 48.1			
CJR	**Cluj-Napoca**	**140.28 322**	⇑PKHKP	PKPpre	22 24 48.1			
KSL	**Kastellorizon**	**140.31 304**	P	**PKPdf**	**22 24 59.9**	**+4.0**		
KSL	**Kastellorizon**	**140.31 304**	P	**PKPdf**	**22 24 59.9**	**+4.0**		
ARR	**Arges**	**140.35 320**	⇑*i*P	PKPpre	22 24 51.0			
NIE	**Niedzica**	**140.50 328**	*e*PKPdf	**PKPdf**	**22 24 54.8**	**-1.1**		
NIE			*e*PP	**PP**	**22 27 51.5**	**-3.0**		
NIE			*e*PPS	PPS	22 40 06.4			
NIE			*e*SSS	SSS	22 51 58.1			
NIE			LMZ	LR	23 25 44.9			
	comp=Z,5μm,23.9s							
NIE	**Niedzica**	**140.50 328**	*e*PKIKP	**PKPdf**	**22 24 54.8**	**-1.1**		
NIE			*e*		22 27 51.5			
NIE			MLR	MLR				
	comp=Z,5μm,23.9s							
HUMR	**Humele**	**140.54 318**	⇓*i*P	PKPpre	22 24 45.8			
ZIMR		**140.70 317**	⇓*i*P	PKPpre	22 24 50.6			
ZIMR		**140.70 317**	PKIKP	PKPpre	22 24 50.6			
LOT	**Lotru**	**140.84 320**	⇑*i*P	PKPpre	22 24 51.4			
LANS	**Liptovska Anna**	**141.09 328**	*e*PKP	PKPpre	22 24 51.8			
LANS	**Liptovska Anna**	**141.09 328**	*e*PKIKP	PKPpre	22 24 51.8			
RAC	**Raciborz**	**141.10 330**	*e*PKHKP	PKPpre	22 24 49.8			
RAC			MLR	MLR				
	comp=Z,13μm,23.8s							
OKC	**Ostrava-Krasne**	**141.29 329**	*e*PKP	PKPpre	22 24 50.8			
OKC			*e*PP	**PP**	**22 28 03.6**	**+4.4**		
OKC			AMS	AMS	23 24 50.0			
	comp=Z,9μm,23.1s							
OKC	**Ostrava-Krasne**	**141.29 329**	*e*PKHKP	PKPpre	22 24 50.8			
OKC			*e*		22 28 03.6			
OKC			MLR	MLR				
	comp=Z,9μm,23.1s							
KSP	**Ksiaz**	**141.46 332**	*e*PKPdf	PKPpre	22 24 50.3			
KSP			*e*PP	**PP**	**22 27 53.8**	**-6.3**		
KSP			*e*PPS	PPS	22 40 27.1			
KSP			LMZ	LR	23 23 07.9			
	comp=Z,17μm,25.1s							
KSP	**Ksiaz**	**141.46 332**	*e*PKHKP	PKPpre	22 24 50.3			
KSP			*e*PPS	PPS	22 40 27.1			
KSP			MLR	MLR				
	comp=Z,17μm,25.1s							
MORC	**Moravsky Berou**	**141.62 330**	⇓*i*P	PKPpre	22 24 54.2			
MORC	**Moravsky Berou**	**141.62 330**	*e*PKPdf	PKPpre	22 24 53.4			
MORC	**Moravsky Berou**	**141.62 330**	⇓PKIKP	PKPpre	22 24 54.2			
SIRR	**Siria**	**141.64 323**	⇓*i*P	PKPpre	22 24 52.9			
PSZ	**Piszkesteto**	**141.64 326**	⇑*i*P	PKPpre	22 24 52.2			
PSZ	**Piszkesteto**	**141.64 326**	*e*PKPdf	PKPpre	22 24 53.1			
PSZ			LR	LR				
	comp=Z,7μm,20.0s							
PSZ	**Piszkesteto**	**141.64 326**	⇑PKIKP	PKPpre	22 24 52.2			
KRLC	**Kraliky**	**141.77 331**	*e*PKP	PKPpre	22 24 53.5			
KRLC	**Kraliky**	**141.77 331**	*e*PKIKP	PKPpre	22 24 53.5			
DPC	**Dobruska-Polom**	**141.79 331**	*e*PKP	PKPpre	22 24 51.6			
DPC			*ex*	x	22 24 55.1			
DPC			*e*PP	**PP**	**22 28 02.3**	**+0.1**		
DPC			*ex*	x	22 40 32.5			
DPC			*ex*	x	22 46 46.7			
DPC			AMS	AMS	23 23 40.0			
	comp=Z,11μm,23.9s							
DPC	**Dobruska-Polom**	**141.79 331**	*e*PKHKP	PKPpre	22 24 51.6			
DPC			*e*		22 24 55.1			
DPC			*e*		22 28 02.3			
DPC			*e*		22 40 32.5			
DPC			MLR	MLR				
	comp=Z,11μm,23.9s							
UPC	**Upice**	**141.82 332**	*e*PKP	PKPpre	22 24 52.6			
UPC			*ex*	x	22 24 58.5			
UPC			*e*PP	**PP**	**22 28 03.6**	**+1.3**		
UPC			*e*SS	SS	22 46 38.6	+4.6		
UPC			AMS	AMS	23 22 40.0			
	comp=Z,17μm,25.5s							
UPC	**Upice**	**141.82 332**	*e*PKIKP	PKPpre	22 24 52.6			
UPC			*e*		22 24 58.5			
UPC			*e*		22 28 03.6			
UPC			*e*SS	SS	22 46 38.6	+4.6		
UPC			MLR	MLR				
	comp=Z,17μm,25.5s							
VYHS	**Vyhne**	**141.83 327**	*e*PKP	PKPpre	22 24 53.0			
VYHS			*e*		22 25 00.6			
VYHS			*e*		22 52 17.5			
VYHS	**Vyhne**	**141.83 327**	*e*PKIKP	PKPpre	22 24 53.0			
VYHS			*e*		22 25 00.6			
PRK	**Paraskevi**	**141.88 310**	P	PKPpre	22 24 52.6			
BZS	**Buzias**	**142.03 322**	⇓*i*P	PKPpre	22 24 53.7			
BZS	**Buzias**	**142.03 322**	⇓PKIKP	PKPpre	22 24 53.7			
KARP	**Karpathos**	**142.37 304**	P	**PKPdf**	**22 24 58.0**	**-1.7**		
KARP	**Karpathos**	**142.37 304**	P	**PKPdf**	**22 24 58.0**	**-1.7**		
VRAC	**Vranov**	**142.39 330**	PKhKP	PKPpre	22 24 54.7			
	comp=Z,22nm,0.9s,baz=65,slow=3.4,SNR=17							
VRAC	**Vranov**	**142.39 330**	⇓*i*P	PKPpre	22 24 56.0			
VRAC	**Vranov**	**142.39 330**	⇓PKIKP	PKPpre	22 24 56.0			
LIA	**Limnos Island**	**142.41 312**	P	PKPpre	22 24 54.4			
KAVA	**Kavala**	**142.43 314**	P	**PKPdf**	**22 24 58.8**	**-0.8**		
KAVA	**Kavala**	**142.43 314**	P	**PKPdf**	**22 24 58.8**	**-0.8**		
BANR	**Banloc**	**142.44 322**	⇓*i*P	PKPpre	22 24 54.9			
PVCC	**Panska Ves**	**142.44 333**	*e*PKP	PKPpre	22 24 55.0			
PVCC			*ep*PKP	**PKPdf**	**22 25 00.5**	**+1.2**		
PVCC			*e*PP	**PP**	**22 28 05.5**	**-0.5**		
PVCC			AMS	AMS	23 23 50.0			
	comp=Z,13μm,23.9s							
PVCC	**Panska Ves**	**142.44 333**	*e*PKIKP	PKPpre	22 24 55.0			
PVCC			*e*		22 25 00.5			
PVCC			*e*		22 28 05.5			
PVCC			MLR	MLR				
	comp=Z,13μm,23.9s							
BRG	**Berggiesshubel**	**142.45 334**	*i* PKP	PKPpre	22 24 53.5			
	comp=Z,55nm,1.2s							
BRG			*i*		22 25 00.2			
	comp=Z,54nm,1.0s							
BRG			PP	PP	22 27 49.0	-17		
BRG			SS	SS	22 46 31.0	-10		
	comp=N,8μm,22.6s							
	comp=E,5μm,21.3s							
	comp=Z,6μm,28.0s							
BRG	**Berggiesshubel**	**142.45 334**	*i* PKHKP	PKPpre	22 24 53.5			
BRG			*i*		22 25 00.2			
BRG			pmax	pmax				
	comp=Z,55nm,1.2s							
BRG			pmax	pmax				
	comp=Z,54nm,1.0s							
BRG			MLR	MLR				
	comp=N,8μm,22.6s							
BRG			MLR	MLR				
	comp=E,5μm,21.3s							
BRG			MLR	MLR				
	comp=Z,6μm,28.0s							
CLL	**Collm**	**142.50 335**	⇑*i*PKPpre	PKPpre	22 24 53.4			
CLL			⇑*i*		22 24 56.2			
	comp=Z,54nm,1.4s							
CLL			*i* PKPdf	**PKPdf**	**22 24 59.3**	**-0.1**		
	comp=Z,154nm,1.6s							
CLL			*i* (PKiKP)		22 25 05.3			
CLL			*e*PP	**PP**	**22 28 06.0**	**-0.3**		
CLL			*e*		22 29 05.0			
CLL			*e*SKKSac	SKKSac	22 35 00.0	+0.2		
CLL			*e*PSKS		22 38 18.0			
CLL			*e*PPS	PPS	22 40 30.0			
CLL			*e*SS	**SS**	**22 46 41.0**	**-0.7**		
CLL			*e*SKSSKS	**S'S'ac**	**22 48 18.0**	**+5.0**		
CLL			*e*SSS	SSS	22 52 12.0			
CLL			*e*(SSSS)		22 56 42.0			
CLL	**Collm**	**142.50 335**	⇑*i*PKHKP	PKPpre	22 24 53.4			
CLL			*i*		22 24 56.2			
CLL			*i*		22 24 59.3			
CLL			pmax	pmax				
	comp=Z,54nm,1.4s							
CLL			pmax	pmax				
	comp=Z,154nm,1.6s							
SMOL	**Smolenice**	**142.53 328**	*e*PKP	**PKPdf**	**22 24 56.8**	**-2.7**		
SMOL	**Smolenice**	**142.53 328**	*e*PKIKP	**PKPdf**	**22 24 56.8**	**-2.7**		
SRO	**Srobarova**	**142.54 327**	*e*PKP	PKPpre	22 24 53.7			
SRO	**Srobarova**	**142.54 327**	*e*PKHKP	PKPpre	22 24 53.7			
ESY	**Stoneypath**	**142.56 352**	⇓*e*P	**PKPdf**	**22 24 58.8**	**-0.5**		
VTS	**Vitosha**	**142.59 317**	⇑*i*P	**PKPdf**	**22 24 56.9**	**-3.1**		
VTS	**Vitosha**	**142.59 317**	P	**PKPdf**	**22 24 56.4**	**-3.6**		
VTS	**Vitosha**	**142.59 317**	P	PKPpre	22 24 53.7			
VTS	**Vitosha**	**142.59 317**	P	**PKPdf**	**22 24 56.4**	**-3.6**		
VTS	**Vitosha**	**142.59 317**	⇑PKIKP	**PKPdf**	**22 24 56.9**	**-3.1**		
MODS	**Modra-Piesok**	**142.70 328**	*e*PKP	PKPpre	22 24 53.2			
MODS			*e*		22 25 03.7			
MODS			*e*SS	SS	22 46 47.6	+3.2		
MODS			*e*		22 52 33.3			
MODS	**Modra-Piesok**	**142.70 328**	*e*PKHKP	PKPpre	22 24 53.3			
MODS			*e*SS	SS	22 46 47.6	+3.2		
NVR	**Nevrokopi**	**142.73 314**	P	PKPpre	22 24 56.0			
NVR	**Nevrokopi**	**142.73 314**	P	PKPpre	22 24 56.0			
GOPC	**GO Pecny, Ondr**	**142.79 332**	*e*PKP	**PKPdf**	**22 24 56.8**	**-3.2**		
GOPC			*ep*PKP	**PKiKP**	**22 25 01.3**	**-1.8**		
GOPC			*e*PP	**PP**	**22 28 05.1**	**-3.2**		
GOPC			AMS	AMS	23 24 20.0			
	comp=Z,18μm,24.6s							
GOPC	**GO Pecny, Ondr**	**142.79 332**	*e*PKIKP	**PKPdf**	**22 24 56.8**	**-3.2**		
GOPC			*e*		22 25 01.3			
GOPC			*e*		22 28 05.1			
GOPC			MLR	MLR				
	comp=Z,18μm,24.6s							
PRA	**Prague**	**142.84 332**	*e*PKP	**PKPdf**	**22 24 57.1**	**-2.9**		
PRA			*e*PP	**PP**	**22 28 05.7**	**-2.7**		
PRA			*ex*	x	22 38 23.4			
PRA			*ex*	x	22 46 58.4			
PRA			AMS	AMS	23 23 50.0			
	comp=Z,16μm,24.7s							
PRA	**Prague**	**142.84 332**	*e*PKIKP	**PKPdf**	**22 24 57.1**	**-2.9**		
PRA			*e*		22 28 05.7			
PRA			MLR	MLR				
	comp=Z,16μm,24.7s							
PRU	**Pruhonice**	**142.85 332**	*e*PKP	**PKPdf**	**22 24 56.0**	**-4.0**		
PRU			*ep*PKP	**PKiKP**	**22 25 01.4**	**-1.8**		
PRU			*e*PP	**PP**	**22 28 08.0**	**-0.5**		
PRU			*ex*	x	22 40 30.9			
PRU			*ex*	x	22 47 01.6			
PRU			AMS	AMS	23 31 30.0			
	comp=Z,13μm,21.2s							
PRU	**Pruhonice**	**142.85 332**	*e*PKIKP	**PKPdf**	**22 24 56.0**	**-4.0**		
PRU			*e*		22 25 01.4			
PRU			*e*		22 28 08.0			
PRU			*e*		22 40 30.9			
PRU			MLR	MLR				
	comp=Z,13μm,21.2s							
ZST	**Bratislava**	**142.90 328**	*e*PKP	PKPpre	22 24 55.3			
ZST			*e*SS	SS	22 46 50.0	+3.3		
ZST			*e*		22 52 35.0			
ZST			*e*L	L	23 26 18.5			
ZST	**Bratislava**	**142.90 328**	*e*PKIKP	PKPpre	22 24 55.4			
ZST			*e*SS	SS	22 46 50.0	+3.3		
ZST			MLR	MLR				
	comp=Z,4μm,23.6s							
TREC	**Trest**	**142.92 331**	*e*PKP	PKPpre	22 24 56.1			
TREC			*e*PP	**PP**	**22 28 08.0**	**-1.1**		
TREC			*ex*	x	22 38 27.2			
TREC			*e*SKKS		22 40 40.3			
TREC			*ex*	x	22 46 59.4			
TREC			AMS	AMS	23 24 10.0			
	comp=Z,13μm,24.9s							
TREC	**Trest**	**142.92 331**	*e*PKIKP	PKPpre	22 24 56.1			
TREC			*e*		22 28 08.0			
TREC			*e*		22 40 40.3			
TREC			MLR	MLR				
	comp=Z,13μm,24.9s							
SRS	**Serrai**	**143.01 314**	P	PKPpre	22 24 56.3			
SRS	**Serrai**	**143.01 314**	P	PKPpre	22 24 56.3			
SRS	**Serrai**	**143.01 314**	PKIKP	PKPpre	22 24 56.3			
KKB	**Krupnik**	**143.01 316**	P	PKPpre	22 24 55.0			
APE	**Apeiranthos**	**143.17 307**	⇑*i*P	PKPab	22 24 56.0	-0.7		
APE	**Apeiranthos**	**143.17 307**	⇑PKIKP	PKPab	22 24 56.1	-0.6		
EKA	**Eskdalemuir Ar**	**143.20 352**	PKP	PKPbc	22 24 57.5	+0.1		
	comp=Z,5.9nm,0.4s,baz=0.3,slow=2.7,SNR=38							
ESK	**Eskdalemuir**	**143.22 352**	*e*PKPdf	PKPbc	22 24 57.4	0.0		
ESK			LR	LR				
	comp=Z,6μm,20.0s							
ESK	**Eskdalemuir**	**143.22 352**	*e*PKIKP	PKPbc	22 24 57.4	-0.1		
ESK			MLR	MLR				
	comp=Z,6μm,20.0s							
SOH	**Sokhos**	**143.30 314**	P	PKPab	22 24

comp=Z,1µm,2.6s
VLY Voula,Athens 144.19 309 P PKPab 22 24 59.9 -0.6
VLY Voula,Athens 144.19 309 P PKPab 22 24 59.9 -0.6
FYTO Fytoko, Volos 144.19 312 P PKPab 22 25 00.0 -0.5
FYTO Fytoko, Volos 144.19 312 P PKPab 22 25 00.0 -0.5
ATH Athens Observa 144.21 309 P PKPab 22 25 00.5 0.0
ATH Athens Observa 144.21 309 P PKPab 22 25 00.5 0.0
ATH Athens Observa 144.21 309 PKIKP PKPab 22 25 00.5 0.0
LIT Litokhoron 144.21 313 P PKPab 22 24 59.9 -0.7
LIT Litokhoron 144.21 313 P PKPab 22 24 59.9 -0.7
LIT Litokhoron 144.21 313 PKIKP PKPab 22 24 59.9 -0.7
SMIA Simia 144.22 311 P PKPab 22 24 59.5 -1.1
IDI Anoyia 144.22 304 PKP PKPab 22 25 00.9 +0.1
comp=Z,44nm,0.5s,baz=225,slow=4.5,SNR=40
IDI Anoyia 144.22 304 ⇓i/P PKPab 22 25 00.5 -0.3
HPK Haverah Park 144.32 350 eP PKPab 22 24 58.8 -1.7
HPK IAMs_20 IAMs_20 23 28 44.0
comp=Z,10µm,21.5s
ARSA Arzberg 144.33 328 i PKPdf PKPab 22 24 59.9 -0.9
comp=Z,259nm,1.6s,SNR=76
SIVA Sivas 144.36 304 P PKPab 22 25 01.6 +0.4
SIVA Sivas 144.36 304 P PKPab 22 25 01.6 +0.4
IOMK Kirk Michael 144.42 353 eP PKPab 22 24 58.1 -2.7
IOMK IAMs_20 IAMs_20 23 15 59.4
comp=Z,6µm,36.6s
VILL Villia 144.43 310 P PKPab 22 25 00.1 -1.4
KRUS Krusevo 144.46 316 ePKP PKPab 22 24 59.3 -2.2
LKR Lokris 144.46 311 P PKPab 22 25 00.7 -0.8
LKR Lokris 144.46 311 P PKPab 22 25 00.7 -0.8
GRFO Grafenberg 144.48 335 ePKPdf PKPab 22 25 01.1 -0.1
GRFO Grafenberg 144.48 335 ePKIKP PKPab 22 25 01.1 -0.1
MOA Molln 144.52 330 i PKPdf PKPab 22 25 00.5 -0.9
comp=Z,424nm,1.0s,SNR=124
IVA Berane 144.56 319 ⇓i/PKP PKPab 22 25 01.1 -0.7
LMK Market Rasen 144.57 349 eP PKPab 22 24 57.8 -3.5
LMK IAMs_20 IAMs_20 23 29 07.1
comp=Z,9µm,23.3s
BIA Bitola 144.58 315 ⇑ePKP PKPab 22 25 01.8 -0.1
KZN Kozani 144.61 314 P PKPab 22 25 02.5 +0.4
KZN Kozani 144.61 314 P PKPab 22 25 02.5 +0.4
KZN Kozani 144.61 314 PKIKP PKPab 22 25 02.5 +0.4
PLE Pljevlja 144.62 320 ⇓i/PKP PKPab 22 25 01.4 -0.7
FNA Florina 144.66 315 P PKPab 22 25 02.1 -0.1
FNA Florina 144.66 315 P PKPab 22 25 02.1 -0.1
FNA Florina 144.66 315 PKIKP PKPab 22 25 02.1 -0.1
AXAR Agios Charalam 144.66 311 P PKPab 22 25 02.5 +0.3
AXAR Agios Charalam 144.66 311 P PKPab 22 25 02.5 +0.3
PVY Plav 144.67 319 ⇓i/PKP PKPab 22 25 00.6 -1.7
BCI Bajram Curri 144.72 318 i P PKPab 22 25 01.3 -1.0
VAM Vamos 144.72 305 P PKPab 22 25 03.2 +0.6
VAM Vamos 144.72 305 P PKPab 22 25 03.2 +0.6
VAM Vamos 144.72 305 PKIKP PKPab 22 25 03.2 +0.6
DID Didima 144.73 309 P PKPab 22 25 01.7 -0.9
DID Didima 144.73 309 P PKPab 22 25 01.7 -0.9
LTK Loutraki 144.73 310 P PKPab 22 25 02.1 -0.4
LTK Loutraki 144.73 310 P PKPab 22 25 02.1 -0.4
LOUT Loutraki 144.74 310 P PKPab 22 25 01.8 -0.8
THL Klokotos Trika 144.78 313 P PKPab 22 25 02.1 -0.5
AGG Agios Georgios 144.79 312 P PKPab 22 25 01.8 -0.9
AGG Agios Georgios 144.79 312 P PKPab 22 25 01.8 -0.9
AGG Agios Georgios 144.79 312 PKIKP PKPab 22 25 01.8 -0.9
KOME Kolasin 144.81 319 ⇓i/PKP PKPab 22 25 01.7 -1.0
PHP Peshkopia 144.83 317 P PKPbc 22 25 03.5 +0.6
PHP Peshkopia 144.83 317 P PKPbc 22 25 03.5 +0.6
PHP Peshkopia 144.83 317 i P PKPab 22 25 01.3 -1.5
PHP Peshkopia 144.83 317 PKIKP PKPbc 22 25 03.5 +0.6
KRND KRANIDI 144.84 309 P PKPab 22 25 02.3 -0.6
SHEL Horse Pasture 144.85 189 ePKPdf PKPbc 22 25 04.3 +0.7
SHEL LR LR
comp=Z,3µm,22.0s
SHEL Horse Pasture 144.85 189 ePKIKP PKPbc 22 25 04.3 +0.7
SHEL MLR MLR
comp=Z,3µm,22.0s
LBWR Ladybower, Pea 144.87 350 eP PKPab 22 24 58.0 -4.5
LBWR IAMs_20 IAMs_20 23 28 48.0
comp=Z,9µm,21.6s
IMMV Iera Moni Meta 144.88 305 P PKPab 22 25 03.5 +0.4
OHR Ohrid 144.88 316 ⇓i/PKP PKPab 22 25 01.6 -1.4
DSF Desfina 144.90 311 P PKPab 22 25 02.5 -0.7
DSF Desfina 144.90 311 P PKPab 22 25 02.5 -0.7
THAL Thalero 144.95 310 P PKPab 22 25 02.6 -0.7
PERS Pernice 144.95 328 ePKPdf PKPab 22 25 01.4 -1.8
SOKA Soboth 144.96 328 i PKPbc PKPab 22 25 01.8 -1.4
comp=Z,450nm,1.0s,SNR=93
GVD Gavdhos 144.98 304 P PKPbc 22 25 03.8 +0.3
GVD Gavdhos 144.98 304 P PKPbc 22 25 03.8 +0.3
PUK Puka 145.00 318 i P PKPbc 22 25 02.3 -1.2
KPRO Kipourio 145.05 314 P PKPbc 22 25 02.9 -0.8
NEST Nestorio 145.05 315 P PKPbc 22 25 03.8 +0.1
BLY Banja Luka 145.08 324 ⇑i/P PKPbc 22 25 03.6 +0.1
WACR West Acre 145.08 347 ⇓eP PKPbc 22 25 00.6 -2.7
WACR IAMs_20 IAMs_20 23 28 47.7
comp=Z,9µm,23.3s
PENT Pentalofos 145.09 314 P PKPbc 22 25 03.6 -0.3
KBN Korca 145.13 315 P PKPbc 22 25 04.2 +0.3
KBN Korca 145.13 315 P PKPbc 22 25 04.2 +0.3
KBN Korca 145.13 315 i P PKPbc 22 25 04.1 +0.3
KBN Korca 145.13 315 PKIKP PKPbc 22 25 04.2 +0.3
NKY Niksic 145.15 320 ⇓i/PKP PKPbc 22 25 02.8 -1.2
KALE Kalithea 145.18 311 P PKPbc 22 25 03.9 -0.3
KALE Kalithea 145.18 311 P PKPbc 22 25 03.9 -0.3
PDG Podgorica 145.19 319 ⇑i/P PKPbc 22 25 03.3 -0.6
PDG Podgorica 145.19 319 P PKPab 22 25 04.6 +0.6
TTG Podgorica 145.19 319 ⇓i/PKP PKPbc 22 25 02.0 -1.9
TTG Podgorica 145.19 319 P PKPab 22 25 04.6 +0.6
TTG Podgorica 145.19 319 PKIKP PKPab 22 25 04.6 +0.6
NKME Niksic 145.20 320 ⇓i/PKP PKPbc 22 25 02.8 -1.2
EVR Evrytania 145.20 312 P PKPbc 22 25 04.3 +0.1
EVR Evrytania 145.20 312 P PKPbc 22 25 04.3 +0.1
GUR Goura 145.22 310 P PKPbc 22 25 03.7 -0.7
GUR Goura 145.22 310 P PKPbc 22 25 03.7 -0.7
SERG Sergoula 145.23 311 P PKPbc 22 25 04.3 0.0
TRIZ Trizonia 145.24 311 P PKPbc 22 25 04.7 +0.5
VLI Veliai 145.24 308 P PKPbc 22 25 03.3 -1.0
STNC Stoke 145.25 350 ⇓eP PKPbc 22 25 01.6 -2.2
STNC IAMs_20 IAMs_20 23 28 24.5
comp=Z,9µm,22.9s
WPS Cemaes, Angles 145.26 353 eP PKPbc 22 24 59.7 -4.0
WPS IAMs_20 IAMs_20 23 29 28.0
comp=Z,6µm,22.4s
ANKY Antikythira Is 145.26 306 P PKPbc 22 25 04.4 0.0
ANKY Antikythira Is 145.26 306 P PKPbc 22 25 04.4 0.0
KLV Kalavryta, Ach 145.32 310 P PKPbc 22 25 03.8 -0.8
KLV Kalavryta, Ach 145.32 310 P PKPbc 22 25 03.8 -0.8
KYTH Kithira 145.32 307 P PKPbc 22 25 04.8 +0.2
OBKA Obir 145.32 328 i PKPbc PKPbc 22 25 02.7 -1.7
comp=Z,336nm,1.0s,SNR=38
EFP Efpalio 145.34 311 P PKPbc 22 25 05.1 +0.6
CEME Cevo 145.34 319 ⇓i/PKP PKPbc 22 25 02.3 -2.2
WLF1 Llynfaes 145.36 353 ⇓eP PKPbc 22 25 01.7 -2.3
WLF1 IAMs_20 IAMs_20 23 29 40.7
comp=Z,14µm,21.8s
LAKA Lakka 145.36 311 P PKPbc 22 25 04.6 -0.1
LAKA Lakka 145.36 311 P PKPbc 22 25 04.6 -0.1
DRME Dracevica, Mon 145.37 319 ⇓i/PKP PKPbc 22 25 02.6 -2.0
BRY Bratogost 145.38 320 ⇓i/PKP PKPbc 22 25 03.4 -1.3
TIR Tirane 145.38 317 ⇑i/P PKPbc 22 25 04.3 -0.3
TIR Tirane 145.38 317 ePKPbc PKPbc 22 25 04.2 -0.3
TIR LR LR
comp=Z,7µm,21.0s
TIR Tirane 145.38 317 P PKPab 22 25 05.4 +0.6
TIR Tirane 145.38 317 i P PKPab 22 25 05.8 +1.0
TIR Tirane 145.38 317 ⇑PKIKP PKPbc 22 25 04.3 -0.3
RCBR Riachuelo 145.38 133 PKPbc PKPbc 22 25 05.0 -0.4
comp=Z,119nm,0.8s,baz=199,slow=4.4,SNR=4.0
RCBR Riachuelo 145.38 133 PKPbc PKPbc 22 25 05.0 -0.4
RCBR LR LR
comp=Z,96µm,22.0s
VLX Vlachokerasia 145.41 309 P PKPbc 22 25 05.0 0.0
TRIP Tripoli 145.43 309 P PKPbc 22 25 05.3 +0.3
CWF Charnwood Fore 145.44 349 eP PKPbc 22 24 59.7 -4.7
ULC Ulcinj 145.45 318 ⇓i/PKP PKPbc 22 25 04.0 -0.9
OZLJ Ozalj 145.46 326 P PKPbc 22 25 04.0 -0.7
HGN Heimansgroeve 145.49 341 ePKP PKPdf 22 25 02.3 -2.3
comp=Z,2µm,2.2s
HGN ePP PP 22 28 26.2 +2.1
BUM Brajici-Budva 145.49 319 ⇓i/PKP PKPdf 22 25 03.6 -1.4
KBA Koelnbreinsper 145.51 330 i PKPbc PKPdf 22 25 02.5 -2.5
comp=Z,434nm,0.9s,SNR=87
PVO Paravola 145.53 312 P PKPab 22 25 06.0 +0.6
BEBN Eben Emael 145.54 341 ⇓PKP PKPdf 22 25 03.1 -1.6
JAN Janina 145.54 314 P PKPbc 22 25 05.9 +0.7
JAN Janina 145.54 314 P PKPbc 22 25 05.9 +0.7
JAN Janina 145.54 314 PKIKP PKPbc 22 25 05.9 +0.7
MEM Membach 145.60 340 ⇓PKP PKPdf 22 25 03.8 -1.0
DSB Dublin 145.60 355 ePKPbc PKPdf 22 25 03.9 -0.8
DSL Palaion Diasel 145.60 313 P PKPdf 22 25 05.8 +0.6
DSL Palaion Diasel 145.60 313 P PKPdf 22 25 05.8 +0.6
BOJS Bojanci 145.64 326 i PKPdf PKPdf 22 25 04.8 -0.3
HCY Herceg Novi 145.66 319 ⇓i/PKP PKPdf 22 25 04.3 -0.9
VISS Visnje 145.66 327 ePKPdf PKPdf 22 25 03.4 -1.7
DRO Drossia 145.67 310 P PKPab 22 25 06.5 +0.5
MYKA Terra Mystica 145.69 329 i PKPdf PKPdf 22 25 02.9 -2.3
comp=Z,367nm,0.8s,SNR=45
LLW Llanuwychllyn 145.69 352 eP PKPdf 22 25 01.9 -3.0
PDO Prodromos 145.78 312 P PKPdf 22 25 06.0 +0.5
RLS Riolos of Patr 145.80 311 P PKPab 22 25 07.0 +0.6
RLS Riolos of Patr 145.80 311 P PKPab 22 25 07.0 +0.6
ITM Ithomi 145.82 309 P PKPdf 22 25 06.4 +0.7
AMT Artemida-Makis 145.84 310 P PKPbc 22 25 06.8 +0.6
STON Ston 145.90 321 P PKPdf 22 25 02.8 -2.7
HLM1 Long Mynd 145.91 351 eP PKPdf 22 25 02.8 -2.5
HLM1 IAMs_20 IAMs_20 23 27 07.6
comp=Z,6µm,20.6s
UCC Uccle 145.93 342 ⇓PKP PKPdf 22 25 04.8 -0.5
IGT Igoumenitsa 145.95 314 P PKPdf 22 25 06.5 +0.7
IGT Igoumenitsa 145.95 314 P PKPdf 22 25 06.5 +0.7
IGT Igoumenitsa 145.95 314 PKP2 PKPdf 22 25 06.5 +0.7
SGD Sagiada 145.98 314 P PKPdf 22 25 06.5 +0.7
BCLA Clavier 145.98 341 ⇓PKP PKPdf 22 25 04.7 -0.8
JAVS Javornik 145.99 328 i PKPdf PKPdf 22 25 04.6 -1.2
SRN Sarande 146.01 314 i P PKPpre 22 24 53.6
STU Stuttgart 146.01 336 ePKPbc PKPdf 22 25 06.0 +0.4
STU Stuttgart 146.01 336 ePKP2 PKPdf 22 25 06.0 +0.4
LKD2 Lefkada island 146.06 312 P PKPbc 22 25 07.2 +0.3
LKD2 Lefkada island 146.06 312 P PKPbc 22 25 07.2 +0.3
PYL PYLOS 146.07 309 P PKPdf 22 25 06.1 0.0
WATA Walderalm 146.13 332 ePKPdf PKPdf 22 25 03.8 -2.3
comp=Z,158nm,0.7s
ABTA Abfaltersbach 146.14 330 i PKPdf PKPdf 22 25 03.6 -2.4
comp=Z,357nm,1.4s,SNR=64
WTTA Wattenberg 146.16 332 i PKPdf PKPdf 22 25 04.3 -1.8
comp=Z,625nm,1.9s,SNR=73
SNF Seneffe 146.21 342 ⇓PKP PKPdf 22 25 05.6 -0.2
KEK Kerkira 146.23 314 P PKPbc 22 25 08.1 +0.8
KEK Kerkira 146.23 314 P PKPbc 22 25 08.1 +0.8
KFL Anninata 146.27 311 P PKPdf 22 25 07.4 +1.0
TRI Trieste 146.27 328 ePKPbc PKPdf 22 25 06.2 +0.1
TRI Trieste 146.27 328 ePKP2 PKPdf 22 25 06.2 +0.1
SSW Stow on the Wo 146.27 350 eP PKPdf 22 25 04.3 -1.7
FSK Fiskardo 146.28 312 P PKPbc 22 25 07.6 +0.1
SKP1 Kophill 146.32 348 eP PKPdf 22 25 04.6 -1.4
MOTA Moosalm 146.34 332 i PKPdf PKPdf 22 25 04.8 -1.6
comp=Z,377nm,0.8s,SNR=149
WLF Walferdange 146.37 339 ⇑PKP PKPdf 22 25 07.0 +0.8
WLF Walferdange 146.37 339 ePKPbc PKPbc 22 25 07.4 0.0
WLF LR LR
comp=Z,10µm,22.0s
WLF Walferdange 146.37 339 ePKP2 PKPbc 22 25 07.4 0.0
WLF MLR MLR
comp=Z,10µm,22.0s
RETA Reutte 146.38 333 i PKPdf PKPdf 22 25 04.4 -1.9
comp=Z,185nm,1.0s,SNR=71
VLS Valsamata 146.38 311 P PKPbc 22 25 07.8 0.0
VLS Valsamata 146.38 311 P PKPbc 22 25 07.8 0.0
VLS Valsamata 146.38 311 PKP2 PKPbc 22 25 07.8 0.0
MCH1 Michaelchurch 146.43 351 eP PKPdf 22 25 03.2 -3.0
MCH1 IAMs_20 IAMs_20 23 27 10.0
comp=Z,8µm,23.3s
LPW Lampeter 146.47 352 eP PKPdf 22 25 03.5 -2.7
NVLJ Novalja 146.47 325 P PKPdf 22 25 05.9 -0.5
DOU Dourbes 146.48 341 ⇓PKP PKPdf 22 25 06.1 -0.2
IWEX Carrickbyrne, 146.50 355 eP PKPdf 22 25 03.5 -2.8
STRD Stroud 146.51 350 eP PKPdf 22 25 03.7 -2.6
STRD IAMs_20 IAMs_20 23 29 11.9
comp=Z,8µm,23.1s
MONM Monmouth 146.55 351 eP PKPdf 22 25 03.3 -3.0
MONM IAMs_20 IAMs_20 23 27 11.9
comp=Z,9µm,23.4s
OLDB Oldbury-Upon-S 146.69 350 eP PKPdf 22 25 03.2 -3.4
OLDB IAMs_20 IAMs_20 23 27 43.0
comp=Z,9µm,23.9s
SWN1 Swindon 146.70 349 eP PKPdf 22 25 04.2 -2.5
SWN1 IAMs_20 IAMs_20 23 26 24.6
comp=Z,8µm,21.0s
BFO Black Forest 146.71 336 ePKPbc PKPdf 22 25 07.5 +0.7
BFO LR LR
comp=Z,4µm,20.0s
BFO Black Forest 146.71 336 ePKP2 PKPdf 22 25 07.5 +0.7
BFO MLR MLR
comp=Z,4µm,20.0s
FETA Feichten 146.75 332 i PKPdf PKPdf 22 25 05.1 -2.0
comp=Z,242nm,0.8s,SNR=85
WOL Wolverton 146.79 349 eP PKPdf 22 25 04.1 -2.7
WOL IAMs_20 IAMs_20 23 28 17.2
comp=Z,9µm,25.1s
BATH Bath 146.86 350 eP PKPdf 22 25 06.7 -0.2
BATH IAMs_20 IAMs_20 23 29 58.6
comp=Z,9µm,22.1s
HMNX Herstmonceux 146.89 347 eP PKPdf 22 25 04.9 -2.1
HMNX IAMs_20 IAMs_20 23 28 25.4
comp=Z,8µm,23.7s
DAVA Damuels 146.91 333 i PKPdf PKPdf 22 25 05.3 -2.0
comp=Z,279nm,0.8s,SNR=81
VAL Valentia 147.11 359 eP PKPdf 22 25 05.9 -1.4
ECH Echery 147.24 337 ePKPdf PKPdf 22 25 07.4 -0.3
ECH ePKPbc PKPbc 22 25 10.2 +0.2
ECH LR LR
comp=Z,4µm,20.0s
ECH Echery 147.24 337 ePKP2 PKPdf 22 25 07.4 -0.3
ECH MLR MLR
comp=Z,4µm,20.0s
MATE Matera 147.77 318 ⇑i/P PKPdf 22 25 10.1 +1.4
TUE Stuetta 147.78 333 ePKPdf PKPdf 22 25 08.7 -0.2
TUE ePKPbc PKPbc 22 25 12.2 +0.4
TUE LR LR
comp=Z,8µm,22.0s
TIP Timpagrande 148.53 316 ⇓i/P PKPbc 22 25 14.2 +0.4
TIP Timpagrande 148.53 316 ePKPbc PKPbc 22 25 13.8 0.0
TIP LR LR
comp=Z,4µm,20.0s
TIP Timpagrande 148.53 316 P PKPbc 22 25 12.7 -1.1
CUC Castrocucco 148.70 318 ePKPbc PKPbc 22 25 13.7 -0.5
CUC LR LR
comp=Z,5µm,22.0s
AQU L'Aquila 148.72 323 ePKPbc PKPbc 22 25 14.1 0.0
AQU LR LR
comp=Z,7µm,20.0s
AQU L'Aquila 148.72 323 ePKP2 PKPbc 22 25 14.1 0.0
AQU MLR MLR
comp=Z,7µm,20.0s
VLC Villacollemand 149.06 329 ePKPdf PKPdf 22 25 10.5 -0.3
VLC ePKPbc pPKPdf 22 25 15.1 +0.3
VLC LR LR
comp=Z,9µm,22.0s
CEL Celeste 149.59 315 ePKPbc PKPbc 22 25 16.9 +0.5
CEL LR LR
comp=Z,6µm,22.0s
BNI Bardonecchia 150.04 334 ePKPdf PKPdf 22 25 12.7 +0.2
BNI ePKPbc sPKPdf 22 25 17.4 -0.4
BNI ePKPab sPKPbc 22 25 22.7 0.0
BNI LR LR
comp=Z,12µm,22.0s
SSB Saint Sauveur 150.69 337 ePKPdf PKPdf 22 25 14.3 +0.9
SSB ePKPbc sPKPdf 22 25 18.6 0.0
SSB LR LR
comp=Z,6µm,22.0s
SSB Saint Sauveur 150.69 337 ePKIKP PKPdf 22 25 14.3 +0.9
SSB e 22 25 18.7
SSB MLR MLR
comp=Z,6µm,22.0s
VAE Valguarnera 151.00 315 PKPbc PKPbc 22 25 19.9 0.0
comp=Z,37nm,1.0s,baz=352,slow=22,SNR=3.2
VAE PKPab sPKPbc 22 25 26.3 +1.2
comp=Z,43nm,0.9s,baz=132,slow=14,SNR=6.1
WDD Wied Dalam 151.76 312 ePKPdf PKPdf 22 25 16.0 +0.8
WDD ePKPbc PKPbc 22 25 22.3 +0.7
WDD LR LR
comp=Z,5µm,19.0s
VSL Villasalto 152.90 323 ePKPdf PKPdf 22 25 17.3 +0.5
VSL ePKPbc PKPbc 22 25 24.3 +0.2
VSL LR LR
comp=Z,5µm,22.0s
ASCN Ascension 153.07 173 PFAKE 22 25 30.0 +4.8
ASCN LR LR
comp=Z,5µm,20.0s
H07S1 FLORES T-PHASE 53.34 36 ePKPdf PKPdf 22 25 17.8 +0.3
PCED Cedros 155.24 34 ePKPdf PKPdf 22 25 21.6 +1.4
PGRA Graciosa 155.31 33 ePKPdf PKPdf 22 25 19.9 -0.4
KEST Kesra 155.34 317 PKP PKPdf 22 25 20.4 -0.2
comp=Z,5.7nm,1.0s,baz=131,slow=9.5,SNR=2.5
KEST PKPab PKPab 22 25 45.6 -0.1
comp=Z,43nm,0.8s,baz=337,slow=2.4,SNR=11
PCAN Candelaria 155.47 34 ePKPdf PKPdf 22 25 21.0 +0.5
PICO Pico 155.48 34 ePKPdf PKPdf 22 25 22.3 +1.7
PMAN Manadas 155.56 33 ePKPdf PKPdf 22 25 22.7 +2.1
CMAH Djebel Manchou 155.97 321 P PKPab 22 25 49.5 +1.1
CAEH ´Ain El Ouahch 156.21 322 P PKPab 22 25 52.6 +3.3
CKFL Kef-Lekhel 156.54 321 P PKPab 22 25 52.6 +1.7
CASM Ain Smara 156.77 321 P PKPab 22 25 53.6 +1.8
DFRA Djebel Bou Aff 156.93 323 P PKPab 22 25 54.6 +2.1
PBRG Braganca 156.94 351 ePKPdf PKPdf 22 25 20.2 -2.2
PBRG Braganca 156.94 351 ePKPab PKPab 22 25 53.3 +1.1
PBRG Braganca 156.94 351 ePP PP 22 29 30.5 +0.9
CTEI Djebel Teioual 156.96 321 P PKPab 22 25 55.0 +2.3
PGAV Gavieira, Arco 156.96 354 ePKPdf PKPdf 22 25 23.8 +1.3
PGAV Gavieira, Arco 156.96 354 ePKPab PKPab 22 25 52.3 -0.1
PGAV Gavieira, Arco 156.96 354 ePP PP 22 29 30.3 +0.6
PGAV Gavieira, Arco 156.96 354 eLR LR 23 19 17.1
comp=Z,5µm,20.0s
PCAB Cabril 157.19 354 ePKPdf PKPdf 22 25 22.5 -0.2
PCAB Cabril 157.19 354 ePKPab PKPab 22 25 53.5 +0.2
PSET Sete Cidades 157.37 31 ePKPdf PKPdf 22 25 22.0 -1.0
SET Setif 157.45 323 P PKPab 22 25 55.0 +0.3
POLO Lamas de Olo 157.49 353 ePKPdf PKPdf 22 25 24.3 +1.1
POLO Lamas de Olo 157.49 353 ePKPab PKPab 22 25 54.4 -0.3
POLO Lamas de Olo 157.49 353 ePP PP 22 29 33.8 +1.1
PCALD Caldeiras da R 157.50 31 ePKPdf PKPdf 22 25 22.0 -1.2
CKHR Kef el Ahmar 157.51 322 P PKPab 22 25 55.9 +0.8
CMLA Cha da Macela 157.51 31 ePKPdf PKPdf 22 25 20.1 -3.1
CMLA Cha da Macela 157.51 31 PFAKE 22 25 30.0 +6.8
CMLA LR LR
comp=Z,6µm,22.0s
PVRL Vila Real 157.58 353 ePKPdf PKPdf 22 25 23.9 +0.7
PVRL Vila Real 157.58 353 ePKPab PKPab 22 25 55.1 +0.1
PVRL Vila Real 157.58 353 ePP PP 22 29 35.4 +2.3
MVO Moncorvo 157.60 352 ePKPdf PKPdf 22 25 21.6 -1.7
MVO Moncorvo 157.60 352 ePKPab PKPab 22 25 54.5 -0.6
MVO Moncorvo 157.60 352 ePP PP 22 29 36.4 +3.1
MVO Moncorvo 157.60 352 eLR LR 23 19 35.9
comp=Z,9µm,22.0s
BART Pico Bartolome 157.67 30 ePKPdf PKPdf 22 25 22.7 -0.8
PVIS Viseu 158.16 353 ePKPdf PKPdf 22 25 21.9 -2.0
PVIS Viseu 158.16 353 ePP PP 22 29 38.2 +1.9
PSMA Santa Maria 158.31 31 ePKPdf PKPdf 22 25 23.1 -1.1
PSMN Pico do Norte, 158.34 31 ePKPdf PKPdf 22 25 22.5 -1.7
MTE Manteigas 158.43 352 ePKPdf PKPdf 22 25 22.5 -1.8
MTE Manteigas 158.43 352 ePKPab PKPab 22 26 02.3 +3.6
MTE Manteigas 158.43 352 ePP PP 22 29 39.0 +1.2
MTE Manteigas 158.43 352 eLR LR 23 19 45.4
comp=Z,8µm,20.0s
MTE Manteigas 158.43 352 PFAKE 22 25 40.0 +16
MTE LR LR
comp=Z,8µm,21.0s
ESDC Sonseca Array 158.45 345 PKP PKPdf 22 25 22.2 -2.1
comp=Z,0.7nm,0.7s,baz=28,slow=3.5,SNR=4.3
ESDC PKPab PKPab 22 25 58.0 -0.8
comp=Z,3.4nm,0.7s,baz=17,slow=4.0,SNR=8.4
PAB San Pablo 158.66 345 PFAKE 22 25 40.0 +15
PAB LR LR
comp=Z,9µm,21.0s
PCAS Casmilo, Conde 158.87 354 ePKPdf PKPdf 22 25 26.1 +1.3
PCAS Casmilo, Conde 158.87 354 ePKPab PKPab 22 25 58.5 -2.1
PCAS Casmilo, Conde 158.87 354 ePP PP 22 29 41.3 +1.2
PCBR Castelo Branco 158.97 352 ePKPdf PKPdf 22 25 22.7 -2.2
PCBR Castelo Branco 158.97 352 ePKPab PKPab 22 26 00.1 -0.9
PTOM Tomar 159.30 354 ePKPdf PKPdf 22 25 24.4 -0.9
PMRV Marv??o 159.36 352 ePKPdf PKPdf 22 25 23.3 -2.1
PMRV Marv??o 159.36 352 ePKPab PKPab 22 26 02.5 -0.2
PMRV Marv??o 159.36 352 ePP PP 22 29 43.6 +0.8
PMRV Marv??o 159.36 352 eLR LR 23 20 49.2
comp=Z,7µm,22.0s
ALMR Almeirim 159.77 354 ePKPdf PKPdf 22 25 24.6 -1.3
ALMR ePP PP 22 29 45.7 +0.8
ALMR AMS AMS 23 37 48.6
comp=Z,6µm,17.7s
ALMR Almeirim 159.77 354 ePKPdf PKPdf 22 25 23.6 -2.2
ALMR Almeirim 159.77 354 ePKPab PKPab 22 26 03.5 -1.0
ALMR Almeirim 159.77 354 ePP PP 22 29 47.8 +2.8
ALMR Almeirim 159.77 354 ePKIKP PKPdf 22 25 24.5 -1.3
ALMR e 22 29 45.7
PMTG Montargil 159.82 353 ePKPdf PKPdf 22 25 24.0 -1.9
PMTG Montargil 159.82 353 ePKPab PKPab 22 26 04.2 -0.5
PMTG Montargil 159.82 353 ePP PP 22 29 45.9 +0.7
PESTR Estremoz 159.94 352 ePKPdf PKPdf 22 25 24.6 -1.4
PESTR Estremoz 159.94 352 ePKPab PKPab 22 26 03.9 -1.3
PESTR Estremoz 159.94 352 ePP PP 22 29 46.3 +0.4
PMAFR Mafra 160.03 356 ePKPdf PKPdf 22 25 24.6 -1.5
PMAFR Mafra 160.03 356 ePKPab PKPab 22 26 04.8 -0.8
PMAFR Mafra 160.03 356 ePP PP 22 29 47.3 +0.9
PMST Lisbon--Monsan 160.24 355 ePKPdf PKPdf 22 25 27.4 +1.1
PMST Lisbon--Monsan 160.24 355 ePKPab PKPab 22 26 07.7 +1.2
PMST Lisbon--Monsan 160.24 355 ePP PP 22 29 48.3 +0.8
LIS Lisbon 160.26 355 ePKPdf PKPdf 22 25 25.1 -1.2
LIS ePP PP 22 29 48.4 +0.8
LIS AMS AMS 23 39 57.3
comp=Z,8µm,20.7s
LIS Lisbon 160.26 355 ePKIKP PKPdf 22 25 25.1 -1.2
LIS e 22 29 48.3
EVO Evora 160.32 352 ePKPdf PKPdf 22 25 24.8 -1.7
EVO Evora 160.32 352 ePKPab PKPab 22 26 06.0 -0.9
EVO Evora 160.32 352 ePP PP 22 29 48.5 +0.5
PBAR Barrancos 160.53 350 ePKPdf PKPdf 22 25 24.6 -2.1
PBAR Barrancos 160.53 350 ePKPab PKPab 22 26 07.2 -0.6
PBAR Barrancos 160.53 350 ePP PP 22 29 49.8 +0.7
PNCL Nicolau / Gran 160.80 353 ePKPdf PKPdf 22 25 25.4 -1.6
PNCL Nicolau / Gran 160.80 353 ePKPab PKPab 22 26 08.8 -0.2
PNCL Nicolau / Gran 160.80 353 ePP PP 22 29 51.3 +0.8
PBEJ Beja 160.80 352 ePKPdf PKPdf 22 25 26.8 -0.2
PBEJ Beja 160.80 352 ePKPab PKPab 22 26 08.4 -0.6
PBEJ Beja 160.80 352 ePP PP 22 29 51.1 +0.5
PCVE Castro Verde 161.22 352 ePKPdf PKPdf 22 25 25.9 -1.6
PCVE Castro Verde 161.22 352 ePKPab PKPab 22 26 10.7 -0.1
PCVE Castro Verde 161.22 352 ePP PP 22 29 54.4 +1.6
PTEO Sao Teotonio 161.38 354 ePKPdf PKPdf 22 25 29.6 +2.0
PTEO Sao Teotonio 161.38 354 ePKPab PKPab 22 26 12.2 +0.7
PVAQ Vaqueiros 161.40 351 ePKPdf PKPdf 22 25 28.7 +1.1
PVAQ Vaqueiros 161.40 351 ePKPab PKPab 22 26 11.5 -0.1
PVAQ Vaqueiros 161.40 351 ePP PP 22 29 54.9 +1.2
PVAQ Vaqueiros 161.40 351 eLR LR 23 21 30.2
comp=Z,9µm,22.0s
PBDV Barranco-do-Ve 161.58 352 ePKPdf PKPdf 22 25 27.9 0.0
PBDV Barranco-do-Ve 161.58 352 ePKPab PKPab 22 26 11.9 -0.6
PBDV Barranco-do-Ve 161.58 352 ePP PP 22 29 56.7 +1.9
MORF Marmelete 161.61 353 ePKPdf PKPdf 22 25 26.7 -1.3
MORF ePP PP 22 29 55.8 +0.8
MORF AMS AMS 23 36 02.3
comp=Z,6µm,24.3s
MORF Marmelete 161.61 353 ePKPdf PKPdf 22 25 26.3 -1.6
MORF Marmelete 161.61 353 ePKPab PKPab 22 26 12.5 -0.1
MORF Marmelete 161.61 353 ePP PP 22 29 53.1 -1.8
MORF Marmelete 161.61 353 ePKIKP PKPdf 22 25 26.6 -1.3
MORF e 22 29 55.7
PFVI Vila Bisbo 161.80 354 ePKPdf PKPdf 22 25 27.2 -0.9
PFVI Vila Bisbo 161.80 354 ePKPab PKPab 22 26 13.1 -0.3
TAM Tamanrasset 163.89 286 ePKPdf PKPdf 22 25 30.2 -0.5
TAM LR LR
comp=Z,8µm,21.0s
TAM Tamanrasset 163.89 286 ePKIKP PKPdf 22 25 30.2 -0.5
TAM MLR MLR
comp=Z,8µm,21.0s
RTC Rabat Centre 164.56 346 PFAKE 22 25 40.0 +9.2
RTC LR LR
comp=Z,29µm,19.0s
PMOZ Porto Moniz, M 165.22 20 ePKPdf PKPdf 22 25 31.6 0.0
PMOZ Porto Moniz, M 165.22 20 ePKPab PKPab 22 26 28.1 -0.6
PMOZ Porto Moniz, M 165.22 20 ePP PP 22 30 17.0 +2.7
PMOZ Porto Moniz, M 165.22 20 eLR LR 23 22 15.1
comp=Z,4µm,22.0s
PMPS Porto Santo 165.26 17 ePKPdf PKPdf 22 25 31.4 0.0
PMPS Porto Santo 165.26 17 ePKPab PKPab 22 26 29.9 +1.2
PMPS Porto Santo 165.26 17 ePP PP 22 30 15.3 +1.0
PMAR Madeira 165.40 19 ePKPdf PKPdf 22 25 31.6 -0.2
PMAR Madeira 165.40 19 ePKPab PKPab 22 26 29.9 +0.3
PMAR Madeira 165.40 19 ePP PP 22 30 18.3 +3.0

FUL	**Funchal**	**165.48**	**19**	*e*PKPdf	**PKPdf**	**22 25 31.5**	**-0.1**
FUL	**Funchal**	**165.48**	**19**	*e*PKPab	**PKPab**	**22 26 29.4**	**-0.2**
KIC	**Kosan Boka**	**165.95**	**208**	*e*P	**PKPdf**	**22 25 29.8**	**-2.8**
	comp=Z,270nm,1.7s						
LIC	**Lamto**	**165.95**	**206**	*e*P	**PKPdf**	**22 25 31.4**	**-1.2**
	comp=Z,259nm,1.9s						
DBIC	**Dimbokro**	**166.27**	**208**	PKP	**PKPdf**	**22 25 31.6**	**-1.2**
	comp=Z,10nm,1.1s,baz=138,slow=4.2,SNR=6.3						
DBIC				PKPab	**PKPab**	**22 26 33.2**	**-0.4**
	comp=Z,16nm,0.6s,baz=144,slow=6.9,SNR=7.1						
TORD	**Torodi Ar. Bea**	**166.29**	**247**	PKP	**PKPdf**	**22 25 30.4**	**-2.4**
	comp=Z,30nm,1.0s,baz=353,slow=0.7,SNR=49						
TORD				PKPab	**PKPab**	**22 26 33.3**	**-0.6**
	comp=Z,52nm,1.1s,baz=100,slow=2.9,SNR=12						
TIC	**Toumodi**	**166.32**	**207**	*e*P	**PKPdf**	**22 25 30.3**	**-2.6**
SACV	**Santiago Islan**	**167.51**	**107**	PFAKE		22 25 40.0	+6.3
SACV				LR	LR		
	comp=Z,3µm,21.0s						
KOWA	**Kowa**	**171.77**	**238**	PKP	**PKPdf**	**22 25 35.0**	**-1.2**
	comp=Z,19nm,1.0s,baz=300,slow=1.1,SNR=24						
KOWA				PKPab	**PKPab**	**22 26 57.9**	**-0.2**
	comp=Z,75nm,1.2s,baz=154,slow=3.4,SNR=8.0						
BBTS	**Babate**	**173.35**	**130**	PKP	**PKPdf**	**22 25 35.8**	**-1.1**
	comp=Z,44nm,0.8s,baz=105,slow=1.3,SNR=5.6						
BBTS				PKPab	**PKPab**	**22 27 05.5**	**+0.5**
	comp=Z,60nm,1.1s,baz=336,slow=0.9,SNR=5.4						

*ISCJB **14** 22:06:01.9±0.3,2°.03N±0°.04×93°.54E±0°.03, h10km, mb4.7/47, Error ellipse: s-maj=6.1km s-min=3.7km az=26.5*

*IDC **14** 22:06:01.5±0.9, 1°.98N×93°.47E, h0km, mb4.4/22, mb1 4.5/25, mb1mx4.3/70, mbtmp4.4/25, ML4.3/3, MS4.0/3, Ms1 4.0/3, ms1mx3.7/73, Error ellipse: s-maj=25.1km s-min=15.0km az=19.0*

*NEIC **14** 22:06:03.4±0.3,2°.01N×93°.47E, h10km, mb4.5/18, Error ellipse: s-maj=8.0km s-min=4.4km az=200.0*

*DJA **14** 22:06:07.6±1.6,2°.1N±4°×9°.4E±°, h23km±20km, M5.1/12, mb5.3/12, mB5.5/12, MLv5.1/11, Mw(mB)5.0/12*

ISC 14 22:06:04.1±0.5,2°.05N±0°.07×93°.62E±0°.05, h10km, n139, σ1§34/126, mb4.7/47, 4C-4D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLSI	**Meulaboh, Aceh**	**3.55**	**52**	P	**Pn**	**22 07 00.2**	**+0.9**
MLSI				S	**Sn**	**22 07 38.2**	**-3.1**
TPTI		**3.76**	**71**	P	**Pn**	**22 07 02.8**	**+0.7**
TPTI				S	**Sn**	**22 07 41.8**	**-4.6**
GSI	**Gunungsitoli**	**4.03**	**101**	P	**Pn**	**22 07 07.6**	**+1.8**
GSI				S	**Sn**	**22 07 49.5**	**-3.6**
GSI	**Gunungsitoli**	**4.03**	**101**	*e*Pn	**Pn**	**22 07 08.1**	**+2.2**
LHMI	**Lhok Sumawe**	**4.58**	**46**	P	**Pn**	**22 07 15.5**	**+2.0**
LHMI				S	**Sn**	**22 08 05.9**	**-1.0**
LHMI	**Lhok Sumawe**	**4.58**	**46**	*e*Pn	**Pn**	**22 07 15.7**	**+2.2**
TSI	**Tuntungan**	**5.15**	**74**	P	**Pn**	**22 07 23.6**	**+2.3**
PSI	**Prapat**	**5.35**	**82**	Pn	**Pn**	**22 07 25.9**	**+1.7**
	16nm,0.3s,baz=274,slow=6.3,SNR=96						
PSI				Sn	Sn	22 08 19.9	-6.1
	4.5nm,0.3s,baz=229,slow=8.7,SNR=3.6						
PSI				LR	LR	22 09 45.0	
	comp=Z,437nm,21.5s,baz=260,slow=41						
MNSI	**Mandailing Nat**	**6.09**	**102**	P	**Pn**	**22 07 36.6**	**+2.4**
SISI	**Saibi**	**6.42**	**121**	P	**Pn**	**22 07 40.3**	**+1.6**
PDSI	**Padang**	**7.45**	**113**	P	**Pn**	**22 07 54.6**	**+1.7**
PKDT	**Phuket**	**7.47**	**39**	P	**Pn**	**22 07 52.4**	**-0.8**
	60nm,0.9s,1µm0.3nm						
IPM	**Ipoh**	**7.78**	**72**	*e*Pn	**Pn**	**22 07 58.9**	**+1.4**
PPSI	**Pulau Pagai**	**7.98**	**127**	P	**Pn**	**22 08 01.1**	**+0.9**
TRTT	**Trang**	**8.34**	**46**	P	**Pn**	**22 08 04.8**	**-0.4**
	38nm,0.8s,325nm0.1nm						
SURT	**Suratani**	**8.58**	**37**	P	**Pn**	**22 08 07.7**	**-0.7**
	33nm,0.9s						
SKLT	**Songkhla**	**8.63**	**54**	P	**Pn**	**22 08 09.1**	**-0.1**
	115nm,0.9s,1µm0.4nm						
RGRI	**Rengat**	**9.04**	**105**	P	**Pn**	**22 08 15.9**	**+1.2**
MASI	**Maura Aman, Be**	**10.04**	**121**	P	**Pn**	**22 08 30.4**	**+1.8**
MYKOM	**Kota Tinggi**	**10.23**	**91**	*e*Pn	**Pn**	**22 08 32.6**	**+1.5**
MNAI	**Manna**	**11.30**	**124**	P	**Pn**	**22 08 47.0**	**+1.3**
MNAI	**Manna**	**11.30**	**124**	*e*Pn	**Pn**	**22 08 46.7**	**+1.0**
MDSI	**Maura Dua**	**12.39**	**122**	P	**Pn**	**22 09 01.5**	**+0.8**
LWLI	**Liwa**	**12.57**	**124**	P	**Pn**	**22 09 04.5**	**+1.2**
KASI	**Kota Agung**	**13.22**	**125**	P	**Pn**	**22 09 10.6**	**-1.4**
SRDT	**SRDT**	**13.38**	**24**	P	**P**	**22 09 24.6**	**+0.9**
CHBT	**CHBT**	**13.69**	**39**	P	**Pn**	**22 09 22.3**	**+3.8**
	122nm,0.9s,124µm						
PALK	**Pallekele**	**13.88**	**292**	Pn	Pn	22 09 19.1	-1.9
	1.3nm,0.3s,baz=116,slow=12,SNR=12						
PALK				Sn	Sn	22 11 41.6	-14
	6.3nm,0.3s,baz=296,slow=1.9,SNR=10						
PALK	**Pallekele**	**13.88**	**292**	*e*Pn	**Pn**	**22 09 20.4**	**-0.6**
PALK				*e*Sn	Sn	22 11 42.5	-13
PBKT	**Sadao Pong**	**16.14**	**26**	P	**Pn**	**22 09 51.3**	**+0.1**
	22nm,0.7s						
KSM	**Kuching**	**16.69**	**92**	*e*Pn	**Pn**	**22 09 59.4**	**+1.1**
	37nm,1.0s						
CM01	**Chiang Mai Arr**	**17.09**	**18**	*e*Pn	**Pn**	**22 10 03.5**	**+0.2**
CM31	**Chiang Mai Arr**	**17.12**	**17**	*e*Pn	**Pn**	**22 10 03.8**	**+0.1**
CMAR	**Chiang Mai Arr**	**17.12**	**17**	P	**Pn**	**22 10 03.8**	**+0.1**
	0.2nm,0.3s,baz=215,slow=12,SNR=34						
CMAR				PcP	**PcP**	**22 14 48.6**	**+0.1**
	0.0nm,0.3s,baz=251,slow=2.3,SNR=5.6						
CHTO	**Chiang Mai**	**17.46**	**17**	*e*Pn	**Pn**	**22 10 07.3**	**-0.6**
	11nm,0.8s						
CMMT	**Chiang Mai**	**17.46**	**17**	P	**Pn**	**22 10 07.1**	**-0.8**
	15nm,0.8s						
SKNT	**Sakolnakorn**	**18.00**	**34**	P	**Pn**	**22 10 13.7**	**-0.8**
	10nm,1.1s						
VIS	**Vishakhapatnam**	**18.56**	**328**	*i* P	**P**	**22 10 22.5**	**+1.2**
SBUM	**Sibu**	**18.59**	**88**	*e*P	**P**	**22 10 23.1**	**+1.4**
	48nm,1.6s						
HYB	**Hyderabad**	**21.27**	**317**	*i* P	**P**	**22 10 52.0**	**+1.2**
KKM	**Kota Kinabalu**	**22.88**	**79**	*e*P	**P**	**22 11 09.0**	**+0.8**
	38nm,1.0s						
H08S2	**Diego Garcia H**	**23.17**	**245**	T	T	22 36 50.5	
	baz=63,slow=75,SNR=31						
H08S3	**Diego Garcia H**	**23.17**	**245**	T	T	22 36 45.0	
	baz=63,slow=75,SNR=23						
H08S1	**Diego Garcia H**	**23.19**	**245**	T	T	22 36 47.9	
	baz=63,slow=75,SNR=20						
KMI	**Kunming**	**24.57**	**20**	P	**P**	**22 11 26.3**	**+1.7**
KMI				pP	sP	22 11 34.6	+5.7
KMI				sP	pP	22 11 38.6	+11
KMI				pmax	pmax		
	comp=Z,17nm,0.9s						
MYLDM	**Lahad Datu**	**25.02**	**82**	*e*P	**P**	**22 11 29.6**	**+1.0**
	comp=Z,42nm,0.8s						
ODAN	**Odare**	**25.38**	**347**	*e*P	**P**	**22 11 32.7**	**+0.7**
RAMN	**Ramite**	**25.66**	**345**	*e*P	**P**	**22 11 35.6**	**+1.1**
	comp=Z,28nm,0.7s						
JIRN	**Jiri**	**26.44**	**345**	*e*P	**P**	**22 11 41.5**	**-0.2**
PKIN	**Phulchoki**	**26.57**	**344**	*e*P	**P**	**22 11 43.9**	**+1.1**
DMN	**Daman**	**26.69**	**343**	*e*P	**P**	**22 11 45.2**	**+1.4**
	comp=Z,14nm,0.9s						
GUN	**Gumba**	**26.76**	**345**	*e*P	**P**	**22 11 44.7**	**+0.1**
	comp=Z,19nm,0.7s						
KKN	**Kakani**	**26.81**	**343**	*e*P	**P**	**22 11 45.1**	**+0.2**
GKN	**Gorkha**	**27.20**	**342**	*e*P	**P**	**22 11 48.9**	**+0.6**
	comp=Z,51nm,1.0s						
KOLN	**Koldanda**	**27.31**	**340**	*e*P	**P**	**22 11 50.3**	**+0.9**
	comp=Z,12nm,0.6s						
LSA	**Lhasa**	**27.60**	**355**	P	**P**	**22 11 53.8**	**+1.6**
LSA				pmax	pmax		
	comp=Z,12nm,0.9s						
LSA	**Lhasa**	**27.60**	**355**	*e*P	**P**	**22 11 53.6**	**+1.4**
	comp=Z,3.6nm,0.4s						
PYUN	**Piuthan**	**27.82**	**340**	*e*P	**P**	**22 11 54.9**	**+0.9**
CD2	**Chengdu**	**30.27**	**17**	*e*P	**P**	**22 12 16.0**	**+0.5**
ENH	**Enshi**	**31.85**	**27**	*e*P	**P**	**22 12 28.9**	**-0.6**
	comp=Z,10nm,0.7s						
YULB	**Yu-li**	**34.19**	**49**	*e*P	**P**	**22 12 51.4**	**+1.4**
	comp=Z,10nm,0.7s						
XAN	**Xi'an**	**34.89**	**23**	P	**P**	**22 12 55.3**	**-0.6**
XAN				pP	pP	22 12 59.5	+0.5
XAN				sP	sP	22 13 02.3	+2.0
XAN				pmax	pmax		
	comp=Z,29nm,0.9s						
LZH	**Lanzhou**	**35.17**	**14**	*e*P	**P**	**22 13 02.3**	**+3.9**
LZH				pP	sP	22 13 09.1	+6.3
LZH				sP	pP	22 13 13.5	+12
LZH				PP	**PP**	**22 14 23.0**	**+4.7**
LZH				pmax	pmax		
	comp=Z,20nm,1.3s						
LZH				pmax	pmax		
	comp=Z,89nm,4.5s						
LZH				LR	LR		
	comp=N,340nm,15.5s						
LZH				LR	LR		
	comp=E,330nm,16.0s						
LZH				LR	LR		
	comp=Z,360nm,16.7s						
NIL	**Nilore**	**36.76**	**331**	*e*P	**P**	**22 13 10.7**	**-1.3**
	comp=Z,2.2nm,0.3s						
GTA	**Gaotai**	**37.61**	**8**	P	**P**	**22 13 18.8**	**-0.4**
GTA				pP	pP	22 13 25.8	+3.5
GTA				sP	sP	22 13 28.3	+4.7
GTA				pmax	pmax		
	comp=Z,9.0nm,1.0s						
NJ2	**Nanjing**	**38.15**	**36**	*e*P	**P**	**22 13 24.3**	**+0.6**
NJ2				pmax	pmax		
	comp=Z,22nm,0.5s						
H01W3	**Cape Leeuwin H**	**41.48**	**154**	T	T	22 58 10.4	
	baz=331,slow=74,SNR=3.0						
H01W2	**Cape Leeuwin H**	**41.49**	**154**	T	T	22 58 07.6	
	baz=331,SNR=4.3						
H01W1	**Cape Leeuwin H**	**41.49**	**154**	T	T	22 58 09.9	
	baz=331,slow=74,SNR=3.1						
HHC	**Hu-ho-hao-te**	**41.89**	**20**	*e*P	**P**	**22 13 55.6**	**+0.8**
HHC				pmax	pmax		
	comp=Z,15nm,1.2s						
HHC				pmax	pmax		
	comp=Z,49nm,6.1s						
WMQ	**Urumqi**	**41.92**	**354**	P	**P**	**22 13 55.3**	**+0.3**
WMQ				pmax	pmax		
	comp=Z,21nm,0.6s						
BJT	**Baijiatuan**	**42.98**	**26**	*e*P	**P**	**22 14 04.7**	**+1.1**
	comp=Z,12nm,0.7s						
WRA	**Warramunga Arr**	**45.53**	**121**	P	**P**	**22 14 24.4**	**0.0**
	comp=Z,13nm,0.9s,baz=299,slow=8.5,SNR=2.9						
WB2	**Warramunga Arr**	**45.54**	**121**	*e*P	**P**	**22 14 24.4**	**-0.1**
MK01	**Makanchi Array**	**45.62**	**349**	*e*P	**P**	**22 14 24.4**	**-0.3**
MK31	**Makanchi Array**	**45.65**	**349**	*e*P	**P**	**22 14 24.7**	**-0.2**
MKAR	**Makanchi Array**	**45.65**	**349**	P	**P**	**22 14 24.8**	**-0.1**
	comp=Z,7.2nm,0.6s,baz=168,slow=8.7,SNR=92						
MKAR	**Makanchi Array**	**45.65**	**349**	*e*P	**P**	**22 14 24.7**	**-0.1**
	comp=Z,49nm,0.6s						
MAKZ	**Makanchi**	**45.72**	**349**	*e*P	**P**	**22 14 25.6**	**+0.2**
	comp=Z,3.6nm,0.6s						
KK31	**Karatay Array**	**45.78**	**336**	*e*P	**P**	**22 14 25.8**	**-0.2**
KKAR	**Karatay Array**	**45.78**	**336**	*e*P	**P**	**22 14 25.8**	**-0.2**
SONM	**Songino Array**	**46.93**	**12**	P	**P**	**22 14 35.0**	**0.0**
	comp=Z,8.5nm,0.6s,baz=192,slow=9.1,SNR=73						
SONM				PcP	**PcP**	**22 16 06.8**	**-0.8**
	comp=Z,1.4nm,0.7s,baz=182,slow=4.5,SNR=3.3						
SONA1	**Songino Array**	**46.94**	**12**	*e*P	**P**	**22 14 35.0**	**-0.1**
ULN	**Ulaanbaatar**	**47.09**	**12**	*e*P	**P**	**22 14 35.7**	**-0.7**
	comp=Z,4.3nm,1.0s						
KSAR	**Wonju Array Be**	**47.24**	**38**	P	**P**	**22 14 37.5**	**0.0**
KSRS	**Korea Array**	**47.27**	**38**	P	**P**	**22 14 37.5**	**-0.2**
	comp=Z,3.9nm,0.8s,baz=227,slow=8.7,SNR=17						
GEYT	**Alibeck**	**48.31**	**322**	P	**P**	**22 14 45.4**	**-0.5**
	comp=Z,3.1nm,0.8s,baz=147,slow=8.9,SNR=9.6						
KURBB	**Kurchatov Arra**	**50.06**	**348**	P	**P**	**22 14 58.6**	**-0.4**
	comp=Z,4.0nm,0.6s,baz=174,slow=6.8,SNR=41						
KURK	**Kurchatov**	**50.12**	**348**	*e*P	**P**	**22 14 59.2**	**-0.2**
	comp=Z,7.0nm,1.1s						
TLY	**Talaya**	**50.17**	**8**	P	**P**	**22 14 59.2**	**-0.6**
	comp=Z,1.8nm,0.5s,baz=192,slow=11,SNR=4.7						
TLY				LR	LR	22 36 21.8	
	comp=Z,1µm,20.5s,baz=119,slow=36						
RAYN	**Ar Rayn**	**51.20**	**299**	*e*P	**P**	**22 15 08.6**	**+0.4**
	comp=Z,4.2nm,0.8s						
RAYN				*e*pP	**sP**	**22 15 16.1**	**+3.5**
ZAA0	**Zalesovo Array**	**52.23**	**353**	*e*P	**P**	**22 15 14.9**	**-0.3**
	comp=Z,9.0nm,0.9s						
ZALV	**Zalesovo Beam**	**52.23**	**353**	P	**P**	**22 15 14.9**	**-0.3**
	comp=Z,6.6nm,0.7s,baz=187,slow=7.3,SNR=31						
ZALV	**Zalesovo Beam**	**52.23**	**353**	*e*P	**P**	**22 15 14.6**	**-0.6**
MAT	**Matsushiro**	**53.54**	**45**	P	**P**	22 15 23.7	-1.6
MJAR	**Matsushiro Arr**	**53.54**	**45**	P	**P**	**22 15 24.9**	**-0.4**
	comp=Z,2.5nm,0.7s,baz=230,slow=7.6,SNR=11						
USRK	**Ussuriysk Ar.**	**53.97**	**34**	P	**P**	**22 15 28.8**	**+0.5**
	comp=Z,2.5nm,0.7s,baz=230,slow=4.5,SNR=5.0						
BVAR	**Borovoye Array**	**54.34**	**343**	P	P	22 15 29.0	-1.8
	comp=Z,2.0nm,0.7s,baz=122,slow=7.0,SNR=12						
BRVK	**Borovoye**	**54.40**	**343**	*e*P	**P**	**22 15 30.1**	**-1.1**
	comp=Z,2.6nm,0.9s						
PMG	**Port Moresby**	**54.53**	**103**	P	**P**	**22 15 32.4**	**-0.5**
	comp=Z,13nm,0.7s,baz=270,slow=2.0,SNR=3.1						
ABKAR	**Akbulak array**	**55.13**	**334**	*e*P	**P**	**22 15 35.5**	**-1.0**
	comp=Z,24nm,0.8s						
ASAJ	**Asahikawa**	**60.19**	**39**	*e*P	**P**	**22 16 12.2**	**-0.1**
	comp=Z,97nm,0.8s						
KBZ	**Khabaz**	**61.11**	**320**	P	**P**	**22 16 17.9**	**-0.6**
	comp=Z,2.8nm,0.8s,baz=117,slow=7.0,SNR=12						
KIV	**Kislovodsk**	**61.35**	**320**	*e*P	**P**	**22 16 19.1**	**-1.2**
	comp=Z,4.4nm,0.8s						
YSS	**Yuzh-Sakhalins**	**61.72**	**36**	*e*P	**P**	**22 16 23.0**	**+0.4**
	comp=Z,141nm,1.1s						
MMAI	**Mount Meron Ar**	**62.51**	**306**	P	**P**	**22 16 27.1**	**-1.3**
	comp=Z,1.3nm,0.7s,baz=94,slow=9.1,SNR=5.7						
YAK	**Yatsk**	**65.66**	**18**	*e*P	**P**	**22 16 47.1**	**-1.2**
	comp=Z,1µm,2.0s						
BR131	**Keskin Array S**	**65.91**	**313**	*e*P	**P**	**22 16 49.8**	**-0.8**
BRTR	**Keskin Array B**	**65.91**	**313**	P	P	22 16 48.9	-1.7
	comp=Z,1.2nm,0.7s,baz=131,slow=7.6,SNR=11						
BR231	**Keskin MP Arra**	**66.57**	**313**	*e*P	P	22 16 50.4	-4.5
IDI	**Anoyia**	**71.52**	**307**	P	**P**	**22 17 25.4**	**-0.2**
	comp=Z,6.1nm,0.6s,baz=104,slow=4.2,SNR=4.3						
SORM	**Soroca**	**72.15**	**320**	*i* P	P	22 17 27.3	-1.7
AKASG	**Malin Array Be**	**72.42**	**323**	P	P	22 17 28.6	-2.0
	comp=Z,0.8nm,0.7s,baz=90,slow=5.0,SNR=7.9						
VRI	**Vrincioaia**	**72.57**	**318**	*i* P	**P**	**22 17 31.5**	**-0.1**
PLOR	**Plostina**	**72.62**	**318**	*i* P	**P**	**22 17 31.4**	**-0.6**
TESR	**Tescani**	**72.80**	**318**	*i* P	P	22 17 30.8	-2.2
MLR	**Muntele Rosu**	**73.00**	**317**	*i* P	P	22 17 31.8	-2.6
TIXI	**Tiksi**	**73.01**	**11**	*e*P	P	22 17 32.0	-1.7
	comp=Z,26nm,1.2s						
BURAR	**Bucovina Array**	**74.03**	**319**	*i* P	**P**	**22 17 39.7**	**-0.7**
BUR04	**Bucovina Ar. S**	**74.04**	**319**	*e*P	**P**	**22 17 39.9**	**-0.5**
BUR08	**Bucovina Ar. S**	**74.05**	**319**	*e*P	**P**	**22 17 40.4**	**0.0**
VTS	**Vitosha**	**74.25**	**314**	*i* P	P	22 17 40.0	-1.8
TRPA	**Tarpa**	**75.91**	**319**	*i* P	P	22 17 47.7	-3.3
SUR	**Sutherland**	**76.64**	**236**	LR	LR	22 44 45.5	
	comp=Z,60nm,20.5s,baz=61,slow=30						
STHS	**Stebnicka Huta**	**77.02**	**320**	*e*P	**P**	**22 17 57.3**	**-0.1**
VYHS	**Vyhne**	**78.40**	**319**	*e*P	**P**	**22 18 04.5**	**-0.6**
MODS	**Modra-Piesok**	**79.41**	**319**	*e*P	**P**	**22 18 10.2**	**-0.4**
GEA0	**GERESS Array S**	**81.82**	**319**	*e*P	**P**	**22 18 22.8**	**-0.8**
GEC2	**GERESS Array S**	**81.82**	**319**	*e*P	**P**	**22 18 23.4**	**-0.2**
	comp=Z,4.3nm,0.8s						
GERES	**GERESS Array B**	**81.82**	**319**	P	**P**	**22 18 22.3**	**-1.3**
	comp=Z,2.0nm,0.7s,baz=90,slow=6.7,SNR=10						
CLL	**Collm**	**82.53**	**321**	*e*P	**P**	**22 18 26.0**	**-1.2**
HFS	**Hagfors**	**83.21**	**330**	P	**P**	**22 18 28.9**	**-1.6**
	comp=Z,2.0nm,0.7s,baz=80,slow=1.8,SNR=6.8						
NOA	**NORSAR Array B**	**84.53**	**331**	P	P	22 18 35.2	-2.1
	comp=Z,0.8nm,0.7s,baz=136,slow=24,SNR=2.9						
SPITS	**Spitsbergen Ar**	**85.40**	**348**	P	P	22 18 39.0	-2.3
	comp=Z,4.3nm,0.8s,baz=354,slow=9.0,SNR=2.5						
ESDC	**Sonseca Array**	**94.54**	**310**	P	**P**	**22 19 23.8**	**-1.5**
	comp=Z,0.1nm,0.3s,baz=338,slow=25,SNR=2.9						
TX31	**Lajitas Ar. Si**	**144.68**	**27**	*e*PKPdf	**PKPab**	**22 25 40.3**	**-0.4**
TXAR	**Lajitas Array**	**144.68**	**27**	PKP	**PKPab**	**22 25 40.2**	**-0.4**
	comp=Z,7.4nm,0.8s,baz=265,slow=0.7,SNR=20						
JCT	**Junction City**	**145.21**	**21**	*e*PKPbc	**PKPbc**	**22 25 41.1**	**-1.3**
HPIG		**145.70**	**32**	*e*PKPdf	**PKPdf**	**22 25 44.1**	**+0.1**

IDC 14 22:23:37.2±42.0, 18°.59S×167°.41E, h0km, mb4.0/4, mb1 4.1/4, mb1mx3.7/44, mbtmp4.0/4, MS4.9/1, Ms1 4.9/1, ms1mx3.6/42, Error ellipse: s-maj=720.0km s-min=104.3km az=76.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**11.63**	**321**	LR	LR	22 30 34.4	
	comp=Z,5µm,18.0s,baz=348,slow=36						
STKA	**Stephens Creek**	**26.76**	**235**	P	P	22 29 18.9	+0.1
	0.8nm,0.5s,baz=58,slow=12,SNR=4.8						
WRA	**Warramunga Arr**	**31.22**	**262**	P	P	22 29 58.3	-0.4
	0.7nm,0.9s,baz=91,slow=8.7,SNR=3.1						
ASAR	**Alice Springs**	**31.61**	**255**	P	P	22 30 01.7	-0.5
	1.9nm,0.5s,baz=82,slow=8.5,SNR=21						
FITZ	**Fitzroy Crossi**	**39.59**	**264**	P	P	22 31 11.1	+0.5
	3.8nm,0.8s,baz=101,slow=10						

*NEIC **14** 22:24:43.4±0.4, 18°.93S×168°.74E, h10km, mb4.7/11, Error ellipse: s-maj=10.8km s-min=9.5km az=1.0*

*ISCJB **14** 22:24:45.9±0.4, 19°.07S±0°.06×168°.77E±0°.06, h42km, mb4.6/32, MS5.3/2, Error ellipse: s-maj=8.9km s-min=8.3km az=27.8*

*IDC **14** 22:24:51.0±4.4, 19°.09S×168°.79E, h75km±39km, mb4.2/18, mb1 4.3/19, mb1mx4.1/43, mbtmp4.5/19, ML4.0/1, Error ellipse: s-maj=18.1km s-min=15.9km az=45.0*

ISC 14 22:24:47.5±0.4, 19°.07S±0°.08×168°.79E±0°.07, h42km, n86, σ1§31/88, mb4.7/32, 2C-2D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.71**	**216**	*e*Pn	**Pn**	**22 25 42.7**	**+0.2**
MSVF	**Nonsavu**	**8.89**	**83**	Pn	**Pn**	**22 26 53.0**	**-0.5**
HNR	**Honiara**	**12.85**	**317**	P	**Pn**	**22 27 48.0**	**+0.4**
HNR	**Honiara**	**12.85**	**317**	P	**Pn**	**22 27 46.5**	**-1.1**
	11nm,0.3s,baz=158,slow=18,SNR=3.9						
HNR	**Honiara**	**12.85**	**317**	*e*Pn	**Pn**	**22 27 45.7**	**-2.0**
AFI	**Afiamalu**	**19.32**	**78**	P	**P**	**22 29 11.2**	**+1.9**
	0.5nm,0.3s,baz=307,slow=23,SNR=4.9						
AFI	**Afiamalu**	**19.32**	**78**	*e*P	**P**	**22 29 10.7**	**+1.4**
	50nm,1.0s						
URZ	**Urewera**	**20.45**	**161**	P	**P**	**22 29 22.6**	**+1.2**
	8.8nm,0.8s,baz=271,slow=7.3,SNR=3.7						
URZ	**Urewera**	**20.45**	**161**	*e*P	Pn	22 29 25.2	+1.4
	70nm,1.7s						
BKZ	**Black Stump Fm**	**21.11**	**163**	*e*P	**P**	**22 29 32.0**	**+3.4**
	33nm,1.2s						
CTA	**Charters Tower**	**21.26**	**263**	P	**P**	**22 29 31.8**	**+1.5**
	14nm,0.8s,baz=67,slow=7.7,SNR=5.4						
PMG	**Port Moresby**	**23.04**	**292**	P	**P**	**22 29 50.1**	**+0.9**
	14nm,0.8s,baz=162,slow=9.6,SNR=3.6						
RPZ	**Rata Peaks**	**24.65**	**176**	P	**P**	**22 30 09.5**	**+5.4**
	9.8nm,0.9s,baz=27,slow=6.8,SNR=3.0						
STKA	**Stephens Creek**	**27.58**	**237**	P	**P**	**22 30 32.0**	**+1.2**
	2.8nm,0.5s,baz=79,slow=11,SNR=12						
STKA	**Stephens Creek**	**27.58**	**237**	*e*P	**P**	**22 30 31.4**	**+0.6**
	4.1nm,1.3s						
WB2	**Warramunga Arr**	**32.45**	**263**	*e*P	**P**	**22 31 12.5**	**-1.5**
	61nm,2.0s						
WRA	**Warramunga Arr**	**32.46**	**263**	P	**P**	**22 31 13.4**	**-0.6**
	5.8nm,0.8s,baz=87,slow=8.4,SNR=21						
WRA				PcP	**PcP**	**22 34 00.0**	**-0.6**
	0.6nm,0.7s,baz=96,slow=4.9,SNR=2.7						
AS01	**Alice Springs**	**32.72**	**256**	*e*P	**P**	**22 31 15.4**	**-1.0**
AS31	**Alice Springs**	**32.76**	**256**	*e*P	**P**	**22 31 16.4**	**-0.3**
	6.6nm,0.6s						
ASAR	**Alice Springs**	**32.76**	**256**	P	**P**	**22 31 16.4**	**-0.4**
	18nm,0.7s,baz=83,slow=8.5,SNR=70						
ASAR				PcP	**PcP**	**22 33 59.6**	**-1.9**
	0.4nm,0.7s,baz=92,slow=2.8,SNR=2.5						
MTN	**Manton Dam**	**36.68**	**274**	*e*P	**P**	**22 31 48.9**	**-1.7**
	27nm,0.8s						
FORT	**Forrest**	**38.54**	**244**	*e*P	**P**	**22 32 06.2**	**0.0**
	245nm,0.8s						
FAKI	**Fak Fak**	**39.17**	**290**	*e*P	**P**	**22 32 11.8**	**+0.2**
	21nm,0.9s						
FITZ	**Fitzroy Crossi**	**40.84**	**264**	P	**P**	**22 32 25.1**	**-0.4**
	25nm,0.7s,baz=122,slow=7.3,SNR=26						
SIJI	**Sorong**	**40.98**	**292**	P	**P**	**22 32 26.4**	**-0.3**
	12nm,0.9s,baz=89,slow=7.8,SNR=5.8						
BATI	**Baumata**	**44.44**	**275**	P	**P**	**22

SNR=7.3
MEM Membach 145.68 340 ⇑PKP **PKPdf 22 44 21.3 0.0**
MYKA Terra Mystica 145.77 329 *e*PKPab **PKPdf 22 44 21.4 -0.2**
comp=Z,9.0nm,1.0s
WATA Walderalm 146.22 332 *i* PKPbc **PKPdf 22 44 22.9 +0.4**
comp=Z,4.5nm,0.8s
ABTA Abfaltersbach 146.22 330 *e*PKPdf **PKPdf 22 44 22.0 -0.4**
comp=Z,1.5nm,1.5s
WTTA Wattenberg 146.24 332 *e*PKPbc **PKPdf 22 44 22.6 0.0**
comp=Z,9.4nm,1.2s
MOTA Moosalm 146.42 332 *e*PKPbc **PKPdf 22 44 23.6 +0.7**
comp=Z,7.5nm,0.8s,SNR=7.8
WLF Walferdange 146.45 339 ⇓PKP **PKPdf 22 44 24.2 +1.6**
WLF Walferdange 146.45 339 *e*PKPdf **PKPdf 22 44 24.3 +1.7**
RETA Reutte 146.46 333 *e*PKPab **PKPdf 22 44 23.9 +1.1**
comp=Z,4.1nm,1.0s
DOU Dourbes 146.56 341 ⇑PKP **PKPdf 22 44 24.0 +1.2**
BFO Black Forest 146.79 336 *e*PKPdf **PKPdf 22 44 24.6 +1.4**
FETA Feichten 146.83 332 *e*PKPbc **PKPdf 22 44 25.1 +1.5**
comp=Z,10nm,0.9s,SNR=7.2
DAVA Damuels 146.99 333 *i* PKPbc **PKPdf 22 44 25.6 +1.8**
comp=Z,13nm,1.4s
TUE Stuetta 147.86 333 *e*PKPdf **PKPbc 22 44 28.1 -0.2**
BNI Bardonecchia 150.12 334 *e*PKPbc **PKPbc 22 44 34.0 0.0**
TOA0 Torodi Ar. Sit 166.28 247 *e*PKPab **PKPab 22 45 50.5 +0.1**
TORD Torodi Ar. Bea 166.28 247 PKP **PKPdf 22 44 47.4 -1.6**
comp=Z,1.1nm,1.0s,baz=136,slow=2.0,SNR=3.6
TORD PKPab **PKPab 22 45 49.3 -1.0**
comp=Z,1.8nm,1.0s,baz=96,slow=2.0,SNR=4.7

MEX 14 22:25:37.7±0.6, 15°06N×92°78W, h84km±11km, MD3.6, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.77**	**327**	*i* P	Pn	22 25 53.6	-0.9
PCIG				*e*S	Sn	22 26 04.9	-2.1
CCIG	**Comitan**	**1.37**	**27**	*e*P	Pn	22 26 01.8	+0.1
CCIG				*i* S	Sn	22 26 17.7	-2.0

*NEIC **14** 22:33:03.4±0.0, 16°.45N×98°.38W, h20km, MD4.0(MEX), After MEX.*
MEX 14 22:33:03.4±0.4, 16°.45N×98°.38W, h20km, MD4.0, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.25**	**103**	*i* P	Pb	22 33 08.4	-1.0
PNIG				*i* S	Sb	22 33 12.5	-0.9
PNIG	**Pinotepa**	**0.25**	**103**	*i* P	Pb	22 33 08.4	-1.0
PNIG				*i* S	Sb	22 33 12.5	-0.9
TLIG	**Tlapa**	**1.12**	**351**	*i* P	Pn	22 33 22.6	-1.5
TLIG				*e*S	Sb	22 33 34.7	-3.7
TLIG	**Tlapa**	**1.12**	**351**	*i* P	Pn	22 33 22.6	-1.5
TLIG				*e*S	Sb	22 33 34.7	-3.7
VHO	**Vista Hermosa**	**1.70**	**68**	*e*P	Pb	22 33 33.4	-0.7
VHO				*e*S	Sn	22 33 49.0	-4.4
VHO	**Vista Hermosa**	**1.70**	**68**	*e*P	Pb	22 33 33.4	-0.7
VHO				*e*S	Sn	22 33 49.0	-4.4
CAIG	**El Cayaco**	**1.90**	**288**	*e*P	Pn	22 33 31.7	-3.0
CAIG				*e*S	Sn	22 33 54.6	-3.5
CAIG	**El Cayaco**	**1.90**	**288**	*e*P	Pn	22 33 31.7	-3.0
CAIG				*e*S	Sn	22 33 54.6	-3.5
PLIG	**Platanillo**	**2.21**	**331**	*e*P	Pn	22 33 39.0	0.0
PLIG				*e*S	Sn	22 34 02.2	-3.6
PLIG	**Platanillo**	**2.21**	**331**	*e*P	Pn	22 33 39.0	0.0
PLIG				*e*S	Sn	22 34 02.2	-3.6

DJA 14 22:37:25.5±0.3, 7°S±2°×111°4E±°, h10km, M3.5/11, MLv3.5/11, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMMI	**Kalianget**	**0.35**	**80**	P	Pg	22 37 30.7	-1.8
BLJI	**Banyuglugur**	**0.63**	**182**	P	Pg	22 37 36.6	-1.2
BLJI				S	Sb	22 37 46.9	-0.7
GRJI	**Gresik**	**1.15**	**280**	P	Pb	22 37 45.6	-1.9
GRJI				S	Sn	22 38 03.4	0.0
GMJI	**Gumukmas**	**1.17**	**189**	P	Pb	22 37 45.6	-2.2
GMJI				S	Sb	22 38 02.1	-0.9
JAGI	**Jajag, Banyuwa**	**1.45**	**159**	P	Pn	22 37 49.6	-2.2
JAGI				S	Sn	22 38 09.7	-1.2
BWJI	**Bawean**	**1.57**	**323**	P	Pn	22 37 53.5	0.0
BWJI				S	Sb	22 38 15.0	+0.3
SRBI	**Singaraja**	**1.85**	**122**	P	Pn	22 37 54.9	-2.4
SRBI				S	Sb	22 38 22.2	-0.5
PWJI	**Pagerwojo**	**2.02**	**243**	P	Pn	22 37 58.7	-0.9
DNP	**Denpasar**	**2.21**	**135**	P	Sg	22 38 38.2	+1.4

IDC 14 22:39:25.1±3.4, 5°84S×150°72E, h0km, mb3.4/2, mb1 3.8/2, mb1mx3.2/47, mbtmp3.5/2, Error ellipse: s-maj=141.4km s-min=45.4km az=119.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.22**	**227**	P	P	22 44 13.2	+0.5
	0.8nm,0.6s,baz=53,slow=11,SNR=6.8						
ASAR	**Alice Springs**	**24.00**	**221**	P	P	22 44 41.8	0.0
	1.0nm,0.6s,baz=56,slow=9.4,SNR=12						
TORD	**Torodi Ar. Bea**	**148.63**	**286**	PKPbc	PKPbc	22 59 14.4	-0.9
	0.3nm,0.8s,baz=90,slow=4.5,SNR=2.5						

*ISCJB **14** 22:41:44.8±0.5, 4°.01N±0°.06×95°.24E±0°.05, h51km, mb3.9/16, Error ellipse: s-maj=10.1km s-min=4.7km az=36.9*
*DJA **14** 22:41:47.9±1.8, 4°N±5°×9°5E±°, h36km±19km, M4.2/8, mb4.3/3, MLv4.1/8*
*IDC **14** 22:41:47.3±4.6, 4°.22N×95°.40E, h51km±41km, mb3.6/16, mb1 3.7/17, mb1mx3.5/76, mbtmp3.9/17, ML3.6/1, Error ellipse: s-maj=47.0km s-min=15.3km az=52.0*
ISC 14 22:41:46.8±0.6, 4°09N±0°.06×95°30E±0°.07, h51km, n30, σ1°69/32, mb3.8/16, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLSI	**Meulaboh, Aceh**	**1.12**	**81**	P	Pn	22 42 05.3	-0.9
MLSI				S	Sn	22 42 19.4	-1.1
MLSI	**Meulaboh, Aceh**	**1.12**	**81**	P	Pn	22 42 05.6	-0.6
LHMI	**Lhok Sumawe**	**2.00**	**55**	P	Pn	22 42 19.2	+1.0
LHMI				S	Sn	22 42 36.0	-6.0
TPTI		**2.05**	**114**	P	Pn	22 42 17.9	-1.0
TPTI				S	Sn	22 42 42.4	-0.9
KCSI	**Kotacane, Aceh**	**2.53**	**103**	P	Pn	22 42 29.9	+4.4
TSI	**Tuntungan**	**3.31**	**100**	P	Pn	22 42 38.9	+2.7
GSI	**Gunungsitoli**	**3.58**	**140**	P	Pn	22 42 38.6	-1.3
GSI				S	Sn	22 43 19.4	-1.5
PSI	**Prapat**	**3.84**	**109**	P	Pn	22 42 44.9	+1.4
	4.3nm,0.3s,baz=299,slow=13,SNR=8.8						
PSI				S	Sn	22 43 28.0	+0.5
	4.3nm,0.3s,baz=303,slow=12,SNR=4.8						
MNSI	**Mandailing Nat**	**5.38**	**127**	P	Pn	22 43 04.7	+0.1
SISI	**Saibi**	**6.58**	**145**	P	Pn	22 43 20.0	-1.0
CMAR	**Chiang Mai Arr**	**14.72**	**14**	P	Pn	22 45 13.3	+1.2
	0.2nm,0.3s,baz=207,slow=11,SNR=10						
H08S2	**Diego Garcia H**	**25.56**	**243**	T	T	23 14 25.2	
	baz=65,SNR=60						
H08S3	**Diego Garcia H**	**25.56**	**243**	T	T	23 13 25.4	
	baz=65,slow=74,SNR=48						
H08S1	**Diego Carcia H**	**25.58**	**243**	T	T	23 13 11.3	
	baz=65,slow=74,SNR=53						
AAK	**Ala-Archa**	**42.62**	**337**	P	P	22 49 37.4	-0.9
	0.2nm,0.3s,baz=175,slow=12,SNR=2.6						
MKAR	**Makanchi Array**	**44.01**	**347**	P	P	22 49 48.5	-0.9
	0.8nm,0.4s,baz=163,slow=7.9,SNR=31						
SONM	**Songino Array**	**44.62**	**11**	P	P	22 49 53.4	-0.9
	0.2nm,0.4s,baz=194,slow=1.2,SNR=3.2						
WRA	**Warramunga Arr**	**45.18**	**123**	P	P	22 49 59.1	0.0
	1.9nm,0.5s,baz=301,slow=9.2,SNR=19						
ASAR	**Alice Springs**	**46.65**	**128**	P	P	22 50 10.8	+0.2
	2.5nm,0.6s,baz=298,slow=8.0,SNR=21						
GEYT	**Ailbeck**	**47.80**	**320**	P	P	22 50 19.4	+0.1
	0.8nm,0.7s,baz=116,slow=3.4,SNR=2.9						
KURBB	**Kurchatov Arra**	**48.48**	**346**	P	P	22 50 24.4	+0.1
	0.5nm,0.5s,baz=186,slow=5.6,SNR=16						
ZALV	**Zalesovo Beam**	**50.44**	**352**	P	P	22 50 38.8	-0.4
	1.7nm,0.5s,baz=176,slow=7.6,SNR=11						
BVAR	**Borovoye Array**	**52.92**	**341**	P	P	22 50 58.2	+0.5
	1.1nm,0.7s,baz=161,slow=9.4,SNR=7.0						
AKTO	**Aktyubinsk**	**55.81**	**332**	P	P	22 51 18.2	-0.6
	0.5nm,0.3s,baz=80,slow=4.3,SNR=4.7						
BRTR	**Keskin Array B**	**65.78**	**312**	P	P	22 52 26.9	0.0
	0.4nm,0.6s,baz=140,slow=6.0,SNR=3.6						
AKASG	**Malin Array Be**	**71.83**	**322**	P	P	22 53 04.1	-0.1
	0.6nm,0.5s,baz=90,slow=5.4,SNR=3.9						
FINES	**FINESS Array B**	**76.58**	**332**	P	P	22 53 31.8	+0.1
	5.7nm,1.0s,baz=186,slow=9.6,SNR=4.2						
ARCES	**ARCESS Array B**	**79.20**	**340**	P	P	22 53 47.0	+1.0
	2.1nm,0.9s,baz=76,slow=5.1,SNR=5.4						
GERES	**GERESS Array B**	**81.41**	**319**	P	P	22 53 59.8	+1.3
	0.3nm,0.6s,baz=116,slow=6.7,SNR=2.6						
HFS	**Hagfors**	**82.29**	**330**	P	P	22 54 03.2	+0.5
	0.5nm,0.5s,baz=72,slow=33,SNR=3.4						

*CSEM **14** 22:42:35.1, 43°.63N×12°.06E, h9km, MD1.6/4*
ROM 14 22:42:35.1±0.4, 43°.63N×12°.06E, h9km±1km, Md1.6/4, Ml1.2/3, Error ellipse: s-maj=3.9km s-min=2.0km az=104.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PARC	**Parchiule**	**0.13**	**83**	Pg	Pg	22 42 38.4	+0.3
PARC				Sg	Sg	22 42 40.8	+0.7
PARC	**Parchiule**	**0.13**	**83**	Pg	Pg	22 42 38.4	+0.3
PARC				Sg	Sg	22 42 40.8	+0.7
ATMC	**Monte Cedrone**	**0.21**	**153**	Pg	Pg	22 42 40.0	+0.6
ATMC				Sg	Sg	22 42 44.0	+1.6
	477nm,3.6s						
ATMC	**Monte Cedrone**	**0.21**	**153**	Pg	Pg	22 42 40.0	+0.6
ATMC				Sg	Sg	22 42 44.0	+1.6
	477nm,3.6s						
CPGN	**Carpegna, Ital**	**0.25**	**48**	Pg	Pb	22 42 41.3	-0.6
	58μm,20.0s						
CPGN	**Carpegna, Ital**	**0.25**	**48**	Pg	Pb	22 42 41.3	-0.6
	58μm,20.0s						
PIEI	**Pieia**	**0.36**	**106**	Pg	Pg	22 42 42.6	+0.4
PIEI				Sg	Sb	22 42 48.7	-0.7
	38nm,1.3s						
PIEI	**Pieia**	**0.36**	**106**	Pg	Pg	22 42 42.6	+0.4
PIEI				Sg	Sb	22 42 48.7	-0.7
	38nm,1.3s						

*ISCJB **14** 22:45:39.7±0.8, 18°.7S±0°.2×168°.8E±0°.1, h10km, mb4.1/6, MS4.8/2, Error ellipse: s-maj=23.6km s-min=11.9km az=159.1*
*IDC **14** 22:45:40.2±3.1, 18°.65S×168°.76E, h0km, mb4.1/5, mb1 4.3/6, mb1mx3.8/41, mbtmp4.2/6, ML5.2/1, MS4.9/2, Ms1 4.9/2, ms1mx4.1/39, Error ellipse: s-maj=69.3km s-min=37.9km az=117.0*
*NEIC **14** 22:45:41.6±0.6, 18°.71S×168°.79E, h10km, mb4.3/2, Error ellipse: s-maj=17.4km s-min=9.0km az=158.0*
ISC 14 22:45:41.4±1.0, 18°.7S±0°.2×168°.8E±0°.1, h10km, n12, σ0°65/10, mb4.0/6, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**12.61**	**316**	Pn	**Pn**	**22 48 40.8**	**-0.3**
	13nm,0.3s,baz=143,slow=13,SNR=2.8						
FUNA	**Funafuti**	**14.29**	**46**	Pn	**Pn**	**22 49 04.3**	**+0.3**
AFI	**Afiamalu**	**19.22**	**78**	P	**Pn**	**22 50 06.5**	**-0.4**
	3.8nm,0.5s						
RPZ	**Rata Peaks**	**24.99**	**176**	LR	LR	23 00 28.5	
	comp=Z,4μm,18.5s,baz=308,slow=35						
STKA	**Stephens Creek**	**27.79**	**237**	P	**P**	**22 51 30.3**	**-0.5**
	1.0nm,0.6s,baz=63,slow=9.0,SNR=2.7						
WRA	**Warramunga Arr**	**32.53**	**262**	P	**P**	**22 52 11.8**	**-1.1**
	0.9nm,0.7s,baz=87,slow=8.2,SNR=4.6						
ASAR	**Alice Springs**	**32.87**	**255**	P	**P**	**22 52 16.4**	**+0.5**
	3.9nm,0.8s,baz=84,slow=8.8,SNR=35						
SIJI	**Sorong**	**40.88**	**291**	LR	LR	23 09 53.6	
	comp=Z,985nm,19.2s,slow=36						
FITZ	**Fitzroy Crossi**	**40.90**	**264**	P	**P**	**22 53 24.6**	**+0.4**
	3.0nm,0.8s,baz=117,slow=10.0,SNR=3.9						
MBWA	**Marble Bar**	**46.07**	**258**	P	**P**	**22 54 06.5**	**+0.7**
	5.6nm,0.6s						
SONM	**Songino Array**	**86.56**	**323**	P	**P**	**22 58 25.2**	**+0.2**
	0.3nm,0.4s,baz=114,slow=3.6,SNR=3.3						
GERES	**GERESS Array B**	**143.84**	**332**	PKP	**PKPdf**	**23 05 16.7**	**-0.4**
	0.3nm,0.6s,baz=11,slow=1.0,SNR=2.8						

MEX 14 22:47:35.3±0.3, 16°.48N×98°.45W, h24km±18km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.32**	**106**	*i* P	Pb	22 47 41.5	-1.2
PNIG				*e*S	Sb	22 47 46.2	-1.5
TLIG	**Tlapa**	**1.08**	**354**	*i* P	Pn	22 47 55.0	-0.1
TLIG				*e*S	Sb	22 48 05.4	-3.8
VHO	**Vista Hermosa**	**1.75**	**70**	*e*P	Pn	22 48 04.2	-0.1
VHO				*e*S	Sn	22 48 22.5	-3.4
CAIG	**El Cayaco**	**1.83**	**288**	*e*P	Pn	22 48 02.8	-2.4
CAIG				*i* S	Sn	22 48 24.2	-3.4
PLIG	**Platanillo**	**2.15**	**332**	*e*P	Pn	22 48 10.9	+1.2
PLIG				*e*S	Sn	22 48 32.9	-2.8

MEX 14 22:51:19.5±0.4, 16°.25N×98°.32W, h12km±3km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.23**	**52**	*i* P	Pg	22 51 23.8	-0.7
PNIG				*i* S	Sg	22 51 28.1	+0.1
TLIG	**Tlapa**	**1.33**	**350**	*i* P	Pn	22 51 42.7	-1.3
TLIG				*e*S	Sb	22 51 56.5	-5.1
VHO	**Vista Hermosa**	**1.73**	**61**	*e*P	Pn	22 51 46.3	-3.3
VHO				*e*S	Sn	22 52 06.7	-4.9
CAIG	**El Cayaco**	**2.03**	**293**	*e*P	Pn	22 51 50.6	-3.0
CAIG				*e*S	Sn	22 52 14.2	-4.7
PLIG	**Platanillo**	**2.42**	**332**	*e*P	Pn	22 51 59.5	+0.6
PLIG				*e*S	Sn	22 52 24.2	-4.3

*JMA **14** 23:08:59.0±0.3, 43°.37N×147°.15E, h37km±4km, M3.4*
*MOS **14** 23:08:59.1±1.1, 43°.49N×147°.18E, h53km, mb4.2/6, Error ellipse: s-maj=17.8km s-min=11.3km az=127.5*
*SKHL **14** 23:09:00.3±0.6, 43°.45N×147°.19E, h43km±4km, mb4.6/6*
*IDC **14** 23:09:02.7±3.4, 44°.95N×146°.74E, h0km, mb3.7/9, mb1 3.8/10, mb1mx3.5/71, mbtmp3.6/10, ML3.2/1, Error ellipse: s-maj=85.4km s-min=19.5km az=160.0*
ISC 14 23:08:56.5±2.5, 43°.38N±0°.06×147°.23E±0°.06, h17km±14km, n35, σ1°34/51, mb3.8/9, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHO	**Shikotan**	**0.57**	**329**	*e*P	**Pn**	**23 09 10.0**	**+0.1**
SHO				AMB	AMB	23 09 11.1	
	450nm,0.2s						
SHO				*e*S	**Sb**	**23 09 17.4**	**+1.4**
SHO				A	A	23 09 18.8	
	5μm,0.2s						
SHO				A	A	23 09 18.8	
	590nm,0.2s						
SHO	**Shikotan**	**0.57**	**329**	*e*PN	**Pb**	**23 09 09.8**	**+1.7**
SHO				*e*S	**Sb**	**23 09 17.4**	**+1.4**
SHO				pmax	pmax		
	comp=N,462nm,0.2s						
SHO				pmax	pmax		
	comp=E,193nm,0.2s						
SHO				pmax	pmax		
	comp=Z,643nm,0.2s						
SHO				smax	smax		
	comp=N,1μm,0.2s						
SHO				smax	smax		
	comp=E,2μm,0.3s						
NEM2	**Nemuro 2**	**1.09**	**270**	P	**Pb**	**23 09 17.4**	**+0.6**
NEM2				*e*S	**Sg**	**23 09 30.6**	**-1.2**
YUK	**Yuzh-Kuril'sk**	**1.19**	**304**	*e*P	**Pb**	**23 09 18.9**	**+0.3**
YUK				AMB	AMB	23 09 19.7	
	comp=E,190nm,0.2s						
YUK				*e*S	**Sb**	**23 09 32.7**	**-1.1**
YUK				A	A	23 09 33.5	
	comp=E,490nm,0.1s						
YUK				A	A	23 09 33.5	
	comp=E,940nm,0.1s						
YUK	**Yuzh-Kuril'sk**	**1.19**	**304**	*e*PN	**Pb**	**23 09 18.9**	**+0.3**
YUK				*e*S	**Sb**	**23 09 32.7**	**-1.1**
YUK				pmax	pmax		
	comp=N,110nm,0.2s						
YUK				pmax	pmax		
	comp=Z,290nm,0.2s						
YUK				pmax	pmax		
	comp=E,107nm,0.1s						
YUK				smax	smax		
	comp=N,493nm,0.1s						
YUK				smax	smax		
	comp=E,936nm,0.3s						
GRPR	**Tuman**	**1.23**	**301**	*e*P	**Pb**	**23 09 19.5**	**+0.3**
GRPR				AMB	AMB	23 09 19.9	
	comp=E,66nm,0.2s						
GRPR				*e*S	**Sb**	**23 09 33.4**	**-1.3**
GRPR				A	A	23 09 34.2	
	comp=E,1μm,0.3s						
GRPR				A	A	23 09 34.2	
	comp=E,770nm,0.3s						
GRPR	**Tuman**	**1.23**	**301**	*e*PN	**Pb**	**23 09 19.5**	**+0.3**
GRPR				*e*S	**Sb**	**23 09 33.4**	**-1.3**
GRPR				pmax	pmax		
	comp=Z,657nm,0.3s						
GRPR				pmax	pmax		
	comp=N,197nm,0.4s						
GRPR				pmax	pmax		
	comp=E,147nm,0.3s						
GRPR				smax	smax		
	comp=N,1μm,0.3s						
GRPR				smax	smax		
	comp=E,774nm,0.2s						
LAGR	**Lagunnoye**	**1.25**	**303**	*e*P	**Pn**	**23 09 19.7**	**+0.5**
LAGR				AMB	AMB	23 09 20.6	
	comp=E,360nm,0.3s						
LAGR				*e*S	**Sb**	**23 09 34.6**	**-0.8**
LAGR				A	A	23 09 39.4	
	comp=E,1μm,0.4s						
LAGR				A	A	23 09 39.4	
	comp=E,2μm,0.4s						
LAGR	**Lagunnoye**	**1.25**	**303**	*e*PN	**Pn**	**23 09 19.7**	**+0.5**
LAGR				*e*S	**Sb**	**23 09 34.6**	**-0.8**
LAGR				pmax	pmax		
	comp=N,70nm,0.2s						
LAGR				pmax	pmax		
	comp=Z,358nm,0.2s						
LAGR				smax	smax		
	comp=N,1μm,0.4s						
LAGR				smax	smax		
	comp=E,2μm,0.4s						
GLVR	**Golovnino**	**1.30**	**287**	*e*P	**Pn**	**23 09 20.5**	**+0.7**
GLVR				AMB	AMB	23 09 21.0	
	comp=E,180nm,0.2s						
GLVR				*e*S	**Sb**	**23 09 36.3**	**-0.5**
GLVR				A	A	23 09 39.9	
	comp=E,850nm,0.2s						
GLVR				A	A	23 09 39.9	
	comp=E,1μm,0.2s						
GLVR	**Golovnino**	**1.30**	**287**	*e*PN	**Pn**	**23 09 20.5**	**+0.7**
GLVR				*e*S	**Sb**	**23 09 36.3**	**-0.5**
GLVR				pmax	pmax		
	comp=Z,179nm,0.1s						
GLVR				pmax	pmax		
	comp=E,60nm,0.2s						
GLVR				pmax	pmax		
	comp=N,92nm,0.4s						
GLVR				smax	smax		
	comp=N,846nm,0.2s						
GLVR				smax	smax		
	comp=E,1μm,0.3s						
JRA	**Rausu**	**1.63**	**291**	P	**Pn**	**23 09 25.4**	**+1.0**
JNK	**Nakash**	**1.84**	**277**	P	**Pn**	**23 09 28.0**	**+0.7**
JNK				*e*S	**Sn**	**23 09 49.8**	**-0.4**
JAK	**Akkeshi**	**1.89**	**259**	P	**Pn**	**23 09 30.0**	**+1.0**
KUR	**Kuril'sk**	**1.91**	**14**	*e*P	**Pn**	**23 09 29.6**	**+1.3**
KUR				AMB	AMB	23 09 30.8	
	comp=E,32nm,0.1s						
KUR				*e*S	**Sn**	**23 09 51.2**	**-0.7**
KUR				A	A	23 09 54.3	
	comp=E,230nm,0.2s						
KUR				A	A	23 09 54.3	
	comp=E,340nm,0.2s						
KUR	**Kuril'sk**	**1.91**	**14**	*e*PN	**Pn**	**23 09 29.6**	**+1.3**
KUR				*e*S	**Sn**	**23 09 52.9**	**+1.0**
KUR				pmax	pmax		
	comp=Z,22nm,0.1s						
KUR				smax	smax		
	comp=N,337nm,0.2s						
KUR				smax	smax		
	comp=E,226nm,0.2s						
JTKR	**Abashiri--Toko**	**2.48**	**285**	P	**Pn**	**23 09 38.1**	**+2.0**
JAR	**Ashorobuto**	**2.53**	**269**	P	**Pn**	**23 09 38.5**	**+1.7**
JAR				*e*S	**Sn**	**23 10 07.4**	**+0.2**
JOB	**Onbets**	**2.53**	**260**	P	**Pn**	**23 09 38.3**	**+1.5**
JMP	**Maruseppu**	**2.88**	**284**	P	**Pn**	**23 09 43.7**	**+2.1**
JCH	**Churui**	**2.94**	**256**	P	**Pn**	**23 09 44.3**	**+1.9**
ASAJ	**Asahikawa**	**3.44**	**284**	Pn	**Pn**	**23 09 53.0**	**+3.7**
	comp=E,1.9nm,0.3s,baz=106,slow=13,SNR=24						
ASAJ				Sn	**Sn**	**23 10 33.0**	**+3.4**
	comp=E,0.9nm,0.3s,baz=75,slow=19,SNR=2.2						
JNBK	**Urakawa-nobuka**	**3.47**	**253**	P	**Pn**	**23 09 51.7**	**+2.0**
JBT2	**Biratori 2**	**3.62**	**262**	P	**Pn**	**23 09 53.6**	**+1.9**
ILAR	**Eielson Array**	**41.75**	**36**	P	**P**	**23 16 43.8**	**-0.5**
	comp=E,1.5nm,1.3s,baz=259,slow=7.7,SNR=3.1						
MKAR	**Makanchi Array**	**44.81**	**298**	P	**P**	**23 17 08.5**	**-0.8**
	comp=E,0.2nm,0.5s,baz=88,slow=7.4,SNR=3.2						
KURK	**Kurchatov**	**45.79**	**304**	P	**P**	**23 17 16.9**	**-0.1**
KURBB	**Kurchatov Arra**	**45.87**	**304**	P	**P**	**23 17 16.9**	**-0.8**
	comp=E,0.2nm,0.6s,baz=95,slow=5.1,SNR=2.7						
INK	**Inuvik**	**46.70**	**30**	P	**P**	**23 17 24.3**	**+0.5**
	comp=E,0.8nm,0.4s,baz=283,slow=6.4,SNR=12						
YKA	**Yellowknife Ar**	**56.08**	**34**	P	**P**	**23 18 34.3**	**+0.1**
	comp=E,0.1nm,0.5s,baz=302,slow=7.0,SNR=4.3						
ARCES	**ARCESS Array B**	**59.62**	**340**	P	**P**	**23 18 56.5**	**-2.5**
	comp=E,3.0nm,0.9s,baz=57,slow=9.8,SNR=2.6						
FINES	**FINESS Array B**	**65.23**	**333**	P	**P**	**23 19 35.7**	**-0.9**
	comp=E,1.7nm,0.8s,baz=42,slow=5.9,SNR=5.4						
NOA	**NORSAR Array B**	**69.97**	**339**	P	**P**	**23 20 06.0**	**-0.6**
	comp=E,0.5nm,0.7s,baz=33,slow=6.3,SNR=2.5						
NOA	**NORSAR Array B**	**69.97**	**339**	P	**P**	**23 20 06.0**	**-0.6**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
HFS	**Hagfors**	**70.06**	**337**	P	**P**	**23 20 06.5**	**-0.6**
	comp=Z,1.9nm,0.8s,baz=284,slow=7.3,SNR=2.8						

IDC 14 23:23:43.1±9.4, 17°.19S×166°.64E, h0km, mb3.6/4, mb1 3.9/4, mb1mx3.6/41, mbtmp3.6/4, Error ellipse: s-maj=258.6km s-min=46.5km az=129.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**30.72**	**260**	P	P	23 30 00.9	+0.8
	0.2nm,0.3s,baz=89,slow=8.5,SNR=4.6						
ASAR	**Alice Springs**	**31.30**	**253**	P	P	23 30 04.8	-0.4
	1.3nm,0.5s,baz=84,slow=8.6,SNR=18						
CMAR	**Chiang Mai Arr**	**75.41**	**295**	P	P	23 35 28.2	-1.1
	0.2nm,0.3s,baz=120,slow=5.3,SNR=2.5						
SONM	**Songino Array**	**84.11**	**324**	P	P	23 36 16.7	+0.6
	0.2nm,0.5s,baz=140,slow=5.6,SNR

FDF				*e*S	Sn	23 33 04.9	-0.8
BAMF	**Morne Balai**	**3.42**	**313**	*e*P	Pn	23 32 29.7	+2.2
PML	**Morne Lenard**	**3.43**	**312**	*e*P	Pn	23 32 29.4	+1.9
CXM	**Morne La Croix**	**3.44**	**313**	*e*P	Pn	23 32 29.1	+1.4
CXM				*e*S	Sn	23 33 07.7	+0.2
PCM	**Pelee Case Pet**	**3.47**	**312**	*e*P	Pn	23 32 28.6	+0.5
PCM	**Pelee Case Pet**	**3.47**	**312**	*e*P	Pn	23 32 29.6	+1.5
MDMP	**Dominica, Moor**	**4.15**	**318**	*e*S	Sn	23 33 23.6	-1.1
MDVC	**Dominica, Viel**	**4.16**	**319**	*e*S	Sn	23 33 24.8	-0.2
MDPO	**Dominica; Chan**	**4.17**	**318**	*e*P	Pn	23 32 39.3	+1.8

CSEM ***14*** *23:33:14.8±0.2, 38.˝75N×43.˝58E, h20km, ML2.4, Error ellipse: s-maj=6.4km s-min=3.8km az=124.0*
ISK ***14*** *23:33:14.7, 38.˝77N×43.˝55E, h21km, ML2.4/3*
ISCJB ***14*** *23:33:15.1±0.8, 38.˝75N±0.˝04×43.˝59E±0.˝06, h29km±5km, Error ellipse: s-maj=8.6km s-min=5.2km az=24.1*
DDA ***14*** *23:33:15.6, 38.˝76N×43.˝54E, h7km, Ml2.5*

ISC 14 23:33:15.5±1.0**, 38.˝77N**±0.˝03×**43.˝55E**±0.˝04**, h24**km±7km**, n24**, σ0**s79**/42**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.22**	**216**	PG	**Pb**	**23 33 21.7**	**+0.3**
VANB	**Van**	**0.22**	**216**	*e*Pg	**Pb**	**23 33 21.7**	**+0.3**
VMUR	**Van-Muradiye**	**0.22**	**4**	*i* P	**Pb**	**23 33 21.0**	**-0.6**
VMUR				*i* S	**Sb**	**23 33 26.4**	**+0.8**
VMUR	**Van-Muradiye**	**0.22**	**4**	P	**Pb**	**23 33 21.0**	**-0.6**
VMUR				S	**Sb**	**23 33 26.4**	**+0.8**
TVAN	**Van**	**0.27**	**205**	*i* P	**Pb**	**23 33 20.8**	**-1.4**
TVAN				*i* S	**Sb**	**23 33 27.6**	**+0.9**
TVAN	**Van**	**0.27**	**205**	P	**Pb**	**23 33 20.8**	**-1.4**
TVAN				S	**Sb**	**23 33 27.6**	**+0.9**
ERCV	**ERCIS-VAN**	**0.30**	**326**	PG	**Pb**	**23 33 21.4**	**-1.2**
ERCV				SG	**Sb**	**23 33 27.1**	**-0.4**
ERCV	**ERCIS-VAN**	**0.30**	**326**	*e*Pg	**Pb**	**23 33 21.4**	**-1.2**
ERCV				*e*Sg	**Sb**	**23 33 27.1**	**-0.4**
CLDR	**Caldiran**	**0.47**	**37**	PG	**Pb**	**23 33 24.3**	**-1.1**
CLDR				SG	**Sb**	**23 33 32.6**	**+0.6**
CLDR	**Caldiran**	**0.47**	**37**	*i* P	**Pb**	**23 33 24.6**	**-0.8**
CLDR				*i* S	**Sb**	**23 33 33.4**	**+1.4**
CLDR	**Caldiran**	**0.47**	**37**	*e*Pg	**Pb**	**23 33 24.3**	**-1.1**
CLDR	**Caldiran**	**0.47**	**37**	P	**Pb**	**23 33 24.6**	**-0.8**
CLDR				*e*Sg	**Sb**	**23 33 32.6**	**+0.6**
CLDR				S	**Sb**	**23 33 33.4**	**+1.4**
GEVA	**Gevas**	**0.60**	**220**	*i* P	**Pb**	**23 33 26.6**	**-0.9**
GEVA				*i* S	**Sb**	**23 33 36.1**	**+0.5**
GEVA	**Gevas**	**0.60**	**220**	P	**Pb**	**23 33 26.6**	**-0.9**
GEVA				S	**Sb**	**23 33 36.1**	**+0.5**
ADCV	**BITLIS_Adilcev**	**0.65**	**274**	*i* P	**Pb**	**23 33 27.8**	**-0.5**
ADCV				*i* S	**Sb**	**23 33 37.8**	**+0.8**
ADCV	**BITLIS_Adilcev**	**0.65**	**274**	P	**Pb**	**23 33 27.8**	**-0.5**
ADCV				S	**Sb**	**23 33 37.8**	**+0.8**
TUTA	**Tutak**	**0.85**	**318**	*i* P	**Pb**	**23 33 31.3**	**-0.5**
TUTA				*i* S	**Sn**	**23 33 44.5**	**+0.4**
TUTA	**Tutak**	**0.85**	**318**	P	**Pb**	**23 33 31.3**	**-0.5**
TUTA				S	**Sn**	**23 33 44.5**	**+0.4**
AGRB	**Hanur-Agry**	**0.91**	**332**	PG	**Pb**	**23 33 32.7**	**-0.1**
AGRB				SG	**Sn**	**23 33 45.9**	**+0.3**
AGRB	**Hanur-Agry**	**0.91**	**332**	*e*Pg	**Pb**	**23 33 32.7**	**-0.1**
AGRB				*e*Sg	**Sn**	**23 33 45.9**	**+0.3**
GURO	**Guroymak-BITLI**	**1.21**	**260**	PN	**Pn**	**23 33 36.9**	**-0.2**
GURO	**Guroymak-BITLI**	**1.21**	**260**	*e*Pn	**Pn**	**23 33 36.9**	**-0.2**
TASB	**TASBURUN-IGDIR**	**1.32**	**24**	PN	**Pn**	**23 33 38.5**	**-0.1**
TASB	**TASBURUN-IGDIR**	**1.32**	**24**	*e*Pn	**Pn**	**23 33 38.5**	**-0.1**

IDC ***14*** *23:42:34.4±6.3, 36.˝49N×141.˝95E, h0km, mb3.3/2, mb1 3.2/4, mb1mx3.0/60, mbtmp3.2/4, ML3.0/1, Error ellipse: s-maj=123.8km s-min=46.5km az=158.0*
JMA ***14*** *23:42:41.9±0.1, 36.˝85N×141.˝34E, h23km±1km, M3.0*

ISC 14 23:42:41.9±2.3**, 36.˝86N**±0.˝06×**141.˝3E**±0.˝1**, h15**km±11km**, n18, σ0**s89**/20, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.47**	**302**	P	**Pb**	**23 42 52.0**	**+0.1**
JFK	**Kawauchi**	**0.61**	**327**	P	**Pg**	**23 42 54.1**	**+0.2**
JFK				S	**Sb**	**23 43 03.0**	**+0.3**
JHO	**Hitachi**	**0.63**	**248**	P	**Pb**	**23 42 54.6**	**0.0**
JHO				S	**Sb**	**23 43 03.8**	**+0.5**
JFT	**Otama**	**1.01**	**311**	P	**Pn**	**23 43 01.4**	**-0.1**
JFT				S	**Sb**	**23 43 14.9**	**+0.7**
JMM	**Marumori**	**1.09**	**338**	P	**Pn**	**23 43 01.6**	**-0.9**
JMM				*e*S	**Sb**	**23 43 15.7**	**-0.6**
JYT	**Yasato**	**1.09**	**235**	P	**Pb**	**23 43 02.4**	**+0.1**
JYT				S	**Sb**	**23 43 16.2**	**-0.1**
JSB	**Shiboa**	**1.11**	**276**	P	**Pb**	**23 43 03.3**	**+0.5**
JSB				S	**Sn**	**23 43 18.4**	**+0.5**
MJAR	**Matsushiro Arr** 1.9nm,0.3s,baz=89,slow=14,SNR=18	**2.50**	**264**	Pn	**Pn**	**23 43 23.4**	**+1.4**
MJAR				Sn	**Sg**	**23 44 01.6**	**-0.7**
MAT	**Matsushiro** 2.7nm,0.3s,baz=99,slow=24,SNR=7.4	**2.50**	**264**	P	**Pb**	**23 43 24.8**	**-1.7**
MAT				*e*S	**Sn**	**23 43 50.4**	**-1.9**
KSRS	**Korea Array** baz=92,slow=15,SNR=2.9	**10.69**	**277**	Pn	**Pn**	**23 45 15.6**	**+1.2**
H11N2	**WAKE ISLAND Hy** baz=313,slow=75,SNR=98	**28.14**	**120**	T	T	00 17 58.6	
H11N1	**WAKE ISLAND Hy** baz=313,slow=75,SNR=112	**28.14**	**120**	T	T	00 17 59.4	
H11N3	**WAKE ISLAND Hy** baz=313,slow=75,SNR=68	**28.16**	**120**	T	T	00 17 59.5	
H11S1	**WAKE ISLAND Hy** baz=315,slow=76,SNR=32	**28.84**	**122**	T	T	00 18 49.9	
H11S3	**WAKE ISLAND Hy** baz=315,slow=76,SNR=26	**28.84**	**122**	T	T	00 18 49.9	
H11S2	**WAKE ISLAND Hy** baz=315,slow=76,SNR=16	**28.86**	**122**	T	T	00 18 53.6	
MKAR	**Makanchi Array** 0.2nm,0.6s,baz=81,slow=10.0,SNR=4.3	**44.13**	**302**	P	**P**	**23 50 49.6**	**-0.1**
KURBB	**Kurchatov Arra** 0.4nm,0.7s,baz=83,slow=7.7,SNR=3.1	**46.04**	**308**	P	**P**	**23 51 04.6**	**0.0**

ISCJB ***14*** *23:49:23.2±0.3, 36.˝26S±0.˝05×97.˝13W±0.˝05, h10km, mb4.8/117, MS4.9/2, Error ellipse: s-maj=8.1km s-min=4.8km az=39.5*
IDC ***14*** *23:49:23.2±0.5, 36.˝27S×97.˝27W, h0km, mb4.6/19, mb1 4.7/19, mb1mx4.6/34, mbtmp4.6/19, MS4.8/3, Ms1 4.8/3, ms1mx4.2/33, Error ellipse: s-maj=19.6km s-min=13.5km az=95.0*
GCMT ***14*** *23:49:24.8±0.4, 36.˝18S×97.˝20W, h31km±2km, MW5.4/69, Moment Tensor Solution. s19,c21; s69,c86; Duration: 1s2 Moment tensor: Scale 10¹⁷Nm; Mrr0.05±.10; Mθθ0.06±.07; Mϕϕ-0.11±.07; Mrθ0.52±.10; Mrϕ-1.24±.05; Mθϕ-0.64±.11; Best double couple: Mo1.46000×10¹⁷ NP1:ϕs181.00000°, δ76.00000°, λ25.00000°. NP2: ϕs84.00000°, δ66.00000°, λ164.00000°. Principal axes: T 1.6380, Plg27.0000°, Azm44.0000°; N -0.3580, Plg62.0000°, Azm209.0000°; P -1.2810, Plg6.0000°, Azm311.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***14*** *23:49:24.8±0.2, 36.˝30S×97.˝18W, h10km, mb5.0/104 Error ellipse: s-maj=6.5km s-min=4.4km az=223.0*
BJI ***14*** *23:49:26.2, 36.˝20S×97.˝10W, h20km, mB5.0/4, Ms5.1/2, Ms7 4.9/2*

ISC 14 23:49:24.6±0.4**, 36.˝29S**±0.˝08×**97.˝19W**±0.˝09**, h10**km**, n374, σ0**s81**/372**, mb4.9**/116**, 1C-1D, West Chile Rise**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPN	**Rapa Nui** comp=Z,4μm,19.6s,baz=110,slow=30	**13.78**	**308**	LR	LR	23 56 18.6	
GO05	**HualaæØ** 124nm,1.0s	**20.56**	**94**	*e*P	**P**	**23 54 04.1**	**+0.6**
CHRN	**Cochrane** 12nm,0.9s	**21.28**	**129**	*e*P	**P**	**23 54 09.9**	**-1.2**
PLCA	**Paso Flores** 32nm,0.9s,baz=302,slow=11,SNR=53	**21.28**	**110**	P	**P**	**23 54 11.9**	**+0.6**
PLCA	**Paso Flores** 189nm,1.4s	**21.28**	**110**	*e*P	**P**	**23 54 12.4**	**+1.1**
ROC1	**El Roble** 44nm,0.9s	**21.77**	**89**	*e*P	**P**	**23 54 18.0**	**+1.2**
ROC1	**El Roble**	**21.77**	**89**	*e*P	**P**	**23 54 15.9**	**-0.8**
PEL	**Peldehue** 90nm,1.2s	**21.99**	**90**	*e*P	**P**	**23 54 19.7**	**+0.8**
GO09	**Cerro Castillo** 169nm,1.6s	**23.22**	**138**	*e*P	**P**	**23 54 33.0**	**+1.3**
AUSP	**Uspallata**	**23.30**	**88**	*e*P	**P**	**23 54 32.6**	**-0.4**
LCO	**Las Campanas** 54nm,1.0s	**23.41**	**80**	*e*P	**P**	**23 54 33.9**	**-0.2**
RTLS	**Leoncito**	**23.51**	**87**	*e*P	**P**	**23 54 34.8**	**-0.3**
AROD	**Rodeo**	**23.93**	**83**	*e*P	**P**	**23 54 39.0**	**-0.3**
RTCV	**Cerro Valdivia**	**24.10**	**88**	*e*P	**P**	**23 54 39.8**	**-0.7**
AMOG	**MOGNA**	**24.44**	**86**	*e*P	**P**	**23 54 43.1**	**-0.6**
AGUA	**GUANDACOL**	**24.98**	**83**	*e*P	**P**	**23 54 47.8**	**-0.8**
ACAN	**Cantantal**	**25.07**	**90**	*e*P	**P**	**23 54 48.5**	**-0.8**
VCA	**Vinchina**	**25.51**	**81**	*e*P	**P**	**23 54 52.8**	**-0.7**
APLL	**PUNTA DE LOS L**	**26.22**	**86**	*e*P	**P**	**23 54 59.1**	**-0.7**
PB10	**IPOC Station P** 90nm,1.4s	**26.27**	**68**	*e*P	**P**	**23 54 59.5**	**-0.8**
TCA	**Tanti**	**27.45**	**89**	*e*P	**P**	**23 55 10.2**	**-0.8**
TRQA	**Tornquist** 25nm,1.3s	**28.02**	**104**	*e*P	**P**	**23 55 16.3**	**+0.4**
FSA	**Cafayete**	**28.45**	**78**	*e*P	**P**	**23 55 19.5**	**-0.5**
PB01	**IPOC Station P** 40nm,1.2s	**28.54**	**65**	*e*P	**P**	**23 55 20.8**	**+0.1**
PB11	**IPOC Station P** 58nm,1.2s	**29.22**	**63**	*e*P	**P**	**23 55 26.4**	**-0.3**
MNMC	**Minye Minye** 55nm,1.1s	**29.67**	**62**	*e*P	**P**	**23 55 30.6**	**-0.3**
ARE	**Arequipa**	**30.18**	**56**	*e*P	**P**	**23 55 36.0**	**+0.6**
LPAZ	**La Paz** 33nm,1.1s,baz=226,slow=5.2,SNR=50	**32.60**	**60**	P	**P**	**23 55 57.8**	**+0.7**
LPAZ	**La Paz** 50nm,1.2s	**32.60**	**60**	*e*P	**P**	**23 55 57.8**	**+0.7**
ATAH	**Atahualpa** 6.0nm,0.7s,baz=233,slow=7.2,SNR=9.1	**33.73**	**35**	P	**P**	**23 56 07.2**	**+0.5**
RKT	**Rikitea** 1μm,29.5s	**35.12**	**281**	*e*LQ	LQ	00 04 19.5	
RKT	825nm,28.0s			*e*LR	LR	00 05 44.9	
RKT	**Rikitea** 2.0nm,0.3s	**35.12**	**281**	*e*T	T	00 33 07.7	
CPUP	**Villa Florida** 3.7nm,0.9s,baz=238,slow=10.0,SNR=7.4	**35.27**	**85**	P	**P**	**23 56 18.1**	**-1.5**
CPUP	**Villa Florida** 28nm,1.5s	**35.27**	**85**	*e*P	**P**	**23 56 18.6**	**-0.9**
OTAV	**Otavalo** 20nm,1.4s	**40.30**	**30**	*e*P	**P**	**23 57 02.5**	**-0.2**
SAML	**Samuel** 35nm,1.4s	**41.17**	**57**	*e*P	**P**	**23 57 09.1**	**-0.3**
SPB	**Sao Paulo** 35nm,0.8s	**44.50**	**88**	*e*P	**P**	**23 57 36.0**	**-0.3**
ROSC	**El Rosal** 4.6nm,0.5s,baz=156,slow=6.3,SNR=9.3	**46.18**	**32**	P	**P**	**23 57 51.0**	**+0.8**
ROSC	**El Rosal** 24nm,1.4s	**46.18**	**32**	*e*P	**P**	**23 57 50.7**	**+0.6**
RUSC	**La Rusia** 15nm,1.4s	**47.66**	**33**	*e*P	**P**	**23 58 01.3**	**-0.6**
PTGA	**Pitinga** 18nm,1.3s	**49.40**	**53**	*e*P	**P**	**23 58 13.9**	**-0.8**
TIAR	**Tiarei** 2.8nm,0.3s	**49.49**	**278**	*e*T	T	00 51 05.8	
SDV	**Santo Domingo** 1.3nm,0.3s,baz=164,slow=20,SNR=3.4	**51.41**	**34**	P	**P**	**23 58 30.2**	**+0.1**
QSPA	**South Pole Qui** 10nm,0.8s,baz=128,slow=5.1,SNR=8.8	**53.93**	**180**	P	**P**	**23 58 48.8**	**+0.7**
QSPA	**South Pole Qui** 18nm,0.7s	**53.93**	**180**	*e*P	**P**	**23 58 47.7**	**-0.4**
VNA3	**Neumayer Olymp**	**55.33**	**157**	P	**P**	**23 58 57.5**	**-0.6**
PCRV	**Puerto La Cruz** 11nm,0.8s,baz=249,slow=3.4,SNR=3.5	**55.46**	**40**	P	**P**	**23 59 01.3**	**+1.6**
PCRV	comp=Z,2μm,18.6s,baz=143,slow=35			LR	LR	00 21 29.4	
VNA1	**Neumayer--Stat**	**55.90**	**156**	P	**P**	**23 59 02.0**	**-0.1**
SBA	**Scott Base** 24nm,1.3s	**56.09**	**195**	*e*P	**P**	**23 59 04.7**	**+1.3**
VNA2	**Neumayer--Watz** baz=291,slow=6.2	**56.12**	**157**	P	**P**	**23 59 03.3**	**-0.4**
VNDA	**Vanda** 4.3nm,0.9s,baz=110,slow=7.7,SNR=11	**57.20**	**195**	P	**P**	**23 59 12.6**	**+1.3**
VNDA	**Vanda** 10nm,1.3s	**57.20**	**195**	*e*P	**P**	**23 59 12.5**	**+1.3**
SNAA	**Sanae**	**57.34**	**158**	P	**P**	**23 59 11.7**	**-0.8**
SNAA	**Sanae** 9.4nm,1.1s,baz=269,slow=6.6,SNR=7.4	**57.34**	**158**	P	**P**	**23 59 11.5**	**-0.9**
SNAA	**Sanae** 33nm,1.5s	**57.34**	**158**	*e*P	**P**	**23 59 12.5**	**0.0**
833A	**Chaparral WMA,** baz=178	**64.30**	**358**	P	**P**	**00 00 01.1**	**+1.0**
TX31	**Lajitas Ar. Si**	**65.56**	**354**	*e*P	**P**	**00 00 08.6**	**+0.2**
TXAR	**Lajitas Array** 3.3nm,0.9s,baz=171,slow=8.9,SNR=15	**65.56**	**354**	P	**P**	**00 00 08.7**	**+0.2**
URZ	**Urewera** comp=Z,409nm,21.9s,baz=186,slow=29	**65.72**	**239**	LR	LR	00 21 32.1	
JCT	**Junction City** baz=178	**66.46**	**358**	P	**P**	**00 00 13.8**	**-0.3**
JCT	**Junction City** 20nm,1.1s	**66.46**	**358**	*e*P	**P**	**00 00 14.2**	**+0.1**
MNTX	**Cornudas Mount** baz=173	**68.07**	**352**	P	**P**	**00 00 23.6**	**-0.6**
MNTX	**Cornudas Mount** 4.1nm,0.9s	**68.07**	**352**	*e*P	**P**	**00 00 23.7**	**-0.6**
245A	**Little AP, Sta** baz=186	**68.31**	**7**	P	**P**	**00 00 27.2**	**+1.4**
353A	**Camilla** baz=191	**68.37**	**12**	P	**P**	**00 00 27.6**	**+1.4**
247A	**Quitman** baz=187	**68.46**	**8**	P	**P**	**00 00 27.5**	**+0.8**
249A	**Camden** baz=189	**68.56**	**9**	P	**P**	**00 00 28.5**	**+1.2**
ABTX	**Abilene, Hawle** baz=178	**68.59**	**358**	P	**P**	**00 00 27.9**	**+0.3**
250A	**Grady** baz=189	**68.68**	**10**	P	**P**	**00 00 28.0**	**0.0**
251A	**Midway** baz=190	**68.92**	**11**	P	**P**	**00 00 29.2**	**-0.3**
149A	**Jones** baz=189	**69.22**	**9**	P	**P**	**00 00 31.6**	**+0.2**
150A	**Eclectic** baz=190	**69.33**	**10**	P	**P**	**00 00 32.0**	**-0.1**
151A	**Opelika** baz=190	**69.35**	**11**	P	**P**	**00 00 32.0**	**-0.2**
TUC	**Tucson** baz=168	**69.42**	**348**	P	**P**	**00 00 32.9**	**+0.1**
LRAL	**Lakeview Retre** baz=189	**69.62**	**9**	P	**P**	**00 00 33.6**	**-0.3**
LRAL	**Lakeview Retre** 11nm,1.0s	**69.62**	**9**	*e*P	**P**	**00 00 35.0**	**+1.1**
Z47A	**Carrollton** baz=188	**69.65**	**8**	P	**P**	**00 00 34.6**	**+0.5**
154A	**Montrose** baz=192	**69.80**	**13**	P	**P**	**00 00 35.1**	**+0.1**
Z49A	**Columbiana** baz=189	**69.84**	**10**	P	**P**	**00 00 35.7**	**+0.5**
Z48A	**Northport** baz=188	**69.89**	**9**	P	**P**	**00 00 35.1**	**-0.5**
155A	**Kite** baz=193	**69.93**	**13**	P	**P**	**00 00 35.8**	**0.0**
Y41A	**Eaglette Beard** baz=184	**69.94**	**4**	P	**P**	**00 00 37.1**	**+1.3**
MSTX	**Muleshoe** baz=175	**70.09**	**355**	P	**P**	**00 00 37.2**	**+0.2**
MSTX	**Muleshoe** 43nm,1.3s	**70.09**	**355**	*e*P	**P**	**00 00 37.2**	**+0.2**
Y45A	**Yeager Farm, C** baz=186	**70.16**	**7**	P	**P**	**00 00 37.1**	**0.0**
Y46A	**Houston** baz=187	**70.24**	**7**	P	**P**	**00 00 38.1**	**+0.4**
SYO	**Syowa Base**	**70.27**	**165**	*e*pP	**P**	**00 00 38.2**	**+0.6**
SYO	**Syowa Base**	**70.27**	**165**	*e*sP	sP	00 00 41.0	-1.0
Y47A	**UCPARC, Winfie** baz=188	**70.37**	**8**	P	**P**	**00 00 38.8**	**+0.3**
Y48A	**Jasper** baz=188	**70.47**	**9**	P	**P**	**00 00 39.7**	**+0.6**
X39A	**Fountain Ranch** baz=183	**70.50**	**3**	P	**P**	**00 00 39.6**	**+0.4**
Y49A	**Blount Mountai** baz=189	**70.51**	**10**	P	**P**	**00 00 39.4**	**+0.1**
GOGA	**Godfrey** baz=192	**70.52**	**12**	P	**P**	**00 00 39.5**	**+0.1**
GOGA	**Godfrey** 19nm,1.3s	**70.52**	**12**	*e*P	**P**	**00 00 40.5**	**+1.1**
MIAR	**Mount Ida** baz=183	**70.55**	**3**	P	**P**	**00 00 39.6**	**0.0**
MIAR	**Mount Ida** 11nm,1.1s	**70.55**	**3**	*e*P	**P**	**00 00 39.9**	**+0.3**
Y50A	**Piedmont** baz=190	**70.63**	**10**	P	**P**	**00 00 40.1**	**0.0**
X45A	**UM Field Stati** baz=187	**70.73**	**7**	P	**P**	**00 00 40.8**	**+0.2**
X47A	**Russelville** baz=188	**70.98**	**8**	P	**P**	**00 00 41.8**	**-0.4**
X48A	**Hartselle** baz=189	**71.01**	**9**	P	**P**	**00 00 42.3**	**-0.1**
X49A	**Woodville** baz=189	**71.17**	**9**	P	**P**	**00 00 43.7**	**+0.4**
W39A	**Magazine** baz=183	**71.19**	**3**	P	**P**	**00 00 44.4**	**+0.9**
W40A	**Ferguson Farm,** baz=184	**71.22**	**4**	P	**P**	**00 00 43.6**	**0.0**
W40A	**Ferguson Farm,** 33nm,1.2s	**71.22**	**4**	*e*P	**P**	**00 00 45.2**	**+1.6**
W41B	**Gary Mavity, V** baz=184	**71.25**	**4**	P	**P**	**00 00 42.4**	**-1.4**
WHAR	**Wooly Hollow** 19nm,1.3s	**71.36**	**4**	*e*P	**P**	**00 00 45.2**	**+0.7**
ANMO	**Albuquerque** baz=172	**71.39**	**352**	P	**P**	**00 00 44.6**	**-0.3**
ANMO	**Albuquerque** 4.6nm,1.0s	**71.39**	**352**	*e*P	**P**	**00 00 45.1**	**+0.2**
Y14A	**Wickenburg** 24nm,1.8s	**71.41**	**346**	*e*P	**P**	**00 00 45.3**	**+0.4**
PLAL	**Pickwick Lake** 32nm,1.8s	**71.42**	**8**	*e*P	**P**	**00 00 45.0**	**+0.2**
HODGE	**Hodges** 26nm,1.4s	**71.53**	**13**	*e*P	**P**	**00 00 46.9**	**+1.4**
X16A	**Lo Mia Camp, P** 11nm,1.5s	**71.59**	**348**	*e*P	**P**	**00 00 46.7**	**+0.5**
W48A	**Pulaski** baz=189	**71.70**	**9**	P	**P**	**00 00 46.3**	**-0.3**
W47A	**Westpoint** baz=188	**71.73**	**8**	P	**P**	**00 00 46.5**	**-0.3**
JSC	**Jenkinsville** 98nm,1.9s	**71.77**	**14**	*e*P	**P**	**00 00 48.4**	**+1.5**
PFO	**Pinyon Flats O** baz=164	**71.83**	**343**	P	**P**	**00 00 47.5**	**0.0**
V39A	**Pettigrew** baz=183	**71.84**	**3**	P	**P**	**00 00 47.2**	**-0.3**
V40A	**Witts Springs** baz=184	**71.84**	**4**	P	**P**	**00 00 47.8**	**+0.3**
TUL1	**Leonard** baz=181	**71.84**	**1**	P	**P**	**00 00 46.4**	**-1.0**
V42A	**Cord** baz=185	**71.93**	**5**	P	**P**	**00 00 47.4**	**-0.5**
BG3	**Lake Jocassee** 124nm,1.9s	**72.15**	**12**	*e*P	**P**	**00 00 50.4**	**+1.1**
V46A	**Holladay** baz=188	**72.22**	**8**	P	**P**	**00 00 49.0**	**-0.6**
V48A	**Smith Brothers** baz=189	**72.31**	**9**	P	**P**	**00 00 49.8**	**-0.4**
V47A	**Nunnelly** baz=188	**72.31**	**8**	P	**P**	**00 00 49.9**	**-0.3**
U39A	**Green Forest** baz=183	**72.39**	**3**	P	**P**	**00 00 50.2**	**-0.5**
U40A	**Yellville** baz=184	**72.39**	**4**	P	**P**	**00 00 50.8**	**+0.1**
U42A	**Revenden** baz=185	**72.48**	**5**	P	**P**	**00 00 50.8**	**-0.4**
WVT	**Waverly** baz=188	**72.58**	**8**	P	**P**	**00 00 51.0**	**-0.7**
WVT	**Waverly** 12nm,1.0s	**72.58**	**8**	*e*P	**P**	**00 00 52.0**	**+0.2**
KMSC	**Kings Mountain** baz=193	**72.59**	**14**	P	**P**	**00 00 52.3**	**+0.5**
KMSC	**Kings Mountain** 11nm,0.9s	**72.59**	**14**	*e*P	**P**	**00 00 53.0**	**+1.2**
TKL	**Tuckaleechee C** 3.0nm,0.8s,baz=173,slow=8.1,SNR=3.0	**72.66**	**11**	P	**P**	**00 00 52.7**	**+0.4**
TKL	**Tuckaleechee C** 20nm,1.3s	**72.66**	**11**	*e*P	**P**	**00 00 52.3**	**-0.1**
GMRC	**Granite Mounta** baz=164	**72.78**	**344**	P	**P**	**00 00 53.5**	**+0.3**
U47A	**Clarksville** baz=188	**72.95**	**8**	P	**P**	**00 00 53.8**	**-0.1**
T38A	**Diamond** baz=182	**73.01**	**2**	P	**P**	**00 00 54.0**	**-0.3**
T39A	**Clever** baz=183	**73.03**	**3**	P	**P**	**00 00 54.1**	**-0.4**
T41A	**Mountain View** baz=185,SNR=6.2	**73.14**	**5**	P	**P**	**00 00 54.2**	**-0.9**
T42A	**Van Buren** baz=185	**73.17**	**5**	P	**P**	**00 00 54.2**	**-1.1**
T40A	**Mansfield** baz=184	**73.20**	**4**	P	**P**	**00 00 53.5**	**-2.0**
T43A	**Greenville** baz=186	**73.28**	**6**	P	**P**	**00 00 54.5**	**-1.5**
T25A	**Trinidad** baz=174	**73.36**	**354**	P	**P**	**00 00 56.4**	**-0.3**
TUQ	**Turquoise Moun** baz=164	**73.46**	**344**	P	**P**	**00 00 57.6**	**+0.4**
T46A	**Princeton** baz=188	**73.47**	**8**	P	**P**	**00 00 56.3**	**-0.7**
TZTN	**Tazewell** 20nm,1.2s	**73.57**	**11**	*e*P	**P**	**00 00 58.5**	**+0.9**
S38A	**Stockton** baz=183	**73.61**	**3**	P	**P**	**00 00 58.0**	**+0.1**
S40A	**Lebanon** baz=184,SNR=9.3	**73.65**	**4**	P	**P**	**00 00 57.7**	**-0.4**
S41A	**Jillco Farms,** baz=185,SNR=6.4	**73.68**	**5**	P	**P**	**00 00 57.9**	**-0.4**
S39A	**Bolivar** baz=183	**73.70**	**3**	P	**P**	**00 00 58.0**	**-0.4**
T48A	**Bowling Green** baz=189	**73.71**	**9**	P	**P**	**00 00 58.5**	**0.0**
S43A	**Fulton Ridge,** baz=186	**73.79**	**6**	P	**P**	**00 00 58.7**	**-0.2**
MVCO	**Mesa Verde** baz=170	**73.88**	**351**	P	**P**	**00 01 00.3**	**+0.6**
MVCO	**Mesa Verde** 11nm,1.0s	**73.88**	**351**	*e*P	**P**	**00 00 60.0**	**+0.2**
S42A	**Caledonia** baz=185	**73.93**	**5**	P	**P**	**00 00 59.6**	**-0.1**
R38A	**Fenwick Farm,** baz=183,SNR=8.8	**74.17**	**3**	P	**P**	**00 01 01.0**	**-0.1**
CCM	**Cathedral Cave** baz=185	**74.18**	**5**	P	**P**	**00 01 01.5**	**+0.3**
CCM	**Cathedral Cave** 21nm,1.0s	**74.18**	**5**	*e*P	**P**	**00 01 01.5**	**+0.3**
S22A	**4UR Ranch, Cre** baz=172	**74.20**	**352**	P	**P**	**00 01 01.8**	**+0.1**
S22A	**4UR Ranch, Cre** 6.9nm,1.0s	**74.20**	**352**	*e*P	**P**	**00 01 02.1**	**+0.4**
S48A	**Wiedeman Farm,** baz=189	**74.30**	**9**	P	**P**	**00 01 01.8**	**-0.1**
SHPR	**Sheep Range** 9.6nm,1.2s	**74.33**	**345**	*e*P	**P**	**00 01 02.9**	**+0.6**
R39A	**Chumby, Stover** baz=184,SNR=8.3	**74.33**	**3**	P	**P**	**00 01 02.0**	**-0.1**
R40A	**Maddies Statio** baz=184	**74.35**	**4**	P	**P**	**00 01 01.9**	**-0.3**
R41A	**Rosebud** baz=185,SNR=7.8	**74.41**	**5**	P	**P**	**00 01 02.6**	**+0.1**
MPMC	**Manual Prospec** baz=163	**74.41**	**343**	P	**P**	**00 01 03.4**	**+0.6**
R42A	**Luebbering** baz=185	**74.44**	**5**	P	**P**	**00 01 03.6**	**+0.9**
LCMT	**Little Creek M** 19nm,2.0s	**74.44**	**347**	*e*P	**P**	**00 01 02.9**	**0.0**
R43A	**Red Bud** baz=186	**74.50**	**6**	P	**P**	**00 01 03.6**	**+0.6**
R45A	**Skylar, Fairfi** baz=187	**74.67**	**7**	P	**P**	**00 01 03.9**	**-0.1**
BLA	**Blacksburg** baz=194	**74.77**	**14**	P	**P**	**00 01 04.5**	**-0.2**
PV05	**Paradox Valley**	**74.81**	**350**	*e*P	**P**	**00 01 06.0**	**+0.9**
WCI	**Wyandotte Cave** 27nm,0.8s	**74.83**	**9**	*e*P	**P**	**00 01 04.8**	**-0.2**
R47A

PV09	Paradox Valley	75.23	350	eP	P	P	00 01 08.1	+0.5
Q24A	Divide	75.24	354	P	P	P	00 01 08.5	+0.7
	baz=173							
Q45A	Warren Harvey,	75.28	7	P	P	P	00 01 07.7	+0.2
	baz=188							
MAW	Mawson	75.33	172	P	P	P	00 01 08.9	+1.3
	1.9nm,0.6s,baz=249,slow=8.6,SNR=2.4							
P37A	Lathrop	75.55	2	P	P	P	00 01 08.4	-0.6
	baz=182							
P40A	Paris	75.60	4	P	P	P	00 01 08.7	-0.6
	baz=184,SNR=7.3							
P38A	Dawn	75.62	3	P	P	P	00 01 08.7	-0.7
	baz=183,SNR=5.6							
SMCO	Snowmass	75.64	352	eP	P	P	00 01 10.0	-0.1
	8.2nm,0.9s							
MSU	Marysvale	75.71	348	eP	P	P	00 01 11.4	+1.1
P42A	Winchester	75.77	5	P	P	P	00 01 09.7	-0.5
	baz=186							
P44A	Sand Creek, Wi	75.80	7	P	P	P	00 01 09.1	-1.4
	baz=187							
P41A	Barry, Barry	75.80	5	P	P	P	00 01 10.3	-0.2
	baz=185							
P43A	Skaggs, Pawnee	75.89	6	P	P	P	00 01 10.2	-0.7
	baz=186							
Q16A	Castle Valley	75.94	349	eP	P	P	00 01 12.6	+1.0
	10nm,1.1s							
P45A	Graceland, Par	75.95	8	P	P	P	00 01 09.9	-1.5
	baz=188							
O33A	Hebron	75.99	360	P	P	P	00 01 11.6	-0.1
	baz=180							
SRU	San Rafael Swe	76.03	349	eP	P	P	00 01 12.2	+0.1
	6.4nm,1.0s							
O34A	Beatrice	76.10	0	P	P	P	00 01 13.2	+1.0
	baz=180							
ISCO	Idaho Springs	76.11	353	P	P	P	00 01 13.3	+0.5
	baz=173							
ISCO	Idaho Springs	76.11	353	eP	P	P	00 01 13.2	+0.5
	3.6nm,1.1s							
R11A	Troy Canyon, C	76.19	345	P	P	P	00 01 11.0	-2.0
	baz=165							
R11A	Troy Canyon, C	76.19	345	eP	P	P	00 01 13.4	+0.4
	4.9nm,0.9s							
O40A	La Belle	76.19	4	P	P	P	00 01 13.2	+0.5
	baz=184,SNR=16							
O41A	Passleys Farm,	76.25	5	P	P	P	00 01 13.1	+0.1
	baz=185,SNR=14							
TMUT	Trail Mountain	76.32	349	eP	P	P	00 01 14.3	+0.5
	9.5nm,0.8s							
P17A	Butcher Ranch,	76.42	349	eP	P	P	00 01 14.9	+0.7
	7.7nm,1.2s							
P18A	Preston Nutter	76.50	350	eP	P	P	00 01 15.9	+1.0
	3.7nm,0.9s							
O20A	White River Ci	76.73	351	P	P	P	00 01 16.3	+0.3
	baz=171							
O20A	White River Ci	76.73	351	eP	P	P	00 01 17.1	+1.1
	16nm,1.3s							
N34A	Lincoln	76.76	1	P	P	P	00 01 16.7	+0.8
	baz=181							
N35A	Tabor	76.79	1	P	P	P	00 01 16.2	+0.1
	baz=181							
NV11	Mina Array Sit	76.83	343	eP	P	P	00 01 17.1	+0.5
	1.0nm,1.3s							
N41A	Harden Midland	76.84	5	P	P	P	00 01 15.8	-0.6
	baz=185							
NV01	Mina Array Sit	76.87	343	eP	P	P	00 01 16.2	-0.7
NVAR	Mina Array Bea	76.87	343	P	P	P	00 01 16.9	0.0
	8.7nm,1.0s,baz=169,slow=5.8,SNR=18							
N39A	Derby Farms, D	76.91	4	P	P	P	00 01 15.8	-1.0
	baz=184,SNR=6.9							
N40A	Mertquake, Sal	76.97	4	P	P	P	00 01 16.8	-0.3
	baz=185,SNR=5.4							
OGNE	Ogallala	76.99	356	P	P	P	00 01 18.2	+0.9
	baz=176							
NLU	North Lily Min	77.10	348	eP	P	P	00 01 18.4	+0.2
	4.4nm,0.9s							
N43A	Stutzman Famil	77.21	6	P	P	P	00 01 18.4	-0.1
	baz=187							
N23A	Red Feather La	77.23	353	P	P	P	00 01 19.6	+0.7
	baz=173							
N23A	Red Feather La	77.23	353	eP	P	P	00 01 19.9	+1.0
	7.9nm,1.1s							
ACSO	Alum Creek Sta	77.26	11	P	P	P	00 01 18.8	+0.1
	baz=192							
ACSO	Alum Creek Sta	77.26	11	eP	P	P	00 01 19.5	+0.7
	19nm,0.9s							
BGNE	Belgrade	77.33	359	eP	P	P	00 01 19.5	+0.3
	53nm,1.0s							
M38A	Pleasantville	77.42	3	P	P	P	00 01 19.1	-0.5
	baz=183,SNR=5.6							
DUG	Dugway, Tooele	77.46	348	P	P	P	00 01 20.2	+0.2
	baz=167							
DUG	Dugway, Tooele	77.46	348	eP	P	P	00 01 20.5	+0.4
	6.4nm,1.0s							
M40A	Post Highland	77.50	4	P	P	P	00 01 20.3	+0.3
	baz=185							
M39A	Webster	77.53	4	P	P	P	00 01 21.1	+0.9
	baz=184							
YERR	Yerington	77.62	343	eP	P	P	00 01 21.2	+0.2
	18nm,1.5s							
M43A	Waltham Townsh	77.72	6	P	P	P	00 01 21.3	0.0
	baz=187							
O56A	Blue Knob Stat	78.09	14	P	P	P	00 01 23.5	0.0
	baz=195							
O56A	Blue Knob Stat	78.09	14	eP	P	P	00 01 22.9	-0.6
	17nm,1.0s							
RWWY	Rawlins	78.14	352	eP	P	P	00 01 24.6	+0.6
	6.6nm,0.9s							
L38A	Oak Wood Farm,	78.15	3	P	P	P	00 01 24.3	+0.7
	baz=184							
L40A	Anamosa	78.17	5	P	P	P	00 01 23.9	+0.2
	baz=185							
L39A	Vinton	78.18	4	P	P	P	00 01 24.7	+0.8
	baz=184							
BGU	Big Grassy Mou	78.20	348	eP	P	P	00 01 24.4	+0.2
	6.0nm,1.2s							
L43A	Garden Prairie	78.48	6	P	P	P	00 01 25.8	+0.3
	baz=187							
N54A	Moraine State	78.48	13	P	P	P	00 01 25.4	-0.2
	baz=194							
N54A	Moraine State	78.48	13	eP	P	P	00 01 25.6	0.0
	76nm,1.9s							
BMN	Battle Mountai	78.54	345	eP	P	P	00 01 26.8	+0.7
	14nm,1.4s							
K31A	O'Neill	78.55	359	P	P	P	00 01 27.5	+1.5
	baz=179							
SSPA	Standing Stone	78.58	15	P	P	P	00 01 25.8	-0.2
	baz=196							
SSPA	Standing Stone	78.58	15	eP	P	P	00 01 26.2	+0.1
	26nm,1.4s							
HWUT	Hardware Ranch	78.63	349	eP	P	P	00 01 26.2	-0.4
	4.3nm,1.0s							
K37A	Belmond	78.75	3	P	P	P	00 01 26.8	-0.1
	baz=183							
K39A	Oelwein	78.77	4	P	P	P	00 01 26.9	-0.1
	baz=184							
K42A	Prairie Point,	79.02	6	P	P	P	00 01 29.2	+0.7
	baz=186							
K22A	Casper	79.03	353	P	P	P	00 01 29.1	+0.4
	baz=172							
K22A	Casper	79.03	353	eP	P	P	00 01 29.3	+0.6
	11nm,0.9s							
K43A	Burlington	79.03	7	P	P	P	00 01 29.0	+0.5
	baz=187							
M54A	Oil Creek Stat	79.07	13	P	P	P	00 01 28.3	-0.5
	baz=194							
M54A	Oil Creek Stat	79.07	13	eP	P	P	00 01 28.5	-0.3
	16nm,1.1s							
ALLY	Allegheny Colle	79.12	13	eP	P	P	00 01 29.4	+0.3
	30nm,1.2s							
AAM	Ann Arbor	79.19	10	P	P	P	00 01 29.8	+0.4
	baz=191							
AAM	Ann Arbor	79.19	10	eP	P	P	00 01 30.0	+0.7
	30nm,1.0s							
J37A	Redenius Farm,	79.29	3	P	P	P	00 01 30.1	+0.1
	baz=183							
J38A	Wedel Dairy, R	79.35	4	P	P	P	00 01 30.8	+0.5
	baz=184							
J39A	Decorah	79.41	4	P	P	P	00 01 30.7	+0.1
	baz=184							
BW06	Boulder Array	79.49	351	P	P	P	00 01 31.1	-0.2
	baz=170							
BW06	Boulder Array	79.49	351	eP	P	P	00 01 31.2	-0.1
	8.0nm,0.7s							
PD31	Pinedale Array	79.49	351	eP	P	P	00 01 30.9	-0.5
PDAR	Pinedale Array	79.49	351	P	P	P	00 01 31.6	+0.2
	4.0nm,0.6s,baz=155,slow=5.3,SNR=41							
PDAR	Pinedale Array	79.49	351	eP	P	P	00 01 29.8	-1.5
O03D	Paynes Creek	79.50	341	P	P	P	00 01 29.9	-1.3
	baz=160							
ECSD	EROS Data Cent	79.65	0	P	P	P	00 01 32.1	+0.2
	baz=180							
ECSD	EROS Data Cent	79.65	0	eP	P	P	00 01 31.9	0.0
	10nm,1.0s							
J43A	Natural Harves	79.70	6	P	P	P	00 01 31.8	-0.3
	baz=187							
I39A	Houston	79.93	4	P	P	P	00 01 34.5	+1.0
	baz=185							
I37A	Lemond, Waseca	80.00	3	P	P	P	00 01 34.0	+0.2
	baz=183,SNR=6.6							
I40A	Norwalk	80.03	5	P	P	P	00 01 34.7	+0.8
	baz=185							
I38A	Scanlan Farm,	80.08	4	P	P	P	00 01 34.4	+0.2
	baz=184,SNR=6.6							
REDW	Red Top Meadow	80.25	350	eP	P	P	00 01 35.4	0.0
	14nm,1.4s							
I41A	Arkdale	80.25	5	P	P	P	00 01 35.8	+0.7
	baz=186							
RSSD	Black Hills	80.28	355	P	P	P	00 01 36.3	+0.8
	baz=174							
RSSD	Black Hills	80.28	355	eP	P	P	00 01 35.9	+0.3
	13nm,1.2s							
TPAW	Teton Pass	80.39	350	eP	P	P	00 01 36.2	0.0
	14nm,1.1s							
H32A	Carlson Farm,	80.42	360	P	P	P	00 01 36.5	+0.4
	baz=180							
LOHW	Long Hollow	80.46	350	eP	P	P	00 01 36.4	-0.1
	5.5nm,1.0s							
FXWY	Fox Creek	80.54	350	eP	P	P	00 01 37.0	0.0
	6.3nm,1.0s							
MOOW	Moose Ponds	80.61	350	eP	P	P	00 01 38.0	+0.6
	4.3nm,1.0s							
H38A	Maiden Rock	80.71	4	P	P	P	00 01 38.0	+0.4
	baz=184							
H39A	Augusta	80.77	4	P	P	P	00 01 38.6	+0.7
	baz=185							
H40A	Chili	80.77	5	P	P	P	00 01 37.1	-0.8
	baz=186							
IMW	Indian Meadow	80.78	350	eP	P	P	00 01 38.7	+0.3
	17nm,1.5s							
M04C	Macdoel	80.91	342	P	P	P	00 01 38.7	-0.2
	baz=160							
HLID	Hailey	81.01	347	P	P	P	00 01 40.2	+0.8
	baz=166							
HLID	Hailey	81.01	347	eP	P	P	00 01 39.9	+0.5
	15nm,1.3s							
YBH	Yreka Blue Hor	81.08	341	P	P	P	00 01 39.5	-0.3
	2.6nm,0.8s,baz=280,slow=18,SNR=2.9							
YPP	Pitchstone Pla	81.13	350	eP	P	P	00 01 42.2	+2.0
	5.2nm,1.1s							
SPMN	Marine on St.	81.23	3	P	P	P	00 01 40.8	+0.5
	baz=184,SNR=7.7							
SPMN	Marine on St.	81.23	3	eP	P	P	00 01 39.6	-0.8
	21nm,0.9s							
G39A	Holcombe	81.38	4	P	P	P	00 01 40.9	-0.2
	baz=185							
QUA2	Belchertown	81.42	18	eP	P	P	00 01 41.8	+0.4
	32nm,1.2s							
G40A	Rib Lake	81.43	5	P	P	P	00 01 41.7	+0.2
	baz=186							
K05A	Summer Lake	81.56	343	eP	P	P	00 01 43.9	+1.4
	24nm,1.3s							
J08A	Circle Bar Ran	81.61	344	eP	P	P	00 01 43.4	+0.8
	16nm,1.1s							
YHH	Holmes Hill	81.64	350	eP	P	P	00 01 43.9	+1.0
	8.8nm,1.1s							
QLMT	Earthquake Lak	81.77	350	eP	P	P	00 01 44.4	+0.9
RLMT	Red Lodge	81.77	351	P	P	P	00 01 43.8	+0.3
	baz=170							
RLMT	Red Lodge	81.77	351	eP	P	P	00 01 42.2	-1.3
	9.9nm,0.9s							
F36A	Mica	81.84	3	P	P	P	00 01 44.0	+0.4
	baz=183,SNR=8.1							
MCMT	McKenzie Canyo	81.98	349	eP	P	P	00 01 45.5	+0.9
F39A	Loretta	82.02	4	P	P	P	00 01 44.9	+0.4
	baz=185							
J05D	Fort Rock, OR	82.17	343	P	P	P	00 01 46.4	+0.8
	baz=161							
E36A	McGregor	82.51	3	P	P	P	00 01 47.4	+0.3
	baz=183							
BOZ	Bozeman (W)	82.55	350	P	P	P	00 01 48.3	+0.8
	baz=182							
BOZ	Bozeman (W)	82.55	350	eP	P	P	00 01 48.7	+1.2
	5.1nm,1.0s							
PINE	Pine Mountain	82.58	343	eP	P	P	00 01 48.6	+0.9
	8.7nm,0.9s							
E40A	Wakefield	82.62	5	P	P	P	00 01 48.3	+0.7
	baz=186							
LRM	Limekiln Ridge	82.89	349	eP	P	P	00 01 50.2	+0.9
PLVO	Plevna	82.97	14	P	P	P	00 01 50.9	+1.5
	baz=196							
PLVO	Plevna	82.97	14	eP	P	P	00 01 51.0	+1.5
	17nm,1.3s							
LAO	LASA Array	83.00	354	P	P	P	00 01 50.1	+0.5
	baz=173							
LAO	LASA Array	83.00	354	eP	P	P	00 01 50.5	+0.8
	17nm,1.1s							
D34A	Park Rapids	83.02	1	P	P	P	00 01 50.2	+0.5
	baz=182							
LONY	Lake Ozonia	83.10	16	P	P	P	00 01 49.9	-0.3
	baz=198							
LONY	Lake Ozonia	83.10	16	eP	P	P	00 01 50.0	-0.2
	19nm,1.3s							
G08A	Pilot Rock	83.55	345	eP	P	P	00 01 53.6	+0.9
	16nm,1.4s							
PEMO	Pembroke	83.55	14	P	P	P	00 01 52.8	+0.4
	baz=196							
C31A	Landman Farms,	83.71	360	P	P	P	00 01 54.2	+1.0
	baz=180							
H04A	Detroit Lake	83.72	342	eP	P	P	00 01 54.0	+0.7
	46nm,1.8s							
F10A	Beach Ranch, E	83.86	346	eP	P	P	00 01 54.9	+0.7
	15nm,1.2s							
ALFO	Alfred	83.99	16	P	P	P	00 01 56.1	+1.5
	baz=198							
MSO	Missoula	84.10	349	P	P	P	00 01 56.2	+0.8
	baz=166							
MSO	Missoula	84.10	349	eP	P	P	00 01 56.0	+0.6
	19nm,1.5s							
AGMN	Agassiz Nation	84.22	1	P	P	P	00 01 55.6	-0.2
	baz=181							
AGMN	Agassiz Nation	84.22	1	eP	P	P	00 01 55.8	0.0
	49nm,1.9s							
B35A	Bob, Littlefor	84.33	2	P	P	P	00 01 55.8	-0.6
	baz=183							
TRQ	Mont Tremblant	84.63	16	eP	P	P	00 01 57.1	-0.9
HAWA	Hanford	84.73	345	eP	P	P	00 01 59.0	+0.6
	38nm,1.5s							
A33A	Warroad	84.87	1	P	P	P	00 01 58.6	-0.5
	baz=181,SNR=7.9							
NEW	Newport	86.04	347	eP	P	P	00 02 05.0	0.0
	13nm,1.3s							
ULM	Lac du Bonnet	86.17	1	P	P	P	00 02 04.5	-1.0
	5.7nm,1.0s,baz=214,slow=2.2,SNR=5.7							
ULM	Lac du Bonnet	86.17	1	eP	P	P	00 02 05.3	-0.2
	12nm,1.3s							
SCHQ	Schefferville	94.43	17	P	P	P	00 02 45.9	+1.6
	2.6nm,0.6s,baz=209,slow=9.4,SNR=3.6							
YKA	Yellowknife Ar	99.44	352	P	Pdif	P	00 03 06.2	-0.4
	0.4nm,0.9s,baz=150,slow=4.0,SNR=6.1							
BESE	Bessie Mountai	99.61	341	eP	Pdif	P	00 03 08.6	+1.0
H01W1	Cape Leeuwin H	103.39	206	T	T		01 59 16.4	
	baz=153,slow=75,SNR=9.1							
H01W2	Cape Leeuwin H	103.39	206	T	T		01 59 32.2	
	baz=153,slow=75,SNR=10							
H01W3	Cape Leeuwin H	103.41	206	T	T		01 59 24.7	
	baz=153,slow=75,SNR=11							
TORD	Torodi Ar. Bea	104.76	84	PKiKP	PKiKP	P	00 07 48.1	+1.0
	1.8nm,1.1s,baz=247,slow=5.9,SNR=3.8							
GERES	GERESS Array B	129.25	53	PKP	PKPdf	P	00 08 31.8	-1.1
	1.4nm,0.8s,baz=232,slow=1.5,SNR=6.8							
SEY	Seymchan	130.77	326	PKP	PKPdf	P	00 08 34.7	-0.4
	2.9nm,0.3s,baz=68,slow=1.4,SNR=18							
FINES	FINESS Array B	136.87	36	PKP	PKPdf	P	00 08 44.4	-2.1
	3.2nm,1.0s,baz=160,slow=4.4,SNR=2.6							
TIXI	Tiksi	137.44	340	ePKPdf	PKPdf	P	00 08 47.6	+0.3
AKASG	Malin Array Be	139.45	52	PKP	PKPdf	P	00 08 50.4	-1.3
	0.7nm,0.6s,baz=269,slow=3.2,SNR=5.0							
KSRS	Korea Array	144.15	286	PKP	PKPab	P	00 08 58.1	-0.1
	2.1nm,0.8s,baz=103,slow=3.6,SNR=12							
KSAR	Wonju Array Be	144.18	286	PKP	PKPab	P	00 08 58.1	-0.2
RAYN	Ar Rayn	145.46	101	ePKPbc	PKPdf	P	00 09 03.3	0.0
KIV	Kislovodsk	148.63	63	ePKPbc	PKPbc	P	00 09 10.4	-1.3
KBZ	Khabaz	148.78	64	PKPbc	PKPbc	P	00 09 12.5	+0.6
	6.8nm,1.0s,baz=238,slow=1.2,SNR=17							
NJ2	Nanjing	149.99	273	ePKPbc	PKPdf	P	00 09 10.0	-0.4
GNI	Garni	150.00	71	PKPbc	PKPbc	P	00 09 15.8	+0.4
	11nm,1.0s,baz=353,slow=3.5,SNR=11							
HHC	Hu-ho-hao-te	157.11	290	ePKP	PKPdf	P	00 09 15.3	-5.2
AKTO	Aktyubinsk	157.23	44	PKPab	PKPab	P	00 09 51.6	+0.4
	2.4nm,0.7s,baz=319,slow=7.9,SNR=6.4							
CMAR	Chiang Mai Arr	157.24	223	PKPab	PKPab	P	00 09 52.0	0.0
	0.9nm,0.8s,baz=173,slow=2.9,SNR=7.8							
GYA	Guiyang	157.45	251	ePKP	PKPdf	P	00 09 21.0	-0.4
GYA				PKPab	pPKPab	P	00 09 55.4	-1.0
GYA				PKS	PKSdf	P	00 12 53.3	-2.1
GYA				PP	PP	P	00 13 35.0	+2.8
GYA				AMB	AMB			
	comp=Z,120nm,8.4s							
ABKAR	Akbulak array	158.90	45	ePKPdf	PKPdf	P	00 09 22.7	+0.5
SONM	Songino Array	159.12	311	PKP	PKPdf	P	00 09 24.0	+1.2
	0.8nm,1.1s,baz=211,slow=1.7,SNR=3.7							
SONM				PKPab	PKPab	P	00 09 57.6	-2.0
	0.9nm,0.7s,baz=102,slow=1.5,SNR=4.5							
GEYT	Alibeck	160.25	78	PKP	PKPdf	P	00 09 24.5	+0.3
	2.8nm,0.9s,baz=255,slow=5.7,SNR=7.5							
GEYT				PKPab	PKPab	P	00 10 04.6	-0.2
	0.6nm,0.3s,baz=265,slow=11,SNR=2.8							
BVAR	Borovoye Array	161.13	24	PKP	PKPdf	P	00 09 24.6	-0.1
	0.5nm,0.4s,baz=211,slow=1.7,SNR=6.4							
CD2	Chengdu	161.75	259	PKP	PKPdf	P	00 09 26.0	-0.1
ZALV	Zalesovo Beam	162.28	356	PKP	PKPdf	P	00 09 23.3	-2.5
	0.7nm,0.4s,baz=294,slow=1.5,SNR=8.8							
ZALV				PKPab	PKPab	P	00 10 13.1	+0.2
	1.1nm,0.7s,baz=328,slow=5.1,SNR=2.7							
LZH	Lanzhou	163.01	276	ePKP	PKPdf	P	00 09 24.1	-3.3
LZH				pPKP	sPKPdf		00 09 35.0	+3.0
LZH				sPKP			00 09 38.5	
LZH				LR	LR			
	comp=N,140nm,18.5s							
LZH				LR	LR			
	comp=E,130nm,19.0s							
LZH				LR	LR			
	comp=Z,160nm,20.1s							
MKAR	Makanchi Array	169.50	2	PKP	PKPdf	P	00 09 29.6	-2.3
	0.7nm,0.9s,baz=253,slow=1.3,SNR=4.2							
MKAR				PKPab	PKPab	P	00 10 44.3	-0.7
	2.3nm,1.1s,baz=7.6,slow=3.7,SNR=8.2							
WMQ	Urumqi	171.60	335	ePKP	PKPdf	P	00 09 33.6	+0.4
KSH	Kashi	173.71	57	PKP	PKPdf	P	00 09 35.4	+1.1

KRSC 14 23:54:37.7±1.1, 48°.43N×156°.84E, h16km±28km, ML3.9, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	Severo-Kuril's	2.31	349	eP	Pn	23 55 16.5	+1.6
SKR				eS	Sn	23 55 44.7	+1.8
PAU	Pauzhetka	3.04	360	eP	Pn	23 55 27.4	+2.4
PAU				eS	Sb	23 56 05.0	-3.2
KDTR	Khodutka, Kamc	3.48	13	eS	Sn	23 56 16.2	+4.4
MIPR	Malaya Ipel'ka	3.85	359	eP	Pn	23 55 39.1	+2.9
ASAK	Asacha	4.02	9	eP	Pn	23 55 42.9	+4.4
MTVR	Mutnovka	4.15	11	eP	Pn	23 55 43.4	+3.0
MTVR				eS	Sn	23 56 33.6	+5.0
RUS	Russkaya	4.15	14	eP	Pn	23 55 44.8	+4.5
RUS				S	Sn	23 56 32.5	+4.1
KRMR	Karymshinskiy	4.49	10	eP	Pn	23 55 49.8	+5.0
KRMR				eS	Sn	23 56 41.9	+5.3
DALK	Dalny	4.77	14	eP	Pn	23 55 53.3	+4.6
UGLR	Uglovaya	4.95	14	eP	Pn	23 55 56.2	+4.8
AVH	Avacha	4.99	13	eP	Pn	23 55 57.0	+5.1
AVH				eS	Sn	23 56 53.4	+4.2
SMAR	Somma	5.00	14	eP	Pn	23 55 56.9	+4.8
SDLR	Sedlovina	5.03	14	eP	Pn	23 55 57.1	+4.7
KRER	Koryakskii	5.03	13	eP	Pn	23 55 56.7	+4.2
KRX	Arik	5.07	12	eP	Pn	23 55 57.1	+4.1
SPN	Mys Shipunski	5.09	22	eP	Pn	23 55 57.1	+3.9
SPN				eS	Sn	23 56 57.2	+5.6
GNL	Ganaly	5.32	7	eP	Pn	23 56 01.0	+4.6

DJA 14 23:56:32.6±0.5, 8°.S±3'×107°.7E±', h32km±5km, M3.9/13, MLv3.9/13, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CISI	Cisompet, Garu	0.62	50	P	Pn	23 56 45.2	0.0
CISI				S	Sb	23 56 53.6	-0.1
LEM	Lembang	1.16	14	P	Pn	23 56 53.3	+0.5
SKJI	Sukabumi	1.23	321	P	Pn	23 56 52.8	-0.7
SKJI				S	Sn	23 57 07.2	-1.8
KPJI	Karang Pucung	1.70	69	P	Pn	23 57 01.3	+1.3
SBJI	Serang	2.19	327	P	Pn	23 57 06.8	0.0
SBJI				S	Sn	23 57 32.3	-0.5
UGM	Wanagama	3.15	89	P	Pn	23 57 22.1	+2.0
UGM				S	Sn	23 57 56.0	-0.7
WOJI	Wonogiri, Jawa	3.55	88	P	Pn	23 57 27.5	+2.0
WOJI				S	Sn	23 58 06.0	-0.5
PCJI	Pacitan	3.81	94	P	Pn	23 57 30.7	+1.7
PCJI				S	Sn	23 58 12.4	-0.4
PWJI	Pagerwojo	4.42	91	P	Pn	23 57 39.4	+1.9
PWJI				S	Sn	23 58 30.0	+2.1
MDSI	Maura Dua	4.67	317	P	Pn	23 57 44.3	+3.4

BJI 14 23:58:38.3, 37°.83N×106°.28E, h6km, ML3.6/11, Western Nei Mongol

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LZH	Lanzhou	2.61	229	ePg	Pb	23 59 25.3	-0.4
LZH				Sg	Sb	23 59 58.3	+0.2
LZH				smax	smax		
	comp=N,550nm,0.9s						
LZH				smax	smax		
	comp=E,470nm,0.9s						
XAN	Xi'an	4.35	150	Pg	Pb	23 59 54.8	-0.3
XAN				Sg	Sb	00 00 50.4	+2.5
XAN				smax	smax		
	comp=N,62nm,0.6s						
XAN				smax	smax		
	comp=E,54nm,0.6s						
GTA	Gaotai	5.30	289	Pn	Pn	23 59 58.4	+0.2
GTA				Pg	Pb	00 00 12.3	+0.8
GTA				Sg	Sb	00 01 21.1	+5.7
GTA				smax	smax		
	comp=N,66nm,0.8s						
GTA				smax	smax		
	comp=E,46nm,0.9s						
WMQ	Urumqi	15.28	299	eP

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**16.06**	**21**	**Pn**	**Pn**	**00 43 27.9**	**-0.9**
	0.1nm,0.3s,baz=216,slow=12,SNR=1.5						
H08S2	**Diego Garcia H**	**23.21**	**242**	T	T	01 08 02.6	
	baz=60,slow=75,SNR=34						
H08S3	**Diego Garcia H**	**23.21**	**242**	T	T	01 07 59.1	
	baz=60,slow=75,SNR=28						
H08S1	**Diego Garcia H**	**23.23**	**242**	T	T	01 08 03.5	
	baz=60,slow=75,SNR=28						
MKAR	**Makanchi Array**	**44.22**	**349**	P	**P**	**00 47 51.4**	**+0.1**
	0.5nm,0.6s,baz=169,slow=8.6,SNR=6.7						
SONM	**Songino Array**	**45.75**	**13**	P	**P**	**00 48 04.7**	**+1.1**
	0.2nm,0.4s,baz=170,slow=8.8,SNR=1.9						
SONM				LR	LR	01 08 19.4	
	comp=Z,452nm,21.1s,baz=50,slow=38						
WRA	**Warramunga Arr**	**46.76**	**121**	P	**P**	**00 48 11.7**	**-0.2**
	0.2nm,0.5s,baz=298,slow=8.9,SNR=2.3						
GEYT	**Alibeck**	**46.87**	**322**	P	**P**	**00 48 12.1**	**-0.4**
	0.8nm,0.5s,baz=130,slow=13,SNR=2.2						
KURBB	**Kurchatov Arra**	**48.62**	**348**	P	**P**	**00 48 25.8**	**0.0**
	0.4nm,0.7s,baz=168,slow=7.4,SNR=3.9						
ZALV	**Zalesovo Beam**	**50.83**	**354**	P	**P**	**00 48 42.9**	**+0.3**
	0.7nm,0.4s,baz=176,slow=8.1,SNR=5.0						
AKTO	**Aktyubinsk**	**55.37**	**334**	LR	LR	01 14 25.4	
	comp=Z,131nm,21.5s,baz=11,slow=38						

IDC ***15*** *00:42:38.0±1.8,3°.89N×90°.23E, h0km, mb3.6/5, mb1 3.7/7, mb1mx3.3/72, mbtmp3.6/7, ML3.8/2, Error ellipse: s-maj=48.0km s-min=26.7km az=50.0*

ISCJB ***15*** *00:42:40.1±1.4,3°.9N±0°.2×89°.99E±0°.08, h33km, mb3.6/5, Error ellipse: s-maj=26.5km s-min=11.4km az=7.6*

ISC 15 00:42:42.5±1.5,3°.9N±0°.2×90°.1E±0°.1, h35km, n7, σ1§24/8, mb3.6/5, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**9.92**	**290**	Pn	**Pn**	**00 45 03.5**	**+0.7**
	0.6nm,0.3s,baz=116,slow=4.2,SNR=4.1						
PALK				Sn	**Sn**	**00 46 51.5**	**-1.6**
	0.9nm,0.3s,baz=291,slow=1.5,SNR=4.0						
CMAR	**Chiang Mai Arr**	**16.87**	**30**	Pn	**Pn**	**00 46 34.5**	**-1.5**
	0.1nm,0.3s,baz=221,slow=12,SNR=3.4						
MKAR	**Makanchi Array**	**43.26**	**352**	P	**P**	**00 50 41.2**	**+0.6**
	0.4nm,0.6s,baz=170,slow=9.6,SNR=5.2						
SONM	**Songino Array**	**45.97**	**15**	P	**P**	**00 51 03.0**	**+0.7**
	1.2nm,0.6s,baz=194,slow=9.7,SNR=9.4						
KURBB	**Kurchatov Arra**	**47.57**	**350**	P	**P**	**00 51 15.7**	**+1.0**
	0.5nm,0.8s,baz=171,slow=7.3,SNR=5.3						
WRA	**Warramunga Arr**	**49.50**	**120**	P	**P**	**00 51 29.5**	**-0.5**
	0.5nm,0.9s,baz=300,slow=8.6,SNR=2.7						
ZALV	**Zalesovo Beam**	**50.08**	**356**	P	**P**	**00 51 34.3**	**+0.5**
	0.5nm,0.5s,baz=204,slow=8.5,SNR=3.7						

IDC 15 00:42:52.0±2.5,4°.12N×90°.42E, h0km, mb3.6/5, mb1 3.8/6, mb1mx3.4/71, mbtmp3.6/6, ML3.8/1, Error ellipse: s-maj=94.8km s-min=22.6km az=60.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**10.16**	**288**	Sn	Sn	00 46 59.0	-15
	1.3nm,0.3s,baz=116,slow=1.0,SNR=5.8						
CMAR	**Chiang Mai Arr**	**16.51**	**30**	Pn	P	00 46 46.9	-1.0
	0.1nm,0.3s,baz=226,slow=13,SNR=6.0						
MKAR	**Makanchi Array**	**43.09**	**352**	P	P	00 50 53.0	-0.8
	0.3nm,0.4s,baz=160,slow=8.9,SNR=6.0						
KURBB	**Kurchatov Arra**	**47.41**	**350**	P	P	00 51 28.9	+0.8
	0.4nm,0.6s,baz=175,slow=7.5,SNR=4.7						
WRA	**Warramunga Arr**	**49.33**	**121**	P	P	00 51 42.0	-1.4
	0.9nm,0.9s,baz=299,slow=9.1,SNR=5.2						
ZALV	**Zalesovo Beam**	**49.89**	**356**	P	P	00 51 46.2	-0.8
	0.6nm,0.5s,baz=176,slow=6.8,SNR=4.5						
ASAR	**Alice Springs**	**50.57**	**125**	P	P	00 51 53.9	+1.0
	0.6nm,0.6s,baz=297,slow=7.6,SNR=6.8						

ISCJB ***15*** *00:50:10.9±1.2,1°.2N±0°.2×91°.3E±0°.1, h10km, mb3.8/9, Error ellipse: s-maj=26.1km s-min=16.9km az=20.1*

IDC ***15*** *00:50:10.7±1.5,1°.05N×91°.35E, h0km, mb3.7/9, mb1 3.8/11, mb1mx3.5/72, mbtmp3.7/11, ML3.2/2, Error ellipse: s-maj=39.9km s-min=24.6km az=35.0*

ISC 15 00:50:12.4±1.3,1°.1N±0°.2×91°.2E±0°.1, h10km, n18, σ1§40/13, mb3.8/9, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**12.13**	**301**	Pn	**Pn**	**00 53 05.7**	**+0.1**
	0.1nm,0.3s,baz=110,slow=12,SNR=2.5						
PALK				Sn	**Sn**	**00 55 18.6**	**-2.4**
	1.0nm,0.3s,baz=296,slow=2.4,SNR=4.9						
CMAR	**Chiang Mai Arr**	**18.82**	**23**	P	**P**	**00 54 30.7**	**-1.7**
	0.1nm,0.3s,baz=220,slow=14,SNR=4.4						
H08S2	**Diego Garcia H**	**20.61**	**245**	T	T	01 16 43.0	
	baz=65,slow=75,SNR=21						
H08S3	**Diego Garcia H**	**20.61**	**245**	T	T	01 16 41.4	
	baz=65,slow=75,SNR=22						
H08S1	**Diego Garcia H**	**20.63**	**245**	T	T	01 16 42.6	
	baz=65,slow=75,SNR=19						
H01W3	**Cape Leeuwin H**	**41.76**	**151**	T	T	01 42 20.2	
	baz=324						
H01W2	**Cape Leeuwin H**	**41.77**	**151**	T	T	01 42 24.9	
	baz=324,slow=74						
H01W1	**Cape Leeuwin H**	**41.77**	**151**	T	T	01 42 21.0	
	baz=324,slow=74						
MKAR	**Makanchi Array**	**46.15**	**351**	P	**P**	**00 58 38.7**	**+1.5**
	0.4nm,0.6s,baz=176,slow=9.6,SNR=6.8						
WRA	**Warramunga Arr**	**47.16**	**119**	P	**P**	**00 58 44.9**	**-0.6**
	0.5nm,0.6s,baz=296,slow=8.5,SNR=4.8						
GEYT	**Alibeck**	**47.61**	**324**	P	**P**	**00 58 50.0**	**+1.3**
	0.5nm,0.5s,baz=134,slow=4.2,SNR=3.0						
SONM	**Songino Array**	**48.35**	**14**	P	**P**	**00 58 55.4**	**+1.0**
	1.4nm,0.7s,baz=192,slow=9.9,SNR=10						
KSRS	**Korea Array**	**49.48**	**39**	P	**P**	**00 59 01.9**	**-1.2**
	0.3nm,0.3s,baz=224,slow=9.8,SNR=2.7						
KURBB	**Kurchatov Arra**	**50.48**	**350**	P	**P**	**00 59 11.4**	**+0.9**
	0.6nm,0.9s,baz=170,slow=6.6,SNR=4.7						
ZALV	**Zalesovo Beam**	**52.91**	**355**	P	**P**	**00 59 29.0**	**+0.4**
	0.8nm,0.3s,baz=186,slow=7.2,SNR=5.0						
AKTO	**Aktyubinsk**	**56.63**	**335**	P	**P**	**00 59 56.2**	**+0.6**
	0.7nm,0.5s,baz=126,slow=8.2,SNR=3.4						
GERES	**GERESS Array B**	**80.94**	**319**	P	**P**	**01 02 28.1**	**+0.7**
	0.6nm,0.7s,baz=103,slow=4.3,SNR=4.3						
TXAR	**Lajitas Array**	**146.53**	**24**	PKPbc	**PKPdf**	**01 09 52.1**	**-1.4**
	0.2nm,0.4s,baz=312,slow=9.4,SNR=3.0						

IDC 15 00:55:00.2±2.0,6°.83S×145°.49E, h0km, mb3.4/3, mb1 3.5/5, mb1mx3.2/49, mbtmp3.4/5, ML3.2/1, Error ellipse: s-maj=44.5km s-min=29.1km az=86.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.05**	**147**	Pn	Pn	00 55 49.1	-0.6
	1.8nm,0.3s,baz=9.3,slow=6.9,SNR=3.6						
PMG				Sn	Sn	00 56 23.9	-3.0
	24nm,0.3s,baz=45,slow=22,SNR=42						
WRA	**Warramunga Arr**	**16.94**	**219**	Pn	P	00 59 00.6	-0.4
	0.1nm,0.3s,baz=41,slow=12,SNR=2.2						
ASAR	**Alice Springs**	**20.10**	**212**	P	Pn	00 59 37.0	-0.5
	0.8nm,0.9s,baz=46,slow=8.7,SNR=4.1						
FITZ	**Fitzroy Crossi**	**22.35**	**238**	P	P	00 59 58.3	-1.7
	1.0nm,0.6s,baz=56,slow=9.9,SNR=1.9						
SONM	**Songino Array**	**64.41**	**332**	P	P	01 05 38.5	+0.1
	0.5nm,0.5s,baz=141,slow=5.6,SNR=5.1						

ISCJB ***15*** *01:01:29.3±0.4,47°.49N±0°.05×147°.3E±0°.1, h450km, mb3.2/13, Error ellipse: s-maj=11.0km s-min=6.7km az=18.0*

SKHL ***15*** *01:01:29.3±1.0,47°.61N×147°.03E, h439km±4km, mb4.7/2, msh4.6/3*

IDC ***15*** *01:01:30.7±1.5,47°.97N×147°.25E, h421km±18km, mb2.9/13, mb1 3.1/18, mb1mx2.9/70, mbtmp3.7/18, Error ellipse: s-maj=16.8km s-min=11.5km az=145.0*

ISC 15 01:01:30.5±0.6,47°.60N±0°.06×147°.17E±0°.08, h450km, n26, σ2§55/28, mb3.2/13, Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**2.42**	**168**	*e*P	**P**	**01 02 32.3**	**-1.2**
KUR				AMB	AMB	01 02 33.8	
	76nm,0.5s						
KUR				AMB	AMB	01 02 36.5	
	330nm,4.0s						
KUR				*e*S	**S**	**01 03 21.7**	**-2.9**
KUR				A	A	01 03 24.4	
	650nm,5.0s						
KUR				A	A	01 03 24.4	
	530nm,5.0s						
KUR				A	A	01 03 37.9	
	33nm,0.5s						
KUR				A	A	01 03 37.9	
	74nm,0.5s						
YSS	**Yuzh-Sakhalins**	**3.07**	**259**	*e*P	**P**	**01 02 36.2**	**-1.8**
YSS				AMB	AMB	01 02 39.8	
	14nm,0.4s						
YSS				*e*S	**S**	**01 03 28.2**	**-4.7**
YSS				A	A	01 03 29.2	
	25nm,0.2s						
YSS				A	A	01 03 29.2	
	12nm,0.2s						
YUK	**Yuzh-Kuril'sk**	**3.68**	**195**	*e*P	**P**	**01 02 41.6**	**-1.3**
YUK				*e*S	**S**	**01 03 38.7**	**-3.0**
YUK				A	A	01 03 41.5	
	480nm,2.0s						
YUK				A	A	01 03 41.5	
	490nm,2.0s						
YUK				A	A	01 03 47.0	
	310nm,0.7s						
YUK				A	A	01 03 47.0	
	270nm,0.7s						
SHO	**Shikotan**	**3.74**	**184**	*e*P	**P**	**01 02 41.5**	**-1.9**
SHO				AMB	AMB	01 02 42.8	
	29nm,0.2s						
SHO				AMB	AMB	01 02 51.2	
	1μm,5.0s						
SHO				*e*S	**S**	**01 03 38.0**	**-4.6**
SHO				A	A	01 03 40.5	
	154nm,0.3s						
SHO				A	A	01 03 40.5	
	144nm,0.3s						
SHO				A	A	01 03 45.0	
	370nm,4.0s						
SHO				A	A	01 03 45.0	
	660nm,4.0s						
TYV	**Tymovskoe**	**4.41**	**320**	*e*P	**P**	**01 02 47.0**	**-2.0**
TYV				AMB	AMB	01 02 48.4	
	16nm,0.5s						
TYV				*e*S	**S**	**01 03 48.2**	**-5.0**
TYV				A	A	01 03 49.9	
	7.0nm,0.4s						
ASAJ	**Asahikawa**	**4.72**	**224**	P	**P**	**01 02 53.8**	**+1.6**
	1.0nm,0.3s,baz=283,slow=12,SNR=9.4						
MYR	**Moyori**	**5.98**	**209**	*e*P	**P**	**01 03 04.4**	**-0.2**
MYR				*e*S	**S**	**01 04 17.2**	**-4.2**
PETK	**Petropavlovsk-**	**8.70**	**47**	P	**P**	**01 03 30.4**	**-2.8**
	0.5nm,0.3s,baz=228,slow=7.1,SNR=12						
KLR	**Kul'dur**	**10.38**	**285**	P	P	01 03 54.7	+3.1
	0.1nm,0.3s,baz=89,slow=10.0,SNR=34						
USRK	**Usuriysk Ar.**	**11.11**	**258**	P	**P**	**01 04 02.0**	**+2.5**
	0.5nm,0.3s,baz=64,slow=14,SNR=6.0						
MAT	**Matsushiro**	**12.89**	**214**	P	P	01 04 23.9	+4.9
MJAR	**Matsushiro Arr**	**12.89**	**214**	P	P	01 04 24.2	+5.3
	0.8nm,0.3s,baz=12,slow=13,SNR=4.4						
KSRS	**Korea Array**	**17.39**	**241**	P	**P**	**01 05 09.8**	**+3.0**
	0.2nm,0.3s,baz=37,slow=10.0,SNR=11						
ILAR	**Eielson Array**	**38.43**	**39**	P	**P**	**01 08 11.3**	**-0.2**
	0.6nm,0.7s,baz=273,slow=8.1,SNR=8.3						
MKAR	**Makanchi Array**	**42.92**	**294**	P	**P**	**01 08 49.7**	**+1.9**
	0.5nm,0.7s,baz=64,slow=10,SNR=2.8						
INK	**Inuvik**	**43.11**	**32**	P	**P**	**01 08 48.5**	**-0.4**
	0.8nm,0.4s,baz=289,slow=5.9,SNR=9.6						
KURBB	**Kurchatov Arra**	**43.57**	**301**	P	**P**	**01 08 55.0**	**+2.2**
	0.1nm,0.4s,baz=83,slow=7.5,SNR=3.6						
YKA	**Yellowknife Ar**	**52.62**	**35**	P	**P**	**01 10 00.5**	**-0.1**
	0.3nm,0.4s,baz=303,slow=7.1,SNR=6.8						
YKA				PcP	**PcP**	**01 11 04.7**	**+1.3**
	0.8nm,1.1s,baz=308,slow=3.7,SNR=5.7						
FINES	**FINESS Array B**	**61.46**	**332**	P	**P**	**01 11 02.0**	**+0.5**
	1.2nm,0.8s,baz=40,slow=11,SNR=6.9						
NVAR	**Mina Array Bea**	**65.56**	**59**	P	**P**	**01 11 29.7**	**+1.1**
	0.2nm,0.3s,baz=298,slow=6.1,SNR=2.0						
NOA	**NORSAR Array B**	**66.02**	**338**	P	**P**	**01 11 31.0**	**+0.2**
	0.3nm,0.5s,baz=28,slow=6.6,SNR=3.6						
HFS	**Hagfors**	**66.15**	**337**	P	**P**	**01 11 31.9**	**+0.3**
	2.1nm,1.0s,baz=57,slow=5.3,SNR=5.8						
PDAR	**Pinedale Array**	**67.44**	**51**	P	**P**	**01 11 41.6**	**+1.4**
	0.5nm,0.5s,baz=311,slow=1.9,SNR=5.0						
WRA	**Warramunga Arr**	**68.21**	**193**	P	P	01 11 49.2	+4.5
	0.3nm,0.6s,baz=9.1,slow=6.4,SNR=4.6						
ASAR	**Alice Springs**	**71.93**	**193**	P	P	01 12 12.6	+5.6
	0.3nm,0.3s,baz=12,slow=6.1,SNR=5.2						
TXAR	**Lajitas Array**	**80.51**	**57**	P	**P**	**01 12 57.0**	**+2.3**
	0.6nm,0.5s,baz=290,slow=3.5,SNR=5.6						

ISCJB ***15*** *01:02:58.7±0.6,19°.04S±0°.07×168°.8E±0°.1, h10km, mb4.3/14, Error ellipse: s-maj=14.9km s-min=9.5km az=18.0*

IDC ***15*** *01:02:59.2±0.9,18°.96S×168°.73E, h0km, mb4.3/11, mb1 4.4/11, mb1mx4.1/40, mbtmp4.3/11, Error ellipse: s-maj=23.6km s-min=20.8km az=104.0*

NEIC ***15*** *01:03:00.1±0.5,18°.97S×168°.81E, h10km, mb4.3/3, Error ellipse: s-maj=13.2km s-min=10.6km az=93.0*

ISC 15 01:03:00.1±0.7,19°.0S±0°.1×168°.8E±0°.1, h10km, n37, σ1§20/36, mb4.3/14, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.75**	**216**	*e*Pn	**Pn**	**01 03 58.4**	**+0.3**
DZM				*e*Sn	**Sn**	**01 04 41.0**	**-1.3**
URZ	**Urewera**	**20.48**	**161**	P	Pn	01 07 39.4	-0.7
	11nm,0.6s,baz=332,slow=5.3,SNR=13						
CTA	**Charters Tower**	**21.28**	**263**	P	**P**	**01 07 47.5**	**+0.7**
	8.2nm,0.9s,baz=100,slow=14,SNR=4.7						
CTAO	**Charters Tower**	**21.28**	**263**	*e*P	**P**	**01 07 47.7**	**+0.8**
CAN	**Canberra**	**23.88**	**223**	*e*P	**P**	**01 08 15.4**	**+1.5**
	5.3nm,0.8s						
RPZ	**Rata Peaks**	**24.68**	**176**	P	**P**	**01 08 22.8**	**+1.6**
	11nm,0.9s,baz=304,slow=7.3,SNR=3.4						
STKA	**Stephens Creek**	**27.61**	**237**	P	**P**	**01 08 48.7**	**+0.9**
	1.6nm,0.7s,baz=70,slow=14,SNR=5.6						
WRA	**Warramunga Arr**	**32.48**	**263**	P	**P**	**01 09 29.9**	**-1.1**
	1.9nm,0.8s,baz=88,slow=8.4,SNR=10.0						
ASAR	**Alice Springs**	**32.78**	**256**	P	**P**	**01 09 33.6**	**0.0**
	7.7nm,0.7s,baz=83,slow=9.0,SNR=71						
FITZ	**Fitzroy Crossi**	**40.86**	**264**	P	**P**	**01 10 43.1**	**+0.6**
	8.2nm,0.8s,baz=83,slow=9.0,SNR=15						
SBA	**Scott Base**	**58.87**	**181**	*e*P	**P**	**01 12 58.8**	**+0.3**
	16nm,1.6s						
MJAR	**Matsushiro Arr**	**62.38**	**332**	P	**P**	**01 13 23.2**	**+0.1**
	2.4nm,0.9s,baz=151,slow=7.0,SNR=4.3						
CMAR	**Chiang Mai Arr**	**78.05**	**294**	P	**P**	**01 15 00.6**	**+1.1**
	1.9nm,1.0s,baz=131,slow=4.2,SNR=10						
CHTO	**Chiang Mai**	**78.19**	**295**	*e*P	**P**	**01 15 00.1**	**-0.1**
	1.0nm,0.7s						
ULN	**Ulaanbaatar**	**86.45**	**324**	*e*P	**P**	**01 15 43.0**	**-0.1**
	5.7nm,0.9s						
SONM	**Songino Array**	**86.81**	**323**	P	**P**	**01 15 44.4**	**-0.4**
	2.1nm,0.9s,baz=146,slow=7.2,SNR=10						
SNAA	**Sanae**	**89.35**	**183**	*e*P	**P**	**01 15 54.7**	**-1.8**
VNA3	**Neumayer Olymp**	**89.96**	**180**	P	**P**	**01 15 57.6**	**-1.7**
ILAR	**Eielson Array**	**90.16**	**17**	P	**P**	**01 16 00.8**	**+0.7**
	0.5nm,0.8s,baz=226,slow=6.2,SNR=3.8						
YKA	**Yellowknife Ar**	**100.67**	**27**	P	**Pdif**	**01 16 47.7**	**-0.4**
	0.1nm,0.4s,baz=258,slow=3.1,SNR=4.3						
MKAR	**Makanchi Array**	**101.30**	**316**	P	**Pdif**	**01 16 50.8**	**-0.5**
	0.1nm,0.5s,baz=85,slow=8.8,SNR=2.5						
ARCES	**ARCESS Array B**	**124.76**	**345**	PKP	**PKPdf**	**01 22 01.3**	**+1.8**
	1.9nm,0.8s,baz=68,slow=1.8,SNR=8.7						
CONA	**Conrad Observa**	**143.75**	**329**	*e*pPKPdf	**PKPdf**	**01 22 37.7**	**+2.2**
	5.8nm,1.4s						
GERES	**GERESS Array B**	**144.12**	**332**	PKP	**PKPdf**	**01 22 34.5**	**-1.7**
	0.5nm,0.7s,baz=62,slow=15,SNR=4.0						
ARSA	**Arzberg**	**144.38**	**328**	PKPdf	**PKPdf**	**01 22 37.0**	**+0.3**
	7.5nm,1.6s						
MOA	**Molln**	**144.58**	**330**	*e*PKPdf	PKPbc	01 22 34.9	-0.6
	6.7nm,1.1s						
SOKA	**Soboth**	**145.02**	**328**	*e*PKPbc	**PKPab**	**01 22 35.9**	**-1.3**
	5.7nm,1.0s						
KBA	**Koelnbreinsper**	**145.56**	**330**	*e*PKPbc	**PKPbc**	**01 22 37.0**	**-2.0**
	5.2nm,1.0s						
MYKA	**Terra Mystica**	**145.74**	**329**	PKPab	**PKPab**	**01 22 38.6**	**-1.2**
	3.8nm,0.6s						
ABTA	**Abfaltersbach**	**146.20**	**330**	*e*PKPab	**PKPab**	**01 22 40.7**	**-0.8**
	4.2nm,1.2s						
MOTA	**Moosalm**	**146.40**	**332**	*e*PKPdf	**PKPdf**	**01 22 39.6**	**-0.6**
	2.8nm,0.8s						
RETA	**Reutte**	**146.44**	**333**	pPKPdf	**PKPdf**	**01 22 42.6**	**+2.4**
	2.8nm,1.1s						
BFO	**Black Forest**	**146.76**	**336**	*e*PKPbc	**PKPbc**	**01 22 41.6**	**-0.7**
FETA	**Feichten**	**146.81**	**332**	*e*PKPbc	**PKPbc**	**01 22 41.5**	**-1.2**
	3.8nm,0.9s						
DAVA	**Damuels**	**146.97**	**333**	*e*PKPbc	**PKPbc**	**01 22 42.4**	**-0.7**
	6.0nm,1.1s						
BNI	**Bardonecchia**	**150.09**	**334**	*e*PKPab	**PKPab**	**01 22 56.3**	**-0.8**
TORD	**Torodi Ar. Bea**	**166.31**	**247**	PKPab	**PKPab**	**01 24 07.4**	**-0.4**
	0.8nm,1.0s,baz=132,slow=2.1,SNR=2.9						

IDC 15 01:17:46.4±2.8,1°.96N×92°.47E, h0km, mb3.5/3, mb1 3.7/5, mb1mx3.3/65, mbtmp3.5/5, ML3.6/2, Error ellipse: s-maj=65.8km s-min=30.3km az=54.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**6.50**	**83**	Pn	Pn	01 19 22.5	-1.1
	1.3nm,0.3s,baz=257,slow=8.3,SNR=5.8						
PSI				Sn	Sn	01 20 31.1	-7.5
	0.4nm,0.3s,baz=294,slow=20,SNR=1.4						
CMAR	**Chiang Mai Arr**	**17.58**	**21**	P	P	01 21 54.0	-0.2
	0.1nm,0.3s,baz=216,slow=12,SNR=8.2						
MKAR	**Makanchi Array**	**45.52**	**350**	P	P	01 26 07.2	-0.6
	0.2nm,0.5s,baz=163,slow=8.6,SNR=4.9						
WRA	**Warramunga Arr**	**46.48**	**120**	P	P	01 26 15.9	+0.1
	0.8nm,0.8s,baz=300,slow=8.7,SNR=4.4						
SONM	**Songino Array**	**47.26**	**13**	P	P	01 26 21.7	+0.2
	0.3nm,0.4s,baz=208,slow=12,SNR=2.5						

ISCJB ***15*** *01:30:20.6±0.6,7°.04S±0°.05×127°.17E±0°.08, h350km, mb3.5/5, Error ellipse: s-maj=10.7km s-min=6.7km az=5.8*

IDC ***15*** *01:30:22.6±1.5,7°.01S×127°.07E, h351km±20km, mb3.2/5, mb1 3.3/9, mb1mx2.9/51, mbtmp4.0/9, Error ellipse: s-maj=31.3km s-min=17.7km az=84.0*

ISC 15 01:30:21.8±0.8,7°.00S±0°.06×127°.2E±0°.1, h350km, n10, σ2§74/15, mb3.5/5, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**4.72**	**227**	P	**Pn**	**01 31 38.7**	**+0.3**
	42nm,0.3s,baz=73,slow=3.8,SNR=51						
BATI				S	**S**	**01 32 36.3**	**-4.0**
	34nm,0.3s,baz=108,slow=20,SNR=20						
SIJI	**Sorong**	**7.33**	**34**	P	**Pn**	**01 32 09.5**	**+1.4**
	4.9nm,0.3s,baz=146,slow=23,SNR=10						
SIJI				S	**S**	**01 33 31.6**	**-3.0**
	1.4nm,0.3s,baz=270,slow=20,SNR=4.0						
FITZ	**Fitzroy Crossi**	**11.13**	**188**	P	**Pn**	**01 32 52.7**	**-0.6**
	1.0nm,0.3s,baz=358,slow=6.1,SNR=30						
FITZ				S	**S**	**01 35 03.0**	**+5.1**
	0.1nm,0.3s,baz=143,slow=20,SNR=1.8						
WRA	**Warramunga Arr**	**14.62**	**152**	P	**P**	**01 33 33.1**	**+0.9**
	1.0nm,0.3s,baz=323,slow=12,SNR=40						
WRA				S	**S**	**01 36 08.0**	**-2.3**
	0.2nm,0.3s,baz=323,slow=20,SNR=9.4						
ASAR	**Alice Springs**	**17.78**	**159**	P	**P**	**01 34 07.9**	**+1.4**
	0.3nm,0.3s,baz=335,slow=11,SNR=14						
ASAR				S	**S**	**01 37 07.5**	**-5.3**
	0.2nm,0.3s,baz=343,slow=24,SNR=6.2						
SONM	**Songino Array**	**57.61**	**344**	P	**P**	**01 39 37.1**	**+0.8**
	0.4nm,0.4s,baz=168,slow=7.8,SNR=4.1						
MKAR	**Makanchi Array**	**66.72**	**328**	P	**P**	**01 40 36.9**	**+0.7**
	0.5nm,0.5s,baz=133,slow=8.0,SNR=8.1						
ZALV	**Zalesovo Beam**	**70.38**	**335**	P	**P**	**01 40 58.2**	**-0.1**
	1.3nm,0.5s,baz=134,slow=6.1,SNR=5.2						
KURBB	**Kurchatov Arra**	**71.08**	**330**	P	**P**	**01 41 03.0**	**+0.3**
	0.9nm,0.5s,baz=130,slow=5.0,SNR=15						
BVAR	**Borovoye Array**	**76.59**	**329**	P	**P**	**01 41 34.8**	**+0.4**
	0.4nm,0.5s,baz=120,slow=8.5,SNR=4.1						

IDC ***15*** *01:44:35.8±1.6,0°.70N×92°.41E, h0km, mb3.8/7, mb1 3.9/10, mb1mx3.5/69, mbtmp3.8/10, ML3.8/3, MS3.1/1, Ms1 3.1/1, ms1mx2.6/65, Error ellipse: s-maj=45.8km s-min=20.1km az=52.0*

NEIC ***15*** *01:44:37.0±0.5,0°.71N×92°.42E, h10km, mb4.1/3, Error ellipse: s-maj=12.4km s-min=6.4km az=208.0*

ISCJB ***15*** *01:44:39.0±0.8,0°.8N±0°.1×92°.54E±0°.07, h33km, mb3.8/9, Error ellipse: s-maj=16.5km s-min=8.3km az=20.4*

ISC 15 01:44:40.5±1.1,0°.7N±0°.2×92°.46E±0°.09, h35km, n18, σ0§89/19, mb4.0/9, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSI	**Gunungsitoli**	**5.15**	**84**	*e*Pn	**Pn**	**01 45 54.0**	**-1.1**
	63nm,0.4s						
GSI				*e*Sn	**Sn**	**01 46 52.1**	**-1.3**
PSI	**Prapat**	**6.78**	**72**	Pn	**Pn**	**01 46 17.1**	**-0.6**
	2.3nm,0.3s,baz=285,slow=9.3,SNR=9.5						
PSI				Sn	Sn	01 47 25.1	-8.7
	1.2

Error ellipse: s-maj=26.8km s-min=18.3km az=22.3
IDC ***15*** *02:01:46.6±1.8, 1°.65N×91°.03E, h0km, mb3.8/5, mb1 3.9/7, mb1mx3.4/68, mbtmp3.7/7, ML3.7/2, Error ellipse: s-maj=52.0km s-min=26.7km az=47.0*

ISC 15 02:01:48.1±1.5, **1°.6N**±0°.2×**91°.0E**±0°.2, **h10**km, **n13**, σ0s**41**/7, **mb3.9**/5, **North Indian Ocean**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PALK	**Pallekele**	**11.69**	**299**	Pn	**Pn**	**02 04 34.9**	**-0.3**
	0.6nm,0.3s,baz=119,slow=12,SNR=4.1						
PALK				Sn	Sn	02 06 35.6	-10
	0.4nm,0.3s,baz=115,slow=17,SNR=3.0						
CMAR	**Chiang Mai Arr**	**18.43**	**24**	Pn	**Pn**	**02 06 03.6**	**-0.3**
	0.1nm,0.3s,baz=216,slow=14,SNR=7.4						
H08S2	**Diego Garcia H**	**20.64**	**243**	T	T	02 27 38.8	
	baz=63,slow=75,SNR=14						
H08S3	**Diego Garcia H**	**20.64**	**243**	T	T	02 27 40.3	
	baz=63,slow=75,SNR=16						
H08S1	**Diego Garcia H**	**20.66**	**243**	T	T	02 27 41.8	
	baz=63,slow=75,SNR=15						
H01W3	**Cape Leeuwin H**	**42.31**	**151**	T	T	02 54 33.2	
	baz=326,slow=74,SNR=4.3						
H01W2	**Cape Leeuwin H**	**42.32**	**151**	T	T	02 54 32.0	
	baz=326,slow=74,SNR=2.8						
H01W1	**Cape Leeuwin H**	**42.33**	**151**	T	T	02 54 33.9	
	baz=326,slow=74,SNR=4.0						
MKAR	**Makanchi Array**	**45.61**	**352**	P	**P**	**02 10 08.4**	**-0.1**
	0.3nm,0.6s,baz=153,slow=9.7,SNR=3.3						
WRA	**Warramunga Arr**	**47.60**	**119**	P	**P**	**02 10 24.4**	**-0.2**
	1.0nm,0.8s,baz=299,slow=8.4,SNR=4.2						
SONM	**Songino Array**	**47.90**	**14**	P	**P**	**02 10 26.9**	**+0.3**
	0.5nm,0.5s,baz=195,slow=10,SNR=5.3						
ZALV	**Zalesovo Beam**	**52.38**	**355**	P	**P**	**02 11 00.1**	**-0.2**
	0.6nm,0.4s,baz=183,slow=8.0,SNR=3.1						
FINES	**FINES Array B**	**76.79**	**333**	P	**P**	**02 13 40.3**	**+0.6**
	4.6nm,1.1s,baz=134,slow=8.0,SNR=3.2						

ISCJB ***15*** *02:05:23.6±0.4, 40°.16N×0°.01×24°.08E±0°.01, h3km±3km, mb3.4/9, Error ellipse: s-maj=1.9km s-min=1.6km az=147.7*
ISK ***15*** *02:05:23.4, 40°.16N×24°.08E, h6km, ML3.5/16*
IDC ***15*** *02:05:24.7±0.9, 40°.13N×24°.04E, h0km, mb3.6/9, mb1 3.7/14, mb1mx3.5/66, mbtmp3.6/14, ML3.0/5, MS2.3/2, Ms1 2.3/2, ms1mx2.2/53, Error ellipse: s-maj=16.4km s-min=13.1km az=129.0*
CSEM ***15*** *02:05:24.5±0.1, 40°.13N×24°.07E, h5km, ML3.3, Error ellipse: s-maj=1.4km s-min=1.3km az=130.0*
SOF ***15*** *02:05:24.8, 40°.26N×24°.13E, h0km, MD3.3*
ATH ***15*** *02:05:24.3, 40°.14N×24°.05E, h25km, ML3.5/14, Error ellipse: s-maj=0.8km s-min=0.6km az=271.0*
THE ***15*** *02:05:25.0, 40°.14N×24°.03E, h3km, ML3.3/11, Error ellipse: s-maj=0.8km s-min=0.4km az=330.0*
BEO ***15*** *02:05:26.9±0.8, 40°.24N×24°.08E, h14km±4km*
TIR ***15*** *02:05:27.2, 40°.24N×23°.85E, h39km, Md3.7/7*

ISC 15 02:05:24.6±1.1, **40°.15N**±0°.01×**24°.07E**±0°.01, **h2**km±8km, **n414**, σ1s**03**/531, **mb3.5**/9, **43C-24D, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PAIG	**Paliouri**	**0.37**	**233**	P	**Pg**	**02 05 31.7**	**-0.1**
PAIG				S	**Sg**	**02 05 36.3**	**-0.2**
PAIG				AML	AML	02 05 37.7	
	comp=E,22277μm,0.2s						
PAIG				AML	AML	02 05 39.3	
	comp=N,16311μm,0.4s						
PAIG	**Paliouri**	**0.37**	**233**	P	**Pg**	**02 05 32.0**	**+0.2**
PAIG				S	**Sg**	**02 05 36.4**	**-0.2**
PAIG	**Paliouri**	**0.37**	**233**	P	**Pg**	**02 05 31.9**	**+0.2**
PAIG				S	**Sg**	**02 05 36.4**	**-0.2**
PLG	**Polygyros**	**0.52**	**295**	P	**Pg**	**02 05 35.0**	**+0.3**
PLG				S	**Sg**	**02 05 41.2**	**-0.2**
PLG				AML	AML	02 05 42.3	
	comp=E,12353μm,0.4s						
PLG				AML	AML	02 05 43.3	
	comp=N,11314μm,0.3s						
PLG	**Polygyros**	**0.52**	**295**	P	**Pg**	**02 05 35.0**	**+0.3**
PLG				S	**Sg**	**02 05 41.7**	**+0.3**
PLG	**Polygyros**	**0.52**	**295**	P	**Pg**	**02 05 35.0**	**+0.3**
PLG				S	**Sg**	**02 05 41.7**	**+0.3**
KVLA	**Kavala**	**0.82**	**17**	P	**Pb**	**02 05 41.3**	**-0.3**
KVLA				S	**Sg**	**02 05 50.9**	**-0.1**
KVLA	**Kavala**	**0.82**	**17**	P	**Pg**	**02 05 40.9**	**+0.6**
KVLA				S	**Sg**	**02 05 51.6**	**+0.6**
SOH	**Sokhos**	**0.86**	**321**	P	**Pg**	**02 05 41.5**	**+0.4**
SOH				S	**Sg**	**02 05 52.3**	**0.0**
SOH				AML	AML	02 05 54.4	
	comp=N,13087μm,0.5s						
SOH				AML	AML	02 05 57.9	
	comp=E,13016μm,0.4s						
SOH	**Sokhos**	**0.86**	**321**	P	**Pg**	**02 05 41.4**	**+0.3**
SOH				S	**Sg**	**02 05 53.2**	**+0.9**
SOH	**Sokhos**	**0.86**	**321**	P	**Pg**	**02 05 41.4**	**+0.3**
SOH				S	**Sg**	**02 05 53.2**	**+0.9**
HORT	**Hortiatis**	**0.86**	**301**	PG	**Pg**	**02 05 40.7**	**-0.4**
HORT				SG	**Sg**	**02 05 52.5**	**+0.2**
HORT	**Hortiatis**	**0.86**	**301**	P	**Pg**	**02 05 40.6**	**-0.6**
HORT				S	**Sg**	**02 05 52.9**	**+0.7**
HORT	**Hortiatis**	**0.86**	**301**	P	**Pg**	**02 05 41.0**	**-0.1**
HORT				S	**Sg**	**02 05 52.2**	**-0.1**
HORT	**Hortiatis**	**0.86**	**301**	*e*Pg	**Sg**	**02 05 40.7**	**-0.4**
HORT	**Hortiatis**	**0.86**	**301**	P	**Pg**	**02 05 41.0**	**-0.1**
HORT				*e*Sg	**Sg**	**02 05 52.5**	**+0.2**
HORT				S	**Sg**	**02 05 53.0**	**+0.7**
LIA	**Limnos Island**	**0.89**	**106**	P	**Pb**	**02 05 42.9**	**+0.1**
LIA				S	**Sb**	**02 05 55.1**	**-0.2**
LIA				AML	AML	02 05 56.0	
	comp=N,5589μm,0.6s						
LIA				AML	AML	02 05 56.0	
	comp=E,5149μm,0.8s						
LIA	**Limnos Island**	**0.89**	**106**	P	**Pb**	**02 05 43.2**	**+0.4**
LIA				S	**Sb**	**02 05 55.7**	**+0.5**
LIA	**Limnos Island**	**0.89**	**106**	P	**Pb**	**02 05 42.3**	**+0.5**
LIA				S	**Sb**	**02 05 54.7**	**+0.5**
KAVA	**Kavala**	**0.91**	**22**	P	**Pb**	**02 05 43.2**	**+0.1**
KAVA				S	**Sb**	**02 05 54.9**	**-0.8**
KAVA				AML	AML	02 05 56.6	
	comp=N,4017μm,0.4s						
KAVA				AML	AML	02 05 58.4	
	comp=E,6688μm,0.5s						
KAVA	**Kavala**	**0.91**	**22**	P	**Pb**	**02 05 42.8**	**-0.3**
KAVA				S	**Sb**	**02 05 55.2**	**-0.5**
KAVA	**Kavala**	**0.91**	**22**	P	**Pb**	**02 05 42.6**	**-0.5**
KAVA				S	**Sb**	**02 05 55.0**	**-0.7**
EFSA	**Agios Efstrati**	**0.94**	**130**	P	**Pb**	**02 05 43.7**	**+0.2**
EFSA				S	**Sb**	**02 05 57.0**	**+0.6**
EFSA	**Agios Efstrati**	**0.94**	**130**	P	**Pg**	**02 05 43.0**	**+0.5**
EFSA				S	**Sb**	**02 05 56.3**	**-0.1**
THE	**Thessaloniki**	**0.97**	**300**	P	**Pg**	**02 05 42.1**	**-1.1**
THE				S	**Sg**	**02 05 55.2**	**-0.4**
THE				AML	AML	02 06 00.0	
	comp=N,5096μm,0.5s						
THE				AML	AML	02 06 00.1	
	comp=E,2416μm,0.3s						
THE	**Thessaloniki**	**0.97**	**300**	P	**Pg**	**02 05 42.6**	**-0.5**
THE				S	**Sg**	**02 05 56.5**	**+0.8**
THE	**Thessaloniki**	**0.97**	**300**	P	**Pg**	**02 05 42.6**	**-0.5**
THE				S	**Sg**	**02 05 55.9**	**+0.2**
ALNA	**Alonissos**	**1.02**	**189**	P	**Pg**	**02 05 44.0**	**-0.1**
ALNA	**Alonissos**	**1.02**	**189**	P	**Pg**	**02 05 43.7**	**-0.4**
SRS	**Serrai**	**1.03**	**340**	P	**Pb**	**02 05 45.1**	**-0.1**
SRS				S	**Sb**	**02 05 59.3**	**+0.2**
SRS				AML	AML	02 06 04.2	
	comp=E,3125μm,0.5s						
SRS				AML	AML	02 06 08.3	
	comp=N,1701μm,0.8s						
SRS	**Serrai**	**1.03**	**340**	P	**Pb**	**02 05 44.9**	**-0.3**
SRS				S	**Sg**	**02 05 58.1**	**+0.4**
SRS	**Serrai**	**1.03**	**340**	P	**Pb**	**02 05 44.9**	**-0.3**
SRS				S	**Sb**	**02 05 58.9**	**-0.3**
XOR	**Xorichti**	**1.04**	**221**	P	**Pb**	**02 05 45.3**	**0.0**
XOR				S	**Sb**	**02 05 58.9**	**-0.5**
XOR				AML	AML	02 05 59.5	
	comp=E,9203μm,0.5s						
XOR				AML	AML	02 05 59.6	
	comp=N,9602μm,0.5s						
XOR	**Xorichti**	**1.04**	**221**	P	**Pb**	**02 05 45.0**	**-0.3**
XOR				S	**Sg**	**02 05 58.2**	**+0.4**
XOR	**Xorichti**	**1.04**	**221**	P	**Pg**	**02 05 44.5**	**+0.1**
XOR				S	**Sg**	**02 05 58.2**	**+0.4**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NEO	**Neokhori**	**1.07**	**218**	P	**Pg**	**02 05 45.3**	**+0.2**
NEO				S	**Sg**	**02 05 59.2**	**+0.3**
NEO	**Neokhori**	**1.07**	**218**	P	**Pg**	**02 05 44.8**	**-0.2**
NEO				S	**Sg**	**02 05 59.2**	**+0.3**
SKIA	**Skiathos**	**1.09**	**205**	P	**Pg**	**02 05 45.1**	**-0.3**
SKIA				S	**Sg**	**02 05 60.0**	**+0.4**
SKIA				AML	AML	02 06 00.7	
	comp=E,6003μm,0.6s						
SKIA				AML	AML	02 06 01.4	
	comp=N,5487μm,0.4s						
SKIA	**Skiathos**	**1.09**	**205**	P	**Pg**	**02 05 45.1**	**-0.3**
SKIA				S	**Sb**	**02 06 00.4**	**-0.5**
SKIA	**Skiathos**	**1.09**	**205**	P	**Pg**	**02 05 45.0**	**-0.5**
SKIA				S	**Sg**	**02 05 59.9**	**+0.4**
FYTO	**Fytoko, Volos**	**1.14**	**230**	P	**Pg**	**02 05 46.7**	**+0.1**
FYTO				S	**Sg**	**02 06 01.8**	**+0.5**
FYTO	**Fytoko, Volos**	**1.14**	**230**	P	**Pg**	**02 05 46.6**	**+0.1**
FYTO				S	**Sg**	**02 06 01.8**	**+0.5**
FYTO	**Fytoko, Volos**	**1.14**	**230**	P	**Pg**	**02 05 46.2**	**-0.3**
FYTO				S	**Sg**	**02 06 01.7**	**+0.4**
SMTH	**Samothraki Isl**	**1.16**	**74**	P	**Pg**	**02 05 45.5**	**-1.4**
SMTH				S	**Sb**	**02 06 03.1**	**+0.1**
SMTH	**Samothraki Isl**	**1.16**	**74**	P	**Pg**	**02 05 46.2**	**-0.7**
SMTH				S	**Sn**	**02 06 04.4**	**0.0**
SMTH	**Samothraki Isl**	**1.16**	**74**	P	**Pg**	**02 05 46.2**	**-0.7**
SMTH				S	**Sb**	**02 06 03.1**	**+0.1**
NVR	**Nevrokopi**	**1.21**	**353**	P	**Pg**	**02 05 47.9**	**+0.2**
NVR				S	**Sg**	**02 06 02.8**	**-0.6**
NVR				AML	AML	02 06 06.0	
	comp=N,2657μm,0.6s						
NVR				AML	AML	02 06 07.1	
	comp=E,1280μm,0.5s						
NVR	**Nevrokopi**	**1.21**	**353**	P	**Pg**	**02 05 47.8**	**+0.1**
NVR				S	**Sn**	**02 06 05.5**	**-0.1**
NVR	**Nevrokopi**	**1.21**	**353**	P	**Pg**	**02 05 47.8**	**+0.1**
NVR				S	**Sg**	**02 06 03.5**	**+0.2**
LIT	**Litokhoron**	**1.21**	**268**	P	**Pg**	**02 05 47.5**	**-0.3**
LIT				S	**Sb**	**02 06 04.0**	**-0.4**
LIT				AML	AML	02 06 04.6	
	comp=N,2678μm,0.3s						
LIT				AML	AML	02 06 06.7	
	comp=E,3621μm,0.5s						
LIT	**Litokhoron**	**1.21**	**268**	P	**Pg**	**02 05 47.4**	**-0.4**
LIT				S	**Sb**	**02 06 04.1**	**-0.3**
LIT	**Litokhoron**	**1.21**	**268**	P	**Pg**	**02 05 47.4**	**-0.4**
LIT				S	**Sb**	**02 06 03.9**	**-0.4**
SKY	**Skiros Island**	**1.33**	**163**	P	**Pg**	**02 05 48.9**	**-1.1**
SKY	**Skiros Island**	**1.33**	**163**	P	**Pg**	**02 05 48.9**	**-1.1**
KNT	**Kendrikon**	**1.34**	**319**	PN	**Pg**	**02 05 49.7**	**-0.7**
KNT	**Kendrikon**	**1.34**	**319**	P	**Pg**	**02 05 49.9**	**-0.4**
KNT				S	**Sg**	**02 06 07.0**	**-0.8**
KNT				AML	AML	02 06 09.9	
	comp=E,3752μm,0.7s						
KNT				AML	AML	02 06 11.7	
	comp=N,3690μm,0.4s						
KNT	**Kendrikon**	**1.34**	**319**	P	**Pg**	**02 05 50.3**	**-0.1**
KNT				S	**Sn**	**02 06 09.2**	**+0.3**
KNT	**Kendrikon**	**1.34**	**319**	*e*Pn	**Pg**	**02 05 49.7**	**-0.7**
KNT	**Kendrikon**	**1.34**	**319**	P	**Pg**	**02 05 50.3**	**-0.1**
KNT				S	**Sg**	**02 06 07.5**	**-0.3**
LRSO	**Larissa Observ**	**1.38**	**250**	P	**Pn**	**02 05 50.5**	**-0.3**
LRSO	**Larissa Observ**	**1.38**	**250**	P	**Pn**	**02 05 50.5**	**-0.3**
GADA	**Gvkgeada**	**1.40**	**88**	PN	**Pn**	**02 05 49.8**	**-1.4**
GADA				SN	**Sg**	**02 06 09.2**	**-0.5**
GADA	**Gvkgeada**	**1.40**	**88**	P	**Pn**	**02 05 50.1**	**-1.1**
GADA	**Gvkgeada**	**1.40**	**88**	*e*Pn	**Pn**	**02 05 49.8**	**-1.4**
GADA	**Gvkgeada**	**1.40**	**88**	P	**Pn**	**02 05 50.1**	**-1.1**
GADA				*e*Sn	**Sg**	**02 06 09.2**	**-0.5**
SMIA	**Simia**	**1.44**	**208**	P	**Pn**	**02 05 50.4**	**-1.3**
SMIA	**Simia**	**1.44**	**208**	P	**Pn**	**02 05 50.5**	**-1.2**
SMIA				S	**Sg**	**02 06 10.2**	**-0.5**
SMIA	**Simia**	**1.44**	**208**	P	**Pn**	**02 05 50.5**	**-1.2**
SMIA				S	**Sg**	**02 06 10.2**	**-0.5**
MMB	**Musomiste**	**1.46**	**350**	*i* P	**Pn**	**02 05 49.9**	**-2.1**
MMB	**Musomiste**	**1.46**	**350**	*i* P	**Pn**	**02 05 49.9**	**-2.1**
RDO	**Rodhopi**	**1.50**	**48**	P	**Pn**	**02 05 50.3**	**-2.2**
RDO	**Rodhopi**	**1.50**	**48**	P	**Pn**	**02 05 51.2**	**-1.3**
RDO				S	**Sg**	**02 06 13.6**	**+1.0**
RDO	**Rodhopi**	**1.50**	**48**	P	**Pn**	**02 05 51.2**	**-1.3**
RDO				S	**Sg**	**02 06 13.6**	**+1.0**
GRG	**Griva**	**1.50**	**303**	P	**Pn**	**02 05 52.8**	**+0.2**
GRG				S	**Sb**	**02 06 12.2**	**-0.6**
GRG				AML	AML	02 06 17.9	
	comp=N,2978μm,0.4s						
GRG				AML	AML	02 06 18.7	
	comp=E,2814μm,0.6s						
GRG	**Griva**	**1.50**	**303**	P	**Pn**	**02 05 52.6**	**0.0**
GRG				S	**Sg**	**02 06 13.4**	**+0.6**
GRG	**Griva**	**1.50**	**303**	P	**Pn**	**02 05 52.2**	**-0.4**
GRG				S	**Sb**	**02 06 11.9**	**-0.9**
BOZC	**Bozcaada**	**1.56**	**101**	PN	**Pn**	**02 05 52.1**	**-1.2**
BOZC	**Bozcaada**	**1.56**	**101**	*i* P	**Pn**	**02 05 52.6**	**-0.7**
BOZC				*i* S	**Sn**	**02 06 11.3**	**-2.8**
BOZC	**Bozcaada**	**1.56**	**101**	*e*Pn	**Pn**	**02 05 52.1**	**-1.2**
RZN	**Rozhen**	**1.61**	**18**	P	**Pn**	**02 05 53.7**	**-0.6**
RZN	**Rozhen**	**1.61**	**18**	P	**Pn**	**02 05 53.7**	**-0.6**
ALN	**Alexandroupoli**	**1.68**	**63**	PN	**Pn**	**02 05 54.3**	**-0.7**
ALN	**Alexandroupoli**	**1.68**	**63**	P	**Pn**	**02 05 53.0**	**-2.0**
ALN	**Alexandroupoli**	**1.68**	**63**	P	**Pb**	**02 05 56.2**	**-0.1**
ALN				S	**Sn**	**02 06 17.3**	**+0.1**
ALN	**Alexandroupoli**	**1.68**	**63**	P	**Pn**	**02 05 53.7**	**-1.3**
ALN	**Alexandroupoli**	**1.68**	**63**	*e*Pn	**Pn**	**02 05 54.3**	**-0.7**
ALN				S	**Sn**	**02 06 17.3**	**+0.1**
THL	**Klokotos Trika**	**1.69**	**250**	P	**Pn**	**02 05 53.7**	**-1.4**
THL	**Klokotos Trika**	**1.69**	**250**	P	**Pn**	**02 05 54.0**	**-1.1**
THL				S	**Sn**	**02 06 16.2**	**-1.1**
THL	**Klokotos Trika**	**1.69**	**250**	P	**Pn**	**02 05 54.0**	**-1.1**
THL				S	**Sn**	**02 06 16.2**	**-1.1**
ENEZ	**Enez**	**1.69**	**69**	PN	**Pn**	**02 05 53.9**	**-1.3**
ENEZ	**Enez**	**1.69**	**69**	P	**Pn**	**02 05 54.9**	**-0.3**
ENEZ				S	**Sg**	**02 06 19.5**	**+0.4**
ENEZ	**Enez**	**1.69**	**69**	*e*Pn	**Pn**	**02 05 53.9**	**-1.3**
ENEZ	**Enez**	**1.69**	**69**	P	**Pn**	**02 05 54.9**	**-0.3**
ENEZ				S	**Sg**	**02 06 19.5**	**+0.4**
LKR	**Lokris**	**1.71**	**209**	P	**Pn**	**02 05 53.5**	**-2.0**
LKR	**Lokris**	**1.71**	**209**	P	**Pn**	**02 05 54.0**	**-1.5**
LKR	**Lokris**	**1.71**	**209**	P	**Pn**	**02 05 54.0**	**-1.5**
EREA	**Eretria**	**1.73**	**184**	P	**Pn**	**02 05 54.1**	**-1.7**
EREA	**Eretria**	**1.73**	**184**	P	**Pn**	**02 05 54.5**	**-1.3**
EREA				S	**Sb**	**02 06 19.1**	**-0.3**
EREA	**Eretria**	**1.73**	**184**	P	**Pn**	**02 05 54.5**	**-1.3**
EREA				S	**Sb**	**02 06 19.1**	**-0.3**
AGG	**Agios Georgios**	**1.75**	**230**	P	**Pn**	**02 05 55.1**	**-1.1**
AGG	**Agios Georgios**	**1.75**	**230**	P	**Pn**	**02 05 54.9**	**-1.2**
AGG				S	**Sn**	**02 06 19.0**	**0.0**
AGG	**Agios Georgios**	**1.75**	**230**	P	**Pn**	**02 05 55.0**	**-1.1**
AGG				S	**Sn**	**02 06 19.0**	**0.0**
AXAR	**Agios Charalam**	**1.76**	**219**	P	**Pn**	**02 05 55.5**	**-0.7**
AXAR	**Agios Charalam**	**1.76**	**219**	P	**Pn**	**02 05 55.5**	**-0.7**
KZN	**Kozani**	**1.76**	**276**	P	**Pn**	**02 05 56.4**	**+0.1**
KZN				S	**Sn**	**02 06 18.0**	**-1.3**
KZN				AML	AML	02 06 20.1	
	comp=N,731μm,0.4s						
KZN				AML	AML	02 06 28.2	
	comp=E,897μm,0.5s						
KZN	**Kozani**	**1.76**	**276**	P	**Pn**	**02 05 55.8**	**-0.5**
KZN				S	**Sn**	**02 06 19.7**	**+0.3**
KZN	**Kozani**	**1.76**	**276**	P	**Pn**	**02 05 55.8**	**-0.5**
KZN				S	**Sn**	**02 06 17.8**	**-1.6**
EZN	**Ezine**	**1.77**	**100**	PN	**Pn**	**02 05 55.3**	**-0.9**
EZN	**Ezine**	**1.77**	**100**	P	**Pn**	**02 05 56.6**	**+0.4**
EZN	**Ezine**	**1.77**	**100**	*e*Pn	**Pn**	**02 05 55.3**	**-0.9**
EZN	**Ezine**	**1.77**	**100**	P	**Pn**	**02 05 56.6**	**+0.4**
KDZ	**Kurdzhali**	**1.81**	**34**	*i* P	**Pn**	**02 05 55.3**	**-1.6**
KDZ	**Kurdzhali**	**1.81**	**34**	*i* P	**Pn**	**02 05 55.3**	**-1.6**
GELI	**Tayfur-Gelibol**	**1.86**	**82**	PN	**Pn**	**02 05 55.8**	**-1.7**
GELI	**Tayfur-Gelibol**	**1.86**	**82**	*e*Pn	**Pn**	**02 05 55.8**	**-1.7**
KKB	**Krupnik**	**1.87**	**337**	P	**Pn**	**02 05 57.1**	**-0.5**
KKB	**Krupnik**	**1.87**	**337**	P	**Pn**	**02 05 57.1**	**-0.5**
PRK	**Paraskevi**	**1.93**	**117**	P	**Pn**	**02 05 58.7**	**+0.3**
PRK	**Paraskevi**	**1.93**	**117**	P	**Pn**	**02 05 58.4**	**0.0**
PRK				S	**Sb**	**02 06 24.5**	**-0.5**
PRK	**Paraskevi**	**1.93**	**117**	P	**Pn**	**02 05 58.2**	**-0.2**
PRK				S	**Sb**	**02 06 24.5**	**-0.5**
ERIK	**Erikli-Kesan**	**1.94**	**74**	PN	**Pn**	**02 05 57.2**	**-1.4**
ERIK	**Erikli-Kesan**	**1.94**	**74**	*e*Pn	**Pn**	**02 05 57.2**	**-1.4**
BAYC	**CANAKKALE_Bayr**	**1.95**	**101**	*i* P	**Pn**	**02 05 57.1**	**-1.7**
BAYC				*i* S	**Sn**	**02 06 20.0**	**-3.9**
BAYC	**CANAKKALE_Bayr**	**1.95**	**101**	P	**Pn**	**02 05 57.1**	**-1.7**
BAYC				S	**Sn**	**02 06 20.0**	**-3.9**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLD	**Plovdiv**	**2.01**	**14**	P	**Pn**	**02 05 59.8**	**+0.2**
PLD	**Plovdiv**	**2.01**	**14**	P	**Pn**	**02 05 59.8**	**+0.2**
VIL2	**Platees**	**2.04**	**198**	P	**Pn**	**02 05 57.9**	**-2.1**
VILL	**Villia**	**2.07**	**197**	P	**Pn**	**02 05 59.0**	**-1.5**
VILL	**Villia**	**2.07**	**197**	P	**Pn**	**02 05 59.0**	**-1.5**
LPK	**Lapseki**	**2.07**	**83**	PN	**Pn**	**02 05 59.0**	**-1.4**
LPK	**Lapseki**	**2.07**	**83**	*e*Pn	**Pn**	**02 05 59.0**	**-1.4**
DION	**Dionisos Attik**	**2.08**	**183**	P	**Pn**	**02 05 58.6**	**-1.9**
DION	**Dionisos Attik**	**2.08**	**183**	P	**Pn**	**02 05 59.1**	**-1.4**
KPRO	**Kipourio**	**2.08**	**265**	P	**Pn**	**02 06 00.9**	**+0.3**
KPRO	**Kipourio**	**2.08**	**265**	P	**Pn**	**02 06 00.3**	**-0.4**
KPRO				S	**Sn**	**02 06 26.7**	**-0.6**
KPRO	**Kipourio**	**2.08**	**265**	P	**Pn**	**02 06 00.3**	**-0.4**
KPRO				S	**Sn**	**02 06 26.7**	**-0.6**
PROD	**Prodromos**	**2.10**	**206**	P	**Pn**	**02 05 58.9**	**-1.9**
PROD	**Prodromos**	**2.10**	**206**	P	**Pn**	**02 05 59.3**	**-1.5**
KESN	**Edirne-Kesan**	**2.10**	**71**	*i* P	**Pn**	**02 05 57.5**	**-3.7**
KESN	**Edirne-Kesan**	**2.10**	**71**	P	**Pn**	**02 05 57.5**	**-3.7**
PTL	**Penteli**	**2.11**	**184**	P	**Pn**	**02 05 59.6**	**-1.4**
PTL	**Penteli**	**2.11**	**184**	P	**Pn**	**02 05 59.9**	**-1.0**
PTL	**Penteli**	**2.11**	**184**	P	**Pn**	**02 05 59.9**	**-1.0**
DSF	**Desfina**	**2.11**	**215**	P	**Pn**	**02 05 58.8**	**-2.2**
DSF	**Desfina**	**2.11**	**215**	P	**Pn**	**02 05 59.5**	**-1.5**
DSF				S	**Sn**	**02 06 26.8**	**-1.1**
DSF	**Desfina**	**2.11**	**215**	P	**Pn**	**02 05 59.5**	**-1.5**
DSF				S	**Sn**	**02 06 26.8**	**-1.1**
KARY	**Karystos**	**2.14**	**172**	P	**Pn**	**02 05 59.8**	**-1.5**
KARY	**Karystos**	**2.14**	**172**	P	**Pn**	**02 06 00.1**	**-1.2**
KARY	**Karystos**	**2.14**	**172**	P	**Pn**	**02 06 00.1**	**-1.2**
EVR	**Evrytania**	**2.14**	**235**	P	**Pn**	**02 06 00.7**	**-0.8**
EVR	**Evrytania**	**2.14**	**235**	P	**Pn**	**02 06 01.1**	**-0.3**
EVR				S	**Sn**	**02 06 28.2**	**-0.4**
EVR	**Evrytania**	**2.14**	**235**	P	**Pn**	**02 06 00.5**	**-0.9**
EVR				S	**Sn**	**02 06 28.2**	**-0.4**
FNA	**Florina**	**2.15**	**288**	P	**Pn**	**02 06 01.9**	**+0.4**
FNA	**Florina**	**2.15**	**288**	P	**Pn**	**02 06 01.3**	**-0.3**
FNA				S	**Sn**	**02 06 27.6**	**-1.2**
FNA	**Florina**	**2.15**	**288**	P	**Pn**	**02 06 01.2**	**-0.3**
FNA				S	**Sn**	**02 06 27.6**	**-1.2**
ATH	**Athens Observa**	**2.19**	**187**	P	**Pn**	**02 06 01.0**	**-1.0**
ATH	**Athens Observa**	**2.19**	**187**	P	**Pn**	**02 06 02.0**	**-0.1**
ATH				S	**Sn**	**02 06 30.1**	**+0.3**
ATH	**Athens Observa**	**2.19**	**187**	P	**Pn**	**02 06 01.1**	**-1.0**
ATH				S	**Sn**	**02 06 30.1**	**+0.3**
ATHU	**Athens Univers**	**2.19**	**186**	P	**Pn**	**02 06 00.0**	**-2.1**
ATHU	**Athens Univers**	**2.19**	**186**	P	**Pn**	**02 06 02.0**	**-0.1**
ATHU	**Athens Univers**	**2.19**	**186**	P	**Pn**	**02 06 00.6**	**-1.5**
DIM	**Dimitrovgrad**	**2.19**	**30**	P	**Pn**	**02 06 01.7**	**-0.4**
DIM	**Dimitrovgrad**	**2.19**	**30**	P	**Pn**	**02 06 01.7**	**-0.4**
BIA	**Bitola**	**2.26**	**293**	P	**Pn**	**02 06 02.9**	**-0.2**
BIA	**Bitola**	**2.26**	**293**	P	**Pn**	**02 06 02.9**	**-0.2**
BIA	**Bitola**	**2.26**	**293**	*i* Pn	**Pn**	**02 06 03.6**	**+0.6**
LTK	**Loutraki**	**2.29**	**202**	P	**Pn**	**02 06 01.5**	**-2.0**
LTK	**Loutraki**	**2.29**	**202**	P	**Pn**	**02 06 02.2**	**-1.3**
LTK	**Loutraki**	**2.29**	**202**	P	**Pn**	**02 06 02.2**	**-1.3**
VLY	**Voula,Athens**	**2.31**	**185**	P	**Pn**	**02 06 01.6**	**-2.0**
VLY	**Voula,Athens**	**2.31**	**185**	P	**Pn**	**02 06 02.4**	**-1.3**
VLY	**Voula,Athens**	**2.31**	**185**	P	**Pn**	**02 06 02.4**	**-

SRN				*i* SN		**Sn**	02 06 52.7	-0.3
PHP	**Peshkopia**	**3.15**	**300**	*i* Pn		**Pn**	02 06 15.2	0.0
PHP	**Peshkopia**	**3.15**	**300**	*i* PN		**Pn**	02 06 15.2	0.0
BARS	**Barje**	**3.15**	**328**	*e*Pn		**Pn**	02 06 15.4	+0.1
BARS				*e*Sg		**Sg**	02 07 05.1	-0.8
BARS	**Barje**	**3.15**	**328**	*e*Pn		**Pn**	02 06 15.4	+0.1
BARS				*e*Sg		**Sg**	02 07 05.1	-0.8
AMT	**Artemida-Makis**	**3.20**	**216**	P		**Pn**	02 06 16.5	+0.5
AMT	**Artemida-Makis**	**3.20**	**216**	P		**Pn**	02 06 16.5	+0.5
PVL	**Pavlikeni**	**3.21**	**17**	P		**Pn**	02 06 14.4	-1.6
PVL	**Pavlikeni**	**3.21**	**17**	P		**Pn**	02 06 14.4	-1.6
MPEP	**Malo Peshtene**	**3.21**	**356**	P		**Pn**	02 06 16.5	+0.4
APE	**Apeiranthos**	**3.29**	**159**	*i*P		Pn	02 06 09.7	-7.5
APE	**Apeiranthos**	**3.29**	**159**	S		Sn	02 06 45.8	-11
APE	**Apeiranthos**	**3.29**	**159**	P		**Pn**	02 06 15.1	-2.1
APE	**Apeiranthos**	**3.29**	**159**	P		**Pn**	02 06 16.1	-1.1
APE	**Apeiranthos**	**3.29**	**159**	P		**Pn**	02 06 16.1	-1.1
KCTX	**Karacabey (Bur**	**3.29**	**87**	PN		**Pn**	02 06 17.0	-0.2
KCTX	**Karacabey (Bur**	**3.29**	**87**	*e*Pn		**Pn**	02 06 17.0	-0.2
ZAPS	**Zavoj**	**3.30**	**341**	*e*Pn		**Pn**	02 06 18.0	+0.7
SLVT	**Silivri**	**3.33**	**70**	PN		**Pn**	02 06 17.0	-0.7
SLVT	**Silivri**	**3.33**	**70**	*e*Pn		**Pn**	02 06 17.0	-0.7
TIR	**Tirane**	**3.41**	**292**	*e*Pn		**Pn**	02 06 20.2	+1.4
TIR	**Tirane**	**3.41**	**292**	⇓*i*P		**Pn**	02 06 18.6	-0.2
TIR	**Tirane**	**3.41**	**292**	⇓*i*P		**Pn**	02 06 18.6	-0.2
TIR	**Tirane**	**3.41**	**292**	*e*Pn		**Pn**	02 06 20.2	+1.4
SZH	**Strazhica**	**3.41**	**24**	P		**Pn**	02 06 18.8	0.0
SZH	**Strazhica**	**3.41**	**24**	P		**Pn**	02 06 18.8	0.0
CTYL	**Yalikoy Yolu**	**3.47**	**66**	PN		**Pn**	02 06 19.3	-0.3
CTYL	**Yalikoy Yolu**	**3.47**	**66**	*e*Pn		**Pn**	02 06 19.3	-0.3
ZIMR		**3.63**	**15**	⇓*i*P		**Pn**	02 06 21.7	-0.2
ARMT	**Armutlu**	**3.69**	**82**	PN		**Pn**	02 06 22.5	-0.1
ARMT	**Armutlu**	**3.69**	**82**	*e*Pn		**Pn**	02 06 22.5	-0.1
MDNY	**Mudanya-Bursa**	**3.69**	**85**	PN		**Pn**	02 06 22.9	+0.2
MDNY	**Mudanya-Bursa**	**3.69**	**85**	*e*Pn		**Pn**	02 06 22.9	+0.2
BGKT	**Bogazkoy**	**3.72**	**72**	PN		**Pn**	02 06 23.5	+0.4
BGKT	**Bogazkoy**	**3.72**	**72**	*e*Pn		**Pn**	02 06 23.5	+0.4
SELS	**Selova**	**3.78**	**325**	*e*Pn		**Pn**	02 06 23.3	-0.6
SELS				*e*Sg		**Sg**	02 07 24.0	-1.9
BOVS	**Bovan**	**3.90**	**334**	*e*Pn		**Pn**	02 06 25.2	-0.4
BOVS				*e*Sg		**Sg**	02 07 27.8	-2.0
BOVS	**Bovan**	**3.90**	**334**	*e*Pn		**Pn**	02 06 25.2	-0.4
BOVS				*e*Sg		**Sg**	02 07 27.8	-2.0
ZAGS	**Zajecar**	**3.90**	**340**	*e*Pn		**Pn**	02 06 24.8	-0.8
ZAGS	**Zajecar**	**3.90**	**340**	*e*Pn		**Pn**	02 06 24.8	-0.8
ISK	**Istanbul-Kandi**	**3.91**	**75**	PN		**Pn**	02 06 25.8	+0.1
ISK	**Istanbul-Kandi**	**3.91**	**75**	*e*Pn		**Pn**	02 06 25.8	+0.1
KLYT	**Kilyos**	**3.94**	**72**	PN		**Pn**	02 06 26.7	+0.6
KLYT	**Kilyos**	**3.94**	**72**	*e*Pn		**Pn**	02 06 26.7	+0.6
SIMA	**Simav-Kutahya**	**3.94**	**104**	PN		**Pn**	02 06 26.2	-0.1
SIMA	**Simav-Kutahya**	**3.94**	**104**	*e*Pn		**Pn**	02 06 26.2	-0.1
YLV	**Yalova**	**4.08**	**82**	PN		**Pn**	02 06 28.1	+0.1
YLV	**Yalova**	**4.08**	**82**	*e*Pn		**Pn**	02 06 28.1	+0.1
DRME	**Dracevica, Mon**	**4.21**	**300**	*e*Pn		**Pn**	02 06 31.8	+2.0
PDG	**Podgorica**	**4.28**	**304**	*e*Pn		**Pn**	02 06 31.4	+0.7
PDG	**Podgorica**	**4.28**	**304**	⇑*i*P		**Pn**	02 06 31.5	+0.7
PDG	**Podgorica**	**4.28**	**304**	*e*Pn		**Pn**	02 06 31.4	+0.7
SGRR	**Singureni**	**4.31**	**19**	⇓*i*P		**Pn**	02 06 30.8	-0.3
SJES	**Sjenica**	**4.36**	**317**	*e*Pn		**Pn**	02 06 32.7	+0.7
HUMR	**Humele**	**4.42**	**9**	⇑*i*P		**Pn**	02 06 32.5	-0.3
HUMR	**Humele**	**4.42**	**9**	⇑*i*P		**Pn**	02 06 32.5	-0.3
GRUS	**Gruza**	**4.49**	**327**	*e*Pn		**Pn**	02 06 33.3	-0.4
GRUS				*e*Sg		**Sg**	02 07 48.6	-0.2
GRUS	**Gruza**	**4.49**	**327**	*e*Pn		**Pn**	02 06 33.3	-0.4
GRUS				*e*Sg		**Sg**	02 07 48.6	-0.2
IVAS	**Ivanjica**	**4.50**	**321**	*e*Pn		**Pn**	02 06 33.6	-0.3
IVAS				*e*Sg		**Sg**	02 07 46.8	-2.3
IVAS	**Ivanjica**	**4.50**	**321**	*e*Pn		**Pn**	02 06 33.6	-0.3
IVAS				*e*Sg		**Sg**	02 07 46.8	-2.3
SRE	**Strehaia**	**4.55**	**352**	⇑*i*P		**Pn**	02 06 34.5	0.0
SRE	**Strehaia**	**4.55**	**352**	⇑*i*P		**Pn**	02 06 34.5	0.0
KUBS	**Kucevo**	**4.61**	**338**	*e*Pn		**Pn**	02 06 33.3	-2.0
KUBS				*e*Sn		**Sn**	02 07 26.2	-3.3
KUBS	**Kucevo**	**4.61**	**338**	*e*Pn		**Pn**	02 06 33.3	-2.0
KUBS				*e*Sn		**Sn**	02 07 26.2	-3.3
SVIS	**Svilajnac**	**4.62**	**334**	*e*Pn		**Pn**	02 06 34.7	-0.8
SULR		**4.80**	**19**	⇑*i*P		**Pn**	02 06 37.8	-0.1
SULR		**4.80**	**19**	⇑*i*P		**Pn**	02 06 37.8	-0.1
TRUS	**Trudelj**	**4.89**	**327**	*e*Pn		**Pn**	02 06 38.6	-0.6
TRUS	**Trudelj**	**4.89**	**327**	*e*Pn		**Pn**	02 06 38.6	-0.6
IDI	**Anoyia**	**4.90**	**172**	Pn		**Pn**	02 06 40.8	+1.4
	comp=E,0.8nm,0.3s,baz=337,slow=12,SNR=6.4							
IDI				LR		LR	02 08 58.7	
	comp=E,31nm,18.9s,baz=264,slow=44							
DIVS	**Divibare**	**4.97**	**324**	*e*Pn		**Pn**	02 06 40.1	-0.3
DIVS	**Divibare**	**4.97**	**324**	*e*Pn		**Pn**	02 06 40.1	-0.3
BRY	**Bratogost**	**4.97**	**305**	*e*Pn		**Pn**	02 06 41.8	+1.3
TREB	**Trebinje**	**5.00**	**303**	*e*Pn		**Pn**	02 06 37.1	-3.6
BBLS	**Lazići**	**5.08**	**318**	*e*Pn		**Pn**	02 06 41.9	0.0
BBLS	**Lazići**	**5.08**	**318**	*e*Pn		**Pn**	02 06 41.9	0.0
SECR		**5.10**	**16**	⇑*i*P		**Pn**	02 06 42.0	0.0
SECR		**5.10**	**16**	⇑*i*P		**Pn**	02 06 42.0	0.0
MTUR	**Matau**	**5.12**	**8**	⇓*i*P		**Pn**	02 06 43.1	+0.7
ARR	**Arges**	**5.23**	**4**	⇑*i*P		**Pn**	02 06 43.8	-0.1
ARR	**Arges**	**5.23**	**4**	⇑*i*P		**Pn**	02 06 43.8	-0.1
ISR	**Istrita**	**5.29**	**19**	⇑*i*P		**Pn**	02 06 45.2	+0.5
ISR	**Istrita**	**5.29**	**19**	⇑*i*P		**Pn**	02 06 45.2	+0.5
LOT	**Lotru**	**5.30**	**358**	⇓*i*P		**Pn**	02 06 44.8	-0.1
LOT	**Lotru**	**5.30**	**358**	⇓*i*P		**Pn**	02 06 44.8	-0.1
TLB	**Topalu**	**5.32**	**32**	⇑*i*P		**Pn**	02 06 43.8	-1.2
TLB	**Topalu**	**5.32**	**32**	S		**Sg**	02 08 15.8	+0.4
TLB	**Topalu**	**5.32**	**32**	⇑*i*P		**Pn**	02 06 43.8	-1.2
VOIR		**5.33**	**7**	⇑*i*P		**Pn**	02 06 45.3	0.0
HARR	**Harsova**	**5.36**	**31**	⇓*i*P		**Pn**	02 06 45.7	+0.1
HARR	**Harsova**	**5.36**	**31**	⇓*i*P		**Pn**	02 06 45.7	+0.1
TIRR	**Tirgusor**	**5.37**	**35**	⇑*i*P		**Pn**	02 06 43.5	-2.3
TIRR	**Tirgusor**	**5.37**	**35**	S		**Sg**	02 08 20.4	+3.2
TIRR	**Tirgusor**	**5.37**	**35**	⇑*i*P		**Pn**	02 06 43.5	-2.3
HAPS	**Han Pijesak,BI**	**5.47**	**318**	*e*Pn		**Pn**	02 06 46.9	-0.3
HAPS	**Han Pijesak,BI**	**5.47**	**318**	*e*Pn		**Pn**	02 06 46.9	-0.3
MLR	**Muntele Rosu**	**5.51**	**14**	Pn		**Pn**	02 06 48.8	+1.0
	comp=E,0.2nm,0.3s,baz=274,slow=6.2,SNR=17							
MLR				Lg		Lg	02 08 21.7	
	comp=E,0.1nm,0.3s,baz=150,slow=20,SNR=2.8							
MLR				LR		LR	02 09 29.3	
	comp=E,30nm,18.8s,baz=106,slow=44							
MLR	**Muntele Rosu**	**5.51**	**14**	⇑*i*P		**Pn**	02 06 48.2	+0.4
MLR	**Muntele Rosu**	**5.51**	**14**	⇑*i*P		**Pn**	02 06 48.2	+0.4
TEKS	**Tekeris**	**5.53**	**324**	*e*Pn		**Pn**	02 06 48.0	0.0
TEKS	**Tekeris**	**5.53**	**324**	*e*Pn		**Pn**	02 06 48.0	0.0
BZS	**Buzias**	**5.75**	**343**	*e*Pn		**Pn**	02 06 49.3	-1.7
BZS				*e*Sg		**Sg**	02 08 27.9	-1.3
BZS	**Buzias**	**5.75**	**343**	⇑*i*P		**Pn**	02 06 52.8	+1.8
BZS	**Buzias**	**5.75**	**343**	S		**Sg**	02 08 26.8	-2.4
BZS	**Buzias**	**5.75**	**343**	*e*Pn		**Pn**	02 06 49.3	-1.7
BZS	**Buzias**	**5.75**	**343**	⇑*i*P		**Pn**	02 06 52.8	+1.8
BZS				*e*Sg		**Sg**	02 08 27.9	-1.3
DEV	**Deva**	**5.79**	**352**	⇓*i*P		**Pn**	02 06 51.8	+0.3
DEV	**Deva**	**5.79**	**352**	⇓*i*P		**Pn**	02 06 51.8	+0.3
CFR	**Carcaliu**	**5.85**	**30**	⇑*i*P		**Pn**	02 06 51.1	-1.2
CFR	**Carcaliu**	**5.85**	**30**	⇑*i*P		**Pn**	02 06 51.1	-1.2
DOPR	**Dopca**	**5.89**	**9**	⇓*i*P		**Pn**	02 06 53.4	+0.5
DOPR	**Dopca**	**5.89**	**9**	⇓*i*P		**Pn**	02 06 53.4	+0.5
MDB	**Medias**	**5.99**	**2**	⇑*i*P		**Pn**	02 06 53.9	-0.4
PLOR	**Plostina**	**6.00**	**18**	⇓*i*P		**Pn**	02 06 54.9	+0.4
PLOR	**Plostina**	**6.00**	**18**	⇓*i*P		**Pn**	02 06 54.9	+0.4
ODBI	**Odobesti**	**6.02**	**20**	⇓*i*P		**Pn**	02 06 56.2	+1.5
ODBI	**Odobesti**	**6.02**	**20**	⇓*i*P		**Pn**	02 06 56.2	+1.5
VRI	**Vrincioaia**	**6.03**	**18**	⇓*i*P		**Pn**	02 06 55.5	+0.6
VRI	**Vrincioaia**	**6.03**	**18**	⇓*i*P		**Pn**	02 06 55.5	+0.6
TLCR		**6.13**	**33**	⇑*i*P		**Pn**	02 06 55.8	-0.3
TLCR		**6.13**	**33**	⇑*i*P		**Pn**	02 06 55.8	-0.3
CJR	**Cluj-Napoca**	**6.57**	**357**	⇓*i*P		**Pn**	02 07 02.9	+0.7
TESR	**Tescani**	**6.63**	**16**	⇑*i*P		**Pn**	02 07 03.1	+0.1
TESR	**Tescani**	**6.63**	**16**	⇑*i*P		**Pn**	02 07 03.1	+0.1
JOSR	**Joseni**	**6.63**	**9**	⇓*i*P		**Pn**	02 07 03.9	+0.7
JOSR	**Joseni**	**6.63**	**9**	⇓*i*P		**Pn**	02 07 03.9	+0.7
DRGR		**6.71**	**352**	⇑*i*P		**Pn**	02 07 04.7	+0.5
DRGR		**6.71**	**352**	⇑*i*P		**Pn**	02 07 04.7	+0.5
BLY	**Banja Luka**	**6.85**	**314**	*e*Pn		**Pn**	02 07 06.6	+0.5
BLY	**Banja Luka**	**6.85**	**314**	⇑*i*P		**Pn**	02 07 07.3	+1.2
BLY	**Banja Luka**	**6.85**	**314**	*e*Pn		**Pn**	02 07 06.6	+0.5
BLY	**Banja Luka**	**6.85**	**314**	⇑*i*P		**Pn**	02 07 07.3	+1.2
ARCR	**ARCALIA**	**6.93**	**2**	⇓*i*P		**Pn**	02 07 08.1	+0.9
ARCR	**ARCALIA**	**6.93**	**2**	⇓*i*P		**Pn**	02 07 08.1	+0.9
GIRR	**Girov**	**7.03**	**14**	⇑*i*P		**Pn**	02 07 09.6	+1.1
GIRR	**Girov**	**7.03**	**14**	⇑*i*P		**Pn**	02 07 09.6	+1.1
BRTR	**Keskin Array B**	**7.37**	**90**	Pn		**Pn**	02 07 13.3	0.0
	comp=E,0.3nm,0.3s,baz=260,slow=10,SNR=18							
PRAR	**RASCA**	**7.37**	**12**	⇓*i*P		**Pn**	02 07 13.6	+0.3
PRAR	**RASCA**	**7.37**	**12**	⇑*i*P		**Pn**	02 07 13.6	+0.3
BURAR	**Bucovina Array**	**7.50**	**6**	⇑*i*P		**Pn**	02 07 15.1	-0.1
BURAR	**Bucovina Array**	**7.50**	**6**	⇑*i*P		**Pn**	02 07 15.1	-0.1
VAE	**Valguarnera**	**8.00**	**254**	Pn		**Pn**	02 07 24.1	+2.2
	comp=E,0.4nm,0.3s,baz=83,slow=16,SNR=3.1							
VAE				Sn		**Sn**	02 08 54.8	+1.9
	comp=E,0.5nm,0.3s,baz=108,slow=16,SNR=2.3							
CRES	**Cresnjev**	**8.48**	**315**	*e*Pn		**Pn**	02 07 27.6	-0.8
SORM	**Soroca**	**8.55**	**20**	⇑*i*P		**Pn**	02 07 28.5	-0.9
SORM	**Soroca**	**8.55**	**20**	⇑*i*P		**Pn**	02 07 28.5	-0.9
CEY	**Cerknica**	**9.00**	**311**	*e*Pn		**Pn**	02 07 35.3	-0.4
AKASG	**Malin Array Be**	**11.15**	**17**	Pn		**Pn**	02 08 03.6	-1.4
	comp=E,0.6nm,0.3s,baz=201,slow=12,SNR=4.7							
FINES	**FINESS Array B**	**21.35**	**3**	P		**P**	02 10 14.7	+1.8
	comp=E,2.4nm,0.8s,baz=178,slow=18,SNR=2.5							
ESDC	**Sonseca Array**	**21.48**	**278**	P		**P**	02 10 15.6	+1.1
	comp=E,0.4nm,0.5s,baz=75,slow=11,SNR=4.7							
NOA	**NORSAR Array B**	**22.36**	**343**	P		**P**	02 10 25.2	+1.4
	comp=E,0.6nm,0.7s,baz=145,slow=12,SNR=3.5							
EKA	**Eskdalemuir Ar**	**23.57**	**319**	P		**P**	02 10 34.8	-1.5
	comp=E,2.3nm,0.7s,baz=116,slow=11,SNR=5.0							
TORD	**Torodi Ar. Bea**	**33.32**	**222**	P		**P**	02 12 02.6	-1.4
	comp=E,0.6nm,0.6s,baz=33,slow=9.3,SNR=6.8							
KURBB	**Kurchatov Arra**	**38.84**	**56**	P		**P**	02 12 51.9	+1.0
	comp=E,0.3nm,0.2s,baz=281,slow=8.2,SNR=3.3							
MKAR	**Makanchi Array**	**41.93**	**61**	P		**P**	02 13 18.6	+2.0
	comp=E,0.6nm,0.7s,baz=272,slow=6.3,SNR=6.0							
ZALV	**Zalesovo Beam**	**42.32**	**50**	P		**P**	02 13 21.0	+1.4
	comp=E,0.4nm,0.4s,baz=277,slow=12,SNR=3.4							
YKA	**Yellowknife Ar**	**72.44**	**341**	P		**P**	02 16 52.9	+0.8
	comp=E,0.1nm,0.7s,baz=62,slow=3.1,SNR=4.0							

PRU ***15*** *02:13:57.9,50°.23N×12°.63E,h0km, West Bohemia*
WBNET 15 02:13:59.5,50°.25N×12°.45E,h7km,MI0.5,7C-10D, Germany

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NKC	**Novy Kostel**	**0.02**	**180**	⇓*i*	PG		Pg	02 14 00.8	-0.1
NKC				*e*	SG		Sg	02 14 01.7	-0.1
	comp=Z,37nm,0.1s								
NKC	**Novy Kostel**	**0.02**	**180**	⇓	P		Pg	02 14 00.8	-0.1
NKC					S		Sg	02 14 01.7	-0.1
NKC	**Novy Kostel**	**0.02**	**180**	⇓	P		Pg	02 14 01.3	+0.4
NKC					S		Sg	02 14 02.2	+0.3
STCW	**Studenec**	**0.05**	**78**	⇓	P		Pg	02 14 01.0	-0.2
STCW					S		Sg	02 14 01.9	-0.3
VAC	**Vackov**	**0.05**	**253**	⇓	P		Pg	02 14 01.0	-0.1
VAC					S		Sg	02 14 02.1	-0.1
VAC	**Vackov**	**0.05**	**253**		S		Sg	02 14 02.6	+0.3
KVC	**Kvetna**	**0.06**	**135**	⇑	P		Pg	02 14 01.1	-0.2
KVC					S		Sg	02 14 02.2	-0.4
POCW	**Po¯¨itky**	**0.07**	**349**	⇓	P		Pg	02 14 01.5	0.0
POCW					S		Sg	02 14 02.8	0.0
POCW	**Po¯¨itky**	**0.07**	**349**	⇓	P		Pg	02 14 02.0	+0.5
POCW					S		Sg	02 14 03.3	+0.5
SKC	**Skalna**	**0.10**	**215**	⇑	P		Pg	02 14 01.7	-0.1
SKC					S		Sg	02 14 03.2	-0.1
SKC	**Skalna**	**0.10**	**215**	⇑	P		Pg	02 14 02.2	+0.4
SKC					S		Sg	02 14 03.7	+0.4
KRCW	**Kraslice**	**0.10**	**33**	⇑	P		Pg	02 14 01.7	-0.1
KRCW					S		Sg	02 14 03.3	-0.2
KACW	**Kace¯ov**	**0.12**	**157**	⇑	P		Pg	02 14 02.0	0.0
KACW					S		Sg	02 14 03.7	0.0
KOCW	**Kopaniny**	**0.14**	**277**	⇓	P		Pg	02 14 02.4	0.0
KOCW					S		Sg	02 14 04.4	-0.1
KOCW	**Kopaniny**	**0.14**	**277**	⇓	P		Pg	02 14 02.9	+0.5
KOCW					S		Sg	02 14 04.9	+0.4
ZHC	**Zelena Hora**	**0.20**	**207**	⇑	P		Pg	02 14 03.5	0.0
ZHC					S		Sg	02 14 06.2	0.0
ZHC	**Zelena Hora**	**0.20**	**207**	⇑	P		Pg	02 14 03.9	+0.4
ZHC					S		Sg	02 14 06.7	+0.5
LACW	**Lazy**	**0.23**	**150**		S		Sg	02 14 07.1	0.0
PRU	**Pruhonice**	**1.37**	**100**	⇓	*e*SG		Sb	02 14 37.2	-6.0

IDC 15 02:17:26.1±2.8,8°.22S×123°.83E,h176km±30km,mb3.2/2, mb1 3.3/5,mb1mx3.0/53,mbtmp3.7/5,MS2.9/1,Ms1 2.9/1, ms1mx2.4/15,Error ellipse: s-maj=86.3km s-min=13.5km az=61.0,Flores region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**1.98**	**185**	P		Pn	Pn	02 18 02.7	+0.1
	59nm,0.3s,baz=342,slow=7.4,SNR=30								
BATI				S		Sn	Sn	02 18 31.5	+0.4
	30nm,0.3s,baz=270,slow=20,SNR=3.1								
FITZ	**Fitzroy Crossi**	**9.97**	**170**	P		Pn	Pn	02 19 43.5	-1.9
	0.2nm,0.3s,baz=354,slow=13,SNR=2.0								
FITZ				S		Sn	Sn	02 21 29.5	-6.8
	2.4nm,0.3s,baz=140,slow=16,SNR=9.2								
WRA	**Warramunga Arr**	**15.47**	**140**	P		Pn	Pn	02 20 53.3	-1.9
	0.4nm,0.3s,baz=319,slow=14,SNR=20								
WRA				S		Sn	Sn	02 23 36.7	-11
	0.4nm,0.3s,baz=313,slow=24,SNR=6.3								
ASAR	**Alice Springs**	**18.14**	**149**	P		Pn	Pn	02 21 26.9	-0.2
	0.3nm,0.3s,baz=332,slow=13,SNR=19								
ASAR				S		S	S	02 24 44.6	+0.7
	0.1nm,0.3s,baz=315,slow=19,SNR=5.3								
TGY	**Tagaytay City**	**22.36**	**353**	LR		LR	LR	02 34 07.6	
	comp=Z,28nm,18.4s,baz=220,slow=45								
SONM	**Songino Array**	**57.91**	**346**	P		P	P	02 27 00.0	+0.2
	0.5nm,0.8s,baz=156,slow=7.9,SNR=2.7								
MKAR	**Makanchi Array**	**66.06**	**330**	P		P	P	02 27 53.9	-0.2
	0.4nm,0.5s,baz=128,slow=7.5,SNR=8.6								

DDA ***15*** *02:29:54.0,38°.51N×44°.31E,h4km,Ml3.0*
NSSP ***15*** *02:29:54.0,38°.50N×44°.37E,h5km,Ms3.1*
TEH ***15*** *02:29:53.3,38°.51N×44°.06E,h5km,ML2.9*
ATA ***15*** *02:29:54.0±1.5,38°.56N×44°.16E,h2km±21km,ML3.7, MW3.5*
CSEM ***15*** *02:29:55.3±0.6,38°.55N×44°.21E,h5km,ML3.0,Error ellipse: s-maj=12.0km s-min=7.1km az=98.0*
ISK ***15*** *02:29:55.2,38°.65N×44°.10E,h5km,ML3.0/6*
ISC 15 02:29:54.2±1.2,38°.56N±0°.02×44°.22E±0°.02,h0km±10km, n70,σ1s38/94,3C,Turkey-Iran border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CLDR	**Caldiran**	**0.63**	**338**	PG		**Pg**	**Pg**	**02 30 05.5**	**-0.8**
CLDR				SG		**Sg**	**Sg**	**02 30 14.7**	**+0.2**
CLDR	**Caldiran**	**0.63**	**338**	*i*	P	**Pg**	**Pg**	**02 30 05.2**	**-1.1**
CLDR				*i*	S	**Sg**	**Sg**	**02 30 15.4**	**+0.9**
CLDR	**Caldiran**	**0.63**	**338**	P		**Pg**	**Pg**	**02 30 05.2**	**-1.1**
CLDR	**Caldiran**	**0.63**	**338**	*e*	Pg	**Pg**	**Pg**	**02 30 05.5**	**-0.8**
CLDR				*e*	Sg	**Sg**	**Sg**	**02 30 14.7**	**+0.2**
CLDR				S		**Sg**	**Sg**	**02 30 15.4**	**+0.9**
TVAN	**Van**	**0.64**	**268**	*i*	P	**Pb**	**Pb**	**02 30 07.1**	**-1.3**
TVAN				*i*	S	**Sn**	**Sn**	**02 30 22.5**	**+0.9**
TVAN	**Van**	**0.64**	**268**	P		**Pb**	**Pb**	**02 30 07.1**	**-1.3**
VANB	**Van**	**0.66**	**273**	PG		**Pb**	**Pb**	**02 30 07.2**	**-1.3**
VANB				SG		**Sb**	**Sb**	**02 30 16.3**	**-1.9**
VANB	**Van**	**0.66**	**273**	*e*	Pg	**Pb**	**Pb**	**02 30 07.2**	**-1.3**
VANB				*e*	Sg	**Sb**	**Sb**	**02 30 16.3**	**-1.9**
VMUR	**Van-Muradiye**	**0.67**	**310**	*i*	P	**Pb**	**Pb**	**02 30 08.4**	**-0.4**
VMUR				*i*	S	**Sn**	**Sn**	**02 30 19.4**	**-2.8**
VMUR	**Van-Muradiye**	**0.67**	**310**	P		**Pb**	**Pb**	**02 30 08.4**	**-0.4**
VMUR				S		**Sn**	**Sn**	**02 30 19.5**	**-2.8**
GEVA	**Gevas**	**0.95**	**255**	*e*	P	**Pg**	**Pg**	**02 30 11.4**	**-0.9**
GEVA				*e*	S	**Sb**	**Sb**	**02 30 26.1**	**-0.6**
GEVA	**Gevas**	**0.95**	**255**	*i*	P	**Pg**	**Pg**	**02 30 11.6**	**-0.7**
GEVA	**Gevas**	**0.95**	**255**	P		**Pg**	**Pg**	**02 30 11.6**	**-0.7**
YOVA	**Hakkari_Y¯…kse**	**0.97**	**177**	*i*	P	**Pg**	**Pg**	**02 30 12.8**	**0.0**
YOVA	**Hakkari_Y¯…kse**	**0.97**	**177**	P		**Pg**	**Pg**	**02 30 12.8**	**0.0**
DYDN	**Diyadin**	**1.07**	**337**	*e*	P	**Pg**	**Pg**	**02 30 14.1**	**-0.5**
DYDN				*e*	S	**Sn**	**Sn**	**02 30 31.2**	**-1.0**
DYDN	**Diyadin**	**1.07**	**337**	*i*	P	**Pg**	**Pg**	**02 30 10.4**	**-4.3**
DYDN				*i*	S	**Sg**	**Sg**	**02 30 28.5**	**0.0**
DYDN	**Diyadin**	**1.07**	**337**	P		**Pg**	**Pg**	**02 30 10.4**	**-4.3**
DYDN				S		**Sg**	**Sg**	**02 30 28.5**	**0.0**
HAKT	**HAKKARI**	**1.08**	**202**	*i*	P	**Pg**	**Pg**	**02 30 14.2**	**-0.7**
HAKT	**HAKKARI**	**1.08**	**202**	P		**Pg**	**Pg**	**02 30 14.2**	**-0.7**
ISHB	**Shabestar**	**1.13**	**104**	*e*	Pg	**Pg**	**Pg**	**02 30 15.4**	**-0.4**
ISHB				*e*	AMB	AMB	AMB	02 30 34.4	
	comp=E,10μm,0.1s								
IMRD	**Marand**	**1.17**	**82**	*e*	Sg	**Sn**	**Sn**	**02 30 34.2**	**-0.5**
ADCV	**BITLIS_Adilcev**	**1.20**	**282**	*i*	P	**Pn**	**Pn**	**02 30 17.9**	**-0.4**
ADCV				*i*	S	**Sn**	**Sn**	**02 30 39.8**	**+4.4**
ADCV	**BITLIS_Adilcev**	**1.20**	**282**	P		**Pn**	**Pn**	**02 30 17.9**	**-0.4**
IGDI	**IGDIR**	**1.31**	**355**	*e*	P	**Pb**	**Pb**	**02 30 19.4**	**-0.4**
IGDI				*e*	S	**Sn**	**Sn**	**02 30 39.9**	**+1.8**
TUTA	**Tutak**	**1.38**	**308**	*e*	P	**Pg**	**Pg**	**02 30 20.9**	**

PMG	Port Moresby	6.20	207	LR	LR	02 42 40.6			
	comp=Z,193nm,19.1s,baz=134,slow=38								
GUMO	Guam	18.06	344	LR	LR	02 48 05.0			
	comp=Z,117nm,21.8s,baz=109,slow=32								
WRAB	Tennant Creek	22.10	222	*eP*	P	02 43 37.2	+1.6		
	26nm,1.5s								
WRA	Warramunga Arr	22.12	222	P	P	02 43 35.1	-0.7		
	2.5nm,0.9s,baz=40,slow=10,SNR=12								
ASAR	Alice Springs	25.10	217	P	P	02 44 04.2	-0.7		
	4.7nm,1.2s,baz=45,slow=8.3,SNR=9.6								
ASAR				LR	LR	02 54 55.5			
	comp=Z,89nm,18.7s,baz=56,slow=39								
FITZ	Fitzroy Crossi	27.74	237	P	P	02 44 30.6	+1.9		
	9.2nm,0.7s,baz=65,slow=8.6,SNR=13								
STKA	Stephens Creek	28.98	195	LR	LR	02 55 41.6			
	comp=Z,101nm,20.3s,baz=26,slow=35								
MBWA	Marble Bar	34.08	237	*eP*	P	02 45 24.6	-0.1		
JOW	Kunigami	37.03	327	LR	LR	02 57 17.3			
	comp=Z,62nm,19.9s,baz=126,slow=30								
USRK	Ussuriysk Ar.	50.50	343	LR	LR	03 07 27.7			
	comp=Z,17nm,18.8s,baz=65,slow=34								
CMAR	Chiang Mai Arr	54.95	296	P	P	02 48 11.2	-0.1		
	1.2nm,0.8s,baz=104,slow=5.4,SNR=6.0								
MKAR	Makanchi Array	77.79	319	P	P	02 50 36.4	-0.6		
	0.3nm,0.9s,baz=106,slow=4.7,SNR=2.6								
NIL	Nilore	81.14	305	*eP*	P	02 50 55.9	+0.4		
KURK	Kurchatov	81.31	322	*eP*	P	02 50 57.5	+1.5		
KURBB	Kurchatov Arra	81.34	322	P	P	02 50 54.6	-1.5		
	0.5nm,0.7s,baz=87,slow=5.7,SNR=3.1								
COLA	College	82.03	22	*eP*	P	02 50 59.7	+0.3		
	1.4nm,0.6s								
ILAR	Eielson Array	82.35	23	P	P	02 51 00.1	-1.1		
	0.9nm,0.7s,baz=241,slow=5.7,SNR=11								
KKAR	Karatay Array	84.96	314	*eP*	P	02 51 15.1	0.0		
	1.6nm,0.8s								
YKA	Yellowknife Ar	95.89	28	P	P	02 52 06.9	+0.9		
	0.5nm,0.8s,baz=274,slow=4.6,SNR=12								
RES	Resolute Bay	100.18	14	*eP*	Pdif	02 52 24.7	-0.4		
	0.9nm,0.7s								
PDAR	Pinedale Array	100.27	47	P	Pdif	02 52 26.9	+0.4		
	0.1nm,0.4s,baz=279,slow=6.9,SNR=1.9								
TORD	Torodi Ar. Bea	147.36	288	PKPbc	PKPbc	02 58 23.5	-0.9		
	2.2nm,0.9s,baz=64,slow=3.4,SNR=8.0								

IDC 15 02:43:09.8±47.0, 13.73S×178.04E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.5/51, mbtmp3.7/3, Error ellipse: s-maj=840.5km s-min=153.3km az=72.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	37.90	235	P	P	02 50 29.1	+0.1
	1.0nm,0.5s,baz=61,slow=10,SNR=3.3						
WRA	Warramunga Arr	42.19	255	P	P	02 51 05.3	+0.5
	0.5nm,0.8s,baz=88,slow=8.3,SNR=7.0						
ASAR	Alice Springs	42.81	250	P	P	02 51 08.9	-0.9
	0.8nm,0.4s,baz=84,slow=8.7,SNR=9.2						

ISCJB 15 02:44:49.1±0.4, 2.95N±0.05×92.89E±0.04, h10km, mb4.2/31, MS3.3/11, Error ellipse: s-maj=7.4km s-min=4.4km az=31.8

IDC 15 02:44:49.4±0.7, 2.88N×92.83E, h0km, mb3.9/17, mb1 4.1/20, mb1mx3.9/68, mbtmp4.0/20, ML4.3/3, MS3.3/12, Ms1 3.3/12, ms1mx3.1/58, Error ellipse: s-maj=22.1km s-min=14.6km az=42.0

NEIC 15 02:44:50.9±0.3, 2.96N×92.84E, h10km, mb4.2/12, Error ellipse: s-maj=7.5km s-min=4.7km az=215.0

DJA 15 02:45:07.3±0.8, 3.1N±4.4×9.4E±11, h134km±9km, M4.6/7, mb4.6/7, mB5.2/6, MLv4.6/7, Mw(mB)4.5/6

ISC 15 02:44:50.9±0.6, 2.87N±0.08×92.92E±0.06, h10km, n96, σ1§56/83, mb4.2/33, MS3.3/11, 3C-3D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLSI	Meulaboh, Aceh	3.75	68	P	Pn	02 45 49.4	+0.6
TPTI		4.28	85	P	Pn	02 45 56.4	+0.3
LHMI	Lhok Sumawe	4.66	60	P	Pn	02 46 03.2	+1.9
LHMI	Lhok Sumawe	4.66	60	*e*Pn	Pn	02 46 03.0	+1.7
GSI	Gunungsitoli	4.91	108	P	Pn	02 46 06.1	+1.3
GSI				S	Sn	02 46 58.4	-3.4
GSI	Gunungsitoli	4.91	108	*e*Pn	Pn	02 46 05.8	+0.9
GSI				*e*Sn	Sn	02 46 57.4	-4.3
PSI	Prapat	6.00	90	Pn	Pn	02 46 21.6	+1.7
	15nm,0.3s,baz=289,slow=8.3,SNR=56						
PSI				Sn	Sn	02 47 27.4	-1.5
	11nm,0.3s,baz=337,slow=18,SNR=6.2						
MNSI	Mandailing Nat	6.97	107	P	Pn	02 46 35.0	+1.8
	120nm,0.6s,3μm1.2nm						
MNSI				S	Sn	02 47 47.1	-5.5
	120nm,0.6s,3μm1.2nm						
PKDT	Phuket	7.35	47	P	Pn	02 46 37.2	-1.2
	44nm,0.7s,0.2nm						
SISI	Saibi	7.45	124	P	Pn	02 46 41.6	+1.9
SISI				S	Sn	02 47 57.8	-6.5
IPM	Ipoh	8.25	79	*e*Pn	Pn	02 46 50.7	-0.1
TRTT	Trang	8.36	54	P	Pn	02 46 51.0	-1.2
	29nm,0.7s,261nm0.1nm						
SURT	Suratani	8.41	44	P	Pn	02 46 51.8	-1.2
	14nm,1.0s,147nm0.0nm						
PBA	Port Blair	8.73	359	*e*P	Pn	02 46 51.5	-5.8
SKLT	Songkhla	8.78	61	P	Pn	02 46 57.6	-0.5
	45nm,0.9s,725nm0.2nm						
RGRI	Rengat	9.94	109	P	Pn	02 47 03.4	-11
DGPR	DIGLIPUR	10.24	0	*e*P	Pn	02 47 15.5	-2.5
MNAI	Manna	12.34	126	*e*Pn	Pn	02 47 47.7	+0.9
PALK	Pallekele	12.93	290	Pn	Pn	02 47 53.0	-1.9
	3.5nm,0.3s,baz=115,slow=14,SNR=15						
PALK				Sn	Sn	02 50 03.0	-16
	6.7nm,0.3s,baz=116,slow=11,SNR=8.5						
PALK				LR	LR	02 51 56.6	
	comp=Z,168nm,19.6s,baz=116,slow=33						
PALK	Pallekele	12.93	290	*e*Pn	Pn	02 47 53.0	-1.9
PALK				*e*Sn	Sn	02 50 02.4	-17
MDSI	Maura Dua	13.42	123	P	Pn	02 48 03.5	+2.0
CM01	Chiang Mai Arr	16.55	21	*e*Pn	Pn	02 48 41.2	-2.1
CM31	Chiang Mai Arr	16.58	20	*e*Pn	Pn	02 48 42.2	-1.4
CMAR	Chiang Mai Arr	16.58	20	Pn	Pn	02 48 42.2	-1.4
	0.2nm,0.3s,baz=217,slow=14,SNR=16						
CMAR				LR	LR	02 56 12.3	
	comp=Z,101nm,18.3s,baz=219,slow=41						
CHTO	Chiang Mai	16.91	20	P	Pn	02 48 50.1	+2.3
	41nm,0.9s						
CHTO	Chiang Mai	16.91	20	*e*Pn	Pn	02 48 45.7	-2.1
	14nm,1.2s						
CMMT	Chiang Mai	16.91	20	P	Pn	02 48 49.0	+1.1
	10nm,1.0s,477nm						
KSM	Kuching	17.43	94	*e*Pn	Pn	02 48 51.9	-2.6
	12nm,0.8s						
VIS	Vishakhapatnam	17.50	328	*e*P	Pn	02 48 52.7	-2.6
VIS				IAmb	IAmb	02 48 53.8	
	comp=Z,9.2nm,0.4s						
SKNT	Sakolnakorn	17.74	37	P	Pn	02 48 56.5	-1.7
	comp=Z,8.8nm,0.8s						
SBUM	Sibu	19.29	91	*e*P	P	02 49 18.8	+2.6
	comp=Z,14nm,0.9s						
BELO	BELONIA	20.31	356	*e*P	P	02 49 27.6	+0.4
IMP	Imphal	21.86	3	*e*P	P	02 49 43.1	-0.8
BOK	Bokaro	21.89	342	*e*P	P	02 49 40.9	-3.3
BOK				IAmb	IAmb	02 49 45.2	
	comp=Z,11nm,0.9s						
SHL	Shillong	22.59	358	*e*P	P	02 49 51.2	-0.7
KOHI	KOHIMA	22.75	3	*e*P	P	02 49 52.2	-1.3
GUWA	GUWAHATI	23.22	357	*ex*	P	02 50 05.7	+7.4
MOKO	MOKOCHONG	23.37	4	*e*P	P	02 49 59.0	-0.9
TEZP	TEZPUR	23.61	360	*e*P	P	02 50 01.7	-0.5
KMI	Kunming	24.07	22	P	P	02 50 08.9	+2.1
KMI				pmax	pmax		
	comp=Z,14nm,0.5s						
LKP	Lekhapani	24.49	6	*e*P	P	02 50 10.5	+0.1
BHPL	Bhopal	25.20	325	IAmb	IAmb	02 50 14.4	
	comp=Z,2.2nm,0.6s						
BHPL				*e*P	P	02 50 15.5	-1.5
LSA	Lhasa	26.74	357	P	P	02 50 32.4	+1.1
LSA				pmax	pmax		
	comp=Z,12nm,0.8s						
LSA	Lhasa	26.74	357	*e*P	P	02 50 30.9	-0.4
	comp=Z,22nm,0.6s						
SMLA	Simla	31.80	334	*e*P	P	02 51 15.8	+0.1
DAV	Davao City (W)	32.80	81	LR	LR	03 08 00.3	
	comp=Z,42nm,18.4s,baz=4.0,slow=42						
DHRM	DHARAMSHALA	33.14	334	*e*P	P	02 51 27.7	-0.1
NIL	Nilore	35.71	331	*e*P	P	02 51 48.7	-1.2
	comp=Z,49nm,0.5s						
GTA	Gaotai	36.91	9	*e*P	P	02 52 03.8	+3.7
GTA				pP	sP	02 52 08.8	+4.4
GTA	Gaotai	36.91	9	*e*P	P	02 52 08.9	+8.8
GTA				sP	sP	02 52 12.0	+7.6
GTA				pP	pP	02 52 12.4	+9.2
GTA				sP	sP	02 52 14.9	+10
GTA				pmax	pmax		
	comp=Z,3.0nm,0.7s						
GTA				pmax	pmax		
	comp=Z,5.0nm,1.0s						
WMQ	Urumqi	41.04	354	P	P	02 52 35.8	+1.2
WMQ				LR	LR		
	comp=N,90nm,29.3s						
WMQ				LR	LR		
	comp=E,150nm,29.3s						
WMQ				LR	LR		
	comp=Z,110nm,30.7s						
HHC	Hu-ho-hao-te	41.39	22	*e*P	P	02 52 37.9	+0.4
HHC				pmax	pmax		
	comp=Z,12nm,1.0s						
HHC				pmax	pmax		
	comp=Z,17nm,6.0s						
JOW	Kunigami	41.40	51	LR	LR	03 11 43.0	
	comp=Z,41nm,18.4s,baz=182,slow=39						
AAK	Ala-Archa	42.88	340	*e*P	P	02 52 47.9	-1.9
	comp=Z,1.4nm,0.7s						
MK01	Makanchi Array	44.69	350	*e*P	P	02 53 03.6	-0.5
MK31	Makanchi Array	44.72	350	*e*P	P	02 53 04.2	-0.1
MKAR	Makanchi Array	44.72	350	P	P	02 53 04.2	-0.1
	comp=Z,2.9nm,0.7s,baz=169,slow=8.4,SNR=15						
MKAR				LR	LR	03 15 04.8	
	comp=Z,20nm,21.7s,baz=182,slow=41						
MKAR	Makanchi Array	44.72	350	*e*P	P	02 53 04.2	-0.1
	comp=Z,32nm,0.8s						
KK31	Karatay Array	44.75	337	*e*P	P	02 53 03.1	-1.6
KKAR	Karatay Array	44.75	337	*e*P	P	02 53 03.4	-1.2
	comp=Z,2.1nm,0.7s						
MAKZ	Makanchi	44.79	349	*e*P	P	02 53 05.3	+0.4
	comp=Z,3.3nm,0.7s						
SONM	Songino Array	46.28	13	P	P	02 53 16.9	+0.1
	comp=Z,1.3nm,0.7s,baz=192,slow=8.3,SNR=8.8						
SONA1	Songino Array	46.30	13	*e*P	P	02 53 17.1	+0.2
WRA	Warramunga Arr	46.55	121	P	P	02 53 19.8	+0.6
	comp=Z,1.8nm,0.6s,baz=299,slow=8.7,SNR=17						
WRAB	Tennant Creek	46.56	121	*e*P	P	02 53 20.2	+0.9
	comp=Z,1.9nm,0.5s						
WB2	Warramunga Arr	46.56	121	*e*P	P	02 53 20.5	+1.2
KSAR	Wonju Array Be	47.04	39	P	P	02 53 23.5	+0.8
KSRS	Korea Array	47.07	39	P	P	02 53 23.5	+0.5
KURBB	Kurchatov Arra	49.11	348	P	P	02 53 38.6	0.0
	comp=Z,0.6nm,0.4s,baz=222,slow=11,SNR=4.8						
KURK	Kurchatov	49.18	348	*e*P	P	02 53 39.1	+0.1
	comp=Z,1.8nm,0.6s,baz=170,slow=7.2,SNR=11						
TLY	Talaya	49.47	9	LR	LR	03 16 56.8	
	comp=Z,15nm,1.6s						
RAYN	Ar Rayn	50.20	298	*e*P	P	02 53 46.9	-0.5
	comp=Z,28nm,18.9s,baz=124,slow=39						
ATD	Arta Tunnel	50.34	283	LR	LR	03 12 47.1	
	comp=Z,7.1nm,0.8s						
ZALV	Zalesovo Beam	50.34	283	LR	LR	03 12 47.1	
	comp=Z,42nm,18.2s,baz=288,slow=33						
ZALV	Zalesovo Beam	51.35	354	P	P	02 53 54.9	-0.6
	comp=Z,2.4nm,0.6s,baz=187,slow=7.3,SNR=10						
ZALV				LR	LR	03 17 05.8	
	comp=Z,38nm,21.3s,baz=268,slow=38						
GUMO	Guam	52.40	75	LR	LR	03 14 20.1	
	comp=Z,30nm,21.8s,baz=110,slow=34						
BVAR	Borovoye Array	53.35	343	P	P	02 54 08.8	-1.6
	comp=Z,0.8nm,0.7s,baz=142,slow=7.5,SNR=5.1						
BVAR				LR	LR	03 17 10.9	
	comp=Z,42nm,21.4s,baz=158,slow=36						
BRVK	Borovoye	53.41	343	*e*P	P	02 54 09.3	-1.5
	comp=Z,3.7nm,0.6s						
MJAR	Matsushiro Arr	53.47	45	P	P	02 54 12.2	+0.7
	comp=Z,0.7nm,0.6s,baz=239,slow=7.3,SNR=3.8						
ABKAR	Akbulak array	54.09	334	*e*P	P	02 54 14.9	-0.9
	comp=Z,1.6nm,0.8s						
AKTO	Aktyubinsk	55.80	334	P	P	02 54 27.7	-0.5
	comp=Z,0.8nm,0.6s,baz=202,slow=5.4,SNR=3.1						
STKA	Stephens Creek	57.66	131	P	P	02 54 42.6	+0.8
	comp=Z,1.1nm,0.5s,baz=302,slow=16,SNR=3.5						
STKA				LR	LR	03 19 09.3	
	comp=Z,29nm,20.5s,baz=199,slow=36						
BRTR	Keskin Array B	64.84	313	P	P	02 55 30.1	-0.4
	comp=Z,0.5nm,0.7s,baz=130,slow=5.7,SNR=4.3						
VRI	Vrincioaia	71.50	318	∥	P	02 56 17.2	+5.2
TESR	Tescani	71.72	318	∥	P	02 56 13.1	-0.3
MLR	Muntele Rosu	71.93	317	P	P	02 56 15.3	+0.6
	comp=Z,0.4nm,0.8s,baz=162,slow=9.6,SNR=2.9						
MLR	Muntele Rosu	71.93	317	∥	P	02 56 15.4	+0.6
BOSA	Boshof	71.94	239	P	P	02 56 14.1	-1.0
	comp=Z,2.7nm,0.9s,baz=90,slow=7.1,SNR=4.1						
TIXI	Tiksi	72.35	11	*e*P	P	02 56 16.0	-0.6
	comp=Z,6.0nm,1.0s						
PETK	Petropavlovsk-	72.77	35	P	P	02 56 19.0	-0.5
	comp=Z,2.3nm,0.8s,baz=263,slow=12,SNR=2.9						
DRGR		74.42	318	∥	P	02 56 38.1	+8.7
TRPA	Tarpa	74.83	319	∥	P	02 56 38.4	+6.7
BLY	Banja Luka	77.86	315	∥	P	02 56 46.6	-2.4
GERES	GERESS Array B	80.75	319	P	P	02 57 05.1	+0.3
	comp=Z,0.3nm,0.4s,baz=76,slow=5.6,SNR=4.0						
TXAR	Lajitas Array	144.25	25	PKP	PKPab	03 04 27.3	+1.4
	comp=Z,0.5nm,0.9s,baz=297,slow=3.9,SNR=3.6						

IDC 15 02:48:57.5±1.1, 10.07N×103.61W, h0km, mb3.9/8, mb1 4.2/12, mb1mx4.0/39, mbtmp4.0/12, ML3.6/4, MS3.8/31, Ms1 3.8/31, ms1mx3.8/39, Error ellipse: s-maj=29.3km s-min=18.9km az=50.0

NEIC 15 02:48:59.3±0.8, 10.08N×103.66W, h10km, mb4.4/33, Error ellipse: s-maj=14.7km s-min=9.3km az=219.0

ISCJB 15 02:49:01.3±0.9, 10.18N±0.10×103.55W±0.08, h33km, mb4.3/34, MS3.8/26, Error ellipse: s-maj=16.2km s-min=8.2km az=35.9

ISC 15 02:49:03.0±1.0, 10.2N±0.1×103.6W±0.1, h35km, n82, σ1§38/56, mb4.3/34, MS3.9/26, Northern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOIG	Morelia	9.73	13	*e*Pn	Pn	02 51 21.3	+0.5
CMIG	Matias Romero	10.89	50	Pn	Pn	02 51 36.1	-0.3
	0.1nm,0.3s,baz=236,slow=8.3,SNR=6.8						
CMIG				LR	LR	02 54 48.4	
	comp=Z,1μm,20.9s,baz=217,slow=32						
H06E1	SOCORRO T-PHASE	11.14	321	T	T	03 02 53.2	
	SNR=14						
ZAIG	Zacatecas	12.57	4	*e*Pn	Pn	02 51 59.7	0.0
APG	El Apazote	13.66	68	Pn	Pn	02 52 13.2	-1.4
	0.5nm,0.3s,baz=108,slow=14,SNR=6.0						
APG				LR	LR	02 56 35.5	
	comp=Z,257nm,18.0s,baz=251,slow=33						
LPIG	La Paz	15.28	336	LR	LR	02 56 59.4	
	comp=Z,1μm,19.2s,baz=157,slow=31						
TGUH	Tegucigalpa,Un	16.39	75	*e*Pn	P	02 52 52.3	-0.7
	19nm,1.0s						
JTS	JuntasAbangare	18.32	88	P	P	02 53 13.4	-1.0
	0.2nm,0.3s,baz=343,slow=5.0,SNR=4.4						
JTS				LR	LR	02 58 28.7	
	comp=Z,452nm,19.6s,baz=334,slow=31						
JTS	JuntasAbangare	18.32	88	*e*P	P	02 53 13.2	-1.2
	13nm,1.4s						
TXAR	Lajitas Array	19.07	360	P	Pn	02 53 24.1	+0.4
	0.1nm,0.3s,baz=178,slow=11,SNR=17						
TXAR				LR	LR	03 00 17.6	
	comp=Z,480nm,18.2s,baz=0.0,slow=36						
TX31	Lajitas Ar. Si	19.07	360	*e*P	Pn	02 53 25.5	+1.9
JCT	Junction City	20.52	9	*e*P	P	02 53 39.0	+0.7
	30nm,1.5s						
HKT	Hockley	20.97	19	*e*P	P	02 53 42.6	-0.4
	67nm,1.3s						
MNTX	Cornudas Mount	21.50	356	*e*P	P	02 53 49.1	+0.3
	22nm,1.4s						
319A	Douglas	21.76	347	*e*P	P	02 53 51.2	-0.6
	20nm,1.0s						
121A	Cookes Peak, D	22.60	351	*e*P	P	02 54 01.7	+0.8
	14nm,1.3s						
ABTX	Abilene, Hawle	22.64	9	*e*P	P	02 54 01.1	-0.1
	29nm,1.4s						
TUC	Tucson	23.03	344	*e*P	P	02 54 04.6	-0.6
	6.6nm,1.0s						
BNM	Barren Site	24.04	354	*e*P	P	02 54 17.2	+2.1
LAZ	Ladron	24.35	353	*e*P	P	02 54 16.2	-1.7
ANMO	Albuquerque	24.81	354	P	P	02 54 22.8	+0.7
	2.5nm,0.9s,baz=356,slow=12,SNR=7.2						
ANMO				LR	LR	03 03 00.6	
	comp=Z,116nm,19.2s,baz=0.0,slow=34						
ANMO	Albuquerque	24.81	354	*e*P	P	02 54 22.5	+0.4
	4.9nm,1.1s						
X16A	Lo Mia Camp, P	25.20	345	*e*P	P	02 54 26.5	+0.9
	6.6nm,1.0s						
W18A	Petrified Fore	25.47	348	*e*P	P	02 54 25.3	-2.8
	7.3nm,1.0s						
W40A	Ferguson Farm,	26.69	19	*e*P	P	02 54 41.8	+2.9
	37nm,1.5s						
OTAV	Otavalo	26.86	110	*e*P	P	02 54 41.9	+0.7
	5.8nm,1.0s						
T25A	Trinidad	26.87	359	*e*P	P	02 54 43.9	+3.2
	12nm,1.4s						
WHAR	Wooly Hollow	27.04	21	*e*P	P	02 54 45.2	+3.2
	18nm,1.3s						
MVCO	Mesa Verde	27.29	351	*e*P	P	02 54 42.6	-2.0
	20nm,1.6s						
MWC	Mount Wilson	27.38	333	*e*P	P	02 54 43.4	-1.9
	44nm,1.6s						
S22A	4UR Ranch, Cre	27.62	354	*e*P	P	02 54 49.5	+1.9
	3.5nm,1.1s						
ROSC	El Rosal	29.46	98	LR	LR	03 04 13.6	
	comp=Z,154nm,20.5s,baz=270,slow=31						
O20A	White River Ci	30.14	353	*e*P	P	02 55 11.2	+1.4
	29nm,1.6s						
MPU	Maple Canyon	30.58	348	*e*P	P	02 55 13.2	-0.6
	7.8nm,1.2s						
NVAR	Mina Array Bea	31.09	337	P	P	02 55 19.3	+1.0
	0.5nm,0.6s,baz=160,slow=5.6,SNR=3.4						
NVAR				LR	LR	03 05 58.5	
	comp=Z,264nm,19.0s,baz=250,slow=33						
TKL	Tuckaleechee C	31.12	32	LR	LR	03 10 52.0	
	comp=Z,98nm,18.2s,baz=213,slow=42						
WCI	Wyandotte Cave	31.96	26	*e*P	P	02 55 26.3	+0.6
	18nm,0.8s						
SDV	Santo Domingo	32.50	89	P	P	02 55 32.5	+1.6
	4.8nm,0.7s,baz=310,slow=7.9,SNR=5.3						
SDV				LR	LR	03 07 13.8	
	comp=Z,314nm,19.6s,baz=267,slow=34						
SDV	Santo Domingo	32.50	89	*e*P	P	02 55 32.6	+1.7
	14nm,1.3s						
PD31	Pinedale Array	32.90	352	*e*P	P	02 55 35.5	+1.4
PDAR	Pinedale Array	32.90	352	P	P	02 55 35.2	+1.1
	1.7nm,0.9s,baz=164,slow=7.7,SNR=14						
PDAR				LR	LR	03 09 45.2	
	comp=Z,104nm,18.4s,baz=190,slow=38						
PDAR	Pinedale Array	32.90	352	*e*P	P	02 55 34.1	0.0
REDW	Red Top Meadow	33.68	350	*e*P	P	02 55 42.6	+1.6
	9.2nm,1.2s						
LOHW	Long Hollow	33.88	351	*e*P	P	02 55 44.4	+1.7
	15nm,1.8s						
FXWY	Fox Creek	33.98	350	*e*P	P	02 55 45.4	+1.9
	4.4nm,1.4s						
YBH	Yreka Blue Hor	35.67	335	LR	LR	03 08 41.0	
	comp=Z,86nm,19.0s,baz=148,slow=33						
RPN	Rapa Nui	37.49	188	LR	LR	03 06 18.6	
	comp=Z,57nm,19.6s,baz=252,slow=28						
DGMT	Dagmar	38.19	359	*e*P	P	02 56 19.8	+0.6
	12nm,1.0s						
AGMN	Agassiz Nation	38.56	8	*e*P	P	02 56 21.7	-0.6
	6.8nm,1.0s						
NEW	Newport	39.65	346	*e*P	P	02 56 31.4	-0.1
	8.2nm,1.3s						
ULM	Lac du Bonnet	40.47	8	P	P	02 56 36.8	-1.4
	2.9nm,1.0s,baz=196,slow=8.6,SNR=4.2						
ULM				LR	LR	03 12 31.8	
	comp=Z,159nm,18.4s,baz=222,slow=35						
LPAZ	La Paz	43.82	126	P	P	02 57 05.2	-1.5
	2.0nm,0.9s,baz=286,slow=5.2,SNR=5.9						
LPAZ				LR	LR	03 13 54.6	
	comp=Z,146nm,21.7s,baz=316,slow=34						
LPAZ	La Paz	43.82	126	*e*P	P	02 57 07.7	+1.0
	6.8nm,1.4s						
FFC	Flin Flon	44.47	1	*e*P	P	02 57 11.4	+0.8
	5.2nm,1.1s						
RKT	Rikitea	45.16	223	*e*LR	LR	03 09 48.7	
	334nm,25.5s						
RKT	Rikitea	45.16	223	*e*T	T	03 45 12.2	
	3.4nm,0.3s						
PMOR	Pomariorio Ree	50.54	241	*e*T	T	03 51 57.0	
	3.3nm,0.3s						
YKA	Yellowknife Ar	52.85	354	P	P	02 58 13.1	-1.8
	0.2nm,0.7s,baz=166,slow=6.8,SNR=5.0						
PPT2	Papeete2	53.16	239	*e*LR	LR	03 13 24.2	
	261nm,25.2s						
SCHQ	Scheffer'ville	53.17	26	LR	LR	03 21 50.5	
	comp=Z,95nm,20.2s,baz=299,slow=37						
CPUP	Villa Florida	57.74	130	LR	LR	03 22 59.9	
	comp=Z,160nm,18.9s,baz=318,slow=35						
PLCA	Paso Flores	59.11	151	LR	LR	03 18 50.5	
	comp=Z,256nm,18.9s,baz=278,slow=30						
INK	Inuvik	61.32	348	*e*P	P	02 59 14.0	-0.7
	2.0nm,0.9s						
IL1	Eielson Array	62.27	341	*e*P	P	02 59 20.2	-1.0
ILAR	Eielson Array	62.27	341	P	P	02 59 20.8	-0.4
	2.0nm,0.8s,baz=153,slow=5.3,SNR=27						
ILAR				LR	LR	03 28 21.5	
	comp=Z,30nm,18.0s,baz=144,slow=38						
ILB	Eielson Array	62.27	341	*e*P	P	02 59 21.1	-0.1
MCK	McKinley	62.30	339	*e*P	P	02 59 21.4	-0.1
	3.0nm,0.7s						
RAR	Rarotonga	63.39

baz=243,slow=75,SNR=13
H11N3 WAKE ISLAND Hy 36.89 55 T T 03 41 39.8
baz=243,slow=75,SNR=12
ILAR Eielson Array 85.22 25 P P 03 07 41.5 -0.1
0.7nm,0.9s,baz=244,slow=4.1,SNR=5.8
BRTR Keskin Array B 99.29 310 LR LR 03 57 51.1
comp=Z,18nm,20.8s,baz=262,slow=38

*KRNET **15** 02:56:06.0±0.1, 42°.94N×77°.85E, h24km, mb3.6*
*NNC **15** 02:56:05.9±0.9, 43°.06N×77°.88E, h0km, mb3.3, mpv3.0,*
Error ellipse: s-maj=19.0km s-min=2.5km az=179.0
*SOME **15** 02:56:06.1, 42°.93N×77°.85E, h10km*
ISC 15 02:56:05.6±1.0, 42°.91N±0°.02×77°.85E±0°.02, h14km±8km, n60, σ0°65/106, 16C-26D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SATY	**Saty**	**0.43**	**70**	*eP*			**Pg**	**02 56 14.5**	**+0.2**
	261nm,0.2s								
SATY				*eS*			**Sg**	**02 56 20.8**	**+0.6**
	3μm,0.1s								
PRZ	**Przheval'sk**	**0.59**	**136**	⇓*iP*			**Pb**	**02 56 18.5**	**+0.7**
	baz=37								
PRZ				⇓*iS*			**Sb**	**02 56 27.3**	**+1.2**
	baz=37								
KURS	**Kuram**	**0.62**	**22**	*eP*			**Pg**	**02 56 17.8**	**0.0**
	40nm,0.1s								
KURS				*eS*			**Sg**	**02 56 26.2**	**+0.1**
	81nm,0.2s								
KURS	**Kuram**	**0.62**	**22**	*eP*			**Pg**	**02 56 17.8**	**0.0**
	baz=23								
KURS				*eS*			**Sg**	**02 56 26.2**	**+0.1**
	baz=23								
KOTS	**Kotyrbulak**	**0.63**	**301**	*eP*			**Pg**	**02 56 18.1**	**+0.2**
KOTS				*eS*			**Sg**	**02 56 26.8**	**+0.5**
MDOK	**Medeo**	**0.64**	**294**	⇑P			**Pg**	**02 56 17.9**	**-0.2**
	15nm,0.4s								
MDOK				⇑S			**Sg**	**02 56 26.2**	**-0.4**
	27nm,0.2s								
MDOK	**Medeo**	**0.64**	**294**	*eP*			**Pg**	**02 56 18.0**	**-0.2**
	29nm,0.1s								
MDOK				*eS*			**Sg**	**02 56 26.5**	**-0.1**
	250nm,0.4s								
MDOK	**Medeo**	**0.64**	**294**	*eP*			**Pg**	**02 56 18.0**	**-0.2**
	baz=92								
MDOK				*eS*			**Sg**	**02 56 26.5**	**-0.1**
	baz=92								
TNSS	**Tian-Shan**	**0.67**	**281**	*eP*			**Pg**	**02 56 18.8**	**0.0**
	43nm,0.1s								
TNSS				*eS*			**Sg**	**02 56 28.1**	**+0.3**
	274nm,0.3s								
TNSS	**Tian-Shan**	**0.67**	**281**	*eP*			**Pg**	**02 56 18.8**	**0.0**
	baz=79								
TNSS				*eS*			**Sg**	**02 56 28.1**	**+0.3**
	baz=79								
KNDC	**Almaty**	**0.72**	**296**	⇑P			**Pb**	**02 56 20.3**	**+0.4**
	16nm,0.4s								
KNDC				⇓S			**Sb**	**02 56 29.5**	**-0.1**
	275nm,0.8s								
AAA	**Alma-Ata**	**0.75**	**294**	*eP*			**Pb**	**02 56 20.5**	**+0.1**
	47nm,0.1s								
AAA				*eS*			**Sb**	**02 56 30.9**	**+0.3**
	255nm,0.1s								
AAA	**Alma-Ata**	**0.75**	**294**	*eP*			**Pb**	**02 56 20.5**	**+0.1**
	baz=92								
AAA				*eS*			**Sb**	**02 56 30.9**	**+0.3**
	baz=92								
KPKS	**Kokpek**	**0.82**	**47**	*eP*			**Pg**	**02 56 21.1**	**-0.5**
	415nm,0.1s								
KPKS				*eS*			**Sg**	**02 56 32.0**	**-0.5**
	990nm,0.1s								
KPKS	**Kokpek**	**0.82**	**47**	*eP*			**Pg**	**02 56 21.1**	**-0.5**
	baz=50								
KPKS				*eS*			**Sg**	**02 56 32.0**	**-0.5**
	baz=50								
IZV	**Izvestkoviy**	**0.92**	**278**	*eP*			**Pb**	**02 56 23.0**	**-0.4**
	151nm,0.2s								
IZV				*eS*			**Sb**	**02 56 35.4**	**-0.2**
	488nm,0.3s								
IZV	**Izvestkoviy**	**0.92**	**278**	*eP*			**Pb**	**02 56 23.0**	**-0.4**
	baz=77								
IZV				*eS*			**Sb**	**02 56 35.3**	**-0.2**
	baz=77								
KDJ	**Kajisay**	**0.92**	**213**	⇓*iP*			**Pb**	**02 56 23.6**	**+0.1**
	baz=11								
KDJ				⇓*iS*			**Sg**	**02 56 36.3**	**+0.7**
	baz=11								
MTBS	**Maitube**	**1.06**	**282**	*eP*			**Pb**	**02 56 25.8**	**-0.1**
	38nm,0.2s								
MTBS				*eS*			**Sb**	**02 56 39.9**	**+0.2**
	197nm,0.2s								
MTBS	**Maitube**	**1.06**	**282**	*eP*			**Pb**	**02 56 25.8**	**-0.1**
	baz=81								
MTBS				*eS*			**Sb**	**02 56 39.9**	**+0.2**
	baz=81								
CHKK	**Chushkaly**	**1.13**	**327**	*eP*			**Pb**	**02 56 26.8**	**-0.2**
	160nm,0.2s								
CHKK				*eS*			**Sg**	**02 56 41.9**	**-0.4**
	907nm,0.2s								
CHKK	**Chushkaly**	**1.13**	**327**	*eP*			**Pb**	**02 56 26.8**	**-0.2**
	baz=27								
CHKK				*eS*			**Sg**	**02 56 41.8**	**-0.4**
	baz=27								
KTBS	**Karatobe**	**1.17**	**314**	*eP*			**Pb**	**02 56 27.6**	**-0.1**
	58nm,0.1s								
KTBS				*eS*			**Sn**	**02 56 43.0**	**-0.5**
	228nm,0.2s								
TARG	**Taragay, Kyrgy**	**1.18**	**182**	⇓*iP*			**Pn**	**02 56 28.2**	**+0.1**
	baz=82								
TARG				⇓*iS*			**Sn**	**02 56 44.0**	**-0.2**
	baz=82								
MNBS	**Baschi**	**1.23**	**19**	*eP*			**Pb**	**02 56 28.6**	**-0.2**
	110nm,0.2s								
MNBS				*eS*			**Sn**	**02 56 44.8**	**-0.4**
	567nm,0.4s								
PDGK	**Podgornoye**	**1.27**	**70**	⇓P			**Pn**	**02 56 28.8**	**-0.3**
	8.3nm,0.4s								
PDGK				⇓S			**Sb**	**02 56 45.0**	**-0.7**
	73nm,0.4s								
PDGK	**Podgornoye**	**1.27**	**70**	⇓*iP*			**Pn**	**02 56 28.9**	**-0.2**
	baz=71								
PDGK				⇓*iS*			**Sb**	**02 56 45.2**	**-0.6**
	baz=71								
ARXS	**Arharly**	**1.30**	**359**	*eP*			**Pb**	**02 56 29.8**	**-0.1**
	120nm,0.1s								
ARXS				*eS*			**Sg**	**02 56 47.0**	**-0.6**
	334nm,0.3s								
ULHL	**Ulahol**	**1.36**	**241**	⇓P			**Pb**	**02 56 30.9**	**-0.1**
	SNR=20								
ULHL	**Ulahol**	**1.36**	**241**	⇓*iP*			**Pb**	**02 56 31.0**	**0.0**
	baz=40								
ULHL				⇓*iS*			**Sb**	**02 56 49.1**	**+0.7**
	baz=40								
KUU	**Kurty**	**1.48**	**312**	*eP*			**Pb**	**02 56 32.8**	**0.0**
	47nm,0.1s								
KUU				*eS*			**Sb**	**02 56 51.8**	**+0.3**
	323nm,0.2s								
KUU	**Kurty**	**1.48**	**312**	*eP*			**Pb**	**02 56 32.8**	**0.0**
	baz=12								
KUU				*eS*			**Sb**	**02 56 51.8**	**+0.3**
	baz=12								
DGS	**Degeres**	**1.56**	**283**	*eP*			**Pb**	**02 56 34.3**	**0.0**
	10nm,0.2s								
DGS				*eS*			**Sb**	**02 56 54.9**	**+0.9**
	176nm,0.4s								
DGS	**Degeres**	**1.56**	**283**	*eP*			**Pb**	**02 56 34.3**	**0.0**
	baz=82								
DGS				*eS*			**Sb**	**02 56 54.8**	**+0.9**
	baz=82								
TKM2	**Tokmak 2**	**1.65**	**271**	P			**Pb**	**02 56 36.4**	**+0.3**
	SNR=21								
TKM2	**Tokmak 2**	**1.65**	**271**	⇑*iP*			**Pb**	**02 56 36.3**	**+0.3**
	baz=70								
TKM2				⇑*iS*			**Sb**	**02 56 57.8**	**+1.0**
	baz=70								
KTMS	**Ketmen**	**1.91**	**73**	*eP*			**Pb**	**02 56 39.5**	**-0.8**
	61nm,0.2s								
KTMS				*eS*			**Sb**	**02 57 03.7**	**-0.4**
	222nm,0.5s								
KTMS	**Ketmen**	**1.91**	**73**	*eP*			**Pb**	**02 56 39.5**	**-0.8**
	baz=73								
KTMS				*eS*			**Sb**	**02 57 03.7**	**-0.4**
	baz=73								
DJR	**Jarkent**	**2.00**	**44**	*eP*			**Pb**	**02 56 41.3**	**-0.6**
	24nm,0.2s								
DJR				*eS*			**Sb**	**02 57 06.6**	**-0.1**
	219nm,0.3s								

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
NRN	**Naryn**	**2.02**	**224**	⇑*eP*			**Pb**	**02 56 42.4**	**+0.1**
	baz=23								
NRN				⇑*iS*			**Sb**	**02 57 06.8**	**-0.6**
	baz=23								
KZA	**Kyzart**	**2.10**	**247**	P			**Pb**	**02 56 43.6**	**0.0**
	SNR=18								
KZA	**Kyzart**	**2.10**	**247**	⇓*iP*			**Pb**	**02 56 43.4**	**-0.2**
	baz=47								
KZA				⇓*iS*			**Sb**	**02 57 11.4**	**+1.7**
	baz=47								
KBK	**Karagaybulak**	**2.15**	**264**	P			**Pb**	**02 56 44.8**	**+0.3**
	SNR=16								
KBK	**Karagaybulak**	**2.15**	**264**	⇓*iP*			**Pb**	**02 56 44.9**	**+0.4**
	baz=64								
KBK				⇓*iS*			**Sg**	**02 57 13.1**	**-1.7**
	baz=64								
CHMS	**Chumysh**	**2.28**	**273**	P			**Pb**	**02 56 46.8**	**+0.3**
	SNR=13								
CHMS	**Chumysh**	**2.28**	**273**	⇑*iP*			**Pb**	**02 56 46.4**	**-0.1**
	baz=73								
CHMS				⇑*iS*			**Sb**	**02 57 16.0**	**+1.5**
	baz=73								
USP	**Ospenovka**	**2.48**	**279**	P			**Pb**	**02 56 50.6**	**+0.6**
	SNR=16								
USP	**Ospenovka**	**2.48**	**279**	⇓*iP*			**Pb**	**02 56 49.5**	**-0.5**
	baz=79								
USP				⇓*iS*			**Sb**	**02 57 20.9**	**+0.5**
	baz=79								
AAK	**Ala-Archa**	**2.48**	**265**	⇑Pn			**Pb**	**02 56 49.6**	**-0.5**
	12nm,0.7s								
AAK				⇓Lg			Lg	02 57 23.3	
	23nm,0.3s								
AAK	**Ala-Archa**	**2.48**	**265**	P			**Pb**	**02 56 49.8**	**-0.3**
	SNR=19								
AAK	**Ala-Archa**	**2.48**	**265**	⇓*iP*			**Pb**	**02 56 49.7**	**-0.5**
	baz=64								
AAK				⇓*iS*			**Sb**	**02 57 21.7**	**+1.0**
	baz=64								
UCH	**Uchtor**	**2.56**	**256**	P			**Pb**	**02 56 51.3**	**-0.3**
	SNR=10								
UCH	**Uchtor**	**2.56**	**256**	*i* P			**Pb**	**02 56 50.8**	**-0.7**
	baz=55								
UCH				*i* S			**Sb**	**02 57 23.2**	**+0.2**
	baz=55								
KAPS	**Kapalarasan**	**2.61**	**24**	*eP*			**Pb**	**02 56 52.1**	**-0.2**
	22nm,0.2s								
KAPS				*eS*			**Sb**	**02 57 25.4**	**+1.2**
	273nm,0.5s								
EKS2	**Erkin-Say**	**3.01**	**267**	P			**Sg**	**02 57 43.1**	**+0.9**
	SNR=5.3								
AML	**Almayashu**	**3.17**	**257**	P			**Pb**	**02 57 01.6**	**-0.3**
	SNR=15								
MNAS	**Manas**	**3.96**	**266**	⇓Pg			**Pg**	**02 57 19.9**	**-1.6**
	1.7nm,0.5s								
MNAS				⇑Lg			Lg	02 58 08.5	
	2.6nm,0.4s								
MAKZ	**Makanchi**	**4.88**	**36**	⇑Pg			**Pb**	**02 57 31.7**	**+0.9**
	1.2nm,0.3s								
MAKZ				⇑Lg			Lg	02 58 33.7	
	6.6nm,0.7s								
MK31	**Makanchi Array**	**5.00**	**38**	⇓Pn			**Pn**	**02 57 22.6**	**+2.2**
	0.3nm,0.2s,baz=214,slow=15,SNR=27								
MK31				⇓Sn			**Sn**	**02 58 19.1**	**+1.1**
	0.6nm,0.3s,baz=224,slow=21,SNR=4.7								
MK31				⇑Lg			Lg	02 58 37.6	
	0.5nm,0.2s,baz=216,slow=26,SNR=7.3								
KK31	**Karatay Array**	**5.38**	**275**	⇑Pg			**Pg**	**02 57 46.1**	**-2.6**
	0.4nm,0.3s,baz=95,slow=16,SNR=12								
KK31				⇑Lg			Lg	02 58 53.4	
	1.6nm,0.3s,baz=87,slow=30,SNR=333								

*ISCJB **15** 02:57:38.5±0.2, 37°.63N±0°.02×72°.36E±0°.04, h100km,*
mb4.0/42, Error ellipse: s-maj=4.6km s-min=2.8km
az=158.3
*MOS **15** 02:57:41.7±1.1, 37°.78N×72°.39E, h127km, mb4.2/19, Error*
ellipse: s-maj=9.0km s-min=4.8km az=101.8
*NEIC **15** 02:57:42.4±0.7, 37°.71N×72°.38E, h125km±6km, mb4.2/9,*
Error ellipse: s-maj=6.4km s-min=5.6km az=211.0
*IDC **15** 02:57:42.0±2.5, 37°.61N×72°.36E, h124km±22km, mb3.8/26,*
mb1 3.9/30, mb1mx3.7/69, mbtmp4.2/30, MS2.4/1,
Ms1 2.4/1, ms1mx2.0/66, Error ellipse: s-maj=14.0km
s-min=9.3km az=27.0
*NNC **15** 02:57:43.8±2.4, 37°.96N×72°.06E, h137km±27km, mb3.8,*
mpv4.6, Error ellipse: s-maj=21.2km s-min=15.0km az=1.0
*BJI **15** 02:57:46.3, 37°.94N×72°.76E, h143km, mb4.5/6, mB4.4/4*
ISC 15 02:57:40.3±0.4, 37°.69N±0°.04×72°.41E±0°.05, h100km, n145, σ2°.06/164, mb4.1/42, 9C-16D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**2.47**	**20**	⇓P			**Pn**	**02 58 23.0**	**+3.7**
	50nm,0.3s								
SFK				⇑S			**Sn**	**02 58 52.4**	**+3.3**
	440nm,0.4s								
SFK	**Sufi-Kurgan**	**2.47**	**20**	PN			**Pn**	**02 58 23.0**	**+3.7**
SFK				S			**Sn**	**02 58 52.4**	**+3.3**
SFK				pmax			pmax		
	comp=Z,50nm,0.3s								
SFK				smax			smax		
	comp=N,440nm,0.4s								
CEP	**Cherat**	**3.88**	**186**	P			**Pn**	**02 58 40.8**	**+2.9**
CEP				S			**Sn**	**02 59 26.0**	**+3.4**
CHCP	**Chirah Chowk**	**4.08**	**170**	P			**Pn**	**02 58 44.7**	**+4.1**
NIL	**Nilore**	**4.08**	**170**	*e*Pn			**Pn**	**02 58 44.6**	**+3.9**
NIL				*e*Sn			**Sn**	**02 59 25.0**	**-2.4**
NIL	**Nilore**	**4.08**	**170**	*e*PN			**Pn**	**02 58 44.6**	**+3.9**
TAS	**Tashkent**	**4.37**	**327**	⇑P			**Pn**	**02 58 44.5**	**+0.1**
	comp=N,72nm,0.5s								
TAS				⇓S			**Sn**	**02 59 30.3**	**-3.9**
	comp=N,850nm,0.4s								
TAS	**Tashkent**	**4.37**	**327**	PN			**Pn**	**02 58 44.5**	**+0.1**
TAS				pmax			pmax		
	comp=Z,72nm,0.5s								
AML	**Almayashu**	**4.55**	**12**	P			**Pn**	**02 58 49.5**	**+2.4**
	SNR=174								
MNAS	**Manas**	**4.79**	**1**	⇓P			**Pn**	**02 58 52.3**	**+2.0**
	comp=Z,62nm,0.3s								
MNAS				⇑S			**Sn**	**02 59 43.6**	**-1.1**
	comp=Z,189nm,0.6s								
MNAS	**Manas**	**4.79**	**1**	PN			**Pn**	**02 58 52.3**	**+2.0**
MNAS				pmax			pmax		
	comp=Z,62nm,0.3s								
UCH	**Uchtor**	**4.81**	**19**	P			**Pn**	**02 58 53.6**	**+2.7**
	SNR=34								
KZA	**Kyzart**	**4.90**	**26**	P			**Pn**	**02 58 54.3**	**+2.3**
	SNR=48								
THW	**Thamme Wali**	**4.91**	**187**	P			**Pn**	**02 58 53.6**	**+1.8**
EKS2	**Erkin-Say**	**5.08**	**11**	P			**Pn**	**02 58 56.8**	**+2.7**
	SNR=44								
AAK	**Ala-Archa**	**5.20**	**17**	P			**Pn**	**02 58 58.7**	**+2.9**
	comp=Z,28nm,0.3s,baz=197,slow=4.3,SNR=34								
AAK				S			**Sn**	**02 59 55.9**	**+1.4**
	comp=Z,9.2nm,0.3s,baz=303,slow=22,SNR=21								
AAK				LR			LR	03 00 41.7	
	comp=Z,33nm,18.1s,baz=204,slow=34								
AAK	**Ala-Archa**	**5.20**	**17**	P			**Pn**	**02 58 58.4**	**+2.6**
	comp=Z,54nm,0.5s								
AAK				⇓S			**Sn**	**02 59 54.5**	**0.0**
	comp=Z,141nm,0.6s								
AAK	**Ala-Archa**	**5.20**	**17**	P			**Pn**	**02 58 58.3**	**+2.6**
	SNR=62								
AAK	**Ala-Archa**	**5.20**	**17**	*d*iPN			**Pn**	**02 58 58.5**	**+2.8**
KBK	**Karagaybulak**	**5.33**	**21**	P			**Pn**	**02 59 00.5**	**+3.0**
	SNR=16								
ULHL	**Ulahol**	**5.42**	**32**	P			**Pn**	**02 59 01.4**	**+2.5**
	SNR=9.3								
CHMS	**Chumysh**	**5.60**	**18**	P			**Pn**	**02 59 03.9**	**+2.8**
	SNR=38								
KK31	**Karatay Array**	**5.60**	**346**	⇓P			**Pn**	**02 59 02.4**	**+1.3**
	comp=Z,69nm,0.3s,baz=159,slow=11,SNR=966								
KK31				⇓S			**Sn**	**03 00 00.7**	**-3.4**
	comp=Z,146nm,0.3s,baz=169,slow=24,SNR=27								
KK31	**Karatay Array**	**5.60**	**346**	PN			**Pn**	**02 59 02.4**	**+1.3**
KK31				pmax			pmax		
	comp=Z,69nm,0.3s								
SARP	**Sargodha**	**5.75**	**178**	P			**Pn**	**02 59 04.5**	**+1.3**
TKM2	**Tokmak 2**	**5.77**	**24**	⇓P			**Pn**	**02 59 06.1**	**+2.5**
	comp=Z,16nm,0.5s								
TKM2				⇑S			**Sn**	**03 00 09.6**	**+1.2**
	comp=Z,65nm,1.0s								
TKM2	**Tokmak 2**	**5.77**	**24**	P			**Pn**	**02 59 07.6**	**+4.1**
	SNR=11								
TKM2	**Tokmak 2**	**5.77**	**24**	PN			**Pn**	**02 59 06.5**	**+3.0**
TKM2				S			**Sn**	**03 00 09.6**	**+1.2**
TKM2				pmax			pmax		
	comp=Z,16nm,0.5s								
TKM2				smax			smax		
	comp=N,65nm,1.0s								
USP	**Ospenovka**	**5.80**	**15**	P			**Pn**	**02 59 05.9**	**+2.1**
	SNR=19								
DHRM	**DHARAMSHALA**	**6.29**	**148**	*e*P			**Pn**	**02 59 10.8**	**0.0**
DHRM				*e*S			**Sn**	**03 00 18.3**	**-3.0**
DHRM				IAML				03 00 23.7	
	comp=N,1μm,0.7s								
DHRM				IAML				03 00 23.9	
	comp=E,1μm,0.4s								
SMLA	**Simla**	**7.63**	**148**	*e*P			**Pn**	**02 59 29.2**	**+0.5**
SMLA				*e*S			**Sn**	**03 00 48.2**	**-5.3**
SMLA				IAML				03 00 52.6	
	comp=E,2μm,0.8s								
SMLA				IAML				03 00 54.6	
	comp=N,1μm,0.4s								
DDI	**Dehra Dun**	**8.71**	**146**	*e*P			**Pn**	**02 59 43.2**	**-0.2**
OTUK	**Ortayu**	**10.55**	**360**	⇑P			**Pn**	**03 00 06.7**	**-1.7**
	comp=N,9.3nm,0.8s								
OTUK	**Ortayu**	**10.55**	**360**	P			**Pn**	**03 00 06.7**	**-1.7**
OTUK				pmax			pmax		
	comp=Z,9.0nm,0.8s								
GEYT	**Alibeck**	**11.31**	**276**	P			Pn	03 00 14.6	-4.1
	comp=Z,2.3nm,0.3s,baz=114,slow=10,SNR=8.7								
GEYT				S			Sn	03 02 12.5	-11
	comp=Z,4.1nm,0.3s,baz=69,slow=20,SNR=6.8								
MKAR	**Makanchi Array**	**11.67**	**36**	P			**Pn**	**03 00 24.9**	**+1.5**
	comp=Z,1.0nm,0.3s,baz=219,slow=15,SNR=14								
PYUN	**Piuthan**	**13.04**	**134**	*e*P			Pn	03 00 39.5	-2.4
	comp=Z,34nm,0.4s								
DANN	**Dangsing**	**13.31**	**131**	*e*P			**Pn**	**03 00 43.5**	**-1.9**
KOLN	**Koldanda**	**13.64**	**133**	*e*P			**Pn**	**03 00 47.8**	**-2.0**
KURBB	**Kurchatov Arra**	**13.65**	**17**	P			**Pn**	**03 00 47.5**	**-2.0**
	comp=Z,0.2nm,0.3s,baz=206,slow=12,SNR=9.1								
KURK	**Kurchatov**	**13.76**	**17**	*e*Pn			**Pn**	**03 00 51.8**	**+0.9**
KURK				*e*P			**P**	**03 00 56.0**	**+0.1**
KURK	**Kurchatov**	**13.76**	**17**	*de*P			**Pn**	**03 00 48.2**	**-2.6**
KURK				pmax			pmax		
	comp=Z,4.0nm,0.6s								
GKN	**Gorkha**	**14.09**	**130**	*e*P			**Pn**	**03 00 53.5**	**-2.0**
	comp=Z,47nm,0.4s								
KKN	**Kakani**	**14.64**	**129**	*e*P			Pn	03 01 00.1	-2.5
	comp=Z,30nm,0.6s								
DMN	**Daman**	**14.66**	**130**	*e*P			**Pn**	**03 01 01.3**	**-1.6**
	comp=Z,21nm,0.3s								
AB31	**Akbulak array**	**14.66**	**326**	P			Pn	03 00 59.2	-3.3
	comp=Z,9.3nm,0.6s,baz=144,slow=11,SNR=164								
ABKAR	**Akbulak array**	**14.66**	**326**	*e*Pn			Pn	03 00 59.2	-3.2
	comp=Z,9.5nm,0.4s								
ABKAR				*e*Sn			Sn	03 03 28.6	-15
PKIN	**Phulchoki**	**14.86**	**129**	*e*P			**Pn**	**03 01 04.6**	**-0.9**
	comp=Z,14nm,0.2s								
GUN	**Gumba**	**14.93**	**127**	*e*P			**Pn**	**03 01 04.9**	**-1.5**
	comp=Z,32nm,0.3s								
BHPL	**Bhopal**	**15.03**	**162**	*e*P			**Pn**	**03 01 07.3**	**0.0**
BHPL				*ex*			x	03 03 42.5	
BHPL				IAML				03 03 50.9	
	comp=N,25nm,0.5s								
BHPL				IAML				03 03 51.6	
	comp=E,28nm,0.5s								
JIRN	**Jiri**	**15.30**	**127**	*e*P			**Pn**	**03 01 09.9**	**-1.2**
	comp=E,67nm,0.3s								
BVA0	**Borovoye Array**	**15.40**	**355**	P			**Pn**	**03 01 10.3**	**-1.6**
	comp=E,7.8nm,0.3s,baz=160,slow=12,SNR=167								
BVA0	**Borovoye Array**	**15.40**	**355**	P			**Pn**	**03 01 10.3**	**-1.6**
BVA0				pmax			pmax		
	comp=Z,8.0nm,0.4s								
BVAR	**Borovoye Array**	**15.40**	**355**	P			**Pn**	**03 01 10.5**	**-1.3**
	comp=Z,10nm,0.3s,baz=166,slow=13,SNR=70								
BVAR				S			Sn	03 03 50.1	-12
	comp=Z,0.2nm,0.3s,baz=178,slow=10,SNR=2.6								
BRVK	**Borovoye**	**15.44**	**355**	⇓P			**Pn**	**03 01 10.6**	**-1.8**
	comp=Z,33nm,0.9s								
BRVK	**Borovoye**	**15.44**	**355**	*e*Pn			**Pn**	**03 01 10.7**	**-1.6**
BRVK				*e*Sn			**Sn**	**03 03 53.7**	**-9.2**
BRVK	**Borovoye**	**15.44**	**355**	*d*iP			**Pn**	**03 01 10.5**	**-1.8**
BRVK				pmax			pmax		
	comp=Z,33nm,0.8s								
RAMN	**Ramite**	**16.06**	**128**	*e*P			**Pn**	**03 01 18.7**	**-1.8**
	comp=Z,40nm,0.4s								
DGZ	**Jazzator, Alta**	**16.16**	**37**	*e*P			**Pn**	**03 01 21.4**	**0.0**
DGZ				pmax			pmax		
	comp=Z,10.0nm,0.8s								
AKTO	**Aktyubinsk**	**16.38**	**326**	P			**Pn**	**03 01 24.5**	**+0.5**
	comp=Z,4.1nm,0.3s,baz=125,slow=11,SNR=42								
AKTO				S			Sn	03 04 11.8	-14
	comp=Z,2.9nm,0.3s,baz=19,slow=18,SNR=7.5								
ODAN	**Odare**	**16.62**	**126**	*e*P			**Pn**	**03 01 27.4**	**0.0**
	comp=Z,40nm,0.6s								
NGP	**Nagpur**	**17.45**	**159**	*e*P			**P**	**03 01 37.6**	**+0.4**
BOK	**Bokaro**	**18.02**	**136**	*e*P			**P**	**03 01 45.3**	**+1.9**
ZALV	**Zalesovo Beam**	**18.37**	**24**	P			**P**	**03 01 47.2**	**+0.2**
	comp=Z,4.3nm,0.3s,baz=215,slow=11,SNR=46								
NVS	**Novosibirsk**	**18.68**	**20**	⇓*iP*			**P**	**03 01 50.8**	**+0.5**
NVS				pmax			pmax		
	comp=N,20nm,1.4s								
NVS				pmax			pmax		
	comp=Z,20nm,1.4s								
NVS				pmax			pmax		
	comp=E,7.0nm,1.0s								
AKT	**Akhty**	**19.38**	**289**	⇓*iP*			**P**	**03 01 59.1**	**+0.9**
AKT				*e*S			**S**	**03 05 31.5**	**-0.5**
AKT

OBN				*i* *PP	**sP**	**03 04 08.4**	**-2.9**
OBN				*i*		03 04 43.1	
OBN				pmax	pmax		
	comp=Z,6.0nm,0.8s						
CHTO	**Chiang Mai**	**29.83**	**122**	*eP*	P	03 03 34.6	-3.4
	comp=Z,9.6nm,0.9s						
CHTO	**Chiang Mai**	**29.83**	**122**	P	**P**	**03 03 38.0**	**0.0**
CHTO				pmax	pmax		
	comp=Z,9.0nm,1.0s						
BRTR	**Keskin Array B**	**30.17**	**286**	P	**P**	**03 03 41.1**	**+0.1**
	comp=Z,0.8nm,0.6s,baz=95,slow=6.8,SNR=7.2						
PALK	**Pallekele**	**31.20**	**164**	*i* P	**P**	**03 03 53.7**	**+3.6**
AKASG	**Malin Array Be**	**33.11**	**307**	P	**P**	**03 04 05.8**	**-0.7**
	comp=Z,1.6nm,0.4s,baz=108,slow=9.0,SNR=9.8						
KIEV	**Kiev**	**33.12**	**307**	*eP*	**P**	**03 04 05.5**	**-1.0**
	comp=Z,2.7nm,0.6s						
KIEV	**Kiev**	**33.12**	**307**	*ce*P	**P**	**03 04 05.9**	**-0.6**
KIEV				pmax	pmax		
	comp=Z,4.0nm,0.8s						
MLR	**Muntele Rosu**	**35.21**	**298**	P	**P**	**03 04 24.9**	**+0.1**
	comp=Z,1.3nm,0.8s,baz=213,slow=9.7,SNR=9.4						
FINES	**FINESS Array B**	**37.15**	**325**	P	**P**	**03 04 40.8**	**-0.2**
	comp=Z,4.0nm,0.6s,baz=115,slow=9.8,SNR=39						
NIE	**Niedzica**	**38.81**	**305**	P	**P**	**03 04 56.5**	**+1.3**
NIE				pmax	pmax		
	comp=Z,3.0nm,0.8s						
VYHS	**Vyhne**	**39.84**	**303**	*eP*	**P**	**03 05 04.2**	**+0.5**
VYHS	**Vyhne**	**39.84**	**303**	*eP*	**P**	**03 05 04.2**	**+0.5**
ARCES	**ARCESS Array B**	**40.49**	**337**	P	**P**	**03 05 08.8**	**+0.1**
	comp=Z,3.9nm,0.4s,baz=111,slow=8.4,SNR=41						
MORC	**Moravsky Berou**	**40.58**	**305**	*eP*	**P**	**03 05 09.2**	**-0.7**
	comp=Z,4.6nm,0.5s						
MORC	**Moravsky Berou**	**40.58**	**305**	*eP*	**P**	**03 05 09.2**	**-0.7**
MORC				pmax	pmax		
	comp=Z,5.0nm,0.5s						
DPC	**Dobruska-Polom**	**41.32**	**306**	*eP*	**P**	**03 05 16.5**	**+0.6**
DPC	**Dobruska-Polom**	**41.32**	**306**	*eP*	**P**	**03 05 16.5**	**+0.6**
UPC	**Upice**	**41.51**	**307**	*eP*	**P**	**03 05 18.1**	**+0.7**
UPC	**Upice**	**41.51**	**307**	*eP*	**P**	**03 05 18.1**	**+0.7**
BRG	**Berggiesshubel**	**42.79**	**307**	*eP*	**P**	**03 05 28.1**	**+0.3**
	comp=Z,3.0nm,0.8s						
BRG	**Berggiesshubel**	**42.79**	**307**	*eP*	**P**	**03 05 28.1**	**+0.3**
BRG				pmax	pmax		
	comp=Z,3.0nm,0.8s						
HFS	**Hagfors**	**42.84**	**321**	P	**P**	**03 05 27.7**	**-0.3**
	comp=Z,8.4nm,0.5s,baz=98,slow=10,SNR=65						
GERES	**GERESS Array B**	**43.18**	**304**	P	**P**	**03 05 30.8**	**-0.3**
	comp=Z,0.4nm,0.6s,baz=78,slow=9.1,SNR=2.8						
KHC	**Kasperske Hory**	**43.22**	**305**	*eP*	**P**	**03 05 31.8**	**+0.5**
KHC	**Kasperske Hory**	**43.22**	**305**	*eP*	**P**	**03 05 31.8**	**+0.5**
CLL	**Collm**	**43.34**	**308**	*eP*	**P**	**03 05 31.0**	**-1.2**
	comp=Z,3.0nm,0.9s						
CLL				*e*PP	**PP**	**03 07 14.0**	**-0.6**
CLL	**Collm**	**43.34**	**308**	*eP*	**P**	**03 05 31.0**	**-1.2**
CLL				pmax	pmax		
	comp=Z,3.0nm,0.9s						
KLR	**Kul'dur**	**43.54**	**55**	P	**P**	**03 05 34.5**	**+0.7**
	comp=Z,0.0nm,0.4s,baz=281,slow=9.7,SNR=3.5						
NB2	**NORSAR Subarra**	**44.12**	**322**	P	**P**	**03 05 37.5**	**-0.9**
	comp=Z,3.6nm,0.5s,baz=92,slow=7.9						
NB2	**NORSAR Subarra**	**44.12**	**322**	P	**P**	**03 05 37.5**	**-0.9**
NB2				pmax	pmax		
	comp=Z,3.0nm,0.5s						
NOA	**NORSAR Array B**	**44.12**	**322**	P	**P**	**03 05 37.7**	**-0.7**
	comp=Z,3.7nm,0.5s,baz=107,slow=7.0,SNR=20						
TIXI	**Tiksi**	**44.25**	**22**	*eP*	**P**	**03 05 39.0**	**-0.2**
TIXI	**Tiksi**	**44.25**	**22**	*d* *iP*	**P**	**03 05 39.3**	**+0.1**
TIXI				pmax	pmax		
	comp=Z,3.0nm,0.4s						
SPITS	**Spitsbergen Ar**	**46.60**	**346**	P	**P**	**03 05 58.4**	**+0.7**
	comp=Z,4.3nm,0.8s,baz=94,slow=10,SNR=18						
KEST	**Kesra**	**49.73**	**288**	P	**P**	**03 06 21.8**	**-0.7**
	comp=Z,2.6nm,0.7s,baz=28,slow=2.8,SNR=6.9						
EKA	**Eskdalemuir Ar**	**52.23**	**316**	P	**P**	**03 06 39.7**	**-1.0**
	comp=Z,0.3nm,0.3s,baz=95,slow=8.9,SNR=10						
DAG	**Danmarks Havn**	**53.91**	**343**	P	**P**	**03 06 53.2**	**+0.4**
DAG				pmax	pmax		
	comp=Z,8.0nm,1.8s						
BILL	**Bilibino**	**57.05**	**27**	*eP*	**P**	**03 07 15.8**	**+0.5**
BILL				*e*		03 09 18.5	
BILL				pmax	pmax		
	comp=Z,2.0nm,0.9s						
ESDC	**Sonseca Array**	**57.90**	**298**	P	**P**	**03 07 20.9**	**-0.9**
	comp=Z,0.8nm,0.7s,baz=68,slow=6.1,SNR=6.3						
TORD	**Torodi Ar. Bea**	**66.87**	**269**	P	**P**	**03 08 20.2**	**-1.7**
	comp=Z,0.4nm,0.3s,baz=49,slow=5.8,SNR=21						
BATI	**Baumata**	**67.56**	**124**	P	**P**	**03 08 24.0**	**-2.2**
	comp=Z,10.0nm,0.4s,baz=117,slow=11,SNR=3.3						
RES	**Resolute Bay**	**67.59**	**356**	*eP*	**P**	**03 08 25.2**	**-0.3**
	comp=Z,0.6nm,0.5s						
RES	**Resolute Bay**	**67.59**	**356**	*eP*	**P**	**03 08 25.2**	**-0.3**
RES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
KOWA	**Kowa**	**70.62**	**274**	P	**P**	**03 08 44.0**	**-1.2**
	comp=Z,1.4nm,0.7s,baz=58,slow=9.8,SNR=4.8						
INK	**Inuvik**	**72.55**	**10**	*eP*	**P**	**03 08 55.7**	**-0.2**
	comp=Z,3.0nm,0.9s						
INK	**Inuvik**	**72.55**	**10**	*eP*	**P**	**03 08 55.7**	**-0.2**
INK				pmax	pmax		
	comp=Z,3.0nm,0.9s						
ILAR	**Eielson Array**	**73.33**	**16**	P	**P**	**03 09 00.0**	**-0.6**
	comp=Z,0.8nm,0.9s,baz=314,slow=5.6,SNR=8.9						
DBIC	**Dimbokro**	**75.88**	**269**	P	**P**	**03 09 14.8**	**-1.4**
	comp=Z,2.8nm,1.1s,baz=166,slow=8.3,SNR=2.4						
YKA	**Yellowknife Ar**	**80.00**	**3**	P	**P**	**03 09 38.1**	**0.0**
	comp=Z,2.1nm,0.4s,baz=350,slow=5.5,SNR=77						
WRA	**Warramunga Arr**	**81.67**	**123**	P	**P**	**03 09 46.7**	**-0.9**
	comp=Z,0.7nm,0.6s,baz=323,slow=4.9,SNR=14						
WRAB	**Tennant Creek**	**81.67**	**123**	*eP*	**P**	**03 09 46.1**	**-1.5**
WRAB	**Tennant Creek**	**81.67**	**123**	*eP*	**P**	**03 09 46.1**	**-1.5**
FCC	**Fort Churchill**	**83.25**	**353**	*eP*	**P**	**03 09 55.0**	**-0.2**
	comp=Z,1.5nm,0.6s						
FCC	**Fort Churchill**	**83.25**	**353**	*eP*	**P**	**03 09 55.0**	**-0.2**
FCC				pmax	pmax		
	comp=Z,1.0nm,0.6s						
PMG	**Port Moresby**	**83.85**	**107**	P	**P**	**03 09 57.6**	**-1.4**
	comp=Z,4.0nm,0.4s,baz=9.5,slow=6.1,SNR=2.4						
ASAR	**Alice Springs**	**84.02**	**126**	P	**P**	**03 09 58.7**	**-1.0**
	comp=Z,0.2nm,0.7s,baz=306,slow=5.2,SNR=3.7						
FFC	**Flin Flon**	**87.83**	**357**	P	**P**	**03 10 18.0**	**-0.1**
CTA	**Charters Tower**	**90.02**	**115**	P	**P**	**03 10 29.2**	**+0.4**
	comp=Z,3.8nm,0.8s,baz=350,slow=6.1,SNR=2.2						

TIR ***15*** *03:05:43.2,38.°94N×19.°70E,h7km,Md2.8/3*
CSEM ***15*** *03:05:45.6±0.8,38.°96N×19.°77E,h10km,ML1.8, Error ellipse: s-maj=16.4km s-min=5.8km az=72.0*

ATH 15 03:05:45.3,38.°96N×19.°77E,h19km±2km,ML1.8/2, Error ellipse: s-maj=3.3km s-min=1.2km az=74.0, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKD2	**Lefkada island**	**0.71**	**104**	P	Pb	03 05 57.9	-1.3
LKD2				S	Sn	03 06 10.6	-0.3
LKD2				AML	AML	03 06 13.2	
	comp=N,234μm,0.5s						
LKD2				AML	AML	03 06 14.4	
	comp=E,187μm,0.3s						
LKD2	**Lefkada island**	**0.71**	**104**	P	Pb	03 05 58.5	-0.7
LKD2				S	Sg	03 06 09.9	+1.0
IGT	**Igoumenitsa**	**0.72**	**37**	P	Pb	03 05 58.4	-0.8
IGT				S	Sb	03 06 08.7	0.0
IGT	**Igoumenitsa**	**0.72**	**37**	P	Pb	03 05 58.8	-0.4
IGT				S	Sg	03 06 09.0	0.0
SGD	**Sagiada**	**0.74**	**29**	P	Pb	03 05 59.0	-0.7
SGD	**Sagiada**	**0.74**	**29**	P	Pb	03 05 59.3	-0.3
KEK	**Kerkira**	**0.75**	**2**	P	Pb	03 05 59.7	0.0
KEK				S	Sn	03 06 11.8	+0.1
KEK				AML	AML	03 06 14.1	
	comp=N,100μm,0.2s						
KEK				AML	AML	03 06 15.8	
	comp=E,139μm,0.2s						
KEK	**Kerkira**	**0.75**	**2**	P	Pb	03 05 59.8	0.0
KEK				S	Sn	03 06 11.1	-0.7
MGNA	**Meganis**	**0.85**	**111**	P	Pn	03 06 03.1	+0.8
MGNA	**Meganis**	**0.85**	**111**	P	Pn	03 06 02.4	+0.1
SRN	**Sarande**	**0.93**	**11**	*i* Pg	Pn	03 06 03.2	-0.2
	baz=14						
SRN				*i* Sg	Sg	03 06 16.0	+0.2
	baz=14						
SRN	**Sarande**	**0.93**	**11**	*i* PG	Pn	03 06 03.2	-0.2
SRN				*i* SG	Sn	03 06 16.1	-0.2
VLS	**Valsamata**	**1.01**	**140**	P	Pg	03 06 05.1	0.0
VLS	**Valsamata**	**1.01**	**140**	P	Pg	03 06 04.9	-0.1
JAN	**Janina**	**1.09**	**50**	P	Pg	03 06 06.0	-0.4
JAN				S	Sg	03 06 21.5	+0.8
JAN	**Janina**	**1.09**	**50**	P	Pn	03 06 06.0	+0.4
JAN				S	Sg	03 06 21.3	+0.6
PDO	**Prodromos**	**1.16**	**108**	P	Pb	03 06 07.2	+0.3
PDO	**Prodromos**	**1.16**	**108**	P	Pb	03 06 07.3	+0.5
KFL	**Anninata**	**1.17**	**137**	P	Pb	03 06 07.1	+0.2
KFL	**Anninata**	**1.17**	**137**	P	Pb	03 06 07.3	+0.4
PVO	**Paravola**	**1.42**	**104**	P	Pb	03 06 11.9	+0.8
PVO	**Paravola**	**1.42**	**104**	P	Pg	03 06 11.9	-0.7
KPRO	**Kipourio**	**1.58**	**51**	P	Pb	03 06 14.2	+0.2
KPRO	**Kipourio**	**1.58**	**51**	P	Pb	03 06 14.3	+0.3
NEST	**Nestorio**	**1.75**	**34**	P	Pg	03 06 18.8	-0.3
NEST	**Nestorio**	**1.75**	**34**	P	Pb	03 06 17.8	+0.8
THL	**Klokotos Trika**	**1.84**	**70**	P	Pn	03 06 17.1	+1.2
THL	**Klokotos Trika**	**1.84**	**70**	P	Pb	03 06 17.7	-0.7
AGG	**Agios Georgios**	**2.00**	**88**	P	Pb	03 06 20.6	-0.5
AGG	**Agios Georgios**	**2.00**	**88**	P	Pb	03 06 20.5	-0.5

MAN 15 03:09:16,18.°37N×121.°13E,h79km,mb4.3,ML3.1,MS2.9, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APYP	**Conner**	**0.51**	**168**	*eP*	Pn	03 09 31.5	+1.7
APYP				*e*S	Sn	03 09 44.0	+4.1
ABRA	**Dolores**	**0.82**	**209**	*eP*	Pn	03 09 34.8	+1.9
ABRA				*e*S	Sn	03 09 49.9	+4.4
CVP	**Callao Caves**	**0.93**	**135**	*eP*	Pn	03 09 34.8	+0.6
CVP				*e*S	Sn	03 09 49.6	+1.9
CAUP	**Cauayan**	**1.56**	**155**	*eP*	Pn	03 09 43.9	+1.8
CAUP				*e*S	Sn	03 10 02.5	+0.6
BOLP	**Bolinao**	**2.29**	**211**	*eP*	Pn	03 09 53.0	+1.1
BOLP				*e*S	Sn	03 10 19.2	0.0
BALP	**Baler**	**2.65**	**171**	*eP*	Pn	03 09 58.0	+1.4
BALP				*e*S	Sn	03 10 28.9	+1.2

MAN 15 03:15:31,9.°89N×123.°05E,h9km,mb4.4,ML3.3,MS3.1, 1C,Negros

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNPH	**Sibulan**	**0.57**	**161**	*eP*	Pb	03 15 43.9	+0.6
SNPH				*i* S	Sb	03 15 53.2	+1.6
TBP	**Tagbilaran**	**0.82**	**104**	*eP*	Pg	03 15 45.9	-1.0
DCPH	**Dipolog City**	**1.33**	**167**	*i* *eP*	Pn	03 15 54.3	-1.5
DCPH				*e*S	Sg	03 16 14.2	+0.3
MSLP	**Maasin**	**1.80**	**82**	*eP*	Pn	03 16 02.6	+0.4
MSLP				*e*S	Sb	03 16 26.2	-0.6

IDC ***15*** *03:21:53.6±1.5,1.°53N×92.°08E,h0km,mb3.9/6,mb1 4.0/9, mb1mx3.7/69,mbtmp3.9/9,ML3.9/3,MS3.4/6,Ms1 3.4/6, ms1mx2.8/62, Error ellipse: s-maj=44.1km s-min=19.7km az=52.0*
NEIC ***15*** *03:21:54.8±0.5,1.°51N×92.°04E,h10km,mb4.0/1, Error ellipse: s-maj=10.4km s-min=6.5km az=208.0*
ISCJB ***15*** *03:21:56.3±0.7,1.°59N±0.°07×92.°14E±0.°06,h33km, mb4.0/6,MS3.5/5, Error ellipse: s-maj=10.8km s-min=7.5km az=35.7*
DJA ***15*** *03:22:02.4±1.5,2.°N±8.°×9.°3E±1.°3,h10km,M4.0/2,mb4.0/2, MLv4.0/2*

ISC 15 03:21:58.7±1.0,1.°6N±0.°1×92.°18E±0.°09,h35km,n35, σ1§01/32,mb4.1/6,MS3.5/5,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLSI	**Meulaboh, Aceh**	**5.00**	**58**	P	**Pn**	**03 23 11.8**	**+0.5**
TPTI		**5.27**	**71**	P	**Pn**	**03 23 14.8**	**-0.3**
GSI	**Gunungsitoli**	**5.41**	**93**	P	**Pn**	**03 23 18.3**	**+1.4**
GSI	**Gunungsitoli**	**5.41**	**93**	*e*Pn	**Pn**	**03 23 17.6**	**+0.7**
	61nm,0.4s						
GSI				*e*Sn	**Sn**	**03 24 14.9**	**-3.0**
LHMI	**Lhok Sumawe**	**5.99**	**53**	P	**Pn**	**03 23 25.7**	**+0.8**
LHMI	**Lhok Sumawe**	**5.99**	**53**	*e*Pn	**Pn**	**03 23 26.3**	**+1.4**
	93nm,0.4s						
PSI	**Prapat**	**6.85**	**80**	Pn	**Pn**	**03 23 37.0**	**+0.1**
	1.0nm,0.3s,baz=262,slow=13,SNR=5.2						
PSI				Sn	Sn	03 24 44.7	-9.1
	1.5nm,0.3s,baz=49,slow=20,SNR=4.5						
MNSI	**Mandailing Nat**	**7.44**	**96**	P	**Pn**	**03 23 45.5**	**+0.6**
SISI	**Saibi**	**7.49**	**113**	P	**Pn**	**03 23 44.9**	**-0.6**
PKDT	**Phuket**	**8.78**	**44**	P	**Pn**	**03 24 02.3**	**-0.9**
	30nm,0.8s,695nm0.1nm						
IPM	**Ipoh**	**9.30**	**72**	*e*Pn	**Pn**	**03 24 11.8**	**+1.5**
TRTT	**Trang**	**9.73**	**50**	P	**Pn**	**03 24 15.5**	**-0.8**
	16nm,0.5s,245nm0.1nm						
SURT	**Suratani**	**9.86**	**42**	P	**Pn**	**03 24 17.5**	**-0.5**
	14nm,0.7s,233nm0.0nm						
SKLT	**Songkhla**	**10.09**	**56**	P	**Pn**	**03 24 21.3**	**+0.1**
	39nm,0.6s,590nm0.2nm						
PALK	**Pallekele**	**12.76**	**297**	Pn	**Pn**	**03 24 56.2**	**-1.6**
	1.5nm,0.3s,baz=115,slow=14,SNR=6.7						
PALK				Sn	Sn	03 27 04.5	-14
	0.7nm,0.3s,baz=114,slow=20,SNR=2.4						
PPBI	**Pangkal Pinang**	**14.44**	**105**	P	**Pn**	**03 25 21.5**	**+0.7**
PBKT	**Sadao Pong**	**17.24**	**30**	P	**Pn**	**03 25 56.0**	**-0.8**
	11nm,1.1s						
CMAR	**Chiang Mai Arr**	**18.05**	**21**	P	**Pn**	**03 26 06.5**	**-0.3**
	0.2nm,0.3s,baz=215,slow=14,SNR=23						
CMAR				LR	LR	03 32 30.4	
	comp=Z,26nm,18.2s,baz=35,slow=35						
CHTO	**Chiang Mai**	**18.37**	**21**	P	**Pn**	**03 26 12.8**	**+1.9**
	24nm,1.0s						
CHTO	**Chiang Mai**	**18.37**	**21**	*eP*	**P**	**03 26 10.6**	**0.0**
	18nm,1.6s						
CMMT	**Chiang Mai**	**18.38**	**21**	P	**Pn**	**03 26 11.8**	**+0.9**
	12nm,0.8s						
JOW	**Kunigami**	**42.78**	**51**	LR	LR	03 46 43.2	
	comp=Z,57nm,21.7s,baz=113,slow=35						
MKAR	**Makanchi Array**	**45.86**	**351**	P	**P**	**03 30 17.3**	**-0.2**
	0.3nm,0.6s,baz=167,slow=8.7,SNR=4.6						
WRA	**Warramunga Arr**	**46.54**	**120**	P	**P**	**03 30 23.8**	**+0.4**
	2.2nm,0.8s,baz=297,slow=8.5,SNR=15						
WRAB	**Tennant Creek**	**46.55**	**120**	*eP*	**P**	**03 30 23.5**	**+0.1**
ASAR	**Alice Springs**	**47.69**	**124**	P	**P**	**03 30 32.5**	**+0.3**
	0.3nm,0.5s,baz=302,slow=7.6,SNR=7.3						
SONM	**Songino Array**	**47.70**	**13**	P	**P**	**03 30 33.1**	**+1.1**
	2.0nm,0.6s,baz=197,slow=9.5,SNR=11						
KURBB	**Kurchatov Arra**	**50.22**	**349**	P	**P**	**03 30 51.4**	**+0.2**
	0.9nm,0.2s,baz=170,slow=8.1,SNR=5.0						
KURK	**Kurchatov**	**50.30**	**349**	P	**P**	**03 30 51.4**	**-0.3**
ZALV	**Zalesovo Beam**	**52.55**	**355**	P	**P**	**03 31 08.5**	**-0.1**
	0.7nm,0.4s,baz=177,slow=9.5,SNR=4.4						
ZALV				LR	LR	03 56 26.4	
	comp=Z,39nm,19.9s,baz=70,slow=39						
PMG	**Port Moresby**	**55.84**	**102**	*eP*	**P**	**03 31 33.6**	**+0.4**
GNI	**Garni**	**57.60**	**318**	LR	LR	03 58 17.6	
	comp=Z,26nm,19.6s,baz=340,slow=38						
MMAI	**Mount Meron Ar**	**61.64**	**307**	LR	LR	04 00 36.9	
	comp=Z,36nm,19.1s,baz=260,slow=38						
BOSA	**Boshof**	**70.64**	**239**	LR	LR	03 59 19.0	
	comp=Z,52nm,19.8s,baz=214,slow=32						
TXAR	**Lajitas Array**	**145.73**	**25**	PKPbc	**PKPab**	**03 41 35.3**	**+0.2**
	0.3nm,0.7s,baz=308,slow=4.4,SNR=2.6						

ISCJB ***15*** *03:24:31.0±1.3,2.°6N±0.°2×89.°8E±0.°1,h10km,mb3.7/6, Error ellipse: s-maj=27.6km s-min=15.5km az=28.0*
IDC ***15*** *03:24:32.0±1.6,2.°65N×89.°81E,h0km,mb3.7/6,mb1 3.7/8, mb1mx3.5/69,mbtmp3.6/8,ML3.4/2, Error ellipse: s-maj=44.5km s-min=24.0km az=37.0*

ISC 15 03:24:33.3±1.5,2.°6N±0.°2×89.°8E±0.°2,h10km,n16,σ0§87/9, mb3.7/6,North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**9.11**	**89**	Pn	**Pn**	**03 26 45.1**	**0.0**
	0.7nm,0.3s,baz=262,slow=15,SNR=1.6						
PALK	**Pallekele**	**10.18**	**297**	Sn	Sn	03 28 44.0	-10
	3.8nm,0.3s,baz=298,slow=1.8,SNR=8.5						
CMAR	**Chiang Mai Arr**	**18.12**	**29**	P	**P**	**03 28 46.6**	**+1.0**
	0.0nm,0.3s,baz=232,slow=14,SNR=1.7						
H08S3	**Diego Garcia H**	**20.05**	**239**	T	T	03 49 39.3	
	baz=59,slow=75,SNR=16						
H08S2	**Diego Garcia H**	**20.05**	**239**	T	T	03 49 52.0	
	baz=59,slow=75,SNR=19						
H08S1	**Diego Garcia H**	**20.07**	**239**	T	T	03 50 00.1	
	baz=59,slow=75,SNR=16						
H01W3	**Cape Leeuwin H**	**43.73**	**151**	T	T	04 19 42.5	
	baz=326,slow=75,SNR=7.2						
H01W2	**Cape Leeuwin H**	**43.74**	**151**	T	T	04 19 36.9	
	baz=326,slow=75,SNR=5.8						
H01W1	**Cape Leeuwin H**	**43.75**	**151**	T	T	04 19 43.3	
	baz=326,slow=75,SNR=4.7						
MKAR	**Makanchi Array**	**44.49**	**353**	P	**P**	**03 32 43.5**	**-1.4**
	0.3nm,0.6s,baz=168,slow=8.0,SNR=3.7						
GEYT	**Alibeck**	**45.58**	**324**	P	**P**	**03 32 54.4**	**+0.7**
	1.2nm,0.5s,baz=139,slow=9.0,SNR=2.0						
SONM	**Songino Array**	**47.28**	**15**	P	**P**	**03 33 06.9**	**-0.1**
	1.3nm,0.7s,baz=198,slow=9.8,SNR=4.6						
KURBB	**Kurchatov Arra**	**48.78**	**350**	P	**P**	**03 33 17.5**	**-0.9**
	0.2nm,0.3s,baz=172,slow=7.7,SNR=4.8						
WRA	**Warramunga Arr**	**49.12**	**119**	P	**P**	**03 33 21.4**	**-0.1**
	0.6nm,0.6s,baz=297,slow=8.7,SNR=7.1						
BRTR	**Keskin Array B**	**62.76**	**314**	P	**P**	**03 34 59.5**	**+0.3**
	0.3nm,0.6s,baz=79,slow=7.5,SNR=3.2						
TXAR	**Lajitas Array**	**145.72**	**21**	PKPbc	**PKPab**	**03 44 13.7**	**0.0**
	0.2nm,0.5s,baz=349,slow=2.8,SNR=1.9						

ISCJB ***15*** *03:57:00.4±0.6,25.°63N±0.°04×118.°43E±0.°09,h10km, mb3.5/6, Error ellipse: s-maj=12.7km s-min=5.7km az=164.8*
IDC ***15*** *03:57:00.1±1.0,25.°74N×118.°94E,h0km,mb3.5/6, mb1 3.7/7,mb1mx3.4/63,mbtmp3.5/7,ML3.7/1,MS3.1/1, Ms1 3.3/1,ms1mx2.4/55, Error ellipse: s-maj=33.3km s-min=19.9km az=66.0*
BJI ***15*** *03:57:01.1,25.°66N×118.°70E,h13km,ML4.4/11*

ISC 15 03:57:02.5±0.7,25.°61N±0.°05×118.°41E±0.°06,h10km,n14, σ1§57/16,mb3.6/6,1D,Near coast of southeastern China

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QZH	**Quanzhou**	**0.68**	**166**	*i* *iP*	**Pg**	**03 57 14.8**	**-0.9**
QZH				Sg	**Sg**	**03 57 24.3**	**-0.3**
QZH				smax	smax		
	comp=N,6μm,0.4s						
QZH				smax	smax		
	comp=E,13μm,0.3s						
GZH	**Guangzhou**	**5.26**	**243**	Pn	Pn	03 58 18.3	-2.9
GZH				Pg	**Pb**	**03 58 34.1**	**-0.5**
GZH				Sn	**Sb**	**03 59 37.9**	**+0.1**
GZH				smax	smax		
	comp=E,420nm,0.7s						
WHN	**Wuhan**	**6.09**	**325**	Pn	Pn	03 58 39.9	+7.3
WHN				Pg	Pb	03 58 57.5	+8.8
WHN				Sn	**Sn**	**03 59 40.1**	**-2.2**
WHN				Sg	**Sg**	**04 00 16.4**	**-1.6**
WHN				smax	smax		
	comp=N,860nm,1.0s						
WHN				smax	smax		
	comp=E,5μm,2.2s						
NJ2	**Nanjing**	**6.43**	**3**	*e*Pn	**Pn**	**03 58 36.8**	**-0.5**
NJ2				smax	smax		
	comp=E,250nm,0.9s						
JOW	**Kunigami**	**8.94**	**80**	Pn	**Pn**	**03 59 11.3**	**-0.5**
	comp=E,0.5nm,0.3s,baz=67,slow=16,SNR=2.5						
KSRS	**Korea Array**	**14.32**	**32**	Pn	**Pn**	**04 00 27.2**	**+1.9**
	comp=E,0.1nm,0.3s,baz=211,slow=11,SNR=6.4						
KSRS				Lg	Lg	04 04 24.4	
	comp=E,0.1nm,0.3s,baz=212,slow=30,SNR=10						
CMAR	**Chiang Mai Arr**	**19.39**	**252**	P	**Pn**	**04 01 32.9**	**+3.0**
	comp=E,0.1nm,0.3s,baz=61,slow=9.3,SNR=8.1						
CMAR				Lg	Lg	04 07 32.7	
	comp=E,0.1nm,0.3s,baz=59,slow=28,SNR=4.7						
CMAR				LR	LR	04 08 25.5	
	comp=E,54nm,19.9s,baz=58,slow=34						
SONM	**Songino Array**	**24.13**	**340**	P	**P**	**04 02 18.8**	**+0.1**
	comp=E,1.2nm,0.7s,baz=163,slow=11,SNR=7.2						
WMQ	**Urumqi**	**30.86**	**314**	*eP*	**P**	**04 03 21.1**	**+2.1**
MKAR	**Makanchi Array**	**35.57**	**316**	P	**P**	**04 04 01.5**	**+1.5**
	comp=E,0.2nm,0.5s,baz=97,slow=12,SNR=2.8						
ZALV	**Zalesovo Beam**	**37.69**	**328**	P	**P**	**04 04 17.5**	**-0.4**
	comp=E,0.4nm,0.4s,baz=116,slow=6.6,SNR=1.7						
WRA	**Warramunga Arr**	**47.85**	**160**	P	**P**	**04 05 38.8**	**-1.9**
	comp=E,1.1nm,0.8s,baz=344,slow=8.6,SNR=7.1						
ASAR	**Alice Springs**	**51.23**	**162**	P	**P**	**04 06 06.0**	**-0.4**
	comp=E,0.7nm,0.8s,baz=337,slow=7.0,SNR=11						
YKA	**Yellowknife Ar**	**82.62**	**22**	P	P	04 09 23.3	-2.4
	comp=E,0.1nm,0.6s,baz=323,slow=5.8,SNR=4.1						

GUC 15 03:58:21.5±0.5,23.°86S×67.°68W,h258km±16km,ML3.7, 6C,Chile-Argentina border region

| Code | Station Name | Δ° | AZ

TWG	**Pinlang**	**6.01**	**250**	*e*Pn	Pn	04 08 00.5	-5.1		
TPUB	**Ta-pu**	**6.24**	**255**	*e*Pn	**Pn**	**04 08 06.7**	**-2.1**		
QZH	**Quanzhou**	**7.81**	**271**	*e*P	**Pn**	**04 08 29.1**	**-1.1**		
QZH				S	**Sn**	**04 10 03.0**	**+5.3**		
QZH				LR	LR				
	comp=N,2μm,18.0s								
QZH				LR	LR				
	comp=E,1μm,13.3s								
QZH				LR	LR				
	comp=Z,1μm,12.8s								
SSE	**Sheshan**	**8.05**	**320**	P	Pn	04 08 43.1	+10		
SSE				S	**Sn**	**04 10 03.8**	**+0.2**		
SSE				pmax	pmax				
	comp=Z,10.0nm,0.6s								
SSE				pmax	pmax				
	comp=Z,48nm,5.9s								
SSE				LR	LR				
	comp=N,930nm,13.3s								
SSE				LR	LR				
	comp=E,1μm,12.4s								
JNU	**Nakatsue**	**8.69**	**21**	Pn	**Pn**	**04 08 42.2**	**-0.2**		
	comp=E,9.1nm,0.3s,baz=199,slow=7.1,SNR=134								
JNU				LR	LR	04 12 46.5			
	comp=E,2μm,18.2s,baz=228,slow=43								
JNU	**Nakatsue**	**8.69**	**21**	*e*Pn	**Pn**	**04 08 42.6**	**+0.2**		
NJ2	**Nanjing**	**10.14**	**316**	*e*P	**Pn**	**04 09 02.3**	**+0.1**		
NJ2				pmax	pmax				
	comp=E,9.0nm,0.5s								
NJ2				LR	LR				
	comp=E,2μm,11.9s								
NJ2				LR	LR				
	comp=E,2μm,13.8s								
NJ2				LR	LR				
	comp=E,3μm,14.1s								
TJN	**Taejon**	**11.32**	**1**⇑	*e*P	**Pn**	**04 09 19.9**	**+1.5**		
KS15	**Wonju Array Si**	**12.40**	**3**	*e*Pn	**Pn**	**04 09 34.9**	**+1.8**		
KSAR	**Wonju Array Be**	**12.40**	**3**	Pn	**Pn**	**04 09 33.7**	**+0.6**		
KSRS	**Korea Array**	**12.41**	**3**	Pn	**Pn**	**04 09 33.7**	**+0.4**		
	comp=E,0.2nm,0.3s,baz=180,slow=14,SNR=32								
KSRS				LR	LR	04 14 48.2			
	comp=E,641nm,18.9s,baz=182,slow=40								
KS01	**Wonju Array Si**	**12.43**	**3**	*e*Pn	**Pn**	**04 09 34.0**	**+0.4**		
JHJ	**Hachijo jima 2**	**13.64**	**51**	LR	LR	04 13 34.6			
	comp=E,73nm,19.5s,baz=209,slow=31								
DL2	**Dalian**	**14.62**	**343**	P	**Pn**	**04 10 03.4**	**-0.1**		
DL2				*e*S	**Sn**	**04 12 49.8**	**+5.2**		
DL2				pmax	pmax				
	comp=E,46nm,0.8s								
DL2				pmax	pmax				
	comp=E,190nm,7.3s								
DL2				LR	LR				
	comp=E,2μm,11.9s								
DL2				LR	LR				
	comp=E,880nm,12.4s								
DL2				LR	LR				
	comp=E,3μm,12.4s								
MAJO	**Matsushiro**	**14.87**	**37**	*e*Pn	**Pn**	**04 10 06.0**	**-0.9**		
MAJO	**Matsushiro**	**14.87**	**37**⇓	*e*P	**Pn**	**04 10 05.5**	**-1.3**		
MAT	**Matsushiro**	**14.87**	**37**	P	**Pn**	**04 10 07.6**	**+0.8**		
MJAR	**Matsushiro Arr**	**14.87**	**37**	Pn	**Pn**	**04 10 05.1**	**-1.7**		
	comp=E,0.1nm,0.3s,baz=246,slow=12,SNR=5.5								
ENH	**Enshi**	**16.54**	**292**	*e*Pn	**Pn**	**04 10 26.0**	**-2.5**		
SNY	**Shenyang**	**17.03**	**351**	⇑P	**Pn**	**04 10 34.9**	**+0.3**		
SNY				S	**S**	**04 13 51.9**	**-0.3**		
SNY				pmax	pmax				
	comp=E,320nm,0.9s								
SNY				pmax	pmax				
	comp=E,270nm,9.0s								
SNY				LR	LR				
	comp=E,1μm,12.9s								
SNY				LR	LR				
	comp=E,1μm,13.7s								
SNY				LR	LR				
	comp=E,2μm,12.9s								
QIZ	**Qiongzhong**	**17.15**	**253**	P	Pn	04 10 27.3	-9.0		
QIZ				S	**Sn**	**04 13 46.0**	**-0.3**		
QIZ				pmax	pmax				
	comp=Z,23nm,1.6s								
QIZ				LR	LR				
	comp=N,1μm,16.5s								
QIZ				LR	LR				
	comp=E,620nm,18.2s								
QIZ				LR	LR				
	comp=Z,490nm,14.8s								
BJT	**Baijiatuan**	**17.59**	**331**	*e*P	**Pn**	**04 10 40.5**	**-1.1**		
	comp=Z,13nm,0.8s								
BJI	**Beijing**	**17.60**	**331**⇑	*e*P	**P**	**04 10 43.3**	**+0.8**		
BJI				pmax	pmax				
	comp=Z,22nm,0.9s								
BJI				LR	LR				
	comp=E,2μm,14.5s								
BJI				LR	LR				
	comp=Z,930nm,14.7s								
BJI				LR	LR				
	comp=Z,1μm,16.7s								
TIY	**Taiyuan**	**17.83**	**319**	*e*P	**P**	**04 10 45.8**	**+0.6**		
TIY				S	**Sn**	**04 14 01.6**	**-1.0**		
TIY				pmax	pmax				
	comp=Z,34nm,0.5s								
TIY				pmax	pmax				
	comp=Z,270nm,7.0s								
TIY				LR	LR				
	comp=Z,1μm,12.9s								
TIY				LR	LR				
	comp=Z,610nm,12.9s								
TIY				LR	LR				
	comp=Z,1μm,12.6s								
DAV	**Davao City (W)**	**17.92**	**185**	LR	LR	04 18 52.0			
	comp=Z,182nm,18.4s,baz=344,slow=41								
XAN	**Xi'an**	**18.25**	**304**	P	**Pn**	**04 10 48.3**	**-1.4**		
XAN				pP	P	04 10 52.1	+2.4		
XAN				sP	pP	04 10 55.3	-2.0		
XAN				PP	**PnPn**	**04 11 06.1**	**+4.8**		
XAN				pmax	pmax				
	comp=Z,10.0nm,0.8s								
XAN				pmax	pmax				
	comp=Z,150nm,5.4s								
XAN				LR	LR				
	comp=Z,1μm,13.5s								
XAN				LR	LR				
	comp=Z,2μm,11.4s								
XAN				LR	LR				
	comp=Z,2μm,11.9s								
GYA	**Guiyang**	**18.55**	**279**	P	**P**	**04 10 52.8**	**-0.5**		
GYA				PP	**PnPn**	**04 11 08.8**	**+3.2**		
GYA				S	**Sn**	**04 14 15.6**	**-4.7**		
GYA				SS	**SnSn**	**04 14 40.0**	**+5.8**		
GYA				pmax	pmax				
	comp=Z,20nm,0.7s								
GYA				pmax	pmax				
	comp=Z,120nm,4.3s								
GYA				LR	LR				
	comp=Z,2μm,12.0s								
GYA				LR	LR				
	comp=Z,2μm,12.4s								
GYA				LR	LR				
	comp=Z,2μm,12.2s								
CN2	**Changchun**	**18.79**	**356**	*e*P	**Pn**	**04 10 56.0**	**-0.2**		
CN2				*e*S	**Sn**	**04 14 22.8**	**-2.8**		
CN2				pmax	pmax				
	comp=Z,20nm,1.0s								
CN2				pmax	pmax				
	comp=Z,200nm,3.0s								
CN2				LR	LR				
	comp=Z,900nm,12.0s								
CN2				LR	LR				
	comp=Z,900nm,12.0s								
CN2				LR	LR				
	comp=Z,900nm,12.0s								
USRK	**Ussuriysk Ar.**	**19.53**	**10**	P	**Pn**	**04 11 04.6**	**-0.5**		
	comp=Z,0.5nm,0.3s,baz=189,slow=8.4,SNR=9.3								
GUMO	**Guam**	**20.16**	**121**	LR	LR	04 17 12.3			
	comp=Z,192nm,21.4s,baz=296,slow=32								
HHC	**Hu-ho-hao-te**	**20.47**	**324**	*e*P	**P**	**04 11 13.6**	**-0.5**		
HHC				pmax	pmax				
	comp=Z,40nm,0.8s								
HHC				pmax	pmax				
	comp=Z,140nm,4.0s								
ERM	**Erimo**	**21.49**	**34**	*e*P	**P**	**04 11 23.7**	**-1.2**		
	comp=Z,18nm,0.8s								
ERM	**Erimo**	**21.49**	**34**	*ce*P	**P**	**04 11 24.6**	**-0.3**		
ERM				pmax	pmax				
	comp=Z,14nm,0.8s								
CD2	**Chengdu**	**21.50**	**291**	P	**P**	**04 11 23.8**	**-1.4**		
CD2				pP	pP	04 11 27.8	-5.1		
CD2				sP	sP	04 11 29.8	-6.7		
CD2				S	**S**	**04 15 24.3**	**+2.0**		
CD2				sS	Sn	04 15 28.1	-3.0		
CD2				pmax	pmax				
	comp=Z,160nm,0.6s								
CD2				pmax	pmax				
	comp=Z,230nm,4.2s								
CD2				LR	LR				
	comp=Z,2μm,10.5s								
CD2				LR	LR				
	comp=Z,2μm,10.1s								
CD2				LR	LR				
	comp=Z,3μm,9.5s								
KMI	**Kunming**	**22.15**	**275**	P	**P**	**04 11 32.8**	**+0.4**		
KMI				pP	pP	04 11 35.6	-4.5		
KMI				sP	sP	04 11 37.1	-6.6		
KMI				PP	**PnPn**	**04 11 59.6**	**+4.6**		
KMI				S	**S**	**04 15 34.6**	**-0.6**		
KMI				pmax	pmax				
	comp=Z,43nm,1.0s								
KMI				pmax	pmax				
	comp=Z,95nm,3.1s								
KMI				LR	LR				
	comp=Z,520nm,17.1s								
KMI				LR	LR				
	comp=Z,700nm,13.8s								
KMI				LR	LR				
	comp=Z,770nm,14.4s								
ASAJ	**Asahikawa**	**22.82**	**30**	P	**P**	**04 11 38.0**	**-1.0**		
	comp=Z,5.3nm,0.6s,baz=215,slow=10,SNR=8.1								
ASAJ	**Asahikawa**	**22.82**	**30**	*e*P	**P**	**04 11 37.7**	**-1.3**		
	comp=Z,14nm,1.1s								
SKNT	**Sakolnakorn**	**23.08**	**254**	P	**P**	**04 11 43.3**	**+1.2**		
	comp=Z,11nm,2.1s								
KLR	**Kul'dur**	**24.43**	**7**	P	**P**	**04 11 53.7**	**-0.9**		
	comp=Z,0.7nm,0.9s,baz=205,slow=7.2,SNR=15								
KLR	**Kul'dur**	**24.43**	**7**	*c i*P	**P**	**04 11 54.2**	**-0.4**		
YSS	**Yuzh-Sakhalins**	**25.16**	**26**	*e*P	**P**	**04 12 02.5**	**+1.3**		
	comp=Z,108nm,1.1s								
YSS	**Yuzh-Sakhalins**	**25.16**	**26**⇓	*e*P	**P**	**04 12 02.5**	**+1.3**		
YSS				*e*		04 12 06.9			
YSS				*e*		04 12 13.2			
YSS				*e*		04 12 39.8			
YSS				pmax	pmax				
	comp=Z,80nm,1.0s								
YSS				MLR	MLR				
	comp=Z,600nm,17.0s								
PBKT	**Sadao Pong**	**25.88**	**256**	P	**P**	**04 12 09.3**	**+1.2**		
	comp=Z,11nm,1.0s,comp=Z,1μm								
KUR	**Kuril'sk**	**26.18**	**34**⇑	*e*P	**P**	**04 12 10.9**	**+0.4**		
GRNR	**Gornyy**	**26.68**	**13**	*e*P	**P**	**04 12 16.2**	**+1.2**		
GRNR				pmax	pmax				
	comp=Z,42nm,1.0s								
SBUM	**Sibu**	**26.68**	**215**	*e*P	**P**	**04 12 19.7**	**+4.4**		
	comp=Z,9.1nm,1.0s								
CMMT	**Chiang Mai**	**26.89**	**262**	P	**P**	**04 12 16.2**	**-1.1**		
	comp=Z,22nm,0.9s								
CHTO	**Chiang Mai**	**26.90**	**262**	P	**P**	**04 12 17.2**	**-0.1**		
	comp=Z,97nm,1.0s								
CHTO	**Chiang Mai**	**26.90**	**262**	*e*P	**P**	**04 12 17.3**	**0.0**		
	comp=Z,20nm,0.9s								
CHTO	**Chiang Mai**	**26.90**	**262**	P	**P**	**04 12 17.5**	**+0.2**		
	SNR=7.9								
CHTO	**Chiang Mai**	**26.90**	**262**	P	**P**	**04 12 17.5**	**+0.2**		
	SNR=7.9								
CM01	**Chiang Mai Arr**	**27.01**	**262**	*e*P	**P**	**04 12 17.5**	**-0.8**		
CM31	**Chiang Mai Arr**	**27.01**	**262**	*e*P	**P**	**04 12 19.4**	**+1.0**		
CMAR	**Chiang Mai Arr**	**27.01**	**262**	P	**P**	**04 12 18.3**	**-0.1**		
	comp=Z,6.5nm,0.9s,baz=59,slow=8.1,SNR=51								
CMAR				LR	LR	04 23 05.9			
	comp=Z,236nm,19.7s,baz=72,slow=37								
GTA	**Gaotai**	**27.12**	**309**	⇑P	**P**	**04 12 17.6**	**-1.7**		
GTA				pP	pP	04 12 21.9	-5.6		
GTA				sP	sP	04 12 24.6	-6.4		
GTA				S	**S**	**04 16 54.8**	**-1.1**		
GTA				SS	**SnSn**	**04 18 08.4**	**+4.5**		
GTA				pmax	pmax				
	comp=Z,32nm,1.0s								
GTA				pmax	pmax				
	comp=Z,110nm,5.2s								
GTA				LR	LR				
	comp=Z,760nm,13.3s								
GTA				LR	LR				
	comp=Z,930nm,13.3s								
GTA				LR	LR				
	comp=Z,820nm,12.4s								
ULN	**Ulaanbaatar**	**27.81**	**330**	*e*P	**P**	**04 12 24.6**	**-0.8**		
	comp=Z,14nm,1.1s								
ULN	**Ulaanbaatar**	**27.81**	**330**	P	**P**	**04 12 24.3**	**-1.1**		
	SNR=5.7								
ULN	**Ulaanbaatar**	**27.81**	**330**	P	**P**	**04 12 24.3**	**-1.1**		
	SNR=5.7								
ULN	**Ulaanbaatar**	**27.81**	**330**	*ce*P	**P**	**04 12 24.1**	**-1.3**		
ULN				pmax	pmax				
	comp=Z,16nm,1.7s								
SONM	**Songino Array**	**28.09**	**329**	P	**P**	**04 12 26.3**	**-1.5**		
	comp=Z,11nm,0.7s,baz=146,slow=9.7,SNR=20								
SONM				LR	LR	04 25 27.8			
	comp=Z,391nm,20.3s,baz=156,slow=40								
SONA1	**Songino Array**	**28.09**	**329**	*e*P	**P**	**04 12 26.4**	**-1.5**		
TYV	**Tymovskoe**	**28.42**	**21**	*e*P	**P**	**04 12 30.9**	**+0.4**		
TYV				pmax	pmax				
	comp=Z,6.0nm,1.0s								
ZEA	**Zeya**	**28.68**	**0**	*e*P	**P**	**04 12 33.2**	**+0.3**		
ZEA				pmax	pmax				
	comp=Z,10.0nm,0.6s								
ZEA				MLR	MLR				
	comp=Z,2μm,12.0s								
ZEA				MLR	MLR				
	comp=E,500nm,11.0s								
ZEA				MLR	MLR				
	comp=N,2μm,12.0s								
NKL	**Nikolayevsk**	**29.87**	**16**	*e*P	**P**	**04 12 43.0**	**-0.4**		
ZAK	**Zakamensk**	**31.34**	**330**	*e*P	**P**	**04 12 54.2**	**-2.4**		
ZAK				pmax	pmax				
	comp=Z,3.0nm,1.3s								
TLY	**Talaya**	**32.12**	**332**	*e*P	**P**	**04 13 02.6**	**-0.7**		
	comp=Z,11nm,1.0s								
TLY	**Talaya**	**32.12**	**332**	P	**P**	**04 13 02.6**	**-0.7**		
	SNR=5.6								
TLY	**Talaya**	**32.12**	**332**	P	**P**	**04 13 02.6**	**-0.7**		
	SNR=5.6								
TLY	**Talaya**	**32.12**	**332**	*e*P	**P**	**04 13 02.5**	**-0.8**		
TLY				*e*		04 14 25.3			
TLY				*e*S	**S**	**04 18 10.3**	**-3.6**		
TLY				pmax	pmax				
	comp=Z,18nm,1.5s								
TLY				MLR	MLR				
	comp=Z,278nm,11.0s								
LSA	**Lhasa**	**32.27**	**286**	*e*P	**P**	**04 13 05.5**	**+0.1**		
	comp=Z,11nm,0.6s								
IPM	**Ipoh**	**32.39**	**235**	*e*P	**P**	**04 13 05.1**	**-0.9**		
	comp=Z,4.1nm,0.5s								
MOY	**Mondy**	**33.28**	**330**	*e*P	**P**	**04 13 12.6**	**-0.9**		
MOY				pmax	pmax				
	comp=Z,21nm,1.5s								
JAGI	**Jajag, Banyuwa**	**35.63**	**203**	*e*P	**P**	**04 13 33.7**	**-0.4**		
	comp=Z,44nm,1.1s								
ODAN	**Odare**	**35.74**	**282**	*e*P	**P**	**04 13 35.7**	**+0.4**		
	comp=Z,141nm,0.8s								
PETK	**Petropavlovsk-**	**36.21**	**31**	P	**P**	**04 13 38.1**	**-0.6**		
	comp=Z,4.2nm,0.9s,baz=230,slow=9.3,SNR=4.4								
PETK				LR	LR	04 30 09.0			
	comp=Z,146nm,19.2s,baz=223,slow=39								
RAMN	**Ramite**	**36.44**	**282**	*e*P	**P**	**04 13 41.6**	**+0.3**		
	comp=Z,31nm,0.7s								
HVS	**Khovu-Aksy**	**36.55**	**324**⇑	*e*P	**P**	**04 13 42.2**	**+0.4**		
HVS				pmax	pmax				
	comp=Z,13nm,1.0s								
JIRN	**Jiri**	**36.73**	**283**	*e*P	**P**	**04 13 44.2**	**+0.3**		
	comp=Z,84nm,0.8s								
GUN	**Gumba**	**36.98**	**284**	*e*P	**P**	**04 13 46.2**	**+0.2**		
	comp=Z,69nm,0.8s								
YAK	**Yakutsk**	**37.04**	**2**	*e*P	**P**	**04 13 45.3**	**-0.3**		
	comp=Z,24nm,0.6s								
YAK	**Yakutsk**	**37.04**	**2**	*e*P	**P**	**04 13 43.3**	**-2.3**		
YAK				*e**PP	**pP**	**04 13 52.8**	**-1.2**		
YAK				*e*		04 16 04.5			
YAK				*e*S	**S**	**04 19 22.4**	**-6.9**		
YAK				*e*SS	**SnSn**	**04 22 02.4**	**-1.6**		
YAK				*e*		04 23 59.5			
YAK				pmax	pmax				
	comp=Z,22nm,0.8s								
YAK				pmax	pmax				
	comp=E,3.0nm,1.2s								
YAK				pmax	pmax				
	comp=N,8.0nm,1.3s								
YAK				pmax	pmax				
	comp=Z,49nm,2.8s								
YAK				pmax	pmax				
	comp=N,35nm,3.1s								
YAK				pmax	pmax				
	comp=E,20nm,3.2s								
YAK				smax	smax				
	comp=E,59nm,4.1s								
YAK				smax	smax				
	comp=N,21nm,3.0s								
YAK				MLR	MLR				
	comp=Z,330nm,12.0s								
YAK				MLR	MLR				
	comp=N,260nm,13.0s								
YAK				MLR	MLR				
	comp=E,99nm,12.0s								
WMQ	**Urumqi**	**37.16**	**310**	P	**P**	**04 13 46.4**	**-0.7**		
WMQ				pP	pP	04 13 50.4	-5.1		
WMQ				sP	sP	04 13 54.1	-4.8		
WMQ				pmax	pmax				
	comp=E,53nm,1.1s								
WMQ				pmax	pmax				
	comp=E,220nm,3.7s								
WMQ				LR	LR				
	comp=E,1μm,14.3s								
WMQ				LR	LR				
	comp=E,2μm,14.3s								
WMQ				LR	LR				
	comp=E,660nm,16.5s								
PKIN	**Phulchoki**	**37.44**	**283**	*e*P	**P**	**04 13 49.5**	**-0.3**		
	comp=E,44nm,0.8s								
KKN	**Kakani**	**37.52**	**284**	*e*P	**P**	**04 13 50.5**	**+0.1**		
	comp=E,79nm,0.8s								
DMN	**Daman**	**37.69**	**283**	*e*P	**P**	**04 13 51.9**	**0.0**		
	comp=E,72nm,0.9s								
MTN	**Manton Dam**	**37.83**	**174**	*e*P	**P**	**04 13 51.6**	**-1.1**		
	comp=E,32nm,1.0s								
GKN	**Gorkha**	**38.06**	**284**	*e*P	**P**	**04 13 54.8**	**-0.2**		
	comp=E,69nm,0.8s								
DANN	**Dangsing**	**38.80**	**285**	*e*P	**P**	**04 14 02.2**	**+0.9**		
KOLN	**Koldanda**	**39.00**	**284**	*e*P	**P**	**04 14 03.1**	**+0.2**		
	comp=E,67nm,0.8s								
PMG	**Port Moresby**	**39.37**	**148**	LR	LR	04 28 03.3			
	comp=E,154nm,19.4s,baz=272,slow=33								
DGZ	**Jazzator, Alta**	**39.40**	**319**	*e*P	**P**	**04 14 05.1**	**-0.8**		
DGZ				pmax	pmax				
	comp=Z,2.0nm,0.8s								
PYUN	**Piuthan**	**39.50**	**284**	*e*P	**P**	**04 14 07.6**	**+0.5**		
	comp=Z,157nm,0.8s								
SEY	**Seymchan**	**41.45**	**17**	P	**P**	**04 14 23.7**	**+1.3**		
	comp=Z,7.7nm,0.8s,baz=217,slow=5.3,SNR=32								
SEY	**Seymchan**	**41.45**	**17**⇑	*e*P	**P**	**04 14 23.6**	**+1.2**		
MK01	**Makanchi Array**	**41.65**	**313**	*e*P	**P**	**04 14 23.2**	**-1.1**		
MK31	**Makanchi Array**	**41.66**	**313**	*e*P	**P**	**04 14 23.5**	**-1.0**		
MK31	**Makanchi Array**	**41.66**	**313**	*i*P	**P**	**04 14 23.0**	**-1.5**		
MK31				pmax	pmax				
	comp=Z,33nm,1.1s								
MKAR	**Makanchi Array**	**41.66**	**313**	P	**P**	**04 14 23.4**	**-1.0**		
	comp=Z,20nm,0.9s,baz=96,slow=10,SNR=121								
MKAR				LR	LR	04 33 09.7			
	comp=Z,134nm,18.9s,baz=118,slow=38								
MKAR	**Makanchi Array**	**41.66**	**313**	*e*P	**P**	**04 14 23.5**	**-1.0**		
	comp=Z,114nm,1.0s								
COEN	**Coen**	**41.76**	**156**	*e*P	**P**	**04 14 25.9**	**+0.4**		
	comp=Z,14nm,1.1s								
MAKZ	**Makanchi**	**41.87**	**313**	*e*P	**P**	**04 14 25.3**	**-0.9**		
	comp=Z,27nm,0.8s								
MAKZ	**Makanchi**	**41.87**	**313**	P	**P**	**04 14 25.0**	**-1.2**		
MAKZ				pmax	pmax				
	comp=Z,34nm,1.0s								
ZAA0	**Zalesovo Array**	**42.66**	**324**	*e*P	**P**	**04 14 31.1**	**-1.4**		
	comp=Z,8.0nm,0.8s								
ZALV	**Zalesovo Beam**	**42.66**	**324**	P	**P**	**04 14 30.9**	**-1.5**		
	comp=Z,7.0nm,0.7s,baz=111,slow=7.9,SNR=25								
ZALV				PcP	**PcP**	**04 16 23.7**	**-0.3**		
	comp=Z,3.2nm,0.8s,baz=116,slow=3.4,SNR=3.7								
ZALV				LR	LR	04 35 07.3			
	comp=Z,106nm,21.4s,baz=62,slow=40								
PDGK	**Podgornoye**	**42.85**	**307**	P	**P**	**04 14 33.3**	**-1.1**		
PDGK				pmax	pmax				
	comp=Z,36nm,1.0s								
PRZ	**Przheval'sk**	**43.52**	**306**	P	**P**	**04 14 40.9**	**+1.0**		
PRZ				pmax	pmax				
	comp=Z,14nm,0.9s								
KDJ	**Kajisay**	**44.38**	**305**	*e*P	**P**	**04 14 46.9**	**+0.2**		
	comp=Z,12nm,0.7s								
KDJ	**Kajisay**	**44.38**	**305**	P	**P**	**04 14 46.9**	**+0.2**		
KDJ				pmax	pmax				
	comp=Z,12nm,0.7s								
KURK	**Kurchatov**	**45.07**	**318**	*e*P	**P**	**04 14 50.6**	**-1.2**		
	comp=Z,24nm,1.1s								
KURK				PcP	**PcP**	**04 16 32.5**	**+0.2**		
KURK	**Kurchatov**	**45.07**	**318**	P	**P**	**04 14 50.7**	**-1.2**		
	SNR=10								
KURK	**Kurchatov**	**45.07**	**318**	P	**P**	**04 14 50.7**	**-1.2**		
	SNR=10								
KURK	**Kurchatov**	**45.07**	**318**	*c i*P	**P**	**04 14 50.6**	**-1.2**		
KURK				pmax	pmax				
	comp=Z,29nm,1.2s								
ULHL	**Ulahol**	**45.08**	**305**	P	**P**	**04 14 52.4**	**0.0**		
	SNR=13								
KSH	**Kashi**	**45.08**	**302**	P	**P**	**04 14 55.3**	**+3.0**		
KSH				pP	pP	04 15 00.1	-0.8		
KSH				S	**S**	**04 21 34.0**	**+4.2**		
KSH				pmax	pmax				
	comp=Z,31nm,0.8s								
KSH				LR	LR				
	comp=Z,360nm,8.4s								
KSH				LR	LR				
	comp=Z,400nm,7.5s								
KSH				LR	LR				
	comp=Z,1μm,11.6s								
KURBB	**Kurchatov Arra**	**45.10**	**318**	P	**P**	**04 14 50.9**	**-1.2**		
	comp=Z,11nm,0.9s,baz=107,slow=8.0,SNR=44								
KURBB				PcP	**PcP**	**04 16 32.5**	**+0.1**		
	comp=Z,0.6nm,0.7s,baz=103,slow=3.6,SNR=4.6								
NRN	**Naryn**	**45.19**	**304**	P	**P**	**04 14 53.6**	**+0.2**		
NRN				pmax	pmax				
	comp=Z,24nm,1.2s								
WRAB	**Tennant Creek**	**45.22**	**170**	*e*P	**P**	**04 14 52.4**	**-1.0**		
	comp=Z,22nm,0.8s								
WRAB	**Tennant Creek**	**45.22**	**170**	*d i*P	**P**	**04 14 52.9**	**-0.5**		
WRAB				pmax	pmax				
	comp=Z,29nm,1.0s								
WRA	**Warramunga Arr**	**45.23**	**171**	P	**P**	**04 14 53.1**	**-0.3**		
	comp=Z,19nm,0.8s,baz=352,slow=8.4,SNR=89								
WB2	**Warramunga Arr**	**45.23**	**170**	*e*P	**P**	**04 14 53.1**	**-0.3**		
	comp=Z,25nm,0.8s								
TKM2	**Tokmak 2**	**45.62**	**306**	P	**P**	**04 14 56.9**	**+0.2**		
	SNR=23								
TKM2	**Tokmak 2**	**45.62**	**306**	P	**P**	**04 14 56.2**	**-0.5**		
TKM2				pmax	pmax				
	comp=Z,13nm,0.7s								
KZA	**Kyzart**	**45.80**	**305**	P	**P**	**04 14 59.1**	**+0.8**		
	SNR=13								
KBK	**Karagaybulak**	**46.07**	**306**	P	**P**	**04 15 00.8**	**+0.6**		
	SNR=5.7						

comp=Z,19nm,1.0s
MNAS Manas 47.86 306 P **P** **04 15 13.9 -0.2**
MNAS pmax pmax
comp=Z,15nm,1.5s
OTUK Ortayu 48.55 313 P **P** **04 15 18.6 -0.6**
OTUK pmax pmax
comp=Z,14nm,1.1s
AS31 Alice Springs 48.83 172 *e*P **P** **04 15 21.7 +0.2**
comp=Z,2.3nm,0.6s
ASAR Alice Springs 48.83 172 P **P** **04 15 21.5 -0.1**
comp=Z,1.0nm,0.8s,baz=84,slow=8.2,SNR=6.1
AS01 Alice Springs 48.84 172 *e*P **P** **04 15 21.0 -0.6**
BILL Bilibino 49.11 18 *e*P **P** **04 15 24.3 +1.2**
BILL *e* 04 16 47.4
BILL *e* 04 17 14.7
BILL *e*PPP PPP 04 18 07.5
BILL pmax pmax
comp=Z,11nm,1.1s
BILL MLR MLR
comp=Z,295nm,18.0s
KK31 Karatay Array 49.36 306 *e*P **P** **04 15 25.5 0.0**
KK31 Karatay Array 49.36 306 *i* P **P** **04 15 25.4 0.0**
KK31 pmax pmax
comp=Z,13nm,1.0s
KKAR Karatay Array 49.36 306 *e*P **P** **04 15 25.5 0.0**
comp=Z,5.1nm,0.6s
BVAR Borovoye Array 50.56 319 P **P** **04 15 33.7 -0.7**
comp=Z,4.1nm,0.6s,baz=102,slow=8.7,SNR=20
BVAR LR LR 04 38 03.6
comp=Z,116nm,19.6s,baz=95,slow=37
BRVK Borovoye 50.63 319 *e*P **P** **04 15 34.8 -0.1**
comp=Z,9.9nm,0.9s
BRVK Borovoye 50.63 319 P **P** **04 15 34.7 -0.2**
SNR=6.2
BRVK Borovoye 50.63 319 P **P** **04 15 34.7 -0.2**
SNR=6.2
BRVK Borovoye 50.63 319*de*P **P** **04 15 34.8 -0.1**
BRVK pmax pmax
comp=Z,9.0nm,1.2s
DZET Dzherino 50.63 301 P **P** **04 15 35.0 -0.3**
DZET pmax pmax
comp=Z,25nm,0.6s
KBL Kabul 50.76 295 *e*P **P** **04 15 37.3 +0.8**
comp=Z,22nm,0.8s
KBL Kabul 50.76 295 P **P** **04 15 37.3 +0.8**
KBL pmax pmax
comp=Z,20nm,0.8s
FORT Forrest 55.49 179 *e*P **P** **04 16 11.3 +0.5**
SVE Sverdlovsk 56.65 323 *e*P **P** **04 16 18.1 -0.8**
SVE pmax pmax
comp=Z,24nm,1.0s
AB31 Akbulak array 56.80 314 P **P** **04 16 19.7 -0.4**
AB31 pmax pmax
comp=Z,10.0nm,0.7s
ABKAR Akbulak array 56.80 314 *e*P **P** **04 16 20.0 -0.1**
comp=Z,8.0nm,0.6s
ARU Arti 57.77 322 *e*P **P** **04 16 26.1 -0.8**
comp=Z,16nm,1.1s
ARU Arti 57.77 322*c i*P **P** **04 16 26.0 -0.8**
ARU 04 17 13.7
ARU S **S** **04 24 26.6 +2.6**
ARU SS **SS** **04 28 15.2 +0.8**
ARU pmax pmax
comp=Z,14nm,1.0s
ARU MLR MLR
comp=Z,365nm,20.0s
AKTO Aktyubinsk 58.02 315 LR LR 04 45 13.0
comp=Z,110nm,20.4s,baz=93,slow=40
BBOO Buckleboo 58.13 171 *e*P **P** **04 16 28.8 -0.8**
comp=Z,9.3nm,0.8s
STKA Stephens Creek 58.23 166 P **P** **04 16 30.4 +0.1**
comp=Z,7.4nm,0.7s,baz=345,slow=7.4,SNR=26
STKA LR LR 04 40 19.6
comp=Z,50nm,21.9s,baz=22,slow=35
STKA Stephens Creek 58.23 166 *e*P **P** **04 16 30.4 +0.1**
comp=Z,1.8nm,0.8s
GEYT Alibeck 59.09 301 P **P** **04 16 37.1 +0.6**
comp=Z,11nm,0.9s,baz=48,slow=2.2,SNR=18
GYA0B ALIBECK ARRAY 59.09 301 *e*P **P** **04 16 37.7 +1.2**
comp=Z,15nm,0.8s
ARMA Armidale 59.89 156 *e*P **P** **04 16 42.5 +0.5**
comp=Z,3.7nm,0.9s
IM3 Indian Mountai 62.98 27 *e*P **P** **04 17 03.7 +1.4**
PPLA Purkeypile 63.79 30 *e*P **P** **04 17 09.6 +1.7**
comp=Z,9.5nm,0.8s
CAST Castle Rocks 63.80 30 *e*P **P** **04 17 09.1 +1.3**
comp=Z,10nm,0.9s
BPAW Bear Paw Mtn. 64.24 29 *e*P **P** **04 17 12.2 +1.5**
comp=Z,8.1nm,1.0s
MLY Manley 64.28 28 *e*P **P** **04 17 12.8 +1.8**
comp=Z,9.1nm,1.0s
KTH Kantishna Hill 64.31 29 *e*P **P** **04 17 12.3 +1.0**
comp=Z,4.6nm,0.9s
COLD Coldfoot 64.35 25 *e*P **P** **04 17 13.1 +1.8**
comp=Z,3.5nm,0.9s
TOLK Toolik Lake Re 64.50 24 *e*P **P** **04 17 14.6 +2.3**
comp=Z,9.7nm,0.8s
SUA Susitna One 64.59 32 *e*P **P** **04 17 15.3 +2.2**
comp=Z,12nm,0.8s
TRF Thorofare Moun 64.61 30 *e*P **P** **04 17 14.8 +1.6**
comp=Z,5.5nm,0.9s
MCK McKinley 65.18 29 *e*P **P** **04 17 18.1 +1.3**
comp=Z,12nm,0.9s
RND Reindeer 65.25 30 *e*P **P** **04 17 18.5 +1.1**
comp=Z,20nm,0.8s
MDM Murphy Dome 65.35 28 *e*P **P** **04 17 19.9 +1.9**
comp=Z,23nm,1.0s
WRH Wood River Hil 65.46 28 *e*P **P** **04 17 21.0 +2.4**
comp=Z,8.2nm,0.9s
COLA College 65.52 28⇑*e*P **P** **04 17 21.0 +2.1**
COLA pmax pmax
comp=Z,7.0nm,0.9s
CCB Clear Creek Bu 65.56 28 *e*P **P** **04 17 20.9 +1.6**
comp=Z,5.4nm,1.0s
SML Sawmill 65.69 31 *e*P **P** **04 17 21.1 +0.9**
comp=Z,3.1nm,1.1s
IL1 Eielson Array 65.94 28 *e*P **P** **04 17 21.6 -0.1**
ILAR Eielson Array 65.94 28 P **P** **04 17 21.6 -0.1**
comp=Z,1.7nm,0.7s,baz=272,slow=5.8,SNR=22
ILAR LR LR 04 48 48.5
comp=Z,108nm,18.1s,baz=308,slow=38
ILB Eielson Array 65.94 28 *e*P **P** **04 17 22.4 +0.7**
MAK Makhachkala 66.12 308 *e*P **P** **04 17 18.5 -4.7**
MAK *e* 04 19 46.2
MAK *e*S **S** **04 26 05.1 -4.8**
MAK *e*SS **SS** **04 30 20.8 -4.7**
MAK pmax pmax
comp=Z,20nm,0.4s
MAK MLR MLR
comp=Z,246nm,15.0s
LKRN Lenkeran, Azer 66.14 303 P **P** **04 17 22.6 -0.8**
SEKA Sheki 66.74 306 P **P** **04 17 25.9 -1.4**
PAX Paxson 66.83 30 *e*P **P** **04 17 28.9 +1.3**
comp=Z,6.9nm,0.8s
PAX Paxson 66.83 30 P **P** **04 17 28.9 +1.3**
MNGR Mingechevir, A 66.92 306 P **P** **04 17 27.5 -0.9**
RIDG Independ'e Rid 66.98 29 *e*P **P** **04 17 30.2 +1.7**
comp=Z,12nm,1.0s
DIV Divide 67.01 32 *e*P **P** **04 17 29.4 +0.7**
comp=Z,10.0nm,0.8s
ZKTA Zakatala 67.06 307 P **P** **04 17 28.3 -1.0**
SCRK Sand Creek 67.31 29 *e*P **P** **04 17 31.7 +1.0**
comp=Z,5.8nm,0.8s
DOT Dot Lake 67.34 29 *e*P **P** **04 17 31.6 +0.9**
comp=Z,24nm,0.9s
KLMR Klimovskoe 67.37 328 *e*P **P** **04 17 29.4 -1.5**
KLMR AMP 04 17 31.0
comp=Z,12nm,0.9s
KLMR *e*PcP **PcP** **04 17 58.2 -0.1**
KLMR LQ LQ 04 45 24.6
KLMR LQ LQ 04 45 24.6
KLMR Klimovskoe 67.37 328 *e*P **P** **04 17 29.3 -1.6**
KLMR *e* 04 17 58.1
KLMR pmax pmax
comp=Z,12nm,0.9s
TMCR Tamitsa 67.42 332 *e*P **P** **04 17 31.2 +0.1**
TMCR pmax pmax
comp=Z,24nm,0.9s
GANJ Ganja 67.52 306 P **P** **04 17 31.2 -1.0**
MENT Mentasta 67.63 30 *e*P **P** **04 17 34.3 +1.8**
comp=Z,12nm,1.0s
VRH Novokhopyorsk 68.16 317 *e*P **P** **04 17 35.0 -1.0**
VRH pmax pmax
comp=Z,20nm,0.7s
EGAK Eagle 68.35 27 *e*P **P** **04 17 38.3 +1.3**
comp=Z,8.2nm,1.0s

NAX Nakhchivan 68.51 304 P **P** **04 17 37.5 -1.0**
GNI Garni 68.81 305 LR LR 04 51 25.8
comp=Z,53nm,18.3s,baz=84,slow=39
GNI Garni 68.81 305 *e*P **P** **04 17 39.0 -1.6**
comp=Z,41nm,0.7s
GNI Garni 68.81 305*de*P **P** **04 17 42.3 +1.8**
GNI pmax pmax
comp=Z,55nm,1.7s
KBZ Khabaz 69.20 310 P **P** **04 17 43.4 +0.7**
comp=Z,12nm,0.9s,baz=150,slow=2.2,SNR=36
KBZ LR LR 04 51 11.8
comp=Z,123nm,19.9s,baz=74,slow=39
DAWY Dawson 69.27 28 *e*P **P** **04 17 44.2 +1.5**
comp=Z,11nm,1.2s
KVAR Kislovodsk Arr 69.28 310 LR LR 04 51 32.9
comp=Z,85nm,18.2s,slow=39
KIV Kislovodsk 69.29 310 *e*P **P** **04 17 44.4 +1.1**
comp=Z,65nm,1.5s
KIV Kislovodsk 69.29 310 P **P** **04 17 44.4 +1.1**
SNR=7.2
KIV Kislovodsk 69.29 310 P **P** **04 17 44.4 +1.1**
SNR=7.2
KIV Kislovodsk 69.29 310 *e*P **P** **04 17 44.1 +0.7**
KIV *e*S **S** **04 26 51.5 +3.3**
KIV pmax pmax
comp=Z,24nm,0.9s
KIV MLR MLR
comp=Z,86nm,17.0s
AKH Akhalkalaki 69.39 307⇓*i*P **P** **04 17 46.6 +2.5**
AKH Akhalkalaki 69.39 307 *e*P **P** **04 17 46.7 +2.5**
comp=Z,12nm,0.9s
NEY Neytrino 69.45 309⇑*e*P **P** **04 17 46.1 +1.6**
NEY pmax pmax
comp=Z,2.0nm,0.9s
LPSR Galich'ya Gora 69.51 319 *e*P **P** **04 17 43.5 -0.9**
LPSR pmax pmax
comp=Z,20nm,0.9s
VSR Storozhevoye 69.72 318 *e*P **P** **04 17 44.7 -1.0**
VSR pmax pmax
comp=Z,20nm,1.0s
SPITS Spitsbergen Ar 69.81 348 P **P** **04 17 46.2 +0.3**
comp=Z,16nm,0.8s,baz=34,slow=11,SNR=17
OBN Obninsk 70.21 322 LR LR 04 51 42.8
comp=Z,173nm,18.4s,baz=88,slow=39
OBN Obninsk 70.21 322 *i* P **P** **04 17 48.2 -0.4**
OBN *i* 04 17 57.8
OBN *i* 04 18 14.9
OBN pmax pmax
comp=Z,27nm,1.2s
OBN MLR MLR
comp=Z,156nm,17.0s
INK Inuvik 70.36 23 LR LR 04 52 28.3
comp=Z,111nm,18.2s,baz=285,slow=39
INK Inuvik 70.36 23 *e*P **P** **04 17 50.6 +1.2**
comp=Z,13nm,0.9s
ARCES ARCESS Array B 70.79 339 P **P** **04 17 52.1 +0.2**
comp=Z,4.5nm,0.9s,baz=72,slow=7.9,SNR=12
AFI Afiamalu 70.96 116 LR LR 04 43 31.8
comp=Z,57nm,20.7s,baz=45,slow=31
SOC Sochi 71.46 310 *e*P **P** **04 17 56.0 -0.5**
SOC *e* 04 20 37.3
SOC *e*PPP PPP 04 22 13.0
SOC *e*S **S** **04 27 14.2 +0.9**
SOC pmax pmax
comp=Z,22nm,0.9s
OUL Oulu 72.20 334 P **P** **04 18 02.0 +1.5**
OUL pmax pmax
comp=Z,22nm,1.3s
ANN Anapa 72.66 312 *e*P **P** **04 18 02.2 -1.4**
ANN pmax pmax
comp=Z,30nm,0.9s
RAYN Ar Rayn 73.31 289 *e*P **P** **04 18 08.1 +0.2**
comp=Z,9.9nm,1.0s
RAYN Ar Rayn 73.31 289 P **P** **04 18 08.1 +0.2**
RAYN pmax pmax
comp=Z,10.0nm,1.1s
FIA1 FINESS Array S 73.45 331 *e*P **P** **04 18 08.6 +0.6**
comp=Z,19nm,0.9s
FINES FINESS Array B 73.45 331 P **P** **04 18 08.0 0.0**
comp=Z,13nm,0.8s,baz=92,slow=6.1,SNR=31
FINES LR LR 04 52 33.8
comp=Z,111nm,18.4s,baz=48,slow=38
VSU Vasula 74.26 328*ce*P **P** **04 18 12.9 +0.1**
VSU pmax pmax
comp=Z,81nm,0.8s
SIM Simferopol' 74.84 313*de*P **P** **04 18 17.0 +0.6**
SIM *e* 04 18 25.0
SIM pmax pmax
comp=Z,18nm,0.9s
DLBC Dease Lake 75.39 32 *e*P **P** **04 18 20.4 +0.9**
comp=Z,3.5nm,0.9s
IDID Didziasalis 75.46 324 *e*P **P** **04 18 21.0 +1.2**
IDID IAmb IAmb 04 18 22.1
comp=Z,10.0nm,0.9s
IZAR Zarasai 75.55 325 *e*P **P** **04 18 21.4 +1.1**
IZAR IAmb IAmb 04 18 22.6
comp=Z,5.6nm,0.6s
NACGM Naroch 75.60 324 *e* **P** **04 18 21.0 +0.4**
ISAL Salakas 75.69 325 *e*P **P** **04 18 22.3 +1.2**
ISAL IAmb IAmb 04 18 23.4
comp=Z,15nm,1.3s
IIGN Ignalina 75.72 325 *e*P **P** **04 18 22.4 +1.1**
IIGN IAmb IAmb 04 18 23.6
comp=Z,9.4nm,1.2s
AKASG Malin Array Be 75.84 319 P **P** **04 18 21.8 -0.3**
comp=Z,5.0nm,0.8s,baz=58,slow=6.3,SNR=24
AKBB Malin Array Si 75.84 319 *e*P **P** **04 18 21.8 -0.3**
comp=Z,16nm,1.3s
KIEV Kiev 75.85 319 *e*P **P** **04 18 21.8 -0.3**
comp=Z,16nm,1.3s
KIEV Kiev 75.85 319*de*P **P** **04 18 22.0 -0.1**
KIEV pmax pmax
comp=Z,6.0nm,0.9s
AK11 Malin Array Si 75.88 319 *e*P **P** **04 18 21.9 -0.5**
DAG Danmarks Havn 76.33 352 *i* P **P** **04 18 24.3 -0.1**
comp=Z,3.4nm,0.8s
DAG Danmarks Havn 76.33 352 *i* P **P** **04 18 24.3 -0.1**
DAG pmax pmax
comp=Z,3.0nm,0.8s
RES Resolute Bay 76.90 11 *e*P **P** **04 18 28.4 +0.8**
comp=Z,11nm,0.9s
RES Resolute Bay 76.90 11 P **P** **04 18 28.4 +0.8**
BR131 Keskin Array S 77.04 308 *e*P **P** **04 18 29.8 +0.6**
BR131 Keskin Array S 77.04 308 P **P** **04 18 29.5 +0.3**
BRTR Keskin Array B 77.04 308 P **P** **04 18 29.3 0.0**
comp=Z,8.9nm,0.8s,baz=91,slow=5.9,SNR=55
ASF Jabal al Asfar 77.36 300 LR LR 04 58 55.8
comp=Z,100nm,18.2s,baz=22,slow=41
SORM Soroca 77.36 317⇓*i*P **P** **04 18 30.4 -0.3**
SORM Soroca 77.36 317 P **P** **04 18 30.3 -0.4**
ANTO Ankara 77.59 308⇑*i*P **P** **04 18 33.5 +1.2**
ANTO Ankara 77.59 308 *e*P **P** **04 18 32.7 +0.4**
comp=Z,13nm,0.8s
ANTO Ankara 77.59 308 P **P** **04 18 32.6 +0.4**
ANTO Ankara 77.59 308 P **P** **04 18 32.7 +0.4**
ANTO pmax pmax
comp=Z,13nm,0.8s
BR231 Keskin MP Arra 77.61 308 *e*P **P** **04 18 33.1 +0.7**
SUW Suwalki 77.89 324 *e*P **P** **04 18 33.9 +0.4**
SUW Suwalki 77.89 324 *e*P **P** **04 18 33.9 +0.4**
TULEG Thule 78.19 4 *e*P **P** **04 18 34.6 -0.3**
comp=Z,11nm,1.1s
TLCR 78.24 314⇓*i*P **P** **04 18 36.4 +0.8**
CSS Mathiatis 79.06 303 *e*P **P** **04 18 40.8 +0.3**
comp=Z,4.1nm,0.8s
TESR Tescani 79.08 316⇑*i*P **P** **04 18 40.2 -0.1**
KLNR Kaliningrad 79.17 325⇑*e*P **P** **04 18 41.5 +0.9**
KLNR pmax pmax
comp=Z,37nm,0.9s
VRI Vrincioaia 79.30 316⇓*i*P **P** **04 18 43.3 +1.8**
VRI Vrincioaia 79.30 316 P **P** **04 18 43.3 +1.8**
PLOR Plostina 79.35 316⇑*i*P **P** **04 18 43.3 +1.4**
PLOR Plostina 79.35 316 P **P** **04 18 43.2 +1.4**
HFS Hagfors 79.45 332 P **P** **04 18 42.2 +0.1**
comp=Z,12nm,0.8s,baz=86,slow=6.5,SNR=21
HFS LR LR 04 58 44.6
comp=Z,266nm,18.1s,baz=62,slow=39
BUR08 Bucovina Ar. S 79.49 318 *e*P **P** **04 18 43.5 +0.8**
BURAR Bucovina Array 79.50 318⇑*i*P **P** **04 18 43.1 +0.4**
BURAR Bucovina Array 79.50 318 P **P** **04 18 43.0 +0.4**
BUR04 Bucovina Ar. S 79.50 318 *e*P **P** **04 18 43.0 +0.4**
NC405 NORSAR Array S 79.74 334 *e*P **P** **04 18 42.8 -0.8**
NC303 NORSAR Array S 79.81 334 *e*P **P** **04 18 44.2 +0.3**
NB201 NORSAR Array S 79.94 334 *e*P **P** **04 18 44.2 -0.5**
MLR Muntele Rosu 79.95 316⇓*i*P **P** **04 18 46.5 +1.3**

NB2 NORSAR Subarra 79.98 334 P **P** **04 18 45.0 0.0**
comp=Z,31nm,1.2s,baz=52,slow=5.9
NB2 NORSAR Subarra 79.98 334 P **P** **04 18 45.0 0.0**
baz=52,slow=5.9
NB2 NORSAR Subarra 79.98 334 P **P** **04 18 45.0 0.0**
NB2 pmax pmax
comp=Z,27nm,1.2s
NOA NORSAR Array B 79.98 334 P **P** **04 18 45.0 0.0**
comp=Z,14nm,0.8s,baz=55,slow=5.4,SNR=35
NOA LR LR 04 58 26.0
comp=Z,153nm,20.1s,baz=165,slow=39
NOA NORSAR Array B 79.98 334 P **P** **04 18 45.0 0.0**
NOA pmax pmax
comp=Z,14nm,0.9s
NOA MLR MLR
comp=Z,153nm,20.1s
YKA Yellowknife Ar 80.01 25 P **P** **04 18 45.9 +0.9**
comp=Z,2.4nm,0.7s,baz=300,slow=5.3,SNR=53
NC204 NORSAR Array S 80.03 334 *e*P **P** **04 18 45.6 +0.3**
KWP Kalwaria Pacla 80.10 320 *e*P **P** **04 18 46.7 +0.9**
KWP Kalwaria Pacla 80.10 320 *e*P **P** **04 18 46.7 +0.9**
DOPR Dopca 80.10 316⇓*i*P **P** **04 18 42.3 -3.6**
ATD Arta Tunnel 80.15 278 LR LR 04 55 12.7
comp=Z,36nm,18.5s,baz=35,slow=36
ARR Arges 80.84 316⇓*i*P **P** **04 18 50.9 +1.0**
TRPA Tarpa 80.88 319⇑*i*P **P** **04 18 50.6 +0.6**
STHS Stebnicka Huta 81.04 321 *e*P **P** **04 18 52.1 +1.2**
STHS Stebnicka Huta 81.04 321 *e*P **P** **04 18 52.1 +1.2**
CRVS Cervenica-Dubn 81.16 320 *e*P **P** **04 18 51.8 +0.3**
CRVS Cervenica-Dubn 81.16 320 *e*P **P** **04 18 51.8 +0.3**
DRGR 81.39 318⇑*i*P **P** **04 18 53.1 +0.3**
DRGR 81.39 318 P **P** **04 18 53.1 +0.3**
OJC Ojcow 81.48 322 *e*P **P** **04 18 51.0 -2.2**
OJC Ojcow 81.48 322 *e*P **P** **04 18 54.0 +0.8**
comp=Z,7.5nm,1.0s
OJC Ojcow 81.48 322 *e*P **P** **04 18 51.0 -2.2**
BSD Bornholm Skovb 81.57 327⇑*i*P **P** **04 18 53.7 +0.2**
comp=Z,9.5nm,0.8s
BSD Bornholm Skovb 81.57 327⇑*i*P **P** **04 18 53.7 +0.2**
BSD pmax pmax
comp=Z,10.0nm,0.8s
SUMG Summit 82.17 356 *i* P **P** **04 18 57.9 +1.1**
comp=Z,5.3nm,0.8s
SUMG Summit 82.17 356 *e*P **P** **04 18 57.4 +0.5**
comp=Z,9.1nm,1.0s
SUMG Summit 82.17 356 *i* P **P** **04 18 57.9 +1.1**
SUMG pmax pmax
comp=Z,5.0nm,0.8s
SCO Scoresbysund 82.28 350 *i* P **P** **04 18 57.8 +0.9**
comp=Z,10nm,1.2s
SCO Scoresbysund 82.28 350 *e*P **P** **04 18 56.7 -0.2**
comp=Z,11nm,1.2s
SCO Scoresbysund 82.28 350 *i* P **P** **04 18 57.8 +0.9**
SCO pmax pmax
comp=Z,11nm,1.2s
COP Copenhagen 82.45 329 *i* P **P** **04 19 00.3 +2.3**
comp=Z,13nm,0.7s
COP Copenhagen 82.45 329 *i* P **P** **04 19 00.3 +2.3**
COP pmax pmax
comp=Z,13nm,0.7s
HERR Herculane 82.46 316⇓*i*P **P** **04 18 59.4 +1.0**
PSZ Piszkesteto 82.55 320 *e*P **P** **04 18 58.8 0.0**
comp=Z,1.7nm,0.7s
OKC Ostrava-Krasne 82.60 322 *e*P **P** **04 18 59.9 +0.9**
OKC AMS AMS 04 59 30.0
comp=Z,200nm,14.3s
OKC Ostrava-Krasne 82.60 322 AMS AMS 04 58 50.0
comp=Z,200nm,14.0s
OKC Ostrava-Krasne 82.60 322 *e*P **P** **04 18 59.9 +0.9**
OKC MLR MLR
comp=Z,200nm,14.3s
BZS Buzias 82.61 317⇓*i*P **P** **04 18 59.6 +0.4**
BZS Buzias 82.61 317 P **P** **04 18 59.5 +0.4**
LLD Lille Linde 82.75 329 *i* P **P** **04 19 00.8 +1.2**
LLD Lille Linde 82.75 329 *i* P **P** **04 19 00.8 +1.2**
VYHS Vyhne 82.88 320 *e*P **P** **04 19 01.2 +0.7**
VYHS Vyhne 82.88 320 *e*P **P** **04 19 01.2 +0.7**
VYHS pmax pmax
comp=Z,18nm,2.6s
MORC Moravsky Berou 82.97 322⇓*i*P **P** **04 18 59.3 -1.7**
MORC Moravsky Berou 82.97 322 *e*P **P** **04 19 00.0 -1.0**
comp=Z,58nm,1.6s
MORC Moravsky Berou 82.97 322 P **P** **04 19 01.8 +0.8**
MORC pmax pmax
comp=Z,58nm,1.6s
VTS Vitosha 83.01 314⇑*i*P **P** **04 19 02.1 +0.6**
VTS Vitosha 83.01 314 *e*P **P** **04 19 01.8 +0.3**
comp=Z,8.8nm,1.0s
VTS Vitosha 83.01 314 P **P** **04 19 01.8 +0.3**
VTS pmax pmax
comp=Z,9.0nm,1.0s
KSP Ksiaz 83.11 323 *e*P **P** **04 19 01.9 +0.3**
KSP Ksiaz 83.11 323 *e*P **P** **04 19 02.0 +0.3**
DPC Dobruska-Polom 83.35 323 *e*P **P** **04 19 04.2 +1.3**
DPC *ex* x 04 19 14.7
DPC AMS AMS 05 00 10.0
comp=Z,300nm,14.3s
DPC Dobruska-Polom 83.35 323 *e*P **P** **04 19 04.2 +1.3**
DPC *e* 04 19 14.7
DPC MLR MLR
comp=Z,300nm,14.3s
DPC Dobruska-Polom 83.35 323 AMS AMS 05 00 00.0
comp=Z,300nm,14.3s
UPC Upice 83.43 323 *e*P **P** **04 19 04.2 +0.9**
UPC AMS AMS 04 58 50.0
comp=Z,200nm,16.1s
UPC Upice 83.43 323 AMS AMS 04 58 50.0
comp=Z,200nm,16.1s
UPC Upice 83.43 323 *e*P **P** **04 19 04.2 +0.9**
UPC MLR MLR
comp=Z,200nm,16.1s
MUD Monsted U'grnd 83.50 330 *i* P **P** **04 19 03.8 +0.3**
comp=Z,17nm,0.8s
MUD Monsted U'grnd 83.50 330 *i* P **P** **04 19 03.8 +0.3**
MUD pmax pmax
comp=Z,17nm,0.8s
VRAC Vranov 83.74 322 LR LR 04 58 20.0
comp=Z,71nm,19.9s,baz=82,slow=37
VRAC Vranov 83.74 322⇓*i*P **P** **04 19 05.8 +0.9**
MODS Modra-Piesok 83.83 321 *e*P **P** **04 19 05.5 0.0**
MODS Modra-Piesok 83.83 321 *e*P **P** **04 19 05.5 0.0**
PVCC Panska Ves 84.20 324 AMS AMS 05 02 50.0
comp=Z,200nm,16.6s
BRG Berggiesshubel 84.35 324 *e*P **P** **04 19 08.9 +0.9**
comp=Z,11nm,1.2s
comp=N,208nm,16.8s
comp=E,178nm,15.1s
comp=Z,197nm,13.0s
BRG Berggiesshubel 84.35 324 *e*P **P** **04 19 08.9 +0.9**
BRG pmax pmax
comp=Z,11nm,1.3s
BRG MLR MLR
comp=N,208nm,16.8s
BRG MLR MLR
comp=E,178nm,15.1s
BRG MLR MLR
comp=Z,197nm,13.0s
DIVS Divibare 84.36 316 *e*P **P** **04 19 07.8 -0.5**
comp=Z,18nm,1.4s
TREC Trest 84.36 322 AMS AMS 05 00 40.0
comp=Z,300nm,19.3s
GOPC GO Pecny, Ondr 84.42 323 AMS AMS 04 59 30.0
comp=Z,200nm,14.9s
GOPC GO Pecny, Ondr 84.42 323 AMS AMS 04 59 20.0
comp=Z,200nm,14.9s
RAR Rarotonga 84.50 116 LR LR 04 48 51.3
comp=Z,31nm,20.9s,baz=278,slow=30
PRU Pruhonice 84.51 323 *e*P **P** **04 19 09.6 +0.8**
PRU AMS AMS 05 08 40.0
comp=Z,200nm,19.9s
PRU Pruhonice 84.51 323 AMS AMS 04 59 20.0
comp=Z,200nm,16.1s
PRU Pruhonice 84.51 323 *e*P **P** **04 19 09.6 +0.8**
PRU MLR MLR
comp=Z,200nm,19.9s
CLL Collm 84.60 325⇑*i*P **P** **04 19 09.9 +0.6**
comp=Z,17nm,1.4s
CLL *e*S S 04 29 46.0 +12
CLL *e*SS SS 04 35 24.0 +19
CLL *e* 04 39 48.0
CLL Collm 84.60 325 *e*P **P** **04 19 09.8 +0.6**
comp=Z,29nm,1.7s
CLL Collm 84.60 325⇑*i*P **P** **04 19 09.9 +0.6**
CLL pmax pmax
comp=Z,17nm,1.4s
CONA Conrad Observa 84.88 321 *e*PcP **P** **04 19 11.5 +0.7**

	comp=Z,2.7nm,0.8s							
NKC	**Novy Kostel**	**85.50**	**324**	*e*P	**P**	**04 19 14.7**	**+0.9**
NKC				AMS	AMS	05 01 10.0	
	comp=Z,300nm,14.2s						
NKC	**Novy Kostel**	**85.50**	**324**	*e*P	**P**	**04 19 14.7**	**+0.9**
NKC				MLR	MLR		
	comp=Z,300nm,14.2s						
KHC	**Kasperske Hory**	**85.50**	**323**	*e*P	**P**	**04 19 13.5**	**-0.4**
KHC				*ex*	x	04 19 25.1	
KHC				AMS	AMS	05 05 20.0	
	comp=Z,200nm,16.0s						
KHC	**Kasperske Hory**	**85.50**	**323**	*e*P	**P**	**04 19 12.8**	**-1.0**
	comp=Z,2.1nm,1.1s						
KHC	**Kasperske Hory**	**85.50**	**323**	*e*P	**P**	**04 19 13.5**	**-0.4**
KHC				*e*		04 19 25.1	
KHC				MLR	MLR		
	comp=Z,200nm,16.0s						
KHC	**Kasperske Hory**	**85.50**	**323**	AMS	AMS	05 05 20.0	
	comp=Z,200nm,13.9s						
GEC2	**GERESS Array S**	**85.59**	**323**	*e*P	**P**	**04 19 15.4**	**+1.0**
	comp=Z,4.9nm,1.0s						
GERES	**GERESS Array B**	**85.59**	**323**	P	**P**	**04 19 14.8**	**+0.4**
	comp=Z,2.6nm,0.8s,baz=54,slow=3.4,SNR=13						
GERES				LR	LR	05 01 25.1	
	comp=Z,142nm,18.2s,baz=65,slow=38						
GEA0	**GERESS Array S**	**85.60**	**323**	*e*P	**P**	**04 19 14.9**	**+0.5**
MOA	**Molln**	**85.83**	**322**	*e*PcP	**P**	**04 19 16.6**	**+1.1**
	comp=Z,2.4nm,0.8s						
KBA	**Koelnbreinsper**	**86.77**	**321**	*e*PcP	**P**	**04 19 20.9**	**+0.5**
	comp=Z,3.8nm,1.1s						
PINE	**Pine Mountain**	**87.40**	**42**	*e*P	**P**	**04 19 25.7**	**+2.2**
	comp=Z,6.5nm,1.0s						
ABTA	**Abfaltersbach**	**87.43**	**321**	*e*P	**P**	**04 19 22.7**	**-0.7**
	comp=Z,6.4nm,1.0s						
WTTA	**Wattenberg**	**87.63**	**322**	PcP	**P**	**04 19 25.1**	**+0.6**
	comp=Z,3.6nm,0.9s						
MOTA	**Moosalm**	**87.88**	**322**	*e*PcP	**P**	**04 19 26.3**	**+0.7**
	comp=Z,0.9nm,0.5s						
RETA	**Reutte**	**87.98**	**323**	*e*PcP	**P**	**04 19 27.2**	**+1.1**
	comp=Z,3.6nm,1.4s						
SFJD	**Kangerlussuaq**	**88.25**	**359**	LR	LR	05 00 40.1	
	comp=Z,64nm,20.8s,baz=338,slow=37						
FETA	**Feichten**	**88.27**	**322**	*e*pP	**P**	**04 19 29.7**	**+2.1**
	comp=Z,5.0nm,1.1s						
MOD	**Modoc Plateau**	**88.82**	**44**	*e*P	**P**	**04 19 30.9**	**+0.7**
	comp=Z,2.6nm,0.9s						
EKA	**Eskdalemuir Ar**	**89.45**	**334**	LR	LR	05 03 26.4	
	comp=Z,94nm,18.3s,baz=95,slow=38						
FFC	**Flin Flon**	**90.08**	**26**	*e*P	**P**	**04 19 36.3**	**+0.6**
	comp=Z,4.6nm,0.9s						
MFID	**Camas Ranch**	**90.68**	**40**	*e*P	**P**	**04 19 40.6**	**+1.7**
LRM	**Limekiln Ridge**	**91.14**	**37**	*e*P	**P**	**04 19 42.0**	**+0.9**
EGMT	**Eagleton**	**91.17**	**34**	*e*P	**P**	**04 19 42.2**	**+1.2**
	comp=Z,25nm,1.6s						
DLMT	**Dillon**	**91.35**	**38**	*e*P	**P**	**04 19 43.8**	**+1.9**
	comp=Z,19nm,1.7s						
PPT2	**Papeete2**	**91.39**	**109**	*e*LR	LR	04 49 00.5	
	comp=Z,127nm,25.2s						
PMOR	**Pomariorio Ree**	**91.74**	**106**	*e*T	T	06 01 21.4	
	comp=Z,2.4nm,0.2s						
NV01	**Mina Array Sit**	**92.01**	**46**	*e*P	**P**	**04 19 47.1**	**+1.8**
NVAR	**Mina Array Bea**	**92.01**	**46**	P	**P**	**04 19 47.0**	**+1.7**
	comp=Z,2.0nm,1.0s,baz=270,slow=4.2,SNR=7.0						
PDAR	**Pinedale Array**	**94.69**	**38**	P	**P**	**04 19 58.4**	**+0.9**
	comp=Z,0.5nm,0.8s,baz=299,slow=1.5,SNR=4.7						
KEST	**Kesra**	**95.75**	**314**	LR	LR	05 09 27.3	
	comp=Z,114nm,18.9s,baz=330,slow=39						
ULM	**Lac du Bonnet**	**95.91**	**26**	LR	LR	05 06 15.1	
	comp=Z,46nm,18.6s,baz=342,slow=37						
SCHQ	**Schefferville**	**99.57**	**8**	LR	LR	05 07 13.6	
	comp=Z,118nm,21.8s,baz=345,slow=37						
SDV	**Santo Domingo**	**142.08**	**29**	*e*PKPdf	**PKPdf**	**04 26 10.1**	**+1.0**

*IDC **15** 04:15:35.1±1.6,2.°65N×89.°96E,h0km,mb3.8/6,mb1 3.9/7, mb1mx3.5/61,mbtmp3.8/7,ML3.7/1,MS3.1/1,Ms1 3.1/1, ms1mx2.5/68,Error ellipse: s-maj=57.4km s-min=21.5km az=51.0*

*NEIC **15** 04:15:36.5±0.8,2.°77N×90.°19E,h10km,mb4.0/5,Error ellipse: s-maj=21.0km s-min=10.0km az=208.0*

*ISCJB **15** 04:15:38.3±0.9,2.°9N±0.°1×90.°2E±0.°1,h33km,mb4.0/10, Error ellipse: s-maj=20.8km s-min=11.6km az=36.5*

ISC 15 04:15:39.3±1.1,2.7N±0.°2×90.°1E±0.°1,h35km,n23, σ1s61/17,mb4.0/10,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSI	**Gunungsitoli**	**7.55**	**100**	*e*Pn	**Pn**	**04 17 24.1**	**-3.0**
	34nm,0.4s						
PSI	**Prapat**	**8.78**	**89**	Pn	**Pn**	**04 17 41.9**	**-2.1**
	2.5nm,0.3s,baz=288,slow=13,SNR=9.5						
PALK	**Pallekele**	**10.45**	**296**	Pn	**Pn**	**04 18 05.2**	**-1.7**
	0.6nm,0.3s,baz=113,slow=12,SNR=3.5						
PALK				Sn	Sn	04 19 48.6	-14
	2.5nm,0.3s,baz=308,slow=0.7,SNR=9.4						
PALK				LR	LR	04 21 14.6	
	comp=Z,99nm,21.0s,baz=116,slow=33						
IPM	**Ipoh**	**11.01**	**80**	*e*Pn	**Pn**	**04 18 14.0**	**-0.5**
CHTO	**Chiang Mai**	**18.21**	**28**	*e*P	**P**	**04 19 48.5**	**-1.1**
	1.8nm,0.7s						
H08S3	**Diego Garcia H**	**20.37**	**240**	T	T	04 41 05.2	
	baz=59,slow=75,SNR=30						
H08S2	**Diego Garcia H**	**20.37**	**240**	T	T	04 41 05.3	
	baz=59,slow=75,SNR=25						
H08S1	**Diego Garcia H**	**20.39**	**240**	T	T	04 41 06.5	
	baz=59,slow=75,SNR=24						
H01W3	**Cape Leeuwin H**	**43.62**	**151**	T	T	05 10 31.0	
	baz=325,slow=76,SNR=10.0						
H01W2	**Cape Leeuwin H**	**43.63**	**151**	T	T	05 10 28.9	
	baz=325,slow=76,SNR=9.4						
H01W1	**Cape Leeuwin H**	**43.64**	**151**	T	T	05 10 22.7	
	baz=325,slow=76,SNR=8.7						
MKAR	**Makanchi Array**	**44.48**	**352**	P	**P**	**04 23 47.8**	**+0.6**
	0.6nm,0.5s,baz=170,slow=8.2,SNR=8.3						
SONM	**Songino Array**	**47.13**	**15**	P	**P**	**04 24 10.3**	**+2.0**
	3.5nm,0.7s,baz=197,slow=9.3,SNR=24						
KURBB	**Kurchatov Arra**	**48.78**	**350**	P	**P**	**04 24 21.1**	**+0.3**
	0.7nm,0.7s,baz=170,slow=8.3,SNR=6.4						
WRA	**Warramunga Arr**	**48.85**	**119**	P	**P**	**04 24 24.0**	**+2.1**
	0.6nm,0.5s,baz=298,slow=8.6,SNR=7.6						
WRAB	**Tennant Creek**	**48.85**	**119**	*e*P	**P**	**04 24 23.7**	**+1.8**
	0.9nm,0.5s						
KURK	**Kurchatov**	**48.86**	**350**	*e*P	**P**	**04 24 21.4**	**0.0**
	4.4nm,0.4s						
ASAR	**Alice Springs**	**49.98**	**124**	P	**P**	**04 24 32.5**	**+1.9**
	0.2nm,0.8s,baz=304,slow=7.5,SNR=4.6						
ABKAR	**Akbulak array**	**53.09**	**336**	*e*P	**P**	**04 24 53.3**	**+0.1**
	0.4nm,0.6s						
TIXI	**Tiksi**	**73.10**	**12**	*e*P	**P**	**04 27 04.7**	**-1.0**
	2.7nm,0.8s						
ARCES	**ARCESS Array B**	**78.83**	**341**	P	**P**	**04 27 39.5**	**+1.1**
	1.9nm,0.8s,baz=94,slow=6.3,SNR=5.0						
CLL	**Collm**	**79.89**	**322**	*e*P	**P**	**04 27 44.0**	**-0.5**
TXAR	**Lajitas Array**	**145.54**	**22**	PKPbc	**PKPab**	**04 35 15.6**	**+0.5**
	0.5nm,0.5s,baz=9.3,slow=1.3,SNR=4.7						

IDC 15 04:23:50.7±8.6,4.°34S×153.°06E,h170km±57km,mb3.4/3, mb1 3.7/4,mb1mx3.1/48,mbtmp4.0/4,Error ellipse: s-maj=101.6km s-min=58.0km az=120.0,New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.72**	**229**	P	Pn	04 25 39.0	-1.4
	4.4nm,0.3s,baz=43,slow=17,SNR=7.5						
PMG				S	Sn	04 27 08.4	+1.5
	3.3nm,0.3s,baz=122,slow=19,SNR=5.6						
WRA	**Warramunga Arr**	**23.94**	**228**	P	P	04 28 49.7	+0.3
	2.8nm,0.5s,baz=54,slow=10.0,SNR=34						
ASAR	**Alice Springs**	**26.66**	**222**	P	P	04 29 13.5	-0.5
	0.4nm,0.6s,baz=54,slow=8.4,SNR=5.7						
FITZ	**Fitzroy Crossi**	**30.10**	**241**	P	P	04 29 45.0	+0.5
	1.3nm,0.5s,baz=61,slow=11,SNR=5.0						
TORD	**Torodi Ar. Bea**	**150.40**	**289**	PKPbc	PKPbc	04 43 22.6	-0.5
	0.5nm,0.7s,baz=76,slow=1.8,SNR=4.7						

*IDC **15** 04:28:53.7±0.8,3.°74N×92.°66E,h0km,mb4.1/16, mb1 4.2/19,mb1mx3.9/67,mbtmp4.1/19,ML3.9/3,MS3.3/5, Ms1 3.3/5,ms1mx2.8/64,Error ellipse: s-maj=29.2km s-min=13.7km az=45.0*

*ISCJB **15** 04:28:54.9±0.4,3.°80N±0.°07×92.°81E±0.°04,h19km, mb4.1/27,Error ellipse: s-maj=10.2km s-min=4.4km az=20.6*

*NEIC **15** 04:28:55.3±0.3,3.°79N×92.°71E,h10km,mb4.1/5,Error ellipse: s-maj=8.7km s-min=4.8km az=214.0*

*DJA **15** 04:29:00.0±1.2,4.°N×7.°×93.°3E±1.°7,h36km±61km,M4.5/6, mB5.1/2,mb4.4/5,MLv4.6/6,Mw(mB)4.5/2*

ISC 15 04:28:56.5±0.6,3.77N±0.°08×92.°79E±0.°06,h19km,n51, σ1s17/51,mb4.2/27,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLSI	**Meulaboh, Aceh**	**3.64**	**82**	P	**Pn**	**04 29 52.4**	**+0.5**
MLSI				S	**Sn**	**04 30 33.0**	**-1.3**
LHMI	**Lhok Sumawe**	**4.39**	**71**	P	**Pn**	**04 30 02.9**	**+0.7**
TPTI		**4.41**	**96**	P	**Pn**	**04 30 03.4**	**+0.9**
TPTI				S	**Sn**	**04 30 49.9**	**-3.4**
KCSI	**Kotacane, Aceh**	**4.98**	**93**	P	**Pn**	**04 30 11.0**	**+0.7**
KCSI				S	**Sn**	**04 31 06.1**	**-1.3**
GSI	**Gunungsitoli**	**5.37**	**117**	P	**Pn**	**04 30 16.5**	**+0.9**
GSI				S	**Sn**	**04 31 12.5**	**-4.5**
GSI	**Gunungsitoli**	**5.37**	**117**	*e*Pn	**Pn**	**04 30 16.6**	**+0.9**
	52nm,0.6s						
GSI				*e*Sn	**Sn**	**04 31 14.9**	**-2.1**
PSI	**Prapat**	**6.20**	**99**	Pn	**Pn**	**04 30 29.3**	**+2.2**
	5.6nm,0.3s,baz=300,slow=8.7,SNR=22						
PSI				Sn	**Sn**	**04 31 37.6**	**0.0**
	3.6nm,0.3s,baz=20,slow=6.7,SNR=4.4						
MNSI	**Mandailing Nat**	**7.40**	**113**	P	**Pn**	**04 30 44.3**	**+0.8**
SISI	**Saibi**	**8.07**	**129**	P	**Pn**	**04 30 54.2**	**+1.3**
IPM	**Ipoh**	**8.24**	**85**	*e*Pn	**Pn**	**04 30 56.3**	**+1.1**
	9.2nm,0.4s						
PALK	**Pallekele**	**12.53**	**287**	Pn	**Pn**	**04 31 52.7**	**-1.3**
	0.9nm,0.3s,baz=113,slow=9.9,SNR=4.3						
PALK				Sn	Sn	04 34 00.1	-13
	2.9nm,0.3s,baz=112,slow=1.6,SNR=7.3						
PALK				LR	LR	04 35 49.4	
	comp=Z,139nm,20.4s,baz=116,slow=34						
CMAR	**Chiang Mai Arr**	**15.79**	**22**	Pn	**Pn**	**04 32 37.6**	**-0.4**
	0.1nm,0.3s,baz=217,slow=13,SNR=15						
CMAR				LR	LR	04 38 57.7	
	comp=Z,59nm,19.1s,baz=155,slow=38						
CHTO	**Chiang Mai**	**16.12**	**21**	*e*Pn	**Pn**	**04 32 41.6**	**-0.7**
	4.7nm,0.8s						
H08S2	**Diego Garcia H**	**23.21**	**241**	T	T	04 59 36.2	
	baz=60,slow=75,SNR=25						
H08S3	**Diego Garcia H**	**23.21**	**241**	T	T	04 59 36.2	
	baz=60,slow=75,SNR=26						
H08S1	**Diego Garcia H**	**23.23**	**241**	T	T	04 59 36.2	
	baz=60,slow=75,SNR=20						
DAV	**Davao City (W)**	**32.80**	**83**	LR	LR	04 49 28.1	
	comp=Z,44nm,20.7s,baz=348,slow=38						
FITZ	**Fitzroy Crossi**	**38.99**	**125**	P	**P**	**04 36 22.0**	**0.0**
	3.0nm,0.9s,baz=310,slow=7.9,SNR=1.8						
H01W3	**Cape Leeuwin H**	**43.37**	**154**	T	T	05 23 54.6	
	baz=331,slow=75,SNR=5.6						
H01W2	**Cape Leeuwin H**	**43.38**	**154**	T	T	05 23 55.4	
	baz=331,slow=75,SNR=5.2						
H01W1	**Cape Leeuwin H**	**43.38**	**154**	T	T	05 23 45.0	
	baz=331,slow=75,SNR=7.6						
MKAR	**Makanchi Array**	**43.82**	**350**	P	**P**	**04 37 01.7**	**+0.4**
	2.6nm,0.7s,baz=166,slow=8.3,SNR=25						
SONM	**Songino Array**	**45.44**	**13**	P	**P**	**04 37 15.3**	**+0.9**
	1.5nm,0.8s,baz=191,slow=6.0,SNR=7.9						
SONM				PcP	**PcP**	**04 38 54.3**	**+1.0**
	0.9nm,0.7s,baz=207,slow=5.0,SNR=3.8						
KSAR	**Wonju Array Be**	**46.42**	**39**	P	**P**	**04 37 22.6**	**+0.5**
KSRS	**Korea Array**	**46.45**	**39**	P	**P**	**04 37 22.6**	**+0.3**
	0.7nm,0.7s,baz=224,slow=10,SNR=5.4						
KSRS				LR	LR	04 57 32.8	
	comp=Z,18nm,18.7s,baz=260,slow=37						
WRA	**Warramunga Arr**	**47.12**	**122**	P	**P**	**04 37 28.4**	**+0.6**
	1.4nm,0.7s,baz=299,slow=8.9,SNR=7.8						
WRAB	**Tennant Creek**	**47.13**	**122**	*e*P	**P**	**04 37 28.0**	**+0.1**
	0.9nm,0.4s						
KURBB	**Kurchatov Arra**	**48.22**	**348**	P	**P**	**04 37 36.6**	**+0.8**
	2.5nm,0.7s,baz=172,slow=7.1,SNR=22						
KURK	**Kurchatov**	**48.28**	**348**	*e*P	**P**	**04 37 36.4**	**0.0**
ASAR	**Alice Springs**	**48.45**	**126**	P	**P**	**04 37 38.8**	**+0.6**
	0.3nm,0.5s,baz=311,slow=6.5,SNR=4.5						
ASAR				PcP	**PcP**	**04 39 05.5**	**+1.1**
	0.9nm,0.7s,baz=309,slow=3.7,SNR=5.6						
RAYN	**Ar Rayn**	**49.67**	**298**	*e*P	**P**	**04 37 47.4**	**-0.2**
	1.9nm,0.5s						
ZALV	**Zalesovo Beam**	**50.45**	**354**	P	**P**	**04 37 53.7**	**+0.8**
	8.0nm,0.4s,baz=178,slow=6.9,SNR=40						
BVAR	**Borovoye Array**	**52.46**	**343**	P	**P**	**04 38 07.3**	**-0.7**
	1.3nm,0.7s,baz=139,slow=9.0,SNR=5.8						
ABKAR	**Akbulak array**	**53.23**	**334**	*e*P	**P**	**04 38 13.4**	**-0.3**
	0.5nm,0.6s						
STKA	**Stephens Creek**	**58.34**	**131**	P	**P**	**04 38 52.1**	**+1.4**
	0.6nm,0.4s,baz=266,slow=7.7,SNR=3.3						
KBZ	**Khabaz**	**59.27**	**320**	P	**P**	**04 38 57.4**	**+0.4**
	0.3nm,0.3s,baz=231,slow=0.9,SNR=4.7						
BRTR	**Keskin Array B**	**64.14**	**313**	P	**P**	**04 39 29.6**	**-0.5**
	1.5nm,0.8s,baz=135,slow=7.9,SNR=8.9						
AKASG	**Malin Array Be**	**70.56**	**323**	P	**P**	**04 40 09.3**	**-1.0**
	0.6nm,0.6s,baz=93,slow=5.0,SNR=6.9						
TIXI	**Tiksi**	**71.50**	**11**	*e*P	**P**	**04 40 15.1**	**-0.5**
	9.0nm,1.0s						
FINES	**FINESS Array B**	**75.71**	**333**	P	**P**	**04 40 40.0**	**-0.5**
	2.3nm,0.9s,baz=131,slow=8.6,SNR=5.7						
CONA	**Conrad Observa**	**78.46**	**318**	*e*P	**P**	**04 40 55.8**	**-0.7**
	1.5nm,0.8s						
ARSA	**Arzberg**	**78.60**	**317**	*e*P	**P**	**04 40 57.2**	**0.0**
	4.3nm,0.8s						
ARCES	**ARCESS Array B**	**78.66**	**341**	P	**P**	**04 40 56.9**	**-0.1**
	1.9nm,0.8s,baz=60,slow=7.2,SNR=5.6						
SOKA	**Soboth**	**78.87**	**317**	P	**P**	**04 40 59.1**	**+0.4**
	4.5nm,0.7s						
MYKA	**Terra Mystica**	**79.82**	**317**	*e*P	**P**	**04 41 03.9**	**0.0**
	0.1nm,0.2s						
GERES	**GERESS Array B**	**79.99**	**319**	P	**P**	**04 41 05.4**	**+0.6**
	3.9nm,0.8s,baz=90,slow=6.7,SNR=12						
CLL	**Collm**	**80.69**	**321**	*e*P	**P**	**04 41 08.0**	**-0.4**
MOTA	**Moosalm**	**81.61**	**317**	*e*P	**P**	**04 41 13.5**	**0.0**
	3.2nm,0.8s						
RETA	**Reutte**	**81.85**	**317**	*e*P	**P**	**04 41 14.5**	**-0.2**
	3.6nm,0.6s						
DAVA	**Damuels**	**82.44**	**317**	*e*P	**P**	**04 41 18.6**	**+0.7**
	7.4nm,1.0s						
KOWA	**Kowa**	**95.64**	**285**	LR	LR	05 22 36.7	
	comp=Z,38nm,21.4s,baz=34,slow=34						

*ISCJB **15** 04:45:06.1±0.4,34.°11N±0.°02×25.°39E±0.°03,h38km±5km, mb3.7/15,Error ellipse: s-maj=4.1km s-min=3.3km az=34.0*

*THE **15** 04:45:08.8,34.°14N×25.°22E,h37km±29km,ML3.5/7,Error ellipse: s-maj=29.7km s-min=1.3km az=347.0*

*HLW **15** 04:45:08.2,33.°96N×25.°73E,h5km±5km,Md4.1*

*IDC **15** 04:45:08.1±2.2,34.°28N×25.°23E,h35km±14km,mb3.6/15, mb1 3.8/21,mb1mx3.6/63,mbtmp3.8/21,ML4.1/6,Error ellipse: s-maj=18.7km s-min=14.1km az=12.0*

*CSEM **15** 04:45:08.0±0.2,34.°16N×25.°28E,h40km,ML3.5,Error ellipse: s-maj=4.8km s-min=4.4km az=16.0*

*ATH **15** 04:45:09.2,34.°33N×25.°18E,h42km±2km,ML3.5/4,Error ellipse: s-maj=3.2km s-min=1.4km az=342.0*

*GII **15** 04:45:15.1±0.0,33.°97N×26.°02E,h20km*

*DDA **15** 04:46:28.1,35.°26N×26.°77E,h39km,Ml3.8*

ISC 15 04:45:06.4±1.2,34.°12N±0.°04×25.°31E±0.°03,h28km±9km, n169,σ1s73/213,mb3.7/15,Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIVA	**Sivas**	**0.98**	**336**	P	**Pb**	**04 45 24.3**	**-0.5**
SIVA				S	**Sb**	**04 45 36.1**	**-1.3**
SIVA				AML	AML	04 45 43.7	
	comp=N,20413μm,0.5s						
SIVA				AML	AML	04 45 46.7	
	comp=E,30407μm,0.7s						
SIVA	**Sivas**	**0.98**	**336**	P	**Pn**	**04 45 24.0**	**-0.3**
SIVA				S	**Sn**	**04 45 37.1**	**-0.2**
SIVA	**Sivas**	**0.98**	**336**	P	**Pb**	**04 45 24.3**	**-0.5**
SIVA				S	**Sn**	**04 45 37.1**	**-0.2**
LAST	**Lasithi**	**1.04**	**8**	P	**Pb**	**04 45 25.9**	**-0.1**
LAST				S	**Sn**	**04 45 38.9**	**-0.1**
LAST				AML	AML	04 45 47.7	
	comp=N,4304μm,0.7s						
LAST				AML	AML	04 45 49.4	
	comp=E,5895μm,0.9s						
LAST	**Lasithi**	**1.04**	**8**	P	**Pb**	**04 45 25.8**	**-0.1**
LAST				S	**Sn**	**04 45 40.3**	**+1.3**
LAST	**Lasithi**	**1.04**	**8**	P	**Pb**	**04 45 26.0**	**+0.1**
LAST				S	**Sb**	**04 45 38.7**	**-0.6**
NPS	**Neapolis**	**1.16**	**12**	P	**Pb**	**04 45 28.1**	**+0.1**
NPS				S	**Sn**	**04 45 41.0**	**-0.8**
NPS				AML	AML	04 45 50.6	
	comp=N,3766μm,0.9s						
NPS				AML	AML	04 45 51.1	
	comp=E,4306μm,0.8s						
NPS	**Neapolis**	**1.16**	**12**	P	**Pb**	**04 45 28.1**	**+0.1**
NPS				S	**Sb**	**04 45 43.5**	**+0.9**
NPS	**Neapolis**	**1.16**	**12**	P	**Pb**	**04 45 28.0**	**+0.1**
NPS				S	**Sb**	**04 45 43.5**	**+0.9**
IACM	**Heraklion**	**1.20**	**351**	P	**Pn**	**04 45 26.7**	**-0.5**
IACM	**Heraklion**	**1.20**	**351**	P	**Pn**	**04 45 27.2**	**0.0**
IDI	**Anoyia**	**1.21**	**344**	Pg	**Pb**	**04 45 28.1**	**-0.6**
	comp=E,108nm,0.3s,baz=172,slow=15,SNR=549						
IDI				Lg	Lg	04 45 44.7	
	comp=E,102nm,0.3s,baz=52,slow=23,SNR=13						
IDI				LR	LR	04 46 13.4	
	comp=E,248nm,19.1s,baz=101,slow=62						
IDI	**Anoyia**	**1.21**	**344**	P	**Pb**	**04 45 28.1**	**-0.6**
IDI				S	**Sn**	**04 45 42.1**	**-1.0**
GVD	**Gavdhos**	**1.23**	**306**	P	**Pb**	**04 45 28.6**	**-0.4**
GVD	**Gavdhos**	**1.23**	**306**	P	**Pb**	**04 45 28.4**	**-0.7**
GVD				S	**Sn**	**04 45 43.6**	**+0.1**
GVD	**Gavdhos**	**1.23**	**306**	P	**Pb**	**04 45 28.4**	**-0.7**
GVD				S	**Sn**	**04 45 43.6**	**+0.1**
ZKR	**Zakros**	**1.24**	**37**	P	**Pb**	**04 45 30.2**	**+0.9**
ZKR				S	**Sb**	**04 45 46.8**	**+2.0**
ZKR				AML	AML	04 45 57.8	
	comp=E,4061μm,0.5s						
ZKR				AML	AML	04 45 59.5	
	comp=N,1592μm,0.8s						
ZKR	**Zakros**	**1.24**	**37**	P	**Pb**	**04 45 29.8**	**+0.6**
ZKR				S	**Sb**	**04 45 46.2**	**+1.4**
ZKR	**Zakros**	**1.24**	**37**	P	**Pb**	**04 45 29.8**	**+0.6**
ZKR				S	**Sb**	**04 45 46.2**	**+1.4**
VAM	**Vamos**	**1.57**	**325**	P	**Pb**	**04 45 33.5**	**-1.4**
VAM	**Vamos**	**1.57**	**325**	P	**Pb**	**04 45 33.3**	**-1.6**
VAM	**Vamos**	**1.57**	**325**	P	**Pb**	**04 45 33.2**	**-1.6**
IMMV	**Iera Moni Meta**	**1.72**	**321**	P	**Pb**	**04 45 35.7**	**-1.7**
IMMV	**Iera Moni Meta**	**1.72**	**321**	P	**Pn**	**04 45 35.0**	**+0.5**
IMMV	**Iera Moni Meta**	**1.72**	**321**	P	**Pn**	**04 45 35.0**	**+0.5**
KARP	**Karpathos**	**2.08**	**47**	*i* P	**Pb**	**04 45 42.1**	**-1.5**
KARP	**Karpathos**	**2.08**	**47**	P	**Pb**	**04 45 42.7**	**-0.9**
KARP	**Karpathos**	**2.08**	**47**	P	**Pb**	**04 45 42.3**	**-1.3**
KARP				S	**Sn**	**04 46 06.0**	**+1.4**
KARP	**Karpathos**	**2.08**	**47**	P	**Pb**	**04 45 42.3**	**-1.3**
KARP				S	**Sn**	**04 46 06.0**	**+1.4**
SANT	**Santorini**	**2.25**	**3**	P	**Pn**	**04 45 42.0**	**+0.3**
SANT	**Santorini**	**2.25**	**3**	P	**Pn**	**04 45 42.4**	**+0.7**
ANAF	**Anafi Island**	**2.26**	**10**	P	**Pn**	**04 45 41.9**	**-0.1**
ANAF	**Anafi Island**	**2.26**	**10**	P	**Pn**	**04 45 42.5**	**+0.6**
SLUM	**Salum**	**2.63**	**182**	P	**Pn**	**04 45 49.0**	**+2.1**
	baz=191						
SLUM				S	**Sn**	**04 46 18.7**	**+0.9**
	baz=191						
SLUM	**Salum**	**2.63**	**182**	P	**Pn**	**04 45 49.0**	**+2.1**
SLUM				S	**Sn**	**04 46 18.7**	**+0.9**
MHLO	**Agia Marina, M**	**2.67**	**344**	P	**Pn**	**04 45 46.8**	**-0.7**
MHLO	**Agia Marina, M**	**2.67**	**344**	P	**Pn**	**04 45 47.5**	**0.0**
MHLA	**Plaka, Milos I**	**2.71**	**345**	P	**Pn**	**04 45 47.5**	**-0.7**
MHLA	**Plaka, Milos I**	**2.71**	**345**	P	**Pn**	**04 45 48.2**	**+0.1**
KYTH	**Kithira**	**2.83**	**320**	P	**Pn**	**04 45 49.9**	**+0.2**
APE	**Apeiranthos**	**2.94**	**4**	P	**Pn**	**04 45 51.2**	**-0.2**
APE	**Apeiranthos**	**2.94**	**4**	P	**Pn**	**04 45 50.3**	**-1.1**
APE	**Apeiranthos**	**2.94**	**4**	P	**Pn**	**04 45 51.5**	**+0.1**
ARG	**Arkhangelos**	**3.11**	**47**	P	**Pn**	**04 45 55.3**	**+1.7**
ARG	**Arkhangelos**	**3.11**	**47**	P	**Pn**	**04 45 55.9**	**+2.3**
ARG				S	**Sn**	**04 46 31.5**	**+1.6**
ARG	**Arkhangelos**	**3.11**	**47**	P	**Pn**	**04 45 55.9**	**+2.3**
ARG				S	**Sn**	**04 46 31.5**	**+1.6**
VLI	**Veliai**	**3.23**	**324**	P	**Pn**	**04 45 53.8**	**-1.4**
VLI	**Veliai**	**3.23**	**324**	P	**Pn**	**04 45 55.0**	**-0.2**
DATC	**Datca-Mugla**	**3.26**	**35**	P	**Pn**	**04 45 55.6**	**0.0**
BODT	**Bodrum**	**3.36**	**29**	P	**Pn**	**04 45 57.2**	**+0.2**
BDRM	**Kayabasi**	**3.41**	**30**	*i* P	**Pn**	**04 45 58.3**	**+0.6**
BDRM				*i* S	**Sn**	**04 46 37.7**	**+0.4**
BDRM	**Kayabasi**	**3.41**	**30**	P	**Pn**	**04 45 58.3**	**+0.6**
BDRM				S

HMDT	**Nahal Hemdat**	**8.77**	**99**	Pn		**Pn**	**04 47 12.1**	**+0.8**
HMDT				Sn		**Sn**	**04 48 44.1**	**-5.0**
YURE	**YURE GIR**	**8.84**	**69**	*i* P		**Pn**	**04 47 12.9**	**+0.5**
DSI	**Dead Sea**	**8.85**	**104**	Pn		**Pn**	**04 47 13.8**	**+1.4**
DSI				Sn		**Sn**	**04 48 46.6**	**-4.6**
PRNI	**Paran**	**9.03**	**112**	Pn		**Pn**	**04 47 15.6**	**+0.6**
YAYL	**Yayladag**	**9.06**	**75**	*i* P		**Pn**	**04 47 15.0**	**-0.4**
HRFI	**Mount Harif**	**9.21**	**114**	*i* P		**Pn**	**04 47 16.4**	**-0.9**
HRFI	**Mount Harif**	**9.21**	**114**	Pn		**Pn**	**04 47 18.2**	**+0.9**
HRFI				Sn		**Sn**	**04 48 54.9**	**-5.1**
MBRI	**Mt Berech**	**9.23**	**115**	Pn		**Pn**	**04 47 18.1**	**+0.4**
HKAT	**Jabal Katrina** baz=125	**9.29**	**125**	P		**Pn**	**04 47 18.5**	**-0.1**
EIL	**Elat**	**9.32**	**116**	Pn		**Pn**	**04 47 20.4**	**+1.4**
	comp=N,1.6nm,0.3s,baz=295,slow=1.6,SNR=17							
EIL				Sn		**Sn**	**04 48 56.7**	**-6.1**
	comp=N,0.7nm,0.3s,baz=327,slow=15,SNR=3.9							
EIL	**Elat**	**9.32**	**116**	Pn		**Pn**	**04 47 19.6**	**+0.7**
EIL				Sn		**Sn**	**04 48 56.8**	**-6.1**
HHRG	**Al Ghardaqah** baz=133	**9.89**	**132**	P		**Pn**	**04 47 29.1**	**+2.3**
HHRG	**Al Ghardaqah**	**9.89**	**132**	P		**Pn**	**04 47 29.1**	**+2.3**
STON	**Ston**	**10.57**	**328**	*e*Pn		Pn	04 47 29.4	-6.5
STON				Sn		Sn	04 49 15.5	-18
DIVS	**Divibare**	**10.78**	**339**	*e*Pn		**Pn**	**04 47 37.8**	**-1.1**
NVLJ	**Novalja**	**13.17**	**325**	*i* Pn		Pn	04 48 06.6	-4.9
NVLJ				Sn		Sn	04 50 22.6	-14
OZLJ	**Ozalj**	**13.73**	**330**	*e*Pn		**Pn**	**04 48 14.4**	**-4.6**
ARSA	**Arzberg**	**15.05**	**334**	*e*P		**P**	**04 48 42.1**	**0.0**
	comp=N,0.6nm,0.3s							
ARSA	**Arzberg**	**15.05**	**334**	*e*P		**P**	**04 48 42.1**	**0.0**
	comp=N,0.6nm,0.3s							
KBA	**Koelnbreinsper**	**15.79**	**329**	P		**P**	**04 48 51.3**	**+0.9**
	comp=N,2.7nm,0.6s							
KBA	**Koelnbreinsper**	**15.79**	**329**	*e*P		**P**	**04 48 51.3**	**+0.9**
	comp=N,2.7nm,0.6s							
ABTA	**Abfaltersbach**	**15.90**	**326**	P		**P**	**04 48 52.1**	**+0.4**
	comp=N,2.2nm,0.5s							
ABTA	**Abfaltersbach**	**15.90**	**326**	*e*P		**P**	**04 48 52.1**	**+0.4**
	comp=N,2.2nm,0.5s							
MOA	**Molln**	**16.02**	**332**	P		**P**	**04 48 53.1**	**+0.2**
	comp=N,3.7nm,1.1s							
MOA	**Molln**	**16.02**	**332**	*e*P		**P**	**04 48 53.1**	**+0.2**
	comp=N,3.7nm,1.1s							
KBZ	**Khabaz**	**16.68**	**50**	Pn		**P**	**04 49 02.5**	**+2.4**
	comp=N,0.3nm,0.3s,baz=243,slow=8,8,SNR=10							
WATA	**Walderalm**	**16.77**	**326**	P		**P**	**04 49 00.9**	**-0.4**
	comp=N,6.3nm,0.8s							
WATA	**Walderalm**	**16.77**	**326**	*e*Pn		**P**	**04 49 00.9**	**-0.4**
	comp=N,6.3nm,0.8s							
AKASG	**Malin Array Be**	**16.81**	**9**	Pn		**Pn**	**04 48 59.9**	**+0.3**
	comp=N,2.5nm,0.3s,baz=199,slow=10,SNR=15							
FETA	**Feichten**	**16.95**	**324**	P		**P**	**04 49 04.5**	**+1.2**
	comp=N,3.5nm,0.8s							
FETA	**Feichten**	**16.95**	**324**	*e*P		**P**	**04 49 04.5**	**+1.2**
	comp=N,3.5nm,0.8s							
MOTA	**Moosalm**	**17.00**	**325**	P		**P**	**04 49 03.5**	**-0.3**
	comp=N,2.6nm,0.7s							
MOTA	**Moosalm**	**17.00**	**325**	*e*Pn		**P**	**04 49 03.5**	**-0.3**
	comp=N,2.6nm,0.7s							
GERES	**GERESS Array B**	**17.05**	**333**	Pn		**Pn**	**04 49 03.4**	**+0.6**
	comp=N,0.4nm,0.3s,baz=148,slow=11,SNR=12							
RETA	**Reutte**	**17.26**	**325**	P		**P**	**04 49 07.0**	**+0.3**
	comp=N,2.6nm,0.5s							
RETA	**Reutte**	**17.26**	**325**	*e*P		**P**	**04 49 07.0**	**+0.3**
	comp=N,2.6nm,0.5s							
KHC	**Kasperske Hory**	**17.34**	**333**	*e*P		**P**	**04 49 08.5**	**+1.1**
KHC	**Kasperske Hory**	**17.34**	**333**	P		**P**	**04 49 08.5**	**+1.1**
DPC	**Dobruska-Polom**	**17.50**	**341**	*e*P		**Pn**	**04 49 07.4**	**-0.9**
DPC				*e*pP		**P**	**04 49 10.8**	**+1.5**
DPC	**Dobruska-Polom**	**17.50**	**341**	P		**Pn**	**04 49 07.4**	**-0.9**
DAVA	**Damuels**	**17.55**	**323**	P		**P**	**04 49 11.2**	**+1.2**
	comp=N,2.1nm,0.6s							
DAVA	**Damuels**	**17.55**	**323**	*e*Pn		**P**	**04 49 11.2**	**+1.2**
	comp=N,2.1nm,0.6s							
ESDC	**Sonseca Array**	**23.99**	**292**	P		**P**	**04 50 19.8**	**+1.2**
	comp=N,0.3nm,0.4s,baz=86,slow=9.0,SNR=6.2							
HFS	**Hagfors**	**27.11**	**347**	P		**P**	**04 50 44.6**	**-2.0**
	comp=N,0.7nm,0.3s,baz=155,slow=11,SNR=23							
FINES	**FINESS Array B**	**27.34**	**1**	P		**P**	**04 50 46.2**	**-2.4**
	comp=N,0.5nm,0.3s,baz=163,slow=11,SNR=12							
NB2	**NORSAR Subarra**	**28.43**	**346**	P		**P**	**04 50 57.1**	**-1.4**
	comp=Z,0.4nm,0.2s,baz=151,slow=11							
NOA	**NORSAR Array B**	**28.43**	**346**	P		**P**	**04 50 57.3**	**-1.2**
	comp=Z,0.4nm,0.6s,baz=114,slow=12,SNR=11							
AKTO	**Aktyubinsk**	**28.88**	**46**	P		**P**	**04 51 03.0**	**+0.5**
	comp=Z,0.7nm,0.4s,baz=251,slow=7.4,SNR=4.6							
EKA	**Eskdalemuir Ar**	**28.96**	**326**	P		**P**	**04 51 02.7**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=128,slow=7.4,SNR=6.3							
TORD	**Torodi Ar. Bea**	**29.93**	**231**	P		**P**	**04 51 13.2**	**+1.1**
	comp=Z,0.9nm,0.4s,baz=33,slow=8.5,SNR=26							
ARCES	**ARCESS Array B**	**35.46**	**0**	P		**P**	**04 51 57.7**	**-2.3**
	comp=Z,0.4nm,0.4s,baz=183,slow=10,SNR=14							
KURBB	**Kurchatov Arra**	**41.69**	**50**	P		**P**	**04 52 53.0**	**+0.6**
	comp=Z,1.1nm,0.4s,baz=271,slow=8.6,SNR=15							
MKAR	**Makanchi Array**	**44.25**	**56**	P		**P**	**04 53 14.2**	**+1.0**
	comp=Z,2.3nm,0.6s,baz=278,slow=6.6,SNR=30							
ZALV	**Zalesovo Beam**	**45.64**	**45**	P		**P**	**04 53 24.3**	**+0.1**
	comp=Z,3.1nm,0.5s,baz=270,slow=8.5,SNR=13							
SONM	**Songino Array**	**60.05**	**50**	P		**P**	**04 55 12.2**	**+1.4**
	comp=Z,1.7nm,0.5s,baz=286,slow=8.0,SNR=13							
YKA	**Yellowknife Ar**	**78.47**	**342**	P		**P**	**04 57 03.9**	**-0.5**
	comp=Z,0.2nm,0.6s,baz=31,slow=5.2,SNR=7.2							
KSRS	**Korea Array**	**78.82**	**52**	P		**P**	**04 57 07.6**	**+0.8**
	comp=Z,0.7nm,0.5s,baz=309,slow=4.3,SNR=5.4							
ILAR	**Eielson Array**	**81.24**	**357**	P		**P**	**04 57 19.9**	**+0.5**
	comp=Z,0.2nm,0.5s,baz=334,slow=3.5,SNR=5.0							

IDC ***15*** *04:47:50.0±2.9, 18°.76S×168°.50E, h0km, mb4.1/5, mb1 4.3/5, mb1mx3.8/39, mbtmp4.1/5, MS3.4/5, Ms1 3.4/5, ms1mx2.9/44, Error ellipse: s-maj=91.5km s-min=35.9km az=134.0*

NEIC ***15*** *04:47:50.4±0.8, 18°.86S×168°.65E, h10km, mb4.3/1, Error ellipse: s-maj=27.5km s-min=12.8km az=127.0*

ISCJB ***15*** *04:47:53.9±1.3, 19°.0S±0°.1×168°.5E±0°.2, h42km, mb4.0/6, MS3.4/4, Error ellipse: s-maj=32.8km s-min=10.8km az=24.6*

ISC 15 04:47:54.5±1.2, 19°.0S±0°.2×168°.7E±0°.3, h42km, n25, σ0ᵗ.78/21, mb4.0/6, MS3.4/4, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.70**	**215**	*e*Pn	**Pn**	**04 48 48.7**	**-0.6**
DZM				*e*Sn	**Sn**	**04 49 31.6**	**-0.1**
HNR	**Honiara**	**12.77**	**317**	LR	LR	04 55 17.3	
	comp=Z,101nm,19.8s,baz=198,slow=36						
URZ	**Urewera**	**20.51**	**161**	LR	LR	04 59 10.5	
	comp=Z,138nm,18.1s,baz=6.0,slow=33						
CAN	**Canberra**	**23.82**	**223**	*e*P	**P**	**04 53 05.0**	**+1.2**
RPZ	**Rata Peaks**	**24.69**	**176**	LR	LR	05 02 38.4	
	comp=Z,123nm,18.8s,baz=28,slow=36						
STKA	**Stephens Creek**	**27.54**	**237**	P	**P**	**04 53 39.0**	**+1.5**
	2.1nm,0.6s,baz=63,slow=9.4,SNR=8.0						
WRAB	**Tennant Creek**	**32.38**	**263**	*e*P	**P**	**04 54 19.2**	**-1.2**
WRA	**Warramunga Arr**	**32.39**	**263**	P	**P**	**04 54 19.4**	**-1.1**
	1.0nm,0.6s,baz=88,slow=8.3,SNR=20						
ASAR	**Alice Springs**	**32.70**	**256**	P	**P**	**04 54 22.9**	**-0.3**
	5.7nm,0.6s,baz=85,slow=8.7,SNR=83						
FORT	**Forrest**	**38.49**	**244**	*e*P	**P**	**04 55 13.3**	**+0.5**
GUMO	**Guam**	**40.03**	**322**	LR	LR	05 11 55.6	
	comp=Z,25nm,18.0s,baz=140,slow=36						
PETK	**Petropavlovsk-**	**72.46**	**353**	LR	LR	05 25 52.8	
	comp=Z,37nm,20.0s,baz=141,slow=32						
CMAR	**Chiang Mai Arr**	**77.96**	**294**	P	**P**	**04 59 50.0**	**+1.1**
	0.4nm,0.6s,baz=126,slow=4.6,SNR=3.9						
SONM	**Songino Array**	**86.75**	**323**	P	**P**	**05 00 34.2**	**-0.1**
	1.0nm,0.8s,baz=145,slow=6.4,SNR=4.8						
WVOR	**Wild Horse Val**	**90.52**	**45**	*e*P	**P**	**05 00 52.2**	**0.0**
	1.7nm,0.9s						
ARCES	**ARCESS Array B**	**124.74**	**345**	PKP	**PKPdf**	**05 06 49.7**	**+0.7**
	1.0nm,0.8s,baz=98,slow=2.7,SNR=4.8						
MOA	**Molln**	**144.53**	**330**	*e*PKPdf	**PKPab**	**05 07 24.4**	**-0.5**
	4.8nm,1.1s						
SOKA	**Soboth**	**144.97**	**328**	*e*PKPdf	**PKPab**	**05 07 26.3**	**-0.4**
	6.5nm,1.5s						
OBKA	**Obir**	**145.33**	**328**	*e*PKPdf	**PKPbc**	**05 07 27.5**	**-0.3**
	7.9nm,1.4s						
KBA	**Koelnbreinsper**	**145.52**	**330**	PKPdf	**PKPbc**	**05 07 28.3**	**-0.2**
	4.4nm,1.1s						
MYKA	**Terra Mystica**	**145.69**	**329**	PKPbc	**PKPdf**	**05 07 27.8**	**-0.8**
	2.3nm,0.5s						
ABTA	**Abfaltersbach**	**146.15**	**330**	PKPab	**PKPbc**	**05 07 30.2**	**-0.2**
	7.0nm,1.7s						
MOTA	**Moosalm**	**146.35**	**332**	PKPab	**PKPbc**	**05 07 30.9**	**-0.1**
	2.2nm,0.9s						
BFO	**Black Forest**	**146.72**	**336**	*e*PKPbc	**PKPbc**	**05 07 31.0**	**-0.9**
FETA	**Feichten**	**146.76**	**332**	PKPab	**PKPbc**	**05 07 32.2**	**0.0**
	4.2nm,1.1s						

BEO ***15*** *04:54:48.3±2.3, 45°.17N×25°.15E, h4km±8km*

BUC ***15*** *04:54:49.3±0.2, 45°.30N×24°.94E, h2km, MD2.9/6, Error ellipse: s-maj=3.8km s-min=2.3km az=29.0*

CSEM ***15*** *04:54:50.0±0.1, 45°.26N×24°.90E, h2km, ML2.5, Error ellipse: s-maj=3.1km s-min=2.4km az=172.0*

ISC 15 04:54:49.5±0.9, 45°.30N±0°.02×24°.92E±0°.01, h7km±7km, n121, σ1ᵗ04/165, 66C-27D, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTUR	**Matau**	**0.13**	**127**	⇓*i*P	**Pg**	**04 54 51.6**	**-0.6**
MTUR	**Matau**	**0.13**	**127**	⇓*i*P	**Pg**	**04 54 51.6**	**-0.6**
MTUR	**Matau**	**0.13**	**127**	⇓*i*P	**Pg**	**04 54 51.6**	**-0.6**
VOIR		**0.16**	**34**	⇑*i*P	**Pg**	**04 54 52.8**	**-0.1**
VOIR		**0.16**	**34**	*i* S	**Sg**	**04 54 55.4**	**+0.2**
VOIR		**0.16**	**34**	⇑*i*P	**Pg**	**04 54 52.8**	**-0.1**
VOIR				*i* S	**Sg**	**04 54 55.4**	**+0.2**
VOIR		**0.16**	**34**	⇑*i*P	**Pg**	**04 54 52.8**	**-0.1**
VOIR				*i* S	**Sg**	**04 54 55.4**	**+0.2**
ARR	**Arges**	**0.21**	**288**	⇑*i*P	**Pg**	**04 54 54.3**	**+0.5**
ARR	**Arges**	**0.21**	**288**	*i* S	**Sg**	**04 54 58.1**	**+1.4**
ARR	**Arges**	**0.21**	**288**	⇑*i*P	**Pg**	**04 54 54.3**	**+0.5**
ARR				*i* S	**Sg**	**04 54 58.1**	**+1.4**
ARR	**Arges**	**0.21**	**288**	⇑*i*P	**Pg**	**04 54 54.3**	**+0.5**
ARR				*i* S	**Sg**	**04 54 58.1**	**+1.4**
DOPR	**Dopca**	**0.74**	**26**	⇑*i*P	**Pg**	**04 55 03.6**	**-0.2**
DOPR	**Dopca**	**0.74**	**26**	⇑*i*P	**Pg**	**04 55 03.6**	**-0.2**
DOPR				*i* S	**Sb**	**04 55 15.4**	**+0.3**
DOPR	**Dopca**	**0.74**	**26**	⇑*i*P	**Pg**	**04 55 03.6**	**-0.2**
DOPR				*i* S	**Sb**	**04 55 15.4**	**+0.3**
MLR	**Muntele Rosu**	**0.75**	**75**	⇑*i*P	**Pg**	**04 55 03.6**	**-0.3**
MLR	**Muntele Rosu**	**0.75**	**75**	⇑*i*P	**Pg**	**04 55 03.6**	**-0.3**
MLR				*i* S	**Sb**	**04 55 15.3**	**0.0**
MLR	**Muntele Rosu**	**0.75**	**75**	⇑*i*P	**Pg**	**04 55 03.6**	**-0.3**
MLR				*i* S	**Sb**	**04 55 15.3**	**0.0**
HUMR	**Humele**	**0.78**	**177**	⇓*i*P	**Pb**	**04 55 04.7**	**-0.6**
HUMR	**Humele**	**0.78**	**177**	⇓*i*P	**Pb**	**04 55 04.7**	**-0.6**
HUMR				*i* S	**Sn**	**04 55 16.9**	**-1.8**
HUMR	**Humele**	**0.78**	**177**	⇓*i*P	**Pb**	**04 55 04.7**	**-0.6**
LOT	**Lotru**	**0.82**	**281**	⇑*i*P	**Pg**	**04 55 05.4**	**+0.1**
LOT	**Lotru**	**0.82**	**281**	⇑*i*P	**Pg**	**04 55 05.4**	**+0.1**
LOT	**Lotru**	**0.82**	**281**	⇑*i*P	**Pg**	**04 55 05.4**	**+0.1**
SECR		**0.85**	**108**	⇓*i*P	**Pb**	**04 55 06.3**	**-0.3**
SECR		**0.85**	**108**	⇓*i*P	**Pb**	**04 55 06.3**	**-0.3**
SECR				*i* S	**Sn**	**04 55 19.4**	**-1.3**
SECR		**0.85**	**108**	⇓*i*P	**Pb**	**04 55 06.3**	**-0.3**
MDB	**Medias**	**0.92**	**336**	⇑*i*P	**Pn**	**04 55 08.7**	**-0.2**
MDB	**Medias**	**0.92**	**336**	⇑*i*P	**Pn**	**04 55 08.7**	**-0.2**
MDB				*i* S	**Sn**	**04 55 21.3**	**-1.1**
MDB	**Medias**	**0.92**	**336**	⇑*i*P	**Pn**	**04 55 08.7**	**-0.2**
MDB				*i* S	**Sn**	**04 55 21.3**	**-1.1**
SULR		**1.13**	**123**	⇑*i*P	**Pn**	**04 55 12.0**	**+0.3**
SULR		**1.13**	**123**	⇑*i*P	**Pn**	**04 55 12.0**	**+0.3**
SULR				*i* S	**Sn**	**04 55 28.1**	**+0.6**
SULR		**1.13**	**123**	⇑*i*P	**Pn**	**04 55 12.0**	**+0.3**
ISR	**Istrita**	**1.16**	**98**	⇓*i*P	**Pn**	**04 55 12.9**	**+0.7**
ISR	**Istrita**	**1.16**	**98**	⇓*i*P	**Pn**	**04 55 12.9**	**+0.7**
ISR	**Istrita**	**1.16**	**98**	⇓*i*P	**Pn**	**04 55 12.9**	**+0.7**
BUC1	**Bucharest**	**1.24**	**140**	*i* S	**Sn**	**04 55 31.3**	**+1.2**
BUC1	**Bucharest**	**1.24**	**140**	*i* S	**Sn**	**04 55 31.3**	**+1.2**
SGRR	**Singureni**	**1.31**	**145**	⇑*i*P	**Pg**	**04 55 14.7**	**0.0**
SGRR	**Singureni**	**1.31**	**145**	⇑*i*P	**Pg**	**04 55 14.7**	**0.0**
SGRR				*i* S	**Sg**	**04 55 33.5**	**+1.8**
SGRR	**Singureni**	**1.31**	**145**	⇑*i*P	**Pg**	**04 55 14.7**	**0.0**
PLOR	**Plostina**	**1.33**	**65**	⇑*i*P	**Pg**	**04 55 15.6**	**+0.5**
PLOR	**Plostina**	**1.33**	**65**	⇑*i*P	**Pg**	**04 55 15.6**	**+0.5**
PLOR				*i* S	**Sg**	**04 55 34.9**	**+2.6**
PLOR	**Plostina**	**1.33**	**65**	⇑*i*P	**Pg**	**04 55 15.6**	**+0.5**
PLOR				*i* S	**Sg**	**04 55 34.9**	**+2.6**
SRE	**Strehaia**	**1.38**	**243**	⇓*i*P	**Pg**	**04 55 16.5**	**+0.7**
SRE	**Strehaia**	**1.38**	**243**	⇓*i*P	**Pg**	**04 55 16.5**	**+0.7**
SRE				*i* S	**Sg**	**04 55 37.1**	**+3.4**
SRE	**Strehaia**	**1.38**	**243**	⇓*i*P	**Pg**	**04 55 16.5**	**+0.7**
SRE				*i* S	**Sg**	**04 55 37.1**	**+3.4**
VRI	**Vrincioaia**	**1.39**	**65**	⇑*i*P	**Pg**	**04 55 16.4**	**+0.3**
VRI	**Vrincioaia**	**1.39**	**65**	⇑*i*P	**Pg**	**04 55 16.4**	**+0.3**
VRI				*i* S	**Sg**	**04 55 36.5**	**+2.4**
VRI	**Vrincioaia**	**1.39**	**65**	⇑*i*P	**Pg**	**04 55 16.4**	**+0.3**
VRI				*i* S	**Sg**	**04 55 36.5**	**+2.4**
JOSR	**Joseni**	**1.47**	**16**	⇑*i*P	**Pb**	**04 55 16.9**	**-0.2**
JOSR	**Joseni**	**1.47**	**16**	⇑*i*P	**Pb**	**04 55 16.9**	**-0.2**
JOSR				*i* S	**Sg**	**04 55 38.1**	**+1.5**
JOSR	**Joseni**	**1.47**	**16**	⇑*i*P	**Pb**	**04 55 16.9**	**-0.2**
JOSR				*i* S	**Sg**	**04 55 38.1**	**+1.5**
DEV	**Deva**	**1.53**	**293**	⇑*i*P	**Pb**	**04 55 18.1**	**-0.1**
DEV	**Deva**	**1.53**	**293**	⇑*i*P	**Pb**	**04 55 18.1**	**-0.1**
DEV				*i* S	**Sg**	**04 55 39.7**	**+1.0**
DEV	**Deva**	**1.53**	**293**	⇑*i*P	**Pb**	**04 55 18.1**	**-0.1**
DEV				*i* S	**Sg**	**04 55 39.7**	**+1.0**
ODBI	**Odobesti**	**1.57**	**72**	⇑*i*P	**Pg**	**04 55 19.1**	**-0.5**
ODBI	**Odobesti**	**1.57**	**72**	⇑*i*P	**Pg**	**04 55 19.1**	**-0.5**
ODBI				*i* S	**Sg**	**04 55 41.4**	**+1.5**
ODBI	**Odobesti**	**1.57**	**72**	⇑*i*P	**Pg**	**04 55 19.1**	**-0.5**
ODBI				*i* S	**Sg**	**04 55 41.4**	**+1.5**
ZIMR		**1.68**	**169**	*i* S	**Sg**	**04 55 43.9**	**+0.6**
ZIMR		**1.68**	**169**	*i* S	**Sg**	**04 55 43.9**	**+0.6**
PETR	**Petresti**	**1.68**	**75**	⇓*i*P	**Pg**	**04 55 21.0**	**-0.7**
PETR	**Petresti**	**1.68**	**75**	⇓*i*P	**Pg**	**04 55 21.0**	**-0.7**
PETR				*i* S	**Sg**	**04 55 44.0**	**+0.6**
PETR	**Petresti**	**1.68**	**75**	⇓*i*P	**Pg**	**04 55 21.0**	**-0.7**
PETR				*i* S	**Sg**	**04 55 44.0**	**+0.6**
CJR	**Cluj-Napoca**	**1.69**	**327**	⇑*i*P	**Pb**	**04 55 20.9**	**0.0**
CJR	**Cluj-Napoca**	**1.69**	**327**	⇑*i*P	**Pb**	**04 55 20.9**	**0.0**
CJR				*i* S	**Sg**	**04 55 43.6**	**-0.1**
CJR	**Cluj-Napoca**	**1.69**	**327**	⇑*i*P	**Pb**	**04 55 20.9**	**0.0**
CJR				*i* S	**Sg**	**04 55 43.6**	**-0.1**
TESR	**Tescani**	**1.71**	**44**	⇑*i*P	**Pb**	**04 55 20.6**	**-0.6**
TESR	**Tescani**	**1.71**	**44**	⇑*i*P	**Pb**	**04 55 20.6**	**-0.6**
TESR	**Tescani**	**1.71**	**44**	⇑*i*P	**Pb**	**04 55 20.6**	**-0.6**
ARCR	**ARCALIA**	**1.83**	**348**	⇑*i*P	**Pb**	**04 55 23.0**	**-0.2**
ARCR	**ARCALIA**	**1.83**	**348**	⇑*i*P	**Pb**	**04 55 23.0**	**-0.2**
ARCR				*i* S	**Sg**	**04 55 47.8**	**-0.4**
ARCR	**ARCALIA**	**1.83**	**348**	⇑*i*P	**Pb**	**04 55 23.0**	**-0.2**
ARCR				*i* S	**Sg**	**04 55 47.8**	**-0.4**
DRGR		**2.14**	**315**	*e*Pn	**Pb**	**04 55 27.7**	**-0.9**
DRGR		**2.14**	**315**	⇑*i*P	**Pb**	**04 55 27.6**	**-1.0**
DRGR		**2.14**	**315**	⇑*i*P	**Pb**	**04 55 27.6**	**-1.0**
DRGR				*i* S	**Sb**	**04 55 55.1**	**-0.3**
DRGR		**2.14**	**315**	⇑*i*P	**Pb**	**04 55 27.6**	**-1.0**
DRGR				*i* S	**Sb**	**04 55 55.1**	**-0.3**
HARR	**Harsova**	**2.22**	**105**	⇑*i*P	**Pb**	**04 55 28.5**	**-1.4**
HARR	**Harsova**	**2.22**	**105**	⇑*i*P	**Pb**	**04 55 28.5**	**-1.4**
HARR	**Harsova**	**2.22**	**105**	⇑*i*P	**Pb**	**04 55 28.5**	**-1.4**
CFR	**Carcaliu**	**2.27**	**92**	⇑*i*P	**Pb**	**04 55 29.9**	**-0.9**
CFR	**Carcaliu**	**2.27**	**92**	⇑*i*P	**Pb**	**04 55 29.9**	**-0.9**
CFR				*i* S	**Sb**	**04 55 59.3**	**+0.1**
CFR	**Carcaliu**	**2.27**	**92**	⇑*i*P	**Pb**	**04 55 29.9**	**-0.9**
BURAR	**Bucovina Array**	**2.32**	**5**	⇑*i*P	**Pb**	**04 55 31.1**	**-0.6**
BURAR	**Bucovina Array**	**2.32**	**5**	⇑*i*P	**Pb**	**04 55 31.1**	**-0.6**
BURAR				*i* S	**Sb**	**04 56 00.1**	**-0.6**
BURAR	**Bucovina Array**	**2.32**	**5**	⇑*i*P	**Pb**	**04 55 31.1**	**-0.6**
BURAR				*i* S	**Sb**	**04 56 00.1**	**-0.6**
TLB	**Topalu**	**2.33**	**107**	⇓*i*P	**Pb**	**04 55 30.6**	**-1.2**
TLB	**Topalu**	**2.33**	**107**	⇓*i*P	**Pb**	**04 55 30.6**	**-1.2**
TLB				*i* S	**Sb**	**04 56 00.6**	**-0.1**
TLB	**Topalu**	**2.33**	**107**	⇓*i*P	**Pb**	**04 55 30.6**	**-1.2**
BZS	**Buzias**	**2.35**	**279**	*e*Pn	**Pb**	**04 55 30.7**	**-1.4**
BZS	**Buzias**	**2.35**	**279**	⇓*i*P	**Pb**	**04 55 30.6**	**-1.5**
BZS	**Buzias**	**2.35**	**279**	⇓*i*P	**Pb**	**04 55 30.6**	**-1.5**
BZS				*i* S	**Sb**	**04 56 00.2**	**-1.0**
BZS	**Buzias**	**2.35**	**279**	⇓*i*P	**Pb**	**04 55 30.6**	**-1.5**
BZS				*i* S	**Sb**	**04 56 00.2**	**-1.0**
ZAGS	**Zajecar**	**2.43**	**233**	*e*Pn	**Pn**	**04 55 29.3**	**-0.3**
ZAGS	**Zajecar**	**2.43**	**233**	*e*Pn	**Pn**	**04 55 29.3**	**-0.3**
KUBS	**Kucevo**	**2.47**	**250**	*e*Pn	**Pn**	**04 55 29.9**	**-0.9**
KUBS	**Kucevo**	**2.47**	**250**	*e*Pn	**Pn**	**04 55 29.9**	**-0.9**
SIRR	**Siria**	**2.48**	**294**	⇑*i*P	**Pb**	**04 55 32.2**	**-2.1**
SIRR	**Siria**	**2.48**	**294**	⇑*i*P	**Pb**	**04 55 32.2**	**-2.1**
SIRR				*i* S	**Sb**	**04 56 03.0**	**-2.0**
SIRR	**Siria**	**2.48**	**294**	⇑*i*P	**Pb**	**04 55 32.2**	**-2.1**
SIRR				*i* S	**Sb**	**04 56 03.0**	**-2.0**
BMR	**Baia Mare**	**2.57**	**338**	⇓*i*P	**Pn**	**04 55 33.3**	**+1.8**
BMR	**Baia Mare**	**2.57**	**338**	⇓*i*P	**Pn**	**04 55 33.3**	**+1.8**
BMR				*i* S	**Sb**	**04 56 06.3**	**-1.3**
BMR	**Baia Mare**	**2.57**	**338**	⇓*i*P	**Pn**	**04 55 33.3**	**+1.8**
BMR				S	**Sb**	**04 56 06.3**	**-1.3**
ZAPS	**Zavoj**	**2.61**	**220**	*e*Pn	**Pn**	**04 55 32.1**	**0.0**
BOVS	**Bovan**	**2.84**	**235**	*e*Pn	**Pn**	**04 55 35.2**	**0.0**
BOVS	**Bovan**	**2.84**	**235**	*e*Pn	**Pn**	**04 55 35.2**	**0.0**
VTS	**Vitosha**	**2.98**	**205**	*e*Pn	**Pn**	**04 55 36.4**	**-0.9**
VTS	**Vitosha**	**2.98**	**205**	*e*Pn	**Pn**	**04 55 36.4**	**-0.9**
TRPA	**Tarpa**	**3.27**	**331**	⇑*i*P	**Pn**	**04 55 42.4**	**+1.3**
TRPA	**Tarpa**	**3.27**	**331**	⇑*i*P	**Pn**	**04 55 42.4**	**+1.3**
TRPA	**Tarpa**	**3.27**	**331**	⇑*i*P	**Pn**	**04 55 42.4**	**+1.3**
GRUS	**Gruza**	**3.32**	**246**	*e*Pn	**Pn**	**04 55 42.9**	**+1.1**
GRUS	**Gruza**	**3.32**	**246**	*e*Pn	**Pn**	**04 55 42.9**	**+1.1**
TRUS	**Trudelj**	**3.39**	**253**	*e*Pn	**Pn**	**04 55 43.5**	**+0.7**
TRUS	**Trudelj**	**3.39**	**253**	*e*Pn	**Pn**	**04 55 43.5**	**+0.7**
DIVS	**Divibare**	**3.71**	**253**	*e*Pn	**Pn**	**04 55 48.0**	**+0.7**
DIVS	**Divibare**	**3.71**	**253**	*e*Pn	**Pn**	**04 55 48.0**	**+0.7**
IVAS	**Ivanjica**	**3.83**	**245**	*e*Pn	**Pn**	**04 55 49.3**	**+0.5

BBOO Buckleboo 34.29 231 *e*P P 05 33 37.6 +0.2
1.8nm,0.4s
MBWA Marble Bar 45.82 254 *e*P P 05 35 13.3 +1.1
9.9nm,0.4s
NWAO Narrogin (SRO) 49.33 238 P P 05 35 38.7 -0.4
3.1nm,0.4s,baz=310,slow=6.5,SNR=5.7
MJAR Matsushiro Arr 56.80 332 P P 05 36 32.5 -1.0
1.3nm,0.6s,baz=172,slow=8.9,SNR=7.9
ASAJ Asahikawa 61.58 340 P P 05 37 07.1 +1.1
7.4nm,0.5s,baz=214,slow=6.4,SNR=20
PETK Petropavlovsk- 66.85 354 P P 05 37 40.3 +0.2
3.4nm,0.7s,baz=142,slow=4.8,SNR=13
CMAR Chiang Mai Arr 74.40 294 P P 05 38 27.4 +0.9
2.3nm,0.8s,baz=133,slow=4.8,SNR=22
QSPA South Pole Qui 76.51 180 *e*P P 05 38 38.4 +0.6
21nm,0.8s
SONM Songino Array 81.48 324 P P 05 39 04.9 -0.1
0.8nm,0.5s,baz=139,slow=3.8,SNR=6.1
MAW Mawson 82.99 202 P P 05 39 13.2 +0.9
3.6nm,0.7s,baz=98,slow=6.0,SNR=6.3
ILAR Eielson Array 85.39 18 P P 05 39 23.3 -1.0
1.6nm,0.6s,baz=245,slow=4.7,SNR=37
MKAR Makanchi Array 96.28 316 P P 05 40 15.1 -0.6
1.6nm,0.5s,baz=89,slow=6.3,SNR=16
MKAR PKiKP **PKiKP** 05 44 51.9 -0.7
0.3nm,0.6s,baz=81,slow=0.3,SNR=3.7
ZALV Zalesovo Beam 96.38 324 P P 05 40 14.7 -1.2
1.5nm,0.7s,baz=100,slow=4.5,SNR=6.0
YKA Yellowknife Ar 96.50 27 P P 05 40 15.1 -1.1
0.1nm,0.4s,baz=257,slow=4.8,SNR=7.4
ARCES ARCESS Array B 119.06 346 PKP **PKPdf** 05 45 33.9 -0.4
2.1nm,0.6s,baz=68,slow=2.1,SNR=20
ARCES PKKPbc **PKKPab** 05 55 48.3 -2.7
0.8nm,0.5s,baz=223,slow=2.8,SNR=7.0
BOSA Boshof 124.25 221 PKP **PKPdf** 05 45 45.8 +0.1
1.4nm,0.5s,baz=216,slow=2.4,SNR=5.9
FINES FINESS Array B 124.57 339 PKP **PKPdf** 05 45 44.8 -0.2
0.5nm,0.3s,baz=105,slow=3.1,SNR=10
NB2 NORSAR Subarra 129.44 345 PKPdf **PKPdf** 05 45 54.6 +0.1
comp=Z,0.5nm,0.6s,baz=31,slow=1.9
NOA NORSAR Array B 129.44 345 PKP **PKPdf** 05 45 54.3 -0.1
comp=Z,1.4nm,0.8s,baz=29,slow=2.0,SNR=4.2
BRTR Keskin Array B 131.66 312 PKP **PKPdf** 05 45 59.8 +0.3
comp=Z,0.4nm,0.4s,baz=102,slow=3.6,SNR=3.5
BRTR SKPbc **SKPab** 05 49 08.4 +1.2
comp=Z,0.4nm,0.8s,baz=317,slow=21,SNR=3.6
CLL Collm 136.92 336 *i* P **PKPdf** 05 46 10.5 +1.8
comp=Z,3.0nm,0.5s
GERES GERESS Array B 138.53 334 PKP **PKPdf** 05 46 12.6 +0.7
comp=Z,0.6nm,0.5s,baz=57,slow=4.9,SNR=3.6
KEST Kesra 150.23 322 PKPbc **PKPbc** 05 46 38.3 +0.5
comp=Z,12nm,0.8s,baz=25,slow=1.3,SNR=11
ESDC Sonseca Array 152.80 345 PKPbc **PKPbc** 05 46 43.3 -0.2
comp=Z,1.1nm,0.7s,baz=43,slow=3.3,SNR=5.0
ESDC PKPab **PKPab** 05 46 55.4 +0.3
comp=Z,1.0nm,0.5s,baz=4.7,slow=4.6,SNR=6.2
TORD Torodi Ar. Bea 165.90 270 PKPab **PKPab** 05 47 52.8 0.0
comp=Z,0.4nm,0.6s,baz=82,slow=5.3,SNR=4.1

UCR 15 05:30:09.1±1.5, 12.00N×88.60W, h32km±13km, MD4.5, ML3.1, 1D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
UESV	**Ojushtada**	**1.38**	**352**	IAML			05 31 03.7	
	comp=Z,148nm,0.2s							
CSGN	**Cosiguina Volc**	**1.40**	**46**	*e*P		Pn	05 30 33.0	+0.4
LCND	**La Cá¯–ada**	**1.47**	**28**	*e*P		Pn	05 30 32.6	-0.8
PACA	**Pacayal**	**1.48**	**10**	*e*P		Pn	05 30 34.4	+0.7
LFRS	**El Faro**	**1.67**	**344**	*e*P		Pn	05 30 36.2	-0.1
LBRS	**Las Brisas**	**1.78**	**346**	*e*P		Pn	05 30 37.9	+0.2
LFU	**La Fuente**	**1.81**	**344**	*e*P		Pn	05 30 37.9	-0.2
LFU				*e*S		Sn	05 31 00.6	+0.6
UEES	**San Salvador**	**1.82**	**340**	*e*P		Pn	05 30 37.9	-0.5
UEES				IAML			05 31 08.3	
	comp=Z,264nm,0.2s							
BOQS	**Boqueron**	**1.84**	**339**	*e*P		Pn	05 30 39.1	+0.3
BOQS				*e*S		Sn	05 31 02.5	+1.4
COPN	**Copaltepe**	**1.97**	**85**	*e*P		Pn	05 30 40.0	-0.4
MOMN	**Momotombo**	**2.05**	**79**	*e*P		Pn	05 30 41.0	-0.5
SBLS	**San Blas**	**2.08**	**331**	*e*P		Pn	05 30 42.4	+0.4
SBLS				*e*S		Sn	05 31 08.7	+1.7
SNJE	**San Jose**	**2.10**	**332**	*e*P		Pn	05 30 42.9	+0.7
NY14	**Universidad de**	**3.29**	**114**	*e*P		Pn	05 30 58.8	+0.2
GBS3	**Finca Las Im¯¡**	**3.31**	**111**	*e*P		Pn	05 30 58.8	-0.1
LAPC	**Finca la Perla**	**3.34**	**111**	*e*P		Pn	05 30 59.1	-0.1
BUEV	**Buena Vista**	**3.35**	**111**	*e*P		Pn	05 30 60.0	+0.5
GB1A	**Borinquen Arri**	**3.35**	**110**	*e*P		Pn	05 31 00.2	+0.8
BUAI	**Buenos Aires**	**3.39**	**109**	*e*P		Pn	05 31 01.5	+1.5
LIM1	**Limonal**	**3.53**	**111**	*e*P		Pn	05 31 02.4	+0.6
MESS	**Mesas**	**3.57**	**110**	*e*P		Pn	05 31 03.5	+1.1
COLC	**Colonia**	**3.59**	**111**	*e*P		Pn	05 31 03.6	+1.0
CUI	**Cuipilapa**	**3.63**	**111**	*e*P		Pn	05 31 03.0	-0.1
CUI				*e*S		Sn	05 31 46.6	+1.7
ACAL	**Aguas Claras**	**3.75**	**111**	*e*P		Pn	05 31 05.8	+0.9
PTEN	**Parque Tenorio**	**3.77**	**110**	*e*P		Pn	05 31 05.4	+0.2
AMAS	**Alto Masis**	**3.80**	**111**	*e*P		Pn	05 31 05.7	+0.1
CGA2	**Cerro Gallo 2**	**4.51**	**116**	*e*P		Pn	05 31 15.5	0.0
CGA2				*e*S		Sn	05 32 07.2	+0.2
LCR2	**La Lucha 2**	**5.04**	**116**	*e*P		Pn	05 31 23.9	+1.1
URSC	**Urasca**	**5.20**	**114**	*e*P		Pn	05 31 25.8	+0.8
BUS	**Buena Vista**	**5.34**	**117**	*e*P		Pn	05 31 28.2	+1.1
DRK0	**Durika**	**5.93**	**117**	*e*P		Pn	05 31 36.0	+1.1

IDC 15 05:32:02.2±14.0, 2.18N×93.29E, h0km, mb3.5/2, mb1 3.8/3, mb1mx3.2/64, mbtmp3.5/3, ML3.7/1, Error ellipse: s-maj=346.7km s-min=45.7km az=81.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**17.10**	**19**	P		Pn	05 36 03.2	+0.4
	0.1nm,0.3s,baz=212,slow=12,SNR=6.9							
WRA	**Warramunga Arr**	**45.88**	**121**	P		P	05 40 26.8	-0.1
	1.9nm,0.9s,baz=300,slow=8,SNR=12							
ASAR	**Alice Springs**	**47.12**	**125**	P		P	05 40 36.3	-0.3
	0.1nm,0.4s,baz=304,slow=6.6,SNR=3.3							

*IDC **15** 05:32:10.6±0.8, 17.21N×91.52W, h0km, mb3.9/12, mb1 4.2/14, mb1mx4.0/43, mbtmp4.0/14, ML3.7/2, MS3.7/15, Ms1 3.7/15, ms1mx3.6/43, Error ellipse: s-maj=31.2km s-min=11.3km az=62.0*
*ISCJB **15** 05:32:11.6±0.2, 17.31N±0.02×91.14W±0.03, h10km, mb4.5/80, MS3.6/11, Error ellipse: s-maj=3.5km s-min=3.1km az=2.3*
*NEIC **15** 05:32:13.3±1.7, 17.25N×91.13W, h13km±11km, mb4.6/105, MD4.8(MEX), Error ellipse: s-maj=4.4km s-min=3.6km az=219.0*
*UCR **15** 05:32:14.5±1.3, 17.94N×91.82W, h34km±999km, ML4.2, mb4.6(NEIC)*
*MEX **15** 05:32:17.4±0.4, 17.10N×91.32W, h118km±20km, MD4.8*
ISC 15 05:32:12.7±0.4, 17.29N±0.03×91.17W±0.04, h10km, n309, σ1°37/310, mb4.6/80, MS3.5/11, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CCIG	**Comitan**	**1.36**	**223**	*i* P		**Pn**	**05 32 36.8**	**-1.1**
CCIG				*i* S		**Sb**	**05 32 53.9**	**-2.2**
CCIG	**Comitan**	**1.36**	**223**	*i* P		**Pn**	**05 32 36.8**	**-1.1**
CCIG				*i* S		**Sb**	**05 32 53.9**	**-2.2**
SCIG	**Sabancuy**	**1.67**	**359**	*e*P		**Pn**	**05 32 40.8**	**-1.2**
SCIG				*i* S		**Sn**	**05 33 03.3**	**-0.3**
SCIG	**Sabancuy**	**1.67**	**359**	*e*P		**Pn**	**05 32 40.8**	**-1.2**
SCIG				*i* S		**Sn**	**05 33 03.3**	**-0.3**
TGIG		**1.94**	**255**	*e*P		**Pn**	**05 32 45.3**	**-0.4**
TGIG				*i* S		**Sn**	**05 33 09.3**	**-0.9**
TGIG		**1.94**	**255**	*e*P		**Pn**	**05 32 45.3**	**-0.4**
TGIG				*i* S		**Sn**	**05 33 09.3**	**-0.9**
APG	**El Apazote**	**2.37**	**163**	Pn		**Pn**	**05 32 51.7**	**-0.1**
	27nm,0.3s,baz=344,slow=15,SNR=78							
APG				Lg		Lg	05 33 25.6	
	397nm,0.3s,baz=195,slow=10,SNR=13							
PCIG		**2.52**	**232**	*e*P		**Pn**	**05 32 53.2**	**-0.5**
PCIG				*e*S		**Sn**	**05 33 20.9**	**-3.6**
PCIG		**2.52**	**232**	*e*P		**Pn**	**05 32 53.2**	**-0.5**
PCIG				*e*S		**Sn**	**05 33 20.9**	**-3.6**
MTO3	**Montecristo**	**3.36**	**149**	*e*P		**Pg**	**05 33 16.8**	**-0.2**
CMIG	**Matias Romero**	**3.56**	**267**	Pn		**Pn**	**05 33 08.3**	**+0.3**
	0.7nm,0.3s,baz=53,slow=11,SNR=4.2							

SNJE	**San Jose**	**3.72**	**156**	*e*P		**Pg**	**05 33 22.6**	**-1.3**
MYIG	**MØrida**	**3.89**	**20**	*e*Pn		**Pn**	**05 33 12.7**	**+0.1**
BOQS	**Boqueron**	**3.97**	**153**	*e*P		**Pg**	**05 33 26.7**	**-2.1**
UEES	**San Salvador**	**4.00**	**152**	IAML			05 34 30.4	
	comp=Z,553nm,0.7s							
OPAM	**San Salvador**	**4.02**	**152**	IAML			05 34 35.6	
	comp=Z,749nm,0.6s							
COLS	**Colinas**	**4.03**	**153**	*e*S		**Sg**	**05 34 22.9**	**+0.9**
LFU	**La Fuente**	**4.04**	**150**	*e*P		**Pb**	**05 33 26.7**	**+2.8**
LFU				*e*S		**Sg**	**05 34 22.4**	**0.0**
SNET	**Serv Nac Est T**	**4.04**	**152**	IAML			05 34 38.9	
	comp=Z,577nm,0.6s							
LBRS	**Las Brisas**	**4.08**	**150**	*e*P		**Pb**	**05 33 27.2**	**+2.6**
LFRS	**El Faro**	**4.17**	**151**	*e*P		**Pb**	**05 33 29.1**	**+2.9**
JTS	**JuntasAbangare**	**9.21**	**138**	LR		LR	05 38 46.8	
	comp=Z,744nm,19.9s,baz=14,slow=42							
WBCY	**West Bay, Gran**	**9.51**	**76**	*e*Pn		**Pn**	**05 34 28.2**	**-1.4**
WBCY				*e*Sn		**Sn**	**05 36 11.9**	**-4.8**
FSCY	**Frank Sound, G**	**9.69**	**76**	*e*Pn		**Pn**	**05 34 33.8**	**+1.5**
LCCY	**Blossom Villag**	**10.78**	**76**	*e*Pn		**Pn**	**05 34 46.6**	**-0.5**
LNIG	**Linares**	**10.83**	**316**	*e*Pn		**Pn**	**05 34 47.2**	**-0.7**
CBCY	**The Bluff, Cay**	**11.09**	**76**	*e*Pn		**Pn**	**05 34 53.1**	**+1.7**
MTDJ	**Mount Denham**	**13.02**	**84**	*e*Pn		**Pn**	**05 35 16.8**	**-1.1**
MTDJ				*e*Sn		**Sn**	**05 37 38.2**	**-4.8**
HKT	**Hockley**	**13.31**	**342**	*e*Pn		**Pn**	**05 35 23.5**	**+1.8**
833A	**Chaparral WMA,**	**13.34**	**327**	P		**Pn**	**05 35 22.3**	**+0.1**
	baz=144							
DWPF	**Disney Wildern**	**14.02**	**38**	*e*Pn		**Pn**	**05 35 33.5**	**+2.2**
DWPF				*e*Sn		**Sn**	**05 38 03.1**	**-4.0**
NATX	**Nacogdoches**	**14.76**	**348**	*e*Pn		**Pn**	**05 35 43.5**	**+2.0**
VBMS	**Vicksburg**	**14.88**	**2**	*e*Pn		**Pn**	**05 35 45.0**	**+1.9**
VBMS				*e*S		**S**	**05 38 42.5**	**-3.8**
JCT	**Junction City**	**15.31**	**331**	*e*Pn		**Pn**	**05 35 49.8**	**+0.8**
JCT				*e*Sn		**Sn**	**05 38 36.9**	**-2.0**
147A	**Livingston**	**15.54**	**9**	P		**Pn**	**05 35 52.1**	**+0.1**
	baz=190							
WHTX	**Lake Whitney,**	**15.71**	**340**	P		**Pn**	**05 35 56.3**	**+2.1**
	baz=157							
WHTX	**Lake Whitney,**	**15.71**	**340**	*e*Pn		**Pn**	**05 35 56.4**	**+2.3**
	comp=Z,45nm,0.8s							
252A	**Lumpkin**	**15.76**	**21**	P		**Pn**	**05 35 55.0**	**+0.2**
	baz=203							
150A	**Eclectic**	**15.95**	**16**	P		**Pn**	**05 35 59.2**	**+2.0**
	baz=198							
Z46A	**Louisville**	**15.97**	**7**	P		**Pn**	**05 35 57.8**	**+0.3**
	baz=188							
Z45A	**Winona**	**16.07**	**4**	P		**P**	**05 36 01.5**	**-0.6**
	baz=185							
Z47A	**Carrollton**	**16.09**	**9**	P		**Pn**	**05 35 59.0**	**0.0**
	baz=191							
LRAL	**Lakeview Retre**	**16.12**	**13**	*e*Pn		**Pn**	**05 35 60.0**	**+0.5**
	comp=Z,30nm,1.3s							
254A	**Abbeville**	**16.25**	**25**	P		**Pn**	**05 36 01.6**	**+0.6**
	baz=208							
Z48A	**Northport**	**16.35**	**11**	P		**Pn**	**05 36 02.4**	**+0.1**
	baz=192							
Z49A	**Columbiana**	**16.38**	**14**	P		**Pn**	**05 36 04.3**	**+1.5**
	baz=196,SNR=7.9							
WLAR	**White Oak Lake**	**16.43**	**354**	*e*Pn		**Pn**	**05 36 05.0**	**+1.7**
	comp=Z,49nm,1.2s							
CCAR	**Cane Creek**	**16.57**	**358**	*e*Pn		**Pn**	**05 36 06.7**	**+1.5**
	comp=Z,56nm,1.2s							
TXAR	**Lajitas Array**	**16.59**	**319**	Pn		**P**	**05 36 08.2**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=144,slow=11,SNR=8.6							
TXAR				LR		LR	05 43 46.5	
	comp=Z,101nm,20.4s,baz=0.0,slow=42							
TX31	**Lajitas Ar. Si**	**16.59**	**319**	*e*Pn		**P**	**05 36 08.5**	**+0.4**
Z50A	**Ashland**	**16.59**	**16**	P		**Pn**	**05 36 06.4**	**+1.0**
	baz=198							
Y46A	**Houston**	**16.66**	**7**	P		**Pn**	**05 36 07.8**	**+1.6**
	baz=188							
Y40A	**Okolona**	**16.76**	**354**	P		**Pn**	**05 36 09.5**	**+1.8**
	baz=173							
Y47A	**UCPARC, Winfie**	**16.81**	**10**	P		**P**	**05 36 11.7**	**+1.3**
	baz=191,SNR=6.8							
154A	**Montrose**	**16.91**	**24**	P		**P**	**05 36 12.7**	**+1.2**
	baz=207							
Y48A	**Jasper**	**16.94**	**11**	P		**Pn**	**05 36 11.5**	**+1.7**
	baz=193							
Y49A	**Blount Mountai**	**17.05**	**14**	P		**P**	**05 36 13.1**	**+0.1**
	baz=196							
ABTX	**Abilene, Hawle**	**17.08**	**335**	*e*Pn		**P**	**05 36 14.0**	**+0.6**
	comp=Z,14nm,1.0s							
X45A	**Mt Field Stati**	**17.14**	**5**	P		**Pn**	**05 36 13.4**	**+1.0**
	baz=186							
X40A	**Basin Creek Fa**	**17.20**	**355**	P		**P**	**05 36 15.1**	**+0.5**
	baz=174							
OXF	**Oxford**	**17.23**	**5**	P		**P**	**05 36 15.8**	**+0.9**
	baz=186							
OXF	**Oxford**	**17.23**	**5**	*e*Pn		**Pn**	**05 36 14.5**	**+1.1**
	comp=Z,165nm,1.8s							
Y50A	**Piedmont**	**17.24**	**15**	P		**P**	**05 36 18.1**	**+2.9**
	baz=198,SNR=6.2							
MIAR	**Mount Ida**	**17.32**	**353**	P		**P**	**05 36 16.8**	**+0.8**
	baz=172							
MIAR	**Mount Ida**	**17.32**	**353**	*e*P		**Pn**	**05 36 16.2**	**+1.6**
	comp=Z,30nm,1.4s							
X46A	**Booneville**	**17.35**	**7**	P		**P**	**05 36 17.0**	**+0.6**
	baz=188							
X39A	**Fountain Ranch**	**17.36**	**352**	P		**P**	**05 36 17.2**	**+0.8**
	baz=170							
X47A	**Russellville**	**17.41**	**9**	P		**Pn**	**05 36 16.2**	**+0.4**
	baz=190							
UALR	**University of**	**17.45**	**357**	*e*Pn		**Pn**	**05 36 16.6**	**+0.4**
	comp=Z,58nm,1.7s							
GOGA	**Godfrey**	**17.49**	**22**	P		**P**	**05 36 18.5**	**+0.7**
	baz=205							
GOGA	**Godfrey**	**17.49**	**22**	*e*Pn		**P**	**05 36 18.6**	**+0.7**
	comp=Z,91nm,1.8s							
X48A	**Hartselle**	**17.49**	**11**	P		**P**	**05 36 19.2**	**+1.4**
	baz=193,SNR=7.2							
X49A	**Woodville**	**17.69**	**13**	P		**Pn**	**05 36 20.3**	**+1.0**
	baz=195,SNR=6.0							
DBBC	**Dabeiba**	**17.82**	**123**	*e*P		**Pn**	**05 36 20.7**	**-0.2**
PLAL	**Pickwick Lake**	**17.84**	**8**	*e*Pn		**Pn**	**05 36 20.8**	**-0.2**
	comp=Z,68nm,1.9s							
W41B	**Gary Mavity, V**	**17.84**	**357**	P		**P**	**05 36 24.0**	**+2.2**
	baz=176							
W40A	**Ferguson Farm,**	**17.91**	**355**	P		**Pn**	**05 36 22.2**	**+0.3**
	baz=174							
W40A	**Ferguson Farm,**	**17.91**	**355**	*e*Pn		**Pn**	**05 36 22.4**	**+0.5**
	comp=Z,44nm,1.4s							
WHAR	**Wooly Hollow**	**17.96**	**357**	*e*Pn		**Pn**	**05 36 21.7**	**-0.9**
	comp=Z,97nm,1.9s							
W39A	**Magazine**	**17.99**	**353**	P		**Pn**	**05 36 24.0**	**+1.2**
	baz=172							
W47A	**Westpoint**	**18.17**	**9**	P		**Pn**	**05 36 24.7**	**-0.4**
	baz=191							
W48A	**Pulaski**	**18.18**	**11**	P		**Pn**	**05 36 23.6**	**-1.6**
	baz=193							
V41A	**Mountainview**	**18.45**	**357**	P		**Pn**	**05 36 30.6**	**+2.1**
	baz=177							
V42A	**Cord**	**18.45**	**359**	P		**P**	**05 36 28.6**	**+0.2**
	baz=179							
SWET	**Sewanee**	**18.46**	**14**	*e*P		**P**	**05 36 28.3**	**-0.3**
	comp=Z,23nm,1.7s							
SWET				*e*Sn		**Sn**	**05 39 56.8**	**+1.8**
V40A	**Witts Springs**	**18.50**	**356**	P		**P**	**05 36 29.8**	**+0.7**
	baz=175							
V39A	**Pettigrew**	**18.61**	**354**	P		**P**	**05 36 31.2**	**+0.9**
	baz=172							
GNAR	**Gosnell**	**18.63**	**3**	*e*P		**P**	**05 36 30.4**	**-0.1**
V46A	**Holladay**	**18.64**	**8**	P		**P**	**05 36 30.8**	**+0.3**
	baz=189							
HODGE	**Hodges**	**18.67**	**24**	*e*P		**P**	**05 36 31.0**	**+0.2**
	comp=Z,20nm,1.1s							
V47A	**Nunnelly**	**18.75**	**9**	P		**P**	**05 36 31.8**	**+0.1**
	baz=191,SNR=5.6							
V48A	**Smith Brothers**	**18.78**	**11**	P		**P**	**05 36 32.8**	**+0.7**
	baz=193							
HELC	**Santa Helena**	**18.85**	**124**	*e*P		**P**	**05 36 31.4**	**-2.0**
	comp=Z,99nm,1.7s							
HELC	**Santa Helena**	**18.85**	**124**	*e*P		**P**	**05 36 32.7**	**-0.7**
SDDR	**Presa de Saban**	**18.97**	**82**	*e*P		**P**	**05 36 30.8**	**-3.6**
	comp=Z,25nm,1.0s							
TUL1	**Leonard**	**19.00**	**348**	P		**P**	**05 36 35.5**	**+1.0**
	baz=166							
TUL1	**Leonard**	**19.00**	**348**	*e*P		**P**	**05 36 32.9**	**-1.6**
	comp=Z,33nm,1.4s							
TUL1				*e*sP		**sP**	**05 36 42.3**	**+3.6**
TUL1				*e*Sn		**Sn**	**05 40 07.9**	**-0.1**
WVT	**Waverly**	**19.00**	**8**	P		**Pn**	**05 36 35.9**	**+0.6**
	baz=190							
WVT	**Waverly**	**19.00**	**8**	*e*P		**P**	**05 36 34.2**	**-0.3**
	comp=Z,61nm,1.8s							
CPCT	**Cooper Cave**	**19.03**	**17**	*e*P		**P**	**05 36 35.0**	**+0.1**
CPCT				*e*S		**Sn**	**05 40 03.7**	**-5.1**

U40A	**Yellville**	**19.05**	**356**	P		**P**	**05 36 35.9**	**+0.8**
	baz=175							
UTMT	**University of**	**19.09**	**6**	*e*P		**P**	**05 36 36.1**	**+0.6**
	comp=Z,42nm,1.1s							
BG3	**Lake Jocassee**	**19.11**	**21**	*e*P		**P**	**05 36 35.5**	**-0.2**
	comp=Z,14nm,1.1s							
U39A	**Green Forest**	**19.13**	**354**	P		**P**	**05 36 37.0**	**+1.0**
	baz=173							
LPIG	**La Paz**	**19.14**	**294**	LR		LR	05 45 13.3	
	comp=Z,224nm,19.6s,baz=105,slow=42							
MNTX	**Cornudas Mount**	**19.29**	**321**	P		**P**	**05 36 39.0**	**+1.3**
	baz=135							
MNTX	**Cornudas Mount**	**19.29**	**321**	*e*P		**P**	**05 36 39.4**	**+1.7**
	comp=Z,34nm,1.9s							
U47A	**Clarksville**	**19.39**	**9**	P		**Pn**	**05 36 40.7**	**+0.8**
	baz=191							
PBMO	**Poplar Bluff**	**19.43**	**2**	*e*P		**P**	**05 36 39.4**	**+0.2**
	comp=Z,74nm,1.8s							
TKL	**Tuckaleechee C**	**19.44**	**18**	P		**P**	**05 36 40.5**	**+1.2**
	comp=Z,0.2nm,0.3s,baz=174,slow=11,SNR=6.4							
TKL				LR		LR	05 45 35.4	
	comp=Z,612nm,18.8s,baz=196,slow=41							
TKL	**Tuckaleechee C**	**19.44**	**18**	*e*P		**P**	**05 36 39.9**	**+0.5**
	comp=Z,89nm,1.9s							
U48A	**Cassie Pea, Po**	**19.58**	**11**	P		**P**	**05 36 40.8**	**-0.1**
	baz=193							
MSTX	**Muleshoe**	**19.61**	**330**	P		**Pn**	**05 36 43.2**	**+0.6**
	baz=145							
MSTX	**Muleshoe**	**19.61**	**330**	*e*P		**P**	**05 36 41.3**	**-0.1**
	comp=Z,39nm,1.4s							
T42A	**Van Buren**	**19.67**	**0**	P		**P**	**05 36 41.9**	**+0.1**
	baz=180							
T41A	**Mountain View**	**19.69**	**359**	P		**P**	**05 36 41.8**	**-0.3**
	baz=178							
T43A	**Greenville**	**19.74**	**2**	P		**P**	**05 36 41.7**	**-0.8**
	baz=182							
T39A	**Clever**	**19.76**	**355**	P		**P**	**05 36 43.8**	**+0.9**
	baz=174							
T40A	**Mansfield**	**19.82**	**357**	P		**P**	**05 36 43.1**	**-0.5**
	baz=176							
KMSC	**Kings Mountain**	**19.83**	**24**	P		**P**	**05 36 42.7**	**-0.9**
	baz=208							
KMSC	**Kings Mountain**	**19.83**	**24**	*e*P		**P**	**05 36 42.1**	**-1.5**
	comp=Z,13nm,0.9s							
T38A	**Diamond**	**19.87**	**353**	P		**Pn**	**05 36 46.2**	**+0.6**
	baz=171							
AMTX	**Amarillo**	**19.88**	**334**	P		**P**	**05 36 44.7**	**+0.4**
	baz=149							
AMTX	**Amarillo**	**19.88**	**334**	*e*P		**P**	**05 36 43.9**	**-0.4**
	comp=Z,14nm,0.8s							
T46A	**Princeton**	**19.89**	**8**	P		**P**	**05 36 45.9**	**+1.7**
	baz=189							
T47A	**Sharon Grove**	**19.95**	**10**	P		**P**	**05 36 46.1**	**+1.2**
	baz=191							
EPT	**El Paso**	**20.03**	**319**	*e*P		**P**	**05 36 48.0**	**+2.0**
	comp=Z,6.6nm,0.8s							
S43A	**Fulton Ridge,**	**20.23**	**3**	P		**P**	**05 36 47.6**	**-0.3**
	baz=183							
S40A	**Lebanon**	**20.27**	**357**	P		**P**	**05 36 48.1**	**-0.3**
	baz=176,SNR=8.9							
TZTN	**Tazewell**	**20.33**	**18**	*e*P		Pn	05 36 54.4	+3.2
	comp=Z,26nm,1.2s							
S44A	**Carbondale**	**20.40**	**4**	P		**P**	**05 36 50.1**	**+0.3**
	baz=185,SNR=5.3							
S42A	**Caledonia**	**20.41**	**1**	P		**P**	**05 36 49.9**	**0.0**
	baz=181							
S38A	**Stockton**	**20.41**	**354**	P		**P**	**05 36 48.2**	**-1.7**
	baz=172							
S39A	**Bolivar**	**20.42**	**355**	P		**P**	**05 36 49.7**	**-0.3**
	baz=174,SNR=7.1							
SIUC	**Southern Illin**	**20.42**	**4**	*e*P		**P**	**05 36 49.9**	**-0.1**
	comp=Z,96nm,1.6s							
S45A	**Carrier Mills**	**20.44**	**6**	P		**P**	**05 36 50.8**	**+0.6**
	baz=187							
S46A	**Don Dixon Farm**	**20.55**	**8**	P		**P**	**05 36 50.8**	**-0.6**
	baz=189							
PAMC	**Pamplona, Colo**	**20.55**	**116**	*e*P		**P**	**05 36 52.6**	**+0.5**
ROSC	**El Rosal**	**20.62**	**125**	P		Pn	05 36 55.6	+0.6
	comp=Z,7.1nm,0.9s,baz=38,slow=23,SNR=14							
ROSC				LR		LR	05 45 08.4	
	comp=Z,126nm,19.3s,baz=342,slow=37							
ROSC	**El Rosal**	**20.62**	**125**	P		Pn	05 36 55.6	+0.6
	comp=Z,16nm,1.0s							
CCM	**Cathedral Cave**	**20.69**	**360**	P		**P**	**05 36 52.6**	**-0.4**
	baz=180							
CCM	**Cathedral Cave**	**20.69**	**360**	*e*P		**P**	**05 36 53.8**	**+0.8**
	comp=Z,79nm,2.0s						

comp=Z,1.7nm,0.8s,baz=322,slow=12,SNR=5.2
ANMO LR LR 05 47 58.7
comp=Z,77nm,21.0s,baz=330,slow=43
ANMO Albuquerque 22.26 325 P P 05 37 11.7 +1.6
baz=138
ANMO Albuquerque 22.26 325 *e*P P 05 37 12.1 +2.0
comp=Z,7.6nm,1.2s
P46A Rosedale 22.52 8 P P 05 37 12.5 -0.1
baz=190
CBKS Cedar Bluff 22.72 342 P P 05 37 16.9 +2.1
baz=158
CBKS Cedar Bluff 22.72 342 *e*P P 05 37 15.4 +0.7
comp=Z,14nm,1.0s
T25A Trinidad 22.97 332 P P 05 37 19.7 +2.1
baz=146
T25A Trinidad 22.97 332 *e*P P 05 37 19.6 +2.0
comp=Z,64nm,1.5s
O45A Potomac 23.07 7 P P 05 37 18.8 +0.4
baz=188
MHTCO State Highway 23.09 332 *e*P P 05 37 20.8 +1.9
comp=Z,20nm,0.9s
TUC Tucson 23.20 314 P P 05 37 21.8 +1.9
baz=126
TUC Tucson 23.20 314 *e*P P 05 37 21.4 +1.5
comp=Z,32nm,1.8s
HDIL Hopedale 23.25 4 *e*P P 05 37 21.7 +1.6
comp=Z,98nm,1.9s
O47A Sheridan 23.27 10 P P 05 37 19.7 -0.8
baz=192
SFIN Lafayette 23.28 8 P P 05 37 20.7 +0.2
baz=190
SFIN Lafayette 23.28 8 *e*P P 05 37 20.4 -0.1
comp=Z,142nm,1.9s
N46A Monticello 23.84 8 P P 05 37 28.0 +2.1
baz=190
SJG San Juan 23.84 84 LR LR 05 48 52.1
comp=Z,130nm,18.8s,baz=231,slow=41
KSCO Kaye Shedlock' 23.84 337 *e*P P 05 37 26.1 -0.2
comp=Z,44nm,1.4s
ACSO Alum Creek Sta 23.94 16 P P 05 37 26.2 -0.7
baz=199
ACSO Alum Creek Sta 23.94 16 *e*P P 05 37 26.9 0.0
comp=Z,45nm,1.6s
SDCO Great Sand Dun 23.96 331 P P 05 37 27.8 +0.2
baz=144,SNR=1.5
SDCO Great Sand Dun 23.96 331 *e*P P 05 37 27.1 -0.5
comp=Z,48nm,1.6s
M41A Milan 24.01 1 P P 05 37 28.9 +1.3
baz=181
M40A Post Highland 24.04 359 P P 05 37 26.8 -1.1
baz=179
M38A Pleasantville 24.11 356 P P 05 37 28.0 -0.6
baz=175
CBYP Canovanas 24.12 84 *e*P P 05 37 29.2 +0.3
comp=Z,70nm,1.1s
M43A Waltham Townsh 24.14 4 P P 05 37 29.0 +0.1
baz=185
S22A 4UR Ranch, Cre 24.60 329 P P 05 37 34.2 +0.8
baz=142,SNR=6.2
S22A 4UR Ranch, Cre 24.60 329 *e*P P 05 37 34.6 +1.1
comp=Z,16nm,1.3s
SCIA State Center 24.60 356 *e*P P 05 37 31.9 -1.2
comp=Z,53nm,1.8s
L40A Anamosa 24.69 360 P P 05 37 33.7 -0.1
baz=180
L41A Preston 24.71 1 P P 05 37 34.4 +0.3
baz=181
M33A Taylor Creek F 24.75 349 P P 05 37 34.5 0.0
baz=166
L39A Vinton 24.77 359 P P 05 37 34.7 +0.1
baz=178
Q24A Divide 24.81 333 P P 05 37 36.7 +1.3
baz=147
Q24A Divide 24.81 333 *e*P P 05 37 36.6 +1.3
comp=Z,8.0nm,0.9s
X16A Lo Mia Camp, P 24.90 317 *e*P P 05 37 38.2 +2.1
comp=Z,18nm,2.0s
L43A Garden Prairie 24.90 4 P P 05 37 35.8 0.0
baz=185
K40A Colesburg 25.33 0 P P 05 37 39.8 +0.1
baz=180
K39A Oelwein 25.34 359 P P 05 37 39.9 +0.2
baz=178
K42A Prairie Point, 25.46 3 P P 05 37 40.1 -0.7
baz=184,SNR=8.1
N54A Moraine State 25.49 20 P P 05 37 41.0 -0.1
baz=205
N54A Moraine State 25.49 20 *e*P P 05 37 44.2 +3.1
comp=Z,32nm,1.3s
WUAZ Wupatki 25.55 319 *e*P P 05 37 40.8 -1.2
comp=Z,7.9nm,1.2s
JFWS Jewell Farm 25.56 2 P P 05 37 41.2 -0.5
baz=182
JFWS Jewell Farm 25.56 2 *e*P P 05 37 41.0 -0.6
comp=Z,16nm,0.9s
ISCO Idaho Springs 25.70 334 P P 05 37 43.7 +0.3
baz=147
ISCO Idaho Springs 25.70 334 *e*P P 05 37 43.8 +0.3
comp=Z,12nm,1.4s
AAM Ann Arbor 25.75 13 *e*P P 05 37 42.8 -0.6
comp=Z,70nm,1.7s
SMCO Snowmass 25.80 331 *e*P P 05 37 44.9 +0.5
comp=Z,7.1nm,1.0s
J39A Decorah 25.97 359 P P 05 37 45.8 +0.4
baz=179,SNR=5.8
PV05 Paradox Valley 26.01 326 *e*P P 05 37 46.4 +0.3
comp=Z,14nm,1.6s
PHWY Pilot Hill 26.91 336 *e*P P 05 37 55.5 +1.2
comp=Z,14nm,1.6s
O20A White River Ci 27.15 330 P P 05 37 56.2 -0.2
baz=142
O20A White River Ci 27.15 330 *e*P P 05 37 56.8 +0.3
comp=Z,14nm,1.1s
ATAH Atahualpa 27.35 151 LR LR 05 48 26.5
comp=Z,135nm,18.3s,baz=332,slow=36
SRU San Rafael Swe 27.52 326 *e*P P 05 37 58.9 -0.9
comp=Z,7.7nm,1.4s
SPMN Marine on St. 27.89 358 *e*P P 05 38 03.3 +0.6
comp=Z,33nm,1.8s
P17A Butcher Ranch, 27.90 326 *e*P P 05 38 03.9 +0.8
comp=Z,10nm,1.2s
RWWY Rawlins 27.95 334 *e*P P 05 38 04.0 +0.4
comp=Z,37nm,2.0s
GLMI Grayling 28.00 10 *e*P P 05 38 04.0 +0.3
comp=Z,22nm,0.9s
TMUT Trail Mountain 28.02 326 *e*P P 05 38 04.3 0.0
comp=Z,12nm,1.6s
MPU Maple Canyon 28.77 326 *e*P P 05 38 11.8 +0.9
comp=Z,7.2nm,1.1s
SADO Sadowa 29.20 18 LR LR 05 51 16.9
comp=Z,600nm,18.2s,baz=190,slow=39
PDAR Pinedale Array 29.84 332 P P 05 38 19.9 -0.5
comp=Z,0.2nm,0.6s,baz=123,slow=7.7,SNR=2.8
HWUT Hardware Ranch 29.90 328 *e*P P 05 38 21.2 +0.3
comp=Z,15nm,1.8s
REDW Red Top Meadow 30.89 331 *e*P P 05 38 29.5 -0.2
comp=Z,18nm,1.0s
SNOW Snow King Moun 30.93 332 *e*P P 05 38 29.9 -0.1
comp=Z,20nm,1.0s
LOHW Long Hollow 30.98 332 *e*P P 05 38 30.2 -0.2
comp=Z,9.3nm,1.2s
TPAW Teton Pass 31.04 331 *e*P P 05 38 31.0 0.0
comp=Z,20nm,1.3s
MOOW Moose Ponds 31.15 332 *e*P P 05 38 31.6 -0.3
comp=Z,8.6nm,1.2s
AGMN Agassiz Nation 31.17 354 *e*P P 05 38 32.7 +1.0
comp=Z,8.5nm,1.4s
FXWY Fox Creek 31.19 332 *e*P P 05 38 32.6 +0.3
comp=Z,5.4nm,1.0s
MDND Maddock 31.26 349 *e*P P 05 38 33.1 +0.6
comp=Z,4.9nm,0.8s
IMW Indian Meadow 31.35 332 *e*P P 05 38 33.0 -0.8
comp=Z,4.4nm,1.0s
H17A Grant Village 31.58 333 *e*P P 05 38 36.9 +1.1
comp=Z,17nm,1.5s
NV01 Mina Array Sit 31.73 317 *e*P P 05 38 38.0 +0.9
NVAR Mina Array Bea 31.73 317 P P 05 38 34.6 -2.5
comp=Z,0.1nm,0.3s,baz=126,slow=9.1,SNR=2.5
NVAR LR LR 05 54 56.8
comp=Z,141nm,18.1s,baz=254,slow=43
YFT Old Faithful 31.74 333 *e*P P 05 38 42.0 +4.9
comp=Z,20nm,1.5s
KVN Kaiserville 31.95 318 *e*P P 05 38 40.3 +1.4
comp=Z,13nm,1.8s
YMR Madison River 31.97 333 *e*P P 05 38 39.9 +0.7
comp=Z,18nm,1.5s
TRQ Mont Tremblant 31.98 22 *e*P P 05 38 40.1 +1.0
YHH Holmes Hill 32.02 333 *e*P P 05 38 43.7 +4.0
comp=Z,7.1nm,1.4s

QLMT Earthquake Lak 32.30 333 *e*P P 05 38 42.9 +0.9
HLID Hailey 32.76 328 P P 05 38 46.1 0.0
baz=136
HLID Hailey 32.76 328 *e*P P 05 38 46.8 +0.8
comp=Z,3.2nm,1.1s
MCMT McKenzie Canyo 32.94 331 *e*P P 05 38 48.7 +1.0
BOZ Bozeman (W) 32.99 333 *e*P P 05 38 48.0 0.0
comp=Z,10nm,2.0s
ULM Lac du Bonnet 33.10 354 LR LR 05 55 24.2
comp=Z,28nm,18.7s,baz=192,slow=42
DLMT Dillon 33.23 332 *e*P P 05 38 49.4 -0.8
comp=Z,29nm,1.9s
LRM Limekiln Ridge 33.53 333 *e*P P 05 38 53.2 +0.5
EGMT Eagleton 34.23 338 P P 05 38 58.0 -0.7
baz=147
WVOR Wild Horse Val 34.30 323 *e*P P 05 39 05.0 +5.6
comp=Z,7.6nm,1.3s
J08A Circle Bar Ran 34.79 324 *e*P P 05 39 04.3 +0.7
comp=Z,10nm,1.1s
PTGA Pitinga 35.57 117 *e*P P 05 39 10.2 -0.3
comp=Z,13nm,0.9s
JTMT Jette 35.81 333 *e*P P 05 39 15.5 +3.2
comp=Z,17nm,1.9s
F10A Beach Ranch, E 35.88 328 *e*P P 05 39 14.6 +1.6
comp=Z,9.1nm,1.2s
YBH Yreka Blue Hor 36.36 319 LR LR 05 56 57.7
comp=Z,77nm,19.3s,baz=168,slow=41
SAML Samuel 38.01 131 *e*P P 05 39 28.6 -2.7
comp=Z,14nm,1.4s
EDM Edmonton 39.83 339 *e*P P 05 39 44.8 -1.4
comp=Z,15nm,1.0s
LPAZ La Paz 40.35 145 P P 05 39 52.2 +0.6
comp=Z,2.9nm,0.8s,baz=315,slow=8.5,SNR=12
LPAZ La Paz 40.35 145 *e*P P 05 39 52.5 +0.9
comp=Z,3.0nm,0.8s
SCHQ Schefferville 41.88 21 LR LR 05 58 03.0
comp=Z,572nm,20.8s,baz=252,slow=37
MNMC Minye Minye 41.94 149 *e*P P 05 40 05.2 +1.1
comp=Z,18nm,1.0s
YKA Yellowknife Ar 48.04 346 P P 05 40 49.7 -2.2
comp=Z,1.8nm,0.6s,baz=145,slow=7.6,SNR=16
SFJD Kangerlussuaq 56.16 18 LR LR 06 06 49.9
comp=Z,254nm,18.6s,baz=271,slow=37
INK Inuvik 57.54 343 P P 05 42 01.1 -0.9
comp=Z,1.3nm,1.0s,baz=111,slow=9.8,SNR=4.0
ILAR Eielson Array 60.17 336 P P 05 42 18.7 -1.7
comp=Z,1.0nm,1.0s,baz=134,slow=7.7,SNR=3.7
PLCA Paso Flores 60.82 162 P P 05 42 25.9 +0.7
comp=Z,1.3nm,0.8s,baz=8.1,slow=7.7,SNR=4.8
EKA Eskdalemuir Ar 74.85 36 P P 05 43 55.5 +2.1
comp=Z,2.1nm,0.8s,baz=304,slow=6.6,SNR=4.0
ESDC Sonseca Array 77.07 52 P P 05 44 08.3 +1.9
comp=Z,0.9nm,0.8s,baz=282,slow=5.7,SNR=4.4
CLL Collm 85.23 38 *i* P P 05 44 50.1 +0.6
comp=Z,37nm,1.9s
CLL Collm 85.23 38 *e*P P 05 44 50.6 +1.1
comp=Z,19nm,1.5s
BRG Berggiesshubel 85.94 38 *e*P P 05 44 56.4 +3.3
comp=Z,48nm,2.1s
KHC Kasperske Hory 86.39 40 *e*P P 05 44 58.1 +2.7
KHC Kasperske Hory 86.39 40 *e*P P 05 44 56.5 +1.1
comp=Z,13nm,2.0s
GEC2 GERESS Array S 86.57 40 *e*P P 05 44 58.3 +1.9
comp=Z,41nm,1.9s
GERES GERESS Array B 86.57 40 P P 05 44 57.2 +0.8
comp=Z,1.6nm,0.8s,baz=321,slow=3.4,SNR=8.7
GEA0 GERESS Array S 86.58 40 *e*P P 05 44 56.8 +0.4
DPC Dobruska-Polom 87.54 38 *e*P P 05 45 01.3 +0.3
VYHS Vyhne 89.82 39 *e*P P 05 45 13.8 +2.1
ASAR Alice Springs 137.44 254 PKP PKPdf 05 51 37.4 -0.1
comp=Z,0.8nm,0.8s,baz=97,slow=3.4,SNR=6.5
CMAR Chiang Mai Arr 143.12 344 PKP PKPdf 05 51 47.1 -0.8
comp=Z,0.6nm,0.7s,baz=330,slow=2.0,SNR=4.9

CSEM ***15*** *05:46:59.1±0.3, 45.52N×10.97E, h15km, ML2.9/22, Error ellipse: s-maj=4.4km s-min=2.6km az=10.0*
ROM ***15*** *05:46:59.8±0.2, 45.51N×10.97E, h6km±1km, Md2.4/18, Ml2.1/18, Error ellipse: s-maj=1.8km s-min=1.1km az=8.0*
VIE ***15*** *05:47:01.0±0.6, 45.62N×11.00E, h12km, mb1.8/5, ML2.4/11, Error ellipse: s-maj=4.1km s-min=2.7km az=13.0*

ISC 15 05:46:60.0±0.9, 45.53N±0.03×10.99E±0.02, h16km±5km, n88, σ0 64/149, 7C, Northern Italy

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ROVR	**Rover¯¤ Verone**	**0.13**	**27**	Pg		**Pg**	**05 47 03.7**	**-0.2**
ROVR				Sg		**Sg**	**05 47 05.9**	**-0.6**
	811nm,0.1s							
ROVR	**Rover¯¤ Verone**	**0.13**	**27**	Pg		**Pg**	**05 47 03.7**	**-0.2**
ROVR				Sg		**Sg**	**05 47 05.9**	**-0.6**
	811nm,0.1s							
MARN	**Marana (Italy)**	**0.19**	**55**	*e*Pg		**Pg**	**05 47 04.6**	**0.0**
MARN				*e*Sg		**Sg**	**05 47 07.9**	**+0.2**
MARN	**Marana (Italy)**	**0.19**	**55**	*e*Pg		**Pg**	**05 47 04.6**	**0.0**
MARN				*e*Sg		**Sg**	**05 47 07.9**	**+0.2**
SALO	**Salr**	**0.34**	**286**	Pg		**Pg**	**05 47 07.1**	**+0.1**
	149nm,0.2s							
SALO	**Salr**	**0.34**	**286**	Pg		**Pg**	**05 47 07.1**	**+0.1**
	149nm,0.2s							
MAGA	**Magasa**	**0.35**	**315**	Pg		**Pg**	**05 47 07.1**	**-0.2**
MAGA				Sg		**Sb**	**05 47 13.6**	**+0.2**
	506nm,0.4s							
MAGA	**Magasa**	**0.35**	**315**	Pg		**Pg**	**05 47 07.1**	**-0.2**
MAGA				Sg		**Sb**	**05 47 13.6**	**+0.2**
	506nm,0.4s							
TEOL	**Teolo**	**0.51**	**109**	Pg		**Pg**	**05 47 10.3**	**+0.2**
TEOL				Sg		**Sb**	**05 47 18.3**	**+0.5**
	151nm,0.6s							
TEOL	**Teolo**	**0.51**	**109**	Pg		**Pg**	**05 47 10.3**	**+0.2**
TEOL				Sg		**Sb**	**05 47 18.3**	**+0.5**
	151nm,0.6s							
TEOL	**Teolo**	**0.51**	**109**	*e*Pg		**Pg**	**05 47 10.3**	**+0.2**
TEOL				*e*Sg		**Sg**	**05 47 17.4**	**+0.5**
RNI	**Roncone**	**0.52**	**331**	*e*Pg		**Pg**	**05 47 09.2**	**-1.2**
RNI				*e*Sg		**Sg**	**05 47 17.2**	**-0.2**
RNI	**Roncone**	**0.52**	**331**	*e*Pg		**Pg**	**05 47 09.2**	**-1.2**
RNI				*e*Sg		**Sg**	**05 47 17.2**	**-0.2**
PANI	**Panarotta**	**0.58**	**25**	*e*Pg		**Pg**	**05 47 10.5**	**-1.0**
MABI	**Malga Bissina**	**0.62**	**328**	Pg		**Pg**	**05 47 11.7**	**-0.6**
MABI				Sg		**Sb**	**05 47 21.1**	**-0.1**
	21nm,0.1s							
MABI	**Malga Bissina**	**0.62**	**328**	Pg		**Pg**	**05 47 11.7**	**-0.6**
MABI				Sg		**Sb**	**05 47 21.1**	**-0.1**
	21nm,0.1s							
CGRP	**Cima Grappa**	**0.67**	**58**	Pg		**Pg**	**05 47 13.2**	**0.0**
CGRP				Sg		**Sb**	**05 47 23.4**	**+0.8**
	33nm,0.7s							
CGRP	**Cima Grappa**	**0.67**	**58**	Pg		**Pg**	**05 47 13.2**	**0.0**
CGRP				Sg		**Sb**	**05 47 23.4**	**+0.8**
	33nm,0.7s							
CGRP	**Cima Grappa**	**0.67**	**58**	*e*Pg		**Pg**	**05 47 13.2**	**0.0**
CGRP				*e*Sg		**Sb**	**05 47 23.0**	**+0.4**
CTI	**Castel Tesino**	**0.70**	**42**	Pg		**Pg**	**05 47 13.5**	**-0.2**
CTI				Sg		**Sb**	**05 47 24.3**	**+1.0**
	105nm,0.1s							
CTI	**Castel Tesino**	**0.70**	**42**	Pg		**Pg**	**05 47 13.5**	**-0.2**
CTI				Sg		**Sb**	**05 47 24.3**	**+1.0**
	105nm,0.1s							
OZOL	**Ozolo**	**0.88**	**3**	*e*Pg		**Pb**	**05 47 16.5**	**-0.5**
OZOL	**Ozolo**	**0.88**	**3**	*e*Pg		**Pb**	**05 47 16.5**	**-0.5**
VARN	**Col Varnada, M**	**0.91**	**59**	*e*Pg		**Pb**	**05 47 17.3**	**-0.2**
VARN	**Col Varnada, M**	**0.91**	**59**	*e*Pg		**Pb**	**05 47 17.3**	**-0.2**
CARE	**Lago del Cares**	**0.92**	**347**	*e*Pg		**Pb**	**05 47 16.9**	**-0.9**
CARE	**Lago del Cares**	**0.92**	**347**	*e*Pg		**Pb**	**05 47 16.9**	**-0.9**
APPI	**Appiano**	**0.97**	**10**	Pg		**Pg**	**05 47 18.8**	**+0.1**
APPI				Sg		**Sg**	**05 47 31.9**	**+0.5**
APPI	**Appiano**	**0.97**	**10**	Pg		**Pg**	**05 47 18.8**	**+0.1**
APPI				Sg		**Sg**	**05 47 31.9**	**+0.5**
KOSI	**Kohlern**	**0.97**	**16**	Pg		**Pn**	**05 47 19.2**	**0.0**
KOSI				Sg		**Sn**	**05 47 32.5**	**-0.3**
	33nm,0.3s							
KOSI	**Kohlern**	**0.97**	**16**	Pg		**Pn**	**05 47 19.2**	**0.0**
KOSI				Sg		**Sn**	**05 47 32.5**	**-0.3**
	33nm,0.3s							
BRMO	**Bormio**	**1.04**	**336**	Pg		**Pg**	**05 47 20.2**	**+0.1**
BRMO				Sg		**Sn**	**05 47 34.5**	**+0.1**
	7.0nm,0.2s							
BRMO	**Bormio**	**1.04**	**336**	Pg		**Pg**	**05 47 20.2**	**+0.1**
BRMO				Sg		**Sn**	**05 47 34.5**	**+0.1**
	7.0nm,0.2s							
AGOR	**Agordo**	**1.06**	**44**	Pg		**Pg**	**05 47 20.5**	**+0.1**
	47nm,0.3s							
AGOR	**Agordo**	**1.06**	**44**	*e*Pg		**Pg**	**05 47 20.5**	**+0.1**

BERNI	**Berninapass**	**1.11**	**323**	Pg		**Pb**	**05 47 20.9**	**-0.1**
BERNI				Sg		**Sn**	**05 47 36.4**	**+0.1**
	8.0nm,0.4s							
BERNI	**Berninapass**	**1.11**	**323**	Pg		**Pb**	**05 47 20.9**	**-0.1**
BERNI				Sg		**Sn**	**05 47 36.4**	**+0.1**
	8.0nm,0.4s							
MOSI	**Grossmontoni**	**1.13**	**345**	Pg		**Pn**	**05 47 21.7**	**+0.3**
MOSI				Sg		**Sn**	**05 47 37.8**	**+1.1**
	33nm,0.6s							
MOSI	**Grossmontoni**	**1.13**	**345**	Pg		**Pn**	**05 47 21.7**	**+0.3**
MOSI				Sg		**Sn**	**05 47 37.8**	**+1.1**
	33nm,0.6s							
FUORN	**Ofenpass-Fuorn**	**1.20**	**336**	Pg		**Pb**	**05 47 22.9**	**+0.3**
FUORN	**Ofenpass-Fuorn**	**1.20**	**336**	Pg		**Pb**	**05 47 22.9**	**+0.3**
ABSI	**Aberstueckl**	**1.22**	**11**	Pg		**Pg**	**05 47 23.6**	**0.0**
ABSI				Sg		**Sg**	**05 47 39.7**	**+0.1**
	44nm,0.3s							
ABSI	**Aberstueckl**	**1.22**	**11**	Pg		**Pg**	**05 47 23.6**	**0.0**
ABSI				Sg		**Sg**	**05 47 39.7**	**+0.1**
	44nm,0.3s							
STAL	**STALIGIAL**	**1.41**	**58**	Pg		**Pb**	**05 47 26.3**	**+0.3**
STAL				Sg		**Sg**	**05 47 45.5**	**0.0**
	58nm,0.2s							
STAL	**STALIGIAL**	**1.41**	**58**	Pg		**Pb**	**05 47 26.3**	**+0.3**
STAL				Sg		**Sg**	**05 47 45.5**	**0.0**
	58nm,0.2s							
MUGIO	**Muggio**	**1.42**	**287**	Pg		**Pb**	**05 47 26.3**	**+0.2**
MUGIO				Sg		**Sg**	**05 47 45.5**	**-0.2**
MUGIO	**Muggio**	**1.42**	**287**	Pg		**Pb**	**05 47 26.3**	**+0.2**
MUGIO				Sg		**Sg**	**05 47 45.5**	**-0.2**
ROSI	**Rosskopf**	**1.43**	**12**	Pg		**Pb**	**05 47 27.1**	**+0.7**
ROSI				Sg		**Sg**	**05 47 45.9**	**-0.3**
	37nm,0.4s							
ROSI	**Rosskopf**	**1.43**	**12**	Pg		**Pb**	**05 47 27.1**	**+0.7**
ROSI				Sg		**Sg**	**05 47 45.9**	**-0.3**
	37nm,0.4s							
FETA	**Feichten**	**1.50**	**353**	Pg		**Pg**	**05 47 28.6**	**-0.3**
	0.4nm,0.1s							
FETA				Sg		**Sg**	**05 47 48.2**	**-0.3**
	1.0nm,0.2s							
FETA	**Feichten**	**1.50**	**353**	*e*Pg		**Pg**	**05 47 28.6**	**-0.3**
	0.4nm,0.1s							
FETA				Sg		**Sg**	**05 47 48.2**	**-0.3**
	1.0nm,0.2s							
VARE	**Varese**	**1.59**	**283**	Pg		**Pn**	**05 47 28.2**	**+0.6**
	12nm,0.4s							
VARE	**Varese**	**1.59**	**283**	Pg		**Pn**	**05 47 28.2**	**+0.6**
	12nm,0.4s							
RISI	**Rein**	**1.61**	**28**	Pg		**Pg**	**05 47 30.6**	**-0.4**
RISI				Sg		**Sg**	**05 47 51.8**	**-0.1**
	72nm,0.3s							
RISI	**Rein**	**1.61**	**28**	Pg		**Pg**	**05 47 30.6**	**-0.4**
RISI				Sg		**Sg**	**05 47 51.8**	**-0.1**
	72nm,0.3s							
CLUD	**Cludinico**	**1.61**	**54**	*e*Pg		**Pn**	**05 47 27.1**	**-0.8**
CLUD	**Cludinico**	**1.61**	**54**	*e*Pg		**Pn**	**05 47 27.1**	**-0.8**
ABTA	**Abfaltersbach**	**1.62**	**40**	Pg		**Pg**	**05 47 30.6**	**-0.4**
	2.8nm,0.2s,SNR=12							
ABTA				Sg		**Sg**	**05 47 52.6**	**+0.5**
	7.3nm,0.2s,SNR=6.9							
ABTA	**Abfaltersbach**	**1.62**	**40**	*e*Pg		**Pg**	**05 47 30.6**	**-0.4**
	2.8nm,0.2s,SNR=12							
ABTA				Sg		**Sg**	**05 47 52.6**	**+0.5**
	7.3nm,0.2s,SNR=6.9							
FVI	**Forni Avoltri**	**1.64**	**49**	Pg		**Pb**	**05 47 30.9**	**+0.9**
FVI				Sg		**Sg**	**05 47 52.0**	**-1.0**
	13nm,0.3s							
FVI	**Forni Avoltri**	**1.64**	**49**	Pg		**Pb**	**05 47 30.9**	**+0.9**
FVI				Sg		**Sg**	**05 47 52.0**	**-1.0**
	13nm,0.3s							
ZOU	**Zoufplan**	**1.73**	**53**	*e*Pg		**Pb**	**05 47 31.5**	**+0.1**
VINO	**Villanova**	**1.76**	**65**	*e*Pg		**Pn**	**05 47 31.0**	**+1.1**
VINO	**Villanova**	**1.76**	**65**	*e*Pg		**Pn**	**05 47 31.0**	**+1.1**
WTTA	**Wattenberg**	**1.79**	**14**	Pg		**Pb**	**05 47 33.6**	**+1.0**
	0.3nm,0.2s							
WTTA				Sg		**Sg**	**05 47 56.8**	**-1.0**
	5.1nm,0.2s,SNR=7.1							
WTTA	**Wattenberg**	**1.79**	**14**	Pg		**Pb**	**05 47 33.6**	**+1.0**
	0.3nm,0.2s							
WTTA				*e*Sg		**Sg**	**05 47 56.8**	**-1.0**
	5.1nm,0.2s,SNR=7.1							
MOTA	**Moosalm**	**1.82**	**3**	Pg		**Pg**	**05 47 34.5**	**-0.4**
	0.7nm,0.1s							
MOTA	**Moosalm**	**1.82**	**3**	*e*Pg		**Pg**	**05 47 34.5**	**-0.4**
	0.7nm,0.1s							
WATA	**Walderalm**	**1.85**	**13**	Pg		**Pb**	**05 47 34.6**	**+1.0**
	1.7nm,0.2s							
WATA				Sg		**Sg**	**05 47 59.5**	**-0.2**
	1.9nm,0.1s							
WATA	**Walderalm**	**1.85**	**13**	*e*Pg		**Pb**	**05 47 34.6**	**+1.0**
	1.7nm,0.2s							
WATA				Sg		**Sg**	**05 47 59.5**	**-0.2**
	1.9nm,0.1s							
FUSIO	**Fusio**	**1.87**	**301**	Pg		**Pb**	**05 47 33.1**	**-0.7**
FUSIO	**Fusio**	**1.87**	**301**	Pg		**Pb**	**05 47 33.1**	**-0.7**
FUSIO				Sg		**Sb**	**05 47 56.9**	**-0.1**
PTCC	**Patocco-Chiusa**	**1.87**	**61**	Pg		**Pb**	**05 47 33.8**	**0.0**
PTCC				Sg		**Sb**	**05 47 57.3**	**+0.3**
PTCC	**Patocco-Chiusa**	**1.87**	**61**	Pg		**Pb**	**05 47 33.8**	**0.0**
PTCC				Sg		**Sb**	**05 47 57.3**	**+0.3**
SABO	**M.te Sabotino**	**1.89**	**75**	*e*Pn		**Pb**	**05 47 33.0**	**-1.1**
SABO	**M.te Sabotino**	**1.89**	**75**	*e*Pn		**Pb**	**05 47 33.0**	**-1.1**
DAVA	**Damuels**	**1.92**	**337**	Pg		**Pg**	**05 47 37.1**	**+0.3**
	1.9nm,0.3s							
DAVA	**Damuels**	**1.92**	**337**	*e*Pg		**Pg**	**05 47 37.1**	**+0.3**
	1.9nm,0.3s							
RETA	**Reutte**	**1.97**	**356**	Pg		**Pb**	**05 47 36.4**	**+0.9**
	0.6nm,0.2s							
RETA				Sg		**Sg**	**05 48 02.8**	**-0.5**
	0.7nm,0.2s							
RETA	**Reutte**	**1.97**	**356**	Pg		**Pb**	**05 47 36.4**	**+0.9**
	0.6nm,0.2s							
RETA				Sg		**Sg**	**05 48 02.8**	**-0.5**
	0.7nm,0.2s							
MYKA	**Terra Mystica**	**2.15**	**58**	Pg		**Pb**	**05 47 38.8**	**+0.2**
	1.3nm,0.3s							
MYKA				Sg		**Sg**	**05 48 08.5**	**-0.7**
MYKA	**Terra Mystica**	**2.15**	**58**	Pg		**Pb**	**05 47 38.8**	**+0.2**
	1.3nm,0.3s							
MYKA				Sg		**Sg**	**05 48 08.5**	**-0.7**
KBA	**Koelnbreinsper**	**2.25**	**46**	Pg		**Pg**	**05 47 42.4**	**-0.8**
	1.6nm,0.2s							
KBA				Sg		**Sg**	**05 48 11.5**	**-1.0**
	1.1nm,0.2s							
KBA	**Koelnbreinsper**	**2.25**	**46**	*e*Pg		**Pg**	**05 47 42.4**	**-0.8**
	1.6nm,0.2s							
KBA				Sg		**Sg**	**05 48 11.5**	**-1.0**
	1.1nm,0.2s							
OBKA	**Obir**	**2.67**	**67**	Pg		**Pg**	**05 47 50.2**	**-1.0**
	0.9nm,0.3s							
OBKA				Sg		**Sg**	**05 48 26.4**	**+0.6**
	2.4nm,0.4s							
OBKA	**Obir**	**2.67**	**67**	*e*Pg		**Pg**	**05 47 50.2**	**-1.0**
	0.9nm,0.3s							
OBKA				Sg		**Sg**	**05 48 26.4**	**+0.6**
	2.4nm,0.4s							
NVLJ	**Novalja**	**2.92**	**108**	*e*Pn		**Pn**	**05 47 46.9**	**+1.1**
NVLJ				Sn		**Sn**	**05 48 18.0**	**-2.4**
NVLJ	**Novalja**	**2.92**	**108**	*e*Pn		**Pn**	**05 47 46.8**	**+1.1**
NVLJ				Sn		**Sn**	**05 48 18.0**	**-2.4**

IDC ***15*** *05:57:36.2±0.3, 2.60N×90.31E, h0km, mb5.4/42, mb1 5.5/43, mb1mx5.4/63, mbtmp5.4/43, ML5.6/2, MS5.8/60, Ms1 5.8/60, ms1mx5.8/65, Error ellipse: s-maj=11.9km s-min=8.8km az=40.0*
ISCJB ***15*** *05:57:36.6±0.5, 2.58N×0.02×90.26E±0.01, h12km±3km, mb5.9/263, MS6.0/279, Error ellipse: s-maj=3.2km s-min=2.1km az=25.0*
EAF ***15*** *05:57:37.3±7.4, 0.95N×90.13E, h0km±442km*
BJI ***15*** *05:57:37.3, 2.55N×90.30E, h15km, mb5.8/92, mB6.1/74, Ms6.3/96, Ms7 6.0/88*

MOS ***15*** *05:57:39.1±0.8,2.°57N×90.°27E,h33km,mb6.2/83, MS5.9/79,Error ellipse: s-maj=5.9km s-min=3.8km az=113.0*

GCMT ***15*** *05:57:40.1±0.1,2.°49N×90.°31E,h33km,MW6.3/147, Moment Tensor Solution. s147,c327; s145,c564; Duration: 3s3 Moment tensor: Scale 10¹⁸Nm; Mrr-0.06±.01; Mθθ-1.45±.01; Mϕϕ1.51±.01; Mrθ-1.44±.03; Mθϕ-2.32±.01; Mϕr-0.47±.03; Best double couple: Mw3.10200×10¹⁸ NP1:ϕs108.00000°,δ78.00000°, λ-158.00000°. NP2:ϕs13.00000°,δ68.00000°, λ-13.00000°. Principal axes: T 2.8130, Plg6.0000°, Azm240.0000°; N 0.5790, Plg65.0000°, Azm136.0000°; P -3.3920, Plg24.0000°, Azm332.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

NEIC ***15*** *05:57:40.1±0.1,2.°58N×90.°27E,h25km,mb6.1/77,ME6.8, MS6.1/160,MW6.2,MW6.2,MW6.2 Error ellipse: s-maj=3.8km s-min=2.5km az=205.0,Moment Tensor Solution. s75 Moment tensor: Scale 10¹⁸Nm; Mrr-0.18; Mθθ-1.31; Mϕϕ 1.48; Mrθ-0.73; Mθϕ-2.30; Mϕr-0.03; Best double couple: Mw2.80000×10¹⁸ NP1:ϕs15.00000°, δ75.00000°,λ-6.00000°. NP2:ϕs106.00000°,δ85.00000°, λ-165.00000°. Principal axes: T 2.8100, Plg6.0000°, Azm240.0000°; N -0.0500, Plg74.0000°, Azm126.0000°; P -2.7700, Plg14.0000°, Azm331.0000°; Broadband fault plane solution: P waves. NP1:ϕs106.00000°, δ85.00000°,λ-170.00000°. NP2:ϕs15.00000°,δ80.00000°, λ-5.00000°. Principal axes: T Plg4.0000°, Azm240.0000°; N Plg0.0000°, Azm0.0000°; P Plg11.0000°, Azm331.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*

NEIC Felt at Manapakkam and Nerkunram, India and at Matara, Sri Lanka.

NEIC ***15*** *05:58:00.2±0.0,2.°57N×90.°09E,h32km,Moment Tensor Solution. s78 Moment tensor: Scale 10¹⁸Nm; Mrr0.01; Mθθ-1.46; Mϕϕ 1.45; Mrθ-0.21; Mθϕ-2.22; Mϕr-0.47; Best double couple: Mw2.70000×10¹⁸ NP1:ϕs107.00000°, δ79.00000°,λ-179.00000°. NP2:ϕs16.00000°,δ89.00000°, λ-11.00000°. Principal axes: T 2.6800, Plg7.0000°, Azm62.0000°; N 0.0400, Plg79.0000°, Azm190.0000°; P -2.7200, Plg8.0000°, Azm331.0000°;*

ISC 15 05:57:40.1±0.3, 2.°58N±0.°03×90.°34E±0.°03, h25km±1km, h25km:pP-P,n1646,σ1s85/1773,mb6.0/282,MS6.0/306, 68C-112D,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MLSI	**Meulaboh, Aceh**	**6.28**	**74**	P		**Pn**		**05 59 12.2**	**+0.9**
	20μm,0.9s,151μm218μm61nm								
MLSI	**Meulaboh, Aceh**	**6.28**	**74**	S		Sn		05 59 41.5	-41
	61nm218μm151μm20μm,0.9s								
TPTI		**6.87**	**84**	P		**Pn**		**05 59 20.2**	**+0.9**
	5μm,1.2s,89μm203μm28nm								
TPTI		**6.87**	**84**	S		Sn		05 59 51.5	-45
	28nm203μm89μm5μm,1.2s								
LHMI	**Lhok Sumawe**	**7.10**	**68**	P		**Pn**		**05 59 25.1**	**+2.5**
	10μm,1.1s,113μm206μm49nm								
LHMI	**Lhok Sumawe**	**7.10**	**68**	*e*Pn		**Pn**		**05 59 25.0**	**+2.5**
GSI	**Gunungsitoli**	**7.35**	**100**	P		**Pn**		**05 59 25.6**	**-0.3**
	3μm,0.8s,50μm66μm39nm								
GSI	**Gunungsitoli**	**7.35**	**100**	*e*Pn		**Pn**		**05 59 26.3**	**+0.4**
GSI				*e*Sn		**Sn**		**06 00 47.9**	**-0.7**
GSI	**Gunungsitoli**	**7.35**	**100**	S		Sn		06 00 00.7	-48
	39nm66μm50μm3μm,0.8s								
KCSI	**Kotacane, Aceh**	**7.48**	**83**	P		**Pn**		**05 59 29.6**	**+1.8**
	10μm,0.8s,92μm58nm								
KCSI				S		**Sn**		**06 00 47.5**	**-4.5**
	10μm,0.8s,92μm58nm								
TSI	**Tuntungan**	**8.27**	**83**	P		**Pn**		**05 59 39.8**	**+1.2**
	5μm,1.0s,73μm								
PBA	**Port Blair**	**9.33**	**15**	*e*P		Pn		05 59 52.6	-0.5
MNSI	**Mandailing Nat**	**9.41**	**101**	P		**Pn**		**05 59 53.4**	**-0.8**
	2μm,0.8s,33μm								
PKDT	**Phuket**	**9.55**	**56**	P		**Pn**		**05 59 56.0**	**-0.2**
	3μm,1.0s,23μm								
SISI	**Saibi**	**9.57**	**114**	P		**Pn**		**05 59 54.2**	**-2.3**
	2μm,1.8s,23μm53μm								
SURT	**Suratani**	**10.53**	**53**	P		**Pn**		**06 00 09.5**	**-0.1**
	2μm,1.0s,17μm								
PALK	**Pallekele**	**10.67**	**296**	Pn		**Pn**		**06 00 09.1**	**-2.5**
	166nm,0.3s,baz=116,slow=13,SNR=555								
PALK				Sn		Sn		06 01 58.8	-11
	1μm,0.3s,baz=116,slow=4.2,SNR=27								
PALK				LR		LR		06 03 52.4	
	comp=Z,40μm,20.1s,baz=112,slow=35								
PALK	**Pallekele**	**10.67**	**296**	*e*Pn		**Pn**		**06 00 11.4**	**-0.1**
PALK				Sn		Sn		06 01 58.8	-11
PALK	**Pallekele**	**10.67**	**296**	*i* P		**Pn**		**06 00 10.4**	**-1.1**
	SNR=308								
PALK	**Pallekele**	**10.67**	**296**	*i* P		**Pn**		**06 00 10.9**	**-0.6**
PDSI	**Padang**	**10.70**	**109**	P		**Pn**		**06 00 10.8**	**-1.2**
	603nm,0.7s,16μm								
IPM	**Ipoh**	**10.83**	**80**	*e*Pn		**Pn**		**06 00 13.9**	**+0.1**
DGPR	**DIGLIPUR**	**10.84**	**14**	*e*P		**Pn**		**06 00 14.7**	**+0.9**
BKNI	**Bangkinang**	**10.93**	**102**	P		**Pn**		**06 00 13.9**	**-1.2**
	2μm,1.1s,18μm13μm								
BKNI	**Bangkinang**	**10.93**	**102**	*e*Pn		**Pn**		**06 00 14.5**	**-0.6**
SKLT	**Songkhla**	**11.21**	**66**	P		**Pn**		**06 00 18.0**	**-0.9**
	4μm,1.5s,45μm								
SDSI	**Sungai Dareh**	**11.63**	**107**	P		**Pn**		**06 00 25.6**	**+1.0**
	0.8nm,0.7s,37nm								
RGRI	**Rengat**	**12.34**	**103**	P		**Pn**		**06 00 33.7**	**-0.7**
	805nm,0.9s,50μm								
MASI	**Maura Aman, Be**	**13.19**	**115**	P		**Pn**		**06 00 44.3**	**-1.7**
	2μm,1.1s,26μm								
MYKOM	**Kota Tinggi**	**13.53**	**93**	*e*Pn		**Pn**		**06 00 49.9**	**-0.7**
JMBI	**JAMBI**	**13.95**	**107**	P		**P**		**06 01 05.2**	**+1.0**
TPRI	**Tanjung Pinang**	**14.28**	**96**	P		**Pn**		**06 01 01.6**	**+0.7**
	304nm,0.7s								
MNAI	**Manna**	**14.37**	**119**	P		**Pn**		**06 01 00.5**	**-1.7**
	1μm,0.7s,17μm43μm								
MNAI	**Manna**	**14.37**	**119**	*e*Pn		**Pn**		**06 01 01.4**	**-0.8**
MDRS	**Chennai**	**14.43**	**317**	*e*P		**Pn**		**06 01 01.6**	**-1.3**
TRD	**Trivandrum**	**14.55**	**294**	*e*P		**Pn**		**06 01 03.2**	**-1.5**
SRDT	**SRDT**	**14.56**	**36**	P		**Pn**		**06 01 04.8**	**+0.1**
	1μm,1.2s,15μm								
SKHT	**Srikalahasti**	**15.27**	**317**	*e*P		**Pn**		**06 01 11.9**	**-2.4**
MDSI	**Maura Dua**	**15.51**	**117**	P		**Pn**		**06 01 15.8**	**-1.6**
	617nm,1.0s,10μm34μm								
CHBT	**CHBT**	**15.59**	**49**	P		**Pn**		**06 01 19.4**	**+1.0**
	3μm,1.2s,144μm								
LWLI	**Liwa**	**15.65**	**119**	P		**Pn**		**06 01 20.5**	**+1.2**
	2μm,1.0s,22μm								
COCO	**West Island**	**16.03**	**156**	*e*Pn		**Pn**		**06 01 20.8**	**-3.3**
	3μm,1.2s								
COCO	**West Island**	**16.03**	**156**	Pn		**Pn**		**06 01 24.8**	**+0.7**
	SNR=15								
COCO	**West Island**	**16.03**	**156**	P		**Pn**		**06 01 24.8**	**+0.7**
	SNR=15								
COCO	**West Island**	**16.03**	**156**	*e*P		**Pn**		**06 01 20.8**	**-3.3**
COCO				pmax		pmax			
	comp=Z,3μm,1.2s								
KASI	**Kota Agung**	**16.27**	**120**	P		**Pn**		**06 01 26.5**	**-0.7**
	comp=Z,2μm,0.9s,comp=Z,22μmcomp=Z,43μm								
KLI	**Kotabumi**	**16.28**	**117**	P		**P**		**06 01 31.4**	**+1.2**
PPBI	**Pangkal Pinang**	**16.48**	**106**	P		**Pn**		**06 01 30.8**	**+0.9**
	comp=Z,3.3nm,1.1s								
VIS	**Vishakhapatnam**	**16.54**	**336**	*e*P		**Pn**		**06 01 30.3**	**-0.3**
VIS				IAmb		IAmb		06 01 33.8	
	comp=Z,4μm,1.3s								
ADKI	**Addanki**	**16.67**	**323**	*e*P		**Pn**		**06 01 30.1**	**-2.1**
BLSI	**Bandar Lampung**	**16.86**	**118**	P		**P**		**06 01 36.4**	**-0.1**
	comp=Z,931nm,0.8s,comp=Z,14μmcomp=Z,36μm								
PVM	**Polavaram**	**16.90**	**330**	*e*P		**Pn**		**06 01 32.6**	**-2.5**
CHLP	**Challavanipeta**	**16.98**	**339**	*e*P		**Pn**		**06 01 35.0**	**-1.0**
PBKT	**Sadao Pong**	**17.40**	**36**	P		**Pn**		**06 01 40.2**	**-1.1**
	comp=Z,3μm,1.3s,comp=Z,34μm								
SRLM	**Srisailam**	**17.53**	**321**	*e*P		**Pn**		**06 01 41.7**	**-1.4**
NJS	**Nagarjunasagar**	**17.62**	**323**	*e*P		**Pn**		**06 01 42.4**	**-1.7**
URV	**Uravakonda**	**17.81**	**314**	*e*P		**Pn**		**06 01 45.8**	**-0.8**
CM01	**Chiang Mai Arr**	**17.87**	**28**	*e*Pn		**Pn**		**06 01 47.0**	**-0.1**
CM31	**Chiang Mai Arr**	**17.89**	**28**	*e*Pn		**Pn**		**06 01 47.2**	**-0.3**
CMAR	**Chiang Mai Arr**	**17.89**	**28**	P		**Pn**		**06 01 47.1**	**-0.3**
	comp=Z,2.8nm,0.3s,baz=219,slow=13,SNR=100								
CMAR				LR		LR		06 09 36.1	
	comp=Z,41μm,18.5s,baz=215,slow=40								
SBJI	**Serang**	**17.98**	**119**	P		**P**		**06 01 51.5**	**+2.5**
MNCY	**Minicoy**	**18.12**	**289**	*e*P		**Pn**		**06 01 49.1**	**-1.2**
CHTO	**Chiang Mai**	**18.20**	**27**	P		**P**		**06 01 52.0**	**+0.6**
	comp=Z,3μm,1.4s,comp=Z,54μm								
CHTO	**Chiang Mai**	**18.20**	**27**	*e*Pn		**Pn**		**06 01 50.8**	**-0.5**
	comp=Z,1μm,1.3s								
CHTO	**Chiang Mai**	**18.20**	**27**	P		**P**		**06 01 52.4**	**+1.1**
	SNR=692								
CHTO	**Chiang Mai**	**18.20**	**27**	P		**P**		**06 01 52.4**	**+1.1**
	SNR=692								
CHTO	**Chiang Mai**	**18.20**	**27**	*e*P		**Pn**		**06 01 50.8**	**-0.5**
CHTO				pmax		pmax			
	comp=Z,1μm,1.3s								
CMMT	**Chiang Mai**	**18.20**	**27**	P		**Pn**		**06 01 50.9**	**-0.4**
	comp=Z,757nm,1.4s,comp=Z,12μm								
TNG	**Tangerang**	**18.46**	**118**	P		**P**		**06 01 57.7**	**+3.4**
TNG				P		**P**		**06 01 58.2**	**+3.9**
HYB	**Hyderabad**	**18.74**	**323**	*i* P		**P**		**06 01 57.0**	**-0.3**
	comp=Z,1μm,1.0s								
HYB				*e*S		**Sn**		**06 05 26.0**	**-1.0**
HYB				LR		LR			
	comp=Z,26nm,20.0s								
HYB	**Hyderabad**	**18.74**	**323**	*e*P		**P**		**06 01 57.4**	**+0.1**
HYB				IAmb		IAmb		06 01 58.9	
	comp=Z,2μm,1.3s								
HYBB	**Hyderabad (bro**	**18.74**	**323**	*e*P		**P**		**06 01 57.6**	**+0.2**
SKJI	**Sukabumi**	**18.78**	**121**	P		**Pn**		**06 01 59.8**	**+1.4**
	comp=Z,3μm,0.8s,comp=Z,25μm								
RPR	**Rampur**	**19.46**	**327**	*e*P		**Pn**		**06 02 06.2**	**-0.3**
SKNT	**Sakolnakorn**	**19.61**	**42**	P		**P**		**06 02 06.4**	**-0.4**
	comp=Z,435nm,1.1s,comp=Z,13μm								
LEM	**Lembang**	**19.62**	**119**	P		**Pn**		**06 02 09.5**	**+0.9**
	comp=Z,6.8nm,0.3s,baz=306,slow=3.3,SNR=54								
LEM				LR		LR		06 09 19.5	
	comp=Z,33μm,18.2s,baz=284,slow=36								
KSM	**Kuching**	**19.99**	**93**	*e*P		**Pn**		**06 02 13.0**	**+0.2**
	comp=Z,1μm,1.2s								
KSM				LR		LR			
	comp=Z,13μm,20.0s								
XMIS	**Christmas Isla**	**20.02**	**131**	*e*P		**P**		**06 02 11.9**	**+0.5**
	comp=Z,1μm,1.2s								
JCJI	**Jatiwangi**	**20.05**	**117**	P		Pn		06 02 14.6	+1.1
	comp=Z,3μm,1.4s,comp=Z,35μmcomp=Z,37μm								
SRSP	**Sriramsagar**	**20.05**	**325**	*e*P		Pn		06 02 12.6	-0.8
CISI	**Cisompet, Garu**	**20.14**	**120**	P		Pn		06 02 14.0	-0.6
	comp=Z,2μm,0.7s,comp=Z,25μmcomp=Z,33μm								
CISI	**Cisompet, Garu**	**20.14**	**120**	*e*P		Pn		06 02 13.9	-0.8
	comp=Z,1μm,0.8s								
DGAR	**Diego Garcia**	**20.42**	**241**	*e*P		**P**		**06 02 15.0**	**-0.7**
	comp=Z,917nm,1.2s								
DGAR				LR		LR			
	comp=Z,11μm,20.0s								
DGAR	**Diego Garcia**	**20.42**	**241**	Pn		**P**		**06 02 15.5**	**-0.2**
	SNR=10								
DGAR	**Diego Garcia**	**20.42**	**241**	P		**P**		**06 02 15.5**	**-0.2**
	SNR=10								
DGAR	**Diego Garcia**	**20.42**	**241**	*e*P		**P**		**06 02 15.0**	**-0.7**
DGAR				pmax		pmax			
	comp=Z,917nm,1.2s								
DGAR				MLR		MLR			
	comp=Z,11μm,20.0s								
KLRI	**Killari**	**20.46**	**320**	*e*P		**P**		**06 02 16.8**	**+0.7**
H08S2	**Diego Garcia H**	**20.50**	**240**	P		**P**		**06 02 16.0**	**-0.2**
	baz=44,slow=14,SNR=254								
H08S2				T		T		06 23 23.6	
	baz=57								
H08S3	**Diego Garcia H**	**20.50**	**240**	P		**P**		**06 02 16.0**	**-0.2**
	baz=44,slow=14,SNR=339								
H08S3				T		T		06 23 37.4	
	baz=57,slow=74,SNR=1564								
H08S1	**Diego Garcia H**	**20.51**	**240**	P		**P**		**06 02 16.2**	**-0.2**
	baz=44,slow=14,SNR=408								
H08S1				T		T		06 23 14.3	
	baz=57,slow=74,SNR=2106								
BELO	**BELONIA**	**20.57**	**3**	*e*P		**P**		**06 02 18.2**	**+1.0**
GOA	**Goa**	**20.72**	**309**	*e*P		**P**		**06 02 20.0**	**+1.1**
KPJI	**Karang Pucung**	**21.01**	**118**	P		**P**		**06 02 23.3**	**+1.3**
	comp=Z,981nm,0.7s,comp=Z,17μm								
AGT	**Agartala**	**21.20**	**2**	*e*P		**P**		**06 02 26.7**	**+2.8**
H08N1	**Diego Carcia H**	**21.23**	**245**	P		**P**		**06 02 19.4**	**-4.7**
	baz=72,slow=6.7,SNR=1950								
H08N2	**Diego Garcia H**	**21.24**	**245**	P		**P**		**06 02 19.5**	**-4.7**
	baz=72,slow=6.7,SNR=2075								
H08N3	**Diego Garcia H**	**21.25**	**245**	P		**P**		**06 02 19.6**	**-4.7**
	baz=72,slow=6.7,SNR=2134								
STKI	**Sintang**	**21.28**	**96**	P		**P**		**06 02 27.3**	**+2.3**
	comp=Z,1μm,1.1s,comp=Z,20μmcomp=Z,17μm								
NGP	**Nagpur**	**21.48**	**330**	*e*P		**P**		**06 02 27.0**	**-0.1**
NGP				IAmb		IAmb		06 02 30.3	
	comp=Z,1μm,1.5s								
NGP				⇓*ex*		x		06 06 30.4	
BOK	**Bokaro**	**21.52**	**349**	*e*P		**P**		**06 02 27.4**	**-0.1**
BOK				IAmb		IAmb		06 02 30.9	
	comp=Z,1μm,1.1s								
SBUM	**Sibu**	**21.86**	**90**	*e*P		**P**		**06 02 32.8**	**+1.5**
	comp=Z,610nm,1.0s								
PBKI	**Pangkalan Bun**	**21.96**	**104**	P		**P**		**06 02 34.3**	**+2.0**
	comp=Z,2μm,1.1s,comp=Z,20μm								
SMRI	**Semarang**	**22.23**	**116**	P		**P**		**06 02 36.3**	**+1.1**
	comp=Z,2μm,1.1s,comp=Z,28μm								
SMRI	**Semarang**	**22.23**	**116**	*e*P		**P**		**06 02 36.1**	**+0.9**
	comp=Z,2μm,1.0s								
IMP	**Imphal**	**22.39**	**9**	*e*P		**P**		**06 02 40.2**	**+3.2**
POO	**Poona**	**22.63**	**316**	⇓*i*P		**P**		**06 02 37.0**	**-2.5**
	comp=Z,85nm,1.0s								
POO				*i* PP		**PnPn**		**06 03 04.5**	**+0.9**
POO				*i* PPP		PPP		06 03 14.5	
POO				*e*PCP		**PcP**		**06 06 32.5**	**+0.4**
POO				*i* S		**S**		**06 06 40.0**	**-6.2**
POO				*i* LQ		LQ		06 07 01.0	
POO				*i* SS		**SnSn**		**06 07 20.5**	**+3.8**
POO				*i* SSS		SSS		06 07 35.0	
POO				*i* LR		LR		06 08 05.5	
POO				*e*PCS		**PcS**		**06 10 10.5**	**-0.8**
POO	**Poona**	**22.63**	**316**	*e*P		**P**		**06 02 37.8**	**-1.7**
POO				IAmb		IAmb		06 02 52.9	
	comp=Z,2μm,1.3s								
UGM	**Wanagama**	**22.68**	**118**	P		**P**		**06 02 43.0**	**+3.0**
UGM	**Wanagama**	**22.68**	**118**	*e*P		**P**		**06 02 41.5**	**+1.6**
	comp=Z,1μm,1.0s								
TURI	**Tura**	**22.84**	**360**	*e*P		**P**		**06 02 40.9**	**-0.7**
SHL	**Shillong**	**22.90**	**4**	⇑*i*P		**P**		**06 02 41.5**	**-0.9**
SHL				IAmb		IAmb		06 02 44.8	
	comp=Z,518nm,1.2s								
SHL				*e*S		**S**		**06 06 53.0**	**+2.0**
WOJI	**Wonogiri, Jawa**	**23.00**	**117**	P		**P**		**06 02 42.8**	**-0.5**
	comp=Z,457nm,1.0s,comp=Z,7μm								
KOHI	**KOHIMA**	**23.29**	**9**	*e*P		**P**		**06 02 45.3**	**-1.1**
PCJI	**Pacitan**	**23.38**	**117**	P		**P**		**06 02 46.6**	**-0.6**
	comp=Z,780nm,1.4s,comp=Z,11μm								
TBJI	**Tambak Boyo**	**23.41**	**114**	P		**P**		**06 02 50.6**	**+3.1**
GUWA	**GUWAHATI**	**23.51**	**3**	*e*P		**P**		**06 02 49.3**	**+1.0**
BOM	**Bombay**	**23.60**	**315**	*i* S		Sn		06 07 21.6	-2.2
BWJI	**Bawean**	**23.81**	**111**	P		**P**		**06 02 58.4**	**+7.0**
PWJI	**Pagerwojo**	**23.86**	**116**	P		**P**		**06 02 51.9**	**+0.1**
	comp=Z,307nm,0.7s,comp=Z,4μm								
MOKO	**MOKOCHONG**	**23.94**	**9**	*e*P		**P**		**06 02 51.4**	**-1.3**
TEZP	**TEZPUR**	**24.02**	**5**	*e*P		**P**		**06 02 53.1**	**0.0**
BHPL	**Bhopal**	**24.05**	**330**	*e*P		**P**		**06 02 53.4**	**-0.2**
BHPL				IAmb		IAmb		06 02 56.5	
	comp=Z,446nm,0.4s								
ODAN	**Odare**	**24.31**	**354**	*e*P		**P**		**06 02 56.9**	**+0.8**
	comp=Z,1μm,0.9s								
JORH	**JORHAT**	**24.32**	**9**	*e*P		**P**		**06 02 56.1**	**+0.2**
RAMN	**Ramite**	**24.49**	**352**	*e*P		**P**		**06 02 59.4**	**+1.6**
	comp=Z,862nm,0.6s								
ITAN	**ITANAGAR**	**24.64**	**7**	*e*P		**P**		**06 03 00.8**	**+2.0**
GTK	**Tadong**	**24.66**	**356**	*e*P		**P**		**06 03 00.2**	**+1.1**
MTKI	**Muara Teweh, K**	**24.80**	**98**	P		**P**		**06 03 02.0**	**+1.5**
	comp=Z,1μm,1.4s,comp=Z,15μm								
QIZ	**Qiongzhong**	**25.13**	**48**	P		**P**		**06 03 05.3**	**+1.9**
QIZ				sP		**pP**		**06 03 09.6**	**-1.2**
QIZ				S		**S**		**06 07 31.1**	**+4.1**
QIZ				pmax		pmax			
	comp=Z,100nm,1.0s								
QIZ				pmax		pmax			
	comp=Z,3μm,5.3s								
QIZ				LR		LR			
	comp=Z,40μm,18.1s								
QIZ				LR		LR			
	comp=Z,13μm,14.9s								
QIZ				LR		LR			
	comp=Z,24μm,14.9s								
QIZ	**Qiongzhong**	**25.13**	**48**	*e*P		**P**		**06 03 04.3**	**+0.9**
	comp=Z,2μm,1.0s								
QIZ				*e*S		**S**		**06 07 23.6**	**-3.4**
QIZ				LR		LR			
	comp=Z,23μm,20.0s								
LKP	**Lekhapani**	**25.17**	**12**	*e*P		**P**		**06 03 02.6**	**-1.1**
JIRN	**Jiri**	**25.25**	**351**	*e*P		**P**		**06 03 06.0**	**+1.2**
	comp=Z,796nm,0.9s								
BLJI	**Banyuglugur**	**25.37**	**114**	P		**P**		**06 03 05.6**	**0.0**
	comp=Z,341nm,0.9s,comp=Z,7μm								
DMN	**Daman**	**25.39**	**349**	*e*P		**P**		**06 03 07.6**	**+1.7**
KMI	**Kunming**	**25.40**	**27**	P		**P**		**06 03 08.3**	**+2.3**
KMI				pP		pP		06 03 13.6	+0.2
KMI				sP		sP		06 03 16.4	-0.1
KMI				S		**S**		**06 07 35.5**	**+3.9**
KMI				sS		sS		06 07 46.0	+2.2
KMI				pmax		pmax			
	comp=Z,260nm,1.1s								
KMI				LR		LR			
	comp=Z,33μm,18.9s								
KMI				LR		LR			
	comp=Z,24μm,17.0s								
KMI				LR		LR			
	comp=Z,44μm,20.4s								
GMJI	**Gumukmas**	**25.44**	**115**	P		**P**		**06 03 05.5**	**-0.8**
	comp=Z,225nm,1.0s,comp=Z,3μm								
KMMI	**Kalianget**	**25.45**	**112**	P		**P**		**06 03 06.8**	**+0.5**
	comp=Z,424nm,1.0s,comp=Z,7μm								
KKN	**Kakani**	**25.53**	**350**	*e*P		**P**		**06 03 08.4**	**+1.2**
	comp=Z,690nm,1.3s								
GUN	**Gumba**	**25.55**	**351**	*e*P		**P**		**06 03 09.1**	**+1.6**
GKN	**Gorkha**	**25.86**	**348**	*e*P		**P**		**06 03 11.8**	**+1.7**
KOLN	**Koldanda**	**25.86**	**346**	*e*P		**P**		**06 03 12.1**	**+1.9**
	comp=Z,674nm,0.8s								
ABJI	**Asem Bagus**	**25.97**	**114**	P		**P**		**06 03 11.4**	**+0.3**
	comp=Z,268nm,0.9s,comp=Z,5μmcomp=Z,10μm								
KKM	**Kota Kinabalu**	**26.03**	**82**	*e*P		**P**		**06 03 13.4**	**+1.6**
	comp=Z,773nm,1.2s								
KKM				LR		LR			
	comp=Z,14μm,19.0s								
JAGI	**Jajag, Banyuwa**	**26.16**	**115**	P		**P**		**06 03 11.5**	**-1.3**
	comp=Z,553nm,0.9s,comp=Z,5μm								
JAGI	**Jajag, Banyuwa**	**26.16**	**115**	*e*P		**P**		**06 03 11.3**	**-1.5**
	comp=Z,436nm,0.9s								
PYUN	**Piuthan**	**26.33**	**345**	*e*P		**P**		**06 03 16.1**	**+1.7**
	comp=Z,4μm,1.2s								
KBKI	**Kotabaru**	**26.47**	**103**	P		**P**		**06 03 17.7**	**+2.1**
	comp=Z,633nm,1.3s,comp=Z,9μm								
BKB	**Balikpapan**	**26.83**	**98**	P		**P**		**06 03 21.4**	**+2.6**
	comp=Z,968nm,1.0s,comp=Z,13μmcomp=Z,11μm								
SRBI	**Singaraja**	**26.98**	**113**	P		**P**		**06 03 20.1**	**-0.1**
	comp=Z,298nm,0.8s,comp=Z,5μm								
LSA	**Lhasa**	**26.98**	**2**	P		**P**		**06 03 22.3**	**+1.8**
LSA				S		**S**		**06 07 57.8**	**+0.9**
LSA				pmax		pmax			
	comp=Z,360nm,1.3s								
LSA				LR		LR			
	comp=Z,28μm,19.8s								
LSA				LR		LR			
	comp=Z,22μm,18.2s								
LSA				LR		LR			
	comp=Z,78μm,19.8s								
LSA	**Lhasa**	**26.98**	**2**	*e*P		**P**		**06 03 22.4**	**+1.8**
	comp=Z,886nm,1.0s								
LSA				*e*S		**S**		**06 07 58.6**	**+1.7**
LSA				LR		LR			
	comp=Z,82μm,20.0s								
LSA	**Lhasa**	**26.98**	**2**	P		**P**		**06 03 22.3**	**+1.8**
LSA	**Lhasa**	**26.98**	**2**	*e*P		**P**		**06 03 22.4**	**+1.8**
LSA				*e*S		**S**		**06 07 58.6**	**+1.7**
LSA				pmax		pmax			
	comp=Z,886nm,1.0s								
LSA				MLR		MLR			
	comp=Z,82μm,20.0s								
SMKI	**Samarinda**	**27.03**	**96**	P		**P**		**06 03 26.0**	**+5.3**
IGBI	**Denpasar**	**27.20**	**115**	P		**P**		**06 03 24.7**	**+2.5**
	comp=Z,492nm,0.9s,comp=Z,11μm								
DNP	**Denpasar**	**27.20**	**115**	P		**P**		**06 03 24.1**	**+1.9**
	comp=Z,579nm,1.0s								
SGKI	**Sangatta, Kali**	**27.43**	**96**	P		**P**		**06 03 26.3**	**+2.0**
	comp=Z,809nm,1.2s,comp=Z,11μm								
MYLDM	**Lahad Datu**	**28.21**	**84**	*e*P		**P**		**06 03 32.9**	**+1.6**
	comp=Z,657nm,1.0s								
GYA	**Guiyang**

RCP **Roxas** 33.34 73⇓ *i*P P 06 04 19.1 +2.6
ABRA **Dolores** 33.35 61 *e*P P 06 04 18.6 +2.0
BALP **Baler** 33.43 65 *e*P P 06 04 19.1 +1.9
KMSI **Cibinong** 33.69 93 P P 06 04 22.2 +2.6
comp=Z,885nm,0.8s,comp=Z,12μm
AUQP **San Andres** 33.71 70 *e*P P 06 04 22.1 +2.4
APYP **Conner** 33.90 61 *e*P P 06 04 22.7 +1.3
CAUP **Cauayan** 34.07 63 *e*P P 06 04 24.3 +1.5
NIL **Nilore** 34.79 335 *e*P P 06 04 29.9 +0.9
NIL LR LR
comp=Z,18μm,19.0s
NIL **Nilore** 34.79 335 *e*P P 06 04 29.9 +0.9
NIL MLR MLR
comp=Z,18μm,19.0s
BUKP **Musuan** 34.97 80 *e*P P 06 04 32.7 +2.0
MSLP **Maasin** 35.09 76 *e*P P 06 04 33.0 +1.3
QZH **Quanzhou** 35.16 48⇑ *i*P P 06 04 33.4 +1.3
QZH PP PP 06 05 52.8 +0.6
QZH S S 06 10 07.3 +3.4
QZH sS sS 06 10 14.8 -1.5
QZH pmax pmax
comp=Z,90nm,1.1s
QZH pmax pmax
comp=Z,4μm,9.2s
QZH LR LR
comp=Z,35μm,16.5s
QZH LR LR
comp=Z,16μm,16.5s
QZH LR LR
comp=Z,18μm,13.9s
CNP **Catarman** 35.38 72 *e*P P 06 04 36.3 +2.1
DAV **Davao City (W)** 35.39 81⇑ *i*P P 06 04 35.0 +0.7
DAV **Davao City (W)** 35.39 81 PFAKE 06 04 50.0 +16
DAV LR LR
comp=Z,7μm,19.0s
DAV **Davao City (W)** 35.39 81 pP P 06 04 37.4 +3.1
SNR=24
DAV **Davao City (W)** 35.39 81 P P 06 04 37.4 +3.1
SNR=24
PLP **Palo** 35.40 74⇑ *e*P P 06 04 33.7 -0.7
BATI **Baumata** 35.53 111 LR LR 06 20 40.4
comp=Z,25μm,20.2s,baz=316,slow=39
BATI **Baumata** 35.53 111 P P 06 04 34.7 -0.8
comp=Z,213nm,0.8s,comp=Z,2μm
LZH **Lanzhou** 35.61 19 ⇑P P 06 04 36.3 +0.2
LZH pP pP 06 04 42.6 -1.0
LZH sP sP 06 04 45.9 -0.7
LZH PP PP 06 06 00.1 +2.9
LZH S S 06 10 08.5 -2.4
LZH SS SnSn 06 12 36.8 +4.0
LZH pmax pmax
comp=Z,260nm,1.0s
LZH pmax pmax
comp=Z,3μm,4.2s
LZH LR LR
comp=Z,28μm,14.0s
LZH LR LR
comp=Z,39μm,13.3s
LZH LR LR
comp=Z,34μm,15.4s
XAN **Xi'an** 35.78 27 P P 06 04 36.6 -0.9
XAN pP pP 06 04 41.0 -4.0
XAN sP sP 06 04 43.8 -4.2
XAN PP PnPn 06 05 56.3 -1.6
XAN S S 06 10 08.4 -5.1
XAN SS SnSn 06 12 30.5 -6.5
XAN pmax pmax
comp=Z,130nm,0.9s
XAN pmax pmax
comp=Z,1μm,3.8s
XAN LR LR
comp=Z,24μm,17.3s
XAN LR LR
comp=Z,30μm,18.4s
XAN LR LR
comp=Z,43μm,20.6s
TPUB **Ta-pu** 35.84 52 *e*P P 06 04 39.2 +1.1
comp=Z,353nm,1.1s
WHN **Wuhan** 35.91 37 ⇓P P 06 04 40.0 +1.4
WHN PP PnPn 06 05 56.4 -3.0
WHN S S 06 10 07.9 -7.5
WHN pmax pmax
comp=Z,620nm,1.2s
WHN LR LR
comp=Z,17μm,18.0s
WHN LR LR
comp=Z,38μm,16.7s
WHN LR LR
comp=Z,55μm,19.5s
SANI **Sanana** 35.94 97 P P 06 04 37.9 -1.1
SOEI **Soe** 35.95 110 P P 06 04 36.3 -3.0
SOEI **Soe** 35.95 110 *e*P P 06 04 36.2 -3.0
comp=Z,462nm,0.9s
TWG **Pinlang** 35.95 53 *e*P P 06 04 41.0 +2.0
comp=Z,2μm,1.1s
SSLB **Suanglung** 36.34 52 *e*P P 06 04 44.0 +1.6
comp=Z,588nm,1.3s
WBK **Wadi Bani Khal** 36.36 306 pP P 06 04 46.0 +3.4
SNR=8.2
WBK **Wadi Bani Khal** 36.36 306 P P 06 04 46.0 +3.4
SNR=8.2
YULB **Yu-li** 36.42 53 *e*P P 06 04 44.7 +1.7
comp=Z,447nm,1.0s
WSAR **Wadi Sarin** 36.94 306 P P 06 04 48.5 +1.0
comp=Z,52nm,0.7s,baz=155,slow=11,SNR=39
WSAR LR LR 06 18 25.0
comp=Z,13μm,20.8s,baz=138,slow=34
JMDO **Jabal Madar** 36.95 305 pP P 06 04 52.0 +4.4
SNR=8.0
JMDO **Jabal Madar** 36.95 305 P P 06 04 52.0 +4.4
SNR=8.0
NACB **Ninganchiao** 37.04 52 *e*P P 06 04 50.0 +1.7
comp=Z,727nm,1.5s
TNTI **Ternate** 37.06 92 *e*P P 06 04 46.5 -2.0
comp=Z,295nm,1.1s
YHNB **Yeheng** 37.13 51 *e*P P 06 04 52.0 +2.8
comp=Z,452nm,1.4s
YHNB LR LR
comp=Z,22μm,21.0s
NLAI **Namlea** 37.20 99 P P 06 04 50.2 +0.4
MBWA **Marble Bar** 37.22 131 *e*P P 06 04 50.2 +0.4
comp=Z,102nm,1.0s
MBWA LR LR
comp=Z,30μm,20.0s
MBWA **Marble Bar** 37.22 131 P P 06 04 51.6 +1.8
SNR=13
MBWA **Marble Bar** 37.22 131 P P 06 04 51.6 +1.8
SNR=13
LBMI **Labuha** 37.29 94 P P 06 04 51.5 +0.9
SMDO **Samad** 37.32 306 pP P 06 04 54.1 +3.3
SNR=16
SMDO **Samad** 37.32 306 P P 06 04 54.1 +3.3
SNR=16
SHAO **Shalim** 37.33 297 *i*P P 06 04 51.8 +0.9
SNR=8.3
TATO **Taipei** 37.37 51 *e*P P 06 04 53.9 +2.8
comp=Z,188nm,0.9s
TATO LR LR
comp=Z,17μm,20.0s
KBL **Kabul** 37.48 330 *e*P P 06 04 52.8 +0.7
comp=Z,606nm,1.8s
KBL **Kabul** 37.48 330 *e*P P 06 04 52.8 +0.7
KBL pmax pmax
comp=Z,606nm,1.8s
BIDO **Bidbid** 37.48 306 pP P 06 04 54.0 +2.0
SNR=33
BIDO **Bidbid** 37.48 306 P P 06 04 54.0 +2.0
SNR=33
GTA **Gaotai** 37.66 12 ⇑P P 06 04 54.3 +0.8
GTA pP pP 06 05 00.3 -0.7
GTA sP sP 06 05 03.8 -0.3
GTA PP PnPn 06 06 20.5 -0.3
GTA S S 06 10 43.6 +1.5
GTA sS sS 06 10 55.1 +0.6
GTA ScP ScP 06 10 56.3 -0.4
GTA SS SnSn 06 13 18.6 -3.7
GTA pmax pmax
comp=Z,200nm,1.3s
GTA pmax pmax
comp=Z,3μm,7.2s
GTA LR LR
comp=Z,12μm,20.0s
GTA LR LR
comp=Z,18μm,20.9s
GTA LR LR
comp=Z,13μm,20.0s

BSY **Bisya** 37.87 305 pP P 06 04 60.0 +4.6
SNR=7.5
BSY **Bisya** 37.87 305 P P 06 04 60.0 +4.6
SNR=7.5
HOQ **Hoqain** 38.16 306 pP P 06 05 01.0 +3.1
SNR=26
HOQ **Hoqain** 38.16 306 P P 06 05 01.0 +3.1
SNR=26
YOJ **Yonaguni jima** 38.30 53 *e*P P 06 05 00.7 +1.7
comp=Z,380nm,1.2s
YOJ **Yonaguni jima** 38.30 53 *e*P P 06 05 00.7 +1.7
YOJ pmax pmax
comp=Z,380nm,1.2s
AAI **Ambon** 38.35 99 P P 06 04 58.7 -0.8
RBK **Rabkut** 38.43 295 pP P 06 05 04.0 +3.8
SNR=5.8
RBK **Rabkut** 38.43 295 P P 06 05 04.0 +3.8
SNR=5.8
ARQ **Araqi** 38.69 305 pP P 06 05 05.0 +2.7
SNR=11
ARQ **Araqi** 38.69 305 P P 06 05 05.0 +2.7
SNR=11
WHFO **Wadi Hawf** 38.96 296 pP P 06 05 06.2 +1.5
SNR=21
WHFO **Wadi Hawf** 38.96 296 P P 06 05 06.2 +1.5
SNR=21
KSH **Kashi** 39.02 342 P P 06 05 04.0 -0.9
KSH sP pP 06 05 12.8 +0.3
KSH PP PnPn 06 06 37.3 +0.2
KSH S S 06 10 59.8 -2.8
KSH SS SnSn 06 13 41.3 -14
KSH pmax pmax
comp=Z,640nm,0.8s
KSH LR LR
comp=Z,13μm,12.5s
KSH LR LR
comp=Z,9μm,10.1s
MSAI **Masohi** 39.02 98 P P 06 05 05.2 0.0
SOHO **SOHO** 39.05 306 *i*P P 06 05 06.1 +0.9
SNR=46
ALNE **Al Ain** 39.65 306 *i*P P 06 05 11.2 +1.0
SNR=56
ASHO **Ashiyiah** 39.69 307 pP P 06 05 12.7 +2.1
SNR=18
ASHO **Ashiyiah** 39.69 307 P P 06 05 12.7 +2.1
SNR=18
ASHO **Ashiyiah** 39.69 307 *i*P P 06 05 11.5 +0.8
SNR=22
UOSS **Minazif** 39.70 307 *e*P P 06 05 11.4 +0.7
comp=Z,67nm,1.1s
UOSS **Minazif** 39.70 307 *i*P P 06 05 10.6 -0.1
SNR=9.6
HATD **Hatta, Dubai** 39.70 307 pP P 06 05 13.0 +2.3
SNR=22
HATD **Hatta, Dubai** 39.70 307 P P 06 05 13.0 +2.3
SNR=22
HATD **Hatta, Dubai** 39.70 307 *i*P P 06 05 11.6 +0.9
SNR=19
NJ2 **Nanjing** 39.73 39 *e*P P 06 05 11.8 +1.0
NJ2 pP pP 06 05 15.3 -3.1
NJ2 sP sP 06 05 17.6 -3.8
NJ2 PP PnPn 06 06 47.3 +1.7
NJ2 S S 06 11 16.8 +3.5
NJ2 pmax pmax
comp=Z,100nm,1.3s
NJ2 pmax pmax
comp=Z,4μm,10.3s
NJ2 LR LR
comp=Z,26μm,17.9s
NJ2 LR LR
comp=Z,25μm,19.5s
NJ2 LR LR
comp=Z,15μm,17.9s
MDH **Madha** 39.79 308 *i*P P 06 05 11.2 -0.2
SNR=11
MEEK **Meekatharra** 39.87 139 P P 06 05 12.6 +0.5
baz=40,SNR=117
MSFE **Esma-Masafi** 39.93 308 *i*P P 06 05 13.2 +0.6
SNR=18
MORW **Morawa** 39.97 144 P P 06 05 13.8 +0.9
baz=40
BANOM **Banah** 40.10 309 pP P 06 05 17.7 +3.7
SNR=5.6
BANOM **Banah** 40.10 309 P P 06 05 17.7 +3.7
SNR=5.6
BANOM **Banah** 40.10 309 *i*P P 06 05 14.7 +0.7
SNR=12
NAZ **Nazwa, Dubai** 40.15 307 pP P 06 05 16.0 +1.6
SNR=13
NAZ **Nazwa, Dubai** 40.15 307 P P 06 05 16.0 +1.6
SNR=13
NAZ **Nazwa, Dubai** 40.15 307 *i*P P 06 05 15.0 +0.6
SNR=26
SFK **Sufi-Kurgan** 40.27 340 P P 06 05 16.6 +1.1
SFK pmax pmax
comp=Z,350nm,1.0s
SHME **Shamm** 40.28 309 *i*P P 06 05 16.5 +0.9
SNR=12
UMQ **Umm Al-Quwin** 40.41 308 *i*P P 06 05 16.6 +0.1
SNR=6.4
TIY **Taiyuan** 40.42 27 *e*P P 06 05 17.3 +0.8
TIY PP PnPn 06 06 57.8 +4.0
TIY S S 06 11 23.6 0.0
TIY sS sS 06 11 40.3 +4.2
TIY pmax pmax
comp=Z,3μm,10.8s
TIY LR LR
comp=Z,35μm,21.1s
TIY LR LR
comp=Z,24μm,19.3s
TIY LR LR
comp=Z,36μm,20.1s
AJN **Ajban** 40.50 306 *i*P P 06 05 17.8 +0.6
SNR=19
TARG **Taragay, Kyrgy** 40.57 346 *e*P P 06 05 19.0 +0.9
comp=Z,662nm,1.7s
SSE **Sheshan** 40.65 42 P P 06 05 20.6 +2.2
SSE PP PnPn 06 06 55.6 -0.9
SSE S S 06 11 31.1 +4.1
SSE pmax pmax
comp=Z,52nm,1.0s
SSE LR LR
comp=Z,9μm,19.6s
DZET **Dzherino** 41.05 334 P P 06 05 21.1 -0.7
DZET pmax pmax
comp=Z,240nm,1.4s
KDJ **Kajisay** 41.10 345 *e*P P 06 05 23.0 +0.7
comp=Z,347nm,1.4s
WMQ **Urumqi** 41.13 357 P P 06 05 23.5 +1.2
WMQ pP pP 06 05 27.4 -2.5
WMQ sP sP 06 05 35.8 +2.9
WMQ PP PnPn 06 07 01.1 -0.9
WMQ S S 06 11 34.5 +0.5
WMQ sS sS 06 11 45.3 -1.2
WMQ SS SS 06 14 35.9 -1.4
WMQ pmax pmax
comp=Z,360nm,1.3s
WMQ pmax pmax
comp=Z,8μm,4.7s
WMQ LR LR
comp=Z,27μm,19.9s
WMQ LR LR
comp=Z,64μm,21.1s
WMQ LR LR
comp=Z,41μm,25.5s
RER **Riviere de l'E** 41.27 233 *e*P P 06 05 24.5 +0.7
comp=Z,303nm,0.9s
RER LR LR
comp=Z,13μm,20.0s
ULHL **Ulahol** 41.46 344 P P 06 05 26.2 +1.0
SNR=77
KZA **Kyzart** 41.59 343 P P 06 05 27.4 +1.0
SNR=166
TIA **Tai'an** 41.62 33 P P 06 05 27.1 +0.7
TIA S S 06 11 43.9 +2.5
TIA SS SS 06 14 39.8 -7.4
TIA pmax pmax
comp=Z,110nm,1.2s
TIA pmax pmax
comp=Z,4μm,8.3s
TIA LR LR
comp=Z,13μm,21.6s
TIA LR LR
comp=Z,14μm,17.6s
TIA LR LR
comp=Z,18μm,19.0s
SATY **Saty** 41.69 347⇑ *i*P P 06 05 27.8 +0.8
comp=Z,3μm,1.9s
SATY *i*S S 06 11 43.2 +0.8
SATY LR LR 06 23 01.3
comp=Z,6μm,18.2s
PDGK **Podgornoye** 41.71 348 P P 06 05 27.7 +0.6
PDGK pmax pmax
comp=Z,382nm,1.4s
ZHN **Zhinishke** 41.78 347⇑ *i*P P 06 05 28.4 +0.7
comp=Z,1μm,1.8s
ZHN *i*PP PP 06 07 05.5 +0.9
ZHN *i*S S 06 11 44.3 +0.5
ZHN LR LR 06 23 06.6
comp=Z,5μm,18.2s
BTO **Baotou** 41.83 23 *e*P P 06 05 27.1 -1.0
BTO pmax pmax
comp=Z,26nm,0.8s
UCH **Uchtor** 41.94 342 P P 06 05 30.4 +0.9
SNR=232
KPKS **Kokpek** 42.01 347⇑ *i*P P 06 05 29.9 +0.3
comp=Z,2μm,1.3s
KPKS *i*PP PP 06 07 07.4 +0.3
KPKS *i*S S 06 11 47.1 -0.1
KPKS LR LR 06 23 14.9
comp=Z,9μm,17.4s
MDOK **Medeo** 42.11 345 *i*P P 06 05 31.3 +0.8
comp=Z,3μm,1.8s
MDOK *i*S S 06 11 49.4 +0.7
MDOK LR LR 06 24 20.8
comp=Z,8μm,15.9s
AML **Almayashu** 42.11 341 P P 06 05 32.1 +1.4
SNR=25
AAA **Alma-Ata** 42.18 345⇑ *i*P P 06 05 32.0 +1.1
comp=Z,1μm,1.9s
AAA *i*S S 06 11 50.8 +1.1
AAA LR LR 06 24 00.3
comp=Z,3μm,15.9s
AAA **Alma-Ata** 42.18 345 *e*P P 06 05 31.0 0.0
AAA *e*S S 06 11 48.3 -1.4
AAA pmax pmax
comp=Z,3μm,4.2s
AAA smax smax
comp=N,4μm,7.8s
AAA MLR MLR
comp=Z,12μm,19.0s
KBK **Karagaybulak** 42.21 343 P P 06 05 32.5 +1.3
SNR=149
FAKI **Fak Fak** 42.25 97 P P 06 05 31.3 -0.6
FAKI **Fak Fak** 42.25 97 *e*P P 06 05 31.1 -0.7
comp=Z,621nm,1.2s
TKM2 **Tokmak 2** 42.27 344 P P 06 05 32.4 +0.6
SNR=192
TKM2 **Tokmak 2** 42.27 344 P P 06 05 32.4 +0.6
AAK **Ala-Archa** 42.32 343 P P 06 05 33.4 +1.2
SNR=100
AAK **Ala-Archa** 42.32 343 *e*P P 06 05 33.5 +1.3
comp=Z,250nm,1.4s
AAK LR LR
comp=Z,26μm,20.0s
AAK **Ala-Archa** 42.32 343 P P 06 05 33.8 +1.6
SNR=161
AAK **Ala-Archa** 42.32 343 P P 06 05 33.8 +1.6
SNR=161
AAK **Ala-Archa** 42.32 343 *i*P P 06 05 33.6 +1.3
SNR=125
AAK **Ala-Archa** 42.32 343 *i*P P 06 05 33.1 +0.9
AAK pmax pmax
comp=Z,362nm,1.9s
AAK MLR MLR
comp=Z,28μm,22.0s
BMNS **Besmoynak** 42.42 344⇑ *i*P P 06 05 33.7 +0.7
comp=Z,4μm,1.7s
BMNS *e*PP PP 06 07 12.4 +0.8
BMNS *i*S S 06 11 53.8 +0.5
BMNS LR LR 06 22 32.6
comp=Z,7μm,14.4s
FRU **Bishkek** 42.47 343⇓ *i*P P 06 05 34.0 +0.8
FRU *e* 06 07 24.0
FRU *e*S S 06 11 59.0 +5.2
FRU pmax pmax
comp=Z,970nm,2.0s
FRU smax smax
comp=E,5μm,10.0s
FRU MLR MLR
comp=E,23μm,20.0s
EKS2 **Erkin-Say** 42.56 342 P P 06 05 35.8 +1.7
SNR=111
CHMS **Chumysh** 42.58 343 P P 06 05 34.7 +0.6
SNR=22
HHC **Hu-ho-hao-te** 42.65 24 *e*P P 06 05 35.9 +1.1
HHC sP pP 06 05 43.0 +0.6
HHC PP PP 06 07 19.4 +5.4
HHC S S 06 11 58.3 +1.7
HHC sS pS 06 12 05.5 0.0
HHC SS SS 06 15 05.4 -2.0
HHC pmax pmax
comp=E,170nm,1.4s
HHC pmax pmax
comp=E,3μm,7.8s
HHC LR LR
comp=E,13μm,15.5s
HHC LR LR
comp=E,15μm,14.8s
HHC LR LR
comp=E,16μm,15.5s
MNAS **Manas** 42.81 341 P P 06 05 36.8 +0.6
USP **Ospenovka** 42.90 343 P P 06 05 37.6 +0.9
SNR=37
KUU **Kurty** 42.97 345⇑ *i*P P 06 05 37.1 -0.2
comp=E,2μm,1.9s
KUU *i*PP PP 06 07 17.4 0.0
KUU *i*S S 06 12 00.8 -0.3
KUU LR LR 06 22 55.3
comp=E,6μm,18.9s
MTN **Manton Dam** 43.30 112 P P 06 05 40.0 -0.4
baz=44
MTN **Manton Dam** 43.30 112 *e*P P 06 05 40.1 -0.3
comp=E,84nm,0.9s
IUG **Iuzhnay** 43.39 338 *i*P P 06 05 41.6 +0.8
comp=E,3μm,1.6s
IUG *e*S S 06 12 08.2 +0.6
IUG LR LR 06 24 20.8
comp=E,5μm,18.2s
H01W3 **Cape Leeuwin H** 43.45 151 P P 06 05 42.9 +1.9
baz=314,slow=6.3,SNR=24
H01W3 T T 06 52 01.6
baz=325,slow=75,SNR=343
H01W2 **Cape Leeuwin H** 43.46 151 P P 06 05 42.4 +1.3
baz=314,slow=6.3,SNR=23
H01W2 T T 06 52 02.5
baz=325,slow=75,SNR=317
H01W1 **Cape Leeuwin H** 43.47 151 P P 06 05 42.6 +1.5
baz=314,slow=6.3,SNR=19
H01W1 T T 06 52 03.0
baz=325,slow=75,SNR=317
NWAO **Narrogin (SRO)** 43.52 146 P P 06 05 42.2 +0.3
comp=E,69nm,0.9s,baz=184,slow=8.5,SNR=31
NWAO **Narrogin (SRO)** 43.52 146 *e*P P 06 05 41.8 -0.1
comp=E,249nm,1.1s
NWAO LR LR
comp=Z,20μm,19.0s
NWAO **Narrogin (SRO)** 43.52 146 pP pP 06 05 53.5 +4.0
SNR=8.4
TDK **Taldyqorghan** 43.53 348 *i*P P 06 05 42.2 +0.4
comp=Z,3μm,1.7s
TDK *i*PP PP 06 07 23.7 +0.3
TDK *i*S S 06 12 09.3 0.0
DZA **Taraz** 43.57 340 *i*P P 06 05 42.9 +0.7
comp=Z,1μm,1.3s
DZA *i*PP PP 06 07 24.7 +0.9
DZA *e*S S 06 12 10.4 +0.4
DZA LR LR 06 23 26.3
comp=Z,5μm,14.4s
JOW **Kunigami** 43.61 53 LR LR 06 24 19.9
comp=Z,12μm,19.8s,baz=264,slow=37
JOW **Kunigami** 43.61 53 *e*P P 06 05 44.4 +1.7
comp=Z,327nm,1.2s
BJT **Baijiatuau** 44.01 29 *e*P P 06 05 47.2 +1.5
comp=Z,268nm,1.1s
BJT LR LR
comp=Z,26μm,19.0s
BJT **Baijiatuau** 44.01 29 *e*P P 06 05 47.2 +1.5
BJT pmax pmax
comp=Z,268nm,1.1s
BJT MLR MLR
comp=Z,26μm,19.0s
RKPI **Ransiki, Papua** 44.02 95 P P 06 05 59.4 +13

BJI	**Beijing**	**44.03**	**29**	⇓	*i*	P	**P**	**06 05 47.5**	**+1.7**
BJI						S	**S**	**06 12 17.8**	**+1.1**
BJI						pmax	pmax		
	comp=Z,250nm,0.9s								
BJI						LR	LR		
	comp=Z,7μm,21.6s								
BJI						LR	LR		
	comp=Z,4μm,23.5s								
KK31	**Karatay Array**	**44.05**	**339**		*e*	P	**P**	**06 05 46.5**	**+0.5**
KK31	**Karatay Array**	**44.05**	**339**		*i*	P	**P**	**06 05 45.9**	**-0.1**
KKAR	**Karatay Array**	**44.05**	**339**		*e*	P	**P**	**06 05 46.5**	**+0.5**
KKAR	**Karatay Array**	**44.05**	**339**		*e*	P	**P**	**06 05 46.5**	**+0.5**
BRLS	**Borolday**	**44.23**	**338**		*i*	P	**P**	**06 05 46.7**	**-0.7**
	comp=Z,48nm,1.8s								
BRLS						*i* PP	**PP**	**06 07 30.0**	**-0.9**
BRLS						*i* S	**S**	**06 12 17.7**	**-1.9**
BRLS						LR	LR	06 25 13.0	
	comp=Z,554nm,18.2s								
MK01	**Makanchi Array**	**44.57**	**352**		*e*	P	**P**	**06 05 48.6**	**-1.5**
MK31	**Makanchi Array**	**44.59**	**352**		*e*	P	**P**	**06 05 50.0**	**-0.3**
MK31	**Makanchi Array**	**44.59**	**352**		*e*	P	**P**	**06 05 50.0**	**-0.3**
MKAR	**Makanchi Array**	**44.59**	**352**			P	**P**	**06 05 50.0**	**-0.3**
	comp=Z,96nm,0.7s,baz=172,slow=8.6,SNR=627								
MKAR						LR	LR	06 26 17.6	
	comp=Z,22μm,19.8s,baz=169,slow=39								
MKAR	**Makanchi Array**	**44.59**	**352**		*e*	P	**P**	**06 05 50.0**	**-0.3**
	comp=Z,470nm,0.6s								
MKAR	**Makanchi Array**	**44.59**	**352**		*e*	P	**P**	**06 05 50.0**	**-0.3**
MKAR						pmax	pmax		
	comp=Z,470nm,0.6s								
MAKZ	**Makanchi**	**44.65**	**352**		*e*	P	**P**	**06 05 50.4**	**-0.3**
MAKZ	**Makanchi**	**44.65**	**352**		*e*	P	**P**	**06 05 50.4**	**-0.3**
ZSN	**Zaisan**	**44.95**	**355**	⇑	*i*	P	**P**	**06 05 53.9**	**+0.8**
	comp=Z,532nm,1.3s								
ZSN					*i*	S	**S**	**06 12 30.7**	**+0.8**
ZSN						LR	LR	06 26 08.2	
	comp=Z,2μm,18.9s								
GEYT	**Alibeck**	**45.92**	**324**			P	**P**	**06 06 01.6**	**+0.6**
	comp=Z,104nm,0.6s,baz=160,slow=8.9,SNR=144								
GEYT						LR	LR	06 27 10.4	
	comp=Z,16μm,19.7s,baz=115,slow=39								
GYA0B	**ALIBECK ARRAY**	**45.92**	**324**		*e*	P	**P**	**06 06 01.9**	**+1.0**
	comp=Z,1μm,1.7s								
DL2	**Dalian**	**46.05**	**34**			P	**P**	**06 06 03.4**	**+1.5**
DL2						S	**S**	**06 12 52.3**	**+6.4**
DL2						pmax	pmax		
	comp=Z,250nm,1.1s								
DL2						pmax	pmax		
	comp=Z,4μm,6.8s								
DL2						LR	LR		
	comp=Z,10μm,20.3s								
DL2						LR	LR		
	comp=Z,12μm,18.6s								
DL2						LR	LR		
	comp=Z,13μm,18.7s								
DAMY	**Dhamar**	**46.86**	**288**		*e*	P	**P**	**06 06 10.7**	**+1.6**
	comp=Z,275nm,1.1s								
DGZ	**Jazzator, Alta**	**47.01**	**357**		*i*	P	**P**	**06 06 09.7**	**+0.2**
DGZ						pmax	pmax		
	comp=Z,24nm,1.2s								
SONM	**Songino Array**	**47.17**	**15**			P	**P**	**06 06 11.5**	**+0.8**
	comp=Z,151nm,0.5s,baz=196,slow=9.2,SNR=744								
SONA1	**Songino Array**	**47.18**	**15**		*e*	P	**P**	**06 06 10.4**	**-0.4**
ULN	**Ulaanbaatar**	**47.37**	**15**		*e*	P	**P**	**06 06 12.8**	**+0.5**
	comp=Z,204nm,1.2s								
ULN						LR	LR		
	comp=Z,17μm,19.0s								
ULN	**Ulaanbaatar**	**47.37**	**15**			P	**P**	**06 06 13.1**	**+0.8**
	SNR=112								
ULN	**Ulaanbaatar**	**47.37**	**15**			P	**P**	**06 06 13.1**	**+0.8**
	SNR=112								
ULN	**Ulaanbaatar**	**47.37**	**15**	*c*	*i*	P	**P**	**06 06 12.5**	**+0.2**
ULN						pmax	pmax		
	comp=Z,81nm,1.0s								
OPO	**Ambohidratompo**	**47.37**	**242**			P	**P**	**06 06 12.6**	**-0.2**
	comp=Z,30nm,0.6s,baz=60,slow=8.8,SNR=44								
OPO						LR	LR	06 23 01.9	
	comp=Z,9μm,18.6s,baz=72,slow=32								
ABPO	**Ambohimpanom**	**47.51**	**241**		*e*	P	**P**	**06 06 13.9**	**+0.1**
	comp=Z,285nm,1.2s								
ABPO						LR	LR		
	comp=Z,2μm,19.0s								
ABPO	**Ambohimpanom**	**47.51**	**241**		*e*	P	**P**	**06 06 13.9**	**+0.1**
ABPO						pmax	pmax		
	comp=Z,285nm,1.2s								
ABPO						MLR	MLR		
	comp=Z,2μm,19.0s								
ATD	**Arta Tunnel**	**47.90**	**283**			P	**P**	**06 06 17.5**	**+0.7**
	comp=Z,103nm,1.0s,baz=92,slow=8.1,SNR=39								
TJN	**Taejon**	**47.93**	**41**	*ce*		P	**P**	**06 06 16.7**	**+0.1**
OTUK	**Ortayu**	**48.06**	**344**			P	**P**	**06 06 18.0**	**+0.5**
OTUK						pmax	pmax		
	comp=Z,235nm,0.8s								
RAYN	**Ar Rayn**	**48.09**	**300**			PFAKE		06 06 30.0	+12
RAYN						LR	LR		
	comp=Z,23μm,21.0s								
INCN	**Inchon**	**48.12**	**39**		*e*	P	**P**	**06 06 18.2**	**+0.1**
	comp=Z,173nm,1.1s								
INCN						LR	LR		
	comp=Z,16μm,19.0s								
INCN	**Inchon**	**48.12**	**39**			P	**P**	**06 06 18.3**	**+0.1**
	SNR=24								
INCN	**Inchon**	**48.12**	**39**			P	**P**	**06 06 18.3**	**+0.1**
	SNR=24								
SEM	**Semipalatinsk**	**48.42**	**351**		*i*	P	**P**	**06 06 20.0**	**-0.5**
	comp=Z,2μm,1.7s								
SEM					*i*	PP	**PP**	**06 08 12.9**	**-0.4**
SEM						LR	LR	06 27 17.8	
	comp=Z,8μm,18.1s								
HVS	**Khovu-Aksy**	**48.47**	**3**	*c*	*i*	P	**P**	**06 06 21.4**	**+0.7**
HVS						pmax	pmax		
	comp=Z,288nm,1.0s								
JNU	**Nakatsue**	**48.59**	**47**			LR	LR	06 29 08.0	
	comp=Z,18μm,18.2s,baz=249,slow=39								
JNU	**Nakatsue**	**48.59**	**47**		*e*	P	**P**	**06 06 22.3**	**+0.4**
	comp=Z,119nm,0.9s								
WRA	**Warramunga Arr**	**48.63**	**119**			P	**P**	**06 06 22.6**	**+0.2**
	comp=Z,87nm,0.8s,baz=296,slow=8.2,SNR=297								
WRAB	**Tennant Creek**	**48.64**	**119**		*e*	P	**P**	**06 06 21.8**	**-0.7**
	comp=Z,538nm,1.0s								
WRAB						LR	LR		
	comp=Z,8μm,22.0s								
WRAB	**Tennant Creek**	**48.64**	**119**	⇑	*i*	P	**P**	**06 06 22.7**	**+0.3**
WRAB						pmax	pmax		
	comp=Z,129nm,1.0s								
WB2	**Warramunga Arr**	**48.65**	**119**		*e*	P	**P**	**06 06 22.6**	**+0.1**
ZAK	**Zakamensk**	**48.88**	**11**		*e*	P	**P**	**06 06 24.4**	**+0.5**
ZAK						pmax	pmax		
	comp=Z,109nm,1.2s								
KS15	**Wonju Array Si**	**48.89**	**40**		*e*	P	**P**	**06 06 24.6**	**+0.6**
KSAR	**Wonju Array Be**	**48.89**	**40**		*e*	P	**P**	**06 06 23.7**	**-0.3**
KSAR	**Wonju Array Be**	**48.89**	**40**		*e*	P	**P**	**06 06 23.7**	**-0.3**
KURBB	**Kurchatov Arra**	**48.90**	**350**			P	**P**	**06 06 23.6**	**-0.3**
	comp=Z,72nm,0.6s,baz=173,slow=7.3,SNR=620								
KURBB						PKPPKP	**P'P'df**	**06 37 19.5**	**-6.6**
	comp=Z,1.4nm,1.1s,baz=337,slow=2.1,SNR=4.3								
FORT	**Forrest**	**48.91**	**136**			P	**P**	**06 06 25.4**	**+1.1**
	baz=49,SNR=18								
FORT	**Forrest**	**48.91**	**136**		*e*	P	**P**	**06 06 25.4**	**+1.1**
	comp=Z,9μm,0.8s								
KS01	**Wonju Array Si**	**48.92**	**40**		*e*	P	**P**	**06 06 24.0**	**-0.2**
KSRS	**Korea Array**	**48.92**	**40**			P	**P**	**06 06 23.7**	**-0.5**
	comp=Z,32nm,0.9s,baz=231,slow=8.7,SNR=81								
KSRS						LR	LR	06 28 48.6	
	comp=Z,12μm,19.5s,baz=236,slow=38								
KURK	**Kurchatov**	**48.98**	**350**			P	**P**	**06 06 23.6**	**-0.9**
KURK						P'P'		06 37 19.5	
KURK						LR	LR		
	comp=Z,36μm,20.0s								
KURK	**Kurchatov**	**48.98**	**350**			P	**P**	**06 06 24.4**	**0.0**
	SNR=124								
KURK	**Kurchatov**	**48.98**	**350**			P	**P**	**06 06 24.4**	**0.0**
	SNR=124								
KURK	**Kurchatov**	**48.98**	**350**	⇑	*i*	P	**P**	**06 06 23.9**	**-0.6**
KURK						pmax	pmax		
	comp=Z,389nm,1.4s								
SNY	**Shenyang**	**49.14**	**33**	⇓		P	**P**	**06 06 26.3**	**+0.4**
SNY						S	**S**	**06 13 31.9**	**+2.1**
SNY						pmax	pmax		
	comp=Z,70nm,1.1s								
SNY						pmax	pmax		
	comp=Z,6μm,8.9s								
SNY						LR	LR		
	comp=Z,21μm,18.4s								
SNY						LR	LR		
	comp=Z,22μm,19.8s								
SNY						LR	LR		
	comp=Z,19μm,18.6s								
BRZS	**Berezniki**	**49.56**	**345**		*i*	P	**P**	**06 06 29.3**	**+0.3**
	comp=Z,132nm,1.7s								
BRZS					*e*	PP	**PP**	**06 08 23.8**	**+0.3**
BRZS					*i*	S	**S**	**06 13 35.3**	**-0.1**
BRZS						LR	LR	06 27 11.0	
	comp=Z,420nm,19.7s								
MOY	**Mondy**	**49.73**	**9**		*e*	P	**P**	**06 06 31.2**	**+0.9**
MOY						pmax	pmax		
	comp=Z,261nm,3.4s								
ASAR	**Alice Springs**	**49.77**	**124**			P	**P**	**06 06 31.1**	**+0.1**
	comp=Z,49nm,1.1s,baz=300,slow=7.1,SNR=107								
ASAR						PcP	**PcP**	**06 07 52.2**	**+0.4**
	comp=Z,16nm,0.7s,baz=307,slow=4.2,SNR=4.5								
ASAR						LR	LR	06 27 42.6	
	comp=Z,12μm,20.0s,baz=296,slow=36								
AS31	**Alice Springs**	**49.77**	**124**		*e*	P	**P**	**06 06 31.0**	**-0.1**
	comp=Z,33nm,0.9s								
AS01	**Alice Springs**	**49.81**	**124**		*e*	P	**P**	**06 06 30.6**	**-0.7**
GENI	**Genyem**	**50.08**	**96**			P	**P**	**06 06 32.5**	**-1.0**
TLY	**Talaya**	**50.19**	**11**			LR	LR	06 31 23.5	
	comp=Z,8μm,18.9s,baz=198,slow=40								
TLY	**Talaya**	**50.19**	**11**		*e*	P	**P**	**06 06 35.3**	**+1.6**
	comp=Z,116nm,1.2s								
TLY	**Talaya**	**50.19**	**11**			P	**P**	**06 06 35.3**	**+1.6**
	SNR=54								
TLY	**Talaya**	**50.19**	**11**			P	**P**	**06 06 35.3**	**+1.6**
	SNR=54								
TLY	**Talaya**	**50.19**	**11**	*c*	*i*	P	**P**	**06 06 34.9**	**+1.2**
TLY					*e*			06 08 34.0	
TLY						S	**S**	**06 13 46.2**	**+2.0**
TLY						pmax	pmax		
	comp=Z,142nm,1.5s								
JAY	**Jayapura**	**50.61**	**95**			P	**P**	**06 06 38.8**	**+1.2**
ANKE	**Ethiopia-Afar**	**50.75**	**280**		*i*	P	**P**	**06 06 39.0**	**0.0**
ANKE					*i*	S	**S**	**06 13 58.7**	**+4.9**
ANKE	**Ethiopia-Afar**	**50.75**	**280**		*i*	P	**P**	**06 06 39.0**	**0.0**
ANKE					*i*	S	**S**	**06 13 58.7**	**+4.9**
ANKE	**Ethiopia-Afar**	**50.75**	**280**		*i*	P	**P**	**06 06 39.0**	**0.0**
ANKE					*i*	S	**S**	**06 13 58.7**	**+4.9**
IRK	**Irkutsk**	**50.84**	**11**		*e*	P	**P**	**06 06 39.0**	**+0.3**
IRK					*e*	S	**S**	**06 13 56.6**	**+3.4**
IRK						pmax	pmax		
	comp=Z,245nm,3.8s								
DESE	**Dese**	**50.98**	**282**		*e*	P	**P**	**06 06 43.3**	**+2.6**
DESE					*i*	S	**S**	**06 14 02.1**	**+5.1**
DESE	**Dese**	**50.98**	**282**		*e*	P	**P**	**06 06 43.3**	**+2.6**
DESE					*i*	S	**S**	**06 14 02.1**	**+5.1**
DESE	**Dese**	**50.98**	**282**		*e*	P	**P**	**06 06 43.3**	**+2.6**
DESE					*i*	S	**S**	**06 14 02.1**	**+5.1**
ZAA0	**Zalesovo Array**	**51.40**	**356**		*e*	P	**P**	**06 06 42.4**	**-0.4**
ZALV	**Zalesovo Beam**	**51.40**	**356**			P	**P**	**06 06 42.3**	**-0.5**
	comp=Z,126nm,0.5s,baz=182,slow=7.6,SNR=482								
ZALV						LR	LR	06 30 40.6	
	comp=Z,14μm,20.1s,baz=166,slow=39								
ZALV						PKPPKP	**P'P'df**	**06 37 23.3**	**+0.7**
	comp=Z,1.5nm,0.7s,baz=319,slow=4.3,SNR=4.3								
ZALV	**Zalesovo Beam**	**51.40**	**356**		*e*	P	**P**	**06 06 41.8**	**-1.0**
ZALV						P'P'		06 37 23.3	
ZALV	**Zalesovo Beam**	**51.40**	**356**		*e*	P	**P**	**06 06 41.8**	**-1.0**
CN2	**Changchun**	**51.50**	**32**		*e*	P	**P**	**06 06 44.3**	**+0.6**
CN2					*es*	P	sP	06 06 56.8	+2.3
CN2						PcP	**PcP**	**06 07 58.3**	**+0.6**
CN2					*e*	S	**S**	**06 14 04.3**	**+1.8**
CN2						SS	**SS**	**06 17 36.1**	**-2.8**
CN2						pmax	pmax		
	comp=Z,70nm,0.8s								
CN2						pmax	pmax		
	comp=Z,3μm,9.0s								
CN2						LR	LR		
	comp=Z,11μm,18.0s								
CN2						LR	LR		
	comp=Z,14μm,18.0s								
CN2						LR	LR		
	comp=Z,9μm,18.0s								
AAE	**Adis Abeba**	**51.66**	**279**		*i*	S	**S**	**06 14 12.4**	**+6.1**
AAE	**Adis Abeba**	**51.66**	**279**		*e*	P	**P**	**06 06 41.4**	**-4.4**
AAE					*i*	S	**S**	**06 14 06.4**	**+0.1**
AAE	**Adis Abeba**	**51.66**	**279**		*e*	P	**P**	**06 06 49.1**	**+3.3**
AAE					*i*	S	**S**	**06 14 09.6**	**-2.7**
AAE	**Adis Abeba**	**51.66**	**279**		*i*	S	**S**	**06 14 12.4**	**+6.1**
AAE	**Adis Abeba**	**51.66**	**279**		*i*	S	**S**	**06 14 12.4**	**+6.1**
NVS	**Novosibirsk**	**52.42**	**355**	⇑	*i*	P	**P**	**06 06 50.1**	**-0.2**
NVS					*e*	*PP	**sP**	**06 07 00.3**	**-0.8**
NVS					*i*	S	**S**	**06 14 06.7**	**-8.1**
NVS					*i*			06 16 36.8	
NVS						pmax	pmax		
	comp=N,187nm,1.8s								
NVS						pmax	pmax		
	comp=E,130nm,1.8s								
NVS						pmax	pmax		
	comp=Z,343nm,1.8s								
NVS						pmax	pmax		
	comp=Z,79nm,1.3s								
NVS						pmax	pmax		
	comp=N,29nm,1.4s								
NVS						pmax	pmax		
	comp=E,56nm,1.4s								
NVS						smax	smax		
	comp=N,109nm,2.5s								
NVS						smax	smax		
	comp=E,112nm,2.2s								
HIA	**Hailar**	**52.85**	**24**		*e*	P	**P**	**06 06 54.6**	**+0.9**
	comp=E,174nm,1.1s								
HIA					*es*	S	**S**	**06 14 21.7**	**+0.7**
HIA						LR	LR		
	comp=Z,11μm,20.0s								
HIA	**Hailar**	**52.85**	**24**		*e*	P	**P**	**06 06 54.6**	**+0.9**
HIA					*es*	S	**S**	**06 14 21.7**	**+0.7**
HIA						pmax	pmax		
	comp=Z,174nm,1.1s								
HIA						MLR	MLR		
	comp=Z,11μm,20.0s								
BVA0	**Borovoye Array**	**52.92**	**345**		*i*	P	**P**	**06 06 52.8**	**-1.4**
BVA0						pmax	pmax		
	comp=Z,73nm,0.8s								
BVAR	**Borovoye Array**	**52.92**	**345**			P	**P**	**06 06 53.1**	**-1.1**
	comp=Z,39nm,0.5s,baz=153,slow=8.6,SNR=102								
BVAR						LR	LR	06 30 34.1	
	comp=Z,37μm,19.4s,baz=155,slow=37								
CIT	**Chita**	**52.95**	**18**		*e*	P	**P**	**06 06 54.6**	**+0.2**
CIT					*e*			06 07 02.1	
CIT					*e*			06 07 12.0	
CIT					*e*			06 14 24.5	
CIT						pmax	pmax		
	comp=Z,318nm,2.6s								
BRVK	**Borovoye**	**52.98**	**345**		*e*	P	**P**	**06 06 53.9**	**-0.6**
	comp=Z,251nm,1.5s								
BRVK						LR	LR		
	comp=Z,25μm,20.0s								
BRVK	**Borovoye**	**52.98**	**345**			P	**P**	**06 06 53.8**	**-0.8**
	SNR=61								
BRVK	**Borovoye**	**52.98**	**345**			P	**P**	**06 06 53.8**	**-0.8**
	SNR=61								
BRVK	**Borovoye**	**52.98**	**345**	*d*	*i*	P	**P**	**06 06 53.7**	**-0.8**
BRVK						pmax	pmax		
	comp=Z,278nm,2.5s								
KMBO	**Kilima Mbogo**	**53.20**	**267**		*i*	P	**P**	**06 06 57.6**	**+0.5**
KMBO	**Kilima Mbogo**	**53.20**	**267**			P	**P**	**06 06 57.3**	**+0.1**
	comp=Z,38nm,0.9s,baz=61,slow=11,SNR=87								
KMBO						LR	LR	06 25 08.6	
	comp=Z,13μm,20.8s,baz=82,slow=31								
KMBO	**Kilima Mbogo**	**53.20**	**267**		*e*	P	**P**	**06 06 57.4**	**+0.3**
	comp=Z,70nm,0.9s								
KMBO	**Kilima Mbogo**	**53.20**	**267**		pP	P	**P**	**06 06 57.9**	**+0.7**
	SNR=28								
KMBO	**Kilima Mbogo**	**53.20**	**267**		P	P	**P**	**06 06 57.9**	**+0.7**
	SNR=28								
KMBO	**Kilima Mbogo**	**53.20**	**267**		*i*	P	**P**	**06 06 56.1**	**-1.0**
	SNR=46								
KMBO	**Kilima Mbogo**	**53.20**	**267**		*i*	P	**P**	**06 06 57.6**	**+0.5**
KMBO	**Kilima Mbogo**	**53.20**	**267**		*e*	P	**P**	**06 06 57.4**	**+0.3**
KMBO						pmax	pmax		
	comp=Z,70nm,0.9s								
AB31	**Akbulak array**	**53.25**	**336**		*i*	P	**P**	**06 06 56.7**	**+0.1**
AB31						pmax	pmax		
	comp=Z,125nm,0.7s								
ABKAR	**Akbulak array**	**53.25**	**336**		*e*	P	**P**	**06 06 56.6**	**0.0**
KRAR	**Krasnoyarsk**	**53.31**	**2**		*e*	P	**P**	**06 06 57.1**	**+0.2**
MSHR	**Mys Shultsa**	**53.95**	**37**	*d*	*i*	P	**P**	**06 07 02.9**	**+1.1**
INU	**Inuyama**	**54.12**	**47**		*e*	P	**P**	**06 07 03.5**	**+0.2**
	comp=Z,122nm,0.8s								
MDJ	**Mudanjiang**	**54.28**	**34**			P	**P**	**06 07 03.5**	**-0.8**
MDJ						pP	pP	06 07 08.3	-3.8
MDJ						PcP	**PcP**	**06 08 06.9**	**-1.4**
MDJ						PP	**PP**	**06 09 05.5**	**-0.9**
MDJ						S	**S**	**06 14 42.3**	**+1.8**
MDJ						sS	pS	06 14 50.3	+0.4
MDJ						ScS	**ScS**	**06 16 51.4**	**-0.7**
MDJ						SS	**SS**	**06 18 26.1**	**+3.2**
MDJ						pmax	pmax		
	comp=Z,85nm,1.1s								
MDJ						pmax	pmax		
	comp=Z,3μm,3.0s								
MDJ						LR	LR		
	comp=Z,20μm,17.5s								
MDJ						LR	LR		
	comp=Z,20μm,16.7s								
MDJ						LR	LR		
	comp=Z,16μm,19.1s								
MDJ	**Mudanjiang**	**54.28**	**34**		*e*	P	**P**	**06 07 05.2**	**+1.0**
	comp=Z,415nm,1.3s								
MDJ					*es*	S	**S**	**06 14 49.5**	**+9.0**
MDJ						LR	LR		
	comp=Z,12μm,20.0s								
AKT	**Akhty**	**54.41**	**321**		*e*	P	**P**	**06 07 05.6**	**+0.2**
AKT					*e*			06 08 07.1	
AKT					*e*			06 09 07.4	
AKT					*es*	S	**S**	**06 14 38.8**	**-3.8**
AKT						pmax	pmax		
	comp=Z,539nm,1.3s								
PAF	**Port-aux-Franc**	**54.58**	**196**			PFAKE		06 07 20.0	+14
PAF						LR	LR		
	comp=Z,30μm,20.0s								
VLA	**Vladivostok**	**54.70**	**37**	*c*	*i*	P	**P**	**06 07 08.0**	**+0.7**
VLA						pmax	pmax		
	comp=Z,71nm,0.8s								
COEN	**Coen**	**54.89**	**109**		*e*	P	**P**	**06 07 09.2**	**0.0**
	comp=Z,75nm,0.9s								
AKTO	**Aktyubinsk**	**54.95**	**335**			LR	LR	06 32 49.0	
	comp=Z,7μm,19.1s,baz=136,slow=38								
AKTO	**Aktyubinsk**	**54.95**	**335**			P	**P**	**06 07 08.2**	**-0.8**
AKTO						pmax	pmax		
	comp=Z,263nm,1.5s								
GUMO	**Guam**	**54.97**	**75**			LR	LR	06 31 21.2	
	comp=Z,4μm,19.6s,baz=260,slow=37								
GUMO	**Guam**	**54.97**	**75**		*e*	P	**P**	**06 07 10.0**	**+0.3**
	comp=Z,147nm,1.0s								
GUMO	**Guam**	**54.97**	**75**		*e*	P	**P**	**06 07 10.0**	**+0.3**
GUMO						pmax	pmax		
	comp=Z,147nm,1.0s								
JHJ	**Hachijo jima 2**	**55.29**	**51**			LR	LR	06 29 41.7	
	comp=Z,6μm,21.4s,baz=254,slow=35								
MAK	**Makhachkala**	**55.38**	**323**		*e*	P	**P**	**06 07 09.6**	**-2.6**
MAK					*es*	S	**S**	**06 14 52.7**	**-2.5**
MAK					*es*	SS	**SS**	**06 18 39.6**	**-0.5**
MAK						pmax	pmax		
	comp=Z,500nm,1.7s								
MAK						MLR	MLR		
	comp=Z,7μm,16.0s								
USRK	**Ussuriysk Ar.**	**55.39**	**36**			P	**P**	**06 07 12.3**	**0.0**
	comp=Z,41nm,1.0s,baz=242,slow=6.3,SNR=27								
USRK						LR	LR	06 32 12.1	
	comp=Z,13μm,20.4s,baz=220,slow=38								
MJB9	**Matsu-Tunnel**	**55.51**	**46**		*e*	P	**P**	**06 07 13.7**	**+0.3**
	comp=Z,92nm,0.8s								
MAJO	**Matsushiro**	**55.52**	**46**		*e*	P	**P**	**06 07 13.6**	**+0.3**
	comp=Z,88nm,0.8s								
MAJO						LR	LR		
	comp=Z,12μm,19.0s								
MAJO	**Matsushiro**	**55.52**	**46**	*c*	*i*	P	**P**	**06 07 13.3**	**-0.1**
MAJO						pmax	pmax		
	comp=Z,92nm,1.0s								
MAT	**Matsushiro**	**55.52**	**46**			P	**P**	**06 07 12.8**	**-0.6**
MAT						S	**S**	**06 14 59.2**	**+1.8**
MJAR	**Matsushiro Arr**	**55.52**	**46**			P	**P**	**06 07 13.2**	**-0.2**
	comp=Z,36nm,0.9s,baz=238,slow=8.1,SNR=93								
MJAR						LR	LR	06 33 35.8	
	comp=Z,10μm,19.0s,baz=290,slow=39								
GNI	**Garni**	**55.63**	**318**			P	**P**	**06 07 14.9**	**+0.6**
	comp=Z,44nm,0.5s,baz=130,slow=7.9,SNR=64								
GNI						LR	LR	06 32 51.1	
	comp=Z,8μm,21.7s,baz=117,slow=38								
GNI	**Garni**	**55.63**	**318**		*e*	P	**P**	**06 07 15.7**	**+1.4**
	comp=Z,737nm,1.7s								
GNI	**Garni**	**55.63**	**318**			P	**P**	**06 07 15.2**	**+0.9**
	SNR=65								
GNI	**Garni**	**55.63**	**318**			P	**P**	**06 07 15.2**	**+0.9**
	SNR=65								
GNI	**Garni**	**55.63**	**318**		*i*	P	**P**	**06 07 15.0**	**+0.6**
	SNR=42								
GNI	**Garni**	**55.63**	**318**	*ce*		P	**P**	**06 07 14.6**	**+0.3**
GNI						pmax	pmax		
	comp=Z,1μm,1.7s								
BBOO	**Buckleboo**	**55.72**	**133**		*e*	P	**P**	**06 07 14.9**	**0.0**
	comp=Z,198nm,1.1s								
TBLG	**Delisi**	**56.44**	**320**		*e*	P	**P**	**06 07 20.6**	**+0.7**
	comp=Z,1μm,1.7s								
TBLG	**Delisi**	**56.44**	**320**		*e*	P	**P**	**06 07 20.6**	**+0.7**
TBLG						pmax	pmax		
	comp=Z,1μm,1.7s								
GROC	**Groznyy**	**56.55**	**322**		*e*	P	**P**	**06 07 20.4**	**-0.2**
GROC					*e*			06 08 15.9	
GROC					*es*	S	**S**	**06 15 09.1**	**-1.8**
GROC					*e*			06 17 06.1	
GROC						pmax	pmax		
	comp=Z,380nm,1.1s								
MTSU	**Mount Surprise**	**56.99**	**113**			P	**P**	**06 07 25.7**	**+1.5**

comp=Z,820nm,4.2s
KIV MLR MLR
comp=Z,5μm,17.0s
SVE Sverdlovsk 59.04 341 *c iP* **P 06 07 37.6 -0.3**
SVE *e* 06 09 43.9
SVE *e*PPP PPP 06 11 15.5
SVE *e*S **S 06 15 41.5 -1.6**
SVE *e* 06 17 19.2
SVE *e*SS **SS 06 19 35.1 -2.2**
SVE pmax pmax
comp=Z,545nm,1.7s
SVE pmax pmax
comp=Z,740nm,9.1s
SVE MLR MLR
comp=N,13μm,20.0s
SVE MLR MLR
comp=Z,15μm,19.0s
SVE MLR MLR
comp=E,12μm,19.0s
GOF Gofitskoye 59.22 323 *⇓i*P **P 06 07 39.1 -0.2**
GOF *e*S **S 06 15 44.6 -1.2**
GOF pmax pmax
comp=Z,175nm,1.3s
CTA Charters Tower 59.28 115 P **P 06 07 41.1 +0.9**
comp=Z,161nm,0.9s,baz=282,slow=8.9,SNR=82
CTA LR LR 06 36 17.6
comp=Z,10μm,18.3s,slow=39
CTA Charters Tower 59.28 115 P **P 06 07 41.0 +0.8**
baz=59
CTAO Charters Tower 59.28 115 *e*P **P 06 07 41.1 +0.9**
CTAO LR LR
comp=Z,13μm,19.0s
CTAO Charters Tower 59.28 115 *e*P **P 06 07 41.1 +0.9**
CTAO MLR MLR
comp=Z,13μm,19.0s
ZEA Zeya 59.30 25 *e*P **P 06 07 40.1 +0.4**
ZEA *e*S **S 06 15 48.0 +1.4**
ZEA pmax pmax
comp=N,86nm,1.2s
ZEA pmax pmax
comp=E,130nm,1.2s
ZEA pmax pmax
comp=Z,320nm,1.2s
ZEA pmax pmax
comp=E,500nm,10.0s
ZEA pmax pmax
comp=Z,2μm,10.0s
ZEA pmax pmax
comp=N,900nm,9.0s
ZEA pmax pmax
comp=Z,1μm,10.0s
ZEA pmax pmax
comp=N,600nm,9.0s
ZEA pmax pmax
comp=E,500nm,9.0s
ZEA smax smax
comp=N,2μm,15.0s
ZEA smax smax
comp=E,3μm,15.0s
ZEA MLR MLR
comp=Z,19μm,20.0s
ZEA MLR MLR
comp=E,10μm,17.0s
ZEA MLR MLR
comp=N,17μm,18.0s
RCY Rachaya 59.38 308 *e*P **P 06 07 42.0 +1.2**
ARU Arti 59.40 340 LR LR 06 35 56.2
comp=N,13μm,18.1s,baz=136,slow=39
ARU Arti 59.40 340 *e*P **P 06 07 39.4 -0.9**
comp=N,216nm,1.2s
ARU Arti 59.40 340 *d*iP **P 06 07 39.5 -0.9**
ARU 06 08 26.2
ARU *e* 06 09 50.5
ARU PPP PPP 06 11 16.3
ARU *e*S **S 06 15 45.9 -1.8**
ARU 06 17 26.0
ARU SS **SS 06 19 38.9 -4.1**
ARU SSS SSS 06 22 16.5
ARU pmax pmax
comp=Z,307nm,1.7s
ARU MLR MLR
comp=Z,14μm,19.0s
SHBL Chebaa 59.41 308 *e*P **P 06 07 42.2 +1.1**
STKA Stephens Creek 59.45 130 P **P 06 07 41.9 +0.7**
comp=Z,133nm,0.9s,baz=307,slow=7.3,SNR=240
STKA LR LR 06 32 50.3
comp=Z,8μm,19.0s,baz=285,slow=36
STKA Stephens Creek 59.45 130 *e*P **P 06 07 40.0 -1.1**
comp=Z,83nm,1.3s
STKA Stephens Creek 59.45 130 *e*P **P 06 07 40.1 -1.1**
STKA pmax pmax
comp=Z,83nm,1.3s
HWQ Hawqa 59.55 309 *e*P **P 06 07 43.2 +1.2**
MMAI Mount Meron Ar 59.57 307 P **P 06 07 43.0 +1.0**
comp=Z,6.6nm,0.6s,baz=104,slow=9.6,SNR=18
MMAI LR LR 06 34 26.4
comp=Z,9μm,18.6s,baz=110,slow=37
BHL Bhannes 59.66 308 *e*P **P 06 07 43.9 +1.1**
MBAR Mbarara 59.66 268 *e*P **P 06 07 43.0 -0.2**
comp=Z,84nm,1.4s
MBAR LR LR
comp=Z,832nm,21.0s
MBAR Mbarara 59.66 268 *e*P **P 06 07 43.0 -0.2**
MBAR pmax pmax
comp=Z,84nm,1.4s
MBAR MLR MLR
comp=Z,832nm,21.0s
MATL Matarih 59.78 308 *e*P **P 06 07 44.4 +1.0**
SOC Sochi 60.57 320 *i* P **P 06 07 47.9 -0.8**
SOC *e**PP **pP 06 07 57.0 +0.5**
SOC *e**SP **sP 06 08 00.3 +0.8**
SOC *e* 06 10 01.1
SOC *e*PPP PPP 06 11 25.9
SOC *i* S **S 06 16 01.5 -1.7**
SOC *e*SS **SS 06 20 00.8 -1.0**
SOC pmax pmax
comp=Z,178nm,1.4s
SOC pmax pmax
comp=Z,2μm,3.5s
SOC MLR MLR
comp=Z,4μm,17.0s
CLNS Chul'man 60.69 21 *e*P **P 06 07 49.6 +0.3**
CLNS *e**PP **sP 06 07 58.7 -1.4**
CLNS *e* 06 08 31.5
CLNS *e* 06 10 00.0
CLNS *e*S **S 06 16 00.4 -4.0**
CLNS *e*SSS SSS 06 22 36.9
CLNS pmax pmax
comp=Z,121nm,1.0s
CLNS pmax pmax
comp=E,67nm,1.1s
CLNS pmax pmax
comp=N,54nm,1.0s
CLNS pmax pmax
comp=N,48nm,1.0s
CLNS pmax pmax
comp=Z,22nm,1.0s
CLNS pmax pmax
comp=E,51nm,1.1s
CLNS smax smax
comp=N,2μm,13.6s
CLNS smax smax
comp=E,3μm,12.0s
CLNS MLR MLR
comp=Z,11μm,20.0s
CLNS MLR MLR
comp=N,8μm,14.0s
CLNS MLR MLR
comp=E,3μm,17.0s
ERM Erimo 61.33 43 *e*P **P 06 07 54.8 +1.0**
comp=E,86nm,0.9s
ERM LR LR
comp=Z,7μm,20.0s
ERM Erimo 61.33 43 *ce*P **P 06 07 54.4 +0.6**
ERM pmax pmax
comp=Z,69nm,2.5s
GRNR Gornyy 61.67 31 *e*P P 06 07 44.2 -12
GRNR pmax pmax
comp=Z,46nm,1.0s
ARPS Mount Arapiles 61.79 135 P **P 06 07 57.9 +0.9**
baz=62,SNR=19
CSS Mathiatis 61.81 309 *e*P **P 06 07 57.4 +0.2**
comp=Z,100nm,1.6s
CSS LR LR
comp=Z,3μm,20.0s
CSS Mathiatis 61.81 309 P **P 06 07 57.6 +0.3**

ASAJ Asahikawa 61.87 40 LR LR 06 36 08.6
comp=Z,28nm,18.2s,baz=239,slow=37
ASAJ Asahikawa 61.87 40 *e*P **P 06 07 57.2 -0.2**
MAMC Mammari 61.97 309 P **P 06 07 59.2 +0.9**
SZAC Souni 62.10 308 P **P 06 08 00.0 +0.8**
ALFC Alefka 62.45 309 P **P 06 08 01.2 -0.3**
ANN Anapa 62.59 320 *d*iP **P 06 08 00.9 -1.3**
ANN *e* 06 10 22.8
ANN *e*PPP PPP 06 11 48.8
ANN *e*S **S 06 16 25.0 -3.7**
ANN pmax pmax
comp=Z,58nm,1.2s
ANN MLR MLR
comp=E,5μm,17.0s
ANN MLR MLR
comp=Z,5μm,17.0s
ANN MLR MLR
comp=N,6μm,17.0s
BR131 Keskin Array S 63.16 314 *e*P **P 06 08 05.7 -0.7**
BRTR Keskin Array B 63.16 314 P **P 06 08 05.7 -0.7**
comp=N,23nm,0.6s,baz=126,slow=6.6,SNR=84
BRTR LR LR 06 35 50.5
comp=N,8μm,21.3s,baz=112,slow=36
BRTR PKP2ab 06 37 18.1
comp=N,2.0nm,1.1s,baz=151,slow=2.8,SNR=4.2
VRH Novokhopyorsk 63.24 328 *e*P **P 06 08 05.4 -1.0**
VRH *e*S S 06 16 27.5 -9.1
VRH pmax pmax
comp=Z,130nm,0.7s
VRH pmax pmax
comp=Z,1μm,1.8s
VRH smax smax
comp=E,4μm,9.1s
YSS Yuzh-Sakhalins 63.26 37 *e*P **P 06 08 07.0 +0.3**
YSS LR LR
comp=Z,4μm,19.0s
YSS Yuzh-Sakhalins 63.26 37 *⇑e*P **P 06 08 06.7 +0.1**
YSS pmax pmax
comp=Z,75nm,1.0s
ILGA Ilgaz 63.58 315 *e*P **P 06 08 09.7 +0.5**
ANTO Ankara 63.82 314 *⇓i*P **P 06 08 10.3 -0.3**
ANTO Ankara 63.82 314 *e*P **P 06 08 08.9 -1.7**
comp=Z,416nm,1.7s
ANTO LR LR
comp=Z,7μm,20.0s
ANTO Ankara 63.82 314 P **P 06 08 10.6 -0.1**
SNR=26
ANTO Ankara 63.82 314 P **P 06 08 10.6 -0.1**
SNR=26
ANTO Ankara 63.82 314 *e*P **P 06 08 08.9 -1.7**
ANTO pmax pmax
comp=Z,417nm,1.7s
ANTO MLR MLR
comp=Z,7μm,20.0s
BR231 Keskin MP Arra 63.82 314 *e*P **P 06 08 06.3 -4.4**
YUK Yuzh-Kuril'sk 63.97 41 *e*P **P 06 08 10.1 -1.3**
YUK *e* 06 08 47.4
YUK *e* 06 10 38.8
YUK *i* PPP PPP 06 12 02.4
YUK *e*S **S 06 16 42.1 -3.9**
YUK *e*SS **SS 06 20 56.2 +1.2**
YUK pmax pmax
comp=Z,763nm,1.4s
YUK pmax pmax
comp=N,234nm,1.1s
YUK pmax pmax
comp=E,263nm,1.4s
YUK pmax pmax
comp=Z,872nm,1.2s
LSZ Lusaka 63.98 252 *e*P **P 06 08 11.4 -0.7**
comp=Z,86nm,1.1s
LSZ LR LR
comp=Z,11μm,20.0s
LSZ Lusaka 63.98 252 P **P 06 08 12.0 -0.2**
SNR=12
LSZ Lusaka 63.98 252 P **P 06 08 12.0 -0.2**
SNR=12
LSZ Lusaka 63.98 252 *e*P **P 06 08 11.4 -0.7**
LSZ pmax pmax
comp=Z,86nm,1.1s
LSZ MLR MLR
comp=Z,11μm,20.0s
BLWY Bulawayo 64.58 246 *i* P P 06 08 05.6 -10
BLWY Bulawayo 64.58 246 *i* P P 06 08 05.6 -10
VSR Storozhevoye 64.61 327 *e*P **P 06 08 14.0 -1.5**
VSR *e*S S 06 16 42.7 -11
VSR pmax pmax
comp=Z,120nm,0.5s
VSR pmax pmax
comp=Z,1μm,1.6s
VSR smax smax
comp=E,2μm,8.5s
VSR MLR MLR
comp=Z,7μm,17.0s
TOO Toolangi 64.76 134 P **P 06 08 18.7 +1.9**
baz=65,SNR=20
SIM Simferopol' 64.79 319 *de*P **P 06 08 16.7 -0.1**
SIM *e* 06 08 49.0
SIM *e* 06 10 42.0
SIM *e*PPP PPP 06 12 15.0
SIM *e*S **S 06 16 52.0 -4.2**
SIM *e* 06 18 09.0
SIM *e*SS **SS 06 21 09.0 +1.2**
SIM pmax pmax
comp=Z,80nm,5.9s
SIM MLR MLR
comp=Z,6μm,8.0s
VORR Voronezh 64.82 328 *e*P **P 06 08 17.0 +0.2**
ISP Isparta 64.84 311 PFAKE 06 08 30.0 +13
ISP LR LR
comp=Z,10μm,19.0s
EIDS Eidsvold 65.00 119 P **P 06 08 20.0 +1.5**
baz=65,SNR=47
EIDS Eidsvold 65.00 119 *e*P **P 06 08 19.5 +1.0**
TYV Tymovskoe 65.07 34 *e*P **P 06 08 19.4 +1.0**
TYV *e*S S 06 16 47.6 -12
TYV pmax pmax
comp=Z,78nm,1.5s
TYV pmax pmax
comp=Z,2μm,6.7s
TYV smax smax
comp=N,4μm,13.0s
TYV MLR MLR
comp=E,10μm,19.0s
TYV MLR MLR
comp=Z,14μm,17.0s
KSL Kastellorizon 65.08 309 P **P 06 08 18.2 -0.6**
KSL Kastellorizon 65.08 309 P **P 06 08 18.2 -0.6**
NKL Nikolayevsk 65.19 31 *e*P **P 06 08 19.0 -0.1**
NKL *e* 06 10 46.0
NKL *e*S **S 06 17 01.0 +0.3**
NKL *e* 06 18 10.0
NKL pmax pmax
comp=N,66nm,1.1s
NKL pmax pmax
comp=E,60nm,1.1s
NKL pmax pmax
comp=Z,270nm,1.1s
NKL pmax pmax
comp=E,1μm,9.0s
NKL pmax pmax
comp=Z,3μm,10.0s
NKL smax smax
comp=N,4μm,15.0s
NKL smax smax
comp=E,3μm,15.0s
LPSR Galich'ya Gora 65.45 328 *e*P **P 06 08 19.5 -1.4**
LPSR pmax pmax
comp=Z,400nm,1.6s
FETY Fethiye 65.60 309 P **P 06 08 20.7 -1.6**
FETY Fethiye 65.60 309 P **P 06 08 20.7 -1.6**
YNG Young 65.64 130 P **P 06 08 23.5 +1.0**
baz=66,SNR=8.9
KUR Kuril'sk 65.76 41 *c iP* P 06 08 33.7 +11
KUR *i* S **S 06 17 08.9 +0.9**
KUR *e*SS **SS 06 21 28.7 +5.9**
KUR pmax pmax
comp=Z,451nm,1.4s
KUR pmax pmax
comp=N,68nm,1.1s
KUR pmax pmax
comp=E,43nm,1.3s
KUR pmax pmax
comp=Z,2μm,5.0s
KUR pmax pmax

comp=N,6μm,21.0s
KUR MLR MLR
comp=Z,4μm,15.0s
KUR MLR MLR
comp=E,1μm,14.0s
KUR MLR MLR
comp=N,858nm,11.0s
YAK Yakutsk 66.19 19 *e*P **P 06 08 24.8 -0.7**
YAK LR LR
comp=Z,15μm,20.0s
YAK Yakutsk 66.19 19 *c iP* **P 06 08 24.2 -1.3**
YAK *e**PP **pP 06 08 34.0 +0.6**
YAK *e* 06 08 56.6
YAK *e* 06 10 47.9
YAK *e*S **S 06 17 10.1 -2.6**
YAK *e* 06 18 12.4
YAK pmax pmax
comp=Z,191nm,1.0s
YAK pmax pmax
comp=E,50nm,1.1s
YAK pmax pmax
comp=N,47nm,1.2s
YAK pmax pmax
comp=Z,125nm,2.0s
YAK pmax pmax
comp=N,69nm,2.0s
YAK pmax pmax
comp=E,83nm,2.3s
YAK smax smax
comp=E,2μm,4.4s
YAK smax smax
comp=N,1μm,4.3s
YAK MLR MLR
comp=Z,14μm,19.0s
YAK MLR MLR
comp=N,13μm,19.0s
YAK MLR MLR
comp=E,7μm,19.0s
YER Yerkesik 66.36 310 P **P 06 08 27.1 -0.1**
YER Yerkesik 66.36 310 P **P 06 08 27.1 -0.1**
YER Yerkesik 66.36 310 P **P 06 08 27.1 -0.1**
CAN Canberra 66.48 130 *e*P **P 06 08 28.6 +0.7**
CAN LR LR
comp=Z,25μm,21.0s
CAN Canberra 66.48 130 *e*P **P 06 08 28.7 +0.7**
CAN MLR MLR
comp=Z,25μm,21.0s
MANT Manisa 66.52 311 *e*P **P 06 08 28.6 +0.2**
NRIK Noril'sk 66.67 359 LR LR 06 39 31.4
comp=Z,6μm,21.7s,baz=241,slow=38
CNB Canberra Magne 66.75 130 P **P 06 08 30.7 +1.0**
baz=67,SNR=16
KARP Karpathos 66.83 308 *e*P **P 06 08 30.6 +0.4**
KARP Karpathos 66.83 308 P **P 06 08 29.7 -0.5**
ARMA Armidale 66.92 125 P **P 06 08 32.4 +1.5**
baz=67,SNR=79
ARMA Armidale 66.92 125 *e*P **P 06 08 33.1 +2.1**
BODT Bodrum 67.09 309 P **P 06 08 30.2 -1.6**
BODT Bodrum 67.09 309 P **P 06 08 30.2 -1.6**
MILA Mila 67.24 132 P **P 06 08 34.1 +1.4**
baz=67,SNR=13
MGCD Mangrove Creek 67.38 128 P **P 06 08 35.2 +1.6**
baz=68,SNR=8.0
SMG Samos 67.62 310 P **P 06 08 35.4 +0.3**
SMG Samos 67.62 310 P **P 06 08 35.4 +0.3**
RIV Riverview 67.63 128 P **P 06 08 36.5 +1.3**
baz=68,SNR=7.4
MOS Moscow 67.72 331 *κ iP* **P 06 08 34.5 -0.8**
MOS *e* 06 08 50.1
MOS *e* 06 09 00.9
MOS *i* 06 11 00.9
MOS *e*PPP PPP 06 12 47.0
MOS *i* S **S 06 17 28.6 -2.7**
MOS *e* 06 18 28.3
MOS pmax pmax
comp=Z,1μm,1.7s
MOS pmax pmax
comp=Z,3μm,2.3s
MOS pmax pmax
comp=E,1μm,3.0s
MOS pmax pmax
comp=N,1μm,3.3s
MOS smax smax
comp=E,4μm,4.8s
MOS smax smax
comp=N,4μm,5.5s
MOS MLR MLR
comp=Z,9μm,20.0s
MOS MLR MLR
comp=E,3μm,19.0s
MOS MLR MLR
comp=N,8μm,20.0s
PATS Pohnpei 67.83 84 P **P 06 08 38.8 +1.9**
baz=68,SNR=3.9
PATS Pohnpei 67.83 84 *e*P **P 06 08 39.1 +2.2**
OBN Obninsk 67.92 330 PKP2bc **P'P'bc 06 36 58.7 -0.7**
comp=N,5.4nm,0.4s,baz=77,slow=5.5,SNR=4.7
OBN LR LR 06 40 54.6
comp=N,7μm,21.0s,baz=112,slow=38
OBN Obninsk 67.92 330 *e*P **P 06 08 36.1 -0.5**
OBN *⇑e* 06 36 58.7
OBN Obninsk 67.92 330 *d iP* **P 06 08 35.6 -1.0**
OBN *i* 06 08 51.7
OBN *i* 06 09 03.2
OBN *i* 06 11 04.4
OBN *i* S 06 17 23.8 -10
OBN pmax pmax
comp=Z,193nm,1.2s
OBN MLR MLR
comp=Z,9μm,24.0s
NPS Neapolis 67.99 307 P **P 06 08 38.1 +0.6**
NPS Neapolis 67.99 307 P **P 06 08 38.1 +0.6**
NPS Neapolis 67.99 307 P **P 06 08 38.1 +0.6**
MOO Moorlands 68.02 138 P **P 06 08 39.0 +1.5**
baz=68,SNR=3.2
TAU Tasmania Unive 68.31 138 *e*P **P 06 08 40.9 +1.6**
TAU LR LR
comp=Z,12μm,19.0s
TAU Tasmania Unive 68.31 138 *e*P **P 06 08 40.9 +1.6**
TAU MLR MLR
comp=Z,12μm,19.0s
PSN Preselentsi 68.33 316 P **P 06 08 38.9 -0.5**
SANT Santorini 68.36 308 PFAKE 06 08 50.0 +10
SANT LR LR
comp=Z,8μm,20.0s
TLCR 68.38 318 *⇑iP* **P 06 08 39.8 +0.1**
CHOS Chios island 68.39 310 P **P 06 08 39.8 -0.2**
CHOS Chios island 68.39 310 P **P 06 08 39.8 -0.2**
LBTB Lobatse 68.41 242 *e*P **P 06 08 39.7 -0.7**
LBTB Lobatse 68.41 242 *e*P **P 06 08 39.7 -0.7**
TIRR Tirgusor 68.41 317 *⇑iP* **P 06 08 39.3 -0.6**
TIRR Tirgusor 68.41 317 *e*P **P 06 08 39.7 -0.2**
comp=Z,256nm,1.5s
TIRR Tirgusor 68.41 317 *e*P **P 06 08 39.7 -0.2**
TIRR pmax pmax
comp=Z,255nm,1.5s
PRK Paraskevi 68.44 311 P **P 06 08 40.0 -0.2**
PRK Paraskevi 68.44 311 P **P 06 08 40.0 -0.2**
PRK Paraskevi 68.44 311 P **P 06 08 40.0 -0.2**
APE Apeiranthos 68.47 309 *⇓iP* **P 06 08 39.6 -0.9**
APE Apeiranthos 68.47 309 *e*P **P 06 08 40.0 -0.5**
APE pmax pmax
comp=Z,78nm,1.3s
EZN Ezine 68.55 312 P **P 06 08 41.0 +0.1**
EZN Ezine 68.55 312 P **P 06 08 41.0 +0.1**
EZN Ezine 68.55 312 P **P 06 08 41.0 +0.1**
IDI Anoyia 68.57 307 LR LR 06 41 23.5
comp=Z,5μm,20.2s,baz=94,slow=38
IDI Anoyia 68.57 307 *⇓iP* **P 06 08 40.3 -0.9**
TLB Topalu 68.70 317 *⇓iP* **P 06 08 41.8 +0.1**
PRD Provadia 68.72 316 P **P 06 08 41.8 -0.1**
HARR Harsova 68.81 317 *⇓iP* **P 06 08 42.4 0.0**
CFR Carcaliu 68.83 318 *⇑iP* **P 06 08 41.7 -0.8**
ENEZ Enez 68.92 313 P **P 06 08 43.0 -0.2**
GADA Gvkgeada 68.96 312 P **P 06 08 43.2 -0.2**
GADA Gvkgeada 68.96 312 P **P 06 08 43.2 -0.2**
KIS Kishinev 68.98 320 *⇓iP* **P 06 08 42.0 -1.4**
comp=Z,2μm,12.0s
KIS Kishinev 68.98 320 *e*PsP 06 09 03.0
KIS Kishinev 68.98 320 *e*PP PP 06 11 18.0 +2.0
KIS Kishinev 68.98 320 *κ iP* **P 06 08 42.0 -1.4**
KIS *e* 06 09 03.0
KIS *e* 06 11 18.0
KIS *e*PPP PPP 06 12 56.0

KIS *i* S **S** 06 17 44.0 -2.7
KIS *i* 06 18 12.0
KIS *i* 06 18 30.0
KIS pmax pmax
comp=Z,800nm,2.0s
KIS pmax pmax
comp=E,600µm,2.0s
KIS pmax pmax
comp=Z,2µm,8.0s
KIS pmax pmax
comp=E,1µm,4.0s
KIS smax smax
comp=E,6µm,10.0s
KIS MLR MLR
comp=Z,8µm,20.0s
KIS MLR MLR
comp=N,3µm,21.0s
KIS MLR MLR
comp=E,6µm,19.0s
KIS MLR MLR
comp=Z,8µm,20.0s
MIR Mirnyy 69.00 179⇓ *i*P **P** 06 08 46.0 +2.9
MIR *e* 06 11 24.0
MIR *e*S **S** 06 17 50.0 +3.9
MIR *e*PS **PnS** 06 18 04.0 -9.0
MIR *e*SSS SSS 06 25 10.0
MIR pmax pmax
comp=Z,135nm,1.5s
MIR pmax pmax
comp=Z,3µm,8.0s
ALN Alexandroupoli 69.04 313 P **P** 06 08 43.7 -0.2
ALN Alexandroupoli 69.04 313 P **P** 06 08 43.7 -0.2
ALN Alexandroupoli 69.04 313 P **P** 06 08 43.7 -0.2
JMB Yambol 69.08 315 P **P** 06 08 44.5 +0.3
VAM Vamos 69.15 307 P **P** 06 08 45.5 +0.8
VAM Vamos 69.15 307 P **P** 06 08 45.5 +0.8
VAM Vamos 69.15 307 P **P** 06 08 45.5 +0.8
LEOM Leova 69.17 319⇓ *i*P **P** 06 08 44.5 -0.1
SMTH Samothraki Isl 69.31 312 P **P** 06 08 45.2 -0.4
SMTH Samothraki Isl 69.31 312 P **P** 06 08 45.2 -0.4
IMMV Iera Moni Meta 69.33 307 P **P** 06 08 46.2 +0.3
LIA Limnos Island 69.42 312 P **P** 06 08 45.7 -0.6
LIA Limnos Island 69.42 312 P **P** 06 08 45.7 -0.6
RDO Rodhopi 69.48 313 P **P** 06 08 46.1 -0.5
RDO Rodhopi 69.48 313 P **P** 06 08 46.1 -0.5
KARY Karystos 69.54 310 P **P** 06 08 46.6 -0.5
BOSA Boshof 69.59 239 *i* P **P** 06 08 46.5 -1.2
BOSA Boshof 69.59 238 P **P** 06 08 46.7 -1.0
comp=Z,54nm,0.5s,baz=80,slow=4.9,SNR=184
BOSA LR LR 06 38 14.0
comp=Z,6µm,18.0s,baz=72,slow=35
BOSA Boshof 69.59 238 *i* P **P** 06 08 46.5 -1.2
PETR Petresti 69.61 318⇓ *i*P **P** 06 08 47.9 +0.6
KLMR Klimovskoe 69.64 336 *e*P **P** 06 08 43.9 -3.3
KLMR AMP 06 08 49.4
comp=Z,172nm,1.0s
KLMR *e*S **S** 06 17 50.1 -3.8
KLMR *e*S **S** 06 17 50.1 -3.8
KLMR LQ LQ 06 33 25.6
KLMR LQ LQ 06 33 25.6
KLMR LR LR 06 39 07.1
KLMR AMP 06 40 36.3
comp=Z,1µm,18.5s
KLMR Klimovskoe 69.64 336 *e*P **P** 06 08 43.9 -3.3
KLMR *e*S **S** 06 17 50.1 -3.8
KLMR pmax pmax
comp=Z,172nm,1.0s
KLMR MLR MLR
comp=Z,1µm,19.0s
SORM Soroca 69.66 321⇓ *i*P **P** 06 08 47.0 -0.6
KDZ Kurdzhali 69.70 314 P **P** 06 08 48.0 -0.0
DIM Dimitrovgrad 69.72 314 P **P** 06 08 47.7 -0.4
SZH Strazhica 69.77 315 P **P** 06 08 48.0 -0.4
ISR Istrita 69.88 317⇑ *i*P **P** 06 08 49.5 +0.4
SULR 69.95 317⇑ *i*P **P** 06 08 49.8 +0.4
PTL Penteli 69.98 310 P **P** 06 08 48.9 -1.0
PTL Penteli 69.98 310 P **P** 06 08 48.9 -1.0
VRI Vrincioaia 69.98 318⇓ *i*P **P** 06 08 50.3 +0.6
PLOR Plostina 70.03 318⇑ *i*P **P** 06 08 50.4 +0.4
AKASG Malin Array Be 70.04 324 P **P** 06 08 48.9 -1.0
comp=Z,21nm,0.5s,baz=92,slow=5.2,SNR=145
AKASG LR LR 06 43 35.1
comp=Z,6µm,18.8s,baz=95,slow=39
AKBB Malin Array Si 70.04 324 *e*P **P** 06 08 49.1 -0.8
AKBB Malin Array Si 70.04 324 *e*P **P** 06 08 49.1 -0.8
KIEV Kiev 70.04 324 *e*P **P** 06 08 49.0 -0.8
KIEV LR LR
comp=Z,8µm,21.0s
KIEV Kiev 70.04 324 *i* P **P** 06 08 49.1 -0.8
SNR=46
KIEV Kiev 70.04 324*d i*P **P** 06 08 48.7 -1.2
KIEV pmax pmax
comp=Z,41nm,1.3s
AK11 Malin Array Si 70.06 324 *e*P **P** 06 08 49.0 -1.0
PVL Pavlikeni 70.18 315 P **P** 06 08 51.3 +0.4
SECR 70.18 317⇑ *i*P **P** 06 08 52.2 +1.3
KAVA Kavala 70.19 313 P **P** 06 08 50.6 -0.4
KAVA Kavala 70.19 313 P **P** 06 08 50.6 -0.4
RZN Rozhen 70.21 314 P **P** 06 08 50.7 -0.7
CASY Casey 70.22 171 *e*P **P** 06 08 52.0 +1.3
CASY LR LR
comp=Z,1µm,19.0s
TESR Tescani 70.23 319⇓ *i*P **P** 06 08 50.6 -0.6
PLD Plovdiv 70.33 314 P **P** 06 08 51.4 -0.4
DID Didima 70.35 309 P **P** 06 08 50.4 -1.7
DID Didima 70.35 309 P **P** 06 08 50.4 -1.7
HNR Honiara 70.36 101 *e*P **P** 06 08 53.0 +0.5
HNR Honiara 70.36 101 P **P** 06 08 53.1 +0.5
comp=Z,246nm,0.9s,baz=206,slow=2.7,SNR=7.9
HNR Honiara 70.36 101 *e*P **P** 06 08 54.1 +1.5
HNR LR LR
comp=Z,3µm,19.0s
MLR Muntele Rosu 70.40 318 P **P** 06 08 52.8 +0.4
comp=Z,20nm,0.6s,baz=44,slow=2.0
MLR LR LR 06 43 01.2
comp=Z,3µm,21.2s,baz=103,slow=39
MLR Muntele Rosu 70.40 318⇑ *i*P **P** 06 08 52.9 +0.5
MLR Muntele Rosu 70.40 318 *e*P **P** 06 08 52.0 -0.4
MLR Muntele Rosu 70.40 318 *e*P **P** 06 08 52.0 -0.4
VILL Villia 70.43 310 P **P** 06 08 50.4 -2.2
PAIG Paliouri 70.55 312 P **P** 06 08 52.6 -0.6
PAIG Paliouri 70.55 312 P **P** 06 08 52.6 -0.6
PAIG Paliouri 70.55 312 P **P** 06 08 52.6 -0.6
LOUT Loutraki 70.66 309 P **P** 06 08 52.1 -1.8
SMIA Simia 70.67 310 P **P** 06 08 53.0 -1.0
NVR Nevrokopi 70.75 313 P **P** 06 08 54.0 -0.5
NVR Nevrokopi 70.75 313 P **P** 06 08 54.0 -0.5
PRAR RASCA 70.77 320⇓ *i*P **P** 06 08 54.4 -0.1
LKR Lokris 70.78 310 P **P** 06 08 52.7 -2.0
LKR Lokris 70.78 310 P **P** 06 08 52.7 -2.0
HUMR Humele 70.78 316⇓ *i*P **P** 06 08 54.3 -0.2
PLG Polygyros 70.83 312 P **P** 06 08 54.3 -0.7
PLG Polygyros 70.83 312 P **P** 06 08 54.3 -0.7
PLG Polygyros 70.83 312 P **P** 06 08 54.3 -0.7
PGB Panagyurishte 70.83 314 P **P** 06 08 54.1 -0.9
SRS Serrai 70.89 313 P **P** 06 08 54.6 -0.7
SRS Serrai 70.89 313 P **P** 06 08 54.6 -0.7
SRS Serrai 70.89 313 P **P** 06 08 54.6 -0.7
DOPR Dopca 70.91 318⇓ *i*P **P** 06 08 55.3 0.0
MMB Musomiste 70.91 313 P **P** 06 08 53.9 -1.5
MTUR Matau 70.98 317⇑ *i*P **P** 06 08 55.3 -0.2
VOIR 70.98 317⇑ *i*P **P** 06 08 55.5 -0.4
SOH Sokhos 71.00 312 P **P** 06 08 55.3 -0.7
SOH Sokhos 71.00 312 P **P** 06 08 55.3 -0.7
SOH Sokhos 71.00 312 P **P** 06 08 55.3 -0.7
AXAR Agios Charalam 71.06 310 P **P** 06 08 56.3 -0.1
AXAR Agios Charalam 71.06 310 P **P** 06 08 56.3 -0.1
GUR Goura 71.13 309 P **P** 06 08 55.5 -1.5
GUR Goura 71.13 309 P **P** 06 08 55.5 -1.5
HORT Hortiatis 71.14 312 P **P** 06 08 56.2 -0.7
HORT Hortiatis 71.14 312 P **P** 06 08 56.2 -0.7
THE Thessaloniki 71.24 312 P **P** 06 08 56.2 -1.2
THE Thessaloniki 71.24 312 P **P** 06 08 56.2 -1.2
THE Thessaloniki 71.24 312 P **P** 06 08 56.2 -1.2
ARR Arges 71.25 317⇓ *i*P **P** 06 08 57.0 -0.5
MPEP Malo Peshtene 71.33 315 P **P** 06 08 57.6 -0.4
AGG Agios Georgios 71.37 310 *e*P **P** 06 08 56.8 -1.5
AGG Agios Georgios 71.37 310 *e*P **P** 06 08 56.8 -1.5
KNT Kendrikon 71.41 313 P **P** 06 08 57.6 -0.9
KNT Kendrikon 71.41 313 P **P** 06 08 57.6 -0.9
KNT Kendrikon 71.41 313 P **P** 06 08 57.6 -0.9
TRIZ Trizonia 71.43 310 P **P** 06 08 57.4 -1.2

KKB Krupnik 71.44 313 P **P** 06 08 57.3 -1.4
LIT Litokhoron 71.48 311 P **P** 06 08 57.6 -1.3
LIT Litokhoron 71.48 311 P **P** 06 08 57.6 -1.3
LIT Litokhoron 71.48 311 P **P** 06 08 57.6 -1.3
BURAR Bucovina Array 71.50 320⇑ *i*P **P** 06 08 59.3 +0.3
BUR04 Bucovina Ar. S 71.50 320 *e*P **P** 06 08 58.6 -0.4
BUR08 Bucovina Ar. S 71.52 320 *e*P **P** 06 08 59.6 +0.5
VTS Vitosha 71.53 314⇓ *i*P **P** 06 08 58.7 -0.6
VTS Vitosha 71.53 314 *e*P **P** 06 08 58.4 -0.9
VTS Vitosha 71.53 314 P **P** 06 08 58.5 -0.9
VTS Vitosha 71.53 314 P **P** 06 08 59.0 -0.3
VTS Vitosha 71.53 314 *e*P **P** 06 08 58.4 -0.9
EFP Efpalio 71.57 310 P **P** 06 08 57.5 -1.9
DRO Drossia 71.63 309 P **P** 06 08 59.7 -0.1
MDB Medias 71.63 318⇑ *i*P **P** 06 09 02.6 +2.9
GRG Griva 71.73 312 P **P** 06 08 59.4 -1.0
GRG Griva 71.73 312 P **P** 06 08 59.4 -1.0
GRG Griva 71.73 312 P **P** 06 08 59.4 -1.0
EVR Evrytania 71.74 310 P **P** 06 08 59.8 -0.8
EVR Evrytania 71.74 310 P **P** 06 08 59.8 -0.8
LOT Lotru 71.85 317⇓ *i*P **P** 06 09 00.6 -0.6
ARCR ARCALIA 71.91 319⇑ *i*P **P** 06 09 02.7 +1.4
TMCR Tamitsa 72.07 339 *e*P **P** 06 09 01.9 0.0
TMCR *e*S **S** 06 18 25.5 +3.5
TMCR pmax pmax
comp=Z,328nm,1.5s
PDO Prodromos 72.16 310 P **P** 06 09 02.1 -0.9
MICGM Minsk 72.19 327⇓ *i*P **P** 06 09 02.0 -0.8
MICGM *e*P **P** 06 09 02.0 -0.8
MICGM PM 06 09 04.0
comp=Z,0.5nm,1.5s
MICGM *e*PP **PP** 06 11 38.0 -5.4
MICGM *e*PPP PPP 06 13 27.0
MICGM *e*S **S** 06 18 20.0 -3.9
MICGM *e*PS **PnS** 06 19 01.0 +5.1
MICGM *e*SS **SS** 06 23 05.0 +3.3
MICGM *e*SSS SSS 06 26 15.0
MICGM *e*LR LR 06 32 30.0
MICGM LRM MLR 06 48 08.0
comp=Z,10nm,16.0s
MNK Minsk 72.19 327⇓ *e*P **P** 06 09 02.0 -0.8
MNK *e* 06 11 38.0
MNK *e*PPP PPP 06 13 27.0
MNK *e*S **S** 06 18 20.0 -3.9
MNK *e*PS **PnS** 06 19 01.0 +5.1
MNK *e*SS **SS** 06 23 05.0 +3.3
MNK pmax pmax
comp=Z,480nm,1.5s
KPRO Kipourio 72.29 311 P **P** 06 09 01.2 -2.7
CJR Cluj-Napoca 72.31 318⇓ *i*P **P** 06 09 04.4 +0.6
KFL Anninata 72.37 309 P **P** 06 09 03.8 -0.5
FNA Florina 72.45 312 P **P** 06 09 03.4 -1.4
FNA Florina 72.45 312 P **P** 06 09 03.4 -1.4
FNA Florina 72.45 312 P **P** 06 09 03.4 -1.4
DEV Deva 72.55 317⇑ *i*P **P** 06 09 05.4 +0.2
BMR Baia Mare 72.63 319⇓ *i*P **P** 06 09 06.3 +0.7
MAW Mawson 72.64 191 P **P** 06 09 05.2 +0.1
comp=Z,20nm,1.0s,baz=25,slow=10,SNR=11
MAW LR LR 06 33 59.4
comp=Z,5µm,20.5s,baz=22,slow=30
MAW Mawson 72.64 191 P **P** 06 09 05.3 +0.1
baz=73,SNR=6.8
MAW Mawson 72.64 191 *e*P **P** 06 09 05.1 -0.1
MAW Mawson 72.64 191 *e*P **P** 06 09 05.1 -0.1
SKO Skopje 72.66 313⇓ *i*P **P** 06 09 03.4 -2.5
KRUS Krusevo 72.67 313⇓ *i*P **P** 06 09 04.4 -1.7
SKR Severo-Kuril's 72.83 37 *e*P **P** 06 09 05.4 -1.3
SKR *e*S **S** 06 18 27.4 -3.9
SKR pmax pmax
comp=Z,182nm,1.2s
SKR pmax pmax
comp=Z,2µm,3.1s
SKR pmax pmax
comp=Z,900nm,4.8s
SKR pmax pmax
comp=Z,900nm,6.4s
SKR MLR MLR
comp=Z,7µm,19.0s
SKR MLR MLR
comp=Z,6µm,18.0s
KBN Korca 72.86 312 P **P** 06 09 05.6 -1.6
KBN Korca 72.86 312 P **P** 06 09 05.6 -1.6
KBN Korca 72.86 312 P **P** 06 09 05.6 -1.6
LVV L'vov 72.89 322⇑ *i*P **P** 06 09 07.4 +0.2
LVV *i* 06 11 50.9
LVV *e* 06 13 40.0
LVV *i*S **S** 06 18 30.1 -2.0
LVV pmax pmax
comp=Z,200nm,2.4s
DRGR 72.92 318⇑ *i*P **P** 06 09 07.2 -0.2
NACGM Naroch 72.93 327 *e*P **P** 06 09 07.0 -0.2
NACGM *e*S **S** 06 18 29.0 -3.3
NACGM *e*PS **PnS** 06 19 15.0 +9.4
NACGM *e*SS **SS** 06 23 12.0 -1.0
NACGM *e*SSS SSS 06 26 40.0
NACGM *e*LQ LQ 06 34 07.0
NACGM *e*LR LR 06 39 04.0
NACGM LRM MLR 06 46 56.0
comp=Z,9.5nm,19.0s
PUL Pulkovo 73.07 333*ce*P **P** 06 09 08.2 +0.3
PUL pmax pmax
comp=Z,634nm,1.7s
IDID Didziasalis 73.10 328 *e*P **P** 06 09 08.4 +0.2
IDID IAmb IAmb 06 09 09.8
comp=Z,31nm,0.8s
TIXI Tiksi 73.14 12 LR LR 06 44 45.6
comp=Z,7µm,18.9s,baz=224,slow=39
TIXI Tiksi 73.14 12 *e*P **P** 06 09 05.9 -2.3
TIXI Tiksi 73.14 12*ce*P **P** 06 09 06.3 -1.9
TIXI pmax pmax
comp=Z,160nm,1.0s
MA2 Magadan 73.18 28 LR LR 06 44 24.8
comp=Z,7µm,19.8s,baz=243,slow=38
MA2 Magadan 73.18 28⇓ *e*P **P** 06 09 08.2 -0.4
PHP Peshkopia 73.33 313 P **P** 06 09 08.4 -1.6
PHP Peshkopia 73.33 313 P **P** 06 09 08.4 -1.6
PHP Peshkopia 73.33 313 P **P** 06 09 08.4 -1.6
BZS Buzias 73.36 317⇓ *i*P **P** 06 09 09.4 -0.6
LHI Lord Howe Isla 73.37 124 P **P** 06 09 11.9 +1.6
baz=74,SNR=5.4
LHI Lord Howe Isla 73.37 124 *e*P **P** 06 09 11.9 +1.6
TRPA Tarpa 73.38 320⇑ *i*P **P** 06 09 10.0 0.0
TRPA Tarpa 73.38 320⇓ *e*P **P** 06 09 10.0 0.0
IIGN Ignalina 73.39 328 *e*P **P** 06 09 10.1 +0.2
IIGN IAmb IAmb 06 09 11.5
comp=Z,40nm,0.6s
SIRR Siria 73.49 318⇓ *i*P **P** 06 09 10.4 -0.4
IZAR Zarasai 73.52 328 *e*P **P** 06 09 10.8 +0.1
IZAR IAmb IAmb 06 09 12.1
comp=Z,29nm,0.7s
ISAL Salakas 73.52 328 *e*P **P** 06 09 10.8 +0.1
ISAL IAmb IAmb 06 09 12.2
comp=Z,26nm,0.7s
BANR Banloc 73.64 317⇓ *i*P **P** 06 09 12.3 +0.7
UZH Uzhgorod 73.66 320 *e*P **P** 06 09 10.4 -1.3
UZH *e* 06 09 21.6
UZH *e* 06 09 26.0
UZH *e* 06 11 54.2
UZH *e*S **SKiKP** 06 18 37.6 -2.7
UZH *i* 06 19 05.8
UZH *i* 06 19 27.8
UZH *e*SS **SS** 06 23 21.8 -2.6
UZH *e*SSS SSS 06 26 30.0
UZH MLR MLR
comp=N,6µm,20.0s
UZH MLR MLR
comp=E,8µm,20.0s
UZH MLR MLR
comp=Z,2µm,20.0s
KWP Kalwaria Pacla 73.67 321 *e*P **P** 06 09 11.9 +0.2
KWP *e*S **S** 06 18 40.6 -0.3
KWP LMZ LR 06 41 39.0
comp=Z,6µm,24.3s
KWP Kalwaria Pacla 73.67 321⇓ *e*P **P** 06 09 11.9 +0.2
KWP *e*S **S** 06 18 40.6 -0.3
KWP MLR MLR
comp=Z,6µm,24.3s
TIR Tirane 73.69 312 PFAKE 06 09 20.0 +8.0
TIR LR LR
comp=Z,7µm,21.0s
PVY Plav 73.86 314 *e*P **P** 06 09 11.7 -1.5
IVA Berane 73.97 314⇓ *i*P **P** 06 09 12.5 -1.2

DIVS Divibare 74.15 315 *e*P **P** 06 09 14.1 -0.7
SUR Sutherland 74.23 235 *e*P **P** 06 09 15.2 -0.4
SUR LR LR
comp=Z,15µm,20.0s
KOME Kolasin 74.24 314⇓ *i*P **P** 06 09 14.3 -1.0
VSU Vasula 74.25 331*ce*P **P** 06 09 14.6 -0.3
VSU pmax pmax
comp=Z,1µm,1.7s
ULC Ulcinj 74.26 313⇓ *i*P **P** 06 09 14.3 -1.1
CRVS Cervenica-Dubn 74.27 320 *e*P **P** 06 09 14.9 -0.4
CRVS *e*PP **PP** 06 11 59.9 -1.4
CRVS Cervenica-Dubn 74.27 320 *e*P **P** 06 09 14.9 -0.4
CRVS *e* 06 11 59.9
PDG Podgorica 74.34 313⇓ *i*P **P** 06 09 15.0 -0.8
PDG Podgorica 74.34 313 P **P** 06 09 14.9 -0.8
TTG Podgorica 74.34 313 *e*P **P** 06 09 14.4 -1.4
TTG Podgorica 74.34 313 *e*P **P** 06 09 14.8 -1.0
TTG Podgorica 74.34 313 *e*P **P** 06 09 14.8 -1.0
DRME Dracevica, Mon 74.35 313⇓ *i*P **P** 06 09 14.1 -1.8
PLE Pljevlja 74.42 314⇓ *i*P **P** 06 09 14.3 -2.1
PETK Petropavlovsk- 74.48 35 P **P** 06 09 15.0 -1.4
comp=Z,5.2nm,0.5s,baz=293,slow=3.3,SNR=9.7
PETK LR LR 06 44 05.7
comp=Z,5µm,20.3s,baz=247,slow=38
PETK Petropavlovsk- 74.48 35 P **P** 06 09 15.0 -1.4
STHS Stebnicka Huta 74.53 321 *e*P **P** 06 09 16.9 +0.1
STHS Stebnicka Huta 74.53 321 *e*P **P** 06 09 16.9 +0.1
STHS pmax pmax
comp=Z,28nm,1.0s
BUM Brajici-Budva 74.58 313⇓ *i*P **P** 06 09 15.8 -1.5
NKY Niksic 74.61 314⇓ *i*P **P** 06 09 16.3 -1.2
CEME Cevo 74.61 313⇓ *i*P **P** 06 09 16.4 -1.1
TSUM Tsumeb 74.61 249 *e*P **P** 06 09 18.1 +0.1
TSUM LR LR
comp=Z,11µm,20.0s
NKME Niksic 74.63 314⇓ *i*P **P** 06 09 16.4 -1.1
SUW Suwalki 74.63 326 *e*P **P** 06 09 16.7 -0.5
SUW *e*PP **PP** 06 12 07.6 +3.4
SUW *e*PPP PPP 06 13 50.2
SUW *e*S **S** 06 18 47.6 -3.9
SUW *e*SKSac **SKSac** 06 19 23.0 -0.9
SUW LMZ LR 06 44 37.6
comp=Z,8µm,22.7s
SUW Suwalki 74.63 326 *e*P **P** 06 09 16.5 -0.7
SUW Suwalki 74.63 326⇓ *e*P **P** 06 09 16.7 -0.5
SUW *e* 06 12 07.6
SUW *e*PPP PPP 06 13 50.2
SUW *e*S **S** 06 18 47.6 -3.9
SUW *e* 06 19 23.0
SUW MLR MLR
comp=Z,8µm,22.7s
HCY Herceg Novi 74.90 313⇓ *i*P **P** 06 09 17.8 -1.3
BRY Bratogost 74.95 314⇓ *i*P **P** 06 09 17.3 -2.2
PET Petropavlovsk 75.01 36 *e*P **P** 06 09 18.1 -1.4
PET LR LR
comp=Z,6µm,21.0s
PET Petropavlovsk 75.01 36 *e*P **P** 06 09 18.0 -1.4
PET *e*S **S** 06 18 52.3 -3.5
PET *e*PS **PnS** 06 19 27.5 -5.3
PET *e*SS **SS** 06 23 47.4 +2.7
PET pmax pmax
comp=Z,2µm,12.6s
PET pmax pmax
comp=Z,1µm,9.1s
PET pmax pmax
comp=Z,1µm,14.3s
PET MLR MLR
comp=Z,7µm,20.0s
PET MLR MLR
comp=Z,5µm,20.0s
PSZ Piszkesteto 75.05 319⇓ *i*P **P** 06 09 18.9 -1.0
PSZ Piszkesteto 75.05 319⇓ *e*P **P** 06 09 19.3 -0.6
PSZ Piszkesteto 75.05 319 *e*P **P** 06 09 19.1 -0.8
PSZ LR LR
comp=Z,7µm,21.0s
PSZ Piszkesteto 75.05 319 *e*P **P** 06 09 19.1 -0.8
PSZ MLR MLR
comp=Z,7µm,21.0s
NIE Niedzica 75.13 321 *e*P **P** 06 09 20.6 +0.3
NIE *e*PP **PP** 06 12 08.3 -0.3
NIE *i*S **S** 06 18 56.7 -0.7
NIE *e*SS SS 06 24 11.1 +24
NIE LMZ LR 06 44 57.1
comp=Z,5µm,21.4s
NIE Niedzica 75.13 321⇓ *e*P **P** 06 09 20.6 +0.3
NIE *e* 06 12 08.3
NIE *i*S **S** 06 18 56.7 -0.7
NIE MLR MLR
comp=Z,5µm,21.4s
LVZ Lovozero 75.25 341 *e*P **P** 06 09 20.0 -0.7
LVZ LR LR
comp=Z,15µm,20.0s
LVZ Lovozero 75.25 341*ce*P **P** 06 09 19.6 -1.0
LVZ pmax pmax
comp=Z,186nm,1.7s
SEY Seymchan 75.29 25 LR LR 06 45 04.7
comp=Z,11µm,20.2s,baz=254,slow=38
SEY Seymchan 75.29 25*ce*P **P** 06 09 19.9 -0.9
BEL Belsk 75.42 323 *e*P **P** 06 09 22.2 +0.4
BEL *e*S **S** 06 19 00.4 0.0
BEL LMZ LR 06 41 40.4
comp=Z,7µm,28.7s
BEL Belsk 75.42 323⇓ *e*P **P** 06 09 22.2 +0.4
BEL *e*S **S** 06 19 00.4 0.0
APA Apatity 75.49 341⇑ *i*P **P** 06 09 20.9 -1.0
APA *i* 06 12 06.9
APA *i* PPP PPP 06 13 54.0
APA *i*S **S** 06 18 55.0 -5.6
APA *i*SS **SS** 06 23 52.0 +0.6
APA pmax pmax
comp=Z,32nm,0.9s
APA MLR MLR
comp=Z,15µm,19.0s
MORH M¨‡r¨igy, Hung 75.52 317⇓ *e*P **P** 06 09 21.6 -0.9
BUD Budapest 75.52 318⇓ *e*P **P** 06 09 22.1 -0.4
STON Ston 75.55 314 P **P** 06 09 20.2 -2.5
LANS Liptovska Anna 75.60 320 *e*P **P** 06 09 22.7 -0.3
LANS Liptovska Anna 75.60 320 *e*P **P** 06 09 22.7 -0.3
OJC Ojcow 75.64 321 *e*P **P** 06 09 23.1 +0.1
OJC *e*PP **PP** 06 12 11.2 -1.6
OJC *e*PPP PPP 06 14 10.1
OJC *e*S **S** 06 18 57.4 -5.5
OJC LMZ LR 06 43 39.3
comp=Z,5µm,24.5s
OJC Ojcow 75.64 321 *e*P **P** 06 09 23.2 +0.1
OJC Ojcow 75.64 321⇓ *e*P **P** 06 09 23.2 +0.1
OJC *e* 06 12 11.2
OJC *e*S **S** 06 18 57.4 -5.5
OJC MLR MLR
comp=Z,5µm,24.5s
FIA1 FINESS Array S 75.66 333 *e*P **P** 06 09 22.9 -0.1
FINES FINESS Array B 75.66 333 P **P** 06 09 22.8 -0.2
comp=Z,43nm,0.6s,baz=106,slow=5.9,SNR=324
FINES LR LR 06 44 16.3
comp=Z,11µm,21.9s,baz=108,slow=37
TIP Timpagrande 75.66 310⇑ *i*P **P** 06 09 21.9 -1.7
TIP Timpagrande 75.66 310 *e*P **P** 06 09 23.5 -0.1
TIP LR LR
comp=Z,5µm,20.0s
VYHS Vyhne 75.86 319 *e*P **P** 06 09 24.2 -0.3
VYHS Vyhne 75.86 319 *e*P **P** 06 09 24.2 -0.3
VYHS pmax pmax
comp=Z,122nm,1.6s
MATE Matera 75.92 311⇑ *i*P **P** 06 09 23.5 -1.4
SRO2 Moca 76.00 319 *e*P **P** 06 09 24.3 -0.9
SRO2 Moca 76.00 319 *e*P **P** 06 09 24.3 -0.9
CSKK Cs¨‡kako 76.01 318⇓ *e*P **P** 06 09 23.9 -1.4
SRO Srobarova 76.06 319 *e*P **P** 06 09 25.2 -0.3
SRO Srobarova 76.06 319 *e*P **P** 06 09 25.3 -0.3
CEL Celeste 76.20 309 *e*P **P** 06 09 27.4 +0.7
CEL LR LR
comp=Z,3µm,19.0s
WAKE Wake Island 76.24 71 *e*P **P** 06 09 31.3 +4.1
WAKE LR LR
comp=Z,3µm,21.0s
BLY Banja Luka 76.25 315⇑ *i*P **P** 06 09 26.0 -0.7
BLY Banja Luka 76.25 315 *e*P **P** 06 09 25.8 -0.9
KLNR Kaliningrad 76.47 326*d i*P **P** 06 09 27.2 -0.5
KLNR pmax pmax
comp=Z,403nm,1.6s
H11N1 WAKE ISLAND Hy 76.48 70 P **P** 06 09 29.8 +1.6
H11N2 WAKE ISLAND Hy 76.48 70 P **P** 06 09 30.4 +2.1
H11N3 WAKE ISLAND Hy 76.50 70 P **P** 06 09 30.4 +2.1

CUC	**Castrocucco**	**76.50 310**	*e*P	**P**	**06 09 27.8**	**-0.5**		
CUC			LR	LR				
	comp=Z,4μm,22.0s							
OKC	**Ostrava-Krasne**	**76.59 321**	⇓*i*P	**P**	**06 09 28.6**	**+0.1**		
OKC			*ex*	x	06 09 41.2			
OKC			*e*S	**S**	**06 19 10.7**	**-2.6**		
OKC			AMS	AMS	06 43 20.0			
	comp=Z,3μm,20.3s							
OKC	**Ostrava-Krasne**	**76.59 321**	⇓*i*P	**P**	**06 09 28.6**	**+0.1**		
OKC			*e*		06 09 41.2			
OKC			*e*S	**S**	**06 19 10.7**	**-2.6**		
OKC			MLR	MLR				
	comp=Z,3μm,20.3s							
RAC	**Raciborz**	**76.61 321**	*e*P	**P**	**06 09 29.5**	**+0.8**		
RAC			*e*S	**S**	**06 19 14.6**	**+1.0**		
RAC			MLR	MLR				
	comp=Z,5μm,20.0s							
SMOL	**Smolenice**	**76.78 319**	*e*P	**P**	**06 09 30.2**	**+0.5**		
SMOL	**Smolenice**	**76.78 319**	*e*P	**P**	**06 09 30.2**	**+0.5**		
BEHE	**Becsehely**	**76.84 317**	⇓*e*P	**P**	**06 09 29.8**	**-0.2**		
MODS	**Modra-Piesok**	**76.85 319**	*e*P	**P**	**06 09 30.0**	**-0.1**		
MODS			*e*PP	**PP**	**06 12 17.8**	**-5.4**		
ZST	**Bratislava**	**76.94 319**	*e*P	**P**	**06 09 29.2**	**-1.3**		
ZST			*e*L	L	06 46 01.4			
ZST	**Bratislava**	**76.94 319**	*e*P	**P**	**06 09 29.2**	**-1.3**		
ZST			pmax	pmax				
	comp=Z,145nm,1.5s							
MORC	**Moravsky Berou**	**76.96 321**	⇑*i*P	**P**	**06 09 30.6**	**-0.2**		
MORC	**Moravsky Berou**	**76.96 321**	*e*P	**P**	**06 09 30.5**	**-0.2**		
MORC	**Moravsky Berou**	**76.96 321**	*e*P	**P**	**06 09 30.5**	**-0.2**		
WDD	**Wied Dalam**	**77.00 306**	PFAKE		06 09 40.0	+8.9		
WDD			LR	LR				
	comp=Z,4μm,21.0s							
KOGS	**Kog**	**77.19 317**	*i* P	**P**	**06 09 31.4**	**-0.6**		
SOP	**Sopron**	**77.20 318**	⇓*e*P	**P**	**06 09 31.9**	**-0.1**		
VAE	**Valguarnera**	**77.27 308**	LR	LR	06 46 15.5			
	comp=Z,1μm,20.6s,baz=92,slow=38							
VRAC	**Vranov**	**77.47 320**	⇓*i*P	**P**	**06 09 33.5**	**-0.1**		
KRLC	**Kraliky**	**77.50 321**	⇓*i*P	**P**	**06 09 34.3**	**+0.6**		
KRLC	**Kraliky**	**77.50 321**	⇓*i*P	**P**	**06 09 34.3**	**+0.6**		
OZLJ	**Ozalj**	**77.59 316**	P	**P**	**06 09 32.0**	**-2.2**		
CONA	**Conrad Observa**	**77.70 318**	*e*P	**P**	**06 09 34.4**	**-0.6**		
	comp=Z,51nm,1.5s,SNR=17							
BOJS	**Bojanci**	**77.72 316**	*i* P	**P**	**06 09 34.4**	**-0.6**		
BOJS			*e*PP	**PP**	**06 12 29.9**	**-0.6**		
ARSA	**Arzberg**	**77.82 318**	*e*P	**P**	**06 09 35.7**	**+0.2**		
	comp=Z,73nm,1.4s,SNR=45							
DPC	**Dobruska-Polom**	**77.84 321**	*e*P	**P**	**06 09 36.6**	**+1.0**		
DPC			*e*SP	**sP**	**06 09 49.3**	**+2.7**		
DPC			*e*PP	**PP**	**06 12 31.2**	**-0.3**		
DPC			*e*S	**S**	**06 19 24.7**	**-2.4**		
DPC			*e*SS	**SS**	**06 24 35.9**	**+8.1**		
DPC			AMS	AMS	06 48 30.0			
	comp=Z,5μm,19.1s							
DPC	**Dobruska-Polom**	**77.84 321**	*e*P	**P**	**06 09 36.6**	**+1.0**		
DPC			*e*		06 09 49.3			
DPC			*e*		06 12 31.2			
DPC			*e*S	**S**	**06 19 24.7**	**-2.4**		
DPC			MLR	MLR				
	comp=Z,5μm,19.1s							
GKP	**Gorka Klasztor**	**77.87 324**	*e*P	**P**	**06 09 35.6**	**0.0**		
GKP			*e*PP	**PP**	**06 12 30.5**	**-1.0**		
GKP			*e*S	**S**	**06 19 25.1**	**-1.9**		
GKP			LMZ	LR	06 47 04.2			
	comp=Z,10μm,21.9s							
GKP	**Gorka Klasztor**	**77.87 324**	⇓*e*P	**P**	**06 09 35.6**	**0.0**		
GKP			*e*		06 12 30.5			
GKP			*e*S	**S**	**06 19 25.1**	**-1.9**		
GKP			MLR	MLR				
	comp=Z,10μm,21.9s							
KSP	**Ksiaz**	**77.95 321**	*e*P	**P**	**06 09 37.1**	**+0.9**		
KSP			*e*PP	**PP**	**06 12 34.1**	**+1.8**		
KSP			*e*PPP	PPP	06 14 21.4			
KSP			*e*S	**S**	**06 19 24.9**	**-3.3**		
KSP			*e*SKSac	ScS	06 20 09.0	+15		
KSP			*e*SS	SS	06 24 47.2	+18		
KSP			LMZ	LR	06 42 15.6			
	comp=Z,3μm,25.2s							
KSP	**Ksiaz**	**77.95 321**	⇓*e*P	**P**	**06 09 37.1**	**+0.9**		
KSP			*e*		06 12 34.1			
KSP			*e*PPP	PPP	06 14 21.5			
KSP			*e*S	**S**	**06 19 24.9**	**-3.3**		
KSP			*e*		06 20 09.0			
PERS	**Pernice**	**77.99 317**	*i* P	**P**	**06 09 36.2**	**-0.4**		
PERS			*e*S	**S**	**06 19 25.3**	**-3.6**		
PERS			*e*		06 19 48.0			
PERS			*e*SS	SS	06 24 41.3	+11		
PERS			*e*SSS	SSS	06 27 25.4			
SOKA	**Soboth**	**78.06 317**	*e*P	**P**	**06 09 36.8**	**-0.2**		
	comp=Z,61nm,1.0s,SNR=26							
UPC	**Upice**	**78.07 321**	⇓*i*P	**P**	**06 09 37.6**	**+0.8**		
UPC			*e*PP	**PP**	**06 12 33.4**	**+0.1**		
UPC			*e*S	**S**	**06 19 27.2**	**-2.2**		
UPC			*e*SS	**SS**	**06 24 40.9**	**+10**		
UPC			AMS	AMS	06 48 40.0			
	comp=Z,4μm,17.9s							
UPC	**Upice**	**78.07 321**	⇓*i*P	**P**	**06 09 37.6**	**+0.8**		
UPC			*e*		06 12 33.4			
UPC			*e*S	**S**	**06 19 27.2**	**-2.2**		
UPC			MLR	MLR				
	comp=Z,4μm,17.9s							
DZM	**Mont Dzumac**	**78.12 113**	*e*P	**P**	**06 09 38.5**	**+0.7**		
	comp=Z,187nm,1.2s							
DZM			*e*S	**S**	**06 19 30.3**	**-0.9**		
	comp=Z,7μm,26.9s							
DZM			*e*SS	**SS**	**06 24 33.3**	**-0.2**		
	comp=Z,3μm,25.9s							
DZM			*e*LR	LR	06 33 58.0			
	comp=Z,10μm,21.9s							
DZM	**Mont Dzumac**	**78.12 113**	*e*P	**P**	**06 09 38.8**	**+1.0**		
TREC	**Trest**	**78.19 320**	⇓*e*P	**P**	**06 09 37.6**	**+0.1**		
TREC			*e*SP	**sP**	**06 09 50.4**	**+1.9**		
TREC			*e*PP	**PP**	**06 12 33.0**	**-1.3**		
TREC			*e*S	**S**	**06 19 30.0**	**-0.8**		
TREC			*e*SS	**SS**	**06 24 42.9**	**+10**		
TREC			AMS	AMS	06 47 20.0			
	comp=Z,6μm,20.8s							
TREC	**Trest**	**78.19 320**	*e*P	**P**	**06 09 37.6**	**+0.1**		
TREC			*e*		06 09 50.4			
TREC			*e*		06 12 33.0			
TREC			*e*S	**S**	**06 19 30.0**	**-0.8**		
TREC			MLR	MLR				
	comp=Z,6μm,20.8s							
LJU	**Ljubljana**	**78.31 316**	*i* P	**P**	**06 09 37.9**	**-0.4**		
LJU			*e*PP	**PP**	**06 12 36.7**	**+1.3**		
LJU			*e*PPP	PPP	06 14 39.5			
LJU			*e*		06 15 54.9			
LJU			*e*S	**S**	**06 19 27.7**	**-4.4**		
LJU			*e*		06 19 50.4			
OBKA	**Obir**	**78.36 317**	*e*P	**P**	**06 09 38.6**	**-0.1**		
	comp=Z,74nm,1.5s,SNR=16							
KEV	**Kevo**	**78.58 341**	*e*P	**P**	**06 09 39.2**	**0.0**		
KEV			LR	LR				
	comp=Z,14μm,19.0s							
KEV	**Kevo**	**78.58 341**	*e*P	**P**	**06 09 39.2**	**0.0**		
KEV			MLR	MLR				
	comp=Z,14μm,19.0s							
AQU	**L'Aquila**	**78.61 313**	*e*P	**P**	**06 09 39.2**	**-0.8**		
AQU			LR	LR				
	comp=Z,4μm,20.0s							
AQU	**L'Aquila**	**78.61 313**	*e*P	**P**	**06 09 39.3**	**-0.8**		
AQU			MLR	MLR				
	comp=Z,4μm,20.0s							
GOPC	**GO Pecny, Ondr**	**78.74 320**	*e*P	**P**	**06 09 40.7**	**+0.1**		
GOPC			*e*PP	**PP**	**06 12 36.5**	**-2.4**		
GOPC			*e*S	**S**	**06 19 37.2**	**+0.5**		
GOPC			AMS	AMS	06 49 00.0			
	comp=Z,5μm,18.6s							
GOPC	**GO Pecny, Ondr**	**78.74 320**	*e*P	**P**	**06 09 40.7**	**+0.1**		
GOPC			*e*		06 12 36.5			
GOPC			*e*S	**S**	**06 19 37.2**	**+0.5**		
GOPC			MLR	MLR				
	comp=Z,5μm,18.6s							
MOA	**Molln**	**78.75 318**	*e*P	**P**	**06 09 40.2**	**-0.5**		
	comp=Z,52nm,1.5s,SNR=20							
CADS	**Cadrg**	**78.88 317**	*i* P	**P**	**06 09 40.4**	**-1.1**		
PRU	**Pruhonice**	**78.91 320**	⇓*i*P	**P**	**06 09 41.8**	**+0.3**		
PRU			*ex*	x	06 09 54.4			
PRU			*e*PP	**PP**	**06 12 38.5**	**-1.8**		
PRU			*e*S	**S**	**06 19 37.2**	**-1.2**		
PRU			*e*SS	**SS**	**06 24 52.1**	**+8.4**		
PRU			AMS	AMS	06 49 20.0			
	comp=Z,4μm,19.3s							
PRU	**Pruhonice**	**78.91 320**	⇓*i*P	**P**	**06 09 41.8**	**+0.3**		
PRU			*e*		06 09 54.4			
PRU			*e*		06 12 38.5			
PRU			*e*S	**S**	**06 19 37.2**	**-1.2**		
PRU			MLR	MLR				
	comp=Z,4μm,19.3s							
ARCES	**ARCESS Array B**	**78.97 341**	P	**P**	**06 09 41.4**	**0.0**		
	comp=Z,50nm,0.8s,baz=103,slow=4.5,SNR=70							
ARCES			LR	LR	06 46 19.5			
	comp=Z,11μm,20.4s,baz=111,slow=37							
ARCES	**ARCESS Array B**	**78.97 341**	*e*P	**P**	**06 09 40.9**	**-0.5**		
ARCES	**ARCESS Array B**	**78.97 341**	*e*P	**P**	**06 09 40.9**	**-0.5**		
ARE0	**ARCESS Array S**	**78.97 341**	*e*P	**P**	**06 09 41.5**	**+0.1**		
ARE0	**ARCESS Array S**	**78.97 341**	*e*P	**P**	**06 09 41.7**	**+0.2**		
PVCC	**Panska Ves**	**78.98 321**	⇓*i*P	**P**	**06 09 42.6**	**+0.8**		
PVCC			*e*SP	**sP**	**06 09 55.4**	**+2.5**		
PVCC			*e*S	**S**	**06 19 36.6**	**-2.5**		
PVCC			AMS	AMS	06 48 50.0			
	comp=Z,6μm,18.6s							
PVCC	**Panska Ves**	**78.98 321**	⇓*i*P	**P**	**06 09 42.6**	**+0.8**		
PVCC			*e*		06 09 55.4			
PVCC			*e*S	**S**	**06 19 36.6**	**-2.5**		
PVCC			MLR	MLR				
	comp=Z,6μm,18.6s							
PRA	**Prague**	**78.99 320**	⇓*e*P	**P**	**06 09 42.5**	**+0.6**		
PRA			*e*PP	**PP**	**06 12 41.9**	**+0.9**		
PRA			*e*S	**S**	**06 19 40.0**	**+0.7**		
PRA			*e*SS	**SS**	**06 24 54.4**	**+9.5**		
PRA			AMS	AMS	06 49 10.0			
	comp=Z,4μm,17.1s							
PRA	**Prague**	**78.99 320**	*e*P	**P**	**06 09 42.5**	**+0.6**		
PRA			*e*		06 12 41.9			
PRA			*e*S	**S**	**06 19 40.0**	**+0.7**		
PRA			MLR	MLR				
	comp=Z,4μm,17.1s							
MYKA	**Terra Mystica**	**79.00 317**	*i* P	**P**	**06 09 41.9**	**-0.3**		
	comp=Z,68nm,1.1s,SNR=36							
KBA	**Koelnbreinsper**	**79.26 317**	*i* P	**P**	**06 09 43.1**	**-0.6**		
	comp=Z,64nm,1.4s,SNR=23							
GEA0	**GERESS Array S**	**79.27 319**	*e*P	**P**	**06 09 42.9**	**-0.7**		
GEC2	**GERESS Array S**	**79.27 319**	*e*P	**P**	**06 09 43.9**	**+0.3**		
GEC2	**GERESS Array S**	**79.27 319**	*e*P	**P**	**06 09 43.9**	**+0.3**		
GERES	**GERESS Array B**	**79.27 319**	P	**P**	**06 09 43.8**	**+0.1**		
	comp=Z,24nm,0.5s,baz=102,slow=6.0,SNR=145							
GERES			LR	LR	06 48 17.6			
	comp=Z,5μm,21.6s,baz=96,slow=38							
SYO	**Syowa Base**	**79.28 196**	⇑*i*P	**P**	**06 09 42.4**	**-0.6**		
SYO	**Syowa Base**	**79.28 196**	⇑*e*PcP	**PcP**	**06 09 53.0**	**+1.8**		
KHC	**Kasperske Hory**	**79.39 319**	⇓*i*P	**P**	**06 09 44.3**	**+0.1**		
KHC			*e*SP	**sP**	**06 09 57.2**	**+2.0**		
KHC			*e*S	**S**	**06 19 43.0**	**-0.7**		
KHC			*e*SS	**SS**	**06 24 56.6**	**+5.4**		
KHC			AMS	AMS	06 46 30.0			
	comp=Z,6μm,22.5s							
KHC	**Kasperske Hory**	**79.39 319**	*e*P	**P**	**06 09 44.1**	**-0.1**		
KHC	**Kasperske Hory**	**79.39 319**	⇓*i*P	**P**	**06 09 44.3**	**+0.1**		
KHC			*e*		06 09 57.2			
KHC			*e*S	**S**	**06 19 43.0**	**-0.7**		
KHC			*e*SS	**SS**	**06 24 56.6**	**+5.4**		
KHC			MLR	MLR				
	comp=Z,6μm,22.5s							
BRG	**Berggiesshubel**	**79.42 321**	⇓*i*P	**P**	**06 09 44.8**	**+0.5**		
	comp=Z,325nm,1.6s							
BRG			PP	**PP**	**06 12 40.0**	**-4.6**		
BRG			S	**S**	**06 19 41.0**	**-2.9**		
BRG			SS	SS	06 24 39.0	-12		
BRG			*e*PKPPKP	**P'P'df**	**06 36 35.6**	**-2.5**		
	comp=Z,25nm,2.0s							
	comp=N,5μm,19.1s							
	comp=E,3μm,18.9s							
	comp=Z,5μm,19.1s							
BRG	**Berggiesshubel**	**79.42 321**	⇓*i*P	**P**	**06 09 44.8**	**+0.5**		
BRG					06 12 40.0			
BRG			S	**S**	**06 19 41.0**	**-2.9**		
BRG			pmax	pmax				
	comp=Z,325nm,1.6s							
BRG			pmax	pmax				
	comp=Z,25nm,2.0s							
BRG			MLR	MLR				
	comp=N,5μm,19.1s							
BRG			MLR	MLR				
	comp=E,3μm,18.9s							
BRG			MLR	MLR				
	comp=Z,5μm,19.1s							
KTK1	**Kautokeino**	**79.53 340**	*e*P	**P**	**06 09 43.5**	**-1.0**		
BSD	**Bornholm Skovb**	**79.57 326**	⇓*i*P	**P**	**06 09 44.2**	**-0.7**		
	comp=Z,54nm,0.8s							
	comp=Z,5μm,19.0s							
BSD	**Bornholm Skovb**	**79.57 326**	⇓*i*P	**P**	**06 09 44.2**	**-0.7**		
BSD			pmax	pmax				
	comp=Z,54nm,0.8s							
BSD			MLR	MLR				
	comp=Z,5μm,19.0s							
ABTA	**Abfaltersbach**	**79.78 317**	*e*P	**P**	**06 09 45.8**	**-0.6**		
	comp=Z,31nm,0.8s,SNR=23							
HAMF	**Hammerfest**	**79.97 342**	*e*P	**P**	**06 09 46.7**	**-0.1**		
CLL	**Collm**	**80.08 322**	⇓*i*P	**P**	**06 09 47.8**	**0.0**		
	comp=Z,308nm,1.7s							
CLL			*e*Pmax		06 09 48.0			
CLL			*e*Plp		06 09 50.0			
	comp=Z,600nm,22.7s							
CLL			*i* pPcP		06 10 00.8			
CLL			*e*PP	**PP**	**06 12 48.0**	**-2.0**		
CLL			*e*PPP	PPP	06 14 40.0			
CLL			*e*PPPP		06 16 00.0			
CLL			*e*S	**S**	**06 19 48.0**	**-2.7**		
	comp=N,400nm,18.6s							
CLL			*e*S	**S**	**06 19 48.0**	**-2.7**		
	comp=E,3μm,20.1s							
CLL			*e*SKSac	**SKSac**	**06 20 02.0**	**-1.7**		
CLL			*e*PS	**PnS**	**06 20 34.0**	**-3.4**		
CLL			*e*SS	**SS**	**06 25 01.0**	**-0.2**		
CLL			*e*SSS	SSS	06 28 24.0			
CLL			*e*		06 29 48.0			
CLL			*e*SSSS		06 31 12.0			
CLL			Lmax		06 51 00.0			
CLL	**Collm**	**80.08 322**	*e*P	**P**	**06 09 47.3**	**-0.5**		
CLL	**Collm**	**80.08 322**	⇓*i*P	**P**	**06 09 47.8**	**0.0**		
CLL			*i*		06 10 00.8			
CLL			*e*S	**S**	**06 19 48.0**	**-2.7**		
CLL			pmax	pmax				
	comp=Z,308nm,1.7s							
NKC	**Novy Kostel**	**80.28 320**	⇓*e*P	**P**	**06 09 49.5**	**+0.5**		
NKC			*e*PP	**PP**	**06 12 54.1**	**+2.4**		
NKC			*e*S	**S**	**06 19 53.7**	**+0.7**		
NKC			*e*SS	**SS**	**06 25 11.6**	**+7.3**		
NKC			AMS	AMS	06 49 50.0			
	comp=Z,5μm,20.5s							
NKC	**Novy Kostel**	**80.28 320**	*e*P	**P**	**06 09 49.5**	**+0.5**		
NKC			*e*		06 12 54.1			
NKC			*e*S	**S**	**06 19 53.7**	**+0.7**		
NKC			MLR	MLR				
	comp=Z,5μm,20.5s							
RGN	**Rugen**	**80.38 325**	*e*P	**P**	**06 09 49.8**	**+0.4**		
WTTA	**Wattenberg**	**80.44 317**	*e*P	**P**	**06 09 49.4**	**-0.7**		
	comp=Z,111nm,1.6s,SNR=29							
WATA	**Walderalm**	**80.49 317**	*e*P	**P**	**06 09 49.3**	**-1.1**		
	comp=Z,16nm,0.7s,SNR=25							
MOTA	**Moosalm**	**80.81 317**	*e*P	**P**	**06 09 51.3**	**-0.8**		
	comp=Z,14nm,0.5s,SNR=28							
VLC	**Villacollemand**	**80.99 314**	*e*P	**P**	**06 09 51.7**	**-1.2**		
VLC			LR	LR				
	comp=Z,4μm,22.0s							
GRFO	**Grafenberg**	**81.00 320**	*e*P	**P**	**06 09 53.5**	**+0.8**		
GRFO	**Grafenberg**	**81.00 320**	*e*P	**P**	**06 09 53.6**	**+0.8**		
FETA	**Feichten**	**81.03 317**	*e*P	**P**	**06 09 52.8**	**-0.4**		
	comp=Z,79nm,1.3s,SNR=29							
RETA	**Reutte**	**81.06 318**	*i* P	**P**	**06 09 52.9**	**-0.3**		
	comp=Z,114nm,1.2s,SNR=54							
COP	**Copenhagen**	**81.06 326**	⇓*i*P	**P**	**06 09 54.3**	**+1.4**		
	comp=Z,38nm,0.8s							
	comp=Z,3μm,22.0s							
COP	**Copenhagen**	**81.06 326**	⇓*i*P	**P**	**06 09 54.3**	**+1.4**		
COP			pmax	pmax				
	comp=Z,38nm,0.8s							
COP			MLR	MLR				
	comp=Z,3μm,22.0s							
HFS	**Hagfors**	**81.13 330**	LR	LR	06 49 53.1			
	comp=Z,7μm,18.4s,baz=102,slow=39							
LLD	**Lille Linde**	**81.13 326**	*i* P	**P**	**06 09 53.3**	**0.0**		
LLD	**Lille Linde**	**81.13 326**	*i* P	**P**	**06 09 53.3**	**0.0**		
TRO	**Tromso**	**81.17 340**	*e*P	**P**	**06 09 52.6**	**-0.7**		
KEST	**Kesra**	**81.18 306**	P	**P**	**06 09 54.8**	**+0.6**		
	comp=Z,70nm,1.1s,baz=69,slow=2.0,SNR=25							
KEST			LR	LR	06 48 54.0			
	comp=Z,3μm,20.5s,baz=49,slow=38							
KEST	**Kesra**	**81.18 306**	*e*P	**P**	**06 09 55.0**	**+0.8**		
VSL	**Villasalto**	**81.38 309**	*e*P	**P**	**06 09 55.1**	**0.0**		
VSL			LR	LR				
	comp=Z,2μm,20.0s							
DAVA	**Damuels**	**81.63 317**	*e*P	**P**	**06 09 56.6**	**+0.2**		
	comp=Z,330nm,1.8s,SNR=72							
TUE	**Stuetta**	**81.92 316**	*e*P	**P**	**06 09 57.5**	**-0.6**		
TUE			LR	LR				
	comp=Z,4μm,19.0s							
MOR8	**Moi Rana**	**81.97 337**	*e*P	**P**	**06 09 56.8**	**-0.8**		
STEI	**Steigen**	**82.04 338**	*e*P	**P**	**06 09 57.6**	**-0.2**		
STU	**Stuttgart**	**82.22 319**	*e*P	**P**	**06 09 59.0**	**-0.3**		
STU	**Stuttgart**	**82.22 319**	*e*P	**P**	**06 09 59.0**	**-0.3**		
NC602	**NORSAR Array S**	**82.28 331**	*e*P	**P**	**06 09 58.6**	**-0.7**		
BILL	**Bilibino**	**82.37 22***d*	*i*P	**P**	**06 09 58.7**	**-1.0**		
BILL			*e*		06 10 07.3			
BILL			*e*		06 13 09.4			
BILL			*i* S	**S**	**06 20 05.7**	**-8.3**		
BILL			*e*SS	**SS**	**06 25 37.1**	**+2.5**		
BILL			*e*SSS	SSS	06 29 05.7			
BILL			pmax	pmax				
	comp=Z,58nm,1.8s							
BILL			MLR	MLR				
	comp=Z,12μm,18.0s							
NB2	**NORSAR Subarra**	**82.48 331**	P	**P**	**06 09 59.5**	**-0.9**		
	comp=Z,135nm,1.4s,baz=91,slow=5.1							
NOA	**NORSAR Array B**	**82.48 331**	P	**P**	**06 09 59.6**	**-0.9**		
	comp=Z,7.2nm,0.6s,baz=97,slow=4.0,SNR=32							
NOA			LR	LR	06 48 33.4			
	comp=Z,5μm,20.1s,baz=95,slow=37							
TARA	**Tarawa**	**82.54 89**	PFAKE		06 10 10.0	+8.4		
TARA			LR	LR				
	comp=Z,210nm,22.0s							
KONS	**Konsvik**	**82.55 337**	*e*P	**P**	**06 10 00.1**	**-0.5**		
STOK	**Stokkvaagen**	**82.56 337**	*e*P	**P**	**06 10 00.3**	**-0.4**		
OSL	**Oslo**	**82.57 330**	*e*P	**P**	**06 10 01.1**	**+0.3**		
NSS	**Namsos**	**82.68 335**	*e*P	**P**	**06 10 00.8**	**-0.5**		
LOF	**Lofoten**	**82.70 338**	*e*P	**P**	**06 10 00.8**	**-0.6**		
ABSA	**Djebel Ababsia**	**82.72 306**	P	**P**	**06 10 02.4**	**+0.1**		
BFO	**Black Forest**	**82.76 318**	*e*P	**P**	**06 10 02.0**	**-0.2**		
BFO			LR	LR				
	comp=Z,3μm,20.0s							
BFO	**Black Forest**	**82.76 318**	*e*P	**P**	**06 10 02.0**	**-0.2**		
BFO			MLR	MLR				
	comp=Z,3μm,20.0s							
CMAH	**Djebel Manchou**	**82.78 306**	P	**P**	**06 10 03.0**	**+0.4**		
MUD	**Monsted U'grnd**	**82.97 326**	⇓*i*P	**P**	**06 10 03.4**	**+0.5**		
	comp=Z,62nm,0.7s							
	comp=Z,6μm,17.0s							
MUD	**Monsted U'grnd**	**82.97 326**	⇓*i*P	**P**	**06 10 03.4**	**+0.5**		
MUD			pmax	pmax				
	comp=Z,62nm,0.7s							
MUD			MLR	MLR				
	comp=Z,6μm,17.0s							
KONO	**Kongsberg**	**83.10 330**	*e*P	**P**	**06 10 03.4**	**-0.2**		
KONO	**Kongsberg**	**83.10 330**	*e*P	**P**	**06 10 03.1**	**-0.5**		
KONO	**Kongsberg**	**83.10 330**	*c*eP	**P**	**06 10 03.1**	**-0.5**		
KONO			pmax	pmax				
	comp=Z,196nm,1.7s							
TBLU	**Trondheim**	**83.23 333**	*e*P	**P**	**06 10 02.7**	**-1.5**		
CAEH	**'Ain El Ouahch**	**83.24 307**	P	**P**	**06 10 04.6**	**-0.3**		
CKFL	**Kef-Lekhel**	**83.34 306**	P	**P**	**06 10 06.0**	**+0.5**		
HOMB	**Homborsund**	**83.51 328**	*e*P	**P**	**06 10 05.4**	**-0.3**		
CASM	**Ain Smara**	**83.52 306**	P	**P**	**06 10 06.5**	**+0.1**		
ECH	**Echery**	**83.53 318**	*e*P	**P**	**06 10 05.9**	**-0.3**		
ECH			LR	LR				
	comp=Z,3μm,20.0s							
ECH	**Echery**	**83.53 318**	*e*P	**P**	**06 10 05.9**	**-0.3**		
ECH			MLR	MLR				
	comp=Z,3μm,20.0s							
CTEI	**Djebel Teioual**	**83.58 306**	P	**P**	**06 10 07.3**	**+0.5**		
DOMB	**Dombas**	**83.63 332**	*e*P	**P**	**06 10 06.3**	**0.0**		
BNI	**Bardonecchia**	**83.70 315**	*e*P	**P**	**06 10 05.2**	**-2.0**		
BNI			LR	LR				
	comp=Z,5μm,22.0s							
BNI	**Bardonecchia**	**83.70 315**	*e*P	**P**	**06 10 05.2**	**-2.0**		
BNI			MLR	MLR				
	comp=Z,5μm,22.0s							
WTSB	**Winterswijk**	**83.99 322**	*i* P	**P**	**06 10 08.4**	**+0.1**		
	comp=Z,492nm,1.7s							
DFRA	**Djebel Bou Aff**	**84.02 306**	P	**P**	**06 10 09.5**	**+0.5**		
HSPB	**Hornsund (broa**	**84.10 347**	*e*P	**P**	**06 10 08.2**	**-0.2**		
HSPB	**Hornsund (broa**	**84.10 347**	*e*P	**P**	**06 10 08.2**	**-0.2**		
HSPB			*e*S	**S**	**06 20 27.7**	**-3.5**		
HSPB			MLR	MLR				
	comp=Z,21μm,20.8s							
SMY	**Shemya**	**84.17 37**	*e*P	**P**	**06 10 08.9**	**-0.3**		
SMY	**Shemya**	**84.17 37**	*e*P	**P**	**06 10 08.9**	**-0.3**		
SNART	**Snartemo**	**84.20 328**	*e*P	**P**	**06 10 09.9**	**+0.6**		
SPA0	**Spitsbergen Ar**	**84.22 349**	*e*P	**P**	**06 10 09.0**	**-0.1**		
SPA0	**Spitsbergen Ar**	**84.22 349**	*e*P	**P**	**06 10 08.1**	**-1.0**		
SPITS	**Spitsbergen Ar**	**84.22 349**	P	**P**	**06 10 08.5**	**-0.6**		
	comp=Z,9.2nm,0.5s,baz=70,slow=4.7,SNR=36							
SPITS			LR	LR	06 52 15.2			
	comp=Z,16μm,19.7s,baz=105,slow=39							
TAM	**Tamanrasset**	**84.23 293**	*e*P	**P**	**06 10 11.3**	**+0.

TORD LR LR 06 47 44.9
comp=Z,5µm,19.6s,baz=40,slow=34
VNDA Vanda 88.55 168 P **P 06 10 30.6 +0.3**
comp=Z,11nm,1.0s,baz=286,slow=4.5,SNR=32
VNDA LR LR 06 46 06.1
comp=Z,13µm,18.2s,baz=293,slow=33
VNDA Vanda 88.55 168 *e*P **P 06 10 31.0 +0.7**
VNDA Vanda 88.55 168 *e*P **P 06 10 31.0 +0.7**
MSVF Nonsavu 88.60 108 PFAKE 06 10 40.0 +8.2
MSVF LR LR
comp=Z,8µm,19.0s
BKZ Black Stump Fm 88.63 129 *e*P **P 06 10 31.9 +0.4**
NVL N'lazarevskaya 88.64 199 *e*P **P 06 10 30.8 +0.1**
NVL *e* 06 14 06.3
NVL *e*S **SKSac 06 20 52.9 -5.2**
NVL *e*S **SKKSac 06 21 11.2 +2.0**
NVL *e*SS **SS 06 27 01.5 -5.2**
NVL *e*SSS SSS 06 30 45.8
NVL pmax pmax
comp=Z,164nm,1.0s
NVL MLR MLR
comp=Z,6µm,15.0s
SKP1 Kophill 88.70 322 *e*P **P 06 10 31.0 -0.5**
WOL Wolverton 88.98 321 *e*P **P 06 10 31.6 -1.2**
WOL IAmb IAmb 06 10 34.6
comp=Z,303nm,1.6s
WOL IAMs_20 IAMs_20 06 58 27.3
comp=Z,5µm,17.1s
URZ Urewera 89.05 128 P **P 06 10 32.4 -0.9**
comp=Z,12nm,0.8s,baz=161,slow=1.1,SNR=7.6
URZ Urewera 89.05 128 *e*P **P 06 10 34.7 +1.3**
HPK Haverah Park 89.09 324 *e*P **P 06 10 33.5 +0.2**
HPK IAmb IAmb 06 10 34.1
comp=Z,443nm,1.6s
HPK IAMs_20 IAMs_20 06 54 27.9
comp=Z,7µm,22.4s
LBWR Ladybower, Pea 89.18 323 *e*P **P 06 10 33.1 -0.6**
LBWR IAmb IAmb 06 10 34.4
comp=Z,308nm,1.6s
LBWR IAMs_20 IAMs_20 06 54 46.7
comp=Z,6µm,23.5s
EDMD Edmundbyers 89.24 325 IAMs_20 IAMs_20 06 56 08.7
comp=Z,4µm,20.6s
FUNA Funafuti 89.25 99 PFAKE 06 10 50.0 +15
FUNA LR LR
comp=Z,6µm,19.0s
SWN1 Swindon 89.33 321 *e*P **P 06 10 33.0 -1.4**
SWN1 IAmb IAmb 06 10 36.0
comp=Z,557nm,1.6s
SWN1 IAMs_20 IAMs_20 06 58 34.0
comp=Z,4µm,16.4s
STRD Stroud 89.54 322 IAMs_20 IAMs_20 06 59 24.0
comp=Z,4µm,16.7s
SBA Scott Base 89.66 168 *e*P **P 06 10 36.9 +1.5**
SBA LR LR
comp=Z,10µm,20.0s
SBA Scott Base 89.66 168 *e*P **P 06 10 36.9 +1.5**
SBA MLR MLR
comp=Z,10µm,20.0s
OLDB Oldbury-Upon-S 89.79 322 IAMs_20 IAMs_20 06 49 13.2
comp=Z,5µm,28.5s
EKA Eskdalemuir Ar 89.89 325 P **P 06 10 37.0 0.0**
comp=Z,7.5nm,0.5s,baz=96,slow=5.3,SNR=58
EKA LR LR 06 56 17.9
comp=Z,2µm,18.2s,baz=65,slow=39
EKA Eskdalemuir Ar 89.89 325 P **P 06 10 37.0 0.0**
KESW Keswick, Cumbr 89.92 324 *e*P **P 06 10 36.5 -0.7**
KESW IAmb IAmb 06 10 37.9
comp=Z,457nm,2.2s
KESW IAMs_20 IAMs_20 07 01 15.7
comp=Z,4µm,17.4s
ESK Eskdalemuir 89.92 325 *e*P **P 06 10 37.3 +0.2**
ESK LR LR
comp=Z,4µm,21.0s
ESK Eskdalemuir 89.92 325 *e*P **P 06 10 35.6 -1.5**
ESK IAmb IAmb 06 10 37.6
comp=Z,359nm,2.1s
ESK IAMs_20 IAMs_20 07 00 49.6
comp=Z,5µm,16.5s
ESK Eskdalemuir 89.92 325 *e*P **P 06 10 37.3 +0.2**
ESK MLR MLR
comp=Z,4µm,21.0s
HLM1 Long Mynd 89.93 322 IAMs_20 IAMs_20 06 57 13.3
comp=Z,4µm,16.4s
MONM Monmouth 89.94 322 *e*P **P 06 10 36.4 -0.9**
MONM IAmb IAmb 06 10 38.5
comp=Z,284nm,1.7s
BHH Howats Hill 89.94 325 *e*P **P 06 10 36.6 -0.6**
MCH1 Michaelchurch 90.04 322 *e*P **P 06 10 37.3 -0.5**
MCH1 IAmb IAmb 06 10 38.3
comp=Z,208nm,1.7s
MCH1 IAMs_20 IAMs_20 06 51 32.8
comp=Z,4µm,20.7s
FOEL Foel Wylfa 90.10 323 *e*P **P 06 10 37.0 -1.0**
FOEL IAMs_20 IAMs_20 06 47 32.4
comp=Z,6µm,27.0s
JMIC Jan Mayen 90.46 341 *e*P **P 06 10 40.5 +1.2**
PGBU Glenifferbraes 90.60 326 IAMs_20 IAMs_20 06 57 06.8
comp=Z,5µm,18.1s
LPW Lampeter 90.69 322 *e*P **P 06 10 40.5 -0.2**
LPW IAMs_20 IAMs_20 06 56 34.4
comp=Z,4µm,17.8s
WLF1 Llynfaes 90.79 323 *e*P **P 06 10 41.2 0.0**
WLF1 IAmb IAmb 06 10 43.2
comp=Z,691nm,1.7s
WLF1 IAMs_20 IAMs_20 06 55 32.3
comp=Z,15µm,22.4s
IOMK Kirk Michael 90.79 324 *e*P **P 06 10 39.8 -1.4**
IOMK IAMs_20 IAMs_20 06 55 30.4
comp=Z,5µm,19.7s
MIDW Midway 90.82 62 PFAKE 06 10 50.0 +8.1
MIDW LR LR
comp=Z,3µm,21.0s
GAL1 Galloway 90.82 325 *e*P **P 06 10 40.6 -0.7**
GAL1 IAmb IAmb 06 10 43.0
comp=Z,134nm,1.9s
WPS Cemaes, Angles 90.84 323 IAMs_20 IAMs_20 06 55 11.2
comp=Z,6µm,22.0s
KPL Plockton 91.08 327 IAMs_20 IAMs_20 07 01 10.0
comp=Z,5µm,19.4s
GAMB Gambell 91.23 26 *e*P **P 06 10 42.5 -0.5**
ES19 SONSECA Array 91.63 310 *e*P **P 06 10 45.5 -0.1**
ESDC Sonseca Array 91.68 310 P **P 06 10 46.1 +0.3**
comp=Z,7.3nm,0.5s,baz=64,slow=4.0,SNR=77
ESDC PP **PP 06 14 20.6 -3.8**
comp=Z,7.4nm,1.0s,baz=67,slow=8.1,SNR=4.8
ESDC LR LR 06 55 23.7
comp=Z,2µm,20.8s,baz=70,slow=38
ESLA Sonseca Array 91.68 310 *e*P **P 06 10 46.0 +0.3**
DAG Danmarks Havn 91.80 347⇓ *i*P **P 06 10 44.8 -0.6**
comp=Z,30nm,0.8s
comp=Z,12µm,19.0s
DAG Danmarks Havn 91.80 347⇓ *i*P **P 06 10 44.8 -0.6**
DAG pmax pmax
comp=Z,30nm,0.8s
DAG MLR MLR
comp=Z,12µm,19.0s
PAB San Pablo 91.99 310 *e*P **P 06 10 47.6 +0.4**
PAB LR LR
comp=Z,3µm,20.0s
PAB San Pablo 91.99 310 *e*P **P 06 10 47.6 +0.4**
PAB MLR MLR
comp=Z,3µm,20.0s
QSPA South Pole Qui 92.52 180 LR LR 06 48 45.7
comp=Z,11µm,18.6s,baz=302,slow=33
QSPA South Pole Qui 92.52 180 *e*P **P 06 10 49.5 +0.4**
comp=Z,273nm,1.4s
RAO Raoul Island 92.77 119 PFAKE 06 11 00.0 +9.1
RAO LR LR
comp=Z,9µm,20.0s
SNAA Sanae 93.44 198 P **P 06 10 52.5 -0.6**
SNAA Sanae 93.44 198 LR LR 06 46 26.4
comp=Z,4µm,19.8s,baz=90,slow=31
SNAA Sanae 93.44 198 *e*P **P 06 10 53.8 +0.6**
SNAA Sanae 93.44 198 *e*P **P 06 10 53.8 +0.6**
KOWA Kowa 93.57 285 LR LR 06 51 19.7
comp=Z,6µm,19.9s,baz=94,slow=34
KOWA Kowa 93.57 285 *e*P **P 06 10 55.2 +0.3**
PBRG Braganca 93.57 312 *e*P **P 06 10 56.9 +2.5**
comp=Z,58nm,2.0s
PBRG Braganca 93.57 312 *e*PP PP 06 14 39.7 +0.5
PBRG *e*SKSac **SKSac 06 21 31.1 +3.4**
PBRG *e*SS **SS 06 28 22.5 +3.2**
MVO Moncorvo 93.86 311 *e*P **P 06 10 57.4 +1.6**
comp=Z,71nm,1.9s
MVO Moncorvo 93.86 311 *e*PP PP 06 14 42.4 +0.9
MVO *e*SKSac **SKSac 06 21 31.1 +1.8**
MVO *e*S **ScS 06 22 06.0 +0.1**
MVO *e*SS **SS 06 28 27.1 +3.6**
MVO *e*LQ LQ 06 38 17.1
MVO *e*LR LR 06 44 32.8
comp=Z,3µm,20.0s
PBAR Barrancos 94.22 308 *e*P **P 06 10 59.4 +2.0**
PBAR Barrancos 94.22 308 *e*PP PP 06 14 43.4 -0.8
PBAR *e*SKSac **SKSac 06 21 33.2 +2.0**
PBAR *e*S **ScS 06 22 10.3 +1.5**
PBAR *e*SS **SS 06 28 28.8 +0.2**
MTE Manteigas 94.34 311 *e*P P 06 11 03.5 +5.5
MTE Manteigas 94.34 311 *e*PP PP 06 14 46.0 +0.8
MTE *e*SKSac **SKSac 06 21 35.8 +3.8**
MTE *e*S **ScS 06 22 12.2 +2.3**
MTE *e*SS **SS 06 28 32.4 +2.0**
MTE *e*LQ LQ 06 38 15.9
MTE *e*LR LR 06 44 36.6
comp=Z,3µm,18.0s
MTE Manteigas 94.34 311 PFAKE 06 11 10.0 +12
MTE LR LR
comp=Z,3µm,20.0s
PMRV Marv??o 94.34 310 *e*P **P 06 11 01.4 +3.4**
PMRV Marv??o 94.34 310 *e*PP PP 06 14 45.9 +0.7
PMRV *e*SKSac **SKSac 06 21 31.4 -0.5**
PMRV *e*S **ScS 06 22 13.5 +3.7**
PMRV *e*SS **SS 06 28 32.0 +2.7**
PMRV *e*LQ LQ 06 35 40.7
PMRV *e*LR LR 06 43 45.4
comp=Z,2µm,18.0s
PCBR Castelo Branco 94.36 310 *e*PP PP 06 14 47.4 +2.1
PVRL Vila Real 94.36 312 *e*PP PP 06 14 46.2 +0.8
POLO Lamas de Olo 94.41 312 *e*P **P 06 11 00.4 +2.0**
POLO Lamas de Olo 94.41 312 *e*PP PP 06 14 46.7 +0.9
POLO *e*SKSac **SKSac 06 21 36.0 +3.6**
POLO *e*S **ScS 06 22 16.2 +5.7**
POLO *e*SS **SS 06 28 33.0 +1.7**
VAL Valentia 94.50 322 *e*PP PP 06 14 49.1 +3.2
VAL *i*S **S 06 22 12.7 +3.4**
RTC Rabat Centre 94.53 304 PFAKE 06 11 10.0 +11
RTC LR LR
comp=Z,10µm,19.0s
PESTR Estremoz 94.56 309 *e*P **P 06 10 59.4 +0.4**
PESTR Estremoz 94.56 309 *e*PP PP 06 14 46.2 -0.8
PESTR *e*SKSac **SKSac 06 21 34.7 +1.6**
PESTR *e*S **ScS 06 22 15.0 +3.3**
PESTR *e*SS **SS 06 28 35.1 +1.6**
PVIS Viseu 94.57 311 *e*PP PP 06 14 48.2 +1.2
PGAV Gavieira, Arco 94.69 312 *e*P **P 06 11 02.4 +2.8**
PGAV Gavieira, Arco 94.69 312 *e*PP PP 06 14 49.4 +1.5
PGAV *e*S **S 06 22 14.2 +2.5**
PGAV *e*SS **SS 06 28 39.0 +3.8**
PGAV *e*LQ LQ 06 35 39.7
PGAV *e*LR LR 06 44 34.2
comp=Z,2µm,20.0s
KIC Kosan Boka 94.76 277 *e*PKP1 **P 06 11 01.2 +0.8**
comp=Z,115nm,1.2s
PVAQ Vaqueiros 94.84 308 *e*P **P 06 11 01.7 +1.4**
PVAQ Vaqueiros 94.84 308 *e*PP PP 06 14 50.6 +1.5
PVAQ *e*SKSac **SKSac 06 21 33.1 -1.5**
PVAQ *e*S **ScS 06 22 17.1 +3.1**
PVAQ *e*SS **SS 06 28 38.7 +1.2**
PVAQ *e*LQ LQ 06 37 55.9
PVAQ *e*LR LR 06 46 12.5
comp=Z,3µm,20.0s
DBIC Dimbokro 94.86 277 P **P 06 11 01.1 +0.2**
comp=Z,7.8nm,0.9s,baz=56,slow=3.8,SNR=7.1
DBIC LR LR 06 53 55.5
comp=Z,3µm,18.2s,baz=68,slow=36
DBIC Dimbokro 94.86 277 *e*P **P 06 11 01.5 +0.7**
DBIC Dimbokro 94.86 277 *e*P **P 06 11 01.5 +0.7**
PBEJ Beja 94.88 308 *e*PP PP 06 14 49.0 -0.4
SCO Scoresbysund 94.89 342 *i*P **P 06 11 00.5 +0.8**
comp=Z,51nm,1.6s
comp=Z,6µm,20.0s
SCO Scoresbysund 94.89 342 *e*P **P 06 11 00.5 +0.8**
SCO Scoresbysund 94.89 342 *i*P **P 06 11 00.5 +0.8**
SCO pmax pmax
comp=Z,51nm,1.6s
SCO MLR MLR
comp=Z,6µm,20.0s
EVO Evora 94.93 309 *e*P **P 06 11 05.4 +4.7**
EVO Evora 94.93 309 *e*PP PP 06 14 49.4 -0.4
VNA2 Neumayer--Watz 94.96 199 P **P 06 10 59.4 -0.6**
TIC Toumodi 95.02 277 *e*PKP1 **P 06 11 01.9 +0.3**
PBDV Barranco-do-Ve 95.03 308 *e*P **P 06 11 03.7 +2.5**
PBDV Barranco-do-Ve 95.03 308 *e*PP PP 06 14 50.3 -0.4
PBDV *e*SKSac **SKSac 06 21 38.0 +2.3**
PBDV *e*S **ScS 06 22 19.2 +3.5**
PBDV *e*SS **SS 06 28 42.0 +1.7**
PMTG Montargil 95.03 309 *e*P **P 06 11 03.5 +2.4**
comp=Z,56nm,1.8s
PMTG Montargil 95.03 309 *e*PP PP 06 14 50.0 -0.6
PMTG *e*SKSac **SKSac 06 21 38.0 +2.4**
PMTG *e*S **ScS 06 22 19.6 +4.1**
PMTG *e*SS **SS 06 28 41.1 +1.0**
LIC Lamto 95.05 276 *e*PKP1 **P 06 11 02.3 +0.6**
comp=Z,68nm,1.1s
PCVE Castro Verde 95.07 308 *e*P **P 06 11 02.9 +1.6**
PCVE Castro Verde 95.07 308 *e*PP PP 06 14 50.3 -0.6
PCVE *e*SKSac **SKSac 06 21 38.7 +2.9**
PCVE *e*S **ScS 06 22 16.1 +0.2**
PCAS Casmilo, Conde 95.11 310 *e*P P 06 11 06.9 +5.4
PCAS Casmilo, Conde 95.11 310 *e*PP PP 06 14 52.4 +1.2
PCAS *e*SKSac **SKSac 06 21 36.7 +0.7**
PCAS *e*S **ScS 06 22 20.7 +4.5**
PCAS *e*SS **SS 06 28 44.0 +2.8**
ALMR Almeirim 95.29 310 *e*P P 06 11 07.7 +4.9
ALMR *e*PP **PP 06 14 52.3 -0.2**
ALMR *e*SKSac **SKSac 06 21 37.1 +0.2**
ALMR *e*SS **SS 06 28 45.3 +1.6**
ALMR AMS AMS 06 55 22.2
comp=Z,3µm,25.4s
ALMR Almeirim 95.29 310 *e*PP PP 06 14 53.0 +0.4
ALMR Almeirim 95.29 310 *e*P P 06 11 07.1 +4.8
ALMR *e* 06 14 52.3
ALMR *e* 06 21 37.1
ALMR *e*SS SS 06 28 45.3 +1.5
PNCL Nicolau / Gran 95.39 308 *e*P **P 06 11 04.4 +1.6**
PNCL Nicolau / Gran 95.39 308 *e*PP PP 06 14 53.9 +0.5
PNCL *e*SKSac **SKSac 06 21 40.2 +2.7**
PNCL *e*S **ScS 06 22 26.8 +8.3**
PNCL *e*SS **SS 06 28 47.5 +2.3**
MORF Marmelete 95.59 308 *e*P **P 06 11 08.3 +4.4**
MORF *e*PP **PP 06 14 54.2 -0.8**
MORF *e*SKSac **SKSac 06 21 38.7 0.0**
MORF AMS AMS 07 02 10.4
comp=E,3µm,14.0s
MORF Marmelete 95.59 308 *e*P **P 06 11 08.2 +4.4**
MORF Marmelete 95.59 308 *e*PP PP 06 14 54.0 -1.0
MORF *e*SKSac **SKSac 06 21 41.6 +2.9**
MORF *e*S **ScS 06 22 22.1 +1.7**
MORF Marmelete 95.59 308 *e*P **P 06 11 08.2 +4.4**
MORF *e* 06 14 54.2
MORF *e* 06 21 38.7
PFVI Vila Bisbo 95.75 308 *e*P **P 06 11 06.9 +2.4**
PFVI Vila Bisbo 95.75 308 *e*PP PP 06 14 55.0 -1.2
PFVI *e*SKSac **SKSac 06 21 39.7 +0.2**
PFVI *e*S **ScS 06 22 24.1 +2.5**
PFVI *e*SS **SS 06 28 53.1 +2.6**
LIS Lisbon 95.79 309 *e*P **P 06 11 09.2 +4.6**
LIS *e*PP **PP 06 14 56.1 -0.3**
LIS *e*SKSac **SKSac 06 21 39.6 +0.1**
LIS *e*SS **SS 06 28 52.5 +1.7**
LIS AMS AMS 06 55 19.4
comp=E,3µm,22.0s
LIS Lisbon 95.79 309 *e*P **P 06 11 09.2 +4.6**
LIS *e* 06 14 56.1
LIS *e* 06 21 39.6
LIS *e*SS SS 06 28 52.5 +1.6
PMST Lisbon--Monsan 95.82 309 *e*PP PP 06 14 57.9 +1.2
PMAFR Mafra 95.86 309 *e*P **P 06 11 05.8 +0.9**
PMAFR Mafra 95.86 309 *e*PP PP 06 14 57.8 +0.8
PMAFR *e*SKSac **SKSac 06 21 43.1 +3.1**
PMAFR *e*S **ScS 06 22 27.7 +5.2**
PMAFR *e*SS **SS 06 28 55.4 +3.5**
SHEL Horse Pasture 96.55 254 PFAKE 06 11 20.0 +11
SHEL LR LR
comp=Z,2µm,19.0s
BORG Borgarnes 96.76 336 PFAKE 06 11 20.0 +12
BORG LR LR
comp=Z,2µm,20.0s
IM3 Indian Mountai 97.92 22 *e*P **P 06 11 12.3 -1.3**
TOLK Toolik Lake Re 98.16 19 P **P 06 11 14.3 -0.4**
baz=299
TOLK Toolik Lake Re 98.16 19 *e*P **P 06 11 14.2 -0.5**
AFI Afiamalu 98.27 104 LR LR 06 55 28.8
comp=Z,2µm,20.5s,baz=263,slow=35
AFI Afiamalu 98.27 104 PFAKE 06 11 30.0 +14
AFI LR LR
comp=Z,41µm,20.0s
SUMG Summit 98.39 346 *i*P **P 06 11 15.1 -1.0**
comp=Z,38nm,1.4s
SUMG Summit 98.39 346 *e*P Pdif 06 11 16.2 +0.1
SUMG Summit 98.39 346 *e*P Pdif 06 11 16.2 +0.1
COLD Coldfoot 98.63 20 *e*P **P 06 11 16.3 -0.5**
BPAW Bear Paw Mtn. 99.81 23 *e*Pdif **Pdif 06 11 21.2 -1.0**
comp=Z,2.3nm,0.9s
TRF Thorofare Moun 100.39 23 *e*Pdif **Pdif 06 11 25.9 +1.0**
COLA College 100.63 22 PFAKE 06 11 40.0 +14
COLA LR LR
comp=Z,6µm,20.0s
MCK McKinley 100.78 23 *e*Pdif **Pdif 06 11 25.9 -0.6**
MCK McKinley 100.78 23 *e*P **Pdif 06 11 25.9 -0.6**
ILAR Eielson Array 101.03 22 P **Pdif 06 11 26.5 -1.1**
comp=Z,1.0nm,0.8s,baz=294,slow=4.2,SNR=9.9
ILAR PP PP 06 15 27.4 -8.3
comp=Z,2.0nm,0.8s,baz=312,slow=8.7,SNR=4.9
ILAR PKKPbc **PKKPbc 06 27 38.4 -3.1**
comp=Z,0.7nm,0.8s,baz=166,slow=2.8,SNR=6.0
KDAK Kodiak Island 101.88 29 PFAKE 06 11 40.0 +8.6
KDAK LR LR
comp=Z,3µm,21.0s
RES Resolute Bay 102.78 1 *e*Pdif **Pdif 06 11 34.5 -0.6**
comp=Z,5.4nm,0.9s
RES Resolute Bay 102.78 1 *e*P **Pdif 06 11 34.5 -0.6**
RES pmax pmax
comp=Z,5.0nm,0.9s
EGAK Eagle 103.07 20 PFAKE 06 11 50.0 +13
EGAK LR LR
comp=Z,6µm,21.0s
INK Inuvik 103.08 15 PKKPbc PKKPbc 06 27 31.8 -3.7
comp=Z,2.3nm,0.9s,baz=141,slow=1.6,SNR=6.7
INK Inuvik 103.08 15 *e*Pdif **Pdif 06 11 36.0 -0.5**
comp=Z,14nm,1.4s
INK PKKPbc **PKKPbc 06 27 31.8 -3.8**
INK Inuvik 103.08 15 *e*P **Pdif 06 11 36.0 -0.5**
INK pmax pmax
comp=Z,14nm,1.4s
PMOZ Porto Moniz, M 103.25 304 *e*PP PP 06 15 54.6 +1.0
PMOZ *e*SKSac **SKSac 06 22 24.1 +7.0**
PMOZ *e*SS **SS 06 30 38.9 +3.1**
PMOZ *e*LQ LQ 06 40 35.0
PMOZ *e*LR LR 06 48 17.9
comp=Z,3µm,20.0s
ASCN Ascension 104.90 263 PFAKE 06 12 00.0 +14
ASCN LR LR
comp=Z,3µm,20.0s
SFJD Kangerlussuaq 105.30 345 PFAKE 06 16 10.0
SFJD LR LR
comp=Z,9µm,21.0s
CMLA Cha da Macela 108.55 311 PFAKE 06 16 20.0
CMLA LR LR
comp=Z,3µm,22.0s
RAR Rarotonga 109.47 111 PFAKE 06 16 20.0
RAR LR LR
comp=Z,4µm,21.0s
POHA Pohakuloa 111.69 68 PFAKE 06 16 30.0
POHA LR LR
comp=Z,3µm,19.0s
WRAK Wrangell Islan 111.77 24 PFAKE 06 16 20.0
WRAK LR LR
comp=Z,7µm,20.0s
SACV Santiago Islan 112.36 287 PFAKE 06 16 30.0
SACV LR LR
comp=Z,1µm,21.0s
YKA Yellowknife Ar 112.39 12 Pdiff **Pdif 06 12 19.7 +1.6**
comp=Z,0.4nm,0.9s,baz=325,slow=5.0,SNR=3.7
YKA PKiKP **PKiKP 06 16 15.0 +1.3**
comp=Z,0.6nm,1.0s,baz=320,slow=3.6,SNR=4.9
YKA PKKPbc **PKKPbc 06 27 02.5 -3.6**
comp=Z,1.1nm,0.7s,baz=152,slow=3.3,SNR=15
HOPE Hope Point 112.79 211 PFAKE 06 16 30.0
HOPE LR LR
comp=Z,2µm,20.0s
PMSA Palmer Station 115.24 192 PFAKE 06 16 30.0 +11
PMSA LR LR
comp=Z,9µm,20.0s
PPT2 Papeete2 119.42 109 *e*PP PP 06 17 42.0 -8.2
comp=Z,190nm,24.8s
PPT2 *e*Sdif Sdif 06 25 38.6 -1.2
comp=Z,982nm,26.2s
PPT2 *e*SP **SP 06 27 33.8 -2.4**
comp=Z,707nm,25.2s
PPT2 *e*SS **SS 06 34 11.2 -1.1**
comp=Z,2µm,29.2s
PPT2 Papeete2 119.42 109 *e*LQ LQ 06 47 56.0
comp=Z,11µm,39.8s
PPT2 *e*LR LR 06 53 02.7
comp=Z,6µm,24.2s
EDM Edmonton 120.95 16 *e*PKPdf **PKPdf 06 16 29.2 -1.3**
EDM Edmonton 120.95 16 *e*PKiKP **PKPdf 06 16 29.2 -1.3**
PMOR Pomariorio Ree 121.32 106 *e*PKiKP **PKPdf 06 16 30.0 -2.1**
comp=Z,82nm,1.0s
VAH Vaihoa 121.55 106 *e*PKiKP **PKPdf 06 16 30.9 -1.7**
comp=Z,113nm,1.3s
NLWA Neilton Lookou 121.91 27 PFAKE 06 16 40.0 +7.5
NLWA LR LR
comp=Z,3µm,21.0s
FFC Flin Flon 121.99 8 *e*PKPdf **PKPdf 06 16 31.1 -1.3**
FFC LR LR
comp=Z,4µm,19.0s
FFC Flin Flon 121.99 8 *e*PKiKP **PKPdf 06 16 31.1 -1.3**
FFC MLR MLR
comp=Z,4µm,19.0s
B05A Bryant 122.01 25 P **PKPdf 06 16 31.9 -0.7**
baz=321
NEW Newport 123.99 22 P **PKPdf 06 16 35.2 -1.3**
baz=326
NEW Newport 123.99 22 *e*PKPdf **PKPdf 06 16 35.3 -1.3**
NEW *e*PP **PP 06 18 19.1 -0.4**
NEW LR LR
comp=Z,4µm,20.0s
NEW Newport 123.99 22 *e*PKiKP **PKPdf 06 16 35.3 -1.2**
NEW *e* 06 18 19.1
NEW MLR MLR
comp=Z,4µm,20.0s
EFI East Falkland 124.39 203 PFAKE 06 16 50.0 +13
EFI LR LR
comp=Z,4µm,21.0s
HAWA Hanford 124.56 25 PFAKE 06 16 50.0 +12
HAWA LR LR
comp=Z,3µm,20.0s
I03D Drain, OR 124.90 29 P **PKPdf 06 16 38.4 0.0**
baz=318
I05D Terrebonne, OR 125.37 28 P **PKPdf 06 16 38.8 -0.6**
baz=320
J04D Umpqua Nationa 125.84 29 P **PKPdf 06 16 39.1 -1.4**
baz=319
HUMO Hull Mountain 125.90 30 *e*PKPdf **PKPdf 06 16 40.5 +0.2**
L02D Cave Junction, 125.90 31 P **PKPdf 06 16 39.2 -1.1**
baz=317
J05D Fort Rock, OR 126.23 28 P **PKPdf 06 16 41.4 +0.3**
baz=320
RCBR Riachuelo 126.30 265 PFAKE 06 16 50.0 +8.1
RCBR LR LR
comp=Z,70µm,21.0s
MSO Missoula 126.35 21 P **PKPdf 06 16 39.9 -1.3**
baz=330,SNR=11
EGMT Eagleton 126.63 17 P **PKPdf 06 16 41.3 -0.4**
baz=335
EGMT Eagleton 126.63 17 *e*PKPdf **PKPdf 06 16 41.1 -0.6**
EGMT LR LR
comp=Z,5µm,21.0s
BMO Blue Mountains 126.73 24 PFAKE 06 16 50.0 +8.0
BMO LR LR
comp=Z,4µm,22.0s
M02C Callahan 126.84 31 P **PKPdf 06 16 42.7 +0.5**
baz=317
ULM Lac du Bonnet 127.11 5 PKP **PKPdf 06 16 40.8 -1.6**
comp=Z,2.7nm,0.6s,baz=344,slow=2.8,SNR=8.2
ULM PP **PP 06 18 37.7 -2.2**
comp=Z,2.6nm,0.6s,baz=347,slow=8.0,SNR=3.6
N02D Trinity Center 127.22 31 P **PKPdf 06 16 42.9 -0.1**
baz=317
DGMT Dagmar 127.60 12 P **PKPdf 06 16 43.6 +0.1**
baz=342

DGMT	**Dagmar**	**127.60**	**12**	PFAKE		06 16 50.0	+6.6		
DGMT				LR	LR				
	comp=Z,5µm,20.0s								
MOD	**Modoc Plateau**	**127.73**	**29**	*e*PKPdf	**PKPdf**	**06 16 44.0**	**-0.1**		
WVOR	**Wild Horse Val**	**128.09**	**27**	*e*PKPdf	**PKPdf**	**06 16 44.5**	**-0.2**		
WVOR				LR	LR				
	comp=Z,3µm,21.0s								
WVOR	**Wild Horse Val**	**128.09**	**27**	*e*PKIKP	**PKPdf**	**06 16 44.5**	**-0.2**		
WVOR				MLR	MLR				
	comp=Z,3µm,21.0s								
O03D	**Paynes Creek**	**128.19**	**31**	P	**PKPdf**	**06 16 43.6**	**-1.2**		
	baz=318								
BOZ	**Bozeman (W)**	**128.22**	**20**	P	**PKPdf**	**06 16 43.2**	**-1.6**		
	baz=332								
BOZ	**Bozeman (W)**	**128.22**	**20**	*e*PKPdf	**PKPdf**	**06 16 44.5**	**-0.4**		
BOZ				*e*PP	**PP**	**06 18 46.1**	**-1.5**		
BOZ				LR	LR				
	comp=Z,5µm,19.0s								
BOZ	**Bozeman (W)**	**128.22**	**20**	*e*PKIKP	**PKPdf**	**06 16 44.5**	**-0.4**		
BOZ				*e*		06 18 46.1			
BOZ				MLR	MLR				
	comp=Z,5µm,19.0s								
A32A	**Rocking H Ranc**	**128.37**	**6**	P	**PKPdf**	**06 16 43.8**	**-1.0**		
	baz=351								
A33A	**Warroad**	**128.45**	**5**	P	**PKPdf**	**06 16 44.0**	**-1.0**		
	baz=353,SNR=6.3								
MCMT	**McKenzie Canyo**	**128.47**	**21**	*e*PKPdf	**PKPdf**	**06 16 45.5**	**0.0**		
MCMT				*e*PP	**PP**	**06 18 51.4**	**+1.9**		
MFID	**Camas Ranch**	**128.52**	**24**	*e*PKPdf	**PKPdf**	**06 16 45.5**	**+0.1**		
GCMT	**Greycliff**	**128.67**	**18**	*e*PKPdf	**PKPdf**	**06 16 45.2**	**-0.5**		
B31A	**Greenbush Farm**	**128.73**	**7**	P	**PKPdf**	**06 16 44.0**	**-1.5**		
	baz=350								
LAO	**LASA Array**	**128.81**	**15**	P	**PKPdf**	**06 16 45.7**	**-0.1**		
	baz=339								
LAO	**LASA Array**	**128.81**	**15**	*e*PKPdf	**PKPdf**	**06 16 46.0**	**+0.1**		
LAO				*e*PP	**PP**	**06 18 47.7**	**-3.7**		
LAO				LR	LR				
	comp=Z,5µm,20.0s								
B32A	**Ashes, Strandq**	**128.88**	**6**	P	**PKPdf**	**06 16 44.7**	**-1.1**		
	baz=351								
B34A	**Aery, Baudette**	**128.96**	**4**	P	**PKPdf**	**06 16 45.4**	**-0.5**		
	baz=354,SNR=5.7								
HLID	**Hailey**	**128.96**	**23**	P	**PKPdf**	**06 16 45.9**	**-0.5**		
	baz=328								
HLID	**Hailey**	**128.96**	**23**	*e*PKPdf	**PKPdf**	**06 16 46.1**	**-0.2**		
HLID				*e*PP	**PP**	**06 18 53.2**	**+0.6**		
HLID				LR	LR				
	comp=Z,5µm,20.0s								
PKME	**Peaks-Kenny Pk**	**129.03**	**342**	PFAKE		06 17 00.0	+14		
PKME				LR	LR				
	comp=Z,5µm,20.0s								
MDND	**Maddock**	**129.03**	**9**	P	**PKPdf**	**06 16 44.9**	**-1.2**		
	baz=347								
MDND	**Maddock**	**129.03**	**9**	*e*PKPdf	**PKPdf**	**06 16 42.2**	**-4.0**		
AGMN	**Agassiz Nation**	**129.04**	**5**	P	**PKPdf**	**06 16 44.9**	**-1.3**		
	baz=352								
AGMN	**Agassiz Nation**	**129.04**	**5**	*e*PKPdf	**PKPdf**	**06 16 45.0**	**-1.1**		
AGMN				LR	LR				
	comp=Z,8µm,21.0s								
B33A	**Robert and Kas**	**129.09**	**5**	P	**PKPdf**	**06 16 45.1**	**-1.1**		
	baz=352								
B35A	**Bob, Littlefor**	**129.14**	**3**	P	**PKPdf**	**06 16 45.3**	**-1.0**		
	baz=355								
YMR	**Madison River**	**129.26**	**20**	*e*PKPdf	**PKPdf**	**06 16 47.1**	**+0.2**		
YMR				*e*PP	PP	06 18 46.5	-8.1		
C31A	**Landman Farms,**	**129.34**	**7**	P	**PKPdf**	**06 16 45.6**	**-1.1**		
	baz=350								
RLMT	**Red Lodge**	**129.40**	**18**	P	**PKPdf**	**06 16 46.1**	**-1.1**		
	baz=334								
RLMT	**Red Lodge**	**129.40**	**18**	*e*PKPdf	**PKPdf**	**06 16 47.0**	**-0.2**		
RLMT				*e*PP	**PP**	**06 18 56.6**	**+1.2**		
RLMT				LR	LR				
	comp=Z,4µm,19.0s								
YFT	**Old Faithful**	**129.49**	**20**	*e*PKPdf	**PKPdf**	**06 16 49.0**	**+1.5**		
YFT				*e*PP	**PP**	**06 18 55.9**	**-0.2**		
LKWY	**Lake**	**129.53**	**19**	PFAKE		06 17 00.0	+12		
LKWY				LR	LR				
	comp=Z,5µm,21.0s								
C33A	**Trail**	**129.58**	**5**	P	**PKPdf**	**06 16 45.8**	**-1.4**		
	baz=352								
EYMN	**Ely**	**129.66**	**2**	P	**PKPdf**	**06 16 46.8**	**-0.5**		
	baz=358								
EYMN	**Ely**	**129.66**	**2**	*e*PKPdf	**PKPdf**	**06 16 46.9**	**-0.5**		
EYMN				*e*PP	**PP**	**06 18 52.0**	**-4.6**		
EYMN				LR	LR				
	comp=Z,5µm,19.0s								
C34A	**RKJ Ranch, Bem**	**129.77**	**5**	P	**PKPdf**	**06 16 46.3**	**-1.2**		
	baz=353								
C36A	**Pine Crest Far**	**129.79**	**3**	P	**PKPdf**	**06 16 46.3**	**-1.2**		
	baz=356								
PAHR	**Pah Rah Range**	**129.85**	**30**	*e*PKPdf	**PKPdf**	**06 16 48.1**	**0.0**		
D33A	**AnnSam, Waubun**	**130.19**	**6**	P	**PKPdf**	**06 16 47.8**	**-0.5**		
	baz=352								
ALFO	**Alfred**	**130.24**	**346**	P	**PKPdf**	**06 16 47.8**	**-0.7**		
	baz=20								
D35A	**Remer**	**130.40**	**4**	P	**PKPdf**	**06 16 47.7**	**-1.1**		
	baz=354								
D41A	**Chassel**	**130.56**	**359**	P	**PKPdf**	**06 16 48.3**	**-0.8**		
	baz=1.5								
PEMO	**Pembroke**	**130.70**	**349**	P	**PKPdf**	**06 16 48.1**	**-1.2**		
	baz=16								
AHID	**Auburn Hatcher**	**130.88**	**21**	*e*PKPdf	**PKPdf**	**06 16 50.4**	**+0.4**		
AHID				LR	LR				
	comp=Z,5µm,22.0s								
E44A	**Grand Marais A**	**130.90**	**357**	P	**PKPdf**	**06 16 49.5**	**-0.2**		
	baz=5.0								
E38A	**The Farm, Brul**	**130.99**	**2**	P	**PKPdf**	**06 16 49.5**	**-0.4**		
	baz=358								
E36A	**McGregor**	**131.01**	**3**	P	**PKPdf**	**06 16 49.7**	**-0.2**		
	baz=355,SNR=6.5								
E45A	**Wooded Hills,**	**131.11**	**356**	P	**PKPdf**	**06 16 49.6**	**-0.5**		
	baz=6.0								
LONY	**Lake Ozonia**	**131.11**	**346**	P	**PKPdf**	**06 16 49.4**	**-0.8**		
	baz=20								
LONY	**Lake Ozonia**	**131.11**	**346**	PFAKE		06 17 00.0	+10		
LONY				LR	LR				
	comp=Z,4µm,22.0s								
E41A	**Kenton**	**131.16**	**359**	P	**PKPdf**	**06 16 48.9**	**-1.3**		
	baz=1.0								
E42A	**Champion**	**131.17**	**358**	P	**PKPdf**	**06 16 49.1**	**-1.1**		
	baz=2.4								
E40A	**Wakefield**	**131.18**	**0**	P	**PKPdf**	**06 16 49.7**	**-0.6**		
	baz=360								
E43A	**Lone Tree Farm**	**131.20**	**358**	P	**PKPdf**	**06 16 49.2**	**-1.1**		
	baz=3.6								
E39A	**Mellen**	**131.24**	**1**	P	**PKPdf**	**06 16 49.8**	**-0.6**		
	baz=359								
PLVO	**Plevna**	**131.28**	**348**	P	**PKPdf**	**06 16 49.0**	**-1.5**		
	baz=17								
NVAR	**Mina Array Bea**	**131.37**	**30**	PKP	**PKPdf**	**06 16 52.0**	**+0.8**		
	baz=333 comp=Z,3.1nm,0.6s,baz=319,slow=1.9,SNR=12								
BW06	**Boulder Array**	**131.41**	**20**	P	**PKPdf**	**06 16 48.9**	**-2.2**		
	baz=333								
BW06	**Boulder Array**	**131.41**	**20**	*e*PKPdf	**PKPdf**	**06 16 50.2**	**-0.9**		
BW06				*e*PP	**PP**	**06 19 07.2**	**-1.3**		
BW06				LR	LR				
	comp=Z,4µm,21.0s								
PDAR	**Pinedale Array**	**131.41**	**20**	PKP	**PKPdf**	**06 16 50.4**	**-0.8**		
	comp=Z,2.2nm,0.7s,baz=96,slow=3.0,SNR=19								
PDAR				PKKP	**PKKPdf**	**06 26 47.0**	**-2.2**		
	comp=Z,0.7nm,0.7s,baz=181,slow=8.9,SNR=5.0								
F33A	**5 Mile Ranch,**	**131.43**	**6**	P	**PKPdf**	**06 16 50.3**	**-0.4**		
	baz=351								
BANO	**Bancroft**	**131.47**	**349**	P	**PKPdf**	**06 16 50.2**	**-0.6**		
	baz=16								
COWI	**Conover**	**131.53**	**360**	*e*PKPdf	**PKPdf**	**06 16 50.3**	**-0.6**		
COWI				LR	LR				
	comp=Z,11µm,22.0s								
KLBO	**Killbear Provi**	**131.54**	**351**	P	**PKPdf**	**06 16 49.9**	**-1.0**		
	baz=13								
RKT	**Rikitea**	**131.63**	**119**	*e*PP	PP	06 19 07.4	-3.9		
	comp=Z,604nm,27.5s								
RKT	**Rikitea**	**131.63**	**119**	*e*SS	SS	06 36 47.3	+2.4		
	comp=Z,4µm,30.5s								
F38A	**Pierce - Schro**	**131.63**	**2**	P	**PKPdf**	**06 16 50.9**	**-0.2**		
	baz=357								
F36A	**Milaca**	**131.65**	**4**	P	**PKPdf**	**06 16 49.3**	**-1.8**		
	baz=355,SNR=5.7								
F40A	**Park Falls**	**131.71**	**0**	P	**PKPdf**	**06 16 49.7**	**-1.6**		
	baz=360								
HWUT	**Hardware Ranch**	**131.72**	**22**	*e*PKPdf	**PKPdf**	**06 16 51.2**	**-0.5**		
HWUT				LR	LR				
	comp=Z,5µm,20.0s								
F43A	**Flat Rock, Esc**	**131.75**	**358**	P	**PKPdf**	**06 16 50.0**	**-1.3**		
	baz=3.4								
RSSD	**Black Hills**	**131.75**	**14**	P	**PKPdf**	**06 16 51.8**	**+0.1**		
	baz=341								
RSSD	**Black Hills**	**131.75**	**14**	*e*PKPdf	**PKPdf**	**06 16 50.4**	**-1.3**		
RSSD	**Black Hills**	**131.75**	**14**	*e*PKIKP	**PKPdf**	**06 16 50.4**	**-1.3**		
F37A	**Hinrichs Farm,**	**131.83**	**3**	P	**PKPdf**	**06 16 50.7**	**-0.8**		
	baz=356								
DELO	**Deloro Mine**	**131.89**	**348**	P	**PKPdf**	**06 16 51.8**	**+0.2**		
	baz=16								
G33A	**Ortonville**	**132.05**	**6**	P	**PKPdf**	**06 16 49.7**	**-2.2**		
	baz=351								
SPMN	**Marine on St.**	**132.32**	**3**	P	**PKPdf**	**06 16 52.2**	**-0.3**		
	baz=356								
G39A	**Holcombe**	**132.32**	**1**	P	**PKPdf**	**06 16 52.2**	**-0.3**		
	baz=358								
G40A	**Rib Lake**	**132.36**	**1**	P	**PKPdf**	**06 16 51.3**	**-1.2**		
	baz=359								
G38A	**Ridgeland**	**132.42**	**2**	P	**PKPdf**	**06 16 50.7**	**-1.9**		
	baz=357								
DUG	**Dugway, Tooele**	**132.44**	**24**	PFAKE		06 17 00.0	+7.0		
DUG				LR	LR				
	comp=Z,4µm,19.0s								
K22A	**Casper**	**132.47**	**17**	*e*PKPdf	**PKPdf**	**06 16 52.0**	**-1.0**		
GLMI	**Grayling**	**132.59**	**355**	PFAKE		06 17 00.0	+7.0		
GLMI				LR	LR				
	comp=Z,3µm,20.0s								
WLVO	**Wesleyville**	**132.61**	**349**	P	**PKPdf**	**06 16 53.3**	**+0.4**		
	baz=15								
H35A	**Sunnyside Ranc**	**132.70**	**5**	P	**PKPdf**	**06 16 52.5**	**-0.7**		
	baz=353								
DRWO	**Darlington Wes**	**132.72**	**349**	P	**PKPdf**	**06 16 53.7**	**+0.5**		
	baz=15								
R11A	**Troy Canyon, C**	**132.75**	**28**	P	**PKPdf**	**06 16 54.1**	**+0.4**		
	baz=324								
H36A	**Jessenland, He**	**132.90**	**4**	P	**PKPdf**	**06 16 53.4**	**-0.1**		
	baz=354								
H39A	**Augusta**	**132.93**	**2**	P	**PKPdf**	**06 16 53.1**	**-0.5**		
	baz=358								
H40A	**Chili**	**133.00**	**1**	P	**PKPdf**	**06 16 53.2**	**-0.6**		
	baz=359								
CWC	**Cottonwood Cre**	**133.00**	**32**	P	**PKPdf**	**06 16 54.2**	**-0.1**		
	baz=320								
H41A	**Junction City**	**133.01**	**360**	P	**PKPdf**	**06 16 53.3**	**-0.5**		
	baz=0.1								
ACTO	**Acton**	**133.22**	**350**	P	**PKPdf**	**06 16 54.6**	**+0.4**		
	baz=13								
MEDO	**Medina**	**133.35**	**349**	P	**PKPdf**	**06 16 55.5**	**+1.0**		
	baz=16								
ECSD	**EROS Data Cent**	**133.47**	**7**	P	**PKPdf**	**06 16 54.2**	**-0.5**		
	baz=350								
ECSD	**EROS Data Cent**	**133.47**	**7**	*e*PKPdf	**PKPdf**	**06 16 54.4**	**-0.3**		
ECSD				*e*SKPbc	**SKPbc**	**06 20 19.6**	**-2.0**		
ECSD				LR	LR				
	comp=Z,7µm,20.0s								
I42A	**Draeger Farm,**	**133.73**	**359**	P	**PKPdf**	**06 16 54.7**	**-0.4**		
	baz=1.1								
BINY	**Binghamton**	**133.74**	**346**	P	**PKPdf**	**06 16 56.0**	**+0.8**		
	baz=19								
BINY	**Binghamton**	**133.74**	**346**	*e*PKPdf	**PKPdf**	**06 16 54.9**	**-0.3**		
BINY				LR	LR				
	comp=Z,5µm,20.0s								
ELFO	**Elginfield**	**133.82**	**352**	P	**PKPdf**	**06 16 56.3**	**+1.0**		
	baz=12								
J33A	**Davis**	**133.84**	**7**	P	**PKPdf**	**06 16 55.0**	**-0.4**		
	baz=350								
MSU	**Marysvale**	**134.13**	**25**	*e*PKPdf	**PKPdf**	**06 16 57.0**	**+0.7**		
MSU	**Marysvale**	**134.13**	**25**	*e*PKIKP	**PKPdf**	**06 16 57.0**	**+0.7**		
SPB	**Sao Paulo**	**134.14**	**239**	PFAKE		06 17 10.0	+14		
SPB				LR	LR				
	comp=Z,7µm,19.0s								
O20A	**White River Ci**	**134.21**	**20**	P	**PKPdf**	**06 16 55.8**	**-0.6**		
	baz=334								
O20A	**White River Ci**	**134.21**	**20**	*e*PKPdf	**PKPdf**	**06 16 56.2**	**-0.3**		
O20A				*e*PP	**PP**	**06 19 24.9**	**-1.5**		
J43A	**Natural Harves**	**134.23**	**359**	P	**PKPdf**	**06 16 54.3**	**-1.8**		
	baz=1.8								
K31A	**O'Neill**	**134.26**	**9**	P	**PKPdf**	**06 16 56.2**	**0.0**		
	baz=347								
J41A	**Loganville**	**134.26**	**0**	P	**PKPdf**	**06 16 54.9**	**-1.3**		
	baz=360								
SRU	**San Rafael Swe**	**134.28**	**23**	*e*PKPdf	**PKPdf**	**06 16 57.2**	**+0.6**		
SRU				*e*PP	**PP**	**06 19 26.5**	**-0.5**		
SRU	**San Rafael Swe**	**134.28**	**23**	*e*PKIKP	**PKPdf**	**06 16 57.2**	**+0.6**		
SRU				*e*		06 19 26.5			
SHOC	**Shoshone, Teco**	**134.35**	**31**	P	**PKPdf**	**06 16 57.2**	**+0.6**		
	baz=322								
JFWS	**Jewell Farm**	**134.71**	**1**	PFAKE		06 17 10.0	+13		
JFWS				LR	LR				
	comp=Z,8µm,20.0s								
K39A	**Oelwein**	**134.88**	**2**	P	**PKPdf**	**06 16 56.6**	**-0.7**		
	baz=357								
K40A	**Colesburg**	**134.91**	**2**	P	**PKPdf**	**06 16 56.7**	**-0.6**		
	baz=358								
AAM	**Ann Arbor**	**135.00**	**354**	PFAKE		06 17 10.0	+12		
AAM				LR	LR				
	comp=Z,5µm,21.0s								
PTCN	**Pitcairn Islan**	**135.11**	**124**	PFAKE		06 17 10.0	+12		
PTCN				LR	LR				
	comp=Z,5µm,19.0s								
M54A	**Oil Creek Stat**	**135.19**	**349**	P	**PKPdf**	**06 16 57.5**	**-0.5**		
	baz=14								
OGNE	**Ogallala**	**135.23**	**13**	PFAKE		06 17 10.0	+12		
OGNE				LR	LR				
	comp=Z,8µm,22.0s								
ISCO	**Idaho Springs**	**135.35**	**18**	*e*PKPdf	**PKPdf**	**06 16 58.5**	**-0.2**		
ISCO				*e*PP	**PP**	**06 19 30.1**	**-3.7**		
ISCO				*e*SKPbc	**SKPbc**	**06 20 25.9**	**-2.4**		
ISCO				LR	LR				
	comp=Z,5µm,22.0s								
ISCO	**Idaho Springs**	**135.35**	**18**	*e*PKIKP	**PKPdf**	**06 16 58.5**	**-0.2**		
ISCO				*e*		06 19 30.1			
ISCO				MLR	MLR				
	comp=Z,5µm,22.0s								
BGNE	**Belgrade**	**135.54**	**9**	P	**PKPdf**	**06 16 58.5**	**-0.1**		
	baz=348								
BGNE	**Belgrade**	**135.54**	**9**	*e*PKPdf	**PKPdf**	**06 16 58.0**	**-0.7**		
L40A	**Anamosa**	**135.54**	**2**	P	**PKPdf**	**06 16 57.8**	**-0.8**		
	baz=358								
L41A	**Preston**	**135.55**	**1**	P	**PKPdf**	**06 16 57.6**	**-1.0**		
	baz=359								
SCIA	**State Center**	**135.60**	**4**	PFAKE		06 17 10.0	+11		
SCIA				LR	LR				
	comp=Z,6µm,22.0s								
N54A	**Moraine State**	**135.77**	**349**	P	**PKPdf**	**06 16 58.3**	**-0.7**		
	baz=14								
PV01	**Paradox Valley**	**135.87**	**22**	*e*PKPdf	**PKPdf**	**06 16 56.8**	**-2.9**		
PFO	**Pinyon Flats O**	**136.01**	**33**	PFAKE		06 17 10.0	+10		
PFO				LR	LR				
	comp=Z,3µm,21.0s								
M39A	**Webster**	**136.09**	**3**	P	**PKPdf**	**06 16 56.2**	**-3.4**		
	baz=356								
O56A	**Blue Knob Stat**	**136.16**	**348**	P	**PKPdf**	**06 16 58.3**	**-1.5**		
	baz=16								
TRQA	**Tornquist**	**136.53**	**212**	*e*PKPdf	**PKPdf**	**06 17 01.0**	**+0.4**		
TRQA				*e*SKPbc	**SKPbc**	**06 20 31.0**	**-0.6**		
TRQA				LR	LR				
	comp=Z,5µm,20.0s								
PDMCI	**Parker Dam,Lak**	**136.68**	**30**	P	**PKPdf**	**06 17 01.0**	**+0.1**		
	baz=323								
MVCO	**Mesa Verde**	**136.71**	**22**	PFAKE		06 17 10.0	+8.8		
MVCO				LR	LR				
	comp=Z,3µm,22.0s								
KSCO	**Kaye Shedlock'**	**136.92**	**15**	*e*PKPdf	**PKPdf**	**06 17 00.5**	**-0.9**		
ACSO	**Alum Creek Sta**	**136.96**	**353**	P	**PKPdf**	**06 17 00.6**	**-0.7**		
	baz=9.9								
ACSO	**Alum Creek Sta**	**136.96**	**353**	*e*PKPdf	**PKPdf**	**06 17 01.2**	**-0.1**		
ACSO				LR	LR				
	comp=Z,7µm,21.0s								
WUAZ	**Wupatki**	**137.00**	**26**	PFAKE		06 17 10.0	+8.3		
WUAZ				LR	LR				
	comp=Z,3µm,22.0s								
HDIL	**Hopedale**	**137.07**	**360**	PFAKE		06 17 10.0	+8.6		
HDIL				LR	LR				
	comp=Z,7µm,21.0s								
O47A	**Sheridan**	**137.27**	**356**	P	**PKPdf**	**06 17 01.6**	**-0.3**		
	baz=5.2								
SDCO	**Great Sand Dun**	**137.27**	**19**	*e*PKPdf	PKPpre	06 16 50.5			
SDCO				LR	LR				
	comp=Z,6µm,21.0s								
O41A	**Passleys Farm,**	**137.50**	**1**	P	**PKPdf**	**06 17 00.1**	**-2.1**		
	baz=358								
CBKS	**Cedar Bluff**	**137.77**	**12**	PFAKE		06 17 10.0	+7.1		
CBKS				LR	LR				
	comp=Z,7µm,22.0s								
P37A	**Lathrop**	**137.82**	**5**	P	**PKPdf**	**06 17 01.3**	**-1.6**		
	baz=353								
CBN	**Corbin Frederi**	**137.85**	**346**	PFAKE		06 17 10.0	+7.1		
CBN				LR	LR				
	comp=Z,3µm,20.0s								
BBSR	**BB Station**	**137.95**	**328**	PFAKE		06 17 10.0	+6.7		
BBSR				LR	LR				
	comp=Z,2µm,20.0s								
KSU1	**Kansas State U**	**138.03**	**8**	P	**PKPdf**	**06 17 01.4**	**-1.8**		
	baz=350								
KSU1	**Kansas State U**	**138.03**	**8**	*e*PKPdf	**PKPdf**	**06 17 02.4**	**-0.9**		
KSU1				LR	LR				
	comp=Z,4µm,20.0s								
P42A	**Winchester**	**138.03**	**1**	P	**PKPdf**	**06 17 02.2**	**-1.1**		
	baz=359								
PLCA	**Paso Flores**	**138.28**	**202**	PKhKP	PKPpre	06 16 56.2			
	comp=Z,1.9nm,0.9s,baz=212,slow=5.6,SNR=3.7								
Q41A	**Truxton**	**138.65**	**2**	P	PKPpre	06 16 56.2			
	baz=358								
R39A	**Chumby, Stover**	**139.19**	**4**	P	PKPpre	06 16 55.0			
	baz=355								
R47A	**Wooly Knot Far**	**139.22**	**356**	P	PKPpre	06 16 55.2			
	baz=4.9								
R40A	**Maddies Statio**	**139.26**	**3**	P	PKPpre	06 16 57.7			
	baz=356								
WCI	**Wyandotte Cave**	**139.28**	**356**	*e*PKPdf	**PKPdf**	**06 17 04.6**	**-1.0**		
WCI	**Wyandotte Cave**	**139.28**	**356**	*e*PKIKP	**PKPdf**	**06 17 04.6**	**-1.0**		
R41A	**Rosebud**	**139.29**	**2**	P	PKPpre	06 16 58.2			
	baz=358								
R45A	**Skylar, Fairfi**	**139.31**	**358**	P	PKPpre	06 17 00.2			
	baz=2.2								
ANMO	**Albuquerque**	**139.48**	**21**	P	PKPpre	06 16 57.1			
	baz=334								
ANMO	**Albuquerque**	**139.48**	**21**	*e*PKPdf	PKPpre	06 16 58.0			
ANMO				LR	LR				
	comp=Z,6µm,20.0s								
ANMO	**Albuquerque**	**139.48**	**21**	*e*PKHKP	PKPpre	06 16 58.0			
ANMO				MLR	MLR				
	comp=Z,6µm,20.0s								
BLA	**Blacksburg**	**139.49**	**349**	PFAKE		06 17 20.0	+14		
BLA				LR	LR				
	comp=Z,7µm,21.0s								
CCM	**Cathedral Cave**	**139.54**	**2**	*e*PKPdf	PKPpre	06 17 00.4			
CCM				*e*PP	**PP**	**06 19 57.5**	**-1.8**		
CCM	**Cathedral Cave**	**139.54**	**2**	*e*PKIKP	PKPpre	06 17 00.4			
CCM				*e*		06 19 57.5			
LAZ	**Ladron**	**139.71**	**23**	*e*PKPdf	**PKPdf**	**06 17 06.9**	**+0.2**		
LAZ				*e*PP	**PP**	**06 19 59.2**	**-1.7**		
S39A	**Bolivar**	**139.79**	**4**	P	PKPpre	06 16 57.2			
	baz=354								
S38A	**Stockton**	**139.80**	**5**	P	PKPpre	06 16 57.2			
	baz=354								
S48A	**Wiedeman Farm,**	**139.82**	**356**	P	PKPpre	06 16 57.4			
	baz=5.7								
S42A	**Caledonia**	**139.84**	**1**	P	PKPpre	06 16 58.7			
	baz=358								
SIUC	**Southern Illin**	**139.91**	**359**	*e*PKPdf	**PKPdf**	**06 17 06.5**	**-0.2**		
SIUC				*e*PP	**PP**	**06 20 02.3**	**+0.8**		
TUC	**Tucson**	**139.94**	**28**	*e*PKPdf	**PKPdf**	**06 17 06.7**	**-0.4**		
TUC				LR	LR				
	comp=Z,4µm,22.0s								
TUC	**Tucson**	**139.94**	**28**	*e*PKIKP	**PKPdf**	**06 17 06.7**	**-0.4**		
TUC				MLR	MLR				
	comp=Z,4µm,22.0s								
S40A	**Lebanon**	**139.94**	**4**	P	PKPpre	06 16 57.0			
	baz=356								
LPM	**Los Pinos Moun**	**139.98**	**22**	*e*PKPdf	**PKPdf**	**06 17 07.1**	**-0.1**		
S41A	**Jillco Farms,**	**139.99**	**3**	P	PKPpre	06 16 58.1			
	baz=357								
T48A	**Bowling Green**	**140.40**	**356**	P	PKPpre	06 16 56.1			
	baz=5.2								
T41A	**Mountain View**	**140.53**	**3**	P	PKPpre	06 17 01.1			
	baz=357								
T43A	**Greenville**	**140.53**	**1**	P	PKPpre	06 17 00.9			
	baz=359								
T42A	**Van Buren**	**140.57**	**2**	P	PKPpre	06 16 58.8			
	baz=358								
TZTN	**Tazewell**	**140.66**	**352**	*e*PKPdf	**PKPdf**	**06 17 07.9**	**-0.3**		
TZTN				*e*PP	**PP**	**06 20 06.5**	**+0.3**		
CNNC	**Cliffs of the**	**140.79**	**345**	PFAKE		06 17 20.0	+12		
CNNC				LR	LR				
	comp=Z,5µm,21.0s								
U48A	**Cassie Pea, Po**	**141.00**	**356**	P	PKPpre	06 17 00.2			
	baz=5.0								
CPUP	**Villa Florida**	**141.01**	**230**	PKhKP	PKPpre	06 17 03.4			
	comp=Z,2.1nm,0.8s,baz=113,slow=3.7,SNR=4.8								
CPUP				PKP	**PKPdf**	**06 17 09.3**	**+0.3**		
	comp=Z,5.4nm,0.8s,baz=102,slow=1.7,SNR=10								
121A	**Cookes Peak, D**	**141.09**	**25**	*e*PKPdf	**PKPdf**	**06 17 07.7**	**-1.6**		
121A				*e*PP	**P

OXF	Oxford	143.10	360	ePKIKP	PKPab	06 17 07.9	0.0		
X45A	UM Field Stati	143.19	360	P	PKPab	06 17 08.1	-0.2		
	baz=0.6								
NHSC	New Hope	143.39	347	PFAKE		06 17 20.0	+6.9		
NHSC				LR	LR				
	comp=Z,5μm,20.0s								
Y40A	Okolona	143.44	5	P	PKPab	06 17 09.5	+0.2		
	baz=354,SNR=6.4								
Y50A	Piedmont	143.53	354	P	PKPab	06 17 09.5	-0.1		
	baz=6.7,SNR=5.3								
Y48A	Jasper	143.62	357	P	PKPab	06 17 09.0	-1.0		
	baz=4.3,SNR=5.9								
Y49A	Blount Mountai	143.63	355	P	PKPab	06 17 09.5	-0.6		
	baz=5.6								
Y47A	UCPARC, Winfie	143.67	357	P	PKPab	06 17 09.1	-1.1		
	baz=3.2								
ACAN	Cantantal	143.68	213	eP	PKPbc	06 17 12.2	+1.1		
Y42A	Garnett, Star	143.72	3	P	PKPab	06 17 10.7	+0.4		
	baz=356								
Y46A	Houston	143.72	359	P	PKPab	06 17 09.8	-0.6		
	baz=1.5								
GOGA	Godfrey	143.73	351	ePKPdf	PKPbc	06 17 10.8	-0.3		
GOGA				ePP	PP	06 20 22.5	-2.2		
GOGA				LR	LR				
	comp=Z,5μm,21.0s								
GOGA	Godfrey	143.73	351	ePKIKP	PKPbc	06 17 10.8	-0.3		
GOGA				e		06 20 22.5			
GOGA				MLR	MLR				
	comp=Z,5μm,21.0s								
ABTX	Abilene, Hawle	143.73	14	P	PKPab	06 17 10.0	-0.5		
	baz=343								
ABTX	Abilene, Hawle	143.73	14	ePKPdf	PKPab	06 17 10.2	-0.3		
Y45A	Yeager Farm, C	143.75	360	P	PKPab	06 17 10.0	-0.5		
	baz=0.3								
Z40A	Long Farm, Mag	144.18	5	P	PKPab	06 17 12.3	+0.2		
	baz=354								
Z48A	Northport	144.18	357	P	PKPab	06 17 11.4	-0.7		
	baz=3.7,SNR=8.9								
Z50A	Ashland	144.18	355	P	PKPab	06 17 11.4	-0.7		
	baz=6.5,SNR=7.3								
Z41A	Richland Creek	144.23	5	P	PKPab	06 17 12.2	-0.1		
	baz=355,SNR=7.4								
Z45A	Winona	144.24	0	P	PKPab	06 17 11.7	-0.7		
	baz=0.1								
Z42A	Norrel Spur, H	144.27	3	P	PKPab	06 17 12.3	-0.2		
	baz=356,SNR=8.8								
Z49A	Columbiana	144.29	355	P	PKPab	06 17 11.4	-1.1		
	baz=5.5,SNR=8.9								
Z44A	Pea Ridge, Bel	144.33	1	P	PKPab	06 17 12.6	-0.1		
	baz=359								
155A	Kite	144.33	350	P	PKPab	06 17 12.0	-0.7		
	baz=12								
Z47A	Carrollton	144.38	358	P	PKPab	06 17 11.7	-1.1		
	baz=2.8,SNR=20								
Z46A	Louisville	144.41	359	P	PKPab	06 17 12.5	-0.5		
	baz=1.4,SNR=7.6								
154A	Montrose	144.45	350	P	PKPab	06 17 12.4	-0.7		
	baz=11,SNR=7.0								
LRAL	Lakeview Retre	144.49	356	P	PKPab	06 17 12.0	-1.3		
	baz=4.7,SNR=13								
LRAL	Lakeview Retre	144.49	356	ePKPdf	PKPab	06 17 11.9	-1.4		
153A	Fort Valley	144.53	352	P	PKPab	06 17 12.5	-0.9		
	baz=10,SNR=5.6								
APLL	PUNTA DE LOS L	144.71	216	eP	PKPab	06 17 14.3	0.0		
RTCV	Cerro Valdivia	144.73	212	eP	PKPbc	06 17 14.6	+0.2		
140A	Cam and Jess,	144.78	6	P	PKPab	06 17 14.1	-0.2		
	baz=353,SNR=5.5								
WHTX	Lake Whitney,	144.83	12	P	PKPab	06 17 13.7	-0.9		
	baz=347								
WHTX	Lake Whitney,	144.83	12	ePKPdf	PKPab	06 17 13.4	-1.2		
150A	Eclectic	144.83	355	P	PKPab	06 17 13.5	-1.0		
	baz=6.4,SNR=25								
151A	Opelika	144.84	354	P	PKPab	06 17 13.8	-0.8		
	baz=7.6,SNR=56								
256A	Glennville	144.84	348	P	PKPab	06 17 13.6	-1.0		
	baz=14								
143A	Socs Landing,	144.87	3	P	PKPab	06 17 14.3	-0.3		
	baz=357,SNR=9.9								
141A	Papa Simpson,	144.87	5	P	PKPbc	06 17 14.7	0.0		
	baz=354,SNR=15								
AUSP	Uspallata	144.88	211	eP	PKPbc	06 17 15.4	+0.2		
149A	Jones	144.91	356	P	PKPab	06 17 13.4	-1.4		
	baz=5.1,SNR=14								
148A	Greensboro	144.91	357	P	PKPab	06 17 13.5	-1.3		
	baz=3.7,SNR=13								
147A	Livingston	144.91	358	P	PKPab	06 17 13.8	-1.0		
	baz=2.5,SNR=13								
146A	Union	144.97	359	P	PKPab	06 17 14.9	-0.2		
	baz=1.2,SNR=48								
144A	Alexander Plac	144.97	1	P	PKPbc	06 17 15.1	+0.1		
	baz=359,SNR=5.2								
142A	Monroe	145.00	3	P	PKPab	06 17 14.9	-0.2		
	baz=356								
145A	Houston Renfro	145.01	0	P	PKPab	06 17 14.9	-0.2		
	baz=360								
ROC1	El Roble	145.07	208	eP	PKPbc	06 17 15.5	-0.2		
254A	Abbeville	145.13	350	P	PKPbc	06 17 15.0	-0.6		
	baz=11,SNR=17								
253A	Americus	145.15	352	P	PKPbc	06 17 15.2	-0.5		
	baz=9.8,SNR=28								
RTLS	Leoncito	145.18	211	eP	PKPbc	06 17 16.0	-0.2		
251A	Midway	145.28	354	P	PKPbc	06 17 15.6	-0.5		
	baz=7.6,SNR=91								
252A	Lumpkin	145.30	353	P	PKPbc	06 17 15.5	-0.6		
	baz=8.7,SNR=39								
357A	Townsend	145.30	348	P	PKPbc	06 17 15.9	-0.3		
	baz=14								
240A	Hunter Patters	145.35	6	P	PKPbc	06 17 16.0	-0.3		
	baz=353,SNR=6.1								
VBMS	Vicksburg	145.38	1	P	PKPbc	06 17 16.3	-0.1		
	baz=359								
AMOG	MOGNA	145.42	213	eP	PKPbc	06 17 16.0	-0.7		
241A	Mo Tay, Goldon	145.45	5	P	PKPbc	06 17 16.6	0.0		
	baz=354,SNR=8.6								
242A	Grayson	145.47	4	P	PKPbc	06 17 16.6	-0.1		
	baz=356,SNR=19								
248A	Dixon Mills	145.47	357	P	PKPbc	06 17 16.4	-0.3		
	baz=3.5,SNR=18								
250A	Grady	145.48	355	P	PKPbc	06 17 15.8	-0.9		
	baz=6.1,SNR=17								
NATX	Nacogdoches	145.52	8	P	PKPdf	06 17 16.6	-0.2		
	baz=351,SNR=18								
NATX	Nacogdoches	145.52	8	ePKPbc	PKPdf	06 17 16.8	0.0		
NATX				LR	LR				
	comp=Z,9μm,19.0s								
356A	Blackshear	145.53	349	P	PKPdf	06 17 16.2	-0.7		
	baz=13,SNR=7.4								
247A	Quitman	145.54	358	P	PKPdf	06 17 16.9	0.0		
	baz=2.0,SNR=20								
TXAR	Lajitas Array	145.55	22	PKPbc	PKPdf	06 17 16.8	-0.3		
	comp=Z,51nm,0.8s,baz=288,slow=1.2,SNR=109								
249A	Camden	145.55	356	P	PKPdf	06 17 16.5	-0.4		
	baz=4.6,SNR=56								
244A	Avery, Jackson	145.55	2	P	PKPdf	06 17 16.8	-0.1		
	baz=358,SNR=24								
245A	Little AP, Sta	145.58	0	P	PKPdf	06 17 16.8	-0.1		
	baz=360,SNR=30								
246A	Jackson Lee, B	145.59	359	P	PKPdf	06 17 17.0	0.0		
	baz=1.1								
355A	Pearson	145.65	350	P	PKPdf	06 17 16.9	-0.1		
	baz=12,SNR=28								
TIGA	Tifton	145.68	351	P	PKPdf	06 17 17.1	0.0		
	baz=11,SNR=24								
TIGA	Tifton	145.68	351	ePKPbc	PKPdf	06 17 17.1	0.0		
243A	Waterproof	145.69	3	P	PKPdf	06 17 17.1	0.0		
	baz=357								
JCT	Junction City	145.73	16	P	PKPdf	06 17 16.5	-0.8		
	baz=342								
JCT	Junction City	145.73	16	ePKPbc	PKPdf	06 17 16.5	-0.8		
JCT				LR	LR				
	comp=Z,4μm,20.0s								
JCT	Junction City	145.73	16	ePKP2	PKPdf	06 17 16.5	-0.8		
JCT				MLR	MLR				
	comp=Z,4μm,20.0s								
352A	Blakely	145.83	353	P	PKPdf	06 17 17.3	0.0		
	baz=8.5,SNR=26								
353A	Camilla	145.86	352	P	PKPdf	06 17 17.7	+0.2		
	baz=9.8,SNR=13								
ANWB	Willy Bob	145.94	307	PFAKE		06 17 30.0	+11		
ANWB				LR	LR				
	comp=Z,2μm,21.0s								
435B	Jarrell	145.97	12	P	PKPdf	06 17 17.4	-0.2		
	baz=346								
350A	Dozier	146.04	355	P	PKPbc	06 17 18.2	-0.3		
	baz=6.0								
456A	Hilliard	146.09	348	P	PKPdf	06 17 18.2	+0.4		
	baz=14								
457A	Yulee	146.09	347	P	PKPbc	06 17 18.7	0.0		
	baz=15								
341A	Kurthwood	146.11	5	P	PKPbc	06 17 18.5	-0.2		
	baz=354,SNR=6.5								
351A	Pinckard	146.11	354	P	PKPbc	06 17 18.3	-0.4		
	baz=7.4,SNR=16								
342A	Flagon Creek P	146.14	4	P	PKPbc	06 17 19.0	+0.2		
	baz=355								
344A	Westbrook Farm	146.14	2	P	PKPbc	06 17 18.8	0.0		
	baz=358,SNR=10								
348A	Jackson	146.15	357	P	PKPbc	06 17 18.7	-0.1		
	baz=3.3								
349A	Repton	146.18	356	P	PKPbc	06 17 18.9	0.0		
	baz=4.5,SNR=10								
347A	Saraland	146.19	358	P	PKPbc	06 17 19.1	+0.1		
	baz=2.1,SNR=18								
346A	Big Creek Wild	146.22	360	P	PKPbc	06 17 19.1	0.0		
	baz=0.5								
455A	Stateville	146.26	350	P	PKPbc	06 17 19.1	-0.1		
	baz=12,SNR=7.1								
343A	Vidalia	146.27	3	P	PKPbc	06 17 19.2	0.0		
	baz=357								
BBGH	Gun Hill	146.28	298	PFAKE		06 17 30.0	+10		
BBGH				LR	LR				
	comp=Z,3μm,20.0s								
345A	Thompson Farm,	146.30	1	P	PKPbc	06 17 19.0	-0.2		
	baz=360,SNR=7.7								
BRAL	Brewton	146.35	356	P	PKPbc	06 17 19.8	+0.4		
	baz=4.8								
BRAL	Brewton	146.35	356	ePKPdf	PKPdf	06 17 18.1	-0.1		
BRAL				ePKPbc	PKPab	06 17 20.2	0.0		
BRAL				LR	LR				
	comp=Z,6μm,20.0s								
453A	Whigham	146.36	352	P	PKPbc	06 17 19.3	-0.2		
	baz=9.7,SNR=9.4								
454A	Quitman	146.39	351	P	PKPbc	06 17 19.4	-0.1		
	baz=11,SNR=6.7								
452A	Marianna	146.48	353	P	PKPbc	06 17 19.5	-0.3		
	baz=8.2								
AHML	Horco Molle	146.49	222	eP	PKPdf	06 17 18.0	-0.7		
AGUA	GUANDACOL	146.52	215	eP	PKPdf	06 17 18.2	-0.5		
AROD	Rodeo	146.55	213	eP	PKPdf	06 17 19.1	0.0		
448A	Bay Minette	146.63	357	P	PKPbc	06 17 20.4	+0.1		
	baz=3.4								
450A	Crestview	146.67	355	P	PKPbc	06 17 20.3	0.0		
	baz=5.7								
441A	DeRidder	146.69	6	P	PKPbc	06 17 20.6	+0.2		
	baz=354								
557A	Orange Park	146.71	347	P	PKPbc	06 17 20.3	-0.2		
	baz=15								
DLPL	La Plaine	146.72	303	eP	PKPdf	06 17 16.9	-2.3		
MDPO	Dominica; Chan	146.77	304	eP	PKPbc	06 17 21.4	+0.4		
MLYT	Lee's Yard	146.78	306	eP	PKPbc	06 17 20.4	-0.7		
442A	Mamou	146.79	4	P	PKPab	06 17 21.7	-0.2		
	baz=355,SNR=6.3								
447A	Lucedale	146.80	358	P	PKPab	06 17 22.1	+0.2		
	baz=1.9								
555A	McAlpin	146.86	349	P	PKPbc	06 17 21.1	+0.2		
	baz=12,SNR=5.3								
556A	Lake Butler	146.87	348	P	PKPbc	06 17 21.2	+0.3		
	baz=13,SNR=7.7								
444A	Pine Grove	146.87	2	P	PKPbc	06 17 21.3	+0.3		
	baz=358,SNR=9.1								
VCA	Vinchina	146.92	216	eP	PKPdf	06 17 18.0	-1.6		
FDF	Fort de France	146.93	302	ePKPdf	PKPdf	06 17 18.9	-0.7		
FDF				ePKPbc	PKPbc	06 17 21.3	-0.3		
FDF				LR	LR				
	comp=Z,2μm,21.0s								
FDF	Fort de France	146.93	302	eP	PKPdf	06 17 17.3	-2.4		
FDF	Fort de France	146.93	302	ePKP2	PKPdf	06 17 19.0	-0.7		
FDF				MLR	MLR				
	comp=Z,2μm,21.0s								
SEUS	St. Eustatius	146.98	308	eP	PKPbc	06 17 21.7	+0.1		
SABA	Saba	147.11	309	e	PKPdf	06 17 17.0	-2.9		
HKT	Hockley	147.12	10	ePKPbc	PKPbc	06 17 21.6	0.0		
HKT	Hockley	147.12	10	ePKP2	PKPbc	06 17 21.6	0.0		
MCLT	Moule a Chique	147.24	300	eP	PKPab	06 17 35.7	+12		
SLB	Belfond	147.27	301	eP	PKPab	06 17 23.5	-0.9		
FSA	Cafayete	147.37	222	eP	PKPdf	06 17 20.2	-0.1		
ALOL	LOMAS DE OLMED	147.41	227	eP	PKPdf	06 17 20.8	+0.5		
544A	White Castle	147.46	2	P	PKPbc	06 17 23.3	+0.7		
	baz=357								
656A	Willston	147.50	348	P	PKPbc	06 17 22.5	-0.3		
	baz=13,SNR=5.8								
SVCV	St. Vincent, C	147.61	300	eP	PKPab	06 17 25.1	-0.6		
ASTB	Santa Barbara	147.67	227	eP	PKPdf	06 17 21.6	+0.7		
SVB	Belmont	147.70	300	eP	PKPdf	06 17 22.2	+1.3		
757A	Oxford	147.82	347	P	PKPbc	06 17 23.3	-0.4		
	baz=14								
833A	Chaparral WMA,	147.88	16	P	PKPbc	06 17 23.6	-0.2		
	baz=342								
TOSP	Speyside	147.91	296	eP	PKPbc	06 17 24.1	-0.2		
TOSP	Speyside	147.91	296	eP	PKPab	06 17 40.5	+14		
LCO	Las Campanas	148.12	213	ePKPbc	PKPdf	06 17 22.8	+1.2		
LCO				LR	LR				
	comp=Z,7μm,22.0s								
858A	St. Cloud	148.36	346	P	PKPbc	06 17 24.8	-0.3		
	baz=16								
859A	Kempfer Cattle	148.39	345	P	PKPbc	06 17 25.3	+0.1		
	baz=17								
857A	Zephyrhills	148.51	347	P	PKPbc	06 17 25.4	-0.1		
	baz=14								
GRGR	Grenville	148.56	298	ePKPdf	PKPdf	06 17 19.7	-2.6		
GRGR				ePKPbc	PKPbc	06 17 25.1	-1.0		
GRGR				LR	LR				
	comp=Z,2μm,21.0s								
HJA	Humahuaca	148.82	227	eP	PKPdf	06 17 23.9	+0.8		
SIV	San Ignacio	148.86	243	PKP	PKPdf	06 17 22.7	-0.1		
	comp=Z,14nm,0.8s,baz=131,slow=3.6,SNR=25								
SIV				PKPbc	PKPbc	06 17 26.3	-0.5		
	comp=Z,14nm,0.8s,baz=125,slow=4.2,SNR=38								
TRN	Trinidad (W)	148.95	296	eP	PKPab	06 17 30.0	-1.0		
KVTX	Kingsville	149.02	14	PFAKE		06 17 30.0	-0.8		
KVTX				LR	LR				
	comp=Z,5μm,20.0s								
SJG	San Juan	149.03	312	PFAKE		06 17 30.0	-1.2		
SJG				LR	LR				
	comp=Z,4μm,21.0s								
SJG	San Juan	149.03	312	eP	PKPbc	06 17 26.5	-0.6		
RPN	Rapa Nui	149.17	144	PFAKE		06 17 30.0	-1.5		
RPN				LR	LR				
	comp=Z,2μm,21.0s								
YJA	Yavi	149.51	228	eP	PKPdf	06 17 25.9	+1.6		
GRTK	Grand Turk	149.96	324	PFAKE		06 17 40.0	+5.1		
GRTK				LR	LR				
	comp=Z,3μm,20.0s								
PTGA	Pitinga	150.26	273	PKP	PKPdf	06 17 25.1	0.0		
	comp=Z,14nm,1.1s,baz=332,slow=4.2,SNR=6.8								
PTGA				PKPbc	PKPbc	06 17 30.0	-0.3		
	comp=Z,23nm,0.8s,baz=86,slow=3.6,SNR=29								
PTGA	Pitinga	150.26	273	PKP	PKPdf	06 17 25.1	0.0		
PTGA				PKPbc	PKPbc	06 17 30.0	-0.3		
PTGA				LR	LR				
	comp=Z,13μm,22.0s								
ZAIG	Zacatecas	151.83	26	ePKPdf	PKPdf	06 17 28.1	+0.4		
ZAIG				ePKPbc	PKiKP	06 17 34.8	+0.3		
SDDR	Presa de Saban	151.97	321	ePKPab	PKPab	06 17 43.4	+0.1		
SDDR				LR	LR				
	comp=Z,4μm,22.0s								
SDDR	Presa de Saban	151.97	321	eP	PKPdf	06 17 27.3	-0.4		
PCRV	Puerto La Cruz	152.04	297	PKPbc	PKPbc	06 17 33.5	-0.9		
	comp=Z,14nm,0.5s,baz=298,slow=3.2,SNR=13								
GTBY	Guantanamo Bay	153.46	328	PFAKE		06 17 40.0	+2.6		
GTBY				LR	LR				
	comp=Z,3μm,19.0s								
LPAZ	La Paz	154.81	236	PKP	PKPdf	06 17 33.2	+0.7		
	comp=Z,7.8nm,0.9s,baz=45,slow=1.4,SNR=22								
LPAZ				PKPbc	PKiKP	06 17 41.6	+0.5		
	comp=Z,12nm,0.9s,baz=71,slow=3.6,SNR=18								
MTDJ	Mount Denham	156.12	330	PFAKE		06 17 40.0	+6.4		
MTDJ				LR	LR				
	comp=Z,3μm,20.0s								
SDV	Santo Domingo	157.87	301	PKP	PKPdf	06 17 35.5	-0.6		
	comp=Z,11nm,0.9s,baz=26,slow=2.8,SNR=13								
SDV				PP	PP	06 21 49.9	+1.7		
	comp=Z,2.8nm,0.5s,baz=0.8,slow=2.1,SNR=4.2								
SDV	Santo Domingo	157.87	301	ePKPdf	PKPdf	06 17 35.5	-0.6		
SDV				ePKPab	PKPab	06 18 07.4	-1.5		
SDV				ePP	PP	06 21 48.9	+0.7		
SDV				LR	LR				
	comp=Z,3μm,20.0s								
SDV	Santo Domingo	157.87	301	eP	PKPdf	06 17 35.1	-0.9		
CODC	Agust˙n Codaz	159.62	308	eP	PKPdf	06 17 36.5	-1.4		
OCAC	Ocana	160.47	304	eP	PKPdf	06 17 38.5	-0.6		
BRRC	Barranca, Sant	161.40	301	eP	PKPdf	06 17 39.1	-0.7		
MOTC	Monteria, Cord	162.05	309	eP	PKPdf	06 17 39.1	-1.4		
ZARC	Zaragoza, Cauc	162.16	304	eP	PKPdf	06 17 37.5	-3.1		
CHIC	Chingaza	162.54	294	eP	PKPdf	06 17 37.8	-3.8		
ROSC	El Rosal	162.99	296	PKP	PKPdf	06 17 42.2	+0.2		
	comp=Z,18nm,0.8s,baz=116,slow=1.7,SNR=16								
NORC	Norcasia	163.15	299	eP	PKPdf	06 17 39.8	-1.9		
DBBC	Dabeiba	163.53	305	eP	PKPdf	06 17 43.1	+1.0		
GUYC	Guyana, Colomb	163.77	299	eP	PKPdf	06 17 42.5	-0.4		
PRAC	Prado	163.96	293	eP	PKPdf	06 17 39.8	-2.7		
NNA	Nana	164.23	233	PFAKE		06 17 50.0	+7.3		
NNA				LR	LR				
	comp=Z,2μm,19.0s								
BCIP	Isla Barro Col	164.76	320	PFAKE		06 17 50.0	+6.9		
BCIP				LR	LR				
	comp=Z,3μm,22.0s								
FLOC	Florencia	165.39	286	eP	PKPdf	06 17 43.1	-0.6		
JTS	JuntasAbangare	166.38	340	PFAKE		06 18 00.0	+16		
JTS				LR	LR				
	comp=Z,4μm,20.0s								
OTAV	Otavalo	168.45	284	ePKPdf	PKPdf	06 17 45.7	-0.9		
OTAV				LR	LR				
	comp=Z,4μm,21.0s								
OTAV	Otavalo	168.45	284	eP	PKPdf	06 17 46.5	-0.1		
OTAV	Otavalo	168.45	284	PKIKP	PKPdf	06 17 46.1	-0.4		

IDC 15 06:12:35.7±14.0, 3°.46N×91°.86E, h0km, mb3.8/3, mb1 3.8/4, mb1mx3.4/68, mbtmp3.7/4, Error ellipse: s-maj=287.0km s-min=92.0km az=160.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	16.44	24	Pn	Pn		06 16 27.9	-0.1
	baz=222,slow=13,SNR=3.7							
MKAR	Makanchi Array	43.96	351	P	P		06 20 44.9	+0.3
	1.0nm,0.7s,baz=167,slow=8.9,SNR=3.7							
SONM	Songino Array	45.95	14	P	P		06 21 00.5	-0.1
	1.0nm,0.6s,baz=193,slow=8.2,SNR=4.8							
KURBB	Kurchatov Arra	48.33	349	P	P		06 21 18.5	-0.4
	0.8nm,0.7s,baz=171,slow=6.8,SNR=4.9							

WEL 15 06:21:12.6±0.6, 33°S±6°×17°9W±1°6, h166km±12km, ML5.2/43
IDC 15 06:21:12.8±8.5, 32°.39S×179°.91W, h237km±85km, mb3.4/2, mb1 3.8/4, mb1mx3.2/48, mbtmp4.3/4, Error ellipse: s-maj=85.9km s-min=29.9km az=8.0
ISC 15 06:21:09.6±1.1, 32°.58S±0°.09×178°.7W±0°.2, h250km, n88, σ2.941/86, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
GLKZ	Green Lake	3.37	12	S	S		06 22 45.3	-5.9
GLKZ	Green Lake	3.37	12	P	Pn		06 22 05.9	-0.4
RIZ	Raoul Island	3.39	12	S	S		06 22 48.8	-2.7
MXZ	Matakaoa Point	5.54	205	P	Pn		06 22 34.5	+2.5
MXZ	Matakaoa Point	5.54	205	S	S		06 23 36.0	-1.8
WMGZ	Waiomatatini S	5.74	203	P	Pn		06 22 37.5	+3.1
WMGZ	Waiomatatini S	5.74	203	S	S		06 23 41.8	-0.3
HAZ	Te Kaha	5.91	208	P	Pn		06 22 37.5	+0.9
HAZ	Te Kaha	5.91	208	S	S		06 23 45.1	-1.0
PKGZ	Pakihiroa	5.92	205	P	Pn		06 22 37.4	+0.7
PKGZ	Pakihiroa	5.92	205	S	S		06 23 43.8	-2.5
WIZ	White Island	5.97	213	P	Pn		06 22 41.7	+4.3
PUZ	Puketiti	6.02	203	P	Pn		06 22 40.3	+2.4
PUZ	Puketiti	6.02	203	S	S		06 23 47.3	-1.2
RUGZ	Raukumara Rang	6.13	208	P	Pn		06 22 42.5	+3.0
RUGZ	Raukumara Rang	6.13	208	S	S		06 23 47.5	-3.9
KUZ	Kuaotunu	6.19	226	P	Pn		06 22 41.9	+1.8
TWGZ	Tauwhareparae	6.21	205	P	Pn		06 22 42.9	+2.6
TWGZ	Tauwhareparae	6.21	205	S	S		06 23 52.2	-0.7
CNGZ	Carnagh Station	6.41	202	P	Pn		06 22 45.1	+2.3
TKGZ	Te Karaka	6.49	205	P	Pn		06 22 44.7	+1.0
TKGZ	Te Karaka	6.49	205	S	S		06 23 57.1	-2.1
MWZ	Matawai	6.51	207	P	Pn		06 22 47.6	+3.4
OPRZ	Ohinepanea	6.53	215	P	Pn		06 22 47.2	+2.9
MARZ	Manawahe	6.58	214	P	Pn		06 22 48.0	+3.0
TGRZ	Tauranga	6.59	217	P	Pn		06 22 48.0	+3.0
URZ	Urewera	6.62	210	P	Pn		06 22 46.8	+1.4
	21nm,0.3s,baz=295,slow=3.9,SNR=66							
URZ				S	S		06 23 57.3	-4.8
	17nm,0.3s,baz=52,slow=24,SNR=12							
URZ	Urewera	6.62	210	P	Pn		06 22 46.8	+1.4
URZ	Urewera	6.62	210	S	S		06 23 57.1	-5.0
EDRZ	Edgecumbe	6.65	213	P	Pn		06 22 48.6	+2.7
RIGZ	Rimuhau	6.76	204	P	Pn		06 22 48.4	+1.3
RIGZ	Rimuhau	6.76	204	S	S		06 24 02.8	-2.6
MKAZ	Moumakai	6.77	226	P	Pn		06 22 48.8	+1.5
MKRZ	Makatiti	6.80	214	P

GUC ***15*** *06:30:41.3±0.4,20.˝51S×70.˝39W,h32km±16km,ML3.8*
IDC ***15*** *06:31:22.4±1.5,16.˝35S×68.˝32W,h257km±9km,mb3.0/2, mb1 3.1/3,mb1mx2.8/38,mbtmp3.6/3,Error ellipse: s-maj=44.7km s-min=23.2km az=55.0*
ISC 15 06:30:40.0±2.3,20.˝51S±0.04×70.˝5W±0.˝1,h28km±15km, n13,σ0ˢ75/21,3C-4D,Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PSGC	**Pisagua**	**0.97**	**20**	⇓*i* P	**Pn**	**06 30 58.1**	**+0.3**
PSGC				*i* S	**Sn**	**06 31 11.0**	**+0.3**
PSGC				IAML		06 31 11.7	
	comp=N,4μm,0.1s						
PB01	**IPOC Station P**	**1.06**	**120**	⇓*i* P	**Pn**	**06 30 59.0**	**-0.1**
PB01				*i* S	**Sn**	**06 31 12.6**	**-0.4**
PB01				IAML		06 31 14.6	
	comp=N,1μm,0.4s						
PB11	**IPOC Station P**	**1.07**	**46**	⇓*i* P	**Pn**	**06 30 59.9**	**+0.6**
PB11				*i* S	**Sb**	**06 31 13.5**	**-0.1**
PB11				IAML		06 31 16.0	
	comp=N,20μm,0.2s						
PB08	**IPOC Station P**	**1.29**	**74**	⇓*i* P	**Pb**	**06 31 03.4**	**-0.4**
PB08				*i* S	**Sb**	**06 31 20.0**	**-0.1**
PB08				IAML		06 31 21.3	
	comp=N,1μm,0.3s						
PB07	**IPOC Station P**	**1.32**	**156**	⇑*i* P	**Pn**	**06 31 03.4**	**+0.6**
PB07				*i* S	**Sn**	**06 31 20.1**	**+0.5**
PB07				IAML		06 31 26.6	
	comp=E,1μm,0.5s						
MNMC	**Minye Minye**	**1.60**	**31**	⇑*i* P	**Pn**	**06 31 08.2**	**+1.5**
MNMC				*i* S	**Sb**	**06 31 28.9**	**-0.1**
MNMC				IAML		06 31 34.5	
	comp=E,3μm,0.2s						
PB09	**IPOC Station P**	**1.71**	**138**	*e*P	**Pn**	**06 31 09.9**	**+1.7**
PB09				*i* S	**Sb**	**06 31 32.3**	**+0.1**
PB09				IAML		06 31 38.3	
	comp=N,5μm,0.6s						
PB04	**IPOC Station P**	**1.84**	**171**	⇑*i* P	**Pn**	**06 31 09.5**	**-0.4**
PB04				*e*S	**Sn**	**06 31 32.3**	**0.0**
PB04				IAML		06 31 44.1	
	comp=E,713nm,0.9s						
PB12	**IPOC Station P**	**1.89**	**4**	*e*P	**Pn**	**06 31 11.4**	**+0.8**
PB12				*i* S	**Sn**	**06 31 33.0**	**-0.6**
PB12				IAML		06 31 48.9	
	comp=E,3μm,0.4s						
LPAZ	**La Paz**	**4.75**	**28**	P	Pn	06 31 56.6	+6.2
	comp=E,1.4nm,0.3s,baz=248,slow=5.7,SNR=30						
SIV	**San Ignacio**	**9.99**	**65**	P	**Pn**	**06 33 02.5**	**+0.6**
	comp=E,0.4nm,0.3s,baz=272,slow=10,SNR=22						
TORD	**Torodi Ar. Bea**	**78.41**	**71**	P	**P**	**06 42 37.5**	**-1.2**
	comp=E,0.6nm,0.6s,baz=239,slow=7.5,SNR=4.6						
YKA	**Yellowknife Ar**	**89.78**	**341**	P	**P**	**06 43 35.7**	**+0.3**
	comp=E,0.1nm,0.7s,baz=128,slow=6.4,SNR=3.6						

ISCJB ***15*** *06:39:52.3±1.5,1.˝2N±0.˝2×91.˝9E±0.˝2,h10km,mb3.8/4, Error ellipse: s-maj=30.5km s-min=20.3km az=28.1*
IDC ***15*** *06:39:53.1±2.1,1.˝17N×91.˝95E,h0km,mb3.7/4,mb1 3.8/6, mb1mx3.4/69,mbtmp3.7/6,ML3.8/2,Error ellipse: s-maj=60.0km s-min=28.0km az=49.0*
ISC 15 06:39:54.2±1.6,1.˝2N±0.˝2×91.˝9E±0.˝2,h10km,n6,σ1ˢ37/6, mb3.8/4,North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PALK	**Pallekele**	**12.70**	**299**	Pn	**Pn**	**06 42 54.6**	**-0.4**
	0.5nm,0.3s,baz=113,slow=14,SNR=2.6						
CMAR	**Chiang Mai Arr**	**18.52**	**22**	P	**P**	**06 44 09.9**	**-1.0**
	0.1nm,0.3s,baz=204,slow=15,SNR=3.6						
MKAR	**Makanchi Array**	**46.20**	**351**	P	**P**	**06 48 19.1**	**-0.3**
	0.6nm,0.4s,baz=167,slow=8.3,SNR=9.3						
WRA	**Warramunga Arr**	**46.59**	**119**	P	**P**	**06 48 22.6**	**-0.2**
	0.6nm,0.7s,baz=295,slow=8.5,SNR=4.8						
KURBB	**Kurchatov Arra**	**50.56**	**349**	P	**P**	**06 48 53.7**	**+0.9**
	0.6nm,0.7s,baz=174,slow=7.6,SNR=7.7						
ZALV	**Zalesovo Beam**	**52.92**	**355**	P	**P**	**06 49 12.3**	**+1.9**
	0.7nm,0.3s,baz=179,slow=7.2,SNR=3.6						

IDC ***15*** *06:40:11.7±3.5,2.˝15N×91.˝52E,h0km,mb3.7/4,mb1 3.8/6, mb1mx3.4/69,mbtmp3.8/6,ML3.7/2,Error ellipse: s-maj=70.2km s-min=47.3km az=173.0*
ISC 15 06:40:16.7±4.0,2.˝2N±0.˝5×91.˝4E±0.˝2,h35km,n7,σ1ˢ16/7, mb3.8/4,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PALK	**Pallekele**	**11.80**	**296**	Pn	**Pn**	**06 43 02.2**	**-0.4**
	0.8nm,0.3s,baz=114,slow=12,SNR=3.7						
CMAR	**Chiang Mai Arr**	**17.77**	**24**	P	**Pn**	**06 44 21.0**	**-0.4**
	0.1nm,0.3s,baz=217,slow=13,SNR=5.1						
MKAR	**Makanchi Array**	**45.12**	**351**	P	**P**	**06 48 30.9**	**+1.3**
	0.6nm,0.6s,baz=180,slow=10,SNR=5.0						
SONM	**Songino Array**	**47.27**	**14**	P	**P**	**06 48 45.7**	**-1.0**
	0.4nm,0.5s,baz=191,slow=8.4,SNR=3.2						
KURBB	**Kurchatov Arra**	**49.47**	**349**	P	**P**	**06 49 04.1**	**+0.7**
	1.1nm,1.1s,baz=172,slow=6.7,SNR=5.0						
ZALV	**Zalesovo Beam**	**51.87**	**355**	P	**P**	**06 49 22.8**	**+1.4**
	1.4nm,0.4s,baz=177,slow=6.6,SNR=5.0						
TXAR	**Lajitas Array**	**145.48**	**24**	PKPbc	**PKPab**	**06 59 52.1**	**-0.1**
	0.5nm,0.6s,baz=0.0,slow=3.6,SNR=2.8						

IDC ***15*** *06:44:08.0±1.4,6.˝01N×87.˝10E,h0km,mb3.7/6,mb1 3.7/7, mb1mx3.4/64,mbtmp3.6/7,ML4.1/2,MS4.5/1,Ms1 4.5/1, ms1mx3.7/63,Error ellipse: s-maj=39.3km s-min=21.6km az=55.0*
ISCJB ***15*** *06:44:10.3±0.9,6.˝0N±0.˝1×87.˝0E±0.˝1,h33km,mb3.6/6, MS4.5/1,Error ellipse: s-maj=17.8km s-min=13.9km az=42.1*
ISC 15 06:44:12.7±1.2,6.˝0N±0.˝2×87.˝1E±0.˝1,h35km,n16, σ0ˢ74/15,mb3.7/6,Bay of Bengal

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PALK	**Pallekele**	**6.43**	**281**	Pn	**Pn**	**06 45 44.3**	**-0.6**
	14nm,0.3s,baz=116,slow=12,SNR=35						
CMAR	**Chiang Mai Arr**	**16.94**	**42**	Pn	**Pn**	**06 48 05.4**	**-1.8**
	0.1nm,0.3s,baz=234,slow=12,SNR=3.4						
RAMN	**Ramite**	**20.81**	**359**	*e*P	**P**	**06 48 52.5**	**+1.1**
	32nm,0.6s						
JIRN	**Jiri**	**21.52**	**358**	*e*P	**P**	**06 48 59.3**	**+0.1**
	39nm,0.4s						
DMN	**Daman**	**21.54**	**355**	*e*P	**P**	**06 48 59.2**	**-0.1**
	54nm,0.8s						
GUN	**Gumba**	**21.79**	**357**	*e*P	**P**	**06 49 01.8**	**-0.2**
	32nm,0.7s						
KOLN	**Koldanda**	**21.87**	**352**	*e*P	**P**	**06 49 02.7**	**0.0**
	20nm,0.5s						
GKN	**Gorkha**	**21.97**	**354**	*e*P	**P**	**06 49 03.5**	**-0.3**
	29nm,0.5s						
PYUN	**Piuthan**	**22.28**	**351**	*e*P	**P**	**06 49 07.2**	**0.0**
	62nm,0.8s						
MKAR	**Makanchi Array**	**40.82**	**355**	P	**P**	**06 51 51.6**	**+0.8**
	0.5nm,0.6s,baz=181,slow=9.7,SNR=4.5						
ATD	**Arta Tunnel**	**43.99**	**280**	LR	LR	07 09 21.0	
	comp=Z,549nm,18.6s,baz=358,slow=34						
SONM	**Songino Array**	**44.81**	**18**	P	**P**	**06 52 24.1**	**+0.7**
	0.4nm,0.6s,baz=188,slow=8.7,SNR=2.8						
KURBB	**Kurchatov Arra**	**45.01**	**352**	P	**P**	**06 52 25.3**	**+0.6**
	1.1nm,0.9s,baz=174,slow=7.4,SNR=8.2						
ZALV	**Zalesovo Beam**	**47.81**	**358**	P	**P**	**06 52 46.8**	**+0.2**
	0.6nm,0.3s,baz=191,slow=7.2,SNR=4.1						
WRA	**Warramunga Arr**	**53.18**	**120**	P	**P**	**06 53 27.8**	**0.0**
	0.9nm,0.9s,baz=303,slow=7.6,SNR=6.4						
ASAR	**Alice Springs**	**54.41**	**125**	P	**P**	**06 53 37.0**	**+0.3**
	0.6nm,0.8s,baz=297,slow=7.2,SNR=6.3						

MEX 15 06:45:26.4±0.3,18.˝53N×102.˝92W,h28km±7km,MD3.9, Michoacan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MMIG	**Aquila**	**0.47**	**240**	*i* P	Pb	06 45 34.8	-1.5
MMIG				*e*S	Sb	06 45 41.0	-2.0
EZ5V		**1.15**	**326**	*i* P	Pn	06 45 47.1	+0.2
EZ5V				*e*S	Sn	06 45 58.5	-3.3
ZIIG	**Zihuatanejo**	**1.66**	**123**	*i* P	Pn	06 45 51.4	-2.2
ZIIG				*e*S	Sn	06 46 11.0	-2.9
CJM	**Chamela**	**2.23**	**296**	*e*P	Pn	06 45 59.5	-2.0
CJM				*e*S	Sn	06 46 25.3	-2.8
ARIG	**Puente Sto Nin**	**2.45**	**95**	*e*P	Pn	06 46 04.0	-0.6
ARIG				*e*S	Sn	06 46 31.5	-2.2

ISCJB ***15*** *06:52:33.9±1.4,0.˝9N±0.˝2×91.˝7E±0.˝2,h10km,mb3.7/5, Error ellipse: s-maj=28.9km s-min=19.8km az=25.8*
IDC ***15*** *06:52:34.3±1.7,0.˝85N×91.˝76E,h0km,mb3.6/5,mb1 3.8/7, mb1mx3.4/59,mbtmp3.6/7,ML3.8/2,Error ellipse: s-maj=47.3km s-min=27.1km az=48.0*
ISC 15 06:52:35.6±1.5,0.˝9N±0.˝2×91.˝7E±0.˝2,h10km,n7,σ0ˢ75/7, mb3.7/5,North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PALK	**Pallekele**	**12.70**	**300**	Pn	**Pn**	**06 55 35.9**	**-0.6**
	0.3nm,0.3s,baz=117,slow=15,SNR=2.8						
CMAR	**Chiang Mai Arr**	**18.88**	**22**	P	**P**	**06 56 55.5**	**-0.9**
	0.2nm,0.3s,baz=217,slow=12,SNR=3.1						
MKAR	**Makanchi Array**	**46.50**	**351**	P	**P**	**07 01 03.6**	**+0.5**
	0.3nm,0.4s,baz=142,slow=7.3,SNR=2.9						
WRA	**Warramunga Arr**	**46.59**	**119**	P	**P**	**07 01 03.9**	**-0.3**
	0.5nm,0.6s,baz=294,slow=8.7,SNR=6.7						
SONM	**Songino Array**	**48.51**	**13**	P	**P**	**07 01 19.3**	**+0.4**
	0.4nm,0.4s,baz=199,slow=8.5,SNR=4.3						
KURBB	**Kurchatov Arra**	**50.84**	**349**	P	**P**	**07 01 36.6**	**+0.1**
	0.5nm,0.7s,baz=170,slow=6.1,SNR=5.0						
GERES	**GERESS Array B**	**81.48**	**319**	P	**P**	**07 04 54.1**	**+0.7**
	0.7nm,0.6s,baz=119,slow=4.7,SNR=4.3						

MEX 15 07:11:20.0±0.8,16.˝13N×98.˝58W,h2km,MD3.9,Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.51**	**59**	*e*P	Pg	07 11 29.5	-0.3
PNIG				*e*S	Sg	07 11 36.5	+0.1
TLIG	**Tlapa**	**1.42**	**1**	*e*P	Pn	07 11 43.7	-3.3
TLIG				*i* S	Sg	07 12 02.1	-3.6
CAIG	**El Cayaco**	**1.85**	**300**	*e*P	Pn	07 11 48.5	-4.3
CAIG				*e*S	Sn	07 12 12.8	-4.1
VHO	**Vista Hermosa**	**2.00**	**62**	*e*P	Pn	07 11 52.2	-2.8
VHO				*i* S	Sn	07 12 16.8	-4.0
MEIG	**Mezcala**	**2.04**	**331**	*e*P	Pn	07 11 52.0	-3.5
MEIG				*e*S	Sn	07 12 17.4	-4.2
PLIG	**Platanillo**	**2.41**	**339**	*e*P	Pn	07 12 00.9	+0.3
PLIG				*e*S	Sb	07 12 34.6	+0.2

IDC ***15*** *07:21:41.7±1.1,2.˝10N×93.˝33E,h0km,mb4.0/10, mb1 4.0/12,mb1mx3.7/74,mbtmp3.9/12,ML3.7/2,Error ellipse: s-maj=38.9km s-min=17.4km az=47.0*
NEIC ***15*** *07:21:43.0±0.6,2.˝15N×93.˝39E,h10km,mb4.0/5,Error ellipse: s-maj=13.6km s-min=7.3km az=210.0*
ISCJB ***15*** *07:21:45.3±0.7,2.˝2N±0.˝1×93.˝54E±0.˝09,h33km,mb4.1/15, Error ellipse: s-maj=17.5km s-min=9.1km az=37.4*
ISC 15 07:21:46.5±0.9,2.˝2N±0.˝1×93.˝39E±0.˝09,h35km,n25, σ1ˢ41/23,mb4.1/15,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GSI	**Gunungsitoli**	**4.27**	**101**	*e*Pn	**Pn**	**07 22 48.4**	**-0.6**
IPM	**Ipoh**	**7.96**	**73**	*e*Pn	**Pn**	**07 23 38.5**	**-1.4**
PALK	**Pallekele**	**13.62**	**292**	Pn	**Pn**	**07 24 54.1**	**-3.3**
	0.3nm,0.3s,baz=115,slow=16,SNR=2.8						
PALK				Sn	Sn	07 27 14.7	-13
	0.4nm,0.3s,baz=113,slow=6.5,SNR=2.4						
PALK	**Pallekele**	**13.62**	**292**	*e*Pn	**Pn**	**07 24 55.1**	**-2.4**
PALK				*e*Sn	Sn	07 27 11.7	-16
PALK				Sn	Sn	07 27 14.7	-13
KSM	**Kuching**	**16.92**	**92**	*e*Pn	**Pn**	**07 25 38.1**	**-2.7**
	14nm,1.6s						
CMAR	**Chiang Mai Arr**	**17.09**	**18**	P	**Pn**	**07 25 41.3**	**-1.5**
	0.1nm,0.3s,baz=220,slow=11,SNR=7.7						
CHTO	**Chiang Mai**	**17.42**	**18**	*e*P	**Pn**	**07 25 46.9**	**-0.1**
	3.5nm,1.5s						
H08S2	**Diego Garcia H**	**23.01**	**245**	T	T	07 52 21.0	
	baz=62,slow=75,SNR=5.0						
H08S3	**Diego Garcia H**	**23.01**	**245**	T	T	07 52 21.0	
	baz=62,slow=75,SNR=2.3						
H08S1	**Diego Carcia H**	**23.03**	**245**	T	T	07 52 21.0	
	baz=62,slow=75,SNR=1.8						
LSA	**Lhasa**	**27.47**	**356**	*e*P	**P**	**07 27 29.6**	**-0.5**
	5.9nm,1.1s						
MKAR	**Makanchi Array**	**45.50**	**349**	P	**P**	**07 30 03.7**	**+1.1**
	1.7nm,0.5s,baz=172,slow=8.9,SNR=31						
KKAR	**Karatay Array**	**45.59**	**337**	*e*P	**P**	**07 30 04.0**	**+0.7**
	0.7nm,0.6s						
WRA	**Warramunga Arr**	**45.78**	**121**	P	**P**	**07 30 05.5**	**+0.3**
	1.2nm,0.5s,baz=303,slow=8.5,SNR=14						
WRAB	**Tennant Creek**	**45.79**	**121**	*e*P	**P**	**07 30 05.4**	**+0.2**
	9.3nm,1.4s						
SONM	**Songino Array**	**46.87**	**12**	P	**P**	**07 30 13.7**	**+0.3**
	1.3nm,0.6s,baz=191,slow=8.9,SNR=8.6						
ASAR	**Alice Springs**	**47.03**	**126**	P	**P**	**07 30 15.0**	**0.0**
	0.5nm,0.7s,baz=302,slow=7.0,SNR=5.4						
ASAR				PcP	**PcP**	**07 31 47.5**	**+0.6**
	0.2nm,0.5s,baz=304,slow=2.1,SNR=2.9						
GEYT	**Alibeck**	**48.08**	**322**	P	**P**	**07 30 24.3**	**+1.4**
	3.2nm,0.6s,baz=147,slow=8.8,SNR=7.0						
ZALV	**Zalesovo Beam**	**52.10**	**354**	P	**P**	**07 30 54.1**	**+1.1**
	1.8nm,0.4s,baz=172,slow=6.9,SNR=7.6						
GUMO	**Guam**	**52.12**	**75**	P	**P**	**07 30 55.7**	**+1.8**
	17nm,0.4s,baz=202,slow=19,SNR=2.7						
BVAR	**Borovoye Array**	**54.16**	**343**	P	**P**	**07 31 08.4**	**+0.1**
	0.5nm,0.5s,baz=169,slow=8.5,SNR=6.1						
ABKAR	**Akbulak array**	**54.93**	**334**	*e*P	**P**	**07 31 13.8**	**-0.1**
	1.0nm,0.7s						
FINES	**FINESS Array B**	**77.41**	**333**	P	**P**	**07 33 37.9**	**+0.1**
	0.8nm,0.6s,baz=100,slow=7.9,SNR=5.6						
GERES	**GERESS Array B**	**81.59**	**319**	P	**P**	**07 34 02.4**	**+1.4**
	0.5nm,0.6s,baz=64,slow=11,SNR=2.4						
HFS	**Hagfors**	**83.00**	**330**	P	**P**	**07 34 08.4**	**+0.4**
	0.8nm,0.6s,baz=116,slow=5.0,SNR=4.9						

IDC 15 07:44:47.7±14.0,3.˝22N×94.˝20W,h0km,mb3.4/4, mb1 3.9/4,mb1mx3.5/43,mbtmp3.4/4,Error ellipse: s-maj=303.3km s-min=178.2km az=21.0,Eastcentral Pacific Ocean

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TXAR	**Lajitas Array**	**27.49**	**342**	P	P	07 50 36.3	+0.4
	0.4nm,0.6s,baz=166,slow=8.4,SNR=2.5						
NVAR	**Mina Array Bea**	**41.38**	**331**	P	P	07 52 35.7	-0.3
	0.3nm,0.7s,baz=140,slow=7.1,SNR=2.5						
PDAR	**Pinedale Array**	**41.69**	**343**	P	P	07 52 38.3	-0.1
	0.6nm,0.7s,baz=159,slow=10,SNR=4.8						
YKA	**Yellowknife Ar**	**61.06**	**349**	P	P	07 55 02.9	-0.2
	0.3nm,0.8s,baz=156,slow=7.2,SNR=4.4						

IDC 15 07:49:41.5±1.4,3.˝91N×126.˝16E,h0km,mb3.6/6, mb1 3.8/6,mb1mx3.5/56,mbtmp3.7/6,Error ellipse: s-maj=104.6km s-min=18.5km az=68.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**21.88**	**181**	P	P	07 54 36.4	+0.2
	2.1nm,0.9s,baz=15,slow=12,SNR=3.3						
WRA	**Warramunga Arr**	**25.03**	**162**	P	P	07 55 07.9	+0.3
	3.6nm,1.0s,baz=341,slow=9.8,SNR=23						
ASAR	**Alice Springs**	**28.43**	**165**	P	P	07 55 38.4	+0.1
	0.2nm,0.4s,baz=342,slow=7.1,SNR=9.6						
STKA	**Stephens Creek**	**38.50**	**159**	P	P	07 57 04.8	-0.9
	1.7nm,0.7s,baz=309,slow=14,SNR=4.9						
MKAR	**Makanchi Array**	**57.08**	**325**	P	P	07 59 30.5	+0.8
	0.3nm,0.4s,baz=113,slow=9.0,SNR=4.9						
KURBB	**Kurchatov Arra**	**61.28**	**328**	P	P	07 59 58.0	-0.6
	0.2nm,0.3s,baz=128,slow=6.7,SNR=3.9						

MEX 15 07:54:25.2±0.5,16.˝53N×98.˝49W,h2km,MD3.7,Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.38**	**111**	*e*P	Pg	07 54 32.2	-0.2
PNIG				*e*S	Sg	07 54 37.3	0.0
TLIG	**Tlapa**	**1.03**	**356**	*e*P	Pg	07 54 42.6	-2.4
TLIG				*i* S	Sg	07 54 56.1	-2.4
MEIG	**Mezcala**	**1.76**	**322**	*e*P	Pn	07 54 52.9	-3.9
MEIG				*i* S	Sn	07 55 15.0	-4.9
VHO	**Vista Hermosa**	**1.77**	**72**	*e*P	Pn	07 54 53.8	-3.2
VHO				*i* S	Sn	07 55 16.3	-3.9
CAIG	**El Cayaco**	**1.78**	**287**	*e*P	Pn	07 54 53.3	-3.7
PLIG	**Platanillo**	**2.09**	**333**	*e*P	Pn	07 54 55.1	-6.3
PLIG				*i* S	Sb	07 55 29.4	-1.0

ISCJB ***15*** *07:55:05.8±0.4,24.˝87N±0.˝03×122.˝00E±0.˝03,h11km±4km, Error ellipse: s-maj=5.4km s-min=4.3km az=22.8*
TAP ***15*** *07:55:05.6,24.˝89N×121.˝96E,h14km,ML2.8,C*
JMA ***15*** *07:55:06.6±0.1,24.˝86N×121.˝97E,h31km,M2.4*
ISC 15 07:55:05.9±0.9,24.˝87N±0.˝03×122.˝02E±0.˝04,h12km±7km, n19,σ0ˢ36/29,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EGS		**0.09**	**256**	*e*P	**Pg**	**07 55 08.5**	**+0.1**
	baz=194						
EGS				S	**Sg**	**07 55 10.7**	**+0.3**
	baz=194						
TWB1	**Santiao Chiao**	**0.14**	**347**	P	**Pg**	**07 55 09.1**	**-0.3**
	baz=18						
TWB1				S	**Sg**	**07 55 11.6**	**-0.2**
	baz=18						
TWC	**Suao**	**0.30**	**212**	*i* P	**Pg**	**07 55 12.0**	**0.0**
	baz=188						
TWC				*i* S	**Sg**	**07 55 15.9**	**-0.2**
	baz=188						
TWE	**Neicheng**	**0.35**	**246**	P	**Pg**	**07 55 12.5**	**-0.5**
	baz=226						
TWE				S	**Sg**	**07 55 17.3**	**-0.5**
	baz=226						
TWA	**Mucha**	**0.42**	**286**	*e*P	**Pg**	**07 55 13.6**	**-0.5**
	baz=284						
ENAH	**Nanao**	**0.46**	**205**	*e*S	**Sg**	**07 55 21.2**	**+0.2**
	baz=199						
ENTT	**Nioudou**	**0.47**	**242**	*e*P	**Pg**	**07 55 15.3**	**+0.1**
	baz=232						
ENTT				*e*S	**Sg**	**07 55 21.2**	**-0.3**
	baz=232						
YM07	**YM07**	**0.48**	**310**	*e*P	**Pg**	**07 55 15.1**	**-0.2**
	baz=314						
YM07				*e*S	**Sg**	**07 55 21.2**	**-0.5**
	baz=314						
NANB	**Nanao**	**0.50**	**210**	P	**Pg**	**07 55 15.7**	**0.0**
	baz=203						
NANB				S	**Sg**	**07 55 22.0**	**-0.4**
	baz=203						
YM08	**YM08**	**0.51**	**309**	*e*P	**Pg**	**07 55 16.1**	**+0.3**
	baz=305						
YM10	**YM10**	**0.51**	**305**	*e*P	**Pg**	**07 55 16.3**	**+0.4**
	baz=300						
TWS1	**Kuangyinshan**	**0.60**	**293**	*e*P	**Pb**	**07 55 18.4**	**+0.1**
	baz=293						
NNS	**Nan Shan**	**0.73**	**235**	*e*P	**Pg**	**07 55 19.5**	**-0.5**
	baz=239						
NACB	**Ninganchiao**	**0.79**	**210**	*e*P	**Pg**	**07 55 21.0**	**-0.2**
	baz=203						
NACB				*e*S	**Sg**	**07 55 31.9**	**+0.4**
	baz=203						
JYNG	**Yonagunijimaku**	**0.93**	**116**	P	**Pg**	**07 55 23.4**	**-0.5**
JYNG				S	**Sb**	**07 55 36.8**	**+0.4**
YOJ	**Yonaguni jima**	**0.98**	**114**	P	**Pn**	**07 55 25.2**	**-0.3**
YOJ				S	**Sb**	**07 55 37.9**	**+0.1**
HATJ	**Hateruma jima**	**1.81**	**116**	P	**Pn**	**07 55 37.3**	**+0.4**
JKRS	**Kuro-shima**	**1.91**	**109**	P	**Pn**	**07 55 38.9**	**+0.6**
JIJ	**Ishigaki jima**	**1.99**	**104**	P	**Pn**	**07 55 39.5**	**+0.1**

JMA 15 08:02:57.6±0.1,36.˝77N×141.˝25E,h28km±1km,M2.7, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ONAJ	**Iwakimizuishiy**	**0.49**	**313**	P	Pb	08 03 07.5	-0.3
ONAJ				S	Sb	08 03 14.8	0.0
JHO	**Hitachi**	**0.57**	**254**	P	Pb	08 03 08.8	-0.3
JHO				S	Sb	08 03 17.0	+0.1
JFK	**Kawauchi**	**0.67**	**333**	P	Pb	08 03 10.4	-0.3
JFK				S	Sb	08 03 19.5	-0.2
JFT	**Otama**	**1.04**	**316**	P	Pb	08 03 17.2	+0.1
JFT				S	Sb	08 03 30.6	+0.2
JMM	**Marumori**	**1.15**	**342**	P	Pn	08 03 17.9	0.0
JMM				S	Sb	08 03 33.1	-0.4
MAT	**Matsushiro**	**2.46**	**266**	P	Pn	08 03 34.3	-1.5
MAT				*e*S	Sb	08 04 11.0	+0.1

NIED ***15*** *08:05:00,41.˝10N×143.˝20E,h35km,Mw4.2 Best double couple: M0 2.33000×10¹⁵ NP1:φ=243.00000°,δ35.00000°, λ128.00000°. NP2:φ=19.00000°,δ63.00000°,λ66.00000°.*
JMA ***15*** *08:05:39.3±0.3,41.˝09N×143.˝16E,h23km±5km,M4.0*
ISCJB ***15*** *08:05:40.7±0.5,41.˝16N±0.˝03×143.˝20E±0.˝04,h47km±3km, mb4.2/51,Error ellipse: s-maj=6.0km s-min=3.6km az=43.6*
MOS ***15*** *08:05:41.3±1.0,41.˝28N×143.˝08E,h45km,mb4.4/23,Error ellipse: s-maj=7.9km s-min=5.7km az=93.4*
NEIC ***15*** *08:05:43.7±0.5,41.˝28N×143.˝06E,h50km±4km,mb4.4/10, Error ellipse: s-maj=7.3km s-min=4.3km az=118.0*
IDC ***15*** *08:05:44.0±1.8,41.˝17N×143.˝02E,h55km±15km,mb3.8/25, mb1 3.9/30,mb1mx3.8/68,mbtmp4.0/30,ML3.5/4,MS3.0/1, Ms1 3.0/1,ms1mx2.5/68,Error ellipse: s-maj=14.5km s-min=10.5km az=117.0*
ISC 15 08:05:42.4±0.9,41.˝23N±0.˝04×143.˝09E±0.˝05,h40km±7km, n140,σ1ˢ70/154,mb4.2/51,8C-5D,Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ERM	**Erimo**	**0.78**	**4**	*e*Pn	**Pn**	**08 05 56.4**	**-0.5**
ERM				*e*Sn

KUR Kuril'sk 5.30 40 *c iP* **Pn 08 06 59.6 +0.5**
KUR *i* S **Sn 08 07 58.1 -0.8**
KUR pmax pmax
comp=N,32nm,0.5s
KUR pmax pmax
comp=E,53nm,0.5s
KUR pmax pmax
comp=Z,135nm,0.5s
KUR smax smax
comp=N,98nm,0.2s
KUR smax smax
comp=E,87nm,0.4s
YSS Yuzh-Sakhalins 5.72 358 *e*Pn **Pn 08 07 04.5 -0.3**
YSS Yuzh-Sakhalins 5.72 358 *e*P **Pn 08 07 05.5 +0.7**
YSS *e*S **Sn 08 08 01.2 -8.0**
YSS pmax pmax
comp=Z,10.0nm,0.6s
MJA0 Matsu Arr-Jizo 6.02 220 *e*P **Pn 08 07 13.7 +4.7**
MJA0 pmax pmax
comp=Z,1.0nm,0.3s
MJB9 Matsu-Tunnel 6.04 221 *e*Pn **Pn 08 07 11.3 +2.1**
MAJO Matsushiro 6.04 221 *e*Pn **Pn 08 07 11.1 +1.9**
MAJO Matsushiro 6.04 221 *e*P **Pn 08 07 09.8 +0.6**
MAT Matsushiro 6.04 221 P **Pn 08 07 06.6 -2.6**
MAT *e*S **Sn 08 08 13.6 -3.4**
MJAR Matsushiro Arr 6.04 221 P **Pn 08 07 09.2 0.0**
comp=Z,0.8nm,0.3s,baz=31,slow=13,SNR=9.3
MJAR LR LR 08 10 01.1
comp=Z,130nm,20.8s,baz=65,slow=43
INU Inuyama 7.57 221 *e*Pn **Pn 08 07 33.2 +3.0**
VLA Vladivostok 8.53 286 *e*P **Pn 08 07 45.7 +2.3**
VLA pmax pmax
comp=Z,20nm,1.1s
USRK Ussuriysk Ar. 8.70 294 P **Pn 08 07 46.5 +0.9**
comp=Z,0.4nm,0.3s,baz=99,slow=14,SNR=6.3
KLR Kul'dur 11.30 319 P **Pn 08 08 22.9 +1.7**
comp=Z,0.0nm,0.3s,baz=125,slow=16,SNR=5.3
KLR Kul'dur 11.30 319 *e*P **Pn 08 08 21.1 -0.1**
KSRS Korea Array 12.33 257 P **Pn 08 08 36.7 +1.3**
comp=Z,0.4nm,0.3s,baz=70,slow=13,SNR=6.1
KS01 Wonju Array Si 12.35 257 *e*Pn **Pn 08 08 36.9 +1.3**
KS15 Wonju Array Si 12.37 257 *e*Pn **Pn 08 08 37.6 +1.8**
KSAR Wonju Array Be 12.37 257 P **Pn 08 08 36.7 +0.9**
KSAR Wonju Array Be 12.37 257 P **Pn 08 08 36.7 +0.9**
JNU Nakatsue 12.66 234 P **Pn 08 08 40.4 +0.6**
comp=Z,0.2nm,0.3s,baz=44,slow=14,SNR=2.0
TJN Taejon 13.19 254 *e*P **Pn 08 08 49.6 +2.6**
ZEA Zeya 16.42 325 *e*P **Pn 08 09 27.8 -1.9**
ZEA pmax pmax
comp=Z,12nm,1.0s
JOW Kunigami 18.86 225 *e*P **Pn 08 10 00.5 +0.6**
YAK Yakutsk 22.34 343 P **P 08 10 33.1 -3.4**
comp=Z,16nm,0.7s,baz=177,slow=3.7,SNR=6.4
YAK Yakutsk 22.34 343 *e*P **P 08 10 32.3 -4.1**
comp=Z,22nm,0.8s
YAK Yakutsk 22.34 343 *e*P **P 08 10 32.6 -3.8**
YAK *e*S **S 08 14 33.4 -5.9**
YAK *e**SS sS 08 15 11.7 +16
YAK pmax pmax
comp=Z,20nm,0.9s
YAK pmax pmax
comp=N,4.0nm,0.9s
YAK pmax pmax
comp=E,2.0nm,1.0s
YAK smax smax
comp=N,23nm,2.3s
YAK smax smax
comp=E,17nm,2.2s
SEY Seymchan 22.42 11 P **P 08 10 33.8 -3.6**
comp=E,1.3nm,0.5s,baz=183,slow=6.9,SNR=8.8
HHC Hu-ho-hao-te 23.72 280 *e*P **P 08 10 49.8 -1.0**
HHC pmax pmax
comp=Z,23nm,0.7s
HHC pmax pmax
comp=Z,44nm,4.0s
ULN Ulaanbaatar 26.35 297 *e*P **P 08 11 14.9 +0.2**
comp=Z,3.0nm,0.7s
ULN Ulaanbaatar 26.35 297 *e*P **P 08 11 14.5 -0.2**
ULN pmax pmax
comp=Z,2.0nm,0.8s
SONA1 Songino Array 26.79 297 *e*P **P 08 11 18.4 -0.2**
SONM Songino Array 26.79 297 P **P 08 11 18.8 +0.1**
comp=Z,1.8nm,0.7s,baz=72,slow=9.9,SNR=10
SONM Songino Array 26.79 297 *e*P **P 08 11 19.9 +1.2**
SONM pmax pmax
comp=Z,2.0nm,0.7s
TLY Talaya 28.78 305 P **P 08 11 37.0 +0.7**
comp=Z,1.4nm,0.6s,baz=180,slow=1.0,SNR=2.7
TLY Talaya 28.78 305 *e*P **P 08 11 35.5 -0.8**
TLY pmax pmax
comp=Z,1.0nm,0.8s
H11N2 WAKE ISLAND Hy 29.50 129 T T 08 42 59.0
baz=323,slow=75,SNR=179
H11N1 WAKE ISLAND Hy 29.50 129 T T 08 43 06.8
baz=323,slow=75,SNR=127
H11N3 WAKE ISLAND Hy 29.51 129 T T 08 43 07.1
baz=323,slow=75,SNR=156
BILL Bilibino 29.64 17 *e*P **P 08 11 45.6 +2.0**
BILL *e* 08 12 39.4
BILL pmax pmax
comp=Z,1.0nm,0.9s
H11S1 WAKE ISLAND Hy 30.35 131 T T 08 44 07.2
baz=324,slow=76,SNR=86
H11S3 WAKE ISLAND Hy 30.35 131 T T 08 44 23.7
baz=324,slow=76,SNR=52
H11S2 WAKE ISLAND Hy 30.36 131 T T 08 44 13.1
baz=324,slow=76,SNR=74
TIXI Tiksi 31.31 351 *e*P **P 08 11 58.9 +0.6**
TIXI pmax pmax
comp=Z,1.0nm,0.9s
KMI Kunming 37.03 257 P **P 08 12 51.1 +2.4**
KMI pmax pmax
comp=Z,11nm,0.5s
DGZ Jazzator, Alta 39.14 302 *e*P **P 08 13 06.5 +0.4**
DGZ pmax pmax
comp=Z,3.0nm,0.8s
ZAA0 Zalesovo Array 40.18 309 *e*P **P 08 13 15.1 +0.6**
comp=Z,4.5nm,0.6s
ZALV Zalesovo Beam 40.18 309 P **P 08 13 14.6 +0.2**
comp=Z,4.0nm,0.5s,baz=88,slow=8.1,SNR=9.3
ZALV Zalesovo Beam 40.18 309 *e*P **P 08 13 14.1 -0.3**
WMQ Urumqi 40.26 293 P **P 08 13 17.4 +2.0**
WMQ pP pP 08 13 29.3 +2.6
WMQ pmax pmax
comp=Z,35nm,0.8s
WMQ pmax pmax
comp=Z,220nm,4.7s
IM3 Indian Mountai 42.40 33 *e*P **P 08 13 33.9 +1.4**
MK01 Makanchi Array 43.12 299 *e*P **P 08 13 38.2 -0.5**
MK31 Makanchi Array 43.12 299 *e*P **P 08 13 38.2 -0.4**
MK31 Makanchi Array 43.12 299 *e*P **P 08 13 38.3 -0.4**
MKAR Makanchi Array 43.12 299 P **P 08 13 38.1 -0.6**
comp=Z,1.8nm,0.7s,baz=86,slow=9.6,SNR=16
MKAR Makanchi Array 43.12 299 *e*P **P 08 13 38.1 -0.6**
comp=Z,18nm,0.7s
KDAK Kodiak Island 43.15 45 P **P 08 13 39.3 +0.6**
comp=Z,11nm,0.9s,baz=301,slow=19,SNR=2.0
MAKZ Makanchi 43.33 299 *e*P **P 08 13 39.9 -0.4**
comp=Z,3.4nm,0.8s
MAKZ Makanchi 43.33 299 *e*P **P 08 13 39.9 -0.4**
MAKZ pmax pmax
comp=Z,3.0nm,0.8s
CMAR Chiang Mai Arr 43.92 252 P **P 08 13 45.1 -0.3**
comp=Z,0.6nm,0.5s,baz=46,slow=8.5,SNR=6.6
CMAR Chiang Mai Arr 43.92 252 *e*P **P 08 13 46.9 +1.5**
CMAR pmax pmax
comp=Z,1.0nm,0.5s
KURK Kurchatov 44.48 305 *e*P **P 08 13 48.9 -0.6**
comp=Z,5.1nm,0.8s
KURK Kurchatov 44.48 305 *e*P **P 08 13 49.0 -0.5**
KURK pmax pmax
comp=Z,2.0nm,0.7s
KURBB Kurchatov Arra 44.56 305 P **P 08 13 49.6 -0.5**
comp=Z,2.5nm,0.5s,baz=77,slow=9.0,SNR=11
COLA College 44.86 34 *e*P **P 08 13 51.9 -0.4**
COLA pmax pmax
comp=Z,3.0nm,1.2s
ILAR Eielson Array 45.27 35 P **P 08 13 56.5 +0.9**
comp=Z,1.0nm,0.8s,baz=263,slow=6.1,SNR=18
PDGK Podgornoye 46.08 295 P **P 08 14 01.4 -1.1**
PDGK pmax pmax
comp=Z,4.0nm,0.8s
BVAR Borovoye Array 48.80 310 P **P 08 14 23.0 -0.3**
comp=Z,0.9nm,0.4s,baz=73,slow=9.2,SNR=10
BVAR Borovoye Array 48.80 310 P **P 08 14 23.0 -0.3**
BRVK Borovoye 48.85 310 *e*P **P 08 14 22.5 -1.1**
BRVK pmax pmax
comp=Z,1.0nm,0.8s
AAK Ala-Archa 49.74 296 *e*P **P 08 14 29.6 -1.2**
AAK pmax pmax
comp=Z,1.0nm,0.9s
INK Inuvik 50.07 29 P **P 08 14 33.6 +0.9**
comp=Z,1.6nm,0.5s,baz=283,slow=5.4,SNR=19
INK Inuvik 50.07 29 *e*P **P 08 14 33.9 +1.2**
comp=Z,3.5nm,1.0s
INK Inuvik 50.07 29 *e*P **P 08 14 33.9 +1.2**
INK pmax pmax
comp=Z,4.0nm,1.0s
MNAS Manas 51.15 296 P **P 08 14 41.3 -0.1**
MNAS pmax pmax
comp=Z,5.0nm,0.7s
SFK Sufi-Kurgan 51.50 293 P **P 08 14 43.5 -0.7**
SFK pmax pmax
comp=Z,4.0nm,0.7s
KK31 Karatay Array 52.23 298 *e*P **P 08 14 48.8 -0.6**
KK31 Karatay Array 52.23 298 *e*P **P 08 14 48.8 -0.6**
KKAR Karatay Array 52.23 298 *e*P **P 08 14 48.8 -0.6**
KKAR Karatay Array 52.23 298 *e*P **P 08 14 48.8 -0.6**
ARU Arti 54.13 317 *c iP* **P 08 15 02.2 -0.9**
ARU *PP **pP 08 15 14.8 +0.1**
ARU 08 16 03.2
ARU 08 17 02.3
ARU S **S 08 22 36.8 +0.1**
ARU SS **SKiKP 08 26 13.4 +2.4**
ARU pmax pmax
comp=Z,4.0nm,1.7s
ABKAR Akbulak array 56.29 309 *e*P **P 08 15 18.5 -0.2**
comp=Z,15nm,0.4s
SPITS Spitsbergen Ar 56.67 349 P **P 08 15 20.9 -0.2**
comp=Z,3.4nm,0.8s,baz=333,slow=12,SNR=4.3
AKTO Aktyubinsk 56.89 310 P **P 08 15 23.3 +0.3**
comp=Z,1.0nm,0.6s,baz=153,slow=4.5,SNR=2.1
RES Resolute Bay 58.21 15 *e*P **P 08 15 31.1 -0.7**
comp=Z,2.6nm,0.8s
RES Resolute Bay 58.21 15 *e*P **P 08 15 31.2 -0.7**
RES pmax pmax
comp=Z,3.0nm,0.8s
YKA Yellowknife Ar 59.54 32 P **P 08 15 41.8 +0.5**
comp=Z,3.4nm,0.8s,baz=299,slow=6.5,SNR=4.7
ARCES ARCESS Array B 60.54 339 P **P 08 15 47.6 -0.4**
comp=Z,1.6nm,0.9s,baz=49,slow=8.5,SNR=4.3
ARCES ARCESS Array B 60.54 339 *e*P **P 08 15 49.7 +1.6**
ARCES pmax pmax
comp=Z,2.0nm,0.9s
WRA Warramunga Arr 61.40 189 P **P 08 15 53.4 -1.1**
comp=Z,0.5nm,0.5s,baz=7.3,slow=7.0,SNR=12
WRA Warramunga Arr 61.40 189 *e*P **P 08 15 54.5 +0.1**
WRA pmax pmax
comp=Z,1.0nm,0.5s
DAG Danmarks Havn 61.70 355 P **P 08 15 54.5 -1.3**
DAG pmax pmax
comp=Z,4.0nm,0.6s
GEYT Alibeck 62.99 298 P **P 08 16 04.4 -0.7**
comp=Z,0.7nm,0.5s,baz=264,slow=1.3,SNR=2.3
AS01 Alice Springs 65.12 189 *e*P **P 08 16 19.0 0.0**
ASAR Alice Springs 65.13 189 P **P 08 16 19.0 -0.1**
comp=Z,0.5nm,0.7s,baz=8.1,slow=5.9,SNR=7.5
FINES FINESS Array B 65.72 332 P **P 08 16 22.0 -0.5**
comp=Z,1.6nm,0.4s,baz=48,slow=6.8,SNR=25
NCK Nalchik 68.91 310 *e*P **P 08 16 43.6 +0.5**
NCK pmax pmax
comp=Z,6.0nm,0.8s
KVAR Kislovodsk Arr 69.15 311 P **P 08 16 45.9 +1.3**
comp=Z,9.6nm,0.8s,baz=209,slow=4.5,SNR=7.1
KIV Kislovodsk 69.16 311 *e*P **P 08 16 46.4 +1.7**
comp=Z,14nm,0.8s
KIV Kislovodsk 69.16 311 *e*P **P 08 16 45.3 +0.6**
KIV pmax pmax
comp=Z,19nm,1.1s
KBZ Khabaz 69.17 310 P **P 08 16 45.2 +0.6**
comp=Z,5.6nm,0.7s,baz=69,slow=3.7,SNR=18
NEY Neytrino 69.57 310 *e*P **P 08 16 48.3 +1.0**
NEY pmax pmax
comp=Z,1.0nm,0.8s
HFS Hagfors 70.80 336 P **P 08 16 53.8 -0.5**
comp=Z,1.7nm,0.6s,baz=53,slow=5.7,SNR=9.2
NOA NORSAR Array B 70.82 337 P **P 08 16 53.7 -0.8**
comp=Z,0.5nm,0.7s,baz=36,slow=6.1,SNR=3.3
NOA NORSAR Array B 70.82 337 *e*P **P 08 16 55.2 +0.7**
NOA pmax pmax
comp=Z,1.0nm,0.7s
NVAR Mina Array Bea 71.47 55 P **P 08 16 59.5 +0.4**
comp=Z,0.5nm,0.7s,baz=24,slow=18,SNR=6.1
AKASG Malin Array Be 71.78 322 P **P 08 16 60.0 -0.4**
comp=Z,2.1nm,0.6s,baz=44,slow=6.1,SNR=12
AKASG Malin Array Be 71.78 322 P **P 08 17 00.0 -0.4**
KIEV Kiev 71.79 322 *e*P **P 08 16 60.0 -0.5**
comp=Z,2.7nm,0.7s
KIEV Kiev 71.79 322 *e*P **P 08 16 59.3 -1.1**
KIEV pmax pmax
comp=Z,2.0nm,0.8s
PDAR Pinedale Array 73.82 47 P **P 08 17 13.6 +0.6**
comp=Z,0.4nm,0.5s,baz=221,slow=2.3,SNR=4.1
BUR08 Bucovina Ar. S 75.81 322 *e*P **P 08 17 24.1 -0.1**
BUR04 Bucovina Ar. S 75.82 322 *e*P **P 08 17 24.4 +0.1**
DPC Dobruska-Polom 77.59 328 *e*P **P 08 17 34.8 +0.7**
DPC Dobruska-Polom 77.59 328 *e*P **P 08 17 34.8 +0.7**
CLL Collm 78.10 331 *e*P **P 08 17 37.0 +0.2**
CLL Collm 78.10 331 *e*P **P 08 17 37.0 +0.2**
KHC Kasperske Hory 79.64 329 *e*P **P 08 17 45.8 +0.4**
KHC Kasperske Hory 79.64 329 *e*P **P 08 17 45.8 +0.4**

IDC ***15*** *08:14:30.2±0.8, 3°.05S×129°.73E, h0km, mb3.9/7, mb1 4.1/10, mb1mx3.8/51, mbtmp4.0/10, ML4.0/3, MS3.3/2, Ms1 3.3/2, ms1mx2.8/53, Error ellipse: s-maj=31.3km s-min=13.6km az=76.0*
ISCJB ***15*** *08:14:33.9±0.5, 3°.09S±0°.03×129°.71E±0°.03, h44km±6km, mb4.3/13, MS4.2/2, Error ellipse: s-maj=5.9km s-min=5.4km az=43.6*
DJA ***15*** *08:14:34.5±0.7, 3°.5±4°×13°0E±°, h28km±10km, M4.4/6, mb5.0/2, mb4.8/2, MLv4.1/6, Mw(mB)4.2/2*
NEIC ***15*** *08:14:35.9±0.8, 3°.14S×129°.68E, h44km±9km, mb4.3/13, Error ellipse: s-maj=9.6km s-min=5.9km az=62.0*
ISC 15 08:14:34.9±1.6, 3°.05S±0°.05×129°.68E±0°.04, h30km±12km, n43, σ1°64/52, mb4.3/13, Seram

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MSAI	**Masohi**	**0.81**	**249**	P		**Pn**	**08 14 50.4**	**+0.2**
MSAI				S		**Sn**	**08 15 02.7**	**+1.5**
AAI	**Ambon**	**1.61**	**247**	P		**Pb**	**08 15 03.2**	**-0.9**
AAI				S		**Sb**	**08 15 24.7**	**+0.6**
FAKI	**Fak Fak**	**2.57**	**87**	P		**Pn**	**08 15 14.8**	**+0.4**
FAKI				S		**Sn**	**08 15 43.8**	**-0.8**
FAKI	**Fak Fak**	**2.57**	**87**	*e*Pn		**Pn**	**08 15 14.7**	**+0.2**
FAKI				*e*Sn		**Sn**	**08 15 44.6**	**-0.1**
NLAI	**Namlea**	**2.59**	**266**	P		**Pn**	**08 15 16.4**	**+1.7**
SIJI	**Sorong**	**2.68**	**36**	Pn		**Pn**	**08 15 15.3**	**-0.7**
	44nm,0.3s,baz=79,slow=3.7,SNR=171							
SIJI				Sn		**Sn**	**08 15 46.3**	**-1.3**
	39nm,0.3s,baz=249,slow=8.9,SNR=6.5							
SIJI				LR		LR	08 16 16.3	
	comp=Z,179nm,20.5s,baz=186,slow=40							
LBMI	**Labuha**	**3.24**	**318**	P		**Pn**	**08 15 23.7**	**0.0**
LBMI				S		**Sn**	**08 16 01.8**	**+0.5**
SANI	**Sanana**	**3.82**	**285**	P		**Pn**	**08 15 30.6**	**-1.1**
SANI				S		**Sn**	**08 16 13.9**	**-1.8**
TNTI	**Ternate**	**4.45**	**329**	*e*Pn		**Pn**	**08 15 41.8**	**+1.5**
APSI	**Ampana**	**8.31**	**285**	P		**Pn**	**08 16 33.1**	**-0.2**
	52nm,0.6s,967nm							
SOEI	**Soe**	**8.56**	**219**	*e*Pn		**Pn**	**08 16 36.1**	**-0.8**
MTN	**Manton Dam**	**9.83**	**172**	*e*Pn		**Pn**	**08 16 55.4**	**+1.1**
MTN				*e*Sn		**Sn**	**08 18 49.4**	**+5.7**
KAPI	**Kappang**	**10.10**	**259**	*e*Pn		**Pn**	**08 16 59.6**	**+1.7**
FITZ	**Fitzroy Crossi**	**15.47**	**195**	Pn		**Pn**	**08 18 08.9**	**-2.1**
	0.2nm,0.3s,baz=37,slow=11,SNR=3.5							
WRAB	**Tennant Creek**	**17.39**	**165**	*e*Pn		**Pn**	**08 18 33.1**	**-2.3**
	18nm,1.4s							
WRAB				*e*Sn		Sn	08 21 35.9	-12
WRA	**Warramunga Arr**	**17.39**	**165**	P		**Pn**	**08 18 32.4**	**-3.0**
	0.8nm,0.3s,baz=341,slow=13,SNR=25							
WRA				S		**Sn**	**08 21 50.6**	**+2.3**
	0.3nm,0.3s,baz=342,slow=21,SNR=5.3							
WB2	**Warramunga Arr**	**17.39**	**165**	*e*Pn		**Pn**	**08 18 34.9**	**-0.6**
	38nm,1.8s							
WC3	**Warramunga Arr**	**17.42**	**165**	*e*Pn		**Pn**	**08 18 34.6**	**-1.1**
	11nm,1.2s							
SMRI	**Semarang**	**19.57**	**258**	*e*P		**P**	**08 18 57.9**	**-2.7**
	35nm,0.6s							
KSM Kuching 19.88 283 *e*P **P 08 19 04.5 +0.5**
7.1nm,0.7s
MBWA Marble Bar 20.44 208 *e*P **P 08 19 09.1 -0.8**
14nm,0.9s
AS31 Alice Springs 20.89 169 *e*P **P 08 19 14.5 -0.4**
7.5nm,0.7s
ASAR Alice Springs 20.90 169 P **P 08 19 14.6 -0.4**
11nm,0.5s,baz=346,slow=11,SNR=169
ASAR S **S 08 23 02.1 -4.3**
1.8nm,0.8s,baz=352,slow=23,SNR=8.1
AS01 Alice Springs 20.90 169 *e*P **P 08 19 14.3 -0.7**
MYKOM Kota Tinggi 26.27 280 *e*P **P 08 20 08.1 +0.3**
10.0nm,1.2s
TPUB Ta-pu 27.64 342 *e*P **P 08 20 21.3 +1.2**
29nm,1.4s
IPM Ipoh 29.60 285 *e*P **P 08 20 36.4 -1.2**
7.1nm,1.0s
STKA Stephens Creek 30.79 160 P **P 08 20 47.3 -0.6**
0.7nm,0.4s,baz=334,slow=15,SNR=3.5
CMAR Chiang Mai Arr 37.06 306 P **P 08 21 43.2 +0.7**
0.6nm,0.7s,baz=140,slow=7.0,SNR=6.2
CHTO Chiang Mai 37.24 307 *e*P **P 08 21 44.1 -0.1**
3.2nm,0.8s
KMI Kunming 38.31 319 P **P 08 21 55.6 +2.3**
KMI pmax pmax
comp=Z,16nm,0.5s
MJAR Matsushiro Arr 40.19 11 LR LR 08 37 59.4
comp=Z,126nm,21.1s,baz=45,slow=35
HHC Hu-ho-hao-te 46.72 341 *e*P **P 08 23 03.8 +2.5**
HHC pmax pmax
comp=Z,21nm,1.1s
HHC pmax pmax
comp=Z,25nm,6.2s
SONM Songino Array 54.63 341 P **P 08 24 01.3 +0.4**
comp=Z,0.3nm,0.4s,baz=153,slow=7.7,SNR=2.1
WMQ Urumqi 59.95 326 P **P 08 24 40.5 +2.0**
WMQ LR LR
comp=N,610nm,20.9s
WMQ LR LR
comp=E,530nm,22.3s
WMQ LR LR
comp=Z,650nm,23.7s
MK01 Makanchi Array 64.76 326 *e*P **P 08 25 10.0 -0.6**
MK31 Makanchi Array 64.78 326 *e*P **P 08 25 10.0 -0.7**
MKAR Makanchi Array 64.78 326 P **P 08 25 10.7 0.0**
comp=Z,0.8nm,0.7s,baz=121,slow=8.1,SNR=11
MKAR Makanchi Array 64.78 326 *e*P **P 08 25 09.9 -0.8**
comp=Z,4.4nm,0.8s
ZALV Zalesovo Beam 67.93 333 P **P 08 25 30.4 -0.2**
comp=Z,0.6nm,0.3s,baz=96,slow=8.9,SNR=2.7
KURBB Kurchatov Arra 69.01 328 P **P 08 25 37.3 -0.2**
comp=Z,1.9nm,0.6s,baz=127,slow=5.7,SNR=30
KURK Kurchatov 69.01 328 *e*P **P 08 25 37.1 -0.4**
comp=Z,3.5nm,0.8s
CPUP Villa Florida 150.01 167 PKPbc **PKPbc 08 34 23.4 +0.2**
comp=Z,3.0nm,1.1s,baz=276,slow=8.2,SNR=5.0

IDC 15 08:33:11.7±1.9, 1°.73S×126°.53E, h0km, mb3.1/2, mb1 3.2/3, mb1mx3.0/58, mbtmp3.0/3, ML3.0/1, Error ellipse: s-maj=166.2km s-min=25.9km az=65.0, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.65**	**158**	P		P	08 37 42.5	+0.3
	0.1nm,0.3s,baz=336,slow=11,SNR=5.1							
ASAR	**Alice Springs**	**22.95**	**162**	P		P	08 38 17.6	-0.2
	0.2nm,0.3s,baz=342,slow=11,SNR=5.9							
MKAR	**Makanchi Array**	**61.95**	**327**	P		P	08 43 33.5	0.0
	0.2nm,0.6s,baz=146,slow=8.0,SNR=2.3							

IDC ***15*** *08:37:12.7±1.0, 2°.47N×91°.68E, h0km, mb4.0/14, mb1 4.1/15, mb1mx3.8/65, mbtmp3.9/15, ML3.8/1, Error ellipse: s-maj=33.1km s-min=19.1km az=45.0*
NEIC ***15*** *08:37:14.0±0.5, 2°.45N×91°.70E, h10km, mb4.3/4, Error ellipse: s-maj=11.9km s-min=7.2km az=217.0*
ISCJB ***15*** *08:37:15.5±0.7, 2°.5N±0°.1×91°.79E±0°.09, h33km, mb4.0/19, Error ellipse: s-maj=16.6km s-min=9.7km az=35.1*
ISC 15 08:37:17.9±0.9, 2°.5N±0°.1×91°.8E±0°.1, h35km, n26, σ0°67/26, mb4.1/19, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
GSI	**Gunungsitoli**	**5.92**	**101**	*e*Pn		**Pn**	**08 38 41.9**	**-1.3**
	37nm,0.4s							
IPM	**Ipoh**	**9.45**	**78**	*e*Pn		**Pn**	**08 39 31.7**	**+0.2**
CMAR	**Chiang Mai Arr**	**17.35**	**23**	P		**Pn**	**08 41 16.1**	**-1.4**
	0.1nm,0.3s,baz=216,slow=14,SNR=12							
CHTO	**Chiang Mai**	**17.68**	**23**	*e*P		**P**	**08 41 22.6**	**+0.5**
	1.1nm,0.6s							
LSA	**Lhasa**	**27.07**	**359**	*e*P		**P**	**08 42 57.6**	**-0.2**
	6.8nm,0.7s							
MKAR	**Makanchi Array**	**44.89**	**351**	P		**P**	**08 45 28.9**	**-0.1**
	1.3nm,0.7s,baz=163,slow=8.8,SNR=15							
GEYT	**Alibeck**	**46.84**	**323**	P		**P**	**08 45 44.5**	**-0.1**
	1.2nm,0.5s,baz=151,slow=6.3,SNR=3.4							
SONM	**Songino Array**	**46.90**	**13**	P		**P**	**08 45 45.8**	**+0.8**
	1.7nm,0.8s,baz=198,slow=9.2,SNR=8.4							
WRA	**Warramunga Arr**	**47.35**	**120**	P		**P**	**08 45 48.6**	**-0.1**
	0.9nm,0.6s,baz=298,slow=8.7,SNR=11							
WRAB	**Tennant Creek**	**47.35**	**120**	*e*P		**P**	**08 45 48.8**	**-0.1**
	1.7nm,0.6s							
ASAR	**Alice Springs**	**48.54**	**125**	PcP		**PcP**	**08 47 24.0**	**+0.4**
	0.4nm,0.6s,baz=302,slow=4.2,SNR=5.1							
KURBB	**Kurchatov Arra**	**49.25**	**349**	P		**P**	**08 46 02.9**	**0.0**
	0.9nm,0.7s,baz=171,slow=7.3,SNR=11							
KURK	**Kurchatov**	**49.32**	**349**	P		**P**	**08 46 02.9**	**-0.5**
ZALV	**Zalesovo Beam**	**51.61**	**355**	P		**P**	**08 46 20.7**	**0.0**
	1.4nm,0.4s,baz=188,slow=5.5,SNR=4.4							
BVAR	**Borovoye Array**	**53.39**	**344**	P		**P**	**08 46 33.3**	**-0.6**
	1.4nm,0.7s,baz=134,slow=8.3,SNR=7.9							
ABKAR	**Akbulak array**	**53.93**	**335**	*e*P		**P**	**08 46 37.6**	**-0.3**
	1.8nm,0.9s							
KLR	**Kul'dur**	**57.69**	**30**	P		**P**	**08 47 05.6**	**+0.7**
	0.1nm,0.7s,baz=247,slow=11,SNR=3.7							
STKA	**Stephens Creek**	**58.29**	**130**	P		**P**	**08 47 10.1**	**+0.6**
	0.5nm,0.5s,baz=288,slow=9.6,SNR=2.5							
KBZ	**Khabaz**	**59.60**	**321**	P		**P**	**08 47 18.5**	**+0.3**
	0.5nm,0.5s,baz=95,slow=9.0,SNR=3.9							
ASAJ	**Asahikawa**	**61.02**	**40**	P		**P**	**08 47 29.2**	**+1.2**
	2.5nm,0.8s,baz=311,slow=9.3,SNR=2.3							
BRTR	**Kekin Array B**	**64.26**	**313**	P		**P**	**08 47 49.8**	**-0.2**
	0.9nm,0.6s,baz=132,slow=6.8,SNR=4.5							
MLR	**Muntele Rosu**	**71.43**	**317**	P		**P**	**08 48 34.7**	**-0.2**
	0.4nm,0.5s,baz=118,slow=12,SNR=3.8							
TIXI	**Tiksi**	**72.94**	**12**	*e*P		**P**	**08 48 42.3**	**-1.0**
	1.1nm,0.5s							
ARCES	**ARCESS Array B**	**79.52**	**341**	P		**P**	**08 49 19.7**	**-1.0**
	1.8nm,1.0s,baz=72,slow=8.6,SNR=3.9							
GERES	**GERESS Array B**	**80.28**	**319**	P		**P**	**08 49 26.0**	**+0.6**
	1.3nm,0.6s,baz=92,slow=8.0,SNR=7.6							
TXAR	**Lajitas Array**	**145.07**	**24**	PKPbc		**PKPdf**	**08 56 52.6**	**+0.1**
	0.5nm,0.5s,baz=36,slow=1.5,SNR=9.0							

IDC ***15*** *08:38:07.7±0.8, 23°.21S×70°.43W, h0km, mb4.1/9, mb1 4.1/12, mb1mx3.9/37, mbtmp4.0/12, ML3.7/3, MS3.4/4, Ms1 3.5/4, ms1mx3.1/38, Error ellipse: s-maj=25.3km s-min=18.8km az=94.0*
GUC ***15*** *08:38:10.9±1.0, 23°.19S×70°.52W, h9km±8km, ML4.4*
NEIC ***15*** *08:38:10.0±0.0, 23°.19S×70°.52W, h9km, ML4.4(GUC), After GUC.*
ISC 15 08:38:10.2±1.7, 23°.18S±0°.03×70°.60W±0°.07, h14km±10km, n43, σ1°83/47, mb4.3/9, 5C-4D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PB10	**IPOC Station P**	**0.34**	**173**	↓*iP*		**Pb**	**08 38 19.4**	**+1.3**
PB10				*i* S		**Sb**	**08 38 24.6**	**+1.2**
PB10				IAML			08 38 25.3	
	comp=E,202μm,0.5s							
PB04	**IPOC Station P**	**0.94**	**26**	↓*iP*		**Pg**	**08 38 28.4**	**0.0**
PB04				*i* S		**Sb**	**08 38 41.2**	**+0.5**
PB04				IAML			08 38 43.1	
	comp=N,12μm,0.5s							
PB06	**IPOC Station P**	**1.05**	**64**	↓*iP*		**Pg**	**08 38 30.2**	**-0.4**
PB06				*i* S		**Sb**	**08 38 43.8**	**-0.4**
PB06				IAML			08 38 44.4	
	comp=N,11μm,0.4s							
PB14	**IPOC Station P**	**1.45**	**173**	↓*iP*		**Pn**	**08 38 36.2**	**-0.3**
PB14				*i* S		**Sb**	**08 38 54.8**	**-1.0**

PB14 IAML 08 38 58.0
comp=E,6µm,0.4s
PB07 IPOC Station P 1.59 25 ⇑ *iP* **Pn 08 38 37.8 -0.3**
PB07 *i*S **Sn 08 38 58.8 +0.2**
PB07 IAML 08 39 00.3
comp=E,9µm,0.4s
PB09 IPOC Station P 1.86 43 ⇑ *iP* **Pn 08 38 42.9 +1.0**
PB09 *i*S **Sn 08 39 06.6 +1.3**
PB09 IAML 08 39 08.9
comp=E,16µm,0.7s
PB02 IPOC Station P 1.96 19 ⇑ *iP* **Pn 08 38 42.9 -0.3**
PB02 *e*S **Sn 08 39 07.8 +0.2**
PB02 IAML 08 39 11.9
comp=E,8µm,0.4s
GO02 Mina Guanaco 2.18 155 ⇑ *iP* **Pn 08 38 47.8 +1.4**
GO02 *i*S **Sn 08 39 15.0 +1.5**
GO02 IAML 08 39 22.8
comp=E,8µm,0.4s
PB01 IPOC Station P 2.36 26 ⇑ *iP* **Pn 08 38 48.8 +0.1**
PB01 *i*S **Sb 08 39 21.4 -0.3**
PB01 IAML 08 39 24.5
comp=E,2µm,0.7s
HJA Humahuaca 4.77 91 *e*P Pn 08 39 27.1 +4.9
YJA Yavi 4.80 79 *e*P **Pn 08 39 26.5 +3.9**
YJA IAML 08 39 37.9
comp=Z,20nm,0.7s
FSA Cafayete 5.12 126 *e*P **Pn 08 39 30.0 +3.2**
FSA IAML 08 39 47.0
comp=Z,8.5nm,0.5s
FSA *e*S **Sg 08 40 51.7 -2.9**
AZAP Zapla 5.18 103 *e*P Pn 08 39 32.5 +4.9
ASTB Santa Barbara 5.69 99 *e*P **Pn 08 39 39.3 +4.7**
LCO Las Campanas 5.81 181 *e*Pn **Pn 08 39 35.4 -0.9**
comp=Z,32nm,0.6s
LCO *e*Sn **Sn 08 40 39.2 -3.8**
AHML Horco Molle 5.97 128 *e*P **Pn 08 39 40.6 +2.2**
ALOL LOMAS DE OLMED 6.11 97 *e*P **Pn 08 39 44.5 +4.3**
LPAZ La Paz 7.24 19 Pn **Pn 08 39 57.3 +1.1**
comp=Z,0.6nm,0.3s,baz=206,slow=9.4,SNR=16
LPAZ Sn **Sn 08 41 19.3 +0.7**
comp=Z,0.2nm,0.3s,baz=187,slow=16,SNR=1.2
LPAZ LR LR 08 43 00.2
comp=Z,221nm,18.3s,baz=182,slow=40
SIV San Ignacio 11.47 53 Pn **Pn 08 40 51.7 -2.1**
comp=Z,1.3nm,0.3s,baz=244,slow=13,SNR=26
SIV Sn **Sn 08 43 00.2 -1.7**
baz=323,slow=20,SNR=2.2
CPUP Villa Florida 12.46 107 Pn **Pn 08 41 05.3 -1.9**
comp=Z,0.1nm,0.3s,baz=180,slow=3.0,SNR=2.5
CPUP LR LR 08 46 21.0
comp=Z,351nm,18.0s,baz=228,slow=40
NNA Nana 12.62 331 LR LR 08 45 00.4
comp=Z,80nm,20.5s,baz=76,slow=32
TRQA Tornquist 16.57 155 *e*P **Pn 08 42 02.1 -0.1**
comp=Z,3.9nm,0.8s
PLCA Paso Flores 17.50 180 P **P 08 42 17.6 +2.5**
comp=Z,0.1nm,0.3s,baz=53,slow=11,SNR=2.8
PTGA Pitinga 24.59 26 P **P 08 43 29.8 -0.3**
comp=Z,1.3nm,0.5s,baz=311,slow=19,SNR=3.9
PTGA LR LR 08 52 24.3
comp=Z,106nm,18.5s,baz=174,slow=35
BRAL Brewton 56.29 343 P **P 08 47 50.0 -0.5**
TXAR Lajitas Array 61.14 327 P **P 08 48 25.0 +0.5**
comp=Z,0.2nm,0.6s,baz=137,slow=9.4,SNR=3.1
SNAA Sanae 61.22 160 P **P 08 48 23.7 -0.8**
comp=Z,0.7nm,0.5s,baz=298,slow=9.9,SNR=10
DBIC Dimbokro 70.71 74 P **P 08 49 24.1 -2.2**
comp=Z,1.5nm,0.4s,baz=222,slow=11,SNR=3.1
KOWA Kowa 75.11 67 P **P 08 49 51.2 -1.2**
comp=Z,4.0nm,0.9s,baz=265,slow=10,SNR=6.1
TORD Torodi Ar. Bea 79.38 71 P **P 08 50 15.4 -1.0**
comp=Z,4.0nm,0.8s,baz=256,slow=5.2,SNR=22
MAW Mawson 83.17 164 P **P 08 50 35.4 -0.2**
comp=Z,2.0nm,0.9s,baz=209,slow=19,SNR=2.4
BOSA Boshof 84.03 118 P **P 08 50 40.1 -0.9**
comp=Z,2.0nm,0.8s,baz=226,slow=3.1,SNR=4.3
YKA Yellowknife Ar 92.25 341 P **P 08 51 18.6 -0.7**
comp=Z,0.3nm,0.7s,baz=134,slow=4.7,SNR=11
H11S2 WAKE ISLAND Hyl 26.52 276 T T 11 16 26.2
baz=106,slow=74,SNR=74
H11S1 WAKE ISLAND Hyl 26.53 276 T T 11 16 26.6
baz=106,slow=74,SNR=94
H11S3 WAKE ISLAND Hyl 26.54 276 T T 11 16 27.6
baz=106,slow=74,SNR=72
H11N3 WAKE ISLAND Hyl 26.65 278 T T 11 16 38.1
baz=105,slow=74,SNR=49
H11N2 WAKE ISLAND Hyl 26.67 278 T T 11 16 41.7
baz=105,slow=74,SNR=38
H11N1 WAKE ISLAND Hyl 26.67 278 T T 11 16 38.6
baz=105,slow=74,SNR=43
WRA Warramunga Arr 130.72 212 PKP **PKPdf 08 57 21.5 -0.3**
comp=Z,0.4nm,1.0s,baz=147,slow=1.6,SNR=3.2
ZALV Zalesovo Beam 144.13 25 PKP **PKPab 08 57 43.2 +0.3**
comp=Z,0.6nm,0.4s,baz=298,slow=3.1,SNR=3.4
AAK Ala-Archa 145.18 48 *e*PKPbc **PKPbc 08 57 48.4 +1.0**
MKAR Makanchi Array 147.90 36 PKPbc **PKPdf 08 57 54.5 +2.5**
comp=Z,1.2nm,0.7s,baz=319,slow=3.2,SNR=17

IDC ***15*** *09:13:09.2≈1.1, 0.˚26N×92.˚33E, h0km, mb3.7/11, mb1 3.9/13, mb1mx3.7/68, mbtmp3.7/13, ML3.7/1, Error ellipse: s-maj=36.2km s-min=19.4km az=46.0*
ISCJB ***15*** *09:13:12.0≈0.9, 0.˚3N≈0.˚1×92.˚3E≈0.˚1, h33km, mb3.8/11, Error ellipse: s-maj=23.7km s-min=14.5km az=36.9*
ISC 15 09:13:14.0≈1.2, 0.˚2N≈0.˚2×92.˚3E≈0.˚1, h35km, n14, σ0°87/14, mb3.8/11, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
					Op	ISC	h	m	s	ISC
PALK	**Pallekele**	**13.47**	**302**	Pn	**Pn**		**09**	**16**	**21.6**	**-1.3**
	0.3nm,0.3s,baz=114,slow=12,SNR=2.3									
PALK				Sn	Sn		09	18	37.3	-14
	0.3nm,0.3s,baz=117,slow=4.6,SNR=3.3									
CMAR	**Chiang Mai Arr**	**19.28**	**20**	P	**P**		**09**	**17**	**35.5**	**-0.4**
	baz=214,slow=11,SNR=9.4									
WRA	**Warramunga Arr**	**35.83**	**118**	P	**P**		**09**	**21**	**32.4**	**-0.7**
	1.5nm,0.8s,baz=296,slow=8.6,SNR=10									
ASAR	**Alice Springs**	**46.88**	**123**	P	**P**		**09**	**21**	**40.9**	**-0.4**
	0.4nm,0.8s,baz=310,slow=7.2,SNR=4.0									
MKAR	**Makanchi Array**	**47.19**	**351**	P	**P**		**09**	**21**	**43.0**	**-0.3**
	0.8nm,0.7s,baz=163,slow=8.7,SNR=9.1									
SONM	**Songino Array**	**48.99**	**13**	P	**P**		**09**	**21**	**57.9**	**+0.6**
	1.2nm,0.8s,baz=193,slow=10,SNR=5.8									
KSRS	**Korea Array**	**49.55**	**38**	P	**P**		**09**	**22**	**01.3**	**-0.3**
	0.5nm,0.7s,baz=232,slow=6.2,SNR=3.3									
KURBB	**Kurchatov Arra**	**51.55**	**349**	P	**P**		**09**	**22**	**16.6**	**+0.1**
	0.9nm,0.8s,baz=170,slow=7.1,SNR=12									
ZALV	**Zalesovo Beam**	**53.89**	**355**	P	**P**		**09**	**22**	**32.2**	**-0.6**
	0.6nm,0.3s,baz=200,slow=7.5,SNR=4.9									
BVAR	**Borovoye Array**	**55.69**	**344**	P	**P**		**09**	**22**	**46.2**	**-0.6**
	1.6nm,1.0s,baz=148,slow=8.5,SNR=7.3									
BRTR	**Keskin Array B**	**66.16**	**314**	P	**P**		**09**	**23**	**59.5**	**+1.1**
	0.4nm,0.8s,baz=110,slow=7.8,SNR=3.0									
MLR	**Muntele Rosu**	**73.41**	**318**	P	**P**		**09**	**24**	**44.1**	**+1.2**
	0.4nm,0.6s,baz=118,slow=12,SNR=4.5									
GERES	**GERESS Array B**	**82.29**	**319**	P	**P**		**09**	**25**	**33.6**	**+1.4**
	1.5nm,0.8s,baz=116,slow=3.1,SNR=8.0									
TXAR	**Lajitas Array**	**146.91**	**26**	PKPbc	**PKPab**		**09**	**32**	**55.1**	**+0.1**
	0.4nm,1.0s,baz=288,slow=0.9,SNR=2.8									

IDC ***15*** *09:14:05.8≈1.1, 30.˚11S×178.˚31W, h0km, mb4.2/5, mb1 4.4/5, mb1mx3.9/38, mbtmp4.2/5, Error ellipse: s-maj=55.1km s-min=27.4km az=171.0*
ISCJB ***15*** *09:14:27.7≈0.8, 28.˚9S≈0.˚1×179.˚5W≈0.˚1, h150km, mb4.1/11, Error ellipse: s-maj=14.4km s-min=13.4km az=28.1*
NEIC ***15*** *09:14:28.7≈1.2, 28.˚87S×179.˚40W, h150km≈14km, mb4.0/7, Error ellipse: s-maj=22.8km s-min=11.3km az=146.0*
ISC 15 09:14:28.7≈0.7, 29.˚0S≈0.˚1×179.˚3W≈0.˚1, h150km, n35, σ1°86/31, mb4.0/11, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
					Op	ISC	h	m	s	ISC
RAO	**Raoul Island**	**1.24**	**104**	*e*Pn	**Pn**		**09**	**14**	**55.6**	**0.0**
MXZ	**Matakaoa Point**	**8.81**	**193**	*e*Pn	**Pn**		**09**	**16**	**33.2**	**+0.4**
URZ	**Urewera**	**9.74**	**197**	*e*Pn	**Pn**		**09**	**16**	**48.7**	**+3.5**
BKZ	**Black Stump Fm**	**10.76**	**198**	*e*Pn	**Pn**		**09**	**16**	**59.2**	**+0.5**
CAN	**Canberra**	**27.51**	**249**	*e*P	**P**		**09**	**20**	**00.0**	**-1.2**
	6.9nm,1.4s									
CTA	**Charters Tower**	**32.47**	**278**	P	**P**		**09**	**20**	**48.8**	**+3.7**
	4.6nm,0.5s,baz=99,slow=10,SNR=11									
CTAO	**Charters Tower**	**32.47**	**278**	*e*P	**P**		**09**	**20**	**48.8**	**+3.7**
	12nm,0.9s									
STKA	**Stephens Creek**	**33.73**	**255**	P	**P**		**09**	**20**	**54.8**	**-1.1**
	1.3nm,0.5s,baz=123,slow=11,SNR=3.5									
STKA	**Stephens Creek**	**33.73**	**255**	*e*P	**P**		**09**	**20**	**54.8**	**-1.1**
	0.3nm,0.7s									
AS01	**Alice Springs**	**42.03**	**266**	*e*P	**P**		**09**	**22**	**05.0**	**-0.7**
AS31	**Alice Springs**	**42.07**	**266**	*e*P	**P**		**09**	**22**	**05.3**	**-0.7**
	1.4nm,1.4s									
ASAR	**Alice Springs**	**42.07**	**266**	P	**P**		**09**	**22**	**05.3**	**-0.7**
	1.3nm,0.5s,baz=104,slow=7.4,SNR=24									
WB2	**Warramunga Arr**	**42.92**	**271**	*e*P	**P**		**09**	**22**	**10.6**	**-2.2**
	3.4nm,1.0s									
WRAB	**Tennant Creek**	**42.92**	**271**	*e*P	**P**		**09**	**22**	**12.6**	**-0.3**
	2.8nm,0.7s									
WR1	**Warramunga Arr**	**42.93**	**271**	*e*P	**P**		**09**	**22**	**12.3**	**-0.5**
	4.7nm,1.1s									
WRA	**Warramunga Arr**	**42.93**	**271**	P	**P**		**09**	**22**	**12.3**	**-0.6**
	2.4nm,0.6s,baz=111,slow=8.1,SNR=28									
FITZ	**Fitzroy Crossi**	**51.24**	**269**	P	**P**		**09**	**23**	**17.8**	**+0.5**
	2.7nm,1.1s,baz=120,slow=13,SNR=2.6									
WRMHI	**West Rim**	**53.38**	**29**	*e*P	**P**		**09**	**23**	**35.3**	**+2.3**
	358nm,0.5s									
KURK	**Kurchatov**	**119.24**	**315**	*e*PKPdf	**PKPdf**		**09**	**32**	**58.0**	**-1.6**
KURBB	**Kurchatov Arra**	**119.28**	**314**	PKP	**PKPdf**		**09**	**32**	**58.0**	**-1.7**
	0.5nm,0.7s,baz=99,slow=1.8,SNR=4.9									
LBTB	**Lobatse**	**121.24**	**207**	*e*PKPdf	**PKPdf**		**09**	**32**	**59.0**	**-5.6**
FIA1	**FINESS Array S**	**143.41**	**340**	*e*PKPdf	**PKPdf**		**09**	**33**	**43.4**	**-1.2**
FIA0	**FINESS Array S**	**143.41**	**340**	*e*PKPdf	PKPbc		09	33	43.0	+0.7
FINES	**FINESS Array B**	**143.41**	**340**	PKP	PKPbc		09	33	43.0	+0.7
	4.2nm,0.6s,baz=52,slow=3.5,SNR=36									
NC303	**NORSAR Array S**	**146.96**	**351**	*e*PKPbc	**PKPab**		**09**	**33**	**54.1**	**-0.6**
NB2	**NORSAR Subarra**	**147.16**	**351**	PKP	**PKPbc**		**09**	**33**	**53.9**	**+0.3**
	comp=Z,0.9nm,0.5s,baz=19,slow=4.3									
NB200	**NORSAR Array S**	**147.16**	**351**	*e*PKPbc	**PKPbc**		**09**	**33**	**54.1**	**+0.6**
NOA	**NORSAR Array B**	**147.16**	**351**	PKPbc	**PKPbc**		**09**	**33**	**54.1**	**+0.6**
	comp=Z,0.9nm,0.6s,baz=18,slow=4.2,SNR=4.3									
HFS	**Hagfors**	**147.61**	**348**	PKPbc	**PKPbc**		**09**	**33**	**54.9**	**+0.2**
	comp=Z,3.4nm,1.0s,baz=117,slow=5.2,SNR=7.3									
AKASG	**Malin Array Be**	**149.48**	**323**	PKPbc	**PKPbc**		**09**	**33**	**59.1**	**-0.7**
	comp=Z,0.9nm,0.5s,baz=55,slow=3.2,SNR=6.1									
MMAI	**Mount Meron Ar**	**150.06**	**287**	PKPbc	**PKPbc**		**09**	**34**	**00.9**	**-1.1**
	comp=Z,0.4nm,0.3s,baz=128,slow=46,SNR=2.5									
BR101	**Keskin Array S**	**150.91**	**300**	*e*PKPbc	**PKPbc**		**09**	**34**	**03.4**	**-0.4**
BRTR	**Keskin Array B**	**150.91**	**300**	PKPbc	**PKPbc**		**09**	**34**	**03.4**	**-0.4**
	comp=Z,0.3nm,0.5s,baz=122,slow=5.1,SNR=3.4									
TORD	**Torodi Ar. Bea**	**164.24**	**184**	PKPab	PKPab		09	35	00.7	-8.6
	comp=Z,0.3nm,0.5s,baz=168,slow=5.9,SNR=4.0									
TOA1	**Torodi Ar. Sit**	**164.24**	**184**	*e*PKPab	PKPab		09	35	00.7	-8.6

IDC ***15*** *09:22:14.9≈2.0, 3.˚33N×92.˚78E, h0km, mb3.7/4, mb1 3.8/6, mb1mx3.4/66, mbtmp3.7/6, ML3.6/2, Error ellipse: s-maj=57.9km s-min=30.2km az=49.0*
ISCJB ***15*** *09:22:17.3≈1.3, 3.˚3N≈0.˚2×92.˚7E≈0.˚1, h33km, mb3.6/4, Error ellipse: s-maj=25.9km s-min=19.7km az=16.5*
ISC 15 09:22:19.6≈1.4, 3.˚3N≈0.˚2×92.˚7E≈0.˚2, h35km, n6, σ0°69/6, mb3.7/4, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
					Op	ISC	h	m	s	ISC
PALK	**Pallekele**	**12.58**	**289**	Pn	**Pn**		**09**	**25**	**16.0**	**-0.3**
	0.4nm,0.3s,baz=114,slow=14,SNR=2.8									
PALK				Sn	Sn		09	27	26.0	-9.3
	1.3nm,0.3s,baz=115,slow=15,SNR=5.8									
CMAR	**Chiang Mai Arr**	**16.23**	**22**	Pn	**Pn**		**09**	**26**	**04.4**	**-0.6**
	0.1nm,0.3s,baz=205,slow=12,SNR=3.5									
MKAR	**Makanchi Array**	**44.23**	**350**	P	**P**		**09**	**30**	**26.2**	**+0.8**
	0.8nm,0.5s,baz=169,slow=8.7,SNR=12									
WRA	**Warramunga Arr**	**46.96**	**121**	P	**P**		**09**	**30**	**47.4**	**-0.1**
	0.2nm,0.8s,baz=302,slow=8.4,SNR=3.0									
KURBB	**Kurchatov Arra**	**48.62**	**348**	P	**P**		**09**	**31**	**00.4**	**+0.6**
	0.5nm,0.6s,baz=171,slow=7.2,SNR=6.2									
ZALV	**Zalesovo Beam**	**50.87**	**354**	P	**P**		**09**	**31**	**17.1**	**+0.2**
	0.9nm,0.3s,baz=172,slow=7.3,SNR=2.9									

ISCJB ***15*** *09:29:53.8≈1.3, 1.˚3N≈0.˚2×91.˚6E≈0.˚1, h10km, mb3.8/5, Error ellipse: s-maj=26.7km s-min=18.6km az=23.3*
IDC ***15*** *09:29:54.3≈1.6, 1.˚30N×91.˚66E, h0km, mb3.8/5, mb1 3.9/7, mb1mx3.5/64, mbtmp3.7/7, ML3.8/2, Error ellipse: s-maj=47.4km s-min=27.4km az=47.0*
ISC 15 09:29:55.7≈1.3, 1.˚3N≈0.˚2×91.˚6E≈0.˚2, h10km, n11, σ0°62/8, mb4.0/5, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
					Op	ISC	h	m	s	ISC
PALK	**Pallekele**	**12.39**	**299**	Pn	**Pn**		**09**	**32**	**52.0**	**-0.4**
	0.5nm,0.3s,baz=116,slow=7.3,SNR=3.1									
PALK				Sn	Sn		09	34	57.8	-13
	0.7nm,0.3s,baz=116,slow=13,SNR=5.2									
CMAR	**Chiang Mai Arr**	**18.51**	**22**	P	**Pn**		**09**	**34**	**12.6**	**+0.2**
	0.1nm,0.3s,baz=216,slow=14,SNR=5.0									
H08S2	**Diego Garcia H**	**21.04**	**245**	T	T		09	56	17.1	
	baz=65,slow=74,SNR=69									
H08S3	**Diego Garcia H**	**21.04**	**245**	T	T		09	56	15.3	
	baz=65,slow=74,SNR=74									
H08S1	**Diego Garcia H**	**21.06**	**245**	T	T		09	56	18.4	
	baz=65,slow=74,SNR=86									
MKAR	**Manchi Array**	**46.04**	**351**	P	**P**		**09**	**38**	**19.2**	**-0.4**
	0.4nm,0.6s,baz=172,slow=8.8,SNR=6.3									
WRA	**Warramunga Arr**	**46.90**	**119**	P	**P**		**09**	**38**	**26.5**	**-0.2**
	1.9nm,0.7s,baz=294,slow=8.7,SNR=5.8									
SONM	**Songino Array**	**48.10**	**13**	P	**P**		**09**	**38**	**35.2**	**-0.5**
	1.1nm,0.6s,baz=191,slow=9.0,SNR=7.0									
KURBB	**Kurchatov Arra**	**50.39**	**349**	P	**P**		**09**	**38**	**53.7**	**+0.7**
	0.5nm,0.9s,baz=182,slow=6.2,SNR=5.0									
GERES	**GERESS Array B**	**81.08**	**319**	P	**P**		**09**	**42**	**12.2**	**+0.9**
	1.2nm,0.8s,baz=116,slow=3.1,SNR=5.7									
TXAR	**Lajitas Array**	**146.22**	**24**	PKPbc	**PKPdf**		**09**	**49**	**36.2**	**-0.1**
	0.3nm,0.7s,baz=336,slow=2.7,SNR=4.8									

ISCJB ***15*** *09:33:04.5≈0.3, 8.˚33S≈0.˚03×119.˚59E≈0.˚03, h185km≈3km, mb4.2/32, Error ellipse: s-maj=5.8km s-min=4.2km az=24.5*
IDC ***15*** *09:33:04.4≈1.7, 8.˚25S×119.˚53E, h167km≈15km, mb3.7/19, mb1 3.7/23, mb1mx3.6/53, mbtmp4.1/23, MS3.3/3, Ms1 3.3/3, ms1mx2.7/55, Error ellipse: s-maj=19.6km s-min=9.2km az=68.0*
NEIC ***15*** *09:33:05.2≈0.6, 8.˚20S×119.˚67E, h176km≈6km, mb4.5/15, Error ellipse: s-maj=8.0km s-min=5.4km az=221.0*
DJA ***15*** *09:33:06.9≈0.2, 8˚S≈2˚×12˚0E≈˚, h159km≈2km, M4.3/15, mB5.2/2, mb4.3/12, MLv4.3/15, Mw(mB)4.6/2*
ISC 15 09:33:05.1≈0.6, 8.˚39S≈0.˚04×119.˚63E≈0.˚04, h175km≈5km, n102, σ1°71/117, mb4.2/32, 1D, Flores region

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
					Op	ISC	h	m	s	ISC
WBSI	**Waikabubak, Su**	**1.26**	**191**	P	**Pn**		**09**	**33**	**35.4**	**+0.8**
WBSI				S	**Sn**		**09**	**33**	**57.4**	**-0.1**
PLAI	**Plampang**	**1.88**	**257**	P	**Pn**		**09**	**33**	**42.0**	**+1.4**
PLAI				S	**Sn**		**09**	**34**	**08.8**	**+0.7**
BASI	**Baing, Sumba**	**2.04**	**153**	P	**Pn**		**09**	**33**	**43.8**	**+1.4**
BASI				S	**Sn**		**09**	**34**	**17.9**	**+0.2**
EDFI	**Ende, Flores**	**2.07**	**100**	P	**Pn**		**09**	**33**	**44.2**	**+1.4**
EDFI				S	**Sn**		**09**	**34**	**12.1**	**+0.2**
BSSI	**Bau Bau, Buton**	**2.39**	**21**	P	**Pn**		**09**	**33**	**46.9**	**+0.5**
BSSI				S	**Sn**		**09**	**34**	**19.1**	**+0.6**
BNSI	**Bone**	**4.00**	**7**	P	**Pn**		**09**	**34**	**09.7**	**+3.6**
BATI	**Baumata**	**4.37**	**115**	P	**Pn**		**09**	**34**	**13.3**	**+2.4**
	7.0nm,0.3s,baz=284,slow=17,SNR=6.6									
BATI				S	**Sn**		**09**	**35**	**03.7**	**+1.3**
	35nm,0.3s,baz=257,slow=6.9,SNR=8.3									
SRBI	**Singaraja**	**4.38**	**274**	P	**Pn**		**09**	**34**	**11.6**	**+0.6**
IGBI	**Denpasar**	**4.45**	**264**	P	**Pn**		**09**	**34**	**12.0**	**+0.1**
IGBI				S	**Sn**		**09**	**35**	**02.7**	**-1.5**
SOEI	**Soe**	**4.78**	**107**	P	**Pn**		**09**	**34**	**17.9**	**+1.6**
SOEI	**Soe**	**4.78**	**107**	*e*Pn	**Pn**		**09**	**34**	**17.6**	**+1.4**
SOEI				*e*Sn	**Sn**		**09**	**35**	**13.0**	**+1.0**
TTSI	**Tana Toraja**	**5.32**	**2**	P	**Pn**		**09**	**34**	**26.2**	**+3.0**
	28nm,0.8s,0.1nm									
JAGI	**Jajag, Banyuwa**	**5.42**	**269**	P	**Pn**		**09**	**34**	**25.6**	**+1.1**
	58nm,0.6s,4µm1.2nm									
JAGI	**Jajag, Banyuwa**	**5.42**	**269**	*e*Pn	**Pn**		**09**	**34**	**25.1**	**+0.6**
JAGI				*e*Sn	**Sn**		**09**	**35**	**23.7**	**-3.1**
BLJI	**Banyuglugur**	**6.01**	**276**	P	**Pn**		**09**	**34**	**34.8**	**+2.5**
	104nm,0.7s									
SANI	**Sanana**	**8.93**	**45**	P	**Pn**		**09**	**35**	**13.2**	**+2.4**
	28nm,1.2s,0.1nm									
UGM	**Wanagama**	**9.03**	**272**	*e*Pn	**Pn**		**09**	**35**	**12.6**	**+0.4**
MRSI	**Marisa**	**9.11**	**15**	P	**Pn**		**09**	**35**	**15.5**	**+2.4**
	15nm,1.0s									
FITZ	**Fitzroy Crossi**	**11.28**	**149**	P	**Pn**		**09**	**35**	**43.0**	**+1.5**
	0.4nm,0.3s,baz=337,slow=12,SNR=14									
FITZ				S	**Sn**		**09**	**37**	**41.5**	**-5.2**
	1.8nm,0.3s,baz=180,slow=20,SNR=11									
FITZ				LR	LR		09	40	34.8	
	comp=Z,71nm,18.4s,baz=278,slow=39									
MTN	**Manton Dam**	**12.14**	**112**	*e*Pn	**Pn**		**09**	**35**	**52.2**	**-0.4**
MTN				*e*Sn	**Sn**		**09**	**37**	**59.4**	**-8.1**
MBWA	**Marble Bar**	**12.69**	**180**	*e*Pn	**Pn**		**09**	**36**	**00.8**	**+1.2**
SBUM	**Sibu**	**13.06**	**325**	*e*P	**P**		**09**	**36**	**09.6**	**+1.4**
FAKI	**Fak Fak**	**13.68**	**67**	*e*Pn	**Pn**		**09**	**36**	**10.8**	**-1.4**
SIJI	**Sorong**	**13.79**	**58**	P	**Pn**		**09**	**36**	**12.9**	**-0.6**
	2.5nm,0.3s,baz=238,slow=6.5,SNR=7.0									
WRA	**Warramunga Arr**	**18.29**	**130**	P	**P**		**09**	**37**	**06.7**	**+0.7**
	1.3nm,0.3s,baz=302,slow=12,SNR=131									
WRA				S	**S**		**09**	**40**	**24.4**	**-1.6**
	0.6nm,0.3s,baz=312,slow=22,SNR=6.8									
WRAB	**Tennant Creek**	**18.29**	**130**	*e*P	**P**		**09**	**37**	**06.9**	**+1.0**
	4.8nm,0.6s									
WB2	**Warramunga Arr**	**18.30**	**130**	*e*P	**P**		**09**	**37**	**07.0**	**+1.0**
	28nm,1.7s									
AS31	**Alice Springs**	**20.43**	**140**	*e*P	**P**		**09**	**37**	**30.2**	**+1.1**
	7.8nm,0.3s									
AS31				*e*S	**S**		**09**	**41**	**07.4**	**-1.0**
ASAR	**Alice Springs**	**20.43**	**140**	P	**P**		**09**	**37**	**30.2**	**+1.2**
	6.3nm,0.4s,baz=310,slow=8.9,SNR=111									
ASAR				S	**S**		**09**	**41**	**07.0**	**-1.4**
	3.2nm,0.7s,baz=320,slow=21,SNR=16									
ASAR				ScP	**ScP**		**09**	**44**	**53.5**	**-0.6**
	0.5nm,0.6s,baz=328,slow=2.2,SNR=4.5									
AS01	**Alice Springs**	**20.46**	**140**	*e*P	**P**		**09**	**37**	**30.2**	**+0.9**
TGY	**Tagaytay City**	**22.39**	**3**	LR	LR		09	45	59.7	
	comp=Z,104nm,20.9s,baz=354,slow=35									
FORT	**Forrest**	**23.62**	**162**	*e*P	**P**		**09**	**38**	**01.6**	**+1.2**
	543nm,0.7s									
COEN	**Coen**	**23.74**	**106**	*e*P	**P**		**09**	**38**	**02.1**	**+0.5**
	16nm,0.6s									
NWAO	**Narrogin (SRO)**	**24.51**	**185**	P	**P**		**09**	**38**	**07.7**	**-0.7**
	4.8nm,0.7s,baz=240,slow=5.8,SNR=3.3									
NWAO				ScP	**ScP**		**09**	**45**	**03.4**	**-1.0**
	3.2nm,0.7s,baz=341,slow=1.0,SNR=3.2									
NWAO	**Narrogin (SRO)**	**24.51**	**185**	*e*P	**P**		**09**	**38**	**09.4**	**+1.0**
	38nm,1.5s									
CTA	**Charters Tower**	**28.25**	**117**	P	**P**		**09**	**38**	**45.0**	**+2.8**
	5.4nm,1.0s,baz=274,slow=14,SNR=2.2									
BBOO	**Buckleboo**	**28.67**	**150**	*e*P	**P**		**09**	**38**	**47.1**	**+1.5**
	18nm,0.6s									
STKA	**Stephens Creek**	**31.03**	**142**	P	**P**		**09**	**39**	**08.3**	**+1.8**
	7.5nm,0.5s,baz=311,slow=9.4,SNR=25									
STKA	**Stephens Creek**	**31.03**	**142**	*e*P	**P**		**09**	**39**	**08.2**	**+1.8**
	1.8nm,0.6s									
CMAR	**Chiang Mai Arr**	**33.59**	**323**	P	**P**		**09**	**39**	**26.1**	**-2.9**
	0.2nm,0.4s,baz=201,slow=7.3,SNR=2.6									
CMAR				PcP	**PcP**		**09**	**42**	**06.1**	**+0.7**
	0.3nm,0.6s,baz=148,slow=5.3,SNR=3.1									
KMI	**Kunming**	**37.16**	**334**	P	**P**		**09**	**40**	**01.8**	**+2.3**
KMI				pmax	pmax					
	comp=Z,9.0nm,0.5s									
NJ2	**Nanjing**	**40.22**	**359**	*e*P	**P**		**09**	**40**	**24.5**	**-0.2**
NJ2				pmax	pmax					
	comp=Z,16nm,0.5s									
KSRS	**Korea Array**	**46.26**	**9**	P	**P**		**09**	**41**	**12.6**	**-0.3**
	comp=Z,0.9nm,0.9s,baz=195,slow=8.6,SNR=4.6	

comp=Z,0.5nm,0.6s,baz=247,slow=11,SNR=2.7
CBCY The Bluff, Cay 158.10 57 *e*PKPdf **PKPdf 09 52 39.5 -2.5**

MEX 15 09:35:13.8±0.4, 15°97′N×98°17′W, h5km, MD3.6, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.42**	**5**	*e*P	Pg	09 35 21.5	-0.4
PNIG				*e*S	Sg	09 35 27.5	+0.1
TLIG	**Tlapa**	**1.63**	**346**	*e*P	Pn	09 35 39.0	-4.3
TLIG				*e*S	Sn	09 36 00.0	-4.6
VHO	**Vista Hermosa**	**1.76**	**51**	*e*P	Pn	09 35 41.4	-3.8
VHO				*e*S	Sn	09 36 03.4	-4.6
MEIG	**Mezcala**	**2.39**	**325**	*e*S	Sn	09 36 22.8	-0.6
PLIG	**Platanillo**	**2.72**	**332**	*e*P	Pn	09 35 51.4	-7.0
PLIG				*e*S	Sn	09 36 32.2	+0.5

MEX 15 09:37:23.9±0.4, 16°90′N×94°88′W, h161km±27km, MD3.9, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**1.63**	**227**	*e*P	Pn	09 37 54.2	-1.5
HUIG				*e*S	Sn	09 38 18.3	-1.9
TGIG		**1.68**	**94**	*e*P	Pn	09 37 55.9	-0.4
TGIG				*e*S	Sn	09 38 18.9	-2.4
VHO	**Vista Hermosa**	**1.79**	**276**	*e*P	Pn	09 37 56.4	-1.2
VHO				*e*S	Sn	09 38 21.4	-2.0

IDC 15 09:39:17.1±2.0, 2°70′N×91°03′E, h0km, mb3.6/2, mb1 3.8/4, mb1mx3.3/64, mbtmp3.6/4, ML3.6/2, Error ellipse: s-maj=58.9km s-min=33.8km az=41.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**11.24**	**294**	Pn	Pn	09 41 59.3	0.0
	0.3nm,0.3s,baz=117,slow=14,SNR=3.4						
CMAR	**Chiang Mai Arr**	**17.48**	**26**	P	Pn	09 43 22.2	-0.3
	0.1nm,0.3s,baz=206,slow=12,SNR=2.5						
WRA	**Warramunga Arr**	**48.09**	**120**	P	P	09 47 59.1	0.0
	1.6nm,0.7s,baz=294,slow=8.5,SNR=13						
ASAR	**Alice Springs**	**49.27**	**125**	P	P	09 48 07.8	-0.3
	0.3nm,0.7s,baz=301,slow=8.1,SNR=4.0						

ISCJB ***15*** *09:47:36.1±0.9, 6°4N±0°1×127°3E±0°3, h300km, mb3.1/7, Error ellipse: s-maj=36.6km s-min=14.1km az=158.1*
IDC ***15*** *09:47:38.7±1.6, 6°38N×127°00E, h310km±15km, mb2.9/7, mb1 3.0/7, mb1mx2.7/62, mbtmp3.5/7, Error ellipse: s-maj=46.9km s-min=12.7km az=72.0*
ISC 15 09:47:37.8±1.1, 6°4N±0°2×127°1E±0°3, h300km, n9, σ0°74/9, mb3.2/7, 1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**1.67**	**293**	P	**Pn**	**09 48 23.3**	**+1.2**
	86nm,0.3s,baz=250,slow=22,SNR=27						
DMPH	**Davao City--Mi**	**1.74**	**292**	*e*P	**Pn**	**09 48 22.6**	**-0.1**
FITZ	**Fitzroy Crossi**	**24.41**	**183**	P	**P**	**09 52 29.4**	**-0.5**
	1.3nm,0.6s,baz=14,slow=10.0,SNR=4.3						
WRA	**Warramunga Arr**	**27.14**	**165**	P	**P**	**09 52 53.8**	**-0.4**
	0.5nm,0.9s,baz=345,slow=9.3,SNR=5.6						
ASAR	**Alice Springs**	**30.63**	**168**	P	**P**	**09 53 25.2**	**+0.2**
	0.3nm,0.4s,baz=347,slow=7.6,SNR=14						
MKAR	**Makanchi Array**	**55.60**	**324**	P	**P**	**09 56 42.2**	**-0.9**
	0.2nm,0.5s,baz=128,slow=7.2,SNR=5.3						
KURBB	**Kurchatov Arra**	**59.72**	**326**	P	**P**	**09 57 10.6**	**-0.7**
	0.5nm,0.5s,baz=128,slow=6.1,SNR=5.9						
BVAR	**Borovoye Array**	**65.31**	**326**	P	**P**	**09 57 48.5**	**+0.4**
	0.3nm,0.4s,baz=94,slow=7.7,SNR=3.1						
ILAR	**Eielson Array**	**82.52**	**26**	P	**P**	**09 59 27.4**	**+0.3**
	0.1nm,0.5s,baz=256,slow=3.6,SNR=3.1						

ISCJB ***15*** *09:50:47.7±0.2, 1°08N±0°03×91°86E±0°03, h10km, mb4.5/86, MS3.9/30, Error ellipse: s-maj=5.4km s-min=3.2km az=26.6*
IDC ***15*** *09:50:47.8±0.4, 1°09N×91°80E, h0km, mb4.2/38, mb1 4.3/40, mb1mx4.2/73, mbtmp4.2/40, ML4.2/2, MS3.8/27, Ms1 3.8/27, ms1mx3.6/61, Error ellipse: s-maj=14.7km s-min=10.5km az=40.0*
NEIC ***15*** *09:50:49.2±0.2, 1°12N×91°80E, h10km, mb4.9/31, Error ellipse: s-maj=5.5km s-min=3.4km az=203.0*
DJA ***15*** *09:50:49.3±0.3, 1°N±4°×9°2E±°, h10km, M5.2/30, mb5.2/30, mB5.6/16, MLv5.6/8, Mw(mB)5.0/16*
ISC 15 09:50:50.1±0.8, 1°03N±0°05×91°73E±0°05, h15km±4km, n230, σ1°39/222, mb4.7/97, MS3.9/30, 5C-6D, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLSI	**Meulaboh, Aceh**	**5.66**	**55**	P	**Pn**	**09 52 11.8**	**-2.1**
	715nm,0.7s,10μm3.2nm						
GSI	**Gunungsitoli**	**5.85**	**87**	P	**Pn**	**09 52 14.5**	**-1.9**
	589nm,0.9s,6μm1.7nm						
GSI	**Gunungsitoli**	**5.85**	**87**	*e*Pn	**Pn**	**09 52 14.8**	**-1.5**
TPTI		**5.88**	**68**	P	**Pn**	**09 52 14.1**	**-2.7**
	675nm,0.9s,11μm3.4nm						
LHMI	**Lhok Sumawe**	**6.67**	**51**	P	**Pn**	**09 52 26.9**	**-0.8**
LHMI	**Lhok Sumawe**	**6.67**	**51**	*e*Pn	**Pn**	**09 52 27.1**	**-0.6**
TSI	**Tuntungan**	**7.25**	**70**	P	**Pn**	**09 52 38.3**	**+2.6**
PSI	**Prapat**	**7.40**	**76**	*e*Pn	**Pn**	**09 52 35.1**	**-2.7**
SISI	**Saibi**	**7.72**	**108**	P	**Pn**	**09 52 40.1**	**-2.0**
	381nm,0.8s,4μm						
MNSI	**Mandailing Nat**	**7.85**	**92**	P	**Pn**	**09 52 42.8**	**-1.1**
PDSI	**Padang**	**8.94**	**102**	P	**Pn**	**09 52 56.7**	**-2.2**
	125nm,0.5s,5μm						
PPSI	**Pulau Pagai**	**9.09**	**115**	P	**Pn**	**09 52 59.3**	**-1.6**
	221nm,0.5s						
BKNI	**Bangkinang**	**9.33**	**94**	P	**Pn**	**09 53 04.8**	**+0.6**
BKNI	**Bangkinang**	**9.33**	**94**	*e*Pn	**Pn**	**09 53 03.0**	**-1.2**
PKDT	**Phuket**	**9.47**	**44**	P	**Pn**	**09 53 03.4**	**-2.8**
	59nm,0.7s,0.2nm						
IPM	**Ipoh**	**9.89**	**70**	*e*Pn	**Pn**	**09 53 10.5**	**-1.5**
TRTT	**Trang**	**10.42**	**49**	P	**Pn**	**09 53 15.8**	**-3.4**
	39nm,0.7s,365nm						
PBA	**Port Blair**	**10.60**	**5**	*e*P	Pn	09 53 17.5	-4.1
SKLT	**Songkhla**	**10.76**	**55**	P	**Pn**	**09 53 21.4**	**-2.4**
	139nm,0.7s,1μm						
MASI	**Maura Aman, Be**	**11.29**	**112**	P	**Pn**	**09 53 30.4**	**-0.7**
DGPR	**DIGLIPUR**	**12.13**	**6**	*e*P	**Pn**	**09 53 43.1**	**+0.6**
MYKOM	**Kota Tinggi**	**12.13**	**86**	*e*Pn	**Pn**	**09 53 40.5**	**-2.1**
MNAI	**Manna**	**12.43**	**116**	P	**Pn**	**09 53 45.2**	**-1.5**
MNAI	**Manna**	**12.43**	**116**	*e*Pn	**Pn**	**09 53 44.8**	**-1.9**
PALK	**Pallekele**	**12.62**	**300**	Pn	**Pn**	**09 53 47.5**	**-2.0**
	1.8nm,0.3s,baz=116,slow=13,SNR=10						
PALK				Sn	Sn	09 55 57.8	-12
	5.1nm,0.3s,baz=116,slow=1.0,SNR=7.2						
PALK				LR	LR	09 57 26.3	
	comp=Z,264nm,21.9s,baz=116,slow=32						
PALK	**Pallekele**	**12.62**	**300**	*e*Pn	**Pn**	**09 53 47.8**	**-1.6**
PALK				Sn	Sn	09 55 57.9	-12
MDSI	**Maura Dua**	**13.59**	**114**	P	**Pn**	**09 54 03.5**	**+1.0**
LWLI	**Liwa**	**13.70**	**116**	P	**Pn**	**09 54 02.8**	**-1.4**
TRD	**Trivandrum**	**16.48**	**297**	*e*P	**P**	**09 54 43.1**	**-0.6**
MDRS	**Chennai**	**16.51**	**317**	*e*P	**Pn**	**09 54 39.8**	**-1.6**
MDRS				IAmb	IAmb	09 54 49.5	
LEM	**Lembang**	**17.67**	**116**	LR	LR	10 00 33.9	
	comp=Z,55nm,20.2s,baz=344,slow=33						
PBKT	**Sadao Pong**	**17.92**	**30**	P	**Pn**	**09 54 58.5**	**-0.5**
	20nm,0.8s						
CISI	**Cisompet, Garu**	**18.17**	**118**	P	**P**	**09 55 03.3**	**+0.9**
CISI	**Cisompet, Garu**	**18.17**	**118**	*e*P	**Pn**	**09 55 02.2**	**0.0**
	151nm,1.4s						
VIS	**Vishakhapatnam**	**18.53**	**334**	*e*P	**P**	**09 55 05.8**	**-0.5**
VIS				IAmb	IAmb	09 55 08.1	
	comp=Z,257nm,1.7s						
CM01	**Chiang Mai Arr**	**18.68**	**22**	*e*P	**P**	**09 55 04.6**	**-3.4**
CM01				*e*Pn	**Pn**	**09 55 07.6**	**-0.7**
CMAR	**Chiang Mai Arr**	**18.71**	**22**	P	**P**	**09 55 06.0**	**-2.2**
	comp=Z,0.3nm,0.3s,baz=215,slow=13,SNR=24						
CMAR				LR	LR	10 02 31.5	
	comp=Z,146nm,18.4s,baz=210,slow=38						
CHTO	**Chiang Mai**	**19.04**	**21**	P	**P**	**09 55 11.6**	**-0.3**
	comp=Z,55nm,0.8s						
CMMT	**Chiang Mai**	**19.04**	**21**	P	**P**	**09 55 10.5**	**-1.4**
	comp=Z,12nm,0.7s						
KPJI	**Karang Pucung**	**19.06**	**116**	P	**Pn**	**09 55 13.2**	**+0.2**
HMDM	**Hanimaadhoo**	**19.36**	**288**	*e*P	**P**	**09 55 14.9**	**-0.6**
	comp=Z,62nm,1.0s						
STKI	**Sintang**	**19.77**	**93**	P	**Pn**	**09 55 21.7**	**+0.3**
SKNT	**Sakolnakorn**	**19.91**	**37**	P	**Pn**	**09 55 27.9**	**+4.8**
SBUM	**Sibu**	**20.52**	**86**	*e*P	**P**	**09 55 27.8**	**-0.4**
	comp=Z,39nm,0.9s						
HYB	**Hyderabad**	**20.81**	**322**	*i* P	Pn	09 55 33.0	-0.8
HYB				*e*		09 59 20.0	
HYB	**Hyderabad**	**20.81**	**322**	*e*P	**P**	**09 55 29.1**	**-2.2**
HYB				IAmb	IAmb	09 55 32.5	
	comp=Z,7.6nm,1.0s						
H08S2	**Diego Garcia H**	**21.04**	**245**	T	T	10 17 14.9	
	baz=64,slow=75,SNR=9.0						
H08S3	**Diego Garcia H**	**21.04**	**246**	T	T	10 17 15.7	
	baz=64,slow=75,SNR=11						
H08S1	**Diego Garcia H**	**21.05**	**246**	T	T	10 17 30.8	
	baz=64,slow=75,SNR=10						
GOA	**Goa**	**22.78**	**310**	*e*P	**P**	**09 55 52.6**	**+0.3**
GOA				IAmb	IAmb	09 55 54.6	
	comp=Z,33nm,1.2s						
MTKI	**Muara Teweh, K**	**23.24**	**95**	P	**P**	**09 55 59.4**	**+2.2**
BOK	**Bokaro**	**23.33**	**346**	*e*P	**P**	**09 55 58.6**	**+0.7**
BOK				IAmb	IAmb	09 56 09.1	
	comp=Z,59nm,0.8s						
NGP	**Nagpur**	**23.52**	**329**	*e*P	**P**	**09 56 00.7**	**+0.8**
NGP				IAmb	IAmb	09 56 11.3	
	comp=Z,45nm,1.8s						
IMP	**Imphal**	**23.76**	**5**	*e*P	**P**	**09 56 02.3**	**+0.1**
SHL	**Shillong**	**24.39**	**0**	*e*P	**P**	**09 56 07.5**	**-0.8**
SHL				IAmb	IAmb	09 56 18.2	
	comp=Z,12nm,0.5s						
SHL				*ex*	x	10 00 33.0	
KOHI	**KOHIMA**	**24.65**	**5**	*e*P	**P**	**09 56 09.9**	**-0.7**
POO	**Poona**	**24.71**	**316**	*e*P	**P**	**09 56 10.1**	**-1.0**
GUWA	**GUWAHATI**	**25.02**	**360**	*ex*	P	09 56 03.6	-10
QIZ	**Qiongzhong**	**25.20**	**44**	P	**P**	**09 56 15.6**	**+0.1**
QIZ				S	**S**	**10 00 41.6**	**+1.1**
QIZ				LR	LR		
	comp=N,280nm,14.1s						
QIZ				LR	LR		
	comp=E,230nm,13.9s						
QIZ				LR	LR		
	comp=Z,240nm,14.6s						
BKB	**Balikpapan**	**25.26**	**95**	P	**P**	**09 56 16.7**	**+0.6**
MOKO	**MOKOCHONG**	**25.29**	**6**	*e*P	**P**	**09 56 15.6**	**-0.7**
TEZP	**TEZPUR**	**25.46**	**2**	*e*P	**P**	**09 56 17.1**	**-0.7**
ODAN	**Odare**	**26.02**	**351**	*e*P	**P**	**09 56 23.0**	**-0.1**
	comp=Z,182nm,0.8s						
ITAN	**ITANAGAR**	**26.03**	**4**	*e*P	**P**	**09 56 23.5**	**+0.6**
BHPL	**Bhopal**	**26.09**	**329**	*ex*	**P**	**09 56 19.7**	**-3.8**
BHPL				IAmb	IAmb	09 56 35.3	
	comp=Z,31nm,0.3s						
KMI	**Kunming**	**26.20**	**23**	P	**P**	**09 56 29.6**	**+4.8**
KMI				pP	sP	09 56 36.5	+5.4
KMI				S	**S**	**10 00 57.3**	**+0.6**
KMI				pmax	pmax		
	comp=Z,31nm,1.2s						
KMI				LR	LR		
	comp=N,290nm,12.9s						
KMI				LR	LR		
	comp=E,240nm,12.9s						
KMI				LR	LR		
	comp=Z,270nm,13.3s						
RAMN	**Ramite**	**26.24**	**350**	*e*P	**P**	**09 56 25.8**	**+0.7**
	comp=Z,162nm,0.8s						
GTK	**Tadong**	**26.31**	**354**	*e*P	**P**	**09 56 25.4**	**-0.2**
ZIRO	**ZIRO**	**26.42**	**4**	*e*P	**P**	**09 56 25.7**	**-1.0**
JIRN	**Jiri**	**27.01**	**349**	*e*P	**P**	**09 56 32.3**	**+0.1**
	comp=Z,198nm,0.9s						
MYLDM	**Lahad Datu**	**27.04**	**81**	*e*P	**P**	**09 56 31.9**	**-0.2**
	comp=Z,30nm,1.0s						
DMN	**Daman**	**27.18**	**347**	*e*P	**P**	**09 56 34.0**	**+0.4**
	comp=Z,39nm,0.9s						
GUN	**Gumba**	**27.31**	**349**	*e*P	**P**	**09 56 34.8**	**-0.1**
	comp=Z,111nm,0.9s						
KKN	**Kakani**	**27.32**	**347**	*e*P	**P**	**09 56 35.7**	**+0.9**
	comp=Z,60nm,1.0s						
GKN	**Gorkha**	**27.67**	**346**	*e*P	**P**	**09 56 37.9**	**+0.1**
	comp=Z,43nm,0.9s						
KOLN	**Koldanda**	**27.71**	**344**	*e*P	**P**	**09 56 39.5**	**+1.2**
	comp=Z,33nm,0.7s						
MPSI	**Mapaga**	**28.17**	**91**	P	**P**	**09 56 43.5**	**+1.2**
PYUN	**Piuthan**	**28.19**	**343**	*e*P	**P**	**09 56 42.6**	**0.0**
	comp=Z,85nm,0.9s						
LSA	**Lhasa**	**28.52**	**359**	P	**P**	**09 56 46.5**	**+0.7**
LSA				pmax	pmax		
	comp=Z,9.0nm,0.8s						
LSA	**Lhasa**	**28.52**	**359**	*e*P	**P**	**09 56 49.8**	**+4.0**
	comp=Z,35nm,1.0s						
MRSI	**Marisa**	**30.21**	**91**	P	**P**	**09 56 59.3**	**-1.2**
TGY	**Tagaytay City**	**31.67**	**64**	LR	LR	10 08 56.6	
	comp=Z,76nm,21.3s,baz=26,slow=34						
SMLA	**Simla**	**32.96**	**337**	*e*P	**P**	**09 57 24.8**	**+0.3**
ENH	**Enshi**	**33.62**	**28**	*e*P	**P**	**09 57 29.2**	**-1.0**
	comp=Z,17nm,0.6s						
BATI	**Baumata**	**33.68**	**110**	P	**P**	**09 57 29.4**	**-1.6**
	comp=Z,32nm,0.7s,baz=252,slow=9.6,SNR=5.4						
BATI				LR	LR	10 12 36.9	
	comp=Z,147nm,21.0s,baz=144,slow=39						
DAV	**Davao City (W)**	**34.27**	**79**	LR	LR	10 14 48.0	
	comp=Z,121nm,18.1s,baz=260,slow=42						
DHRM	**DHARAMSHALA**	**34.30**	**336**	*e*P	**P**	**09 57 37.5**	**+1.2**
DHRM				IAmb	IAmb	09 57 39.6	
	comp=Z,11nm,0.4s						
XAN	**Xi'an**	**36.57**	**24**	P	**P**	**09 57 54.3**	**-1.4**
XAN				pP	pP	09 57 58.8	-1.4
XAN				sP	sP	09 58 02.5	+0.5
XAN				PP	**PP**	**09 59 21.3**	**+2.2**
XAN				S	**S**	**10 03 40.1**	**+2.2**
XAN				sS	sS	10 03 47.8	+2.4
XAN				SS	**SnSn**	**10 06 10.6**	**+2.9**
XAN				pmax	pmax		
	comp=Z,13nm,0.9s						
XAN				pmax	pmax		
	comp=Z,80nm,3.6s						
XAN				LR	LR		
	comp=N,220nm,16.2s						
XAN				LR	LR		
	comp=E,250nm,14.6s						
XAN				LR	LR		
	comp=Z,190nm,13.5s						
LZH	**Lanzhou**	**36.65**	**17**	*e*P	**P**	**09 57 59.3**	**+2.9**
LZH				pP	sP	09 58 02.8	0.0
LZH				sP	pP	09 58 05.6	+4.6
LZH				pmax	pmax		
	comp=Z,24nm,1.3s						
NIL	**Nilore**	**36.79**	**334**	*e*P	**P**	**09 58 00.3**	**+2.8**
	comp=Z,27nm,0.8s						
FITZ	**Fitzroy Crossi**	**38.39**	**121**	P	**P**	**09 58 10.0**	**-1.3**
	comp=Z,4.1nm,0.8s,baz=60,slow=3.7,SNR=7.0						
GTA	**Gaotai**	**38.91**	**10**	*e*P	**P**	**09 58 15.3**	**-0.1**
GTA				pP	sP	09 58 20.8	-1.0
GTA				sP	pP	09 58 23.9	+3.9
GTA				PcP	**PcP**	**10 00 27.9**	**+1.7**
GTA				S	**S**	**10 04 14.3**	**+0.9**
GTA				sS	sS	10 04 26.0	+5.1
GTA	**Gaotai**	**38.91**	**10**	ScS	ScS	10 08 26.4	+1.1
GTA				pmax	pmax		
	comp=Z,6.0nm,1.0s						
GTA				pmax	pmax		
	comp=Z,110nm,5.1s						
GTA				LR	LR		
	comp=N,96nm,19.0s						
GTA				LR	LR		
	comp=E,92nm,19.0s						
GTA				LR	LR		
	comp=Z,73nm,18.1s						
SIJI	**Sorong**	**39.58**	**93**	P	**P**	**09 58 20.3**	**-1.0**
	comp=Z,5.8nm,0.7s,baz=33,slow=5.6,SNR=3.0						
NJ2	**Nanjing**	**40.08**	**37**	*e*P	**P**	**09 58 25.4**	**+0.2**
NJ2				pmax	pmax		
	comp=Z,11nm,0.5s						
KSH	**Kashi**	**40.92**	**341**	P	**P**	**09 58 34.8**	**+2.6**
KSH				sP	sP	09 58 42.8	+4.2
KSH				S	**S**	**10 04 45.8**	**+2.2**
KSH				SS	**SS**	**10 07 44.3**	**-1.1**
KSH				pmax	pmax		
	comp=Z,20nm,0.8s						
KSH				pmax	pmax		
	comp=Z,260nm,5.4s						
KSH				LR	LR		
	comp=N,340nm,6.7s						
KSH				LR	LR		
	comp=E,400nm,7.0s						
KSH				LR	LR		
	comp=Z,300nm,6.7s						
TARG	**Taragay, Kyrgy**	**42.42**	**345**	*e*P	**P**	**09 58 44.4**	**-0.3**
	comp=Z,23nm,1.3s						
WMQ	**Urumqi**	**42.76**	**356**	P	**P**	**09 58 48.3**	**+1.2**
WMQ				pP	sP	09 58 52.8	-0.7
WMQ				sP	pP	09 58 56.1	+4.4
WMQ				pmax	pmax		
	comp=Z,40nm,0.9s						
WMQ				pmax	pmax		
	comp=Z,250nm,4.1s						
WMQ				LR	LR		
	comp=N,340nm,22.5s						
WMQ				LR	LR		
	comp=Z,290nm,25.9s						
KDJ	**Kajisay**	**42.96**	**344**	*e*P	**P**	**09 58 48.6**	**-0.3**
	comp=Z,15nm,0.9s						
HHC	**Hu-ho-hao-te**	**43.52**	**22**	*e*P	**P**	**09 58 54.0**	**+0.6**
HHC				sP	sP	09 59 00.8	+1.0
HHC				S	**S**	**10 05 17.6**	**-4.3**
HHC	**Hu-ho-hao-te**	**43.52**	**22**	ScS	ScS	10 08 55.1	+2.1
HHC				pmax	pmax		
	comp=Z,26nm,1.1s						
HHC				pmax	pmax		
	comp=Z,76nm,6.3s						
HHC				LR	LR		
	comp=N,560nm,15.0s						
HHC				LR	LR		
	comp=E,790nm,15.5s						
HHC				LR	LR		
	comp=Z,830nm,15.1s						
AAK	**Ala-Archa**	**44.22**	**342**	P	**P**	**09 58 59.8**	**+0.8**
	comp=Z,1.2nm,0.4s,baz=8.6,slow=7.4,SNR=6.4						
AAK	**Ala-Archa**	**44.22**	**342**	*e*P	**P**	**09 58 58.4**	**-0.6**
	comp=Z,15nm,1.3s						
BJI	**Beijing**	**44.74**	**27**	*e*P	**P**	**09 59 03.9**	**+0.9**
BJI				pP	**sP**	**09 59 11.9**	**+2.5**
BJI				pmax	pmax		
	comp=Z,14nm,0.9s						
BJI				AMB	AMB		
	comp=Z,440nm,18.0s						
KK31	**Karatay Array**	**45.99**	**338**	*e*P	**P**	**09 59 12.3**	**-0.6**
KKAR	**Karatay Array**	**45.99**	**338**	*e*P	**P**	**09 59 12.5**	**-0.4**
MK01	**Makanchi Array**	**46.30**	**351**	*e*P	**P**	**09 59 14.1**	**-1.2**
MK31	**Makanchi Array**	**46.32**	**351**	*e*P	**P**	**09 59 14.7**	**-0.8**
MKAR	**Makanchi Array**	**46.32**	**351**	P	**P**	**09 59 14.7**	**-0.8**
	comp=Z,6.7nm,0.7s,baz=167,slow=8.5,SNR=36						
MKAR				LR	LR	10 21 43.1	
	comp=Z,82nm,18.5s,baz=168,slow=40						
MKAR	**Makanchi Array**	**46.32**	**351**	*e*P	**P**	**09 59 14.7**	**-0.8**
	comp=Z,77nm,0.8s						
MAKZ	**Makanchi**	**46.38**	**351**	*e*P	**P**	**09 59 15.3**	**-0.7**
	comp=Z,8.4nm,1.0s						
WRA	**Warramunga Arr**	**46.66**	**119**	P	**P**	**09 59 18.0**	**-0.6**
	comp=Z,5.4nm,0.8s,baz=296,slow=8.6,SNR=43						
WRAB	**Tennant Creek**	**46.67**	**119**	*e*P	**P**	**09 59 18.4**	**-0.3**
	comp=Z,11nm,0.8s						
WB2	**Warramunga Arr**	**46.67**	**119**	*e*P	**P**	**09 59 18.1**	**-0.6**
	comp=Z,10nm,0.8s						
ASAR	**Alice Springs**	**47.75**	**124**	P	**P**	**09 59 26.6**	**-0.5**
	comp=Z,1.1nm,0.7s,baz=298,slow=8.0,SNR=14						
ASAR				PcP	**PcP**	**10 00 56.5**	**+0.3**
	comp=Z,0.7nm,0.6s,baz=299,slow=2.8,SNR=3.3						
AS01	**Alice Springs**	**47.79**	**124**	*e*P	**P**	**09 59 27.2**	**-0.2**
OPO	**Ambohidratompo**	**47.91**	**244**	P	**P**	**09 59 29.5**	**+1.0**
	comp=Z,2.4nm,0.6s,baz=61,slow=8.8,SNR=3.2						
GEYT	**Alibeck**	**47.98**	**324**	P	**P**	**09 59 28.3**	**-0.3**
	comp=Z,3.8nm,0.7s,baz=143,slow=13,SNR=8.8						
GEYT				LR	LR	10 20 38.9	
	comp=Z,94nm,21.3s,baz=145,slow=37						
SONM	**Songino Array**	**48.32**	**13**	P	**P**	**09 59 31.1**	**-0.1**
	comp=Z,7.9nm,0.8s,baz=192,slow=8.7,SNR=39						
SONM				LR	LR	10 21 17.9	
	comp=Z,96nm,20.8s,baz=230,slow=38						
SONA1	**Songino Array**	**48.34**	**13**	*e*P	**P**	**09 59 31.0**	**-0.3**
JNU	**Nakatsue**	**48.66**	**45**	P	**P**	**09 59 33.8**	**-0.2**
	comp=Z,2.0nm,0.8s,baz=260,slow=10,SNR=1.9						
JNU				LR	LR	10 22 38.6	
	comp=Z,78nm,18.2s,baz=244,slow=39						
KSAR	**Wonju Array Be**	**49.20**	**38**	P	**P**	**09 59 37.8**	**-0.2**
KSRS	**Korea Array**	**49.23**	**38**	P	**P**	**09 59 37.8**	**-0.4**
	comp=Z,0.6nm,0.5s,baz=226,slow=8.3,SNR=4.3						
ATD	**Arta Tunnel**	**49.62**	**284**	LR	LR	10 16 10.8	
	comp=Z,59nm,21.9s,baz=34,slow=31						
RAYN	**Ar Rayn**	**50.06**	**300**	*e*P	**P**	**09 59 44.6**	**-0.3**
	comp=Z,2.9nm,0.8s						
KURBB	**Kurchatov Arra**	**50.67**	**349**	P	**P**	**09 59 48.3**	**-0.6**
	comp=Z,6.4nm,0.7s,baz=172,slow=7.3,SNR=37						
KURK	**Kurchatov**	**50.74**	**349**	*e*P	**P**	**09 59 48.3**	**-1.1**
	comp=Z,23nm,1.0s						
TLY	**Talaya**	**51.46**	**9**	P	**P**	**09 59 54.2**	**-0.6**
	comp=Z,1.2nm,0.6s,baz=198,slow=13,SNR=2.6						
CN2	**Changchun**	**52.08**	**31**	*e*P	P	10 00 04.9	+5.3
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
ZAA0	**Zalesovo Array**	**53.05**	**355**	*e*P	**P**	**10 00 05.3**	**-1.2**
ZALV	**Zalesovo Beam**	**53.05**	**355**	P	**P**	**10 00 05.9**	**-0.7**
	comp=Z,12nm,0.7s,baz=185,slow=7.8,SNR=17						
ZALV				LR	LR	10 23 37.0	
	comp=Z,129nm,22.0s,baz=96,slow=37						
ZALV	**Zalesovo Beam**	**53.05**	**355**	*e*P	**P**	**10 00 05.3**	**-1.2**
GUMO	**Guam**	**54.02**	**74**	LR	LR	10 22 49.1	
	comp=Z,42nm,20.6s,baz=281,slow=36						
KMBO	**Kilima Mbogo**	**54.52**	**268**	P	**P**	**10 00 17.8**	**-0.6**
	comp=Z,0.5nm,0.3s,baz=44,slow=12,SNR=3.5						
KMBO				LR	LR	10 21 03.7	
	comp=Z,121nm,18.8s,baz=89,slow=33						
BVAR	**Borovoye Array**	**54.78**	**344**	P	**P**	**10 00 17.9**	**-1.3**
	comp=Z,2.9nm,0.7s,baz=151,slow=6.4,SNR=17						
BVAR				LR	LR	10 23 58.5	
	com

MLR	**Muntele Rosu**	**72.47**	**318**	P	**P**	**10 02 17.6**	**+1.1**
	comp=Z,1.7nm,0.9s,baz=192,slow=1.9,SNR=9.3						
MLR	**Muntele Rosu**	**72.47**	**318**	ǁ *iP*	**P**	**10 02 17.6**	**+1.1**
DOPR	**Dopca**	**72.99**	**318**	ǁ *iP*	**P**	**10 02 19.8**	**+0.4**
AGG	**Agios Georgios**	**73.43**	**310**	*eP*	**P**	**10 02 21.1**	**-1.0**
	comp=Z,254nm,1.9s						
BURAR	**Bucovina Array**	**73.58**	**320**	ǁ *iP*	**P**	**10 02 24.2**	**+1.2**
BUR08	**Bucovina Ar. S**	**73.60**	**320**	*eP*	**P**	**10 02 23.2**	**+0.1**
VTS	**Vitosha**	**73.60**	**314**	ǁ *iP*	**P**	**10 02 23.4**	**+0.1**
TIXI	**Tiksi**	**74.37**	**11**	*eP*	**P**	**10 02 25.6**	**-1.3**
	comp=Z,8.7nm,0.7s						
DEV	**Deva**	**74.63**	**318**	ǁ *iP*	P	10 02 39.4	+10
IDID	**Didziasalis**	**75.15**	**328**	*eP*	P	10 02 41.1	+9.4
IDID				IAmb	IAmb	10 02 42.2	
	comp=Z,7.1nm,0.6s						
IIGN	**Ignalina**	**75.44**	**328**	*eP*	P	10 02 42.9	+9.4
IIGN				IAmb	IAmb	10 02 43.9	
	comp=Z,7.1nm,1.0s						
TRPA	**Tarpa**	**75.45**	**320**	ǁ *iP*	P	10 02 42.9	+9.2
IZAR	**Zarasai**	**75.56**	**328**	*eP*	P	10 02 43.6	+9.4
IZAR				IAmb	IAmb	10 02 44.4	
	comp=Z,7.2nm,0.8s						
ISAL	**Salakas**	**75.57**	**328**	*eP*	P	10 02 43.7	+9.5
ISAL				IAmb	IAmb	10 02 44.6	
	comp=Z,4.9nm,0.7s						
SEY	**Seymchan**	**76.11**	**24**	P	**P**	**10 02 36.5**	**-0.6**
	comp=Z,0.3nm,0.2s,baz=95,slow=19,SNR=2.6						
CRVS	**Cervenica-Dubn**	**76.34**	**320**	*e*PCP	**PcP**	**10 02 47.4**	**-3.2**
STHS	**Stebnicka Huta**	**76.61**	**321**	*eP*	**P**	**10 02 41.6**	**+1.3**
STHS				*e*		10 02 49.8	
SUW	**Suwalki**	**76.69**	**326**	*eP*	**P**	**10 02 40.3**	**-0.3**
	comp=Z,48nm,0.8s						
FIA1	**FINESS Array S**	**77.66**	**333**	*eP*	**P**	**10 02 46.3**	**+0.4**
	comp=Z,24nm,1.4s						
FINES	**FINESS Array B**	**77.66**	**333**	P	**P**	**10 02 45.7**	**-0.2**
	comp=Z,2.3nm,0.9s,baz=134,slow=8.2,SNR=5.3						
FINES				LR	LR	10 39 13.9	
	comp=Z,58nm,21.1s,baz=120,slow=37						
VYHS	**Vyhne**	**77.94**	**319**	*eP*	**P**	**10 02 47.8**	**0.0**
VYHS				*e*PCP	**PcP**	**10 02 57.1**	**-0.5**
MODS	**Modra-Piesok**	**78.93**	**319**	*eP*	**P**	**10 02 52.1**	**-1.2**
MODS				*e*PCP	**PcP**	**10 03 03.0**	**+1.1**
KRLC	**Kraliky**	**79.58**	**321**	*eP*	**P**	**10 02 57.8**	**+1.0**
KRLC				*e*PCP	**PcP**	**10 03 06.2**	**+1.5**
CONA	**Conrad Observa**	**79.78**	**318**	*e*PcP	**PcP**	**10 03 06.6**	**+0.9**
	comp=Z,6.1nm,1.7s						
ARSA	**Arzberg**	**79.90**	**318**	*eP*	**P**	**10 02 59.3**	**+0.8**
	comp=Z,9.9nm,1.2s						
DPC	**Dobruska-Polom**	**79.92**	**321**	*eP*	**P**	**10 02 59.7**	**+1.1**
DPC				*ex*	x	10 03 09.1	
SOKA	**Soboth**	**80.14**	**317**	*eP*	**P**	**10 03 00.5**	**+0.6**
	comp=Z,2.2nm,0.7s						
OBKA	**Obir**	**80.44**	**317**	*eP*	**P**	**10 03 02.3**	**+0.7**
	comp=Z,7.7nm,1.6s						
MOA	**Molln**	**80.83**	**318**	*eP*	**P**	**10 03 03.6**	**0.0**
	comp=Z,3.5nm,1.3s						
ARCES	**ARCESS Array B**	**80.88**	**341**	P	**P**	**10 03 02.7**	**-0.6**
	comp=Z,4.4nm,0.9s,baz=77,slow=7.6,SNR=9.9						
PRU	**Pruhonice**	**80.98**	**320**	*eP*	**P**	**10 03 04.5**	**+0.2**
PRU				*ex*	x	10 03 14.5	
MYKA	**Terra Mystica**	**81.08**	**317**	*ep*P	**P**	**10 03 06.9**	**+1.9**
	comp=Z,5.0nm,0.9s						
KBA	**Koelnbreinsper**	**81.34**	**317**	*eP*	**P**	**10 03 05.7**	**-0.8**
	comp=Z,2.3nm,0.8s						
GEC2	**GERESS Array S**	**81.35**	**319**	*eP*	**P**	**10 03 06.7**	**+0.3**
	comp=Z,27nm,1.0s						
GERES	**GERESS Array B**	**81.35**	**319**	P	**P**	**10 03 07.2**	**+0.8**
	comp=Z,3.5nm,0.6s,baz=104,slow=5.6,SNR=19						
KHC	**Kasperske Hory**	**81.47**	**319**	*eP*	**P**	**10 03 06.9**	**-0.1**
KHC				*ex*	x	10 03 16.9	
KHC	**Kasperske Hory**	**81.47**	**319**	*eP*	**P**	**10 03 07.2**	**+0.2**
	comp=Z,2.2nm,1.1s						
BRG	**Berggiesshubel**	**81.50**	**321**	*e*PKP	**P**	**10 03 09.8**	**+2.8**
	comp=Z,10nm,1.8s						
BRG				*e*		10 03 17.2	
	comp=Z,11nm,1.1s						
ABTA	**Abfaltersbach**	**81.86**	**317**	*eP*	**P**	**10 03 08.7**	**-0.5**
	comp=Z,2.8nm,1.0s						
CLL	**Collm**	**82.15**	**322**	*eP*	**P**	**10 03 08.0**	**-2.4**
CLL				*i*		10 03 20.2	
	comp=Z,8.0nm,1.1s						
WTTA	**Wattenberg**	**82.52**	**317**	P	**P**	**10 03 12.7**	**0.0**
	comp=Z,4.8nm,1.1s						
MOTA	**Moosalm**	**82.89**	**317**	*eP*	**P**	**10 03 14.5**	**-0.1**
	comp=Z,2.2nm,0.6s						
FETA	**Feichten**	**83.11**	**317**	*eP*	**P**	**10 03 16.0**	**+0.2**
	comp=Z,9.4nm,1.2s						
RETA	**Reutte**	**83.13**	**318**	*eP*	**P**	**10 03 16.0**	**+0.3**
	comp=Z,3.8nm,0.6s						
HFS	**Hagfors**	**83.16**	**330**	P	**P**	**10 03 14.8**	**-0.7**
	comp=Z,3.0nm,1.0s,baz=101,slow=5.1,SNR=4.0						
HFS				LR	LR	10 43 51.0	
	comp=Z,57nm,18.6s,baz=96,slow=38						
DAVA	**Damuels**	**83.71**	**317**	*eP*	**P**	**10 03 19.4**	**+0.5**
	comp=Z,15nm,1.2s						
NOA	**NORSAR Array B**	**84.50**	**331**	P	**P**	**10 03 21.5**	**-0.9**
	comp=Z,0.8nm,0.8s,baz=88,slow=4.1,SNR=2.5						
NOA				LR	LR	10 44 35.4	
	comp=Z,30nm,18.2s,baz=100,slow=38						
SPITS	**Spitsbergen Ar**	**86.01**	**348**	LR	LR	10 46 09.0	
	comp=Z,86nm,20.6s,baz=85,slow=39						
TAM	**Tamanrasset**	**86.11**	**293**	*eP*	**P**	**10 03 31.8**	**+0.4**
	comp=Z,5.2nm,1.0s						
VNDA	**Vanda**	**86.76**	**168**	P	**P**	**10 03 34.3**	**+1.0**
	comp=Z,0.5nm,0.9s,baz=329,slow=5.2,SNR=6.7						
VNDA				LR	LR	10 38 57.1	
	comp=Z,106nm,18.4s,baz=277,slow=33						
URZ	**Urewera**	**87.00**	**128**	LR	LR	10 43 46.7	
	comp=Z,47nm,18.1s,baz=284,slow=36						
SBA	**Scott Base**	**87.86**	**168**	*eP*	**P**	**10 03 40.0**	**+1.4**
	comp=Z,28nm,1.8s						
TORD	**Torodi Ar. Bea**	**89.81**	**283**	P	**P**	**10 03 49.8**	**+0.7**
	comp=Z,0.2nm,0.5s,baz=90,slow=3.9,SNR=5.3						
TORD				LR	LR	10 42 08.1	
	comp=Z,64nm,20.3s,baz=120,slow=34						
ESDC	**Sonseca Array**	**93.74**	**310**	P	**P**	**10 04 08.0**	**+1.1**
	comp=Z,0.4nm,0.5s,baz=44,slow=4.1,SNR=3.5						
KOWA	**Kowa**	**95.31**	**285**	LR	LR	10 46 39.0	
	comp=Z,57nm,18.1s,baz=35,slow=35						
DBIC	**Dimbokro**	**96.43**	**277**	LR	LR	10 46 54.5	
	comp=Z,30nm,19.5s,baz=92,slow=35						
BORG	**Borgarnes**	**98.73**	**336**	LR	LR	10 49 54.7	
	comp=Z,46nm,20.1s,baz=191,slow=36						
YKA	**Yellowknife Ar**	**113.59**	**13**	PP	PP	10 10 21.7	+2.8
	comp=Z,0.3nm,0.9s,baz=334,slow=8.1,SNR=3.0						
LKWY	**Lake**	**130.50**	**21**	*e*PKPdf	**PKPdf**	**10 09 59.5**	**-1.5**
EYMN	**Ely**	**131.14**	**3**	*e*PKPdf	**PKPdf**	**10 10 04.8**	**+1.0**
PDAR	**Pinedale Array**	**132.37**	**21**	PKP	**PKPdf**	**10 10 04.9**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=310,slow=4.6,SNR=2.2						
BGU	**Big Grassy Mou**	**132.55**	**26**	*e*PKPdf	**PKPdf**	**10 10 03.9**	**-1.0**
P18A	**Preston Nutter**	**134.81**	**24**	*e*PKPdf	**PKPdf**	**10 10 09.2**	**-0.1**
TX31	**Lajitas Ar. Si**	**146.41**	**25**	*e*PKPdf	**PKPdf**	**10 10 31.2**	**+0.9**
TX31				*e*PKPbc	**PKPbc**	**10 10 33.1**	**+1.6**
TXAR	**Lajitas Array**	**146.41**	**25**	PKPbc	**PKPdf**	**10 10 29.1**	**-1.2**
	comp=Z,1.1nm,0.8s,baz=243,slow=1.3,SNR=8.5						
SIV	**San Ignacio**	**149.34**	**240**	PKPbc	**PKPbc**	**10 10 38.7**	**-0.9**
	comp=Z,1.3nm,1.0s,baz=117,slow=12,SNR=3.9						
SIV				PKPab	**sPKPbc**	**10 10 46.0**	**-0.4**
	comp=Z,1.0nm,0.8s,baz=102,slow=4.6,SNR=6.1						

*ISCJB **15** 09:58:58.0±0.8, 2.3°N±0.1°×89.6°E±0.1°, h10km, mb3.7/14, Error ellipse: s-maj=20.1km s-min=14.0km az=30.0*
*IDC **15** 09:58:58.2±1.1, 2.2°N×89.65°E, h0km, mb3.7/13, mb1 3.8/15, mb1mx3.6/79, mbtmp3.7/15, ML3.7/2, Error ellipse: s-maj=32.9km s-min=20.8km az=41.0*
ISC 15 09:58:59.9±1.0, 2.3°N±0.2°×89.6°E±0.1°, h10km, n20, σ0§85/17, mb3.7/14, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PALK	**Pallekele**	**10.19**	**299**	Pn	**Pn**	**10 01 25.7**	**-0.7**
	1.1nm,0.3s,baz=114,slow=11,SNR=5.3						
PALK				Sn	Sn	10 03 11.5	-9.3
	18nm,0.3s,baz=116,slow=8.0,SNR=17						
CMAR	**Chiang Mai Arr**	**18.47**	**29**	P	**P**	**10 03 15.4**	**-0.7**
	0.1nm,0.3s,baz=218,slow=10,SNR=3.0						
H08S3	**Diego Garcia H**	**19.75**	**240**	T	T	10 23 56.1	
	baz=60,slow=75,SNR=16						
H08S2	**Diego Garcia H**	**19.75**	**240**	T	T	10 23 54.6	
	baz=60,slow=75,SNR=11						
H08S1	**Diego Garcia H**	**19.77**	**240**	T	T	10 23 57.3	
	baz=60,slow=75,SNR=19						
MKAR	**Makanchi Array**	**44.79**	**353**	P	**P**	**10 07 12.7**	**-1.1**
	0.3nm,0.5s,baz=174,slow=8.9,SNR=4.9						
GEYT	**Alibeck**	**45.75**	**325**	P	**P**	**10 07 20.8**	**-0.8**
	2.1nm,0.7s,baz=93,slow=12,SNR=3.6						
SONM	**Songino Array**	**47.62**	**15**	P	**P**	**10 07 36.4**	**+0.2**
	1.1nm,0.4s,baz=198,slow=9.4,SNR=6.0						
KURBB	**Kurchatov Arra**	**49.07**	**351**	P	**P**	**10 07 47.0**	**-0.2**
	0.8nm,1.0s,baz=178,slow=7.5,SNR=4.8						
WRA	**Warramunga Arr**	**49.10**	**119**	P	**P**	**10 07 47.4**	**-0.6**
	0.6nm,0.8s,baz=299,slow=8.5,SNR=3.2						
ASAR	**Alice Springs**	**50.19**	**124**	P	**P**	**10 07 55.5**	**-0.8**
	0.2nm,0.6s,baz=300,slow=7.4,SNR=3.7						
ZALV	**Zalesovo Beam**	**51.64**	**356**	P	**P**	**10 08 07.1**	**+0.5**
	1.1nm,0.4s,baz=152,slow=6.5,SNR=2.8						
BVAR	**Borovoye Array**	**53.03**	**346**	P	**P**	**10 08 18.1**	**+1.1**
	0.6nm,0.8s,baz=162,slow=6.1,SNR=3.0						
KLR	**Kul'dur**	**58.94**	**31**	P	**P**	**10 09 00.5**	**+1.1**
	0.1nm,0.7s,baz=264,slow=9.2,SNR=2.1						
BRTR	**Keskin Array B**	**62.86**	**314**	P	**P**	**10 09 26.1**	**-0.4**
	0.6nm,0.6s,baz=132,slow=8.5,SNR=4.0						
FINES	**FINESS Array B**	**75.61**	**334**	P	**P**	**10 10 44.4**	**-0.4**
	0.7nm,0.8s,baz=91,slow=8.3,SNR=3.3						
ARCES	**ARCESS Array B**	**79.02**	**341**	P	**P**	**10 11 04.3**	**+0.5**
	1.5nm,0.9s,baz=92,slow=6.1,SNR=4.5						
GERES	**GERESS Array B**	**79.04**	**319**	P	**P**	**10 11 05.4**	**+0.9**
	0.2nm,0.5s,baz=115,slow=6.6,SNR=3.0						
TORD	**Torodi Ar. Bea**	**87.49**	**283**	P	**P**	**10 11 49.9**	**+1.3**
	0.2nm,0.5s,baz=88,slow=5.1,SNR=2.9						
TXAR	**Lajitas Array**	**146.07**	**21**	PKPbc	**PKPbc**	**10 18 40.3**	**-0.7**
	0.1nm,0.4s,baz=346,slow=1.9,SNR=2.5						

*ISCJB **15** 10:00:55.8±0.7, 52.8°N±0.08°×168.32°W±0.08, h49km, mb3.5/13, MS3.6/1, Error ellipse: s-maj=12.1km s-min=6.0km az=156.0*
*NEIC **15** 10:00:55.4±0.0, 52.70°N×168.13°W, h26km, ML3.2(AEIC), After AEIC.*
*IDC **15** 10:00:58.0±4.2, 52.96°N×168.30°W, h50km±37km, mb3.3/14, mb1 3.5/16, mb1mx3.3/80, mbtmp3.6/16, ML3.2/1, MS3.6/1, Ms1 3.6/1, ms1mx2.5/34, Error ellipse: s-maj=37.2km s-min=18.6km az=173.0*
ISC 15 10:00:57.8±0.8, 52.9°N±0.1°×168.36°W±0.07, h49km, n30, σ0§78/27, mb3.5/13, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NIKH	**Nikolski High**	**0.30**	**278**	P	**Pn**	**10 01 06.0**	**-0.9**
NIKH				S	**Sn**	**10 01 13.4**	**+0.2**
OKTU	**Okmok Mt. Tuli**	**0.49**	**23**	P	**Pn**	**10 01 08.8**	**-0.1**
OKWE	**Okmok W'ng Wal**	**0.55**	**8**	P	**Pn**	**10 01 10.0**	**+0.4**
OKAK	**Okmok**	**0.65**	**0**	P	**Pn**	**10 01 09.1**	**-1.7**
OKAK				S	**Sn**	**10 01 19.8**	**-0.4**
MGOD	**Makushin Gods**	**1.24**	**45**	P	**Pn**	**10 01 17.9**	**-0.9**
UNV	**Unalaska Valle**	**1.44**	**50**	P	**Pn**	**10 01 20.1**	**-1.4**
UNV				S	**Sn**	**10 01 38.8**	**-0.4**
AKSA	**Akutan Strait**	**2.00**	**52**	P	**Pn**	**10 01 29.0**	**-0.1**
AKSA				S	**Sn**	**10 01 54.0**	**+1.2**
KDAK	**Kodiak Island**	**10.20**	**55**	P	**Pn**	**10 03 20.3**	**-1.1**
	0.2nm,0.3s,baz=235,slow=12,SNR=2.4						
ILAR	**Eielson Array**	**16.14**	**34**	P	**Pn**	**10 04 41.9**	**+0.9**
	baz=228,slow=13,SNR=2.7						
PETK	**Petropavlovsk-**	**20.31**	**284**	P	**P**	**10 05 28.8**	**-0.6**
	0.5nm,0.4s,baz=90,slow=14,SNR=5.3						
INK	**Inuvik**	**22.54**	**34**	P	**P**	**10 05 52.8**	**-0.3**
	0.9nm,0.5s,baz=233,slow=9.9,SNR=9.3						
SEY	**Seymchan**	**22.75**	**312**	P	**P**	**10 05 56.5**	**+1.1**
	0.4nm,0.3s,baz=100,slow=12,SNR=4.1						
YKA	**Yellowknife Ar**	**29.41**	**50**	P	**P**	**10 06 55.9**	**-0.2**
	0.1nm,0.5s,baz=273,slow=7.9,SNR=6.3						
H11N2	**WAKE ISLAND Hy**	**38.28**	**220**	T	T	10 49 02.5	
	baz=24,slow=76,SNR=26						
H11N3	**WAKE ISLAND Hy**	**38.28**	**219**	T	T	10 49 03.1	
	baz=24,slow=76,SNR=36						
H11N1	**WAKE ISLAND Hy**	**38.30**	**220**	T	T	10 49 04.0	
	baz=24,slow=76,SNR=23						
USRK	**Ussuriysk Ar.**	**39.38**	**282**	LR	LR	10 26 37.9	
	comp=Z,86nm,19.0s,baz=202,slow=39						
H11S1	**WAKE ISLAND Hy**	**39.47**	**219**	T	T	10 50 31.4	
	baz=24,slow=76,SNR=35						
H11S2	**WAKE ISLAND Hy**	**39.48**	**219**	T	T	10 50 32.2	
	baz=24,slow=76,SNR=27						
H11S3	**WAKE ISLAND Hy**	**39.48**	**219**	T	T	10 50 32.4	
	baz=24,slow=76,SNR=24						
PDAR	**Pinedale Array**	**39.70**	**80**	P	**P**	**10 08 25.5**	**+0.2**
	0.2nm,0.5s,baz=305,slow=3.2,SNR=3.3						
SONM	**Songino Array**	**51.54**	**301**	P	**P**	**10 09 59.0**	**+0.5**
	0.2nm,0.4s,baz=62,slow=3.4,SNR=2.6						
KURBB	**Kurchatov Arra**	**62.47**	**319**	P	**P**	**10 11 15.8**	**+0.2**
	0.5nm,1.0s,baz=55,slow=6.9,SNR=3.5						
BVAR	**Borovoye Array**	**63.60**	**325**	P	**P**	**10 11 22.9**	**-0.1**
	0.8nm,0.6s,baz=62,slow=6.9,SNR=6.6						
MKAR	**Makanchi Array**	**63.86**	**31**	P	**P**	**10 11 25.1**	**+0.1**
	0.3nm,0.7s,baz=47,slow=3.0,SNR=3.3						
FINES	**FINESS Array B**	**65.39**	**352**	P	**P**	**10 11 34.5**	**-0.1**
	1.0nm,0.8s,baz=44,slow=6.4,SNR=2.4						
HFS	**Hagfors**	**67.27**	**359**	P	**P**	**10 11 46.3**	**-0.4**
	0.6nm,0.3s,baz=29,slow=3.3,SNR=5.7						
AKASG	**Malin Array Be**	**75.68**	**349**	P	**P**	**10 12 36.9**	**-0.5**
	0.3nm,0.5s,baz=3.1,slow=3.4,SNR=2.0						
CMAR	**Chiang Mai Arr**	**77.09**	**283**	P	**P**	**10 12 47.1**	**+1.2**
	0.2nm,0.6s,baz=19,slow=6.7,SNR=7.9						
ASAR	**Alice Springs**	**91.23**	**231**	P	**P**	**10 13 56.9**	**-0.6**
	0.3nm,0.9s,baz=24,slow=3.6,SNR=3.0						

*DDA **15** 10:01:01.7, 42.55°N×43.31°E, h7km, Md2.7*
*CSEM **15** 10:01:02.7±0.4, 42.54°N×43.41°E, h2km, ML2.7, Error ellipse: s-maj=8.0km s-min=4.0km az=167.0*
*TIF **15** 10:01:02.1, 42.58°N×43.46°E, h11km*
ISC 15 10:01:02.2±1.0, 42.54°N±0.07°×43.39°E±0.03, h9km±8km, n25, σ0§51/48, 1C, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ONI	**Oni**	**0.07**	**47**	P	**Pg**	**10 01 04.6**	**+0.1**
ONI				S	**Sg**	**10 01 05.9**	**-0.1**
GUDG	**Gudauri**	**0.81**	**95**	P	**Pg**	**10 01 17.5**	**-0.4**
GUDG				S	**Sg**	**10 01 28.2**	**-0.3**
GUDG	**Gudauri**	**0.81**	**95**	P	**Pg**	**10 01 17.5**	**-0.4**
GUDG				S	**Sg**	**10 01 28.2**	**-0.3**
DUS	**Dusheti**	**1.08**	**114**	P	**Pb**	**10 01 23.3**	**+0.2**
DUS				S	**Sn**	**10 01 38.2**	**-0.4**
DUS	**Dusheti**	**1.08**	**114**	P	**Pb**	**10 01 23.3**	**+0.2**
DUS				S	**Sn**	**10 01 38.2**	**-0.4**
AKH	**Akhalkalaki**	**1.14**	**176**	P	**Pn**	**10 01 24.4**	**0.0**
AKH				S	**Sn**	**10 01 40.4**	**+0.1**
AKH	**Akhalkalaki**	**1.14**	**176**	↑ *i* P	**Pn**	**10 01 24.5**	**0.0**
AKH	**Akhalkalaki**	**1.14**	**176**	P	**Pn**	**10 01 24.5**	**0.0**
AKH				S	**Sn**	**10 01 40.4**	**+0.1**
EPOS	**Posof**	**1.15**	**205**	*i* P	**Pg**	**10 01 23.7**	**-0.6**
EPOS				*i* S	**Sb**	**10 01 39.8**	**+0.4**
EPOS	**Posof**	**1.15**	**205**	P	**Pg**	**10 01 23.7**	**-0.6**
EPOS				S	**Sb**	**10 01 39.8**	**+0.4**
TBLG	**Delisi**	**1.29**	**128**	P	**Pg**	**10 01 26.9**	**-0.2**
TBLG				S	**Sn**	**10 01 44.3**	**+0.3**
TBLG	**Delisi**	**1.29**	**128**	P	**Pg**	**10 01 26.9**	**-0.2**
TBLG				S	**Sn**	**10 01 44.2**	**+0.3**
BTNK	**Botanikuri**	**1.36**	**129**	P	**Pn**	**10 01 27.0**	**-0.4**
BTNK				S	**Sg**	**10 01 46.1**	**+0.2**
BTNK	**Botanikuri**	**1.36**	**129**	P	**Pn**	**10 01 27.0**	**-0.4**
BTNK				S	**Sg**	**10 01 46.2**	**+0.2**
ARTV	**Artvin**	**1.74**	**219**	*i* P	**Pn**	**10 01 33.1**	**+0.3**
ARTV				*i* S	**Sb**	**10 01 57.1**	**+0.6**
ARTV	**Artvin**	**1.74**	**219**	P	**Pn**	**10 01 33.2**	**+0.3**
ARTV				S	**Sb**	**10 01 57.1**	**+0.6**
DBOC	**Borcka**	**1.75**	**228**	*i* P	**Pb**	**10 01 34.1**	**-0.5**
DBOC				*i* S	**Sg**	**10 01 58.5**	**-0.1**
DBOC	**Borcka**	**1.75**	**228**	P	**Pb**	**10 01 34.1**	**-0.5**
DBOC				S	**Sg**	**10 01 58.5**	**-0.1**
DGRG	**David-gareji**	**1.84**	**126**	P	**Pb**	**10 01 35.8**	**-0.3**
DGRG				S	**Sg**	**10 02 02.5**	**+1.1**
DGRG	**David-gareji**	**1.84**	**126**	P	**Pb**	**10 01 35.8**	**-0.3**
DBAD	**Bademkaya**	**1.98**	**220**	*i* P	**Pb**	**10 01 38.1**	**-0.4**
DBAD				*i* S	**Sb**	**10 02 04.8**	**+1.5**
DBAD	**Bademkaya**	**1.98**	**220**	P	**Pb**	**10 01 38.1**	**-0.4**
DBAD				S	**Sb**	**10 02 04.8**	**+1.5**
DDEM	**Demirkent**	**2.06**	**217**	*i* P	**Pb**	**10 01 39.5**	**-0.3**
DDEM				*i* S	**Sg**	**10 02 08.2**	**-0.1**
DDEM	**Demirkent**	**2.06**	**217**	P	**Pb**	**10 01 39.5**	**-0.3**
DDEM				S	**Sg**	**10 02 08.2**	**-0.1**
DDFL	**Dedoflistskaro**	**2.31**	**117**	P	**Pg**	**10 01 45.9**	**-0.7**
DDFL				S	**Sg**	**10 02 15.9**	**-0.6**

*ISCJB **15** 10:20:56.2±0.6, 2.48°N±0.09°×89.92°E±0.06, h10km, mb4.3/30, MS3.6/3, Error ellipse: s-maj=14.1km s-min=7.2km az=24.2*
*IDC **15** 10:20:57.1±0.8, 2.58°N×89.92°E, h0km, mb4.1/18, mb1 4.2/20, mb1mx3.9/68, mbtmp4.1/20, ML3.5/2, MS3.3/6, Ms1 3.4/6, ms1mx2.8/69, Error ellipse: s-maj=31.4km s-min=15.4km az=45.0*
*NEIC **15** 10:20:58.5±0.4, 2.58°N×89.94°E, h10km, mb4.5/9, Error ellipse: s-maj=10.2km s-min=4.9km az=205.0*
ISC 15 10:20:58.1±0.7, 2.5°N±0.1°×89.96°E±0.08, h10km, n64, σ1§15/61, mb4.4/30, MS3.5/3, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GSI	**Gunungsitoli**	**7.70**	**98**	*e*Pn	**Pn**	**10 22 50.7**	**+0.3**
GSI				*e*Sn	**Sn**	**10 24 13.4**	**-4.4**
PSI	**Prapat**	**8.96**	**88**	*e*Pn	**Pn**	**10 23 08.3**	**+0.4**
PALK	**Pallekele**	**10.38**	**298**	Pn	**Pn**	**10 23 27.3**	**0.0**
	0.3nm,0.3s,baz=116,slow=14,SNR=4.2						
PALK				Sn	Sn	10 25 10.8	-13
	8.0nm,0.3s,baz=296,slow=3.2,SNR=29						
PALK				LR	LR	10 26 49.2	
	comp=Z,108nm,21.3s,baz=116,slow=34						
IPM	**Ipoh**	**11.23**	**79**	*e*Pn	**Pn**	**10 23 39.8**	**+0.9**
CMAR	**Chiang Mai Arr**	**18.17**	**28**	P	**P**	**10 25 10.8**	**-0.2**
	0.1nm,0.3s,baz=223,slow=13,SNR=11						
CMAR				LR	LR	10 32 04.1	
	comp=Z,50nm,19.0s,baz=211,slow=37						
LEM	**Lembang**	**19.90**	**118**	LR	LR	10 32 48.5	
	comp=Z,82nm,18.4s,baz=242,slow=36						
H08S3	**Diego Garcia H**	**20.11**	**240**	T	T	10 46 05.6	
	baz=59,slow=75,SNR=48						
H08S2	**Diego Garcia H**	**20.11**	**240**	T	T	10 46 07.2	
	baz=59,slow=75,SNR=37						
H08S1	**Diego Carcia H**	**20.13**	**240**	T	T	10 46 21.1	
	baz=59,slow=75,SNR=38						
KSM	**Kuching**	**20.36**	**92**	*eP*	**P**	**10 25 35.0**	**-0.1**
	6.9nm,0.8s						
KMI	**Kunming**	**25.67**	**28**	P	**P**	**10 26 30.5**	**+1.8**
KMI				pmax	pmax		
	comp=Z,15nm,0.5s						
CD2	**Chengdu**	**31.15**	**23**	*eP*	**P**	**10 27 19.5**	**+2.1**
GTA	**Gaotai**	**37.85**	**12**	*eP*	**P**	**10 28 15.8**	**+0.5**
GTA				pP	sP	10 28 19.8	+0.2
GTA				sP	pP	10 28 22.9	+4.5
GTA				pmax	pmax		
	comp=Z,6.0nm,0.9s						
KSH	**Kashi**	**39.01**	**343**	P	**P**	**10 28 24.3**	**-0.8**
NJ2	**Nanjing**	**40.06**	**40**	*eP*	**P**	**10 28 34.4**	**+0.6**
NJ2				pmax	pmax		
	comp=Z,11nm,0.5s						
KDJ	**Kajisay**	**41.12**	**346**	*eP*	**P**	**10 28 40.0**	**-2.6**
	comp=Z,3.0nm,0.9s						
WMQ	**Urumqi**	**41.23**	**358**	P	**P**	**10 28 43.8**	**+0.5**
WMQ				pP	sP	10 28 48.6	+0.9
WMQ				sP	pP	10 28 50.8	+4.4
WMQ				pmax	pmax		
	comp=Z,20nm,0.9s						
HHC	**Hu-ho-hao-te**	**42.90**	**24**	*eP*	**P**	**10 28 59.5**	**+2.4**
HHC				pmax	pmax		
	comp=Z,11nm,1.0s						
HHC				pmax	pmax		
	comp=Z,26nm,6.1s						
H01W3	**Cape Leeuwin H**	**43.53**	**151**	T	T	11 15 46.6	
	baz=326,slow=76,SNR=12						
H01W2	**Cape Leeuwin H**	**43.55**	**151**	T	T	11 15 41.5	

PTK					SG		**Sb**	**10 30 58.7**	**-0.8**
PTK	**Pertek**	**0.34**	**328**	*e*Pg			**Pb**	**10 30 53.6**	**-0.6**
PTK				*e*Sg			**Sb**	**10 30 58.7**	**-0.8**
ELZG	**Elazig**	**0.51**	**258**	*i* P			**Pb**	**10 30 56.6**	**-0.5**
ELZG				*i* S			**Sb**	**10 31 05.9**	**+1.5**
ELZG	**Elazig**	**0.51**	**258**	P			**Pb**	**10 30 56.6**	**-0.5**
ELZG				S			**Sb**	**10 31 05.9**	**+1.5**
TNCL	**Tunceli-Merkez**	**0.52**	**353**	*i* P			**Pb**	**10 30 56.7**	**-0.5**
TNCL				*e*S			**Sb**	**10 31 03.9**	**-0.5**
TNCL				IAML				10 31 05.6	
	comp=Z,1µm,0.5s								
TNCL	**Tunceli-Merkez**	**0.52**	**353**	*i* P			**Pb**	**10 30 56.6**	**-0.5**
TNCL				*i* S			**Sb**	**10 31 04.4**	**-0.1**
TNCL	**Tunceli-Merkez**	**0.52**	**353**	P			**Pb**	**10 30 56.6**	**-0.5**
TNCL				S			**Sb**	**10 31 04.4**	**-0.1**
HANI	**Diyarbakir_Han**	**0.64**	**107**	*i* P			**Pg**	**10 30 58.4**	**-0.5**
HANI	**Diyarbakir_Han**	**0.64**	**107**	P			**Pg**	**10 30 58.3**	**-0.5**
DYBB	**Diyarbakir**	**0.77**	**148**	PG			**Pb**	**10 31 01.7**	**+0.3**
DYBB				SG			**Sb**	**10 31 12.7**	**+1.1**
DIY	**Diyarbakir**	**0.85**	**146**	*e*Pg			**Pg**	**10 31 01.7**	**-1.1**
DIY				*e*Sg			**Sg**	**10 31 12.7**	**-1.3**
BGOL	**Bingol**	**0.91**	**65**	*i* P			**Pn**	**10 31 04.8**	**+0.2**
BGOL	**Bingol**	**0.91**	**65**	P			**Pn**	**10 31 04.8**	**+0.2**
BNGB	**Bing¯¶l**	**0.91**	**65**	PG			**Pg**	**10 31 03.6**	**-0.4**
BNGB				SG			**Sn**	**10 31 16.8**	**-0.8**
MALT	**Malatya**	**0.98**	**253**	PG			**Pg**	**10 31 05.2**	**-0.1**
MALT	**Malatya**	**0.98**	**253**	*e*Pg			**Pg**	**10 31 05.2**	**-0.1**
ERZN	**Erzincan**	**0.98**	**4**	PG			**Pb**	**10 31 04.2**	**-1.0**
REFA	**Refahiye_ERZ¯**	**1.04**	**320**	*e*P			Pn	10 31 14.3	+7.9
REFA				*e*S			Sn	10 31 34.2	+13
REFA				IAML				10 31 42.2	
	comp=Z,33nm,0.4s								
REFA	**Refahiye_ERZ¯**	**1.04**	**320**	*i* P			Pn	10 31 14.3	+7.8
REFA				*i* S			Sn	10 31 32.6	+12
KEMA	**Kemaliye**	**1.10**	**307**	*i* P			**Pb**	**10 31 06.7**	**-0.5**
KEMA				*e*S			**Sn**	**10 31 22.4**	**+0.1**
KEMA				IAML				10 31 33.0	
	comp=Z,35nm,0.5s								
KEMA	**Kemaliye**	**1.10**	**307**	*i* P			**Pb**	**10 31 06.0**	**-1.1**
KEMA	**Kemaliye**	**1.10**	**307**	P			**Pb**	**10 31 06.0**	**-1.1**
EUZM	**Uzumlu**	**1.10**	**3**	*e*P			**Pg**	**10 31 07.5**	**-0.1**
EUZM				*e*S			**Sn**	**10 31 22.5**	**+0.1**
EUZM				IAML				10 31 31.8	
	comp=Z,69nm,0.7s								
ILIC	**ilic-Erzincan**	**1.18**	**316**	PN			**Pb**	**10 31 08.3**	**-0.2**
ILIC	**ilic-Erzincan**	**1.18**	**316**	*e*Pn			**Pb**	**10 31 08.3**	**-0.2**
MAZI	**Mazidag**	**1.31**	**150**	PN			**Pb**	**10 31 10.5**	**-0.2**
MAZI	**Mazidag**	**1.31**	**150**	*e*Pn			**Pb**	**10 31 10.5**	**-0.2**
SVAN	**Silvan-Diyarba**	**1.32**	**110**	PN			**Pb**	**10 31 10.5**	**-0.3**
SVAN	**Silvan-Diyarba**	**1.32**	**110**	*i* P			**Pg**	**10 31 11.5**	**-0.2**
SVAN				*i* S			**Sg**	**10 31 28.9**	**0.0**
SVAN	**Silvan-Diyarba**	**1.32**	**110**	*e*Pn			**Pb**	**10 31 10.5**	**-0.3**
SVAN	**Silvan-Diyarba**	**1.32**	**110**	P			**Pg**	**10 31 11.5**	**-0.2**
SVAN				S			**Sg**	**10 31 28.9**	**0.0**
URFA	**Urfa**	**1.32**	**209**	PN			**Pn**	**10 31 10.5**	**+0.2**
URFA	**Urfa**	**1.32**	**209**	*e*Pn			**Pn**	**10 31 10.5**	**+0.2**
HEKM	**Malatya_Hekimh**	**1.33**	**282**	*i* P			**Pn**	**10 31 10.3**	**-0.2**
HEKM				*i* S			**Sg**	**10 31 30.7**	**+1.4**
HEKM	**Malatya_Hekimh**	**1.33**	**282**	P			**Pn**	**10 31 10.3**	**-0.2**
HEKM				S			**Sg**	**10 31 30.7**	**+1.4**
AKCD	**Akcadag**	**1.37**	**258**	*i* P			**Pg**	**10 31 12.0**	**-0.7**
AKCD	**Akcadag**	**1.37**	**258**	P			**Pg**	**10 31 12.0**	**-0.7**
ECAT	**Cat-ERZURUM**	**1.45**	**46**	*e*P			**Pg**	**10 31 14.4**	**+0.1**
ECAT				IAML				10 31 44.7	
	comp=Z,31nm,0.5s								
BTMN	**Batman**	**1.48**	**118**	*i* P			**Pb**	**10 31 13.8**	**+0.3**
BTMN				*i* S			**Sg**	**10 31 33.7**	**-0.3**
BTMN	**Batman**	**1.48**	**118**	P			**Pb**	**10 31 13.8**	**+0.3**
BTMN				S			**Sg**	**10 31 33.7**	**-0.3**
SANL	**SANLIURFA_Merk**	**1.52**	**200**	*i* P			**Pg**	**10 31 14.8**	**-0.6**
SANL				*i* S			**Sg**	**10 31 36.1**	**+1.0**
SANL	**SANLIURFA_Merk**	**1.52**	**200**	P			**Pg**	**10 31 14.8**	**-0.6**
SANL				S			**Sg**	**10 31 36.1**	**+1.0**
VRTB	**Varto-Mus**	**1.54**	**68**	PN			**Pn**	**10 31 13.3**	**0.0**
VRTB	**Varto-Mus**	**1.54**	**68**	*e*Pn			**Pn**	**10 31 13.3**	**0.0**
ATAB	**Bozova**	**1.54**	**223**	*i* P			**Pn**	**10 31 12.1**	**-1.2**
ATAB				*i* S			**Sb**	**10 31 34.3**	**+0.4**
ATAB	**Bozova**	**1.54**	**223**	P			**Pn**	**10 31 12.1**	**-1.2**
ATAB				S			**Sb**	**10 31 34.3**	**+0.4**
KOPT	**Kop Dagi**	**1.57**	**25**	*e*P			**Pg**	**10 31 16.1**	**-0.4**
KOPT				*e*S			**Sg**	**10 31 38.9**	**+2.0**
KOPT				IAML				10 31 50.9	
	comp=Z,34nm,0.5s								
KELT	**Kelkit**	**1.57**	**350**	*e*P			**Pg**	**10 31 16.6**	**+0.1**
KELT				*e*S			**Sg**	**10 31 37.8**	**+0.9**
KELT				IAML				10 31 40.6	
	comp=Z,24nm,0.6s								
MARD	**Mardin**	**1.58**	**144**	*i* P			**Pn**	**10 31 13.9**	**+0.1**
MARD				*i* S			**Sn**	**10 31 34.7**	**+0.6**
DARE	**Darende-Malaty**	**1.68**	**270**	PN			**Pn**	**10 31 14.5**	**-0.7**
DARE	**Darende-Malaty**	**1.68**	**270**	*e*Pn			**Pn**	**10 31 14.5**	**-0.7**
BAYB	**BAYBURT**	**1.73**	**16**	*e*P			**Pg**	**10 31 19.1**	**-0.4**
BAYB				*e*S			**Sg**	**10 31 44.4**	**+2.5**
BAYB				IAML				10 31 46.1	
	comp=Z,11nm,0.6s								
CUKAN	**kangal_SIVAS**	**1.82**	**294**	*i* P			**Pg**	**10 31 20.9**	**-0.5**
CUKAN	**kangal_SIVAS**	**1.82**	**294**	P			**Pg**	**10 31 20.9**	**-0.5**
BAYT	**Ayd¯–ntepe-Bay**	**1.83**	**12**	PN			**Pn**	**10 31 17.7**	**+0.3**
BAYT	**Ayd¯–ntepe-Bay**	**1.83**	**12**	*e*Pn			**Pn**	**10 31 17.7**	**+0.3**
ERZM	**Erzurum**	**1.88**	**46**	*e*P			**Pb**	**10 31 20.8**	**+0.4**
ERZM				*e*S			**Sg**	**10 31 49.6**	**+2.8**
GURO	**Guroymak-BITLI**	**1.89**	**91**	PN			**Pn**	**10 31 18.4**	**+0.2**
GURO	**Guroymak-BITLI**	**1.89**	**91**	*e*Pn			**Pn**	**10 31 18.4**	**+0.2**
SURC	**SANLIURFA_SURC**	**1.90**	**205**	*i* P			**Pb**	**10 31 20.6**	**-0.1**
SURC				*i* S			**Sg**	**10 31 47.1**	**-0.2**
SURC	**SANLIURFA_SURC**	**1.90**	**205**	P			**Pb**	**10 31 20.6**	**-0.1**
SRTM	**Siirt_Merkez**	**1.91**	**108**	*i* P			**Pb**	**10 31 20.5**	**-0.4**
SRTM				*i* S			**Sg**	**10 31 46.4**	**-1.4**
SRTM	**Siirt_Merkez**	**1.91**	**108**	P			**Pb**	**10 31 20.5**	**-0.4**
SRTM				S			**Sg**	**10 31 46.4**	**-1.4**
SUSE	**Susehri**	**1.94**	**326**	*i* P			**Pg**	**10 31 22.3**	**-1.4**
SUSE	**Susehri**	**1.94**	**326**	P			**Pg**	**10 31 22.3**	**-1.4**
EKAR	**Karacoban**	**2.01**	**70**	*e*P			**Pg**	**10 31 23.9**	**-1.1**
HOMI	**Horasan**	**2.28**	**50**	*e*P			**Pg**	**10 31 28.4**	**-1.6**
GAZ	**Gaziantep**	**2.38**	**234**	PN			**Pn**	**10 31 24.9**	**0.0**
GAZ	**Gaziantep**	**2.38**	**234**	*e*Pn			**Pn**	**10 31 24.9**	**0.0**
ESPY	**Espiye-Giresun**	**2.41**	**344**	PN			**Pn**	**10 31 24.9**	**-0.3**
ESPY	**Espiye-Giresun**	**2.41**	**344**	*e*Pn			**Pn**	**10 31 24.9**	**-0.3**
KMRS	**Kahramanmaras**	**2.41**	**244**	PN			**Pn**	**10 31 25.6**	**+0.4**
KMRS	**Kahramanmaras**	**2.41**	**244**	*e*Pn			**Pn**	**10 31 25.6**	**+0.4**
SIRT	**Sirnak**	**2.48**	**115**	PN			**Pn**	**10 31 26.5**	**+0.3**
SIRT	**Sirnak**	**2.48**	**115**	*e*Pn			**Pn**	**10 31 26.5**	**+0.3**
GIRSN	**GIRESUNGRSN**	**2.54**	**336**	*i* P			**Pg**	**10 31 31.1**	**-1.9**
EATA	**Eleskirt**	**2.56**	**60**	*e*P			**Pb**	**10 31 32.0**	**-0.1**
GEVA	**Gevas**	**2.71**	**95**	*e*P			**Pb**	**10 31 35.5**	**+0.8**
AGRB	**Hanur-Agry**	**2.80**	**69**	PN			**Pn**	**10 31 31.2**	**+0.5**
AGRB	**Hanur-Agry**	**2.80**	**69**	*e*Pn			**Pn**	**10 31 31.2**	**+0.5**
KOZT	**Kozan**	**3.20**	**251**	PN			**Pn**	**10 31 37.2**	**+1.2**
KOZT	**Kozan**	**3.20**	**251**	*e*Pn			**Pn**	**10 31 37.2**	**+1.2**

IDC 15 10:33:52.0±1.6, 15°33S×177°06E, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.6/49, mbtmp3.7/4, Error ellipse: s-maj=51.1km s-min=37.3km az=161.0, Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**40.89**	**257**	P	P	10 41 36.2	0.0
	0.3nm,0.5s,baz=87,slow=8.4,SNR=5.5						
ASAR	**Alice Springs**	**41.39**	**252**	P	P	10 41 40.2	-0.1
	1.4nm,0.7s,baz=84,slow=8.6,SNR=16						
QSPA	**South Pole Qui**	**74.70**	**180**	P	P	10 45 33.3	-0.2
	1.1nm,0.5s,baz=33,slow=3.8,SNR=6.2						
YKA	**Yellowknife Ar**	**93.86**	**26**	P	P	10 47 11.1	+0.2
	0.1nm,0.5s,baz=249,slow=3.2,SNR=5.0						

*NIED **15** 10:36:00, 37°00N×141°40E, h5km, Mw4.5 Best double couple: M0 5.83000×10^15 NP1:φ=209.00000°, δ=44.00000°, λ=-88.00000°. NP2:φ=27.00000°, δ=46.00000°, λ=-92.00000°.*
*IDC **15** 10:36:47.7±0.4, 37°03N×141°17E, h0km, mb4.3/39, mb1 4.4/44, mb1mx4.3/72, mbtmp4.3/44, ML3.5/5, MS3.7/36, Ms1 3.7/36, ms1mx3.5/72, Error ellipse: s-maj=11.8km s-min=9.7km az=123.0*
*JMA **15** 10:36:48.6±0.1, 37°00N×141°37E, h24km±1km, M4.7*
JMA Felt II J1.
*ISCJB **15** 10:36:50.9±0.5, 37°05N±0°02×141°18E±0°03, h28km±3km, mb4.6/176, MS4.0/40, Error ellipse: s-maj=4.4km s-min=3.1km az=144.0*

*NEIC **15** 10:36:52.2±1.2, 37°08N×141°14E, h25km±8km, mb4.7/114, Error ellipse: s-maj=4.6km s-min=2.8km az=144.0*
NEIC Recorded [2 JMA] in Fukushima.
*MOS **15** 10:36:52.1±0.9, 37°35N×141°15E, h29km, mb4.9/47, Error ellipse: s-maj=6.7km s-min=4.5km az=107.6*

ISC 15 10:36:51.3±0.6, 37°08N±0°03×141°24E±0°04, h23km±3km, n386, σ1§25/406, mb4.7/176, MS4.0/40, 21C-10D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ONAJ	**Iwakimizuishiy**	**0.35**	**274**	P	**Pb**	**10 36 57.7**	**-1.3**
ONAJ				S	**Sb**	**10 37 04.6**	**+0.4**
JFK	**Kawauchi**	**0.41**	**315**	P	**Pb**	**10 36 59.1**	**-0.8**
JFK				S	**Sb**	**10 37 06.5**	**+0.7**
JHO	**Hitachi**	**0.71**	**229**	P	**Pb**	**10 37 02.6**	**-2.4**
JHO				S	**Sb**	**10 37 12.8**	**-1.5**
JFT	**Otama**	**0.84**	**302**	P	**Pb**	**10 37 07.0**	**-0.2**
JFT				S	**Sn**	**10 37 19.7**	**+0.4**
JMM	**Marumori**	**0.86**	**336**	P	**Pb**	**10 37 06.5**	**-1.1**
JMM				S	**Sn**	**10 37 19.6**	**-0.2**
JSB	**Shiboa**	**1.06**	**264**	P	**Pn**	**10 37 10.3**	**-0.4**
JSB				S	**Sn**	**10 37 25.6**	**+0.9**
JFY	**Yanaizu**	**1.27**	**286**	P	**Pn**	**10 37 13.5**	**0.0**
JFY				S	**Sb**	**10 37 31.6**	**+1.3**
JIO	**Ouri**	**1.38**	**4**	P	**Pn**	**10 37 13.6**	**-1.4**
JIO				S	**Sn**	**10 37 32.6**	**+0.1**
MJAR	**Matsushiro Arr**	**2.49**	**258**	Pn	**Pn**	**10 37 30.2**	**-0.1**
	11nm,0.3s,baz=85,slow=15,SNR=81						
MJAR				Sn	**Sn**	**10 38 01.0**	**+1.0**
	13nm,0.3s,baz=56,slow=28,SNR=6.7						
MJAR				LR	LR	10 38 17.8	
	comp=Z,257nm,18.8s,baz=75,slow=38						
MAJO	**Matsushiro**	**2.49**	**259**	*e*Pn	**Pn**	**10 37 31.2**	**+0.8**
MAJO	**Matsushiro**	**2.49**	**259**	*d*iP	**Pn**	**10 37 30.9**	**+0.5**
MAT	**Matsushiro**	**2.49**	**259**	P	**Pn**	**10 37 31.0**	**+0.6**
MAT				S	**Sn**	**10 38 01.9**	**+1.9**
MJB9	**Matsu-Tunnel**	**2.49**	**259**	*e*Pn	**Pn**	**10 37 31.2**	**+0.8**
INU	**Inuyama**	**3.82**	**244**	*e*Pn	**Pn**	**10 37 49.1**	**+0.4**
JHJ	**Hachijo jima 2**	**4.12**	**197**	Pn	**Pn**	**10 37 51.4**	**-1.5**
	26nm,0.3s,baz=224,slow=23,SNR=3.2						
JHJ				Sn	**Sn**	**10 38 39.9**	**-0.4**
	29nm,0.3s,baz=251,slow=24,SNR=3.6						
JHJ				LR	LR	10 39 34.9	
	comp=Z,584nm,18.2s,baz=324,slow=41						
ERM	**Erimo**	**5.15**	**16**	*e*Pn	**Pn**	**10 38 05.5**	**-1.4**
ERM	**Erimo**	**5.15**	**16**	*ce*P	**Pn**	**10 38 04.9**	**-2.0**
ERM				pmax	pmax		
	comp=Z,43nm,1.0s						
ASAJ	**Asahikawa**	**7.11**	**8**	Pn	**Pn**	**10 38 32.6**	**-1.1**
	comp=Z,1.9nm,0.3s,baz=216,slow=8.4,SNR=21						
ASAJ				Sn	**Sn**	**10 39 57.6**	**+3.8**
	comp=Z,0.6nm,0.3s,baz=86,slow=20,SNR=2.2						
TEY	**Ternei**	**8.68**	**338**	*e*P	Pn	10 39 01.0	+5.6
JNU	**Nakatsue**	**9.36**	**248**	Pn	**Pn**	**10 39 04.9**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=63,slow=4.5,SNR=2.2						
JNU				LR	LR	10 43 09.0	
	comp=Z,499nm,18.4s,baz=72,slow=41						
JNU	**Nakatsue**	**9.36**	**248**	*e*Pn	**Pn**	**10 39 08.5**	**+3.8**
VLA	**Vladivostok**	**9.36**	**313**	*e*P	**Pn**	**10 39 06.3**	**+1.6**
VLA				pmax	pmax		
	comp=Z,38nm,1.1s						
MSHR	**Mys Shultsa**	**9.50**	**308**	*e*P	**Pn**	**10 39 08.0**	**+1.4**
KUR	**Kuril'sk**	**9.56**	**29**	*e*P	**Pn**	**10 39 06.5**	**-0.8**
KUR				*e*S	**Sn**	**10 40 49.3**	**-4.6**
KUR				pmax	pmax		
	comp=Z,24nm,0.5s						
KUR				smax	smax		
	comp=N,17nm,0.6s						
KUR				smax	smax		
	comp=E,37nm,0.6s						
YSS	**Yuzn-Sakhalins**	**9.93**	**6**	*e*Pn	**Pn**	**10 39 11.7**	**-0.7**
YSS	**Yuzn-Sakhalins**	**9.93**	**6**	*e*P	**Pn**	**10 39 11.2**	**-1.3**
YSS				*e*S	**Sn**	**10 40 59.1**	**-4.1**
YSS				pmax	pmax		
	comp=Z,30nm,1.1s						
YSS				MLR	MLR		
	comp=N,700nm,14.0s						
YSS				MLR	MLR		
	comp=Z,500nm,14.0s						
JCJ	**Chichijima**	**9.99**	**175**	LR	LR	10 43 30.8	
	comp=Z,342nm,19.5s,baz=300,slow=40						
USRK	**Ussuriysk Ar.**	**9.99**	**318**	Pn	**Pn**	**10 39 15.0**	**+1.7**
	comp=Z,0.7nm,0.3s,baz=134,slow=14,SNR=15						
USRK				LR	LR	10 42 48.7	
	comp=Z,857nm,19.0s,baz=128,slow=36						
KSRS	**Korea Array**	**10.62**	**276**	Pn	**Pn**	**10 39 24.2**	**+2.3**
	comp=Z,0.2nm,0.3s,baz=88,slow=13,SNR=22						
KSRS				LR	LR	10 43 09.3	
	comp=Z,646nm,21.1s,baz=85,slow=36						
KS01	**Wonju Array Si**	**10.64**	**276**	*e*Pn	**Pn**	**10 39 21.9**	**-0.4**
KS15	**Wonju Array Si**	**10.65**	**276**	*e*Pn	**Pn**	**10 39 25.0**	**+2.6**
KSAR	**Wonju Array Be**	**10.65**	**276**	Pn	**Pn**	**10 39 24.2**	**+1.8**
KSAR	**Wonju Array Be**	**10.65**	**276**	P	**Pn**	**10 39 24.2**	**+1.8**
TJN	**Taejon**	**11.16**	**271**	*e*P	**Pn**	**10 39 31.7**	**+2.4**
MDJ	**Mudanjiang**	**11.59**	**314**	P	**Pn**	**10 39 38.6**	**+3.5**
MDJ				pP		10 39 42.1	
MDJ				sP		10 39 44.6	
MDJ				S	**Sn**	**10 41 42.0**	**-1.7**
MDJ				pmax	pmax		
	comp=Z,26nm,1.0s						
MDJ				pmax	pmax		
	comp=Z,240nm,2.7s						
MDJ				LR	LR		
	comp=N,750nm,14.3s						
MDJ				LR	LR		
	comp=E,610nm,15.1s						
MDJ				LR	LR		
	comp=Z,920nm,16.7s						
MDJ	**Mudanjiang**	**11.59**	**314**	PcS	PcS	10 49 10.9	+12
MDJ				ScS	ScS	10 52 44.5	+13
CN2	**Changchun**	**13.76**	**304**	*e*P	**P**	**10 40 10.5**	**-2.7**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
CN2				LR	LR		
	comp=N,500nm,15.0s						
CN2				LR	LR		
	comp=E,600nm,15.0s						
CN2				LR	LR		
	comp=Z,700nm,13.0s						
KLR	**Kul'dur**	**13.96**	**333**	Pn	**Pn**	**10 40 08.1**	**+0.5**
	comp=Z,0.0nm,0.3s,baz=171,slow=9.0,SNR=5.0						
KLR	**Kul'dur**	**13.96**	**333**	*e*P	**Pn**	**10 40 07.7**	**+0.1**
GRNR	**Gornyy**	**14.12**	**347**	*i* P	**Pn**	**10 40 10.8**	**+1.2**
NKL	**Nikolayevsk**	**16.08**	**359**	*e*P	**Pn**	**10 40 31.0**	**-4.6**
NKL				MLR	MLR		
	comp=Z,900nm,14.0s						
NJ2	**Nanjing**	**19.09**	**261**	*e*P	**Pn**	**10 41 13.0**	**-0.1**
NJ2				S	**S**	**10 44 47.8**	**+0.6**
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.5s						
NJ2				LR	LR		
	comp=N,480nm,14.1s						
NJ2				LR	LR		
	comp=E,310nm,13.0s						
NJ2				LR	LR		
	comp=Z,410nm,19.0s						
ZEA	**Zeya**	**19.28**	**334**	*e*P	**Pn**	**10 41 14.8**	**-0.4**
ZEA				pmax	pmax		
	comp=Z,29nm,1.0s						
ZEA				MLR	MLR		
	comp=Z,500nm,17.0s						
ZEA				MLR	MLR		
	comp=N,500nm,16.0s						
PEA0B	**Petropavlovsk-**	**19.72**	**30**	*e*P	**P**	**10 41 19.2**	**+0.3**
	comp=N,46nm,1.5s						
PETK	**Petropavlovsk-**	**19.72**	**30**	P	**P**	**10 41 19.2**	**+0.2**
	comp=N,0.1nm,0.3s,baz=208,slow=2.2,SNR=5.9						
PETK				LR	LR	10 49 51.9	
	comp=N,71nm,18.7s,baz=213,slow=40						
PETK	**Petropavlovsk-**	**19.72**	**30**	*e*P	**P**	**10 41 19.6**	**+0.6**
PETK	**Petropavlovsk-**	**19.72**	**30**	*e*P	**P**	**10 41 19.6**	**+0.6**
BJI	**Beijing**	**19.80**	**286**	*e*P	**P**	**10 41 16.8**	**-3.2**
BJI				pP	**sP**	**10 41 29.3**	**-0.1**
BJI				sP	pP	10 41 35.5	+9.1
BJI				pmax	pmax		
	comp=Z,8.0nm,0.5s						
BJI				LR	LR		
	comp=N,520nm,14.5s						
BJI				LR	LR		
	comp=E,380nm,16.3s						
HHC	**Hu-ho-hao-te**	**23.32**	**288**	*e*P	**P**	**10 41 57.4**	**-0.3**
HHC				S	**S**	**10 46 03.0**	**-6.1**
HHC				pmax	pmax		
	comp=Z,40nm,0.8s						
HHC				pmax	pmax		
	comp=Z,90nm,4.0s						
HHC				LR	LR		
	comp=N,1µm,13.2s						
HHC				LR	LR		
	comp=E,1µm,13.2s						
HHC				LR	LR		
	comp=Z,1µm,12.3s						
MA2	**Magadan**	**23.34**	**12**	P	**P**	**10 41 57.8**	**+0.2**
	comp=Z,8.0nm,0.8s,baz=154,slow=12,SNR=3.9						
MA2				LR	LR	10 52 05.9	
	comp=Z,76nm,19.8s,baz=150,slow=39						
MA2	**Magadan**	**23.34**	**12**	*e*P	**P**	**10 41 56.5**	**-1.1**
YAK	**Yakutsk**	**26.00**	**348**	P	**P**	**10 42 22.1**	**+0.1**
	comp=Z,5.2nm,0.3s,baz=205,slow=20,SNR=6.7						
YAK				LR	LR	10 52 49.3	
	comp=Z,166nm,18.7s,baz=142,slow=37						
YAK	**Yakutsk**	**26.00**	**348**	*e*P	**P**	**10 42 21.7**	**-0.3**
	comp=Z,60nm,1.4s						
YAK	**Yakutsk**	**26.00**	**348**	*e*P	**P**	**10 42 20.1**	**-1.9**
YAK				*e**PP	**sP**	**10 42 31.5**	**-0.3**
YAK				*e*		10 42 56.5	
YAK				*e*PPP	PPP	10 43 07.6	
YAK				*e*		10 45 47.8	
YAK				*e*S	**S**	**10 46 47.6**	**-3.5**
YAK				*e**SS	**sS**	**10 47 02.0**	**-0.6**
YAK				*e*		10 53 14.0	
YAK				pmax	pmax		
	comp=Z,23nm,1.0s						
YAK				pmax	pmax		
	comp=N,10.0nm,1.3s						
YAK				pmax	pmax		
	comp=E,4.0nm,1.1s						
YAK				pmax	pmax		
	comp=Z,93nm,4.2s						
YAK				pmax	pmax		
	comp=N,82nm,4.0s						
YAK				pmax	pmax		
	comp=E,42nm,3.7s						
YAK				smax	smax		
	comp=E,62nm,4.5s						
YAK				smax	smax		
	comp=N,52nm,2.7s						
YAK				MLR	MLR		
	comp=Z,273nm,12.0s						
YAK				MLR	MLR		
	comp=E,104nm,12.0s						
YAK				MLR	MLR		
	comp=N,204nm,13.0s						
SEY	**Seymchan**	**26.77**	**11**	P	**P**	**10 42 29.4**	**+0.4**
	comp=N,9.8nm,1.1s,baz=196,slow=7.7,SNR=15						
SEY	**Seymchan**	**26.77**	**11**	*ce*P	**P**	**10 42 28.6**	**-0.4**
ULN	**Ulaanbaatar**	**27.21**	**304**	*e*P	**P**	**10 42 34.3**	**+0.9**
	comp=N,11nm,1.4s						
ULN	**Ulaanbaatar**	**27.21**	**304**	*ce*P	**P**	**10 42 34.0**	**+0.6**
ULN				pmax	pmax		
	comp=Z,6.0nm,1.2s						
BOD	**Bodaibo**	**27.42**	**328**	*e*P	**P**	**10 42 33.6**	**-1.3**
BOD				pmax	pmax		
	comp=Z,7.0nm,1.4s						
SONA1	**Songino Array**	**27.64**	**304**	*e*P	**P**	**10 42 37.8**	**+0.6**
SONM	**Songino Array**	**27.64**	**304**	P	**P**	**10 42 36.1**	**-1.0**
	comp=Z,1.8nm,0.7s,baz=101,slow=8.4,SNR=11						
SONM				LR	LR	10 53 47.6	
	comp=Z,178nm,18.2s,baz=79,slow=37						
H11N2	**WAKE ISLAND Hy**	**28.29**	**121**	T	T	11 12 09.3	
	baz=313,slow=75,SNR=1234						
H11N1	**WAKE ISLAND Hy**	**28.30**	**121**	T	T	11 12 09.9	
	baz=313,slow=75,SNR=1040						
H11N3	**WAKE ISLAND Hy**	**28.31**	**121**	T	T	11 12 10.6	
	baz=313,slow=75,SNR=804						
H11S1	**WAKE ISLAND Hy**	**29.00**	**123**	T	T	11 13 03.8	
	baz=315,slow=75,SNR=456						
H11S3	**WAKE ISLAND Hy**	**29.00**	**123**	T	T	11 13 01.2	
	baz=315,slow=75,SNR=326						
H11S2	**WAKE ISLAND Hy**	**29.02**	**123**	T	T	11 13 02.7	
	baz=315,slow=75,SNR=207						
LZH	**Lanzhou**	**29.92**	**280**	*e*P	**P**	**10 42 59.3**	**+1.7**
LZH				pP	sP	10 43 09.6	+2.2
LZH				sP	pP	10 43 14.6	+10
LZH				PP	PP	10 44 21.5	+16
LZH				S	S	10 48 33.3	+39
LZH				sS	sS	10 48 45.5	+40
LZH				SS	SS	10 51 02.5	+61
LZH				pmax	pmax

FAKI Fak Fak 40.66 194 *e*P P 10 44 30.9 +1.1
comp=Z,45nm,1.9s
WMQ Urumqi 40.69 297 P P 10 44 31.5 +1.6
WMQ pP sP 10 44 40.0 +0.1
WMQ sP pP 10 44 45.0 +8.0
WMQ pmax pmax
comp=Z,31nm,1.3s
WMQ pmax pmax
comp=Z,220nm,4.1s
WMQ LR LR
comp=N,700nm,17.3s
WMQ LR LR
comp=E,410nm,14.9s
WMQ LR LR
comp=Z,290nm,19.5s
CMAR Chiang Mai Arr 41.37 255 P P 10 44 35.3 -0.4
comp=Z,0.4nm,0.5s,baz=34,slow=7.3,SNR=4.2
CMAR LR LR 11 02 09.9
comp=Z,61nm,18.7s,baz=34,slow=37
ZAA0 Zalesovo Array 41.78 312 *e*P P 10 44 38.2 -0.4
comp=Z,8.8nm,0.8s
ZALV Zalesovo Beam 41.78 312 P P 10 44 38.7 +0.1
comp=Z,5.7nm,0.6s,baz=90,slow=7.1,SNR=21
ZALV PcP PcP 10 46 34.7 +0.2
comp=Z,1.3nm,0.4s,baz=112,slow=2.4,SNR=3.6
ZALV LR LR 11 02 57.0
comp=Z,186nm,18.3s,baz=52,slow=38
ZALV Zalesovo Beam 41.78 312 *e*P P 10 44 38.0 -0.6
ZALV PcP PcP 10 46 34.7 +0.2
NVS Novosibirsk 42.71 314 *e*P P 10 44 46.3 +0.2
NVS pmax pmax
comp=Z,13nm,1.1s
NVS pmax pmax
comp=N,5.0nm,1.3s
NVS pmax pmax
comp=E,9.0nm,1.2s
SBUM Sibu 43.59 225 *e*P P 10 44 53.8 0.0
comp=E,20nm,1.2s
MK01 Makanchi Array 43.97 302 *e*P P 10 44 56.3 -0.2
MK31 Makanchi Array 43.98 302 *e*P P 10 44 56.3 -0.3
MK31 Makanchi Array 43.98 302 *e*P P 10 44 56.3 -0.3
MKAR Makanchi Array 43.98 302 P P 10 44 56.5 -0.1
comp=E,3.6nm,0.8s,baz=88,slow=9.9,SNR=38
MKAR PcP PcP 10 46 42.2 +0.2
comp=E,2.0nm,1.0s,baz=88,slow=6.3,SNR=3.5
MKAR LR LR 11 03 33.9
comp=E,120nm,18.9s,baz=84,slow=36
MKAR Makanchi Array 43.98 302 *e*P P 10 44 56.0 -0.6
comp=E,29nm,0.7s
MKAR PcP PcP 10 46 42.2 +0.2
MKAR Makanchi Array 43.98 302 *e*P P 10 44 56.0 -0.6
MKAR 10 46 42.2
MKAR pmax pmax
comp=Z,29nm,0.7s
MAKZ Makanchi 44.19 302 *e*P P 10 44 58.1 -0.1
comp=Z,11nm,1.2s
MAKZ Makanchi 44.19 302 *e*P P 10 44 58.1 -0.1
MAKZ pmax pmax
comp=Z,11nm,1.2s
KSM Kuching 45.48 226 *e*P P 10 45 09.3 +0.5
comp=Z,20nm,1.0s
KURK Kurchatov 45.79 308 *e*P P 10 45 10.6 -0.3
comp=Z,15nm,0.9s
KURK PcP PcP 10 46 47.6 -0.6
KURK Kurchatov 45.79 308 *ce*P P 10 45 10.5 -0.4
KURK pmax pmax
comp=Z,25nm,1.2s
KURBB Kurchatov Arra 45.86 308 P P 10 45 11.5 +0.1
comp=Z,9.7nm,0.9s,baz=82,slow=8.1,SNR=51
KURBB PcP PcP 10 46 47.6 -0.8
comp=Z,0.5nm,0.4s,baz=93,slow=3.0,SNR=2.4
PDGK Podgornoye 46.63 298 P P 10 45 18.0 +0.2
PDGK pmax pmax
comp=Z,10.0nm,1.2s
IM3 Indian Mountai 46.69 31 *e*P P 10 45 18.4 +0.7
RAMN Ramite 46.86 274 *e*P P 10 45 19.8 -0.1
comp=Z,41nm,1.0s
JIRN Jiri 46.87 275 *e*P P 10 45 20.3 +0.1
comp=Z,42nm,1.0s
GUN Gumba 47.01 276 *e*P P 10 45 21.3 +0.1
KDAK Kodiak Island 47.16 42 P P 10 45 21.9 +0.4
comp=Z,9.1nm,0.7s,baz=270,slow=6.8,SNR=5.4
KDAK Kodiak Island 47.16 42 *e*P P 10 45 21.9 +0.4
comp=Z,235nm,2.0s
KDAK Kodiak Island 47.16 42 *e*P P 10 45 21.9 +0.4
KDAK pmax pmax
comp=Z,235nm,2.0s
PPLA Purkeypile 47.21 35 *e*P P 10 45 24.0 +1.9
comp=Z,24nm,1.4s
CAST Castle Rocks 47.27 34 *e*P P 10 45 24.1 +1.7
comp=Z,26nm,1.6s
KKN Kakani 47.54 276 *e*P P 10 45 25.2 0.0
DMN Daman 47.76 276 *e*P P 10 45 26.4 -0.5
BPAW Bear Paw Mtn. 47.77 33 *e*P P 10 45 27.9 +1.6
comp=Z,11nm,1.4s
KTH Kantishna Hill 47.79 34 *e*P P 10 45 27.7 +1.2
comp=Z,31nm,1.5s
MLY Manley 47.89 32 *e*P P 10 45 29.1 +1.9
comp=Z,20nm,1.6s
SUA Susitna One 47.91 37 *e*P P 10 45 28.6 +1.1
comp=Z,42nm,1.6s
GKN Gorkha 47.96 276 *e*P P 10 45 28.2 -0.2
comp=Z,46nm,1.1s
COLD Coldfoot 48.18 29 *e*P P 10 45 30.5 +1.2
comp=Z,5.2nm,1.3s
TOLK Toolik Lake Re 48.50 27 *e*P P 10 45 32.8 +1.0
comp=Z,21nm,1.8s
DANN Dangsing 48.50 277 *e*P P 10 45 33.3 +0.6
MCK McKinley 48.67 34 *e*P P 10 45 34.2 +1.0
comp=Z,44nm,2.0s
MCK McKinley 48.67 34 *e*P P 10 45 34.2 +1.0
MCK pmax pmax
comp=Z,44nm,2.0s
PMR Palmer 48.67 37 *e*P P 10 45 33.5 +0.4
comp=Z,35nm,1.8s
PMR Palmer 48.67 37 *e*P P 10 45 33.6 +0.4
PMR pmax pmax
comp=Z,35nm,1.8s
RND Reindeer 48.72 34 *e*P P 10 45 34.5 +0.8
comp=Z,17nm,1.4s
RND Reindeer 48.72 34 *e*P P 10 45 34.5 +0.8
RND pmax pmax
comp=Z,17nm,1.4s
KOLN Koldanda 48.88 277 *e*P P 10 45 35.5 -0.1
comp=Z,22nm,1.2s
MDM Murphy Dome 48.95 32 *e*P P 10 45 36.7 +1.3
comp=Z,25nm,1.4s
WRH Wood River Hil 49.03 33 *e*P P 10 45 36.7 +0.8
comp=Z,25nm,1.7s
COLA College 49.12 32 *e*P P 10 45 34.9 -1.6
COLA pmax pmax
comp=Z,2.0nm,1.1s
CCB Clear Creek Bu 49.14 33 *e*P P 10 45 38.6 +1.9
comp=Z,16nm,1.6s
PYUN Piuthan 49.22 277 *e*P P 10 45 38.2 0.0
comp=Z,48nm,1.1s
DHY Denali Highway 49.41 35 *e*P P 10 45 40.5 +1.5
comp=Z,12nm,1.2s
HDA Harding Lake 49.52 33 *e*P P 10 45 40.5 +0.8
comp=Z,29nm,1.3s
IL1 Eielson Array 49.53 32 *e*P P 10 45 40.2 +0.4
ILAR Eielson Array 49.53 32 P P 10 45 40.0 +0.2
comp=Z,2.7nm,0.7s,baz=263,slow=5.7,SNR=45
ILAR PcP PcP 10 47 01.6 +0.3
comp=Z,1.3nm,1.1s,baz=265,slow=3.8,SNR=2.7
ILB Eielson Array 49.53 32 *e*P P 10 45 40.4 +0.6
KLU Klutina 50.22 37 *e*P P 10 45 46.2 +1.2
comp=Z,18nm,1.3s
KSH Kashi 50.26 294 P P 10 45 49.5 +3.7
KSH S S 10 52 56.3 -0.7
KSH LR LR
comp=N,180nm,5.1s
KSH LR LR
comp=E,140nm,4.7s
KSH LR LR
comp=Z,500nm,14.7s
OTUK Ortayu 50.28 306 P P 10 45 46.6 +0.8
OTUK pmax pmax
comp=Z,5.0nm,1.2s
AAK Ala-Archa 50.34 298 *e*P P 10 45 47.6 +1.2
comp=Z,8.4nm,1.5s
AAK Ala-Archa 50.34 298 *e*P P 10 45 46.0 -0.4
AAK pmax pmax
comp=Z,2.0nm,1.5s
BVAR Borovoye Array 50.44 312 P P 10 45 47.1 +0.3
comp=Z,1.2nm,0.5s,baz=76,slow=6.1,SNR=8.4
BVAR PcP PcP 10 47 05.3 +0.5
comp=Z,3.2nm,0.7s,baz=97,slow=3.3,SNR=4.0
BVAR LR LR 11 08 07.8
comp=Z,128nm,21.6s,baz=86,slow=37
HARP HAARP 50.48 35 *e*P P 10 45 48.5 +1.5
comp=Z,88nm,2.0s
RIDG Independ'e Rid 50.49 34 *e*P P 10 45 47.7 +0.6
comp=Z,27nm,1.8s
BRVK Borovoye 50.49 312 *ce*P P 10 45 47.2 0.0
BRVK pmax pmax
comp=Z,10.0nm,2.5s
DOT Dot Lake 50.85 34 *e*P P 10 45 50.6 +0.9
comp=Z,50nm,1.7s
SCRK Sand Creek 50.85 33 *e*P P 10 45 50.4 +0.6
comp=Z,18nm,1.4s
MENT Mentasta 51.08 35 *e*P P 10 45 53.6 +2.1
comp=Z,7.7nm,1.0s
MNAS Manas 51.79 299 P P 10 45 58.4 +1.1
MNAS pmax pmax
comp=Z,5.0nm,1.2s
SFK Sufi-Kurgan 51.89 295 P P 10 45 59.5 +1.3
EGAK Eagle 51.98 32 *e*P P 10 45 58.9 +0.7
comp=Z,26nm,2.0s
DAWY Dawson 52.84 33 *e*P P 10 46 05.6 +1.0
comp=Z,3.0nm,1.1s
KK31 Karatay Array 52.98 300 *e*P P 10 46 06.7 +0.7
KK31 Karatay Array 52.98 300 *e*P P 10 46 06.7 +0.7
KKAR Karatay Array 52.98 300 *e*P P 10 46 06.7 +0.7
KKAR Karatay Array 52.98 300 *e*P P 10 46 06.7 +0.7
GSI Gunungsitoli 53.70 239 *e*P P 10 46 12.2 +0.6
comp=Z,46nm,1.0s
LEM Lembang 53.81 223 P P 10 46 12.8 +0.3
comp=Z,18nm,0.8s,baz=26,slow=23,SNR=3.8
INK Inuvik 54.41 27 P P 10 46 17.0 +1.0
comp=Z,1.6nm,0.5s,baz=303,slow=6.6,SNR=11
INK Inuvik 54.41 27 *e*P P 10 46 17.1 +1.0
comp=Z,8.0nm,1.3s
INK Inuvik 54.41 27 *e*P P 10 46 17.1 +1.1
INK pmax pmax
comp=Z,8.0nm,1.3s
DZET Dzherino 55.70 296 P P 10 46 27.6 +1.7
DZET pmax pmax
comp=Z,11nm,1.0s
ARU Arti 56.23 318 *e*P P 10 46 29.1 -0.2
comp=Z,12nm,0.9s
ARU Arti 56.23 318 *di*P P 10 46 29.0 -0.3
ARU 10 48 29.4
ARU S S 10 54 19.2 +1.8
ARU SS SS 10 58 01.2 -2.4
ARU pmax pmax
comp=Z,17nm,1.2s
WRAB Tennant Creek 57.07 188 *e*P P 10 46 34.3 -1.3
comp=Z,22nm,1.6s
WRAB Tennant Creek 57.07 188 *ce*P P 10 46 32.5 -3.1
WRAB pmax pmax
comp=Z,9.0nm,1.2s
WB2 Warramunga Arr 57.08 188 *e*P P 10 46 34.8 -0.9
comp=Z,4.9nm,0.8s
WRA Warramunga Arr 57.09 188 P P 10 46 34.4 -1.3
comp=Z,4.4nm,0.9s,baz=4.3,slow=7.4,SNR=42
ABKAR Akbulak array 57.80 310 *e*P P 10 46 40.3 -0.2
comp=Z,45nm,1.1s
AKTO Aktyubinsk 58.54 312 P P 10 46 44.3 -1.4
comp=Z,2.9nm,0.8s,baz=65,slow=10,SNR=8.0
AKTO LR LR 11 13 06.0
comp=Z,106nm,18.8s,baz=76,slow=37
AS01 Alice Springs 60.81 188 *e*P P 10 47 01.1 -0.4
AS31 Alice Springs 60.81 188 *e*P P 10 47 01.2 -0.3
comp=Z,1.8nm,1.3s
ASAR Alice Springs 60.81 188 P P 10 47 00.8 -0.7
comp=Z,2.4nm,0.9s,baz=6.0,slow=5.0,SNR=19
BBB Bella Bella 62.13 44 P P 10 47 11.2 +1.0
comp=Z,5.1nm,1.0s,baz=260,slow=23,SNR=2.4
PALK Pallekele 62.24 257 *i*P P 10 47 10.6 -0.9
RES Resolute Bay 62.59 14 P P 10 47 13.3 +0.4
comp=Z,0.8nm,0.5s,baz=306,slow=7.3,SNR=7.7
RES Resolute Bay 62.59 14 *e*P P 10 47 13.3 +0.4
comp=Z,9.9nm,1.6s
RES Resolute Bay 62.59 14 *e*P P 10 47 13.4 +0.4
RES pmax pmax
comp=Z,10.0nm,1.6s
DZM Mont Dzumac 63.45 154 *e*LR LR 11 06 12.2
comp=Z,134nm,21.3s
KLMR Klimovskoe 63.64 328 *e*P P 10 47 18.5 -1.6
KLMR AMP 10 47 20.6
comp=Z,11nm,1.5s
KLMR Klimovskoe 63.64 328 *e*P P 10 47 18.4 -1.6
KLMR pmax pmax
comp=Z,11nm,1.5s
GEYT Alibeck 63.69 299 P P 10 47 21.2 +0.3
comp=Z,2.1nm,0.6s,baz=8.5,slow=3.0,SNR=9.0
GEYT LR LR 11 16 25.0
comp=Z,86nm,18.1s,baz=60,slow=37
YKA Yellowknife Ar 63.84 30 P P 10 47 21.9 +0.5
comp=Z,1.3nm,0.9s,baz=294,slow=6.3,SNR=19
ARCES ARCESS Array B 63.91 339 P P 10 47 22.4 +0.6
comp=Z,3.4nm,0.9s,baz=59,slow=8.5,SNR=12
ARCES ARCESS Array B 63.91 339 *e*P P 10 47 22.5 +0.8
ARCES ARCESS Array B 63.91 339 *e*P P 10 47 22.5 +0.8
TULEG Thule 65.08 7 *e*P P 10 47 29.8 +0.6
comp=Z,9.3nm,1.2s
DAG Danmarks Havn 65.72 355 P P 10 47 34.7 +1.3
DAG pmax pmax
comp=Z,7.0nm,1.4s
AFI Afiamalu 67.27 130 LR LR 11 11 45.2
comp=Z,40nm,19.8s,baz=319,slow=31
OBN Obninsk 67.97 323 *ce*P P 10 47 47.9 -0.2
OBN *i* 10 47 56.5
OBN *i* 10 48 13.7
OBN pmax pmax
comp=Z,36nm,2.5s
OBN MLR MLR
comp=Z,72nm,15.0s
LON Longmire 68.33 47 *e*P P 10 47 52.0 +1.4
comp=Z,14nm,1.6s
LON Longmire 68.33 47 *e*P P 10 47 52.0 +1.4
LON pmax pmax
comp=Z,14nm,1.6s
STKA Stephens Creek 68.60 180 P P 10 47 51.8 -0.3
comp=Z,1.6nm,1.0s,baz=337,slow=15,SNR=2.5
FORT Forrest 68.62 192 *e*P P 10 47 52.4 +0.2
comp=Z,242nm,0.8s
FIA1 FINESS Array S 68.71 332 *e*P P 10 47 52.9 +0.3
FINES FINESS Array B 68.71 332 P P 10 47 51.7 -0.8
comp=Z,4.6nm,0.8s,baz=72,slow=6.2,SNR=14
FINES LR LR 11 20 00.2
comp=Z,82nm,18.2s,baz=44,slow=38
H04A Detroit Lake 69.19 49 *e*P P 10 47 57.6 +1.6
comp=Z,19nm,1.5s
EDM Edmonton 69.40 38 *e*P P 10 47 57.7 +0.6
comp=Z,13nm,1.3s
EDM Edmonton 69.40 38 *e*P P 10 47 57.7 +0.6
EDM pmax pmax
comp=Z,13nm,1.3s
VSU Vasula 70.34 329 *ce*P P 10 48 03.2 +0.5
VSU pmax pmax
comp=Z,33nm,1.7s
PINE Pine Mountain 70.42 50 *e*P P 10 48 05.9 +2.2
comp=Z,11nm,1.0s
YBH Yreka Blue Hor 70.43 52 P P 10 48 05.2 +1.5
comp=Z,3.4nm,1.1s,baz=48,slow=17,SNR=2.6
NCK Nalchik 70.47 310 *e*P P 10 48 04.3 +0.5
NCK pmax pmax
comp=Z,6.0nm,0.8s
WSAR Wadi Sarin 70.72 285 LR LR 11 22 47.2
comp=Z,32nm,21.4s,baz=81,slow=39
KBZ Khabaz 70.77 311 P P 10 48 06.3 +0.7
comp=Z,4.7nm,0.9s,baz=51,slow=4.8,SNR=11
KBZ LR LR 11 23 07.1
comp=Z,82nm,18.5s,baz=74,slow=39
KIV Kislovodsk 70.77 311 *e*P P 10 48 07.2 +1.5
comp=Z,19nm,1.0s
KIV Kislovodsk 70.77 311 *e*P P 10 48 05.4 -0.3
KIV pmax pmax
comp=Z,22nm,1.1s
K05A Summer Lake 71.03 51 *e*P P 10 48 09.6 +2.1
comp=Z,29nm,1.5s
NEY Neytrino 71.14 310 *e*P P 10 48 07.7 -0.4
NEY pmax pmax
comp=Z,2.0nm,1.0s
WALA Waterton Lakes 71.50 42 *e*P P 10 48 11.3 +1.2
comp=Z,21nm,2.0s
GNI Garni 71.56 307 LR LR 11 22 22.2
comp=Z,67nm,19.0s,baz=59,slow=38
GNI Garni 71.56 307 *e*P P 10 48 11.9 +1.2
GNI pmax pmax
comp=Z,32nm,1.4s
JTMT Jette 72.06 43 *e*P P 10 48 15.3 +1.8
comp=Z,3.0nm,1.0s
J08A Circle Bar Ran 72.15 49 *e*P P 10 48 15.9 +1.8
comp=Z,17nm,1.5s
ORV Oroville 72.39 54 *e*P P 10 48 16.2 +0.8
comp=Z,4.8nm,1.1s
ORV Oroville 72.39 54 *e*P P 10 48 16.2 +0.8
ORV pmax pmax
comp=Z,5.0nm,1.1s
BEKR Beckworth 72.94 53 *e*P P 10 48 18.6 -0.3
comp=Z,11nm,1.4s
MFID Camas Ranch 73.70 48 *e*P P 10 48 24.5 +1.2
comp=Z,20nm,1.6s
FFC Flin Flon 73.75 33 *e*P P 10 48 23.7 +0.5
comp=Z,7.6nm,1.0s
FFC Flin Flon 73.75 33 *e*P P 10 48 23.7 +0.5
FFC pmax pmax
comp=Z,8.0nm,1.0s
CMB Columbia Colle 73.96 54 *e*P P 10 48 26.2 +1.4
comp=Z,9.8nm,1.4s
CMB Columbia Colle 73.96 54 *e*P P 10 48 26.2 +1.4
CMB pmax pmax
comp=Z,10.0nm,1.4s
HFS Hagfors 73.99 336 P P 10 48 25.3 +0.8
comp=Z,0.8nm,0.5s,baz=69,slow=8.1,SNR=7.0
HFS LR LR 11 23 30.2
comp=Z,136nm,18.8s,baz=50,slow=38
FCC Fort Churchill 74.03 26 *e*P P 10 48 24.7 0.0
comp=Z,7.9nm,1.0s
FCC Fort Churchill 74.03 26 *e*P P 10 48 24.7 0.0
FCC pmax pmax
comp=Z,8.0nm,1.0s
NB2 NORSAR Subarra 74.09 337 P P 10 48 24.9 -0.3
comp=Z,14nm,1.4s,baz=39,slow=6.2
NOA NORSAR Array B 74.09 337 P P 10 48 25.2 +0.1
comp=Z,2.7nm,0.8s,baz=39,slow=5.8,SNR=7.0
NOA LR LR 11 23 49.0
comp=Z,77nm,18.6s,baz=45,slow=38
YERR Yerington 74.16 53 *e*P P 10 48 27.0 +0.9
comp=Z,8.0nm,1.2s
AKASG Malin Array Be 74.17 322 P P 10 48 25.5 -0.3
comp=Z,1.5nm,0.4s,baz=46,slow=6.1,SNR=22
AKASG LR LR 11 23 07.5
comp=Z,74nm,21.0s,baz=45,slow=38
AKBB Malin Array Si 74.17 322 *e*P P 10 48 25.9 +0.1
comp=Z,14nm,1.3s
AKBB Malin Array Si 74.17 322 *e*P P 10 48 25.9 +0.1
AKBB pmax pmax
comp=Z,14nm,1.3s
KIEV Kiev 74.19 322 *e*P P 10 48 25.6 -0.3
comp=Z,14nm,1.3s
KIEV Kiev 74.19 322 *e*P P 10 48 24.6 -1.2
KIEV pmax pmax
comp=Z,6.0nm,1.1s
LRM Limekiln Ridge 74.21 44 *e*P P 10 48 27.9 +1.4
AK11 Malin Array Si 74.22 322 *e*P P 10 48 25.9 -0.1
EGMT Eagleton 74.33 41 *e*P P 10 48 27.5 +0.6
comp=Z,8.9nm,1.1s
DLMT Dillon 74.41 45 *e*P P 10 48 28.4 +0.9
comp=Z,5.7nm,0.8s
HLID Hailey 74.44 47 *e*P P 10 48 29.2 +1.5
comp=Z,7.4nm,1.6s
BOZ Bozeman (W) 74.81 44 *e*P P 10 48 30.8 +1.0
comp=Z,8.2nm,1.2s
BOZ Bozeman (W) 74.81 44 *e*P P 10 48 30.8 +1.0
BOZ pmax pmax
comp=Z,8.0nm,1.2s
NV01 Mina Array Sit 75.08 53 *e*P P 10 48 32.6 +1.1
NVAR Mina Array Bea 75.08 53 P P 10 48 32.5 +0.9
comp=Z,2.2nm,0.8s,baz=299,slow=5.6,SNR=18
NVAR LR LR 11 15 38.4
comp=Z,38nm,21.9s,baz=252,slow=31
NV11 Mina Array Sit 75.17 53 *e*P P 10 48 33.4 +1.4
comp=Z,0.4nm,1.4s
YHB Horse Butte 75.57 45 *e*P P 10 48 36.1 +1.8
comp=Z,4.7nm,1.0s
KLNR Kaliningrad 75.62 329 *e*P P 10 48 33.3 -0.7
KLNR pmax pmax
comp=Z,70nm,1.1s
YHH Holmes Hill 75.74 44 *e*P P 10 48 36.9 +1.5
comp=Z,2.2nm,0.9s
YMR Madison River 75.75 45 *e*P P 10 48 37.2 +1.9
comp=Z,14nm,1.6s
GCMT Greycliff 75.77 43 *e*P P 10 48 36.8 +1.5
SFJD Kangerlussuaq 75.85 5 LR LR 11 22 02.7
comp=Z,25nm,21.8s,baz=353,slow=36
IMW Indian Meadow 76.24 45 *e*P P 10 48 40.2 +2.0
comp=Z,8.8nm,1.3s
SORM Soroca 76.27 321 ⇓*i*P P 10 48 37.7 -0.1
SORM Soroca 76.27 321 ⇓P P 10 48 37.7 -0.1
FXWY Fox Creek 76.35 45 *e*P P 10 48 40.7 +2.0
comp=Z,4.3nm,1.1s
RLMT Red Lodge 76.41 43 *e*P P 10 48 40.0 +1.0
comp=Z,8.2nm,1.4s
MOOW Moose Ponds 76.44 45 *e*P P 10 48 40.3 +1.0
comp=Z,4.3nm,1.2s
HVU Hansel Valley 76.48 48 *e*P P 10 48 41.0 +1.6
comp=Z,3.3nm,1.0s
HVU Hansel Valley 76.48 48 *e*P P 10 48 41.0 +1.6
HVU pmax pmax
comp=Z,3.0nm,1.0s
TPAW Teton Pass 76.49 45 *e*P P 10 48 41.6 +2.0
comp=Z,16nm,1.7s
LOHW Long Hollow 76.61 45 *e*P P 10 48 41.0 +0.8
comp=Z,3.6nm,1.1s
SNOW Snow King Moun 76.62 45 *e*P P 10 48 40.9 +0.6
comp=Z,3.8nm,0.9s
REDW Red Top Meadow 76.62 46 *e*P P 10 48 40.9 +0.6
comp=Z,7.6nm,1.3s
HWUT Hardware Ranch 77.30 47 *e*P P 10 48 45.0 +0.9
comp=Z,7.9nm,1.3s
DUG Dugway, Tooele 77.43 49 *e*P P 10 48 45.5 +0.7
comp=Z,16nm,1.6s
DUG Dugway, Tooele 77.43 49 *e*P P 10 48 45.5 +0.7
DUG pmax pmax
comp=Z,16nm,1.6s
BW06 Boulder Array 77.74 45 *e*P P 10 48 47.5 +0.9
comp=Z,1.8nm,0.6s
PD31 Pinedale Array 77.74 45 *e*P P 10 48 47.1 +0.6
PDAR Pinedale Array 77.74 45 P P 10 48 47.4 +0.8
comp=Z,1.3nm,0.7s,baz=272,slow=2.1,SNR=16
JLU Jordanelle 78.00 48 *e*P P 10 48 47.5 -0.6
comp=Z,5.0nm,1.2s
KWP Kalwaria Pacla 78.01 324 *e*P P 10 48 48.6 +0.9
KWP Kalwaria Pacla 78.01 324 *e*P P 10 48 49.0 +1.3
comp=Z,225nm,1.2s
KWP Kalwaria Pacla 78.01 324 *e*P P 10 48 48.6 +0.9
BUR08 Bucovina Ar. S 78.18 322 *e*P P 10 48 49.5 +0.7
BUR04 Bucovina Ar. S 78.19 322 *e*P P 10 48 49.1 +0.3
BURAR Bucovina Array 78.19 322 ⇑*i*P P 10 48 49.5 +0.7
BURAR Bucovina Array 78.19 322 ⇑P P 10 48 49.5 +0.7
TESR Tescani 78.21 320 ⇓*i*P P 10 48 48.6 -0.2
SHPR Sheep Range 78.23 53 *e*P P 10 48 51.1 +1.8
comp=Z,7.1nm,1.2s
VRI Vrincioaia 78.60 320 ⇑*i*P P 10 48 52.7 +1.7
VRI Vrincioaia 78.60 320 ⇑P P 10 48 52.7 +1.7
TCRU Three Creeks R 78.64 50 *e*P P 10 48 53.3 +1.7
comp=Z,8.6nm,1.3s
BR131 Keskin Array S 78.72 311 *e*P P 10 48 52.3 +0.4
BRTR Keskin Array B 78.72 311 P P 10 48 52.3 +0.4
comp=Z,2.9nm,1.1s,baz=56,slow=4.6,SNR=9.6
BRTR LR LR 11 27 57.1
comp=Z,27nm,18.3s,baz=56,slow=39
CCUT Cedar City 78.72 51 *e*P P 10 48 53.9 +1.8
comp=Z,8.1nm,1.3s
STHS Stebnicka Huta 78.84 325 *e*P P 10 48 53.4 +1.1
STHS Stebnicka Huta 78.84 325 *e*P P 10 48 53.4 +1.1
STHS pmax pmax
comp=Z,3.0nm,1.0s
MSU Marysvale 78.86 50 *e*P P 10 48 54.2 +1.3
MSU Marysvale 78.86 50 *e*P P 10 48 54.2 +1.3
UZH Uzhgorod 78.91 324 *e*P P 10 48 51.8 -0.8
UZH *e* 10 48 56.4
UZH *e* 10 49 01.0
OJC Ojcow 78.92 326 *e*P P 10 48 53.7 +1.1
OJC Ojcow 78.92 326 *e*P P 10 48 53.6 +0.9
comp=Z,14nm,1.1s
OJC Ojcow 78.92 326 *e*P P 10 48 53.6 +0.9
OJC pmax pmax
comp=Z,14nm,1.1s
CRVS Cervenica-Dubn 79.10 324 *e*P P 10 48 54.5 +0.8
CRVS Cervenica-Dubn 79.10 324 *e*P P 10 48 54.5 +0.8
P17A Butcher Ranch, 79.13 49 *e*P P 10 48 55.4 +1.2
comp=Z,19nm,1.5s
LCMT Little Creek M 79.13 52 *e*P P 10 48 55.6 +1.3
comp=Z,7.6nm,1.2s
TRPA Tarpa 79.14 323 ⇑*i*P P 10 48 55.1 +1.3

MTPU	**Mount Pierson**	**79.15**	**50**	*e*P		**P**	**10 48 55.5**	**+0.9**
	comp=Z,15nm,1.6s							
BR231	**Keskin MP Arra**	**79.16**	**312**	*e*P		**P**	**10 48 52.7**	**-1.6**
Q16A	**Castle Valley**	**79.22**	**49**	*e*P		**P**	**10 48 56.4**	**+1.6**
	comp=Z,17nm,1.5s							
MLR	**Muntele Rosu**	**79.26**	**320**	P		**P**	**10 48 55.0**	**+0.2**
	comp=Z,0.9nm,1.1s,baz=334,slow=12,SNR=2.8							
MLR				LR		LR	11 27 17.1	
	comp=Z,44nm,18.2s,baz=42,slow=38							
MLR	**Muntele Rosu**	**79.26**	**320**	⇑*i*P		**P**	**10 48 54.8**	**0.0**
MLR	**Muntele Rosu**	**79.26**	**320**	P		**P**	**10 48 55.0**	**+0.2**
P18A	**Preston Nutter**	**79.33**	**48**	*e*P		**P**	**10 48 56.0**	**+0.6**
	comp=Z,5.7nm,1.1s							
SRU	**San Rafael Swe**	**79.49**	**49**	*e*P		**P**	**10 48 57.0**	**+0.8**
	comp=Z,15nm,1.5s							
SRU	**San Rafael Swe**	**79.49**	**49**	*e*P		**P**	**10 48 57.0**	**+0.8**
SRU				pmax		pmax		
	comp=Z,15nm,1.5s							
K22A	**Casper**	**79.52**	**44**	*e*P		**P**	**10 48 56.9**	**+0.7**
	comp=Z,3.6nm,0.9s							
ULM	**Lac du Bonnet**	**79.54**	**33**	P		**P**	**10 48 56.4**	**+0.4**
	comp=Z,2.9nm,0.9s,baz=329,slow=6.2,SNR=4.5							
ULM	**Lac du Bonnet**	**79.54**	**33**	*e*P		**P**	**10 48 56.5**	**+0.4**
	comp=Z,6.3nm,1.1s							
ULM	**Lac du Bonnet**	**79.54**	**33**	*e*P		**P**	**10 48 56.5**	**+0.5**
ULM				pmax		pmax		
	comp=Z,6.0nm,1.1s							
W13A	**Hualapai Mount**	**79.91**	**54**	*e*P		**P**	**10 48 60.0**	**+1.4**
	comp=Z,10nm,1.5s							
KSP	**Ksiaz**	**79.99**	**328**	*e*P		**P**	**10 48 59.4**	**+0.9**
KSP	**Ksiaz**	**79.99**	**328**	*e*P		**P**	**10 48 59.4**	**+0.9**
DRGR		**79.99**	**322**	⇑*i*P		**P**	**10 48 59.0**	**+0.3**
DRGR		**79.99**	**322**	⇑P		**P**	**10 48 59.0**	**+0.3**
ARR	**Arges**	**80.02**	**320**	⇓*i*P		**P**	**10 49 00.3**	**+1.5**
U15A	**North Rim**	**80.09**	**52**	*e*P		**P**	**10 49 01.6**	**+1.9**
	comp=Z,13nm,1.4s							
MORC	**Moravsky Berou**	**80.24**	**327**	⇑*i*P		**P**	**10 49 00.9**	**+1.0**
MORC	**Moravsky Berou**	**80.24**	**327**	*e*P		**P**	**10 49 00.3**	**+0.4**
	comp=Z,19nm,0.9s							
MORC	**Moravsky Berou**	**80.24**	**327**	*e*P		**P**	**10 49 00.3**	**+0.4**
MORC				pmax		pmax		
	comp=Z,19nm,0.9s							
RAR	**Rarotonga**	**80.30**	**126**	LR		LR	11 17 53.5	
	comp=Z,93nm,21.3s,baz=272,slow=31							
DPC	**Dobruska-Polom**	**80.34**	**328**	*e*P		**P**	**10 49 01.2**	**+0.8**
DPC	**Dobruska-Polom**	**80.34**	**328**	*e*P		**P**	**10 49 01.2**	**+0.8**
KRLC	**Kraliky**	**80.35**	**327**	*e*P		**P**	**10 49 05.1**	**+4.6**
KRLC	**Kraliky**	**80.35**	**327**	*e*P		**P**	**10 49 05.1**	**+4.6**
RAYN	**Ar Rayn**	**80.51**	**292**	*e*P		**P**	**10 49 01.5**	**-0.3**
	comp=Z,12nm,1.3s							
PSZ	**Piszkesteto**	**80.54**	**324**	⇑*i*P		**P**	**10 49 02.5**	**+1.0**
PSZ	**Piszkesteto**	**80.54**	**324**	*e*P		**P**	**10 49 02.8**	**+1.2**
	comp=Z,9.1nm,1.1s							
PSZ	**Piszkesteto**	**80.54**	**324**	⇑P		**P**	**10 49 02.6**	**+1.0**
VYHS	**Vyhne**	**80.61**	**325**	*e*P		**P**	**10 49 02.8**	**+0.9**
VYHS	**Vyhne**	**80.61**	**325**	*e*P		**P**	**10 49 02.8**	**+0.9**
VYHS				pmax		pmax		
	comp=Z,4.0nm,1.0s							
PV09	**Paradox Valley**	**80.72**	**48**	*e*P		**P**	**10 49 04.6**	**+1.6**
PV10	**Paradox Valley**	**80.85**	**49**	*e*P		**P**	**10 49 05.1**	**+1.5**
BRG	**Berggiesshubel**	**80.94**	**329**	*e*P		**P**	**10 49 03.3**	**-0.3**
	comp=Z,4.7nm,1.1s							
BRG	**Berggiesshubel**	**80.94**	**329**	*e*P		**P**	**10 49 03.3**	**-0.3**
BRG				pmax		pmax		
	comp=Z,5.0nm,1.1s							
PVCC	**Panska Ves**	**80.95**	**329**	*e*P		**P**	**10 49 03.4**	**-0.2**
PVCC	**Panska Ves**	**80.95**	**329**	*e*P		**P**	**10 49 03.4**	**-0.2**
AGMN	**Agassiz Nation**	**80.98**	**35**	*e*P		**P**	**10 49 04.0**	**+0.2**
	comp=Z,5.4nm,1.1s							
CLL	**Collm**	**80.99**	**330**	*i* P		**P**	**10 49 03.8**	**0.0**
	comp=Z,11nm,1.3s							
CLL				*i*			10 49 07.6	
CLL	**Collm**	**80.99**	**330**	*i* P		**P**	**10 49 03.8**	**0.0**
CLL				*i*			10 49 07.6	
CLL				pmax		pmax		
	comp=Z,11nm,1.3s							
N23A	**Red Feather La**	**81.00**	**45**	*e*P		**P**	**10 49 06.2**	**+1.7**
	comp=Z,14nm,1.3s							
PV05	**Paradox Valley**	**81.01**	**49**	*e*P		**P**	**10 49 06.2**	**+1.7**
PV01	**Paradox Valley**	**81.29**	**48**	*e*P		**P**	**10 49 07.5**	**+1.5**
BZS	**Buzias**	**81.36**	**322**	⇓*i*P		**P**	**10 49 07.0**	**+1.1**
BZS	**Buzias**	**81.36**	**322**	⇓P		**P**	**10 49 07.0**	**+1.1**
PRU	**Pruhonice**	**81.37**	**328**	*e*P		**P**	**10 49 07.0**	**+1.1**
PRU				AMS		AMS	11 28 00.0	
	comp=Z,100nm,17.1s							
PRU	**Pruhonice**	**81.37**	**328**	*e*P		**P**	**10 49 07.0**	**+1.1**
PRU				MLR		MLR		
	comp=Z,100nm,17.1s							
SMCO	**Snowmass**	**81.55**	**47**	*e*P		**P**	**10 49 09.0**	**+1.4**
	comp=Z,6.8nm,1.3s							
MMAI	**Mount Meron Ar**	**81.82**	**305**	P		**P**	**10 49 08.3**	**-0.4**
	comp=Z,0.6nm,0.3s,baz=212,slow=11,SNR=2.7							
MMAI				LR		LR	11 28 56.5	
	comp=Z,68nm,18.9s,baz=160,slow=38							
MVCO	**Mesa Verde**	**81.93**	**49**	*e*P		**P**	**10 49 11.0**	**+1.6**
	comp=Z,4.9nm,1.0s							
URZ	**Urewera**	**81.95**	**152**	P		**P**	**10 49 08.8**	**0.0**
	comp=Z,7.5nm,1.0s,baz=293,slow=12,SNR=2.7							
KHC	**Kasperske Hory**	**82.43**	**328**	*e*P		**P**	**10 49 11.9**	**+0.4**
KHC				*e*pP		**sP**	**10 49 22.5**	**+0.7**
KHC				AMS		AMS	11 30 40.0	
	comp=Z,200nm,17.0s							
KHC	**Kasperske Hory**	**82.43**	**328**	*e*P		**P**	**10 49 12.1**	**+0.6**
	comp=Z,3.4nm,1.3s							
KHC	**Kasperske Hory**	**82.43**	**328**	*e*P		**P**	**10 49 11.9**	**+0.4**
KHC				*e*			10 49 22.5	
KHC				MLR		MLR		
	comp=Z,200nm,17.0s							
S22A	**4UR Ranch, Cre**	**82.58**	**48**	*e*P		**P**	**10 49 13.8**	**+1.0**
	comp=Z,4.1nm,1.0s							
GERES	**GERESS Array B**	**82.60**	**328**	P		**P**	**10 49 12.7**	**+0.2**
	comp=Z,0.8nm,0.6s,baz=79,slow=2.9,SNR=6.4							
GERES				LR		LR	11 28 15.8	
	comp=Z,73nm,19.4s,baz=84,slow=37							
GEA0	**GERESS Array S**	**82.61**	**328**	*e*P		**P**	**10 49 12.5**	**0.0**
VTS	**Vitosha**	**82.69**	**319**	⇓*i*P		**P**	**10 49 13.9**	**+0.8**
VTS	**Vitosha**	**82.69**	**319**	⇓P		**P**	**10 49 13.9**	**+0.8**
EKA	**Eskdalemuir Ar**	**83.04**	**340**	P		**P**	**10 49 15.2**	**+0.7**
	comp=Z,0.4nm,0.5s,baz=61,slow=16,SNR=3.4							
EKA				LR		LR	11 29 49.1	
	comp=Z,60nm,18.6s,baz=135,slow=38							
EYMN	**Ely**	**83.18**	**33**	*e*P		**P**	**10 49 15.9**	**+0.5**
	comp=Z,8.1nm,1.0s							
SDCO	**Great Sand Dun**	**83.36**	**47**	*e*P		**P**	**10 49 18.6**	**+1.6**
	comp=Z,2.4nm,1.0s							
ECSD	**EROS Data Cent**	**83.97**	**38**	*e*P		**P**	**10 49 20.1**	**+0.5**
	comp=Z,6.0nm,1.2s							
MHTCO	**State Highway**	**84.26**	**47**	*e*P		**P**	**10 49 22.8**	**+1.4**
	comp=Z,8.6nm,1.2s							
PMOR	**Pomariorio Ree**	**84.33**	**113**	*e*T		T	12 22 04.2	
	comp=Z,10nm,0.2s							
T25A	**Trinidad**	**84.41**	**47**	*e*P		**P**	**10 49 23.3**	**+1.1**
	comp=Z,6.7nm,0.9s							
ANMO	**Albuquerque**	**84.67**	**50**	*e*P		**P**	**10 49 24.7**	**+1.2**
	comp=Z,4.6nm,1.0s							
ANMO	**Albuquerque**	**84.67**	**50**	*e*P		**P**	**10 49 24.7**	**+1.2**
ANMO				pmax		pmax		
	comp=Z,5.0nm,1.0s							
PPT2	**Papeete2**	**84.79**	**116**	*e*LR		LR	11 15 48.6	
	comp=Z,152nm,30.0s							
PPT2	**Papeete2**	**84.79**	**116**	*e*T		T	12 22 38.7	
	comp=Z,1.3nm,0.3s							
BFO	**Black Forest**	**85.20**	**331**	*e*P		**P**	**10 49 25.6**	**-0.1**
	comp=Z,12nm,1.3s							
BFO	**Black Forest**	**85.20**	**331**	*e*P		**P**	**10 49 25.6**	**-0.1**
BFO				pmax		pmax		
	comp=Z,13nm,1.3s							
TX31	**Lajitas Ar. Si**	**90.21**	**52**	*e*P		**P**	**10 49 51.2**	**+1.0**
TXAR	**Lajitas Array**	**90.21**	**52**	P		**P**	**10 49 51.0**	**+0.8**
	comp=Z,1.5nm,0.7s,baz=300,slow=2.9,SNR=18							
TXAR				LR		LR	11 25 54.8	
	comp=Z,22nm,21.2s,baz=0.0,slow=33							
TXAR	**Lajitas Array**	**90.21**	**52**	P		**P**	**10 49 51.0**	**+0.8**
KEST	**Kesra**	**94.90**	**323**	LR		LR	11 37 14.8	
	comp=Z,57nm,19.9s,baz=297,slow=38							
TOA0	**Torodi Ar. Sit**	**117.20**	**315**	*e*PKPdf		**PKPdf**	**10 55 34.7**	**-0.3**
TORD	**Torodi Ar. Bea**	**117.20**	**315**	PKP		**PKPdf**	**10 55 34.6**	**-0.5**
	comp=Z,0.3nm,0.6s,baz=23,slow=1.4,SNR=3.4							
TORD				PP		**PP**	**10 56 43.6**	**-1.1**
	comp=Z,0.8nm,0.9s,baz=38,slow=7.5,SNR=4.3							
AGP	**Aguadilla**	**118.66**	**31**	*e*PKPdf		**PKPdf**	**10 55 37.0**	**-0.8**
LPAZ	**La Paz**	**146.79**	**59**	PKPbc		**PKPbc**	**10 56 33.2**	**+0.5**
	comp=Z,4.7nm,0.9s,baz=359,slow=6.0,SNR=12							
LPAZ	**La Paz**	**146.79**	**59**	*e*PKPdf		**PKPbc**	**10 56 32.7**	**+0.1**
LPAZ	**La Paz**	**146.79**	**59**	*e*PKP2		**PKPbc**	**10 56 32.7**	**+0.1**
MNMC	**Minye Minye**	**147.66**	**65**	*e*PKPbc		**PKPab**	**10 56 35.9**	**-0.9**
PB11	**IPOC Station P**	**148.01**	**66**	*e*PKPbc		**PKPbc**	**10 56 36.7**	**+1.4**
LCO	**Las Campanas**	**152.14**	**83**	*e*PKPbc		**PKPbc**	**10 56 46.3**	**+1.0**
LCO	**Las Campanas**	**152.14**	**83**	PKIKP		**PKPbc**	**10 56 46.3**	**+1.0**

MAN 15 10:41:02.1, 12.58N × 125.32E, 27 km, mb 4.3, ML 3.1, MS 2.9, 1C-1D, Samar

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
CNP	**Catarman**	**0.65**	**264**	*e*P		Pn	10 41 15.2	-0.2
CNP				*e*S		Sn	10 41 27.4	+2.7
BESP	**Borongan**	**0.98**	**173**	*e*P		Pb	10 41 21.0	+0.6
BESP				*e*S		Sn	10 41 33.6	+0.7
PLP	**Palo**	**1.44**	**193**	⇓*e*P		Pn	10 41 26.6	+0.2
PLP				*e*S		Sn	10 41 45.0	+0.5
PVCP	**Virac**	**1.52**	**312**	*e*P		Pn	10 41 27.9	+0.4
MSLP	**Maasin**	**2.47**	**191**	*e*P		Pb	10 41 43.6	-2.1
MSLP				*e*S		Sb	10 42 18.0	+2.2
RCP	**Roxas**	**2.71**	**248**	⇑*e*P		Pn	10 41 46.6	+2.7

IDC ***15*** *10:56:32.2±3.1, 51.68N×176.07W, h0km, mb3.3/4, mb1 3.7/6, mb1mx3.3/89, mbtmp3.4/6, ML3.4/2, Error ellipse: s-maj=69.1km s-min=51.6km az=117.0*
ISCJB ***15*** *10:56:38.1±0.8, 51.53N±0.08×175.77W±0.06, h47km, mb3.2/4, Error ellipse: s-maj=12.1km s-min=5.1km az=172.5*
NEIC ***15*** *10:56:38.7±0.0, 51.56N×175.81W, h36km, ML3.9(AEIC), After AEIC.*

ISC 15 10:56:39.2±1.1, 51.6N±0.1×175.87W±0.04, h47km, n26, σ0 97/24, mb 3.2/4, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
ETKA	**Kagalaska Isla**	**0.40**	**305**	P		**Pn**	**10 56 49.2**	**+0.1**
GSTD	**Great Sitkin T**	**0.46**	**339**	P		**Pn**	**10 56 50.2**	**+0.4**
GSTD				S		**Sn**	**10 56 58.0**	**+0.7**
ADAG	**Mount Adagdak**	**0.57**	**308**	P		**Pn**	**10 56 52.1**	**+1.0**
KIRH	**Kanaga Island**	**0.80**	**290**	P		**Pn**	**10 56 54.8**	**+0.6**
KINC	**Kanaga Island**	**0.83**	**292**	P		**Pn**	**10 56 55.1**	**+0.6**
KIKV	**Kanaga Island**	**0.84**	**288**	P		**Pn**	**10 56 55.2**	**+0.5**
TAPA	**Tanaga Point A**	**1.22**	**279**	P		**Pn**	**10 57 00.6**	**+0.8**
KOWE	**Korovin West**	**1.24**	**53**	P		**Pn**	**10 57 00.7**	**+0.6**
KOWE				S		**Sn**	**10 57 16.4**	**+0.6**
KOFP	**Korovin Flat P**	**1.27**	**59**	P		**Pn**	**10 57 00.8**	**+0.2**
KOKV	**Korovin Volcan**	**1.28**	**55**	P		**Pn**	**10 57 00.8**	**+0.1**
KOKV				S		**Sn**	**10 57 16.4**	**-0.4**
GALAA	**Gareloi Lava P**	**1.81**	**275**	P		**Pn**	**10 57 09.1**	**+1.3**
NIKH	**Nikolski High**	**4.51**	**70**	P		**Pn**	**10 57 47.0**	**+2.1**
UNV	**Unalaska Valle**	**6.11**	**65**	P		**Pn**	**10 58 07.7**	**+0.9**
SPIA	**Saint Paul Isl**	**6.45**	**28**	P		**Pn**	**10 58 13.5**	**+2.1**
KDAK	**Kodiak Island**	**14.76**	**56**	Pn		**Pn**	**11 00 04.4**	**-0.2**
	0.2nm,0.3s,baz=243,slow=2.3,SNR=4.3							
ILAR	**Eielson Array**	**19.91**	**38**	P		**P**	**11 01 04.6**	**-1.9**
	0.1nm,0.3s,baz=241,slow=10.0,SNR=6.4							
INK	**Inuvik**	**26.21**	**35**	P		**P**	**11 02 08.5**	**-0.5**
	0.1nm,0.3s,baz=236,slow=2.4,SNR=3.3							
YKA	**Yellowknife Ar**	**33.73**	**47**	P		**P**	**11 03 15.2**	**-0.3**
	0.2nm,0.5s,baz=283,slow=8.4,SNR=3.9							
YKA				PcP		**PcP**	**11 05 54.4**	**+0.4**
	0.2nm,0.5s,baz=290,slow=2.9,SNR=6.6							
H11N2	**WAKE ISLAND Hy**	**34.59**	**209**	T		T	11 40 00.9	
	baz=21							
H11N3	**WAKE ISLAND Hy**	**34.60**	**209**	T		T	11 39 58.4	
	baz=21							
H11N1	**WAKE ISLAND Hy**	**34.61**	**209**	T		T	11 39 57.8	
	baz=21							
H11S1	**WAKE ISLAND Hy**	**35.80**	**209**	T		T	11 41 30.6	
	baz=21							
H11S2	**WAKE ISLAND Hy**	**35.82**	**209**	T		T	11 41 29.0	
	baz=21							
H11S3	**WAKE ISLAND Hy**	**35.82**	**209**	T		T	11 41 35.1	
	baz=21							
PDAR	**Pinedale Array**	**44.48**	**74**	P		**P**	**11 04 45.6**	**-0.2**
	0.3nm,0.7s,baz=298,slow=3.2,SNR=3.9							
TXAR	**Lajitas Array**	**56.81**	**83**	P		**P**	**11 06 18.6**	**-0.1**
	0.6nm,1.1s,baz=304,slow=6.4,SNR=3.0							

IDC ***15*** *10:57:42.2±1.1, 3.83N×92.81E, h0km, mb3.9/13, mb1 4.0/15, mb1mx3.7/73, mbtmp3.9/15, ML3.5/2, MS3.4/2, Ms1 3.4/2, ms1mx2.6/65, Error ellipse: s-maj=37.4km s-min=20.4km az=47.0*
NEIC ***15*** *10:57:43.8±0.4, 3.81N×92.72E, h10km, mb4.4/5, Error ellipse: s-maj=9.1km s-min=5.1km az=31.0*
ISCJB ***15*** *10:57:45.3±0.6, 3.82N±0.09×92.76E±0.06, h33km, mb4.0/15, MS3.5/2, Error ellipse: s-maj=13.5km s-min=7.0km az=28.7*

ISC 15 10:57:47.3±0.8, 3.8N±0.1×92.69E±0.08, h35km, n40, σ0 89/39, mb 4.1/15, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
LHMI	**Lhok Sumawe**	**4.48**	**71**	*e*Pn		**Pn**	**10 58 53.1**	**+0.3**
GSI	**Gunungsitoli**	**5.47**	**117**	*e*Pn		**Pn**	**10 59 05.2**	**-1.2**
PSI	**Prapat**	**6.30**	**99**	*e*Pn		**Pn**	**10 59 17.4**	**-0.5**
PSI				*e*Sn		**Sn**	**11 00 32.2**	**+3.4**
IPM	**Ipoh**	**8.34**	**85**	*e*Pn		**Pn**	**10 59 45.0**	**-0.9**
PALK	**Pallekele**	**12.42**	**287**	Pn		**Pn**	**11 00 42.6**	**+0.8**
	0.4nm,0.3s,baz=112,slow=16,SNR=2.9							
PALK				Sn		Sn	11 02 43.7	-15
	2.3nm,0.3s,baz=118,slow=7.5,SNR=7.1							
PALK	**Pallekele**	**12.42**	**287**	*e*Pn		**Pn**	**11 00 42.6**	**+0.8**
PALK				*e*Sn		Sn	11 02 46.9	-12
CM01	**Chiang Mai Arr**	**15.79**	**22**	*e*Pn		**P**	**11 01 31.2**	**+0.6**
CM31	**Chiang Mai Arr**	**15.81**	**22**	*e*Pn		**Pn**	**11 01 25.9**	**-1.6**
CMAR	**Chiang Mai Arr**	**15.81**	**22**	Pn		**Pn**	**11 01 25.9**	**-1.6**
	0.1nm,0.3s,baz=218,slow=14,SNR=17							
MK01	**Makanchi Array**	**43.76**	**350**	*e*P		**P**	**11 05 49.4**	**0.0**
MK31	**Makanchi Array**	**43.78**	**350**	*e*P		**P**	**11 05 49.6**	**0.0**
MK32	**Makanchi Array**	**43.78**	**350**	*e*P		**P**	**11 05 49.4**	**-0.2**
MKAR	**Makanchi Array**	**43.78**	**350**	P		**P**	**11 05 49.4**	**-0.2**
	1.1nm,0.7s,baz=171,slow=9.1,SNR=12							
MKAR	**Makanchi Array**	**43.78**	**350**	*e*P		**P**	**11 05 49.6**	**0.0**
	8.0nm,0.8s							
SONA0	**Songino Array**	**45.44**	**13**	*e*P		**P**	**11 06 02.2**	**-0.8**
SONM	**Songino Array**	**45.44**	**13**	P		**P**	**11 06 02.2**	**-0.8**
	0.7nm,0.6s,baz=198,slow=7.2,SNR=4.8							
GEYT	**Alibeck**	**46.38**	**322**	P		**P**	**11 06 11.1**	**+0.7**
	1.0nm,0.6s,baz=152,slow=12,SNR=3.2							
KSRS	**Korea Array**	**46.50**	**39**	LR		LR	11 28 24.3	
	comp=Z,19nm,18.5s,baz=205,slow=40							
WRA	**Warramunga Arr**	**47.22**	**122**	P		**P**	**11 06 16.7**	**-0.5**
	0.6nm,1.1s,baz=298,slow=8.9,SNR=4.3							
WR1	**Warramunga Arr**	**47.22**	**122**	*e*P		**P**	**11 06 16.7**	**-0.5**
	3.6nm,1.1s							
KURBB	**Kurchatov Arra**	**48.17**	**348**	P		**P**	**11 06 24.2**	**+0.1**
	0.5nm,0.2s,baz=172,slow=7.3,SNR=6.2							
KURK	**Kurchatov**	**48.24**	**348**	*e*P		**P**	**11 06 24.2**	**-0.4**
ASAR	**Alice Springs**	**48.54**	**126**	P		**P**	**11 06 27.2**	**-0.3**
	0.3nm,0.9s,baz=306,slow=7.9,SNR=3.6							
ZAA0	**Zalesovo Array**	**50.42**	**354**	*e*P		**P**	**11 06 41.7**	**+0.5**
	2.6nm,0.7s							
ZALV	**Zalesovo Beam**	**50.42**	**354**	P		**P**	**11 06 41.5**	**+0.3**
	1.9nm,0.5s,baz=186,slow=7.0,SNR=9.6							
ZALV	**Zalesovo Beam**	**50.42**	**354**	*e*P		**P**	**11 06 41.7**	**+0.5**
ZAA1	**Zalesovo Array**	**50.42**	**354**	*e*P		**P**	**11 06 41.5**	**+0.3**
BVAR	**Borovoye Array**	**52.41**	**343**	P		**P**	**11 06 56.2**	**+0.1**
	1.0nm,0.6s,baz=256,slow=38,SNR=3.7							
AKTO	**Aktyubinsk**	**54.88**	**334**	P		**P**	**11 07 14.6**	**+0.3**
	1.1nm,0.5s,baz=120,slow=8.1,SNR=3.7							
ASF	**Jabal al Asfar**	**59.30**	**305**	LR		LR	11 34 00.7	
	comp=Z,90nm,21.9s,baz=274,slow=37							
MLR	**Muntele Rosu**	**71.11**	**317**	P		**P**	**11 09 02.6**	**+0.2**
	0.5nm,0.6s,baz=144,slow=8.7,SNR=3.7							
MLR	**Muntele Rosu**	**71.11**	**317**	*e*P		**P**	**11 09 02.6**	**+0.2**
	8.5nm,1.4s							
TIXI	**Tiksi**	**71.50**	**11**	P		**P**	**11 09 03.6**	**-0.5**
	1.8nm,0.7s,baz=185,slow=2.7,SNR=7.7							
TIXI	**Tiksi**	**71.50**	**11**	*e*P		**P**	**11 09 03.5**	**-0.6**
	3.7nm,1.1s							
BUR04	**Bucovina Ar. S**	**72.13**	**319**	*e*P		**P**	**11 09 09.7**	**+1.2**
FIA0	**FINESS Array S**	**75.65**	**333**	*e*P		**P**	**11 09 28.7**	**+0.1**
FINES	**FINESS Array B**	**75.65**	**333**	P		**P**	**11 09 28.7**	**+0.1**
	1.3nm,0.8s,baz=120,slow=8.2,SNR=3.7							
GEA0	**GERESS Array S**	**79.91**	**319**	*e*P		**P**	**11 09 53.2**	**+0.4**
GERES	**GERESS Array B**	**79.91**	**319**	P		**P**	**11 09 53.6**	**+0.8**
	1.5nm,0.8s,baz=94,slow=7.1,SNR=7.9							
PPTF	**Pamatai, Papee**	**117.57**	**108**	*e*PKPdf		**PKPdf**	**11 16 29.5**	**-1.1**

TIR ***15*** *10:59:13.0, 39.55N×20.28E, h26km, Md1.9/2*
ATH ***15*** *10:59:14.3, 39.63N×20.38E, h17km±2km, ML2.2/4, Error ellipse: s-maj=2.7km s-min=0.9km az=227.0*
CSEM ***15*** *10:59:14.6±0.1, 39.63N×20.39E, h8km, ML2.2, Error ellipse: s-maj=3.3km s-min=2.3km az=21.0*

THE 15 10:59:15.2, 39.69N×20.36E, h0km±2km, ML 1.8/2, Error ellipse: s-maj=3.0km s-min=0.7km az=338.0, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
SGD	**Sagiada**	**0.12**	**232**	P		Pg	10 59 17.1	-0.5
SGD	**Sagiada**	**0.12**	**232**	P		Pg	10 59 17.6	0.0
SGD	**Sagiada**	**0.12**	**232**	P		Pg	10 59 17.6	0.0
IGT	**Igoumenitsa**	**0.16**	**188**	P		Pg	10 59 17.7	-0.5
IGT				S		Sg	10 59 21.1	+0.8
IGT				AML		AML	10 59 22.2	
	comp=N,2874μm,0.3s							
IGT				AML		AML	10 59 22.2	
	comp=E,1585μm,0.2s							
IGT	**Igoumenitsa**	**0.16**	**188**	P		Pg	10 59 17.9	-0.3
IGT				S		Sg	10 59 21.1	+0.8
IGT	**Igoumenitsa**	**0.16**	**188**	P		Pg	10 59 17.9	-0.3
IGT				S		Sg	10 59 20.8	+0.5
KASA	**Kassiopi**	**0.33**	**280**	P		Pg	10 59 21.5	-0.1
KASA				S		Sb	10 59 28.3	-1.6
KASA				AML		AML	10 59 30.7	
	comp=N,1158μm,0.3s							
KASA				AML		AML	10 59 30.7	
	comp=E,839μm,0.3s							
KASA	**Kassiopi**	**0.33**	**280**	P		Pg	10 59 21.7	+0.1
KASA				S		Sg	10 59 27.8	+1.9
SRN	**Sarande**	**0.34**	**304**	P		Pg	10 59 21.8	+0.1
SRN	**Sarande**	**0.34**	**304**	P		Pg	10 59 21.8	+0.1
SRN				*i* Sg		Sb	10 59 28.4	-1.6
SRN	**Sarande**	**0.34**	**304**	*i* PG		Pg	10 59 21.7	+0.1
SRN				*i* SG		Sb	10 59 28.4	-1.6
JAN	**Janina**	**0.38**	**95**	P		Pg	10 59 21.8	-0.7
JAN				S		Sg	10 59 28.1	+0.7
JAN				AML		AML	10 59 29.5	
	comp=N,1914μm,0.3s							
JAN				AML		AML	10 59 29.9	
	comp=E,1474μm,0.2s							
JAN	**Janina**	**0.38**	**95**	P		Pg	10 59 22.0	-0.5
JAN				S		Sg	10 59 28.6	+1.2
JAN	**Janina**	**0.38**	**95**	P		Pg	10 59 22.0	-0.5
JAN				S		Sg	10 59 27.7	+0.3
KEK	**Kerkira**	**0.43**	**273**	P		Pg	10 59 22.8	-0.8
KEK				S		Sb	10 59 31.4	-1.4
KEK				AML		AML	10 59 31.9	
	comp=E,566μm,0.3s							
KEK				AML		AML	10 59 33.6	
	comp=N,379μm,0.4s							
KEK	**Kerkira**	**0.43**	**273**	P		Pg	10 59 23.2	-0.3
KEK				S		Sg	10 59 30.9	+1.7
KEK	**Kerkira**	**0.43**	**273**	P		Pg	10 59 23.2	-0.3
KEK				S		Sg	10 59 30.8	+1.6
KPRO	**Kipourio**	**0.81**	**71**	P		Pg	10 59 29.6	-1.3
KP

MEX 15 11:04:42.5±0.9, 17°23'N×90°34'W, h92km±43km, MD3.8, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCIG	Comitan	1.56	233	*i* P	Pn	11 05 07.9	-1.5
CCIG				*eS*	Sn	11 05 28.3	-1.4
SCIG	Sabancuy	1.76	349	*i* P	Pn	11 05 10.9	-0.8
SCIG				*eS*	Sn	11 05 32.1	-1.8
TGIG		2.23	259	*eP*	Pn	11 05 16.8	-1.1
TGIG				*eS*	Sn	11 05 42.9	-2.2
PCIG		2.74	237	*eP*	Pn	11 05 27.5	+2.9
PCIG				*eS*	Sn	11 05 58.6	+1.6

DJA ***15*** *11:05:36.9±4.0, 0°N±9°×9°2E±3°4, h10km, M4.8/8, mb4.8/8, mB5.4/5, MLv4.7/7, Mw(mB)4.9/5*

IDC ***15*** *11:05:39.3±2.0, 0°.40N×92°.13E, h0km, mb3.5/3, mb1 3.8/5, mb1mx3.4/67, mbtmp3.6/5, ML3.3/2, MS3.3/1, Ms1 3.3/1, ms1mx2.4/53, Error ellipse: s-maj=57.2km s-min=28.8km az=54.0*

ISCJB ***15*** *11:05:43.9±1.2, 0°.55N±0°.10×92°.65E±0°.08, h33km, mb3.6/3, MS3.2/1, Error ellipse: s-maj=14.5km s-min=11.0km az=27.2*

ISC 15 11:05:45.8±1.4, 0°.5N±0°.1×92°.6E±0°.1, h35km, n14, σ0s91/14, mb3.7/3, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSI	Gunungsitoli	5.02	81	P	Pn	11 06 59.8	+1.1
	63nm,0.7s,0.3nm						
GSI				S	Sn	11 07 55.7	+0.1
	63nm,0.7s,0.3nm						
MLSI	Meulaboh, Aceh	5.30	46	P	Pn	11 07 02.8	+0.3
TPTI		5.31	59	P	Pn	11 07 03.5	+0.9
TPTI				S	Sn	11 08 00.7	-1.9
SISI	Saibi	6.74	106	P	Pn	11 07 21.8	-0.5
	28nm,0.6s,0.1nm						
MNSI	Mandailing Nat	6.98	88	P	Pn	11 07 26.4	+0.9
	116nm,0.4s,3µm0.7nm						
PDSI	Padang	7.99	100	P	Pn	11 07 39.4	0.0
	36nm,0.5s,4µm						
PPSI	Pulau Pagai	8.10	114	P	Pn	11 07 41.1	+0.2
	92nm,1.0s,2µm						
PALK	Pallekele	13.62	300	Pn	Pn	11 08 47.3	-9.4
	0.5nm,0.3s,baz=115,slow=7.9,SNR=2.4						
PALK				Sn	Sn	11 11 07.9	-19
	1.0nm,0.3s,baz=77,slow=0.5,SNR=3.4						
CMAR	Chiang Mai Arr	18.86	19	P	Pn	11 10 04.1	+0.3
	0.0nm,0.3s,baz=211,slow=12,SNR=10.0						
AAK	Ala-Archa	44.96	341	LR	LR	11 32 32.9	
	comp=Z,30nm,18.5s,baz=166,slow=36						
WRA	Warramunga Arr	45.66	119	P	P	11 14 03.7	+0.2
	0.7nm,0.7s,baz=295,slow=8.6,SNR=5.8						
MKAR	Makanchi Array	46.94	350	P	P	11 14 11.9	-1.3
	0.2nm,0.5s,baz=170,slow=8.8,SNR=2.7						
SONM	Songino Array	48.61	12	P	P	11 14 26.6	+0.5
	0.3nm,0.4s,baz=193,slow=5.9,SNR=3.1						
TXAR	Lajitas Array	146.47	26	PKPbc	PKPab	11 25 25.8	+0.7
	0.2nm,0.6s,baz=247,slow=0.7,SNR=3.7						

MEX 15 11:12:25.1±0.6, 14°77'N×93°26'W, h16km±43km, MD3.9, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		0.94	3	*eP*	Pb	11 12 39.6	-3.4
PCIG				*eS*	Sb	11 12 50.9	-4.3
CCIG	Comitan	1.86	36	*eP*	Pn	11 12 53.7	-2.8
TGIG		2.01	4	*eP*	Pn	11 12 55.1	-3.3

IDC ***15*** *11:14:55.1±1.2, 26°.90N×143°.94E, h0km, mb3.6/5, mb1 3.8/6, mb1mx3.4/61, mbtmp3.6/6, ML3.7/1, Error ellipse: s-maj=27.7km s-min=27.1km az=77.0*

ISCJB ***15*** *11:14:58.4±1.0, 26°.9N±0°.2×143°.87E±0°.09, h33km, mb3.6/5, Error ellipse: s-maj=25.5km s-min=12.0km az=1.6*

ISC 15 11:15:00.4±1.1, 27°.0N±0°.2×143°.8E±0°.1, h35km, n7, σ1s13/8, mb3.6/5, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	Chichijima	1.46	275	Pn	Pn	11 15 24.4	+0.2
	6.7nm,0.3s,baz=117,slow=18,SNR=7.5						
JCJ				Sn	Sn	11 15 42.1	0.0
	90nm,0.3s,baz=287,slow=20,SNR=29						
MJAR	Matsushiro Arr	10.65	335	Pn	Pn	11 17 29.0	-1.4
	0.6nm,0.3s,baz=159,slow=11,SNR=11						
WRA	Warramunga Arr	47.55	192	P	P	11 23 31.5	-1.0
	0.4nm,0.6s,baz=16,slow=8.3,SNR=3.7						
MKAR	Makanchi Array	51.66	310	P	P	11 24 05.2	+1.5
	0.4nm,0.5s,baz=93,slow=8.7,SNR=3.7						
KURBB	Kurchatov Arra	54.15	314	P	P	11 24 22.9	+0.9
	0.4nm,0.6s,baz=92,slow=8.1,SNR=4.5						
INK	Inuvik	62.52	25	P	P	11 25 20.2	+0.1
	0.7nm,1.0s,baz=259,slow=6.3,SNR=3.2						
TXAR	Lajitas Array	94.50	54	P	P	11 28 18.1	+0.5
	0.3nm,0.7s,baz=292,slow=4.8,SNR=3.5						

IDC ***15*** *11:22:27.7±1.6, 2°.27N×92°.74E, h0km, mb3.6/7, mb1 3.7/9, mb1mx3.5/66, mbtmp3.6/9, ML3.6/2, Error ellipse: s-maj=52.9km s-min=19.8km az=54.0*

ISCJB ***15*** *11:22:30.2±1.0, 2°.3N±0°.1×92°.6E±0°.1, h33km, mb3.6/7, Error ellipse: s-maj=24.2km s-min=15.3km az=41.9*

ISC 15 11:22:32.2±1.3, 2°.3N±0°.2×92°.5E±0°.1, h35km, n9, σ1s61/10, mb3.6/7, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	Pallekele	12.79	293	Pn	Pn	11 25 32.9	+1.1
	0.2nm,0.3s,baz=113,slow=6.9,SNR=2.5						
PALK				Sn	Sn	11 27 50.6	-2.5
	0.5nm,0.3s,baz=293,slow=3.2,SNR=2.9						
CMAR	Chiang Mai Arr	17.27	21	P	Pn	11 26 28.8	-2.0
	0.1nm,0.3s,baz=219,slow=10,SNR=4.7						
MKAR	Makanchi Array	45.24	350	P	P	11 30 47.5	+1.5
	0.7nm,0.6s,baz=172,slow=8.9,SNR=8.8						
WRA	Warramunga Arr	46.58	120	P	P	11 30 56.2	-0.9
	0.8nm,0.5s,baz=301,slow=8.6,SNR=11						
SONM	Songino Array	46.94	13	P	P	11 30 59.8	+0.2
	0.4nm,0.5s,baz=188,slow=8.7,SNR=3.2						
ASAR	Alice Springs	47.79	125	P	P	11 31 06.0	-0.5
	0.2nm,0.5s,baz=298,slow=7.6,SNR=5.3						
KURBB	Kurchatov Arra	49.62	348	P	P	11 31 21.3	+1.2
	0.4nm,0.6s,baz=170,slow=6.8,SNR=4.2						
ZALV	Zalesovo Beam	51.90	354	P	P	11 31 38.2	+1.0
	0.7nm,0.4s,baz=177,slow=8.9,SNR=4.0						
BVAR	Borovoye Array	53.81	344	P	P	11 31 52.3	+0.9
	0.2nm,0.5s,baz=152,slow=6.5,SNR=2.3						

IDC 15 11:24:59.0±2.9, 3°.72S×129°.84E, h200km±42km, mb2.5/2, mb1 2.6/5, mb1mx2.5/54, mbtmp3.1/5, Error ellipse: s-maj=79.3km s-min=15.4km az=84.0, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	Sorong	3.17	27	P	Pn	11 25 49.0	-1.8
	0.6nm,0.3s,baz=217,slow=20,SNR=3.4						
SIJI				S	Sn	11 26 32.3	+1.0
	0.7nm,0.3s,baz=217,slow=20,SNR=3.6						
FITZ	Fitzroy Crossi	14.87	196	P	P	11 28 20.8	+0.3
	baz=17,slow=11						
WRA	Warramunga Arr	16.71	165	P	P	11 28 39.8	-1.0
	0.0nm,0.3s,baz=340,slow=12,SNR=3.3						
ASAR	Alice Springs	20.21	169	P	P	11 29 19.0	+0.2
	0.1nm,0.3s,baz=347,slow=12,SNR=6.7						
MKAR	Makanchi Array	65.42	326	P	P	11 35 20.4	0.0
	0.2nm,0.5s,baz=134,slow=6.2,SNR=4.0						

ISCJB ***15*** *11:25:02.0±1.5, 37°.00N±0°.05×141°.31E±0°.08, h10km±6km, mb3.3/1, Error ellipse: s-maj=11.0km s-min=7.9km az=4.3*

JMA ***15*** *11:25:01.7, 36°.99N×141°.34E, h20km±1km, M3.0*

IDC ***15*** *11:25:07.0±1.4, 36°.70N×140°.93E, h0km, mb3.0/2, mb1 3.2/3, mb1mx3.0/64, mbtmp2.8/3, ML1.9/1, Error ellipse: s-maj=33.5km s-min=25.4km az=140.0*

ISC 15 11:25:02.9±2.2, 37°.02N±0°.05×141°.26E±0°.09, h2km±12km, n10, σ1s18/16, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	Iwakimizuishiy	0.38	283	P	Pg	11 25 10.6	+0.3
ONAJ				S	Sg	11 25 17.1	+1.8
JFK	Kawauchi	0.47	319	P	Pg	11 25 12.2	+0.3
JFK				*eS*	Sg	11 25 19.2	+1.2
JHO	Hitachi	0.69	234	P	Pg	11 25 15.3	-0.8
JHO				S	Sg	11 25 25.1	+0.1
JFT	Otama	0.89	304	P	Pg	11 25 19.8	-0.3
JFT				S	Sg	11 25 32.4	+0.7
JMM	Marumori	0.93	336	P	Pg	11 25 19.4	-1.3
JMM				S	Sg	11 25 32.5	-0.3
JFY	Yanaizu	1.30	288	S	Sg	11 25 44.3	-0.5
MJAR	Matsushiro Arr	2.50	260	Pn	Pn	11 25 43.5	-1.1
	0.3nm,0.3s,baz=87,slow=15,SNR=5.3						
MJAR				Sn	Sn	11 26 15.0	-0.6
	0.6nm,0.3s,baz=85,slow=27,SNR=3.6						
MAT	Matsushiro	2.50	260	P	Pn	11 25 43.1	-1.5
MAT				*eS*	Sn	11 26 15.0	-0.6
WRA	Warramunga Arr	57.02	188	P	P	11 34 52.3	+2.0
	0.3nm,1.0s,baz=2.6,slow=7.3,SNR=4.6						
YKA	Yellowknife Ar	63.88	30	P	P	11 35 43.7	+7.0
	0.0nm,0.4s,baz=302,slow=5.8,SNR=2.5						

SJA ***15*** *11:43:24.3±0.9, 32°.57S×70°.70W, h113km±6km, ML3.0, MW3.1*

ISCJB ***15*** *11:43:25.1±1.0, 32°.45S±0°.04×70°.81W±0°.06, h110km±9km, Error ellipse: s-maj=9.0km s-min=6.4km az=15.1*

GUC ***15*** *11:43:26.2±0.6, 32°.41S×70°.86W, h97km±7km, ML3.4*

ISC 15 11:43:26.6±2.1, 32°.44S±0°.06×70°.79W±0°.07, h97km±18km, n15, σ0s91/28, 1C-2D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROCH	El Roble	0.56	199	*i* P	Pn	11 43 42.7	-0.2
ROCH				*i* S	Sn	11 43 54.9	-0.1
ROCH				IAML		11 43 56.8	
	comp=N,1µm,0.5s						
ROC1	El Roble	0.57	200	*eP*	Pn	11 43 42.5	-0.4
ROC1				*eS*	Sn	11 43 55.8	+0.8
PEL	Peldehue	0.71	173	*eP*	Pn	11 43 43.2	-0.7
PEL				*i* S	Sn	11 43 56.9	+0.1
AUSP	Uspallata	1.21	80	*eP*	Pn	11 43 48.8	-0.7
AUSP				*eS*	Sn	11 44 07.1	+0.4
RTLS	Leoncito	1.42	64	*eP*	Pn	11 43 51.8	-0.2
RTLS				IAML		11 44 11.6	
	comp=Z,83nm,0.3s						
RTLS				*eS*	Sn	11 44 11.7	+0.5
LMEL	Las Melosas	1.49	161	*i* P	Pn	11 43 53.3	+0.6
LMEL				*i* S	Sn	11 44 13.4	+1.0
LMEL				IAML		11 44 15.5	
	comp=N,600nm,0.1s						
RTCV	Cerro Valdivia	1.99	74	*eP*	Pn	11 43 58.5	-0.5
RTCV				*eS*	Sn	11 44 23.7	-0.1
GO04	Tololo Observa	2.26	360	*i* P	Pn	11 44 02.0	-0.7
GO04				*i* S	Sn	11 44 29.5	-0.8
GO04				IAML		11 44 32.7	
	comp=N,450nm,0.3s						
TLL	Tololo Astrono	2.27	360	*eP*	Pn	11 44 02.1	-0.7
TLL				*i* S	Sn	11 44 29.6	-0.8
AMOG	MOGNA	2.47	53	*eP*	Pn	11 44 04.7	-0.6
AMOG				*eS*	Sn	11 44 34.9	0.0
AROD	Rodeo	2.53	27	*eP*	Pn	11 44 07.3	+0.9
AROD				*eS*	Sn	11 44 39.5	+2.6
ACDV	Cuesta del Vie	2.68	33	*eP*	Pn	11 44 08.3	+0.2
ACDV				*eS*	Sn	11 44 41.6	+1.6
ACAN	Cantantal	3.05	88	*eP*	Pn	11 44 11.3	-1.7
AGUA	GUANDACOL	3.54	34	*eP*	Pn	11 44 19.6	-0.1
VCA	Vinchina	4.31	32	*eP*	Pn	11 44 30.0	-0.2
VCA				*eS*	Sn	11 45 19.4	-0.1
VCA				IAML		11 45 21.9	
	comp=Z,21nm,0.2s						

IDC 15 11:48:49.5±4.5, 18°.78S×176°.59W, h0km, mb3.5/3, mb1 3.9/3, mb1mx3.5/44, mbtmp3.5/3, Error ellipse: s-maj=321.3km s-min=29.4km az=153.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	46.18	260	P	P	11 57 16.6	+0.1
	0.5nm,0.9s,baz=94,slow=8.3,SNR=7.1						
ASAR	Alice Springs	46.23	255	P	P	11 57 16.5	-0.4
	0.8nm,0.7s,baz=99,slow=8.2,SNR=11						
NVAR	Mina Array Bea	78.87	43	P	P	12 00 55.0	0.0
	0.5nm,0.8s,baz=225,slow=8.5,SNR=3.2						

ISCJB ***15*** *11:50:32.5±1.5, 1°.3N±0°.3×91°.4E±0°.2, h10km, mb3.5/4, Error ellipse: s-maj=42.5km s-min=19.7km az=31.4*

IDC ***15*** *11:50:33.5±2.0, 1°.38N×91°.55E, h0km, mb3.4/4, mb1 3.6/5, mb1mx3.3/69, mbtmp3.5/5, ML3.4/1, Error ellipse: s-maj=69.3km s-min=26.8km az=49.0*

ISC 15 11:50:34.5±1.6, 1°.3N±0°.3×91°.5E±0°.2, h10km, n6, σ0s32/6, mb3.7/4, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	Pallekele	12.27	299	Pn	Pn	11 53 29.5	0.0
	0.2nm,0.3s,baz=116,slow=14,SNR=6.3						
PALK				Sn	Sn	11 55 36.6	-10
	0.8nm,0.3s,baz=114,slow=2.3,SNR=1.9						
MKAR	Makanchi Array	46.01	351	P	P	11 58 58.2	+0.1
	0.3nm,0.6s,baz=168,slow=8.4,SNR=4.2						
WRA	Warramunga Arr	47.02	119	P	P	11 59 06.7	+0.1
	0.8nm,0.7s,baz=297,slow=8.6,SNR=8.4						
SONM	Songino Array	48.12	13	P	P	11 59 14.8	+0.1
	0.6nm,0.6s,baz=186,slow=9.9,SNR=4.5						
KURBB	Kurchatov Arra	50.35	349	P	P	11 59 31.7	+0.1
	0.1nm,0.4s,baz=155,slow=9.0,SNR=2.4						
TXAR	Lajitas Array	146.26	24	PKPbc	PKPbc	12 10 15.7	-0.5
	0.2nm,0.5s,baz=336,slow=2.0,SNR=3.3						

ISCJB ***15*** *11:51:39.2±1.0, 1°.3N±0°.1×91°.5E±0°.1, h10km, mb3.7/7, Error ellipse: s-maj=24.7km s-min=15.3km az=40.8*

IDC ***15*** *11:51:39.9±1.3, 1°.32N×91°.53E, h0km, mb3.7/7, mb1 3.8/9, mb1mx3.5/70, mbtmp3.7/9, ML3.8/2, Error ellipse: s-maj=44.9km s-min=20.4km az=52.0*

ISC 15 11:51:41.2±1.2, 1°.3N±0°.2×91°.5E±0°.2, h10km, n10, σ0s64/10, mb3.7/7, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	Pallekele	12.28	299	Pn	Pn	11 54 36.0	-0.4
	1.0nm,0.3s,baz=117,slow=17,SNR=5.0						
PALK				Sn	Sn	11 56 40.4	-13
	2.8nm,0.3s,baz=115,slow=1.6,SNR=6.4						
CMAR	Chiang Mai Arr	18.55	23	P	P	11 55 57.8	-0.5
	0.1nm,0.3s,baz=220,slow=14,SNR=3.4						
MKAR	Makanchi Array	46.02	351	P	P	12 00 05.0	+0.1
	0.7nm,0.8s,baz=151,slow=9.0,SNR=6.6						
WRA	Warramunga Arr	47.01	119	P	P	12 00 12.8	-0.3
	1.5nm,0.7s,baz=296,slow=8.7,SNR=12						
ASAR	Alice Springs	48.11	124	P	P	12 00 21.6	-0.1
	0.5nm,0.9s,baz=295,slow=7.5,SNR=4.6						
SONM	Songino Array	48.12	13	P	P	12 00 22.2	+0.7
	0.8nm,0.5s,baz=191,slow=9.3,SNR=5.3						
KURBB	Kurchatov Arra	50.36	349	P	P	12 00 37.4	-0.9
	0.6nm,0.9s,baz=174,slow=6.8,SNR=4.4						
ZALV	Zalesovo Beam	52.76	355	P	P	12 00 56.0	-0.3
	0.5nm,0.3s,baz=185,slow=7.4,SNR=2.0						
GERES	GERESS Array B	80.99	319	P	P	12 03 57.3	+0.9
	0.3nm,0.5s,baz=130,slow=9.1,SNR=2.5						
TXAR	Lajitas Array	146.26	24	PKPbc	PKPbc	12 11 22.9	-0.1
	0.1nm,0.4s,baz=0.2,slow=1.6,SNR=4.7						

IDC 15 11:54:19.5±3.0, 15°.05S×179°.54E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.4/45, mbtmp3.6/3, Error ellipse: s-maj=963.8km s-min=148.7km az=74.0, Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	38.39	237	P	P	12 01 42.1	-0.7
	2.2nm,1.1s,baz=90,slow=20,SNR=3.1						
WRA	Warramunga Arr	43.29	257	P	P	12 02 23.7	+0.2
	0.4nm,1.0s,baz=89,slow=8.3,SNR=3.5						
ASAR	Alice Springs	43.75	251	P	P	12 02 27.2	+0.1
	0.6nm,0.6s,baz=84,slow=8.6,SNR=13						

IDC 15 11:59:22.2±1.9, 1°.56N×92°.10E, h0km, mb3.1/3, mb1 3.5/4, mb1mx3.1/72, mbtmp3.4/4, ML3.6/1, Error ellipse: s-maj=85.9km s-min=25.1km az=47.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	Pallekele	12.70	297	Pn	Pn	12 02 23.4	-0.8
	0.3nm,0.3s,baz=117,slow=15,SNR=2.5						
PALK				Sn	Sn	12 04 34.0	-12
	0.3nm,0.3s,baz=315,slow=1.4,SNR=2.6						
MKAR	Makanchi Array	45.86	351	P	P	12 07 46.4	+0.2
	0.3nm,0.6s,baz=167,slow=8.9,SNR=1.9						
WRA	Warramunga Arr	46.60	119	P	P	12 07 51.7	-0.8
	0.2nm,0.7s,baz=298,slow=8.7,SNR=3.5						
ASAR	Alice Springs	47.75	124	P	P	12 08 01.8	+0.4
	0.2nm,0.8s,baz=291,slow=6.8,SNR=3.1						

ISCJB ***15*** *12:03:21.5±0.4, 29°.64N±0°.05×141°.4E±0°.1, h46km, mb3.9/21, MS3.0/3, Error ellipse: s-maj=14.2km s-min=6.3km az=163.1*

IDC ***15*** *12:03:23.7±1.7, 29°.58N×141°.39E, h52km±17km, mb3.6/20, mb1 3.8/23, mb1mx3.6/66, mbtmp3.8/23, ML3.9/2, MS2.8/6, Ms1 2.9/6, ms1mx2.6/50, Error ellipse: s-maj=17.5km s-min=10.1km az=65.0*

ISC 15 12:03:23.2±0.5, 29°.70N±0°.06×141°.4E±0°.1, h46km, n36, σ1s39/29, mb3.9/21, MS3.2/3, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	Chichijima	2.67	166	P	Pn	12 04 03.0	-0.9
	26nm,0.3s,baz=80,slow=23,SNR=9.6						
JCJ				S	Sn	12 04 33.7	-1.3
	85nm,0.3s,baz=350,slow=22,SNR=7.6						
JHJ	Hachijo jima 2	3.69	338	S	Sn	12 04 55.0	-5.1
	26nm,0.3s,baz=75,slow=19,SNR=2.5						
MJAR	Matsushiro Arr	7.34	339	P	Pn	12 05 09.3	+1.4
	1.4nm,0.3s,baz=131,slow=13,SNR=22						
MAT	Matsushiro	7.35	339	P	Pn	12 05 10.1	+2.2
MAT				*eS*	Sn	12 06 02.0	-28
JNU	Nakatsue	9.65	293	LR	LR	12 09 01.8	
	comp=Z,30nm,20.7s,baz=186,slow=35						
KSRS	Korea Array	13.66	308	P	Pn	12 06 37.2	+2.9
	baz=112,slow=13,SNR=3.3						
KSRS				LR	LR	12 11 21.1	
	comp=Z,25nm,21.3s,baz=145,slow=35						
ASAJ	Asahikawa	14.42	3	P	Pn	12 06 44.0	-0.5
	0.4nm,0.3s,baz=220,slow=7.3,SNR=5.3						
GUMO	Guam	16.34	168	LR	LR	12 12 14.4	
	comp=Z,31nm,21.9s,baz=18,slow=33						
KLR	Kul'dur	20.86	342	P	Pn	12 08 02.9	-1.2
	0.2nm,0.7s,baz=146,slow=8.5,SNR=9.5						
H11N2	WAKE ISLAND Hy	25.11	107	T	T	12 34 46.3	
	baz=298,slow=75,SNR=4.1						
H11N1	WAKE ISLAND Hy	25.12	107	T	T	12 34 45.6	
	baz=298,slow=75,SNR=2.9						
H11N3	WAKE ISLAND Hy	25.13	107	T	T	12 34 48.7	
	baz=298,slow=75,SNR=6.2						
PETK	Petropavlovsk-	26.25	22	LR	LR	12 25 02.7	
	comp=Z,10nm,18.3s,baz=184,slow=49						
SONM	Songino Array	32.42	314	P	P	12 09 49.1	+0.3
	0.2nm,0.5s,baz=100,slow=7.6,SNR=2.7						
CMAR	Chiang Mai Arr	40.18	264	P	P	12 10 54.8	-0.5
	0.3nm,0.6s,baz=70,slow=5.7,SNR=4.4						
WRA	Warramunga Arr	49.82	189	P	P	12 12 10.4	-1.4
	1.2nm,0.4s,baz=6.4,slow=7.6,SNR=24						
FITZ	Fitzroy Crossi	49.90	200	LR	LR	12 29 42.7	
	comp=Z,53nm,21.8s,baz=180,slow=32						
KURBB	Kurchatov Arra	50.78	313	P	P	12 12 18.1	-0.6
	0.7nm,0.6s,baz=90,slow=7.4,SNR=9.2						
ASAR	Alice Springs	53.55	189	P	P	12 12 38.2	-1.3
	0.3nm,0.4s,baz=1.3,slow=5.5,SNR=12						
BVAR	Borovoye Array	55.70	316	P	P	12 12 54.7	-0.1
	0.6nm,0.4s,baz=76,slow=7.7,SNR=5.9						
ILAR	Eielson Array	55.77	29	P	P	12 12 55.1	0.0
	1.1nm,0.9s,baz=267,slow=6.8,SNR=8.5						
INK	Inuvik	60.95	25	P	P	12 13 31.4	+0.3
	0.2nm,0.4s,baz=282,slow=5.4,SNR=6.2						
ARU	Arti	61.98	321	P	P	12 13 38.3	-0.1
	1.5nm,0.4s,baz=78,slow=10,SNR=3.2						
AFI	Afiamalu	62.56	127	P	P	12 13 42.8	0.0
	14nm,0.8s,baz=153,slow=14,SNR=2.8						
RES	Resolute Bay	69.69	14	P	P	12 14 28.2	+0.6
	0.2nm,0.3s,baz=333,slow=4.5,SNR=3.7						
YKA	Yellowknife Ar	70.18	29	P	P	12 14 31.0	+0.2
	0.3nm,0.6s,baz=296,slow=6.3,SNR=6.7						
ARCES	ARCESS Array B	70.88	340	P	P	12 14 35.4	+0.4
	1.4nm,0.6s,baz=65,slow=6.8,SNR=6.9						
FINES	FINESS Array B	75.33	333	P	P	12 15 01.6	+0.2
	1.1nm,0.5s,baz=72,slow=6.2,SNR=12						
KBZ	Khabaz	75.77	312	P	P	12 15 05.0	+0.7
	1.9nm,0.8s,baz=44,slow=4.4,SNR=6.2						
NVAR	Mina Array Bea	79.43	52	P	P	12 15 26.0	+0.9
	1.0nm,0.7s,baz=291,slow=5.4,SNR=9.2						
HFS	Hagfors	80.79	336	P	P	12 15 31.5	-0.2
	0.9nm,0.6s,baz=117,slow=5.2,SNR=4.6						
NOA	NORSAR Array B	80.96	338	P	P	12 15 32.8	+0.1
	0.7nm,0.8s,baz=35,slow=5.8,SNR=3.1						
NOA				LR	LR	12 55 29.2	
	comp=Z,9.8nm,18.3s,baz=330,slow=39						
PDAR	Pinedale Array	82.83	45	P	P	12 15 43.6	+0.6
	0.2nm,0.6s,baz=288,slow=1.4,SNR=3.7						
BRTR	Keskin Array B	83.77	312	P	P	12 15 48.1	+0.3
	1.5nm,0.7s,baz=116,slow=4.4,SNR=9.0						
TXAR	Lajitas Array	94.56	53	P	P	12 16 39.7	+0.2
	0.5nm,0.7s,baz=327,slow=2.1,SNR=5.2						
LPAZ	La Paz	149.78	70	PKPbc	PKPbc	12 23 09.8	+0.2
	0.8nm,0.8s,baz=0.0,slow=2.0,SNR=3.0						

IDC ***15*** *12:15:45.6±1.8, 1°.95N×92°.41E, h0km, mb3.5/5, mb1 3.8/7, mb1mx3.4/67, mbtmp3.6/7, ML4.1/2, MS3.3/4, Ms1 3.3/4, ms1mx2.7/51, Error ellipse: s-maj=53.6km s-min=25.8km az=52.0*

ISCJB ***15*** *12:15:54.5±0.6, 1°.99N±0°.06×93°.12E±0°.04, h10km, mb4.2/12, Error ellipse: s-maj=9.5km s-min=5.2km az=19.5*

NEIC ***15*** *12:15:55.1±0.7, 1°.95N×92°.99E, h10km, mb4.4/7, Error ellipse: s-maj=13

	comp=Z,29nm,18.8s,baz=176,slow=40								
CHTO	**Chiang Mai**	**17.62**	**18**	P		**Pn**	**12 20 04.7**	**+1.8**
	32nm,1.4s								
CHTO	**Chiang Mai**	**17.62**	**18**	*e*P		**Pn**	**12 20 03.0**	**+0.1**
	6.2nm,1.0s								
STKI	**Sintang**	**18.43**	**96**	P		**P**	**12 20 13.7**	**+0.9**
SBUM	**Sibu**	**19.06**	**88**	*e*P		**P**	**12 20 18.9**	**-0.9**
	12nm,0.8s								
HYB	**Hyderabad**	**20.96**	**318**	*i* P		**P**	**12 20 41.5**	**+1.0**
DGAR	**Diego Garcia**	**22.68**	**245**	*e*P		**P**	**12 20 55.2**	**-3.7**
	63nm,1.1s								
KKM	**Kota Kinabalu**	**23.35**	**79**	*e*P		**P**	**12 21 03.8**	**-2.2**
	15nm,0.9s								
KMI	**Kunming**	**24.76**	**21**	P		**P**	**12 21 20.3**	**+1.0**
KMI				pmax	pmax				
	comp=Z,7.0nm,0.7s								
ODAN	**Odare**	**25.30**	**348**	*e*P		**P**	**12 21 30.6**	**+6.4**
MYLDM	**Lahad Datu**	**25.49**	**82**	*e*P		**P**	**12 21 24.3**	**-1.5**
	comp=Z,13nm,1.1s								
RAMN	**Ramite**	**25.57**	**346**	*e*P		**P**	**12 21 31.9**	**+5.3**
	comp=Z,58nm,0.4s								
JIRN	**Jiri**	**26.34**	**346**	*e*P		**P**	**12 21 39.9**	**+6.1**
	comp=Z,29nm,0.3s								
PKIN	**Phulchoki**	**26.47**	**344**	*e*P		**P**	**12 21 41.8**	**+7.0**
	comp=Z,28nm,0.5s								
DMN	**Daman**	**26.58**	**344**	*e*P		**P**	**12 21 42.9**	**+7.1**
	comp=Z,104nm,0.7s								
GUN	**Gumba**	**26.66**	**346**	*e*P		**P**	**12 21 41.7**	**+5.1**
KOLN	**Koldanda**	**27.18**	**341**	*e*P		**P**	**12 21 47.5**	**+6.3**
LSA	**Lhasa**	**27.59**	**356**	P		**P**	**12 21 45.4**	**+0.3**
LSA				pmax	pmax				
	comp=Z,6.0nm,1.0s								
PYUN	**Piuthan**	**27.69**	**340**	*e*P		P	12 21 53.6	+7.9
XAN	**Xi'an**	**35.10**	**23**	P		P	12 22 42.8	-7.9
XAN				pP	pP		12 22 51.3	-2.4
XAN				sP	sP		12 22 56.4	+1.4
XAN				pmax	pmax				
	comp=Z,9.0nm,0.7s								
XAN				pmax	pmax				
	comp=Z,60nm,5.2s								
GTA	**Gaotai**	**37.70**	**8**	*e*P		**P**	**12 23 14.5**	**+1.5**
GTA				pP	sP		12 23 19.6	+2.3
GTA				sP	pP		12 23 22.5	+6.4
GTA				pmax	pmax				
	comp=Z,6.0nm,1.0s								
WMQ	**Urumqi**	**41.90**	**354**	P		**P**	**12 23 48.3**	**+0.6**
HHC	**Hu-ho-hao-te**	**42.08**	**21**	*e*P		**P**	**12 23 50.3**	**+1.0**
HHC				pmax	pmax				
	comp=Z,12nm,0.8s								
HHC				pmax	pmax				
	comp=Z,24nm,6.0s								
MK01	**Makanchi Array**	**45.56**	**350**	*e*P		**P**	**12 24 15.6**	**-1.5**
MK31	**Makanchi Array**	**45.58**	**350**	*e*P		**P**	**12 24 15.8**	**-1.5**
MKAR	**Makanchi Array**	**45.58**	**350**	P		P	12 24 06.6	-11
	comp=Z,0.3nm,0.7s,baz=176,slow=9.8,SNR=3.3								
MKAR	**Makanchi Array**	**45.58**	**350**	*e*P		**P**	**12 24 15.8**	**-1.5**
	comp=Z,8.4nm,0.7s								
KK31	**Karatay Array**	**45.61**	**337**	*e*P		**P**	**12 24 15.9**	**-1.7**
WRA	**Warramunga Arr**	**45.93**	**120**	P		P	12 24 15.2	-5.2
	comp=Z,0.3nm,0.5s,baz=301,slow=8.2,SNR=2.3								
JNU	**Nakatsue**	**46.97**	**45**	LR		LR	12 44 10.5		
	comp=Z,29nm,21.9s,baz=168,slow=36								
SONM	**Songino Array**	**47.05**	**12**	P		P	12 24 20.7	-8.3
	comp=Z,0.9nm,0.4s,baz=190,slow=7.3,SNR=9.3								
SONM				LR		LR	12 45 11.4		
	comp=Z,28nm,19.5s,baz=161,slow=37								
SONA1	**Songino Array**	**47.06**	**12**	*e*P		**P**	**12 24 29.9**	**+0.8**
KURBB	**Kurchatov Arra**	**49.98**	**348**	P		P	12 24 40.6	-11
	comp=Z,0.2nm,0.6s,baz=167,slow=7.1,SNR=2.8								
KURK	**Kurchatov**	**50.05**	**348**	P		P	12 24 40.6	-11
ZALV	**Zalesovo Beam**	**52.20**	**354**	*e*P		**P**	12 24 57.6	-10
	comp=Z,0.4nm,0.4s,baz=171,slow=6.5,SNR=2.4								
ZALV	**Zalesovo Beam**	**52.20**	**354**	*e*P		**P**	**12 25 05.6**	**-2.4**
FIA1	**FINESS Array S**	**77.41**	**333**	*e*P		**P**	**12 27 49.8**	**-2.4**
VAE	**Valguarnera**	**79.83**	**308**	LR		LR	13 08 50.1		
	comp=Z,47nm,18.0s,baz=257,slow=40								
TXAR	**Lajitas Array**	**144.91**	**26**	PKPbc	PKPab		12 35 25.0	-9.4
	comp=Z,0.5nm,0.7s,baz=308,slow=3.0,SNR=6.8								

IDC 15 12:19:40.3±2.4, 5°28S×129°62E, h182km±28km, mb2.9/2, mb1 3.4/6, mb1mx3.1/50, mbtmp3.9/6, Error ellipse: s-maj=54.4km s-min=13.0km az=78.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**4.68**	**21**	P	Pn	12 20 50.0	-0.2
	7.9nm,0.3s,baz=196,slow=22,SNR=39						
SIJI				S	Sn	12 21 40.5	-4.6
	7.3nm,0.3s,baz=106,slow=23,SNR=15						
FITZ	**Fitzroy Crossi**	**13.32**	**197**	P	Pn	12 22 42.6	+0.1
	0.1nm,0.3s,baz=19,slow=11,SNR=4.6						
FITZ				S	Sn	12 25 04.0	-6.8
	0.2nm,0.3s,baz=79,slow=16,SNR=5.0						
WRA	**Warramunga Arr**	**15.29**	**163**	P	Pn	12 23 05.8	-1.1
	0.4nm,0.3s,baz=343,slow=13,SNR=35						
WRA				S	Sn	12 25 48.2	-10
	0.4nm,0.3s,baz=338,slow=22,SNR=6.3						
ASAR	**Alice Springs**	**18.74**	**168**	P	P	12 23 46.5	+1.0
	1.2nm,0.3s,baz=349,slow=11,SNR=195						
ASAR				S	S	12 27 09.7	+0.3
	0.1nm,0.3s,baz=351,slow=24,SNR=3.7						
MKAR	**Makanchi Array**	**66.58**	**327**	P	P	12 30 09.1	-1.9
	0.2nm,0.5s,baz=126,slow=7.4,SNR=2.3						
KURBB	**Kurchatov Arra**	**70.85**	**328**	P	P	12 30 38.2	+1.0
	0.4nm,0.7s,baz=126,slow=4.9,SNR=3.6						

*TIR **15** 12:24:58.0, 41°.82N×19°.17E, h7km, Md2.7/4*
*CSEM **15** 12:25:01.5±0.4, 41°.85N×19°.40E, h10km, ML2.0, Error ellipse: s-maj=6.6km s-min=4.5km az=29.0*
*BEO **15** 12:25:03.4±0.7, 41°.95N×19°.25E, h24km±5km*
PDG 15 12:25:02.6±0.1, 41°.87N×19°.35E, h10km, MD2.1/1, ML2.0/8, 12C-6D, Error ellipse: s-maj=0.4km s-min=0.3km az=90.0, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ULC	**Ulcinj**	**0.13**	**321**	⇑*i*Pg	Pg	12 25 05.4	-0.2
ULC				*e*Sg	Sg	12 25 08.1	+0.3
ULC	**Ulcinj**	**0.13**	**321**	⇑*i*Pg	Pg	12 25 05.4	-0.2
ULC				*e*Sg	Sg	12 25 08.1	+0.3
DRME	**Dracevica, Mon**	**0.34**	**339**	⇓*i*Pg	Pg	12 25 09.2	-0.3
DRME				*e*Sg	Sg	12 25 14.9	+0.8
DRME	**Dracevica, Mon**	**0.34**	**339**	⇓*i*Pg	Pg	12 25 09.2	-0.3
DRME				*e*Sg	Sg	12 25 14.9	+0.8
PUK	**Puka**	**0.44**	**66**	*i* Pg	Pg	12 25 10.8	-0.5
PUK				*i* Sg	Sb	12 25 19.4	+0.2
PUK	**Puka**	**0.44**	**66**	*i* PG	Pg	12 25 10.8	-0.5
PUK				*i* SG	Sb	12 25 19.4	+0.2
BUM	**Brajici-Budva**	**0.55**	**322**	⇑*i*Pg	Pg	12 25 13.0	-0.4
BUM				*e*Sg	Sg	12 25 21.4	+0.7
BUM	**Brajici-Budva**	**0.55**	**322**	⇑*i*Pg	Pg	12 25 13.0	-0.4
BUM				*e*Sg	Sg	12 25 21.4	+0.7
PDG	**Podgorica**	**0.57**	**353**	*e*Pg	Pg	12 25 12.9	-0.8
PDG				*e*Sg	Sb	12 25 22.8	0.0
PDG	**Podgorica**	**0.57**	**353**	⇓*i*Pg	Pg	12 25 12.9	-0.8
PDG				*e*Sg	Sb	12 25 22.6	-0.2
TTG	**Podgorica**	**0.57**	**353**	⇓*i*Pg	Pg	12 25 12.9	-0.8
TTG				*e*Sg	Sb	12 25 22.6	-0.2
TIR	**Tirane**	**0.65**	**143**	*i* Pg	Pg	12 25 13.1	-2.0
TIR	**Tirane**	**0.65**	**143**	*i* PG	Pg	12 25 13.1	-2.0
BCI	**Bajram Curri**	**0.73**	**47**	*i* Pg	Pg	12 25 16.1	-0.6
BCI	**Bajram Curri**	**0.73**	**47**	*i* PG	Pg	12 25 16.1	-0.6
BCI				*i* SG	Sn	12 25 31.7	+1.5
CEME	**Cevo**	**0.75**	**335**	⇑*i*Pg	Pg	12 25 16.3	-0.9
CEME				*e*Sg	Sb	12 25 28.4	+0.2
CEME	**Cevo**	**0.75**	**335**	⇑*i*Pg	Pg	12 25 16.3	-0.9
CEME				*e*Sg	Sb	12 25 28.4	+0.2
PHP	**Peshkopia**	**0.83**	**102**	*i* Pg	Pg	12 25 17.2	-1.5
PHP	**Peshkopia**	**0.83**	**102**	*i* PG	Pg	12 25 17.2	-1.4
PHP				*i* SG	Sn	12 25 32.3	-0.6
PVY	**Plav**	**0.86**	**32**	⇑*i*Pg	Pg	12 25 18.4	-0.7
PVY				*e*Sg	Sb	12 25 32.3	+1.1
PVY	**Plav**	**0.86**	**32**	⇑*i*Pg	Pg	12 25 18.4	-0.7
PVY				*e*Sg	Sb	12 25 32.3	+1.1
HCY	**Herceg Novi**	**0.86**	**313**	⇑*i*Pg	Pg	12 25 18.7	-0.5
HCY				*e*Sg	Sb	12 25 32.3	+1.0
HCY	**Herceg Novi**	**0.86**	**313**	⇑*i*Pg	Pg	12 25 18.7	-0.5
HCY				*e*Sg	Sb	12 25 32.3	+1.0
NKME	**Niksic**	**0.95**	**342**	⇓*i*Pg	Pg	12 25 20.2	-0.7
NKME				*e*Sg	Sn	12 25 35.3	-0.4
NKME	**Niksic**	**0.95**	**342**	⇓*i*Pg	Pg	12 25 20.2	-0.7
NKME				*e*Sg	Sn	12 25 35.3	-0.4
KOME	**Kolasin**	**0.99**	**7**	*e*Pg	Pg	12 25 21.1	-0.6
KOME				*e*Sg	Sn	12 25 36.6	-0.2
KOME	**Kolasin**	**0.99**	**7**	*e*Pg	Pg	12 25 21.1	-0.6
KOME				*e*Sg	Sn	12 25 36.6	-0.2
BEY	**Berane**	**1.08**	**22**	*e*Pg	Pg	12 25 22.6	-0.8
IVA	**Berane**	**1.08**	**22**	*e*Pg	Pg	12 25 22.6	-0.8
IVA				*e*Sg	Sn	12 25 39.7	+0.7
BRY	**Bratogost**	**1.20**	**330**	⇑*i*Pg	Pb	12 25 24.6	-0.9
BRY				*e*Sg	Sn	12 25 43.4	+1.4
BRY	**Bratogost**	**1.20**	**330**	⇑*i*Pg	Pb	12 25 24.6	-0.9
BRY				*e*Sg	Sn	12 25 43.4	+1.4
PLE	**Pljevlja**	**1.46**	**1**	*e*Pg	Pb	12 25 29.6	-0.4
PLE				*e*Sg	Sg	12 25 51.9	+2.2
PLE	**Pljevlja**	**1.46**	**1**	*e*Pg	Pb	12 25 29.6	-0.4
PLE				*e*Sg	Sg	12 25 51.9	+2.2
SJES	**Sjenica**	**1.47**	**18**	*e*Pg	Pn	12 25 29.6	+0.3
SJES				*e*Sg	Sb	12 25 49.2	+0.4
SJES	**Sjenica**	**1.47**	**18**	*e*Pg	Pn	12 25 29.6	+0.3
SJES				*e*Sg	Sb	12 25 49.2	+0.4
STON	**Ston**	**1.58**	**310**	*e*Pn	Pb	12 25 31.4	-0.6
STON				Sn	Sn	12 25 51.5	+0.3
STON	**Ston**	**1.58**	**310**	*e*Pn	Pn	12 25 31.3	+0.6
STON				Sn	Sn	12 25 51.5	+0.3
IVAS	**Ivanjica**	**1.81**	**19**	*e*Pg	Pb	12 25 35.2	-0.6
IVAS				*e*Sg	Sb	12 25 58.8	+0.2
IVAS	**Ivanjica**	**1.81**	**19**	*e*Pg	Pb	12 25 35.2	-0.6
IVAS				*e*Sg	Sb	12 25 58.8	+0.2
SELS	**Selova**	**1.88**	**43**	*e*Pg	Pb	12 25 36.4	-0.6
BBLS	**Lazići**	**2.00**	**1**	*e*Pg	Pb	12 25 38.6	-0.5
BBLS				*e*Sg	Sb	12 26 04.4	+0.3
BBLS	**Lazići**	**2.00**	**1**	*e*Pg	Pb	12 25 38.6	-0.5
BBLS				*e*Sg	Sb	12 26 04.4	+0.3
HAPS	**Han Pijesak,Bl**	**2.24**	**353**	*e*Pg	Pb	12 25 42.2	-1.0
HAPS				*e*Sg	Sb	12 26 10.9	-0.1
HAPS	**Han Pijesak,Bl**	**2.24**	**353**	*e*Pg	Pb	12 25 42.2	-1.0
HAPS				*e*Sg	Sb	12 26 10.9	-0.1
GRUS	**Gruza**	**2.26**	**26**	*e*Pg	Pb	12 25 42.7	-0.7
GRUS				*e*Sg	Sg	12 26 14.0	-1.1
GRUS	**Gruza**	**2.26**	**26**	*e*Pg	Pb	12 25 42.7	-0.7
GRUS				*e*Sg	Sg	12 26 14.0	-1.1
ZAPS	**Zavoj**	**2.80**	**59**	*e*Pn	Pn	12 25 47.4	-0.1
ZAPS	**Zavoj**	**2.80**	**59**	*e*Pn	Pn	12 25 47.4	-0.1
ZAGS	**Zajecar**	**2.88**	**46**	*e*Pn	Pn	12 25 49.0	+0.5
ZAGS	**Zajecar**	**2.88**	**46**	*e*Pn	Pn	12 25 49.0	+0.5
NVLJ	**Novalja**	**4.24**	**311**	*e*Pn	Pn	12 26 06.2	-1.0
NVLJ				Sn	Sn	12 26 54.4	-2.4
NVLJ	**Novalja**	**4.24**	**311**	*e*Pn	Pn	12 26 06.2	-1.0
NVLJ				Sn	Sn	12 26 54.3	-2.5

*DJA **15** 12:30:51.9±1.6, 1°N±9°×9°1E±1°2, h16km±15km, M5.0/7, mb5.1/7, mB5.2/4, MLv5.0/4, Mw(mB)4.6/4*
*ISCJB **15** 12:30:57.8±0.5, 1°.29N±0°.06×91°.51E±0°.05, h10km, mb4.3/23, MS3.3/8, Error ellipse: s-maj=10.0km s-min=5.0km az=29.9*
*IDC **15** 12:30:58.7±1.0, 1°.32N×91°.58E, h0km, mb3.8/11, mb1 4.0/13, mb1mx3.7/69, mbtmp3.8/13, ML4.1/2, MS3.2/11, Ms1 3.2/11, ms1mx2.9/62, Error ellipse: s-maj=34.0km s-min=17.3km az=48.0*
*NEIC **15** 12:30:59.6±3.6, 1°.24N×91°.42E, h11km±21km, mb4.5/10, Error ellipse: s-maj=13.2km s-min=6.6km az=221.0*
ISC 15 12:30:59.4±0.7, 1°.21N±0°.10×91°.41E±0°.08, h10km, n83, σ1≥48/70, mb4.5/26, MS3.3/8, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLSI	**Meulaboh, Aceh**	**5.84**	**59**	P	**Pn**	**12 32 24.0**	**-2.2**
TPTI		**6.12**	**70**	P	**Pn**	**12 32 27.3**	**-2.6**
	111nm,0.6s,2μm						
GSI	**Gunungsitoli**	**6.17**	**89**	P	**Pn**	**12 32 28.9**	**-1.8**
GSI	**Gunungsitoli**	**6.17**	**89**	*e*Pn	**Pn**	**12 32 28.9**	**-1.8**
LHMI	**Lhok Sumawe**	**6.82**	**54**	P	**Pn**	**12 32 36.4**	**-3.2**
LHMI	**Lhok Sumawe**	**6.82**	**54**	*e*Pn	**Pn**	**12 32 39.2**	**-0.4**
PSI	**Prapat**	**7.67**	**78**	*e*Pn	**Pn**	**12 32 52.6**	**+1.1**
SISI	**Saibi**	**8.08**	**108**	P	**Pn**	**12 32 55.2**	**-1.8**
MNSI	**Mandailing Nat**	**8.18**	**93**	P	**Pn**	**12 32 56.3**	**-1.7**
BKNI	**Bangkinang**	**9.67**	**95**	*e*Pn	**Pn**	**12 33 20.3**	**+1.5**
IPNI	**Ipoh**	**10.14**	**71**	*e*Pn	**Pn**	**12 33 24.6**	**-0.6**
PBA	**Port Blair**	**10.46**	**7**	*e*P	Pn	12 33 27.6	-2.1
DGPR	**DIGLIPUR**	**11.99**	**7**	*e*P	**Pn**	**12 33 49.1**	**-1.4**
PALK	**Pallekele**	**12.26**	**300**	Pn	**Pn**	**12 33 54.2**	**-0.1**
	2.1nm,0.3s,baz=116,slow=10,SNR=8.2						
PALK				Sn	Sn	12 36 00.4	-11
	2.1nm,0.3s,baz=294,slow=3.0,SNR=5.3						
PALK				LR	LR	12 38 01.6	
	comp=Z,95nm,19.3s,baz=116,slow=34						
PALK	**Pallekele**	**12.26**	**300**	*e*Pn	**Pn**	**12 33 54.1**	**-0.1**
PALK				*e*Sn	Sn	12 35 59.6	-12
MNAI	**Manna**	**12.79**	**116**	*e*Pn	**Pn**	**12 34 01.2**	**-0.4**
MDRS	**Chennai**	**16.16**	**317**	*e*P	**Pn**	**12 34 46.1**	**-0.7**
MDRS				IAmb	IAmb	12 34 48.3	
	comp=Z,68nm,1.5s						
LEM	**Lembang**	**18.04**	**116**	LR	LR	12 41 14.7	
	comp=Z,30nm,20.1s,baz=237,slow=34						
VIS	**Vishakhapatnam**	**18.23**	**335**	*e*P	**Pn**	**12 35 12.5**	**-0.3**
VIS				IAmb	IAmb	12 35 14.6	
	comp=Z,21nm,0.8s						
CM01	**Chiang Mai Arr**	**18.64**	**23**	*e*P	**Pn**	**12 35 18.2**	**+0.4**
CM31	**Chiang Mai Arr**	**18.67**	**23**	*e*P	**Pn**	**12 35 23.1**	**+5.0**
CMAR	**Chiang Mai Arr**	**18.67**	**23**	P	P	**12 35 16.4**	**-1.4**
	comp=Z,0.2nm,0.3s,baz=216,slow=12,SNR=9.3						
CMAR				LR	LR	12 41 24.3	
	comp=Z,42nm,21.8s,baz=194,slow=34						
KSM	**Kuching**	**18.89**	**89**	*e*P	**P**	**12 35 20.5**	**+0.2**
	comp=Z,4.4nm,0.9s						
CHTO	**Chiang Mai**	**18.99**	**22**	*e*P	**P**	**12 35 21.7**	**+0.3**
	comp=Z,6.3nm,1.0s						
H08S2	**Diego Garcia H**	**20.82**	**245**	T	T	12 57 24.9	
	baz=64,slow=74,SNR=85						
H08S3	**Diego Garcia H**	**20.82**	**245**	T	T	12 57 31.2	
	baz=64,slow=74,SNR=62						
H08S1	**Diego Carcia H**	**20.83**	**245**	T	T	12 57 34.5	
	baz=64,slow=74,SNR=41						
SBUM	**Sibu**	**20.84**	**86**	*e*P	**P**	**12 35 40.3**	**-1.3**
	comp=Z,3.7nm,0.8s						
GOA	**Goa**	**22.42**	**310**	*e*P	**P**	**12 35 59.5**	**+1.0**
BOK	**Bokaro**	**23.08**	**347**	*e*P	**P**	**12 36 01.9**	**-3.6**
BOK				IAmb	IAmb	12 36 20.9	
	comp=Z,7.6nm,0.5s						
NGP	**Nagpur**	**23.20**	**330**	*e*P	**P**	**12 36 03.4**	**-3.3**
IMP	**Imphal**	**23.61**	**6**	*e*P	**P**	**12 36 10.2**	**-0.6**
SHL	**Shillong**	**24.22**	**1**	*e*P	**P**	**12 36 17.2**	**+0.4**
SHL				IAmb	IAmb	12 36 39.6	
	comp=Z,24nm,1.8s						
POO	**Poona**	**24.36**	**316**	*e*P	**P**	**12 36 18.7**	**+0.8**
POO				IAmb	IAmb	12 36 47.1	
	comp=Z,16nm,0.8s						
KOHI	**KOHIMA**	**24.51**	**6**	*e*P	**P**	**12 36 19.7**	**+0.4**
MOKO	**MOKOCHONG**	**25.15**	**7**	*e*P	**P**	**12 36 23.3**	**-1.8**
KMI	**Kunming**	**26.17**	**24**	P	**P**	**12 36 37.5**	**+3.0**
KMI				pmax	pmax		
	comp=Z,10.0nm,0.8s						
CD2	**Chengdu**	**31.77**	**20**	*e*P	**P**	**12 37 24.3**	**+0.2**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
SMLA	**Simla**	**32.67**	**337**	*e*P	**P**	**12 37 31.2**	**-0.7**
DHRM	**DHARAMSHALA**	**34.01**	**337**	*e*P	**P**	**12 37 41.8**	**-2.1**
NIL	**Nilore**	**36.49**	**334**	*e*P	**P**	**12 38 05.1**	**+0.1**
	comp=Z,12nm,1.1s						
XAN	**Xi'an**	**36.54**	**25**	P	**P**	**12 38 06.8**	**+1.3**
XAN				pP	sP	12 38 11.8	+2.0
XAN				pmax	pmax		
	comp=Z,6.0nm,0.7s						
XAN				pmax	pmax		
	comp=Z,39nm,4.3s						
WSAR	**Wadi Sarin**	**38.61**	**307**	LR	LR	12 53 57.3	
	comp=Z,50nm,18.2s,baz=27,slow=36						
GTA	**Gaotai**	**38.79**	**10**	*e*P	**P**	**12 38 25.5**	**+1.0**
GTA				pP	sP	12 38 30.9	+2.0
GTA				sP	pP	12 38 34.1	+6.5
GTA				pmax	pmax		
	comp=Z,4.0nm,1.0s						
NJ2	**Nanjing**	**40.14**	**37**	*e*P	**P**	**12 38 36.3**	**+0.6**
NJ2				pmax	pmax		
	comp=Z,18nm,0.5s						
H01W3	**Cape Leeuwin H**	**41.74**	**152**	T	T	13 23 07.7	
	baz=326,slow=75,SNR=15						
H01W2	**Cape Leeuwin H**	**41.75**	**152**	T	T	13 23 08.5	
	baz=326,slow=75,SNR=20						
H01W1	**Cape Leeuwin H**	**41.75**	**151**	T	T	13 23 09.2	
	baz=326,slow=75,SNR=13						
WMQ	**Urumqi**	**42.56**	**356**	P	**P**	**12 38 57.3**	**+1.8**
HHC	**Hu-ho-hao-te**	**43.48**	**22**	*e*P	**P**	**12 39 05.4**	**+2.3**
HHC				pmax	pmax		
	comp=Z,13nm,1.1s						
HHC				pmax	pmax		
	comp=Z,56nm,6.1s						
KK31	**Karatay Array**	**45.71**	**339**	*e*P	**P**	**12 39 18.7**	**-2.1**
KKAR	**Karatay Array**	**45.71**	**339**	*e*P	**P**	**12 39 18.6**	**-2.1**
MK01	**Makanchi Array**	**46.07**	**351**	*e*P	**P**	**12 39 22.8**	**-0.8**
MK31	**Makanchi Array**	**46.10**	**351**	*e*P	**P**	**12 39 23.3**	**-0.4**
MKAR	**Makanchi Array**	**46.10**	**351**	P	**P**	**12 39 23.4**	**-0.3**
	comp=Z,0.9nm,0.6s,baz=175,slow=8.6,SNR=7.8						
MKAR	**Makanchi Array**	**46.10**	**351**	*e*P	**P**	**12 39 23.2**	**-0.5**
	comp=Z,15nm,0.7s						
WRA	**Warramunga Arr**	**47.03**	**119**	P	**P**	**12 39 31.4**	**-0.2**
	comp=Z,1.9nm,0.7s,baz=296,slow=8.6,SNR=13						
WRAB	**Tennant Creek**	**47.04**	**119**	*e*P	**P**	**12 39 31.9**	**+0.3**
	comp=Z,18nm,1.5s						
WB2	**Warramunga Arr**	**47.04**	**119**	*e*P	**P**	**12 39 31.4**	**-0.3**
	comp=Z,4.4nm,0.8s						
WC3	**Warramunga Arr**	**47.07**	**119**	*e*P	**P**	**12 39 32.2**	**+0.4**
	comp=Z,25nm,1.8s						
GEYT	**Alibeck**	**47.65**	**324**	P	**P**	**12 39 36.7**	**+0.6**
	comp=Z,0.7nm,0.4s,baz=187,slow=2.3,SNR=2.6						
GEYT				LR	LR	13 00 39.9	
	comp=Z,28nm,19.4s,baz=195,slow=37						
ASAR	**Alice Springs**	**48.12**	**124**	P	**P**	**12 39 39.8**	**-0.2**
	comp=Z,0.3nm,0.7s,baz=294,slow=7.7,SNR=5.4						
ASAR				PcP	**PcP**	**12 41 08.1**	**+0.4**
	comp=Z,0.2nm,0.5s,baz=299,slow=2.9,SNR=3.6						
SONM	**Songino Array**	**48.23**	**14**	P	**P**	**12 39 41.0**	**+0.5**
	comp=Z,3.3nm,0.5s,baz=196,slow=8.8,SNR=23						
SONA1	**Songino Array**	**48.24**	**14**	*e*P	**P**	**12 39 41.0**	**+0.3**
JNU	**Nakatsue**	**48.77**	**45**	LR	LR	13 02 02.9	
	comp=Z,22nm,18.0s,baz=162,slow=38						
KSRS	**Korea Array**	**49.30**	**39**	LR	LR	13 01 53.1	
	comp=Z,17nm,18.7s,baz=170,slow=38						
KURBB	**Kurchatov Arra**	**50.44**	**349**	P	**P**	**12 39 57.2**	**0.0**
	comp=Z,0.6nm,0.6s,baz=172,slow=7.4,SNR=6.7						
KURK	**Kurchatov**	**50.51**	**349**	*e*P	**P**	**12 39 56.9**	**-0.8**
	comp=Z,3.6nm,1.1s						
ZALV	**Zalesovo Beam**	**52.85**	**355**	P	**P**	**12 40 14.2**	**-0.9**
	comp=Z,0.9nm,0.3s,baz=180,slow=5.9,SNR=4.8						
ZALV	**Zalesovo Beam**	**52.85**	**355**	*e*P	**P**	**12 40 14.5**	**-0.6**
BVAR	**Borovoye Array**	**54.52**	**345**	P	**P**	**12 40 28.0**	**+0.5**
	comp=Z,0.5nm,0.7s,baz=150,slow=6.1,SNR=4.2						
MJAR	**Matsushiro Arr**	**55.70**	**45**	LR	LR	13 06 04.6	
	comp=Z,22nm,18.2s,baz=100,slow=38						
KLR	**Kul'dur**	**58.98**	**30**	P	**P**	**12 40 58.6**	**-0.6**
	comp=Z,0.0nm,0.4s,baz=255,slow=12,SNR=2.1						
MLR	**Muntele Rosu**	**72.13**	**318**	P	**P**	**12 42 26.4**	**+1.9**
	comp=Z,0.4nm,0.7s,baz=130,slow=18,SNR=2.4						
TIXI	**Tiksi**	**74.26**	**12**	*e*P	**P**	**12 42 36.8**	**+0.4**
	comp=Z,3.6nm,0.5s						
FINES	**FINESS Array B**	**77.36**	**333**	P	**P**	**12 42 54.8**	**+0.5**
	comp=Z,1.7nm,1.1s,baz=78,slow=7.3,SNR=3.3						
GEA0	**GERESS Array S**	**81.00**	**319**	*e*P	**P**	**12 43 14.4**	**-0.3**
GERES	**GERESS Array B**	**81.01**	**319**	P	**P**	**12 43 16.4**	**+1.7**
	comp=Z,0.4nm,0.7s,baz=96,slow=9.9,SNR=4.1						
GERES				LR	LR	13 25 07.0	
	comp=Z,16nm,18.8s,baz=55,slow

MEIG				*e*S	Sn	13 00 07.0	-0.8
PLIG	**Platanillo**	**2.42**	**331**	*e*P	Pn	12 59 42.1	-3.8
PLIG				*e*S	Sb	13 00 18.0	-1.9

IDC ***15*** *13:10:15.6±0.8,56˚.11S×26˚.85W,h0km,mb4.0/5, mb1 4.0/6,mb1mx3.8/32,mbtmp3.9/6,ML3.6/1,Error ellipse: s-maj=38.6km s-min=12.6km az=70.0*

ISCJB ***15*** *13:10:22.5±0.9,56˚.1S×27˚.0W±0˚.3,h63km,mb4.0/6, Error ellipse: s-maj=25.4km s-min=10.8km az=143.5*

NEIC ***15*** *13:10:24.6±2.1,56˚.15S×27˚.00W,h69km±18km,mb4.6/2, Error ellipse: s-maj=25.4km s-min=10.1km az=63.0*

ISC 15 13:10:24.0±0.8,56˚.2S±0˚.1×26˚.9W±0˚.2,h63km,n21, σ0§97/21,mb4.1/6,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**5.77**	**285**	*e*Pn		**Pn**		**13 11 46.9**	**-0.1**
VNA1	**Neumayer--Stat**	**16.66**	**158**	P		**P**		**13 14 17.9**	**+3.6**
VNA3	**Neumayer Olymp**	**16.86**	**161**	P		**P**		**13 14 16.6**	**0.0**
VNA2	**Neumayer--Watz**	**17.05**	**158**	P		**P**		**13 14 19.3**	**+0.5**
	baz=317,slow=12								
SNAA	**Sanae**	**18.60**	**156**	P		**Pn**		**13 14 36.6**	**-0.1**
SNAA				S		**Sn**		**13 18 03.3**	**-0.4**
SNAA	**Sanae**	**18.60**	**156**	P		**P**		**13 14 35.4**	**-0.4**
	0.2nm,0.3s,baz=278,slow=13,SNR=11								
SNAA				S		**S**		**13 18 03.9**	**-0.1**
	0.0nm,0.3s,baz=330,slow=20,SNR=3.5								
SNAA	**Sanae**	**18.60**	**156**	*e*P		**Pn**		**13 14 36.5**	**-0.3**
	48nm,0.6s								
SNAA				S		**S**		**13 18 03.9**	**-0.1**
QSPA	**South Pole Qui**	**34.10**	**180**	P		**P**		**13 17 02.3**	**0.0**
	1.0nm,0.5s,baz=169,slow=2.4,SNR=6.5								
SBA	**Scott Base**	**45.99**	**184**	P		**P**		**13 18 40.8**	**+0.6**
	5.2nm,1.4s								
VNDA	**Vanda**	**46.48**	**183**	P		**P**		**13 18 44.2**	**+0.2**
	0.5nm,0.6s,baz=155,slow=5.9,SNR=4.5								
H10S2	**ASCENSION HYDR**	**48.05**	**16**	T		T		14 11 45.7	
	baz=189,slow=75,SNR=10								
H10S3	**ASCENSION HYDR**	**48.06**	**16**	T		T		14 11 46.0	
	baz=189,slow=75,SNR=12								
H10S1	**ASCENSION HYDR**	**48.07**	**16**	T		T		14 11 47.0	
	baz=189,slow=75,SNR=10								
LPAZ	**La Paz**	**50.54**	**305**	P		**P**		**13 19 17.0**	**+0.3**
	1.0nm,0.4s,baz=163,slow=4.4,SNR=6.5								
TORD	**Torodi Ar. Bea**	**73.07**	**29**	P		**P**		**13 21 47.6**	**+0.4**
	1.5nm,0.4s,baz=202,slow=6.4,SNR=20								
ASAR	**Alice Springs**	**98.86**	**162**	P		**P**		**13 23 55.7**	**-1.4**
	0.3nm,0.9s,baz=182,slow=3.8,SNR=3.6								
YKA	**Yellowknife Ar**	**136.33**	**318**	PKP		**PKPdf**		**13 29 36.5**	**-0.3**
	0.2nm,0.5s,baz=132,slow=2.3,SNR=7.2								
ILAR	**Eielson Array**	**150.28**	**311**	PKPbc		**PKPbc**		**13 30 06.3**	**-0.1**
	1.3nm,0.8s,baz=126,slow=2.5,SNR=14								
SONM	**Songino Array**	**150.60**	**86**	PKPbc		**PKPbc**		**13 30 07.5**	**-0.4**
	0.5nm,0.5s,baz=228,slow=3.8,SNR=5.0								
COLA	**College**	**150.71**	**312**	*e*PKPab		**PKPab**		**13 30 14.2**	**-0.4**
MCK	**McKinley**	**150.94**	**309**	*e*PKPbc		**PKPbc**		**13 30 08.6**	**+0.6**

IDC 15 13:29:40.6±4.8,1˚.48N×90˚.62E,h0km,mb3.7/3,mb1 3.7/3, mb1mx3.2/61,mbtmp3.7/3,Error ellipse: s-maj=157.4km s-min=87.5km az=70.0,North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
H08S2	**Diego Garcia H**	**20.22**	**243**	T		T		13 55 14.4	
	baz=64,slow=75,SNR=3.8								
H08S3	**Diego Garcia H**	**20.22**	**243**	T		T		13 55 17.2	
	baz=64,slow=75,SNR=4.5								
H08S1	**Diego Garcia H**	**20.24**	**243**	T		T		13 55 18.4	
	baz=64,slow=75,SNR=4.3								
MKAR	**Makanchi Array**	**45.72**	**352**	P		P		13 38 03.6	+0.1
	0.2nm,0.4s,baz=172,slow=7.0,SNR=3.1								
SONM	**Songino Array**	**48.16**	**14**	P		P		13 38 22.7	-0.1
	1.0nm,0.6s,baz=199,slow=8.8,SNR=8.5								
ZALV	**Zalesovo Beam**	**52.52**	**356**	P		P		13 38 55.0	-0.4
	0.8nm,0.4s,baz=182,slow=7.9,SNR=3.6								
TXAR	**Lajitas Array**	**146.45**	**23**	PKPbc		PKPdf		13 49 23.7	+0.4
	0.1nm,0.4s,baz=2.9,slow=2.5,SNR=3.8								

IDC 15 13:36:53.3±1.6,2˚.63N×92˚.61E,h0km,mb3.4/4,mb1 3.5/5, mb1mx3.3/62,mbtmp3.4/5,ML3.9/2,Error ellipse: s-maj=55.8km s-min=22.5km az=53.0,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**12.73**	**292**	Pn		Pn		13 39 56.7	+1.0
	3.1nm,0.3s,baz=116,slow=14,SNR=16								
PALK				Sn		Sn		13 42 07.6	-11
	0.9nm,0.3s,baz=114,slow=4.3,SNR=5.6								
CMAR	**Chiang Mai Arr**	**16.91**	**21**	Pn		P		13 40 52.8	-0.9
	0.1nm,0.3s,baz=218,slow=14,SNR=3.2								
MKAR	**Makanchi Array**	**44.90**	**350**	P		P		13 45 09.3	-0.5
	0.5nm,0.7s,baz=163,slow=8.8,SNR=5.6								
WRA	**Warramunga Arr**	**46.69**	**121**	P		P		13 45 24.3	0.0
	0.4nm,0.9s,baz=297,slow=8.6,SNR=3.5								
ASAR	**Alice Springs**	**47.93**	**125**	P		P		13 45 33.7	-0.2
	0.1nm,0.5s,baz=297,slow=7.7,SNR=2.7								
ZALV	**Zalesovo Beam**	**51.56**	**354**	P		P		13 46 00.7	-0.3
	0.8nm,0.4s,baz=168,slow=6.2,SNR=3.9								

IDC ***15*** *13:43:53.9±1.5,3˚.61N×92˚.84E,h0km,mb3.5/5,mb1 3.6/6, mb1mx3.3/65,mbtmp3.5/6,ML3.4/2,Error ellipse: s-maj=49.6km s-min=20.8km az=55.0*

ISCJB ***15*** *13:43:56.4±1.0,3˚.6N±0˚.1×92˚.8E±0˚.1,h33km,mb3.6/5, Error ellipse: s-maj=23.0km s-min=16.5km az=38.5*

ISC 15 13:43:58.6±1.3,3.7N±0˚.2×92.8E±0˚.1,h35km,n7,σ1§16/7, mb3.4/5,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**12.57**	**287**	Pn		**Pn**		**13 46 54.7**	**-0.5**
	0.4nm,0.3s,baz=115,slow=14,SNR=3.4								
CMAR	**Chiang Mai Arr**	**15.88**	**22**	Pn		**Pn**		**13 47 38.0**	**-1.7**
	0.0nm,0.3s,baz=215,slow=12,SNR=4.3								
MKAR	**Makanchi Array**	**43.92**	**350**	P		**P**		**13 52 02.9**	**+0.8**
	1.0nm,0.6s,baz=171,slow=8.3,SNR=17								
SONM	**Songino Array**	**45.54**	**13**	P		**P**		**13 52 16.0**	**+0.9**
	0.2nm,0.4s,baz=208,slow=7.5,SNR=2.6								
WRA	**Warramunga Arr**	**47.05**	**122**	P		**P**		**13 52 27.3**	**0.0**
	0.4nm,0.8s,baz=297,slow=9.2,SNR=3.2								
KURBB	**Kurchatov Arra**	**48.32**	**348**	P		**P**		**13 52 37.4**	**+0.8**
	0.7nm,0.3s,baz=162,slow=6.3,SNR=4.8								
ASAR	**Alice Springs**	**48.37**	**126**	P		**P**		**13 52 37.1**	**-0.4**
	0.2nm,0.8s,baz=292,slow=7.5,SNR=3.1								

IDC 15 13:52:21.7±3.3,2.47S×140.08E,h0km,mb3.3/3, mb1 3.6/4,mb1mx3.3/48,mbtmp3.4/4,ML3.6/1,Error ellipse: s-maj=104.8km s-min=26.5km az=92.0,Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.25**	**197**	P		Pn		13 56 36.4	-0.2
	0.2nm,0.3s,baz=19,slow=13,SNR=14								
FITZ	**Fitzroy Crossi**	**21.02**	**221**	P		P		13 57 07.9	+0.8
	1.6nm,0.9s,baz=20,slow=12,SNR=3.6								
ASAR	**Alice Springs**	**21.90**	**195**	P		P		13 57 16.7	0.0
	0.6nm,0.5s,baz=26,slow=9.2,SNR=22								
H11S3	**WAKE ISLAND Hy**	**33.47**	**50**	T		T		14 34 11.3	
	baz=231,slow=76,SNR=6.4								
H11S2	**WAKE ISLAND Hy**	**33.48**	**50**	T		T		14 34 07.2	
	baz=231,slow=76,SNR=5.1								
H11S1	**WAKE ISLAND Hy**	**33.48**	**50**	T		T		14 34 12.0	
	baz=231,slow=76,SNR=5.1								
H11N1	**WAKE ISLAND Hy**	**34.34**	**49**	T		T		14 35 16.1	
	baz=234,slow=74								
H11N2	**WAKE ISLAND Hy**	**34.36**	**49**	T		T		14 35 17.8	
	baz=234,slow=74								
H11N3	**WAKE ISLAND Hy**	**34.36**	**49**	T		T		14 35 18.3	
	baz=234								
MKAR	**Makanchi Array**	**70.44**	**322**	P		P		14 03 37.7	-0.3
	0.2nm,0.7s,baz=107,slow=7.2,SNR=3.6								

ISCJB ***15*** *13:57:39.9±0.2,1˚.86N±0˚.03×90˚.93E±0˚.03,h10km, mb4.6/73,MS3.8/35,Error ellipse: s-maj=5.3km s-min=3.1km az=27.9*

IDC ***15*** *13:57:40.0±0.4,1˚.79N×90˚.84E,h0km,mb4.4/36, mb1 4.4/39,mb1mx4.3/74,mbtmp4.4/39,ML4.4/3,MS3.6/30, Ms1 3.7/30,ms1mx3.5/59,Error ellipse: s-maj=15.5km s-min=10.4km az=43.0*

NEIC ***15*** *13:57:41.5±0.2,1˚.88N×90˚.90E,h10km,mb4.9/30,Error ellipse: s-maj=5.7km s-min=3.6km az=26.0*

GCMT ***15*** *13:57:41.5±0.5,1˚.70N×90˚.95E,h20km±2km,MW4.9/69, Moment Tensor Solution. s13,c15; s69,c90; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr=-0.09±.15; Mθθ=-1.82±.11; Mφφ 1.91±.12; Mre-1.40±.33; Mθφ0.57±.10; Mφr-0.23±.24; Best double couple: Mo2.36700×10¹⁶ NP1:φ52.00000˚,δ80.00000˚,λ-31.00000˚. NP2: φ148.00000˚,δ60.00000˚,λ-169.00000˚. Principal axes: T 2.1010, Plg14.0000˚, Azm103.0000˚; N 0.5360, Plg58.0000˚, Azm216.0000˚; P -2.6330, Plg28.0000˚, Azm6.0000˚; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

DJA ***15*** *13:57:43.3±1.1,2˚.N±3˚×9˚.1E±˚, h21km±9km,M5.0/36, mb5.1/36,mB5.3/21,MLv5.6/6,Mw(mB)4.8/21,Mwp6.5/1*

ISC 15 13:57:40.6±2.0,1˚.86N±0˚.05×90˚.91E±0˚.05,h3km±12km, n202,σ1§38/194,mb4.7/77,MS3.7/35,11C-4D,North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MLSI	**Meulaboh, Aceh**	**5.98**	**66**	P		**P**	**Pn**	**13 59 10.2**	**+0.1**
TPTI		**6.42**	**77**	P		**P**	**Pn**	**13 59 14.6**	**-1.5**
TPTI				S		**S**	**Sn**	**14 00 20.9**	**-9.0**
GSI	**Gunungsitoli**	**6.69**	**95**	P		**P**	**Pn**	**13 59 18.7**	**-1.1**
	415nm,0.7s,5μm1.7nm								
GSI	**Gunungsitoli**	**6.69**	**95**	*e*Pn		**Pn**		**13 59 18.7**	**-1.1**
LHMI	**Lhok Sumawe**	**6.89**	**61**	P		**Pn**		**13 59 23.9**	**+1.3**
LHMI	**Lhok Sumawe**	**6.89**	**61**	*e*Pn		**Pn**		**13 59 23.8**	**+1.2**
TSI	**Tuntungan**	**7.82**	**78**	P		**Pn**		**13 59 36.4**	**+1.1**
PSI	**Prapat**	**8.06**	**83**	*e*Pn		**Pn**		**13 59 38.1**	**-0.7**
MNSI	**Mandailing Nat**	**8.73**	**97**	P		**Pn**		**13 59 47.3**	**-0.6**
SISI	**Saibi**	**8.77**	**111**	P		**Pn**		**13 59 46.4**	**-2.0**
PKDT	**Phuket**	**9.52**	**51**	P		**Pn**		**13 59 58.8**	**+0.1**
	68nm,1.0s,635nm								
PBA	**Port Blair**	**9.90**	**11**	*e*P		Pn		14 00 01.8	-2.1
PDSI	**Padang**	**9.94**	**106**	P		**Pn**		**14 00 02.9**	**-1.6**
BKNI	**Bangkinang**	**10.24**	**98**	P		**Pn**		**14 00 10.2**	**+1.6**
BKNI	**Bangkinang**	**10.24**	**98**	*e*Pn		**Pn**		**14 00 07.2**	**-1.4**
IPM	**Ipoh**	**10.43**	**75**	*e*Pn		**Pn**		**14 00 10.8**	**-0.4**
TRTT	**Trang**	**10.57**	**56**	P		**Pn**		**14 00 12.7**	**-0.4**
	32nm,0.7s,383nm								
SKLT	**Songkhla**	**11.02**	**61**	P		**Pn**		**14 00 21.0**	**+1.7**
	82nm,0.9s,781nm								
DGPR	**DIGLIPUR**	**11.42**	**10**	*e*P		**Pn**		**14 00 24.1**	**-0.6**
PALK	**Pallekele**	**11.51**	**298**	Pn		**Pn**		**14 00 25.2**	**-0.7**
	4.7nm,0.3s,baz=116,slow=12,SNR=24								
PALK				Sn		Sn		14 02 23.6	-12
	6.1nm,0.3s,baz=116,slow=9.3,SNR=4.1								
PALK				LR		LR		14 04 22.9	
	comp=Z,404nm,20.6s,baz=116,slow=35								
MASI	**Maura Aman, Be**	**12.37**	**114**	P		**Pn**		**14 00 39.0**	**+1.2**
	151nm,0.9s,2μm								
MYKOM	**Kota Tinggi**	**12.93**	**90**	*e*Pn		**Pn**		**14 00 46.5**	**+1.1**
MDSI	**Maura Dua**	**14.68**	**115**	P		**Pn**		**14 01 09.6**	**+0.2**
LWLI	**Liwa**	**14.81**	**118**	P		**Pn**		**14 01 12.4**	**+1.2**
MDRS	**Chennai**	**15.34**	**317**	*e*P		**Pn**		**14 01 17.3**	**-0.9**
MDRS						IAmb	IAmb	14 01 18.6	
	comp=Z,78nm,1.1s								
TRD	**Trivandrum**	**15.38**	**296**	*e*P		**Pn**		**14 01 18.2**	**-0.5**
KASI	**Kota Agung**	**15.43**	**118**	P		**Pn**		**14 01 21.0**	**+1.6**
CHBT	**CHBT**	**15.65**	**46**	P		**P**		**14 01 28.9**	**+2.3**
PPBI	**Pangkal Pinang**	**15.74**	**105**	P		**P**		**14 01 25.7**	**-1.8**
VIS	**Vishakhapatnam**	**17.43**	**335**	*e*P		**Pn**		**14 01 44.2**	**-0.8**
VIS						IAmb	IAmb	14 01 45.9	
	comp=Z,259nm,2.1s								
CM01	**Chiang Mai Arr**	**18.25**	**25**	*e*Pn		**Pn**		**14 01 53.9**	**-1.2**
CM31	**Chiang Mai Arr**	**18.28**	**25**	*e*Pn		**Pn**		**14 01 53.8**	**-1.6**
CMAR	**Chiang Mai Arr**	**18.28**	**25**	P		**Pn**		**14 01 55.5**	**+0.1**
	comp=Z,0.2nm,0.3s,baz=218,slow=13,SNR=61								
CMAR						LR	LR	14 08 30.0	
	comp=Z,187nm,21.3s,baz=208,slow=35								
CHTO	**Chiang Mai**	**18.60**	**25**	P		**Pn**		**14 01 59.3**	**0.0**
	comp=Z,87nm,1.0s,comp=Z,1μm								
CHTO	**Chiang Mai**	**18.60**	**25**	*e*P		**P**		**14 01 58.5**	**-0.6**
	comp=Z,23nm,1.1s								
CMMT	**Chiang Mai**	**18.60**	**25**	P		**P**		**14 01 58.3**	**-0.9**
	comp=Z,19nm,0.9s,comp=Z,378nm								
LEM	**Lembang**	**18.78**	**118**	P		**Pn**		**14 02 01.9**	**+0.2**
	comp=Z,1.5nm,0.3s,baz=308,slow=19,SNR=2.7								
LEM	**Lembang**	**18.78**	**118**	P		**Pn**		**14 02 01.9**	**+0.2**
CISI	**Cisompet, Garu**	**19.29**	**119**	P		**P**		**14 02 06.8**	**0.0**
CISI	**Cisompet, Garu**	**19.29**	**119**	*e*P		**P**		**14 02 05.6**	**-1.2**
	comp=Z,51nm,0.8s								
KSM	**Kuching**	**19.39**	**91**	*e*P		**P**		**14 02 07.8**	**-0.1**
	comp=Z,54nm,1.0s								
HYB	**Hyderabad**	**19.66**	**323**	*i* P		**Pn**		**14 02 12.0**	**-0.2**
HYB				*e*				14 02 23.5	
HYB				eS		**S**		**14 05 50.0**	**-3.4**
HYB	**Hyderabad**	**19.66**	**323**	*e*P		**P**		**14 02 11.2**	**+0.4**
HYB						IAmb	IAmb	14 02 23.3	
	comp=Z,14nm,0.7s								
SKNT	**Sakolnakorn**	**19.77**	**40**	P		**P**		**14 02 12.6**	**+0.6**
	comp=Z,11nm,1.1s								
KPJI	**Karang Pucung**	**20.17**	**117**	P		Pn		14 02 17.5	-0.7
STKI	**Sintang**	**20.64**	**95**	P		Pn		14 02 23.1	-0.7
H08S2	**Diego Garcia H**	**20.66**	**243**	T		T		14 23 34.8	
	baz=61								
H08S3	**Diego Garcia H**	**20.66**	**243**	T		T		14 23 25.1	
	baz=61,slow=74,SNR=482								
H08S1	**Diego Garcia H**	**20.67**	**243**	T		T		14 23 14.5	
	baz=61,slow=74,SNR=233								
PBKI	**Pangkalan Bun**	**21.24**	**102**	P		P		**14 02 29.1**	**+1.0**
	comp=Z,211nm,1.1s,comp=Z,2μm								
SBUM	**Sibu**	**21.30**	**88**	*e*P		**P**		**14 02 28.4**	**-0.3**
	comp=Z,28nm,1.0s								
SMRI	**Semarang**	**21.41**	**115**	P		**P**		**14 02 30.6**	**+0.8**
	comp=Z,171nm,1.0s								
SMRI	**Semarang**	**21.41**	**115**	*e*P		**P**		**14 02 29.5**	**-0.3**
	comp=Z,192nm,1.1s								
GOA	**Goa**	**21.62**	**310**	*e*P		**P**		**14 02 29.9**	**-2.1**
GOA						IAmb	IAmb	14 02 34.5	
	comp=Z,58nm,1.4s								
BOK	**Bokaro**	**22.34**	**348**	*e*P		**P**		**14 02 40.8**	**+1.0**
BOK						IAmb	IAmb	14 03 00.9	
	comp=Z,32nm,0.8s								
NGP	**Nagpur**	**22.39**	**330**	*e*P		**P**		**14 02 41.0**	**+0.6**
NGP						IAmb	IAmb	14 03 05.4	
	comp=Z,27nm,0.2s								
POO	**Poona**	**23.54**	**316**	*e*P		**P**		**14 02 53.1**	**+0.7**
SHL	**Shillong**	**23.59**	**2**	*e*P		**P**		**14 02 54.6**	**+1.7**
BHPL	**Bhopal**	**24.95**	**329**	*e*P		**P**		**14 03 07.0**	**+1.5**
BHPL						IAmb	IAmb	14 03 10.0	
	comp=Z,10nm,1.0s								
QIZ	**Qiongzhong**	**25.20**	**46**	P		**P**		**14 03 09.0**	**+1.3**
QIZ				S		**S**		**14 07 33.1**	**-0.8**
QIZ				pmax		pmax			
	comp=Z,16nm,0.9s								
QIZ				LR		LR			
	comp=N,660nm,15.2s								
QIZ				LR		LR			
	comp=E,520nm,16.0s								
QIZ				LR		LR			
	comp=Z,190nm,12.6s								
RAMN	**Ramite**	**25.29**	**351**	*e*P		**P**		**14 03 10.4**	**+1.7**
KMI	**Kunming**	**25.79**	**25**	P		**P**		**14 03 15.6**	**+2.3**
KMI				pP		sP		14 03 17.4	+2.7
KMI				S		**S**		**14 07 46.4**	**+2.9**
KMI				pmax		pmax			
	comp=Z,17nm,0.8s								
KMI				LR		LR			
	comp=N,210nm,19.1s								
KMI				LR		LR			
	comp=E,260nm,16.9s								
KMI				LR		LR			
	comp=Z,230nm,20.5s								
JIRN	**Jiri**	**26.05**	**350**	*e*P		**P**		**14 03 17.0**	**+1.3**
PKIN	**Phulchoki**	**26.11**	**349**	*e*P		**P**		**14 03 18.1**	**+1.9**
DMN	**Daman**	**26.20**	**348**	*e*P		**P**		**14 03 18.9**	**+1.9**
GUN	**Gumba**	**26.35**	**350**	*e*P		**P**		**14 03 19.4**	**+1.0**
KOLN	**Koldanda**	**26.70**	**345**	*e*P		**P**		**14 03 22.7**	**+1.3**
PYUN	**Piuthan**	**27.17**	**345**	*e*P		**P**		**14 03 26.9**	**+1.2**
LSA	**Lhasa**	**27.69**	**0**	P		**P**		**14 03 32.3**	**+1.7**
LSA				pmax		pmax			
	comp=Z,16nm,0.6s								
LSA	**Lhasa**	**27.69**	**0**	*e*P		**P**		**14 03 30.8**	**+0.2**
	comp=Z,18nm,0.8s								
MYLDM	**Lahad Datu**	**27.73**	**82**	*e*P		**P**		**14 03 31.7**	**+1.1**
	comp=Z,23nm,0.9s								
GYA	**Guiyang**	**28.76**	**30**	*e*P		**P**		**14 03 40.0**	**+0.1**
GYA				pmax		pmax			
	comp=Z,10.0nm,0.8s								
MPSI	**Mapaga**	**29.02**	**93**	P		**P**		**14 03 43.0**	**+0.8**
CD2	**Chengdu**	**31.35**	**22**	*e*P		**P**		**14 04 03.0**	**+0.4**
CD2				pP		sP		14 04 06.1	+2.0
CD2				PP		**PP**		**14 05 14.1**	**+0.7**
CD2				S		**S**		**14 09 12.0**	**+1.4**
CD2				sS		sS		14 09 17.3	+5.0
CD2				SS		**SS**		**14 11 27.3**	**+2.6**
CD2				pmax		pmax			
	comp=Z,20nm,0.6s								
CD2				pmax		pmax			
	comp=Z,120nm,5.0s								
CD2				LR		LR			
	comp=N,500nm,13.9s								
CD2				LR		LR			
	comp=E,660nm,15.4s								
CD2				LR		LR			
	comp=Z,280nm,10.9s								
SMLA	**Simla**	**31.88**	**337**	*e*P		**P**		**14 04 08.4**	**+1.2**
SMLA				IAmb		IAmb		14 04 17.3	
	comp=Z,13nm,0.4s								
TGY	**Tagaytay City**	**32.07**	**66**	LR		LR		14 18 06.1	
	comp=Z,93nm,18.9s,baz=254,slow=38								
DHRM	**DHARAMSHALA**	**33.21**	**337**	*e*P		**P**		**14 04 19.6**	**+0.4**
ENH	**Enshi**	**33.30**	**30**	*e*P		**P**		**14 04 19.6**	**-0.1**
	comp=Z,18nm,0.9s								
BATI	**Baumata**	**34.74**	**111**	LR		LR		14 20 05.2	
	comp=Z,157nm,18.3s,baz=293,slow=39								
DAV	**Davao City (W)**	**34.94**	**80**	LR		LR		14 21 16.0	
	comp=Z,64nm,18.1s,baz=186,slow=40								
NIL	**Nilore**	**35.69**	**334**	*e*P		**P**		**14 04 39.8**	**-0.5**
	comp=Z,13nm,0.8s								
WHN	**Wuhan**	**36.15**	**36**	P		P		14 04 55.3	+11
XAN	**Xi'an**	**36.17**	**26**	P		**P**		**14 04 44.0**	**-0.5**
XAN				pP		sP		14 04 47.6	+1.6
XAN				sP		pP		14 04 51.0	+5.4
XAN				PP		**PP**		**14 06 08.1**	**+1.3**
XAN				S		**S**		**14 10 25.8**	**+0.6**
XAN				sS		sS		14 10 32.6	+5.6
XAN				SS		**SnSn**		**14 12 50.8**	**+0.1**
XAN				pmax		pmax			
	comp=Z,8.0nm,0.8s								
XAN				pmax		pmax			
	comp=Z,14nm,3.0s								
XAN				LR		LR			
	comp=N,260nm,14.1s								
XAN				LR		LR			
	comp=E,310nm,14.6s								
XAN				LR		LR			
	comp=Z,220nm,15.2s								
LBMI	**Labuha**	**36.67**	**94**	P		**P**		**14 04 49.7**	**+0.7**
	comp=Z,30nm,1.1s								
WSAR	**Wadi Sarin**	**37.82**	**307**	P		**P**		**14 04 57.6**	**-1.1**
	comp=Z,9.1nm,0.9s,baz=117,slow=6.0,SNR=3.9								
WSAR				LR		LR		14 19 15.9	
	comp=Z,223nm,18.4s,baz=140,slow=34								
GTA	**Gaotai**	**38.25**	**11**	P		**P**		**14 05 03.0**	**+0.8**
GTA				pP		sP		14 05 12.1	+8.4
GTA				sP		pP		14 05 16.3	+13
GTA				S		**S**		**14 11 00.8**	**+4.0**
GTA				sS		ScP		14 11 17.0	+12
GTA				SS		SS		14 12 05.6	-99
GTA				pmax		pmax			
	comp=Z,14nm,1.0s								
GTA				pmax		pmax			
	comp=Z,81nm,4.4s								
GTA				LR		LR			
	comp=N,59nm,15.1s								
GTA				LR		LR			
	comp=E,190nm,15.2s								
GTA				LR		LR			
	comp=Z,75nm,16.6s								
MEEK	**Meekatharra**	**38.95**	**139**	P		**P**		**14 05 08.6**	**+0.4**
	baz=39,SNR=4.4								
FITZ	**Fitzroy Crossi**	**39.53**	**122**	P		**P**		**14 05 12.1**	**-0.9**
	comp=Z,4.1nm,0.8s,baz=296,slow=3.9,SNR=9.6								
FITZ	**Fitzroy Crossi**	**39.53**	**122**	P		**P**		**14 05 12.7**	**-0.3**
	baz=40								
KSH	**Kashi**	**39.88**	**342**	P		**P**		**14 05 13.9**	**-1.9**
KSH				pmax		pmax			
	comp=Z,9.0nm,0.6s								
NJ2	**Nanjing**	**39.93**	**38**	*e*P		**P**		**14 05 15.5**	**-0.7**
NJ2				pmax		pmax			
	comp=Z,16nm,0.5s								
TARG	**Taragay, Kyrgy**	**41.41**	**345**	*e*P		**P**		**14 05 27.5**	**-1.3**
	comp=Z,4.3nm,0.9s								
WMQ	**Urumqi**	**41.88**	**357**	P		**P**		**14 05

comp=Z,63nm,21.9s,baz=249,slow=35
ASAR Alice Springs 48.90 124 P **P** **14 06 28.3 +0.1**
comp=Z,1.0nm,0.8s,baz=300,slow=7.4,SNR=13
ASAR PcP **PcP** **14 07 52.9 +0.2**
comp=Z,0.4nm,0.6s,baz=296,slow=4.1,SNR=3.1
AS01 Alice Springs 48.94 124 *eP* **P** **14 06 29.3 +0.8**
RAYN Ar Rayn 48.94 300 *eP* **P** **14 06 28.1 -0.4**
comp=Z,14nm,0.8s
KSAR Wonju Array Be 49.08 39 P **P** **14 06 30.0 +0.7**
KS01 Wonju Array Si 49.10 39 *eP* **P** **14 06 29.9 +0.4**
KSRS Korea Array 49.11 39 P **P** **14 06 30.0 +0.5**
comp=Z,1.4nm,1.0s,baz=257,slow=9.5,SNR=4.9
KURBB Kurchatov Arra 49.71 350 P **P** **14 06 33.8 0.0**
comp=Z,4.3nm,0.9s,baz=172,slow=7.1,SNR=20
KURK Kurchatov 49.78 350 *eP* **P** **14 06 34.2 -0.2**
comp=Z,17nm,1.4s
CN2 Changchun 51.80 31 *eP* P 14 06 43.4 -6.4
CN2 pmax pmax
comp=Z,10.0nm,0.6s
ZAA0 Zalesovo Array 52.16 355 *eP* **P** **14 06 51.8 -0.4**
comp=Z,7.6nm,0.5s
ZALV Zalesovo Beam 52.16 355 P **P** **14 06 51.9 -0.4**
comp=Z,3.3nm,0.4s,baz=172,slow=7.3,SNR=18
ZALV LR LR 14 31 45.6
comp=Z,50nm,18.5s,baz=248,slow=39
ZALV Zalesovo Beam 52.16 355 *eP* **P** **14 06 51.8 -0.5**
KMBO Kilima Mbogo 53.73 267 P **P** **14 07 04.8 -0.1**
comp=Z,1.5nm,0.5s,baz=56,slow=11,SNR=5.0
BVAR Borovoye Array 53.76 345 P **P** **14 07 03.8 -0.4**
comp=Z,2.2nm,0.8s,baz=154,slow=7.5,SNR=10.0
BVAR LR LR 14 30 38.2
comp=Z,70nm,21.2s,baz=158,slow=37
ABKAR Akbulak array 54.13 335 *eP* **P** **14 07 06.3 -0.6**
comp=Z,37nm,0.8s
GUMO Guam 54.60 75 LR LR 14 28 56.1
comp=Z,64nm,21.7s,baz=267,slow=34
MJAR Matsushiro Arr 55.60 46 P **P** **14 07 19.3 +1.5**
comp=Z,1.1nm,0.7s,baz=224,slow=7.2,SNR=4.8
MJAR LR LR 14 32 00.9
comp=Z,70nm,20.6s,baz=280,slow=37
AKTO Aktyubinsk 55.84 335 P **P** **14 07 20.5 +1.2**
comp=Z,1.1nm,0.4s,baz=100,slow=9.0,SNR=5.0
AKTO LR LR 14 34 11.7
comp=Z,34nm,18.5s,baz=149,slow=39
PMG Port Moresby 57.13 102 LR LR 14 34 25.0
comp=Z,36nm,18.0s,baz=220,slow=39
CTA Charters Tower 58.45 115 P **P** **14 07 39.1 +0.8**
comp=Z,5.2nm,0.8s,baz=321,slow=4.9,SNR=3.8
STKA Stephens Creek 58.55 130 P **P** **14 07 38.7 0.0**
comp=Z,5.1nm,1.0s,baz=300,slow=8.6,SNR=8.0
STKA Stephens Creek 58.55 130 P **P** **14 07 38.8 0.0**
baz=59,SNR=5.0
STKA Stephens Creek 58.55 130 *eP* **P** **14 07 38.2 -0.6**
comp=Z,1.0nm,0.8s
KBZ Khabaz 59.54 321 P **P** **14 07 45.5 +0.1**
comp=Z,4.0nm,0.8s,baz=131,slow=6.9,SNR=12
KIV Kislovodsk 59.79 321 *eP* **P** **14 07 45.7 -1.6**
comp=Z,15nm,0.9s
EIL Elat 59.81 303 P **P** **14 07 47.5 -0.2**
comp=Z,6.7nm,0.8s,baz=193,slow=7.9,SNR=4.1
ARU Arti 60.27 340 P **P** **14 07 49.9 -0.3**
comp=Z,0.9nm,0.3s,baz=95,slow=9.4,SNR=3.0
MMAI Mount Meron Ar 60.46 307 LR LR 14 34 38.9
comp=Z,156nm,18.6s,baz=110,slow=37
CMSA Cobar Meteorol 61.62 128 P **P** **14 07 60.0 +0.1**
baz=62,SNR=7.9
BR131 Keskin Array S 64.07 314 *eP* **P** **14 08 15.2 -1.1**
BRTR Keskin Array B 64.07 314 P **P** **14 08 15.7 -0.6**
comp=Z,2.3nm,0.6s,baz=133,slow=6.8,SNR=15
BRTR LR LR 14 37 10.2
comp=Z,55nm,19.6s,baz=126,slow=37
LBTB Lobatse 68.58 242 *eP* **P** **14 08 44.4 -1.0**
comp=Z,12nm,0.8s
IDI Anoyia 69.46 307 P **P** **14 08 50.4 -0.3**
comp=Z,12nm,0.6s,baz=130,slow=8.1,SNR=7.6
IDI Anoyia 69.46 307⇑ *iP* **P** **14 08 50.6 -0.1**
HNR Honiara 69.66 101 LR LR 14 42 57.2
comp=Z,32nm,18.6s,baz=254,slow=39
BOSA Boshof 69.70 239 P **P** **14 08 51.6 -0.8**
comp=Z,7.2nm,0.7s,baz=85,slow=6.3,SNR=17
HARR Harsova 69.73 317⇑ *iP* P 14 09 02.5 +10
KLMR Klimovskoe 70.52 336 *eP* **P** **14 08 54.9 -1.6**
KLMR AMP 14 09 12.4
comp=Z,5.0nm,0.8s
SORM Soroca 70.58 321⇓ *iP* **P** **14 08 56.7 -0.5**
VRI Vrincioaia 70.90 318⇑ *iP* **P** **14 08 59.2 0.0**
PLOR Plostina 70.95 318⇑ *iP* **P** **14 08 59.8 +0.3**
AKASG Malin Array Be 70.95 324 P **P** **14 08 58.0 -1.4**
comp=Z,0.8nm,0.5s,baz=93,slow=5.1,SNR=4.8
AKASG LR LR 14 41 51.1
comp=Z,46nm,20.5s,baz=80,slow=37
TESR Tescani 71.15 319⇓ *iP* **P** **14 09 00.0 -0.7**
MLR Muntele Rosu 71.31 318 P **P** **14 09 02.0 +0.1**
comp=Z,1.8nm,0.8s,baz=135,slow=4.8,SNR=12
MLR LR LR 14 43 58.6
comp=Z,16nm,19.3s,baz=92,slow=39
MLR Muntele Rosu 71.31 318⇓ *iP* **P** **14 09 02.2 +0.3**
MLR Muntele Rosu 71.31 318 *eP* **P** **14 09 01.5 -0.4**
comp=Z,18nm,1.0s
PRAR RASCA 71.69 320⇑ *iP* **P** **14 09 03.8 -0.1**
ARR Arges 72.16 317⇑ *iP* **P** **14 09 06.3 -0.6**
BURAR Bucovina Array 72.42 320⇑ *iP* **P** **14 09 08.7 +0.3**
BUR04 Bucovina Ar. S 72.42 320 *eP* **P** **14 09 08.4 -0.1**
VTS Vitosha 72.43 314⇑ *iP* **P** **14 09 07.9 -0.8**
BUR08 Bucovina Ar. S 72.44 320 *eP* **P** **14 09 08.1 -0.5**
TIXI Tiksi 73.73 12 *eP* **P** **14 09 13.8 -1.7**
comp=Z,8.0nm,0.8s
DRGR 73.83 318⇑ *iP* **P** **14 09 16.5 -0.3**
BZS Buzias 74.28 317⇑ *iP* **P** **14 09 18.8 -0.5**
TRPA Tarpa 74.29 320⇑ *iP* **P** **14 09 19.5 +0.2**
PETK Petropavlovsk- 74.74 35 LR LR 14 45 32.8
comp=Z,16nm,18.3s,baz=241,slow=38
STHS Stebnicka Huta 75.45 321 *eP* **P** **14 09 26.8 +0.7**
STHS *e*PCP **PcP** **14 09 38.7 -0.5**
FINES FINESS Array B 76.55 333 P **P** **14 09 31.6 -0.5**
comp=Z,2.6nm,0.9s,baz=100,slow=7.6,SNR=7.0
FINES LR LR 14 45 08.5
comp=Z,50nm,19.4s,baz=40,slow=37
KRLC Kraliky 78.42 321 *eP* **P** **14 09 43.5 +0.7**
KRLC *e*PCP **PcP** **14 09 53.6 +1.6**
DPC Dobruska-Polom 78.76 321 *eP* **P** **14 09 45.1 +0.4**
DPC *e*PCP **PcP** **14 09 53.1 -0.4**
DPC *ex* x 14 09 58.6
PRU Pruhonice 79.82 320 *eP* **P** **14 09 51.1 +0.7**
PRU *ex* x 14 10 04.6
ARCES ARCESS Array B 79.83 341 P **P** **14 09 51.0 +0.8**
comp=Z,2.3nm,0.9s,baz=46,slow=5.2,SNR=4.0
GEA0 GERESS Array S 80.19 319 *eP* **P** **14 09 52.2 -0.4**
GEC2 GERESS Array S 80.19 319 *eP* **P** **14 09 52.2 -0.4**
comp=Z,13nm,1.0s
GERES GERESS Array B 80.19 319 P **P** **14 09 52.8 +0.2**
comp=Z,5.1nm,0.8s,baz=102,slow=5.6,SNR=28
GERES LR LR 14 50 28.6
comp=Z,18nm,19.1s,baz=80,slow=40
KHC Kasperske Hory 80.31 319 *eP* **P** **14 09 54.0 +0.8**
KHC *e*PCP **PcP** **14 10 01.3 +1.0**
BRG Berggiesshubel 80.34 321 *eP* **PcP** **14 10 07.1 +6.8**
comp=Z,4.3nm,1.0s
CLL Collm 80.99 322 *eP* **P** **14 09 57.0 +0.3**
comp=Z,4.0nm,0.9s
HFS Hagfors 82.03 330 P **P** **14 10 02.1 0.0**
comp=Z,2.3nm,1.0s,baz=99,slow=8.9,SNR=2.9
HFS LR LR 14 49 00.1
comp=Z,32nm,19.9s,baz=106,slow=38
KEST Kesra 82.06 306 P **P** **14 10 03.4 +0.6**
comp=Z,6.3nm,0.9s,baz=116,slow=3.5,SNR=4.5
NOA NORSAR Array B 83.39 331 P **P** **14 10 10.6 +1.5**
comp=Z,1.0nm,0.8s,baz=95,slow=5.8,SNR=3.0
NOA LR LR 14 49 49.9
comp=Z,51nm,18.9s,baz=145,slow=38
TAM Tamanrasset 85.03 293 *eP* **P** **14 10 17.4 -1.0**
comp=Z,4.7nm,1.0s
SPITS Spitsbergen Ar 85.04 348 LR LR 14 52 07.7
comp=Z,61nm,20.9s,baz=55,slow=38
VNDA Vanda 87.74 168 P **P** **14 10 30.4 0.0**
comp=Z,0.8nm,0.9s,baz=304,slow=4.4,SNR=3.3
TORD Torodi Ar. Bea 88.82 283 P **P** **14 10 36.1 -0.7**
comp=Z,0.6nm,1.0s,baz=99,slow=5.2,SNR=3.5
ESDC Sonseca Array 92.58 310 P **P** **14 10 54.2 +0.3**
comp=Z,1.5nm,0.8s,baz=69,slow=3.8,SNR=4.3
KOWA Kowa 94.31 285 P **P** **14 11 02.6 +0.3**
comp=Z,4.9nm,0.8s,baz=67,slow=6.1,SNR=11
KOWA Kowa 94.31 285 *eP* **P** **14 11 01.7 -0.6**
comp=Z,26nm,1.8s
BORG Borgarnes 97.65 336 LR LR 14 58 02.1
comp=Z,17nm,18.1s,baz=40,slow=37

JCT Junction City 146.26 17 *e*PKPdf **PKPdf** **14 17 22.8 +0.5**

*NEIC **15** 14:02:56.9±0.0, 16.87N×100.27W, h5km, MD4.0(MEX), After MEX.*
MEX 15 14:02:56.9±0.4, **16.87N×100.27W, h5**km±3km**, MD4.0, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAIG	**El Cayaco**	**0.18**	**360**	*i* P	Pg	14 03 00.2	-0.3
CAIG				*i* S	Sg	14 03 02.9	0.0
CAIG	**El Cayaco**	**0.18**	**360**	*i* P	Pg	14 03 00.2	-0.3
CAIG				*i* S	Sg	14 03 02.9	0.0
MEIG	**Mezcala**	**1.22**	**30**	*e*P	Pg	14 03 16.8	-3.6
MEIG				*e*S	Sg	14 03 32.9	-3.4
MEIG	**Mezcala**	**1.22**	**30**	*e*P	Pg	14 03 16.8	-3.6
MEIG				*e*S	Sg	14 03 32.9	-3.4
ARIG	**Puente Sto Nin**	**1.41**	**357**	*e*P	Pn	14 03 19.5	-3.8
ARIG				*i* S	Sb	14 03 37.0	-5.0
PLIG	**Platanillo**	**1.68**	**26**	*e*P	Pn	14 03 24.5	-2.6
PLIG				*e*S	Sn	14 03 44.4	-4.8
PLIG	**Platanillo**	**1.68**	**26**	*e*P	Pn	14 03 24.5	-2.6
PLIG				*e*S	Sn	14 03 44.4	-4.8
YAIG	**Yautepec**	**2.29**	**30**	*e*P	Pn	14 03 33.1	-2.4
YAIG	**Yautepec**	**2.29**	**30**	*e*P	Pn	14 03 33.1	-2.4

*IDC **15** 14:05:10.1±1.4, 24.18S×179.96W, h492km±14km, mb3.7/22, mb1 3.9/24, mb1mx3.7/41, mbtmp4.6/24, Error ellipse: s-maj=12.9km s-min=11.4km az=83.0*
*WEL **15** 14:05:12.0, 24.41S×179.99W, h518km*
*NEIC **15** 14:05:12.0±0.6, 24.41S×179.99W, h518km±7km, mb4.6/45, Error ellipse: s-maj=7.5km s-min=6.2km az=148.0*
ISC 15 14:05:10.3±0.4, **24.18S**±0.05×**179.81W**±0.07, **h500**km, **n181**,σ1**§93**/186, **mb4.4**/58, **South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**5.33**	**162**	S	**S**	**14 07 55.0**	**+1.3**
	70nm,0.3s,baz=219,slow=21,SNR=3.2						
RAO	**Raoul Island**	**5.33**	**162**	*e*P	**P**	**14 06 43.3**	**+3.1**
GLKZ	**Green Lake**	**5.34**	**162**	P	**P**	**14 06 43.0**	**+2.7**
GLKZ	**Green Lake**	**5.34**	**162**	S	**S**	**14 07 52.6**	**-1.3**
MSVF	**Nonsavu**	**6.71**	**342**	*e*P	**P**	**14 06 56.6**	**+2.7**
OUZ	**Omahuta**	**12.40**	**206**	*e*P	**P**	**14 07 55.1**	**+2.1**
OUZ	**Omahuta**	**12.40**	**206**	P	**P**	**14 07 53.9**	**+0.9**
AFI	**Afiamalu**	**12.72**	**38**	P	**P**	**14 07 55.9**	**-0.9**
	5.8nm,0.3s,baz=235,slow=16,SNR=11						
AFI				S	**S**	**14 10 07.8**	**-6.1**
	1.7nm,0.3s,baz=66,slow=20,SNR=3.7						
AFI	**Afiamalu**	**12.72**	**38**	*e*P	**P**	**14 07 55.4**	**-1.4**
DZM	**Mont Dzumac**	**12.82**	**277**	*e*P	**P**	**14 07 59.9**	**+2.2**
KUZ	**Kuaotunu**	**13.10**	**196**	P	**P**	**14 08 01.6**	**+1.2**
MXZ	**Matakaoa Point**	**13.44**	**186**	*e*P	**P**	**14 08 01.9**	**-2.0**
MXZ	**Matakaoa Point**	**13.44**	**186**	S	**S**	**14 10 28.4**	**+1.3**
HAZ	**Te Kaha**	**13.69**	**188**	P	**P**	**14 08 06.5**	**-0.1**
HAZ	**Te Kaha**	**13.69**	**188**	S	**S**	**14 10 29.5**	**-2.5**
RUGZ	**Raukumara Rang**	**13.91**	**188**	P	**P**	**14 08 10.2**	**+1.2**
RUGZ	**Raukumara Rang**	**13.91**	**188**	S	**S**	**14 10 33.2**	**-3.3**
TGRZ	**Tauranga**	**13.92**	**193**	P	**P**	**14 08 12.6**	**+3.6**
PUZ	**Puketiti**	**13.95**	**186**	P	**P**	**14 08 11.7**	**+2.4**
PUZ	**Puketiti**	**13.95**	**186**	P	**S**	**14 10 34.5**	**-2.6**
TWGZ	**Tauwhareparae**	**14.08**	**187**	P	**P**	**14 08 12.1**	**+1.3**
TWGZ	**Tauwhareparae**	**14.08**	**187**	S	**S**	**14 10 38.7**	**-0.9**
MARZ	**Manawahe**	**14.09**	**191**	P	**P**	**14 08 13.1**	**+2.2**
KMRZ	**Kaimai**	**14.10**	**194**	P	**P**	**14 08 11.1**	**+0.2**
KARZ	**Kaharoa**	**14.21**	**193**	P	**P**	**14 08 14.9**	**+2.9**
OMRZ	**Omania**	**14.26**	**192**	P	P	14 08 18.1	+5.4
URZ	**Urewera**	**14.28**	**190**	P	**P**	**14 08 10.8**	**-2.0**
	4.3nm,0.3s,baz=30,slow=13,SNR=26						
URZ				S	**S**	**14 10 40.0**	**-3.3**
	1.7nm,0.3s,baz=212,slow=23,SNR=15						
URZ	**Urewera**	**14.28**	**190**	*e*P	**P**	**14 08 09.6**	**-3.2**
URZ	**Urewera**	**14.28**	**190**	P	**P**	**14 08 12.3**	**-0.5**
URZ	**Urewera**	**14.28**	**190**	S	**S**	**14 10 40.4**	**-2.9**
MWZ	**Matawai**	**14.29**	**188**	P	**P**	**14 08 13.4**	**+0.4**
MWZ	**Matawai**	**14.29**	**188**	S	**S**	**14 10 41.7**	**-2.0**
TKGZ	**Te Karaka**	**14.36**	**187**	P	**P**	**14 08 15.1**	**+1.5**
TKGZ	**Te Karaka**	**14.36**	**187**	S	**S**	**14 10 42.1**	**-2.6**
CNGZ	**Carnagh Statio**	**14.36**	**186**	P	**P**	**14 08 15.8**	**+2.1**
RAGZ	**Rawiri**	**14.47**	**189**	P	**P**	**14 08 15.6**	**+0.8**
HRRZ	**Handcock Road**	**14.55**	**192**	P	**P**	**14 08 17.8**	**+2.0**
PRRZ	**Plateau Road**	**14.64**	**192**	P	**P**	**14 08 18.1**	**+1.5**
TLZ	**Tolley Road**	**14.65**	**195**	P	**P**	**14 08 20.3**	**+3.5**
PRGZ	**Paritu Road**	**14.83**	**187**	P	**P**	**14 08 20.8**	**+2.2**
PRGZ	**Paritu Road**	**14.83**	**187**	S	**S**	**14 10 52.4**	**-1.6**
MRHZ	**Matea Rd**	**14.96**	**191**	P	**P**	**14 08 20.4**	**+0.4**
MRHZ	**Matea Rd**	**14.96**	**191**	S	**S**	**14 10 53.2**	**-3.2**
HIZ	**Hauiti**	**14.99**	**196**	P	**P**	**14 08 23.7**	**+3.4**
MHGZ	**Mahia Peninsul**	**15.06**	**187**	P	**P**	**14 08 22.1**	**+1.2**
MHGZ	**Mahia Peninsul**	**15.06**	**187**	S	**S**	**14 10 57.9**	**-0.3**
WHHZ	**Waihua**	**15.06**	**189**	P	**P**	**14 08 21.9**	**+0.9**
WHHZ	**Waihua**	**15.06**	**189**	S	**S**	**14 10 54.5**	**-3.9**
RATZ	**Rangitukua**	**15.12**	**193**	P	**P**	**14 08 23.3**	**+1.6**
RITZ	**Rihia Road**	**15.21**	**193**	P	**P**	**14 08 23.4**	**+0.9**
BKZ	**Black Stump Fm**	**15.27**	**191**	*e*P	**P**	**14 08 21.5**	**-1.7**
	12nm,0.7s						
BKZ	**Black Stump Fm**	**15.27**	**191**	P	**P**	**14 08 18.8**	**-4.5**
BKZ	**Black Stump Fm**	**15.27**	**191**	S	**S**	**14 10 58.7**	**-3.6**
ARHZ	**Aropaoanui**	**15.28**	**189**	P	**P**	**14 08 23.9**	**+0.6**
ARHZ	**Aropaoanui**	**15.28**	**189**	S	**S**	**14 10 59.2**	**-3.3**
TWVZ	**Taurewa**	**15.39**	**194**	P	**P**	**14 08 25.8**	**+1.3**
WTVZ	**West Tongariro**	**15.40**	**194**	P	**P**	**14 08 24.8**	**+0.2**
NGZ	**Ngauruhoe**	**15.45**	**193**	P	**P**	**14 08 26.9**	**+1.6**
COVZ	**Chateau Observ**	**15.49**	**194**	P	**P**	**14 08 25.8**	**+0.2**
MCHZ	**McNeill Hill**	**15.51**	**190**	P	**P**	**14 08 25.8**	**+0.1**
MCHZ	**McNeill Hill**	**15.51**	**190**	S	**S**	**14 11 03.9**	**-3.0**
TUVZ	**Tukino**	**15.53**	**193**	P	**P**	**14 08 25.9**	**-0.2**
KWHZ	**Kaweka Forest**	**15.53**	**191**	P	**P**	**14 08 25.9**	**-0.1**
KWHZ	**Kaweka Forest**	**15.53**	**191**	S	**S**	**14 11 04.3**	**-3.1**
FWVZ	**Far West T-bar**	**15.54**	**194**	P	**P**	**14 08 25.8**	**-0.4**
WHVZ	**Whangaehu Hut**	**15.56**	**193**	P	**P**	**14 08 26.4**	**-0.1**
TRVZ	**Turoa**	**15.58**	**194**	P	**P**	**14 08 26.7**	**+0.1**
VRZ	**Vera Road**	**15.60**	**196**	P	**P**	**14 08 29.6**	**+3.0**
PKVZ	**Pokaka**	**15.62**	**194**	P	**P**	**14 08 27.1**	**+0.3**
MOVZ	**Moawhango**	**15.64**	**193**	P	**P**	**14 08 26.3**	**-0.8**
BHHZ	**Black Hill Sta**	**15.66**	**192**	P	**P**	**14 08 25.8**	**-1.5**
KRHZ	**Kereru**	**15.76**	**191**	P	**P**	**14 08 26.9**	**-1.3**
KAHZ	**Kahuranaki**	**15.82**	**189**	P	**P**	**14 08 28.4**	**-0.5**
PREZ	**Palmer Road**	**15.96**	**197**	P	**P**	**14 08 34.5**	**+4.1**
LREZ	**Lake Rotokare**	**16.00**	**196**	P	**P**	**14 08 33.9**	**+3.0**
PNHZ	**Pukenui**	**16.05**	**191**	P	**P**	**14 08 31.1**	**-0.2**
PXZ	**Pawanui**	**16.05**	**189**	P	**P**	**14 08 31.0**	**-0.4**
NMEZ	**Namu Road**	**16.10**	**198**	P	**P**	**14 08 36.2**	**+4.4**
WAZ	**Wanganui**	**16.14**	**195**	P	**P**	**14 08 32.7**	**+0.4**
TSZ	**Takapari Road**	**16.23**	**192**	P	**P**	**14 08 31.3**	**-1.9**
PRHZ	**Porangahau**	**16.32**	**190**	P	**P**	**14 08 34.9**	**+0.7**
DVHZ	**Dannevirke**	**16.43**	**191**	P	**P**	**14 08 33.7**	**-1.7**
ANWZ	**Angora Road**	**16.53**	**190**	P	**P**	**14 08 35.0**	**-1.3**
BFZ	**Birch Farm**	**16.79**	**190**	*e*P	**P**	**14 08 36.4**	**-2.6**
	112nm,1.7s						
BFZ	**Birch Farm**	**16.79**	**190**	P	**P**	**14 08 37.0**	**-2.0**
MRZ	**Mangatainoka R**	**16.89**	**192**	P	**P**	**14 08 37.1**	**-2.9**
SNZO	**South Karori**	**17.69**	**194**	*e*P	**P**	**14 08 46.1**	**-1.6**
	90nm,1.3s						
THZ	**Tophouse**	**18.56**	**197**	*e*P	**P**	**14 08 54.0**	**-1.7**
	13nm,0.5s						
KHZ	**Kahutara**	**19.01**	**195**	*e*P	**P**	**14 08 57.8**	**-2.0**
	136nm,1.8s						
LTZ	**Lake Taylor**	**19.68**	**198**	*e*P	**P**	**14 09 03.5**	**-2.4**
	23nm,1.1s						
OXZ	**Oxford**	**20.25**	**197**	*e*P	**P**	**14 09 09.2**	**-1.8**
	108nm,1.6s						
RPZ	**Rata Peaks**	**20.88**	**199**	P	**P**	**14 09 16.1**	**-0.7**
	11nm,0.4s,baz=76,slow=1.8,SNR=14						
RPZ	**Rata Peaks**	**20.88**	**199**	*e*P	**P**	**14 09 15.6**	**-1.2**
	98nm,1.9s						
HNR	**Honiara**	**24.25**	**304**	P	**P**	**14 09 45.9**	**-1.4**
	41nm,0.7s,baz=167,slow=3.1,SNR=4.7						
ARMA	**Armidale**	**26.09**	**250**	*e*P	**P**	**14 10 03.6**	**0.0**
	10nm,0.6s						
EIDS	**Eidsvold**	**26.43**	**261**	*e*P	**P**	**14 10 06.2**	**-0.4**
	15nm,0.6s						
CAN	**Canberra**	**29.15**	**240**	*e*P	**P**	**14 10 29.8**	**-0.6**
	14nm,1.1s						
CTAO	**Charters Tower**	**31.65**	**271**	*e*P	**P**	**14 10 51.8**	**-0.3**
	63nm,0.4s						
PMG	**Port Moresby**	**34.75**	**289**	P	**P**	**14 11 17.5**	**-0.9**
	22nm,0.7s,baz=120,slow=8.1,SNR=12						
PMG	**Port Moresby**	**34.75**	**289**	*e*P	**P**	**14 11 17.2**	**-1.1**
	26nm,0.8s						
STKA	**Stephens Creek**	**34.78**	**248**	P	**P**	**14 11 17.9**	**-0.5**
	6.5nm,0.4s,baz=88,slow=7.5,SNR=34						
STKA	**Stephens Creek**	**34.78**	**248**	*e*P	**P**	**14 11 17.8**	**-0.7**
	1.9nm,0.6s						
COEN	**Coen**	**36.33**	**279**	*e*P	**P**	**14 11 31.3**	**-0.2**
BBOO	**Buckleboo**	**39.49**	**247**	*e*P	**P**	**14 11 55.7**	**-1.5**
	30nm,1.1s						
AS01	**Alice Springs**	**42.12**	**261**	*e*P	**P**	**14 12 17.0**	**-1.3**
AS31	**Alice Springs**	**42.16**	**261**	*e*P	**P**	**14 12 17.7**	**-1.0**
	6.9nm,0.4s						
ASAR	**Alice Springs**	**42.16**	**261**	P	**P**	**14 12 17.6**	**-1.0**
	6.9nm,0.4s,baz=93,slow=7.1,SNR=345						
ASAR				ScP	**ScP**	**14 17 03.6**	**-0.8**
	2.8nm,0.9s,baz=114,slow=4.0,SNR=11						
WB2	**Warramunga Arr**	**42.55**	**266**	*e*P	**P**	**14 12 20.1**	**-1.6**
WRAB	**Tennant Creek**	**42.55**	**266**	*e*P	**P**	**14 12 20.1**	**-1.7**
	23nm,0.8s						
WRA	**Warramunga Arr**	**42.56**	**266**	P	**P**	**14 12 20.4**	**-1.5**
	21nm,0.4s,baz=97,slow=8.4,SNR=1082						
WRA				ScP	**ScP**	**14 17 06.9**	**+0.8**
	5.3nm,0.9s,baz=100,slow=4.2,SNR=16						
MTN	**Manton Dam**	**47.65**	**275**	*e*P	**P**	**14 12 58.9**	**-2.1**
	29nm,1.4s						
VNDA	**Vanda**	**54.12**	**185**	P	**P**	**14 13 48.2**	**+1.0**
	0.5nm,0.5s,baz=12,slow=5.5,SNR=5.0						
SOEI	**Soe**	**55.04**	**275**	*e*P	**P**	**14 13 54.5**	**-0.3**
	42nm,1.1s						
BATI	**Baumata**	**55.42**	**274**	P	**P**	**14 13 57.9**	**+0.5**
	16nm,0.5s,baz=159,slow=8.6,SNR=6.0						
MBWA	**Marble Bar**	**55.49**	**260**	*e*P	**P**	**14 13 55.6**	**-2.2**
	11nm,0.8s						
QSPA	**South Pole Qui**	**65.91**	**180**	P	**P**	**14 15 07.0**	**+1.0**
	3.9nm,0.6s,baz=26,slow=2.0,SNR=14						
QSPA	**South Pole Qui**	**65.91**	**180**	*e*P	**P**	**14 15 06.5**	**+0.5**
	17nm,1.5s						
LEM	**Lembang**	**71.35**	**271**	P	**P**	**14 15 39.2**	**-0.7**
	11nm,0.3s,baz=20,slow=8.7,SNR=6.0						
KSM	**Kuching**	**72.32**	**280**	*e*P	**P**	**14 15 43.9**	**-1.5**
	11nm,0.7s						
MAW	**Mawson**	**77.55**	**200**	P	**P**	**14 16 14.0**	**+0.3**
	2.2nm,0.4s,baz=138,slow=3.2,SNR=8.4						
KSRS	**Korea Array**	**78.57**	**320**	P	**P**	**14 16 20.2**	**+0.6**
	0.8nm,0.7s,baz=134,slow=5.7,SNR=5.5						
PETK	**Petropavlovsk-**	**79.41**	**346**	P	**P**	**14 16 24.4**	**+0.7**
	4.8nm,1.0s,baz=94,slow=8.1,SNR=4.1						
NJ2	**Nanjing**	**80.97**	**311**	*e*P	**P**	**14 16 33.8**	**+1.4**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CMB	**Columbia Colle**	**83.28**	**43**	*e*P	**P**	**14 16 45.3**	**+1.1**
	comp=Z,4.3nm,0.9s						
AFDM	**Forest Hills D**	**83.48**	**42**	*e*P	**P**	**14 16 46.2**	**+1.1**
	comp=Z,8.8nm,0.4s						
ORV	**Oroville**	**83.53**	**41**	*e*P	**P**	**14 16 46.5**	**+1.2**
	comp=Z,7.1nm,1.1s						
SNAA	**Sanae**	**84.39**	**179**	P	**P**	**14 16 48.5**	**-0.7**
SNAA	**Sanae**	**84.39**	**179**	P	**P**	**14 16 48.3**	**-0.8**
	comp=Z,0.9nm,0.5s,baz=204,slow=8.4,SNR=13						
VNA3	**Neumayer Olymp**	**84.59**	**177**	P	**P**	**14 16 49.5**	**-0.6**
HUMO	**Hull Mountain**	**84.61**	**38**	*e*P	**P**	**14 16 52.1**	**+1.5**
	comp=Z,11nm,1.4s						
NVAR	**Mina Array Bea**	**84.83**	**44**	P	**P**	**14 16 53.4**	**+1.4**
	comp=Z,1.5nm,0.8s,baz=227,slow=7.8,SNR=13						
NV01	**Mina Array Sit**	**84.83**	**44**	*e*P	**P**	**14 16 52.9**	**+0.8**
VNA2	**Neumayer--Watz**	**85.01**	**178**	P	**P**	**14 16 51.8**	**-0.3**
	baz=184,slow=3.9						
VNA1	**Neumayer--Stat**	**85.25**	**177**	P	**P**	**14 16 52.2**	**-1.1**
MOD	**Modoc Plateau**	**85.70**	**40**	*e*P	**P**	**14 16 57.1**	**+1.0**
	comp=Z,13nm,1.5s						
PINE	**Pine Mountain**	**86.50**	**38**	*e*P	**P**	**14 17 01.4**	**+1.5**
	comp=Z,12nm,1.1s						
TUC	**Tucson**	**86.55**	**52**	*e*P	**P**	**14 17 02.5**	**+2.2**
	comp=Z,7.6nm,0.9s						
GYA	**Guiyang**	**87.03**	**301**	*e*P	**P**	**14 17 03.3**	**+0.6**
GYA				pP	pP	14 18 58.4	+4.9
GYA				sP	sP	14 19 50.0	+5.6
GYA				PP	**PP**	**14 20 38.6**	**+3.2**
GYA				SKS	**SKSac**	**14 26 40.8**	**-1.5**
GYA				S	**S**	**14 26 58.3**	**-1.5**
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
X16A	**Lo Mia Camp, P**	**87.18**	**50**	*e*P	**P**	**14 17 05.5**	**+2.2**
	comp=Z,5.5nm,1.1s						
LCMT	**Little Creek M**	**87.33**	**47**	*e*P	**P**	**14 17 05.3**	**+1.4**
	comp=Z,2.6nm,0.9s						
J08A	**Circle Bar Ran**	**87.66**	**40**	*e*P	**P**	**14 17 06.7**	**+1.5**
	comp=Z,13nm,1.3s						
U15A	**North Rim**	**87.66**	**48**	*e*P	**

TORD	**Torodi Ar. Bea** comp=Z,0.6nm,0.6s,baz=194,slow=3.6,SNR=7.9	**168.94**	**188**	PKPab	**PKPab**	**14 25 34.3**	**-0.4**

*ISCJB **15** 14:15:53.0±0.7,58.40S±0.10×14.7W±0.2, h10km, mb4.2/9, MS4.0/11, Error ellipse: s-maj=20.4km s-min=8.5km az=142.8*
*IDC **15** 14:15:53.1±0.8,58.35S×14.62W, h0km, mb4.2/7, mb1 4.4/8, mb1mx4.0/37, mbtmp4.3/8, ML4.8/1, MS3.9/12, Ms1 3.9/12, ms1mx3.6/31, Error ellipse: s-maj=29.9km s-min=18.4km az=57.0*
*NEIC **15** 14:15:56.1±4.2, 58.36S×14.55W, h21km±28km, mb4.6/2, Error ellipse: s-maj=21.8km s-min=8.0km az=223.0*
*GCMT **15** 14:15:56.1±0.4, 58.39S×14.57W, h12km, MW4.8/82, Moment Tensor Solution. s9,c9; s82,c93; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.22±.10; $M_{\theta\theta}$-0.05±.11; $M_{\phi\phi}$0.27±.09; $M_{r\theta}$1.23±.34; $M_{\theta\phi}$1.87±.07; $M_{\phi r}$1.02±.25; Best double couple: M_o2.31600×10^{16} NP1:ϕ_s88.00000°,δ80.00000°,λ30.00000°. NP2: ϕ_s352.00000°,δ61.00000°,λ169.00000°. Principal axes: T 2.8160, Plg28.0000°, Azm314.0000°; N -0.9980, Plg59.0000°, Azm104.0000°; P -1.8170, Plg13.0000°, Azm217.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 15 14:15:54.5±0.7, 58.3S±0.1×14.6W±0.1, h10km, n35, σ0§63/25, mb4.3/9, MS3.9/11, 2C, East of South Sandwich Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VNA1	**Neumayer--Stat**	**12.66**	**170**	P	**Pn**	**14 18 54.9**	**+0.6**
VNA1				S	Sn	14 21 03.7	-11
HOPE	**Hope Point**	**12.79**	**279**	Pn	**Pn**	**14 18 57.0**	**+0.7**
VNA2	**Neumayer--Watz** baz=340	**13.00**	**169**	P	**Pn**	**14 18 58.6**	**-0.5**
VNA2				S	Sn	14 21 09.9	-14
VNA3	**Neumayer Olymp**	**13.13**	**173**	P	**Pn**	**14 19 00.4**	**-0.5**
VNA3				S	Sn	14 21 09.7	-17
SNAA	**Sanae**	**14.24**	**165**	P	**Pn**	**14 19 16.2**	**+0.2**
SNAA				S	Sn	14 21 41.3	-13
SNAA	**Sanae** 3.9nm,0.3s,baz=338,slow=16,SNR=186	**14.24**	**165**	Pn	**Pn**	**14 19 15.6**	**-0.4**
SNAA	0.1nm,0.3s,baz=174,slow=19,SNR=3.5			Sn	Sn	14 21 40.9	-13
SNAA	comp=Z,224nm,20.8s,baz=347,slow=34			LR	LR	14 23 51.8	
SNAA	**Sanae**	**14.24**	**165**	*eP*	**Pn**	**14 19 15.2**	**-0.8**
SNAA				Sn	Sn	14 21 40.9	-13
SYO	**Syowa Base**	**25.36**	**137**	⇑*eP*	**P**	**14 21 22.1**	**+0.9**
SYO	**Syowa Base**	**25.36**	**137**	⇑*ep*P	pP	14 21 25.0	+0.8
QSPA	**South Pole Qui** 3.8nm,0.8s,baz=220,slow=3.7,SNR=8.8	**31.91**	**180**	P	**P**	**14 22 20.4**	**+0.4**
QSPA	**South Pole Qui**	**31.91**	**180**	*eP*	**P**	**14 22 20.8**	**+0.8**
MAW	**Mawson** 4.4nm,1.0s,baz=276,slow=8.5,SNR=3.5	**34.05**	**138**	P	**P**	**14 22 37.9**	**-0.4**
TRQA	**Tornquist** 5.2nm,1.1s	**36.54**	**283**	*eP*	**P**	**14 23 00.0**	**-0.1**
PLCA	**Paso Flores** 4.0nm,1.1s,baz=143,slow=5.2,SNR=4.6	**39.05**	**272**	P	**P**	**14 23 21.1**	**-0.2**
PLCA	comp=Z,189nm,21.7s,baz=152,slow=31			LR	LR	14 36 02.3	
BOSA	**Boshof** comp=Z,217nm,18.7s,baz=198,slow=31	**40.46**	**60**	LR	LR	14 36 35.9	
CPUP	**Villa Florida** 4.3nm,0.8s,baz=152,slow=6.9,SNR=9.7	**43.74**	**298**	P	**P**	**14 23 59.7**	**-0.1**
CPUP	comp=Z,126nm,19.2s,baz=167,slow=34			LR	LR	14 40 33.7	
VNDA	**Vanda** 0.5nm,0.9s,baz=207,slow=6.5,SNR=2.4	**44.39**	**179**	P	**P**	**14 24 04.2**	**-0.3**
H10S2	**ASCENSION HYDR** baz=180,slow=75,SNR=6.2	**49.25**	**360**	T	T	15 18 19.2	
H10S3	**ASCENSION HYDR** baz=180,slow=75,SNR=5.6	**49.26**	**360**	T	T	15 18 08.8	
H10S1	**ASCENSION HYDR** baz=180,slow=75,SNR=5.0	**49.27**	**360**	T	T	15 18 21.4	
LPAZ	**La Paz** 5.1nm,0.9s,baz=131,slow=4.3,SNR=13	**57.46**	**294**	P	**P**	**14 25 44.5**	**+0.3**
LPAZ	comp=Z,72nm,21.8s,baz=136,slow=35			LR	LR	14 49 01.6	
SAML	**Samuel** 7.1nm,0.8s	**61.57**	**303**	*eP*	**P**	**14 26 11.7**	**-0.2**
KMBO	**Kilima Mbogo** comp=Z,90nm,21.2s,baz=96,slow=33	**69.97**	**57**	LR	LR	14 54 13.3	
TORD	**Torodi Ar. Bea** 2.3nm,0.9s,baz=180,slow=6.9,SNR=9.6	**72.46**	**17**	P	**P**	**14 27 21.8**	**+0.8**
TORD	comp=Z,73nm,21.9s,baz=55,slow=30			LR	LR	14 52 03.8	
KOWA	**Kowa** comp=Z,129nm,20.5s,baz=211,slow=30	**73.08**	**11**	LR	LR	14 52 30.0	
ROSC	**El Rosal** comp=Z,61nm,21.8s,baz=304,slow=34	**78.82**	**299**	LR	LR	15 00 58.9	
SDV	**Santo Domingo** comp=Z,122nm,20.1s,baz=95,slow=35	**80.74**	**304**	LR	LR	15 02 43.6	
ATD	**Arta Tunnel** comp=Z,91nm,19.9s,baz=122,slow=34	**83.70**	**56**	LR	LR	15 03 21.6	
STKA	**Stephens Creek** comp=Z,52nm,20.3s,baz=203,slow=33	**87.95**	**160**	LR	LR	15 04 42.0	
YKA	**Yellowknife Ar** 0.2nm,0.8s,baz=128,slow=2.4,SNR=3.8	**142.65**	**311**	PKP	**PKPdf**	**14 35 25.9**	**-0.3**
YKA	0.2nm,0.8s,baz=115,slow=5.9,SNR=3.8			PP	**PP**	**14 38 33.8**	**-1.8**
SONM	**Songino Array** 0.4nm,0.7s,baz=132,slow=2.1,SNR=2.8	**144.17**	**81**	PKP	**PKPab**	**14 35 27.9**	**+0.6**
KSAR	**Wonju Array Be**	**147.92**	**114**	PKPbc	**PKPbc**	**14 35 39.1**	**-0.1**
KSRS	**Korea Array** 1.7nm,0.9s,baz=219,slow=3.8,SNR=2.7	**147.95**	**114**	PKPbc	**PKPbc**	**14 35 39.1**	**-0.1**
INK	**Inuvik** 1.1nm,0.8s,baz=85,slow=4.2,SNR=4.1	**152.06**	**316**	PKPbc	**PKPbc**	**14 35 47.6**	**-0.6**
ILAR	**Eielson Array** 0.6nm,0.9s,baz=97,slow=4.6,SNR=4.8	**156.88**	**306**	PKPab	**PKPab**	**14 36 18.7**	**+0.1**

*KRNET **15** 14:20:52.7±0.1, 40.72N×70.55E, h27km, mb3.1*
*NNC **15** 14:20:54.1±1.1, 40.82N×70.54E, h0km, mb3.5, mpv3.2, Error ellipse: s-maj=11.2km s-min=7.0km az=9.0*
*SOME **15** 14:20:54.3, 40.80N×70.72E, h15km*

ISC 15 14:20:53.2±1.3, 40.74N±0.04×70.51E±0.03, h9km±12km, n24, σ1§29/47, 23C-13D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BTK	**Batken** baz=63	**0.72**	**161**	⇑*iP*	**Pg**	**14 21 06.2**	**-0.9**
BTK	baz=63			⇑*iS*	**Sg**	**14 21 15.6**	**-1.0**
TAS	**Tashkent** 37nm,0.3s	**1.10**	**303**	⇑P	**Pb**	**14 21 13.4**	**-1.0**
TAS	898nm,0.6s			⇑S	**Sg**	**14 21 29.4**	**+0.8**
TAS	**Tashkent** baz=3.0	**1.10**	**303**	⇑*iP*	**Pb**	**14 21 13.9**	**-0.5**
TAS	baz=3.0			⇑*iS*	**Sb**	**14 21 28.6**	**-0.2**
IUG	**Iuzhnay** 55nm,0.2s	**1.45**	**346**	*eP*	**Pn**	**14 21 19.5**	**-0.2**
IUG	306nm,0.3s			*eS*	**Sb**	**14 21 37.9**	**-1.1**
ARK	**Arkit** baz=45	**1.52**	**46**	⇑*iP*	**Pn**	**14 21 20.3**	**-0.3**
ARK	baz=45			⇑*iS*	**Sb**	**14 21 40.3**	**-0.7**
ARSB	**Arslanbob** baz=71	**1.96**	**72**	⇓*iP*	**Pn**	**14 21 26.1**	**-0.6**
ARSB	baz=71			⇓*iS*	**Sn**	**14 21 51.1**	**-0.3**
MNAS	**Manas** 2.4nm,0.4s	**2.29**	**40**	⇑Pn	**Pn**	**14 21 31.5**	**+0.2**
MNAS	55nm,0.6s			⇓Sn	**Sb**	**14 22 02.6**	**-0.7**
MNAS	**Manas** baz=39	**2.29**	**40**	⇑*iP*	**Pn**	**14 21 31.3**	**0.0**
MNAS	baz=39			⇑*iS*	**Sn**	**14 21 59.6**	**-0.2**
DZET	**Dzherino** 8.9nm,0.3s	**2.33**	**214**	Pn	**Pg**	**14 21 38.9**	**+1.0**
DZET	48nm,0.5s			Sn	**Sb**	**14 22 06.2**	**+1.8**
KK31	**Karatay Array** 5.6nm,0.2s,baz=174,slow=12,SNR=127	**2.36**	**360**	Pn	**Pn**	**14 21 32.7**	**+0.6**
KK31	67nm,0.2s,baz=177,slow=28,SNR=24			Sn	**Sb**	**14 22 05.5**	**+0.4**
SFK	**Sufi-Kurgan** 3.6nm,0.4s	**2.40**	**107**	⇓Pn	**Pn**	**14 21 34.2**	**+1.4**
SFK				⇑Sn	**Sb**	**14 22 04.5**	**-1.9**
	36nm,0.4s						
SFK	**Sufi-Kurgan** baz=6.0	**2.40**	**107**	⇓*iP*	**Pn**	**14 21 32.8**	**0.0**
SFK	baz=6.0			⇓*iS*	**Sn**	**14 22 01.5**	**-0.9**
AML	**Almayashu** baz=58	**2.76**	**59**	⇑*iP*	**Pn**	**14 21 37.4**	**-0.6**
AML	baz=58			⇑*iS*	**Sn**	**14 22 10.9**	**-0.8**
MRKS	**Merke** 7.3nm,0.3s	**2.85**	**45**	*eP*	**Pb**	**14 21 44.0**	**-0.3**
MRKS	161nm,0.5s			*eS*	**Sb**	**14 22 19.9**	**+0.7**
EKS2	**Erkin-Say** baz=50	**3.10**	**51**	⇑*iP*	**Pn**	**14 21 42.9**	**+0.4**
EKS2	baz=50			⇑*iS*	**Sn**	**14 22 18.9**	**-0.8**
UCH	**Uchtor** baz=62	**3.35**	**62**	⇓*iP*	**Pn**	**14 21 45.8**	**-0.3**
UCH	baz=62			⇓*iS*	**Sn**	**14 22 25.3**	**-0.9**
AAK	**Ala-Archa** 2.0nm,0.3s	**3.53**	**56**	⇓Pn	**Pb**	**14 21 54.2**	**-1.7**
AAK	13nm,0.5s			⇓Sn	**Sn**	**14 22 32.3**	**+2.0**
AAK	**Ala-Archa** baz=56	**3.53**	**56**	⇑*eP*	**Pn**	**14 21 48.6**	**+0.3**
AAK	baz=56			⇑*iS*	**Sn**	**14 22 29.0**	**-1.3**
KZA	**Kyzart** baz=68	**3.80**	**68**	⇑*iP*	**Pn**	**14 21 52.4**	**+0.1**
KZA	baz=68			⇑*iS*	**Sn**	**14 22 36.1**	**-1.2**
CHMS	**Chumysh** baz=53	**3.88**	**53**	⇓*iP*	**Pn**	**14 21 53.4**	**+0.3**
CHMS	baz=53			⇓*iS*	**Sn**	**14 22 37.1**	**-1.7**
USP	**Ospenovka** baz=48	**3.90**	**48**	⇑*iP*	**Pn**	**14 21 53.5**	**+0.3**
USP	baz=48			⇑*iS*	**Sn**	**14 22 37.9**	**-1.2**
TKM2	**Tokmak 2**	**4.38**	**59**	⇑Pg	**Pb**	**14 22 10.2**	**-0.2**
TKM2				⇓Lg	Lg	14 23 06.9	
DGS	**Degeres** 3.4nm,0.5s	**4.65**	**56**	*eP*	**Pb**	**14 22 15.6**	**+0.7**
DGS	21nm,0.5s			*eS*	**Sb**	**14 23 13.8**	**+2.8**
IZV	**Izvestkoviy** 2.4nm,0.6s	**5.10**	**61**	*eP*	**Pb**	**14 22 24.3**	**+1.7**
IZV	11nm,0.8s			*eS*	**Sb**	**14 23 28.9**	**+5.0**

*NIED **15** 14:28:00, 39.90N×142.20E, h44km, Mw4.1 Best double couple: M_o1.35000×10^{15} NP1:ϕ_s174.00000°,δ13.00000°, λ70.00000°. NP2:ϕ_s14.00000°,δ78.00000°,λ94.00000°.*
*ISCJB **15** 14:28:58.6±0.5, 39.87N±0.03×142.20E±0.07, h57km±3km, mb4.1/28, MS3.5/7, Error ellipse: s-maj=8.7km s-min=4.5km az=14.7*
*JMA **15** 14:28:59.7±0.1, 39.85N×142.17E, h47km±1km, M3.8*
JMA Felt I J1.
*IDC **15** 14:29:00.9±1.8, 39.84N×142.22E, h63km±15km, mb3.5/19, mb1 3.7/22, mb1mx3.5/70, mbtmp3.8/22, MS3.2/8. Ms1 3.3/8, ms1mx2.8/55, Error ellipse: s-maj=17.5km s-min=9.2km az=111.0*
*NEIC **15** 14:29:01.2±0.9, 39.94N×142.11E, h65km±7km, mb4.5/6, Error ellipse: s-maj=22.3km s-min=5.7km az=120.0*

ISC 15 14:28:59.8±0.9, 39.86N±0.04×142.16E±0.06, h49km±7km, n73, σ1§11/73, mb4.1/28, MS3.3/7, 1C, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JTH	**Tanohata**	**0.24**	**288**	P	**Pn**	**14 29 08.3**	**0.0**
JTH				S	**Sn**	**14 29 14.2**	**-0.2**
MIYJ	**Miyakonagasawa**	**0.39**	**222**	P	**Pn**	**14 29 09.4**	**-0.3**
MIYJ				S	**Sn**	**14 29 16.1**	**-0.7**
JKZ	**Kuzumaki**	**0.65**	**281**	P	**Pn**	**14 29 13.1**	**+0.2**
JKZ				S	**Sn**	**14 29 22.5**	**+0.2**
JANG	**Nango**	**0.71**	**316**	P	**Pn**	**14 29 13.3**	**-0.3**
JANG				S	**Sn**	**14 29 23.1**	**-0.6**
JOM	**Ohasama**	**0.77**	**240**	P	**Pn**	**14 29 14.4**	**-0.1**
JOM				S	**Sn**	**14 29 24.9**	**-0.2**
OFUJ	**Ofunato**	**0.87**	**206**	P	**Pn**	**14 29 15.5**	**-0.3**
OFUJ				*eS*	**Sn**	**14 29 26.6**	**-0.8**
JMK	**Ichinoseki**	**1.17**	**219**	P	**Pn**	**14 29 19.8**	**+0.1**
JMK				S	**Sn**	**14 29 34.5**	**0.0**
JAH	**Hinai**	**1.21**	**286**	P	**Pn**	**14 29 20.8**	**+0.4**
JTM	**Tenmabayashi**	**1.24**	**318**	P	**Pn**	**14 29 20.8**	**0.0**
JTM				S	**Sn**	**14 29 36.3**	**-0.1**
JRG	**Rokugo**	**1.27**	**249**	P	**Pn**	**14 29 21.2**	**+0.1**
ERM	**Erimo**	**2.28**	**19**	*e*Pn	**Pn**	**14 29 35.5**	**+0.6**
ASAJ	**Asahikawa** 2.3nm,0.3s,baz=225,slow=8.4,SNR=32	**4.26**	**4**	P	**Pn**	**14 30 03.7**	**+1.6**
ASAJ	1.8nm,0.3s,baz=92,slow=12,SNR=6.8			S	**Sn**	**14 30 52.4**	**+1.8**
ASAJ	**Asahikawa**	**4.26**	**4**	*e*Pn	**Pn**	**14 30 02.7**	**+0.6**
MJB9	**Matsu-Tunnel**	**4.55**	**224**	*e*Pn	**Pn**	**14 30 07.6**	**+1.5**
MAJO	**Matsushiro**	**4.55**	**224**	*e*Pn	**Pn**	**14 30 07.5**	**+1.5**
MAT	**Matsushiro**	**4.55**	**224**	P	**Pn**	**14 30 07.9**	**+1.8**
MAT				S	**Sn**	**14 31 00.1**	**+2.4**
MJAR	**Matsushiro Arr** 1.3nm,0.3s,baz=28,slow=12,SNR=37	**4.55**	**224**	P	**Pn**	**14 30 08.2**	**+2.1**
MJAR	0.4nm,0.3s,baz=301,slow=41,SNR=2.9			S	**Sn**	**14 30 59.2**	**+1.5**
INU	**Inuyama**	**6.08**	**224**	*e*Pn	**Pn**	**14 30 29.8**	**+2.7**
USRK	**Ussuriysk Ar.** 0.4nm,0.3s,baz=106,slow=15,SNR=7.6	**8.72**	**303**	P	**Pn**	**14 31 06.5**	**+3.3**
USRK	comp=Z,143nm,19.2s,baz=125,slow=36			LR	LR	14 34 13.8	
MDJ	**Mudanjiang**	**10.45**	**301**	P	**Pn**	**14 31 27.0**	**+0.1**
MDJ	comp=Z,18nm,0.9s			pmax	pmax		
MDJ	comp=Z,79nm,2.0s			pmax	pmax		
JNU	**Nakatsue**	**11.29**	**237**	LR	LR	14 36 46.6	
	comp=Z,46nm,19.0s,baz=306,slow=41						
KSRS	**Korea Array** comp=Z,0.2nm,0.3s,baz=70,slow=13,SNR=5.8	**11.39**	**262**	P	Pn	14 31 45.0	+5.2
KLR	**Kul'dur** comp=Z,0.0nm,0.3s,baz=130,slow=16,SNR=3.0	**11.94**	**325**	P	Pn	14 31 53.2	+6.0
INCN	**Inchon**	**12.37**	**264**	*e*Pn	**Pn**	**14 31 53.8**	**+0.7**
BJI	**Beijing**	**19.90**	**279**	⇑*eP*	**Pn**	**14 33 28.1**	**-1.0**
BJI	comp=Z,11nm,0.7s			pmax	pmax		
NJ2	**Nanjing**	**20.37**	**255**	*eP*	**P**	**14 33 33.0**	**+0.7**
NJ2	comp=Z,22nm,0.5s			pmax	pmax		
HHC	**Hu-ho-hao-te**	**23.28**	**282**	*eP*	**P**	**14 34 03.5**	**+0.3**
HHC				S	**S**	**14 38 09.4**	**-2.5**
HHC	comp=Z,65nm,0.9s			pmax	pmax		
HHC	comp=Z,220nm,4.0s			pmax	pmax		
HHC	comp=N,630nm,11.1s			LR	LR		
HHC	comp=E,720nm,12.4s			LR	LR		
HHC	comp=Z,770nm,12.2s			LR	LR		
SEY	**Seymchan** comp=Z,1.6nm,0.8s,baz=218,slow=8.2,SNR=6.5	**23.91**	**12**	P	**P**	**14 34 08.1**	**-0.6**
SONM	**Songino Array** comp=Z,0.6nm,0.5s,baz=89,slow=10,SNR=4.7	**26.80**	**299**	P	**P**	**14 34 35.9**	**+0.6**
SONM	comp=Z,43nm,19.5s,baz=75,slow=37			LR	LR	14 45 25.3	
H11N2	**WAKE ISLAND Hy** baz=318,slow=75,SNR=265	**29.22**	**126**	T	T	15 05 32.8	
H11N1	**WAKE ISLAND Hy** baz=318,slow=75,SNR=298	**29.23**	**126**	T	T	15 05 37.9	
H11N3	**WAKE ISLAND Hy** baz=318,slow=75,SNR=272	**29.24**	**126**	T	T	15 05 42.1	
H11S1	**WAKE ISLAND Hy** baz=320,slow=76,SNR=30	**30.02**	**128**	T	T	15 06 35.8	
H11S3	**WAKE ISLAND Hy** baz=320,slow=76,SNR=28	**30.03**	**128**	T	T	15 06 36.8	
H11S2	**WAKE ISLAND Hy** baz=320,slow=76,SNR=29	**30.04**	**128**	T	T	15 06 46.1	
LZH	**Lanzhou**	**30.28**	**275**	*eP*	**P**	**14 35 08.6**	**+2.2**
LZH				pP	sP	14 35 23.3	-1.7
LZH				sP	pP	14 35 31.5	+12
LZH	comp=Z,30nm,1.1s			pmax	pmax		
LZH				pmax	pmax		
	comp=Z,160nm,5.4s						
CD2	**Chengdu**	**32.35**	**266**	*eP*	**P**	**14 35 23.5**	**-1.0**
CD2	comp=Z,10.0nm,0.5s			pmax	pmax		
KMI	**Kunming**	**36.04**	**258**	P	**P**	**14 35 57.3**	**+0.5**
KMI	comp=Z,9.0nm,0.5s			pmax	pmax		
WMQ	**Urumqi**	**40.15**	**294**	P	**P**	**14 36 31.8**	**+0.8**
ZAA0	**Zalesovo Array** comp=Z,2.5nm,0.7s	**40.49**	**310**	*eP*	**P**	**14 36 32.9**	**-0.7**
ZALV	**Zalesovo Beam** comp=Z,1.7nm,0.5s,baz=89,slow=7.6,SNR=8.2	**40.49**	**310**	P	**P**	**14 36 33.3**	**-0.3**
ZALV	**Zalesovo Beam**	**40.49**	**310**	*eP*	**P**	**14 36 32.7**	**-0.8**
CMAR	**Chiang Mai Arr** comp=Z,0.4nm,0.6s,baz=45,slow=6.8,SNR=4.8	**42.83**	**253**	P	**P**	**14 36 53.1**	**0.0**
MK01	**Makanchi Array**	**43.17**	**300**	*eP*	**P**	**14 36 55.1**	**-0.4**
MK31	**Makanchi Array**	**43.17**	**300**	*eP*	**P**	**14 36 55.0**	**-0.6**
MKAR	**Makanchi Array** comp=Z,1.8nm,0.7s,baz=85,slow=9.4,SNR=22	**43.17**	**300**	P	**P**	**14 36 55.6**	**+0.1**
MKAR	comp=Z,36nm,19.3s,baz=24,slow=37			LR	LR	14 55 54.9	
MKAR	**Makanchi Array** comp=Z,14nm,0.7s	**43.17**	**300**	*eP*	**P**	**14 36 55.0**	**-0.6**
MAKZ	**Makanchi** comp=Z,2.2nm,0.8s	**43.37**	**300**	*eP*	**P**	**14 36 56.6**	**-0.6**
KURK	**Kurchatov** comp=Z,5.6nm,0.8s	**44.70**	**306**	*eP*	**P**	**14 37 07.3**	**-0.4**
KURBB	**Kurchatov Arra** comp=Z,2.3nm,0.5s,baz=82,slow=8.6,SNR=16	**44.77**	**306**	P	**P**	**14 37 08.2**	**-0.1**
ILAR	**Eielson Array** comp=Z,0.3nm,0.6s,baz=268,slow=5.9,SNR=7.1	**46.81**	**34**	P	**P**	**14 37 23.3**	**-0.8**
BVAR	**Borovoye Array** comp=Z,0.5nm,0.5s,baz=85,slow=9.3,SNR=6.4	**49.14**	**311**	P	**P**	**14 37 42.1**	**-0.2**
KSH	**Kashi**	**49.83**	**292**	P	**P**	**14 37 51.4**	**+3.4**
INK	**Inuvik** comp=Z,1.4nm,1.0s,baz=282,slow=5.7,SNR=3.2	**51.61**	**28**	P	**P**	**14 38 00.5**	**-0.2**
INK	comp=Z,42nm,18.2s,baz=307,slow=40			LR	LR	15 03 09.4	
KK31	**Karatay Array**	**52.25**	**298**	*eP*	**P**	**14 38 04.9**	**-1.1**
KKAR	**Karatay Array**	**52.25**	**298**	*eP*	**P**	**14 38 05.0**	**-1.0**
ARU	**Arti** comp=Z,3.8nm,0.7s	**54.65**	**317**	*eP*	**P**	**14 38 22.1**	**-1.2**
ABKAR	**Akbulak array** comp=Z,23nm,0.6s	**56.59**	**309**	*eP*	**P**	**14 38 36.2**	**-1.1**
AKTO	**Aktyubinsk** comp=Z,1.3nm,0.6s,baz=69,slow=13,SNR=5.4	**57.24**	**311**	P	**P**	**14 38 41.6**	**-0.3**
WRA	**Warramunga Arr** comp=Z,0.6nm,0.5s,baz=7.2,slow=7.1,SNR=21	**59.94**	**189**	P	**P**	**14 38 59.7**	**-1.2**
YKA	**Yellowknife Ar** comp=Z,0.1nm,0.5s,baz=303,slow=6.8,SNR=3.2	**61.08**	**31**	P	**P**	**14 39 08.4**	**+0.2**
GEYT	**Alibeck** comp=Z,1.3nm,0.7s,baz=44,slow=4.4,SNR=3.7	**63.00**	**298**	P	**P**	**14 39 21.3**	**-0.3**
ASAR	**Alice Springs** comp=Z,0.4nm,0.7s,baz=360,slow=6.3,SNR=17	**63.67**	**188**	P	**P**	**14 39 25.6**	**-0.3**
FINES	**FINESS Array B** comp=Z,1.4nm,0.6s,baz=46,slow=8.2,SNR=8.2	**66.59**	**332**	P	**P**	**14 39 44.2**	**-0.3**
KBZ	**Khabaz** comp=Z,2.5nm,0.9s,baz=65,slow=1.4,SNR=6.7	**69.51**	**310**	P	**P**	**14 40 03.5**	**+0.4**
NB2	**NORSAR Subarra** comp=Z,1.6nm,0.7s,baz=39,slow=6.2	**71.81**	**337**	P	**P**	**14 40 16.8**	**0.0**
NOA	**NORSAR Array B** comp=Z,1.5nm,0.7s,baz=40,slow=5.9,SNR=4.9	**71.81**	**337**	P	**P**	**14 40 16.9**	**+0.1**
AKASG	**Malin Array Be** comp=Z,1.2nm,0.5s,baz=42,slow=5.8,SNR=7.1	**72.42**	**322**	P	**P**	**14 40 20.2**	**-0.5**
PDAR	**Pinedale Array** comp=Z,0.1nm,0.5s,baz=241,slow=3.7,SNR=3.1	**75.28**	**46**	P	**P**	**14 40 37.8**	**0.0**
BUR08	**Bucovina Ar. S**	**76.44**	**322**	*eP*	**P**	**14 40 43.5**	**-0.7**
BRTR	**Keskin Array B** comp=Z,13nm,18.7s,baz=208,slow=39	**77.42**	**311**	LR	LR	15 19 22.3	
MLR	**Muntele Rosu** comp=Z,7.3nm,18.8s,baz=192,slow=37	**77.61**	**320**	LR	LR	15 16 55.2	
SCHQ	**Schefferville** comp=Z,63nm,18.5s,baz=105,slow=38	**82.46**	**16**	LR	LR	15 21 13.7	

MEX 15 14:46:28.8±0.4, 18.10N×100.26W, h58km±7km, MD3.6, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ARIG	**Puente Sto Nin**	**0.20**	**336**	*eP*	Pn	14 46 36.5	-1.6
ARIG				*eS*	Sn	14 46 42.8	-1.9
PLIG	**Platanillo**	**0.78**	**68**	*eP*	Pn	14 46 42.5	-1.5
PLIG				*i* S	Sn	14 46 53.6	-1.5
CAIG	**El Cayaco**	**1.04**	**180**	*i* P	Pn	14 46 45.8	-1.6
CAIG				*eS*	Sn	14 46 59.6	-1.5
CAIG				*eS*	Sn	14 46 59.8	-1.2
ZIIG	**Zihuatanejo**	**1.25**	**247**	*eP*	Pn	14 46 48.9	-1.1
ZIIG				*eS*	Sn	14 47 06.2	+0.3
ACP2	**Acapulco**	**1.27**	**163**	*eP*	Pn	14 46 49.2	-1.2
ACP2				*eS*	Sn	14 47 06.3	-0.2
YAIG	**Yautepec**	**1.37**	**56**	*i* P	Pn	14 46 50.3	-1.5
YAIG				*eS*	Sn	14 47 05.5	-3.5

*IDC **15** 14:52:04.6±0.8, 15.05S×173.53W, h0km, mb3.9/9, mb1 4.2/9, mb1mx3.9/45, mbtmp3.9/9, MS3.6/17, Ms1 3.6/17, ms1mx3.4/43, Error ellipse: s-maj=37.0km s-min=18.8km az=122.0*
*NEIC **15** 14:52:06.4±0.4, 14.96S×173.74W, h10km, mb4.2/4, Error ellipse: s-maj=17.2km s-min=9.0km az=133.0*
*ISCJB **15** 14:52:07.7±0.6, 15.05S±0.1×173.7W±0.1, h30km, mb4.0/13, MS3.6/16, Error ellipse: s-maj=23.4km s-min=12.7km az=36.2*

ISC 15 14:52:09.0±0.7, 15.1S±0.2×173.7W±0.2, h30km, n50, σ1§36/22, mb4.0/13, MS3.6/16, 1C, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu** 42nm,0.3s,baz=190,slow=3.6,SNR=82	**2.21**	**58**	Pn	Pn	14 52 31.7	-12
AFI	177nm,0.3s,baz=49,slow=20,SNR=15			Sn	Sn	14 52 51.0	-19
MSVF	**Nonsavu** 50nm,1.3s	**8.33**	**250**	Pn	**Pn**	**14 54 06.0**	**-2.0**
RAR	**Rarotonga** comp=Z,241nm,19.3s,baz=275,slow=30	**14.57**	**117**	LR	LR	14 59 16.9	
DZM	**Mont Dzumac** 316nm,25.3s	**20.04**	**247**	*e*LR	LR	15 01 54.0	
PAE	**Paea** 2.4nm,0.4s	**23.29**	**100**	*eT*	T	15 20 12.3	
PPT2	**Papeete2** 559nm,28.5s	**23.29**	**99**	*e*LQ	LQ	15 01 32.5	
PPT2	301nm,24.2s			*e*LR	LR	15 02 35.5	
PPT2	**Papeete2** 2.5nm,0.3s	**23.29**	**99**	*eT*	T	15 20 12.9	
TVO	**Taravao** 1.2nm,0.4s	**23.61**	**100**	*eT*	T	15 20 36.7	
URZ	**Urewera** 1.3nm,0.3s,baz=34,slow=15,SNR=3.1	**24.46**	**198**	P	**P**	**14 57 26.2**	**+0.8**
HNR	**Honiara** comp=Z,157nm,19.3s,baz=76,slow=33	**26.34**	**279**	LR	LR	15 06 32.8	
EIDS	**Eidsvold**	**34.49**	**247**	P	**P**	**14 58 54.8**	**+0.1**
RKT	**Rikitea** 3.1nm,0.3s	**37.37**	**108**	*eT*	T	15 37 55.8	
H11S2	**WAKE ISLAND Hy** baz=149,slow=76,SNR=9.0	**38.55**	**329**	T	T	15 41 21.5	
H11S3	**WAKE ISLAND Hy** baz=149

MJAR	**Matsushiro Arr**	**68.51**	**320**	LR	LR		15 27 27.3	
	comp=Z,54nm,21.9s,baz=105,slow=31							
JOW	**Kunigami**	**70.06**	**306**	LR	LR		15 28 15.8	
	comp=Z,39nm,21.5s,baz=6.5,slow=31							
TGY	**Tagaytay City**	**70.84**	**291**	LR	LR		15 29 35.4	
	comp=Z,43nm,21.6s,baz=182,slow=32							
JNU	**Nakatsue**	**71.37**	**313**	LR	LR		15 29 30.1	
	comp=Z,23nm,19.5s,baz=127,slow=31							
PETK	**Petropavlovsk-**	**72.25**	**342**	P	**P**		**15 03 31.9**	**+0.7**
	1.2nm,0.7s,baz=134,slow=8.3,SNR=3.3							
YBH	**Yreka Blue Hor**	**73.53**	**37**	LR	LR		15 28 42.8	
	comp=Z,39nm,21.7s,baz=163,slow=30							
QSPA	**South Pole Qui**	**74.95**	**180**	LR	LR		15 30 51.3	
	comp=Z,32nm,21.2s,baz=167,slow=31							
KSRS	**Korea Array**	**75.73**	**316**	LR	LR		15 32 16.6	
	comp=Z,21nm,21.0s,baz=152,slow=32							
HLID	**Hailey**	**79.58**	**39**	P	**P**		**15 04 14.2**	**+0.6**
	1.0nm,0.6s							
TXAR	**Lajitas Array**	**80.69**	**56**	LR	LR		15 34 03.3	
	comp=Z,28nm,19.8s,baz=0.0,slow=31							
COLA	**College**	**82.12**	**11**	*e*P	**P**		**15 04 25.8**	**-0.5**
	4.5nm,0.8s							
ILAR	**Eielson Array**	**82.20**	**11**	P	**P**		**15 04 26.2**	**-0.6**
	0.6nm,0.8s,baz=225,slow=6.2,SNR=10							
PDAR	**Pinedale Array**	**82.24**	**42**	P	**P**		**15 04 26.6**	**-1.2**
	0.4nm,0.8s,baz=229,slow=6.6,SNR=3.7							
YKA	**Yellowknife Ar**	**89.93**	**23**	P	**P**		**15 05 04.6**	**-0.3**
	0.3nm,0.7s,baz=236,slow=4.8,SNR=6.3							
JTS	**JuntasAbangare**	**91.45**	**80**	LR	LR		15 36 45.5	
	comp=Z,72nm,20.7s,baz=45,slow=29							
CMAR	**Chiang Mai Arr**	**92.24**	**288**	LR	LR		15 46 39.9	
	comp=Z,10.0nm,18.5s,baz=165,slow=36							
SYO	**Syowa Base**	**92.84**	**191**⇑	*e*X	**P**		**15 05 14.6**	**-3.9**
ULM	**Lac du Bonnet**	**93.88**	**39**	LR	LR		15 46 48.5	
	comp=Z,29nm,18.4s,baz=26,slow=35							
SONM	**Songino Array**	**94.42**	**318**	LR	LR		15 42 21.4	
	comp=Z,33nm,19.9s,baz=98,slow=32							
TKL	**Tuckaleechee C**	**98.58**	**55**	LR	LR		15 44 08.0	
	comp=Z,29nm,18.9s,baz=1.5,slow=32							
BVAR	**Borovoye Array**	**117.46**	**322**	PKP	**PKPdf**		**15 10 51.6**	**-0.1**
	0.4nm,0.7s,baz=336,slow=1.7,SNR=3.5							
MLR	**Muntele Rosu**	**145.47**	**335**	PKPbc	**PKPab**		**15 11 44.8**	**+0.1**
	0.6nm,0.8s,baz=190,slow=6.1,SNR=3.8							
KHC	**Kasperske Hory**	**145.53**	**352**	*e*PKP	**PKPab**		**15 11 45.7**	**+1.0**
KHC				*ex*	x		15 11 54.5	
BRTR	**Keskin Array B**	**145.73**	**321**	PKPbc	**PKPab**		**15 11 46.2**	**+0.3**
	2.5nm,0.8s,baz=93,slow=2.6,SNR=13							
GERES	**GERESS Array B**	**145.79**	**351**	PKPbc	**PKPab**		**15 11 45.8**	**+0.1**
	0.8nm,0.8s,baz=357,slow=2.9,SNR=4.6							

MDD ***15*** *15:06:30.6*±*0.9,36.°42N*×*7.°95W,h26*km±*11*km*,mbLg3.1/52, Error ellipse: s-maj=9.9km s-min=3.4km az=32.0,PRIXIMO*
IGIL ***15*** *15:06:30.7,36.°38N*×*7.°96W,h31*km*
CSEM ***15*** *15:06:31.3*±*0.2,36.°53N*×*7.°85W,h30*km*,ML3.6/6,Error ellipse: s-maj=4.2km s-min=1.9km az=35.0*
INMG ***15*** *15:06:31.1*±*2.0,36.°37N*×*7.°99W,h31*km*±*4km*,MD2.6, ML2.9,Error ellipse: s-maj=2.6km s-min=2.5km az=67.0*
LDG ***15*** *15:06:31.0*±*0.4,36.°58N*×*7.°72W,h30*km*,Ml3.4/3, Error ellipse: s-maj=7.8km s-min=4.4km az=28.0*

ISC 15 15:06:29.7±1.2**,36.°50N**±0.°04×**7.°86W**±0.°03**,h29**km±12km**,**
n194,σ1**9**53**/321,10C-5D,Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PBDV	**Barranco-do-Ve**	**0.75**	**355**	*e*P		**Pn**		**15 06 45.6**	**+1.2**
PBDV				*e*S		**Sn**		**15 06 56.6**	**+1.8**
PBDV				A		A		15 07 03.0	
	128nm,0.3s								
PBDV	**Barranco-do-Ve**	**0.75**	**355**	P		**Pn**		**15 06 45.6**	**+1.2**
PBDV				S		**Sn**		**15 06 56.6**	**+1.8**
	128nm,0.3s								
PBDV	**Barranco-do-Ve**	**0.75**	**355**	P		**Pn**		**15 06 45.6**	**+1.2**
PBDV				*e*S		**Sn**		**15 06 56.6**	**+1.8**
	128nm,0.3s								
PVAQ	**Vaqueiros**	**0.91**	**7**⇑	*e*P		**Pn**		**15 06 48.0**	**+1.4**
PVAQ				*e*S		**Sn**		**15 07 00.7**	**+1.9**
PVAQ				A		A		15 07 01.2	
	267nm,0.3s								
PVAQ	**Vaqueiros**	**0.91**	**7**	P		**Pn**		**15 06 48.0**	**+1.4**
PVAQ				S		**Sn**		**15 07 00.7**	**+1.9**
	267nm,0.3s								
PVAQ	**Vaqueiros**	**0.91**	**7**	P		**Pn**		**15 06 48.0**	**+1.4**
PVAQ				*e*S		**Sn**		**15 07 00.7**	**+1.9**
	267nm,0.3s								
PFVI	**Vila Bisbo**	**1.01**	**309**⇑	*e*P		**Pn**		**15 06 47.7**	**-0.2**
PFVI				*e*S		**Sb**		**15 07 00.3**	**-1.1**
PFVI				A		A		15 07 07.4	
	82nm,0.7s								
PFVI	**Vila Bisbo**	**1.01**	**309**	P		**Pb**		**15 06 47.2**	**-1.3**
	22nm,0.1s,SNR=18								
PFVI				S		**Sb**		**15 07 00.3**	**-1.1**
	81nm,0.1s,SNR=8.2								
PFVI	**Vila Bisbo**	**1.01**	**309**⇑	*e*P		**Pn**		**15 06 47.7**	**-0.2**
PFVI				*e*S		**Sb**		**15 07 00.3**	**-1.1**
	82nm,0.7s								
MORF	**Marmelete**	**1.03**	**322**	*e*P		**Pn**		**15 06 48.3**	**0.0**
MORF	**Marmelete**	**1.03**	**322**	⇓*i*P		**Pn**		**15 06 48.3**	**0.0**
MORF				*e*S		**Sn**		**15 07 02.2**	**+0.5**
MORF				A		A		15 07 09.6	
	156nm,0.1s								
MORF	**Marmelete**	**1.03**	**322**	P		**Pn**		**15 06 48.3**	**0.0**
MORF				S		**Sn**		**15 07 02.2**	**+0.5**
	156nm,0.1s								
MORF	**Marmelete**	**1.03**	**322**	P		**Pn**		**15 06 48.3**	**0.0**
MORF				*e*S		**Sn**		**15 07 02.2**	**+0.5**
	156nm,0.1s								
EGRO	**El Granado**	**1.08**	**16**	⇑P		**Pb**		**15 06 50.5**	**+0.8**
	15nm,0.1s,SNR=18								
EGRO				S		**Sn**		**15 07 04.8**	**+2.0**
	98nm,0.1s,SNR=11								
EGRO	**El Granado**	**1.08**	**16**	P		**Pb**		**15 06 50.5**	**+0.8**
	15nm,0.1s,SNR=18								
EGRO				S		**Sn**		**15 07 04.8**	**+2.0**
	98nm,0.1s,SNR=11								
PCVE	**Castro Verde**	**1.14**	**353**	*e*P		**Pb**		**15 06 51.1**	**+0.2**
PCVE				*e*S		**Sn**		**15 07 06.0**	**+1.5**
PCVE				A		A		15 07 06.5	
	104nm,0.1s								
PCVE	**Castro Verde**	**1.14**	**353**	P		**Pb**		**15 06 51.1**	**+0.2**
PCVE				S		**Sn**		**15 07 06.0**	**+1.5**
	104nm,0.1s								
PCVE	**Castro Verde**	**1.14**	**353**	P		**Pb**		**15 06 51.1**	**+0.2**
PCVE				*e*S		**Sn**		**15 07 06.0**	**+1.5**
	104nm,0.1s								
PTEO	**Sao Teotonio**	**1.26**	**327**	*e*P		**Pb**		**15 06 51.7**	**-1.1**
PTEO				*e*S		**Sn**		**15 07 07.6**	**+0.3**
PTEO				A		A		15 07 12.8	
	48nm,0.5s								
PTEO	**Sao Teotonio**	**1.26**	**327**	P		**Pb**		**15 06 51.7**	**-1.1**
PTEO				S		**Sn**		**15 07 07.6**	**+0.3**
	24nm,0.5s								
PTEO	**Sao Teotonio**	**1.26**	**327**	P		**Pb**		**15 06 51.7**	**-1.1**
PTEO				*e*S		**Sn**		**15 07 07.6**	**+0.3**
	48nm,0.5s								
CNIL	**Conil**	**1.46**	**94**	S		**Sn**		**15 07 12.8**	**+0.6**
CNIL	**Conil**	**1.46**	**94**	S		**Sn**		**15 07 12.8**	**+0.6**
PBEJ	**Beja**	**1.53**	**360**	⇓*e*P		**Pb**		**15 06 56.4**	**-1.0**
PBEJ				*e*S		**Sb**		**15 07 15.4**	**-0.9**
PBEJ				A		A		15 07 24.2	
	69nm,0.4s								
PBEJ	**Beja**	**1.53**	**360**	P		**Pb**		**15 06 56.4**	**-1.0**
PBEJ				S		**Sb**		**15 07 15.4**	**-0.9**
	34nm,0.4s								
PBEJ	**Beja**	**1.53**	**360**	P		**Pb**		**15 06 56.4**	**-1.0**
PBEJ				*e*S		**Sb**		**15 07 15.4**	**-0.9**
	69nm,0.4s								
GIBL	**Gibalbin**	**1.55**	**77**	S		**Sb**		**15 07 18.0**	**+0.9**
GIBL	**Gibalbin**	**1.55**	**77**	S		**Sb**		**15 07 18.0**	**+0.9**
EMIN	**Mina Concepcio**	**1.58**	**36**	⇑P		**Pb**		**15 06 57.1**	**-1.2**
	7.5nm,0.1s,SNR=18								
EMIN				S		**Sb**		**15 07 17.0**	**-0.9**
	26nm,0.2s,SNR=6.8								
EMIN	**Mina Concepcio**	**1.58**	**36**	P		**Pb**		**15 06 57.1**	**-1.2**
	7.5nm,0.1s,SNR=18								
EMIN				S		**Sb**		**15 07 17.0**	**-0.9**
	26nm,0.2s,SNR=6.8								
ESPR	**Espera**	**1.65**	**76**	⇑P		**Pn**		**15 06 57.9**	**+1.2**
	45nm,0.1s,SNR=18								
ESPR				S		**Sn**		**15 07 18.4**	**+1.5**
	254nm,0.3s,SNR=10								
ESPR	**Espera**	**1.65**	**76**	P		**Pn**		**15 06 57.9**	**+1.2**
	45nm,0.1s,SNR=18								
ESPR				S		**Sn**		**15 07 18.4**	**+1.5**
	254nm,0.3s,SNR=10								
PNCL	**Nicolau / Gran**	**1.70**	**342**⇓	*e*Pn		**Pn**		**15 06 58.1**	**+0.7**
PNCL				*e*Sn		**Sn**		**15 07 18.6**	**+0.4**
PNCL				*e*Sg		**Sb**		**15 07 27.9**	**+6.7**
PNCL				A		A		15 07 32.5	
	56nm,0.2s								
PNCL	**Nicolau / Gran**	**1.70**	**342**⇓	*e*Pn		**Pn**		**15 06 58.1**	**+0.7**
PNCL				*e*Sn		**Sn**		**15 07 18.6**	**+0.4**
ALJ	**Aljibe**	**1.78**	**88**	P		**Pb**		**15 07 01.0**	**-0.6**
ALJ	**Aljibe**	**1.78**	**88**	P		**Pb**		**15 07 01.0**	**-0.6**
PBAR	**Barrancos**	**1.80**	**21**⇑	*e*Pn		**Pn**		**15 07 00.2**	**+1.4**
PBAR				*e*Sn		**Sn**		**15 07 22.0**	**+1.4**
PBAR				A		A		15 07 36.7	
	73nm,0.2s								
PBAR	**Barrancos**	**1.80**	**21**	P		**Pn**		**15 07 00.2**	**+1.4**
PBAR				S		**Sn**		**15 07 22.0**	**+1.4**
	73nm,0.2s								
PBAR	**Barrancos**	**1.80**	**21**	P		**Pn**		**15 07 00.2**	**+1.4**
PBAR				S		**Sn**		**15 07 22.0**	**+1.4**
	73nm,0.2s								
EJIF	**Jimena Fronter**	**1.92**	**91**	P		**Pn**		**15 07 02.1**	**+1.6**
	0.9nm,0.2s,SNR=7.9								
EJIF				S		**Sn**		**15 07 24.8**	**+1.1**
	20nm,0.2s,SNR=7.9								
EJIF	**Jimena Fronter**	**1.92**	**91**	P		**Pn**		**15 07 02.1**	**+1.6**
	0.9nm,0.2s,SNR=7.9								
EJIF				S		**Sn**		**15 07 24.8**	**+1.1**
	20nm,0.2s,SNR=7.9								
EVO	**Evora**	**2.04**	**357**	*e*Pn		**Pn**		**15 07 03.4**	**+1.4**
EVO				*e*Sn		**Sn**		**15 07 27.2**	**+0.7**
EVO				A		A		15 07 29.7	
	64nm,0.1s								
EVO	**Evora**	**2.04**	**357**	P		**Pn**		**15 07 03.4**	**+1.4**
EVO				S		**Sn**		**15 07 27.2**	**+0.7**
	64nm,0.1s								
EVO	**Evora**	**2.04**	**357**	P		**Pn**		**15 07 03.4**	**+1.4**
EVO				S		**Sn**		**15 07 27.2**	**+0.7**
	64nm,0.1s								
ECEU	**Ceuta**	**2.09**	**106**	P		**Pn**		**15 07 03.7**	**+0.9**
	6.5nm,0.1s,SNR=7.9								
ECEU				S		**Sn**		**15 07 29.1**	**+1.2**
	6.8nm,0.1s,SNR=4.0								
ECEU	**Ceuta**	**2.09**	**106**	P		**Pn**		**15 07 03.7**	**+0.9**
	6.5nm,0.1s,SNR=7.9								
ECEU				S		**Sn**		**15 07 29.1**	**+1.2**
	6.8nm,0.1s,SNR=4.0								
EBAD	**Badajoz**	**2.35**	**16**	P		**Pn**		**15 07 07.8**	**+1.4**
	2.6nm,0.1s,SNR=15								
EBAD				S		**Sn**		**15 07 35.4**	**+1.1**
	12nm,0.1s,SNR=6.8								
EBAD	**Badajoz**	**2.35**	**16**	P		**Pn**		**15 07 07.8**	**+1.4**
	2.6nm,0.1s,SNR=15								
EBAD				S		**Sn**		**15 07 35.4**	**+1.1**
	12nm,0.1s,SNR=6.8								
PESTR	**Estremoz**	**2.38**	**5**	*e*Pn		**Pn**		**15 07 08.3**	**+1.6**
PESTR				*e*Sn		**Sn**		**15 07 36.5**	**+1.6**
PESTR				A		A		15 07 53.6	
	18nm,0.4s								
PESTR	**Estremoz**	**2.38**	**5**	*e*Pn		**Pn**		**15 07 08.3**	**+1.6**
PESTR				*e*Sn		**Sn**		**15 07 36.5**	**+1.6**
	18nm,0.4s								
PMST	**Lisbon--Monsan**	**2.47**	**335**	*e*Pn		**Pn**		**15 07 09.2**	**+1.2**
PMST				*e*Sn		**Sn**		**15 07 36.7**	**-0.5**
PMST				A		A		15 07 40.0	
	34nm,0.4s								
PMST	**Lisbon--Monsan**	**2.47**	**335**	*e*Pn		**Pn**		**15 07 09.2**	**+1.2**
PMST				*e*Sn		**Sn**		**15 07 36.7**	**-0.5**
	34nm,0.4s								
EMIJ	**Mijas**	**2.48**	**88**	P		**Pn**		**15 07 09.0**	**+0.8**
	1.0nm,0.2s,SNR=8.9								
EMIJ				S		**Sn**		**15 07 38.5**	**+0.9**
	13nm,0.3s,SNR=8.8								
EMIJ	**Mijas**	**2.48**	**88**	P		**Pn**		**15 07 09.0**	**+0.8**
	1.0nm,0.2s,SNR=8.9								
EMIJ				S		**Sn**		**15 07 38.5**	**+0.9**
	13nm,0.3s,SNR=8.8								
ECAB	**El Cabril**	**2.50**	**50**	⇓P		**Pn**		**15 07 09.6**	**+1.1**
	3.5nm,0.1s,SNR=18								
ECAB				S		**Sn**		**15 07 37.7**	**-0.3**
	5.0nm,0.1s,SNR=6.4								
ECAB	**El Cabril**	**2.50**	**50**	P		**Pn**		**15 07 09.6**	**+1.1**
	3.5nm,0.1s,SNR=18								
ECAB				S		**Sn**		**15 07 37.7**	**-0.3**
	5.0nm,0.1s,SNR=6.4								
PMTG	**Montargil**	**2.58**	**354**⇑	*i*Pn		**Pn**		**15 07 10.7**	**+1.1**
PMTG				*e*Sn		**Sn**		**15 07 40.5**	**+0.5**
PMTG				A		A		15 07 41.9	
	83nm,0.1s								
PMTG	**Montargil**	**2.58**	**354**⇑	*i*Pn		**Pn**		**15 07 10.7**	**+1.1**
PMTG				*e*Sn		**Sn**		**15 07 40.5**	**+0.5**
	83nm,0.1s								
PMAFR	**Mafra**	**2.70**	**336**	*e*Pn		**Pn**		**15 07 12.3**	**+1.1**
PMAFR				*e*Sn		**Sn**		**15 07 42.3**	**-0.7**
PMAFR				A		A		15 07 44.4	
	61nm,0.3s								
PMAFR	**Mafra**	**2.70**	**336**	P		**Pn**		**15 07 12.3**	**+1.1**
	17nm,0.1s,SNR=9.5								
PMAFR				S		**Sn**		**15 07 42.4**	**-0.5**
	50nm,0.1s,SNR=7.7								
PMAFR	**Mafra**	**2.70**	**336**	P		**Pn**		**15 07 12.3**	**+1.1**
	17nm,0.1s,SNR=9.5								
PMAFR				S		**Sn**		**15 07 42.4**	**-0.5**
	50nm,0.1s,SNR=7.7								
ALMR	**Almeirim**	**2.71**	**348**	*e*Pn		**Pn**		**15 07 12.6**	**+1.2**
ALMR				*e*Sn		**Sn**		**15 07 43.2**	**0.0**
ALMR				A		A		15 07 47.5	
	39nm,0.4s								
ALMR	**Almeirim**	**2.71**	**348**	P		**Pn**		**15 07 12.6**	**+1.2**
ALMR				S		**Sn**		**15 07 43.2**	**0.0**
	20nm,0.4s								
ALMR	**Almeirim**	**2.71**	**348**	P		**Pn**		**15 07 12.6**	**+1.2**
ALMR				S		**Sn**		**15 07 43.2**	**0.0**
	20nm,0.4s								
EMAL	**Malaga-Limoner**	**2.77**	**83**	P		**Pn**		**15 07 13.7**	**+1.6**
EMAL				S		**Sn**		**15 07 44.8**	**+0.3**
EMAL	**Malaga-Limoner**	**2.77**	**83**	P		**Pn**		**15 07 13.7**	**+1.6**
EMAL				S		**Sn**		**15 07 44.8**	**+0.3**
PMRV	**Marv??o**	**2.95**	**7**	*e*Pn		**Pn**		**15 07 16.0**	**+1.4**
PMRV				*e*Sn		**Sn**		**15 07 50.4**	**+1.3**
PMRV				A		A		15 08 09.9	
	26nm,0.3s								
PMRV	**Marv??o**	**2.95**	**7**	P		**Pn**		**15 07 16.0**	**+1.4**
PMRV				S		**Sn**		**15 07 50.4**	**+1.3**
	26nm,0.3s								
PMRV	**Marv??o**	**2.95**	**7**	P		**Pn**		**15 07 16.0**	**+1.4**
PMRV				S		**Sn**		**15 07 50.4**	**+1.3**
	26nm,0.3s								
EGOR	**Sierra Gorda,**	**3.07**	**77**	P		**Pn**		**15 07 18.2**	**+1.8**
	5.3nm,0.3s,SNR=7.9								
EGOR				S		**Sn**		**15 07 52.5**	**+0.3**
	27nm,0.3s,SNR=7.9								
EGOR	**Sierra Gorda,**	**3.07**	**77**	P		**Pn**		**15 07 18.2**	**+1.8**
	5.3nm,0.3s,SNR=7.9								
EGOR				S		**Sn**		**15 07 52.5**	**+0.3**
	27nm,0.3s,SNR=7.9								
EADA	**Adamuz**	**3.10**	**56**	P		**Pn**		**15 07 18.0**	**+1.3**
	8.9nm,0.1s,SNR=128								
EADA				S		**Sn**		**15 07 53.5**	**+0.7**
	21nm,0.1s								
EADA	**Adamuz**	**3.10**	**56**	P		**Pn**		**15 07 18.0**	**+1.3**
	8.9nm,0.1s,SNR=128								
EADA				S		**Sn**		**15 07 53.5**	**+0.7**
	21nm,0.1s								
PTOM	**Tomar**	**3.15**	**352**	*e*Pn		**Pn**		**15 07 18.6**	**+1.3**
PTOM				*e*Sn		**Sn**		**15 07 53.6**	**-0.3**
PTOM				A		A		15 07 57.6	
	26nm,0.1s								
PTOM	**Tomar**	**3.15**	**352**	P		**Pn**		**15 07 18.6**	**+1.3**
PTOM				S		**Sn**		**15 07 53.6**	**-0.3**
	13nm,0.1s								
PTOM	**Tomar**	**3.15**	**352**	P		**Pn**		**15 07 18.6**	**+1.3**
PTOM				S		**Sn**		**15 07 53.6**	**-0.3**
	13nm,0.1s								
PCBR	**Castelo Branco**	**3.35**	**5**	*e*Pn		**Pn**		**15 07 21.6**	**+1.5**
PCBR				*e*Sn		**Sn**		**15 07 59.8**	**+0.9**
PCBR				A		A		15 08 00.9	
	18nm,0.2s								
PCBR	**Castelo Branco**	**3.35**	**5**	P		**Pn**		**15 07 21.6**	**+1.5**
PCBR				S		**Sn**		**15 07 59.8**	**+0.9**
	8.9nm,0.2s								
PCBR	**Castelo Branco**	**3.35**	**5**	P		**Pn**		**15 07 21.6**	**+1.5**
PCBR				S		**Sn**		**15 07 59.8**	**+0.9**
	8.9nm,0.2s								
ELGU	**Los Guajares,**	**3.42**	**83**	P		**Pn**		**15 07 22.4**	**+1.3**
	0.7nm,0.2s,SNR=7.9								
ELGU				S		**Sn**		**15 08 00.7**	**-0.1**
	9.8nm,0.1s,SNR=7.9								
ELGU	**Los Guajares,**	**3.42**	**83**	P		**Pn**		**15 07 22.4**	**+1.3**
	0.7nm,0.2s,SNR=7.9								
ELGU				S		**Sn**		**15 08 00.6**	**-0.1**
	9.8nm,0.1s,SNR=7.9								
PCAS	**Casmilo, Conde**	**3.59**	**352**	*e*Pn		**Pn**		**15 07 24.7**	**+1.3**
PCAS				*e*Sn		**Sn**		**15 08 05.3**	**+0.6**
PCAS				A		A		15 08 06.9	
	20nm,0.5s								
PCAS	**Casmilo, Conde**	**3.59**	**352**	*e*Pn		**Pn**		**15 07 24.7**	**+1.3**
PCAS				*e*Sn		**Sn**		**15 08 05.3**	**+0.6**
	20nm,0.5s								
EQUE	**Quentar**	**3.61**	**77**	P		**Pn**		**15 07 25.7**	**+1.9**
	2.3nm,0.1s,SNR=21								
EQUE				S		**Sn**		**15 08 05.3**	**-0.2**
	26nm,0.4s,SNR=29								
EQUE	**Quentar**	**3.61**	**77**	P		**Pn**		**15 07 25.7**	**+1.9**
	2.3nm,0.1s,SNR=21								
EQUE				S		**Sn**		**15 08 05.3**	**-0.2**
	26nm,0.4s,SNR=29								
COI	**Coimbra**	**3.73**	**353**	S		**Sn**		**15 08 08.8**	**+0.5**
COI	**Coimbra**	**3.73**	**353**	S		**Sn**		**15 08 08.8**	**+0.5**
EPLA	**Plasencia**	**3.83**	**21**	P		**Pn**		**15 07 28.4**	**+1.7**
	0.5nm,0.2s,SNR=15								
EPLA				S		**Sn**		**15 08 10.7**	**0.0**
	10nm,0.1s,SNR=11								
EPLA	**Plasencia**	**3.83**	**21**	P		**Pn**		**15 07 28.4**	**+1.7**
	0.5nm,0.2s,SNR=15								
EPLA				S		**Sn**		**15 08 10.7**	**0.0**
	10nm,0.1s,SNR=11								
MTE	**Manteigas**	**3.90**	**3**	*e*Pn		**Pn**		**15 07 28.9**	**+1.1**
MTE				*e*Sn		**Sn**		**15 08 12.6**	**-0.1**
MTE				A		A		15 08 14.2	
	18nm,0.3s								
MTE	**Manteigas**	**3.90**	**3**	P		**Pn**		**15 07 28.9**	**+1.1**
MTE				S		**Sn**		**15 08 12.6**	**-0.1**
	8.8nm,0.3s								
MTE	**Manteigas**	**3.90**	**3**	P		**Pn**		**15 07 28.9**	**+1.1**
MTE				S		**Sn**		**15 08 12.6**	**-0.1**
	8.8nm,0.3s								
EALB	**Alboran**	**3.94**	**97**	P		**Pn**		**15 07 29.4**	**+1.2**
	60nm,0.2s,SNR=7.9								
EALB	**Alboran**	**3.94**	**97**	P		**Pn**		**15 07 29.4**	**+1.2**
	60nm,0.2s,SNR=7.9								
GORA	**Gorafe**	**3.98**	**74**	S		**Sn**		**15 08 14.5**	**0.0**
	23nm,0.2s,SNR=7.9								
GORA	**Gorafe**	**3.98**	**74**	S		**Sn**		**15 08 14.5**	**0.0**
	23nm,0.2s,SNR=7.9								
EBER	**Berja**	**4.01**	**83**	P		**Pn**		**15 07 30.6**	**+1.3**
	1.1nm,0.2s,SNR=8.8								
EBER				S		**Sn**		**15 08 14.9**	**-0.6**
	9.6nm,0.5s,SNR=7.9								
EBER	**Berja**	**4.01**	**83**	P		**Pn**		**15 07 30.6**	**+1.3**
	1.1nm,0.2s,SNR=8.8								
EBER				S		**Sn**		**15 08 14.9**	**-0.6**
	9.6nm,0.5s,SNR=7.9								
EQES	**Quesada**	**4.04**	**70**	P		**Pn**		**15 07 30.7**	**+1.0**
	1.8nm,0.1s,SNR=40								
EQES				S		**Sn**		**15 08 16.0**	**-0.1**
	0.7nm,0.2s								
EQES	**Quesada**	**4.04**	**70**	P		**Pn**		**15 07 30.7**	**+1.0**
	1.8nm,0.1s,SNR=40								
EQES				S		**Sn**		**15 08 16.0**	**-0.1**
	0.7nm,0.2s								
PAB	**San Pablo**	**4.12**	**41**	P		**Pn**		**15 07 32.1**	**+1.4**
	5.1nm,0.1s,SNR=7.9								
PAB				S		**Sn**		**15 08 15.9**	**-2.0**
	17nm,0.2s,SNR=7.9								
PAB	**San Pablo**	**4.12**	**41**	P		**Pn**		**15 07 32.1**	**+1.4**
	5.1nm,0.1s,SNR=7.9								
PVIS	**Viseu**	**4.21**	**360**	*e*Sn		**Sn**		**15 08 20.7**	**+0.4**
PVIS				A		A		15 08 21.6	
	10nm,0.3s								
PVIS	**Viseu**	**4.21**	**360**	S		**Sn**		**15 08 20.7**	**+0.4**
	5.2nm,0.3s								
PVIS	**Viseu**	**4.21**	**360**	S		**Sn**		**15 08 20.7**	**+0.4**
	5.2nm,0.3s								

5.3nm,0.2s,SNR=30
EMUR La Murta 5.45 74 P **Pn 15 07 50.2 +1.2**
0.7nm,0.3s,SNR=7.2
EMUR S **Sn 15 08 49.6 -1.1**
15nm,0.3s,SNR=12
EMUR La Murta 5.45 74 P **Pn 15 07 50.2 +1.2**
0.7nm,0.3s,SNR=7.2
EMUR S **Sn 15 08 49.6 -1.1**
15nm,0.3s,SNR=12
PGAV Gavieira, Arco 5.47 357 *e*Pn **Pn 15 07 50.7 +1.4**
PGAV *e*Sn **Sn 15 08 48.7 -2.6**
PGAV A A 15 08 52.1
6.4nm,0.6s
PGAV Gavieira, Arco 5.47 357 *e*Pn **Pn 15 07 50.7 +1.4**
ECAL Calabor 5.51 9 P **Pn 15 07 51.4 +1.6**
2.7nm,0.1s,SNR=7.9
ECAL S **Sn 15 08 50.5 -1.7**
19nm,0.3s,SNR=7.8
ECAL Calabor 5.51 9 P **Pn 15 07 51.4 +1.6**
2.7nm,0.1s,SNR=7.9
ECAL S **Sn 15 08 50.5 -1.7**
19nm,0.3s,SNR=7.8
AFON Font Roja 6.20 67 P **Pn 15 08 00.3 +1.0**
0.3nm,0.0s,SNR=4.0
AFON S **Sn 15 09 07.3 -1.9**
0.4nm,0.3s,SNR=7.9
AFON Font Roja 6.20 67 P **Pn 15 08 00.3 +1.0**
0.3nm,0.0s,SNR=4.0
ETOR Torete 6.26 45 P **Pn 15 08 02.0 +1.8**
2.5nm,0.1s,SNR=60
ETOR S **Sn 15 09 08.4 -2.5**
4.4nm,0.3s,SNR=6.5
ETOR Torete 6.26 45 P **Pn 15 08 02.0 +1.8**
2.5nm,0.1s,SNR=60
EAGO Agolada(Pontev 6.30 358 P **Pn 15 08 02.3 +1.6**
0.1nm,0.0s,SNR=7.9
EAGO S **Sn 15 09 09.4 -2.3**
2.0nm,0.1s,SNR=7.9
EAGO Agolada(Pontev 6.30 358 P **Pn 15 08 02.3 +1.6**
0.1nm,0.0s,SNR=7.9
EMOS Mosqueruela 6.96 54 P **Pn 15 08 12.0 +2.1**
0.7nm,0.1s,SNR=11
EMOS S **Sn 15 09 25.8 -2.4**
6.4nm,0.3s,SNR=7.9
EMOS Mosqueruela 6.96 54 P **Pn 15 08 12.0 +2.1**
0.7nm,0.1s,SNR=11
EARI Arriondas 7.09 16 S **Sn 15 09 28.6 -2.6**
0.7nm,0.3s,SNR=7.9
ELAN Lanestosa 7.54 25 P **Pn 15 08 19.2 +1.6**
0.7nm,0.2s,SNR=7.9
ELAN S **Sn 15 09 39.2 -2.9**
1.4nm,0.3s,SNR=7.9
ELAN Lanestosa 7.54 25 P **Pn 15 08 19.2 +1.6**
0.7nm,0.2s,SNR=7.9
ESAC San Caprasio 7.76 45 P **Pn 15 08 22.4 +1.7**
4.1nm,0.4s,SNR=7.9
ESAC San Caprasio 7.76 45 P **Pn 15 08 22.4 +1.7**
4.1nm,0.4s,SNR=7.9
ERTA Horta de San J 7.79 53 P **Pn 15 08 22.5 +1.3**
0.5nm,0.6s,SNR=7.9
ERTA Horta de San J 7.79 53 P **Pn 15 08 22.5 +1.3**
0.5nm,0.6s,SNR=7.9
EARA Aranguren 7.92 36 P **Pn 15 08 24.8 +2.0**
1.5nm,0.1s,SNR=7.3
EARA S **Sn 15 09 47.8 -3.6**
1.8nm,0.0s,SNR=4.0
EARA Aranguren 7.92 36 P **Pn 15 08 24.8 +2.0**
1.5nm,0.1s,SNR=7.3
IELO Elcoad 8.13 37 P **Pn 15 08 27.5 +1.6**
2.6nm,0.1s,SNR=7.9
IELO S **Sn 15 09 53.3 -3.5**
1.6nm,0.2s,SNR=7.9
IELO Elcoad 8.13 37 P **Pn 15 08 27.5 +1.6**
2.6nm,0.1s,SNR=7.9
EORO Oroz-Betelu 8.14 36 P **Pn 15 08 27.5 +1.6**
3.0nm,0.1s,SNR=17
EORO S **Sn 15 09 53.6 -3.3**
2.1nm,0.3s,SNR=7.9
EORO Oroz-Betelu 8.14 36 P **Pn 15 08 27.5 +1.6**
3.0nm,0.1s,SNR=17
EALK Alkurruntz 8.30 34 P **Pn 15 08 30.3 +2.1**
3.1nm,0.2s,SNR=17
EALK S **Sn 15 09 56.7 -4.2**
1.7nm,0.1s,SNR=11
EALK Alkurruntz 8.30 34 P **Pn 15 08 30.3 +2.1**
3.1nm,0.2s,SNR=17
SJPF Ste Jean 8.35 36 *e*P **Pn 15 08 30.5 +1.8**
SJPF *e*Sn **Sn 15 09 54.1 -7.9**
6.3nm,0.4s
SJPF Ste Jean 8.35 36 P **Pn 15 08 30.5 +1.8**
SJPF Ste Jean 8.35 36 P **Pn 15 08 30.5 +1.8**
EPOB Poblet 8.48 52 P **Pn 15 08 31.8 +1.2**
0.3nm,0.3s,SNR=7.9
EPOB Poblet 8.48 52 P **Pn 15 08 31.8 +1.2**
0.3nm,0.3s,SNR=7.9
ETSF Etsaut 8.51 39 *e*P **Pn 15 08 32.7 +1.7**
ETSF *e*Sn **Sn 15 09 58.6 -7.5**
1.6nm,0.3s
ETSF Etsaut 8.51 39 P **Pn 15 08 32.7 +1.7**
ETSF Etsaut 8.51 39 P **Pn 15 08 32.7 +1.7**
ATE Arette 8.58 38 P **Pn 15 08 34.3 +2.4**
0.8nm,0.2s,SNR=7.9
ATE S **Sn 15 10 03.9 -3.8**
0.7nm,0.2s,SNR=7.9
ATE Arette 8.58 38 P **Pn 15 08 34.3 +2.4**
0.8nm,0.2s,SNR=7.9
ECHI Chisagues Biel 8.75 43 P **Pn 15 08 36.3 +1.9**
1.4nm,0.2s,SNR=7.9
ECHI Chisagues Biel 8.75 43 P **Pn 15 08 36.3 +1.9**
1.4nm,0.2s,SNR=7.9
EMIR Miracle 9.07 51 P **Pn 15 08 40.0 +1.4**
1.7nm,0.2s,SNR=7.9
EMIR Miracle 9.07 51 P **Pn 15 08 40.0 +1.4**
1.7nm,0.2s,SNR=7.9
EPF Esparros 9.07 42 *e*P **Pn 15 08 40.3 +1.6**
EPF *e*Sn Sn 15 10 11.1 -8.8
2.2nm,0.3s
EPF Esparros 9.07 42 P **Pn 15 08 40.3 +1.6**
EPF Esparros 9.07 42 P **Pn 15 08 40.3 +1.6**
CSOR Sort 9.10 47 P **Pn 15 08 40.3 +1.2**
4.5nm,0.3s,SNR=6.3
CSOR Sort 9.10 47 P **Pn 15 08 40.3 +1.2**
4.5nm,0.3s,SNR=6.3
CFON Fontmartina 9.57 54 P **Pn 15 08 47.4 +1.9**
0.1nm,0.0s,SNR=7.9
CFON Fontmartina 9.57 54 P **Pn 15 08 47.4 +1.9**
0.1nm,0.0s,SNR=7.9
CLLI Llivia 9.66 49 P **Pn 15 08 48.6 +1.7**
0.6nm,0.1s,SNR=7.9
CLLI Llivia 9.66 49 P **Pn 15 08 48.6 +1.7**
0.6nm,0.1s,SNR=7.9
EJON La Jonquera 10.21 51 P **Pn 15 08 55.6 +1.3**
0.7nm,0.1s,SNR=4.0
EJON La Jonquera 10.21 51 P **Pn 15 08 55.6 +1.3**
0.7nm,0.1s,SNR=4.0
CAF Calviac 11.29 39 *e*P **Pn 15 09 10.2 +1.2**
CAF Calviac 11.29 39 P **Pn 15 09 10.2 +1.2**
CAF Calviac 11.29 39 P **Pn 15 09 10.2 +1.2**
RJF Les Rejaudoux 11.29 36 *e*P **Pn 15 09 09.8 +0.8**
RJF Les Rejaudoux 11.29 36 P **Pn 15 09 09.8 +0.8**
RJF Les Rejaudoux 11.29 36 P **Pn 15 09 09.8 +0.8**

IDC 15 15:07:37.8±1.5, 25°82S×66°96W, h0km, mb3.7/2, mb1 3.9/3, mb1mx3.5/36, mbtmp3.7/3, ML3.9/1, Error ellipse: s-maj=68.7km s-min=33.0km az=103.0, Salta Province

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**9.54**	**353**	Pn	Pn	15 09 56.7	-0.4
	0.5nm,0.3s,baz=167,slow=5.4,SNR=13						
VNDA	**Vanda**	**72.92**	**190**	P	P	15 19 08.3	-0.1
	0.4nm,0.3s,baz=171,slow=6.1,SNR=7.0						
TORD	**Torodi Ar. Bea**	**77.19**	**69**	P	P	15 19 33.9	-0.1
	0.9nm,1.1s,baz=260,slow=5.5,SNR=4.0						
MKAR	**Makanchi Array**	**147.88**	**41**	PKPbc	PKPbc	15 27 24.6	-0.2
	0.3nm,0.5s,baz=315,slow=3.3,SNR=5.1						

MEX 15 15:19:08.7±0.3, 16°89N×100°36W, h2km±12km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CAIG	**El Cayaco**	**0.18**	**30**	*i* P	Pg	15 19 12.1	-0.1
CAIG				*e*S	Sg	15 19 14.8	+0.2
ACP2	**Acapulco**	**0.46**	**92**	*e*P	Pg	15 19 16.3	-1.1
ACP2				*e*S	Sg	15 19 22.9	-0.4
MEIG	**Mezcala**	**1.25**	**34**	*i* P	Pg	15 19 29.3	-3.4
MEIG				*e*S	Sg	15 19 44.8	-4.1
PLIG	**Platanillo**	**1.70**	**29**	*e*P	Pn	15 19 36.3	-3.3
PLIG				*e*S	Sn	15 19 58.2	-3.9

*CSEM **15** 15:32:14.2±0.7, 36°87N×27°50E, h2km, ML2.2, Error ellipse: s-maj=16.6km s-min=4.1km az=27.0, Suspected Mining explosion.*
*ISK **15** 15:32:16.5, 37°05N×27°43E, h4km, ML2.2/3*
*DDA **15** 15:32:17.8, 37°03N×27°43E, h6km, Ml2.5, Suspected Mining explosion.*

ISC 15 15:32:12.3±2.4, 36°8N±0°1×27°41E±0°08, h9km±14km, n17, σ1s20/24, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BDRM	**Kayabasi**	**0.28**	**6**	*i* P	**Pg**	**15 32 19.1**	**+1.2**
BDRM				*i* S	**Sg**	**15 32 20.4**	**-1.2**
BDRM	**Kayabasi**	**0.28**	**6**	P	**Pg**	**15 32 19.1**	**+1.2**
BDRM				S	**Sg**	**15 32 20.4**	**-1.2**
BODT	**Bodrum**	**0.28**	**343**	PG	**Pg**	**15 32 18.7**	**+0.7**
BODT				SG	**Sg**	**15 32 20.9**	**-0.9**
BODT	**Bodrum**	**0.28**	**343**	*e*Pg	**Pg**	**15 32 18.7**	**+0.7**
BODT				*e*Sg	**Sg**	**15 32 20.9**	**-0.9**
YKAV	**Yalikavak-Bodr**	**0.35**	**343**	PG	**Pg**	**15 32 20.2**	**+1.0**
YKAV	**Yalikavak-Bodr**	**0.35**	**343**	*e*Pg	**Pg**	**15 32 20.2**	**+1.0**
MLSB	**Milas**	**0.58**	**30**	PG	**Pg**	**15 32 24.3**	**+0.7**
MLSB	**Milas**	**0.58**	**30**	*e*Pg	**Pg**	**15 32 24.3**	**+0.7**
YER	**Yerkesik**	**0.78**	**64**	PG	**Pb**	**15 32 30.5**	**+2.4**
GCAM	**G?zelcaml?**	**0.92**	**351**	PG	**Pb**	**15 32 30.1**	**-0.3**
GCAM	**G?zelcaml?**	**0.92**	**351**	*i* P	**Pb**	**15 32 31.1**	**-0.3**
GCAM	**G?zelcaml?**	**0.92**	**351**	*e*Pg	**Pb**	**15 32 30.1**	**-0.3**
GCAM	**G?zelcaml?**	**0.92**	**351**	P	**Pn**	**15 32 31.1**	**-0.3**
TURN	**Turunc**	**0.96**	**85**	PG	**Pg**	**15 32 30.9**	**+0.1**
TURN				SG	**Sg**	**15 32 41.3**	**-2.0**
TURN	**Turunc**	**0.96**	**85**	*i* P	**Pg**	**15 32 31.6**	**+0.8**
TURN				*i* S	**Sg**	**15 32 41.7**	**-1.6**
TURN	**Turunc**	**0.96**	**85**	*e*Pg	**Pg**	**15 32 30.9**	**+0.1**
TURN	**Turunc**	**0.96**	**85**	P	**Pg**	**15 32 31.6**	**+0.8**
TURN				*e*Sg	**Sg**	**15 32 41.3**	**-2.0**

*CSEM **15** 15:42:37.9±0.1, 38°64N×37°42E, h5km, ML2.6, Error ellipse: s-maj=3.8km s-min=3.0km az=39.0*
*ISK **15** 15:42:37.3, 38°67N×37°47E, h4km, ML2.6/2*
*ISCJB **15** 15:42:38.1±0.4, 38°63N±0°03×37°42E±0°04, h7km±4km, Error ellipse: s-maj=5.4km s-min=4.3km az=32.9*
*DDA **15** 15:42:38.1, 38°61N×37°39E, h7km, Ml2.8*

ISC 15 15:42:38.1±0.8, 38°62N±0°02×37°43E±0°03, h8km±6km, n32, σ1s40/46, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DARE	**Darende-Malaty**	**0.07**	**141**	PG	**Pg**	**15 42 39.9**	**-0.2**
DARE				SG	**Sg**	**15 42 41.7**	**+0.2**
DARE	**Darende-Malaty**	**0.07**	**141**	*e*Pg	**Pg**	**15 42 39.9**	**-0.2**
DARE				*e*Sg	**Sg**	**15 42 41.7**	**+0.2**
CUGUR	**Gurin_S¨VAS**	**0.16**	**309**	*i* P	**Pg**	**15 42 41.2**	**-0.2**
CUGUR				*i* S	**Sg**	**15 42 44.1**	**+0.3**
CUGUR	**Gurin_S¨VAS**	**0.16**	**309**	P	**Pg**	**15 42 41.2**	**-0.2**
CUGUR				S	**Sg**	**15 42 44.1**	**+0.3**
ELBS	**KAHRAMANMARAS**	**0.38**	**218**	*i* P	**Pg**	**15 42 44.9**	**-0.6**
ELBS				*i* S	**Sg**	**15 42 51.1**	**+0.6**
ELBS	**KAHRAMANMARAS**	**0.38**	**218**	P	**Pg**	**15 42 44.9**	**-0.6**
ELBS				S	**Sg**	**15 42 51.1**	**+0.6**
HEKM	**Malatya_Hekimh**	**0.49**	**58**	*i* P	**Pg**	**15 42 48.1**	**+0.6**
HEKM				*i* S	**Sb**	**15 42 56.5**	**0.0**
HEKM	**Malatya_Hekimh**	**0.49**	**58**	P	**Pg**	**15 42 48.2**	**+0.6**
HEKM				S	**Sb**	**15 42 56.5**	**0.0**
AKCD	**Akcadag**	**0.51**	**130**	*i* P	**Pg**	**15 42 47.8**	**-0.1**
AKCD				*i* S	**Sb**	**15 42 56.8**	**-0.2**
AKCD	**Akcadag**	**0.51**	**130**	P	**Pg**	**15 42 47.8**	**-0.1**
AKCD				S	**Sb**	**15 42 56.8**	**-0.2**
CUKAN	**kangal_SIVAS**	**0.69**	**3**	*i* P	**Pg**	**15 42 50.8**	**-0.7**
CUKAN	**kangal_SIVAS**	**0.69**	**3**	P	**Pg**	**15 42 50.8**	**-0.7**
CUALT	**Altinyayla-SIV**	**0.83**	**321**	*i* P	**Pg**	**15 42 54.0**	**-0.1**
CUALT	**Altinyayla-SIV**	**0.83**	**321**	P	**Pg**	**15 42 54.0**	**-0.1**
MALT	**Malatya**	**0.84**	**111**	PG	**Pg**	**15 42 53.7**	**-0.6**
MALT				SG	**Sb**	**15 43 06.3**	**-0.3**
MALT	**Malatya**	**0.84**	**111**	*e*Pg	**Pg**	**15 42 53.7**	**-0.6**
MALT				*e*Sg	**Sb**	**15 43 06.3**	**-0.3**
KMRS	**Kahramanmaras**	**1.19**	**201**	PN	**Pn**	**15 43 01.5**	**+0.4**
KMRS	**Kahramanmaras**	**1.19**	**201**	*e*Pn	**Pn**	**15 43 01.5**	**+0.4**
CUSAR	**Sarkisla-SIVAS**	**1.22**	**311**	*i* P	**Pn**	**15 43 01.5**	**0.0**
CUSAR	**Sarkisla-SIVAS**	**1.22**	**311**	P	**Pn**	**15 43 01.5**	**0.0**
BNN	**Bunyan**	**1.26**	**281**	PN	**Pn**	**15 43 02.1**	**0.0**
BNN	**Bunyan**	**1.26**	**281**	*e*Pn	**Pn**	**15 43 02.1**	**0.0**
SVSK	**Karacayir**	**1.33**	**346**	PN	**Pn**	**15 43 02.7**	**-0.3**
SVSK				SN	**Sn**	**15 43 21.3**	**+0.4**
SVSK	**Karacayir**	**1.33**	**346**	*e*Pn	**Pn**	**15 43 02.7**	**-0.3**
SVSK				*e*Sn	**Sn**	**15 43 21.3**	**+0.4**
PTK	**Pertek**	**1.56**	**80**	PN	**Pn**	**15 43 05.8**	**-0.5**
PTK	**Pertek**	**1.56**	**80**	*e*Pn	**Pn**	**15 43 05.8**	**-0.5**
URFA	**Urfa**	**1.61**	**137**	PN	**Pn**	**15 43 07.4**	**+0.4**
URFA	**Urfa**	**1.61**	**137**	*e*Pn	**Pn**	**15 43 07.4**	**+0.4**
KOZT	**Kozan**	**1.70**	**228**	PN	**Pb**	**15 43 09.5**	**-0.2**
KOZT	**Kozan**	**1.70**	**228**	*e*Pn	**Pb**	**15 43 09.5**	**-0.2**
YOZ	**Yozgat**	**1.93**	**302**	PN	**Pn**	**15 43 11.8**	**+0.5**
YOZ	**Yozgat**	**1.93**	**302**	*e*Pn	**Pn**	**15 43 11.8**	**+0.5**

*IDC **15** 15:44:11.3±2.0, 36°88N×141°45E, h0km, mb3.2/4, mb1 3.3/5, mb1mx3.1/65, mbtmp3.2/5, ML2.7/1, Error ellipse: s-maj=43.0km s-min=28.7km az=59.0*
*ISCJB **15** 15:44:14.9±1.2, 36°77N±0°05×141°31E±0°09, h35km, mb3.1/4, Error ellipse: s-maj=10.4km s-min=6.9km az=11.2*
*JMA **15** 15:44:14.9±0.1, 36°76N×141°27E, h34km±2km, M3.0*

ISC 15 15:44:16.4±1.5, 36°81N±0°07×141°3E±0°1, h35km, n18, σ1s86/16, mb3.2/4, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ONAJ	**Iwakimizuishiy**	**0.49**	**307**	P	**Pn**	**15 44 25.3**	**-1.8**
ONAJ				S	**Sn**	**15 44 32.5**	**-1.9**
JHO	**Hitachi**	**0.62**	**252**	P	**Pn**	**15 44 26.4**	**-2.3**
JHO				S	**Sn**	**15 44 34.9**	**-2.5**
JFK	**Kawauchi**	**0.65**	**329**	S	**Sn**	**15 44 37.2**	**-1.1**
JYT	**Yasato**	**1.06**	**237**	S	**Sn**	**15 44 46.8**	**-1.5**
JMM	**Marumori**	**1.13**	**339**	S	**Sn**	**15 44 50.7**	**+0.7**
JFY	**Yanaizu**	**1.41**	**296**	S	**Sn**	**15 44 58.1**	**+1.2**
MJAR	**Matsushiro Arr**	**2.50**	**265**	Pn	**Pn**	**15 44 55.1**	**+0.6**
	1.3nm,0.3s,baz=88,slow=15,SNR=15						
MJAR				Sn	**Sn**	**15 45 28.1**	**+4.3**
	1.7nm,0.3s,baz=86,slow=17,SNR=5.5						
MAT	**Matsushiro**	**2.50**	**265**	P	**Pn**	**15 44 55.4**	**+0.8**
MAT				S	**Sn**	**15 45 23.8**	**0.0**
SONM	**Songino Array**	**27.83**	**304**	P	**P**	**15 50 02.0**	**-0.5**
	0.2nm,0.5s,baz=96,slow=9.1,SNR=2.3						
H11N2	**WAKE ISLAND Hy**	**28.11**	**120**	T	T	16 19 31.2	
	baz=313,slow=75,SNR=119						
H11N1	**WAKE ISLAND Hy**	**28.12**	**120**	T	T	16 19 32.4	
	baz=313,slow=75,SNR=89						
H11N3	**WAKE ISLAND Hy**	**28.13**	**120**	T	T	16 19 32.6	
	baz=313,slow=75,SNR=102						
H11S1	**WAKE ISLAND Hy**	**28.82**	**122**	T	T	16 20 23.3	
	baz=313						
H11S3	**WAKE ISLAND Hy**	**28.82**	**122**	T	T	16 20 24.5	
	baz=313						
H11S2	**WAKE ISLAND Hy**	**28.83**	**122**	T	T	16 20 26.0	
	baz=313						
MKAR	**Makanchi Array**	**44.16**	**302**	P	**P**	**15 52 22.0**	**+0.4**
	0.1nm,0.5s,baz=91,slow=10,SNR=2.5						
KURBB	**Kurchatov Arra**	**46.07**	**308**	P	**P**	**15 52 37.5**	**+0.8**
	0.3nm,0.7s,baz=82,slow=7.6,SNR=3.1						
WRA	**Warramunga Arr**	**56.82**	**188**	P	**P**	**15 53 58.1**	**+0.8**
	0.2nm,0.5s,baz=4.9,slow=7.4,SNR=5.2						

IDC 15 15:53:47.4±10.0, 3°58N×127°42E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.1/57, mbtmp3.3/3, MS2.7/1, Ms1 2.7/1, ms1mx2.1/23, Error ellipse: s-maj=173.9km s-min=139.5km az=158.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.34**	**164**	P	P	15 59 07.2	0.0
	0.2nm,0.3s,baz=344,slow=10,SNR=15						
ASAR	**Alice Springs**	**27.81**	**167**	P	P	15 59 38.5	0.0
	0.3nm,0.8s,baz=350,slow=7.8,SNR=4.5						
JNU	**Nakatsue**	**29.57**	**6**	LR	LR	16 12 58.5	
	comp=Z,13nm,20.1s,baz=292,slow=39						
STKA	**Stephens Creek**	**37.75**	**160**	P	P	16 01 05.0	-0.1
	0.5nm,0.4s,baz=321,slow=13,SNR=4.2						

IDC 15 16:00:25.6±64.0, 22°90S×178°34W, h0km, mb3.3/3, mb1 3.4/3, mb1mx3.3/39, mbtmp3.3/3, Error ellipse: s-maj=1169.0km s-min=163.6km az=86.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**36.51**	**247**	P	P	16 07 32.0	-0.9
	0.6nm,0.7s,baz=106,slow=7.4,SNR=2.1						
ASAR	**Alice Springs**	**43.71**	**259**	P	P	16 08 31.8	-1.0
	0.2nm,0.6s,baz=95,slow=6.5,SNR=4.6						
WRA	**Warramunga Arr**	**44.00**	**265**	P	P	16 08 36.6	+1.4
	0.3nm,0.8s,baz=96,slow=8.5,SNR=7.3						

IDC 15 16:30:17.4±2.6, 19°89S×133°84E, h0km, mb1 4.1/1, mb1mx3.1/48, mbtmp4.1/1, ML4.2/1, Error ellipse: s-maj=16.0km s-min=4.5km az=99.0, Northern Territory

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**0.47**	**97**	Pg	Pg	16 30 26.7	+0.3
	0.7nm,0.3s,baz=281,slow=18,SNR=109						
WRA				Lg	Lg	16 30 32.3	
	1.9nm,0.3s,baz=275,slow=30,SNR=50						
ASAR	**Alice Springs**	**3.76**	**179**	Pn	Pn	16 31 16.0	-0.7
	0.0nm,0.3s,baz=10,slow=14,SNR=5.5						
ASAR				Sn	Sn	16 32 03.8	+2.0
	0.1nm,0.3s,baz=359,slow=10,SNR=6.1						
ASAR				Lg	Lg	16 32 17.2	
	0.2nm,0.3s,baz=356,slow=30,SNR=8.0						
STKA	**Stephens Creek**	**13.82**	**151**	Pn	Pn	16 33 34.5	-0.2
	0.7nm,0.3s,baz=322,slow=17,SNR=17						

*IDC **15** 16:31:19.1±10.0, 0°69N×92°42E, h0km, mb3.3/4, mb1 3.4/6, mb1mx3.1/78, mbtmp3.4/6, ML3.3/1, Error ellipse: s-maj=197.9km s-min=53.7km az=169.0*

ISC 15 16:31:28.8±10.0, 1°N±1°×92°3E±0°3, h35km, n9, σ0s64/6, mb3.5/4, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PALK	**Pallekele**	**12.97**	**298**	Pn	**Pn**	**16 34 30.8**	**0.0**
	baz=114,slow=8.5						
CMAR	**Chiang Mai Arr**	**18.28**	**21**	P	**P**	**16 35 39.4**	**-0.3**
	0.0nm,0.3s,baz=210,slow=10,SNR=3.0						
H08S2	**Diego Garcia H**	**21.63**	**245**	T	T	16 57 49.9	
	baz=65,slow=75,SNR=7.4						
H08S3	**Diego Garcia H**	**21.63**	**246**	T	T	16 57 49.3	
	baz=65,slow=75,SNR=9.6						
H08S1	**Diego Garcia H**	**21.65**	**246**	T	T	16 57 53.3	
	baz=65,slow=75,SNR=8.9						
MKAR	**Makanchi Array**	**46.16**	**350**	P	**P**	**16 39 50.8**	**+0.8**
	0.1nm,0.5s,baz=180,slow=7.0,SNR=6.0						
SONM	**Songino Array**	**47.95**	**13**	P	**P**	**16 40 04.2**	**+0.1**
	0.4nm,0.7s,baz=190,slow=7.3,SNR=2.4						
KURBB	**Kurchatov Arra**	**50.52**	**349**	P	**P**	**16 40 22.8**	**-0.7**
	0.3nm,0.7s,baz=160,slow=11,SNR=2.4						
ZALV	**Zalesovo Beam**	**52.85**	**354**	P	**P**	**16 40 40.9**	**+0.1**
	0.4nm,0.3s,baz=167,slow=7.0,SNR=2.4						

*ISCJB **15** 16:34:00.7±0.3, 23°95S±0°04×67°05W±0°04, h181km, mb3.8/7, Error ellipse: s-maj=6.1km s-min=3.8km az=32.8*
*SJA **15** 16:34:00.4±0.6, 24°05S×67°06W, h190km±16km, ML2.6, MW2.9*
*IDC **15** 16:34:01.9±2.2, 23°96S×66°79W, h187km±20km, mb3.6/7, mb1 3.5/11, mb1mx3.3/45, mbtmp4.0/11, Error ellipse: s-maj=22.6km s-min=14.2km az=85.0*
*GUC **15** 16:34:03.3±0.4, 23°745S×67°43W, h213km±11km, ML4.7*

ISC 15 16:34:00.9±0.6, 23°95S±0°05×67°05W±0°05, h181km, n34, σ1s21/45, mb3.9/7, 8C-1D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SLA	**San Lorenzo**	**1.60**	**119**	*e*P	**Pn**	**16 34 35.0**	**+0.8**
SLA	**San Lorenzo**	**1.60**	**119**	*e*P	**Pn**	**16 34 35.9**	**+1.8**
SLA				*i* S	**Sn**	**16 35 01.7**	**+1.8**
AZAP	**Zapla**	**1.83**	**99**	*e*P	**Pn**	**16 34 37.6**	**+1.1**
YJA	**Yavi**	**2.26**	**39**	*e*P	**Pn**	**16 34 43.4**	**+2.0**
YJA				IAML		16 34 46.0	
	comp=Z,40nm,0.4s						
FSA	**Cafayete**	**2.36**	**156**	*e*P	**Pn**	**16 34 41.6**	**-0.6**
FSA				IAML		16 34 42.9	
	comp=Z,10nm,0.5s						
ASTB	**Santa Barbara**	**2.37**	**91**	*e*P	**Pn**	**16 34 43.3**	**+0.9**
GO02	**Mina Guanaco**	**2.61**	**242**	⇑*i*P	**Pn**	**16 34 46.2**	**+0.9**
GO02				*i* S	**Sn**	**16 35 20.1**	**+0.2**
PB06	**IPOC Station P**	**2.63**	**298**	⇑*i*P	**Pn**	**16 34 47.2**	**+1.8**
PB06				*i* S	**Sn**	**16 35 19.7**	**-0.2**
PB06				IAML		16 35 22.7	
	comp=E,2μm,0.4s						
ALOL	**LOMAS DE OLMED**	**2.81**	**88**	*e*P	**Pn**	**16 34 48.2**	**+0.8**
PB09	**IPOC Station P**	**2.95**	**316**	⇓*i*P	**Pn**	**16 34 51.7**	**+2.5**
PB09				*i* S	**Sn**	**16 35 26.6**	**-0.2**
PB09				IAML		16 35 29.6	
	comp=N,1μm,0.4s						
PB14	**IPOC Station P**	**3.14**	**257**	⇑*i*P	**Pn**	**16 34 52.0**	**+0.4**
AHML	**Horco Molle**	**3.22**	**152**	*e*P	**Pn**	**16 34 52.1**	**-0.3**
PB10	**IPOC Station P**	**3.24**	**277**	*e*P	**Pn**	**16 34 53.3**	**+0.7**
PB10				*e*S	**Sn**	**16 35 32.2**	**-0.7**
PB10	**IPOC Station P**	**3.24**	**277**	⇑*i*P	**Pn**	**16 34 53.7**	**+1.1**
PB10				*i* S	**Sn**	**16 35 32.7**	**-0.3**
PB10				IAML		16 35 37.2	
	comp=N,2μm,0.3s						
PB04	**IPOC Station P**	**3.28**	**299**	⇑*i*P	**Pn**	**16 34 54.3**	**+1.1**
PB04				*e*S	**Sn**	**16 35 33.0**	**-0.9**
PB04				IAML		16 35 35.1	
	comp=E,862nm,1.0s						
PB07	**IPOC Station P**	**3.43**	**310**	⇑*i*P	**Pn**	**16 34 56.3**	**+1.2**
PB07				*i* S	**Sn**	**16 35 36.4**	**-0.9**
PB07				IAML		16 35 37.7	
	comp=E,1μm,0.4s						
PB01	**IPOC Station P**	**3.67**	**322**	⇑*i*P	**Pn**	**16 34 59.1**	**+1.1**
PB01				*i* S	**Sn**	**16 35 41.8**	**-0.8**
PB02	**IPOC Station P**	**3.71**	**314**	⇑*i*P	**Pn**	**16 34 59.4**	**+0.9**
PB02				*i* S	**Sn**	**16 35 42.3**	**-1.3**
PB08	**IPOC Station P**	**4.26**	**332**	*e*P	**Pn**	**16 35 08.0**	**+2.1**
LPAZ	**La Paz**	**7.69**	**352**	P	**Pn**	**16 35 52.6**	**+1.8**
	comp=E,0.9nm,0.3s,baz=173,slow=6.0,SNR=18						
LPAZ

couple: $M_0$1.92000×10^{15} NP1:ϕ_b118.00000°, δ10.00000°, λ7.00000°. NP2:ϕ_b21.00000°, δ89.00000°, λ100.00000°.
ISCJB ***15*** *16:35:44.4±0.7,38°.80N±0°.04×142°.47E±0°.06, h39^{km}±5^{km}, mb4.2/40, MS3.5/18, Error ellipse: s-maj=8.2km s-min=4.9km az=29.8*
NEIC ***15*** *16:35:44.0±0.9, 38°.69N×142°.79E, h43^{km}±7^{km}, mb4.5/11, Error ellipse: s-maj=13.3km s-min=6.8km az=115.0*
NEIC Recorded [1 JMA] in Iwate and Miyagi.
JMA ***15*** *16:35:44.7±0.1, 38°.81N×142°.43E, h34^{km}±2^{km}, M4.1*
JMA Felt I J1.
IDC ***15*** *16:35:47.5±2.0, 38°.76N×142°.38E, h49^{km}±19^{km}, mb3.7/26, mb1 3.8/30, mb1mx3.7/80, mbtmp3.9/30, ML3.3/4, MS3.3/21, Ms1 3.3/21, ms1mx3.0/72, Error ellipse: s-maj=14.9km s-min=11.9km az=112.0*
ISC 15 16:35:46.2±0.6, 38°.83N±0°.05×142°.46E±0°.06, h38^{km}±2km, n109, σ1^{s}97/101, mb4.2/40, MS3.5/18, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**0.67**	**292**	P			Pn	16 35 57.6	-1.5
OFUJ				S			**Sn**	**16 36 06.3**	**-2.1**
JIO	**Ouri**	**0.95**	**247**	P			Pn	16 36 01.1	-1.8
JIO				S			**Sn**	**16 36 12.5**	**-2.7**
JMK	**Ichinoseki**	**0.97**	**278**	P			**Pn**	**16 36 02.1**	**-1.2**
JMK				S			**Sn**	**16 36 14.3**	**-1.6**
JOM	**Ohasama**	**1.11**	**306**	P			**Pn**	**16 36 04.5**	**-0.7**
JOM				S			**Sn**	**16 36 18.8**	**-0.5**
JTH	**Tanohata**	**1.20**	**338**	P			**Pn**	**16 36 05.3**	**-1.1**
JOU	**Okura**	**1.48**	**252**	P			**Pn**	**16 36 09.3**	**-1.0**
JOU				S			**Sn**	**16 36 27.8**	**-0.6**
JRG	**Rokugo**	**1.53**	**292**	P			**Pn**	**16 36 10.8**	**-0.1**
JMM	**Marumori**	**1.63**	**234**	P			**Pn**	**16 36 10.8**	**-1.4**
JMM				*e*S			**Sn**	**16 36 31.0**	**-0.9**
JYK	**Kaneyama**	**1.64**	**274**	P			**Pn**	**16 36 12.0**	**-0.5**
JANG	**Nango**	**1.71**	**335**	P			**Pn**	**16 36 13.0**	**-0.4**
ERM	**Erimo**	**3.23**	**9**	*e*P	n		**Pn**	**16 36 34.3**	**+0.1**
MAJO	**Matsushiro**	**4.07**	**237**	*e*P	n		**Pn**	**16 36 46.8**	**+0.8**
MAT	**Matsushiro**	**4.07**	**237**	P			**Pn**	**16 36 47.1**	**+1.2**
MAT				*e*S			**Sn**	**16 37 38.8**	**+6.5**
MJAR	**Matsushiro Arr**	**4.07**	**237**	P			**Pn**	**16 36 46.8**	**+0.9**
	7.5nm,0.3s,baz=54,slow=10.0,SNR=75								
MJAR				S			**Sn**	**16 37 40.5**	**+8.2**
	2.0nm,0.3s,baz=97,slow=27,SNR=2.8								
MJAR				LR			LR	16 38 32.7	
	comp=Z,295nm,19.3s,baz=60,slow=42								
MJB9	**Matsu-Tunnel**	**4.07**	**237**	*e*P	n		**Pn**	**16 36 46.8**	**+0.9**
ASAJ	**Asahikawa**	**5.28**	**1**	P			**Pn**	**16 37 03.5**	**+1.0**
	0.6nm,0.3s,baz=164,slow=32,SNR=7.4								
ASAJ				S			**Sn**	**16 38 02.9**	**+0.8**
	1.6nm,0.3s,baz=168,slow=9.3,SNR=2.7								
ASAJ	**Asahikawa**	**5.28**	**1**	*e*P	n		**Pn**	**16 37 03.0**	**+0.5**
INU	**Inuyama**	**5.57**	**233**	*e*P	n		**Pn**	**16 37 06.0**	**-0.4**
JHJ2	**Mitsune**	**6.09**	**201**	*e*P	n		Pn	16 37 09.2	-4.5
JHJ	**Hachijo jima 2**	**6.10**	**202**	S			**Sn**	**16 38 17.4**	**-4.8**
	17nm,0.3s,baz=41,slow=18,SNR=2.6								
YSS	**Yuzh-Sakhalins**	**8.12**	**1**	*e*P	n		**Pn**	**16 37 39.2**	**-2.2**
USRK	**Ussuriysk Ar.**	**9.51**	**308**	P			**Pn**	**16 38 02.4**	**+2.0**
	0.7nm,0.3s,baz=111,slow=11,SNR=23								
USRK				LR			LR	16 41 33.2	
	comp=Z,214nm,18.2s,baz=136,slow=36								
JNU	**Nakatsue**	**10.97**	**242**	P			**Pn**	**16 38 19.5**	**-1.1**
	0.2nm,0.3s,baz=80,slow=14,SNR=4.8								
JNU				LR			LR	16 42 42.3	
	comp=Z,137nm,21.7s,baz=106,slow=38								
JNU	**Nakatsue**	**10.97**	**242**	*e*P	n		**Pn**	**16 38 19.6**	**-0.9**
MDJ	**Mudanjiang**	**11.21**	**305**	P			**Pn**	**16 38 26.8**	**+3.0**
MDJ				pP				16 38 30.5	
MDJ				sP				16 38 32.8	
MDJ				pmax		pmax			
	comp=Z,23nm,0.9s								
MDJ				pmax		pmax			
	comp=Z,130nm,3.9s								
MDJ	**Mudanjiang**	**11.21**	**305**	*e*P	n		Pn	16 38 28.5	+4.8
	comp=Z,20nm,1.0s								
KSRS	**Korea Array**	**11.53**	**268**	P			Pn	16 38 32.9	+4.8
	comp=Z,0.3nm,0.3s,baz=83,slow=14,SNR=21								
KSRS				LR			LR	16 42 22.7	
	comp=Z,122nm,21.1s,baz=67,slow=34								
KS01	**Wonju Array Si**	**11.55**	**268**	*e*Pn			**Pn**	**16 38 30.2**	**+1.8**
KS15	**Wonju Array Si**	**11.56**	**268**	*e*Pn			**Pn**	**16 38 28.7**	**+0.1**
KLR	**Kul'dur**	**12.93**	**327**	P			**Pn**	**16 38 47.8**	**+0.7**
	comp=Z,0.0nm,0.3s,baz=162,slow=12,SNR=3.3								
KLR				LR			LR	16 43 54.6	
	comp=Z,16nm,18.2s,baz=148,slow=38								
CN2	**Changchun**	**13.71**	**297**	*e*P			**P**	**16 39 02.4**	**-3.5**
CN2				pmax		pmax			
	comp=Z,10.0nm,0.6s								
CN2				LR		LR			
	comp=N,200nm,14.0s								
CN2				LR		LR			
	comp=E,200nm,14.0s								
CN2				LR		LR			
	comp=Z,200nm,14.0s								
PETK	**Petropavlovsk-**	**17.72**	**31**	LR			LR	16 47 08.5	
	comp=Z,28nm,20.0s,baz=223,slow=38								
PET	**Petropavlovsk**	**18.06**	**33**	*e*Pn			**P**	**16 39 50.9**	**-3.0**
	comp=Z,45nm,1.7s								
BJI	**Beijing**	**20.32**	**282**	P			**P**	**16 40 19.3**	**+0.5**
BJI				pmax		pmax			
	comp=Z,8.0nm,0.7s								
NJ2	**Nanjing**	**20.36**	**258**	*e*P			**P**	**16 40 20.3**	**+1.0**
NJ2				pmax		pmax			
	comp=Z,12nm,0.5s								
MA2	**Magadan**	**21.43**	**12**	LR			LR	16 49 01.0	
	comp=Z,31nm,18.7s,baz=161,slow=37								
HHC	**Hu-ho-hao-te**	**23.75**	**285**	*e*P			**P**	**16 40 55.1**	**+0.1**
HHC				S			**S**	**16 44 58.3**	**-9.4**
HHC				pmax		pmax			
	comp=Z,89nm,0.9s								
HHC				pmax		pmax			
	comp=Z,210nm,4.0s								
HHC				LR		LR			
	comp=N,710nm,11.9s								
HHC				LR		LR			
	comp=E,830nm,12.1s								
HHC				LR		LR			
	comp=Z,840nm,11.5s								
SEY	**Seymchan**	**24.87**	**11**	P			**P**	**16 41 07.0**	**+2.1**
	comp=Z,1.3nm,0.8s,baz=215,slow=7.3,SNR=6.8								
GUMO	**Guam**	**25.23**	**174**	LR			LR	16 49 37.8	
	comp=Z,19nm,21.9s,baz=52,slow=33								
XAN	**Xi'an**	**27.31**	**270**	P			**P**	**16 41 27.3**	**+0.1**
XAN				pP		pP		16 41 31.5	-6.4
XAN				pmax		pmax			
	comp=Z,7.0nm,0.6s								
XAN				pmax		pmax			
	comp=Z,28nm,3.4s								
SONA1	**Songino Array**	**27.52**	**301**	*e*P			**P**	**16 41 29.0**	**-0.1**
SONM	**Songino Array**	**27.52**	**301**	P			**P**	**16 41 29.2**	**+0.1**
	comp=Z,1.7nm,0.6s,baz=97,slow=8.7,SNR=16								
SONM				LR			LR	16 52 52.4	
	comp=Z,78nm,18.4s,baz=86,slow=37								
ENH	**Enshi**	**28.35**	**263**	*e*P			**P**	**16 41 35.1**	**-1.4**
	comp=Z,14nm,0.9s								
H11N2	**WAKE ISLAND Hy**	**28.43**	**125**	T			T	17 12 01.9	
	baz=316,slow=75,SNR=172								
H11N1	**WAKE ISLAND Hy**	**28.44**	**125**	T			T	17 12 02.5	
	baz=316,slow=75,SNR=211								
H11N3	**WAKE ISLAND Hy**	**28.45**	**125**	T			T	17 12 02.5	
	baz=316,slow=75,SNR=286								
H11S1	**WAKE ISLAND Hy**	**29.21**	**127**	T			T	17 12 58.7	
	baz=318,slow=75,SNR=75								
H11S3	**WAKE ISLAND Hy**	**29.21**	**127**	T			T	17 13 00.2	
	baz=318,slow=75,SNR=64								
H11S2	**WAKE ISLAND Hy**	**29.23**	**127**	T			T	17 12 59.1	
	baz=318,slow=75,SNR=39								
TLY	**Talaya**	**29.82**	**308**	P			**P**	**16 41 49.7**	**+0.3**
	comp=Z,2.6nm,0.8s,baz=134,slow=1.3,SNR=8.8								
TLY	**Talaya**	**29.82**	**308**	*e*P			**P**	**16 41 49.2**	**-0.2**
	comp=Z,2.8nm,0.8s								
LZH	**Lanzhou**	**30.62**	**277**	*e*P			**P**	**16 41 55.4**	**-1.4**
LZH				pP		pP		16 42 06.4	-1.2
LZH				sP		sP		16 42 14.1	+1.9
LZH				pmax		pmax			
	comp=Z,23nm,1.4s								
LZH				pmax		pmax			
	comp=Z,140nm,6.3s								
CD2	**Chengdu**	**32.53**	**268**	*e*P			**P**	**16 42 12.5**	**-1.0**
CD2				pmax		pmax			
	comp=Z,10.0nm,0.5s								
GTA	**Gaotai**	**32.87**	**285**	*e*P			**P**	**16 42 17.3**	**+0.9**
GTA				pP		pP		16 42 29.6	+2.4
GTA				sP		sP		16 42 34.9	+3.1
GTA				S		S		**16 47 32.3**	**+0.9**
GTA				sS		sS		16 47 52.8	+3.5
GTA				SS		SnSn		**16 49 35.1**	**+5.1**
GTA				pmax		pmax			
	comp=Z,3.0nm,1.2s								
GTA				pmax		pmax			
	comp=Z,54nm,5.1s								
GTA				LR		LR			
	comp=N,86nm,16.6s								
GTA				LR		LR			
	comp=E,120nm,16.6s								
GTA				LR		LR			
	comp=Z,130nm,17.1s								
KMI	**Kunming**	**36.07**	**260**	P			**P**	**16 42 44.4**	**0.0**
KMI				pmax		pmax			
	comp=Z,11nm,0.5s								
WMQ	**Urumqi**	**40.80**	**295**	P			**P**	**16 43 25.3**	**+1.6**
WMQ				LR		LR			
	comp=N,54nm,18.9s								
WMQ				LR		LR			
	comp=E,48nm,18.9s								
WMQ				LR		LR			
	comp=Z,70nm,17.1s								
ZAA0	**Zalesovo Array**	**41.34**	**311**	*e*P			**P**	**16 43 27.7**	**-0.3**
	comp=Z,3.8nm,0.8s								
ZALV	**Zalesovo Beam**	**41.34**	**311**	P			**P**	**16 43 28.1**	**+0.1**
	comp=Z,4.5nm,0.7s,baz=87,slow=7.6,SNR=16								
ZALV				LR			LR	17 01 23.5	
	comp=Z,72nm,18.2s,baz=60,slow=37								
ZALV	**Zalesovo Beam**	**41.34**	**311**	*e*P			**P**	**16 43 27.0**	**-1.0**
CHTO	**Chiang Mai**	**42.55**	**255**	*e*P			**P**	**16 43 37.0**	**-1.2**
	comp=Z,2.6nm,0.6s								
CMAR	**Chiang Mai Arr**	**42.77**	**254**	P			**P**	**16 43 40.0**	**+0.1**
	comp=Z,0.3nm,0.6s,baz=50,slow=6.0,SNR=3.7								
CMAR				LR			LR	17 03 11.1	
	comp=Z,32nm,18.2s,baz=185,slow=38								
MK01	**Makanchi Array**	**43.89**	**301**	*e*P			**P**	**16 43 48.8**	**0.0**
MK31	**Makanchi Array**	**43.89**	**301**	*e*P			**P**	**16 43 48.5**	**-0.3**
MKAR	**Makanchi Array**	**43.89**	**301**	P			**P**	**16 43 49.0**	**+0.2**
	comp=Z,3.2nm,0.6s,baz=84,slow=9.8,SNR=31								
MKAR	**Makanchi Array**	**43.89**	**301**	*e*P			**P**	**16 43 48.5**	**-0.3**
	comp=Z,26nm,0.6s								
MAKZ	**Makanchi**	**44.10**	**301**	*e*P			**P**	**16 43 50.0**	**-0.4**
	comp=Z,3.5nm,0.8s								
KURK	**Kurchatov**	**45.50**	**307**	*e*P			**P**	**16 44 00.7**	**-0.8**
	comp=Z,7.1nm,0.6s								
KURBB	**Kurchatov Arra**	**45.57**	**307**	P			**P**	**16 44 02.1**	**+0.1**
	comp=Z,7.1nm,0.6s,baz=81,slow=8.1,SNR=48								
ODAN	**Odare**	**47.15**	**272**	*e*P			**P**	**16 44 15.8**	**+0.8**
ILAR	**Eielson Array**	**47.54**	**33**	P			**P**	**16 44 18.3**	**+1.0**
	comp=Z,1.4nm,0.7s,baz=264,slow=5.9,SNR=21								
JIRN	**Jiri**	**47.70**	**274**	*e*P			**P**	**16 44 20.7**	**+1.2**
	comp=Z,12nm,0.7s								
RAMN	**Ramite**	**47.72**	**273**	*e*P			**P**	**16 44 19.7**	**+0.2**
GUN	**Gumba**	**47.82**	**275**	*e*P			**P**	**16 44 20.7**	**+0.3**
	comp=Z,11nm,0.6s								
KKN	**Kakani**	**48.34**	**275**	*e*P			**P**	**16 44 25.6**	**+1.3**
	comp=Z,8.5nm,0.5s								
PKIN	**Phulchoki**	**48.35**	**274**	*e*P			**P**	**16 44 25.3**	**+0.9**
	comp=Z,2.3nm,0.4s								
KDJ	**Kajisay**	**48.68**	**296**	*e*P			**P**	**16 44 26.4**	**-0.3**
	comp=Z,6.9nm,1.7s								
GKN	**Gorkha**	**48.74**	**275**	*e*P			**P**	**16 44 28.6**	**+1.3**
	comp=Z,8.5nm,0.7s								
DANN	**Dangsing**	**49.26**	**276**	*e*P			**P**	**16 44 33.7**	**+2.3**
	comp=Z,2.0nm,0.7s								
KOLN	**Koldanda**	**49.66**	**276**	*e*P			**P**	**16 44 36.8**	**+2.4**
PYUN	**Piuthan**	**49.98**	**276**	*e*P			**P**	**16 44 37.2**	**+0.4**
BVAR	**Borovoe Array**	**49.99**	**311**	P			**P**	**16 44 36.3**	**0.0**
	comp=Z,1.2nm,0.6s,baz=74,slow=8.1,SNR=8.2								
AAK	**Ala-Archa**	**50.38**	**297**	P			**P**	**16 44 38.1**	**-1.5**
	comp=Z,0.7nm,0.4s,baz=101,slow=12,SNR=4.5								
AAK				LR			LR	17 07 31.2	
	comp=Z,36nm,18.9s,baz=73,slow=38								
HNR	**Honiara**	**50.70**	**157**	LR			LR	17 04 23.4	
	comp=Z,32nm,21.5s,baz=260,slow=34								
INK	**Inuvik**	**52.41**	**28**	P			**P**	**16 44 55.4**	**+1.2**
	comp=Z,0.7nm,0.5s,baz=278,slow=7.0,SNR=7.3								
KK31	**Karatay Array**	**52.95**	**299**	*e*P			**P**	**16 44 58.1**	**-0.6**
KKAR	**Karatay Array**	**52.95**	**299**	*e*P			**P**	**16 44 58.2**	**-0.5**
ARU	**Arti**	**55.57**	**318**	P			**P**	**16 45 17.1**	**-0.4**
	comp=Z,1.5nm,0.5s,baz=98,slow=15,SNR=3.4								
ARU				LR			LR	17 11 26.3	
	comp=Z,67nm,19.3s,baz=126,slow=38								
ABKAR	**Akbulak array**	**57.42**	**310**	*e*P			**P**	**16 45 30.0**	**-0.7**
	comp=Z,23nm,0.6s								
AKTO	**Aktyubinsk**	**58.10**	**311**	P			**P**	**16 45 37.1**	**+1.7**
	comp=Z,1.3nm,0.6s,baz=73,slow=12,SNR=4.0								
AKTO				LR			LR	17 12 09.5	
	comp=Z,23nm,19.0s,baz=76,slow=38								
FITZ	**Fitzroy Crossi**	**58.78**	**199**	P			**P**	**16 45 40.2**	**-0.3**
	comp=Z,1.7nm,0.9s,baz=0.0,slow=14,SNR=3.9								
WRAB	**Tennant Creek**	**58.95**	**189**	*e*P			**P**	**16 45 40.0**	**-1.5**
	comp=Z,28nm,1.5s								
WB2	**Warramunga Arr**	**58.95**	**189**	*e*P			**P**	**16 45 40.0**	**-1.6**
WRA	**Warramunga Arr**	**58.96**	**189**	P			**P**	**16 45 40.8**	**-0.8**
	comp=Z,3.0nm,0.6s,baz=7.1,slow=7.0,SNR=42								
RES	**Resolute Bay**	**60.66**	**15**	P			**P**	**16 45 53.0**	**+0.4**
	comp=Z,0.7nm,0.6s,baz=314,slow=6.4,SNR=4.6								
RES				LR			LR	17 13 54.7	
	comp=Z,15nm,19.1s,baz=59,slow=38								
YKA	**Yellowknife Ar**	**61.84**	**31**	P			**P**	**16 46 01.6**	**+0.7**
	comp=Z,0.4nm,0.7s,baz=301,slow=6.7,SNR=8.1								
ASAR	**Alice Springs**	**62.68**	**189**	P			**P**	**16 46 06.5**	**-0.5**
	comp=Z,1.1nm,0.7s,baz=14,slow=10,SNR=26								
GEYT	**Alibeck**	**63.70**	**299**	P			**P**	**16 46 13.3**	**-0.4**
	comp=Z,1.4nm,0.6s,baz=46,slow=4.3,SNR=4.1								
FINES	**FINESS Array B**	**67.61**	**332**	P			**P**	**16 46 38.8**	**+0.4**
	comp=Z,0.7nm,0.7s,baz=30,slow=11,SNR=3.7								
FINES				LR			LR	17 18 14.7	
	comp=Z,38nm,20.1s,baz=14,slow=38								
KBZ	**Khabaz**	**70.36**	**311**	P			**P**	**16 46 57.0**	**+1.1**
	comp=Z,1.0nm,0.7s,baz=62,slow=5.0,SNR=3.7								
GNI	**Garni**	**71.30**	**307**	LR			LR	17 21 25.9	
	comp=Z,35nm,18.4s,baz=88,slow=38								
HFS	**Hagfors**	**72.79**	**336**	LR			LR	17 21 59.2	
	comp=Z,46nm,18.2s,baz=30,slow=38								
NOA	**NORSAR Array B**	**72.85**	**337**	LR			LR	17 24 08.8	
	comp=Z,22nm,18.1s,baz=50,slow=40								
NVAR	**Mina Array Bea**	**73.26**	**54**	P			**P**	**16 47 14.7**	**+1.0**
	comp=Z,0.4nm,0.5s,baz=295,slow=6.7,SNR=3.8								
AKASG	**Malin Array Be**	**73.38**	**322**	P			**P**	**16 47 13.0**	**-0.8**
	comp=Z,0.9nm,0.5s,baz=43,slow=6.5,SNR=6.4								
FRB	**Frobisher Bay**	**74.84**	**14**	P			**P**	**16 47 21.7**	**-0.4**
	comp=Z,0.9nm,0.5s,baz=322,slow=3.5,SNR=4.3								
PDAR	**Pinedale Array**	**75.82**	**46**	P			**P**	**16 47 29.4**	**+0.9**
	comp=Z,0.4nm,0.7s,baz=234,slow=4.8,SNR=4.9								
KHC	**Kasperske Hory**	**81.44**	**329**	*e*pP			pP	16 48 10.9	0.0
GERES	**GERESS Array B**	**81.62**	**329**	LR			LR	17 27 16.8	
	comp=Z,42nm,18.2s,baz=60,slow=38								
TXAR	**Lajitas Array**	**88.38**	**53**	P			**P**	**16 48 35.0**	**+0.7**
	comp=Z,0.3nm,0.6s,baz=343,slow=3.9,SNR=3.9								

ISCJB ***15*** *16:40:55.2±0.7, 53°.88N±0°.06×163°.65W±0°.05, h39^{km}, mb3.6/5, Error ellipse: s-maj=9.0km s-min=3.8km az=164.1*
NEIC ***15*** *16:40:56.0±0.0, 53°.94N×163°.74W, h42^{km}, ML3.3(AEIC), After AEIC.*
IDC ***15*** *16:40:58.3±4.3, 54°.14N×163°.78W, h40^{km}±34^{km}, mb3.3/6, mb1 3.6/8, mb1mx3.1/89, mbtmp3.5/8, ML3.0/2, Error ellipse: s-maj=43.8km s-min=22.4km az=178.0*
ISC 15 16:40:56.6±0.9, 53°.94N±0°.08×163°.68W±0°.04, h39^{km}, n34, σ1^{s}00/36, mb3.6/5, Unimak Island region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BRPK	**Brown Peak**	**0.70**	**357**	P			**Pn**	**16 41 09.8**	**-0.3**
ISLZ	**Isanotski Laza**	**0.78**	**359**	P			**Pn**	**16 41 10.7**	**-0.5**
SSLS	**Shishaldin Sou**	**0.79**	**347**	P			**Pn**	**16 41 11.5**	**+0.1**
SSLS				S			**Sn**	**16 41 22.6**	**+0.6**
WESN	**West Dahl Nort**	**0.82**	**320**	P			**Pn**	**16 41 11.8**	**+0.1**
WESP	**Westdahl Peak**	**0.82**	**312**	P			**Pn**	**16 41 11.6**	**-0.2**
WESP				S			**Sn**	**16 41 22.9**	**+0.2**
SSLW	**Shishaldin Wes**	**0.87**	**343**	P			**Pn**	**16 41 12.4**	**0.0**
FALS	**False Pass**	**0.93**	**10**	P			**Pn**	**16 41 12.8**	**-0.3**
AKSA	**Akutan Strait**	**1.20**	**280**	P			**Pn**	**16 41 16.3**	**-0.6**
AKSA				S			**Sn**	**16 41 31.6**	**-0.3**
AKUT	**Akutan**	**1.25**	**280**	P			**Pn**	**16 41 17.1**	**-0.4**
AKUT				S			**Sn**	**16 41 32.5**	**-0.5**
AHB	**Akutan Harbor**	**1.27**	**279**	P			**Pn**	**16 41 17.3**	**-0.5**
DRIA	**Deer Island**	**1.32**	**38**	P			**Pn**	**16 41 17.9**	**-0.6**
DT1	**Dutton Round H**	**1.42**	**34**	P			**Pn**	**16 41 19.5**	**-0.4**
DOL	**Dolgoi Island**	**1.61**	**41**	P			**Pn**	**16 41 22.0**	**-0.5**
UNV	**Unalaska Valle**	**1.67**	**268**	P			**Pn**	**16 41 21.9**	**-1.4**
UNV				S			**Sn**	**16 41 42.5**	**-1.0**
PS4A	**Pavlof South-4**	**1.76**	**36**	P			**Pn**	**16 41 25.3**	**+0.8**
PVV	**Pavlof Volcano**	**1.81**	**37**	P			**Pn**	**16 41 26.0**	**+0.8**
MSW	**Makushin Switc**	**1.83**	**270**	P			**Pn**	**16 41 25.0**	**-0.5**
MSW				S			**Sn**	**16 41 47.7**	**+0.2**
MGOD	**Makushin Gods**	**1.89**	**267**	P			**Pn**	**16 41 26.1**	**-0.3**
MCIR	**Makushin Cirqu**	**1.90**	**272**	P			**Pn**	**16 41 26.6**	**+0.1**
SDPT	**Sand Point**	**2.34**	**52**	P			**Pn**	**16 41 32.7**	**+0.3**
SDPT				S			**Sn**	**16 41 60.0**	**+0.1**
KDAK	**Kodiak Island**	**7.33**	**54**	Pn			**Pn**	**16 42 40.6**	**-0.4**
	0.6nm,0.3s,baz=195,slow=2.8,SNR=7.7								
KDAK				Sn			**Sn**	**16 43 59.3**	**-3.5**
	0.1nm,0.3s,baz=318,slow=21,SNR=2.4								
ILAR	**Eielson Array**	**13.77**	**31**	Pn			**Pn**	**16 44 07.0**	**-2.0**
	0.0nm,0.3s,baz=226,slow=12,SNR=3.2								
INK	**Inuvik**	**20.16**	**33**	P			**P**	**16 45 25.9**	**-1.2**
	1.3nm,1.1s,baz=233,slow=13,SNR=5.0								
PETK	**Petropavlovsk-**	**22.79**	**284**	P			**P**	**16 45 55.9**	**+0.3**
	1.8nm,0.9s,baz=85,slow=15,SNR=8.8								
YKA	**Yellowknife Ar**	**26.60**	**52**	P			**P**	**16 46 32.2**	**+1.4**
	0.2nm,0.5s,baz=272,slow=9.2,SNR=7.1								
H11N2	**WAKE ISLAND Hy**	**40.91**	**225**	T			T	17 32 08.9	
	baz=26,slow=76,SNR=30								
H11N3	**WAKE ISLAND Hy**	**40.92**	**225**	T			T	17 32 08.9	
	baz=26,slow=76,SNR=57								
H11N1	**WAKE ISLAND Hy**	**40.93**	**225**	T			T	17 32 08.9	
	baz=26,slow=76,SNR=46								
H11S1	**WAKE ISLAND Hy**	**42.08**	**224**	T			T	17 33 31.8	
	baz=26,slow=76,SNR=51								
H11S2	**WAKE ISLAND Hy**	**42.10**	**224**	T			T	17 33 34.3	
	baz=26,slow=76,SNR=52								
H11S3	**WAKE ISLAND Hy**	**42.10**	**224**	T			T	17 33 33.2	
	baz=26,slow=76,SNR=38								
TXAR	**Lajitas Array**	**49.38**	**95**	P			**P**	**16 49 44.5**	**+2.2**
	0.4nm,0.6s,baz=299,slow=6.0,SNR=4.8								
ARCES	**ARCESS Array B**	**56.65**	**356**	P			**P**	**16 50 35.8**	**+0.7**
	2.3nm,0.9s,baz=34,slow=8.8,SNR=5.2								
FINES	**FINESS Array B**	**64.70**	**355**	P			**P**	**16 51 29.3**	**-0.6**
	0.6nm,0.8s,baz=19,slow=13,SNR=2.6								

OMAN ***15*** *16:42:22.8±99.0, 28°.54N×51°.54E, h16^{km}±99^{km}, Error ellipse: s-maj=739.2km s-min=47.6km az=306.0*
IDC ***15*** *16:42:25.5±1.1, 28°.05N×51°.79E, h0^{km}, mb3.7/9, mb1 3.7/11, mb1mx3.5/67, mbtmp3.6/11, ML3.4/2, Error ellipse: s-maj=28.7km s-min=19.2km az=15.0*
TEH ***15*** *16:42:26.6, 28°.17N×51°.94E, h10^{km}, ML3.4*
ISCJB ***15*** *16:42:27.6±0.4, 27°.98N±0°.04×51°.79E±0°.04, h26^{km}, mb3.6/9, Error ellipse: s-maj=6.5km s-min=3.6km az=138.9*
CSEM ***15*** *16:42:29.4±0.4, 28°.04N×51°.79E, h20^{km}, ML3.5, Error ellipse: s-maj=13.2km s-min=6.2km az=54.0*
DSN ***15*** *16:42:32.4±1.0, 28°.01N×52°.16E, h15^{km}, ML3.5/7, Error ellipse: s-maj=24.1km s-min=5.5km az=16.0*
ISC 15 16:42:29.2±0.7, 28°.02N±0°.05×51°.83E±0°.05, h26^{km}, n52, σ1^{s}36/58, mb3.7/9, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
AHBU	**AHRAM**	**0.97**	**331**	*e*Pg			**Pn**	**16 42 46.2**	**-0.9**
AHBU				*e*Sg			**Sn**	**16 43 00.4**	**+0.4**
GHIR	**Ghir-Karzin**	**1.06**	**75**

NOA	**NORSAR Array B**	**42.71**	**332**	P	**P**	**16 50 23.4**	**-0.4**
	comp=Z,0.5nm,0.8s,baz=128,slow=9.0,SNR=6.2						
CMAR	**Chiang Mai Arr**	**44.10**	**92**	P	**P**	**16 50 36.1**	**+0.6**
	comp=Z,0.2nm,0.4s,baz=288,slow=8.9,SNR=3.2						
TORD	**Torodi Ar. Bea**	**48.88**	**263**	P	**P**	**16 51 13.2**	**+0.2**
	comp=Z,0.3nm,0.4s,baz=60,slow=7.3,SNR=6.7						
KOWA	**Kowa**	**53.35**	**268**	P	**P**	**16 51 46.6**	**0.0**
	comp=Z,1.1nm,0.4s,baz=75,slow=13,SNR=3.8						
SEY	**Seymchan**	**70.03**	**29**	P	**P**	**16 53 38.7**	**+0.3**
	comp=Z,0.3nm,0.5s,baz=312,slow=18,SNR=4.9						
YKA	**Yellowknife Ar**	**89.15**	**354**	P	**P**	**16 55 21.1**	**-1.0**
	comp=Z,0.1nm,0.4s,baz=13,slow=5.0,SNR=4.3						

IDC 15 16:42:50.0±2.7, 3°42'N×92°98'E, h0km, mb3.3/4, mb1 3.4/5, mb1mx3.2/72, mbtmp3.3/5, ML3.0/1, Error ellipse: s-maj=106.0km s-min=23.0km az=59.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**16.04**	**21**	Pn	Pn	16 46 37.4	+0.3
	0.0nm,0.3s,baz=217,slow=13,SNR=5.7						
MKAR	**Makanchi Array**	**44.19**	**349**	P	P	16 51 00.2	-0.5
	0.3nm,0.4s,baz=179,slow=8.6,SNR=5.8						
WRA	**Warramunga Arr**	**46.78**	**121**	P	P	16 51 21.5	-0.1
	0.3nm,0.8s,baz=300,slow=8.8,SNR=2.2						
ASAR	**Alice Springs**	**48.09**	**126**	P	P	16 51 31.7	-0.2
	0.2nm,0.3s,baz=296,slow=7.2,SNR=3.5						
KURBB	**Kurchatov Arra**	**48.59**	**348**	P	P	16 51 35.5	+0.3
	0.2nm,0.4s,baz=171,slow=8.5,SNR=3.5						

*ISCJB **15** 16:59:06.0±0.4, 37°.76N±0°.03×140°.00E±0°.04, h18km±6km, mb3.2/6, MS3.0/1, Error ellipse: s-maj=5.5km s-min=3.8km az=39.4*
*JMA **15** 16:59:05.9, 37°.76N×139°.98E, h8km±1km, M3.1*
JMA Felt II J1.
*IDC **15** 16:59:07.2±1.4, 37°.54N×140°.40E, h53km±9km, mb3.0/6, mb1 3.2/8, mb1mx3.0/76, mbtmp3.3/8, MS3.0/1, Ms1 3.2/1, ms1mx2.1/12, Error ellipse: s-maj=25.3km s-min=9.2km az=131.0*

ISC 15 16:59:06.4±0.8, 37°.73N±0°.03×140°.05E±0°.03, h34km±1km, n19, σ2§07/32, mb3.5/6, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFT	**Otama**	**0.31**	**132**	P	**Pb**	**16 59 13.3**	**-1.2**
JFT				S	**Sn**	**16 59 18.3**	**-1.0**
JFY	**Yanaizu**	**0.42**	**220**	P	**Pb**	**16 59 14.1**	**-1.8**
JFY				S	**Sb**	**16 59 19.6**	**-2.8**
JYS	**Shirataka**	**0.49**	**2**	P	**Pb**	**16 59 15.3**	**-1.6**
JYS				S	**Sb**	**16 59 21.8**	**-2.4**
JNS	**Sasagawa**	**0.58**	**279**	P	**Pn**	**16 59 16.1**	**-2.1**
JNS				S	**Sb**	**16 59 22.9**	**-3.7**
JMM	**Marumori**	**0.61**	**77**	P	**Pn**	**16 59 18.4**	**-0.1**
JMM				S	**Sb**	**16 59 26.9**	**-0.4**
JOU	**Okura**	**0.80**	**37**	P	**Pn**	**16 59 21.5**	**+0.2**
JOU				S	**Sn**	**16 59 32.3**	**+0.3**
JYA	**Atsumi**	**0.90**	**343**	P	**Pn**	**16 59 22.2**	**-0.4**
JYA				S	**Sn**	**16 59 34.2**	**-0.3**
JHK	**Hiroka**	**0.95**	**240**	P	**Pn**	**16 59 23.0**	**-0.3**
JHK				S	**Sn**	**16 59 35.1**	**-0.5**
JAW	**Awa shima**	**0.96**	**319**	P	**Pn**	**16 59 23.4**	**0.0**
MJAR	**Matsushiro Arr**	**1.89**	**232**	P	**Pn**	**16 59 38.7**	**+2.4**
	6.1nm,0.3s,baz=64,slow=14,SNR=83						
MJAR				S	**Sn**	**17 00 02.4**	**+3.6**
	6.1nm,0.3s,baz=110,slow=33,SNR=6.2						
MAT	**Matsushiro**	**1.89**	**232**	P	**Pn**	**16 59 38.6**	**+2.4**
MAT				S	**Sb**	**17 00 02.9**	**-0.6**
ASAJ	**Asahikawa**	**6.67**	**16**	P	**Pn**	**17 00 44.6**	**+2.7**
	0.6nm,0.3s,baz=243,slow=9.9,SNR=6.7						
ASAJ				S	**Sn**	**17 01 59.5**	**+2.9**
	0.1nm,0.3s,baz=253,slow=19,SNR=1.8						
SONM	**Songino Array**	**26.49**	**303**	P	**P**	**17 04 43.2**	**+2.6**
	0.1nm,0.4s,baz=94,slow=9.4,SNR=3.1						
SONM				pP	**sP**	**17 04 56.9**	**+2.4**
	0.5nm,0.7s,baz=105,slow=9.7,SNR=4.0						
CMAR	**Chiang Mai Arr**	**40.63**	**253**	LR	LR	17 25 23.6	
	comp=Z,19nm,18.9s,baz=215,slow=39						
MKAR	**Makanchi Array**	**42.83**	**301**	P	**P**	**17 07 02.5**	**+1.6**
	0.2nm,0.7s,baz=70,slow=6.3,SNR=3.0						
MKAR				pP	**sP**	**17 07 16.9**	**+1.8**
	1.0nm,0.8s,baz=90,slow=11,SNR=7.1						
KURBB	**Kurchatov Arra**	**44.71**	**307**	P	**P**	**17 07 18.5**	**+2.5**
	0.8nm,0.7s,baz=88,slow=7.9,SNR=7.5						
KURBB				pP	**sP**	**17 07 31.1**	**+0.9**
	0.9nm,0.5s,baz=82,slow=8.2,SNR=8.3						
ILAR	**Eielson Array**	**49.49**	**33**	P	**P**	**17 07 50.0**	**-3.1**
	0.3nm,0.9s,baz=284,slow=7.3,SNR=3.5						
WRA	**Warramunga Arr**	**57.61**	**186**	P	**P**	**17 08 51.7**	**-1.4**
	0.5nm,0.8s,baz=4.5,slow=7.3,SNR=3.3						
YKA	**Yellowknife Ar**	**63.75**	**30**	P	**P**	**17 09 33.2**	**-1.2**
	0.1nm,0.6s,baz=300,slow=6.3,SNR=3.8						

*ISCJB **15** 17:04:18.2±0.6, 7°.26S±0°.05×128°.81E±0°.07, h131km, mb3.4/4, Error ellipse: s-maj=10.5km s-min=6.8km az=13.3*
*IDC **15** 17:04:20.7±1.9, 7°.25S×128°.91E, h144km±20km, mb3.2/4, mb1 3.1/8, mb1mx2.9/58, mbtmp3.6/8, Error ellipse: s-maj=23.8km s-min=15.3km az=87.0*

ISC 15 17:04:19.2±0.8, 7°.41S±0°.06×128°.96E±0°.09, h131km, n8, σ2§53/12, mb3.5/3, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**5.93**	**242**	P	**Pn**	**17 05 46.5**	**+1.7**
	11nm,0.3s,baz=114,slow=5.0,SNR=17						
BATI				S	**Sn**	**17 06 50.1**	**-1.6**
	4.1nm,0.3s,baz=90,slow=2.0,SNR=6.7						
SIJI	**Sorong**	**6.89**	**20**	P	**Pn**	**17 05 58.8**	**+1.1**
	0.6nm,0.3s,baz=214,slow=22,SNR=9.8						
SIJI				S	**Sn**	**17 07 13.1**	**-1.7**
	0.0nm,0.3s,baz=198,slow=19,SNR=2.2						
WRA	**Warramunga Arr**	**13.51**	**158**	P	**Pn**	**17 07 26.9**	**+1.2**
	0.1nm,0.3s,baz=339,slow=14,SNR=5.8						
WRA				S	**Sn**	**17 09 50.5**	**-4.5**
	0.3nm,0.3s,baz=336,slow=22,SNR=5.8						
ASAR	**Alice Springs**	**16.85**	**164**	P	**Pn**	**17 08 11.1**	**+3.7**
	0.1nm,0.3s,baz=338,slow=11,SNR=14						
ASAR				S	**Sn**	**17 11 13.1**	**-2.2**
	0.1nm,0.3s,baz=348,slow=26,SNR=4.2						
CTA	**Charters Tower**	**20.97**	**129**	P	**P**	**17 08 54.4**	**+2.2**
	4.8nm,1.0s,baz=329,slow=18,SNR=3.2						
SONM	**Songino Array**	**58.51**	**342**	P	**P**	**17 14 01.1**	**-0.7**
	0.1nm,0.3s,baz=146,slow=8.3,SNR=2.0						
MKAR	**Makanchi Array**	**68.01**	**327**	P	**P**	**17 15 03.4**	**-1.0**
	0.3nm,0.4s,baz=114,slow=7.3,SNR=8.8						
KURBB	**Kurchatov Arra**	**72.32**	**329**	P	**P**	**17 15 29.2**	**-1.3**
	0.5nm,0.6s,baz=129,slow=5.0,SNR=7.3						

SJA 15 17:07:43.7±0.4, 23°.59S×64°.51W, h33km±2km, ML3.5, MW3.5, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASTB	**Santa Barbara**	**0.36**	**172**	*eP*	Pn	17 07 52.8	0.0
ASTB				*eS*	Sn	17 07 59.9	+1.0
ASTB				IAML		17 08 01.3	
	comp=Z,156μm,0.3s						
ALOL	**LOMAS DE OLMED**	**0.53**	**115**	*eP*	Pn	17 07 55.4	+0.4
AZAP	**Zapla**	**0.81**	**219**	*eP*	Pb	17 08 00.5	+0.9
AZAP				*eS*	Sb	17 08 13.2	+2.8
YJA	**Yavi**	**1.69**	**326**	*eP*	Pb	17 08 14.1	-0.3
YJA				IAML		17 08 38.7	
	comp=Z,11nm,0.2s						
FSA	**Cafayete**	**2.84**	**208**	*eP*	Pn	17 08 29.9	+2.9

IDC 15 17:47:21.1±58.0, 16°.45S×167°.86E, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.5/41, mbtmp4.0/3, Error ellipse: s-maj=984.9km s-min=118.5km az=69.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**28.36**	**232**	P	P	17 53 16.7	-0.3
	1.4nm,0.7s,baz=59,slow=12,SNR=3.8						
WRA	**Warramunga Arr**	**32.00**	**259**	P	P	17 53 49.5	0.0
	0.5nm,0.5s,baz=89,slow=9.3,SNR=7.0						
ASAR	**Alice Springs**	**32.63**	**252**	P	P	17 53 55.1	+0.2
	4.6nm,0.7s,baz=82,slow=8.9,SNR=85						

*JMA **15** 17:49:42.8±0.1, 40°.94N×145°.19E, h64km±2km, M3.2*
*IDC **15** 17:49:42.1±1.1, 40°.95N×145°.01E, h0km, mb3.4/9, mb1 3.5/11, mb1mx3.3/65, mbtmp3.4/11, ML3.3/1, Error ellipse: s-maj=29.1km s-min=17.9km az=78.0*
*ISCJB **15** 17:49:44.4±0.6, 40°.97N±0°.03×144°.99E±0°.05, h33km, mb3.4/9, Error ellipse: s-maj=5.9km s-min=4.5km az=17.4*

ISC 15 17:49:45.8±1.1, 40°.96N±0°.05×145°.09E±0°.07, h35km, n33, σ1§67/38, mb3.5/9, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JEM	**Erimo**	**1.79**	**307**	P	**Pn**	**17 50 13.1**	**-1.1**
JEM				*eS*	**Sn**	**17 50 34.5**	**-1.2**
JAK	**Akkeshi**	**2.05**	**352**	P	**Pn**	**17 50 16.1**	**-1.7**
JCH	**Churui**	**2.10**	**323**	P	**Pn**	**17 50 17.2**	**-1.2**
JCH				*eS*	**Sn**	**17 50 41.3**	**-1.9**
JOB	**Onbets**	**2.15**	**335**	P	**Pn**	**17 50 18.2**	**-1.0**
JOB				*eS*	**Sn**	**17 50 44.1**	**-0.5**
JNBK	**Urakawa-nobuka**	**2.19**	**308**	P	**Pn**	**17 50 19.3**	**-0.4**
JNBK				*eS*	**Sn**	**17 50 45.0**	**-0.5**
NEM2	**Nemuro 2**	**2.45**	**11**	P	**Pn**	**17 50 21.6**	**-1.6**
NEM2				*eS*	**Sn**	**17 50 49.9**	**-2.1**
JAR	**Ashorobuto**	**2.53**	**338**	P	**Pn**	**17 50 22.6**	**-1.8**
JAR				*eS*	**Sn**	**17 50 52.7**	**-1.3**
JNK	**Nakash**	**2.64**	**354**	P	**Pn**	**17 50 23.7**	**-2.1**
JNK				*eS*	**Sn**	**17 50 53.0**	**-3.6**
JANG	**Nango**	**2.78**	**259**	P	**Pn**	**17 50 26.4**	**-1.4**
JANG				*eS*	**Sn**	**17 50 56.3**	**-3.8**
JFR	**Furan**	**2.88**	**321**	P	**Pn**	**17 50 28.1**	**-1.1**
JFR				*eS*	**Sn**	**17 51 00.0**	**-2.6**
JOT	**Ohata**	**3.08**	**279**	P	**Pn**	**17 50 31.0**	**-0.9**
JOT				*eS*	**Sn**	**17 51 04.5**	**-2.9**
JTKR	**Abashiri--Toko**	**3.13**	**344**	P	**Pn**	**17 50 31.8**	**-0.8**
JTKR				*eS*	**Sn**	**17 51 08.3**	**-0.4**
JKB	**Kayabe**	**3.19**	**288**	*eS*	**Sn**	**17 51 07.9**	**-2.2**
JOM	**Ohasama**	**3.26**	**244**	P	**Pn**	**17 50 33.8**	**-0.6**
JOM				*eS*	**Sn**	**17 51 09.2**	**-2.8**
JEW	**Eniwo**	**3.30**	**306**	P	**Pn**	**17 50 35.3**	**+0.4**
JEW				*eS*	**Sn**	**17 51 13.6**	**+0.7**
JKK2	**Kamakawa 2**	**3.39**	**330**	P	**Pn**	**17 50 35.7**	**-0.4**
ASAJ	**Asahikawa**	**3.65**	**331**	Pn	**Pn**	**17 50 39.4**	**-0.4**
	1.9nm,0.3s,baz=216,slow=8.9,SNR=19						
ASAJ				Sn	**Sn**	**17 51 22.7**	**+1.2**
	0.8nm,0.3s,baz=140,slow=7.9,SNR=2.8						
MJAR	**Matsushiro Arr**	**6.95**	**233**	Pn	**Pn**	**17 51 24.8**	**-0.3**
	baz=43,slow=12,SNR=3.3						
H11N2	**WAKE ISLAND Hy**	**28.18**	**132**	T	T	18 25 10.8	
	baz=320						
H11N1	**WAKE ISLAND Hy**	**28.19**	**132**	T	T	18 25 12.4	
	baz=320						
H11N3	**WAKE ISLAND Hy**	**28.19**	**132**	T	T	18 25 11.3	
	baz=320						
SONM	**Songino Array**	**28.26**	**297**	P	**P**	**17 55 37.0**	**+1.4**
	0.3nm,0.5s,baz=91,slow=8.9,SNR=3.6						
H11S1	**WAKE ISLAND Hy**	**29.05**	**134**	T	T	18 26 14.5	
	baz=326						
H11S3	**WAKE ISLAND Hy**	**29.06**	**134**	T	T	18 26 15.6	
	baz=326						
H11S2	**WAKE ISLAND Hy**	**29.07**	**134**	T	T	18 26 15.7	
	baz=326						
ZALV	**Zalesovo Beam**	**41.52**	**309**	P	**P**	**17 57 30.5**	**+1.2**
	0.3nm,0.3s,baz=81,slow=8.9,SNR=2.1						
MKAR	**Makanchi Array**	**44.57**	**299**	P	**P**	**17 57 54.4**	**+0.2**
	0.2nm,0.5s,baz=82,slow=11,SNR=4.1						
ILAR	**Eielson Array**	**44.65**	**34**	P	P	17 57 56.6	+2.1
	0.2nm,0.7s,baz=278,slow=7.2,SNR=3.8						
KURBB	**Kurchatov Arra**	**45.95**	**306**	P	**P**	**17 58 06.3**	**+1.3**
	0.6nm,0.8s,baz=72,slow=8.8,SNR=3.1						
BVAR	**Borovoye Array**	**50.12**	**311**	P	P	17 58 39.3	+2.1
	0.2nm,0.4s,baz=80,slow=10,SNR=2.4						
WRA	**Warramunga Arr**	**61.41**	**192**	P	**P**	**17 59 59.1**	**+0.7**
	0.5nm,0.9s,baz=12,slow=7.1,SNR=4.0						
ASAR	**Alice Springs**	**65.13**	**191**	P	P	18 00 25.0	+2.0
	0.2nm,0.8s,baz=16,slow=7.6,SNR=3.6						
FINES	**FINESS Array B**	**66.66**	**333**	P	**P**	**18 00 33.4**	**+1.0**
	0.9nm,0.9s,baz=46,slow=8.0,SNR=3.0						

*IDC **15** 17:59:53.8±1.6, 48°.44N×155°.76E, h0km, mb3.3/7, mb1 3.4/8, mb1mx3.3/66, mbtmp3.3/8, ML2.0/1, Error ellipse: s-maj=39.1km s-min=24.5km az=120.0*
*ISCJB **15** 17:59:55.0±0.8, 48°.47N±0°.06×156°.5E±0°.2, h33km, mb3.4/7, Error ellipse: s-maj=16.0km s-min=4.8km az=27.6*
*KRSC **15** 17:59:55.2±1.5, 48°.52N×156°.47E, h85km±27km, ML4.3*
*MOS **15** 17:59:57.1±0.6, 48°.55N×156°.46E, h64km, mb4.4/1, Error ellipse: s-maj=23.6km s-min=5.0km az=81.5*

ISC 15 17:59:56.3±1.1, 48°.40N±0°.09×156°.6E±0°.1, h35km, n56, σ1§25/71, mb3.4/7, 1D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**2.31**	**352**	*eP*	**Pn**	**18 00 31.4**	**-0.3**
SKR				*eS*	**Sn**	**18 00 57.8**	**-1.1**
SKR	**Severo-Kuril's**	**2.31**	**352**	*ePN*	**Pn**	**18 00 31.5**	**-0.3**
SKR				*eS*	**Sn**	**18 00 57.9**	**-1.0**
SKR				smax	smax		
	comp=E,97nm,0.2s						
SKR				smax	smax		
	comp=N,69nm,0.2s						
PAU	**Pauzhetka**	**3.07**	**2**	*eP*	**Pn**	**18 00 42.9**	**+0.7**
PAU				*eS*	**Sn**	**18 01 17.3**	**-0.4**
PAU	**Pauzhetka**	**3.07**	**2**	PN	**Pn**	**18 00 42.9**	**+0.7**
PAU				S	**Sn**	**18 01 17.3**	**-0.4**
KDTR	**Khodutka, Kamc**	**3.54**	**15**	*eP*	**Pn**	**18 00 48.8**	**+0.2**
KDTR				*eS*	**Sn**	**18 01 27.7**	**-1.5**
MIPR	**Malaya Ipel'ka**	**3.88**	**1**	*eP*	**Pn**	**18 00 54.3**	**+0.9**
MIPR	**Malaya Ipel'ka**	**3.88**	**1**	PN	**Pn**	**18 00 54.3**	**+0.9**
ASAK	**Asacha**	**4.07**	**11**	*eP*	**Pn**	**18 00 56.9**	**+0.9**
ASAK				*eS*	**Sn**	**18 01 42.4**	**0.0**
ASAK	**Asacha**	**4.07**	**11**	PN	**Pn**	**18 00 56.9**	**+0.9**
ASAK				S	**Sn**	**18 01 42.4**	**0.0**
MTVR	**Mutnovka**	**4.21**	**13**	*eP*	**Pn**	**18 00 58.9**	**+0.9**
MTVR				*eS*	**Sn**	**18 01 45.3**	**-0.6**
MTVR	**Mutnovka**	**4.21**	**13**	PN	**Pn**	**18 00 58.9**	**+0.9**
MTVR				S	**Sn**	**18 01 45.3**	**-0.6**
RUS	**Russkaya**	**4.21**	**16**	*eP*	**Pn**	**18 00 57.9**	**0.0**
RUS				*eS*	**Sn**	**18 01 44.1**	**-1.7**
RUS	**Russkaya**	**4.21**	**16**	PN	**Pn**	**18 00 57.9**	**0.0**
RUS				S	**Sn**	**18 01 44.1**	**-1.7**
KRMR	**Karymshinskiy**	**4.54**	**12**	*eP*	**Pn**	**18 01 03.3**	**+0.9**
KRMR				*eS*	**Sn**	**18 01 53.9**	**+0.1**
KRMR	**Karymshinskiy**	**4.54**	**12**	PN	**Pn**	**18 01 03.3**	**+0.9**
KRMR				S	**Sn**	**18 01 53.9**	**+0.1**
APC	**Apacha**	**4.54**	**4**	*eP*	**Pn**	**18 01 03.3**	**+0.9**
APC	**Apacha**	**4.54**	**4**	PN	**Pn**	**18 01 03.3**	**+0.9**
PETK	**Petropavlovsk-**	**4.76**	**8**	Pn	**Pn**	**18 01 07.2**	**+1.7**
	comp=N,0.3nm,0.3s,baz=170,slow=14,SNR=21						
PETK				Sn	**Sn**	**18 02 06.0**	**+6.6**
	comp=N,0.4nm,0.3s,baz=180,slow=35,SNR=2.6						
PET	**Petropavlovsk**	**4.80**	**15**	P	**Pn**	**18 01 05.9**	**-0.1**
PET	**Petropavlovsk**	**4.80**	**15**	PN	**Pn**	**18 01 05.9**	**-0.1**
DALK	**Dalny**	**4.83**	**15**	*eP*	**Pn**	**18 01 06.5**	**+0.1**
DALK				*eS*	**Sn**	**18 01 59.9**	**-1.1**
DALK	**Dalny**	**4.83**	**15**	PN	**Pn**	**18 01 06.5**	**+0.1**
DALK				S	**Sn**	**18 01 59.9**	**-1.1**
UGLR	**Uglovaya**	**5.01**	**15**	*eP*	**Pn**	**18 01 10.0**	**+1.0**
UGLR	**Uglovaya**	**5.01**	**15**	PN	**Pn**	**18 01 10.0**	**+1.0**
AVH	**Avacha**	**5.05**	**15**	*eP*	**Pn**	**18 01 11.0**	**+1.5**
AVH				*eS*	**Sn**	**18 02 06.8**	**+0.2**
AVH	**Avacha**	**5.05**	**15**	PN	**Pn**	**18 01 11.0**	**+1.5**
AVH				S	**Sn**	**18 02 06.8**	**+0.2**
SMAR	**Somma**	**5.06**	**15**	*eP*	**Pn**	**18 01 11.2**	**+1.5**
SMAR	**Somma**	**5.06**	**15**	PN	**Pn**	**18 01 11.2**	**+1.5**
SDLR	**Sedlovina**	**5.09**	**15**	*eP*	**Pn**	**18 01 10.2**	**+0.1**
SDLR	**Sedlovina**	**5.09**	**15**	PN	**Pn**	**18 01 10.2**	**+0.1**
KRER	**Koryakskii**	**5.09**	**14**	*eP*	**Pn**	**18 01 11.1**	**+0.9**
KRER	**Koryakskii**	**5.09**	**14**	PN	**Pn**	**18 01 11.1**	**+0.9**
KRX	**Arik**	**5.13**	**14**	*eP*	**Pn**	**18 01 11.6**	**+1.0**
KRX				*eS*	**Sn**	**18 02 08.9**	**+0.3**
KRX	**Arik**	**5.13**	**14**	PN	**Pn**	**18 01 11.6**	**+1.0**
KRX				S	**Sn**	**18 02 08.9**	**+0.3**
SPN	**Mys Shipunski**	**5.17**	**23**	*eP*	**Pn**	**18 01 12.2**	**+1.1**
SPN				*eS*	**Sn**	**18 02 07.9**	**-1.6**
SPN	**Mys Shipunski**	**5.17**	**23**	PN	**Pn**	**18 01 12.2**	**+1.1**
SPN				S	**Sn**	**18 02 07.9**	**-1.6**
GNL	**Ganaly**	**5.37**	**8**	*eP*	**Pn**	**18 01 14.9**	**+1.0**
GNL	**Ganaly**	**5.37**	**8**	PN	**Pn**	**18 01 14.9**	**+1.0**
KUR	**Kuril'sk**	**6.79**	**245**	↓*i*P	**Pn**	**18 01 33.5**	**+0.1**
KUR				pmax	pmax		
	comp=Z,13nm,0.3s						
TUMR	**Tumrok**	**7.23**	**16**	P	**Pn**	**18 01 40.9**	**+1.5**
TUMR	**Tumrok**	**7.23**	**16**	PN	**Pn**	**18 01 40.9**	**+1.5**
H11N2	**WAKE ISLAND Hy**	**29.78**	**160**	T	T	18 38 31.2	
	baz=340						
H11N1	**WAKE ISLAND Hy**	**29.80**	**160**	T	T	18 38 36.9	
	baz=340						
H11N3	**WAKE ISLAND Hy**	**29.80**	**160**	T	T	18 38 27.9	
	baz=340						
H11S1	**WAKE ISLAND Hy**	**30.92**	**161**	T	T	18 39 29.0	
	baz=345,slow=76,SNR=5.1						
H11S3	**WAKE ISLAND Hy**	**30.93**	**161**	T	T	18 39 29.6	
	baz=345,slow=76,SNR=6.3						
H11S2	**WAKE ISLAND Hy**	**30.94**	**161**	T	T	18 39 29.6	
	baz=345,slow=76,SNR=4.6						
YKA	**Yellowknife Ar**	**48.16**	**39**	P	P	18 08 39.2	+6.7
	comp=Z,0.1nm,0.5s,baz=296,slow=7.5,SNR=2.6						
MKAR	**Makanchi Array**	**48.29**	**298**	P	**P**	**18 08 33.0**	**-0.8**
	comp=Z,0.3nm,0.8s,baz=56,slow=5.9,SNR=3.6						
MKAR	**Makanchi Array**	**48.29**	**298**	P	**P**	**18 08 33.0**	**-0.8**
KURK	**Kurchatov**	**48.43**	**304**	P	**P**	**18 08 33.8**	**-0.9**
KURBB	**Kurchatov Arra**	**48.52**	**304**	P	**P**	**18 08 33.8**	**-1.7**
	comp=Z,0.3nm,0.5s,baz=61,slow=8.0,SNR=3.2						
BVAR	**Borovoye Array**	**51.64**	**310**	P	**P**	**18 08 59.1**	**0.0**
	comp=Z,0.4nm,0.5s,baz=80,slow=3.4,SNR=3.3						
CMAR	**Chiang Mai Arr**	**55.06**	**258**	P	**P**	**18 09 24.1**	**-0.5**
	comp=Z,0.2nm,0.6s,baz=34,slow=6.6,SNR=3.7						
FINES	**FINESS Array B**	**63.53**	**336**	P	**P**	**18 10 21.8**	**-0.7**
	comp=Z,0.4nm,0.5s,baz=25,slow=6.3,SNR=5.4						
ASAR	**Alice Springs**	**74.57**	**202**	P	**P**	**18 11 32.6**	**+1.2**
	comp=Z,0.5nm,1.1s,baz=13,slow=5.9,SNR=3.1						

*IDC **15** 18:04:22.4±1.2, 3°.04N×92°.96E, h0km, mb3.4/7, mb1 3.6/9, mb1mx3.4/64, mbtmp3.4/9, ML3.6/1, Error ellipse: s-maj=39.7km s-min=18.0km az=44.0*
*ISCJB **15** 18:04:25.2±1.0, 3°.0N±0°.1×92°.96E±0°.09, h33km, mb3.4/7, Error ellipse: s-maj=22.0km s-min=10.0km az=23.6*

ISC 15 18:04:27.5±1.2, 3°.0N±0°.2×93°.0E±0°.1, h35km, n10, σ1§00/11, mb3.5/7, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**5.97**	**92**	Pn	**Pn**	**18 05 53.1**	**-0.5**
	baz=90,slow=9.7						
PSI				Sn	**Sn**	**18 07 01.3**	**+0.5**
	baz=270,slow=0.0						
CMAR	**Chiang Mai Arr**	**16.43**	**21**	Pn	**Pn**	**18 08 16.1**	**+0.6**
	0.1nm,0.3s,baz=215,slow=12,SNR=8.2						
MKAR	**Makanchi Array**	**44.58**	**350**	P	**P**	**18 12 35.2**	**-1.0**
	0.6nm,0.6s,baz=170,slow=8.8,SNR=9.8						
SONM	**Songino Array**	**46.13**	**13**	P	**P**	**18 12 48.7**	**+0.1**
	0.3nm,0.7s,baz=188,slow=4.4,SNR=2.6						
WRA	**Warramunga Arr**	**46.59**	**121**	P	**P**	**18 12 52.8**	**+0.3**
	0.5nm,0.9s,baz=298,slow=8.7,SNR=3.1						
GEYT	**Alibeck**	**47.15**	**322**	P	**P**	**18 12 55.8**	**-0.8**
	0.8nm,0.6s,baz=142,slow=14,SNR=2.8						
ASAR	**Alice Springs**	**47.88**	**126**	P	**P**	**18 13 01.7**	**-0.9**
	0.1nm,0.8s,baz=311,slow=8.5,SNR=3.0						
KURBB	**Kurchatov Arra**	**48.98**	**348**	P	**P**	**18 13 09.6**	**-1.0**
	0.6nm,0.8s,baz=170,slow=7.1,SNR=5.7						
GERES	**GERESS Array B**	**80.66**	**319**	P	**P**	**18 16 38.8**	**+1.7**
	0.1nm,0.3s,baz=104,slow=4.1,SNR=1.9						
TXAR	**Lajitas Array**	**144.11**	**25**	PKP	**PKPdf**	**18 24 01.4**	**+0.9**
	0.2nm,0.5s,baz=325,slow=7.7,SNR=3.4						

*IDC **15** 18:22:02.4±0.6, 6°.87S×105°.32E, h0km, mb4.2/27, mb1 4.2/28, mb1mx4.1/60, mbtmp4.2/28, ML4.8/1, MS3.0/4, Ms1 3.1/4, ms1mx2.6/53, Error ellipse: s-maj=19.1km s-min=9.2km az=28.0*
*ISCJB **15** 18:22:09.4±0.6, 7°.07S±0°.05×105°.28E±0°.04, h78km±4km, mb4.2/42, Error ellipse: s-maj=9.4km s-min=4.1km az=36.1*
*NEIC **15** 18:22:09.7±0.8, 6°.89S×105°.27E, h57km±7km, mb4.6/11, Error ellipse: s-maj=11.3km s-min=6.4km az=208.0*
*DJA **15** 18:22:09.5±1

H08S2	**Diego Garcia H**	**32.47**	**267**	T	T	19 02 50.3		
	baz=90,slow=75,SNR=104							
H08S3	**Diego Garcia H**	**32.48**	**267**	T	T	19 02 51.6		
	baz=90,slow=75,SNR=58							
H08S1	**Diego Garcia H**	**32.49**	**267**	T	T	19 02 50.9		
	baz=90,slow=75,SNR=100							
H08N1	**Diego Garcia H**	**33.98**	**269**	T	T	19 05 06.2		
	baz=236,slow=72,SNR=17							
H08N2	**Diego Garcia H**	**34.00**	**269**	T	T	19 05 06.0		
	baz=236,slow=72,SNR=19							
H08N3	**Diego Garcia H**	**34.01**	**269**	T	T	19 05 05.4		
	baz=236,slow=72,SNR=14							
CD2	**Chengdu**	**37.80**	**358**	*eP*	**P**	**18 29 20.0**	**-0.2**	
CD2				pmax	pmax			
	comp=Z,10.0nm,0.5s							
RAMN	**Ramite**	**38.34**	**333**	*eP*	**P**	**18 29 26.3**	**+1.2**	
	comp=Z,6.5nm,0.3s							
JIRN	**Jiri**	**39.14**	**333**	*eP*	**P**	**18 29 32.0**	**+0.1**	
	comp=Z,9.2nm,0.3s							
PKIN	**Phulchoki**	**39.43**	**332**	*eP*	**P**	**18 29 34.6**	**+0.3**	
	comp=Z,2.7nm,0.4s							
GUN	**Gumba**	**39.49**	**333**	*eP*	**P**	**18 29 34.9**	**+0.1**	
	comp=Z,9.8nm,0.4s							
DMN	**Daman**	**39.60**	**331**	*eP*	**P**	**18 29 35.7**	**+0.1**	
	comp=Z,3.3nm,0.5s							
KKN	**Kakani**	**39.67**	**332**	*eP*	**P**	**18 29 36.3**	**+0.2**	
	comp=Z,5.6nm,0.6s							
GKN	**Gorkha**	**40.15**	**331**	*eP*	**P**	**18 29 40.2**	**+0.1**	
	comp=Z,7.3nm,0.3s							
KOLN	**Koldanda**	**40.47**	**330**	*eP*	**P**	**18 29 43.4**	**+0.7**	
	comp=Z,8.8nm,0.5s							
DANN	**Dangsing**	**40.87**	**330**	*eP*	**P**	**18 29 45.4**	**-0.7**	
NJ2	**Nanjing**	**41.02**	**18**	*eP*	**P**	**18 29 45.0**	**-2.0**	
NJ2				pmax	pmax			
	comp=Z,8.0nm,0.5s							
PYUN	**Piuthan**	**41.04**	**329**	*eP*	**P**	**18 29 46.8**	**-0.7**	
PMG	**Port Moresby**	**41.54**	**96**	P	**P**	**18 29 52.1**	**+0.5**	
	comp=Z,6.3nm,0.4s,baz=356,slow=1.4,SNR=7.8							
STKA	**Stephens Creek**	**41.91**	**131**	P	**P**	**18 29 55.6**	**+1.3**	
	comp=Z,3.3nm,0.8s,baz=320,slow=10,SNR=11							
STKA	**Stephens Creek**	**41.91**	**131**	*eP*	**P**	**18 29 56.2**	**+1.9**	
	comp=Z,0.7nm,0.8s							
GTA	**Gaotai**	**46.52**	**354**	*eP*	**P**	**18 30 32.5**	**+1.3**	
GTA				pP	pP	18 30 48.3	+1.1	
GTA				sP	sP	18 30 54.3	-0.1	
GTA				pmax	pmax			
	comp=Z,3.0nm,1.1s							
HHC	**Hu-ho-hao-te**	**48.04**	**6**	*eP*	**P**	**18 30 44.9**	**+1.9**	
HHC				pmax	pmax			
	comp=Z,23nm,1.1s							
HHC				pmax	pmax			
	comp=Z,43nm,6.3s							
KSAR	**Wonju Array Be**	**49.09**	**24**	P	**P**	**18 30 51.1**	**+0.2**	
KSRS	**Korea Array**	**49.11**	**24**	P	**P**	**18 30 51.1**	**+0.1**	
	comp=Z,1.1nm,0.5s,baz=215,slow=7.7,SNR=13							
NIL	**Nilore**	**50.60**	**325**	*eP*	**P**	**18 31 02.6**	**+0.1**	
	comp=Z,11nm,0.8s							
WMQ	**Urumqi**	**53.09**	**344**	P	**P**	**18 31 21.3**	**+0.4**	
MAT	**Matsushiro**	**53.28**	**33**	P	**P**	**18 31 20.2**	**-2.2**	
MJAR	**Matsushiro Arr**	**53.28**	**33**	P	**P**	**18 31 20.2**	**-2.2**	
	comp=Z,1.7nm,0.5s,baz=211,slow=8.5,SNR=14							
SONM	**Songino Array**	**54.68**	**1**	P	**P**	**18 31 32.7**	**+0.2**	
	comp=Z,1.0nm,0.5s,baz=182,slow=9.4,SNR=18							
SONM				PcP	**PcP**	**18 32 35.6**	**+0.9**	
	comp=Z,1.6nm,0.5s,baz=184,slow=4.3,SNR=12							
SONM				LR	LR	18 57 31.5		
	comp=Z,35nm,19.2s,baz=210,slow=39							
SONA1	**Songino Array**	**54.70**	**1**	*eP*	**P**	**18 31 31.0**	**-1.6**	
KDJ	**Kajisay**	**55.27**	**335**	*eP*	**P**	**18 31 37.5**	**+0.5**	
	comp=Z,5.0nm,1.3s							
USRK	**Ussuriysk Ar.**	**56.47**	**23**	P	**P**	**18 31 44.8**	**-0.5**	
	comp=Z,2.9nm,0.4s,baz=199,slow=4.8,SNR=19							
MK01	**Makanchi Array**	**57.36**	**341**	*eP*	**P**	**18 31 50.0**	**-1.5**	
MK31	**Makanchi Array**	**57.38**	**341**	*eP*	**P**	**18 31 50.6**	**-1.2**	
MKAR	**Makanchi Array**	**57.38**	**341**	P	**P**	**18 31 51.5**	**-0.3**	
	comp=Z,0.8nm,0.4s,baz=153,slow=8.3,SNR=31							
KLR	**Kul'dur**	**60.68**	**20**	P	**P**	**18 32 13.3**	**-1.2**	
	comp=Z,0.2nm,0.6s,baz=222,slow=5.6,SNR=11							
KLR				PcP	**PcP**	**18 32 58.2**	**+0.2**	
	comp=Z,0.1nm,0.6s,baz=295,slow=9.4,SNR=2.1							
ASAJ	**Asahikawa**	**61.10**	**30**	P	**P**	**18 32 16.2**	**-1.2**	
	comp=Z,2.3nm,0.5s,baz=263,slow=7.1,SNR=8.2							
ASAJ	**Asahikawa**	**61.10**	**30**	*eP*	**P**	**18 32 16.9**	**-0.6**	
	comp=Z,3.7nm,0.9s							
KURBB	**Kurchatov Arra**	**61.94**	**341**	P	**P**	**18 32 23.1**	**+0.2**	
	comp=Z,0.8nm,0.3s,baz=153,slow=6.0,SNR=8.1							
KURBB				PcP	**PcP**	**18 33 03.1**	**0.0**	
	comp=Z,0.4nm,0.5s,baz=150,slow=3.6,SNR=4.0							
KURK	**Kurchatov**	**61.99**	**341**	*eP*	**P**	**18 32 22.7**	**-0.5**	
	comp=Z,1.9nm,0.8s							
KURK				PcP	**PcP**	**18 33 03.1**	**-0.2**	
GEYT	**Alibeck**	**62.66**	**319**	P	**P**	**18 32 29.1**	**+1.0**	
	comp=Z,1.1nm,0.4s,baz=156,slow=7.6,SNR=6.0							
ZAA0	**Zalesovo Array**	**63.19**	**347**	*eP*	**P**	**18 32 29.9**	**-1.3**	
	comp=Z,4.4nm,0.8s							
ZALV	**Zalesovo Beam**	**63.19**	**347**	P	**P**	**18 32 30.5**	**-0.7**	
	comp=Z,2.6nm,0.4s,baz=161,slow=6.0,SNR=16							
ZALV	**Zalesovo Beam**	**63.19**	**347**	*eP*	**P**	**18 32 30.7**	**-0.5**	
BVAR	**Borovoye Array**	**66.77**	**338**	P	**P**	**18 32 55.0**	**+0.5**	
	comp=Z,4.1nm,0.5s,baz=144,slow=9.5,SNR=49							
BRVK	**Borovoye**	**66.83**	**338**	*eP*	**P**	**18 32 55.2**	**+0.3**	
	comp=Z,3.7nm,0.6s							
ABKAR	**Akbulak array**	**68.59**	**330**	*eP*	**P**	**18 33 06.7**	**+0.6**	
AKTO	**Aktyubinsk**	**70.30**	**330**	P	**P**	**18 33 17.8**	**+1.2**	
	comp=Z,1.0nm,0.4s,baz=101,slow=10,SNR=4.8							
PETK	**Petropavlovsk-**	**74.52**	**30**	P	**P**	**18 33 41.0**	**-0.7**	
	comp=Z,2.5nm,0.6s,baz=152,slow=1.5,SNR=13							
PETK	**Petropavlovsk-**	**74.52**	**30**	*eP*	**P**	**18 33 40.9**	**-0.8**	
PET	**Petropavlovsk**	**74.95**	**30**	*eP*	**P**	**18 33 42.7**	**-1.4**	
	comp=Z,11nm,1.1s							
KBZ	**Khabaz**	**75.53**	**318**	P	**P**	**18 33 49.2**	**+1.6**	
	comp=Z,1.2nm,0.7s,baz=182,slow=8.0,SNR=4.7							
MMAI	**Mount Meron Ar**	**77.22**	**306**	P	**P**	**18 33 57.2**	**-0.4**	
	comp=Z,0.8nm,0.5s,baz=97,slow=12,SNR=3.3							
TIXI	**Tiksi**	**80.10**	**7**	*eP*	**P**	**18 34 11.3**	**-1.1**	
	comp=Z,7.2nm,0.7s							
BRTR	**Keskin Array B**	**80.57**	**312**	P	**P**	**18 34 17.0**	**+1.1**	
	comp=Z,1.5nm,0.7s,baz=133,slow=7.0,SNR=16							
BR231	**Keskin MP Arra**	**81.24**	**312**	*eP*	**P**	**18 34 17.7**	**-1.7**	
IDI	**Anoyia**	**86.22**	**306**	P	**P**	**18 34 47.3**	**+2.4**	
	comp=Z,6.4nm,0.8s,baz=55,slow=6.9,SNR=2.6							
AKASG	**Malin Array Be**	**86.67**	**322**	P	**P**	**18 34 46.9**	**+0.3**	
	comp=Z,0.2nm,0.4s,baz=90,slow=3.7,SNR=3.7							
SNAA	**Sanae**	**88.93**	**198**	P	**P**	**18 34 59.9**	**+2.7**	
	comp=Z,0.5nm,0.7s,baz=53,slow=10,SNR=4.1							
FINES	**FINESS Array B**	**91.01**	**332**	P	**P**	**18 35 08.0**	**+1.1**	
	comp=Z,0.7nm,0.5s,baz=18,slow=3.5,SNR=8.9							
ARCES	**ARCESS Array B**	**93.00**	**340**	P	**P**	**18 35 16.4**	**+0.4**	
	comp=Z,0.8nm,0.6s,baz=97,slow=5.0,SNR=7.9							
VAE	**Valguarnera**	**94.90**	**307**	P	**P**	**18 35 24.9**	**-0.6**	
	comp=Z,5.1nm,0.4s,baz=27,slow=6.8,SNR=3.0							
SPITS	**Spitsbergen Ar**	**96.64**	**348**	P	**P**	**18 35 31.8**	**-0.7**	
	comp=Z,9.7nm,1.1s,baz=15,slow=6.0,SNR=3.1							
YKA	**Yellowknife Ar**	**117.53**	**20**	PKP	**PKPdf**	**18 40 48.7**	**+0.5**	
	comp=Z,0.1nm,0.6s,baz=260,slow=1.9,SNR=3.6							
TX31	**Lajitas Ar. Si**	**144.92**	**47**	*e*PKPdf	**PKPdf**	**18 41 41.6**	**+0.9**	
TXAR	**Lajitas Array**	**144.92**	**47**	PKP	**PKPdf**	**18 41 41.5**	**+0.8**	
	comp=Z,1.1nm,0.5s,baz=313,slow=1.2,SNR=16							
M54A	**Oil Creek Stat**	**145.44**	**6**	*e*PKPbc	**PKPbc**	**18 41 39.5**	**-1.7**	
CCM	**Cathedral Cave**	**145.74**	**23**	*e*PKPdf	**PKPdf**	**18 41 41.6**	**-0.1**	
N59A	**State Game Lan**	**146.29**	**1**	*e*PKPdf	**PKPbc**	**18 41 44.2**	**+0.4**	
WVT	**Waverly**	**148.71**	**21**	*e*PKPbc	**PKPbc**	**18 41 51.4**	**+0.9**	

*IDC **15** 18:25:17.0±1.0,8.7°S×130.1°E, h0km, mb3.9/8, mb1 4.0/12, mb1mx3.7/47, mbtmp3.9/12, ML3.8/4, MS3.1/2, Ms1 3.1/2, ms1mx2.5/44, Error ellipse: s-maj=41.9km s-min=21.5km az=88.0*

*ISCJB **15** 18:25:18.9±0.6,8.9°S±0.0°×130.1°E±0.0°, h33km, mb3.8/8, Error ellipse: s-maj=10.5km s-min=6.8km az=167.2*

ISC 15 18:25:20.9±0.7, **8.3°S**±0.0°×**130.1°E**±0.0°, **h35**km, **n14, σ2.5°07/18, mb3.9/8, Tanimbar Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**6.55**	**258**	Sn	**Sn**	**18 28 07.7**	**-0.8**
	1.5nm,0.3s,baz=104,slow=17,SNR=2.6						
SIJI	**Sorong**	**8.00**	**8**	Pn	**Pn**	**18 27 13.6**	**-1.2**
	0.8nm,0.3s,baz=162,slow=20,SNR=4.4						
SIJI				Sn	**Sn**	**18 28 39.7**	**-4.5**
	0.3nm,0.3s,baz=229,slow=19,SNR=3.4						
FITZ	**Fitzroy Crossi**	**10.19**	**205**	Pn	**Pn**	**18 27 45.2**	**+0.4**
	1.6nm,0.3s,baz=35,slow=10,SNR=16						
FITZ				Sn	**Sn**	**18 29 34.4**	**-3.5**
	1.6nm,0.3s,baz=292,slow=23,SNR=14						
FITZ				LR	LR	18 32 30.6	
	comp=Z,73nm,20.6s,baz=346,slow=42						
WRA	**Warramunga Arr**	**11.75**	**160**	Pn	**Pn**	**18 28 06.9**	**+0.7**
	0.5nm,0.3s,baz=338,slow=13,SNR=21						
WRA				Sn	**Sn**	**18 30 14.5**	**-1.6**
	0.6nm,0.3s,baz=340,slow=22,SNR=5.0						
ASAR	**Alice Springs**	**15.16**	**167**	Pn	**Pn**	**18 28 52.9**	**+0.2**
	0.2nm,0.3s,baz=326,slow=9.5,SNR=8.3						
ASAR				Sn	**Sn**	**18 31 37.4**	**-2.2**
	0.1nm,0.3s,baz=347,slow=26,SNR=4.4						
ASAR				LR	LR	18 35 36.3	
	comp=Z,96nm,20.1s,baz=324,slow=41						
MJAR	**Matsushiro Arr**	**45.78**	**9**	P	**P**	**18 33 37.6**	**-1.6**
	1.2nm,0.8s,baz=195,slow=9.9,SNR=4.4						
SONM	**Songino Array**	**60.23**	**342**	P	**P**	**18 35 27.2**	**+1.4**
	0.8nm,0.7s,baz=155,slow=8.5,SNR=6.9						
PETK	**Petropavlovsk-**	**66.02**	**18**	P	**P**	**18 36 06.2**	**+2.3**
	1.6nm,0.7s,baz=224,slow=4.0,SNR=2.9						
MKAR	**Makanchi Array**	**69.85**	**327**	P	**P**	**18 36 28.8**	**+0.7**
	1.3nm,0.8s,baz=126,slow=7.9,SNR=13						
ZALV	**Zalesovo Beam**	**73.30**	**334**	P	**P**	**18 36 49.2**	**+0.5**
	0.4nm,0.4s,baz=116,slow=3.4,SNR=3.4						
KURBB	**Kurchatov Arra**	**74.16**	**329**	P	**P**	**18 36 54.6**	**+0.8**
	1.0nm,0.9s,baz=127,slow=4.8,SNR=7.1						
BVAR	**Borovoye Array**	**79.70**	**328**	P	**P**	**18 37 27.3**	**+2.3**
	0.4nm,0.6s,baz=90,slow=8.6,SNR=4.7						
ILAR	**Eielson Array**	**94.94**	**25**	P	**P**	**18 38 39.8**	**+0.4**
	0.5nm,1.0s,baz=230,slow=8.1,SNR=3.5						
CPUP	**Villa Florida**	**144.28**	**168**	PKP	**PKPdf**	**18 44 56.4**	**+2.2**
	0.8nm,0.6s,baz=201,slow=8.6,SNR=2.7						

NNC 15 18:31:08.5±8.1, **36.6°N**×**69.4°E, h0**km, **mb3.3, mpv2.9, 5C-2D, Error ellipse: s-maj=63.1km s-min=33.2km az=12.0, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZET	**Dzherino**	**2.31**	**338**	Pn	Pn	18 31 46.8	-1.2
	3.9nm,0.3s						
DZET				⇑Sn	Sb	18 32 19.4	-1.0
	42nm,0.4s						
SFK	**Sufi-Kurgan**	**4.36**	**39**	⇑Pn	Pn	18 32 18.4	+2.1
	1.0nm,0.4s						
SFK				⇓Sn	Sn	18 33 09.5	+1.6
	8.8nm,0.5s						
MNAS	**Manas**	**6.15**	**18**	⇑Pn	Pn	18 32 40.9	+0.3
	0.3nm,0.4s						
MNAS				⇑Sn	Sn	18 33 51.0	-0.8
	0.9nm,0.3s						
KK31	**Karatay Array**	**6.45**	**4**	⇑Pn	Pn	18 32 43.0	-1.7
	0.4nm,0.3s,baz=27,slow=19,SNR=3.5						
KK31				⇓Sn	Sn	18 33 55.8	-3.2
	0.8nm,0.5s,baz=192,slow=23,SNR=4.0						

IDC 15 18:35:41.0±27.0, **19.1°S×174.7°W, h0**km, **mb3.9**/4, **mb1 4.1**/4, **mb1mx3.6**/44, **mbtmp3.9**/4, **Error ellipse: s-maj=494.0km s-min=157.9km az=73.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**36.67**	**262**	P	P	18 42 50.6	+0.8
	4.1nm,0.9s,baz=66,slow=10.0,SNR=2.6						
STKA	**Stephens Creek**	**41.10**	**243**	P	P	18 43 26.4	-0.4
	0.6nm,0.5s,baz=92,slow=8.4,SNR=2.9						
ASAR	**Alice Springs**	**47.79**	**255**	P	P	18 44 20.1	-0.4
	1.1nm,0.5s,baz=92,slow=8.0,SNR=28						
WRA	**Warramunga Arr**	**47.81**	**260**	P	P	18 44 20.2	-0.5
	0.3nm,0.3s,baz=96,slow=7.6,SNR=17						

*ISCJB **15** 18:42:28.4±1.0,2.6°N±0.1°×89.7°E±0.1°, h10km, mb3.7/6, MS3.4/1, Error ellipse: s-maj=23.5km s-min=15.1km az=34.2*

*IDC **15** 18:42:29.1±1.5,2.6°N×89.8°E, h0km, mb3.6/6, mb1 3.6/8, mb1mx3.4/66, mbtmp3.6/8, ML3.2/2, MS3.3/1, Ms1 3.3/1, ms1mx2.4/53, Error ellipse: s-maj=46.4km s-min=22.9km az=50.0*

ISC 15 18:42:30.5±1.2, **2.6°N**±0.2°×**89.8°E**±0.2°, **h10**km, **n13**, σ1°**02**/9, **mb3.6**/6, **North Indian Ocean**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PALK	**Pallekele**	**10.17**	**297**	Pn	**Pn**	**18 44 56.7**	**-0.1**
	0.2nm,0.3s,baz=113,slow=16,SNR=2.9						
PALK				Sn	Sn	18 46 40.4	-11
	1.5nm,0.3s,baz=114,slow=6.1,SNR=7.2						
CMAR	**Chiang Mai Arr**	**18.11**	**29**	P	**P**	**18 46 43.2**	**+0.4**
	0.9nm,0.3s,baz=231,slow=13,SNR=4.6						
H08S3	**Diego Garcia H**	**20.06**	**239**	T	T	19 07 40.8	
	baz=59,slow=74,SNR=3.3						
H08S2	**Diego Garcia H**	**20.06**	**239**	T	T	19 07 40.8	
	baz=59,slow=74,SNR=5.9						
H08S1	**Diego Garcia H**	**20.07**	**239**	T	T	19 07 40.8	
	baz=59						
MKAR	**Makanchi Array**	**44.48**	**353**	P	**P**	**18 50 41.7**	**-0.3**
	0.3nm,0.4s,baz=169,slow=9.5,SNR=6.8						
GEYT	**Alibeck**	**45.57**	**324**	P	**P**	**18 50 51.5**	**+0.6**
	0.9nm,0.6s,baz=137,slow=5.1,SNR=3.1						
SONM	**Songino Array**	**47.26**	**15**	P	**P**	**18 51 04.2**	**+0.1**
	2.6nm,0.6s,baz=194,slow=9.6,SNR=19						
KURBB	**Kurchatov Arra**	**48.77**	**350**	P	**P**	**18 51 15.0**	**-0.5**
	0.4nm,0.7s,baz=169,slow=7.5,SNR=5.8						
WRA	**Warramunga Arr**	**49.12**	**119**	P	**P**	**18 51 17.4**	**-1.4**
	0.4nm,0.9s,baz=298,slow=8.6,SNR=3.1						
ASAR	**Alice Springs**	**50.24**	**124**	P	**P**	**18 51 28.9**	**+1.6**
	0.4nm,1.1s,baz=302,slow=7.7,SNR=3.0						
MJAR	**Matsushiro Arr**	**55.87**	**47**	LR	LR	19 18 25.3	
	comp=Z,27nm,18.3s,baz=225,slow=39						
TXAR	**Lajitas Array**	**145.70**	**21**	PKPbc	**PKPdf**	**19 02 09.4**	**-0.9**
	0.2nm,0.7s,baz=322,slow=3.8,SNR=3.7						

*SJA **15** 18:58:14.9±1.0,32.8°S×72.1°W, h19km±6km, ML4.3, MW3.6*

*IDC **15** 18:58:16.4±1.0,32.8°S×72.0°W, h0km, mb4.2/5, mb1 4.1/9, mb1mx3.8/37, mbtmp4.0/9, ML4.0/4, MS3.3/3, Ms1 3.3/3, ms1mx2.9/31, Error ellipse: s-maj=34.1km s-min=22.9km az=103.0*

*NEIC **15** 18:58:20.8±3.1, 32.9°S×71.9°W, h27km±21km, mb4.4/1, Error ellipse: s-maj=20.0km s-min=9.4km az=92.0*

*GUC **15** 18:58:22.0±0.5, 32.5°S×71.6°W, h22km±4km, ML4.1*

ISC 15 18:58:17.2±1.7, **32.4°S**±0.0°×**71.8°W**±0.0°, **h4**km±10km, **n48**, σ1°**70/57, mb4.3/6, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ROC1	**El Roble**	**0.92**	**128**	*e*P	**Pg**	**18 58 36.5**	**+1.5**
ROC1				*e*S	**Sb**	**18 58 48.2**	**-0.4**
ROCH	**El Roble**	**0.92**	**128**	*e*P	**Pn**	**18 58 36.8**	**-0.4**
ROCH				*i* S	**Sb**	**18 58 47.5**	**-1.1**
ROCH				IAML		18 58 48.9	
	comp=N,7μm,1.0s						
PEL	**Peldehue**	**1.25**	**126**	*e*P	**Pb**	**18 58 41.6**	**+0.3**
PEL				*i* S	**Sb**	**18 58 56.4**	**-1.3**
RCDM	**Rinconada Maip**	**1.41**	**140**	*e*P	**Pn**	**18 58 41.3**	**-2.3**
RCDM				*i* S	**Sn**	**18 58 57.8**	**-4.8**
FCH	**Farellones**	**1.62**	**125**	*e*P	**Pb**	**18 58 47.6**	**-0.3**
FCH				*i* S	**Sn**	**18 59 07.4**	**-0.9**
FCH				IAML		18 59 07.9	
	comp=E,4μm,0.2s						
LMEL	**Las Melosas**	**2.01**	**136**	*e*P	**Pb**	**18 58 53.8**	**-0.6**
LMEL				*i* S	**Sn**	**18 59 18.3**	**+0.6**
LMEL				IAML		18 59 20.2	
	comp=N,3μm,0.1s						
AUSP	**Uspallata**	**2.12**	**86**	*e*P	**Pb**	**18 58 57.4**	**+1.0**
AUSP				*e*S	**Sg**	**18 59 27.3**	**+1.9**
RTLS	**Leoncito**	**2.28**	**75**	*e*P	**Pg**	**18 59 00.3**	**-0.6**
RTLS				IAML		18 59 36.0	
	comp=Z,657nm,0.5s						
GO04	**Tololo Observa**	**2.42**	**23**	*e*P	**Pb**	**18 59 00.7**	**-0.7**
GO04				*i* S	**Sg**	**18 59 35.6**	**+0.7**
GO04				IAML		18 59 44.1	
	comp=E,5μm,0.5s						
TLL	**Tololo Astrono**	**2.42**	**23**	*e*P	**Pb**	**18 59 01.0**	**-0.5**
TLL				*i* S	**Sg**	**18 59 35.2**	**+0.2**
TLL				IAML		18 59 40.2	
	comp=N,2μm,0.7s						
ZON	**Zonda**	**2.86**	**73**	*e*P	**Pb**	**18 59 08.3**	**-0.5**
ZON				*e*S	**Sg**	**18 59 46.9**	**-2.0**
RTCV	**Cerro Valdivia**	**2.89**	**80**	*e*P	**Pb**	**18 59 08.0**	**-1.3**
RTCV				*e*S	**Sb**	**18 59 46.5**	**+1.5**
SJA	**San Juan**	**2.96**	**74**	*e*P	**Pb**	**18 59 09.5**	**-0.9**
AROD	**Rodeo**	**3.04**	**43**	*e*P	**Pb**	**18 59 12.5**	**+0.4**
AROD				*e*S	**Sg**	**18 59 56.0**	**+1.0**
RTLL	**Cerro Villicun**	**3.09**	**70**	*e*P	**Pb**	**18 59 11.8**	**-1.0**
RTLL				IAML		18 59 59.1	
	comp=Z,713nm,0.3s						
AMOG	**MOGNA**	**3.24**	**64**	*e*P	**Pb**	**18 59 13.4**	**-1.9**
AMOG				*e*S	**Sg**	**18 59 58.1**	**-3.2**
ACDV	**Cuesta del Vie**	**3.25**	**47**	*e*P	**Pb**	**18 59 15.0**	**-0.6**
ACDV				*e*S	**Sg**	**19 00 00.7**	**-1.1**
LCO	**Las Campanas**	**3.54**	**17**	*e*Pn	**Pn**	**18 59 15.1**	**+1.9**
LCO				*e*Sn	**Sn**	**18 59 54.0**	**-1.6**
ACAN	**Cantantal**	**3.98**	**89**	*e*P	**Pn**	**18 59 22.0**	**+3.1**
ACAN				*e*S	**Sb**	**19 00 12.3**	**-3.9**
AGUA	**GUANDACOL**	**4.12**	**46**	*e*P	**Pb**	**18 59 27.2**	**-3.2**
AGUA				*e*S	**Sb**	**19 00 21.1**	**+0.6**
VCA	**Vinchina**	**4.84**	**42**	*e*P	Pb	18 59 37.4	-5.3
VCA				IAML		19 00 55.6	
	comp=Z,270nm,0.4s						
PLCA	**Paso Flores**	**8.37**	**173**	Pn	**Pn**	**19 00 21.1**	**+1.7**
	comp=Z,0.5nm,0.3s,baz=358,slow=12,SNR=22						
TRQA	**Tornquist**	**9.86**	**128**	*e*Pn	**Pn**	**19 00 40.4**	**+0.7**
	comp=Z,4.4nm,0.6s						
CPUP	**Villa Florida**	**14.06**	**68**	Pn	**Pn**	**19 01 39.1**	**+2.0**
	comp=Z,0.2nm,0.3s,baz=208,slow=8.4,SNR=3.9						
CPUP				Sn	**Sn**	**19 04 17.4**	**+3.8**
	comp=Z,0.2nm,0.3s,baz=207,slow=16,SNR=3.2						
CPUP				Lg	Lg	19 05 20.4	
	comp=Z,0.2nm,0.3s,baz=163,slow=20,SNR=1.7						
LPAZ	**La Paz**	**16.41**	**13**	Pn	**P**	**19 02 09.8**	**-2.2**
	comp=Z,0.3nm,0.3s,baz=182,slow=6.5,SNR=7.6						
SIV	**San Ignacio**	**19.07**	**34**	P	**Pn**	**19 02 40.2**	**-1.2**
	comp=Z,0.2nm,0.3s,baz=230,slow=12,SNR=7.4						
SIV				LR	LR	19 11 32.5	
	comp=Z,96nm,21.2s,baz=189,slow=42						
ATAH	**Atahualpa**	**25.87**	**345**	LR	LR	19 11 47.3	
	comp=Z,56nm,21.4s,baz=137,slow=31						
SDV	**Santo Domingo**	**41.08**	**2**	LR	LR	19 24 44.7	
	comp=Z,43nm,18.2s,baz=284,slow=39						
SNAA	**Sanae**	**53.01**	**158**	P	**P**	**19 07 35.0**	**+0.3**
	comp=Z,0.7nm,0.6s,baz=333,slow=11,SNR=12						
SNAA	**Sanae**	**53.01**	**158**	P	**P**	**19 07 35.7**	**+0.9**
QSPA	**South Pole Qui**	**57.82**	**180**	*e*P	**P**	**19 08 11.4**	**+1.8**
	comp=Z,2.1nm,0.5s						
DBIC	**Dimbokro**	**74.55**	**72**	P	**P**	**19 09 56.8**	**-0.7**
	comp=Z,2.3nm,0.7s,baz=194,slow=5.3,SNR=5.4						
KOWA	**Kowa**	**79.86**	**66**	P	**P**	**19 10 27.6**	**+0.3**
	comp=Z,1.9nm,0.5s,baz=239,slow=7.4,SNR=6.1						
BOSA	**Boshof**	**80.69**	**118**	P	**P**	**19 10 31.8**	**-0.2**
	comp=Z,2.3nm,0.7s,baz=295,slow=11,SNR=3.5						
TORD	**Torodi Ar. Bea**	**83.55**	**70**	P	**P**	**19 10 47.0**	**+0.2**
	comp=Z,1.8nm,0.7s,baz=253,slow=6.1,SNR=11						
H11S2	**WAKE ISLAND Hy**	**25.91**	**270**	T	T	21 36 19.4	
	baz=118,slow=75,SNR=140						
H11S1	**WAKE ISLAND Hy**	**25.92**	**270**	T	T	21 36 23.2	
	baz=118,slow=75,SNR=143						
H11S3	**WAKE ISLAND Hy**	**25.93**	**270**	T	T	21 36 22.3	
	baz=118,slow=75,SNR=126						
H11N3	**WAKE ISLAND Hy**	**26.28**	**272**	T	T	21 36 47.1	
	baz=117,slow=76,SNR=29						
H11N1	**WAKE ISLAND Hy**	**26.30**	**272**	T	T	21 36 49.2	
	baz=117,slow=76,SNR=11

AS01	**Alice Springs**	**32.73 242**	*e*P	**P**	**19 16 33.0**	**-1.2**
AS31	**Alice Springs**	**32.77 242**	*e*P	**P**	**19 16 32.0**	**-2.6**
	0.6nm,0.8s					
ASAR	**Alice Springs**	**32.77 242**	P	**P**	**19 16 32.0**	**-2.6**
	1.8nm,0.8s,baz=65,slow=10,SNR=22					
ASAR			PcP	**PcP**	**19 19 18.6**	**-1.0**
	0.4nm,0.7s,baz=77,slow=2.9,SNR=4.1					
ASAR			LR	LR	19 29 14.3	
	comp=Z,113nm,18.7s,baz=55,slow=35					
RPZ	**Rata Peaks**	**33.38 173**	P	**P**	**19 16 39.9**	**+0.3**
	5.4nm,0.6s,baz=34,slow=11,SNR=3.5					
RAR	**Rarotonga**	**34.98 112**	LR	LR	19 28 04.3	
	comp=Z,114nm,21.7s,baz=282,slow=31					
FITZ	**Fitzroy Crossi**	**39.24 254**	P	**P**	**19 17 27.5**	**-2.5**
	1.9nm,0.8s,baz=93,slow=0.7,SNR=3.6					
FITZ			LR	LR	19 33 11.1	
	comp=Z,108nm,19.5s,baz=74,slow=35					
FITZ	**Fitzroy Crossi**	**39.24 254**	*e*P	**P**	**19 17 27.5**	**-2.5**
	6.0nm,1.3s					
PPT2	**Papeete2**	**44.07 104**	*e*LR	LR	19 30 44.0	
	131nm,22.8s					
JHJ	**Hachijo jima 2**	**49.87 332**	LR	LR	19 39 48.6	
	comp=Z,25nm,18.7s,baz=156,slow=36					
TGY	**Tagaytay City**	**50.51 298**	LR	LR	19 37 29.6	
	comp=Z,51nm,20.4s,baz=146,slow=33					
JOW	**Kunigami**	**51.83 317**	LR	LR	19 40 14.0	
	comp=Z,60nm,19.7s,baz=136,slow=35					
MJAR	**Matsushiro Arr**	**53.43 333**	P	**P**	**19 19 21.1**	**-0.1**
	0.7nm,0.6s,baz=164,slow=10.0,SNR=5.1					
MJAR			LR	LR	19 40 05.6	
	comp=Z,26nm,21.9s,baz=170,slow=34					
MAJO	**Matsushiro**	**53.43 333**	*e*P	**P**	**19 19 21.1**	**-0.1**
KSRS	**Korea Array**	**59.33 326**	P	**P**	**19 20 02.8**	**-0.5**
	1.1nm,0.8s,baz=132,slow=6.0,SNR=5.3					
KSAR	**Wonju Array Be**	**59.35 326**	P	**P**	**19 20 02.8**	**-0.6**
PETK	**Petropavlovsk-**	**63.77 355**	P	**P**	**19 20 32.7**	**-0.2**
	3.1nm,0.9s,baz=130,slow=8.0,SNR=3.9					
PETK			LR	LR	19 42 50.7	
	comp=Z,33nm,21.6s,baz=147,slow=31					
PEA1	**Petropavlovsk-**	**63.78 355**	*e*P	**P**	**19 20 32.7**	**-0.2**
VNDA	**Vanda**	**66.96 181**	P	**P**	**19 20 53.9**	**+0.6**
	0.9nm,0.8s,baz=335,slow=3.9,SNR=3.9					
CM01	**Chiang Mai Arr**	**71.65 293**	*e*P	**P**	**19 21 24.0**	**+0.7**
CM31	**Chiang Mai Arr**	**71.68 293**	*e*P	**P**	**19 21 23.9**	**+0.5**
CMAR	**Chiang Mai Arr**	**71.68 293**	P	**P**	**19 21 24.6**	**+1.1**
	2.0nm,1.0s,baz=119,slow=3.7,SNR=14					
SEY	**Seymchan**	**73.97 354**	P	**P**	**19 21 37.2**	**+1.1**
	0.8nm,0.6s,baz=292,slow=19,SNR=6.0					
SONA0	**Songino Array**	**78.12 324**	*e*P	**P**	**19 22 01.0**	**+0.7**
SONM	**Songino Array**	**78.12 324**	P	**P**	**19 22 01.0**	**+0.7**
	2.5nm,1.0s,baz=145,slow=6.3,SNR=10					
SONM			LR	LR	19 56 25.4	
	comp=Z,23nm,18.4s,baz=126,slow=36					
SONA1	**Songino Array**	**78.13 324**	*e*P	**P**	**19 21 57.1**	**-3.2**
QSPA	**South Pole Qui**	**79.43 180**	P	**P**	**19 22 06.6**	**-0.7**
	6.8nm,1.0s,baz=335,slow=3.6,SNR=7.3					
RPN	**Rapa Nui**	**81.02 116**	LR	LR	19 50 07.1	
	comp=Z,55nm,20.4s,baz=248,slow=30					
ILAR	**Eielson Array**	**83.15 19**	P	**P**	**19 22 27.9**	**+1.2**
	1.1nm,0.5s,baz=242,slow=5.0,SNR=30					
YBH	**Yreka Blue Hor**	**83.76 46**	LR	LR	19 51 47.2	
	comp=Z,16nm,19.6s,baz=264,slow=30					
MAW	**Mawson**	**85.06 202**	P	**P**	**19 22 37.0**	**+0.5**
	7.1nm,0.9s,baz=118,slow=4.6,SNR=6.8					
TIXI	**Tiksi**	**85.58 349**	P	**P**	**19 22 38.5**	**-0.3**
	0.9nm,0.8s,baz=81,slow=3.9,SNR=4.1					
NVAR	**Mina Array Bea**	**85.92 50**	P	**P**	**19 22 42.8**	**+1.2**
	1.1nm,0.9s,baz=230,slow=8.8,SNR=6.9					
NVAR			LR	LR	19 53 30.4	
	comp=Z,49nm,19.8s,baz=72,slow=30					
MK32	**Makanchi Array**	**92.99 317**	*e*P	**P**	**19 23 13.8**	**-0.7**
MKAR	**Makanchi Array**	**92.99 317**	P	**P**	**19 23 13.8**	**-0.7**
	1.1nm,0.8s,baz=109,slow=6.6,SNR=8.4					
ZALV	**Zalesovo Beam**	**93.02 324**	P	**P**	**19 23 13.9**	**-0.5**
	0.9nm,0.7s,baz=93,slow=8.2,SNR=4.3					
ZAA1	**Zalesovo Array**	**93.02 324**	*e*P	**P**	**19 23 13.9**	**-0.5**
PDAR	**Pinedale Array**	**93.43 47**	P	**P**	**19 23 16.7**	**-0.2**
	0.2nm,0.6s,baz=270,slow=3.6,SNR=3.2					
YKA	**Yellowknife Ar**	**94.68 27**	P	**P**	**19 23 21.5**	**-0.4**
	0.3nm,0.8s,baz=258,slow=4.6,SNR=6.9					
TXAR	**Lajitas Array**	**95.84 61**	LR	LR	20 00 16.6	
	comp=Z,32nm,19.6s,baz=0.0,slow=31					
SNAA	**Sanae**	**97.57 184**	P	**P**	**19 23 34.5**	**-0.5**
	2.0nm,0.9s,baz=192,slow=14,SNR=5.5					
ARCES	**ARCESS Array B**	**115.81 345**	PKP	**PKPdf**	**19 28 42.5**	**-0.5**
	1.4nm,0.7s,baz=64,slow=2.8,SNR=2					
FINES	**FINESS Array B**	**121.23 339**	PKP	**PKPdf**	**19 28 52.9**	**-0.7**
	5.1nm,1.3s,baz=70,slow=6.3,SNR=4.5					
CPUP	**Villa Florida**	**124.54 132**	PKP	**PKPdf**	**19 29 01.4**	**+0.3**
	1.1nm,0.8s,baz=166,slow=8.4,SNR=2.8					
KEST	**Kesra**	**146.88 323**	PKPbc	**PKPdf**	**19 29 42.8**	**+0.7**
	2.9nm,0.8s,baz=342,slow=5.1,SNR=4.0					
TORD	**Torodi Ar. Bea**	**163.92 281**	PKPab	**PKPab**	**19 30 57.0**	**-1.1**
	0.6nm,0.8s,baz=62,slow=4.6,SNR=4.1					
TOA1	**Torodi Ar. Sit**	**163.92 281**	*e*PKPab	**PKPab**	**19 30 57.0**	**-1.1**

*IDC **15** 19:11:36.4±1.1,4°.19N×92°.66E, h0km, mb3.9/10, mb1 3.9/12, mb1mx3.6/68, mbtmp3.9/12, ML3.8/2, MS3.2/3, Ms1 3.2/3, ms1mx2.6/69, Error ellipse: s-maj=39.5km s-min=19.3km az=49.0*

*DJA **15** 19:11:37.5±1.1,3°.N±7°.×93°.3E±°, h10km, M4.4/7, mB5.2/2, mb4.6/2, MLv4.3/7, Mw(mB)4.6/2*

ISC 15 19:11:36.7±1.0, 3°.9N±0°.1×93°.52E±0°.07, h23km, n37, σ1s74/29, mb3.9/10, MS3.2/3, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MLSI	**Meulaboh, Aceh**	**2.91**	**82**	P	**Pb**	**19 12 26.7**	**-1.2**
MLSI				S	**Sb**	**19 13 03.4**	**+0.3**
LHMI	**Lhok Sumawe**	**3.68**	**68**	P	**Pb**	**19 12 39.0**	**-2.1**
TPTI		**3.71**	**99**	P	**Pn**	**19 12 36.1**	**+3.5**
TPTI				S	**Sb**	**19 13 22.5**	**-3.5**
GSI	**Gunungsitoli**	**4.78**	**122**	P	**Pn**	**19 12 49.3**	**+1.9**
GSI				S	**Sn**	**19 13 42.5**	**+0.3**
TSI	**Tuntungan**	**5.05**	**94**	P	**Pn**	**19 12 51.9**	**+0.8**
MNSI	**Mandailing Nat**	**6.78**	**117**	P	**Pn**	**19 13 15.5**	**+0.7**
PALK	**Pallekele**	**13.20**	**285**	Pn	Pn	19 14 33.5	-9.3
	0.6nm,0.3s,baz=115,slow=12,SNR=4.9						
PALK				Sn	Sn	19 16 44.1	-25
	1.8nm,0.3s,baz=115,slow=8.9,SNR=7.1						
CMAR	**Chiang Mai Arr**	**15.45**	**20**	Pn	**Pn**	**19 15 15.2**	**+1.9**
	0.1nm,0.3s,baz=217,slow=12,SNR=12						
IMP	**Imphal**	**20.86**	**1**	*ex*	**P**	**19 16 17.7**	**+0.6**
ODAN	**Odare**	**23.61**	**346**	*e*P	**P**	**19 16 47.7**	**+1.3**
	10nm,0.4s						
H08S2	**Diego Garcia H**	**23.89**	**241**	T	T	19 42 08.6	
	baz=62,slow=76,SNR=30						
H08S3	**Diego Garcia H**	**23.89**	**241**	T	T	19 41 55.1	
	baz=62,slow=76,SNR=36						
RAMN	**Ramite**	**23.89**	**345**	*e*P	**P**	**19 16 49.8**	**+0.7**
	19nm,0.6s						
H08S1	**Diego Carcia H**	**23.90**	**241**	T	T	19 41 56.4	
	baz=62,slow=76,SNR=36						
JIRN	**Jiri**	**24.68**	**344**	*e*P	**P**	**19 16 56.8**	**+0.3**
	22nm,0.7s						
PKIN	**Phulchoki**	**24.83**	**343**	*e*P	**P**	**19 16 57.9**	**+0.2**
	11nm,0.8s						
DMN	**Daman**	**24.94**	**342**	*e*P	**P**	**19 16 59.5**	**+0.8**
	12nm,0.8s						
GUN	**Gumba**	**25.00**	**344**	*e*P	**P**	**19 16 59.5**	**+0.2**
	22nm,1.1s						
KKN	**Kakani**	**25.06**	**343**	*e*P	**P**	**19 16 59.8**	**+0.1**
	28nm,1.2s						
GKN	**Gorkha**	**25.46**	**341**	*e*P	**P**	**19 17 03.3**	**0.0**
	20nm,0.8s						
KOLN	**Koldanda**	**25.59**	**339**	*e*P	**P**	**19 17 04.5**	**0.0**
	12nm,0.7s						
AAK	**Ala-Archa**	**42.17**	**339**	LR	LR	19 39 43.1	
	comp=Z,28nm,18.0s,baz=140,slow=41						
H01W3	**Cape Leeuwin H**	**43.14**	**155**	T	T	20 05 44.5	
	baz=330,slow=76,SNR=6.2						
H01W2	**Cape Leeuwin H**	**43.15**	**155**	T	T	20 05 50.6	
	baz=330,slow=76,SNR=6.9						
H01W1	**Cape Leeuwin H**	**43.16**	**155**	T	T	20 05 48.7	
	baz=330,slow=76,SNR=3.5						
MKAR	**Makanchi Array**	**43.86**	**349**	P	**P**	**19 19 41.6**	**+0.3**
	1.7nm,0.6s,baz=169,slow=9.0,SNR=19						
MKAR				LR	LR	19 40 30.9	
	comp=Z,11nm,20.8s,baz=212,slow=40						
SONM	**Songino Array**	**45.19**	**12**	P	**P**	**19 19 53.3**	**+1.3**
	0.8nm,0.7s,baz=198,slow=7.5,SNR=3.8						
WRA	**Warramunga Ar**	**46.56**	**122**	P	P	19 20 13.5	+10
	0.8nm,0.9s,baz=298,slow=8.8,SNR=3.9						
GEYT	**Alibeck**	**46.84**	**321**	P	**P**	**19 20 03.0**	**-2.0**
	2.8nm,0.7s,baz=152,slow=6.7,SNR=13						
ASAR	**Alice Springs**	**47.92**	**127**	P	P	19 20 23.8	+10
	0.2nm,0.7s,baz=297,slow=7.3,SNR=4.2						
KURBB	**Kurchatov Arra**	**48.28**	**347**	P	**P**	**19 20 15.8**	**-0.2**
	0.9nm,0.6s,baz=167,slow=6.9,SNR=11						
ZALV	**Zalesovo Beam**	**50.44**	**353**	P	**P**	**19 20 32.6**	**+0.3**
	1.5nm,0.5s,baz=179,slow=9.7,SNR=8.3						
BVAR	**Borovoye Array**	**52.59**	**343**	P	**P**	**19 20 47.0**	**-1.5**
	1.0nm,0.7s,baz=147,slow=14,SNR=6.5						
ASF	**Jabal al Asfar**	**59.93**	**305**	LR	LR	19 50 21.1	
	comp=Z,68nm,18.9s,baz=203,slow=39						
GERES	**GERESS Array B**	**80.40**	**319**	P	**P**	**19 23 44.5**	**-2.1**
	1.0nm,0.9s,baz=121,slow=5.1,SNR=5.0						
HFS	**Hagfors**	**81.60**	**330**	P	**P**	**19 23 51.4**	**-1.1**
	3.0nm,0.9s,baz=267,slow=7.2,SNR=4.0						
TXAR	**Lajitas Array**	**143.11**	**25**	PKP	**PKPdf**	**19 31 14.4**	**+4.7**
	0.1nm,0.3s,baz=140,slow=4.7,SNR=3.1						

IDC 15 19:23:21.2±2.4, 10°.29S×123°.87E, h19km±20km, mb3.0/1, mb1 3.2/4, mb1mx2.9/54, mbtmp3.1/4, ML2.9/3, Error ellipse: s-maj=71.6km s-min=24.4km az=52.0, Timor region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**0.22**	**292**	Pg	Pg	19 23 26.7	+0.1
	395nm,0.3s,baz=214,slow=8.7,SNR=500						
BATI				Lg	Lg	19 23 31.9	
	697nm,0.3s,baz=218,slow=12,SNR=63						
FITZ	**Fitzroy Crossi**	**7.95**	**168**	Pn	Pn	19 25 15.6	-0.2
	0.1nm,0.3s,baz=349,slow=5.2,SNR=13						
FITZ				Sn	Sn	19 26 40.4	-4.8
	1.2nm,0.3s,baz=93,slow=4.5,SNR=14						
WRA	**Warramunga Arr**	**13.93**	**135**	Pn	Pn	19 26 37.5	-0.2
	0.1nm,0.3s,baz=312,slow=14,SNR=5.7						
WRA				Sn	Sn	19 29 04.6	-7.3
	0.2nm,0.3s,baz=309,slow=24,SNR=6.6						
ASAR	**Alice Springs**	**16.39**	**146**	Pn	Pn	19 27 10.9	+0.6
	0.1nm,0.3s,baz=320,slow=12,SNR=5.6						
ASAR				Sn	Sn	19 30 03.1	-8.7
	0.1nm,0.3s,baz=313,slow=21,SNR=3.6						
MKAR	**Makanchi Array**	**67.86**	**331**	P	P	19 34 18.3	0.0
	0.1nm,0.8s,baz=126,slow=7.3,SNR=2.2						

MAN 15 19:25:03, 10°.26N×123°.17E, h4km, mb4.3, ML3.1, MS2.9, Cebu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUIM	**Jordan**	**0.67**	**303**	*e*P	Pg	19 25 16.2	+0.2
GUIM				*e*S	Sb	19 25 26.6	-0.4
TBP	**Tagbilaran**	**0.89**	**130**	*e*P	Pg	19 25 20.0	-0.1
SNPH	**Sibulan**	**0.92**	**176**	*e*P	Pg	19 25 20.7	+0.1
SNPH				*e*S	Sg	19 25 32.6	+0.1
MSLP	**Maasin**	**1.67**	**94**	*e*P	Pn	19 25 32.9	-0.2
MSLP				*e*S	Sb	19 25 55.8	0.0
IPIL	**Ipil**	**2.53**	**193**	*e*P	Pn	19 25 45.6	+0.7
IPIL				*e*S	Sn	19 26 17.4	+1.3

*IDC **15** 19:27:40.7±1.1,3°.63N×92°.90E, h0km, mb3.6/10, mb1 3.7/12, mb1mx3.5/73, mbtmp3.6/12, ML3.3/2, MS3.3/2, Ms1 3.3/2, ms1mx2.5/59, Error ellipse: s-maj=38.1km s-min=18.9km az=49.0*

*ISCJB **15** 19:27:43.7±0.8, 3°.7N±0°.1×92°.9E±0°.1, h33km, mb3.6/10, MS3.3/2, Error ellipse: s-maj=20.0km s-min=14.9km az=34.9*

ISC 15 19:27:45.9±1.1, 3°.7N±0°.2×92°.9E±0°.1, h35km, n14, σ0s91/12, mb3.6/10, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PALK	**Pallekele**	**12.67**	**287**	Pn	**Pn**	**19 30 43.3**	**-0.4**
	0.2nm,0.3s,baz=114,slow=17,SNR=4.0						
PALK				Sn	Sn	19 32 47.4	-16
	2.0nm,0.3s,baz=119,slow=3.0,SNR=8.9						
CMAR	**Chiang Mai Arr**	**15.83**	**21**	Pn	**Pn**	**19 31 25.5**	**-0.9**
	0.0nm,0.3s,baz=220,slow=13,SNR=6.2						
FITZ	**Fitzroy Crossi**	**38.84**	**125**	LR	LR	19 52 25.7	
	comp=Z,29nm,18.0s,baz=20,slow=38						
MKAR	**Makanchi Array**	**43.93**	**349**	P	**P**	**19 35 49.8**	**+0.4**
	0.8nm,0.7s,baz=163,slow=8.1,SNR=11						
SONM	**Songino Array**	**45.50**	**13**	P	**P**	**19 36 02.6**	**+0.5**
	0.2nm,0.5s,baz=184,slow=5.8,SNR=2.9						
WRA	**Warramunga Arr**	**46.97**	**122**	P	**P**	**19 36 12.7**	**-1.2**
	0.4nm,0.9s,baz=298,slow=8.7,SNR=2.5						
ASAR	**Alice Springs**	**48.30**	**126**	P	**P**	**19 36 24.9**	**+0.7**
	0.1nm,0.4s,baz=309,slow=8.8,SNR=3.4						
KURBB	**Kurchatov Arra**	**48.33**	**348**	P	**P**	**19 36 23.6**	**-0.4**
	0.4nm,0.8s,baz=172,slow=6.9,SNR=7.7						
ZALV	**Zalesovo Beam**	**50.55**	**354**	P	**P**	**19 36 41.9**	**+1.0**
	2.4nm,0.5s,baz=178,slow=7.0,SNR=17						
BVAR	**Borovoye Array**	**52.59**	**343**	P	**P**	**19 36 54.9**	**-1.2**
	0.3nm,0.5s,baz=94,slow=2.0,SNR=2.8						
PMG	**Port Moresby**	**55.60**	**104**	LR	LR	20 04 30.0	
	comp=Z,30nm,18.5s,baz=160,slow=40						
BRTR	**Keskin Array B**	**64.29**	**313**	P	**P**	**19 38 17.8**	**-0.4**
	0.5nm,0.7s,baz=129,slow=6.9,SNR=4.5						
GERES	**GERESS Array B**	**80.14**	**319**	P	**P**	**19 39 53.8**	**+1.1**
	0.9nm,0.7s,baz=96,slow=8.3,SNR=6.0						
HFS	**Hagfors**	**81.46**	**330**	P	**P**	**19 39 59.6**	**+0.2**
	1.7nm,1.1s,baz=132,slow=6.0,SNR=3.7						

IDC 15 19:33:40.3±13.0, 4°.30N×92°.26E, h0km, mb3.5/3, mb1 3.6/5, mb1mx3.3/71, mbtmp3.6/5, ML3.1/2, MS3.5/1, Ms1 3.5/1, ms1mx2.4/55, Error ellipse: s-maj=257.3km s-min=45.5km az=161.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PALK	**Pallekele**	**11.87**	**285**	Pn	Pn	19 36 30.9	-0.2
	0.1nm,0.3s,baz=110,slow=13,SNR=2.4						
PALK				Sn	Sn	19 38 40.9	-3.6
	0.9nm,0.3s,baz=27,slow=0.2,SNR=5.0						
CMAR	**Chiang Mai Arr**	**15.51**	**24**	Pn	Pn	19 37 20.1	-0.5
	0.0nm,0.3s,baz=213,slow=11,SNR=4.1						
MKAR	**Makanchi Array**	**43.20**	**350**	P	P	19 41 43.4	+0.3
	0.2nm,0.4s,baz=161,slow=8.9,SNR=4.8						
SONM	**Songino Array**	**45.04**	**13**	P	P	19 41 57.9	0.0
	0.3nm,0.8s,baz=197,slow=4.5,SNR=3.0						
ZALV	**Zalesovo Beam**	**49.87**	**354**	P	P	19 42 34.8	-0.5
	1.0nm,0.4s,baz=168,slow=7.8,SNR=6.9						
BVAR	**Borovoye Array**	**51.80**	**343**	LR	LR	20 07 21.6	
	comp=Z,53nm,21.4s,baz=102,slow=39						

IDC 15 19:43:56.7±1.6, 2°.61N×92°.46E, h0km, mb3.5/6, mb1 3.7/8, mb1mx3.4/65, mbtmp3.5/8, ML3.7/2, Error ellipse: s-maj=52.0km s-min=20.9km az=55.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PALK	**Pallekele**	**12.59**	**292**	Pn	Pn	19 46 57.9	+0.5
	0.8nm,0.3s,baz=112,slow=11,SNR=4.6						
PALK				Sn	Sn	19 49 03.1	-15
	0.3nm,0.3s,baz=117,slow=14,SNR=2.5						
CMAR	**Chiang Mai Arr**	**16.99**	**22**	Pn	Pn	19 47 55.1	-0.8
	0.1nm,0.3s,baz=214,slow=12,SNR=3.6						
MKAR	**Makanchi Array**	**44.90**	**350**	P	P	19 52 11.1	-2.0
	0.2nm,0.6s,baz=167,slow=7.9,SNR=2.5						
SONM	**Songino Array**	**46.64**	**13**	P	P	19 52 28.0	+1.0
	0.2nm,0.7s,baz=197,slow=8.7,SNR=2.2						
WRA	**Warramunga Arr**	**46.81**	**121**	P	P	19 52 28.1	-0.6
	1.3nm,0.9s,baz=301,slow=8.8,SNR=6.1						
ASAR	**Alice Springs**	**48.05**	**125**	P	P	19 52 38.5	+0.2
	0.6nm,0.8s,baz=291,slow=7.1,SNR=5.7						
ZALV	**Zalesovo Beam**	**51.56**	**354**	P	P	19 53 04.9	+0.5
	0.7nm,0.5s,baz=165,slow=7.9,SNR=2.3						
BVAR	**Borovoye Array**	**53.47**	**344**	P	P	19 53 19.0	+0.3
	0.2nm,0.4s,baz=146,slow=8.0,SNR=2.5						

*ISCJB **15** 19:45:18.3±0.2, 63°.15N±0°.02×149°.33W±0°.05, h98km±2km, mb3.6/12, Error ellipse: s-maj=3.4km s-min=3.3km az=39.7*

*NEIC **15** 19:45:19.7±0.0, 63°.15N×149°.35W, h85km, ML3.5(AEIC), After AEIC.*

*IDC **15** 19:45:19.1±1.6, 63°.15N×149°.31W, h88km±14km, mb3.4/12, mb1 3.5/15, mb1mx3.2/78, mbtmp3.7/15, Error ellipse: s-maj=18.7km s-min=14.1km az=127.0*

ISC 15 19:45:19.0±0.7, 63°.13N±0°.03×149°.31W±0°.03, h89km±6km, n87, σ1s00/102, mb3.6/12, Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RND	**Reindeer**	**0.34**	**37**	P	**Pn**	**19 45 32.9**	**+0.3**
RND				S	**Sn**	**19 45 42.7**	**-0.1**
TRF	**Thorofare Moun**	**0.55**	**306**	P	**Pn**	**19 45 34.8**	**+0.6**
TRF				S	**Sn**	**19 45 46.1**	**+0.6**
MCK	**McKinley**	**0.63**	**15**	P	**Pn**	**19 45 35.3**	**+0.5**
MCK				S	**Sn**	**19 45 46.5**	**0.0**
KTH	**Kantishna Hill**	**0.84**	**301**	P	**Pn**	**19 45 37.4**	**+0.5**
KTH				S	**Sn**	**19 45 50.3**	**0.0**
DHY	**Denali Highway**	**0.88**	**93**	P	**Pn**	**19 45 37.7**	**+0.3**
DHY				S	**Sn**	**19 45 51.7**	**+0.4**
BPAW	**Bear Paw Mtn.**	**1.23**	**323**	P	**Pn**	**19 45 41.6**	**+0.3**
BPAW				S	**Sn**	**19 45 57.4**	**-0.6**
CAST	**Castle Rocks**	**1.29**	**284**	P	**Pn**	**19 45 42.0**	**0.0**
CAST				S	**Sn**	**19 45 58.4**	**-1.0**
PPLA	**Purkeypile**	**1.33**	**261**	P	**Pn**	**19 45 43.6**	**+0.9**
PPLA				S	**Sn**	**19 46 01.2**	**+0.6**
GHO	**Glory Hole Cre**	**1.38**	**172**	P	**Pn**	**19 45 43.7**	**+0.5**
SML	**Sawmill**	**1.40**	**161**	P	**Pn**	**19 45 44.2**	**+0.7**
WRH	**Wood River Hil**	**1.45**	**21**	P	**Pn**	**19 45 44.5**	**+0.6**
WRH				S	**Sn**	**19 46 02.4**	**-0.5**
SKT	**Skwentna**	**1.55**	**223**	P	**Pn**	**19 45 45.5**	**+0.2**
SKT				S	**Sn**	**19 46 05.4**	**+0.2**
PMR	**Palmer**	**1.55**	**177**	P	**Pn**	**19 45 46.0**	**+0.8**
SCM	**Sheep Creek Mo**	**1.60**	**144**	P	**Pn**	**19 45 46.7**	**+0.7**
PS10	**TAPS Pump St10**	**1.63**	**78**	P	**Pn**	**19 45 48.1**	**+1.8**
CCB	**Clear Creek Bu**	**1.66**	**23**	P	**Pn**	**19 45 47.1**	**+0.4**
PAX	**Paxson**	**1.76**	**94**	P	**Pn**	**19 45 49.5**	**+1.5**
KNK	**Knik Glacier**	**1.77**	**167**	P	**Pn**	**19 45 49.1**	**+0.9**
PS08	**TAPS Pump Stn8**	**1.79**	**37**	P	**Pn**	**19 45 49.0**	**+0.6**
SUA	**Susitna One**	**1.80**	**202**	P	**Pn**	**19 45 49.3**	**+0.7**
COLA	**College**	**1.86**	**20**	P	**Pn**	**19 45 50.0**	**+0.7**
COLA				S	**Sn**	**19 46 11.7**	**-0.6**
MDM	**Murphy Dome**	**1.90**	**14**	P	**Pn**	**19 45 50.4**	**+0.7**
ILAR	**Eielson Array**	**1.96**	**32**	P	**Pn**	**19 45 50.7**	**+0.1**
	36nm,0.3s,baz=216,slow=14,SNR=2271						
ILAR				S	**Sn**	**19 46 14.5**	**-0.2**
	24nm,0.3s,baz=209,slow=16,SNR=20						
ILB	**Eielson Array**	**1.96**	**32**	P	**Pn**	**19 45 51.1**	**+0.5**
MLY	**Manley**	**2.01**	**342**	P	**Pn**	**19 45 51.8**	**+0.6**
STLK	**Strandline Lak**	**2.02**	**217**	P	**Pn**	**19 45 51.8**	**+0.4**
HARP	**HAARP**	**2.04**	**109**	P	**Pn**	**19 45 53.2**	**+1.5**
GLM	**Gilmore Dome**	**2.04**	**24**	P	**Pn**	**19 45 52.3**	**+0.6**
RC01	**Rabbit Creek A**	**2.06**	**186**	P	**Pn**	**19 45 52.6**	**+0.7**
PS11	**TAPS Pump St11**	**2.06**	**119**	P	**Pn**	**19 45 53.7**	**+1.8**
RIDG	**Independ'e Rid**	**2.10**	**71**	P	**Pn**	**19 45 53.8**	**+1.3**
KLU	**Klutina**	**2.28**	**135**	P	**Pn**	**19 45 55.4**	**+0.5**
SPCP	**Crater Peak Br**	**2.30**	**217**	P	**Pn**	**19 45 56.0**	**+0.8**
CKL	**Chakachamna La**	**2.41**	**218**	P	**Pn**	**19 45 57.4**	**+0.8**
SPWE	**Spurr West**	**2.41**	**221**	P	**Pn**	**19 45 57.9**	**+1.3**
DOT	**Dot Lake**	**2.42**	**75**	P	**Pn**	**19 45 57.7**	**+1.1**
JPK	**Jack Peak**	**2.44**	**147**	P	**Pn**	**19 45 57.3**	**+0.3**
VLZ	**Valdez**	**2.45**	**144**	P	**Pn**	**19 45 57.1**	**+0.1**
MENT	**Mentasta**	**2.56**	**92**	P	**Pn**	**19 45 60.0**	**+1.5**
DIV	**Divide**	**2.61**	**139**	*e*Pn	**Pn**	**19 45 58.7**	**-0.6**
PS06	**TAPS Pump Stn6**	**2.74**	**356**	P	**Pn**	**19 46 01.7**	**+0.8**
PRP	**Porcupine Dome**	**2.91**	**33**	P	**Pn**	**19 46 04.0**	**+0.7**
DFR	**Drift River**	**3.01**	**214**	P	**Pn**	**19 46 05.2**	**+0.6**
TT01	**Tatalina**	**3.07**	**269**	P	**Pn**	**19 46 05.8**	**+0.4**
EYAK	**Cordova Ski Ar**	**3.09**	**145**	P	**Pn**	**19 46 06.4**	**+0.8**
NCT	**North Crescent**	**3.10**	**215**	P	**Pn**	**19 46 07.9**	**+2.1**
BMRM	**Bremner River**	**3.10**	**132**	P	**Pn**	**19 46 05.8**	**0.0

az=170.1

IDC ***15*** *19:59:23.2±1.8, 6˚.15S×129˚.32E, h214km±20km, mb3.3/5, mb1 3.6/10, mb1mx3.2/58, mbtmp4.1/10, Error ellipse: s-maj=21.6km s-min=13.3km az=74.0*

DJA ***15*** *19:59:24.6±0.3, 6˚.5S×129˚.9E±˚, h203km±6km, M4.4/13, mb4.4/10, mB5.0/7, MLv4.5/13, Mw(mB)4.3/7*

ISC 15 19:59:22.5±0.7,**6˚.24S**±0.04×**129˚.38E**±0.05,**h209**km±**9**km,**n22,** σ2§**73**/**36**,**mb3.2**/**5**,**Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**1.79**	**17**	P	**Pn**	**20 00 03.2**	**+3.5**
SAUI	**Saumlaki**	**2.58**	**132**	P	**Pn**	**20 00 11.5**	**+3.6**
SAUI				S	**S**	**20 00 46.6**	**+3.8**
MSAI	**Masohi**	**2.91**	**351**	P	**Pn**	**20 00 13.7**	**+2.0**
MSAI				S	**S**	**20 00 51.7**	**+2.0**
NLAI	**Namlea**	**3.75**	**323**	P	**Pn**	**20 00 25.1**	**+3.5**
NLAI				S	**S**	**20 01 14.5**	**+6.9**
FAKI	**Fak Fak**	**4.37**	**41**	P	**Pn**	**20 00 29.6**	**+0.3**
FAKI				S	**S**	**20 01 18.9**	**-2.6**
KMPI	**Kaimana, Papua**	**5.02**	**59**	P	**Pn**	**20 00 39.3**	**+1.9**
KMPI				S	**S**	**20 01 34.3**	**-1.9**
SANI	**Sanana**	**5.36**	**321**	P	**Pn**	**20 00 43.8**	**+2.0**
SANI				S	**S**	**20 01 42.9**	**-1.4**
SIJI	**Sorong**	**5.66**	**20**	P	**Pn**	**20 00 45.5**	**-0.2**
	24nm,0.3s,baz=207,slow=13,SNR=281						
SIJI				S	**S**	**20 01 46.9**	**-4.4**
	12nm,0.3s,baz=274,slow=23,SNR=15						
LBMI	**Labuha**	**5.87**	**341**	P	**Pn**	**20 00 49.7**	**+1.3**
LBMI				S	**S**	**20 01 52.1**	**-4.1**
SOEI	**Soe**	**6.15**	**235**	P	**Pn**	**20 00 53.5**	**+1.5**
SOEI				S	**S**	**20 02 00.7**	**-2.0**
BATI	**Baumata**	**6.89**	**235**	P	**Pn**	**20 01 02.5**	**+1.0**
	6.8nm,0.3s,baz=54,slow=12,SNR=18						
BATI				S	**S**	**20 02 17.9**	**-2.1**
	4.1nm,0.3s,baz=46,slow=17,SNR=4.5						
BATI	**Baumata**	**6.89**	**235**	P	**Pn**	**20 01 02.8**	**+1.3**
BATI				S	**S**	**20 02 18.9**	**-1.1**
APSI	**Ampana**	**9.35**	**304**	P	**Pn**	**20 01 36.3**	**+2.9**
MRSI	**Marisa**	**9.98**	**312**	P	**Pn**	**20 01 43.8**	**+2.3**
FITZ	**Fitzroy Crossi**	**12.34**	**197**	P	**Pn**	**20 02 12.1**	**+0.6**
	1.4nm,0.3s,baz=40,slow=9.4,SNR=16						
FITZ				S	**S**	**20 04 22.1**	**-6.2**
	2.4nm,0.3s,baz=145,slow=14,SNR=8.3						
WRA	**Warramunga Arr**	**14.45**	**161**	P	**Pn**	**20 02 37.9**	**+0.2**
	0.6nm,0.3s,baz=342,slow=12,SNR=26						
WRA				S	**S**	**20 05 15.0**	**-3.0**
	1.4nm,0.3s,baz=341,slow=21,SNR=8.2						
ASAR	**Alice Springs**	**17.86**	**166**	P	**Pn**	**20 03 19.2**	**+0.6**
	2.9nm,0.3s,baz=346,slow=12,SNR=118						
ASAR				S	**S**	**20 06 30.1**	**-0.7**
	0.3nm,0.3s,baz=348,slow=20,SNR=24						
CTA	**Charters Tower**	**21.40**	**132**	P	**P**	**20 03 55.5**	**+1.2**
	9.8nm,1.1s,baz=290,slow=17,SNR=3.5						
NWAO	**Narrogin (SRO)**	**28.86**	**202**	P	**P**	**20 05 02.0**	**+0.4**
	7.9nm,0.8s,baz=358,slow=9.6,SNR=9.0						
CMAR	**Chiang Mai Arr**	**38.77**	**310**	P	**P**	**20 06 27.1**	**0.0**
	0.3nm,0.6s,baz=138,slow=6.6,SNR=4.6						
MKAR	**Makanchi Array**	**67.26**	**327**	P	**P**	**20 09 53.2**	**-1.4**
	0.2nm,0.4s,baz=122,slow=7.1,SNR=4.7						
KURBB	**Kurchatov Arra**	**71.54**	**329**	P	**P**	**20 10 20.6**	**-0.1**
	0.1nm,0.3s,baz=132,slow=3.7,SNR=2.6						

IDC ***15*** *19:59:21.5±1.4, 0˚.31N×92˚.20E, h0km, mb3.8/8, mb1 3.9/11, mb1mx3.6/72, mbtmp3.8/11, ML3.8/2, MS3.1/2, Ms1 3.1/2, ms1mx2.5/63, Error ellipse: s-maj=38.6km s-min=21.3km az=43.0*

ISCJB ***15*** *19:59:23.7±1.0, 0˚.3N×0˚.2×92˚.1E±0˚.2, h33km, mb3.8/8, MS3.1/2, Error ellipse: s-maj=27.6km s-min=15.0km az=41.9*

ISC 15 19:59:26.3±1.2,**0˚.4N**±0˚.2×**92˚.2E**±0˚.1,**h35**km,**n13,** σ1§**46**/**11**,**mb3.9**/**8**,**Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**7.13**	**70**	Pn	**Pn**	**20 01 06.5**	**-1.9**
	baz=270,slow=6.8						
PALK	**Pallekele**	**13.38**	**301**	Pn	**Pn**	**20 02 31.8**	**-2.1**
	1.8nm,0.3s,baz=115,slow=11,SNR=14						
PALK				Sn	Sn	20 04 48.9	-13
	0.7nm,0.3s,baz=116,slow=4.7,SNR=4.2						
CMAR	**Chiang Mai Arr**	**19.16**	**20**	P	**P**	**20 03 47.7**	**+0.8**
	0.0nm,0.3s,baz=214,slow=12,SNR=12						
DAV	**Davao City (W)**	**33.93**	**78**	LR	LR	20 20 17.7	
	comp=Z,24nm,21.2s,baz=140,slow=37						
WRA	**Warramunga Arr**	**45.92**	**119**	P	**P**	**20 07 46.7**	**+0.7**
	3.0nm,0.6s,baz=296,slow=8.5,SNR=4.4						
ASAR	**Alice Springs**	**46.98**	**123**	P	**P**	**20 07 53.8**	**-0.6**
	0.9nm,0.6s,baz=350,slow=30,SNR=3.1						
MKAR	**Makanchi Array**	**47.06**	**351**	P	**P**	**20 07 54.7**	**+0.1**
	0.5nm,0.7s,baz=166,slow=8.8,SNR=7.5						
SONM	**Songino Array**	**48.87**	**13**	P	**P**	**20 08 10.1**	**+1.4**
	0.7nm,0.6s,baz=195,slow=9.5,SNR=8.2						
ZALV	**Zalesovo Beam**	**53.76**	**355**	P	**P**	**20 08 45.8**	**+0.8**
	0.5nm,0.4s,baz=163,slow=6.2,SNR=3.8						
BVAR	**Borovoye Array**	**55.55**	**344**	P	**P**	**20 08 57.5**	**-0.6**
	0.3nm,0.6s,baz=145,slow=7.1,SNR=3.6						
FINES	**FINESS Array B**	**78.47**	**333**	P	**P**	**20 11 23.6**	**0.0**
	0.3nm,0.6s,baz=92,slow=8.8,SNR=2.7						
GERES	**GERESS Array B**	**82.17**	**319**	P	**P**	**20 11 46.1**	**+2.3**
	1.1nm,0.7s,baz=105,slow=4.6,SNR=6.1						
SPITS	**Spitsbergen Ar**	**86.76**	**348**	LR	LR	20 54 48.9	
	comp=Z,14nm,21.5s,baz=275,slow=38						

DDA ***15*** *20:16:48.7, 37˚.21N×36˚.38E, h4km, Ml2.6*

ISK ***15*** *20:16:48.6, 37˚.25N×36˚.31E, h6km, MD2.7/2*

CSEM ***15*** *20:16:49.4±0.2, 37˚.21N×36˚.31E, h2km, ML2.6, Error ellipse: s-maj=4.3km s-min=3.8km az=4.0*

ISC 15 20:16:48.9±1.1,**37˚.22N**±0.02×**36˚.32E**±0.02,**h5**km±10km,
n38, σ0§**58**/**60**,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANDN	**Andirin**	**0.36**	**4**	*i* P	**Pg**	**20 16 55.3**	**-0.7**
ANDN				*i* S	**Sg**	**20 17 01.8**	**+0.9**
ANDN	**Andirin**	**0.36**	**4**	P	**Pg**	**20 16 55.3**	**-0.7**
ANDN				S	**Sg**	**20 17 01.8**	**+0.9**
KOZT	**Kozan**	**0.47**	**304**	PG	**Pg**	**20 16 57.7**	**-0.3**
KOZT				SG	**Sg**	**20 17 04.7**	**+0.6**
KOZT	**Kozan**	**0.47**	**304**	*e*Pg	**Pg**	**20 16 57.7**	**-0.3**
KOZT				*e*Sg	**Sg**	**20 17 04.7**	**+0.6**
CEYT	**Ceyhan**	**0.50**	**246**	PG	**Pg**	**20 16 58.9**	**+0.4**
CEYT				SG	**Sb**	**20 17 06.4**	**-1.3**
CEYT	**Ceyhan**	**0.50**	**246**	*e*Pg	**Pg**	**20 16 58.9**	**+0.4**
CEYT				*e*Sg	**Sb**	**20 17 06.4**	**-1.3**
KMRS	**Kahramanmaras**	**0.55**	**58**	PG	**Pg**	**20 16 59.5**	**0.0**
KMRS				SG	**Sg**	**20 17 06.6**	**0.0**
KMRS	**Kahramanmaras**	**0.55**	**58**	*e*Pg	**Pg**	**20 16 59.5**	**0.0**
KMRS				*e*Sg	**Sg**	**20 17 06.6**	**0.0**
GAZ	**Gaziantep**	**0.72**	**93**	PG	**Pb**	**20 17 03.7**	**-0.2**
GAZ				SG	**Sb**	**20 17 13.3**	**-0.8**
GAZ	**Gaziantep**	**0.72**	**93**	*e*Pg	**Pb**	**20 17 03.7**	**-0.2**
GAZ				*e*Sg	**Sb**	**20 17 13.3**	**-0.8**
KUZU	**Kuzuini**	**0.75**	**126**	*i* P	**Pg**	**20 17 03.6**	**+0.3**
KUZU				*i* S	**Sg**	**20 17 13.3**	**+0.2**
KUZU	**Kuzuini**	**0.75**	**126**	P	**Pg**	**20 17 03.6**	**+0.3**
KUZU				S	**Sg**	**20 17 13.3**	**+0.2**
SAIM	**ADANA**	**0.78**	**346**	*i* P	**Pn**	**20 17 06.0**	**-0.7**
SAIM				*i* S	**Sb**	**20 17 15.8**	**-0.2**
SAIM	**ADANA**	**0.78**	**346**	P	**Pn**	**20 17 06.0**	**-0.7**
SAIM				S	**Sb**	**20 17 15.8**	**-0.2**
KRTS	**Karatas**	**0.99**	**230**	PG	**Pb**	**20 17 08.2**	**-0.3**
KRTS	**Karatas**	**0.99**	**230**	*e*Pg	**Pb**	**20 17 08.2**	**-0.3**
KARA	**Karaisali**	**1.01**	**273**	PG	**Pb**	**20 17 08.7**	**-0.1**
KARA	**Karaisali**	**1.01**	**273**	*e*Pg	**Pb**	**20 17 08.7**	**-0.1**
YAHY	**KAYSERI_Yahyal**	**1.16**	**320**	*i* P	**Pn**	**20 17 11.8**	**-0.1**
YAHY				*i* S	**Sn**	**20 17 29.0**	**+0.8**
YAHY	**KAYSERI_Yahyal**	**1.16**	**320**	P	**Pn**	**20 17 11.8**	**-0.1**
YAHY				S	**Sn**	**20 17 29.0**	**+0.8**
YAYL	**Yayladag**	**1.19**	**188**	PN	**Pb**	**20 17 11.7**	**-0.3**
YAYL	**Yayladag**	**1.19**	**188**	*i* P	**Pb**	**20 17 11.7**	**-0.3**
YAYL				*i* S	**Sb**	**20 17 28.0**	**+0.2**
YAYL	**Yayladag**	**1.19**	**188**	P	**Pb**	**20 17 11.7**	**-0.3**
YAYL				S	**Sb**	**20 17 28.0**	**+0.2**
GULE	**Gulek**	**1.23**	**274**	*i* P	Pg	20 17 06.5	-6.0
DARE	**Darende-Malaty**	**1.64**	**34**	PN	**Pn**	**20 17 18.4**	**-0.1**
DARE	**Darende-Malaty**	**1.64**	**34**	*e*Pn	**Pn**	**20 17 18.4**	**-0.1**
AKCD	**Akcadag**	**1.67**	**49**	*i* P	**Pn**	**20 17 18.8**	**-0.1**
AKCD				*i* S	**Sg**	**20 17 42.5**	**-0.1**
AKCD	**Akcadag**	**1.67**	**49**	P	**Pn**	**20 17 18.8**	**-0.1**
BNN	**Bunyan**	**1.68**	**347**	PN	**Pn**	**20 17 18.6**	**-0.4**
BNN	**Bunyan**	**1.68**	**347**	*e*Pn	**Pn**	**20 17 18.6**	**-0.4**
SURC	**SANLIURFA_SURC**	**1.87**	**100**	*i* P	**Pg**	**20 17 24.0**	**-0.7**
SURC				*i* S	**Sg**	**20 17 48.3**	**-0.6**
SURC	**SANLIURFA_SURC**	**1.87**	**100**	P	**Pg**	**20 17 24.0**	**-0.7**
SURC				S	**Sg**	**20 17 48.3**	**-0.6**
MALT	**Malatya**	**2.00**	**56**	PN	**Pn**	**20 17 24.3**	**+0.8**
MALT	**Malatya**	**2.00**	**56**	*e*Pn	**Pn**	**20 17 24.3**	**+0.8**
URFA	**Urfa**	**2.01**	**83**	PN	**Pn**	**20 17 24.5**	**+0.9**
URFA	**Urfa**	**2.01**	**83**	*e*Pn	**Pn**	**20 17 24.5**	**+0.9**
HEKM	**Malatya_Hekimh**	**2.11**	**38**	*i* P	**Pb**	**20 17 28.1**	**+0.4**
HEKM				*i* S	**Sg**	**20 17 57.6**	**+1.0**
HEKM	**Malatya_Hekimh**	**2.11**	**38**	P	**Pb**	**20 17 28.1**	**+0.4**

ISCJB ***15*** *20:29:26.1±0.4, 27˚.37N±0˚.09×127˚.07E±0˚.10, h171km±9km, mb3.5/5, Error ellipse: s-maj=20.6km s-min=4.0km az=138.1*

IDC ***15*** *20:29:27.4±1.1, 27˚.32N×127˚.14E, h170km±15km, mb3.2/5, mb1 3.3/6, mb1mx2.8/70, mbtmp3.6/6, MS3.2/2, Ms1 3.2/2, ms1mx2.4/28, Error ellipse: s-maj=42.2km s-min=24.7km az=8.0*

JMA ***15*** *20:29:29.0±0.2, 27˚.57N×127˚.03E, h142km±5km, M3.7*

ISC 15 20:29:27.2±0.8,**27˚.5N**±0˚.1×**127˚.02E**±0˚.09,**h164**km±11km,
n27,σ1§**42**/**43**,**mb3.5**/**5**,**Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAGN	**Aguni-jima**	**0.88**	**167**	P	**Pn**	**20 29 53.2**	**+0.8**
JAGN				S	**Sn**	**20 30 11.7**	**0.0**
JIH	**Iheya**	**0.94**	**116**	P	**Pn**	**20 29 53.6**	**+0.8**
JIH				S	**Sn**	**20 30 11.8**	**-0.6**
JKE	**Kume jima 2**	**1.14**	**191**	P	**Pn**	**20 29 55.2**	**+0.7**
JKE				S	**Sn**	**20 30 16.3**	**+0.9**
JOW	**Kunigami**	**1.27**	**118**	P	**Pn**	**20 29 56.5**	**+0.8**
	20nm,0.3s,baz=116,slow=19,SNR=246						
JOW				S	**Sn**	**20 30 15.8**	**-1.7**
	145nm,0.3s,baz=343,slow=19,SNR=43						
JOW	**Kunigami**	**1.27**	**118**	P	**Pn**	**20 29 56.5**	**+0.8**
JOW				S	**Sn**	**20 30 16.4**	**-1.1**
JNTH	**Nagotoyohara**	**1.28**	**136**	P	**Pn**	**20 29 57.0**	**+1.2**
JNTH				S	**Sn**	**20 30 17.1**	**-0.6**
JOKE	**Okinoerabujima**	**1.38**	**93**	P	**Pn**	**20 29 57.1**	**+0.4**
JOKE				S	**Sn**	**20 30 17.7**	**-1.6**
JJT3	**Tamagusuku3**	**1.46**	**152**	P	**Pn**	**20 29 59.6**	**+2.1**
JJT3				S	**Sn**	**20 30 21.9**	**+1.1**
JTK	**Tokunoshima**	**1.74**	**78**	P	**Pn**	**20 30 00.4**	**0.0**
JTK				S	**Sn**	**20 30 24.5**	**-1.4**
JAMN	**Amaminishikomi**	**2.06**	**67**	P	**Pn**	**20 30 03.7**	**-0.2**
JAMN				*e*S	**Sn**	**20 30 30.6**	**-1.6**
JAM	**Amami Oshima**	**2.48**	**67**	P	**Pn**	**20 30 08.7**	**0.0**
JAM				*e*S	**Sn**	**20 30 39.3**	**-1.6**
JTAJ	**Takarajima**	**2.57**	**48**	P	**Pn**	**20 30 10.0**	**+0.2**
JZK	**Kikaishima**	**2.75**	**71**	P	**Pn**	**20 30 12.7**	**+0.7**
JZK				*e*S	**Sn**	**20 30 46.3**	**-0.5**
JIKM	**Ikemajima**	**2.98**	**213**	P	**Pn**	**20 30 12.4**	**-2.4**
JIKM				*e*S	**Sn**	**20 30 51.0**	**-0.8**
JOGS	**Gusukube**	**3.04**	**209**	P	**Pn**	**20 30 12.3**	**-3.4**
JOGS				*e*S	**Sn**	**20 30 53.3**	**0.0**
JMJ	**Miyako jima 2**	**3.05**	**211**	P	**Pn**	**20 30 13.3**	**-2.4**
JMJ				S	**Sn**	**20 30 52.6**	**-0.8**
JIRB	**Irabujima**	**3.09**	**213**	P	**Pn**	**20 30 13.7**	**-2.6**
JIRB				*e*S	**Sn**	**20 30 52.7**	**-1.7**
JTJ	**Tarama**	**3.49**	**217**	P	**Pn**	**20 30 21.2**	**-0.1**
JTJ				*e*S	**Sn**	**20 31 02.0**	**-1.3**
JISG	**Ishigakijimahi**	**3.75**	**221**	P	**Pn**	**20 30 24.4**	**-0.2**
JISG				S	**Sn**	**20 31 07.5**	**-1.8**
JNU	**Nakatsue**	**6.57**	**30**	P	**Pn**	**20 31 02.8**	**+1.3**
	0.7nm,0.3s,baz=221,slow=10.0,SNR=8.9						
GUMO	**Guam**	**21.62**	**126**	LR	LR	20 41 50.0	
	comp=Z,17nm,19.6s,baz=124,slow=35						
SONM	**Songino Array**	**25.95**	**327**	P	**P**	**20 34 47.2**	**+2.8**
	1.2nm,0.4s,baz=140,slow=11,SNR=8.5						
MKAR	**Makanchi Array**	**39.92**	**311**	P	**P**	**20 36 45.3**	**0.0**
	0.4nm,0.4s,baz=92,slow=9.7,SNR=11						
ZALV	**Zalesovo Beam**	**40.63**	**322**	P	**P**	**20 36 50.9**	**0.0**
	0.4nm,0.4s,baz=112,slow=9.4,SNR=2.4						
PMG	**Port Moresby**	**41.51**	**149**	LR	LR	20 54 43.5	
	comp=Z,131nm,19.0s,baz=113,slow=37						
ILAR	**Eielson Array**	**63.88**	**28**	P	**P**	**20 39 40.5**	**-1.5**
	0.2nm,0.5s,baz=290,slow=7.8,SNR=4.5						
YKA	**Yellowknife Ar**	**77.88**	**25**	P	**P**	**20 41 07.1**	**+0.7**
	0.4nm,0.4s,baz=303,slow=5.6,SNR=12						

IDC ***15*** *20:42:10.3±0.9, 16˚.96S×167˚.78E, h0km, mb4.3/10, mb1 4.4/10, mb1mx4.0/46, mbtmp4.3/10, MS3.4/8, Ms1 3.4/8, ms1mx3.0/38, Error ellipse: s-maj=29.2km s-min=22.5km az=142.0*

ISCJB ***15*** *20:42:12.4±0.9, 17˚.06S±0˚.09×167˚.7E±0˚.1, h21km, mb4.1/13, MS3.4/7, Error ellipse: s-maj=19.2km s-min=12.0km az=9.0*

NEIC ***15*** *20:42:15.7±0.6, 16˚.98S×167˚.72E, h35km, mb4.7/2, Error ellipse: s-maj=20.2km s-min=11.0km az=146.0*

ISC 15 20:42:13.2±0.8,**17˚.03S**±0˚.09×**167˚.8E**±0˚.2,**h21**km,**n26,**
σ1§**27**/**20**,**mb4.2**/**12**,**MS3.4**/**6**,**Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**5.18**	**194**	*e*Pn	**Pn**	**20 43 31.0**	**+1.4**
	27nm,0.2s						
DZM				*e*Sn	**Sn**	**20 44 26.0**	**-2.8**
	48nm,0.3s						
HNR	**Honiara**	**10.76**	**314**	LR	LR	20 47 52.9	
	comp=Z,83nm,20.8s,baz=171,slow=32						
AFI	**Afiamalu**	**19.91**	**84**	LR	LR	20 52 45.1	
	comp=Z,84nm,19.6s,baz=89,slow=32						
CTA	**Charters Tower**	**20.67**	**258**	P	Pn	20 46 53.2	-1.0
	5.5nm,0.7s,baz=85,slow=12,SNR=6.2						
RPZ	**Rata Peaks**	**26.74**	**175**	LR	LR	20 56 46.5	
	comp=Z,90nm,20.6s,baz=36,slow=33						
STKA	**Stephens Creek**	**27.98**	**233**	P	**P**	**20 48 02.9**	**+0.3**
	5.0nm,0.8s,baz=56,slow=6.3,SNR=16						
STKA				LR	LR	20 58 50.6	
	comp=Z,63nm,18.1s,baz=28,slow=36						
WR1	**Warramunga Arr**	**31.86**	**260**	*e*P	**P**	**20 48 36.2**	**-0.8**
	12nm,1.3s						
WRA	**Warramunga Arr**	**31.86**	**260**	P	**P**	**20 48 36.2**	**-0.8**
	1.8nm,0.6s,baz=81,slow=5.9,SNR=22						
AS01	**Alice Springs**	**32.38**	**253**	*e*P	**P**	**20 48 41.4**	**-0.2**
AS31	**Alice Springs**	**32.42**	**253**	*e*P	**P**	**20 48 42.3**	**+0.3**
	8.0nm,0.7s						
ASAR	**Alice Springs**	**32.42**	**253**	P	**P**	**20 48 42.0**	**0.0**
	20nm,0.7s,baz=79,slow=8.7,SNR=243						
ASAR				LR	LR	21 01 02.3	
	comp=Z,138nm,19.0s,baz=102,slow=35						
GUMO	**Guam**	**37.94**	**322**	LR	LR	21 03 33.2	
	comp=Z,52nm,20.5s,baz=110,slow=34						
SIJI	**Sorong**	**39.39**	**290**	P	**P**	**20 49 41.8**	**0.0**
	3.2nm,0.6s,baz=97,slow=19,SNR=3.3						
PPT2	**Papeete2**	**40.62**	**97**	*e*LR	LR	21 01 27.0	
	59nm,24.0s						
VNDA	**Vanda**	**60.59**	**181**	LR	LR	21 16 31.7	
	comp=Z,32nm,18.0s,baz=224,slow=34						
QSPA	**South Pole Qui**	**73.01**	**180**	P	**P**	**20 53 42.7**	**+1.5**
	3.3nm,0.9s,baz=348,slow=2.1,SNR=4.6						
KLR	**Kul'dur**	**73.31**	**336**	P	**P**	**20 53 43.9**	**+0.8**
	0.1nm,0.6s,baz=148,slow=11,SNR=4.1						
CMAR	**Chiang Mai Arr**	**76.37**	**294**	P	**P**	**20 54 02.1**	**+0.7**
	1.1nm,0.7s,baz=128,slow=5.2,SNR=14						
SONM	**Songino Array**	**84.65**	**324**	P	**P**	**20 54 45.5**	**+0.1**
	0.4nm,0.7s,baz=134,slow=6.4,SNR=4.2						
NVAR	**Mina Array Bea**	**88.37**	**49**	P	**P**	**20 55 04.6**	**+0.6**
	0.9nm,0.8s,baz=233,slow=8.7,SNR=6.3						
NVAR				LR	LR	21 29 54.6	
	comp=Z,25nm,18.8s,baz=272,slow=32						
ILAR	**Eielson Array**	**88.54**	**18**	P	**P**	**20 55 00.5**	**-3.3**
	0.3nm,0.8s,baz=218,slow=5.7,SNR=3.3						
MKAR	**Makanchi Array**	**99.22**	**316**	P	**Pdif**	**20 55 52.7**	**-0.7**
	0.3nm,0.6s,baz=94,slow=6.1,SNR=4.9						
ARCES	**ARCESS Array B**	**122.60**	**345**	PKP	**PKPdf**	**21 01 06.0**	**-0.6**
	2.0nm,0.7s,baz=30,slow=6.2,SNR=8.3						
NOA	**NORSAR Array B**	**132.97**	**345**	PKP	**PKPdf**	**21 01 27.2**	**+0.6**
	0.5nm,0.7s,baz=356,slow=1.7,SNR=3.1						
GERES	**GERESS Array B**	**141.92**	**332**	PKP	**PKPdf**	**21 01 43.9**	**+0.3**
	0.4nm,0.7s,baz=2.3,slow=4.9,SNR=3.4						
TORD	**Torodi Ar. Bea**	**166.06**	**256**	PKPab	**PKPab**	**21 03 17.9**	**-0.1**
	0.4nm,0.8s,baz=100,slow=2.5,SNR=2.8						

ISCJB ***15*** *20:45:07.8±0.8, 17˚.9S±0˚.2×178˚.4W±0˚.1, h550km,*
mb3.7/17, Error ellipse: s-maj=31.7km s-min=8.6km az=156.4

IDC ***15*** *20:45:08.8±1.6, 18˚.01S×178˚.28W, h558km±17km, mb3.3/17, mb1 3.5/18, mb1mx3.3/54, mbtmp4.2/18, Error ellipse: s-maj=28.3km s-min=10.9km az=152.0*

ISC 15 20:45:08.2±0.9,**18˚.0S**±0˚.2×**178˚.3W**±0˚.1,**h550**km,**n48,**
σ0§**98**/**50**,**mb3.7**/**17**,**1D**,**Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.48**	**58**	P	**P**	**20 47 01.6**	**+0.7**
	5.2nm,0.3s,baz=125,slow=11,SNR=6.0						
AFI				S	**S**	**20 48 32.8**	**-0.4**
	3.7nm,0.3s,baz=299,slow=19,SNR=2.8						
STKA	**Stephens Creek**	**38.67**	**241**	P	**P**	**20 51 45.6**	**+0.4**
	2.0nm,0.9s,baz=117,slow=11,SNR=3.3						
WRA	**Warramunga Arr**	**44.71**	**260**	P	**P**	**20 52 33.4**	**+0.4**
	0.5nm,0.6s,baz=93,slow=6.9,SNR=5.0						
WRA				PcP	**PcP**	**20 54 02.4**	**-1.1**
	0.5nm,0.5s,baz=88,slow=3.7,SNR=4.7						
ASAR	**Alice Springs**	**44.86**	**254**	P	**P**	**20 52 34.2**	**+0.2**
	2.0nm,0.4s,baz=89,slow=8.2,SNR=22						
ASAR				PcP	**PcP**	**20 54 03.5**	**-0.5**
	0.8nm,0.4s,baz=103,slow=3.8,SNR=7.4						
ASAR				S	**S**	**20 58 31.1**	**-0.9**
	0.5nm,0.8s,baz=85,slow=15,SNR=5.0						
SIJI	**Sorong**	**52.34**	**283**	P	**P**	**20 53 29.9**	**+0.2**
	6.8nm,0.6s,baz=107,slow=6.6,SNR=6.1						
MJAR	**Matsushiro Arr**	**68.02**	**323**	P	**P**	**20 55 12.4**	**-0.6**
	1.7nm,0.6s,baz=164,slow=5.7,SNR=10						
ASAJ	**Asahikawa**	**71.38**	**331**	P	**P**	**20 55 34.1**	**+1.3**
	1.3nm,0.5s,baz=269,slow=18,SNR=3.1						
PETK	**Petropavlovsk-**	**73.77**	**345**	P	**P**	**20 55 46.7**	**+0.3**
	2.8nm,0.6s,baz=102,slow=7.1,SNR=6.5						
YBH	**Yreka Blue Hor**	**78.52**	**39**	P	**P**	**20 56 12.9**	**-0.1**
	0.8nm,0.6s,baz=349,slow=5.2,SNR=3.6						
NVAR	**Mina Array Bea**	**79.41**	**44**	P	**P**	**20 56 18.2**	**+0.3**
	0.9nm,0.7s,baz=218,slow=8.0,SNR=7.0						
SEY	**Seymchan**	**83.87**	**347**	P	**P**	**20 56 39.4**	**-0.3**
	3.4nm,0.5s,baz=142,slow=7.4,SNR=12						
ILAR	**Eielson Array**	**85.94**	**13**	P	**P**	**20 56 49.0**	**-0.8**
	0.9nm,0.4s,baz=220,slow=5.1,SNR=32						
TXAR	**Lajitas Array**	**85.96**	**58**	P	**P**	**20 56 51.7**	**+0.9**
	1.1nm,0.8s,baz=211,slow=5.7,SNR=9.6						
PDAR	**Pinedale Array**	**87.34**	**43**	P	**P**	**20 56 57.2**	**0.0**
	0.7nm,0.6s,baz=216,slow=3.2,SNR=8.0						
CMAR	**Chiang Mai Arr**	**88.99**	**290**	P	**P**	**20 57 06.5**	**+1.4**
	0.9nm,0.8s,baz=98,slow=2.9,SNR=8.9						
INK	**Inuvik**	**91.93**	**15**	P	**P**	**20 57 15.9**	**-1.7**
	1.2nm,0.7s,baz=222,slow=3.1,SNR=6.0						
SONM	**Songino Array**	**93.66**	**319**	P	**P**	**20 57 26.7**	**+0.5**
	0.3nm,0.6s,baz=123,slow=5.3,SNR=2.7						
YKA	**Yellowknife Ar**	**94.36**	**25**	P	**P**	**20 57 28.2**	**-0.6**
	0.3nm,0.5s,baz=242,slow=4.6,SNR=7.6						
MKAR	**Makanchi Array**	**109.25**	**314**	PKiKP	**PKiKP**	**21 02 34.6**	**-1.3**
	0.3nm,0.5s,baz=166,slow=1.1,SNR=8.0						
KURBB	**Kurchatov Arra**	**111.99**	**318**	PKiKP	**PKiKP**	**21 02 38.9**	**-2.0**
	0.3nm,0.7s,baz=109,slow=1.6,SNR=4.9						
BVAR	**Borovoye Array**	**116.96**	**321**	PKP	**PKPdf**	**21 02 49.0**	**-1.5**
	0.7nm,0.5s,

BKZ	**Black Stump Fm**	**3.89**	**226**	P	**Pn**	**20 53 49.4**	**-1.2**
BKZ	**Black Stump Fm**	**3.89**	**226**	S	**Sn**	**20 54 33.8**	**-1.2**
ASAR	**Alice Springs**	**41.59**	**275**	P	**P**	**21 00 36.3**	**-0.2**
	0.4nm,0.5s,baz=119,slow=9.5,SNR=7.1						
WRA	**Warramunga Arr**	**43.13**	**280**	P	**P**	**21 00 49.5**	**+0.4**
	0.2nm,0.5s,baz=124,slow=8.9,SNR=6.7						
FINES	**FINESS Array B**	**150.17**	**335**	PKPbc	**PKPbc**	**21 12 38.1**	**+0.3**
	2.8nm,1.1s,baz=23,slow=2.6,SNR=2.2						

IDC ***15*** *20:56:30.5±1.0, 12˚.37N×86˚.22W, h0km, mb3.3/4, mb1 3.7/5, mb1mx3.5/50, mbtmp3.3/5, ML3.3/1, MS1.8/1, Ms1 1.8/1, ms1mx1.7/24, Error ellipse: s-maj=103.0km s-min=13.4km az=58.0*
UCR ***15*** *20:56:33.6±1.5, 11˚.58N×87˚.06W, h24km±9km, MD4.5, ML3.1*

ISC 15 20:56:31.2±2.1, 11˚.49N±0˚.05×87˚.07W±0˚.08, h19km±7km, n25, σ1s50/30, mb3.4/4, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COPN	**Copaltepe**	**0.83**	**34**	*e*P	**Pn**	**20 56 48.2**	**+0.3**
XAVN	**Gruta Xavier**	**0.98**	**48**	*e*P	**Pn**	**20 56 50.2**	**+0.2**
TISN	**Laguna Tiscapa**	**1.01**	**50**	*e*P	**Pn**	**20 56 50.7**	**+0.3**
MGAN	**Managua**	**1.03**	**51**	*e*P	**Pn**	**20 56 51.1**	**+0.5**
MGAN				*e*S	**Sn**	**20 57 04.8**	**+0.2**
MGAN				AML	AML	20 57 06.4	
	comp=N,543nm,0.3s						
MOMN	**Momotombo**	**1.05**	**29**	*e*P	**Pb**	**20 56 50.9**	**+0.1**
CNGN	**Cerro Negro**	**1.07**	**20**	*e*S	**Sb**	**20 57 05.5**	**+0.8**
CNGN				AML	AML	20 57 09.6	
	comp=N,418nm,0.2s						
CRIN	**San Cristobal**	**1.21**	**1**	*e*P	**Pn**	**20 56 53.2**	**+0.1**
CRIN				*e*S	**Sb**	**20 57 09.0**	**+0.3**
GB1A	**Borinquen Arri**	**1.77**	**112**	*e*P	**Pb**	**20 57 02.3**	**-0.7**
MATN	**Matagalpa**	**1.81**	**38**	*e*P	**Pn**	**20 57 01.9**	**+0.4**
CNCH	**Conchagua**	**1.93**	**337**	*e*P	**Pn**	**20 57 04.0**	**+0.9**
PLVR	**Palo Verde**	**2.03**	**124**	*e*P	**Pb**	**20 57 06.6**	**-1.0**
CUI	**Cuipilapa**	**2.04**	**114**	*e*P	**Pb**	**20 57 07.1**	**-0.6**
CUI				*e*S	**Sb**	**20 57 34.2**	**+1.5**
RCON	**San Juan de Ri**	**2.17**	**24**	*e*P	**Pn**	**20 57 07.5**	**+1.0**
JTS	**JuntasAbangare**	**2.39**	**120**	Pn	**Pb**	**20 57 12.5**	**-1.1**
	comp=N,6.9nm,0.3s,baz=345,slow=8.0,SNR=18						
JTS				Sn	**Sb**	**20 57 40.7**	**-2.1**
	comp=N,5.1nm,0.3s,baz=354,slow=21,SNR=5.7						
JTS				LR	LR	20 57 40.7	
	comp=N,19nm,20.4s,baz=65,slow=29						
JTS				Lg	Lg	20 57 47.2	
	comp=N,13nm,0.3s,baz=25,slow=19,SNR=11						
JCR	**Jicaral**	**2.52**	**130**	*e*P	**Pb**	**20 57 14.3**	**-1.6**
TGUH	**Tegucigalpa,Un**	**2.56**	**355**	*e*P	**Pn**	**20 57 12.6**	**+0.9**
CGA2	**Cerro Gallo 2**	**2.94**	**120**	*e*P	**Pb**	**20 57 23.4**	**+0.2**
CGA2				*e*S	**Sn**	**20 57 54.6**	**+2.6**
LCR2	**La Lucha 2**	**3.47**	**120**	*e*P	**Pn**	**20 57 27.6**	**+3.1**
URSC	**Urasca**	**3.62**	**117**	*e*P	**Pb**	**20 57 30.6**	**-4.2**
TXAR	**Lajitas Array**	**23.55**	**321**	P	**P**	**21 01 41.3**	**+0.6**
	comp=N,1.3nm,0.7s,baz=140,slow=9.9,SNR=8.1						
PDAR	**Pinedale Array**	**36.79**	**332**	P	**P**	**21 03 37.8**	**-0.3**
	comp=N,0.2nm,0.5s,baz=122,slow=6.5,SNR=2.6						
NVAR	**Mina Array Bea**	**38.67**	**319**	P	**P**	**21 03 55.3**	**+1.2**
	comp=N,0.3nm,0.7s,baz=149,slow=4.2,SNR=2.3						
YKA	**Yellowknife Ar**	**54.63**	**345**	P	**P**	**21 05 56.1**	**-2.3**
	comp=N,0.4nm,0.8s,baz=141,slow=7.6,SNR=12						
WRA	**Warramunga Arr**	**139.36**	**253**	PKhKP	PKPpre	21 15 54.6	
	comp=N,0.5nm,0.9s,baz=93,slow=2.4,SNR=3.0						
WRA				PKP	**PKiKP**	**21 16 01.0**	**+0.6**
	comp=N,0.3nm,0.9s,baz=92,slow=2.4,SNR=2.7						
CMAR	**Chiang Mai Arr**	**149.66**	**349**	PKPbc	**PKPbc**	**21 16 20.2**	**-0.4**
	comp=N,0.3nm,0.7s,baz=322,slow=2.8,SNR=3.9						

ISCJB ***15*** *20:57:49.1±0.5, 5˚.27N×0˚.05×126˚.05E±0˚.08, h116km, mb3.6/11, Error ellipse: s-maj=11.8km s-min=4.9km az=153.8*
MAN ***15*** *20:57:51, 5˚.41N×125˚.89E, h13km, mb4.4, ML3.2, MS3.0*
IDC ***15*** *20:57:52.2±1.1, 5˚.40N×125˚.87E, h126km±10km, mb3.3/10, mb1 3.4/10, mb1mx3.1/61, mbtmp3.6/10, MS3.2/1, Ms1 3.2/1, ms1mx2.3/31, Error ellipse: s-maj=36.3km s-min=11.4km az=70.0*

ISC 15 20:57:50.6±0.6, 5˚.29N±0˚.06×126˚.04E±0˚.09, h116km, n22, σ1s72/28, mb3.7/11, 1C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**1.83**	**346**	P	**Pn**	**20 58 20.3**	**-1.5**
	52nm,0.3s,baz=279,slow=8.5,SNR=2.9						
DAV				S	**Sn**	**20 58 45.5**	**0.0**
	82nm,0.3s,baz=149,slow=21,SNR=5.7						
DMPH	**Davao City--Mi**	**1.86**	**344**⇑	*e*P	**Pn**	**20 58 19.7**	**-2.4**
DMPH				*e*S	**Sn**	**20 58 46.5**	**+0.3**
KCP	**Kidapawan**	**1.95**	**331**⇓	*e*P	**Pn**	**20 58 21.5**	**-1.8**
BUKP	**Musuan**	**2.75**	**339**	*e*P	**Pn**	**20 58 32.6**	**-1.0**
BUKP				*e*S	**Sn**	**20 59 05.6**	**-1.1**
BIPH	**Bislig**	**2.90**	**6**⇓	*e*P	**Pn**	**20 58 37.2**	**+1.8**
BIPH				*e*S	**Sn**	**20 59 10.6**	**+0.7**
PAGZ	**Pagadian**	**3.67**	**314**	*e*P	**Pn**	**20 58 45.7**	**+0.1**
BUTP	**Butuan**	**3.68**	**354**	*e*P	Pn	20 58 51.8	+6.0
BUTP				*e*S	**Sn**	**20 59 32.7**	**+4.1**
IPIL	**Ipil**	**4.25**	**306**	*e*P	**Pn**	**20 58 54.4**	**+1.0**
IPIL				*e*S	**Sn**	**20 59 43.0**	**+0.9**
SIJI	**Sorong**	**8.04**	**139**	P	**Pn**	**20 59 42.8**	**-1.9**
	0.8nm,0.3s,baz=217,slow=20,SNR=3.4						
SIJI				S	**Sn**	**21 01 11.7**	**-2.4**
	0.4nm,0.3s,baz=322,slow=19,SNR=2.0						
JOW	**Kunigami**	**21.53**	**5**	LR	LR	21 12 21.8	
	comp=Z,58nm,18.1s,baz=306,slow=41						
FITZ	**Fitzroy Crossi**	**23.24**	**181**	P	**P**	**21 02 49.8**	**+2.0**
	2.4nm,0.6s,baz=13,slow=6.7,SNR=13						
WRA	**Warramunga Arr**	**26.37**	**162**	P	**P**	**21 03 18.6**	**+2.5**
	0.6nm,0.5s,baz=344,slow=9.9,SNR=10						
CMAR	**Chiang Mai Arr**	**29.51**	**299**	P	**P**	**21 03 43.2**	**-1.0**
	0.2nm,0.7s,baz=113,slow=9.5,SNR=3.2						
ASAR	**Alice Springs**	**29.78**	**165**	P	**P**	**21 03 48.4**	**+1.8**
	0.2nm,0.4s,baz=339,slow=6.9,SNR=6.8						
ASAR				PcP	**PcP**	**21 06 49.1**	**+1.5**
	0.3nm,0.6s,baz=357,slow=3.2,SNR=3.9						
STKA	**Stephens Creek**	**39.82**	**159**	P	**P**	**21 05 14.7**	**+2.1**
	1.1nm,0.7s,baz=338,slow=11,SNR=4.9						
MKAR	**Makanchi Array**	**55.89**	**325**	P	**P**	**21 07 16.1**	**-0.3**
	0.4nm,0.4s,baz=122,slow=7.1,SNR=11						
KURBB	**Kurchatov Arra**	**60.06**	**327**	P	**P**	**21 07 44.7**	**-0.6**
	0.7nm,0.7s,baz=124,slow=7.0,SNR=9.8						
BVAR	**Borovoye Array**	**65.65**	**327**	P	**P**	**21 08 22.0**	**-0.3**
	0.2nm,0.3s,baz=90,slow=5.7,SNR=2.8						
ILAR	**Eielson Array**	**84.00**	**25**	P	**P**	**21 10 08.1**	**+0.3**
	0.2nm,0.7s,baz=260,slow=4.3,SNR=3.6						
SPITS	**Spitsbergen Ar**	**88.83**	**349**	P	**P**	**21 10 31.0**	**-0.1**
	12nm,1.0s,baz=69,slow=4.8,SNR=3.8						
FINES	**FINESS Array B**	**90.14**	**332**	P	**P**	**21 10 36.7**	**-0.8**
	0.7nm,0.8s,baz=5.7,slow=1.4,SNR=2.9						
TORD	**Torodi Ar. Bea**	**121.77**	**289**	PKP	**PKPdf**	**21 16 29.5**	**-2.5**
	0.3nm,0.5s,baz=72,slow=2.4,SNR=3.9						

SJA 15 21:12:13.0±0.5, 29˚.69S×69˚.28W, h123km±3km, ML4.0, MW3.7, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AROD	**Rodeo**	**0.50**	**200**	*e*P	Pn	21 12 32.8	+1.1
AROD				*e*S	Sn	21 12 47.1	+1.3
AGUA	**GUANDACOL**	**0.72**	**73**	*e*P	Pn	21 12 33.6	+0.7
AGUA				*e*S	Sn	21 12 48.8	+1.0
VCA	**Vinchina**	**1.34**	**45**	*e*P	Pn	21 12 39.7	+0.7
VCA				*e*S	Sn	21 12 59.6	+1.0
VCA				IAML		21 13 01.9	
	comp=Z,1μm,0.3s						
AMOG	**MOGNA**	**1.42**	**151**	*e*P	Pn	21 12 40.8	+1.1
RTLS	**Leoncito**	**2.10**	**180**	*e*P	Pn	21 12 49.7	+1.6
RTCV	**Cerro Valdivia**	**2.25**	**164**	*e*P	Pn	21 12 50.7	+0.9
APLL	**PUNTA DE LOS L**	**2.49**	**107**	*e*P	Pn	21 12 53.5	+0.8

ISK ***15*** *21:26:02.8, 36˚.23N×28˚.93E, h12km, ML3.0/13*
ISCJB ***15*** *21:26:03.1±0.6, 36˚.20N±0˚.03×28˚.89E±0˚.03, h8km±5km, Error ellipse: s-maj=5.7km s-min=4.5km az=173.4*
ATH ***15*** *21:26:03.6, 36˚.27N×28˚.95E, h36km±3km, ML2.1/2, Error ellipse: s-maj=4.2km s-min=1.2km az=182.0*
CSEM ***15*** *21:26:03.9±0.2, 36˚.23N×28˚.94E, h15km, ML3.1, Error ellipse: s-maj=4.9km s-min=3.3km az=175.0*
DDA ***15*** *21:26:04.0, 36˚.28N×28˚.89E, h7km, Ml3.1*

ISC 15 21:26:03.8±1.1, 36˚.28N±0˚.03×28˚.92E±0˚.02, h9km±10km, n64, σ0s71/80, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FETY	**Fethiye**	**0.38**	**21**	PG	**Pg**	**21 26 11.4**	**+0.1**
FETY				SG	**Sb**	**21 26 17.9**	**-1.0**
FETY	**Fethiye**	**0.38**	**21**	P	**Pg**	**21 26 11.4**	**+0.1**
FETY				S	**Sb**	**21 26 17.5**	**-1.4**
KSL	**Kastellorizon**	**0.55**	**103**	P	**Pg**	**21 26 14.9**	**+0.3**
KSL				S	**Sb**	**21 26 23.9**	**+0.1**
KSL				AML	AML	21 26 26.6	
	comp=N,426μm,0.4s						
KSL				AML	AML	21 26 27.2	
	comp=E,563μm,0.4s						
KSL	**Kastellorizon**	**0.55**	**103**	P	**Pg**	**21 26 15.0**	**+0.5**
KSL				S	**Sb**	**21 26 23.6**	**-0.2**
AKAS	**Kas**	**0.56**	**94**	PG	**Pg**	**21 26 13.7**	**-1.0**
AKAS				SG	**Sg**	**21 26 22.5**	**+0.5**
AKAS	**Kas**	**0.56**	**94**	*i* P	**Pg**	**21 26 13.4**	**-1.3**
AKAS				*i* S	**Sb**	**21 26 24.9**	**+0.8**
AKAS	**Kas**	**0.56**	**94**	P	**Pg**	**21 26 13.4**	**-1.3**
AKAS	**Kas**	**0.56**	**94**	*e*Pg	**Pg**	**21 26 13.7**	**-1.0**
AKAS				*e*Sg	**Sg**	**21 26 22.5**	**+0.5**
AKAS				S	**Sb**	**21 26 24.9**	**+0.8**
ARG	**Arkhangelos**	**0.64**	**265**	P	**Pb**	**21 26 16.9**	**-0.3**
ARG				S	**Sb**	**21 26 27.6**	**+1.3**
ARG				AML	AML	21 26 30.1	
	comp=N,317μm,0.3s						
ARG				AML	AML	21 26 32.8	
	comp=E,381μm,0.3s						
ARG	**Arkhangelos**	**0.64**	**265**	P	**Pb**	**21 26 17.1**	**-0.1**
ARG				S	**Sb**	**21 26 27.5**	**+1.2**
TURN	**Turunc**	**0.65**	**337**	PG	**Pn**	**21 26 18.1**	**-1.1**
TURN				SG	**Sn**	**21 26 29.5**	**-0.1**
TURN	**Turunc**	**0.65**	**337**	*i* P	**Pn**	**21 26 18.6**	**-0.6**
TURN	**Turunc**	**0.65**	**337**	*e*Pg	**Pn**	**21 26 18.1**	**-1.1**
TURN	**Turunc**	**0.65**	**337**	P	**Pn**	**21 26 18.6**	**-0.6**
TURN				*e*Sg	**Sn**	**21 26 29.5**	**-0.1**
ELL	**Elmali**	**0.93**	**59**	PG	**Pg**	**21 26 21.6**	**-0.1**
ELL	**Elmali**	**0.93**	**59**	*e*Pg	**Pg**	**21 26 21.6**	**-0.1**
YER	**Yerkesik**	**0.99**	**329**	PG	**Pb**	**21 26 23.2**	**-0.1**
YER	**Yerkesik**	**0.99**	**329**	*e*Pg	**Pb**	**21 26 23.2**	**-0.1**
GOLH	**Golhisar**	**1.09**	**28**	*i* P	**Pg**	**21 26 24.1**	**-0.7**
GOLH				*i* S	**Sn**	**21 26 41.8**	**+1.2**
GOLH	**Golhisar**	**1.09**	**28**	P	**Pg**	**21 26 24.1**	**-0.7**
DATC	**Datca-Mugla**	**1.12**	**296**	PN	**Pn**	**21 26 25.3**	**-0.4**
DATC	**Datca-Mugla**	**1.12**	**296**	*e*Pn	**Pn**	**21 26 25.3**	**-0.4**
TAVA	**DENIZLI_Tavas**	**1.19**	**360**	*i* P	**Pn**	**21 26 26.6**	**-0.1**
TAVA				*i* S	**Sn**	**21 26 43.8**	**+0.7**
TAVA	**DENIZLI_Tavas**	**1.19**	**360**	P	**Pn**	**21 26 26.6**	**-0.1**
TAVA				S	**Sn**	**21 26 43.8**	**+0.7**
KORT	**Korkueli**	**1.36**	**58**	PN	**Pn**	**21 26 28.7**	**-0.5**
KORT	**Korkueli**	**1.36**	**58**	*i* P	**Pg**	**21 26 29.7**	**-0.2**
KORT				*i* S	**Sg**	**21 26 49.4**	**+1.8**
KORT	**Korkueli**	**1.36**	**58**	*e*Pn	**Pn**	**21 26 28.7**	**-0.5**
KORT	**Korkueli**	**1.36**	**58**	P	**Pg**	**21 26 29.7**	**-0.2**
MLSB	**Milas**	**1.37**	**318**	PN	**Pb**	**21 26 29.1**	**-0.5**
MLSB	**Milas**	**1.37**	**318**	*e*Pn	**Pb**	**21 26 29.1**	**-0.5**
BDRM	**Kayabasi**	**1.42**	**304**	*i* P	**Pg**	**21 26 30.9**	**-0.2**
BDRM	**Kayabasi**	**1.42**	**304**	P	**Pg**	**21 26 30.9**	**-0.2**
DENT	**Denizli**	**1.48**	**4**	PN	**Pn**	**21 26 30.6**	**-0.1**
DENT	**Denizli**	**1.48**	**4**	*e*Pn	**Pn**	**21 26 30.6**	**-0.1**
BODT	**Bodrum**	**1.51**	**302**	PN	**Pn**	**21 26 29.6**	**-1.5**
BODT	**Bodrum**	**1.51**	**302**	*e*Pn	**Pn**	**21 26 29.6**	**-1.5**
ANTB	**Antalya**	**1.53**	**66**	PN	**Pn**	**21 26 30.6**	**-0.7**
ANTB	**Antalya**	**1.53**	**66**	*e*Pn	**Pn**	**21 26 30.6**	**-0.7**
KARP	**Karpathos**	**1.60**	**243**	PN	**Pn**	**21 26 31.1**	**-1.3**
KARP	**Karpathos**	**1.60**	**243**	P	**Pn**	**21 26 31.6**	**-0.8**
KARP	**Karpathos**	**1.60**	**243**	*e*Pn	**Pn**	**21 26 31.1**	**-1.3**
KARP	**Karpathos**	**1.60**	**243**	P	**Pn**	**21 26 31.6**	**-0.8**
BRDR	**BURDUR-Merkez**	**1.69**	**33**	*i* P	**Pg**	**21 26 35.5**	**-0.7**
BRDR	**BURDUR-Merkez**	**1.69**	**33**	P	**Pg**	**21 26 35.5**	**-0.7**
AYDB	**Zeytinkoy-Aydi**	**1.86**	**334**	PN	**Pn**	**21 26 35.9**	**-0.1**
AYDB	**Zeytinkoy-Aydi**	**1.86**	**334**	*e*Pn	**Pn**	**21 26 35.9**	**-0.1**
GCAM	**G?zelcaml?**	**1.96**	**317**	PN	**Pn**	**21 26 37.4**	**+0.2**
GCAM	**G?zelcaml?**	**1.96**	**317**	*i* P	**Pn**	**21 26 37.0**	**-0.2**
GCAM	**G?zelcaml?**	**1.96**	**317**	P	**Pn**	**21 26 37.0**	**-0.2**
GCAM	**G?zelcaml?**	**1.96**	**317**	*e*Pn	**Pn**	**21 26 37.4**	**+0.2**
SUTC	**Sutluce-Ispart**	**2.05**	**54**	PN	**Pn**	**21 26 38.3**	**-0.4**
SUTC	**Sutluce-Ispart**	**2.05**	**54**	*e*Pn	**Pn**	**21 26 38.3**	**-0.4**
SMG	**Samos**	**2.19**	**311**	P	**Pn**	**21 26 40.1**	**-0.4**
SMG	**Samos**	**2.19**	**311**	P	**Pn**	**21 26 40.0**	**-0.5**
KULA	**Kula-Manisa**	**2.24**	**355**	PN	**Pn**	**21 26 40.9**	**-0.3**
KULA	**Kula-Manisa**	**2.24**	**355**	*e*Pn	**Pn**	**21 26 40.9**	**-0.3**
ZKR	**Zakros**	**2.48**	**243**	P	**Pn**	**21 26 44.2**	**-0.3**
ZKR	**Zakros**	**2.48**	**243**	P	**Pn**	**21 26 44.2**	**-0.3**
SHUT	**Suhut-Afyon**	**2.62**	**29**	PN	**Pn**	**21 26 46.5**	**+0.1**
SHUT	**Suhut-Afyon**	**2.62**	**29**	*e*Pn	**Pn**	**21 26 46.5**	**+0.1**
NPS	**Neapolis**	**2.87**	**250**	P	**Pn**	**21 26 48.7**	**-1.1**
NPS	**Neapolis**	**2.87**	**250**	P	**Pn**	**21 26 49.1**	**-0.7**
LAST	**Lasithi**	**3.01**	**249**	P	**Pn**	**21 26 52.1**	**+0.3**
LAST	**Lasithi**	**3.01**	**249**	P	**Pn**	**21 26 51.8**	**0.0**

IDC 15 21:27:42.8±2.7, 2˚.56N×94˚.03E, h0km, mb3.6/5, mb1 3.7/6, mb1mx3.3/67, mbtmp3.6/6, ML3.9/1, Error ellipse: s-maj=92.6km s-min=26.6km az=58.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**16.52**	**17**	Pn	Pn	21 31 37.0	+1.0
	0.2nm,0.3s,baz=212,slow=12,SNR=16						
H08S2	**Diego Garcia H**	**23.76**	**245**	T	T	21 58 12.5	
	baz=64,slow=75,SNR=13						
H08S3	**Diego Garcia H**	**23.76**	**245**	T	T	21 58 12.4	
	baz=64,slow=75,SNR=15						
H08S1	**Diego Carcia H**	**23.78**	**245**	T	T	21 58 25.4	
	baz=64,slow=75,SNR=19						
H01W3	**Cape Leeuwin H**	**41.75**	**155**	T	T	22 20 35.6	
	baz=332						
H01W2	**Cape Leeuwin H**	**41.76**	**155**	T	T	22 20 44.2	
	baz=332						
H01W1	**Cape Leeuwin H**	**41.77**	**155**	T	T	22 20 34.5	
	baz=332						
MKAR	**Makanchi Array**	**45.23**	**349**	P	P	21 36 01.7	-0.2
	0.8nm,0.6s,baz=164,slow=8.3,SNR=15						
WRA	**Warramunga Arr**	**45.44**	**121**	P	P	21 36 03.7	-0.2
	0.5nm,0.8s,baz=299,slow=8.6,SNR=3.1						
SONM	**Songino Array**	**46.35**	**11**	P	P	21 36 10.1	-0.7
	0.3nm,0.7s,baz=195,slow=9.9,SNR=3.3						
KURBB	**Kurchatov Arra**	**49.66**	**347**	P	P	21 36 36.5	+0.4
	0.5nm,0.5s,baz=170,slow=6.6,SNR=5.2						
ZALV	**Zalesovo Beam**	**51.78**	**353**	P	P	21 36 52.0	-0.2
	0.8nm,0.4s,baz=163,slow=7.4,SNR=4.8						

IDC 15 21:31:19.6±44.0, 14˚.97S×171˚.71W, h0km, mb4.3/3, mb1 4.5/3, mb1mx3.7/42, mbtmp4.3/3, Error ellipse: s-maj=863.0km s-min=168.6km az=79.0, Samoa Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**45.66**	**240**	P	P	21 39 42.1	-0.1
	1.7nm,0.5s,baz=82,slow=11,SNR=11						
WRA	**Warramunga Arr**	**51.53**	**256**	P	P	21 40 27.2	-0.5
	0.9nm,0.5s,baz=93,slow=6.9,SNR=31						
ASAR	**Alice Springs**	**51.80**	**252**	P	P	21 40 29.9	+0.2
	8.9nm,0.5s,baz=88,slow=8.2,SNR=141						

TIR ***15*** *21:38:16.0, 42˚.48N×21˚.00E, h2km, Md2.9/5*
BEO ***15*** *21:38:19.8±0.5, 42˚.42N×20˚.88E, h19km±5km*
CSEM ***15*** *21:38:19.4±0.4, 42˚.47N×20˚.81E, h2km, ML1.6, Error ellipse: s-maj=10.5km s-min=6.5km az=114.0*

SKO 15 21:38:19.7, 42˚.45N×20˚.83E, h0km, M1.4, ML2.4, 3C, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZATK	**Zatriq**	**0.15**	**269**	P	Pg	21 38 22.0	-0.7
ZATK				S	Sg	21 38 26.1	+1.5
PRZK	**Prizren**	**0.24**	**193**	P	Pg	21 38 24.1	-0.3
PRZK				S	Sg	21 38 29.9	+2.3
SMRK	**Smrekonice**	**0.43**	**11**	P	Pg	21 38 27.7	-0.3
SMRK				S	Sg	21 38 32.0	-1.6
BCI	**Bajram Curri**	**0.57**	**262**	*i* Pg	Pg	21 38 29.8	-0.9
BCI				*i* Sg	Sb	21 38 41.7	+0.4
	baz=261						
BCI	**Bajram Curri**	**0.57**	**262**	*i* PG	Pg	21 38 29.4	-1.3
BCI				*i* SG	Sb	21 38 41.7	+0.4
BCI	**Bajram Curri**	**0.57**	**262**	*i* PG	Pg	21 38 29.8	-0.9
BCI				*i* SG	Sb	21 38 41.7	+0.4
SKO	**Skopje**	**0.66**	**136**⇑	*i* Pg	Pg	21 38 31.4	-0.9
SKO				*i* Sg	Sg	21 38 40.5	-0.4
SKO				*e*Lg	Lg	21 38 40.5	
	comp=E,5.8nm,0.3s						
SKO				*e*Lg	Lg	21 38 40.6	
	comp=N,8.3nm,0.2s						
PUK	**Puka**	**0.81**	**240**	*i* Pg	Pg	21 38 35.1	-0.1
PUK				*i* Sg	Sb	21 38 48.9	+0.8
	baz=242						
PUK	**Puka**	**0.81**	**240**	*i* PG	Pg	21 38 35.1	0.0
PUK				*i* SG	Sb	21 38 48.9	+0.8
PUK	**Puka**	**0.81**	**240**	*i* PG	Pg	21 38 35.1	0.0
PUK				*i* SG	Sb	21 38 48.9	+0.8
BEY	**Berane**	**0.81**	**302**	P	Pg	21 38 34.2	-1.0
BARS	**Barje**	**0.81**	**63**	*e*Sg	Sg	21 38 45.0	-0.9
	comp=N,78nm,0.4s						
BARS	**Barje**	**0.81**	**63**	*e*Pg	Pn	21 38 46.4	+7.9
	comp=N,61nm,0.5s						
PHP	**Peshkopia**	**0.82**	**201**	*i* Pg	Pg	21 38 33.9	-1.5
PHP				*i* Sg	Sg	21 38 45.5	-0.5
PHP	**Peshkopia**	**0.82**	**201**	*i* PG	Pg	21 38 33.9	-1.5
PHP				*i* SG	Sg	21 38 45.5	-0.5
PHP	**Peshkopia**	**0.82**	**201**	*i* PG	Pg	21 38 33.9	-1.5
PHP				*i* SG	Sg	21 38 45.5	-0.5
SJES	**Sjenica**	**1.03**	**322**	*e*Sg	Sg	21 38 53.3	+0.6
SJES	**Sjenica**	**1.03**	**322**	*e*Pg	Sn	21 38 59.2	+2.5
	comp=N,36nm,0.4s						
KRUS	**Krusevo**	**1.12**	**164**⇑	*i* Pg	Pg	21 38 39.9	-1.4
KRUS				*i* Sg	Sg	21 38 55.5	-0.4
KRUS				*e*Lg	Lg	21 38 55.7	
	comp=E,23nm,0.3s						
KRUS				*e*Lg	Lg	21 38 55.9	
	comp=N,21nm,0.4s						
PDG	**Podgorica**	**1.17**	**270**	*e*Pg	Pg	21 38 41.7	-0.4
PDG				*e*Sg	Sn	21 39 00.1	+0.2
	comp=N,20nm,0.3s						
PDG	**Podgorica**	**1.17**	**270**	*e*Pn	Pg	21 38 41.8	-0.3
PDG				*e*Sg	Sn	21 39 00.1	+0.2
	comp=N,20nm,0.3s,baz=3.0						
IVAS	**Ivanjica**	**1.23**	**336**	*e*Pg	Sn	21 39 07.3	+5.7
	comp=N,17nm,0.4s						
IVAS				*e*Sg	Sb	21 39 08.3	+7.9
	comp=N,38nm,0.7s						
DRME	**Dracevica, Mon**	**1.25**	**258**	*e*Pn	Pg	21 38 42.0	-1.7
TIR	**Tirane**	**1.32**	**214**	*i* Pn	Pn	21 38 45.5	+0.1
TIR				*i* Sn	Sn	21 39 05.4	+1.8
TIR	**Tirane**	**1.32**	**214**	*i* PN	Pb	21 38 45.1	-0.2
TIR				*i* SN	Sn	21 39 05.2	+1.6
TIR	**Tirane**	**1.32**	**214**	*i* PN	Pn	21 38 45.5	+0.1
TIR				*i* SN	Sn	21 39 05.4	+1.8
OHR	**Ohrid**	**1.34**	**181**⇑	*i* Pg	Pg	21 38 43.8	-1.5
OHR				*i* Sg	Sg	21 39 02.4	-0.3
OHR				*e*Lg	Lg	21 39 03.5	
	comp=N,27nm,0.4s						
OHR				*e*Lg	Lg	21 39 04.0	
	comp=E,59nm,0.7s						
BOVS	**Bovan**	**1.35**	**28**	*e*Sg	Pn	21 38 50.6	+4.8
BOVS	**Bovan**	**1.35**	**28**	*e*Pg	Sg	21 39 03.2	+0.2
	comp=E,24nm,0.4s						
GRUS	**Gruza**	**1.44**	**357**	*e*Sg	Pn	21 38 44.4	-2.7
GRUS	**Gruza**	**1.44**	**357**	*e*Pg	Pb	21 38 50.1	+2.7
GRUS	**Gruza**	**1.44**	**357**	*e*Pg	Pb	21 38 50.1	+2.7
	baz=2.0						
ZAPS	**Zav

PDAR	**Pinedale Array**	**88.80**	**43**	P		**P**	**21 55 21.5**	**+0.4**
	0.3nm,0.6s,baz=177,slow=3.4,SNR=2.2							
CMAR	**Chiang Mai Arr**	**90.15**	**290**	P		**P**	**21 55 29.4**	**+1.9**
	0.1nm,0.5s,baz=126,slow=1.9,SNR=4.5							
MKAR	**Makanchi Array**	**111.17**	**313**	PKiKP		**PKiKP**	**22 00 56.8**	**+0.1**
	0.2nm,0.9s,baz=90,slow=0.7,SNR=1.8							
BVAR	**Borovoye Array**	**119.03**	**320**	PKP		**PKPdf**	**22 01 11.0**	**-0.6**
	0.4nm,0.5s,baz=48,slow=6.4,SNR=4.3							
AKASG	**Malin Array Be**	**142.93**	**331**	PKhKP		PKPpre	22 01 53.5	
	0.3nm,0.4s,baz=41,slow=4.4,SNR=5.9							
BRTR	**Keskin Array B**	**146.81**	**313**	PKPbc		**PKPbc**	**22 02 05.7**	**-0.8**
	0.7nm,1.0s,baz=75,slow=1.4,SNR=4.6							
MMAI	**Mount Meron Ar**	**147.82**	**300**	PKPbc		**PKPbc**	**22 02 09.9**	**+0.7**
	3.2nm,0.8s,baz=60,slow=4.9,SNR=3.1							
GERES	**GERESS Array B**	**150.09**	**345**	PKPbc		**PKPbc**	**22 02 13.9**	**-0.4**
	1.3nm,1.0s,baz=52,slow=2.2,SNR=4.2							

IDC ***15*** *21:48:00.8±1.0, 0.°27N×92.°05E, h0km, mb3.9/13, mb1 4.0/15, mb1mx3.7/63, mbtmp3.9/15, ML3.4/2, Error ellipse: s-maj=38.0km s-min=18.4km az=46.0*
NEIC ***15*** *21:48:02.0±0.5, 0.°22N×92.°16E, h10km, mb4.6/6, Error ellipse: s-maj=15.1km s-min=7.7km az=225.0*
ISCJB ***15*** *21:48:03.7±0.6, 0.°30N±0.°09×92.°25E±0.°09, h33km, mb4.2/18, Error ellipse: s-maj=16.6km s-min=7.9km az=44.5*

ISC 15 21:48:05.6±0.8, 0.°4N±0.°1×92.°34E±0.°08, h35km, n41, σ1s71/42, mb4.1/18, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GSI	**Gunungsitoli**	**5.32**	**80**	*e*Pn	**Pn**	**21 49 25.1**	**+2.5**
GSI				*e*Sn	**Sn**	**21 50 17.3**	**-5.4**
PSI	**Prapat**	**7.01**	**70**	*e*Pn	**Pn**	**21 49 44.3**	**-1.6**
MNAI	**Manna**	**11.60**	**114**	*e*Pn	**Pn**	**21 50 48.4**	**-0.4**
PALK	**Pallekele**	**13.48**	**301**	*e*Pn	**Pn**	**21 51 10.5**	**-4.1**
	0.4nm,0.3s,baz=118,slow=9.8,SNR=4.7						
PALK	**Pallekele**	**13.48**	**301**	*e*Pn	**Pn**	**21 51 10.5**	**-4.1**
PALK				*e*Sn	Sn	21 53 28.6	-15
CM31	**Chiang Mai Arr**	**19.12**	**19**	*e*P	**Pn**	**21 52 28.5**	**+1.7**
CMAR	**Chiang Mai Arr**	**19.12**	**19**	P	**Pn**	**21 52 28.5**	**+1.7**
	0.0nm,0.3s,baz=211,slow=12,SNR=12						
DAV	**Davao City (W)**	**33.81**	**78**	*e*P	**P**	**21 54 43.5**	**-1.3**
	300nm,0.4s						
WR1	**Warramunga Arr**	**45.81**	**119**	*e*P	**P**	**21 56 25.9**	**+1.4**
	11nm,1.4s						
WRA	**Warramunga Arr**	**45.81**	**119**	P	**P**	**21 56 25.9**	**+1.4**
	0.7nm,0.6s,baz=296,slow=8.5,SNR=7.7						
WRAB	**Tennant Creek**	**45.82**	**119**	*e*P	**P**	**21 56 25.0**	**+0.5**
	9.8nm,0.8s						
WB2	**Warramunga Arr**	**45.82**	**119**	*e*P	**P**	**21 56 26.5**	**+1.9**
AS31	**Alice Springs**	**46.88**	**124**	*e*P	**P**	**21 56 32.5**	**-0.4**
	1.4nm,1.3s						
ASAR	**Alice Springs**	**46.88**	**124**	P	**P**	**21 56 34.9**	**+2.0**
	0.3nm,0.7s,baz=304,slow=6.6,SNR=3.2						
AS01	**Alice Springs**	**46.92**	**124**	*e*P	**P**	**21 56 31.9**	**-1.2**
MK01	**Makanchi Array**	**47.05**	**351**	*e*P	**P**	**21 56 33.5**	**-0.3**
MK31	**Makanchi Array**	**47.07**	**351**	*e*P	**P**	**21 56 35.2**	**+1.3**
MK32	**Makanchi Array**	**47.07**	**351**	*e*P	**P**	**21 56 34.5**	**+0.5**
MKAR	**Makanchi Array**	**47.07**	**351**	P	**P**	**21 56 34.5**	**+0.5**
	0.7nm,0.7s,baz=168,slow=9.3,SNR=9.9						
MKAR	**Makanchi Array**	**47.07**	**351**	*e*P	**P**	**21 56 34.1**	**+0.1**
	5.4nm,0.8s						
SONA0	**Songino Array**	**48.84**	**13**	*e*P	**P**	**21 56 49.9**	**+2.2**
SONM	**Songino Array**	**48.84**	**13**	P	**P**	**21 56 49.9**	**+2.2**
	0.9nm,0.6s,baz=192,slow=8.2,SNR=9.5						
GEYT	**Alibeck**	**48.88**	**324**	P	**P**	**21 56 47.7**	**-0.4**
	1.0nm,0.5s,baz=132,slow=8.0,SNR=3.4						
KURBB	**Kurchatov Arra**	**51.44**	**349**	P	**P**	**21 57 07.3**	**+0.2**
	0.6nm,0.7s,baz=171,slow=7.6,SNR=8.0						
KURK	**Kurchatov**	**51.51**	**349**	*e*P	**P**	**21 57 07.3**	**-0.4**
ZALV	**Zalesovo Beam**	**53.77**	**354**	P	**P**	**21 57 24.8**	**+0.4**
	1.2nm,0.4s,baz=180,slow=6.5,SNR=7.1						
ZAA1	**Zalesovo Array**	**53.77**	**354**	*e*P	**P**	**21 57 24.8**	**+0.4**
BVAR	**Borovoye Array**	**55.58**	**344**	P	**P**	**21 57 36.8**	**-0.7**
	0.4nm,0.7s,baz=136,slow=9.4,SNR=4.0						
BR101	**Keskin Array S**	**66.13**	**314**	*e*P	**P**	**21 58 49.6**	**-0.2**
BRTR	**Keskin Array B**	**66.13**	**314**	P	**P**	**21 58 49.6**	**-0.2**
	0.5nm,0.6s,baz=122,slow=6.4,SNR=5.5						
TIXI	**Tiksi**	**74.90**	**11**	*e*P	**P**	**21 59 43.0**	**+0.6**
	2.5nm,0.7s						
FIA0	**FINESS Array S**	**78.53**	**333**	*e*P	**P**	**22 00 03.4**	**+0.3**
FINES	**FINESS Array B**	**78.53**	**333**	P	**P**	**22 00 03.4**	**+0.3**
	0.4nm,0.4s,baz=123,slow=7.0,SNR=4.0						
ARA0	**ARCESS Array S**	**81.71**	**341**	*e*P	**P**	**22 00 20.8**	**+0.7**
ARCES	**ARCESS Array B**	**81.71**	**341**	P	**P**	**22 00 20.8**	**+0.7**
	1.9nm,0.8s,baz=116,slow=6.1,SNR=3.2						
GEA0	**GERESS Array S**	**82.25**	**319**	*e*P	**P**	**22 00 24.6**	**+1.1**
GEC2	**GERESS Array S**	**82.25**	**319**	*e*P	**P**	**22 00 25.0**	**+1.5**
	5.2nm,1.0s						
GERES	**GERESS Array B**	**82.25**	**319**	P	**P**	**22 00 24.7**	**+1.2**
	1.7nm,0.8s,baz=90,slow=6.2,SNR=9.9						
HFS	**Hagfors**	**84.03**	**330**	P	**P**	**22 00 33.1**	**+0.8**
	2.1nm,0.8s,baz=101,slow=7.5,SNR=3.2						
LTX	**Lajitas**	**146.75**	**26**	*e*PKPbc	**PKPab**	**22 07 45.9**	**0.0**
TXAR	**Lajitas Array**	**146.75**	**26**	PKPbc	**PKPab**	**22 07 45.9**	**0.0**
	0.4nm,0.7s,baz=5.7,slow=1.8,SNR=2.6						

IDC ***15*** *21:58:33.7±1.2, 4.°08N×92.°42E, h0km, mb3.7/8, mb1 3.8/10, mb1mx3.5/71, mbtmp3.7/10, ML3.6/2, Error ellipse: s-maj=41.0km s-min=20.5km az=53.0*
ISCJB ***15*** *21:58:36.6±0.9, 4.°1N±0.°1×92.°4E±0.°1, h33km, mb3.7/8, Error ellipse: s-maj=20.2km s-min=15.6km az=37.9*

ISC 15 21:58:38.7±1.0, 4.°1N±0.°2×92.°30E±0.°10, h35km, n10, σ1s52/11, mb3.6/8, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PALK	**Pallekele**	**11.96**	**286**	Pn	**Pn**	**22 01 28.5**	**+1.7**
	0.4nm,0.3s,baz=116,slow=13,SNR=6.5						
PALK				Sn	**Sn**	**22 03 36.2**	**-2.9**
	1.0nm,0.3s,baz=114,slow=19,SNR=6.3						
CMAR	**Chiang Mai Arr**	**15.68**	**24**	Pn	**Pn**	**22 02 15.8**	**-1.4**
	0.1nm,0.3s,baz=210,slow=12,SNR=5.2						
MKAR	**Makanchi Array**	**43.41**	**350**	P	**P**	**22 06 39.1**	**+1.2**
	1.1nm,0.7s,baz=171,slow=8.9,SNR=14						
SONM	**Songino Array**	**45.23**	**13**	P	**P**	**22 06 52.6**	**-0.1**
	0.2nm,0.4s,baz=189,slow=7.3,SNR=2.3						
WRA	**Warramunga Arr**	**47.72**	**122**	P	**P**	**22 07 11.3**	**-1.2**
	0.3nm,0.5s,baz=296,slow=9.2,SNR=3.7						
KURBB	**Kurchatov Arra**	**47.79**	**348**	P	**P**	**22 07 13.5**	**+1.0**
	0.7nm,0.8s,baz=174,slow=7.5,SNR=4.6						
ZALV	**Zalesovo Beam**	**50.07**	**354**	P	**P**	**22 07 30.8**	**+0.9**
	0.7nm,0.3s,baz=175,slow=6.8,SNR=4.4						
BVAR	**Borovoye Array**	**52.00**	**343**	P	**P**	**22 07 44.2**	**-0.3**
	0.3nm,0.5s,baz=156,slow=7.3,SNR=3.0						
STKA	**Stephens Creek**	**58.93**	**131**	P	**P**	**22 08 35.0**	**+0.3**
	1.0nm,0.5s,baz=335,slow=6.0,SNR=3.2						
GERES	**GERESS Array B**	**79.42**	**319**	P	**P**	**22 10 42.0**	**+0.5**
	0.2nm,0.4s,baz=116,slow=4.6,SNR=2.8						

MEX 15 22:08:02.2±0.3, 16.°22N×98.°12W, h2km±5km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.17**	**357**	*i* P	Pg	22 08 05.5	-0.1
PNIG				*e*S	Sg	22 08 08.1	+0.1
TLIG	**Tlapa**	**1.41**	**342**	*e*P	Pn	22 08 25.2	-3.7
TLIG				*i* S	Sg	22 08 43.1	-4.4
VHO	**Vista Hermosa**	**1.58**	**57**	*e*P	Pn	22 08 27.8	-3.6
VHO				*i* S	Sn	22 08 48.0	-4.5

WEL 15 22:11:35.9±0.9, 35.°S±15.°×178.°E±2.°4, h284km±12km, ML4.2/17, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**2.85**	**205**	P	Pn	22 12 27.2	-1.8
WMGZ	**Waiomatatini S**	**3.05**	**201**	P	Pn	22 12 30.8	-0.2
WMGZ	**Waiomatatini S**	**3.05**	**201**	S	S	22 13 17.1	+2.1
HAZ	**Te Kaha**	**3.22**	**210**	P	Pn	22 12 32.8	+0.1
PKGZ	**Pakihiroa**	**3.22**	**205**	P	Pn	22 12 32.1	-0.7
PKGZ	**Pakihiroa**	**3.22**	**205**	S	S	22 13 18.1	-0.2
PUZ	**Puketiti**	**3.33**	**202**	P	Pn	22 12 33.6	-0.4
PUZ	**Puketiti**	**3.33**	**202**	S	S	22 13 20.3	0.0
CNGZ	**Carnagh Statio**	**3.73**	**200**	P	Pn	22 12 38.8	+0.6
MWZ	**Matawai**	**3.82**	**208**	P	Pn	22 12 39.3	+0.1
URZ	**Urewera**	**3.93**	**213**	P	Pn	22 12 39.9	-0.6
KNZ	**Kokohu**	**4.38**	**202**	P	Pn	22 12 45.6	+0.1
ARHZ	**Aropaoanui**	**4.83**	**207**	P	Pn	22 12 51.8	+1.0
BKZ	**Black Stump Fm**	**4.95**	**211**	P	Pn	22 12 52.5	+0.3
BKZ	**Black Stump Fm**	**4.95**	**211**	S	S	22 13 52.2	-1.2
KWHZ	**Kaweka Forest**	**5.20**	**210**	P	Pn	22 12 55.3	+0.1
HIZ	**Hauiti**	**5.32**	**227**	P	Pn	22 12 58.2	+1.6
KAHZ	**Kahuranaki**	**5.34**	**205**	P	Pn	22 12 57.3	+0.4
KRHZ	**Kereru**	**5.40**	**210**	P	Pn	22 12 57.0	-0.6
KRHZ	**Kereru**	**5.40**	**210**	S	S	22 14 03.6	+0.5
BHHZ	**Black Hill Sta**	**5.41**	**213**	P	Pn	22 12 57.0	-0.6
TUVZ	**Tukino**	**5.42**	**217**	P	Pn	22 12 58.8	+0.9
FWVZ	**Far West T-bar**	**5.46**	**217**	P	Pn	22 12 58.6	+0.1
TRVZ	**Turoa**	**5.50**	**217**	P	Pn	22 12 59.6	+0.7
PNHZ	**Pukenui**	**5.70**	**209**	P	Pn	22 13 00.6	-0.6
PNHZ	**Pukenui**	**5.70**	**209**	S	S	22 14 09.9	+0.2
PRHZ	**Porangahau**	**5.85**	**205**	P	Pn	22 13 04.0	+1.1
TSZ	**Takapari Road**	**5.92**	**210**	P	Pn	22 13 03.7	-0.1
TSZ	**Takapari Road**	**5.92**	**210**	S	S	22 14 14.2	-0.3
ANWZ	**Angora Road**	**6.08**	**205**	P	Pn	22 13 06.5	+0.8
ANWZ	**Angora Road**	**6.08**	**205**	S	S	22 14 19.1	+1.3
BFZ	**Birch Farm**	**6.35**	**205**	P	Pn	22 13 09.8	+0.8
BFZ	**Birch Farm**	**6.35**	**205**	S	S	22 14 24.4	+0.4
MRZ	**Mangatainoka R**	**6.59**	**209**	P	Pn	22 13 10.9	-1.0
HOWZ	**Holdsworth Sta**	**6.81**	**209**	P	Pn	22 13 13.8	-0.9
TMWZ	**Te Maipa**	**6.86**	**206**	P	Pn	22 13 15.3	+0.1
OGWZ	**Otaki Gorge**	**6.89**	**211**	P	Pn	22 13 14.6	-1.0
KIW	**Kapiti Island**	**7.04**	**212**	P	Pn	22 13 16.4	-1.0
MTW	**Mount Morrison**	**7.04**	**208**	P	Pn	22 13 17.4	-0.1

ISCJB ***15*** *22:12:15.6±0.5, 24.°49N±0.°03×122.°42E±0.°02, h59km±6km, Error ellipse: s-maj=5.5km s-min=2.8km az=1.0*
JMA ***15*** *22:12:15.9±0.1, 24.°38N×122.°42E, h57km±2km, M2.1*
TAP ***15*** *22:12:15.5, 24.°50N×122.°41E, h60km±1km, ML2.6, C*

ISC 15 22:12:16.0±1.3, 24.°49N±0.°04×122.°41E±0.°02, h58km±9km, n38, σ0s55/69, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EOS1	**EOS1**	**0.27**	**283**	P	**Pn**	**22 12 25.8**	**+0.2**
	baz=281						
EOS1				S	**Sn**	**22 12 33.4**	**+0.9**
	baz=281						
JYNG	**Yonagunijimaku**	**0.49**	**94**	P	**Pn**	**22 12 27.4**	**-0.2**
JYNG				*e*S	**Sn**	**22 12 35.9**	**-0.2**
TWC	**Suao**	**0.53**	**283**	*e*P	**Pn**	**22 12 27.8**	**-0.3**
	baz=282						
TWC				*e*S	**Sn**	**22 12 36.3**	**-0.6**
	baz=282						
YOJ	**Yonaguni jima**	**0.55**	**93**	*e*P	**Pn**	**22 12 28.0**	**-0.3**
	baz=93						
YOJ				*e*S	**Sn**	**22 12 37.7**	**+0.5**
	baz=93						
NANB	**Nanao**	**0.61**	**264**	P	**Pn**	**22 12 28.9**	**-0.1**
	baz=263						
NANB				*e*S	**Sn**	**22 12 38.7**	**+0.2**
	baz=263						
ENA	**Nanau**	**0.62**	**265**	*e*P	**Pn**	**22 12 29.1**	**-0.1**
	baz=263						
ENA				*e*S	**Sn**	**22 12 39.2**	**+0.6**
	baz=263						
NTC	**Toucheng**	**0.64**	**305**	*e*P	**Pn**	**22 12 29.4**	**-0.1**
	baz=303						
NTC				*e*S	**Sn**	**22 12 38.9**	**-0.4**
	baz=303						
TWE	**Neicheng**	**0.72**	**289**	P	**Pn**	**22 12 30.4**	**+0.1**
	baz=288						
TWE				S	**Sn**	**22 12 40.8**	**0.0**
	baz=288						
ENTT	**Nioudou**	**0.79**	**281**	*i* P	**Pn**	**22 12 31.8**	**+0.5**
	baz=280						
ENTT				*e*S	**Sn**	**22 12 43.4**	**+1.0**
	baz=280						
NACB	**Ninganchiao**	**0.81**	**247**	*e*P	**Pn**	**22 12 31.1**	**-0.4**
	baz=246						
NACB				*e*S	**Sn**	**22 12 42.1**	**-0.8**
	baz=246						
WFSB	**Wu-fen Shan**	**0.82**	**315**	*e*P	**Pn**	**22 12 31.8**	**+0.2**
	baz=315						
WFSB				*e*S	**Sn**	**22 12 43.0**	**-0.1**
	baz=315						
TWD	**Chiawan**	**0.85**	**242**	*e*P	**Pn**	**22 12 31.8**	**-0.2**
	baz=240						
TWD				*e*S	**Sn**	**22 12 43.0**	**-0.8**
	baz=240						
NWLT	**Wulai**	**0.88**	**289**	P	**Pn**	**22 12 33.0**	**+0.6**
	baz=288						
NWLT				*e*S	**Sn**	**22 12 44.6**	**+0.1**
	baz=288						
NNSB	**Datong**	**0.94**	**267**	*e*P	**Pn**	**22 12 33.4**	**+0.1**
	baz=265						
NNSB				*e*S	**Sn**	**22 12 45.9**	**-0.1**
	baz=265						
NNS	**Nan Shan**	**0.95**	**267**	*e*P	**Pn**	**22 12 33.7**	**+0.3**
	baz=266						
YHNB	**Yeheng**	**0.96**	**281**	*i* P	**Pn**	**22 12 34.1**	**+0.6**
	baz=280						
YHNB				S	**Sn**	**22 12 47.0**	**+0.5**
	baz=280						
TATO	**Taipei**	**0.97**	**300**	*e*P	**Pn**	**22 12 33.6**	**0.0**
	baz=299						
TATO				*e*S	**Sn**	**22 12 46.6**	**+0.1**
	baz=299						
YM07	**YM07**	**0.99**	**314**	*e*P	**Pn**	**22 12 32.8**	**-1.2**
	baz=313						
YM07				*e*S	**Sn**	**22 12 45.8**	**-1.4**
	baz=313						
YM10	**YM10**	**1.02**	**311**	*e*P	**Pn**	**22 12 34.3**	**0.0**
	baz=310						
YM10				*e*S	**Sn**	**22 12 47.6**	**-0.2**
	baz=310						
YM05	**YM05**	**1.02**	**311**	*e*P	**Pn**	**22 12 34.3**	**0.0**
	baz=310						
YM05				*e*S	**Sn**	**22 12 47.4**	**-0.5**
	baz=310						
YM04	**YM04**	**1.04**	**310**	*e*P	**Pn**	**22 12 34.5**	**0.0**
	baz=309						
YM04				*e*S	**Sn**	**22 12 47.6**	**-0.5**
	baz=309						
TWS1	**Kuangyinshan**	**1.09**	**304**	*e*P	**Pn**	**22 12 35.4**	**+0.2**
	baz=303						
WHF	**Hehuan Shan**	**1.10**	**252**	*e*P	**Pn**	**22 12 35.6**	**-0.1**
	baz=251						
WHF				*e*S	**Sn**	**22 12 49.9**	**-0.4**
	baz=251						
ESL	**Shilin**	**1.12**	**233**	*e*P	**Pn**	**22 12 35.5**	**-0.1**
	baz=232						
TDCB	**Techi**	**1.17**	**259**	*e*P	**Pn**	**22 12 36.9**	**+0.5**
	baz=257						
TDCB				*e*S	**Sn**	**22 12 51.1**	**-0.4**
	baz=257						
CHGB	**Renai**	**1.21**	**250**	*e*P	**Pn**	**22 12 37.3**	**+0.3**
	baz=248						
CHGB				*e*S	**Sn**	**22 12 52.6**	**0.0**
	baz=248						
IRIF	**Iriomote-Funau**	**1.21**	**97**	P	**Pn**	**22 12 36.7**	**0.0**
IRIF				S	**Sn**	**22 12 51.9**	**-0.3**
OWD	**Renai**	**1.25**	**245**	*e*P	**Pn**	**22 12 37.7**	**+0.3**
	baz=244						
OWD				*e*S	**Sn**	**22 12 52.4**	**-1.0**
	baz=244						
HGSD	**Ruisui**	**1.34**	**223**	*e*P	**Pn**	**22 12 38.4**	**-0.2**
	baz=221						
JKRS	**Kuro-shima**	**1.48**	**99**	P	**Pn**	**22 12 40.9**	**+0.6**
JKRS				*e*S	**Sn**	**22 12 59.3**	**+0.7**
YULB	**Yu-li**	**1.49**	**223**	*e*P	**Pn**	**22 12 39.8**	**-0.8**
	baz=222						
SSLB	**Suanglung**	**1.50**	**243**	*e*P	**Pn**	**22 12 40.8**	**0.0**
	baz=241						
SSLB				*e*S	**Sn**	**22 12 58.6**	**-0.8**
	baz=241						
SMLT	**Sun Moon Lake**	**1.51**	**247**	*e*P	**Pn**	**22 12 42.1**	**+1.2**
	baz=245						
SMLT				*e*S	**Sn**	**22 13 00.6**	**+1.0**
	baz=245						
TYC	**Yuchr**	**1.54**	**248**	*e*P	**Pn**	**22 12 42.5**	**+1.4**
	baz=247						
JIJ	**Ishigaki jima**	**1.58**	**94**	P	**Pn**	**22 12 41.6**	**-0.2**
JIJ				S	**Sn**	**22 13 00.7**	**-0.5**
FULB	**Fuli**	**1.64**	**219**	*e*P	**Pn**	**22 12 42.5**	**-0.1**
	baz=218						
JISG	**Ishigakijimahi**	**1.73**	**86**	P	**Pn**	**22 12 43.7**	**-0.1**
JISG				*e*S	**Sn**	**22 13 04.0**	**-0.8**
JTJ	**Tarama**	**2.09**	**85**	P	**Pn**	**22 12 49.5**	**+0.8**
JTJ				*e*S	**Sn**	**22 13 13.7**	**+0.2**

IDC ***15*** *22:18:55.9±1.9, 4.°38N×92.°59E, h0km, mb3.6/6, mb1 3.7/8, mb1mx3.4/63, mbtmp3.6/8, ML3.4/2, Error ellipse: s-maj=49.4km s-min=29.7km az=48.0*
ISCJB ***15*** *22:18:58.3±1.3, 4.°4N±0.°2×92.°5E±0.°1, h33km, mb3.6/6, Error ellipse: s-maj=23.8km s-min=18.8km az=5.7*

ISC 15 22:19:00.6±1.4, 4.°4N±0.°2×92.°5E±0.°1, h35km, n8, σ0s94/8, mb3.4/6, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PALK	**Pallekele**	**12.12**	**284**	Pn	**Pn**	**22 21 50.7**	**-0.2**
	0.3nm,0.3s,baz=110,slow=15,SNR=2.6						
CMAR	**Chiang Mai Arr**	**15.30**	**24**	Pn	**Pn**	**22 22 33.0**	**-1.1**
	0.0nm,0.3s,baz=212,slow=15,SNR=6.3						
MKAR	**Makanchi Array**	**43.15**	**350**	P	**P**	**22 26 58.4**	**+0.6**
	0.5nm,0.6s,baz=169,slow=9.4,SNR=8.2						
SONM	**Songino Array**	**44.87**	**13**	P	**P**	**22 27 12.3**	**+0.6**
	0.4nm,0.8s,baz=192,slow=8.1,SNR=4.2						
KURBB	**Kurchatov Arra**	**47.54**	**348**	P	**P**	**22 27 33.3**	**+0.9**
	0.7nm,0.6s,baz=169,slow=6.7,SNR=7.7						
WRA	**Warramunga Arr**	**47.67**	**122**	P	**P**	**22 27 33.8**	**-0.2**
	0.3nm,0.7s,baz=303,slow=8.6,SNR=2.0						
ZALV	**Zalesovo Beam**	**49.79**	**354**	P	**P**	**22 27 50.9**	**+1.2**
	1.3nm,0.4s,baz=183,slow=6.5,SNR=10.0						
BVAR	**Borovoye Array**	**51.78**	**343**	P	**P**	**22 28 04.4**	**-0.3**
	0.3nm,0.7s,baz=133,slow=8.5,SNR=3.2						

IDC ***15*** *22:23:23.0±1.2, 2.°83N×92.°64E, h0km, mb3.6/8, mb1 3.8/10, mb1mx3.5/60, mbtmp3.6/10, ML3.5/2, Error ellipse: s-maj=40.1km s-min=18.7km az=47.0*
ISCJB ***15*** *22:23:25.0±0.7, 2.°77N±0.°08×92.°71E±0.°05, h33km, mb3.6/9, Error ellipse: s-maj=12.8km s-min=6.5km az=20.3*
DJA ***15*** *22:23:27.9±1.3, 3.°N±7.°×9.°3E±.°, h10km, M4.6/6, mB5.2/1, mb5.0/2, MLv4.5/6, Mw(mB)4.6/1*

ISC 15 22:23:27.3±0.8, 2.°80N±0.°10×92.°68E±0.°08, h35km, n18, σ1s11/21, mb3.6/9, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MLSI	**Meulaboh, Aceh**	**4.00**	**68**	P	**Pn**	**22 24 25.5**	**-0.5**
MLSI				S	**Sn**	**22 25 10.7**	**-1.0**
TPTI		**4.52**	**84**	P	**Pn**	**22 24 32.4**	**-0.8**
LHMI	**Lhok Sumawe**	**4.90**	**60**	P	**Pn**	**22 24 38.4**	**0.0**
GSI	**Gunungsitoli**	**5.12**	**107**	P	**Pn**	**22 24 41.1**	**-0.3**
GSI				S	**Sn**	**22 25 38.2**	**-1.1**
PSI	**Prapat**	**6.24**	**90**	Pn	**Pn**	**22 24 57.0**	**0.0**
	baz=355,slow=0.0						
MNSI	**Mandailing Nat**	**7.18**	**106**	P	**Pn**	**22 25 09.7**	**-0.1**
SISI	**Saibi**	**7.61**	**123**	P	**Pn**	**22 25 15.0**	**-0.7**
PALK	**Pallekele**	**12.73**	**291**	Pn	**Pn**	**22 26 25.0**	**-0.9**
	0.5nm,0.3s,baz=118,slow=15,SNR=5.7						
PALK				Sn	Sn	22 28 34.4	-12
	1.0nm,0.3s,baz=114,slow=2.5,SNR=4.0						
CMAR	**Chiang Mai Arr**	**16.73**	**21**	Pn	**Pn**	**22 27 18.5**	**-0.6**
	0.0nm,0.3s,baz=213,slow=9.7,SNR=7.7						
MKAR	**Makanchi Array**	**44.74**	**350**	P	**P**	**22 31 38.2**	**+1.0**
	1.1nm,0.7s,baz=165,slow=8.4,SNR=14						
SONM	**Songino Array**	**46.40**	**13**	P	**P**	**22 31 51.9**	**+1.4**
	0.5nm,0.8s,baz=198,slow=10,SNR=4.6						
SONM				PcP	**PcP**	**22 33 24.9**	**-0.1**
	0.2nm,0.5s,baz=193,slow=4.4,SNR=2.8						
WRA	**Warramunga Arr**	**46.72**	**121**	P	**P**	**22 31 53.5**	**+0.2**
	0.7nm,0.7s,baz=298,slow=8.8,SNR=4.6						
ASAR	**Alice Springs**	**47.98**	**126**	P	**P**	**22 32 05.4**	**+2.4**
	0.1nm,0.4s,baz=292,slow=7.6,SNR=3.3						
KURBB	**Kurchatov Arra**	**49.13**	**348**	P	**P**	**22 32 12.1**	**+0.7**
	0.9nm,0.9s,baz=168,slow=5.8,SNR=7.7						
ZALV	**Zalesovo Beam**	**51.39**	**354**	P	**P**	**22 32 29.2**	**+0.7**
	1.0nm,0.4s,baz=173,slow=5.8,SNR=5.9						
BVAR	**Borovoye Array**	**53.35**	**343**	P	**P**	**22 32 42.9**	**-0.1**
	0.6nm,0.9s,baz=149,slow=6.7,SNR=4.5						
BRTR	**Keskin Array B**	**64.71**	**313**	P	**P**	**22 33 59.8**	**-2.4**
	0.2nm,0.6s,baz=110,slow=7.0,SNR=3.0						
GERES	**GERESS Array B**	**80.64**	**319**	P	**P**	**22 35 38.0**	**+1.3**
	0.6nm,0.9s,baz=92,slow=7.0,SNR=3.7						

TIR ***15*** *22:26:27.3, 41.°12N×20.°03E, h33km, Md2.9/2*
SKO ***15*** *22:26:29.3, 41.°13N×19.°93E, h14km*
ATH ***15*** *22:26:29.4, 41.°

STON	**Ston**	**2.38**	**315**	*e*Pn	**Pn**	**22 27 06.2**	**-2.1**
STON				Sn	**Sn**	**22 27 35.4**	**-2.1**
STON	**Ston**	**2.38**	**315**	*e*Pn	**Pn**	**22 27 06.2**	**-2.1**
STON				Sn	**Sn**	**22 27 35.4**	**-2.1**

IDC ***15*** *22:27:18.5±0.7,3˚.02N×92˚.59E, h0km, mb4.1/17, mb1 4.2/20, mb1mx4.0/63, mbtmp4.1/20, ML4.1/2, MS2.9/1, Ms1 2.9/1, ms1mx2.3/58, Error ellipse: s-maj=30.8km s-min=13.0km az=44.0*

NEIC ***15*** *22:27:20.0±0.3,3˚.06N×92˚.68E, h10km, mb4.6/22, Error ellipse: s-maj=8.9km s-min=5.4km az=50.0*

ISCJB ***15*** *22:27:22.0±0.3,3˚.09N±0˚.04×92˚.78E±0˚.03, h33km, mb4.4/43, MS2.9/1, Error ellipse: s-maj=6.5km s-min=3.8km az=16.8*

DJA ***15*** *22:27:29.1±1.2,3˚.N±6˚×9˚.3E± ˚, h10km, M4.6/7, mB4.9/2, mb4.7/5, MLv4.5/7, Mw(mB)4.2/2*

ISC 15 22:27:23.4±0.5, 3˚.03N±0˚.07×92˚.72E±0˚.06, h35km, n108, σ1§22/120, mb4.4/43, 6C-4D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MLSI	**Meulaboh, Aceh**	**3.88**	**71**	P		**Pn**	**22 28 20.5**	**0.0**
MLSI				S		**Sn**	**22 29 02.1**	**-2.7**
TPTI		**4.46**	**87**	P		**Pn**	**22 28 28.6**	**+0.1**
TPTI				S		**Sn**	**22 29 14.7**	**-4.5**
LHMI	**Lhok Sumawe**	**4.75**	**62**	P		**Pn**	**22 28 34.1**	**+1.6**
LHMI				S		**Sn**	**22 29 26.3**	**-0.1**
LHMI	**Lhok Sumawe**	**4.75**	**62**	*e*Pn		**Pn**	**22 28 33.2**	**+0.7**
LHMI				*e*Sn		**Sn**	**22 29 26.2**	**-0.1**
GSI	**Gunungsitoli**	**5.14**	**109**	P		**Pn**	**22 28 38.4**	**+0.5**
GSI	**Gunungsitoli**	**5.14**	**109**	*e*Pn		**Pn**	**22 28 38.5**	**+0.5**
GSI				*e*Sn		**Sn**	**22 29 32.2**	**-3.9**
PSI	**Prapat**	**6.20**	**92**	Pn		**Pn**	**22 28 53.9**	**+1.3**
PSI				Sn		**Sn**	**22 30 04.6**	**+2.3**
PSI	**Prapat**	**6.20**	**92**	*e*Pn		**Pn**	**22 28 53.8**	**+1.3**
PSI				*e*Sn		**Sn**	**22 30 01.5**	**-0.8**
MNSI	**Mandailing Nat**	**7.20**	**108**	P		**Pn**	**22 29 06.7**	**+0.4**
SISI	**Saibi**	**7.69**	**124**	P		**Pn**	**22 29 13.9**	**+0.9**
IPM	**Ipoh**	**8.41**	**80**	*e*Pn		**Pn**	**22 29 21.3**	**-1.5**
PALK	**Pallekele**	**12.69**	**290**	Pn		**Pn**	**22 30 19.4**	**-2.1**
	1.3nm,0.3s,baz=116,slow=14,SNR=3.6							
PALK				Sn		Sn	22 32 29.1	-13
	4.5nm,0.3s,baz=116,slow=6.6,SNR=9.5							
PALK	**Pallekele**	**12.69**	**290**	*e*Pn		**Pn**	**22 30 19.4**	**-2.1**
PALK				*e*Sn		Sn	22 32 28.4	-13
CM01	**Chiang Mai Arr**	**16.47**	**21**	*e*Pn		**Pn**	**22 31 09.7**	**-2.2**
CM31	**Chiang Mai Arr**	**16.50**	**21**	*e*Pn		**Pn**	**22 31 10.9**	**-1.4**
CMAR	**Chiang Mai Arr**	**16.50**	**21**	Pn		**Pn**	**22 31 10.8**	**-1.6**
	0.2nm,0.3s,baz=217,slow=14,SNR=32							
CHTO	**Chiang Mai**	**16.83**	**21**	*e*Pn		**Pn**	**22 31 13.9**	**-2.5**
	9.3nm,1.3s							
SHL	**Shillong**	**22.43**	**358**	*e*P		**P**	**22 32 19.0**	**-0.4**
KMI	**Kunming**	**24.00**	**23**	P		**P**	**22 32 37.5**	**+2.3**
KMI				pmax		pmax		
	comp=Z,10.0nm,1.3s							
RAMN	**Ramite**	**24.50**	**347**	*e*P		**P**	**22 32 38.9**	**-0.9**
	comp=Z,49nm,1.1s							
JIRN	**Jiri**	**25.28**	**346**	*e*P		**P**	**22 32 47.6**	**+0.6**
	comp=Z,46nm,0.9s							
PKIN	**Phulchoki**	**25.40**	**345**	*e*P		**P**	**22 32 48.2**	**+0.2**
	comp=Z,12nm,0.8s							
DMN	**Daman**	**25.51**	**344**	*e*P		**P**	**22 32 49.2**	**+0.2**
	comp=Z,13nm,0.9s							
GUN	**Gumba**	**25.59**	**346**	*e*P		**P**	**22 32 50.4**	**+0.6**
KKN	**Kakani**	**25.63**	**345**	*e*P		**P**	**22 32 50.7**	**+0.7**
GKN	**Gorkha**	**26.01**	**344**	*e*P		**P**	**22 32 54.0**	**+0.6**
	comp=Z,16nm,0.6s							
KOLN	**Koldanda**	**26.10**	**341**	*e*P		**P**	**22 32 54.9**	**+0.6**
	comp=Z,12nm,0.8s							
LSA	**Lhasa**	**26.57**	**357**	*e*P		**P**	**22 33 00.3**	**+1.5**
	comp=Z,10nm,0.8s							
DANN	**Dangsing**	**26.59**	**342**	*e*P		**P**	**22 32 59.6**	**+0.8**
	comp=Z,24nm,1.0s							
PYUN	**Piuthan**	**26.61**	**341**	*e*P		**P**	**22 32 59.3**	**+0.4**
	comp=Z,18nm,0.8s							
DAV	**Davao City (W)**	**32.97**	**82**	LR		LR	22 48 31.0	
	comp=Z,21nm,19.1s,baz=100,slow=38							
YULB	**Yu-li**	**34.26**	**51**	*e*P		**P**	**22 34 06.9**	**+0.5**
	comp=Z,42nm,1.6s							
XAN	**Xi'an**	**34.36**	**24**	P		**P**	**22 34 06.1**	**-1.0**
XAN				pmax		pmax		
	comp=Z,7.0nm,0.8s							
XAN				pmax		pmax		
	comp=Z,77nm,5.2s							
NIL	**Nilore**	**35.48**	**331**	*e*P		**P**	**22 34 16.8**	**0.0**
	comp=Z,9.4nm,0.7s							
GTA	**Gaotai**	**36.79**	**9**	*e*P		**P**	**22 34 28.3**	**+0.3**
GTA				pP		pP	22 34 32.6	-5.6
GTA				sP		sP	22 34 35.3	-7.1
GTA				pmax		pmax		
	comp=Z,4.0nm,1.1s							
FITZ	**Fitzroy Crossi**	**38.63**	**124**	P		**P**	**22 34 44.6**	**+0.9**
	comp=Z,1.0nm,0.7s,baz=286,slow=7.4,SNR=3.0							
WMQ	**Urumqi**	**40.87**	**354**	P		**P**	**22 35 04.0**	**+2.0**
HHC	**Hu-ho-hao-te**	**41.31**	**22**	*e*P		**P**	**22 35 07.4**	**+1.6**
HHC				pmax		pmax		
	comp=Z,14nm,1.0s							
HHC				pmax		pmax		
	comp=Z,25nm,5.7s							
KDJ	**Kajisay**	**41.35**	**342**	*e*P		**P**	**22 35 07.0**	**+0.8**
	comp=Z,3.4nm,0.8s							
NWAO	**Narrogin (SRO)**	**42.62**	**149**	*e*P		**P**	**22 35 14.5**	**-2.0**
	comp=Z,124nm,1.9s							
MK01	**Makanchi Array**	**44.51**	**350**	*e*P		**P**	**22 35 31.6**	**+0.1**
MK31	**Makanchi Array**	**44.53**	**350**	*e*P		**P**	**22 35 32.0**	**+0.3**
MK32	**Makanchi Array**	**44.53**	**350**	*e*P		**P**	**22 35 32.1**	**+0.5**
MKAR	**Makanchi Array**	**44.53**	**350**	P		**P**	**22 35 32.1**	**+0.5**
	comp=Z,4.4nm,0.8s,baz=169,slow=8.7,SNR=43							
MKAR	**Makanchi Array**	**44.53**	**350**	*e*P		**P**	**22 35 32.0**	**+0.3**
	comp=Z,21nm,0.7s							
KK31	**Karatay Array**	**44.53**	**337**	*e*P		**P**	**22 35 32.4**	**+0.6**
KKAR	**Karatay Array**	**44.53**	**337**	*e*P		**P**	**22 35 32.4**	**+0.6**
MAKZ	**Makanchi**	**44.60**	**349**	*e*P		**P**	**22 35 32.7**	**+0.5**
	comp=Z,1.7nm,0.7s							
SONA0	**Songino Array**	**46.17**	**13**	*e*P		**P**	**22 35 45.6**	**+0.8**
SONA0				*e*PcP		**PcP**	**22 37 21.6**	**+1.3**
SONM	**Songino Array**	**46.17**	**13**	P		**P**	**22 35 45.6**	**+0.8**
	comp=Z,2.4nm,0.8s,baz=192,slow=8.6,SNR=18							
SONM				PcP		**PcP**	**22 37 21.6**	**+1.3**
	comp=Z,0.5nm,0.6s,baz=188,slow=5.1,SNR=3.4							
SONA1	**Songino Array**	**46.18**	**13**	*e*P		**P**	**22 35 45.5**	**+0.6**
WR1	**Warramunga Arr**	**46.80**	**121**	*e*P		**P**	**22 35 51.1**	**+1.1**
	comp=Z,32nm,1.8s							
WRA	**Warramunga Arr**	**46.80**	**121**	P		**P**	**22 35 51.1**	**+1.1**
	comp=Z,1.9nm,1.0s,baz=298,slow=8.7,SNR=8.7							
WRAB	**Tennant Creek**	**46.80**	**121**	*e*P		**P**	**22 35 51.0**	**+1.0**
	comp=Z,27nm,1.4s							
WB2	**Warramunga Arr**	**46.81**	**121**	*e*P		**P**	**22 35 50.5**	**+0.4**
	comp=Z,11nm,1.2s							
GEYT	**Alibeck**	**46.99**	**322**	P		**P**	**22 35 52.2**	**+0.9**
	comp=Z,3.6nm,0.6s,baz=147,slow=8.3,SNR=13							
GYA0B	**ALIBECK ARRAY**	**46.99**	**322**	*e*P		**P**	**22 35 52.6**	**+1.3**
	comp=Z,4.4nm,0.8s							
ASAR	**Alice Springs**	**48.07**	**126**	P		**P**	**22 36 00.9**	**+1.0**
	comp=Z,0.3nm,0.3s,baz=298,slow=7.6,SNR=4.4							
ASAR				PcP		**PcP**	**22 37 28.6**	**+1.1**
	comp=Z,0.4nm,0.7s,baz=308,slow=4.6,SNR=3.5							
AS31	**Alice Springs**	**48.07**	**126**	*e*P		**P**	**22 36 00.9**	**+1.0**
	comp=Z,1.8nm,1.4s							
AS31				*e*PcP		**PcP**	**22 37 28.6**	**+1.1**
KURBB	**Kurchatov Arra**	**48.92**	**348**	P		**P**	**22 36 06.3**	**+0.4**
	comp=Z,3.4nm,0.8s,baz=170,slow=7.0,SNR=31							
KURBB				PcP		**PcP**	**22 37 29.5**	**-0.3**
	comp=Z,0.4nm,0.6s,baz=176,slow=4.8,SNR=3.9							
KURK	**Kurchatov**	**48.99**	**348**	*e*P		**P**	**22 36 06.1**	**-0.3**
	comp=Z,5.0nm,1.2s							
KURK				*e*PcP		**PcP**	**22 37 29.5**	**-0.6**
ZAA0	**Zalesovo Array**	**51.17**	**354**	*e*P		**P**	**22 36 23.6**	**+0.6**
	comp=Z,9.8nm,1.3s							
ZALV	**Zalesovo Beam**	**51.17**	**354**	P		**P**	**22 36 23.5**	**+0.5**
	comp=Z,3.7nm,0.4s,baz=183,slow=6.6,SNR=19							
ZAA1	**Zalesovo Array**	**51.18**	**354**	*e*P		**P**	**22 36 23.5**	**+0.5**
BVAR	**Borovoye Array**	**53.15**	**343**	P		**P**	**22 36 37.0**	**-0.7**
	comp=Z,1.4nm,0.8s,baz=142,slow=7.3,SNR=14							
BRVK	**Borovoye**	**53.21**	**343**	*e*P		**P**	**22 36 37.5**	**-0.6**
	comp=Z,2.5nm,1.0s							
ABKAR	**Akbulak array**	**53.86**	**334**	*e*P		**P**	**22 36 42.8**	**-0.2**
STKA	**Stephens Creek**	**57.91**	**131**	P		**P**	**22 37 13.7**	**+1.4**
	comp=Z,1.5nm,0.8s,baz=319,slow=10,SNR=3.3							
STKA	**Stephens Creek**	**57.91**	**131**	*e*P		**P**	**22 37 13.7**	**+1.4**
	comp=Z,4.2nm,1.9s							
KBZ	**Khabaz**	**59.79**	**320**	P		**P**	**22 37 25.4**	**+0.3**
	comp=Z,1.0nm,0.8s,baz=124,slow=6.7,SNR=5.0							
BR101	**Keskin Array S**	**64.59**	**313**	*e*P		**P**	**22 37 56.3**	**-1.3**
BRTR	**Keskin Array B**	**64.59**	**313**	P		**P**	**22 37 56.3**	**-1.3**
	comp=Z,0.9nm,0.8s,baz=123,slow=5.3,SNR=7.7							
BR231	**Keskin MP Arra**	**65.26**	**313**	*e*P		**P**	**22 37 58.4**	**-3.5**
SORM	**Soroca**	**70.84**	**320**	*i*P		**P**	**22 38 36.6**	**0.0**
AKASG	**Malin Array Be**	**71.11**	**323**	P		**P**	**22 38 37.4**	**-0.8**
	comp=Z,1.0nm,0.5s,baz=86,slow=5.2,SNR=8.4							
AKBB	**Malin Array Si**	**71.11**	**323**	*e*P		**P**	**22 38 37.4**	**-0.8**
	comp=Z,2.3nm,0.9s							
VRI	**Vrincioaia**	**71.25**	**318**	*i*P		**P**	**22 38 40.7**	**+1.5**
PLOR	**Plostina**	**71.30**	**318**	*i*P		**P**	**22 38 40.9**	**+1.3**
TESR	**Tescani**	**71.48**	**318**	*i*P		**P**	**22 38 40.7**	**+0.1**
MLR	**Muntele Rosu**	**71.68**	**317**	P		**P**	**22 38 43.1**	**+1.1**
	comp=Z,1.1nm,0.6s,baz=128,slow=17,SNR=8.7							
MLR	**Muntele Rosu**	**71.68**	**317**	*i*P		**P**	**22 38 43.1**	**+1.1**
MLR	**Muntele Rosu**	**71.68**	**317**	*e*P		**P**	**22 38 42.9**	**+0.9**
	comp=Z,8.1nm,0.9s							
TIXI	**Tiksi**	**72.23**	**11**	*e*P		**P**	**22 38 44.5**	**-0.1**
	comp=Z,9.2nm,1.1s							
ARR	**Arges**	**72.55**	**317**	*i*P		**P**	**22 38 47.5**	**+0.4**
BURAR	**Bucovina Array**	**72.72**	**319**	*i*P		**P**	**22 38 48.8**	**+0.7**
BUR04	**Bucovina Ar. S**	**72.72**	**319**	*e*P		**P**	**22 38 49.0**	**+0.8**
HERR	**Herculane**	**73.97**	**316**	*i*P		**P**	**22 38 56.8**	**+1.4**
DRGR		**74.18**	**318**	*i*P		**P**	**22 38 57.5**	**+0.8**
TRPA	**Tarpa**	**74.59**	**319**	*i*P		**P**	**22 38 59.9**	**+1.0**
STHS	**Stebnicka Huta**	**75.71**	**320**	*e*P		**P**	**22 39 06.9**	**+1.5**
FIA0	**FINESS Array S**	**76.34**	**333**	*e*P		**P**	**22 39 07.5**	**-1.2**
FINES	**FINESS Array B**	**76.34**	**333**	P		**P**	**22 39 07.5**	**-1.2**
	comp=Z,2.7nm,0.8s,baz=96,slow=6.2,SNR=9.7							
VYHS	**Vyhne**	**77.08**	**319**	*e*P		**P**	**22 39 13.9**	**+0.7**
DPC	**Dobruska-Polom**	**79.01**	**321**	*e*P		**P**	**22 39 25.3**	**+1.4**
AQU	**L'Aquila**	**80.07**	**312**	*e*P		**P**	**22 39 30.1**	**+0.2**
	comp=Z,36nm,1.2s							
GEA0	**GERESS Array S**	**80.50**	**319**	*e*P		**P**	**22 39 32.8**	**+0.7**
GEC2	**GERESS Array S**	**80.50**	**319**	*e*P		**P**	**22 39 33.4**	**+1.3**
	comp=Z,6.2nm,0.8s							
GERES	**GERESS Array B**	**80.50**	**319**	P		**P**	**22 39 33.1**	**+1.0**
	comp=Z,3.9nm,0.8s,baz=98,slow=5.1,SNR=25							
KHC	**Kasperske Hory**	**80.61**	**319**	*e*P		**P**	**22 39 33.5**	**+0.9**
WTTA	**Wattenberg**	**81.73**	**317**	*i*P		**P**	**22 39 38.7**	**0.0**
WATA	**Walderalm**	**81.78**	**317**	*e*P		**P**	**22 39 38.7**	**-0.2**
	comp=Z,1.8nm,0.7s							
HFS	**Hagfors**	**81.92**	**330**	P		**P**	**22 39 39.6**	**+0.3**
	comp=Z,1.3nm,0.7s,baz=107,slow=4.8,SNR=5.4							
MOTA	**Moosalm**	**82.10**	**317**	*e*P		**P**	**22 39 40.7**	**+0.1**
	comp=Z,4.1nm,0.9s							
FETA	**Feichten**	**82.33**	**317**	*e*P		**P**	**22 39 42.3**	**+0.4**
	comp=Z,3.2nm,1.0s							
RETA	**Reutte**	**82.34**	**317**	*e*P		**P**	**22 39 42.1**	**+0.2**
	comp=Z,6.0nm,1.1s							
DAVA	**Damuels**	**82.93**	**317**	*e*P		**P**	**22 39 44.9**	**-0.1**
	comp=Z,4.6nm,0.7s							
LTX	**Lajitas**	**144.19**	**25**	*e*PKPdf		**PKPdf**	**22 46 56.1**	**-0.4**
TXAR	**Lajitas Array**	**144.19**	**25**	PKP		**PKPdf**	**22 46 56.1**	**-0.4**
	comp=Z,0.5nm,0.7s,baz=101,slow=0.5,SNR=3.7							

IDC 15 22:38:44.4±5.1, 3˚.32N×92˚.36E, h0km, mb3.4/3, mb1 3.5/5, mb1mx3.2/60, mbtmp3.5/5, ML3.6/1, Error ellipse: s-maj=112.6km s-min=38.2km az=28.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PSI	**Prapat**	**6.58**	**94**	Pn		Pn	22 40 22.6	0.0
CMAR	**Chiang Mai Arr**	**16.36**	**23**	Pn		Pn	22 42 35.9	+0.1
	0.1nm,0.3s,baz=218,slow=13,SNR=4.3							
MKAR	**Makanchi Array**	**44.18**	**350**	P		P	22 46 55.0	-0.1
	0.4nm,0.6s,baz=170,slow=8.0,SNR=6.9							
ZALV	**Zalesovo Beam**	**50.84**	**354**	P		P	22 47 46.5	-0.3
	0.5nm,0.5s,baz=170,slow=9.5,SNR=3.4							
BVAR	**Borovoye Array**	**52.76**	**344**	P		P	22 48 01.2	+0.1
	0.1nm,0.5s,baz=141,slow=9.3,SNR=2.3							

MAN 15 22:39:07,15˚.61N×119˚.73E, h69km, mb4.3, ML3.1, MS2.8, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SCZP	**Santa Cruz**	**0.24**	**47**	*e*P		Pn	22 39 17.8	1.0
SCZP				*e*S		Sn	22 39 24.3	-1.3
BOLP	**Bolinao**	**0.79**	**13**	*e*P		Pn	22 39 25.3	+2.4
BOLP				*e*S		Sn	22 39 38.6	+4.0
BALP	**Baler**	**1.79**	**86**	*e*P		Pn	22 39 37.8	+2.0
BALP				*e*S		Sn	22 39 58.9	+1.4
LUBP	**Lubang**	**1.93**	**165**	*e*P		Pn	22 39 40.1	+2.4
ENPP	**El Nido**	**4.39**	**184**	*e*P		Pn	22 40 12.0	+0.9

IDC ***15*** *22:50:42.8±1.2,34˚.37S×68˚.49W, h0km, mb3.6/2, mb1 3.9/5, mb1mx3.6/34, mbtmp3.7/5, ML3.9/3, Error ellipse: s-maj=51.9km s-min=29.9km az=106.0*

SJA ***15*** *22:50:03.5±0.6,34˚.20S×68˚.59W, h12km±3km, ML3.6, MW4.3, Fault plane solution: NP1:ϕs321.50000°, δ31.30000°, λ74.30000°.*

NEIC ***15*** *22:50:44.0±0.0,34˚.20S×68˚.59W, h12km, mb4.2/4, MD4.3(SJA), After SJA.*

NEIC Felt [III] at San Rafael.

ISC 15 22:50:45.6±1.2, 34˚.39S±0˚.04×68˚.85W±0˚.04, h26km±10km, n37, σ1§37/46, mb4.2/5, 6C-5D, Mendoza Province

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
RFA	**San Rafael**	**0.49**	**140**	*i*P		**Pb**	**22 50 56.3**	**+0.6**
RFA				*e*S		**Sn**	**22 51 05.5**	**+0.7**
RFA				IAML			22 51 07.4	
	comp=Z,4μm,0.4s							
PEL	**Peldehue**	**1.98**	**309**	*e*Pn		**Pn**	**22 51 17.1**	**-0.3**
PEL				*e*Sn		**Sn**	**22 51 41.8**	**+0.4**
AUSP	**Uspallata**	**2.21**	**348**	*e*P		**Pn**	**22 51 21.2**	**+0.3**
AUSP				*e*S		**Sb**	**22 51 51.8**	**-0.3**
ROC1	**El Roble**	**2.30**	**307**	*e*Pn		**Pn**	**22 51 22.4**	**+0.4**
ROC1				*e*Sn		**Sn**	**22 51 50.1**	**+0.5**
ROC1	**El Roble**	**2.30**	**307**	*e*P		**Pn**	**22 51 22.6**	**+0.6**
ACAN	**Cantantal**	**2.53**	**34**	*e*P		**Pn**	**22 51 26.4**	**+1.4**
RTCV	**Cerro Valdivia**	**2.54**	**6**	*e*P		**Pn**	**22 51 25.0**	**-0.2**
RTCV				*e*S		**Sn**	**22 51 56.7**	**+1.4**
GO05	**HualaæØ**	**2.61**	**256**	*e*Pn		**Pn**	**22 51 25.8**	**-0.3**
GO05				*e*Sn		**Sn**	**22 51 57.7**	**+0.6**
RTLS	**Leoncito**	**2.62**	**352**	*e*P		**Pn**	**22 51 27.2**	**+0.7**
RTLS				*e*S		**Sb**	**22 52 01.1**	**-2.7**
ZON	**Zonda**	**2.84**	**3**	*i*P		**Pn**	**22 51 29.3**	**-0.1**
AMOG	**MOGNA**	**3.46**	**5**	*i*P		**Pn**	**22 51 38.4**	**+0.5**
CANA	**Caviahue**	**3.92**	**207**	*e*P		**Pb**	**22 51 54.3**	**+0.3**
CANA				*e*S		**Sb**	**22 52 42.8**	**+1.7**
AROD	**Rodeo**	**4.25**	**353**	*i*P		**Pn**	**22 51 50.5**	**+1.6**
AGUA	**GUANDACOL**	**4.90**	**4**	*i*P		**Pn**	**22 51 58.6**	**+0.9**
LCO	**Las Campanas**	**5.59**	**343**	*e*Pn		**Pn**	**22 52 06.6**	**-0.8**
LCO				*e*Sn		**Sn**	**22 53 14.9**	**+3.9**
PLCA	**Paso Flores**	**6.47**	**192**	Pg		Pb	22 52 44.4	+6.9
	comp=Z,0.6nm,0.3s,baz=33,slow=18,SNR=8.5							
PLCA				Lg		Lg	22 54 02.6	
	comp=Z,1.5nm,0.3s,baz=108,slow=18,SNR=5.2							
PLCA	**Paso Flores**	**6.47**	**192**	*e*Pn		**Pn**	**22 52 17.2**	**-2.0**
PLCA				Pg		Pb	22 52 44.4	+6.9
PLCA				Lg		Lg	22 54 02.6	
PLCA				*e*Lg		Lg	22 54 10.4	
TRQA	**Tornquist**	**6.64**	**125**	*e*Pn		**Pn**	**22 52 22.3**	**+0.8**
TRQA				*e*Sn		**Sn**	**22 53 34.7**	**-1.8**
CPUP	**Villa Florida**	**12.78**	**54**	Pn		Pn	**22 53 44.3**	**-1.3**
	comp=Z,0.3nm,0.3s,baz=226,slow=4.6,SNR=4.9							
CPUP				Lg		Lg	22 57 30.2	
	comp=Z,0.2nm,0.3s,baz=330,slow=18,SNR=1.7							
MNMC	**Minye Minye**	**15.22**	**357**	*e*Pn		**Pn**	**22 54 20.4**	**+1.3**
	comp=Z,13nm,0.8s							
LPAZ	**La Paz**	**18.04**	**2**	P		**Pn**	**22 54 54.9**	**-0.3**
	comp=Z,0.1nm,0.3s,baz=182,slow=9.3,SNR=7.6							
LPAZ	**La Paz**	**18.04**	**2**	P		**Pn**	**22 54 54.9**	**-0.3**
	comp=Z,2.0nm,0.7s							
SIV	**San Ignacio**	**19.61**	**23**	P		**P**	**22 55 11.7**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=194,slow=12,SNR=7.6							
OTAV	**Otavalo**	**35.61**	**343**	*e*P		**P**	**22 57 41.8**	**0.0**
	comp=Z,5.9nm,1.6s							
RUSC	**La Rusia**	**40.27**	**353**	*e*P		**P**	**22 58 20.0**	**-1.1**
	comp=Z,8.6nm,1.7s							
PCRV	**Puerto La Cruz**	**44.51**	**6**	PcP		**PcP**	**23 00 38.0**	**-0.1**
	comp=Z,17nm,1.0s,baz=182,slow=5.2,SNR=2.4							
OLIL	**Olney**	**74.92**	**345**	*e*P		**P**	**23 02 20.6**	**-3.4**
	comp=Z,36nm,0.3s							
TORD	**Torodi Ar. Bea**	**81.88**	**68**	P		**P**	**23 03 02.9**	**0.0**
	comp=Z,0.8nm,0.8s,baz=298,slow=8.5,SNR=5.9							
TOA1	**Torodi Ar. Sit**	**81.88**	**68**	*e*P		**P**	**23 03 02.9**	**0.0**
PD31	**Pinedale Array**	**85.34**	**331**	*e*P		**P**	**23 03 23.4**	**+2.9**
PDAR	**Pinedale Array**	**85.34**	**331**	P		**P**	**23 03 23.4**	**+2.9**
	comp=Z,0.1nm,0.3s,baz=134,slow=7.8,SNR=2.4							
BVAR	**Borovoye Array**	**145.74**	**44**	PKPbc		**PKPbc**	**23 10 22.2**	**+0.5**
	comp=Z,0.9nm,0.6s,baz=278,slow=4.2,SNR=6.0							
AAK	**Ala-Archa**	**150.34**	**63**	PKPbc		**PKPbc**	**23 10 34.8**	**+0.3**
	comp=Z,0.5nm,0.6s,baz=252,slow=3.2,SNR=5.3							
KURBB	**Kurchatov Arra**	**151.29**	**46**	PKPbc		**PKPbc**	**23 10 36.5**	**+0.2**
	comp=Z,0.8nm,0.8s,baz=286,slow=2.7,SNR=8.1							
KURK	**Kurchatov**	**151.31**	**45**	*e*PKPbc		**PKPbc**	**23 10 36.5**	**+0.1**
MK32	**Makanchi Array**	**154.98**	**52**	*e*PKPbc		**PKPbc**	**23 10 44.2**	**-0.4**
MKAR	**Makanchi Array**	**154.98**	**52**	PKPbc		**PKPbc**	**23 10 44.2**	**-0.4**
	comp=Z,0.2nm,0.7s,baz=264,slow=1.4,SNR=2.3							

ATH ***15*** *22:58:44.6,36˚.32N×29˚.37E, h39km±2km, ML2.5/3, Error ellipse: s-maj=4.1km s-min=1.0km az=171.0*

ISK ***15*** *22:58:44.7,36˚.28N×29˚.33E, h25km, ML3.0/8*

ISCJB ***15*** *22:58:45.6±0.4,36˚.26N±0˚.04×29˚.32E±0˚.04, h31km±4km, Error ellipse: s-maj=6.6km s-min=4.3km az=156.4*

CSEM ***15*** *22:58:45.7±0.1,36˚.29N×29˚.36E, h25km±1km, ML3.0, Error ellipse: s-maj=4.1km s-min=2.7km az=148.0*

DDA ***15*** *22:58:46.5,36˚.42N×29˚.36E, h8km, Ml3.3*

ISC 15 22:58:46.2±0.9, 36˚.30N±0˚.04×29˚.36E±0˚.03, h24km±8km, n66, σ1§18/89, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
AKAS	**Kas**	**0.21**	**108**	PG		**Pb**	**22 58 51.2**	**-0.9**
AKAS				SG		**Sb**	**22 58 55.9**	**-0.1**
AKAS	**Kas**	**0.21**	**108**	*i* P		**Pb**	**22 58 51.4**	**-0.7**
AKAS				*i* S		**Sb**	**22 58 57.2**	**+1.2**
AKAS	**Kas**	**0.21**	**108**	*e*Pg		**Pb**	**22 58 51.2**	**-0.9**
AKAS				*e*Sg		**Sb**	**22 58 55.9**	**-0.1**
AKAS				S		**Sb**	**22 58 57.2**	**+1.2**
KSL	**Kastellorizon**	**0.23**	**129**	P		**Pb**	**22 58 52.0**	**-0.2**
KSL				S		**Sb**	**22 58 58.6**	**+2.3**
KSL				AML		AML	22 58 58.6	
	comp=N,1802μm,0.3s							
KSL				AML		AML	22 58 59.5	
	comp=E,2516μm,0.3s							
FETY	**Fethiye**	**0.40**	**327**	PG		**Pb**	**22 58 54.3**	**-0.6**
FETY				SG		**Sb**	**22 59 00.9**	**+0.2**
FETY	**Fethiye**	**0.40**	**327**	P		**Pb**	**22 58 54.2**	**-0.6**
FETY				*e*Sg		**Sb**	**22 59 00.9**	**+0.2**
FETY				S		**Sn**	**22 59 02.1**	**-1.3**
ELL	**Elmali**	**0.63**	**44**	PG		**Pb**	**22 58 58.0**

ENPP	**El Nido**	**2.40**	**199**	*e*P	Pn	23	30	42.9 +0.8
ENPP				*e*S	Sn	23	31	10.7 +0.3

IDC 15 23:31:33.7±1.5, 2°38S×139°62E, h0km, mb3.6/4, mb1 3.8/5, mb1mx3.5/44, mbtmp3.6/5, ML3.8/1, MS3.1/2, Ms1 3.1/2, ms1mx2.5/37, Error ellipse: s-maj=65.6km s-min=25.0km az=95.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**10.24**	**133**	LR	LR	23 39 29.5	
	comp=Z,63nm,18.7s,baz=284,slow=46						
BATI	**Baumata**	**17.65**	**243**	LR	LR	23 42 34.6	
	comp=Z,77nm,19.6s,baz=66,slow=37						
WRA	**Warramunga Arr**	**18.20**	**196**	P	Pn	23 35 47.7	-0.3
	0.4nm,0.3s,baz=16,slow=12,SNR=9.1						
ASAR	**Alice Springs**	**21.87**	**194**	P	P	23 36 28.3	0.0
	0.7nm,0.4s,baz=25,slow=10,SNR=9.9						
H11N1	**WAKE ISLAND Hy**	**34.63**	**49**	T	T	00 14 53.2	
	baz=233						
H11N2	**WAKE ISLAND Hy**	**34.65**	**49**	T	T	00 14 57.3	
	baz=233						
H11N3	**WAKE ISLAND Hy**	**34.65**	**49**	T	T	00 14 54.7	
	baz=233						
MKAR	**Makanchi Array**	**70.09**	**322**	P	P	23 42 47.9	+0.1
	0.8nm,0.8s,baz=110,slow=5.6,SNR=7.1						
BVAR	**Borovoye Array**	**79.57**	**325**	P	P	23 43 42.5	0.0
	0.4nm,0.5s,baz=111,slow=6.3,SNR=4.4						
ILAR	**Eielson Array**	**85.16**	**24**	P	P	23 44 11.6	0.0
	0.3nm,0.8s,baz=253,slow=5.6,SNR=3.0						

*ISCJB **15** 23:44:23.4±0.3, 51.°54N±0.°02×16.°14E±0.°03, h0km, Error ellipse: s-maj=2.6km s-min=2.2km az=31.5*
*CSEM **15** 23:44:25.1±0.1, 51.°55N×16.°10E, h2km, ML3.2/15, Ms3.2, Error ellipse: s-maj=3.0km s-min=2.3km az=79.0, Suspected Mining induced.*
*UPP **15** 23:44:26.1±3.1, 51.°53N×15.°53E, h0km, ML1.6*
*VIE **15** 23:44:28.7±0.7, 51.°28N×16.°09E, h0km, mb2.6/10, ML2.5/13, Ms3.2/2, Error ellipse: s-maj=5.6km s-min=4.1km az=37.0, Suspected Mining induced.*

ISC 15 23:44:24.9±0.8, 51.°58N±0.°02×16.°11E±0.°02, h0km, n82, σ0s99/145, 12D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.75**	**171**	*i* Pg	**Pg**	**23 44 39.6**	**+0.4**
KSP				*e*Sg	**Sg**	**23 44 49.1**	**+0.3**
KSP	**Ksiaz**	**0.75**	**171**	↓*i*Pg	**Pg**	**23 44 39.6**	**+0.4**
KSP				*e*Sg	**Sg**	**23 44 49.1**	**+0.3**
UPC	**Upice**	**1.08**	**183**	↓*e*PG	**Pg**	**23 44 45.7**	**+0.3**
UPC				*e*SG	**Sg**	**23 44 59.1**	**-0.3**
	comp=Z,86nm,0.4s						
UPC	**Upice**	**1.08**	**183**	Pg	**Pg**	**23 44 45.7**	**+0.3**
UPC				Sg	**Sg**	**23 44 59.1**	**-0.3**
	86nm,0.4s						
DPC	**Dobruska-Polom**	**1.24**	**174**	↓*e*PG	**Pg**	**23 44 48.4**	**-0.2**
DPC				*e*SG	**Sg**	**23 45 03.7**	**-0.9**
	comp=Z,27nm,0.3s						
DPC	**Dobruska-Polom**	**1.24**	**174**	Pg	**Pg**	**23 44 48.4**	**-0.2**
DPC				Sg	**Sg**	**23 45 03.7**	**-0.9**
	27nm,0.3s						
PVCC	**Panska Ves**	**1.43**	**223**	↓*e*PG	**Pn**	**23 44 52.3**	**+0.2**
PVCC				*e*SG	**Sb**	**23 45 11.7**	**+0.5**
	comp=Z,98nm,0.2s						
PVCC	**Panska Ves**	**1.43**	**223**	Pg	**Pn**	**23 44 52.3**	**+0.2**
PVCC				Sg	**Sb**	**23 45 11.7**	**+0.5**
	98nm,0.2s						
BRG	**Berggiesshubel**	**1.53**	**243**	PN	**Pn**	**23 44 53.3**	**-0.2**
BRG				PG	**Pg**	**23 44 55.1**	**+0.8**
BRG				SG	**Sg**	**23 45 15.1**	**+1.0**
	57nm,0.3s						
KRLC	**Kraliky**	**1.57**	**164**	↓*e*PG	**Pn**	**23 44 53.7**	**-0.3**
KRLC				*e*SG	**Sn**	**23 45 14.4**	**-0.6**
	comp=Z,15nm,0.3s						
KRLC	**Kraliky**	**1.57**	**164**	Pg	**Pn**	**23 44 53.7**	**-0.3**
KRLC				Sg	**Sn**	**23 45 14.4**	**-0.6**
	15nm,0.3s						
PRA	**Prague**	**1.85**	**216**	↓*e*PN	**Pn**	**23 44 57.9**	**+0.1**
PRA				*e*SG	**Sn**	**23 45 22.5**	**+0.7**
PRA	**Prague**	**1.85**	**216**	Pn	**Pn**	**23 44 57.9**	**+0.1**
PRA				Sg	**Sn**	**23 45 22.5**	**+0.7**
GOPC	**GO Pecny, Ondr**	**1.87**	**207**	↓*e*PN	**Pn**	**23 44 58.0**	**-0.1**
GOPC				*e*PG	**Pb**	**23 45 00.0**	**+0.2**
GOPC				*e*SG	**Sb**	**23 45 23.8**	**+0.1**
	comp=Z,11nm,0.2s						
GOPC	**GO Pecny, Ondr**	**1.87**	**207**	Pn	**Pn**	**23 44 58.0**	**-0.1**
PRU	**Pruhonice**	**1.88**	**213**	↓*e*PN	**Pn**	**23 44 58.0**	**-0.2**
PRU				*e*PG	**Pb**	**23 44 59.9**	**-0.1**
PRU				*ex*	x	23 45 16.9	
PRU				*e*SG	**Sn**	**23 45 23.5**	**+0.9**
	comp=Z,24nm,0.4s						
PRU	**Pruhonice**	**1.88**	**213**	Pn	**Pn**	**23 44 58.0**	**-0.2**
CLL	**Collm**	**1.96**	**263**	*i* Pn	**Pn**	**23 44 59.4**	**0.0**
CLL				*i* Pg	**Pg**	**23 45 02.7**	**+0.3**
CLL				*i*		23 45 05.5	
CLL				*i*		23 45 06.5	
CLL				*i* Sg	**Sg**	**23 45 28.8**	**+1.0**
	comp=Z,32nm,0.5s						
RAC	**Raciborz**	**2.00**	**138**	*e*Pg	**Pg**	**23 45 02.8**	**-0.3**
RAC				*e*Sg	**Sg**	**23 45 29.5**	**+0.5**
MORC	**Moravsky Berou**	**2.02**	**153**	*e*Pn	**Pn**	**23 44 59.8**	**-0.5**
MORC				*e*Sg	**Sb**	**23 45 28.1**	**-0.1**
OKC	**Ostrava-Krasne**	**2.17**	**143**	↓*e*PN	**Pn**	**23 45 02.1**	**-0.2**
OKC				*e*PG	**Pg**	**23 45 06.2**	**-0.3**
OKC				*e*SG	**Sb**	**23 45 32.6**	**+0.1**
	comp=Z,31nm,0.5s						
OKC	**Ostrava-Krasne**	**2.17**	**143**	Pn	**Pn**	**23 45 02.1**	**-0.2**
CHZP	**Chorzow**	**2.23**	**124**	*e*Pg	**Pg**	**23 45 07.6**	**0.0**
CHZP				*e*Sg	**Sg**	**23 45 36.8**	**+0.2**
VRAC	**Vranov**	**2.30**	**172**	*e*Pn	**Pn**	**23 45 04.4**	**+0.4**
VRAC				*e*Sg	**Sb**	**23 45 36.2**	**+0.2**
TREC	**Trest**	**2.32**	**190**	↓*e*PN	**Pn**	**23 45 04.6**	**+0.3**
TREC				*e*PG	**Pb**	**23 45 08.1**	**+0.5**
TREC				*e*SG	**Sb**	**23 45 37.2**	**+0.4**
	comp=Z,17nm,0.2s						
TREC	**Trest**	**2.32**	**190**	Pn	**Pn**	**23 45 04.6**	**+0.3**
NKC	**Novy Kostel**	**2.68**	**241**	↓*e*PN	**Pn**	**23 45 10.3**	**+1.0**
NKC				*e*PG	**Pg**	**23 45 16.6**	**+0.4**
NKC				*e*SG	**Sg**	**23 45 51.6**	**+0.7**
	comp=Z,26nm,0.4s						
NKC	**Novy Kostel**	**2.68**	**241**	Pn	**Pn**	**23 45 10.3**	**+1.0**
OJC	**Ojcow**	**2.71**	**119**	*e*Pg	**Pg**	**23 45 16.5**	**-0.2**
OJC				*e*Sg	**Sg**	**23 45 52.0**	**+0.3**
OJC	**Ojcow**	**2.71**	**119**	*e*Pg	**Pg**	**23 45 16.5**	**-0.2**
OJC				*e*Sg	**Sg**	**23 45 52.0**	**+0.3**
KHC	**Kasperske Hory**	**2.94**	**214**	↓*e*PN	**Pn**	**23 45 13.0**	**+0.2**
KHC				*e*PG	**Pb**	**23 45 18.8**	**+0.7**
KHC				*e*SN	**Sn**	**23 45 47.0**	**-1.8**
KHC				*e*SG	**Sb**	**23 45 56.8**	**+2.2**
	comp=Z,8.7nm,0.4s						
KHC	**Kasperske Hory**	**2.94**	**214**	Pn	**Pn**	**23 45 13.0**	**+0.2**
SMOL	**Smolenice**	**3.19**	**164**	*e*Pg	**Pg**	**23 45 25.9**	**0.0**
SMOL				*e*Sg	**Sg**	**23 46 07.5**	**+0.4**
SMOL	**Smolenice**	**3.19**	**164**	*e*PG	**Pg**	**23 45 25.9**	**0.0**
SMOL				*e*SG	**Sg**	**23 46 07.5**	**+0.4**
LANS	**Liptovska Anna**	**3.25**	**137**	*e*Pg	**Pg**	**23 45 26.8**	**-0.3**
LANS				*e*Sg	**Sg**	**23 46 07.7**	**-1.4**
LANS	**Liptovska Anna**	**3.25**	**137**	*e*	**Pn**	**23 45 17.7**	**+0.6**
LANS	**Liptovska Anna**	**3.25**	**137**	*e*PG	**Pg**	**23 45 26.8**	**-0.3**
LANS				*e*SG	**Sg**	**23 46 07.7**	**-1.4**
MODS	**Modra-Piesok**	**3.30**	**166**	*e*Pg	**Pg**	**23 45 28.0**	**0.0**
MODS				*e*Sg	**Sg**	**23 46 09.9**	**-0.8**
MODS	**Modra-Piesok**	**3.30**	**166**	*e*PG	**Pg**	**23 45 28.0**	**0.0**
MODS				*e*SG	**Sg**	**23 46 09.9**	**-0.8**
NIE	**Niedzica**	**3.44**	**127**	*e*P	**Pg**	**23 45 30.1**	**-0.6**
NIE				*e*S	**Sg**	**23 46 15.0**	**-0.4**
VYHS	**Vyhne**	**3.56**	**149**	*e*Pg	**Pg**	**23 45 33.3**	**+0.3**
VYHS				*e*Sg	**Sg**	**23 46 16.9**	**-2.1**
VYHS	**Vyhne**	**3.56**	**149**	*e*	**Pn**	**23 45 20.8**	**-0.5**
VYHS	**Vyhne**	**3.56**	**149**	*e*PG	**Pg**	**23 45 33.3**	**+0.3**
VYHS				*e*SG	**Sg**	**23 46 16.9**	**-2.1**
BSD	**Bornholm Skovb**	**3.61**	**349**	*i* P	**Pn**	**23 45 22.1**	**+0.1**
BSD				*e*S	**Sn**	**23 46 03.5**	**-1.8**
BSD	**Bornholm Skovb**	**3.61**	**349**	*i* P	**Pn**	**23 45 22.1**	**+0.1**
BSD				*e*S	**Sn**	**23 46 03.5**	**-1.8**
CONA	**Conrad Observa**	**3.66**	**183**	Pn	**Pn**	**23 45 23.4**	**+0.6**
	comp=Z,1.1nm,0.2s						
CONA	**Conrad Observa**	**3.66**	**183**	*e*Pn	**Pn**	**23 45 23.4**	**+0.6**
	comp=Z,1.1nm,0.2s						
CONA				Pg	**Pg**	**23 45 33.4**	**-1.6**
	comp=Z,2.0nm,0.4s						
CONA				Sg	**Sg**	**23 46 20.2**	**-2.1**
	comp=Z,12nm,0.4s						
MOA	**Molln**	**3.92**	**198**	Pn	**Pn**	**23 45 26.9**	**+0.6**
	comp=Z,1.9nm,0.2s,SNR=13						
MOA				Sg	**Sg**	**23 46 30.2**	**-0.5**
	comp=Z,4.3nm,0.3s						
MOA	**Molln**	**3.92**	**198**	*e*Pn	**Pn**	**23 45 26.9**	**+0.6**
	comp=Z,1.9nm,0.2s,SNR=13						
MOA				Sg	**Sg**	**23 46 30.2**	**-0.5**
	comp=Z,4.3nm,0.3s						
STHS	**Stebnicka Huta**	**3.93**	**121**	*e*Pg	**Pg**	**23 45 40.5**	**+0.4**
STHS				*e*Sg	**Sg**	**23 46 33.8**	**+2.8**
STHS	**Stebnicka Huta**	**3.93**	**121**	*e*	**Pn**	**23 45 28.5**	**+2.1**
STHS	**Stebnicka Huta**	**3.93**	**121**	*e*PG	**Pg**	**23 45 40.5**	**+0.4**
STHS				*e*SG	**Sg**	**23 46 33.8**	**+2.8**
STHS				*e*		23 46 47.0	
ARSA	**Arzberg**	**4.35**	**185**	Pn	**Pn**	**23 45 31.5**	**-0.7**
	comp=Z,1.0nm,0.3s						
ARSA	**Arzberg**	**4.35**	**185**	Pn	**Pn**	**23 45 31.5**	**-0.7**
	comp=Z,1.0nm,0.3s						
ARSA				Sg	**Sg**	**23 46 41.2**	**-3.4**
	comp=Z,9.1nm,0.6s						
CRVS	**Cervenica-Dubn**	**4.36**	**126**	*e*Pg	**Pg**	**23 45 47.5**	**-0.8**
CRVS				*e*Sg	**Sg**	**23 46 46.7**	**+1.9**
CRVS	**Cervenica-Dubn**	**4.36**	**126**	*e*PG	**Pg**	**23 45 47.5**	**-0.8**
CRVS				*e*SG	**Sg**	**23 46 46.7**	**+1.9**
LUNU	**Lund**	**4.36**	**340**	P	**Pn**	**23 45 32.2**	**-0.1**
LUNU				S	**Sn**	**23 46 22.5**	**-1.2**
LUNU	**Lund**	**4.36**	**340**	P	**Pn**	**23 45 32.2**	**-0.1**
LUNU				S	**Sn**	**23 46 22.5**	**-1.2**
KBA	**Koelnbreinsper**	**4.85**	**203**	Pn	**Pn**	**23 45 40.0**	**+0.7**
	comp=Z,1.7nm,0.4s,SNR=5.8						
KBA				Sg	**Sg**	**23 46 58.5**	**-2.2**
	comp=Z,1.9nm,0.4s						
KBA	**Koelnbreinsper**	**4.85**	**203**	*e*Pn	**Pn**	**23 45 40.0**	**+0.7**
	comp=Z,1.7nm,0.4s,SNR=5.8						
KBA				Sg	**Sg**	**23 46 58.5**	**-2.2**
	comp=Z,1.9nm,0.4s						
BJUU	**Bjuv**	**4.86**	**339**	P	**Pn**	**23 45 38.4**	**-0.7**
BJUU				S	**Sn**	**23 46 33.0**	**-3.0**
BJUU	**Bjuv**	**4.86**	**339**	P	**Pn**	**23 45 38.4**	**-0.7**
BJUU				S	**Sn**	**23 46 33.0**	**-3.0**
DEL	**Delary**	**5.07**	**346**	P	**Pn**	**23 45 42.1**	**0.0**
DEL	**Delary**	**5.07**	**346**	P	**Pn**	**23 45 42.1**	**0.0**
WATA	**Walderalm**	**5.17**	**217**	Pn	**Pn**	**23 45 44.9**	**+1.3**
	comp=Z,1.2nm,0.2s						
WATA	**Walderalm**	**5.17**	**217**	*e*Pn	**Pn**	**23 45 44.9**	**+1.3**
	comp=Z,1.2nm,0.2s						
OBKA	**Obir**	**5.18**	**192**	Pn	**Pn**	**23 45 43.9**	**+0.2**
	comp=Z,0.2nm,0.2s						
OBKA	**Obir**	**5.18**	**192**	*e*Pn	**Pn**	**23 45 43.9**	**+0.2**
	comp=Z,0.2nm,0.2s						
MYKA	**Terra Mystica**	**5.21**	**199**	Sg	**Sg**	**23 47 12.0**	**-0.2**
	comp=Z,5.0nm,0.7s						
MYKA	**Terra Mystica**	**5.21**	**199**	Sg	**Sg**	**23 47 12.0**	**-0.2**
	comp=Z,5.0nm,0.7s						
MOTA	**Moosalm**	**5.35**	**220**	Pn	**Pn**	**23 45 45.8**	**-0.3**
	comp=Z,0.6nm,0.3s						
MOTA	**Moosalm**	**5.35**	**220**	*e*Pn	**Pn**	**23 45 45.8**	**-0.3**
	comp=Z,0.6nm,0.3s						
ABTA	**Abfaltersbach**	**5.38**	**207**	Pn	**Pn**	**23 45 47.6**	**+1.2**
	comp=Z,1.7nm,0.4s						
ABTA				Sg	**Sg**	**23 47 16.7**	**-0.9**
	comp=Z,1.3nm,0.4s						
ABTA	**Abfaltersbach**	**5.38**	**207**	*e*Pn	**Pn**	**23 45 47.6**	**+1.2**
	comp=Z,1.7nm,0.4s						
ABTA				Sg	**Sg**	**23 47 16.7**	**-0.9**
	comp=Z,1.3nm,0.4s						
OSKU	**Oskarshamn**	**5.63**	**360**	P	**Pn**	**23 45 50.2**	**+0.6**
OSKU	**Oskarshamn**	**5.63**	**360**	P	**Pn**	**23 45 50.2**	**+0.6**
BYXU	**Byxelkrok**	**5.75**	**5**	P	**Pn**	**23 45 52.0**	**+0.7**
BYXU	**Byxelkrok**	**5.75**	**5**	P	**Pn**	**23 45 52.0**	**+0.7**
ASPU	**Aespoe**	**5.86**	**3**	P	**Pn**	**23 45 53.9**	**+1.1**
ASPU	**Aespoe**	**5.86**	**3**	P	**Pn**	**23 45 53.9**	**+1.1**
EKSU	**Eksjoe**	**6.02**	**356**	P	**Pn**	**23 45 55.7**	**+0.6**
EKSU	**Eksjoe**	**6.02**	**356**	P	**Pn**	**23 45 55.7**	**+0.6**

IDC 15 23:50:07.8±2.5, 11.°65S×166.°89E, h0km, mb4.3/7, mb1 4.4/8, mb1mx4.0/47, mbtmp4.4/8, ML5.1/1, MS3.3/14, Ms1 3.3/14, ms1mx3.1/37, Error ellipse: s-maj=64.8km s-min=30.2km az=116.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**7.18**	**287**	Pn	Pn	23 51 54.9	+0.9
	33nm,0.3s,baz=150,slow=20,SNR=8.4						
HNR				Sn	Sn	23 53 07.6	-8.8
	baz=90,slow=20,SNR=3.3						
HNR				LR	LR	23 54 48.3	
	comp=Z,239nm,19.9s,baz=152,slow=39						
PMG	**Port Moresby**	**19.53**	**275**	LR	LR	00 01 15.6	
	comp=Z,102nm,21.1s,baz=128,slow=34						
URZ	**Urewera**	**28.03**	**163**	LR	LR	00 05 31.7	
	4.1nm,0.9s,baz=82,slow=9.3,SNR=13						
H11S2	**WAKE ISLAND Hy**	**29.96**	**360**	T	T	00 27 05.5	
	baz=181,slow=76						
H11S3	**WAKE ISLAND Hy**	**29.96**	**360**	T	T	00 26 55.2	
	baz=181,slow=76						
H11S1	**WAKE ISLAND Hy**	**29.97**	**360**	T	T	00 27 06.9	
	baz=181,slow=76						
STKA	**Stephens Creek**	**30.80**	**225**	P	P	23 56 26.4	+1.0
	2.6nm,0.8s,baz=58,slow=8.3,SNR=7.2						
STKA				LR	LR	00 07 59.9	
	comp=Z,58nm,19.4s,baz=26,slow=35						
H11N1	**WAKE ISLAND Hy**	**31.17**	**360**	T	T	00 28 37.1	
	baz=181						
H11N3	**WAKE ISLAND Hy**	**31.17**	**0**	T	T	00 28 37.5	
	baz=181						
H11N2	**WAKE ISLAND Hy**	**31.18**	**0**	T	T	00 28 38.4	
	baz=181						
WRA	**Warramunga Arr**	**32.34**	**251**	P	P	23 56 38.1	-1.0
	4.1nm,0.9s,baz=82,slow=9.3,SNR=13						
RAR	**Rarotonga**	**33.29**	**111**	LR	LR	00 07 55.4	
	comp=Z,28nm,20.2s,baz=288,slow=32						
ASAR	**Alice Springs**	**33.54**	**245**	P	P	23 56 48.9	-0.7
	2.3nm,0.8s,baz=73,slow=9.4,SNR=20						
ASAR				LR	LR	00 09 16.2	
	comp=Z,75nm,20.0s,baz=169,slow=34						
DAV	**Davao City (W)**	**45.11**	**292**	LR	LR	00 13 21.7	
	comp=Z,42nm,21.5s,baz=124,slow=31						
KSRS	**Korea Array**	**61.01**	**325**	LR	LR	00 23 35.9	
	comp=Z,19nm,21.5s,baz=110,slow=33						
USRK	**Ussuriysk Ar.**	**63.99**	**333**	LR	LR	00 23 11.9	
	comp=Z,15nm,21.7s,baz=184,slow=31						
PETK	**Petropavlovsk-**	**64.98**	**354**	LR	LR	00 22 38.8	
	comp=Z,15nm,19.8s,baz=181,slow=30						
CMAR	**Chiang Mai Arr**	**73.39**	**293**	P	P	00 01 43.0	+0.7
	1.6nm,0.8s,baz=120,slow=4.3,SNR=13						
SONM	**Songino Array**	**79.82**	**323**	P	P	00 02 17.8	-0.4
	0.4nm,0.5s,baz=134,slow=6.2,SNR=4.9						
BBB	**Bella Bella**	**84.44**	**34**	LR	LR	00 31 36.6	
	comp=Z,26nm,21.3s,baz=210,slow=30						
NVAR	**Mina Array Bea**	**85.56**	**49**	LR	LR	00 33 13.0	
	comp=Z,31nm,19.0s,baz=272,slow=30						
ZALV	**Zalesovo Beam**	**94.70**	**324**	LR	LR	00 45 24.4	
	comp=Z,12nm,19.1s,baz=68,slow=35						
MKAR	**Makanchi Array**	**94.73**	**317**	P	P	00 03 31.5	+0.3
	2.1nm,0.8s,baz=101,slow=6.4,SNR=16						
TXAR	**Lajitas Array**	**95.13**	**61**	LR	LR	00 38 42.5	
	comp=Z,14nm,21.2s,baz=0.0,slow=31						
KURBB	**Kurchatov Arra**	**97.87**	**320**	P	P	00 03 44.3	-1.0
	0.6nm,0.2s,baz=108,slow=5.0,SNR=3.0						

MEX 16 00:21:45.8±0.7, 15.°37N×91.°93W, h228km±19km, MD3.9, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.56**	**215**	*e*S	S	00 22 38.2	-2.0
PCIG		**1.29**	**285**	*e*P	Pn	00 22 19.1	-1.2
PCIG				*e*S	S	00 22 43.9	-3.4

*IDC **16** 00:28:01.6±1.4, 10.°23N×146.°01E, h0km, mb3.4/7, mb1 3.6/7, mb1mx3.5/53, mbtmp3.4/7, MS2.4/1, Ms1 2.4/1, ms1mx2.2/26, Error ellipse: s-maj=45.5km s-min=22.4km az=92.0*
*ISCJB **16** 00:28:04.6±1.2, 10.°3N±0.°1×145.°9E±0.°3, h33km, mb3.4/7, Error ellipse: s-maj=38.4km s-min=15.6km az=179.4*
ISC 16 00:28:06.9±1.4, 10.°2N±0.°2×146.°0E±0.°3, h35km, n14, σ0s83/7, mb3.5/7, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**3.54**	**342**	Pn	Pn	00 28 54.2	-5.1
	19nm,0.3s,baz=46,slow=7.6,SNR=9.6						
GUMO				Sn	Sn	00 29 30.7	-9.3
	26nm,0.3s,baz=12,slow=23,SNR=7.1						
GUMO				LR	LR	00 31 20.9	
	comp=Z,53nm,18.8s,baz=102,slow=57						
H11S3	**WAKE ISLAND Hy**	**21.67**	**65**	T	T	00 55 46.2	
	baz=252,slow=74,SNR=20						
H11S2	**WAKE ISLAND Hy**	**21.69**	**65**	T	T	00 55 38.8	
	baz=252,slow=74,SNR=16						
H11S1	**WAKE ISLAND Hy**	**21.69**	**65**	T	T	00 55 43.1	
	baz=252,slow=74,SNR=15						
H11N1	**WAKE ISLAND Hy**	**22.29**	**62**	T	T	00 56 34.2	
	baz=248,slow=74,SNR=54						
H11N2	**WAKE ISLAND Hy**	**22.30**	**62**	T	T	00 56 28.7	
	baz=248,slow=74,SNR=47						
H11N3	**WAKE ISLAND Hy**	**22.30**	**62**	T	T	00 56 35.7	
	baz=248,slow=74,SNR=63						
WRA	**Warramunga Arr**	**32.07**	**201**	P	**P**	**00 34 30.8**	**+0.1**
	0.6nm,0.9s,baz=27,slow=9.4,SNR=2.8						
ASAR	**Alice Springs**	**35.67**	**199**	P	**P**	**00 35 02.4**	**+0.3**
	0.5nm,0.5s,baz=29,slow=8.7,SNR=5.1						
CMAR	**Chiang Mai Arr**	**46.19**	**286**	P	**P**	**00 36 27.6**	**-1.2**
	0.2nm,0.3s,baz=82,slow=6.5,SNR=3.7						
SONM	**Songino Array**	**50.12**	**326**	P	**P**	**00 36 59.4**	**+0.6**
	0.2nm,0.4s,baz=96,slow=6.4,SNR=2.2						
MKAR	**Makanchi Array**	**64.68**	**317**	P	**P**	**00 38 42.1**	**+0.7**
	0.1nm,0.4s,baz=96,slow=7.2,SNR=2.6						
ILAR	**Eielson Array**	**71.16**	**25**	P	**P**	**00 39 21.2**	**-0.6**
	0.2nm,0.7s,baz=264,slow=5.9,SNR=4.2						
BVAR	**Borovoye Array**	**73.25**	**322**	P	**P**	**00 39 34.8**	**+0.3**
	0.2nm,0.4s,baz=106,slow=7.9,SNR=3.2						

IDC 16 00:45:18.2±1.6, 1.°28N×122.°03E, h0km, mb3.5/3, mb1 3.7/4, mb1mx3.3/55, mbtmp3.5/4, ML3.9/1, Error ellipse: s-maj=144.5km s-min=24.2km az=72.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**19.58**	**170**	P	P	00 49 48.4	+0.4
	0.3nm,0.3s,baz=13,slow=12,SNR=6.6						
WRA	**Warramunga Arr**	**24.30**	**151**	P	P	00 50 37.4	-0.2
	0.9nm,0.7s,baz=326,slow=10,SNR=7.7						
ASAR	**Alice Springs**	**27.35**	**156**	P	P	00 51 05.3	+0.1
	0.3nm,0.6s,baz=345,slow=14,SNR=4.2						
SONM	**Songino Array**	**48.32**	**346**	P	P	00 54 01.3	-0.2
	0.9nm,0.7s,baz=169,slow=8.7,SNR=7.0						

*ISCJB **16** 01:05:52.0±1.3, 1.°3N±0.°2×91.°9E±0.°2, h10km, mb3.8/7, Error ellipse: s-maj=31.8km s-min=22.0km az=145.9*
*IDC **16** 01:05:52.3±1.6, 1.°27N×91.°87E, h0km, mb3.8/7, mb1 3.9/8, mb1mx3.5/63, mbtmp3.7/8, ML3.7/1, Error ellipse: s-maj=50.9km s-min=27.6km az=52.0*
ISC 16 01:05:53.9±1.4, 1.°3N±0.°2×91.°9E±0.°3, h10km, n15, σ0s74/9, mb3.9/7, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**18.44**	**22**	P	**P**	**01 10 10.5**	**+0.8**
	0.1nm,0.3s,baz=218,slow=13,SNR=4.9						
H08S2	**Diego Garcia H**	**21.27**	**245**	T	T	01 32 23.2	
	baz=65,slow=75,SNR=53						
H08S3	**Diego Garcia H**	**21.27**	**245**	T	T	01 32 21.1	
	baz=65,slow=75,SNR=67						
H08S1	**Diego Carcia H**	**21.28**	**245**	T	T	01 32 23.9	
	baz=65,slow=75,SNR=49						
H01W3	**Cape Leeuwin H**	**41.56**	**152**	T	T	01 57 58.1	
	baz=327,slow=75,SNR=15						
H01W2	**Cape Leeuwin H**	**41.57**	**152**	T	T	01 57 59.5	
	baz=327,slow=75,SNR=13						
H01W1	**Cape Leeuwin H**	**41.58**	**152**	T	T	01 58 01.5	
	baz=327,slow=75,SNR=15						
MKAR	**Makanchi Array**	**46.12**	**351**	P	**P**	**01 14 17.4**	**-0.9**
	0.6nm,0.6s,baz=172,slow=8.8,SNR=8.2						
WRA	**Warramunga Arr**	**46.65**	**119**	P	**P**	**01 14 22.9**	**0.0**
	0.6nm,0.5s,baz=297,slow=8.6,SNR=5.0						
GEYT	**Alibeck**	**47.89**	**324**	P	**P**	**01 14 32.6**	**+0.2**
	0.7nm,0.4s,baz=167,slow=14,SNR=3.9						
SONM	**Songino Array**	**48.07**	**13**	P	**P**	**01 14 33.7**	**0.0**
	1.2nm,0.5s,baz=191,slow=8.8,SNR=14						
KURBB	**Kurchat

H08S3	**Diego Garcia H**	**32.60**	**269**	T	T	01 49 37.4	
	baz=91						
H08S1	**Diego Garcia H**	**32.60**	**269**	T	T	01 49 45.7	
	baz=91						
SONM	**Songino Array**	**55.75**	**1**	P	**P**	**01 18 05.6**	**0.0**
	0.4nm,0.5s,baz=174,slow=7.5,SNR=4.1						
MKAR	**Makanchi Array**	**58.45**	**342**	P	**P**	**01 18 24.3**	**-0.3**
	0.3nm,0.4s,baz=149,slow=7.5,SNR=4.8						
ZALV	**Zalesovo Beam**	**64.26**	**347**	P	**P**	**01 19 04.4**	**+0.6**
	0.4nm,0.3s,baz=167,slow=8.9,SNR=2.5						

IDC 16 01:13:29.1±2.2, 0.72N×92.57E, h0km, mb3.5/3, mb1 3.7/5, mb1mx3.3/62, mbtmp3.6/5, ML3.8/2, MS3.4/1, Ms1 3.4/1, ms1mx2.4/46, Error ellipse: s-maj=59.9km s-min=28.3km az=53.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PALK	**Pallekele**	**13.50**	**299**	Pn	Pn	01 16 41.5	-0.7
	0.3nm,0.3s,baz=116,slow=12,SNR=3.4						
CMAR	**Chiang Mai Arr**	**18.71**	**19**	P	P	01 17 48.2	-1.1
	0.1nm,0.3s,baz=211,slow=12,SNR=5.5						
H08S2	**Diego Garcia H**	**21.67**	**247**	T	T	01 40 43.5	
	baz=66						
H08S3	**Diego Garcia H**	**21.68**	**247**	T	T	01 40 36.5	
	baz=66						
H08S1	**Diego Garcia H**	**21.69**	**247**	T	T	01 40 06.4	
	baz=66						
TGY	**Tagaytay City**	**31.06**	**63**	LR	LR	01 33 03.0	
	comp=Z,60nm,18.8s,baz=305,slow=38						
WRA	**Warramunga Arr**	**45.79**	**119**	P	P	01 21 52.7	-0.3
	0.4nm,0.7s,baz=295,slow=8.6,SNR=4.2						
MKAR	**Makanchi Array**	**46.76**	**350**	P	P	01 22 00.2	0.0
	0.4nm,0.7s,baz=171,slow=9.7,SNR=6.0						
SONM	**Songino Array**	**48.44**	**12**	P	P	01 22 13.9	+0.5
	0.5nm,0.6s,baz=196,slow=8.8,SNR=4.1						

*KRSC **16** 01:33:05.5±1.6, 55.94N×159.77E, h269km±14km, ML3.9*
*ISCJB **16** 01:33:06.5±0.4, 55.87N±0.04×160.0E±0.1, h273km±4km, mb2.8/6, Error ellipse: s-maj=11.2km s-min=4.9km az=30.0*
*IDC **16** 01:33:06.2±2.8, 56.28N×159.60E, h245km±42km, mb2.7/6, mb1 3.0/7, mb1mx2.8/64, mbtmp3.2/7, Error ellipse: s-maj=62.5km s-min=15.6km az=171.0*
*MOS **16** 01:33:09.3±0.7, 55.85N×159.94E, h241km, mb4.2/1, Error ellipse: s-maj=28.8km s-min=6.6km az=78.5*

ISC 16 01:33:06.9±0.7, 55.86N±0.05×159.91E±0.06, h269km±6km, n76, σ1s05/96, mb2.9/6, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KOZ	**Kozyrevsk**	**0.20**	**354**	*e*P	**Pn**	**01 33 41.4**	**+0.1**
KOZ	**Kozyrevsk**	**0.20**	**354**	PN	**Pn**	**01 33 41.4**	**+0.1**
KMNR	**Kamenistaya**	**0.21**	**119**	*e*P	**Pn**	**01 33 42.3**	**+0.7**
KMNR	**Kamenistaya**	**0.21**	**119**	PN	**Pn**	**01 33 42.3**	**+0.7**
BZMR	**Bezymyannaya**	**0.34**	**77**	*e*P	**Pn**	**01 33 42.5**	**+0.7**
BZMR	**Bezymyannaya**	**0.34**	**77**	PN	**Pn**	**01 33 42.5**	**+0.7**
BZWR	**Bezymyannyi-We**	**0.35**	**72**	*e*P	**Pn**	**01 33 42.5**	**+0.7**
BZWR	**Bezymyannyi-We**	**0.35**	**72**	PN	**Pn**	**01 33 42.5**	**+0.7**
LGNR	**Loginova**	**0.49**	**63**	*e*P	**Pn**	**01 33 43.1**	**+0.8**
LGNR	**Loginova**	**0.49**	**63**	PN	**Pn**	**01 33 43.1**	**+0.8**
KRSR	**Krestovskiy**	**0.52**	**45**	*e*P	**Pn**	**01 33 41.9**	**-0.2**
KRSR	**Krestovskiy**	**0.52**	**45**	PN	**Pn**	**01 33 41.9**	**-0.2**
ZLN	**Zelenaya**	**0.53**	**72**	*e*P	**Pn**	**01 33 42.8**	**+0.7**
ZLN	**Zelenaya**	**0.53**	**72**	PN	**Pn**	**01 33 42.8**	**+0.7**
CIRR	**Tsirk**	**0.54**	**61**	*e*P	**Pn**	**01 33 42.6**	**+0.4**
CIRR	**Tsirk**	**0.54**	**61**	PN	**Pn**	**01 33 42.6**	**+0.4**
TUMR	**Tumrok**	**0.59**	**167**	*e*P	**Pn**	**01 33 43.6**	**+1.1**
TUMR	**Tumrok**	**0.59**	**167**	PN	**Pn**	**01 33 43.6**	**+1.1**
KLY	**Klyuchi**	**0.62**	**42**	*e*P	**Pn**	**01 33 42.8**	**+0.6**
KLY				*e*S	**S**	**01 34 11.1**	**+0.9**
KLY	**Klyuchi**	**0.62**	**42**	PN	**Pn**	**01 33 42.8**	**+0.6**
KLY				S	**S**	**01 34 11.1**	**+0.9**
ESO	**Esso**	**0.68**	**276**	*e*P	**Pn**	**01 33 42.6**	**0.0**
ESO	**Esso**	**0.68**	**276**	PN	**Pn**	**01 33 42.6**	**0.0**
KZV	**Kizimen**	**0.78**	**163**	*e*P	**Pn**	**01 33 44.0**	**+0.8**
KZV	**Kizimen**	**0.78**	**163**	PN	**Pn**	**01 33 44.0**	**+0.8**
SRKR	**Sorokina**	**1.06**	**41**	*e*P	**Pn**	**01 33 44.3**	**0.0**
SRKR	**Sorokina**	**1.06**	**41**	PN	**Pn**	**01 33 44.3**	**0.0**
SMKR	**Semkarok**	**1.13**	**50**	*e*P	**Pn**	**01 33 44.8**	**+0.1**
SMKR				*e*S	**S**	**01 34 14.6**	**0.0**
SMKR	**Semkarok**	**1.13**	**50**	PN	**Pn**	**01 33 44.8**	**+0.1**
SMKR				S	**S**	**01 34 14.6**	**0.0**
KBG	**Krutoberegovo**	**1.62**	**75**	*e*P	**Pn**	**01 33 47.2**	**-0.6**
KBG				*e*S	**S**	**01 34 18.6**	**-1.6**
KBG	**Krutoberegovo**	**1.62**	**75**	PN	**Pn**	**01 33 47.2**	**-0.6**
KBG				S	**S**	**01 34 18.6**	**-1.6**
KBTR	**Krutoberegovo**	**1.67**	**77**	*e*P	**Pn**	**01 33 47.6**	**-0.6**
KBTR				*e*S	**S**	**01 34 19.1**	**-1.8**
KBTR	**Krutoberegovo**	**1.67**	**77**	PN	**Pn**	**01 33 47.6**	**-0.6**
KBTR				S	**S**	**01 34 19.1**	**-1.8**
GNL	**Ganaly**	**2.45**	**209**	*e*P	**Pn**	**01 33 56.6**	**+1.4**
GNL	**Ganaly**	**2.45**	**209**	PN	**Pn**	**01 33 56.6**	**+1.4**
KRX	**Arik**	**2.61**	**197**	*e*P	**Pn**	**01 33 57.7**	**+0.9**
KRX	**Arik**	**2.61**	**197**	PN	**Pn**	**01 33 57.7**	**+0.9**
KRER	**Koryakskii**	**2.65**	**195**	*e*P	**Pn**	**01 33 59.1**	**+1.9**
KRER	**Koryakskii**	**2.65**	**195**	PN	**Pn**	**01 33 59.1**	**+1.9**
SDLR	**Sedlovina**	**2.65**	**193**	*e*P	**Pn**	**01 33 58.0**	**+0.8**
SDLR	**Sedlovina**	**2.65**	**193**	PN	**Pn**	**01 33 58.0**	**+0.8**
SMAR	**Somma**	**2.68**	**194**	*e*P	**Pn**	**01 33 58.3**	**+0.7**
SMAR	**Somma**	**2.68**	**194**	PN	**Pn**	**01 33 58.3**	**+0.7**
AVH	**Avacha**	**2.69**	**195**	*e*P	**Pn**	**01 33 59.7**	**+2.2**
AVH	**Avacha**	**2.69**	**195**	PN	**Pn**	**01 33 59.7**	**+2.2**
NLC	**Nalytchevo**	**2.71**	**187**	*e*S	**S**	**01 34 37.7**	**-0.2**
UGLR	**Uglovaya**	**2.73**	**194**	*e*P	**Pn**	**01 33 58.7**	**+0.8**
UGLR	**Uglovaya**	**2.73**	**194**	PN	**Pn**	**01 33 58.7**	**+0.8**
SPN	**Mys Shipunski**	**2.77**	**179**	*e*P	**Pn**	**01 33 57.3**	**-0.9**
SPN				*e*S	**S**	**01 34 37.0**	**-1.9**
SPN	**Mys Shipunski**	**2.77**	**179**	PN	**Pn**	**01 33 57.3**	**-0.9**
SPN				S	**S**	**01 34 37.0**	**-1.9**
PETK	**Petropavlovsk-**	**3.04**	**206**	P	**Pn**	**01 34 02.4**	**+1.3**
	0.8nm,0.3s,baz=58,slow=13,SNR=14						
KRMR	**Karymshinskiy**	**3.21**	**200**	*e*P	**Pn**	**01 34 03.3**	**+0.5**
KRMR				*e*S	**S**	**01 34 47.3**	**+0.1**
KRMR	**Karymshinskiy**	**3.21**	**200**	PN	**Pn**	**01 34 03.3**	**+0.5**
KRMR				S	**S**	**01 34 47.3**	**+0.1**
PALN	**Palana**	**3.24**	**1**	*e*P	**Pn**	**01 34 02.6**	**-0.3**
PALN	**Palana**	**3.24**	**1**	PN	**Pn**	**01 34 02.6**	**-0.3**
APC	**Apacha**	**3.35**	**210**	*e*P	**Pn**	**01 34 05.8**	**+1.5**
APC	**Apacha**	**3.35**	**210**	PN	**Pn**	**01 34 05.8**	**+1.5**
BKI	**Bering**	**3.51**	**98**	*e*P	**Pn**	**01 34 06.9**	**+1.0**
BKI				*e*S	**S**	**01 34 53.3**	**+0.3**
BKI	**Bering**	**3.51**	**98**	PN	**Pn**	**01 34 06.9**	**+1.0**
BKI				S	**S**	**01 34 53.3**	**+0.3**
RUS	**Russkaya**	**3.53**	**194**	*e*P	**Pn**	**01 34 06.2**	**0.0**
RUS				*e*S	**S**	**01 34 52.1**	**-1.4**
RUS	**Russkaya**	**3.53**	**194**	PN	**Pn**	**01 34 06.2**	**0.0**
RUS				S	**S**	**01 34 52.1**	**-1.4**
MTVR	**Mutnovka**	**3.53**	**197**	*e*P	**Pn**	**01 34 07.6**	**+1.1**
MTVR				*e*S	**S**	**01 34 53.2**	**-0.6**
MTVR	**Mutnovka**	**3.53**	**197**	PN	**Pn**	**01 34 07.6**	**+1.1**
MTVR				S	**S**	**01 34 53.2**	**-0.6**
ASAK	**Asacha**	**3.68**	**200**	*e*P	**Pn**	**01 34 09.1**	**+1.1**
ASAK	**Asacha**	**3.68**	**200**	PN	**Pn**	**01 34 09.1**	**+1.1**
OSSR	**Ossora**	**3.80**	**25**	*e*P	**Pn**	**01 34 09.1**	**0.0**
OSSR	**Ossora**	**3.80**	**25**	PN	**Pn**	**01 34 09.1**	**0.0**
MIPR	**Malaya Ipel'ka**	**4.04**	**209**	*e*P	**Pn**	**01 34 13.1**	**+1.1**
MIPR	**Malaya Ipel'ka**	**4.04**	**209**	PN	**Pn**	**01 34 13.1**	**+1.1**
KDTR	**Khodutka, Kamc**	**4.20**	**196**	*e*P	**Pn**	**01 34 12.8**	**-1.0**
KDTR				*e*S	**S**	**01 35 04.9**	**-2.4**
KDTR	**Khodutka, Kamc**	**4.20**	**196**	PN	**Pn**	**01 34 12.8**	**-1.0**
KDTR				S	**S**	**01 35 04.9**	**-2.4**
ILAR	**Eielson Array**	**27.01**	**49**	P	**P**	**01 38 23.6**	**-0.4**
	0.2nm,0.7s,baz=262,slow=8.3,SNR=5.5						
SONM	**Songino Array**	**33.26**	**279**	P	**P**	**01 39 18.5**	**-0.6**
	0.3nm,0.5s,baz=62,slow=6.7,SNR=3.4						
YKA	**Yellowknife Ar**	**41.23**	**45**	P	**P**	**01 40 25.4**	**+0.1**
	0.2nm,0.5s,baz=301,slow=7.6,SNR=8.4						
MKAR	**Makanchi Array**	**46.91**	**293**	P	**P**	**01 41 09.0**	**-1.4**
	0.2nm,0.4s,baz=51,slow=6.5,SNR=6.0						
PDAR	**Pinedale Array**	**56.30**	**62**	P	**P**	**01 42 21.3**	**+1.4**
	0.2nm,0.4s,baz=339,slow=4.8,SNR=2.8						
TXAR	**Lajitas Array**	**69.67**	**68**	P	**P**	**01 43 48.9**	**+1.4**
	0.1nm,0.4s,baz=286,slow=4.6,SNR=4.0						

IDC 16 01:33:20.5±15.0, 2.79N×91.91E, h0km, mb3.7/2, mb1 3.8/4, mb1mx3.3/63, mbtmp3.7/4, ML4.0/2, Error ellipse: s-maj=282.5km s-min=52.3km az=163.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PALK	**Pallekele**	**12.02**	**292**	Pn	Pn	01 36 12.9	-0.3
	1.0nm,0.3s,baz=116,slow=12,SNR=6.1						
PALK				Sn	Sn	01 38 14.9	-13
	1.5nm,0.3s,baz=302,slow=0.8,SNR=8.5						
CMAR	**Chiang Mai Arr**	**17.02**	**23**	Pn	Pn	01 37 19.5	-0.7
	0.2nm,0.3s,baz=213,slow=14,SNR=5.7						
H08S2	**Diego Garcia H**	**21.97**	**242**	T	T	02 01 00.6	
	baz=61,slow=75,SNR=7.0						
H08S3	**Diego Garcia H**	**21.98**	**242**	T	T	02 00 54.5	
	baz=61,slow=75,SNR=6.5						
H08S1	**Diego Garcia H**	**21.99**	**242**	T	T	02 00 54.0	
	baz=61,slow=75,SNR=9.0						
MKAR	**Makanchi Array**	**44.62**	**351**	P	P	01 41 34.6	0.0
	0.2nm,0.4s,baz=168,slow=8.7,SNR=5.0						
ZALV	**Zalesovo Beam**	**51.33**	**355**	P	P	01 42 26.5	+0.1
	0.6nm,0.4s,baz=182,slow=6.6,SNR=3.8						

IDC 16 01:41:59.3±1.8, 2.71N×89.95E, h0km, mb3.5/3, mb1 3.7/5, mb1mx3.3/59, mbtmp3.5/5, ML3.7/2, Error ellipse: s-maj=49.6km s-min=28.6km az=50.0, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PALK	**Pallekele**	**10.27**	**297**	Pn	Pn	01 44 29.1	+1.0
	0.5nm,0.3s,baz=113,slow=11,SNR=3.2						
PALK				Sn	Sn	01 46 13.8	-10
	2.3nm,0.3s,baz=117,slow=7.6,SNR=6.2						
CMAR	**Chiang Mai Arr**	**17.96**	**29**	P	P	01 46 12.2	+0.9
	0.1nm,0.3s,baz=226,slow=12,SNR=4.7						
H08S3	**Diego Garcia H**	**20.23**	**239**	T	T	02 07 17.2	
	baz=60,slow=75,SNR=7.6						
H08S2	**Diego Garcia H**	**20.23**	**239**	T	T	02 07 08.8	
	baz=60,slow=75,SNR=17						
H08S1	**Diego Garcia H**	**20.25**	**239**	T	T	02 07 17.9	
	baz=60,slow=75,SNR=17						
MKAR	**Makanchi Array**	**44.42**	**352**	P	P	01 50 11.1	-0.8
	0.3nm,0.6s,baz=174,slow=9.0,SNR=5.1						
SONM	**Songino Array**	**47.15**	**15**	P	P	01 50 33.4	-0.1
	0.6nm,0.4s,baz=194,slow=9.0,SNR=7.7						
WRA	**Warramunga Arr**	**49.03**	**119**	P	P	01 50 48.2	-0.2
	0.4nm,0.7s,baz=305,slow=8.1,SNR=3.2						
TXAR	**Lajitas Array**	**145.57**	**21**	PKPbc	PKPdf	02 01 39.8	-0.7
	0.4nm,0.9s,baz=28,slow=2.1,SNR=3.3						

*IDC **16** 01:45:15.6±0.9, 10.31N×92.76E, h0km, mb4.1/13, mb1 4.2/13, mb1mx3.9/56, mbtmp4.1/13, MS3.1/4, Ms1 3.2/4, ms1mx2.8/65, Error ellipse: s-maj=47.1km s-min=15.0km az=56.0*
*ISCJB **16** 01:45:21.3±0.5, 10.36N±0.06×92.79E±0.05, h53km, mb4.2/22, MS3.4/2, Error ellipse: s-maj=8.7km s-min=6.8km az=40.6*
*NEIC **16** 01:45:26.4±2.0, 10.40N×92.95E, h82km±16km, mb4.3/11, Error ellipse: s-maj=19.4km s-min=6.2km az=53.0*

ISC 16 01:45:23.6±0.7, 10.51N±0.08×92.76E±0.08, h53km, n55, σ1s85/53, mb4.2/22, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PBA	**Port Blair**	**1.14**	**359**	*e*P	Pn	01 45 41.1	-2.2
PBA				*e*S	Sn	01 45 55.2	-2.7
PBA				IAML		01 46 05.6	
	comp=E,2μm,0.5s						
PBA				IAML		01 46 06.5	
	comp=N,2μm,0.5s						
DGPR	**DIGLIPUR**	**2.66**	**4**	*e*P	**Pn**	**01 46 02.9**	**-1.1**
DGPR				*e*S	**Sn**	**01 46 31.9**	**-3.2**
SURT	**Suratani**	**6.14**	**104**	P	**Pn**	**01 46 52.2**	**+0.3**
	comp=N,10nm,1.2s						
PHET	**Kaeng Krachan**	**7.14**	**70**	P	**Pn**	**01 47 05.8**	**+0.3**
	comp=N,14nm,0.9s,comp=N,141nm						
SRDT	**SRDT**	**7.29**	**58**	P	Pn	01 47 16.5	+8.9
CM01	**Chiang Mai Arr**	**9.89**	**37**	*e*Pn	**Pn**	**01 47 45.6**	**+2.4**
CMAR	**Chiang Mai Arr**	**9.91**	**36**	Pn	**Pn**	**01 47 45.7**	**+2.2**
	comp=N,1.3nm,0.3s,baz=226,slow=15,SNR=42						
CMAR				LR	LR	01 51 39.4	
	comp=N,156nm,21.0s,baz=222,slow=38						
PBKT	**Sadao Pong**	**10.00**	**52**	P	**Pn**	**01 47 45.4**	**+0.7**
	comp=N,13nm,0.9s						
CHTO	**Chiang Mai**	**10.19**	**35**	P	**Pn**	**01 47 50.7**	**+3.4**
	comp=N,34nm,1.1s						
CHTO	**Chiang Mai**	**10.19**	**35**	*e*Pn	**Pn**	**01 47 49.8**	**+2.5**
CMMT	**Chiang Mai**	**10.19**	**35**	P	**Pn**	**01 47 49.7**	**+2.3**
	comp=N,7.6nm,0.8s						
VIS	**Vishakhapatnam**	**11.62**	**309**	*e*P	**Pn**	**01 48 04.1**	**-2.7**
VIS				*e*S	Sn	01 50 03.9	-11
VIS				IAML		01 50 10.7	
	comp=N,1μm,0.0s						
VIS				IAML		01 50 11.1	
	comp=E,27nm,0.2s						
PALK	**Pallekele**	**12.34**	**256**	LR	LR	01 51 39.0	
	comp=E,28nm,22.0s,baz=116,slow=31						
MDRS	**Chennai**	**12.51**	**283**	*e*P	**Pn**	**01 48 17.8**	**-1.2**
MDRS				*e*S	Sn	01 50 25.2	-12
MDRS				IAML		01 50 30.1	
	comp=E,68nm,0.1s						
MDRS				IAML		01 50 30.4	
	comp=N,69nm,0.1s						
BELO	**BELONIA**	**12.73**	**355**	*e*P	Pn	01 48 16.6	-5.4
SHL	**Shillong**	**15.00**	**357**	*e*P	**Pn**	**01 48 47.8**	**-4.8**
TURI	**Tura**	**15.13**	**352**	*e*P	**Pn**	**01 48 49.5**	**-4.7**
TEZP	**TEZPUR**	**16.02**	**0**	*e*P	**Pn**	**01 49 03.3**	**-2.2**
NGP	**Nagpur**	**16.89**	**310**	*e*P	**Pn**	**01 49 17.0**	**+0.5**
LSA	**Lhasa**	**19.15**	**356**	*e*P	**P**	**01 49 44.3**	**+1.1**
	comp=N,3.8nm,0.6s						
ENH	**Enshi**	**25.08**	**36**	*e*P	**P**	**01 50 43.0**	**-0.4**
	comp=N,10nm,0.8s						
H08S3	**Diego Garcia H**	**27.06**	**229**	T	T	02 19 03.2	
	baz=47,slow=76,SNR=55						
H08S2	**Diego Garcia H**	**27.06**	**229**	T	T	02 19 01.6	
	baz=47,slow=76,SNR=83						
H08S1	**Diego Garcia H**	**27.08**	**229**	T	T	02 19 07.3	
	baz=47,slow=76,SNR=65						
KDJ	**Kajisay**	**34.33**	**339**	*e*P	**P**	**01 52 07.7**	**+2.2**
	comp=N,2.7nm,0.8s						
AAK	**Ala-Archa**	**35.76**	**337**	*e*P	**P**	**01 52 20.1**	**+2.4**
	comp=N,4.1nm,1.1s						
MK01	**Makanchi Array**	**37.22**	**348**	*e*P	**P**	**01 52 30.3**	**+0.4**
MK31	**Makanchi Array**	**37.24**	**348**	*e*P	**P**	**01 52 30.8**	**+0.7**
MKAR	**Makanchi Array**	**37.24**	**348**	P	**P**	**01 52 30.5**	**+0.4**
	comp=N,1.8nm,0.7s,baz=168,slow=8.1,SNR=17						
MKAR				PcP	**PcP**	**01 54 49.5**	**+0.5**
	comp=N,0.7nm,0.7s,baz=191,slow=2.9,SNR=5.0						
MKAR	**Makanchi Array**	**37.24**	**348**	*e*P	**P**	**01 52 30.8**	**+0.7**
	comp=N,8.9nm,0.8s						
MKAR				PcP	**PcP**	**01 54 49.5**	**+0.5**
KK31	**Karatay Array**	**37.81**	**333**	*e*P	**P**	**01 52 37.3**	**+2.3**
KKAR	**Karatay Array**	**37.81**	**333**	*e*P	**P**	**01 52 37.3**	**+2.3**
SONM	**Songino Array**	**38.94**	**15**	P	**P**	**01 52 45.4**	**+0.9**
	comp=N,1.6nm,0.9s,baz=199,slow=9.8,SNR=9.1						
SONM				PcP	**PcP**	**01 54 55.0**	**+0.7**
	comp=N,0.7nm,0.9s,baz=189,slow=3.8,SNR=3.0						
SONM				LR	LR	02 11 01.8	
	comp=N,58nm,20.0s,baz=96,slow=40						
SONA1	**Songino Array**	**38.95**	**15**	*e*P	**P**	**01 52 45.0**	**+0.4**
GEYT	**Alibeck**	**41.35**	**317**	P	**P**	**01 53 07.2**	**+2.7**
	comp=N,1.1nm,0.6s,baz=178,slow=4.5,SNR=4.0						
KSRS	**Korea Array**	**41.45**	**44**	LR	LR	02 12 04.0	
	comp=N,36nm,18.2s,baz=220,slow=39						
KURBB	**Kurchatov Arra**	**41.68**	**346**	P	**P**	**01 53 07.9**	**+0.9**
	comp=N,1.2nm,0.7s,baz=164,slow=7.7,SNR=11						
KURBB				PcP	**PcP**	**01 55 03.2**	**+0.3**
	comp=N,0.3nm,0.6s,baz=165,slow=3.5,SNR=5.7						
KURK	**Kurchatov**	**41.74**	**347**	*e*P	**P**	**01 53 08.4**	**+1.0**
	comp=N,2.7nm,1.1s						
KURK				PcP	**PcP**	**01 55 03.2**	**+0.1**
ZALV	**Zalesovo Beam**	**43.79**	**353**	P	**P**	**01 53 24.6**	**+0.6**
	comp=N,0.7nm,0.4s,baz=185,slow=8.9,SNR=5.2						
BVAR	**Borovoye Array**	**46.07**	**341**	P	**P**	**01 53 42.9**	**+0.7**
	comp=N,0.9nm,0.8s,baz=146,slow=8.2,SNR=7.3						
ABKAR	**Akbulak array**	**47.28**	**331**	*e*P	**P**	**01 53 53.3**	**+1.6**
	comp=N,29nm,0.9s						
WRA	**Warramunga Arr**	**50.90**	**126**	P	**P**	**01 54 17.6**	**-2.2**
	comp=N,1.5nm,0.6s,baz=306,slow=8.5,SNR=16						
WRAB	**Tennant Creek**	**50.91**	**126**	*e*P	**P**	**01 54 17.7**	**-2.2**
	comp=N,2.1nm,0.5s						
AS31	**Alice Springs**	**52.65**	**131**	*e*P	**P**	**01 54 31.2**	**-1.6**
	comp=N,1.8nm,0.8s						
ASAR	**Alice Springs**	**52.65**	**131**	P	**P**	**01 54 30.8**	**-2.1**
	comp=N,6.6nm,0.8s,baz=309,slow=7.6,SNR=59						
AS01	**Alice Springs**	**52.68**	**131**	*e*P	**P**	**01 54 30.6**	**-2.4**
STKA	**Stephens Creek**	**62.90**	**134**	P	**P**	**01 55 43.6**	**-1.0**
	comp=N,5.5nm,0.8s,baz=288,slow=6.9,SNR=8.6						
STKA	**Stephens Creek**	**62.90**	**134**	*e*P	**P**	**01 55 43.8**	**-0.9**
	comp=N,1.2nm,0.9s						
AKASG	**Malin Array Be**	**65.26**	**321**	P	**P**	**01 55 59.4**	**-0.4**
	comp=N,0.8nm,0.7s,baz=81,slow=5.9,SNR=4.5						
ARCES	**ARCESS Array B**	**72.34**	**340**	P	**P**	**01 56 43.5**	**0.0**
	comp=N,3.7nm,1.1s,baz=80,slow=6.5,SNR=5.7						
GEA0	**GERESS Array S**	**74.97**	**318**	*e*P	**P**	**01 56 60.0**	**+0.5**
GERES	**GERESS Array B**	**74.97**	**318**	P	**P**	**01 57 00.2**	**+0.8**
	comp=N,1.3nm,0.7s,baz=90,slow=5.3,SNR=10						
HFS	**Hagfors**	**75.51**	**329**	P	**P**	**01 57 02.5**	**+0.4**
	comp=N,0.5nm,0.4s,baz=116,slow=9.8,SNR=5.7						
CAST	**Castle Rocks**	**91.50**	**24**	*e*P	**P**	**01 58 25.5**	**+1.3**
	comp=N,4.1nm,0.8s						
ILAR	**Eielson Array**	**92.82**	**22**	P	**P**	**01 58 29.1**	**-1.2**
	comp=N,1.0nm,0.7s,baz=298,slow=4.4,SNR=14						

*IDC **16** 01:53:49.6±1.5, 2.65N×91.92E, h0km, mb3.7/6, mb1 3.9/8, mb1mx3.6/62, mbtmp3.7/8, ML3.9/2, MS3.3/3, Ms1 3.3/3, ms1mx3.0/76, Error ellipse: s-maj=43.7km s-min=25.6km az=48.0*
*ISCJB **16** 01:53:51.8±1.2, 2.5N±0.2×91.8E±0.1, h33km, mb3.7/6, Error ellipse: s-maj=25.8km s-min=17.4km az=35.3*

ISC 16 01:53:54.7±1.3, 2.7N±0.2×91.9E±0.1, h35km, n16, σ0s95/15, mb3.8/6, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PALK	**Pallekele**	**12.03**	**293**	Pn	**Pn**	**01 56 42.7**	**-1.1**
	1.1nm,0.3s,baz=115,slow=15,SNR=5.5						
PALK				Sn	Sn	01 58 45.2	-12
	2.5nm,0.3s,baz=297,slow=5.4,SNR=7.7						
PALK				LR	LR	02 00 43.8	
	comp=Z,159nm,18.4s,baz=116,slow=34						
CMAR	**Chiang Mai Arr**	**17.16**	**23**	P	**Pn**	**01 57 50.3**	**-1.6**
	0.1nm,0.3s,baz=214,slow=14,SNR=8.4						
CMAR				LR	LR	02 04 20.8	
	comp=Z,68nm,20.0s,baz=218,slow=37						
LEM	**Lembang**	**18.33**	**121**	LR	LR	02 04 51.2	
	comp=Z,95nm,19.3s,baz=66,slow=36						
ODAN	**Odare**	**24.44**	**350**	*e*P	**P**	**01 59 11.0**	**+0.4**
	7.6nm,0.5s						
RAMN	**Ramite**	**24.68**	**349**	*e*P	**P**	**01 59 13.8**	**+1.1**
	27nm,0.9s						
JIRN	**Jiri**	**25.45**	**348**	*e*P	**P**	**01 59 20.4**	**+0.6**
DMN	**Daman**	**25.64**	**346**	*e*P	**P**	**01 59 22.6**	**+1.2**
	2.8nm,0.3s						
GUN	**Gumba**	**25.75**	**348**	*e*P	**P**	**01 59 23.0**	**+0.4**
	11nm,0.7s						
PYUN	**Piuthan**	**26.68**	**342**	*e*P	**P**	**01 59 31.0**	**+0.2**
MKAR	**Makanchi Array**	**44.74**	**351**	P	**P**	**02 02 04.6**	**-0.1**
	1.4nm,0.7s,baz=168,slow=8.1,SNR=15						
SONM	**Songino Array**	**46.72**	**13**	P	**P**	**02 02 20.7**	**+0.4**
	0.3nm,0.6s,baz=188,slow=5.8,SNR=2.6						
WRA	**Warramunga Arr**	**47.35**	**120**	P	**P**	**02 02 24.8**	**-0.8**
	0.9nm,0.8s,baz=299,slow=8.3,SNR=4.6						
ZALV	**Zalesovo Beam**	**51.45**	**355**	P	**P**	**02 02 56.2**	**-0.1**
	0.6nm,0.5s,baz=203,slow=10,SNR=3.7						
BVAR	**Borovoye Array**	**53.26**	**344**	P	**P**	**02 03 10.2**	**+0.4**
	0.5nm,0.7s,baz=140,slow=9.4,SNR=3.4						
GERES	**GERESS Array B**	**80.22**	**319**

AAK	**Ala-Archa**	**3.31**	**311**	⇑Pg		**Pb**	**02 01 04.1**	**+0.3**
	13nm,0.8s							
AAK				⇓Lg		Lg	02 01 49.3	
	47nm,0.6s							
AAK	**Ala-Archa**	**3.31**	**311**	P		**Pb**	**02 01 04.5**	**+0.7**
	SNR=6.6							
AAK	**Ala-Archa**	**3.31**	**311**	⇑*e*P		**Pb**	**02 01 00.4**	**-3.4**
	baz=8.0							
AAK				⇑*i*S		**Sb**	**02 01 41.7**	**-2.5**
	baz=8.0							
CHKK	**Chushkaly**	**3.39**	**349**	*e*P		**Pb**	**02 01 06.1**	**+1.1**
	9.4nm,0.3s							
CHKK				*e*S		**Sg**	**02 01 52.3**	**-1.5**
	54nm,0.4s							
SFK	**Sufi-Kurgan**	**3.41**	**263**	⇑Pn		**Pn**	**02 00 58.8**	**+0.6**
	0.6nm,0.3s							
SFK				⇑Pg		**Pb**	**02 01 05.5**	**+0.1**
	2.5nm,0.3s							
SFK				⇓Lg		Lg	02 01 53.7	
	23nm,0.5s							
SFK	**Sufi-Kurgan**	**3.41**	**263**	⇑*e*P		**Pb**	**02 01 03.8**	**-1.6**
	baz=61							
SFK				⇑*i*S		**Sb**	**02 01 45.7**	**-1.2**
	baz=61							
CHMS	**Chumysh**	**3.41**	**317**	P		**Pb**	**02 01 06.4**	**+1.0**
	SNR=9.0							
CHMS	**Chumysh**	**3.41**	**317**	⇑*e*P		**Pb**	**02 01 01.8**	**-3.6**
	baz=15							
CHMS				⇑*e*S		**Sn**	**02 01 42.7**	**+4.0**
	baz=15							
AML	**Almayashu**	**3.55**	**298**	P		**Pn**	**02 01 03.2**	**+2.8**
	SNR=7.6							
KUU	**Kurty**	**3.56**	**341**	*e*P		**Pb**	**02 01 08.3**	**+0.5**
	3.2nm,0.3s							
KUU				*e*S		**Sg**	**02 01 56.2**	**-2.9**
	48nm,0.3s							
USP	**Ospenovka**	**3.73**	**318**	P		**Pb**	**02 01 11.9**	**+1.0**
	SNR=28							
EKS2	**Erkin-Say**	**3.76**	**306**	P		**Pn**	**02 01 06.7**	**+3.8**
	SNR=9.6							
EKS2	**Erkin-Say**	**3.76**	**306**	⇑*e*P		**Pn**	**02 01 06.7**	**+3.8**
	baz=4.0							
EKS2				⇑*i*S		**Sb**	**02 01 52.6**	**-4.3**
	baz=4.0							
DJR	**Jarkent**	**4.05**	**20**	*e*P		**Pb**	**02 01 17.4**	**+1.1**
	6.5nm,0.4s							
DJR				*e*S		**Sg**	**02 02 11.6**	**-3.3**
	20nm,0.7s							
MNAS	**Manas**	**4.50**	**298**	⇓Pn		**Pn**	**02 01 13.4**	**+0.2**
MNAS				⇓Pg		**Pg**	**02 01 27.5**	**-3.6**
	7.4nm,1.1s							
MNAS				⇓Lg		Lg	02 02 28.6	
	16nm,1.1s							
MNAS	**Manas**	**4.50**	**298**	⇓*i*P		**Pn**	**02 01 17.2**	**+4.0**
	baz=96							
MNAS				⇓*i*S		**Sn**	**02 02 09.5**	**+3.8**
	baz=96							
KAPS	**Kapalarasan**	**4.88**	**12**	*e*P		**Pb**	**02 01 32.9**	**+2.6**
	1.7nm,0.3s							
KAPS				*e*S		**Sg**	**02 02 38.3**	**-2.9**
	7.8nm,0.5s							
KK31	**Karatay Array**	**6.09**	**297**	⇓Pg		**Pb**	**02 01 54.9**	**+3.9**
	2.9nm,0.8s,baz=113,slow=15,SNR=14							
KK31				⇓Lg		Lg	02 03 18.3	
	2.2nm,0.5s,baz=117,slow=28,SNR=7.9							
MK31	**Makanchi Array**	**7.03**	**25**	⇑Pg		Pb	02 02 11.3	+4.4
	2.5nm,0.8s,baz=165,slow=9.3,SNR=13							
MK31				⇑Sn		**Sn**	**02 03 09.6**	**+1.9**
	0.7nm,0.5s							
MK31				⇑Lg		Lg	02 03 46.3	
	3.6nm,0.8s							
OTUK	**Ortayu**	**8.68**	**335**	⇓Pg		Pg	02 02 41.4	-10
	3.8nm,0.8s							
OTUK				⇑Lg		Lg	02 04 40.8	
	18nm,1.3s							

IDC **16** *02:15:13.7±1.5,28°.27N×57°.04E,h0km,mb3.3/5, mb1 3.4/6,mb1mx3.2/73,mbtmp3.4/6,ML3.8/1, Error ellipse: s-maj=30.7km s-min=27.0km az=105.0*
TEH **16** *02:15:18.0,28°.23N×57°.15E,h26km,ML3.4*
CSEM **16** *02:15:19.5±0.4,28°.23N×57°.08E,h15km,ML3.3, Error ellipse: s-maj=17.7km s-min=7.7km az=108.0*
ISCJB **16** *02:15:19.2±0.3,28°.21N±0°.02×57°.18E±0°.07,h31km, mb3.2/5, Error ellipse: s-maj=9.3km s-min=3.2km az=7.2*
DSN **16** *02:15:20.5±0.9,28°.22N×56°.39E,h15km,ML3.5/6, Error ellipse: s-maj=47.7km s-min=7.4km az=91.0*
OMAN **16** *02:15:24.1±10.0, 27°.91N×57°.58E, h26km, Error ellipse: s-maj=162.6km s-min=34.7km az=72.0*

ISC 16 02:15:19.5±0.7,28°.26N±0°.03×57°.02E±0°.05,h31km,n45, σ2ş30/55,mb3.4/5,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIAN	**Nian**	**0.72**	**193**	*e*Pg	**Pn**	**02 15 33.5**	**-0.1**
NIAN				*e*AMB	AMB	02 15 47.7	
	comp=Z,43μm,0.1s						
GENO	**Geno**	**1.14**	**221**	*e*Pg	**Pb**	**02 15 41.4**	**+0.6**
GENO				*e*Sg	**Sb**	**02 16 00.2**	**+4.9**
GENO				*e*AMB	AMB	02 16 02.0	
	comp=Z,11μm,0.1s						
NGRK	**Negar Kerman**	**1.40**	**350**	*e*Pn	**Pn**	**02 15 43.1**	**-0.2**
NGRK				*e*AMB	AMB	02 15 45.1	
	comp=Z,99nm,0.1s						
KHSK	**Kohestak**	**1.50**	**179**	*e*Pn	**Pn**	**02 15 45.3**	**+1.0**
KHSK				*e*Sg	**Sb**	**02 16 07.5**	**+2.1**
KHSK				*e*AMB	AMB	02 16 12.5	
	comp=Z,20μm,0.1s						
CHMN	**Cheshme madani**	**1.66**	**16**	*e*Pn	**Pn**	**02 15 45.5**	**-1.3**
CHMN				*e*AMB	AMB	02 15 50.6	
	comp=Z,99nm,0.1s						
KRBR	**Kerman**	**1.73**	**352**	*e*Pn	**Pn**	**02 15 49.3**	**+1.6**
TVBK	**TV Kerman**	**1.73**	**353**	*e*Pn	**Pn**	**02 15 49.2**	**+1.4**
TVBK				*e*AMB	AMB	02 15 54.7	
	comp=Z,99nm,0.1s						
KHGB	**Koh Gabri**	**2.16**	**347**	*e*Pn	**Pb**	**02 15 57.0**	**-1.1**
KHGB				*e*AMB	AMB	02 15 59.7	
	comp=Z,99nm,0.1s						
SHME	**Shamm**	**2.34**	**200**	*e*P	**Pn**	**02 15 56.2**	**+0.3**
	SNR=7.0						
SHME				S	**Sn**	**02 16 24.3**	**+0.7**
BANOM	**Banah**	**2.42**	**196**	P	**Pn**	**02 15 57.6**	**+0.7**
	SNR=8.7						
BANOM				S	**Sn**	**02 16 26.3**	**+0.8**
BANOM	**Banah**	**2.42**	**196**	*e*P	**Pn**	**02 15 57.6**	**+0.7**
	SNR=8.7						
BANOM				S	**Sn**	**02 16 26.3**	**+0.8**
MSFE	**Esma-Masafi**	**2.99**	**195**	P	**Pn**	**02 16 07.1**	**+2.2**
MSFE	**Esma-Masafi**	**2.99**	**195**	P	**Pn**	**02 16 05.4**	**+0.6**
UOSS	**Minazif**	**3.38**	**193**	P	**Pn**	**02 16 13.8**	**+3.6**
UOSS	**Minazif**	**3.38**	**193**	P	**Pn**	**02 16 13.8**	**+3.6**
NAZ	**Nazwa, Dubai**	**3.48**	**201**	P	**Pn**	**02 16 11.2**	**-0.4**
NAZ	**Nazwa, Dubai**	**3.48**	**201**	P	**Pn**	**02 16 11.2**	**-0.4**
HATD	**Hatta, Dubai**	**3.51**	**193**	P	**Pn**	**02 16 15.0**	**+2.9**
HATD	**Hatta, Dubai**	**3.51**	**193**	P	**Pn**	**02 16 13.7**	**+1.7**
HATD	**Hatta, Dubai**	**3.51**	**193**	P	**Pn**	**02 16 13.7**	**+1.7**
IBAF	**Bafgh**	**3.55**	**340**	*e*Pn	**Pn**	**02 16 15.3**	**+2.7**
IBAF				*e*AMB	AMB	02 16 30.8	
	comp=Z,388nm,0.2s						
ZHSF	**Zahedan**	**3.55**	**67**	*e*Pn	**Pn**	**02 16 14.3**	**+1.6**
ZHSF				*e*Sg	**Sb**	**02 17 11.6**	**+7.0**
GHIR	**Ghir-Karzin**	**3.56**	**271**	*e*Pn	**Pn**	**02 16 10.7**	**-2.0**
ASHO	**Ashiyiah**	**3.67**	**194**	P	**Pn**	**02 16 15.7**	**+1.6**
	SNR=10						
ASHO	**Ashiyiah**	**3.67**	**194**	P	**Pn**	**02 16 15.7**	**+1.6**
	SNR=10						
ASHO	**Ashiyiah**	**3.67**	**194**	*i*P	**Pn**	**02 16 15.7**	**+1.6**
	SNR=10						
IMEH	**Mehriz**	**3.75**	**327**	*e*Pn	**Pn**	**02 16 18.1**	**+2.6**
IMEH				*e*AMB	AMB	02 16 36.3	
	comp=Z,278nm,0.1s						
IKOO	**Kooshah**	**4.49**	**22**	*e*Pn	**Pn**	**02 16 26.7**	**+1.1**
IKOO				*e*AMB	AMB	02 16 40.7	
	comp=Z,427nm,0.2s						
HOQ	**Hoqain**	**4.67**	**177**	P	**Pn**	**02 16 27.6**	**-0.3**
HOQ				S	**Sn**	**02 17 14.7**	**-6.3**
HOQ	**Hoqain**	**4.67**	**177**	P	**Pn**	**02 16 27.6**	**-0.3**
IKAZ	**Kazeroun**	**4.78**	**290**	*e*Pn	**Pn**	**02 16 32.9**	**+3.2**
IKAZ				*e*AMB	AMB	02 17 34.6	
	comp=Z,870nm,0.1s						
ITEG	**Tejag**	**4.85**	**17**	*e*Pn	**Pn**	**02 16 32.4**	**+1.8**
ITEG				*e*AMB	AMB	02 16 34.5	
	comp=Z,298nm,0.1s						
ARQ	**Araqi**	**4.92**	**185**	P	**Pn**	**02 16 33.0**	**+1.5**
ARQ	**Araqi**	**4.92**	**185**	P	**Pn**	**02 16 33.0**	**+1.5**
IDAH	**Dahanechah**	**5.09**	**28**	*e*Pn	**Pn**	**02 16 35.7**	**+1.7**
IDAH				*e*AMB	AMB	02 16 46.0	
	comp=Z,234nm,0.2s						
WSAR	**Wadi Sarin**	**5.21**	**163**	Pn	**Pn**	**02 16 33.5**	**-1.8**
	comp=Z,3.7nm,0.3s,baz=351,slow=4.1,SNR=72						
WSAR				Sn	**Sn**	**02 17 29.5**	**-4.8**
	comp=Z,7.6nm,0.3s,baz=85,slow=17,SNR=17						
TABS	**Tabas**	**5.37**	**1**	*e*Pn	**Pn**	**02 16 39.8**	**+2.2**
IMON	**Monand**	**5.42**	**24**	*e*Pn	**Pn**	**02 16 40.3**	**+1.9**
IMON				*e*AMB	AMB	02 16 42.1	
	comp=Z,438nm,0.2s						
BSY	**Bisya**	**5.50**	**178**	P	**Pn**	**02 16 41.2**	**+1.9**
BSY				S	**Sn**	**02 17 42.0**	**+0.5**
BSYO	**Bisya**	**5.51**	**178**	P	**Pn**	**02 16 41.2**	**+1.7**
BSYO				S	**Sn**	**02 17 42.0**	**+0.2**
AKTO	**Aktyubinsk**	**22.16**	**2**	P	**P**	**02 20 11.7**	**-1.0**
	comp=Z,0.9nm,0.4s,baz=192,slow=8.0,SNR=4.2						
BRTR	**Keskin Array B**	**22.44**	**307**	P	**P**	**02 20 14.7**	**-1.3**
	comp=Z,0.5nm,1.0s,baz=125,slow=9.0,SNR=2.7						
MKAR	**Makanchi Array**	**27.09**	**40**	P	**P**	**02 20 57.6**	**-1.8**
	comp=Z,0.2nm,0.7s,baz=230,slow=5.8,SNR=2.7						
FINES	**FINESS Array B**	**39.05**	**337**	P	**P**	**02 22 42.0**	**-1.2**
	comp=Z,0.4nm,0.6s,baz=122,slow=13,SNR=3.0						
TORD	**Torodi Ar. Bea**	**53.47**	**266**	P	**P**	**02 24 35.8**	**-1.3**
	comp=Z,0.4nm,0.6s,baz=63,slow=7.1,SNR=6.2						

IDC **16** *02:17:47.7±0.3,2°.54S×121°.77E,h0km,mb5.1/48, mb1 5.1/50,mb1mx5.0/66,mbtmp5.1/50,ML5.5/3,MS5.2/42, Ms1 5.2/42,ms1mx5.1/58,Error ellipse: s-maj=11.6km s-min=8.6km az=69.0*
BJI **16** *02:17:48.5,2°.60S×121°.90E,h10km,mb5.1/78,mB5.5/66, Ms5.6/89,Ms7 5.3/84*
ISCJB **16** *02:17:48.9±0.5,2°.56S±0°.01×121°.93E±0°.01,h17km±3km, mb5.4/223,MS5.4/232,Error ellipse: s-maj=2.4km s-min=2.1km az=26.5*
NEIC **16** *02:17:49.0±0.0,2°.71S×122°.13E,h11km,Moment Tensor Solution. s23 Moment tensor: Scale 10¹⁷Nm; Mrr0.70; Mθθ3.98; Mφφ-4.68; Mrθ1.63; Mrφ3.08; Mθφ3.48; Best double couple: M₀6.60000×10¹⁷ NP1:φ₁25.00000°, δ86.00000°,λ.144.00000°. NP2:φ₁118.00000°,δ54.00000°, λ.4.00000°. Principal axes: T 6.3300, Plg27.0000°, Azm335.0000°; N 0.4700, Plg53.0000°, Azm200.0000°; P -6.8000, Plg22.0000°, Azm77.0000°;*
MOS **16** *02:17:50.6±1.2,2°.62S×121°.80E,h33km,mb5.7/74, MS5.2/39 Error ellipse: s-maj=7.6km s-min=5.0km az=115.5*
GCMT **16** *02:17:50.3±0.1,2°.62S×121°.91E,h15km,MW5.9/138, Moment Tensor Solution. s131,c250; s138,c412; Duration: 2ş1 Moment tensor: Scale 10¹⁷Nm; Mrr0.25±.04; Mθθ4.61±.04; Mφφ-4.86±.05; Mrθ2.43±.14; Mθφ3.17±.04; Mrφ5.43±.14; Best double couple: M₀8.23100×10¹⁷ NP1:φ₁27.00000°,δ89.00000°, λ134.00000°. NP2:φ₁118.00000°,δ44.00000°,λ1.00000°. Principal axes: T 7.9960, Plg31.0000°, Azm332.0000°; N 0.4680, Plg44.0000°, Azm206.0000°; P -8.4650, Plg30.0000°, Azm82.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
NEIC **16** *02:17:50.3±0.1,2°.64S×121°.86E,h13km,mb5.6/100, ME5.6,MS5.5/150,MW5.7,MW5.8 Error ellipse: s-maj=4.5km s-min=3.6km az=57.0,Moment Tensor Solution. s29 Moment tensor: Scale 10¹⁷Nm; Mrr0.42; Mθθ3.36; Mφφ-3.79; Mrθ1.52; Mrφ2.36; Mθφ2.48; Best double couple: M₀5.20000×10¹⁷ NP1:φ₁119.00000°, δ56.00000°,λ5.00000°. NP2:φ₁27.00000°,δ86.00000°, λ146.00000°. Principal axes: T 5.1500, Plg26.0000°, Azm338.0000°; N 0.0800, Plg55.0000°, Azm201.0000°; P -5.2300, Plg21.0000°, Azm78.0000°; Broadband fault plane solution: P waves. NP1:φ₁122.00000°,δ52.00000°, λ19.00000°. NP2:φ₁20.00000°,δ75.00000°,λ140.00000°. Principal axes: T Plg38.0000°, Azm334.0000°; N Plg0.0000°, Azm0.0000°; P Plg15.0000°, Azm76.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*
NEIC Felt [III] at Kolaka and Masamba. Also felt at Banggae, Palopo and Palu.
DJA **16** *02:17:51.9±0.4,3°.S±1°.×12°.2E±°,h22km±3km,MS.8/114, mb5.7/114,mB6.1/91,MLv5.9/29,Mw(mB)5.8/91, Mwp5.8/24*

ISC 16 02:17:52.6±0.6,2°.63S±0°.02×121°.89E±0°.03,h28km±3km, n1037,σ1ş83/1017,mb5.5/233,MS5.4/233,33C-12D, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDI	**Kendari**	**1.50**	**151**	P	**Pn**	**02 18 16.2**	**-1.5**
KDI				S	**Sb**	**02 18 37.8**	**-0.7**
APSI	**Ampana**	**1.73**	**352**	P	**Pn**	**02 18 19.6**	**-1.2**
APSI				S	**Sn**	**02 18 42.9**	**+0.9**
LUWI	**Luwuk**	**1.81**	**29**	P	**Pn**	**02 18 21.2**	**-0.7**
LUWI				S	**Sn**	**02 18 44.8**	**+0.9**
LUWI	**Luwuk**	**1.81**	**29**	*e*Pn	**Pn**	**02 18 21.1**	**-0.9**
LUWI				*e*S	**Sb**	**02 18 49.9**	**+2.6**
TTSI	**Tana Toraja**	**2.11**	**259**	P	**Pn**	**02 18 25.3**	**-0.8**
TTSI				S	**Sn**	**02 18 52.9**	**+1.5**
BNSI	**Bone**	**2.50**	**225**	P	**Pn**	**02 18 30.4**	**-1.0**
BNSI				S	**Sn**	**02 19 03.7**	**+2.6**
PCI	**Palu**	**2.68**	**310**	P	**Pn**	**02 18 33.2**	**-0.7**
PCI				S	**Sn**	**02 19 07.0**	**+1.6**
PCI	**Palu**	**2.68**	**310**	P	**Pn**	**02 18 33.0**	**-0.9**
BBSI	**Bau Bau**	**2.92**	**167**	P	**Pn**	**02 18 36.2**	**-0.9**
BBSI				S	**Sn**	**02 19 12.4**	**+1.1**
MRSI	**Marisa**	**3.09**	**1**	P	**Pn**	**02 18 38.0**	**-1.6**
MRSI				S	**Sn**	**02 19 16.4**	**+0.8**
KAPI	**Kappang**	**3.19**	**222**	*e*Pn	**Pn**	**02 18 38.8**	**-2.1**
KAPI				*e*S	**Sb**	**02 19 24.4**	**-2.5**
BKSI	**Bulukumba**	**3.20**	**213**	P	**Pn**	**02 18 41.5**	**+0.4**
BKSI				S	**Sn**	**02 19 21.1**	**+2.8**
MPSI	**Mapaga**	**3.56**	**326**	P	**Pn**	**02 18 45.8**	**-0.2**
MPSI				S	**Sn**	**02 19 27.6**	**+0.4**
BSSI	**Bau Bau, Buton**	**3.76**	**202**	P	**Pn**	**02 18 48.2**	**-0.5**
BSSI				S	**Sn**	**02 19 33.7**	**+1.6**
KMSI	**Cibinong**	**3.81**	**33**	P	**Pn**	**02 18 49.9**	**+0.5**
KMSI				S	**Sn**	**02 19 33.0**	**-0.4**
SANI	**Sanana**	**4.13**	**82**	P	**Pn**	**02 18 50.0**	**-3.9**
SANI				S	**Sn**	**02 19 40.2**	**-1.2**
SGKI	**Sangatta, Kali**	**4.77**	**296**	P	Pn	02 19 08.8	+6.1
SGKI				S	**Sn**	**02 19 59.5**	**+2.4**
SMKI	**Samarinda**	**5.16**	**295**	P	**Pn**	**02 19 07.5**	**-0.6**
	785nm,0.9s,12μm27μm7.1nm						
SMKI				S	**Sn**	**02 20 09.0**	**+2.2**
	785nm,0.9s,12μm27μm7.1nm						
BKB	**Balikpapan**	**5.18**	**285**	P	**Pn**	**02 19 09.1**	**+0.9**
BKB				S	**Sn**	**02 20 10.7**	**+3.6**
NLAI	**Namlea**	**5.24**	**97**	P	**Pn**	**02 19 09.3**	**+0.2**
	882nm,1.1s,13μm82μm3.5nm						
NLAI				S	**Sn**	**02 20 08.9**	**+0.3**
	882nm,1.1s,13μm82μm3.5nm						
KBKI	**Kotabaru**	**5.76**	**263**	P	**Pn**	**02 19 16.3**	**+0.1**
KBKI				S	**Sn**	**02 20 22.7**	**+1.3**
LBMI	**Labuha**	**5.95**	**71**	P	**Pn**	**02 19 17.6**	**-1.2**
	6μm,0.9s,53μm19nm						
LBMI				S	**Sn**	**02 20 25.2**	**-0.9**
	6μm,0.9s,53μm19nm						
MMRI	**Maumere**	**5.97**	**177**	*e*Pn	**Pn**	**02 19 17.7**	**-1.5**
	3μm,1.1s						
MMRI				*e*S	**Sn**	**02 20 30.5**	**+3.7**
EDFI	**Ende, Flores**	**6.08**	**182**	P	**Pn**	**02 19 19.7**	**-1.1**
EDFI				S	**Sn**	**02 20 30.6**	**+1.1**
AAI	**Ambon**	**6.38**	**100**	P	**Pn**	**02 19 22.9**	**-1.9**
AAI				S	**Sn**	**02 20 33.6**	**-3.2**
AAI	**Ambon**	**6.38**	**100**	P	**Pn**	**02 19 26.8**	**+2.0**
AAI				pmax	pmax		
	comp=Z,964nm,1.0s						
TNTI	**Ternate**	**6.43**	**58**	*e*Pn	**Pn**	**02 19 25.4**	**-0.1**
TNTI				*e*S	**Sn**	**02 20 37.6**	**-0.5**
MSAI	**Masohi**	**7.06**	**96**	P	**Pn**	**02 19 34.2**	**0.0**
BBKI	**Banjar Baru**	**7.09**	**263**	P	**Pn**	**02 19 35.4**	**+0.8**
WSI	**Waingapu**	**7.17**	**193**	P	**Pn**	**02 19 36.7**	**+1.1**
	comp=Z,2μm,1.3s						
MTKI	**Muara Teweh, K**	**7.19**	**283**	P	**Pn**	**02 19 36.4**	**+0.4**
PLAI	**Plampang**	**7.39**	**213**	P	**Pn**	**02 19 39.4**	**+0.7**
	comp=Z,374nm,1.0s,comp=Z,5μmcomp=Z,22μmcomp=Z,1.9nm						
WBSI	**Waikabubak, Su**	**7.39**	**200**	P	**Pn**	**02 19 39.2**	**+0.4**
SOEI	**Soe**	**7.46**	**162**	P	**Pn**	**02 19 39.4**	**-0.3**
SOEI	**Soe**	**7.46**	**162**	*e*Pn	**Pn**	**02 19 41.3**	**+1.5**
BASI	**Baing, Sumba**	**7.65**	**190**	P	**Pn**	**02 19 41.7**	**-0.5**
BATI	**Baumata**	**7.73**	**167**	Pn	**Pn**	**02 19 44.7**	**+1.3**
	comp=Z,14nm,0.3s,baz=67,slow=2.1,SNR=34						
BATI				LR	LR	02 23 14.8	
	comp=Z,78μm,18.1s,baz=30,slow=42						
BATI	**Baumata**	**7.73**	**167**	P	**Pn**	**02 19 43.4**	**+0.1**
BNDI	**Bandanaira**	**8.21**	**103**	P	**Pn**	**02 19 49.0**	**-1.0**
MYLDM	**Lahad Datu**	**8.47**	**336**	*e*Pn	**Pn**	**02 19 54.7**	**+1.2**
SRBI	**Singaraja**	**8.57**	**231**	P	**Pn**	**02 19 56.2**	**+1.2**
DNP	**Denpasar**	**8.96**	**228**	P	**Pn**	**02 20 00.5**	**+0.3**
KMMI	**Kalianget**	**9.03**	**241**	P	**Pn**	**02 20 03.1**	**+1.9**
IGBI	**Denpasar**	**9.10**	**227**	P	Pn	02 20 11.8	+10
SIJI	**Sorong**	**9.53**	**80**	Pn	**Pn**	**02 20 06.5**	**-1.6**
	comp=Z,31nm,0.3s,baz=268,slow=8.2,SNR=66						
JAGI	**Jajag, Banyuwa**	**9.64**	**233**	P	**Pn**	**02 20 10.6**	**+1.0**
JAGI	**Jajag, Banyuwa**	**9.64**	**233**	*e*Pn	**Pn**	**02 20 08.0**	**-1.6**
BWJI	**Bawean**	**9.75**	**251**	P	**Pn**	**02 20 11.5**	**+0.5**
GMJI	**Gumukmas**	**10.10**	**236**	P	**Pn**	**02 20 16.3**	**+0.4**
GMJI				S	**Pn**	**02 20 17.2**	**+1.3**
PBKI	**Pangkalan Bun**	**10.21**	**269**	P	**Pn**	**02 20 18.8**	**+1.4**
GRJI	**Gresik**	**10.30**	**245**	P	**Pn**	**02 20 19.2**	**+0.6**
	comp=Z,152nm,1.1s,comp=Z,2μm						
DAV	**Davao City (W)**	**10.32**	**21**	Pn	**Pn**	**02 20 21.1**	**+2.2**
	comp=Z,43nm,0.3s,baz=111,slow=1.3,SNR=8.2						
DAV	**Davao City (W)**	**10.32**	**21**	P	**Pn**	**02 20 17.8**	**-1.1**
DAV	**Davao City (W)**	**10.32**	**21**	*e*Pn	**Pn**	**02 20 22.6**	**+3.8**
DAV	**Davao City (W)**	**10.32**	**21**	PnPn	Pn	02 20 26.0	+7.1
	SNR=21						
DAV	**Davao City (W)**	**10.32**	**21**	P	Pn	02 20 26.0	+7.1
	SNR=21						
KKM	**Kota Kinabalu**	**10.32**	**327**	*e*Pn	**Pn**	**02 20 19.5**	**+0.6**
KKM				*e*S	**Sn**	**02 22 20.5**	**+6.6**
FAKI	**Fak Fak**	**10.35**	**92**	P	**Pn**	**02 20 19.1**	**-0.2**
FAKI	**Fak Fak**	**10.35**	**92**	*e*Pn	**Pn**	**02 20 18.3**	**-1.0**
FAKI				*e*S	**Sn**	**02 22 11.4**	**-3.1**
STKI	**Sintang**	**10.75**	**284**	P	**Pn**	**02 20 24.8**	**0.0**
SAUI	**Saumlaki**	**10.77**	**120**	P	**Pn**	**02 20 25.8**	**+0.8**
SAUI	**Saumlaki**	**10.77**	**120**	*e*Pn	**Pn**	**02 20 24.8**	**-0.2**
TBJI	**Tambak Boyo**	**10.84**	**247**	P	**Pn**	**02 20 26.7**	**+0.7**
SBUM	**Sibu**	**10.91**	**297**	*e*Pn	**Pn**	**02 20 27.1**	**+0.1**
BUKP	**Musuan**	**10.91**	**17**	*e*P	**Pn**	**02 20 26.2**	**-0.9**
PWJI	**Pagerwojo**	**11.38**	**242**	P	**Pn**	**02 20 35.5**	**+2.1**
KMPI	**Kaimana, Papua**	**11.84**	**95**	P	**Pn**	**02 20 39.7**	**0.0**
	comp=Z,621nm,1.2s,comp=Z,8μm						
PCJI	**Pacitan**	**12.01**	**242**	P	**Pn**	**02 20 42.6**	**+0.6**
PCJI				S	**Pn**	**02 20 38.9**	**-3.1**
WOJI	**Wonogiri, Jawa**	**12.08**	**244**	P	**Pn**	**02 20 40.3**	**-2.7**
SMRI	**Semarang**	**12.22**	**249**	P	**Pn**	**02 20 45.7**	**+0.7**
SMRI	**Semarang**	**12.22**	**249**	*e*Pn	**Pn**	**02 20 46.3**	**+1.3**
KSM	**Kuching**	**12.28**	**289**	*e*Pn	**Pn**	**02 20 44.8**	**-1.0**
RKPI	**Ransiki, Papua**	**12.33**	**85**	P	**Pn**	**02 20 45.2**	**-1.2**
UGM	**Wanagama**	**12.47**	**245**	P	**Pn**	**02 20 49.6**	**+1.2**
UGM	**Wanagama**	**12.47**	**245**	*e*Pn	**Pn**	**02 20 47.7**	**-0.7**
MSLP	**Maasin**	**13.02**	**13**	*e*P	**P**	**02 21 02.7**	**-3.3**
MTN	**Manton Dam**	**13.66**	**138**	*e*Pn	**Pn**	**02 21 01.8**	**-2.7**
KPJI	**Karang Pucung**	**13.73**	**250**	P	**Pn**	**02 21 06.2**	**+0.7**
	comp=Z,538nm,1.0s,comp=Z,6μm						
ENPP	**El Nido**	**13.97**	**350**	*e*P	**Pn**	**02 21 07.9**	**-0.9**
JCJI	**Jatiwangi**	**14.11**	**254**	P	**Pn**	**02 21 11.3**	**+0.6**
KNRA	**Kununurra**	**14.62**	**153**	P	**Pn**	**02 21 13.7**	**-4.0**
	baz=15						
LEM	**Lembang**	**14.82**	**253**	Pn	**Pn**	**02 21 20.7**	**+0.2**
	baz=17,slow=19,SNR=1.7						
LEM	**Lembang**	**14.82**	**253**	P	**Pn**	**02 21 21.3**	**+0.7**
	comp=Z,1μm,1.8s,comp=Z,68μmcomp=Z,213μm						
CISI	**Cisompet, Garu**	**14.85**	**250**	P	**Pn**	**02 21 20.9**	**0.0**
	comp=Z,269nm,1.7s,comp=Z,7μm						
CISI	**Cisompet, Garu**	**14.85**	**250**	*e*Pn	**Pn**	**02 21 20.9**	**0.0**
OTRP	**Odiongan**	**14.90**	**0**	*e*P	**P**	**02 21 30.8**	**+4.0**
SJMP	**San Jose**	**15.02**	**357**	*e*P	**P**	**02 21 27.0**	**-1.1**
CNP	**Catarman**	**15.29**	**10**	*e*P	**P**	**02 21 30.7**	**-0.5**
TNG	**Tangerang**	**15.60**	**256**	P	**P**	**02 21 31.4**	**-3.3**
TNG				P	**Pn**	**02 21 30.9**	**+0.2**
PPBI	**Pangkal Pinang**	**15.75**	**271**	P	**P**	**02 21 39.1**	**+2.8**
FITZ	**Fitzroy Crossi**	**15.80**	**167**	Pn	**Pn**	**02 21 29.9**	**-3.4**
	comp=Z,0.6nm,0.3s,baz=360,slow=14,SNR=23						
FITZ	**Fitzroy Crossi**	**15.80**	**167**	P	**

comp=Z,1µm,1.5s
PBSI Pulau Batu 23.74 276 P **P** **02 23 04.0 +1.2**
COEN Coen 23.84 119 P **P** **02 23 02.5 -1.3**
baz=24,SNR=31
COEN Coen 23.84 119 *e*P **P** **02 23 01.9 -1.9**
comp=Z,385nm,1.3s
COEN LR LR
comp=Z,9µm,18.0s
AS31 Alice Springs 23.92 152 *e*P **P** **02 23 03.1 -1.4**
comp=Z,66nm,0.9s
ASAR Alice Springs 23.92 152 P **P** **02 23 02.6 -1.9**
comp=Z,70nm,1.0s,baz=324,slow=8.1,SNR=114
ASAR LR LR 02 33 03.2
comp=Z,14µm,20.5s,baz=324,slow=38
AS01 Alice Springs 23.94 152 *e*P **P** **02 23 02.1 -2.5**
MEEK Meekatharra 24.07 187 P **P** **02 23 03.5 -2.3**
baz=24,SNR=18
TSI Tuntungan 24.10 285 P **P** **02 23 07.1 +1.0**
TRTT Trang 24.47 295 P **P** **02 23 08.2 -1.3**
comp=Z,76nm,1.9s,comp=Z,2µm
QIZ Qiongzhong 24.57 332 P **P** **02 23 10.0 -0.4**
QIZ PcS **PcS** **02 30 32.8 +4.4**
QIZ pmax pmax
comp=Z,16nm,0.9s
QIZ pmax pmax
comp=Z,2µm,5.8s
QIZ LR LR
comp=Z,3µm,20.6s
QIZ LR LR
comp=Z,5µm,16.7s
QIZ LR LR
comp=Z,7µm,19.9s
QIZ Qiongzhong 24.57 332 *e*P **P** **02 23 10.3 -0.1**
comp=Z,127nm,1.0s
QIZ LR LR
comp=Z,9µm,20.0s
GSI Gunungsitoli 24.62 279 P **P** **02 23 11.5 +0.5**
GSI Gunungsitoli 24.62 279 *e*P **P** **02 23 09.2 -1.7**
comp=Z,2µm,2.0s
GSI LR LR
comp=Z,14µm,18.0s
QIS Mount Isa 24.82 137 P **P** **02 23 11.5 -1.1**
baz=25,SNR=57
KCSI Kotacane, Aceh 24.87 284 P **P** **02 23 12.4 -0.8**
TWG Pinlang 25.31 358 *e*P **P** **02 23 18.4 +1.3**
TPTI 25.39 283 P **P** **02 23 17.2 -0.6**
MANU Manus Island 25.46 89 *e*P **P** **02 23 19.6 +1.1**
comp=Z,574nm,1.6s
PKDT Phuket 25.72 294 P **P** **02 23 20.6 -0.3**
comp=Z,74nm,1.0s,comp=Z,2µm
SURT Suratani 25.74 297 P **P** **02 23 19.8 -1.3**
comp=Z,62nm,1.1s,comp=Z,1µm
TPUB Ta-pu 25.81 357 *e*P **P** **02 23 21.9 +0.3**
comp=Z,384nm,1.2s
YULB Yu-li 25.88 359 *e*P **P** **02 23 22.8 +0.6**
comp=Z,71nm,0.7s
PMG Port Moresby 26.00 106 P **P** **02 23 22.6 -0.8**
comp=Z,199nm,1.0s,baz=311,slow=6.6,SNR=48
PMG LR LR 02 37 17.6
comp=Z,6µm,18.4s,baz=277,slow=45
PMG Port Moresby 26.00 106 *e*P **P** **02 23 23.0 -0.4**
comp=Z,420nm,1.1s
PMG Port Moresby 26.00 106*ce*P **P** **02 23 22.8 -0.6**
PMG pmax pmax
comp=Z,914nm,0.9s
LHMI Lhok Sumawe 26.11 287 P **P** **02 23 25.2 +0.7**
LHMI Lhok Sumawe 26.11 287 *e*P **P** **02 23 26.2 +1.8**
comp=Z,369nm,1.1s
SSLB Suanglang 26.28 358 *e*P **P** **02 23 25.2 -0.7**
comp=Z,179nm,1.1s
SKNT Sakolnakorn 26.31 318 P **P** **02 23 24.7 -1.5**
comp=Z,83nm,1.0s
MLSI Meulaboh, Aceh 26.38 285 P **P** **02 23 27.7 +0.9**
COCO West Island 26.57 248 *e*P **P** **02 23 29.7 +1.1**
comp=Z,247nm,1.0s
COCO LR LR
comp=Z,5µm,20.0s
COCO West Island 26.57 248 *e*P **P** **02 23 29.7 +1.1**
COCO pmax pmax
comp=Z,247nm,1.0s
COCO MLR MLR
comp=Z,5µm,20.0s
NACB Ninganchiao 26.65 359 *e*P **P** **02 23 30.1 +0.9**
KHON Khomkaen 26.65 316 P **P** **02 23 29.4 +0.1**
comp=Z,32nm,1.0s,comp=Z,726nm
MTSU Mount Surprise 26.84 127 P **P** **02 23 32.3 +1.2**
baz=27,SNR=8.5
MORW Morawa 26.87 191 P **P** **02 23 31.8 +0.7**
baz=27,SNR=21
GZH Guangzhou 26.89 342 P **P** **02 23 35.3 +4.0**
GZH pmax pmax
comp=Z,1µm,7.6s
CHAI Chaiyaphum 26.96 314 P **P** **02 23 31.4 -0.6**
comp=Z,40nm,1.1s,comp=Z,335nm
PHET Kaeng Krachan 26.96 305 P **P** **02 23 32.5 +0.4**
comp=Z,36nm,1.1s,comp=Z,320nm
YHNB Yeheng 27.14 359 *e*P **P** **02 23 33.7 0.0**
comp=Z,174nm,1.2s
YHNB LR LR
comp=Z,8µm,22.0s
TATO Taipei 27.45 359 PFAKE 02 23 50.0 +14
TATO LR LR
comp=Z,7µm,22.0s
QZH Quanzhou 27.60 354⇑*i*P **P** **02 23 37.0 -0.6**
QZH S **S** **02 28 17.9 +0.3**
QZH pmax pmax
comp=Z,850nm,9.2s
QZH LR LR
comp=Z,6µm,16.6s
QZH LR LR
comp=Z,4µm,17.1s
QZH LR LR
comp=Z,5µm,17.7s
BSI Banda Aceh 27.77 287 P **P** **02 23 39.9 +0.5**
GUMO Guam 27.92 54 PFAKE 02 23 50.0 +9.4
GUMO LR LR
comp=Z,6µm,19.0s
SRDT SRDT 28.18 307 P **P** **02 23 44.6 +1.6**
comp=Z,172nm,1.1s,comp=Z,2µm
BLDU Ballidu 28.26 189 P **P** **02 23 44.1 +0.6**
baz=28,SNR=14
KMBL Kambalda 28.58 180 P **P** **02 23 46.2 -0.2**
baz=29,SNR=19
FORT Forrest 28.60 169 P **P** **02 23 48.1 +1.6**
baz=29,SNR=9.8
FORT Forrest 28.60 169 *e*P **P** **02 23 45.2 -1.3**
comp=Z,2µm,1.0s
KLBR Kellerberrin 29.07 187 P **P** **02 23 51.0 +0.3**
baz=29,SNR=7.4
CTA Charters Tower 29.44 128 P **P** **02 23 53.8 -0.4**
comp=Z,17nm,0.8s,baz=300,slow=11,SNR=9.7
CTA LR LR 02 37 55.3
comp=Z,11µm,18.5s,baz=313,slow=41
CTAO Charters Tower 29.44 128 *e*P **P** **02 23 52.5 -1.6**
comp=Z,357nm,1.7s
CTAO LR LR
comp=Z,16µm,19.0s
CTAO Charters Tower 29.44 128 *e*P **P** **02 23 52.5 -1.6**
CTAO pmax pmax
comp=Z,357nm,1.7s
CTAO MLR MLR
comp=Z,16µm,19.0s
JOW Kunigami 29.93 11 LR LR 02 36 30.6
comp=Z,8µm,20.3s,baz=180,slow=38
RABL Rabaul 30.26 94 *e*P **P** **02 24 02.1 +0.6**
comp=Z,247nm,0.9s
NWAO Narrogin (SRO) 30.45 188 P **P** **02 24 02.7 -0.3**
comp=Z,20nm,0.7s,baz=238,slow=9.1,SNR=4.4
NWAO LR LR 02 36 55.2
comp=Z,5µm,20.6s,baz=242,slow=38
NWAO Narrogin (SRO) 30.45 188 P **P** **02 24 02.9 -0.1**
baz=31,SNR=4.2
NWAO P **P** **02 24 02.9 -0.1**
baz=31,SNR=4.2
NWAO Narrogin (SRO) 30.45 188 *e*P **P** **02 24 05.6 +2.6**
comp=Z,84nm,1.2s
NWAO Narrogin (SRO) 30.45 188 P **P** **02 24 02.7 -0.3**
NWAO pmax pmax
comp=Z,20nm,0.7s
NWAO MLR MLR
comp=Z,5µm,20.6s
CM01 Chiang Mai Arr 30.78 314 *e*P **P** **02 24 06.3 +0.2**
CM31 Chiang Mai Arr 30.82 314 *e*P **P** **02 24 06.2 -0.2**
CMAR Chiang Mai Arr 30.82 314 P **P** **02 24 05.8 -0.6**
comp=Z,30nm,0.9s,baz=138,slow=6.9,SNR=94
CMAR LR LR 02 38 48.2
comp=Z,6µm,20.4s,baz=148,slow=41

CMMT Chiang Mai 31.05 314 P **P** **02 24 07.0 -1.4**
comp=Z,75nm,1.3s,comp=Z,2µm
CHTO Chiang Mai 31.05 314 P **P** **02 24 08.1 -0.3**
comp=Z,338nm,1.3s,comp=Z,7µm
CHTO Chiang Mai 31.05 314 *e*P **P** **02 24 07.8 -0.6**
comp=Z,206nm,1.5s
CHTO LR LR
comp=Z,9µm,19.0s
CHTO Chiang Mai 31.05 314 *e*P **P** **02 24 07.8 -0.6**
CHTO pmax pmax
comp=Z,205nm,1.5s
CHTO MLR MLR
comp=Z,9µm,19.0s
CMAI Chiengmai2 31.72 316 P **P** **02 24 14.6 +0.1**
comp=Z,480nm,1.2s,comp=Z,12µm
QLP Quilpie 32.04 140 P **P** **02 24 16.6 -0.4**
baz=32,SNR=32
RKGY Rocky Gully 32.14 188 P **P** **02 24 19.4 +1.6**
baz=32,SNR=5.6
PBA Port Blair 32.27 297 *e*P P 02 24 18.5 -0.7
PBA IAmb IAmb 02 24 22.8
comp=Z,14µm,6.0s
GYA Guiyang 32.45 334⇑*i*P **P** **02 24 20.8 0.0**
GYA PP **PP** **02 25 32.0 -2.5**
GYA PcP **PcP** **02 27 08.9 +1.1**
GYA S **S** **02 29 36.8 +2.8**
GYA ScP **ScP** **02 30 51.4 +1.5**
GYA SS **SnSn** **02 31 34.0 +5.5**
GYA ScS **ScS** **02 34 49.8 +0.4**
GYA pmax pmax
comp=Z,30nm,0.8s
GYA pmax pmax
comp=Z,120nm,6.2s
GYA LR LR
comp=Z,3µm,17.6s
GYA LR LR
comp=Z,3µm,18.0s
GYA LR LR
comp=Z,3µm,17.9s
DGPR DIGLIPUR 32.76 299 *ex* P 02 24 18.4 -5.0
DGPR IAmb IAmb 02 24 29.3
comp=Z,284nm,1.9s
BBOO Buckleboo 32.83 158 P **P** **02 24 22.0 -1.9**
baz=33,SNR=16
BBOO Buckleboo 32.83 158 *e*P **P** **02 24 21.8 -2.2**
comp=Z,288nm,1.8s
KMI Kunming 33.26 327 P **P** **02 24 29.5 +1.5**
KMI pP pP 02 24 32.1 -4.2
KMI sP sP 02 24 34.1 -5.6
KMI PP **PP** **02 25 43.5 -0.1**
KMI S **S** **02 29 49.4 +2.5**
KMI sS pS 02 29 54.4 -2.0
KMI SS **SnSn** **02 31 52.8 +4.4**
KMI pmax pmax
comp=Z,78nm,1.0s
KMI pmax pmax
comp=Z,900nm,5.4s
KMI LR LR
comp=Z,3µm,18.7s
KMI LR LR
comp=Z,5µm,21.7s
KMI LR LR
comp=Z,6µm,21.5s
SSE Sheshan 33.55 359 P **P** **02 24 31.3 +1.2**
SSE S **S** **02 29 53.5 +2.8**
SSE pmax pmax
comp=Z,81nm,0.3s
SSE LR LR
comp=Z,1µm,25.5s
SSE LR LR
comp=Z,1µm,18.2s
WHN Wuhan 33.77 348⇑*i*P **P** **02 24 33.4 +1.4**
WHN PP **PnPn** **02 25 45.9 +1.0**
WHN S **S** **02 29 55.5 +1.4**
WHN pmax pmax
comp=Z,1µm,3.4s
WHN LR LR
comp=Z,2µm,7.0s
WHN LR LR
comp=Z,9µm,12.2s
WHN LR LR
comp=Z,9µm,16.8s
STKA Stephens Creek 34.50 150 P **P** **02 24 37.5 -1.0**
comp=Z,22nm,0.6s,baz=318,slow=8.8,SNR=45
STKA LR LR 02 38 51.1
comp=Z,8µm,21.6s,baz=319,slow=36
STKA Stephens Creek 34.50 150 P **P** **02 24 37.6 -0.9**
baz=35,SNR=18
STKA Stephens Creek 34.50 150 *e*P **P** **02 24 37.6 -0.9**
STKA Stephens Creek 34.50 150 *e*P **P** **02 24 37.6 -0.9**
HTT Hallett 34.53 154 P **P** **02 24 37.9 -0.9**
baz=35,SNR=66
NJ2 Nanjing 34.62 355 *e*P **P** **02 24 39.5 +0.1**
NJ2 S **S** **02 30 13.0 +5.8**
NJ2 pmax pmax
comp=Z,28nm,0.5s
NJ2 pmax pmax
comp=Z,530nm,3.5s
NJ2 LR LR
comp=Z,4µm,20.9s
NJ2 LR LR
comp=Z,3µm,21.3s
NJ2 LR LR
comp=Z,4µm,20.9s
ENH Enshi 34.80 341 *e*P **P** **02 24 42.0 +0.9**
comp=Z,107nm,1.1s
ENH *e*PcP **PcP** **02 27 15.8 +1.6**
ENH LR LR
comp=Z,4µm,20.0s
RMQ Roma 35.02 135 P **P** **02 24 42.1 -0.9**
baz=35,SNR=16
CBIJ Chichi jima 35.45 32 *e*P **P** **02 24 47.0 +0.3**
comp=Z,816nm,1.4s
JCJ Chichijima 35.45 32 P **P** **02 24 44.0 -2.7**
comp=Z,80nm,0.6s,baz=229,slow=4.0,SNR=5.3
JCJ LR LR 02 37 44.5
comp=Z,1µm,20.1s,baz=204,slow=34
EIDS Eidsvold 36.06 131 *e*P **P** **02 24 51.4 -0.6**
comp=Z,108nm,1.5s
CMSA Cobar Meteorol 36.47 145 P **P** **02 24 54.9 -0.4**
baz=36,SNR=66
JNU Nakatsue 36.56 13 P **P** **02 24 55.3 -0.9**
comp=Z,18nm,0.9s,baz=213,slow=8.0,SNR=4.6
JNU LR LR 02 40 40.6
comp=Z,3µm,21.2s,baz=196,slow=38
JNU Nakatsue 36.56 13 *e*P **P** **02 24 54.3 -1.8**
comp=Z,45nm,1.1s
PATS Pohnpei 37.55 75 *e*P **P** **02 25 04.7 -0.2**
comp=Z,259nm,1.5s
CD2 Chengdu 37.57 334⇑P **P** **02 25 05.3 +0.5**
CD2 pP pP 02 25 09.3 -3.8
CD2 PP **PnPn** **02 26 31.4 -0.5**
CD2 S **S** **02 30 56.0 +3.4**
CD2 sS pS 02 31 02.9 +0.7
CD2 pmax pmax
comp=Z,110nm,0.7s
CD2 pmax pmax
comp=Z,1µm,6.2s
CD2 LR LR
comp=Z,8µm,21.9s
CD2 LR LR
comp=Z,7µm,18.9s
CD2 LR LR
comp=Z,9µm,16.9s
HNR Honiara 38.41 102 *e*P **P** **02 25 12.0 -0.1**
HNR Honiara 38.41 102 *e*P **P** **02 25 12.3 +0.2**
comp=Z,375nm,0.8s
HNR LR LR
comp=Z,3µm,20.0s
HNR Honiara 38.41 102 *e*P **P** **02 25 12.3 +0.2**
HNR pmax pmax
comp=Z,375nm,0.8s
HNR MLR MLR
comp=Z,3µm,20.0s
XAN Xi'an 38.47 343 P **P** **02 25 09.4 -2.9**
XAN pP pP 02 25 14.3 -6.3
XAN PP **PP** **02 26 40.8 +0.1**
XAN PcP **PcP** **02 27 21.8 -3.4**
XAN S **S** **02 31 02.5 -3.6**
XAN PcS **PcS** **02 31 17.8 +3.3**
XAN SS **SnSn** **02 33 44.6 -9.4**
XAN pmax pmax
comp=Z,53nm,1.3s
XAN pmax pmax
comp=Z,680nm,4.9s
XAN LR LR

comp=Z,2µm,15.2s
XAN LR LR
comp=Z,6µm,19.4s
XAN LR LR
comp=Z,5µm,22.5s
ARPS Mount Arapiles 38.63 154 P **P** **02 25 12.8 -0.8**
baz=39,SNR=79
TIA Tai'an 38.90 354 P **P** **02 25 16.4 +0.6**
TIA S **S** **02 31 11.0 -1.5**
TIA pmax pmax
comp=Z,11nm,1.2s
TIA pmax pmax
comp=Z,430nm,8.3s
TIA LR LR
comp=Z,3µm,21.5s
TIA LR LR
comp=Z,2µm,16.5s
TIA LR LR
comp=Z,5µm,23.2s
TJN Taejon 39.14 7*ce*P **P** **02 25 17.2 -0.7**
JHJ Hachijo jima 2 39.38 24 LR LR 02 39 30.0
comp=Z,2µm,21.6s,baz=236,slow=33
ARMA Armidale 39.44 138 P **P** **02 25 21.9 +1.2**
baz=40,SNR=14
ARMA Armidale 39.44 138 *e*P **P** **02 25 21.8 +1.1**
comp=Z,727nm,1.8s
YNG Young 40.03 145 P **P** **02 25 25.5 +0.1**
baz=40,SNR=58
INCN Inchon 40.16 6 PFAKE 02 25 40.0 +14
INCN LR LR
comp=Z,3µm,20.0s
KS15 Wonju Array Si 40.26 7 *e*P **P** **02 25 30.4 +3.3**
KSAR Wonju Array Be 40.26 7 P **P** **02 25 27.2 +0.1**
KSAR Wonju Array Be 40.26 7 P **P** **02 25 27.2 +0.1**
KSRS Korea Array 40.28 7 P **P** **02 25 27.2 0.0**
comp=Z,9.8nm,0.8s,baz=186,slow=9.7,SNR=23
KSRS LR LR 02 42 54.5
comp=Z,3µm,19.3s,baz=196,slow=38
KSRS Korea Array 40.28 7 P **P** **02 25 27.2 0.0**
KSRS pmax pmax
comp=Z,10.0nm,0.8s
KSRS MLR MLR
comp=Z,3µm,19.3s
KS01 Wonju Array Si 40.29 7 *e*P **P** **02 25 27.8 +0.4**
INU Inuyama 40.35 19 *e*P **P** **02 25 27.8 -0.2**
comp=Z,81nm,1.1s
SHL Shillong 40.38 316 *e*P **P** **02 25 28.0 -0.6**
SHL IAmb IAmb 02 25 29.3
comp=Z,98nm,1.4s
SHL *ex* x 02 31 39.0
MGCD Mangrove Creek 40.90 141 P **P** **02 25 34.0 +1.5**
baz=41,SNR=5.7
TOO Toolangi 40.97 151 P **P** **02 25 34.2 +1.1**
baz=41,SNR=37
TIY Taiyuan 41.09 349 *e*P **P** **02 25 35.3 +1.2**
TIY PP **PP** **02 27 11.5 +2.2**
TIY S **S** **02 31 47.0 +1.6**
TIY SS **SS** **02 34 40.0 -8.6**
TIY ScS **ScS** **02 35 37.3 +0.3**
TIY pmax pmax
comp=Z,490nm,11.9s
TIY LR LR
comp=Z,3µm,13.8s
TIY LR LR
comp=Z,2µm,18.6s
TIY LR LR
comp=Z,3µm,17.0s
CAN Canberra 41.11 145 P **P** **02 25 35.0 +0.7**
baz=41
CAN Canberra 41.11 145 *e*P **P** **02 25 34.5 +0.1**
comp=Z,257nm,1.2s
CAN LR LR
comp=Z,5µm,20.0s
CAN Canberra 41.11 145 *e*P **P** **02 25 34.5 +0.1**
CAN pmax pmax
comp=Z,257nm,1.2s
CAN MLR MLR
comp=Z,5µm,20.0s
DL2 Dalian 41.34 360⇑*i*P P 02 25 31.0 -5.0
DL2 S **S** **02 31 40.6 -8.1**
DL2 pmax pmax
comp=Z,45nm,1.1s
DL2 pmax pmax
comp=Z,330nm,8.2s
DL2 LR LR
comp=N,3µm,27.5s
DL2 LR LR
comp=E,2µm,15.3s
DL2 LR LR
comp=Z,5µm,27.8s
MAJO Matsushiro 41.84 20 *e*P **P** **02 25 39.7 -0.5**
comp=Z,52nm,0.9s
MAJO LR LR
comp=Z,4µm,22.0s
MAJO Matsushiro 41.84 20 *e*P **P** **02 25 37.9 -2.3**
MAJO pmax pmax
comp=Z,34nm,1.0s
MAT Matsushiro 41.84 20 P **P** **02 25 37.9 -2.3**
MAT S **S** **02 31 55.4 -1.0**
MJAR Matsushiro Arr 41.84 20 P **P** **02 25 38.2 -2.0**
comp=Z,18nm,0.9s,baz=195,slow=8.5,SNR=17
MJAR LR LR 02 42 00.1
comp=Z,4µm,21.9s,baz=215,slow=35
MJB9 Matsu-Tunnel 41.84 20 *e*P **P** **02 25 39.5 -0.8**
comp=Z,54nm,1.0s
LZH Lanzhou 42.05 338 *e*P **P** **02 25 42.1 0.0**
LZH pP pP 02 25 50.5 0.0
LZH sP sP 02 25 56.0 +2.1
LZH PP **PP** **02 27 18.8 -1.0**
LZH S **S** **02 31 57.1 -2.7**
LZH pmax pmax
comp=Z,67nm,1.1s
LZH pmax pmax
comp=Z,340nm,6.4s
LZH LR LR
comp=Z,7µm,15.0s
LZH LR LR
comp=Z,7µm,15.0s
LZH LR LR
comp=Z,7µm,17.2s
MILA Mila 42.46 147 P **P** **02 25 46.0 +0.7**
baz=42,SNR=10
CHLP Challavanipeta 42.76 301 *e*P **P** **02 25 47.6 -0.3**
BJT Baijiatuau 42.77 354 *e*P **P** **02 25 46.5 -1.2**
comp=Z,62nm,0.9s
BJT LR LR
comp=Z,4µm,21.0s
BJT Baijiatuau 42.77 354 *e*P **P** **02 25 46.5 -1.2**
BJT pmax pmax
comp=Z,62nm,0.9s
BJT MLR MLR
comp=Z,4µm,21.0s
VIS Vishakhapatnam 43.06 300 *e*P **P** **02 25 49.5 -0.9**
VIS IAmb IAmb 02 25 50.8
comp=Z,95nm,1.0s
VIS *i*S **S** **02 32 15.2 +0.5**
VIS *i*S **S** **02 32 15.3 +0.5**
VIS *ex* x 02 32 15.4
comp=E,24nm,1.7s
VIS *ex* x 02 32 19.8
comp=N,24nm,1.4s
LSA Lhasa 43.57 320 P **P** **02 25 54.8 -0.1**
LSA pmax pmax
comp=N,19nm,1.6s
LSA Lhasa 43.57 320 *e*P **P** **02 25 55.2 +0.3**
comp=N,51nm,0.8s
LSA LR LR
comp=Z,4µm,22.0s
LSA Lhasa 43.57 320 P **P** **02 25 55.5 +0.6**
LSA Lhasa 43.57 320 P **P** **02 25 55.5 +0.6**
LSA Lhasa 43.57 320 *e*P **P** **02 25 55.2 +0.3**
LSA pmax pmax
comp=Z,51nm,0.8s
LSA MLR MLR
comp=Z,4µm,22.0s
BOK Bokaro 43.79 309 *e*P **P** **02 25 55.0 -1.2**
BOK IAmb IAmb 02 26 02.9
comp=Z,543nm,2.6s
MDRS Chennai 44.18 292 *e*P **P** **02 25 57.6 -1.9**
MDRS IAmb IAmb 02 26 29.8
comp=Z,118nm,1.5s
SNY Shenyang 44.28 2⇓P **P** **02 25 58.4 -1.4**
SNY S **S** **02 32 25.4 -6.5**
SNY pmax pmax
comp=Z,34nm,1.0s
SNY LR LR

SNY LR LR
comp=Z,2μm,17.1s
SNY LR LR
comp=Z,5μm,19.2s
HHC Hu-ho-hao-te 44.29 349 *e*P **P 02 26 04.8 +4.7**
HHC PP **PcP 02 27 50.0 +5.8**
HHC S **S 02 32 38.6 +6.2**
HHC pmax pmax
comp=Z,28nm,1.1s
HHC pmax pmax
comp=Z,310nm,5.9s
HHC LR LR
comp=Z,6μm,15.7s
HHC LR LR
comp=Z,4μm,15.7s
HHC LR LR
comp=Z,8μm,14.9s
PVM Polavaram 44.36 298 *e*P **P 02 26 00.6 -0.3**
ODAN Odare 44.36 314 *e*P **P 02 26 00.6 -0.5**
comp=Z,388nm,1.5s
BTO Baotou 44.38 347 *e*P **P 02 25 59.4 -1.4**
SKHT Srikalahasti 44.88 292 *e*P **P 02 26 05.0 -0.1**
RAMN Ramite 44.99 313 *e*P **P 02 26 05.8 -0.3**
comp=Z,458nm,1.3s
ADKI Addanki 45.33 295 *e*P **P 02 26 09.1 +0.5**
JIRN Jiri 45.70 314 *e*P **P 02 26 11.3 -0.5**
MSHR Mys Shultsa 45.78 10*ce*P **P 02 26 11.1 -0.6**
GUN Gumba 46.06 314 *e*P **P 02 26 14.1 -0.6**
comp=Z,366nm,1.0s
TAU Tasmania Unive 46.07 154 *e*P **P 02 26 14.8 +0.8**
comp=Z,190nm,1.4s
TAU LR LR
comp=Z,9μm,19.0s
TAU Tasmania Unive 46.07 154 *e*P **P 02 26 18.4 +4.4**
TAU pmax pmax
comp=Z,190nm,1.4s
TRD Trivandrum 46.15 284 *e*P **P 02 26 14.5 -0.6**
NJS Nagarjunasagar 46.17 296 *e*P **P 02 26 14.3 -1.0**
PKIN Phulchoki 46.23 313 *e*P **P 02 26 15.6 -0.3**
comp=Z,62nm,0.7s
CN2 Changchun 46.34 4 *e*P **P 02 26 16.8 +0.7**
CN2 *es*P pP 02 26 23.3 -1.3
CN2 *e*S **S 02 33 03.8 +2.2**
CN2 pmax pmax
comp=Z,10.0nm,0.7s
CN2 pmax pmax
comp=Z,200nm,5.0s
CN2 LR LR
comp=Z,2μm,16.0s
CN2 LR LR
comp=Z,2μm,16.0s
CN2 LR LR
comp=Z,2μm,18.0s
SRLM Srisailam 46.39 295 *e*P **P 02 26 16.5 -0.6**
KKN Kakani 46.43 313 *e*P **P 02 26 16.5 -0.9**
comp=Z,167nm,1.1s
DMN Daman 46.46 313 *e*P **P 02 26 16.7 -1.0**
comp=Z,122nm,0.9s
GTA Gaotai 46.51 336 *e*P **P 02 26 17.3 -0.4**
GTA pP pP 02 26 21.3 -4.9
GTA sP sP 02 26 24.4 -5.1
GTA PcP **PcP 02 27 53.9 +2.0**
GTA PP **PP 02 28 07.6 +0.2**
GTA S **S 02 33 04.1 -0.4**
GTA sS pS 02 33 14.1 -0.4
GTA ScS **ScS 02 36 13.4 +2.2**
GTA SS SS 02 36 19.8 -11
GTA pmax pmax
comp=Z,7.0nm,0.9s
GTA pmax pmax
comp=Z,630nm,6.2s
GTA LR LR
comp=Z,3μm,22.1s
GTA LR LR
comp=Z,4μm,20.2s
GTA LR LR
comp=Z,2μm,19.2s
GKN Gorkha 47.02 313 *e*P **P 02 26 20.8 -1.2**
comp=Z,84nm,0.7s
RPR Rampur 47.02 299 *e*P **P 02 26 21.9 0.0**
HYB Hyderabad 47.15 297 *i* P **P 02 26 22.0 -1.0**
comp=Z,95nm,1.0s
HYB Hyderabad 47.15 297 *e*P **P 02 26 20.4 -2.6**
HYB IAmb IAmb 02 26 28.8
comp=Z,339nm,2.0s
HYBB Hyderabad (bro 47.15 297 *e*P **P 02 26 22.4 -0.6**
DZM Mont Dzumac 47.36 118 *e*P **P 02 26 24.3 -0.4**
comp=Z,156nm,1.4s
DZM *e*S **S 02 33 18.0 +0.8**
comp=Z,3μm,25.9s
DZM *e*LQ LQ 02 37 45.6
comp=Z,19μm,31.1s
DZM *e*LR LR 02 39 55.8
comp=Z,7μm,26.6s
USRK Ussuriysk Ar. 47.49 10 P **P 02 26 22.8 -2.4**
comp=Z,4.0nm,0.6s,baz=192,slow=7.1,SNR=14
USRK LR LR 02 46 49.4
comp=Z,2μm,19.6s,baz=179,slow=37
URV Uravakonda 47.51 293 *e*P **P 02 26 24.2 -1.7**
MDJ Mudanjiang 47.54 7 *e*P **P 02 26 27.0 +1.5**
comp=Z,65nm,1.0s
MDJ LR LR
comp=Z,4μm,19.0s
KOLN Koldanda 47.66 312 *e*P **P 02 26 26.0 -1.0**
comp=Z,393nm,1.4s
DANN Dangsing 47.85 313 *e*P **P 02 26 28.1 -0.5**
SRSP Sriramsagar 47.88 298 *e*P **P 02 26 26.6 -2.1**
NGP Nagpur 48.14 302 *e*P **P 02 26 29.9 -0.7**
NGP IAmb IAmb 02 26 36.0
comp=Z,85nm,0.9s
PYUN Piuthan 48.29 312 *e*P **P 02 26 31.1 -0.8**
comp=Z,390nm,1.1s
ERM Erimo 48.45 21 *e*P **P 02 26 32.6 0.0**
comp=Z,52nm,0.9s
ERM LR LR
comp=Z,4μm,21.0s
ERM Erimo 48.45 21*ce*P **P 02 26 31.3 -1.3**
ERM pmax pmax
comp=Z,33nm,1.2s
WAKE Wake Island 49.08 62 PFAKE 02 26 50.0 +12
WAKE LR LR
comp=Z,2μm,20.0s
KLRI Killari 49.12 297 *e*P **P 02 26 37.3 -1.0**
TEY Ternei 49.24 14 *e*P **P 02 26 37.0 -1.6**
TEY pmax pmax
comp=Z,700nm,5.0s
H08S2 Diego Garcia H 49.43 262 P **P 02 26 39.8 -0.5**
H08S3 Diego Garcia H 49.43 262 P **P 02 26 39.4 -0.9**
H08S1 Diego Garcia H 49.44 262 P **P 02 26 40.7 +0.3**
DGAR Diego Garcia 49.45 263 PFAKE 02 26 50.0 +9.2
DGAR LR LR
comp=Z,2μm,20.0s
DGAR Diego Garcia 49.45 263 *e*P **P 02 26 38.4 -2.4**
ASAJ Asahikawa 50.10 19 P **P 02 26 44.8 -0.4**
comp=Z,45nm,0.9s,baz=247,slow=10,SNR=16
ASAJ LR LR 02 49 12.0
comp=Z,5.8nm,19.3s,baz=202,slow=38
ASAJ Asahikawa 50.10 19 *e*P **P 02 26 44.9 -0.3**
comp=Z,39nm,0.8s
ASAJ Asahikawa 50.10 19 P **P 02 26 44.8 -0.4**
ASAJ pmax pmax
comp=Z,26nm,0.8s
ASAJ MLR MLR
comp=Z,6.0nm,19.3s
BHPL Bhopal 50.37 303 *e*P **P 02 26 45.7 -2.0**
BHPL IAmb IAmb 02 26 51.9
comp=Z,375nm,1.8s
H08N1 Diego Carcia H 50.84 264 P **P 02 26 46.2 -4.7**
baz=106,slow=4.5,SNR=6.3
GOA Goa 50.84 292 *e*P **P 02 26 50.4 -0.9**
GOA IAmb IAmb 02 26 58.4
comp=Z,49nm,1.1s
H08N2 Diego Garcia H 50.85 264 P **P 02 26 46.5 -4.5**
baz=106,slow=4.5,SNR=8.9
H08N3 Diego Garcia H 50.86 264 P **P 02 26 46.6 -4.5**
baz=106,slow=4.5,SNR=7.4
TARA Tarawa 51.17 86 PFAKE 02 27 10.0 +16
TARA LR LR
comp=Z,212nm,22.0s
YUK Yuzh-Kuril'sk 51.19 22 *e*P **P 02 26 55.3 +1.9**
YUK *i* S **S 02 34 14.3 +4.3**
YUK pmax pmax
comp=E,137nm,1.0s
YUK pmax pmax
comp=Z,298nm,1.1s
YUK pmax pmax
comp=N,177nm,0.8s
HIA Hailar 51.73 358 *e*P **P 02 26 56.3 -1.1**
comp=N,104nm,1.3s
HIA LR LR
comp=Z,2μm,20.0s
HIA Hailar 51.73 358 *e*P **P 02 26 56.3 -1.1**
HIA pmax pmax
comp=Z,104nm,1.3s
HIA MLR MLR
comp=Z,2μm,20.0s
POO Poona 51.74 296 *e*P **P 02 26 58.9 +0.9**
POO IAmb IAmb 02 27 23.8
comp=Z,646nm,3.6s
ULN Ulaanbaatar 51.94 347 *e*P **P 02 26 59.5 +0.4**
comp=Z,51nm,1.4s
ULN LR LR
comp=Z,4μm,20.0s
ULN Ulaanbaatar 51.94 347 *e*P **P 02 26 59.6 +0.4**
ULN pmax pmax
comp=Z,51nm,1.4s
ULN MLR MLR
comp=Z,4μm,20.0s
SONM Songino Array 52.06 347 P **P 02 26 58.4 -1.6**
comp=Z,6.8nm,1.0s,baz=164,slow=5.8,SNR=4.7
SONM LR LR 02 51 12.5
comp=Z,5μm,20.2s,baz=159,slow=39
KLR Kul'dur 52.36 8 P **P 02 27 00.8 -1.2**
comp=Z,0.4nm,0.7s,baz=204,slow=5.1,SNR=8.8
KLR Kul'dur 52.36 8 *e*P **P 02 27 00.3 -1.7**
YSS Yuzh-Sakhalins 52.68 18 *e*P **P 02 27 05.4 +0.9**
comp=Z,67nm,1.1s
YSS LR LR
comp=Z,953nm,22.0s
YSS Yuzh-Sakhalins 52.68 18‖ *e*P **P 02 27 05.8 +1.3**
YSS *e* 02 27 14.6
YSS *e* 02 27 19.0
YSS *e*S **S 02 34 26.1 -4.3**
YSS pmax pmax
comp=Z,30nm,0.9s
YSS pmax pmax
comp=Z,400nm,9.5s
YSS MLR MLR
comp=Z,1μm,19.0s
YSS MLR MLR
comp=N,1μm,18.0s
YSS MLR MLR
comp=E,1μm,15.0s
BOM Bombay 52.78 296 *ex* P 02 27 17.6 +12
KUR Kuril'sk 52.97 23 *e*P **P 02 27 07.5 +0.9**
KUR *e*S **S 02 34 36.0 +1.7**
KUR pmax pmax
comp=Z,212nm,1.5s
KUR pmax pmax
comp=Z,257nm,8.7s
KUR MLR MLR
comp=Z,862nm,18.0s
KUR MLR MLR
comp=N,478nm,19.0s
KUR MLR MLR
comp=E,652nm,17.0s
DDI Dehra Dun 53.12 312 *e*P **P 02 27 08.8 +0.7**
SMLA Simla 54.19 312 *e*P **P 02 27 14.5 -1.3**
SMLA IAmb IAmb 02 27 21.8
comp=Z,131nm,0.3s
GRNR Gornyy 54.63 11 *e*P **P 02 27 21.2 +2.5**
GRNR pmax pmax
comp=Z,21nm,1.0s
DHRM DHARAMSHALA 55.38 313 *e*P **P 02 27 22.2 -2.6**
DHRM IAmb IAmb 02 27 25.4
WMQ Urumqi 55.49 330 P **P 02 27 25.6 +0.5**
WMQ sP pP 02 27 33.3 -0.4
WMQ PcP **PcP 02 28 25.6 +0.6**
WMQ ScP **ScP 02 32 24.4 +2.2**
WMQ S **S 02 35 09.8 +1.1**
WMQ SS **SS 02 38 54.0 +0.1**
WMQ pmax pmax
comp=Z,85nm,1.5s
WMQ pmax pmax
comp=Z,1μm,4.1s
WMQ LR LR
comp=Z,7μm,21.5s
WMQ LR LR
comp=Z,9μm,20.7s
WMQ LR LR
comp=Z,7μm,28.5s
TYV Tymovskoe 56.18 16 *e*P **P 02 27 30.8 +1.0**
TYV *e*S **S 02 35 23.3 +6.0**
TYV pmax pmax
comp=Z,500nm,4.8s
TYV pmax pmax
comp=Z,21nm,1.1s
TYV smax smax
comp=E,2μm,15.7s
TYV MLR MLR
comp=Z,2μm,21.0s
TYV MLR MLR
comp=E,2μm,19.0s
TLY Talaya 56.29 346 PFAKE 02 27 40.0 +9.3
TLY LR LR
comp=Z,4μm,21.0s
TLY Talaya 56.29 346 *i* P **P 02 27 29.0 -1.7**
TLY pmax pmax
comp=Z,8.0nm,1.0s
ZEA Zeya 56.35 4 *e*P **P 02 27 31.5 +0.5**
ZEA *e*S **S 02 35 17.0 -2.6**
ZEA *e* 02 37 20.5
ZEA pmax pmax
comp=Z,400nm,8.0s
ZEA pmax pmax
comp=N,46nm,1.4s
ZEA pmax pmax
comp=Z,53nm,1.2s
ZEA smax smax
comp=N,700nm,15.0s
ZEA smax smax
comp=E,700nm,15.0s
ZEA MLR MLR
comp=Z,3μm,18.0s
ZEA MLR MLR
comp=E,2μm,20.0s
ZEA MLR MLR
comp=N,3μm,19.0s
IRK Irkutsk 56.67 347 *e*P **P 02 27 32.3 -1.1**
IRK pmax pmax
comp=Z,79nm,3.0s
MOY Mondy 56.94 345 *e*P **P 02 27 35.1 -0.3**
MOY pmax pmax
comp=Z,50nm,2.6s
MSVF Nonsavu 57.04 109 *e*P **P 02 27 37.5 +0.8**
comp=Z,113nm,1.0s
MSVF LR LR
comp=Z,2μm,19.0s
MSVF Nonsavu 57.04 109 *e*P **P 02 27 37.5 +0.8**
MSVF pmax pmax
comp=Z,113nm,1.0s
MSVF MLR MLR
comp=Z,2μm,19.0s
FUNA Funafuti 57.28 98 PFAKE 02 27 50.0 +12
FUNA LR LR
comp=Z,4μm,19.0s
NKL Nikolayevsk 57.78 13 *e*P **P 02 27 40.0 -1.1**
NKL *e*S **S 02 35 38.0 -0.4**
NKL pmax pmax
comp=N,19nm,1.1s
NKL pmax pmax
comp=E,13nm,1.1s
NKL pmax pmax
comp=Z,66nm,1.1s
NKL pmax pmax
comp=Z,500nm,8.0s
NKL smax smax
comp=E,2μm,16.0s
NKL MLR MLR
comp=N,2μm,18.0s
NKL MLR MLR
comp=Z,2μm,18.0s
OUZ Omahuta 57.79 131 *e*P **P 02 27 43.9 +2.4**
comp=Z,69nm,1.4s
DCZ Deep Cove 58.18 144 *e*P **P 02 27 48.1 +4.0**
comp=Z,116nm,1.3s
NIL Nilore 58.30 313 *e*P **P 02 27 42.8 -2.5**
comp=Z,68nm,0.6s
NIL LR LR
comp=Z,2μm,19.0s
NIL Nilore 58.30 313 *e*P **P 02 27 42.8 -2.5**
NIL pmax pmax
comp=Z,68nm,0.6s
NIL MLR MLR
comp=Z,2μm,19.0s
MLZ Mavora Lakes 58.70 143 *e*P **P 02 27 48.9 +1.1**
comp=Z,72nm,1.2s
HVS Khovu-Aksy 58.72 340 *e*P **P 02 27 46.1 -1.8**
HVS pmax pmax
comp=Z,52nm,1.0s
WHZ Wether Hill Ro 58.88 144 *e*P **P 02 27 49.9 +0.9**
comp=Z,80nm,1.1s
CLNS Chul'man 59.33 2 *e*P **P 02 27 54.8 +2.9**
CLNS *e**PP sP 02 28 11.7 +7.8
CLNS *e* 02 28 43.0
CLNS *e* 02 30 01.7
CLNS *e*PPP PPP 02 31 24.8
CLNS *e*S **S 02 35 56.2 -2.4**
CLNS *e*SS **SS 02 39 57.8 +4.0**
CLNS pmax pmax
comp=Z,40nm,0.9s
CLNS pmax pmax
comp=E,16nm,1.1s
CLNS pmax pmax
comp=N,20nm,1.0s
CLNS pmax pmax
comp=E,13nm,1.2s
CLNS pmax pmax
comp=Z,9.0nm,1.2s
CLNS pmax pmax
comp=N,15nm,1.2s
CLNS smax smax
comp=E,426nm,11.8s
CLNS smax smax
comp=N,236nm,20.3s
CLNS MLR MLR
comp=Z,803nm,15.0s
CLNS MLR MLR
comp=N,673nm,15.0s
CLNS MLR MLR
comp=E,513nm,17.0s
KSH Kashi 59.43 320 P **P 02 27 52.1 -1.0**
KSH pP pP 02 27 56.8 -4.9
KSH S **S 02 36 00.1 -0.6**
KSH ScS **ScS 02 37 37.3 -4.4**
KSH pmax pmax
comp=E,120nm,0.9s
KSH pmax pmax
comp=E,900nm,4.5s
KSH LR LR
comp=E,3μm,13.6s
KSH LR LR
comp=E,3μm,14.4s
KSH LR LR
comp=E,6μm,19.6s
LBZ Lake Benmore 59.45 142 *e*P **P 02 27 53.7 +0.7**
comp=E,71nm,1.1s
ZSN Zaisan 59.48 332 *e*P **P 02 27 53.7 +0.5**
comp=E,80nm,1.2s
ZSN *i* S **S 02 36 04.4 +3.5**
PDGK Podgornoye 59.53 325 P **P 02 27 51.6 -2.1**
PDGK pmax pmax
comp=Z,51nm,1.5s
PRZ Przheval'sk 59.64 324 P **P 02 27 55.6 +1.0**
RPZ Rata Peaks 59.66 141 P **P 02 27 53.8 -0.7**
comp=Z,160nm,0.9s,baz=340,slow=2.4,SNR=27
RPZ Rata Peaks 59.66 141 *e*P **P 02 27 54.2 -0.3**
UZB Uzynbulak 59.69 325 *e*P **P 02 27 53.9 -0.9**
comp=Z,166nm,1.5s
UZB *e*S **S 02 36 04.6 +0.7**
UZB LR LR 02 56 02.3
comp=Z,522nm,15.8s
THZ Tophouse 59.97 138 *e*P **P 02 27 57.4 +0.7**
comp=Z,73nm,1.0s
SATY Saty 59.99 324 *e*P **P 02 27 56.1 -0.8**
comp=Z,631nm,1.2s
SATY *e*S **S 02 36 08.5 +0.7**
DGZ Jazzator, Alta 59.99 335 *i* P **P 02 27 55.9 -0.9**
DGZ pmax pmax
comp=Z,17nm,0.9s
LTZ Lake Taylor 60.01 139 *e*P **P 02 28 00.4 +3.5**
comp=Z,57nm,1.3s
ZHN Zhinishke 60.04 324 *e*P **P 02 27 56.0 -1.2**
comp=Z,182nm,1.4s
ZHN *e*S **S 02 36 08.9 +0.5**
KPKS Kokpek 60.08 325 *e*P **P 02 27 56.2 -1.2**
comp=Z,488nm,1.3s
KPKS *i* S **S 02 36 08.9 0.0**
OXZ Oxford 60.11 140 *e*P **P 02 28 00.3 +2.8**
comp=Z,41nm,0.8s
KDJ Kajisay 60.16 323 *e*P **P 02 27 57.4 -0.7**
comp=Z,34nm,1.0s
KDJ Kajisay 60.16 323 P **P 02 27 57.4 -0.7**
MK31 Makanchi Array 60.29 330 *e*P **P 02 27 57.7 -1.0**
MK31 Makanchi Array 60.29 330 *e*P **P 02 27 57.1 -1.6**
MK31 pmax pmax
comp=Z,20nm,0.8s
MKAR Makanchi Array 60.29 330 P **P 02 27 56.5 -2.2**
comp=Z,21nm,0.7s,baz=129,slow=6.2,SNR=22
MKAR PKPPKP **P'P'df 02 57 18.7 -2.6**
comp=Z,0.6nm,0.9s,baz=328,slow=4.3,SNR=3.6
MKAR Makanchi Array 60.29 330 *e*P **P 02 27 57.7 -1.0**
MKAR P'P' 02 57 18.7
MKAR Makanchi Array 60.29 330 *e*P **P 02 27 57.7 -1.0**
MAKZ Makanchi 60.45 330 *e*P **P 02 28 00.7 +0.8**
comp=Z,60nm,1.3s
MAKZ Makanchi 60.45 330 P **P 02 28 01.0 +1.1**
NRN Naryn 60.48 322 P **P 02 27 59.1 -1.4**
BOD Bodaibo 60.59 355 *e*P **P 02 27 59.2 -1.3**
BOD pmax pmax
comp=Z,46nm,1.3s
SKR Severo-Kuril's 60.64 24 *e*P **P 02 28 00.1 -0.9**
SKR *e* 02 30 19.2
SKR *e*S **S 02 36 19.3 +3.7**
SKR pmax pmax
comp=Z,400nm,4.7s
SKR pmax pmax
comp=Z,700nm,3.2s
SKR pmax pmax
comp=Z,109nm,1.1s
SKR MLR MLR
comp=Z,1μm,20.0s
SKR MLR MLR
comp=Z,900nm,19.0s
KHZ Kahutara 60.68 138 *e*P **P 02 28 02.4 +1.0**
comp=Z,88nm,1.1s
MQZ McQueen's Vall 60.68 140 *e*P **P 02 28 05.4 +4.0**
comp=Z,178nm,1.7s
ULHL Ulahol 60.80 323 P **P 02 27 59.2 -3.3**
SNR=6.2
MDOK Medeo 60.85 324 *e*P **P 02 28 01.7 -1.1**
comp=Z,238nm,2.5s
MDOK *i* S **S 02 36 19.2 +0.3**
MDOK *i* S S 02 36 19.3 +0.4
MDOK LR LR 02 54 13.0
comp=Z,1μm,18.9s
AAA Alma-Ata 60.95 324 *e*P **P 02 28 02.5 -0.9**
AAA *e*S **S 02 36 20.5 +0.5**
AAA LR LR 02 54 39.4
comp=Z,501nm,18.9s
AAA Alma-Ata 60.95 324 *e*P **P 02 28 03.2 -0.2**
AAA *e*S **S 02 36 21.9 +1.9**
AAA pmax pmax
comp=Z,300nm,6.7s
AAA smax smax
comp=E,400nm,6.0s
AAA MLR MLR
comp=Z,1μm,21.0s
SNZO South Karori 61.00 137 PFAKE 02 28 20.0 +16
SNZO LR LR
comp=Z,5μm,20.0s
SFK Sufi-Kurgan 61.30 319 P **P 02 28 04.0 -2.0**
SFK pmax pmax
comp=Z,41nm,1.2s
BKZ Black Stump Fm 61.41 134 *e*P **P 02 28 07.6 +1.0**
comp=Z,120nm,1.5s
URZ Urewera 61.53 133 P **P 02 28 07.3 0.0**
comp=Z,45nm,1.1s,baz=22,slow=7.5,SNR=4.3
TKM2 Tokmak 2 61.57 323 P **P 02 28 05.5 -2.3**
TKM2 pmax pmax
comp=Z,52nm,1.4s
BMNS Besmoynak 61.64 323 *e*P **P 02 28 07.3 -0.8**
comp=Z,207nm,1.3s
BMNS *e*S **S 02 36 29.2 +0.2**
BMNS LR LR 02 56 14.9
comp=Z,607nm,18.2s
KUU Kurty 61.69 324 *e*P **P 02 28 06.9 -1.4**

KUU e S S 02 36 29.5 +0.2
KBK Karagaybulak 61.82 322 P P 02 28 09.2 -0.2
SNR=7.7
KBL Kabul 61.82 312 eP P 02 28 06.8 -2.8
comp=Z,54nm,0.8s
KBL Kabul 61.82 312 eP P 02 28 06.8 -2.8
KBL pmax pmax
comp=Z,54nm,0.8s
UCH Uchtor 61.85 322 P P 02 28 09.0 -0.9
SNR=5.6
AAK Ala-Archa 62.08 322 P P 02 28 09.8 -1.4
comp=Z,14nm,0.9s,baz=172,slow=6.8,SNR=16
AAK Ala-Archa 62.08 322 P P 02 28 10.2 -0.9
SNR=9.1
AAK Ala-Archa 62.08 322 eP P 02 28 08.1 -3.0
comp=Z,43nm,1.1s
AAK LR LR
comp=Z,2µm,20.0s
AAK Ala-Archa 62.08 322 P P 02 28 10.4 -0.7
SNR=19
AAK Ala-Archa 62.08 322 P P 02 28 10.4 -0.7
SNR=19
AAK Ala-Archa 62.08 322 *i* P P 02 28 11.7 +0.5
SNR=10
AAK Ala-Archa 62.08 322 *i* P P 02 28 11.7 +0.5
SNR=10
AAK Ala-Archa 62.08 322 eP P 02 28 08.1 -3.0
AAK pmax pmax
comp=Z,43nm,1.1s
AAK MLR MLR
comp=Z,2µm,20.0s
FRU Bishkek 62.12 322 eP P 02 28 12.0 +0.8
FRU *e* 02 36 26.0
FRU *e* 02 37 00.0
AML Almayashu 62.30 321 P P 02 28 12.0 -0.9
SNR=25
EKS2 Erkin-Say 62.54 322 P P 02 28 13.3 -0.8
SNR=12
RAO Raoul Island 62.86 122 PFAKE 02 28 30.0 +14
RAO LR LR
comp=Z,3µm,20.0s
PEA0B Petropavlovsk- 63.13 23 eP P 02 28 18.6 +0.9
comp=Z,155nm,1.2s
PETK Petropavlovsk- 63.13 23 P P 02 28 16.9 -0.8
comp=Z,15nm,0.7s,baz=197,slow=4.3,SNR=13
PETK LR LR 02 54 51.9
comp=Z,2µm,21.1s,baz=219,slow=35
PETK Petropavlovsk- 63.13 23 eP P 02 28 17.5 -0.2
PETK Petropavlovsk- 63.13 23 eP P 02 28 17.5 -0.2
MNAS Manas 63.24 321 P P 02 28 17.1 -1.7
MNAS pmax pmax
comp=Z,47nm,1.3s
PET Petropavlovsk 63.45 24 eP P 02 28 20.3 +0.5
comp=Z,288nm,1.4s
PET LR LR
comp=Z,1µm,21.0s
PET Petropavlovsk 63.45 24*ce*P P 02 28 21.7 +2.0
PET *e* 02 28 55.2
PET *i* S S 02 36 54.1 +3.2
PET pmax pmax
comp=Z,700nm,5.4s
PET pmax pmax
comp=Z,400nm,8.2s
PET pmax pmax
comp=Z,159nm,1.4s
BTLS Baital 63.70 324 eP P 02 28 21.2 -0.5
comp=Z,135nm,1.6s
BTLS *i* S S 02 36 55.5 +1.1
BTLS LR LR 02 56 54.9
comp=Z,620nm,16.1s
SEM Semipalatinsk 63.73 332 eP P 02 28 21.1 -1.0
comp=Z,155nm,1.2s
SEM eS S 02 36 55.5 +0.4
SEM LR LR 02 57 08.2
comp=Z,768nm,16.1s
DZET Dzherino 63.86 316 P P 02 28 20.3 -2.7
DZET pmax pmax
comp=Z,58nm,1.2s
CASY Casey 64.03 185 eP P 02 28 24.0 +0.6
comp=Z,62nm,1.3s
CASY LR LR
comp=Z,493nm,21.0s
DZA Taraz 64.19 321 eP P 02 28 23.7 -1.3
ZAA0 Zalesovo Array 64.26 337 eP P 02 28 23.4 -1.7
comp=Z,40nm,1.0s
ZALV Zalesovo Beam 64.26 337 P P 02 28 22.0 -3.1
comp=Z,14nm,0.8s,baz=134,slow=5.1,SNR=14
IUG luzhnay 64.64 320 eP P 02 28 26.4 -1.6
comp=Z,329nm,0.9s
IUG eS S 02 37 06.8 +0.3
KURBB Kurchatov Arra 64.69 331 P P 02 28 25.8 -2.2
comp=Z,19nm,0.9s,baz=132,slow=6.1,SNR=23
KURK Kurchatov 64.71 331 eP P 02 28 27.0 -1.1
comp=Z,115nm,1.0s
KURK LR LR
comp=Z,6µm,22.0s
KURK Kurchatov 64.71 331 P P 02 28 27.8 -0.4
SNR=25
KURK Kurchatov 64.71 331 P P 02 28 27.8 -0.4
SNR=25
KURK Kurchatov 64.71 331 eP P 02 28 26.4 -1.7
KURK pmax pmax
comp=Z,52nm,0.9s
YAK Yakutsk 64.76 4 eP P 02 28 28.1 -0.2
comp=Z,126nm,0.8s
YAK LR LR
comp=Z,2µm,21.0s
YAK Yakutsk 64.76 4 eP P 02 28 25.9 -2.3
YAK *e* 02 29 01.4
YAK eS S 02 37 04.5 -2.4
YAK *e**SS sS 02 37 21.6 +0.3
YAK *i* 02 38 19.7
YAK pmax pmax
comp=Z,25nm,0.8s
YAK pmax pmax
comp=N,10.0nm,1.0s
YAK pmax pmax
comp=E,6.0nm,1.0s
YAK pmax pmax
comp=Z,22nm,0.7s
YAK pmax pmax
comp=N,20nm,1.0s
YAK pmax pmax
comp=E,27nm,1.3s
YAK smax smax
comp=E,249nm,5.0s
YAK smax smax
comp=N,94nm,3.8s
YAK MLR MLR
comp=Z,1µm,22.0s
YAK MLR MLR
comp=N,3µm,22.0s
YAK MLR MLR
comp=E,1µm,21.0s
KK31 Karatay Array 64.81 321 eP P 02 28 27.7 -1.3
KK31 Karatay Array 64.81 321 *i* P P 02 28 26.5 -2.5
KK31 pmax pmax
comp=Z,8.0nm,0.8s
KKAR Karatay Array 64.81 321 eP P 02 28 27.0 -2.0
KKAR Karatay Array 64.81 321 eP P 02 28 27.7 -1.3
BRLS Boroldaу 65.20 320 eP P 02 28 30.1 -1.5
comp=Z,7.3nm,1.4s
BRLS *i* S S 02 37 13.1 -0.1
NVS Novosibirsk 65.54 337 eP P 02 28 31.5 -1.9
NVS *e* 02 29 02.9
NVS pmax pmax
comp=Z,69nm,1.9s
NVS pmax pmax
comp=N,18nm,1.1s
NVS pmax pmax
comp=E,23nm,1.4s
MA2 Magadan 66.05 16 P P 02 28 36.6 0.0
comp=E,87nm,1.0s,baz=199,slow=7.6,SNR=12
MA2 Magadan 66.05 16⇑*e*P P 02 28 37.0 +0.3
AFI Afiamalu 66.40 104 P P 02 28 42.0 +2.1
comp=E,19nm,0.2s,baz=232,slow=8.6,SNR=3.6
AFI LR LR 02 56 50.1
comp=E,601nm,21.1s,baz=274,slow=35
AFI Afiamalu 66.40 104 eP P 02 28 42.9 +3.0
comp=E,146nm,1.2s
AFI Afiamalu 66.40 104 eP P 02 28 42.9 +3.0
AFI pmax pmax
comp=Z,146nm,1.2s
WSAR Wadi Sarin 66.70 297 P P 02 28 40.3 -1.3
comp=Z,8.4nm,0.8s,baz=144,slow=8.6,SNR=6.0
WSAR LR LR 02 58 51.1

comp=Z,2µm,20.6s,baz=120,slow=37
RER Rivière de l'E 66.83 248 PFAKE 02 28 50.0 +7.5
RER LR LR
comp=Z,5µm,21.0s
MIR Mirnyy 66.93 192⇓*i*P P 02 28 45.0 +2.9
MIR *i* 02 29 11.0
MIR pmax pmax
comp=Z,105nm,1.0s
MIR MLR MLR
comp=Z,4µm,17.0s
BIDO Bidbid 67.22 297 pP P 02 28 50.0 +5.1
SNR=7.2
BRZS Berezniki 67.27 328 eP P 02 28 44.2 -0.5
comp=Z,27nm,1.2s
BRZS *i* S S 02 37 39.4 +1.4
SOHO SOHO 68.78 297 P P 02 28 53.0 -1.6
SOHO SOHO 68.78 297 P P 02 28 53.0 -1.6
UOSS Minazif 69.25 298 eP P 02 28 56.9 -0.7
comp=Z,29nm,1.1s
UOSS Minazif 69.25 298 P P 02 28 55.5 -2.1
UOSS Minazif 69.25 298 P P 02 28 55.5 -2.1
HATD Hatta, Dubai 69.29 298 pP P 02 29 03.0 +5.1
SNR=6.2
HATD Hatta, Dubai 69.29 298 *i* P P 02 28 57.0 -0.8
SNR=8.0
HATD Hatta, Dubai 69.29 298 *i* P P 02 28 57.0 -0.8
SNR=8.0
SEY Seymchan 69.32 14 P P 02 28 57.9 +0.8
comp=Z,28nm,1.1s,baz=222,slow=5.3,SNR=13
SEY Seymchan 69.32 14*ce*P P 02 28 56.6 -0.6
ASHO Ashiyiah 69.33 297 pP P 02 29 02.7 +4.6
SNR=7.1
ASHO Ashiyiah 69.33 297 *i* P P 02 28 57.5 -0.6
SNR=9.9
ASHO Ashiyiah 69.33 297 *i* P P 02 28 57.5 -0.6
SNR=9.9
MSFE Esma-Masafi 69.39 298 P P 02 28 57.5 -1.0
MSFE Esma-Masafi 69.39 298 P P 02 28 57.5 -1.0
ALNE Al Ain 69.46 297 *i* P P 02 28 58.1 -0.8
SNR=16
ALNE Al Ain 69.46 297 *i* P P 02 28 58.1 -0.8
SNR=16
NAZ Nazwa, Dubai 69.74 298 P P 02 28 59.2 -1.4
NAZ Nazwa, Dubai 69.74 298 P P 02 28 59.2 -1.4
WHFO Wadi Hawf 70.09 290 pP P 02 29 06.0 +3.1
SNR=5.4
WHFO Wadi Hawf 70.09 290 P P 02 29 06.0 +3.1
SNR=5.4
BVA0 Borovoye Array 70.17 330 *i* P P 02 28 59.9 -2.8
BVA0 pmax pmax
comp=Z,41nm,1.3s
BVAR Borovoye Array 70.17 330 P P 02 29 00.7 -1.9
comp=Z,9.7nm,1.0s,baz=132,slow=8.2,SNR=12
BVAR LR LR 03 02 35.4
comp=Z,2µm,21.5s,baz=122,slow=38
BRVK Borovoye 70.24 330 eP P 02 29 00.9 -2.2
comp=Z,38nm,1.0s
BRVK LR LR
comp=Z,2µm,21.0s
BRVK Borovoye 70.24 330 P P 02 29 02.6 -0.5
SNR=14
BRVK Borovoye 70.24 330 P P 02 29 02.6 -0.5
SNR=14
BRVK Borovoye 70.24 330 eP P 02 29 00.6 -2.5
BRVK pmax pmax
comp=Z,22nm,1.1s
AJN Ajban 70.25 297 *i* P P 02 29 02.4 -1.3
SNR=7.8
AJN Ajban 70.25 297 *i* P P 02 29 02.4 -1.3
SNR=7.8
GEYT Alibeck 71.27 311 P P 02 29 08.2 -1.5
comp=Z,12nm,0.8s,baz=132,slow=4.2,SNR=17
GEYT LR LR 03 04 57.6
comp=Z,3µm,20.9s,baz=115,slow=40
GYA0B ALIBECK ARRAY 71.27 311 eP P 02 29 08.7 -1.0
comp=Z,47nm,1.3s
AB31 Akbulak array 74.14 323 P P 02 29 23.2 -3.3
AB31 pmax pmax
comp=Z,8.0nm,0.8s
ABKAR Akbulak array 74.14 323 eP P 02 29 23.6 -2.9
comp=Z,80nm,0.8s
TIXI Tiksi 74.29 2 P P 02 29 24.8 -2.1
comp=Z,21nm,0.7s,baz=192,slow=1.4,SNR=12
TIXI Tiksi 74.29 2 eP P 02 29 24.4 -2.4
comp=Z,75nm,1.0s
TIXI LR LR
comp=Z,3µm,20.0s
TIXI Tiksi 74.29 2 eP P 02 29 25.2 -1.7
TIXI pmax pmax
comp=Z,69nm,1.0s
ABPO Ambohimpanom 74.65 251 eP P 02 29 31.5 +1.2
ABPO LR LR
comp=Z,966nm,19.0s
ABPO Ambohimpanom 74.65 251 eP P 02 29 31.5 +1.2
ABPO MLR MLR
comp=Z,966nm,19.0s
OPO Ambohidratompo 74.67 252 P P 02 29 29.9 -0.5
comp=Z,35nm,1.0s,baz=59,slow=1.8,SNR=11
AKTO Aktyubinsk 75.75 324 P P 02 29 33.3 -2.4
comp=Z,12nm,0.8s,baz=80,slow=6.4,SNR=17
AKTO LR LR 03 06 51.1
comp=Z,2µm,21.8s,baz=127,slow=39
MAW Mawson 76.16 200 P P 02 29 38.7 +0.9
comp=Z,47nm,1.1s,baz=68,slow=6.4,SNR=17
MAW Mawson 76.16 200 P P 02 29 39.5 +1.7
baz=76,SNR=8.2
MAW Mawson 76.16 200 eP P 02 29 39.3 +1.6
MAW pmax pmax
comp=Z,9.0nm,1.0s
BILL Bilibino 76.92 16*c* P P 02 29 41.9 -0.2
BILL *e* 02 29 51.7
BILL *e* 02 29 59.2
BILL *e* 02 32 34.9
BILL *e*PPP PPP 02 34 22.0
BILL *i* S S 02 39 27.9 -0.1
BILL pmax pmax
comp=Z,31nm,1.1s
BILL MLR MLR
comp=Z,1µm,18.0s
SVE Sverdlovsk 76.94 330 eP P 02 29 40.6 -1.8
SVE eS S 02 39 26.5 -2.1
SVE pmax pmax
comp=Z,92nm,1.2s
SVE MLR MLR
comp=Z,2µm,24.0s
ARU Arti 77.81 329 P P 02 29 45.7 -1.5
comp=Z,12nm,0.8s,baz=106,slow=6.0,SNR=9.4
ARU Arti 77.81 329 eP P 02 29 45.5 -1.8
comp=Z,45nm,1.1s
ARU LR LR
comp=Z,2µm,21.0s
ARU Arti 77.81 329*c* P P 02 29 45.2 -2.0
ARU 02 32 36.5
ARU S S 02 39 39.2 +1.1
ARU pmax pmax
comp=Z,25nm,1.0s
ARU MLR MLR
comp=Z,2µm,24.0s
VNDA Vanda 77.81 172 P P 02 29 46.3 -0.6
comp=Z,5.2nm,0.8s,baz=308,slow=7.7,SNR=15
VNDA LR LR 03 04 12.4
comp=Z,3µm,18.7s,baz=333,slow=36
VNDA Vanda 77.81 172 eP P 02 29 46.5 -0.4
VNDA Vanda 77.81 172 eP P 02 29 46.5 -0.4
LKRN Lenkeran, Azer 78.55 310 P P 02 29 50.5 -1.2
RAYN Ar Rayn 78.60 294 eP P 02 29 51.2 -1.2
comp=Z,26nm,1.3s
RAYN LR LR
comp=Z,4µm,20.0s
ATD Arta Tunnel 79.81 282 LR LR 03 03 57.4
comp=Z,1µm,19.4s,baz=87,slow=35
MNGR Mingechevir, A 80.26 312 P P 02 29 59.9 -1.1
SEKA Sheki 80.27 312 P P 02 29 59.5 -1.7
MAK Makhachkala 80.42 314 eP P 02 29 57.6 -4.2
MAK *e* 02 33 01.8
MAK eS S 02 40 03.9 -2.5
MAK eSS SS 02 45 16.0 -2.6
MAK pmax pmax
comp=Z,130nm,1.6s
XMAS Kiritimati 80.77 88 PFAKE 02 30 20.0 +16
XMAS LR LR
comp=Z,2.0nm,20.0s
ZKTA Zakatala 80.78 313 P P 02 30 02.7 -1.2
GANJ Ganja 80.81 312 P P 02 30 02.7 -1.3
NAX Nakhchivan 81.15 310 P P 02 30 04.6 -1.3
GROC Groznyy 81.70 314 eP P 02 30 04.3 -4.3

GROC eS S 02 40 18.3 -1.4
GROC pmax pmax
comp=Z,27nm,1.0s
GNI Garni 81.90 311 P P 02 30 08.9 -1.1
comp=Z,6.2nm,0.8s,baz=117,slow=2.3,SNR=4.6
GNI LR LR 03 14 07.2
comp=Z,1µm,18.7s,baz=111,slow=41
GNI Garni 81.90 311 eP P 02 30 08.9 -1.1
comp=Z,81nm,1.5s
GNI Garni 81.90 311 pP P 02 30 11.3 +1.3
SNR=6.1
GNI Garni 81.90 311 P P 02 30 11.3 +1.3
SNR=6.1
GNI Garni 81.90 311 *i* P P 02 30 10.4 +0.4
SNR=5.9
GNI Garni 81.90 311 *i* P P 02 30 10.4 +0.4
SNR=5.9
GNI Garni 81.90 311*ce*P P 02 30 09.4 -0.6
GNI pmax pmax
comp=Z,103nm,1.7s
GAMB Gambell 82.14 24 eP P 02 30 12.3 +1.8
comp=Z,52nm,1.0s
TBLG Delisi 82.19 313 eP P 02 30 11.0 -0.3
comp=Z,33nm,1.0s
TBLG Delisi 82.19 313 eP P 02 30 11.0 -0.3
TBLG pmax pmax
comp=Z,33nm,1.0s
ZEI Tsey 82.99 313 eP P 02 30 13.3 -2.4
ZEI pmax pmax
comp=Z,33nm,0.9s
AKH Akhalkalaki 83.05 312⇑*i*P P 02 30 15.7 -0.3
AKH Akhalkalaki 83.05 312 eP P 02 30 15.5 -0.5
comp=Z,80nm,1.4s
AKH Akhalkalaki 83.05 312 eP P 02 30 15.5 -0.5
AKH pmax pmax
comp=Z,80nm,1.4s
NCK Nalchik 83.33 314 eP P 02 30 15.5 -1.7
NCK pmax pmax
comp=Z,17nm,1.0s
KBZ Khabaz 83.87 314 P P 02 30 17.2 -2.7
comp=Z,16nm,0.9s,baz=147,slow=2.8,SNR=21
NEY Neytrino 83.92 314 eP P 02 30 18.6 -1.8
NEY pmax pmax
comp=Z,4.0nm,0.9s
GOF Gofitskoye 83.99 316⇑*e*P P 02 30 20.1 -0.4
GOF *e*S S 02 40 43.0 0.0
GOF pmax pmax
comp=Z,42nm,1.0s
MLH Mauna Loa 84.02 70 eP P 02 30 25.3 +3.8
comp=Z,269nm,1.2s
MLH Mauna Loa 84.02 70 eP P 02 30 25.3 +3.8
MLH pmax pmax
comp=Z,269nm,1.2s
KIV Kislovodsk 84.06 314 eP P 02 30 20.4 -0.7
comp=Z,21nm,1.0s
KIV LR LR
comp=Z,1µm,19.0s
KIV Kislovodsk 84.06 314 P P 02 30 20.1 -0.9
KIV Kislovodsk 84.06 314 P P 02 30 20.1 -0.9
KIV Kislovodsk 84.06 314 eP P 02 30 20.2 -0.8
KIV *e* 02 33 33.1
KIV eS S 02 40 42.3 -1.6
KIV eSSS SSS 02 49 43.1
KIV pmax pmax
comp=Z,19nm,1.0s
KMBO Kilima Mbogo 84.60 269 P P 02 30 24.2 -0.3
comp=Z,15nm,1.0s,baz=54,slow=4.1,SNR=24
KMBO LR LR 03 04 20.8
comp=Z,2µm,21.4s,baz=88,slow=33
KMBO Kilima Mbogo 84.60 269 eP P 02 30 24.9 +0.3
comp=Z,34nm,1.1s
KMBO Kilima Mbogo 84.60 269 pP P 02 30 25.5 +0.9
SNR=11
KMBO Kilima Mbogo 84.60 269 P P 02 30 25.5 +0.9
SNR=11
KMBO Kilima Mbogo 84.60 269 *i* P P 02 30 25.3 +0.7
SNR=6.4
KMBO Kilima Mbogo 84.60 269 *i* P P 02 30 25.3 +0.7
SNR=6.4
KMBO Kilima Mbogo 84.60 269 eP P 02 30 25.4 +0.9
KMBO pmax pmax
comp=Z,35nm,1.1s
SYO Syowa Base 84.79 201⇑*i*P P 02 30 23.1 -0.9
VRH Novokhopyorsk 85.88 322 eP P 02 30 27.7 -2.1
VRH pmax pmax
comp=Z,100nm,0.9s
SOC Sochi 86.13 314*c* P P 02 30 30.0 -1.3
SOC *e* 02 33 49.2
SOC *e*PPP PPP 02 35 41.2
SOC eS S 02 40 54.6 -10
SOC eSS SS 02 46 42.0 -1.2
SOC pmax pmax
comp=Z,29nm,0.9s
SOC MLR MLR
comp=Z,1µm,21.0s
ASF Jabal al Asfar 87.15 302 P P 02 30 35.7 -0.9
comp=Z,11nm,0.8s,baz=63,slow=4.0,SNR=10
ASF LR LR 03 13 20.7
comp=Z,1µm,21.8s,baz=56,slow=38
QSPA South Pole Qui 87.32 180 P P 02 30 35.8 -1.0
comp=Z,27nm,1.0s,baz=327,slow=2.4,SNR=19
QSPA LR LR 03 09 30.7
comp=Z,1µm,20.2s,baz=340,slow=36
QSPA South Pole Qui 87.32 180 eP P 02 30 35.5 -1.2
comp=Z,92nm,0.9s
VSR Storozhevoye 87.47 321 eP P 02 30 36.3 -1.3
VSR pmax pmax
comp=Z,40nm,0.9s
VORR Voronezh 87.51 322 eP P 02 30 37.0 -0.8
LPSR Galich'ya Gora 87.80 323 eP P 02 30 37.8 -1.3
LPSR pmax pmax
comp=Z,50nm,0.8s
PPT2 Papeete2 87.81 107 eP P 02 30 37.8 -2.3
comp=Z,51nm,1.1s
PPT2 Papeete2 87.81 107 eS S 02 41 18.4 -3.3
comp=Z,1µm,26.5s
PPT2 Papeete2 87.81 107 eLQ LQ 02 54 45.6
comp=Z,2µm,30.0s
PPT2 LR LR 02 58 43.5
comp=Z,2µm,24.5s
ANN Anapa 87.90 315 eP P 02 30 35.7 -4.1
ANN eS SKSac 02 41 03.2 -3.2
ANN eSS SS 02 47 07.6 -1.4
ANN pmax pmax
comp=N,17nm,1.0s
ANN pmax pmax
comp=Z,92nm,1.0s
ANN pmax pmax
comp=E,19nm,1.0s
TIAR Tiarei 88.04 107 eP P 02 30 39.0 -2.1
comp=E,8.8nm,0.9s
TVO Taravao 88.12 108 eP P 02 30 39.2 -2.3
comp=E,18nm,1.1s
MMAI Mount Meron Ar 88.47 303 P P 02 30 42.2 -0.8
comp=E,6.0nm,0.7s,baz=93,slow=7.6,SNR=8.7
MMAI LR LR 03 16 33.2
comp=E,2µm,18.4s,baz=120,slow=40
KLMR Klimovskoe 88.56 331 eP P 02 30 38.7 -3.9
KLMR AMP 02 30 50.5
comp=Z,115nm,1.3s
KLMR *e*PP PP 02 34 12.3 +1.3
KLMR eS SKSac 02 41 07.3 -2.4
KLMR eS SKSac 02 41 07.3 -2.4
KLMR LQ LQ 03 04 43.8
KLMR LQ LQ 03 04 43.8
KLMR LR LR 03 12 20.7
KLMR Klimovskoe 88.56 331 eP P 02 30 38.7 -3.9
KLMR *e* 02 34 12.3
KLMR eS SKSac 02 41 07.3 -2.4
KLMR pmax pmax
comp=Z,115nm,1.3s
EIL Elat 88.63 300 P P 02 30 43.8 +0.1
comp=Z,12nm,1.0s,baz=310,slow=0.0,SNR=6.8
SVW2 Sparrevohn 88.67 29 eP P 02 30 44.8 +1.7
comp=Z,13nm,1.0s
MOS Moscow 88.92 326 eP P 02 30 48.4 +4.0
MOS *e* 02 41 06.9
MOS pmax pmax
comp=Z,31nm,0.9s
OBN Obninsk 89.46 325 P P 02 30 46.7 -0.2
comp=Z,9.7nm,0.4s,baz=359,slow=2.3,SNR=9.3
OBN Obninsk 89.46 325 eP P 02 30 46.1 -0.8
comp=Z,164nm,1.8s
OBN LR LR
comp=Z,1µm,20.0s
OBN Obninsk 89.46 325*ce*P P 02 30 45.9 -1.0

OBN *i* S **SKSac 02 41 15.4 +0.2**
OBN *i* SS **SS 02 47 36.5 +5.4**
OBN pmax pmax
comp=Z,41nm,1.2s
PMOR Pomariorio Ree 89.53 105 *e*P **P 02 30 45.9 -2.2**
comp=Z,116nm,1.3s
TMCR Tamitsa 89.67 334 *e*P **P 02 30 44.8 -2.9**
TMCR pmax pmax
comp=Z,60nm,1.3s
VAH Vaihoa 89.78 105 *e*P **P 02 30 46.9 -2.4**
comp=Z,63nm,1.1s
KDAK Kodiak Island 89.81 32 LR LR 03 09 45.3
comp=Z,453nm,19.1s,baz=287,slow=35
IM3 Indian Mountai 90.08 24 *e*P **P 02 30 49.2 -0.4**
SIM Simferopol' 90.26 315 *e*P **P 02 30 51.5 +0.5**
SIM *e* 02 34 29.0
SIM *e*PPP PPP 02 36 19.0
SIM *i* 02 41 19.0
SIM pmax pmax
comp=Z,14nm,0.7s
SIM pmax pmax
comp=Z,80nm,9.1s
CSS Mathiatis 90.31 305 *e*P **P 02 30 52.9 +1.5**
comp=Z,14nm,1.4s
CSS LR LR
comp=Z,559nm,20.0s
BR131 Keskin Array S 90.32 310 *e*P **P 02 30 49.2 -2.3**
BRTR Keskin Array B 90.32 310 P **P 02 30 48.8 -2.7**
comp=Z,5.6nm,0.7s,baz=124,slow=4.9,SNR=26
BRTR LR LR 03 19 14.6
comp=Z,770nm,19.1s,baz=98,slow=41
ILGA Ilgaz 90.33 311 *e*P **P 02 30 52.5 +0.8**
comp=Z,21nm,1.2s
CAST Castle Rocks 90.55 27 *e*P **P 02 30 54.0 +2.1**
comp=Z,8.6nm,0.8s
ANTO Ankara 90.98 310 *e*P **P 02 30 54.4 -0.1**
comp=Z,16nm,1.1s
ANTO LR LR
comp=Z,1µm,22.0s
ANTO Ankara 90.98 310 *e*P **P 02 30 54.4 -0.1**
ANTO pmax pmax
comp=Z,16nm,1.1s
ANTO MLR MLR
comp=Z,1µm,22.0s
MBAR Mbarara 91.13 269 P **P 02 30 53.9 -2.0**
comp=Z,10nm,0.8s,baz=86,slow=9.1,SNR=10.0
MBAR Mbarara 91.13 269 *e*P **P 02 30 55.9 0.0**
MBAR LR LR
comp=Z,356nm,19.0s
MBAR Mbarara 91.13 269 *e*P **P 02 30 55.9 0.0**
MBAR MLR MLR
comp=Z,356nm,19.0s
MLY Manley 91.25 25 *e*P **P 02 30 56.0 +0.8**
LVZ Lovozero 91.38 338 PFAKE 02 31 10.0 +14
LVZ LR LR
comp=Z,3µm,21.0s
LVZ Lovozero 91.38 338 *ce*P **P 02 30 55.9 +0.2**
LVZ pmax pmax
comp=Z,24nm,1.1s
COLD Coldfoot 91.59 23 *e*P **P 02 30 56.6 -0.1**
APA Apatity 91.83 337 ⇓*i*P P 02 30 52.6 -5.1
APA *i* 02 41 26.0
APA *i* S S 02 41 47.0 -10
APA *i* SS **SS 02 48 02.0 -2.8**
APA pmax pmax
comp=Z,21nm,0.9s
APA MLR MLR
comp=Z,2µm,22.0s
TOLK Toolik Lake Re 91.90 21 P **P 02 30 59.7 +1.6**
baz=268
MCK McKinley 91.97 26 *e*P **P 02 30 58.0 -0.5**
comp=Z,5.6nm,0.9s
MCK McKinley 91.97 26 *e*P **P 02 30 58.9 +0.4**
RND Reindeer 92.00 27 *e*P **P 02 30 59.3 +0.6**
RND Reindeer 92.00 27 *e*P **P 02 30 59.3 +0.6**
SML Sawmill 92.19 28 *e*P **P 02 31 00.6 +1.0**
comp=Z,6.0nm,0.9s
SML Sawmill 92.19 28 *e*P **P 02 31 00.6 +1.0**
SML pmax pmax
comp=Z,6.0nm,0.9s
WRH Wood River Hil 92.36 26 *e*P **P 02 31 00.6 +0.4**
COLA College 92.47 25 PFAKE 02 31 10.0 +9.3
COLA LR LR
comp=Z,705nm,22.0s
CCB Clear Creek Bu 92.49 26 *e*P **P 02 31 01.5 +0.6**
DHY Denali Highway 92.66 27 *e*P **P 02 31 02.9 +1.0**
ISP Isparta 92.68 308 ⇓*i*P **P 02 31 00.7 -1.8**
ISP Isparta 92.68 308 *e*P **P 02 31 00.7 -1.8**
comp=Z,49nm,1.6s
ISP LR LR
comp=Z,2µm,22.0s
ISP Isparta 92.68 308 *e*P **P 02 31 00.7 -1.8**
ISP pmax pmax
comp=Z,49nm,1.6s
ISP MLR MLR
comp=Z,2µm,22.0s
LSZ Lusaka 92.89 255 P **P 02 31 03.1 -0.8**
comp=Z,13nm,0.9s,baz=87,slow=3.2,SNR=18
LSZ Lusaka 92.89 255 *e*P **P 02 31 03.3 -0.6**
comp=Z,51nm,1.6s
LSZ LR LR
comp=Z,2µm,20.0s
LSZ Lusaka 92.89 255 *e*P **P 02 31 03.3 -0.6**
LSZ pmax pmax
comp=Z,51nm,1.6s
LSZ MLR MLR
comp=Z,2µm,20.0s
IL1 Eielson Array 92.89 25 *e*P **P 02 31 01.5 -1.2**
ILAR Eielson Array 92.89 25 P **P 02 31 01.6 -1.0**
comp=Z,2.2nm,1.1s,baz=274,slow=4.0,SNR=9.2
ILAR PKKPbc **PKKPdf 02 48 14.3 +0.5**
comp=Z,0.7nm,0.7s,baz=72,slow=0.9,SNR=8.3
ILAR LR LR 03 20 18.0
comp=Z,177nm,18.9s,baz=308,slow=40
ILB Eielson Array 92.89 25 *e*P **P 02 31 06.4 +3.7**
PAX Paxson 93.53 27 *e*P **P 02 31 07.2 +1.4**
PAX Paxson 93.53 27 *e*P **P 02 31 07.2 +1.4**
FYU Fort Yukon 93.55 24 *e*P **P 02 31 08.5 +2.9**
HARP HAARP 93.69 28 *e*P **P 02 31 11.1 +4.6**
AKASG Malin Array Be 93.72 320 P **P 02 31 02.9 -3.8**
comp=Z,3.5nm,0.8s,baz=72,slow=4.6,SNR=14
AKASG LR LR 03 17 19.0
comp=Z,900nm,21.6s,baz=80,slow=38
AKBB Malin Array Si 93.72 320 *e*P **P 02 31 06.2 -0.6**
AKBB Malin Array Si 93.72 320 *e*P **P 02 31 06.2 -0.6**
KIEV Kiev 93.72 320 *e*P **P 02 31 05.9 -1.0**
comp=Z,17nm,1.3s
KIEV LR LR
comp=Z,1µm,21.0s
KIEV Kiev 93.72 320 *e*P **P 02 31 05.6 -1.2**
KIEV pmax pmax
comp=Z,10.0nm,1.2s
AK11 Malin Array Si 93.75 320 *e*P **P 02 31 06.4 -0.5**
RIDG Independ'e Rid 93.80 26 *e*P **P 02 31 10.8 +3.9**
KIS Kishinev 94.01 317 *e*P **P 02 31 04.0 -4.2**
KIS Kishinev 94.01 317 *e*PP PP 02 34 50.0 -4.5
KIS *i* SKS **SKSac 02 41 43.0 +1.6**
KIS Kishinev 94.01 317 *i* PS PS 02 43 28.0 -6.9
KIS *e*SS SS 02 48 15.0 -22
KIS LRM MLR 03 26 36.0
comp=Z,900nm,20.0s
KIS Kishinev 94.01 317 *e*P **P 02 31 04.0 -4.2**
KIS *e* 02 34 50.0
KIS *i* 02 41 43.0
KIS *i* PS **PS 02 43 28.0 -6.9**
DOT Dot Lake 94.15 27 *e*P **P 02 31 08.3 -0.3**
comp=Z,14nm,1.1s
KEV Kevo 94.15 340 PFAKE 02 31 20.0 +12
KEV LR LR
comp=Z,2µm,20.0s
MANT Manisa 94.24 308 *e*P **P 02 31 10.3 +0.5**
comp=Z,48nm,1.0s
SORM Soroca 94.31 318 ⇓*i*P **P 02 31 06.2 -3.4**
SORM Soroca 94.31 318 ⇓P **P 02 31 06.2 -3.4**
TIRR Tirgusor 94.32 314 *e*P **P 02 31 13.5 +3.8**
TIRR Tirgusor 94.32 314 *e*P **P 02 31 13.5 +3.8**
CFR Carcaliu 94.50 315 ⇑*i*P **P 02 31 09.3 -1.2**
CFR Carcaliu 94.50 315 ⇑P **P 02 31 09.3 -1.2**
BOSA Boshof 94.58 241 P **P 02 31 09.8 -1.7**
comp=Z,11nm,1.0s,baz=90,slow=4.0,SNR=3.8
BOSA LR LR 03 11 03.2
comp=Z,2µm,18.7s,baz=99,slow=34
BOSA Boshof 94.58 241 *e*P **P 02 31 14.6 +3.1**
VSU Vasula 94.94 328 *ce*P **P 02 31 10.1 -2.1**
VSU pmax pmax
comp=Z,87nm,1.1s
FIA1 FINESS Array S 95.08 331 *e*P **P 02 31 15.5 +2.7**
NACGM Naroch 95.08 325 *e*P **P 02 31 14.0 +1.0**
NACGM *e*S **SKSac 02 41 50.0 +3.2**
NACGM *e*LQ LQ 03 03 14.0
NACGM *e*LR LR 03 10 28.0
FINES FINESS Array B 95.09 331 P **P 02 31 09.8 -3.1**
comp=Z,1.5nm,0.8s,baz=111,slow=7.6,SNR=4.8
FINES LR LR 03 19 51.1
comp=Z,599nm,18.1s,baz=98,slow=39
EGAK Eagle 95.34 25 *e*P **P 02 31 14.6 +0.7**
comp=Z,11nm,1.0s
EGAK LR LR
comp=Z,698nm,20.0s
KARP Karpathos 95.37 305 *e*P **P 02 31 15.9 +1.1**
VRI Vrincioaia 95.48 316 ⇓*i*P **P 02 31 14.4 -0.6**
VRI Vrincioaia 95.48 316 ⇓P **P 02 31 14.4 -0.6**
TESR Tescani 95.51 316 ⇓*i*P **P 02 31 12.4 -2.8**
SPA0 Spitsbergen Ar 95.73 348 *e*P **P 02 31 20.1 +4.6**
SPITS Spitsbergen Ar 95.73 348 LR LR 03 20 40.3
comp=Z,877nm,18.4s,baz=60,slow=40
MLR Muntele Rosu 96.04 315 P **P 02 31 15.5 -2.2**
comp=Z,0.6nm,0.8s,baz=220,slow=4.0,SNR=6.6
MLR LR LR 03 22 30.2
comp=Z,338nm,19.7s,baz=67,slow=40
MLR Muntele Rosu 96.04 315 ⇑*i*P **P 02 31 16.6 -1.2**
MLR Muntele Rosu 96.04 315 *e*P **P 02 31 17.6 -0.2**
MLR Muntele Rosu 96.04 315 *e*P **P 02 31 17.6 -0.2**
DAWY Dawson 96.17 26 *e*P **P 02 31 18.5 +0.7**
KBS Kingsbay 96.35 349 PFAKE 02 31 30.0 +12
KBS LR LR
comp=Z,2µm,22.0s
BURAR Bucovina Array 96.44 317 ⇑*i*P **P 02 31 17.9 -1.6**
BURAR Bucovina Array 96.44 317 ⇑P **P 02 31 17.9 -1.6**
BUR04 Bucovina Ar. S 96.44 317 *e*P **P 02 31 17.4 -2.1**
BUR08 Bucovina Ar. S 96.45 317 *e*P **P 02 31 17.6 -1.9**
SANT Santorini 96.74 306 PFAKE 02 31 30.0 +9.0
SANT LR LR
comp=Z,982nm,22.0s
ARR Arges 96.97 315 ⇓*i*P **P 02 31 20.4 -1.5**
LVV L'vov 97.08 320 *e*P **P 02 31 21.9 -0.3**
LVV *e* 02 41 56.0
LVV *e* 02 44 08.8
IDI Anoyia 97.23 305 LR LR 03 22 24.8
comp=Z,949nm,20.7s,baz=90,slow=40
SUW Suwalki 97.25 324 *e*P Pdif 02 31 24.8 +1.9
SUW Suwalki 97.25 324 *e*P Pdif 02 31 25.1 +2.2
SUW Suwalki 97.25 324 *e*P Pdif 02 31 24.8 +1.9
TAOE Nuku Hiva Isla 97.45 99 *e*LR LR 03 03 12.3
comp=Z,938nm,24.8s
CJR Cluj-Napoca 97.60 317 ⇑*i*P **P 02 31 20.0 -4.7**
CJR Cluj-Napoca 97.60 317 ⇑P **P 02 31 20.0 -4.7**
INK Inuvik 97.81 21 P Pdif 02 31 25.2 +0.1
comp=Z,10.0nm,1.3s,baz=275,slow=8.6,SNR=4.8
INK LR LR 03 21 09.6
comp=Z,269nm,18.7s,baz=284,slow=39
INK Inuvik 97.81 21 *e*P **P 02 31 24.9 -0.2**
comp=Z,3.4nm,1.2s
SNAA Sanae 97.86 195 P **P 02 31 24.2 -1.1**
SNAA Sanae 97.86 195 LR LR 03 11 07.8
comp=Z,3µm,21.8s,baz=109,slow=33
SNAA Sanae 97.86 195 *e*P Pdif 02 31 25.6 +0.2
SNAA Sanae 97.86 195 *e*P Pdif 02 31 25.6 +0.2
SUR Sutherland 97.94 237 PFAKE 02 31 40.0 +13
SUR LR LR
comp=Z,4µm,19.0s
KWP Kalwaria Pacla 97.95 320 *e*P Pdif 02 31 30.5 +4.3
KWP Kalwaria Pacla 97.95 320 *e*P Pdif 02 31 30.5 +4.3
TRPA Tarpa 98.20 318 ⇓*i*P Pdif 02 31 27.5 +0.2
DRGR 98.20 317 ⇑*i*P **P 02 31 27.2 -0.2**
DRGR 98.20 317 ⇑P **P 02 31 27.2 -0.2**
UZH Uzhgorod 98.32 319 *e*P Pdif 02 31 30.6 +2.8
UZH *e* 02 31 42.6
UZH *e* 02 35 32.6
UZH *e* 02 42 00.0
UZH *e*S **S 02 42 53.8 -0.3**
HERR Herculane 98.57 315 ⇑*i*P **P 02 31 26.8 -2.2**
WHY Whitehorse 98.76 29 *e*P Pdif 02 31 33.1 +3.4
CRVS Cervenica-Dubn 98.84 319 *e*PDIFF Pdif 02 31 30.7 +0.5
CRVS Cervenica-Dubn 98.84 319 *e*P Pdif 02 31 30.7 +0.5
VNA2 Neumayer--Watz 99.49 195 P **Pdif 02 31 31.4 -1.1**
baz=128,slow=2.8
NIE Niedzica 99.54 320 *e*P **Pdif 02 31 35.0 +1.7**
NIE Niedzica 99.54 320 *e*P **Pdif 02 31 35.0 +1.7**
OJC Ojcow 99.75 320 *e*P **Pdif 02 31 31.0 -3.2**
OJC Ojcow 99.75 320 *e*P **Pdif 02 31 31.0 -3.2**
VNA3 Neumayer Olymp 99.86 194 P **Pdif 02 31 34.7 +0.5**
PSZ Piszkesteto 99.99 318 PFAKE 02 31 50.0 +15
PSZ LR LR
comp=Z,656nm,20.0s
TIR Tirane 100.76 311 PFAKE 02 31 50.0 +11
TIR LR LR
comp=Z,2µm,22.0s
OKC Ostrava-Krasne 100.86 320 *e*SKS **SKSac 02 42 19.8 +3.4**
OKC AMS AMS 03 21 00.0
comp=Z,1µm,22.1s
WRAK Wrangell Islan 100.88 33 PFAKE 02 31 50.0 +11
WRAK LR LR
comp=Z,678nm,19.0s
RKT Rikitea 101.02 114 *e*SKSac **SKSac 02 42 15.4 -2.9**
comp=Z,629nm,31.8s
RKT Rikitea 101.02 114 *e*PS PS 02 44 52.4 +0.5
comp=Z,456nm,33.5s
RKT Rikitea 101.02 114 *e*LQ LQ 03 00 04.7
comp=Z,2µm,35.5s
RKT *e*LR LR 03 04 50.3
comp=Z,1µm,29.8s
HFS Hagfors 101.28 331 P **Pdif 02 31 38.2 -2.5**
comp=Z,4.5nm,1.0s,baz=109,slow=8.0,SNR=5.3
DPC Dobruska-Polom 101.94 321 *e*PP PP 02 36 00.2 +5.0
DPC *e*PS **PS 02 45 05.3 +4.6**
DPC AMS AMS 03 21 20.0
comp=Z,2µm,22.4s
UPC Upice 102.10 321 *e*SKS **SKSac 02 42 24.0 +1.6**
UPC AMS AMS 03 19 50.0
comp=Z,2µm,27.1s
NB2 NORSAR Subarra 102.21 332 P **Pdif 02 31 43.0 -1.9**
comp=Z,12nm,1.4s,baz=74,slow=4.6
NB2 NORSAR Subarra 102.21 332 P **Pdif 02 31 43.0 -1.9**
baz=74,slow=4.6
NOA NORSAR Array B 102.21 332 P **Pdif 02 31 41.7 -3.2**
comp=Z,1.1nm,0.8s,baz=137,slow=19,SNR=3.7
TSUM Tsumeb 102.61 250 PFAKE 02 32 00.0 +12
TSUM LR LR
comp=Z,2µm,20.0s
TREC Trest 102.66 320 *e*SKS **SKSac 02 42 28.1 +3.0**
TREC AMS AMS 03 22 10.0
comp=Z,2µm,20.5s
CONA Conrad Observa 102.67 319 PKiKP **PKiKP 02 36 06.5 -1.6**
comp=Z,11nm,1.6s
DAG Danmarks Havn 102.83 351 *i* P **Pdif 02 31 45.2 -2.1**
comp=Z,7.6nm,1.0s
DAG Danmarks Havn 102.83 351 *e*P **Pdif 02 31 45.2 -2.1**
DAG pmax pmax
comp=Z,8.0nm,1.0s
GOPC GO Pecny, Ondr 102.99 321 *e*PP PP 02 35 54.2 -8.8
GOPC *e*SKS 02 42 30.4
GOPC AMS AMS 03 22 00.0
comp=Z,1µm,19.5s
PVCC Panska Ves 103.00 321 AMS AMS 03 20 20.0
comp=Z,2µm,22.0s
ARSA Arzberg 103.02 318 PP PP 02 36 03.1 -0.2
comp=Z,4.0nm,0.9s
PRU Pruhonice 103.13 321 *e*PP PP 02 36 01.3 -2.8
PRU *e*SKS 02 42 26.0
PRU AMS AMS 03 22 00.0
comp=Z,1µm,19.5s
PRA Prague 103.18 321 AMS AMS 03 22 10.0
comp=Z,1µm,22.3s
BRG Berggiesshubel 103.32 322 *e*PDIFF **Pdif 02 31 50.9 +0.9**
comp=Z,1.9nm,0.7s
BRG *e* 02 31 56.0
comp=Z,4.3nm,1.3s
BRG Berggiesshubel 103.32 322 PKP PKiKP 02 36 01.0 -8.1
BRG *e*PP PP 02 36 16.3 +11
comp=Z,9.8nm,1.3s
BRG *e*SKP 02 39 11.0
comp=Z,12nm,1.8s
BRG SKS 02 42 30.0
BRG *e*PKPPKP 02 54 59.3
comp=Z,13nm,1.9s
comp=N,3µm,26.9s
comp=E,2µm,30.0s
comp=Z,3µm,32.3s
BRG Berggiesshubel 103.32 322 *e*P **Pdif 02 31 50.9 +0.9**
BRG pmax pmax
comp=Z,2.0nm,0.7s
BRG pmax pmax
comp=Z,4.0nm,1.3s
TIP Timpagrande 103.38 310 PFAKE 02 32 00.0 +9.3
TIP LR LR
comp=Z,1µm,22.0s
SOKA Soboth 103.45 317 PKiKP **PKiKP 02 36 09.5 -0.1**
comp=Z,11nm,1.2s
MOA Molln 103.74 319 PKiKP **PKiKP 02 36 09.5 -0.5**
comp=Z,4.8nm,1.6s
CLL Collm 103.80 322 *e*PP PP 02 36 07.0 -2.0
CLL *e*SKSac **SKSac 02 42 30.0 -0.3**
CLL *e*PS **PS 02 45 18.0 -2.2**
CLL *e*PPS PPS 02 46 06.0
CLL *e*SS **SS 02 50 54.0 +0.2**
CLL *e* 02 54 06.0
CLL *e*SSS SSS 02 55 30.0
CLL *e* 02 59 18.0
CLL *e* 03 01 18.0
OBKA Obir 103.81 317 PP PP 02 36 08.6 -0.7
comp=Z,14nm,1.6s
GERES GERESS Array B 103.90 320 Pdiff **Pdif 02 31 51.0 -1.8**
comp=Z,0.7nm,0.8s,baz=128,slow=2.2,SNR=5.1
GERES GERESS Array B 103.90 320 Pdif **Pdif 02 31 51.0 -1.8**
GERES GERESS Array B 103.90 320 P **Pdif 02 31 51.0 -1.8**
KHC Kasperske Hory 103.92 320 *e*PP PP 02 36 05.1 -5.0
KHC *e*SKS 02 42 30.3
KHC *e*PS **PS 02 45 16.3 -5.4**
KHC AMS AMS 03 22 30.0
comp=Z,2µm,19.5s
CUC Castrocucco 103.99 310 PFAKE 02 32 00.0 +6.7
CUC LR LR
comp=Z,655nm,20.0s
CEL Celeste 104.17 309 PFAKE 02 32 10.0 +16
CEL LR LR
comp=Z,755nm,22.0s
NKC Novy Kostel 104.39 321 *e*SKS **SKSac 02 42 34.5 +1.4**
NKC AMS AMS 03 22 30.0
comp=Z,2µm,24.0s
KBA Koelnbreinsper 104.51 318 PKiKP **PKiKP 02 36 11.3 -0.3**
comp=Z,4.3nm,1.4s
AQU L'Aquila 105.39 313 PFAKE 02 36 20.0
AQU LR LR
comp=Z,1µm,20.0s
WDD Wied Dalam 105.60 306 PFAKE 02 36 30.0
WDD LR LR
comp=Z,1µm,20.0s
WTTA Wattenberg 105.60 318 PKiKP **PKiKP 02 36 12.3 -1.4**
comp=Z,5.1nm,0.9s
MOTA Moosalm 105.94 319 PKiKP **PKiKP 02 36 15.0 +0.7**
comp=Z,9.5nm,1.3s
RETA Reutte 106.13 319 PKiKP **PKiKP 02 36 10.5 -4.0**
comp=Z,12nm,1.6s
FETA Feichten 106.26 318 *e*PKiKP **PKiKP 02 36 13.0 -1.9**
comp=Z,6.2nm,1.2s
VLC Villacollemand 107.17 316 PFAKE 02 36 30.0
VLC LR LR
comp=Z,2µm,22.0s
YKA Yellowknife Ar 107.24 24 Pdiff **Pdif 02 32 11.1 +3.9**
comp=Z,0.6nm,1.0s,baz=287,slow=4.0,SNR=7.5
YKA PKiKP **PKiKP 02 36 16.7 +0.7**
comp=Z,0.6nm,0.6s,baz=312,slow=1.8,SNR=14
YKA PKKPbc **PKKPbc 02 47 31.3 -3.4**
comp=Z,0.8nm,0.7s,baz=116,slow=3.0,SNR=15
TUE Stuetta 107.32 318 PFAKE 02 36 30.0
TUE LR LR
comp=Z,1µm,20.0s
BFO Black Forest 107.49 320 PFAKE 02 36 30.0
BFO LR LR
comp=Z,2µm,21.0s
NLWA Neilton Lookou 108.19 41 PFAKE 02 36 30.0
NLWA LR LR
comp=Z,1µm,21.0s
ECH Echery 108.27 320 PFAKE 02 36 30.0
ECH LR LR
comp=Z,909nm,20.0s
WLF Walferdange 108.46 322 PFAKE 02 36 30.0
WLF LR LR
comp=Z,1µm,19.0s
VSL Villasalto 108.96 311 PFAKE 02 36 30.0
VSL LR LR
comp=Z,936nm,20.0s
BNI Bardonecchia 109.50 317 PFAKE 02 36 30.0
BNI LR LR
comp=Z,2µm,22.0s
M02C Callahan 110.53 47 P **PKiKP 02 36 24.7 +1.7**
baz=285
SSB Saint Sauveur 110.88 318 PFAKE 02 36 40.0
SSB LR LR
comp=Z,983nm,21.0s
J05D Fort Rock, OR 111.16 44 P **PKiKP 02 36 24.8 +0.7**
baz=287
M04C Macdoel 111.16 46 P **PKiKP 02 36 24.5 +0.3**
baz=286
HAWA Hanford 111.33 41 PFAKE 02 36 40.0
HAWA LR LR
comp=Z,2µm,19.0s
ESK Eskdalemuir 111.45 330 PFAKE 02 36 40.0
ESK LR LR
comp=Z,2µm,19.0s
NEW Newport 112.18 38 PFAKE 02 36 40.0
NEW LR LR
comp=Z,691nm,21.0s
EDM Edmonton 112.27 32 *e*PKPdf **PKiKP 02 36 26.9 +1.1**
EDM Edmonton 112.27 32 *e*PKiKP **PKiKP 02 36 26.9 +1.1**
WVOR Wild Horse Val 113.24 45 PFAKE 02 36 40.0
WVOR LR LR
comp=Z,2µm,19.0s
BMO Blue Mountains 113.32 42 PFAKE 02 36 40.0
BMO LR LR
comp=Z,2µm,21.0s
NVAR Mina Array Bea 114.72 49 PKP PKPdf 02 36 32.7 +1.5
comp=Z,1.5nm,0.7s,baz=247,slow=2.5,SNR=13
MSO Missoula 114.73 39 P PKPdf 02 36 31.3 +0.4
baz=295
TAM Tamanrasset 115.28 294 PFAKE 02 36 40.0 +7.4
TAM LR LR
comp=Z,1µm,21.0s
CWC Cottonwood Cre 115.47 51 P **PKPdf 02 36 34.6 +1.9**
baz=287
SFJD Kangerlussuaq 115.55 357 PFAKE 02 36 40.0 +8.4
SFJD LR LR
comp=Z,938nm,21.0s
HLID Hailey 115.73 42 P **PKPdf 02 36 35.2 +2.2**
baz=293
HLID Hailey 115.73 42 *e*PKPdf **PKPdf 02 36 34.5 +1.6**
HLID LR LR
comp=Z,2µm,21.0s
GRAC Grapevine Rang 115.86 50 P **PKPdf 02 36 35.6 +2.4**
baz=288
EDW2 Edwards Air Fo 115.98 52 P **PKPdf 02 36 35.9 +2.3**
baz=286
MPMC Manual Prospec 116.04 51 P **PKPdf 02 36 36.0 +2.2**
baz=287
FURC Furnace Creek, 116.40 50 P **PKPdf 02 36 35.7 +1.5**
baz=288
BOZ Bozeman (W) 116.71 39 P **PKPdf 02 36 36.5 +1.7**
baz=296
BOZ Bozeman (W) 116.71 39 *e*PKPdf **PKPdf 02 36 35.9 +1.2**
BOZ LR LR
comp=Z,2µm,19.0s
BOZ Bozeman (W) 116.71 39 *e*PKIKP **PKPdf 02 36 35.9 +1.2**
BOZ MLR MLR
comp=Z,2µm,19.0s
TPNV Topopah Spring 116.72 50 P **PKPdf 02 36 36.7 +1.7**
baz=288
EGMT Eagleton 116.74 36 P **PKPdf 02 36 35.5 +0.9**
baz=299
EGMT Eagleton 116.74 36 *e*PKPdf **PKPdf 02 36 34.9 +0.3**
EGMT LR LR
comp=Z,1µm,19.0s
R11A Troy Canyon, C 116.77 48 P **PKPdf 02 36 36.9 +1.8**
baz=290
GSC Goldstone, Bar 116.79 52 P **PKPdf 02 36 37.3 +2.1**
baz=287
FFC Flin Flon 117.06 27 *e*PKPdf **PKPdf 02 36 34.9 0.0**
FFC LR LR
comp=Z,773nm,20.0s
FFC Flin Flon 117.06 27 *e*PKIKP **PKPdf 02 36 34.9 0.0**
FFC MLR MLR
comp=Z,773nm,20.0s
HEC Hector,Ludlow 117.30 52 P **PKPdf 02 36 38.0 +1.9**
baz=287
FCC Fort Churchill 117.40 20 *e*PKPdf **PKPdf 02 36 35.5 +0.1**
FCC Fort Churchill 117.40 20 *e*PKIKP **PKPdf 02 36 35.5 +0.1**

TUQ Turquoise Moun 117.44 51 P PKPdf 02 36 38.3 +1.9
baz=288
PFO Pinyon Flats O 117.55 53 P PKPdf 02 36 39.0 +2.4
baz=286
PFO Pinyon Flats O 117.55 53 PFAKE 02 36 50.0 +13
PFO LR LR
comp=Z,2µm,22.0s
TPFO Pinon Flats 117.56 53 P PKPdf 02 36 39.0 +2.3
baz=286
MONP2 Monument Peak 117.78 54 P PKPdf 02 36 39.8 +2.5
baz=286
BELC Belle Mtn. Jos 117.81 53 P PKPdf 02 36 39.5 +2.3
baz=287
GMRC Granite Mounta 117.84 52 P PKPdf 02 36 39.4 +2.2
baz=288
GCMT Greycliff 117.85 38 ePKPdf PKPdf 02 36 37.8 +0.9
LKWY Lake 117.95 40 PFAKE 02 36 50.0 +13
LKWY LR LR
comp=Z,2µm,19.0s
IKP In-Ko-Pah, Jac 118.10 54 P PKPdf 02 36 39.2 +1.5
baz=286
DUG Dugway, Tooele 118.13 45 P PKPdf 02 36 39.1 +1.4
baz=292
DUG Dugway, Tooele 118.13 45 ePKPdf PKPdf 02 36 38.4 +0.8
DUG LR LR
comp=Z,3µm,19.0s
DUG Dugway, Tooele 118.13 45 ePKIKP PKPdf 02 36 38.4 +0.8
DUG MLR MLR
comp=Z,3µm,19.0s
SWSC Sam W. Stewart 118.27 54 P PKPdf 02 36 39.7 +1.8
baz=287
AHID Auburn Hatcher 118.27 42 PFAKE 02 36 50.0 +12
AHID LR LR
comp=Z,4µm,22.0s
BC3 Big Chuckawall 118.34 53 P PKPdf 02 36 40.2 +2.1
baz=287
RLMT Red Lodge 118.41 39 P PKPdf 02 36 39.7 +1.6
baz=298
RLMT Red Lodge 118.41 39 PFAKE 02 36 50.0 +12
RLMT LR LR
comp=Z,1µm,22.0s
IRM Iron Mountain 118.44 52 P PKPdf 02 36 40.4 +2.2
baz=288
HWUT Hardware Ranch 118.44 43 ePKPdf PKPdf 02 36 39.6 +1.4
HWUT LR LR
comp=Z,3µm,21.0s
PAB San Pablo 119.05 314 PFAKE 02 36 50.0 +11
PAB LR LR
comp=Z,888nm,21.0s
PDMCI Parker Dam,Lak 119.19 52 P PKPdf 02 36 40.3 +0.7
baz=288
MSU Marysvale 119.22 47 ePKPdf PKPdf 02 36 42.0 +2.1
MSU Marysvale 119.22 47 ePKIKP PKPdf 02 36 42.0 +2.1
BW06 Boulder Array 119.30 41 P PKPdf 02 36 40.8 +0.8
baz=296
BW06 Boulder Array 119.30 41 PFAKE 02 36 50.0 +10
BW06 LR LR
comp=Z,4µm,19.0s
PDAR Pinedale Array 119.30 41 PKP PKPdf 02 36 39.1 -0.8
comp=Z,0.7nm,0.5s,baz=338,slow=1.6,SNR=11
PDAR PKKPbc PKKPbc 02 46 52.3 -1.5
comp=Z,2.9nm,0.9s,baz=108,slow=4.2,SNR=13
LAO LASA Array 119.49 36 P PKPdf 02 36 40.4 +0.4
baz=301
LAO LASA Array 119.49 36 ePKPdf PKPdf 02 36 39.9 -0.1
LAO LR LR
comp=Z,2µm,19.0s
DGMT Dagmar 119.68 33 PFAKE 02 36 50.0 +10
DGMT LR LR
comp=Z,3µm,22.0s
PBRG Braganca 119.78 318 ePP PP 02 38 06.9 +3.2
TORD Torodi Ar. Bea 119.98 284 PKP PKPdf 02 36 40.3 -1.4
comp=Z,4.8nm,0.6s,baz=80,slow=1.5,SNR=28
TORD PKKPab PKKPab 02 46 52.0 0.0
comp=Z,1.9nm,0.9s,baz=279,slow=3.1,SNR=7.2
SRU San Rafael Swe 120.18 45 ePKPdf PKPdf 02 36 43.1 +1.4
SRU San Rafael Swe 120.18 45 ePKIKP PKPdf 02 36 43.1 +1.4
MVO Moncorvo 120.25 317 ePP PP 02 38 10.2 +3.2
MVO Moncorvo 120.25 317 eLR LR 03 15 50.1
comp=Z,728nm,20.0s
HOPE Hope Point 120.50 195 PFAKE 02 36 50.0 +8.5
HOPE LR LR
comp=Z,1µm,19.0s
POLO Lamas de Olo 120.67 318 ePP PP 02 38 11.7 +1.8
PGAV Gavieira, Arco 120.72 318 ePP PP 02 38 13.6 +3.4
PGAV Gavieira, Arco 120.72 318 eLR LR 03 17 28.0
comp=Z,854nm,18.0s
WUAZ Wupatki 120.92 50 P PKPdf 02 36 45.1 +2.0
baz=291
WUAZ Wupatki 120.92 50 ePKPdf PKPdf 02 36 44.9 +1.8
WUAZ LR LR
comp=Z,4µm,19.0s
MTE Manteigas 120.94 317 ePP PP 02 38 12.3 +0.6
MTE Manteigas 120.94 317 eLR LR 03 18 52.9
comp=Z,984nm,20.0s
MTE Manteigas 120.94 317 PFAKE 02 36 50.0 +7.1
MTE LR LR
comp=Z,1µm,21.0s
214A Organ Pipe Nat 120.98 54 P PKPdf 02 36 45.0 +1.8
baz=288
PMRV Marv??o 121.25 315 ePP PP 02 38 13.4 -0.4
PMRV Marv??o 121.25 315 eLR LR 03 18 36.9
comp=Z,551nm,20.0s
K22A Casper 121.33 40 P PKPdf 02 36 44.3 +0.6
baz=299
K22A Casper 121.33 40 ePKPdf PKPdf 02 36 44.3 +0.6
O20A White River Ci 121.35 44 P PKPdf 02 36 45.4 +1.5
baz=296
O20A White River Ci 121.35 44 ePKPdf PKPdf 02 36 44.9 +1.0
PBAR Barrancos 121.52 314 ePP PP 02 38 18.0 +2.3
PV04 Paradox Valley 121.63 46 ePKPdf PKPdf 02 36 45.3 +0.8
PESTR Estremoz 121.63 315 ePP PP 02 38 19.5 +3.1
PCAS Casmilo, Conde 121.74 317 ePP PP 02 38 19.6 +2.5
PV01 Paradox Valley 121.97 46 ePKPdf PKPdf 02 36 46.5 +1.3
PMTG Montargil 121.99 315 ePP PP 02 38 20.3 +1.5
RSSD Black Hills 122.15 38 P PKPdf 02 36 45.9 +0.5
baz=302
RSSD Black Hills 122.15 38 ePKPdf PKPdf 02 36 45.4 0.0
RSSD Black Hills 122.15 38 ePKIKP PKPdf 02 36 45.4 0.0
W18A Petrified Fore 122.31 50 P PKPdf 02 36 47.0 +1.1
baz=292
W18A Petrified Fore 122.31 50 ePKPdf PKPdf 02 36 47.3 +1.5
PVAQ Vaqueiros 122.33 313 ePP PP 02 38 22.9 +1.7
PVAQ Vaqueiros 122.33 313 eLR LR 03 19 46.6
comp=Z,624nm,20.0s
MVCO Mesa Verde 122.41 47 P PKPdf 02 36 48.0 +1.9
baz=294
MVCO Mesa Verde 122.41 47 ePKPdf PKPdf 02 36 48.0 +1.9
MVCO LR LR
comp=Z,3µm,21.0s
TUC Tucson 122.49 53 P PKPdf 02 36 47.8 +1.7
baz=290
TUC Tucson 122.49 53 ePKPdf PKPdf 02 36 46.3 +0.1
TUC LR LR
comp=Z,8µm,21.0s
TUC Tucson 122.49 53 ePKIKP PKPdf 02 36 46.3 +0.1
TUC MLR MLR
comp=Z,8µm,21.0s
PBDV Barranco-do-Ve 122.55 313 ePP PP 02 38 24.2 +1.4
N23A Red Feather La 122.55 42 P PKPdf 02 36 47.6 +1.3
baz=299
PNCL Nicolau / Gran 122.61 315 ePP PP 02 38 26.4 +3.3
PMAFR Mafra 122.78 316 ePP PP 02 38 26.3 +2.1
ULM Lac du Bonnet 122.82 28 PKP PKPdf 02 36 46.6 +0.5
comp=Z,3.8nm,0.6s,baz=238,slow=2.1,SNR=6.0
RTC Rabat Centre 123.02 309 PFAKE 02 37 00.0 +13
RTC LR LR
comp=Z,3µm,21.0s
PFVI Vila Bisbo 123.25 314 ePP PP 02 38 27.3 -0.1
ISCO Idaho Springs 123.30 43 P PKPdf 02 36 49.5 +1.7
baz=298
ISCO Idaho Springs 123.30 43 ePKPdf PKPdf 02 36 49.0 +1.2
ISCO LR LR
comp=Z,4µm,20.0s
ISCO Idaho Springs 123.30 43 ePKIKP PKPdf 02 36 49.0 +1.2
ISCO MLR MLR
comp=Z,4µm,20.0s
S22A 4UR Ranch, Cre 123.38 46 P PKPdf 02 36 49.9 +1.9
baz=296
C31A Landman Farms, 123.54 31 P PKPdf 02 36 48.3 +0.7
baz=310
B32A Ashes, Strandq 123.75 30 P PKPdf 02 36 48.7 +0.7
baz=312
A33A Warroad 123.95 29 P PKPdf 02 36 48.8 +0.5
baz=313
AGMN Agassiz Nation 124.15 30 PFAKE 02 37 00.0 +11
AGMN LR LR
comp=Z,2µm,20.0s
SDCO Great Sand Dun 124.33 45 P PKPdf 02 36 51.4 +1.6
baz=297
SDCO Great Sand Dun 124.33 45 ePKPdf PKPdf 02 36 51.0 +1.2
SDCO LR LR
comp=Z,3µm,19.0s
LAZ Ladron 124.56 49 ePKPdf PKPdf 02 36 52.4 +2.2
121A Cookes Peak, D 124.78 52 P PKPdf 02 36 52.8 +2.2
baz=292
121A Cookes Peak, D 124.78 52 ePKPdf PKPdf 02 36 52.9 +2.2
ANMO Albuquerque 124.85 48 P PKPdf 02 36 52.7 +1.9
baz=295
ANMO Albuquerque 124.85 48 ePKPdf PKPdf 02 36 52.3 +1.5
ANMO LR LR
comp=Z,706nm,20.0s
ANMO Albuquerque 124.85 48 ePKIKP PKPdf 02 36 52.3 +1.5
ANMO MLR MLR
comp=Z,706nm,20.0s
LPM Los Pinos Moun 124.98 49 ePKPdf PKPdf 02 36 52.5 +1.5
SHEL Horse Pasture 125.05 249 PFAKE 02 37 00.0 +8.6
SHEL LR LR
comp=Z,838nm,20.0s
OGNE Ogallala 125.09 40 PFAKE 02 37 00.0 +9.1
OGNE LR LR
comp=Z,2µm,21.0s
KOWA Kowa 125.37 286 PKP PKPdf 02 36 51.9 0.0
comp=Z,4.3nm,0.8s,baz=60,slow=3.8,SNR=14
T25A Trinidad 125.38 45 P PKPdf 02 36 53.4 +1.6
baz=298
EFI East Falkland 125.90 180 PFAKE 02 37 00.0 +8.0
EFI LR LR
comp=Z,3µm,20.0s
EYMN Ely 126.48 27 PFAKE 02 37 00.0 +6.7
EYMN LR LR
comp=Z,1µm,21.0s
KIC Kosan Boka 126.69 276 eP PKPdf 02 36 54.5 -0.1
comp=Z,84nm,1.6s
ECSD EROS Data Cent 126.73 34 P PKPdf 02 36 54.5 +0.6
baz=309
ECSD EROS Data Cent 126.73 34 ePKPdf PKPdf 02 36 54.5 +0.6
ECSD LR LR
comp=Z,1µm,19.0s
DBIC Dimbokro 126.80 276 PKP PKPdf 02 36 55.8 +1.0
comp=Z,5.4nm,0.9s,baz=165,slow=0.9,SNR=5.0
TIC Toumodi 126.96 276 eP PKPdf 02 36 56.3 +1.2
LIC Lamto 126.98 276 eP PKPdf 02 36 53.9 -1.2
comp=Z,57nm,1.4s
F36A Milaca 126.98 30 P PKPdf 02 36 55.3 +1.1
baz=314
MNTX Cornudas Mount 126.98 52 P PKPdf 02 36 56.6 +1.9
baz=293
MNTX Cornudas Mount 126.98 52 ePKPdf PKPdf 02 36 56.5 +1.8
MNTX LR LR
comp=Z,866nm,21.0s
SCHQ Schefferville 127.48 6 PKP PKPdf 02 36 55.6 +0.6
comp=Z,4.2nm,0.7s,baz=343,slow=4.7,SNR=4.2
C40A Isle Royale Na 127.56 26 P PKPdf 02 36 56.3 +1.0
baz=320
H36A Jessemland, He 127.65 32 P PKPdf 02 36 56.4 +0.8
baz=312
CBKS Cedar Bluff 127.72 41 PFAKE 02 37 10.0 +14
CBKS LR LR
comp=Z,827nm,20.0s
SPMN Marine on St. 127.79 31 ePKPdf PKPdf 02 36 56.8 +1.0
MSTX Muleshoe 128.01 48 P PKPdf 02 36 57.8 +1.0
baz=297
MSTX Muleshoe 128.01 48 ePKPdf PKPdf 02 36 55.9 -0.8
F39A Loretta 128.23 29 P PKPdf 02 36 57.5 +0.8
baz=317
I37A Lemond, Waseca 128.31 32 P PKPdf 02 36 57.9 +1.1
baz=313
G39A Holcombe 128.56 30 P PKPdf 02 36 58.0 +0.7
baz=316
COWI Conover 128.93 27 PFAKE 02 37 10.0 +12
COWI LR LR
comp=Z,1µm,20.0s
TXAR Lajitas Array 129.27 54 PKP PKPdf 02 36 59.6 +0.3
comp=Z,1.9nm,0.7s,baz=219,slow=2.0,SNR=17
KSU1 Kansas State U 129.57 39 ePKPdf PKPdf 02 36 60.0 +0.6
KSU1 LR LR
comp=Z,954nm,21.0s
J39A Decorah 129.67 32 P PKPdf 02 36 60.0 +0.5
baz=314
L38A Oak Wood Farm, 129.81 34 P PKPdf 02 36 59.9 +0.2
baz=312
SCIA State Center 129.82 34 PFAKE 02 37 10.0 +10
SCIA LR LR
comp=Z,2µm,19.0s
K40A Colesburg 130.41 32 P PKPdf 02 37 02.0 +1.1
baz=314
WMOK Wichita Mounta 130.53 45 P PKPdf 02 37 03.2 +1.8
baz=301
WMOK Wichita Mounta 130.53 45 PFAKE 02 37 10.0 +8.6
WMOK LR LR
comp=Z,2µm,20.0s
JFWS Jewell Farm 130.72 31 P PKPdf 02 37 02.6 +1.1
baz=316
JFWS Jewell Farm 130.72 31 PFAKE 02 37 10.0 +8.5
JFWS LR LR
comp=Z,1µm,21.0s
L40A Anamosa 130.81 33 P PKPdf 02 37 02.6 +1.0
baz=314
N39A Derby Farms, D 130.91 35 P PKPdf 02 37 03.2 +1.4
baz=312
P38A Dawn 131.12 36 P PKPdf 02 37 02.9 +0.5
baz=310
P39B Salisbury 131.67 36 P PKPdf 02 37 04.7 +1.3
baz=311
R38A Fenwick Farm, 131.80 38 P PKPdf 02 37 03.9 +0.3
baz=308
JCT Junction City 131.84 50 P PKPdf 02 37 04.9 +0.9
baz=297
JCT Junction City 131.84 50 ePKPdf PKPdf 02 37 04.9 +0.9
JCT LR LR
comp=Z,1µm,19.0s
JCT Junction City 131.84 50 ePKIKP PKPdf 02 37 04.9 +0.9
JCT MLR MLR
comp=Z,1µm,19.0s
GLMI Grayling 131.93 25 PFAKE 02 37 20.0 +16
GLMI LR LR
comp=Z,1µm,22.0s
S38A Stockton 132.15 39 P PKPdf 02 37 04.9 +0.6
baz=308
R39A Chumby, Stover 132.25 37 P PKPdf 02 37 04.7 +0.2
baz=310
T38A Diamond 132.26 40 P PKPdf 02 37 05.2 +0.6
baz=307
S39A Bolivar 132.47 38 P PKPdf 02 37 05.4 +0.4
baz=309
R40A Maddies Statio 132.74 37 P PKPdf 02 37 06.7 +1.3
baz=310
T39A Clever 132.85 39 P PKPdf 02 37 06.4 +0.7
baz=308
WHTX Lake Whitney, 132.88 47 ePKPdf PKPdf 02 37 05.7 -0.2
HDIL Hopedale 132.90 33 PFAKE 02 37 20.0 +14
HDIL LR LR
comp=Z,1µm,22.0s
833A Chaparral WMA, 133.10 53 P PKPdf 02 37 08.1 +1.7
baz=296
U39A Green Forest 133.18 40 P PKPdf 02 37 06.7 +0.4
baz=308
R41A Rosebud 133.26 36 P PKPdf 02 37 07.1 +0.6
baz=311
T40A Mansfield 133.31 38 P PKPdf 02 37 06.8 +0.3
baz=309
V39A Pettigrew 133.40 41 P PKPdf 02 37 07.8 +0.9
baz=307
CCM Cathedral Cave 133.50 37 ePKPdf PKPdf 02 37 07.1 +0.3
CCM Cathedral Cave 133.50 37 ePKIKP PKPdf 02 37 07.1 +0.3
S41A Jillco Farms, 133.50 37 P PKPdf 02 37 07.3 +0.4
baz=310
U40A Yellville 133.59 39 P PKPdf 02 37 07.4 +0.3
baz=308
W39A Magazine 133.69 41 P PKPdf 02 37 07.8 +0.5
baz=306
T41A Mountain View 133.84 38 P PKPdf 02 37 07.6 +0.1
baz=310
X39A Fountain Ranch 133.87 42 P PKPdf 02 37 08.6 +1.0
baz=306
V40A Witts Springs 133.95 40 P PKPdf 02 37 08.0 +0.1
baz=308
CMLA Cha da Macela 134.02 324 PFAKE 02 37 20.0 +12
CMLA LR LR
comp=Z,972nm,20.0s
U41A Viola 134.19 39 P PKPdf 02 37 08.6 +0.4
baz=309
MIAR Mount Ida 134.21 42 P PKPdf 02 37 10.1 +1.8
baz=306
MIAR Mount Ida 134.21 42 ePKPdf PKPdf 02 37 09.8 +1.5
MIAR LR LR
comp=Z,5µm,19.0s
MIAR Mount Ida 134.21 42 ePKIKP PKPdf 02 37 09.8 +1.5
MIAR MLR MLR
comp=Z,5µm,19.0s
AAM Ann Arbor 134.37 27 PFAKE 02 37 20.0 +12
AAM LR LR
comp=Z,3µm,19.0s
U42A Revenden 134.61 38 P PKPdf 02 37 08.7 -0.2
baz=310
KVTX Kingsville 134.64 53 PFAKE 02 37 20.0 +11
KVTX LR LR
comp=Z,1µm,20.0s
Q45A Warren Harvey, 134.69 33 P PKPdf 02 37 09.2 +0.1
baz=315
T43A Greenville 134.71 37 P PKPdf 02 37 09.8 +0.6
baz=312
V42A Cord 134.86 39 P PKPdf 02 37 08.7 -0.8
baz=310
ASCN Ascension 135.12 256 PFAKE 02 37 20.0 +9.5
ASCN LR LR
comp=Z,798nm,21.0s
LONY Lake Ozonia 135.73 17 PFAKE 02 37 20.0 +9.1
LONY LR LR
comp=Z,2µm,19.0s
R47A Woody Knot Far 136.01 33 P PKPdf 02 37 12.5 +1.0
baz=317
WCI Wyandotte Cave 136.18 32 ePKPdf PKPdf 02 37 10.6 -1.3
WCI Wyandotte Cave 136.18 32 ePKIKP PKPdf 02 37 10.6 -1.3
ACSO Alum Creek Sta 136.32 28 PFAKE 02 37 20.0 +7.9
ACSO LR LR
comp=Z,2µm,19.0s
PKME Peaks-Kenny Pk 136.42 11 PFAKE 02 37 20.0 +7.9
PKME LR LR
comp=Z,2µm,22.0s
M54A Oil Creek Stat 136.71 24 P PKPdf 02 37 13.2 +0.4
baz=328
S48A Wiedeman Farm, 136.73 33 P PKPdf 02 37 13.2 +0.3
baz=317
T48A Bowling Green 136.94 34 P PKPdf 02 37 10.5 -2.8
baz=316
BINY Binghamton 137.47 20 ePKPdf PKPdf 02 37 15.3 +1.2
BINY LR LR
comp=Z,2µm,21.0s
W47A Westpoint 137.55 37 P PKPdf 02 37 14.9 +0.4
baz=313
V48A Smith Brothers 137.67 35 P PKPdf 02 37 15.4 +0.7
baz=315
W48A Pulaski 138.02 36 P PKPdf 02 37 15.2 -0.2
baz=314
SSPA Standing Stone 138.16 23 ePKPdf PKPdf 02 37 15.7 +0.2
CPCT Cooper Cave 139.18 34 ePKPdf PKPdf 02 37 18.6 +1.1
TRQA Tornquist 139.35 175 PFAKE 02 37 30.0 +12
TRQA LR LR
comp=Z,1µm,20.0s
LRAL Lakeview Retre 139.42 39 ePKPdf PKPdf 02 37 16.7 -1.2
BLA Blacksburg 139.93 28 PFAKE 02 37 30.0 +11
BLA LR LR
comp=Z,4µm,19.0s
CBN Corbin Frederi 140.45 24 PFAKE 02 37 30.0 +10
CBN LR LR
comp=Z,2µm,20.0s
BRAL Brewton 140.61 41 PFAKE 02 37 30.0 +10
BRAL LR LR
comp=Z,3µm,19.0s
KMSC Kings Mountain 141.12 31 P PKPdf 02 37 15.5 -5.5
baz=321
KMSC Kings Mountain 141.12 31 ePKPdf PKPdf 02 37 20.3 -0.7
GOGA Godfrey 141.27 35 P PKPdf 02 37 16.9 -4.4
baz=317
GOGA Godfrey 141.27 35 PFAKE 02 37 30.0 +8.7
GOGA LR LR
comp=Z,2µm,19.0s
CNNC Cliffs of the 142.72 27 PFAKE 02 37 40.0 +16
CNNC LR LR
comp=Z,2µm,19.0s
NHSC New Hope 143.31 32 PFAKE 02 37 40.0 +15
NHSC LR LR
comp=Z,2µm,19.0s
SACV Santiago Islan 143.84 292 PFAKE 02 37 40.0 +14
SACV LR LR
comp=Z,499nm,20.0s
555A McAlpin 143.91 38 P PKPbc 02 37 24.1 +0.2
baz=315
556A Lake Butler 144.34 38 P PKPdf 02 37 26.6 -0.3
baz=315
656A Willston 144.71 39 P PKPdf 02 37 27.8 +0.3
baz=315
557A Orange Park 144.74 37 P PKPdf 02 37 27.8 +0.3
baz=316
657A Interlachen 144.97 38 P PKPdf 02 37 28.4 +0.4
baz=316
857A Zephyrhills 145.66 40 P PKPab 02 37 31.4 +1.6
baz=314
TEIG Tepich 145.76 57 PFAKE 02 37 40.0 +10
TEIG LR LR
comp=Z,6.0nm,19.0s
APG El Apazote 145.81 67 PKPbc PKPab 02 37 31.4 +0.4
comp=Z,21nm,0.9s,baz=327,slow=11,SNR=15
858A St. Cloud 146.25 39 P PKPab 02 37 32.6 +0.6
baz=315
DWPF Disney Wildern 146.27 39 P PKPab 02 37 32.0 0.0
baz=315
DWPF Disney Wildern 146.27 39 ePKPbc PKPab 02 37 31.8 -0.2
LCO Las Campanas 146.30 160 ePKPbc PKPab 02 37 32.6 +0.2
958A Wauchula 146.43 40 P PKPab 02 37 32.9 +0.2
baz=314
959A Okeechobee 147.03 39 P PKPbc 02 37 33.2 -0.4
baz=315
BBSR BB Station 149.78 11 PFAKE 02 37 50.0 +4.2
BBSR LR LR
comp=Z,750nm,19.0s
CPUP Villa Florida 151.20 181 PKP PKPdf 02 37 39.3 +1.0
comp=Z,14nm,1.0s,baz=174,slow=4.6,SNR=7.8
CPUP PKPbc PKiKP 02 37 45.3 +0.6
comp=Z,16nm,0.8s,baz=156,slow=1.1,SNR=23
SPB Sao Paulo 151.94 201 PFAKE 02 37 50.0 +4.1
SPB LR LR
comp=Z,2µm,20.0s
JTS JuntasAbangare 152.28 73 PKPbc PKPbc 02 37 48.2 +1.2
comp=Z,17nm,1.0s,baz=26,slow=3.5,SNR=7.2
JTS JuntasAbangare 152.28 73 ePKPdf PKPdf 02 37 41.7 +1.5
JTS PKPbc PKPbc 02 37 48.2 +1.2
JTS LR LR
comp=Z,1µm,20.0s
JTS JuntasAbangare 152.28 73 ePKIKP PKPdf 02 37 41.7 +1.5
JTS 02 37 48.2
JTS MLR MLR
comp=Z,1µm,20.0s
MTDJ Mount Denham 155.45 50 PFAKE 02 38 00.0 -10
MTDJ LR LR
comp=Z,1µm,20.0s
GTBY Guantanamo Bay 156.10 43 PFAKE 02 38 00.0 -13
GTBY LR LR
comp=Z,1µm,22.0s
NNA Nana 156.38 128 PFAKE 02 38 00.0 +14
NNA LR LR
comp=Z,583nm,19.0s
GRTK Grand Turk 157.36 33 PFAKE 02 38 00.0 +13
GRTK LR LR
comp=Z,2µm,19.0s
BCIP Isla Barro Col 157.44 72 PFAKE 02 38 00.0 +13
BCIP LR LR
comp=Z,2µm,19.0s
ATAH Atahualpa 157.55 116 PKP PKPdf 02 37 51.2 +3.2
comp=Z,10nm,1.0s,baz=245,slow=6.0,SNR=5.6
LPAZ La Paz 158.75 153 PKP PKPdf 02 37 50.0 +0.4
comp=Z,11nm,1.2s,baz=322,slow=2.6,SNR=14
LPAZ PKPab PKPab 02 38 24.6 -0.3
comp=Z,8.3nm,0.9s,baz=204,slow=6.5,SNR=7.6
SDDR Presa de Saban 159.25 38 PFAKE 02 38 00.0 +11
SDDR LR LR
comp=Z,1µm,20.0s
OTAV Otavalo 159.53 96 ePKPdf PKPdf 02 37 51.6 +1.1
OTAV LR LR
comp=Z,841nm,21.0s
OTAV Otavalo 159.53 96 eP PKPdf 02 37 52.5 +2.1
GCUF Volcan Galeras 160.72 94 eP PKPdf 02 37 53.2 +1.4
SIV San Ignacio 161.26 171 PKP PKPdf 02 37 51.6 0.0
comp=Z,17nm,1.2s,baz=208,slow=1.3,SNR=25
SIV PKPab PKPab 02 38 36.0 +0.9
comp=Z,8.7nm,1.0s,baz=186,slow=3.0,SNR=6.5
POPC Popayan, Colom 161.45 90 eP PKPdf 02 37 51.8 -0.5

MOTC	**Monteria, Cord**	**161.50**	**70**	*e*P		**PKPdf**	**02 37 53.2**	**+1.2**
SOTA	**Rioblanco**	**161.51**	**91**	*e*P		**PKPdf**	**02 37 51.8**	**-0.9**
PCON	**Cinco Dias**	**161.72**	**91**	*e*P		**PKPdf**	**02 37 53.9**	**+0.9**
YOTC	**Yotoco, Valle**	**161.74**	**85**	*e*P		**PKPdf**	**02 37 52.5**	**+0.1**
MARP	**Paez Belalcaza**	**162.17**	**89**	*e*P		**PKPdf**	**02 37 50.4**	**-2.7**
ZARC	**Zaragoza, Cauc**	**162.63**	**73**	*e*P		**PKPdf**	**02 37 51.8**	**-1.3**
RREF	**El Recreo**	**162.65**	**82**	*e*P		**PKPdf**	**02 37 53.9**	**-0.1**
SJG	**San Juan**	**162.71**	**27**	PFAKE			02 38 00.0	+7.0
SJG				LR	LR			
	comp=Z,1μm,21.0s							
ANWB	**Willy Bob**	**164.63**	**13**	PFAKE			02 38 10.0	+15
ANWB				LR	LR			
	comp=Z,1μm,19.0s							
RUSC	**La Rusia**	**164.72**	**77**	*e*P		**PKPdf**	**02 37 53.2**	**-2.5**
SDV	**Santo Domingo**	**166.08**	**63**	PKP		**PKPdf**	**02 37 56.2**	**-0.2**
	comp=Z,8.5nm,1.0s,baz=211,slow=4.6,SNR=5.5							
SDV	**Santo Domingo**	**166.08**	**63**	*e*PKPdf		**PKPdf**	**02 37 55.9**	**-0.6**
SDV				PKP		**PKPdf**	**02 37 56.2**	**-0.2**
SDV				LR	LR			
	comp=Z,2μm,21.0s							
SAML	**Samuel**	**167.43**	**156**	PFAKE			02 38 10.0	+13
SAML				LR	LR			
	comp=Z,441nm,19.0s							
FDF	**Fort de France**	**167.61**	**14**	PFAKE			02 38 10.0	+13
FDF				LR	LR			
	comp=Z,974nm,21.0s							
BBGH	**Gun Hill**	**169.46**	**8**	PFAKE			02 38 10.0	+11
BBGH				LR	LR			
	comp=Z,2μm,22.0s							
GRGR	**Grenville**	**169.93**	**20**	PFAKE			02 38 10.0	+11
GRGR				LR	LR			
	comp=Z,642nm,21.0s							
PTGA	**Pitinga**	**176.18**	**151**	PFAKE			02 38 10.0	+8.6
PTGA				LR	LR			
	comp=Z,25μm,21.0s							

*ISCJB **16** 02:18:36.7±0.3,54˚43N±0˙04×94˚90E±0˙06,h10km, mb3.9/10, Error ellipse: s-maj=6.4km s-min=4.6km az=167.6*
*MOS **16** 02:18:36.7±1.4,54˚42N×95˚01E,h13km,mb4.2/4, Error ellipse: s-maj=9.1km s-min=6.3km az=63.1*
*IDC **16** 02:18:36.9±0.8,54˚49N×94˚75E,h0km, mb4.1/5, mb1 4.0/8,mb1mx3.6/77,mbtmp3.9/8,ML2.9/4,MS3.1/2, Ms1 3.1/2,ms1mx2.7/73, Error ellipse: s-maj=20.1km s-min=10.8km az=160.0*
*ASRS **16** 02:18:37.6±1.1,54˚29N×94˚74E,h15km,Ms3.6/1*
*NEIC **16** 02:18:38.8±0.4,54˚43N×94˚93E,h10km,mb4.0/6, Error ellipse: s-maj=10.7km s-min=6.4km az=166.0*

ISC 16 02:18:38.6±0.5,**54˚40N**±0˙04×**95˚03E**±0˙03,**h10km,n76,** σ2**s16**/91,**mb4.0**/12,**1D, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MINR	**Mina**	**0.69**	**317**	*e*PG	**Pb**	**02 18 51.0**	**-1.8**
TDJR	**Todzha**	**2.10**	**162**	*e*PN	**Pn**	**02 19 12.2**	**-1.7**
CERR	**Cheremushki**	**2.65**	**236**	*e*Pn	**Pn**	**02 19 20.1**	**-1.3**
CERR				*e*Pg	**Pb**	**02 19 22.4**	**-3.7**
CERR				*e*Sg	**Sn**	**02 19 52.4**	**-1.1**
CERR	**Cheremushki**	**2.65**	**236**	*e*PN	**Pn**	**02 19 20.1**	**-1.3**
CERR				*e*		02 19 52.4	
KZLR	**Kyzyl**	**2.72**	**188**	*e*Pg	**Pb**	**02 19 23.6**	**-3.7**
KZLR				*e*Sg	**Sb**	**02 19 56.8**	**-4.0**
KZLR	**Kyzyl**	**2.72**	**188**	*e*PN	**Pb**	**02 19 23.6**	**-3.7**
KZLR				*e*		02 19 56.8	
HVS	**Khovu-Aksy**	**3.37**	**194**	*e*P	**Pn**	**02 19 29.9**	**-1.4**
HVS	**Khovu-Aksy**	**3.37**	**194**	*e*PN	**Pn**	**02 19 29.9**	**-1.4**
LUZB	**Luzhba, Kemero**	**3.69**	**261**	*e*PN	**Pn**	**02 19 33.9**	**-1.7**
BRCR	**Berchikul'**	**4.05**	**291**	*e*PN	**Pn**	**02 19 40.3**	**-0.4**
ERNS	**Erzin**	**4.14**	**179**	*e*PN	**Pn**	**02 19 42.2**	**+0.2**
MOY	**Mondy**	**4.52**	**125**	*e*PN	**Pb**	**02 19 58.0**	**-0.1**
MOY				*i*		02 20 05.7	
MOY				*e*		02 20 57.7	
MOY				*i*		02 21 09.4	
TASR	**Tashtagol**	**4.56**	**252**	*e*Pn	**Pn**	**02 19 46.4**	**-1.3**
TASR				*e*Pg	**Pb**	**02 19 56.4**	**-2.3**
TASR				*e*Sg	**Sb**	**02 20 53.9**	**+0.2**
TASR	**Tashtagol**	**4.56**	**252**	*e*PN	**Pn**	**02 19 46.4**	**-1.3**
TASR				*e*		02 20 53.9	
ELT	**Eltsovka**	**5.33**	**261**	*e*Pn	**Pn**	**02 19 56.6**	**-1.5**
ELT				*e*Pg	**Pb**	**02 20 09.2**	**-2.5**
ELT				*e*Sg	**Sb**	**02 21 15.6**	**0.0**
ELT	**Eltsovka**	**5.33**	**261**	*e*PN	**Pn**	**02 19 56.6**	**-1.5**
ELT				*e*		02 21 15.6	
ARTR	**Artybash**	**5.34**	**244**	*e*Pn	**Pn**	**02 19 57.2**	**-1.2**
ARTR				*e*Pg	**Pb**	**02 20 11.3**	**-0.8**
ARTR				*e*Sg	**Sb**	**02 21 18.1**	**+2.0**
ARTR	**Artybash**	**5.34**	**244**	*e*PN	**Pn**	**02 19 57.2**	**-1.2**
ARTR				*e*		02 20 11.3	
ARTR				*e*		02 21 18.2	
ULGR	**Ulagan, Altay**	**5.74**	**232**	*e*PN	**Pn**	**02 20 06.2**	**+2.3**
TLY	**Talaya**	**5.87**	**114**	Pg	**Pb**	**02 20 22.6**	**+1.7**
	0.1nm,0.3s,baz=306,slow=12,SNR=13						
TLY				Lg	Lg	02 21 40.6	
	0.1nm,0.3s,baz=194,slow=17,SNR=9.7						
TLY				LR	LR	02 22 35.7	
	comp=Z,111nm,21.9s,baz=288,slow=40						
TLY	**Talaya**	**5.87**	**114**	Pn	**Pn**	**02 20 06.4**	**+0.8**
TLY				Pg	**Pb**	**02 20 22.6**	**+1.7**
TLY				*e*Pb	**Pb**	**02 20 23.2**	**+2.3**
TLY				*e*S	**Sb**	**02 21 37.6**	**+6.4**
TLY				Lg	Lg	02 21 40.6	
TLY	**Talaya**	**5.87**	**114**	*e*PN	**Pb**	**02 20 22.5**	**+1.6**
TLY				*e*		02 21 39.1	
TLY				pmax	pmax		
	comp=Z,14nm,0.4s						
CUR	**Chagan-Uzun**	**5.95**	**226**	*e*PN	Pn	02 20 10.4	+3.7
IRK	**Irkutsk**	**5.95**	**108**	*e*PN	**Pb**	**02 20 24.0**	**+1.7**
IRK				pmax	pmax		
	comp=Z,135nm,0.2s						
ZALV	**Zalesovo Beam**	**6.01**	**270**	Pn	**Pn**	**02 20 06.1**	**-1.4**
	comp=Z,0.8nm,0.3s,baz=88,slow=11,SNR=7.3						
ZALV				Pg	**Pb**	**02 20 21.7**	**-1.6**
	comp=Z,1.4nm,0.3s,baz=78,slow=13,SNR=7.4						
ZALV				Lg	Lg	02 21 38.0	
	comp=Z,5.8nm,0.3s,baz=83,slow=26,SNR=26						
ZALV				LR	LR	02 22 32.4	
	comp=Z,221nm,18.2s,baz=70,slow=40						
AKAR	**Aktash**	**6.11**	**231**	*e*Pn	**Pn**	**02 20 08.3**	**-0.6**
AKAR				*e*Pg	**Pb**	**02 20 26.6**	**+1.6**
AKAR				*e*Sg	**Sb**	**02 21 43.0**	**+4.8**
AKAR	**Aktash**	**6.11**	**231**	*e*PN	**Pn**	**02 20 08.3**	**-0.6**
AKAR				*e*		02 20 26.7	
AKAR				*e*		02 21 42.0	
CHBI	**Chibit, Altay**	**6.16**	**231**	*e*PN	Pb	02 20 18.5	-7.5
ZAK	**Zakamensk**	**6.46**	**125**	*e*PN	**Pb**	**02 20 31.5**	**+0.5**
ZAK				*e*		02 21 56.8	
ZAK				pmax	pmax		
	comp=Z,38nm,1.1s						
ZAK				smax	smax		
	comp=E,426nm,1.6s						
DGZ	**Jazzator, Alta**	**6.64**	**228**	*i* PN	**Pn**	**02 20 16.1**	**-0.2**
NVS	**Novosibirsk**	**6.86**	**278**	*e*Pn	**Pn**	**02 20 18.4**	**-0.8**
NVS				*e*Pg	**Pb**	**02 20 38.0**	**+0.1**
NVS				*e*Sg	**Sb**	**02 22 05.8**	**+6.0**
NVS	**Novosibirsk**	**6.86**	**278**	*e*PN	**Pn**	**02 20 18.4**	**-0.8**
NVS				*e*		02 22 05.8	
UKR	**Ust'-Kan**	**7.13**	**245**	*e*Pn	**Pn**	**02 20 22.0**	**-1.0**
UKR				*e*Pg	**Pb**	**02 20 43.8**	**+1.3**
UKR				*e*Sg	**Sb**	**02 22 13.9**	**+6.3**
UKR	**Ust'-Kan**	**7.13**	**245**	*e*PN	**Pn**	**02 20 21.0**	**-2.0**
UKR				*e*		02 20 43.8	
UKR				*e*		02 22 13.9	
SONM	**Songino Array**	**9.70**	**128**	Pn	**Pn**	**02 20 60.0**	**+1.7**
	comp=E,0.0nm,0.3s,baz=324,slow=14,SNR=2.6						
SONM				Pg		02 21 32.1	
	comp=E,0.4nm,0.3s,baz=306,slow=17,SNR=13						
SONM				Lg	Lg	02 23 41.4	
	comp=E,0.5nm,0.3s,baz=306,slow=13,SNR=4.1						
SONM	**Songino Array**	**9.70**	**128**	P	**Pn**	**02 21 00.0**	**+1.7**
ULN	**Ulaanbaatar**	**9.99**	**126**	*e*Pn	Pn	02 21 09.3	+7.1
ULN	**Ulaanbaatar**	**9.99**	**126**	*i* P	**Pn**	**02 21 02.5**	**+0.3**
ULN				pmax	pmax		
	comp=Z,1.0nm,0.9s						
KURK	**Kurchatov**	**10.64**	**256**	*e*Pn	**Pn**	**02 21 10.9**	**-0.1**
KURK	**Kurchatov**	**10.64**	**256**	*i* P	**Pn**	**02 21 10.3**	**-0.7**
KURK				pmax	pmax		
	comp=Z,3.0nm,0.8s						
KURBB	**Kurchatov Arra**	**10.74**	**256**	Pn	**Pn**	**02 21 09.4**	**-2.9**
	comp=Z,0.3nm,0.3s,baz=68,slow=15,SNR=9.7						
MKAR	**Makanchi Array**	**11.10**	**232**	Pn	**Pn**	**02 21 16.1**	**-1.2**
	comp=Z,0.2nm,0.3s,baz=40,slow=13,SNR=8.8						
MKAR				Lg	Lg	02 24 22.6	
	comp=Z,0.4nm,0.3s,baz=45,slow=22,SNR=5.5						
BOD	**Bodaibo**	**11.13**	**64**	*e*P	**Pn**	**02 21 15.6**	**-2.0**
BOD				*e*		02 23 21.6	
BOD				pmax	pmax		
	comp=Z,9.0nm,0.9s						
BVAR	**Borovoye Array**	**14.63**	**275**	Pn	**Pn**	**02 22 04.0**	**-1.5**
	comp=Z,0.1nm,0.3s,baz=73,slow=13,SNR=9.2						
BVAR	**Borovoye Array**	**14.63**	**275**	P	**Pn**	**02 22 04.0**	**-1.5**
BRVK	**Borovoye**	**14.69**	**275**	*e*Pn	**Pn**	**02 22 05.7**	**-0.5**
	comp=Z,5.4nm,0.8s						
BRVK	**Borovoye**	**14.69**	**275**	*i* P	**Pn**	**02 22 06.0**	**-0.2**
BRVK				pmax	pmax		
	comp=Z,2.0nm,1.0s						
KDJ	**Kajisay**	**17.02**	**231**	*e*P	**P**	**02 22 37.2**	**-1.4**
FRU	**Bishkek**	**17.70**	**238**	*e*P	**P**	**02 22 45.0**	**-1.0**
AAK	**Ala-Archa**	**17.91**	**237**	P	**P**	**02 22 49.3**	**+0.9**
	comp=Z,0.1nm,0.3s,baz=76,slow=7.5,SNR=4.8						
AAK	**Ala-Archa**	**17.91**	**237**	*e*Pn	**P**	**02 22 49.1**	**+0.8**
AAK				pmax	pmax		
	comp=Z,3.8nm,1.1s						
AAK	**Ala-Archa**	**17.91**	**237**	*i* P	**P**	**02 22 48.8**	**+0.4**
AAK				pmax	pmax		
	comp=Z,5.0nm,1.2s						
YAK	**Yakutsk**	**19.58**	**53**	*e*P	**Pn**	**02 23 06.6**	**-1.1**
	comp=Z,26nm,0.7s						
YAK	**Yakutsk**	**19.58**	**53**	*e*P	**Pn**	**02 23 06.2**	**-1.5**
YAK				*e*S	**S**	**02 26 40.6**	**-6.5**
YAK				pmax	pmax		
	comp=Z,16nm,0.8s						
YAK				pmax	pmax		
	comp=E,14nm,1.3s						
YAK				pmax	pmax		
	comp=Z,11nm,0.6s						
YAK				pmax	pmax		
	comp=E,8.0nm,0.8s						
YAK				MLR	MLR		
	comp=Z,193nm,16.0s						
YAK				MLR	MLR		
	comp=N,172nm,15.0s						
KKAR	**Karatay Array**	**19.61**	**245**	*e*P	**Pn**	**02 23 06.4**	**-1.9**
	comp=N,1.5nm,0.7s						
KKAR	**Karatay Array**	**19.61**	**245**	*e*P	**Pn**	**02 23 06.4**	**-1.9**
KKAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
ARU	**Arti**	**20.65**	**291**	*d* iP	Pn	02 23 20.8	+0.5
ARU						02 23 37.8	
ARU				SS	Sn	02 27 34.4	+21
ARU				pmax	pmax		
	comp=Z,9.0nm,2.5s						
ABKAR	**Akbulak array**	**22.13**	**271**	*e*P	**P**	**02 23 34.2**	**+0.2**
	comp=Z,3.7nm,1.0s						
TIXI	**Tiksi**	**22.59**	**27**	P	**P**	**02 23 38.6**	**-0.1**
	comp=Z,6.5nm,0.7s,baz=262,slon=8.2,SNR=15						
TIXI	**Tiksi**	**22.59**	**27**	*e*P	**P**	**02 23 38.6**	**-0.1**
	comp=Z,10.0nm,0.8s						
TIXI	**Tiksi**	**22.59**	**27**	*i* P	**P**	**02 23 37.9**	**-0.8**
TIXI				pmax	pmax		
	comp=Z,14nm,1.0s						
KLR	**Kul'dur**	**23.10**	**88**	P	**P**	**02 23 45.3**	**+1.1**
	comp=Z,0.2nm,0.7s,baz=287,slow=8.9,SNR=7.2						
KLR	**Kul'dur**	**23.10**	**88**	*i* P	**P**	**02 23 43.8**	**-0.5**
USRK	**Ussuriysk Ar.**	**25.89**	**98**	P	**P**	**02 24 11.7**	**+1.3**
	comp=Z,2.6nm,0.8s,baz=340,slow=7.8,SNR=3.5						
SEY	**Seymchan**	**30.04**	**50**	P	**P**	**02 24 48.2**	**+0.9**
	comp=Z,2.1nm,0.7s,baz=286,slow=7.4,SNR=6.9						
SEY	**Seymchan**	**30.04**	**50**	*i* P	**P**	**02 24 47.7**	**+0.4**
YSS	**Yuzh-Sakhalins**	**30.64**	**84**	P	P	02 24 44.2	-8.5
OBN	**Obninsk**	**32.89**	**296**	*e*P	**P**	**02 25 15.0**	**+2.6**
OBN				pmax	pmax		
	comp=Z,3.0nm,1.0s						
BILL	**Bilibino**	**34.68**	**39**	*e*P	**P**	**02 25 28.0**	**+0.2**
BILL				*e*		02 26 43.4	
BILL				*e*		02 28 02.5	
BILL				pmax	pmax		
	comp=Z,2.0nm,0.9s						
AKASG	**Malin Array Be**	**38.88**	**292**	pP	pP	02 26 06.0	-0.9
	comp=Z,1.0nm,0.7s,baz=53,slow=8.8,SNR=4.2						
DAG	**Danmarks Havn**	**42.66**	**342**	*e*P	**P**	**02 26 29.9**	**-4.8**
BRTR	**Keskin Array B**	**42.92**	**276**	pP	pP	02 26 40.6	+0.1
	comp=Z,0.7nm,0.7s,baz=53,slow=4.8,SNR=5.0						
RAYN	**Ar Rayn**	**47.91**	**250**	*e*P	**P**	**02 27 19.3**	**+2.4**
	comp=Z,3.9nm,1.0s						
RAYN	**Ar Rayn**	**47.91**	**250**	*e*P	**P**	**02 27 19.3**	**+2.4**
ILAR	**Eielson Array**	**52.05**	**29**	P	**P**	**02 27 47.7**	**-0.2**
	comp=Z,2.3nm,0.9s,baz=315,slow=4.4,SNR=26						
ILAR				pP	**sP**	**02 27 53.8**	**+1.5**
	comp=Z,1.7nm,0.8s,baz=306,slow=3.9,SNR=11						
YKA	**Yellowknife Ar**	**61.15**	**15**	P	**P**	**02 28 51.5**	**-1.0**
	comp=Z,0.6nm,0.7s,baz=338,slow=7.4,SNR=13						
YKA				pP	**sP**	**02 28 57.6**	**+0.6**
	comp=Z,0.5nm,0.8s,baz=340,slow=7.2,SNR=7.0						

*IDC **16** 02:23:53.8±8.8,30˚94S×178˚20W,h40km±71km,mb4.4/4, mb1 4.5/5,mb1mx3.8/46,mbtmp4.5/5,ML3.7/1, Error ellipse: s-maj=53.8km s-min=34.8km az=47.0*
*ISCJB **16** 02:23:58.6±0.4,31˚10S±0˙04×179˚2W±0˙1,h33km, mb4.5/4, Error ellipse: s-maj=14.8km s-min=3.3km az=22.0*
*WEL **16** 02:23:60.0±0.7,31˚S±7˚×17˚8W±2˚1,h33km,ML5.2/10*

ISC 16 02:23:58.5±0.9,**31˚17S**±0˙07×**178˚7W**±0˙1,**h35km,n36,** σ3**s12**/37,**mb4.6**/4,**Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GLKZ	**Green Lake**	**2.02**	**20**	P	**Pn**	**02 24 34.0**	**+4.0**
GLKZ	**Green Lake**	**2.02**	**20**	S	**Sn**	**02 24 57.6**	**+3.5**
RAO	**Raoul Island**	**2.03**	**19**	S	**Sn**	**02 24 58.6**	**+4.3**
	117nm,0.3s,baz=220,slow=24,SNR=8.1						
RIZ	**Raoul Island**	**2.03**	**19**	S	**Sn**	**02 24 59.6**	**+5.2**
MXZ	**Matakaoa Point**	**6.84**	**200**	S	**Sn**	**02 26 54.3**	**+1.5**
MXZ	**Matakaoa Point**	**6.84**	**200**	P	**Pn**	**02 25 37.2**	**+0.9**
WMGZ	**Waiomatatini S**	**7.04**	**199**	P	**Pn**	**02 25 40.8**	**+1.7**
WMGZ	**Waiomatatini S**	**7.04**	**199**	S	**Sn**	**02 26 59.3**	**+1.4**
HAZ	**Te Kaha**	**7.18**	**203**	P	**Pn**	**02 25 43.5**	**+2.6**
HAZ	**Te Kaha**	**7.18**	**203**	S	**Sn**	**02 27 06.5**	**+5.2**
PKGZ	**Pakihiroa**	**7.21**	**201**	P	**Pn**	**02 25 43.1**	**+1.7**
PKGZ	**Pakihiroa**	**7.21**	**201**	S	**Sn**	**02 27 03.0**	**+1.0**
PUZ	**Puketiti**	**7.33**	**199**	P	**Pn**	**02 25 44.4**	**+1.4**
PUZ	**Puketiti**	**7.33**	**199**	S	**Sn**	**02 27 08.0**	**+3.2**
RUGZ	**Raukumara Rang**	**7.41**	**203**	P	**Pn**	**02 25 46.9**	**+2.7**
RUGZ	**Raukumara Rang**	**7.41**	**203**	S	**Sn**	**02 27 06.9**	**-0.1**
TWGZ	**Tauwhareparae**	**7.50**	**201**	P	**Pn**	**02 25 47.6**	**+2.2**
TWGZ	**Tauwhareparae**	**7.50**	**201**	S	**Sn**	**02 27 12.9**	**+3.6**
WHRZ	**Whale Island**	**7.56**	**207**	S	**Sn**	**02 27 17.2**	**+6.5**
OUZ	**Omahuta**	**7.62**	**236**	P	**Pn**	**02 25 49.7**	**+2.8**
TKGZ	**Te Karaka**	**7.79**	**200**	S	**Sn**	**02 27 19.2**	**+3.1**
MWZ	**Matawai**	**7.79**	**202**	P	**Pn**	**02 25 49.6**	**+0.2**
MWZ	**Matawai**	**7.79**	**202**	S	**Sn**	**02 27 19.6**	**+3.3**
URZ	**Urewera**	**7.87**	**205**	P	**Pn**	**02 25 51.9**	**+1.5**
	1.0nm,0.3s,baz=301,slow=3.8,SNR=10.0						
URZ				S	**Sn**	**02 27 21.5**	**+3.4**
	8.7nm,0.3s,baz=124,slow=21,SNR=23						
URZ	**Urewera**	**7.87**	**205**	P	**Pn**	**02 25 51.7**	**+1.4**
RAGZ	**Rawiri**	**7.97**	**203**	P	**Pn**	**02 25 52.4**	**+0.5**
RAGZ	**Rawiri**	**7.97**	**203**	S	**Sn**	**02 27 23.2**	**+2.4**
RIGZ	**Rimuhau**	**8.06**	**200**	S	**Sn**	**02 27 24.8**	**+1.9**
MHGZ	**Mahia Peninsul**	**8.43**	**198**	P	**Pn**	**02 25 57.4**	**-0.8**
BKZ	**Black Stump Fm**	**8.89**	**205**	P	**Pn**	**02 26 05.0**	**+0.5**
CTA	**Charters Tower**	**33.34**	**281**	P	**P**	**02 30 32.6**	**-0.8**
	6.4nm,0.7s,baz=98,slow=11,SNR=5.2						
STKA	**Stephens Creek**	**33.73**	**258**	P	**P**	**02 30 36.2**	**-0.4**
	3.3nm,0.4s,baz=105,slow=12,SNR=11						
ASAR	**Alice Springs**	**42.48**	**268**	P	**P**	**02 31 48.0**	**-2.5**
	3.5nm,0.5s,baz=105,slow=7.4,SNR=25						
WRA	**Warramunga Arr**	**43.54**	**273**	P	**P**	**02 31 56.1**	**-2.9**
	4.2nm,0.4s,baz=111,slow=8.0,SNR=36						
FINES	**FINESS Array B**	**145.66**	**339**	PKPbc	**PKPdf**	**02 43 25.9**	**-6.5**
	0.8nm,0.4s,baz=45,slow=4.0,SNR=12						
TORD	**Toroidl Ar. Bea**	**162.06**	**181**	PKPab	**PKPab**	**02 44 38.5**	**-4.5**
	0.3nm,0.6s,baz=165,slow=5.0,SNR=4.7						

*IDC **16** 02:25:09.0±0.9,1˚36N×95˚31E,h0km,mb4.1/15, mb1 4.2/17,mb1mx3.9/77,mbtmp4.1/17,ML3.9/2,Error ellipse: s-maj=32.8km s-min=16.2km az=49.0*
*ISCJB **16** 02:25:12.2±0.6,1˚4N±0˙1×95˚45E±0˙06,h33km,mb4.1/17, Error ellipse: s-maj=15.6km s-min=7.3km az=22.5*
*NEIC **16** 02:25:12.3±2.5,1˚36N×95˚38E,h23km±17km,mb4.1/3, Error ellipse: s-maj=12.1km s-min=6.4km az=215.0*

ISC 16 02:25:14.3±0.8,**1˚4N**±0˙1×**95˚48E**±0˙08,**h35km,n28,** σ0**s87**/27,**mb4.2**/17,**Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GSI	**Gunungsitoli**	**2.10**	**93**	*e*Pn	**Pn**	**02 25 46.8**	**-0.2**
GSI				*e*S	**Sn**	**02 26 09.6**	**-2.4**
PSI	**Prapat**	**3.71**	**68**	Pn	**Pn**	**02 26 08.7**	**-0.5**
	6.0nm,0.3s,baz=300,slow=9.2,SNR=22						
PALK	**Pallekele**	**15.83**	**292**	*e*Pn	**Pn**	**02 28 53.2**	**-1.5**
	5.9nm,0.8s						
CMAR	**Chiang Mai Arr**	**17.26**	**11**	P	**P**	**02 29 14.4**	**+0.5**
	0.2nm,0.3s,baz=201,slow=11,SNR=7.2						
KKM	**Kota Kinabalu**	**21.19**	**77**	P	**P**	**02 29 58.2**	**+1.1**
	3.1nm,0.4s						
H01W3	**Cape Leeuwin H**	**40.13**	**156**	T	T	03 16 25.0	
	baz=333,slow=74,SNR=2.7						
H01W2	**Cape Leeuwin H**	**40.13**	**156**	T	T	03 16 47.5	
	baz=333,SNR=7.0						
H01W1	**Cape Leeuwin H**	**40.15**	**156**	T	T	03 16 13.3	
	baz=333,slow=74,SNR=1.8						
WRA	**Warramunga Arr**	**43.62**	**121**	P	**P**	**02 33 16.3**	**+0.6**
	1.8nm,0.9s,baz=300,slow=9.0,SNR=4.4						
WRAB	**Tennant Creek**	**43.63**	**121**	P	**P**	**02 33 15.6**	**-0.1**
	7.9nm,1.3s						
ASAR	**Alice Springs**	**44.91**	**126**	P	**P**	**02 33 26.9**	**+0.9**
	0.6nm,0.6s,baz=295,slow=7.0,SNR=3.6						
MKAR	**Makanchi Array**	**46.63**	**348**	P	**P**	**02 33 39.8**	**+0.6**
	3.7nm,0.7s,baz=163,slow=9.0,SNR=10						
SONM	**Songino Array**	**47.18**	**10**	P	**P**	**02 33 44.1**	**+0.5**
	2.7nm,0.9s,baz=190,slow=9.7,SNR=5.8						
SONM				PcP	**PcP**	**02 35 15.8**	**+1.0**
	0.8nm,0.7s,baz=188,slow=2.9,SNR=2.8						
KURBB	**Kurchatov Arra**	**51.08**	**346**	P	**P**	**02 34 13.6**	**+0.4**
	2.3nm,0.7s,baz=167,slow=6.8,SNR=8.5						
KURK	**Kurchatov**	**51.15**	**346**	P	**P**	**02 34 13.6**	**0.0**
ZALV	**Zalesovo Beam**	**53.08**	**352**	P	**P**	**02 34 28.3**	**+0.3**
	5.0nm,0.7s,baz=186,slow=7.2,SNR=12						
STKA	**Stephens Creek**	**54.79**	**131**	P	**P**	**02 34 41.7**	**+0.7**
	3.3nm,1.0s,baz=331,slow=9.2,SNR=2.9						
BVAR	**Borovoye Array**	**55.48**	**342**	P	**P**	**02 34 45.2**	**-0.3**
	1.9nm,0.7s,baz=147,slow=8.9,SNR=5.6						
ABKAR	**Akbulak array**	**56.51**	**333**	*e*P	**P**	**02 34 52.4**	**-0.6**
BRTR	**Keskin Array B**	**67.69**	**313**	P	**P**	**02 36 07.8**	**-0.6**
	1.6nm,0.7s,baz=143,slow=6.3,SNR=6.6						
TIXI	**Tiksi**	**73.27**	**10**	P	**P**	**02 36 41.4**	**-0.2**
	0.5nm,0.3s,baz=253,slow=2.3,SNR=3.7						
AKASG	**Malin Array Be**	**74.03**	**323**	P	**P**	**02 36 45.6**	**-0.9**
	0.3nm,0.5s,baz=94,slow=4.4,SNR=4.3						
SEY	**Seymchan**	**74.23**	**23**	P	**P**	**02 36 48.2**	**+0.8**
	1.9nm,0.7s,baz=76,slow=1.0,SNR=3.9						
FINES	**FINESS Array B**	**79.00**	**333**	P	**P**	**02 37 14.2**	**-0.2**
	0.8nm,0.6s,baz=69,slow=6.3,SNR=4.0						
ARCES	**ARCESS Array B**	**81.74**	**340**	P	**P**	**02 37 29.5**	**+0.4**
	6.5nm,1.1s,baz=77,slow=5.5,SNR=5.6						
GERES	**GERESS Array B**	**83.51**	**319**	P	**P**	**02 37 39.7**	**+1.0**
	1.2nm,0.8s,baz=98,slow=4.0,SNR=4.6						
CPUP	**Villa Florida**	**143.99**	**224**	PKP	**PKPdf**	**02 44 45.9**	**-1.1**
	1.8nm,0.7s,baz=110,slow=0.8,SNR=4.6						
TXAR	**Lajitas Array**	**144.35**	**29**	PKP	**PKPdf**	**02 44 47.1**	**-0.5**
	0.3nm,0.7s,baz=202,slow=1.0,SNR=3.5						

*ISCJB **16** 02:30:54.4±0.8,34˚67S±0˙06×179˚4W±0˙2,h35km, mb3.7/2, Error ellipse: s-maj=22.6km s-min=4.4km az=21.5*
*WEL **16** 02:30:56.1±0.7,35˚S±7˚×17˚9W±1˚6,h33km,ML4.4/15*
*IDC **16** 02:31:00.0±8.7,35.01S×179.46W,h75km±81km,mb3.5/2, mb1 3.8/3,mb1mx3.4/43,mbtmp3.9/3,ML3.9/1,Error ellipse: s-maj=81.1km s-min=54.1km az=161.0*

ISC 16 02:30:55.4±1.3,**34˚70S**±0˙08×**179˚3W**±0˙2,

0.2nm,0.3s,baz=219,slow=12,SNR=12
HYB Hyderabad 18.76 325 *i* P **Pn 02 35 40.5 +0.8**
CHTO Chiang Mai 19.03 28 *e*P **Pn 02 35 44.7 +1.7**
4.8nm,1.0s
H08S2 Diego Garcia H 19.59 240 T T 02 55 42.5
baz=61,slow=75,SNR=224
H08S3 Diego Garcia H 19.59 241 T T 02 55 45.8
baz=61,slow=75,SNR=182
H08S1 Diego Carcia H 19.61 240 T T 02 55 56.0
baz=61,slow=75,SNR=179
SKNT Sakolnakorn 20.51 43 P Pn 02 36 00.3 -0.3
KSM Kuching 20.70 91 *e*P Pn 02 36 05.5 +2.6
POO Poona 22.53 318 *e*P **P 02 36 16.0 -4.2**
ODAN Odare 24.78 355 *e*P **P 02 36 43.6 +1.2**
47nm,1.0s
RAMN Ramite 24.95 354 *e*P **P 02 36 46.7 +2.8**
54nm,0.9s
JIRN Jiri 25.70 353 *e*P **P 02 36 52.2 +1.4**
DMN Daman 25.80 351 *e*P **P 02 36 54.5 +2.9**
34nm,0.9s
GUN Gumba 25.98 352 *e*P **P 02 36 54.4 +1.0**
55nm,0.9s
KOLN Koldanda 26.23 348 *e*P **P 02 36 59.5 +4.0**
16nm,0.7s
GKN Gorkha 26.26 350 *e*P **P 02 36 57.7 +2.0**
33nm,0.7s
PYUN Piuthan 26.69 347 *e*P **P 02 37 03.0 +3.4**
LSA Lhasa 27.56 3 *e*P **P 02 37 13.5 +5.8**
H01W3 Cape Leeuwin H 43.33 150 T T 03 25 28.6
baz=324,slow=74,SNR=9.4
H01W2 Cape Leeuwin H 43.34 150 T T 03 25 35.4
baz=324,slow=74,SNR=9.7
H01W1 Cape Leeuwin H 43.34 150 T T 03 25 30.1
baz=324,slow=74,SNR=14
MK01 Makanchi Array 45.02 353 *e*P P 02 39 44.6 +8.9
MK31 Makanchi Array 45.04 353 *e*P **P** 02 39 45.2 +9.3
MKAR Makanchi Array 45.04 353 P **P 02 39 35.7 -0.2**
0.3nm,0.5s,baz=171,slow=8.5,SNR=4.4
GEYT Ailbeck 45.94 325 P **P 02 39 43.6 +0.4**
2.0nm,0.5s,baz=172,slow=4.5,SNR=5.0
RAYN Ar Rayn 47.73 300 *e*P P 02 40 06.5 +9.1
SONM Songino Array 47.89 15 P **P 02 39 58.7 +0.3**
4.3nm,0.7s,baz=195,slow=9.0,SNR=26
WRA Warramunga Arr 49.01 119 P **P 02 40 05.7 -1.6**
2.6nm,0.8s,baz=296,slow=8.5,SNR=9.6
KURK Kurchatov 49.40 351 *e*P P 02 40 18.7 +9.0
5.8nm,0.9s
ASAR Alice Springs 50.08 123 P **P 02 40 14.2 -1.2**
1.3nm,0.7s,baz=295,slow=7.7,SNR=11
AS01 Alice Springs 50.11 123 *e*P P 02 40 24.1 +8.4
ZALV Zalesovo Beam 51.90 356 P **P 02 40 28.0 -0.6**
0.8nm,0.5s,baz=193,slow=8.8,SNR=3.2
KBZ Khabaz 58.60 322 P **P 02 41 17.4 +0.3**
2.5nm,0.8s,baz=134,slow=6.6,SNR=7.0
KLR Kul'dur 59.18 31 LR LR 03 08 12.3
comp=Z,119nm,18.5s,baz=238,slow=37
BRTR Keskin Array B 63.02 314 P **P 02 41 46.7 -0.8**
0.9nm,0.6s,baz=130,slow=7.4,SNR=8.9
MLR Muntele Rosu 70.91 318 P **P 02 42 34.2 +0.2**
1.7nm,1.0s,baz=175,slow=3.1,SNR=8.8
GEC2 GERESS Array S 79.21 319 *e*P P 02 43 35.7 +10
GERES GERESS Array B 79.21 319 P **P 02 43 24.8 -0.6**
0.4nm,0.4s,baz=91,slow=5.9,SNR=7.3
NOA NORSAR Array B 82.61 331 LR LR 03 24 13.5
comp=Z,779nm,21.3s,baz=115,slow=38
TX31 Lajitas Ar. Si 146.32 21 *e*PKPdf PKPab 02 51 11.5 +9.0
TXAR Lajitas Array 146.33 21 PKPbc **PKPdf 02 51 00.1 -0.5**
0.7nm,0.9s,baz=258,slow=3.3,SNR=4.1

*NEIC **16** 02:56:25.4±0.0, 18°.23N×68°.04W, h106km, MD3.4(RSPR), After RSPR.*
RSPR 16 02:56:25.4, 18°.23N×68°.04W, h106km±1km, MD3.4/9, 14C-4D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMPR	**Mona Island, P**	**0.18**	**146**	*e*P	Pn	02 56 40.0	-0.3
IMPR	**Mona Island, P**	**0.18**	**146**	*e*S	Sn	02 56 51.1	-0.2
IDE	**Isla Desecheo**	**0.56**	**74**	*e*P	Pn	02 56 41.6	-0.6
IDE	**Isla Desecheo**	**0.56**	**74**	*e*S	Sn	02 56 54.4	-0.5
IDE	**Isla Desecheo**	**0.56**	**74**	*e*P	Pn	02 56 41.6	-0.6
IDE				*e*S	Sn	02 56 54.4	-0.5
LSP	**Las Mesas**	**0.91**	**93**	*e*P	Pn	02 56 45.0	-0.4
LSP				*e*S	Sn	02 57 00.4	0.0
LSP	**Las Mesas**	**0.91**	**93**	*e*P	Pn	02 56 45.0	-0.4
CRPR	**Cabo Rojo, PR**	**0.91**	**104**	*e*P	Pn	02 56 44.9	-0.4
CRPR	**Cabo Rojo, PR**	**0.91**	**104**	*e*S	Sn	02 56 59.9	-0.5
CRPR	**Cabo Rojo, PR**	**0.91**	**104**	*e*P	Pn	02 56 44.9	-0.4
CRPR				*e*S	Sn	02 56 59.9	-0.5
AGPR	**Aguadilla, PR**	**0.91**	**75**	*e*P	Pn	02 56 45.1	-0.2
AGPR	**Aguadilla, PR**	**0.91**	**75**	*e*S	Sn	02 57 00.6	+0.1
AGPR	**Aguadilla, PR**	**0.91**	**75**	*e*P	Pn	02 56 45.1	-0.2
AGPR				*e*S	Sn	02 57 00.6	+0.1
AOPR	**Arecibo Observ**	**1.23**	**84**	*e*P	Pn	02 56 48.4	-0.4
AOPR	**Arecibo Observ**	**1.23**	**84**	*e*S	Sn	02 57 05.9	-0.6
AOPR	**Arecibo Observ**	**1.23**	**84**	*e*P	Pn	02 56 48.4	-0.4
AOPR				*e*S	Sn	02 57 05.9	-0.6
DR12	**Loma Pena Alta**	**1.39**	**294**	*e*P	Pn	02 56 50.4	-0.3
DR12				*e*S	Sn	02 57 09.5	-0.4
DR12	**Loma Pena Alta**	**1.39**	**294**	*e*P	Pn	02 56 50.4	-0.3
CELP	**Cerrillos**	**1.40**	**96**	*e*P	Pn	02 56 50.3	-0.5
CELP				*e*S	Sn	02 57 10.5	+0.5
CELP	**Cerrillos**	**1.40**	**96**	*e*P	Pn	02 56 50.3	-0.5
EMPR	**Esperanza - Ma**	**1.46**	**80**	*e*P	Pn	02 56 51.1	-0.3
EMPR	**Esperanza - Ma**	**1.46**	**80**	*e*S	Sn	02 57 11.1	-0.1
EMPR	**Esperanza - Ma**	**1.46**	**80**	*e*P	Pn	02 56 51.1	-0.3
EMPR				*e*S	Sn	02 57 11.1	-0.1
SJG	**San Juan**	**1.80**	**93**	*e*P	Pn	02 56 56.0	+0.3
SJG				*e*S	Sn	02 57 18.4	-0.4
SJG	**San Juan**	**1.80**	**93**	*e*Pn	Pn	02 56 55.3	-0.4
SJG				*e*S	Sn	02 57 18.1	-0.7
SDDR	**Presa de Saban**	**3.17**	**284**	*e*Pn	Pn	02 57 16.4	+2.8
SDDR				*e*S	Sn	02 57 55.7	+4.9

KRSC 16 02:58:23.8±1.7, 52°.12N×159°.34E, h52km±18km, ML3.9, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUS	**Russkaya**	**0.59**	**302**	*e*P	Pn	02 58 37.1	+0.8
RUS				*e*S	Sn	02 58 45.6	+0.3
MTVR	**Mutnovka**	**0.80**	**298**	*i* P	Pn	02 58 40.2	+1.2
MTVR				*i* S	Sn	02 58 49.9	-0.2
KDTR	**Khodutka, Kamc**	**0.84**	**249**	*i* P	Pn	02 58 40.4	+1.0
KDTR				*e*S	Sn	02 58 51.1	+0.3
ASAK	**Asacha**	**0.92**	**287**	*e*P	Pn	02 58 42.2	+1.6
ASAK				*e*S	Sn	02 58 53.4	+0.5
DALK	**Dalny**	**0.98**	**339**	*e*P	Pn	02 58 42.5	+1.2
DALK				*e*S	Sn	02 58 55.1	+1.0
PET	**Petropavlovsk**	**1.00**	**336**	*e*P	Pn	02 58 42.9	+1.4
PET				*e*S	Sn	02 58 55.3	+0.8
KRMR	**Karymshinskiy**	**1.02**	**314**	*i* P	Pn	02 58 43.4	+1.5
KRMR				*e*S	Sn	02 58 56.5	+1.3
NLC	**Nalytchevo**	**1.05**	**0**	*e*P	Pn	02 58 44.3	+2.1
NLC				*e*S	Sn	02 58 56.5	+0.6
SPN	**Mys Shipunski**	**1.06**	**23**	*e*P	Pn	02 58 44.9	+2.5
SPN				*e*S	Sn	02 58 59.8	+3.6
UGLR	**Uglovaya**	**1.13**	**344**	*e*P	Pn	02 58 45.1	+1.6
SMAR	**Somma**	**1.19**	**344**	*e*P	Pn	02 58 45.4	+1.1
SDLR	**Sedlovina**	**1.19**	**347**	*e*P	Pn	02 58 45.5	+1.2
AVH	**Avacha**	**1.20**	**343**	*e*P	Pn	02 58 46.1	+1.7
KRER	**Koryakskii**	**1.24**	**343**	*e*P	Pn	02 58 46.6	+1.6
KOK	**Koryaka**	**1.25**	**340**	*e*P	Pn	02 58 47.3	+2.3
KRX	**Arik**	**1.31**	**342**	*e*P	Pn	02 58 48.2	+2.3
APC	**Apacha**	**1.56**	**302**	*e*P	Pn	02 58 51.1	+2.0
APC				*e*S	Sn	02 59 11.1	+3.0
MIPR	**Malaya Ipel'ka**	**1.59**	**277**	*e*P	Pn	02 58 51.7	+2.1
PAU	**Pauzhetka**	**1.70**	**248**	*e*P	Pn	02 58 53.4	+2.4
GNL	**Ganaly**	**1.79**	**332**	*e*P	Pn	02 58 54.7	+2.3
GNL				*e*S	Sn	02 59 15.4	+1.4
KII	**Karymskiy**	**1.92**	**2**	P	Pn	02 58 57.8	+3.7
KZV	**Kizimen**	**3.05**	**10**	*e*P	Pn	02 59 13.7	+4.0
TUMR	**Tumrok**	**3.21**	**8**	*e*P	Pn	02 59 16.0	+4.3
KMNR	**Kamenistaya**	**3.68**	**8**	*e*P	Pn	02 59 22.5	+4.3
ZLN	**Zelenaya**	**4.00**	**12**	*e*P	Pn	02 59 27.2	+4.6
KBTR	**Krutoberegovo**	**4.58**	**25**	*e*P	Pn	02 59 33.7	+3.3
SMKR	**Semkarok**	**4.64**	**15**	*e*P	Pn	02 59 36.1	+4.7
SRKR	**Sorokina**	**4.67**	**13**	*e*P	Pn	02 59 35.4	+3.7
BKI	**Bering**	**5.01**	**49**	*e*P	Pn	02 59 38.9	+2.6
BKI				*e*S	Sn	03 00 30.1	-2.7

IDC 16 02:59:17.1±2.5, 1°.40N×95°.54E, h0km, mb3.4/3, mb1 3.5/5, mb1mx3.2/70, mbtmp3.4/5, ML3.4/2, Error ellipse: s-maj=60.7km s-min=28.6km az=57.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**3.66**	**68**	Pn	Pn	03 00 14.2	-0.9
	1.1nm,0.3s,baz=280,slow=10,SNR=7.6						
CMAR	**Chiang Mai Arr**	**17.28**	**11**	P	Pn	03 03 20.3	+0.4
	0.1nm,0.3s,baz=205,slow=12,SNR=4.1						
H08S2	**Diego Garcia H**	**24.68**	**248**	T	T	03 31 34.8	
	baz=67,slow=75,SNR=13						
H08S3	**Diego Garcia H**	**24.68**	**248**	T	T	03 31 35.3	
	baz=67,slow=75,SNR=7.0						
H08S1	**Diego Carcia H**	**24.70**	**248**	T	T	03 31 35.4	
	baz=67,slow=75,SNR=18						
WRA	**Warramunga Arr**	**43.56**	**121**	P	P	03 07 23.0	-0.1
	0.4nm,0.6s,baz=300,slow=8.6,SNR=3.0						
MKAR	**Makanchi Array**	**46.67**	**348**	P	P	03 07 47.0	-0.5
	0.2nm,0.5s,baz=151,slow=7.2,SNR=3.5						
SONM	**Songino Array**	**47.20**	**10**	P	P	03 07 51.9	+0.1
	0.2nm,0.4s,baz=197,slow=8.4,SNR=2.9						

*IDC **16** 03:00:14.9±1.4, 17°.76S×167°.62E, h0km, mb4.1/9, mb1 4.3/9, mb1mx4.0/45, mbtmp4.1/9, Error ellipse: s-maj=52.8km s-min=21.0km az=138.0*
ISC 16 03:00:17.8±1.3, 17°.9S±0°.3×167°.7E±0°.2, h23km, n22, σ1s63/23, mb4.0/10, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**27.40**	**234**	P	**P**	**03 06 03.9**	**+2.2**
	3.8nm,1.0s,baz=41,slow=10,SNR=6.3						
WRA	**Warramunga Arr**	**31.60**	**261**	P	**P**	**03 06 38.1**	**-1.0**
	1.0nm,0.8s,baz=91,slow=9.7,SNR=6.1						
ASAR	**Alice Springs**	**32.07**	**254**	P	**P**	**03 06 42.7**	**-0.7**
	3.9nm,0.7s,baz=80,slow=8.9,SNR=32						
PETK	**Petropavlovsk-**	**71.19**	**354**	P	**P**	**03 11 34.4**	**-0.2**
	5.9nm,0.9s,baz=123,slow=5.5,SNR=5.8						
KLR	**Kul'dur**	**74.01**	**336**	P	**P**	**03 11 52.5**	**+1.0**
	0.1nm,0.2s,baz=141,slow=6.6,SNR=4.0						
CMAR	**Chiang Mai Arr**	**76.60**	**295**	P	**P**	**03 12 08.2**	**+1.1**
	1.6nm,0.9s,baz=124,slow=4.7,SNR=9.8						
SEY	**Seymchan**	**81.41**	**353**	P	**P**	**03 12 33.1**	**+0.7**
	3.4nm,0.7s,baz=144,slow=6.3,SNR=10.0						
SONM	**Songino Array**	**85.24**	**324**	P	**P**	**03 12 52.9**	**+0.2**
	0.2nm,0.5s,baz=156,slow=5.5,SNR=3.6						
NVAR	**Mina Array Bea**	**88.99**	**49**	P	**P**	**03 13 12.4**	**+1.1**
	1.0nm,1.0s,baz=221,slow=5.7,SNR=5.0						
ILAR	**Eielson Array**	**89.35**	**18**	P	**P**	**03 13 11.7**	**-0.3**
	0.4nm,0.8s,baz=241,slow=4.7,SNR=4.2						
YKA	**Yellowknife Ar**	**100.11**	**27**	P	**Pdif**	**03 14 00.9**	**-0.4**
	0.3nm,1.0s,baz=252,slow=5.1,SNR=3.7						
ARSA	**Arzberg**	**142.83**	**328**	*e*PKiKP	**PKiKP**	**03 19 52.7**	**0.0**
	1.0nm,0.6s						
MOA	**Molln**	**143.03**	**330**	*e*PKiKP	**PKiKP**	**03 19 52.8**	**-0.2**
	0.5nm,0.4s						
SOKA	**Soboth**	**143.47**	**328**	*e*PKiKP	**PKiKP**	**03 19 53.0**	**-1.0**
	1.6nm,0.2s						
OBKA	**Obir**	**143.82**	**328**	*e*PKiKP	**PKiKP**	**03 19 53.6**	**-1.2**
	1.0nm,0.3s						
KBA	**Koelnbreinsper**	**144.02**	**330**	*e*PKiKP	**PKiKP**	**03 19 54.1**	**-1.2**
ABTA	**Abfaltersbach**	**144.65**	**330**	*e*PKiKP	**PKPab**	**03 19 51.7**	**+0.3**
	1.6nm,0.6s						
WTTA	**Wattenberg**	**144.68**	**331**	*e*pPKiKP	**PKiKP**	**03 19 53.4**	**-3.3**
	2.6nm,0.4s						
MOTA	**Moosalm**	**144.86**	**332**	*e*PKiKP	**PKPab**	**03 19 49.6**	**-2.7**
	0.7nm,0.4s						
FETA	**Feichten**	**145.27**	**332**	*e*pPKiKP	**PKiKP**	**03 19 54.7**	**-3.2**
	4.4nm,0.9s						
DAVA	**Damuels**	**145.44**	**333**	*e*sPKiKP	**PKiKP**	**03 19 55.3**	**-2.9**
	2.1nm,0.6s						
TORD	**Tororo Ar. Bea**	**165.72**	**253**	PKP	**PKPdf**	**03 20 22.2**	**+0.6**
	0.5nm,0.9s,baz=158,slow=3.4,SNR=3.6						
TORD				PKPab	**PKPab**	**03 21 19.7**	**-1.2**
	0.5nm,0.9s,baz=154,slow=4.4,SNR=3.6						

*NEIC **16** 03:02:01.0±0.0, 33°.51N×116°.31W, h13km, ML2.5(PAS), After PAS.*
NEIC Felt [III] at La Quinta. Also felt at Palm Desert.
ISC 16 03:02:00.4±0.8, 33°.49N±0°.02×116°.31W±0°.02, h13km±6km, n55, σ0s57/84, Southern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
XPFO	**Piæon Flat**	**0.17**	**313**	*e*Pg	**Pg**	**03 02 04.2**	**-0.2**
XPFO				*e*Sg	**Sg**	**03 02 07.1**	**-0.3**
PFO	**Pinyon Flats O**	**0.17**	**313**	P	**Pg**	**03 02 04.4**	**-0.1**
	baz=134,SNR=310						
PFO				S	**Sg**	**03 02 06.9**	**-0.5**
	baz=134						
PFO	**Pinyon Flats O**	**0.17**	**313**	*e*Pg	**Pg**	**03 02 04.4**	**-0.1**
PFO				*e*Sg	**Sg**	**03 02 07.0**	**-0.5**
BORC	**Borrego Spring**	**0.24**	**202**	*e*Pg	**Pg**	**03 02 06.1**	**+0.5**
FRD	**Ford Ranch, An**	**0.25**	**270**	*e*Pg	**Pg**	**03 02 08.0**	**+0.3**
SNDA	**J Saunders Pla**	**0.26**	**283**	*e*Pg	**Pg**	**03 02 06.3**	**+0.3**
DNR	**Dunn Ranch,Anz**	**0.28**	**285**	*e*Pg	**Pg**	**03 02 06.7**	**+0.4**
CTCC	**Cactus City**	**0.31**	**59**	*e*Pg	**Pg**	**03 02 07.3**	**+0.5**
CRY	**Cary Ranch**	**0.37**	**281**	*e*Pg	**Pg**	**03 02 08.1**	**+0.3**
BATC	**Bat Cave Butte**	**0.39**	**95**	*e*Pg	**Pb**	**03 02 09.1**	**-0.1**
PLM	**Palomar**	**0.48**	**253**	*e*Pg	**Pg**	**03 02 10.3**	**+0.3**
ERRC	**Elmore Ranch**	**0.55**	**133**	*e*Pg	**Pb**	**03 02 12.4**	**+0.5**
ERRC				*e*Sg	**Sb**	**03 02 21.2**	**+1.4**
FRK	**Frink**	**0.57**	**99**	*e*Pg	**Pg**	**03 02 11.7**	**+0.2**
BELC	**Belle Mtn. Jos**	**0.57**	**27**	P	**Pg**	**03 02 11.5**	**-0.1**
	baz=207,SNR=64						
BELC				S	**Sg**	**03 02 19.1**	**0.0**
	baz=207						
BELC	**Belle Mtn. Jos**	**0.57**	**27**	*e*Pg	**Pg**	**03 02 11.5**	**-0.1**
CBKC	**Canebrake**	**0.59**	**176**	*e*Pg	**Pg**	**03 02 12.3**	**+0.3**
DGR	**Domenigoni Val**	**0.61**	**285**	*e*Pg	**Pb**	**03 02 13.7**	**+0.7**
DGR				*e*Sg	**Sg**	**03 02 20.5**	**+0.1**
MONP2	**Monument Peak**	**0.61**	**189**	P	**Pg**	**03 02 12.6**	**+0.3**
MONP2	8.7,SNR=12						
	baz=8.7						
HMTC	**Hemet**	**0.62**	**290**	*e*Pg	**Pg**	**03 02 12.4**	**-0.1**
HMTC				*e*Sg	**Sg**	**03 02 20.6**	**-0.2**
CRR	**Carrizo Plain**	**0.67**	**155**	*e*Pg	**Pb**	**03 02 14.0**	**0.0**
SWSC	**Sam W. Stewart**	**0.69**	**142**	P	**Pg**	**03 02 13.8**	**-0.1**
	baz=322,SNR=15						
SWSC				S	**Sg**	**03 02 23.2**	**+0.2**
	baz=322						
HWB	**Hans Werner Br**	**0.72**	**230**	*e*Pg	**Pg**	**03 02 14.1**	**-0.3**
HWB				*e*Sg	**Sg**	**03 02 23.7**	**-0.1**
DPP	**Dos Picos Cty**	**0.72**	**227**	*e*Pg	**Pg**	**03 02 14.3**	**-0.2**
DPP				*e*Sg	**Sg**	**03 02 23.9**	**-0.2**
BC3	**Big Chuckawall**	**0.73**	**77**	P	**Pg**	**03 02 14.5**	**-0.1**
	baz=258,SNR=37						
BC3				S	**Sg**	**03 02 24.0**	**-0.3**
	baz=258						
MURC	**Murrieta**	**0.75**	**278**	P	**Pg**	**03 02 14.6**	**-0.4**
	baz=98,SNR=17						
MURC				S	**Sg**	**03 02 24.2**	**-0.6**
	baz=98						
EML	**El Monte Cty P**	**0.75**	**217**	*e*Pg	**Pg**	**03 02 14.7**	**-0.3**
IKP	**In-Ko-Pah, Jac**	**0.86**	**169**	P	**Pg**	**03 02 16.7**	**-0.3**
	baz=349,SNR=8.4						
IKP				S	**Sg**	**03 02 28.3**	**+0.1**
	baz=349						
BAR	**Barrett**	**0.87**	**201**	*e*Pg	**Pg**	**03 02 16.8**	**-0.4**
BAR				*e*Sg	**Sg**	**03 02 27.9**	**-0.6**
WESC	**Westside Schoo**	**0.88**	**146**	*e*Pn	**Pn**	**03 02 18.6**	**+0.1**
WESC				*e*Sn	**Sn**	**03 02 31.1**	**0.0**
109C	**Camp Elliot, M**	**0.90**	**228**	P	**Pg**	**03 02 17.1**	**-0.7**
	baz=47,SNR=20						
109C				S	**Sg**	**03 02 28.7**	**-0.8**
	baz=47						
CPE	**Camp Elliot**	**0.90**	**228**	*e*Pg	**Pg**	**03 02 17.2**	**-0.6**
CPE				*e*Sg	**Sg**	**03 02 28.9**	**-0.7**
YUH	**Yuha Desert**	**0.90**	**159**	*e*Pg	**Pg**	**03 02 17.2**	**-0.6**
BBRC	**Big Bear Solar**	**0.92**	**327**	P	**Pg**	**03 02 17.7**	**-0.6**
	baz=146,SNR=8.3						
BBRC				S	**Sg**	**03 02 30.1**	**-0.3**
	baz=146						
BBRC	**Big Bear Solar**	**0.92**	**327**	*e*Pn	**Pb**	**03 02 19.1**	**+0.6**
BBRC				*e*Sg	**Sg**	**03 02 30.2**	**-0.1**
IRM	**Iron Mountain**	**1.17**	**55**	P	**Pb**	**03 02 22.3**	**-0.3**
	baz=236,SNR=54						
IRM				S	**Sb**	**03 02 38.0**	**+0.3**
	baz=236						
IRM	**Iron Mountain**	**1.17**	**55**	*e*Pn	**Pb**	**03 02 22.4**	**-0.2**
IRM				*e*Sn	**Sb**	**03 02 38.0**	**+0.3**
GLA	**Glamis**	**1.32**	**109**	*e*Pn	**Pn**	**03 02 24.7**	**+0.1**
GLA				*e*S	**Sb**	**03 02 39.1**	**-2.8**
HEC	**Hector,Ludlow**	**1.33**	**359**	P	**Pn**	**03 02 25.0**	**+0.1**
	baz=179,SNR=7.5						
HEC				S	**Sg**	**03 02 43.2**	**-0.3**
	baz=179						
BFSC	**Mount Baldy Ra**	**1.35**	**304**	P	**Pn**	**03 02 24.9**	**-0.2**
	baz=123						
SSK	**Sunset Peak**	**1.36**	**302**	*e*Pn	**Pn**	**03 02 25.6**	**+0.3**
SSK				*e*Sn	**Sb**	**03 02 43.4**	**+0.1**
GMRC	**Granite Mounta**	**1.40**	**22**	Pb	**Pb**	**03 02 26.5**	**0.0**
	baz=203,SNR=19						
GMRC	**Granite Mounta**	**1.40**	**22**	*e*Pn	**Pb**	**03 02 26.7**	**+0.2**
PEM	**Pine Mountain**	**1.46**	**298**	*e*Pn	**Pn**	**03 02 27.1**	**+0.6**
Y12C	**Blythe**	**1.51**	**80**	Pb	**Pb**	**03 02 28.5**	**+0.1**
	baz=261						
Y12C				S	**Sb**	**03 02 48.1**	**+0.7**
	baz=261						
Y12C	**Blythe**	**1.51**	**80**	*e*Pn	**Pn**	**03 02 27.6**	**+0.3**
HOLC	**Holcomb Ridge**	**1.60**	**307**	*e*Pn	**Pb**	**03 02 29.8**	**-0.2**
MWC	**Mount Wilson**	**1.63**	**297**	*e*Pn	**Pn**	**03 02 29.3**	**+0.3**
MWC				*e*Sn	**Sn**	**03 02 49.4**	**-0.6**
PASC	**Pasadena Art C**	**1.70**	**294**	*e*Pn	**Pn**	**03 02 30.0**	**+0.1**
CIS	**Catalina Islan**	**1.77**	**268**	S	**Sn**	**03 02 54.1**	**+0.9**
	baz=86						
GSC	**Goldstone, Bar**	**1.85**	**347**	Pb	**Pb**	**03 02 34.6**	**+0.4**
	baz=167						
GSC	**Goldstone, Bar**	**1.85**	**347**	*e*Pn	**Pn**	**03 02 32.4**	**+0.4**
GSC				*e*Sn	**Sn**	**03 02 55.1**	**-0.2**
NEE2	**Needles Airpor**	**1.89**	**47**	Pb	**Pb**	**03 02 35.2**	**+0.4**
	baz=228						
TUQ	**Turquoise Moun**	**1.96**	**9**	Pb	**Pb**	**03 02 36.6**	**+0.5**
	baz=190,SNR=7.8						
TUQ				Sb	**Sb**	**03 03 02.1**	**+1.4**
	baz=190						
EDW2	**Edwards Air Fo**	**1.97**	**315**	Pb	**Pb**	**03 02 36.4**	**+0.3**
	baz=134,SNR=11						
DAC	**Darwin (Calif)**	**2.97**	**340**	*e*Pn	**Pn**	**03 02 45.8**	**-1.7**

DJA 16 03:02:57.3±0.7, 3°S±1°×12°2E±°, h10km±5km, M3.9/13, MLv3.9/13, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDI	**Kendari**	**1.56**	**149**	P	Pn	03 03 23.5	-1.6
APSI	**Ampana**	**1.71**	**355**	P	Pn	03 03 26.1	-1.0
APSI				S	Sb	03 03 49.9	-0.4
LUWI	**Luwuk**	**1.84**	**32**	P	Pn	03 03 28.4	-0.6
LUWI				S	Sb	03 03 53.7	-0.4
TTSI	**Tana Toraja**	**2.03**	**258**	P	Pn	03 03 31.9	+0.3
TTSI				S	Sn	03 03 57.7	+0.6
BNSI	**Bone**	**2.45**	**224**	P	Pn	03 03 37.7	-0.1
BNSI				S	Sn	03 04 08.5	+1.0
PCI	**Palu**	**2.61**	**311**	P	Pn	03 03 39.9	+0.4
BBSI	**Bau Bau**	**2.95**	**165**	P	Pn	03 03 44.3	+0.1
MRSI	**Marisa**	**3.08**	**2**	P	Pn	03 03 45.4	-0.6
MRSI				S	Sn	03 04 24.2	+1.3
BKSI	**Bulukumba**	**3.17**	**212**	P	Pn	03 03 47.8	+0.5
BKSI				S	Sn	03 04 25.5	+0.4
MPSI	**Mapaga**	**3.50**	**327**	P	Pn	03 03 52.4	+0.5
MPSI				S	Sn	03 04 33.7	+0.2
BSSI	**Bau Bau, Buton**	**3.74**	**201**	P	Pn	03 03 54.8	-0.3
BSSI				S	Sn	03 04 40.0	+0.8
KMSI	**Cibinong**	**3.84**	**34**	P	Pn	03 03 56.7	+0.1
KMSI				S	Sn	03 04 42.1	+0.3
SANI	**Sanana**	**4.21**	**82**	P	Pn	03 04 01.4	-0.2
SGKI	**Sangatta, Kali**	**4.69**	**296**	P	Pn	03 04 08.3	+0.1

DJA 16 03:08:44.2±0.8, 11°S±6°×11°8E±°, h11km±8km, M3.9/11, MLv3.9/11, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBSI	**Waikabubak, Su**	**2.04**	**45**	P	Pn	03 09 18.9	+0.4
WBSI				S	Sn	03 09 44.2	+0.3
PLAI	**Plampang**	**2.25**	**356**	P	Pn	03 09 21.4	-0.1
PLAI				S	Sn	03 09 49.5	+0.2
WSI	**Waingapu**	**2.72**	**59**	P	Pn	03 09 28.0	+0.1
WSI				S	Sn	03 10 02.0	+1.1
BASI	**Baing, Sumba**	**2.74**	**72**	P	Pn	03 09 28.7	+0.5
BASI				S	Sn	03 10 02.3	+0.9
IGBI	**Denpasar**	**3.55**	**309**	P	Pn	03 09 38.8	-0.5
IGBI				S	Sn	03 10 22.4	+1.1
DNP	**Denpasar**	**3.60**	**312**	S	Sn	03 10 23.0	+0.6
SRBI	**Singaraja**	**4.01**	**318**	P	Pn	03 09 46.3	+0.7
SRBI				S	Sn	03 10 33.5	+0.8
**ED

UPR	**University Cam**	**0.29**	**268**	P	**Pg**	**03 19 54.1**	**-0.2**
UPR				S	**Sg**	**03 19 58.1**	**0.0**
UPR	**University Cam**	**0.29**	**268**	P	**Pg**	**03 19 54.2**	**-0.1**
UPR	**University Cam**	**0.29**	**268**	P	**Pg**	**03 19 53.8**	**-0.5**
UPR				S	**Sg**	**03 19 57.9**	**-0.3**
DSF	**Desfina**	**0.32**	**68**	P	**Pg**	**03 19 54.9**	**+0.1**
DSF				S	**Sb**	**03 20 00.2**	**-1.4**
DSF				AML	AML	03 20 00.7	
	comp=N,19675µm,0.4s						
DSF				AML	AML	03 20 01.2	
	comp=E,12472µm,0.3s						
DSF	**Desfina**	**0.32**	**68**	P	**Pg**	**03 19 54.9**	**+0.1**
DSF				S	**Sb**	**03 19 59.8**	**-1.8**
DSF	**Desfina**	**0.32**	**68**	P	**Pg**	**03 19 54.9**	**+0.1**
DSF				S	**Sb**	**03 19 59.8**	**-1.8**
DLFA	**Delphi**	**0.33**	**55**	P	**Pg**	**03 19 54.9**	**-0.1**
DLFA				S	**Sb**	**03 20 00.4**	**-1.5**
DLFA	**Delphi**	**0.33**	**55**	P	**Pg**	**03 19 54.8**	**-0.2**
DLFA				S	**Sb**	**03 20 00.1**	**-1.8**
GUR	**Goura**	**0.39**	**157**	P	**Pg**	**03 19 55.6**	**-0.5**
GUR				S	**Sb**	**03 20 02.1**	**-1.5**
GUR				AML	AML	03 20 02.4	
	comp=E,9550µm,0.4s						
GUR				AML	AML	03 20 03.8	
	comp=N,8116µm,0.4s						
GUR	**Goura**	**0.39**	**157**	P	**Pg**	**03 19 55.9**	**-0.2**
GUR				S	**Sg**	**03 20 01.1**	**-0.1**
GUR	**Goura**	**0.39**	**157**	P	**Pg**	**03 19 55.9**	**-0.2**
GUR				S	**Sg**	**03 20 01.1**	**-0.1**
THAL	**Thalero**	**0.47**	**122**	P	**Pb**	**03 19 58.6**	**-0.4**
THAL				S	**Sb**	**03 20 04.6**	**-1.5**
THAL				AML	AML	03 20 09.1	
	comp=E,5280µm,0.2s						
THAL				AML	AML	03 20 09.9	
	comp=N,6198µm,0.3s						
THAL	**Thalero**	**0.47**	**122**	P	**Pb**	**03 19 58.2**	**-0.8**
THAL	**Thalero**	**0.47**	**122**	P	**Pb**	**03 19 58.1**	**-0.9**
THAL				S	**Sb**	**03 20 04.7**	**-1.5**
DRO	**Drossia**	**0.49**	**226**	P	**Pg**	**03 19 57.7**	**-0.4**
DRO				S	**Sg**	**03 20 04.5**	**+0.1**
DRO				AML	AML	03 20 06.4	
	comp=E,6872µm,0.2s						
DRO				AML	AML	03 20 09.8	
	comp=N,3558µm,0.2s						
DRO	**Drossia**	**0.49**	**226**	P	**Pg**	**03 19 57.6**	**-0.4**
DRO				S	**Sg**	**03 20 05.0**	**+0.6**
DRO	**Drossia**	**0.49**	**226**	P	**Pg**	**03 19 57.6**	**-0.4**
DRO				S	**Sg**	**03 20 04.3**	**-0.1**
PROD	**Prodromos**	**0.59**	**93**	P	**Pb**	**03 20 00.2**	**-0.7**
PROD				S	**Sb**	**03 20 08.3**	**-1.1**
PROD				AML	AML	03 20 12.7	
	comp=E,2693µm,0.3s						
PROD				AML	AML	03 20 16.7	
	comp=N,3216µm,0.2s						
PROD	**Prodromos**	**0.59**	**93**	P	**Pb**	**03 20 00.0**	**-1.0**
PROD				S	**Sb**	**03 20 08.3**	**-1.1**
PVO	**Paravola**	**0.59**	**303**	P	**Pg**	**03 19 59.7**	**-0.3**
PVO				S	**Sg**	**03 20 07.2**	**-0.5**
PVO				AML	AML	03 20 12.8	
	comp=E,1770µm,0.3s						
PVO				AML	AML	03 20 14.9	
	comp=N,1326µm,0.5s						
PVO	**Paravola**	**0.59**	**303**	P	**Pg**	**03 19 59.4**	**-0.5**
PVO	**Paravola**	**0.59**	**303**	P	**Pg**	**03 19 59.4**	**-0.5**
PVO				S	**Sg**	**03 20 07.0**	**-0.7**
RLS	**Riolos of Patr**	**0.59**	**247**	P	**Pg**	**03 19 59.4**	**-0.6**
RLS				S	**Sg**	**03 20 07.2**	**-0.4**
RLS				AML	AML	03 20 12.2	
	comp=N,1204µm,0.4s						
RLS				AML	AML	03 20 12.3	
	comp=E,1310µm,0.2s						
RLS	**Riolos of Patr**	**0.59**	**247**	P	**Pg**	**03 19 59.3**	**-0.6**
RLS	**Riolos of Patr**	**0.59**	**247**	P	**Pg**	**03 19 59.3**	**-0.6**
RLS				S	**Sg**	**03 20 07.2**	**-0.4**
AXAR	**Agios Charalam**	**0.62**	**40**	P	**Pb**	**03 20 01.2**	**-0.3**
AXAR				S	**Sb**	**03 20 10.6**	**+0.3**
AXAR	**Agios Charalam**	**0.62**	**40**	P	**Pb**	**03 20 01.2**	**-0.3**
AXAR				S	**Sb**	**03 20 10.6**	**+0.3**
EVR	**Evrytania**	**0.68**	**337**	P	**Pg**	**03 20 01.1**	**-0.5**
EVR				S	**Sg**	**03 20 10.4**	**-0.1**
EVR				AML	AML	03 20 13.3	
	comp=E,2297µm,0.2s						
EVR				AML	AML	03 20 14.2	
	comp=N,3159µm,0.5s						
EVR	**Evrytania**	**0.68**	**337**	P	**Pg**	**03 20 01.0**	**-0.7**
EVR				S	**Sg**	**03 20 10.7**	**+0.1**
EVR	**Evrytania**	**0.68**	**337**	P	**Pg**	**03 20 01.0**	**-0.7**
EVR				S	**Sg**	**03 20 10.2**	**-0.4**
LTK	**Loutraki**	**0.69**	**113**	P	**Pb**	**03 20 02.4**	**-0.4**
LTK	**Loutraki**	**0.69**	**113**	P	**Pb**	**03 20 02.2**	**-0.6**
LTK	**Loutraki**	**0.69**	**113**	P	**Pb**	**03 20 02.0**	**-0.8**
LOUT	**Loutraki**	**0.71**	**115**	P	**Pb**	**03 20 02.5**	**-0.6**
LOUT	**Loutraki**	**0.71**	**115**	P	**Pb**	**03 20 02.5**	**-0.6**
AGG	**Agios Georgios**	**0.74**	**11**	P	**Pg**	**03 20 01.5**	**-1.3**
AGG				S	**Sg**	**03 20 11.4**	**-1.2**
AGG				AML	AML	03 20 14.7	
	comp=E,7558µm,0.3s						
AGG				AML	AML	03 20 18.3	
	comp=N,5759µm,0.4s						
AGG	**Agios Georgios**	**0.74**	**11**	P	**Pg**	**03 20 01.8**	**-1.0**
AGG				S	**Sb**	**03 20 13.4**	**-0.5**
AGG	**Agios Georgios**	**0.74**	**11**	P	**Pg**	**03 20 01.8**	**-1.0**
AGG				S	**Sg**	**03 20 11.8**	**-0.7**
LKR	**Lokris**	**0.75**	**61**	P	**Pg**	**03 20 02.6**	**-0.5**
LKR				S	**Sb**	**03 20 13.3**	**-0.8**
LKR				AML	AML	03 20 17.6	
	comp=E,3992µm,0.2s						
LKR				AML	AML	03 20 18.5	
	comp=N,2940µm,0.2s						
LKR	**Lokris**	**0.75**	**61**	P	**Pg**	**03 20 02.6**	**-0.5**
LKR				S	**Sb**	**03 20 15.0**	**+0.8**
LKR	**Lokris**	**0.75**	**61**	P	**Pg**	**03 20 02.6**	**-0.5**
LKR				S	**Sb**	**03 20 13.3**	**-0.8**
TRIP	**Tripoli**	**0.77**	**173**	P	**Pg**	**03 20 02.9**	**-0.4**
TRIP				S	**Sb**	**03 20 13.9**	**-0.8**
TRIP	**Tripoli**	**0.77**	**173**	P	**Pg**	**03 20 02.9**	**-0.4**
TRIP				S	**Sb**	**03 20 13.9**	**-0.8**
PDO	**Prodromos**	**0.82**	**292**	P	**Pg**	**03 20 02.1**	**-2.2**
PDO				S	**Sg**	**03 20 14.0**	**-1.0**
PDO				AML	AML	03 20 18.3	
	comp=N,3675µm,0.3s						
PDO				AML	AML	03 20 21.5	
	comp=E,1903µm,0.2s						
PDO	**Prodromos**	**0.82**	**292**	P	**Pg**	**03 20 03.1**	**-1.2**
PDO				S	**Sb**	**03 20 16.6**	**+0.5**
PDO	**Prodromos**	**0.82**	**292**	P	**Pg**	**03 20 03.1**	**-1.2**
PDO				S	**Sg**	**03 20 14.1**	**-1.0**
AMT	**Artemida-Makis**	**0.84**	**205**	P	**Pg**	**03 20 04.3**	**-0.3**
AMT				S	**Sg**	**03 20 14.8**	**-0.7**
AMT				AML	AML	03 20 19.3	
	comp=N,2716µm,0.4s						
AMT				AML	AML	03 20 22.3	
	comp=E,1910µm,0.4s						
AMT	**Artemida-Makis**	**0.84**	**205**	P	**Pg**	**03 20 04.1**	**-0.5**
AMT				S	**Sg**	**03 20 16.1**	**+0.6**
AMT	**Artemida-Makis**	**0.84**	**205**	P	**Pg**	**03 20 04.1**	**-0.5**
AMT				S	**Sg**	**03 20 15.2**	**-0.3**
VTN	**Vitineika**	**0.85**	**244**	P	**Pg**	**03 20 04.1**	**-0.8**
VTN	**Vitineika**	**0.85**	**244**	P	**Pg**	**03 20 03.9**	**-1.0**
VIL2	**Platees**	**0.88**	**95**	P	**Pn**	**03 20 06.7**	**-0.4**
VIL2				S	**Sb**	**03 20 18.1**	**+0.3**
VIL2				AML	AML	03 20 22.6	
	comp=E,2217µm,0.4s						
VIL2				AML	AML	03 20 22.7	
	comp=N,2366µm,0.4s						
VILL	**Villia**	**0.92**	**98**	P	**Pb**	**03 20 06.8**	**+0.1**
VILL				S	**Sn**	**03 20 20.2**	**-0.8**
VILL	**Villia**	**0.92**	**98**	P	**Pb**	**03 20 06.3**	**-0.4**
VILL				S	**Sb**	**03 20 18.5**	**-0.5**
VLX	**Vlachokerasia**	**0.94**	**169**	P	**Pg**	**03 20 05.6**	**-1.0**
VLX				S	**Sb**	**03 20 20.1**	**+0.5**
VLX				AML	AML	03 20 23.3	
	comp=E,2057µm,0.5s						
VLX				AML	AML	03 20 28.5	
	comp=N,2219µm,0.6s						
VLX	**Vlachokerasia**	**0.94**	**169**	P	**Pg**	**03 20 05.9**	**-0.6**
VLX				S	**Sb**	**03 20 20.8**	**+1.3**
VLX	**Vlachokerasia**	**0.94**	**169**	P	**Pg**	**03 20 05.9**	**-0.6**
VLX				S	**Sb**	**03 20 19.6**	**+0.1**
SMIA	**Simia**	**1.01**	**54**	P	**Pb**	**03 20 08.1**	**-0.1**
SMIA	**Simia**	**1.01**	**54**	P	**Pb**	**03 20 08.1**	**-0.1**
KFL	**Anninata**	**1.09**	**261**	P	**Pg**	**03 20 08.5**	**-1.0**
KFL	**Anninata**	**1.09**	**261**	P	**Pg**	**03 20 08.8**	**-0.7**
KFL	**Anninata**	**1.09**	**261**	P	**Pg**	**03 20 08.8**	**-0.7**
ITM	**Ithomi**	**1.12**	**189**	P	**Pg**	**03 20 08.6**	**-1.5**
ITM				S	**Sb**	**03 20 24.9**	**0.0**
ITM				AML	AML	03 20 31.8	
	comp=N,500µm,0.4s						
ITM				AML	AML	03 20 34.5	
	comp=E,596µm,0.4s						
ITM	**Ithomi**	**1.12**	**189**	P	**Pg**	**03 20 08.9**	**-1.2**
ITM				S	**Sn**	**03 20 26.7**	**+0.7**
ITM	**Ithomi**	**1.12**	**189**	P	**Pg**	**03 20 09.0**	**-1.2**
ITM				S	**Sb**	**03 20 24.9**	**0.0**
DID	**Didima**	**1.16**	**132**	P	**Pb**	**03 20 10.3**	**-0.4**
DID				S	**Sn**	**03 20 26.8**	**-0.2**
DID				AML	AML	03 20 29.5	
	comp=E,1494µm,0.5s						
DID				AML	AML	03 20 30.9	
	comp=N,1399µm,0.7s						
DID	**Didima**	**1.16**	**132**	P	**Pn**	**03 20 11.9**	**+0.9**
DID				S	**Sn**	**03 20 27.6**	**+0.6**
DID	**Didima**	**1.16**	**132**	P	**Pb**	**03 20 10.3**	**-0.4**
DID				S	**Sn**	**03 20 26.7**	**-0.2**
KRND	**KRANIDI**	**1.20**	**139**	P	**Pb**	**03 20 11.2**	**-0.2**
KRND				S	**Sn**	**03 20 28.7**	**+0.8**
KRND				AML	AML	03 20 30.3	
	comp=N,1745µm,0.5s						
KRND				AML	AML	03 20 32.3	
	comp=E,2391µm,0.6s						
KRND	**KRANIDI**	**1.20**	**139**	P	**Pb**	**03 20 11.3**	**-0.2**
KRND				S	**Sn**	**03 20 28.5**	**+0.6**
KRND	**KRANIDI**	**1.20**	**139**	P	**Pb**	**03 20 11.3**	**-0.2**
KRND				S	**Sn**	**03 20 28.3**	**+0.4**
VLS	**Valsamata**	**1.24**	**265**	P	**Pg**	**03 20 10.2**	**-2.0**
VLS				S	**Sg**	**03 20 27.3**	**-1.0**
VLS				AML	AML	03 20 30.5	
	comp=E,627µm,0.3s						
VLS				AML	AML	03 20 30.5	
	comp=N,1512µm,0.2s						
VLS	**Valsamata**	**1.24**	**265**	P	**Pg**	**03 20 10.8**	**-1.5**
VLS				S	**Sn**	**03 20 30.2**	**+1.4**
VLS	**Valsamata**	**1.24**	**265**	P	**Pg**	**03 20 10.8**	**-1.5**
VLS				S	**Sg**	**03 20 27.4**	**-0.9**
FSK	**Fiskardo**	**1.26**	**278**	P	**Pg**	**03 20 10.7**	**-2.0**
FSK				S	**Sg**	**03 20 29.5**	**+0.4**
FSK	**Fiskardo**	**1.26**	**278**	P	**Pg**	**03 20 11.1**	**-1.6**
FYTO	**Fytoko, Volos**	**1.27**	**29**	P	**Pb**	**03 20 12.6**	**-0.1**
FYTO	**Fytoko, Volos**	**1.27**	**29**	P	**Pb**	**03 20 12.5**	**-0.1**
FYTO	**Fytoko, Volos**	**1.27**	**29**	P	**Pb**	**03 20 12.5**	**-0.1**
ATH	**Athens Observa**	**1.27**	**104**	P	**Pn**	**03 20 12.9**	**+0.5**
ATH				S	**Sn**	**03 20 30.1**	**+0.5**
ATH				AML	AML	03 20 33.9	
	comp=E,649µm,0.5s						
ATH				AML	AML	03 20 35.6	
	comp=N,590µm,0.7s						
ATH	**Athens Observa**	**1.27**	**104**	P	**Pn**	**03 20 13.1**	**+0.7**
ATH				S	**Sn**	**03 20 30.7**	**+1.1**
ATH	**Athens Observa**	**1.27**	**104**	P	**Pn**	**03 20 12.6**	**+0.2**
ATH				S	**Sn**	**03 20 30.1**	**+0.5**
LKD2	**Lefkada island**	**1.27**	**293**	P	**Pg**	**03 20 11.8**	**-1.2**
LKD2	**Lefkada island**	**1.27**	**293**	P	**Pg**	**03 20 11.8**	**-1.2**
LKD2	**Lefkada island**	**1.27**	**293**	P	**Pg**	**03 20 11.8**	**-1.2**
THL	**Klokotos Trika**	**1.27**	**355**	P	**Pg**	**03 20 11.8**	**-1.2**
THL				S	**Sg**	**03 20 28.7**	**-0.9**
THL				AML	AML	03 20 32.5	
	comp=E,870µm,0.5s						
THL				AML	AML	03 20 35.9	
	comp=N,474µm,0.5s						
THL	**Klokotos Trika**	**1.27**	**355**	P	**Pg**	**03 20 12.6**	**-0.4**
THL				S	**Sn**	**03 20 31.3**	**+1.6**
THL	**Klokotos Trika**	**1.27**	**355**	P	**Pg**	**03 20 12.6**	**-0.4**
THL				S	**Sg**	**03 20 28.9**	**-0.7**
NEO	**Neokhori**	**1.31**	**39**	P	**Pg**	**03 20 13.0**	**-0.7**
NEO				S	**Sb**	**03 20 30.8**	**+0.5**
NEO				AML	AML	03 20 37.1	
	comp=N,1255µm,0.3s						
NEO				AML	AML	03 20 38.7	
	comp=E,720µm,0.3s						
NEO	**Neokhori**	**1.31**	**39**	P	**Pg**	**03 20 13.0**	**-0.7**
NEO	**Neokhori**	**1.31**	**39**	P	**Pg**	**03 20 13.0**	**-0.7**
NEO				S	**Sb**	**03 20 30.8**	**+0.5**
ATHU	**Athens Univers**	**1.33**	**104**	P	**Pb**	**03 20 13.7**	**+0.1**
ATHU				S	**Sn**	**03 20 31.1**	**+0.1**
ATHU				AML	AML	03 20 35.7	
	comp=N,247µm,0.5s						
ATHU				AML	AML	03 20 39.4	
	comp=E,123µm,0.4s						
ATHU	**Athens Univers**	**1.33**	**104**	P	**Pb**	**03 20 13.6**	**+0.1**
ATHU				S	**Sn**	**03 20 32.6**	**+1.6**
ATHU	**Athens Univers**	**1.33**	**104**	P	**Pb**	**03 20 13.6**	**+0.1**
ATHU				S	**Sn**	**03 20 31.5**	**+0.5**
XOR	**Xorichti**	**1.34**	**37**	P	**Pg**	**03 20 13.0**	**-1.3**
XOR				S	**Sn**	**03 20 32.0**	**+0.5**
XOR				AML	AML	03 20 40.1	
	comp=N,955µm,0.5s						
XOR				AML	AML	03 20 40.7	
	comp=E,515µm,1.0s						
XOR	**Xorichti**	**1.34**	**37**	P	**Pg**	**03 20 13.5**	**-0.8**
XOR				S	**Sn**	**03 20 33.4**	**+1.9**
XOR	**Xorichti**	**1.34**	**37**	P	**Pg**	**03 20 13.5**	**-0.8**
XOR				S	**Sn**	**03 20 31.9**	**+0.5**
SKIA	**Skiathos**	**1.35**	**49**	P	**Pn**	**03 20 13.7**	**+0.2**
SKIA				S	**Sb**	**03 20 31.1**	**-0.1**
SKIA				AML	AML	03 20 38.8	
	comp=N,355µm,0.5s						
SKIA				AML	AML	03 20 40.0	
	comp=E,400µm,0.9s						
SKIA	**Skiathos**	**1.35**	**49**	P	**Pn**	**03 20 13.7**	**+0.2**
SKIA				S	**Sn**	**03 20 33.2**	**+1.7**
SKIA	**Skiathos**	**1.35**	**49**	P	**Pn**	**03 20 13.7**	**+0.2**
SKIA				S	**Sn**	**03 20 31.6**	**+0.1**
VLY	**Voula,Athens**	**1.37**	**108**	P	**Pb**	**03 20 14.3**	**+0.1**
VLY				S	**Sn**	**03 20 32.1**	**+0.1**
VLY				AML	AML	03 20 37.0	
	comp=N,372µm,0.3s						
VLY				AML	AML	03 20 40.3	
	comp=E,538µm,0.3s						
VLY	**Voula,Athens**	**1.37**	**108**	P	**Pb**	**03 20 14.4**	**+0.1**
VLY	**Voula,Athens**	**1.37**	**108**	P	**Pb**	**03 20 14.2**	**0.0**
VLY				S	**Sn**	**03 20 32.7**	**+0.7**
PTL	**Penteli**	**1.37**	**100**	P	**Pb**	**03 20 14.0**	**-0.3**
PTL				S	**Sn**	**03 20 32.7**	**+0.6**
PTL				AML	AML	03 20 38.2	
	comp=N,352µm,0.6s						
PTL				AML	AML	03 20 38.5	
	comp=E,406µm,0.4s						
PTL	**Penteli**	**1.37**	**100**	P	**Pb**	**03 20 14.2**	**-0.1**
PTL				S	**Sn**	**03 20 33.3**	**+1.2**
PTL	**Penteli**	**1.37**	**100**	P	**Pb**	**03 20 14.2**	**-0.1**
PTL				S	**Sn**	**03 20 33.0**	**+0.9**
YDRA	**Hydra**	**1.40**	**132**	P	**Pn**	**03 20 13.4**	**0.0**
YDRA	**Hydra**	**1.40**	**132**	P	**Pb**	**03 20 14.5**	**-0.3**
EREA	**Eretria**	**1.40**	**84**	P	**Pn**	**03 20 14.0**	**-0.3**
EREA				S	**Sn**	**03 20 35.0**	**+2.0**
EREA				AML	AML	03 20 39.8	
	comp=N,528µm,0.3s						
EREA				AML	AML	03 20 42.2	
	comp=E,619µm,0.4s						
EREA	**Eretria**	**1.40**	**84**	P	**Pb**	**03 20 14.7**	**-0.2**
EREA				S	**Sn**	**03 20 35.4**	**+2.5**
EREA	**Eretria**	**1.40**	**84**	P	**Pb**	**03 20 14.7**	**-0.2**
EREA				S	**Sn**	**03 20 34.6**	**+1.7**
DION	**Dionisos Attik**	**1.42**	**98**	P	**Pg**	**03 20 15.0**	**-0.7**
DION				S	**Sn**	**03 20 33.4**	**+0.1**
DION	**Dionisos Attik**	**1.42**	**98**	P	**Pg**	**03 20 15.0**	**-0.7**
DION				S	**Sn**	**03 20 34.1**	**+0.8**
PYL	**PYLOS**	**1.43**	**193**	P	**Pn**	**03 20 14.1**	**-0.6**
PYL	**PYLOS**	**1.43**	**193**	P	**Pn**	**03 20 14.5**	**-0.2**
PYL	**PYLOS**	**1.43**	**193**	P	**Pn**	**03 20 14.5**	**-0.2**
DYR	**Agios Nikonas**	**1.53**	**175**	P	**Pn**	**03 20 15.9**	**-0.2**
DYR	**Agios Nikonas**	**1.53**	**175**	P	**Pn**	**03 20 16.4**	**+0.3**
VLI	**Veliai**	**1.69**	**158**	P	**Pn**	**03 20 18.1**	**-0.1**
VLI	**Veliai**	**1.69**	**158**	P	**Pn**	**03 20 18.7**	**+0.5**
VLI	**Veliai**	**1.69**	**158**	P	**Pn**	**03 20 18.7**	**+0.5**
JAN	**Janina**	**1.70**	**324**	P	**Pn**	**03 20 19.3**	**+1.0**
JAN	**Janina**	**1.70**	**324**	P	**Pn**	**03 20 19.4**	**+1.0**
JAN				S	**Sb**	**03 20 42.2**	**+0.8**
JAN	**Janina**	**1.70**	**324**	P	**Pn**	**03 20 19.1**	**+0.7**
JAN				S	**Sb**	**03 20 42.2**	**+0.8**
KPRO	**Kipourio**	**1.77**	**340**	P	**Pb**	**03 20 21.2**	**+0.1**
KPRO	**Kipourio**	**1.77**	**340**	P	**Pn**	**03 20 20.7**	**+1.3**
KPRO				S	**Sb**	**03 20 44.2**	**+0.7**
KPRO	**Kipourio**	**1.77**	**340**	P	**Pn**	**03 20 20.6**	**+1.2**
KPRO				S	**Sb**	**03 20 44.2**	**+0.7**
KARY	**Karystos**	**1.82**	**98**	P	**Pn**	**03 20 20.7**	**+0.7**
KARY	**Karystos**	**1.82**	**98**	P	**Pn**	**03 20 20.7**	**+0.7**
LIT	**Litokhoron**	**1.82**	**8**	P	**Pn**	**03 20 21.2**	**+1.1**
LIT	**Litokhoron**	**1.82**	**8**	P	**Pn**	**03 20 21.0**	**+0.9**
LIT	**Litokhoron**	**1.82**	**8**	P	**Pn**	**03 20 21.0**	**+0.9**
IGT	**Igoumenitsa**	**1.89**	**312**	P	**Pn**	**03 20 21.4**	**+0.5**
IGT	**Igoumenitsa**	**1.89**	**312**	P	**Pn**	**03 20 21.4**	**+0.5**
IGT	**Igoumenitsa**	**1.89**	**312**	*e*Pn	**Pg**	**03 20 24.7**	**0.0**
SGD	**Sagiada**	**2.00**	**312**	P	**Pn**	**03 20 23.9**	**+1.6**
SGD	**Sagiada**	**2.00**	**312**	P	**Pn**	**03 20 23.5**	**+1.1**
PAIG	**Paliouri**	**2.02**	**36**	P	**Pn**	**03 20 21.2**	**-1.5**
PAIG	**Paliouri**	**2.02**	**36**	P	**Pn**	**03 20 22.5**	**-0.2**
KZN	**Kozani**	**2.03**	**352**	P	**Pn**	**03 20 23.9**	**+0.8**
KZN	**Kozani**	**2.03**	**352**	P	**Pn**	**03 20 23.8**	**+0.8**
KZN	**Kozani**	**2.03**	**352**	P	**Pn**	**03 20 23.7**	**+0.7**
PENT	**Pentalofos**	**2.06**	**338**	P	**Pn**	**03 20 24.4**	**+1.0**
PENT	**Pentalofos**	**2.06**	**338**	P	**Pn**	**03 20 24.2**	**+0.8**
KYTH	**Kithira**	**2.15**	**160**	P	**Pb**	**03 20 27.0**	**-0.6**
NEST	**Nestorio**	**2.29**	**338**	P	**Pb**	**03 20 28.8**	**-1.2**
NEST	**Nestorio**	**2.29**	**338**	P	**Pn**	**03 20 28.0**	**+1.5**
PLG	**Polygyros**	**2.31**	**25**	P	**Pn**	**03 20 26.0**	**-0.7**
PLG	**Polygyros**	**2.31**	**25**	P	**Pn**	**03 20 26.8**	**+0.1**
SRN	**Sarande**	**2.31**	**314**	*i* PG	**Pn**	**03 20 28.4**	**+1.7**
SRN				*i* SG	**Sn**	**03 20 54.5**	**-0.7**
KEK	**Kerkira**	**2.32**	**308**	P	**Pn**	**03 20 28.9**	**+2.0**
KEK	**Kerkira**	**2.32**	**308**	P	**Pn**	**03 20 27.3**	**+0.4**
KEK	**Kerkira**	**2.32**	**308**	P	**Pn**	**03 20 27.3**	**+0.4**
HORT	**Hortiatis**	**2.42**	**17**	P	**Pn**	**03 20 27.2**	**-1.1**
HORT	**Hortiatis**	**2.42**	**17**	P	**Pn**	**03 20 28.2**	**-0.1**
FNA	**Florina**	**2.56**	**347**	P	**Pn**	**03 20 30.9**	**+0.7**
FNA	**Florina**	**2.56**	**347**	P	**Pn**	**03 20 30.9**	**+0.7**
FNA	**Florina**	**2.56**	**347**	P	**Pn**	**03 20 30.9**	**+0.7**
FNA	**Florina**	**2.56**	**347**	*e*Pn	**Pn**	**03 20 31.7**	**+1.5**
GRG	**Griva**	**2.67**	**4**	P	**Pn**	**03 20 32.2**	**+0.5**
GRG	**Griva**	**2.67**	**4**	P	**Pn**	**03 20 32.8**	**+1.1**
GRG	**Griva**	**2.67**	**4**	P	**Pn**	**03 20 32.4**	**+0.7**
SOH	**Sokhos**	**2.69**	**20**	P	**Pn**	**03 20 32.4**	**+0.4**
SOH	**Sokhos**	**2.69**	**20**	P	**Pn**	**03 20 32.7**	**+0.7**
SOH	**Sokhos**	**2.69**	**20**	P	**Pn**	**03 20 32.7**	**+0.7**
LIA	**Limnos Island**	**2.85**	**55**	P	**Pn**	**03 20 32.7**	**-1.4**
LIA	**Limnos Island**	**2.85**	**55**	P	**Pn**	**03 20 34.1**	**0.0**
KNT	**Kendrikon**	**2.92**	**11**	P	**Pn**	**03 20 35.7**	**+0.5**
KNT	**Kendrikon**	**2.92**	**11**	P	**Pn**	**03 20 36.0**	**+0.8**
APE	**Apeiranthos**	**2.94**	**113**	P	**Pn**	**03 20 35.7**	**+0.2**
APE	**Apeiranthos**	**2.94**	**113**	P	**Pn**	**03 20 36.3**	**+0.8**
SRS	**Serrai**	**3.03**	**21**	P	**Pn**	**03 20 36.8**	**+0.1**
SRS	**Serrai**	**3.03**	**21**	P	**Pn**	**03 20 37.3**	**+0.6**
CHOS	**Chios island**	**3.07**	**87**	P	**Pn**	**03 20 38.3**	**+1.1**
CHOS	**Chios island**	**3.07**	**87**	P	**Pn**	**03 20 38.5**	**+1.3**
KRUS	**Krusevo**	**3.15**	**348**	*e*Pn	**Pn**	**03 20 40.6**	**+2.2**
KRUS				*e*Sn	**Sb**	**03 21 24.8**	**+1.5**
IMMV	**Iera Moni Meta**	**3.18**	**152**	P	**Pn**	**03 20 40.5**	**+1.7**
IMMV	**Iera Moni Meta**	**3.18**	**152**	P	**Pn**	**03 20 40.4**	**+1.7**
VAM	**Vamos**	**3.31**	**150**	P	**Pn**	**03 20 40.7**	**+0.2**
VAM	**Vamos**	**3.31**	**150**	P	**Pn**	**03 20 41.4**	**+0.9**
NVR	**Nevrokopi**	**3.33**	**23**	P	**Pn**	**03 20 40.3**	**-0.4**
NVR	**Nevrokopi**	**3.33**	**23**	P	**Pn**	**03 20 41.1**	**+0.4**
IDI	**Anoyia**	**3.72**	**143**	P	**Pn**	**03 20 46.8**	**+0.7**
	comp=E,0.4nm,0.3s,baz=313,slow=18,SNR=4.4						
IDI				S	**Sn**	**03 21 27.8**	**-2.2**
	comp=E,1.4nm,0.3s,baz=297,slow=19,SNR=3.8						
SMG	**Samos**	**3.75**	**98**	P	**Pn**	**03 20 47.3**	**+0.9**
SMG	**Samos**	**3.75**	**98**	P	**Pn**	**03 20 47.8**	**+1.3**
NPS	**Neapolis**	**4.11**	**136**	P	**Pn**	**03 20 53.4**	**+2.0**
NPS	**Neapolis**	**4.11**	**136**	P	**Pn**	**03 20 53.4**	**+2.0**
LAST	**Lasithi**	**4.11**	**138**	P	**Pn**	**03 20 51.9**	**+0.3**
LAST	**Lasithi**	**4.11**	**138**	P	**Pn**	**03 20 52.7**	**+1.1**
ZAGS	**Zajecar**	**5.51**	**1**	*e*Pn	**Pn**	**03 21 11.8**	**+1.0**
STON	**Ston**	**5.69**	**325**	*e*Pn	**Pn**	**03 21 12.5**	**-0.7**
STON				Sn	**Sn**	**03 22 15.2**	**-3.5**
STON	**Ston**	**5.69**	**325**	*e*Pn	**Pn**	**03 21 12.5**	**-0.7**
BRTR	**Keskin Array B**	**9.05**	**77**	P	**Pn**	**03 22 02.6**	**+3.1**
	comp=

NVAR				LR	LR	04 05 53.7		
	comp=Z,354nm,21.8s,baz=291,slow=30							
SNAA	**Sanae**	**87.87**	**181**	P	**P**	**03 35 44.5**	**+3.8**	
VNA3	**Neumayer Olymp**	**88.31**	**179**	P	**P**	**03 35 42.4**	**-0.4**	
VNA2	**Neumayer--Watz**	**88.65**	**180**	P	**P**	**03 35 42.2**	**-2.1**	
	baz=172,slow=2.4							
ILAR	**Eielson Array**	**90.45**	**16**	P	**P**	**03 35 53.0**	**+0.4**	
	0.4nm,0.8s,baz=238,slow=5.2,SNR=2.5							
SONM	**Songino Array**	**90.78**	**322**	P	**P**	**03 35 55.4**	**+0.7**	
	1.2nm,1.1s,baz=160,slow=4.7,SNR=4.1							
TXAR	**Lajitas Array**	**93.97**	**60**	LR	LR	04 09 54.0		
	comp=Z,472nm,21.8s,baz=0.0,slow=30							
MKAR	**Makanchi Array**	**105.56**	**315**	Pdiff	**Pdif**	**03 37 03.2**	**+1.9**	
	0.5nm,0.7s,baz=104,slow=5.1,SNR=6.2							
DPC	**Dobruska-Polom**	**145.31**	**334**	*e*PKP	**PKPdf**	**03 42 29.0**	**-0.2**	
KRLC	**Kraliky**	**145.33**	**333**	*e*PKP	**PKPdf**	**03 42 29.9**	**+0.7**	
VYHS	**Vyhne**	**145.57**	**330**	*e*PKP	**PKPdf**	**03 42 28.4**	**-1.2**	
CLL	**Collm**	**145.80**	**338**	*e*PKPbc	**PKPab**	**03 42 32.0**	**+1.2**	
CLL				Lm	MLR	04 21 00.0		
	comp=N,500nm,19.4s							
CLL				Lm	MLR	04 21 00.0		
	comp=E,200nm,19.4s							
CLL				LV		04 22 00.0		
	comp=Z,400nm,20.9s							
CONA	**Conrad Observa**	**147.35**	**332**	sPKPdf	**PKPab**	**03 42 37.2**	**+0.1**	
	comp=Z,7.4nm,1.5s							
KHC	**Kasperske Hory**	**147.37**	**335**	*e*PKP	**PKPbc**	**03 42 33.5**	**-1.6**	
KHC				*ex*	x	03 42 36.6		
GERES	**GERESS Array B**	**147.55**	**335**	PKPbc	**PKPbc**	**03 42 35.7**	**0.0**	
	comp=Z,1.0nm,0.8s,baz=31,slow=3.1,SNR=5.6							
MOA	**Molln**	**148.10**	**333**	*es*PKPab	**PKPab**	**03 42 46.1**	**+6.2**	
	comp=Z,4.7nm,1.1s							
SOKA	**Soboth**	**148.66**	**331**	pPKPdf	**PKPbc**	**03 42 37.3**	**-1.4**	
	comp=Z,5.7nm,1.7s							
OBKA	**Obir**	**149.01**	**331**	pPKPdf	**PKPbc**	**03 42 37.2**	**-2.5**	
	comp=Z,6.2nm,1.1s							
KBA	**Koelnbreinsper**	**149.09**	**333**	*e*PKPbc	**PKPbc**	**03 42 39.1**	**-0.8**	
	comp=Z,4.9nm,1.3s							
MYKA	**Terra Mystica**	**149.32**	**332**	sPKPab	**PKPab**	**03 42 48.6**	**+3.6**	
	comp=Z,2.5nm,0.9s							
WATA	**Walderalm**	**149.61**	**335**	pPKPab	**PKPab**	**03 42 48.6**	**+2.4**	
	comp=Z,2.4nm,0.6s							
WTTA	**Wattenberg**	**149.64**	**335**	PKPbc	**PKPbc**	**03 42 41.2**	**-0.1**	
	comp=Z,9.6nm,1.6s							
ABTA	**Abfaltersbach**	**149.71**	**334**	sPKPdf	**PKPbc**	**03 42 40.5**	**-0.9**	
	comp=Z,6.6nm,1.2s							
MOTA	**Moosalm**	**149.78**	**336**	sPKPdf	**PKPbc**	**03 42 40.5**	**-1.1**	
	comp=Z,1.3nm,0.5s							
RETA	**Reutte**	**149.80**	**336**	PKiKP	**PKiKP**	**03 42 42.8**	**+0.3**	
	comp=Z,5.9nm,1.4s							
FETA	**Feichten**	**150.20**	**336**	sPKPdf	**PKPbc**	**03 42 41.6**	**-1.0**	
	comp=Z,8.2nm,1.2s							
DAVA	**Damuels**	**150.29**	**337**	*e*PKiKP	**PKiKP**	**03 42 43.4**	**-0.3**	
	comp=Z,6.4nm,1.2s							
TORD	**Torodi Ar. Bea**	**169.15**	**228**	PKP	**PKPdf**	**03 42 59.0**	**-0.5**	
	comp=Z,1.9nm,1.0s,baz=61,slow=1.0,SNR=4.1							
TORD				PKPab	**PKPab**	**03 44 10.8**	**-0.5**	
	comp=Z,0.8nm,1.0s,baz=111,slow=7.9,SNR=2.8							

DJA 16 03:26:16.5±0.2, 3°S±1°×12°2E±°, h10km, M3.8/12, MLv3.8/12, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
KDI	**Kendari**	**1.55**	**149**	P		Pn	03 26 44.0	-0.1
KDI				S		Sn	03 27 04.1	-0.2
APSI	**Ampana**	**1.71**	**355**	P		Pn	03 26 46.6	+0.1
APSI				S		Sb	03 27 09.3	-0.5
LUWI	**Luwuk**	**1.85**	**31**	P		Pn	03 26 47.9	-0.4
LUWI				S		Sn	03 27 12.6	+0.9
TTSI	**Tana Toraja**	**2.03**	**258**	P		Pn	03 26 50.5	-0.3
TTSI				S		Sn	03 27 17.4	+1.2
BNSI	**Bone**	**2.45**	**224**	P		Pn	03 26 56.3	-0.2
BNSI				S		Sn	03 27 27.6	+1.1
PCI	**Palu**	**2.61**	**311**	P		Pn	03 26 58.9	+0.1
PCI				S		Sn	03 27 31.8	+1.2
BBSI	**Bau Bau**	**2.94**	**165**	P		Pn	03 27 03.0	-0.3
BBSI				S		Sn	03 27 40.2	+1.5
MRSI	**Marisa**	**3.09**	**2**	P		Pn	03 27 04.7	-0.7
MRSI				S		Sn	03 27 42.8	+0.4
BKSI	**Bulukumba**	**3.16**	**212**	P		Pn	03 27 06.0	-0.3
BKSI				S		Sn	03 27 44.7	+0.6
MPSI	**Mapaga**	**3.51**	**327**	P		Pn	03 27 11.0	-0.2
MPSI				S		Sn	03 27 53.7	+0.8
BSSI	**Bau Bau, Buton**	**3.73**	**201**	P		Pn	03 27 13.7	-0.5
BSSI				S		Sn	03 27 59.0	+0.8

*IDC **16** 03:27:39.0±0.6,24.°01N×109.°08W, h0km, mb4.4/21, mb1 4.6/26,mb1mx4.5/57, mbtmp4.5/26,ML3.5/4,MS4.6/33, Ms1 4.6/33,ms1mx4.5/54, Error ellipse: s-maj=14.5km s-min=9.4km az=16.0*

*MOS **16** 03:27:39.5±1.2,24.°13N×108.°84W, h10km, mb5.1/39, Error ellipse: s-maj=7.5km s-min=4.6km az=81.7*

*NEIC **16** 03:27:40.8±0.3,23.°95N×108.°79W, h10km, mb5.0/232, MD5.2(MEX), Error ellipse: s-maj=4.8km s-min=2.6km az=213.0*

NEIC Felt at La Paz, Baja California Sur and at Mazatlan, Sinaloa.

*BJI **16** 03:27:40.8,24.°10N×108.°80W, h10km, mb5.0/8, mB5.4/10, Ms5.1/4, Ms7 4.9/4*

*GCMT **16** 03:27:40.8±0.2,24.°16N×109.°00W, h23km±1km, MW5.4/119, Moment Tensor Solution. s56,c62; s119,c200; Duration: 1ŝ1 Moment tensor: Scale 10^17 Nm; Mrr-0.04±.04; Mθθ-1.16±.03; Mφφ 1.20±.03; Mrθ-0.45±.05; Mrφ-0.37±.02; Mθφ 0.21±.04; Best double couple: M=1.33200×10^17 NP1:φs 127.00000°, δ86.00000°, λ-159.00000°. NP2:φs 35.00000°, δ69.00000°, λ-4.00000°. Principal axes: T 1.3150, Plg12.0000°, Azm259.0000°; N 0.0360, Plg68.0000°, Azm137.0000°; P -1.3480, Plg18.0000°, Azm353.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*MEX **16** 03:27:41.7±0.3,24.°12N×108.°97W, h16km±5km, MD5.2*

*ISCJB **16** 03:27:41.5±0.2,24.°08N±0.°02×108.°76W±0.°02, h22km, mb4.9/174, MS4.8/40, Error ellipse: s-maj=3.6km s-min=1.6km az=22.4*

ISC 16 03:27:42.2±0.3, 24.°01N±0.°05×108.°94W±0.°04, h22km, n972, σ1ŝ34/929, mb5.0/175, MS4.8/40, 1C-1D, Gulf of California

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
SLBS	**Sierra La Lagu**	**0.98**	**251**	*i* P		**Pb**	**03 27 57.0**	**-3.5**
SLBS				*i* S		**Sb**	**03 28 09.1**	**-4.0**
SLBS	**Sierra La Lagu**	**0.98**	**251**	*e*Pg		**Pb**	**03 27 57.1**	**-3.5**
SLBS				*e*Sg		**Sb**	**03 28 08.9**	**-4.1**
LPIG	**La Paz**	**1.26**	**274**	Pg		Pn	03 28 00.3	-4.2
	2μm,0.3s,baz=97,slow=4.3,SNR=470							
LPIG				Lg		Lg	03 28 15.8	
	1μm,0.3s,baz=104,slow=12,SNR=14							
LPIG	**La Paz**	**1.26**	**274**	*i* P		Pn	03 28 00.3	-4.2
LPIG				*i* S		Sn	03 28 04.5	-16
MAIG	**Mazatlaan**	**2.45**	**109**	*e*P		**Pn**	**03 28 18.7**	**-2.2**
MAIG	**Mazatlaan**	**2.45**	**109**	*e*P		**Pn**	**03 28 18.7**	**-2.2**
HPIG		**4.15**	**45**	*e*Pn		**Pn**	**03 28 42.0**	**-2.5**
HPIG				*e*Sn		**Sn**	**03 29 28.4**	**-4.0**
HSIG		**5.30**	**341**	*e*Pn		**Pn**	**03 28 58.1**	**-2.1**
HSIG				*e*Sn		**Sn**	**03 30 01.2**	**+0.6**
H06E1	**SOCORRO T-PHAS**	**5.53**	**200**	T		T	03 34 51.1	
	SNR=76							
H06S1	**SOCORRO T**	**5.58**	**200**	T		T	03 34 53.9	
	SNR=6.9							
ZAIG	**Zacatecas**	**5.98**	**101**	*e*Pn		**Pn**	**03 29 08.2**	**-1.5**
ZAIG				*e*Pg		Pb	03 29 34.2	+8.2
TX31	**Lajitas Ar. Si**	**7.09**	**41**	*e*Pn		**Pn**	**03 29 22.0**	**-2.9**
TXAR	**Lajitas Array**	**7.09**	**41**	Pn		**Pn**	**03 29 21.9**	**-2.9**
	2.4nm,0.3s,baz=209,slow=14,SNR=111							
TXAR				Sn		**Sn**	**03 30 42.0**	**-2.9**
	4.8nm,0.3s,baz=296,slow=29,SNR=9.1							
TXAR				Lg		Lg	03 31 22.4	
	2.6nm,0.3s,baz=225,slow=28,SNR=3.0							
TXAR				LR		LR	03 31 51.9	
	comp=Z,3μm,18.4s,baz=0.0,slow=35							
TXAR	**Lajitas Array**	**7.09**	**41**	P		**Pn**	**03 29 22.0**	**-2.9**
TXAR							03 30 42.0	
319A	**Douglas**	**7.34**	**358**	*e*Pn		**Pn**	**03 29 26.6**	**-1.7**
EPT	**El Paso**	**8.02**	**15**	*e*Pn		**Pn**	**03 29 36.8**	**-0.9**
MNTX	**Cornudas Mount**	**8.28**	**22**	P		**Pn**	**03 29 39.1**	**-1.9**
	baz=202,SNR=46							
MNTX	**Cornudas Mount**	**8.28**	**22**	*e*Pn		**Pn**	**03 29 39.2**	**-1.9**

TUC	**Tucson**	**8.43**	**349**	P		**Pn**	**03 29 42.3**	**-0.8**
	baz=168							
TUC	**Tucson**	**8.43**	**349**	*e*Pn		**Pn**	**03 29 41.8**	**-1.3**
TUC	**Tucson**	**8.43**	**349**	*e*P		**Pn**	**03 29 41.8**	**-1.3**
JRQG	**Juriquilla Cam**	**8.52**	**111**	*e*Pn		**Pn**	**03 29 43.3**	**-1.3**
121A	**Cookes Peak, D**	**8.55**	**7**	P		**Pn**	**03 29 43.3**	**-1.6**
	baz=186,SNR=26							
214A	**Organ Pipe Nat**	**8.62**	**337**	P		**Pn**	**03 29 45.2**	**-0.6**
	baz=155,SNR=14							
LNIG	**Linares**	**8.68**	**82**	*e*Pn		**Pn**	**03 29 46.0**	**-0.5**
GDL2	**Guadalupe Moun**	**9.10**	**25**	*e*Pn		**Pn**	**03 29 51.6**	**-0.8**
CLNB	**Carlsbad**	**9.35**	**27**	*e*Pn		**Pn**	**03 29 57.1**	**+1.2**
833A	**Chaparral WMA,**	**9.59**	**61**	P		**Pn**	**03 29 56.7**	**-2.2**
	baz=245,SNR=35							
113A	**Mohawk Valley,**	**9.70**	**335**	*e*Pn		**Pn**	**03 30 04.0**	**+3.5**
Y22D	**IRIS PASSCAL I**	**10.18**	**10**	P		**Pn**	**03 30 07.9**	**+0.7**
	baz=190							
Y22D	**IRIS PASSCAL I**	**10.18**	**10**	*e*Pn		**Pn**	**03 30 08.4**	**+1.2**
Y22E	**IRIS PASSCAL I**	**10.18**	**10**	P		**Pn**	**03 30 07.6**	**+0.4**
	baz=190							
UNM	**Universidad Na**	**10.20**	**115**	*e*Pn		Pn	03 30 14.4	+6.7
UNM	**Universidad Na**	**10.20**	**115**	*e*P		Pn	03 30 14.4	+6.8
BNM	**Barren Site**	**10.30**	**11**	*e*Pn		**Pn**	**03 30 08.3**	**-0.6**
JCT	**Junction City**	**10.37**	**50**	P		**Pn**	**03 30 09.5**	**-0.2**
	baz=233,SNR=7.4							
JCT	**Junction City**	**10.37**	**50**	*e*Pn		**Pn**	**03 30 10.2**	**+0.5**
JCT	**Junction City**	**10.37**	**50**	*e*P		**Pn**	**03 30 10.2**	**+0.5**
GLA	**Glamis**	**10.39**	**331**	P		**Pn**	**03 30 11.6**	**+1.6**
	baz=148							
GLA	**Glamis**	**10.39**	**331**	*e*Pn		**Pn**	**03 30 11.9**	**+1.9**
GLA	**Glamis**	**10.39**	**331**	*e*P		**Pn**	**03 30 11.9**	**+1.9**
LPM	**Los Pinos Moun**	**10.46**	**11**	*e*Pn		**Pn**	**03 30 12.8**	**+1.7**
LAZ	**Ladron**	**10.47**	**8**	*e*Pn		**Pn**	**03 30 10.3**	**-0.9**
LAZ				*e*Sn		Sn	03 31 55.5	-13
Y14A	**Wickenburg**	**10.51**	**341**	*e*Pn		**Pn**	**03 30 14.4**	**+2.8**
X16A	**Lo Mia Camp, P**	**10.60**	**349**	*e*Pn		**Pn**	**03 30 13.3**	**+0.4**
IKP	**In-Ko-Pah, Jac**	**10.67**	**325**	P		**Pn**	**03 30 15.9**	**+2.0**
	baz=142,SNR=19							
SWSC	**Sam W. Stewart**	**10.75**	**327**	P		**Pn**	**03 30 17.3**	**+2.4**
	baz=144							
Y12C	**Blythe**	**10.87**	**335**	P		**Pn**	**03 30 18.6**	**+2.2**
	baz=151,SNR=25							
Y12C	**Blythe**	**10.87**	**335**	*e*Pn		**Pn**	**03 30 17.8**	**+1.3**
BAR	**Barrett**	**10.99**	**323**	*e*Pn		**Pn**	**03 30 21.4**	**+3.1**
MONP2	**Monument Peak**	**11.03**	**325**	P		**Pn**	**03 30 21.6**	**+2.7**
	baz=141,SNR=21							
W18A	**Petrified Fore**	**11.09**	**357**	P		**Pn**	**03 30 21.8**	**+2.1**
	baz=176,SNR=6.8							
W18A	**Petrified Fore**	**11.09**	**357**	*e*Pn		**Pn**	**03 30 22.0**	**+2.3**
ANMO	**Albuquerque**	**11.11**	**11**	Pn		**Pn**	**03 30 21.4**	**+1.4**
	0.1nm,0.3s,baz=14,slow=13,SNR=37							
ANMO				Lg		Lg	03 33 30.2	
	0.2nm,0.3s,baz=277,slow=20,SNR=3.1							
ANMO	**Albuquerque**	**11.11**	**11**	P		**Pn**	**03 30 21.2**	**+1.3**
	baz=191							
ANMO	**Albuquerque**	**11.11**	**11**	*ce*P		**Pn**	**03 30 17.8**	**-2.2**
ANMO					pmax	pmax		
	comp=Z,77nm,2.5s							
BC3	**Big Chuckawall**	**11.17**	**331**	P		**Pn**	**03 30 22.9**	**+2.1**
	baz=147,SNR=30							
PDMCI	**Parker Dam,Lak**	**11.21**	**337**	P		**Pn**	**03 30 23.0**	**+1.7**
	baz=154,SNR=19							
MSTX	**Muleshoe**	**11.29**	**27**	P		**Pn**	**03 30 22.3**	**-0.1**
	baz=209,SNR=21							
MSTX	**Muleshoe**	**11.29**	**27**	*e*Pn		**Pn**	**03 30 22.6**	**+0.2**
BORC	**Borrego Spring**	**11.32**	**326**	*e*Pn		Pn	03 30 16.2	-6.5
109C	**Camp Elliot, M**	**11.39**	**323**	P		**Pn**	**03 30 26.2**	**+2.5**
	baz=139							
IRM	**Iron Mountain**	**11.47**	**333**	P		**Pn**	**03 30 27.3**	**+2.5**
	baz=150,SNR=77							
XPFO	**Piæon Flat**	**11.61**	**327**	*e*Pn		**Pn**	**03 30 30.0**	**+3.2**
PFO	**Pinyon Flats O**	**11.61**	**327**	P		**Pn**	**03 30 29.4**	**+2.6**
	baz=143							
PFO	**Pinyon Flats O**	**11.61**	**327**	*e*Pn		**Pn**	**03 30 29.9**	**+3.2**
PFO	**Pinyon Flats O**	**11.61**	**327**	*e*P		**Pn**	**03 30 30.0**	**+3.2**
WUAZ	**Wupatki**	**11.66**	**350**	P		**Pn**	**03 30 29.9**	**+2.4**
	baz=168,SNR=20							
WUAZ	**Wupatki**	**11.66**	**350**	*e*Pn		**Pn**	**03 30 30.1**	**+2.6**
BELC	**Belle Mtn. Jos**	**11.71**	**330**	P		**Pn**	**03 30 30.3**	**+2.1**
	baz=146,SNR=13							
NEE2	**Needles Airpor**	**11.80**	**337**	P		**Pn**	**03 30 30.9**	**+1.6**
	baz=153,SNR=8.6							
ABTX	**Abilene, Hawle**	**11.85**	**42**	P		**Pn**	**03 30 29.4**	**-0.6**
	baz=225,SNR=11							
ABTX	**Abilene, Hawle**	**11.85**	**42**	*e*Pn		**Pn**	**03 30 28.8**	**-1.2**
W13A	**Hualapai Mount**	**11.86**	**340**	*e*Pn		**Pn**	**03 30 31.6**	**+1.4**
DGR	**Domenigoni Val**	**11.92**	**325**	*e*Pn		**Pn**	**03 30 29.7**	**-1.2**
MURC	**Murrieta**	**11.98**	**325**	P		**Pn**	**03 30 33.0**	**+1.2**
	baz=140							
435B	**Jarrell**	**12.13**	**54**	P		**Pn**	**03 30 33.0**	**-0.7**
	baz=238,SNR=10							
GMRC	**Granite Mounta**	**12.22**	**333**	P		**Pn**	**03 30 36.8**	**+1.6**
	baz=149,SNR=38							
LDFC	**Landfair**	**12.26**	**335**	*e*Pn		**Pn**	**03 30 40.0**	**+4.3**
SCI2	**San Clemente I**	**12.29**	**319**	P		**Pn**	**03 30 37.9**	**+1.9**
	baz=134							
BBRC	**Big Bear Solar**	**12.36**	**328**	P		**Pn**	**03 30 39.7**	**+2.6**
	baz=143							
CIS	**Catalina Islan**	**12.51**	**321**	P		**Pn**	**03 30 40.4**	**+1.4**
	baz=136							
AMTX	**Amarillo**	**12.54**	**29**	P		**Pn**	**03 30 38.9**	**-0.5**
	baz=211							
AMTX	**Amarillo**	**12.54**	**29**	*e*Pn		**Pn**	**03 30 38.7**	**-0.8**
HEC	**Hector,Ludlow**	**12.55**	**331**	P		**Pn**	**03 30 40.7**	**+1.1**
	baz=147,SNR=15							
U15A	**North Rim**	**12.71**	**348**	*e*Pn		**Pn**	**03 30 45.0**	**+3.1**
U15A				*e*Sn		Sn	03 32 43.1	-20
BFSC	**Mount Baldy Ra**	**12.72**	**325**	P		**Pn**	**03 30 43.3**	**+1.3**
	baz=141,SNR=5.6							
WHTX	**Lake Whitney,**	**12.88**	**49**	P		**Pn**	**03 30 43.9**	**-0.1**
	baz=234							
WHTX	**Lake Whitney,**	**12.88**	**49**	*e*Pn		**Pn**	**03 30 44.7**	**+0.7**
RRX	**Edison Barstow**	**12.90**	**329**	P		**Pn**	**03 30 44.9**	**+0.6**
	baz=145							
TUQ	**Turquoise Moun**	**12.90**	**334**	P		**Pn**	**03 30 44.1**	**-0.2**
	baz=150,SNR=54							
MWC	**Mount Wilson**	**12.92**	**324**	*e*Pn		P	03 30 51.0	-4.3
MWC	**Mount Wilson**	**12.92**	**324**	*e*P		P	03 30 51.0	-4.3
PASC	**Pasadena Art C**	**12.95**	**324**	*e*Pn		**P**	**03 30 51.8**	**-3.6**
DECC	**Con Verdugo**	**13.09**	**323**	P		**Pn**	**03 30 49.2**	**+2.3**
	baz=139							
HKT	**Hockley**	**13.09**	**60**	*e*Pn		**Pn**	**03 30 44.7**	**-2.2**
HKT	**Hockley**	**13.09**	**60**	*e*P		**Pn**	**03 30 44.7**	**-2.2**
GSC	**Goldstone, Bar**	**13.16**	**331**	P		**Pn**	**03 30 50.0**	**+2.1**
	baz=146,SNR=18							
GSC	**Goldstone, Bar**	**13.16**	**331**	*e*Pn		**Pn**	**03 30 51.0**	**+3.1**
GSC	**Goldstone, Bar**	**13.16**	**331**	*e*P		**Pn**	**03 30 51.0**	**+3.1**
MVCO	**Mesa Verde**	**13.16**	**2**	P		**Pn**	**03 30 47.5**	**-0.5**
	baz=181,SNR=23							
MVCO	**Mesa Verde**	**13.16**	**2**	*e*Pn		**Pn**	**03 30 49.1**	**+1.0**
KNB	**Kanab**	**13.39**	**346**	*e*Pn		**Pn**	**03 30 54.4**	**+3.3**
KNB	**Kanab**	**13.39**	**346**	*e*P		**Pn**	**03 30 54.4**	**+3.3**
EDW2	**Edwards Air Fo**	**13.39**	**326**	P		**Pn**	**03 30 52.4**	**+1.3**
	baz=141,SNR=10							
BLG	**Laguna Peak, P**	**13.39**	**321**	P		**Pn**	**03 30 52.6**	**+1.6**
	baz=136							
SHOC	**Shoshone, Teco**	**13.44**	**334**	P		**Pn**	**03 30 53.5**	**+1.8**
	baz=150,SNR=52							
LCMT	**Little Creek M**	**13.48**	**345**	*e*Pn		**Pn**	**03 30 55.6**	**+3.3**
SHPR	**Sheep Range**	**13.56**	**338**	*e*Pn		**Pn**	**03 30 56.6**	**+3.2**
SHPR				*e*Sn		**Sn**	**03 33 16.6**	**-6.9**
MHTCO	**State Highway**	**13.57**	**15**	*e*Pn		**Pn**	**03 30 55.3**	**+1.6**
MHTCO				*e*Sn		Sn	03 33 14.8	-9.2
OSI	**Osito Audit: C**	**13.57**	**323**	P		**Pn**	**03 30 55.5**	**+2.0**
	baz=138							
OSI	**Osito Audit: C**	**13.57**	**323**	*e*Pn		Pn	03 30 45.0	-8.5
OSI				*e*Sn		**Sn**	**03 33 26.1**	**+2.4**
T25A	**Trinidad**	**13.65**	**16**	P		**Pn**	**03 30 54.9**	**+0.2**
	baz=197,SNR=25							
T25A	**Trinidad**	**13.65**	**16**	*e*Pn		**Pn**	**03 30 56.0**	**+1.3**
PKCU	**Pink Cliffs**	**13.70**	**349**	*e*Pn		**Pn**	**03 30 58.6**	**+3.2**
LRMC	**Laurel Mtn Rad**	**13.71**	**328**	P		**Pn**	**03 30 57.1**	**+1.6**
	baz=144,SNR=13							
S22A	**4UR Ranch, Cre**	**13.81**	**7**	P		**Pn**	**03 30 57.3**	**+0.4**
	baz=188,SNR=12							
S22A	**4UR Ranch, Cre**	**13.81**	**7**	*e*Pn		**Pn**	**03 30 59.1**	**+2.1**
WMOK	**Wichita Mounta**	**13.87**	**37**	P		**Pn**	**03 30 55.2**	**-2.4**
	baz=222,SNR=13							
WMOK	**Wichita Mounta**	**13.87**	**37**	*e*Pn		**Pn**	**03 30 54.6**	**-2.9**
WMOK	**Wichita Mounta**	**13.87**	**37**	*e*P		**Pn**	**03 30 54.6**	**-2.9**
SZCU	**Shurtz Canyon**	**14.00**	**346**	*e*Pn		**Pn**	**03 31 03.4**	**+3.9**
SDCO	**Great Sand Dun**	**14.00**	**11**	P		**Pn**	**03 31 00.1**	**+0.5**
	baz=192,SNR=71							
SDCO	**Great Sand Dun**	**14.00**	**11**	*e*Pn		**P**	**03 31 05.0**	**-2.4**
SBC	**Santa Barbara**	**14.01**	**320**	P		**Pn**	**03 31 00.2**	**+0.8**

	baz=135							
ARVC	**Arvin**	**14.02**	**324**	P		**Pn**	**03 31 00.1**	**+0.5**
	baz=139,SNR=11							
CCUT	**Cedar City**	**14.02**	**345**	*e*Pn		**Pn**	**03 31 04.0**	**+4.3**
PV05	**Paradox Valley**	**14.02**	**359**	*e*Pn		**Pn**	**03 31 01.7**	**+1.9**
PV01	**Paradox Valley**	**14.08**	**1**	*e*Pn		**Pn**	**03 31 01.5**	**+0.9**
MPMC	**Manual Prospec**	**14.10**	**330**	P		**Pn**	**03 31 01.9**	**+1.1**
	baz=146,SNR=39							
FURC	**Furnace Creek,**	**14.17**	**333**	P		**Pn**	**03 31 02.7**	**+1.1**
	baz=148,SNR=19							
ISA	**Isabella, Lake**	**14.25**	**327**	P		**Pn**	**03 31 03.9**	**+1.1**
	baz=142,SNR=11							
ISA	**Isabella, Lake**	**14.25**	**327**	*e*Pn		**Pn**	**03 31 05.9**	**+3.1**
ISA	**Isabella, Lake**	**14.25**	**327**	*e*P		**Pn**	**03 31 05.9**	**+3.1**
MTPU	**Mount Pierson**	**14.26**	**350**	*e*Pn		**Pn**	**03 31 06.0**	**+2.8**
PV10	**Paradox Valley**	**14.32**	**360**	*e*Pn		**Pn**	**03 31 04.1**	**+0.2**
DAC	**Darwin (Calif)**	**14.32**	**331**	*e*Pn		**P**	**03 31 08.5**	**-2.4**
DAC	**Darwin (Calif)**	**14.32**	**331**	*e*P		**P**	**03 31 08.5**	**-2.4**
TPNV	**Topopah Spring**	**14.35**	**336**	P		**Pn**	**03 31 05.8**	**+1.6**
	baz=152,SNR=101							
TPNV	**Topopah Spring**	**14.35**	**336**	*e*Pn		**Pn**	**03 31 08.0**	**+3.8**
TPNV	**Topopah Spring**	**14.35**	**336**	*e*P		**Pn**	**03 31 08.0**	**+3.8**
PKM	**Mcpherson Peak**	**14.38**	**321**	P		**Pn**	**03 31 06.1**	**+1.4**
	baz=136							
PV09	**Paradox Valley**	**14.44**	**359**	*e*Pn		**Pn**	**03 31 06.8**	**+1.1**
CWC	**Cottonwood Cre**	**14.68**	**330**	P		**Pn**	**03 31 09.9**	**+1.1**
	baz=145							
VES	**Vestal, Richgr**	**14.70**	**326**	P		**Pn**	**03 31 09.5**	**+0.7**
	baz=140,SNR=17							
MSU	**Marysvale**	**14.72**	**350**	*e*Pn		**Pn**	**03 31 11.4**	**+2.1**
MSU	**Marysvale**	**14.72**	**350**	*e*P		**Pn**	**03 31 11.4**	**+2.1**
SMMC	**Simmler**	**14.79**	**322**	P		**Pn**	**03 31 12.2**	**+2.0**
	baz=136							
GRAC	**Grapevine Rang**	**14.83**	**333**	P		**Pn**	**03 31 12.5**	**+1.8**
	baz=148,SNR=12							
CMIG	**Matias Romero**	**14.85**	**115**	Pn		**Pn**	**03 31 11.9**	**+1.0**
	comp=Z,0.2nm,0.3s,baz=286,slow=12,SNR=7.3							
CMIG				LR		LR	03 36 48.8	
	comp=Z,6μm,19.9s,baz=279,slow=37							
TCRU	**Three Creeks R**	**14.86**	**349**	*e*Pn		**Pn**	**03 31 13.0**	**+1.8**
Q16A	**Castle Valley**	**14.98**	**353**	*e*Pn		**Pn**	**03 31 14.5**	**+1.7**
	comp=Z,187nm,1.2s							
SRU	**San Rafael Swe**	**15.11**	**355**	*e*Pn		**Pn**	**03 31 15.4**	**+0.8**
	comp=Z,53nm,1.2s							
SRU	**San Rafael Swe**	**15.11**	**355**	*e*P		**Pn**	**03 31 15.4**	**+0.8**
SRU					pmax	pmax		
	comp=Z,53nm,1.2s							
RCTC	**Rector, Farmer**	**15.14**	**326**	P

MIAR Mount Ida 17.00 48 ePn Pn 03 31 37.9 -0.7
comp=Z,36nm,1.0s
MIAR Mount Ida 17.00 48 eP Pn 03 31 37.9 -0.7
MIAR pmax pmax
comp=Z,36nm,1.0s
SAIU Southern Antel 17.01 352 ePn P 03 31 40.6 -0.1
N23A Red Feather La 17.02 8 P Pn 03 31 39.7 +0.6
baz=189,SNR=29
N23A Red Feather La 17.02 8 ePn P 03 31 41.3 +0.4
comp=Z,116nm,1.4s
CMB Columbia Colle 17.06 328 ePn Pn 03 31 40.9 +1.5
comp=Z,36nm,1.1s
CMB Columbia Colle 17.06 328 eP Pn 03 31 40.9 +1.5
CMB pmax pmax
comp=Z,36nm,1.1s
TCUT Toone Canyon 17.18 354 ePn P 03 31 42.9 +0.2
comp=Z,375nm,1.6s
142A Monroe 17.20 57 P Pn 03 31 40.0 -1.1
baz=244
BGU Big Grassy Mou 17.21 349 ePn P 03 31 43.7 +0.9
comp=Z,164nm,1.4s
W39A Magazine 17.23 46 P Pn 03 31 40.9 -0.7
baz=233,SNR=20
645A Chauvin 17.25 68 P Pn 03 31 40.7 -1.1
baz=256
243A Waterproof 17.29 59 P Pn 03 31 40.1 -2.1
baz=247
RDG13 Poverty Ridge 17.30 324 ePn P 03 31 45.3 +1.5
comp=Z,67nm,1.0s
YERR Yerington 17.30 332 ePn P 03 31 45.2 +1.3
comp=Z,65nm,1.2s
444A Pine Grove 17.47 64 P Pn 03 31 42.1 -2.5
baz=252
X40A Basin Creek Fa 17.48 50 P Pn 03 31 42.0 -2.6
baz=237,SNR=6.8
PHWY Pilot Hill 17.49 9 ePn P 03 31 46.2 +0.1
comp=Z,88nm,1.6s
SPUT South Promonto 17.50 351 ePn P 03 31 46.5 +0.5
comp=Z,117nm,1.2s
Z42A Norrel Spur, H 17.52 54 P Pn 03 31 43.2 -1.9
baz=242
MCU Monte Cristo P 17.53 354 ePn P 03 31 47.3 +0.7
GZU Grizzly Peak 17.55 352 ePn P 03 31 46.7 0.0
143A Socs Landing, 17.68 57 P Pn 03 31 45.5 -1.6
baz=245
HWUT Hardware Ranch 17.68 354 ePn P 03 31 49.0 +0.9
comp=Z,144nm,1.2s
RWWY Rawlins 17.69 4 ePn P 03 31 49.6 +1.3
comp=Z,142nm,1.3s
W40A Ferguson Farm, 17.71 47 P Pn 03 31 46.0 -1.4
baz=235,SNR=11
W40A Ferguson Farm, 17.71 47 ePn Pn 03 31 47.1 -0.4
comp=Z,150nm,1.4s
X41A Kaden, Bauxite 17.71 50 P Pn 03 31 44.6 -2.9
baz=238,SNR=9.2
V39A Pettigrew 17.71 45 P Pn 03 31 45.8 -1.8
baz=232,SNR=14
344A Westbrook Farm 17.73 61 P Pn 03 31 45.4 -2.3
baz=249
VCNR Virginia City 17.73 332 ePn P 03 31 51.1 +2.4
comp=Z,43nm,0.9s
RUBR Rubicon Trail 17.76 330 ePn P 03 31 50.9 +1.9
comp=Z,75nm,0.8s
BMN Battle Mountai 17.79 339 ePn P 03 31 51.0 +1.7
comp=Z,37nm,0.9s
BMN Battle Mountai 17.79 339 eP P 03 31 51.0 +1.7
BMN pmax pmax
comp=Z,37nm,0.9s
HHAR Hobbs 17.80 43 ePn Pn 03 31 46.4 -2.2
comp=Z,25nm,0.9s
445A Amite 17.81 64 P Pn 03 31 46.8 -2.0
baz=252
OGNE Ogallala 17.85 17 P Pn 03 31 48.4 -0.9
baz=200
OGNE Ogallala 17.85 17 ePn P 03 31 50.1 +0.2
comp=Z,132nm,1.3s
Y42A Garnett, Star 17.90 53 P Pn 03 31 47.6 -2.2
baz=241
646A Port Sulphur 17.93 68 P Pn 03 31 47.4 -2.9
baz=256
PAHR Pah Rah Range 17.97 333 ePn Pn 03 31 47.6 -3.2
comp=Z,54nm,1.4s
244A Avery, Jackson 17.97 60 P Pn 03 31 48.9 -1.8
baz=249,SNR=6.1
UALR University of 17.98 50 ePn Pn 03 31 48.5 -2.3
comp=Z,40nm,1.2s
HVU Hansel Valley 18.01 351 ePn P 03 31 53.1 +1.5
comp=Z,110nm,1.0s
HVU Hansel Valley 18.01 351 eP P 03 31 53.1 +1.5
HVU pmax pmax
comp=Z,110nm,1.0s
AFDM Forest Hills D 18.06 328 ePn P 03 31 53.1 +1.0
comp=Z,20nm,1.0s
T38A Diamond 18.07 41 P Pn 03 31 50.6 -1.4
baz=228,SNR=14
U39A Green Forest 18.15 44 P Pn 03 31 51.4 -1.5
baz=231,SNR=7.8
VBMS Vicksburg 18.17 59 P Pn 03 31 51.1 -2.1
baz=247
VBMS Vicksburg 18.17 59 ePn Pn 03 31 50.6 -2.6
comp=Z,326nm,2.0s
V40A Witts Springs 18.23 46 P Pn 03 31 52.0 -1.8
baz=234,SNR=17
345A Thompson Farm, 18.24 62 P Pn 03 31 53.2 -0.9
baz=251
W41B Gary Mavity, V 18.26 49 P Pn 03 31 52.5 -1.7
baz=236,SNR=9.6
WHAR Wooly Hollow 18.29 48 ePn Pn 03 31 53.4 -1.3
comp=Z,49nm,1.1s
KSU1 Kansas State U 18.32 32 P Pn 03 31 54.0 -0.9
baz=218,SNR=8.7
KSU1 Kansas State U 18.32 32 ePn P 03 31 55.6 +0.7
comp=Z,71nm,1.1s
X42A Stuttgart 18.37 51 P P 03 31 52.9 -2.5
baz=239
144A Alexander Plac 18.40 58 P P 03 31 53.3 -2.6
baz=246
BEKR Beckworth 18.52 331 eP Pn 03 31 59.3 +1.8
comp=Z,67nm,1.0s
U40A Yellville 18.53 45 P P 03 31 55.4 -1.9
baz=232,SNR=15
Y43A Makayla and Ka 18.57 54 P P 03 31 55.3 -2.4
baz=242
245A Little AP, Sta 18.60 60 P P 03 31 55.4 -2.6
baz=249,SNR=9.3
T39A Clever 18.62 42 P P 03 31 57.5 -0.7
baz=230,SNR=7.9
O33A Hebron 18.66 28 P P 03 31 58.3 -0.4
baz=214
V41A Mountainview 18.66 47 P P 03 31 57.7 -1.1
baz=235,SNR=8.2
Z44A Pea Ridge, Bel 18.66 56 P P 03 31 57.1 -1.6
baz=245
K22A Casper 18.70 6 P Pn 03 31 60.0 +0.3
baz=186,SNR=101
K22A Casper 18.70 6 eP Pn 03 32 00.4 +0.7
comp=Z,301nm,1.2s
S38A Stockton 18.70 40 P P 03 31 57.0 -2.1
baz=227,SNR=9.5
BW06 Boulder Array 18.71 359 P P 03 31 59.7 +0.2
baz=178,SNR=78
BW06 Boulder Array 18.71 359 eP P 03 32 00.0 +0.5
comp=Z,131nm,1.1s
PD31 Pinedale Array 18.71 359 eP P 03 32 00.0 +0.5
PDAR Pinedale Array 18.71 359 P P 03 32 00.0 +0.5
comp=Z,1.0nm,0.3s,baz=166,slow=12,SNR=230
PDAR LR LR 03 39 15.1
comp=Z,2μm,18.7s,baz=191,slow=37
PDAR Pinedale Array 18.71 359 eP P 03 31 59.0 -0.4
346A Big Creek Wild 18.73 63 P P 03 31 57.5 -1.9
baz=251
145A Houston Renfro 18.78 59 P P 03 31 58.3 -1.7
baz=247
ORV Oroville 18.79 329 eP Pn 03 32 01.7 +1.1
comp=Z,65nm,1.0s
ORV eSn S 03 35 42.8 +10
ORV Oroville 18.79 329 eP Pn 03 32 01.7 +1.1
ORV pmax pmax
comp=Z,65nm,1.0s
AHID Auburn Hatcher 18.79 355 eP Pn 03 32 01.3 +0.5
comp=Z,157nm,1.4s
W42A Bald Knob 18.81 49 P P 03 31 59.8 -0.5
baz=238
GDXM Geysers 18.87 325 eP P 03 32 01.7 +0.7
comp=Z,28nm,1.0s
X43A Marvell 18.89 52 P P 03 31 59.9 -1.2
baz=241
MGL Magalia 19.02 329 eP Pn 03 32 05.0 +1.5

R38A Fenwick Farm, 19.08 39 P P 03 32 02.2 -1.1
baz=226,SNR=14
S39A Bolivar 19.08 41 P P 03 32 02.0 -1.4
baz=228,SNR=22
Y44A Strider, Charl 19.12 55 P P 03 32 02.8 -1.0
baz=243
U41A Viola 19.13 46 P P 03 32 02.9 -1.0
baz=234,SNR=8.4
O34A Beatrice 19.14 30 P P 03 32 03.5 -0.4
baz=216
HOPS Hopland Field 19.16 325 eP P 03 32 03.1 -1.0
comp=Z,86nm,1.3s
V42A Cord 19.19 48 P P 03 32 03.9 -0.5
baz=236,SNR=10
246A Jackson Lee, B 19.20 61 P P 03 32 03.9 -0.7
baz=250
447A Lucedale 19.22 65 P P 03 32 04.5 -0.4
baz=254
T40A Mansfield 19.23 43 P P 03 32 03.3 -1.7
baz=231,SNR=16
Q37A Longview Farm, 19.26 36 P P 03 32 03.8 -1.4
baz=223,SNR=5.5
Z45A Winona 19.26 57 P P 03 32 04.2 -1.2
baz=246
N33A J Bar K, Exete 19.26 27 P P 03 32 05.4 +0.1
baz=213
W43A Forest City 19.29 51 P P 03 32 04.7 -0.9
baz=240
REDW Red Top Meadow 19.37 356 eP Pn 03 32 07.7 -0.1
comp=Z,114nm,1.3s
X44A Crenshaw 19.41 53 P P 03 32 06.3 -0.6
baz=242
SNOW Snow King Moun 19.46 356 eP P 03 32 08.4 +0.8
comp=Z,77nm,0.8s
146A Union 19.47 59 P P 03 32 06.2 -1.5
baz=248
347A Saraland 19.48 63 P P 03 32 06.8 -0.9
baz=252
TPAW Teton Pass 19.50 356 eP P 03 32 08.9 +0.7
comp=Z,76nm,1.1s
O03D Paynes Creek 19.51 329 P P 03 32 09.1 +1.0
baz=142,SNR=33
O03D Paynes Creek 19.51 329 eP Pn 03 32 10.4 +1.0
S40A Lebanon 19.52 42 P P 03 32 07.7 -0.4
baz=230,SNR=16
BGNE Belgrade 19.55 25 P P 03 32 08.3 -0.1
baz=210
BGNE Belgrade 19.55 25 eP P 03 32 08.6 +0.2
comp=Z,119nm,0.9s
APG El Apazote 19.57 114 P Pn 03 32 10.2 -0.1
comp=Z,0.1nm,0.3s,baz=309,slow=13,SNR=8.7
O35A Humboldt 19.57 31 P P 03 32 08.2 -0.4
baz=217
Y45A Yeager Farm, C 19.58 56 P P 03 32 08.5 -0.3
baz=244
U42A Revenden 19.59 47 P P 03 32 08.1 -0.8
baz=236,SNR=8.4
LOHW Long Hollow 19.60 356 eP P 03 32 09.7 +0.6
comp=Z,55nm,0.8s
247A Quitman 19.63 61 P P 03 32 08.1 -1.3
baz=251,SNR=7.9
T41A Mountain View 19.65 45 P P 03 32 09.4 -0.1
baz=233,SNR=9.2
FXWY Fo Creek 19.65 355 eP P 03 32 10.8 +1.1
comp=Z,92nm,1.2s
R39A Chumby, Stover 19.66 40 P P 03 32 08.8 -0.9
baz=228,SNR=18
MOOW Moose Ponds 19.74 356 eP P 03 32 11.3 +0.6
comp=Z,112nm,1.5s
N34A Lincoln 19.75 29 P Pn 03 32 11.6 -0.7
baz=215
V43A Jonesboro 19.76 49 P P 03 32 10.3 -0.4
baz=238
Z46A Louisville 19.77 58 P P 03 32 10.1 -0.8
baz=247
Q38A Cooks Store, C 19.77 38 P P 03 32 10.8 -0.1
baz=225
P37A Lathrop 19.83 35 P P 03 32 11.6 +0.1
baz=222,SNR=6.0
MET Memphis--Engin 19.86 52 eP P 03 32 11.7 -0.1
comp=Z,215nm,1.3s
IMW Indian Meadow 19.90 356 eP P 03 32 13.7 +1.1
comp=Z,102nm,1.1s
448A Bay Minette 19.91 65 P P 03 32 11.8 -0.6
baz=254
KCPM Cahto Peak 19.93 325 eP P 03 32 11.9 -0.9
comp=Z,66nm,1.0s
X45A UM Field Stati 19.93 54 P P 03 32 12.2 -0.5
baz=243
W44A Shelby Farms P 19.95 52 P P 03 32 12.4 -0.4
241
OXF Oxford 19.96 54 P P 03 32 12.3 -0.6
baz=243
OXF Oxford 19.96 54 eP P 03 32 10.6 -2.3
comp=Z,58nm,0.9s
OXF Oxford 19.96 54 eP P 03 32 10.6 -2.3
OXF pmax pmax
comp=Z,58nm,0.9s
S41A Jillco Farms, 19.98 43 P P 03 32 12.9 -0.3
baz=232,SNR=14
348A Jackson 20.01 64 P P 03 32 13.1 -0.4
baz=253
HLID Hailey 20.02 348 P Pn 03 32 15.1 -0.4
baz=165,SNR=26
HLID Hailey 20.02 348 eP Pn 03 32 15.3 -0.2
comp=Z,72nm,1.3s
WVOR Wild Horse Val 20.06 339 eP Pn 03 32 15.7 -0.2
comp=Z,110nm,1.0s
WVOR Wild Horse Val 20.06 339 eP Pn 03 32 15.7 -0.2
WVOR pmax pmax
comp=Z,110nm,1.0s
T42A Van Buren 20.07 46 P P 03 32 13.9 -0.2
baz=234,SNR=9.5
WDC Whiskeytown Da 20.09 329 eP P 03 32 14.5 +0.2
comp=Z,47nm,0.9s
WDC Whiskeytown Da 20.09 329 eP P 03 32 14.5 +0.2
WDC pmax pmax
comp=Z,47nm,0.9s
R40A Maddies Statio 20.11 41 P P 03 32 14.4 -0.1
baz=229,SNR=19
Y46A Houston 20.11 56 P P 03 32 14.0 -0.6
baz=246,SNR=12
147A Livingston 20.11 60 P P 03 32 14.0 -0.6
baz=249
N35A Tabor 20.16 30 P P 03 32 15.8 +0.7
baz=217
U43A Rector 20.16 48 P P 03 32 15.6 +0.5
baz=237
MFID Camas Ranch 20.17 345 eP P 03 32 16.7 +1.4
comp=Z,47nm,1.0s
Q39A Willow Grove F 20.20 38 P P 03 32 15.5 +0.1
baz=226,SNR=21
MOD Modoc Plateau 20.20 335 eP P 03 32 16.9 +1.3
comp=Z,56nm,0.8s
MCID Moose Creek 20.21 355 eP Pn 03 32 17.4 -0.5
V44A Blytheville 20.23 50 P P 03 32 15.5 -0.4
baz=239
YPP Pitchstone Pla 20.27 356 eP P 03 32 16.5 -0.1
comp=Z,64nm,1.1s
P38A Dawn 20.29 36 P P 03 32 16.9 +0.4
baz=224,SNR=9.8
248A Dixon Mills 20.34 62 P P 03 32 17.2 +0.1
baz=252
O37A Wolven Farm, M 20.36 34 P P 03 32 16.9 -0.3
baz=222
PBMO Poplar Bluff 20.37 47 eP P 03 32 15.4 -1.9
comp=Z,18nm,0.8s
H17A Grant Village 20.38 357 P P 03 32 18.8 +1.1
baz=175,SNR=47
H17A Grant Village 20.38 357 eP P 03 32 19.1 +1.4
comp=Z,134nm,1.3s
K31A O'Neill 20.39 22 P P 03 32 17.2 -0.4
baz=207
KMRM Mail Ridge 20.39 326 eP P 03 32 18.8 +1.1
comp=Z,185nm,0.9s
449A Pace 20.41 66 P P 03 32 17.9 0.0
baz=256
W45A Hickory Valley 20.42 53 P P 03 32 17.5 -0.4
baz=242,SNR=5.9
N36A Muff Farm, Cla 20.45 32 P P 03 32 17.8 -0.4
baz=219
YFT Old Faithful 20.45 356 eP Pn 03 32 20.4 -0.3
comp=Z,317nm,1.9s
Z47A Carrollton 20.45 59 P P 03 32 17.7 -0.6
baz=248,SNR=15
RSSD Black Hills 20.46 10 P P 03 32 19.1 +0.6
baz=192
RSSD Black Hills 20.46 10 eP P 03 32 19.1 +0.6

comp=Z,91nm,1.4s
RSSD Black Hills 20.46 10 eP P 03 32 19.1 +0.6
RSSD pmax pmax
comp=Z,91nm,1.4s
N02D Trinity Center 20.47 329 P P 03 32 18.4 -0.2
baz=141,SNR=12
L33A Hoskins 20.54 25 P P 03 32 19.4 +0.2
baz=211
349A Repton 20.58 64 P P 03 32 19.4 -0.3
baz=254
CCM Cathedral Cave 20.59 43 P P 03 32 19.6 -0.1
baz=232
CCM Cathedral Cave 20.59 43 eP P 03 32 18.7 -1.0
comp=Z,22nm,0.9s
CCM Cathedral Cave 20.59 43 eP P 03 32 18.7 -1.0
CCM pmax pmax
comp=Z,22nm,0.9s
X46A Booneville 20.59 55 P P 03 32 18.6 -1.2
baz=244,SNR=8.4
P39B Salisbury 20.62 38 P P 03 32 19.6 -0.5
baz=226,SNR=9.9
T43A Greenville 20.63 47 P P 03 32 19.4 -0.8
baz=236
BRAL Brewton 20.65 65 P P 03 32 20.3 -0.1
baz=255
R41A Rosebud 20.65 42 P P 03 32 20.1 -0.3
baz=231,SNR=11
148A Greensboro 20.66 61 P P 03 32 20.2 -0.2
baz=250
YMR Madison River 20.67 356 eP P 03 32 21.6 +0.7
comp=Z,84nm,0.9s
O38A Galt 20.68 35 P P 03 32 20.5 -0.2
baz=223
Q40A Laux Farm, Aux 20.68 40 P P 03 32 21.4 +0.6
baz=228,SNR=15
S42A Caledonia 20.70 44 P P 03 32 20.8 -0.1
baz=233
M04C Macdoel 20.73 332 P P 03 32 21.5 +0.1
baz=145,SNR=35
L34A Svendsen Farm, 20.73 27 P P 03 32 21.9 +0.6
baz=214
N37A Lee Faris, Mou 20.77 33 P P 03 32 22.0 +0.3
baz=220
YHB Horse Butte 20.77 355 eP P 03 32 23.2 +1.2
comp=Z,61nm,0.9s
YHH Holmes Hill 20.79 356 eP P 03 32 23.7 +1.6
comp=Z,110nm,1.1s
249A Camden 20.81 63 P P 03 32 22.4 +0.2
baz=253,SNR=10
J08A Circle Bar Ran 20.84 340 eP P 03 32 24.2 +1.7
comp=Z,236nm,1.4s
V45A Humboldt 20.85 51 P P 03 32 22.0 -0.6
baz=241
M02C Callahan 20.87 329 P P 03 32 22.4 -0.4
baz=142,SNR=17
QLMT Earthquake Lak 20.87 355 eP Pn 03 32 24.9 -0.6
Y47A UCPARC, Winfie 20.88 57 P P 03 32 22.1 -0.8
baz=247
KHMM Horse Mountain 20.89 327 eP P 03 32 24.8 +1.6
comp=Z,166nm,0.9s
Z48A Northport 20.92 59 P P 03 32 21.8 -1.5
baz=249,SNR=10
J31A Geddes 20.99 21 P P 03 32 23.5 -0.6
baz=206
W46A Michie 21.00 53 P P 03 32 23.7 -0.5
baz=243
JCC Jacoby Creek, 21.00 327 eP P 03 32 23.6 -0.5
comp=Z,167nm,1.0s
R42A Luebbering 21.00 43 P P 03 32 24.0 -0.2
baz=232
MCMT McKenzie Canyo 21.01 352 eP P 03 32 26.8 +2.3
K33A Hardington 21.02 25 P P 03 32 24.7 +0.4
baz=211
S43A Fulton Ridge, 21.05 46 P P 03 32 24.2 -0.5
baz=235,SNR=18
P40A Paris 21.05 39 P P 03 32 24.9 +0.2
baz=227,SNR=18
RLMT Red Lodge 21.06 359 P P 03 32 25.5 +0.5
baz=179,SNR=44
RLMT Red Lodge 21.06 359 eP P 03 32 25.3 +0.2
comp=Z,79nm,1.0s
YBH Yreka Blue Hor 21.07 330 P P 03 32 24.7 -0.4
comp=Z,72nm,1.0s,baz=178,slow=7.2,SNR=15
YBH Yreka Blue Hor 21.07 330 eP P 03 32 24.1 -1.0
comp=Z,22nm,0.9s
YBH Yreka Blue Hor 21.07 330 eP P 03 32 24.1 -1.0
YBH pmax pmax
comp=Z,22nm,0.9s
X47A Russelville 21.12 56 P P 03 32 25.0 -0.6
baz=245,SNR=21
K05A Summer Lake 21.13 335 eP P 03 32 27.0 +1.3
comp=Z,370nm,1.9s
PLAL Pickwick Lake 21.15 54 eP P 03 32 25.2 -0.7
comp=Z,52nm,0.9s
Q41A Truxton 21.15 41 P P 03 32 25.2 -0.6
baz=230,SNR=19
L35A Bielow Farm, R 21.21 28 P P 03 32 26.9 +0.5
baz=215
UTMT University of 21.21 50 eP P 03 32 24.9 -1.6
comp=Z,193nm,1.0s
LRAL Lakeview Retre 21.24 60 P P 03 32 25.9 -0.9
baz=250
LRAL Lakeview Retre 21.24 60 eP P 03 32 25.6 -1.1
comp=Z,44nm,1.0s
149A Jones 21.26 61 P P 03 32 27.1 0.0
baz=252,SNR=9.5
O39A Kirksville 21.27 37 P P 03 32 28.2 +1.1
baz=225
U45A Rockin P Farm, 21.29 50 P P 03 32 27.4 +0.1
baz=240
N38A Joes South For 21.29 34 P P 03 32 28.4 +1.1
baz=222
350A Dozier 21.30 65 P P 03 32 27.9 +0.4
baz=255
BGMT Barton Gulch 21.32 354 eP P 03 32 30.3 +2.4
M37A Trindle Farm, 21.34 32 P P 03 32 28.5 +0.7
baz=220
J32A Parkston 21.36 23 P P 03 32 27.7 -0.4
baz=208
K04D Chiloquin, OR 21.39 333 P P 03 32 29.5 +1.1
baz=146,SNR=7.8
Y48A Jasper 21.41 58 P P 03 32 28.2 -0.5
baz=248,SNR=14
K34A Le Mars 21.45 27 P P 03 32 29.5 +0.5
baz=213
V46A Holladay 21.49 52 P P 03 32 28.8 -0.6
baz=242,SNR=20
250A Grady 21.50 63 P P 03 32 29.1 -0.6
baz=254,SNR=5.8
DLMT Dillon 21.51 353 eP P 03 32 31.1 +1.4
comp=Z,66nm,1.2s
R43A Red Bud 21.55 44 P P 03 32 29.7 -0.3
baz=234,SNR=9.6
O40A La Belle 21.55 38 P P 03 32 30.2 +0.1
baz=226,SNR=17
SLM Saint Louis 21.57 43 eP P 03 32 29.8 -0.5
comp=Z,29nm,0.9s
SLM Saint Louis 21.57 43 eP P 03 32 29.8 -0.5
SLM pmax pmax
comp=Z,29nm,0.9s
L36A Harm Buss Farm 21.59 30 P P 03 32 31.3 +0.8
baz=217
451A Vernon 21.61 67 P P 03 32 30.4 -0.4
baz=258
W47A Westpoint 21.62 54 P P 03 32 30.2 -0.8
baz=244,SNR=15
J33A Davis 21.64 24 P P 03 32 31.4 +0.4
baz=210
BOZ Bozeman (W) 21.65 355 P P 03 32 32.7 +1.4
baz=173,SNR=91
BOZ Bozeman (W) 21.65 355 eP P 03 32 32.9 +1.7
comp=Z,56nm,0.9s
BOZ Bozeman (W) 21.65 355 eP P 03 32 32.9 +1.7
BOZ pmax pmax
comp=Z,56nm,0.9s
S44A Carbondale 21.66 46 P P 03 32 30.8 -0.4
baz=236
Z49A Columbiana 21.66 60 P P 03 32 31.1 -0.2
baz=250,SNR=7.5
SIUC Southern Illin 21.69 46 eP P 03 32 31.5 -0.1
comp=Z,63nm,1.0s
U46A Springville 21.71 51 P P 03 32 31.4 -0.4
baz=241,SNR=23
T45A Paducah 21.71 49 P P 03 32 31.1 -0.7
baz=239
X48A Hartselle 21.71 56 P P 03 32 31.2 -0.7
baz=247,SNR=8.8
I31A Royce, Wessing 21.71 21 P P 03 32 32.8 +1.0

	baz=206								
P41A	**Barry, Barry**	21.72	40	P		P	03 32 31.3	-0.6	
	baz=229,SNR=21								
J05D	**Fort Rock, OR**	21.73	335	P		P	03 32 33.1	+0.9	
	baz=148,SNR=16								
N39A	**Derby Farms, D**	21.74	35	P		P	03 32 33.3	+1.3	
	baz=224								
GCMT	**Greycliff**	21.74	359	eP		P	03 32 33.0	+0.8	
M38A	**Pleasantville**	21.77	33	P		P	03 32 33.2	+0.7	
	baz=222,SNR=27								
I07A	**Izee**	21.81	339	eP		P	03 32 33.4	+0.4	
	comp=Z,30nm,1.4s								
L02D	**Cave Junction,**	21.82	330	P		P	03 32 34.9	+2.0	
	baz=141								
K35A	**Storm Lake**	21.84	28	P		P	03 32 32.9	-0.3	
	baz=215								
WVT	**Waverly**	21.84	52	P		P	03 32 32.4	-0.9	
	baz=242								
WVT	**Waverly**	21.84	52	eP		P	03 32 33.0	-0.3	
	comp=Z,40nm,0.9s								
WVT	**Waverly**	21.84	52	eP		P	03 32 33.0	-0.3	
WVT				pmax		pmax			
	comp=Z,40nm,0.9s								
351A	**Pinckard**	21.88	66	P		P	03 32 33.5	-0.2	
	baz=256,SNR=6.4								
BMO	**Blue Mountains**	21.88	344	eP		P	03 32 34.3	+0.6	
	comp=Z,32nm,0.9s								
BMO	**Blue Mountains**	21.88	344	eP		P	03 32 34.3	+0.6	
BMO				pmax		pmax			
	comp=Z,32nm,0.9s								
HUMO	**Hull Mountain**	21.88	331	eP		P	03 32 33.7	+0.1	
	comp=Z,14nm,1.0s								
150A	**Eclectic**	21.88	62	P		P	03 32 33.7	0.0	
	baz=252,SNR=26								
V47A	**Nunnelly**	21.93	53	P		P	03 32 33.1	-1.1	
	baz=243,SNR=26								
LRM	**Limekiln Ridge**	21.95	353	eP		P	03 32 35.6	+1.0	
SUSD	**Miller**	21.95	19	P		P	03 32 35.0	+0.6	
	baz=205								
Y49A	**Blount Mountai**	21.98	58	P		P	03 32 34.6	-0.1	
	baz=249,SNR=6.3								
J34A	**George**	22.00	26	P		P	03 32 35.4	+0.5	
	baz=213								
L37A	**Phoenix Point,**	22.03	31	P		P	03 32 36.2	+0.9	
	baz=219,SNR=12								
J04D	**Umpqua Nationa**	22.04	334	P		P	03 32 36.7	+1.1	
	baz=148,SNR=16								
PINE	**Pine Mountain**	22.06	336	eP		P	03 32 37.0	+1.3	
	comp=Z,45nm,0.8s								
W48A	**Pulaski**	22.07	55	P		P	03 32 34.9	-0.8	
	baz=245								
I32A	**Karley and Nic**	22.07	22	P		P	03 32 35.0	-0.7	
	baz=208								
R44A	**Waltonville**	22.08	45	P		P	03 32 35.5	-0.2	
	baz=235,SNR=23								
Q43A	**New Douglas**	22.09	43	P		P	03 32 34.9	-0.9	
	baz=233,SNR=17								
P42A	**Winchester**	22.09	41	P		P	03 32 35.5	-0.3	
	baz=230								
S45A	**Carrier Mills**	22.10	47	P		P	03 32 34.7	-1.2	
	baz=237,SNR=17								
O41A	**Passleys Farm,**	22.11	39	P		P	03 32 36.0	-0.1	
	baz=228,SNR=14								
K36A	**Gilmore City**	22.11	29	P		P	03 32 36.2	+0.1	
	baz=217,SNR=10								
ECSD	**EROS Data Cent**	22.13	24	P		P	03 32 35.6	-0.7	
	baz=211,SNR=14								
ECSD	**EROS Data Cent**	22.13	24	eP		P	03 32 36.8	+0.5	
	comp=Z,36nm,0.9s								
SCIA	**State Center**	22.13	32	eP		P	03 32 36.3	0.0	
	comp=Z,79nm,0.9s								
452A	**Marianna**	22.13	67	P		P	03 32 34.9	-1.5	
	baz=258								
KBO	**Bosley Butte**	22.15	329	eP		P	03 32 37.4	+0.8	
	comp=Z,65nm,0.8s								
Z50A	**Ashland**	22.16	60	P		P	03 32 36.3	-0.4	
	baz=251,SNR=13								
N40A	**Mertquake, Sal**	22.24	37	P		P	03 32 37.7	+0.2	
	baz=226								
T46A	**Princeton**	22.24	49	P		P	03 32 37.2	-0.3	
	baz=240,SNR=22								
251A	**Midway**	22.24	64	P		P	03 32 37.0	-0.6	
	baz=254,SNR=9.4								
X49A	**Woodville**	22.28	57	P		P	03 32 37.2	-0.8	
	baz=248,SNR=16								
I33A	**Coleman**	22.33	24	P		P	03 32 38.8	+0.4	
	baz=210								
M39A	**Webster**	22.34	35	P		P	03 32 39.3	+0.8	
	baz=224,SNR=16								
J35A	**Milford**	22.37	27	P		P	03 32 37.8	-1.1	
	baz=214								
U47A	**Clarksville**	22.38	51	P		P	03 32 38.5	-0.5	
	baz=242,SNR=30								
V48A	**Smith Brothers**	22.40	53	P		P	03 32 39.3	0.0	
	baz=244								
151A	**Opelika**	22.42	62	P		P	03 32 39.0	-0.6	
	baz=253,SNR=31								
L38A	**Oak Wood Farm,**	22.43	32	P		P	03 32 39.7	+0.2	
	baz=221,SNR=17								
352A	**Blakely**	22.48	65	P		P	03 32 39.5	-0.7	
	baz=256								
Q44A	**Meyer Farm, Va**	22.49	44	P		P	03 32 40.0	-0.2	
	baz=234,SNR=16								
H32A	**Carlson Farm,**	22.50	22	P		P	03 32 39.7	-0.5	
	baz=208,SNR=6.4								
Y50A	**Piedmont**	22.52	59	P		P	03 32 39.8	-0.8	
	baz=250,SNR=9.8								
N41A	**Harden Midland**	22.52	38	P		P	03 32 40.3	-0.2	
	baz=227,SNR=12								
K37A	**Belmond**	22.58	30	P		P	03 32 42.0	+0.9	
	baz=218								
P43A	**Skaggs, Pawnee**	22.62	42	P		P	03 32 40.7	-0.9	
	baz=232								
I04A	**Tendick Farm,**	22.62	334	P		P	03 32 42.3	+0.7	
	baz=146								
R45A	**Skylar, Fairfi**	22.63	46	P		P	03 32 41.3	-0.3	
	baz=236								
O42A	**Bath**	22.63	40	P		P	03 32 41.2	-0.5	
	baz=230								
M40A	**Post Highland**	22.64	36	P		P	03 32 41.9	+0.1	
	baz=225,SNR=7.0								
I05D	**Terrebonne, OR**	22.67	336	P		P	03 32 43.4	+1.2	
	baz=149,SNR=11								
S46A	**Don Dixon Farm**	22.68	48	P		P	03 32 41.7	-0.6	
	baz=239,SNR=16								
KEBM	**Edson Butte**	22.71	330	eP		P	03 32 43.6	+1.0	
	comp=Z,166nm,1.0s								
J36A	**Seneca 1, Swea**	22.71	28	P		P	03 32 43.1	+0.6	
	baz=216,SNR=6.1								
TGUH	**Tegucigalpa,Un**	22.72	112	eP		P	03 32 41.2	-1.6	
	comp=Z,40nm,1.2s								
LAO	**LASA Array**	22.73	5	P		P	03 32 42.9	+0.1	
	baz=186,SNR=18								
LAO	**LASA Array**	22.73	5	eP		P	03 32 42.6	-0.1	
	comp=Z,218nm,0.9s								
G08A	**Pilot Rock**	22.74	341	eP		P	03 32 43.0	+0.1	
	comp=Z,73nm,2.0s								
T47A	**Sharon Grove**	22.76	50	P		P	03 32 42.5	-0.6	
	baz=241,SNR=22								
252A	**Lumpkin**	22.77	64	P		P	03 32 42.7	-0.5	
	baz=255,SNR=13								
HRY	**Holter Researc**	22.77	355	eP		P	03 32 44.0	+0.8	
453A	**Whigham**	22.86	67	P		P	03 32 43.0	-1.1	
	baz=258								
USIN	**University of**	22.86	48	eP		P	03 32 44.2	0.0	
	comp=Z,82nm,0.8s								
I35A	**Creekview Farm**	22.87	27	P		P	03 32 44.0	-0.1	
	baz=214								
G31A	**Conde**	22.89	20	P		P	03 32 43.8	-0.6	
	baz=206								
H33A	**Prehn Over Nor**	22.89	23	P		P	03 32 43.9	-0.5	
	baz=209								
L39A	**Vinton**	22.90	34	P		P	03 32 44.3	-0.2	
	baz=223								
K38A	**Parkersburg**	22.90	32	P		P	03 32 45.1	+0.5	
	baz=220								
F10A	**Beach Ranch, E**	22.91	345	eP		P	03 32 44.5	-0.2	
	comp=Z,28nm,0.9s								
I03D	**Drain, OR**	22.93	332	P		P	03 32 45.8	+1.0	
	baz=144								
U48A	**Cassie Pea, Po**	22.95	52	P		P	03 32 44.1	-0.9	
	baz=243,SNR=31								
OLIL	**Olney**	22.99	45	eP		P	03 32 45.0	-0.4	
	comp=Z,48nm,0.8s								
Q45A	**Warren Harvey,**	23.04	45	P		P	03 32 45.4	-0.6	
	baz=236								
353A	**Camilla**	23.05	66	P		P	03 32 45.3	-0.8	
	baz=257,SNR=8.7								
J37A	**Redenius Farm,**	23.05	30	P		P	03 32 46.0	0.0	
	baz=218								
P44A	**Sand Creek, Wi**	23.07	43	P		P	03 32 46.2	0.0	
	baz=234								
R46A	**Gibon Southern**	23.10	47	P		P	03 32 46.6	0.0	
	baz=238								
MSO	**Missoula**	23.12	351	P		P	03 32 47.0	+0.2	
	baz=168,SNR=24								
MSO	**Missoula**	23.12	351	eP		P	03 32 46.6	-0.2	
	comp=Z,69nm,1.1s								
O43A	**Sugar Creek Fa**	23.14	41	P		P	03 32 46.2	-0.7	
	baz=231								
M41A	**Milan**	23.14	37	P		P	03 32 46.5	-0.5	
	baz=227								
G06A	**Carlson Farm,**	23.21	339	eP		P	03 32 47.5	-0.2	
H34A	**Spellman Lake,**	23.24	24	P		P	03 32 47.3	-0.6	
	baz=211								
L40A	**Anamosa**	23.26	35	P		P	03 32 47.7	-0.5	
	baz=224,SNR=13								
554A	**Perry**	23.27	69	P		P	03 32 47.3	-1.0	
	baz=261								
253A	**Americus**	23.28	64	P		P	03 32 47.6	-0.9	
	baz=256,SNR=9.1								
H04A	**Detroit Lake**	23.28	336	eP		P	03 32 47.8	-0.6	
	comp=Z,24nm,0.8s								
T48A	**Bowling Green**	23.32	51	P		P	03 32 47.8	-1.1	
	baz=242,SNR=30								
HDIL	**Hopedale**	23.32	40	P		P	03 32 48.3	-0.5	
	baz=230								
HDIL	**Hopedale**	23.32	40	eP		P	03 32 48.5	-0.3	
K39A	**Oelwein**	23.38	33	P		P	03 32 49.6	+0.3	
	baz=222,SNR=8.4								
I36A	**Fitzsimmons Fa**	23.41	28	P		P	03 32 48.7	-0.9	
	baz=216								
454A	**Quitman**	23.42	68	P		P	03 32 49.5	-0.4	
	baz=259,SNR=5.5								
G05D	**Waldo, OR**	23.45	338	P		P	03 32 51.5	+1.4	
	baz=150								
G33A	**Ortonville**	23.45	23	P		P	03 32 49.4	-0.6	
	baz=209								
F31A	**Hecla**	23.45	19	P		P	03 32 49.9	-0.1	
	baz=205								
655A	**Horseshoe Beac**	23.55	71	P		P	03 32 50.3	-0.8	
	baz=262								
J38A	**Wedel Dairy, R**	23.55	31	P		P	03 32 51.6	+0.5	
	baz=229								
F07A	**Phinny Hill Vi**	23.57	341	eP		P	03 32 51.3	+0.1	
	comp=Z,41nm,1.5s								
O44A	**Mansfield**	23.57	42	P		P	03 32 51.4	+0.1	
	baz=233								
TIGA	**Tifton**	23.59	66	P		P	03 32 51.2	-0.4	
	baz=258,SNR=13								
TIGA	**Tifton**	23.59	66	eP		P	03 32 51.7	+0.2	
	comp=Z,217nm,1.2s								
H35A	**Sunnyside Ranc**	23.63	26	P		P	03 32 51.9	+0.2	
	baz=213,SNR=18								
Q46A	**CEJHS Indians,**	23.63	46	P		P	03 32 51.4	-0.4	
	baz=237								
N43A	**Stutzman Famil**	23.64	40	P		P	03 32 51.3	-0.6	
	baz=230								
E09A	**Wood Farm, Sta**	23.64	344	eP		P	03 32 51.0	-0.9	
	comp=Z,16nm,0.8s								
L41A	**Preston**	23.65	36	P		P	03 32 52.2	+0.2	
	baz=235								
P45A	**Graceland, Par**	23.66	44	P		P	03 32 51.6	-0.5	
	baz=235,SNR=22								
153A	**Fort Valley**	23.67	63	P		P	03 32 51.4	-0.9	
	baz=255,SNR=9.2								
I37A	**Lemond, Waseca**	23.67	29	P		P	03 32 52.4	+0.2	
	baz=217,SNR=6.7								
K40A	**Colesburg**	23.75	34	P		P	03 32 53.1	+0.2	
	baz=224,SNR=6.1								
G34A	**Benson**	23.78	24	P		P	03 32 53.9	+0.8	
	baz=211								
R47A	**Wooly Knot Far**	23.80	48	P		P	03 32 53.1	-0.4	
	baz=239,SNR=16								
F32A	**Veblen**	23.81	21	P		P	03 32 53.8	+0.3	
	baz=207								
S48A	**Wiedeman Farm,**	23.82	50	P		P	03 32 53.8	+0.1	
	baz=241,SNR=43								
E08A	**Dider Farm, El**	23.86	343	eP		P	03 32 52.8	-1.2	
	comp=Z,16nm,1.0s								
555A	**McAlpin**	23.89	70	P		P	03 32 54.1	-0.2	
	baz=261,SNR=5.4								
H36A	**Jessenland, He**	23.90	27	P		P	03 32 53.8	-0.5	
	baz=215,SNR=7.7								
HAWA	**Hanford**	23.91	342	eP		P	03 32 53.9	-0.5	
	comp=Z,22nm,0.9s								
WCI	**Wyandotte Cave**	23.93	48	P		P	03 32 54.5	-0.2	
	baz=240								
WCI	**Wyandotte Cave**	23.93	48	eP		P	03 32 54.5	-0.2	
	comp=Z,44nm,0.8s								
WCI	**Wyandotte Cave**	23.93	48	eP		P	03 32 54.5	-0.2	
WCI				pmax		pmax			
	comp=Z,44nm,0.8s								
455A	**Stateville**	23.93	68	P		P	03 32 54.7	-0.1	
	baz=260,SNR=12								
J39A	**Decorah**	23.94	32	P		P	03 32 54.2	-0.5	
	baz=221,SNR=13								
254A	**Abbeville**	23.95	65	P		P	03 32 54.3	-0.6	
	baz=257								
EGMT	**Eagleton**	23.97	359	P		P	03 32 55.1	0.0	
	baz=178,SNR=76								
EGMT	**Eagleton**	23.97	359	eP		P	03 32 55.5	+0.4	
	comp=Z,123nm,1.0s								
L42A	**Oliver, Polo**	24.05	37	P		P	03 32 56.0	+0.2	
	baz=227								
P46A	**Rosedale**	24.05	45	P		P	03 32 55.3	-0.6	
	baz=236,SNR=22								
JTMT	**Jette**	24.07	351	eP		P	03 32 56.0	0.0	
	comp=Z,55nm,1.5s								
M43A	**Waltham Townsh**	24.08	39	P		P	03 32 56.2	+0.1	
	baz=230								
O45A	**Potomac**	24.09	43	P		P	03 32 55.9	-0.3	
	baz=234								
K41A	**Shullsburg**	24.12	35	P		P	03 32 55.5	-1.0	
	baz=225,SNR=9.5								
G03D	**McMinnville, O**	24.14	335	P		P	03 32 58.1	+1.6	
	baz=146,SNR=6.5								
E07A	**Sunnyside**	24.15	341	eP		P	03 32 57.1	+0.4	
	comp=Z,33nm,1.1s								
656A	**Willston**	24.16	72	P		P	03 32 56.4	-0.5	
	baz=263								
N44A	**Piper City**	24.16	41	P		P	03 32 56.7	-0.1	
	baz=232,SNR=12								
GOGA	**Godfrey**	24.17	61	P		P	03 32 56.0	-1.0	
	baz=254,SNR=19								
GOGA	**Godfrey**	24.17	61	eP		P	03 32 57.2	+0.2	
	comp=Z,55nm,1.1s								
GOGA	**Godfrey**	24.17	61	eP		P	03 32 57.2	+0.2	
GOGA				pmax		pmax			
	comp=Z,55nm,1.1s								
I38A	**Scanlan Farm,**	24.17	30	P		P	03 32 56.8	-0.1	
	baz=219,SNR=7.0								
E31A	**Nome**	24.19	19	P		P	03 32 57.5	+0.4	
	baz=205,SNR=5.8								
355A	**Pearson**	24.19	67	P		P	03 32 56.0	-1.1	
	baz=259								
Q47A	**Bedord North L**	24.20	47	P		P	03 32 56.9	-0.3	
	baz=238,SNR=9.4								
154A	**Montrose**	24.25	64	P		P	03 32 57.3	-0.5	
	baz=256,SNR=18								
BLO	**Bloomington**	24.26	46	eP		P	03 32 57.8	0.0	
	comp=Z,28nm,0.8s								
BLO	**Bloomington**	24.26	46	eP		P	03 32 57.8	0.0	
BLO				pmax		pmax			
	comp=Z,28nm,0.8s								
957A	**Wimauma**	24.29	76	P		P	03 32 58.4	+0.3	
	baz=267								
R48A	**Northridge Ran**	24.30	48	P		P	03 32 58.4	+0.2	
	baz=240								
857A	**Zephyrhills**	24.33	74	P		P	03 32 58.4	-0.1	
	baz=266								
H37A	**Dierke Farm, C**	24.33	29	P		P	03 32 59.0	+0.7	
	baz=217								
D08A	**Wollman Farm,**	24.35	343	eP		P	03 32 58.1	-0.3	
	comp=Z,19nm,0.9s								
556A	**Lake Butler**	24.35	70	P		P	03 32 58.3	-0.4	
	baz=262								
JFWS	**Jewell Farm**	24.37	35	P		P	03 32 58.7	0.0	
	baz=225								
JFWS	**Jewell Farm**	24.37	35	eP		P	03 32 59.2	+0.5	
	comp=Z,38nm,0.7s								
JFWS	**Jewell Farm**	24.37	35	eP		P	03 32 59.2	+0.5	
JFWS				pmax		pmax			
	comp=Z,38nm,0.7s								
I39A	**Houston**	24.41	32	P		P	03 32 58.6	-0.5	
	baz=221,SNR=12								
J40A	**Soldiers Grove**	24.46	33	P		P	03 32 59.9	+0.4	
	baz=223								
G36A	**St. Michael**	24.50	27	P		P	03 33 00.2	+0.2	
	baz=215,SNR=6.0								
757A	**Oxford**	24.52	73	P		P	03 32 59.7	-0.5	
	baz=264								
SFIN	**Lafayette**	24.55	43	P		P	03 33 00.0	-0.4	
	baz=234,SNR=16								
SFIN	**Lafayette**	24.55	43	eP		P	03 33 00.2	-0.2	
	comp=Z,87nm,0.6s								
N45A	**Kentland**	24.57	42	P		P	03 33 00.6	0.0	
	baz=233								
M44A	**Midewin, Midew**	24.58	40	P		P	03 33 00.4	-0.2	
	baz=231								
P47A	**Martinsville**	24.59	46	P		P	03 33 00.5	-0.2	
	baz=237,SNR=16								
TKL	**Tuckaleechee C**	24.65	56	P		P	03 33 01.1	-0.3	
	comp=Z,54nm,1.2s,baz=234,slow=7.7,SNR=20								
TKL				LR		LR	03 43 31.5		
	comp=Z,3µm,19.2s,baz=260,slow=38								
TKL	**Tuckaleechee C**	24.65	56	eP		P	03 33 01.1	-0.3	
	comp=Z,116nm,1.4s								
TKL	**Tuckaleechee C**	24.65	56	eP		P	03 33 01.1	-0.3	
TKL				pmax		pmax			
	comp=Z,116nm,1.4s								
058A	**Arcadia**	24.65	77	P		P	03 33 01.6	+0.2	
	baz=269,SNR=5.3								
D31A	**Mcclaflin, Tow**	24.68	19	P		P	03 33 01.2	-0.3	
	baz=205								
H38A	**Maiden Rock**	24.69	29	P		P	03 32 59.3	+0.7	
	baz=218								
DGMT	**Dagmar**	24.70	8	P		P	03 33 02.1	+0.4	
	baz=190,SNR=6.4								
DGMT	**Dagmar**	24.70	8	eP		P	03 33 01.8	+0.1	
	comp=Z,109nm,1.1s								
F35A	**Swanville**	24.70	25	P		P	03 33 02.3	+0.6	
	baz=212								
958A	**Wauchula**	24.71	76	P		P	03 33 01.4	-0.5	
	baz=268								
E33A	**Westby DABS, E**	24.74	22	P		P	03 33 01.4	-0.6	
	baz=209								
K42A	**Prairie Point,**	24.75	36	P		P	03 33 02.2	0.0	
	baz=227								
657A	**Interlachen**	24.76	71	P		P	03 33 02.2	-0.2	
	baz=263								
F04D	**Rainier, OR**	24.78	336	P		P	03 33 03.4	+1.0	
	baz=148								
155A	**Kite**	24.78	64	P		P	03 33 02.3	-0.3	
	baz=256,SNR=33								
456A	**Hilliard**	24.78	68	P		P	03 33 02.9	+0.3	
	baz=261,SNR=6.7								
356A	**Blackshear**	24.80	67	P		P	03 33 01.9	-0.8	
	baz=259,SNR=7.2								
J41A	**Loganville**	24.81	34	P		P	03 33 02.7	+0.1	
	baz=224								
C09A	**Chrisman Ranch**	24.88	345	eP		P	03 33 03.9	+0.6	
	comp=Z,11nm,0.8s								
I40A	**Norwalk**	24.88	33	P		P	03 33 03.2	-0.2	
	baz=223,SNR=16								
SPMN	**Marine on St.**	24.89	28	P		P	03 33 03.2	-0.2	
	baz=217								
SPMN	**Marine on St.**	24.89	28	eP		P	03 33 04.1	+0.6	
	comp=Z,122nm,1.7s								
SPMN				ePcP		PcP	03 36 34.8	-4.0	
MDND	**Maddock**	24.92	15	P		P	03 33 03.7	+0.1	
	baz=200								
MDND	**Maddock**	24.92	15	eP		P	03 33 03.1	-0.6	
	comp=Z,125nm,0.9s								
LON	**Longmire**	24.93	339	eP		P	03 33 04.6	+0.7	
	comp=Z,40nm,0.9s								
LON	**Longmire**	24.93	339	eP		P	03 33 04.6	+0.7	
LON				pmax		pmax			
	comp=Z,40nm,0.9s								
557A	**Orange Park**	24.93	70	P		P	03 33 02.6	-1.3	
	baz=262								
059Z	**Ave Maria**	24.97	79	P		P	03 33 03.7	-0.7	
	baz=270								
LTY	**Liberty**	25.02	341	eP		P	03 33 05.5	+0.8	
	comp=Z,19nm,1.1s								
NEW	**Newport**	25.06	347	P		P	03 33 04.9	0.0	
	comp=Z,6.5nm,0.6s,baz=148,slow=9.3,SNR=18								
NEW				LR		LR	03 43 50.2		
	comp=Z,1µm,20.2s,baz=181,slow=39								
NEW	**Newport**	25.06	347	P		P	03 33 05.4	+0.3	
	baz=162,SNR=24								
NEW	**Newport**	25.06	347	eP		P	03 33 05.2	+0.3	
	comp=Z,80nm,1.5s								
NEW	**Newport**	25.06	347	eP		P	03 33 05.3	+0.3	
NEW				pmax		pmax			
	comp=Z,80nm,1.5s								
BG3	**Lake Jocassee**	25.07	58	eP		P	03 33 04.7	-0.5	
	comp=Z,67nm,1.0s								
N46A	**Monticello**	25.08	43	P		P	03 33 05.2	+0.1	
	baz=234								
858A	**St. Cloud**	25.09	74	P		P	03 33 05.7	+0.3	
	baz=266								
F36A	**Milaca**	25.11	26	P		P	03 33 05.3	-0.1	
	baz=214,SNR=9.0								
256A	**Glennville**	25.12	66	P		P	03 33 05.6	0.0	
	baz=258,SNR=12								
H39A	**Augusta**	25.15	31	P		P	03 33 06.2	+0.5	
	baz=220								
TZTN	**Tazewell**	25.15	54	P		P	03 33 05.6	-0.3	
	baz=247,SNR=11								
TZTN	**Tazewell**	25.15	54	eP		P	03 33 05.8	-0.1	
	comp=Z,217nm,1.8s								
L44A	**Lake County Fo**	25.15	39	P		P	03 33 05.2	-0.6	
	baz=230								
457A	**Yulee**	25.16	69	P		P	03 33 05.7	-0.3	
	baz=261								
J42A	**Columbus**	25.24	35	P		P	03 33 06.3	-0.3	
	baz=226,SNR=9.8								
059A	**Moore Haven**	25.24	77	P		P	03 33 05.8	-1.0	
	baz=269								
K43A	**Burlington**	25.26	37	P		P	03 33 06.9	+0.2	
	baz=228								
G38A	**Ridgeland**	25.26	29	P		P	03 33 07.0	+0.2	
	baz=219,SNR=13								
658A	**Bunnell**	25.27	72	P		P	03 33 06.7	-0.3	
	baz=264								
WALA	**Waterton Lakes**	25.30	352	eP		P	03 33 06.9	-0.4	
	comp=Z,44nm,0.9s								
D33A	**AnnSam, Waubun**	25.35	21	P		P	03 33 07.6	+0.1	
	baz=208								
E35A	**Pequot Lakes**	25.35	24	P		P	03 33 07.8	+0.2	
	baz=212,SNR=25								
C31A	**Landman Farms,**

JSC **Jenkinsville** 26.18 61 *e*P P 03 33 15.6 +0.4
comp=Z,15nm,0.9s
JSC **Jenkinsville** 26.18 61 *e*P P 03 33 15.6 +0.4
JSC pmax pmax
comp=Z,15nm,0.9s
NLWA **Neilton Lookou** 26.20 337 *e*P P 03 33 16.0 +0.7
comp=Z,28nm,1.3s
B32A **Ashes, Strandq** 26.24 19 P P 03 33 15.5 -0.2
baz=206,SNR=9.7
F39A **Loretta** 26.26 29 P P 03 33 14.6 -1.2
baz=219,SNR=5.4
D36A **Goodland** 26.33 25 P P 03 33 16.2 -0.3
baz=214
B05A **Bryant** 26.36 340 P P 03 33 16.7 +0.1
baz=152
AGMN **Agassiz Nation** 26.36 20 P P 03 33 16.3 -0.5
baz=207,SNR=6.3
AGMN **Agassiz Nation** 26.36 20 *e*P P 03 33 16.2 -0.5
comp=Z,69nm,1.2s
KMSC **Kings Mountain** 26.36 59 P P 03 33 15.4 -1.5
baz=252,SNR=10
KMSC **Kings Mountain** 26.36 59 *e*P P 03 33 15.2 -1.6
comp=Z,26nm,0.9s
H42A **Shiocton** 26.37 34 P P 03 33 15.8 -1.0
baz=226
H42A **Shiocton** 26.37 34 *e*P P 03 33 15.4 -1.4
comp=Z,37nm,0.8s
B06A **Marblemount** 26.40 341 *e*P P 03 33 15.7 -1.3
comp=Z,17nm,0.9s
B33A **Robert and Kas** 26.42 20 P P 03 33 16.8 -0.5
baz=208
C35A **Jirik Farms, M** 26.47 23 P P 03 33 17.3 -0.4
baz=212
G41A **Antigo** 26.54 32 P P 03 33 18.1 -0.4
baz=223
D37A **Cotton** 26.61 26 P P 03 33 18.3 -0.7
baz=215
JTS **JuntasAbangare** 26.61 117 P P 03 33 21.0 +1.7
comp=Z,3.5nm,0.8s,baz=57,slow=22,SNR=4.0
JTS LR LR 03 43 58.3
comp=Z,1µm,21.8s,baz=12,slow=37
F40A **Park Falls** 26.62 30 P P 03 33 19.1 0.0
baz=221,SNR=6.1
RGRS **Roger Stewart** 26.71 64 *e*P P 03 33 20.6 +0.6
comp=Z,218nm,0.9s
A32A **Rocking H Ranc** 26.72 18 P P 03 33 20.1 +0.2
baz=206
NHSC **New Hope** 26.77 64 P P 03 33 19.6 -0.9
baz=257
E39A **Mellen** 26.77 29 P P 03 33 20.4 -0.1
baz=219
B34A **Aery, Baudette** 26.91 21 P P 03 33 20.2 -1.5
baz=210
G42A **Mountain** 26.94 33 P P 03 33 21.7 -0.3
baz=225,SNR=5.2
G42A **Mountain** 26.94 33 *e*P P 03 33 22.1 +0.1
comp=Z,61nm,0.8s
C36A **Pine Crest Far** 26.94 24 P P 03 33 20.4 -1.6
baz=214
A04D **Lummi Island** 26.95 340 P P 03 33 22.2 +0.2
baz=151,SNR=8.1
F41A **Three Lakes** 26.96 32 P P 03 33 22.2 0.0
baz=223,SNR=35
A33A **Warroad** 27.07 20 P P 03 33 23.1 0.0
baz=208,SNR=5.9
E40A **Wakefield** 27.12 30 P P 03 33 22.8 -0.8
baz=220
B35A **Bob, Littlefor** 27.12 23 P P 03 33 23.6 +0.1
baz=211
ACSO **Alum Creek Sta** 27.15 47 P P 03 33 23.5 -0.4
baz=241,SNR=6.3
ACSO **Alum Creek Sta** 27.15 47 *e*P P 03 33 23.7 -0.2
comp=Z,30nm,0.8s
C37A **Embarrass** 27.17 25 P P 03 33 24.0 0.0
baz=215
COWI **Conover** 27.21 31 *e*P P 03 33 24.9 +0.5
comp=Z,88nm,1.0s
G43A **Wallace** 27.32 34 P P 03 33 25.2 -0.2
baz=226
F42A **Maple Grove Fa** 27.45 33 P P 03 33 26.3 -0.2
baz=224
E41A **Kenton** 27.56 31 P P 03 33 27.5 -0.1
baz=222,SNR=11
EYMN **Ely** 27.61 26 P P 03 33 27.0 -1.0
baz=216,SNR=5.6
EYMN **Ely** 27.61 26 *e*P P 03 33 28.3 +0.3
comp=Z,31nm,0.8s
BLA **Blacksburg** 27.73 55 P P 03 33 28.3 -0.9
baz=249
BLA **Blacksburg** 27.73 55 *e*P P 03 33 27.2 -2.0
comp=Z,24nm,1.0s
BLA **Blacksburg** 27.73 55 *e*P P 03 33 27.2 -2.0
BLA pmax pmax
comp=Z,24nm,1.0s
AAM **Ann Arbor** 27.78 43 P P 03 33 28.9 -0.6
baz=236
AAM **Ann Arbor** 27.78 43 *e*P P 03 33 30.2 +0.7
comp=Z,16nm,0.8s
AAM **Ann Arbor** 27.78 43 *e*P P 03 33 30.2 +0.7
AAM pmax pmax
comp=Z,16nm,0.8s
NCAT **North Carolina** 27.86 58 *e*P P 03 33 29.6 -0.7
comp=Z,20nm,1.1s
F43A **Flat Rock, Esc** 27.98 34 P P 03 33 30.4 -0.8
baz=226
E42A **Champion** 28.04 32 P P 03 33 31.9 +0.1
baz=224
C39A **Grand Marais** 28.07 28 P P 03 33 31.9 -0.2
baz=218
ULM **Lac du Bonnet** 28.10 18 P P 03 33 31.6 -0.7
comp=Z,6.9nm,0.9s,baz=208,slow=7.9,SNR=6.5
ULM LR LR 03 44 33.0
comp=Z,2µm,18.0s,baz=348,slow=36
ULM **Lac du Bonnet** 28.10 18 *e*P P 03 33 31.9 -0.4
comp=Z,69nm,1.4s
ULM **Lac du Bonnet** 28.10 18 *e*P P 03 33 31.9 -0.4
ULM pmax pmax
comp=Z,69nm,1.4s
D41A **Chassel** 28.19 30 P P 03 33 33.3 +0.2
baz=222
E43A **Lone Tree Farm** 28.45 33 P P 03 33 34.1 -1.3
baz=225
F44A **Big Bay de Noc** 28.46 34 P P 03 33 34.5 -1.1
baz=227
GLMI **Grayling** 28.68 38 P P 03 33 37.5 -0.1
baz=231
GLMI **Grayling** 28.68 38 *e*P P 03 33 38.2 +0.7
comp=Z,77nm,0.8s
F45A **CMU Biological** 28.74 35 P P 03 33 38.3 +0.2
baz=229
MCWV **Mont Chateau** 29.06 51 P P 03 33 39.9 -1.1
baz=246
MCWV **Mont Chateau** 29.06 51 *e*P P 03 33 42.1 +1.2
comp=Z,12nm,0.9s
F46A **Macinaw City C** 29.20 36 P P 03 33 41.1 -1.1
baz=230
E45A **Wooded Hills,** 29.36 35 P P 03 33 42.8 -0.7
baz=228
EDM **Edmonton** 29.36 355 *e*P P 03 33 43.1 -0.4
comp=Z,118nm,1.6s
EDM **Edmonton** 29.36 355 *e*P P 03 33 43.1 -0.4
EDM pmax pmax
comp=Z,118nm,1.6s
N54A **Moraine State** 29.51 48 P P 03 33 44.5 -0.4
baz=244,SNR=28
N54A **Moraine State** 29.51 48 *e*P P 03 33 44.9 -0.1
comp=Z,48nm,0.6s
ALLY **Alegheny Colle** 29.71 47 *e*P P 03 33 47.2 +0.5
comp=Z,29nm,0.8s
IP07 **Quail** 29.75 55 *e*P P 03 33 47.2 +0.1
comp=Z,14nm,0.8s
IP04 **Greensprings** 29.76 55 *e*P P 03 33 46.3 -0.9
comp=Z,18nm,0.9s
IP06 **Yanceyville** 29.79 55 *e*P P 03 33 47.9 +0.4
comp=Z,11nm,0.8s
JSRW **J. Sargeant Re** 29.80 55 *e*P P 03 33 45.9 -1.6
IP03 **Louisa** 29.80 55 *e*P P 03 33 46.4 -1.1
comp=Z,16nm,0.9s
IP01 **Cuckoo** 29.85 55 *e*P P 03 33 47.4 -0.7
comp=Z,14nm,0.8s
SPRD **Spring Road, M** 29.90 55 *e*P P 03 33 47.8 -0.7
comp=Z,17nm,0.8s
IP05 **Hopewell Churc** 29.93 55 *e*P P 03 33 48.0 -0.7
comp=Z,18nm,0.9s
CVRD **Centerville Ro** 29.97 55 *e*P P 03 33 48.8 -0.2
comp=Z,16nm,0.9s
M54A **Oil Creek Stat** 29.97 47 P P 03 33 48.0 -1.1
baz=243

M54A **Oil Creek Stat** 29.97 47 *e*P P 03 33 47.8 -1.2
comp=Z,17nm,0.7s
PTRD **Partlow Road** 30.12 55 *e*P P 03 33 50.2 -0.2
comp=Z,49nm,1.4s
O56A **Blue Knob Stat** 30.21 50 P P 03 33 49.4 -1.8
baz=246
O56A **Blue Knob Stat** 30.21 50 *e*P P 03 33 50.2 -1.0
comp=Z,11nm,0.8s
CBN **Corbin Frederi** 30.34 55 P P 03 33 51.1 -1.2
baz=251
CBN **Corbin Frederi** 30.34 55 *e*P P 03 33 51.6 -0.7
comp=Z,29nm,1.0s
SSPA **Standing Stone** 30.83 50 P P 03 33 55.5 -1.1
baz=247
SSPA **Standing Stone** 30.83 50 *e*P P 03 33 55.6 -0.9
comp=Z,22nm,0.7s
FFC **Flin Flon** 31.11 8 *e*P P 03 33 58.7 -0.2
comp=Z,32nm,1.3s
FFC **Flin Flon** 31.11 8 *e*P P 03 33 58.7 -0.2
FFC pmax pmax
comp=Z,32nm,1.3s
PAGS **Pennsylvania G** 31.50 51 *e*P P 03 34 02.0 -0.5
comp=Z,87nm,2.0s
MMNY **Mt. Morris Dam** 31.68 46 *e*P P 03 34 03.0 -1.2
comp=Z,29nm,0.6s
BBB **Bella Bella** 31.72 337 LR LR 03 46 59.6
comp=Z,1µm,19.7s,baz=182,slow=37
PSUB **Penn St. - Bra** 32.31 53 *e*P P 03 34 08.0 -1.7
comp=Z,14nm,0.9s
N59A **State Game Lan** 32.42 51 P P 03 34 09.6 -1.1
baz=249
N59A **State Game Lan** 32.42 51 *e*P P 03 34 10.2 -0.5
comp=Z,13nm,0.7s
BINY **Binghamton** 32.75 48 P P 03 34 12.7 -0.9
baz=246,SNR=13
BINY **Binghamton** 32.75 48 *e*P P 03 34 13.4 -0.2
comp=Z,48nm,0.6s
PLVO **Plevna** 33.28 43 *e*P P 03 34 17.9 -0.2
comp=Z,14nm,1.2s
ODNJ **Ogdensburg** 33.30 51 *e*P P 03 34 18.6 +0.2
comp=Z,13nm,0.8s
PAL **Palisades** 33.78 51 P P 03 34 20.9 -1.5
baz=250
PAL **Palisades** 33.78 51 *e*P P 03 34 20.6 -1.8
comp=Z,20nm,0.8s
PAL **Palisades** 33.78 51 *e*P P 03 34 20.6 -1.8
PAL pmax pmax
comp=Z,20nm,0.8s
TRY **Troy** 34.54 49 *e*P P 03 34 28.2 -0.8
comp=Z,38nm,0.8s
NCB **Newcomb** 34.64 46 *e*P P 03 34 29.5 -0.4
comp=Z,16nm,0.8s
LONY **Lake Ozonia** 34.67 45 P P 03 34 28.3 -1.9
baz=245
ACCN **Adirondack Com** 34.79 48 *e*P P 03 34 31.1 -0.1
comp=Z,9.5nm,1.0s
QUA2 **Belchertown** 35.30 50 *e*P P 03 34 35.6 0.0
comp=Z,21nm,0.8s
TRQ **Mont Tremblant** 35.39 43 *e*P P 03 34 35.5 -1.0
FRNY **Flat Rock** 35.41 45 *e*P P 03 34 36.1 -0.4
comp=Z,10nm,0.8s
BRYW **Bryant College** 35.76 51 *e*P P 03 34 38.8 -0.8
comp=Z,20nm,0.8s
VT1 **Waterbury** 35.76 46 *e*P P 03 34 39.7 +0.1
comp=Z,21nm,0.8s
HRV **Adam Dziewonsk** 35.93 50 P P 03 34 39.8 -1.2
baz=251
HRV **Adam Dziewonsk** 35.93 50 *e*P P 03 34 40.7 -0.3
comp=Z,20nm,0.8s
HRV **Adam Dziewonsk** 35.93 50 *e*P P 03 34 40.7 -0.3
HRV pmax pmax
comp=Z,20nm,0.8s
LBNH **Lisbon** 36.27 47 P P 03 34 43.6 -0.4
baz=248
FCC **Fort Churchill** 36.29 13 *e*P P 03 34 43.2 -0.7
comp=Z,81nm,1.0s
FCC **Fort Churchill** 36.29 13 *e*P P 03 34 43.2 -0.7
FCC pmax pmax
comp=Z,81nm,1.0s
RREF **El Recreo** 37.50 115 *e*P P 03 35 03.7 +8.3
DLBC **Dease Lake** 37.54 342 *e*P P 03 34 55.5 +0.9
comp=Z,43nm,0.8s
OTAV **Otavalo** 37.84 124 *e*P P 03 34 59.0 +0.8
comp=Z,30nm,1.4s
OTAV **Otavalo** 37.84 124 *e*P P 03 35 04.4 +6.3
CMBC **Cumbal** 37.87 123 *e*P P 03 35 00.3 +1.9
SOTA **Rioblanco** 38.08 120 *e*P P 03 35 03.7 +3.6
PCON **Cinco Dias** 38.13 119 *e*P P 03 35 06.5 +5.8
BARC **Barichara** 38.42 111 *e*P P 03 35 05.1 +2.3
PAMC **Pamplona, Colo** 38.47 110 *e*P P 03 35 05.8 +2.4
YKA **Yellowknife Ar** 38.66 356 P P 03 35 03.1 -0.7
comp=Z,3.5nm,0.9s,baz=171,slow=7.7,SNR=35
RUSC **La Rusia** 38.87 112 *e*P P 03 35 07.7 +0.9
VILC **Villavicencio,** 39.30 115 *e*P P 03 35 03.7 -6.3
SDV **Santo Domingo** 39.54 106 P P 03 35 13.0 +1.0
comp=Z,7.6nm,0.8s,baz=310,slow=4.2,SNR=9.3
SDV **Santo Domingo** 39.54 106 *e*P P 03 35 12.0 -0.1
comp=Z,27nm,1.0s
BBSR **BB Station** 39.65 68 *e*P P 03 35 12.9 +0.3
comp=Z,31nm,0.8s
SJG **San Juan** 40.24 90 LR LR 03 53 48.5
comp=Z,730nm,20.4s,baz=298,slow=39
SCHQ **Schefferville** 43.73 34 P P 03 35 47.1 +1.4
comp=Z,16nm,0.8s,baz=237,slow=6.7,SNR=8.4
SCHQ **Schefferville** 43.73 34 *e*P P 03 35 46.9 +1.2
comp=Z,21nm,0.8s
TAOE **Nuku Hiva Isla** 44.68 227 *e*LR LR 03 48 22.9
comp=Z,1µm,25.8s
DAWY **Dawson** 44.76 342 *e*P P 03 35 55.2 +1.3
comp=Z,18nm,1.0s
FDF **Fort de France** 45.83 93 *e*P P 03 36 03.7 +0.7
comp=Z,73nm,1.2s
FDF **Fort de France** 45.83 93 *e*P P 03 36 03.7 +0.7
FDF pmax pmax
comp=Z,73nm,1.2s
DOT **Dot Lake** 45.90 339 *e*P P 03 36 02.0 -0.9
comp=Z,22nm,0.8s
SML **Sawmill** 46.23 335 *e*P P 03 36 06.1 +0.5
comp=Z,34nm,1.2s
SML **Sawmill** 46.23 335 *e*P P 03 36 06.1 +0.5
SML pmax pmax
comp=Z,34nm,1.2s
INK **Inuvik** 46.78 348 P P 03 36 10.2 +0.6
comp=Z,4.5nm,0.9s,baz=142,slow=7.7,SNR=12
INK **Inuvik** 46.78 348 *e*P P 03 36 10.1 +0.5
comp=Z,14nm,0.9s
INK **Inuvik** 46.78 348 *e*P P 03 36 10.1 +0.5
INK pmax pmax
comp=Z,14nm,0.9s
RND **Reindeer** 47.39 337 *e*P P 03 36 15.7 +1.1
comp=Z,20nm,1.0s
RND **Reindeer** 47.39 337 *e*P P 03 36 15.7 +1.1
RND pmax pmax
comp=Z,21nm,1.0s
IL1 **Eielson Array** 47.57 339 *e*P P 03 36 16.1 +0.1
ILAR **Eielson Array** 47.57 339 P P 03 36 16.2 +0.3
comp=Z,7.7nm,1.1s,baz=150,slow=6.9,SNR=21
ILAR LR LR 03 57 22.4
comp=Z,440nm,20.7s,baz=129,slow=38
ILB **Eielson Array** 47.57 339 *e*P P 03 36 16.7 +0.8
MCK **McKinley** 47.62 337 *e*P P 03 36 17.2 +0.9
comp=Z,17nm,0.9s
MCK **McKinley** 47.62 337 *e*P P 03 36 17.2 +0.9
MCK pmax pmax
comp=Z,17nm,0.9s
WRH **Wood River Hil** 47.78 338 *e*P P 03 36 17.5 0.0
comp=Z,13nm,0.8s
CCB **Clear Creek Bu** 47.80 339 *e*P P 03 36 18.9 +1.3
comp=Z,7.0nm,1.0s
TRF **Thorofare Moun** 47.94 336 *e*P P 03 36 19.7 +0.7
comp=Z,68nm,0.7s
COLA **College** 47.96 339 *e*P P 03 36 18.4 -0.5
COLA pmax pmax
comp=Z,6.0nm,1.6s
MDM **Murphy Dome** 48.13 339 *e*P P 03 36 21.5 +1.2
comp=Z,9.9nm,1.0s
KTH **Kantishna Hill** 48.23 336 *e*P P 03 36 21.2 +0.1
comp=Z,28nm,0.8s
FYU **Fort Yukon** 48.27 342 *e*P P 03 36 22.3 +1.0
comp=Z,21nm,1.1s
PPLA **Purkeypile** 48.33 335 *e*P P 03 36 21.0 -1.0
comp=Z,41nm,0.7s
PPLA *e*PcP PcP 03 37 44.6 -3.8
BPAW **Bear Paw Mtn.** 48.56 337 *e*P P 03 36 24.1 +0.5
comp=Z,22nm,1.0s
CAST **Castle Rocks** 48.58 336 *e*P P 03 36 24.2 +0.4
comp=Z,26nm,0.7s

SVW2 **Sparrevohn** 48.80 332 *e*P P 03 36 25.7 +0.2
comp=Z,18nm,0.8s
MLY **Manley** 49.02 338 *e*P P 03 36 28.0 +0.8
comp=Z,13nm,0.8s
COLD **Coldfoot** 50.18 340 *e*P P 03 36 37.0 +1.0
comp=Z,5.8nm,0.8s
IM3 **Indian Mountai** 50.60 338 *e*P P 03 36 38.7 -0.4
RPN **Rapa Nui** 50.84 180 LR LR 03 52 59.2
comp=Z,678nm,20.9s,baz=31,slow=30
TOLK **Toolik Lake Re** 50.90 342 P P 03 36 41.8 +0.5
baz=130
TOLK **Toolik Lake Re** 50.90 342 *e*P P 03 36 40.6 -0.7
comp=Z,12nm,0.8s
RES **Resolute Bay** 51.26 5 P P 03 36 44.2 +0.3
comp=Z,3.5nm,0.9s,baz=191,slow=8.3,SNR=10
RES LR LR 03 59 22.1
comp=Z,1µm,20.1s,baz=184,slow=37
RES **Resolute Bay** 51.26 5 *e*P P 03 36 44.9 +1.0
comp=Z,8.6nm,1.1s
RES **Resolute Bay** 51.26 5 *e*P P 03 36 44.9 +1.0
RES pmax pmax
comp=Z,9.0nm,1.1s
RKT **Rikitea** 53.24 210 *e*LR LR 03 52 22.2
comp=Z,688nm,27.8s,baz=30
PTGA **Pitinga** 53.48 110 *e*P P 03 37 02.0 +0.7
comp=Z,20nm,1.1s
VAH **Vaihoa** 54.31 228 *e*P P 03 37 15.6 +8.4
comp=Z,59nm,1.0s
PMOR **Pomariorio Ree** 54.33 228 *e*P P 03 37 15.7 +8.3
comp=Z,50nm,1.0s
SAML **Samuel** 55.40 121 *e*P P 03 37 14.0 -1.2
comp=Z,20nm,1.8s
LPAZ **La Paz** 56.50 131 *e*P P 03 37 25.2 +1.5
comp=Z,4.1nm,0.8s
LPAZ **La Paz** 56.50 131 *e*P P 03 37 25.2 +1.5
LPAZ pmax pmax
comp=Z,4.0nm,0.8s
TIAR **Tiarei** 57.12 227 *e*P P 03 37 36.0 +8.6
comp=Z,14nm,1.0s
TVO **Taravao** 57.21 227 *e*P P 03 37 36.8 +8.7
comp=Z,13nm,1.0s
PPT2 **Papeete2** 57.29 228 *e*LR LR 03 54 10.6
comp=Z,2µm,26.8s,baz=34
MNMC **Minye Minye** 57.53 135 *e*P P 03 37 31.7 +1.1
comp=Z,11nm,0.9s
PB11 **IPOC Station P** 57.95 135 *e*P P 03 37 34.9 +1.5
comp=Z,26nm,0.9s
PB01 **IPOC Station P** 58.99 136 *e*P P 03 37 42.0 +1.4
comp=Z,16nm,0.8s
SUMG **Summit** 61.45 19 *i* P P 03 37 59.7 +2.6
comp=Z,22nm,0.9s
SUMG **Summit** 61.45 19 *e*P P 03 37 59.1 +2.0
comp=Z,24nm,0.9s
SUMG **Summit** 61.45 19 *i* P P 03 37 59.7 +2.6
SUMG pmax pmax
comp=Z,22nm,0.9s
BILL **Bilibino** 66.04 336 *e*P P 03 38 25.4 -1.5
BILL pmax pmax
comp=Z,10.0nm,1.0s
SCO **Scoresbysund** 66.59 21 *i* P P 03 38 29.6 -0.8
SCO **Scoresbysund** 66.59 21 *e*P P 03 38 32.2 +1.8
comp=Z,15nm,1.0s
SCO **Scoresbysund** 66.59 21 *e*P P 03 38 32.2 +1.8
SCO pmax pmax
comp=Z,15nm,1.0s
RAR **Rarotonga** 66.84 232 LR LR 03 59 35.2
comp=Z,415nm,21.1s,baz=56,slow=29
DAG **Danmarks Havn** 66.88 15 *i* P P 03 38 31.6 -0.5
comp=Z,19nm,0.6s
DAG **Danmarks Havn** 66.88 15 *i* P P 03 38 31.6 -0.5
DAG pmax pmax
comp=Z,19nm,0.6s
CPUP **Villa Florida** 70.66 132 P P 03 38 57.4 +1.0
comp=Z,2.3nm,0.8s,baz=312,slow=6.2,SNR=7.9
JMIC **Jan Mayen** 70.85 20 LR LR 04 08 41.5
comp=Z,475nm,18.4s,baz=285,slow=35
AFI **Afiamalu** 72.02 245 LR LR 04 03 26.9
comp=Z,351nm,18.1s,baz=48,slow=30
PET **Petropavlovsk** 72.59 321 *e*P P 03 39 08.3 +0.6
PET pmax pmax
comp=Z,12nm,1.7s
SEY **Seymchan** 72.74 332 P P 03 39 07.2 -1.2
comp=Z,4.7nm,1.0s,baz=45,slow=7.1,SNR=6.6
SEY **Seymchan** 72.74 332 *e*P P 03 39 08.0 -0.4
PETK **Petropavlovsk-** 73.11 321 P P 03 39 11.2 +0.4
comp=Z,4.5nm,0.9s,baz=71,slow=11,SNR=5.0
PLCA **Paso Flores** 73.64 151 P P 03 39 15.4 +1.3
comp=Z,5.6nm,0.9s,baz=334,slow=6.8,SNR=17
PLCA **Paso Flores** 73.64 151 *e*P P 03 39 16.1 +2.0
comp=Z,19nm,1.1s
PLCA **Paso Flores** 73.64 151 *e*P P 03 39 16.1 +2.0
PLCA pmax pmax
comp=Z,19nm,1.1s
MA2 **Magadan** 74.62 329 *e*P P 03 39 19.3 -0.3
TRQA **Tornquist** 75.86 143 *e*P P 03 39 27.8 +0.9
comp=Z,35nm,1.9s
TIXI **Tiksi** 76.73 344 *e*P P 03 39 31.5 +0.1
comp=Z,7.7nm,0.8s
TIXI **Tiksi** 76.73 344 *e*P P 03 39 30.5 -0.9
TIXI pmax pmax
comp=Z,4.0nm,1.0s
ARCES **ARCESS Array B** 81.17 15 P P 03 39 55.9 +0.1
comp=Z,3.9nm,0.9s,baz=311,slow=4.6,SNR=8.3
ARCES LR LR 04 18 06.1
comp=Z,283nm,18.5s,baz=330,slow=37
ARCES **ARCESS Array B** 81.17 15 *e*P P 03 39 55.3 -0.5
ARCES **ARCESS Array B** 81.17 15 *e*P P 03 39 55.3 -0.5
YAK **Yakutsk** 82.39 336 *e*P P 03 40 01.7 -0.6
comp=Z,37nm,0.5s
YAK **Yakutsk** 82.39 336 *e*P P 03 40 13.1 +11
YAK pmax pmax
comp=Z,25nm,1.1s
YAK pmax pmax
comp=E,6.0nm,1.0s
NKL **Nikolayevsk** 82.46 325 *e*P P 03 40 02.5 -0.3
TYV **Tymovskoe** 82.53 323 *e*P P 03 40 01.3 -2.0
TYV pmax pmax
comp=Z,10.0nm,1.0s
NB2 **NORSAR Subarra** 82.53 25 P P 03 40 09.8 +6.6
comp=Z,5.0nm,0.8s,baz=305,slow=5.3
NOA **NORSAR Array B** 82.53 25 LR LR 04 15 49.4
comp=Z,331nm,20.9s,baz=290,slow=35
HFS **Hagfors** 84.06 25 LR LR 04 19 22.6
comp=Z,328nm,18.1s,baz=300,slow=37
YSS **Yuzh-Sakhalins** 84.38 319 *e*P P 03 40 14.0 +1.2
YSS *e* 03 40 18.2
YSS pmax pmax
comp=Z,20nm,1.0s
YSS MLR MLR
comp=Z,200nm,13.0s
ESDC **Sonseca Array** 85.70 48 P P 03 40 20.2 +0.5
comp=Z,0.1nm,0.2s,baz=308,slow=6.6,SNR=3.7
ESDC LR LR 04 16 53.0
comp=Z,629nm,20.5s,baz=280,slow=34
BBTS **Babate** 86.29 76 LR LR 04 16 57.0
comp=Z,454nm,19.9s,baz=273,slow=34
ERM **Erimo** 86.54 315 *i* P P 03 40 24.1 +0.4
ERM pmax pmax
comp=Z,45nm,1.1s
FINES **FINESS Array B** 87.47 20 P P 03 40 29.1 +1.2
comp=Z,2.6nm,1.0s,baz=346,slow=5.0,SNR=3.9
FINES LR LR 04 20 04.1
comp=Z,360nm,18.5s,baz=314,slow=36
NKC **Novy Kostel** 89.75 33 AMS AMS 04 20 00.0
comp=Z,600nm,17.4s
BOD **Bodaibo** 90.94 339 *e*P P 03 40 41.8 -2.5
BOD pmax pmax
comp=Z,8.0nm,1.6s
PRU **Pruhonice** 90.95 33 AMS AMS 04 22 00.0
comp=Z,500nm,14.9s
KHC **Kasperske Hory** 91.02 34 AMS AMS 04 18 40.0
comp=Z,700nm,22.1s
GOPC **GO Pecny, Ondr** 91.12 33 AMS AMS 04 22 10.0
comp=Z,600nm,17.7s
GERES **GERESS Array B** 91.26 34 P P 03 40 47.0 +0.9
comp=Z,0.7nm,0.8s,baz=336,slow=2.9,SNR=5.4
GERES LR LR 04 22 08.1
comp=Z,341nm,18.0s,baz=304,slow=36
GERES **GERESS Array B** 91.26 34 P P 03 40 47.0 +0.9
UPC **Upice** 91.32 32 AMS AMS 04 23 40.0
comp=Z,800nm,16.5s
DPC **Dobruska-Polom** 91.58 32 AMS AMS 04 24 00.0
comp=Z,800nm,15.3s
KLMR **Klimovskoe** 91.64 15 *e*P P 03 40 46.8 -0.7
KLMR AMP 03 40 54.7
comp=Z,7.0nm,1.0s
KLMR LQ LQ 04 16 59.6

KLMR					LQ	LQ	04 16 59.6		
KLMR	**Klimovskoe**	**91.64**	**15**	*e*P	**P**		**03 40 46.7**	**-0.7**	
KLMR				pmax	pmax				
	comp=Z,7.0nm,1.0s								
TREC	**Trest**	**91.87**	**33**	AMS	AMS		04 21 30.0		
	comp=Z,600nm,17.6s								
USRK	**Ussuriysk Ar.**	**92.21**	**321**	P	**P**		**03 40 50.4**	**0.0**	
	comp=Z,2.9nm,0.8s,baz=58,slow=5.4,SNR=3.5								
MAJO	**Matsushiro**	**92.64**	**312**	*e*P	**P**		**03 40 52.1**	**-0.6**	
MAJO				pmax	pmax				
	comp=Z,5.0nm,0.8s								
MJAR	**Matsushiro Arr**	**92.64**	**312**	P	**P**		**03 40 52.3**	**-0.4**	
	comp=Z,1.6nm,0.6s,baz=55,slow=3.4,SNR=6.3								
MJAR				LR	LR		04 17 18.2		
	comp=Z,134nm,20.1s,baz=55,slow=32								
MAT	**Matsushiro**	**92.65**	**312**	P	**P**		**03 40 52.3**	**-0.4**	
OKC	**Ostrava-Krasne**	**92.79**	**31**	AMS	AMS		04 26 30.0		
	comp=Z,400nm,13.7s								
JHJ	**Hachijo jima 2**	**93.35**	**308**	LR	LR		04 22 48.3		
	comp=Z,127nm,18.1s,baz=274,slow=36								
DZM	**Mont Dzumac**	**94.11**	**248**	*e*LR	LR		04 11 18.4		
	comp=Z,848nm,24.0s								
HNR	**Honiara**	**94.79**	**262**	LR	LR		04 17 03.9		
	comp=Z,522nm,19.3s,baz=64,slow=31								
CN2	**Changchun**	**96.11**	**324**	*e*P	**P**		**03 41 07.5**	**-0.9**	
CN2				pmax	pmax				
	comp=Z,10.0nm,0.6s								
KEST	**Kesra**	**96.73**	**46**	LR	LR		04 22 53.1		
	comp=Z,424nm,20.1s,baz=258,slow=34								
AKASG	**Malin Array Be**	**96.95**	**25**	LR	LR		04 25 03.2		
	comp=Z,137nm,18.1s,baz=320,slow=36								
KOWA	**Kowa**	**97.32**	**71**	LR	LR		04 25 31.0		
	comp=Z,378nm,18.8s,baz=270,slow=36								
GUMO	**Guam**	**98.83**	**289**	LR	LR		04 17 33.5		
	comp=Z,234nm,21.4s,baz=80,slow=30								
VAE	**Valguarnera**	**98.90**	**42**	LR	LR		04 26 32.2		
	comp=Z,530nm,18.2s,baz=289,slow=36								
ARU	**Arti**	**99.18**	**7**	LR			04 30 56.3		
	comp=Z,356nm,18.1s,baz=338,slow=38								
ARU	**Arti**	**99.18**	**7**	P	**Pdif**		**03 41 20.0**	**-1.9**	
ARU							03 45 19.3		
ARU				S	**SKSac**		**03 51 57.8**	**-1.1**	
MLR	**Muntele Rosu**	**99.57**	**30**	LR	LR		04 28 57.5		
	comp=Z,76nm,18.1s,baz=302,slow=37								
WMQ	**Urumqi**	**110.80**	**347**	PKP	**PKiKP**		**03 46 14.9**	**+1.2**	
WMQ				LR	LR				
	comp=Z,590nm,21.1s								
WMQ				LR	LR				
	comp=Z,570nm,19.5s								
WMQ				LR	LR				
	comp=Z,450nm,23.9s								
LZH	**Lanzhou**	**112.67**	**332**	*e*PKP	**PKiKP**		**03 46 16.9**	**-0.7**	
LZH				LR	LR				
	comp=Z,130nm,18.0s								
LZH				LR	LR				
	comp=Z,120nm,19.2s								
LZH				LR	LR				
	comp=Z,150nm,19.8s								
KSH	**Kashi**	**116.64**	**356**	PKP	**PKPdf**		**03 46 26.8**	**+1.7**	
GYA	**Guiyang**	**119.16**	**323**	*e*Pdif	**Pdif**		**03 42 52.0**	**+0.4**	
GYA				PKP	**PKiKP**		**03 46 30.8**	**+0.5**	
GYA				PP	**PP**		**03 47 54.4**	**+4.9**	
GYA				AMB	AMB				
	comp=Z,120nm,7.8s								
WRA	**Warramunga Arr**	**121.61**	**261**	PKP	**PKPdf**		**03 46 34.4**	**-0.5**	
	comp=Z,1.4nm,1.0s,baz=76,slow=2.4,SNR=6.6								
WRA				PKKPbc	**PKKPab**		**03 56 39.9**	**+5.2**	
	comp=Z,1.0nm,0.9s,baz=240,slow=1.8,SNR=4.7								
KMI	**Kunming**	**122.32**	**326**	PKP	**PKPdf**		**03 46 37.3**	**+0.8**	
ASAR	**Alice Springs**	**122.97**	**257**	PKP	**PKPdf**		**03 46 36.8**	**-0.7**	
	comp=Z,1.3nm,0.9s,baz=69,slow=2.5,SNR=7.8								
ASAR				PKKPbc	**PKKPbc**		**03 56 32.4**	**+3.7**	
	comp=Z,0.8nm,0.7s,baz=264,slow=3.6,SNR=2.9								
CMAR	**Chiang Mai Arr**	**129.79**	**325**	PKP	**PKPdf**		**03 46 51.7**	**+1.0**	
	comp=Z,0.7nm,0.6s,baz=327,slow=1.6,SNR=7.6								
GSI	**Gunungsitoli**	**143.99**	**311**	*e*PKPdf	PKPbc		03 47 15.5	+0.7	

***IDC* 16 03:37:25.9±5.0, 36°34′S×78°74′E, *h*0km, mb3.8/3, mb1 4.0/3, mb1mx3.4/56, mbtmp3.8/3, MS4.1/4, Ms1 4.1/4, ms1mx3.5/52, Error ellipse: s-maj=184.3km s-min=46.6km az=30.0, Mid-Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S2	**Diego Garcia H**	**29.13**	**347**	T	T	04 13 48.6	
	baz=169,slow=76,SNR=18						
H08S1	**Diego Carcia H**	**29.13**	**347**	T	T	04 13 48.9	
	baz=169,slow=76,SNR=17						
H08S3	**Diego Garcia H**	**29.15**	**347**	T	T	04 13 50.0	
	baz=169,slow=76,SNR=19						
MAW	**Mawson**	**32.59**	**191**	LR	LR	03 55 18.3	
	comp=Z,398nm,18.3s,baz=60,slow=33						
WRA	**Warramunga Arr**	**51.01**	**87**	P	P	03 46 29.7	-0.1
	1.2nm,0.8s,baz=239,slow=7.2,SNR=3.3						
CMAR	**Chiang Mai Arr**	**57.76**	**23**	LR	LR	04 11 08.0	
	comp=Z,57nm,18.1s,baz=186,slow=35						
JOW	**Kunigami**	**78.27**	**44**	LR	LR	04 21 26.6	
	comp=Z,134nm,21.5s,baz=296,slow=34						
MKAR	**Makanchi Array**	**92.82**	**2**	P	P	03 49 51.2	-0.4
	0.6nm,0.8s,baz=167,slow=7.1,SNR=4.7						
KURBB	**Kurchatov Arra**	**86.59**	**360**	P	P	03 50 11.0	+0.5
	0.8nm,0.8s,baz=190,slow=5.9,SNR=5.0						
ZALV	**Zalesovo Beam**	**90.08**	**4**	LR	LR	04 31 32.0	
	comp=Z,134nm,18.9s,baz=68,slow=36						
YKA	**Yellowknife Ar**	**152.54**	**13**	PKPbc	PKPbc	03 57 23.0	-0.3
	0.3nm,0.8s,baz=18,slow=2.5,SNR=5.2						

ISCJB **16** *03:51:03.6±0.5, 50°.15N±0°.04×19°.05E±0°.03, h0km, Error ellipse: s-maj=5.6km s-min=2.4km az=10.3*
CSEM **16** *03:51:04.7±0.3, 50°.14N×19°.10E, h2km, ML2.6/8, Error ellipse: s-maj=6.4km s-min=2.8km az=8.0*
IPEC **16** *03:51:05.3±0.2, 50°.13N×19°.14E, h0km±1km, ML1.9/3, Error ellipse: s-maj=2.8km s-min=1.1km az=164.0*
WAR **16** *03:51:05.9, 50°.10N×19°.20E, h1km, Mw2.2*
PRU **16** *03:51:05.4, 50°.15N×19°.09E, h0km*
ISC 16 03:51:05.4±0.8, 50°.05N±0°.03×19°.13E±0°.02, h0km, n32, σ0s69/57, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHZP	**Chorzow**	**0.26**	**339**	*e*Pg	**Pg**	**03 51 11.0**	**+0.8**
CHZP				*e*Sg	**Sg**	**03 51 14.2**	**+0.6**
CHZP	**Chorzow**	**0.26**	**339**	*e*Pg	**Pg**	**03 51 11.0**	**+0.8**
CHZP				*e*Sg	**Sg**	**03 51 14.2**	**+0.6**
OJC	**Ojcow**	**0.46**	**68**	*e*Pg	**Pg**	**03 51 13.6**	**-0.6**
OJC				*e*Sg	**Sg**	**03 51 19.6**	**-0.6**
OJC	**Ojcow**	**0.46**	**68**	*e*Pg	**Pg**	**03 51 13.6**	**-0.6**
OJC				*e*Sg	**Sg**	**03 51 19.6**	**-0.6**
OJC	**Ojcow**	**0.46**	**68**	*e*Pg	**Pg**	**03 51 13.6**	**-0.6**
OJC				*e*Sg	**Sg**	**03 51 19.6**	**-0.6**
OKC	**Ostrava-Krasne**	**0.67**	**252**	*e*PG	**Pg**	**03 51 18.5**	**+0.3**
OKC				*e*SG	**Sb**	**03 51 28.7**	**-1.1**
	comp=Z,14nm,0.3s						
OKC	**Ostrava-Krasne**	**0.67**	**252**	Pg	**Pg**	**03 51 18.5**	**+0.3**
OKC				Sg	**Sb**	**03 51 28.7**	**-1.1**
	14nm,0.3s						
LANS	**Liptovska Anna**	**0.93**	**166**	*e*Pg	**Pb**	**03 51 24.4**	**0.0**
LANS				*e*Sg	**Sb**	**03 51 37.9**	**+0.6**
LANS	**Liptovska Anna**	**0.93**	**166**	*e*PG	**Pb**	**03 51 24.4**	**0.0**
LANS				*e*SG	**Sb**	**03 51 37.9**	**+0.6**
NIE	**Niedzica**	**0.99**	**130**	*e*Pg	**Pb**	**03 51 25.1**	**-0.3**
NIE				*e*Sg	**Sb**	**03 51 39.4**	**+0.4**
NIE	**Niedzica**	**0.99**	**130**	*e*Pg	**Pb**	**03 51 25.1**	**-0.3**
NIE				*e*Sg	**Sb**	**03 51 39.4**	**+0.4**
NIE	**Niedzica**	**0.99**	**130**	*e*Pg	**Pb**	**03 51 25.1**	**-0.3**
NIE				*e*Sg	**Sb**	**03 51 39.4**	**+0.4**
MORC	**Moravsky Berou**	**1.06**	**256**	*e*Pg	**Pb**	**03 51 26.5**	**-0.2**
	baz=71						
MORC				*e*Sg	**Sg**	**03 51 39.5**	**0.0**
	24nm,0.5s,baz=71						
STHS	**Stebnicka Huta**	**1.51**	**114**	*e*Pg	**Pg**	**03 51 34.8**	**+0.5**
STHS				*e*Sn	**Sn**	**03 51 55.1**	**+1.0**
STHS	**Stebnicka Huta**	**1.51**	**114**	*e*PG	**Pg**	**03 51 34.8**	**+0.5**
STHS				*e*SG	**Sn**	**03 51 55.1**	**+1.0**
STHS				eLG	Lg	03 52 03.6	
KRLC	**Kraliky**	**1.52**	**272**	*e*PG	**Pn**	**03 51 32.6**	**-1.2**
KRLC				*e*SG	**Sg**	**03 51 53.3**	**-0.7**
	comp=Z,2.6nm,0.3s						
KRLC	**Kraliky**	**1.52**	**272**	Pg	**Pn**	**03 51 32.6**	**-1.2**
KRLC				Sg	**Sg**	**03 51 53.3**	**-0.7**
	2.6nm,0.3s						
VYHS	**Vyhne**	**1.57**	**187**	*e*Pg	**Pn**	**03 51 34.5**	**-0.1**
VYHS				*e*Sn	**Sb**	**03 51 56.0**	**+0.2**
VYHS	**Vyhne**	**1.57**	**187**	*e*PG	**Pn**	**03 51 34.5**	**-0.1**
VYHS				*e*SG	**Sb**	**03 51 56.0**	**+0.2**
VYHS				eLG	Lg	03 51 57.4	
VRAC	**Vranov**	**1.81**	**247**	*e*Pn	**Pn**	**03 51 38.4**	**+0.6**
VRAC				*e*Sg	**Sg**	**03 52 03.4**	**-0.1**
	6.9nm,0.4s,baz=63						
DPC	**Dobruska-Polom**	**1.83**	**280**	*e*PG	**Pn**	**03 51 38.3**	**+0.2**
DPC				*e*SG	**Sn**	**03 52 01.9**	**-0.1**
	comp=Z,5.3nm,0.3s						
DPC	**Dobruska-Polom**	**1.83**	**280**	Pg	**Pn**	**03 51 38.3**	**+0.2**
DPC				Sg	**Sn**	**03 52 01.9**	**-0.1**
	5.3nm,0.3s						
CRVS	**Cervenica-Dubn**	**1.91**	**126**	*e*Pg	**Pg**	**03 51 41.6**	**-0.3**
CRVS				*e*Sn	**Sg**	**03 52 06.7**	**+0.1**
CRVS	**Cervenica-Dubn**	**1.91**	**126**	*e*PG	**Pg**	**03 51 41.6**	**-0.3**
CRVS				*e*SN	**Sg**	**03 52 06.6**	**0.0**
KRUC	**Moravsky**	**2.04**	**242**	*e*Pn	**Pn**	**03 51 41.3**	**+0.3**
	baz=58						
KRUC				*e*Sg	**Sg**	**03 52 10.2**	**-0.7**
	7.5nm,0.5s,baz=58						
UPC	**Upice**	**2.05**	**284**	*e*SG	**Sb**	**03 52 09.2**	**-0.4**
	comp=Z,4.4nm,0.4s						
UPC	**Upice**	**2.05**	**284**	Sg	**Sb**	**03 52 09.2**	**-0.4**
	4.4nm,0.4s						
PRU	**Pruhonice**	**2.96**	**271**	*e*SG	**Sb**	**03 52 37.6**	**+1.9**
PRU	**Pruhonice**	**2.96**	**271**	Sg	**Sb**	**03 52 37.6**	**+1.9**
BRG	**Berggiesshubel**	**3.42**	**286**	SG	**Sg**	**03 52 53.7**	**-1.4**
	1.8nm,0.5s						
KHC	**Kasperske Hory**	**3.73**	**258**	*e*SG	**Sg**	**03 53 04.6**	**-0.5**
	comp=Z,2.3nm,0.4s						
KHC	**Kasperske Hory**	**3.73**	**258**	Sg	**Sg**	**03 53 04.6**	**-0.5**
	2.3nm,0.4s						

ISCJB **16** *04:00:07.1±0.4, 2°.65S±0°.02×121°.80E±0°.03, h10km, mb3.1/3, Error ellipse: s-maj=4.8km s-min=3.3km az=21.9*
DJA **16** *04:00:09.0±0.7, 3°.5S±1°×12°.2E±°, h18km±5km, M4.2/16, mb4.7/3, MLv4.0/16*
IDC **16** *04:01:26.2±7.9, 7°.09S×125°.47E, h246km±110km, mb3.5/2, mb1 3.2/5, mb1mx2.9/50, mbtmp3.9/5, Error ellipse: s-maj=149.3km s-min=36.7km az=71.0*
ISC 16 04:00:09.0±0.9, 2°.63S±0°.03×121°.77E±0°.04, h10km, n20, σ1s42/31, mb2.8/3, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDI	**Kendari**	**1.57**	**147**	P	**Pn**	**04 00 35.9**	**-1.1**
APSI	**Ampana**	**1.71**	**356**	P	**Pn**	**04 00 37.5**	**-1.4**
APSI				S	**Sn**	**04 01 00.5**	**-0.3**
LUWI	**Luwuk**	**1.86**	**32**	P	**Pn**	**04 00 39.6**	**-1.4**
LUWI				S	**Sn**	**04 01 04.5**	**-0.2**
TTSI	**Tana Toraja**	**1.99**	**258**	P	**Pn**	**04 00 41.7**	**-1.1**
TTSI				S	**Sn**	**04 01 07.3**	**-0.5**
BNSI	**Bone**	**2.42**	**223**	P	**Pn**	**04 00 47.6**	**-1.1**
BNSI				S	**Sn**	**04 01 18.1**	**-0.3**
PCI	**Palu**	**2.58**	**311**	P	**Pn**	**04 00 49.7**	**-1.2**
PCI				S	**Sn**	**04 01 22.7**	**+0.3**
BBSI	**Bau Bau**	**2.95**	**164**	P	**Pn**	**04 00 55.3**	**-0.7**
BBSI				S	**Sn**	**04 01 30.4**	**-1.1**
MRSI	**Marisa**	**3.09**	**3**	P	**Pn**	**04 00 56.6**	**-1.3**
MRSI				S	**Sn**	**04 01 33.7**	**-1.2**
BKSI	**Bulukumba**	**3.14**	**212**	P	**Pn**	**04 00 57.5**	**-1.1**
BKSI				S	**Sn**	**04 01 35.4**	**-0.8**
MPSI	**Mapaga**	**3.49**	**328**	P	**Pn**	**04 01 02.7**	**-0.7**
BSSI	**Bau Bau, Buton**	**3.72**	**200**	P	**Pn**	**04 01 05.2**	**-1.4**
BSSI				S	**Sn**	**04 01 49.6**	**-0.9**
KMSI	**Cibinong**	**3.87**	**35**	P	**Pn**	**04 01 08.7**	**0.0**
KMSI				S	**Sn**	**04 01 54.1**	**-0.1**
SANI	**Sanana**	**4.25**	**82**	P	**Pn**	**04 01 13.0**	**-0.9**
SANI				S	**Sn**	**04 02 02.6**	**-1.0**
SGKI	**Sangatta, Kali**	**4.66**	**296**	P	**Pn**	**04 01 19.1**	**-0.4**
LBMI	**Labuha**	**6.06**	**71**	P	**Pn**	**04 01 37.7**	**-1.1**
EDFI	**Ende, Flores**	**6.08**	**181**	P	**Pn**	**04 01 37.9**	**-1.3**
FITZ	**Fitzroy Crossi**	**15.84**	**166**	P	**P**	**04 03 56.6**	**+0.6**
	0.1nm,0.3s,baz=0.2,slow=5.5,SNR=5.6						
WRA	**Warramunga Arr**	**21.14**	**145**	P	**P**	**04 04 50.5**	**-3.8**
	0.1nm,0.3s,baz=323,slow=11,SNR=5.7						
ASAR	**Alice Springs**	**23.99**	**152**	P	**P**	**04 05 23.6**	**-0.4**
	0.1nm,0.3s,baz=337,slow=12,SNR=10						
STKA	**Stephens Creek**	**34.57**	**149**	P	**P**	**04 07 02.1**	**+4.1**
	0.6nm,0.3s,baz=315,slow=13,SNR=2.9						

NNC **16** *04:22:21.9±0.7, 37°.86N×56°.86E, h0km, mb4.2, mpv4.9, Error ellipse: s-maj=12.0km s-min=3.6km az=5.0*
NEIC **16** *04:22:21.0±0.0, 37°.37N×57°.09E, h6km, mb4.1/4, ML3.6(THR), MN4.0(TEH), After TEH.*
TEH **16** *04:22:21.1, 37°.37N×57°.09E, h6km, ML4.0*
THR **16** *04:22:21.5±0.9, 37°.42N×57°.03E, h15km±7km, ML3.6*
ISCJB **16** *04:22:21.4±0.7, 37°.68N±0°.05×56°.92E±0°.02, h2km±5km, mb3.6/9, MS3.5/1, Error ellipse: s-maj=7.6km s-min=2.6km az=175.0*
CSEM **16** *04:22:22.6±0.1, 37°.46N×57°.06E, h5km, mb4.0/7, Error ellipse: s-maj=5.1km s-min=2.9km az=167.0*
IDC **16** *04:22:24.2±1.4, 37°.65N×57°.02E, h0km, mb3.6/7, mb1 3.9/11, mb1mx3.7/62, mbtmp3.8/11, ML3.6/4, MS3.2/2, Ms1 3.2/2, ms1mx2.9/60, Error ellipse: s-maj=27.8km s-min=9.8km az=176.0*
MOS **16** *04:22:27.6±2.2, 38°.06N×57°.07E, h33km, mb4.2/6, Error ellipse: s-maj=7.1km s-min=6.8km az=172.6*
ISC 16 04:22:22.2±1.1, 37°.51N±0°.04×57°.05E±0°.02, h6km±8km, n170, σ2s03/177, mb3.9/9, 8C-5D, Iran-Turkmenistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BJRD	**Bojnurd**	**0.34**	**56**	Pg	**Pg**	**04 22 29.0**	**+0.1**
BJRD	**Bojnurd**	**0.34**	**56**	*e*Pg	**Pg**	**04 22 29.8**	**+0.9**
BJRD	**Bojnurd**	**0.34**	**56**	*e*Pg	**Pg**	**04 22 29.8**	**+0.9**
MRVT	**Maraveh tapeh**	**0.78**	**281**	Pg	**Pg**	**04 22 36.0**	**-1.2**
MRVT	**Maraveh tapeh**	**0.78**	**281**	*e*Pg	**Pg**	**04 22 36.6**	**-0.6**
MRVT	**Maraveh tapeh**	**0.78**	**281**	*e*Pg	**Pg**	**04 22 36.6**	**-0.6**
MRVT				AML	AML	04 22 51.3	
	comp=E,2μm,0.2s						
MRVT				AML	AML	04 22 52.3	
	comp=N,2μm,0.5s						
ISFR	**Sfrayin**	**0.88**	**121**	*e*Pg	**Pg**	**04 22 37.8**	**-1.4**
ISFR				*e*Sg	**Sg**	**04 22 50.3**	**-0.4**
ISFR				eAMB	AMB	04 22 54.2	
	comp=Z,78μm,0.1s						
ISFR	**Sfrayin**	**0.88**	**121**	Pg	**Pg**	**04 22 37.7**	**-1.4**
ISFR				Sg	**Sg**	**04 22 50.2**	**-0.4**
ISFR	**Sfrayin**	**0.88**	**121**	*e*Pg	**Pg**	**04 22 37.8**	**-1.4**
ISFR				*e*Sg	**Sg**	**04 22 50.3**	**-0.4**
GYB4	**ALIBECK ARRAY**	**0.93**	**63**	P	**Pb**	**04 22 41.3**	**+0.5**
GYB4				S	**Sb**	**04 22 54.3**	**+0.9**
GYB5	**ALIBECK ARRAY**	**0.93**	**64**	P	**Pg**	**04 22 40.4**	**+0.3**
GYB5				S	**Sb**	**04 22 54.4**	**+0.9**
GYA1	**ALIBECK ARRAY**	**0.94**	**64**	P	**Pg**	**04 22 40.6**	**+0.3**
GYA1				S	**Sb**	**04 22 54.8**	**+1.1**
GEYT	**Alibeck**	**0.94**	**63**	Pg	**Pg**	**04 22 40.4**	**+0.1**
	comp=Z,76nm,0.3s,baz=241,slow=20,SNR=99						
GEYT				Lg	Lg	04 22 55.4	
	comp=Z,334nm,0.3s,baz=270,slow=12,SNR=24						
GEYT				LR	LR	04 23 15.5	
	comp=Z,301nm,19.0s,baz=95,slow=56						
GYA0	**ALIBECK ARRAY**	**0.94**	**63**	P	**Pb**	**04 22 41.3**	**+0.3**
GYA0				S	**Sb**	**04 22 54.6**	**+0.9**
GYA0B	**ALIBECK ARRAY**	**0.94**	**63**	*e*Pg	**Pg**	**04 22 40.5**	**+0.2**
GYA0B	**ALIBECK ARRAY**	**0.94**	**63**	P	**Pg**	**04 22 40.7**	**+0.4**
	comp=Z,555nm,0.5s						
GYA0B				S	**Sn**	**04 22 55.4**	**-0.4**
	comp=Z,3μm,0.6s						
GYB1	**ALIBECK ARRAY**	**0.94**	**64**	P	**Pg**	**04 22 40.6**	**+0.2**
GYB1				S	**Sn**	**04 22 55.4**	**-0.5**
GYB3	**ALIBECK ARRAY**	**0.95**	**63**	P	**Pb**	**04 22 41.0**	**-0.1**
GYB3				S	**Sb**	**04 22 54.4**	**+0.5**
GYA2	**ALIBECK ARRAY**	**0.95**	**63**	P	**Pg**	**04 22 40.4**	**0.0**
GYA2				S	**Sb**	**04 22 54.8**	**+0.9**
GYB2	**ALIBECK ARRAY**	**0.95**	**63**	P	**Pg**	**04 22 40.6**	**+0.1**
GYB2				S	**Sn**	**04 22 55.2**	**-0.9**
ASHT	**Ashkhabad**	**1.14**	**67**	⇓P	**Pn**	**04 22 45.5**	**+0.7**
	comp=Z,1μm,0.5s						
ASHT				⇓S	**Sn**	**04 23 02.0**	**+1.3**
	comp=Z,4μm,1.1s						
ASHT	**Ashkhabad**	**1.14**	**67**	P	**Pn**	**04 22 45.4**	**+0.7**
	comp=Z,1μm,0.5s						
ASHT				S	**Sn**	**04 23 02.0**	**+1.3**
	comp=Z,4μm,1.1s						
ASHT	**Ashkhabad**	**1.14**	**67**	P	**Pn**	**04 22 45.4**	**+0.7**
ASHT				S	**Sn**	**04 23 03.5**	**+2.8**
ASHT				pmax	pmax		
	comp=Z,1μm,0.5s						
ASHT				smax	smax		
	comp=N,4μm,1.1s						
IQHU	**Qucahn**	**1.27**	**110**	*e*Pg	**Pb**	**04 22 45.0**	**-1.5**
IQHU				*e*AMB	AMB	04 23 04.8	
	comp=Z,67μm,0.1s						
IQHU	**Qucahn**	**1.27**	**110**	Pg	**Pb**	**04 22 45.0**	**-1.5**
IQHU	**Qucahn**	**1.27**	**110**	*e*Pg	**Pb**	**04 22 45.0**	**-1.5**
IEMG	**Emamgholi**	**1.28**	**94**	*e*Pg	**Pn**	**04 22 46.0**	**-0.9**
IEMG				*e*AMB	AMB	04 23 14.5	
	comp=Z,33μm,0.2s						
IEMG	**Emamgholi**	**1.28**	**94**	Pg	**Pn**	**04 22 45.9**	**-0.9**
IEMG	**Emamgholi**	**1.28**	**94**	*e*Pg	**Pn**	**04 22 46.0**	**-0.9**
IMND	**Minoodasht**	**1.33**	**260**	*e*Pg	**Pg**	**04 22 48.1**	**+0.3**
IMND				*e*AMB	AMB	04 23 14.5	
	comp=Z,23μm,0.1s						
IMND	**Minoodasht**	**1.33**	**260**	*e*Pg	**Pg**	**04 22 48.1**	**+0.3**
IKRD	**Kardeh**	**1.38**	**122**	*e*Pn	Pg	04 22 59.3	+11
IKRD				*e*AMB	AMB	04 23 37.1	
	comp=Z,16μm,0.3s						
IAKL	**Akhelmad**	**1.64**	**123**	*e*Pn	**Pn**	**04 22 51.1**	**-0.7**
IAKL				*e*AMB	AMB	04 23 17.5	
	comp=Z,22μm,0.2s						
IAKL	**Akhelmad**	**1.64**	**123**	Pn	**Pn**	**04 22 51.1**	**-0.7**
SHRO	**Shahrood**	**1.73**	**209**	*e*Pg	**Pn**	**04 22 51.1**	**-1.8**
SHRO				AML	AML	04 23 18.9	
	comp=N,877nm,0.6s						
SHRO				AML	AML	04 23 19.7	
	comp=E,518nm,0.5s						
ISRO	**Mashad**	**2.28**	**121**	*e*Pn	**Pn**	**04 23 01.3**	**+0.8**
ISRO				*e*AMB	AMB	04 23 37.1	
	comp=Z,17μm,0.4s						
ISRO	**Mashad**	**2.28**	**121**	*e*Pn	**Pn**	**04 23 01.3**	**+0.8**
IMOG	**Moghan**	**2.31**	**127**	*e*Pn	**Pn**	**04 23 02.1**	**+1.1**
IMOG				*e*AMB	AMB	04 23 41.7	
	comp=Z,12μm,0.2s						
IMOG	**Moghan**	**2.31**	**127**	Pn	**Pn**	**04 23 02.1**	**+1.1**
IMOG	**Moghan**	**2.31**	**127**	*e*Pn	**Pn**	**04 23 02.1**	**+1.1**
IMYA	**Miami**	**2.71**	**115**	*e*AMB	AMB	04 23 58.0	
	comp=Z,11μm,0.5s						
IMYA				*e*Pn	**Pn**	**04 23 07.4**	**+1.0**
IANJ	**Anjilo**	**3.25**	**232**	*e*Pn	**Pn**	**04 23 13.8**	**-0.1**
IANJ				*e*AMB	AMB	04 24 07.8	
	comp=Z,2μm,0.2s						
IANJ	**Anjilo**	**3.25**	**232**	Pn	**Pn**	**04 23 13.8**	**-0.1**
IANJ	**Anjilo**	**3.25**	**232**	*e*Pn	**Pn**	**04 23 13.8**	**-0.1**
ISHM	**Shahmirzad**	**3.47**	**242**	*e*Pn	**Pn**	**04 23 18.7**	**+1.7**
ISHM				*e*AMB	AMB	04 24 25.2	
	comp=Z,4μm,0.3s						
ISHM	**Shahmirzad**	**3.47**	**242**	Pn	**Pn**	**04 23 18.7**	**+1.7**
ISHM	**Shahmirzad**	**3.47**	**242**	Pn	**Pn**	**04 23 18.7**	**+1.7**
IFIR	**Firoozkooh**	**3.93**	**243**	*e*Pn	**Pn**	**04 23 24.7**	**+1.4**
IFIR				*e*AMB	AMB	04 23 38.0	
	comp=Z,2μm,0.1s						
IFIR	**Firoozkooh**	**3.93**	**243**	Pn	**Pn**	**04 23 24.7**	**+1.4**
IFIR	**Firoozkooh**	**3.93**	**243**	*e*Pn	**Pn**	**04 23 24.7**	**+1.4**
IDMV	**Damavand**	**4.48**	**246**	*e*Pn	**Pn**	**04 23 32.9**	**+2.0**
IDMV				*e*AMB	AMB	04 23 48.3	
	comp=Z,938nm,0.1s						
IDMV	**Damavand**	**4.48**	**246**	Pn	**Pn**	**04 23 32.9**	**+2.0**
IDMV	**Damavand**	**4.48**	**246**	*e*Pn	**Pn**	**04 23 32.9**	**+2.0**
SHRT	**Shahrakht**	**4.67**	**145**	Pn	**Pn**	**04 23 33.0**	**-0.3**
SHRT	**Shahrakht**	**4.67**	**145**	*e*Pn	**Pn**	**04 23 33.0**	**-0.3**
SHRT	**Shahrakht**	**4.67**	**145**	*e*Pn	**Pn**	**04 23 33.0**	**-0.3**
IMON	**Monand**	**4.81**	**153**	*e*Pn	**Pn**	**04 23 35.7**	**+0.3**
IMON				*e*AMB	AMB	04 23 50.8	
	comp=Z,1μm,0.2s						
IMON	**Monand**	**4.81**	**153**	Pn	**Pn**	**04 23 35.6**	**+0.2**
IMON	**Monand**	**4.81**	**153**	*e*Pn	**Pn**	**04 23 35.6**	**+0.2**
ITEG	**Tejag**	**4.81**	**163**	*e*Pn	**Pn**	**04 23 35.1**	**-0.2**
ITEG

SHA1	**Shidzhatmaz**	**12.57**	**304**	*e*P	**Pn**	**04 25 21.4**	**-0.4**
SHA1	**Shidzhatmaz**	**12.57**	**304**	*e*P	**Pn**	**04 25 21.4**	**-0.4**
KIV	**Kislovodsk**	**12.65**	**305**	*e*Pn	**Pn**	**04 25 20.5**	**-2.2**
KIV	**Kislovodsk**	**12.65**	**305**	*e*P	**Pn**	**04 25 20.7**	**-1.9**
KIV				*e*S	**Sn**	**04 27 40.9**	**-2.9**
KIV				pmax	pmax		
	comp=Z,18nm,1.0s						
KIV				MLR	MLR		
	comp=Z,135nm,9.0s						
MNAS	**Manas**	**12.85**	**62**	P	**Pn**	**04 25 23.8**	**-1.6**
MNAS						04 27 42.0	
MNAS				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MNAS				smax	smax		
	comp=N,6.0nm,0.9s						
AKTO	**Aktyubinsk**	**12.94**	**3**	Pn	**Pn**	**04 25 25.7**	**-0.8**
	comp=N,0.5nm,0.3s,baz=174,slow=17,SNR=8.3						
AKTO	**Aktyubinsk**	**12.94**	**3**	⇑Pn	**Pn**	**04 25 22.5**	**-4.0**
	comp=N,3.5nm,0.7s						
AKTO				⇑Sn	**Sn**	**04 27 43.6**	**-7.2**
	comp=N,6.6nm,0.7s						
AKTO	**Aktyubinsk**	**12.94**	**3**	P	**Pn**	**04 25 24.5**	**-2.0**
AKTO						04 27 43.5	
AKTO				pmax	pmax		
	comp=Z,2.0nm,0.5s						
AKTO				smax	smax		
	comp=N,7.0nm,0.7s						
GOF	**Gofitskoye**	**12.94**	**310**	⇑*e*P	Pn	04 25 15.4	-11
GOF				*e*S	**Sn**	**04 27 43.7**	**-7.2**
SFK	**Sufi-Kurgan**	**13.08**	**74**	P	**Pn**	**04 25 29.6**	**+0.8**
	comp=N,3.0nm,0.5s						
SFK	**Sufi-Kurgan**	**13.08**	**74**	P	**Pn**	**04 25 29.6**	**+0.8**
SFK						04 27 51.7	
SFK				pmax	pmax		
	comp=Z,3.0nm,0.5s						
SFK				smax	smax		
	comp=N,6.0nm,0.8s						
AAK	**Ala-Archa**	**14.30**	**64**	Pn	**Pn**	**04 25 44.1**	**-1.2**
	comp=N,0.4nm,0.3s,baz=218,slow=12,SNR=6.5						
AAK	**Ala-Archa**	**14.30**	**64**	⇑Pn	**Pn**	**04 25 45.5**	**+0.2**
	comp=N,3.4nm,0.7s						
AAK	**Ala-Archa**	**14.30**	**64**	Pn	**Pn**	**04 25 45.5**	**+0.2**
	comp=N,3.4nm,0.7s						
OTUK	**Ortayu**	**15.48**	**41**	⇑P	**Pn**	**04 25 58.8**	**-2.3**
	comp=N,4.6nm,0.7s						
OTUK	**Ortayu**	**15.48**	**41**	P	**Pn**	**04 25 58.7**	**-2.3**
OTUK				pmax	pmax		
	comp=Z,5.0nm,0.7s						
KDJ	**Kajisay**	**16.13**	**67**	*e*Pn	**P**	**04 26 11.5**	**-1.5**
	comp=Z,8.2nm,1.5s						
KDJ	**Kajisay**	**16.13**	**67**	P	**P**	**04 26 11.5**	**-1.5**
KDJ	**Kajisay**	**16.13**	**67**	P	**P**	**04 26 11.5**	**-1.5**
ANN	**Anapa**	**16.45**	**302**	*e*P	**Pn**	**04 26 12.2**	**-1.3**
ANN				*e*S	**Sn**	**04 29 14.9**	**-1.3**
ANN				pmax	pmax		
	comp=Z,6.0nm,0.8s						
BRVK	**Borovoye**	**18.07**	**26**	*e*Pn	**P**	**04 26 34.1**	**-0.1**
BRVK	**Borovoye**	**18.07**	**26**	*e*Pn	**P**	**04 26 34.1**	**-0.1**
BRVK	**Borovoye**	**18.07**	**26**	*i* P	**Pn**	**04 26 34.0**	**+0.3**
BRVK				pmax	pmax		
	comp=Z,6.0nm,1.3s						
BVA0	**Borovoye Array**	**18.08**	**27**	P	**Pn**	**04 26 30.9**	**-3.0**
	comp=Z,3.9nm,0.6s,baz=246,slow=40,SNR=28						
BVA0	**Borovoye Array**	**18.08**	**27**	P	**Pn**	**04 26 30.5**	**-3.4**
BVAR	**Borovoye Array**	**18.08**	**27**	P	**P**	**04 26 34.3**	**0.0**
	comp=Z,0.7nm,0.3s,baz=210,slow=11,SNR=18						
BRTR	**Keskin Array B**	**18.42**	**284**	P	**Pn**	**04 26 40.9**	**+2.7**
	comp=Z,0.0nm,0.3s,baz=108,slow=7.9,SNR=7.7						
ARU	**Arti**	**18.95**	**3**	*d i* P	**Pn**	**04 26 48.9**	**+4.5**
ARU				pmax	pmax		
	comp=Z,6.0nm,0.8s						
BR231	**Keskin MP Arra**	**19.08**	**285**	*e*P	**P**	**04 26 44.4**	**-1.1**
BR231	**Keskin MP Arra**	**19.08**	**285**	*e*P	**P**	**04 26 44.4**	**-1.1**
EIL	**Elat**	**19.97**	**253**	LR	LR	04 34 35.7	
	comp=Z,54nm,21.9s,baz=298,slow=37						
KURBB	**Kurchatov Arra**	**20.16**	**43**	P	Pn	04 27 00.7	+1.9
	comp=Z,2.1nm,0.2s,baz=243,slow=11,SNR=4.2						
KURK	**Kurchatov**	**20.25**	**42**	P	Pn	04 27 00.7	+0.7
	comp=Z,1.0nm,0.7s						
KURK	**Kurchatov**	**20.25**	**42**	P	Pn	04 27 00.7	+0.7
KURK				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MAKZ	**Makanchi**	**20.61**	**55**	*e*P	Pn	04 27 03.4	-0.9
	comp=Z,14nm,1.6s						
MAKZ	**Makanchi**	**20.61**	**55**	*e*P	Pn	04 27 03.4	-0.9
	comp=Z,14nm,1.6s						
MAKZ	**Makanchi**	**20.61**	**55**	*e*P	Pn	04 27 03.4	-0.9
MAKZ				pmax	pmax		
	comp=Z,14nm,1.6s						
MK01	**Makanchi Array**	**20.81**	**56**	*e*P	Pn	04 27 05.9	-0.7
MK01	**Makanchi Array**	**20.81**	**56**	*e*P	Pn	04 27 05.9	-0.7
MK31	**Makanchi Array**	**20.81**	**56**	P	**P**	**04 27 05.3**	**+1.1**
	comp=Z,2.2nm,0.6s,baz=245,slow=7.8,SNR=33						
MK31	**Makanchi Array**	**20.81**	**56**	*e*P	Pn	04 27 06.2	-0.4
MK31	**Makanchi Array**	**20.81**	**56**	P	**P**	**04 27 05.3**	**+1.1**
	comp=Z,2.2nm,0.6s,SNR=33						
MK31	**Makanchi Array**	**20.81**	**56**	*e*P	Pn	04 27 06.3	-0.3
MKAR	**Makanchi Array**	**20.81**	**56**	P	Pn	04 27 05.7	-0.9
	comp=Z,2.5nm,0.6s,baz=244,slow=9.9,SNR=21						
MKAR	**Makanchi Array**	**20.81**	**56**	*e*P	Pn	04 27 06.2	-0.4
	comp=Z,24nm,0.5s						
MKAR	**Makanchi Array**	**20.81**	**56**	*e*P	Pn	04 27 06.2	-0.4
	comp=Z,24nm,0.5s						
MKAR	**Makanchi Array**	**20.81**	**56**	*e*P	Pn	04 27 06.3	-0.3
MKAR				pmax	pmax		
	comp=Z,24nm,0.5s						
AKASG	**Malin Array Be**	**23.77**	**313**	P	**P**	**04 27 35.4**	**+0.1**
	comp=Z,0.7nm,0.4s,baz=110,slow=8.2,SNR=8.7						
AKBB	**Malin Array Si**	**23.77**	**313**	*e*P	**P**	**04 27 38.5**	**+3.2**
	comp=Z,4.6nm,0.6s						
AKBB	**Malin Array Si**	**23.77**	**313**	*e*P	**P**	**04 27 38.5**	**+3.2**
AKBB				pmax	pmax		
	comp=Z,5.0nm,0.6s						
KIEV	**Kiev**	**23.78**	**313**	*e*P	**P**	**04 27 36.1**	**+0.8**
	comp=Z,7.0nm,1.2s						
KIEV	**Kiev**	**23.78**	**313**	*ce*P	**P**	**04 27 36.1**	**+0.8**
KIEV				pmax	pmax		
	comp=Z,7.0nm,1.2s						
MLR	**Muntele Rosu**	**24.51**	**299**	P	**P**	**04 27 45.4**	**+3.0**
	comp=Z,1.2nm,0.8s,baz=162,slow=3.8,SNR=6.0						
MLR	**Muntele Rosu**	**24.51**	**299**	*e*P	**P**	**04 27 44.6**	**+2.2**
	comp=Z,7.0nm,0.9s						
MLR	**Muntele Rosu**	**24.51**	**299**	*e*P	**P**	**04 27 44.6**	**+2.2**
	comp=Z,7.0nm,0.9s						
MLR	**Muntele Rosu**	**24.51**	**299**	*e*P	**P**	**04 27 44.6**	**+2.2**
MLR				pmax	pmax		
	comp=Z,7.0nm,0.9s						
BUR04	**Bucovina Ar. S**	**25.37**	**304**	*e*P	**P**	**04 27 50.5**	**+0.4**
BUR04	**Bucovina Ar. S**	**25.37**	**304**	*e*P	**P**	**04 27 50.5**	**+0.4**
BUR08	**Bucovina Ar. S**	**25.38**	**304**	*e*P	**P**	**04 27 51.1**	**+0.9**
BUR08	**Bucovina Ar. S**	**25.38**	**304**	*e*P	**P**	**04 27 51.1**	**+0.9**
KLMR	**Klimovskoe**	**25.85**	**340**	*e*P	**P**	**04 27 54.4**	**+0.2**
KLMR				AMP		04 28 13.3	
	comp=Z,7.0nm,1.4s						
KLMR	**Klimovskoe**	**25.85**	**340**	*e*P	**P**	**04 27 54.4**	**+0.2**
KLMR				pmax	pmax		
	comp=Z,7.0nm,1.4s						
KLMR				pmax	pmax		
	comp=Z,7.0nm,1.2s						
PALK	**Pallekele**	**36.98**	**139**	*i* P	P	04 29 41.1	+8.6
SONA1	**Songino Array**	**37.15**	**58**	*e*P	P	04 29 28.1	-5.7
CMAR	**Chiang Mai Arr**	**41.18**	**106**	P	**P**	**04 30 11.2**	**+3.6**
	comp=Z,0.3nm,0.3s,baz=302,slow=7.3,SNR=5.6						
ESDC	**Sonseca Array**	**46.92**	**292**	P	**P**	**04 30 55.4**	**+1.8**
	comp=Z,0.2nm,0.4s,baz=67,slow=8.1,SNR=4.9						
BILL	**Bilibino**	**62.40**	**24**	*e*P	**P**	**04 32 47.3**	**+1.9**
BILL				*e*		04 33 25.5	
BILL				*e*		04 35 02.8	
BILL				pmax	pmax		
	comp=Z,1.0nm,1.1s						
YKA	**Yellowknife Ar**	**80.11**	**356**	P	**P**	**04 34 35.8**	**+3.2**
	comp=Z,0.1nm,0.7s,baz=1.5,slow=6.4,SNR=4.4						
YKA				LR	LR	05 14 31.6	
	comp=Z,20nm,20.3s,baz=262,slow=39						

*GCMT **16** 04:23:20.0±0.3, 36°.29S×79°.06E, h24km, MW5.1/78, Moment Tensor Solution. s27,c30; s78,c99; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr-6.02±.41; Mθθ3.37±.26; Mϕϕ2.64±.26; Mrθ-1.95±.33; Mϕθ-2.68±.15; Mϕr-1.23±.30; Best double couple: M◎6.24900×10^16 NP1:ϕs114.00000°, δ51.00000°, λ-112.00000°. NP2: ϕs327.00000°, δ44.00000°, λ-65.00000°. Principal axes: T 5.7500, Plg3.0000°, Azm220.0000°; N 0.9880,*

Plg17.0000°, Azm129.0000°; P -6.7470, Plg72.0000°, Azm321.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.

IDC 16 04:23:19.6±3.6, 36°.00S×78°.78E, h0km, mb3.8/7, mb1 3.9/7, mb1mx3.7/60, mbtmpb3.8/7, MS4.2/26, Ms1 4.2/26, ms1mx4.0/56 Error ellipse: s-maj=129.6km s-min=30.3km az=29.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W2	**Cape Leeuwin H**	**28.73**	**98**	T	T	04 59 08.5	
	baz=256,slow=75,SNR=101						
H01W3	**Cape Leeuwin H**	**28.73**	**98**	T	T	04 59 08.9	
	baz=256,slow=75,SNR=76						
H01W1	**Cape Leeuwin H**	**28.75**	**98**	T	T	04 59 09.8	
	baz=256,slow=75,SNR=135						
H08S2	**Diego Garcia H**	**28.80**	**347**	T	T	04 59 30.0	
	baz=169,slow=76,SNR=23						
H08S1	**Diego Garcia H**	**28.80**	**347**	T	T	04 59 31.4	
	baz=169,slow=76,SNR=30						
H08S3	**Diego Garcia H**	**28.82**	**347**	T	T	04 59 31.8	
	baz=169,slow=76,SNR=32						
OPO	**Ambohidratompo**	**32.81**	**293**	LR	LR	04 41 17.5	
	comp=Z,301nm,18.6s,baz=196,slow=33						
MAW	**Mawson**	**32.93**	**191**	LR	LR	04 40 29.0	
	comp=Z,983nm,19.9s,baz=32,slow=31						
LEM	**Lembang**	**39.24**	**49**	LR	LR	04 43 17.7	
	comp=Z,523nm,21.9s,baz=216,slow=30						
PSI	**Prapat**	**42.94**	**30**	LR	LR	04 45 39.6	
	comp=Z,747nm,20.0s,baz=194,slow=31						
BOSA	**Boshof**	**45.36**	**264**	LR	LR	04 46 44.3	
	comp=Z,197nm,18.6s,baz=148,slow=31						
LBTB	**Lobatse**	**46.61**	**268**	LR	LR	04 48 10.9	
	comp=Z,332nm,18.5s,baz=193,slow=32						
BATI	**Baumata**	**48.04**	**69**	LR	LR	04 49 18.1	
	comp=Z,276nm,21.1s,baz=226,slow=32						
ASAR	**Alice Springs**	**48.80**	**91**	P	P	04 32 07.2	+0.5
	0.6nm,0.9s,baz=236,slow=4.1,SNR=5.3						
WRA	**Warramunga Arr**	**50.36**	**87**	P	P	04 32 22.8	-0.3
	1.9nm,0.9s,baz=237,slow=6.6,SNR=9.9						
WRA				LR	LR	04 52 33.3	
	comp=Z,314nm,19.5s,baz=265,slow=34						
STKA	**Stephens Creek**	**51.48**	**105**	LR	LR	04 50 38.8	
	comp=Z,291nm,20.3s,baz=229,slow=32						
KMBO	**Kilima Mbogo**	**51.80**	**302**	LR	LR	04 50 27.7	
	comp=Z,261nm,21.2s,baz=278,slow=31						
SNAA	**Sanae**	**53.67**	**203**	LR	LR	04 53 45.9	
	comp=Z,237nm,19.1s,baz=113,slow=34						
VNDA	**Vanda**	**53.67**	**164**	LR	LR	04 53 29.6	
	comp=Z,272nm,19.1s,baz=210,slow=34						
CMAR	**Chiang Mai Arr**	**57.42**	**23**	LR	LR	04 53 23.6	
	comp=Z,128nm,21.6s,baz=289,slow=31						
DAV	**Davao City (W)**	**61.35**	**56**	LR	LR	04 57 29.5	
	comp=Z,133nm,21.9s,baz=190,slow=33						
WSAR	**Wadi Sarin**	**61.92**	**339**	LR	LR	04 54 36.7	
	comp=Z,202nm,21.1s,baz=184,slow=30						
PMG	**Port Moresby**	**67.05**	**85**	LR	LR	05 00 58.0	
	comp=Z,311nm,21.4s,baz=216,slow=34						
RPZ	**Rata Peaks**	**67.69**	**128**	LR	LR	04 56 09.2	
	comp=Z,240nm,18.9s,baz=164,slow=29						
AAK	**Ala-Archa**	**78.36**	**357**	P	P	04 35 21.3	-0.4
	0.6nm,0.4s,baz=195,slow=5.3,SNR=4.0						
MMAI	**Mount Meron Ar**	**79.75**	**324**	LR	LR	05 07 11.2	
	comp=Z,79nm,18.3s,baz=115,slow=33						
MKAR	**Makanchi Array**	**82.47**	**2**	P	P	04 35 43.7	+0.2
	0.5nm,0.7s,baz=180,slow=7.2,SNR=4.3						
BRTR	**Keskin Array B**	**86.06**	**327**	P	P	04 36 02.6	+0.4
	0.6nm,0.9s,baz=153,slow=8.3,SNR=4.2						
BRTR				LR	LR	05 10 48.6	
	comp=Z,42nm,20.7s,baz=136,slow=33						
KVAR	**Kislovodsk Arr**	**86.07**	**335**	LR	LR	05 11 27.8	
	comp=Z,68nm,19.2s,slow=34						
KSRS	**Korea Array**	**86.11**	**37**	LR	LR	05 15 02.3	
	comp=Z,44nm,18.0s,baz=20,slow=36						
KURBB	**Kurchatov Arra**	**86.25**	**360**	P	P	04 36 03.1	+0.6
	1.1nm,0.7s,baz=189,slow=4.8,SNR=11						
SONM	**Songino Array**	**87.03**	**18**	P	P	04 36 06.4	-0.3
	0.3nm,0.5s,baz=197,slow=4.5,SNR=3.1						
SONM				LR	LR	05 14 23.1	
	comp=Z,111nm,18.8s,baz=30,slow=35						
AKTO	**Aktyubinsk**	**87.99**	**347**	LR	LR	05 12 33.6	
	comp=Z,78nm,21.9s,baz=218,slow=34						
JHJ	**Hachijo jima 2**	**89.33**	**47**	LR	LR	05 10 28.3	
	comp=Z,153nm,21.4s,baz=18,slow=32						
ZALV	**Zalesovo Beam**	**89.73**		LR	LR	05 13 52.3	
	comp=Z,87nm,21.9s,baz=248,slow=34						
KOWA	**Kowa**	**92.70**	**286**	LR	LR	05 17 02.0	
	comp=Z,204nm,18.0s,baz=130,slow=35						
YKA	**Yellowknife Ar**	**152.19**	**13**	PKPbc	PKPbc	04 43 15.4	-0.9
	0.1nm,0.7s,baz=348,slow=2.7,SNR=4.3						

*SOME **16** 04:26:57.3, 43°.48N×83°.70E, h5km*

ISC 16 04:26:59.3±4.6, 43°.6N±0°.2×84°.6E±0°.2, h32km, n5, σ2°45/9, 2C-2D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DJR	**Jarkent**	**3.56**	**283**	*e*P	**Pn**	**04 27 51.5**	**-1.0**
	3.6nm,0.3s						
DJR				*e*S	**Sn**	**04 28 31.0**	**-2.5**
	5.1nm,0.4s						
MK31	**Makanchi Array**	**3.58**	**333**	⇓Pn	**Pn**	**04 27 54.5**	**+1.9**
	0.4nm,0.5s,baz=156,slow=16,SNR=11						
MK31				⇑Pg	**Pb**	**04 27 60.0**	**-1.9**
	0.3nm,0.3s,baz=155,slow=17,SNR=8.0						
MK31				Lg	Lg	04 28 42.6	
	0.7nm,0.3s,baz=156,slow=33,SNR=5.0						
MAKZ	**Makanchi**	**3.70**	**330**	⇑Pg	**Pb**	**04 28 01.8**	**-2.1**
	1.0nm,0.7s						
MAKZ				⇓Lg	Lg	04 28 46.8	
	0.8nm,0.4s						
KAPS	**Kapalarasan**	**4.12**	**296**	*e*P	**Pn**	**04 28 02.5**	**+2.4**
KAPS				*e*S	**Sn**	**04 28 49.8**	**+2.5**
MNBS	**Baschi**	**4.53**	**278**	*e*P	**Pn**	**04 28 07.6**	**+1.9**
	0.8nm,0.3s						
MNBS				*e*S	**Sn**	**04 28 58.6**	**+1.3**
	2.9nm,0.3s						

IDC 16 04:32:38.4±4.6, 36°.42S×78°.63E, h0km, mb3.9/5, mb1 4.0/5, mb1mx3.6/56, mbtmpb3.9/5, MS4.0/4, Ms1 3.9/4, ms1mx3.4/56, Error ellipse: s-maj=172.7km s-min=31.7km az=31.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W2	**Cape Leeuwin H**	**28.79**	**98**	T	T	05 08 26.2	
	baz=256,slow=75,SNR=63						
H01W3	**Cape Leeuwin H**	**28.79**	**98**	T	T	05 08 26.7	
	baz=256,slow=75,SNR=28						
H01W1	**Cape Leeuwin H**	**28.81**	**98**	T	T	05 08 27.1	
	baz=256,slow=75,SNR=58						
H08S2	**Diego Garcia H**	**29.19**	**347**	T	T	05 08 53.1	
	baz=169,slow=76,SNR=30						
H08S1	**Diego Garcia H**	**29.19**	**347**	T	T	05 08 56.9	
	baz=169,slow=76,SNR=30						
H08S3	**Diego Garcia H**	**29.21**	**347**	T	T	05 08 54.7	
	baz=169,slow=76,SNR=38						
MAW	**Mawson**	**32.49**	**191**	LR	LR	04 50 07.3	
	comp=Z,436nm,18.8s,baz=44,slow=32						
LEM	**Lembang**	**39.61**	**49**	LR	LR	04 52 26.5	
	comp=Z,200nm,21.5s,baz=236,slow=30						
PSI	**Prapat**	**43.37**	**30**	LR	LR	04 55 01.4	
	comp=Z,279nm,20.5s,baz=214,slow=31						
BOSA	**Boshof**	**45.20**	**264**	LR	LR	04 55 34.8	
	comp=Z,79nm,19.4s,baz=137,slow=30						
ASAR	**Alice Springs**	**48.91**	**91**	P	P	04 41 26.1	-0.2
	1.0nm,1.0s,baz=238,slow=7.2,SNR=5.3						
WRA	**Warramunga Arr**	**51.10**	**87**	P	P	04 41 43.0	0.0
	2.3nm,1.0s,baz=238,slow=7.2,SNR=6.3						
GEYT	**Alibeck**	**76.38**	**343**	P	P	04 44 29.7	+0.4
	0.8nm,0.4s,baz=178,slow=4.3,SNR=2.4						
MKAR	**Makanchi Array**	**82.91**	**3**	P	P	04 45 03.8	-0.8
	1.0nm,1.1s,baz=183,slow=6.1,SNR=5.7						
KURBB	**Kurchatov Arra**	**86.67**	**360**	P	P	04 45 23.6	+0.3
	0.7nm,0.6s,baz=190,slow=4.5,SNR=13						
YKA	**Yellowknife Ar**	**152.63**	**13**	PKPbc	PKPbc	04 52 35.9	0.0
	1.1nm,1.2s,baz=335,slow=2.6,SNR=6.2						

IDC 16 04:38:52.6±3.6, 36°.57S×78°.55E, h0km, mb3.9/6, mb1 4.0/6, mb1mx3.7/58, mbtmpb3.9/6, Error ellipse: s-maj=142.6km s-min=28.3km az=28.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W2	**Cape Leeuwin H**	**28.83**	**97**	T	T	05 14 44.5	
	baz=256,slow=75,SNR=25						
H01W3	**Cape Leeuwin H**	**28.84**	**97**	T	T	05 14 46.6	
	baz=256,slow=75,SNR=26						
H01W1	**Cape Leeuwin H**	**28.85**	**97**	T	T	05 14 47.5	
	baz=256,slow=75,SNR=23						
H08S2	**Diego Garcia H**	**29.32**	**348**	T	T	05 15 10.3	
	baz=169,slow=76,SNR=20						
H08S1	**Diego Garcia H**	**29.32**	**348**	T	T	05 15 06.4	
	baz=169,slow=76,SNR=16						
H08S3	**Diego Garcia H**	**29.34**	**348**	T	T	05 15 12.2	
	baz=169,slow=76,SNR=23						
ASAR	**Alice Springs**	**48.97**	**91**	P	P	04 47 41.3	+0.3
	0.9nm,1.1s,baz=239,slow=6.4,SNR=3.8						
WRA	**Warramunga Arr**	**51.17**	**87**	P	P	04 47 57.4	-0.3
	2.2nm,1.1s,baz=240,slow=6.0,SNR=3.8						
GEYT	**Alibeck**	**76.50**	**344**	P	P	04 50 45.5	+1.4
	1.0nm,0.4s,baz=169,slow=8.4,SNR=2.1						
MKAR	**Makanchi Array**	**83.06**	**3**	P	P	04 51 18.3	-1.2
	0.9nm,1.1s,baz=167,slow=5.9,SNR=7.2						
BRTR	**Keskin Array B**	**86.44**	**327**	P	P	04 51 36.5	-0.5
	0.7nm,1.0s,baz=174,slow=1.4,SNR=3.7						
KURBB	**Kurchatov Arra**	**86.82**	**360**	P	P	04 51 38.4	+0.1
	2.5nm,1.2s,baz=194,slow=4.6,SNR=8.7						
YKA	**Yellowknife Ar**	**152.80**	**13**	PKPbc	PKPbc	04 58 50.3	-0.2
	0.4nm,1.0s,baz=327,slow=1.9,SNR=6.1						

*ISCJB **16** 04:53:18.5±0.8, 4°.5S±0°.1×153°.7E±0°.1, h100km, mb3.8/12, Error ellipse: s-maj=23.9km s-min=9.6km az=37.5*

*IDC **16** 04:53:20.2±5.4, 4°.52S×153°.72E, h101km±45km, mb3.7/12, mb1 3.9/13, mb1mx3.7/50, mbtmp4.1/13, MS3.7/4, Ms1 3.7/4, ms1mx3.1/46, Error ellipse: s-maj=34.4km s-min=19.8km az=87.0*

ISC 16 04:53:20.1±0.9, 4°.5S±0°.1×153°.7E±0°.2, h100km, n17, σ0°77/14, mb3.7/12, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**8.15**	**233**	P	**Pn**	**04 55 16.2**	**+0.5**
	12nm,0.3s,baz=28,slow=5.8,SNR=19						
PMG				S	**Sn**	**04 56 45.9**	**-0.2**
	19nm,0.3s,baz=7.4,slow=21,SNR=11						
WRA	**Warramunga Arr**	**24.34**	**229**	P	**P**	**04 58 28.2**	**-0.7**
	9.1nm,0.5s,baz=54,slow=10.0,SNR=96						
ASAR	**Alice Springs**	**27.00**	**223**	P	**P**	**04 58 52.0**	**-0.9**
	1.5nm,0.7s,baz=58,slow=8.8,SNR=14						
STKA	**Stephens Creek**	**29.52**	**201**	P	**P**	**04 59 14.5**	**-0.7**
	2.6nm,0.6s,baz=29,slow=11,SNR=10						
AFI	**Afiamalu**	**35.25**	**108**	LR	LR	05 12 07.8	
	comp=Z,53nm,18.6s,baz=248,slow=32						
NWAO	**Narrogin (SRO)**	**44.26**	**226**	LR	LR	05 21 38.1	
	comp=Z,99nm,19.1s,baz=256,slow=38						
LEM	**Lembang**	**45.94**	**265**	LR	LR	05 24 55.2	
	comp=Z,104nm,20.3s,baz=239,slow=41						
CMAR	**Chiang Mai Arr**	**58.60**	**295**	P	**P**	**05 03 07.5**	**+0.4**
	1.0nm,0.6s,baz=115,slow=5.7,SNR=7.4						
MA2	**Magadan**	**63.92**	**358**	LR	LR	05 28 38.6	
	comp=Z,63nm,20.1s,baz=281,slow=33						
SONM	**Songino Array**	**66.58**	**327**	P	**P**	**05 04 00.5**	**+0.7**
	0.4nm,0.4s,baz=150,slow=4.9,SNR=2.6						
VNDA	**Vanda**	**73.09**	**178**	P	**P**	**05 04 40.2**	**+1.2**
	1.0nm,0.8s,baz=318,slow=6.3,SNR=5.2						
MKAR	**Makanchi Array**	**80.72**	**319**	P	**P**	**05 05 22.6**	**+0.2**
	0.7nm,0.7s,baz=98,slow=6.2,SNR=7.5						
ILAR	**Eielson Array**	**81.54**	**22**	P	**P**	**05 05 25.4**	**-0.9**
	0.4nm,0.7s,baz=240,slow=3.9,SNR=6.3						
KURBB	**Kurchatov Arra**	**84.15**	**322**	P	**P**	**05 05 39.4**	**-0.7**
	0.7nm,0.7s,baz=113,slow=4.8,SNR=6.6						
AAK	**Ala-Archa**	**85.15**	**313**	P	**P**	**05 05 45.8**	**+0.3**
	1.3nm,0.5s,baz=142,slow=9.1,SNR=6.5						
BVAR	**Borovoye Array**	**89.57**	**323**	P	**P**	**05 06 05.4**	**-1.0**
	1.9nm,0.8s,baz=105,slow=5.2,SNR=8.5						
YKA	**Yellowknife Ar**	**94.73**	**28**	P	**P**	**05 06 30.4**	**+0.4**
	0.2nm,0.8s,baz=271,slow=4.8,SNR=4.5						

*IDC **16** 04:54:45.9±9.1, 4°.44S×153°.73E, h75km±78km, mb4.0/16, mb1 4.2/16, mb1mx3.9/48, mbtmp4.3/16, Error ellipse: s-maj=36.5km s-min=15.9km az=84.0*

*ISCJB **16** 04:54:47.1±0.6, 4°.47S±0°.08×153°.7E±0°.1, h100km, mb4.2/17, Error ellipse: s-maj=17.3km s-min=8.0km az=27.3*

*NEIC **16** 04:54:50.7±2.3, 4°.49S×153°.62E, h119km±18km, mb4.5/1, Error ellipse: s-maj=21.5km s-min=9.9km az=95.0*

ISC 16 04:54:48.5±0.8, 4°.5S±0°.1×153°.8E±0°.1, h100km, n34, σ0°88/37, mb4.1/17, 1D, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**8.15**	**233**	S	**Sn**	**04 58 14.6**	**-

baz=256,slow=74,SNR=8.0
H01W1 Cape Leeuwin H 28.78 98 T T 05 33 00.6
baz=256,slow=74,SNR=6.0
H08S2 Diego Garcia H 28.98 347 T T 05 33 22.8
baz=169,slow=76,SNR=9.1
H08S1 Diego Garcia H 28.98 347 T T 05 33 16.3
baz=169,slow=76,SNR=9.1
H08S3 Diego Garcia H 29.00 347 T T 05 33 22.2
baz=169,slow=76,SNR=8.1
ASAR Alice Springs 48.85 91 P P 05 05 53.3 -0.2
0.6nm,0.8s,baz=246,slow=6.2,SNR=4.3
WRA Warramunga Arr 51.03 87 P P 05 06 10.2 +0.1
2.4nm,0.9s,baz=241,slow=7.2,SNR=5.1
CMAR Chiang Mai Arr 57.63 23 P P 05 06 57.9 0.0
0.3nm,0.3s,baz=209,slow=6.7,SNR=5.5
MKAR Makanchi Array 82.68 2 P P 05 09 30.4 -0.6
1.3nm,0.9s,baz=183,slow=6.1,SNR=7.9
BRTR Keskin Array B 86.20 327 P P 05 09 49.4 +0.3
0.8nm,0.8s,baz=152,slow=5.6,SNR=5.1
KURBB Kurchatov Arra 86.45 360 P P 05 09 50.3 +0.4
1.9nm,0.8s,baz=193,slow=4.8,SNR=12
YKA Yellowknife Ar 152.40 13 PKPbc PKPbc 05 17 02.6 -0.4
0.6nm,0.9s,baz=339,slow=3.1,SNR=9.1

*ISCJB **16** 05:04:37.8±0.8,36°.1S±0'.2×78°.9E±0'.2, h10km, mb4.1/11, MS4.1/3, Error ellipse: s-maj=27.5km s-min=16.4km az=44.1*
*IDC **16** 05:04:37.7±1.0,36°.13S×78°.77E, h0km, mb4.0/9, mb1 4.1/9, mb1mx3.8/57, mbtmp4.0/9, MS4.1/3, Ms1 4.0/3, ms1mx3.1/54, Error ellipse: s-maj=39.4km s-min=24.0km az=62.0*
*NEIC **16** 05:04:39.4±0.5,36°.13S×78°.78E, h10km, mb4.4/4, Error ellipse: s-maj=18.9km s-min=11.4km az=225.0*
ISC 16 05:04:39.4±1.0, 36°.1S±0'.2×78°.8E±0'.2, h10km, n32, σ0961/23, mb4.1/11, MS3.7/3, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H01W2	**Cape Leeuwin H**	**28.71**	**98**	T	T	05 40 21.3	
	baz=257,slow=74,SNR=9.8						
H01W3	**Cape Leeuwin H**	**28.72**	**98**	T	T	05 40 24.3	
	baz=257,slow=74,SNR=11						
H01W1	**Cape Leeuwin H**	**28.73**	**98**	T	T	05 40 25.5	
	baz=257,slow=74,SNR=12						
H08S2	**Diego Garcia H**	**28.93**	**347**	T	T	05 40 48.5	
	baz=169,slow=76,SNR=15						
H08S1	**Diego Garcia H**	**28.93**	**347**	T	T	05 40 50.1	
	baz=169,slow=76,SNR=13						
H08S3	**Diego Garcia H**	**28.95**	**347**	T	T	05 40 48.0	
	baz=169,slow=76,SNR=13						
MAW	**Mawson**	**32.80**	**191**	LR	LR	05 21 55.4	
	comp=Z,126nm,18.9s,baz=50,slow=32						
BOSA	**Boshof**	**45.34**	**264**	LR	LR	05 27 03.8	
	comp=Z,101nm,21.6s,baz=33,slow=30						
ASAR	**Alice Springs**	**48.80**	**91**	P	**P**	**05 13 24.7**	**-0.2**
	0.9nm,0.9s,baz=222,slow=9.4,SNR=4.5						
WR1	**Warramunga Arr**	**50.97**	**87**	*eP*	**P**	**05 13 41.2**	**-0.2**
	5.4nm,1.1s						
WRA	**Warramunga Arr**	**50.97**	**87**	P	**P**	**05 13 41.2**	**-0.2**
	2.5nm,0.9s,baz=236,slow=7.0,SNR=6.2						
VNDA	**Vanda**	**53.55**	**164**	P	**P**	**05 13 59.8**	**+0.1**
	1.0nm,0.6s,baz=288,slow=9.6,SNR=15						
VNDA	**Vanda**	**53.55**	**164**	*eP*	**P**	**05 14 00.2**	**+0.4**
	2.1nm,1.0s						
CM01	**Chiang Mai Arr**	**57.52**	**23**	*eP*	**P**	**05 14 29.5**	**+0.5**
CMAR	**Chiang Mai Arr**	**57.55**	**23**	P	**P**	**05 14 29.4**	**+0.2**
	0.6nm,0.7s,baz=214,slow=7.2,SNR=4.9						
KK31	**Karatay Array**	**79.22**	**354**	*eP*	**P**	**05 16 45.5**	**+1.2**
KKAR	**Karatay Array**	**79.22**	**354**	*eP*	**P**	**05 16 45.5**	**+1.2**
MK01	**Makanchi Array**	**82.58**	**2**	*eP*	**P**	**05 17 01.6**	**-0.7**
MK31	**Makanchi Array**	**82.61**	**2**	*eP*	**P**	**05 17 01.6**	**-0.8**
MK32	**Makanchi Array**	**82.61**	**2**	*eP*	**P**	**05 17 01.9**	**-0.4**
MKAR	**Makanchi Array**	**82.61**	**2**	P	**P**	**05 17 01.9**	**-0.4**
	1.2nm,0.8s,baz=180,slow=6.7,SNR=9.7						
MKAR	**Makanchi Array**	**82.61**	**2**	*eP*	**P**	**05 17 01.8**	**-0.6**
	9.5nm,1.0s						
MAKZ	**Makanchi**	**82.61**	**2**	*eP*	**P**	**05 17 01.9**	**-0.4**
	2.6nm,0.9s						
RAO	**Raoul Island**	**82.96**	**121**	LR	LR	05 45 03.5	
	comp=Z,484nm,19.2s,baz=144,slow=29						
BR101	**Keskin Array S**	**86.17**	**327**	*eP*	**P**	**05 17 20.9**	**+0.1**
BRTR	**Keskin Array B**	**86.17**	**327**	P	**P**	**05 17 20.9**	**+0.1**
	0.8nm,0.8s,baz=150,slow=6.7,SNR=5.0						
KURBB	**Kurchatov Arra**	**86.38**	**360**	P	**P**	**05 17 22.0**	**+0.7**
	2.3nm,0.8s,baz=195,slow=4.8,SNR=13						
KURK	**Kurchatov**	**86.47**	**360**	*eP*	**P**	**05 17 22.0**	**+0.2**
BR231	**Keskin MP Arra**	**86.65**	**326**	*eP*	**P**	**05 17 22.4**	**-0.7**
AKTO	**Aktyubinsk**	**88.12**	**347**	P	**P**	**05 17 29.2**	**-0.6**
	0.6nm,0.3s,baz=148,slow=2.8,SNR=3.5						
BVAR	**Borovoye Array**	**89.09**	**355**	P	**P**	**05 17 34.6**	**+0.3**
	0.4nm,0.5s,baz=185,slow=5.2,SNR=4.0						
YKA	**Yellowknife Ar**	**152.32**	**13**	PKPbc	**PKPbc**	**05 24 33.9**	**-0.7**
	0.9nm,1.1s,baz=330,slow=2.9,SNR=8.5						

IDC 16 05:12:40.9±1.3, 2°.92S×129°.83E, h0km, mb3.4/3, mb1 3.6/5, mb1mx3.4/56, mbtmp3.4/5, ML3.6/2, Error ellipse: s-maj=37.6km s-min=22.1km az=90.0, Seram

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**2.49**	**35**	Pn	Pn	05 13 23.9	+1.1
	14nm,0.3s,baz=43,slow=16,SNR=26						
SIJI				Sn	Sn	05 13 53.6	-0.3
	14nm,0.3s,baz=252,slow=20,SNR=6.6						
WRA	**Warramunga Arr**	**17.49**	**166**	P	Pn	05 16 45.4	-1.0
	0.2nm,0.3s,baz=352,slow=12,SNR=8.0						
ASAR	**Alice Springs**	**21.00**	**170**	P	P	05 17 26.4	+0.2
	1.3nm,0.4s,baz=350,slow=10.0,SNR=14						
MKAR	**Makanchi Array**	**64.75**	**326**	P	P	05 23 21.5	+0.3
	0.2nm,0.7s,baz=121,slow=6.7,SNR=2.2						
KURBB	**Kurchatov Arra**	**68.97**	**328**	P	P	05 23 47.7	-0.3
	0.1nm,0.4s,baz=126,slow=5.8,SNR=2.8						

*ISCJB **16** 05:23:31.7±1.1,53°.14N±0°.03×161°.80W±0°.03, h14km±6km, mb4.3/87, MS3.4/3, Error ellipse: s-maj=4.4km s-min=2.7km az=10.6*
*IDC **16** 05:23:31.9±0.7,53°.09N×161°.86W, h0km, mb4.0/26, mb1 4.2/28, mb1mx4.0/84, mbtmp4.0/28, ML3.9/2, MS3.4/3, Ms1 3.4/3, ms1mx2.7/76, Error ellipse: s-maj=17.9km s-min=12.0km az=177.0*
*NEIC **16** 05:23:35.8±0.0,53°.10N×161°.93W, h20km, mb4.3/64, ML3.9(AEIC), After AEIC.*
ISC 16 05:23:31.8±2.4, 53°.22N±0°.06×161°.83W±0°.03, h2km±15km, n342, σ1$44/353, mb4.3/87, MS3.5/3, 1C, South of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FALS	**False Pass**	**1.89**	**331**	P	**Pb**	**05 24 06.5**	**-0.5**
FALS				S	**Sb**	**05 24 31.0**	**0.0**
SSLW	**Shishaldin Wes**	**2.06**	**320**	P	**Pb**	**05 24 09.0**	**-1.0**
WESE	**West Dahl East**	**2.06**	**309**	P	**Pn**	**05 24 08.4**	**+0.9**
WESN	**West Dahl Nort**	**2.12**	**311**	P	**Pb**	**05 24 09.5**	**-1.4**
WESP	**Westdahl Peak**	**2.14**	**308**	P	**Pn**	**05 24 09.4**	**+0.8**
WESP				S	**Sn**	**05 24 35.4**	**-0.3**
SDPT	**Sand Point**	**2.27**	**20**	P	**Pb**	**05 24 12.1**	**-1.4**
SDPT				S	**Sb**	**05 24 41.3**	**-0.8**
AKSA	**Akutan Strait**	**2.48**	**293**	P	**Pn**	**05 24 13.6**	**+0.5**
AKSA				S	**Sn**	**05 24 42.1**	**-1.8**
AKUT	**Akutan**	**2.52**	**293**	P	**Pn**	**05 24 14.2**	**+0.6**
AKUT				S	**Sn**	**05 24 43.2**	**-1.8**
AHB	**Akutan Harbor**	**2.54**	**292**	P	**Pn**	**05 24 14.6**	**+0.6**
AKRB	**Akutan Reef Bi**	**2.68**	**292**	P	**Pn**	**05 24 16.5**	**+0.5**
AKRB				S	**Sn**	**05 24 47.1**	**-2.0**
UNV	**Unalaska Valle**	**2.86**	**285**	P	**Pn**	**05 24 18.0**	**-0.3**
UNV				S	**Sn**	**05 24 50.3**	**-3.1**
MCIR	**Makushin Cirqu**	**3.11**	**286**	P	**Pn**	**05 24 22.5**	**+0.7**
VNWF	**Veniaminof 8**	**3.22**	**23**	P	**Pb**	**05 24 26.5**	**-3.2**
VNHG	**Veniaminof 1**	**3.38**	**26**	P	**Pn**	**05 24 27.1**	**+1.5**
CHGN	**Chignik**	**3.67**	**31**	P	**Pn**	**05 24 31.8**	**+2.4**
CHGN				S	**Sn**	**05 25 14.6**	**+1.4**
OKTU	**Okmok Mt. Tuli**	**3.73**	**275**	P	**Pn**	**05 24 30.2**	**-0.2**
OKAK	**Okmok**	**3.93**	**278**	P	**Pn**	**05 24 32.6**	**-0.4**
ANPB	**Aniakchak Plen**	**4.13**	**28**	P	**Pn**	**05 24 38.7**	**+2.8**
NIKH	**Nikolski High**	**4.24**	**269**	P	**Pn**	**05 24 36.9**	**-0.5**
ANNE	**Aniakchak Nort**	**4.29**	**29**	P	**Pn**	**05 24 40.7**	**+2.6**
KJL	**Kejulik**	**6.00**	**34**	P	**Pn**	**05 25 03.9**	**+2.4**
CAHL	**Cahill**	**6.09**	**35**	P	**Pn**	**05 25 05.0**	**+2.2**
KELA	**Mount Kelaz**	**6.25**	**31**	P	**Pn**	**05 25 07.3**	**+2.3**
KABU	**Katmai Buttres**	**6.26**	**34**	P	**Pn**	**05 25 07.8**	**+2.6**
OHAK	**Old Harbor**	**6.32**	**47**	P	**Pn**	**05 25 08.0**	**+2.1**
KAHC	**Katmai Hardscr**	**6.65**	**32**	P	**Pn**	**05 25 12.9**	**+2.4**
KDAK	**Kodiak Island**	**6.96**	**45**	Pn	**Pn**	**05 25 15.4**	**+0.8**
	4.3nm,0.3s,baz=226,slow=5.2,SNR=36						
KDAK				Sn	**Sn**	**05 26 31.1**	**-3.2**
	2.5nm,0.3s,baz=354,slow=18,SNR=4.6						
CDD	**Cape Douglas**	**7.32**	**35**	P	**Pn**	**05 25 21.9**	**+2.1**
KOWE	**Korovin West**	**7.58**	**268**	P	**Pn**	**05 25 24.0**	**+0.7**
SVW2	**Sparrevohn**	**8.59**	**21**	*e*Pn	**Pn**	**05 25 39.3**	**+2.2**
RDWB	**Redoubt West**	**8.78**	**30**	P	**Pn**	**05 25 43.0**	**+3.2**
GSTD	**Great Sitkin T**	**8.79**	**268**	P	**Pn**	**05 25 39.8**	**-0.1**
DFR	**Drift River**	**8.91**	**30**	P	**Pn**	**05 25 45.6**	**+4.1**
SUA	**Susitna One**	**10.19**	**31**	*e*Pn	**Pn**	**05 25 60.0**	**+0.9**
RC01	**Rabbit Creek A**	**10.25**	**35**	*e*Pn	**Pn**	**05 26 00.2**	**+0.6**
SKT	**Skwentna**	**10.36**	**28**	*e*Pn	**Pn**	**05 26 04.0**	**+2.8**
PMR	**Palmer**	**10.81**	**34**	*e*Pn	**Pn**	**05 26 08.5**	**+1.1**
PPLA	**Purkeypile**	**10.95**	**24**	*e*Pn	**Pn**	**05 26 13.4**	**+4.0**
GHO	**Glory Hole Cre**	**11.01**	**34**	*e*Pn	**Pn**	**05 26 10.3**	**+0.1**
SML	**Sawmill**	**11.23**	**35**	*e*Pn	**Pn**	**05 26 13.9**	**+0.6**
CAST	**Castle Rocks**	**11.42**	**23**	*e*Pn	**Pn**	**05 26 18.4**	**+2.6**
EYAK	**Cordova Ski Ar**	**11.43**	**44**	*e*Pn	**Pn**	**05 26 16.1**	**+0.2**
SCM	**Sheep Creek Mo**	**11.60**	**36**	*e*Pn	**Pn**	**05 26 18.7**	**+0.5**
DIV	**Divide**	**11.75**	**41**	*e*Pn	**Pn**	**05 26 21.2**	**+0.9**
RAGM	**Ragged Mountai**	**11.80**	**46**	*e*Pn	**Pn**	**05 26 22.2**	**+1.2**
KTH	**Kantishna Hill**	**11.81**	**24**	*e*Pn	**Pn**	**05 26 23.1**	**+2.0**
TRF	**Thorofare Moun**	**11.89**	**26**	*e*Pn	**Pn**	**05 26 23.7**	**+1.4**
KLU	**Klutina**	**11.90**	**40**	*e*Pn	**Pn**	**05 26 22.5**	**+0.1**
KLU				*e*Sn	**Sn**	**05 28 34.0**	**-1.7**
BMRM	**Bremner River**	**12.13**	**43**	*e*Pn	**Pn**	**05 26 27.0**	**+1.5**
RND	**Reindeer**	**12.25**	**28**	*e*Pn	**Pn**	**05 26 27.3**	**+0.2**
BPAW	**Bear Paw Mtn.**	**12.26**	**23**	*e*Pn	**Pn**	**05 26 29.4**	**+2.2**
DHY	**Denali Highway**	**12.45**	**32**	*e*Pn	**Pn**	**05 26 29.6**	**-0.4**
MCK	**McKinley**	**12.48**	**27**	*e*Pn	**Pn**	**05 26 30.7**	**+0.5**
HARP	**HAARP**	**12.75**	**37**	*e*Pn	**Pn**	**05 26 35.2**	**+1.2**
PAX	**Paxson**	**13.00**	**35**	*e*Pn	**Pn**	**05 26 38.4**	**+1.0**
MLY	**Manley**	**13.11**	**21**	*e*Pn	**Pn**	**05 26 41.2**	**+2.4**
BALM	**Baldy**	**13.12**	**46**	*e*Pn	**Pn**	**05 26 40.4**	**+1.3**
WRH	**Wood River Hil**	**13.29**	**27**	*e*Pn	**Pn**	**05 26 40.1**	**-1.2**
IM3	**Indian Mountai**	**13.42**	**14**	*e*Pn	**Pn**	**05 26 45.6**	**+2.6**
CCB	**Clear Creek Bu**	**13.51**	**27**	*e*Pn	**Pn**	**05 26 43.5**	**-0.6**
HDA	**Harding Lake**	**13.56**	**28**	*e*Pn	**Pn**	**05 26 45.8**	**+0.8**
MENT	**Mentasta**	**13.60**	**37**	*e*Pn	**Pn**	**05 26 46.8**	**+1.2**
MDM	**Murphy Dome**	**13.64**	**25**	*e*Pn	**Pn**	**05 26 45.7**	**-0.4**
RIDG	**Independ'e Rid**	**13.73**	**33**	*e*Pn	**Pn**	**05 26 47.6**	**+0.3**
ILAR	**Eielson Array**	**13.85**	**27**	Pn	**Pn**	**05 26 46.9**	**-2.0**
	0.3nm,0.3s,baz=219,slow=13,SNR=13						
ILAR				Sn	**Sn**	**05 29 18.2**	**-5.0**
	0.1nm,0.3s,baz=213,slow=22,SNR=4.8						
ILB	**Eielson Array**	**13.85**	**27**	*e*Pn	**Pn**	**05 26 47.6**	**-1.4**
ILB				*e*Sn	**Sn**	**05 29 19.1**	**-4.1**
IL1	**Eielson Array**	**13.85**	**27**	*e*Pn	**Pn**	**05 26 48.0**	**-0.9**
DOT	**Dot Lake**	**13.93**	**34**	*e*Pn	**Pn**	**05 26 50.4**	**+0.4**
SCRK	**Sand Creek**	**14.17**	**34**	*e*Pn	**Pn**	**05 26 53.2**	**-0.2**
SMY	**Shemya**	**14.50**	**278**	*e*Pn	**P**	**05 27 03.0**	**-1.7**
COLD	**Coldfoot**	**15.14**	**17**	*e*Pn	**Pn**	**05 27 08.0**	**+1.5**
EGAK	**Eagle**	**15.63**	**34**	*e*Pn	**Pn**	**05 27 13.1**	**+0.3**
	7.1nm,0.8s						
FYU	**Fort Yukon**	**15.68**	**25**	*e*Pn	**P**	**05 27 15.3**	**-2.3**
	9.9nm,1.1s						
DAWY	**Dawson**	**15.84**	**38**	*e*Pn	**Pn**	**05 27 17.2**	**+1.5**
	16nm,0.8s						
SKAG	**Skagway**	**15.89**	**56**	*e*Pn	**Pn**	**05 27 17.3**	**+1.1**
	14nm,1.4s						
BESE	**Bessie Mountai**	**15.98**	**60**	*e*Pn	**Pn**	**05 27 18.4**	**+0.9**
	7.3nm,1.0s						
WHY	**Whitehorse**	**16.39**	**52**	*e*Pn	**P**	**05 27 26.1**	**+0.3**
	7.1nm,1.2s						
TOLK	**Toolik Lake Re**	**16.52**	**16**	P	**P**	**05 27 26.4**	**-0.7**
	baz=207						
TOLK	**Toolik Lake Re**	**16.52**	**16**	*e*Pn	**P**	**05 27 25.9**	**-1.2**
	21nm,0.9s						
INK	**Inuvik**	**20.19**	**31**	P	Pn	05 28 09.1	-0.1
	2.3nm,0.4s,baz=207,slow=10,SNR=23						
INK	**Inuvik**	**20.19**	**31**	*e*P	Pn	05 28 09.0	-0.1
	6.8nm,0.7s						
PEA1	**Petropavlovsk-**	**24.04**	**286**	*e*P	**P**	**05 28 48.8**	**+0.9**
PEA0B	**Petropavlovsk-**	**24.04**	**286**	*e*P	**P**	**05 28 46.0**	**-1.9**
	44nm,1.4s						
PETK	**Petropavlovsk-**	**24.04**	**286**	P	**P**	**05 28 48.8**	**+0.8**
	7.5nm,0.5s,baz=82,slow=14,SNR=13						
PETK	**Petropavlovsk-**	**24.04**	**286**	*e*P	**P**	**05 28 48.6**	**+0.7**
PGC	**Sidney**	**24.40**	**85**	*e*P	**P**	**05 28 49.7**	**-1.6**
	16nm,1.4s						
LLLB	**Lillooet**	**24.55**	**80**	*e*P	**P**	**05 28 55.1**	**+2.4**
	7.6nm,0.8s						
A04D	**Lummi Island**	**24.82**	**85**	P	**P**	**05 28 56.9**	**+1.8**
	baz=295						
B05A	**Bryant**	**25.38**	**85**	P	**P**	**05 29 01.2**	**+1.1**
	baz=296						
G03D	**McMinnville, O**	**26.16**	**92**	P	**P**	**05 29 06.9**	**-0.4**
	baz=302						
YKA	**Yellowknife Ar**	**26.20**	**51**	P	**P**	**05 29 09.0**	**+1.6**
	0.5nm,0.6s,baz=264,slow=8.1,SNR=18						
PANH	**Panhandle Gap,**	**26.31**	**88**	*e*P	**P**	**05 29 10.0**	**+1.1**
NEW	**Newport**	**28.35**	**82**	P	**P**	**05 29 28.7**	**+1.7**
	4.5nm,0.8s,baz=307,slow=8.2,SNR=8.9						
NEW				LR	LR	05 38 54.9	
	comp=Z,50nm,20.0s,baz=306,slow=32						
NEW	**Newport**	**28.35**	**82**	P	**P**	**05 29 27.9**	**+0.9**
	baz=297,SNR=6.0						
NEW	**Newport**	**28.35**	**82**	*e*P	**P**	**05 29 28.7**	**+1.7**
	6.7nm,0.9s						
LHEM	**Herd Peak**	**28.82**	**98**	*e*P	**P**	**05 29 34.7**	**+3.2**
M04C	**Macdoel**	**28.96**	**97**	P	**P**	**05 29 33.3**	**+0.7**
	baz=307						
J08A	**Circle Bar Ran**	**30.06**	**91**	*e*P	**P**	**05 29 41.6**	**-0.7**
	6.0nm,1.4s						
JTMT	**Jette**	**30.28**	**81**	*e*P	**P**	**05 29 46.1**	**+1.9**
	6.8nm,0.8s						
WVOR	**Wild Horse Val**	**30.49**	**93**	*e*P	**P**	**05 29 44.4**	**-1.7**
	2.1nm,1.1s						
MCCM	**Marconi Confer**	**30.66**	**104**	*e*P	**P**	**05 29 48.9**	**+1.4**
	46nm,1.0s						
MSO	**Missoula**	**30.93**	**82**	P	**P**	**05 29 51.2**	**+1.3**
	baz=300						
MSO	**Missoula**	**30.93**	**82**	*e*P	**P**	**05 29 50.9**	**+0.9**
	5.5nm,1.2s						
MFID	**Camas Ranch**	**31.62**	**89**	*e*P	**P**	**05 29 58.1**	**+2.1**
	4.6nm,1.3s						
RUBR	**Rubicon Trail**	**31.67**	**100**	*e*P	**P**	**05 29 56.5**	**-0.2**
	41nm,1.8s						
PAHR	**Pah Rah Range**	**31.71**	**98**	*e*P	**P**	**05 29 58.3**	**+1.5**
	4.1nm,1.3s						
VCNR	**Virginia City**	**31.81**	**99**	*e*P	**P**	**05 29 58.1**	**+0.3**
	8.2nm,1.5s						
CMB	**Columbia Colle**	**32.20**	**101**	*e*P	**P**	**05 30 03.3**	**+2.2**
HRY	**Holter Researc**	**32.25**	**81**	*e*P	**P**	**05 30 03.2**	**+1.7**
LRM	**Limekiln Ridge**	**32.33**	**83**	*e*P	**P**	**05 30 03.7**	**+1.3**
HLID	**Hailey**	**32.38**	**88**	P	**P**	**05 30 04.0**	**+1.2**
	baz=304						
HLID	**Hailey**	**32.38**	**88**	*e*P	**P**	**05 30 04.4**	**+1.6**
	1.7nm,0.8s						
WAKR	**Walker**	**32.45**	**100**	*e*P	**P**	**05 30 04.8**	**+1.3**
	14nm,1.6s						
DLMT	**Dillon**	**32.49**	**84**	*e*P	**P**	**05 30 05.1**	**+1.4**
	4.6nm,1.1s						
MCMT	**McKenzie Canyo**	**32.62**	**85**	*e*P	**P**	**05 30 06.4**	**+1.4**
HLK	**Haleakala**	**32.69**	**170**	*e*P	**P**	**05 30 05.2**	**-0.5**
	165nm,1.1s						
EGMT	**Eagleton**	**32.82**	**78**	P	**P**	**05 30 08.1**	**+1.6**
	baz=299,SNR=5.6						
EGMT	**Eagleton**	**32.82**	**78**	*e*P	**P**	**05 30 08.1**	**+1.6**
	6.7nm,0.8s						
BOZ	**Bozeman (W)**	**32.94**	**83**	P	**P**	**05 30 08.0**	**+0.4**
	baz=302,SNR=7.1						
BOZ	**Bozeman (W)**	**32.94**	**83**	*e*P	**P**	**05 30 08.8**	**+1.2**
	3.2nm,0.8s						
NV01	**Mina Array Sit**	**33.17**	**99**	*e*P	**P**	**05 30 07.3**	**-2.5**
NVAR	**Mina Array Bea**	**33.17**	**99**	P	**P**	**05 30 10.7**	**+0.9**
	1.0nm,0.8s,baz=297,slow=8.9,SNR=10						
PMPB	**Monarch Peak**	**33.19**	**104**	*e*P	**P**	**05 30 08.6**	**-1.2**
	18nm,1.2s						
OMMB	**Old Mammoth Mi**	**33.30**	**100**	*e*P	**P**	**05 30 09.5**	**-1.5**
	3.8nm,1.3s						
POHA	**Pohakuloa**	**33.76**	**169**	*e*P	**P**	**05 30 13.9**	**-1.1**
	112nm,1.2s						
YMR	**Madison River**	**33.84**	**84**	*e*P	**P**	**05 30 16.9**	**+1.4**
	7.1nm,0.9s						
YHH	**Holmes Hill**	**33.84**	**83**	*e*P	**P**	**05 30 17.3**	**+1.6**
	7.6nm,0.8s						
GCMT	**Greycliff**	**34.01**	**81**	*e*P	**P**	**05 30 19.0**	**+2.1**
IMW	**Indian Meadow**	**34.28**	**85**	*e*P	**P**	**05 30 21.0**	**+1.5**
	3.4nm,0.9s						
FFC	**Flin Flon**	**34.30**	**63**	*e*P	**P**	**05 30 15.8**	**-3.4**
	1.6nm,1.0s						
FXWY	**Fox Creek**	**34.37**	**85**	*e*P	**P**	**05 30 17.9**	**-2.3**
	1.4nm,0.9s						
TIXI	**Tiksi**	**34.39**	**328**	P	**P**	**05 30 20.9**	**+1.1**
	1.1nm,0.3s,baz=85,slow=10,SNR=4.4						
HVU	**Hansel Valley**	**34.40**	**89**	*e*P	**P**	**05 30 16.1**	**-4.2**
	1.9nm,0.8s						
RLMT	**Red Lodge**	**34.60**	**82**	P	**P**	**05 30 23.5**	**+1.3**
	baz=303,SNR=18						
RLMT	**Red Lodge**	**34.60**	**82**	*e*P	**P**	**05 30 23.8**	**+1.7**
	12nm,0.9s						
BGU	**Big Grassy Mou**	**34.76**	**91**	*e*P	**P**	**05 30 19.9**	**-3.5**
	6.7nm,1.5s						
LTU	**Little Mountai**	**34.83**	**89**	*e*P	**P**	**05 30 22.4**	**-1.7**
R11A	**Troy Canyon, C**	**34.85**	**96**	P	**P**	**05 30 25.1**	**+0.8**
	baz=310						
ISA	**Isabella, Lake**	**34.93**	**103**	*e*P	**P**	**05 30 22.3**	**-2.6**
	1.2nm,0.8s						
DUG	**Dugway, Tooele**	**35.34**	**91**	P	**P**	**05 30 28.6**	**+0.1**
	baz=308						
TPNV	**Topopah Spring**	**35.37**	**99**	P	**P**	**05 30 29.8**	**+1.0**
	baz=312						
BW06	**Boulder Array**	**35.75**	**85**	P	**P**	**05 30 33.0**	**+0.9**
	baz=305						
PD31	**Pinedale Array**	**35.75**	**85**	*e*P	**P**	**05 30 29.6**	**-2.5**
PDAR	**Pinedale Array**	**35.75**	**85**	P	**P**	**05 30 33.2**	**+1.1**
	2.3nm,0.8s,baz=303,slow=4.5,SNR=26						
PDAR	**Pinedale Array**	**35.75**	**85**	*e*P	**P**	**05 30 32.2**	**+0.1**
BREC	**Barre Substati**	**36.52**	**104**	*e*P	**P**	**05 30 36.4**	**-2.1**
BREC				*e*PcP	**PcP**	**05 32 59.4**	**-2.6**
FCC	**Fort Churchill**	**36.81**	**54**	*e*P	**P**	**05 30 42.2**	**+1.6**
	4.7nm,0.9s						
TMUT	**Trail Mountain**	**36.87**	**91**	*e*P	**P**	**05 30 43.5**	**+1.7**
	4.3nm,1.4s						
DBD	**Des Bee Dove**	**36.92**	**91**	*e*P	**P**	**05 30 46.0**	**+3.8**
DBD				*e*S	**S**	**05 36 27.7**	**-0.2**
DCM	**Dugout Coal Mi**	**36.99**	**90**	*e*P	**P**	**05 30 42.9**	**+0.2**
BBSC	**Beaumont Base**	**37.03**	**103**	*e*P	**P**	**05 30 41.7**	**-1.2**
P17A	**Butcher Ranch,**	**37.03**	**91**	*e*P	**P**	**05 30 45.3**	**+2.2**
	3.4nm,0.9s						
MTPU	**Mount Pierson**	**37.08**	**94**	*e*P	**P**	**05 30 41.6**	**-2.1**
	5.2nm,1.5s						
ROA	**Roan Cliffs**	**37.14**	**90**	*e*P	**P**	**05 30 40.1**	**-4.0**
BCE	**Book Cliffs Ea**	**37.15**	**90**	*e*P	**P**	**05 30 39.8**	**-4.3**
GMRC	**Granite Mounta**	**37.20**	**101**	*e*P	**P**	**05 30 43.9**	**-0.5**
P18A	**Preston Nutter**	**37.23**	**90**	*e*P	**P**	**05 30 41.9**	**-3.0**
	12nm,0.7s						
K22A	**Casper**	**37.63**	**83**	P	**P**	**05 30 48.0**	**-0.1**
	baz=306,SNR=6.1						
K22A	**Casper**	**37.63**	**83**	*e*P	**P**	**05 30 48.9**	**+0.8**
	10nm,0.8s						
RWWY	**Rawlins**	**37.80**	**85**	*e*P	**P**	**05 30 50.7**	**+1.1**
	4.4nm,0.8s						
IRM	**Iron Mountain**	**37.94**	**101**	P	**P**	**05 30 51.1**	**+0.6**
	baz=315						
O20A	**White River Ci**	**38.12**	**88**	P	**P**	**05 30 52.3**	**0.0**
	baz=308						
RSSD	**Black Hills**	**38.27**	**80**	P	**P**	**05 30 54.0**	**+0.6**
	baz=305						
RSSD	**Black Hills**	**38.27**	**80**	*e*P	**P**	**05 30 54.6**	**+1.2**
	8.8nm,0.8s						
PV09	**Paradox Valley**	**38.62**	**91

baz=312,SNR=5.0
HDIL Hopedale 49.08 74 P P 05 32 19.0 -1.2
baz=311
P42A Winchester 49.10 76 P P 05 32 20.1 -0.3
baz=311
S40A Lebanon 49.15 79 P P 05 32 20.5 -0.3
baz=312
O43A Sugar Creek Fa 49.24 74 P P 05 32 21.4 -0.1
baz=311
M44A Midewin, Midew 49.26 72 P P 05 32 21.2 -0.4
baz=310
R41A Rosebud 49.35 78 P P 05 32 21.5 -0.8
baz=312
U39A Green Forest 49.39 81 P P 05 32 21.9 -0.8
baz=313
T40A Mansfield 49.44 80 P P 05 32 22.2 -0.9
baz=312
P43A Skaggs, Pawnee 49.55 75 P P 05 32 23.4 -0.4
baz=311
CCM Cathedral Cave 49.59 78 P P 05 32 22.9 -1.3
baz=312
S41A Jillco Farms, 49.60 79 P P 05 32 22.8 -1.5
baz=312
V39A Pettigrew 49.66 82 P P 05 32 24.0 -0.8
baz=313
JCT Junction City 49.70 92 P P 05 32 25.1 -0.1
baz=316
JCT Junction City 49.70 92 eP P 05 32 25.0 -0.1
comp=Z,4.9nm,0.8s
U40A Yellville 49.78 81 P P 05 32 23.6 -2.1
baz=313
KSRS Korea Array 49.79 281 P P 05 32 26.1 +0.5
comp=Z,1.0nm,0.6s,baz=43,slow=8.7,SNR=4.2
KSAR Wonju Array Be 49.82 281 P P 05 32 26.1 +0.2
Q43A New Douglas 49.90 76 P P 05 32 25.6 -0.9
baz=312
T41A Mountain View 49.96 79 P P 05 32 25.8 -1.2
baz=312
W39A Magazine 50.01 82 P P 05 32 26.4 -1.0
baz=313
W39A Magazine 50.01 82 eP P 05 32 28.0 +0.6
comp=Z,9.2nm,1.0s
V40A Witts Springs 50.17 81 P P 05 32 28.0 -0.6
baz=313
V40A Witts Springs 50.17 81 eP P 05 32 27.8 -0.9
comp=Z,5.4nm,0.8s
P44A Sand Creek, Wi 50.18 75 P P 05 32 28.1 -0.5
baz=311,SNR=5.6
R43A Red Bud 50.21 77 P P 05 32 28.5 -0.4
baz=312
X39A Fountain Ranch 50.29 83 P P 05 32 29.5 0.0
baz=314
Q44A Meyer Farm, Va 50.33 76 P P 05 32 29.6 -0.1
baz=312
U41A Viola 50.34 80 P P 05 32 29.4 -0.5
baz=313
T42A Van Buren 50.36 79 P P 05 32 28.7 -1.4
baz=312
W40A Ferguson Farm, 50.44 82 P P 05 32 29.8 -0.8
baz=313
SFIN Lafayette 50.46 73 P P 05 32 29.7 -1.1
baz=311
V41A Mountainview 50.58 81 P P 05 32 30.9 -0.8
baz=313
MIAR Mount Ida 50.58 83 P P 05 32 31.2 -0.6
baz=314
MIAR Mount Ida 50.58 83 eP P 05 32 32.3 +0.5
comp=Z,4.4nm,0.9s
S43A Fulton Ridge, 50.60 78 P P 05 32 30.6 -1.3
baz=312,SNR=7.3
P45A Graceland, Par 50.65 74 P P 05 32 31.9 -0.3
baz=312
R44A Waltonville 50.73 76 P P 05 32 31.9 -0.9
baz=312
T43A Greenville 50.80 78 P P 05 32 32.3 -1.0
baz=313
435B Jarrell 50.82 89 P P 05 32 32.9 -0.6
baz=316
Q45A Warren Harvey, 50.83 75 P P 05 32 33.1 -0.4
baz=312
P46A Rosedale 50.90 74 P P 05 32 33.3 -0.8
baz=312
W41B Gary Mavity, V 50.94 81 P P 05 32 33.4 -1.0
baz=314
S44A Carbondale 51.00 77 P P 05 32 34.6 -0.2
baz=312
X40A Basin Creek Fa 51.07 82 P P 05 32 35.1 -0.3
baz=314
R45A Skylar, Fairfi 51.16 76 P P 05 32 35.5 -0.6
baz=312
S45A Carrier Mills 51.40 76 P P 05 32 36.4 -1.5
baz=312
P47A Martinsville 51.53 73 P P 05 32 38.5 -0.4
baz=312
Z40A Long Farm, Mag 51.58 84 P P 05 32 39.7 +0.4
baz=314
Y41A Eaglette Beard 51.62 83 P P 05 32 39.8 +0.3
baz=314
R46A Gibon Southern 51.66 75 P P 05 32 39.9 +0.1
baz=312
Q47A Bedord North L 51.81 74 P P 05 32 40.6 -0.3
baz=312
T46A Princeton 52.23 77 P P 05 32 44.2 +0.2
baz=313
WCI Wyandotte Cave 52.36 74 P P 05 32 44.5 -0.5
baz=313
V45A Humboldt 52.50 78 P P 05 32 45.9 -0.2
baz=314
U46A Springville 52.53 77 P P 05 32 46.1 -0.2
baz=313
T47A Sharon Grove 52.73 76 P P 05 32 47.4 -0.4
baz=313
S48A Wiedeman Farm, 52.89 75 P P 05 32 48.6 -0.3
baz=313
WVT Waverly 52.90 77 P P 05 32 48.8 -0.3
baz=314
WVT Waverly 52.90 77 eP P 05 32 48.7 -0.3
comp=Z,7.7nm,0.8s
ACSO Alum Creek Sta 52.91 70 P P 05 32 48.7 -0.4
baz=312
V46A Holladay 52.95 78 P P 05 32 49.3 -0.1
baz=314
U47A Clarksville 53.00 77 P P 05 32 49.3 -0.4
baz=314
T48A Bowling Green 53.06 75 P P 05 32 49.6 -0.6
baz=313
OXF Oxford 53.08 80 P P 05 32 50.1 -0.3
baz=314
242A Grayson 53.17 84 P P 05 32 50.7 -0.3
baz=315
W46A Michie 53.26 79 P P 05 32 51.4 -0.3
baz=314
V47A Nunnelly 53.29 77 P P 05 32 51.8 -0.1
baz=314
U48A Cassie Pea, Po 53.39 76 P P 05 32 52.1 -0.5
baz=314,SNR=7.9
TLY Talaya 53.44 309 LR LR 05 55 22.7
comp=Z,49nm,19.6s,baz=117,slow=36
TLY Talaya 53.44 309 eP P 05 32 53.4 +0.6
comp=Z,5.5nm,0.8s
X46A Booneville 53.54 79 P P 05 32 53.1 -0.7
baz=314
V48A Smith Brothers 53.76 77 P P 05 32 55.0 -0.3
baz=314
Y46A Houston 53.85 80 P P 05 32 55.9 -0.1
baz=315
X47A Russelville 54.00 79 P P 05 32 57.0 -0.1
baz=314
245A Little AP, Sta 54.54 82 P P 05 33 00.8 -0.2
baz=315
SONA1 Songino Array 54.69 304 eP P 05 33 04.2 +2.1
SONA0 Songino Array 54.70 304 eP P 05 33 02.4 +0.1
SONM Songino Array 54.70 304 P P 05 33 02.3 +0.1
comp=Z,0.4nm,0.5s,baz=40,slow=4.8,SNR=4.2
BJI Beijing 54.81 292 eP P 05 33 00.8 -2.1
BJI pmax pmax
comp=Z,6.0nm,0.5s
X49A Woodville 54.90 78 P P 05 33 02.8 -0.9
baz=315
Z48A Northport 54.98 80 P P 05 33 03.8 -0.5
baz=315
MCWV Mont Chateau 55.06 69 P P 05 33 04.1 -0.7
baz=313
BINY Binghamton 55.45 64 P P 05 33 07.6 0.0
baz=313
SSPA Standing Stone 55.48 67 P P 05 33 07.8 0.0
baz=314
Y50A Piedmont 55.69 78 P P 05 33 08.6 -0.8
baz=315
Z49A Columbiana 55.71 79 P P 05 33 08.7 -0.9
baz=315
149A Jones 55.98 80 P P 05 33 11.0 -0.5
baz=316
BLA Blacksburg 56.44 71 P P 05 33 14.5 -0.2
baz=314
N59A State Game Lan 56.45 65 P P 05 33 14.5 -0.2
baz=314
448A Bay Minette 56.54 82 P P 05 33 14.1 -1.4
baz=316
250A Grady 56.73 80 P P 05 33 16.0 -0.8
baz=316
HHC Hu-ho-hao-te 56.80 295 eP P 05 33 17.6 +0.2
HHC pmax pmax
comp=Z,16nm,1.2s
HHC pmax pmax
comp=Z,42nm,6.8s
IP06 Yanceyville 57.31 69 eP P 05 33 20.6 -0.2
comp=Z,11nm,0.8s
ARA0 ARCESS Array S 57.44 357 eP P 05 33 22.1 +0.8
ARCES ARCESS Array B 57.44 357 P P 05 33 22.1 +0.8
comp=Z,2.6nm,0.9s,baz=21,slow=7.9,SNR=4.0
155A Kite 58.51 77 P P 05 33 29.1 -0.3
baz=316
254A Abbeville 58.51 78 P P 05 33 28.8 -0.5
baz=316
NJ2 Nanjing 58.90 283 eP P 05 33 32.0 0.0
NJ2 pmax pmax
comp=Z,12nm,0.5s
ZAA1 Zalesovo Array 59.76 321 eP P 05 33 39.9 +2.2
ZALV Zalesovo Beam 59.76 321 P P 05 33 39.9 +2.2
comp=Z,0.8nm,0.5s,baz=19,slow=4.9,SNR=1.7
LZH Lanzhou 64.42 296 eP P 05 34 09.8 +0.3
LZH pP sP 05 34 15.6 +5.3
LZH sP pP 05 34 17.9 +7.8
LZH pmax pmax
comp=Z,20nm,1.1s
KURK Kurchatov 64.64 322 eP P 05 34 13.9 +3.4
KURBB Kurchatov Arra 64.75 322 P P 05 34 13.9 +2.7
comp=Z,0.7nm,0.7s,baz=38,slow=5.4,SNR=4.8
FIA0 FINESS Array S 65.51 356 eP P 05 34 17.5 +1.6
FINES FINESS Array B 65.51 356 P P 05 34 17.5 +1.6
comp=Z,1.5nm,0.8s,baz=1.0,slow=8.3,SNR=4.9
BVAR Borovoye Array 65.53 328 P P 05 34 18.2 +2.0
comp=Z,0.8nm,0.5s,baz=60,slow=8.5,SNR=6.4
NB2 NORSAR Subarra 65.95 4 P P 05 34 21.1 +2.2
comp=Z,7.2nm,1.4s,baz=356,slow=6.5
NB200 NORSAR Array S 65.95 4 eP P 05 34 20.6 +1.7
NOA NORSAR Array B 65.95 4 P P 05 34 20.6 +1.7
comp=Z,1.6nm,0.9s,baz=355,slow=6.7,SNR=3.5
MK32 Makanchi Array 66.41 318 eP P 05 34 23.1 +1.1
MKAR Makanchi Array 66.41 318 P P 05 34 23.2 +1.1
comp=Z,0.8nm,0.9s,baz=46,slow=6.9,SNR=5.0
WMQ Urumqi 66.48 312 P P 05 34 25.0 +2.4
HFS Hagfors 66.94 2 P P 05 34 26.3 +1.1
comp=Z,2.1nm,0.5s,baz=14,slow=6.5,SNR=14
EKA Eskdalemuir Ar 70.39 13 P P 05 34 47.3 +0.6
comp=Z,1.3nm,0.9s,baz=350,slow=3.7,SNR=2.6
AKTO Aktyubinsk 71.40 334 P P 05 34 55.4 +2.4
comp=Z,1.0nm,0.6s,baz=14,slow=4.2,SNR=3.9
AKTO LR LR 06 09 26.6
comp=Z,23nm,19.1s,baz=72,slow=38
AKASG Malin Array Be 76.03 353 P P 05 35 21.1 +0.9
comp=Z,1.1nm,0.4s,baz=11,slow=5.9,SNR=9.2
CM31 Chiang Mai Arr 80.80 288 eP P 05 35 47.2 +0.2
CMAR Chiang Mai Arr 80.80 288 P P 05 35 47.2 +0.2
comp=Z,0.4nm,0.3s,baz=19,slow=3.7,SNR=6.7
ESDC Sonsaca Array 85.52 17 P P 05 36 11.0 -0.1
comp=Z,0.4nm,0.5s,baz=350,slow=4.2,SNR=2.6
WR1 Warramunga Arr 91.23 238 eP P 05 36 36.5 -2.0
comp=Z,6.6nm,1.3s
WRA Warramunga Arr 91.23 238 P P 05 36 36.4 -2.0
comp=Z,0.7nm,0.9s,baz=36,slow=5.9,SNR=5.4
ASAR Alice Springs 94.56 236 P P 05 36 52.4 -1.4
comp=Z,0.7nm,0.6s,baz=33,slow=5.0,SNR=7.2

MAN 16 05:29:38,10°.15N×123°.31E,h0km,mb4.1,ML2.9,MS2.6, Cebu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUIM	Jordan	0.85	304	eP	Pg	05 29 55.0	+0.7
GUIM				eS	Sb	05 30 06.5	-1.1
MSLP	Maasin	1.53	90	eP	Sg	05 30 28.4	+1.2

IDC 16 05:33:38.4±47.0,15°.77S×173°.45W,h0km,mb4.3/3, mb1 4.5/3,mb1mx3.6/51,mbtmp4.3/3,Error ellipse: s-maj=898.6km s-min=178.8km az=78.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	Stephens Creek	43.81	240	P	P	05 41 46.5	+0.2
	1.1nm,0.4s,baz=79,slow=7.0,SNR=4.3						
WRA	Warramunga Arr	49.71	257	P	P	05 42 32.5	-0.3
	0.8nm,0.5s,baz=94,slow=7.0,SNR=18						
ASAR	Alice Springs	49.95	252	P	P	05 42 34.4	-0.1
	8.1nm,0.6s,baz=88,slow=8.3,SNR=90						

IDC 16 05:38:55.1±0.7,0°.29S×124°.66E,h0km,mb4.1/14, mb1 4.2/14,mb1mx4.0/58,mbtmp4.1/14,MS3.4/1, Ms1 3.4/1,ms1mx2.6/55,Error ellipse: s-maj=44.1km s-min=14.9km az=68.0

DJA 16 05:38:58.7±0.7,0°.N±2°.×12°.5E±°,h10km±5km,M4.2/11, MLv4.2/11

ISCJB 16 05:39:00.2±0.3,0°.02N±0°.04×125°.38E±0°.03,h49km, mb4.2/25,Error ellipse: s-maj=5.8km s-min=4.3km az=27.7

NEIC 16 05:39:04.5±1.6,0°.15S×125°.24E,h74km±15km,mb4.4/9, Error ellipse: s-maj=17.6km s-min=8.0km az=63.0

ISC 16 05:39:02.6±0.5,0°.02N±0°.05×125°.35E±0°.04,h49km,n55, σ1§61/61,mb4.3/25,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMSI	Cibinong	1.47	292	P	Pn	05 39 25.4	-1.4
KMSI				S	Sn	05 39 43.8	-1.1
SANI	Sanana	2.15	163	P	Pn	05 39 35.6	-0.5
SANI				S	Sn	05 40 03.8	+2.2
LBMI	Labuha	2.25	107	P	Pn	05 39 35.7	-1.8
LBMI				S	Sn	05 40 05.7	+1.6
LUWI	Luwuk	2.78	248	P	Pn	05 39 43.3	-1.4
LUWI				S	Sn	05 40 18.9	+1.8
LUWI	Luwuk	2.78	248	ePn	Pn	05 39 45.2	+0.5
MRSI	Marisa	3.44	278	P	Pn	05 39 51.8	-1.9
MRSI				S	Sn	05 40 33.5	+0.3
NLAI	Namlea	3.68	152	P	Pn	05 39 56.5	-0.6
NLAI				S	Sn	05 40 42.6	+3.4
APSI	Ampana	3.81	256	P	Pn	05 39 56.8	-2.0
APSI				S	Sn	05 40 43.5	+1.1
AAI	Ambon	4.65	142	P	Pn	05 40 09.7	-0.7
KDI	Kendari	4.80	215	P	Pn	05 40 12.4	0.0
MSAI	Masohi	4.90	133	P	Pn	05 40 12.5	-1.3
DAV	Davao City (W)	7.01	2	LR	LR	05 43 54.6	
	comp=Z,255nm,18.9s,baz=154,slow=41						
MYLDM	Lahad Datu	8.54	307	ePn	Pn	05 41 06.1	+2.2
KKM	Kota Kinabalu	10.90	303	ePn	Pn	05 41 36.8	+0.6
JAGI	Jajag, Banyuwa	13.98	233	ePn	Pn	05 42 18.6	+0.4
WR1	Warramunga Arr	21.71	157	eP	P	05 43 46.9	-2.9
	5.8nm,0.8s						
WRA	Warramunga Arr	21.71	157	P	P	05 43 46.9	-2.9
	2.7nm,0.6s,baz=337,slow=11,SNR=16						
ASAR	Alice Springs	24.97	161	P	P	05 44 20.8	-1.0
	2.5nm,0.9s,baz=336,slow=8.0,SNR=17						
AS01	Alice Springs	24.98	161	eP	P	05 44 20.2	-1.7
CM01	Chiang Mai Arr	31.73	307	eP	P	05 45 22.0	-0.2
CMAR	Chiang Mai Arr	31.76	307	P	P	05 45 21.5	-0.9
	0.5nm,0.3s,baz=121,slow=7.0,SNR=5.2						
CHTO	Chiang Mai	31.95	307	eP	P	05 45 23.7	-0.4
	3.3nm,0.8s						
STKA	Stephens Creek	35.25	156	P	P	05 45 52.1	-0.5
	2.4nm,0.6s,baz=334,slow=10,SNR=6.7						
KSAR	Wonju Array Be	37.31	3	P	P	05 46 13.0	+2.8
KSRS	Korea Array	37.33	3	P	P	05 46 13.0	+2.7
	0.8nm,0.4s,baz=178,slow=9.3,SNR=4.0						
MAJO	Matsushiro	38.25	17	eP	P	05 46 16.6	-1.6
	8.2nm,1.3s						
MJB9	Matsu-Tunnel	38.25	17	eP	P	05 46 17.7	-0.5
	7.9nm,1.3s						
KLR	Kul'dur	49.33	6	P	P	05 47 49.1	+2.2
	0.1nm,0.6s,baz=208,slow=5.1,SNR=4.0						
SONA0	Songino Array	50.40	344	eP	P	05 47 56.2	+1.0
SONM	Songino Array	50.40	344	P	P	05 47 56.2	+1.0
	0.9nm,0.6s,baz=157,slow=7.9,SNR=4.8						
PETK	Petropavlovsk-	59.37	22	P	P	05 49 02.4	+2.6
	1.9nm,0.7s,baz=208,slow=6.0,SNR=3.7						
PEA1	Petropavlovsk-	59.37	22	eP	P	05 49 02.4	+2.6
MK01	Makanchi Array	59.83	327	eP	P	05 49 01.7	-1.5
MK31	Makanchi Array	59.85	327	eP	P	05 49 02.0	-1.3
MK32	Makanchi Array	59.85	327	eP	P	05 49 02.0	-1.3
MKAR	Makanchi Array	59.85	327	P	P	05 49 02.0	-1.3
	1.8nm,0.6s,baz=118,slow=8.8,SNR=15						
MKAR	Makanchi Array	59.85	327	eP	P	05 49 02.0	-1.3
	15nm,0.6s						
MAKZ	Makanchi	60.03	327	eP	P	05 49 05.8	+1.3
	1.9nm,0.6s						
KDJ	Kajisay	60.24	320	eP	P	05 49 04.0	-2.3
	2.9nm,0.8s						
CRLZ	Canterbury Las	60.47	142	eP	P	05 49 05.5	-2.0
	28nm,1.3s						
MXZ	Matakaoa Point	61.41	134	eP	P	05 49 13.7	-0.3
	86nm,1.3s						
AAK	Ala-Archa	62.22	320	P	P	05 49 19.4	-0.2
	0.6nm,0.3s,baz=89,slow=10,SNR=4.4						
ZALV	Zalesovo Beam	63.28	335	P	P	05 49 24.4	-1.8
	0.6nm,0.4s,baz=116,slow=6.8,SNR=4.1						
ZAA1	Zalesovo Array	63.29	335	eP	P	05 49 24.4	-1.8
KURBB	Kurchatov Arra	64.14	329	P	P	05 49 30.2	-1.7
	2.4nm,0.7s,baz=129,slow=6.0,SNR=16						
KURK	Kurchatov	64.15	329	eP	P	05 49 32.1	+0.1
KK31	Karatay Array	65.04	319	eP	P	05 49 38.6	+0.6
KKAR	Karatay Array	65.04	319	eP	P	05 49 38.7	+0.7
BVAR	Borovoye Array	69.69	328	P	P	05 50 06.2	-1.0
	1.1nm,0.6s,baz=121,slow=7.1,SNR=5.7						
BRVK	Borovoye	69.76	328	eP	P	05 50 09.0	+1.3
	4.7nm,1.1s						
TIXI	Tiksi	71.55	1	P	P	05 50 18.6	+0.5
	0.9nm,0.3s,baz=173,slow=3.8,SNR=3.4						
AKTO	Aktyubinsk	75.72	322	P	P	05 50 40.2	-2.8
	2.5nm,0.6s,baz=108,slow=8.1,SNR=6.9						
ARA0	ARCESS Array S	93.43	340	eP	P	05 52 12.2	-0.2
ARCES	ARCESS Array B	93.43	340	P	P	05 52 12.2	-0.2
	3.6nm,1.0s,baz=88,slow=4.1,SNR=3.0						
BUR04	Bucovina Ar. S	96.82	318	eP	P	05 52 28.1	-0.5

MEX 16 05:47:40.9±0.3,14°.30N×92°.40W,h16km±999km,MD3.6, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		1.60	331	eP	Pn	05 48 05.4	-3.1
PCIG				eS	Sn	05 48 23.5	-5.4

ISCJB 16 05:48:07.6±0.1,24°.03S±0°.02×179°.98E±0°.03,h518km, mb4.6/152,Error ellipse: s-maj=3.6km s-min=2.0km az=17.1

NEIC 16 05:48:07.2±0.5,24°.10S×179°.89W,h505km±5km, mb4.6/120,Error ellipse: s-maj=5.0km s-min=3.6km az=145.0

IDC 16 05:48:07.3±1.2,23°.92S×179°.86W,h503km±11km, mb4.0/20,mb1 4.2/21,mb1mx4.0/41,mbtmp4.9/21,Error ellipse: s-maj=10.9km s-min=10.3km az=16.0

WEL 16 05:48:08.2±0.7,24°.S±7°×17°.8W±3°.4,h579km±10km

ISC 16 05:48:08.0±0.3,24°.02S±0°.05×179°.85W±0°.06,h518km, n436,σ1§51/467,mb4.6/153,3C-12D,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RIZ	Raoul Island	5.48	162	P	P	05 49 40.2	+0.1
RIZ	Raoul Island	5.48	162	S	S	05 50 52.2	-3.3
RAO	Raoul Island	5.49	162	P	P	05 49 40.1	-0.1
	185nm,0.3s,baz=106,slow=23,SNR=7.6						
RAO				S	S	05 50 51.8	-3.8
	76nm,0.3s,baz=73,slow=19,SNR=3.1						
GLKZ	Green Lake	5.50	162	S	S	05 50 53.8	-2.0
GLKZ	Green Lake	5.50	162	P	P	05 49 41.1	+0.8
MSVF	Nonsavu	6.56	342	eP	P	05 49 50.6	-0.1
OUZ	Omahuta	12.53	206	eP	P	05 50 53.9	+2.0
AFI	Afiamalu	12.60	39	P	P	05 50 48.0	-5.2
	18nm,0.3s,baz=203,slow=8.1,SNR=16						
AFI				S	S	05 52 57.1	-12
	5.1nm,0.3s,baz=31,slow=19,SNR=7.6						
AFI	Afiamalu	12.62	39	eP	P	05 50 48.3	-5.0
AFI				eS	S	05 53 04.7	-4.7
DZM	Mont Dzumac	12.77	276	eP	P	05 50 53.1	-1.6
	3.3nm,0.3s						
WCZ	Waipu Caves	12.89	202	P	P	05 50 57.2	+1.5
MXZ	Matakaoa Point	13.59	186	eP	P	05 51 02.4	-0.6
MXZ				eS	S	05 53 29.5	+2.2
MXZ	Matakaoa Point	13.59	186	P	P	05 51 03.1	+0.1
OMRZ	Omania	14.41	192	P	P	05 51 14.7	+3.1
URZ	Urewera	14.43	190	P	P	05 51 08.9	-2.9
	8.4nm,0.3s,baz=84,slow=4.0,SNR=3.0						
URZ				S	S	05 53 39.6	-3.7
	4.1nm,0.3s,baz=53,slow=21,SNR=12						
RAGZ	Rawiri	14.62	189	P	P	05 51 14.7	+0.9
TLZ	Tolley Road	14.80	194	P	P	05 51 18.4	+2.8
SNGZ	Shannon Statio	14.91	189	P	P	05 51 16.7	-0.2
SNGZ	Shannon Statio	14.91	189	S	S	05 53 52.0	-0.6
PRGZ	Paritu Road	14.98	187	P	P	05 51 18.6	+1.1
PRGZ	Paritu Road	14.98	187	S	S	05 53 54.7	+0.8
MTHZ	Maungataniwha	15.05	190	P	P	05 51 18.0	-0.3
MTHZ	Maungataniwha	15.05	190	S	S	05 53 52.9	-2.4
RAHZ	Arahi	15.08	189	P	P	05 51 18.8	+0.3
RAHZ	Arahi	15.08	189	S	S	05 53 55.1	-0.6
KNZ	Kokohu	15.10	187	P	P	05 51 18.1	-0.6
KNZ	Kokohu	15.10	187	S	S	05 53 56.0	-0.1
MRHZ	Matea Rd	15.10	191	P	P	05 51 19.4	+0.5
MRHZ	Matea Rd	15.10	191	S	S	05 53 56.0	-0.3
WATZ	Wairara	15.12	193	P	P	05 51 20.2	+1.2
HIZ	Hauiti	15.13	196	eP	P	05 51 17.6	-1.5
	37nm,0.8s						
HIZ	Hauiti	15.13	196	P	P	05 51 20.8	+1.7
WHHZ	Waihua	15.21	189	P	P	05 51 23.0	+3.0
WHHZ	Waihua	15.21	189	S	S	05 53 54.7	-3.5
RATZ	Rangitukua	15.26	193	P	P	05 51 20.6	+0.1
NMHZ	Naumai	15.30	190	P	P	05 51 20.8	-0.1
NMHZ	Naumai	15.30	190	S	S	05 53 58.8	-1.1
KATZ	Kakaramea	15.38	193	P	P	05 51 22.6	+0.8
KATZ	Kakaramea	15.38	193	S	S	05 54 03.7	+2.1
BKZ	Black Stump Fm	15.41	191	eP	P	05 51 18.9	-3.2
	34nm,0.5s						
BKZ				eS	S	05 54 00.3	-1.8
BKZ	Black Stump Fm	15.41	191	P	P	05 51 19.6	-2.6
BKZ	Black Stump Fm	15.41	191	S	S	05 53 59.7	-2.4
ARHZ	Aropaoanui	15.43	189	P	P	05 51 22.0	-0.2
ARHZ	Aropaoanui	15.43	189	S	S	05 54 00.0	-1.7
KRVZ	Karewarewa	15.51	193	P	P	05 51 21.8	-1.4
TWVZ	Taurewa	15.53	194	P	P	05 51 22.3	-1.1
WTVZ	West Tongariro	15.54	193	P	P	05 51 23.1	-0.4
NGZ	Ngauruhoe	15.59	193	P	P	05 51 24.0	-0.1
NGZ	Ngauruhoe	15.59	193	S	S	05 54 05.6	0.0
COVZ	Chateau Observ	15.63	193	P	P	05 51 24.0	-0.4
MCHZ	McNeill Hill	15.65	190	P	P	05 51 24.3	-0.3
MCHZ	McNeill Hill	15.65	190	S	S	05 54 04.7	-1.7
KWHZ	Kaweka Forest	15.68	191	P	P	05 51 24.3	-0.5
KWHZ	Kaweka Forest	15.68	191	S	S	05 54 02.4	-4.5
FWVZ	Far West T-bar	15.68	193	P	P	05 51 24.1	-1.0
FWVZ	Far West T-bar	15.68	193	S	S	05 54 03.7	-3.5
WHVZ	Whangaehu Hut	15.70	193	P	P	05 51 24.7	-0.6
TRVZ	Turoa	15.72	193	P	P	05 51 23.8	-1.7
VRZ	Vera Road	15.74	196	P	P	05 51 20.1	-5.3
PKVZ	Pokaka	15.76	194	P	P	05 51 25.3	-0.3
MOVZ	Moawhango	15.79	193	P	P	05 51 24.3	-1.7
MOVZ	Moawhango	15.79	193	S	S	05 54 03.3	-5.6
BHHZ	Black Hill Sta	15.80	192	P	P	05 51 22.0	-4.2
BHHZ	Black Hill Sta	15.80	192	S	S	05 54 06.5	-2.7
CKHZ	Cape Kidnapper	15.81	189	P	P	05 51 23.5	-2.6
KRHZ	Kereru	15.90	191	P	P	05 51 25.3	-1.8
KRHZ	Kereru	15.90	191	S	S	05 54 06.5	-4.4
KAHZ	Kahuranaki	15.97	189	P	P	05 51 26.9	-0.9
KAHZ	Kahuranaki	15.97	189	S	S	05 54 09.2	-2.9
PKE	Pukeiti	16.00	198	P	P	05 51 31.2	+3.0
PREZ	Palmer Road	16.10	197	P	P	05 51 32.3	+3.1
LREZ	Lake Rotokare	16.14	196	P	P	05 51 32.8	+3.2
PNHZ	Pukenui	16.19	191	P	P	05 51 28.9	-1.2
PNHZ	Pukenui	16.19	191	S	S	05 54 11.4	-4.6
PXZ	Pawanui	16.20	189	P	P	05 51 28.5	-1.6
PXZ	Pawanui	16.20	189	S	S	05 54 14.6	-1.5
WAZ	Wanganui	16.28	194	P	P	05 51 31.3	+0.3
PRHZ	Porangahau	16.47	190	P	P	05 51 30.6	-2.3
DVHZ	Dannevirke	16.57	191	P	P	05 51 31.9	-2.0

ANWZ **Angora Road** 16.68 190 P P 05 51 32.6 -2.3
POWZ **Post Office Ro** 16.73 192 P P 05 51 34.2 -1.2
PRWZ **Pori Road** 16.86 191 P P 05 51 34.9 -1.8
BFZ **Birch Farm** 16.93 190 eP P 05 51 34.7 -2.7
23nm,0.6s
BFZ eS S 05 54 25.7 -2.9
BFZ **Birch Farm** 16.93 190 P P 05 51 35.0 -2.3
MRZ **Mangatainoka R** 17.03 192 P P 05 51 35.6 -2.7
TIWZ **Tintock** 17.09 191 P P 05 51 37.6 -1.2
OGWZ **Otaki Gorge** 17.26 193 P P 05 51 38.5 -2.0
HOWZ **Holdsworth Sta** 17.27 192 P P 05 51 37.9 -2.7
KIW **Kapiti Island** 17.36 193 P P 05 51 38.2 -3.2
TMWZ **Te Maipa** 17.41 191 P P 05 51 39.9 -2.0
MTW **Mount Morrison** 17.53 192 P P 05 51 39.9 -3.0
DUWZ **D'Urville Isla** 17.53 196 P P 05 51 41.5 -1.5
CAW **Cannon Point** 17.56 193 P P 05 51 41.9 -1.3
TRWZ **Traveller** 17.73 191 P P 05 51 43.2 -1.6
PAWZ **Paruwai Farm** 17.76 192 P P 05 51 42.2 -2.9
MSWZ **Moikau Station** 17.82 192 P P 05 51 43.3 -2.3
SNZO **South Karori** 17.83 194 eP P 05 51 44.1 -1.6
49nm,0.8s
SNZO eS S 05 54 40.1 -3.1
TCW **Tory Channel** 17.83 195 P P 05 51 43.9 -1.9
BHW **Baring Head** 17.89 193 P P 05 51 44.5 -1.7
QRZ **Quartz Range** 17.93 199 P P 05 51 46.3 -0.3
NNZ **Nelson** 18.06 197 P P 05 51 47.0 -0.8
TUWZ **Tuamarina** 18.12 195 P P 05 51 46.7 -1.6
THZ **Tophouse** 18.70 197 eP P 05 51 52.4 -1.3
41nm,1.2s
THZ eS S 05 54 55.8 -1.6
KHZ **Kahutara** 19.15 195 eP P 05 51 56.0 -1.7
24nm,0.8s
KHZ eS S 05 55 01.1 -3.5
LTZ **Lake Taylor** 19.82 197 eP P 05 52 02.0 -1.8
37nm,0.8s
CRLZ **Canterbury Las** 20.46 196 eP P 05 52 05.8 -3.9
47nm,1.4s
CRLZ eS S 05 55 25.1 -0.6
MQZ **McQueen's Vall** 20.58 196 eP P 05 52 08.9 -1.8
14nm,0.9s
MQZ eS S 05 55 26.5 -1.0
RPZ **Rata Peaks** 21.02 199 P P 05 52 12.8 -1.9
19nm,0.5s,baz=28,slow=1.7,SNR=16
RPZ S S 05 55 31.0 -3.5
5.0nm,0.6s,baz=180,slow=19,SNR=3.5
RPZ **Rata Peaks** 21.02 199 eP P 05 52 12.8 -1.9
20nm,0.5s
RPZ eS S 05 55 31.0 -3.5
FOZ **Fox Glacier** 21.24 201 eP P 05 52 15.5 -1.1
70nm,1.5s
FOZ eS S 05 55 38.5 +0.6
LBZ **Lake Benmore** 21.89 199 eP P 05 52 20.3 -2.3
19nm,1.3s
ODZ **Otahua Downs** 22.36 198 eP P 05 52 25.2 -1.5
4.6nm,1.0s
KNTN **Kanton** 22.54 22 eP P 05 52 26.7 -2.0
172nm,1.3s
WKZ **Wanaka** 22.65 201 eP P 05 52 27.6 -1.8
32nm,1.3s
MLZ **Mavora Lakes** 23.43 202 eP P 05 52 36.0 -0.4
9.3nm,0.7s
DCZ **Deep Cove** 23.85 203 eP P 05 52 40.0 0.0
40nm,1.3s
WHZ **Wether Hill Ro** 23.95 201 eP P 05 52 40.5 -0.4
30nm,0.5s
HNR **Honiara** 24.13 304 eP P 05 52 42.0 -0.9
139nm,1.0s
ARMA **Armidale** 26.11 250 eP P 05 53 02.0 +1.5
36nm,0.7s
TARA **Tarawa** 26.18 343 eP P 05 53 00.6 -0.5
130nm,1.0s
EIDS **Eidsvold** 26.43 261 eP P 05 53 03.8 +0.7
40nm,0.6s
PAE **Paea** 28.95 83 eP P 05 53 24.4 -0.9
8.2nm,1.1s
PPT2 **Papeete2** 28.97 83 eP P 05 53 25.1 -0.5
31nm,1.1s
PPTF **Pamatai, Papee** 28.98 83 eP P 05 53 25.9 +0.2
100nm,1.4s
TIAR **Tiarei** 29.19 83 eP P 05 53 27.0 -0.5
14nm,1.0s
CAN **Canberra** 29.20 240 eP P 05 53 28.5 +1.1
44nm,0.8s
TVO **Taravao** 29.21 84 eP P 05 53 26.8 -0.9
10nm,0.8s
PMOR **Pomariorio Ree** 31.37 79 eP P 05 53 45.3 -0.9
56nm,1.2s
VAH **Vaihoa** 31.52 80 eP P 05 53 46.5 -1.0
22nm,0.8s
CTA **Charters Tower** 31.61 270 P P 05 53 49.1 +0.8
128nm,0.4s,baz=94,slow=11,SNR=236
CTAO **Charters Tower** 31.61 270 eP P 05 53 49.1 +0.8
142nm,0.4s
TAU **Tasmania Unive** 32.95 227 eP P 05 54 00.3 +0.9
31nm,0.6s
PMG **Port Moresby** 34.66 289 P P 05 54 14.1 0.0
82nm,0.7s,baz=106,slow=7.3,SNR=28
PMG **Port Moresby** 34.66 289 eP P 05 54 14.2 +0.1
87nm,0.7s
STKA **Stephens Creek** 34.81 248 P P 05 54 15.8 +0.6
18nm,0.5s,baz=89,slow=8.2,SNR=39
STKA **Stephens Creek** 34.81 248 eP P 05 54 15.8 +0.6
4.1nm,0.6s
COEN **Coen** 36.27 279 eP P 05 54 27.9 +0.4
27nm,0.8s
BBOO **Buckleboo** 39.52 247 eP P 05 54 53.3 -0.6
41nm,0.5s
AS01 **Alice Springs** 42.11 261 eP P 05 55 14.2 -0.5
AS31 **Alice Springs** 42.15 261 eP P 05 55 15.1 +0.1
22nm,1.1s
ASAR **Alice Springs** 42.15 261 P P 05 55 14.9 -0.1
33nm,0.5s,baz=98,slow=7.0,SNR=312
ASAR PcP PcP 05 56 58.0 +0.4
3.4nm,0.7s,baz=92,slow=5.9,SNR=4.8
ASAR ScP ScP 06 00 02.1 +3.4
5.2nm,0.9s,baz=103,slow=3.9,SNR=15
ASAR S S 06 00 57.8 +0.4
0.8nm,0.8s,baz=97,slow=13,SNR=4.3
WC3 **Warramunga Arr** 42.50 266 eP P 05 55 17.4 -0.4
95nm,0.6s
WB2 **Warramunga Arr** 42.52 266 eP P 05 55 17.5 -0.4
WRAB **Tennant Creek** 42.53 266 eP P 05 55 17.5 -0.5
70nm,0.8s
WR1 **Warramunga Arr** 42.54 266 eP P 05 55 17.3 -0.7
105nm,0.7s
WR1 ePcP PcP 05 56 58.9 0.0
WRA **Warramunga Arr** 42.54 266 P P 05 55 17.3 -0.7
58nm,0.4s,baz=96,slow=8.3,SNR=606
WRA PcP PcP 05 56 58.9 0.0
3.0nm,0.7s,baz=101,slow=4.7,SNR=5.2
WRA ScP ScP 06 00 03.6 +3.4
4.8nm,1.0s,baz=95,slow=4.3,SNR=7.7
WRA S S 06 00 59.8 -3.1
2.2nm,1.1s,baz=98,slow=14,SNR=4.0
JAY **Jayapura** 43.69 293 P P 05 55 26.7 -0.4
337nm,0.7s,5μm
GENI **Genyem** 44.10 293 P P 05 55 29.9 -0.4
116nm,0.9s
FORT **Forrest** 46.40 250 eP P 05 55 47.1 -0.6
185nm,0.6s
MTN **Manton Dam** 47.60 274 eP P 05 55 56.0 -1.0
35nm,0.6s
BAKI **Biak** 48.28 291 P P 05 56 00.9 -1.2
KMPI **Kaimana, Papua** 49.12 287 P P 05 56 07.8 -0.5
HMH **Humu'ula Sheep** 49.44 31 eP P 05 56 11.2 +0.4
122nm,1.1s
POHA **Pohakuloa** 49.55 31 eP P 05 56 11.5 -0.1
62nm,0.9s
HPAH **Hawaii Prepara** 49.71 30 eP P 05 56 12.7 +0.2
79nm,0.7s
RKPI **Ransiki, Papua** 49.77 290 P P 05 56 11.4 -1.7
FAKI **Fak Fak** 50.75 287 P P 05 56 19.3 -1.0
FAKI **Fak Fak** 50.75 287 eP P 05 56 19.4 -0.9
49nm,1.2s
GUMO **Guam** 50.85 314 eP P 05 56 21.0 +0.1
120nm,1.3s
FITZ **Fitzroy Crossi** 50.96 266 P P 05 56 22.0 +0.3
41nm,0.6s,baz=180,slow=2.5,SNR=31
BNDI **Bandanaira** 52.07 284 P P 05 56 29.0 -0.9
SIJI **Sorong** 52.60 289 P P 05 56 33.6 -0.1
105nm,0.6s,baz=98,slow=6.5,SNR=29
MSAI **Masohi** 53.47 284 P P 05 56 39.0 -0.9
AAI **Ambon** 53.97 284 P P 05 56 41.0 -2.4
SBA **Scott Base** 54.27 183 eP P 05 56 47.2 +2.8
17nm,0.9s
VNDA **Vanda** 54.27 185 P P 05 56 46.2 +1.7
3.6nm,0.7s,baz=4.0,slow=8.1,SNR=24
VNDA PcP PcP 05 57 41.6 +1.0
1.9nm,0.6s,baz=342,slow=5.1,SNR=6.6
SOEI **Soe** 54.99 275 P P 05 56 48.8 -1.9
SOEI **Soe** 54.99 275 eP P 05 56 51.5 +0.8
81nm,0.7s
NLAI **Namlea** 55.15 284 P P 05 56 49.9 -1.8
NWAO **Narrogin (SRO)** 55.31 246 eP P 05 56 52.0 -0.6
31nm,1.4s
BATI **Baumata** 55.37 274 P P 05 56 54.9 +1.6
94nm,0.7s,baz=137,slow=9.6,SNR=7.5
MBWA **Marble Bar** 55.49 260 eP P 05 56 53.5 -0.5
33nm,0.8s
LBMI **Labuha** 56.00 286 P P 05 56 55.5 -2.1
SANI **Sanana** 56.67 284 P P 05 57 01.1 -1.2
BBSI **Bau Bau** 58.23 279 P P 05 57 11.1 -1.8
WSI **Waingapu** 58.65 273 P P 05 57 13.2 -2.5
450nm,0.7s
KDI **Kendari** 58.84 280 P P 05 57 15.6 -1.4
WBSI **Waikabubak, Su** 59.48 273 P P 05 57 18.8 -2.6
KMSI **Cibinong** 59.67 286 P P 05 57 21.2 -1.3
BSSI **Bau Bau, Buton** 59.85 277 P P 05 57 21.8 -2.0
BNSI **Bone** 60.91 279 P P 05 57 28.8 -2.0
APSI **Ampana** 61.05 283 P P 05 57 29.8 -1.9
PLAI **Plampang** 61.27 273 P P 05 57 31.0 -2.1
JAGI **Jajag, Banyuwa** 64.71 272 eP P 05 57 54.4 -0.9
46nm,1.0s
QSPA **South Pole Qui** 66.06 180 P P 05 58 04.4 +1.4
19nm,0.8s,baz=21,slow=1.4,SNR=40
UGM **Wanagama** 68.24 271 eP P 05 58 17.0 -0.2
54nm,0.5s
SMRI **Semarang** 68.65 272 eP P 05 58 20.3 +0.6
50nm,0.5s
CISI **Cisompet, Garu** 70.86 270 eP P 05 58 32.0 -1.0
38nm,0.6s
JOW **Kunigami** 71.17 312 P P 05 58 35.1 +0.7
17nm,0.4s,baz=146,slow=11,SNR=8.1
JOW **Kunigami** 71.17 312 eP P 05 58 35.2 +0.7
79nm,1.3s
MJAR **Matsushiro Arr** 72.08 326 P P 05 58 38.9 -0.7
2.8nm,0.8s,baz=172,slow=6.2,SNR=9.8
MAJO **Matsushiro** 72.08 326 eP P 05 58 38.9 -0.7
MAT **Matsushiro** 72.08 326 P P 05 58 39.8 +0.3
KSM **Kuching** 72.26 280 eP P 05 58 41.2 +0.1
39nm,0.7s
MAW **Mawson** 77.69 200 P P 05 59 11.6 +1.1
12nm,0.6s,baz=134,slow=4.4,SNR=44
MAW **Mawson** 77.69 200 eP P 05 59 11.3 +0.9
7.3nm,1.3s
KSRS **Korea Array** 78.43 320 P P 05 59 15.9 +1.0
3.6nm,0.7s,baz=136,slow=5.8,SNR=13
KS01 **Wonju Array Si** 78.46 320 eP P 05 59 15.9 +0.8
PETK **Petropavlovsk-** 79.25 346 P P 05 59 19.7 +0.8
1.3nm,0.6s,baz=111,slow=6.9,SNR=4.0
PEA1 **Petropavlovsk-** 79.25 346 eP P 05 59 19.7 +0.8
NJ2 **Nanjing** 80.84 311 eP P 05 59 28.0 +0.2
NJ2 pmax pmax
comp=Z,13nm,0.5s
USRK **Ussuriysk Ar.** 80.94 327 P P 05 59 29.0 +1.0
comp=Z,3.4nm,0.5s,baz=133,slow=5.4,SNR=9.8
IPM **Ipoh** 81.92 279 eP P 05 59 34.0 +0.3
comp=Z,22nm,0.6s
ARVC **Arvin** 82.46 46 P P 05 59 37.0 +1.0
baz=234
KMRM **Mail Ridge** 82.55 40 eP P 05 59 38.1 +1.7
comp=Z,16nm,1.0s
MURC **Murrieta** 82.67 48 P P 05 59 38.0 +0.8
baz=235
VES **Vestal, Richgr** 82.71 46 P P 05 59 37.8 +0.5
baz=233,SNR=5.0
BFSC **Mount Baldy Ra** 82.72 48 P P 05 59 38.2 +0.7
baz=234
MONP2 **Monument Peak** 82.80 49 P P 05 59 39.3 +1.3
baz=235
EDW2 **Edwards Air Fo** 82.87 47 P P 05 59 39.1 +0.9
baz=234
IKP **In-Ko-Pah, Jac** 82.88 50 P P 05 59 39.3 +1.0
baz=236
ISA **Isabella, Lake** 83.01 46 P P 05 59 39.9 +1.0
baz=234,SNR=7.9
ISA **Isabella, Lake** 83.01 46 eP P 05 59 39.7 +0.9
comp=Z,8.9nm,0.8s
PSI **Prapat** 83.13 276 eP P 05 59 39.1 -0.9
comp=Z,12nm,0.8s
PFO **Pinyon Flats O** 83.18 49 P P 05 59 40.8 +1.0
baz=235
CMB **Columbia Colle** 83.19 43 eP P 05 59 40.5 +0.8
comp=Z,9.2nm,0.9s
SWSC **Sam W. Stewart** 83.26 50 P P 05 59 41.2 +1.2
baz=236,SNR=5.1
AFDM **Forest Hills D** 83.39 42 eP P 05 59 41.2 +0.6
comp=Z,7.3nm,0.9s
LRMC **Laurel Mtn Rad** 83.42 47 P P 05 59 42.0 +1.0
baz=234
ORV **Oroville** 83.44 41 eP P 05 59 41.7 +0.8
comp=Z,7.7nm,0.9s
WDC **Whiskeytown Da** 83.46 40 eP P 05 59 42.0 +1.1
comp=Z,12nm,1.1s
N02D **Trinity Center** 83.61 40 P P 05 59 43.3 +1.6
baz=230
BELC **Belle Mtn. Jos** 83.72 49 P P 05 59 43.7 +1.2
baz=236,SNR=5.4
CWC **Cottonwood Cre** 83.72 46 P P 05 59 43.2 +0.7
baz=234
O03D **Paynes Creek** 83.72 41 P P 05 59 42.8 +0.5
baz=231,SNR=7.8
MDPB **Devils Postpil** 83.78 44 eP P 05 59 44.0 +1.1
comp=Z,7.4nm,1.1s
M02C **Callahan** 83.79 39 P P 05 59 44.2 +1.6
baz=230,SNR=5.5
OMMB **Old Mammoth Mi** 83.82 44 eP P 05 59 44.3 +1.1
comp=Z,7.0nm,1.4s
L02D **Cave Junction,** 83.85 38 P P 05 59 44.1 +1.3
baz=230
MPMC **Manual Prospec** 83.89 46 P P 05 59 44.4 +1.0
baz=234
BC3 **Big Chuckawall** 83.90 49 P P 05 59 44.4 +1.1
baz=236
GSC **Goldstone, Bar** 83.91 47 P P 05 59 44.3 +0.9
baz=235,SNR=5.0
GSC **Goldstone, Bar** 83.91 47 eP P 05 59 44.2 +0.8
comp=Z,6.9nm,0.8s
HEC **Hector,Ludlow** 83.95 48 P P 05 59 44.4 +0.9
baz=235,SNR=5.6
TIN **Tinemaha, Big** 83.98 45 P P 05 59 45.4 +1.7
baz=234
GLA **Glamis** 84.00 50 P P 05 59 45.5 +1.7
baz=236
GLA **Glamis** 84.00 50 eP P 05 59 44.1 +0.3
comp=Z,8.5nm,0.8s
CN2 **Changchun** 84.07 324 ⇓P P 05 59 47.0 +3.2
CN2 pmax pmax
comp=Z,10.0nm,0.8s
WAKR **Walker** 84.07 43 eP P 05 59 45.4 +1.1
comp=Z,6.6nm,1.0s
YBH **Yreka Blue Hor** 84.09 39 P P 05 59 45.6 +1.5
comp=Z,3.5nm,0.8s,baz=244,slow=3.0,SNR=12
BEKR **Beckworth** 84.33 42 eP P 05 59 46.0 +0.6
comp=Z,2.4nm,0.8s
GMRC **Granite Mounta** 84.39 48 P P 05 59 46.6 +0.8
baz=236,SNR=5.1
IRM **Iron Mountain** 84.39 49 P P 05 59 47.0 +1.3
baz=236,SNR=8.2
TIA **Tai'an** 84.42 314 P P 05 59 47.1 +1.4
TIA pmax pmax
comp=Z,18nm,0.8s
VCNR **Virginia City** 84.42 43 eP P 05 59 45.3 -0.7
comp=Z,4.4nm,1.1s
YERR **Yerington** 84.48 43 eP P 05 59 46.9 +0.7
comp=Z,3.9nm,0.8s
HUMO **Hull Mountain** 84.51 38 eP P 05 59 47.3 +1.3
comp=Z,12nm,1.3s
GRAC **Grapevine Rang** 84.51 46 P P 05 59 47.7 +1.4
baz=234
SNAA **Sanae** 84.54 179 P P 05 59 45.7 -0.2
SNAA **Sanae** 84.54 179 P P 05 59 45.8 -0.2
comp=Z,2.8nm,0.5s,baz=206,slow=9.4,SNR=45
SNAA **Sanae** 84.54 179 eP P 05 59 45.5 -0.4
comp=Z,14nm,1.5s
TUQ **Turquoise Moun** 84.57 47 P P 05 59 47.9 +1.2
baz=235
Y12C **Blythe** 84.59 50 P P 05 59 47.8 +1.1
baz=236
M04C **Macdoel** 84.63 40 P P 05 59 47.6 +0.8
baz=231
HSIG 84.67 55 eP P 05 59 48.3 +1.2
comp=Z,12nm,0.9s
KLR **Kul'dur** 84.70 331 P P 05 59 47.7 +0.9
comp=Z,0.1nm,0.4s,baz=194,slow=1.8,SNR=4.5
RYN **Ryan** 84.72 44 eP P 05 59 48.0 +0.6
comp=Z,2.9nm,0.9s
NV01 **Mina Array Sit** 84.74 44 eP P 05 59 48.2 +0.6
NVAR **Mina Array Bea** 84.74 44 P P 05 59 48.2 +0.7
comp=Z,2.7nm,0.8s,baz=226,slow=7.8,SNR=20
VNA3 **Neumayer Olymp** 84.75 177 P P 05 59 46.7 -0.1
PAHR **Pah Rah Range** 84.83 42 eP P 05 59 48.7 +0.8
comp=Z,4.4nm,0.8s
214A **Organ Pipe Nat** 84.83 52 P P 05 59 49.2 +1.3
baz=238
NV11 **Mina Array Sit** 84.84 44 eP P 05 59 48.5 +0.6
comp=Z,0.3nm,1.1s
LDFC **Landfair** 84.92 48 eP P 05 59 49.9 +1.5
comp=Z,17nm,0.8s
I03D **Drain, OR** 84.99 37 P P 05 59 49.8 +1.5
baz=230
NEE2 **Needles Airpor** 85.09 49 P P 05 59 50.4 +1.4
baz=236
PDMCI **Parker Dam,Lak** 85.16 49 P P 05 59 50.5 +1.1
baz=237,SNR=6.8
VNA2 **Neumayer--Watz** 85.17 178 P P 05 59 49.0 +0.1
baz=185,slow=3.2
TPNV **Topopah Spring** 85.21 46 P P 05 59 50.7 +0.8
baz=235,SNR=7.4
TPNV **Topopah Spring** 85.21 46 eP P 05 59 50.6 +0.8
comp=Z,4.5nm,0.6s
KVN **Kaiserville** 85.24 43 eP P 05 59 50.4 +0.4
comp=Z,3.9nm,0.9s
J04D **Umpqua Nationa** 85.39 38 P P 05 59 51.9 +1.4
baz=231
VNA1 **Neumayer--Stat** 85.40 177 P P 05 59 49.7 -0.2
I04A **Tendick Farm,** 85.57 38 P P 05 59 52.8 +1.6
baz=230
MOD **Modoc Plateau** 85.61 40 eP P 05 59 52.3 +0.7
comp=Z,4.1nm,0.9s
SHPR **Sheep Range** 85.69 47 eP P 05 59 53.1 +1.0
comp=Z,2.2nm,0.8s
Y14A **Wickenburg** 85.76 50 eP P 05 59 53.3 +0.9
comp=Z,3.0nm,0.8s
K05A **Summer Lake** 85.77 39 eP P 05 59 53.6 +1.2
comp=Z,13nm,1.0s
W13A **Hualapai Mount** 85.77 49 eP P 05 59 53.8 +1.1
comp=Z,8.9nm,1.5s
J05D **Fort Rock, OR** 85.92 39 P P 05 59 54.4 +1.4
baz=231
CHAI **Chaiyaphum** 85.97 289 P P 05 59 55.4 +1.7
comp=Z,3.1nm,0.9s
PINE **Pine Mountain** 86.40 38 eP P 05 59 56.6 +1.2
comp=Z,9.8nm,1.0s
R11A **Troy Canyon, C** 86.44 45 P P 05 59 56.6 +1.0
baz=236
TUC **Tucson** 86.48 52 P P 05 59 57.6 +1.8
baz=239
TUC **Tucson** 86.48 52 eP P 05 59 57.8 +1.9
comp=Z,10nm,0.8s
I05D **Terrebonne, OR** 86.51 38 P P 05 59 57.0 +1.3
baz=231
ENH **Enshi** 86.62 305 eP P 05 59 57.5 +1.0
comp=Z,12nm,0.8s
PHET **Kaeng Krachan** 86.73 286 P P 05 59 59.6 +2.3
comp=Z,12nm,0.9s
WVOR **Wild Horse Val** 86.91 41 eP P 05 59 58.6 +0.9
comp=Z,9.3nm,1.1s
319A **Douglas** 87.11 54 eP P 06 00 00.3 +1.4
comp=Z,24nm,1.3s
X16A **Lo Mia Camp, P** 87.11 50 eP P 05 59 58.9 0.0
comp=Z,5.2nm,1.0s
PBKT **Sadao Pong** 87.14 289 P P 05 59 59.8 +0.6
comp=Z,10nm,1.0s
LCMT **Little Creek M** 87.25 47 eP P 06 00 00.3 +0.8
comp=Z,4.2nm,0.9s
I07A **Izee** 87.40 39 eP P 06 00 01.6 +1.6
comp=Z,8.1nm,1.0s
CCUT **Cedar City** 87.46 47 eP P 06 00 01.9 +1.3
comp=Z,3.9nm,0.9s
KNB **Kanab** 87.54 48 eP P 06 00 02.0 +1.2
comp=Z,4.4nm,0.9s
J08A **Circle Bar Ran** 87.56 40 eP P 06 00 01.8 +1.1
comp=Z,21nm,1.3s
U15A **North Rim** 87.58 48 eP P 06 00 02.6 +1.4
comp=Z,6.6nm,0.9s
HPIG 87.70 59 eP P 06 00 02.5 +0.6
comp=Z,5.5nm,1.0s
SRDT **SRDT** 87.79 287 P P 06 00 03.6 +1.3
comp=Z,19nm,1.1s
PHIT **Phitsanulok** 87.89 290 P P 06 00 04.5 +1.8
comp=Z,14nm,0.8s
D05A **Enumclaw** 87.95 35 eP P 06 00 03.5 +1.2
comp=Z,17nm,1.0s
PKCU **Pink Cliffs** 88.11 47 eP P 06 00 05.9 +2.2
comp=Z,4.1nm,0.8s
PGC **Sidney** 88.13 34 eP P 06 00 04.0 +1.0
comp=Z,12nm,0.9s
NANT **Nan** 88.34 291 P P 06 00 06.8 +2.0
comp=Z,4.2nm,0.9s
G08A **Pilot Rock** 88.44 38 eP P 06 00 05.7 +0.9
comp=Z,19nm,1.4s
MTPU **Mount Pierson** 88.51 47 eP P 06 00 07.2 +1.5
comp=Z,4.8nm,0.8s
A04D **Lummi Island** 88.55 34 P P 06 00 06.6 +1.6
baz=230
B05A **Bryant** 88.58 34 P P 06 00 06.6 +1.4
baz=231
W18A **Petrified Fore** 88.67 50 P P 06 00 07.5 +1.3
baz=239
MSU **Marysvale** 88.77 47 eP P 06 00 08.0 +1.3
121A **Cookes Peak, D** 88.78 53 P P 06 00 08.2 +1.4
baz=240
XAN **Xi'an** 88.92 308 P P 06 00 08.1 +0.9
XAN pmax pmax
comp=Z,13nm,0.7s
XAN pmax pmax
comp=Z,70nm,5.8s
MFID **Camas Ranch** 89.16 41 eP P 06 00 09.4 +1.2
comp=Z,7.5nm,0.9s
DUG **Dugway, Tooele** 89.25 45 P P 06 00 10.0 +1.2
baz=237
Q16A **Castle Valley** 89.65 47 eP P 06 00 11.4 +0.7
comp=Z,4.3nm,0.8s
CM31 **Chiang Mai Arr** 89.70 290 eP P 06 00 12.9 +1.8
CMAR **Chiang Mai Arr** 89.70 290 P P 06 00 12.8 +1.7
comp=Z,6.8nm,0.8s,baz=137,slow=3.3,SNR=39
CMAR PP PP 06 03 53.1 +0.3
comp=Z,1.6nm,1.1s,baz=124,slow=6.8,SNR=7.8
F10A **Beach Ranch, E** 89.82 38 eP P 06 00 11.4 +0.3
comp=Z,4.1nm,0.8s
TMUT **Trail Mountain** 89.82 46 eP P 06 00 12.9 +1.3
comp=Z,11nm,0.7s
CMMT **Chiang Mai** 89.84 291 P P 06 00 12.3 +0.5
comp=Z,15nm,0.9s
CHTO **Chiang Mai** 89.85 291 eP P 06 00 13.3 +1.5
comp=Z,13nm,0.9s
MPU **Maple Canyon** 89.92 45 eP P 06 00 12.9 +1.0
comp=Z,3.6nm,0.9s
HLID **Hailey** 90.09 41 P P 06 00 13.9 +1.3
baz=236
HLID **Hailey** 90.09 41 eP P 06 00 13.6 +1.0
comp=Z,5.2nm,1.0s
HVU **Hansel Valley** 90.13 44 eP P 06 00 13.5 +0.7
comp=Z,5.4nm,0.7s
MNTX **Cornudas Mount** 90.17 55 P P 06 00 14.2 +1.2
baz=242
MNTX **Cornudas Mount** 90.17 55 eP P 06 00 13.5 +0.5
comp=Z,2.9nm,0.7s
SRU **San Rafael Swe** 90.18 47 eP P 06 00 14.2 +1.0
comp=Z,9.0nm,0.9s
CTU **Camp Tracy** 90.20 45 eP P 06 00 14.1 +0.9
comp=Z,6.7nm,0.9s
P17A **Butcher Ranch,** 90.22 46 eP P 06 00 14.2 +0.8
comp=Z,6.1nm,1.0s
CMAI **Chiengmai2** 90.24 292 P P 06 00 15.3 +1.5
LTX **Lajitas** 90.38 58 eP P 06 00 15.3 +1.1
TX31 **Lajitas Ar. Si** 90.38 58 eP P 06 00 15.0 +0.8
TXAR **Lajitas Array** 90.38 58 P P 06 00 15.3 +1.1
comp=Z,3.6nm,0.7s,baz=213,slow=6.7,SNR=36
HHC **Hu-ho-hao-te** 90.60 315 eP P 06 00 17.3 +2.4
HHC sP sP 06 03 06.6 +4.5
HHC PP PP 06 04 00.8 +1.2
HHC **Hu-ho-hao-te** 90.60 315 S S 06 10 22.6 -3.8
HHC pmax pmax
comp=Z,35nm,1.4s
HHC pmax pmax
comp=Z,110nm,8.3s
P18A **Preston Nutter** 90.63 46 eP P 06 00 16.0 +0.7
comp=Z,3.3nm,0.9s
TCUT **Toone Canyon** 90.65 45 eP P 06 00 16.5 +1.2

	comp=Z,13nm,0.8s							
HWUT	Hardware Ranch	90.81	44	*e*P		P	06 00 16.3	+0.3
	comp=Z,4.4nm,0.6s							
ANMO	Albuquerque	90.92	52	P		P	06 00 17.6	+0.9
	baz=241							
ANMO	Albuquerque	90.92	52	*e*P		P	06 00 17.5	+0.9
	comp=Z,4.9nm,1.3s							
CD2	Chengdu	91.26	303	P		P	06 00 19.5	+1.4
CD2				pmax		pmax		
	comp=Z,30nm,0.5s							
CD2				pmax		pmax		
	comp=Z,220nm,5.0s							
S22A	4UR Ranch, Cre	92.01	49	P		P	06 00 22.7	+0.9
	baz=241							
S22A	4UR Ranch, Cre	92.01	49	*e*P		P	06 00 22.6	+0.9
	comp=Z,3.4nm,1.0s							
ILAR	Eielson Array	92.12	13	P		P	06 00 19.7	-1.5
	comp=Z,0.3nm,0.6s,baz=218,slow=5.5,SNR=5.5							
REDW	Red Top Meadow	92.17	43	*e*P		P	06 00 23.3	+1.0
	comp=Z,6.0nm,1.2s							
O20A	White River Ci	92.22	47	P		P	06 00 23.3	+0.7
	baz=240							
SNOW	Snow King Moun	92.29	43	*e*P		P	06 00 24.2	+1.4
	comp=Z,2.2nm,0.8s							
IMW	Indian Meadow	92.40	42	*e*P		P	06 00 24.2	+0.8
	comp=Z,2.2nm,1.4s							
SMCO	Snowmass	92.60	48	*e*P		P	06 00 25.2	+0.6
	comp=Z,7.7nm,1.4s							
PD31	Pinedale Array	92.68	44	*e*P		P	06 00 25.1	+0.5
PDAR	Pinedale Array	92.68	44	P		P	06 00 24.5	-0.1
	comp=Z,1.6nm,0.7s,baz=209,slow=3.5,SNR=17							
PDAR	Pinedale Array	92.68	44	*e*P		P	06 00 24.9	+0.2
BOZ	Bozeman (W)	92.87	41	P		P	06 00 26.2	+0.9
	baz=238							
SDCO	Great Sand Dun	92.93	50	P		P	06 00 26.6	+0.7
	baz=242							
SDCO	Great Sand Dun	92.93	50	*e*P		P	06 00 26.6	+0.7
	comp=Z,1.6nm,0.8s							
MSTX	Muleshoe	93.16	54	P		P	06 00 27.7	+0.8
	baz=243							
JCT	Junction City	93.89	58	P		P	06 00 31.0	+0.8
	baz=244							
RLMT	Red Lodge	94.05	42	P		P	06 00 31.8	+1.0
	baz=240							
F38A	Pierce - Schro	105.51	46	P		PKiKP	06 05 32.9	+1.1
	baz=251							
Y49A	Blount Mountai	105.67	60	P		PKiKP	06 05 33.1	+0.6
	baz=251							
452A	Marianna	105.69	63	P		PKiKP	06 05 32.9	+0.3
	baz=251							
U47A	Clarksville	105.80	57	P		PKiKP	06 05 33.4	+0.8
	baz=252							
553A	Crawfordville	106.10	64	P		PKiKP	06 05 34.0	+0.6
	baz=251							
L43A	Garden Prairie	106.50	51	P		PKiKP	06 05 35.0	+1.2
	baz=252							
N44A	Piper City	106.51	52	P		PKiKP	06 05 34.8	+0.9
	baz=252							
655A	Horseshoe Beac	106.85	65	P		PKiKP	06 05 35.4	+0.5
	baz=252							
058A	Arcadia	107.29	68	P		PKiKP	06 05 36.7	+1.0
	baz=251							
F41A	Three Lakes	107.29	47	P		PKiKP	06 05 36.6	+1.4
	baz=253							
MK32	Makanchi Array	112.34	313	*e*PKiKP		PKiKP	06 05 43.7	-1.0
MKAR	Makanchi Array	112.34	313	PKiKP		PKiKP	06 05 43.7	-1.0
	comp=Z,0.5nm,0.5s,baz=173,slow=1.1,SNR=7.9							
KURK	Kurchatov	115.38	316	*e*PKPdf		PKPdf	06 05 49.9	-0.4
KURBB	Kurchatov Arra	115.43	316	PKP		PKPdf	06 05 49.9	-0.5
	comp=Z,1.1nm,0.5s,baz=104,slow=2.0,SNR=11							
AAK	Ala-Archa	117.08	307	PKP		PKPdf	06 05 53.0	-1.1
	comp=Z,1.1nm,0.5s,baz=200,slow=19,SNR=3.8							
KK31	Karatay Array	120.05	307	*e*PKPdf		PKPdf	06 05 59.4	-0.2
KKAR	Karatay Array	120.05	307	*e*PKPdf		PKPdf	06 05 59.4	-0.2
BVAR	Borovoye Array	120.62	319	PKP		PKPdf	06 05 59.9	-0.5
	comp=Z,1.8nm,0.4s,baz=150,slow=2.7,SNR=11							
ARU	Arti	127.06	324	PKP		PKPdf	06 06 12.8	+0.2
	comp=Z,1.9nm,0.3s,baz=90,slow=5.1,SNR=5.6							
AKTO	Aktyubinsk	128.48	316	PKP		PKPdf	06 06 15.9	+0.3
	comp=Z,2.2nm,0.6s,baz=63,slow=4.5,SNR=6.5							
ARA0	ARCESS Array S	132.03	348	*e*PKPdf		PKPdf	06 06 21.4	-0.3
ARCES	ARCESS Array B	132.03	348	PKP		PKPdf	06 06 21.4	-0.3
	comp=Z,3.7nm,0.8s,baz=29,slow=2.8,SNR=11							
ARCES				SKPbc		SKPab	06 09 00.7	-0.3
	comp=Z,6.0nm,0.8s,baz=35,slow=3.3,SNR=8.8							
KLMR	Klimovskoe	134.35	334	*e*PP		PP	06 09 05.9	+0.2
KLMR				AMP			06 09 08.4	
	comp=Z,7.0nm,1.2s							
FIA0	FINESS Array S	138.60	341	*e*PKPpre		PKPpre	06 06 25.6	
FIA0				*e*PKPdf		sPdif	06 06 35.3	-0.8
FINES	FINESS Array B	138.60	341	PKhKP		PKPpre	06 06 25.6	
	comp=Z,0.8nm,0.5s,baz=72,slow=4.5,SNR=6.9							
FINES				PKP		sPdif	06 06 35.3	-0.8
	comp=Z,1.2nm,0.5s,baz=87,slow=2.7,SNR=8.4							
FINES				SKPbc		SKPbc	06 09 21.0	+1.1
	comp=Z,3.3nm,0.6s,baz=50,slow=4.3,SNR=12							
NB2	NORSAR Subarra	142.22	351	PKP		SKPbc	06 09 31.2	+1.8
	comp=Z,0.8nm,0.7s,baz=16,slow=2.7							
NB200	NORSAR Array S	142.22	351	*e*PKPpre		PKPpre	06 06 37.8	
NOA	NORSAR Array B	142.22	351	PKhKP		PKPpre	06 06 37.8	
	comp=Z,0.4nm,0.6s,baz=23,slow=4.5,SNR=3.1							
NOA				SKPbc		SKiKP	06 09 30.5	-0.2
	comp=Z,1.4nm,0.8s,baz=14,slow=4.2,SNR=3.9							
HFS	Hagfors	142.69	349	PKhKP		PKPpre	06 06 38.2	
	comp=Z,5.2nm,0.4s,baz=64,slow=3.4,SNR=46							
AKASG	Malin Array Be	145.15	327	PKPbc		PKPdf	06 06 46.2	+0.2
	comp=Z,3.1nm,0.3s,baz=44,slow=4.2,SNR=33							
AKASG				SKPbc		SKiKP	06 09 38.1	+1.1
	comp=Z,2.3nm,0.6s,baz=43,slow=2.9,SNR=6.8							
AKBB	Malin Array Si	145.15	327	*e*PKPdf		PKPdf	06 06 46.4	+0.3
AKBB				*e*PKPbc		PKPab	06 06 47.6	-0.3
KIEV	Kiev	145.16	327	*e*PKPdf		PKPdf	06 06 46.4	+0.3
KIEV				*e*PKPbc		PKPab	06 06 47.6	-0.3
AK11	Malin Array Si	145.19	327	*e*PKPdf		PKPdf	06 06 46.4	+0.3
AK11				*e*PKPbc		PKPab	06 06 48.1	+0.1
SUW	Suwalki	145.43	336	*e*PKP		PKPbc	06 06 47.5	-0.1
ASF	Jabal al Asfar	146.71	292	PKPbc		PKPbc	06 06 53.1	+1.0
	comp=Z,4.1nm,0.6s,baz=53,slow=4.0,SNR=8.7							
SORM	Soroca	147.18	324	*i* P		PKPbc	06 06 52.5	-0.1
ILGA	Ilgaz	147.25	309	*e*PKPbc		PKPbc	06 06 54.5	+1.1
BR101	Keskin Array S	147.76	307	*e*PKPbc		PKPbc	06 06 54.5	-0.2
BR101				*e*PKPab		PKPab	06 06 59.5	+0.6
BR131	Keskin Array S	147.76	307	*e*PKPbc		PKPbc	06 06 54.6	0.0
BR131				*e*PKPab		PKPab	06 06 59.3	+0.4
BRTR	Keskin Array B	147.76	307	PKPbc		PKPbc	06 06 54.5	-0.2
	comp=Z,3.5nm,0.7s,baz=142,slow=4.0,SNR=18							
BRTR				PKPab		PKPab	06 06 59.5	+0.6
	comp=Z,5.9nm,0.6s,baz=85,slow=3.3,SNR=21							
MMAI	Mount Meron Ar	147.88	294	PKPbc		PKPbc	06 06 55.9	+0.9
	comp=Z,17nm,0.5s,baz=77,slow=4.8,SNR=22							
ANTO	Ankara	148.33	308	*i* P		PKPbc	06 06 56.2	+0.2
ANTO	Ankara	148.33	308	*e*PKPbc		PKPbc	06 06 56.4	+0.4
ANTO				*e*PKPab		PKPab	06 07 02.0	+0.9
BR231	Keskin MP Arra	148.35	308	*e*PKPdf		PKPbc	06 06 55.2	-0.9
BR231				*e*PKPbc		PKPab	06 06 59.9	-1.4
EIL	Elat	148.52	288	PKPab		PKPab	06 07 02.9	+0.7
	comp=Z,10.0nm,0.6s,baz=347,slow=5.5,SNR=9.2							
TLCR		148.61	319	*i* P		PKPbc	06 06 57.0	+0.6
EKA	Eskdalemuir Ar	148.63	4	PKPbc		PKPbc	06 06 55.3	-0.8
	comp=Z,0.6nm,0.3s,baz=347,slow=3.0,SNR=12							
KWP	Kalwaria Pacla	148.94	331	*e*PKP		PKPbc	06 06 57.5	+0.4
KWP	Kalwaria Pacla	148.94	331	*e*PKPbc		PKPbc	06 06 57.2	+0.1
KWP				*e*PKPab		PKPab	06 07 02.0	-1.2
CFR	Carcaliu	149.01	320	*i* P		PKPbc	06 06 57.8	+0.4
TESR	Tescani	149.09	323	*i* P		PKPbc	06 06 57.0	-0.5
BUR08	Bucovina Ar. S	149.14	326	*e*PKPbc		PKPbc	06 06 58.1	+0.3
BUR04	Bucovina Ar. S	149.15	326	*e*PKPbc		PKPbc	06 06 58.6	+0.9
BURAR	Bucovina Array	149.15	326	*i* P		PKPbc	06 06 59.1	+1.3
TIRR	Tirgusor	149.24	318	*i* P		PKPbc	06 06 58.0	+0.1
HARR	Harsova	149.40	319	*i* P		PKPbc	06 06 58.9	+0.6
OJC	Ojcow	149.70	335	*e*PKP		PKPbc	06 06 59.4	+0.5
STHS	Stebnicka Huta	149.74	332	*e*PKP		PKPbc	06 06 59.9	+0.9
MLR	Muntele Rosu	150.09	322	PKPbc		PKPbc	06 06 60.0	-0.1
	comp=Z,0.7nm,0.6s,baz=298,slow=8.1,SNR=7.5							
MLR	Muntele Rosu	150.09	322	*i* P		PKPbc	06 06 59.9	-0.2
NIE	Niedzica	150.13	333	*e*PKP		PKPbc	06 07 00.9	+1.0
KSP	Ksiaz	150.45	339	*e*PKP		PKPbc	06 07 01.4	+0.8
CJR	Cluj-Napoca	150.57	326	*i* P		PKPbc	06 07 01.5	+0.4
LANS	Liptovska Anna	150.68	334	*e*PKP		PKPbc	06 07 02.8	+1.5
SGRR	Singureni	150.82	320	*i* P		PKPdf	06 06 54.4	-1.1
ARR	Arges	150.90	323	*i* P		PKPbc	06 07 03.2	+1.3
DRGR		150.96	327	*i* P		PKPbc	06 07 02.1	+0.1
CLL	Collm	151.01	343	*i* PKPbc		PKPbc	06 07 02.3	+0.4
	comp=Z,9.0nm,0.7s							
BRG	Berggiesshubel	151.14	342	*i* PKP		PKPbc	06 07 02.6	+0.4
	comp=Z,6.6nm,0.5s							
BZS	Buzias	152.33	326	*i* P		PKPbc	06 07 04.8	-0.2
GEC2	GERESS Array S	153.02	340	*e*PKPbc		PKPbc	06 07 06.4	-0.1
GERES	GERESS Array B	153.02	340	PKPbc		PKPbc	06 07 06.4	-0.1
	comp=Z,0.3nm,0.2s,baz=27,slow=2.6,SNR=4.4							
VTS	Vitosha	153.41	320	*e*PKPdf		PKPdf	06 07 01.0	+1.4
VTS				*e*PKPbc		PKPbc	06 07 07.7	+0.1
VTS				*e*PKPab		PKPab	06 07 23.9	+1.4
VISS	Visnje	155.23	335	*e*PKPbc		PKPab	06 07 28.3	-1.7
BOJS	Bojanci	155.32	334	*i* PKPbc		PKPab	06 07 27.3	-3.0
JAVS	Javornik	155.45	336	*e*PKPbc		PKPab	06 07 27.2	-3.8

*ISCJB **16** 06:08:13.4±0.4, 61°.45N±0°.02×147°.96W±0°.03, h22km±4km, mb3.4/1, Error ellipse: s-maj=3.2km s-min=2.6km az=11.3*
*NEIC **16** 06:08:14.0±0.0, 61°.47N×147°.99W, h15km, ML3.4(AEIC), After AEIC.*
NEIC Felt [II] at Palmer. Also felt at Anchorage and Sterling.
*IDC **16** 06:08:20.8±2.4, 62°.04N×147°.57W, h0km, mb3.4/1, mb1 3.3/3, mb1mx3.1/77, mbtmp3.1/3, ML2.9/2, Error ellipse: s-maj=28.0km s-min=24.0km az=46.0*

ISC 16 06:08:13.3±1.1, 61°.45N±0°.02×147°.98W±0°.02, h14km±9km, n54, σ0s98/92, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SML	Sawmill	0.39	335	*e*Pg	Pb	06 08 22.3	+0.2
SML				*e*Sg	Sb	06 08 28.1	+0.1
SCM	Sheep Creek Mo	0.49	39	*e*Pg	Pg	06 08 23.8	+0.7
SCM				*e*Sg	Sg	06 08 29.7	0.0
GHO	Glory Hole Cre	0.55	306	*e*Pg	Pb	06 08 24.6	-0.2
GHO				*e*Sg	Sb	06 08 32.4	-0.2
PMR	Palmer	0.57	285	*e*Pg	Pb	06 08 24.8	-0.2
PMR				*e*Sg	Sb	06 08 32.5	-0.4
RC01	Rabbit Creek A	0.92	247	*e*Pg	Pb	06 08 30.9	-0.2
RC01				*e*Sg	Sg	06 08 43.6	+0.4
KLU	Klutina	0.99	87	*e*Pg	Pb	06 08 31.0	-1.3
KLU				*e*Sg	Sb	06 08 43.7	-1.6
DIV	Divide	1.12	106	*e*Pg	Pn	06 08 32.6	-1.9
DIV				*e*Sg	Sb	06 08 48.0	-0.8
SUA	Susitna One	1.32	272	*e*Pn	Pn	06 08 36.9	-0.6
SUA				*e*Sg	Sg	06 08 54.7	-1.3
EYAK	Cordova Ski Ar	1.42	129	*e*Pn	Pn	06 08 38.8	+0.2
EYAK				*e*Sn	Sb	06 08 59.5	+2.1
HARP	HAARP	1.65	53	*e*Pn	Pn	06 08 41.4	-0.4
HARP				*e*Sn	Sb	06 09 03.9	-0.1
DHY	Denali Highway	1.65	10	*e*Pn	Pn	06 08 41.3	-0.7
DHY				*e*Sn	Sn	06 09 02.3	-0.9
BMRM	Bremner River	1.71	105	*e*Pn	Pn	06 08 42.0	-0.7
BMRM				*e*Sn	Sn	06 09 04.7	+0.3
SKT	Skwentna	1.77	289	*e*Pn	Pn	06 08 43.2	-0.3
SKT				*e*Sn	Sb	06 09 06.5	-1.0
PAX	Paxson	1.93	37	*e*Pn	Pn	06 08 45.6	-0.1
PAX				*e*Sn	Sn	06 09 10.1	+0.3
RAGM	Ragged Mountai	1.94	122	*e*Pn	Pn	06 08 47.2	+1.3
RAGM				*e*Sn	Sn	06 09 11.2	+1.2
SPU	Mount Spurr	1.98	264	*e*Pn	Pn	06 08 46.8	+0.3
SPU				*e*Sn	Sb	06 09 11.9	-1.8
RND	Reindeer	2.00	349	*e*Pn	Pn	06 08 46.6	-0.1
RND				*e*Sn	Sb	06 09 12.2	-2.0
BRLK	Bradley Lake	2.22	221	*e*Pn	Pn	06 08 49.7	0.0
TRF	Thorofare Moun	2.27	333	*e*Pn	Pn	06 08 50.8	+0.2
TRF				*e*Sn	Sb	06 09 20.4	-1.8
MCK	McKinley	2.33	350	*e*Pn	Pn	06 08 51.6	+0.4
MCK				*e*Sn	Sg	06 09 28.0	-0.1
PPLA	Purkeypile	2.45	308	*e*Pn	Pn	06 08 53.1	+0.2
PPLA				*e*Sn	Sg	06 09 31.4	-0.4
CRQM	Cirque	2.45	104	*e*Pn	Pn	06 08 49.8	-3.2
CRQM				*e*Sn	Sn	06 09 22.8	-0.1
MENT	Mentasta	2.49	51	*e*Pn	Pn	06 08 54.5	+1.0
MENT				*e*Sn	Sg	06 09 33.5	+0.1
KTH	Kantishna Hill	2.51	328	*e*Pn	Pn	06 08 54.1	+0.3
KTH				*e*Sn	Sg	06 09 33.8	-0.1
RSO	Redoubt South	2.53	249	*e*Pn	Pn	06 08 55.1	+1.0
HOM	Homer	2.55	227	*e*Pn	Pn	06 08 55.1	+0.8
HOM				*e*Sn	Sn	06 09 24.1	-0.9
RIDG	Independ'e Rid	2.72	31	*e*Pn	Pn	06 08 57.1	+0.5
RIDG				*e*Sn	Sn	06 09 28.3	-0.9
CAST	Castle Rocks	2.74	318	*e*Pn	Pn	06 08 56.9	0.0
CAST				*e*Sn	Sg	06 09 40.6	-0.8
BALM	Baldy	2.76	96	*e*Pn	Pn	06 08 57.0	-0.2
BALM				*e*Sn	Sn	06 09 30.0	-0.3
DOT	Dot Lake	2.85	38	*e*Pn	Pn	06 08 58.9	+0.5
DOT				*e*Sn	Sg	06 09 44.1	-0.8
BPAW	Bear Paw Mtn.	2.99	334	*e*Pn	Pn	06 09 00.0	-0.3
BPAW				*e*Sg	Sg	06 09 47.9	-1.4
HDA	Harding Lake	3.00	9	*e*Pn	Pn	06 09 00.7	+0.2
HDA				*e*Sn	Sn	06 09 36.6	+0.4
WRH	Wood River Hil	3.03	359	*e*Pn	Pn	06 09 00.7	-0.1
WRH				*e*Sn	Sn	06 09 38.1	+1.3
WRH				*e*Sg	Sg	06 09 49.5	-1.0
SCRK	Sand Creek	3.13	34	*e*Pn	Pn	06 09 03.1	+0.8
CCB	Clear Creek Bu	3.21	1	*e*Pn	Pn	06 09 02.9	-0.3
IL1	Eielson Array	3.37	8	*e*Pn	Pn	06 09 05.0	-0.5
IL1				*e*Sn	Sn	06 09 45.9	+0.7
ILAR	Eielson Array	3.37	8	Pn	Pn	06 09 04.8	-0.6
	6.8nm,0.3s,baz=190,slow=14,SNR=166						
ILAR				Lg	Lg	06 09 46.0	
	16nm,0.3s,baz=190,slow=23,SNR=27						
ILB	Eielson Array	3.37	8	*e*Pn	Pn	06 09 05.1	-0.3
ILB				*e*Sn	Sn	06 09 46.4	+1.3
COLA	College	3.43	1	*e*Pn	Pn	06 09 06.4	+0.1
COLA				*e*Sn	Sn	06 09 47.8	+1.1
MDM	Murphy Dome	3.52	358	*e*Pn	Pn	06 09 07.2	-0.3
MDM				*e*Sn	Sn	06 09 50.8	+1.9
MLY	Manley	3.80	342	*e*Pn	Pn	06 09 11.2	-0.2
MLY				*e*Sn	Sn	06 09 55.9	0.0
KDAK	Kodiak Island	4.36	214	*e*Pn	Pn	06 09 18.3	-0.8
DAWY	Dawson	4.74	53	*e*Pn	Pn	06 09 24.9	+0.6
OHAK	Old Harbor	5.04	215	*e*Pn	Pn	06 09 27.0	-1.3
HYT	Haines Junctio	5.12	92	*e*Pn	Pn	06 09 29.8	+0.2
IM3	Indian Mountai	5.22	333	*e*Pn	Pn	06 09 30.0	-0.8
IM3				*e*Sn	Sn	06 10 30.8	+0.1
FYU	Fort Yukon	5.27	12	*e*Pn	Pn	06 09 31.5	-0.1
FYU				*e*Sn	Sn	06 10 31.1	-0.9
COLD	Coldfoot	5.88	352	*e*Pn	Pn	06 09 39.8	0.0
WHY	Whitehorse	6.41	91	*e*Pn	Pn	06 09 48.1	+0.7
WHY				*e*Sn	Sn	06 10 59.1	-1.2
SKAG	Skagway	6.57	102	*e*Pn	Pn	06 09 49.6	+0.2
TOLK	Toolik Lake Re	7.25	355	*e*Pn	Pn	06 10 01.6	+2.8
YKA	Yellowknife Ar	15.62	72	Pn	Pn	06 11 55.1	+2.3
	0.0nm,0.3s,baz=279,slow=9.7,SNR=4.7						
MK32	Makanchi Array	64.76	324	*e*P	P	06 18 58.4	+7.5
MKAR	Makanchi Array	64.76	324	P	P	06 18 58.4	+7.5
	0.2nm,0.6s,baz=42,slow=7.4,SNR=3.7						

UCR 16 06:09:48.9±2.2, 11°.77N×87°.78W, h26km±24km, MD4.4, ML2.9, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CRIN	San Cristobal	1.17	38	*e*P	Pn	06 10 09.9	+0.1
CSGN	Cosiguina Volc	1.22	10	*e*P	Pb	06 10 10.9	-0.5
COPN	Copaltepe	1.23	71	*e*P	Pn	06 10 10.0	-0.5
COPN				*e*S	Sb	06 10 28.5	+1.4
CNGN	Cerro Negro	1.29	55	*e*P	Pn	06 10 10.2	-1.1
MOMN	Momotombo	1.37	62	*e*P	Pn	06 10 11.7	-0.8
XAVN	Gruta Xavier	1.48	75	*e*P	Pn	06 10 13.2	-0.6
CNCH	Conchagua	1.50	358	*e*P	Pn	06 10 14.9	+0.6
TISN	Laguna Tiscapa	1.53	76	*e*P	Pn	06 10 13.9	-0.7
LCND	La Ca˜–ada	1.53	356	*e*P	Pn	06 10 14.7	0.0
MGAN	Managua	1.55	76	*e*P	Pn	06 10 14.0	-0.8
MGAN				*e*S	Sb	06 10 35.3	-0.9
MGAN				AML	AML	06 10 35.7	
	comp=N,91nm,0.4s						
BRAN	Las Pilas	1.69	56	*e*P	Pn	06 10 12.8	-4.0
BRAN				*e*S	Sn	06 10 33.1	-4.5
PACA	Pacayal	1.77	343	*e*P	Pn	06 10 18.2	+0.2
UESV	Ojushtada	1.88	329	*e*P	Pb	06 10 23.0	+0.4
UESV				IAML		06 11 04.2	
	comp=Z,214nm,0.8s						
ESTN	Estel	1.91	46	*e*P	Pn	06 10 19.6	-0.4
MATN	Matagalpa	2.15	57	*e*P	Pn	06 10 22.5	-0.7
LFRS	El Faro	2.23	326	*e*P	Pn	06 10 24.1	-0.2
RCON	San Juan de Ri	2.33	43	*e*P	Pn	06 10 25.9	+0.2
GB1A	Borinquen Arri	2.52	112	*e*P	Pb	06 10 31.4	-2.2
GB1A				*e*S	Sn	06 10 58.5	+0.1
SBLS	San Blas	2.73	319	*e*P	Pn	06 10 30.7	-0.6
SNJE	San Jose	2.74	320	IAML		06 11 16.7	
	comp=Z,68nm,0.5s						
IXG	Ixpaco	3.54	313	*e*P	Pn	06 10 42.6	+0.2
SRA1	San Ram˜ón	3.65	117	*e*S	Sn	06 11 25.5	-0.8
LCR2	La Lucha 2	4.22	118	*e*P	Pn	06 10 52.9	+1.0
URSC	Urasca	4.38	116	*e*P	Pn	06 10 54.4	+0.4
BUS	Buena Vista	4.53	119	*e*P	Pn	06 10 57.2	+1.0
BUS				*e*S	Sn	06 11 47.2	-1.1
EDLM	Las Mercedes	4.81	121	*e*P	Pn	06 11 00.7	+0.9
DRK0	Durika	5.11	119	*e*P	Pn	06 11 05.0	+1.0

*CSEM **16** 06:16:30.3, 15°.46N×43°.74E, h12km, ML3.6*
*DHMR **16** 06:16:30.3±1.3, 15°.46N×43°.74E, h12km±16km, ML3.6*
*ISCJB **16** 06:16:31.0±0.8, 15°.51N±0°.08×43°.75E±0°.08, h10km, Error ellipse: s-maj=15.9km s-min=4.9km az=43.9*

ISC 16 06:16:30.0±1.1, 15°.46N±0°.07×43°.76E±0°.08, h10km, n7, σ0s48/14, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HAJJ	Hajjah	0.28	328	*i* P	Pg	06 16 35.8	-0.1
HAJJ				*i* S	Sg	06 16 39.9	+0.2
HAJJ				AML	AML	06 16 42.1	
	comp=E,4μm,0.4s						
HAJJ	Hajjah	0.28	328	*i* P	Pg	06 16 35.8	-0.1
HAJJ				*i* S	Sg	06 16 39.9	+0.2
	comp=E,2μm,0.4s						
SANA	San'a	0.44	99	*i* P	Pg	06 16 38.7	+0.1
SANA				*i* S	Sb	06 16 46.4	-0.3
SANA				AML	AML	06 16 47.9	
	comp=E,6μm,0.2s						
DHBB	Dhamar BB	1.07	145	*i* P	Pg	06 16 50.5	-0.1
DHBB				*i* S	Sn	06 17 06.2	-0.3
DHBB	Dhamar BB	1.07	145	*i* P	Pg	06 16 50.5	-0.1
DHBB				*i* S	Sn	06 17 06.2	-0.3
BDHA	Al Bayda'	2.29	130	*i* P	Pb	06 17 11.3	-0.3
BDHA				*i* S	Sb	06 17 41.0	+1.0
BDHA	Al Bayda'	2.29	130	*i* P	Pb	06 17 11.3	-0.3
BDHA				*i* S	Sb	06 17 41.0	+1.0

MEX 16 06:21:00.0±0.8, 17°.77N×103°.21W, h18km, MD4.0, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MMIG	Aquila	0.54	347	*e*P	Pg	06 21 08.6	-2.1
MMIG				*e*S	Sg	06 21 15.8	-2.2
ZIIG	Zihuatanejo	1.68	95	*e*P	Pn	06 21 22.6	-5.8
ZIIG				*i* P	Pb	06 21 25.4	-4.9
ZIIG				*e*S	Sn	06 21 45.7	-3.8
EZ5V		1.74	348	*e*P	Pn	06 21 27.0	-2.7
EZ5V				*e*S	Sn	06 21 49.3	-2.3
ARIG	Puente Sto Nin	2.78	79	*e*P	Pn	06 21 41.3	-2.3
ARIG				*e*S	Sn	06 22 14.4	-2.3

*IDC **16** 06:23:26.7±1.6, 33°.10N×141°.65E, h0km, mb3.6/4, mb1 3.6/6, mb1mx3.3/64, mbtmp3.4/6, ML3.2/2, MS2.7/1, Ms1 2.7/1, ms1mx2.2/59, Error ellipse: s-maj=36.0km s-min=18.7km az=59.0*
*ISCJB **16** 06:23:30.2±0.8, 33°.17N±0°.05×141°.64E±0°.08, h41km, mb3.7/4, Error ellipse: s-maj=9.7km s-

FETY	**Fethiye**	**1.42**	**240**	PN	**Pg**	**06 28 20.1**	**-0.5**
FETY	**Fethiye**	**1.42**	**240**	*e*Pn	**Pg**	**06 28 20.1**	**-0.5**
LADK	**Ladik-KONYA**	**1.63**	**58**	PN	**Pn**	**06 28 22.8**	**-0.1**
LADK	**Ladik-KONYA**	**1.63**	**58**	*e*Pn	**Pn**	**06 28 22.8**	**-0.1**
TURN	**Turunc**	**1.67**	**254**	PN	**Pg**	**06 28 28.3**	**+2.8**
YER	**Yerkesik**	**1.87**	**264**	PN	**Pb**	**06 28 26.8**	**-1.3**
YER	**Yerkesik**	**1.87**	**264**	*e*Pn	**Pb**	**06 28 26.8**	**-1.3**

IDC 16 06:38:59.6±5.0, 5°09′×148°91′E, h128 km±51 km, mb3.5/3, mb1 3.7/4, mb1mx3.2/44, mbtmp4.0/4, Error ellipse: s-maj=114.2km s-min=30.0km az=127.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.63**	**202**	P	Pn	06 40 08.3	+0.7
	7.7nm,0.3s,baz=30,slow=9.1,SNR=12						
PMG				S	Sn	06 41 01.0	+0.4
	23nm,0.3s,baz=57,slow=17,SNR=17						
WRA	**Warramunga Arr**	**20.47**	**223**	P	P	06 43 27.5	+0.1
	1.6nm,0.3s,baz=46,slow=12,SNR=26						
ASAR	**Alice Springs**	**23.46**	**217**	P	P	06 43 57.5	-0.2
	1.0nm,0.4s,baz=55,slow=8.4,SNR=30						
ILAR	**Eielson Array**	**83.91**	**23**	P	P	06 51 14.9	0.0
	1.0nm,0.8s,baz=258,slow=5.3,SNR=10						

*ISK **16** 06:52:25.3, 35°.38N×27°.82E, h14 km, ML3.7/25*
*IDC **16** 06:52:25.2±1.4, 35°.33N×27°.87E, h0 km, mb3.8/9, mb1 3.8/15, mb1mx3.6/60, mbtmp3.7/15, ML3.5/6, MS2.9/7, Ms1 2.9/7, ms1mx2.7/61, Error ellipse: s-maj=28.8km s-min=13.0km az=176.0*
*ISCJB **16** 06:52:26.4±1.0, 35°.47N±0°.04×27°.91E±0°.03, h9 km±7 km, mb3.6/9, MS2.9/3, Error ellipse: s-maj=6.2km s-min=3.3km az=160.0*
*CSEM **16** 06:52:27.8±0.2, 35°.51N×27°.89E, h10 km, ML3.7, Error ellipse: s-maj=6.0km s-min=2.8km az=161.0*
*THE **16** 06:52:29.0, 35°.48N×27°.91E, h7 km±2 km, ML3.6/4, Error ellipse: s-maj=2.8km s-min=1.1km az=152.0*
*DDA **16** 06:53:20.2, 35°.51N×28°.02E, h31 km, Ml3.7*

ISC 16 06:52:26.4±1.4, 35°.49N±0°.04×27°.88E±0°.03, h3 km±10 km, n135, σ1§00/150, mb3.8/9, MS2.9/3, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.59**	**276**	PG	**Pg**	**06 52 36.9**	**-0.8**
KARP				SG	**Sg**	**06 52 45.4**	**0.0**
KARP	**Karpathos**	**0.59**	**276**	P	Pn	**06 52 40.8**	**-1.0**
KARP				S	**Sn**	**06 52 51.5**	**-0.4**
KARP	**Karpathos**	**0.59**	**276**	*e*Pg	**Pg**	**06 52 36.9**	**-0.8**
KARP	**Karpathos**	**0.59**	**276**	P	Pn	**06 52 40.8**	**-1.0**
KARP				*e*Sg	**Sg**	**06 52 45.4**	**0.0**
KARP				S	**Sn**	**06 52 51.5**	**-0.4**
ARG	**Arkhangelos**	**0.75**	**15**	P	**Pn**	**06 52 43.4**	**-0.6**
ARG	**Arkhangelos**	**0.75**	**15**	P	**Pn**	**06 52 43.4**	**-0.6**
NISR	**Nisiros**	**1.28**	**332**	P	**Pg**	**06 52 50.2**	**-0.7**
NISR	**Nisiros**	**1.28**	**332**	P	**Pg**	**06 52 50.2**	**-0.7**
DATC	**Datca-Mugla**	**1.28**	**352**	PN	**Pg**	**06 52 50.7**	**-0.3**
DATC	**Datca-Mugla**	**1.28**	**352**	*e*Pn	**Pg**	**06 52 50.7**	**-0.3**
ZKR	**Zakros**	**1.41**	**255**	P	**Pg**	**06 52 54.2**	**+0.8**
ZKR				S	**Sg**	**06 53 11.0**	**-0.7**
ZKR	**Zakros**	**1.41**	**255**	P	**Pg**	**06 52 54.2**	**+0.8**
ZKR				S	**Sg**	**06 53 11.0**	**-0.7**
TURN	**Turunc**	**1.50**	**23**	PN	**Pn**	**06 52 51.4**	**-2.8**
TURN	**Turunc**	**1.50**	**23**	*i* P	**Pn**	**06 52 50.8**	**-3.4**
TURN	**Turunc**	**1.50**	**23**	*e*Pn	**Pn**	**06 52 51.4**	**-2.8**
FETY	**Fethiye**	**1.50**	**40**	PN	**Pn**	**06 52 53.9**	**-0.4**
FETY	**Fethiye**	**1.50**	**40**	P	**Pn**	**06 52 54.8**	**+0.5**
FETY				S	**Sn**	**06 53 14.4**	**-0.1**
FETY	**Fethiye**	**1.50**	**40**	P	**Pn**	**06 52 53.4**	**-0.9**
FETY	**Fethiye**	**1.50**	**40**	*e*Pn	**Pn**	**06 52 53.9**	**-0.4**
FETY				S	**Sn**	**06 53 14.4**	**-0.1**
KSL	**Kastellorizon**	**1.53**	**64**	P	**Pn**	**06 52 55.1**	**+0.4**
AKAS	**Kas**	**1.59**	**62**	PN	**Pn**	**06 52 55.1**	**-0.4**
AKAS	**Kas**	**1.59**	**62**	*i* P	**Pn**	**06 52 53.4**	**-2.1**
AKAS	**Kas**	**1.59**	**62**	*e*Pn	**Pn**	**06 52 55.1**	**-0.4**
BODT	**Bodrum**	**1.64**	**344**	PN	**Pn**	**06 52 55.2**	**-1.0**
BODT	**Bodrum**	**1.64**	**344**	P	**Pn**	**06 52 55.4**	**-0.8**
BODT				S	**Sb**	**06 53 18.8**	**+0.4**
BODT	**Bodrum**	**1.64**	**344**	P	**Pn**	**06 52 55.4**	**-0.8**
BODT				S	**Sb**	**06 53 18.8**	**+0.4**
YER	**Yerkesik**	**1.68**	**11**	PN	**Pn**	**06 52 56.5**	**-0.2**
YER	**Yerkesik**	**1.68**	**11**	P	**Pn**	**06 52 56.6**	**-0.2**
YER				S	**Sn**	**06 53 19.0**	**+0.2**
YER	**Yerkesik**	**1.68**	**11**	P	**Pn**	**06 52 56.6**	**-0.2**
YER				S	**Sn**	**06 53 19.0**	**+0.2**
YKAV	**Yalikavak-Bodr**	**1.71**	**344**	PN	**Pn**	**06 52 56.5**	**-0.5**
YKAV	**Yalikavak-Bodr**	**1.71**	**344**	*e*Pn	**Pn**	**06 52 56.5**	**-0.5**
MLSB	**Milas**	**1.81**	**357**	PN	**Pn**	**06 52 58.1**	**-0.4**
MLSB	**Milas**	**1.81**	**357**	*e*Pn	**Pn**	**06 52 58.1**	**-0.4**
NPS	**Neapolis**	**1.87**	**264**	P	**Pn**	**06 53 00.3**	**+1.0**
NPS				S	**Sn**	**06 53 23.6**	**+0.2**
NPS	**Neapolis**	**1.87**	**264**	P	**Pn**	**06 53 00.4**	**+1.0**
NPS				S	**Sn**	**06 53 23.6**	**+0.2**
LAST	**Lasithi**	**1.99**	**261**	P	**Pn**	**06 53 02.4**	**+1.3**
LAST				S	**Sb**	**06 53 27.9**	**-0.7**
LAST	**Lasithi**	**1.99**	**261**	P	**Pn**	**06 53 02.4**	**+1.3**
LAST				S	**Sb**	**06 53 27.9**	**-0.7**
ELL	**Elmali**	**2.07**	**52**	PN	**Pn**	**06 53 01.9**	**-0.3**
ELL	**Elmali**	**2.07**	**52**	*e*Pn	**Pn**	**06 53 01.9**	**-0.3**
TAVA	**DENIZLI_Tavas**	**2.14**	**23**	*i* P	**Pn**	**06 53 03.5**	**+0.3**
TAVA	**DENIZLI_Tavas**	**2.14**	**23**	P	**Pn**	**06 53 03.5**	**+0.3**
SANT	**Santorini**	**2.15**	**295**	P	**Pn**	**06 53 03.3**	**0.0**
SANT	**Santorini**	**2.15**	**295**	P	**Pn**	**06 53 03.3**	**0.0**
THR8	**Santorini-Mono**	**2.15**	**296**	P	**Pn**	**06 53 03.0**	**-0.2**
THR8	**Santorini-Mono**	**2.15**	**296**	P	**Pn**	**06 53 03.0**	**-0.2**
THR6	**Thira Island,**	**2.19**	**294**	P	**Pn**	**06 53 03.8**	**0.0**
THR6	**Thira Island,**	**2.19**	**294**	P	**Pn**	**06 53 03.8**	**0.0**
THR2	**Thira island,**	**2.20**	**296**	P	**Pn**	**06 53 04.1**	**+0.2**
THR2	**Thira island,**	**2.20**	**296**	P	**Pn**	**06 53 04.1**	**+0.2**
GOLH	**Golhisar**	**2.21**	**37**	*i* P	**Pn**	**06 53 03.5**	**-0.6**
GOLH	**Golhisar**	**2.21**	**37**	P	**Pn**	**06 53 03.5**	**-0.6**
THR3	**Thira Island,**	**2.21**	**295**	P	**Pn**	**06 53 04.0**	**0.0**
THR3	**Thira Island,**	**2.21**	**295**	P	**Pn**	**06 53 04.0**	**0.0**
GCAM	**G?zelcami?**	**2.27**	**347**	PN	**Pn**	**06 53 04.9**	**+0.1**
GCAM	**G?zelcami?**	**2.27**	**347**	*i* P	**Pn**	**06 53 04.6**	**-0.2**
GCAM	**G?zelcami?**	**2.27**	**347**	P	**Pn**	**06 53 04.6**	**-0.2**
GCAM	**G?zelcami?**	**2.27**	**347**	*e*Pn	**Pn**	**06 53 04.9**	**+0.1**
SMG	**Samos**	**2.37**	**340**	P	**Pn**	**06 53 06.2**	**0.0**
SMG	**Samos**	**2.37**	**340**	P	**Pn**	**06 53 06.2**	**0.0**
DENT	**Denizli**	**2.44**	**22**	PN	**Pn**	**06 53 07.5**	**+0.2**
DENT	**Denizli**	**2.44**	**22**	*e*Pn	**Pn**	**06 53 07.5**	**+0.2**
IDI	**Anoyia**	**2.45**	**266**	Pn	**Pn**	**06 53 08.0**	**+0.6**
	4.7nm,0.3s,baz=39,slow=13,SNR=29						
IDI				Lg	Lg	06 53 43.1	
	14nm,0.3s,baz=253,slow=22,SNR=3.5						
IDI				LR	LR	06 54 14.0	
	comp=Z,296nm,19.0s,baz=86,slow=45						
AYDB	**Zeytinkoy-Aydi**	**2.46**	**0**	PN	**Pn**	**06 53 07.5**	**0.0**
AYDB	**Zeytinkoy-Aydi**	**2.46**	**0**	*e*Pn	**Pn**	**06 53 07.5**	**0.0**
APE	**Apeiranthos**	**2.47**	**310**	PN	**Pn**	**06 53 06.6**	**-1.0**
APE	**Apeiranthos**	**2.47**	**310**	P	**Pn**	**06 53 07.3**	**-0.3**
APE	**Apeiranthos**	**2.47**	**310**	*e*Pn	**Pn**	**06 53 06.6**	**-1.0**
APE	**Apeiranthos**	**2.47**	**310**	P	**Pn**	**06 53 07.3**	**-0.3**
KORT	**Korkueli**	**2.50**	**52**	PN	**Pn**	**06 53 08.2**	**0.0**
KORT	**Korkueli**	**2.50**	**52**	*e*Pn	**Pn**	**06 53 08.2**	**0.0**
SIVA	**Sivas**	**2.56**	**260**	P	**Pn**	**06 53 09.4**	**+0.7**
SIVA	**Sivas**	**2.56**	**260**	P	**Pn**	**06 53 09.4**	**+0.7**
ANTB	**Antalya**	**2.65**	**57**	PN	**Pn**	**06 53 10.3**	**+0.3**
ANTB	**Antalya**	**2.65**	**57**	*e*Pn	**Pn**	**06 53 10.3**	**+0.3**
BLCB	**Balcova**	**2.97**	**347**	PN	**Pn**	**06 53 14.6**	**+0.2**
BLCB	**Balcova**	**2.97**	**347**	*e*Pn	**Pn**	**06 53 14.6**	**+0.2**
VAM	**Vamos**	**3.01**	**270**	P	**Pn**	**06 53 16.7**	**+1.8**
VAM	**Vamos**	**3.01**	**270**	P	**Pn**	**06 53 16.7**	**+1.8**
URLA	**Izmir**	**3.05**	**341**	PN	**Pn**	**06 53 15.1**	**-0.4**
URLA	**Izmir**	**3.05**	**341**	*e*Pn	**Pn**	**06 53 15.1**	**-0.4**
KULA	**Kula-Manisa**	**3.08**	**11**	PN	**Pn**	**06 53 16.6**	**+0.5**
KULA	**Kula-Manisa**	**3.08**	**11**	*e*Pn	**Pn**	**06 53 16.6**	**+0.5**
ISP	**Isparta**	**3.15**	**42**	PN	**Pn**	**06 53 17.6**	**+0.5**
ISP	**Isparta**	**3.15**	**42**	*e*Pn	**Pn**	**06 53 17.6**	**+0.5**
GVD	**Gavdhos**	**3.17**	**259**	P	**Pn**	**06 53 18.8**	**+1.5**
GVD	**Gavdhos**	**3.17**	**259**	P	**Pn**	**06 53 18.8**	**+1.5**
IMMV	**Iera Moni Meta**	**3.18**	**271**	P	**Pn**	**06 53 18.0**	**+0.6**
IMMV	**Iera Moni Meta**	**3.18**	**271**	P	**Pn**	**06 53 18.0**	**+0.6**
SUTC	**Sutluce-Ispart**	**3.20**	**51**	PN	**Pn**	**06 53 18.2**	**+0.4**
SUTC	**Sutluce-Ispart**	**3.20**	**51**	*e*Pn	**Pn**	**06 53 18.2**	**+0.4**
CHOS	**Chios island**	**3.24**	**334**	PN	**Pn**	**06 53 18.3**	**0.0**
CHOS	**Chios island**	**3.24**	**334**	*e*Pn	**Pn**	**06 53 18.3**	**0.0**
SIMA	**Simav-Kutahya**	**3.70**	**13**	PN	**Pn**	**06 53 25.4**	**+0.9**
SIMA	**Simav-Kutahya**	**3.70**	**13**	*e*Pn	**Pn**	**06 53 25.4**	**+0.9**
SHUT	**Suhut-Afyon**	**3.73**	**34**	PN	**Pn**	**06 53 25.8**	**+0.8**
SHUT	**Suhut-Afyon**	**3.73**	**34**	*e*Pn	**Pn**	**06 53 25.8**	**+0.8**
LEF	**Lefka**	**4.11**	**94**	PN	**Pn**	**06 53 29.6**	**-0.6**
LEF	**Lefka**	**4.11**	**94**	*e*Pn	**Pn**	**06 53 29.6**	**-0.6**
BALB	**Balikesir**	**4.15**	**360**	PN	**Pn**	**06 53 31.7**	**+1.1**
BALB	**Balikesir**	**4.15**	**360**	*e*Pn	**Pn**	**06 53 31.7**	**+1.1**
TVSB	**Tavsanli**	**4.15**	**17**	PN	**Pn**	**06 53 32.1**	**+1.3**
TVSB	**Tavsanli**	**4.15**	**17**	*e*Pn	**Pn**	**06 53 32.1**	**+1.3**
VLI	**Veliai**	**4.19**	**288**	P	**Pn**	**06 53 32.2**	**+1.0**
VLI	**Veliai**	**4.19**	**288**	P	**Pn**	**06 53 32.2**	**+1.0**
LADK	**Ladik-KONYA**	**4.50**	**52**	PN	**Pn**	**06 53 36.4**	**+0.8**
LADK	**Ladik-KONYA**	**4.50**	**52**	*e*Pn	**Pn**	**06 53 36.4**	**+0.8**
TEVE	**Tevekalti-Mers**	**4.61**	**77**	PN	**Pn**	**06 53 37.6**	**+0.5**
TEVE	**Tevekalti-Mers**	**4.61**	**77**	*e*Pn	**Pn**	**06 53 37.6**	**+0.5**
LTK	**Loutraki**	**4.69**	**304**	P	**Pn**	**06 53 39.4**	**+1.3**
LTK	**Loutraki**	**4.69**	**304**	P	**Pn**	**06 53 39.4**	**+1.3**
VLX	**Vlachokerasia**	**4.82**	**295**	P	**Pn**	**06 53 42.2**	**+2.3**
VLX	**Vlachokerasia**	**4.82**	**295**	P	**Pn**	**06 53 42.2**	**+2.3**
LKR	**Lokris**	**5.02**	**310**	P	**Pn**	**06 53 43.6**	**+1.0**
LKR	**Lokris**	**5.02**	**310**	P	**Pn**	**06 53 43.6**	**+1.0**
ALN	**Alexandroupoli**	**5.59**	**346**	P	**Pn**	**06 53 51.8**	**+1.4**
ALN	**Alexandroupoli**	**5.59**	**346**	P	**Pn**	**06 53 51.8**	**+1.4**
AGG	**Agios Georgios**	**5.66**	**310**	P	**Pn**	**06 53 52.2**	**+0.7**
AGG	**Agios Georgios**	**5.66**	**310**	P	**Pn**	**06 53 52.2**	**+0.7**
BRTR	**Keskin Array B**	**6.23**	**46**	Pn	**Pn**	**06 54 01.4**	**+2.0**
	0.2nm,0.3s,baz=218,slow=15,SNR=9.4						
MMAI	**Mount Meron Ar**	**6.70**	**109**	Pn	**Pn**	**06 54 03.4**	**-2.3**
	1.3nm,0.3s,baz=287,slow=14,SNR=3.9						
MMAI				LR	LR	06 57 34.6	
	comp=Z,72nm,19.1s,baz=5.0,slow=46						
EIL	**Elat**	**8.32**	**132**	Pn	**Pn**	**06 54 29.2**	**+1.3**
	0.6nm,0.3s,baz=342,slow=1.2,SNR=8.3						
EIL				Sn	**Sn**	**06 55 59.1**	**-3.4**
	1.4nm,0.3s,baz=56,slow=20,SNR=4.0						
EIL				Lg	Lg	06 56 40.5	
	1.1nm,0.3s,baz=128,slow=19,SNR=2.6						
EIL				LR	LR	06 59 18.3	
	comp=Z,46nm,19.0s,baz=245,slow=50						
MLR	**Muntele Rosu**	**10.10**	**352**	Pn	**Pn**	**06 54 54.6**	**+2.2**
	0.1nm,0.3s,baz=203,slow=7.6,SNR=6.9						
GNI	**Garni**	**14.11**	**66**	LR	LR	07 01 29.7	
	comp=Z,61nm,19.7s,baz=290,slow=38						
AKASG	**Malin Array Be**	**15.24**	**3**	Pn	**Pn**	**06 56 04.1**	**+1.7**
	0.2nm,0.3s,baz=190,slow=10,SNR=3.2						
GERES	**GERESS Array B**	**16.95**	**326**	P	**Pn**	**06 56 24.8**	**+0.2**
	0.2nm,0.3s,baz=146,slow=13,SNR=9.0						
ESDC	**Sonseca Array**	**25.51**	**289**	P	**P**	**06 57 54.3**	**-1.8**
	4.2nm,0.7s,baz=74,slow=8.6,SNR=12						
FINES	**FINESS Array B**	**26.00**	**358**	P	**P**	**06 58 01.0**	**+0.8**
	0.5nm,0.6s,baz=169,slow=12,SNR=4.4						
HFS	**Hagfors**	**26.32**	**344**	P	**P**	**06 58 04.8**	**+1.6**
	0.9nm,0.5s,baz=173,slow=13,SNR=4.1						
HFS				LR	LR	07 08 47.5	
	comp=Z,33nm,19.9s,baz=180,slow=37						
AKTO	**Aktyubinsk**	**26.41**	**46**	P	**P**	**06 58 05.4**	**+1.3**
	1.0nm,0.5s,baz=231,slow=10.0,SNR=4.1						
AKTO				LR	LR	07 12 59.6	
	comp=Z,32nm,18.5s,baz=189,slow=46						
NOA	**NORSAR Array B**	**27.70**	**343**	LR	LR	07 10 25.5	
	comp=Z,25nm,21.0s,baz=170,slow=39						
ARCES	**ARCESS Array B**	**34.13**	**359**	P	**P**	**06 59 11.1**	**-1.0**
	1.6nm,0.9s,baz=166,slow=8.4,SNR=3.0						
BVAR	**Borovoye Array**	**34.52**	**46**	P	**P**	**06 59 14.9**	**-0.8**
	0.2nm,0.3s,baz=249,slow=6.0,SNR=2.5						
KURBB	**Kurchatov Arra**	**39.18**	**51**	P	**P**	**06 59 55.9**	**+0.4**
	0.9nm,0.7s,baz=276,slow=8.8,SNR=8.1						
MKAR	**Makanchi Array**	**41.73**	**57**	P	**P**	**07 00 17.2**	**+0.6**
	0.6nm,0.6s,baz=282,slow=6.8,SNR=10.0						
SONM	**Songino Array**	**57.55**	**51**	P	**P**	**07 02 17.2**	**-0.1**
	1.0nm,0.8s,baz=286,slow=9.1,SNR=4.8						

*IDC **16** 06:56:30.5±3.2, 56°.28N×153°.97W, h0 km, mb3.3/4, mb1 3.4/6, mb1mx3.2/73, mbtmp3.3/6, ML3.3/2, MS3.3/1, Ms1 3.3/1, ms1mx2.4/36, Error ellipse: s-maj=68.9km s-min=31.6km az=152.0*
*ISCJB **16** 06:56:40.8±0.7, 57°.23N±0°.05×153°.59W±0°.07, h54 km±5 km, mb3.5/3, MS3.2/1, Error ellipse: s-maj=8.8km s-min=6.4km az=179.3*
*NEIC **16** 06:56:41.7±0.0, 57°.24N×153°.67W, h39 km, ML3.0(AEIC), After AEIC.*

ISC 16 06:56:42.1±1.0, 57°.26N±0°.07×153°.61W±0°.05, h45 km±9 km, n32, σ1§04/40, mb3.6/3, Kodiak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**0.18**	**102**	P	**Pn**	**06 56 49.3**	**-0.3**
OHAK				S	**Sn**	**06 56 54.7**	**-0.3**
KDAK	**Kodiak Island**	**0.76**	**46**	P	**Pn**	**06 56 57.1**	**+0.7**
KDAK				S	**Sn**	**06 57 08.0**	**+1.2**
CAHL	**Cahill**	**1.21**	**312**	P	**Pn**	**06 57 02.1**	**-0.5**
KJL	**Kejulik**	**1.32**	**308**	P	**Pn**	**06 57 03.8**	**-0.3**
KJL				S	**Sn**	**06 57 20.5**	**-0.1**
ACHA	**Angle Creek He**	**1.32**	**317**	P	**Pn**	**06 57 04.0**	**-0.1**
ACHA				S	**Sn**	**06 57 20.3**	**-0.4**
KABU	**Katmai Buttres**	**1.35**	**319**	P	**Pn**	**06 57 04.6**	**0.0**
KABU				S	**Sn**	**06 57 20.8**	**-0.6**
KARR	**Katmai Rainbow**	**1.37**	**335**	P	**Pn**	**06 57 05.3**	**+0.5**
ANCK	**Angle Creek**	**1.38**	**314**	P	**Pn**	**06 57 05.0**	**+0.1**
FOSS	**Fourpeaked Sta**	**1.54**	**358**	P	**Pn**	**06 57 07.2**	**+0.1**
FOSS				S	**Sn**	**06 57 26.0**	**0.0**
KAHC	**Katmai Hardscr**	**1.58**	**332**	P	**Pn**	**06 57 07.5**	**-0.2**
FONW	**Fourpeaked Sta**	**1.59**	**354**	P	**Pn**	**06 57 08.0**	**+0.2**
FONW				S	**Sn**	**06 57 28.1**	**+1.0**
KELA	**Mount Kelaz**	**1.64**	**317**	P	**Pn**	**06 57 08.3**	**-0.2**
KELA				S	**Sn**	**06 57 29.9**	**+1.4**
CDD	**Cape Douglas**	**1.67**	**359**	P	**Pn**	**06 57 09.8**	**+0.8**
ANNW	**Aniakchak Nort**	**2.53**	**265**	P	**Pn**	**06 57 20.6**	**-0.1**
ILW	**Iliamna West**	**2.82**	**5**	P	**Pn**	**06 57 25.1**	**+0.4**
BRLK	**Bradley Lake**	**2.89**	**28**	P	**Pn**	**06 57 25.6**	**0.0**
VNHG	**Veniaminof 1**	**3.23**	**254**	P	**Pn**	**06 57 30.8**	**+0.4**
RDWB	**Redoubt West**	**3.26**	**7**	P	**Pn**	**06 57 31.2**	**+0.4**
DFR	**Drift River**	**3.38**	**8**	P	**Pn**	**06 57 32.7**	**+0.4**
SLKM	**Skilak Lake**	**3.70**	**27**	P	**Pn**	**06 57 36.5**	**-0.3**
CKL	**Chakachamna La**	**4.00**	**9**	P	**Pn**	**06 57 41.3**	**+0.4**
SPWE	**Spurr West**	**4.06**	**7**	P	**Pn**	**06 57 42.5**	**+0.7**
BGL	**Barrier Glacie**	**4.06**	**8**	P	**Pn**	**06 57 42.3**	**+0.6**
RC01	**Rabbit Creek A**	**4.33**	**26**	P	**Pn**	**06 57 45.1**	**-0.2**
SUA	**Susitna One**	**4.46**	**18**	P	**Pn**	**06 57 47.3**	**+0.1**
ILAR	**Eielson Array**	**8.21**	**21**	Pn	**Pn**	**06 58 38.2**	**-0.2**
	0.1nm,0.3s,baz=217,slow=14,SNR=2.8						
ILAR				Sn	**Sn**	**07 00 04.3**	**-5.4**
	0.1nm,0.3s,baz=198,slow=7.4,SNR=3.0						
INK	**Inuvik**	**14.29**	**31**	Pn	**P**	**07 00 08.1**	**+0.5**
	0.2nm,0.3s,baz=229,slow=10,SNR=8.2						
YKA	**Yellowknife Ar**	**20.02**	**59**	P	**P**	**07 01 11.8**	**+1.1**
	0.1nm,0.6s,baz=273,slow=9.7,SNR=5.6						
YAK	**Yakutsk**	**36.94**	**310**	LR	LR	07 19 33.6	
	comp=Z,42nm,19.4s,baz=85,slow=37						
BVAR	**Borovoye Array**	**64.35**	**332**	P	**P**	**07 07 12.3**	**-0.4**
	0.2nm,0.5s,baz=35,slow=5.3,SNR=4.2						
MKAR	**Makanchi Array**	**66.38**	**322**	P	**P**	**07 07 25.7**	**-0.2**
	0.3nm,0.4s,baz=32,slow=6.2,SNR=5.6						
AKASG	**Malin Array Be**	**72.38**	**358**	P	**P**	**07 08 03.0**	**+0.1**
	0.3nm,0.4s,baz=3.5,slow=6.2,SNR=1.3						

IDC 16 07:04:09.8±2.0, 3°.54N×128°.76E, h0 km, mb3.7/5, mb1 3.8/5, mb1mx3.4/65, mbtmp3.7/5, Error ellipse: s-maj=162.8km s-min=20.3km az=69.0, North of Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.97**	**167**	P	P	07 09 25.1	-1.0
	0.8nm,0.5s,baz=347,slow=10,SNR=8.9						
ASAR	**Alice Springs**	**27.50**	**170**	P	P	07 09 58.9	+0.7
	0.2nm,0.5s,baz=349,slow=7.0,SNR=3.6						
MKAR	**Makanchi Array**	**58.88**	**324**	P	P	07 14 10.6	+0.1
	0.7nm,0.4s,baz=110,slow=8.6,SNR=9.5						
KURBB	**Kurchatov Arra**	**63.00**	**327**	P	P	07 14 38.3	-0.2
	0.7nm,0.4s,baz=122,slow=6.4,SNR=4.4						
BVAR	**Borovoye Array**	**68.59**	**326**	P	P	07 15 14.7	+0.2
	0.5nm,0.4s,baz=123,slow=5.3,SNR=4.6						

*ISCJB **16** 07:08:22.5±0.6, 36°.50N±0°.04×73°.43E±0°.07, h10 km, mb3.4/3, MS3.5/2, Error ellipse: s-maj=9.4km s-min=5.0km az=151.1*
*IDC **16** 07:08:22.9±1.6, 36°.68N×73°.59E, h0 km, mb3.6/3, mb1 3.7/8, mb1mx3.4/71, mbtmp3.6/8, ML3.0/5, MS3.0/5, Ms1 3.0/5, ms1mx2.6/65, Error ellipse: s-maj=43.2km s-min=20.9km az=84.0*
*NNC **16** 07:08:27.5±2.0, 36°.72N×73°.21E, h0 km, mb4.0, mpv3.7, Error ellipse: s-maj=16.0km s-min=9.4km az=156.0*

ISC 16 07:08:24.1±0.6, 36°.49N±0°.04×73°.34E±0°.06, h10 km, n32, σ2§01/34, mb3.7/3, 7C-9D, Northwestern Kashmir

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHCP	**Chirah Chowk**	**2.82**	**181**	P	**Pg**	**07 09 19.2**	**+1.0**
CEP	**Cherat**	**2.90**	**204**	P	**Pg**	**07 09 21.7**	**+2.0**
CEP				S	**Sg**	**07 10 00.0**	**+2.6**
SFK	**Sufi-Kurgan**	**3.52**	**2**	⇓Pn	**Pn**	**07 09 21.3**	**+2.2**
	95nm,1.0s						
SFK				⇓Sn	**Sn**	**07 10 03.2**	**+2.3**
	302nm,1.4s						
THW	**Thamme Wali**	**3.91**	**200**	P	**Pb**	**07 09 31.9**	**-1.3**
DZET	**Dzherino**	**4.26**	**304**	⇑Pn	**Pn**	**07 09 31.9**	**+2.8**
	22nm,0.7s						
DZET				⇓Sn	**Sn**	**07 10 20.9**	**+1.9**
	174nm,0.6s						
DHRM	**DHARAMSHALA**	**4.89**	**149**	*e*P	Pn	07 09 44.9	+7.1
DHRM				*e*S	**Sb**	**07 10 45.5**	**-3.3**
DHRM				IAML		07 11 21.3	
	comp=E,104nm,0.2s						
DHRM				IAML		07 11 22.3	
	comp=N,76nm,0.6s						
MNAS	**Manas**	**6.03**	**354**	⇑Pn	**Pn**	**07 09 54.4**	**+1.0**
	comp=N,4.5nm,0.6s						
MNAS				⇑Sn	**Sn**	**07 11 02.0**	**-0.5**
	comp=N,17nm,0.9s						
AAK	**Ala-Archa**	**6.21**	**8**	Pn	**Pn**	**07 09 56.6**	**+0.7**
	comp=N,1.1nm,0.3s,baz=69,slow=9.7,SNR=10						
AAK				Sn	**Sn**	**07 11 07.4**	**+0.4**
	baz=133,slow=19,SNR=5.2						
AAK				Lg	Lg	07 11 30.1	
	comp=N,0.4nm,0.3s,baz=276,slow=21,SNR=4.7						
AAK				LR	LR	07 12 23.0	
	comp=N,41nm,20.0s,baz=155,slow=40						
AAK	**Ala-Archa**	**6.21**	**8**	⇑Pn	**Pn**	**07 09 56.9**	**+1.0**
	comp=N,4.6nm,0.8s						
AAK				⇑Sn	**Sn**	**07 11 08.3**	**+1.3**
	comp=N,22nm,1.1s						
SMLA	**Simla**	**6.22**	**148**	*e*P	Pn	07 10 02.3	+6.3
SMLA				*e*S	Sn	07 11 18.6	+11
SMLA				IAML		07 11 20.5	
	comp=N,80nm,0.8s						
SMLA				IAML		07 11 21.9	
	comp=E,167nm,0

LPAZ	La Paz	22.53	15	P		P	07 28 57.9	+0.7
	comp=N,1.1nm,0.7s,baz=218,slow=9.8,SNR=4.6							
TXAR	Lajitas Array	72.73	333	P		P	07 35 25.0	+0.3
	comp=N,0.4nm,1.0s,baz=153,slow=8.4,SNR=3.4							
BVAR	Borovoye Array	151.47	47	PKPbc		PKPbc	07 43 50.0	+0.2
	comp=N,0.5nm,0.5s,baz=241,slow=36,SNR=4.0							
MKAR	Makanchi Array	160.68	56	PKPab		PKPab	07 44 37.1	-0.9
	comp=N,0.3nm,0.8s,baz=264,slow=4.3,SNR=2.6							

ISCJB ***16*** *07:37:24.5±0.3, 7°.23S±0'.04×105°.07E±0'.03, h23km, mb4.5/36, Error ellipse: s-maj=5.4km s-min=3.6km az=11.8*

NEIC ***16*** *07:37:26.4±0.4, 6°.91S×105°.27E, mb4.7/9, Error ellipse: s-maj=13.2km s-min=7.3km az=46.0*

DJA ***16*** *07:37:27.6±0.5, 7°.5±2°×10°.5E±°, h11km±3km, M4.6/18, mb4.7/4, MLv4.5/18*

IDC ***16*** *07:37:34.8±3.1, 6°.77S×105°.49E, h84km±26km, mb4.0/22, mb1 4.1/23, mb1mx3.9/68, mbtmp4.3/23, Error ellipse: s-maj=29.2km s-min=11.7km az=53.0*

ISC 16 07:37:25.6±0.7, **7°.04S**±0'.04×**105°.16E**±0'.03, **h15**km±4km, **n186**, σ1§**46**/207, **mb4.6**/36, **2C-5D, Jawa**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CGJI	**Cibinong**	**0.68**	**52**	P			**Pn**	**07 37 42.2**	**+1.6**
CGJI				S			**Sn**	**07 37 51.3**	**+0.4**
SBJI	**Serang**	**1.33**	**47**	P			**Pg**	**07 37 52.3**	**+1.1**
SBJI				S			**Sg**	**07 38 11.4**	**+2.9**
SKJI	**Sukabumi**	**1.39**	**89**	P			**Pg**	**07 37 52.4**	**0.0**
SKJI				S			**Sg**	**07 38 10.1**	**-0.4**
KASI	**Kota Agung**	**1.64**	**336**	P			**Pg**	**07 37 58.8**	**+1.6**
KASI				S			**Sg**	**07 38 22.5**	**+3.9**
BLSI	**Bandar Lampung**	**1.66**	**3**	P			**Pg**	**07 37 58.2**	**+0.6**
BLSI				S			**Sg**	**07 38 21.9**	**+2.7**
TNG	**Tangerang**	**1.71**	**60**	P			**Pg**	**07 37 57.6**	**-0.9**
TNG				P			**Pb**	**07 37 57.8**	**+1.1**
TNG				S			**Sg**	**07 38 20.1**	**-0.7**
TNG				S			**Sb**	**07 38 20.2**	**+2.2**
KLI	**Kotabumi**	**2.18**	**352**	P			**Pg**	**07 38 06.6**	**-0.9**
KLI				S			**Sg**	**07 38 36.3**	**+0.5**
LWLI	**Liwa**	**2.29**	**331**	P			**Pg**	**07 38 08.0**	**-1.5**
LWLI				S			**Sg**	**07 38 37.9**	**-1.3**
LEM	**Lembang**	**2.45**	**85**	P			**Pb**	**07 38 09.3**	**-0.1**
	51nm,0.3s,baz=214,slow=4.8,SNR=50								
LEM				S			**Sb**	**07 38 41.2**	**+1.6**
	77nm,0.3s,baz=330,slow=22,SNR=8.3								
LEM	**Lembang**	**2.45**	**85**	P			**Pn**	**07 38 06.6**	**+1.4**
LEM				S			**Sn**	**07 38 36.0**	**+1.1**
CISI	**Cisompet, Garu**	**2.69**	**101**	P			**Pn**	**07 38 10.3**	**+2.0**
CISI				S			**Sn**	**07 38 41.5**	**+0.9**
CISI	**Cisompet, Garu**	**2.69**	**101**	*e*Pn			**Pn**	**07 38 07.0**	**-1.3**
CISI				*e*Sn			**Sn**	**07 38 40.0**	**-0.6**
MDSI	**Maura Dua**	**2.72**	**339**	P			**Pb**	**07 38 14.3**	**+0.4**
MDSI				S			**Sb**	**07 38 49.5**	**+2.5**
JCJI	**Jatiwangi**	**3.14**	**80**	P			**Pn**	**07 38 14.8**	**+0.3**
JCJI				S			**Sn**	**07 38 53.0**	**+1.3**
MNAI	**Manna**	**3.45**	**320**	P			**Pb**	**07 38 23.2**	**-3.1**
MNAI	**Manna**	**3.45**	**320**	*e*Pn			**Pn**	**07 38 15.0**	**-3.7**
MNAI				*e*Sn			**Sn**	**07 38 57.3**	**-2.0**
XMIS	**Christmas Isla**	**3.46**	**172**	*e*Pn			**Pn**	**07 38 17.4**	**-1.5**
KPJI	**Karang Pucung**	**3.75**	**95**	P			**Pn**	**07 38 24.2**	**+1.2**
MASI	**Maura Aman, Be**	**4.84**	**323**	P			**Pn**	**07 38 42.2**	**+4.3**
UGM	**Wanagama**	**5.39**	**100**	P			**Pn**	**07 38 47.1**	**+1.6**
UGM	**Wanagama**	**5.39**	**100**	*e*Pn			**Pn**	**07 38 49.1**	**+3.6**
WOJI	**Wonogiri, Jawa**	**5.77**	**98**	P			**Pn**	**07 38 51.8**	**+1.1**
PCJI	**Pacitan**	**6.08**	**101**	P			**Pn**	**07 38 55.3**	**+0.4**
PWJI	**Pagerwojo**	**6.66**	**99**	P			**Pn**	**07 39 04.7**	**+1.8**
MYKOM	**Kota Tinggi**	**8.87**	**351**	*e*Pn			**Pn**	**07 39 29.4**	**-3.8**
JAGI	**Jajag, Banyuwa**	**9.03**	**100**	*e*Pn			**Pn**	**07 39 35.1**	**-0.3**
JAGI				*e*Sn			**Sn**	**07 41 12.3**	**-4.5**
COCO	**West Island**	**9.67**	**237**	*e*Pn			**Pn**	**07 39 47.3**	**+3.1**
COCO				*e*Sn			**Sn**	**07 41 37.8**	**+5.1**
SOEI	**Soe**	**19.09**	**99**	*e*P			**P**	**07 41 47.9**	**-0.1**
	30nm,0.6s								
SOEI				*e*Sn			**Sn**	**07 45 15.5**	**-7.2**
FITZ	**Fitzroy Crossi**	**22.79**	**121**	P			**P**	**07 42 28.5**	**+0.7**
	3.7nm,0.7s,baz=296,slow=13,SNR=11								
PHIT	**Phitsanulok**	**24.52**	**349**	P			**P**	**07 42 46.4**	**+1.8**
	7.5nm,0.7s								
CM01	**Chiang Mai Arr**	**26.03**	**346**	*e*P			**P**	**07 42 59.6**	**+1.3**
CM31	**Chiang Mai Arr**	**26.07**	**346**	*e*P			**P**	**07 42 59.8**	**+1.2**
CMAR	**Chiang Mai Arr**	**26.07**	**346**	P			**P**	**07 42 59.2**	**+0.6**
	1.5nm,0.6s,baz=180,slow=9.0,SNR=18								
MTN	**Manton Dam**	**26.21**	**105**	*e*P			**P**	**07 42 58.2**	**-1.9**
	15nm,1.0s								
H01W3	**Cape Leeuwin H**	**28.92**	**165**	T			T	08 13 47.6	
	baz=344,slow=76,SNR=46								
H01W1	**Cape Leeuwin H**	**28.93**	**165**	T			T	08 13 51.0	
	baz=344,slow=76,SNR=62								
H01W2	**Cape Leeuwin H**	**28.93**	**165**	T			T	08 13 48.7	
	baz=344,slow=76,SNR=54								
WR1	**Warramunga Arr**	**31.07**	**117**	*e*P			**P**	**07 43 43.2**	**-0.2**
	17nm,1.3s								
WR1				*e*PcP			**PcP**	**07 46 39.3**	**+0.3**
WRA	**Warramunga Arr**	**31.07**	**117**	P			**P**	**07 43 43.2**	**-0.2**
	6.1nm,0.8s,baz=288,slow=11,SNR=44								
WRA				PcP			**PcP**	**07 46 39.3**	**+0.3**
	1.1nm,0.6s,baz=305,slow=2.0,SNR=8.1								
WRAB	**Tennant Creek**	**31.08**	**117**	*e*P			**P**	**07 43 43.4**	**-0.1**
	14nm,1.1s								
WB2	**Warramunga Arr**	**31.08**	**117**	*e*P			**P**	**07 43 43.4**	**0.0**
KMI	**Kunming**	**32.05**	**356**	P			**P**	**07 43 54.5**	**+2.4**
KMI				pmax			pmax		
	comp=Z,10.0nm,0.6s								
KMI				pmax			pmax		
	comp=Z,54nm,3.9s								
ASAR	**Alice Springs**	**32.17**	**124**	P			**P**	**07 43 53.2**	**+0.2**
	3.1nm,1.1s,baz=307,slow=8.1,SNR=18								
ASAR				PcP			**PcP**	**07 46 42.2**	**+0.3**
	0.6nm,0.4s,baz=302,slow=2.1,SNR=6.5								
AS01	**Alice Springs**	**32.20**	**124**	*e*P			**P**	**07 43 53.5**	**+0.1**
AS01				*e*PcP			**PcP**	**07 46 42.4**	**+0.3**
H08S2	**Diego Garcia H**	**32.40**	**267**	T			T	08 18 12.9	
	baz=91,slow=76,SNR=65								
H08S3	**Diego Garcia H**	**32.41**	**267**	T			T	08 18 15.4	
	baz=91,slow=76,SNR=63								
H08S1	**Diego Carcia H**	**32.42**	**267**	T			T	08 18 16.0	
	baz=91,slow=76,SNR=76								
NJ2	**Nanjing**	**41.01**	**18**	*e*P			**P**	**07 45 07.0**	**-1.2**
NJ2				pmax			pmax		
	comp=Z,21nm,0.5s								
STKA	**Stephens Creek**	**41.98**	**131**	P			**P**	**07 45 17.2**	**+0.9**
	8.7nm,0.7s,baz=295,slow=8.4,SNR=14								
STKA	**Stephens Creek**	**41.98**	**131**	*e*P			**P**	**07 45 17.4**	**+1.1**
	1.9nm,0.9s								
LZH	**Lanzhou**	**42.91**	**358**	*e*P			**P**	**07 45 26.8**	**+2.9**
LZH				pP			sP	07 45 37.4	+6.8
LZH				sP			pP	07 45 42.3	+14
LZH				pmax			pmax		
	comp=Z,21nm,1.2s								
BJI	**Beijing**	**47.94**	**11**	*e*P			**P**	**07 46 01.5**	**-1.9**
BJI				pmax			pmax		
	comp=Z,11nm,0.4s								
HHC	**Hu-ho-hao-te**	**48.01**	**7**	*e*P			**P**	**07 46 06.8**	**+2.6**
HHC				pmax			pmax		
	comp=Z,15nm,1.1s								
HHC				pmax			pmax		
	comp=Z,77nm,6.1s								
KSRS	**Korea Array**	**49.11**	**24**	P			**P**	**07 46 12.2**	**-0.2**
	1.4nm,0.5s,baz=218,slow=7.8,SNR=5.1								
WMQ	**Urumqi**	**53.03**	**344**	P			**P**	**07 46 43.5**	**+1.5**
WMQ				LR			LR		
	comp=N,70nm,20.1s								
WMQ				LR			LR		
	comp=Z,48nm,18.9s								
MAJO	**Matsushiro**	**53.28**	**33**	*e*P			**P**	**07 46 41.0**	**-3.0**
MJAR	**Matsushiro Arr**	**53.28**	**33**	P			**P**	**07 46 40.9**	**-3.0**
	1.4nm,0.5s,baz=223,slow=7.3,SNR=6.5								
KSH	**Kashi**	**53.62**	**332**	P			**P**	**07 46 45.9**	**-0.6**
CN2	**Changchun**	**53.83**	**18**	*e*P			**P**	**07 46 49.8**	**+2.0**
CN2				pmax			pmax		
	comp=Z,10.0nm,0.7s								
SONA0	**Songino Array**	**54.65**	**1**	*e*P			**P**	**07 46 53.2**	**-0.6**
SONA0				*e*PcP			**PcP**	**07 47 56.4**	**-0.2**
SONM	**Songino Array**	**54.65**	**1**	P			**P**	**07 46 53.2**	**-0.6**
	1.4nm,0.6s,baz=172,slow=9.4,SNR=6.4								
SONM				PcP			**PcP**	**07 47 56.4**	**-0.2**
	3.5nm,1.0s,baz=164,slow=3.8,SNR=7.1								
SONA1	**Songino Array**	**54.66**	**1**	*e*P			**P**	**07 46 53.4**	**-0.5**
SONA1				*e*PcP			**PcP**	**07 47 56.6**	**-0.1**
USRK	**Ussuriysk Ar.**	**56.46**	**23**	P			**P**	**07 47 05.4**	**-1.4**
	4.9nm,0.5s,baz=198,slow=5.2,SNR=14								
MK01	**Makanchi Array**	**57.30**	**342**	*e*P			**P**	**07 47 11.6**	**-1.1**
MK01				*e*pP			**pP**	**07 47 17.6**	**-0.1**
MK31	**Makanchi Array**	**57.32**	**342**	*e*P			**P**	**07 47 12.2**	**-0.7**
MK31				*e*pP			**sP**	**07 47 18.5**	**-1.3**
MK32	**Makanchi Array**	**57.32**	**342**	*e*P			**P**	**07 47 12.2**	**-0.7**
MKAR	**Makanchi Array**	**57.32**	**342**	P			**P**	**07 47 12.2**	**-0.8**
	0.9nm,0.4s,baz=146,slow=7.4,SNR=22								
MKAR	**Makanchi Array**	**57.32**	**342**	*e*P			**P**	**07 47 12.1**	**-0.8**
MKAR				*e*pP			**sP**	**07 47 18.6**	**-1.2**
KURBB	**Kurchatov Arra**	**61.88**	**341**	P			**P**	**07 47 43.8**	**-0.4**
	1.1nm,0.4s,baz=152,slow=6.0,SNR=7.5								
KURK	**Kurchatov**	**61.93**	**341**	*e*P			**P**	**07 47 43.8**	**-0.7**
GEYT	**Alibeck**	**62.59**	**319**	P			**P**	**07 47 51.2**	**+1.9**
	3.4nm,0.7s,baz=165,slow=6.2,SNR=5.0								
ZAA0	**Zalesovo Array**	**63.13**	**347**	*e*P			**P**	**07 47 51.4**	**-1.1**
	5.0nm,0.6s								
ZALV	**Zalesovo Beam**	**63.13**	**347**	P			**P**	**07 47 52.0**	**-0.5**
	2.5nm,0.3s,baz=152,slow=4.3,SNR=14								
ZALV	**Zalesovo Beam**	**63.13**	**347**	*e*P			**P**	**07 47 51.4**	**-1.1**
ZAA1	**Zalesovo Array**	**63.14**	**347**	*e*P			**P**	**07 47 52.0**	**-0.6**
BVAR	**Borovoye Array**	**66.70**	**338**	P			**P**	**07 48 15.3**	**-0.5**
	4.5nm,0.6s,baz=140,slow=7.7,SNR=23								
BRVK	**Borovoye**	**66.77**	**338**	*e*P			**P**	**07 48 16.6**	**+0.4**
	3.2nm,0.6s								
ABKAR	**Akbulak array**	**68.52**	**330**	*e*P			**P**	**07 48 27.8**	**+0.4**
AKTO	**Aktyubinsk**	**70.23**	**330**	P			**P**	**07 48 38.5**	**+0.6**
	1.4nm,0.4s,baz=139,slow=6.4,SNR=4.9								
BKZ	**Black Stump Fm**	**71.12**	**129**	*e*P			**P**	**07 48 44.1**	**+0.4**
	8.0nm,0.8s								
ARU	**Arti**	**73.88**	**335**	P			**P**	**07 48 59.7**	**0.0**
	4.4nm,0.2s,baz=138,slow=4.1,SNR=6.3								
PETK	**Petropavlovsk-**	**74.53**	**30**	P			**P**	**07 49 01.9**	**-1.6**
	2.5nm,0.6s,baz=183,slow=3.2,SNR=9.3								
PEA1	**Petropavlovsk-**	**74.53**	**30**	*e*P			**P**	**07 49 01.9**	**-1.7**
TIXI	**Tiksi**	**80.07**	**7**	*e*P			**P**	**07 49 32.6**	**-1.6**
	8.2nm,0.7s								
BR101	**Keskin Array S**	**80.49**	**312**	*e*P			**P**	**07 49 38.0**	**+0.6**
BRTR	**Keskin Array B**	**80.49**	**312**	P			**P**	**07 49 38.0**	**+0.6**
	1.7nm,0.8s,baz=148,slow=7.8,SNR=8.9								
BR231	**Keskin MP Arra**	**81.16**	**312**	*e*P			**P**	**07 49 38.9**	**-2.0**
KLMR	**Klimovskoe**	**84.59**	**333**	*e*P			**P**	**07 49 57.3**	**-0.7**
KLMR				AMP				07 50 00.1	
	comp=Z,4.0nm,0.9s								
AKASG	**Malin Array Be**	**86.59**	**322**	P			**P**	**07 50 08.4**	**+0.2**
	comp=Z,1.2nm,0.7s,baz=87,slow=4.5,SNR=6.6								
VRI	**Vrincioaia**	**87.02**	**317**	*i*P			**P**	**07 50 12.7**	**+2.2**
TESR	**Tescani**	**87.22**	**317**	*i*P			**P**	**07 50 12.0**	**+0.6**
MLR	**Muntele Rosu**	**87.47**	**316**	P			**P**	**07 50 14.3**	**+1.5**
	comp=Z,0.7nm,0.6s,baz=203,slow=6.2,SNR=4.6								
MLR	**Muntele Rosu**	**87.47**	**316**	*i*P			**P**	**07 50 15.3**	**+2.5**
PRAR	**RASCA**	**87.69**	**318**	*i*P			**P**	**07 50 13.2**	**-0.5**
ARR	**Arges**	**88.35**	**316**	*i*P			**P**	**07 50 18.8**	**+1.9**
BURAR	**Bucovina Array**	**88.42**	**318**	*i*P			**P**	**07 50 20.0**	**+2.7**
BUR04	**Bucovina Ar. S**	**88.42**	**318**	*e*P			**P**	**07 50 19.1**	**+1.9**
BUR08	**Bucovina Ar. S**	**88.43**	**318**	*e*P			**P**	**07 50 19.8**	**+2.4**
FIA0	**FINESS Array S**	**90.94**	**332**	*e*P			**P**	**07 50 28.9**	**+0.3**
FINES	**FINESS Array B**	**90.94**	**332**	P			**P**	**07 50 28.9**	**+0.3**
	comp=Z,2.6nm,0.8s,baz=119,slow=6.9,SNR=7.2								
ARA0	**ARCESS Array S**	**92.94**	**340**	*e*P			**P**	**07 50 37.8**	**+0.1**
ARCES	**ARCESS Array B**	**92.94**	**340**	P			**P**	**07 50 37.8**	**+0.1**
	comp=Z,1.1nm,0.7s,baz=98,slow=7.5,SNR=6.8								
TIP	**Timpagrande**	**93.16**	**309**	*i*P			**P**	**07 50 38.4**	**-1.1**
P41A	**Barry, Barry**	**144.39**	**22**	P			**PKPab**	**07 56 59.1**	**-0.6**
	baz=332								
Q40A	**Laux Farm, Aux**	**144.59**	**23**	P			**PKPab**	**07 57 00.0**	**-0.4**
	baz=330								
P42A	**Winchester**	**144.72**	**21**	P			**PKPab**	**07 57 00.3**	**-0.6**
	baz=333								
ERPA	**Erie**	**144.77**	**7**	P			**PKPab**	**07 57 00.3**	**-0.9**
	baz=351								
R39A	**Chumby, Stover**	**144.78**	**25**	P			**PKPab**	**07 57 00.3**	**-0.9**
	baz=328								
LTX	**Lajitas**	**144.95**	**47**	*e*PKPdf		PKPbc		07 57 02.4	+0.2
TXAR	**Lajitas Array**	**144.95**	**47**	PKP		PKPbc		07 57 02.4	+0.2
	comp=Z,1.7nm,0.6s,baz=286,slow=1.4,SNR=19								
Q41A	**Truxton**	**144.95**	**23**	P			**PKPab**	**07 57 00.5**	**-1.3**
	baz=331								
P43A	**Skaggs, Pawnee**	**144.96**	**20**	P			**PKPab**	**07 57 00.6**	**-1.2**
	baz=334								
S38A	**Stockton**	**144.97**	**27**	P			**PKPab**	**07 57 00.9**	**-1.0**
	baz=326								
BINY	**Binghamton**	**144.97**	**1**	P			**PKPab**	**07 57 01.2**	**-0.6**
	baz=358								
O45A	**Potomac**	**144.98**	**17**	P			**PKPab**	**07 57 01.2**	**-0.6**
	baz=337								
SFIN	**Lafayette**	**145.04**	**16**	P			**PKPbc**	**07 57 01.2**	**-0.8**
	baz=338								
R40A	**Maddies Statio**	**145.12**	**24**	P			**PKPbc**	**07 57 01.3**	**-1.0**
	baz=329,SNR=6.2								
S39A	**Bolivar**	**145.18**	**26**	P			**PKPbc**	**07 57 01.3**	**-1.3**
	baz=327								
Q42A	**Golden Eagle**	**145.25**	**22**	P			**PKPbc**	**07 57 01.5**	**-1.2**
	baz=332								
T38A	**Diamond**	**145.28**	**28**	P			**PKPbc**	**07 57 01.9**	**-1.1**
	baz=325,SNR=5.3								
M54A	**Oil Creek Stat**	**145.41**	**6**	P			**PKPbc**	**07 57 02.5**	**-0.7**
	baz=351								
P44A	**Sand Creek, Wi**	**145.41**	**19**	P			**PKPbc**	**07 57 02.2**	**-1.0**
	baz=335								
TUL1	**Leonard**	**145.44**	**31**	P			**PKPbc**	**07 57 02.8**	**-0.7**
	baz=321								
R41A	**Rosebud**	**145.47**	**23**	P			**PKPbc**	**07 57 02.5**	**-1.0**
	baz=330								
Q43A	**New Douglas**	**145.53**	**21**	P			**PKPdf**	**07 57 02.6**	**-1.0**
	baz=333								
S40A	**Lebanon**	**145.61**	**25**	P			**PKPdf**	**07 57 03.0**	**-0.8**
	baz=328,SNR=7.0								
P45A	**Graceland, Par**	**145.63**	**18**	P			**PKPdf**	**07 57 03.5**	**-0.3**
	baz=337								
T39A	**Clever**	**145.71**	**27**	P			**PKPbc**	**07 57 04.3**	**0.0**
	baz=326								
R42A	**Luebbering**	**145.71**	**23**	P			**PKPdf**	**07 57 03.9**	**0.0**
	baz=331								
P46A	**Rosedale**	**145.71**	**17**	P			**PKPdf**	**07 57 03.9**	**0.0**
	baz=338								
CCM	**Cathedral Cave**	**145.73**	**23**	P			**PKPdf**	**07 57 04.0**	**0.0**
	baz=330								
Q44A	**Meyer Farm, Va**	**145.79**	**20**	P			**PKPdf**	**07 57 04.0**	**-0.1**
	baz=334								
N54A	**Moraine State**	**145.91**	**7**	P			**PKPdf**	**07 57 04.4**	**+0.2**
	baz=351								
S41A	**Jillo Farms,**	**145.93**	**24**	P			**PKPdf**	**07 57 04.1**	**-0.3**
	baz=329,SNR=5.7								
T40A	**Mansfield**	**145.98**	**26**	P			**PKPdf**	**07 57 04.4**	**-0.1**
	baz=327								
R43A	**Red Bud**	**146.03**	**22**	P			**PKPdf**	**07 57 04.5**	**0.0**
	baz=332								
Q45A	**Warren Harvey,**	**146.08**	**19**	P			**PKPdf**	**07 57 04.8**	**+0.3**
	baz=336								
P47A	**Martinsville**	**146.10**	**16**	P			**PKPdf**	**07 57 04.3**	**-0.2**
	baz=339								
S42A	**Caledonia**	**146.15**	**23**	P			**PKPdf**	**07 57 04.6**	**-0.1**
	baz=331,SNR=7.4								
ACSO	**Alum Creek Sta**	**146.15**	**11**	P			**PKPdf**	**07 57 04.9**	**+0.2**
	baz=345								
PAL	**Palisades**	**146.17**	**359**	P			**PKPbc**	**07 57 05.1**	**-0.4**
	baz=1.5								
N59A	**State Game Lan**	**146.25**	**1**	P			**PKPdf**	**07 57 05.3**	**+0.5**
	baz=358								
R44A	**Waltonville**	**146.36**	**20**	P			**PKPbc**	**07 57 06.0**	**-0.2**
	baz=334								
T41A	**Mountain View**	**146.39**	**25**	P			**PKPbc**	**07 57 05.9**	**-0.5**
	baz=329								
SSPA	**Standing Stone**	**146.44**	**4**	P			**PKPbc**	**07 57 06.2**	**-0.1**
	baz=354								
U40A	**Yellville**	**146.49**	**27**	P			**PKPdf**	**07 57 05.7**	**+0.4**
	baz=326,SNR=9.4								
V39A	**Pettigrew**	**146.55**	**28**	P			**PKPdf**	**07 57 06.1**	**+0.5**
	baz=325								
Q47A	**Bedford North L**	**146.57**	**17**	P			**PKPdf**	**07 57 05.8**	**+0.5**
	baz=339								
R45A	**Skylar, Fairfi**	**146.59**	**19**	P			**PKPdf**	**07 57 06.0**	**+0.6**
	baz=335								
T42A	**Van Buren**	**146.68**	**24**	P			**PKPdf**	**07 57 06.4**	**+0.8**
	baz=330,SNR=7.8								
O56A	**Blue Knob Stat**	**146.75**	**5**	P			**PKPbc**	**07 57 07.1**	**-0.3**
	baz=353								
S44A	**Carbondale**	**146.79**	**21**	P			**PKPbc**	**07 57 07.2**	**-0.3**
	baz=333								
R46A	**Gibon Southern**	**146.91**	**18**	P			**PKPbc**	**07 57 07.3**	**-0.6**
	baz=336								
U41A	**Viola**	**146.91**	**26**	P			**PKPbc**	**07 57 07.3**	**-0.6**
	baz=328								
T43A	**Greenville**	**146.95**	**23**	P			**PKPbc**	**07 57 07.2**	**-0.7**
	baz=331								
R47A	**Wooly Knot Far**	**147.13**	**17**	P			**PKPbc**	**07 57 08.0**	**-0.5**
	baz=338								
U42A	**Revenden**	**147.20**	**25**	P			**PKPbc**	**07 57 08.2**	**-0.5**
	baz=329								
MCWV	**Mont Chateau**	**147.21**	**7**	P			**PKPbc**	**07 57 08.6**	**-0.1**
	baz=351								
R48A	**Northridge Ran**	**147.22**	**16**	P			**PKPbc**	**07 57 08.7**	**0.0**
	baz=339								
WCI	**Wyandotte Cave**	**147.26**	**17**	P			**PKPbc**	**07 57 08.7**	**-0.1**
	baz=339								
V41A	**Mountainview**	**147.28**	**27**	P			**PKPbc**	**07 57 09.1**	**+0.1**
	baz=327								
W40A	**Ferguson Farm,**	**147.35**	**28**	P			**PKPbc**	**07 57 09.5**	**+0.3**
	baz=325								
X39A	**Fountain Ranch**	**147.39**	**30**	P			**PKPbc**	**07 57 09.1**	**-0.2**
	baz=323								
T46A	**Princeton**	**147.85**	**20**	P			**PKPbc**	**07 57 10.3**	**-0.2**
	baz=335								
S48A	**Wiedeman Farm,**	**147.86**	**17**	P			**PKPbc**	**07 57 10.1**	**-0.4**
	baz=339								
T47A	**Sharon Grove**	**148.16**	**19**	P			**PKPbc**	**07 57 10.9**	**-0.4**
	baz=336								
U47A	**Clarksville**	**148.60**	**19**	P			**PKPbc**	**07 57 12.5**	**0.0**
	baz=336								
WVT	**Waverly**	**148.70**	**20**	P			**PKPbc**	**07 57 12.7**	**-0.1**
	baz=335								
V47A	**Nunnelly**	**149.08**	**20**	P			**PKPbc**	**07 57 14.3**	**+0.6**
	baz=335								
V48A	**Smith Brothers**	**149.39**	**19**	P			**PKPbc**	**07 57 14.8**	**+0.3**
	baz=336								
W47A	**Westpoint**	**149.57**	**21**	P			**PKPbc**	**07 57 14.7**	**-0.3**
	baz=334								
X48A	**Hartselle**	**150.49**	**21**	P			**PKPbc**	**07 57 15.7**	**-1.5**
	baz=335								
Y47A	**UCPARC, Winfie**	**150.68**	**22**	P			**PKPbc**	**07 57 16.2**	**-1.5**
	baz=333								
Z46A	**Louisville**	**150.87**	**25**	P			**PKPbc**	**07 57 16.5**	**-1.6**
	baz=330								
Y48A	**Jasper**	**150.93**	**21**	P			**PKPbc**	**07 57 16.8**	**-1.5**
	baz=334								
KMSC	**Kings Mountain**	**151.40**	**11**	P			**PKPbc**	**07 57 18.6**	**-0.8**
	baz=346								
344A	**Westbrook Farm**	**151.53**	**29**	P			**PKPbc**	**07 57 18.4**	**-1.4**
	baz=325								
Z49A	**Columbiana**	**151.80**	**21**	P			**PKPbc**	**07 57 19.8**	**-0.5**
	baz=335								
445A	**Amite**	**152.31**	**30**	P			**PKPbc**	**07 57 20.8**	**-0.8**
	baz=325								
248A	**Dixon Mills**	**152.32**	**24**	P			**PKPbc**	**07 57 20.8**	**-0.7**
	baz=332								
546A	**Slidell**	**153.03**	**29**	P			**PKPbc**	**07 57 23.2**	**+0.1**
	baz=326								
251A	**Midway**	**153.19**	**20**	P			**PKPbc**	**07 57 23.0**	**-0.4**
	baz=336								
353A	**Camilla**	**154.28**	**19**	P			**PKPbc**	**07 57 24.8**	**-1.0**
	baz=338								
453A	**Whigham**	**154.70**	**19**	P			**PKPbc**	**07 57 26.1**	**-0.6**
	baz=338								
357A	**Townsend**	**154.96**	**14**	P			**PKPbc**	**07 57 26.5**	**-0.7**
	baz=344								
552A	**Lynn Haven**	**155.01**	**22**	P			PKPbc	07 57 26.7	
	baz=335								

GUC ***16*** *07:50:05.0±0.6, 36°.47S×73°.86W, h16km±4km, ML3.9*

IDC ***16*** *07:50:06.1±2.0, 36°.32S×73°.71W, h0km, mb3.4/3, mb1 3.8/4, mb1mx3.6/31, mbtmp3.5/4, ML3.9/1, MS3.2/4, Ms1 3.2/4, ms1mx3.0/12, Error ellipse: s-maj=56.1km s-min=21.0km az=73.0*

ISC 16 07:50:05.9±2.4, **36°.46S**±0'.05×**73°.81W**±0'.09

CMAR	Chiang Mai Arr	19.02	29	P	P	08 09 42.9	-0.6	
	baz=216,slow=12,SNR=4.3							
H08S2	Diego Garcia H	19.29	241	T	T	08 29 44.6		
	baz=60,slow=75,SNR=20							
H08S3	Diego Garcia H	19.29	241	T	T	08 29 44.5		
	baz=60,slow=75,SNR=10							
H08S1	Diego Carcia H	19.31	241	T	T	08 29 41.9		
	baz=60,slow=75,SNR=23							
H01W3	Cape Leeuwin H	43.24	150	T	T	08 59 28.9		
	baz=324,slow=74,SNR=3.0							
H01W2	Cape Leeuwin H	43.25	150	T	T	08 59 32.5		
	baz=324,slow=74,SNR=3.6							
H01W1	Cape Leeuwin H	43.25	150	T	T	08 59 31.2		
	baz=324,slow=74,SNR=2.8							
MK32	Makanchi Array	45.24	353	*e*P	P	08 13 39.1	+0.3	
MKAR	Makanchi Array	45.24	353	P	P	08 13 39.1	+0.3	
	0.4nm,0.6s,baz=168,slow=10.0,SNR=5.5							
SONA0	Songino Array	48.16	15	*e*P	P	08 14 02.1	+0.3	
SONM	Songino Array	48.16	15	P	P	08 14 02.1	+0.3	
	1.5nm,0.7s,baz=195,slow=10,SNR=6.9							
FORT	Forrest	49.02	135	*e*P	P	08 14 07.8	-0.7	
	11nm,0.8s							
WR1	Warramunga Arr	49.08	118	*e*P	P	08 14 08.2	-1.0	
	3.3nm,0.7s							
WRA	Warramunga Arr	49.08	118	P	P	08 14 08.2	-1.0	
	2.9nm,0.7s,baz=295,slow=8.6,SNR=31							
WRAB	Tennant Creek	49.09	118	*e*P	P	08 14 08.6	-0.7	
	10nm,0.8s							
WB2	Warramunga Arr	49.09	118	*e*P	P	08 14 08.5	-0.8	
KURBB	Kurchatov Arra	49.51	351	P	P	08 14 12.2	+0.3	
	0.5nm,0.6s,baz=174,slow=7.2,SNR=4.3							
KURK	Kurchatov	49.59	351	*e*P	P	08 14 12.2	-0.3	
ASAR	Alice Springs	50.13	123	P	P	08 14 16.2	-0.9	
	1.8nm,0.6s,baz=296,slow=7.8,SNR=30							
AS31	Alice Springs	50.13	123	*e*P	P	08 14 16.6	-0.6	
	0.8nm,0.6s							
AS01	Alice Springs	50.17	123	*e*P	P	08 14 16.7	-0.7	
ZALV	Zalesovo Beam	52.11	357	P	P	08 14 30.3	-1.2	
	0.6nm,0.4s,baz=161,slow=6.9,SNR=3.1							
ZAA1	Zalesovo Array	52.12	357	*e*P	P	08 14 30.3	-1.3	
BVAR	Borovoye Array	53.44	346	LR	LR	08 38 28.1		
	comp=Z,19nm,18.7s,baz=108,slow=37							
AKTO	Aktyubinsk	55.27	336	P	P	08 14 54.5	-0.2	
	0.9nm,0.5s,baz=155,slow=14,SNR=5.2							
STKA	Stephens Creek	59.68	129	P	P	08 15 25.4	-0.8	
	1.3nm,0.5s,baz=302,slow=5.6,SNR=5.7							
BR101	Keskin Array S	63.02	314	*e*P	P	08 15 49.5	+0.6	
BRTR	Keskin Array B	63.02	314	P	P	08 15 49.5	+0.6	
	0.5nm,0.6s,baz=116,slow=6.6,SNR=3.3							
MLR	Muntele Rosu	70.34	318	P	P	08 16 36.9	+1.4	
	0.4nm,0.6s,baz=151,slow=5.0,SNR=4.6							
GEC2	GERESS Array S	79.25	319	*e*P	P	08 17 29.7	+2.7	
	2.3nm,0.8s							
GERES	GERESS Array B	79.25	319	P	P	08 17 29.7	+2.7	
	0.3nm,0.4s,baz=81,slow=6.1,SNR=2.6							
LTX	Lajitas	146.61	21	*e*PKPdf	PKPbc	08 25 04.0	0.0	
TXAR	Lajitas Array	146.61	21	PKPbc	PKPbc	08 25 04.0	0.0	
	0.1nm,0.5s,baz=345,slow=2.8,SNR=3.5							

ISCJB ***16*** *08:08:28.5±0.7,6˚.12N±0˚.08×82˚.66W±0˚.09,h14km, mb3.8/7, MS3.4/5, Error ellipse: s-maj=16.7km s-min=6.4km az=137.5*

IDC ***16*** *08:08:28.1±1.2,6˚.08N×82˚.57W, h0km, mb3.9/7, mb1 4.1/9, mb1mx3.9/46, mbtmp3.9/9, ML3.6/2, MS3.4/7, Ms1 3.4/7, ms1mx3.0/31, Error ellipse: s-maj=54.3km s-min=20.8km az=43.0*

ISC 16 08:08:29.9±0.7, 6˚.06N±0˚.09×82˚.7W±0˚.1, h14km, n24, σ1§23/22, mb3.7/7, MS3.4/5, South of Panama

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
BCIP	Isla Barro Col	4.22	43	*e*P		Pn	08 09 32.3	-1.5
JTS	JuntasAbangare	4.74	333	Pn		Pn	08 09 40.4	-0.7
	4.1nm,0.3s,baz=140,slow=10,SNR=36							
JTS				Sn		Sn	08 10 34.3	-1.5
	4.2nm,0.3s,baz=110,slow=23,SNR=7.7							
JTS				LR		LR	08 10 48.9	
	comp=Z,66nm,20.7s,baz=166,slow=29							
YOTC	Yotoco, Valle	6.70	108	*e*P		Pn	08 10 06.0	-2.1
POPC	Popayan, Colom	6.99	120	*e*P		Pn	08 10 14.3	+2.2
OTAV	Otavalo	7.20	143	*e*P		Pn	08 10 14.3	-1.0
SOTA	Rioblanco	7.25	122	*e*P		Pn	08 10 15.5	-0.6
PCON	Cinco Dias	7.33	120	*e*P		Pn	08 10 18.6	+1.4
MOTC	Monteria, Cord	7.52	69	*e*P		Pn	08 10 19.9	+0.7
ATAH	Atahualpa	13.81	162	LR		LR	08 16 35.0	
	comp=Z,344nm,20.2s,baz=18,slow=35							
CMIG	Matias Romero	16.16	314	Pn		P	08 12 19.9	-0.1
	0.2nm,0.3s,baz=98,slow=12,SNR=2.7							
LPAZ	La Paz	26.50	147	LR		LR	08 25 28.2	
	comp=Z,176nm,20.2s,baz=346,slow=39							
TKL	Tuckaleechee C	29.47	358	LR		LR	08 26 04.0	
	comp=Z,76nm,19.1s,baz=198,slow=36							
SIV	San Ignacio	30.66	136	P		P	08 14 43.6	-0.7
	0.4nm,0.6s,baz=308,slow=15,SNR=4.0							
PDAR	Pinedale Array	43.57	331	LR		LR	08 37 00.0	
	comp=Z,43nm,18.1s,baz=144,slow=39							
NVAR	Mina Array Bea	45.55	320	P		P	08 16 51.5	+1.9
	0.7nm,0.8s,baz=149,slow=7.9,SNR=5.6							
NVAR				PcP		PcP	08 18 29.5	+1.2
	0.7nm,0.7s,baz=125,slow=4.5,SNR=6.0							
NVAR				LR		LR	08 38 26.5	
	comp=Z,39nm,21.4s,baz=275,slow=40							
YBH	Yreka Blue Hor	50.21	321	LR		LR	08 42 51.9	
	comp=Z,38nm,19.4s,baz=118,slow=41							
YKA	Yellowknife Ar	60.98	344	P		P	08 18 42.4	-0.1
	0.7nm,0.8s,baz=139,slow=6.9,SNR=11							
YKA				PcP		PcP	08 19 26.4	+0.6
	0.4nm,0.8s,baz=133,slow=4.8,SNR=4.0							
INK	Inuvik	70.66	342	P		P	08 19 46.2	+1.4
	4.8nm,0.9s,baz=118,slow=7.0,SNR=18							
ILAR	Eielson Array	73.70	336	P		P	08 20 03.1	0.0
	0.5nm,0.7s,baz=117,slow=4.8,SNR=5.9							
ESDC	Sonseca Array	77.52	51	P		P	08 20 25.7	+0.1
	0.1nm,0.3s,baz=279,slow=5.4,SNR=4.7							
KOWA	Kowa	77.62	77	P		P	08 20 26.3	-0.2
	2.3nm,0.6s,baz=287,slow=5.8,SNR=5.6							
SONM	Songino Array	125.73	352	PKP		PKPdf	08 27 31.5	-0.1
	0.4nm,0.5s,baz=339,slow=1.7,SNR=3.2							
ASAR	Alice Springs	140.67	240	PKhKP		PKPpre	08 27 52.5	
	0.4nm,0.8s,baz=94,slow=1.4,SNR=3.6							
ASAR				PKP		PKPdf	08 27 58.6	-1.5
	0.7nm,0.7s,baz=94,slow=1.6,SNR=6.4							
WRA	Warramunga Arr	141.44	246	PKhKP		PKPpre	08 27 54.9	
	0.5nm,0.8s,baz=105,slow=3.5,SNR=2.9							
WRA				PKP		PKPdf	08 28 01.0	-0.6
	1.3nm,0.9s,baz=93,slow=1.9,SNR=8.2							

IDC ***16*** *08:11:59.3±0.9,35˚.64N×96˚.84W, h0km, mb3.0/2, mb1 3.9/8, mb1mx3.6/66, mbtmp3.6/8, ML3.9/6, MS3.5/2, Ms1 3.4/2, ms1mx2.7/20, Error ellipse: s-maj=15.9km s-min=11.8km az=151.0*

NEIC ***16*** *08:12:00.0±0.0, 35˚.53N×96˚.76W, h4km, MW3.8, Moment Tensor Solution. s32 Moment tensor: Scale 10^{14}Nm; M_{rr}=0.24; $M_{\theta\theta}$=6.26; $M_{\phi\phi}$=-6.02; $M_{r\theta}$=1.44; $M_{r\phi}$=2.78; $M_{\theta\phi}$=-2.69; Best double couple: M_0=7.40000×10^{14} NP1:ϕ_s=301.00000°, δ=80.00000°, λ=-21.00000°. NP2:ϕ_s=35.00000°, δ=70.00000°, λ=-170.00000°. Principal axes: T 6.9700, Plg=7.0000°, Azm=349.0000°; N 0.8000, Plg=67.0000°, Azm=97.0000°; P -7.7700, Plg=21.0000°, Azm=257.0000°; After TUL.*

NEIC Felt [IV] at Prague and Sparks; [III] at Davenport, Meeker, Paden, Shawnee and Stroud; [II] at Chandler and Broken Arrow. Felt in central and eastern Oklahoma, in parts of southern Kansas and at Fayetteville, Arkansas.

ISC 16 08:11:58.3±1.1, 35˚.58N±0˚.03×96˚.74W±0˚.02, h3km±8km, n260, σ1§59/330, mb3.1/3, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
OK002	Wilshire Harra	0.37	266	*e*Pg		Pb	08 12 07.2	-0.4
OK002				*e*Sg		Sg	08 12 11.3	+0.9
OK005	Luther M Schoo	0.38	282	*e*Pg		Pb	08 12 07.2	-0.4
OK005				*e*Sg		Sb	08 12 12.3	-1.6
OK001	Jones High Sch	0.45	268	*e*Pg		Pg	08 12 08.2	+1.3
OK001				*e*Sg		Sg	08 12 14.0	+1.2
TUL1	Leonard	0.84	66	P		Pb	08 12 16.1	+0.6
	baz=247							
TUL1				S		Sb	08 12 28.1	+0.8
	baz=247							
TUL1	Leonard	0.84	66	*e*Pg		Pb	08 12 16.2	+0.6
TUL1				*e*Sg		Sg	08 12 26.1	+0.8
WMOK	Wichita Mounta	1.87	244	P		Pb	08 12 32.4	-0.7
	baz=63							
WMOK				S		Sb	08 12 57.0	+0.1
	baz=63							
WMOK	Wichita Mounta	1.87	244	*e*Pn		Pb	08 12 32.0	-1.1
WMOK				*e*Sn		Sg	08 12 58.4	0.0
HHAR	Hobbs	2.38	72	*e*Pn		Pn	08 12 40.1	+1.9
HHAR				*e*Sn		Sg	08 13 14.8	0.0
X39A	Fountain Ranch	2.40	115	P		Pn	08 12 40.4	+1.9
	baz=297							
W39A	Magazine	2.44	98	P		Pn	08 12 40.7	+1.6
	baz=280							
W39A				S		Sb	08 13 12.0	-1.5
	baz=280							
W39A	Magazine	2.44	98	*e*Pn		Pn	08 12 40.8	+1.6
W39A				*e*Sn		Sn	08 13 10.1	+0.6
W39A				*e*Sg		Sg	08 13 17.4	+0.6
T38A	Diamond	2.46	53	P		Pb	08 12 41.4	-1.7
	baz=234							
V39A	Pettigrew	2.53	83	P		Pn	08 12 42.0	+1.6
	baz=265,SNR=833							
U39A	Green Forest	2.76	72	P		Pn	08 12 45.2	+1.6
	baz=254,SNR=138							
MIAR	Mount Ida	2.79	111	P		Pn	08 12 45.8	+1.8
	baz=292							
MIAR	Mount Ida	2.79	111	*e*Pn		Pn	08 12 45.7	+1.8
MIAR				*e*Sn		Sg	08 13 28.8	+0.9
W40A	Ferguson Farm,	3.02	96	P		Pn	08 12 49.1	+2.1
	baz=278							
W40A				S		Sn	08 13 26.6	+2.8
	baz=278							
W40A	Ferguson Farm,	3.02	96	*e*Pn		Pn	08 12 49.2	+2.1
S38A	Stockton	3.07	47	P		Pn	08 12 50.0	+2.3
	baz=229							
T39A	Clever	3.08	61	P		Pn	08 12 49.6	+1.8
	baz=243							
V40A	Witts Springs	3.20	85	P		Pn	08 12 51.2	+1.7
	baz=267,SNR=337							
V40A	Witts Springs	3.20	85	*e*Pn		Pn	08 12 51.2	+1.7
V40A				*e*Sg		Sg	08 13 41.5	+0.5
Y40A	Okolona	3.25	118	P		Pn	08 12 51.5	+1.4
	baz=299							
U40A	Yellville	3.25	75	P		Pn	08 12 51.8	+1.6
	baz=257,SNR=323							
X40A	Basin Creek Fa	3.38	108	P		Pn	08 12 53.7	+1.6
	baz=290							
X40A	Basin Creek Fa	3.38	108	*e*Pn		Pn	08 12 53.7	+1.6
X40A				*e*Sg		Sg	08 13 47.2	+0.2
R38A	Fenwick Farm,	3.46	40	P		Pn	08 12 55.2	+2.1
	baz=222							
S39A	Bolivar	3.47	51	P		Pn	08 12 55.6	+2.4
	baz=234,SNR=92							
S39A				S		Sn	08 13 37.6	+2.8
	baz=234							
KSU1	Kansas State U	3.52	2	P		Pn	08 12 55.3	+1.4
	baz=182							
KSU1	Kansas State U	3.52	2	*e*Pn		Pn	08 12 55.3	+1.4
KSU1				*e*Sg		Sg	08 13 54.0	+2.6
WLAR	White Oak Lake	3.53	121	*e*Pn		Pn	08 12 55.9	+1.8
WLAR				*e*Sg		Sg	08 13 51.6	-0.2
Z40A	Long Farm, Mag	3.60	129	P		Pn	08 12 56.1	+1.1
	baz=311							
WHTX	Lake Whitney,	3.62	190	P		Pn	08 12 56.3	+1.0
	baz=8.9							
WHTX	Lake Whitney,	3.62	190	*e*Pn		Pn	08 12 56.2	+1.0
WHTX				*e*Sg		Sg	08 13 52.7	-2.0
X41A	Kaden, Bauxite	3.63	106	P		Pn	08 12 57.0	+1.6
	baz=288							
WHAR	Wooly Hollow	3.65	93	*e*Pn		Pn	08 12 57.3	+1.7
WHAR				*e*Sg		Sg	08 13 54.1	-1.3
UALR	University of	3.69	101	*e*Pn		Pn	08 12 58.0	+1.8
UALR				*e*Sg		Sg	08 13 56.2	-0.6
W41B	Gary Mavity, V	3.69	95	P		Pn	08 12 57.9	+1.7
	baz=277							
W41B	Gary Mavity, V	3.69	95	*e*Pn		Pn	08 12 58.0	+1.7
W41B				*e*Sg		Sg	08 13 55.8	-1.1
V41A	Mountainview	3.74	85	P		Pn	08 12 58.4	+1.5
	baz=268,SNR=184							
T40A	Mansfield	3.75	64	P		Pn	08 12 58.8	+1.7
	baz=246,SNR=41							
Q37A	Longview Farm,	3.77	28	P		Pn	08 12 58.9	+1.5
	baz=210							
Y41A	Eaglette Beard	3.80	115	P		Pn	08 12 59.0	+1.3
	baz=297							
ABTX	Abilene, Hawle	3.80	220	P		Pn	08 12 58.7	+0.8
	baz=38							
ABTX	Abilene, Hawle	3.80	220	*e*Pn		Pn	08 12 58.6	+0.8
ABTX				*e*Sn		Sn	08 13 43.0	-0.1
ABTX				*e*Sg		Sg	08 14 01.2	+0.8
140A	Cam and Jess,	3.93	137	P		Pn	08 13 00.9	+1.3
	baz=319							
S40A	Lebanon	3.96	58	P		Pn	08 13 01.9	+1.9
	baz=241,SNR=84							
U41A	Viola	3.98	77	P		Pn	08 13 01.6	+1.3
	baz=260,SNR=83							
Z41A	Richland Creek	3.99	124	*e*Pn		Pn	08 13 02.8	+2.5
Z41A				*e*Sg		Sg	08 14 03.2	-3.3
CBKS	Cedar Bluff	4.02	324	P		Pn	08 13 02.6	+1.8
	baz=143							
CBKS	Cedar Bluff	4.02	324	*e*Pn		Pn	08 13 02.4	+1.5
CBKS				*e*Sg		Sg	08 14 08.7	+1.2
R39A	Chumby, Stover	4.03	46	P		Pn	08 13 03.1	+2.1
	baz=228,SNR=56							
AMTX	Amarillo	4.10	262	P		Pn	08 13 03.5	+1.5
	baz=79							
AMTX	Amarillo	4.10	262	*e*Pn		Pn	08 13 03.5	+1.5
AMTX				*e*Sg		Sg	08 14 10.4	+0.3
NATX	Nacogdoches	4.18	155	*e*Pn		Pn	08 13 04.1	+1.1
NATX				*e*Sg		Sg	08 14 13.4	+0.8
Q38A	Cooks Store, C	4.20	35	P		Pn	08 13 04.7	+1.5
	baz=217							
T41A	Mountain View	4.28	69	P		Pn	08 13 06.4	+2.0
	baz=251,SNR=135							
V42A	Cord	4.36	85	P		Pn	08 13 06.6	+1.2
	baz=268,SNR=18							
CCAR	Cane Creek	4.41	111	*e*Pn		Pn	08 13 07.8	+1.7
CCAR				*e*Sg		Sg	08 14 20.5	+0.5
P37A	Lathrop	4.43	25	P		Pn	08 13 08.6	+2.1
	baz=206							
Y42A	Garnett, Star	4.43	112	P		Pn	08 13 08.0	+1.5
	baz=294							
R40A	Maddies Statio	4.49	52	P		Pn	08 13 09.0	+1.8
	baz=234,SNR=60							
S41A	Jillco Farms,	4.49	62	P		Pn	08 13 09.6	+2.2
	baz=245,SNR=21							
U42A	Revenden	4.53	79	P		Pn	08 13 08.8	+1.1
	baz=262,SNR=133							
O33A	Hebron	4.54	352	P		Pn	08 13 09.2	+1.2
	baz=172							
Z42A	Norrel Spur, H	4.58	119	P		Pn	08 13 09.7	+1.3
	baz=301							
O34A	Beatrice	4.60	0	P		Pn	08 13 10.2	+1.4
	baz=181							
O35A	Humboldt	4.73	8	P		Pn	08 13 11.9	+1.4
	baz=188							
P38A	Dawn	4.78	31	P		Pn	08 13 12.6	+1.4
	baz=213							
T42A	Van Buren	4.79	71	P		Pn	08 13 12.7	+1.3
	baz=254,SNR=51							
435B	Jarrell	4.83	189	P		Pn	08 13 13.0	+1.1
	baz=7.9							
435B	Jarrell	4.83	189	*e*Pn		Pn	08 13 13.1	+1.1
435B				*e*Sg		Sg	08 14 31.9	-1.6
X43A	Marvell	4.92	101	P		Pn	08 13 14.7	+1.6
	baz=284							
X43A	Marvell	4.92	101	*e*Pn		Pn	08 13 15.1	+1.9
X43A				*e*Sg		Sg	08 14 36.7	+0.4
HBAR	Harrisburg	4.96	88	*e*Pn		Pn	08 13 15.9	+2.2
HBAR				*e*Sg		Sg	08 14 36.8	-0.7
O37A	Wolven Farm, M	5.02	23	P		Pn	08 13 16.5	+1.9
	baz=205							
P39B	Salisbury	5.03	38	P		Pn	08 13 16.6	+2.0
	baz=220							
CCM	Cathedral Cave	5.06	59	P		Pn	08 13 16.7	+1.7
	baz=242							
CCM	Cathedral Cave	5.06	59	*e*Pn		Pn	08 13 17.2	+2.2
CCM				*e*Sg		Sg	08 14 39.6	-1.1
R41A	Rosebud	5.08	56	P		Pn	08 13 16.9	+1.6
	baz=239,SNR=49							
341A	Kurthwood	5.18	144	P		Pn	08 13 17.9	+1.2
	baz=326							
N33A	J Bar K, Exete	5.19	354	P		Pn	08 13 17.7	+0.9
	baz=174							
U43A	Rector	5.20	79	P		Pn	08 13 18.1	+1.1
	baz=263,SNR=10							
MSTX	Muleshoe	5.22	254	P		Pn	08 13 18.0	+0.6
	baz=70							
MSTX	Muleshoe	5.22	254	*e*Pn		Pn	08 13 17.9	+0.5
MSTX				*e*Sn		Sn	08 14 18.6	+0.5
MSTX				*e*Sg		Sg	08 14 45.6	-0.2
O38A	Galt	5.22	29	P		Pn	08 13 18.5	+1.2
	baz=211							
PBMO	Poplar Bluff	5.24	75	*e*Pn		Pn	08 13 20.0	+2.4
PBMO				*e*Sn		Sn	08 14 21.0	+2.4
PBMO				*e*Sg		Sg	08 14 48.5	+1.7
S42A	Caledonia	5.26	64	P		Pn	08 13 19.2	+1.4
	baz=247,SNR=16							
N34A	Lincoln	5.26	2	P		Pn	08 13 19.3	+1.5
	baz=182							
N35A	Tabor	5.35	9	P		Pn	08 13 20.4	+1.3
	baz=190							
N36A	Muff Farm, Cla	5.42	14	P		Pn	08 13 21.6	+1.6
	baz=196							
T43A	Greenville	5.42	72	P		Pn	08 13 21.2	+1.2
	baz=256,SNR=14							
P40A	Paris	5.43	42	P		Pn	08 13 22.0	+1.8
	baz=225,SNR=15							
R42A	Luebbering	5.47	59	P		Pn	08 13 22.7	+1.9
	baz=242,SNR=24							
GNAR	Gosnell	5.48	84	*e*Sg		Sg	08 14 54.9	+0.6
X44A	Crenshaw	5.51	99	P		Pn	08 13 23.0	+1.7
	baz=283							
Q41A	Truxton	5.54	51	P		Pn	08 13 23.3	+1.6
	baz=234,SNR=30							
N37A	Lee Faris, Mou	5.55	20	P		Pn	08 13 23.2	+1.4
	baz=202							
V44A	Blytheville	5.58	85	P		Pn	08 13 23.6	+1.5
	baz=269							
MET	Memphis--Engin	5.58	93	*e*Pn		Pn	08 13 23.0	+0.8
MET				*e*Sn		Sn	08 14 28.4	+1.5
MET				*e*Sg		Sg	08 14 58.1	+0.6
Y44A	Strider, Charl	5.61	105	P		Pn	08 13 23.7	+1.1
	baz=288							
441A	DeRidder	5.66	147	P		Pn	08 13 24.5	+1.2
	baz=329							
HKT	Hockley	5.66	172	*e*Pn		Pn	08 13 25.0	+1.7
W44A	Shelby Farms P	5.67	92	P		Pn	08 13 24.3	+0.8
	baz=276							
JCT	Junction City	5.70	208	P		Pn	08 13 24.0	+0.2
	baz=26							
JCT	Junction City	5.70	208	*e*Pn		Pn	08 13 23.4	-0.5
JCT				*e*Sg		Sg	08 15 01.3	+0.1
S43A	Fulton Ridge,	5.72	68	P		Pn	08 13 25.6	+1.5
	baz=252,SNR=20							
PVMO	Portageville	5.77	80	*e*Pn		Pn	08 13 25.6	+0.7
PVMO				*e*Sg		Sg	08 15 01.8	-1.7
U44A	Portageville	5.79	79	P		Pn	08 13 26.3	+1.2
	baz=263							
KSCO	Kaye Shedlock'	5.81	308	P		Pn	08 13 26.6	+1.1
	baz=125							
KSCO	Kaye Shedlock'	5.81	308	*e*Pn		Pn	08 13 26.8	+1.2
KSCO				*e*Sg		Sg	08 15 03.4	-1.6
N38A	Joes South For	5.89	27	P		Pn	08 13 28.2	+1.6
	baz=209							
BGNE	Belgrade	5.93	350	P		Pn	08 13 28.1	+1.1
	baz=169							
BGNE	Belgrade	5.93	350	*e*Pn		Pn	08 13 26.8	-0.2
BGNE				*e*Sn		Sn	08 14 35.3	-0.2
O40A	La Belle	5.95	39	P		Pn	08 13 28.5	+1.2
	baz=222							
SLM	Saint Louis	6.03	58	*e*Pn		Pn	08 13 30.5	+2.2
SLM				*e*Sg		Sg	08 15 08.7	-3.2
U44B	Burton Farm, H	6.04	81	P		Pn	08 13 29.4	+0.9
	baz=265,SNR=11							
EBZ	Ebenezer Churc	6.05	92	*e*Pn		Pn	08 13 32.0	+3.3
M36A	Felix, Anita	6.06	14	P		Pn	08 13 30.4	+1.5
	baz=195							
R43A	Red Bud	6.08	62	P		Pn	08 13 30.5	+1.4
	baz=246							
P41A	Barry, Barry	6.09	46	P		Pn	08 13 30.6	+1.4
	baz=230,SNR=22							
OXF	Oxford	6.11	98	P		Pn	08 13 30.6	+1.1
	baz=282							
OXF	Oxford	6.11	98	*e*Pn		Pn	08 13 30.6	+1.1
OXF				*e*Sn		Sn	08 14 41.0	+1.2
OXF				*e*Sg		Sg	08 15 15.1	+0.7
X45A	UM Field Stati	6.14	99	P		Pn	08 13 31.2	+1.4
	baz=283,SNR=5.6							
244A	Avery, Jackson	6.15	123	P		Pn	08 13 31.5	+1.5
	baz=306							
W45A	Hickory Valley	6.19	92	P		Pn	08 13 31.7	+1.2
	baz=276							
M37A	Trindle Farm,	6.19	19	P		Pn	08 13 32.0	+1.5
	baz=201							
Z45A	Winona	6.22	109	P		Pn	08 13 32.2	+1.1
	baz=293							
N39A	Derby Farms, D	6.26	31	P		Pn	08 13 32.1	+0.6
	baz=214							
V45A	Humboldt	6.34	86	P		Pn	08 13 32.9	+0.3
	baz=271,SNR=15							
S44A	Carbondale	6.38	68	P		Pn	08 13 34.3	+1.1
	baz=253,SNR=15							
T25A	Trinidad	6.38	286	P		Pn	08 13 34.0	+0.5
	baz=102							
T25A	Trinidad	6.38	286	*e*Pn		Pn	08 13 34.3	+0.8
T25A				*e*Sn		Sn	08 14 47.7	+0.7
T25A				*e*Sg		Sg	08 15 21.6	-1.7
SIUC	Southern Illin	6.41	68	*e*Pn		Pn	08 13 34.7	+1.1
SIUC				*e*Sg		Sg	08

SDCO				*e*Sg	**Sg**	08 15 53.3	-1.6		
N42A	**Yates City**	**7.44**	**43**	P	**Pn**	08 13 48.6	+0.8		
	baz=227								
W47A	**Westpoint**	**7.47**	**90**	P	**Pn**	08 13 48.6	+0.4		
	baz=275								
V47A	**Nunnelly**	**7.50**	**85**	P	**Pn**	08 13 49.2	+0.5		
	baz=271								
Y47A	**UCPARC, Winfie**	**7.51**	**100**	P	**Pn**	08 13 49.4	+0.8		
	baz=285								
Q24A	**Divide**	**7.51**	**299**	*e*Pn	**Pn**	08 13 50.7	+1.7		
Q24A				*e*Sg	**Sg**	08 15 54.8	-4.6		
S46A	**Don Dixon Farm**	**7.55**	**71**	P	**Pn**	08 13 50.2	+0.8		
	baz=256								
833A	**Chaparral WMA,**	**7.57**	**198**	P	**Pn**	08 13 50.4	+0.8		
	baz=16								
OLIL	**Olney**	**7.58**	**63**	*e*Pn	**Pn**	08 13 51.8	+2.0		
OLIL				*e*Sg	**Sg**	08 15 59.7	-2.1		
USIN	**University of**	**7.66**	**69**	*e*Pn	**Pn**	08 13 53.5	+2.7		
USIN				*e*Sg	**Sg**	08 16 06.5	+2.2		
HDIL	**Hopedale**	**7.69**	**48**	*e*Pn	**Pn**	08 13 53.1	+1.8		
HDIL				*e*Sg	**Sg**	08 16 01.8	-3.5		
U47A	**Clarksville**	**7.71**	**81**	P	**Pn**	08 13 52.2	+0.7		
	baz=266								
J32A	**Parkston**	**7.83**	**354**	P	**Pn**	08 13 54.1	+0.9		
	baz=174								
Z48A	**Northport**	**7.89**	**103**	P	**Pn**	08 13 54.9	+0.9		
	baz=289								
T47A	**Sharon Grove**	**7.91**	**77**	P	**Pn**	08 13 55.0	+0.8		
	baz=262								
ANMO	**Albuquerque**	**7.97**	**268**	Pn	**Pn**	08 13 55.9	+0.6		
	0.5nm,0.3s,baz=84,slow=10,SNR=10								
ANMO				Pg	Pb	08 14 23.9	+6.7		
	1.2nm,0.3s,baz=87,slow=17,SNR=11								
ANMO				Lg	Lg	08 16 07.9			
	1.7nm,0.3s,baz=29,slow=19,SNR=3.9								
ANMO	**Albuquerque**	**7.97**	**268**	*e*Pn	**Pn**	08 13 56.6	+1.3		
ANMO				*e*Sg	**Sg**	08 16 12.7	-1.6		
N43A	**Stutzman Famil**	**8.01**	**46**	P	**Pn**	08 13 57.1	+1.6		
	baz=230								
X48A	**Hartselle**	**8.03**	**95**	P	**Pn**	08 13 56.4	+0.5		
	baz=281								
Y48A	**Jasper**	**8.05**	**99**	P	**Pn**	08 13 57.6	+1.5		
	baz=284								
ECSD	**EROS Data Cent**	**8.15**	**1**	P	**Pn**	08 13 58.3	+0.8		
	baz=181								
ECSD	**EROS Data Cent**	**8.15**	**1**	*e*Pn	**Pn**	08 13 58.1	+0.6		
ECSD				*e*Sg	**Sg**	08 16 18.0	-1.9		
MNTX	**Cornudas Mount**	**8.18**	**244**	P	**Pn**	08 13 58.2	+0.2		
	baz=59								
MNTX	**Cornudas Mount**	**8.18**	**244**	*e*Pn	**Pn**	08 13 58.5	+0.6		
MNTX				*e*Sg	**Sg**	08 16 19.8	-1.1		
ISCO	**Idaho Springs**	**8.20**	**304**	P	**Pn**	08 13 59.5	+1.0		
	baz=118								
ISCO	**Idaho Springs**	**8.20**	**304**	*e*Pn	**Pn**	08 13 59.9	+1.4		
ISCO				*e*Sg	**Sg**	08 16 20.3	-1.3		
LPM	**Los Pinos Moun**	**8.22**	**264**	*e*Pn	**Pn**	08 13 59.2	+0.5		
LPM				*e*Sg	**Sg**	08 16 20.1	-2.1		
BNM	**Barren Site**	**8.25**	**263**	*e*Pn	**Pn**	08 13 59.5	+0.4		
BNM				*e*Sg	**Sg**	08 16 23.0	-0.2		
U48A	**Cassie Pea, Po**	**8.31**	**81**	P	**Pn**	08 14 00.2	+0.4		
	baz=266								
S22A	**4UR Ranch, Cre**	**8.39**	**288**	*e*Pn	**Pn**	08 14 01.7	+0.6		
S22A				*e*Sg	**Sg**	08 16 28.3	+0.5		
LRAL	**Lakeview Retre**	**8.45**	**105**	P	**Pn**	08 14 02.4	+0.8		
	baz=290								
LRAL	**Lakeview Retre**	**8.45**	**105**	*e*Pn	**Pn**	08 14 03.0	+1.4		
LRAL				*e*Sg	**Sg**	08 16 30.4	+0.8		
LENM	**Lemitar**	**8.53**	**263**	*e*Pn	**Pn**	08 14 03.8	+0.9		
LTX	**Lajitas**	**8.54**	**225**	*e*Pn	**Pn**	08 14 02.8	-0.2		
TX31	**Lajitas Ar. Si**	**8.54**	**225**	*e*Pn	**Pn**	08 14 03.7	+0.7		
TXAR	**Lajitas Array**	**8.54**	**225**	Pn	**Pn**	08 14 02.8	-0.2		
	0.9nm,0.3s,baz=53,slow=11,SNR=43								
TXAR				Pg	Pg	08 14 31.8	-10		
	1.7nm,0.3s,baz=42,slow=14,SNR=10								
TXAR				Lg	Lg	08 16 22.9			
	2.6nm,0.3s,baz=37,slow=28,SNR=4.6								
X49A	**Woodville**	**8.61**	**94**	P	**Pn**	08 14 04.4	+0.7		
	baz=280								
K41A	**Shullsburg**	**8.62**	**34**	P	**Pn**	08 14 05.2	+1.2		
	baz=218								
J39A	**Decorah**	**8.67**	**25**	P	**Pn**	08 14 05.2	+0.5		
	baz=208								
Y49A	**Blount Mountai**	**8.67**	**98**	P	**Pn**	08 14 05.1	+0.4		
	baz=284								
Z49A	**Columbiana**	**8.77**	**103**	P	**Pn**	08 14 06.9	+0.9		
	baz=288								
149A	**Jones**	**8.77**	**107**	P	**Pn**	08 14 06.7	+0.7		
	baz=292								
WCI	**Wyandotte Cave**	**8.78**	**69**	P	**Pn**	08 14 07.0	+0.9		
	baz=256								
WCI	**Wyandotte Cave**	**8.78**	**69**	*e*Pn	**Pn**	08 14 08.6	+2.5		
SWET	**Sewanee**	**8.83**	**89**	*e*Pn	**Pn**	08 14 09.4	+2.5		
S48A	**Wiedeman Farm,**	**8.84**	**73**	P	**Pn**	08 14 08.0	+1.0		
	baz=260								
JFWS	**Jewell Farm**	**8.89**	**33**	P	**Pn**	08 14 09.0	+1.4		
	baz=217								
JFWS	**Jewell Farm**	**8.89**	**33**	*e*Pn	**Pn**	08 14 09.7	+2.1		
BLO	**Bloomington**	**8.89**	**63**	*e*Pn	**Pn**	08 14 09.4	+1.8		
PHWY	**Pilot Hill**	**8.91**	**313**	*e*Pn	**Pn**	08 14 09.0	+0.7		
N23A	**Red Feather La**	**8.98**	**309**	P	**Pn**	08 14 10.4	+1.3		
	baz=124								
N23A	**Red Feather La**	**8.98**	**309**	*e*Pn	**Pn**	08 14 10.8	+1.7		
SFIN	**Lafayette**	**9.00**	**55**	*e*Pn	**Pn**	08 14 12.1	+3.0		
J40A	**Soldiers Grove**	**9.08**	**29**	P	**Pn**	08 14 11.2	+0.9		
	baz=213								
P47A	**Martinsville**	**9.19**	**62**	P	**Pn**	08 14 12.9	+1.1		
	baz=248								
I39A	**Houston**	**9.19**	**24**	P	**Pn**	08 14 12.6	+0.8		
	baz=208								
Y50A	**Piedmont**	**9.21**	**97**	P	**Pn**	08 14 12.4	+0.3		
	baz=284								
J41A	**Loganville**	**9.35**	**32**	P	**Pn**	08 14 15.0	+1.0		
	baz=216								
I40A	**Norwalk**	**9.55**	**28**	P	**Pn**	08 14 17.6	+0.9		
	baz=212								
H38A	**Maiden Rock**	**9.71**	**19**	P	**Pn**	08 14 19.6	+0.8		
	baz=202								
PV01	**Paradox Valley**	**9.82**	**289**	*e*Pn	**Pn**	08 14 23.4	+2.8		
PV07	**Paradox Valley**	**9.94**	**290**	*e*Pn	**Pn**	08 14 21.5	-0.8		
H39A	**Augusta**	**10.01**	**23**	P	**Pn**	08 14 23.1	+0.2		
	baz=206								
SPMN	**Marine on St.**	**10.09**	**16**	P	**Pn**	08 14 24.3	+0.2		
	baz=199								
SPMN	**Marine on St.**	**10.09**	**16**	*e*Pn	**Pn**	08 14 23.4	-0.8		
RSSD	**Black Hills**	**10.21**	**329**	P	**Pn**	08 14 26.2	+0.3		
	baz=144								
RSSD	**Black Hills**	**10.21**	**329**	*e*Pn	**Pn**	08 14 27.4	+1.5		
RWWY	**Rawlins**	**10.21**	**310**	*e*Pn	**Pn**	08 14 28.5	+2.5		
I42A	**Draeger Farm,**	**10.26**	**34**	P	**Pn**	08 14 27.1	+0.7		
	baz=219								
I42A	**Draeger Farm,**	**10.26**	**34**	*e*Pn	**Pn**	08 14 27.2	+0.9		
G38A	**Ridgeland**	**10.28**	**20**	P	**Pn**	08 14 26.6	-0.1		
	baz=203								
K22A	**Casper**	**10.37**	**316**	*e*Pn	**Pn**	08 14 29.1	+1.0		
TKL	**Tuckaleechee C**	**10.56**	**86**	Pn	**Pn**	08 14 30.8	+0.2		
	0.6nm,0.3s,baz=228,slow=8.5,SNR=8.2								
TKL				Sn	**Sn**	08 16 27.9	-1.4		
	0.5nm,0.3s,baz=311,slow=20,SNR=3.2								
TKL				Lg	Lg	08 17 25.4			
	2.2nm,0.3s,baz=336,slow=20,SNR=4.4								
TZTN	**Tazewell**	**10.72**	**81**	*e*Pn	**Pn**	08 14 34.5	+1.6		
LNIG	**Linares**	**10.90**	**193**	*e*Pn	**Pn**	08 14 33.4	-1.9		
ACSO	**Alum Creek Sta**	**11.82**	**63**	*e*Pn	**Pn**	08 14 47.5	-0.2		
G43A	**Wallace**	**11.87**	**33**	*e*Pn	**Pn**	08 14 49.0	+0.5		
COWI	**Conover**	**11.98**	**26**	*e*Pn	**Pn**	08 14 50.5	+0.5		
BW06	**Boulder Array**	**12.26**	**310**	*e*Pn	**Pn**	08 14 54.3	+0.3		
PD31	**Pinedale Array**	**12.26**	**310**	*e*Pn	**Pn**	08 14 54.5	+0.5		
PDAR	**Pinedale Array**	**12.26**	**310**	Pn	**Pn**	08 14 53.4	-0.6		
	0.7nm,0.3s,baz=125,slow=12,SNR=17								
PDAR				Lg	Lg	08 18 17.6			
	0.3nm,0.3s,baz=118,slow=36,SNR=2.6								
PDAR	**Pinedale Array**	**12.26**	**310**	*e*Pn	**Pn**	08 14 55.2	+1.2		
AGMN	**Agassiz Nation**	**12.73**	**3**	*e*Pn	**Pn**	08 14 57.6	-2.6		
JSC	**Jenkinsville**	**12.77**	**91**	*e*Pn	**Pn**	08 15 01.4	+0.6		
TCUT	**Toone Canyon**	**12.77**	**300**	*e*Pn	**Pn**	08 15 02.3	+1.3		
SNOW	**Snow King Moun**	**13.37**	**310**	*e*Pn	**Pn**	08 15 11.8	+2.6		
ULM	**Lac du Bonnet**	**14.68**	**2**	Pn	**Pn**	08 15 22.5	-4.3		
	1.4nm,0.3s,baz=178,slow=13,SNR=15								
ULM				Sn	Sn	08 17 57.8	-12		
	0.4nm,0.3s,baz=135,slow=20,SNR=2.3								
ULM				Lg	Lg	08 19 32.2			
	0.5nm,0.3s,baz=66,slow=20,SNR=2.0								
ULM				LR	LR	08 21 17.6			
	comp=Z,125nm,20.5s,baz=88,slow=38								
SADO	**Sadowa**	**16.26**	**50**	Pn	**Pn**	08 15 47.4	-0.3		
	0.2nm,0.3s,baz=250,slow=15,SNR=2.6								
SADO				Sn	**Sn**	08 18 37.8	-11		
	0.3nm,0.3s,baz=231,slow=18,SNR=1.9								
SADO				Lg	Lg	08 20 20.9			
	0.6nm,0.3s,baz=166,slow=13,SNR=4.0								
YBH	**Yreka Blue Hor**	**21.15**	**295**	P	**P**	08 16 47.2	+2.6		
	1.1nm,0.6s,baz=75,slow=6.5,SNR=7.2								
BBB	**Bella Bella**	**27.76**	**317**	LR	LR	08 29 27.9			
	comp=Z,120nm,19.1s,baz=217,slow=38								
YKA	**Yellowknife Ar**	**29.17**	**343**	P	**P**	08 18 00.8	+0.3		
	0.1nm,0.4s,baz=143,slow=9.3,SNR=3.2								
YKB5	**Yellowknife Ar**	**29.17**	**343**	*e*P	**P**	08 18 00.8	+0.3		
ILAR	**Eielson Array**	**41.65**	**330**	P	**P**	08 19 50.1	+2.4		
	0.2nm,0.5s,baz=105,slow=6.7,SNR=5.0								
ILB	**Eielson Array**	**41.65**	**330**	*e*P	**P**	08 19 50.1	+2.4		

IDC 16 08:14:17.4±1.3, 2°.04S×128°.09E, h0km, mb3.9/4, mb1 4.0/5, mb1mx3.6/51, mbtmp3.9/5, ML4.2/1, Error ellipse: s-maj=136.6km s-min=19.6km az=66.0, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.81**	**161**	P	P	P	08 18 38.1	-0.6
	0.7nm,0.3s,baz=341,slow=11,SNR=33							
WRA				S	Sn	Sn	08 21 59.5	-11
	0.1nm,0.3s,baz=339,slow=22,SNR=3.9							
ASAR	**Alice Springs**	**22.22**	**166**	P	P	P	08 19 15.0	-0.8
	1.6nm,0.4s,baz=343,slow=11,SNR=41							
ASAR				PcP	PcP	PcP	08 23 13.7	+1.1
	1.1nm,0.9s,baz=353,slow=1.7,SNR=6.2							
STKA	**Stephens Creek**	**32.29**	**158**	P	P	P	08 20 48.1	0.0
	0.6nm,0.5s,baz=340,slow=11,SNR=3.8							
MKAR	**Makanchi Array**	**63.06**	**326**	P	P	P	08 24 46.4	-0.2
	0.5nm,0.4s,baz=118,slow=8.5,SNR=8.0							
KURBB	**Kurchatov Arra**	**67.32**	**328**	P	P	P	08 25 13.9	-0.1
	0.9nm,0.5s,baz=132,slow=6.2,SNR=9.9							

WEL 16 08:22:06.5±1.0, 36°S±10°×178°0W±1°, 3, h33km, ML3.6/19, East of North Island

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.99**	**228**	P	P	Pn	08 22 37.7	-0.1
MXZ	**Matakaoa Point**	**1.99**	**228**	S	S	Sn	08 23 01.3	-0.2
WMGZ	**Waiomatatini S**	**2.11**	**221**	P	P	Pn	08 22 40.0	+0.5
PKGZ	**Pakihiroa**	**2.34**	**225**	P	P	Pn	08 22 43.0	+0.3
PKGZ	**Pakihiroa**	**2.34**	**225**	S	S	Sn	08 23 11.4	+1.1
PUZ	**Puketiti**	**2.38**	**219**	P	P	Pn	08 22 43.3	+0.1
PUZ	**Puketiti**	**2.38**	**219**	S	S	Sn	08 23 12.0	+0.8
HAZ	**Te Kaha**	**2.43**	**231**	P	P	Pn	08 22 44.3	+0.5
HAZ	**Te Kaha**	**2.43**	**231**	S	S	Sn	08 23 13.5	+1.0
TWGZ	**Tauwhareparae**	**2.60**	**221**	P	P	Pn	08 22 46.5	+0.2
TWGZ	**Tauwhareparae**	**2.60**	**221**	S	S	Sn	08 23 17.3	+0.5
RUGZ	**Raukumara Rang**	**2.63**	**228**	P	P	Pn	08 22 47.5	+0.8
RUGZ	**Raukumara Rang**	**2.63**	**228**	S	S	Sn	08 23 18.8	+1.3
CNGZ	**Carnagh Statio**	**2.73**	**214**	P	P	Pn	08 22 48.4	+0.4
TKGZ	**Te Karaka**	**2.87**	**219**	P	P	Pn	08 22 49.7	-0.2
TKGZ	**Te Karaka**	**2.87**	**219**	S	S	Sn	08 23 24.1	+0.9
MWZ	**Matawai**	**2.96**	**224**	P	P	Pn	08 22 51.0	-0.2
MWZ	**Matawai**	**2.96**	**224**	S	S	Sn	08 23 25.8	+0.2
RIGZ	**Rimuhau**	**3.12**	**217**	P	P	Pn	08 22 52.7	-0.6
RIGZ	**Rimuhau**	**3.12**	**217**	S	S	Sn	08 23 29.4	0.0
RAGZ	**Rawiri**	**3.14**	**223**	P	P	Pn	08 22 53.9	+0.2
RAGZ	**Rawiri**	**3.14**	**223**	S	S	Sn	08 23 30.5	+0.5
URZ	**Urewera**	**3.16**	**229**	P	P	Pn	08 22 53.9	0.0
OPRZ	**Ohinepanea**	**3.30**	**240**	P	P	Pn	08 22 55.6	-0.2
SNGZ	**Shannon Statio**	**3.39**	**221**	P	P	Pn	08 22 57.1	+0.1
TGRZ	**Tauranga**	**3.46**	**243**	P	P	Pn	08 22 57.4	-0.6
RTZ	**Ruatahuna**	**3.47**	**226**	P	P	Pn	08 22 59.1	+0.9
KUZ	**Kuaotunu**	**3.61**	**261**	P	P	Pn	08 23 00.0	0.0
MTHZ	**Maungataniwha**	**3.71**	**224**	P	P	Pn	08 23 02.0	+0.5
NMHZ	**Naumai**	**3.90**	**222**	P	P	Pn	08 23 04.3	+0.1
MRHZ	**Matea Rd**	**3.94**	**228**	P	P	Pn	08 23 04.7	0.0
BKZ	**Black Stump Fm**	**4.12**	**244**	P	P	Pn	08 23 06.2	-1.0
KWHZ	**Kaweka Forest**	**4.34**	**222**	P	P	Pn	08 23 09.2	-1.1

IDC 16 08:32:13.3±2.6, 15°.59S×175°.48W, h0km, mb3.7/3, mb1 3.9/4, mb1mx3.5/42, mbtmp3.7/4, ML3.3/1, MS2.9/2, Ms1 2.9/2, ms1mx2.5/49, Error ellipse: s-maj=229.4km s-min=23.4km az=154.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.95**	**66**	Pn	Pn	Pn	08 33 15.2	-0.1
	2.2nm,0.3s,baz=217,slow=10,SNR=4.3							
AFI				LR	LR	LR	08 34 32.5	
	comp=Z,46nm,20.8s,baz=138,slow=35							
DZM	**Mont Dzumac**	**18.28**	**247**	LR	LR	LR	08 42 25.1	
	comp=Z,104nm,18.6s,baz=140,slow=34							
DZM	**Mont Dzumac**	**18.28**	**247**	*e*LR	LR	LR	08 41 34.3	
	120nm,24.6s							
PAE	**Paea**	**24.90**	**98**	*e*T	T	T	09 01 38.5	
	1.5nm,0.3s							
PPT2	**Papeete2**	**24.90**	**98**	*e*LR	LR	LR	08 43 21.3	
	72nm,24.2s							
PPT2	**Papeete2**	**24.90**	**98**	*e*T	T	T	09 01 39.3	
	2.0nm,0.3s							
TVO	**Taravao**	**25.21**	**99**	*e*T	T	T	09 02 01.7	
	1.3nm,0.4s							
RKT	**Rikitea**	**38.85**	**108**	*e*T	T	T	09 18 54.3	
	1.8nm,0.4s							
WRA	**Warramunga Arr**	**47.85**	**257**	P	P	P	08 40 53.4	+0.1
	0.7nm,0.9s,baz=92,slow=7.7,SNR=3.8							
ASAR	**Alice Springs**	**48.15**	**252**	P	P	P	08 40 55.3	-0.3
	1.7nm,0.8s,baz=86,slow=8.5,SNR=14							
NVAR	**Mina Array Bea**	**75.82**	**43**	P	P	P	08 44 01.8	+0.1
	0.3nm,0.7s,baz=220,slow=8.3,SNR=3.2							

*NEIC **16** 08:33:00.8±0.0, 19°.80N×66°.16W, h56km, MD3.5(RSPR), After RSPR.*

RSPR 16 08:33:00.8, 19°.80N×66°.16W, h56km±16km, MD3.5/10, 14C-8D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
AOPR	**Arecibo Observ**	**1.55**	**201**	↓*i*P	P	Pn	08 33 24.7	-1.4
AOPR	**Arecibo Observ**	**1.55**	**201**	*e*S	S	Sn	08 33 44.1	-1.0
AOPR	**Arecibo Observ**	**1.55**	**201**	↓*i*P	P	Pn	08 33 24.7	-1.4
AOPR				*e*S	S	Sn	08 33 44.1	-1.0
AGPR	**Aguadilla, PR**	**1.60**	**214**	↓*e*P	P	Pn	08 33 25.8	-1.0
AGPR	**Aguadilla, PR**	**1.60**	**214**	*e*S	S	Sn	08 33 45.9	-0.5
AGPR	**Aguadilla, PR**	**1.60**	**214**	↓*e*P	P	Pn	08 33 25.8	-1.0
AGPR				*e*S	S	Sn	08 33 45.9	-0.5
SJG	**San Juan**	**1.68**	**180**	↑*e*P	P	Pn	08 33 26.8	-1.1
SJG	**San Juan**	**1.68**	**180**	*e*S	S	Sn	08 33 48.1	-0.2
SJG	**San Juan**	**1.68**	**180**	↑*e*P	P	Pn	08 33 26.8	-1.1
SJG				*e*S	S	Sn	08 33 48.1	-0.2
CELP	**Cerrillos**	**1.76**	**193**	↓*e*P	P	Pn	08 33 27.8	-1.1
CELP				*e*S	S	Sn	08 33 49.9	-0.4
CELP	**Cerrillos**	**1.76**	**193**	↓*e*P	P	Pn	08 33 27.8	-1.1
OBIP	**Obispado Ponce**	**1.80**	**194**	↑*e*P	P	Pn	08 33 28.7	-0.7
OBIP	**Obispado Ponce**	**1.80**	**194**	*e*S	S	Sn	08 33 50.5	-0.6
OBIP	**Obispado Ponce**	**1.80**	**194**	↑*e*P	P	Pn	08 33 28.7	-0.7
OBIP				*e*S	S	Sn	08 33 50.5	-0.6
LSP	**Las Mesas**	**1.84**	**209**	↑*e*P	P	Pn	08 33 28.9	-1.1
LSP	**Las Mesas**	**1.84**	**209**	*e*S	S	Sn	08 33 50.5	-1.6
LSP	**Las Mesas**	**1.84**	**209**	↑*e*P	P	Pn	08 33 28.9	-1.1
LSP				*e*S	S	Sn	08 33 50.5	-1.6
STVI	**Saint Thomas**	**1.84**	**141**	↑*e*P	P	Pn	08 33 29.5	-0.5
STVI	**Saint Thomas**	**1.84**	**141**	*e*S	S	Sn	08 33 51.0	-1.1
STVI	**Saint Thomas**	**1.84**	**141**	↑*e*P	P	Pn	08 33 29.5	-0.5
STVI				*e*S	S	Sn	08 33 51.0	-1.1
CRPR	**Cabo Rojo, PR**	**2.00**	**207**	↑*e*P	P	Pn	08 33 31.6	-0.5
CRPR	**Cabo Rojo, PR**	**2.00**	**207**	*e*S	S	Sn	08 33 55.3	-0.8
CRPR	**Cabo Rojo, PR**	**2.00**	**207**	↑*e*P	P	Pn	08 33 31.6	-0.5
CRPR				*e*S	S	Sn	08 33 55.3	-0.8
TBVI	**Tortola**	**2.00**	**133**	↓*e*P	P	Pn	08 33 32.1	-0.2
TBVI				*e*S	S	Sn	08 33 55.6	-0.6
TBVI	**Tortola**	**2.00**	**133**	↓*e*P	P	Pn	08 33 32.1	-0.2
CDVI	**St. Croix**	**2.42**	**147**	↑*e*P	P	Pn	08 33 37.9	-0.2
CDVI				*e*S	S	Sn	08 34 05.4	-1.2
CDVI	**St. Croix**	**2.42**	**147**	↑*e*P	P	Pn	08 33 37.9	-0.2
DR12	**Loma Pena Alta**	**3.20**	**252**	↑*e*P	P	Pn	08 33 49.0	+0.2
DR12				*e*S	S	Sn	08 34 25.2	-0.5
DR12	**Loma Pena Alta**	**3.20**	**252**	↑*e*P	P	Pn	08 33 49.0	+0.2
SDDR	**Presa de Saban**	**4.91**	**261**	*e*Pn	P	Pn	08 34 14.6	+2.5
SDDR				*e*Sn	S	Sn	08 35 06.7	-1.0

*IASPEI **16** 08:40:23.0±0.8, 38°.30N±0°.01×22°.12E±0°.01, h8km±4km, mb3.8/10, Error ellipse: s-maj=1.8km s-min=1.7km az=173.9, GT5 selection from ISC bulletin GT5 identified by Bond˙jr and McLaughlin (2009) selection criteria Bond˙jr and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009*

*ATH **16** 08:40:22.2, 38°.30N×22°.14E, h17km, ML3.6/26, Error ellipse: s-maj=0.7km s-min=0.4km az=226.0*

*IDC **16** 08:40:22.2±1.0, 38°.37N×22°.20E, h0km, mb3.8/11, mb1 3.9/14, mb1mx3.7/63, mbtmp3.8/14, ML3.5/3, MS2.9/4, Ms1 2.9/4, ms1mx2.5/63, Error ellipse: s-maj=20.2km s-min=17.8km az=165.0*

*ISCJB **16** 08:40:22.9±0.2, 38°.31N±0°.01×22°.13E±0°.01, h8km±1km, mb3.7/10, MS3.3/1, Error ellipse: s-maj=2.0km s-min=1.6km az=142.8*

*CSEM **16** 08:40:23.0±0.1, 38°.29N×22°.13E, h2km, ML3.6, Error ellipse: s-maj=2.1km s-min=1.7km az=50.0*

*THE **16** 08:40:23.3, 38°.30N×22°.15E, h0km±1km, ML3.8/6, Error ellipse: s-maj=1.1km s-min=0.4km az=264.0*

*BEO **16** 08:40:26.6±0.6, 38°.49N×22°.39E, h5km*

ISC 16 08:40:23.1±0.7, 38°.30N±0°.01×22°.13E±0°.01, h7km±4km, n347, σ1°§14/472, mb3.8/10, 13C-12D, Greece

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
TRIZ	**Trizonia**	**0.08**	**326**	P	P	**Pg**	**08 40 24.5**	**-0.7**
TRIZ				S	S	**Sg**	**08 40 25.8**	**-0.7**
TRIZ	**Trizonia**	**0.08**	**326**	P	P	**Pg**	**08 40 25.0**	**-0.1**
TRIZ				S	S	**Sg**	**08 40 26.8**	**+0.3**
TRIZ	**Trizonia**	**0.08**	**326**	P	P	**Pg**	**08 40 25.0**	**-0.1**
TRIZ				S	S	**Sg**	**08 40 26.8**	**+0.3**
KALE	**Kalithea**	**0.09**	**4**	P	P	**Pg**	**08 40 25.2**	**-0.2**
KALE				S	S	**Sg**	**08 40 26.8**	**-0.2**
KALE				AML	AML		08 40 27.4	
KALE				AML	AML		08 40 27.7	
KALE	**Kalithea**	**0.09**	**4**	P	P	**Pg**	**08 40 25.5**	**+0.1**
KALE				S	S	**Sg**	**08 40 27.3**	**+0.3**
KALE	**Kalithea**	**0.09**	**4**	P	P	**Pg**	**08 40 25.4**	**+0.1**
KALE				S	S	**Sg**	**08 40 27.3**	**+0.3**
SERG	**Sergoula**	**0.13**	**333**	P	P	**Pg**	**08 40 25.7**	**-0.3**
SERG				S	S	**Sg**	**08 40 28.0**	**+0.2**
SERG				AML	AML		08 40 28.5	
SERG				AML	AML		08 40 29.9	
SERG	**Sergoula**	**0.13**	**333**	P	P	**Pg**	**08 40 25.9**	**0.0**
SERG				S	S	**Sg**	**08 40 28.1**	**+0.2**
SERG	**Sergoula**	**0.13**	**333**	P	P	**Pg**	**08 40 25.9**	**0.0**
SERG				S	S	**Sg**	**08 40 28.1**	**+0.2**
LAKA	**Lakka**	**0.13**	**245**	P	P	**Pg**	**08 40 25.5**	**-0.4**
LAKA	**Lakka**	**0.13**	**245**	P	P	**Pg**	**08 40 26.0**	**0.0**
LAKA	**Lakka**	**0.13**	**245**	P	P	**Pg**	**08 40 25.9**	**0.0**
EFP	**Efpalio**	**0.22**	**306**	P	P	**Pg**	**08 40 27.1**	**-0.4**
EFP				S	S	**Sg**	**08 40 30.

LTK	**Loutraki**	**0.71**	**112**	P	**Pg**	**08 40 36.5**	**-0.3**
LTK				S	**Sg**	**08 40 46.3**	**+0.2**
LOUT	**Loutraki**	**0.73**	**115**	P	**Pg**	**08 40 37.1**	**-0.1**
LOUT	**Loutraki**	**0.73**	**115**	P	**Pg**	**08 40 37.1**	**-0.1**
AGG	**Agios Georgios**	**0.74**	**12**	P	**Pg**	**08 40 36.0**	**-1.3**
AGG				S	**Sg**	**08 40 47.3**	**+0.2**
AGG				AML	AML	08 40 51.4	
	comp=E,21757µm,0.7s						
AGG				AML	AML	08 40 52.4	
	comp=N,24818µm,0.6s						
AGG	**Agios Georgios**	**0.74**	**12**	P	**Pg**	**08 40 36.5**	**-0.9**
AGG				S	**Sb**	**08 40 48.5**	**-0.2**
AGG	**Agios Georgios**	**0.74**	**12**	S	**Pg**	**08 40 36.5**	**-0.9**
AGG				S	**Sg**	**08 40 47.0**	**0.0**
LKR	**Lokris**	**0.77**	**62**	P	**Pg**	**08 40 36.8**	**-1.0**
LKR				S	**Sg**	**08 40 47.9**	**0.0**
LKR				AML	AML	08 40 52.4	
	comp=N,9008µm,0.2s						
LKR				AML	AML	08 40 52.5	
	comp=E,15364µm,0.2s						
LKR	**Lokris**	**0.77**	**62**	P	**Pg**	**08 40 37.0**	**-0.8**
LKR	**Lokris**	**0.77**	**62**	P	**Pg**	**08 40 37.0**	**-0.8**
LKR				S	**Sg**	**08 40 47.7**	**-0.1**
TRIP	**Tripoli**	**0.78**	**172**	P	**Pg**	**08 40 37.3**	**-0.7**
TRIP				S	**Sb**	**08 40 50.3**	**+0.6**
TRIP	**Tripoli**	**0.78**	**172**	S	**Pg**	**08 40 37.3**	**-0.7**
TRIP				S	**Sb**	**08 40 50.3**	**+0.6**
PDO	**Prodromos**	**0.80**	**292**	P	**Pg**	**08 40 38.4**	**-0.1**
PDO				S	**Sg**	**08 40 49.4**	**+0.4**
PDO				AML	AML	08 40 52.8	
	comp=N,14383µm,0.4s						
PDO				AML	AML	08 40 54.0	
	comp=E,10707µm,0.3s						
PDO	**Prodromos**	**0.80**	**292**	P	**Pg**	**08 40 38.4**	**-0.1**
PDO				S	**Sb**	**08 40 51.8**	**+1.4**
PDO	**Prodromos**	**0.80**	**292**	S	**Pg**	**08 40 38.4**	**-0.1**
PDO				S	**Sg**	**08 40 49.2**	**+0.2**
AMT	**Artemida-Makis**	**0.83**	**204**	P	**Pg**	**08 40 38.7**	**-0.4**
AMT				S	**Sg**	**08 40 50.3**	**+0.3**
AMT				AML	AML	08 40 53.8	
	comp=N,21438µm,0.4s						
AMT				AML	AML	08 40 56.8	
	comp=E,14624µm,0.3s						
AMT	**Artemida-Makis**	**0.83**	**204**	P	**Pg**	**08 40 38.7**	**-0.4**
AMT				S	**Sb**	**08 40 52.2**	**+0.9**
AMT	**Artemida-Makis**	**0.83**	**204**	P	**Pg**	**08 40 38.7**	**-0.4**
AMT				S	**Sg**	**08 40 50.2**	**+0.3**
VTN	**Vitineika**	**0.84**	**243**	P	**Pg**	**08 40 38.4**	**-0.7**
VTN	**Vitineika**	**0.84**	**243**	P	**Pb**	**08 40 40.6**	**+0.7**
VTN	**Vitineika**	**0.84**	**243**	P	**Pg**	**08 40 38.4**	**-0.7**
VIL2	**Platees**	**0.90**	**95**	P	**Pg**	**08 40 40.7**	**+0.3**
VIL2				S	**Sb**	**08 40 53.3**	**+0.1**
VIL2				AML	AML	08 40 57.2	
	comp=E,7707µm,0.4s						
VIL2				AML	AML	08 40 57.4	
	comp=N,8258µm,0.4s						
VILL	**Villia**	**0.94**	**98**	P	**Pg**	**08 40 41.2**	**+0.1**
VILL				S	**Sb**	**08 40 54.6**	**+0.2**
VILL	**Villia**	**0.94**	**98**	P	**Pg**	**08 40 41.2**	**+0.1**
VILL				S	**Sg**	**08 40 53.2**	**-0.1**
VLX	**Vlachokerasia**	**0.94**	**168**	P	**Pg**	**08 40 40.0**	**-1.3**
VLX				S	**Sg**	**08 40 53.6**	**+0.1**
VLX				AML	AML	08 40 57.9	
	comp=E,10483µm,0.6s						
VLX				AML	AML	08 40 59.1	
	comp=N,11769µm,0.4s						
VLX	**Vlachokerasia**	**0.94**	**168**	P	**Pg**	**08 40 40.3**	**-0.9**
VLX				S	**Sb**	**08 40 55.5**	**+0.9**
VLX	**Vlachokerasia**	**0.94**	**168**	P	**Pg**	**08 40 40.3**	**-0.9**
VLX				S	**Sg**	**08 40 53.6**	**+0.1**
SMIA	**Simia**	**1.02**	**55**	P	**Pb**	**08 40 43.0**	**-0.2**
SMIA				S	**Sb**	**08 40 57.4**	**+0.5**
SMIA	**Simia**	**1.02**	**55**	P	**Pb**	**08 40 43.0**	**-0.2**
SMIA				S	**Sb**	**08 40 57.4**	**+0.5**
KFL	**Anninata**	**1.07**	**260**	P	**Pg**	**08 40 42.8**	**-0.9**
KFL	**Anninata**	**1.07**	**260**	P	**Pg**	**08 40 43.1**	**-0.6**
KFL	**Anninata**	**1.07**	**260**	P	**Pg**	**08 40 43.1**	**-0.6**
MGNA	**Meganis„**	**1.11**	**289**	P	**Pg**	**08 40 42.2**	**-2.2**
MGNA	**Meganis„**	**1.11**	**289**	P	**Pg**	**08 40 42.8**	**-1.6**
ITM	**Ithomi**	**1.13**	**188**	P	**Pg**	**08 40 42.9**	**-1.8**
ITM				S	**Sb**	**08 41 00.2**	**+0.4**
ITM				AML	AML	08 41 08.5	
	comp=E,3399µm,0.6s						
ITM				AML	AML	08 41 08.7	
	comp=N,3517µm,0.4s						
ITM	**Ithomi**	**1.13**	**188**	P	**Pg**	**08 40 43.8**	**-0.9**
ITM				S	**Sn**	**08 41 01.0**	**0.0**
ITM	**Ithomi**	**1.13**	**188**	P	**Pg**	**08 40 43.8**	**-0.9**
ITM				S	**Sg**	**08 40 59.8**	**+0.5**
DID	**Didima**	**1.18**	**132**	P	**Pg**	**08 40 45.0**	**-0.7**
DID				S	**Sg**	**08 41 00.7**	**-0.2**
DID				AML	AML	08 41 04.1	
	comp=E,6897µm,0.5s						
DID				AML	AML	08 41 05.6	
	comp=N,6712µm,0.7s						
DID	**Didima**	**1.18**	**132**	P	**Pg**	**08 40 45.0**	**-0.7**
DID				S	**Sn**	**08 41 02.0**	**-0.3**
DID	**Didima**	**1.18**	**132**	P	**Pg**	**08 40 45.0**	**-0.7**
DID				S	**Sg**	**08 41 00.8**	**-0.2**
KRND	**KRANIDI**	**1.22**	**138**	P	**Pb**	**08 40 46.0**	**-0.4**
KRND				S	**Sg**	**08 41 02.5**	**+0.3**
KRND				AML	AML	08 41 04.9	
	comp=N,7661µm,0.6s						
KRND				AML	AML	08 41 07.0	
	comp=E,10760µm,0.6s						
KRND	**KRANIDI**	**1.22**	**138**	P	**Pb**	**08 40 45.8**	**-0.6**
KRND				S	**Sn**	**08 41 03.9**	**+0.7**
KRND	**KRANIDI**	**1.22**	**138**	P	**Pb**	**08 40 45.8**	**-0.6**
KRND				S	**Sb**	**08 41 02.3**	**0.0**
VLS	**Valsamata**	**1.22**	**265**	P	**Pb**	**08 40 44.7**	**-1.7**
VLS				S	**Sb**	**08 41 02.4**	**-0.1**
VLS				AML	AML	08 41 05.0	
	comp=E,3067µm,0.3s						
VLS				AML	AML	08 41 05.0	
	comp=N,5918µm,0.2s						
VLS	**Valsamata**	**1.22**	**265**	P	**Pb**	**08 40 45.0**	**-1.4**
VLS				S	**Sn**	**08 41 04.8**	**+1.5**
VLS	**Valsamata**	**1.22**	**265**	P	**Pb**	**08 40 45.1**	**-1.4**
VLS				S	**Sb**	**08 41 02.3**	**-0.1**
FSK	**Fiskardo**	**1.24**	**278**	P	**Pn**	**08 40 45.3**	**-1.6**
FSK	**Fiskardo**	**1.24**	**278**	P	**Pn**	**08 40 45.6**	**-1.3**
FSK				S	**Sn**	**08 41 05.8**	**+1.9**
LKD2	**Lefkada island**	**1.26**	**293**	P	**Pn**	**08 40 46.2**	**-0.8**
LKD2	**Lefkada island**	**1.26**	**293**	P	**Pn**	**08 40 46.3**	**-0.8**
LKD2	**Lefkada island**	**1.26**	**293**	P	**Pn**	**08 40 46.3**	**-0.8**
THL	**Klokotos Trika**	**1.27**	**356**	P	**Pn**	**08 40 46.4**	**-0.9**
THL				S	**Sb**	**08 41 03.3**	**-0.5**
THL				AML	AML	08 41 06.5	
	comp=E,3783µm,0.6s						
THL				AML	AML	08 41 12.6	
	comp=N,2549µm,0.7s						
THL	**Klokotos Trika**	**1.27**	**356**	P	**Pn**	**08 40 47.1**	**-0.1**
THL				S	**Sn**	**08 41 06.6**	**+2.1**
THL	**Klokotos Trika**	**1.27**	**356**	P	**Pn**	**08 40 47.1**	**-0.1**
THL				S	**Sb**	**08 41 03.4**	**-0.4**
FYTO	**Fytoko, Volos**	**1.28**	**29**	P	**Pn**	**08 40 46.9**	**-0.4**
FYTO				S	**Sn**	**08 41 05.2**	**+0.5**
FYTO	**Fytoko, Volos**	**1.28**	**29**	P	**Pn**	**08 40 46.9**	**-0.4**
FYTO				S	**Sn**	**08 41 05.2**	**+0.5**
ATH	**Athens Observa**	**1.29**	**104**	P	**Pn**	**08 40 46.1**	**-1.4**
ATH				S	**Sg**	**08 41 04.6**	**-0.1**
ATH				AML	AML	08 41 10.2	
	comp=N,3064µm,0.7s						
ATH				AML	AML	08 41 17.3	
	comp=E,2128µm,0.4s						
ATH	**Athens Observa**	**1.29**	**104**	P	**Pn**	**08 40 47.5**	**0.0**
ATH				S	**Sn**	**08 41 05.4**	**+0.4**
ATH	**Athens Observa**	**1.29**	**104**	P	**Pn**	**08 40 47.5**	**0.0**
ATH				S	**Sg**	**08 41 04.5**	**-0.1**
NEO	**Neokhori**	**1.32**	**40**	P	**Pn**	**08 40 47.0**	**-1.0**
NEO				S	**Sn**	**08 41 06.0**	**+0.2**
NEO				AML	AML	08 41 10.8	
	comp=E,2987µm,0.8s						
NEO				AML	AML	08 41 11.7	
	comp=N,4056µm,0.3s						
NEO	**Neokhori**	**1.32**	**40**	P	**Pn**	**08 40 47.6**	**-0.4**
NEO				S	**Sn**	**08 41 07.5**	**+1.6**
NEO	**Neokhori**	**1.32**	**40**	P	**Pn**	**08 40 47.6**	**-0.4**
NEO				S	**Sn**	**08 41 05.6**	**-0.3**
ATHU	**Athens Univers**	**1.34**	**104**	P	**Pn**	**08 40 48.2**	**0.0**
ATHU				S	**Sb**	**08 41 05.8**	**-0.3**
ATHU				AML	AML	08 41 10.8	
	comp=N,1200µm,0.4s						
ATHU				AML	AML	08 41 17.1	
	comp=E,662µm,0.5s						
ATHU	**Athens Univers**	**1.34**	**104**	P	**Pn**	**08 40 48.1**	**-0.2**
ATHU	**Athens Univers**	**1.34**	**104**	P	**Pn**	**08 40 48.1**	**-0.2**
ATHU				S	**Sb**	**08 41 05.9**	**-0.1**
XOR	**Xorichti**	**1.35**	**37**	P	**Pn**	**08 40 47.2**	**-1.2**
XOR	**Xorichti**	**1.35**	**37**	P	**Pn**	**08 40 48.0**	**-0.4**
XOR				S	**Sg**	**08 41 08.4**	**+1.8**
XOR	**Xorichti**	**1.35**	**37**	P	**Pn**	**08 40 48.0**	**-0.4**
XOR				S	**Sg**	**08 41 08.4**	**+1.8**
SKIA	**Skiathos**	**1.36**	**50**	P	**Pn**	**08 40 48.3**	**-0.2**
SKIA	**Skiathos**	**1.36**	**50**	P	**Pn**	**08 40 48.1**	**-0.4**
SKIA				S	**Sg**	**08 41 09.0**	**+2.2**
SKIA	**Skiathos**	**1.36**	**50**	P	**Pn**	**08 40 48.1**	**-0.4**
SKIA				S	**Sg**	**08 41 09.0**	**+2.2**
VLY	**Voula,Athens**	**1.39**	**108**	P	**Pn**	**08 40 48.2**	**-0.6**
VLY				S	**Sb**	**08 41 06.5**	**-0.6**
VLY	**Voula,Athens**	**1.39**	**108**	P	**Pn**	**08 40 48.8**	**0.0**
VLY				S	**Sg**	**08 41 09.1**	**+1.5**
VLY	**Voula,Athens**	**1.39**	**108**	P	**Pn**	**08 40 48.8**	**0.0**
VLY				S	**Sb**	**08 41 06.9**	**-0.3**
PTL	**Penteli**	**1.39**	**100**	P	**Pn**	**08 40 49.0**	**+0.1**
PTL				S	**Sb**	**08 41 06.8**	**-0.5**
PTL				AML	AML	08 41 14.2	
	comp=E,2318µm,0.5s						
PTL				AML	AML	08 41 16.4	
	comp=N,1980µm,0.7s						
PTL	**Penteli**	**1.39**	**100**	P	**Pn**	**08 40 48.9**	**0.0**
PTL				S	**Sg**	**08 41 09.3**	**+1.6**
PTL	**Penteli**	**1.39**	**100**	P	**Pn**	**08 40 48.7**	**-0.2**
PTL				S	**Sb**	**08 41 07.1**	**-0.2**
YDRA	**Hydra**	**1.42**	**131**	P	**Pn**	**08 40 48.5**	**-0.8**
YDRA	**Hydra**	**1.42**	**131**	P	**Pn**	**08 40 48.7**	**-0.5**
EREA	**Eretria**	**1.42**	**84**	P	**Pn**	**08 40 46.7**	**-2.6**
EREA	**Eretria**	**1.42**	**84**	P	**Pn**	**08 40 49.6**	**+0.3**
EREA	**Eretria**	**1.42**	**84**	P	**Pn**	**08 40 49.6**	**+0.3**
PYL	**PYLOS**	**1.43**	**193**	P	**Pn**	**08 40 48.2**	**-1.3**
PYL				S	**Sg**	**08 41 09.6**	**+0.5**
PYL	**PYLOS**	**1.43**	**193**	P	**Pn**	**08 40 49.4**	**-0.1**
PYL	**PYLOS**	**1.43**	**193**	P	**Pn**	**08 40 49.4**	**-0.1**
PYL				S	**Sg**	**08 41 09.4**	**+0.3**
DION	**Dionisos Attik**	**1.44**	**98**	P	**Pn**	**08 40 49.2**	**-0.3**
DION				S	**Sn**	**08 41 08.3**	**-0.3**
DION	**Dionisos Attik**	**1.44**	**98**	P	**Pn**	**08 40 49.2**	**-0.3**
DION				S	**Sb**	**08 41 08.6**	**-0.1**
DYR	**Agios Nikonas**	**1.54**	**174**	P	**Pn**	**08 40 48.5**	**-2.5**
DYR	**Agios Nikonas**	**1.54**	**174**	P	**Pn**	**08 40 50.3**	**-0.7**
DYR	**Agios Nikonas**	**1.54**	**174**	P	**Pn**	**08 40 50.3**	**-0.7**
ALNA	**Alonissos**	**1.60**	**57**	P	**Pn**	**08 40 51.0**	**-0.8**
ALNA	**Alonissos**	**1.60**	**57**	P	**Pn**	**08 40 51.4**	**-0.4**
JAN	**Janina**	**1.69**	**324**	P	**Pb**	**08 40 54.0**	**-0.4**
JAN	**Janina**	**1.69**	**324**	P	**Pg**	**08 40 55.1**	**-0.3**
JAN	**Janina**	**1.69**	**324**	P	**Pn**	**08 40 53.5**	**+0.5**
VLI	**Veliai**	**1.70**	**158**	P	**Pn**	**08 40 52.7**	**-0.5**
VLI	**Veliai**	**1.70**	**158**	P	**Pn**	**08 40 53.3**	**+0.1**
VLI				S	**Sg**	**08 41 18.3**	**+0.6**
VLI	**Veliai**	**1.70**	**158**	P	**Pn**	**08 40 53.3**	**+0.1**
VLI				S	**Sg**	**08 41 18.3**	**+0.6**
KPRO	**Kipourio**	**1.76**	**340**	P	**Pb**	**08 40 55.1**	**-0.6**
KPRO	**Kipourio**	**1.76**	**340**	P	**Pb**	**08 40 55.1**	**-0.6**
KPRO				S	**Sb**	**08 41 18.4**	**+0.3**
KPRO	**Kipourio**	**1.76**	**340**	P	**Pn**	**08 40 54.6**	**+0.5**
KPRO				S	**Sb**	**08 41 18.4**	**+0.3**
MNVA	**Monemvasia**	**1.76**	**156**	P	**Pn**	**08 40 54.0**	**+0.1**
MNVA	**Monemvasia**	**1.76**	**156**	P	**Pn**	**08 40 54.1**	**+0.1**
LIT	**Litokhoron**	**1.82**	**9**	P	**Pn**	**08 40 53.8**	**-1.0**
LIT	**Litokhoron**	**1.82**	**9**	P	**Pn**	**08 40 54.5**	**-0.4**
LIT	**Litokhoron**	**1.82**	**9**	P	**Pn**	**08 40 54.5**	**-0.4**
KARY	**Karystos**	**1.84**	**98**	P	**Pn**	**08 40 55.1**	**+0.1**
KARY	**Karystos**	**1.84**	**98**	P	**Pn**	**08 40 55.1**	**+0.1**
IGT	**Igoumenitsa**	**1.87**	**312**	P	**Pb**	**08 40 57.0**	**-0.6**
IGT	**Igoumenitsa**	**1.87**	**312**	P	**Pb**	**08 40 57.9**	**+0.4**
IGT				S	**Sb**	**08 41 21.9**	**+0.8**
IGT	**Igoumenitsa**	**1.87**	**312**	P	**Pn**	**08 40 56.3**	**+0.8**
IGT				S	**Sb**	**08 41 21.9**	**+0.8**
SGD	**Sagiada**	**1.98**	**312**	P	**Pn**	**08 40 56.8**	**-0.1**
SGD	**Sagiada**	**1.98**	**312**	P	**Pb**	**08 40 59.5**	**+0.1**
SGD	**Sagiada**	**1.98**	**312**	P	**Pn**	**08 40 57.0**	**0.0**
SKY	**Skiros Island**	**1.98**	**72**	P	**Pn**	**08 40 56.0**	**-1.1**
SKY	**Skiros Island**	**1.98**	**72**	P	**Pn**	**08 40 57.0**	**0.0**
SKY	**Skiros Island**	**1.98**	**72**	P	**Pn**	**08 40 57.0**	**0.0**
PAIG	**Paliouri**	**2.02**	**36**	P	**Pn**	**08 40 55.8**	**-1.8**
PAIG	**Paliouri**	**2.02**	**36**	P	**Pn**	**08 40 56.7**	**-0.9**
PAIG	**Paliouri**	**2.02**	**36**	P	**Pn**	**08 40 56.8**	**-0.9**
KZN	**Kozani**	**2.03**	**352**	P	**Pn**	**08 40 59.0**	**+1.3**
KZN	**Kozani**	**2.03**	**352**	P	**Pn**	**08 40 58.5**	**+0.7**
KZN				S	**Sb**	**08 41 26.0**	**+0.3**
KZN	**Kozani**	**2.03**	**352**	P	**Pn**	**08 40 58.4**	**+0.7**
KZN				S	**Sb**	**08 41 26.0**	**+0.3**
PENT	**Pentalofos**	**2.05**	**338**	P	**Pb**	**08 40 59.5**	**-1.2**
PENT	**Pentalofos**	**2.05**	**338**	P	**Pn**	**08 40 58.8**	**+0.8**
KYTH	**Kithira**	**2.15**	**160**	P	**Pn**	**08 41 00.1**	**+0.6**
KYTH	**Kithira**	**2.15**	**160**	P	**Pn**	**08 41 01.0**	**+1.6**
NEST	**Nestorio**	**2.27**	**339**	P	**Pn**	**08 41 04.9**	**+0.3**
NEST	**Nestorio**	**2.27**	**339**	P	**Pb**	**08 41 03.4**	**-1.4**
SRN	**Sarande**	**2.29**	**314**	P	**Pn**	**08 41 00.1**	**-1.2**
SRN	**Sarande**	**2.29**	**314**	P	**Pn**	**08 41 00.1**	**-1.2**
SRN	**Sarande**	**2.29**	**314**	*i* PN	**Sb**	**08 41 34.4**	**+1.2**
SRN				*i* SN	Pg	08 41 15.1	+8.1
KEK	**Kerkira**	**2.30**	**309**	P	**Pn**	**08 41 03.2**	**+1.8**
KEK	**Kerkira**	**2.30**	**309**	P	**Pn**	**08 41 02.5**	**+1.1**
PLG	**Polygyros**	**2.31**	**26**	P	**Pn**	**08 41 00.2**	**-1.4**
PLG	**Polygyros**	**2.31**	**26**	P	**Pn**	**08 41 00.9**	**-0.6**
PLG	**Polygyros**	**2.31**	**26**	P	**Pn**	**08 41 01.0**	**-0.6**
MHLA	**Plaka, Milos I**	**2.39**	**130**	P	**Pn**	**08 41 04.2**	**+1.5**
MHLA	**Plaka, Milos I**	**2.39**	**130**	P	**Pn**	**08 41 03.6**	**+1.0**
MHLO	**Agia Marina, M**	**2.42**	**131**	P	**Pn**	**08 41 02.7**	**-0.3**
MHLO	**Agia Marina, M**	**2.42**	**131**	P	**Pn**	**08 41 03.6**	**+0.6**
MHLO	**Agia Marina, M**	**2.42**	**131**	P	**Pn**	**08 41 03.0**	**0.0**
HORT	**Hortiatis**	**2.42**	**18**	P	**Pn**	**08 41 01.5**	**-1.6**
HORT	**Hortiatis**	**2.42**	**18**	P	**Pn**	**08 41 02.3**	**-0.8**
HORT	**Hortiatis**	**2.42**	**18**	P	**Pn**	**08 41 02.4**	**-0.7**
THE	**Thessaloniki**	**2.42**	**15**	P	**Pn**	**08 41 02.4**	**-0.6**
THE	**Thessaloniki**	**2.42**	**15**	P	**Pn**	**08 41 02.9**	**-0.1**
KBN	**Korca**	**2.55**	**336**	P	**Pn**	**08 41 04.7**	**-0.2**
KBN	**Korca**	**2.55**	**336**	P	**Pn**	**08 41 04.7**	**-0.2**
KBN	**Korca**	**2.55**	**336**	*i* PN	**Sg**	**08 41 43.9**	**-1.0**
FNA	**Florina**	**2.55**	**347**	P	**Pn**	**08 41 06.4**	**+1.5**
FNA	**Florina**	**2.55**	**347**	P	**Pn**	**08 41 05.9**	**+1.0**
FNA	**Florina**	**2.55**	**347**	P	**Pn**	**08 41 05.8**	**+0.9**
ANKY	**Antikythira Is**	**2.60**	**159**	P	**Pn**	**08 41 07.0**	**+1.4**
ANKY	**Antikythira Is**	**2.60**	**159**	P	**Pn**	**08 41 05.5**	**0.0**
ANKY	**Antikythira Is**	**2.60**	**159**	P	**Pn**	**08 41 05.5**	**0.0**
GRG	**Griva**	**2.67**	**4**	P	**Pn**	**08 41 06.2**	**-0.3**
GRG	**Griva**	**2.67**	**4**	P	**Pn**	**08 41 06.5**	**0.0**
GRG	**Griva**	**2.67**	**4**	P	**Pn**	**08 41 06.5**	**0.0**
SOH	**Sokhos**	**2.69**	**20**	P	**Pn**	**08 41 06.9**	**+0.1**
SOH	**Sokhos**	**2.69**	**20**	P	**Pn**	**08 41 07.3**	**+0.4**
SOH				S	**Sn**	**08 41 41.5**	**+1.8**
SOH	**Sokhos**	**2.69**	**20**	P	**Pn**	**08 41 07.3**	**+0.4**
SOH				S	**Sn**	**08 41 41.5**	**+1.8**
BIA	**Bitola**	**2.79**	**347**	*i* Pn	**Pb**	**08 41 11.4**	**-1.9**
LIA	**Limnos Island**	**2.86**	**55**	P	**Pn**	**08 41 07.6**	**-1.5**
LIA	**Limnos Island**	**2.86**	**55**	P	**Pn**	**08 41 08.6**	**-0.5**
KNT	**Kendrikon**	**2.92**	**11**	P	**Pn**	**08 41 09.5**	**-0.5**
KNT	**Kendrikon**	**2.92**	**11**	P	**Pn**	**08 41 10.2**	**+0.2**
KNT	**Kendrikon**	**2.92**	**11**	P	**Pn**	**08 41 10.2**	**+0.2**
APE	**Apeiranthos**	**2.96**	**113**	*i* P	**Pb**	**08 41 13.9**	**-2.3**
APE	**Apeiranthos**	**2.96**	**113**	P	**Pn**	**08 41 09.9**	**-0.6**
APE	**Apeiranthos**	**2.96**	**113**	P	**Pn**	**08 41 10.9**	**+0.3**
APE	**Apeiranthos**	**2.96**	**113**	P	**Pn**	**08 41 10.9**	**+0.3**
OHR	**Ohrid**	**2.99**	**340**	*i* Pn	**Pb**	**08 41 14.0**	**-2.8**
SRS	**Serrai**	**3.03**	**21**	P	**Pn**	**08 41 11.3**	**-0.2**
SRS	**Serrai**	**3.03**	**21**	P	**Pn**	**08 41 11.4**	**-0.1**
SRS	**Serrai**	**3.03**	**21**	P	**Pn**	**08 41 11.5**	**-0.1**
SIGR	**SIGRI**	**3.05**	**71**	P	**Pn**	**08 41 11.5**	**-0.2**
SIGR	**SIGRI**	**3.05**	**71**	P	**Pn**	**08 41 11.9**	**+0.2**
CHOS	**Chios island**	**3.09**	**87**	P	**Pn**	**08 41 12.1**	**-0.2**
CHOS	**Chios island**	**3.09**	**87**	P	**Pn**	**08 41 12.4**	**+0.1**
KRUS	**Krusevo**	**3.14**	**348**	*i* Pn	**Pn**	**08 41 14.1**	**+1.1**
IMMV	**Iera Moni Meta**	**3.20**	**152**	P	**Pn**	**08 41 14.5**	**+0.8**
IMMV	**Iera Moni Meta**	**3.20**	**152**	P	**Pn**	**08 41 14.5**	**+0.8**
IMMV				S	**Sn**	**08 41 54.7**	**+2.7**
IMMV	**Iera Moni Meta**	**3.20**	**152**	P	**Pn**	**08 41 14.4**	**+0.7**
IMMV				S	**Sn**	**08 41 54.7**	**+2.7**
KAVA	**Kavala**	**3.26**	**34**	P	**Pn**	**08 41 12.6**	**-2.1**
KAVA	**Kavala**	**3.26**	**34**	P	**Pn**	**08 41 13.8**	**-0.8**
KAVA	**Kavala**	**3.26**	**34**	P	**Pn**	**08 41 13.8**	**-0.8**
SANT	**Santorini**	**3.27**	**125**	⇑ *i* P	**Pn**	**08 41 18.1**	**+3.3**
SANT	**Santorini**	**3.27**	**125**	⇑ *i* P	**Pn**	**08 41 18.1**	**+3.3**
VAM	**Vamos**	**3.33**	**149**	P	**Pn**	**08 41 15.3**	**-0.2**
VAM	**Vamos**	**3.33**	**149**	P	**Pn**	**08 41 15.9**	**+0.4**
VAM	**Vamos**	**3.33**	**149**	P	**Pn**	**08 41 15.8**	**+0.3**
NVR	**Nevrokopi**	**3.33**	**23**	P	**Pn**	**08 41 15.8**	**+0.3**
NVR	**Nevrokopi**	**3.33**	**23**	P	**Pn**	**08 41 15.9**	**+0.3**
NVR	**Nevrokopi**	**3.33**	**23**	P	**Pn**	**08 41 15.9**	**+0.3**
PRK	**Paraskevi**	**3.37**	**72**	P	**Pn**	**08 41 15.9**	**-0.2**
PRK	**Paraskevi**	**3.37**	**72**	P	**Pn**	**08 41 16.3**	**+0.2**
SMTH	**Samothraki Isl**	**3.41**	**49**	P	**Pn**	**08 41 13.7**	**-3.0**
SMTH	**Samothraki Isl**	**3.41**	**49**	P	**Pn**	**08 41 15.5**	**-1.2**
ANAF	**Anafi Island**	**3.49**	**123**	P	**Pn**	**08 41 18.9**	**+1.1**
ANAF	**Anafi Island**	**3.49**	**123**	P	**Pn**	**08 41 18.6**	**+0.8**
TIR	**Tirane**	**3.51**	**331**	*eP*n	**Pn**	**08 41 21.2**	**+3.1**
TIR	**Tirane**	**3.51**	**331**	⇑ *i* P	**Pn**	**08 41 21.5**	**+3.4**
TIR	**Tirane**	**3.51**	**331**	*eP*n	**Pn**	**08 41 21.2**	**+3.1**
TIR	**Tirane**	**3.51**	**331**	⇑ *i* P	**Pn**	**08 41 21.5**	**+3.4**
SKO	**Skopje**	**3.71**	**352**	*i* Pn	**Pn**	**08 41 22.6**	**+1.8**
IDI	**Anoyia**	**3.73**	**143**	Pn	**Pn**	**08 41 21.2**	**+0.1**
	comp=N,3.8nm,0.3s,baz=327,slow=7.1,SNR=18						
IDI				Sn	**Sn**	**08 42 02.2**	**-3.2**
	comp=N,6.5nm,0.3s,baz=36,slow=17,SNR=3.6						
IDI	**Anoyia**	**3.73**	**143**	‖ *i* P	**Pn**	**08 41 23.9**	**+2.8**
IDI	**Anoyia**	**3.73**	**143**	‖ *i* P	**Pn**	**08 41 23.9**	**+2.8**
SMG	**Samos**	**3.76**	**98**	P	**Pn**	**08 41 21.6**	**+0.1**
SMG	**Samos**	**3.76**	**98**	P	**Pn**	**08 41 22.0**	**+0.5**
ALN	**Alexandroupoli**	**3.99**	**48**	P	**Pn**	**08 41 22.4**	**-2.1**
ALN	**Alexandroupoli**	**3.99**	**48**	P	**Pn**	**08 41 23.9**	**-0.7**
NPS	**Neapolis**	**4.12**	**136**	P	**Pn**	**08 41 28.7**	**+2.3**
NPS	**Neapolis**	**4.12**	**136**	P	**Pn**	**08 41 28.0**	**+1.6**
LAST	**Lasithi**	**4.13**	**138**	P	**Pn**	**08 41 26.5**	**0.0**
LAST	**Lasithi**	**4.13**	**138**	P	**Pn**	**08 41 27.0**	**+0.4**
TIP	**Timpagrande**	**4.29**	**284**	‖ *i* P	**Pn**	**08 41 30.9**	**+2.0**
VTS	**Vitosha**	**4.37**	**11**	⇑ *i* P	**Pn**	**08 41 32.0**	**+2.0**
VTS	**Vitosha**	**4.37**	**11**	P	**Pn**	**08 41 31.5**	**+1.5**
VTS	**Vitosha**	**4.37**	**11**	P	**Pn**	**08 41 31.5**	**+1.5**
DRME	**Dracevica, Mon**	**4.49**	**331**	*eP*n	**Pn**	**08 41 32.3**	**+0.8**
MASS	**Massafra**	**4.51**	**303**	*eP*n	**Pn**	**08 41 32.7**	**+0.9**
BARS	**Barje**	**4.52**	**357**	*eP*n	**Pn**	**08 41 33.3**	**+1.4**
BARS	**Barje**	**4.52**	**357**	*eP*n	**Pn**	**08 41 33.3**	**+1.4**
PDG	**Podgorica**	**4.68**	**333**	*eP*n	**Pn**	**08 41 35.8**	**+1.8**
PDG				*eS*n	**Sn**	**08 42 29.0**	**+0

s-min=6.2km az=152.8
IDC ***16*** *08:42:55.7±4.0,3.85N×126.59E,h62km±39km,mb3.5/13, mb1 3.7/14,mb1mx3.5/64,mbtmp3.9/14,ML4.1/1,MS3.2/6, Ms1 3.2/6,ms1mx2.8/45,Error ellipse: s-maj=33.6km s-min=12.6km az=73.0*
ISC 16 08:42:54.2±0.7,3.85N±0.10×126.5E±0.2,h45km,n17, σ0ᵗ96/16,mb3.9/13,MS3.1/5,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**3.33**	**344**	S	**Sn**	**08 44 23.6**	**+1.3**
	61nm,0.3s,baz=53,slow=20,SNR=2.7						
SIJI	**Sorong**	**6.67**	**135**	P	**Pn**	**08 44 31.3**	**+1.6**
	3.6nm,0.3s,baz=334,slow=18,SNR=9.9						
SIJI				S	**Sn**	**08 45 44.0**	**-0.4**
	1.6nm,0.3s,baz=240,slow=20,SNR=2.8						
SIJI				LR	LR	08 46 58.2	
	comp=Z,125nm,21.5s,baz=97,slow=37						
GUMO	**Guam**	**20.53**	**61**	LR	LR	08 54 48.2	
	comp=Z,30nm,19.2s,baz=212,slow=35						
FITZ	**Fitzroy Crossi**	**21.83**	**182**	P	**P**	**08 47 42.4**	**-0.4**
	2.4nm,0.4s,baz=3.5,slow=10.0,SNR=3.9						
WRA	**Warramunga Arr**	**24.86**	**162**	P	**P**	**08 48 11.7**	**-1.0**
	2.5nm,0.7s,baz=342,slow=10,SNR=21						
PSI	**Prapat**	**27.57**	**269**	LR	LR	09 01 36.6	
	comp=Z,50nm,18.4s,baz=133,slow=40						
ASAR	**Alice Springs**	**28.28**	**166**	P	**P**	**08 48 43.0**	**-0.6**
	0.8nm,0.4s,baz=339,slow=6.5,SNR=20						
CMAR	**Chiang Mai Arr**	**30.63**	**300**	P	**P**	**08 49 05.2**	**+0.7**
	1.3nm,0.8s,baz=90,slow=6.5,SNR=3.0						
CMAR				LR	LR	09 02 47.1	
	comp=Z,20nm,18.7s,baz=168,slow=39						
KSRS	**Korea Array**	**33.47**	**2**	P	**P**	**08 49 29.4**	**+0.3**
	0.7nm,0.5s,baz=178,slow=11,SNR=3.1						
STKA	**Stephens Creek**	**38.31**	**159**	P	**P**	**08 50 10.9**	**+0.2**
	4.5nm,0.7s,baz=334,slow=9.0,SNR=13						
KLR	**Kul'dur**	**45.43**	**5**	P	**P**	**08 51 07.4**	**-1.2**
	0.2nm,0.8s,baz=205,slow=3.1,SNR=8.6						
SONM	**Songino Array**	**47.11**	**340**	P	**P**	**08 51 22.0**	**0.0**
	0.5nm,0.4s,baz=151,slow=8.9,SNR=3.5						
SONM				LR	LR	09 13 34.7	
	comp=Z,38nm,18.9s,baz=72,slow=39						
MKAR	**Makanchi Array**	**57.34**	**325**	P	**P**	**08 52 37.0**	**-0.8**
	0.8nm,0.5s,baz=118,slow=7.6,SNR=14						
KURBB	**Kurchatov Arra**	**61.53**	**327**	P	**P**	**08 53 05.5**	**-1.0**
	1.2nm,0.5s,baz=129,slow=6.3,SNR=10						
BVAR	**Borovoye Array**	**67.11**	**327**	P	**P**	**08 53 44.2**	**+1.1**
	0.5nm,0.5s,baz=116,slow=6.6,SNR=2.8						
VNDA	**Vanda**	**83.57**	**173**	P	**P**	**08 55 17.4**	**+0.3**
	0.3nm,0.4s,baz=318,slow=9.4,SNR=5.9						
VNDA				LR	LR	09 32 52.3	
	comp=Z,42nm,18.5s,baz=272,slow=36						
ILAR	**Eielson Array**	**85.08**	**25**	P	**P**	**08 55 24.1**	**-0.9**
	0.1nm,0.5s,baz=243,slow=6.1,SNR=4.1						

IDC ***16*** *08:46:18.5±1.6,36.02S×179.98W,h0km,mb4.1/3, mb1 4.4/4,mb1mx3.8/42,mbtmp4.2/4,ML4.2/1,MS3.5/4, Ms1 3.4/4,ms1mx2.9/41,Error ellipse: s-maj=61.4km s-min=32.4km az=155.0*
WEL ***16*** *08:46:20.9,36.5S±6.1×18.0W±1.0,h98km±35km*
NEIC ***16*** *08:46:26.1±1.1,36.75S×180.00E,h61km±8km,mb4.1/2, Error ellipse: s-maj=17.5km s-min=10.1km az=111.0*
ISC 16 08:46:24.4±0.9,36.65S±0.07×179.75W±0.09,h50km, n116,σ2ᵗ92/129,mb4.1/5,East of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.80**	**239**	*e*Pn	**Pn**	**08 46 53.9**	**+0.9**
MXZ				*e*Sn	**Sn**	**08 47 18.0**	**+3.3**
MXZ	**Matakaoa Point**	**1.80**	**239**	P	**Pn**	**08 46 53.5**	**+0.4**
MXZ	**Matakaoa Point**	**1.80**	**239**	S	**Sn**	**08 47 17.5**	**+2.8**
PKGZ	**Pakihiroa**	**2.13**	**234**	P	**Pn**	**08 46 59.1**	**+1.6**
PKGZ	**Pakihiroa**	**2.13**	**234**	S	**Sn**	**08 47 26.3**	**+3.4**
PUZ	**Puketiti**	**2.13**	**228**	P	**Pn**	**08 46 59.5**	**+1.9**
PUZ	**Puketiti**	**2.13**	**228**	S	**Sn**	**08 47 27.6**	**+4.8**
HAZ	**Te Kaha**	**2.26**	**240**	P	**Pn**	**08 47 00.1**	**+0.8**
TWGZ	**Tauwhareparae**	**2.37**	**229**	P	**Pn**	**08 47 02.6**	**+1.9**
TWGZ	**Tauwhareparae**	**2.37**	**229**	S	**Sn**	**08 47 33.9**	**+5.3**
RUAZ	**Raukumara Rang**	**2.44**	**232**	P	**Pn**	**08 47 03.7**	**+1.8**
CNGZ	**Carnagh Statio**	**2.45**	**221**	P	**Pn**	**08 47 04.6**	**+2.7**
TKGZ	**Te Karaka**	**2.62**	**226**	P	**Pn**	**08 47 05.7**	**+1.6**
TKGZ	**Te Karaka**	**2.62**	**226**	S	**Sn**	**08 47 39.3**	**+4.6**
MWZ	**Matawai**	**2.74**	**231**	P	**Pn**	**08 47 07.1**	**+1.2**
MWZ	**Matawai**	**2.74**	**231**	S	**Sn**	**08 47 41.2**	**+3.3**
RIGZ	**Rimuhau**	**2.85**	**223**	P	**Pn**	**08 47 08.8**	**+1.4**
WHRZ	**Whale Island**	**2.88**	**244**	P	**Pn**	**08 47 08.5**	**+0.7**
RAGZ	**Rawiri**	**2.91**	**230**	P	**Pn**	**08 47 09.9**	**+1.6**
RAGZ	**Rawiri**	**2.91**	**230**	S	**Sn**	**08 47 45.8**	**+3.7**
PRGZ	**Paritu Road**	**2.94**	**219**	P	**Pn**	**08 47 10.4**	**+1.7**
PRGZ	**Paritu Road**	**2.94**	**219**	S	**Sn**	**08 47 48.3**	**+5.5**
URZ	**Urewera**	**2.97**	**236**	Pn	**Pn**	**08 47 10.1**	**+1.1**
	28nm,0.3s,baz=48,slow=3.3,SNR=107						
URZ				Sn	**Sn**	**08 47 46.8**	**+3.3**
	30nm,0.3s,baz=122,slow=2.2,SNR=3.6						
URZ				LR	LR	08 48 28.5	
	comp=Z,174nm,20.4s,baz=41,slow=40						
URZ	**Urewera**	**2.97**	**236**	P	**Pn**	**08 47 10.0**	**+1.0**
URZ	**Urewera**	**2.97**	**236**	S	**Sn**	**08 47 46.5**	**+3.1**
MHGZ	**Mahia Peninsul**	**3.11**	**216**	P	**Pn**	**08 47 12.9**	**+1.9**
KNZ	**Kokohu**	**3.13**	**220**	P	**Pn**	**08 47 12.1**	**+0.9**
KNZ	**Kokohu**	**3.13**	**220**	S	**Sn**	**08 47 51.1**	**+3.9**
SNGZ	**Shannon Statio**	**3.14**	**226**	P	**Pn**	**08 47 12.5**	**+1.1**
MARZ	**Manawahe**	**3.15**	**244**	P	**Pn**	**08 47 11.6**	**+0.1**
EDRZ	**Edgecumbe**	**3.15**	**241**	P	**Pn**	**08 47 12.7**	**+1.1**
OPRZ	**Ohinepanea**	**3.18**	**247**	P	**Pn**	**08 47 11.8**	**-0.1**
RTZ	**Ruatahuna**	**3.26**	**232**	P	**Pn**	**08 47 14.4**	**+1.4**
MKRZ	**Makatiti**	**3.36**	**243**	P	**Pn**	**08 47 15.7**	**+1.2**
TGRZ	**Tauranga**	**3.37**	**225**	P	**Pn**	**08 47 14.2**	**-0.2**
LIRZ	**Lichensteins R**	**3.37**	**245**	P	**Pn**	**08 47 15.5**	**+1.0**
TARZ	**Mount Tarawera**	**3.38**	**241**	P	**Pn**	**08 47 15.6**	**+0.9**
RAHZ	**Arahi**	**3.38**	**227**	P	**Pn**	**08 47 16.4**	**+1.8**
WHHZ	**Waihua**	**3.40**	**224**	P	**Pn**	**08 47 16.8**	**+1.9**
OMRZ	**Omania**	**3.42**	**244**	P	**Pn**	**08 47 15.8**	**+0.6**
RRRZ	**Republican Roa**	**3.42**	**239**	P	**Pn**	**08 47 15.8**	**+0.6**
KARZ	**Kaharoa**	**3.48**	**246**	P	**Pn**	**08 47 16.1**	**+0.2**
MTHZ	**Maungataniwha**	**3.48**	**230**	P	**Pn**	**08 47 17.3**	**+1.1**
HLRZ	**Highlands Stat**	**3.49**	**242**	P	**Pn**	**08 47 17.0**	**+0.8**
PRRZ	**Plateau Road**	**3.58**	**238**	P	**Pn**	**08 47 18.2**	**+0.8**
HSRZ	**Hossack Road**	**3.59**	**241**	P	**Pn**	**08 47 18.9**	**+1.3**
HRRZ	**Handcock Road**	**3.60**	**240**	P	**Pn**	**08 47 18.9**	**+1.2**
KMRZ	**Kaimai**	**3.64**	**250**	P	**Pn**	**08 47 18.0**	**-0.2**
KUZ	**Kuaotunu**	**3.64**	**267**	P	**Pn**	**08 47 15.8**	**-2.4**
ALRZ	**Allen Road**	**3.65**	**237**	P	**Pn**	**08 47 19.1**	**+0.8**
NMHZ	**Naumai**	**3.66**	**227**	P	**Pn**	**08 47 20.0**	**+1.4**
ARHZ	**Aropaoanui**	**3.67**	**224**	P	**Pn**	**08 47 20.0**	**+1.5**
GRRZ	**Galatos Road**	**3.71**	**242**	P	**Pn**	**08 47 20.2**	**+1.0**
MRHZ	**Matea Rd**	**3.74**	**233**	P	**Pn**	**08 47 20.5**	**+0.9**
WPRZ	**Whakapapatarin**	**3.75**	**239**	P	**Pn**	**08 47 20.7**	**+1.0**
BKZ	**Black Stump Fm**	**3.89**	**229**	*e*Pn	**Pn**	**08 47 22.1**	**+0.4**
BKZ				*e*Sn	**Sn**	**08 48 06.2**	**0.0**
BKZ	**Black Stump Fm**	**3.89**	**229**	P	**Pn**	**08 47 22.1**	**+0.4**
CKHZ	**Cape Kidnapper**	**3.91**	**219**	P	**Pn**	**08 47 22.7**	**+0.8**
TOZ	**Tahuroa Road**	**3.94**	**253**	P	**Pn**	**08 47 22.1**	**-0.2**
MCHZ	**McNeill Hill**	**3.96**	**224**	P	**Pn**	**08 47 23.5**	**+0.9**
KUTZ	**Kaahu Road**	**3.97**	**241**	P	**Pn**	**08 47 23.8**	**+1.0**
KWHZ	**Kaweka Forest**	**4.10**	**226**	P	**Pn**	**08 47 25.4**	**+0.8**
TLZ	**Tolley Road**	**4.11**	**244**	P	**Pn**	**08 47 25.4**	**+0.8**
KAHZ	**Kahuranaki**	**4.11**	**219**	P	**Pn**	**08 47 25.0**	**+0.2**
RATZ	**Rangitukua**	**4.18**	**237**	P	**Pn**	**08 47 27.1**	**+1.4**
RITZ	**Rihia Road**	**4.18**	**235**	P	**Pn**	**08 47 27.4**	**+1.7**
KRHZ	**Kereru**	**4.28**	**225**	P	**Pn**	**08 47 27.3**	**+0.3**
PXZ	**Pawanui**	**4.30**	**217**	P	**Pn**	**08 47 27.1**	**-0.1**
BHHZ	**Black Hill Sta**	**4.36**	**228**	P	**Pn**	**08 47 28.7**	**+0.6**
ABAZ	**Army Bay**	**4.36**	**269**	P	**Pn**	**08 47 27.0**	**-1.1**
KRVZ	**Karewarewa**	**4.39**	**235**	P	**Pn**	**08 47 29.4**	**+0.8**
WTVZ	**West Tongariro**	**4.43**	**235**	P	**Pn**	**08 47 30.5**	**+1.3**
NGZ	**Ngauruhoe**	**4.46**	**234**	P	**Pn**	**08 47 30.6**	**+1.0**
TUVZ	**Tukino**	**4.48**	**233**	P	**Pn**	**08 47 30.6**	**+0.8**
WHVZ	**Whangaehu Hut**	**4.53**	**233**	P	**Pn**	**08 47 31.4**	**+0.8**
FWVZ	**Far West T-bar**	**4.53**	**234**	P	**Pn**	**08 47 31.5**	**+0.9**
PNHZ	**Pukenui**	**4.56**	**223**	P	**Pn**	**08 47 30.5**	**-0.3**
TRVZ	**Turoa**	**4.56**	**233**	P	**Pn**	**08 47 31.8**	**+0.8**
WTAZ	**Waiatarua**	**4.57**	**265**	P	**Pn**	**08 47 31.0**	**0.0**
HIZ	**Hauiti**	**4.67**	**245**	*e*Pn	**Pn**	**08 47 33.4**	**+1.0**
HIZ	**Hauiti**	**4.67**	**245**	P	**Pn**	**08 47 33.4**	**+1.0**
BFZ	**Birch Farm**	**5.10**	**217**	*e*Pn	**Pn**	**08 47 37.4**	**-0.9**
BFZ				*e*Sn	**Sn**	**08 48 37.5**	**+1.6**
OUZ	**Omahuta**	**5.59**	**283**	*e*Pn	**Pn**	**08 47 42.6**	**-2.3**
SNZO	**South Karori**	**6.35**	**221**	*e*Pn	**Pn**	**08 47 53.7**	**-1.7**
SNZO				*e*Sn	**Sn**	**08 49 05.3**	**-1.2**
RAO	**Raoul Island**	**7.54**	**12**	*e*Pn	**Pn**	**08 48 14.9**	**+3.3**
THZ	**Tophouse**	**7.65**	**226**	*e*Pn	**Pn**	**08 48 11.2**	**-2.1**
THZ				*e*Sn	**Sn**	**08 49 36.8**	**-1.8**
KHZ	**Kahutara**	**7.75**	**220**	*e*Pn	**Pn**	**08 48 12.3**	**-2.2**
KHZ				*e*Sn	**Sn**	**08 49 38.3**	**-2.5**
LTZ	**Lake Taylor**	**8.68**	**223**	*e*Pn	**Pn**	**08 48 27.2**	**-0.1**
LTZ				*e*Sn	**Sn**	**08 50 00.2**	**-3.5**
CRLZ	**Canterbury Las**	**9.05**	**218**	*e*Pn	**Pn**	**08 48 35.9**	**+3.6**
MQZ	**McQueen's Vall**	**9.13**	**217**	*e*Pn	**Pn**	**08 48 30.7**	**-2.8**
MQZ				*e*Sn	**Sn**	**08 50 09.3**	**-5.5**
OXZ	**Oxford**	**9.17**	**221**	*e*Pn	**Pn**	**08 48 31.5**	**-2.5**
OXZ				*e*Sn	**Sn**	**08 50 11.8**	**-4.0**
RPZ	**Rata Peaks**	**9.96**	**222**	Pn	**Pn**	**08 48 42.7**	**-2.1**
	1.2nm,0.3s,baz=113,slow=2.2,SNR=8.1						
RPZ				Sn	**Sn**	**08 50 27.1**	**-8.0**
	1.3nm,0.3s,baz=130,slow=19,SNR=10						
RPZ	**Rata Peaks**	**9.96**	**222**	*e*Pn	**Pn**	**08 48 42.7**	**-2.1**
RPZ				*e*Sn	**Sn**	**08 50 32.3**	**-2.8**
LBZ	**Lake Benmore**	**10.88**	**222**	*e*Pn	**Pn**	**08 48 54.7**	**-2.6**
ODZ	**Otahua Downs**	**11.10**	**218**	*e*Pn	**Pn**	**08 48 58.2**	**-2.1**
ODZ				*e*Sn	**Sn**	**08 50 56.6**	**-6.2**
DZM	**Mont Dzumac**	**18.83**	**317**	LR	LR	08 56 49.1	
	comp=Z,179nm,18.9s,baz=219,slow=35						
STKA	**Stephens Creek**	**32.15**	**267**	LR	LR	09 05 46.8	
	comp=Z,56nm,18.1s,baz=25,slow=36						
CTA	**Charters Tower**	**33.94**	**300**	LR	LR	09 04 56.4	
	comp=Z,322nm,21.9s,baz=321,slow=33						
AS01	**Alice Springs**	**41.70**	**275**	*e*P	**P**	**08 54 07.0**	**-1.5**
AS31	**Alice Springs**	**41.74**	**275**	*e*P	**P**	**08 54 07.9**	**-0.9**
	3.5nm,1.4s						
ASAR	**Alice Springs**	**41.74**	**275**	P	**P**	**08 54 07.2**	**-1.5**
	3.5nm,0.8s,baz=117,slow=7.8,SNR=25						
WB2	**Warramunga Arr**	**43.28**	**280**	*e*P	**P**	**08 54 20.1**	**-1.2**
WR1	**Warramunga Arr**	**43.29**	**280**	*e*P	**P**	**08 54 19.6**	**-1.8**
	4.4nm,0.8s						
WRA	**Warramunga Arr**	**43.29**	**280**	P	**P**	**08 54 19.6**	**-1.8**
	2.0nm,0.5s,baz=119,slow=7.8,SNR=33						
FITZ	**Fitzroy Crossi**	**51.21**	**276**	P	**P**	**08 55 22.9**	**-0.1**
	1.3nm,0.7s,baz=110,slow=12						
MK32	**Makanchi Array**	**120.56**	**308**	*e*PKPdf	**PKPdf**	**09 05 10.5**	**+0.5**
MKAR	**Makanchi Array**	**120.56**	**308**	PKP	**PKPdf**	**09 05 10.5**	**+0.5**
	0.2nm,0.6s,baz=90,slow=4.3,SNR=2.8						
KURK	**Kurchatov**	**124.19**	**311**	*e*PKPdf	**PKPdf**	**09 05 17.3**	**+0.5**
KURBB	**Kurchatov Arra**	**124.21**	**311**	PKP	**PKPdf**	**09 05 17.3**	**+0.4**
	0.4nm,0.5s,baz=110,slow=1.8,SNR=4.5						
FIA0	**FINESS Array S**	**150.35**	**335**	*e*PKPbc	**PKPbc**	**09 06 10.0**	**+0.8**
FINES	**FINESS Array B**	**150.35**	**335**	PKPbc	**PKPbc**	**09 06 10.0**	**+0.8**
	1.9nm,0.6s,baz=36,slow=4.8,SNR=12						
BR101	**Keskin Array S**	**153.66**	**287**	*e*PKPbc	**PKPbc**	**09 06 18.6**	**+1.0**
BRTR	**Keskin Array B**	**153.66**	**287**	PKPbc	**PKPbc**	**09 06 18.6**	**+1.0**
	0.7nm,0.4s,baz=130,slow=4.4,SNR=5.8						
BR231	**Keskin MP Arra**	**154.34**	**287**	*e*PKPbc	**PKPbc**	**09 06 19.7**	**+0.6**
BR231				*e*PKPab	**sPKPdf**	**09 06 30.2**	**-1.2**
AKASG	**Malin Array Be**	**154.97**	**313**	PKPbc	**PKPbc**	**09 06 19.6**	**-0.2**
	0.4nm,0.5s,baz=57,slow=3.8,SNR=3.4						
AKASG				PKPab	**sPKPdf**	**09 06 32.6**	**+1.0**
	0.6nm,0.5s,baz=58,slow=2.3,SNR=4.5						
AKBB	**Malin Array Si**	**154.97**	**313**	*e*PKPbc	**PKPbc**	**09 06 19.6**	**-0.2**
AKBB				*e*PKPab	**pPKPbc**	**09 06 34.0**	**-1.0**

IDC 16 08:47:44.1±4.8,30.63S×177.50W,h0km,mb3.9/3, mb1 4.1/3,mb1mx3.6/45,mbtmp3.9/3,Error ellipse: s-maj=178.8km s-min=51.3km az=151.0,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**34.85**	**257**	P	P	08 54 36.7	-0.4
	1.2nm,0.6s,baz=119,slow=10,SNR=2.9						
ASAR	**Alice Springs**	**43.53**	**267**	P	P	08 55 49.2	-0.5
	0.7nm,0.6s,baz=105,slow=7.4,SNR=4.9						
WRA	**Warramunga Arr**	**44.54**	**272**	P	P	08 55 58.2	+0.3
	2.0nm,0.6s,baz=113,slow=8.0,SNR=9.5						
FINES	**FINESS Array B**	**145.51**	**340**	PKPbc	PKPdf	09 07 22.8	-0.7
	2.1nm,0.8s,baz=35,slow=2.1,SNR=3.1						

IDC ***16*** *08:48:04.1±1.3,38.24N×145.18E,h0km,mb3.6/5, mb1 3.7/8,mb1mx3.5/68,mbtmp3.6/8,ML3.6/2,Error ellipse: s-maj=30.0km s-min=25.1km az=85.0*
ISCJB ***16*** *08:48:08.4±0.7,38.33N±0.05×144.71E±0.06,h35km, mb3.6/5,Error ellipse: s-maj=7.4km s-min=5.6km az=141.2*
JMA ***16*** *08:48:09.9±0.2,38.33N×144.58E,h48km,MS3.7*
ISC 16 08:48:09.9±1.1,38.36N±0.06×144.74E±0.09,h35km,n27, σ1ᵗ91/38,mb3.6/5,Off east of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**2.51**	**288**	P	**Pn**	**08 48 48.0**	**-0.2**
MIYJ	**Miyakonagasawa**	**2.58**	**299**	P	**Pn**	**08 48 49.1**	**-0.1**
MIYJ				S	**Sn**	**08 49 18.0**	**-1.4**
JIO	**Ouri**	**2.67**	**273**	P	**Pn**	**08 48 49.9**	**-0.5**
JIO				S	**Sn**	**08 49 19.4**	**-2.1**
JMK	**Ichinoseki**	**2.82**	**283**	P	**Pn**	**08 48 52.5**	**0.0**
JMK				S	**Sn**	**08 49 24.2**	**-1.1**
JOM	**Ohasama**	**2.91**	**294**	P	**Pn**	**08 48 53.9**	**+0.1**
JOM				S	**Sn**	**08 49 27.1**	**-0.4**
JANG	**Nango**	**3.21**	**310**	P	**Pn**	**08 48 57.6**	**-0.3**
JANG				S	**Sn**	**08 49 34.5**	**-0.4**
JYK	**Kaneyama**	**3.48**	**281**	P	**Pn**	**08 49 02.0**	**+0.5**
JYK				S	**Sn**	**08 49 41.0**	**-0.5**
JFT	**Otama**	**3.58**	**258**	P	**Pn**	**08 49 03.2**	**+0.2**
JFT				S	**Sn**	**08 49 42.5**	**-1.6**
JCH	**Churui**	**4.38**	**347**	P	**Pn**	**08 49 14.4**	**+0.5**
BSO1	**Boso 1**	**4.78**	**220**	S	**Sn**	**08 50 10.7**	**-2.2**
NEM2	**Nemuro 2**	**5.06**	**8**	P	**Pn**	**08 49 21.6**	**-1.6**
NEM2				S	**Sn**	**08 50 15.6**	**-4.8**
JRY	**Ryogami san**	**5.22**	**245**	P	**Pn**	**08 49 24.8**	**-0.7**
JRY				S	**Sn**	**08 50 19.9**	**-4.5**
JOSM	**Okushiri--Mats**	**5.48**	**314**	P	**Pn**	**08 49 30.9**	**+1.8**
JOD2	**Odawara 2**	**5.49**	**237**	P	**Pn**	**08 49 28.9**	**-0.3**
JOD2				S	**Sn**	**08 50 27.3**	**-3.8**
MJAR	**Matsushiro Arr**	**5.51**	**253**	Pn	**Pn**	**08 49 30.2**	**+0.8**
	1.1nm,0.3s,baz=75,slow=15,SNR=11						
MJAR				Sn	**Sn**	**08 50 31.9**	**+0.4**
	1.2nm,0.3s,baz=109,slow=19,SNR=5.7						
MAT	**Matsushiro**	**5.51**	**253**	P	**Pn**	**08 49 31.0**	**+1.5**
MAT				S	**Sn**	**08 50 32.4**	**+0.8**
JTKR	**Abashiri--Toko**	**5.64**	**354**	P	**Pn**	**08 49 31.2**	**0.0**
JTKR				S	**Sn**	**08 50 31.2**	**-3.5**
ASAJ	**Asahikawa**	**5.97**	**345**	Pn	**Pn**	**08 49 36.9**	**+1.0**
	1.8nm,0.3s,baz=144,slow=18,SNR=14						
ASAJ				Sn	**Sn**	**08 50 40.5**	**-2.5**
	1.0nm,0.3s,baz=148,slow=19,SNR=2.1						
USRK	**Ussuriysk Ar.**	**11.23**	**305**	Pn	**Pn**	**08 50 50.5**	**+2.7**
	0.2nm,0.3s,baz=110,slow=13,SNR=5.8						
H11N2	**WAKE ISLAND Hy**	**26.71**	**128**	T	T	09 21 31.3	
	baz=319,slow=75,SNR=4.7						
H11N1	**WAKE ISLAND Hy**	**26.72**	**128**	T	T	09 21 34.7	
	baz=319,slow=75,SNR=6.3						
H11N3	**WAKE ISLAND Hy**	**26.73**	**128**	T	T	09 21 33.3	
	baz=319,slow=75,SNR=5.0						
MKAR	**Makanchi Array**	**45.66**	**302**	P	**P**	**08 56 28.3**	**+1.2**
	0.7nm,0.8s,baz=85,slow=7.8,SNR=4.4						
KURBB	**Kurchatov Arra**	**47.28**	**308**	P	**P**	**08 56 41.8**	**+2.1**
	1.4nm,0.5s,baz=81,slow=8.1,SNR=6.4						
BVAR	**Borovoye Array**	**51.64**	**312**	P	**P**	**08 57 15.6**	**+2.7**
	0.3nm,0.3s,baz=90,slow=7.9,SNR=3.2						
WRA	**Warramunga Arr**	**58.81**	**191**	P	**P**	**08 58 04.2**	**-0.7**
	0.5nm,0.9s,baz=12,slow=7.3,SNR=3.8						
YKA	**Yellowknife Ar**	**61.32**	**31**	P	**P**	**08 58 20.1**	**-1.4**
	0.1nm,0.6s,baz=305,slow=7.5,SNR=3.2						

IDC ***16*** *08:56:20.4±3.2,23.44S×179.89W,h580km±34km,mb3.0/7, mb1 3.1/7,mb1mx2.8/49,mbtmp4.0/7,Error ellipse: s-maj=31.2km s-min=17.5km az=24.0*
ISC 16 08:56:15.4±1.4,23.35S±0.2×179.8W±0.2,h532km,n11, σ1ᵗ37/11,mb3.4/7,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**31.71**	**269**	P	P	**09 01 57.0**	**+1.3**
	3.4nm,0.4s,baz=96,slow=12,SNR=6.2						
STKA	**Stephens Creek**	**35.18**	**247**	P	**P**	**09 02 25.6**	**+0.8**
	0.6nm,0.6s,baz=111,slow=14,SNR=2.7						
ASAR	**Alice Springs**	**42.37**	**260**	P	**P**	**09 03 23.6**	**+0.4**
	0.9nm,0.9s,baz=94,slow=7.5,SNR=5.9						
ASAR				S	**S**	**09 09 03.5**	**-2.6**
	0.5nm,0.7s,baz=94,slow=13,SNR=7.0						
WRA	**Warramunga Arr**	**42.68**	**265**	P	**P**	**09 03 25.7**	**+0.1**
	0.8nm,0.7s,baz=100,slow=8.0,SNR=3.9						
VNDA	**Vanda**	**55.03**	**185**	P	**P**	**09 04 56.7**	**+0.5**
	0.6nm,0.5s,baz=6.1,slow=7.2,SNR=6.0						
QSPA	**South Pole Qui**	**66.82**	**180**	P	**P**	**09 06 14.2**	**+0.2**
	4.6nm,0.9s,baz=38,slow=1.3,SNR=8.1						
SNAA	**Sanae**	**85.30**	**179**	P	**P**	**09 07 54.6**	**-1.1**
	1.9nm,0.9s,baz=195,slow=12,SNR=7.8						
MKAR	**Makanchi Array**	**111.89**	**313**	PKiKP	**PKiKP**	**09 13 48.0**	**-1.9**
	0.2nm,0.6s,baz=107,slow=1.3,SNR=3.1						
HFS	**Hagfors**	**141.97**	**349**	PKhKP	PKPpre	09 14 42.5	
	1.6nm,0.3s,baz=46,slow=4.2,SNR=15						
AKASG	**Malin Array Be**	**144.56**	**328**	PKP	**PKPdf**	**09 14 51.0**	**0.0**
	0.9nm,0.5s,baz=44,slow=4.0,SNR=8.0						
MMAI	**Mount Meron Ar**	**147.64**	**295**	PKPbc	**PKPbc**	**09 15 01.5**	**+1.0**
	0.7nm,0.3s,baz=48,slow=2.7,SNR=2.5						

IDC 16 09:09:19.3±3.2,1.75N×91.33E,h0km,mb3.1/2,mb1 3.5/3, mb1mx3.2/62,mbtmp3.2/3,ML4.3/1,MS2.9/1,Ms1 2.9/1, ms1mx2.4/20,Error ellipse: s-maj=97.4km s-min=31.8km az=62.0,North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**7.66**	**82**	LR	LR	09 14 13.5	
	comp=Z,84nm,19.3s,baz=254,slow=38						
CMAR	**Chiang Mai Arr**	**18.21**	**24**	P	P	09 13 34.4	+0.3
	0.4nm,0.3s,baz=218,slow=14,SNR=4.1						
MKAR	**Makanchi Array**	**45.56**	**351**	P	P	09 17 40.7	-0.3
	0.1nm,0.5s,baz=170,slow=8.8,SNR=2.6						
WRA	**Warramunga Arr**	**47.36**	**119**	P	P	09 17 55.4	-0.2
	0.3nm,0.8s,baz=294,slow=8.8,SNR=4.5						

MEX 16 09:25:43.6±0.8,17.98N×103.14W,h2km,MD3.8,Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMIG	**Aquila**	**0.36**	**328**	*e*P	Pg	09 25 50.3	-0.2
MMIG				*e*S	Sg	09 25 55.0	-0.2
EZ5V		**1.55**	**344**	*e*P	Pn	09 26 09.5	-3.0
EZ5V				*e*S	Sn	09 26 28.9	-4.5
ZIIG	**Zihuatanejo**	**1.64**	**103**	*e*P	Pn	09 26 09.5	-4.0
ZIIG				*e*S	Sb	09 26 35.9	+0.1
ARIG	**Puente Sto Nin**	**2.68**	**83**	*

BODT	**Bodrum**	**1.35**	**73**	*P*		**Pn**	**09 32 14.5**	**+0.4**
BODT	**Bodrum**	**1.35**	**73**	*e*Pn		**Pb**	**09 32 14.9**	**+0.1**
BODT				S		**Sb**	**09 32 33.0**	**+1.1**
SMG	**Samos**	**1.37**	**42**	P		**Pn**	**09 32 13.3**	**-1.1**
SMG	**Samos**	**1.37**	**42**	P		**Pb**	**09 32 15.1**	**-0.1**
SMG	**Samos**	**1.37**	**42**	P		**Pb**	**09 32 15.1**	**-0.1**
NPS	**Neapolis**	**1.42**	**183**	P		**Pn**	**09 32 14.2**	**-0.8**
NPS	**Neapolis**	**1.42**	**183**	P		**Pb**	**09 32 16.4**	**+0.4**
NPS	**Neapolis**	**1.42**	**183**	P		**Pb**	**09 32 16.4**	**+0.4**
IACM	**Heraklion**	**1.46**	**200**	P		**Pb**	**09 32 16.3**	**-0.4**
IACM	**Heraklion**	**1.46**	**200**	P		**Pb**	**09 32 16.3**	**-0.4**
LAST	**Lasithi**	**1.53**	**186**	P		**Pn**	**09 32 15.2**	**-1.4**
LAST	**Lasithi**	**1.53**	**186**	P		**Pb**	**09 32 17.6**	**-0.3**
LAST				S		**Sg**	**09 32 39.0**	**-0.2**
LAST	**Lasithi**	**1.53**	**186**	P		**Pb**	**09 32 17.6**	**-0.3**
LAST				S		**Sg**	**09 32 39.0**	**-0.2**
IDI	**Anoyia**	**1.54**	**205**	Pn		**Pn**	**09 32 15.7**	**-1.0**
	comp=N,4.4nm,0.3s,baz=28,slow=13,SNR=31							
IDI				Sn		**Sn**	**09 32 35.5**	**-0.8**
	comp=N,14nm,0.3s,baz=300,slow=20,SNR=8.6							
IDI	**Anoyia**	**1.54**	**205**	PN		**Pn**	**09 32 15.0**	**-1.7**
IDI	**Anoyia**	**1.54**	**205**	*e*Pn		**Pn**	**09 32 15.0**	**-1.7**
GCAM	**G?zelcaml?**	**1.60**	**50**	PN		**Pn**	**09 32 17.9**	**+0.5**
GCAM	**G?zelcaml?**	**1.60**	**50**	*i* P		**Pb**	**09 32 19.0**	**0.0**
GCAM				*i* S		**Sg**	**09 32 42.2**	**+0.9**
GCAM	**G?zelcaml?**	**1.60**	**50**	*e*Pn		**Pn**	**09 32 17.9**	**+0.5**
GCAM	**G?zelcaml?**	**1.60**	**50**	P		**Pb**	**09 32 19.0**	**0.0**
GCAM				S		**Sg**	**09 32 42.2**	**+0.9**
ZKR	**Zakros**	**1.62**	**165**	P		**Pn**	**09 32 18.1**	**+0.3**
ZKR	**Zakros**	**1.62**	**165**	P		**Pb**	**09 32 19.0**	**-0.4**
ZKR	**Zakros**	**1.62**	**165**	P		**Pb**	**09 32 19.0**	**-0.4**
KARP	**Karpathos**	**1.65**	**133**	PN		**Pn**	**09 32 17.7**	**-0.4**
KARP	**Karpathos**	**1.65**	**133**	P		**Pn**	**09 32 18.1**	**-0.1**
KARP	**Karpathos**	**1.65**	**133**	P		**Pn**	**09 32 18.6**	**+0.5**
KARP	**Karpathos**	**1.65**	**133**	*e*Pn		**Pn**	**09 32 17.7**	**-0.4**
KARP	**Karpathos**	**1.65**	**133**	P		**Pn**	**09 32 18.6**	**+0.5**
DGB	**˜zmir**	**1.66**	**34**	*i* P		**Pb**	**09 32 20.2**	**+0.1**
DGB				*i* S		**Sg**	**09 32 43.4**	**-0.1**
KARY	**Karystos**	**1.68**	**324**	P		**Pn**	**09 32 18.5**	**0.0**
KARY				S		**Sb**	**09 32 41.8**	**+0.6**
KARY	**Karystos**	**1.68**	**324**	P		**Pn**	**09 32 18.5**	**0.0**
KARY				S		**Sb**	**09 32 41.8**	**+0.6**
ZEY	**˜zmir**	**1.68**	**22**	*i* P		**Pn**	**09 32 16.4**	**-2.2**
GMLD	**Gumuldur**	**1.70**	**35**	PN		**Pn**	**09 32 19.0**	**+0.2**
GMLD	**Gumuldur**	**1.70**	**35**	*e*Pn		**Pn**	**09 32 19.0**	**+0.2**
CHOS	**Chios island**	**1.73**	**10**	PN		**Pn**	**09 32 18.5**	**-0.8**
CHOS	**Chios island**	**1.73**	**10**	P		**Pn**	**09 32 18.2**	**-1.0**
CHOS	**Chios island**	**1.73**	**10**	P		**Pn**	**09 32 18.7**	**-0.6**
CHOS	**Chios island**	**1.73**	**10**	P		**Pn**	**09 32 18.7**	**-0.6**
VAM	**Vamos**	**1.75**	**224**	P		**Pb**	**09 32 20.5**	**-1.2**
VAM	**Vamos**	**1.75**	**224**	P		**Pb**	**09 32 21.5**	**-0.2**
VAM	**Vamos**	**1.75**	**224**	P		**Pn**	**09 32 20.1**	**+0.5**
MLSB	**Milas**	**1.78**	**69**	PN		**Pn**	**09 32 20.5**	**+0.5**
MLSB	**Milas**	**1.78**	**69**	*e*Pn		**Pn**	**09 32 20.5**	**+0.5**
SIVA	**Sivas**	**1.81**	**204**	P		**Pn**	**09 32 20.0**	**-0.4**
SIVA	**Sivas**	**1.81**	**204**	P		**Pb**	**09 32 21.6**	**-1.0**
SIVA				S		**Sb**	**09 32 45.0**	**0.0**
SIVA	**Sivas**	**1.81**	**204**	P		**Pb**	**09 32 21.6**	**-1.0**
SIVA				S		**Sb**	**09 32 45.0**	**0.0**
URLA	**Izmir**	**1.82**	**23**	PN		**Pn**	**09 32 20.3**	**-0.3**
URLA	**Izmir**	**1.82**	**23**	*i* P		**Pn**	**09 32 18.0**	**-2.6**
URLA				*i* S		**Sg**	**09 32 48.3**	**-0.2**
URLA	**Izmir**	**1.82**	**23**	P		**Pn**	**09 32 18.0**	**-2.6**
URLA	**Izmir**	**1.82**	**23**	*e*Pn		**Pn**	**09 32 20.3**	**-0.3**
URLA				S		**Sg**	**09 32 48.3**	**-0.2**
IMMV	**Iera Moni Meta**	**1.84**	**229**	P		**Pn**	**09 32 21.3**	**+0.4**
IMMV	**Iera Moni Meta**	**1.84**	**229**	P		**Pn**	**09 32 21.6**	**+0.7**
IMMV				S		**Sb**	**09 32 45.4**	**-0.7**
IMMV	**Iera Moni Meta**	**1.84**	**229**	P		**Pn**	**09 32 21.6**	**+0.7**
IMMV				S		**Sb**	**09 32 45.4**	**-0.7**
PSRA	**Psara**	**1.86**	**357**	P		**Pn**	**09 32 19.9**	**-1.1**
PSRA	**Psara**	**1.86**	**357**	P		**Pn**	**09 32 20.3**	**-0.7**
VLY	**Voula,Athens**	**1.91**	**308**	P		**Pn**	**09 32 21.4**	**-0.3**
VLY	**Voula,Athens**	**1.91**	**308**	P		**Pn**	**09 32 22.0**	**+0.2**
VLY				S		**Sb**	**09 32 48.3**	**+0.4**
VLY	**Voula,Athens**	**1.91**	**308**	P		**Pn**	**09 32 22.0**	**+0.2**
VLY				S		**Sb**	**09 32 48.3**	**+0.4**
DION	**Dionisos Attik**	**1.97**	**315**	P		**Pn**	**09 32 22.9**	**+0.3**
DION	**Dionisos Attik**	**1.97**	**315**	P		**Pn**	**09 32 22.8**	**+0.1**
ATHU	**Athens Univers**	**1.99**	**311**	P		**Pn**	**09 32 21.6**	**-1.2**
ATHU	**Athens Univers**	**1.99**	**311**	P		**Pn**	**09 32 23.3**	**+0.2**
ATHU	**Athens Univers**	**1.99**	**311**	P		**Pn**	**09 32 23.0**	**+0.2**
PTL	**Penteli**	**1.99**	**314**	P		**Pn**	**09 32 23.6**	**+0.7**
PTL	**Penteli**	**1.99**	**314**	P		**Pn**	**09 32 23.1**	**+0.2**
PTL	**Penteli**	**1.99**	**314**	P		**Pn**	**09 32 23.1**	**+0.2**
BLCB	**Balcova**	**2.01**	**32**	PN		**Pn**	**09 32 23.4**	**+0.3**
BLCB	**Balcova**	**2.01**	**32**	*e*Pn		**Pn**	**09 32 23.4**	**+0.3**
ARG	**Arkhangelos**	**2.02**	**103**	P		**Pn**	**09 32 23.5**	**+0.2**
ARG	**Arkhangelos**	**2.02**	**103**	P		**Pn**	**09 32 23.0**	**-0.2**
ATH	**Athens Observa**	**2.03**	**310**	P		**Pn**	**09 32 23.8**	**+0.4**
ATH	**Athens Observa**	**2.03**	**310**	P		**Pn**	**09 32 23.7**	**+0.3**
ANKY	**Antikythira Is**	**2.10**	**248**	P		**Pn**	**09 32 25.4**	**+1.1**
ANKY	**Antikythira Is**	**2.10**	**248**	P		**Pn**	**09 32 25.0**	**+0.7**
DID	**Didima**	**2.13**	**293**	P		**Pn**	**09 32 23.8**	**-1.0**
DID	**Didima**	**2.13**	**293**	P		**Pb**	**09 32 26.2**	**-1.8**
DID				S		**Sb**	**09 32 53.9**	**-0.3**
DID	**Didima**	**2.13**	**293**	P		**Pn**	**09 32 24.4**	**-0.4**
YER	**Yerkesik**	**2.13**	**77**	PN		**Pn**	**09 32 25.6**	**+0.8**
YER	**Yerkesik**	**2.13**	**77**	*e*Pn		**Pn**	**09 32 25.6**	**+0.8**
AYDB	**Zeytinkoy-Aydi**	**2.16**	**54**	PN		**Pn**	**09 32 26.1**	**+0.8**
AYDB	**Zeytinkoy-Aydi**	**2.16**	**54**	*e*Pn		**Pn**	**09 32 26.1**	**+0.8**
KYTH	**Kithira**	**2.17**	**260**	P		**Pn**	**09 32 26.5**	**+1.2**
KYTH	**Kithira**	**2.17**	**260**	P		**Pn**	**09 32 26.3**	**+0.9**
KYTH	**Kithira**	**2.17**	**260**	P		**Pn**	**09 32 26.1**	**+0.7**
VLI	**Veliai**	**2.21**	**272**	P		**Pn**	**09 32 25.8**	**-0.1**
VLI	**Veliai**	**2.21**	**272**	P		**Pn**	**09 32 26.0**	**+0.1**
EREA	**Eretria**	**2.23**	**322**	P		**Pn**	**09 32 27.2**	**+1.1**
EREA	**Eretria**	**2.23**	**322**	P		**Pn**	**09 32 26.9**	**+0.8**
EREA	**Eretria**	**2.23**	**322**	P		**Pn**	**09 32 26.7**	**+0.6**
SKY	**Skiros Island**	**2.37**	**338**	P		**Pn**	**09 32 28.1**	**+0.1**
SKY	**Skiros Island**	**2.37**	**338**	P		**Pn**	**09 32 28.1**	**+0.1**
VILL	**Villia**	**2.40**	**309**	P		**Pn**	**09 32 29.0**	**+0.4**
VILL	**Villia**	**2.40**	**309**	P		**Pn**	**09 32 28.7**	**+0.1**
VIL2	**Platees**	**2.46**	**309**	P		**Pn**	**09 32 28.7**	**-0.6**
SIGR	**SIGRI**	**2.53**	**3**	PN		**Pn**	**09 32 29.6**	**-0.6**
SIGR	**SIGRI**	**2.53**	**3**	P		**Pn**	**09 32 29.2**	**-1.0**
SIGR	**SIGRI**	**2.53**	**3**	P		**Pn**	**09 32 29.6**	**-0.6**
LTK	**Loutraki**	**2.55**	**302**	P		**Pn**	**09 32 31.0**	**+0.5**
LTK	**Loutraki**	**2.55**	**302**	P		**Pn**	**09 32 30.9**	**+0.3**
PRK	**Paraskevi**	**2.60**	**10**	P		**Pn**	**09 32 30.1**	**-1.1**
PRK	**Paraskevi**	**2.60**	**10**	P		**Pn**	**09 32 30.6**	**-0.6**
GUR	**Goura**	**2.95**	**296**	P		**Pn**	**09 32 36.9**	**+0.8**
GUR	**Goura**	**2.95**	**296**	P		**Pn**	**09 32 36.9**	**+0.8**
SKIA	**Skiathos**	**3.04**	**325**	P		**Pn**	**09 32 37.2**	**0.0**
SKIA	**Skiathos**	**3.04**	**325**	P		**Pn**	**09 32 37.5**	**+0.2**
SKIA	**Skiathos**	**3.04**	**325**	P		**Pn**	**09 32 37.4**	**+0.2**
DSF	**Desfina**	**3.05**	**305**	P		**Pn**	**09 32 36.9**	**-0.6**
DSF	**Desfina**	**3.05**	**305**	P		**Pn**	**09 32 37.8**	**+0.3**
DSF	**Desfina**	**3.05**	**305**	P		**Pn**	**09 32 37.8**	**+0.3**
LAKA	**Lakka**	**3.34**	**299**	P		**Pn**	**09 32 42.1**	**+0.7**
LAKA	**Lakka**	**3.34**	**299**	P		**Pn**	**09 32 42.1**	**+0.7**
EFP	**Efpalio**	**3.47**	**301**	P		**Pn**	**09 32 44.9**	**+1.7**
EFP	**Efpalio**	**3.47**	**301**	P		**Pn**	**09 32 44.9**	**+1.7**
AGG	**Agios Georgios**	**3.54**	**312**	P		**Pn**	**09 32 45.3**	**+1.1**
AGG	**Agios Georgios**	**3.54**	**312**	P		**Pn**	**09 32 45.3**	**+1.1**
BRTR	**Keskin Array B**	**6.96**	**62**	Pn		**Pn**	**09 33 33.4**	**+2.2**
	comp=N,0.1nm,0.3s,baz=240,slow=14,SNR=3.6							
ESDC	**Sonseca Array**	**23.45**	**286**	P		P	09 37 06.6	+8.0
	comp=N,0.3nm,0.4s,baz=93,slow=9.2,SNR=2.6							
KURBB	**Kurchatov Arra**	**39.84**	**52**	P		**P**	**09 39 22.3**	**0.0**
	comp=N,0.2nm,0.2s,baz=278,slow=8.2,SNR=3.4							
MKAR	**Makanchi Array**	**42.59**	**58**	P		**P**	**09 39 45.8**	**+0.8**
	comp=N,0.2nm,0.3s,baz=265,slow=7.2,SNR=4.4							

IDC **16** *09:40:15.7±1.3,0.42S×132.03E,h0km,mb3.4/3,*
mb1 3.5**/4,**mb1mx3.2**/56,**mbtmp3.4**/4,**ML3.4**/1,**Error
ellipse: s-maj=24.3km s-min=12.6km az=139.0,Irian
Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SIJI	**Sorong**	**0.88**	**239**	Pg		Pg	09 40 33.2	+0.5
	87nm,0.3s,baz=45,slow=5.7,SNR=302							
SIJI				Lg		Lg	09 40 44.4	
	107nm,0.3s,baz=180,slow=20,SNR=49							
WRA	**Warramunga Arr**	**19.54**	**173**	P		P	09 44 44.7	-0.4
	0.1nm,0.3s,baz=354,slow=11,SNR=7.6							
WRA				S		Sn	09 48 11.8	-14
	0.0nm,0.3s,baz=354,slow=24,SNR=3.1							
ASAR	**Alice Springs**	**23.18**	**176**	P		P	09 45 24.2	0.0
	0.7nm,0.7s,baz=354,slow=7.0,SNR=10							
MKAR	**Makanchi Array**	**63.97**	**324**	P		P	09 50 51.7	+0.8
	0.3nm,0.7s,baz=116,slow=6.6,SNR=2.2							
KURBB	**Kurchatov Arra**	**68.08**	**327**	P		P	09 51 16.5	-0.7
	0.4nm,0.6s,baz=117,slow=5.3,SNR=6.7							

ISCJB **16** *09:44:23.3±0.9,8.13N±0.05×98.73E±0.08,h10km,Error*
ellipse: s-maj=11.7km s-min=7.0km az=2.3
NEIC **16** *09:44:26.6±1.0,8.10N×98.48E,h10km,ML3.9,Error*
ellipse: s-maj=25.2km s-min=11.5km az=90.0
NEIC Felt [IV] at Kathu and [III] at Phuket.
ISC 16 09:44:26.4±1.0,8.14N±0.06×98.50E±0.08,h10km,n6,
σ2§42/13,Malay Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LHMI	**Lhok Sumawe**	**3.27**	**208**	*e*Pn		**Pn**	**09 45 17.6**	**-0.3**
LHMI				*e*Pg		**Pg**	**09 45 27.6**	**-1.6**
LHMI				*e*Sn		**Sn**	**09 45 58.0**	**+1.2**
IPM	**Ipoh**	**4.42**	**145**	*e*Pn		**Pn**	**09 45 32.5**	**-1.1**
IPM				*e*Pg		**Pb**	**09 45 47.2**	**+3.0**
IPM				*e*Sn		**Sn**	**09 46 21.0**	**-4.1**
IPM				*e*Sg		**Sb**	**09 46 41.1**	**+3.6**
PSI	**Prapat**	**5.32**	**175**	*e*Pn		**Pn**	**09 45 46.8**	**+0.7**
PSI				*e*Sn		**Sn**	**09 46 46.3**	**-1.2**
PSI				*e*Sg		**Sg**	**09 47 15.0**	**-2.3**
PBKT	**Sadao Pong**	**8.72**	**16**	Pn		**Pn**	**09 46 30.4**	**-2.4**
CM31	**Chiang Mai Arr**	**10.27**	**2**	*e*Pn		**Pn**	**09 46 54.6**	**+0.6**
KMI	**Kunming**	**17.37**	**13**	P		**P**	**09 48 31.8**	**+1.1**
KMI				pmax		pmax		
	comp=Z,11nm,0.5s							
KMI				pmax		pmax		
	comp=Z,62nm,5.2s							

ISCJB **16** *09:46:22.7±0.7,0.79N±0.02×92.42E±0.02,h1km±4km,*
mb5.1/176,MS4.5/77,Error ellipse: s-maj=3.9km
s-min=2.7km az=30.1
BJI **16** *09:46:24.9,0.80N×92.40E,h10km,mb5.0/72,mB5.0/48,*
Ms5.0/69,Ms7 4.6/63
IDC **16** *09:46:24.0±0.3,0.83N×92.43E,h0km,mb4.7/41,*
mb1 4.8/44,mb1mx4.7/65,mbtmp4.8/44,ML4.9/4,MS4.4/49,
Ms1 4.4/49,ms1mx4.3/72,Error ellipse: s-maj=11.5km
s-min=9.1km az=46.0
DJA **16** *09:46:25.4±0.2,1°N±2°×9°E±°,h11km,M5.6/58,mb5.5/58,*
mB5.9/41,MLv6.2/9,Mw(mB)5.5/41
GCMT **16** *09:46:27.7±0.2,0.81N×92.50E,h28km,MW5.3/119,*
Moment Tensor Solution. s82,c134; s119,c212;
Duration: 1§1 Moment tensor: Scale 10¹⁷Nm;
Mrr0.10±.02; Mθθ-0.29±.02; Mϕϕ0.19±.02; Mrθ-0.30±.03;
Mθϕ-1.15±.02; Mϕr-0.30±.04; Best double couple:
M₀1.23900×10¹⁷ NP1:ϕ₁§5.00000°,δ80.00000°,
λ-14.00000°. NP2:ϕ₂§97.00000°,δ77.00000°,
λ-170.00000°. Principal axes: T 1.1310, Plg3.0000°,
Azm52.0000°; N 0.2180, Plg73.0000°, Azm151.0000°; P
-1.3480, Plg16.0000°, Azm321.0000°; nsta1 refers to
body waves, cutoff=40s. nsta2 refers to surface waves,
cutoff=50s.
NEIC **16** *09:46:27.7±1.1,0.80N×92.42E,h24km±8km,mb5.3/65*
Error ellipse: s-maj=3.9km s-min=2.8km az=52.0
MOS **16** *09:46:28.0±1.0,0.88N×92.46E,h38km,mb5.4/67,*
MS4.6/15,Error ellipse: s-maj=6.5km s-min=4.1km
az=108.3
ISC 16 09:46:26.5±0.5,0.83N±0.03×92.39E±0.04,h15km±2km,
n612,σ1§55/655,mb5.1/185,MS4.6/78,22C-31D,Off west
coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
GSI	**Gunungsitoli**	**5.21**	**85**	P		**Pn**	**09 47 44.2**	**+0.2**
GSI				S		**Sn**	**09 48 45.0**	**+1.1**
GSI	**Gunungsitoli**	**5.21**	**85**	*e*Pn		**Pn**	**09 47 43.9**	**-0.1**
MLSI	**Meulaboh, Aceh**	**5.27**	**50**	P		**Pn**	**09 47 44.7**	**-0.1**
MLSI				S		**Sn**	**09 48 46.7**	**+1.3**
TPTI		**5.37**	**63**	P		**Pn**	**09 47 45.4**	**-0.7**
KCSI	**Kotacane, Aceh**	**6.01**	**64**	P		**Pn**	**09 47 55.1**	**+0.1**
LHMI	**Lhok Sumawe**	**6.31**	**46**	P		**Pn**	**09 47 59.2**	**0.0**
LHMI	**Lhok Sumawe**	**6.31**	**46**	*e*Pn		**Pn**	**09 47 59.1**	**0.0**
TSI	**Tuntungan**	**6.72**	**67**	P		**Pn**	**09 48 05.3**	**+0.5**
	2µm,0.8s,20µm							
PSI	**Prapat**	**6.82**	**73**	Pn		**Pn**	**09 48 06.0**	**-0.3**
	18nm,0.3s,baz=255,slow=7.3,SNR=65							
PSI				Sn		**Sn**	**09 49 15.6**	**-8.3**
	26nm,0.3s,baz=326,slow=22,SNR=4.1							
PSI				LR		LR	09 51 07.4	
	comp=Z,5µm,18.4s,baz=276,slow=42							
SISI	**Saibi**	**7.04**	**108**	P		**Pn**	**09 48 08.3**	**-0.8**
	2µm,0.7s,17µm							
MNSI	**Mandailing Nat**	**7.19**	**90**	P		**Pn**	**09 48 11.9**	**+0.6**
	1µm,0.6s,37µm							
PDSI	**Padang**	**8.26**	**102**	P		**Pn**	**09 48 24.7**	**-1.2**
	693nm,0.9s,6µm							
PPSI	**Pulau Pagai**	**8.42**	**115**	P		**Pn**	**09 48 27.2**	**-0.9**
	2µm,1.0s,18µm							
BKNI	**Bangkinang**	**8.67**	**93**	P		**Pn**	**09 48 31.1**	**-0.4**
BKNI	**Bangkinang**	**8.67**	**93**	*e*Pn		**Pn**	**09 48 31.3**	**-0.2**
PKDT	**Phuket**	**9.19**	**40**	P		**Pn**	**09 48 37.8**	**-0.8**
	965nm,0.9s,9µm							
IPM	**Ipoh**	**9.36**	**67**	*e*Pn		**Pn**	**09 48 40.5**	**-0.5**
RGRI	**Rengat**	**10.02**	**97**	P		**Pn**	**09 48 49.3**	**-0.7**
RGRI				S		**Sn**	**09 50 44.0**	**+1.7**
SKLT	**Songkhla**	**10.35**	**52**	P		**Pn**	**09 48 53.1**	**-1.5**
	591nm,0.9s,5µm							
MASI	**Maura Aman, Be**	**10.61**	**112**	P		**Pn**	**09 48 57.3**	**-0.9**
PBA	**Port Blair**	**10.76**	**2**	*e*P		Pn	09 48 57.7	-2.5
MYKOM	**Kota Tinggi**	**11.50**	**85**	*e*Pn		**Pn**	**09 49 09.1**	**-1.3**
MNAI	**Manna**	**11.75**	**116**	P		**Pn**	**09 49 12.9**	**-0.9**
MNAI	**Manna**	**11.75**	**116**	*e*Pn		**Pn**	**09 49 12.6**	**-1.3**
TPRI	**Tanjung Pinang**	**12.14**	**89**	P		**Pn**	**09 49 18.6**	**-0.5**
DSRI	**Dabo**	**12.26**	**96**	P		**Pn**	**09 49 20.4**	**-0.4**
DGPR	**DIGLIPUR**	**12.28**	**2**	*e*P		**Pn**	**09 49 19.9**	**-1.1**
MDSI	**Maura Dua**	**12.91**	**114**	P		**Pn**	**09 49 30.2**	**+0.5**
LWLI	**Liwa**	**13.03**	**117**	P		**Pn**	**09 49 30.5**	**-0.9**
PALK	**Pallekele**	**13.29**	**299**	Pn		**Pn**	**09 49 34.4**	**-0.5**
	14nm,0.3s,baz=116,slow=13,SNR=103							
PALK				Sn		Sn	09 51 50.0	-13
	13nm,0.3s,baz=129,slow=13,SNR=8.2							
PALK				LR		LR	09 54 17.3	
	comp=Z,2µm,18.1s,baz=116,slow=36							
PALK	**Pallekele**	**13.29**	**299**	*e*Pn		**Pn**	**09 49 34.4**	**-0.5**
PALK				*e*			09 49 34.6	
PALK				*e*Sn		Sn	09 51 50.0	-13
PALK	**Pallekele**	**13.29**	**299**	Pn		**Pn**	**09 49 34.8**	**-0.1**
	SNR=27							
PALK	**Pallekele**	**13.29**	**299**	P		**Pn**	**09 49 34.8**	**-0.1**
	SNR=27							
PALK	**Pallekele**	**13.29**	**299**	*i* P		**Pn**	**09 49 34.0**	**-0.8**
	SNR=74							
KASI	**Kota Agung**	**13.64**	**118**	P		**Pn**	**09 49 38.7**	**-1.0**
COCO	**West Island**	**13.67**	**161**	*e*Pn		**Pn**	**09 49 39.3**	**-0.7**
COCO	**West Island**	**13.67**	**161**	*e*P		**Pn**	**09 49 39.3**	**-0.7**
KLI	**Kotabumi**	**13.68**	**115**	P		**Pn**	**09 49 40.4**	**+0.2**
PHET	**Kaeng Krachan**	**13.99**	**31**	P		**Pn**	**09 49 44.9**	**+0.6**
	83nm,0.8s,639nm							
PPBI	**Pangkal Pinang**	**14.07**	**102**	P		**Pn**	**09 49 45.0**	**-0.5**
SRDT	**SRDT**	**14.99**	**26**	P		**Pn**	**09 49 58.7**	**+0.6**
	124nm,1.0s,2µm							
SBJI	**Serang**	**15.36**	**117**	P		**Pn**	**09 50 03.2**	**+0.2**
CHBT	**CHBT**	**15.41**	**39**	P		**Pn**	**09 50 04.7**	**+1.1**
	772nm,1.1s,144µm							
SKJI	**Sukabumi**	**16.14**	**119**	P		**Pn**	**09 50 12.7**	**-0.4**
LEM	**Lembang**	**17.00**	**117**	Pn		**Pn**	**09 50 23.5**	**-0.6**
	4.2nm,0.3s,baz=257,slow=3.4,SNR=14							
LEM				LR		LR	09 56 24.1	
	comp=Z,734nm,19.4s,baz=300,slow=35							
LEM	**Lembang**	**17.00**	**117**	P		**Pn**	**09 50 24.0**	**-0.1**
MDRS	**Chennai**	**17.10**	**316**	*e*P		**Pn**	**09 50 25.6**	**+0.3**
MDRS						IAmb	IAmb	09 50 27.4	
	comp=Z,869nm,1.5s							
TRD	**Trivandrum**	**17.15**	**297**	*e*P		**P**	**09 50 26.9**	**-0.6**
XMIS	**Christmas Isla**	**17.33**	**131**	*e*Pn		**Pn**	**09 50 27.4**	**-0.8**
	comp=Z,299nm,1.3s							
JCJI	**Jatiwangi**	**17.44**	**115**	P		**P**	**09 50 31.0**	**+0.3**
CISI	**Cisompet, Garu**	**17.50**	**119**	P		**Pn**	**09 50 29.9**	**-0.4**
CISI	**Cisompet, Garu**	**17.50**	**119**	*e*Pn		**Pn**	**09 50 27.4**	**-2.9**
	comp=Z,534nm,1.1s							
CHAI	**Chaiyaphum**	**17.72**	**32**	P		**P**	**09 50 33.3**	**-0.5**
	comp=Z,54nm,1.1s,comp=Z,431nm							
PBKT	**Sadao Pong**	**17.78**	**28**	P		**Pn**	**09 50 32.8**	**-0.9**
	comp=Z,226nm,1.2s,comp=Z,3µm							
PBKT	**Sadao Pong**	**17.78**	**28**	*e*Pn		**Pn**	**09 50 33.1**	**-0.5**
	comp=Z,206nm,1.1s							
KSM	**Kuching**	**17.93**	**88**	*e*Pn		**P**	**09 50 36.8**	**+0.6**
	comp=Z,93nm,0.8s							
PHIT	**Phitsanulok**	**18.08**	**25**	P		**P**	**09 50 38.0**	**+0.3**
	comp=Z,170nm,0.9s,comp=Z,1µm							
KPJI	**Karang Pucung**	**18.39**	**116**	P		**P**	**09 50 40.2**	**-1.0**
KHON	**Khomkaen**	**18.53**	**33**	P		**Pn**	**09 50 44.2**	**+1.3**
	comp=Z,55nm,0.9s,comp=Z,1µm							
CM01	**Chiang Mai Arr**	**18.63**	**20**	*e*P		**Pn**	**09 50 43.8**	**-0.3**
CM31	**Chiang Mai Arr**	**18.66**	**20**	*e*P		**Pn**	**09 50 44.9**	**+0.3**
CMAR	**Chiang Mai Arr**	**18.66**	**20**	P		**Pn**	**09 50 44.4**	**-0.2**
	comp=Z,1.2nm,0.3s,baz=216,slow=13,SNR=50							
CMAR				LR		LR	09 57 06.2	
	comp=Z,764nm,21.3s,baz=218,slow=34							
CHTO	**Chiang Mai**	**19.00**	**19**	P		**Pn**	**09 50 48.5**	**0.0**
	comp=Z,346nm,1.2s,comp=Z,4µm							
CHTO	**Chiang Mai**	**19.00**	**19**	*e*P		**Pn**	**09 50 48.1**	**-0.4**
	comp=Z,96nm,1.1s							
CHTO	**Chiang Mai**	**19.00**	**19**	P		**Pn**	**09 50 49.0**	**+0.5**
	SNR=8.8							
CHTO	**Chiang Mai**	**19.00**	**19**	P		**Pn**	**09 50 49.0**	**+0.5**
	SNR=8.8							
CHTO	**Chiang Mai**	**19.00**	**19**	*e*P		**Pn**	**09 50 48.1**	**-0.4**
CHTO				pmax		pmax		
	comp=Z,96nm,1.1s							
CMMT	**Chiang Mai**	**19.00**	**19**	P		**P**	**09 50 47.4**	**-0.4**
	comp=Z,95nm,0.7s,comp=Z,1µm							
VIS	**Vishakhapatnam**	**19.00**	**333**	*i* P		**P**	**09 50 48.1**	**+0.3**
VIS				*i* x		x	09 54 06.6	
STKI	**Sintang**	**19.11**	**92**	P		**P**	**09 50 49.0**	**-0.1**
PBKI	**Pangkalan Bun**	**19.60**	**100**	P		**P**	**09 50 54.1**	**-0.3**
SMRI	**Semarang**	**19.64**	**114**	P		**P**	**09 50 55.1**	**+0.2**
SMRI	**Semarang**	**19.64**	**114**	*e*P		**P**	**09 50 54.4**	**-0.6**
	comp=Z,622nm,1.1s							
SKNT	**Sakolnakorn**	**19.69**	**35**	P		**P**	**09 50 54.2**	**-1.2**
	comp=Z,69nm,1.6s							
SBUM	**Sibu**	**19.89**	**85**	*e*P		**

LSA	**Lhasa**	**28.73**	**358**	P	**P**	**09 52 25.8**	**+1.7**
LSA				pmax	pmax		
	comp=Z,40nm,1.8s						
LSA	**Lhasa**	**28.73**	**358**	*e*P	**P**	**09 52 25.4**	**+1.3**
	comp=Z,72nm,0.9s						
LSA	**Lhasa**	**28.73**	**358**	*e*P	**P**	**09 52 25.4**	**+1.3**
LSA				pmax	pmax		
	comp=Z,72nm,0.9s						
GYA	**Guiyang**	**28.95**	**27**⇑	*i*P	**P**	**09 52 25.9**	**+0.3**
GYA				PP	**PnPn**	**09 53 22.8**	**+5.4**
GYA				PcP	**PcP**	**09 55 37.4**	**+2.8**
GYA				S	**S**	**09 57 18.0**	**+1.8**
GYA				SS	**SnSn**	**09 58 47.4**	**+8.1**
GYA				ScP	**ScP**	**09 59 16.3**	**+0.5**
GYA				ScS	**ScS**	**10 03 09.3**	**-0.5**
GYA				pmax	pmax		
	comp=Z,20nm,0.8s						
GYA				pmax	pmax		
	comp=Z,120nm,5.2s						
GYA				LR	LR		
	comp=Z,720nm,17.0s						
GYA				LR	LR		
	comp=Z,640nm,17.2s						
GYA				LR	LR		
	comp=Z,560nm,17.6s						
TGY	**Tagaytay City**	**31.17**	**64**	P	**P**	**09 52 45.0**	**-0.4**
	comp=Z,106nm,0.4s,baz=199,slow=8.9,SNR=4.5						
TGY				LR	LR	10 04 00.6	
	comp=Z,220nm,21.0s,baz=227,slow=34						
TGY	**Tagaytay City**	**31.17**	**64**	*e*P	**P**	**09 52 45.0**	**-0.4**
CD2	**Chengdu**	**31.80**	**19**	*e*P	**P**	**09 52 51.5**	**+0.8**
BATI	**Baumata**	**33.00**	**110**	LR	LR	10 07 22.3	
	comp=Z,1μm,21.2s,baz=331,slow=38						
SMLA	**Simla**	**33.41**	**336**	*e*P	**P**	**09 53 05.8**	**+1.1**
ENH	**Enshi**	**33.49**	**27**	*e*P	**P**	**09 53 05.5**	**0.0**
	comp=Z,63nm,0.9s						
DAV	**Davao City (W)**	**33.67**	**79**	LR	LR	10 07 26.8	
	comp=Z,865nm,21.3s,baz=256,slow=38						
MBWA	**Marble Bar**	**34.53**	**131**	*e*P	**P**	**09 53 14.4**	**-0.3**
	comp=Z,20nm,0.9s						
DHRM	**DHARAMSHALA**	**34.74**	**336**	*e*P	**P**	**09 53 16.2**	**-0.4**
QZH	**Quanzhou**	**34.87**	**45**	*e*P	P	09 53 23.8	+6.3
QZH				S	**S**	**09 58 49.3**	**+1.0**
QZH				LR	LR		
	comp=N,1μm,18.0s						
QZH				LR	LR		
	comp=E,1μm,18.0s						
QZH				LR	LR		
	comp=Z,880nm,12.8s						
SSLB	**Suanglung**	**35.88**	**48**	*e*P	**P**	**09 53 27.9**	**+1.6**
	comp=Z,64nm,1.4s						
YULB	**Yu-li**	**35.92**	**49**	*e*P	**P**	**09 53 27.7**	**+1.1**
	comp=Z,37nm,1.0s						
WHN	**Wuhan**	**36.17**	**33**	⇓P	**P**	**09 53 30.0**	**+1.4**
WHN				S	**S**	**09 59 15.5**	**+7.4**
WHN				LR	LR		
	comp=Z,3μm,15.6s						
WHN				LR	LR		
	comp=Z,3μm,17.6s						
WHN				LR	LR		
	comp=Z,2μm,13.3s						
XAN	**Xi'an**	**36.49**	**23**	⇑P	**P**	**09 53 31.1**	**-0.2**
XAN				pP	sP	09 53 38.4	+0.6
XAN				sP	pP	09 53 42.1	+6.2
XAN				PP	**PP**	**09 54 55.3**	**+0.8**
XAN				PcP	**PcP**	**09 55 55.8**	**+0.6**
XAN				S	**S**	**09 59 08.4**	**-4.6**
XAN				SS	**SnSn**	**10 01 33.6**	**-8.5**
XAN				ScS	**ScS**	**10 03 45.0**	**-2.9**
XAN				pmax	pmax		
	comp=Z,74nm,0.9s						
XAN				pmax	pmax		
	comp=Z,100nm,3.1s						
XAN				LR	LR		
	comp=Z,1μm,20.6s						
XAN				LR	LR		
	comp=Z,2μm,21.6s						
XAN				LR	LR		
	comp=Z,1μm,14.5s						
LZH	**Lanzhou**	**36.66**	**16**	*e*P	**P**	**09 53 33.3**	**+0.4**
LZH				pP	pP	09 53 37.1	-0.4
LZH				sP	sP	09 53 39.4	+0.1
LZH				S	**S**	**09 59 11.4**	**-4.4**
LZH				sS	sS	09 59 28.1	+4.8
LZH				pmax	pmax		
	comp=Z,49nm,0.6s						
LZH				pmax	pmax		
	comp=Z,220nm,5.6s						
LZH				LR	LR		
	comp=Z,1μm,13.8s						
LZH				LR	LR		
	comp=Z,2μm,13.3s						
LZH				LR	LR		
	comp=Z,2μm,15.7s						
MEEK	**Meekatharra**	**37.21**	**139**	P	**P**	**09 53 38.3**	**+0.7**
	baz=37,SNR=32						
NIL	**Nilore**	**37.26**	**333**	*e*P	**P**	**09 53 38.3**	**+0.4**
	comp=Z,86nm,1.0s						
NIL	**Nilore**	**37.26**	**333**	*e*P	**P**	**09 53 38.3**	**+0.4**
NIL				pmax	pmax		
	comp=Z,86nm,1.0s						
MORW	**Morawa**	**37.36**	**145**	P	**P**	**09 53 39.8**	**+1.0**
	baz=38,SNR=8.1						
FITZ	**Fitzroy Crossi**	**37.73**	**122**	P	**P**	**09 53 41.2**	**-0.9**
	comp=Z,27nm,1.0s,baz=310,slow=7.4						
SIJI	**Sorong**	**38.92**	**92**	LR	LR	10 13 49.5	
	comp=Z,195nm,18.9s,baz=180,slow=42						
GTA	**Gaotai**	**38.99**	**9**	*e*P	**P**	**09 53 53.4**	**+0.8**
GTA				pP	sP	09 53 57.5	-1.5
GTA				sP	pP	09 54 00.9	+3.7
GTA				S	**S**	**09 59 48.8**	**-2.3**
GTA				pmax	pmax		
	comp=Z,17nm,1.0s						
GTA				pmax	pmax		
	comp=Z,180nm,5.9s						
GTA				LR	LR		
	comp=Z,570nm,18.5s						
GTA				LR	LR		
	comp=Z,630nm,19.5s						
GTA				LR	LR		
	comp=Z,480nm,16.4s						
WSAR	**Wadi Sarin**	**39.62**	**307**	P	**P**	**09 53 59.2**	**+1.3**
	comp=Z,9.5nm,1.0s,baz=160,slow=10,SNR=3.5						
WSAR				LR	LR	10 08 40.1	
	comp=Z,966nm,19.0s,baz=144,slow=34						
NJ2	**Nanjing**	**39.85**	**36**	*e*P	**P**	**09 53 59.8**	**+0.1**
NJ2				sP	**sP**	**09 54 05.1**	**-1.0**
NJ2				S	**S**	**10 00 12.0**	**+8.1**
NJ2				pmax	pmax		
	comp=Z,14nm,0.5s						
NJ2				pmax	pmax		
	comp=Z,110nm,3.9s						
NJ2				LR	LR		
	comp=Z,2μm,18.5s						
NJ2				LR	LR		
	comp=Z,1μm,21.4s						
NJ2				LR	LR		
	comp=Z,820nm,24.6s						
KBL	**Kabul**	**40.01**	**329**	*e*P	**P**	**09 54 01.1**	**-0.1**
	comp=Z,46nm,1.6s						
KBL	**Kabul**	**40.01**	**329**	*e*P	**P**	**09 54 01.1**	**-0.1**
KBL				pmax	pmax		
	comp=Z,46nm,1.6s						
H01W3	**Cape Leeuwin H**	**40.95**	**152**	T	T	10 38 43.8	
	baz=333,slow=74						
NWAO	**Narrogin (SRO)**	**40.95**	**147**	P	**P**	**09 54 08.7**	**-0.1**
	comp=Z,14nm,0.9s,baz=227,slow=8.1,SNR=5.3						
H01W2	**Cape Leeuwin H**	**40.96**	**152**	T	T	10 38 39.8	
	baz=333,slow=74						
H01W1	**Cape Leeuwin H**	**40.96**	**152**	T	T	10 38 46.8	
	baz=333						
TIY	**Taiyuan**	**41.09**	**24**	*e*P	**P**	**09 54 11.8**	**+1.9**
TIY				PP	**PnPn**	**09 55 47.3**	**-2.0**
TIY				S	**S**	**10 00 21.9**	**-0.5**
TIY				SS	**SS**	**10 03 20.0**	**-5.2**
TIY				pmax	pmax		
	comp=Z,110nm,4.6s						
TIY				LR	LR		
	comp=Z,710nm,18.6s						
TIY				LR	LR		
	comp=Z,760nm,11.8s						
TIY				LR	LR		
	comp=Z,840nm,13.0s						
KSH	**Kashi**	**41.32**	**341**	P	**P**	**09 54 10.1**	**-1.8**
KSH				sP	sP	09 54 17.9	-0.4
KSH				PP	**PP**	**09 55 49.0**	**+1.6**
KSH				ScP	**ScP**	**09 59 58.0**	**-2.0**
KSH				S	**S**	**10 00 20.9**	**-5.0**
KSH				SS	**SS**	**10 03 19.3**	**-10**
KSH				pmax	pmax		
	comp=Z,91nm,1.3s						
KSH				LR	LR		
	comp=Z,1μm,16.4s						
KSH				LR	LR		
	comp=Z,940nm,10.1s						
KSH				LR	LR		
	comp=Z,1μm,15.6s						
SOHO	**SOHO**	**41.73**	**306**	P	**P**	**09 54 14.7**	**-0.6**
TIA	**Tai'an**	**42.02**	**30**	P	**P**	**09 54 18.0**	**+0.5**
TIA				S	**S**	**10 00 39.6**	**+3.5**
TIA				pmax	pmax		
	comp=Z,14nm,1.1s						
TIA				pmax	pmax		
	comp=Z,170nm,5.9s						
TIA				LR	LR		
	comp=Z,620nm,18.0s						
TIA				LR	LR		
	comp=Z,1μm,19.0s						
TIA				LR	LR		
	comp=Z,470nm,22.1s						
ASHO	**Ashiyiah**	**42.37**	**307**	*i* P	**P**	**09 54 22.3**	**+1.7**
	SNR=6.8						
HATD	**Hatta, Dubai**	**42.38**	**307**	P	**P**	**09 54 22.9**	**+2.3**
UOSS	**Minazif**	**42.38**	**307**	*e*P	**P**	**09 54 21.4**	**+0.8**
	comp=Z,27nm,1.4s						
MSFE	**Esma-Masafi**	**42.62**	**308**	P	**P**	**09 54 24.6**	**+2.0**
SFK	**Sufi-Kurgan**	**42.62**	**338**	P	**P**	**09 54 21.8**	**-0.8**
SFK				pmax	pmax		
	comp=Z,63nm,1.1s						
TARG	**Taragay, Kyrgy**	**42.79**	**344**	*e*P	**P**	**09 54 24.1**	**-0.1**
	comp=Z,36nm,0.9s						
WMQ	**Urumqi**	**43.01**	**355**	P	**P**	**09 54 26.6**	**+1.1**
WMQ				sP	sP	09 54 34.5	+2.5
WMQ				PP	**PP**	**09 56 08.0**	**+2.5**
WMQ				S	**S**	**10 00 52.3**	**+1.7**
WMQ				sS	sS	10 01 00.6	+2.4
WMQ				SS	**SS**	**10 03 57.6**	**-5.3**
WMQ				pmax	pmax		
	comp=Z,150nm,0.9s						
WMQ				pmax	pmax		
	comp=Z,420nm,3.7s						
WMQ				LR	LR		
	comp=Z,930nm,21.3s						
WMQ				LR	LR		
	comp=Z,1μm,27.1s						
WMQ				LR	LR		
	comp=Z,1μm,23.3s						
NRN	**Naryn**	**43.05**	**342**	*e*P	**P**	**09 54 26.6**	**+0.4**
	comp=Z,60nm,1.5s						
NRN	**Naryn**	**43.05**	**342**	*e*P	**P**	**09 54 26.6**	**+0.4**
NRN				pmax	pmax		
	comp=Z,60nm,1.5s						
WRKA	**Warakurna**	**43.23**	**129**	P	**P**	**09 54 27.5**	**-0.1**
	baz=43,SNR=6.1						
PRZ	**Przheval'sk**	**43.33**	**345**	*e*P	**P**	**09 54 29.2**	**+0.9**
	comp=Z,80nm,0.9s						
PRZ	**Przheval'sk**	**43.33**	**345**	*e*P	**P**	**09 54 29.2**	**+0.9**
PRZ				pmax	pmax		
	comp=Z,80nm,0.9s						
KDJ	**Kajisay**	**43.33**	**343**	*e*P	**P**	**09 54 28.9**	**+0.6**
	comp=Z,46nm,0.9s						
KDJ	**Kajisay**	**43.33**	**343**	P	**P**	**09 54 28.9**	**+0.6**
HHC	**Hu-ho-hao-te**	**43.47**	**21**	*e*P	**P**	**09 54 31.4**	**+2.1**
HHC				PP	**PcP**	**09 56 15.3**	**-2.1**
HHC				S	**S**	**10 00 59.9**	**+2.4**
HHC				SS	**SS**	**10 04 07.4**	**-4.6**
HHC				pmax	pmax		
	comp=Z,18nm,1.1s						
HHC				pmax	pmax		
	comp=Z,81nm,6.2s						
HHC				LR	LR		
	comp=Z,570nm,15.4s						
HHC				LR	LR		
	comp=Z,490nm,14.9s						
HHC				LR	LR		
	comp=Z,590nm,15.4s						
ULHL	**Ulahol**	**43.71**	**343**	P	**P**	**09 54 31.8**	**+0.4**
	SNR=11						
UZB	**Uzynbulak**	**43.80**	**346**⇓	*i*P	**P**	**09 54 32.7**	**+0.7**
	comp=Z,261nm,1.3s						
UZB				*i* S	**S**	**10 01 03.7**	**+1.4**
UZB				*i* LR	LR	10 14 06.9	
PDGK	**Podgornoye**	**43.86**	**346**	P	**P**	**09 54 33.1**	**+0.7**
PDGK				pmax	pmax		
	comp=Z,62nm,1.3s						
KZA	**Kyzart**	**43.87**	**342**	P	**P**	**09 54 33.4**	**+0.5**
	SNR=21						
SATY	**Saty**	**43.87**	**345**⇓	*i*P	**P**	**09 54 33.4**	**+0.8**
	comp=Z,681nm,1.2s						
SATY				*e*S	**S**	**10 01 04.9**	**+1.5**
ZHN	**Zhinishke**	**43.96**	**345**⇓	*i*P	**P**	**09 54 33.9**	**+0.6**
	comp=Z,212nm,1.2s						
KPKS	**Kokpek**	**44.18**	**346**⇓	*i*P	**P**	**09 54 35.6**	**+0.6**
	comp=Z,352nm,1.2s						
KPKS				*i* S	**S**	**10 01 08.9**	**+1.1**
UCH	**Uchtor**	**44.24**	**341**	P	**P**	**09 54 36.6**	**+0.7**
	SNR=38						
MDOK	**Medeo**	**44.33**	**344**	*i* P	**P**	**09 54 37.1**	**+0.8**
	comp=Z,471nm,1.6s						
MDOK				LR	LR	10 13 33.3	
	comp=Z,191nm,15.5s						
AAA	**Alma-Ata**	**44.41**	**344**⇓	*i*P	**P**	**09 54 37.8**	**+1.0**
AAA				*e*S	**S**	**10 01 12.7**	**+1.7**
AML	**Almayashu**	**44.42**	**340**	P	**P**	**09 54 38.2**	**+0.9**
	SNR=49						
KBK	**Karagaybulak**	**44.48**	**342**	P	**P**	**09 54 38.5**	**+1.0**
	SNR=18						
TKM2	**Tokmak 2**	**44.52**	**342**	P	**P**	**09 54 37.8**	**-0.1**
	SNR=31						
TKM2	**Tokmak 2**	**44.52**	**342**	P	**P**	**09 54 37.7**	**-0.2**
TKM2				pmax	pmax		
	comp=Z,43nm,1.3s						
BJT	**Baijiatuau**	**44.61**	**26**	*e*P	**P**	**09 54 39.5**	**+1.1**
	comp=Z,65nm,0.9s						
BJT	**Baijiatuau**	**44.61**	**26**	*e*P	**P**	**09 54 39.5**	**+1.1**
BJT				pmax	pmax		
	comp=Z,65nm,0.9s						
AAK	**Ala-Archa**	**44.61**	**341**	LR	LR	10 14 47.4	
	comp=Z,901nm,21.6s,baz=142,slow=38						
AAK	**Ala-Archa**	**44.61**	**341**	P	**P**	**09 54 39.4**	**+0.8**
	SNR=15						
AAK	**Ala-Archa**	**44.61**	**341**	*e*P	**P**	**09 54 38.6**	**+0.1**
	comp=Z,31nm,1.3s						
AAK	**Ala-Archa**	**44.61**	**341**	P	**P**	**09 54 39.4**	**+0.8**
	SNR=16						
AAK	**Ala-Archa**	**44.61**	**341**	P	**P**	**09 54 39.4**	**+0.8**
	SNR=16						
AAK	**Ala-Archa**	**44.61**	**341**	*i* P	**P**	**09 54 39.4**	**+0.8**
	SNR=18						
AAK	**Ala-Archa**	**44.61**	**341**	*d* P	**P**	**09 54 39.2**	**+0.7**
AAK				pmax	pmax		
	comp=Z,33nm,1.3s						
BJI	**Beijing**	**44.63**	**26**⇑	*e*P	**P**	**09 54 40.3**	**+1.8**
BJI				S	**S**	**10 01 17.0**	**+2.8**
BJI				pmax	pmax		
	comp=Z,98nm,0.9s						
BJI				LR	LR		
	comp=Z,1μm,19.2s						
BJI				LR	LR		
	comp=Z,2μm,21.7s						
BJI				LR	LR		
	comp=Z,5μm,38.8s						
BMNS	**Besmoynak**	**44.67**	**343**⇓	*i*P	**P**	**09 54 39.5**	**+0.5**
	comp=Z,562nm,1.2s						
BMNS				*e*S	**S**	**10 01 16.2**	**+1.1**
BMNS				LR	LR	10 13 40.8	
	comp=Z,347nm,15.5s						
EKS2	**Erkin-Say**	**44.87**	**341**	P	**P**	**09 54 41.4**	**+0.8**
	SNR=13						
MNAS	**Manas**	**45.15**	**339**	P	**P**	**09 54 43.1**	**+0.3**
MNAS				pmax	pmax		
	comp=Z,25nm,1.2s						
USP	**Ospenovka**	**45.18**	**342**	P	**P**	**09 54 43.4**	**+0.5**
	SNR=18						
KUU	**Kurty**	**45.20**	**344**⇓	*i*P	**P**	**09 54 43.0**	**-0.1**
	comp=Z,294nm,1.2s						
IUG	**Iuzhnay**	**45.79**	**337**⇓	*i*P	**P**	**09 54 48.6**	**+0.7**
	comp=Z,483nm,1.2s						
IUG				*e*S	**S**	**10 01 32.5**	**+1.3**
IUG				LR	LR	10 13 58.3	
	comp=Z,257nm,17.5s						
WR1	**Warramunga Arr**	**46.00**	**119**	*e*P	**P**	**09 54 48.8**	**-1.0**
	comp=Z,30nm,0.8s						
WRA	**Warramunga Arr**	**46.00**	**119**	P	**P**	**09 54 48.8**	**-1.0**
	comp=Z,26nm,0.8s,baz=296,slow=8.5,SNR=151						
WRAB	**Tennant Creek**	**46.01**	**119**	*e*P	**P**	**09 54 48.8**	**-1.0**
	comp=Z,31nm,0.8s						
WRAB	**Tennant Creek**	**46.01**	**119**	*d i*P	**P**	**09 54 49.3**	**-0.5**
WRAB				pmax	pmax		
	comp=Z,31nm,0.8s						
WB2	**Warramunga Arr**	**46.01**	**119**	*e*P	**P**	**09 54 49.0**	**-0.8**
WB2				*e*P	**P**	**09 54 49.2**	**-0.7**
DL2	**Dalian**	**46.39**	**32**	P	**P**	**09 54 53.4**	**+0.9**
DL2				S	**S**	**10 01 40.4**	**+0.7**
DL2				pmax	pmax		
	comp=Z,39nm,1.0s						
DL2				pmax	pmax		
	comp=Z,150nm,4.7s						
DL2				LR	LR		
	comp=Z,480nm,20.1s						
DL2				LR	LR		
	comp=Z,750nm,21.2s						
DL2				LR	LR		
	comp=Z,390nm,15.5s						
KK31	**Karatay Array**	**46.42**	**338**	*e*P	**P**	**09 54 52.7**	**0.0**
KK31	**Karatay Array**	**46.42**	**338**	*e*P	**P**	**09 54 52.7**	**0.0**
KKAR	**Karatay Array**	**46.42**	**338**	*e*P	**P**	**09 54 52.7**	**0.0**
KKAR	**Karatay Array**	**46.42**	**338**	*e*P	**P**	**09 54 52.7**	**0.0**
MK01	**Makanchi Array**	**46.60**	**350**	*e*P	**P**	**09 54 53.8**	**-0.2**
MK31	**Makanchi Array**	**46.62**	**350**	*e*P	**P**	**09 54 54.0**	**-0.3**
MK31	**Makanchi Array**	**46.62**	**350**	*i* P	**P**	**09 54 53.9**	**-0.3**
MK31				pmax	pmax		
	comp=Z,33nm,0.8s						
MK32	**Makanchi Array**	**46.62**	**350**	*e*P	**P**	**09 54 54.3**	**+0.1**
MK32				*e*PP	**PP**	**09 56 46.5**	**+2.5**
MKAR	**Makanchi Array**	**46.62**	**350**	P	**P**	**09 54 54.3**	**+0.1**
	comp=Z,11nm,0.6s,baz=171,slow=9.1,SNR=108						
MKAR				PP	**PP**	**09 56 46.5**	**+2.5**
	comp=Z,14nm,0.9s,baz=161,slow=7.7,SNR=4.2						
MKAR				LR	LR	10 18 17.7	
	comp=Z,334nm,18.3s,baz=163,slow=41						
MKAR	**Makanchi Array**	**46.62**	**350**	*e*P	**P**	**09 54 54.0**	**-0.2**
	comp=Z,165nm,0.8s						
MKAR				PP	**PP**	**09 56 46.5**	**+2.5**
MKAR	**Makanchi Array**	**46.62**	**350**	*e*P	**P**	**09 54 54.0**	**-0.2**
MKAR						09 56 46.5	
MKAR				pmax	pmax		
	comp=Z,165nm,0.8s						
MAKZ	**Makanchi**	**46.69**	**350**	*e*P	**P**	**09 54 54.6**	**-0.1**
	comp=Z,18nm,1.0s						
MAKZ	**Makanchi**	**46.69**	**350**	*e*P	**P**	**09 54 54.6**	**-0.1**
MAKZ				pmax	pmax		
	comp=Z,18nm,1.0s						
ZSN	**Zaisan**	**46.89**	**353**⇓	*i*P	**P**	**09 54 57.9**	**+1.6**
BTLS	**Baital**	**46.92**	**342**⇓	*i*P	**P**	**09 54 56.5**	**0.0**
	comp=Z,209nm,1.2s						
AS31	**Alice Springs**	**47.10**	**124**	*e*P	**P**	**09 54 57.8**	**-0.6**
	comp=Z,4.9nm,0.9s						
ASAR	**Alice Springs**	**47.10**	**124**	P	**P**	**09 54 57.6**	**-0.8**
	comp=Z,6.3nm,0.8s,baz=298,slow=7.5,SNR=58						
ASAR				PcP	**PcP**	**09 56 30.1**	**-0.2**
	comp=Z,1.7nm,0.4s,baz=297,slow=3.1,SNR=8.0						
ASAR				LR	LR	10 16 17.4	
	comp=Z,396nm,18.9s,baz=300,slow=38						
AS01	**Alice Springs**	**47.14**	**124**	*e*P	**P**	**09 54 57.7**	**-1.0**
TJN	**Taejon**	**47.96**	**39**⇑	*i*P	**P**	**09 55 04.5**	**-0.3**
JNU	**Nakatsue**	**48.35**	**44**	P	**P**	**09 55 07.9**	**-0.1**
	comp=Z,11nm,0.9s,baz=262,slow=7.1,SNR=4.7						
JNU				LR	LR	10 16 28.3	
	comp=Z,281nm,20.1s,baz=254,slow=37						
JNU	**Nakatsue**	**48.35**	**44**	*e*P	**P**	**09 55 07.9**	**-0.1**
	comp=Z,29nm,1.1s						
SONA0	**Songino Array**	**48.37**	**13**	*e*P	**P**	**09 55 08.8**	**+0.8**
SONM	**Songino Array**	**48.37**	**13**	P	**P**	**09 55 08.8**	**+0.8**
	comp=Z,18nm,0.8s,baz=194,slow=9.2,SNR=37						
SONM				LR	LR	10 17 15.1	
	comp=Z,472nm,18.5s,baz=202,slow=38						
SONA1	**Songino Array**	**48.39**	**13**	*e*P	**P**	**09 55 08.7**	**+0.6**
OPO	**Ambohidratompo**	**48.41**	**244**	P	**P**	**09 55 09.3**	**+0.5**
	comp=Z,16nm,0.8s,baz=70,slow=10,SNR=12						
OPO				LR	LR	10 13 32.7	
	comp=Z,214nm,18.4s,baz=38,slow=34						
ABPO	**Ambohimpanom**	**48.52**	**244**	*e*P	**P**	**09 55 10.5**	**+0.9**
	comp=Z,40nm,1.0s						
ABPO	**Ambohimpanom**	**48.52**	**244**	*e*P	**P**	**09 55 10.5**	**+0.9**
ABPO				pmax	pmax		
	comp=Z,40nm,1.0s						
GEYT	**Alibeck**	**48.53**	**324**	P	**P**	**09 55 10.2**	**+1.0**
	comp=Z,33nm,0.8s,baz=148,slow=8.7,SNR=45						
GYA0B	**ALIBECK ARRAY**	**48.53**	**324**	*e*P	**P**	**09 55 10.6**	**+1.4**
	comp=Z,37nm,0.8s						
ULN	**Ulaanbaatar**	**48.55**	**13**	*e*P	**P**	**09 55 09.9**	**+0.6**
	comp=Z,14nm,1.0s						
ULN	**Ulaanbaatar**	**48.55**	**13**	*d i*P	**P**	**09 55 10.2**	**+0.9**
ULN				pmax	pmax		
	comp=Z,7.0nm,0.8s						
KS15	**Wonju Array Si**	**48.96**	**38**	*e*P	**P**	**09 55 13.0**	**+0.5**
KSAR	**Wonju Array Be**	**48.96**	**38**	P	**P**	**09 55 12.3**	**-0.1**
KSAR	**Wonju Array Be**	**48.96**	**38**	P	**P**	**09 55 12.4**	**-0.1**
KS01	**Wonju Array Si**	**48.98**	**38**	*e*P	**P**	**09 55 12.4**	**-0.3**
KSRS	**Korea Array**	**48.99**	**38**	P	**P**	**09 55 12.3**	**-0.3**
	comp=Z,13nm,0.9s,baz=229,slow=8.8,SNR=44						
KSRS				LR	LR	10 18 39.7	
	comp=Z,522nm,18.2s,baz=234,slow=40						
SNY	**Shenyang**	**49.55**	**31**	⇑P	**P**	**09 55 17.1**	**+0.2**
SNY				S	**S**	**10 02 23.0**	**-1.3**
SNY				pmax	pmax		
	comp=Z,28nm,0.8s						
SNY				LR	LR		
	comp=Z,520nm,16.4s						
SNY				LR	LR		
	comp=Z,600nm,14.2s						
SNY				LR	LR		
	comp=Z,800nm,15.7s						
HVS	**Khovu-Aksy**	**50.13**	**1**⇑	*e*P	**P**	**09 55 22.2**	**+0.9**
HVS				pmax	pmax		
	comp=Z,63nm,1.0s						
ZAK	**Zakamensk**	**50.23**	**9**	*e*P	**P**	**09 55 20.7**	**-1.4**
ZAK				pmax	pmax		
	comp=Z,11nm,1.5s						
OTUK	**Ortayu**	**50.31**	**343**	P	**P**	**09 55 22.2**	**-0.5**
OTUK				pmax	pmax		
	comp=Z,91nm,0.9s						
SEM	**Semipalatinsk**	**50.46**	**350**⇓	*i*P	**P**	**09 55 23.7**	**-0.2**
SEM				*e*S	**S**	**10 02 37.8**	**+0.4**
QIS	**Mount Isa**	**50.85**	**118**	P	**P**	**09 55 26.7**	**-0.5**
	baz=51,SNR=6.4						
KURBB	**Kurchatov Arra**	**50.99**	**349**	P	**P**	**09 55 27.7**	**0.0**
	comp=Z,14nm,0.9s,baz=171,slow=7.2,SNR=82						
KURK	**Kurchatov**	**51.06**	**349**	*e*P	**P**	**09 55 27.7**	**-0.5**
KURK				*e*P	**P**	**09 55 28.0**	**-0.1**
KURK	**Kurchatov**	**51.06**	**349**	P	**P**	**09 55 28.4**	**+0.2**
	SNR=25						
KURK	**Kurchatov**	**51.06**	**349**	P	**P**	**09 55 28.4**	**+0.2**
	SNR=25						
KURK	**Kurchatov**	**51.06**	**349**	*d i*P	**P**	**09 55 28.1**	**-0.1**
KURK				pmax	pmax		
	comp=Z,39nm,1.1s						
MOY	**Mondy**	**51.17**	**7**	*e*P	**P**	**09 55 30.4**	**+1.2**
TLY	**Talaya**	**51.55**	**9**	LR	LR	10 20 01.4	
	comp=Z,335nm,18.6s,baz=181,slow=39						
TLY	**Talaya**	**51.55**	**9**	*e*P	**P**	**09 55 33.3**	**+1.4**
	comp=Z,19nm,1.2s						
TLY	**Talaya**	**51.55**	**9**	*e*P	**P**	**09 55 32.7**	**+0.8**
TLY				*e*S	**S**	**10 02 55.0**	**+3.0**
TLY				pmax	pmax		
	comp=Z,5.0nm,0.9s						
TLY				MLR	MLR		
	comp=Z,313nm,19.0s						
BRZS	**Berezniki**	**51.78**	**344**⇓	*i*P	**P**	**09 55 33.

ZALV Zalesovo Beam 53.31 354 P **P** **09 55 44.8 -0.1**
comp=Z,12nm,0.4s,baz=180,slow=7.4,SNR=45
ZALV LR LR 10 19 44.2
comp=Z,526nm,21.8s,baz=226,slow=38
ZALV Zalesovo Beam 53.31 354 P **P** **09 55 44.8 -0.1**
ZALV pmax pmax
comp=Z,11nm,0.3s
ZALV MLR MLR
comp=Z,527nm,21.8s
ZAA1 Zalesovo Array 53.31 354 *e*P **P** **09 55 44.8 -0.1**
GUMO Guam 53.45 74 LR LR 10 18 25.6
comp=Z,109nm,21.4s,baz=246,slow=36
HIA Hailar 53.66 22 *e*P **P** **09 55 48.4 +0.9**
comp=Z,20nm,0.9s
HIA Hailar 53.66 22 *e*P **P** **09 55 48.4 +0.9**
HIA pmax pmax
comp=Z,20nm0.9s
INU Inuyama 53.84 45 *e*P **P** **09 55 49.2 +0.1**
comp=Z,29nm,1.1s
MSHR Mys Shultsa 54.16 35*c i*P **P** **09 55 52.0 +0.7**
NVS Novosibirsk 54.35 354 *e*P **P** **09 55 51.3 -1.2**
NVS *e* 09 56 04.2
NVS *e*S S 10 03 20.8 -9.2
NVS pmax pmax
comp=Z,27nm,1.1s
NVS pmax pmax
comp=N,18nm,1.3s
NVS pmax pmax
comp=E,10.0nm,1.3s
NVS smax smax
comp=E,31nm,2.1s
MDJ Mudanjiang 54.63 32 P **P** **09 55 56.1 +1.4**
MDJ pmax pmax
comp=E,10.0nm,1.1s
MDJ pmax pmax
comp=E,170nm,4.2s
JHJ Hachijo jima 2 54.84 49 LR LR 10 18 11.5
comp=E,128nm,20.9s,baz=291,slow=35
VLA Vladivostok 54.92 35‖ *e*P **P** **09 55 57.9 +1.1**
VLA pmax pmax
comp=Z,63nm,2.1s
KRAR Krasnoyarsk 55.01 0‖ *e*P **P** **09 55 58.8 +1.6**
BVA0 Borovoye Array 55.15 344 P **P** **09 55 56.2 -2.1**
BVA0 pmax pmax
comp=Z,24nm,1.0s
BVAR Borovoye Array 55.15 344 P **P** **09 55 57.2 -1.1**
comp=Z,7.5nm,0.9s,baz=152,slow=7.4,SNR=40
BVAR LR LR 10 20 41.8
comp=Z,718nm,18.5s,baz=156,slow=37
KMBO Kilima Mbogo 55.16 268 P **P** **09 55 59.8 +0.4**
comp=Z,4.1nm,0.7s,baz=57,slow=9.1,SNR=9.6
KMBO LR LR 10 16 54.1
comp=Z,370nm,18.7s,baz=94,slow=33
KMBO Kilima Mbogo 55.16 268 *e*P **P** **09 55 59.6 +0.2**
KMBO *es*P **P** **09 55 59.8 +0.4**
BRVK Borovoye 55.20 344 *e*P **P** **09 55 57.8 -0.9**
comp=Z,26nm,0.9s
BRVK Borovoye 55.20 344 P **P** **09 55 58.0 -0.7**
SNR=13
BRVK Borovoye 55.20 344 P **P** **09 55 58.0 -0.7**
SNR=13
BRVK Borovoye 55.20 344*d i*P **P** **09 55 57.5 -1.2**
BRVK pmax pmax
comp=Z,17nm,1.1s
MAJO Matsushiro 55.27 45 *e*P **P** **09 55 58.6 -1.0**
MAJO Matsushiro 55.27 45‖ *e*P **P** **09 55 59.3 -0.2**
MAJO pmax pmax
comp=Z,15nm,1.5s
MJAR Matsushiro Arr 55.27 45 P **P** **09 55 58.6 -1.0**
comp=Z,4.5nm,0.9s,baz=228,slow=7.7,SNR=15
MJAR LR LR 10 20 07.5
comp=Z,270nm,21.8s,baz=230,slow=37
HTT Hallett 55.44 133 P **P** **09 56 00.5 -0.4**
baz=56,SNR=5.2
PMG Port Moresby 55.48 102 P **P** **09 56 02.2 +0.9**
comp=Z,5.2nm,0.6s,baz=216,slow=6.2,SNR=2.3
PMG LR LR 10 22 23.4
comp=Z,154nm,20.2s,baz=282,slow=39
USRK Ussuriysk Ar. 55.66 34 P **P** **09 56 02.2 +0.1**
comp=Z,8.2nm,0.8s,baz=245,slow=5.7,SNR=14
USRK LR LR 10 21 49.3
comp=Z,510nm,18.2s,baz=215,slow=38
AB31 Akbulak array 55.68 335 *i* P **P** **09 56 00.8 -1.4**
AB31 pmax pmax
comp=Z,44nm,1.3s
ABKAR Akbulak array 55.68 335 *e*P **P** **09 56 01.9 -0.3**
CTA Charters Tower 56.69 115 P **P** **09 56 09.3 -0.6**
comp=Z,12nm,0.9s,baz=272,slow=7.8,SNR=9.7
CTA LR LR 10 24 01.8
comp=Z,274nm,18.1s,baz=263,slow=40
CTAO Charters Tower 56.69 115 *e*P **P** **09 56 09.5 -0.5**
comp=Z,47nm,1.4s
CTAO Charters Tower 56.69 115 *e*P **P** **09 56 09.5 -0.5**
CTAO pmax pmax
comp=Z,47nm,1.4s
STKA Stephens Creek 56.76 130 P **P** **09 56 09.5 -0.8**
comp=Z,6.3nm,0.8s,baz=295,slow=8.2,SNR=16
STKA LR LR 10 21 05.9
comp=Z,408nm,18.9s,baz=307,slow=37
STKA Stephens Creek 56.76 130 P **P** **09 56 10.0 -0.3**
baz=57,SNR=10
STKA Stephens Creek 56.76 130 *e*P **P** **09 56 09.8 -0.4**
comp=Z,3.3nm,1.1s
STKA Stephens Creek 56.76 130 *e*P **P** **09 56 09.9 -0.3**
STKA pmax pmax
comp=Z,3.0nm,1.1s
SEKA Sheki 57.24 320 P **P** **09 56 13.1 -0.5**
NAX Nakhchivan 57.30 318 P **P** **09 56 13.9 -0.2**
AKTO Aktyubinsk 57.39 335 P **P** **09 56 13.6 -0.8**
comp=Z,3.3nm,0.7s,baz=128,slow=7.4,SNR=14
AKTO LR LR 10 22 44.7
comp=Z,357nm,19.3s,baz=153,slow=38
GANJ Ganja 57.50 319 P **P** **09 56 15.4 0.0**
ZKTA Zakatala 57.83 321 P **P** **09 56 17.7 0.0**
MAK Makhachkala 58.00 322 *e*P **P** **09 56 15.6 -3.2**
MAK *e* 09 58 28.3
MAK *e*S **S** **10 04 16.5 -2.4**
MAK pmax pmax
comp=Z,39nm,0.4s
MAK MLR MLR
comp=Z,268nm,16.0s
GNI Garni 58.29 318 P **P** **09 56 22.2 +1.1**
GNI comp=Z,12nm,0.3s,baz=147,slow=17,SNR=8.5 LR LR 10 20 37.3
comp=Z,203nm,21.9s,baz=90,slow=35
GNI Garni 58.29 318 P **P** **09 56 23.0 +1.9**
SNR=6.0
GNI Garni 58.29 318 P **P** **09 56 23.0 +1.9**
SNR=6.0
GNI Garni 58.29 318 P **P** **09 56 22.2 +1.1**
GNI Garni 58.29 318‖ *e*P **P** **09 56 22.3 +1.2**
GNI pmax pmax
comp=Z,102nm,1.3s
KLR Kul'dur 58.83 29 P **P** **09 56 24.6 +0.2**
comp=Z,1.2nm,0.9s,baz=256,slow=6.2,SNR=34
KLR LR LR 10 25 07.4
comp=Z,52nm,18.0s,baz=226,slow=40
TBLG Delisi 59.09 320 *e*P **P** **09 56 27.4 +0.9**
comp=Z,54nm,0.9s
TBLG Delisi 59.09 320 *e*P **P** **09 56 27.4 +0.9**
TBLG pmax pmax
comp=Z,54nm,0.9s
ARPS Mount Arapiles 59.11 135 P **P** **09 56 26.9 +0.2**
baz=59,SNR=6.5
GROC Groznyy 59.18 322 *e*P **P** **09 56 24.5 -2.5**
GROC *e* 09 57 10.6
GROC *e*S **S** **10 04 27.1 -7.2**
GROC pmax pmax
comp=Z,63nm,1.0s
BOD Bodaibo 59.36 13 *e*P **P** **09 56 27.9 -0.1**
BOD pmax pmax
comp=Z,34nm,1.5s
AKH Akhalkalaki 59.74 319 *e*P **P** **09 56 31.5 +0.4**
comp=Z,33nm,1.3s
AKH Akhalkalaki 59.74 319 *e*P **P** **09 56 31.5 +0.4**
AKH pmax pmax
comp=Z,33nm,1.3s
CMSA Cobar Meteorol 59.82 128 P **P** **09 56 31.6 0.0**
baz=60,SNR=23
ZEA Zeya 60.07 23 *e*P **P** **09 56 37.1 +4.2**
ZEA pmax pmax
comp=Z,32nm,1.4s
ZEA MLR MLR
comp=N,500nm,16.0s
ZEA MLR MLR
comp=E,300nm,16.0s

ZEA MLR MLR
comp=Z,700nm,16.0s
ZEI Tsey 60.16 321 *e*P **P** **09 56 32.8 -1.2**
ZEI pmax pmax
comp=Z,17nm,0.7s
RMQ Roma 60.67 121 P **P** **09 56 38.5 +0.9**
baz=61,SNR=5.9
NCK Nalchik 60.71 321⇑ *i*P **P** **09 56 37.9 +0.4**
NCK pmax pmax
comp=Z,24nm,0.4s
NEY Neytrino 61.14 321⇑ *e*P **P** **09 56 41.8 +1.1**
NEY pmax pmax
comp=Z,2.0nm,0.8s
KBZ Khabaz 61.26 321 P **P** **09 56 42.0 +0.8**
comp=Z,16nm,1.0s,baz=127,slow=4.1,SNR=29
SVE Sverdlovsk 61.35 341⇑ *e*P **P** **09 56 40.9 -0.7**
SVE *e*S **S** **10 04 56.8 -4.8**
SVE pmax pmax
comp=Z,59nm,1.1s
SVE MLR MLR
comp=Z,762nm,20.0s
KIV Kislovodsk 61.51 321 *e*P **P** **09 56 43.2 +0.1**
comp=Z,29nm,0.7s
KIV Kislovodsk 61.51 321 P **P** **09 56 44.1 +1.1**
SNR=12
KIV Kislovodsk 61.51 321 P **P** **09 56 44.1 +1.1**
SNR=12
KIV Kislovodsk 61.51 321 *i* P **P** **09 56 43.9 +0.8**
SNR=6.8
KIV Kislovodsk 61.51 321 *e*P **P** **09 56 43.6 +0.5**
KIV *e*S **S** **10 05 05.7 +1.4**
KIV *e*SS **SS** **10 09 07.8 +2.3**
KIV pmax pmax
comp=Z,30nm,1.0s
KIV MLR MLR
comp=Z,190nm,17.0s
EIL Elat 61.61 304 LR LR 10 23 56.2
comp=Z,450nm,18.4s,baz=66,slow=36
CLNS Chul'man 61.61 20 *e*P **P** **09 56 43.7 +0.3**
CLNS pmax pmax
comp=Z,18nm,1.1s
CLNS pmax pmax
comp=E,12nm,1.1s
CLNS pmax pmax
comp=N,8.0nm,1.1s
ARU Arti 61.74 339 LR LR 10 24 50.4
comp=N,932nm,19.0s,baz=142,slow=37
ARU Arti 61.74 339 *e*P **P** **09 56 43.2 -1.1**
comp=N,35nm,1.2s
ARU Arti 61.74 339 *e*P **P** **09 56 43.2 -1.1**
ARU pmax pmax
comp=Z,35nm,1.2s
GOF Gofitskoye 61.84 322⇑ *e*P **P** **09 56 44.7 -0.5**
GOF pmax pmax
comp=Z,35nm,1.3s
ASAJ Asahikawa 61.91 39 P **P** **09 56 45.2 -0.4**
comp=Z,3.8nm,0.7s,baz=168,slow=28,SNR=4.0
ASAJ Asahikawa 61.91 39 *e*P **P** **09 56 45.2 -0.4**
comp=Z,12nm,1.0s
TOO Toolangi 62.08 134 P **P** **09 56 47.8 +0.8**
baz=62,SNR=4.9
GRNR Gornyy 62.12 30 *e*P **P** **09 56 47.8 +0.8**
GRNR pmax pmax
comp=Z,26nm,1.0s
MMAI Mount Meron Ar 62.25 307 LR LR 10 24 59.7
comp=Z,764nm,18.2s,baz=120,slow=37
SOC Sochi 63.22 320 *e*P **P** **09 56 52.8 -1.6**
SOC *e* 09 59 13.0
SOC *e*S **S** **10 05 25.2 -0.5**
SOC *e*SS **SS** **10 09 30.3 -1.9**
SOC *e*SSS SSS 10 12 15.3
SOC pmax pmax
comp=Z,10.0nm,0.5s
YSS Yuzh-Sakhalins 63.42 36 *e*P **P** **09 56 55.7 0.0**
YSS *e* 09 57 08.0
YSS *e* 09 57 27.0
YSS pmax pmax
comp=Z,20nm,1.0s
YSS MLR MLR
comp=N,200nm,19.0s
YSS MLR MLR
comp=Z,500nm,19.0s
YSS MLR MLR
comp=E,400nm,20.0s
ANN Anapa 65.23 320 *e*P **P** **09 57 06.0 -1.6**
ANN *e* 09 57 37.5
ANN *e*S **S** **10 05 49.5 -1.0**
ANN pmax pmax
comp=Z,10.0nm,0.8s
LSZ Lusaka 65.40 253 *e*P **P** **09 57 09.2 -0.2**
comp=Z,16nm,0.8s
LSZ Lusaka 65.40 253 *e*P **P** **09 57 09.2 -0.2**
LSZ pmax pmax
comp=Z,16nm,0.8s
NKL Nikolayevsk 65.66 30 *e*P **P** **09 57 09.0 -1.1**
NKL *e* 10 10 14.0
NKL pmax pmax
comp=Z,22nm,1.0s
NKL MLR MLR
comp=N,400nm,16.0s
NKL MLR MLR
comp=E,1μm,16.0s
NKL MLR MLR
comp=Z,1μm,16.0s
VRH Novokhopyorsk 65.80 328 *e*P **P** **09 57 12.2 +1.1**
VRH pmax pmax
comp=Z,10.0nm,0.7s
BR101 Keskin Array S 65.84 314 *e*P **P** **09 57 11.4 -0.5**
BR131 Keskin Array S 65.84 314 *e*P **P** **09 57 11.8 0.0**
BRTR Keskin Array B 65.84 314 P **P** **09 57 11.4 -0.5**
comp=Z,3.0nm,0.7s,baz=132,slow=6.8,SNR=18
ANTO Ankara 66.50 314 *e*P **P** **09 57 16.1 +0.1**
comp=Z,28nm,1.0s
ANTO Ankara 66.50 314 *e*P **P** **09 57 16.1 +0.1**
ANTO pmax pmax
comp=Z,27nm,1.0s
BR231 Keskin MP Arra 66.51 314 *e*P **P** **09 57 12.5 -3.6**
VSR Storozhevoye 67.19 327 *e*P **P** **09 57 18.6 -1.4**
VSR pmax pmax
comp=Z,10.0nm,1.5s
YAK Yakutsk 67.19 18 LR LR 10 27 40.2
comp=Z,508nm,21.6s,baz=260,slow=37
YAK Yakutsk 67.19 18 *e*P **P** **09 57 19.2 -0.6**
comp=Z,67nm,0.9s
YAK Yakutsk 67.19 18 *e*P **P** **09 57 17.6 -2.2**
YAK *e* 09 57 43.6
YAK *e* 09 59 49.0
YAK *e*PPP PPP 10 01 23.1
YAK *e*S **S** **10 06 10.7 -3.0**
YAK pmax pmax
comp=Z,40nm,0.9s
YAK pmax pmax
comp=E,13nm,1.1s
YAK pmax pmax
comp=N,10.0nm,1.2s
YAK pmax pmax
comp=Z,8.0nm,0.6s
YAK pmax pmax
comp=E,14nm,1.5s
YAK smax smax
comp=E,61nm,2.0s
YAK smax smax
comp=N,43nm,2.3s
YAK MLR MLR
comp=Z,520nm,19.0s
YAK MLR MLR
comp=N,1μm,23.0s
YAK MLR MLR
comp=E,380nm,17.0s
SIM Simferopol' 67.44 319 *e*P **P** **09 57 22.9 +1.1**
SIM *e*S **S** **10 06 24.2 +6.7**
SIM pmax pmax
comp=Z,13nm,0.6s
SIM MLR MLR
comp=Z,210nm,17.9s
LPSR Galich'ya Gora 68.00 328 *e*P **P** **09 57 24.6 -0.5**
LPSR pmax pmax
comp=Z,10.0nm,0.8s
HNR Honiara 68.03 100 LR LR 10 28 26.8
comp=Z,76nm,21.7s,baz=268,slow=37
LBTB Lobatse 69.42 243 *e*P **P** **09 57 35.0 +0.3**
comp=Z,87nm,1.0s
LBTB Lobatse 69.42 243 *e*P **P** **09 57 35.0 +0.3**
LBTB pmax pmax
comp=Z,87nm,1.0s
MOS Moscow 70.23 331 *e*P **P** **09 57 37.4 -1.5**

MOS *e* 09 57 50.0
MOS *e* 09 57 57.1
MOS pmax pmax
comp=Z,41nm,0.9s
BOSA Boshof 70.44 239 P **P** **09 57 40.8 -0.1**
comp=Z,31nm,1.1s,baz=91,slow=6.5,SNR=17
BOSA LR LR 10 26 08.4
comp=Z,148nm,18.7s,baz=41,slow=34
BOSA Boshof 70.44 239 *e*P **P** **09 57 40.8 -0.1**
BOSA *e*P **pP** **09 57 41.1 -4.7**
OBN Obninsk 70.45 330 LR LR 10 31 59.4
comp=Z,341nm,19.1s,baz=114,slow=39
OBN Obninsk 70.45 330⇑ *e*P **P** **09 57 40.2 0.0**
OBN *i* 09 57 53.0
OBN *e* 10 00 16.5
OBN *e*S **S** **10 06 52.1 -0.5**
OBN pmax pmax
comp=Z,25nm,1.4s
OBN MLR MLR
comp=Z,365nm,18.0s
IDI Anoyia 71.25 307 P **P** **09 57 45.7 0.0**
comp=Z,8.6nm,0.9s,baz=100,slow=11,SNR=7.7
IDI Anoyia 71.25 307‖ *i*P **P** **09 57 47.0 +1.3**
IDI Anoyia 71.25 307 *e*P **P** **09 57 45.7 0.0**
comp=Z,29nm,1.1s
MAW Mawson 71.33 191 P **P** **09 57 45.6 +0.3**
comp=Z,6.0nm,0.8s,baz=17,slow=7.9,SNR=7.0
MAW Mawson 71.33 191 *e*P **P** **09 57 45.9 +0.6**
comp=Z,2.3nm,0.9s
MAW Mawson 71.33 191 *e*P **P** **09 57 45.9 +0.6**
MAW pmax pmax
comp=Z,2.0nm,0.9s
CFR Carcaliu 71.49 318⇑ *i*P **P** **09 57 48.1 +1.3**
CFR Carcaliu 71.49 318 P **P** **09 57 48.1 +1.3**
KIS Kishinev 71.63 320 *e*P **P** **09 57 46.5 -1.1**
KIS *e*L L 10 29 12.0
KIS LRM MLR 10 32 44.0
comp=Z,300nm,20.0s
KIS Kishinev 71.63 320 *e*P **P** **09 57 46.5 -1.1**
KIS *e* 09 58 03.0
KIS MLR MLR
comp=Z,300nm,20.0s
KIS MLR MLR
comp=Z,300nm,20.0s
KLMR Klimovskoe 72.06 336 *e*P **P** **09 57 47.5 -2.4**
KLMR AMP 09 58 03.6
comp=Z,42nm,1.1s
KLMR *e*S **S** **10 07 10.5 -0.6**
KLMR *e*S **S** **10 07 10.5 -0.6**
KLMR Klimovskoe 72.06 336 *e*P **P** **09 57 47.4 -2.4**
KLMR *e*S **S** **10 07 10.4 -0.6**
KLMR pmax pmax
comp=Z,42nm,1.1s
VRI Vrincioaia 72.64 318⇑ *i*P **P** **09 57 54.8 +1.1**
VRI Vrincioaia 72.64 318 P **P** **09 57 54.9 +1.2**
AKASG Malin Array Be 72.65 324 P **P** **09 57 52.8 -0.8**
comp=Z,0.6nm,0.5s,baz=95,slow=4.4,SNR=15
AKASG LR LR 10 34 11.0
comp=Z,172nm,18.1s,baz=100,slow=39
AKBB Malin Array Si 72.65 324 *e*P **P** **09 57 53.3 -0.3**
comp=Z,10.0nm,1.1s
AKBB Malin Array Si 72.65 324 *e*P **P** **09 57 53.3 -0.3**
AKBB pmax pmax
comp=Z,10.0nm,1.1s
KIEV Kiev 72.66 324 *e*P **P** **09 57 53.0 -0.6**
comp=Z,9.7nm,1.1s
KIEV Kiev 72.66 324‖ *e*P **P** **09 57 52.8 -0.8**
KIEV pmax pmax
comp=Z,10.0nm,2.0s
AK11 Malin Array Si 72.68 323 *e*P **P** **09 57 53.2 -0.5**
PLOR Plostina 72.69 318 P P 09 57 46.7 -7.3
SKR Severo-Kuril's 72.98 37 *e*P **P** **09 57 55.9 +0.3**
SKR pmax pmax
comp=Z,52nm,1.2s
SKR pmax pmax
comp=Z,200nm,3.0s
SKR MLR MLR
comp=Z,300nm,21.0s
SKR MLR MLR
comp=Z,200nm,20.0s
MLR Muntele Rosu 73.06 318 P **P** **09 57 56.7 +0.3**
comp=Z,2.8nm,1.0s,baz=98,slow=4.4,SNR=13
MLR Muntele Rosu 73.06 318⇑ *i*P **P** **09 57 57.6 +1.2**
MLR Muntele Rosu 73.06 318 *e*P **P** **09 57 56.3 0.0**
comp=Z,35nm,1.0s
MLR *e*P **P** **09 57 56.7 +0.3**
MLR Muntele Rosu 73.06 318 P **P** **09 57 57.6 +1.2**
VOIR 73.65 317‖ *i*P **P** **09 58 00.4 +0.6**
VOIR 73.65 317 P **P** **09 58 00.4 +0.6**
MA2 Magadan 73.79 27 P **P** **09 57 58.6 -1.6**
comp=Z,7.1nm,0.7s,baz=191,slow=5.4,SNR=5.1
MA2 Magadan 73.79 27 *e*P **P** **09 57 58.9 -1.3**
MA2 pmax pmax
comp=Z,16nm,1.0s
BURAR Bucovina Array 74.15 320⇑ *i*P **P** **09 58 03.2 +0.5**
BURAR Bucovina Array 74.15 320 P **P** **09 58 03.2 +0.5**
BUR04 Bucovina Ar. S 74.16 320 *e*P **P** **09 58 03.4 +0.7**
BUR08 Bucovina Ar. S 74.17 320 *e*P **P** **09 58 03.4 +0.6**
VTS Vitosha 74.20 314‖ *i*P **P** **09 58 03.2 0.0**
VTS Vitosha 74.20 314 *e*P **P** **09 58 03.0 -0.1**
comp=Z,8.6nm,0.8s
VTS Vitosha 74.20 314 P **P** **09 58 03.2 0.0**
TIXI Tiksi 74.44 11 *e*P **P** **09 58 02.6 -1.0**
comp=Z,40nm,0.7s
TIXI Tiksi 74.44 11*d i*P **P** **09 58 02.9 -0.8**
TIXI pmax pmax
comp=Z,39nm,1.7s
TMCR Tamitsa 74.44 338 *e*P **P** **09 58 03.4 -0.4**
TMCR pmax pmax
comp=Z,82nm,1.4s
PETK Petropavlovsk- 74.74 35 LR LR 10 33 48.4
comp=Z,276nm,18.3s,baz=250,slow=38
PET Petropavlovsk 75.25 35‖ *e*P **P** **09 58 07.6 -1.2**
PET pmax pmax
comp=Z,17nm,1.1s
NACGM Naroch 75.50 327 *e* P 09 58 23.0 +13
DZM Mont Dzumac 75.56 113 *e*SS SS 10 12 40.0 -3.5
comp=Z,219nm,26.2s
DZM *e*LR LR 10 21 04.2
comp=Z,285nm,24.6s
DRGR 75.58 318‖ *i*P **P** **09 58 11.4 +0.5**
DRGR 75.58 318 P **P** **09 58 11.4 +0.5**
IDID Didziasalis 75.67 327 *e*P **P** **09 58 10.6 -0.5**
IDID IAmb IAmb 09 58 26.1
comp=Z,7.8nm,1.0s
TSUM Tsumeb 75.93 250 *e*P **P** **09 58 14.0 +0.5**
comp=Z,21nm,1.1s
IIGN Ignalina 75.96 327 *e*P **P** **09 58 12.2 -0.6**
IIGN IAmb IAmb 09 58 27.8
comp=Z,12nm,1.1s
SEY Seymchan 76.02 24 P **P** **09 58 12.1 -0.9**
comp=Z,4.8nm,0.8s,baz=236,slow=5.9,SNR=14
SEY Seymchan 76.02 24‖ *i*P **P** **09 58 11.7 -1.3**
BZS Buzias 76.03 317‖ *i*P **P** **09 58 13.6 +0.2**
BZS Buzias 76.03 317 P **P** **09 58 13.6 +0.2**
IZAR Zarasai 76.08 328 *e*P **P** **09 58 12.9 -0.6**
IZAR IAmb IAmb 09 58 24.9
comp=Z,8.8nm,0.6s
CRVS Cervenica-Dubn 76.91 320 *e*P **P** **09 58 19.0 +0.6**
CRVS Cervenica-Dubn 76.91 320 *e*P **P** **09 58 19.0 +0.6**
CRVS pmax pmax
comp=Z,16nm,1.5s
STHS Stebnicka Huta 77.17 321 *e*P **P** **09 58 20.7 +0.8**
STHS *e*pP **sP** **09 58 25.7 -0.8**
STHS Stebnicka Huta 77.17 321 *e*P **P** **09 58 20.7 +0.8**
STHS *e* 09 58 25.7
STHS pmax pmax
comp=Z,8.0nm,0.9s
LVZ Lovozero 77.56 341⇑ *e*P **P** **09 58 21.9 +0.2**
LVZ pmax pmax
comp=Z,25nm,2.0s
NIE Niedzica 77.77 321 *e*P **P** **09 58 24.8 +1.6**
NIE Niedzica 77.77 321 *e*P **P** **09 58 24.8 +1.6**
APA Apatity 77.82 340‖ *i*P P 09 58 28.2 +5.2
APA MLR MLR
comp=Z,800nm,17.0s
FIA1 FINESS Array S 78.13 333 *e*P **P** **09 58 24.4 -0.5**
FIA1 *e*P **P** **09 58 24.8 0.0**
FIA0 FINESS Array S 78.13 333 *e*P **P** **09 58 24.4 -0.5**
FIA0 FINESS Array S 78.13 333 *e*P **P** **09 58 24.4 -0.5**
FINES FINESS Array B 78.13 333 P **P** **09 58 24.4 -0.5**
comp=Z,3.8nm,0.5s,baz=94,slow=5.5,SNR=16
OJC Ojcow 78.27 321 *e*P **P** **09 58 26.5 +0.6**
OJC Ojcow 78.27 321 *e*P **P** **09 58 26.5 +0.6**

VYHS	**Vyhne**	**78.52**	**319**	*e*P	**P**	**09 58 28.1**	**+0.8**
VYHS				*es*P	**PcP**	**09 58 39.2**	**+2.8**
VYHS	**Vyhne**	**78.52**	**319**	*e*P	**P**	**09 58 28.1**	**+0.8**
VYHS				*e*		09 58 39.2	
VYHS				pmax	pmax		
	comp=Z,12nm,1.4s						
KLNR	**Kaliningrad**	**79.06**	**326**[1]	*e*P	**P**	**09 58 29.1**	**-1.0**
MODS	**Modra-Piesok**	**79.51**	**319**	*e*P	**P**	**09 58 32.8**	**0.0**
MODS	**Modra-Piesok**	**79.51**	**319**	*e*P	**P**	**09 58 32.8**	**0.0**
MODS				pmax	pmax		
	comp=Z,38nm,1.1s						
MORC	**Moravsky Berou**	**79.60**	**320**	*e*P	**P**	**09 58 33.6**	**+0.3**
	comp=Z,104nm,1.6s						
MORC	**Moravsky Berou**	**79.60**	**320**	*e*P	**P**	**09 58 33.6**	**+0.3**
MORC				pmax	pmax		
	comp=Z,104nm,1.6s						
KRLC	**Kraliky**	**80.14**	**321**	*e*P	**P**	**09 58 37.1**	**+0.9**
KRLC				*ep*P	**PcP**	**09 58 42.7**	**-0.8**
KRLC	**Kraliky**	**80.14**	**321**	*e*P	**P**	**09 58 37.1**	**+0.9**
CONA	**Conrad Observa**	**80.36**	**318**	P	**P**	**09 58 38.8**	**+1.2**
	comp=Z,9.8nm,1.1s						
ARSA	**Arzberg**	**80.48**	**318**	*e*P	**P**	**09 58 39.3**	**+1.2**
	comp=Z,12nm,1.1s						
DPC	**Dobruska-Polom**	**80.48**	**321**	*e*P	**P**	**09 58 39.3**	**+1.2**
DPC				*ep*P	**sP**	**09 58 43.6**	**-1.1**
DPC				*ex*	x	09 58 52.8	
DPC				AMS	AMS	10 39 20.0	
	comp=Z,200nm,16.6s						
DPC	**Dobruska-Polom**	**80.48**	**321**	*e*P	**P**	**09 58 39.3**	**+1.2**
DPC				*e*		09 58 52.8	
DPC				MLR	MLR		
	comp=Z,200nm,16.6s						
KSP	**Ksiaz**	**80.59**	**321**	*e*P	**P**	**09 58 39.9**	**+1.3**
KSP	**Ksiaz**	**80.59**	**321**	*e*P	**P**	**09 58 39.9**	**+1.3**
UPC	**Upice**	**80.71**	**321**	AMS	AMS	10 39 30.0	
	comp=Z,400nm,17.0s						
SOKA	**Soboth**	**80.72**	**317**	*e*P	**P**	**09 58 40.3**	**+0.8**
	comp=Z,15nm,1.1s						
OBKA	**Obir**	**81.03**	**317**	*e*P	**P**	**09 58 43.3**	**+2.2**
	comp=Z,8.5nm,1.1s						
ARA0	**ARCESS Array S**	**81.28**	**341**	*e*P	**P**	**09 58 41.8**	**-0.1**
ARCES	**ARCESS Array B**	**81.28**	**341**	P	**P**	**09 58 41.8**	**-0.1**
	comp=Z,8.4nm,0.9s,baz=81,slow=5.9,SNR=12						
ARCES	**ARCESS Array B**	**81.28**	**341**	*e*P	**P**	**09 58 41.9**	**0.0**
GOPC	**GO Pecny, Ondr**	**81.38**	**320**	AMS	AMS	10 39 50.0	
	comp=Z,300nm,16.7s						
MOA	**Molln**	**81.41**	**318**	P	**P**	**09 58 43.9**	**+0.8**
	comp=Z,10nm,1.2s						
PRU	**Pruhonice**	**81.55**	**320**	AMS	AMS	10 39 50.0	
	comp=Z,200nm,15.0s						
MYKA	**Terra Mystica**	**81.67**	**317**	*e*P	**P**	**09 58 45.4**	**+0.9**
	comp=Z,9.7nm,1.1s						
GEA0	**GERESS Array S**	**81.93**	**319**	*e*P	**P**	**09 58 46.5**	**+0.7**
KBA	**Koelnbreinsper**	**81.93**	**317**	*e*P	**P**	**09 58 46.9**	**+0.9**
	comp=Z,5.0nm,0.9s						
GEC2	**GERESS Array S**	**81.93**	**319**	*e*P	**P**	**09 58 46.8**	**+0.9**
	comp=Z,43nm,1.3s						
GEC2	**GERESS Array S**	**81.93**	**319**	*e*P	**P**	**09 58 46.8**	**+0.9**
GEC2				pmax	pmax		
	comp=Z,43nm,1.3s						
GERES	**GERESS Array B**	**81.93**	**319**	P	**P**	**09 58 46.3**	**+0.5**
	comp=Z,3.7nm,0.6s,baz=91,slow=5.3,SNR=19						
GERES				LR	LR	10 39 09.8	
	comp=Z,96nm,18.9s,baz=95,slow=39						
KHC	**Kasperske Hory**	**82.05**	**319**	*e*P	**P**	**09 58 47.5**	**+1.1**
KHC				*ep*P	**PcP**	**09 58 52.3**	**+0.4**
KHC				AMS	AMS	10 40 50.0	
	comp=Z,200nm,17.9s						
KHC	**Kasperske Hory**	**82.05**	**319**	*e*P	**P**	**09 58 47.2**	**+0.8**
	comp=Z,15nm,1.2s						
KHC	**Kasperske Hory**	**82.05**	**319**	*e*P	**P**	**09 58 47.5**	**+1.1**
KHC				MLR	MLR		
	comp=Z,200nm,17.9s						
BRG	**Berggiesshubel**	**82.06**	**321**	*e*P	**P**	**09 58 44.1**	**-2.3**
	comp=Z,9.5nm,1.4s						
BRG				*e*		09 59 00.0	
	comp=Z,30nm,1.7s						
BRG	**Berggiesshubel**	**82.06**	**321**	*e*P	**P**	**09 58 44.1**	**-2.3**
BRG				*e*		09 59 00.0	
BRG				pmax	pmax		
	comp=Z,10.0nm,1.4s						
BRG				pmax	pmax		
	comp=Z,30nm,1.7s						
RPZ	**Rata Peaks**	**82.38**	**134**	LR	LR	10 31 44.3	
	comp=Z,215nm,20.5s,baz=280,slow=33						
ABTA	**Abfaltersbach**	**82.45**	**317**	P	**P**	**09 58 50.0**	**+1.4**
	comp=Z,13nm,1.4s						
CLL	**Collm**	**82.71**	**322**	*e*P	**P**	**09 58 50.0**	**+0.3**
CLL				*es*P	**sP**	**09 59 00.0**	**+3.6**
CLL				*es*PcP		09 59 04.0	
CLL				*e*S	**S**	**10 09 07.0**	**-0.1**
CLL				LmV		10 38 00.0	
	comp=Z,200nm,21.6s						
CLL	**Collm**	**82.71**	**322**	*e*P	**P**	**09 58 50.0**	**+0.3**
CLL				*e*		09 59 00.0	
WTTA	**Wattenberg**	**83.11**	**317**	*e*P	**P**	**09 58 53.6**	**+1.5**
	comp=Z,4.8nm,0.7s						
WATA	**Walderalm**	**83.16**	**317**	*e*P	**P**	**09 58 52.4**	**0.0**
	comp=Z,3.8nm,0.5s						
BILL	**Bilibino**	**83.24**	**21**	*e*P	**P**	**09 58 51.3**	**-0.8**
BILL				*e*		10 02 03.2	
BILL				*e*PPP	PPP	10 03 53.2	
BILL				pmax	pmax		
	comp=Z,8.0nm,1.8s						
MOTA	**Moosalm**	**83.47**	**317**	*e*P	**P**	**09 58 54.0**	**0.0**
	comp=Z,3.0nm,0.5s						
HFS	**Hagfors**	**83.65**	**330**	P	**P**	**09 58 54.6**	**+0.2**
	comp=Z,1.8nm,0.7s,baz=113,slow=6.6,SNR=3.5						
HFS				LR	LR	10 40 01.4	
	comp=Z,260nm,18.9s,baz=131,slow=38						
FETA	**Feichten**	**83.70**	**317**	*e*P	**P**	**09 58 55.8**	**+0.7**
	comp=Z,25nm,1.3s						
RETA	**Reutte**	**83.72**	**318**	*e*P	**P**	**09 58 55.5**	**+0.3**
	comp=Z,11nm,1.0s						
KEST	**Kesra**	**83.86**	**306**	P	**P**	**09 58 58.6**	**+2.4**
	comp=Z,6.3nm,1.1s,baz=125,slow=3.6,SNR=2.8						
KEST				LR	LR	10 37 23.5	
	comp=Z,125nm,20.9s,baz=349,slow=36						
KEST	**Kesra**	**83.86**	**306**	*e*P	**P**	**09 58 58.2**	**+2.1**
	comp=Z,24nm,1.0s						
DAVA	**Damuels**	**84.30**	**317**	P	**P**	**09 58 59.1**	**+0.9**
	comp=Z,16nm,1.1s						
NB2	**NORSAR Subarra**	**84.99**	**331**	P	**P**	**09 59 00.0**	**-1.3**
	comp=Z,11nm,1.2s,baz=96,slow=5.3						
NB200	**NORSAR Array S**	**84.99**	**331**	*e*P	**P**	**09 59 00.3**	**-0.9**
NOA	**NORSAR Array B**	**84.99**	**331**	P	**P**	**09 59 00.3**	**-0.9**
	comp=Z,2.5nm,1.0s,baz=95,slow=5.8,SNR=2.6						
SPA0	**Spitsbergen Ar**	**86.34**	**348**	*e*P	**P**	**09 59 07.0**	**-0.6**
SPITS	**Spitsbergen Ar**	**86.34**	**348**	P	**P**	**09 59 07.0**	**-0.6**
	comp=Z,5.9nm,0.8s,baz=79,slow=5.2,SNR=2.7						
SPITS				LR	LR	10 41 39.5	
	comp=Z,376nm,21.6s,baz=100,slow=38						
SPITS	**Spitsbergen Ar**	**86.34**	**348**	P	**P**	**09 59 07.0**	**-0.6**
SPITS	**Spitsbergen Ar**	**86.34**	**348**	P	**P**	**09 59 07.0**	**-0.6**
URZ	**Urewera**	**86.36**	**128**	LR	LR	10 38 50.1	
	comp=Z,230nm,18.1s,baz=5.0,slow=36						
VNDA	**Vanda**	**86.43**	**168**	P	**P**	**09 59 07.7**	**-0.4**
	comp=Z,1.3nm,0.9s,baz=340,slow=5.1,SNR=5.6						
VNDA				LR	LR	10 32 06.8	
	comp=Z,282nm,19.8s,baz=296,slow=32						
VNDA	**Vanda**	**86.43**	**168**	*e*P	**P**	**09 59 08.1**	**+0.1**
VNDA	**Vanda**	**86.43**	**168**	*e*P	**P**	**09 59 08.1**	**+0.1**
SBA	**Scott Base**	**87.54**	**168**	*e*P	**P**	**09 59 13.7**	**+0.3**
	comp=Z,12nm,1.2s						
SBA	**Scott Base**	**87.54**	**168**	*e*P	**P**	**09 59 13.7**	**+0.3**
SBA				pmax	pmax		
	comp=Z,12nm,1.2s						
QSPA	**South Pole Qui**	**90.78**	**180**	P	**P**	**09 59 29.3**	**+0.3**
	comp=Z,7.1nm,0.9s,baz=261,slow=0.9,SNR=11						
QSPA				LR	LR	10 35 16.7	
	comp=Z,239nm,19.2s,baz=311,slow=32						
QSPA	**South Pole Qui**	**90.78**	**180**	*e*P	**P**	**09 59 29.3**	**+0.3**
QSPA				*ep*P	**P**	**09 59 29.6**	**+0.6**
SNAA	**Sanae**	**92.43**	**198**	P	**P**	**09 59 36.8**	**+0.3**
SNAA	**Sanae**	**92.43**	**198**	P	**P**	**09 59 36.7**	**+0.1**
	comp=Z,4.5nm,0.8s,baz=129,slow=4.2,SNR=20						
SNAA	**Sanae**	**92.43**	**198**	*e*P	**P**	**09 59 37.0**	**+0.4**
	comp=Z,29nm,1.7s						
SNAA	**Sanae**	**92.43**	**198**	*e*P	**P**	**09 59 37.4**	**+0.9**
EKA	**Eskdalemuir Ar**	**92.49**	**325**	LR	LR	10 45 03.6	
	comp=Z,86nm,20.8s,baz=25,slow=38						
VNA2	**Neumayer--Watz**	**93.98**	**199**	P	**P**	**09 59 43.7**	**+0.1**
	baz=80,slow=4.8						
VNA1	**Neumayer--Stat**	**94.31**	**199**	P	**P**	**09 59 44.9**	**-0.2**
KOWA	**Kowa**	**95.99**	**285**	LR	LR	10 42 21.9	
	comp=Z,313nm,18.1s,baz=46,slow=35						
ILAR	**Eielson Array**	**101.89**	**22**	P	**Pdif**	**10 00 16.8**	**-2.6**
	comp=Z,0.2nm,0.8s,baz=284,slow=4.5,SNR=2.5						
ILAR				PP	**PP**	**10 04 28.8**	**-1.3**
	comp=Z,0.5nm,0.8s,baz=289,slow=6.2,SNR=4.9						
YKA	**Yellowknife Ar**	**113.64**	**13**	PP	PP	10 05 54.9	-0.7
	comp=Z,0.6nm,0.8s,baz=335,slow=7.1,SNR=5.4						
YKA				PKKPbc	**PKKPbc**	**10 15 46.8**	**-3.2**
	comp=Z,0.2nm,0.4s,baz=146,slow=3.5,SNR=5.5						
PPT2	**Papeete2**	**116.91**	**109**	*e*LR	LR	10 40 12.4	
	comp=Z,112nm,23.0s						
VALT	**Mount Saint He**	**124.15**	**28**	*e*PKPdf	**PKPdf**	**10 05 24.4**	**-0.7**
NV01	**Mina Array Sit**	**131.79**	**33**	*e*PKPdf	**PKPdf**	**10 05 38.1**	**-1.9**
NVAR	**Mina Array Bea**	**131.79**	**33**	PKP	**PKPdf**	**10 05 40.7**	**+0.7**
	comp=Z,0.7nm,0.7s,baz=289,slow=2.1,SNR=5.8						
PD31	**Pinedale Array**	**132.32**	**22**	*e*PKPdf	**PKPdf**	**10 05 40.1**	**-0.7**
PDAR	**Pinedale Array**	**132.32**	**22**	PKP	**PKPdf**	**10 05 40.1**	**-0.7**
	comp=Z,0.5nm,0.9s,baz=65,slow=3.9,SNR=3.7						
R11A	**Troy Canyon, C**	**133.27**	**30**	*e*PKPdf	**PKPdf**	**10 05 42.9**	**+0.2**
ANMO	**Albuquerque**	**140.28**	**25**	*e*PKPdf	**PKPdf**	**10 05 55.3**	**-0.5**
ANMO	**Albuquerque**	**140.28**	**25**	*e*PKIKP	**PKPdf**	**10 05 55.3**	**-0.5**
CPUP	**Villa Florida**	**141.37**	**226**	PKhKP	PKPpre	10 05 51.5	
	comp=Z,1.5nm,0.8s,baz=111,slow=8.4,SNR=3.4						
MSTX	**Muleshoe**	**142.57**	**21**	*e*PKPdf	**PKPdf**	**10 06 00.3**	**+0.5**
WMOK	**Wichita Mounta**	**143.10**	**15**	P	PKPab	10 05 56.4	+0.4
	baz=341						
WMOK	**Wichita Mounta**	**143.10**	**15**	*e*PKPpre	PKPab	10 05 56.3	+0.2
WMOK	**Wichita Mounta**	**143.10**	**15**	*e*PKIKP	PKPab	10 05 56.3	+0.3
WVT	**Waverly**	**143.23**	**0**	P	PKPbc	10 05 57.1	-0.5
	baz=360						
MNTX	**Cornudas Mount**	**143.53**	**26**	P	PKPbc	10 05 58.8	+0.1
	baz=329						
MNTX	**Cornudas Mount**	**143.53**	**26**	*e*PKPdf	**PKPdf**	**10 06 00.6**	**-0.9**
KMSC	**Kings Mountain**	**143.74**	**351**	P	PKPab	10 05 58.7	+0.3
	baz=11						
W47A	**Westpoint**	**144.10**	**360**	P	**PKPab**	**10 05 59.5**	**-0.3**
	baz=360						
W45A	**Hickory Valley**	**144.17**	**2**	P	PKPbc	10 06 00.4	0.0
	baz=357						
W48A	**Pulaski**	**144.21**	**359**	P	**PKPab**	**10 05 59.5**	**-0.7**
	baz=1.1						
W46A	**Mickie**	**144.22**	**1**	P	**PKPab**	**10 05 59.5**	**-0.8**
	baz=359						
X39A	**Fountain Ranch**	**144.32**	**9**	P	PKPbc	10 06 00.9	-0.1
	baz=349						
MIAR	**Mount Ida**	**144.37**	**8**	P	**PKPab**	**10 06 00.7**	**-0.1**
	baz=350						
MIAR	**Mount Ida**	**144.37**	**8**	*e*PKPdf	PKPbc	10 06 01.1	0.0
MIAR	**Mount Ida**	**144.37**	**8**	*e*PKIKP	PKPbc	10 06 01.1	0.0
X40A	**Basin Creek Fa**	**144.53**	**7**	P	**PKPab**	**10 06 01.3**	**-0.1**
	baz=351						
X40A	**Basin Creek Fa**	**144.53**	**7**	*e*PKPdf	PKPbc	10 06 01.6	0.0
X41A	**Kaden, Bauxite**	**144.56**	**7**	P	**PKPab**	**10 06 00.9**	**-0.6**
	baz=352						
X44A	**Crenshaw**	**144.78**	**4**	P	**PKPab**	**10 06 01.8**	**-0.5**
	baz=356						
OXF	**Oxford**	**144.80**	**3**	P	**PKPab**	**10 06 01.3**	**-1.1**
	baz=357						
OXF	**Oxford**	**144.80**	**3**	*e*PKPdf	**PKPab**	**10 06 02.1**	**-0.3**
OXF	**Oxford**	**144.80**	**3**	*e*PKIKP	**PKPab**	**10 06 02.1**	**-0.3**
X49A	**Woodville**	**144.82**	**358**	P	**PKPab**	**10 06 01.3**	**-1.2**
	baz=2.2						
X47A	**Russelville**	**144.84**	**0**	P	**PKPab**	**10 06 01.1**	**-1.4**
	baz=360						
ABTX	**Abilene, Hawle**	**144.84**	**18**	P	**PKPab**	**10 06 02.0**	**-0.7**
	baz=339						
ABTX	**Abilene, Hawle**	**144.84**	**18**	*e*PKPdf	**PKPab**	**10 06 02.5**	**-0.2**
X45A	**UM Field Stati**	**144.89**	**3**	P	**PKPab**	**10 06 02.1**	**-0.6**
	baz=357						
X48A	**Hartselle**	**144.90**	**359**	P	**PKPab**	**10 06 01.8**	**-1.0**
	baz=0.9						
Y40A	**Opelona**	**144.94**	**8**	P	**PKPab**	**10 06 02.4**	**-0.5**
	baz=350						
Y41A	**Eaglette Beard**	**145.15**	**7**	P	**PKPbc**	**10 06 03.6**	**0.0**
	baz=351						
WLAR	**White Oak Lake**	**145.28**	**8**	*e*PKPbc	**PKPab**	**10 06 04.1**	**0.0**
Y43A	**Makayla and Ka**	**145.30**	**5**	P	**PKPab**	**10 06 04.2**	**0.0**
	baz=354						
Y50A	**Piedmont**	**145.42**	**357**	P	**PKPbc**	**10 06 03.6**	**-0.9**
	baz=3.2						
Y48A	**Jasper**	**145.44**	**359**	P	**PKPbc**	**10 06 03.2**	**-1.4**
	baz=0.7						
Y45A	**Yeager Farm, C**	**145.44**	**3**	P	**PKPbc**	**10 06 03.9**	**-0.7**
	baz=357						
Y47A	**UCPARC, Winfie**	**145.45**	**0**	P	**PKPbc**	**10 06 03.4**	**-1.2**
	baz=360						
Y46A	**Houston**	**145.45**	**2**	P	**PKPbc**	**10 06 03.4**	**-1.2**
	baz=358						
Y49A	**Blount Mountai**	**145.48**	**358**	P	**PKPbc**	**10 06 03.6**	**-1.1**
	baz=2.1						
GOGA	**Godfrey**	**145.72**	**354**	P	**PKPdf**	**10 06 04.9**	**-0.3**
	baz=7.3						
GOGA	**Godfrey**	**145.72**	**354**	*e*PKPdf	**PKPdf**	**10 06 04.8**	**-0.3**
GOGA	**Godfrey**	**145.72**	**354**	*e*PKP2	**PKPdf**	**10 06 04.8**	**-0.3**
Z41A	**Richland Creek**	**145.74**	**8**	*e*PKPdf	**PKPdf**	**10 06 05.2**	**0.0**
Z42A	**Norrel Spur, H**	**145.83**	**6**	P	**PKPdf**	**10 06 05.5**	**+0.1**
	baz=352						
Z45A	**Winona**	**145.93**	**3**	P	**PKPbc**	**10 06 06.1**	**-0.1**
	baz=356						
Z44A	**Pea Ridge, Bel**	**145.97**	**4**	P	**PKPbc**	**10 06 06.1**	**-0.1**
	baz=355						
Z48A	**Newport**	**145.97**	**360**	P	**PKPdf**	**10 06 04.7**	**-0.9**
	baz=0.1						
Z50A	**Ashland**	**146.06**	**357**	P	**PKPdf**	**10 06 05.6**	**-0.2**
	baz=3.0						
Z49A	**Columbiana**	**146.14**	**358**	P	**PKPdf**	**10 06 05.7**	**-0.2**
	baz=1.9						
Z47A	**Carrollton**	**146.15**	**1**	P	**PKPdf**	**10 06 05.7**	**-0.2**
	baz=359						
LTX	**Lajitas**	**146.31**	**26**	*e*PKPdf	**PKPdf**	**10 06 06.6**	**+0.2**
LTX	**Lajitas**	**146.31**	**26**	*e*PKP2	**PKPdf**	**10 06 06.6**	**+0.2**
TX31	**Lajitas Ar. Si**	**146.31**	**26**	*e*PKPdf	**PKPdf**	**10 06 05.6**	**-0.8**
TXAR	**Lajitas Array**	**146.31**	**26**	PKPbc	**PKPdf**	**10 06 06.6**	**+0.2**
	comp=Z,3.5nm,0.6s,baz=1.9,slow=0.4,SNR=38						
LRAL	**Lakeview Retre**	**146.31**	**359**	P	**PKPdf**	**10 06 06.1**	**-0.1**
	baz=1.1						
150A	**Eclectic**	**146.71**	**358**	P	**PKPdf**	**10 06 07.4**	**+0.5**
	baz=2.8						
GO04	**Tololo Observa**	**146.73**	**207**	*e*PKPdf	**PKPdf**	**10 06 07.5**	**+0.2**
149A	**Jones**	**146.74**	**359**	P	**PKPdf**	**10 06 07.6**	**+0.6**
	baz=1.4						
151A	**Opelika**	**146.75**	**356**	P	**PKPbc**	**10 06 08.3**	**-0.3**
	baz=4.1						
JCT	**Junction City**	**146.77**	**19**	P	**PKPdf**	**10 06 07.6**	**+0.5**
	baz=337						
JCT	**Junction City**	**146.77**	**19**	*e*PKPdf	**PKPdf**	**10 06 07.4**	**+0.2**
JCT	**Junction City**	**146.77**	**19**	*e*PKP2	**PKPdf**	**10 06 07.4**	**+0.2**
251A	**Midway**	**147.19**	**357**	P	**PKPbc**	**10 06 09.5**	**-0.4**
	baz=4.0						
245A	**Little AP, Sta**	**147.25**	**4**	P	**PKPbc**	**10 06 10.0**	**0.0**
	baz=356						
248A	**Dixon Mills**	**147.25**	**0**	P	**PKPbc**	**10 06 09.8**	**-0.2**
	baz=360						
HPIG		**147.38**	**31**	*e*PKPdf	**PKPdf**	**10 06 09.1**	**+0.6**
LCO	**Las Campanas**	**147.66**	**208**	*e*PKPdf	**PKPdf**	**10 06 08.1**	**-0.8**
GO02	**Mina Guanaco**	**150.19**	**214**	*e*PKPdf	**PKPdf**	**10 06 11.5**	**-1.7**
PTGA	**Pitinga**	**152.35**	**270**	*e*PKPbc	**PKPbc**	**10 06 23.2**	**0.0**
PB01	**IPOC Station P**	**153.23**	**220**	*e*PKPbc	**PKPbc**	**10 06 24.6**	**-0.4**
PB11	**IPOC Station P**	**154.25**	**222**	*e*PKPdf	**PKPdf**	**10 06 18.2**	**-0.9**
SAML	**Samuel**	**154.38**	**251**	*e*PKPdf	**PKPdf**	**10 06 18.6**	**-0.7**
SAML				*e*PKPbc	**PKPbc**	**10 06 27.6**	**0.0**
SAML				*e*PKPab	**PKPab**	**10 06 41.5**	**-0.2**
LPAZ	**La Paz**	**155.41**	**230**	PKP	**PKPdf**	**10 06 21.4**	**0.0**
	comp=Z,1.7nm,0.9s,baz=241,slow=3.7,SNR=5.7						
LPAZ				PKPab	**PKPab**	**10 06 46.4**	**-0.4**
	comp=Z,3.5nm,0.6s,baz=146,slow=3.6,SNR=10						
LPAZ	**La Paz**	**155.41**	**230**	*e*PKPdf	**PKPdf**	**10 06 20.2**	**-1.2**
LPAZ				*e*PKPbc	PKPbc	10 06 21.1	
LPAZ				PKPab	**PKPab**	**10 06 46.4**	**-0.4**

VIE ***16*** *10:00:05.8±0.3,50°.24N×12°.86E, h0km, ML2.4/6, Error ellipse: s-maj=3.7km s-min=2.2km az=38.0, Suspected Mining explosion.*
CSEM ***16*** *10:00:05.3±1.0,50°.24N×12°.66E, h2km, ML2.7/4, Error ellipse: s-maj=17.8km s-min=8.7km az=114.0, Suspected Mining explosion.*

ISC 16 10:00:07.2±2.1,50°.21N±0°.06×12°.8E±0°.1, h0km, n10, σ1s17/18, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**2.33**	**73**	*e*Pg	**Pg**	**10 00 51.6**	**-0.2**
KSP				*e*Sg	**Sg**	**10 01 23.0**	**+1.1**
KSP	**Ksiaz**	**2.33**	**73**	*e*Pg	**Pg**	**10 00 51.6**	**-0.2**
KSP				*e*Sg	**Sg**	**10 01 23.0**	**+1.1**
MOA	**Molln**	**2.55**	**157**	Pg	**Pb**	**10 00 54.5**	**+0.6**
	1.4nm,0.2s						
MOA				Sg	**Sg**	**10 01 30.2**	**+1.1**
	5.5nm,0.4s						
MOA	**Molln**	**2.55**	**157**	*e*Pg	**Pb**	**10 00 54.5**	**+0.6**
	1.4nm,0.2s						
MOA				Sg	**Sg**	**10 01 30.2**	**+1.1**
	5.5nm,0.4s						
CONA	**Conrad Observa**	**3.05**	**137**	Pg	**Pg**	**10 01 04.6**	**-1.0**
	1.5nm,0.3s						
CONA				Sg	**Sg**	**10 01 45.3**	**+0.3**
	6.2nm,0.4s						
CONA	**Conrad Observa**	**3.05**	**137**	Pg	**Pg**	**10 01 04.6**	**-1.0**
	1.5nm,0.3s						
CONA				Sg	**Sg**	**10 01 45.3**	**+0.3**
	6.2nm,0.4s						
KBA	**Koelnbreinsper**	**3.15**	**173**	Pn	**Pn**	**10 00 57.0**	**-1.2**
	0.5nm,0.2s						
KBA				Sg	**Sg**	**10 01 50.6**	**+2.2**
	1.3nm,0.3s						
KBA	**Koelnbreinsper**	**3.15**	**173**	*i* Pn	**Pn**	**10 00 57.0**	**-1.2**
	0.5nm,0.2s						
KBA				Sg	**Sg**	**10 01 50.6**	**+2.2**
	1.3nm,0.3s						
ARSA	**Arzberg**	**3.47**	**147**	Sg	**Sg**	**10 01 59.0**	**+0.5**
	2.8nm,0.5s						
ARSA	**Arzberg**	**3.47**	**147**	Sg	**Sg**	**10 01 59.0**	**+0.5**
	2.8nm,0.5s						

IDC 16 10:01:15.0±21.0, 2°.76N×92°.75E, h0km, mb3.6/2, mb1 3.6/3, mb1mx3.3/75, mbtmp3.5/3, ML2.4/1, Error ellipse: s-maj=440.4km s-min=114.1km az=145.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**16.74**	**21**	Pn	Pn	10 05 11.1	0.0
	0.0nm,0.3s,baz=210,slow=12,SNR=4.1						
MKAR	**Makanchi Array**	**44.79**	**350**	P	P	10 09 30.1	-0.4
	0.3nm,0.6s,baz=169,slow=9.1,SNR=3.8						
ZALV	**Zalesovo Beam**	**51.44**	**354**	P	P	10 10 21.9	+0.1
	0.7nm,0.5s,baz=177,slow=8.3,SNR=3.0						

IDC ***16*** *10:03:37.7±1.1,2°.26S×128°.00E, h0km, mb3.7/4, mb1 3.9/6, mb1mx3.5/64, mbtmp3.8/6, ML4.0/2, Error ellipse: s-maj=41.3km s-min=19.2km az=70.0*
DJA ***16*** *10:03:41.6±1.2,2°.5S±3°×12°.8E±°, h20km±12km, M4.4/12, mB5.1/1, mb4.9/4, MLv4.1/12, Mw(mB)4.4/1*

ISC 16 10:03:42.0±1.6, 2°.24S±0°.05×127°.97E±0°.04, h30km±13km, n17, σ2s14/24, mb3.8/4, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NLAI	**Namlea**	**1.32**	**221**	P	**Pn**	**10 04 05.2**	**+0.7**
NLAI				S	**Sb**	**10 04 22.8**	**0.0**
AAI	**Ambon**	**1.45**	**171**	P	**Pb**	**10 04 08.0**	**-0.5**
AAI				S	**Sb**	**10 04 26.8**	**+0.2**
MSAI	**Masohi**	**1.46**	**139**	P	**Pn**	**10 04 06.8**	**+0.5**
MSAI				S	**Sb**	**10 04 27.4**	**+0.8**
LBMI	**Labuha**	**1.66**	**343**	P	**Pn**	**10 04 09.3**	**+0.1**
SANI	**Sanana**	**1.99**	**275**	P	**Pn**	**10 04 13.7**	**-0.1**
SANI				S	**Sn**	**10 04 35.7**	**-2.0**
BNDI	**Bandanaira**	**2.98**	**140**	P	**Pn**	**10 04 28.1**	**+0.8**
BNDI				S	**Sn**	**10 05 04.5**	**+2.5**
SIJI	**Sorong**	**3.56**	**68**	Pn	**Pn**	**10 04 34.4**	**-1.0**
	14nm,0.3s,baz=254,slow=10,SNR=23						
SIJI				Sn	**Sn**	**10 05 14.8**	**-1.8**
	25nm,0.3s,baz=81,slow=19,SNR=22						
FAKI	**Fak Fak**	**4.32**	**99**	P	**Pn**	**10 04 46.5**	**+0.7**
KMSI	**Cibinong**	**4.87**	**305**	P	**Pn**	**10 04 54.1**	**+0.7**
KMPI	**Kaimana, Papua**	**5.89**	**104**	P	**Pn**	**10 05 07.9**	**+0.5**
APSI	**Ampana**	**6.46**	**282**	P	**Pn**	**10 05 14.9**	**-0.3**
WRA	**Warramunga Arr**	**18.66**	**161

	comp=E,443nm,0.4s									
KZA	**Kyzart**	**3.57**	**36**	P		**Pn**	**10 11 20.6**	**+3.8**		
	SNR=16									
MRKS	**Merke**	**3.59**	**9**	*e*P		**Pn**	**10 11 20.0**	**+3.3**		
	comp=E,48nm,0.4s									
MRKS				*e*S		**Sb**	**10 12 07.2**	**-1.0**		
	comp=E,57nm,0.4s									
EKS2	**Erkin-Say**	**3.60**	**16**	P		**Pn**	**10 11 20.2**	**+3.4**		
	SNR=16									
AAK	**Ala-Archa**	**3.77**	**23**	Pn		**Pn**	**10 11 23.3**	**+4.2**		
	comp=E,5.6nm,0.3s,baz=192,slow=4.4,SNR=48									
AAK				Sn		**Sb**	**10 12 14.0**	**+0.8**		
	comp=E,2.2nm,0.3s,baz=148,slow=22,SNR=6.7									
AAK	**Ala-Archa**	**3.77**	**23**	⇑Pn		**Pn**	**10 11 21.4**	**+2.3**		
	comp=E,18nm,0.7s									
AAK				⇑Sn		**Sn**	**10 12 06.2**	**+2.6**		
	comp=E,46nm,0.7s									
AAK	**Ala-Archa**	**3.77**	**23**	P		**Pn**	**10 11 23.4**	**+4.3**		
	SNR=26									
KK31	**Karatay Array**	**4.17**	**340**	Pn		**Pn**	**10 11 24.9**	**+0.3**		
	comp=E,8.3nm,0.4s,baz=156,slow=11,SNR=142									
KK31				⇑Sn		**Sn**	**10 12 14.4**	**+1.1**		
	comp=E,17nm,0.5s,baz=143,slow=20,SNR=3.4									
KK31				⇓Lg		Lg	10 12 30.8			
	comp=E,8.4nm,0.4s,baz=143,slow=20,SNR=3.4									
CHMS	**Chumysh**	**4.17**	**24**	P		**Pn**	**10 11 28.9**	**+4.2**		
	SNR=18									
BRLS	**Boroldaу**	**4.31**	**333**	*e*P		**Pn**	**10 11 24.2**	**-2.3**		
	comp=E,6.4nm,0.3s									
BRLS				*e*S		**Sn**	**10 12 14.3**	**-2.6**		
	comp=E,24nm,0.5s									
USP	**Ospenovka**	**4.34**	**20**	P		**Pn**	**10 11 30.5**	**+3.5**		
	SNR=8.8									
TKM2	**Tokmak 2**	**4.41**	**32**	⇑Pn		**Pn**	**10 11 30.9**	**+2.8**		
	comp=E,8.7nm,1.1s									
TKM2				⇓Pg		**Pb**	**10 11 41.8**	**+3.2**		
	comp=E,15nm,0.9s									
TKM2				⇓Sn		**Sn**	**10 12 22.2**	**+2.7**		
	comp=E,10nm,0.6s									
TKM2				⇑Lg		Lg	10 12 40.5			
	comp=E,41nm,1.1s									
TKM2	**Tokmak 2**	**4.41**	**32**	P		**Pn**	**10 11 30.9**	**+2.8**		
	SNR=11									
DGS	**Degeres**	**4.75**	**31**	*e*P		**Pb**	**10 11 47.1**	**+2.9**		
	comp=E,10nm,0.7s									
DGS				*e*S		**Sg**	**10 12 53.6**	**+0.3**		
	comp=E,33nm,1.1s									
IZV	**Izvestkoviy**	**4.95**	**38**	*e*P		**Pg**	**10 11 52.2**	**-3.5**		
	comp=E,22nm,0.6s									
IZV				*e*S		**Sg**	**10 13 02.3**	**+2.4**		
	comp=E,33nm,0.8s									
TNSS	**Tian-Shan**	**5.12**	**40**	*e*P		**Pg**	**10 11 55.1**	**-3.8**		
	comp=E,13nm,0.7s									
TNSS				*e*S		**Sg**	**10 13 07.3**	**+2.2**		
	comp=E,26nm,0.7s									
MDOK	**Medeo**	**5.26**	**40**	⇓Pg		**Pb**	**10 11 57.5**	**+4.5**		
	comp=E,24nm,0.9s									
MDOK				⇑Lg		Lg	10 13 07.9			
	comp=E,42nm,1.3s									
CEP	**Cherat**	**5.38**	**185**	P		**Pn**	**10 11 42.1**	**+0.7**		
CEP				S		**Sb**	**10 12 58.0**	**-1.8**		
KTBS	**Karatobe**	**5.51**	**34**	*e*P		**Pb**	**10 12 01.8**	**+4.5**		
KTBS				*e*S		**Sg**	**10 13 18.2**	**+0.4**		
CHCP	**Chirah Chowk**	**5.57**	**173**	P		**Pn**	**10 11 43.4**	**-0.4**		
MK31	**Makanchi Array**	**10.45**	**40**	⇓P		**Pn**	**10 12 53.9**	**+3.1**		
	comp=E,3.1nm,0.3s									
MKAR	**Makanchi Array**	**10.45**	**40**	Pn		**Pn**	**10 12 53.5**	**+2.7**		
	comp=E,0.1nm,0.3s,baz=225,slow=12,SNR=12									
GEYT	**Alibeck**	**11.30**	**268**	Pn		Pn	10 12 49.1	-13		
	comp=E,0.4nm,0.3s,baz=89,slow=13,SNR=4.8									
GEYT				Sn		Sn	10 14 53.2	-16		
	comp=E,0.2nm,0.3s,baz=72,slow=15,SNR=2.2									
KURBB	**Kurchatov Arra**	**12.20**	**19**	Pn		**Pn**	**10 13 13.8**	**-0.8**		
	comp=E,0.0nm,0.3s,baz=210,slow=13,SNR=4.5									
KURBB				Lg		Lg	10 16 49.7			
	comp=E,0.0nm,0.3s,baz=199,slow=29,SNR=5.2									
AB31	**Akbulak array**	**13.46**	**322**	P		Pn	10 13 26.9	-4.9		
	comp=E,1.1nm,0.4s,baz=129,slow=14,SNR=36									
BVAR	**Borovoye Array**	**13.90**	**355**	Pn		**Pn**	**10 13 38.7**	**+0.9**		
	comp=E,0.4nm,0.3s,baz=177,slow=14,SNR=3.9									
AKTO	**Aktyubinsk**	**15.18**	**322**	Pn		**Pn**	**10 13 49.6**	**-5.6**		
	comp=E,0.2nm,0.3s,baz=126,slow=13,SNR=3.9									
AKTO	**Aktyubinsk**	**15.18**	**322**	⇑P		**Pn**	**10 13 55.6**	**+0.4**		
	comp=E,5.9nm,0.8s									
ZALV	**Zalesovo Beam**	**16.98**	**26**	P		**Pn**	**10 14 19.7**	**+1.3**		
	baz=214,slow=9.7,SNR=1.3									
SONM	**Songino Array**	**25.91**	**59**	P		**P**	**10 15 52.9**	**-0.2**		
	comp=E,0.3nm,0.4s,baz=254,slow=10,SNR=3.1									
HFS	**Hagfors**	**41.70**	**320**	P		P	10 18 04.8	-4.7		
	comp=E,2.0nm,0.6s,baz=84,slow=15,SNR=3.9									
ILAR	**Eielson Array**	**71.87**	**17**	P		**P**	**10 21 40.0**	**-3.6**		
	comp=E,0.5nm,0.8s,baz=330,slow=5.0,SNR=6.4									
YKA	**Yellowknife Ar**	**78.49**	**3**	P		**P**	**10 22 18.3**	**-3.5**		
	comp=E,0.3nm,0.6s,baz=352,slow=5.6,SNR=6.4									
ASAR	**Alice Springs**	**84.88**	**126**	P		P	10 22 51.2	-4.8		
	comp=E,0.9nm,1.0s,baz=302,slow=5.3,SNR=4.7									

IDC ***16*** *10:10:45.8±0.6,39.°07N×29.°06E,h0km,mb4.2/25, mb1 4.3/35,mb1mx4.2/72,mbtmp4.2/35,ML4.1/9,MS3.5/3, Ms1 3.5/3,ms1mx3.0/57,Error ellipse: s-maj=11.9km s-min=9.7km az=26.0*

NEIC ***16*** *10:10:46.3±0.0,39.°14N×29.°14E,h5km,mb4.3/18, ML4.7(DDA),ML4.8(ISK),After ISK.*

ISCJB ***16*** *10:10:46.8±0.3,39.°10N±0.°01×29.°12E±0.°01,h11km±2km, mb4.4/49,MS4.1/2,Error ellipse: s-maj=2.1km s-min=1.8km az=25.8*

ISK ***16*** *10:10:46.6,39.°14N×29.°13E,h5km,ML4.8/42*

MOS ***16*** *10:10:46.3±1.1,39.°12N×29.°15E,h8km,mb4.7/18,Error ellipse: s-maj=4.9km s-min=3.5km az=94.2*

DDA ***16*** *10:10:47.0,39.°12N×29.°12E,h7km,Ml4.7*

CSEM ***16*** *10:10:47.4±0.1,39.°11N×29.°14E,h5km,mb4.4/22,Error ellipse: s-maj=2.2km s-min=1.9km az=23.0*

HLW ***16*** *10:10:49.1,38.°86N×28.°92E,h10km±18km,Ml3.8*

GII ***16*** *10:10:52.3±0.0,38.°73N×29.°26E,h1km*

ISC 16 10:10:47.8±0.6, 39.°14N±0.°02×29.°12E±0.°01, h7km±4km, n664,σ1§44/717, mb4.5/49, 52C-51D, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIMA	**Simav-Kutahya**	**0.12**	**244**	PG	**Pg**	**10 10 49.7**	**-0.7**
SIMA				SG	**Sg**	**10 10 52.1**	**-0.1**
SIMA	**Simav-Kutahya**	**0.12**	**244**	*i* Pg	**Pg**	**10 10 49.7**	**-0.7**
SIMA				*i* Sg	**Sg**	**10 10 52.1**	**-0.1**
GDZ	**Gediz**	**0.29**	**99**	⇓*i*P	**Pg**	**10 10 52.4**	**-1.2**
GDZ				*i* S	**Sg**	**10 10 56.8**	**-0.5**
GDZ	**Gediz**	**0.29**	**99**	*i* P	**Pg**	**10 10 52.3**	**-1.2**
GDZ				*i* S	**Sg**	**10 10 56.8**	**-0.5**
GDZ	**Gediz**	**0.29**	**99**	*i* P	**Pg**	**10 10 52.3**	**-1.2**
GDZ				S	**Sg**	**10 10 56.8**	**-0.5**
DEMI	**Demirci**	**0.33**	**254**	⇑*i*P	**Pg**	**10 10 53.7**	**-0.4**
DEMI				*i* S	**Sg**	**10 10 58.2**	**-0.3**
DEMI	**Demirci**	**0.33**	**254**	P	**Pg**	**10 10 53.7**	**-0.4**
DEMI				S	**Sg**	**10 10 58.2**	**-0.3**
TVSB	**Tavsanli**	**0.41**	**40**	PG	**Pg**	**10 10 54.6**	**-1.2**
TVSB				SG	**Sg**	**10 11 00.1**	**-1.2**
TVSB	**Tavsanli**	**0.41**	**40**	Pg	**Pg**	**10 10 54.7**	**-1.1**
TVSB	**Tavsanli**	**0.41**	**40**	Pg	**Pg**	**10 10 54.7**	**-1.1**
TVSB				*i* Sg	**Sg**	**10 11 00.1**	**-1.2**
DURS	**Dursunbey**	**0.68**	**313**	⇑*i*P	**Pg**	**10 11 00.5**	**-0.4**
DURS				*i* S	**Sb**	**10 11 12.2**	**+0.5**
DURS	**Dursunbey**	**0.68**	**313**	P	**Pg**	**10 11 00.5**	**-0.4**
DURS				S	**Sb**	**10 11 12.2**	**+0.5**
KULA	**Kula-Manisa**	**0.71**	**210**	PG	**Pg**	**10 11 00.4**	**-1.1**
KULA	**Kula-Manisa**	**0.71**	**210**	Pg	**Pg**	**10 11 00.6**	**-0.9**
KULA	**Kula-Manisa**	**0.71**	**210**	Pg	**Pg**	**10 11 00.6**	**-0.9**
MANT	**Manisa**	**0.78**	**214**	⇑*i*P	**Pg**	**10 11 01.7**	**-1.0**
MANT				*i* S	**Sg**	**10 11 11.5**	**-1.4**
MANT	**Manisa**	**0.78**	**214**	*e*Pg	**Pg**	**10 11 01.7**	**-1.0**
MANT				*e*Sg	**Sg**	**10 11 11.5**	**-1.4**
MANT	**Manisa**	**0.78**	**214**	P	**Pg**	**10 11 01.7**	**-1.0**
MANT				S	**Sg**	**10 11 11.5**	**-1.4**
KHL	**Karahalli**	**0.87**	**158**	PG	**Pg**	**10 11 03.8**	**-0.7**
KHL	**Karahalli**	**0.87**	**158**	Pg	**Pg**	**10 11 04.1**	**-0.4**
KHL	**Karahalli**	**0.87**	**158**	*e*Pg	**Pg**	**10 11 03.8**	**-0.7**
ORLT	**Orhaneli**	**0.93**	**349**	PG	**Pg**	**10 11 05.0**	**-0.6**
ORLT	**Orhaneli**	**0.93**	**349**	Pg	**Pg**	**10 11 05.4**	**-0.2**
ORLT	**Orhaneli**	**0.93**	**349**	*e*Pg	**Pg**	**10 11 05.0**	**-0.6**
AKS	**Akhisar**	**1.05**	**256**	PG	**Pg**	**10 11 07.3**	**-0.6**
AKS	**Akhisar**	**1.05**	**256**	Pg	**Pg**	**10 11 07.8**	**0.0**
AKS	**Akhisar**	**1.05**	**256**	*e*Pg	**Pg**	**10 11 07.3**	**-0.6**
AUBOZ	**BOZOYUK**	**1.05**	**42**	⇑*i*P	**Pg**	**10 11 07.0**	**-0.8**
AUBOZ				*i* S	**Sb**	**10 11 22.2**	**0.0**
AUBOZ	**BOZOYUK**	**1.05**	**42**	P	**Pg**	**10 11 07.1**	**-0.8**
AUBOZ				S	**Sb**	**10 11 22.2**	**0.0**
AUKUT	**KUTAHYA**	**1.08**	**40**	⇑*i*P	Pg	10 11 01.7	-6.8
AUKUT				*i* S	Sg	10 11 12.3	-10
BALB	**Balikesir**	**1.08**	**298**	PN	**Pg**	**10 11 08.4**	**-0.1**
BALB	**Balikesir**	**1.08**	**298**	*e*Pn	**Pg**	**10 11 08.4**	**-0.1**
STEP	**BALIKESIR_Sava**	**1.11**	**283**	⇓*i*P	**Pg**	**10 11 08.7**	**-0.4**
STEP				*i* S	**Sb**	**10 11 24.4**	**+0.4**
STEP	**BALIKESIR_Sava**	**1.11**	**283**	P	**Pg**	**10 11 08.7**	**-0.4**
STEP				S	**Sb**	**10 11 24.4**	**+0.4**
KZIL	**AFYON_Kizioren**	**1.19**	**137**	⇑*i*P	**Pg**	**10 11 09.8**	**-0.7**
KZIL				*i* S	**Sn**	**10 11 26.8**	**-0.5**
KZIL	**AFYON_Kizioren**	**1.19**	**137**	P	**Pg**	**10 11 09.8**	**-0.7**
KZIL				S	**Sn**	**10 11 26.8**	**-0.5**
CAVI	**Cavuskoy**	**1.20**	**28**	PN	**Pg**	**10 11 09.8**	**-1.1**
CAVI	**Cavuskoy**	**1.20**	**28**	*e*Pn	**Pg**	**10 11 09.8**	**-1.1**
MDNY	**Mudanya-Bursa**	**1.25**	**352**	PN	**Pn**	**10 11 10.9**	**-0.6**
MDNY	**Mudanya-Bursa**	**1.25**	**352**	*e*Pn	**Pn**	**10 11 10.9**	**-0.6**
SHUT	**Suhut-Afyon**	**1.26**	**117**	PN	**Pn**	**10 11 11.6**	**-0.3**
SHUT	**Suhut-Afyon**	**1.26**	**117**	*e*Pn	**Pn**	**10 11 11.6**	**-0.3**
KCTX	**Karacabey (Bur**	**1.27**	**333**	PN	**Pn**	**10 11 11.5**	**-0.4**
KCTX	**Karacabey (Bur**	**1.27**	**333**	*e*Pn	**Pn**	**10 11 11.5**	**-0.4**
BORA	**Eskisehir**	**1.27**	**54**	⇑*i*P	**Pn**	**10 11 11.1**	**-0.9**
BORA				*i* S	**Sg**	**10 11 29.0**	**+0.3**
BORA	**Eskisehir**	**1.27**	**54**	P	**Pn**	**10 11 11.1**	**-0.9**
BORA				S	**Sg**	**10 11 29.0**	**+0.3**
GEMT	**Gemlik**	**1.30**	**2**	PN	**Pn**	**10 11 11.9**	**-0.4**
GEMT	**Gemlik**	**1.30**	**2**	*e*Pn	**Pn**	**10 11 11.9**	**-0.4**
BALY	**Balya**	**1.31**	**298**	*i* P	**Pn**	**10 11 11.1**	**-1.4**
BALY				*i* S	**Sb**	**10 11 28.8**	**-0.8**
BALY	**Balya**	**1.31**	**298**	P	**Pn**	**10 11 11.1**	**-1.4**
BALY				S	**Sb**	**10 11 28.8**	**-0.8**
DENT	**Denizli**	**1.38**	**183**	PN	**Pn**	**10 11 12.4**	**-1.0**
DENT	**Denizli**	**1.38**	**183**	*e*Pn	**Pn**	**10 11 12.4**	**-1.0**
ADVT	**Abdulvahap**	**1.38**	**20**	PN	**Pn**	**10 11 13.3**	**-0.1**
ADVT	**Abdulvahap**	**1.38**	**20**	*e*Pn	**Pn**	**10 11 13.3**	**-0.1**
ESKT	**Eskisehir**	**1.40**	**74**	PN	**Pn**	**10 11 13.1**	**-0.7**
ESKT	**Eskisehir**	**1.40**	**74**	*e*Pn	**Pn**	**10 11 13.1**	**-0.7**
GONE	**Gonen-Balikesi**	**1.43**	**310**	PN	**Pn**	**10 11 13.8**	**-0.3**
GONE	**Gonen-Balikesi**	**1.43**	**310**	*e*Pn	**Pn**	**10 11 13.8**	**-0.3**
ARMT	**Armutlu**	**1.44**	**352**	PN	**Pn**	**10 11 13.6**	**-0.7**
ARMT	**Armutlu**	**1.44**	**352**	*e*Pn	**Pn**	**10 11 13.6**	**-0.7**
YLV	**Yalova**	**1.44**	**8**	PN	**Pn**	**10 11 14.0**	**-0.3**
YLV	**Yalova**	**1.44**	**8**	*e*Pn	**Pn**	**10 11 14.0**	**-0.3**
GPA	**Golpazari**	**1.48**	**38**	PN	**Pn**	**10 11 14.3**	**-0.4**
GPA	**Golpazari**	**1.48**	**38**	*e*Pn	**Pn**	**10 11 14.3**	**-0.4**
BOLV	**Bolvadin**	**1.49**	**106**	*i* P	**Pn**	**10 11 14.9**	**-0.1**
BOLV				*i* S	**Sn**	**10 11 34.4**	**-0.4**
BOLV	**Bolvadin**	**1.49**	**106**	P	**Pn**	**10 11 14.9**	**-0.1**
BOLV				S	**Sn**	**10 11 34.4**	**-0.4**
EDC	**Edincik**	**1.55**	**322**	PN	**Pn**	**10 11 15.4**	**-0.3**
EDC	**Edincik**	**1.55**	**322**	*e*Pn	**Pn**	**10 11 15.4**	**-0.3**
EDC	**Edincik**	**1.55**	**322**	P	**Pn**	**10 11 15.7**	**0.0**
EDC	**Edincik**	**1.55**	**322**	P	**Pn**	**10 11 15.7**	**0.0**
BRDR	**BURDUR-Merkez**	**1.62**	**152**	⇑*i*P	**Pn**	**10 11 16.4**	**-0.3**
BRDR				*i* S	**Sg**	**10 11 39.9**	**+0.2**
BRDR	**BURDUR-Merkez**	**1.62**	**152**	P	**Pn**	**10 11 16.4**	**-0.3**
GEYV	**SAKARYA_Geyve**	**1.62**	**34**	⇑*i*P	**Pn**	**10 11 16.4**	**-0.4**
GEYV				*i* S	**Sg**	**10 11 40.8**	**+0.8**
GEYV	**SAKARYA_Geyve**	**1.62**	**34**	P	**Pn**	**10 11 16.4**	**-0.4**
TAVA	**DENIZLI_Tavas**	**1.67**	**186**	⇑*i*P	**Pn**	**10 11 16.6**	**-0.9**
TAVA				*i* S	**Sg**	**10 11 41.2**	**-0.4**
TAVA	**DENIZLI_Tavas**	**1.67**	**186**	P	**Pn**	**10 11 16.6**	**-0.9**
TAVA				S	**Sg**	**10 11 41.2**	**-0.4**
GULT	**Gulveren**	**1.69**	**39**	PN	**Pn**	**10 11 17.7**	**0.0**
GULT	**Gulveren**	**1.69**	**39**	*e*Pn	**Pn**	**10 11 17.7**	**0.0**
ISP	**Isparta**	**1.71**	**139**	PN	**Pn**	**10 11 17.8**	**-0.4**
ISP	**Isparta**	**1.71**	**139**	⇓*i*P	**Pb**	**10 11 19.8**	**+0.2**
ISP				S	**Sg**	**10 11 45.6**	**+2.8**
ISP	**Isparta**	**1.71**	**139**	*e*Pn	**Pn**	**10 11 17.1**	**-1.0**
ISP				*e*Sn	**Sn**	**10 11 38.1**	**-2.2**
ISP	**Isparta**	**1.71**	**139**	P	**Pb**	**10 11 19.4**	**-0.2**
ISP	**Isparta**	**1.71**	**139**	*i* P	**Pn**	**10 11 16.8**	**-1.3**
ISP	**Isparta**	**1.71**	**139**	*e*Pn	**Pn**	**10 11 17.7**	**-0.4**
ISP				*e*Sn	**Sn**	**10 11 38.1**	**-2.2**
ISP	**Isparta**	**1.71**	**139**	Pn	**Pn**	**10 11 17.2**	**-0.9**
ISP	**Isparta**	**1.71**	**139**	*d* iP	**Pn**	**10 11 16.8**	**-1.3**
BUY	**Buyukada**	**1.71**	**0**	PN	**Pn**	**10 11 17.4**	**-0.6**
BUY	**Buyukada**	**1.71**	**0**	*i* P	**Pn**	**10 11 17.1**	**-1.0**
BUY				*i* S	**Sb**	**10 11 42.1**	**+0.8**
BUY	**Buyukada**	**1.71**	**0**	P	**Pn**	**10 11 17.0**	**-1.0**
BUY	**Buyukada**	**1.71**	**0**	*e*Pn	**Pn**	**10 11 17.4**	**-0.6**
BUY				S	**Sb**	**10 11 42.1**	**+0.8**
DKL	**Dikili**	**1.72**	**269**	PN	**Pn**	**10 11 18.1**	**0.0**
DKL	**Dikili**	**1.72**	**269**	*e*Pn	**Pn**	**10 11 18.1**	**0.0**
HRT	**Hereke**	**1.74**	**14**	PN	**Pn**	**10 11 17.8**	**-0.6**
HRT	**Hereke**	**1.74**	**14**	*e*Pn	**Pn**	**10 11 17.8**	**-0.6**
HRT	**Hereke**	**1.74**	**14**	P	**Pn**	**10 11 17.6**	**-0.8**
BAGO	**Egridir - ISPA**	**1.74**	**131**	*i* P	**Pn**	**10 11 18.4**	**0.0**
BAGO				*i* S	**Sg**	**10 11 44.7**	**+1.0**
SPNC	**Sapanca-Adapaz**	**1.80**	**30**	PN	**Pn**	**10 11 19.5**	**+0.3**
SPNC	**Sapanca-Adapaz**	**1.80**	**30**	*e*Pn	**Pn**	**10 11 19.5**	**+0.3**
SAUV	**Serdivan-Sakar**	**1.85**	**30**	PN	**Pn**	**10 11 19.7**	**-0.2**
SAUV	**Serdivan-Sakar**	**1.85**	**30**	*e*Pn	**Pn**	**10 11 19.7**	**-0.2**
KRBG	**Karabiga-Canak**	**1.88**	**312**	PN	**Pn**	**10 11 20.4**	**+0.1**
KRBG	**Karabiga-Canak**	**1.88**	**312**	*e*Pn	**Pn**	**10 11 20.4**	**+0.1**
SVRH	**Sivrihisar-ESK**	**1.89**	**80**	PN	**Pn**	**10 11 20.6**	**+0.1**
SVRH	**Sivrihisar-ESK**	**1.89**	**80**	*e*Pn	**Pn**	**10 11 20.6**	**+0.1**
AUSIV	**SIVRIHISAR**	**1.91**	**80**	*i* P	**Pn**	**10 11 21.3**	**+0.6**
AUSIV				*i* S	**Sb**	**10 11 47.8**	**+0.9**
AUSIV	**SIVRIHISAR**	**1.91**	**80**	P	**Pn**	**10 11 21.3**	**+0.6**
AUSIV				S	**Sb**	**10 11 47.8**	**+0.9**
GOLH	**Golhisar**	**1.93**	**169**	⇑*i*P	**Pn**	**10 11 20.0**	**-1.0**
GOLH				*i* S	**Sb**	**10 11 48.4**	**+0.9**
GOLH	**Golhisar**	**1.93**	**169**	P	**Pn**	**10 11 20.0**	**-1.0**
GOLH				S	**Sb**	**10 11 48.4**	**+0.9**
ISK	**Istanbul-Kandi**	**1.93**	**359**	PN	**Pn**	**10 11 21.2**	**+0.3**
ISK	**Istanbul-Kandi**	**1.93**	**359**	*e*Pn	**Pn**	**10 11 21.2**	**+0.3**
ISK	**Istanbul-Kandi**	**1.93**	**359**	P	**Pn**	**10 11 21.8**	**+0.9**
ISK	**Istanbul-Kandi**	**1.93**	**359**	P	**Pn**	**10 11 21.8**	**+0.9**
SBT3	**Marmara-Eregli**	**1.96**	**334**	PN	**Pn**	**10 11 21.9**	**+0.8**
SBT3	**Marmara-Eregli**	**1.96**	**334**	*e*Pn	**Pn**	**10 11 21.9**	**+0.8**
AUMIH	**MIHALICIK**	**1.97**	**67**	*i* P	**Pb**	**10 11 24.3**	**+0.2**
AUMIH				*i* S	**Sb**	**10 11 48.5**	**-0.3**
AUMIH	**MIHALICIK**	**1.97**	**67**	P	**Pb**	**10 11 24.3**	**+0.2**
AUMIH				S	**Sb**	**10 11 48.5**	**-0.3**
BTAS	**Taskesti**	**2.04**	**45**	*e*P	**Pn**	**10 11 22.2**	**-0.3**
BTAS				*i* S	**Sb**	**10 11 49.9**	**-0.8**
BTAS	**Taskesti**	**2.04**	**45**	P	**Pn**	**10 11 22.2**	**-0.3**
BTAS				S	**Sb**	**10 11 49.9**	**-0.8**
SILT	**Sile**	**2.06**	**11**	PN	**Pn**	**10 11 22.6**	**-0.1**
SILT	**Sile**	**2.06**	**11**	*e*Pn	**Pn**	**10 11 22.6**	**-0.1**
BGKT	**Bogazkoy**	**2.06**	**353**	PN	**Pn**	**10 11 22.8**	**+0.1**
BGKT	**Bogazkoy**	**2.06**	**353**	*e*Pn	**Pn**	**10 11 22.8**	**+0.1**
MDUB	**Mudurnu**	**2.09**	**50**	PN	**Pn**	**10 11 23.3**	**+0.1**
MDUB	**Mudurnu**	**2.09**	**50**	*e*Pn	**Pn**	**10 11 23.3**	**+0.1**
YER	**Yerkesik**	**2.10**	**198**	P	**Pb**	**10 11 24.9**	**-1.3**
YER	**Yerkesik**	**2.10**	**198**	P	**Pb**	**10 11 24.9**	**-1.3**
KLYT	**Kilyos**	**2.12**	**358**	PN	**Pn**	**10 11 22.9**	**-0.6**
KLYT	**Kilyos**	**2.12**	**358**	*e*Pn	**Pn**	**10 11 22.9**	**-0.6**
CTKS	**Kestanelik-??a**	**2.15**	**348**	PN	**Pn**	**10 11 23.9**	**-0.1**
CTKS	**Kestanelik-??a**	**2.15**	**348**	*e*Pn	**Pn**	**10 11 23.9**	**-0.1**
RKY	**Sarkoy-Tekirda**	**2.15**	**317**	PN	**Pn**	**10 11 24.4**	**+0.3**
RKY	**Sarkoy-Tekirda**	**2.15**	**317**	*e*Pn	**Pn**	**10 11 24.4**	**+0.3**
LPK	**Lapseki**	**2.20**	**305**	PN	**Pn**	**10 11 23.9**	**-0.7**
LPK	**Lapseki**	**2.20**	**305**	*e*Pn	**Pn**	**10 11 23.9**	**-0.7**
SLVT	**Silivri**	**2.21**	**342**	PN	**Pn**	**10 11 25.4**	**+0.7**
SLVT	**Silivri**	**2.21**	**342**	*e*Pn	**Pn**	**10 11 25.4**	**+0.7**
PRK	**Paraskevi**	**2.21**	**274**	*e*Pn	**Pn**	**10 11 24.6**	**-0.2**
PRK	**Paraskevi**	**2.21**	**274**	P	**Pn**	**10 11 24.6**	**-0.2**
PRK	**Paraskevi**	**2.21**	**274**	*e*P	**Pn**	**10 11 24.6**	**-0.2**
PRK	**Paraskevi**	**2.21**	**274**	*e*P	**Pn**	**10 11 24.6**	**-0.2**
TKR	**Tekirdag**	**2.21**	**327**	PN	**Pn**	**10 11 25.4**	**+0.5**
TKR	**Tekirdag**	**2.21**	**327**	*e*Pn	**Pn**	**10 11 25.4**	**+0.5**
CRLT	**Corlu**	**2.25**	**332**	PN	**Pn**	**10 11 25.7**	**+0.3**
CRLT	**Corlu**	**2.25**	**332**	*e*Pn	**Pn**	**10 11 25.7**	**+0.3**
SMG	**Samos**	**2.29**	**232**	P	**Pb**	**10 11 29.3**	**0.0**
SMG	**Samos**	**2.29**	**232**	P	**Pb**	**10 11 29.3**	**0.0**
GELI	**Tayfur-Gelibol**	**2.40**	**303**	PN	**Pn**	**10 11 27.8**	**+0.5**
GELI	**Tayfur-Gelibol**	**2.40**	**303**	*e*Pn	**Pn**	**10 11 27.8**	**+0.5**
CTYL	**Yalikoy Yolu**	**2.42**	**345**	PN	**Pn**	**10 11 28.4**	**+0.7**
CTYL	**Yalikoy Yolu**	**2.42**	**345**	*e*Pn	**Pn**	**10 11 28.4**	**+0.7**
KIYI	**Yal¯-koy-Catal**	**2.43**	**345**	PN	**Pn**	**10 11 28.1**	**+0.3**
KIYI	**Yal¯-koy-Catal**	**2.43**	**345**	*e*Pn	**Pn**	**10 11 28.1**	**+0.3**
FETY	**Fethiye**	**2.50**	**181**	*e*Pn	**Pn**	**10 11 28.0**	**-0.8**
FETY	**Fethiye**	**2.50**	**181**	P	**Pn**	**10 11 28.0**	**-0.8**
FETY	**Fethiye**	**2.50**	**181**	P	**Pn**	**10 11 28.0**	**-0.8**
CHOS	**Chios island**	**2.51**	**254**	*e*Pn	**Pn**	**10 11 30.3**	**+1.3**
CHOS	**Chios island**	**2.51**	**254**	P	**Pn**	**10 11 30.3**	**+1.3**
CHOS	**Chios island**	**2.51**	**254**	*e*Pn	**Pn**	**10 11 30.3**	**+1.3**
BODT	**Bodrum**	**2.51**	**215**	*e*Pn	**Pn**	**10 11 27.5**	**-1.5**
BODT	**Bodrum**	**2.51**	**215**	P	**Pn**	**10 11 27.5**	**-1.5**
BODT	**Bodrum**	**2.51**	**215**	*e*Pn	**Pn**	**10 11 27.5**	**-1.5**
ERIK	**Erikli-Kesan**	**2.52**	**308**	PN	**Pn**	**10 11 30.0**	**+0.9**
ERIK	**Erikli-Kesan**	**2.52**	**308**	*e*Pn	**Pn**	**10 11 30.0**	**+0.9**
SIGR	**SIGRI**	**2.54**	**273**	*e*Pn	**Pb**	**10 11 32.1**	**-1.4**
SIGR	**SIGRI**	**2.54**	**273**	P	**Pb**	**10 11 32.1**	**-1.4**
SIGR	**SIGRI**	**2.54**	**273**	P	**Pb**	**10 11 32.1**	**-1.4**
GADA	**Gvkgeada**	**2.70**	**294**	P	**Pn**	**10 11 33.0**	**+1.5**
GADA	**Gvkgeada**	**2.70**	**294**	P	**Pn**	**10 11 33.0**	**

GRER		6.44	346	⇓iP	Pn	10 12 25.2	+2.3
GRER		6.44	346	⇓iP	Pn	10 12 25.2	+2.3
YAL	Yalta	6.54	34	eP	Pn	10 12 24.3	+0.1
YAL	Yalta	6.54	34	eP	Pn	10 12 24.3	+0.1
YAL				eS	Sn	10 13 36.0	-3.0
BARS	Barje	6.64	306	ePn	Pn	10 12 26.2	+0.6
PETR	Petresti	6.73	349	⇓iP	Pn	10 12 28.3	+1.4
PETR	Petresti	6.73	349	S	Pg	10 12 59.9	+3.3
PETR	Petresti	6.73	349	⇓iP	Pn	10 12 28.3	+1.4
MLR	Muntele Rosu	6.77	341	Pn	Pn	10 12 28.6	+1.0
	0.5nm,0.3s,baz=189,slow=0.9,SNR=28						
MLR	Muntele Rosu	6.77	341	⇑iP	Pn	10 12 28.8	+1.2
MLR	Muntele Rosu	6.77	341	ePn	Pn	10 12 28.4	+0.8
MLR	Muntele Rosu	6.77	341	ePn	Pn	10 12 28.4	+0.8
MLR	Muntele Rosu	6.77	341	⇑iP	Pn	10 12 28.8	+1.2
MTUR	Matau	6.79	335	⇑iP	Pn	10 12 28.7	+0.9
MTUR	Matau	6.79	335	⇑iP	Pn	10 12 28.7	+0.9
ALU	Alushta	6.80	34	eP	Pn	10 12 25.8	-2.0
ALU	Alushta	6.80	34	eP	Pn	10 12 25.8	-2.0
ALU				eS	Sn	10 13 40.0	-5.5
NISS		6.88	311	ePn	Pn	10 12 30.4	+1.4
SIM	Simferopol'	6.90	31	eP	Pn	10 12 29.8	+0.6
	65nm,0.7s						
SIM	Simferopol'	6.90	31	eP	Pn	10 12 29.8	+0.6
SIM				eS	Sn	10 13 44.9	-3.0
SIM				pmax	pmax		
	comp=Z,65nm,0.7s						
SIM				smax	smax		
	comp=N,74nm,1.0s						
SIM				smax	smax		
	comp=E,275nm,0.9s						
VRI	Vrincioaia	6.95	346	⇑iP	Pn	10 12 30.8	+0.8
VRI	Vrincioaia	6.95	346	⇑iP	Pn	10 12 30.8	+0.8
PLOR	Plostina	6.96	346	⇓iP	Pn	10 12 31.1	+1.1
PLOR	Plostina	6.96	346	⇓iP	Pn	10 12 31.1	+1.1
ZAGS	Zajecar	6.97	314	⇑iPn	Pn	10 12 29.7	-0.4
VOIR		6.98	336	⇑iP	Pn	10 12 30.9	+0.5
VOIR		6.98	336	⇑iP	Pn	10 12 30.9	+0.5
ARR	Arges	7.06	333	⇑iP	Pn	10 12 32.1	+0.6
ARR	Arges	7.06	333	⇑iP	Pn	10 12 32.1	+0.6
BOVS	Bovan	7.16	311	⇑iPn	Pn	10 12 33.5	+0.7
SUDU	Sudak	7.23	35	eP	Pn	10 12 33.9	+0.2
SUDU				eS	Sn	10 13 54.8	-1.2
SUDU	Sudak	7.23	35	eP	Pn	10 12 33.9	+0.2
SUDU				eS	Sn	10 13 54.8	-1.2
DOPR	Dopca	7.36	339	⇓iP	Pn	10 12 36.3	+0.7
DOPR	Dopca	7.36	339	⇓iP	Pn	10 12 36.3	+0.7
TIR	Tirane	7.41	290	ePn	Pn	10 12 37.0	+0.7
TIR	Tirane	7.41	290	eP	Pn	10 12 37.0	+0.7
TIR	Tirane	7.41	290	eP	Pn	10 12 37.0	+0.7
TESR	Tescani	7.59	347	⇑iP	Pn	10 12 38.3	-0.4
TESR	Tescani	7.59	347	⇑iP	Pn	10 12 38.3	-0.4
HERR	Herculane	7.60	321	⇓iP	Pn	10 12 38.1	-0.8
KUBS	Kucevo	7.66	316	⇑ePn	Pn	10 12 37.7	-2.0
HNTI	Hanita	7.78	139	Pn	Pn	10 12 42.0	+0.7
MILM	Milestii Mici	7.78	358	⇓iP	Pn	10 12 41.5	+0.2
MILM	Milestii Mici	7.78	358	⇓iP	Pn	10 12 41.5	+0.2
MDB	Medias	7.82	335	⇑iP	Pn	10 12 43.7	+1.8
MDB	Medias	7.82	335	⇑iP	Pn	10 12 43.7	+1.8
KIS	Kishinev	7.86	359	eP	Pn	10 12 40.0	-2.4
KIS				iS	Sn	10 14 10.0	-1.6
KIS				LRM	MLR	10 16 38.0	
	comp=E,500nm,8.0s						
KIS	Kishinev	7.86	359	eP	Pn	10 12 40.0	-2.4
KIS				iS	Sn	10 14 10.0	-1.6
	comp=E,500nm,8.0s						
KIS	Kishinev	7.86	359	eP	Pn	10 12 40.0	-2.4
KIS				iS	Sn	10 14 10.0	-1.6
KIS				MLR	MLR		
	comp=N,500nm,8.0s						
KIS				MLR	MLR		
	comp=Z,400nm,8.0s						
KIS				MLR	MLR		
	comp=Z,500nm,8.0s						
GRUS	Gruza	7.89	310	ePn	Pn	10 12 42.7	-0.1
MMA0B	Mount Meron ar	7.95	138	Pn	Pn	10 12 44.5	+0.8
MMAI	Mount Meron Ar	7.95	138	Pn	Pn	10 12 43.5	-0.3
	comp=Z,9.8nm,0.3s,baz=322,slow=12,SNR=21						
MMAI				Sn	Sn	10 14 10.0	-3.9
	comp=Z,3.3nm,0.3s,baz=308,slow=23,SNR=3.0						
IVAS	Ivanjica	8.07	306	⇑iPn	Pn	10 12 45.6	+0.3
DEV	Deva	8.15	328	⇓iP	Pn	10 12 47.6	+1.2
DEV	Deva	8.15	328	⇓iP	Pn	10 12 47.6	+1.2
PDG	Podgorica	8.17	297	⇓iP	Pn	10 12 46.8	+0.1
PDG	Podgorica	8.17	297	⇓iP	Pn	10 12 46.8	+0.1
KSHT	Keshet	8.19	137	Pn	Pn	10 12 48.0	+1.0
TRUS	Trudelj	8.26	311	ePn	Pn	10 12 47.8	-0.2
ANN	Anapa	8.39	45	eP	Pn	10 12 47.6	-2.0
	comp=Z,10.0nm,0.6s						
ANN				eS	Sn	10 14 23.7	-0.8
ANN	Anapa	8.39	45	eP	Pn	10 12 47.6	-2.0
ANN				eS	Sn	10 14 23.7	-0.8
ANN				pmax	pmax		
	comp=Z,10.0nm,0.6s						
MMLI	Mount Malkishu	8.42	141	Pn	Pn	10 12 50.1	0.0
DIVS	Divibare	8.44	309	ePn	Pn	10 12 50.5	0.0
DIVS	Divibare	8.44	309	ePn	Pn	10 12 50.5	0.0
BZS	Buzias	8.53	322	⇓iP	Pn	10 12 51.5	0.0
BZS	Buzias	8.53	322	⇓iP	Pn	10 12 51.5	0.0
CJR	Cluj-Napoca	8.59	334	⇓iP	Pn	10 12 53.1	+0.7
CJR	Cluj-Napoca	8.59	334	⇓iP	Pn	10 12 53.1	+0.7
HMDT	Nahal Hemdat	8.62	141	Pn	Pn	10 12 52.7	-0.2
ARCR	ARCALIA	8.67	338	⇓iP	Pn	10 12 54.9	+1.3
ARCR	ARCALIA	8.67	338	⇓iP	Pn	10 12 54.9	+1.3
BURAR	Bucovina Array	8.94	343	⇓iP	Pn	10 12 57.9	+0.6
BURAR	Bucovina Array	8.94	343	⇓iP	Pn	10 12 57.9	+0.6
BUR04	Bucovina Ar. S	8.94	343	ePn	Pn	10 12 57.2	-0.1
BUR04	Bucovina Ar. S	8.94	343	ePn	Pn	10 12 57.2	-0.1
TEKS	Tekeris	8.97	310	ePn	Pn	10 13 00.5	+2.9
BUR08	Bucovina Ar. S	8.97	343	ePn	Pn	10 12 57.8	+0.1
BUR08	Bucovina Ar. S	8.97	343	ePn	Pn	10 12 57.8	+0.1
DRGR		8.97	331	⇓iP	Pn	10 12 57.4	-0.4
DRGR		8.97	331	⇓iP	Pn	10 12 57.4	-0.4
RSH		8.99	154	P	Pn	10 12 56.6	-1.3
	baz=152						
RSH		8.99	154	P	Pn	10 12 56.6	-1.3
SIRR	Siria	8.99	325	⇓iP	Pn	10 12 56.6	-1.4
SIRR	Siria	8.99	325	⇓iP	Pn	10 12 56.6	-1.4
SORM	Soroca	9.01	357	⇑iP	Pn	10 12 57.2	-1.0
SORM	Soroca	9.01	357	⇑iP	Pn	10 12 57.2	-1.0
HAPS	Han Pijesak,BI	9.08	306	ePn	Pn	10 12 59.0	-0.2
DSI	Dead Sea	9.12	144	Pn	Pn	10 12 59.0	-0.7
DSI				Sn	Sn	10 14 40.0	-2.5
SOC	Sochi	9.12	57	eP	Pn	10 13 02.3	+2.6
	comp=Z,7.0nm,0.4s						
SOC				eS	Sn	10 14 45.0	+2.4
	comp=Z,477nm,10.0s						
SOC	Sochi	9.12	57	eP	Pn	10 13 02.3	+2.6
SOC				e		10 14 45.0	
SOC				pmax	pmax		
	comp=Z,7.0nm,0.4s						
SOC				MLR	MLR		
	comp=Z,477nm,10.0s						
ASF	Jabal al Asfar	9.40	135	Pn	Pn	10 13 07.3	+3.7
	comp=Z,0.2nm,0.3s,baz=280,slow=19,SNR=2.4						
ASF				Sn	Sn	10 14 49.5	-0.1
	baz=0.0,slow=19,SNR=1.5						
KOT	Kottamia	9.45	166	P	Pn	10 13 03.5	-0.9
	baz=164						
KOT	Kottamia	9.45	166	P	Pn	10 13 03.5	-0.9
BMR	Baia Mare	9.46	336	⇓iP	Pn	10 13 05.9	+1.6
BMR	Baia Mare	9.46	336	P	Pn	10 13 05.9	+1.6
BMR	Baia Mare	9.46	336	P	Pn	10 13 05.9	+1.6
HSAF	As Saff	9.70	167	P	Pn	10 13 06.0	-1.7
	baz=165						
HSAF	As Saff	9.70	167	P	Pn	10 13 06.0	-1.7
GLL	Jalalah	9.77	167	P	Pn	10 13 07.2	-1.5
	baz=165						
GLL	Jalalah	9.77	167	P	Pn	10 13 07.2	-1.5
PRNI	Paran	10.01	149	Pn	Pn	10 13 12.3	+0.4
HNKL	Nakhl	10.02	155	P	Pn	10 13 11.5	-0.6
	baz=153						
HNKL				S	Sn	10 14 55.2	-10
	baz=153						
HNKL	Nakhl	10.02	155	P	Pn	10 13 11.5	-0.6
SWA2		10.32	198	P	Pn	10 13 13.5	-2.7
	baz=198						
SWA2		10.32	198	P	Pn	10 13 13.5	-2.7
MBRI	Mt Berech	10.47	151	Pn	Pn	10 13 18.3	0.0
MBRI				Sn	Sn	10 15 12.6	-3.3
EIL	Elat	10.60	151	Pn	Pn	10 13 23.5	+3.5
	comp=Z,0.5nm,0.3s,baz=344,slow=7.3,SNR=2.5						
EIL				Sn	Sn	10 15 19.6	+0.7
	comp=Z,1.9nm,0.3s,baz=71,slow=16,SNR=5.1						
EIL	Elat	10.60	151	Pn	Pn	10 13 19.8	-0.2
UZH	Uzhgorod	10.69	335	eP	Pn	10 13 23.6	+2.5
UZH	Uzhgorod	10.69	335	eP	Pn	10 13 23.6	+2.5
UZH				eS	Sn	10 15 26.4	+5.4
UZH				MLR	MLR		
	comp=N,2μm,12.0s						
UZH				MLR	MLR		
	comp=E,2μm,12.0s						
UZH				MLR	MLR		
	comp=Z,400nm,12.0s						
PSZ	Piszkesteto	11.03	326	ePn	Pn	10 13 28.6	+2.7
PSZ	Piszkesteto	11.03	326	ePn	Pn	10 13 28.6	+2.7
PSZ	Piszkesteto	11.03	326	eP	Pn	10 13 28.7	+2.7
NEY	Neytrino	11.04	64	eP	Pn	10 13 30.5	+4.3
	comp=Z,1.0nm,0.8s						
NEY	Neytrino	11.04	64	⇑eP	Pn	10 13 30.5	+4.3
NEY				pmax	pmax		
	comp=Z,1.0nm,0.8s						
CRVS	Cervenica-Dubn	11.21	333	eP	Pn	10 13 30.6	+2.4
CRVS	Cervenica-Dubn	11.21	333	ePN	Pn	10 13 30.6	+2.4
CRVS				e		10 13 39.5	
CRVS	Cervenica-Dubn	11.21	333	eP	Pn	10 13 30.6	+2.4
AKH	Akhalkalaki	11.22	74	ePn	Pn	10 13 31.9	+3.3
AKH	Akhalkalaki	11.22	74	eP	Pn	10 13 31.9	+3.3
AKH	Akhalkalaki	11.22	74	eP	Pn	10 13 31.9	+3.3
KIV	Kislovodsk	11.25	60	ePn	Pn	10 13 31.7	+2.8
KIV	Kislovodsk	11.25	60	ePn	Pn	10 13 31.7	+2.8
KIV	Kislovodsk	11.25	60	eP	Pn	10 13 32.6	+3.7
	comp=Z,135nm,9.0s						
KIV	Kislovodsk	11.25	60	eP	Pn	10 13 32.6	+3.7
KIV				pmax	pmax		
	comp=Z,22nm,1.1s						
KIV				MLR	MLR		
	comp=Z,135nm,9.0s						
KVAR	Kislovodsk Arr	11.26	60	Pn	Pn	10 13 33.2	+4.2
	baz=192,slow=7.1,SNR=18						
LVV	L'vov	11.28	343	eP	Pn	10 13 33.2	+4.0
KBZ	Khabaz	11.31	62	Pn	Pn	10 13 33.6	+3.9
	comp=Z,0.1nm,0.3s,baz=248,slow=12,SNR=7.4						
KWP	Kalwaria Pacla	11.45	339	eP	Pn	10 13 33.0	+1.6
KWP	Kalwaria Pacla	11.45	339	ePn	Pn	10 13 32.7	+1.2
KWP	Kalwaria Pacla	11.45	339	ePn	Pn	10 13 32.7	+1.2
KWP	Kalwaria Pacla	11.45	339	eP	Pn	10 13 33.1	+1.6
KWP	Kalwaria Pacla	11.45	339	eP	Pn	10 13 33.1	+1.6
AK11	Malin Array Si	11.54	0	ePn	Pn	10 13 31.1	-1.8
AK11	Malin Array Si	11.54	0	ePn	Pn	10 13 31.0	-1.8
KIEV	Kiev	11.56	0	ePn	Pn	10 13 32.6	-0.4
KIEV	Kiev	11.56	0	ePn	Pn	10 13 32.7	-0.4
KIEV	Kiev	11.56	0	⇓eP	Pn	10 13 32.6	-0.4
KIEV				pmax	pmax		
	comp=Z,2.0nm,0.7s						
AKASG	Malin Array Be	11.57	0	Pn	Pn	10 13 30.7	-2.4
	comp=Z,1.5nm,0.3s,baz=179,slow=12,SNR=8.7						
AKASG				Sn	Sn	10 15 41.6	-0.8
	comp=Z,0.2nm,0.3s,baz=185,slow=26,SNR=2.9						
AKBB	Malin Array Si	11.57	0	ePn	Pn	10 13 31.4	-1.7
AKBB	Malin Array Si	11.57	0	eP	Pn	10 13 31.4	-1.7
AKBB	Malin Array Si	11.57	0	eP	Pn	10 13 31.4	-1.7
VAE	Valguarnera	11.67	266	LR	LR	10 18 35.0	
	comp=Z,109nm,20.8s,baz=146,slow=40						
GOF	Gofitskoye	11.91	56	eP	Pn	10 13 42.7	+4.8
	comp=Z,28nm,1.0s						
GOF	Gofitskoye	11.91	56	⇑eP	Pn	10 13 42.7	+4.8
GOF				pmax	pmax		
	comp=Z,28nm,1.0s						
VYHS	Vyhne	11.93	325	ePN	Pn	10 13 42.3	+4.1
VYHS				e		10 14 05.9	
VYHS	Vyhne	11.93	325	eP	Pn	10 13 42.3	+4.1
NIE	Niedzica	12.06	331	eP	Pn	10 13 45.4	+5.5
NIE	Niedzica	12.06	331	eP	Pn	10 13 45.4	+5.5
BOJS	Bojanci	12.07	306	iP	Pn	10 13 49.5	+9.5
TBLG	Delisi	12.19	73	ePn	Pn	10 13 44.2	+2.5
TBLG	Delisi	12.19	73	eP	Pn	10 13 44.2	+2.5
TBLG	Delisi	12.19	73	eP	Pn	10 13 44.2	+2.5
VISS	Visnje	12.46	307	eP	Pn	10 13 49.9	+4.5
SOKA	Soboth	12.77	311	Pn	Pn	10 13 50.7	+1.0
	comp=Z,4.9nm,0.9s						
SOKA	Soboth	12.77	311	Pn	Pn	10 13 50.7	+1.0
	comp=Z,4.9nm,0.9s						
ARSA	Arzberg	12.80	314	Pn	Pn	10 13 50.5	+0.5
	comp=Z,9.4nm,0.9s						
ARSA	Arzberg	12.80	314	iPn	Pn	10 13 50.5	+0.5
	comp=Z,9.4nm,0.9s						
OJC	Ojcow	12.90	332	eP	Pn	10 13 54.5	+3.1
OJC	Ojcow	12.90	332	ePn	Pn	10 13 52.5	+1.1
OJC	Ojcow	12.90	332	eP	Pn	10 13 52.5	+1.1
OJC	Ojcow	12.90	332	eP	Pn	10 13 52.5	+1.1
OBKA	Obir	12.97	309	Pn	Pn	10 13 51.9	-0.6
	comp=Z,12nm,1.3s						
OBKA	Obir	12.97	309	Pn	Pn	10 13 51.9	-0.6
	comp=Z,12nm,1.3s						
JAVS	Javornik	12.99	306	iP	Pn	10 13 58.3	+5.6
CONA	Conrad Observa	13.01	317	Pn	Pn	10 13 53.2	+0.2
	comp=Z,8.6nm,1.3s						
CONA	Conrad Observa	13.01	317	Pn	Pn	10 13 53.2	+0.2
	comp=Z,8.6nm,1.3s						
OKC	Ostrava-Krasne	13.24	327	AMS	AMS	10 20 00.0	
	comp=Z,900nm,11.4s						
MORC	Moravsky Berou	13.46	326	ePn	Pn	10 13 59.9	+0.9
MORC	Moravsky Berou	13.46	326	eP	Pn	10 13 59.9	+0.9
MORC	Moravsky Berou	13.46	326	eP	Pn	10 13 59.9	+0.9
VRAC	Vranov	13.55	323	Pn	Pn	10 14 01.9	+1.7
	comp=Z,0.4nm,0.3s,baz=120,slow=14,SNR=5.3						
VRAC	Vranov	13.55	323	ePn	Pn	10 14 02.6	+2.4
MOA	Molln	13.84	314	Pn	Pn	10 14 05.4	+1.2
	comp=Z,14nm,1.4s						
MOA	Molln	13.84	314	ePn	Pn	10 14 05.4	+1.2
	comp=Z,14nm,1.4s						
KBA	Koelnbreinsper	13.97	310	Pn	Pn	10 14 05.5	-0.7
	comp=Z,6.9nm,1.7s						
KBA	Koelnbreinsper	13.97	310	Pn	Pn	10 14 05.5	-0.7
	comp=Z,6.9nm,1.7s						
VSR	Storozhevoye	13.99	27	eP	Pn	10 14 07.8	+1.6
	comp=Z,20nm,0.7s						
VSR	Storozhevoye	13.99	27	eP	Pn	10 14 07.8	+1.6
VSR				pmax	pmax		
	comp=Z,20nm,0.7s						
TREC	Trest	14.07	321	AMS	AMS	10 20 10.0	
	comp=Z,500nm,7.8s						
ABTA	Abfaltersbach	14.33	307	Pn	Pn	10 14 10.4	-0.6
	comp=Z,16nm,1.5s						
ABTA	Abfaltersbach	14.33	307	ePn	Pn	10 14 10.4	-0.6
	comp=Z,16nm,1.5s						
DPC	Dobruska-Polom	14.41	325	eP	P	10 14 16.6	-2.5
DPC				AMS	AMS	10 21 10.0	
	comp=Z,400nm,16.6s						
DPC	Dobruska-Polom	14.41	325	eP	P	10 14 16.6	-2.5
DPC				MLR	MLR		
	comp=Z,400nm,16.6s						
UPC	Upice	14.66	325	AMS	AMS	10 20 50.0	
	comp=Z,400nm,13.8s						
GEA0	GERESS Array S	14.71	316	ePn	Pn	10 14 17.0	+0.8
GEA0	GERESS Array S	14.71	316	ePn	Pn	10 14 17.0	+0.8
GEC2	GERESS Array S	14.71	316	ePn	Pn	10 14 17.8	+1.5
GEC2	GERESS Array S	14.71	316	ePn	Pn	10 14 17.8	+1.5
GEC2	GERESS Array S	14.71	316	eP	Pn	10 14 17.8	+1.5
GERES	GERESS Array B	14.71	316	Pn	Pn	10 14 17.7	+1.5
	comp=Z,0.2nm,0.3s,baz=122,slow=13,SNR=10						
KSP	Ksiaz	14.78	327	eP	P	10 14 20.8	-2.4
KSP	Ksiaz	14.78	327	eP	P	10 14 20.8	-2.4
KSP	Ksiaz	14.78	327	eP	P	10 14 20.8	-2.4
GOPC	GO Pecny, Ondr	14.82	321	AMS	AMS	10 21 10.0	
	comp=Z,400nm,11.4s						
KHC	Kasperske Hory	14.95	317	eP	P	10 14 22.4	-2.6
KHC				ex	x	10 14 41.5	
KHC				AMS	AMS	10 21 50.0	
	comp=Z,400nm,7.9s						
KHC	Kasperske Hory	14.95	317	ePn	Pn	10 14 21.0	+1.6
KHC	Kasperske Hory	14.95	317	eP	Pn	10 14 21.0	+1.6
VRH	Novokhopyorsk	14.96	32	eP	Pn	10 14 19.0	-0.4
VRH				pmax	pmax		
	comp=Z,10.0nm,1.0s						
PRU	Pruhonice	14.99	321	AMS	AMS	10 21 20.0	
	comp=Z,400nm,14.3s						
LPSR	Galich'ya Gora	15.08	24	eP	Pn	10 14 21.1	0.0
LPSR				pmax	pmax		
	comp=Z,40nm,0.8s						
WTTA	Wattenberg	15.09	308	Pn	Pn	10 14 21.4	-0.1
	comp=Z,17nm,1.6s						
WTTA	Wattenberg	15.09	308	Pn	Pn	10 14 21.4	-0.1
	comp=Z,17nm,1.6s						
WATA	Walderalm	15.16	308	Pn	Pn	10 14 22.4	+0.1
	comp=Z,1.5nm,0.8s						
WATA	Walderalm	15.16	308	ePn	Pn	10 14 22.4	+0.1
	comp=Z,1.5nm,0.8s						
PVCC	Panska Ves	15.34	323	AMS	AMS	10 20 50.0	
	comp=Z,400nm,9.6s						
SUW	Suwalki	15.42	347	ePn	Pn	10 14 26.8	+1.3
	comp=Z,31nm,0.7s						
SUW	Suwalki	15.42	347	ePn	Pn	10 14 26.8	+1.3
	comp=Z,31nm,0.7s						
SUW	Suwalki	15.42	347	eP	Pn	10 14 26.8	+1.3
SUW				pmax	pmax		
	comp=Z,31nm,0.7s						
MOTA	Moosalm	15.46	308	Pn	Pn	10 14 26.6	+0.4
	comp=Z,4.2nm,0.7s						
MOTA	Moosalm	15.46	308	ePn	Pn	10 14 26.6	+0.4
	comp=Z,4.2nm,0.7s						
FETA	Feichten	15.55	306	Pn	Pn	10 14 27.7	+0.2
	comp=Z,19nm,1.0s						
FETA	Feichten	15.55	306	ePn	Pn	10 14 27.7	+0.2
	comp=Z,19nm,1.0s						
RETA	Reutte	15.73	308	Pn	Pn	10 14 29.7	0.0
	comp=Z,18nm,1.3s						
RETA	Reutte	15.73	308	ePn	Pn	10 14 29.7	0.0
	comp=Z,18nm,1.3s						
NACGM	Naroch	15.85	355	e	P	10 14 36.0	+1.0
BRG	Berggiesshubel	15.87	323	eP	P	10 14 37.0	+1.9
	comp=Z,7.5nm,1.1s						
	comp=N,356nm,16.0s						
	comp=E,314nm,18.6s						
	comp=Z,371nm,15.8s						
BRG	Berggiesshubel	15.87	323	eP	P	10 14 37.0	+1.9
	comp=Z,371nm,15.8s						
BRG	Berggiesshubel	15.87	323	eP	P	10 14 37.0	+1.9
BRG				pmax	pmax		
	comp=Z,8.0nm,1.1s						
BRG				MLR	MLR		
	comp=N,356nm,16.0s						
BRG				MLR	MLR		
	comp=E,314nm,18.6s						
BRG				MLR	MLR		
	comp=Z,371nm,15.8s						
KEST	Kesra	16.07	264	Pn	P	10 14 37.6	+0.1
	comp=Z,0.2nm,0.3s,baz=287,slow=3.4,SNR=6.4						
KEST	Kesra	16.07	264	ePn	Pn	10 14 34.1	0.0
	comp=Z,17nm,1.1s						
KEST	Kesra	16.07	264	ePn	Pn	10 14 34.1	0.0
	comp=Z,17nm,1.1s						
DAVA	Damuels	16.19	306	ePn	Pn	10 14 36.4	+0.7
	comp=Z,12nm,1.0s						
NKC	Novy Kostel	16.20	319	AMS	AMS	10 22 00.0	
	comp=Z,300nm,10.7s						
TUE	Stuetta	16.23	303	ePn	Pn	10 14 37.1	+0.8
	comp=Z,3.7nm,0.8s						
TUE	Stuetta	16.23	303	ePn	Pn	10 14 37.1	+0.8
	comp=Z,3.7nm,0.8s						
IDID	Didziasalis	16.27	355	eP	Pn	10 14 34.3	-2.2
IDID				IAmb	IAmb	10 14 44.8	
	comp=Z,12nm,0.9s						
IDID	Didziasalis	16.27	355	eP	Pn	10 14 34.3	-2.2
IIGN	Ignalina	16.34	354	eP	Pn	10 14 33.7	-3.7
IIGN				IAmb	IAmb	10 14 44.8	
	comp=Z,12nm,0.7s						
CLL	Collm	16.60	322	esP	P	10 14 43.0	-0.3
CLL				ePP	sP	10 14 48.0	+1.7
CLL				e		10 15 05.0	
CLL				eSS	S	10 18 06.0	+9.2
CLL				LmV		10 22 00.0	
	comp=Z,200nm,19.4s						
CLL	Collm	16.60	322	eP	P	10 14 43.0	-0.3
CLL	Collm	16.60	322	eP	P	10 14 43.0	-0.3
IZAR	Zarasai	16.73	354	eP	Pn	10 14 35.5	-6.9
IZAR				IAmb	IAmb	10 14 44.5	
	comp=Z,7.9nm,0.5s						
IZAR	Zarasai	16.73	354	eP	Pn	10 14 35.5	-6.9
OBN	Obninsk	16.75	15	Pn	Pn	10 14 41.1	-1.6
	comp=Z,5.0nm,0.3s,baz=198,slow=20,SNR=3.9						
OBN				LR	LR	10 21 27.1	
	comp=Z,183nm,20.6s,baz=216,slow=38						
OBN	Obninsk	16.75	15	ePn	Pn	10 14 42.0	-0.6
	comp=Z,28nm,1.1s						
OBN	Obninsk	16.75	15	ePn	Pn	10 14 42.0	-0.6
	comp=Z,28nm,1.1s						
OBN	Obninsk	16.75	15	⇓eP	Pn	10 14 42.0	-0.6
OBN				eS	Sn	10 17 50.5	+1.7
OBN				pmax	pmax		
	comp=Z,27nm,1.2s						
OBN				MLR	MLR		
	comp=Z,157nm,18.0s						
SPAK	Spaichingen-Ko	17.19	308	eP	P	10 14 52.0	+2.0
STU	Stuttgart	17.23	310	ePn	P	10 14 50.4	+0.1
	comp=Z,11nm,0.6s						
STU	Stuttgart	17.23	310	eP	P	10 14 50.4	+0.1
	comp=Z,11nm,0.6s						
STU	Stuttgart	17.23	310	eP	P	10 14 50.4	+0.1
STU				pmax	pmax		
	comp=Z,11nm,0.6s						
MOS	Moscow	17.56	16	eP	P	10 14 55.2	+1.4
MOS				pmax	pmax		
	comp=Z,95nm,1.1s						
BFO	Black Forest	17.57	308	ePn	Pn	10 14 53.5	+0.5
	comp=Z,15nm,1.0s						
BFO	Black Forest	17.57	308	ePn	Pn	10 14 53.5	+0.5
	comp=Z,15nm,1.0s						
BFO	Black Forest	17.57	308	iP	P	10 14 56.5	+2.5
BFO	Black Forest	17.57	308	iP	P	10 14 56.5	+2.5
BNI	Bardonecchia	17.65	297	eP	P	10 14 56.0	+0.9
	comp=Z,12nm,1.1s						
BNI	Bardonecchia	17.65	297	eP	P	10 14 56.0	+0.9
	comp=Z,12nm,1.1s						
BNI	Bardonecchia	17.65	297	eP	P	10 14 56.0	+0.9
BNI				pmax	pmax		
	comp=Z,11nm,1.1s						
MOF	Molkenrain	18.13	306	eP	P	10 15 02.4	+2.1
ECH	Echery	18.24	307	ePn	P	10 15 02.5	+1.0
	comp=Z,7.3nm,0.8s						
ECH	Echery	18.24	307	eP	P	10 15 02.5	+1.0
ECH				pmax	pmax		
	comp=Z,7.0nm,0.8s						
THEF	They Montfort	18.98	306	eP	Pn	10 15 10.9	+0.7
MEM	Membach	19.91	313	P	P	10 15 20.0	+0.3
	comp=Z,19nm,1.4s						
MEM	Membach	19.91	313	P	P	10 15 20.0	+0.3
	comp=Z,19nm,1.4s						
BCLA	Clavier	20.23	312	⇑P	Pn	10 15 24.4	-0.7
AGO	Saint Agoulin	20.29	298	eP	Pn	10 15 25.2	-0.7
PYM	Petit Puy Mans	20.32	297	eP	Pn	10 15 25.4	-0.9
DOU	Dourbes	20.51	310	⇑P	P	10 15 24.9	-1.4
DOU	Dourbes	20.51	310	P	P	10 15 24.9	-1.4
SNF	Seneffe	20.86	311	⇑P	P	10 15 28.8	-1.2
RAYN	Ar Rayn	20.88	133	eP	P	10 15 31.0	+0.5
	comp=Z,9.4nm,1.1s						
RAYN	Ar Rayn	20.88	133	eP	P	10 15 31.0	+0.5
	comp=Z,9.4nm,1.1s						
RAYN	Ar Rayn	20.88	133	P	P	10 15 31.2	+0.7
FIA0	FINESS Array S	22.41	356	eP	P	10 15 47.5	+0.9
FIA0	FINESS Array S	22.41	356	eP	P	10 15 47.5	+0.9
FINES	FINESS Array B	22.41	356	P	P	10 15 47.5	+0.9
	comp=Z,19nm,1.1s,baz=158,slow=12,SNR=6.9						
FIA1	FINESS Array S	22.41	356	eP	P	10 15 48.1	+1.5
GEYT	Alibeck	22.68	84	P	P	10 15 51.3	+1.5
	comp=Z,24nm,1.0s,baz=295,slow=11,SNR=12						
GYA0B	ALIBECK ARRAY	22.68	84	eP	P	10 15 50.8	+1.0
	comp=Z,26nm,0.9s						
GYA0B	ALIBECK ARRAY	22.68	84	eP	P	10 15 50.8	+1.0
	comp=Z,26nm,0.9s						
KLMR	Klimovskoe	22.69	13	eP	P	10 15 49.3	-0.3
KLMR				AMP		10 15 52.3	
	comp=Z,28nm,1.2s						
KLMR	Klimovskoe	22.69	13	eP	P	10 15 49.2	-0.3
KLMR				pmax	pmax		
	comp=Z,28nm,1.2s						
HFS	Hagfors	23.16	340	P	P	10 15 54.9	+0.5
	comp=Z,5.0nm,0.8s,baz=134,slow=10,SNR=4.6						
AKTO	Aktyubinsk	23.27	51	P	P	10 15 54.6	-1.0
	comp=Z,17nm,1.0s,baz=252,slow=10,SNR=13						
NC405	NORSAR Array S	24.51	340	eP	P	10 16 08.4	+1.0
NAO01	NORSAR Array S	24.52	338	eP	P	10 16 08.7	+1.1
NB2	NORSAR Subarra	24.59	339	P	P	10 16 07.5	-0.7
	comp=Z,8.0nm,0.9s,baz=142,slow=9.3						
NB200	NORSAR Array S	24.59	339	eP	P	10 16 07.2	-1.0
NOA	NORSAR Array B	24.59	339	P	P	10 16 07.2	-1.0
	comp=Z,4.6nm,0.8s,baz=143,slow=9.3,SNR=7.7						
NBO02	NORSAR Array S	24.70	339	eP	P	10 16 09.5	+0.4
TMCR	Tamitsa	25.62	9	eP	P	10 16 20.9	+3.5
TMCR				pmax	pmax		
	comp=Z,21nm,0.9s						

TAM	Tamanrasset	25.86	238	*eP*		P	10 16 19.8	-0.4
	comp=Z,2.6nm,0.8s							
TAM	Tamanrasset	25.86	238	*eP*		P	10 16 19.8	-0.4
	comp=Z,2.6nm,0.8s							
TAM	Tamanrasset	25.86	238	*eP*		P	10 16 19.8	-0.4
TAM				pmax	pmax			
	comp=Z,3.0nm,0.8s							
ARU	Arti	25.98	39	P		P	10 16 20.7	-0.1
	comp=Z,7.0nm,0.6s,baz=244,slow=6.3,SNR=11							
ARU	Arti	25.98	39	*eP*		P	10 16 21.6	+0.8
	comp=Z,16nm,0.9s							
EKA	Eskdalemuir Ar	26.93	318	P		P	10 16 27.9	-1.4
	comp=Z,1.4nm,0.5s,baz=113,slow=12,SNR=11							
APA	Apatity	28.59	3	*iP*		P	10 16 37.5	-6.5
APA				pmax	pmax			
	comp=Z,8.0nm,0.7s							
APA				MLR	MLR			
	comp=Z,300nm,13.0s							
ARA0	ARCESS Array S	30.52	358	*eP*		P	10 17 01.1	-0.1
ARCES	ARCESS Array B	30.52	358	P		P	10 17 01.1	-0.1
	comp=Z,2.2nm,0.7s,baz=167,slow=5.9,SNR=6.5							
AAK	Ala-Archa	34.17	69	P		P	10 17 33.5	-0.2
	comp=Z,4.1nm,0.8s,baz=238,slow=5.0,SNR=6.0							
AAK	Ala-Archa	34.17	69	*eP*		P	10 17 33.3	-0.4
AAK				pmax	pmax			
	comp=Z,6.0nm,1.0s							
FRU	Bishkek	34.23	69	*eP*		P	10 17 34.0	0.0
FRU				pmax	pmax			
	comp=Z,40nm,1.3s							
NRN	Naryn	35.50	71	*eP*		P	10 17 45.5	+0.1
	comp=Z,6.9nm,1.1s							
NRN	Naryn	35.50	71	*eP*		P	10 17 45.5	+0.1
	comp=Z,6.9nm,1.1s							
NRN	Naryn	35.50	71	*eP*		P	10 17 45.5	+0.1
NRN				pmax	pmax			
	comp=Z,7.0nm,1.1s							
NIL	Nilore	35.68	85	*eP*		P	10 17 47.1	+0.5
	comp=Z,21nm,1.1s							
NIL	Nilore	35.68	85	*eP*		P	10 17 47.1	+0.5
	comp=Z,21nm,1.1s							
NIL	Nilore	35.68	85	*eP*		P	10 17 47.1	+0.5
NIL				pmax	pmax			
	comp=Z,21nm,1.1s							
KSH	Kashi	35.93	74	P		P	10 17 50.4	+1.6
KURBB	Kurchatov Arra	36.21	55	P		P	10 17 50.6	-0.3
	comp=Z,3.4nm,1.0s,baz=279,slow=8.9,SNR=7.3							
KDJ	Kajisay	36.22	69	*eP*		P	10 17 51.6	+0.3
	comp=Z,6.5nm,0.9s							
KDJ	Kajisay	36.22	69	*eP*		P	10 17 51.7	+0.3
	comp=Z,6.5nm,0.9s							
KDJ	Kajisay	36.22	69	P		P	10 17 52.5	+1.1
KURK	Kurchatov	36.26	55	*eP*		P	10 17 50.6	-0.8
KURK	Kurchatov	36.26	55	*eP*		P	10 17 49.8	-1.6
KURK				pmax	pmax			
	comp=Z,8.0nm,1.3s							
MK31	Makanchi Array	39.01	61	*eP*		P	10 18 14.5	-0.3
MK31	Makanchi Array	39.01	61	*eP*		P	10 18 14.5	-0.3
MK32	Makanchi Array	39.01	61	*eP*		P	10 18 14.6	-0.1
MKAR	Makanchi Array	39.01	61	P		P	10 18 14.6	-0.1
	comp=Z,4.6nm,0.9s,baz=283,slow=6.1,SNR=14							
MKAR	Makanchi Array	39.01	61	*eP*		P	10 18 14.4	-0.3
	comp=Z,20nm,0.7s							
MK01	Makanchi Array	39.02	61	*eP*		P	10 18 14.4	-0.4
NVS	Novosibirsk	39.06	48	*eP*		P	10 18 15.5	+0.5
NVS				pmax	pmax			
	comp=N,4.0nm,1.0s							
NVS				pmax	pmax			
	comp=E,6.0nm,1.0s							
NVS				pmax	pmax			
	comp=Z,11nm,1.0s							
ZAA0	Zalesovo Array	40.00	49	*eP*		P	10 18 22.0	-0.8
	comp=Z,6.9nm,1.1s							
ZAA1	Zalesovo Array	40.00	49	*eP*		P	10 18 22.1	-0.7
ZALV	Zalesovo Beam	40.00	49	P		P	10 18 22.1	-0.7
	comp=Z,2.8nm,0.7s,baz=272,slow=7.2,SNR=5.8							
WMQ	Urumqi	43.35	64	P		P	10 18 54.4	+3.9
WMQ				pP	sP		10 18 58.9	+5.2
WMQ				sP	pP		10 19 00.8	+8.0
WMQ				pmax	pmax			
	comp=Z,24nm,1.7s							
WMQ				pmax	pmax			
	comp=Z,380nm,5.9s							
WMQ				LR	LR			
	comp=N,270nm,22.1s							
WMQ				LR	LR			
	comp=E,580nm,26.1s							
WMQ				LR	LR			
	comp=Z,240nm,27.5s							
DBIC	Dimbokro	44.50	232	P		P	10 18 59.0	-1.0
	comp=Z,2.7nm,0.7s,baz=11,slow=7.5,SNR=3.1							
DBIC	Dimbokro	44.50	232	P		P	10 18 59.0	-1.0
DBIC				pmax	pmax			
	comp=Z,3.0nm,0.7s							
MOY	Mondy	50.02	51	*eP*		P	10 19 43.8	+1.1
TLY	Talaya	51.60	50	P		P	10 19 55.1	+0.5
	comp=Z,2.6nm,0.9s,baz=279,slow=5.4,SNR=5.1							
ZAK	Zakamensk	51.77	52	*eP*		P	10 19 55.7	-0.2
ZAK				pmax	pmax			
	comp=Z,4.0nm,1.1s							
ZAK				pmax	pmax			
	comp=Z,4.0nm,1.4s							
GTA	Gaotai	53.37	66	*eP*		P	10 20 10.4	+2.4
GTA				pP	sP		10 20 14.8	+3.6
GTA				sP	pP		10 20 17.8	+7.5
GTA				pmax	pmax			
	comp=Z,9.0nm,0.9s							
SONA0	Songino Array	54.56	54	*eP*		P	10 20 16.4	-0.1
SONA1	Songino Array	54.56	54	*eP*		P	10 20 16.6	+0.1
SONM	Songino Array	54.56	54	P		P	10 20 16.4	-0.1
	comp=Z,2.9nm,0.9s,baz=284,slow=8.8,SNR=11							
ULN	Ulaanbaatar	54.96	54	*eP*		P	10 20 19.2	-0.2
	comp=Z,5.0nm,0.9s							
ULN	Ulaanbaatar	54.96	54	*eP*		P	10 20 19.2	-0.2
ULN				pmax	pmax			
	comp=Z,5.0nm,0.8s							
BOD	Bodaibo	55.38	40	*eP*		P	10 20 20.8	-1.3
BOD				pmax	pmax			
	comp=Z,6.0nm,1.4s							
TIXI	Tiksi	56.32	22	P		P	10 20 30.0	+1.4
	comp=Z,0.9nm,0.4s,baz=313,slow=5.4,SNR=5.6							
TIXI	Tiksi	56.32	22	*eP*		P	10 20 30.5	+1.9
TIXI				pmax	pmax			
	comp=Z,3.0nm,1.1s							
LZH	Lanzhou	57.69	68	*eP*		P	10 20 42.3	+3.2
LZH				pP	sP		10 20 45.8	+3.5
LZH				sP	pP		10 20 48.0	+6.5
LZH				pmax	pmax			
	comp=Z,29nm,1.2s							
LZH				pmax	pmax			
	comp=Z,140nm,4.5s							
OPO	Ambohidratompo	59.84	160	P		P	10 20 54.3	+0.2
	comp=Z,3.6nm,0.9s,baz=284,slow=8.3,SNR=2.8							
HHC	Hu-ho-hao-te	60.85	59	*eP*		P	10 21 01.9	+1.1
HHC				pmax	pmax			
	comp=Z,12nm,1.2s							
HHC				pmax	pmax			
	comp=Z,34nm,7.0s							
SCHQ	Schefferville	62.22	319	P		P	10 21 08.2	-1.6
	comp=Z,2.6nm,0.7s,baz=33,slow=3.6,SNR=5.4							
CMAR	Chiang Mai Arr	63.10	87	P		P	10 21 14.5	-1.7
	comp=Z,0.8nm,0.5s,baz=302,slow=8.3,SNR=8.2							
BJI	Beijing	64.31	58	*eP*		P	10 21 23.4	-0.4
BJI				pmax	pmax			
	comp=Z,8.0nm,1.0s							
BOSA	Boshof	67.50	184	P		P	10 21 44.6	+0.2
	comp=Z,2.1nm,0.8s,baz=295,slow=1.6,SNR=3.0							
CN2	Changchun	68.19	51	*eP*		P	10 21 49.0	+0.3
CN2				pmax	pmax			
	comp=Z,10.0nm,0.5s							
BILL	Bilibino	68.41	16	*eP*		P	10 21 49.1	-0.5
BILL				*e*			10 22 15.5	
BILL				*e*			10 24 20.0	
BILL				pmax	pmax			
	comp=Z,3.0nm,1.1s							
SEY	Seymchan	68.67	24	*eP*		P	10 21 51.7	+0.4
KLR	Kul'dur	68.70	43	P		P	10 21 50.5	-1.2
	comp=Z,0.1nm,0.4s,baz=308,slow=8.1,SNR=4.2							
KLR	Kul'dur	68.70	43	*eP*		P	10 21 51.2	-0.6
NJ2	Nanjing	70.43	64	*eP*		P	10 22 05.0	+2.3
NJ2				pmax	pmax			
	comp=Z,11nm,0.5s							
PSI	Prapat	72.62	101	P		P	10 22 14.4	-1.9
	comp=Z,3.8nm,0.8s,baz=280,slow=11,SNR=2.9							
KS01	Wonju Array Si	73.36	55	*eP*		P	10 22 18.9	-1.3
KS15	Wonju Array Si	73.37	55	*eP*		P	10 22 18.8	-1.5
KSAR	Wonju Array Be	73.37	55	P		P	10 22 19.2	-1.1
KSAR	Wonju Array Be	73.37	55	P		P	10 22 19.2	-1.1
KSRS	Korea Array	73.39	55	P		P	10 22 19.2	-1.2
	comp=Z,9.2nm,0.9s,baz=305,slow=4.9,SNR=16							
YKA	Yellowknife Ar	74.59	343	P		P	10 22 25.7	-1.2
	comp=Z,0.9nm,1.0s,baz=20,slow=6.6,SNR=8.0							
YKB5	Yellowknife Ar	74.59	343	*eP*		P	10 22 25.7	-1.2
ILAR	Eielson Array	76.38	358	P		P	10 22 36.2	-1.0
	comp=Z,0.3nm,0.9s,baz=335,slow=5.3,SNR=3.3							
ILB	Eielson Array	76.38	358	*eP*		P	10 22 36.2	-1.0
MAJO	Matsushiro	80.34	51	*eP*		P	10 22 58.5	-1.1
MAJO	Matsushiro	80.34	51	*eP*		P	10 22 58.5	-1.1
MAT	Matsushiro	80.34	51	P		P	10 23 01.6	+1.9
MJAR	Matsushiro Arr	80.34	51	P		P	10 22 58.5	-1.1
	comp=Z,4.3nm,1.0s,baz=300,slow=6.4,SNR=8.9							
SEPW	September Lobe	91.24	341	*eP*		P	10 23 55.4	+1.5
ASAR	Alice Springs	115.65	100	PKP		PKPdf	10 29 28.9	-2.1
	comp=Z,0.8nm,1.0s,baz=285,slow=2.6,SNR=3.3							
ASAR				PKKPbc		PKKPbc	10 40 02.6	+0.2
	comp=Z,0.3nm,0.6s,baz=120,slow=3.2,SNR=6.6							
ASAR				PKKP		PKKPdf	10 40 25.6	-1.9
	comp=Z,0.3nm,0.8s,baz=126,slow=3.7,SNR=7.1							

IDC ***16*** *10:11:08.4±0.9,39°.29N×29°.06E,h0km,mb4.2/13,*
mb1 4.3/14,mb1mx4.0/62,mbtmp4.2/14,ML4.6/1,MS3.6/1,
Ms1 3.6/1,ms1mx2.8/58,Error ellipse: s-maj=23.6km
s-min=17.2km az=14.0
ISK ***16*** *10:11:09.8,39°.14N×29°.15E,h6km,ML4.7/5*
ISCJB ***16*** *10:11:09.9±0.4,39°.15N±0°.03×29°.10E±0°.04,h20km±3km,*
mb4.2/17,Error ellipse: s-maj=5.6km s-min=3.9km
az=139.6
DDA ***16*** *10:11:09.9,39°.11N×29°.14E,h7km,Ml4.6*
NEIC ***16*** *10:11:09.80.0,39°.14N×29°.15E,h6km,mb4.5/2,*
ML4.6(DDA),ML4.7(ISK),After ISK.
CSEM ***16*** *10:11:10.1±0.1,39°.15N×29°.11E,h10km,ML4.7,Error*
ellipse: s-maj=5.3km s-min=4.0km az=128.0

ISC 16 10:11:09.9±0.9,39°.15N±0°.02×29°.16E±0°.02,h9km±5km,
n88,σ1s73/101,mb4.3/17,Turkey

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
SIMA	Simav-Kutahya	0.15	243		PG	Pg	10 11 13.5	+0.3
SIMA					SG	Sg	10 11 15.4	-0.1
SIMA	Simav-Kutahya	0.15	243	*eP*	g	Pg	10 11 13.5	+0.3
SIMA				*e*	Sg	Sg	10 11 15.4	-0.1
GDZ	Gediz	0.26	104	*i* P		Pg	10 11 15.6	+0.4
GDZ				*i* S		Sg	10 11 19.6	+0.8
GDZ	Gediz	0.26	104	*i* P		Pg	10 11 15.6	+0.4
GDZ				*i* S		Sg	10 11 19.6	+0.8
GDZ	Gediz	0.26	104	P		Pg	10 11 15.6	+0.4
GDZ				S		Sg	10 11 19.6	+0.8
DEMI	Demirci	0.36	252	*i* P		Pg	10 11 17.4	+0.4
DEMI				*i* S		Sg	10 11 21.8	0.0
DEMI	Demirci	0.36	252	P		Pg	10 11 17.4	+0.4
DEMI				S		Sg	10 11 21.8	0.0
TVSB	Tavsanli	0.38	39	PG		Pg	10 11 18.0	+0.6
TVSB				SG		Sg	10 11 23.3	+0.8
TVSB	Tavsanli	0.38	39	Pg		Pg	10 11 18.0	+0.6
TVSB	Tavsanli	0.38	39	*e*Pg		Pg	10 11 18.0	+0.6
TVSB				*e*Sg		Sg	10 11 23.3	+0.8
KULA	Kula-Manisa	0.74	211	PG		Pg	10 11 24.3	0.0
KULA	Kula-Manisa	0.74	211	Pg		Pg	10 11 24.3	0.0
KULA	Kula-Manisa	0.74	211	*e*Pg		Pg	10 11 24.3	0.0
MANT	Manisa	0.81	215	*e*P		Pg	10 11 25.3	-0.2
MANT				*i* S		Sg	10 11 35.4	-0.8
MANT	Manisa	0.81	215	*e*Pg		Pg	10 11 25.4	-0.2
MANT				*e*Sn		Sg	10 11 35.2	-0.9
MANT	Manisa	0.81	215	*e*Pg		Pg	10 11 25.4	-0.1
MANT				S		Sg	10 11 35.3	-0.8
KHL	Karahalli	0.88	161	PG		Pg	10 11 26.7	-0.1
KHL	Karahalli	0.88	161	Pg		Pg	10 11 26.7	-0.1
KHL	Karahalli	0.88	161	*e*Pg		Pg	10 11 26.7	-0.1
ORLT	Orhaneli	0.92	347	PG		Pb	10 11 28.3	+0.2
ORLT	Orhaneli	0.92	347	Pg		Pb	10 11 28.3	+0.2
ORLT	Orhaneli	0.92	347	*e*Pg		Pb	10 11 28.3	+0.2
AUKUT	KUTAHYA	1.04	40	*e*P		Pg	10 11 23.3	-6.7
AUKUT				*i* S		Sg	10 11 35.4	-8.2
AUKUT	KUTAHYA	1.04	40	P		Pg	10 11 23.3	-6.7
AUKUT				S		Sg	10 11 35.4	-8.2
BALB	Balikesir	1.10	297	PN		Pn	10 11 31.8	+0.2
BALB	Balikesir	1.10	297	*e*Pn		Pn	10 11 31.8	+0.2
CAVI	Cavuskoy	1.18	27	PN		Pn	10 11 33.2	+0.6
CAVI	Cavuskoy	1.18	27	*e*Pn		Pn	10 11 33.2	+0.6
MDNY	Mudanya-Bursa	1.23	350	PN		Pg	10 11 34.3	+0.7
MDNY	Mudanya-Bursa	1.23	350	*e*Pn		Pg	10 11 34.3	+0.7
BORA	Eskisehir	1.24	54	*e*P		Pg	10 11 35.3	+1.6
BORA				*i* S		Sn	10 11 52.4	+1.9
BORA	Eskisehir	1.24	54	P		Pg	10 11 35.3	+1.6
BORA				S		Sn	10 11 52.4	+1.9
SHUT	Suhut-Afyon	1.24	118	PN		Pg	10 11 34.2	+0.4
SHUT	Suhut-Afyon	1.24	118	*e*Pn		Pg	10 11 34.2	+0.4
KCTX	Karacabey (Bur	1.27	331	PN		Pg	10 11 34.9	+0.6
KCTX	Karacabey (Bur	1.27	331	*e*Pn		Pg	10 11 34.9	+0.6
ADVT	Abdulvahap	1.36	19	PN		Pg	10 11 36.2	+0.2
ADVT	Abdulvahap	1.36	19	*e*Pn		Pg	10 11 36.2	+0.2
DENT	Denizli	1.40	184	PN		Pb	10 11 36.1	-0.2
DENT	Denizli	1.40	184	*e*Pn		Pb	10 11 36.1	-0.2
ISP	Isparta	1.71	141	*e*Pn		Pb	10 11 41.2	-0.4
ISP	Isparta	1.71	141	*e*Pn		Pb	10 11 41.2	-0.4
BR231	Keskin MP Arra	2.88	75	*e*Pn		Pn	10 11 57.1	+0.9
BR231	Keskin MP Arra	2.88	75	*e*Pn		Pn	10 11 57.1	+0.9
SANT	Santorini	4.04	228	*e*Pn		Pn	10 12 11.2	-0.8
SANT	Santorini	4.04	228	*e*Pn		Pn	10 12 11.2	-0.8
IDI	Anoyia	5.14	229	*e*Pn		Pn	10 12 27.8	+0.6
IDI	Anoyia	5.14	229	*e*Pn		Pn	10 12 27.8	+0.6
TIRR	Tirgusor	5.33	354	*e*Pn		Pn	10 12 28.1	-1.6
TIRR	Tirgusor	5.33	354	*e*Pn		Pn	10 12 28.1	-1.6
VTS	Vitosha	5.67	309	*e*Pn		Pn	10 12 33.3	-1.2
VTS	Vitosha	5.67	309	*e*Pn		Pn	10 12 33.3	-1.2
MLR	Muntele Rosu	6.77	340	*e*Sn		Sn	10 14 12.4	+5.6
MLR	Muntele Rosu	6.77	340	*e*Sn		Sn	10 14 12.4	+5.6
MMAI	Mount Meron Ar	7.94	139	Pn		Pn	10 13 07.0	+1.3
	7.3nm,0.3s,baz=318,slow=13,SNR=5.9							
KIV	Kislovodsk	11.21	60	*e*Pn		Pn	10 13 50.3	-0.2
KIV	Kislovodsk	11.21	60	*e*Pn		Pn	10 13 50.3	-0.2
KVAR	Kislovodsk Arr	11.22	60	LR		LR	10 19 10.4	
	comp=Z,311nm,21.8s,baz=212,slow=43							
NB200	NORSAR Array S	24.58	339	*eP*		P	10 16 27.0	-3.1
NOA	NORSAR Array B	24.58	339	P		P	10 16 27.0	-3.1
	4.4nm,0.8s,baz=143,slow=11,SNR=7.8							
NBO00	NORSAR Array S	24.70	338	*eP*		P	10 16 29.9	-1.2
NC204	NORSAR Array S	24.90	339	*eP*		P	10 16 32.3	-0.8
ESDC	Sonseca Array	25.52	282	P		P	10 16 36.4	-2.4
	0.5nm,0.5s,baz=66,slow=11,SNR=4.4							
EKA	Eskdalemuir Ar	26.93	318	P		P	10 16 51.0	-0.3
	3.2nm,0.5s,baz=114,slow=12,SNR=12							
BVAR	Borovoye Array	31.31	50	P		P	10 17 29.4	-1.0
	0.9nm,0.6s,baz=268,slow=14,SNR=4.7							
AAK	Ala-Archa	34.17	69	P		P	10 17 55.7	+0.3
	4.2nm,0.8s,baz=243,slow=9.0,SNR=2.3							
KDJ	Kajisay	36.19	69	*eP*		P	10 18 15.3	+2.2
	6.1nm,0.8s							
KOWA	Kowa	38.11	239	PcP		PcP	10 20 44.8	+0.4
	1.6nm,0.7s,baz=64,slow=2.7,SNR=4.4							
MK32	Makanchi Array	38.98	61	*eP*		P	10 18 34.4	-2.0
MKAR	Makanchi Array	38.98	61	P		P	10 18 34.4	-2.0
	4.8nm,1.1s,baz=273,slow=8.6,SNR=4.3							
ZALV	Zalesovo Beam	39.96	49	*eP*		P	10 18 47.3	+2.8
TIC	Toumodi	44.66	233	*e*PKP2		P	10 19 23.2	0.0
KIC	Kosan Boka	44.71	232	*e*PKP2		P	10 19 23.7	+0.1
	9.5nm,0.7s							
LIC	Lamto	44.99	232	*e*PKP2		P	10 19 24.7	-1.1
	24nm,0.9s							
SONA0	Songino Array	54.52	54	*eP*		P	10 20 38.5	+0.3
SONA1	Songino Array	54.52	54	*eP*		P	10 20 39.6	+1.4
SONM	Songino Array	54.52	54	P		P	10 20 38.5	+0.3
	3.1nm,0.9s,baz=286,slow=8.2,SNR=3.5							
TIXI	Tiksi	56.30	22	P		P	10 20 50.4	0.0
	0.5nm,0.3s,baz=276,slow=2.6,SNR=4.0							
SCHQ	Schefferville	62.23	319	P		P	10 21 31.0	-0.8
	2.2nm,0.6s,baz=46,slow=6.1,SNR=5.8							
CMAR	Chiang Mai Arr	63.07	88	P		P	10 21 37.8	-0.1
	1.0nm,0.7s,baz=302,slow=7.8,SNR=5.6							
BOSA	Boshof	67.51	184	P		P	10 22 07.7	+1.2
	2.2nm,0.6s,baz=338,slow=7.0,SNR=5.3							
KLR	Kul'dur	68.67	43	P		P	10 22 13.9	+0.3
	0.1nm,0.6s,baz=323,slow=8.8,SNR=3.8							
KS01	Wonju Array Si	73.32	55	*eP*		P	10 22 42.6	+0.6
KS15	Wonju Array Si	73.33	55	*eP*		P	10 22 42.5	+0.4
KSAR	Wonju Array Be	73.33	55	P		P	10 22 42.5	+0.4
KSRS	Korea Array	73.35	55	P		P	10 22 42.5	+0.3
	8.2nm,0.9s,baz=306,slow=4.7,SNR=9.1							
MAJO	Matsushiro	80.31	51	*e*P		P	10 23 20.6	-0.8
MJAR	Matsushiro Arr	80.31	51	P		P	10 23 20.6	-0.8
	3.9nm,0.9s,baz=332,slow=2.7,SNR=3.5							

IDC 16 10:11:15.9±2.6,36°.81N×110°.51E,h0km,mb3.0/1,
mb1 3.5/3,mb1mx3.1/78,mbtmp3.4/3,ML3.3/2,Error
ellipse: s-maj=54.2km s-min=36.6km az=115.0,
Southeastern China

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
SONM	Songino Array	11.43	346	Pn		Pn	10 14 00.5	+0.1
	0.3nm,0.3s,baz=163,slow=14,SNR=3.5							
KSRS	Korea Array	13.91	82	Pn		Pn	10 14 33.8	-0.4
	0.1nm,0.3s,baz=276,slow=12,SNR=3.6							
CMAR	Chiang Mai Arr	20.93	212	P		P	10 16 00.2	0.0
	0.5nm,0.5s,baz=17,slow=9.5,SNR=4.2							

IDC ***16*** *10:13:43.1±1.3,31°.38S×177°.74W,h0km,mb3.9/4,*
mb1 4.1/5,mb1mx3.8/50,mbtmp3.9/5,ML3.7/1,Error
ellipse: s-maj=36.2km s-min=22.6km az=100.0
ISCJB ***16*** *10:13:45.1±1.0,31°.48S±0°.07×177°.7W±0°.2,h26km,*
mb3.8/4,Error ellipse: s-maj=27.2km s-min=9.4km az=1.4

ISC 16 10:13:46.8±1.0,31°.50S±0°.08×177°.9W±0°.2,h26km,n11,
σ1s54/13,mb3.9/4,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	2.24	359	Pn		Pn	10 14 21.0	-1.3
	24nm,0.3s,baz=180,slow=20,SNR=2.3							
RAO				Sn		Sn	10 14 48.1	-0.9
	60nm,0.3s,baz=106,slow=20,SNR=3.2							
URZ	Urewera	7.90	210	Sn		Sn	10 17 05.0	-3.6
	0.9nm,0.3s,baz=348,slow=20,SNR=6.2							
STKA	Stephens Creek	34.35	258	P		P	10 20 33.2	+1.6
	0.9nm,0.7s,baz=86,slow=12,SNR=2.8							
ASAR	Alice Springs	43.17	268	P		P	10 21 46.3	+0.7
	0.8nm,0.7s,baz=105,slow=7.5,SNR=13							
WRA	Warramunga Arr	44.26	273	P		P	10 21 55.4	+1.0
	2.1nm,0.7s,baz=112,slow=7.9,SNR=22							
VNDA	Vanda	47.02	186	P		P	10 22 17.1	+1.7
	0.5nm,0.3s,baz=20,slow=3.1,SNR=7.2							
VNA3	Neumayer Olymp	77.20	176	P		P	10 25 37.1	-0.9
VNA2	Neumayer--Watz	77.64	177	P		P	10 25 40.1	-0.4
	baz=166,slow=5.6							
MKAR	Makanchi Array	118.56	310	PKP		PKPdf	10 32 31.4	-0.6
	0.2nm,0.5s,baz=108,slow=1.8,SNR=2.5							
FINES	FINESS Array B	146.21	339	PKPbc		PKPdf	10 33 23.5	+0.5
	2.1nm,0.8s,baz=64,slow=3.2,SNR=4.4							
AKASG	Malin Array Be	152.23	322	PKPbc		PKPbc	10 33 40.1	+0.4
	0.1nm,0.3s,baz=47,slow=4.1,SNR=2.4							
AKASG				PKPab		PKPab	10 33 49.6	0.0
	0.1nm,0.3s,baz=46,slow=4.0,SNR=3.5							

DDA ***16*** *10:15:45.9,39°.08N×29°.13E,h7km,Ml2.9*
ISK ***16*** *10:15:45.9,39°.07N×29°.11E,h5km,ML2.9/15*
ISCJB ***16*** *10:15:46.1±0.5,39°.08N±0°.04×29°.13E±0°.04,h2km±7km,*
Error ellipse: s-maj=6.9km s-min=4.4km az=153.2
CSEM ***16*** *10:15:46.2±0.1,39°.09N×29°.14E,h2km,ML2.9,Error*
ellipse: s-maj=3.3km s-min=1.9km az=129.0

ISC 16 10:15:46.2±1.0,39°.09N±0°.03×29°.14E±0°.02,h6km±10km,
n38,σ0s47/48,Turkey

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
SIMA	Simav-Kutahya	0.12	269		PG	Pg	10 15 48.8	0.0
SIMA					SG	Sg	10 15 50.4	-0.1
SIMA	Simav-Kutahya	0.12	269	*e*Pg		Pg	10 15 48.8	0.0
SIMA				*e*Sg		Sg	10 15 50.4	-0.1
GDZ	Gediz	0.27	89	*i* P		Pg	10 15 51.9	+0.3
GDZ				*i* S		Sg	10 15 55.8	+0.7
GDZ	Gediz	0.27	89	P		Pg	10 15 51.8	+0.3
GDZ				S		Sg	10 15 55.8	+0.7
DEMI	Demirci	0.33	263	*i* P		Pg	10 15 52.9	+0.2
DEMI				*i* S		Sg	10 15 57.3

AUBOZ				*i* S		**Sg**	**10 22 44.2**	**+0.2**
AUBOZ	**BOZOYUK**	**1.09**	**41**	P		**Pb**	**10 22 30.1**	**-0.1**
AUBOZ				S		**Sg**	**10 22 44.2**	**+0.2**
BALB	**Balikesir**	**1.10**	**300**	PN		**Pn**	**10 22 30.9**	**+0.1**
BALB	**Balikesir**	**1.10**	**300**	*e*Pn		**Pn**	**10 22 30.9**	**+0.1**
AUKUT	**KUTAHYA**	**1.12**	**39**	*i* P		Pg	10 22 22.8	-7.6
AUKUT				*i* S		Sg	10 22 34.4	-11
AUKUT	**KUTAHYA**	**1.12**	**39**	P		Pg	10 22 22.8	-7.6
AUKUT				S		Sg	10 22 34.4	-11
STEP	**BALIKESIR_Sava**	**1.12**	**285**	*i* P		**Pg**	**10 22 30.3**	**-0.2**
STEP				*i* S		**Sn**	**10 22 46.5**	**-0.2**
STEP				*i* S		**Sn**	**10 22 46.5**	**-0.2**
STEP	**BALIKESIR_Sava**	**1.12**	**285**	P		**Pg**	**10 22 30.3**	**-0.2**
STEP				S		**Sn**	**10 22 46.5**	**-0.2**
SHUT	**Suhut-Afyon**	**1.25**	**115**	PN		**Pb**	**10 22 32.5**	**-0.3**
SHUT	**Suhut-Afyon**	**1.25**	**115**	*e*Pn		**Pb**	**10 22 32.5**	**-0.3**
CAVI	**Cavuskoy**	**1.25**	**27**	PN		**Pg**	**10 22 32.9**	**-0.1**
CAVI	**Cavuskoy**	**1.25**	**27**	*e*Pn		**Pg**	**10 22 32.9**	**-0.1**
MDNY	**Mudanya-Bursa**	**1.29**	**352**	PN		**Pn**	**10 22 33.4**	**0.0**
MDNY	**Mudanya-Bursa**	**1.29**	**352**	*e*Pn		**Pn**	**10 22 33.4**	**0.0**
BORA	**Eskisehir**	**1.31**	**52**	*i* P		**Pn**	**10 22 33.1**	**-0.6**
BORA				*i* S		**Sg**	**10 22 50.4**	**-0.6**
BORA				*i* S		**Sb**	**10 22 51.0**	**+0.2**
BORA	**Eskisehir**	**1.31**	**52**	P		**Pn**	**10 22 33.1**	**-0.6**
BORA				S		**Sb**	**10 22 51.0**	**+0.2**
KCTX	**Karacabey (Bur**	**1.31**	**334**	PN		**Pn**	**10 22 33.4**	**-0.3**
KCTX	**Karacabey (Bur**	**1.31**	**334**	*e*Pn		**Pn**	**10 22 33.4**	**-0.3**
BALY	**Balya**	**1.33**	**300**	*i* P		**Pn**	**10 22 32.8**	**-1.1**
BALY				*i* S		**Sb**	**10 22 51.7**	**+0.3**
BALY	**Balya**	**1.33**	**300**	P		**Pn**	**10 22 32.8**	**-1.1**
BALY				S		**Sb**	**10 22 51.7**	**+0.3**
DENT	**Denizli**	**1.33**	**183**	PN		**Pg**	**10 22 34.2**	**-0.4**
DENT	**Denizli**	**1.33**	**183**	*e*Pn		**Pg**	**10 22 34.2**	**-0.4**
GEMT	**Gemlik**	**1.35**	**3**	PN		**Pg**	**10 22 35.1**	**+0.3**
GEMT	**Gemlik**	**1.35**	**3**	*e*Pn		**Pg**	**10 22 35.1**	**+0.3**
ESKT	**Eskisehir**	**1.42**	**72**	PN		**Pb**	**10 22 35.7**	**-0.1**
ESKT	**Eskisehir**	**1.42**	**72**	*e*Pn		**Pb**	**10 22 35.7**	**-0.1**
ADVT	**Abdulvahap**	**1.43**	**20**	PN		**Pg**	**10 22 36.3**	**-0.1**
ADVT	**Abdulvahap**	**1.43**	**20**	*e*Pn		**Pg**	**10 22 36.3**	**-0.1**
GONE	**Gonen-Balikesi**	**1.46**	**311**	PN		**Pg**	**10 22 36.8**	**-0.2**
GONE	**Gonen-Balikesi**	**1.46**	**311**	*e*Pn		**Pg**	**10 22 36.8**	**-0.2**
BOLV	**Bolvadin**	**1.48**	**104**	*i* P		**Pg**	**10 22 37.7**	**+0.3**
BOLV				*i* S		**Sn**	**10 22 55.2**	**-0.5**
BOLV	**Bolvadin**	**1.48**	**104**	P		**Pg**	**10 22 37.7**	**+0.3**
BOLV				S		**Sn**	**10 22 55.2**	**-0.5**
ARMT	**Armutlu**	**1.49**	**353**	PN		**Pg**	**10 22 37.4**	**-0.2**
ARMT	**Armutlu**	**1.49**	**353**	*e*Pn		**Pg**	**10 22 37.4**	**-0.2**
YLV	**Yalova**	**1.49**	**8**	PN		**Pb**	**10 22 37.1**	**+0.1**
YLV	**Yalova**	**1.49**	**8**	*e*Pn		**Pb**	**10 22 37.1**	**+0.1**
GPA	**Golpazari**	**1.51**	**37**	PN		**Pb**	**10 22 37.4**	**0.0**
GPA	**Golpazari**	**1.51**	**37**	*e*Pn		**Pb**	**10 22 37.4**	**0.0**
BRDR	**BURDUR-Merkez**	**1.58**	**151**	*i* P		**Pg**	**10 22 39.7**	**+0.4**
BRDR				*i* S		**Sg**	**10 23 02.6**	**+2.9**
BRDR	**BURDUR-Merkez**	**1.58**	**151**	P		**Pg**	**10 22 39.7**	**+0.4**
BRDR				S		**Sg**	**10 23 02.6**	**+2.9**
EDC	**Edincik**	**1.58**	**323**	PN		**Pn**	**10 22 36.9**	**-0.5**
EDC	**Edincik**	**1.58**	**323**	*e*Pn		**Pn**	**10 22 36.9**	**-0.5**
TAVA	**DENIZLI_Tavas**	**1.63**	**186**	*i* P		**Pg**	**10 22 39.4**	**-0.8**
TAVA				*i* S		**Sg**	**10 23 02.9**	**+1.6**
TAVA	**DENIZLI_Tavas**	**1.63**	**186**	P		**Pg**	**10 22 39.4**	**-0.8**
TAVA				S		**Sg**	**10 23 02.9**	**+1.6**
GEYV	**SAKARYA_Geyve**	**1.67**	**33**	*i* P		**Pb**	**10 22 40.1**	**+0.1**
GEYV				*i* S		**Sg**	**10 23 03.1**	**+0.5**
GEYV	**SAKARYA_Geyve**	**1.67**	**33**	P		**Pb**	**10 22 40.1**	**+0.1**
GEYV				S		**Sg**	**10 23 03.1**	**+0.5**
ISP	**Isparta**	**1.68**	**138**	PN		**Pn**	**10 22 39.1**	**+0.3**
ISP	**Isparta**	**1.68**	**138**	*e*Pn		**Pn**	**10 22 39.1**	**+0.3**
BAGO	**Egridir - ISPA**	**1.71**	**129**	*i* P		**Pn**	**10 22 39.2**	**0.0**
DKL	**Dikili**	**1.72**	**270**	PN		**Pb**	**10 22 40.4**	**-0.4**
DKL	**Dikili**	**1.72**	**270**	*e*Pn		**Pb**	**10 22 40.4**	**-0.4**
GULT	**Gulveren**	**1.72**	**38**	PN		**Pb**	**10 22 40.3**	**-0.7**
GULT	**Gulveren**	**1.72**	**38**	*e*Pn		**Pb**	**10 22 40.3**	**-0.7**
BUY	**Buyukada**	**1.76**	**0**	PN		**Pb**	**10 22 41.3**	**-0.3**
BUY	**Buyukada**	**1.76**	**0**	*i* P		**Pb**	**10 22 41.0**	**-0.6**
BUY	**Buyukada**	**1.76**	**0**	P		**Pb**	**10 22 41.0**	**-0.6**
BUY	**Buyukada**	**1.76**	**0**	*e*Pn		**Pb**	**10 22 41.3**	**-0.3**
HRT	**Hereke**	**1.78**	**14**	PN		**Pn**	**10 22 40.9**	**+0.7**
HRT	**Hereke**	**1.78**	**14**	*e*Pn		**Pn**	**10 22 40.9**	**+0.7**
SPNC	**Sapanca-Adapaz**	**1.84**	**30**	PN		**Pb**	**10 22 42.1**	**-0.9**
SPNC	**Sapanca-Adapaz**	**1.84**	**30**	*e*Pn		**Pb**	**10 22 42.1**	**-0.9**
GOLH	**Golhisar**	**1.88**	**169**	*i* P		**Pn**	**10 22 40.8**	**-0.8**
GOLH	**Golhisar**	**1.88**	**169**	P		**Pn**	**10 22 40.8**	**-0.8**
SAUV	**Serdivan-Sakar**	**1.90**	**29**	PN		**Pb**	**10 22 42.9**	**-1.0**
SAUV	**Serdivan-Sakar**	**1.90**	**29**	*e*Pn		**Pb**	**10 22 42.9**	**-1.0**
SVRH	**Sivrihisar-ESK**	**1.91**	**78**	PN		**Pb**	**10 22 42.7**	**+0.8**
SVRH	**Sivrihisar-ESK**	**1.91**	**78**	*e*Pn		**Pb**	**10 22 42.7**	**+0.8**
KRBG	**Karabiga-Canak**	**1.91**	**314**	PN		**Pb**	**10 22 43.2**	**-0.9**
KRBG	**Karabiga-Canak**	**1.91**	**314**	*e*Pn		**Pb**	**10 22 43.2**	**-0.9**
ISK	**Istanbul-Kandi**	**1.98**	**359**	PN		**Pb**	**10 22 44.3**	**-0.9**
ISK	**Istanbul-Kandi**	**1.98**	**359**	*e*Pn		**Pb**	**10 22 44.3**	**-0.9**
SBT3	**Marmara-Eregli**	**2.00**	**334**	PN		**Pb**	**10 22 44.4**	**-1.1**
SBT3	**Marmara-Eregli**	**2.00**	**334**	*e*Pn		**Pb**	**10 22 44.4**	**-1.1**
SILT	**Sile**	**2.10**	**11**	PN		**Pn**	**10 22 45.8**	**+1.3**
SILT	**Sile**	**2.10**	**11**	*e*Pn		**Pn**	**10 22 45.8**	**+1.3**
BGKT	**Bogazkoy**	**2.11**	**353**	PN		**Pn**	**10 22 46.2**	**+1.6**
BGKT	**Bogazkoy**	**2.11**	**353**	*e*Pn		**Pn**	**10 22 46.2**	**+1.6**
MDUB	**Mudurnu**	**2.12**	**49**	PN		**Pn**	**10 22 45.8**	**+0.9**
MDUB	**Mudurnu**	**2.12**	**49**	*e*Pn		**Pn**	**10 22 45.8**	**+0.9**
KLYT	**Kilyos**	**2.16**	**359**	PN		**Pn**	**10 22 46.8**	**+1.4**
KLYT	**Kilyos**	**2.16**	**359**	*e*Pn		**Pn**	**10 22 46.8**	**+1.4**
RKY	**Sarkoy-Tekirda**	**2.18**	**318**	PN		**Pn**	**10 22 47.2**	**+1.5**
RKY	**Sarkoy-Tekirda**	**2.18**	**318**	*e*Pn		**Pn**	**10 22 47.2**	**+1.5**
CTKS	**Kestanelik-??a**	**2.19**	**348**	PN		**Pn**	**10 22 47.4**	**+1.7**
CTKS	**Kestanelik-??a**	**2.19**	**348**	*e*Pn		**Pn**	**10 22 47.4**	**+1.7**
ZEY	**¨zmir**	**2.21**	**248**	*i* P		**Pb**	**10 22 48.2**	**-1.0**
LPK	**Lapseki**	**2.22**	**306**	PN		**Pn**	**10 22 47.7**	**+1.5**
LPK	**Lapseki**	**2.22**	**306**	*e*Pn		**Pn**	**10 22 47.7**	**+1.5**
SLVT	**Silivri**	**2.25**	**342**	PN		**Pn**	**10 22 48.3**	**+1.8**
SLVT	**Silivri**	**2.25**	**342**	*e*Pn		**Pn**	**10 22 48.3**	**+1.8**
TKR	**Tekirdag**	**2.25**	**328**	PN		**Pb**	**10 22 48.6**	**-1.3**
TKR	**Tekirdag**	**2.25**	**328**	*e*Pn		**Pb**	**10 22 48.6**	**-1.3**
GELI	**Tayfur-Gelibol**	**2.42**	**304**	PN		**Pb**	**10 22 51.0**	**-1.8**
GELI	**Tayfur-Gelibol**	**2.42**	**304**	*e*Pn		**Pb**	**10 22 51.0**	**-1.8**
CTYL	**Yalikoy Yolu**	**2.47**	**345**	PN		**Pn**	**10 22 51.2**	**+1.7**
CTYL	**Yalikoy Yolu**	**2.47**	**345**	*e*Pn		**Pn**	**10 22 51.2**	**+1.7**
ERIK	**Erikli-Kesan**	**2.55**	**309**	PN		**Pn**	**10 22 52.2**	**+1.6**
ERIK	**Erikli-Kesan**	**2.55**	**309**	*e*Pn		**Pn**	**10 22 52.2**	**+1.6**

ISCJB ***16*** *10:23:23.0±0.6,28°.85N±0°.05×112°.98W±0°.04, h10km, mb3.9/7, MS3.7/6, Error ellipse: s-maj=7.7km s-min=3.8km az=38.3*

MEX ***16*** *10:23:22.0±0.4,28°.83N×113°.27W, h10km, MD4.2*

IDC ***16*** *10:23:22.9±1.6,28°.89N×112°.99W, h0km, mb3.8/6, mb1 4.0/13, mb1mx3.8/66, mbtmp3.8/13, ML3.9/5, MS3.6/11, Ms1 3.6/11, ms1mx3.3/60, Error ellipse: s-maj=28.5km s-min=12.6km az=43.0*

NEIC ***16*** *10:23:24.6±0.8,28°.95N×113°.04W, h10km, mb4.1/16, MD4.2(MEX), Error ellipse: s-maj=11.2km s-min=5.7km az=222.0*

ISC 16 10:23:25.0±0.9,28°.91N±0°.08×112°.99W±0°.06, h10km, n114, σ2919/113, mb4.2/7, MS3.6/6, Gulf of California

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
HSIG		**1.79**	**86**	*e*P		**Pn**	**10 23 53.1**	**-2.9**
HSIG				*e*S		**Sn**	**10 24 17.4**	**-1.4**
HSIG		**1.79**	**86**	*e*Pn		**Pn**	**10 23 53.2**	**-2.7**
HSIG				*e*S		**Sn**	**10 24 17.4**	**-1.4**
GUYB	**Guaymas**	**2.12**	**118**	*e*P		**Pn**	**10 23 57.2**	**-3.3**
TUC	**Tucson**	**3.89**	**29**	*e*Pn		**Pn**	**10 24 23.0**	**-1.9**
113A	**Mohawk Valley,**	**3.91**	**350**	*e*Pn		Pn	10 24 20.1	-5.0
319A	**Douglas**	**4.05**	**52**	*e*Pn		**Pn**	**10 24 25.2**	**-1.9**
GLA	**Glamis**	**4.42**	**340**	*e*Pn		Pn	10 24 27.9	-4.4
BAR	**Barrett**	**4.92**	**321**	*e*Pn		**Pn**	**10 24 39.7**	**+0.7**
Y12C	**Blythe**	**5.00**	**345**	*e*Pn		**Pn**	**10 24 39.3**	**-0.8**
Y14A	**Wickenburg**	**5.02**	**360**	*e*Pn		**Pn**	**10 24 37.0**	**-3.4**
CPE	**Camp Elliot**	**5.32**	**319**	*e*Pn		**Pn**	**10 24 44.6**	**+0.1**
CPE				*e*Sg		**Sb**	**10 26 07.7**	**+5.8**
LPIG	**La Paz**	**5.35**	**153**	Pn		**Pn**	**10 24 44.9**	**0.0**
	4.9nm,0.3s,baz=302,slow=5.1,SNR=4.7							
LPIG				Lg		Lg	10 26 10.4	
	0.8nm,0.3s,baz=18,slow=20,SNR=2.2							
LPIG				LR		LR	10 26 45.5	
	comp=Z,308nm,18.1s,baz=332,slow=38							
XPFO	**Piæon Flat**	**5.55**	**329**	*e*Pn		**Pn**	**10 24 50.1**	**+2.3**
X16A	**Lo Mia Camp, P**	**5.65**	**13**	*e*Pn		**Pn**	**10 24 47.1**	**-2.1**
SLBS	**Sierra La Lagu**	**5.87**	**152**	*e*Pn		**Pn**	**10 24 53.1**	**+0.9**
W13A	**Hualapai Mount**	**6.22**	**353**	*e*Pn		**Pn**	**10 24 54.5**	**-2.6**
EPT	**El Paso**	**6.29**	**61**	*e*Pn		**Pn**	**10 25 01.6**	**+3.7**
EPT				*e*Lg		Lg	10 26 49.8	
LDFC	**Landfair**	**6.41**	**344**	*e*Pn		**Pn**	**10 24 59.3**	**-0.3**
LDFC				*e*Lg		Lg	10 27 12.0	
WUAZ	**Wupatki**	**6.73**	**11**	*e*Pn		**Pn**	**10 25 02.8**	**-1.2**
HPIG		**6.77**	**105**	*e*Pn		**Pn**	**10 25 04.4**	**-0.2**
W18A	**Petrified Fore**	**6.78**	**23**	*e*Pn		**Pn**	**10 25 00.9**	**-3.9**
MWC	**Mount Wilson**	**6.84**	**322**	*e*Pn		**Pn**	**10 25 03.5**	**-2.1**
MWC				*e*Sg		**Sg**	**10 27 00.5**	**-4.1**
MNTX	**Cornudas Mount**	**7.14**	**65**	*e*Pn		**Pn**	**10 25 08.0**	**-1.6**
GSC	**Goldstone, Bar**	**7.15**	**334**	*e*Pn		**Pn**	**10 25 12.8**	**+3.0**
LAZ	**Ladron**	**7.41**	**41**	*e*Pn		**Pn**	**10 25 14.7**	**+1.3**
U15A	**North Rim**	**7.53**	**4**	*e*Pn		**Pn**	**10 25 13.9**	**-1.2**
BNM	**Barren Site**	**7.54**	**44**	*e*Pn		**Pn**	**10 25 19.4**	**+4.2**
LPM	**Los Pinos Moun**	**7.64**	**44**	*e*Pn		**Pn**	**10 25 21.2**	**+4.6**
LCMT	**Little Creek M**	**8.09**	**359**	*e*Pn		**Pn**	**10 25 21.2**	**-1.4**
KNB	**Kanab**	**8.09**	**1**	*e*Pn		**Pn**	**10 25 21.6**	**-1.2**
TX31	**Lajitas Ar. Si**	**8.16**	**85**	*e*Pn		**Pn**	**10 25 23.7**	**0.0**
TXAR	**Lajitas Array**	**8.17**	**85**	Pn		**Pn**	**10 25 23.4**	**-0.4**
	1.3nm,0.3s,baz=258,slow=13,SNR=49							
TXAR				Lg		Lg	10 27 41.4	
	0.5nm,0.3s,baz=286,slow=32,SNR=3.8							
ANMO	**Albuquerque**	**8.19**	**41**	Pn		**Pn**	**10 25 24.2**	**+0.2**
	0.5nm,0.3s,baz=287,slow=20,SNR=18							
ANMO				Pg		**Pg**	**10 26 04.3**	**+2.5**
	0.2nm,0.3s,baz=299,slow=19,SNR=4.4							
ANMO				Lg		Lg	10 27 42.5	
	0.4nm,0.3s,baz=144,slow=19,SNR=4.4							
ANMO	**Albuquerque**	**8.19**	**41**	*e*Pn		**Pn**	**10 25 22.6**	**-1.5**
ANMO				Pg		**Pg**	**10 26 04.3**	**+2.5**
ANMO				Lg		Lg	10 27 42.5	
TPNV	**Topopah Spring**	**8.48**	**342**	*e*Pn		**Pn**	**10 25 31.5**	**+3.5**
PKCU	**Pink Cliffs**	**8.54**	**4**	*e*Pn		**Pn**	**10 25 31.4**	**+2.4**
CCUT	**Cedar City**	**8.63**	**358**	*e*Pn		**Pn**	**10 25 29.6**	**-0.5**
SZCU	**Shurtz Canyon**	**8.67**	**359**	*e*Pn		**Pn**	**10 25 31.4**	**+0.7**
MVCO	**Mesa Verde**	**9.10**	**23**	*e*Pn		**Pn**	**10 25 36.0**	**-0.6**
MTPU	**Mount Pierson**	**9.14**	**4**	*e*Pn		**Pn**	**10 25 37.7**	**+0.4**
MSU	**Marysvale**	**9.61**	**4**	*e*Pn		**Pn**	**10 25 44.9**	**+1.4**
R11A	**Troy Canyon, C**	**9.66**	**348**	*e*Pn		**Pn**	**10 25 41.9**	**-2.4**
PV05	**Paradox Valley**	**9.71**	**19**	*e*Pn		**Pn**	**10 25 48.9**	**+4.0**
PV01	**Paradox Valley**	**9.91**	**21**	*e*Pn		**Pn**	**10 25 48.6**	**+0.8**
PV10	**Paradox Valley**	**10.00**	**18**	*e*Pn		**Pn**	**10 25 52.1**	**+3.1**
MSTX	**Muleshoe**	**10.08**	**57**	*e*Pn		**Pn**	**10 25 52.4**	**+2.5**
Q16A	**Castle Valley**	**10.10**	**8**	*e*Pn		**Pn**	**10 25 52.4**	**+2.1**
S22A	**4UR Ranch, Cre**	**10.21**	**29**	*e*Pn		**Pn**	**10 25 56.5**	**+4.6**
SRU	**San Rafael Swe**	**10.38**	**11**	*e*Pn		**Pn**	**10 25 56.4**	**+2.3**
NVAR	**Mina Array Bea**	**10.48**	**336**	Pn		**Pn**	**10 25 55.5**	**0.0**
	baz=151,slow=15,SNR=4.8							
NVAR				Lg		Lg	10 28 55.7	
	baz=128,slow=22,SNR=2.7							
P17A	**Butcher Ranch,**	**10.70**	**9**	*e*Pn		**Pn**	**10 26 00.8**	**+2.3**
SDCO	**Great Sand Dun**	**10.81**	**33**	Pn		**Pn**	**10 25 59.5**	**-0.6**
T25A	**Trinidad**	**10.91**	**39**	*e*Pn		**Pn**	**10 26 03.5**	**+2.0**
P18A	**Preston Nutter**	**10.93**	**11**	*e*Pn		**Pn**	**10 26 03.1**	**+1.3**
WAKR	**Walker**	**10.97**	**332**	*e*Pn		**Pn**	**10 26 03.8**	**+1.6**
DUG	**Dugway, Tooele**	**11.26**	**1**	*e*Pn		**Pn**	**10 26 05.1**	**-1.1**
AMTX	**Amarillo**	**11.30**	**55**	*e*Pn		**Pn**	**10 26 07.3**	**+0.6**
SMCO	**Snowmass**	**11.39**	**24**	*e*Pn		Pn	10 26 13.4	+5.2
JCT	**Junction City**	**11.57**	**79**	*e*Pn		**Pn**	**10 26 11.5**	**+1.2**
RUBR	**Rubicon Trail**	**11.73**	**331**	*e*Pn		**Pn**	**10 26 15.9**	**+3.3**
VCNR	**Virginia City**	**11.74**	**334**	*e*Pn		**Pn**	**10 26 14.2**	**+1.5**
CTU	**Camp Tracy**	**11.80**	**5**	*e*Pn		**Pn**	**10 26 16.8**	**+3.2**
ELK	**Elko**	**11.96**	**352**	Pn		**Pn**	**10 26 18.2**	**+2.5**
	0.1nm,0.3s,baz=215,slow=19,SNR=5.4							
ELK				LR		LR	10 30 55.3	
	comp=Z,117nm,20.5s,baz=246,slow=38							
BGU	**Big Grassy Mou**	**11.99**	**360**	*e*Pn		**Pn**	**10 26 18.7**	**+2.6**
ABTX	**Abilene, Hawle**	**12.00**	**69**	*e*Pn		**Pn**	**10 26 18.6**	**+1.6**
TCUT	**Tarantula Canyon**	**12.25**	**6**	*e*Pn		**Pn**	**10 26 22.5**	**+2.7**
HWUT	**Hardware Ranch**	**12.73**	**5**	*e*Pn		**Pn**	**10 26 28.2**	**+2.0**
HVU	**Hansel Valley**	**12.85**	**1**	*e*Pn		**Pn**	**10 26 32.4**	**+4.5**
N23A	**Red Feather La**	**13.28**	**24**	*e*Pn		**Pn**	**10 26 37.7**	**+3.9**
WMOK	**Wichita Mounta**	**13.40**	**61**	*e*Pn		**Pn**	**10 26 35.1**	**-0.2**
WHTX	**Lake Whitney,**	**13.75**	**73**	*e*Pn		**Pn**	**10 26 40.7**	**+0.6**
AHID	**Auburn Hatcher**	**13.91**	**6**	*e*Pn		**Pn**	**10 26 46.1**	**+3.7**
BW06	**Boulder Array**	**14.11**	**10**	*e*Pn		**Pn**	**10 26 48.1**	**+3.0**
PD31	**Pinedale Array**	**14.11**	**10**	*e*Pn		**Pn**	**10 26 49.5**	**+4.4**
PDAR	**Pinedale Array**	**14.11**	**10**	Pn		**P**	**10 26 49.7**	**-3.2**
	0.1nm,0.3s,baz=181,slow=8.1,SNR=15							
PDAR				Lg		Lg	10 30 48.6	
	0.1nm,0.3s,baz=169,slow=20,SNR=3.6							
PDAR				LR		LR	10 32 28.0	
	comp=Z,169nm,19.1s,baz=187,slow=39							
PDAR	**Pinedale Array**	**14.11**	**10**	*e*Pn		**P**	**10 26 50.2**	**-2.6**
PDAR				Lg		Lg	10 30 48.6	
WVOR	**Wild Horse Val**	**14.25**	**343**	*e*Pn		**P**	**10 26 52.9**	**-1.5**
TPAW	**Teton Pass**	**14.65**	**6**	*e*Pn		**Pn**	**10 26 55.9**	**+3.4**
MFID	**Camas Ranch**	**14.66**	**352**	Pn		**Pn**	**10 26 53.5**	**+1.0**
HLID	**Hailey**	**14.67**	**356**	*e*Pn		**P**	**10 26 57.9**	**-1.2**
K22A	**Casper**	**14.68**	**19**	Pn		**Pn**	**10 26 51.0**	**-1.8**
LOHW	**Long Hollow**	**14.80**	**7**	*e*Pn		**P**	**10 26 58.4**	**-2.2**
MOOW	**Moose Ponds**	**14.92**	**6**	*e*Pn		**P**	**10 27 01.3**	**-0.6**
	5.8nm,1.0s							
YBH	**Yreka Blue Hor**	**15.04**	**331**	LR		LR	10 32 08.0	
	comp=Z,210nm,21.6s,baz=215,slow=35							
IMW	**Indian Meadow**	**15.05**	**6**	*e*Pn		**P**	**10 27 03.6**	**+0.2**
	9.9nm,1.0s							
MCMT	**McKenzie Canyo**	**15.89**	**0**	*e*Pn		**P**	**10 27 12.3**	**-0.4**
YHH	**Holmes Hill**	**15.94**	**6**	*e*Pn		**P**	**10 27 13.8**	**+0.5**
	5.6nm,1.4s							
TUL1	**Leonard**	**16.11**	**60**	*e*Pn		**Pn**	**10 27 10.7**	**-0.8**
	23nm,1.0s							
DLMT	**Dillon**	**16.43**	**1**	*e*Pn		**P**	**10 27 19.6**	**+1.0**
	6.8nm,1.2s							
RLMT	**Red Lodge**	**16.45**	**9**	*e*Pn		**P**	**10 27 19.1**	**+0.3**
	7.6nm,1.2s							
BOZ	**Bozeman (W)**	**16.70**	**3**	*e*Pn		**P**	**10 27 22.1**	**+0.6**
	5.0nm,1.3s							
KSU1	**Kansas State U**	**16.94**	**49**	*e*Pn		**P**	**10 27 24.7**	**+0.6**
	20nm,0.8s							
MIAR	**Mount Ida**	**17.44**	**66**	*e*Pn		**P**	**10 27 29.9**	**+0.3**
	15nm,1.4s							
HHAR	**Hobbs**	**17.64**	**60**	*e*Pn		**Pn**	**10 27 30.6**	**-0.3**
	9.2nm,1.1s							
HRY	**Holter Researc**	**17.80**	**3**	*e*Pn		**P**	**10 27 35.3**	**+1.6**
W40A	**Ferguson Farm,**	**18.00**	**65**	*e*Pn		**P**	**10 27 36.1**	**+0.3**
	21nm,1.0s							
LAO	**LASA Array**	**18.53**	**15**	*e*P		**P**	**10 27 41.6**	**-0.1**
	19nm,1.1s							
WHAR	**Wooly Hollow**	**18.64**	**65**	*e*P		**P**	**10 27 43.0**	**0.0**
	21nm,1.0s							
JTMT	**Jette**	**18.84**	**357**	*e*P		**Pn**	**10 27 46.2**	**+0.6**
	12nm,1.3s							
NEW	**Newport**	**19.59**	**352**	P		**P**	**10 27 53.8**	**+0.5**
	0.1nm,0.3s,baz=167,slow=17,SNR=3.1							
NEW				LR		LR	10 36 08.4	
	comp=Z,142nm,20.4s,baz=184,slow=39							
CMIG	**Matias Romero**	**20.36**	**121**	P		**P**	**10 28 01.5**	**-0.3**
	3.4nm,0.8s,baz=336,slow=12,SNR=2.5							
WVT	**Waverly**	**22.37**	**65**	*e*P		**P**	**10 28 25.0**	**+1.7**
	7.2nm,0.9s							
ULM	**Lac du Bonnet**	**24.95**	**27**	P		**P**	**10 28 47.7**	**-0.7**
	6.4nm,0.9s,baz=243,slow=9.0,SNR=3.4							
TKL	**Tuckaleechee C**	**25.54**	**67**	P		**P**	**10 28 54.0**	**0.0**
	6.4nm,0.9s,baz=237,slow=3.8,SNR=5.5							
TKL				LR		LR	10 38 51.7	
	comp=Z,168nm,18.4s,baz=238,slow=36							
TKL	**Tuckaleechee C**	**25.54**	**67**	*e*P		**P**	**10 28 55.6**	**+1.6**
	18nm,1.0s							
BBB	**Bella Bella**	**25.84**	**338**	LR		LR	10 38 53.8	
	comp=Z,222nm,21.0s,baz=142,slow=36							
KMSC	**Kings Mountain**	**27.48**	**69**	P		**P**	**10 29 11.0**	**-0.4**
	11nm,1.0s							
SADO	**Sadowa**	**31.11**	**50**	P		**P**	**10 29 42.5**	**-1.0**
	1.9nm,0.5s,baz=284,slow=12,SNR=2.6							
SADO				LR		LR	10 42 48.1	
	comp=Z,61nm,21.9s,baz=344,slow=37							
YKA	**Yellowknife Ar**	**33.61**	**359**	P		**P**	**10 30 02.9**	**-2.3**
	0.2nm,0.7s,baz=178,slow=8.1,SNR=5.4							
YKA				PcP		**PcP**	**10 32 46.2**	**+0.9**
	0.2nm,0.9s,baz=165,slow=3.1,SNR=3.7							
ILAR	**Eielson Array**	**41.72**	**339**	P		**P**	**10 31 12.1**	**-1.8**
	0.4nm,0.8s,baz=151,slow=7.7,SNR=4.8							
IM3	**Indian Mountai**	**44.72**	**338**	*e*P		**P**	**10 31 35.8**	**-2.2**
ATAH	**Atahualpa**	**48.94**	**132**	LR		LR	10 49 01.9	
	comp=Z,43nm,18.6s,baz=356,slow=32							
AFI	**Afiamalu**	**70.95**	**241**	LR		LR	10 58 58.0	
	comp=Z,53nm,20.3s,baz=105,slow=30							
RAO	**Raoul Island**	**84.78**	**233**	LR		LR	11 03 50.7	
	comp=Z,283nm,19.9s,baz=20,slow=29							

SJA ***16*** *10:34:07.4±0.6,36°.25S×73°.76W, h27km±3km, ML3.9, MW4.8*

ISCJB ***16*** *10:34:08.2±1.2,36°.26S±0°.03×73°.66W±0°.05, h6km±7km, mb4.1/8, Error ellipse: s-maj=7.0km s-min=5.2km az=14.0*

GUC ***16*** *10:34:08.7±0.6,36°.21S×73°.75W, h10km±4km, ML4.2*

IDC ***16*** *10:34:09.1±0.9,36°.23S×73°.37W, h0km, mb4.0/9, mb1 4.2/10, mb1mx4.0/32, mbtmp4.0/10, ML4.0/1, MS3.3/1, Ms1 3.3/1, ms1mx2.8/29, Error ellipse: s-maj=34.6km s-min

STEP			*i* S	**Sb**	10 39 43.5	+0.3		
STEP	**BALIKESIR_Sava**	**1.13 284**	P	**Pn**	10 39 28.3	-0.3		
STEP			S	**Sb**	10 39 43.5	+0.3		
KZIL	**AFYON_Kizioren**	**1.15 137**	*i* P	**Pn**	10 39 29.1	+0.1		
KZIL			*i* S	**Sn**	10 39 45.6	+0.3		
KZIL	**AFYON_Kizioren**	**1.15 137**	P	**Pn**	10 39 29.1	+0.1		
KZIL			S	**Sn**	10 39 45.6	+0.3		
CAVI	**Cavuskoy**	**1.23 26**	PN	**Pn**	10 39 30.0	+0.1		
CAVI	**Cavuskoy**	**1.23 26**	*e*Pn	**Pn**	10 39 30.0	+0.1		
SHUT	**Suhut-Afyon**	**1.23 116**	PN	**Pn**	10 39 30.1	0.0		
SHUT	**Suhut-Afyon**	**1.23 116**	*e*Pn	**Pn**	10 39 30.1	0.0		
MDNY	**Mudanya-Bursa**	**1.28 351**	PN	**Pb**	10 39 30.9	+0.4		
MDNY	**Mudanya-Bursa**	**1.28 351**	*e*Pn	**Pb**	10 39 30.9	+0.4		
BORA	**Eskisehir**	**1.28 52**	*i* S	**Sn**	10 39 48.4	-0.1		
BORA	**Eskisehir**	**1.28 52**	S	**Sn**	10 39 48.4	-0.1		
KCTX	**Karacabey (Bur**	**1.31 333**	PN	**Pn**	10 39 30.7	-0.3		
KCTX	**Karacabey (Bur**	**1.31 333**	*e*Pn	**Pn**	10 39 30.7	-0.3		
GEMT	**Gemlik**	**1.33 2**	PN	**Pg**	10 39 31.8	+0.5		
GEMT	**Gemlik**	**1.33 2**	*e*Pn	**Pg**	10 39 31.8	+0.5		
DENT	**Denizli**	**1.35 183**	PN	**Pg**	10 39 33.3	+1.6		
DENT	**Denizli**	**1.35 183**	*e*Pn	**Pg**	10 39 33.3	+1.6		
ESKT	**Eskisehir**	**1.39 72**	PN	**Pg**	10 39 32.9	+0.4		
ESKT	**Eskisehir**	**1.39 72**	*i* P	**Pn**	10 39 30.6	-1.7		
ESKT	**Eskisehir**	**1.39 72**	*e*Pn	**Pg**	10 39 32.9	+0.4		
SEYT	**Eskypehyr**	**1.39 72**	P	**Pn**	10 39 30.6	-1.7		
ADVT	**Abdulvahap**	**1.41 19**	PN	**Pg**	10 39 33.3	+0.5		
ADVT	**Abdulvahap**	**1.41 19**	*e*Pn	**Pg**	10 39 33.3	+0.5		
GONE	**Gonen-Balikesi**	**1.46 311**	PN	**Pg**	10 39 34.8	+0.9		
GONE	**Gonen-Balikesi**	**1.46 311**	*e*Pn	**Pg**	10 39 34.8	+0.9		
BOLV	**Bolvadin**	**1.47 105**	*i* P	**Pg**	10 39 34.4	+0.4		
BOLV			*i* S	**Sg**	10 39 53.6	+0.6		
BOLV	**Bolvadin**	**1.47 105**	P	**Pg**	10 39 34.4	+0.4		
BOLV			S	**Sg**	10 39 53.6	+0.6		
YLV	**Yalova**	**1.47 7**	PN	**Pg**	10 39 34.4	+0.3		
YLV	**Yalova**	**1.47 7**	*e*Pn	**Pg**	10 39 34.4	+0.3		
ARMT	**Armutlu**	**1.48 352**	PN	**Pg**	10 39 34.6	+0.5		
ARMT	**Armutlu**	**1.48 352**	*e*Pn	**Pg**	10 39 34.6	+0.5		
GPA	**Golpazari**	**1.49 37**	PN	**Pg**	10 39 34.4	0.0		
GPA	**Golpazari**	**1.49 37**	*e*Pn	**Pg**	10 39 34.4	0.0		
AYDB	**Zeytinkoy-Aydi**	**1.51 221**	PN	**Pg**	10 39 34.9	+0.1		
AYDB	**Zeytinkoy-Aydi**	**1.51 221**	*e*Pn	**Pg**	10 39 34.9	+0.1		
EDC	**Edincik**	**1.58 322**	PN	**Pb**	10 39 35.3	-0.4		
EDC	**Edincik**	**1.58 322**	*e*Pn	**Pb**	10 39 35.3	-0.4		
ISP	**Isparta**	**1.68 139**	PN	**Pg**	10 39 37.6	-0.4		
ISP	**Isparta**	**1.68 139**	*j*P	**Sg**	10 40 03.5	+3.7		
ISP	**Isparta**	**1.68 139**	*e*Pn	**Pg**	10 39 37.6	-0.4		
GULT	**Gulveren**	**1.70 38**	PN	**Pb**	10 39 37.4	-0.4		
GULT	**Gulveren**	**1.70 38**	*e*Pn	**Pb**	10 39 37.4	-0.4		
DKL	**Dikili**	**1.74 270**	PN	**Pg**	10 39 39.2	+0.1		
DKL	**Dikili**	**1.74 270**	*e*Pn	**Pg**	10 39 39.2	+0.1		
BUY	**Buyukada**	**1.75 360**	PN	**Pb**	10 39 38.4	-0.1		
BUY	**Buyukada**	**1.75 360**	*e*Pn	**Pb**	10 39 38.4	-0.1		
HRT	**Hereke**	**1.77 13**	PN	**Pb**	10 39 38.1	-0.8		
HRT	**Hereke**	**1.77 13**	*e*Pn	**Pb**	10 39 38.1	-0.8		
BLCB	**Balcova**	**1.79 247**	PN	**Pg**	10 39 39.8	-0.3		
BLCB	**Balcova**	**1.79 247**	*e*Pn	**Pg**	10 39 39.8	-0.3		
SPNC	**Sapanca-Adapaz**	**1.82 29**	PN	**Pb**	10 39 39.1	-0.7		
SPNC	**Sapanca-Adapaz**	**1.82 29**	*e*Pn	**Pb**	10 39 39.1	-0.7		
SAUV	**Serdivan-Sakar**	**1.87 29**	PN	**Pb**	10 39 39.9	-0.8		
SAUV	**Serdivan-Sakar**	**1.87 29**	*e*Pn	**Pb**	10 39 39.9	-0.8		
SVRH	**Sivrihisar-ESK**	**1.89 79**	PN	**Pb**	10 39 39.9	-1.0		
SVRH	**Sivrihisar-ESK**	**1.89 79**	*e*Pn	**Pb**	10 39 39.9	-1.0		
KRBG	**Karabiga-Canak**	**1.92 313**	PN	**Pb**	10 39 41.4	0.0		
KRBG	**Karabiga-Canak**	**1.92 313**	*e*Pn	**Pb**	10 39 41.4	0.0		
ISK	**Istanbul-Kandi**	**1.96 358**	PN	**Pb**	10 39 41.4	-0.8		
ISK	**Istanbul-Kandi**	**1.96 358**	*e*Pn	**Pb**	10 39 41.4	-0.8		
SBT3	**Marmara-Eregli**	**1.99 334**	PN	**Pb**	10 39 42.2	-0.3		
SBT3	**Marmara-Eregli**	**1.99 334**	*e*Pn	**Pb**	10 39 42.2	-0.3		
GCAM	**G?zelcami?**	**2.05 227**	PN	**Pb**	10 39 43.5	-0.1		
GCAM	**G?zelcami?**	**2.05 227**	*e*Pn	**Pb**	10 39 43.5	-0.1		
YER	**Yerkesik**	**2.08 199**	PN	**Pb**	10 39 43.8	-0.4		
YER	**Yerkesik**	**2.08 199**	*e*Pn	**Pb**	10 39 43.8	-0.4		
SILT	**Sile**	**2.08 11**	PN	**Pb**	10 39 43.3	-1.0		
SILT	**Sile**	**2.08 11**	*e*Pn	**Pb**	10 39 43.3	-1.0		
BGKT	**Bogazkoy**	**2.09 352**	PN	**Pb**	10 39 43.3	-1.1		
BGKT	**Bogazkoy**	**2.09 352**	*e*Pn	**Pb**	10 39 43.3	-1.1		
MDUB	**Mudurnu**	**2.10 49**	PN	**Pb**	10 39 43.2	-1.3		
MDUB	**Mudurnu**	**2.10 49**	*e*Pn	**Pb**	10 39 43.2	-1.3		
MLSB	**Milas**	**2.10 211**	PN	**Pb**	10 39 44.2	-0.3		
MLSB	**Milas**	**2.10 211**	*e*Pn	**Pb**	10 39 44.2	-0.3		
URLA	**Izmir**	**2.12 250**	PN	**Pb**	10 39 44.6	-0.3		
URLA	**Izmir**	**2.12 250**	*e*Pn	**Pb**	10 39 44.6	-0.3		
KLYT	**Kilyos**	**2.15 358**	PN	**Pb**	10 39 43.9	-1.4		
KLYT	**Kilyos**	**2.15 358**	*e*Pn	**Pb**	10 39 43.9	-1.4		
RKY	**Sarkoy-Tekirda**	**2.18 317**	PN	**Pb**	10 39 45.6	-0.4		
RKY	**Sarkoy-Tekirda**	**2.18 317**	*e*Pn	**Pb**	10 39 45.6	-0.4		
CTKS	**Kestanelik-??a**	**2.19 347**	PN	**Pb**	10 39 45.2	-0.8		
CTKS	**Kestanelik-??a**	**2.19 347**	*e*Pn	**Pb**	10 39 45.2	-0.8		
SUTC	**Sutluce-Ispart**	**2.19 137**	PN	**Pb**	10 39 45.1	-1.0		
SUTC	**Sutluce-Ispart**	**2.19 137**	*e*Pn	**Pb**	10 39 45.1	-1.0		
LPK	**Lapseki**	**2.23 305**	PN	**Pb**	10 39 45.8	-0.9		
LPK	**Lapseki**	**2.23 305**	*e*Pn	**Pb**	10 39 45.8	-0.9		
SLVT	**Silivri**	**2.24 342**	PN	**Pb**	10 39 45.8	-1.1		
SLVT	**Silivri**	**2.24 342**	*e*Pn	**Pb**	10 39 45.8	-1.1		
TURN	**Turunc**	**2.27 191**	PN	**Pg**	10 39 48.9	-0.3		
EZN	**Ezine**	**2.29 289**	PN	**Pb**	10 39 46.9	-0.9		
EZN	**Ezine**	**2.29 289**	*e*Pn	**Pb**	10 39 46.9	-0.9		
KORT	**Korkueli**	**2.31 155**	PN	**Pb**	10 39 46.5	-1.6		
KORT	**Korkueli**	**2.31 155**	*e*Pn	**Pb**	10 39 46.5	-1.6		
GELI	**Tayfur-Gelibol**	**2.42 303**	PN	**Pb**	10 39 48.5	-1.6		
GELI	**Tayfur-Gelibol**	**2.42 303**	*e*Pn	**Pb**	10 39 48.5	-1.6		
ELL	**Elmali**	**2.43 165**	PN	**Pb**	10 39 48.5	-1.7		
ELL	**Elmali**	**2.43 165**	*e*Pn	**Pb**	10 39 48.5	-1.7		
CTYL	**Yalikoy Yolu**	**2.46 345**	PN	**Pb**	10 39 48.5	+1.7		
CTYL	**Yalikoy Yolu**	**2.46 345**	*e*Pn	**Pb**	10 39 48.5	+1.7		
FETY	**Fethiye**	**2.46 181**	PN	**Pb**	10 39 49.0	-1.7		
FETY	**Fethiye**	**2.46 181**	*e*Pn	**Pb**	10 39 49.0	-1.7		
BODT	**Bodrum**	**2.50 216**	PN	**Pb**	10 39 50.2	-1.1		
BODT	**Bodrum**	**2.50 216**	*e*Pn	**Pb**	10 39 50.2	-1.1		
BOZC	**Bozcaada**	**2.50 288**	PN	**Pb**	10 39 49.5	-1.8		
BOZC	**Bozcaada**	**2.50 288**	*e*Pn	**Pb**	10 39 49.5	-1.8		
CHOS	**Chios island**	**2.51 254**	PN	**Pb**	10 39 50.1	-1.5		
CHOS	**Chios island**	**2.51 254**	*e*Pn	**Pb**	10 39 50.1	-1.5		
SIGR	**SIGRI**	**2.55 273**	PN	**Pb**	10 39 50.7	-1.5		
SIGR	**SIGRI**	**2.55 273**	*e*Pn	**Pb**	10 39 50.7	-1.5		
ERIK	**Erikli-Kesan**	**2.55 309**	PN	**Pb**	10 39 50.2	-2.0		
ERIK	**Erikli-Kesan**	**2.55 309**	*e*Pn	**Pb**	10 39 50.2	-2.0		
GADA	**Gvkgeada**	**2.73 295**	PN	**Pb**	10 39 52.7	-2.5		
GADA	**Gvkgeada**	**2.73 295**	*e*Pn	**Pb**	10 39 52.7	-2.5		
TIRR	**Tirgusor**	**5.38 354**	*j*P	**Pn**	10 40 26.3	-0.6		
TIRR	**Tirgusor**	**5.38 354**	*j*P	**Pn**	10 40 26.3	-0.6		
TLCR		**6.08 358**	*j*P	**Pn**	10 40 36.8	+0.2		
TLCR		**6.08 358**	*j*P	**Pn**	10 40 36.8	+0.2		
MLR	**Muntele Rosu**	**6.81 341**	*j*P	**Pn**	10 40 47.0	+0.3		
MLR	**Muntele Rosu**	**6.81 341**	*j*P	**Pn**	10 40 47.0	+0.3		
PLOR	**Plostina**	**6.99 346**	*j*P	**Pn**	10 40 49.7	+0.6		
PLOR	**Plostina**	**6.99 346**	*j*P	**Pn**	10 40 49.7	+0.6		
VRI	**Vrincioaia**	**6.99 346**	*j*P	**Pn**	10 40 49.0	-0.1		
VRI	**Vrincioaia**	**6.99 346**	*j*P	**Pn**	10 40 49.0	-0.1		
VOIR		**7.02 336**	*j*P	**Pn**	10 40 49.7	+0.2		
VOIR		**7.02 336**	*j*P	**Pn**	10 40 49.7	+0.2		
ARR	**Arges**	**7.09 333**	*j*P	Pn	10 40 44.7	-5.8		
TESR	**Tescani**	**7.63 347**	*j*P	**Pn**	10 40 55.3	-2.5		
BURAR	**Bucovina Array**	**8.97 343**	*j*P	**Pn**	10 41 16.1	-0.2		
BURAR	**Bucovina Array**	**8.97 343**	*j*P	**Pn**	10 41 16.1	-0.2		

WEL 16 10:39:18.5, 40°S±1°×17°7E±°, h13km±7km, ML3.5/18, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CKHZ	**Cape Kidnapper**	**0.20**	**306**	P	Pb	10 39 23.7	-0.3
CKHZ	**Cape Kidnapper**	**0.20**	**306**	S	Sb	10 39 27.2	-0.5
KAHZ	**Kahuranaki**	**0.32**	**267**	P	Pb	10 39 27.0	+1.0
KAHZ	**Kahuranaki**	**0.32**	**267**	S	Sn	10 39 33.3	-2.1
PXZ	**Pawanui**	**0.41**	**232**	P	Sn	10 39 29.7	-0.5
PXZ	**Pawanui**	**0.41**	**232**	S	Sn	10 39 38.1	+0.4
ARHZ	**Aropaoanui**	**0.56**	**336**	P	Pb	10 39 30.2	+0.1
ARHZ	**Aropaoanui**	**0.56**	**336**	S	Sb	10 39 38.8	+0.7
MCHZ	**McNeill Hill**	**0.56**	**306**	P	Pb	10 39 30.1	-0.1
WHHZ	**Waihua**	**0.70**	**357**	P	Pb	10 39 32.9	+0.3
WHHZ	**Waihua**	**0.70**	**357**	P	Pb	10 39 32.9	+0.4
WHHZ	**Waihua**	**0.70**	**357**	S	Sn	10 39 44.2	-0.6
PRHZ	**Porangahau**	**0.70**	**225**	P	Pn	10 39 33.6	-0.5
WPHZ	**Waipukurau**	**0.71**	**246**	P	Pn	10 39 33.6	-0.7
KRHZ	**Kereru**	**0.72**	**280**	P	Pb	10 39 33.1	+0.2
KRHZ	**Kereru**	**0.72**	**280**	S	Sb	10 39 43.5	+0.7
KWHZ	**Kaweka Forest**	**0.75**	**297**	P	Pb	10 39 33.4	-0.2
KWHZ	**Kaweka Forest**	**0.75**	**297**	S	Sb	10 39 44.8	+1.0
NMHZ	**Naumai**	**0.77**	**331**	P	Pb	10 39 33.9	0.0
NMHZ	**Naumai**	**0.77**	**331**	S	Sb	10 39 45.2	+0.9
MHGZ	**Mahia Peninsul**	**0.79**	**38**	P	Pn	10 39 34.9	-0.5
KNZ	**Kokohu**	**0.81**	**22**	P	Pb	10 39 34.6	+0.2
PNHZ	**Pukenui**	**0.85**	**260**	P	Pb	10 39 35.3	+0.1
PNHZ	**Pukenui**	**0.85**	**260**	S	Sn	10 39 47.6	-1.0
BKZ	**Black Stump Fm**	**0.86**	**315**	P	Pg	10 39 34.9	-0.4
BKZ	**Black Stump Fm**	**0.86**	**315**	S	Sg	10 39 46.7	+0.1
RAHZ	**Arahi**	**0.87**	**350**	P	Pg	10 39 35.4	+0.1
RAHZ	**Arahi**	**0.87**	**350**	S	Sn	10 39 48.2	-0.9
ANWZ	**Angora Road**	**0.92**	**222**	P	Pb	10 39 36.5	+0.1
PRGZ	**Paritu Road**	**0.97**	**29**	P	Pb	10 39 37.0	-0.2
MTHZ	**Maungataniwha**	**0.98**	**339**	P	Pb	10 39 36.8	-0.7
BHHZ	**Black Hill Sta**	**0.99**	**286**	P	Pb	10 39 36.7	-0.8
SNGZ	**Shannon Statio**	**0.99**	**2**	P	Pb	10 39 37.5	-0.1
DVHZ	**Dannevirke**	**1.01**	**238**	P	Pb	10 39 37.5	-0.3
TSZ	**Takapari Road**	**1.06**	**254**	P	Pb	10 39 38.0	-0.7
RIGZ	**Rimuhau**	**1.13**	**19**	P	Pb	10 39 39.0	-0.9
MRHZ	**Matea Rd**	**1.16**	**324**	P	Pb	10 39 39.6	-0.8
BFZ	**Birch Farm**	**1.21**	**221**	P	Pn	10 39 40.0	-1.1
MOVZ	**Moawhango**	**1.24**	**287**	P	Pn	10 39 41.3	-0.4
PRWZ	**Pori Road**	**1.27**	**232**	P	Pn	10 39 41.5	-0.6
HATZ	**Hinemaiaia**	**1.28**	**313**	P	Pb	10 39 42.5	0.0
RAGZ	**Rawiri**	**1.28**	**5**	P	Pn	10 39 40.9	-1.3
POWZ	**Post Office Ro**	**1.32**	**242**	P	Pn	10 39 42.0	-0.7
TUVZ	**Tukino**	**1.36**	**291**	P	Pn	10 39 43.3	-0.1
RITZ	**Rihia Road**	**1.36**	**305**	P	Pb	10 39 44.1	+0.2
WHVZ	**Whangaehu Hut**	**1.40**	**290**	P	Pb	10 39 44.5	-0.2
TKGZ	**Te Karaka**	**1.41**	**18**	P	Pn	10 39 42.5	-1.3
ALRZ	**Allen Road**	**1.42**	**329**	P	Pn	10 39 44.3	+0.3
DRZ	**Dome Shelter**	**1.42**	**290**	P	Pb	10 39 45.4	+0.3
TUROA	**Turoa**	**1.43**	**289**	P	Pn	10 39 44.2	-0.1
NGZ	**Ngauruhoe**	**1.44**	**294**	P	Pn	10 39 44.1	-0.2
FWVZ	**Far West T-bar**	**1.44**	**291**	P	Pn	10 39 44.3	-0.2
KRVZ	**Karewarewa**	**1.44**	**298**	P	Pn	10 39 44.6	+0.1
MWZ	**Matawai**	**1.45**	**8**	P	Pn	10 39 42.9	-1.6
PRRZ	**Plateau Road**	**1.45**	**331**	P	Pb	10 39 45.3	-0.1
MTVZ	**Mangateitei**	**1.46**	**285**	P	Pg	10 39 46.5	0.0
TIWZ	**Tintock**	**1.47**	**227**	P	Pn	10 39 43.8	-0.9
COVZ	**Chateau Observ**	**1.47**	**293**	P	Pb	10 39 45.5	-0.2
KATZ	**Kakaramea**	**1.47**	**302**	P	Pb	10 39 45.6	-0.2
WTVZ	**West Tongariro**	**1.47**	**296**	P	Pb	10 39 45.6	-0.2
CNGZ	**Carnagh Statio**	**1.48**	**29**	P	Pn	10 39 44.0	-0.8
RATZ	**Rangitukua**	**1.48**	**307**	P	Pb	10 39 45.8	-0.2
WHTZ	**Whakaora**	**1.52**	**317**	P	Pb	10 39 46.6	+0.1
URZ	**Urewera**	**1.52**	**355**	P	Pn	10 39 44.1	-1.3
WPRZ	**Whakapapatarin**	**1.53**	**325**	P	Pb	10 39 46.6	-0.2
RRRZ	**Republican Roa**	**1.56**	**337**	P	Pg	10 39 48.0	-0.4
PKVZ	**Pokaka**	**1.58**	**287**	P	Pb	10 39 47.3	-0.3
MRZ	**Mangatainoka R**	**1.58**	**335**	P	Pn	10 39 45.1	-1.1
HRRZ	**Tandcock Road**	**1.59**	**330**	P	Pg	10 39 48.6	-0.4
TWVZ	**Taurewa**	**1.60**	**296**	P	Pb	10 39 47.7	-0.2
WATZ	**Wairara**	**1.61**	**311**	P	Pg	10 39 48.9	-0.5
TARZ	**Mount Tarawera**	**1.65**	**338**	P	Pb	10 39 49.2	+0.3
HSRZ	**Hossack Road**	**1.67**	**331**	P	Pg	10 39 50.2	-0.4
TWGZ	**Tauwhareparae**	**1.69**	**19**	P	Pn	10 39 46.5	-1.2
TWGZ	**Tauwhareparae**	**1.69**	**19**	P	Pn	10 39 46.6	-1.2
HLRZ	**Highlands Stat**	**1.69**	**334**	P	Pg	10 39 50.4	-0.4
TMWZ	**Te Maipa**	**1.70**	**218**	P	Pn	10 39 46.5	-1.5
KUTZ	**Kaahu Road**	**1.72**	**318**	P	Pg	10 39 50.8	-0.6
MKRZ	**Makatiti**	**1.75**	**338**	P	Pg	10 39 52.5	+0.3
HOWZ	**Holdsworth Sta**	**1.76**	**230**	P	Pn	10 39 47.1	-1.6
WAZ	**Wanganui**	**1.77**	**270**	P	Pg	10 39 52.7	+0.1
OMRZ	**Omania**	**1.81**	**337**	P	Pb	10 39 52.2	+0.6
RUGZ	**Raukumara Rang**	**1.83**	**10**	P	Pn	10 39 48.2	-1.6
MARZ	**Manawahe**	**1.85**	**345**	P	Pb	10 39 52.3	+0.1
PUZ	**Puketiti**	**1.86**	**24**	P	Pn	10 39 48.1	-1.8
OGWZ	**Otaki Gorge**	**1.92**	**237**	P	Pn	10 39 49.9	-1.1
MTW	**Mount Morrison**	**1.94**	**224**	P	Pn	10 39 49.0	-2.1
TLZ	**Tolley Road**	**1.98**	**316**	P	Pb	10 39 55.2	+0.6
HAZ	**Te Kaha**	**2.05**	**11**	P	Pn	10 39 51.4	-1.3
VRZ	**Vera Road**	**2.06**	**288**	P	Pg	10 39 57.1	-0.9
PAWZ	**Paruwai Farm**	**2.14**	**221**	P	Pn	10 39 51.9	-2.0
WMGZ	**Waiomatatini S**	**2.14**	**25**	P	Pn	10 39 52.3	-1.7
CAW	**Cannon Point**	**2.15**	**231**	P	Pn	10 39 52.7	-1.4
HIZ	**Hauiti**	**2.27**	**303**	P	Pb	10 39 57.7	-1.7
PLWZ	**Palliser**	**2.37**	**220**	P	Pn	10 39 54.4	-2.7

MAN 16 10:50:50, 16°11N×120°09E, h32km, mb4.3, ML3.1, MS2.8, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOLP	**Bolinao**	**0.32**	**328**	*e*P	Pn	10 51 00.3	+1.8
BOLP				*e*S	Sn	10 51 06.7	+2.7
SCZP	**Santa Cruz**	**0.37**	**207**	*e*P	Pn	10 51 00.9	+1.8
SCZP				*e*S	Sn	10 51 07.4	+2.1
BALP	**Baler**	**1.48**	**104**	*e*P	Pb	10 51 15.8	-1.0
BALP				*e*S	Sb	10 51 37.8	+2.6

IDC **16** *11:05:53.3±1.4, 2°21N×91°73E, h0km, mb3.8/7, mb1 3.9/9, mb1mx3.6/65, mbtmp3.7/9, ML3.7/2, Error ellipse: s-maj=42.3km s-min=26.2km az=42.0*

ISCJB **16** *11:05:56.0±1.2, 2°2N±0°2×91°6E±0°1, h33km, mb3.8/7, Error ellipse: s-maj=25.3km s-min=18.2km az=17.9*

ISC 16 11:05:58.3±1.2, 2°3N±0°2×91°7E±0°1, h35km, n13, σ1°22/10, mb3.8/7, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**12.02**	**295**	Pn	**Pn**	**11 08 45.8**	**-1.5**
	0.4nm,0.3s,baz=119,slow=12,SNR=3.1						
PALK				Sn	Sn	11 10 50.9	-9.3
	0.7nm,0.3s,baz=313,slow=0.5,SNR=3.1						
CMAR	**Chiang Mai Arr**	**17.60**	**23**	P	**Pn**	**11 09 59.2**	**-1.9**
	0.1nm,0.3s,baz=217,slow=13,SNR=3.4						
H08S2	**Diego Garcia H**	**21.52**	**243**	T	T	11 33 40.1	
	baz=69						
H08S3	**Diego Garcia H**	**21.52**	**243**	T	T	11 33 39.6	
	baz=69						
H08S1	**Diego Carcia H**	**21.54**	**243**	T	T	11 33 36.8	
	baz=69						
MKAR	**Makanchi Array**	**45.11**	**351**	P	**P**	**11 14 11.6**	**+0.4**
	0.5nm,0.6s,baz=169,slow=9.2,SNR=6.6						
SONM	**Songino Array**	**47.15**	**13**	P	**P**	**11 14 28.2**	**+0.8**
	0.2nm,0.4s,baz=201,slow=7.7,SNR=3.5						
WRA	**Warramunga Arr**	**47.31**	**120**	P	**P**	**11 14 28.0**	**-0.9**
	0.3nm,0.5s,baz=299,slow=8.6,SNR=6.0						
KURBB	**Kurchatov Arra**	**49.46**	**349**	P	**P**	**11 14 45.1**	**+0.1**
	0.7nm,0.2s,baz=161,slow=7.9,SNR=3.7						
ZALV	**Zalesovo Beam**	**51.83**	**355**	P	**P**	**11 15 03.5**	**+0.7**
	0.8nm,0.4s,baz=151,slow=6.3,SNR=2.6						
BRTR	**Keskin Array B**	**64.35**	**313**	P	**P**	**11 16 31.5**	**+0.5**
	0.4nm,0.5s,baz=129,slow=7.3,SNR=3.3						
GERES	**GERESS Array B**	**80.39**	**319**	P	**P**	**11 18 07.9**	**+1.5**
	0.9nm,0.5s,baz=104,slow=5.6,SNR=5.4						
TXAR	**Lajitas Array**	**145.32**	**24**	PKPbc	**PKPdf**	**11 25 33.6**	**+0.3**
	0.4nm,0.8s,baz=309,slow=5.7,SNR=4.0						

IDC 16 11:07:54.7±12.0, 2°26N×91°28E, h0km, mb3.6/3, mb1 3.6/4, mb1mx3.3/63, mbtmp3.5/4, ML3.8/1, Error ellipse: s-maj=240.0km s-min=89.8km az=157.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**17.77**	**25**	P	P	11 12 04.3	-0.3
	0.1nm,0.3s,baz=215,slow=14,SNR=3.3						
MKAR	**Makanchi Array**	**45.05**	**351**	P	P	11 16 12.2	-0.1
	0.4nm,0.7s,baz=152,slow=9.4,SNR=2.5						
SONM	**Songino Array**	**47.25**	**14**	P	P	11 16 29.5	-0.2
	0.3nm,0.4s,baz=190,slow=8.8,SNR=6.7						
ZALV	**Zalesovo Beam**	**51.80**	**355**	P	P	11 17 03.9	-0.2
	0.4nm,0.3s,baz=169,slow=8.7,SNR=2.7						

IDC 16 11:19:28.6±3.1, 2°10N×92°83E, h0km, mb3.5/3, mb1 3.7/4, mb1mx3.4/71, mbtmp3.5/4, ML3.5/1, Error ellipse: s-maj=107.1km s-min=26.5km az=62.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**17.33**	**20**	P	Pn	11 23 32.6	+0.5
	0.1nm,0.3s,baz=213,slow=12,SNR=5.2						
H08S2	**Diego Garcia H**	**22.48**	**244**	T	T	11 50 05.4	
	baz=64,slow=75,SNR=7.6						
H08S3	**Diego Garcia H**	**22.48**	**244**	T	T	11 49 58.8	
	baz=64,slow=75,SNR=7.5						
H08S1	**Diego Carcia H**	**22.50**	**244**	T	T	11 49 57.0	
	baz=64,slow=75,SNR=9.4						
MKAR	**Makanchi Array**	**45.46**	**350**	P	P	11 27 49.2	-0.2
	0.2nm,0.6s,baz=165,slow=6.9,SNR=3.4						
WRA	**Warramunga Arr**	**46.23**	**120**	P	P	11 27 55.1	-0.9
	1.1nm,1.2s,baz=297,slow=9.3,SNR=3.8						
ASAR	**Alice Springs**	**47.45**	**125**	P	P	11 28 06.2	+0.7
	0.3nm,0.4s,baz=300,slow=7.6,SNR=7.5						

GII **16** *11:22:53.5±0.0, 37°71N×17°66E, h1km±1km*

TIR **16** *11:23:31.1, 36°31N×21°43E, h7km, Md5.0/14*

IDC **16** *11:23:38.1±0.4, 36°81N×21°71E, h0km, mb4.9/54, mb1 4.9/63, mb1mx4.9/79, mbtmp4.9/63, ML4.2/9, MS5.1/61, Ms1 5.1/61, ms1mx5.0/73, Error ellipse: s-maj=9.4km s-min=9.0km az=21.0*

BJI **16** *11:23:38.7, 36°80N×21°28E, h33km, mb5.1/70, mB5.5/57, Ms5.4/69, Ms7 5.1/66*

GCMT **16** *11:23:40.8±0.2, 36°40N×21°41E, h25km, MW5.8/111, Moment Tensor Solution. s111,c186; s95,c141; Duration: 2s0 Moment tensor: Scale 10^17Nm; Mrr2.05±.06; Mθθ-0.75±.05; Mϕϕ-1.30±.04; Mrθ5.33±.21; Mθϕ1.51±.04; Mϕr-

MNVA					AML	AML	11 24 38.6	
MNVA	**Monemvasia**	**1.16**	**91**		P	**Pb**	**11 24 05.6 +1.9**	
DRO	**Drossia**	**1.23**	**4**		P	**Pb**	**11 24 06.2 +1.1**	
DRO					AML	AML	11 24 41.6	
DRO					AML	AML	11 24 51.2	
DRO	**Drossia**	**1.23**	**4**		P	**Pb**	**11 24 05.9 +0.8**	
DRO	**Drossia**	**1.23**	**4**		P	**Pb**	**11 24 05.9 +0.8**	
VTN	**Vitineika**	**1.24**	**345**		P	**Pb**	**11 24 05.5 +0.3**	
VTN	**Vitineika**	**1.24**	**345**		P	**Pb**	**11 24 05.6 +0.3**	
KYTH	**Kithira**	**1.25**	**111**		P	**Pb**	**11 24 07.8 +2.4**	
KYTH					S	**Sb**	**11 24 21.6 +0.5**	
KYTH					AML	AML	11 24 33.2	
KYTH					AML	AML	11 24 33.3	
KYTH	**Kithira**	**1.25**	**111**	*e*Pn	P	**Pb**	**11 24 06.7 +1.3**	
KYTH				*e*Sn	S	**Sb**	**11 24 26.6 +5.5**	
KYTH	**Kithira**	**1.25**	**111**		P	**Pb**	**11 24 06.5 +1.1**	
KYTH					S	**Sb**	**11 24 24.8 +3.7**	
KYTH	**Kithira**	**1.25**	**111**		P	**Pb**	**11 24 06.4 +1.1**	
KYTH					S	**Sb**	**11 24 22.1 +1.0**	
KYTH				*e*Sn	S	**Sb**	**11 24 26.6 +5.5**	
RLS	**Riolos of Patr**	**1.34**	**355**		P	**Pb**	**11 24 07.7 +0.7**	
RLS	**Riolos of Patr**	**1.34**	**355**	*e*Pn	P	**Pb**	**11 24 07.9 +1.0**	
RLS	**Riolos of Patr**	**1.34**	**355**		P	**Pb**	**11 24 07.0 +0.1**	
RLS					S	**Sb**	**11 24 26.9 +3.2**	
RLS	**Riolos of Patr**	**1.34**	**355**		P	**Pb**	**11 24 07.0 +0.1**	
RLS	**Riolos of Patr**	**1.34**	**355**	*e*Pn	P	**Pb**	**11 24 07.9 +1.0**	
RLS					S	**Sb**	**11 24 26.9 +3.2**	
GUR	**Goura**	**1.35**	**26**		P	**Pb**	**11 24 08.9 +1.7**	
GUR					AML	AML	11 24 45.9	
GUR					AML	AML	11 24 57.2	
GUR	**Goura**	**1.35**	**26**	*e*Pn	P	**Pb**	**11 24 08.9 +1.7**	
GUR	**Goura**	**1.35**	**26**		P	**Pb**	**11 24 07.8 +0.6**	
GUR					S	**Sb**	**11 24 28.2 +4.1**	
GUR	**Goura**	**1.35**	**26**		P	**Pb**	**11 24 07.8 +0.6**	
GUR	**Goura**	**1.35**	**26**	*e*Pn	P	**Pb**	**11 24 08.9 +1.7**	
GUR					S	**Sb**	**11 24 28.2 +4.1**	
KLV	**Kalavryta, Ach**	**1.39**	**18**		P	**Pb**	**11 24 09.2 +1.4**	
KLV					AML	AML	11 24 41.8	
	comp=E,85064µm,1.0s							
KLV					AML	AML	11 24 44.4	
	comp=N,68145µm,1.1s							
KLV	**Kalavryta, Ach**	**1.39**	**18**	*e*Pn	P	**Pb**	**11 24 09.3 +1.4**	
KLV				*e*Sn	S	**Sb**	**11 24 32.0 +6.7**	
KLV	**Kalavryta, Ach**	**1.39**	**18**		P	**Pb**	**11 24 07.9 +0.1**	
KLV					S	**Sb**	**11 24 28.5 +3.2**	
KLV	**Kalavryta, Ach**	**1.39**	**18**		P	**Pb**	**11 24 07.8 +0.1**	
KLV	**Kalavryta, Ach**	**1.39**	**18**	*e*Pn	P	**Pb**	**11 24 09.3 +1.4**	
KLV					S	**Sb**	**11 24 28.5 +3.2**	
KLV				*e*Sn	S	**Sb**	**11 24 32.0 +6.7**	
KRND	**KRANIDI**	**1.41**	**61**		P	**Pb**	**11 24 08.1 +0.1**	
KRND					AML	AML	11 24 41.5	
KRND					AML	AML	11 24 41.6	
KRND	**KRANIDI**	**1.41**	**61**		P	**Pb**	**11 24 08.4 +0.4**	
KRND					S	**Sb**	**11 24 28.8 +3.3**	
KRND	**KRANIDI**	**1.41**	**61**		P	**Pb**	**11 24 08.4 +0.4**	
KRND					S	**Sb**	**11 24 28.8 +3.3**	
DID	**Didima**	**1.53**	**59**		P	**Pb**	**11 24 09.2 -0.9**	
DID					AML	AML	11 24 44.9	
DID					AML	AML	11 24 51.8	
DID	**Didima**	**1.53**	**59**	*e*Pn	P	**Pb**	**11 24 11.8 +1.7**	
DID	**Didima**	**1.53**	**59**		P	**Pb**	**11 24 09.8 -0.3**	
DID	**Didima**	**1.53**	**59**	*e*Pn	P	**Pb**	**11 24 11.8 +1.7**	
KFL	**Anninata**	**1.53**	**335**		P	**Pb**	**11 24 09.2 -1.0**	
KFL					AML	AML	11 24 50.5	
KFL					AML	AML	11 24 53.1	
KFL	**Anninata**	**1.53**	**335**		P	**Pb**	**11 24 08.8 -1.4**	
KFL	**Anninata**	**1.53**	**335**		P	**Pb**	**11 24 08.8 -1.4**	
LAKA	**Lakka**	**1.55**	**11**		P	**Pb**	**11 24 11.5 +1.1**	
LAKA	**Lakka**	**1.55**	**11**	*e*Pn	P	**Pb**	**11 24 11.2 +0.7**	
LAKA	**Lakka**	**1.55**	**11**		P	**Pb**	**11 24 11.0 +0.5**	
THAL	**Thalero**	**1.56**	**32**		P	**Pb**	**11 24 10.8 0.0**	
THAL	**Thalero**	**1.56**	**32**		P	**Pb**	**11 24 10.7 0.0**	
THAL	**Thalero**	**1.56**	**32**		P	**Pb**	**11 24 10.7 0.0**	
ANKY	**Antikythira Is**	**1.61**	**121**		P	**Pb**	**11 24 12.6 +1.0**	
ANKY					AML	AML	11 24 49.7	
ANKY					AML	AML	11 24 54.5	
ANKY	**Antikythira Is**	**1.61**	**121**	*e*Pn	P	**Pb**	**11 24 11.5 -0.1**	
ANKY	**Antikythira Is**	**1.61**	**121**		P	**Pb**	**11 24 11.3 -0.3**	
ANKY					S	**Sb**	**11 24 32.1 +0.6**	
ANKY	**Antikythira Is**	**1.61**	**121**		P	**Pb**	**11 24 11.3 -0.3**	
ANKY					S	**Sb**	**11 24 32.1 +0.6**	
YDRA	**Hydra**	**1.62**	**67**		P	**Pb**	**11 24 10.4 -1.3**	
YDRA	**Hydra**	**1.62**	**67**		P	**Pb**	**11 24 11.0 -0.6**	
VLS	**Valsamata**	**1.66**	**331**		P	**Pn**	**11 24 09.6 0.0**	
VLS					AML	AML	11 24 53.8	
	comp=N,61887µm,0.6s							
VLS					AML	AML	11 24 57.1	
	comp=E,62224µm,0.6s							
VLS	**Valsamata**	**1.66**	**331**	*e*Pn	P	**Pb**	**11 24 11.1 -1.3**	
VLS	**Valsamata**	**1.66**	**331**		P	**Pn**	**11 24 10.6 +1.1**	
VLS	**Valsamata**	**1.66**	**331**	*e*Pn	P	**Pb**	**11 24 11.1 -1.3**	
VLS	**Valsamata**	**1.66**	**331**	*e*P	P	**Pb**	**11 24 11.1 -1.3**	
TRIZ	**Trizonia**	**1.69**	**13**		P	**Pb**	**11 24 14.1 +1.3**	
TRIZ	**Trizonia**	**1.69**	**13**		P	**Pb**	**11 24 13.3 +0.5**	
LTK	**Loutraki**	**1.70**	**39**		P	**Pb**	**11 24 11.5 -1.4**	
LTK	**Loutraki**	**1.70**	**39**	*e*Pn	P	**Pb**	**11 24 14.5 +1.5**	
LTK				*e*Sn	S	**Sb**	**11 24 39.8 +5.9**	
LTK	**Loutraki**	**1.70**	**39**		P	**Pb**	**11 24 12.1 -0.9**	
LTK	**Loutraki**	**1.70**	**39**	*e*Pn	P	**Pb**	**11 24 14.5 +1.5**	
LTK				*e*Sn	S	**Sb**	**11 24 39.8 +5.9**	
EFP	**Efpalio**	**1.72**	**8**		P	**Pb**	**11 24 14.3 +0.9**	
EFP					AML	AML	11 24 57.8	
	comp=E,71713µm,1.1s							
EFP					AML	AML	11 24 57.8	
	comp=N,62635µm,0.8s							
EFP	**Efpalio**	**1.72**	**8**		P	**Pb**	**11 24 13.6 +0.2**	
KALE	**Kalithea**	**1.72**	**14**	*e*Pn	P	**Pb**	**11 24 14.2 +0.7**	
KALE	**Kalithea**	**1.72**	**14**	*e*Pn	P	**Pb**	**11 24 14.2 +0.7**	
SERG	**Sergoula**	**1.73**	**12**		P	**Pb**	**11 24 14.9 +1.3**	
SERG	**Sergoula**	**1.73**	**12**		P	**Pb**	**11 24 14.0 +0.5**	
DSF	**Desfina**	**1.84**	**23**		P	**Pn**	**11 24 13.6 +1.5**	
DSF					AML	AML	11 24 59.2	
DSF					AML	AML	11 25 02.6	
	comp=N,76860µm,1.1s							
DSF	**Desfina**	**1.84**	**23**	*e*Pn	P	**Pb**	**11 24 16.5 +1.0**	
DSF	**Desfina**	**1.84**	**23**		P	**Pb**	**11 24 14.2 -1.3**	
DSF	**Desfina**	**1.84**	**23**	*e*Pn	P	**Pb**	**11 24 16.5 +1.0**	
PROD	**Prodromos**	**1.85**	**34**		P	**Pn**	**11 24 13.3 +1.1**	
PROD	**Prodromos**	**1.85**	**34**		P	**Pb**	**11 24 14.1 -1.5**	
DLFA	**Delphi**	**1.90**	**22**		P	**Pn**	**11 24 14.1 +1.4**	
DLFA	**Delphi**	**1.90**	**22**		P	**Pb**	**11 24 14.8 -1.5**	
PVO	**Paravola**	**1.90**	**358**		P	**Pb**	**11 24 17.1 +0.7**	
PVO	**Paravola**	**1.90**	**358**		P	**Pb**	**11 24 16.2 -0.1**	
PDO	**Prodromos**	**1.91**	**350**		P	**Pb**	**11 24 15.6 -0.9**	
PDO	**Prodromos**	**1.91**	**350**		P	**Pb**	**11 24 15.1 -1.1**	
MGNA	**Meganis_,,**	**2.04**	**342**		P	**Pb**	**11 24 17.7 -1.0**	
MGNA					AML	AML	11 25 03.1	
	comp=E,48961µm,0.8s							
MGNA					AML	AML	11 25 10.4	
	comp=N,38357µm,1.0s							
MGNA	**Meganis_,,**	**2.04**	**342**		P	**Pb**	**11 24 17.4 -1.3**	
VLY	**Voula,Athens**	**2.08**	**56**		P	**Pn**	**11 24 16.1 +0.8**	
VLY	**Voula,Athens**	**2.08**	**56**	*e*Pn	P	**Pb**	**11 24 19.7 +0.2**	
VLY				*e*Sn	S	**Sb**	**11 24 49.5 +4.5**	
VLY	**Voula,Athens**	**2.08**	**56**		P	**Pn**	**11 24 17.1 +1.8**	
VLY	**Voula,Athens**	**2.08**	**56**	*e*Pn	P	**Pb**	**11 24 19.7 +0.2**	
VLY				*e*Sn	S	**Sb**	**11 24 49.5 +4.5**	
ATH	**Athens Observa**	**2.10**	**53**		P	**Pn**	**11 24 16.0 +0.5**	
ATH					AML	AML	11 25 05.6	
	comp=E,93744µm,1.3s							
ATH					AML	AML	11 25 08.0	
	comp=N,83641µm,1.2s							
ATH	**Athens Observa**	**2.10**	**53**		P	**Pb**	**11 24 20.4 +0.6**	
ATH	**Athens Observa**	**2.10**	**53**		P	**Pn**	**11 24 17.3 +1.8**	
ATH	**Athens Observa**	**2.10**	**53**		P	**Pb**	**11 24 20.4 +0.6**	
ATHU	**Athens Univers**	**2.14**	**54**	*e*Pn	P	**Pb**	**11 24 20.4 -0.1**	
ATHU	**Athens Univers**	**2.14**	**54**	*e*Pn	P	**Pb**	**11 24 20.4 -0.1**	
LKD2	**Lefkada island**	**2.20**	**340**		P	**Pb**	**11 24 19.6 -1.9**	
LKD2					AML	AML	11 25 05.4	
	comp=E,87572µm,0.8s							
LKD2					AML	AML	11 25 23.2	
	comp=N,82568µm,1.2s							
LKD2	**Lefkada island**	**2.20**	**340**	*e*Pn	P	**Pb**	**11 24 20.5 -1.0**	
LKD2	**Lefkada island**	**2.20**	**340**		P	**Pb**	**11 24 19.4 -2.1**	
LKD2	**Lefkada island**	**2.20**	**340**	*e*Pn	P	**Pb**	**11 24 20.5 -1.0**	
EVR	**Evrytania**	**2.20**	**4**		P	**Pb**	**11 24 22.3 +0.7**	
EVR	**Evrytania**	**2.20**	**4**		P	**Pb**	**11 24 22.1 +0.5**	
EVR	**Evrytania**	**2.20**	**4**		P	**Pb**	**11 24 21.0 -0.6**	
AXAR	**Agios Charalam**	**2.21**	**22**	*e*Pn	P	**Pb**	**11 24 21.3 -0.4**	
AXAR	**Agios Charalam**	**2.21**	**22**	*e*Pn	P	**Pb**	**11 24 21.3 -0.4**	
LKR	**Lokris**	**2.23**	**29**		P	**Pn**	**11 24 19.3 +2.1**	
LKR	**Lokris**	**2.23**	**29**		P	**Pb**	**11 24 21.9 0.0**	
LKR					S	**Sb**	**11 24 53.4 +4.4**	
LKR	**Lokris**	**2.23**	**29**		P	**Pb**	**11 24 19.8 -2.1**	
LKR	**Lokris**	**2.23**	**29**	*e*Pn	P	**Pb**	**11 24 21.9 0.0**	
PTL	**Penteli**	**2.24**	**53**	*e*Pn	P	**Pb**	**11 24 21.3 -0.9**	
PTL				*e*Sn	S	**Sb**	**11 24 53.2 +3.7**	
PTL	**Penteli**	**2.24**	**53**	*e*Pn	P	**Pb**	**11 24 21.3 -0.9**	
PTL				*e*Sn	S	**Sb**	**11 24 53.2 +3.7**	
MHLO	**Agia Marina, M**	**2.25**	**90**		P	**Pn**	**11 24 17.9 +0.3**	
MHLO					AML	AML	11 25 10.8	
MHLO					AML	AML	11 25 12.5	
MHLO	**Agia Marina, M**	**2.25**	**90**		P	**Pn**	**11 24 19.1 +1.5**	
DION	**Dionisos Attik**	**2.30**	**53**		P	**Pn**	**11 24 18.8 +0.5**	
DION	**Dionisos Attik**	**2.30**	**53**		P	**Pn**	**11 24 20.0 +1.7**	
IMMV	**Iera Moni Meta**	**2.30**	**122**		P	**Pn**	**11 24 20.0 +1.7**	
IMMV	**Iera Moni Meta**	**2.30**	**122**		P	**Pn**	**11 24 20.2 +1.9**	
AGG	**Agios Georgios**	**2.37**	**14**	*e*P	P	**Pn**	**11 24 21.4 +2.1**	
AGG	**Agios Georgios**	**2.37**	**14**		P	**Pn**	**11 24 21.9 -2.6**	
AGG	**Agios Georgios**	**2.37**	**14**	*e*Pn	P	**Pb**	**11 24 22.2 -2.2**	
AGG	**Agios Georgios**	**2.37**	**14**		P	**Pb**	**11 24 22.0 -2.4**	
AGG	**Agios Georgios**	**2.37**	**14**	*e*P	P	**Pb**	**11 24 22.2 -2.2**	
VAM	**Vamos**	**2.48**	**121**		P	**Pn**	**11 24 22.2 +1.5**	
VAM	**Vamos**	**2.48**	**121**	*e*Pn	P	**Pn**	**11 24 22.9 +2.2**	
VAM	**Vamos**	**2.48**	**121**	*e*P	P	**Pn**	**11 24 22.9 +2.2**	
VAM	**Vamos**	**2.48**	**121**	*e*P	P	**Pn**	**11 24 22.9 +2.2**	
GVD	**Gavdhos**	**2.76**	**132**		P	**Pb**	**11 24 28.1 -2.9**	
GVD					AML	AML	11 25 33.4	
	comp=E,42287µm,1.1s							
GVD					AML	AML	11 25 34.8	
	comp=N,38127µm,0.8s							
GVD	**Gavdhos**	**2.76**	**132**	*e*Pn	P	**Pn**	**11 24 27.4 +2.8**	
GVD	**Gavdhos**	**2.76**	**132**		P	**Pn**	**11 24 27.4 +2.8**	
SKIA	**Skiathos**	**2.85**	**31**		P	**Pn**	**11 24 29.0 +3.1**	
SKIA	**Skiathos**	**2.85**	**31**		P	**Pn**	**11 24 29.0 +3.1**	
THL	**Klokotos Trika**	**2.86**	**6**		P	**Pn**	**11 24 28.4 +2.4**	
THL	**Klokotos Trika**	**2.86**	**6**		P	**Pn**	**11 24 28.7 +2.8**	
NEO	**Neokhori**	**2.88**	**26**		P	**Pn**	**11 24 29.0 +2.6**	
NEO	**Neokhori**	**2.88**	**26**	*e*Pn	P	**Pb**	**11 24 31.3 -1.9**	
NEO	**Neokhori**	**2.88**	**26**		P	**Pn**	**11 24 29.2 +2.9**	
NEO	**Neokhori**	**2.88**	**26**	*e*Pn	P	**Pb**	**11 24 31.3 -1.9**	
FYTO	**Fytoko, Volos**	**2.89**	**21**		P	**Pn**	**11 24 29.4 +3.1**	
FYTO	**Fytoko, Volos**	**2.89**	**21**	*e*Pn	P	**Pb**	**11 24 30.3 -2.9**	
FYTO	**Fytoko, Volos**	**2.89**	**21**		P	**Pn**	**11 24 29.4 +3.1**	
FYTO	**Fytoko, Volos**	**2.89**	**21**	*e*Pn	P	**Pb**	**11 24 30.3 -2.9**	
XOR	**Xorichti**	**2.93**	**25**		P	**Pn**	**11 24 29.2 +2.3**	
XOR	**Xorichti**	**2.93**	**25**	*e*Pn	P	**Pb**	**11 24 31.2 -2.6**	
XOR	**Xorichti**	**2.93**	**25**		P	**Pn**	**11 24 29.6 +2.7**	
XOR	**Xorichti**	**2.93**	**25**	*e*Pn	P	**Pb**	**11 24 31.3 -2.6**	
IGT	**Igoumenitsa**	**2.98**	**341**	*e*Pn	P	**Pn**	**11 24 29.1 +1.4**	
IGT	**Igoumenitsa**	**2.98**	**341**	*e*P	P	**Pn**	**11 24 29.1 +1.4**	
IGT	**Igoumenitsa**	**2.98**	**341**	*e*P	P	**Pn**	**11 24 29.1 +1.4**	
JAN	**Janina**	**2.99**	**349**		P	**Pn**	**11 24 29.8 +2.0**	
JAN	**Janina**	**2.99**	**349**	*e*Pn	P	**Pn**	**11 24 30.2 +2.4**	
JAN	**Janina**	**2.99**	**349**		P	**Pn**	**11 24 30.2 +2.4**	
JAN	**Janina**	**2.99**	**349**	*e*P	P	**Pn**	**11 24 30.2 +2.4**	
IDI	**Anoyia**	**3.02**	**117**	Pn	Pn		**11 24 28.4 +0.1**	
	comp=N,16nm,0.3s,baz=300,slow=14,SNR=85							
IDI					Sn	**Sn**	**11 25 05.6 +2.1**	
	comp=N,348nm,0.3s,baz=222,slow=23,SNR=9.0							
IDI					LR	LR	11 26 07.8	
	comp=N,45µm,21.6s,baz=288,slow=50							
IDI	**Anoyia**	**3.02**	**117**	‖*i*P	P	**Pn**	**11 24 30.0 +1.8**	
IDI	**Anoyia**	**3.02**	**117**	*e*Pn	Pn		**11 24 30.1 +1.8**	
IDI				*e*Sn	S	**Sn**	**11 25 04.3 +0.8**	
IDI	**Anoyia**	**3.02**	**117**	*e*Pn	Pn		**11 24 30.1 +1.8**	
IDI				*e*Sn	S	**Sn**	**11 25 04.3 +0.8**	
SAP4	**Santorini-Oia**	**3.04**	**93**	P	P	**Pn**	**11 24 29.1 +0.6**	
THR9	**Santorini-Faro**	**3.05**	**96**	P	P	**Pn**	**11 24 31.5 +3.0**	
THR9	**Santorini-Faro**	**3.05**	**96**	P	P	**Pn**	**11 24 31.4 +2.9**	
THR3	**Thira Island,**	**3.08**	**95**	*e*Pn	P	**Pb**	**11 24 33.7 -2.7**	
THR3	**Thira Island,**	**3.08**	**95**	*e*Pn	P	**Pb**	**11 24 33.7 -2.7**	
THR6	**Thira Island,**	**3.08**	**96**	*e*Pn	P	**Pb**	**11 24 33.2 -3.3**	
THR6	**Thira Island,**	**3.08**	**96**	*e*Pn	P	**Pb**	**11 24 33.2 -3.3**	
THR2	**Thira island,**	**3.10**	**94**	*e*Pn	P	**Pb**	**11 24 33.8 -3.0**	
THR2	**Thira island,**	**3.10**	**94**	*e*Pn	P	**Pb**	**11 24 33.8 -3.0**	
SAP2K	**Karterados**	**3.11**	**95**	P	P	**Pn**	**11 24 31.5 +2.1**	
SIVA	**Sivas**	**3.11**	**122**	P	P	**Pn**	**11 24 31.3 +1.9**	
SIVA	**Sivas**	**3.11**	**122**	P	P	**Pn**	**11 24 31.5 +2.1**	
SANT	**Santorini**	**3.13**	**95**	‖*i*P	P	**Pn**	**11 24 30.8 +1.1**	
SANT	**Santorini**	**3.13**	**95**	*e*Pn	Pn		**11 24 30.8 +1.1**	
SANT	**Santorini**	**3.13**	**95**	‖*i*P	P	**Pn**	**11 24 30.8 +1.1**	
APE	**Apeiranthos**	**3.17**	**83**	*e*P	P	**Pn**	**11 24 32.7 +2.4**	
APE	**Apeiranthos**	**3.17**	**83**	⇑*i*P	P	**Pn**	**11 24 31.1 +0.8**	
APE	**Apeiranthos**	**3.17**	**83**	*e*Pn	Pb		**11 24 36.3 -1.7**	
APE	**Apeiranthos**	**3.17**	**83**	*e*P	P	**Pn**	**11 24 31.0 +0.8**	
APE	**Apeiranthos**	**3.17**	**83**	*e*Pn	Pb		**11 24 36.3 -1.7**	
APE	**Apeiranthos**	**3.17**	**83**	⇑*e*P	P	**Pn**	**11 24 31.0 +0.8**	
SKY	**Skiros Island**	**3.18**	**46**	*e*Pn	Pb		**11 24 35.7 -2.5**	
SKY	**Skiros Island**	**3.18**	**46**	*e*Pn	Pb		**11 24 35.7 -2.5**	
KPRO	**Kipourio**	**3.24**	**357**	P	P	**Pn**	**11 24 35.0 +3.8**	
KPRO	**Kipourio**	**3.24**	**357**	P	P	**Pn**	**11 24 34.5 +3.3**	
KEK	**Kerkira**	**3.31**	**335**	*e*Pn	P	**Pn**	**11 24 33.2 +1.1**	
KEK	**Kerkira**	**3.31**	**335**	*e*Pn	P	**Pn**	**11 24 33.2 +1.1**	
ANAF	**Anafi Island**	**3.38**	**95**	P	P	**Pn**	**11 24 33.8 +0.6**	
ANAF	**Anafi Island**	**3.38**	**95**	P	P	**Pn**	**11 24 34.9 +1.8**	
SRN	**Sarande**	**3.40**	**339**	*e*Pn	P	**Pn**	**11 24 34.6 +1.3**	
SRN	**Sarande**	**3.40**	**339**	*e*Pn	P	**Pn**	**11 24 34.6 +1.3**	
SRN				*i* Sn	S	**Sn**	**11 25 15.1 +2.5**	
SRN	**Sarande**	**3.40**	**339**	*i* PN	Pn		**11 24 34.4 +1.1**	
SRN				*i* SN	S	**Sn**	**11 25 15.1 +2.5**	
LIT	**Litokhoron**	**3.45**	**11**	P	P	**Pn**	**11 24 36.0 +2.0**	
LIT	**Litokhoron**	**3.45**	**11**	*e*Pn	P	**Pb**	**11 24 38.8 -4.0**	
LIT	**Litokhoron**	**3.45**	**11**	P	P	**Pn**	**11 24 36.7 +2.6**	
LIT	**Litokhoron**	**3.45**	**11**	*e*Pn	P	**Pb**	**11 24 38.8 -4.0**	
LIT	**Litokhoron**	**3.45**	**11**	*e*P	P	**Pb**	**11 24 38.8 -4.0**	
PENT	**Pentalofos**	**3.49**	**354**	P	P	**Pn**	**11 24 37.8 +3.1**	
PENT					AML	AML	11 26 00.7	
	comp=N,11888µm,2.1s							
PENT					AML	AML	11 26 06.4	
	comp=E,20722µm,2.1s							
PENT	**Pentalofos**	**3.49**	**354**	P	P	**Pn**	**11 24 37.8 +3.1**	
LAST	**Lasithi**	**3.51**	**115**	P	P	**Pn**	**11 24 35.7 +0.7**	
LAST	**Lasithi**	**3.51**	**115**	*e*Pn	P	**Pn**	**11 24 36.6 +1.6**	
LAST	**Lasithi**	**3.51**	**115**	P	P	**Pn**	**11 24 36.6 +1.6**	
NPS	**Neapolis**	**3.56**	**113**	P	P	**Pn**	**11 24 37.7 +2.0**	
NPS	**Neapolis**	**3.56**	**113**	*e*Pn	Pn		**11 24 38.6 +3.0**	
NPS	**Neapolis**	**3.56**	**113**	P	Pn		**11 24 38.0 +2.4**	
NPS	**Neapolis**	**3.56**	**113**	*e*Pn	Pn		**11 24 38.6 +3.0**	
NPS	**Neapolis**	**3.56**	**113**	*e*P	Pn		**11 24 38.6 +3.0**	
KZN	**Kozani**	**3.58**	**2**	P	P	**Pn**	**11 24 37.3 +1.3**	
KZN	**Kozani**	**3.58**	**2**	*e*Pn	Pn		**11 24 38.4 +2.4**	
KZN	**Kozani**	**3.58**	**2**	P	Pn		**11 24 38.2 +2.2**	
KZN	**Kozani**	**3.58**	**2**	*e*P	Pn		**11 24 38.4 +2.4**	
PAIG	**Paliouri**	**3.60**	**26**	*e*Pn	Pb		**11 24 42.4 -2.9**	
PAIG	**Paliouri**	**3.60**	**26**	*e*P	Pb		**11 24 42.4 -2.9**	
PAIG	**Paliouri**	**3.60**	**26**	*e*P	Pb		**11 24 42.4 -2.9**	
NEST	**Nestorio**	**3.71**	**353**	P	Pn		**11 24 41.1 +3.2**	
NEST	**Nestorio**	**3.71**	**353**	P	Pn		**11 24 40.9 +3.1**	
CHOS	**Chios island**	**3.91**	**63**	*e*P	Pn		**11 24 41.3 +0.8**	
CHOS	**Chios island**	**3.91**	**63**	*e*Pn	Pn		**11 24 44.9 +4.4**	
CHOS	**Chios island**	**3.91**	**63**	*e*Pn	Pn		**11 24 44.9 +4.4**	
PLG	**Polygyros**	**3.92**	**21**	*e*Pn	Pn		**11 24 45.6 +5.0**	
PLG	**Polygyros**	**3.92**	**21**	*e*P	Pn		**11 24 45.6 +5.0**	
PLG	**Polygyros**	**3.92**	**21**	*e*P	Pn		**11 24 45.6 +5.0**	
KBN	**Korca**	**3.95**	**351**	*e*Pn	Pn		**11 24 44.0 +2.9**	
KBN	**Korca**	**3.95**	**351**	*i* Pn	Pn		**11 24 43.9 +2.9**	
KBN	**Korca**	**3.95**	**351**	*i* PN	Pn		**11 24 43.9 +2.9**	
KBN	**Korca**	**3.95**	**351**	*e*P	Pn		**11 24 44.0 +2.9**	
HORT	**Hortiatis**	**4.05**	**16**	*e*P	Pn		**11 24 43.9 +1.5**	
HORT	**Hortiatis**	**4.05**	**16**	P	Pb		**11 24 48.0 -5.0**	
HORT	**Hortiatis**	**4.05**	**16**	P	Pb		**11 24 48.0 -5.0**	
THE	**Thessaloniki**	**4.05**	**15**	*e*Pn	Pn		**11 24 47.4 +5.1**	
THE	**Thessaloniki**	**4.05**	**15**	*e*P	Pn		**11 24 47.4 +5.1**	
THE	**Thessaloniki**	**4.05**	**15**	*e*P	Pn		**11 24 47.4 +5.1**	
FNA	**Florina**	**4.06**	**358**	*e*P	Pn		**11 24 45.1 +2.5**	
FNA	**Florina**	**4.06**	**358**	*e*Pn	Pn		**11 24 44.1 +1.5**	
FNA	**Florina**	**4.06**	**358**	*e*P	Pn		**11 24 44.1 +1.5**	
FNA	**Florina**	**4.06**	**358**	*e*P	Pn		**11 24 44.1 +1.5**	
CESE	**˜e˜me**	**4.07**	**65**	*e*P	Pn		**11 24 43.1 +0.6**	
ZKR	**Zakros**	**4.07**	**112**	P	Pn		**11 24 43.5 +0.9**	
ZKR	**Zakros**	**4.07**	**112**	*e*Pn	Pn		**11 24 45.0 +2.3**	
ZKR	**Zakros**	**4.07**	**112**	P	Pn		**11 24 44.6 +1.9**	
ZKR	**Zakros**	**4.07**	**112**	*e*Pn	Pn		**11 24 45.0 +2.3**	
SIGR	**SIGRI**	**4.18**	**52**	*e*P	Pn		**11 24 43.5 -0.6**	
SIGR	**SIGRI**	**4.18**	**52**	*e*Pn	Pn		**11 24 49.0 +4.9**	
SIGR	**SIGRI**	**4.18**	**52**	*e*Pn	Pn		**11 24 49.0 +4.9**	
ZEY	**˜zmir**	**4.18**	**67**	*i* P	Pn		**11 24 46.2 +2.0**	
LIA	**Limnos Island**	**4.24**	**41**	P	Pn		**11 24 50.2 +5.2**	
LIA	**Limnos Island**	**4.24**	**41**	P	Pn		**11 24 50.2 +5.2**	
GRG	**Griva**	**4.28**	**8**	*e*P	Pn		**11 24 48.3 +2.8**	
GRG	**Griva**	**4.28**	**8**	*e*Pn	Pb		**11 24 51.1 -5.8**	
GRG	**Griva**	**4.28**	**8**	*e*P	Pb		**11 24 51.1 -5.8**	
GRG	**Griva**	**4.28**	**8**	*e*P	Pb		**11 24 51.1 -5.8**	
URLA	**Izmir**	**4.29**	**66**	*e*P	Pn		**11 24 45.9 +0.2**	
URLA	**Izmir**	**4.29**	**66**	*i* P	Pn		**11 24 44.9 -0.8**	
URLA	**Izmir**	**4.29**	**66**	P	Pn		**11 24 44.9 -0.8**	
SMG	**Samos**	**4.29**	**75**	P	Pn		11 24 50.9 +5.2	
SMG	**Samos**	**4.29**	**75**	P	Pn		11 24 50.9 +5.2	
BIA	**Bitola**	**4.30**	**357**	*e*Pn	Pn		11 24 50.9 +5.1	
BIA	**Bitola**	**4.30**	**357**	*e*Pn	Pn		11 24 50.9 +5.1	
BIA	**Bitola**	**4.30**	**357**	*i* Pn	Pn		**11 24 48.4 +2.6**	
BIA				*i* Sn	Sn		**11 25 38.0 +3.0**	
SOH	**Sokhos**	**4.32**	**18**	*e*Pn	Pn		**11 24 50.7 +4.6**	
SOH	**Sokh

PVY	**Plav**	**6.00**	**348**				*i* Pn	**Pn**	**11 25 10.2**	**+0.9**
SLUM	**Salum**	**6.01**	**149**		P		**Pn**	**11 25 09.7**	**+0.4**
	baz=158									
SLUM					S		**Sn**	**11 26 08.9**	**-8.2**
	baz=158									
SLUM	**Salum**	**6.01**	**149**		P		**Pn**	**11 25 09.7**	**+0.4**
FETY	**Fethiye**	**6.01**	**89**		*e*Pn		**Pn**	**11 25 13.2**	**+3.9**
FETY	**Fethiye**	**6.01**	**89**		*e*Pn		**Pn**	**11 25 13.2**	**+3.9**
DENT	**Denizli**	**6.02**	**78**		*e*P		**Pn**	**11 25 12.5**	**+3.1**
BARS	**Barje**	**6.09**	**1**	⇑	*i* Pn		**Pn**	**11 25 11.1**	**+0.7**
EDC	**Edincik**	**6.10**	**52**		*e*P		**Pn**	**11 25 10.9**	**+0.4**
DURS	**Dursunbey**	**6.13**	**60**		*i* P		**Pn**	**11 25 12.1**	**+1.1**
CEME	**Cevo**	**6.18**	**341**	⇓	*i* Pn		**Pn**	**11 25 11.0**	**-0.6**
CEME					*e*Sn		**Sn**	**11 26 18.4**	**-2.8**
CEME	**Cevo**	**6.18**	**341**	⇓	*i* Pn		**Pn**	**11 25 11.0**	**-0.6**
HCY	**Herceg Novi**	**6.20**	**338**	⇓	*i* Pn		**Pn**	**11 25 10.7**	**-1.2**
HCY					*e*Sn		**Sn**	**11 26 18.5**	**-3.3**
HCY	**Herceg Novi**	**6.20**	**338**	⇓	*i* Pn		**Pn**	**11 25 10.7**	**-1.2**
BEY	**Berane**	**6.28**	**348**	⇓	*i* Pn		**Pn**	**11 25 13.8**	**+0.7**
IVA	**Berane**	**6.28**	**348**	⇓	*i* Pn		**Pn**	**11 25 13.8**	**+0.7**
IVA					*e*Sn		**Sn**	**11 26 20.8**	**-3.1**
KOME	**Kolasin**	**6.33**	**346**	⇓	*i* Pn		**Pn**	**11 25 14.2**	**+0.5**
KOME					*e*Sn		**Sn**	**11 26 21.9**	**-3.1**
KOME	**Kolasin**	**6.33**	**346**	⇓	*i* Pn		**Pn**	**11 25 14.2**	**+0.5**
KCTX	**Karacabey (Bur**	**6.37**	**54**		*e*P		**Pn**	**11 25 15.6**	**+1.4**
NKME	**Niksic**	**6.38**	**342**	⇑	*i* Pn		**Pn**	**11 25 13.8**	**-0.5**
NKME					*e*Sn		**Sn**	**11 26 22.5**	**-3.6**
NKME	**Niksic**	**6.38**	**342**	⇑	*i* Pn		**Pn**	**11 25 13.8**	**-0.5**
GOLH	**Golhisar**	**6.39**	**83**		*i* P		**Pn**	**11 25 17.3**	**+2.7**
NKY	**Niksic**	**6.41**	**343**	⇑	*i* Pn		**Pn**	**11 25 15.3**	**+0.5**
NKY					*e*Sn		**Sn**	**11 26 23.8**	**-3.2**
NKY	**Niksic**	**6.41**	**343**	⇑	*i* Pn		**Pn**	**11 25 15.3**	**+0.5**
AKAS	**Kas**	**6.47**	**92**		*i* P		**Pn**	**11 25 17.3**	**+1.6**
SBT3	**Marmara-Eregli**	**6.49**	**48**		*e*P		**Pn**	**11 25 16.5**	**+0.9**
EDRB	**Edirne**	**6.49**	**36**		*e*P		**Pn**	**11 25 16.4**	**+0.6**
BRY	**Bratogost**	**6.61**	**340**	⇓	*i* Pn		**Pn**	**11 25 16.5**	**-1.1**
BRY					*e*Sn		**Sn**	**11 26 28.9**	**-3.1**
BRY	**Bratogost**	**6.61**	**340**	⇓	*i* Pn		**Pn**	**11 25 16.5**	**-1.1**
PHSR	**Pinarhisar**	**6.72**	**41**		*e*P		**Pn**	**11 25 19.6**	**+0.6**
MDNY	**Mudanya-Bursa**	**6.77**	**55**		*e*P		**Pn**	**11 25 20.5**	**+0.8**
TVSB	**Tavsanli**	**6.77**	**64**		*e*P		**Pn**	**11 25 21.5**	**+1.7**
PLE	**Pljevlja**	**6.82**	**346**	⇑	*i* Pn		**Pn**	**11 25 21.1**	**+0.7**
PLE					*e*Sn		**Sn**	**11 26 33.4**	**-3.7**
PLE	**Pljevlja**	**6.82**	**346**	⇑	*i* Pn		**Pn**	**11 25 21.1**	**+0.7**
BRDR	**BURDUR-Merkez**	**6.82**	**79**		*i* P		**Pn**	**11 25 23.8**	**+3.3**
SLIV	**Silivri**	**6.84**	**47**		*e*P		**Pn**	**11 25 21.6**	**+1.0**
STON	**Ston**	**6.84**	**335**		*e*Pn		**Pn**	**11 25 17.7**	**-2.9**
STON					Sn		**Sn**	**11 26 29.8**	**-7.6**
ARMT	**Armutlu**	**6.86**	**54**		*e*P		**Pn**	**11 25 21.9**	**+1.0**
BOVS	**Bovan**	**6.91**	**1**		*e*Pn		**Pn**	**11 25 21.3**	**-0.3**
IVAS	**Ivanjica**	**6.94**	**351**	⇑	*i* Pn		**Pn**	**11 25 21.4**	**-0.6**
KZIL	**AFYON_Kizioren**	**6.96**	**75**		*i* P		**Pn**	**11 25 26.4**	**+3.9**
CTKS	**Kestanelik-??a**	**7.02**	**48**		*e*P		**Pn**	**11 25 23.7**	**+0.6**
KORT	**Korkueli**	**7.02**	**85**		*i* P		**Pn**	**11 25 27.7**	**+4.4**
CTYL	**Yalikoy Yolu**	**7.04**	**46**		*e*P		**Pn**	**11 25 24.2**	**+0.8**
PVL	**Pavlikeni**	**7.09**	**23**		*i* P		**Pn**	**11 25 24.2**	**+0.1**
ZAGS	**Zajecar**	**7.10**	**4**	⇑	*i* Pn		**Pn**	**11 25 24.3**	**+0.1**
MATC	**Matruh**	**7.11**	**137**		P		**Pn**	**11 25 24.5**	**+0.1**
	baz=144									
BGKT	**Bogazkoy**	**7.15**	**49**		*e*P		**Pn**	**11 25 25.8**	**+1.0**
BUY	**Buyukada**	**7.17**	**53**		*e*P		**Pn**	**11 25 26.7**	**+1.5**
GRUS	**Gruza**	**7.19**	**355**	⇑	*i* Pn		**Pn**	**11 25 25.0**	**-0.5**
YLV	**Yalova**	**7.19**	**55**		*e*P		**Pn**	**11 25 26.7**	**+1.1**
ISP	**Isparta**	**7.20**	**79**	⇓	*i* P		**Pn**	**11 25 28.6**	**+2.9**
ISP	**Isparta**	**7.20**	**79**		*e*Pn		**Pn**	**11 25 28.2**	**+2.5**
ISP	**Isparta**	**7.20**	**79**		*e*Pn		**Pn**	**11 25 28.2**	**+2.5**
ISP	**Isparta**	**7.20**	**79**		*i* P		**Pn**	**11 25 28.6**	**+2.9**
ISP	**Isparta**	**7.20**	**79**	*c*	*i* P		**Pn**	**11 25 28.6**	**+2.9**
ISK	**Istanbul-Kandi**	**7.26**	**51**		*e*P		**Pn**	**11 25 26.9**	**+0.6**
BBLS	**Lazići**	**7.33**	**347**	⇑	*i* Pn		**Pn**	**11 25 26.6**	**-0.9**
CAVI	**Cavuskoy**	**7.34**	**59**		*e*P		**Pn**	**11 25 29.1**	**+1.6**
KLYT	**Kilyos**	**7.35**	**50**		*e*P		**Pn**	**11 25 29.1**	**+1.5**
ADVT	**Abdulvahap**	**7.37**	**57**		*e*P		**Pn**	**11 25 29.4**	**+1.4**
BAGO	**Egridir - ISPA**	**7.43**	**77**		*i* P		**Pn**	**11 25 31.6**	**+2.8**
DIVS	**Divibare**	**7.47**	**351**		*e*Pn		**Pn**	**11 25 28.5**	**-0.9**
DIVS	**Divibare**	**7.47**	**351**		*e*Pn		**Pn**	**11 25 28.5**	**-0.9**
HRT	**Hereke**	**7.51**	**55**		*e*P		**Pn**	**11 25 31.4**	**+1.5**
BORA	**Eskisehir**	**7.64**	**63**		*i* P		**Pn**	**11 25 32.9**	**+1.1**
SILT	**Sile**	**7.67**	**52**		*e*P		**Pn**	**11 25 32.9**	**+0.9**
BOLV	**Bolvadin**	**7.67**	**72**		*i* P		**Pn**	11 25 38.0	+5.8
ESKT	**Eskisehir**	**7.81**	**66**		*i* P		**Pn**	**11 25 36.7**	**+2.7**
SPNC	**Sapanca-Adapaz**	**7.88**	**57**		*e*P		**Pn**	**11 25 37.1**	**+2.3**
GULT	**Gulveren**	**7.90**	**59**		*e*P		**Pn**	**11 25 36.4**	**+1.1**
SAUV	**Serdivan-Sakar**	**7.91**	**57**		*e*P		**Pn**	**11 25 36.7**	**+1.4**
KEPZ	**Antalya-Kepez**	**8.03**	**86**		*i* P		**Pn**	**11 25 40.6**	**+3.7**
SRE	**Strehaia**	**8.03**	**8**	⇑	*i* P		**Pn**	**11 25 38.5**	**+1.6**
HERR	**Herculane**	**8.18**	**4**	⇓	*i* P		**Pn**	**11 25 39.3**	**+0.3**
AQU	**L'Aquila**	**8.47**	**314**		*e*Pn		**Pn**	**11 25 45.6**	**+2.5**
AQU	**L'Aquila**	**8.47**	**314**		*e*P		**Pn**	**11 25 45.6**	**+2.5**
AQU	**L'Aquila**	**8.47**	**314**		*e*P		**Pn**	**11 25 45.6**	**+2.5**
KDHN	**Kadinhani**	**8.54**	**75**		*i* P		**Pn**	**11 25 48.4**	**+4.4**
BLY	**Banja Luka**	**8.69**	**339**	⇓	*i* P		**Pn**	**11 25 45.1**	**-0.9**
BLY	**Banja Luka**	**8.69**	**339**		*e*Pn		**Pn**	**11 25 45.2**	**-0.8**
BLY	**Banja Luka**	**8.69**	**339**		*e*Pn		**Pn**	**11 25 45.2**	**-0.8**
LOT	**Lotru**	**8.87**	**10**	⇓	*i* P		**Pn**	**11 25 50.3**	**+1.7**
BZS	**Buzias**	**8.89**	**0**	⇑	*i* P		**Pn**	**11 25 47.6**	**-1.1**
PPCY	**Paphos**	**8.92**	**99**		P		**Pn**	**11 25 48.3**	**-0.9**
ARR	**Arges**	**8.94**	**14**	⇑	*i* P		**Pn**	**11 25 50.8**	**+1.3**
ALFC	**Alefka**	**9.05**	**97**		P		**Pn**	**11 25 50.1**	**-1.0**
ERMK	**Ermenek**	**9.09**	**87**		*i* P		**Pn**	**11 25 55.7**	**+4.0**
VOIR		**9.09**	**16**	⇑	*i* P		**Pn**	**11 25 52.8**	**+1.2**
ISR	**Istrita**	**9.19**	**22**	⇓	*i* P		**Pn**	**11 25 55.4**	**+2.6**
HARR	**Harsova**	**9.30**	**29**	⇑	*i* P		**Pn**	**11 25 55.5**	**+1.2**
TIRR	**Tirgusor**	**9.30**	**32**	⇑	*i* P		**Pn**	**11 25 56.7**	**+2.3**
TIRR	**Tirgusor**	**9.30**	**32**		*e*Pn		**Pn**	**11 25 56.0**	**+1.6**
TIRR	**Tirgusor**	**9.30**	**32**		*e*Pn		**Pn**	**11 25 56.0**	**+1.6**
TIRR	**Tirgusor**	**9.30**	**32**		*e*P		**Pn**	**11 25 56.6**	**+2.2**
TIRR	**Tirgusor**	**9.30**	**32**		*e*P		**Pn**	**11 25 56.6**	**+2.2**
BR231	**Keskin MP Arra**	**9.32**	**67**		*e*Pn		Pn	11 26 05.7	+11
BR231	**Keskin MP Arra**	**9.32**	**67**		*e*Pn		Pn	11 26 05.7	+11
ANTO	**Ankara**	**9.34**	**67**		*e*Pn		**Pn**	**11 25 56.5**	**+1.4**
ANTO	**Ankara**	**9.34**	**67**		P		**Pn**	**11 25 59.6**	**+4.6**
	SNR=12									
ANTO	**Ankara**	**9.34**	**67**		pPn		**Pn**	**11 25 59.6**	**+4.6**
	SNR=12									
ANTO	**Ankara**	**9.34**	**67**		*e*P		**Pn**	**11 25 56.5**	**+1.4**
ANTO	**Ankara**	**9.34**	**67**		*e*P		**Pn**	**11 25 56.5**	**+1.4**
NVLJ	**Novalja**	**9.35**	**329**		*e*Pn		**Pn**	**11 25 54.5**	**-0.6**
NVLJ					Sn		**Sn**	**11 27 33.2**	**-6.0**
NVLJ	**Novalja**	**9.35**	**329**		*e*Pn		**Pn**	**11 25 54.5**	**-0.6**
MLR	**Muntele Rosu**	**9.36**	**19**		Pn		**Pn**	**11 25 56.0**	**+0.8**
	comp=E,0.2nm,0.3s,baz=242,slow=10,SNR=21									
MLR					LR		LR	11 30 25.7		
	comp=E,7µm,19.1s,baz=192,slow=44									
MLR	**Muntele Rosu**	**9.36**	**19**	⇑	*i* P		**Pn**	**11 25 57.0**	**+1.7**
MLR	**Muntele Rosu**	**9.36**	**19**		*e*Pn		**Pn**	**11 25 56.0**	**+0.8**
MLR	**Muntele Rosu**	**9.36**	**19**		*e*P		**Pn**	**11 25 56.9**	**+1.7**
MLR	**Muntele Rosu**	**9.36**	**19**		*e*P		**Pn**	**11 25 56.9**	**+1.7**
SZAC	**Souni**	**9.38**	**99**		P		**Pn**	**11 25 52.9**	**-2.6**
SIRR	**Siria**	**9.54**	**0**	⇑	*i* P		**Pn**	**11 26 00.0**	**+2.3**
GULN	**MERSIN_Gulnar**	**9.64**	**90**		*i* P		**Pn**	**11 26 01.4**	**+2.4**
CSS	**Mathiatis**	**9.68**	**97**		*e*Pn		**Pn**	**11 25 58.3**	**-1.4**
CSS	**Mathiatis**	**9.68**	**97**		*e*Pn		**Pn**	**11 25 58.3**	**-1.4**
CSS	**Mathiatis**	**9.68**	**97**		Pn		**Pn**	**11 25 58.3**	**-1.4**
MORH	**M¨‡r¡gy, Hung**	**9.74**	**348**	⇓	*e*Pn		**Pn**	**11 25 58.3**	**-2.1**
MORH					*e*Sn		**Sn**	**11 27 41.9**	**-6.8**
CFR	**Carcaliu**	**9.79**	**28**	⇑	*i* P		**Pn**	**11 26 02.9**	**+1.9**
PLOR	**Plostina**	**9.88**	**21**	⇑	*i* P		**Pn**	**11 26 03.5**	**+1.1**
VRI	**Vrincioaia**	**9.92**	**21**	⇑	*i* P		**Pn**	**11 26 06.2**	**+3.4**
BR101	**Keskin Array S**	**9.94**	**69**		*e*Pn		**Pn**	**11 26 06.5**	**+3.2**
BR101	**Keskin Array S**	**9.94**	**69**		*e*Pn		**Pn**	**11 26 06.4**	**+3.2**
BR131	**Keskin Array S**	**9.94**	**69**		*e*Pn		**Pn**	**11 26 06.1**	**+2.9**
BR131	**Keskin Array S**	**9.94**	**69**		*e*Pn		**Pn**	**11 26 06.1**	**+2.9**
BRTR	**Keskin Array B**	**9.94**	**69**		Pn		**Pn**	**11 26 06.5**	**+3.2**
	comp=E,0.7nm,0.3s,baz=251,slow=11,SNR=42									
BRTR					LR		LR	11 30 58.9		
	comp=E,10µm,19.7s,baz=242,slow=45									
KEST	**Kesra**	**9.95**	**268**		Pn		**Pn**	**11 26 03.8**	**+0.4**
	comp=E,1.8nm,0.3s,baz=0.2,slow=5.6,SNR=33									
KEST					Sn		**Sn**	**11 27 52.2**	**-1.8**
	comp=E,2.4nm,0.3s,baz=90,slow=20,SNR=3.6									
KEST					LR		LR	11 30 39.3		
	comp=E,12µm,21.9s,baz=16,slow=42									
BOJS	**Bojanci**	**9.99**	**333**		*i* Pn		**Pn**	**11 26 02.9**	**-0.9**
BOJS					*e*Sn		**Sn**	**11 27 49.0**	**-5.9**
OZLJ	**Ozalj**	**10.02**	**334**		*e*Pn		**Pn**	**11 26 03.0**	**-1.1**
OZLJ					Sn		**Sn**	**11 27 50.0**	**-5.4**
OZLJ	**Ozalj**	**10.02**	**334**		*e*Pn		**Pn**	**11 26 03.0**	**-1.1**
VSL	**Villasalto**	**10.02**	**290**		*e*Pn		**Pn**	**11 26 03.8**	**-0.5**
VSL	**Villasalto**	**10.02**	**290**		*e*Pn		**Pn**	**11 26 03.8**	**-0.5**
KERG	**Konya-Eregli**	**10.03**	**82**		*i* P		**Pn**	**11 26 10.5**	**+5.9**
CJR	**Cluj-Napoca**	**10.10**	**8**	⇑	*i* P		**Pn**	**11 26 07.9**	**+2.6**
DRGR		**10.10**	**4**	⇑	*i* P		**Pn**	**11 26 06.9**	**+1.5**
ILGA	**Ilgaz**	**10.39**	**62**		*e*Pn		**Pn**	**11 26 12.4**	**+2.9**
ILGA	**Ilgaz**	**10.39**	**62**		*e*Pn		**Pn**	**11 26 12.4**	**+2.9**
BEHE	**Becsehely**	**10.39**	**341**	⇓	*e*Pn		**Pn**	**11 26 08.7**	**-0.6**
BEHE					*e*Sn		**Sn**	**11 28 02.0**	**-2.6**
BEHE	**Becsehely**	**10.39**	**341**	⇓	*e*Pn		**Pn**	**11 26 08.7**	**-0.6**
TESR	**Tescani**	**10.49**	**20**	⇓	*i* P		**Pn**	**11 26 13.5**	**+2.9**
SKDS	**Skadanscina**	**10.51**	**329**		*e*Pn		**Pn**	**11 26 09.6**	**-1.3**
TRI	**Trieste**	**10.74**	**329**		*e*Pn		**Pn**	**11 26 13.2**	**-0.9**
TRI	**Trieste**	**10.74**	**329**		*e*P		**Pn**	**11 26 13.2**	**-0.9**
TRI	**Trieste**	**10.74**	**329**		*e*P		**Pn**	**11 26 13.2**	**-0.9**
JAVS	**Javornik**	**10.77**	**331**		*i* Pn		**Pn**	**11 26 13.7**	**-0.9**
JAVS					*i* Sn		**Sn**	**11 28 05.8**	**-8.3**
KOT	**Kottamia**	**10.91**	**125**		P		**Pn**	**11 26 14.6**	**-1.9**
	baz=129									
KOT					S		Sn	11 27 59.4	-18	
	baz=129									
CSKK	**Cs¸‡kako**	**10.92**	**348**	⇓	*e*pPn		Pn	11 26 28.8	+12	
PERS	**Pernice**	**11.03**	**336**		*i* Pn		**Pn**	**11 26 15.9**	**-2.1**
PERS					*i* Sn		**Sn**	**11 28 11.8**	**-8.5**
GLL	**Jalalah**	**11.06**	**127**		P		**Pn**	**11 26 16.8**	**-1.8**
	baz=131									
HHAG	**Hagoal**	**11.07**	**125**		P		**Pn**	**11 26 17.6**	**-1.1**
	baz=128									
SOKA	**Soboth**	**11.09**	**336**		*i* Pn		**Pn**	**11 26 16.8**	**-2.1**
	SNR=29									
OBKA	**Obir**	**11.11**	**334**		*e*Pn		**Pn**	**11 26 18.7**	**-0.5**
	comp=E,46nm,1.1s,SNR=21									
BURAR	**Bucovina Array**	**11.21**	**13**	⇑	*i* P		**Pn**	**11 26 22.5**	**+1.9**
BUR04	**Bucovina Ar. S**	**11.21**	**13**		*e*Pn		**Pn**	**11 26 22.5**	**+1.9**
BUR04	**Bucovina Ar. S**	**11.21**	**13**		*e*Pn		**Pn**	**11 26 22.5**	**+1.9**
BUR08	**Bucovina Ar. S**	**11.24**	**13**		*e*Pn		**Pn**	**11 26 22.9**	**+1.9**
BUR08	**Bucovina Ar. S**	**11.24**	**13**		*e*Pn		**Pn**	**11 26 22.9**	**+1.9**
PSZ	**Piszkesteto**	**11.26**	**354**	⇓	*i* P		**Pn**	**11 26 21.0**	**-0.2**
PSZ	**Piszkesteto**	**11.26**	**354**		*e*Pn		**Pn**	**11 26 20.8**	**-0.5**
PSZ					*e*Sn		**Sn**	**11 28 21.3**	**-4.8**
PSZ	**Piszkesteto**	**11.26**	**354**		*e*Pn		**Pn**	**11 26 21.1**	**-0.2**
PSZ	**Piszkesteto**	**11.26**	**354**		*e*P		**Pn**	**11 26 21.1**	**-0.2**
PSZ	**Piszkesteto**	**11.26**	**354**		*e*P		**Pn**	**11 26 21.1**	**-0.2**
ABSA	**Djebel Ababsia**	**11.38**	**272**		P		Pn	11 26 28.2	+5.2
CMAH	**Djebel Manchou**	**11.39**	**274**		P		**Pn**	**11 26 26.0**	**+2.9**
ARSA	**Arzberg**	**11.45**	**339**		P		Pn	11 26 31.6	+7.8
	comp=E,59nm,0.8s									
MYKA	**Terra Mystica**	**11.55**	**332**		*e*Pn		**Pn**	**11 26 25.9**	**+0.8**
	comp=E,24nm,1.0s									
KIS	**Kishinev**	**11.59**	**25**		*e*P		**Pn**	**11 26 24.0**	**-1.7**
	comp=E,700nm,4.0s									
KIS	**Kishinev**	**11.59**	**25**		*e*PP		Pn	11 26 33.0	+7.3
KIS					*e*S		**Sn**	**11 28 34.0**	**+0.1**
KIS					eLi			11 29 18.0		
KIS					*i* Lg1			11 29 34.0		
KIS					*i* Lg2			11 29 56.0		
KIS					*i* Rg		Rg	11 30 45.0		
KIS					LRM		MLR	11 32 00.0		
	comp=E,6µm,16.0s									
KIS	**Kishinev**	**11.59**	**25**		*e*P		**Pn**	**11 26 24.0**	**-1.7**
KIS					*e*S		**Sn**	**11 28 34.0**	**+0.1**
KIS					pmax		pmax			
	comp=N,900nm,4.0s									
KIS					pmax		pmax			
	comp=Z,700nm,4.0s									
KIS					pmax		pmax			
	comp=E,400nm,4.5s									
KIS					pmax		pmax			
	comp=Z,180nm,1.6s									
KIS					MLR		MLR			
	comp=N,5µm,16.0s									
KIS					MLR		MLR			
	comp=Z,6µm,16.0s									
KIS					MLR		MLR			
	comp=E,4µm,13.0s									
KIS					MLR		MLR			
	comp=Z,6µm,16.0s									
RSH		**11.60**	**116**		P		**Pn**	**11 26 22.4**	**-3.4**
	baz=118									
HNTI	**Hanita**	**11.72**	**104**		Pn		**Pn**	**11 26 27.0**	**-0.5**
UZH	**Uzhgorod**	**11.92**	**2**		*e*P		**Pn**	**11 26 30.4**	**+0.3**
UZH	**Uzhgorod**	**11.92**	**2**		*e*P		**Pn**	**11 26 30.4**	**+0.3**
UZH					*e*S		**Sn**	**11 28 41.4**	**-0.5**
MMA0B	**Mount Meron ar**	**11.92**	**104**		Pn		**Pn**	**11 26 29.5**	**-0.9**
MMAI	**Mount Meron Ar**	**11.92**	**104**		Pn		**Pn**	**11 26 27.0**	**-3.4**
	comp=Z,8.0nm,0.3s,baz=308,slow=7.2,SNR=10									
MMAI					Sn		**Sn**	**11 28 36.8**	**-5.5**
	comp=Z,29nm,0.3s,baz=278,slow=35,SNR=6.3									
VYHS	**Vyhne**	**11.94**	**351**		*e*P		**Pn**	**11 26 30.2**	**-0.3**
VYHS	**Vyhne**	**11.94**	**351**		*e*PN		**Pn**	**11 26 30.2**	**-0.3**
VYHS					*e*			11 26 42.2		
VYHS	**Vyhne**	**11.94**	**351**		*e*SN		**Sn**	**11 28 35.0**	**-7.6**
VYHS	**Vyhne**	**11.94**	**351**		*e*P		**Pn**	**11 26 30.2**	**-0.3**
VYHS					*e*			11 28 35.0		
SLTI	**Sal'it**	**11.95**	**108**		Pn		**Pn**	**11 26 30.9**	**+0.2**
CKFL	**Kef-Lekhel**	**11.97**	**273**		P		**Pn**	**11 26 31.5**	**+0.4**
CKFL	**Kef-Lekhel**	**11.97**	**273**		P		**Pn**	**11 26 31.5**	**+0.4**
CONA	**Conrad Observa**	**11.97**	**341**		*e*Pn		**Pn**	**11 26 30.3**	**-0.8**
	comp=Z,4.9nm,0.7s									
KBA	**Koelnbreinsper**	**12.03**	**332**		*e*Pn		**Pn**	**11 26 32.4**	**+0.5**
	comp=Z,48nm,1.0s,SNR=24									
MODS	**Modra-Piesok**	**12.07**	**346**		*e*PN		**Pn**	**11 26 29.5**	**-2.8**
MODS					*es*PN			11 26 45.8		
MODS	**Modra-Piesok**	**12.07**	**346**		*e*SN		**Sn**	**11 28 39.5**	**-6.3**
MODS	**Modra-Piesok**	**12.07**	**346**		*e*P		**Pn**	**11 26 29.5**	**-2.8**
MODS					*e*			11 28 39.5		
ABTA	**Abfaltersbach**	**12.09**	**329**		Pn		**Pn**	**11 26 33.8**	**+1.1**
	comp=Z,56nm,1.4s,SNR=11									
KZIT	**Kziot**	**12.11**	**115**		Pn		**Pn**	**11 26 31.3**	**-1.6**
MMLI	**Mount Malkishu**	**12.16**	**107**		Pn		**Pn**	**11 26 32.5**	**-1.1**
CRVS	**Cervenica-Dubn**	**12.18**	**360**		*e*P		**Pn**	**11 26 34.1**	**+0.4**
CRVS	**Cervenica-Dubn**	**12.18**	**360**		*e*PN		**Pn**	**11 26 34.1**	**+0.4**
CRVS	**Cervenica-Dubn**	**12.18**	**360**		*e*P		**Pn**	**11 26 34.1**	**+0.4**
AMAZ	**Amatzia**	**12.18**	**111**		Pn		**Pn**	**11 26 33.4**	**-0.5**
KSHT	**Keshet**	**12.25**	**104**		Pn		**Pn**	**11 26 34.0**	**-0.9**
HMDT	**Nahal Hemdat**	**12.32**	**107**		Pn		**Pn**	**11 26 35.2**	**-0.5**
MOA	**Molln**	**12.37**	**336**		*e*Pn		**Pn**	**11 26 35.8**	**-0.6**
	comp=Z,40nm,0.7s,SNR=23									
YTIR	**Yattir**	**12.41**	**112**		Pn		**Pn**	**11 26 36.0**	**-1.1**
SORM	**Soroca**	**12.44**	**21**	⇑	*i* P		**Pn**	**11 26 37.6**	**+0.3**
DSI	**Dead Sea**	**12.51**	**110**		Pn		**Pn**	**11 26 37.0**	**-1.4**
LANS	**Liptovska Anna**	**12.52**	**354**		*e*P		**Pn**	**11 26 40.0**	**+1.5**
LANS	**Liptovska Anna**	**12.52**	**354**		*e*PN		**Pn**	**11 26 40.0**	**+1.5**
LANS					*e*			11 26 54.2		
LANS	**Liptovska Anna**	**12.52**	**354**		*e*P		**Pn**	**11 26 40.0**	**+1.5**
SIM	**Simferopol'**	**12.54**	**45**		*ce*P		**Pn**	**11 26 38.6**	**0.0**
SIM					pmax		pmax			
	comp=Z,109nm,1.4s									
SIM					MLR		MLR			
	comp=Z,4µm,15.6s									
STHS	**Stebnicka Huta**	**12.69**	**359**		*e*P		**Pn**	**11 26 43.2**	**+2.4**
STHS	**Stebnicka Huta**	**12.69**	**359**		*e*PN		**Pn**	**11 26 43.2**	**+2.4**
STHS	**Stebnicka Huta**	**12.69**	**359**		*e*P		**Pn**	**11 26 43.2**	**+2.4**
NIE	**Niedzica**	**12.73**	**356**		*e*P		**Pn**	**11 26 43.2**	**+1.9**
NIE					LMZ		LR	11 32 08.3		
	comp=Z,14µm,22.6s									
NIE	**Niedzica**	**12.73**	**356**		*e*P		**Pn**	**11 26 43.2**	**+1.9**
	comp=Z,14µm,22.6s									
NIE	**Niedzica**	**12.73**	**356**		*e*P		**Pn**	**11 26 43.2**	**+1.9**
NIE					MLR		MLR			
	comp=Z,14µm,22.6s									
KRMI	**Paran Flat**	**12.78**	**117**		Pn		**Pn**	**11 26 40.3**	**-1.8**
PRNI	**Paran**	**12.85**	**116**		Pn		**Pn**	**11 26 41.1**	**-2.0**
WTTA	**Wattenberg**	**12.87**	**328**		Pn		**Pn**	**11 26 46.1**	**+2.8**
	comp=Z,27nm,0.5s,SNR=11									
ZFRI	**Zfri**	**12.87**	**115**		Pn		**Pn**	**11 26 42.8**	**-0.4**
KWP	**Kalwaria Pacla**	**12.93**	**3**		*e*P		**Pn**	**11 26 47.4**	**+3.4**
KWP					*e*S		Sn	11 29 33.9	+27	
KWP					LMZ		LR	11 32 14.9		
	comp=Z,21µm,21.6s									
KWP	**Kalwaria Pacla**	**12.93**	**3**		*e*Pn		**Pn**	**11 26 46.9**	**+2.9**
KWP	**Kalwaria Pacla**	**12.93**	**3**		*e*Pn		**Pn**	**11 26 46.9**	**+2.9**
KWP	**Kalwaria Pacla**	**12.93**	**3**		*e*P		**Pn**	**11 26 47.4**	**+3.4**
	comp=Z,21µm,21.6s									
KWP	**Kalwaria Pacla**	**12.93**	**3**		*e*P		**Pn**	**11 26 47.4**	**+3.4**
KWP					MLR		MLR			
	comp=Z,21µm,21.6s									
WATA	**Walderalm**	**12.95**	**328**		*e*Pn		**Pn**	**11 26 45.8**	**+1.4**
	comp=Z,46nm,0.7s,SNR=19									
**HRF

AKASG LR LR 11 34 00.1
comp=Z,4μm,18.8s,baz=200,slow=42
AKASG Malin Array Be 15.01 19 Pn **Pn 11 27 10.0 -2.3**
AKASG Malin Array Be 15.01 19 P **Pn 11 27 10.0 -2.3**
EMHD Djebel Mahouad 15.02 274 P **P 11 27 17.6 -0.1**
EMHD Djebel Mahouad 15.02 274 P **P 11 27 17.6 -0.1**
NKC Novy Kostel 15.04 337 *e*P **Pn 11 27 13.6 +1.0**
NKC *ex* x 11 27 20.2
NKC AMS AMS 11 33 50.0
comp=Z,23μm,15.0s
NKC Novy Kostel 15.04 337 *e*P **Pn 11 27 13.6 +1.0**
NKC MLR MLR
comp=Z,23μm,15.0s
STU Stuttgart 15.08 327 *e*Pn **Pn 11 27 13.4 +0.2**
STU Stuttgart 15.08 327 *e*Pn **Pn 11 27 13.4 +0.2**
STU Stuttgart 15.08 327 *e*P **Pn 11 27 13.4 +0.2**
BEL Belsk 15.12 358 *e*P **P 11 27 20.1 +1.5**
BEL *e*S **S 11 30 14.8 -1.9**
BEL LMZ LR 11 33 09.8
comp=Z,13μm,26.4s
BEL Belsk 15.12 358 *e*P **P 11 27 20.1 +1.5**
comp=Z,13μm,26.4s
BEL Belsk 15.12 358 *e*P **P 11 27 20.1 +1.5**
BEL MLR MLR
comp=Z,13μm,26.4s
BFO Black Forest 15.15 324 *e*Pn **Pn 11 27 15.9 +1.7**
comp=Z,69nm,1.0s
BFO Black Forest 15.15 324 *e*Pn **Pn 11 27 15.9 +1.7**
comp=Z,69nm,1.0s
BFO Black Forest 15.15 324 *e*P **Pn 11 27 15.9 +1.7**
BRG Berggiesshubel 15.18 341 *i* P **Pn 11 27 15.3 +0.8**
comp=Z,6.4nm,1.0s
BRG *i* 11 27 21.3
comp=Z,17nm,0.9s
BRG S S 11 30 33.0 +15
comp=N,9μm,12.2s
comp=E,13μm,13.1s
comp=Z,21μm,13.0s
BRG Berggiesshubel 15.18 341 *i* P **Pn 11 27 15.3 +0.8**
BRG pmax pmax
comp=Z,6.0nm,1.0s
BRG MLR MLR
comp=N,9μm,12.2s
BRG MLR MLR
comp=E,13μm,13.1s
BRG MLR MLR
comp=Z,21μm,13.0s
SSB Saint Sauveur 15.44 309 *e*Pn **Pn 11 27 19.9 +1.9**
comp=Z,17nm,0.6s
SSB Saint Sauveur 15.44 309 *e*Pn **Pn 11 27 19.9 +1.9**
comp=Z,17nm,0.6s
SSB Saint Sauveur 15.44 309 *e*P **Pn 11 27 19.9 +1.9**
SOC Sochi 15.44 58 *e*P Pn 11 27 03.0 -15
SOC *e*SS **Sn 11 30 04.0 -4.0**
SOC MLR MLR
comp=Z,2μm,14.0s
ECH Echery 15.64 322 *e*Pn **Pn 11 27 21.8 +1.2**
comp=Z,160nm,1.2s
ECH Echery 15.64 322 *e*Pn **Pn 11 27 21.8 +1.2**
comp=Z,160nm,1.2s
ECH Echery 15.64 322 *e*P **Pn 11 27 21.8 +1.2**
CLL Collm 15.82 340 *e*P **Pn 11 27 24.0 +1.1**
comp=Z,35nm,1.3s
CLL *i* 11 27 27.2
comp=Z,215nm,1.4s
CLL *e*Pmax 11 27 27.0
CLL *i* PP **sP 11 27 36.6 -1.6**
CLL *e*S **S 11 30 27.0 -4.0**
CLL *e*Lmax 11 34 14.0
CLL Collm 15.82 340 *e*Pn **Pn 11 27 24.2 +1.4**
CLL Collm 15.82 340 *e*Pn **Pn 11 27 24.2 +1.4**
CLL Collm 15.82 340 *e*P **Pn 11 27 24.3 +1.4**
EBNR Beni Rached 16.15 274 P **P 11 27 31.7 +1.5**
EBNR Beni Rached 16.15 274 P **P 11 27 31.7 +1.5**
LBL Lubilhac 16.24 307 *e*P **P 11 27 30.8 -0.3**
ECHA Ech Chlef 16.30 274 P **P 11 27 31.9 +0.2**
ECHA Ech Chlef 16.30 274 P **P 11 27 31.9 +0.2**
EANR 'Ain N'Sour 16.54 273 P **Pn 11 27 32.9 +0.7**
EANR 'Ain N'Sour 16.54 273 P **Pn 11 27 32.9 +0.7**
GKP Gorka Klasztor 16.83 351 *e*P **P 11 27 39.2 +1.7**
GKP *e*S **S 11 30 51.2 -0.3**
GKP LMZ LR 11 35 23.6
comp=Z,17μm,16.9s
GKP Gorka Klasztor 16.83 351 *e*P **P 11 27 39.2 +1.7**
comp=Z,17μm,16.9s
GKP Gorka Klasztor 16.83 351 *e*P **P 11 27 39.2 +1.7**
GKP MLR MLR
comp=Z,17μm,16.9s
WLF Walferdange 17.11 324 ⇓P **P 11 27 43.4 +2.7**
WLF Walferdange 17.11 324 *e*Pn **P 11 27 40.9 +0.2**
comp=Z,123nm,1.0s
WLF Walferdange 17.11 324 *e*Pn **P 11 27 40.9 +0.2**
comp=Z,123nm,1.0s
WLF Walferdange 17.11 324 *e*P **P 11 27 44.1 +3.4**
WLF Walferdange 17.11 324 *e*P **P 11 27 44.1 +3.4**
SUW Suwalki 17.33 3 *e*P **Pn 11 27 40.5 -1.3**
SUW *e*S **Sn 11 30 55.0 +1.4**
SUW LMZ LR 11 35 08.5
comp=Z,13μm,21.7s
SUW Suwalki 17.33 3 *e*Pn **Pn 11 27 40.8 -1.0**
SUW Suwalki 17.33 3 *e*P **Pn 11 27 40.5 -1.3**
SUW *e*S **Sn 11 30 55.0 +1.4**
SUW MLR MLR
comp=Z,13μm,21.7s
NEY Neytrino 17.43 62*c e*P **P 11 27 44.5 +0.1**
KIV Kislovodsk 17.60 59 *e*Pn **P 11 27 47.4 +1.2**
comp=Z,239nm,1.3s
KIV Kislovodsk 17.60 59 P **P 11 27 48.4 +2.1**
SNR=41
KIV Kislovodsk 17.60 59 Pn **P 11 27 48.4 +2.1**
SNR=41
KIV Kislovodsk 17.60 59 P **P 11 27 45.9 -0.3**
SNR=24
KIV Kislovodsk 17.60 59 *e*Pn **P 11 27 47.4 +1.2**
comp=Z,239nm,1.3s
KIV Kislovodsk 17.60 59 *i* P **P 11 27 45.9 -0.3**
SNR=24
KIV Kislovodsk 17.60 59 *e*P **Pn 11 27 45.7 +0.3**
KIV *e*S **Sn 11 31 02.2 +1.7**
KIV pmax pmax
comp=Z,112nm,1.1s
KIV MLR MLR
comp=Z,3μm,13.0s
KVAR Kislovodsk Arr 17.60 59 P **P 11 27 45.9 -0.4**
baz=205,slow=5.3,SNR=53
KVAR LR LR 11 36 09.7
comp=Z,7μm,21.7s,baz=242,slow=43
AKH Akhalkalaki 17.62 68 *e*Pn **P 11 27 47.0 +0.5**
AKH Akhalkalaki 17.62 68 *e*Pn **P 11 27 47.0 +0.5**
AKH Akhalkalaki 17.62 68 *e*P **P 11 27 47.1 +0.5**
KBZ Khabaz 17.68 60 P **P 11 27 47.0 0.0**
comp=Z,2.4nm,0.3s,baz=266,slow=7.5,SNR=70
KBZ LR LR 11 36 22.1
comp=Z,9μm,19.4s,baz=262,slow=44
KBZ Khabaz 17.68 60 *e*Pn **P 11 27 47.0 0.0**
KBZ Khabaz 17.68 60 *e*P **P 11 27 47.0 0.0**
MEM Membach 17.84 326 ⇑P **P 11 27 49.1 +0.4**
comp=Z,60nm,1.6s
BCLA Clavier 18.03 325 ⇑P **P 11 27 53.2 +2.5**
NCK Nalchik 18.11 61 *e*P **P 11 27 52.7 +0.9**
comp=Z,43nm,0.7s
NCK Nalchik 18.11 61⇓*e*P **P 11 27 52.7 +0.9**
NCK pmax pmax
comp=Z,43nm,0.7s
BEBN Eben Emael 18.12 326 ⇓P **P 11 27 56.7 +4.9**
DOU Dourbes 18.15 323 ⇑P **P 11 27 52.6 +0.5**
comp=Z,57nm,1.0s
ZEI Tsey 18.16 64 *e*P **Pn 11 27 50.0 -2.5**
ZEI pmax pmax
comp=Z,86nm,0.7s
GOF Gofitskoye 18.19 56⇑*e*P **P 11 27 52.6 0.0**
GOF pmax pmax
comp=Z,173nm,0.7s
MICGM Minsk 18.31 12⇓*e*P **P 11 27 50.0 -3.8**
MICGM PM 11 27 52.0
comp=Z,0.3nm,1.0s
MICGM *e*PP **pP 11 27 59.0 -2.8**
MICGM *e*PPP PPP 11 31 06.0
MICGM *e*S **Sn 11 31 09.0 -8.2**
MICGM *e*SS **SnSn 11 31 40.0 +8.9**
MICGM *e*LR LR 11 33 32.0
MICGM LRM MLR 11 36 14.0
comp=E,6.3nm,16.0s
MICGM LRM MLR 11 36 24.0
comp=Z,25nm,16.0s
MICGM LRM MLR 11 36 54.0
comp=N,15nm,16.0s
MNK Minsk 18.31 12⇓*e*P **P 11 27 50.0 -3.8**
MNK *e*S **Sn 11 31 09.0 -8.2**
MNK pmax pmax
comp=Z,250nm,1.0s
MNK MLR MLR
comp=E,6μm,16.0s
MNK MLR MLR
comp=Z,25μm,16.0s
MNK MLR MLR
comp=N,15μm,16.0s
GNI Garni 18.44 72 P **P 11 27 55.5 0.0**
comp=N,2.2nm,0.3s,baz=155,slow=4.0,SNR=21
GNI LR LR 11 36 18.7
comp=N,10μm,20.0s,baz=275,slow=42
GNI Garni 18.44 72 *e*P **Pn 11 27 56.7 +0.9**
comp=N,714nm,1.1s
GNI Garni 18.44 72 P **Pn 11 27 57.5 +1.7**
SNR=32
GNI Garni 18.44 72 Pn **Pn 11 27 57.5 +1.7**
SNR=32
GNI Garni 18.44 72 *e*P **Pn 11 27 56.7 +0.9**
comp=N,714nm,1.1s
GNI Garni 18.44 72 Pn **Pn 11 27 57.5 +1.7**
SNR=32
GNI Garni 18.44 72 *i* P **Pn 11 27 55.7 0.0**
SNR=20
GNI Garni 18.44 72*c i*P **P 11 27 55.3 -0.3**
GNI pmax pmax
comp=Z,437nm,1.7s
NACGM Naroch 18.53 9 *e*P **P 11 27 54.0 -2.3**
NACGM *e*P **P 11 27 54.0 -2.3**
NACGM *e*PP **pP 11 28 04.0 -0.3**
NACGM *e*PPP PPP 11 28 28.0
NACGM *e*S **Sn 11 31 20.0 -2.7**
NACGM *e*SS SnSn 11 31 52.0 +15
NACGM *e*LQ LQ 11 33 52.0
NACGM *e*LR LR 11 34 07.0
NACGM LRM MLR 11 35 56.0
comp=Z,28nm,20.0s
SNF Seneffe 18.57 323 ⇑P **P 11 27 56.5 -0.2**
comp=Z,79nm,1.7s
TBLG Delisi 18.59 67 *e*P **Pn 11 27 57.6 +0.1**
TBLG Delisi 18.59 67 *e*P **Pn 11 27 58.7 +1.2**
TBLG Delisi 18.59 67 *e*P **Pn 11 27 58.7 +1.2**
UCC Uccle 18.73 324 *e*P **Pn 11 27 59.8 +0.8**
UCC Uccle 18.73 324 *e*P **Pn 11 27 59.8 +0.8**
UCC Uccle 18.73 324 *e*P **Pn 11 28 00.4 +1.4**
IIGN Ignalina 18.90 8 *e*P **P 11 28 00.0 -0.3**
IIGN IAmb IAmb 11 28 14.8
comp=Z,83nm,1.1s
IIGN Ignalina 18.90 8 *e*P **P 11 28 00.0 -0.3**
SNR=33
IDID Didziasalis 18.93 9 *e*P **P 11 28 00.1 -0.5**
IDID IAmb IAmb 11 28 13.9
comp=Z,47nm,0.8s
IDID Didziasalis 18.93 9 *e*P **P 11 28 00.1 -0.5**
SNR=33
BSD Bornholm Skovb 18.96 348 *i* P **P 11 27 59.7 -1.2**
BSD Bornholm Skovb 18.96 348 *i* P **P 11 27 59.7 -1.2**
VSR Storozhevoye 19.16 35 *e*P **P 11 28 02.5 -0.7**
VSR pmax pmax
comp=Z,90nm,1.2s
VSR MLR MLR
comp=Z,5μm,9.0s
IZAR Zarasai 19.30 8 *e*P **P 11 28 04.1 -0.5**
IZAR IAmb IAmb 11 28 07.6
comp=Z,106nm,1.2s
VORR Voronezh 19.49 34 *e*P **P 11 28 00.5 -6.3**
VORR pmax pmax
comp=Z,250nm,1.0s
GROC Groznyy 19.61 63 *e*P **P 11 28 08.7 +0.5**
comp=Z,222nm,1.0s
GROC Groznyy 19.61 63 *e*P **P 11 28 08.7 +0.5**
GROC *e*S **S 11 31 46.4 -1.4**
GROC pmax pmax
comp=Z,222nm,1.0s
TAM Tamanrasset 19.64 229 *e*P **Pn 11 28 10.7 +0.3**
comp=Z,28nm,0.8s
TAM Tamanrasset 19.64 229 *e*P **Pn 11 28 10.7 +0.3**
comp=Z,28nm,0.8s
TAM Tamanrasset 19.64 229 *e*P **Pn 11 28 10.7 +0.3**
LLD Lille Linde 19.69 344 *i* P **Pn 11 28 11.0 +0.5**
LLD Lille Linde 19.69 344 *i* P **Pn 11 28 11.0 +0.5**
COP Copenhagen 19.97 345 *i* P **P 11 28 12.7 +0.7**
COP Copenhagen 19.97 345 *i* P **P 11 28 12.7 +0.7**
LPSR Galich'ya Gora 20.02 32 *e*P **P 11 28 11.8 -0.7**
LPSR pmax pmax
comp=Z,160nm,0.7s
LPSR MLR MLR
comp=Z,3μm,12.0s
ES19 SONSECA Array 20.24 286 *e*P Pn 11 28 16.7 -0.5
ES19 SONSECA Array 20.24 286 *e*P Pn 11 28 16.7 -0.5
ESDC Sonseca Array 20.29 286 P **P 11 28 16.5 +0.8**
comp=Z,9.5nm,0.8s,baz=78,slow=11,SNR=17
ESDC LR LR 11 36 23.0
comp=Z,2μm,21.4s,baz=85,slow=38
ESLA Sonseca Array 20.29 286 *e*P **P 11 28 16.2 +0.5**
ESLA Sonseca Array 20.29 286 *e*P **P 11 28 16.2 +0.5**
VRH Novokhopyorsk 20.38 38 *e*P **P 11 28 16.2 -0.3**
VRH pmax pmax
comp=Z,240nm,0.7s
VRH MLR MLR
comp=Z,6μm,23.0s
ELSH Elham, Standar 20.52 321 IAMs_20 IAMs_20 11 37 39.4
comp=Z,6μm,21.2s
HMNX Herstmonceux 20.77 320 IAMs_20 IAMs_20 11 37 59.1
comp=Z,7μm,24.7s
AKT Akhty 20.79 69 *e*P **P 11 28 20.9 -0.3**
AKT *e* 11 28 38.5
AKT *e*PPP PPP 11 28 46.6
AKT *e*S **S 11 32 12.1 +0.4**
AKT pmax pmax
comp=Z,105nm,0.7s
MAK Makhachkala 20.80 65 *e*P **P 11 28 19.0 -2.1**
MAK *e*S **S 11 32 12.1 +0.5**
MAK pmax pmax
comp=Z,347nm,1.1s
MAK MLR MLR
comp=Z,4μm,17.0s
OBN Obninsk 21.06 24 P **P 11 28 22.6 -1.1**
comp=Z,63nm,0.4s,baz=216,slow=8.0,SNR=42
OBN LR LR 11 37 24.7
comp=Z,6μm,21.2s,baz=212,slow=40
OBN Obninsk 21.06 24 *e*P **P 11 28 22.8 -0.9**
OBN Obninsk 21.06 24 *e*P **P 11 28 22.8 -0.9**
OBN Obninsk 21.06 24*c i*P **P 11 28 22.7 -1.1**
OBN *e* 11 28 41.3
OBN *i* S **S 11 32 17.7 +1.3**
OBN *e*SS **SnSn 11 32 44.1 +5.6**
OBN pmax pmax
comp=Z,461nm,1.7s
OBN MLR MLR
comp=Z,6μm,19.0s
MUD Monsted U'grnd 21.45 341 *i* P **P 11 28 29.1 +1.2**
MUD Monsted U'grnd 21.45 341 *i* P **P 11 28 29.1 +1.2**
MOS Moscow 21.92 25*α i*P **P 11 28 31.7 -1.3**
MOS *e* 11 28 57.2
MOS *e*S **S 11 32 32.5 -0.8**
MOS pmax pmax
comp=Z,2μm,1.7s
MOS pmax pmax
comp=Z,990nm,1.3s
MOS pmax pmax
comp=N,430nm,1.5s
MOS pmax pmax
comp=E,250nm,1.6s
MOS smax smax
comp=E,3μm,5.0s
MOS smax smax
comp=N,4μm,7.0s
MOS MLR MLR
comp=N,5μm,20.0s
MOS MLR MLR
comp=Z,6μm,20.0s
MOS MLR MLR
comp=E,4μm,23.0s
PBRG Braganca 22.47 292 *e*P **P 11 28 39.1 -0.1**
comp=E,51nm,1.4s
BATH Bath 22.49 318 IAMs_20 IAMs_20 11 39 15.4
comp=Z,5μm,27.0s
STRD Stroud 22.58 319 *e*P **P 11 28 39.6 -0.5**
STRD IAMs_20 IAMs_20 11 39 06.2
comp=Z,6μm,22.8s
MVO Moncorvo 22.66 290 *e*P **P 11 28 41.0 -0.2**
comp=Z,79nm,1.7s
MVO *e*S **S 11 32 43.9 -3.5**
MVO *e*LR LR 11 35 58.9
comp=Z,2μm,20.0s
CWF Charnwood Fore 22.68 322 *e*P **P 11 28 39.5 -1.7**
PBAR Barrancos 22.75 282 *e*P **P 11 28 42.6 +0.5**
comp=Z,161nm,1.4s
PBAR *e*S **S 11 32 47.2 -1.7**
HGH Gray Hill 22.85 318 *e*P **P 11 28 42.8 -0.2**
HGH Gray Hill 22.85 318 *e*P **P 11 28 42.8 -0.2**
DYA Yadsworthy 22.88 315 *e*P **P 11 28 43.0 -0.4**
DYA IAMs_20 IAMs_20 11 38 10.4
comp=Z,3μm,13.4s
PMRV Marv??o 22.94 286 *e*P **P 11 28 40.7 -3.4**
comp=Z,52nm,1.3s
PMRV *e*S **S 11 32 52.8 +0.6**
PMRV *e*LR LR 11 35 33.4
comp=Z,2μm,22.0s
MONM Monmouth 22.95 319 *e*P **P 11 28 43.2 -0.8**
MONM IAmb IAmb 11 28 47.4
comp=Z,63nm,1.2s
MONM IAMs_20 IAMs_20 11 39 17.4
comp=Z,5μm,26.1s
PCBR Castelo Branco 22.99 287 *e*P **P 11 28 43.6 -1.0**
comp=Z,73nm,1.7s
MTE Manteigas 23.04 288 *e*P **P 11 28 45.4 +0.3**
comp=Z,31nm,1.0s
MTE *e*S **S 11 32 53.5 -0.4**
MTE *e*LR LR 11 36 22.0
comp=Z,2μm,20.0s
MTE Manteigas 23.04 288 *e*P **P 11 28 45.2 0.0**
comp=Z,40nm,1.1s
MTE LR LR
comp=Z,2μm,21.0s
MTE Manteigas 23.04 288 *e*P **P 11 28 45.4 +0.3**
comp=Z,31nm,1.0s
MTE *e*S **S 11 32 53.5 -0.4**
PESTR Estremoz 23.13 284 *e*P **P 11 28 44.5 -1.5**
comp=Z,55nm,1.1s
PESTR *e*S **S 11 32 53.5 -1.9**
PESTR Estremoz 23.13 284 *e*P **P 11 28 45.0 -1.0**
PESTR Estremoz 23.13 284 *e*P **P 11 28 45.0 -1.0**
PESTR *e*S **S 11 32 53.5 -1.9**
MCH1 Michaelchurch 23.14 319 *e*P **P 11 28 45.6 -0.3**
MCH1 IAmb IAmb 11 28 49.7
comp=Z,95nm,1.3s
MCH1 IAMs_20 IAMs_20 11 39 35.8
comp=Z,4μm,13.8s
PVRL Vila Real 23.18 290 *e*P **P 11 28 48.5 +2.0**
comp=Z,40nm,1.7s
POLO Lamas de Olo 23.24 291 *e*P **P 11 28 48.7 +1.5**
comp=Z,37nm,1.3s
POLO *e*S **S 11 32 55.3 -2.1**
LBWR Ladybower, Pea 23.28 323 *e*P **P 11 28 46.1 -1.3**
LBWR IAmb IAmb 11 28 48.6
comp=Z,40nm,1.1s
PVIS Viseu 23.30 289 *e*P **P 11 28 47.6 -0.2**
comp=Z,41nm,1.4s
HLM1 Long Mynd 23.35 320 *e*P **P 11 28 47.1 -1.0**
HLM1 IAMs_20 IAMs_20 11 39 27.5
comp=Z,4μm,22.8s
PVAQ Vaqueiros 23.37 281 *e*P **P 11 28 48.1 -0.3**
comp=Z,134nm,1.2s
PVAQ *e*S **S 11 32 59.9 +0.6**
PVAQ *e*LR LR 11 35 42.7
comp=Z,998nm,20.0s
PBEJ Beja 23.41 282 *e*P **P 11 28 49.4 +0.6**
comp=Z,79nm,1.6s
HTL Hartland 23.45 316 *e*P **P 11 28 49.8 +0.8**
HTL Hartland 23.45 316 *e*P **P 11 28 49.8 +0.8**
PBDV Barranco-do-Ve 23.56 280 *e*P **P 11 28 50.7 +0.4**
comp=Z,191nm,1.2s
PBDV *e*S **S 11 33 00.3 -2.2**
PBDV Barranco-do-Ve 23.56 280 *e*P **P 11 28 50.7 +0.4**
comp=Z,191nm,1.2s
HPK Haverah Park 23.57 324 *e*P **P 11 28 49.5 -0.6**
HPK Haverah Park 23.57 324 *e*P **P 11 28 49.5 -0.6**
HPK IAmb IAmb 11 28 52.5
comp=Z,188nm,1.6s
HPK IAMs_20 IAMs_20 11 39 56.0
comp=Z,5μm,22.1s
TZC Tazercounte 23.57 267 *i* P **P 11 28 53.0 +2.4**
PCVE Castro Verde 23.59 281 *e*P **P 11 28 53.4 +2.8**
comp=Z,66nm,1.8s
PCVE *e*S **S 11 33 03.1 +0.1**
PCVE Castro Verde 23.59 281 *e*P **P 11 28 53.4 +2.8**
comp=Z,66nm,1.8s
PCVE *e*S **S 11 33 03.1 +0.1**
PMTG Montargil 23.61 285 *e*P **P 11 28 49.0 -1.7**
comp=Z,52nm,1.3s
PMTG *e*S **S 11 33 01.3 -1.8**
PGAV Gavieira, Arco 23.62 292 *e*S **S 11 33 02.6 -0.9**
PGAV *e*LR LR 11 35 53.7
comp=Z,2μm,20.0s
PGAV Gavieira, Arco 23.62 292 *e*S **S 11 33 02.6 -0.9**
COI Coimbra 23.70 288 *e*P **P 11 28 53.9 +2.3**
comp=Z,94nm,1.4s
COI *e*S **S 11 33 03.0 -1.6**
FOEL Foel Wylfa 23.72 321 *e*P **P 11 28 50.2 -1.4**
FOEL Foel Wylfa 23.72 321 *e*P **P 11 28 50.2 -1.4**
FOEL IAmb IAmb 11 28 53.5
comp=Z,297nm,1.8s
FOEL IAMs_20 IAMs_20 11 39 26.6
comp=Z,4μm,20.2s
PTOM Tomar 23.72 286 *e*P **P 11 28 50.0 -1.8**
comp=Z,45nm,1.2s
PTOM Tomar 23.72 286 *e*P **P 11 28 50.0 -1.8**
comp=Z,45nm,1.2s
PUL Pulkovo 23.74 11⇓*e*P **P 11 28 51.8 +0.1**
PUL pmax pmax
comp=Z,250nm,0.9s
LPW Lampeter 23.76 318 *e*P **P 11 28 52.8 +0.8**
LPW IAMs_20 IAMs_20 11 39 54.0
comp=Z,4μm,21.8s
PCAS Casmilo, Conde 23.77 287 *e*P **P 11 28 53.7 +1.4**
PCAS *e*S **S 11 33 06.0 +0.2**
PCAS Casmilo, Conde 23.77 287 *e*P **P 11 28 53.7 +1.4**
PCAS *e*S **S 11 33 06.0 +0.2**
ALMR Almeirim 23.88 285 *e*P **P 11 28 54.2 +0.9**
ALMR AMb AMB 11 28 56.4
comp=Z,105nm,1.5s
ALMR *e*S **S 11 33 08.9 +1.5**
ALMR Almeirim 23.88 285 *e*P **P 11 28 54.1 +0.9**
ALMR *e*S **S 11 33 08.9 +1.5**
ALMR pmax pmax
comp=Z,105nm,1.5s
PNCL Nicolau / Gran 23.93 282 *e*P **P 11 28 54.3 +0.6**
comp=Z,96nm,1.4s
PNCL *e*S **S 11 33 07.9 -0.3**
PNCL Nicolau / Gran 23.93 282 *e*P **P 11 28 54.3 +0.6**
comp=Z,96nm,1.4s
PNCL *e*S **S 11 33 07.9 -0.3**
LLW Llanuwychllyn 23.93 320 *e*P **P 11 28 54.6 +1.0**
HFS Hagfors 23.98 350 P **P 11 28 52.6 -1.3**
comp=Z,91nm,0.9s,baz=158,slow=12,SNR=73
HFS LR LR 11 40 08.0
comp=Z,7μm,20.9s,baz=168,slow=41
MORF Marmelete 24.12 281 *e*P **P 11 28 56.9 +1.3**
MORF AMb AMB 11 29 01.8
comp=Z,93nm,1.7s
MORF *e*S **S 11 33 13.2 +1.7**
MORF Marmelete 24.12 281 *e*S **S 11 33 12.6 +1.1**
MORF Marmelete 24.12 281 *e*S **S 11 33 12.6 +1.1**
MORF Marmelete 24.12 281 *e*P **P 11 28 56.0 +0.4**
MORF *e*S **S 11 33 13.1 +1.7**
MORF pmax pmax
comp=Z,93nm,1.7s
PTEO Sao Teotonio 24.14 281 *e*P **P 11 28 56.6 +0.9**
comp=Z,156nm,1.4s
PTEO Sao Teotonio 24.14 281 *e*P **P 11 28 56.6 +0.9**
comp=Z,156nm,1.4s
KONO Kongsberg 24.22 345 *e*P **P 11 28 55.7 -0.5**
KONO LR LR
comp=Z,8μm,18.0s
KONO Kongsberg 24.22 345 *e*P **P 11 28 54.8 -1.4**
KONO Kongsberg 24.22 345*d i*P **P 11 28 55.4 -0.8**
KONO pmax pmax
comp=Z,163nm,1.7s
EDMD Edmundbyers 24.26 326 *e*P **P 11 28 56.1 -0.5**
EDMD IAMs_20 IAMs_20 11 40 26.5
comp=Z,6μm,20.0s
OSL Oslo 24.27 347 *e*P **P 11 28 55.1 -1.5**
PFVI Vila Bisbo 24.28 280 *e*S **S 11 33 15.3 +1.3**
PFVI Vila Bisbo 24.28 280 *e*S **S 11 33 15.3 +1.3**

LIS	Lisbon	24.35	284	eP		P	11 28 58.6	+1.0		
LIS				AMb		AMB	11 28 60.0			
	comp=Z,153nm,1.7s									
LIS				eS		S	11 33 16.9	+1.9		
LIS	Lisbon	24.35	284	eP		P	11 28 58.6	+1.0		
LIS				eS		S	11 33 16.9	+1.9		
LIS				pmax		pmax				
	comp=Z,153nm,1.7s									
RAYN	Ar Rayn	24.42	116	eP		P	11 28 59.6	+1.2		
	comp=Z,32nm,0.9s									
RAYN	Ar Rayn	24.42	116	eP		P	11 28 59.6	+1.2		
	comp=Z,32nm,0.9s									
PMAFR	Mafra	24.44	285	eS		S	11 33 17.8	+1.3		
PMAFR	Mafra	24.44	285	eS		S	11 33 17.8	+1.3		
STAV	Stavanger	24.53	340	eP		P	11 29 08.4	+9.4		
KESW	Keswick, Cumbr	24.64	324	eP		P	11 29 01.4	+1.3		
KESW				IAmb		IAmb	11 29 02.7			
	comp=Z,55nm,1.0s									
KESW				IAMs_20		IAMs_20	11 40 38.5			
	comp=Z,5µm,20.6s									
BLS5	Blasjo	24.75	341	eP		P	11 29 02.6	+1.6		
BBO1	Bothel	24.80	324	eP		P	11 29 03.6	+2.1		
NC602	NORSAR Array S	24.88	348	eP		P	11 29 01.2	-0.9		
NC602	NORSAR Array S	24.88	348	eP		P	11 29 00.9	-1.2		
FIA0	FINESS Array S	24.91	5	eP		P	11 29 01.6	-0.8		
FIA0	FINESS Array S	24.91	5	eP		P	11 29 01.6	-0.8		
FINES	FINESS Array B	24.91	5	P		P	11 29 01.6	-0.8		
	comp=Z,34nm,0.6s,baz=162,slow=11,SNR=114									
FINES				LR		LR	11 40 04.5			
	comp=Z,15µm,21.1s,baz=187,slow=40									
FIA1	FINESS Array S	24.91	5	eP		P	11 29 01.6	-0.8		
ECK	Cauldkaine Hil	25.01	325	eP		P	11 29 04.5	+1.1		
NAO01	NORSAR Array S	25.09	348	eP		P	11 29 03.6	-0.5		
EKA	Eskdalemuir Ar	25.11	326	P		P	11 29 04.5	+0.2		
	comp=Z,12nm,0.6s,baz=128,slow=9.0,SNR=47									
EKA				LR		LR	11 41 19.9			
	comp=Z,6µm,19.7s,baz=130,slow=42									
ESK	Eskdalemuir	25.12	326	eP		P	11 29 03.9	-0.5		
	comp=Z,39nm,0.8s									
ESK				LR		LR				
	comp=Z,6µm,21.0s									
ESK	Eskdalemuir	25.12	326	eP		P	11 29 03.1	-1.3		
ESK				IAMs_20		IAMs_20	11 41 02.3			
	comp=Z,6µm,17.6s									
ESK	Eskdalemuir	25.12	326	eP		P	11 29 03.9	-0.5		
ODD1	Odda	25.13	342	eP		P	11 29 04.0	-0.5		
NC405	NORSAR Array S	25.21	349	eP		P	11 29 03.1	-2.0		
NB201	NORSAR Array S	25.21	348	eP		P	11 29 03.4	-1.8		
NB2	NORSAR Subarra	25.22	348	P		P	11 29 04.3	-1.0		
	comp=Z,28nm,0.6s,baz=156,slow=9.3									
NB2	NORSAR Subarra	25.22	348	P		P	11 29 04.3	-1.0		
	baz=156,slow=9.3									
NB200	NORSAR Array S	25.22	348	eP		P	11 29 04.3	-1.0		
NOA	NORSAR Array B	25.22	348	P		P	11 29 04.3	-1.0		
	comp=Z,27nm,0.6s,baz=157,slow=8.9,SNR=81									
NOA				LR		LR	11 40 52.4			
	comp=Z,4µm,20.9s,baz=155,slow=41									
NBO00	NORSAR Array S	25.28	348	eP		P	11 29 05.3	-0.5		
NBO02	NORSAR Array S	25.29	348	eP		P	11 29 05.2	-0.7		
NC303	NORSAR Array S	25.37	348	eP		P	11 29 05.9	-0.7		
EDI	Edinburgh	25.49	327	eP		P	11 29 08.0	+0.2		
EDI				IAMs_20		IAMs_20	11 41 23.2			
	comp=Z,10µm,20.0s									
NC204	NORSAR Array S	25.52	348	eP		P	11 29 07.7	-0.3		
DSB	Dublin	25.54	319	eP		P	11 29 10.0	+1.7		
DSB				LR		LR				
	comp=Z,3µm,20.0s									
GAL1	Galloway	25.56	324	eP		P	11 29 10.0	+1.6		
GAL1				IAMs_20		IAMs_20	11 40 44.7			
	comp=Z,2µm,20.0s									
EDU	Dundee	25.81	328	eP		P	11 29 11.2	+0.6		
DRUM	Mains of Drumt	25.83	329	IAMs_20		IAMs_20	11 42 00.7			
	comp=Z,10µm,16.0s									
EAB	Aberfoyle	26.16	326	eP		P	11 29 13.4	-0.5		
MME1	Meikle Cairn	26.29	329	eP		P	11 29 16.2	+1.2		
HYA	Hoyanger	26.34	343	eP		P	11 29 14.4	-1.0		
CLGH	Cloghs, Cushen	26.35	323	IAMs_20		IAMs_20	11 41 18.8			
	comp=Z,3µm,16.4s									
DOMB	Dombas	26.53	347	eP		P	11 29 16.7	-0.5		
MCD	Coleburn Disti	26.58	330	eP		P	11 29 16.9	-0.7		
KLMR	Klimovskoe	26.70	20	eP		P	11 29 17.7	-0.9		
KLMR				AMP			11 29 23.6			
	comp=Z,266nm,0.9s									
KLMR				ePP		PnPn	11 29 57.2	-3.0		
KLMR				eS		S	11 33 52.1	+0.1		
KLMR				eS		S	11 33 52.1	+0.1		
KLMR				LQ		LQ	11 37 40.5			
KLMR				LQ		LQ	11 37 40.5			
KLMR				LR		LR	11 39 21.5			
KLMR				AMP			11 41 36.3			
	comp=Z,541nm,10.8s									
KLMR	Klimovskoe	26.70	20	eP		P	11 29 17.6	-1.0		
KLMR				e			11 29 57.2			
KLMR				eS		S	11 33 52.0	+0.1		
KLMR				pmax		pmax				
	comp=Z,266nm,0.9s									
KLMR				MLR		MLR				
	comp=Z,541nm,11.0s									
MDO	Dochfour	26.95	329	eP		P	11 29 21.0	+0.1		
AKN	Aaknes	27.06	345	eP		P	11 29 22.2	+0.3		
MLA1	Latheron	27.11	331	eP		P	11 29 22.1	-0.2		
VAL	Valentia	27.12	314	eP		P	11 29 24.7	+2.2		
VAL				eS		S	11 33 53.6	-5.1		
KSB	Sheil Bridge	27.26	327	eP		P	11 29 23.5	-0.2		
MOL	Molde	27.30	346	eP		P	11 29 23.8	-0.2		
KAC	Achnashellach	27.38	328	eP		P	11 29 27.0	+2.2		
KPL	Plockton	27.44	327	eP		P	11 29 24.0	-1.3		
KPL				IAMs_20		IAMs_20	11 42 42.3			
	comp=Z,9µm,18.4s									
BIGH	Upper Bighouse	27.45	331	IAMs_20		IAMs_20	11 41 42.5			
	comp=Z,13µm,22.4s									
TBLU	Trondheim	27.46	349	eP		P	11 29 25.9	+0.4		
LRW	Lerwick	27.61	335	eP		P	11 29 26.3	-0.4		
LRW				IAMs_20		IAMs_20	11 40 51.7			
	comp=Z,5µm,21.6s									
RSC	Scourie	27.86	329	eP		P	11 29 29.8	+0.8		
NSS	Namsos	28.44	351	eP		P	11 29 33.0	-1.2		
GEYT	Alibeck	28.95	76	P		P	11 29 38.8	-0.3		
	comp=Z,35nm,0.6s,baz=273,slow=8.5,SNR=26									
GEYT				LR		LR	11 44 20.5			
	comp=Z,2µm,18.5s,baz=270,slow=43									
GYA0B	ALIBECK ARRAY	28.95	76	eP		P	11 29 38.9	-0.2		
GYA0B				LR		LR				
	comp=Z,1µm,21.0s									
GYA0B	ALIBECK ARRAY	28.95	76	eP		P	11 29 38.9	-0.2		
TMCR	Tamitsa	29.21	15	eP		P	11 29 35.7	-5.3		
AKTO	Aktyubinsk	29.41	51	P		P	11 29 41.8	-1.2		
	comp=Z,15nm,0.5s,baz=253,slow=9.4,SNR=31									
AKTO				LR		LR	11 44 50.2			
	comp=Z,5µm,21.6s,baz=255,slow=43									
MOR8	Moi Rana	29.79	354	eP		P	11 29 45.5	-0.7		
DAMY	Dhamar	29.99	131	eP		P	11 29 49.6	+0.8		
DAMY				LR		LR				
	comp=Z,1µm,18.0s									
STOK	Stokkvaagen	30.07	353	eP		P	11 29 48.3	-0.3		
KONS	Konsvik	30.23	353	eP		P	11 29 49.4	-0.5		
AB31	Akbulak array	30.39	53	i P		P	11 29 50.1	-1.5		
AB31				pmax		pmax				
	comp=Z,40nm,1.1s									
SHME	Shamm	31.20	100	P		P	11 29 58.3	-0.8		
NAZ	Nazwa, Dubai	31.33	102	i P		P	11 30 01.1	+0.9		
	SNR=9.5									
BANOM	Banah	31.38	100	P		P	11 30 00.4	-0.3		
	SNR=7.0									
BANOM	Banah	31.38	100	i P		P	11 30 00.4	-0.3		
	SNR=7.0									
STEI	Steigen	31.47	355	eP		P	11 30 00.4	-0.5		
MSFE	Esma-Masafi	31.54	101	P		P	11 30 01.7	-0.4		
ATD	Arta Tunnel	31.55	137	LR		LR	11 43 39.6			
	comp=Z,1µm,21.0s,baz=334,slow=38									
ARU	Arti	31.61	40	P		P	11 30 00.8	-1.4		
	comp=Z,17nm,0.4s,baz=245,slow=6.8,SNR=50									
ARU	Arti	31.61	40	eP		P	11 30 00.7	-1.6		
	comp=Z,124nm,1.1s									
ARU				LR		LR				
	comp=Z,4µm,19.0s									
ARU	Arti	31.61	40	i P		P	11 30 00.8	-1.4		
ARU				pmax		pmax				
	comp=Z,115nm,1.1s									
APA	Apatity	31.62	9	i/P		P	11 30 02.1	-0.1		
APA				i			11 31 11.6			
APA				i S		S	11 35 07.0	-2.0		
APA				pmax		pmax				
	comp=Z,4.0nm,0.8s									
UOSS	Minazif	31.78	102	eP		P	11 30 03.8	-0.4		
UOSS	Minazif	31.78	102	i P		P	11 30 03.6	-0.6		
	SNR=9.7									
HATD	Hatta, Dubai	31.78	102	P		P	11 30 06.0	+1.8		
	SNR=6.3									
HATD	Hatta, Dubai	31.78	102	P		P	11 30 06.0	+1.8		
	SNR=6.3									
HATD	Hatta, Dubai	31.78	102	P		P	11 30 04.0	-0.2		
	SNR=16									
HATD	Hatta, Dubai	31.78	102	i P		P	11 30 04.0	-0.2		
	SNR=16									
LOF	Lofoten	31.79	354	eP		P	11 30 04.3	+0.6		
ASHO	Ashiyiah	31.80	102	P		P	11 30 05.7	+1.3		
	SNR=9.7									
ASHO	Ashiyiah	31.80	102	P		P	11 30 05.7	+1.3		
	SNR=9.7									
ASHO	Ashiyiah	31.80	102	P		P	11 30 03.9	-0.5		
	SNR=9.7									
ASHO	Ashiyiah	31.80	102	i P		P	11 30 03.9	-0.5		
	SNR=9.7									
KOWA	Kowa	31.81	233	P		P	11 30 04.4	0.0		
	comp=Z,35nm,0.9s,baz=35,slow=8.8,SNR=48									
KOWA				LR		LR	11 44 04.8			
	comp=Z,9µm,21.1s,baz=46,slow=38									
ALNE	Al Ain	31.88	104	i P		P	11 30 05.1	+0.1		
	SNR=13									
LVZ	Lovozero	32.09	9	eP		P	11 30 05.7	-0.7		
	comp=Z,37nm,0.9s									
LVZ				LR		LR				
	comp=Z,12µm,18.0s									
LVZ	Lovozero	32.09	9	eP		P	11 30 07.3	+0.9		
LVZ				pmax		pmax				
	comp=Z,110nm,2.2s									
KTK1	Kautokeino	32.36	1	eP		P	11 30 09.1	+0.3		
SOHO	SOHO	32.45	103	P		P	11 30 09.7	-0.3		
	SNR=25									
SOHO	SOHO	32.45	103	i P		P	11 30 09.7	-0.3		
	SNR=25									
SVE	Sverdlovsk	32.82	40	deP		P	11 30 12.0	-0.9		
SVE				eS		S	11 35 23.5	-4.5		
SVE				pmax		pmax				
	comp=Z,177nm,0.9s									
SVE				MLR		MLR				
	comp=Z,4µm,18.0s									
ARQ	Araqi	32.85	104	pP		pP	11 30 23.0	+0.6		
	SNR=8.3									
ARA0	ARCESS Array S	32.94	3	eP		P	11 30 12.9	-1.0		
ARCES	ARCESS Array B	32.94	3	P		P	11 30 12.9	-1.0		
	comp=Z,6.0nm,0.5s,baz=198,slow=8.8,SNR=42									
ARCES				LR		LR	11 44 54.2			
	comp=Z,10µm,20.5s,baz=182,slow=39									
ARCES	ARCESS Array B	32.94	3	eP		P	11 30 13.8	-0.1		
ARCES	ARCESS Array B	32.94	3	eP		P	11 30 13.8	-0.1		
ARE0	ARCESS Array S	32.94	3	eP		P	11 30 14.2	+0.3		
ARE0				LR		LR				
	comp=Z,10µm,20.0s									
ARE0	ARCESS Array S	32.94	3	eP		P	11 30 13.1	-0.7		
TRO	Tromso	33.00	358	eP		P	11 30 13.6	-0.7		
KEV	Kevo	33.23	3	eP		P	11 30 16.9	+0.6		
	comp=Z,108nm,1.6s									
KEV				LR		LR				
	comp=Z,11µm,21.0s									
KEV	Kevo	33.23	3	eP		P	11 30 16.9	+0.6		
HOQ	Hoqain	33.34	103	P		P	11 30 22.1	+4.2		
	SNR=6.5									
HOQ	Hoqain	33.34	103	P		P	11 30 22.1	+4.2		
	SNR=6.5									
SMDO	Samad	34.19	103	pP		pP	11 30 36.0	+1.8		
	SNR=9.0									
WSAR	Wadi Sarin	34.55	102	LR		LR	11 49 09.9			
	comp=Z,1µm,19.9s,baz=323,slow=44									
DZET	Dzherino	37.07	72	P		P	11 30 59.6	+10		
DZET				pmax		pmax				
	comp=Z,54nm,1.0s									
CMLA	Cha da Macela	37.22	286	PFAKE			11 31 00.0	+8.9		
CMLA				LR		LR				
	comp=Z,1µm,19.0s									
BRVK	Borovoye	37.36	48	PFAKE			11 31 10.0	+18		
BRVK				LR		LR				
	comp=Z,3µm,18.0s									
BRVK	Borovoye	37.36	48	P		P	11 30 51.8	-0.3		
	SNR=32									
BRVK	Borovoye	37.36	48	P		P	11 30 51.8	-0.3		
	SNR=32									
BRVK	Borovoye	37.36	48	c i P		P	11 30 51.2	-0.9		
BRVK				pmax		pmax				
	comp=Z,89nm,1.7s									
IUG	Iuzhnay	37.39	66	i P		P	11 30 51.8	-0.8		
	comp=Z,767nm,0.8s									
IUG				LR		LR	11 50 00.2			
	comp=Z,483nm,17.6s									
BVA0	Borovoye Array	37.42	48	P		P	11 30 50.7	-1.9		
BVA0				pmax		pmax				
	comp=Z,27nm,0.7s									
BVAR	Borovoye Array	37.42	48	P		P	11 30 52.3	-0.3		
	comp=Z,17nm,0.5s,baz=258,slow=6.3,SNR=81									
BVAR				LR		LR	11 49 26.4			
	comp=Z,2µm,18.6s,baz=250,slow=42									
KK31	Karatay Array	37.62	65	eP		P	11 30 53.9	-0.5		
KK31	Karatay Array	37.62	65	eP		P	11 30 53.9	-0.5		
KKAR	Karatay Array	37.62	65	eP		P	11 30 53.9	-0.5		
KKAR	Karatay Array	37.62	65	eP		P	11 30 53.9	-0.5		
JMIC	Jan Mayen	37.79	344	P		P	11 30 55.5	0.0		
	comp=Z,22nm,0.7s,baz=129,slow=22,SNR=3.1									
BORG	Borgarnes	37.80	332	PFAKE			11 31 10.0	+14		
BORG				LR		LR				
	comp=Z,4µm,21.0s									
DZA	Taraz	38.24	65	i eP		P	11 31 00.2	+0.5		
	comp=Z,937nm,0.9s									
DZA				eS		S	11 36 54.9	+3.3		
KBL	Kabul	38.32	79	eP		P	11 31 00.8	+0.1		
KBL				LR		LR				
	comp=Z,600nm,22.0s									
KBL	Kabul	38.32	79	eP		P	11 31 00.8	+0.1		
KBL	Kabul	38.32	79	eP		P	11 31 01.1	+0.5		
DBIC	Dimbokro	38.44	225	P		P	11 31 01.3	-0.3		
	comp=Z,47nm,0.9s,baz=21,slow=9.3,SNR=40									
DBIC				LR		LR	11 47 31.6			
	comp=Z,4µm,21.8s,baz=5.5,slow=37									
OTUK	Ortayu	38.49	56	P		P	11 31 00.9	-0.8		
OTUK				pmax		pmax				
	comp=Z,82nm,1.3s									
TIC	Toumodi	38.56	226	eP		P	11 31 02.4	-0.2		
KIC	Kosan Boka	38.63	225	eP		P	11 31 02.0	-1.1		
	comp=Z,110nm,1.0s									
BRZS	Berezniki	38.69	53	i P		P	11 31 02.4	-0.9		
	comp=Z,17nm,1.5s									
LIC	Lamto	38.90	225	eP		P	11 31 04.8	-0.6		
	comp=Z,204nm,0.9s									
MNAS	Manas	39.16	65	P		P	11 31 06.4	-1.1		
MNAS				pmax		pmax				
	comp=Z,44nm,1.3s									
BTLS	Baital	39.91	61	i/P		P	11 31 12.7	-0.8		
	comp=Z,315nm,1.4s									
BTLS				LR		LR	11 50 28.6			
	comp=Z,1µm,18.5s									
EKS2	Erkin-Say	40.06	65	P		P	11 31 15.0	0.0		
	SNR=35									
AML	Almayashu	40.09	66	P		P	11 31 14.8	-0.8		
	SNR=33									
SFK	Sufi-Kurgan	40.36	69	P		P	11 31 15.9	-1.7		
SFK				pmax		pmax				
	comp=Z,73nm,0.8s									
KMBO	Kilima Mbogo	40.37	155	P		P	11 31 20.1	+2.3		
	comp=Z,0.7nm,0.3s,baz=73,slow=4.0,SNR=6.8									
KMBO				LR		LR	11 50 48.9			
	comp=Z,4µm,18.1s,baz=332,slow=40									
KMBO	Kilima Mbogo	40.37	155	eP		P	11 31 19.6	+1.7		
	comp=Z,13nm,1.1s									
KMBO	Kilima Mbogo	40.37	155	eP		P	11 31 19.6	+1.7		
KMBO				pmax		pmax				
	comp=Z,13nm,1.1s									
BBTS	Babate	40.41	247	P		P	11 31 18.9	+0.9		
	comp=Z,17nm,0.6s,baz=101,slow=5.6,SNR=3.0									
BBTS				LR		LR	11 50 36.6			
	comp=Z,13µm,19.0s,baz=58,slow=40									
HSPB	Hornsund (broa	40.47	358	eP		P	11 31 19.8	+2.0		
HSPB	Hornsund (broa	40.47	358	eP		P	11 31 20.9	+3.1		
HSPB				MLR		MLR				
	comp=Z,8µm,21.8s									
USP	Ospenovka	40.48	64	P		P	11 31 17.4	-1.0		
	SNR=14									
AAK	Ala-Archa	40.58	65	LR		LR	11 51 31.8			
	comp=Z,1µm,19.9s,baz=274,slow=41									
AAK	Ala-Archa	40.58	65	P		P	11 31 19.3	-0.1		
	SNR=38									
AAK	Ala-Archa	40.58	65	eP		P	11 31 19.3	-0.1		
AAK	Ala-Archa	40.58	65	P		P	11 31 19.6	+0.2		
	SNR=43									
AAK	Ala-Archa	40.58	65	P		P	11 31 19.6	+0.2		
	SNR=43									
AAK	Ala-Archa	40.58	65	i P		P	11 31 19.3	-0.1		
	SNR=44									
AAK	Ala-Archa	40.58	65	c i P		P	11 31 19.2	-0.1		
AAK				pmax		pmax				
	comp=Z,47nm,1.0s									
FRU	Bishkek	40.64	64	i eP		P	11 31 19.0	-0.7		
FRU				eS		S	11 37 27.0	-0.6		
FRU				pmax		pmax				
	comp=Z,260nm,1.8s									
UCH	Uchtor	40.67	65	P		P	11 31 19.9	-0.6		
	SNR=39									
CHMS	Chumysh	40.71	64	P		P	11 31 20.3	0.0		
	SNR=20									
SCO	Scoresbysund	40.85	339	i P		P	11 31 22.6	+1.6		
	comp=Z,74nm,1.2s									
SCO	Scoresbysund	40.85	339	eP		P	11 31 22.4	+1.4		
SCO				LR		LR				
	comp=Z,2µm,21.0s									
SCO	Scoresbysund	40.85	339	eP		P	11 31 22.4	+1.4		
KBK	Karagaybulak	40.91	65	P		P	11 31 22.1	0.0		
	SNR=21									
KZA	Kyzart	41.23	65	P		P	11 31 25.4	+0.3		
	SNR=84									
TKM2	Tokmak 2	41.33	64	P		P	11 31 25.0	-0.6		
	SNR=26									
TKM2	Tokmak 2	41.33	64	P		P	11 31 24.7	-0.9		
TKM2				pmax		pmax				
	comp=Z,25nm,1.0s									
BMNS	Besmoynak	41.35	64	i/P		P	11 31 25.4	-0.3		
	comp=Z,125nm,1.3s									
BMNS				eS		S	11 37 40.3	+1.8		
BMNS				LR		LR	11 51 40.7			
	comp=Z,443nm,16.3s									
SPA0	Spitsbergen Ar	41.62	358	eP		P	11 31 28.6	+1.3		
SPA0	Spitsbergen Ar	41.62	358	eP		P	11 31 28.1	+0.7		
SPITS	Spitsbergen Ar	41.62	358	P		P	11 31 27.6	+0.3		
	comp=Z,2.7nm,0.3s,baz=158,slow=6.8,SNR=27									
SPITS				LR		LR	11 50 51.9			
	comp=Z,10µm,20.8s,baz=175,slow=39									
KUU	Kurty	41.70	63	i/P		P	11 31 28.0	-0.4		
	comp=Z,402nm,1.5s									
KUU				i S		S	11 37 45.4	+2.1		
NIL	Nilore	41.91	78	eP		P	11 31 30.8	+0.6		
NIL				LR		LR				
	comp=Z,1µm,21.0s									
NIL	Nilore	41.91	78	eP		P	11 31 30.8	+0.6		
NIL	Nilore	41.91	78	eP		P	11 31 30.8	+0.6		
NRN	Naryn	41.91	66	eP		P	11 31 30.5	0.0		
NRN				LR		LR				
	comp=Z,800nm,21.0s									
NRN	Naryn	41.91	66	eP		P	11 31 30.5	0.0		
NRN	Naryn	41.91	66	eP		P	11 31 30.5	0.0		
NRN				MLR		MLR				
	comp=Z,800nm,21.0s									
ULHL	Ulahol	41.92	65	P		P	11 31 31.0	+0.5		
	SNR=31									
AAA	Alma-Ata	42.23	63	eP		P	11 31 31.3	-1.5		
AAA				eS		S	11 37 48.4	-2.8		
AAA				pmax		pmax				
	comp=Z,300nm,4.0s									
AAA				smax		smax				
	comp=E,500nm,7.4s									
KSH	Kashi	42.33	69	P		P	11 31 32.1	-1.6		
KSH				sP		sP	11 31 46.4	+0.2		
KSH				PP		PP	11 33 12.3	+0.4		
KSH				ScP		ScP	11 37 12.4	-2.9		
KSH				S		S	11 37 45.9	-6.9		
KSH				ScS		ScS	11 41 27.1	-6.4		
KSH				pmax		pmax				
	comp=E,81nm,0.9s									
KSH				LR		LR				
	comp=E,3µm,16.3s									
KSH				LR		LR				
	comp=E,1µm,12.2s									
KSH				LR		LR				
	comp=E,4µm,29.5s									
MDOK	Medeo	42.33	63	i P		P	11 31 33.4	-0.3		
	comp=E,366nm,1.5s									
MDOK				LR		LR	11 51 18.1			
	comp=E,666nm,19.9s									
KURBB	Kurchatov Arra	42.42	52	P		P	11 31 32.5	-1.6		
	comp=E,20nm,0.7s,baz=279,slow=8.9,SNR=59									
KURBB				ScP		ScP	11 37 14.9	-0.3		
	comp=E,3.8nm,1.1s,baz=284,slow=4.7,SNR=5.4									
KURK	Kurchatov	42.47	52	eP		P	11 31 32.5	-2.0		
KURK				LR		LR				
	comp=Z,2µm,20.0s									
KURK	Kurchatov	42.47	52	P		P	11 31 33.5	-1.1		
	SNR=28									
KURK	Kurchatov	42.47	52	P		P	11 31 33.5	-1.1		
	SNR=28									
KURK	Kurchatov	42.47	52	c e P		P	11 31 32.9	-1.6		
KURK				pmax		pmax				
	comp=Z,55nm,1.2s									
KBS	Kingsbay	42.51	357	PFAKE			11 31 50.0	+16		
KBS				LR		LR				
	comp=Z,4µm,19.0s									
KDJ	Kajisay	42.63	65	eP		P	11 31 36.3	+0.1		
KDJ				LR		LR				
	comp=Z,900nm,22.0s									
TARG

ZALV **Zalesovo Beam** 46.04 47 P **P** **11 32 01.6 -1.4**
comp=Z,31nm,0.4s,baz=266,slow=9.5,SNR=60
ZALV LR LR 11 54 57.6
comp=Z,2μm,18.4s,baz=266,slow=41
SUMG Summit 46.49 339 *i* P **P** **11 32 08.4 +1.6**
SUMG Summit 46.49 339 *e*P **P** **11 32 08.0 +1.2**
comp=Z,42nm,1.1s
SUMG LR LR
comp=Z,2μm,20.0s
SUMG Summit 46.49 339 *e*P **P** **11 32 08.0 +1.2**
NRIK Noril'sk 47.72 26 P **P** **11 32 14.2 -1.7**
comp=Z,6.4nm,0.3s,baz=332,slow=19
NRIK LR LR 11 56 11.0
comp=Z,1μm,18.4s,baz=242,slow=41
DGZ Jazzator, Alta 48.21 53 *i* P **P** **11 32 19.1 -1.2**
DGZ pmax pmax
comp=Z,6.0nm,1.3s
WMQ Urumqi 49.73 60 P **P** **11 32 32.0 +0.2**
WMQ pP sP 11 32 42.9 -1.6
WMQ sP pP 11 32 47.3 +6.4
WMQ PP **PP** **11 34 25.0 -1.3**
WMQ S **S** **11 39 39.1 +0.2**
WMQ ScS **ScS** **11 42 20.4 -0.8**
WMQ pmax pmax
comp=Z,49nm,1.1s
WMQ pmax pmax
comp=Z,820nm,3.9s
WMQ LR LR
comp=Z,5μm,28.9s
WMQ LR LR
comp=Z,7μm,20.9s
WMQ LR LR
comp=Z,8μm,20.9s
SFJD Kangerlussuaq 49.92 331 P **P** **11 32 31.8 -1.1**
comp=Z,5.9nm,0.8s,baz=220,slow=16,SNR=3.7
SFJD LR LR 11 55 57.5
comp=Z,2μm,19.0s,baz=83,slow=39
SFJD Kangerlussuaq 49.92 331 *i* P **P** **11 32 32.0 -0.8**
SFJD Kangerlussuaq 49.92 331 *e*P **P** **11 32 32.6 -0.2**
SFJD Kangerlussuaq 49.92 331 *e*P **P** **11 32 34.7 +1.9**
ILULI Ilulissat 50.11 334 PFAKE 11 32 50.0 +16
ILULI LR LR
comp=Z,3μm,21.0s
KRAR Krasnoyarsk 50.40 44⇑ *e*P **P** **11 32 37.4 +0.8**
PYUN Piuthan 51.77 81 *e*P **P** **11 32 47.0 -0.6**
comp=Z,216nm,0.7s
HVS Khovu-Aksy 51.84 50⇑ *e*P **P** **11 32 47.9 +0.2**
HVS pmax pmax
comp=Z,18nm,1.1s
LSZ Lusaka 52.09 172 *e*P **P** **11 32 50.8 +1.0**
comp=Z,17nm,0.9s
LSZ LR LR
comp=Z,2μm,20.0s
LSZ Lusaka 52.09 172 *e*P **P** **11 32 51.9 +2.1**
KOLN Koldanda 52.40 81 *e*P **P** **11 32 51.4 -0.9**
comp=Z,87nm,0.6s
GKN Gorkha 53.12 80 *e*P **P** **11 32 56.6 -0.9**
comp=Z,122nm,0.5s
HYB Hyderabad 53.46 95 *i* P **P** **11 32 59.0 -1.0**
DMN Daman 53.66 80 *e*P **P** **11 33 01.0 -0.7**
comp=Z,158nm,0.7s
KKN Kakani 53.72 80 *e*P **P** **11 33 01.0 -1.0**
comp=Z,78nm,0.5s
PKIN Phulchoki 53.91 80 *e*P **P** **11 33 02.5 -1.0**
comp=Z,46nm,0.6s
GUN Gumba 54.14 80 *e*P **P** **11 33 04.3 -1.0**
comp=Z,297nm,1.0s
JIRN Jiri 54.50 80 *e*P **P** **11 33 07.0 -0.9**
TULEG Thule 54.74 343 *e*P **P** **11 33 08.9 +0.5**
TULEG LR LR
comp=Z,2μm,20.0s
RAMN Ramite 55.15 80 *e*P **P** **11 33 11.1 -1.4**
comp=Z,174nm,0.7s
TSUM Tsumeb 55.75 185 PFAKE 11 33 30.0 +13
TSUM LR LR
comp=Z,8μm,19.0s
ODAN Odare 55.81 80 *e*P **P** **11 33 15.8 -1.4**
comp=Z,46nm,0.6s
MOY Mondy 56.09 48 *e*P **P** **11 33 18.7 0.0**
MOY pmax pmax
comp=Z,51nm,3.8s
LSA Lhasa 57.47 75 *e*P **P** **11 33 29.1 -0.2**
comp=Z,31nm,0.6s
LSA LR LR
comp=Z,1μm,22.0s
LSA Lhasa 57.47 75 *e*P **P** **11 33 29.1 -0.2**
comp=Z,31nm,0.6s
LSA Lhasa 57.47 75 P **P** **11 33 29.0 -0.2**
LSA Lhasa 57.47 75 *e*P **P** **11 33 29.1 -0.2**
LSA pmax pmax
comp=Z,31nm,0.6s
LSA MLR MLR
comp=Z,1μm,22.0s
TLY Talaya 57.65 47 *e*P **P** **11 33 30.3 +0.6**
comp=Z,11nm,0.8s
TLY LR LR
comp=Z,2μm,22.0s
TLY Talaya 57.65 47 P **P** **11 33 30.6 +1.0**
SNR=9.5
TLY Talaya 57.65 47 P **P** **11 33 30.6 +1.0**
SNR=9.5
TLY Talaya 57.65 47*c* *i*P **P** **11 33 29.5 -0.2**
TLY *e* 11 34 24.4
TLY *e* 11 35 36.4
TLY *e*PPP PPP 11 36 55.4
TLY *e*S **S** **11 41 27.8 +1.9**
TLY *e* 11 43 16.8
TLY pmax pmax
comp=Z,19nm,1.4s
TLY MLR MLR
comp=Z,1μm,19.0s
IRK Irkutsk 57.83 46 *e*P **P** **11 33 29.0 -1.9**
IRK pmax pmax
comp=Z,43nm,3.4s
ZAK Zakamensk 57.88 48 *e*P **P** **11 33 30.5 -0.9**
ZAK pmax pmax
comp=Z,17nm,1.2s
GTA Gaotai 59.76 61 *e*P **P** **11 33 43.6 -1.1**
GTA pP pP 11 33 52.8 -1.2
GTA sP sP 11 33 56.8 -0.7
GTA S **S** **11 41 50.9 -3.1**
GTA sS sS 11 42 08.8 -0.4
GTA SS **SS** **11 45 46.3 -3.4**
GTA pmax pmax
comp=Z,9.0nm,0.9s
GTA pmax pmax
comp=Z,280nm,5.2s
GTA LR LR
comp=Z,1μm,21.4s
GTA LR LR
comp=Z,750nm,20.0s
GTA LR LR
comp=Z,2μm,24.5s
OPO Ambohidratompo 60.07 152 P **P** **11 33 48.7 +1.8**
comp=Z,3.6nm,0.6s,baz=118,slow=17,SNR=2.8
OPO LR LR 12 01 09.9
comp=Z,1μm,20.6s,baz=331,slow=38
SCHQ Schefferville 60.12 318 P **P** **11 33 46.6 -0.2**
comp=Z,8.1nm,0.6s,baz=70,slow=10.0,SNR=6.6
SCHQ LR LR 11 59 19.2
comp=Z,1μm,20.8s,baz=61,slow=36
SCHQ Schefferville 60.12 318 *e*P **P** **11 33 48.3 +1.5**
ABPO Ambohimpanom 60.49 152 PFAKE 11 34 00.0 +10
ABPO LR LR
comp=Z,2μm,19.0s
TIXI Tiksi 60.72 20 P **P** **11 33 49.6 -0.9**
comp=Z,13nm,0.7s,baz=320,slow=5.2,SNR=32
TIXI Tiksi 60.72 20 *e*P **P** **11 33 49.6 -0.9**
TIXI LR LR
comp=Z,4μm,19.0s
TIXI Tiksi 60.72 20*c* *i*P **P** **11 33 50.1 -0.4**
TIXI pmax pmax
comp=Z,68nm,2.0s
SONA0 Songino Array 60.72 50 *e*P **P** **11 33 50.1 -1.0**
SONA1 Songino Array 60.72 50 *e*P **P** **11 33 50.1 -1.0**
SONM Songino Array 60.72 50 P **P** **11 33 50.1 -1.0**
comp=Z,10nm,1.1s,baz=282,slow=7.9,SNR=43
SONM LR LR 12 03 46.4
comp=Z,2μm,21.1s,baz=300,slow=40
BOD Bodaibo 61.00 38 *e*P **P** **11 33 50.7 -1.9**
BOD pmax pmax
comp=Z,35nm,0.9s
PALK Pallekele 61.04 103 P **P** **11 33 54.6 +1.0**
comp=Z,13nm,0.9s,baz=296,slow=6.7,SNR=4.9
PALK Pallekele 61.04 103 *e*P **P** **11 33 54.3 +0.7**
comp=Z,40nm,1.1s
PALK LR LR
comp=Z,1μm,22.0s
PALK Pallekele 61.04 103 P **P** **11 33 53.3 -0.3**
PALK Pallekele 61.04 103 *i* P **P** **11 33 55.6 +2.0**
ULN Ulaanbaatar 61.12 50 *e*P **P** **11 33 52.9 -0.9**
comp=Z,16nm,0.7s
ULN LR LR
comp=Z,2μm,20.0s
ULN Ulaanbaatar 61.12 50 P **P** **11 33 53.3 -0.6**
SNR=9.0
ULN Ulaanbaatar 61.12 50 P **P** **11 33 53.3 -0.6**
SNR=9.0
ULN Ulaanbaatar 61.12 50*c* *i*P **P** **11 33 53.2 -0.6**
ULN pmax pmax
comp=Z,31nm,2.2s
RES Resolute Bay 61.41 344 *e*P **P** **11 33 55.6 +0.5**
comp=Z,7.7nm,0.8s
RES LR LR
comp=Z,3μm,19.0s
RES Resolute Bay 61.41 344 *e*P **P** **11 33 56.2 +1.1**
LBTB Lobatse 61.52 176 *e*P **P** **11 33 58.1 +1.5**
LBTB Lobatse 61.52 176 *e*P **P** **11 33 59.0 +2.4**
LZH Lanzhou 64.09 63 *e*P **P** **11 34 13.0 -0.9**
LZH pP sP 11 34 24.8 -2.0
LZH sP pP 11 34 29.0 +5.8
LZH PP **PP** **11 36 37.5 +2.8**
LZH S **S** **11 42 46.0 -2.8**
LZH sS sS 11 43 04.1 -0.1
LZH SS **SS** **11 47 03.1 +5.5**
LZH pmax pmax
comp=Z,43nm,1.5s
LZH pmax pmax
comp=Z,460nm,4.5s
LZH LR LR
comp=Z,1μm,14.9s
LZH LR LR
comp=Z,790nm,16.4s
LZH LR LR
comp=Z,2μm,17.6s
PQI Presque Isle 64.19 310 *e*P **P** **11 34 15.6 +1.5**
BOSA Boshof 65.08 176 P **P** **11 34 20.5 +0.4**
comp=Z,3.4nm,0.4s,baz=356,slow=6.6,SNR=11
BOSA LR LR 12 05 33.1
comp=Z,3μm,18.5s,baz=1.5,slow=39
PKME Peaks-Kenny Pk 65.63 309 P **P** **11 34 22.8 -0.7**
baz=62
PKME Peaks-Kenny Pk 65.63 309 PFAKE 11 34 40.0 +16
PKME LR LR
comp=Z,1μm,20.0s
YAK Yakutsk 65.96 29 P **P** **11 34 24.8 -0.5**
comp=Z,47nm,0.7s,baz=238,slow=1.7,SNR=18
YAK Yakutsk 65.96 29 *e*P **P** **11 34 24.6 -0.7**
comp=Z,63nm,0.7s
YAK LR LR
comp=Z,2μm,20.0s
YAK Yakutsk 65.96 29 *e*P **P** **11 34 24.1 -1.2**
YAK *e**PP **pP** **11 34 32.8 -1.9**
YAK *e* 11 36 46.7
YAK *e*PPP PPP 11 38 24.7
YAK *e*S **S** **11 43 06.1 -4.4**
YAK *e* 11 44 14.3
YAK pmax pmax
comp=Z,37nm,0.8s
YAK pmax pmax
comp=E,26nm,1.3s
YAK pmax pmax
comp=Z,15nm,1.0s
YAK pmax pmax
comp=N,20nm,1.5s
YAK pmax pmax
comp=E,31nm,1.5s
YAK smax smax
comp=E,94nm,3.7s
YAK smax smax
comp=N,31nm,1.8s
YAK MLR MLR
comp=Z,3μm,26.0s
YAK MLR MLR
comp=N,5μm,24.0s
YAK MLR MLR
comp=E,844nm,19.0s
BTO Baotou 66.25 56 *e*P **P** **11 34 27.8 +0.1**
CD2 Chengdu 66.51 68 ⇑P **P** **11 34 29.0 -0.5**
CD2 pP pP 11 34 39.8 +0.9
CD2 sP sP 11 34 44.3 +1.9
CD2 PP **PP** **11 36 55.0 -0.9**
CD2 S **S** **11 43 16.4 -2.0**
CD2 SKS **SKSac** **11 44 22.1 -2.0**
CD2 SS **SS** **11 47 34.0 -1.3**
CD2 pmax pmax
comp=E,80nm,0.7s
CD2 pmax pmax
comp=E,220nm,5.0s
CD2 LR LR
comp=E,1μm,25.8s
CD2 LR LR
comp=E,2μm,21.9s
CD2 LR LR
comp=E,1μm,17.4s
CLNS Chul'man 66.68 36 *e*P **P** **11 34 31.0 +0.9**
CLNS pmax pmax
comp=Z,33nm,1.3s
CLNS pmax pmax
comp=E,10.0nm,1.2s
CLNS pmax pmax
comp=N,18nm,1.2s
CLNS MLR MLR
comp=E,920nm,16.0s
CLNS MLR MLR
comp=N,982nm,15.0s
CLNS MLR MLR
comp=Z,938nm,14.0s
HHC Hu-ho-hao-te 67.15 55 *e*P **P** **11 34 34.3 +0.8**
HHC S **S** **11 43 24.6 -1.4**
HHC SS **SS** **11 47 44.3 -0.5**
HHC pmax pmax
comp=Z,27nm,1.2s
HHC pmax pmax
comp=Z,360nm,7.1s
HHC LR LR
comp=Z,1μm,16.9s
HHC LR LR
comp=Z,1μm,17.4s
HHC LR LR
comp=Z,2μm,17.4s
LBNH Lisbon 67.77 309 P **P** **11 34 36.5 -0.7**
baz=60
LBNH Lisbon 67.77 309 *e*P **P** **11 34 39.5 +2.3**
LBNH Lisbon 67.77 309 *e*P **P** **11 34 39.5 +2.3**
HIA Hailar 67.96 44 *e*P **P** **11 34 38.6 +0.3**
HIA LR LR
comp=Z,1μm,20.0s
HIA Hailar 67.96 44 *e*P **P** **11 34 38.6 +0.3**
HIA MLR MLR
comp=Z,1μm,20.0s
BCX Boston College 68.25 307 *e*P **P** **11 34 42.9 +2.7**
HNH Hanover 68.26 309 *e*P **P** **11 34 42.7 +2.4**
WES Weston 68.32 307 *e*P **P** **11 34 42.6 +2.0**
WES Weston 68.32 307 *e*P **P** **11 34 42.6 +2.0**
RCBR Riachuelo 68.32 245 PFAKE 11 34 50.0 +9.0
RCBR LR LR
comp=Z,8μm,21.0s
TRQ Mont Tremblant 68.37 312 *e*P **P** **11 34 43.0 +2.0**
HRV Adam Dziewonsk 68.41 307 P **P** **11 34 41.3 +0.1**
baz=60
HRV Adam Dziewonsk 68.41 307 *e*P **P** **11 34 43.6 +2.4**
comp=Z,12nm,0.8s
HRV LR LR
comp=Z,1μm,21.0s
HRV Adam Dziewonsk 68.41 307 *e*P **P** **11 34 43.6 +2.4**
HRV pmax pmax
comp=Z,12nm,0.8s
HRV MLR MLR
comp=Z,1μm,21.0s
FRNY Flat Rock 68.49 310 *e*P **P** **11 34 42.7 +1.0**
comp=Z,4.9nm,0.6s
CMAI Chiengmai2 68.53 81 P **P** **11 34 41.4 -1.1**
comp=Z,137nm,1.2s
KMI Kunming 68.68 74 P **P** **11 34 42.8 -0.7**
KMI pP sP 11 34 56.3 -0.1
KMI sP PcP 11 35 00.6 -7.6
KMI PP **PP** **11 37 18.8 +3.7**
KMI S **S** **11 43 40.8 -4.1**
KMI sS sS 11 44 01.9 +1.5
KMI SS **SS** **11 48 09.1 -0.3**
KMI pmax pmax
comp=Z,23nm,1.0s
KMI pmax pmax
comp=Z,270nm,4.2s
KMI LR LR
comp=Z,830nm,28.3s
KMI LR LR
comp=Z,540nm,25.9s
KMI LR LR
comp=Z,1μm,33.2s
XAN Xi'an 68.72 63 P **P** **11 34 42.6 -0.8**
XAN pP pP 11 34 52.6 -0.2
XAN sP sP 11 34 58.8 +2.5
XAN PcP **PcP** **11 35 09.5 +1.4**
XAN S **S** **11 43 37.4 -7.4**
XAN ScS **SKiKP** **11 44 35.3 +1.7**
XAN pmax pmax
comp=Z,42nm,1.4s
XAN pmax pmax
comp=Z,340nm,3.8s
XAN LR LR
comp=Z,720nm,19.5s
XAN LR LR
comp=Z,1μm,21.7s
XAN LR LR
comp=Z,1μm,27.1s
SUR Sutherland 68.75 181 PFAKE 11 35 00.0 +17
SUR LR LR
comp=Z,4μm,19.0s
BBSR BB Station 68.83 295 PFAKE 11 35 00.0 +16
BBSR LR LR
comp=Z,400nm,18.0s
QUA2 Belchertown 69.03 308 *e*P **P** **11 34 47.3 +2.2**
QUA2 *e*pP **sP** **11 34 57.0 -1.0**
CHTO Chiang Mai 69.05 82 P **P** **11 34 44.7 -0.9**
comp=Z,104nm,1.3s,comp=Z,2μm
CHTO Chiang Mai 69.05 82 PFAKE 11 35 00.0 +14
CHTO LR LR
comp=Z,800nm,21.0s
CHTO Chiang Mai 69.05 82 P **P** **11 34 45.0 -0.6**
SNR=15
CHTO Chiang Mai 69.05 82 P **P** **11 34 45.0 -0.6**
SNR=15
CHTO Chiang Mai 69.05 82 *e*P **P** **11 34 44.5 -1.1**
CMMT Chiang Mai 69.05 82 P **P** **11 34 43.6 -2.0**
comp=Z,23nm,1.3s,comp=Z,399nm
LONY Lake Ozonia 69.21 311 P **P** **11 34 46.7 +0.5**
baz=59
LONY Lake Ozonia 69.21 311 *e*P **P** **11 34 47.5 +1.2**
CM31 Chiang Mai Arr 69.24 82 *e*P **P** **11 34 46.3 -0.5**
CMAR Chiang Mai Arr 69.24 82 P **P** **11 34 45.9 -0.9**
comp=Z,10nm,0.8s,baz=299,slow=6.9,SNR=60
CMAR LR LR 12 11 23.5
comp=Z,780nm,20.4s,baz=302,slow=41
CM01 Chiang Mai Arr 69.27 82 *e*P **P** **11 34 46.1 -0.9**
ACCN Adirondack Com 69.29 309 *e*P **P** **11 34 48.3 +1.6**
comp=Z,47nm,1.2s
TIY Taiyuan 69.31 58 *e*P **P** **11 34 43.4 -3.6**
TIY pP **sP** **11 34 58.6 -1.3**
TIY PP **PP** **11 37 20.9 +0.9**
TIY S **S** **11 43 49.5 -2.2**
TIY sS **sS** **11 44 05.4 -1.8**
TIY ScS **SKSac** **11 44 41.5 -3.7**
TIY pmax pmax
comp=Z,240nm,3.7s
TIY LR LR
comp=Z,250nm,7.2s
TIY LR LR
comp=Z,490nm,13.8s
TIY LR LR
comp=Z,1μm,16.3s
NCB Newcomb 69.33 310 PFAKE 11 35 00.0 +13
NCB LR LR
comp=Z,800nm,21.0s
ZEA Zeya 69.50 38 *e*P **P** **11 34 47.6 -0.2**
ZEA *e*S **SKiKP** **11 44 44.5 +10**
ZEA pmax pmax
comp=E,49nm,1.6s
ZEA pmax pmax
comp=Z,64nm,1.4s
ZEA pmax pmax
comp=Z,300nm,4.0s
ZEA MLR MLR
comp=Z,2μm,16.0s
ZEA MLR MLR
comp=E,700nm,15.0s
ZEA MLR MLR
comp=N,900nm,16.0s
PLVO Plevna 70.50 312 *e*P **P** **11 34 56.6 +2.5**
BJI Beijing 70.59 54⇓ *e*P **P** **11 34 54.6 -0.1**
BJI S **S** **11 44 03.8 -2.6**
BJI pmax pmax
comp=N,24nm,0.9s
BJI LR LR
comp=N,3μm,20.9s
BJI LR LR
comp=N,5μm,28.4s
BJT Baijiatuan 70.60 54 PFAKE 11 35 10.0 +15
BJT LR LR
comp=Z,4μm,20.0s
PAL Palisades 70.69 307 P **P** **11 34 55.7 +0.4**
baz=58
PAL Palisades 70.69 307 PFAKE 11 35 10.0 +15
PAL LR LR
comp=Z,1μm,21.0s
FCC Fort Churchill 70.94 330 *e*P **P** **11 34 57.7 +1.2**
comp=Z,51nm,1.3s
FCC LR LR
comp=Z,4μm,19.0s
FCC Fort Churchill 70.94 330 *e*P **P** **11 34 57.7 +1.2**
GYA Guiyang 70.99 71⇓ *i*P **P** **11 34 56.8 -0.7**
GYA pP sP 11 35 10.4 -0.1
GYA PcP **PcP** **11 35 20.0 +2.2**
GYA PP **PP** **11 37 38.9 +4.1**
GYA S **S** **11 44 10.6 -1.1**
GYA sS sS 11 44 27.8 +0.5
GYA SS **SS** **11 48 44.0 -0.6**
GYA pmax pmax
comp=Z,30nm,0.8s
GYA pmax pmax
comp=Z,160nm,6.2s
GYA LR LR
comp=Z,520nm,18.8s
GYA LR LR
comp=Z,540nm,19.2s
GYA LR LR
comp=Z,500nm,19.6s
ENH Enshi 71.08 66 *e*P **P** **11 34 57.5 -0.5**
comp=Z,56nm,1.0s
ENH LR LR
comp=Z,1μm,20.0s
ODNJ Ogdensburg 71.09 307 *e*P **P** **11 34 58.7 +0.9**
ODNJ LR LR
comp=Z,1μm,21.0s
PHIT Phitsanulok 71.11 82 P **P** **11 34 57.9 -0.3**
comp=Z,32nm,0.9s,comp=Z,252nm
BRNJ Basking Ridge 71.28 307 PFAKE 11 35 10.0 +11
BRNJ LR LR
comp=Z,1μm,21.0s
BINY Binghamton 71.36 309 PFAKE 11 35 10.0 +11
BINY LR LR
comp=Z,1μm,20.0s
SRDT SRDT 71.64 86 P **P** **11 35 01.3 -0.2**
comp=Z,30nm,1.1s
LUPA Lehigh Univers 71.84 307 *e*P **P** **11 35 03.0 +0.7**
LUPA LR LR
comp=Z,100nm,20.0s
SADO Sadowa 71.87 313 *e*P **P** **11 35 04.2 +1.8**
PBKT Sadao Pong 71.89 83 P **P** **11 35 01.6 -1.3**
comp=Z,15nm,1.6s
N59A State Game Lan 71.92 308 P **P** **11 35 02.3 -0.5**
baz=57
N59A State Game Lan 71.92 308 *e*P **P** **11 35 04.7 +1.9**
N59A LR LR
comp=Z,1μm,20.0s
BILL Bilibino 72.24 13 *e*P **P** **11 35 04.2 0.0**
BILL *e* 11 35 14.0
BILL *e* 11 35 23.2
BILL *e* 11 37 43.8
BILL *e*PPP PPP 11 39 27.5
BILL *e*S **S** **11 44 22.4 -2.2**
BILL *e*SS **SS** **11 49 06.3 +4.8**
BILL pmax pmax
comp=Z,15nm,1.2s
BILL MLR MLR
comp=Z,2μm,25.0s

PSUB Penn St. - Bra 72.26 307 eP P 11 35 06.5 +1.7
PSUB LR LR
comp=Z,1µm,21.0s
MMNY Mt. Morris Dam 72.26 310 eP P 11 35 06.5 +1.8
PHET Kaeng Krachan 72.86 87 P P 11 35 09.4 +0.6
comp=Z,9.3nm,0.8s,comp=Z,147nm
PAGS Pennsylvania G 72.91 308 PFAKE 11 35 20.0 +11
PAGS LR LR
comp=Z,2µm,21.0s
CHAI Chaiyaphum 73.07 83 P P 11 35 10.1 +0.1
comp=Z,9.3nm,0.8s,comp=Z,86nm
SEY Seymchan 73.19 21 P P 11 35 10.0 +0.2
comp=Z,3.8nm,0.4s,baz=307,slow=5.0,SNR=25
SEY Seymchan 73.19 21⇓ eP P 11 35 10.5 +0.6
TIA Tai'an 73.28 57 P P 11 35 10.3 -0.7
TIA S S 11 44 33.9 -3.7
TIA pmax pmax
comp=Z,27nm,1.3s
TIA pmax pmax
comp=Z,310nm,3.9s
TIA LR LR
comp=Z,860nm,25.5s
TIA LR LR
comp=Z,1µm,25.1s
TIA LR LR
comp=Z,550nm,29.2s
SSPA Standing Stone 73.42 308 P P 11 35 12.0 +0.3
baz=56
SSPA Standing Stone 73.42 308 eP P 11 35 13.7 +2.0
comp=Z,90nm,0.9s
NAYO Nakonayok 73.42 84 P P 11 35 12.6 +0.5
comp=Z,13nm,1.5s
SDMD Soldier's Deli 73.44 307 eP P 11 35 13.7 +1.9
SDMD epP sP 11 35 23.3 -1.5
SDMD LR LR
comp=Z,500nm,21.0s
INK Inuvik 73.64 351 P P 11 35 12.2 -0.3
comp=Z,7.0nm,0.9s,baz=0.8,slow=7.4,SNR=19
INK LR LR 12 09 50.7
comp=Z,2µm,21.9s,baz=20,slow=38
INK Inuvik 73.64 351 eP P 11 35 12.3 -0.1
comp=Z,19nm,1.1s
INK Inuvik 73.64 351 eP P 11 35 12.3 -0.1
BSI Banda Aceh 73.67 95 P P 11 35 13.9 +0.4
ERPA Erie 73.88 311 P P 11 35 13.5 -0.9
baz=55
ERPA Erie 73.88 311 eP P 11 35 15.9 +1.5
ERPA LR LR
comp=Z,1µm,19.0s
M54A Oil Creek Stat 74.03 310 P P 11 35 14.4 -0.9
baz=55
M54A Oil Creek Stat 74.03 310 eP P 11 35 17.1 +1.8
M54A LR LR
comp=Z,1µm,19.0s
O56A Blue Knob Stat 74.05 308 P P 11 35 15.3 -0.2
baz=55
O56A Blue Knob Stat 74.05 308 eP P 11 35 16.8 +1.3
SKNT Sakolnakorn 74.06 81 P P 11 35 13.9 -1.9
comp=Z,17nm,1.2s
SRAK Srakaew 74.17 84 P P 11 35 18.9 +2.4
comp=Z,66nm,0.8s,comp=Z,1µm
ALLY Alegheny Colle 74.24 310 eP P 11 35 18.7 +2.1
comp=Z,118nm,1.5s
CN2 Changchun 74.25 47 eP P 11 35 16.0 -0.5
CN2 esP PcP 11 35 31.9 +0.6
CN2 eS SKiKP 11 44 43.8 +2.3
CN2 pmax pmax
comp=Z,40nm,1.0s
CN2 pmax pmax
comp=Z,600nm,6.0s
CN2 LR LR
comp=Z,1µm,21.0s
CN2 LR LR
comp=Z,1µm,21.0s
CN2 LR LR
comp=Z,900nm,19.0s
SNY Shenyang 74.28 49 ⇓P P 11 35 16.3 -0.4
SNY S SKiKP 11 44 44.0 +2.5
SNY pmax pmax
comp=Z,28nm,1.6s
SNY LR LR
comp=Z,730nm,19.6s
SNY LR LR
comp=Z,1µm,18.1s
SNY LR LR
comp=Z,1µm,17.1s
E45A Wooded Hills, 74.41 316 P P 11 35 16.8 -0.6
baz=53
KLR Kul'dur 74.45 40 P P 11 35 17.1 -0.5
comp=Z,1.9nm,1.0s,baz=304,slow=7.0,SNR=33
KLR Kul'dur 74.45 40 eP P 11 35 17.6 0.0
WHN Wuhan 74.47 63 ⇓P P 11 35 19.1 +1.1
F46A Macinaw City C 74.53 316 P P 11 35 17.3 -0.8
baz=53
N54A Moraine State 74.54 310 P P 11 35 18.9 +0.6
baz=55
N54A Moraine State 74.54 310 eP P 11 35 20.9 +2.7
PKDT Phuket 74.70 92 P P 11 35 20.3 +0.8
comp=Z,13nm,0.9s
DL2 Dalian 74.74 53 P P 11 35 18.8 -0.6
DL2 S S 11 44 49.8 -4.0
DL2 pmax pmax
comp=Z,25nm,1.5s
DL2 pmax pmax
comp=Z,140nm,7.9s
DL2 LR LR
comp=Z,500nm,19.9s
DL2 LR LR
comp=Z,850nm,20.2s
DL2 LR LR
comp=Z,1µm,23.3s
TOLK Toolik Lake Re 74.75 357 P P 11 35 19.2 +0.2
baz=7.5
TOLK Toolik Lake Re 74.75 357 eP P 11 35 20.4 +1.4
TOLK LR LR
comp=Z,2µm,22.0s
SPRD Spring Road, M 74.89 306 eP P 11 35 22.4 +2.0
IP05 Hopewell Churc 74.92 306 eP P 11 35 22.3 +1.8
IP05 LR LR
comp=Z,1µm,21.0s
IP01 Cuckoo 74.95 306 eP P 11 35 22.9 +2.2
IP01 LR LR
comp=Z,1µm,20.0s
IP03 Louisa 74.98 306 eP P 11 35 22.9 +2.0
IP03 LR LR
comp=Z,1µm,20.0s
F45A CMU Biological 75.00 316 P P 11 35 21.0 +0.2
baz=53
IP06 Yanceyville 75.01 306 eP P 11 35 23.1 +2.1
YKA Yellowknife Ar 75.05 341 P P 11 35 21.0 +0.2
comp=Z,8.1nm,0.7s,baz=34,slow=5.8,SNR=72
YKA Yellowknife Ar 75.05 341 P P 11 35 21.0 +0.2
CHBT CHBT 75.12 85 P P 11 35 29.8 +7.9
LHMI Lhok Sumawe 75.15 95 P P 11 35 21.9 -0.2
LHMI Lhok Sumawe 75.15 95 PFAKE 11 35 40.0 +18
LHMI LR LR
comp=Z,1µm,21.0s
MCWV Mont Chateau 75.21 309 P P 11 35 22.2 +0.1
baz=55
MCWV Mont Chateau 75.21 309 PFAKE 11 35 30.0 +7.9
MCWV LR LR
comp=Z,2µm,22.0s
MA2 Magadan 75.28 24 P P 11 35 22.5 +0.3
comp=Z,14nm,0.4s,baz=320,slow=5.8,SNR=16
MLSI Meulaboh, Aceh 75.28 96 P P 11 35 22.3 -0.6
SEUS St. Eustatius 75.51 281 PFAKE 11 35 40.0 +16
SEUS LR LR
comp=Z,1µm,22.0s
SABA Saba 75.64 281 PFAKE 11 35 40.0 +15
SABA LR LR
comp=Z,700nm,20.0s
GRNR Gornyy 75.78 36 eP P 11 35 26.0 +0.8
GRNR pmax pmax
comp=Z,90nm,1.2s
TRTT Trang 75.82 91 P P 11 35 25.7 -0.3
comp=Z,9.8nm,0.9s,comp=Z,169nm
E42A Champion 75.86 318 P P 11 35 26.5 +0.8
baz=51
AAM Ann Arbor 75.98 312 PFAKE 11 35 40.0 +14
AAM LR LR
comp=Z,2µm,22.0s
NKL Nikolayevsk 76.11 33 eP P 11 35 26.0 -1.0
NKL e 11 45 08.0
NKL pmax pmax
comp=Z,83nm,1.2s
NKL pmax pmax
comp=Z,400nm,4.0s
MDJ Mudanjiang 76.15 44 P P 11 35 24.0 -3.4
MDJ pP pP 11 35 35.1 -1.8
MDJ sP PcP 11 35 39.5 0.0
MDJ PP PP 11 38 14.1 -3.9
MDJ S S 11 45 03.8 -5.4
MDJ sS sS 11 45 23.9 -1.0
MDJ ScS SKSac 11 45 35.6 -0.6
MDJ pmax pmax
comp=Z,12nm,1.3s
MDJ pmax pmax
comp=Z,280nm,4.2s
MDJ LR LR
comp=Z,2µm,14.7s
MDJ LR LR
comp=Z,1µm,16.3s
MDJ LR LR
comp=Z,3µm,15.2s
MDJ Mudanjiang 76.15 44 PFAKE 11 35 40.0 +13
MDJ LR LR
comp=Z,1µm,20.0s
C39A Grand Marais 76.16 320 P P 11 35 27.6 +0.2
baz=50
COLD Coldfoot 76.19 357 eP P 11 35 27.9 +0.7
comp=Z,35nm,1.6s
COLD LR LR
comp=Z,1µm,21.0s
E41A Kenton 76.40 318 P P 11 35 29.5 +0.6
baz=51
G43A Wallace 76.47 317 PFAKE 11 35 40.0 +11
G43A LR LR
comp=Z,1µm,20.0s
FYU Fort Yukon 76.54 355 eP P 11 35 31.1 +1.9
FYU LR LR
comp=Z,1µm,19.0s
VWCC Virginia Weste 76.70 307 eP P 11 35 33.6 +2.9
COWI Conover 76.73 318 eP P 11 35 32.1 +1.4
comp=Z,25nm,0.7s
EYMN Ely 76.77 321 P P 11 35 31.4 +0.4
baz=50
NJ2 Nanjing 76.81 60 eP P 11 35 31.8 +0.5
NJ2 pP pP 11 35 41.3 +0.5
NJ2 sP sP 11 35 44.1 -0.2
NJ2 S S 11 45 14.8 -2.0
NJ2 pmax pmax
comp=Z,27nm,0.5s
NJ2 LR LR
comp=Z,1µm,24.2s
NJ2 LR LR
comp=Z,760nm,19.7s
NJ2 LR LR
comp=Z,1µm,22.8s
ACSO Alum Creek Sta 76.81 310 P P 11 35 31.9 +0.6
baz=53
ACSO Alum Creek Sta 76.81 310 eP P 11 35 33.5 +2.2
comp=Z,22nm,0.9s
ACSO LR LR
comp=Z,2µm,19.0s
KCSI Kotacane, Aceh 76.82 95 P P 11 35 31.3 -0.4
FFC Flin Flon 76.87 330 eP P 11 35 32.3 +1.0
comp=Z,26nm,0.8s
FFC LR LR
comp=Z,2µm,20.0s
FFC Flin Flon 76.87 330 eP P 11 35 32.3 +1.0
G42A Mountain 76.89 317 P P 11 35 32.4 +0.8
baz=51
G42A Mountain 76.89 317 PFAKE 11 35 40.0 +8.4
G42A LR LR
comp=Z,2µm,19.0s
E40A Wakefield 76.91 319 P P 11 35 32.2 +0.5
baz=50
F41A Three Lakes 76.94 318 P P 11 35 32.1 +0.2
baz=50
SKLT Songkhla 76.96 91 P P 11 35 36.7 +4.3
comp=Z,28nm,1.2s,comp=Z,445nm
BLA Blacksburg 77.00 307 P P 11 35 32.5 0.0
baz=54
H43A Windswept, Lux 77.01 316 P P 11 35 32.5 +0.2
baz=51
C37A Embarrass 77.27 321 P P 11 35 33.3 -0.4
baz=49
E39A Mellen 77.31 319 P P 11 35 33.1 -0.8
baz=50
G41A Antigo 77.32 317 P P 11 35 33.3 -0.7
baz=50
F40A Park Falls 77.37 318 P P 11 35 34.6 +0.3
baz=50
ULM Lac du Bonnet 77.38 324 P P 11 35 34.3 0.0
comp=Z,12nm,0.7s,baz=55,slow=4.1,SNR=12
ULM LR LR 12 10 55.0
comp=Z,1µm,19.8s,baz=49,slow=37
ULM Lac du Bonnet 77.38 324 eP P 11 35 35.0 +0.7
ULM Lac du Bonnet 77.38 324 eP P 11 35 35.0 +0.7
H42A Shiocton 77.41 317 PFAKE 11 35 50.0 +15
H42A LR LR
comp=Z,1µm,20.0s
WI03 Lunz Road, Cli 77.43 317 PFAKE 11 35 50.0 +15
WI03 LR LR
comp=Z,2µm,22.0s
TSI Tuntungan 77.47 95 P P 11 35 35.1 -0.2
WI04 River Road, CI 77.47 317 PFAKE 11 35 50.0 +15
WI04 LR LR
comp=Z,2µm,21.0s
GRGR Grenville 77.49 276 PFAKE 11 35 50.0 +15
GRGR LR LR
comp=Z,500nm,21.0s
QIZ Qiongzhong 77.51 76 P P 11 35 35.8 +0.3
QIZ S S 11 45 25.3 +0.4
QIZ pmax pmax
comp=Z,35nm,1.2s
QIZ Qiongzhong 77.51 76 eP P 11 35 36.6 +1.1
QIZ LR LR
comp=Z,700nm,22.0s
QIZ Qiongzhong 77.51 76 eP P 11 35 36.6 +1.1
IM3 Indian Mountai 77.56 358 eP P 11 35 35.8 +0.8
C36A Pine Crest Far 77.58 321 P P 11 35 35.6 +0.2
baz=49
I43A Langenfeld Bro 77.59 316 P P 11 35 36.2 +0.7
baz=51
B35A Bob, Littlefor 77.62 322 P P 11 35 36.7 +1.0
baz=48
E38A The Farm, Brul 77.68 320 P P 11 35 37.2 +1.2
baz=49
USRK Ussuriysk Ar. 77.75 44 P P 11 35 35.5 -0.9
comp=Z,15nm,0.8s,baz=289,slow=5.8,SNR=23
USRK LR LR 12 13 55.4
comp=Z,767nm,19.2s,baz=299,slow=39
D37A Cotton 77.77 320 P P 11 35 36.9 +0.4
baz=49
F39A Loretta 77.80 319 P P 11 35 36.0 -0.7
baz=50
G40A Rib Lake 77.83 318 P P 11 35 36.5 -0.4
baz=50
EGAK Eagle 77.93 353 eP P 11 35 38.8 +1.7
H41A Junction City 77.96 317 P P 11 35 38.2 +0.6
baz=50
H41A Junction City 77.96 317 eP P 11 35 38.8 +1.2
AOPR Arecibo Observ 77.99 284 PFAKE 11 35 50.0 +12
AOPR LR LR
comp=Z,900nm,21.0s
GSI Gunungsitoli 77.99 97 P P 11 35 38.1 -0.1
B34A Aery, Baudette 78.00 322 P P 11 35 38.7 +1.0
baz=48
J43A Natural Harves 78.06 316 P P 11 35 39.4 +1.2
baz=50
D36A Goodland 78.13 321 P P 11 35 38.7 +0.1
baz=48
PSI Prapat 78.17 95 P P 11 35 39.5 +0.2
comp=Z,111nm,0.8s,baz=304,slow=6.7,SNR=11
PSI LR LR 12 15 33.6
comp=Z,832nm,20.4s,baz=296,slow=40
PSI Prapat 78.17 95 eP P 11 35 40.0 +0.6
PSI Prapat 78.17 95 eP P 11 35 40.0 +0.6
C35A Jirik Farms, M 78.19 322 P P 11 35 39.6 +0.7
baz=48
F38A Pierce - Schro 78.27 319 P P 11 35 39.1 -0.3
baz=49
MSHR Mys Shultsa 78.31 45⇑ iP P 11 35 41.2 +1.7
G39A Holcombe 78.34 318 P P 11 35 40.2 +0.5
baz=49
MDM Murphy Dome 78.34 356 eP P 11 35 40.0 +0.6
MDM LR LR
comp=Z,1µm,19.0s
H40A Chili 78.35 317 P P 11 35 40.4 +0.6
baz=50
VLA Vladivostok 78.38 45⇑ iP P 11 35 40.3 +0.4
VLA pmax pmax
comp=Z,64nm,1.5s
COLA College 78.40 355 eP P 11 35 41.2 +1.6
COLA LR LR
comp=Z,1µm,21.0s
COLA College 78.40 355 eP P 11 35 41.5 +1.9
MLY Manley 78.40 357 PFAKE 11 35 50.0 +10
MLY LR LR
comp=Z,1µm,19.0s
DAWY Dawson 78.43 352 eP P 11 35 40.6 +0.7
I41A Arkdale 78.43 317 P P 11 35 40.2 -0.1
baz=50
IL1 Eielson Array 78.44 355 eP P 11 35 40.1 +0.3
ILAR Eielson Array 78.44 355 P P 11 35 40.3 +0.4
comp=Z,2.4nm,0.8s,baz=357,slow=4.0,SNR=22
ILAR PKKPbc PKKPbc 11 54 37.6 +1.0
comp=Z,0.3nm,0.6s,baz=241,slow=1.8,SNR=4.1
ILAR LR LR 12 11 50.7
comp=Z,988nm,20.2s,baz=0.0,slow=37
ILB Eielson Array 78.44 355 eP P 11 35 41.7 +1.8
ILB epP sP 11 35 54.1 +1.2
K43A Burlington 78.44 315 P P 11 35 39.8 -0.5
baz=50
J42A Columbus 78.50 316 P P 11 35 40.1 -0.5
baz=50
L44A Lake County Fo 78.54 314 P P 11 35 40.2 -0.6
baz=51
TYV Tymovskoe 78.59 34 eP P 11 35 41.0 +0.1
TYV pmax pmax
comp=Z,15nm,1.4s
A32A Rocking H Ranc 78.59 324 P P 11 35 41.7 +0.7
baz=46
B33A Robert and Kas 78.60 323 P P 11 35 42.4 +1.3
baz=47
E36A McGregor 78.62 320 P P 11 35 42.7 +1.5
baz=48
CCB Clear Creek Bu 78.62 355 eP P 11 35 42.3 +1.4
CCB LR LR
comp=Z,2µm,22.0s
M45A Boilermakers S 78.65 313 P P 11 35 42.5 +1.0
baz=51
N46A Monticello 78.66 313 P P 11 35 42.4 +0.9
baz=51
AGMN Agassiz Nation 78.71 323 P P 11 35 42.4 +0.7
baz=47
AGMN Agassiz Nation 78.71 323 eP P 11 35 42.9 +1.2
AGMN LR LR
comp=Z,2µm,22.0s
O47A Sheridan 78.74 312 P P 11 35 42.3 +0.3
baz=51
INCN Inchon 78.76 52 PFAKE 11 36 00.0 +18
INCN LR LR
comp=Z,2µm,21.0s
G38A Ridgeland 78.78 319 P P 11 35 42.8 +0.6
baz=49
H39A Augusta 78.80 318 P P 11 35 43.2 +0.9
baz=49
HDA Harding Lake 78.80 355 eP P 11 35 41.8 -0.1
HDA LR LR
comp=Z,1µm,22.0s
WRH Wood River Hil 78.82 355 eP P 11 35 42.5 +0.6
WRH LR LR
comp=Z,1µm,20.0s
F37A Hinrichs Farm, 78.82 319 P P 11 35 43.2 +0.9
baz=48
KMSC Kings Mountain 78.83 305 P P 11 35 43.7 +1.1
baz=53
KMSC Kings Mountain 78.83 305 eP P 11 35 43.9 +1.3
KMSC LR LR
comp=Z,700nm,18.0s
IPM Ipoh 78.86 93 eP P 11 35 43.4 +0.3
I40A Norwalk 78.95 317 P P 11 35 43.6 +0.5
baz=49
J41A Loganville 78.96 316 P P 11 35 43.7 +0.5
baz=50
K42A Prairie Point, 78.97 316 P P 11 35 43.9 +0.7
baz=50
B32A Ashes, Strandq 78.97 323 P P 11 35 43.3 +0.2
baz=46,SNR=6.8
SCRK Sand Creek 78.99 354 eP P 11 35 44.7 +1.6
SCRK LR LR
comp=Z,1µm,21.0s
L43A Garden Prairie 79.01 315 P P 11 35 44.4 +1.0
baz=50
C33A Trail 79.04 322 P P 11 35 44.2 +0.7
baz=47
M44A Midewin, Midew 79.11 314 P P 11 35 44.6 +0.5
baz=50
N45A Kentland 79.15 313 P P 11 35 44.6 +0.4
baz=51
E35A Pequot Lakes 79.18 321 P P 11 35 45.5 +1.2
baz=47
F36A Milaca 79.20 320 P P 11 35 45.3 +0.9
baz=48
SFIN Lafayette 79.20 313 P P 11 35 44.6 +0.1
baz=51
SFIN Lafayette 79.20 313 eP P 11 35 46.2 +1.7
SFIN LR LR
comp=Z,1µm,19.0s
D34A Park Rapids 79.22 322 P P 11 35 44.3 -0.2
baz=47
SPMN Marine on St. 79.25 319 P P 11 35 44.6 -0.1
baz=48
SPMN Marine on St. 79.25 319 eP P 11 35 46.4 +1.7
P47A Martinsville 79.27 311 P P 11 35 45.2 +0.3
baz=51
GAMB Gambell 79.28 6 eP P 11 35 45.7 +1.2
GAMB LR LR
comp=Z,3µm,22.0s
RIDG Independ'e Rid 79.30 354 eP P 11 35 46.7 +2.0
RIDG LR LR
comp=Z,1µm,21.0s
JSC Jenkinsville 79.30 305 eP P 11 35 47.1 +1.9
JSC Jenkinsville 79.30 305 eP P 11 35 48.1 +3.0
DOT Dot Lake 79.32 354 eP P 11 35 47.0 +2.3
H38A Maiden Rock 79.34 318 P P 11 35 44.5 -0.7
baz=48
PAULI Pauline 79.34 305 eP P 11 35 47.5 +2.1
BPAW Bear Paw Mtn. 79.34 357 eP P 11 35 45.2 +0.3
BPAW LR LR
comp=Z,1µm,21.0s
JFWS Jewell Farm 79.39 316 P P 11 35 45.7 +0.2
baz=49
TZTN Tazewell 79.41 308 P P 11 35 45.9 +0.2
baz=52
TZTN Tazewell 79.41 308 eP P 11 35 47.9 +2.2
TZTN LR LR
comp=Z,1µm,20.0s
I39A Houston 79.47 317 P P 11 35 46.1 +0.2
baz=49
KS01 Wonju Array Si 79.55 51 eP P 11 35 46.0 -0.4
KS15 Wonju Array Si 79.57 51 eP P 11 35 46.3 -0.3
KSAR Wonju Array Be 79.57 51 P P 11 35 46.1 -0.4
KSAR Wonju Array Be 79.57 51 P P 11 35 46.2 -0.4
KSRS Korea Array 79.58 51 P P 11 35 46.1 -0.5
comp=Z,24nm,1.1s,baz=309,slow=4.7,SNR=45
KSRS LR LR 12 16 43.1
comp=Z,1µm,18.3s,baz=310,slow=40
MCK McKinley 79.60 356 eP P 11 35 47.6 +1.3
MCK LR LR
comp=Z,1µm,21.0s
MCK McKinley 79.60 356 eP P 11 35 47.6 +1.3
M43A Waltham Townsh 79.61 314 P P 11 35 46.1 -0.6
baz=50
BLO Bloomington 79.62 311 eP P 11 35 48.5 +1.7
BLO LR LR
comp=Z,900nm,22.0s
BLO Bloomington 79.62 311 eP P 11 35 49.0 +2.2
K41A Shullsburg 79.62 316 P P 11 35 46.1 -0.7
baz=49
O45A Potomac 79.65 313 P P 11 35 48.0 +1.0
baz=50
TEY Ternei 79.69 41 eP P 11 35 44.8 -2.2
R48A Northridge Ran 79.71 310 P P 11 35 48.3 +1.0
baz=51
G36A St. Michael 79.74 320 P P 11 35 48.5 +1.2
baz=48
H37A Dierke Farm, C 79.74 319 P P 11 35 48.6 +1.2
baz=48
P46A Rosedale 79.75 312 P P 11 35 47.9 +0.4
baz=51
I38A Scanlan Farm, 79.78 318 P P 11 35 48.5 +0.9
baz=48
KTH Kantishna Hill 79.89 357 eP P 11 35 50.3 +2.4
KTH LR LR
comp=Z,1µm,21.0s

MNSI	**Mandailing Nat**	**79.89**	**97**	P		**P**	**11 35 48.5**	**-0.1**
TJN	**Taejon**	**79.90**	**52**	*ce*P		**P**	**11 35 47.6**	**-0.8**
J39A	**Decorah**	**79.91**	**317**	P		**P**	**11 35 49.0**	**+0.6**
	baz=49							
RND	**Reindeer**	**79.92**	**356**	*e*P		**P**	**11 35 49.3**	**+1.2**
RND				LR		LR		
	comp=Z,1µm,21.0s							
RND	**Reindeer**	**79.92**	**356**	*e*P		**P**	**11 35 49.3**	**+1.2**
TRF	**Thorofare Moun**	**79.96**	**356**	*e*P		**P**	**11 35 49.7**	**+1.2**
TRF				LR		LR		
	comp=Z,1µm,22.0s							
BG3	**Lake Jocassee**	**79.96**	**306**	*e*P		**P**	**11 35 51.1**	**+2.3**
C31A	**Landman Farms,**	**79.97**	**323**	P		**P**	**11 35 49.2**	**+0.7**
	baz=45							
MENT	**Mentasta**	**79.99**	**353**	*e*P		**P**	**11 35 51.6**	**+3.2**
HODGE	**Hodges**	**79.99**	**305**	*e*P		**P**	**11 35 50.5**	**+1.6**
K40A	**Colesburg**	**80.02**	**316**	P		**P**	**11 35 49.6**	**+0.6**
	baz=49							
N43A	**Stutzman Famil**	**80.06**	**314**	P		**P**	**11 35 49.4**	**+0.2**
	baz=50							
M42A	**Sheffield**	**80.06**	**315**	P		**P**	**11 35 49.8**	**+0.7**
	baz=50							
WCI	**Wyandotte Cave**	**80.07**	**310**	P		**P**	**11 35 49.6**	**+0.3**
	baz=51							
WCI	**Wyandotte Cave**	**80.07**	**310**	*e*P		**P**	**11 35 51.3**	**+2.0**
WCI				LR		LR		
	comp=Z,1µm,18.0s							
WCI	**Wyandotte Cave**	**80.07**	**310**	*e*P		**P**	**11 35 51.5**	**+2.2**
CAST	**Castle Rocks**	**80.07**	**357**	*e*P		**P**	**11 35 50.5**	**+1.6**
CAST				LR		LR		
	comp=Z,2µm,20.0s							
L41A	**Preston**	**80.07**	**316**	P		**P**	**11 35 49.9**	**+0.7**
	baz=49							
TKL	**Tuckaleechee C**	**80.10**	**307**	P		**P**	**11 35 51.1**	**+1.6**
	comp=Z,6.5nm,0.8s,baz=89,slow=7.5,SNR=6.8							
TKL				LR		LR	12 12 15.8	
	comp=Z,512nm,19.4s,baz=60,slow=36							
TKL	**Tuckaleechee C**	**80.10**	**307**	*e*P		**P**	**11 35 51.4**	**+1.9**
TKL	**Tuckaleechee C**	**80.10**	**307**	*e*P		**P**	**11 35 51.4**	**+1.9**
PAX	**Paxson**	**80.11**	**354**	*e*P		**P**	**11 35 50.7**	**+1.5**
PAX				LR		LR		
	comp=Z,1µm,21.0s							
PAX	**Paxson**	**80.11**	**354**	*e*P		**P**	**11 35 51.2**	**+2.0**
P45A	**Graceland, Par**	**80.12**	**312**	P		**P**	**11 35 50.0**	**+0.4**
	baz=50							
DHY	**Denali Highway**	**80.15**	**355**	*e*P		**P**	**11 35 50.2**	**+0.8**
DHY				LR		LR		
	comp=Z,1µm,22.0s							
O44A	**Mansfield**	**80.15**	**313**	P		**P**	**11 35 50.2**	**+0.5**
	baz=50							
R47A	**Wooly Knot Far**	**80.17**	**311**	P		**P**	**11 35 50.8**	**+1.0**
	baz=51							
H36A	**Jessenland, He**	**80.27**	**319**	P		**P**	**11 35 50.9**	**+0.6**
	baz=47							
S48A	**Wiedeman Farm,**	**80.29**	**310**	P		**P**	**11 35 51.8**	**+1.3**
	baz=51							
HDIL	**Hopedale**	**80.37**	**314**	P		**P**	**11 35 51.5**	**+0.7**
	baz=50							
HDIL	**Hopedale**	**80.37**	**314**	PFAKE			11 36 00.0	+9.1
HDIL				LR		LR		
	comp=Z,900nm,20.0s							
I37A	**Lemond, Waseca**	**80.38**	**318**	P		**P**	**11 35 51.4**	**+0.6**
	baz=48							
K39A	**Oelwein**	**80.43**	**317**	P		**P**	**11 35 51.0**	**-0.1**
	baz=48							
L40A	**Anamosa**	**80.49**	**316**	P		**P**	**11 35 51.7**	**+0.2**
	baz=49							
M41A	**Milan**	**80.56**	**315**	P		**P**	**11 35 52.6**	**+0.8**
	baz=49							
PPLA	**Purkeypile**	**80.60**	**357**	*e*P		**P**	**11 35 52.1**	**+0.2**
PPLA				LR		LR		
	comp=Z,2µm,21.0s							
N42A	**Yates City**	**80.62**	**314**	P		**P**	**11 35 52.3**	**+0.1**
	baz=49							
F33A	**5 Mile Ranch,**	**80.62**	**321**	P		**P**	**11 35 52.4**	**+0.3**
	baz=46							
H35A	**Sunnyside Ranc**	**80.66**	**320**	P		**P**	**11 35 52.8**	**+0.4**
	baz=47							
P44A	**Sand Creek, Wi**	**80.68**	**313**	P		**P**	**11 35 53.1**	**+0.5**
	baz=50							
I36A	**Fitzsimmons Fa**	**80.70**	**319**	P		**P**	**11 35 52.0**	**-0.6**
	baz=47							
QZH	**Quanzhou**	**80.74**	**66**	*i*P		**P**	**11 35 52.5**	**-0.6**
QZH				S		**S**	**11 45 54.5**	**-4.6**
QZH				LR		LR		
	comp=Z,720nm,22.3s							
QZH				LR		LR		
	comp=Z,510nm,21.8s							
QZH				LR		LR		
	comp=Z,770nm,22.4s							
SISI	**Saibi**	**80.77**	**99**	P		**P**	**11 35 53.5**	**+0.1**
Q45A	**Warren Harvey,**	**80.78**	**312**	P		**P**	**11 35 52.6**	**-0.5**
	baz=50							
MDND	**Maddock**	**80.82**	**324**	PFAKE			11 36 10.0	+17
MDND				LR		LR		
	comp=Z,1µm,22.0s							
R46A	**Gibon Southern**	**80.82**	**311**	P		**P**	**11 35 53.3**	**0.0**
	baz=50							
T48A	**Bowling Green**	**80.84**	**310**	P		**P**	**11 35 54.0**	**+0.6**
	baz=51							
OLIL	**Olney**	**80.84**	**312**	*e*P		**P**	**11 35 54.5**	**+1.1**
L39A	**Vinton**	**80.88**	**316**	P		**P**	**11 35 53.8**	**+0.2**
	baz=48							
E31A	**Nome**	**80.91**	**323**	P		**P**	**11 35 53.3**	**-0.3**
	baz=45							
J37A	**Redenius Farm,**	**80.93**	**318**	P		**P**	**11 35 53.5**	**-0.3**
	baz=48							
O42A	**Bath**	**81.06**	**314**	P		**P**	**11 35 55.2**	**+0.7**
	baz=49							
WHY	**Whitehorse**	**81.07**	**349**	*e*P		**P**	**11 35 56.5**	**+2.2**
USIN	**University of**	**81.08**	**311**	PFAKE			11 36 10.0	+15
USIN				LR		LR		
	comp=Z,1µm,19.0s							
M40A	**Post Highland**	**81.08**	**316**	P		**P**	**11 35 55.4**	**+0.8**
	baz=48							
P43A	**Skaggs, Pawnee**	**81.10**	**313**	P		**P**	**11 35 54.6**	**-0.2**
	baz=49							
155A	**Kite**	**81.11**	**304**	P		**P**	**11 35 55.8**	**+0.8**
	baz=52							
SDDR	**Presa de Saban**	**81.13**	**287**	*e*P		**P**	**11 35 57.0**	**+1.7**
SDDR	**Presa de Saban**	**81.13**	**287**	*e*P		**P**	**11 35 57.0**	**+1.7**
N41A	**Harden Midland**	**81.17**	**315**	P		**P**	**11 35 56.4**	**+1.2**
	baz=49							
R45A	**Skylar, Fairfi**	**81.24**	**312**	P		**P**	**11 35 55.8**	**+0.3**
	baz=50							
Q44A	**Meyer Farm, Va**	**81.28**	**312**	P		**P**	**11 35 56.6**	**+0.8**
	baz=50							
GOGA	**Godfrey**	**81.28**	**305**	P		**P**	**11 35 56.2**	**+0.4**
	baz=52							
GOGA	**Godfrey**	**81.28**	**305**	*e*P		**P**	**11 35 57.5**	**+1.6**
GOGA	**Godfrey**	**81.28**	**305**	*e*P		**P**	**11 35 57.5**	**+1.6**
S46A	**Don Dixon Farm**	**81.28**	**311**	P		**P**	**11 35 56.6**	**+0.9**
	baz=50							
HYT	**Haines Junctio**	**81.31**	**350**	*e*P		**P**	**11 35 56.9**	**+1.2**
U48A	**Cassie Pea, Po**	**81.31**	**309**	P		**P**	**11 35 56.7**	**+0.7**
	baz=51,SNR=8.8							
I35A	**Creekview Farm**	**81.32**	**319**	P		**P**	**11 35 56.6**	**+0.7**
	baz=47							
BKNI	**Bangkinang**	**81.34**	**96**	P		**P**	**11 35 56.4**	**0.0**
BKNI	**Bangkinang**	**81.34**	**96**	PFAKE			11 36 10.0	+14
BKNI				LR		LR		
	comp=Z,800nm,22.0s							
J36A	**Seneca 1, Swea**	**81.34**	**318**	P		**P**	**11 35 56.9**	**+0.9**
	baz=47							
K37A	**Belmond**	**81.35**	**318**	P		**P**	**11 35 56.3**	**+0.3**
	baz=47							
T47A	**Sharon Grove**	**81.36**	**310**	P		**P**	**11 35 57.2**	**+1.0**
	baz=50							
L38A	**Oak Wood Farm,**	**81.40**	**317**	P		**P**	**11 35 56.8**	**+0.5**
	baz=48							
M39A	**Webster**	**81.41**	**316**	P		**P**	**11 35 57.0**	**+0.6**
	baz=48							
YSS	**Yuzh-Sakhalins**	**81.44**	**36**	*e*P		**P**	**11 35 56.3**	**-0.1**
YSS				LR		LR		
	comp=Z,700nm,21.0s							
YSS	**Yuzh-Sakhalins**	**81.44**	**36**	*i*P		**P**	**11 35 56.4**	**0.0**
YSS				*e*			11 36 08.0	
YSS				*e*			11 36 14.4	
YSS				*e*			11 39 02.6	
YSS				*e*PPP		PPP	11 40 54.0	
YSS				*e*S		**S**	**11 46 00.0**	**-5.6**
YSS				*e*SS		**SS**	**11 51 27.0**	**+6.0**
YSS				*e*SSS		SSS	11 54 52.0	
YSS				pmax		pmax		
	comp=Z,60nm,0.8s							
YSS				pmax		pmax		
	comp=N,20nm,1.1s							
YSS				pmax		pmax		
	comp=E,20nm,0.5s							
YSS				pmax		pmax		
	comp=Z,400nm,2.6s							
YSS				pmax		pmax		
	comp=N,200nm,4.4s							
YSS				pmax		pmax		
	comp=E,200nm,4.6s							
YSS				smax		smax		
	comp=E,400nm,4.2s							
N40A	**Mertquake, Sal**	**81.47**	**315**	P		**P**	**11 35 56.6**	**-0.1**
	baz=48							
SML	**Sawmill**	**81.48**	**355**	*e*P		**P**	**11 35 57.6**	**+1.1**
SML	**Sawmill**	**81.48**	**355**	*e*P		**P**	**11 35 57.9**	**+1.5**
SKT	**Skwentna**	**81.49**	**357**	PFAKE			11 36 10.0	+14
SKT				LR		LR		
	comp=Z,1µm,19.0s							
GHO	**Glory Hole Cre**	**81.55**	**355**	*e*P		**P**	**11 35 59.0**	**+2.1**
GHO				LR		LR		
	comp=Z,900nm,20.0s							
O41A	**Passleys Farm,**	**81.58**	**314**	P		**P**	**11 35 58.4**	**+1.1**
	baz=49							
PDSI	**Padang**	**81.62**	**97**	P		**P**	**11 35 58.1**	**+0.2**
P42A	**Winchester**	**81.62**	**314**	P		**P**	**11 35 58.6**	**+1.1**
	baz=49							
H33A	**Prehn Over Nor**	**81.66**	**321**	P		**P**	**11 35 58.4**	**+0.7**
	baz=46							
Q43A	**New Douglas**	**81.66**	**313**	P		**P**	**11 35 58.9**	**+1.1**
	baz=49							
BALM	**Baldy**	**81.71**	**352**	*e*P		**P**	**11 35 60.0**	**+2.2**
BALM				LR		LR		
	comp=Z,700nm,19.0s							
BALM	**Baldy**	**81.71**	**352**	*e*P		**P**	**11 36 00.5**	**+2.7**
PMR	**Palmer**	**81.74**	**356**	*e*P		**P**	**11 35 59.2**	**+1.5**
PMR	**Palmer**	**81.74**	**356**	*e*P		**P**	**11 35 59.2**	**+1.5**
R44A	**Waltonville**	**81.75**	**312**	P		**P**	**11 35 59.3**	**+1.1**
	baz=49							
T46A	**Princeton**	**81.81**	**310**	P		**P**	**11 35 59.4**	**+0.9**
	baz=50							
S45A	**Carrier Mills**	**81.81**	**311**	P		**P**	**11 35 59.4**	**+0.9**
	baz=50							
U47A	**Clarksville**	**81.82**	**310**	P		**P**	**11 35 59.1**	**+0.4**
	baz=50,SNR=13							
L37A	**Phoenix Point,**	**81.84**	**317**	P		**P**	**11 35 59.4**	**+0.7**
	baz=47							
K36A	**Gilmore City**	**81.87**	**318**	P		**P**	**11 35 59.0**	**+0.1**
	baz=47							
SUA	**Wasilla One**	**81.96**	**356**	*e*P		**P**	**11 36 00.6**	**+1.5**
P41A	**Barry, Barry**	**81.97**	**314**	P		**P**	**11 36 00.2**	**+0.8**
	baz=48							
V48A	**Smith Brothers**	**81.97**	**309**	P		**P**	**11 36 00.6**	**+1.2**
	baz=50							
N39A	**Derby Farms, D**	**81.99**	**316**	P		**P**	**11 36 00.3**	**+0.8**
	baz=48							
M38A	**Pleasantville**	**82.02**	**316**	P		**P**	**11 36 00.5**	**+0.9**
	baz=48							
O40A	**La Belle**	**82.14**	**315**	P		**P**	**11 36 00.7**	**+0.4**
	baz=48,SNR=6.1							
Q42A	**Golden Eagle**	**82.17**	**313**	P		**P**	**11 36 01.5**	**+1.1**
	baz=49							
SIUC	**Southern Illin**	**82.17**	**312**	*e*P		**P**	**11 36 02.2**	**+1.7**
SIUC				LR		LR		
	comp=Z,900nm,19.0s							
S44A	**Carbondale**	**82.21**	**312**	P		**P**	**11 36 01.5**	**+0.9**
	baz=49,SNR=7.3							
R43A	**Red Bud**	**82.23**	**312**	P		**P**	**11 36 01.4**	**+0.7**
	baz=49,SNR=7.0							
ECSD	**EROS Data Cent**	**82.26**	**320**	P		**P**	**11 36 01.3**	**+0.4**
	baz=46,SNR=12							
ECSD	**EROS Data Cent**	**82.26**	**320**	*e*P		**P**	**11 36 02.0**	**+1.2**
ECSD				LR		LR		
	comp=Z,1µm,19.0s							
DLBC	**Dease Lake**	**82.27**	**345**	*e*P		**P**	**11 36 02.5**	**+1.8**
DLBC				LR		LR		
	comp=Z,3µm,21.0s							
EDM	**Edmonton**	**82.28**	**335**	*e*P		**P**	**11 36 01.4**	**+0.6**
EDM				LR		LR		
	comp=Z,3µm,20.0s							
EDM	**Edmonton**	**82.28**	**335**	*e*P		**P**	**11 36 01.4**	**+0.6**
SKAG	**Skagway**	**82.28**	**348**	*e*P		**P**	**11 36 02.8**	**+2.2**
WVT	**Waverly**	**82.35**	**310**	P		**P**	**11 36 02.3**	**+0.9**
	baz=50							
WVT	**Waverly**	**82.35**	**310**	*e*P		**P**	**11 36 02.7**	**+1.3**
WVT				LR		LR		
	comp=Z,2µm,19.0s							
WVT	**Waverly**	**82.35**	**310**	*e*P		**P**	**11 36 02.7**	**+1.3**
V47A	**Nunnelly**	**82.36**	**309**	P		**P**	**11 36 02.3**	**+0.9**
	baz=50							
PPSI	**Pulau Pagai**	**82.37**	**99**	P		**P**	**11 36 01.6**	**-0.2**
SDSI	**Sungai Dareh**	**82.40**	**97**	P		**P**	**11 36 01.2**	**-0.8**
U46A	**Springville**	**82.42**	**310**	P		**P**	**11 36 02.8**	**+1.0**
	baz=50							
W48A	**Pulaski**	**82.43**	**308**	P		**P**	**11 36 02.4**	**+0.5**
	baz=50,SNR=7.0							
O39A	**Kirksville**	**82.44**	**315**	P		**P**	**11 36 02.6**	**+0.8**
	baz=48							
DGMT	**Dagmar**	**82.44**	**327**	P		**P**	**11 36 02.6**	**+0.9**
	baz=41							
DGMT	**Dagmar**	**82.44**	**327**	*e*P		**P**	**11 36 03.9**	**+2.1**
DGMT				LR		LR		
	comp=Z,2µm,22.0s							
X49A	**Woodville**	**82.44**	**308**	P		**P**	**11 36 02.7**	**+0.7**
	baz=50,SNR=6.3							
Y50A	**Piedmont**	**82.46**	**307**	P		**P**	**11 36 03.5**	**+1.5**
	baz=51							
N38A	**Joes South For**	**82.46**	**316**	P		**P**	**11 36 02.5**	**+0.6**
	baz=47							
I32A	**Karley and Nic**	**82.49**	**321**	P		**P**	**11 36 02.0**	**-0.1**
	baz=45							
M37A	**Trindle Farm,**	**82.50**	**317**	P		**P**	**11 36 03.5**	**+1.3**
	baz=47							
SVW2	**Sparrevohn**	**82.50**	**359**	*e*P		**P**	**11 36 03.1**	**+1.3**
SVW2				LR		LR		
	comp=Z,1µm,20.0s							
EYAK	**Cordova Ski Ar**	**82.52**	**354**	PFAKE			11 36 10.0	+8.2
EYAK				LR		LR		
	comp=Z,2µm,21.0s							
Q41A	**Truxton**	**82.55**	**314**	P		**P**	**11 36 04.1**	**+1.7**
	baz=48							
TIGA	**Tifton**	**82.59**	**304**	PFAKE			11 36 10.0	+7.3
TIGA				LR		LR		
	comp=Z,1µm,21.0s							
P40A	**Paris**	**82.64**	**314**	P		**P**	**11 36 04.1**	**+1.2**
	baz=48							
MYKOM	**Kota Tinggi**	**82.72**	**93**	*e*P		**P**	**11 36 05.0**	**+1.3**
R42A	**Luebbering**	**82.74**	**313**	P		**P**	**11 36 05.1**	**+1.7**
	baz=48							
V46A	**Holladay**	**82.74**	**310**	P		**P**	**11 36 03.7**	**+0.2**
	baz=50,SNR=12							
PEA1	**Petropavlovsk-**	**82.76**	**25**	*e*P		**P**	**11 36 02.1**	**-1.2**
PEA0B	**Petropavlovsk-**	**82.77**	**25**	PFAKE			11 36 20.0	+17
PEA0B				LR		LR		
	comp=Z,1µm,19.0s							
PETK	**Petropavlovsk-**	**82.77**	**25**	P		**P**	**11 36 02.1**	**-1.2**
	comp=Z,3.9nm,0.8s,baz=357,slow=2.5,SNR=4.5							
PETK				LR		LR	12 17 12.9	
	comp=Z,676nm,21.7s,baz=318,slow=39							
PETK	**Petropavlovsk-**	**82.77**	**25**	*e*P		**P**	**11 36 02.8**	**-0.5**
W47A	**Westpoint**	**82.77**	**309**	P		**P**	**11 36 04.5**	**+0.9**
	baz=50							
RGRI	**Rengat**	**82.77**	**96**	P		**P**	**11 36 04.1**	**+0.2**
S43A	**Fulton Ridge,**	**82.78**	**312**	P		**P**	**11 36 04.3**	**+0.7**
	baz=49,SNR=12							
M36A	**Felix, Anita**	**82.88**	**317**	P		**P**	**11 36 05.1**	**+1.0**
	baz=46							
Y49A	**Blount Mountai**	**82.91**	**307**	P		**P**	**11 36 05.9**	**+1.5**
	baz=50							
X48A	**Hartselle**	**82.94**	**308**	P		**P**	**11 36 05.2**	**+0.6**
	baz=50,SNR=6.1							
Z50A	**Ashland**	**82.98**	**306**	P		**P**	**11 36 06.0**	**+1.2**
	baz=50							
N37A	**Lee Faris, Mou**	**83.03**	**316**	P		**P**	**11 36 05.6**	**+0.7**
	baz=47							
BESE	**Bessie Mountai**	**83.04**	**348**	*e*P		**P**	**11 36 07.2**	**+2.5**
O38A	**Galt**	**83.05**	**316**	P		**P**	**11 36 05.6**	**+0.6**
	baz=47							
P39B	**Salisbury**	**83.07**	**315**	P		**P**	**11 36 06.2**	**+1.1**
	baz=48							
R41A	**Rosebud**	**83.07**	**313**	P		**P**	**11 36 05.2**	**+0.1**
	baz=48,SNR=7.6							
S42A	**Caledonia**	**83.08**	**312**	P		**P**	**11 36 05.3**	**+0.1**
	baz=48,SNR=9.2							
656A	**Willston**	**83.16**	**302**	P		**P**	**11 36 07.6**	**+1.9**
	baz=52							
CCM	**Cathedral Cave**	**83.16**	**313**	P		**P**	**11 36 06.8**	**+1.2**
	baz=48							
CCM	**Cathedral Cave**	**83.16**	**313**	*e*P		**P**	**11 36 07.3**	**+1.7**
CCM				LR		LR		
	comp=Z,900nm,21.0s							
CCM	**Cathedral Cave**	**83.16**	**313**	*e*P		**P**	**11 36 07.6**	**+2.0**
PET	**Petropavlovsk**	**83.16**	**24**	PFAKE			11 36 20.0	+15
PET				LR		LR		
	comp=Z,1µm,20.0s							
PET	**Petropavlovsk**	**83.16**	**24**	*e*P		P	11 36 10.8	+5.5
PET				*e*			11 39 24.0	
PET				*e*S		**S**	**11 46 24.7**	**+1.7**
PET				*e*PS		**PnS**	**11 47 13.9**	**-2.0**
PET				*e*PPS		PPS	11 47 34.7	
PET				pmax		pmax		
	comp=Z,200nm,18.6s							
PET				pmax		pmax		
	comp=Z,100nm,18.8s							
DWPF	**Disney Wildern**	**83.17**	**300**	PFAKE			11 36 20.0	+14
DWPF				LR		LR		
	comp=Z,500nm,19.0s							
T43A	**Greenville**	**83.23**	**312**	P		**P**	**11 36 06.5**	**+0.5**
	baz=49,SNR=8.9							
PLAL	**Pickwick Lake**	**83.25**	**309**	*e*P		**P**	**11 36 07.1**	**+1.0**
K33A	**Hardington**	**83.25**	**319**	P		**P**	**11 36 07.6**	**+1.5**
	baz=45							
W46A	**Michie**	**83.34**	**309**	P		**P**	**11 36 07.1**	**+0.6**
	baz=50							
M35A	**Neola**	**83.35**	**318**	P		**P**	**11 36 07.8**	**+1.3**
	baz=46							
Y48A	**Jasper**	**83.36**	**308**	P		**P**	**11 36 07.5**	**+0.8**
	baz=50							
L34A	**Svendsen Farm,**	**83.37**	**318**	P		**P**	**11 36 07.2**	**+0.5**
	baz=46							
251A	**Midway**	**83.38**	**305**	P		**P**	**11 36 08.1**	**+1.2**
	baz=51							
NACB	**Ninganchiao**	**83.39**	**65**	PFAKE			11 36 20.0	+13
NACB				LR		LR		
	comp=Z,1µm,21.0s							
O37A	**Wolven Farm, M**	**83.40**	**316**	P		**P**	**11 36 08.1**	**+1.3**
	baz=47							
ASAJ	**Asahikawa**	**83.40**	**38**	P		**P**	**11 36 05.6**	**-1.1**
	comp=Z,7.8nm,0.6s,baz=359,slow=3.9,SNR=11							
ASAJ				LR		LR	12 18 21.6	
	comp=Z,5.2nm,18.0s,baz=323,slow=39							
ASAJ	**Asahikawa**	**83.40**	**38**	*e*P		**P**	**11 36 06.0**	**-0.7**
X47A	**Russelville**	**83.41**	**308**	P		**P**	**11 36 07.7**	**+0.7**
	baz=50							
Z49A	**Columbiana**	**83.41**	**307**	P		**P**	**11 36 07.8**	**+0.8**
	baz=50							
P38A	**Dawn**	**83.42**	**315**	P		**P**	**11 36 07.2**	**+0.3**
	baz=47,SNR=6.9							
554A	**Perry**	**83.49**	**303**	P		**P**	**11 36 08.9**	**+1.4**
	baz=51							
Q39A	**Willow Grove F**	**83.50**	**315**	P		**P**	**11 36 08.1**	**+0.8**
	baz=47,SNR=6.8							
PBMO	**Poplar Bluff**	**83.52**	**311**	*e*P		**P**	**11 36 08.3**	**+0.9**
R40A	**Maddies Statio**	**83.60**	**314**	P		**P**	**11 36 08.9**	**+1.0**
	baz=48,SNR=14							
YULB	**Yu-li**	**83.64**	**66**	PFAKE			11 36 20.0	+12
YULB				LR		LR		
	comp=Z,700nm,22.0s							
PTGA	**Pitinga**	**83.67**	**264**	PFAKE			11 36 20.0	+11
PTGA				LR		LR		
	comp=Z,1µm,20.0s							
L33A	**Hoskins**	**83.70**	**319**	P		**P**	**11 36 09.2**	**+0.8**
	baz=45							
K32A	**Verdigre**	**83.72**	**320**	P		**P**	**11 36 09.2**	**+0.8**
	baz=45							
N35A	**Tabor**	**83.74**	**317**	P		**P**	**11 36 09.4**	**+0.9**
	baz=46							
T42A	**Van Buren**	**83.75**	**312**	P		**P**	**11 36 08.9**	**+0.3**
	baz=48,SNR=10.0							
S41A	**Jillco Farms,**	**83.76**	**313**	P		**P**	**11 36 09.4**	**+0.6**
	baz=48,SNR=14							
TPRI	**Tanjung Pinang**	**83.78**	**93**	P		**P**	**11 36 08.7**	**-0.4**
M34A	**Aspy Farms, Fr**	**83.80**	**318**	P		**P**	**11 36 09.1**	**+0.3**
	baz=46							
LRAL	**Lakeview Retre**	**83.81**	**307**	P		**P**	**11 36 09.8**	**+0.8**
	baz=50,SNR=7.5							
LRAL	**Lakeview Retre**	**83.81**	**307**	*e*P		**P**	**11 36 11.0**	**+1.9**
LRAL				LR		LR		
	comp=Z,1µm,18.0s							
X46A	**Booneville**	**83.84**	**309**	P		**P**	**11 36 09.7**	**+0.6**
	baz=49							
Q38A	**Cooks Store, C**	**83.92**	**315**	P		**P**	**11 36 09.7**	**+0.2**
	baz=47,SNR=9.1							
Z48A	**Northport**	**83.95**	**307**	P		**P**	**11 36 10.5**	**+0.7**
	baz=50,SNR=5.3							
149A	**Jones**	**83.96**	**306**	P		**P**	**11 36 10.6**	**+0.8**
	baz=50,SNR=6.9							
957A	**Wimauma**	**84.00**	**300**	P		**P**	**11 36 11.4**	**+1.3**
	baz=52							
R39A	**Chumby, Stover**	**84.03**	**314**	P		**P**	**11 36 10.4**	**+0.3**
	baz=47,SNR=14							
M33A	**Taylor Creek F**	**84.08**	**319**	P		**P**	**11 36 10.7**	**+0.4**
	baz=45							
T41A	**Mountain View**	**84.14**	**312**	P		**P**	**11 36 10.9**	**+0.2**
	baz=48,SNR=16							
K31A	**O'Neill**	**84.15**	**320**	P		**P**	**11 36 11.9**	**+1.2**
	baz=44							
JNU	**Nakatsue**	**84.19**	**53**	P		**P**	**11 36 10.4**	**-0.6**
	comp=Z,9.5nm,0.9s,baz=317,slow=3.7,SNR=4.3							
JNU				LR		LR	12 19 49.6	
	comp=Z,2µm,20.0s,baz=303,slow=40							
JNU	**Nakatsue**	**84.19**	**53**	*e*P		**P**	**11 36 11.6**	**+0.6**
S40A	**Lebanon**	**84.20**	**313**	P		**P**	**11 36 12.1**	**+1.2**
	baz=48,SNR=14							
L32A	**Elgin**	**84.20**	**319**	P		**P**	**11 36 12.0**	**+1.1**
	baz=45							
U42A	**Revenden**	**84.29**	**312**	P		**P**	**11 36 12.0**	**+0.6**
	baz=48,SNR=10							
O35A	**Humboldt**	**84.30**	**317**	P		**P**	**11 36 12.6**	**+1.1**
	baz=46							
MASI	**Maura Aman, Be**	**84.37**	**98**	P		**P**	**11 36 13.0**	**+0.8**
OXF	**Oxford**	**84.38**	**309**	P		**P**	**11 36 13.4**	**+1.4**
	baz=49							
OXF	**Oxford**	**84.38**	**309**	*e*P		**P**	**11 36 13.0**	**+1.1**
OXF				LR		LR		

baz=47,SNR=13
X43A Marvell 85.29 310 PFAKE 11 36 30.0 +14
X43A LR LR
comp=Z,800nm,19.0s
O33A Hebron 85.35 318 P **P** **11 36 17.0 +0.3**
baz=45,SNR=7.7
348A Jackson 85.45 306 P **P** **11 36 18.5 +1.2**
baz=49
247A Quitman 85.49 307 P **P** **11 36 19.0 +1.5**
baz=49
KSU1 Kansas State U 85.50 317 P **P** **11 36 17.9 +0.4**
baz=45,SNR=7.3
KSU1 Kansas State U 85.50 317 eP **P** **11 36 19.3 +1.8**
KSU1 LR LR
comp=Z,1µm,20.0s
U39A Green Forest 85.60 313 P **P** **11 36 18.8 +0.8**
baz=47,SNR=9.0
V40A Witts Springs 85.60 312 P **P** **11 36 18.1 0.0**
baz=47,SNR=11
V40A Witts Springs 85.60 312 eP **P** **11 36 19.8 +1.7**
V40A LR LR
comp=Z,900nm,20.0s
T38A Diamond 85.63 314 P **P** **11 36 18.8 +0.7**
baz=46,SNR=7.3
WHAR Wooly Hollow 85.63 311 eP **P** **11 36 20.3 +2.1**
WHAR LR LR
comp=Z,1µm,22.0s
RSSD Black Hills 85.65 324 P **P** **11 36 19.5 +1.0**
baz=41
RSSD Black Hills 85.65 324 eP **P** **11 36 20.1 +1.7**
RSSD LR LR
comp=Z,2µm,20.0s
RSSD Black Hills 85.65 324 eP **P** **11 36 20.6 +2.2**
MNAI Manna 85.67 99 P **P** **11 36 18.6 0.0**
W41B Gary Mavity, V 85.69 311 P **P** **11 36 18.9 +0.5**
baz=48,SNR=12
W41B Gary Mavity, V 85.69 311 eP **P** **11 36 19.8 +1.4**
KDAK Kodiak Island 85.73 357 P **P** **11 36 18.3 +0.1**
comp=Z,18nm,0.9s,baz=342,slow=3.2,SNR=3.4
KDAK LR LR 12 16 02.9
comp=Z,1µm,20.6s,baz=12,slow=37
WALA Waterton Lakes 85.91 332 eP **P** **11 36 19.9 +0.4**
UALR University of 86.01 311 eP **P** **11 36 21.8 +1.7**
UALR LR LR
comp=Z,1µm,20.0s
V39A Pettigrew 86.07 313 P **P** **11 36 20.9 +0.4**
baz=47,SNR=7.8
W40A Ferguson Farm, 86.17 312 P **P** **11 36 21.2 +0.4**
baz=47
W40A Ferguson Farm, 86.17 312 PFAKE 11 36 30.0 +9.2
W40A LR LR
comp=Z,1µm,22.0s
CCAR Cane Creek 86.24 310 PFAKE 11 36 30.0 +8.8
CCAR LR LR
comp=Z,1µm,22.0s
Y42A Garnett, Star 86.30 310 P **P** **11 36 22.6 +1.1**
baz=48
447A Lucedale 86.34 306 P **P** **11 36 22.9 +1.2**
baz=49
MJB9 Matsu-Tunnel 86.38 46 eP **P** **11 36 23.2 +1.3**
MAJO Matsushiro 86.38 46 eP **P** **11 36 23.2 +1.3**
MAJO Matsushiro 86.38 46|| eP **P** **11 36 21.7 -0.2**
MAJO pmax pmax
comp=Z,15nm,1.2s
MAT Matsushiro 86.38 46 P **P** **11 36 21.1 -0.8**
MAT S **S** **11 47 03.4 +7.7**
MJAR Matsushiro Arr 86.38 46 P **P** **11 36 21.7 -0.2**
comp=Z,6.3nm,0.9s,baz=315,slow=5.4,SNR=18
346A Big Creek Wild 86.47 307 P **P** **11 36 23.3 +0.9**
baz=49
JOW Kunigami 86.49 59 P **P** **11 36 22.9 +0.3**
comp=Z,30nm,0.8s,baz=339,slow=24,SNR=7.3
JOW LR LR 12 20 33.1
comp=Z,683nm,20.0s,baz=326,slow=40
JOW Kunigami 86.49 59 eP **P** **11 36 23.1 +0.5**
X40A Basin Creek Fa 86.50 311 P **P** **11 36 23.5 +1.0**
baz=47,SNR=6.2
X40A Basin Creek Fa 86.50 311 eP **P** **11 36 24.5 +2.0**
X40A LR LR
comp=Z,900nm,21.0s
INU Inuyama 86.50 48 PFAKE 11 36 40.0 +18
INU LR LR
comp=Z,1µm,22.0s
SDV Santo Domingo 86.54 278 P **P** **11 36 24.7 +1.5**
comp=Z,6.3nm,0.6s,baz=23,slow=6.4,SNR=6.7
SDV Santo Domingo 86.54 278 eP **P** **11 36 25.0 +1.8**
W39A Magazine 86.59 312 P **P** **11 36 23.4 +0.5**
baz=47
W39A Magazine 86.59 312 eP **P** **11 36 25.6 +2.6**
W39A LR LR
comp=Z,800nm,20.0s
VBMS Vicksburg 86.59 308 PFAKE 11 36 40.0 +17
VBMS LR LR
comp=Z,2µm,20.0s
MDSI Maura Dua 86.72 98 P **P** **11 36 22.8 -1.0**
Y41A Eaglette Beard 86.78 311 P **P** **11 36 24.8 +1.0**
baz=47
244A Avery, Jackson 86.82 308 P **P** **11 36 24.4 +0.3**
baz=48
143A Socs Landing, 86.83 309 P **P** **11 36 24.8 +0.7**
baz=48
GCMT Greycliff 86.88 328 eP **P** **11 36 25.6 +1.3**
PPBI Pangkal Pinang 86.89 95 P **P** **11 36 23.6 -1.1**
MIAR Mount Ida 86.91 312 P **P** **11 36 25.3 +0.8**
baz=47,SNR=13
MIAR Mount Ida 86.91 312 eP **P** **11 36 26.1 +1.6**
MIAR LR LR
comp=Z,1µm,22.0s
MIAR Mount Ida 86.91 312 eP **P** **11 36 26.1 +1.6**
LWLI Liwa 86.94 99 P **P** **11 36 24.6 -0.4**
HRY Holter Researc 87.03 330 eP **P** **11 36 26.3 +1.3**
OGNE Ogallala 87.05 321 PFAKE 11 36 40.0 +15
OGNE LR LR
comp=Z,1µm,19.0s
Y40A Okolona 87.10 311 P **P** **11 36 27.2 +1.8**
baz=47
JTMT Jette 87.14 332 eP **P** **11 36 26.8 +1.2**
JTMT LR LR
comp=Z,3µm,20.0s
RLMT Red Lodge 87.24 328 P **P** **11 36 27.5 +1.3**
baz=38
RLMT Red Lodge 87.24 328 eP **P** **11 36 27.7 +1.5**
344A Westbrook Farm 87.24 308 P **P** **11 36 27.6 +1.5**
baz=48
X39A Fountain Ranch 87.26 312 P **P** **11 36 27.7 +1.5**
baz=46
TUL1 Leonard 87.28 314 P **P** **11 36 27.4 +1.2**
baz=46
TUL1 Leonard 87.28 314 eP **P** **11 36 27.8 +1.5**
TUL1 LR LR
comp=Z,800nm,20.0s
LLLB Lillooet 87.28 338 eP **P** **11 36 27.8 +1.8**
Z41A Richland Creek 87.32 310 P **P** **11 36 28.3 +1.9**
baz=47
Z41A Richland Creek 87.32 310 PFAKE 11 36 40.0 +14
Z41A LR LR
comp=Z,900nm,21.0s
CBKS Cedar Bluff 87.41 318 PFAKE 11 36 40.0 +13
CBKS LR LR
comp=Z,1µm,21.0s
KLI Kotabumi 87.48 98 P **P** **11 36 26.8 -0.7**
KASI Kota Agung 87.59 99 P **P** **11 36 26.7 -1.3**
Z40A Long Farm, Mag 87.68 311 P **P** **11 36 29.8 +1.6**
baz=47
NEW Newport 87.74 334 P **P** **11 36 29.1 +0.8**
comp=Z,17nm,0.9s,baz=51,slow=6.1,SNR=22
NEW Newport 87.74 334 P **P** **11 36 29.3 +1.0**
baz=32
NEW Newport 87.74 334 eP **P** **11 36 29.2 +1.0**
NEW Newport 87.74 334 eP **P** **11 36 29.3 +1.0**
SMY Shemya 87.76 16 PFAKE 11 36 40.0 +12
SMY LR LR
comp=Z,1µm,21.0s
MSO Missoula 87.76 331 P **P** **11 36 29.9 +1.4**
baz=34
MSO Missoula 87.76 331 eP **P** **11 36 29.9 +1.4**
MSO LR LR
comp=Z,2µm,22.0s
BOZ Bozeman (W) 87.85 329 P **P** **11 36 30.2 +1.1**
baz=36
BOZ Bozeman (W) 87.85 329 eP **P** **11 36 30.1 +1.1**
BOZ LR LR
comp=Z,2µm,20.0s
BOZ Bozeman (W) 87.85 329 eP **P** **11 36 30.1 +1.1**
K22A Casper 87.94 324 P **P** **11 36 29.8 +0.3**
baz=39
K22A Casper 87.94 324 eP **P** **11 36 29.9 +0.3**
K22A LR LR
comp=Z,2µm,19.0s
LRM Limekiln Ridge 88.00 330 eP **P** **11 36 31.1 +1.2**
KSM Kuching 88.09 90 eP **P** **11 36 32.5 +2.1**
KSM LR LR
comp=Z,500nm,22.0s
BLSI Bandar Lampung 88.09 98 P **P** **11 36 30.0 -0.4**
LKWY Lake 88.17 328 PFAKE 11 36 40.0 +9.3
LKWY LR LR
comp=Z,1µm,18.0s
YHH Holmes Hill 88.18 328 eP **P** **11 36 32.7 +1.9**
YHH LR LR
comp=Z,2µm,20.0s
YMR Madison River 88.32 328 eP **P** **11 36 33.2 +1.8**
YMR LR LR
comp=Z,2µm,20.0s
YHB Horse Butte 88.35 328 eP **P** **11 36 34.3 +2.8**
YHB LR LR
comp=Z,2µm,20.0s
H17A Grant Village 88.38 328 P **P** **11 36 33.9 +2.2**
baz=37
H17A Grant Village 88.38 328 eP **P** **11 36 34.1 +2.4**
H17A LR LR
comp=Z,2µm,21.0s
QLMT Earthquake Lak 88.39 329 eP **P** **11 36 32.9 +1.2**
B08A Colville Reser 88.42 335 eP **P** **11 36 33.5 +1.9**
B08A LR LR
comp=Z,2µm,21.0s
DLMT Dillon 88.44 330 eP **P** **11 36 33.4 +1.6**
DLMT LR LR
comp=Z,2µm,19.0s
YFT Old Faithful 88.44 328 PFAKE 11 36 40.0 +8.0
YFT LR LR
comp=Z,3µm,18.0s
SPB Sao Paulo 88.46 239 PFAKE 11 36 40.0 +8.1
SPB LR LR
comp=Z,4µm,21.0s
PHWY Pilot Hill 88.48 323 eP **P** **11 36 33.4 +1.1**
PHWY LR LR
comp=Z,1µm,22.0s
C09A Chrisman Ranch 88.54 334 eP **P** **11 36 33.6 +1.5**
C09A LR LR
comp=Z,2µm,22.0s
YPP Pitchstone Pla 88.58 328 eP **P** **11 36 34.8 +2.1**
YPP LR LR
comp=Z,3µm,19.0s
KSCO Kaye Shedlock' 88.79 320 P **P** **11 36 34.8 +1.2**
baz=42
KSCO Kaye Shedlock' 88.79 320 eP **P** **11 36 35.8 +2.3**
KSCO LR LR
comp=Z,1µm,20.0s
IMW Indian Meadow 88.93 328 eP **P** **11 36 37.1 +2.7**
IMW LR LR
comp=Z,2µm,21.0s
MOOW Moose Ponds 88.97 328 eP **P** **11 36 35.9 +1.5**
MOOW LR LR
comp=Z,2µm,21.0s
MCMT McKenzie Canyo 88.98 329 eP **P** **11 36 36.6 +2.1**
TGY Tagaytay City 88.99 73 LR LR 12 21 56.9
comp=Z,235nm,21.9s,baz=311,slow=39
B06A Marblemount 89.00 336 PFAKE 11 36 50.0 +16
B06A LR LR
comp=Z,2µm,20.0s
RWWY Rawlins 89.01 324 eP **P** **11 36 36.2 +1.5**
RWWY LR LR
comp=Z,2µm,18.0s
LOHW Long Hollow 89.02 327 eP **P** **11 36 36.7 +2.0**
LOHW LR LR
comp=Z,2µm,21.0s
N23A Red Feather La 89.02 323 P **P** **11 36 36.1 +1.2**
baz=40
N23A Red Feather La 89.02 323 eP **P** **11 36 35.9 +1.1**
N23A LR LR
comp=Z,1µm,22.0s
SBUM Sibu 89.05 88 eP **P** **11 36 35.6 +0.6**
SBUM LR LR
comp=Z,500nm,22.0s
FXWY Fox Creek 89.18 328 eP **P** **11 36 37.0 +1.6**
SNOW Snow King Moun 89.20 327 eP **P** **11 36 36.7 +1.1**
SNOW LR LR
comp=Z,2µm,20.0s
BW06 Boulder Array 89.24 326 P **P** **11 36 36.8 +1.1**
baz=37
BW06 Boulder Array 89.24 326 eP **P** **11 36 36.9 +1.1**
BW06 LR LR
comp=Z,3µm,22.0s
PD31 Pinedale Array 89.24 326 eP **P** **11 36 36.9 +1.2**
PDAR Pinedale Array 89.24 326 P **P** **11 36 35.6 -0.1**
comp=Z,4.6nm,0.9s,baz=56,slow=4.8,SNR=25
PDAR LR LR 12 17 31.2
comp=Z,2µm,21.9s,baz=30,slow=36
PDAR Pinedale Array 89.24 326 eP **P** **11 36 35.4 -0.3**
SBJI Serang 89.25 98 P **P** **11 36 35.6 -0.2**
TPAW Teton Pass 89.27 328 eP **P** **11 36 37.4 +1.5**
REDW Red Top Meadow 89.33 327 eP **P** **11 36 38.2 +2.1**
NATX Nacogdoches 89.49 310 PFAKE 11 36 50.0 +13
NATX LR LR
comp=Z,1µm,18.0s
UNV Unalaska Valle 89.53 5 PFAKE 11 36 50.0 +13
UNV LR LR
comp=Z,2µm,22.0s
E09A Wood Farm, Sta 89.60 333 eP **P** **11 36 38.5 +1.4**
E09A LR LR
comp=Z,2µm,19.0s
TNG Tangerang 89.69 98 P **P** **11 36 36.7 -1.2**
TNG P **PcP** **11 36 37.6 -1.6**
JHJ Hachijo jima 2 89.70 48 LR LR 12 20 48.8
comp=Z,747nm,20.9s,baz=30,slow=38
ISCO Idaho Springs 89.70 322 P **P** **11 36 38.7 +0.6**
baz=40
ISCO Idaho Springs 89.70 322 eP **P** **11 36 39.9 +1.8**
comp=Z,6.4nm,1.0s
ISCO LR LR
comp=Z,2µm,22.0s
ISCO Idaho Springs 89.70 322 eP **P** **11 36 39.9 +1.8**
F10A Beach Ranch, E 89.72 333 eP **P** **11 36 39.2 +1.5**
F10A LR LR
comp=Z,3µm,21.0s
WMOK Wichita Mounta 89.83 315 P **P** **11 36 39.3 +1.0**
baz=44
WMOK Wichita Mounta 89.83 315 eP **P** **11 36 38.4 0.0**
comp=Z,11nm,0.9s
WMOK eS **S** **11 47 30.3 +1.7**
WMOK Wichita Mounta 89.83 315 eP **P** **11 36 39.8 +1.4**
STKI Sintang 89.86 90 P **P** **11 36 38.3 -0.5**
AHID Auburn Hatcher 89.92 327 eP **P** **11 36 39.7 +0.9**
AHID LR LR
comp=Z,2µm,21.0s
Q24A Divide 90.11 321 PFAKE 11 36 50.0 +10
Q24A LR LR
comp=Z,900nm,21.0s
SKJI Sukabumi 90.11 99 P **P** **11 36 39.7 -0.2**
KKM Kota Kinabalu 90.11 82 PFAKE 11 36 50.0 +10
KKM LR LR
comp=Z,700nm,21.0s
E07A Sunnyside 90.16 335 PFAKE 11 36 50.0 +10
E07A LR LR
comp=Z,2µm,20.0s
HAWA Hanford 90.19 334 eP **P** **11 36 42.3 +2.5**
comp=Z,36nm,1.4s
NIKH Nikolski High 90.22 6 PFAKE 11 36 50.0 +10
NIKH LR LR
comp=Z,2µm,22.0s
RUSC La Rusia 90.26 277 PFAKE 11 36 50.0 +8.7
RUSC LR LR
comp=Z,200nm,22.0s
LON Longmire 90.65 336 PFAKE 11 36 50.0 +8.0
LON LR LR
comp=Z,2µm,21.0s
HLID Hailey 90.66 330 P **P** **11 36 42.1 -0.2**
baz=34
HLID Hailey 90.66 330 eP **P** **11 36 43.9 +1.6**
HLID LR LR
comp=Z,2µm,19.0s
BMO Blue Mountains 90.70 332 eP **P** **11 36 43.4 +1.0**
comp=Z,8.2nm,0.8s
BMO LR LR
comp=Z,2µm,20.0s
BMO Blue Mountains 90.70 332 eP **P** **11 36 43.4 +1.0**
O20A White River Ci 90.71 324 P **P** **11 36 43.1 +0.4**
baz=38
O20A White River Ci 90.71 324 eP **P** **11 36 43.0 +0.4**
comp=Z,17nm,0.9s
O20A LR LR
comp=Z,1µm,20.0s
NLWA Neilton Lookou 90.74 337 PFAKE 11 37 00.0 +18
NLWA LR LR
comp=Z,2µm,21.0s
LEM Lembang 90.85 98 LR LR 12 22 58.0
comp=Z,349nm,20.0s,baz=322,slow=39
SMCO Snowmass 90.85 323 eP **P** **11 36 44.5 +1.0**
SMCO LR LR
comp=Z,2µm,22.0s
G08A Pilot Rock 90.94 333 PFAKE 11 37 00.0 +17
G08A LR LR
comp=Z,2µm,20.0s
WHTX Lake Whitney, 91.02 312 P **P** **11 36 45.7 +1.8**
baz=45
WHTX Lake Whitney, 91.02 312 PFAKE 11 37 00.0 +16
WHTX LR LR
comp=Z,1µm,22.0s
HWUT Hardware Ranch 91.06 327 eP **P** **11 36 44.8 +0.6**
comp=Z,24nm,1.0s
T25A Trinidad 91.12 320 P **P** **11 36 45.5 +0.9**
baz=41
T25A Trinidad 91.12 320 eP **P** **11 36 46.1 +1.5**
T25A LR LR
comp=Z,1µm,20.0s
SAML Samuel 91.14 260 PFAKE 11 37 00.0 +15
SAML LR LR
comp=Z,1µm,21.0s
SDCO Great Sand Dun 91.22 321 P **P** **11 36 46.1 +0.9**
baz=40
SDCO Great Sand Dun 91.22 321 eP **P** **11 36 46.0 +0.8**
comp=Z,8.8nm,1.0s
SDCO LR LR
comp=Z,1µm,21.0s
MHTCO State Highway 91.28 320 eP **P** **11 36 47.3 +2.0**
MHTCO LR LR
comp=Z,1µm,20.0s
MFID Camas Ranch 91.35 330 eP **P** **11 36 47.5 +2.1**
MFID LR LR
comp=Z,1µm,18.0s
AMTX Amarillo 91.35 317 P **P** **11 36 46.7 +1.1**
baz=42
AMTX Amarillo 91.35 317 PFAKE 11 37 00.0 +14
AMTX LR LR
comp=Z,1µm,18.0s
TCUT Toone Canyon 91.38 326 eP **P** **11 36 47.4 +1.6**
TCUT LR LR
comp=Z,3µm,21.0s
E03A Lebam 91.40 337 PFAKE 11 37 00.0 +15
E03A LR LR
comp=Z,2µm,22.0s
HVU Hansel Valley 91.44 328 eP **P** **11 36 47.8 +1.9**
HVU LR LR
comp=Z,2µm,21.0s
HVU Hansel Valley 91.44 328 eP **P** **11 36 47.8 +1.9**
CISI Cisompet, Garu 91.44 98 PFAKE 11 37 00.0 +14
CISI LR LR
comp=Z,500nm,22.0s
HKT Hockley 91.47 310 PFAKE 11 37 00.0 +14
HKT LR LR
comp=Z,800nm,20.0s
HKT Hockley 91.47 310⇑ eP **P** **11 36 46.6 +0.7**
HKT pmax pmax
comp=Z,133nm,2.5s
G06A Carlson Farm, 91.58 334 eP **P** **11 36 48.9 +2.5**
G06A LR LR
comp=Z,1µm,20.0s
SPUT South Promonto 91.68 327 PFAKE 11 37 00.0 +13
SPUT LR LR
comp=Z,2µm,21.0s
JLU Jordanelle 91.82 326 eP **P** **11 36 49.6 +1.8**
JLU LR LR
comp=Z,3µm,21.0s
ABTX Abilene, Hawle 91.85 314 P **P** **11 36 48.8 +0.9**
baz=43
ABTX Abilene, Hawle 91.85 314 eP **P** **11 36 50.4 +2.6**
CTU Camp Tracy 91.88 326 eP **P** **11 36 49.7 +1.7**
CTU LR LR
comp=Z,2µm,22.0s
S22A 4UR Ranch, Cre 91.89 322 P **P** **11 36 49.3 +1.0**
baz=39
S22A 4UR Ranch, Cre 91.89 322 eP **P** **11 36 49.7 +1.4**
S22A LR LR
comp=Z,1µm,21.0s
HELC Santa Helena 92.03 279 PFAKE 11 37 00.0 +11
HELC LR LR
comp=Z,1µm,20.0s
P18A Preston Nutter 92.05 325 eP **P** **11 36 50.5 +1.5**
P18A LR LR
comp=Z,2µm,22.0s
I07A Izee 92.18 333 PFAKE 11 37 00.0 +11
I07A LR LR
comp=Z,2µm,20.0s
BGU Big Grassy Mou 92.25 327 eP **P** **11 36 51.7 +2.0**
BGU LR LR
comp=Z,2µm,22.0s
MPU Maple Canyon 92.37 326 PFAKE 11 37 00.0 +10
MPU LR LR
comp=Z,2µm,22.0s
P17A Butcher Ranch, 92.41 325 eP **P** **11 36 51.6 +1.1**
P17A LR LR
comp=Z,2µm,22.0s
J08A Circle Bar Ran 92.42 332 eP **P** **11 36 52.1 +1.8**
J08A LR LR
comp=Z,2µm,20.0s
PV09 Paradox Valley 92.43 323 eP **P** **11 36 51.6 +0.8**
PV01 Paradox Valley 92.44 323 eP **P** **11 36 51.7 +0.9**
PV10 Paradox Valley 92.48 323 eP **P** **11 36 52.3 +1.4**
H04A Detroit Lake 92.59 335 PFAKE 11 37 00.0 +9.0
H04A LR LR
comp=Z,2µm,20.0s
SRU San Rafael Swe 92.59 325 eP **P** **11 36 51.9 +0.5**
SRU LR LR
comp=Z,2µm,22.0s
SRU San Rafael Swe 92.59 325 eP **P** **11 36 51.9 +0.5**
NLU North Lily Min 92.62 326 eP **P** **11 36 53.5 +2.0**
MSTX Muleshoe 92.63 317 P **P** **11 36 52.1 +0.6**
baz=42
MSTX Muleshoe 92.63 317 eP **P** **11 36 53.0 +1.5**
MSTX LR LR
comp=Z,1µm,20.0s
PV05 Paradox Valley 92.74 323 eP **P** **11 36 53.9 +1.8**
DUG Dugway, Tooele 92.75 327 P **P** **11 36 53.0 +1.0**
baz=35
DUG Dugway, Tooele 92.75 327 eP **P** **11 36 54.3 +2.3**
DUG LR LR
comp=Z,2µm,21.0s
DUG Dugway, Tooele 92.75 327 eP **P** **11 36 54.3 +2.3**
TMUT Trail Mountain 92.76 325 eP **P** **11 36 53.0 +0.8**
TMUT LR LR
comp=Z,2µm,22.0s
PINE Pine Mountain 92.94 334 PFAKE 11 37 10.0 +17
PINE LR LR
comp=Z,2µm,20.0s
Q16A Castle Valley 93.05 325 eP **P** **11 36 55.0 +1.5**
Q16A LR LR
comp=Z,2µm,22.0s
MVCO Mesa Verde 93.14 322 P **P** **11 36 54.5 +0.5**
baz=38
MVCO Mesa Verde 93.14 322 eP **P** **11 36 55.6 +1.6**
MVCO LR LR
comp=Z,1µm,20.0s
WVOR Wild Horse Val 93.27 332 eP **P** **11 36 55.8 +1.5**
WVOR LR LR
comp=Z,1µm,22.0s
WVOR Wild Horse Val 93.27 332 eP **P** **11 36 55.8 +1.5**
J05D Fort Rock, OR 93.49 334 P **P** **11 36 56.1 +0.8**
baz=29
JCT Junction City 93.50 312 PFAKE 11 37 10.0 +15
JCT LR LR
comp=Z,1µm,21.0s
MYIG MØrida 93.53 299 PFAKE 11 37 10.0 +14
MYIG LR LR
comp=Z,600nm,19.0s
MSU Marysvale 93.84 325 eP **P** **11 36 58.5 +1.3**
MSU Marysvale 93.84 325 eP **P** **11 36 59.7 +2.6**
K05A Summer Lake 93.86 333 eP **P** **11 37 00.4 +3.3**
K05A LR LR
comp=Z,2µm,21.0s
ANMO Albuquerque 93.87 320 P **P** **11 36 58.5 +1.2**
comp=Z,1.0nm,0.8s,baz=255,slow=3.6,SNR=5.1
ANMO LR LR 12 19 46.2
comp=Z,999nm,21.4s,baz=224,slow=36
ANMO Albuquerque 93.87 320 P **P** **11 36 58.2 +0.8**
baz=39
ANMO Albuquerque 93.87 320 eP **P** **11 36 59.1 +1.8**

ANMO	**Albuquerque**	**93.87**	**320**	*eP*	**P**		**11 36 58.1**	**+0.8**
ANMO				pmax	pmax			
	comp=Z,6.0nm,2.4s							
TCRU	**Three Creeks R**	**93.88**	**326**	PFAKE			11 37 10.0	+13
TCRU				LR	LR			
	comp=Z,3μm,22.0s							
MTPU	**Mount Pierson**	**94.22**	**325**	*eP*	**P**		**11 37 01.0**	**+1.9**
MTPU				LR	LR			
	comp=Z,2μm,21.0s							
MOD	**Modoc Plateau**	**94.36**	**332**	*eP*	**P**		**11 37 01.6**	**+2.2**
MOD				LR	LR			
	comp=Z,2μm,20.0s							
BMN	**Battle Mountai**	**94.42**	**330**	*eP*	**P**		**11 37 01.4**	**+1.7**
BMN				LR	LR			
	comp=Z,1μm,22.0s							
BMN	**Battle Mountai**	**94.42**	**330**	*eP*	**P**		**11 37 01.4**	**+1.7**
BMN				MLR	MLR			
	comp=Z,1μm,22.0s							
HUMO	**Hull Mountain**	**94.69**	**335**	PFAKE			11 37 10.0	+9.3
HUMO				LR	LR			
	comp=Z,1μm,20.0s							
PKCU	**Pink Cliffs**	**94.77**	**325**	PFAKE			11 37 10.0	+8.4
PKCU				LR	LR			
	comp=Z,2μm,22.0s							
Y22D	**IRIS PASSCAL I**	**94.78**	**319**	PFAKE			11 37 10.0	+8.5
Y22D				LR	LR			
	comp=Z,900nm,20.0s							
SZCU	**Shurtz Canyon**	**95.00**	**325**	PFAKE			11 37 10.0	+7.5
SZCU				LR	LR			
	comp=Z,3μm,22.0s							
M04C	**Macdoel**	**95.02**	**333**	P	**P**		**11 37 03.5**	**+1.2**
	baz=29							
CCUT	**Cedar City**	**95.16**	**326**	PFAKE			11 37 20.0	+17
CCUT				LR	LR			
	comp=Z,3μm,22.0s							
KNB	**Kanab**	**95.35**	**325**	PFAKE			11 37 20.0	+16
KNB				LR	LR			
	comp=Z,2μm,22.0s							
YBH	**Yreka Blue Hor**	**95.38**	**334**	P	**P**		**11 37 05.6**	**+1.6**
	comp=Z,0.9nm,1.0s,baz=166,slow=8.3,SNR=2.3							
YBH				LR	LR		12 22 46.3	
	comp=Z,870nm,19.6s,baz=20,slow=37							
W18A	**Petrified Fore**	**95.40**	**322**	PFAKE			11 37 20.0	+16
W18A				LR	LR			
	comp=Z,2μm,22.0s							
R11A	**Troy Canyon, C**	**95.49**	**328**	P	**P**		**11 37 05.2**	**+0.6**
	baz=33							
R11A	**Troy Canyon, C**	**95.49**	**328**	*eP*	**P**		**11 37 06.3**	**+1.7**
R11A				LR	LR			
	comp=Z,2μm,22.0s							
LCMT	**Little Creek M**	**95.55**	**325**	PFAKE			11 37 20.0	+15
LCMT				LR	LR			
	comp=Z,2μm,22.0s							
U15A	**North Rim**	**95.58**	**324**	*eP*	**P**		**11 37 06.2**	**+1.0**
U15A				LR	LR			
	comp=Z,1μm,19.0s							
MNTX	**Cornudas Mount**	**95.78**	**317**	P	**P**		**11 37 06.5**	**+0.7**
	baz=40							
MNTX	**Cornudas Mount**	**95.78**	**317**	*eP*	**P**		**11 37 07.3**	**+1.4**
MNTX				LR	LR			
	comp=Z,900nm,22.0s							
WUAZ	**Wupatki**	**95.89**	**323**	P	**P**		**11 37 05.5**	**-0.9**
	baz=36							
WUAZ	**Wupatki**	**95.89**	**323**	*eP*	**P**		**11 37 07.9**	**+1.4**
WUAZ				LR	LR			
	comp=Z,1μm,19.0s							
PAHR	**Pah Rah Range**	**95.90**	**331**	*eP*	**P**		**11 37 08.4**	**+1.9**
PAHR				LR	LR			
	comp=Z,1μm,22.0s							
KVN	**Kaiserville**	**95.95**	**330**	*eP*	**P**		**11 37 08.6**	**+1.9**
KVN				LR	LR			
	comp=Z,2μm,22.0s							
KVN	**Kaiserville**	**95.95**	**330**	*eP*	**P**		**11 37 08.6**	**+1.9**
KVN				MLR	MLR			
	comp=Z,2μm,22.0s							
BEKR	**Beckworth**	**96.14**	**332**	*eP*	**P**		**11 37 08.9**	**+1.3**
BEKR				LR	LR			
	comp=Z,1μm,21.0s							
WDC	**Whiskeytown Da**	**96.33**	**333**	PFAKE			11 37 20.0	+12
WDC				LR	LR			
	comp=Z,2μm,22.0s							
EPT	**El Paso**	**96.34**	**318**	PFAKE			11 37 20.0	+11
EPT				LR	LR			
	comp=Z,1μm,21.0s							
VCNR	**Virginia City**	**96.36**	**331**	PFAKE			11 37 20.0	+11
VCNR				LR	LR			
	comp=Z,1μm,22.0s							
121A	**Cookes Peak, D**	**96.44**	**319**	P	**P**		**11 37 08.9**	**-0.2**
	baz=39							
YERR	**Yerington**	**96.46**	**330**	*eP*	**P**		**11 37 10.9**	**+1.8**
YERR				LR	LR			
	comp=Z,1μm,21.0s							
RYN	**Ryan**	**96.48**	**330**	PFAKE			11 37 20.0	+11
RYN				LR	LR			
	comp=Z,2μm,21.0s							
NV11	**Mina Array Sit**	**96.50**	**329**	*eP*	**P**		**11 37 11.2**	**+2.0**
NV11				LR	LR			
	comp=Z,100nm,22.0s							
NV01	**Mina Array Sit**	**96.56**	**329**	*eP*	**P**		**11 37 10.8**	**+1.2**
NVAR	**Mina Array Bea**	**96.56**	**329**	P	**P**		**11 37 10.1**	**+0.6**
	comp=Z,1.4nm,0.8s,baz=43,slow=3.7,SNR=14							
NVAR				PKKPbc	**PKKPbc**		**11 53 54.7**	**+2.1**
	comp=Z,0.4nm,0.7s,baz=201,slow=4.8,SNR=4.0							
NVAR				LR	LR		12 21 19.6	
	comp=Z,1μm,21.8s,baz=320,slow=36							
LTX	**Lajitas**	**96.60**	**314**	*eP*	**P**		**11 37 12.0**	**+2.2**
LTX	**Lajitas**	**96.60**	**314**	*eP*	**P**		**11 37 12.0**	**+2.2**
TX31	**Lajitas Ar. Si**	**96.60**	**314**	*eP*	**P**		**11 37 11.6**	**+1.8**
TXAR	**Lajitas Array**	**96.60**	**314**	P	**P**		**11 37 12.0**	**+2.2**
	comp=Z,2.4nm,0.8s,baz=66,slow=4.8,SNR=15							
TXAR				LR	LR		12 20 31.0	
	comp=Z,296nm,20.2s,baz=0.0,slow=35							
TXAR	**Lajitas Array**	**96.60**	**314**	P	**P**		**11 37 12.0**	**+2.2**
RUBR	**Rubicon Trail**	**96.77**	**331**	PFAKE			11 37 20.0	+10
RUBR				LR	LR			
	comp=Z,1μm,22.0s							
X16A	**Lo Mia Camp, P**	**96.80**	**323**	*eP*	**P**		**11 37 13.1**	**+2.4**
X16A				LR	LR			
	comp=Z,1μm,21.0s							
SHPR	**Sheep Range**	**96.83**	**326**	PFAKE			11 37 20.0	+9.2
SHPR				LR	LR			
	comp=Z,1μm,18.0s							
ORV	**Oroville**	**96.84**	**332**	PFAKE			11 37 20.0	+9.5
ORV				LR	LR			
	comp=Z,2μm,21.0s							
JTS	**JuntasAbangare**	**96.87**	**288**	LR	LR		12 15 42.3	
	comp=Z,480nm,21.8s,baz=119,slow=32							
DAV	**Davao City (W)**	**96.88**	**76**	LR	LR		12 25 52.1	
	comp=Z,353nm,21.5s,baz=354,slow=39							
TPNV	**Topopah Spring**	**96.94**	**327**	PFAKE			11 37 20.0	+8.7
TPNV				LR	LR			
	comp=Z,1μm,22.0s							
WAKR	**Walker**	**96.95**	**330**	PFAKE			11 37 20.0	+8.7
WAKR				LR	LR			
	comp=Z,2μm,22.0s							
JAGI	**Jajag, Banyuwa**	**97.04**	**95**	PFAKE			11 37 20.0	+8.1
JAGI				LR	LR			
	comp=Z,800nm,22.0s							
CPUP	**Villa Florida**	**97.13**	**243**	LR	LR		12 22 38.4	
	comp=Z,4μm,19.4s,baz=50,slow=36							
AFDM	**Forest Hills D**	**97.17**	**331**	PFAKE			11 37 20.0	+7.8
AFDM				LR	LR			
	comp=Z,1μm,22.0s							
TUMC	**Tumaco**	**97.19**	**278**	PFAKE			11 37 20.0	+7.4
TUMC				LR	LR			
	comp=Z,1μm,22.0s							
GRAC	**Grapevine Rang**	**97.39**	**328**	P	Pdif		11 37 13.5	+0.3
	baz=32							
OMMB	**Old Mammoth Mi**	**97.54**	**329**	PFAKE			11 37 30.0	+16
OMMB				LR	LR			
	comp=Z,2μm,22.0s							
MDPB	**Devils Postpil**	**97.56**	**330**	PFAKE			11 37 30.0	+16
MDPB				LR	LR			
	comp=Z,2μm,22.0s							
FURC	**Furnace Creek,**	**97.62**	**327**	P	Pdif		11 37 14.8	+0.7
	baz=32							
CMB	**Columbia Colle**	**97.74**	**331**	PFAKE			11 37 30.0	+15
CMB				LR	LR			
	comp=Z,1μm,19.0s							
HOPS	**Hopland Field**	**97.92**	**333**	PFAKE			11 37 30.0	+15
HOPS				LR	LR			
	comp=Z,2μm,22.0s							
OTAV	**Otavalo**	**97.92**	**276**	PFAKE			11 37 30.0	+14
OTAV				LR	LR			
	comp=Z,500nm,20.0s							
Y14A	**Wickenburg**	**97.95**	**323**	PFAKE			11 37 30.0	+14
Y14A				LR	LR			
	comp=Z,900nm,20.0s							
GDXM	**Geysers**	**97.98**	**333**	PFAKE			11 37 30.0	+14
GDXM				LR	LR			
	comp=Z,2μm,20.0s							
LDFC	**Landfair**	**98.00**	**325**	PFAKE			11 37 30.0	+14
LDFC				LR	LR			
	comp=Z,2μm,22.0s							
319A	**Douglas**	**98.13**	**319**	PFAKE			11 37 30.0	+13
319A				LR	LR			
	comp=Z,1μm,20.0s							
CWC	**Cottonwood Cre**	**98.16**	**328**	P	Pdif		11 37 16.8	0.0
	baz=32							
TUC	**Tucson**	**98.16**	**321**	P	Pdif		11 37 17.0	+0.2
	baz=37							
TUC	**Tucson**	**98.16**	**321**	PFAKE			11 37 30.0	+13
TUC				LR	LR			
	comp=Z,1μm,18.0s							
GSC	**Goldstone, Bar**	**98.57**	**327**	PFAKE			11 37 30.0	+11
GSC				LR	LR			
	comp=Z,1μm,22.0s							
MCCM	**Marconi Confer**	**98.60**	**332**	PFAKE			11 37 30.0	+12
MCCM				LR	LR			
	comp=Z,1μm,20.0s							
RDG13	**Poverty Ridge**	**98.79**	**331**	PFAKE			11 37 30.0	+11
RDG13				LR	LR			
	comp=Z,2μm,19.0s							
Y12C	**Blythe**	**98.82**	**324**	PFAKE			11 37 30.0	+10
Y12C				LR	LR			
	comp=Z,1μm,19.0s							
ISA	**Isabella, Lake**	**98.99**	**328**	*eP*	Pdif		11 37 22.6	+2.2
ISA	**Isabella, Lake**	**98.99**	**328**	*eP*	Pdif		11 37 22.6	+2.2
SAO	**San Andreas Ge**	**99.26**	**331**	PFAKE			11 37 30.0	+8.6
SAO				LR	LR			
	comp=Z,2μm,22.0s							
LPAZ	**La Paz**	**99.34**	**257**	LR	LR		12 22 22.0	
	comp=Z,906nm,21.9s,baz=76,slow=35							
PMPB	**Monarch Peak**	**99.48**	**330**	PFAKE			11 37 40.0	+17
PMPB				LR	LR			
	comp=Z,2μm,21.0s							
KAPI	**Kappang**	**99.51**	**89**	PFAKE			11 37 40.0	+17
KAPI				LR	LR			
	comp=Z,400nm,21.0s							
GLA	**Glamis**	**99.54**	**324**	PFAKE			11 37 40.0	+17
GLA				LR	LR			
	comp=Z,1μm,20.0s							
LUWI	**Luwuk**	**99.58**	**84**	PFAKE			11 37 40.0	+17
LUWI				LR	LR			
	comp=Z,400nm,22.0s							
PAGB	**Antelope Grade**	**99.67**	**329**	PFAKE			11 37 40.0	+17
PAGB				LR	LR			
	comp=Z,1μm,22.0s							
XPFO	**Piæon Flat**	**99.83**	**326**	PFAKE			11 37 40.0	+16
XPFO				LR	LR			
	comp=Z,2μm,22.0s							
PFO	**Pinyon Flats O**	**99.83**	**326**	PFAKE			11 37 40.0	+16
PFO				LR	LR			
	comp=Z,2μm,22.0s							
OSI	**Osito Audit: C**	**99.99**	**328**	PFAKE			11 37 40.0	+15
OSI				LR	LR			
	comp=Z,1μm,20.0s							
MWC	**Mount Wilson**	**100.03**	**327**	PFAKE			11 37 40.0	+15
MWC				LR	LR			
	comp=Z,1μm,19.0s							
BAR	**Barrett**	**100.71**	**325**	PFAKE			11 37 40.0	+12
BAR				LR	LR			
	comp=Z,2μm,22.0s							
CPE	**Camp Elliot**	**100.73**	**326**	PFAKE			11 37 40.0	+12
CPE				LR	LR			
	comp=Z,2μm,22.0s							
HSIG		**100.87**	**319**	PFAKE			11 37 40.0	+11
HSIG				LR	LR			
	comp=Z,800nm,20.0s							
PB10	**IPOC Station P**	**105.30**	**252**	PFAKE			11 42 10.0	
PB10				LR	LR			
	comp=Z,4μm,21.0s							
SYO	**Syowa Base**	**106.26**	**173**	*i*Pdiff	**Pdif**		**11 37 54.0**	**+2.5**
SYO	**Syowa Base**	**106.26**	**173**	*i*pPdiff	pPdif		11 38 01.6	+0.5
TRQA	**Tornquist**	**107.13**	**235**	PFAKE			11 42 20.0	
TRQA				LR	LR			
	comp=Z,2μm,21.0s							
SNAA	**Sanae**	**109.47**	**188**	PFAKE			11 42 20.0	
SNAA				LR	LR			
	comp=Z,2μm,20.0s							
GO05	**HualaæØ**	**112.37**	**242**	PFAKE			11 42 30.0	
GO05				LR	LR			
	comp=Z,4μm,20.0s							
CHRN	**Cochrane**	**118.41**	**231**	PFAKE			11 42 40.0	+14
CHRN				LR	LR			
	comp=Z,100nm,18.0s							
WR1	**Warramunga Arr**	**119.61**	**94**	*e*PKPdf	**PKPdf**		**11 42 28.7**	**-0.9**
WR1				*e*PP	**PP**		**11 43 45.8**	**-6.8**
WRA	**Warramunga Arr**	**119.61**	**94**	PKP	**PKPdf**		**11 42 28.7**	**-0.9**
	comp=Z,1.4nm,0.7s,baz=321,slow=1.8,SNR=11							
WRA				PP	**PP**		**11 43 45.8**	**-6.8**
	comp=Z,0.7nm,0.7s,baz=287,slow=1.3,SNR=3.1							
WB2	**Warramunga Arr**	**119.61**	**94**	*e*PKPdf	**PKPdf**		**11 42 30.3**	**+0.7**
PMSA	**Palmer Station**	**120.78**	**210**	PFAKE			11 42 40.0	+10
PMSA				LR	LR			
	comp=Z,200nm,22.0s							
AS31	**Alice Springs**	**121.14**	**98**	*e*PKPdf	**PKPdf**		**11 42 31.3**	**-1.2**
ASAR	**Alice Springs**	**121.14**	**98**	PKP	**PKPdf**		**11 42 31.3**	**-1.2**
	comp=Z,2.1nm,0.6s,baz=316,slow=1.6,SNR=12							
ASAR				PKKPbc	**PKKPab**		**11 52 36.5**	**+1.5**
	comp=Z,0.2nm,0.6s,baz=120,slow=3.7,SNR=5.2							
AS01	**Alice Springs**	**121.18**	**98**	*e*PKPdf	**PKPdf**		**11 42 32.8**	**+0.2**
SBLHI	**Steaming Bluff**	**124.08**	**356**	PFAKE			11 42 50.0	+12
SBLHI				LR	LR			
	comp=Z,3μm,22.0s							
UWB	**Uwekahuna B**	**124.08**	**356**	PFAKE			11 42 50.0	+12
UWB				LR	LR			
	comp=Z,6μm,20.0s							
WRMHI	**West Rim**	**124.10**	**356**	PFAKE			11 42 50.0	+11
WRMHI				LR	LR			
	comp=Z,3μm,20.0s							
JCUZ	**Jacuzzi**	**124.11**	**356**	PFAKE			11 42 50.0	+12
JCUZ				LR	LR			
	comp=Z,2μm,18.0s							
QSPA	**South Pole Qui**	**126.58**	**180**	PKP	**PKPdf**		**11 42 43.2**	**+1.6**
	comp=Z,3.9nm,0.8s,baz=188,slow=0.5,SNR=7.5							
QSPA	**South Pole Qui**	**126.58**	**180**	*e*PKPdf	**PKPdf**		**11 42 43.2**	**+1.6**
QSPA				*e*PKPdf	**PKiKP**		**11 42 43.3**	**+1.2**
QSPA				LR	LR			
	comp=Z,2μm,20.0s							
CTA	**Charters Tower**	**129.25**	**87**	PKP	**PKPdf**		**11 42 49.1**	**+1.0**
	comp=Z,3.2nm,0.6s,baz=279,slow=13,SNR=6.5							
STKA	**Stephens Creek**	**130.89**	**103**	PKP	**PKPdf**		**11 42 51.7**	**+0.9**
	comp=Z,2.1nm,0.7s,baz=330,slow=6.4,SNR=4.9							
HNR	**Honiara**	**133.57**	**65**	PFAKE			11 43 10.0	+14
HNR				LR	LR			
	comp=Z,600nm,21.0s							
VNDA	**Vanda**	**135.68**	**169**	PKP	**PKPdf**		**11 42 59.6**	**+1.1**
	comp=Z,0.3nm,0.6s,baz=117,slow=2.3,SNR=2.3							
ARMA	**Armidale**	**138.27**	**96**	PFAKE			11 43 20.0	+15
ARMA				LR	LR			
	comp=Z,700nm,19.0s							
DZM	**Mont Dzumac**	**146.28**	**74**	PKPbc	**PKPab**		**11 43 21.5**	**+0.3**
	comp=Z,12nm,0.7s,baz=97,slow=17,SNR=5.9							
DZM	**Mont Dzumac**	**146.28**	**74**	*e*PKIKP	**PKPab**		**11 43 22.2**	**+0.9**
	comp=Z,134nm,1.4s							
DZM	**Mont Dzumac**	**146.28**	**74**	*e*PP	PP		11 46 48.6	+5.4
	comp=Z,287nm,26.7s							
DZM	**Mont Dzumac**	**146.28**	**74**	*e*LR	LR		12 31 34.7	
	comp=Z,912nm,30.1s							
TAOE	**Nuku Hiva Isla**	**147.69**	**325**	*e*LR	LR		12 32 20.3	
	comp=Z,520nm,26.6s							
RKT	**Rikitea**	**155.67**	**297**	*e*SS	SS		12 07 09.5	-12
	comp=Z,770nm,36.8s							
RKT	**Rikitea**	**155.67**	**297**	*e*LR	LR		12 36 05.1	
	comp=Z,769nm,23.0s							
OXZ	**Oxford**	**156.50**	**115**	PFAKE			11 43 50.0	-13
OXZ				LR	LR			
	comp=Z,1μm,20.0s							
MQZ	**McQueen's Vall**	**156.90**	**117**	PFAKE			11 43 50.0	-15
MQZ				LR	LR			
	comp=Z,1μm,20.0s							
HIZ	**Hauiti**	**158.76**	**103**	PFAKE			11 43 50.0	+13
HIZ				LR	LR			
	comp=Z,1μm,21.0s							
PPT2	**Papeete2**	**159.41**	**335**	*e*SS	SS		12 07 59.4	-0.6
	comp=Z,1μm,31.2s							
PPT2	**Papeete2**	**159.41**	**335**	*e*LR	LR		12 37 46.8	
	comp=Z,1μm,25.5s							

IGQ 16 11:28:37.8±1.0, 3°N±11°×8°4W±1°3, h12km, mB5.1/3, mb4.6/6, MLv4.4/7, Mw(mB)4.5/3, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
OTAV	**Otavalo**	**6.15**	**116**	P	Pn		11 30 07.3	-1.7
CUIC	**Cuicocha-Domo**	**6.20**	**115**	P	Pn		11 30 09.0	-0.6
COTA	**Cotacachi**	**6.21**	**115**	P	Pn		11 30 09.5	-0.4
URCU	**Urcuqui**	**6.24**	**114**	P	Pn		11 30 08.7	-1.5
URCU				S	Sn		11 31 22.3	+0.6
ILLI	**Illinizas Sur**	**6.40**	**125**	P	Pn		11 30 09.5	-2.9
BVC2	**Cotopaxi Volca**	**6.63**	**123**	P	Pn		11 30 15.4	-0.3
BMOR	**Cotopaxi Volca**	**6.63**	**124**	P	Pn		11 30 14.8	-0.8
BTAM	**Cotopaxi Volca**	**6.65**	**123**	P	Pn		11 30 15.3	-0.7
ANTG	**Antisana-Guama**	**6.68**	**121**	P	Pn		11 30 16.2	-0.1
ANTM	**Antisana-La Mi**	**6.72**	**121**	P	Pn		11 30 16.8	-0.1
ANTS	**Antisana-Sarah**	**6.75**	**121**	P	Pn		11 30 17.3	0.0
JTS	**JuntasAbangare**	**7.31**	**352**	P	Pn		11 30 24.6	0.0

IDC 16 11:50:55.0±3.5, 15°49S×173°23W, h0km, mb3.5/3, mb1 3.8/4, mb1mx3.6/48, mbtmp3.6/4, ML3.9/1, MS4.5/1, Ms1 4.5/1, ms1mx3.0/33, Error ellipse: s-maj=224.2km s-min=22.1km az=146.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
AFI	**Afiamalu**	**2.11**	**42**	Pn	Pn		11 51 31.7	0.0
	38nm,0.3s,baz=267,slow=17,SNR=87							
AFI				Sn	Sn		11 51 52.0	-6.7
	99nm,0.3s,baz=61,slow=21,SNR=31							
RAO	**Raoul Island**	**14.36**	**197**	LR	LR		11 59 14.7	
	comp=Z,2μm,20.7s,baz=102,slow=35							
WRA	**Warramunga Arr**	**49.98**	**257**	P	P		11 59 51.4	0.0
	0.5nm,0.9s,baz=92,slow=7.6,SNR=8.5							
ASAR	**Alice Springs**	**50.24**	**252**	P	P		11 59 53.2	-0.2
	1.2nm,0.9s,baz=92,slow=7.3,SNR=15							
NVAR	**Mina Array Bea**	**74.29**	**42**	P	P		12 02 34.6	0.0
	0.1nm,0.5s,baz=214,slow=6.4,SNR=2.4							

ISCJB ***16*** *11:53:22.3±1.7, 1°.6N±0°.2×90°.9E±0°.3, h10km, mb3.9/6, Error ellipse: s-maj=43.3km s-min=23.1km az=150.9*
IDC ***16*** *11:53:22.8±2.4, 1°.60N×90°.91E, h0km, mb3.8/6, mb1 3.9/7, mb1mx3.5/72, mbtmp3.8/7, ML4.0/1, Error ellipse: s-maj=74.7km s-min=27.2km az=57.0*

ISC 16 11:53:24.6±2.5, 1°.6N±0°.3×91°.0E±0°.4, h10km, n10, σ0s87/7, mb3.9/6, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
CMAR	**Chiang Mai Arr**	**18.47**	**24**	P	**P**		**11 57 40.4**	**-0.4**
	0.2nm,0.3s,baz=221,slow=14,SNR=8.7							
H08S2	**Diego Garcia H**	**20.62**	**243**	T	T		12 19 16.3	
	baz=63,slow=75,SNR=7.9							
H08S3	**Diego Garcia H**	**20.62**	**243**	T	T		12 19 14.7	
	baz=63,slow=75,SNR=11							
H08S1	**Diego Carcia H**	**20.64**	**243**	T	T		12 19 18.7	
	baz=63,slow=75,SNR=11							
MKAR	**Makanchi Array**	**45.65**	**352**	P	**P**		**12 01 44.9**	**-0.4**
	0.7nm,0.8s,baz=171,slow=8.5,SNR=6.2							
WRA	**Warramunga Arr**	**47.58**	**119**	P	**P**		**12 02 00.9**	**0.0**
	0.8nm,0.9s,baz=300,slow=8.0,SNR=4.3							
SONM	**Songino Array**	**47.94**	**14**	P	**P**		**12 02 04.2**	**+0.8**
	1.0nm,0.6s,baz=195,slow=9.6,SNR=5.0							
KURBB	**Kurchatov Arra**	**49.97**	**350**	P	**P**		**12 02 19.5**	**+0.7**
	1.8nm,0.2s,baz=172,slow=7.4,SNR=4.7							
ZALV	**Zalesovo Beam**	**52.42**	**355**	P	**P**		**12 02 36.5**	**-0.5**
	0.9nm,0.5s,baz=185,slow=8.7,SNR=4.6							
BVAR	**Borovoye Array**	**54.03**	**345**	P	**P**		**12 02 47.9**	**-1.1**
	0.5nm,0.8s,baz=151,slow=6.3,SNR=2.5							

ISCJB ***16*** *11:56:52.9±0.6, 38°.94N±0°.04×30°.05E±0°.04, h7km±8km, Error ellipse: s-maj=6.7km s-min=4.7km az=22.6*
ISK ***16*** *11:56:52.8, 38°.92N×30°.07E, h13km, ML2.5/8*
DDA ***16*** *11:56:53.2, 38°.94N×29°.97E, h7km, Ml2.4*
CSEM ***16*** *11:56:53.1±0.2, 38°.94N×30°.06E, h10km, ML2.4, Error ellipse: s-maj=4.8km s-min=4.5km az=22.0*

ISC 16 11:56:52.7±1.0, 38°.96N±0°.03×30°.05E±0°.02, h7km±10km, n26, σ0s49/38, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
GDZ	**Gediz**	**0.46**	**287**	*i* P	**Pg**		**11 57 01.2**	**-0.4**
GDZ				*i* S	**Sg**		**11 57 07.9**	**+0.2**
GDZ	**Gediz**	**0.46**	**287**	P	**Pg**		**11 57 01.2**	**-0.4**
GDZ				S	**Sg**		**11 57 07.9**	**+0.2**
SHUT	**Suhut-Afyon**	**0.56**	**135**	PG	**Pg**		**11 57 03.3**	**-0.3**
SHUT				SG	**Sg**		**11 57 11.5**	**+0.6**
SHUT	**Suhut-Afyon**	**0.56**	**135**	*e*Pg	**Pg**		**11 57 03.3**	**-0.3**
SHUT				*e*Sg	**Sg**		**11 57 11.5**	**+0.6**
TVSB	**Tavsanli**	**0.67**	**318**	PG	**Pb**		**11 57 07.1**	**+0.4**
TVSB	**Tavsanli**	**0.67**	**318**	*e*Pg	**Pb**		**11 57 07.1**	**+0.4**
KZIL	**AFYON_Kizioren**	**0.70**	**174**	*i* P	**Pb**		**11 57 07.4**	**+0.1**
KZIL				*i* S	**Sb**		**11 57 16.6**	**-0.5**
KZIL	**AFYON_Kizioren**	**0.70**	**174**	P	**Pb**		**11 57 07.4**	**+0.1**
KZIL				S	**Sb**		**11 57 16.6**	**-0.5**
SIMA	**Simav-Kutahya**	**0.84**	**279**	PG	**Pb**		**11 57 10.2**	**+0.6**
SIMA	**Simav-Kutahya**	**0.84**	**279**	*e*Pg	**Pb**		**11 57 10.2**	**+0.6**
ESKT	**Eskisehir**	**0.84**	**48**	*i* P	**Pg**		**11 57 08.5**	**-0.3**
ESKT				*i* S	**Sg**		**11 57 20.1**	**+0.3**
SEYT	**Eskypehyr**	**0.84**	**48**	P	**Pg**		**11 57 08.5**	**-0.3**
SEYT				S	**Sg**		**11 57 20.1**	**+0.3**
BORA	**Eskisehir**	**0.97**	**19**	*i* P	**Pb**		**11 57 12.2**	**+0.2**
BORA				*i* S	**Sn**		**11 57 26.7**	**-0.3**
BORA	**Eskisehir**	**0.97**	**19**	P	**Pb**		**11 57 12.1**	**+0.2**
BORA				S	**Sn**		**11 57 26.7**	**-0.3**
DEMI	**Demirci**	**

n687,σ1$74/755,mb4.6/72,43C-22D,Southern Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MES2	**Methoni**	**0.34**	**37**	P	**Pb**	**12 02 22.1**	**-1.0**
MES2				S	**Sb**	**12 02 28.2**	**-0.4**
MES2	**Methoni**	**0.34**	**37**	P	**Pb**	**12 02 22.7**	**-0.3**
MES2				S	**Sb**	**12 02 28.3**	**-0.4**
PYL	**PYLOS**	**0.42**	**34**	P	**Pb**	**12 02 23.2**	**-0.9**
PYL				S	**Sb**	**12 02 29.3**	**-1.2**
PYL				AML	AML	12 02 30.2	
	comp=N,93321μm,0.4s						
PYL				AML	AML	12 02 30.3	
PYL	**PYLOS**	**0.42**	**34**	*e*Pg	**Pb**	**12 02 23.7**	**-0.4**
PYL				*e*Sg	**Sb**	**12 02 29.8**	**-0.7**
PYL	**PYLOS**	**0.42**	**34**	P	**Pb**	**12 02 23.7**	**-0.4**
PYL				S	**Sb**	**12 02 29.8**	**-0.7**
PYL	**PYLOS**	**0.42**	**34**	P	**Pb**	**12 02 23.7**	**-0.4**
PYL				S	**Sb**	**12 02 29.8**	**-0.7**
MES3	**Kyparissia**	**0.72**	**14**	P	**Pn**	**12 02 28.4**	**-0.3**
MES3				S	**Sb**	**12 02 38.8**	**+0.2**
MES3	**Kyparissia**	**0.72**	**14**	P	**Pn**	**12 02 28.8**	**+0.1**
MES3				S	**Sb**	**12 02 38.7**	**+0.2**
ITM	**Ithomi**	**0.74**	**31**	P	**Pn**	**12 02 28.6**	**-0.4**
ITM				S	**Sb**	**12 02 38.6**	**-0.5**
ITM				AML	AML	12 02 42.5	
	comp=E,45217μm,0.5s						
ITM				AML	AML	12 02 44.3	
	comp=N,48035μm,0.3s						
ITM	**Ithomi**	**0.74**	**31**	*e*Pg	**Pn**	**12 02 28.5**	**-0.4**
ITM				*e*Pn	Pn	12 02 28.8	-0.1
ITM				*e*Sn	**Sb**	**12 02 38.4**	**-0.7**
ITM				*e*Sn	Sn	12 02 39.5	+0.5
ITM	**Ithomi**	**0.74**	**31**	P	**Pn**	**12 02 28.8**	**-0.1**
ITM				S	**Sb**	**12 02 39.5**	**+0.5**
ITM	**Ithomi**	**0.74**	**31**	*e*Pg	**Pn**	**12 02 28.5**	**-0.4**
ITM	**Ithomi**	**0.74**	**31**	P	**Pn**	**12 02 28.8**	**-0.1**
ITM				S	**Sb**	**12 02 39.5**	**+0.5**
DYR	**Agios Nikonas**	**0.74**	**73**	P	**Pn**	**12 02 28.4**	**-0.6**
DYR				S	**Sb**	**12 02 38.7**	**-1.4**
DYR				AML	AML	12 02 43.9	
	comp=E,25099μm,0.9s						
DYR				AML	AML	12 02 46.4	
	comp=N,19336μm,0.6s						
DYR	**Agios Nikonas**	**0.74**	**73**	P	**Pn**	**12 02 28.4**	**-0.6**
DYR				S	**Sb**	**12 02 38.2**	**-1.0**
DYR	**Agios Nikonas**	**0.74**	**73**	P	**Pn**	**12 02 28.4**	**-0.6**
DYR				S	**Sb**	**12 02 38.2**	**-1.0**
AMT	**Artemida-Makis**	**1.00**	**12**	P	**Pn**	**12 02 33.6**	**+1.1**
AMT				S	**Sn**	**12 02 45.8**	**+0.2**
AMT				AML	AML	12 02 55.5	
	comp=E,59557μm,0.5s						
AMT				AML	AML	12 03 01.1	
	comp=N,61161μm,0.5s						
AMT	**Artemida-Makis**	**1.00**	**12**	P	**Pb**	**12 02 34.1**	**+0.4**
AMT	**Artemida-Makis**	**1.00**	**12**	P	**Pn**	**12 02 33.7**	**+1.1**
AMT				S	**Sn**	**12 02 46.2**	**+0.6**
VLX	**Vlachokerasia**	**1.11**	**42**	P	**Pn**	**12 02 35.1**	**+1.0**
VLX				S	**Sn**	**12 02 47.5**	**-0.8**
VLX				AML	AML	12 02 56.0	
	comp=N,41366μm,0.9s						
VLX				AML	AML	12 02 56.9	
	comp=E,52628μm,0.7s						
VLX	**Vlachokerasia**	**1.11**	**42**	*e*Pn	**Pn**	**12 02 35.0**	**+0.9**
VLX				*e*Sn	**Sb**	**12 02 50.8**	**+1.2**
VLX	**Vlachokerasia**	**1.11**	**42**	P	**Pn**	**12 02 35.0**	**+0.9**
VLX				S	**Sb**	**12 02 50.8**	**+1.2**
VLX	**Vlachokerasia**	**1.11**	**42**	P	**Pn**	**12 02 34.7**	**+0.6**
VLX				S	**Sn**	**12 02 47.5**	**-0.8**
TRIP	**Tripoli**	**1.18**	**34**	P	**Pn**	**12 02 36.0**	**+1.0**
TRIP				S	**Sn**	**12 02 50.2**	**+0.2**
TRIP				AML	AML	12 02 54.3	
	comp=N,22281μm,0.6s						
TRIP				AML	AML	12 02 57.1	
	comp=E,18562μm,0.6s						
TRIP	**Tripoli**	**1.18**	**34**	P	**Pn**	**12 02 35.8**	**+0.8**
TRIP				S	**Sn**	**12 02 50.0**	**0.0**
VLI	**Veliai**	**1.21**	**82**	P	**Pb**	**12 02 37.2**	**+0.1**
VLI				S	**Sn**	**12 02 50.5**	**-0.2**
VLI				AML	AML	12 02 54.6	
	comp=E,12641μm,0.7s						
VLI				AML	AML	12 02 59.9	
	comp=N,14527μm,0.7s						
VLI	**Veliai**	**1.21**	**82**	*e*Pn	**Pb**	**12 02 36.9**	**-0.2**
VLI				*e*Sn	**Sb**	**12 02 53.6**	**+1.2**
VLI	**Veliai**	**1.21**	**82**	P	**Pb**	**12 02 36.9**	**-0.2**
VLI				S	**Sb**	**12 02 53.6**	**+1.2**
VLI	**Veliai**	**1.21**	**82**	P	**Pn**	**12 02 36.5**	**+1.1**
VLI				S	**Sn**	**12 02 50.4**	**-0.2**
MNVA	**Monemvasia**	**1.28**	**83**	P	**Pb**	**12 02 38.7**	**+0.3**
MNVA				AML	AML	12 03 00.1	
	comp=N,8232μm,0.7s						
MNVA				AML	AML	12 03 01.8	
	comp=E,8466μm,0.6s						
MNVA	**Monemvasia**	**1.28**	**83**	P	**Pn**	**12 02 37.9**	**+1.5**
KYTH	**Kithira**	**1.32**	**102**	P	**Pb**	**12 02 39.5**	**+0.5**
KYTH				AML	AML	12 03 02.8	
	comp=N,16897μm,0.7s						
KYTH				AML	AML	12 03 16.5	
	comp=E,11752μm,1.2s						
KYTH	**Kithira**	**1.32**	**102**	*e*Pn	**Pn**	**12 02 38.5**	**+1.6**
KYTH				*e*Sn	**Sb**	**12 02 56.3**	**+0.7**
KYTH	**Kithira**	**1.32**	**102**	P	**Pn**	**12 02 38.5**	**+1.6**
KYTH				S	**Sb**	**12 02 56.3**	**+0.7**
VTN	**Vitineika**	**1.38**	**351**	P	**Pb**	**12 02 40.5**	**+0.4**
VTN	**Vitineika**	**1.38**	**351**	P	**Pb**	**12 02 40.4**	**+0.4**
DRO	**Drossia**	**1.42**	**8**	P	**Pb**	**12 02 40.5**	**-0.2**
DRO				S	**Sn**	**12 02 57.2**	**+1.4**
DRO				AML	AML	12 03 10.1	
	comp=N,31157μm,0.5s						
DRO				AML	AML	12 03 15.0	
	comp=E,38003μm,0.6s						
DRO	**Drossia**	**1.42**	**8**	P	**Pb**	**12 02 42.3**	**+1.7**
DRO	**Drossia**	**1.42**	**8**	P	**Pn**	**12 02 40.2**	**+1.9**
DRO				S	**Sn**	**12 02 57.3**	**+1.5**
RLS	**Riolos of Patr**	**1.50**	**0**	P	**Pb**	**12 02 42.4**	**+0.2**
RLS				S	**Sn**	**12 02 58.6**	**+0.6**
RLS				AML	AML	12 03 18.3	
	comp=E,8917μm,0.6s						
RLS				AML	AML	12 03 20.2	
	comp=N,9316μm,0.9s						
RLS	**Riolos of Patr**	**1.50**	**0**	*e*Pn	**Pb**	**12 02 42.2**	**+0.1**
RLS	**Riolos of Patr**	**1.50**	**0**	P	**Pb**	**12 02 42.2**	**+0.1**
RLS	**Riolos of Patr**	**1.50**	**0**	P	**Pb**	**12 02 42.0**	**-0.1**
RLS				S	**Sn**	**12 02 59.4**	**+1.4**
GUR	**Goura**	**1.56**	**27**	P	**Pb**	**12 02 42.9**	**-0.1**
GUR				AML	AML	12 03 15.2	
	comp=N,28028μm,0.9s						
GUR				AML	AML	12 03 19.3	
	comp=E,23735μm,0.5s						
GUR	**Goura**	**1.56**	**27**	*e*Pn	**Pb**	**12 02 42.5**	**-0.6**
GUR	**Goura**	**1.56**	**27**	P	**Pb**	**12 02 42.5**	**-0.6**
GUR				S	**Sb**	**12 03 02.9**	**+0.5**
GUR	**Goura**	**1.56**	**27**	P	**Pn**	**12 02 42.1**	**+1.8**
KLV	**Kalavryta, Ach**	**1.59**	**20**	P	**Pb**	**12 02 43.2**	**-0.4**
KLV				AML	AML	12 03 16.1	
	comp=E,10401μm,0.7s						
KLV				AML	AML	12 03 16.6	
	comp=N,9533μm,0.7s						
KLV	**Kalavryta, Ach**	**1.59**	**20**	*e*Pn	**Pb**	**12 02 44.0**	**+0.4**
KLV	**Kalavryta, Ach**	**1.59**	**20**	P	**Pb**	**12 02 44.0**	**+0.4**
KLV				S	**Sb**	**12 03 03.0**	**-0.4**
KLV	**Kalavryta, Ach**	**1.59**	**20**	P	**Pn**	**12 02 42.7**	**+2.0**
KLV				S	**Sb**	**12 03 03.0**	**-0.4**
KRND	**KRANIDI**	**1.59**	**58**	P	**Pn**	**12 02 41.3**	**+0.6**
KRND				AML	AML	12 03 09.8	
	comp=N,9444μm,1.1s						
KRND				AML	AML	12 03 10.0	
	comp=E,11885μm,0.6s						
KRND	**KRANIDI**	**1.59**	**58**	P	**Pn**	**12 02 41.4**	**+0.7**
KRND	**KRANIDI**	**1.59**	**58**	P	**Pn**	**12 02 41.3**	**+0.6**
ANKY	**Antikythira Is**	**1.64**	**114**	P	**Pb**	**12 02 43.8**	**-0.6**
ANKY	**Antikythira Is**	**1.64**	**114**	*e*Pn	**Pb**	**12 02 43.5**	**-1.0**
ANKY	**Antikythira Is**	**1.64**	**114**	P	**Pb**	**12 02 43.5**	**-1.0**
ANKY	**Antikythira Is**	**1.64**	**114**	P	**Pb**	**12 02 43.4**	**-1.0**
KFL	**Anninata**	**1.64**	**341**	P	**Pb**	**12 02 45.6**	**+1.1**
KFL	**Anninata**	**1.64**	**341**	P	**Pb**	**12 02 45.6**	**+1.1**
DID	**Didima**	**1.72**	**56**	P	**Pn**	**12 02 42.6**	**+0.2**
DID				AML	AML	12 03 17.0	
	comp=N,9797μm,1.0s						
DID				AML	AML	12 03 17.6	
	comp=E,9790μm,0.7s						
DID	**Didima**	**1.72**	**56**	*e*Pn	**Pn**	**12 02 43.2**	**+0.7**
DID	**Didima**	**1.72**	**56**	P	**Pn**	**12 02 43.2**	**+0.7**
DID	**Didima**	**1.72**	**56**	P	**Pn**	**12 02 42.8**	**+0.3**
LAKA	**Lakka**	**1.74**	**14**	*e*Pn	**Pb**	**12 02 45.4**	**-0.7**
LAKA	**Lakka**	**1.74**	**14**	P	**Pb**	**12 02 45.4**	**-0.7**
LAKA				S	**Sb**	**12 03 07.4**	**-0.2**
LAKA	**Lakka**	**1.74**	**14**	P	**Pb**	**12 02 45.4**	**-0.7**
LAKA				S	**Sb**	**12 03 07.4**	**-0.2**
UPR	**University Cam**	**1.75**	**9**	P	**Pb**	**12 02 46.8**	**+0.5**
UPR	**University Cam**	**1.75**	**9**	P	**Pb**	**12 02 46.8**	**+0.5**
VLS	**Valsamata**	**1.76**	**337**	*e*Pn	**Pb**	**12 02 46.9**	**+0.4**
VLS	**Valsamata**	**1.76**	**337**	P	**Pb**	**12 02 46.9**	**+0.4**
VLS	**Valsamata**	**1.76**	**337**	P	**Pb**	**12 02 46.9**	**+0.4**
VLS	**Valsamata**	**1.76**	**337**	*e*P	**Pb**	**12 02 46.9**	**+0.4**
THAL	**Thalero**	**1.77**	**33**	P	**Pn**	**12 02 44.6**	**+1.5**
THAL	**Thalero**	**1.77**	**33**	P	**Pn**	**12 02 44.4**	**+1.3**
YDRA	**Hydra**	**1.80**	**63**	P	**Pn**	**12 02 43.8**	**+0.3**
YDRA	**Hydra**	**1.80**	**63**	P	**Pn**	**12 02 44.0**	**+0.5**
TRIZ	**Trizonia**	**1.88**	**15**	P	**Pb**	**12 02 47.9**	**-0.5**
TRIZ	**Trizonia**	**1.88**	**15**	P	**Pb**	**12 02 48.0**	**-0.5**
TRIZ	**Trizonia**	**1.88**	**15**	P	**Pn**	**12 02 47.1**	**+2.5**
LOUT	**Loutraki**	**1.88**	**40**	P	**Pn**	**12 02 44.9**	**+0.2**
LOUT	**Loutraki**	**1.88**	**40**	P	**Pn**	**12 02 45.2**	**+0.5**
LTK	**Loutraki**	**1.90**	**39**	P	**Pn**	**12 02 45.2**	**+0.2**
LTK	**Loutraki**	**1.90**	**39**	*e*Pn	**Pb**	**12 02 47.9**	**-1.0**
LTK				*e*Sn	**Sb**	**12 03 12.5**	**+0.2**
LTK	**Loutraki**	**1.90**	**39**	P	**Pb**	**12 02 47.9**	**-1.0**
LTK				S	**Sb**	**12 03 12.5**	**+0.2**
LTK	**Loutraki**	**1.90**	**39**	P	**Pn**	**12 02 45.6**	**+0.6**
LTK				S	**Sb**	**12 03 12.5**	**+0.2**
EFP	**Efpalio**	**1.91**	**11**	P	**Pb**	**12 02 48.7**	**-0.2**
EFP				AML	AML	12 03 28.7	
	comp=N,7671μm,0.6s						
EFP				AML	AML	12 03 36.9	
	comp=E,6877μm,0.7s						
EFP	**Efpalio**	**1.91**	**11**	P	**Pb**	**12 02 48.2**	**-0.7**
EFP	**Efpalio**	**1.91**	**11**	P	**Pb**	**12 02 47.8**	**-1.1**
KALE	**Kalithea**	**1.92**	**16**	*e*Pn	**Pb**	**12 02 48.3**	**-0.9**
KALE	**Kalithea**	**1.92**	**16**	P	**Pb**	**12 02 48.3**	**-0.9**
KALE	**Kalithea**	**1.92**	**16**	P	**Pb**	**12 02 48.3**	**-0.9**
SERG	**Sergoula**	**1.92**	**14**	P	**Pb**	**12 02 48.4**	**-0.8**
SERG	**Sergoula**	**1.92**	**14**	P	**Pb**	**12 02 48.4**	**-0.8**
FSK	**Fiskardo**	**2.03**	**340**	P	**Pb**	**12 02 50.4**	**-0.7**
DSF	**Desfina**	**2.05**	**24**	P	**Pn**	**12 02 48.0**	**+1.0**
DSF	**Desfina**	**2.05**	**24**	*e*Pn	**Pb**	**12 02 50.7**	**-0.6**
DSF	**Desfina**	**2.05**	**24**	P	**Pb**	**12 02 50.7**	**-0.6**
DSF	**Desfina**	**2.05**	**24**	P	**Pn**	**12 02 48.2**	**+1.2**
PROD	**Prodromos**	**2.06**	**34**	P	**Pn**	**12 02 47.0**	**-0.1**
PROD	**Prodromos**	**2.06**	**34**	P	**Pn**	**12 02 47.6**	**+0.5**
PVO	**Paravola**	**2.06**	**2**	P	**Pb**	**12 02 51.0**	**-0.6**
PVO	**Paravola**	**2.06**	**2**	P	**Pb**	**12 02 51.0**	**-0.6**
VILL	**Villia**	**2.19**	**42**	P	**Pn**	**12 02 51.6**	**+2.7**
VILL				S	**Sn**	**12 03 18.6**	**+3.6**
VILL	**Villia**	**2.19**	**42**	P	**Pn**	**12 02 51.6**	**+2.7**
VILL				S	**Sn**	**12 03 18.6**	**+3.6**
VLY	**Voula,Athens**	**2.28**	**55**	P	**Pn**	**12 02 49.9**	**-0.2**
VLY				AML	AML	12 03 33.0	
	comp=N,6887μm,0.7s						
VLY				AML	AML	12 03 40.2	
	comp=E,5654μm,0.9s						
VLY	**Voula,Athens**	**2.28**	**55**	*e*Pn	**Pn**	**12 02 52.6**	**+2.5**
VLY				*e*Sn	**Sn**	**12 03 19.8**	**+2.7**
VLY	**Voula,Athens**	**2.28**	**55**	P	**Pn**	**12 02 52.6**	**+2.5**
VLY				S	**Sn**	**12 03 19.8**	**+2.7**
VLY	**Voula,Athens**	**2.28**	**55**	P	**Pn**	**12 02 50.4**	**+0.3**
VLY				S	**Sn**	**12 03 19.8**	**+2.7**
ATH	**Athens Observa**	**2.30**	**51**	P	**Pn**	**12 02 49.8**	**-0.6**
ATH	**Athens Observa**	**2.30**	**51**	*e*Pn	**Pn**	**12 02 52.7**	**+2.3**
ATH	**Athens Observa**	**2.30**	**51**	P	**Pn**	**12 02 50.5**	**+0.1**
ATH	**Athens Observa**	**2.30**	**51**	*e*Pn	**Pn**	**12 02 52.7**	**+2.3**
ATH	**Athens Observa**	**2.30**	**51**	*e*P	**Pn**	**12 02 52.7**	**+2.3**
IMMV	**Iera Moni Meta**	**2.32**	**117**	P	**Pn**	**12 02 51.8**	**+1.1**
IMMV	**Iera Moni Meta**	**2.32**	**117**	P	**Pn**	**12 02 52.2**	**+1.5**
IMMV	**Iera Moni Meta**	**2.32**	**117**	P	**Pn**	**12 02 52.2**	**+1.5**
LKD2	**Lefkada island**	**2.32**	**345**	*e*Pn	**Pb**	**12 02 54.4**	**-1.6**
LKD2	**Lefkada island**	**2.32**	**345**	P	**Pb**	**12 02 54.4**	**-1.6**
LKD2	**Lefkada island**	**2.32**	**345**	P	**Pb**	**12 02 54.4**	**-1.6**
ATHU	**Athens Univers**	**2.34**	**52**	P	**Pn**	**12 02 50.2**	**-0.8**
ATHU	**Athens Univers**	**2.34**	**52**	*e*Pn	**Pn**	**12 02 53.0**	**+2.1**
ATHU	**Athens Univers**	**2.34**	**52**	P	**Pn**	**12 02 53.0**	**+2.1**
ATHU	**Athens Univers**	**2.34**	**52**	P	**Pn**	**12 02 51.0**	**+0.1**
MHLO	**Agia Marina, M**	**2.38**	**86**	P	**Pn**	**12 02 50.6**	**-0.9**
MHLO	**Agia Marina, M**	**2.38**	**86**	P	**Pn**	**12 02 53.1**	**+1.6**
MHLO	**Agia Marina, M**	**2.38**	**86**	P	**Pn**	**12 02 51.5**	**0.0**
EVR	**Evrytania**	**2.38**	**7**	*e*Pn	**Pb**	**12 02 55.6**	**-1.4**
EVR	**Evrytania**	**2.38**	**7**	P	**Pb**	**12 02 55.6**	**-1.4**
EVR	**Evrytania**	**2.38**	**7**	P	**Pb**	**12 02 55.6**	**-1.4**
MHLA	**Plaka, Milos I**	**2.40**	**84**	P	**Pn**	**12 02 50.9**	**-0.8**
MHLA	**Plaka, Milos I**	**2.40**	**84**	P	**Pn**	**12 02 51.8**	**+0.1**
AXAR	**Agios Charalam**	**2.41**	**23**	*e*Pn	**Pn**	**12 02 55.0**	**+3.0**
AXAR	**Agios Charalam**	**2.41**	**23**	P	**Pn**	**12 02 55.0**	**+3.0**
AXAR	**Agios Charalam**	**2.41**	**23**	P	**Pn**	**12 02 55.0**	**+3.0**
LKR	**Lokris**	**2.43**	**30**	*e*Pn	**Pn**	**12 02 55.2**	**+3.0**
LKR				*e*Sn	**Sb**	**12 03 25.4**	**-2.0**
LKR	**Lokris**	**2.43**	**30**	P	**Pn**	**12 02 55.2**	**+3.0**
LKR				S	**Sb**	**12 03 25.4**	**-2.0**
LKR	**Lokris**	**2.43**	**30**	P	**Pn**	**12 02 55.2**	**+3.0**
LKR				S	**Sb**	**12 03 25.4**	**-2.0**
PTL	**Penteli**	**2.44**	**51**	*e*Pn	**Pn**	**12 02 54.6**	**+2.3**
PTL				*e*Sn	**Sn**	**12 03 24.8**	**+3.8**
PTL	**Penteli**	**2.44**	**51**	P	**Pn**	**12 02 54.6**	**+2.3**
PTL				S	**Sn**	**12 03 24.8**	**+3.8**
PTL	**Penteli**	**2.44**	**51**	P	**Pn**	**12 02 54.6**	**+2.3**
PTL				S	**Sn**	**12 03 24.8**	**+3.8**
VAM	**Vamos**	**2.50**	**116**	P	**Pn**	**12 02 54.0**	**+0.8**
VAM	**Vamos**	**2.50**	**116**	*e*Pn	**Pn**	**12 02 54.5**	**+1.3**
VAM	**Vamos**	**2.50**	**116**	P	**Pn**	**12 02 54.5**	**+1.3**
VAM	**Vamos**	**2.50**	**116**	P	**Pn**	**12 02 54.5**	**+1.3**
VAM	**Vamos**	**2.50**	**116**	*e*P	**Pn**	**12 02 54.5**	**+1.3**
SERI	**Serifos**	**2.51**	**75**	P	**Pn**	**12 02 54.0**	**+0.7**
SERI	**Serifos**	**2.51**	**75**	P	**Pn**	**12 02 54.0**	**+0.7**
AGG	**Agios Georgios**	**2.56**	**16**	*e*Pn	**Pn**	**12 02 56.1**	**+2.0**
AGG	**Agios Georgios**	**2.56**	**16**	P	**Pn**	**12 02 56.4**	**+2.3**
AGG	**Agios Georgios**	**2.56**	**16**	*e*P	**Pn**	**12 02 56.1**	**+2.0**
AGG	**Agios Georgios**	**2.56**	**16**	*e*P	**Pn**	**12 02 56.1**	**+2.0**
SMIA	**Simia**	**2.71**	**30**	P	**Pn**	**12 02 59.4**	**+3.3**
SMIA	**Simia**	**2.71**	**30**	P	**Pn**	**12 02 58.0**	**+1.9**
SMIA	**Simia**	**2.71**	**30**	P	**Pn**	**12 02 58.0**	**+1.9**
KARY	**Karystos**	**2.80**	**57**	P	**Pn**	**12 02 58.8**	**+1.5**
KARY				S	**Sn**	**12 03 34.7**	**+4.7**
KARY	**Karystos**	**2.80**	**57**	P	**Pn**	**12 02 58.8**	**+1.5**
KARY				S	**Sn**	**12 03 34.7**	**+4.7**
THL	**Klokotos Trika**	**3.04**	**8**	P	**Pn**	**12 03 02.9**	**+2.3**
THL	**Klokotos Trika**	**3.04**	**8**	P	**Pn**	**12 03 02.9**	**+2.3**
SKIA	**Skiathos**	**3.06**	**31**	P	**Pn**	**12 03 00.7**	**-0.2**
SKIA	**Skiathos**	**3.06**	**31**	P	**Pn**	**12 03 04.3**	**+3.4**
SKIA	**Skiathos**	**3.06**	**31**	P	**Pn**	**12 03 01.5**	**+0.6**
IDI	**Anoyia**	**3.06**	**113**	Pn	**Pn**	**12 03 00.4**	**-0.5**
	comp=E,3.3nm,0.3s,baz=292,slow=16,SNR=15						
IDI	**Anoyia**	**3.06**	**113**	*i*P	Pb	12 03 14.8	+6.2
IDI	**Anoyia**	**3.06**	**113**	*e*Pn	**Pn**	**12 03 02.2**	**+1.3**
IDI	**Anoyia**	**3.06**	**113**	*e*Pn	**Pn**	**12 03 02.2**	**+1.3**
FYTO	**Fytoko, Volos**	**3.09**	**22**	P	**Pn**	**12 03 01.7**	**+0.4**
FYTO	**Fytoko, Volos**	**3.09**	**22**	*e*Pn	**Pn**	**12 03 04.8**	**+3.6**
FYTO	**Fytoko, Volos**	**3.09**	**22**	P	**Pn**	**12 03 04.8**	**+3.6**
FYTO	**Fytoko, Volos**	**3.09**	**22**	P	**Pn**	**12 03 02.3**	**+1.1**
NEO	**Neokhori**	**3.09**	**26**	*e*Pn	**Pn**	**12 03 04.5**	**+3.2**
NEO	**Neokhori**	**3.09**	**26**	P	**Pn**	**12 03 04.5**	**+3.2**
NEO	**Neokhori**	**3.09**	**26**	P	**Pn**	**12 03 04.5**	**+3.2**
IGT	**Igoumenitsa**	**3.11**	**344**	*e*Pn	**Pn**	**12 03 04.3**	**+2.8**
IGT	**Igoumenitsa**	**3.11**	**344**	*e*P	**Pn**	**12 03 04.3**	**+2.8**
IGT	**Igoumenitsa**	**3.11**	**344**	*e*P	**Pn**	**12 03 04.3**	**+2.8**
SIVA	**Sivas**	**3.13**	**118**	P	**Pn**	**12 03 03.2**	**+1.4**
SIVA				AML	AML	12 04 21.4	
	comp=E,2905μm,0.8s						
SIVA				AML	AML	12 04 29.7	
	comp=N,2105μm,0.7s						
SIVA	**Sivas**	**3.13**	**118**	P	**Pn**	**12 03 03.6**	**+1.8**
XOR	**Xorichti**	**3.13**	**26**	*e*Pn	**Pn**	**12 03 05.1**	**+3.2**
XOR	**Xorichti**	**3.13**	**26**	*e*Pn	**Pn**	**12 03 05.1**	**+3.2**
JAN	**Janina**	**3.14**	**352**	*e*Pn	**Pn**	**12 03 04.6**	**+2.6**
JAN	**Janina**	**3.14**	**352**	P	**Pn**	**12 03 04.6**	**+2.6**
JAN	**Janina**	**3.14**	**352**	P	**Pn**	**12 03 04.6**	**+2.6**
JAN	**Janina**	**3.14**	**352**	*e*P	**Pn**	**12 03 04.6**	**+2.6**
SAP3	**Santorini-Thir**	**3.14**	**91**	P	**Pn**	**12 03 01.3**	**-0.6**
THR3	**Thira Island,**	**3.19**	**91**	*e*Pn	**Pn**	**12 03 03.0**	**+0.4**
THR3	**Thira Island,**	**3.19**	**91**	*e*Pn	**Pn**	**12 03 03.0**	**+0.4**
THR6	**Thira Island,**	**3.19**	**92**	*e*Pn	**Pn**	**12 03 03.1**	**+0.5**
THR6	**Thira Island,**	**3.19**	**92**	*e*Pn	**Pn**	**12 03 03.1**	**+0.5**
SGD	**Sagiada**	**3.21**	**343**	P	**Pn**	**12 03 07.4**	**+4.6**
SGD	**Sagiada**	**3.21**	**343**	P	**Pn**	**12 03 07.4**	**+4.6**
SANT	**Santorini**	**3.24**	**92**	⇑*i*P	**Pb**	**12 03 12.3**	**+0.8**
SANT	**Santorini**	**3.24**	**92**	*e*Pn	**Pn**	**12 03 02.9**	**-0.4**
SANT	**Santorini**	**3.24**	**92**	*e*Pn	**Pn**	**12 03 02.9**	**-0.4**
APE	**Apeiranthos**	**3.31**	**80**	⇑*i*P	**Pb**	**12 03 14.3**	**+1.4**
APE	**Apeiranthos**	**3.31**	**80**	*e*Pn	**Pn**	**12 03 05.0**	**+0.6**
APE	**Apeiranthos**	**3.31**	**80**	P	**Pn**	**12 03 05.0**	**+0.6**
APE	**Apeiranthos**	**3.31**	**80**	P	**Pn**	**12 03 05.0**	**+0.6**
APE	**Apeiranthos**	**3.31**	**80**	*c i*P	**Pn**	**12 03 03.8**	**-0.6**
KPRO	**Kipourio**	**3.40**	**359**	P	**Pn**	**12 03 08.9**	**+3.3**
KPRO	**Kipourio**	**3.40**	**359**	P	**Pn**	**12 03 08.9**	**+3.3**
KEK	**Kerkira**	**3.42**	**338**	*e*Pn	**Pn**	**12 03 10.0**	**+4.2**
KEK	**Kerkira**	**3.42**	**338**	P	**Pn**	**12 03 10.0**	**+4.2**
KEK	**Kerkira**	**3.42**	**338**	P	**Pn**	**12 03 10.0**	**+4.2**
SRN	**Sarande**	**3.52**	**341**	*e*Pn	**Pn**	**12 03 11.3**	**+4.2**
SRN	**Sarande**	**3.52**	**341**	P	**Pn**	**12 03 11.3**	**+4.2**
SRN	**Sarande**	**3.52**	**341**	P	**Pn**	**12 03 11.3**	**+4.2**
LAST	**Lasithi**	**3.55**	**112**	*e*Pn	**Pn**	**12 03 09.2**	**+1.5**
LAST	**Lasithi**	**3.55**	**112**	P	**Pn**	**12 03 09.2**	**+1.5**
LAST	**Lasithi**	**3.55**	**112**	P	**Pn**	**12 03 09.2**	**+1.5**
LIT	**Litokhoron**	**3.64**	**13**	*e*Pn	Pn	12 03 13.1	+4.3
LIT	**Litokhoron**	**3.64**	**13**	P	Pn	12 03 13.1	+4.3
LIT	**Litokhoron**	**3.64**	**13**	P	Pn	12 03 13.1	+4.3
LIT	**Litokhoron**	**3.64**	**13**	*e*P	Pn	12 03 13.1	+4.3
PENT	**Pentalofos**	**3.65**	**356**	P	**Pn**	**12 03 12.3**	**+3.3**
PENT	**Pentalofos**	**3.65**	**356**	P	**Pn**	**12 03 12.3**	**+3.3**
KZN	**Kozani**	**3.76**	**4**	*e*Pn	**Pn**	**12 03 14.1**	**+3.6**
KZN	**Kozani**	**3.76**	**4**	P	**Pn**	**12 03 14.1**	**+3.6**
KZN	**Kozani**	**3.76**	**4**	P	**Pn**	**12 03 14.1**	**+3.6**
KZN	**Kozani**	**3.76**	**4**	*e*P	**Pn**	**12 03 14.1**	**+3.6**
PAIG	**Paliouri**	**3.80**	**27**	*e*Pn	Pn	12 03 15.5	+4.5
PAIG	**Paliouri**	**3.80**	**27**	P	Pn	12 03 15.5	+4.5
PAIG	**Paliouri**	**3.80**	**27**	P	Pn	12 03 15.5	+4.5
PAIG	**Paliouri**	**3.80**	**27**	*e*P	Pn	12 03 15.5	+4.5
NEST	**Nestorio**	**3.87**	**355**	P	**Pn**	**12 03 15.5**	**+3.4**
NEST	**Nestorio**	**3.87**	**355**	P	**Pn**	**12 03 15.5**	**+3.4**
KBN	**Korca**	**4.10**	**353**	P	**Pn**	**12 03 17.4**	**+2.2**
KBN				S	**Sn**	**12 04 02.9**	**+0.8**
KBN	**Korca**	**4.10**	**353**	P	**Pn

IVAS Ivanjica 7.09 352 *e*Pn **Pn** **12 03 56.1 -0.1**
IVAS Ivanjica 7.09 352 *e*Pn **Pn** **12 03 56.1 -0.1**
ZAGS Zajecar 7.28 4 *e*Pn **Pn** **12 03 58.7 -0.1**
ZAGS Zajecar 7.28 4 *e*Pn **Pn** **12 03 58.7 -0.1**
GRUS Gruza 7.35 356 *e*Pn **Pn** **12 03 59.2 -0.6**
GRUS Gruza 7.35 356 *e*Pn **Pn** **12 03 59.2 -0.6**
BBLS Lazići 7.47 349 *e*Pn **Pn** **12 04 01.0 -0.5**
BBLS Lazići 7.47 349 *e*Pn **Pn** **12 04 01.0 -0.5**
DIVS Divibare 7.62 352 *e*Pn **Pn** **12 04 02.9 -0.7**
DIVS Divibare 7.62 352 *e*Pn **Pn** **12 04 02.9 -0.7**
DIVS Divibare 7.62 352 *e*Pn **Pn** **12 04 02.9 -0.7**
TRUS Trudelj 7.71 354 *e*Pn **Pn** **12 04 03.5 -1.2**
TRUS Trudelj 7.71 354 *e*Pn **Pn** **12 04 03.5 -1.2**
KUBS Kucevo 7.86 1 *e*Pn **Pn** **12 04 05.0 -1.7**
KUBS Kucevo 7.86 1 *e*Pn **Pn** **12 04 05.0 -1.7**
SWA2 8.03 154 P **Pn** **12 04 08.9 -0.2**
baz=158
TEKS Tekeris 8.12 350 *e*Pn **Pn** **12 04 09.5 -0.9**
TEKS Tekeris 8.12 350 *e*Pn **Pn** **12 04 09.5 -0.9**
HERR Herculane 8.36 5 ⇓ *i*P **Pn** **12 04 14.3 +0.8**
FGSL Fruska Gora 8.69 352 *e*Pn **Pn** **12 04 16.8 -1.3**
FRGS Fruska Gora 8.69 352 *e*Pn **Pn** **12 04 16.8 -1.3**
BLY Banja Luka 8.81 340 ⇓ *i*P **Pn** **12 04 20.4 +0.7**
BLY Banja Luka 8.81 340 *e*Pn **Pn** **12 04 19.3 -0.4**
BLY Banja Luka 8.81 340 *e*Pn **Pn** **12 04 19.3 -0.4**
BZS Buzias 9.06 1 ⇓ *i*P **Pn** **12 04 22.1 -1.1**
LOT Lotru 9.06 10 ⇑ *i*P **Pn** **12 04 24.3 +1.0**
VOIR 9.29 16 ⇓ *i*P **Pn** **12 04 28.0 +1.6**
VOIR 9.29 16 P **Pn** **12 04 27.9 +1.6**
VOIR 9.29 16 P **Pn** **12 04 27.9 +1.6**
DEV Deva 9.39 6 ⇓ *i*P **Pn** **12 04 29.5 +1.8**
DEV Deva 9.39 6 P **Pn** **12 04 30.4 +2.7**
DEV Deva 9.39 6 P **Pn** **12 04 30.4 +2.7**
NVLJ Novalja 9.44 330 *e*Pn **Pn** **12 04 28.6 +0.3**
NVLJ Sn **Sn** **12 06 07.4 -5.8**
NVLJ Novalja 9.44 330 *e*Pn **Pn** **12 04 28.6 +0.3**
BR231 Keskin MP Arra 9.50 66 *e*Pn **Pn** **12 04 29.8 +0.4**
BR231 Keskin MP Arra 9.50 66 *e*Pn **Pn** **12 04 29.8 +0.4**
TIRR Tirgusor 9.51 32 *e*Pn **Pn** **12 04 29.8 +0.4**
TIRR Tirgusor 9.51 32 *e*P **Pn** **12 04 29.8 +0.4**
TIRR Tirgusor 9.51 32 *e*P **Pn** **12 04 29.8 +0.4**
MLR Muntele Rosu 9.55 19 Pn **Pn** **12 04 30.2 +0.1**
comp=N,0.1nm,0.3s,baz=159,slow=11,SNR=14
MLR Muntele Rosu 9.55 19 ⇑ *i*P **Pn** **12 04 31.9 +1.8**
CSS Mathiatis 9.79 96 *e*Pn **Pn** **12 04 30.9 -2.2**
CSS Mathiatis 9.79 96 *e*Pn **Pn** **12 04 31.0 -2.2**
KEST Kesra 9.83 269 Pn **Pn** **12 04 37.0 +3.2**
comp=N,0.6nm,0.3s,baz=32,slow=10,SNR=6.4
KEST Sn **Sn** **12 06 22.9 -0.1**
comp=N,0.6nm,0.3s,baz=59,slow=21,SNR=6.4
DOPR Dopca 9.86 16 ⇑ *i*P **Pn** **12 04 35.3 +1.1**
PLOR Plostina 10.08 21 ⇑ *i*P **Pn** **12 04 37.9 +0.7**
PLOR Plostina 10.08 21 P **Pn** **12 04 37.8 +0.6**
PLOR Plostina 10.08 21 P **Pn** **12 04 37.8 +0.6**
BRTR Keskin Array B 10.11 68 Pn **Pn** **12 04 36.1 -1.7**
comp=N,0.2nm,0.3s,baz=249,slow=12,SNR=6.8
BRTR LR LR 12 09 00.6
comp=N,306nm,21.9s,baz=325,slow=41
BR101 Keskin Array S 10.11 68 *e*Pn **Pn** **12 04 36.1 -1.7**
BR101 Keskin Array S 10.11 68 *e*Pn **Pn** **12 04 36.1 -1.7**
BR131 Keskin Array S 10.11 68 *e*Pn **Pn** **12 04 37.5 -0.3**
BR131 Keskin Array S 10.11 68 *e*Pn **Pn** **12 04 37.5 -0.3**
VRI Vrincioaia 10.12 21 ⇓ *i*P **Pn** **12 04 39.1 +1.4**
VRI Vrincioaia 10.12 21 P **Pn** **12 04 40.6 +2.9**
comp=N,190nm,0.9s
VRI Vrincioaia 10.12 21 P **Pn** **12 04 40.6 +2.9**
VRI pmax pmax
comp=Z,190nm,0.9s
CJR Cluj-Napoca 10.28 8 ⇑ *i*P **Pn** **12 04 40.5 +0.5**
TESR Tescani 10.69 20 ⇓ *i*P **Pn** **12 04 45.4 -0.1**
KOT Kottamia 10.91 124 P **Pn** **12 04 46.6 -2.0**
baz=127
KOT Kottamia 10.91 124 P **Pn** **12 04 46.6 -2.0**
HSAF As Saff 10.93 126 P **Pn** **12 04 47.8 -1.1**
baz=129
HSAF As Saff 10.93 126 P **Pn** **12 04 47.8 -1.1**
GLL Jalalah 11.06 126 P **Pn** **12 04 47.8 -2.9**
baz=128
GLL S Sn 12 06 40.7 -13
baz=128
SOKA Soboth 11.20 337 Pn **Pn** **12 04 51.7 -0.8**
comp=Z,7.6nm,0.3s,SNR=4.3
SOKA Soboth 11.20 337 *i* Pn **Pn** **12 04 51.7 -0.8**
comp=Z,7.6nm,0.3s,SNR=4.3
OBKA Obir 11.21 335 Pn **Pn** **12 04 53.8 +1.1**
comp=Z,3.7nm,0.3s,SNR=4.2
OBKA Obir 11.21 335 *e*Pn **Pn** **12 04 53.9 +1.1**
comp=Z,3.7nm,0.3s,SNR=4.2
OBKA *e*Sn **Sn** **12 06 50.2 -6.6**
comp=Z,26nm,0.6s
BURAR Bucovina Array 11.40 13 ⇓ *i*P **Pn** **12 04 56.9 +1.5**
BURAR Bucovina Array 11.40 13 P **Pn** **12 04 56.8 +1.4**
BUR04 Bucovina Ar. S 11.41 13 *e*Pn **Pn** **12 04 56.3 +0.9**
BUR04 Bucovina Ar. S 11.41 13 *e*Pn **Pn** **12 04 56.3 +0.9**
PSZ Piszkesteto 11.42 355 ⇓ *i*P **Pn** **12 04 54.6 -1.0**
PSZ Piszkesteto 11.42 355 *e*Pn **Pn** **12 04 54.5 -1.0**
PSZ Piszkesteto 11.42 355 *e*P **Pn** **12 04 54.5 -1.0**
PSZ Piszkesteto 11.42 355 *e*P **Pn** **12 04 54.5 -1.0**
BUR08 Bucovina Ar. S 11.43 13 *e*Pn **Pn** **12 04 56.7 +0.9**
BUR08 Bucovina Ar. S 11.43 13 *e*Pn **Pn** **12 04 56.7 +0.9**
MYKA Terra Mystica 11.64 332 Pn **Pn** **12 04 58.9 +0.3**
comp=Z,2.5nm,0.3s
MYKA Terra Mystica 11.64 332 *i* Pn **Pn** **12 04 58.9 +0.3**
comp=Z,2.5nm,0.3s
MYKA *e*Sn **Sn** **12 06 59.2 -8.1**
comp=Z,6.0nm,0.3s
MMAI Mount Meron Ar 12.00 103 Pn **Pn** **12 05 01.6 -2.0**
comp=Z,0.4nm,0.3s,baz=288,slow=16,SNR=2.2
VYHS Vyhne 12.09 352 *e*P **Pn** **12 05 02.9 -1.8**
VYHS Vyhne 12.09 352 *e*PN **Pn** **12 05 02.9 -1.8**
VYHS *e* 12 07 12.8
VYHS Vyhne 12.09 352 *e*P **Pn** **12 05 02.9 -1.8**
VYHS *e* 12 07 12.8
KBA Koelnbreinsper 12.12 333 *e*Sn **Sn** **12 07 12.5 -6.9**
comp=Z,12nm,0.6s
ABTA Abfaltersbach 12.18 330 Pn **Pn** **12 05 06.4 +0.5**
comp=Z,3.3nm,0.4s
ABTA Abfaltersbach 12.18 330 *e*Pn **Pn** **12 05 06.4 +0.5**
comp=Z,3.3nm,0.4s
ABTA *e*Sn Sn 12 07 11.2 -9.4
comp=Z,31nm,0.7s
CRVS Cervenica-Dubn 12.35 0 *e*P **Pn** **12 05 07.5 -0.7**
CRVS Cervenica-Dubn 12.35 0 *e*PN **Pn** **12 05 07.5 -0.7**
CRVS Cervenica-Dubn 12.35 0 *e*P **Pn** **12 05 07.5 -0.7**
STHS Stebnicka Huta 12.86 359 *e*P **Pn** **12 05 17.2 +2.0**
STHS Stebnicka Huta 12.86 359 *e*PN **Pn** **12 05 17.2 +2.0**
STHS Stebnicka Huta 12.86 359 *e*P **Pn** **12 05 17.2 +2.0**
EIL Elat 13.23 117 Pn **Pn** **12 05 18.6 -1.7**
comp=Z,0.2nm,0.3s,baz=341,slow=18,SNR=2.3
EIL Sn Sn 12 07 35.6 -11
comp=Z,0.8nm,0.3s,baz=233,slow=20,SNR=4.5
VRAC Vranov 13.23 346 Pn Pn 12 05 13.2 -7.1
comp=Z,1.0nm,0.3s,baz=13,slow=13,SNR=3.8
TUE Stuetta 13.42 321 *e*Pn **Pn** **12 05 24.4 +1.3**
TUE Stuetta 13.42 321 *e*Pn **Pn** **12 05 24.4 +1.3**
ASF Jabal al Asfar 13.48 104 Pn **Pn** **12 05 22.8 -1.1**
comp=Z,0.3nm,0.3s,baz=0.0,slow=5.1,SNR=2.0
OKC Ostrava-Krasne 13.50 351 *e*P **Pn** **12 05 22.8 -1.0**
OKC *ex* x 12 05 34.3
OKC Ostrava-Krasne 13.50 351 *e*P **Pn** **12 05 22.8 -1.0**
OKC Ostrava-Krasne 13.50 351 *e*P **Pn** **12 05 22.8 -1.0**
RETA Reutte 13.50 327 *e*Sn **Sn** **12 07 47.5 -5.3**
comp=Z,5.0nm,0.3s
MORC Moravsky Berou 13.52 349 *e*Pn **Pn** **12 05 25.3 +1.1**
MORC Moravsky Berou 13.52 349 *e*P **Pn** **12 05 25.3 +1.1**
MORC Moravsky Berou 13.52 349 *e*P **Pn** **12 05 25.3 +1.1**
GEA0 GERESS Array S 13.53 338 *e*Pn **Pn** **12 05 23.8 -0.6**
GEA0 GERESS Array S 13.53 338 *e*Pn **Pn** **12 05 23.8 -0.6**
GEC2 GERESS Array S 13.53 338 *e*Pn **Pn** **12 05 23.8 -0.7**
GEC2 GERESS Array S 13.53 338 *e*P **Pn** **12 05 23.8 -0.7**
GEC2 GERESS Array S 13.53 338 *e*P **Pn** **12 05 23.8 -0.7**
GERES GERESS Array B 13.53 338 Pn **Pn** **12 05 23.8 -0.7**
comp=Z,0.6nm,0.3s,baz=156,slow=15,SNR=8.1
GERES Sn Sn 12 07 44.8 -8.9
comp=Z,1.0nm,0.3s,baz=151,slow=22,SNR=7.7
GERES LR LR 12 12 07.6
comp=Z,323nm,18.3s,baz=66,slow=44
KHC Kasperske Hory 13.82 338 *e*P **Pn** **12 05 29.1 +0.7**
KHC *ex* x 12 05 38.6
KHC *ex* x 12 07 46.5
KHC AMS AMS 12 11 30.0
comp=Z,500nm,19.6s
KHC Kasperske Hory 13.82 338 *e*Pn **Pn** **12 05 29.2 +0.8**
comp=Z,67nm,1.2s
OBN MLR MLR
comp=Z,213nm,21.0s
MOS Moscow 22.12 25 *e*P P 12 07 00.5 -6.7
MOS *e* 12 07 08.2
MOS *e* 12 07 41.4
MOS pmax pmax
comp=Z,66nm,1.1s
HFS Hagfors 24.12 350 P **P** **12 07 26.5 -0.9**
comp=Z,8.2nm,0.5s,baz=156,slow=11,SNR=38
RAYN Ar Rayn 24.46 115 *e*P **P** **12 07 31.0 +0.2**
comp=Z,2.1nm,0.8s
RAYN Ar Rayn 24.46 115 *e*P **P** **12 07 31.0 +0.2**
comp=Z,2.1nm,0.8s
NC602 NORSAR Array S 25.02 348 *e*P **P** **12 07 35.2 -0.3**
FIA0 FINESS Array S 25.09 5 *e*P **P** **12 07 35.6 -0.4**
FIA0 FINESS Array S 25.09 5 *e*P **P** **12 07 35.7 -0.4**
FINES FINESS Array B 25.09 5 P **P** **12 07 35.6 -0.4**
comp=Z,11nm,0.5s,baz=165,slow=10,SNR=71
FIA1 FINESS Array S 25.09 5 *e*P **P** **12 07 35.3 -0.7**
EKA Eskdalemuir Ar 25.19 326 P **P** **12 07 37.8 +0.7**
comp=Z,5.6nm,0.8s,baz=127,slow=8.8,SNR=16
NAO01 NORSAR Array S 25.23 348 *e*P **P** **12 07 37.0 -0.4**
NC405 NORSAR Array S 25.35 349 *e*P **P** **12 07 37.9 -0.6**
NB201 NORSAR Array S 25.36 348 *e*P **P** **12 07 37.3 -1.3**
NB2 NORSAR Subarra 25.36 348 P **P** **12 07 38.6 0.0**
comp=Z,11nm,0.8s,baz=160,slow=10
NB200 NORSAR Array S 25.36 348 *e*P **P** **12 07 38.2 -0.4**
NOA NORSAR Array B 25.36 348 P **P** **12 07 38.2 -0.4**
comp=Z,8.7nm,0.8s,baz=159,slow=9.1,SNR=27
NBO00 NORSAR Array S 25.42 348 *e*P **P** **12 07 38.8 -0.4**
NBO02 NORSAR Array S 25.43 348 *e*P **P** **12 07 38.7 -0.5**
NC303 NORSAR Array S 25.51 349 *e*P **P** **12 07 39.8 -0.2**
NC204 NORSAR Array S 25.66 348 *e*P **P** **12 07 41.3 0.0**
KLMR Klimovskoe 26.90 20 *e*P **P** **12 07 50.5 -2.0**
KLMR AMP 12 07 55.1
comp=Z,31nm,0.7s
KLMR Klimovskoe 26.90 20 *e*P **P** **12 07 50.4 -2.0**
KLMR pmax pmax
comp=Z,31nm,0.7s
GEYT Alibeck 29.11 76 P **P** **12 08 11.8 -0.7**
comp=Z,5.8nm,0.5s,baz=280,slow=8.9,SNR=11
GYA0B ALIBECK ARRAY 29.11 76 *e*P **P** **12 08 10.7 -1.8**
comp=Z,7.9nm,0.6s
GYA0B ALIBECK ARRAY 29.11 76 *e*P **P** **12 08 10.7 -1.8**
comp=Z,7.9nm,0.6s
AKTO Aktyubinsk 29.61 50 P **P** **12 08 15.4 -1.3**
comp=Z,5.7nm,0.6s,baz=258,slow=9.9,SNR=14
ABKAR Akbulak array 30.58 53 *e*P **P** **12 08 23.8 -1.6**
NAZ Nazwa, Dubai 31.42 102 P **P** **12 08 33.4 +0.4**
NAZ Nazwa, Dubai 31.42 102 P **P** **12 08 33.4 +0.4**
BANOM Banah 31.47 100 P **P** **12 08 32.5 -1.0**
BANOM Banah 31.47 100 P **P** **12 08 32.5 -1.0**
KOWA Kowa 31.61 233 P **P** **12 08 37.4 +2.7**
comp=Z,4.3nm,0.5s,baz=39,slow=10,SNR=19
APA Apatity 31.80 9 ⇓ *i*P P 12 08 29.3 -6.6
APA MLR MLR
comp=Z,400nm,14.0s
ARU Arti 31.81 39 *e*P **P** **12 08 33.9 -2.2**
comp=Z,14nm,0.8s
ARU Arti 31.81 39 *i* P **P** **12 08 34.5 -1.6**
ARU pmax pmax
comp=Z,13nm,0.8s
UOSS Minazif 31.87 101 P **P** **12 08 36.6 -0.3**
UOSS Minazif 31.87 101 P **P** **12 08 36.6 -0.3**
HATD Hatta, Dubai 31.87 102 P **P** **12 08 36.9 -0.1**
ASHO Ashiyiah 31.88 102 P **P** **12 08 36.9 -0.2**
ALNE Al Ain 31.96 103 P **P** **12 08 38.2 +0.4**
SOHO SOHO 32.53 102 *i* P **P** **12 08 43.0 +0.2**
SNR=7.3
SVE Sverdlovsk 33.03 40*c i*P **P** **12 08 46.0 -0.8**
SVE pmax pmax
comp=Z,56nm,1.0s
ARA0 ARCESS Array S 33.12 3 *e*P **P** **12 08 47.0 -0.5**
ARCES ARCESS Array B 33.12 3 P **P** **12 08 46.9 -0.4**
comp=Z,1.4nm,0.4s,baz=184,slow=9.6,SNR=11
ARCES ARCESS Array B 33.12 3 P **P** **12 08 47.0 -0.4**
WSAR Wadi Sarin 34.64 102 P **P** **12 09 00.1 -1.0**
comp=Z,2.4nm,0.7s,baz=302,slow=16,SNR=2.6
BRVK Borovoye 37.56 48 *e*P **P** **12 09 24.9 -0.9**
comp=Z,10.0nm,0.6s
BRVK Borovoye 37.56 48*d i*P **P** **12 09 25.4 -0.4**
BRVK pmax pmax
comp=Z,11nm,0.8s
BVAR Borovoye Array 37.62 48 P **P** **12 09 25.4 -0.9**
comp=Z,6.5nm,0.6s,baz=266,slow=5.9,SNR=42
KK31 Karatay Array 37.80 65 *e*P **P** **12 09 26.9 -1.1**
KK31 Karatay Array 37.80 65 *e*P **P** **12 09 26.9 -1.1**
KKAR Karatay Array 37.80 65 *e*P **P** **12 09 26.9 -1.1**
KKAR Karatay Array 37.80 65 *e*P **P** **12 09 26.9 -1.1**
DBIC Dimbokro 38.24 225 P **P** **12 09 33.7 +1.8**
comp=Z,3.2nm,0.7s,baz=18,slow=11,SNR=4.8
TIC Toumodi 38.35 226 *e*P **P** **12 09 34.8 +1.9**
KIC Kosan Boka 38.42 225 *e*P **P** **12 09 34.9 +1.4**
comp=Z,36nm,1.3s
LIC Lamto 38.70 225 *e*P **P** **12 09 37.7 +1.9**
comp=Z,38nm,1.1s
EKS2 Erkin-Say 40.24 65 P **P** **12 09 48.0 -0.5**
SNR=30
AML Almayashu 40.27 65 P **P** **12 09 48.3 -0.8**
SNR=10
AAK Ala-Archa 40.76 65 P **P** **12 09 52.5 -0.4**
comp=Z,16nm,0.9s,baz=128,slow=17,SNR=4.5
AAK Ala-Archa 40.76 65 P **P** **12 09 52.8 -0.2**
SNR=14
AAK Ala-Archa 40.76 65 *e*P **P** **12 09 52.7 -0.2**
AAK Ala-Archa 40.76 65 *i* P **P** **12 09 52.7 -0.2**
SNR=15
AAK Ala-Archa 40.76 65*c i*P **P** **12 09 52.3 -0.6**
AAK pmax pmax
comp=Z,17nm,1.0s
FRU Bishkek 40.82 64 *e*P **P** **12 09 50.0 -3.2**
UCH Uchtor 40.85 65 P **P** **12 09 53.2 -0.7**
SNR=8.3
CHMS Chumysh 40.89 64 P **P** **12 09 53.3 -0.5**
SNR=7.0
SCO Scoresbysund 40.97 339 *e*P **P** **12 09 54.8 +0.8**
comp=Z,6.4nm,0.9s
SCO Scoresbysund 40.97 339 *e*P **P** **12 09 54.8 +0.8**
SCO pmax pmax
comp=Z,6.0nm,0.9s
KBK Karagaybulak 41.09 64 P **P** **12 09 55.5 -0.1**
SNR=10
KZA Kyzart 41.41 65 P **P** **12 09 58.1 -0.5**
SNR=12
TKM2 Tokmak 2 41.51 64 P **P** **12 09 58.4 -0.8**
SNR=11
SPITS Spitsbergen Ar 41.79 358 P **P** **12 10 01.4 +0.7**
comp=Z,2.1nm,0.6s,baz=157,slow=7.8,SNR=10
NIL Nilore 42.06 78 *e*P **P** **12 10 03.8 +0.3**
comp=Z,18nm,0.8s
NIL Nilore 42.06 78 *e*P **P** **12 10 03.8 +0.3**
comp=Z,18nm,0.8s
NIL Nilore 42.06 78 *e*P **P** **12 10 03.8 +0.3**
NIL pmax pmax
comp=Z,18nm,0.8s
NRN Naryn 42.09 66 *e*P **P** **12 10 03.5 -0.4**
comp=Z,14nm,0.8s
NRN Naryn 42.09 66 *e*P **P** **12 10 03.6 -0.4**
NRN pmax pmax
comp=Z,14nm,0.8s
ULHL Ulahol 42.11 65 P **P** **12 10 03.9 -0.1**
SNR=6.2
KURBB Kurchatov Arra 42.62 52 P **P** **12 10 06.3 -1.5**
comp=Z,3.7nm,0.6s,baz=281,slow=8.6,SNR=16
KURK Kurchatov 42.67 52 *e*P **P** **12 10 06.3 -1.9**
KURK Kurchatov 42.67 52 ‖ *e*P **P** **12 10 06.4 -1.8**
KURK pmax pmax
comp=Z,4.0nm,0.8s
KDJ Kajisay 42.81 65 *e*P **P** **12 10 09.6 -0.1**
comp=Z,16nm,0.8s
KDJ Kajisay 42.81 65 P **P** **12 10 09.6 -0.1**
KDJ pmax pmax
comp=Z,16nm,0.8s
TARG Taragay, Kyrgy 43.35 65 *e*P **P** **12 10 14.0 -0.4**
comp=Z,6.1nm,0.8s
NVS Novosibirsk 45.26 46 *e*P **P** **12 10 28.4 -0.5**
NVS pmax pmax
comp=N,2.0nm,0.5s
NVS pmax pmax
comp=E,5.0nm,0.5s
NVS pmax pmax
comp=Z,10.0nm,0.5s
MAKZ Makanchi 45.33 57 *e*P **P** **12 10 28.7 -0.9**
comp=Z,3.3nm,0.9s
MAKZ Makanchi 45.33 57 *e*P **P** **12 10 28.7 -0.9**

MAKZ pmax pmax
comp=Z,3.0nm,0.9s
MK31 Makanchi Array 45.54 57 *e*P **P 12 10 29.8 -1.5**
MK31 Makanchi Array 45.54 57 *e*P **P 12 10 29.8 -1.5**
MK32 Makanchi Array 45.54 57 *e*P **P 12 10 29.6 -1.7**
MKAR Makanchi Array 45.54 57 P **P 12 10 29.6 -1.7**
comp=Z,3.3nm,0.6s,baz=270,slow=7.5,SNR=34
MKAR Makanchi Array 45.54 57 *e*P **P 12 10 29.8 -1.5**
comp=Z,27nm,0.6s
MKAR Makanchi Array 45.54 57 *e*P **P 12 10 29.8 -1.5**
MKAR pmax pmax
comp=Z,27nm,0.6s
MK01 Makanchi Array 45.55 57 *e*P **P 12 10 29.3 -2.1**
ZAA0 Zalesovo Array 46.24 47 *e*P **P 12 10 34.8 -1.8**
comp=Z,11nm,0.6s
ZAA1 Zalesovo Array 46.24 47 *e*P **P 12 10 34.8 -1.8**
ZALV Zalesovo Beam 46.24 47 P **P 12 10 34.8 -1.8**
comp=Z,12nm,0.5s,baz=272,slow=8.6,SNR=36
DGZ Jazzator, Alta 48.41 52 *i*P **P 12 10 52.6 -1.2**
WMQ Urumqi 49.92 60 P **P 12 11 06.5 +1.2**
WMQ LR LR
comp=Z,480nm,19.1s
WMQ LR LR
comp=Z,380nm,17.9s
WMQ LR LR
comp=Z,230nm,19.1s
KRAR Krasnoyarsk 50.60 44⇓ *e*P **P 12 11 09.7 -0.5**
PYUN Piuthan 51.91 81 *e*P **P 12 11 19.9 -0.8**
comp=Z,36nm,0.6s
DANN Dangsing 52.42 80 *e*P **P 12 11 24.1 -0.5**
KOLN Koldanda 52.54 81 *e*P **P 12 11 24.2 -1.2**
comp=Z,16nm,0.7s
GKN Gorkha 53.26 80 *e*P **P 12 11 29.4 -1.3**
comp=Z,28nm,0.7s
DMN Daman 53.81 80 *e*P **P 12 11 33.8 -1.0**
comp=Z,40nm,0.7s
KKN Kakani 53.87 80 *e*P **P 12 11 34.1 -1.1**
PKIN Phulchoki 54.06 80 *e*P **P 12 11 35.2 -1.4**
comp=Z,18nm,0.7s
GUN Gumba 54.29 79 *e*P **P 12 11 37.4 -1.0**
comp=Z,28nm,0.8s
JIRN Jiri 54.65 80 *e*P **P 12 11 39.9 -1.1**
comp=Z,28nm,0.7s
RAMN Ramite 55.29 80 *e*P **P 12 11 43.9 -1.6**
comp=Z,38nm,0.8s
ODAN Odare 55.96 80 *e*P **P 12 11 49.2 -1.1**
comp=Z,7.7nm,0.5s
LSA Lhasa 57.63 75 *e*P **P 12 12 01.5 -0.9**
comp=Z,8.3nm,0.5s
LSA Lhasa 57.63 75 P **P 12 12 01.8 -0.6**
LSA Lhasa 57.63 75 *e*P **P 12 12 01.8 -0.6**
LSA Lhasa 57.63 75 *e*P **P 12 12 01.5 -0.9**
LSA pmax pmax
comp=Z,8.0nm,0.5s
ZAK Zakamensk 58.08 48 *e*P **P 12 12 03.0 -1.8**
ZAK pmax pmax
comp=Z,2.0nm,1.0s
GTA Gaotai 59.95 61 *e*P **P 12 12 16.4 -1.6**
GTA pP pP 12 12 20.6 -7.4
GTA sP sP 12 12 24.0 -7.8
GTA pmax pmax
comp=Z,3.0nm,0.9s
SCHQ Schefferville 60.16 318 P **P 12 12 19.8 +0.8**
comp=Z,3.5nm,0.6s,baz=73,slow=14,SNR=3.1
SCHQ Schefferville 60.16 318 *e*P **P 12 12 19.8 +0.8**
comp=Z,4.6nm,0.8s
TIXI Tiksi 60.92 20 *e*P **P 12 12 23.6 -0.3**
comp=Z,5.5nm,1.0s
TIXI Tiksi 60.92 20⇑ *e*P **P 12 12 23.6 -0.3**
TIXI pmax pmax
comp=Z,4.0nm,0.8s
SONA0 Songino Array 60.92 50 *e*P **P 12 12 23.3 -1.2**
SONM Songino Array 60.92 50 P **P 12 12 23.3 -1.2**
comp=Z,1.9nm,0.7s,baz=279,slow=8.7,SNR=9.8
BOD Bodaibo 61.20 38 *e*P **P 12 12 24.5 -1.6**
BOD pmax pmax
comp=Z,6.0nm,0.9s
ULN Ulaanbaatar 61.32 50⇓ *i*P **P 12 12 26.6 -0.6**
ULN pmax pmax
comp=Z,6.0nm,2.5s
RES Resolute Bay 61.53 344 *e*P **P 12 12 29.7 +1.7**
comp=Z,3.0nm,0.8s
RES Resolute Bay 61.53 344 *e*P **P 12 12 29.7 +1.7**
RES pmax pmax
comp=Z,3.0nm,0.8s
LZH Lanzhou 64.28 63 *e*P **P 12 12 47.0 -0.1**
LZH pP pP 12 12 51.6 -5.6
LZH sP sP 12 12 54.0 -7.0
LZH pmax pmax
comp=Z,34nm,1.2s
LZH pmax pmax
comp=Z,150nm,5.4s
YAK Yakutsk 66.16 29 *e*P **P 12 12 57.6 -1.1**
comp=Z,21nm,0.8s
YAK Yakutsk 66.16 29 *e*P **P 12 12 56.5 -2.1**
YAK pmax pmax
comp=Z,13nm,0.9s
HHC Hu-ho-hao-te 67.35 55 *e*P **P 12 13 06.4 -0.4**
HHC S **S 12 21 58.0 -2.1**
HHC pmax pmax
comp=Z,14nm,1.2s
HHC pmax pmax
comp=Z,54nm,7.2s
HHC LR LR
comp=Z,160nm,16.2s
HHC LR LR
comp=Z,210nm,17.4s
XAN Xi'an 68.91 63 P **P 12 13 15.8 -0.8**
XAN pP pP 12 13 24.9 -1.8
XAN PcP **PcP 12 13 40.8 0.0**
XAN pmax pmax
comp=Z,8.0nm,0.8s
CMAR Chiang Mai Arr 69.38 82 P **P 12 13 18.9 -0.7**
comp=Z,3.0nm,0.8s,baz=304,slow=7.8,SNR=27
CMAR Chiang Mai Arr 69.38 82 P **P 12 13 19.0 -0.7**
CM01 Chiang Mai Arr 69.42 82 *e*P **P 12 13 18.2 -1.6**
FCC Fort Churchill 71.03 330 *e*P **P 12 13 30.8 +1.8**
comp=Z,5.4nm,0.8s
FCC Fort Churchill 71.03 330 *e*P **P 12 13 30.8 +1.8**
FCC pmax pmax
comp=Z,5.0nm,0.8s
BILL Bilibino 72.43 13 *e*P **P 12 13 35.7 -1.7**
BILL *e* 12 13 57.5
BILL *e* 12 16 19.2
BILL *e*PPP PPP 12 18 06.5
BILL pmax pmax
comp=Z,1.0nm,1.0s
SEY Seymchan 73.39 21 P **P 12 13 43.5 +0.4**
comp=Z,1.7nm,0.7s,baz=333,slow=11,SNR=13
SEY Seymchan 73.39 21⇓ *e*P **P 12 13 44.0 +0.9**
INK Inuvik 73.79 351 P **P 12 13 45.7 +0.4**
comp=Z,1.4nm,1.0s,baz=23,slow=3.8,SNR=4.8
CN2 Changchun 74.46 47 *e*P P 12 13 45.3 -4.4
CN2 pmax pmax
comp=Z,10.0nm,0.7s
KLR Kul'dur 74.66 40 *c i*P **P 12 13 50.1 -0.7**
YKA Yellowknife Ar 75.17 341 P **P 12 13 54.6 +1.1**
comp=Z,1.8nm,0.7s,baz=33,slow=5.7,SNR=38
MA2 Magadan 75.48 24 *i*P **P 12 13 55.5 +0.2**
MA2 pmax pmax
comp=Z,12nm,0.9s
FFC Flin Flon 76.96 330 *e*P **P 12 14 05.8 +2.0**
comp=Z,4.2nm,0.8s
FFC Flin Flon 76.96 330 *e*P **P 12 14 05.8 +2.0**
FFC pmax pmax
comp=Z,4.0nm,0.8s
NJ2 Nanjing 77.00 60 *e*P **P 12 14 04.0 -0.4**
NJ2 pmax pmax
comp=Z,12nm,0.5s
ULM Lac du Bonnet 77.45 324 P **P 12 14 07.9 +1.3**
comp=Z,3.2nm,0.6s,baz=33,slow=6.0,SNR=4.0
USRK Ussuriysk Ar. 77.95 44 P **P 12 14 08.2 -1.4**
comp=Z,4.5nm,0.8s,baz=258,slow=3.0,SNR=5.5
PSI Prapat 78.27 95 *e*P **P 12 14 11.7 -0.3**
comp=Z,19nm,0.7s
PSI Prapat 78.27 95 *e*P **P 12 14 11.7 -0.3**
PSI pmax pmax
comp=Z,19nm,0.7s
ILAR Eielson Array 78.59 355 P **P 12 14 13.5 +0.7**
comp=Z,0.5nm,0.6s,baz=355,slow=2.4,SNR=14
ILB Eielson Array 78.59 355 *e*P **P 12 14 13.5 +0.7**
KS01 Wonju Array Si 79.75 51 *e*P **P 12 14 19.1 -0.5**
KSAR Wonju Array Be 79.77 51 P **P 12 14 19.4 -0.3**
KSAR Wonju Array Be 79.77 51 P **P 12 14 19.4 -0.3**
KSRS Korea Array 79.78 51 P **P 12 14 19.4 -0.4**
comp=Z,4.6nm,0.7s,baz=311,slow=5.1,SNR=20

DHY Denali Highway 80.31 355 *e*P **P 12 14 23.5 +1.2**
comp=Z,4.3nm,0.7s
YSS Yuzh-Sakhalins 81.64 36 *e*P **P 12 14 30.0 +0.5**
comp=Z,9.8nm,0.7s
YSS Yuzh-Sakhalins 81.64 36⇑ *e*P **P 12 14 29.6 +0.1**
YSS *e* 12 14 33.7
YSS pmax pmax
comp=Z,20nm,1.2s
ASAJ Asahikawa 83.61 38 P **P 12 14 39.4 -0.4**
comp=Z,3.2nm,0.7s,baz=256,slow=9.4,SNR=4.8
LAO LASA Array 84.76 327 *e*P **P 12 14 48.1 +2.4**
comp=Z,7.5nm,0.9s
EGMT Eagleton 85.22 330 *e*P **P 12 14 50.1 +2.1**
comp=Z,7.3nm,0.8s
MAJO Matsushiro 86.58 46 *e*P **P 12 14 54.7 -0.2**
MAJO Matsushiro 86.58 46 *e*P **P 12 14 54.7 -0.2**
MJAR Matsushiro Arr 86.59 46 P **P 12 14 54.7 -0.3**
comp=Z,2.2nm,0.8s,baz=327,slow=4.3,SNR=8.0
JTMT Jette 87.23 332 *e*P **P 12 15 00.1 +2.1**
comp=Z,6.5nm,0.9s
YMR Madison River 88.40 328 *e*P **P 12 15 05.3 +1.6**
comp=Z,8.8nm,0.4s
PDAR Pinedale Array 89.31 326 P **P 12 15 08.2 +0.1**
comp=Z,0.5nm,0.8s,baz=48,slow=11,SNR=4.2
DBD Des Bee Dove 92.76 325 *e*P **P 12 15 26.2 +2.0**
MDPB Devils Postpil 97.64 329 *e*P Pdif 12 15 50.5 +4.0
WHFM Hanning Flat 98.99 328 *e*P Pdif 12 15 54.5 +2.2
WR1 Warramunga Arr 119.72 94 *e*PKPdf **PKPdf 12 21 01.7 -0.1**
WRA Warramunga Arr 119.72 94 PKP **PKPdf 12 21 01.7 -0.1**
comp=Z,0.5nm,0.8s,baz=302,slow=2.0,SNR=5.2
ASAR Alice Springs 121.24 98 PKP **PKPdf 12 21 04.8 +0.1**
comp=Z,0.6nm,0.7s,baz=324,slow=2.0,SNR=10

DDA **16** *12:03:37.8,39.°12N×29.°12E,h7km,Ml3.2*
ISK **16** *12:03:37.7,39.°06N×29.°12E,h7km,ML3.0/30*
CSEM **16** *12:03:38.0±0.1,39.°08N×29.°13E,h2km,ML3.0,Error ellipse: s-maj=2.1km s-min=2.0km az=169.0*
ISC 16 12:03:38.0±0.9,**39.°09N**±0.02×**29.°13E**±0.02,**h9**km±6km,
n79,σ**0s65/99,Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
SIMA	**Simav-Kutahya**	**0.11**	**269**		PG	**Pg**	**12 03 40.9**	**+0.2**
SIMA					SG	**Sg**	**12 03 42.7**	**+0.1**
SIMA	**Simav-Kutahya**	**0.11**	**269**	*e*Pg		**Pg**	**12 03 40.9**	**+0.2**
SIMA				*e*Sg		**Sg**	**12 03 42.7**	**+0.1**
GDZ	**Gediz**	**0.28**	**89**	*i*P		**Pg**	**12 03 43.2**	**-0.4**
GDZ				*i*S		**Sg**	**12 03 47.4**	**0.0**
GDZ	**Gediz**	**0.28**	**89**	P		**Pg**	**12 03 43.2**	**-0.4**
GDZ				S		**Sg**	**12 03 47.4**	**0.0**
DEMI	**Demirci**	**0.32**	**262**	*i*P		**Pg**	**12 03 44.5**	**+0.1**
DEMI				*i*S		**Sg**	**12 03 49.0**	**+0.3**
DEMI	**Demirci**	**0.32**	**262**	P		**Pg**	**12 03 44.5**	**+0.1**
TVSB	**Tavsanli**	**0.45**	**36**	PG		**Pg**	**12 03 45.6**	**-1.2**
TVSB	**Tavsanli**	**0.45**	**36**	*e*Pg		**Pg**	**12 03 45.6**	**-1.2**
KULA	**Kula-Manisa**	**0.68**	**213**	PG		**Pb**	**12 03 51.4**	**-0.6**
KULA				SG		**Sg**	**12 04 00.1**	**+0.2**
KULA	**Kula-Manisa**	**0.68**	**213**	*e*Pg		**Pb**	**12 03 51.4**	**-0.6**
KULA				*e*Sg		**Sg**	**12 04 00.1**	**+0.2**
DURS	**Dursunbey**	**0.72**	**316**	*i*P		**Pg**	**12 03 51.8**	**-0.1**
DURS				*i*S		**Sg**	**12 04 01.2**	**-0.1**
DURS	**Dursunbey**	**0.72**	**316**	P		**Pg**	**12 03 51.8**	**-0.1**
DURS				S		**Sg**	**12 04 01.2**	**-0.1**
MANT	**Manisa**	**0.74**	**217**	*i*P		**Pg**	**12 03 52.5**	**+0.2**
MANT				*i*S		**Sg**	**12 04 02.0**	**0.0**
MANT	**Manisa**	**0.74**	**217**	P		**Pg**	**12 03 52.5**	**+0.2**
MANT				S		**Sg**	**12 04 02.0**	**0.0**
KHL	**Karahalli**	**0.82**	**158**	PG		**Pg**	**12 03 53.7**	**-0.2**
KHL				SG		**Sg**	**12 04 05.0**	**+0.4**
KHL	**Karahalli**	**0.82**	**158**	*e*Pg		**Pg**	**12 03 53.7**	**-0.2**
KHL				*e*Sg		**Sg**	**12 04 05.0**	**+0.4**
ORLT	**Orhaneli**	**0.97**	**350**	PG		**Pb**	**12 03 57.3**	**+0.2**
ORLT	**Orhaneli**	**0.97**	**350**	*e*Pg		**Pb**	**12 03 57.3**	**+0.2**
AKS	**Akhisar**	**1.04**	**259**	PG		**Pg**	**12 03 57.7**	**-0.3**
AKS	**Akhisar**	**1.04**	**259**	*e*Pg		**Pg**	**12 03 57.7**	**-0.3**
AUKUT	**KUTAHYA**	**1.11**	**38**	*i*P		Pg	12 03 52.8	-6.5
AUKUT				*i*S		Sg	12 04 02.9	-11
BALB	**Balikesir**	**1.11**	**300**	PN		**Pn**	**12 03 59.7**	**-0.1**
BALB	**Balikesir**	**1.11**	**300**	*e*Pn		**Pn**	**12 03 59.7**	**-0.1**
STEP	**BALIKESIR_Sava**	**1.13**	**285**	*i*P		**Pn**	**12 03 60.0**	**-0.1**
STEP				*i*S		**Sn**	**12 04 16.1**	**+0.3**
STEP	**BALIKESIR_Sava**	**1.13**	**285**	P		**Pn**	**12 04 00.0**	**-0.1**
STEP				S		**Sn**	**12 04 16.1**	**+0.3**
KZIL	**AFYON_Kizioren**	**1.15**	**136**	*i*P		**Pn**	**12 04 00.8**	**+0.4**
KZIL				*i*S		**Sn**	**12 04 17.1**	**+0.8**
KZIL	**AFYON_Kizioren**	**1.15**	**136**	P		**Pn**	**12 04 00.8**	**+0.4**
KZIL				S		**Sn**	**12 04 17.1**	**+0.8**
SHUT	**Suhut-Afyon**	**1.23**	**115**	PN		**Pn**	**12 04 01.6**	**0.0**
SHUT	**Suhut-Afyon**	**1.23**	**115**	*e*Pn		**Pn**	**12 04 01.6**	**0.0**
CAVI	**Cavuskoy**	**1.25**	**26**	PN		**Pn**	**12 04 02.3**	**+0.6**
CAVI	**Cavuskoy**	**1.25**	**26**	*e*Pn		**Pn**	**12 04 02.3**	**+0.6**
MDNY	**Mudanya-Bursa**	**1.29**	**352**	PN		**Pg**	**12 04 03.2**	**+0.3**
MDNY	**Mudanya-Bursa**	**1.29**	**352**	*e*Pn		**Pg**	**12 04 03.2**	**+0.3**
BORA	**Eskisehir**	**1.30**	**52**	*i*P		**Pn**	**12 04 02.5**	**+0.1**
BORA				*i*S		**Sn**	**12 04 20.0**	**0.0**
BORA	**Eskisehir**	**1.30**	**52**	P		**Pn**	**12 04 02.5**	**+0.1**
BORA				S		**Sn**	**12 04 20.0**	**0.0**
KCTX	**Karacabey (Bur**	**1.32**	**334**	PN		**Pg**	**12 04 03.2**	**-0.1**
KCTX	**Karacabey (Bur**	**1.32**	**334**	*e*Pn		**Pg**	**12 04 03.2**	**-0.1**
BALY	**Balya**	**1.34**	**300**	*i*P		**Pn**	**12 04 02.0**	**-0.9**
BALY				*i*S		**Sb**	**12 04 19.8**	**-0.8**
BALY	**Balya**	**1.34**	**300**	P		**Pn**	**12 04 02.0**	**-0.9**
BALY				S		**Sb**	**12 04 19.8**	**-0.8**
ESKT	**Eskisehir**	**1.41**	**72**	*i*P		**Pb**	**12 04 04.5**	**0.0**
SEYT	**Eskypehyr**	**1.41**	**72**	P		**Pb**	**12 04 04.5**	**0.0**
ADVT	**Abdulvahap**	**1.43**	**19**	PN		**Pg**	**12 04 05.1**	**-0.3**
ADVT	**Abdulvahap**	**1.43**	**19**	*e*Pn		**Pg**	**12 04 05.1**	**-0.3**
GONE	**Gonen-Balikesi**	**1.47**	**311**	PN		**Pb**	**12 04 05.5**	**0.0**
GONE	**Gonen-Balikesi**	**1.47**	**311**	*e*Pn		**Pb**	**12 04 05.5**	**0.0**
ARMT	**Armutlu**	**1.49**	**352**	PN		**Pb**	**12 04 06.1**	**+0.2**
ARMT	**Armutlu**	**1.49**	**352**	*e*Pn		**Pb**	**12 04 06.1**	**+0.2**
YLV	**Yalova**	**1.49**	**7**	PN		**Pb**	**12 04 05.9**	**0.0**
YLV	**Yalova**	**1.49**	**7**	*e*Pn		**Pb**	**12 04 05.9**	**0.0**
AYDB	**Zeytinkoy-Aydi**	**1.49**	**221**	PN		**Pn**	**12 04 05.3**	**+0.1**
AYDB	**Zeytinkoy-Aydi**	**1.49**	**221**	*e*Pn		**Pn**	**12 04 05.3**	**+0.1**
EDC	**Edincik**	**1.59**	**323**	PN		**Pb**	**12 04 07.2**	**-0.4**
EDC	**Edincik**	**1.59**	**323**	*e*Pn		**Pb**	**12 04 07.2**	**-0.4**
GULT	**Gulveren**	**1.72**	**38**	PN		**Pb**	**12 04 09.4**	**-0.4**
GULT	**Gulveren**	**1.72**	**38**	*e*Pn		**Pb**	**12 04 09.4**	**-0.4**
BUY	**Buyukada**	**1.76**	**360**	PN		**Pb**	**12 04 09.9**	**-0.6**
BUY	**Buyukada**	**1.76**	**360**	*e*Pn		**Pb**	**12 04 09.9**	**-0.6**
HRT	**Hereke**	**1.78**	**13**	PN		**Pn**	**12 04 09.6**	**+0.5**
HRT	**Hereke**	**1.78**	**13**	*e*Pn		**Pn**	**12 04 09.6**	**+0.5**
SVRH	**Sivrihisar-ESK**	**1.90**	**78**	PN		**Pn**	**12 04 11.3**	**+0.6**
SVRH	**Sivrihisar-ESK**	**1.90**	**78**	*e*Pn		**Pn**	**12 04 11.3**	**+0.6**
KRBG	**Karabiga-Canak**	**1.92**	**313**	PN		**Pb**	**12 04 12.1**	**-1.1**
KRBG	**Karabiga-Canak**	**1.92**	**313**	*e*Pn		**Pb**	**12 04 12.1**	**-1.1**
ISK	**Istanbul-Kandi**	**1.98**	**359**	PN		**Pn**	**12 04 12.6**	**+0.9**
ISK	**Istanbul-Kandi**	**1.98**	**359**	*e*Pn		**Pn**	**12 04 12.6**	**+0.9**
SBT3	**Marmara-Eregli**	**2.00**	**334**	PN		**Pn**	**12 04 13.1**	**+1.2**
SBT3	**Marmara-Eregli**	**2.00**	**334**	*e*Pn		**Pn**	**12 04 13.1**	**+1.2**
SILT	**Sile**	**2.10**	**11**	PN		**Pn**	**12 04 14.8**	**+1.4**
SILT	**Sile**	**2.10**	**11**	*e*Pn		**Pn**	**12 04 14.8**	**+1.4**
MDUB	**Mudurnu**	**2.11**	**48**	PN		**Pn**	**12 04 14.5**	**+0.8**
MDUB	**Mudurnu**	**2.11**	**48**	*e*Pn		**Pn**	**12 04 14.5**	**+0.8**
KLYT	**Kilyos**	**2.17**	**358**	PN		**Pn**	**12 04 15.6**	**+1.3**
KLYT	**Kilyos**	**2.17**	**358**	*e*Pn		**Pn**	**12 04 15.6**	**+1.3**
RKY	**Sarkoy-Tekirda**	**2.19**	**317**	PN		**Pn**	**12 04 15.8**	**+1.1**
RKY	**Sarkoy-Tekirda**	**2.19**	**317**	*e*Pn		**Pn**	**12 04 15.8**	**+1.1**
CTKS	**Kestanelik-??a**	**2.20**	**348**	PN		**Pb**	**12 04 16.5**	**-1.5**
CTKS	**Kestanelik-??a**	**2.20**	**348**	*e*Pn		**Pb**	**12 04 16.5**	**-1.5**
CTYL	**Yalikoy Yolu**	**2.47**	**345**	PN		**Pn**	**12 04 19.8**	**+1.3**
CTYL	**Yalikoy Yolu**	**2.47**	**345**	*e*Pn		**Pn**	**12 04 19.8**	**+1.3**

IDC 16 12:03:50.0±2.7,**31.°28S**×**177.°32W,h0km,mb3.6/2,**
mb1 3.8/3,mb1mx3.5/42,mbtmp3.6/3,ML2.9/1,Error ellipse: s-maj=68.9km s-min=35.2km az=120.0,
Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
URZ	**Urewera**	**8.33**	**212**	Pn		Pn	12 05 52.6	+0.5
	0.2nm,0.3s,baz=256,slow=4.9,SNR=3.4							
URZ				Sn		Sn	12 07 26.3	-0.7
	0.5nm,0.3s,baz=319,slow=20,SNR=5.3							
ASAR	**Alice Springs**	**43.65**	**268**	P		P	12 11 56.7	0.0
	0.3nm,0.5s,baz=106,slow=7.5,SNR=9.8							
WRA	**Warramunga Arr**	**44.72**	**273**	P		P	12 12 05.0	-0.3
	0.4nm,0.3s,baz=111,slow=8.0,SNR=18							

KBZ Khabaz 146.08 303 PKPbc PKPbc 12 23 32.0 +0.1
1.2nm,0.6s,baz=180,slow=6.4,SNR=3.6
FINES FINESS Array B 146.17 340 PKPbc PKPdf 12 23 30.0 -0.5
0.7nm,0.5s,baz=48,slow=2.1,SNR=5.3

ISCJB **16** *12:08:56.6±0.5,39.°10N±0.°04×29.°13E±0.°04,h5km±6km, Error ellipse: s-maj=8.0km s-min=4.3km az=151.8*
CSEM **16** *12:08:56.6±0.2,39.°10N×29.°14E,h8km,ML2.1,Error ellipse: s-maj=5.0km s-min=2.7km az=139.0*
DDA **16** *12:08:56.2,39.°06N×29.°14E,h7km,Ml2.6*
ISK **16** *12:08:56.1,39.°13N×29.°15E,h6km,ML2.1/4*
ISC 16 12:08:56.6±0.9,**39.°11N**±0.°03×**29.°14E**±0.°03,**h9**km±8km,
n22,σ**0s52/34,Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
SIMA	**Simav-Kutahya**	**0.12**	**259**	PG		**Pg**	**12 08 59.7**	**+0.2**
SIMA				SG		**Sg**	**12 09 01.7**	**+0.2**
SIMA	**Simav-Kutahya**	**0.12**	**259**	*e*Pg		**Pg**	**12 08 59.7**	**+0.2**
SIMA				*e*Sg		**Sg**	**12 09 01.7**	**+0.2**
GDZ	**Gediz**	**0.27**	**94**	*i*P		**Pg**	**12 09 02.0**	**0.0**
GDZ				*i*S		**Sg**	**12 09 06.2**	**+0.5**
GDZ	**Gediz**	**0.27**	**94**	P		**Pg**	**12 09 02.0**	**0.0**
GDZ				S		**Sg**	**12 09 06.2**	**+0.5**
DEMI	**Demirci**	**0.33**	**259**	*i*P		**Pg**	**12 09 03.6**	**+0.3**
DEMI				*i*S		**Sg**	**12 09 07.8**	**+0.1**
DEMI	**Demirci**	**0.33**	**259**	P		**Pg**	**12 09 03.6**	**+0.3**
DEMI				S		**Sg**	**12 09 07.8**	**+0.1**
TVSB	**Tavsanli**	**0.42**	**36**	PG		**Pg**	**12 09 04.5**	**-0.5**
TVSB				SG		**Sg**	**12 09 09.9**	**-0.7**
TVSB	**Tavsanli**	**0.42**	**36**	*e*Pg		**Pg**	**12 09 04.5**	**-0.5**
TVSB				*e*Sg		**Sg**	**12 09 09.9**	**-0.7**
KULA	**Kula-Manisa**	**0.70**	**212**	PG		**Pb**	**12 09 10.5**	**-0.6**
KULA	**Kula-Manisa**	**0.70**	**212**	*e*Pg		**Pb**	**12 09 10.5**	**-0.6**
DURS	**Dursunbey**	**0.71**	**314**	*i*P		**Pb**	**12 09 11.0**	**-0.3**
DURS	**Dursunbey**	**0.71**	**314**	P		**Pb**	**12 09 11.0**	**-0.3**
MANT	**Manisa**	**0.76**	**217**	*i*P		**Pb**	**12 09 11.6**	**-0.7**
MANT				*i*S		**Sg**	**12 09 20.8**	**-0.5**
MANT	**Manisa**	**0.76**	**217**	P		**Pb**	**12 09 11.6**	**-0.7**
MANT				S		**Sg**	**12 09 20.8**	**-0.5**
CAVI	**Cavuskoy**	**1.22**	**26**	PN		**Pb**	**12 09 19.5**	**-0.5**
CAVI	**Cavuskoy**	**1.22**	**26**	*e*Pn		**Pb**	**12 09 19.5**	**-0.5**
BORA	**Eskisehir**	**1.28**	**52**	*i*P		**Pg**	**12 09 22.0**	**+0.8**
BORA				*i*S		**Sn**	**12 09 38.9**	**+0.7**
BORA	**Eskisehir**	**1.28**	**52**	P		**Pg**	**12 09 22.0**	**+0.8**
BORA				S		**Sn**	**12 09 38.9**	**+0.7**
YLV	**Yalova**	**1.47**	**7**	PN		**Pn**	**12 09 23.5**	**0.0**
YLV	**Yalova**	**1.47**	**7**	*e*Pn		**Pn**	**12 09 23.5**	**0.0**
ARMT	**Armutlu**	**1.47**	**352**	PN		**Pb**	**12 09 23.9**	**-0.4**
ARMT	**Armutlu**	**1.47**	**352**	*e*Pn		**Pb**	**12 09 23.9**	**-0.4**

ISCJB **16** *12:09:05.4±1.3,39.°30N±0.°08×72.°08E±0.°06,h10km,Error ellipse: s-maj=11.6km s-min=6.3km az=165.5*
KRNET **16** *12:09:06.5±0.1,39.°50N×72.°11E,h19km,mb2.6*
NNC **16** *12:09:07.3±1.2,39.°46N×72.°15E,h0km,mb3.1,mpv2.9, Error ellipse: s-maj=18.0km s-min=5.6km az=164.0*
ISC 16 12:09:08.3±1.5,**39.°50N**±0.°08×**72.°14E**±0.°04,**h10km,n9,**
σ1s62/16,8C-10D,Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
BTK	**Batken**	**1.16**	**299⇑**	*i*P		**Pb**	**12 09 28.4**	**-2.2**
	baz=0.0							
BTK			**⇑**	*i*S		**Sg**	**12 09 44.2**	**-1.6**
	baz=0.0							
SFK	**Sufi-Kurgan**	**1.17**	**64**	**⇓**P		**Pb**	**12 09 29.5**	**-1.2**
	1.8nm,0.2s							
SFK				**⇓**S		**Sn**	**12 09 46.5**	**-0.5**
	15nm,0.2s							
SFK	**Sufi-Kurgan**	**1.17**	**64**	**⇓***i*P		**Pb**	**12 09 29.2**	**-1.5**
	baz=64							
SFK				**⇓***i*S		**Sg**	**12 09 46.0**	**0.0**
	baz=64							
ARSB	**Arslanbob**	**1.93**	**19⇓**	*e*P		**Pb**	**12 09 42.2**	**-1.5**
	baz=20							
ARSB				**⇓***i*S		**Sb**	**12 10 08.7**	**+0.8**
	baz=20							
ARK	**Arkit**	**2.30**	**357⇓**	*i*P		**Pb**	**12 09 47.5**	**-2.5**
	baz=58							
ARK				**⇓***i*S		**Sb**	**12 10 17.2**	**-1.3**
	baz=58							
DZET	**Dzherino**	**2.67**	**256**	**⇑**Pg		**Pb**	**12 09 56.0**	**-0.2**
	8.3nm,0.5s							
DZET				**⇓**Lg		Lg	12 10 31.4	
	11nm,0.4s							
MNAS	**Manas**	**3.00**	**5**	**⇓**Pn		**Pn**	**12 09 57.7**	**+1.7**
	3.4nm,0.7s							
MNAS				**⇑**Lg		Lg	12 10 43.6	
	4.7nm,1.0s							
MNAS	**Manas**	**3.00**	**5**	**⇑***i*P		**Pn**	**12 09 56.6**	**+0.6**
	baz=6.0							
MNAS				**⇑***e*S		**Sn**	**12 10 34.4**	**+2.3**
	baz=6.0							
KK31	**Karatay Array**	**3.80**	**342**	Pn		**Pn**	**12 10 08.6**	**+1.6**
	0.4nm,0.3s,baz=152,slow=12,SNR=12							
KK31				**⇑**Pg		**Pb**	**12 10 16.5**	**+1.0**
	3.4nm,0.7s							
KK31				**⇑**Lg		Lg	12 11 07.0	
	1.3nm,0.4s,baz=159,slow=32,SNR=4.2							

GUC 16 12:11:23.3±0.4,**29.°44S**×**71.°33W,h56**km±5km**,ML3.7,**
2C-1D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
LCO	**Las Campanas**	**0.69**	**52⇓**	*i*P		Pn	12 11 39.0	+1.5
LCO				*i*S		Sn	12 11 50.3	+2.5
LCO				IAML			12 11 51.0	
	comp=N,6μm,0.3s							
TLL	**Tololo Astrono**	**0.86**	**148⇑**	*i*P		Pn	12 11 41.1	+1.5
TLL				*i*S		Sn	12 11 54.4	+2.9
TLL				IAML			12 11 56.1	
	comp=N,3μm,0.3s							
GO04	**Tololo Observa**	**0.86**	**148⇑**	*i*P		Pn	12 11

MANT	**Manisa**	**0.78**	**217**	P	**Pb**	**12 12 08.1**	**-0.2**
MANT				S	**Sg**	**12 12 17.5**	**-0.5**
BALB	**Balikesir**	**1.12**	**299**	PN	**Pn**	**12 12 14.6**	**+0.4**
BALB	**Balikesir**	**1.12**	**299**	*e*Pn	**Pn**	**12 12 14.6**	**+0.4**
CAVI	**Cavuskoy**	**1.21**	**26**	PN	**Pn**	**12 12 15.3**	**-0.3**
CAVI	**Cavuskoy**	**1.21**	**26**	*e*Pn	**Pn**	**12 12 15.3**	**-0.3**
MDNY	**Mudanya-Bursa**	**1.27**	**351**	PN	**Pn**	**12 12 16.6**	**+0.3**
MDNY	**Mudanya-Bursa**	**1.27**	**351**	*e*Pn	**Pn**	**12 12 16.6**	**+0.3**
KCTX	**Karacabey (Bur**	**1.30**	**332**	PN	**Pn**	**12 12 16.9**	**+0.1**
KCTX	**Karacabey (Bur**	**1.30**	**332**	*e*Pn	**Pn**	**12 12 16.9**	**+0.1**
YLV	**Yalova**	**1.46**	**7**	PN	**Pn**	**12 12 19.3**	**+0.3**
YLV	**Yalova**	**1.46**	**7**	*e*Pn	**Pn**	**12 12 19.3**	**+0.3**
ARMT	**Armutlu**	**1.47**	**351**	PN	**Pn**	**12 12 19.5**	**+0.4**
ARMT	**Armutlu**	**1.47**	**351**	*e*Pn	**Pn**	**12 12 19.5**	**+0.4**

IDC ***16*** *12:12:01.0±4.3,36°.99N×21°.79E,h0km,mb3.7/8, mb1 3.7/9,mb1mx3.5/60,mbtmp3.7/9,ML2.4/1,Error ellipse: s-maj=89.4km s-min=22.3km az=44.0*
CSEM ***16*** *12:12:01.5±0.3,36°.55N×21°.41E,h5km,ML3.1, Error ellipse: s-maj=6.0km s-min=3.8km az=49.0*
THE ***16*** *12:12:02.5,36°.57N×21°.47E,h2km±1km,ML3.1/7,Error ellipse: s-maj=1.5km s-min=0.8km az=62.0*
ATH ***16*** *12:12:04.5,36°.71N×21°.61E,h31km±1km,ML3.1/13,Error ellipse: s-maj=2.6km s-min=1.0km az=51.0*

ISC 16 12:12:02.3±1.4,**36°.61N**±0°.05×**21°.40E**±0°.06,**h26**km±8km, **n101,**σ1§**82**/135,**mb3.7**/8,**Southern Greece**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MES2	**Methoni**	**0.33**	**48**	P	**Pb**	**12 12 10.1**	**+0.3**
MES2				S	**Sb**	**12 12 15.0**	**+0.1**
MES2	**Methoni**	**0.33**	**48**	P	**Pb**	**12 12 10.3**	**+0.5**
MES2				S	**Sb**	**12 12 14.9**	**0.0**
PYL	**PYLOS**	**0.40**	**43**	P	**Pb**	**12 12 10.8**	**-0.1**
PYL				S	**Sb**	**12 12 16.7**	**0.0**
PYL				AML	AML	12 12 16.8	
	comp=N,20214μm,0.3s						
PYL				AML	AML	12 12 18.3	
	comp=E,18582μm,0.3s						
PYL	**PYLOS**	**0.40**	**43**	P	**Pb**	**12 12 11.1**	**+0.2**
PYL				S	**Sb**	**12 12 15.6**	**-1.1**
PYL	**PYLOS**	**0.40**	**43**	P	**Pb**	**12 12 11.0**	**+0.2**
PYL				S	**Sb**	**12 12 15.6**	**-1.1**
MES3	**Kyparissia**	**0.68**	**19**	P	**Pb**	**12 12 15.0**	**-0.5**
MES3				S	**Sb**	**12 12 24.8**	**+0.4**
MES3	**Kyparissia**	**0.68**	**19**	P	**Pb**	**12 12 15.5**	**0.0**
MES3				S	**Sb**	**12 12 24.6**	**+0.1**
ITM	**Ithomi**	**0.71**	**36**	P	**Pb**	**12 12 15.7**	**-0.4**
ITM				S	**Sb**	**12 12 24.7**	**-0.8**
ITM				AML	AML	12 12 26.9	
	comp=E,5938μm,0.3s						
ITM				AML	AML	12 12 29.0	
	comp=N,4843μm,0.2s						
ITM	**Ithomi**	**0.71**	**36**	P	**Pb**	**12 12 15.8**	**-0.3**
ITM				S	**Sb**	**12 12 26.0**	**+0.5**
ITM	**Ithomi**	**0.71**	**36**	P	**Pb**	**12 12 15.8**	**-0.3**
ITM				S	**Sb**	**12 12 26.0**	**+0.5**
DYR	**Agios Nikonas**	**0.76**	**78**	P	**Pn**	**12 12 16.9**	**-0.6**
DYR				S	**Sb**	**12 12 26.0**	**-1.0**
DYR				AML	AML	12 12 29.5	
	comp=N,2076μm,0.7s						
DYR				AML	AML	12 12 30.4	
	comp=E,2791μm,0.4s						
DYR	**Agios Nikonas**	**0.76**	**78**	P	**Pn**	**12 12 16.9**	**-0.6**
DYR				S	**Sb**	**12 12 26.6**	**-0.4**
DYR	**Agios Nikonas**	**0.76**	**78**	P	**Pn**	**12 12 16.8**	**-0.6**
DYR				S	**Sb**	**12 12 26.6**	**-0.4**
AMT	**Artemida-Makis**	**0.95**	**15**	P	**Pn**	**12 12 20.7**	**+0.6**
AMT				S	**Sn**	**12 12 32.5**	**-0.4**
AMT				AML	AML	12 12 43.3	
	comp=E,3185μm,0.4s						
AMT				AML	AML	12 12 43.4	
	comp=N,3921μm,0.5s						
AMT	**Artemida-Makis**	**0.95**	**15**	P	**Pn**	**12 12 21.0**	**+0.9**
AMT				S	**Sb**	**12 12 34.9**	**+2.4**
AMT	**Artemida-Makis**	**0.95**	**15**	P	**Pn**	**12 12 21.0**	**+0.9**
AMT				S	**Sb**	**12 12 34.9**	**+2.4**
VLX	**Vlachokerasia**	**1.09**	**45**	P	**Pn**	**12 12 23.1**	**+1.1**
VLX				S	**Sn**	**12 12 35.5**	**-0.8**
VLX				AML	AML	12 12 42.1	
	comp=E,3438μm,0.4s						
VLX				AML	AML	12 12 42.5	
	comp=N,3295μm,0.5s						
VLX	**Vlachokerasia**	**1.09**	**45**	P	**Pn**	**12 12 22.7**	**+0.7**
VLX				S	**Sb**	**12 12 38.8**	**+2.3**
VLX	**Vlachokerasia**	**1.09**	**45**	P	**Pn**	**12 12 22.7**	**+0.7**
VLX				S	**Sb**	**12 12 38.8**	**+2.3**
TRIP	**Tripoli**	**1.15**	**37**	P	**Pn**	**12 12 22.8**	**0.0**
TRIP				S	**Sn**	**12 12 37.9**	**+0.1**
TRIP				AML	AML	12 12 40.6	
	comp=N,1545μm,0.9s						
TRIP				AML	AML	12 12 40.8	
	comp=E,1693μm,0.6s						
TRIP	**Tripoli**	**1.15**	**37**	P	**Pn**	**12 12 23.3**	**+0.5**
TRIP	**Tripoli**	**1.15**	**37**	P	**Pn**	**12 12 23.3**	**+0.5**
VLI	**Veliai**	**1.24**	**84**	P	**Pn**	**12 12 25.1**	**+1.1**
VLI				S	**Sn**	**12 12 39.1**	**-0.7**
VLI				AML	AML	12 12 49.8	
	comp=E,956μm,0.5s						
VLI				AML	AML	12 12 51.9	
	comp=N,1511μm,0.5s						
VLI	**Veliai**	**1.24**	**84**	P	**Pn**	**12 12 25.2**	**+1.3**
VLI				S	**Sn**	**12 12 41.4**	**+1.6**
VLI	**Veliai**	**1.24**	**84**	P	**Pn**	**12 12 25.2**	**+1.3**
VLI				S	**Sn**	**12 12 41.4**	**+1.6**
MNVA	**Monemvasia**	**1.32**	**86**	P	**Pn**	**12 12 27.1**	**+2.1**
MNVA	**Monemvasia**	**1.32**	**86**	P	**Pn**	**12 12 26.6**	**+1.6**
DRO	**Drossia**	**1.36**	**10**	P	**Pn**	**12 12 27.4**	**+1.7**
DRO				AML	AML	12 12 58.1	
	comp=N,1942μm,0.5s						
DRO				AML	AML	12 12 59.4	
	comp=E,2147μm,0.5s						
DRO	**Drossia**	**1.36**	**10**	P	**Pn**	**12 12 27.6**	**+1.9**
DRO				S	**Sb**	**12 12 47.9**	**+3.7**
DRO	**Drossia**	**1.36**	**10**	P	**Pn**	**12 12 27.6**	**+1.9**
DRO				S	**Sb**	**12 12 47.9**	**+3.7**
KYTH	**Kithira**	**1.37**	**104**	P	**Pb**	**12 12 28.8**	**+1.5**
KYTH				S	**Sn**	**12 12 44.2**	**+1.2**
KYTH				AML	AML	12 12 52.6	
	comp=N,1226μm,0.5s						
KYTH				AML	AML	12 12 55.8	
	comp=E,1259μm,0.5s						
KYTH	**Kithira**	**1.37**	**104**	P	**Pn**	**12 12 26.8**	**+1.1**
RLS	**Riolos of Patr**	**1.45**	**2**	P	**Pn**	**12 12 28.4**	**+1.6**
RLS				AML	AML	12 12 59.4	
	comp=E,550μm,0.4s						
RLS				AML	AML	12 13 09.1	
	comp=N,522μm,0.5s						
RLS	**Riolos of Patr**	**1.45**	**2**	P	**Pn**	**12 12 28.8**	**+2.0**
GUR	**Goura**	**1.52**	**29**	P	**Pn**	**12 12 29.8**	**+1.9**
GUR				AML	AML	12 12 59.7	
	comp=N,1920μm,0.5s						
GUR				AML	AML	12 13 02.4	
	comp=E,1767μm,0.9s						
GUR	**Goura**	**1.52**	**29**	P	**Pn**	**12 12 29.7**	**+1.7**
GUR	**Goura**	**1.52**	**29**	P	**Pn**	**12 12 29.7**	**+1.7**
KLV	**Kalavryta, Ach**	**1.55**	**22**	P	**Pn**	**12 12 29.8**	**+1.6**
KLV				AML	AML	12 12 59.7	
	comp=E,609μm,0.9s						
KLV				AML	AML	12 13 03.0	
	comp=N,572μm,0.9s						
KLV	**Kalavryta, Ach**	**1.55**	**22**	P	**Pn**	**12 12 29.9**	**+1.6**
KLV				S	**Sb**	**12 12 53.2**	**+3.5**
KLV	**Kalavryta, Ach**	**1.55**	**22**	P	**Pn**	**12 12 29.9**	**+1.6**
KLV				S	**Sb**	**12 12 53.2**	**+3.5**
KRND	**KRANIDI**	**1.60**	**61**	P	**Pn**	**12 12 28.8**	**-0.1**
KRND	**KRANIDI**	**1.60**	**61**	P	**Pn**	**12 12 30.3**	**+1.4**
KRND				S	**Sb**	**12 12 53.0**	**+2.1**
KRND	**KRANIDI**	**1.60**	**61**	P	**Pn**	**12 12 30.3**	**+1.4**
KRND				S	**Sb**	**12 12 53.0**	**+2.1**
LAKA	**Lakka**	**1.69**	**16**	P	**Pn**	**12 12 32.7**	**+2.5**
LAKA	**Lakka**	**1.69**	**16**	P	**Pn**	**12 12 32.5**	**+2.2**
LAKA				S	**Sb**	**12 12 55.9**	**+2.2**
LAKA	**Lakka**	**1.69**	**16**	P	**Pn**	**12 12 32.4**	**+2.2**
LAKA				S	**Sb**	**12 12 55.9**	**+2.2**
DID	**Didima**	**1.72**	**58**	P	**Pn**	**12 12 30.1**	**-0.4**
DID				AML	AML	12 13 07.0	
	comp=E,841μm,0.5s						
DID				AML	AML	12 13 09.5	
	comp=N,665μm,0.6s						
DID	**Didima**	**1.72**	**58**	P	**Pn**	**12 12 32.0**	**+1.4**
DID	**Didima**	**1.72**	**58**	P	**Pn**	**12 12 32.0**	**+1.4**
ALIK	**Aliki, Aigiali**	**1.74**	**19**	P	**Pn**	**12 12 33.1**	**+2.2**
ALIK	**Aliki, Aigiali**	**1.74**	**19**	P	**Pn**	**12 12 33.1**	**+2.2**
THAL	**Thalero**	**1.75**	**35**	P	**Pn**	**12 12 31.4**	**+0.6**
THAL	**Thalero**	**1.75**	**35**	P	**Pn**	**12 12 32.9**	**+2.0**
THAL	**Thalero**	**1.75**	**35**	P	**Pn**	**12 12 32.9**	**+2.0**
TRIZ	**Trizonia**	**1.83**	**17**	P	**Pb**	**12 12 35.5**	**+0.3**
TRIZ	**Trizonia**	**1.83**	**17**	P	**Pn**	**12 12 34.9**	**+2.8**
TRIZ	**Trizonia**	**1.83**	**17**	P	**Pn**	**12 12 34.7**	**+2.6**
EFP	**Efpalio**	**1.86**	**12**	P	**Pn**	**12 12 35.3**	**+2.8**
EFP	**Efpalio**	**1.86**	**12**	P	**Pn**	**12 12 35.1**	**+2.6**
EFP	**Efpalio**	**1.86**	**12**	P	**Pn**	**12 12 34.9**	**+2.4**
LOUT	**Loutraki**	**1.86**	**42**	P	**Pn**	**12 12 32.5**	**0.0**
LOUT	**Loutraki**	**1.86**	**42**	P	**Pn**	**12 12 34.5**	**+2.0**
LOUT	**Loutraki**	**1.86**	**42**	P	**Pn**	**12 12 34.5**	**+2.0**
KALE	**Kalithea**	**1.87**	**18**	P	**Pb**	**12 12 36.0**	**+0.1**
KALE	**Kalithea**	**1.87**	**18**	P	**Pn**	**12 12 35.4**	**+2.7**
KALE	**Kalithea**	**1.87**	**18**	P	**Pn**	**12 12 35.3**	**+2.6**
SERG	**Sergoula**	**1.88**	**16**	P	**Pb**	**12 12 36.0**	**+0.1**
SERG	**Sergoula**	**1.88**	**16**	P	**Pn**	**12 12 35.4**	**+2.7**
SERG	**Sergoula**	**1.88**	**16**	P	**Pn**	**12 12 35.3**	**+2.6**
LTK	**Loutraki**	**1.88**	**41**	P	**Pn**	**12 12 32.6**	**-0.3**
LTK	**Loutraki**	**1.88**	**41**	P	**Pn**	**12 12 34.7**	**+1.9**
LTK	**Loutraki**	**1.88**	**41**	P	**Pn**	**12 12 34.7**	**+1.9**
PDO	**Prodromos**	**2.00**	**355**	P	**Pn**	**12 12 37.5**	**+3.2**
PDO	**Prodromos**	**2.00**	**355**	P	**Pn**	**12 12 37.5**	**+3.2**
VILL	**Villia**	**2.17**	**44**	P	**Pn**	**12 12 38.9**	**+2.1**
VILL	**Villia**	**2.17**	**44**	P	**Pn**	**12 12 38.9**	**+2.1**
EVR	**Evrytania**	**2.33**	**8**	P	**Pn**	**12 12 42.3**	**+3.3**
EVR	**Evrytania**	**2.33**	**8**	P	**Pn**	**12 12 42.3**	**+3.3**
ATHU	**Athens Univers**	**2.33**	**54**	P	**Pn**	**12 12 40.5**	**+1.5**
ATHU	**Athens Univers**	**2.33**	**54**	P	**Pn**	**12 12 40.5**	**+1.5**
AXAR	**Agios Charalam**	**2.37**	**24**	P	**Pn**	**12 12 42.3**	**+2.7**
AXAR	**Agios Charalam**	**2.37**	**24**	P	**Pn**	**12 12 42.3**	**+2.7**
IMMV	**Iera Moni Meta**	**2.38**	**118**	P	**Pn**	**12 12 42.4**	**+2.7**
IMMV	**Iera Moni Meta**	**2.38**	**118**	P	**Pn**	**12 12 42.4**	**+2.7**
LKR	**Lokris**	**2.40**	**31**	P	**Pn**	**12 12 41.7**	**+1.8**
LKR	**Lokris**	**2.40**	**31**	P	**Pn**	**12 12 41.7**	**+1.8**
EREA	**Eretria**	**2.71**	**47**	P	**Pn**	**12 12 45.4**	**+1.3**
EREA	**Eretria**	**2.71**	**47**	P	**Pn**	**12 12 45.4**	**+1.3**
KARY	**Karystos**	**2.81**	**59**	P	**Pn**	**12 12 46.4**	**+0.9**
KARY	**Karystos**	**2.81**	**59**	P	**Pn**	**12 12 46.4**	**+0.9**
IDI	**Anoyia**	**3.12**	**114**	Pn	**Pn**	**12 12 50.6**	**+0.7**
	comp=N,0.5nm,0.3s,baz=335,slow=17,SNR=3.9						
IDI				Sn	**Sn**	**12 13 27.5**	**+1.2**
	comp=N,3.3nm,0.3s,baz=249,slow=22,SNR=6.7						
STON	**Ston**	**6.88**	**337**	*e*Pn	**Pn**	**12 13 39.5**	**-1.9**
STON				Sn	**Sn**	**12 14 52.3**	**-6.4**
NVLJ	**Novalja**	**9.37**	**330**	*e*Pn	**Pn**	**12 14 16.1**	**+0.6**
HFS	**Hagfors**	**24.06**	**351**	P	**P**	**12 17 14.7**	**-0.5**
	comp=N,1.3nm,0.5s,baz=157,slow=12,SNR=9.0						
FINES	**FINESS Array B**	**25.03**	**5**	P	**P**	**12 17 23.3**	**-0.7**
	comp=N,1.2nm,0.5s,baz=164,slow=11,SNR=9.9						
NOA	**NORSAR Array B**	**25.29**	**348**	P	**P**	**12 17 25.7**	**-0.7**
	comp=N,1.3nm,0.8s,baz=157,slow=9.0,SNR=3.4						
ARCES	**ARCESS Array B**	**33.06**	**3**	P	**P**	**12 18 34.3**	**-1.0**
	comp=N,1.0nm,0.8s,baz=191,slow=9.2,SNR=2.6						
BVAR	**Borovoye Array**	**37.61**	**48**	P	**P**	**12 19 13.4**	**-1.3**
	comp=N,0.8nm,0.7s,baz=235,slow=37,SNR=3.8						
KURBB	**Kurchatov Arra**	**42.62**	**52**	P	**P**	**12 19 54.4**	**-1.8**
	comp=N,0.7nm,0.6s,baz=275,slow=8.9,SNR=4.1						
MKAR	**Makanchi Array**	**45.54**	**57**	P	**P**	**12 20 18.4**	**-1.3**
	comp=N,0.2nm,0.4s,baz=278,slow=6.1,SNR=4.0						
ZALV	**Zalesovo Beam**	**46.23**	**47**	P	**P**	**12 20 23.7**	**-1.2**
	comp=N,1.3nm,0.4s,baz=271,slow=9.3,SNR=3.8						

IDC 16 12:12:35.7±3.7,**58°.19S**×**149°.08W,h0km,mb3.6/2, mb1 3.9/2,mb1mx3.6/31,mbtmp3.6/2,Error ellipse: s-maj=420.2km s-min=50.4km az=10.0, Pacific-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**63.41**	**268**	P	P	12 23 06.1	-0.9
	0.6nm,0.9s,baz=144,slow=6.9,SNR=3.7						
WRA	**Warramunga Arr**	**66.22**	**270**	P	P	12 23 26.7	+1.4
	0.7nm,0.8s,baz=146,slow=6.1,SNR=4.1						
H10S3	**ASCENSION HYDR**	**103.60**	**133**	T	T	14 22 44.6	
	baz=208						
H10S2	**ASCENSION HYDR**	**103.60**	**133**	T	T	14 22 35.1	
	baz=208						
H10S1	**ASCENSION HYDR**	**103.61**	**133**	T	T	14 22 43.0	
	baz=208						
H10N3	**ASCENSION HYDR**	**104.68**	**133**	T	T	14 24 04.1	
	baz=205						
H10N1	**ASCENSION HYDR**	**104.68**	**133**	T	T	14 24 05.2	
	baz=205						
H10N2	**ASCENSION HYDR**	**104.69**	**133**	T	T	14 24 02.4	
	baz=205						
MKAR	**Makanchi Array**	**147.51**	**272**	PKPbc	PKPdf	12 32 19.4	+1.3
	0.6nm,0.8s,baz=114,slow=2.8,SNR=4.2						
KEST	**Kesra**	**153.37**	**138**	PKPbc	PKPbc	12 32 35.4	+0.2
	9.6nm,1.0s,baz=72,slow=20,SNR=5.8						

IDC ***16*** *12:12:44.2±1.8,3°.31N×92°.97E,h0km,mb3.6/6,mb1 3.8/9, mb1mx3.5/70,mbtmp3.7/9,ML3.4/3,Error ellipse: s-maj=47.4km s-min=22.4km az=43.0*
ISCJB ***16*** *12:12:46.2±1.1,3°.3N×92°.98E±0°.1,h33km,mb3.6/6, Error ellipse: s-maj=24.2km s-min=13.2km az=23.8*

ISC 16 12:12:48.3±1.3,**3°.3N**±0°.2×**92°.98E**±0°.1,**h35**km,**n12,** σ1§**61**/10,**mb3.6/6,Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**5.96**	**95**	Pn	**Pn**	**12 14 14.9**	**+0.7**
	0.5nm,0.3s,baz=310,slow=10,SNR=5.0						
PSI				Sn	**Sn**	**12 15 19.1**	**-2.3**
	5.4nm,0.3s,baz=343,slow=15,SNR=6.7						
PALK	**Pallekele**	**12.84**	**288**	Pn	**Pn**	**12 15 46.8**	**-1.8**
	0.5nm,0.3s,baz=114,slow=17,SNR=3.1						
PALK				Sn	Sn	12 17 56.4	-14
	4.2nm,0.3s,baz=294,slow=3.1,SNR=9.8						
CMAR	**Chiang Mai Arr**	**16.16**	**21**	Pn	**Pn**	**12 16 31.4**	**-1.4**
	0.1nm,0.3s,baz=218,slow=13,SNR=6.4						
H08S2	**Diego Garcia H**	**23.15**	**242**	T	T	12 43 13.7	
	baz=62,slow=75,SNR=16						
H08S3	**Diego Garcia H**	**23.15**	**242**	T	T	12 43 19.4	
	baz=62,slow=75,SNR=14						
H08S1	**Diego Carcia H**	**23.17**	**242**	T	T	12 43 21.1	
	baz=62,slow=75,SNR=19						
MKAR	**Makanchi Array**	**44.31**	**349**	P	**P**	**12 20 55.6**	**+0.8**
	0.4nm,0.5s,baz=168,slow=8.5,SNR=6.1						
SONM	**Songino Array**	**45.85**	**13**	P	**P**	**12 21 08.4**	**+1.1**
	0.2nm,0.4s,baz=202,slow=7.4,SNR=2.6						
WRA	**Warramunga Arr**	**46.72**	**121**	P	**P**	**12 21 14.9**	**+0.6**
	0.6nm,0.8s,baz=305,slow=8.5,SNR=5.1						
KURBB	**Kurchatov Arra**	**48.71**	**348**	P	**P**	**12 21 29.9**	**+0.6**
	0.3nm,0.2s,baz=151,slow=4.0,SNR=3.3						
ZALV	**Zalesovo Beam**	**50.93**	**354**	P	**P**	**12 21 46.4**	**+0.3**
	0.7nm,0.5s,baz=156,slow=7.3,SNR=3.4						
BVAR	**Borovoye Array**	**52.96**	**343**	P	**P**	**12 22 03.4**	**+2.2**
	0.4nm,0.6s,baz=233,slow=36,SNR=3.9						

ISK ***16*** *12:13:40.9,39°.08N×29°.20E,h6km,ML2.4/9*
CSEM ***16*** *12:13:41.8±0.1,39°.10N×29°.16E,h5km,ML2.4, Error ellipse: s-maj=3.3km s-min=1.9km az=142.0*
DDA ***16*** *12:13:41.7,39°.09N×29°.15E,h7km,Ml2.7*

ISC 16 12:13:42.0±1.0,**39°.11N**±0°.03×**29°.15E**±0°.02,**h7**km±9km, **n30,**σ0§**26**/44,**Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIMA	**Simav-Kutahya**	**0.13**	**257**	PG	**Pg**	**12 13 45.0**	**+0.1**
SIMA	**Simav-Kutahya**	**0.13**	**257**	*e*Pg	**Pg**	**12 13 45.0**	**+0.1**
GDZ	**Gediz**	**0.26**	**95**	*i* P	**Pg**	**12 13 47.0**	**-0.2**
GDZ				*i* S	**Sg**	**12 13 50.9**	**+0.3**
GDZ	**Gediz**	**0.26**	**95**	P	**Pg**	**12 13 47.0**	**-0.2**
GDZ				S	**Sg**	**12 13 50.9**	**+0.3**
DEMI	**Demirci**	**0.34**	**258**	*i* P	**Pg**	**12 13 49.0**	**+0.2**
DEMI				*i* S	**Sg**	**12 13 53.4**	**0.0**
DEMI	**Demirci**	**0.34**	**258**	P	**Pg**	**12 13 49.0**	**+0.2**
DEMI				S	**Sg**	**12 13 53.3**	**0.0**
TVSB	**Tavsanli**	**0.41**	**36**	PG	**Pg**	**12 13 49.6**	**-0.3**
TVSB				SG	**Sg**	**12 13 55.3**	**-0.3**
TVSB	**Tavsanli**	**0.41**	**36**	*e*Pg	**Pg**	**12 13 49.8**	**-0.3**
TVSB				*e*Sg	**Sg**	**12 13 55.3**	**-0.3**
KULA	**Kula-Manisa**	**0.71**	**213**	PG	**Pg**	**12 13 55.4**	**-0.3**
KULA				SG	**Sg**	**12 14 04.9**	**0.0**
KULA	**Kula-Manisa**	**0.71**	**213**	*e*Pg	**Pg**	**12 13 55.4**	**-0.3**
KULA				*e*Sg	**Sg**	**12 14 04.9**	**0.0**
DURS	**Dursunbey**	**0.71**	**313**	*i* P	**Pg**	**12 13 55.6**	**-0.2**
DURS	**Dursunbey**	**0.71**	**313**	P	**Pg**	**12 13 55.6**	**-0.2**
MANT	**Manisa**	**0.78**	**217**	*i* P	**Pg**	**12 13 56.8**	**-0.2**
MANT				*i* S	**Sg**	**12 14 06.4**	**-0.7**
MANT	**Manisa**	**0.78**	**217**	P	**Pg**	**12 13 56.8**	**-0.2**
MANT				S	**Sg**	**12 14 06.4**	**-0.7**
BALB	**Balikesir**	**1.12**	**298**	PN	**Pb**	**12 14 03.8**	**+0.1**
BALB	**Balikesir**	**1.12**	**298**	*e*Pn	**Pb**	**12 14 03.8**	**+0.1**
STEP	**BALIKESIR_Sava**	**1.14**	**284**	*i* P	**Pn**	**12 14 04.4**	**-0.2**
STEP				*i* S	**Sn**	**12 14 20.5**	**0.0**
STEP	**BALIKESIR_Sava**	**1.14**	**284**	P	**Pn**	**12 14 04.4**	**-0.2**
STEP				S	**Sn**	**12 14 20.5**	**0.0**
CAVI	**Cavuskoy**	**1.21**	**26**	PN	**Pg**	**12 14 04.9**	**-0.4**
CAVI	**Cavuskoy**	**1.21**	**26**	*e*Pn	**Pg**	**12 14 04.9**	**-0.4**
BORA	**Eskisehir**	**1.27**	**52**	*i* P	**Pb**	**12 14 06.5**	**+0.2**
BORA				*i* S	**Sn**	**12 14 24.0**	**+0.4**
BORA	**Eskisehir**	**1.27**	**52**	P	**Pb**	**12 14 06.5**	**+0.2**
BORA				S	**Sn**	**12 14 24.0**	**+0.4**
KCTX	**Karacabey (Bur**	**1.30**	**332**	PN	**Pb**	**12 14 07.1**	**+0.2**
KCTX	**Karacabey (Bur**	**1.30**	**332**	*e*Pn	**Pb**	**12 14 07.1**	**+0.2**
YLV	**Yalova**	**1.46**	**7**	PN	**Pb**	**12 14 09.6**	**0.0**
YLV	**Yalova**	**1.46**	**7**	*e*Pn	**Pb**	**12 14 09.6**	**0.0**
ARMT	**Armutlu**	**1.47**	**351**	PN	**Pn**	**12 14 09.3**	**+0.3**
ARMT	**Armutlu**	**1.47**	**351**	*e*Pn	**Pn**	**12 14 09.3**	**+0.3**
GULT	**Gulveren**	**1.69**	**38**	PN	**Pn**	**12 14 12.1**	**0.0**
GULT	**Gulveren**	**1.69**	**38**	*e*Pn	**Pn**	**12 14 12.1**	**0.0**

IDC ***16*** *12:19:01.8±1.4,39°.08N×28°.99E,h0km,mb3.6/6, mb1 3.6/11,mb1mx3.4/62,mbtmp3.6/11,ML3.1/5,MS4.4/1, Ms1 4.4/1,ms1mx2.8/58,Error ellipse: s-maj=22.8km s-min=15.7km az=32.0*
NEIC ***16*** *12:19:02.3±0.0,39°.15N×29°.15E,h5km,ML4.0(ISK),After ISK.*
ISK ***16*** *12:19:02.9,39°.15N×29°.14E,h5km,ML4.0/59*
DDA ***16*** *12:19:03.3,39°.11N×29°.12E,h7km,Ml3.9*
CSEM ***16*** *12:19:03.5±0.1,39°.13N×29°.13E,h2km,ML4.0,Error ellipse: s-maj=2.1km s-min=2.0km az=59.0*
MOS ***16*** *12:19:04.2±1.1,39°.16N×29°.10E,h18km,mb4.0/5,Error ellipse: s-maj=7.9km s-min=4.2km az=95.6*
THE ***16*** *12:19:07.1,39°.23N×29°.36E,h4km±4km,ML3.5/5,Error ellipse: s-maj=5.1km s-min=1.5km az=55.0*

ISC 16 12:19:03.7±1.0,**39°.14N**±0°.02×**29°.12E**±0°.01,**h2**km±8km, **n323,**σ1§**14**/361,**mb3.8**/10,**16C-16D,Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIMA	**Simav-Kutahya**	**0.12**	**241**	PG	**Pg**	**12 19 06.4**	**+0.4**
SIMA				SG	**Sg**	**12 19 08.2**	**+0.6**
SIMA	**Simav-Kutahya**	**0.12**	**241**	*e*Pg	**Pg**	**12 19 06.4**	**+0.4**
SIMA				*e*Sg	**Sg**	**12 19 08.2**	**+0.6**
GDZ	**Gediz**	**0.29**	**100**	*i* P	**Pg**	**12 19 08.8**	**-0.5**
GDZ				*i* S	**Sg**	**12 19 13.0**	**0.0**
GDZ	**Gediz**	**0.29**	**100**	P	**Pg**	**12 19 08.8**	**-0.5**
GDZ				S	**Sg**	**12 19 13.0**	**0.0**
DEMI	**Demirci**	**0.33**	**253**	*i* P	**Pg**	**12 19 09.9**	**-0.1**
DEMI				*i* S	**Sg**	**12 19 14.2**	**0.0**
DEMI	**Demirci**	**0.33**	**253**	P	**Pg**	**12 19 09.9**	**-0.1**
DEMI				S	**Sg**	**12 19 14.2**	**0.0**
TVSB	**Tavsanli**	**0.41**	**41**	PG	**Pg**	**12 19 10.9**	**-0.6**
TVSB				SG	**Sg**	**12 19 16.7**	**-0.2**
TVSB	**Tavsanli**	**0.41**	**41**	*e*Pg	**Pg**	**12 19 10.9**	**-0.6**
TVSB				*e*Sg	**Sg**	**12 19 16.7**	**-0.2**
DURS	**Dursunbey**	**0.68**	**313**	*i* P	**Pg**	**12 19 16.7**	**0.0**
DURS				*i* S	**Sb**	**12 19 27.9**	**-0.2**
DURS	**Dursun

HRT	Hereke	1.73	14	P	Pn	12 19 34.3	-0.5		
BLCB	Balcova	1.79	246	PN	Pb	12 19 36.0	-1.1		
BLCB	Balcova	1.79	246	ePn	Pb	12 19 36.0	-1.1		
SPNC	Sapanca-Adapaz	1.79	30	PN	Pn	12 19 35.2	-0.5		
SPNC	Sapanca-Adapaz	1.79	30	ePn	Pn	12 19 35.2	-0.5		
SAUV	Serdivan-Sakar	1.85	30	PN	Pn	12 19 36.0	-0.4		
SAUV	Serdivan-Sakar	1.85	30	ePn	Pn	12 19 36.0	-0.4		
KRBG	Karabiga-Canak	1.88	312	PN	Pn	12 19 36.2	-0.6		
KRBG	Karabiga-Canak	1.88	312	ePn	Pn	12 19 36.2	-0.6		
SVRH	Sivrihisar-ESK	1.89	80	PN	Pn	12 19 36.4	-0.7		
SVRH	Sivrihisar-ESK	1.89	80	ePn	Pn	12 19 36.4	-0.7		
FOCM	Fo˘ša	1.91	258	PN	Pn	12 19 37.6	+0.4		
FOCM	Fo˘ša	1.91	258	ePn	Pn	12 19 37.6	+0.4		
ISK	Istanbul-Kandi	1.92	359	PN	Pn	12 19 37.4	0.0		
ISK	Istanbul-Kandi	1.92	359	ePn	Pn	12 19 37.4	0.0		
ISK	Istanbul-Kandi	1.92	359	P	Pn	12 19 37.4	0.0		
SBT3	Marmara-Eregli	1.95	334	PN	Pn	12 19 37.8	+0.2		
SBT3	Marmara-Eregli	1.95	334	ePn	Pn	12 19 37.8	+0.2		
GMLD	Gumuldur	2.02	239	PN	Pn	12 19 39.2	+0.4		
GMLD	Gumuldur	2.02	239	ePn	Pn	12 19 39.2	+0.4		
BCK	Bucak	2.04	145	PN	Pn	12 19 39.2	+0.1		
BCK	Bucak	2.04	145	ePn	Pn	12 19 39.2	+0.1		
BCK	Bucak	2.04	145	P	Pn	12 19 39.2	+0.1		
SILT	Sile	2.05	11	PN	Pn	12 19 39.0	-0.1		
SILT	Sile	2.05	11	ePn	Pn	12 19 39.0	-0.1		
BGKT	Bogazkoy	2.06	353	PN	Pn	12 19 38.2	-1.0		
BGKT	Bogazkoy	2.06	353	ePn	Pn	12 19 38.2	-1.0		
GCAM	G?zelcaml?	2.06	226	PN	Pn	12 19 39.8	+0.5		
GCAM	G?zelcaml?	2.06	226	ePn	Pn	12 19 39.8	+0.5		
MDUB	Mudurnu	2.08	50	PN	Pn	12 19 39.6	-0.1		
MDUB	Mudurnu	2.08	50	ePn	Pn	12 19 39.6	-0.1		
YER	Yerkesik	2.11	198	PN	Pn	12 19 40.4	+0.4		
YER	Yerkesik	2.11	198	ePn	Pb	12 19 42.9	+0.3		
YER				S	Sg	12 20 10.6	-0.8		
YER	Yerkesik	2.11	198	ePn	Pn	12 19 40.4	+0.4		
YER	Yerkesik	2.11	198	P	Pb	12 19 42.9	+0.3		
YER				S	Sg	12 20 10.6	-0.8		
YER	Yerkesik	2.11	198	P	Pn	12 19 40.4	+0.4		
KLYT	Kilyos	2.11	358	PN	Pn	12 19 38.8	-1.2		
KLYT	Kilyos	2.11	358	ePn	Pn	12 19 38.8	-1.2		
URLA	Izmir	2.12	249	PN	Pn	12 19 40.0	-0.1		
URLA	Izmir	2.12	249	ePn	Pn	12 19 40.0	-0.1		
MLSB	Milas	2.12	210	PN	Pn	12 19 40.6	+0.4		
MLSB	Milas	2.12	210	ePn	Pn	12 19 40.6	+0.4		
CTKS	Kestanelik-??a	2.14	348	PN	Pn	12 19 39.5	-0.9		
CTKS	Kestanelik-??a	2.14	348	ePn	Pn	12 19 39.5	-0.9		
RKY	Sarkoy-Tekirda	2.15	317	PN	Pn	12 19 40.8	+0.3		
RKY	Sarkoy-Tekirda	2.15	317	ePn	Pn	12 19 40.8	+0.3		
LPK	Lapseki	2.19	305	PN	Pn	12 19 41.4	+0.3		
LPK	Lapseki	2.19	305	ePn	Pn	12 19 41.4	+0.3		
SLVT	Silivri	2.20	342	PN	Pn	12 19 41.4	+0.2		
SLVT	Silivri	2.20	342	ePn	Pn	12 19 41.4	+0.2		
TKR	Tekirdag	2.21	327	PN	Pn	12 19 41.2	-0.1		
TKR	Tekirdag	2.21	327	ePn	Pn	12 19 41.2	-0.1		
PRK	Paraskevi	2.21	274	P	Pb	12 19 45.2	+0.8		
PRK				S	Sg	12 20 16.3	+1.6		
PRK	Paraskevi	2.21	274	P	Pb	12 19 45.2	+0.8		
SUTC	Sutluce-Ispart	2.23	138	PN	Pn	12 19 41.4	-0.3		
SUTC	Sutluce-Ispart	2.23	138	ePn	Pn	12 19 41.4	-0.3		
CRLT	Corlu	2.25	332	PN	Pn	12 19 42.4	+0.5		
CRLT	Corlu	2.25	332	ePn	Pn	12 19 42.4	+0.5		
EZN	Ezine	2.27	288	PN	Pn	12 19 42.7	+0.6		
EZN	Ezine	2.27	288	P	Pg	12 19 47.1	0.0		
EZN				S	Sg	12 20 15.0	-1.4		
EZN	Ezine	2.27	288	ePn	Pn	12 19 42.7	+0.6		
EZN	Ezine	2.27	288	P	Pn	12 19 42.7	+0.6		
SMG	Samos	2.29	232	P	Pg	12 19 47.3	-0.3		
SMG				S	Sg	12 20 19.5	+2.2		
SMG	Samos	2.29	232	P	Pg	12 19 47.3	-0.3		
TURN	Turunc	2.30	190	PN	Pb	12 19 43.8	-2.1		
TURN	Turunc	2.30	190	ePn	Pb	12 19 43.8	-2.1		
KORT	Korkueli	2.35	155	PN	Pn	12 19 43.1	-0.3		
KORT	Korkueli	2.35	155	ePn	Pn	12 19 43.1	-0.3		
GELI	Tayfur-Gelibol	2.39	302	PN	Pn	12 19 44.5	+0.7		
GELI	Tayfur-Gelibol	2.39	302	ePn	Pn	12 19 44.5	+0.7		
CTYL	Yalikoy Yolu	2.42	345	PN	Pn	12 19 43.2	-1.0		
CTYL	Yalikoy Yolu	2.42	345	ePn	Pn	12 19 43.2	-1.0		
KIYI	Yal¯–koy-Catal	2.42	345	PN	Pn	12 19 44.7	+0.4		
KIYI	Yal¯–koy-Catal	2.42	345	ePn	Pn	12 19 44.7	+0.4		
ELL	Elmali	2.47	165	PN	Pn	12 19 45.1	0.0		
ELL	Elmali	2.47	165	P	Pn	12 19 45.0	0.0		
ELL	Elmali	2.47	165	P	Pn	12 19 45.0	0.0		
BOZC	Bozcaada	2.47	287	PN	Pn	12 19 44.9	0.0		
BOZC	Bozcaada	2.47	287	ePn	Pn	12 19 44.9	0.0		
FETY	Fethiye	2.50	181	PN	Pn	12 19 44.1	-1.3		
FETY	Fethiye	2.50	181	P	Pb	12 19 48.1	-1.2		
FETY	Fethiye	2.50	181	ePn	Pn	12 19 44.1	-1.3		
FETY	Fethiye	2.50	181	P	Pb	12 19 48.1	-1.2		
CHOS	Chios island	2.51	253	PN	Pn	12 19 44.3	-1.2		
CHOS	Chios island	2.51	253	P	Pg	12 19 51.5	-0.2		
CHOS	Chios island	2.51	253	ePn	Pn	12 19 44.3	-1.2		
BODT	Bodrum	2.52	215	PN	Pn	12 19 45.8	+0.2		
BODT	Bodrum	2.52	215	ePn	Pn	12 19 45.8	+0.2		
ERIK	Erikli-Kesan	2.52	308	PN	Pn	12 19 45.8	+0.2		
ERIK	Erikli-Kesan	2.52	308	ePn	Pn	12 19 45.8	+0.2		
SIGR	SIGRI	2.54	273	PN	Pn	12 19 45.9	+0.1		
SIGR	SIGRI	2.54	273	P	Pb	12 19 50.9	+1.0		
SIGR				S	Sg	12 20 24.4	-0.7		
SIGR	SIGRI	2.54	273	ePn	Pn	12 19 45.9	+0.1		
SIGR	SIGRI	2.54	273	P	Pb	12 19 50.9	+1.0		
GADA	Gvkgeada	2.70	294	PN	Pn	12 19 48.9	+0.9		
GADA	Gvkgeada	2.70	294	P	Pb	12 19 51.7	-0.9		
GADA				S	Sb	12 20 26.0	-0.1		
GADA	Gvkgeada	2.70	294	ePn	Pn	12 19 48.9	+0.9		
GADA	Gvkgeada	2.70	294	P	Pb	12 19 51.7	-0.9		
GADA				S	Sb	12 20 26.0	-0.1		
LADK	Ladik-KONYA	2.71	109	PN	Pn	12 19 48.3	-0.1		
LADK	Ladik-KONYA	2.71	109	ePn	Pn	12 19 48.3	-0.1		
PHSR	Pinarhisar	2.77	334	PN	Pn	12 19 49.7	+0.7		
PHSR	Pinarhisar	2.77	334	ePn	Pn	12 19 49.7	+0.7		
ENEZ	Enez	2.78	306	PN	Pn	12 19 49.7	+0.5		
ENEZ	Enez	2.78	306	ePn	Pn	12 19 49.7	+0.5		
BR231	Keskin MP Arra	2.92	75	ePn	Pn	12 19 51.8	+0.6		
BR231				ePn	Pg	12 20 00.2	+0.7		
BR231				eSn	Sg	12 20 43.2	+5.8		
BR231	Keskin MP Arra	2.92	75	ePn	Pn	12 19 51.8	+0.6		
AKAS	Kas	2.93	172	PN	Pn	12 19 50.3	-1.1		
AKAS	Kas	2.93	172	ePn	Pn	12 19 50.3	-1.1		
ANTO	Ankara	2.94	75	ePn	Pn	12 19 52.2	+0.8		
ANTO	Ankara	2.94	75	eP	Pn	12 19 52.2	+0.8		
ANTO	Ankara	2.94	75	eP	Pn	12 19 52.2	+0.8		
ALN	Alexandroupoli	2.94	308	PN	Pn	12 19 51.1	-0.3		
ALN	Alexandroupoli	2.94	308	ePn	Pn	12 19 50.9	-0.4		
ALN	Alexandroupoli	2.94	308	P	Pb	12 19 53.8	-2.9		
ALN				S	Sb	12 20 32.8	-0.3		
ALN	Alexandroupoli	2.94	308	ePn	Pn	12 19 51.1	-0.3		
ALN	Alexandroupoli	2.94	308	eP	Pn	12 19 50.9	-0.4		
ARG	Arkhangelos	3.02	195	P	Pb	12 19 56.9	-1.3		
ARG	Arkhangelos	3.02	195	P	Pb	12 19 56.9	-1.3		
SMTH	Samothraki Isl	3.06	297	P	Pb	12 19 56.1	-2.8		
SMTH				S	Sb	12 20 35.1	-1.7		
SMTH	Samothraki Isl	3.06	297	P	Pb	12 19 56.1	-2.8		
SMTH				S	Sb	12 20 35.1	-1.7		
AFSR	Af˘ar-Bala (A	3.08	83	PN	Pn	12 19 53.7	+0.2		
AFSR	Af˘ar-Bala (A	3.08	83	ePn	Pn	12 19 53.7	+0.2		
LIA	Limnos Island	3.13	285	P	Pb	12 19 58.5	-1.6		
LIA	Limnos Island	3.13	285	P	Pb	12 19 58.5	-1.6		
EDRB	Edirne	3.25	327	PN	Pn	12 19 55.2	-0.5		
EDRB	Edirne	3.25	327	ePn	Pn	12 19 55.2	-0.5		
APE	Apeiranthos	3.50	235	PN	Pn	12 19 58.9	-0.3		
APE	Apeiranthos	3.50	235	eP	Pn	12 19 58.1	-1.1		
APE	Apeiranthos	3.50	235	ePn	Pn	12 19 58.9	-0.3		
APE	Apeiranthos	3.50	235	eP	Pn	12 19 58.1	-1.1		
BR101	Keskin Array S	3.55	79	ePn	Pn	12 20 00.3	+0.4		
BR101				eLg	Lg	12 20 57.6			
BR101	Keskin Array S	3.55	79	ePn	Pn	12 20 00.3	+0.4		
BR101				eLg	Lg	12 20 57.6			
BR131	Keskin Array S	3.55	79	ePn	Pn	12 20 00.7	+0.8		
BR131	Keskin Array S	3.55	79	ePn	Pn	12 20 00.7	+0.8		
BRTR	Keskin Array B	3.55	79	Pn	Pn	12 20 00.3	+0.4		
	0.8nm,0.3s,baz=257,slow=13,SNR=19								
BRTR				Lg	Lg	12 20 57.6			
	0.3nm,0.3s,baz=264,slow=24,SNR=4.9								
ILGA	Ilgaz	4.01	60	ePn	Pn	12 20 08.8	+2.5		
ILGA	Ilgaz	4.01	60	ePn	Pn	12 20 08.9	+2.5		
PLD	Plovdiv	4.48	313	ePn	Pn	12 20 11.9	-0.6		
PLD	Plovdiv	4.48	313	P	Pn	12 20 14.7	+2.2		
PLD	Plovdiv	4.48	313	P	Pn	12 20 14.7	+2.2		
SRS	Serrai	4.67	297	ePn	Pn	12 20 15.8	+0.6		
SRS	Serrai	4.67	297	P	Pn	12 20 17.1	+1.9		
SRS	Serrai	4.67	297	P	Pn	12 20 17.1	+1.9		
IDI	Anoyia	5.12	223	Pn	Pn	12 20 17.2	-4.1		
	0.2nm,0.3s,baz=44,slow=16,SNR=2.7								
TIRR	Tirgusor	5.34	355	iP	Pn	12 20 24.3	0.0		
TIRR	Tirgusor	5.34	355	ePn	Pn	12 20 24.1	-0.2		
TIRR	Tirgusor	5.34	355	eP	Pn	12 20 24.1	-0.2		
TIRR	Tirgusor	5.34	355	eP	Pn	12 20 24.1	-0.2		
CSS	Mathiatis	5.36	140	ePn	Pn	12 20 24.5	-0.2		
CSS	Mathiatis	5.36	140	ePn	Pn	12 20 24.5	-0.2		
VTS	Vitosha	5.65	309	iP	Pn	12 20 33.7	+4.9		
VTS	Vitosha	5.65	309	ePn	Pn	12 20 29.9	+1.1		
VTS	Vitosha	5.65	309	eP	Pn	12 20 29.9	+1.1		
VTS	Vitosha	5.65	309	eP	Pn	12 20 29.9	+1.1		
TLCR		6.04	358	iP	Pn	12 20 34.6	+0.6		
TLCR		6.04	358	iP	Pn	12 20 34.6	+0.6		
CFR	Carcaliu	6.08	353	iP	Pn	12 20 34.1	-0.4		
CFR	Carcaliu	6.08	353	P	Pn	12 20 34.0	-0.4		
CFR	Carcaliu	6.08	353	P	Pn	12 20 34.0	-0.4		
SEV	Sevastopol'	6.38	31	eP	Pn	12 20 36.4	-2.2		
SEV	Sevastopol'	6.38	31	eP	Pn	12 20 36.4	-2.2		
SEV				eS	Sn	12 21 45.8	-6.2		
MLR	Muntele Rosu	6.77	341	Pn	Pn	12 20 45.0	+0.9		
	0.1nm,0.3s,baz=237,slow=9.7,SNR=12								
MLR	Muntele Rosu	6.77	341	iP	Pn	12 20 45.2	+1.1		
MLR	Muntele Rosu	6.77	341	ePn	Pn	12 20 44.8	+0.7		
MLR				ePn	Pn	12 20 45.0	+0.9		
MLR	Muntele Rosu	6.77	341	eP	Pn	12 20 44.8	+0.7		
MLR	Muntele Rosu	6.77	341	eP	Pn	12 20 44.8	+0.7		
ODBI	Odobesti	6.79	348	iP	Pn	12 20 45.5	+1.2		
ODBI	Odobesti	6.79	348	iP	Pn	12 20 45.5	+1.2		
SIM	Simferopol'	6.89	31	eP	Pb	12 20 55.6	-8.5		
SIM				S	Sn	12 22 01.9	-2.8		
SIM				pmax	pmax				
	comp=Z,19nm,0.4s								
SIM				smax	smax				
	comp=N,8.0nm,0.8s								
SIM				smax	smax				
	comp=E,25nm,0.9s								
PLOR	Plostina	6.95	346	iP	Pn	12 20 47.9	+1.4		
PLOR	Plostina	6.95	346	P	Pn	12 20 47.9	+1.4		
PLOR	Plostina	6.95	346	P	Pn	12 20 47.9	+1.4		
VRI	Vrincioaia	6.95	346	iP	Pn	12 20 46.6	+0.1		
VRI	Vrincioaia	6.95	346	P	Pn	12 20 48.0	+1.5		
	comp=E,270nm,0.8s								
VRI	Vrincioaia	6.95	346	P	Pn	12 20 48.0	+1.5		
VRI				pmax	pmax				
	comp=Z,270nm,0.8s								
VOIR		6.98	336	iP	Pn	12 20 47.4	+0.5		
VOIR		6.98	336	P	Pn	12 20 47.4	+0.5		
VOIR		6.98	336	P	Pn	12 20 47.4	+0.5		
ARR	Arges	7.05	333	iP	Pn	12 20 48.1	+0.1		
ARR	Arges	7.05	333	iP	Pn	12 20 48.1	+0.1		
BOVS	Bovan	7.15	311	ePn	Pn	12 20 49.0	-0.3		
SUDU	Sudak	7.22	35	eP	Pn	12 20 52.2	+2.0		
SUDU				eS	Sn	12 22 13.7	+0.9		
SUDU	Sudak	7.22	35	eP	Pn	12 20 52.2	+2.0		
SUDU				eS	Sn	12 22 13.7	+0.9		
SELS	Selova	7.28	307	ePn	Pn	12 20 49.4	-1.6		
DOPR	Dopca	7.36	339	iP	Pn	12 20 52.7	+0.6		
DOPR	Dopca	7.36	339	iP	Pn	12 20 52.7	+0.6		
TESR	Tescani	7.59	347	iP	Pn	12 20 54.5	-0.7		
TESR	Tescani	7.59	347	iP	Pn	12 20 54.5	-0.7		
HERR	Herculane	7.60	321	iP	Pn	12 20 57.1	+1.7		
KUBS	Kucevo	7.66	316	ePn	Pn	12 20 54.8	-1.4		
MDB	Medias	7.82	335	iP	Pn	12 20 59.6	+1.2		
MDB	Medias	7.82	335	P	Pn	12 20 59.5	+1.2		
MDB	Medias	7.82	335	P	Pn	12 20 59.5	+1.2		
KIS	Kishinev	7.86	359	iP	Pb	12 21 11.4	-9.1		
GRUS	Gruza	7.89	310	ePn	Pn	12 20 59.9	+0.6		
MMAI	Mount Meron Ar	7.95	138	Pn	Pn	12 20 59.8	-0.6		
	comp=Z,1.7nm,0.3s,baz=320,slow=14,SNR=5.1								
BZS	Buzias	8.52	322	iP	Pn	12 21 09.3	+1.3		
BZS	Buzias	8.52	322	P	Pn	12 21 09.3	+1.3		
BZS	Buzias	8.52	322	P	Pn	12 21 09.3	+1.3		
BURAR	Bucovina Array	8.93	343	iP	Pn	12 21 14.6	+0.9		
BURAR	Bucovina Array	8.93	343	iP	Pn	12 21 14.6	+0.9		
BURAR	Bucovina Array	8.93	343	P	Pn	12 21 14.6	+0.9		
BUR04	Bucovina Ar. S	8.94	343	ePn	Pn	12 21 14.5	+0.7		
BUR04	Bucovina Ar. S	8.94	343	ePn	Pn	12 21 14.5	+0.7		
BUR08	Bucovina Ar. S	8.96	343	ePn	Pn	12 21 14.2	0.0		
BUR08	Bucovina Ar. S	8.96	343	ePn	Pn	12 21 14.2	0.0		
SORM	Soroca	9.01	357	iP	Pn	12 21 14.3	-0.4		
SORM	Soroca	9.01	357	P	Pn	12 21 14.3	-0.4		
SORM	Soroca	9.01	357	P	Pn	12 21 14.3	-0.4		
KIV	Kislovodsk	11.25	60	eP	Pn	12 21 48.1	+2.7		
KIV				pmax	pmax				
	comp=Z,4.0nm,1.0s								
KIEV	Kiev	11.55	0	eP	Pn	12 21 53.4	+3.9		
KIEV				pmax	pmax				
	comp=Z,7.0nm,2.3s								
AKASG	Malin Array Be	11.56	0	Pn	Pn	12 21 46.9	-2.7		
	comp=Z,0.3nm,0.3s,baz=187,slow=14,SNR=2.8								
AKBB	Malin Array Si	11.56	0	ePn	Pn	12 21 49.3	-0.3		
AKBB	Malin Array Si	11.56	0	eP	Pn	12 21 49.3	-0.3		
AKBB	Malin Array Si	11.56	0	eP	Pn	12 21 49.3	-0.3		
NCK	Nalchik	11.72	64	eP	Pn	12 21 55.5	+3.6		
CLL	Collm	16.59	322	e(sP)	P	12 23 00.0	+0.1		
CLL	Collm	16.59	322	eP	P	12 23 00.0	+0.1		
CLL	Collm	16.59	322	eP	P	12 23 00.0	+0.1		
OBN	Obninsk	16.75	15	eP	P	12 23 02.6	+1.1		
OBN				pmax	pmax				
	comp=Z,4.0nm,0.8s								
FIA0	FINESS Array S	22.41	356	eP	P	12 24 02.1	-1.1		
FIA0	FINESS Array S	22.41	356	eP	P	12 24 02.1	-1.1		
FINES	FINESS Array B	22.41	356	P	P	12 24 02.1	-1.1		
	comp=Z,1.1nm,0.7s,baz=146,slow=18,SNR=2.7								
HFS	Hagfors	23.15	340	P	P	12 24 08.6	-2.4		
	comp=Z,1.6nm,0.8s,baz=130,slow=14,SNR=2.7								
AKTO	Aktyubinsk	23.26	51	P	P	12 24 12.5	+0.2		
	comp=Z,1.1nm,0.7s,baz=256,slow=8.9,SNR=3.9								
ARU	Arti	25.98	39	eP	P	12 24 41.3	+3.8		
ARU				pmax	pmax				
	comp=Z,2.0nm,0.8s								
LVZ	Lovozero	28.97	4	iP	P	12 25 06.6	+2.3		
BRVK	Borovoye	31.29	50	eP	P	12 25 29.0	+4.2		
BRVK				pmax	pmax				
	comp=Z,1.0nm,0.6s								
AAK	Ala-Archa	34.17	69	eP	P	12 25 52.3	+1.9		
AAK				pmax	pmax				
	comp=Z,2.0nm,1.2s								
MK32	Makanchi Array	39.01	61	eP	P	12 26 32.5	+1.1		
MKAR	Makanchi Array	39.01	61	P	P	12 26 32.5	+1.1		
	comp=Z,0.2nm,0.4s,baz=284,slow=5.8,SNR=3.0								
KRAR	Krasnoyarsk	44.50	46	eP	P	12 27 20.3	+4.1		
SONA0	Songino Array	54.55	54	eP	P	12 28 32.6	-0.7		
SONM	Songino Array	54.55	54	P	P	12 28 32.6	-0.7		
	comp=Z,0.3nm,0.3s,baz=269,slow=7.2,SNR=2.0								
PALK	Pallekele	56.05	110	LR	LR	12 54 45.2			
	comp=Z,317nm,20.6s,baz=205,slow=38								
BILL	Bilibino	68.41	16	eP	P	12 30 11.2	+4.8		
BILL				e		12 30 34.6			
BILL				e		12 32 41.2			
BILL				pmax	pmax				
	comp=Z,1.0nm,1.1s								
KSAR	Wonju Array Be	73.37	55	P	P	12 30 35.6	-1.4		
KSAR	Wonju Array Be	73.37	55	P	P	12 30 35.6	-1.4		
KSRS	Korea Array	73.39	55	P	P	12 30 35.6	-1.5		
	comp=Z,1.3nm,0.8s,baz=321,slow=4.3,SNR=4.6								

ISN ***16*** *12:21:52.9±0.3, 38.32N×43.67E, h0km, ML3.3*
ATA ***16*** *12:21:53.3±1.3, 38.70N×43.80E, h0km±5km, ML3.7, MW3.6*
ISK ***16*** *12:21:55.9, 38.79N×43.61E, h7km, ML3.2/8*
CSEM ***16*** *12:21:56.4±0.3, 38.80N×43.68E, h10km, ML3.2, Error ellipse: s-maj=6.8km s-min=4.1km az=109.0*
DDA ***16*** *12:21:56.4, 38.74N×43.71E, h7km, Ml3.4*

ISC 16 12:21:56.3±1.1, 38.74N±0.02×43.73E±0.03, h9km±9km, n53, σ1s32/82, 1D, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VMUR	Van-Muradiye	0.28	334	*i* P	Pg	12 22 01.6	-0.3
VMUR				*i* S	Sb	12 22 07.6	-0.9
VMUR	Van-Muradiye	0.28	334	P	Pg	12 22 01.6	-0.3
VMUR				S	Sb	12 22 07.6	-0.9
VANB	Van	0.30	241	PG	Pg	12 22 02.8	+0.5
VANB	Van	0.30	241	*e*Pg	Pg	12 22 02.8	+0.5
TVAN	Van	0.33	230	*i* P	Pg	12 22 02.7	-0.1
TVAN				*i* S	Sb	12 22 09.1	-0.8
TVAN	Van	0.33	230	P	Pg	12 22 02.7	-0.1
TVAN				S	Sb	12 22 09.1	-0.8
CLDR	Caldiran	0.43	20	PG	Pg	12 22 03.9	-0.8
CLDR				SG	Sg	12 22 11.6	+1.2
CLDR	Caldiran	0.43	20	*i* P	Pg	12 22 03.7	-1.1
CLDR				*i* S	Sb	12 22 11.8	-1.1
CLDR	Caldiran	0.43	20	*e*Pg	Pg	12 22 03.9	-0.8
CLDR				*e*Sg	Sg	12 22 11.6	+1.2
GEVA	Gevas	0.68	231	eP	Pg	12 22 08.3	-1.0
GEVA				eS	Sb	12 22 19.3	-0.6
GEVA				IAML		12 22 29.8	
	comp=Z,256nm,0.6s						
GEVA	Gevas	0.68	231	*i* P	Pg	12 22 08.3	-1.0
GEVA				*i* S	Sb	12 22 20.6	+0.6
ADCV	BITLIS_Adilcev	0.79	275	*i* P	Pg	12 22 10.9	-0.5
ADCV				*i* S	Sb	12 22 23.1	0.0
ADCV	BITLIS_Adilcev	0.79	275	P	Pg	12 22 10.9	-0.5
ADCV				S	Sb	12 22 23.1	0.0
DYDN	Diyadin	0.80	358	eP	Pg	12 22 10.7	-1.1
DYDN				IAML		12 22 38.6	
	comp=Z,93nm,0.6s						
DYDN	Diyadin	0.80	358	*i* P	Pg	12 22 11.2	-0.6
DYDN				*i* S	Sb	12 22 24.5	+0.8
DYDN	Diyadin	0.80	358	P	Pg	12 22 11.2	-0.6
DYDN				S	Sb	12 22 24.5	+0.8
TUTA	Tutak	0.97	313	eP	Pg	12 22 13.4	-1.6
TUTA				IAML		12 22 33.5	
	comp=Z,332nm,0.4s						
TUTA	Tutak	0.97	313	*i* P	Pg	12 22 13.4	-1.6
TUTA				*i* S	Sb	12 22 28.0	-0.5
TUTA	Tutak	0.97	313	P	Pg	12 22 13.4	-1.6
TUTA				S	Sb	12 22 28.0	-0.5
AGRB	Hanur-Agry	1.01	326	PG	Pg	12 22 14.1	-1.6
AGRB				SG	Sg	12 22 26.9	-2.0
AGRB	Hanur-Agry	1.01	326	*e*Pg	Pg	12 22 14.1	-1.6
AGRB				*e*Sg	Sg	12 22 26.9	-2.0
IGDI	IGDIR	1.16	13	eP	Pg	12 22 17.8	-0.8
IGDI				eS	Sn	12 22 34.8	0.0
IGDI				IAML		12 22 39.9	
	comp=Z,43nm,0.5s						
IGDI	IGDIR	1.16	13	*i* P	Pn	12 22 19.4	+0.5
IGDI				*i* S	Sn	12 22 36.4	+1.5
HAKT	HAKKARI	1.18	181	*i* P	Pg	12 22 17.6	-1.3
HAKT				*i* S	Sn	12 22 37.2	+1.7
YOVA	Hakkari_Y¨…kse	1.23	159	*i* P

H11N3	**WAKE ISLAND Hy**	**27.55**	**119**	T	T	12 57 38.3			
	baz=324								
H11S1	**WAKE ISLAND Hy**	**28.20**	**121**	T	T	12 58 28.3			
	baz=326								
H11S3	**WAKE ISLAND Hy**	**28.20**	**121**	T	T	12 58 29.6			
	baz=326								
H11S2	**WAKE ISLAND Hy**	**28.22**	**121**	T	T	12 58 26.8			
	baz=326								
WRA	**Warramunga Arr**	**55.84**	**188**	P	**P**	**12 33 15.0**	**0.0**		
	0.4nm,0.8s,baz=6.8,slow=7.6,SNR=3.5								
ASAR	**Alice Springs**	**59.57**	**188**	P	**P**	**12 33 42.1**	**+0.9**		
	0.4nm,1.0s,baz=1.7,slow=6.2,SNR=6.2								

IDC 16 12:30:28.1±2.0, 2.93N×127.86E, h0km, mb3.3/4, mb1 3.5/4, mb1mx3.3/54, mbtmp3.4/4, Error ellipse: s-maj=100.2km s-min=25.3km az=70.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**21.01**	**186**	P	P	12 35 15.4	+2.0
	0.7nm,0.8s,baz=33,slow=11						
WRA	**Warramunga Arr**	**23.60**	**165**	P	P	12 35 40.3	-0.6
	0.3nm,0.3s,baz=342,slow=10.0,SNR=15						
ASAR	**Alice Springs**	**27.08**	**168**	P	P	12 36 11.7	-1.0
	0.2nm,0.3s,baz=351,slow=7.4,SNR=17						
MKAR	**Makanchi Array**	**58.86**	**325**	P	P	12 40 29.2	+0.5
	0.2nm,0.4s,baz=131,slow=8.3,SNR=4.0						

NNC 16 12:35:37.8±1.6, 37.81N×71.67E, h0km, mb3.5, mpv3.2, 2C-3D, Error ellipse: s-maj=13.8km s-min=5.6km az=152.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZET	**Dzherino**	**2.45**	**295**	⇑P	Pn	12 36 19.1	-0.1
	2.3nm,0.1s						
DZET				⇓S	Sn	12 36 51.1	+1.3
	18nm,0.5s						
MNAS	**Manas**	**4.72**	**8**	⇓P	Pn	12 36 50.8	+0.4
	1.3nm,0.3s						
MNAS				⇓S	Sn	12 37 46.6	+0.7
	3.8nm,0.7s						
KK31	**Karatay Array**	**5.36**	**351**	P	Pn	12 36 59.5	+0.4
	1.0nm,0.5s,baz=175,slow=14,SNR=11						
KK31				⇑S	Sn	12 38 03.3	+1.7
	4.2nm,0.5s,baz=163,slow=21,SNR=16						

ISK ***16*** *12:37:09.3, 39.10N×29.18E, h8km, ML2.3/5*
ISCJB ***16*** *12:37:10.2±0.5, 39.10N±0.04×29.15E±0.04, h9km±4km, Error ellipse: s-maj=6.8km s-min=4.5km az=154.0*
CSEM ***16*** *12:37:10.0±0.1, 39.09N×29.17E, h10km, ML2.3, Error ellipse: s-maj=3.0km s-min=2.1km az=133.0*
DDA ***16*** *12:37:10.5, 39.07N×29.13E, h7km, Ml2.5*

ISC 16 12:37:10.4±0.9, 39.12N±0.03×29.14E±0.03, h11km±6km, n22, σ0=9.39/36, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIMA	**Simav-Kutahya**	**0.12**	**255**	PG	**Pg**	**12 37 13.4**	**-0.1**
SIMA				SG	**Sg**	**12 37 15.6**	**-0.2**
SIMA	**Simav-Kutahya**	**0.12**	**255**	*e*Pg	**Pg**	**12 37 13.4**	**-0.1**
SIMA				*e*Sg	**Sg**	**12 37 15.6**	**-0.2**
GDZ	**Gediz**	**0.27**	**95**	*i* P	**Pg**	**12 37 16.2**	**+0.2**
GDZ				*i* S	**Sg**	**12 37 20.3**	**+0.5**
GDZ	**Gediz**	**0.27**	**95**	P	**Pg**	**12 37 16.2**	**+0.2**
GDZ				S	**Sg**	**12 37 20.3**	**+0.5**
DEMI	**Demirci**	**0.33**	**258**	*i* P	**Pg**	**12 37 17.5**	**+0.3**
DEMI				*i* S	**Sg**	**12 37 21.5**	**-0.1**
DEMI	**Demirci**	**0.33**	**258**	P	**Pg**	**12 37 17.5**	**+0.3**
DEMI				S	**Sg**	**12 37 21.5**	**-0.1**
TVSB	**Tavsanli**	**0.42**	**37**	PG	**Pg**	**12 37 17.9**	**-0.8**
TVSB				SG	**Sg**	**12 37 24.1**	**-0.2**
TVSB	**Tavsanli**	**0.42**	**37**	*e*Pg	**Pg**	**12 37 17.9**	**-0.8**
TVSB				*e*Sg	**Sg**	**12 37 24.1**	**-0.2**
KULA	**Kula-Manisa**	**0.70**	**212**	PG	**Pg**	**12 37 23.3**	**-0.8**
KULA	**Kula-Manisa**	**0.70**	**212**	*e*Pg	**Pg**	**12 37 23.3**	**-0.8**
DURS	**Dursunbey**	**0.71**	**314**	*i* P	**Pb**	**12 37 24.9**	**+0.1**
DURS				*i* S	**Sg**	**12 37 33.5**	**+0.1**
DURS	**Dursunbey**	**0.71**	**314**	P	**Pb**	**12 37 24.9**	**+0.1**
DURS				S	**Sg**	**12 37 33.5**	**+0.1**
MANT	**Manisa**	**0.77**	**216**	*i* P	**Pg**	**12 37 25.2**	**-0.1**
MANT				*i* S	**Sg**	**12 37 34.9**	**-0.5**
MANT	**Manisa**	**0.77**	**216**	P	**Pg**	**12 37 25.2**	**-0.1**
MANT				S	**Sg**	**12 37 34.9**	**-0.5**
STEP	**BALIKESIR_Sava**	**1.13**	**284**	*i* P	**Pn**	**12 37 32.5**	**+0.3**
STEP				*i* S	**Sn**	**12 37 48.2**	**+0.4**
STEP	**BALIKESIR_Sava**	**1.13**	**284**	P	**Pn**	**12 37 32.5**	**+0.3**
STEP				S	**Sn**	**12 37 48.2**	**+0.4**
KCTX	**Karacabey (Bur**	**1.30**	**333**	PN	**Pn**	**12 37 34.5**	**0.0**
KCTX	**Karacabey (Bur**	**1.30**	**333**	*e*Pn	**Pn**	**12 37 34.5**	**0.0**
ARMT	**Armutlu**	**1.46**	**352**	PN	**Pn**	**12 37 36.9**	**+0.1**
ARMT	**Armutlu**	**1.46**	**352**	*e*Pn	**Pn**	**12 37 36.9**	**+0.1**
AYDB	**Zeytinkoy-Aydi**	**1.52**	**220**	PN	**Pn**	**12 37 37.6**	**-0.1**
AYDB	**Zeytinkoy-Aydi**	**1.52**	**220**	*e*Pn	**Pn**	**12 37 37.6**	**-0.1**

ATH ***16*** *12:47:57.9, 38.30N×22.13E, h10km±2km, ML3.0/18, Error ellipse: s-maj=2.4km s-min=0.7km az=324.0*
ISCJB ***16*** *12:47:58.1±0.2, 38.29N±0.01×22.13E±0.02, h6km±2km, mb3.5/4, MS3.9/5, Error ellipse: s-maj=2.4km s-min=2.3km az=21.2*
IASPEI ***16*** *12:47:58.4±0.8, 38.30N±0.01×22.12E±0.01, h7km±5km, mb3.7/4, MS3.9/5, Error ellipse: s-maj=2.0km s-min=1.9km az=107.0, GT5 selection from ISC bulletin GT5 identified by Bondˇjr and McLaughlin (2009) selection criteria Bondˇjr and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009*
CSEM ***16*** *12:47:58.0±0.1, 38.30N×22.12E, h5km, ML3.0, Error ellipse: s-maj=1.7km s-min=1.6km az=6.0*
THE ***16*** *12:47:58.5, 38.29N×22.12E, h2km±1km, ML3.3/6, Error ellipse: s-maj=1.4km s-min=0.4km az=257.0*
IDC ***16*** *12:47:58.1±1.5, 38.21N×22.35E, h0km, mb3.6/5, mb1 3.6/8, mb1mx3.4/58, mbtmp3.5/8, ML3.0/3, MS3.9/5, Ms1 3.9/5, ms1mx3.0/54, Error ellipse: s-maj=26.7km s-min=21.0km az=33.0*

ISC 16 12:47:58.4±0.8, 38.30N±0.01×22.12E±0.01, h6km±5km, n129, σ0=0.80/187, mb3.7/4, MS3.9/5, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TRIZ	**Trizonia**	**0.08**	**331**	P	**Pg**	**12 47 59.8**	**-0.5**
TRIZ				S	**Sg**	**12 48 01.4**	**-0.2**
TRIZ	**Trizonia**	**0.08**	**331**	P	**Pg**	**12 48 00.1**	**-0.2**
TRIZ				S	**Sg**	**12 48 01.7**	**+0.1**
TRIZ	**Trizonia**	**0.08**	**331**	P	**Pg**	**12 48 00.1**	**-0.2**
TRIZ				S	**Sg**	**12 48 01.7**	**+0.1**
KALE	**Kalithea**	**0.10**	**9**	P	**Pg**	**12 48 00.5**	**-0.1**
KALE				S	**Sg**	**12 48 02.6**	**+0.4**
KALE				AML	AML	12 48 02.8	
KALE				AML	AML	12 48 04.4	
	comp=E,45789μm,0.3s						
KALE	**Kalithea**	**0.10**	**9**	P	**Pg**	**12 48 00.5**	**-0.1**
KALE				S	**Sg**	**12 48 02.3**	**+0.2**
KALE	**Kalithea**	**0.10**	**9**	P	**Pg**	**12 48 00.5**	**-0.1**
KALE				S	**Sg**	**12 48 02.3**	**+0.2**
LAKA	**Lakka**	**0.12**	**243**	P	**Pg**	**12 48 01.1**	**+0.1**
LAKA				S	**Sg**	**12 48 02.8**	**0.0**
LAKA				AML	AML	12 48 04.8	
	comp=E,17394μm,0.2s						
LAKA				AML	AML	12 48 04.9	
	comp=N,12089μm,0.4s						
LAKA	**Lakka**	**0.12**	**243**	P	**Pg**	**12 48 01.1**	**+0.1**
LAKA				S	**Sg**	**12 48 03.1**	**+0.3**
LAKA	**Lakka**	**0.12**	**243**	P	**Pg**	**12 48 01.1**	**+0.1**
LAKA				S	**Sg**	**12 48 03.1**	**+0.3**
SERG	**Sergoula**	**0.13**	**337**	P	**Pg**	**12 48 00.9**	**-0.2**
SERG				S	**Sg**	**12 48 03.4**	**+0.5**
SERG	**Sergoula**	**0.13**	**337**	P	**Pg**	**12 48 00.9**	**-0.2**
SERG				S	**Sg**	**12 48 03.4**	**+0.5**
EFP	**Efpalio**	**0.21**	**308**	P	**Pg**	**12 48 02.2**	**-0.5**
EFP				S	**Sg**	**12 48 05.3**	**-0.1**
EFP				AML	AML	12 48 06.3	
	comp=N,21715μm,0.4s						
EFP				AML	AML	12 48 11.7	
	comp=E,11942μm,0.3s						
EFP	**Efpalio**	**0.21**	**308**	P	**Pg**	**12 48 02.5**	**-0.1**
EFP				S	**Sg**	**12 48 05.6**	**+0.1**
EFP	**Efpalio**	**0.21**	**308**	P	**Pg**	**12 48 02.5**	**-0.1**
EFP				S	**Sg**	**12 48 05.6**	**+0.1**
KLV	**Kalavryta, Ach**	**0.25**	**175**	P	**Pg**	**12 48 02.8**	**-0.6**
KLV				S	**Sg**	**12 48 07.5**	**+0.8**
KLV				AML	AML	12 48 08.2	
	comp=E,4810μm,0.2s						
KLV				AML	AML	12 48 08.3	
	comp=N,4506μm,0.3s						
KLV	**Kalavryta, Ach**	**0.25**	**175**	P	**Pg**	**12 48 03.1**	**-0.3**
KLV				S	**Sg**	**12 48 07.5**	**+0.8**
KLV	**Kalavryta, Ach**	**0.25**	**175**	P	**Pg**	**12 48 03.1**	**-0.3**
KLV				S	**Sg**	**12 48 07.2**	**+0.5**
UPR	**University Cam**	**0.26**	**267**	P	**Pg**	**12 48 04.0**	**+0.5**
UPR				S	**Sg**	**12 48 08.1**	**+1.1**
UPR	**University Cam**	**0.26**	**267**	P	**Pg**	**12 48 03.7**	**+0.2**
UPR				S	**Sg**	**12 48 08.1**	**+1.1**
UPR	**University Cam**	**0.26**	**267**	P	**Pg**	**12 48 03.7**	**+0.2**
UPR				S	**Sg**	**12 48 07.7**	**+0.7**
DSF	**Desfina**	**0.34**	**70**	P	**Pg**	**12 48 04.6**	**-0.4**
DSF				S	**Sg**	**12 48 10.4**	**+0.9**
DSF	**Desfina**	**0.34**	**70**	P	**Pg**	**12 48 04.6**	**-0.4**
DSF				S	**Sg**	**12 48 10.4**	**+0.9**
DLFA	**Delphi**	**0.35**	**58**	P	**Pg**	**12 48 04.4**	**-0.7**
DLFA				S	**Sg**	**12 48 10.4**	**+0.6**
DLFA				AML	AML	12 48 12.4	
	comp=N,4733μm,0.6s						
DLFA				AML	AML	12 48 14.6	
	comp=E,5302μm,0.5s						
DLFA	**Delphi**	**0.35**	**58**	P	**Pg**	**12 48 04.5**	**-0.7**
DLFA				S	**Sg**	**12 48 10.0**	**+0.3**
GUR	**Goura**	**0.40**	**154**	P	**Pg**	**12 48 05.4**	**-0.8**
GUR				S	**Sg**	**12 48 12.2**	**+0.8**
GUR				AML	AML	12 48 13.5	
	comp=N,15369μm,0.4s						
GUR				AML	AML	12 48 14.3	
	comp=E,8768μm,0.4s						
GUR	**Goura**	**0.40**	**154**	P	**Pg**	**12 48 05.6**	**-0.6**
GUR				S	**Sg**	**12 48 12.2**	**+0.8**
GUR	**Goura**	**0.40**	**154**	P	**Pg**	**12 48 05.6**	**-0.6**
GUR				S	**Sg**	**12 48 11.8**	**+0.4**
DRO	**Drossia**	**0.47**	**223**	P	**Pg**	**12 48 06.8**	**-0.7**
DRO				S	**Sb**	**12 48 15.0**	**-1.3**
DRO				AML	AML	12 48 18.0	
	comp=E,12806μm,0.2s						
DRO				AML	AML	12 48 20.8	
	comp=N,11246μm,0.4s						
DRO	**Drossia**	**0.47**	**223**	P	**Pg**	**12 48 07.2**	**-0.3**
DRO				S	**Sb**	**12 48 15.1**	**-1.2**
DRO	**Drossia**	**0.47**	**223**	P	**Pg**	**12 48 07.2**	**-0.3**
DRO				S	**Sg**	**12 48 14.4**	**+0.7**
THAL	**Thalero**	**0.50**	**121**	P	**Pg**	**12 48 08.1**	**0.0**
THAL				AML	AML	12 48 22.1	
	comp=N,4631μm,0.2s						
THAL				AML	AML	12 48 27.6	
	comp=E,6358μm,0.5s						
THAL	**Thalero**	**0.50**	**121**	P	**Pg**	**12 48 08.0**	**0.0**
THAL	**Thalero**	**0.50**	**121**	P	**Pg**	**12 48 07.8**	**-0.2**
PVO	**Paravola**	**0.57**	**305**	P	**Pg**	**12 48 08.8**	**-0.5**
PVO				S	**Sg**	**12 48 17.6**	**+0.9**
PVO				AML	AML	12 48 24.5	
	comp=N,2514μm,0.6s						
PVO				AML	AML	12 48 26.8	
	comp=E,2754μm,0.5s						
PVO	**Paravola**	**0.57**	**305**	P	**Pg**	**12 48 09.1**	**-0.2**
PVO	**Paravola**	**0.57**	**305**	P	**Pg**	**12 48 09.1**	**-0.2**
PVO				S	**Sg**	**12 48 17.2**	**+0.5**
RLS	**Riolos of Patr**	**0.57**	**245**	P	**Pg**	**12 48 08.5**	**-0.8**
RLS				S	**Sg**	**12 48 17.7**	**+1.0**
RLS				AML	AML	12 48 20.7	
	comp=E,2451μm,0.2s						
RLS				AML	AML	12 48 21.6	
	comp=N,3431μm,0.3s						
RLS	**Riolos of Patr**	**0.57**	**245**	P	**Pg**	**12 48 08.9**	**-0.4**
RLS				S	**Sg**	**12 48 17.6**	**+0.9**
RLS	**Riolos of Patr**	**0.57**	**245**	P	**Pg**	**12 48 08.9**	**-0.4**
RLS				S	**Sg**	**12 48 17.4**	**+0.7**
PROD	**Prodromos**	**0.61**	**93**	P	**Pg**	**12 48 10.1**	**-0.1**
PROD				AML	AML	12 48 25.4	
	comp=E,2757μm,0.4s						
PROD				AML	AML	12 48 25.8	
	comp=N,2299μm,0.5s						
PROD	**Prodromos**	**0.61**	**93**	P	**Pg**	**12 48 09.9**	**-0.3**
AXAR	**Agios Charalam**	**0.63**	**42**	P	**Pg**	**12 48 10.5**	**0.0**
AXAR				AML	AML	12 48 22.8	
	comp=E,7693μm,0.4s						
AXAR				AML	AML	12 48 28.2	
	comp=N,16354μm,0.6s						
AXAR	**Agios Charalam**	**0.63**	**42**	P	**Pb**	**12 48 11.1**	**-0.7**
AXAR				S	**Sb**	**12 48 20.0**	**-0.9**
AXAR	**Agios Charalam**	**0.63**	**42**	P	**Pg**	**12 48 10.2**	**-0.3**
AXAR				S	**Sb**	**12 48 20.0**	**-0.9**
EVR	**Evrytania**	**0.67**	**339**	P	**Pg**	**12 48 10.3**	**-0.9**
EVR				AML	AML	12 48 23.2	
	comp=E,3987μm,0.5s						
EVR				AML	AML	12 48 27.7	
	comp=N,4959μm,0.8s						
EVR	**Evrytania**	**0.67**	**339**	P	**Pg**	**12 48 10.6**	**-0.6**
EVR				S	**Sb**	**12 48 21.9**	**-0.1**
EVR	**Evrytania**	**0.67**	**339**	P	**Pg**	**12 48 10.6**	**-0.6**
EVR				S	**Sb**	**12 48 21.9**	**-0.1**
LTK	**Loutraki**	**0.72**	**112**	P	**Pg**	**12 48 12.4**	**+0.1**
LTK	**Loutraki**	**0.72**	**112**	P	**Pg**	**12 48 12.3**	**+0.1**
LTK	**Loutraki**	**0.72**	**112**	P	**Pg**	**12 48 12.0**	**-0.2**
LOUT	**Loutraki**	**0.74**	**114**	P	**Pg**	**12 48 12.4**	**-0.2**
LOUT	**Loutraki**	**0.74**	**114**	P	**Pg**	**12 48 12.4**	**-0.2**
AGG	**Agios Georgios**	**0.74**	**13**	P	**Pg**	**12 48 10.8**	**-1.9**
AGG	**Agios Georgios**	**0.74**	**13**	P	**Pg**	**12 48 11.6**	**-1.1**
AGG				S	**Sb**	**12 48 23.5**	**-0.6**
AGG	**Agios Georgios**	**0.74**	**13**	P	**Pg**	**12 48 11.6**	**-1.1**
AGG				S	**Sb**	**12 48 23.5**	**-0.6**
LKR	**Lokris**	**0.78**	**63**	P	**Pg**	**12 48 11.7**	**-1.6**
LKR				AML	AML	12 48 27.2	
	comp=E,2583μm,0.2s						
LKR				AML	AML	12 48 28.0	
	comp=N,2607μm,0.2s						
LKR	**Lokris**	**0.78**	**63**	P	**Pg**	**12 48 12.6**	**-0.7**
LKR	**Lokris**	**0.78**	**63**	P	**Pg**	**12 48 12.6**	**-0.7**
TRIP	**Tripoli**	**0.78**	**171**	P	**Pg**	**12 48 12.5**	**-0.8**
TRIP				S	**Sb**	**12 48 24.3**	**-0.8**
TRIP	**Tripoli**	**0.78**	**171**	P	**Pg**	**12 48 12.5**	**-0.8**
TRIP				S	**Sb**	**12 48 24.3**	**-0.8**
PDO	**Prodromos**	**0.80**	**293**	P	**Pb**	**12 48 14.4**	**-0.2**
PDO	**Prodromos**	**0.80**	**293**	P	**Pg**	**12 48 13.6**	**-0.1**
PDO				S	**Sb**	**12 48 25.1**	**-0.5**
PDO	**Prodromos**	**0.80**	**293**	P	**Pg**	**12 48 13.6**	**-0.1**
PDO				S	**Sb**	**12 48 25.1**	**-0.5**
AMT	**Artemida-Makis**	**0.83**	**203**	P	**Pg**	**12 48 14.0**	**-0.3**
AMT				AML	AML	12 48 30.7	
	comp=N,7722μm,0.4s						
AMT				AML	AML	12 48 33.0	
	comp=E,4331μm,0.4s						
AMT	**Artemida-Makis**	**0.83**	**203**	P	**Pg**	**12 48 14.1**	**-0.2**
AMT				S	**Sb**	**12 48 27.0**	**+0.4**
AMT	**Artemida-Makis**	**0.83**	**203**	P	**Pg**	**12 48 14.1**	**-0.2**
AMT				S	**Sb**	**12 48 27.0**	**+0.4**
VIL2	**Platees**	**0.91**	**95**	P	**Pb**	**12 48 16.6**	**+0.1**
VIL2				AML	AML	12 48 33.3	
	comp=N,2822μm,0.9s						
VIL2				AML	AML	12 48 36.3	
	comp=E,1512μm,0.9s						
VLX	**Vlachokerasia**	**0.95**	**167**	P	**Pg**	**12 48 14.8**	**-1.7**
VLX	**Vlachokerasia**	**0.95**	**167**	P	**Pg**	**12 48 15.6**	**-1.0**
VLX				S	**Sb**	**12 48 30.5**	**+0.5**
VLX	**Vlachokerasia**	**0.95**	**167**	P	**Pg**	**12 48 15.6**	**-1.0**
VLX				S	**Sb**	**12 48 30.5**	**+0.5**
VILL	**Villia**	**0.95**	**98**	P	**Pb**	**12 48 16.6**	**-0.6**
VILL				S	**Sb**	**12 48 30.3**	**+0.3**
VILL	**Villia**	**0.95**	**98**	P	**Pg**	**12 48 16.2**	**-0.4**
VILL				S	**Sb**	**12 48 30.3**	**+0.3**
SMIA	**Simia**	**1.03**	**55**	P	**Pg**	**12 48 17.6**	**-0.6**
SMIA	**Simia**	**1.03**	**55**	P	**Pg**	**12 48 17.6**	**-0.6**
ITM	**Ithomi**	**1.12**	**188**	P	**Pg**	**12 48 17.9**	**-2.0**
ITM				AML	AML	12 48 42.2	
	comp=N,1218μm,0.4s						
ITM				AML	AML	12 48 43.3	
	comp=E,1062μm,0.8s						
ITM	**Ithomi**	**1.12**	**188**	P	**Pg**	**12 48 19.0**	**-1.0**
ITM				S	**Sg**	**12 48 34.7**	**+0.2**
ITM	**Ithomi**	**1.12**	**188**	P	**Pg**	**12 48 19.0**	**-1.0**
ITM				S	**Sg**	**12 48 34.7**	**+0.2**
VLS	**Valsamata**	**1.21**	**265**	P	**Pg**	**12 48 20.1**	**-1.5**
VLS				S	**Sn**	**12 48 39.7**	**+1.2**
VLS	**Valsamata**	**1.21**	**265**	P	**Pg**	**12 48 20.1**	**-1.5**
VLS				S	**Sn**	**12 48 39.7**	**+1.2**
KRND	**KRANIDI**	**1.22**	**138**	P	**Pg**	**12 48 21.1**	**-0.7**
KRND				S	**Sn**	**12 48 39.1**	**+0.3**
KRND	**KRANIDI**	**1.22**	**138**	P	**Pg**	**12 48 21.1**	**-0.7**
KRND				S	**Sn**	**12 48 39.1**	**+0.3**
FSK	**Fiskardo**	**1.24**	**278**	P	**Pg**	**12 48 20.0**	**-2.1**
FSK				S	**Sn**	**12 48 39.5**	**+0.4**
FSK	**Fiskardo**	**1.24**	**278**	P	**Pg**	**12 48 20.8**	**-1.3**
FSK				S	**Sn**	**12 48 39.2**	**+0.1**
LKD2	**Lefkada island**	**1.25**	**294**	P	**Pg**	**12 48 21.3**	**-1.0**
LKD2	**Lefkada island**	**1.25**	**294**	P	**Pg**	**12 48 21.3**	**-1.0**
THL	**Klokotos Trika**	**1.27**	**356**	P	**Pg**	**12 48 22.2**	**-0.5**
THL				S	**Sn**	**12 48 41.5**	**+1.6**
THL	**Klokotos Trika**	**1.27**	**356**	P	**Pg**	**12 48 22.2**	**-0.5**
THL				S	**Sn**	**12 48 41.5**	**+1.6**
FYTO	**Fytoko, Volos**	**1.28**	**30**	P	**Pg**	**12 48 22.0**	**-1.0**
FYTO	**Fytoko, Volos**	**1.28**	**30**	P	**Pg**	**12 48 22.0**	**-1.0**
ATH	**Athens Observa**	**1.30**	**104**	P	**Pg**	**12 48 23.5**	**+0.2**
ATH	**Athens Observa**	**1.30**	**104**	P	**Pg**	**12 48 23.5**	**+0.2**
NEO	**Neokhori**	**1.33**	**40**	P	**Pn**	**12 48 23.2**	**-0.2**
NEO	**Neokhori**	**1.33**	**40**	P	**Pn**	**12 48 23.2**	**-0.2**
ATHU	**Athens Univers**	**1.35**	**104**	P	**Pn**	**12 48 23.3**	**-0.5**
ATHU				AML	AML	12 48 51.7	
	comp=E,158μm,0.5s						
ATHU				AML	AML	12 48 52.8	
	comp=N,335μm,0.5s						
ATHU	**Athens Univers**	**1.35**	**104**	P	**Pn**	**12 48 23.3**	**-0.5**
XOR	**Xorichti**	**1.36**	**38**	P	**Pn**	**12 48 23.1**	**-0.7**
XOR				S	**Sn**	**12 48 43.3**	**+1.1**
XOR	**Xorichti**	**1.36**	**38**	P	**Pn**	**12 48 23.1**	**-0.7**
XOR				S	**Sn**	**12 48 43.3**	**+1.1**
SKIA	**Skiathos**	**1.36**	**50**	P	**Pn**	**12 48 23.3**	**-0.6**
SKIA	**Skiathos**	**1.36**	**50**	P	**Pn**	**12 48 23.3**	**-0.6**
VLY	**Voula,Athens**	**1.39**	**108**	P	**Pn**	**12 48 24.2**	**-0.1**
VLY	**Voula,Athens**	**1.39**	**108**	P	**Pn**	**12 48 24.2**	**-0.1**
PTL	**Penteli**	**1.40**	**100**	P	**Pn**	**12 48 24.0**	**-0.4**
PTL	**Penteli**	**1.40**	**100**	P	**Pn**	**12 48 24.0**	**-0.4**
EREA	**Eretria**	**1.43**	**84**	P	**Pn**	**12 48 24.1**	**-0.7**
EREA	**Eretria**	**1.43**	**84**	P	**Pn**	**12 48 24.1**	**-0.7**
JAN	**Janina**	**1.68**	**324**	P	**Pn**	**12 48 28.6**	**+0.3**
JAN	**Janina**	**1.68**	**324**	P	**Pn**	**12 48 28.6**	**+0.3**
VLI	**Veliai**	**1.70**	**157**	P	**Pn**	**12 48 28.7**	**+0.1**
VLI	**Veliai**	**1.70**	**157**	P	**Pn**	**12 48 28.7**	**+0.1**
LIT	**Litokhoron**	**1.82**	**9**	P	**Pn**	**12 48 29.4**	**-0.9**
LIT	**Litokhoron**	**1.82**	**9**	P	**Pn**	**12 48 29.4**	**-0.9**
BIA	**Bitola**	**2.79**	**348**	*e*Pn	**Pb**	**12 48 49.3**	**+0.7**
KNT	**Kendrikon**	**2.92**	**12**	P	**Pn**	**12 48 45.5**	**+0.1**
KNT	**Kendrikon**	**2.92**	**12**	P	**Pn**	**12 48 45.5**	**+0.1**
OHR	**Ohrid**	**2.99**	**340**	*e*Pn	**Pb**	**12 48 51.6**	**-0.5**
KRUS	**Krusevo**	**3.14**	**348**	*e*Pn	**Pb**	**12 48 53.6**	**-1.0**
IDI	**Anoyia**	**3.74**	**143**	Pn	**Pn**	**12 48 56.8**	**+0.2**
	comp=N,0.7nm,0.3s,baz=326,slow=15,SNR=4.9						
IDI					Sn	**12 49 39.8**	**-1.1**
	comp=N,1.6nm,0.3s,baz=299,slow=19,SNR=2.6						
MLR	**Muntele Rosu**	**7.73**	**20**	Pn	**Pn**	**12 49 55.1**	**+3.6**
	comp=N,0.1nm,0.3s,baz=148,slow=15,SNR=3.3						
BRTR	**Keskin Array B**	**9.08**	**77**	Pn	**Pn**	**12 50 12.2**	**+2.2**
	comp=N,0.1nm,0.3s,baz=257,slow=11,SNR=4.0						
ESDC	**Sonseca Array**	**20.30**	**282**	P	Pn	12 52 37.2	+0.3
	comp=N,1.0nm,0.7s,baz=77,slow=12,SNR=5.1						
EKA	**Eskdalemuir Ar**	**24.07**	**323**	P	**P**	**12 53 17.1**	**+2.9**
	comp=N,1.5nm,0.7s,baz=110,slow=11,SNR=4.4						
KURBB	**Kurchatov Arra**	**41.15**	**54**	P	**P**	**12 55 42.2**	**-0.9**
	comp=N,0.3nm,0.3s,baz=279,slow=8.7,SNR=3.0						
MKAR	**Makanchi Array**	**44.16**	**59**	P	**P**	**12 56 06.8**	**-1.0**
	comp=N,0.4nm,0.4s,baz=278,slow=7.7,SNR=11						
ZALV	**Zalesovo Beam**	**44.67**	**48**	P	**P**	**12 56 10.3**	**-1.4**
	comp=N,0.5nm,0.5s,baz=275,slow=8.8,SNR=2.9						
SFJD	**Kangerlussuaq**	**48.76**	**330**	LR	LR	13 17 25.0	
	comp=N,80nm,21.1s,baz=254,slow=36						
JNU	**Nakatsue**	**82.92**	**53**	LR	LR	13 41 08.1	
	comp=N,48nm,18.2s,baz=126,slow=38						
MJAR	**Matsushiro Arr**	**85.00**	**47**	LR	LR	13 40 44.2	
	comp=N,76nm,21.3s,baz=145,slow=37						
JOW	**Kunigami**	**85.33**	**59**	LR	LR	13 44 03.4	
	comp=N,105nm,21.9s,baz=130,slow=40						
LEM	**Lembang**	**90.66**	**98**	LR	LR	13 43 28.5	
	comp=N,49nm,22.0s,baz=166,slow=37						

MEX 16 12:53:10.2±0.4, 16.49N×98.51W, h20km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.38**	**105**	*i* P	Pb	12 53 17.1	-1.2

BTNK	**Botanikuri**	**1.56**	**42**	P	**Pg**	**12 57 07.1**	**+0.2**
BTNK				S	**Sg**	**12 57 26.3**	**-0.7**
BTNK	**Botanikuri**	**1.56**	**42**	P	**Pb**	**12 57 06.0**	**+0.2**
BTNK				S	**Sg**	**12 57 26.1**	**-0.9**
TBLG	**Delisi**	**1.56**	**40**	P	**Pb**	**12 57 06.1**	**+0.2**
TBLG				S	**Sg**	**12 57 26.3**	**-0.9**
EKAR	**Karacoban**	**1.64**	**220**	*e*P	**Pb**	**12 57 07.5**	**+0.1**
EKAR				IAML		12 57 42.7	
	comp=Z,5.7nm,0.5s						
DGRG	**David-gareji**	**1.75**	**58**	*e*P	**Pb**	**12 57 09.1**	**+0.1**
DGRG				*e*S	**Sb**	**12 57 31.0**	**+0.1**
DGRG				IAML		12 57 35.0	
	comp=Z,29nm,0.5s						
DGRG	**David-gareji**	**1.75**	**58**	P	**Pb**	**12 57 09.1**	**+0.1**
DGRG				S	**Sg**	**12 57 33.1**	**0.0**
DGRG	**David-gareji**	**1.75**	**58**	P	**Pb**	**12 57 09.1**	**+0.1**
DGRG				S	**Sg**	**12 57 33.1**	**0.0**
ONI	**Oni**	**2.06**	**1**	P	**Pb**	**12 57 14.2**	**-0.1**
ONI				S	**Sg**	**12 57 42.5**	**-0.6**

*IDC **16** 12:57:42.6±0.8,2°.51N×91°.88E,h0km,mb4.3/19, mb1 4.4/22,mb1mx4.1/69,mbtmp4.3/22,ML4.1/3,MS3.7/19, Ms1 3.7/19,ms1mx3.4/58,Error ellipse: s-maj=24.6km s-min=13.5km az=35.0*
*NEIC **16** 12:57:43.9±0.2,2°.53N×91°.91E,h10km,mb4.4/18,Error ellipse: s-maj=5.9km s-min=3.7km az=206.0*
*ISCJB **16** 12:57:45.9±0.3,2°.58N±0°.04×92°.02E±0°.03,h33km, mb4.4/34,MS3.8/17,Error ellipse: s-maj=6.4km s-min=3.6km az=27.3*
*DJA **16** 12:57:45.0±2.2,3°.N±4°×9°2E±°,h26km±22km,M4.6/16, mb4.7/16,mB5.1/10,MLv4.8/6,Mw(mB)4.4/10*
ISC 16 12:57:47.7±0.6,**2°.59N**±0°.08×**91°.94E**±0°.06**,h35km,n147,** σ1§**18**/135**,mb4.4**/37**,MS3.8**/17**,5C-4D,Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MLSI	**Meulaboh, Aceh**	**4.76**	**69**	P	**Pn**	**12 58 57.2**	**+0.2**
TPTI		**5.28**	**83**	P	**Pn**	**12 59 03.4**	**-0.7**
LHMI	**Lhok Sumawe**	**5.64**	**62**	*e*Pn	**Pn**	**12 59 10.0**	**+0.9**
GSI	**Gunungsitoli**	**5.77**	**103**	P	**Pn**	**12 59 09.7**	**-1.3**
GSI	**Gunungsitoli**	**5.77**	**103**	*e*Pn	**Pn**	**12 59 09.7**	**-1.3**
TSI	**Tuntungan**	**6.68**	**82**	P	Pn	12 59 35.5	+12
PBSI	**Pulau Batu**	**6.86**	**112**	P	**Pn**	**12 59 24.5**	**-1.4**
PSI	**Prapat**	**6.98**	**88**	Pn	**Pn**	**12 59 27.4**	**-0.3**
	1.5nm,0.3s,baz=281,slow=5.2,SNR=16						
PSI				Sn	**Sn**	**13 00 44.7**	**-1.2**
	2.0nm,0.3s,baz=206,slow=17,SNR=2.3						
PSI				LR	LR	13 02 32.6	
	comp=Z,353nm,18.0s,baz=214,slow=41						
PSI	**Prapat**	**6.98**	**88**	*e*Pn	**Pn**	**12 59 26.2**	**-1.5**
PSI				*e*Sn	**Sn**	**13 00 44.7**	**-1.2**
MNSI	**Mandailing Nat**	**7.84**	**103**	P	**Pn**	**12 59 40.7**	**+1.4**
SISI	**Saibi**	**8.13**	**118**	P	**Pn**	**12 59 44.5**	**+1.1**
PKDT	**Phuket**	**8.27**	**50**	P	**Pn**	**12 59 44.0**	**-1.2**
	56nm,0.9s,509nm0.2nm						
PBA	**Port Blair**	**9.05**	**5**	*e*P	Pn	12 59 55.2	-0.8
PDSI	**Padang**	**9.20**	**112**	P	Pn	13 00 03.9	+5.8
IPM	**Ipoh**	**9.26**	**78**	*e*Pn	**Pn**	**12 59 58.3**	**-0.6**
TRTT	**Trang**	**9.31**	**56**	P	**Pn**	**12 59 58.3**	**-1.3**
	36nm,0.7s,383nm						
PPSI	**Pulau Pagai**	**9.66**	**123**	P	**Pn**	**13 00 04.7**	**+0.4**
SKLT	**Songkhla**	**9.77**	**62**	P	**Pn**	**13 00 04.4**	**-1.5**
	67nm,0.9s,755nm						
DGPR	**DIGLIPUR**	**10.57**	**5**	*e*P	**Pn**	**13 00 15.1**	**-1.7**
PALK	**Pallekele**	**12.12**	**293**	Pn	**Pn**	**13 00 34.9**	**-3.2**
	3.5nm,0.3s,baz=115,slow=11,SNR=20						
PALK				Sn	Sn	13 02 40.5	-12
	10.0nm,0.3s,baz=116,slow=0.9,SNR=8.2						
PALK				LR	LR	13 04 50.2	
	comp=Z,137nm,19.6s,baz=116,slow=35						
PHET	**Kaeng Krachan**	**12.77**	**36**	P	**Pn**	**13 00 48.2**	**+1.2**
	9.0nm,0.8s,157nm						
MDSI	**Maura Dua**	**14.10**	**120**	P	**Pn**	**13 01 04.6**	**-0.5**
	9.5nm,0.8s						
NAYO	**Nakonayok**	**14.89**	**38**	P	**Pn**	**13 01 16.0**	**+0.2**
	14nm,1.2s,747nm						
SRAK	**Srakaew**	**15.12**	**41**	P	**P**	**13 01 24.6**	**+1.0**
MDRS	**Chennai**	**15.57**	**313**	*e*P	**Pn**	**13 01 23.0**	**-1.7**
PBKT	**Sadao Pong**	**16.49**	**32**	P	**Pn**	**13 01 34.9**	**-1.6**
	18nm,1.5s						
PBKT	**Sadao Pong**	**16.49**	**32**	*e*Pn	**Pn**	**13 01 35.1**	**-1.4**
	10nm,1.1s						
CHAI	**Chaiyaphum**	**16.52**	**36**	P	**Pn**	**13 01 36.9**	**0.0**
	4.8nm,1.1s						
PHIT	**Phitsanulok**	**16.73**	**29**	P	**P**	**13 01 40.8**	**-0.7**
	39nm,0.8s,283nm						
CM01	**Chiang Mai Arr**	**17.18**	**23**	*e*Pn	**Pn**	**13 01 43.8**	**-1.3**
CM31	**Chiang Mai Arr**	**17.20**	**23**	*e*Pn	**Pn**	**13 01 44.8**	**-0.7**
CMAR	**Chiang Mai Arr**	**17.20**	**23**	P	**Pn**	**13 01 44.9**	**-0.6**
	0.2nm,0.3s,baz=217,slow=14,SNR=67						
CMAR				LR	LR	13 07 55.8	
	comp=Z,171nm,20.4s,baz=201,slow=36						
VIS	**Vishakhapatnam**	**17.25**	**331**	*e*P	**Pn**	**13 01 45.3**	**-0.8**
VIS				IAmb	IAmb	13 01 47.5	
	comp=Z,27nm,0.8s						
VIS				*i* x	x	13 04 53.5	
KHON	**Khomkaen**	**17.36**	**37**	P	**P**	**13 01 49.2**	**+0.7**
	comp=Z,8.4nm,0.7s						
CHTO	**Chiang Mai**	**17.53**	**23**	P	**Pn**	**13 01 48.6**	**-0.9**
	comp=Z,76nm,0.8s						
CHTO	**Chiang Mai**	**17.53**	**23**	*e*Pn	**Pn**	**13 01 48.6**	**-0.9**
	comp=Z,13nm,0.9s						
CMMT	**Chiang Mai**	**17.53**	**23**	P	**Pn**	**13 01 47.6**	**-1.9**
	comp=Z,17nm,0.7s						
LEM	**Lembang**	**18.23**	**121**	LR	LR	13 08 23.6	
	comp=Z,173nm,20.1s,baz=336,slow=35						
KSM	**Kuching**	**18.39**	**93**	*e*P	**P**	**13 01 59.4**	**-0.5**
	comp=Z,8.9nm,0.9s						
SKNT	**Sakolnakorn**	**18.56**	**39**	P	**P**	**13 02 00.9**	**-0.8**
	comp=Z,9.0nm,0.9s						
CMAI	**Chiengmai2**	**18.59**	**21**	P	**P**	**13 02 02.5**	**+0.3**
	comp=Z,91nm,1.0s,comp=Z,5μm						
STKI	**Sintang**	**19.69**	**97**	P	**Pn**	**13 02 16.0**	**+0.2**
HYB	**Hyderabad**	**19.75**	**319**	*i* P	**P**	**13 02 15.0**	**+0.2**
HYB	**Hyderabad**	**19.75**	**319**	*e*P	**P**	**13 02 15.0**	**+0.2**
SBUM	**Sibu**	**20.26**	**90**	*e*P	**P**	**13 02 20.3**	**-0.1**
	comp=Z,14nm,1.0s						
BOK	**Bokaro**	**21.88**	**345**	*e*P	**P**	**13 02 37.8**	**0.0**
BOK				IAmb	IAmb	13 02 43.1	
	comp=Z,21nm,1.0s						
H08S2	**Diego Garcia H**	**21.90**	**242**	T	T	13 25 02.6	
	baz=60,slow=74,SNR=9.6						
H08S3	**Diego Garcia H**	**21.90**	**242**	T	T	13 24 51.8	
	baz=60,slow=74,SNR=6.3						
H08S1	**Diego Garcia H**	**21.92**	**242**	T	T	13 25 01.9	
	baz=60,slow=74,SNR=5.7						
NGP	**Nagpur**	**22.32**	**327**	*e*P	**P**	**13 02 41.0**	**-1.5**
SHL	**Shillong**	**22.85**	**360**	*e*P	**P**	**13 02 47.7**	**-0.5**
SHL				IAmb	IAmb	13 02 50.7	
	comp=Z,2.7nm,0.4s						
MOKO	**MOKOCHONG**	**23.73**	**6**	*e*P	**P**	**13 02 56.0**	**-0.9**
POO	**Poona**	**23.77**	**313**	*e*P	**P**	**13 02 56.7**	**-0.6**
TEZP	**TEZPUR**	**23.91**	**2**	*e*P	**P**	**13 03 00.1**	**+1.7**
JORH	**JORHAT**	**24.12**	**5**	*e*P	**P**	**13 03 03.7**	**+3.3**
ODAN	**Odare**	**24.53**	**350**	*e*P	**P**	**13 03 05.8**	**+1.4**
	comp=Z,36nm,0.8s						
RAMN	**Ramite**	**24.76**	**349**	*e*P	**P**	**13 03 08.3**	**+1.8**
	comp=Z,106nm,0.9s						
BHPL	**Bhopal**	**24.89**	**327**	*e*P	**P**	**13 03 08.4**	**+0.9**
LKP	**Lekhapani**	**24.89**	**8**	*ex*	**P**	**13 03 04.5**	**-2.9**
LKP				IAmb	IAmb	13 03 04.8	
	comp=Z,5μm,0.0s						
JIRN	**Jiri**	**25.53**	**348**	*e*P	**P**	**13 03 15.3**	**+1.6**
GUN	**Gumba**	**25.84**	**348**	*e*P	**P**	**13 03 17.9**	**+1.5**
	comp=Z,38nm,0.8s						
KKN	**Kakani**	**25.86**	**346**	*e*P	**P**	**13 03 18.6**	**+2.1**
GKN	**Gorkha**	**26.22**	**345**	*e*P	**P**	**13 03 21.4**	**+1.7**
	comp=Z,27nm,0.8s						
KOLN	**Koldanda**	**26.28**	**343**	*e*P	**P**	**13 03 22.1**	**+1.8**
	comp=Z,13nm,0.7s						
PYUN	**Piuthan**	**26.77**	**342**	*e*P	**P**	**13 03 26.9**	**+2.2**
LSA	**Lhasa**	**26.98**	**358**	P	**P**	**13 03 27.4**	**+0.6**
LSA				pmax	pmax		
	comp=Z,2.0nm,0.3s						
LSA	**Lhasa**	**26.98**	**358**	*e*P	**P**	**13 03 27.8**	**+0.9**
	comp=Z,15nm,0.6s						
TGY	**Tagaytay City**	**30.84**	**67**	LR	LR	13 17 29.9	
	comp=Z,42nm,18.8s,baz=198,slow=38						
SMLA	**Simla**	**31.64**	**335**	*e*P	**P**	**13 04 07.4**	**-0.2**
DHRM	**DHARAMSHALA**	**32.97**	**335**	*e*P	**P**	**13 04 19.8**	**+0.2**
BATI	**Baumata**	**34.05**	**112**	LR	LR	13 21 41.8	
	comp=Z,187nm,19.7s,baz=240,slow=42						
XAN	**Xi'an**	**35.08**	**25**	P	**P**	**13 04 37.8**	**+0.1**
XAN				pP	pP	13 04 43.9	-3.9
XAN				pmax	pmax		
	comp=Z,23nm,0.9s						
XAN				LR	LR		
	comp=N,210nm,14.1s						
XAN				LR	LR		
	comp=E,180nm,14.1s						
XAN				LR	LR		
	comp=Z,170nm,20.6s						
NIL	**Nilore**	**35.50**	**333**	*e*P	**P**	**13 04 41.9**	**+0.6**
	comp=Z,18nm,0.6s						
GTA	**Gaotai**	**37.35**	**10**	*e*P	P	13 04 52.0	-5.1
GTA				pP	pP	13 04 56.0	-11
GTA				sP	sP	13 04 59.0	-13
GTA				pmax	pmax		
	comp=Z,3.0nm,0.5s						
WSAR	**Wadi Sarin**	**38.23**	**305**	LR	LR	13 19 35.7	
	comp=Z,91nm,18.3s,baz=120,slow=34						
WMQ	**Urumqi**	**41.23**	**355**	P	**P**	**13 05 30.8**	**+1.4**
WMQ				sP	pP	13 05 36.8	-2.9
WMQ				pmax	pmax		
	comp=Z,18nm,0.7s						
WMQ				LR	LR		
	comp=N,170nm,24.3s						
WMQ				LR	LR		
	comp=E,140nm,19.3s						
WMQ				LR	LR		
	comp=Z,190nm,25.7s						
KDJ	**Kajisay**	**41.54**	**343**	*e*P	**P**	**13 05 33.4**	**+1.3**
	comp=Z,4.5nm,0.9s						
HHC	**Hu-ho-hao-te**	**42.01**	**22**	*e*P	**P**	**13 05 39.6**	**+3.7**
HHC				pmax	pmax		
	comp=Z,8.0nm,1.0s						
HHC				pmax	pmax		
	comp=Z,30nm,5.2s						
JOW	**Kunigami**	**42.34**	**52**	P	**P**	**13 05 39.5**	**+0.9**
	comp=Z,26nm,1.1s,baz=333,slow=16,SNR=2.2						
KK31	**Karatay Array**	**44.64**	**338**	*e*P	**P**	**13 05 56.9**	**0.0**
KKAR	**Karatay Array**	**44.64**	**338**	*e*P	**P**	**13 05 56.8**	**-0.1**
MK01	**Makanchi Array**	**44.80**	**351**	*e*P	**P**	**13 05 58.5**	**+0.3**
MK31	**Makanchi Array**	**44.83**	**351**	*e*P	**P**	**13 05 58.9**	**+0.5**
MK32	**Makanchi Array**	**44.83**	**351**	*e*P	**P**	**13 05 58.9**	**+0.4**
MKAR	**Makanchi Array**	**44.83**	**351**	P	**P**	**13 05 58.9**	**+0.5**
	comp=Z,4.5nm,0.7s,baz=166,slow=8.4,SNR=46						
MKAR				LR	LR	13 27 25.5	
	comp=Z,58nm,18.4s,baz=91,slow=40						
MKAR	**Makanchi Array**	**44.83**	**351**	*e*P	**P**	**13 05 58.9**	**+0.5**
	comp=Z,26nm,0.8s						
MAKZ	**Makanchi**	**44.90**	**350**	*e*P	**P**	**13 05 59.0**	**+0.1**
	comp=Z,3.6nm,1.1s						
SONA0	**Songino Array**	**46.77**	**13**	*e*P	**P**	**13 06 14.9**	**+1.1**
SONM	**Songino Array**	**46.77**	**13**	P	**P**	**13 06 14.9**	**+1.1**
	comp=Z,2.3nm,0.8s,baz=194,slow=9.1,SNR=14						
SONM				LR	LR	13 27 56.4	
	comp=Z,84nm,20.7s,baz=233,slow=39						
SONA1	**Songino Array**	**46.79**	**13**	*e*P	**P**	**13 06 14.7**	**+0.7**
GEYT	**Alibeck**	**46.87**	**323**	P	**P**	**13 06 16.2**	**+1.5**
	comp=Z,3.8nm,0.8s,baz=168,slow=8.5,SNR=7.3						
GEYT				LR	LR	13 26 39.8	
	comp=Z,125nm,21.7s,baz=255,slow=37						
WR1	**Warramunga Arr**	**47.25**	**120**	*e*P	**P**	**13 06 17.8**	**-0.1**
	comp=Z,6.9nm,0.8s						
WRA	**Warramunga Arr**	**47.25**	**120**	P	**P**	**13 06 17.8**	**-0.1**
	comp=Z,4.9nm,0.8s,baz=300,slow=8.6,SNR=14						
WB2	**Warramunga Arr**	**47.26**	**120**	*e*P	**P**	**13 06 17.1**	**-0.8**
JNU	**Nakatsue**	**47.43**	**46**	LR	LR	13 26 25.3	
	comp=Z,65nm,20.8s,baz=124,slow=36						
KSAR	**Wonju Array Be**	**47.87**	**39**	P	**P**	**13 06 23.1**	**+0.7**
KSRS	**Korea Array**	**47.90**	**39**	P	**P**	**13 06 23.1**	**+0.4**
	comp=Z,1.5nm,0.7s,baz=223,slow=8.8,SNR=7.7						
AS31	**Alice Springs**	**48.45**	**125**	*e*P	**P**	**13 06 26.5**	**-0.8**
	comp=Z,0.4nm,0.8s						
ASAR	**Alice Springs**	**48.45**	**125**	P	**P**	**13 06 26.6**	**-0.6**
	comp=Z,1.4nm,0.9s,baz=306,slow=7.4,SNR=10						
KURBB	**Kurchatov Arra**	**49.19**	**349**	P	**P**	**13 06 32.6**	**+0.2**
	comp=Z,1.3nm,0.2s,baz=171,slow=6.4,SNR=13						
KURK	**Kurchatov**	**49.26**	**349**	*e*P	**P**	**13 06 32.6**	**-0.3**
RAYN	**Ar Rayn**	**49.48**	**299**	*e*P	**P**	**13 06 34.7**	**-0.4**
	comp=Z,3.9nm,0.8s						
ZAA0	**Zalesovo Array**	**51.53**	**355**	*e*P	**P**	**13 06 49.9**	**0.0**
	comp=Z,4.1nm,1.0s						
ZALV	**Zalesovo Beam**	**51.53**	**355**	P	**P**	**13 06 50.5**	**+0.6**
	comp=Z,2.1nm,0.4s,baz=183,slow=7.8,SNR=13						
ZALV				LR	LR	13 30 14.3	
	comp=Z,103nm,20.2s,baz=82,slow=38						
ZALV	**Zalesovo Beam**	**51.53**	**355**	*e*P	**P**	**13 06 50.2**	**+0.2**
ZAA1	**Zalesovo Array**	**51.54**	**355**	*e*P	**P**	**13 06 50.5**	**+0.5**
BVAR	**Borovoye Array**	**53.35**	**344**	P	**P**	**13 07 03.0**	**-0.5**
	comp=Z,3.4nm,0.8s,baz=151,slow=6.6,SNR=22						
BVAR				LR	LR	13 31 09.0	
	comp=Z,146nm,18.1s,baz=172,slow=38						
BRVK	**Borovoye**	**53.41**	**344**	*e*P	**P**	**13 07 03.6**	**-0.3**
	comp=Z,2.6nm,0.8s						
ABKAR	**Akbulak array**	**53.92**	**335**	*e*P	**P**	**13 07 07.7**	**0.0**
MAJO	**Matsushiro**	**54.36**	**46**	*e*P	**P**	**13 07 12.0**	**+0.8**
MJAR	**Matsushiro Arr**	**54.36**	**46**	P	**P**	**13 07 12.0**	**+0.7**
	comp=Z,1.9nm,0.9s,baz=217,slow=7.0,SNR=5.6						
AKTO	**Aktyubinsk**	**55.63**	**334**	P	**P**	**13 07 19.5**	**-0.6**
	comp=Z,1.6nm,0.8s,baz=145,slow=4.1,SNR=5.3						
STKA	**Stephens Creek**	**58.22**	**130**	P	**P**	**13 07 38.9**	**+0.1**
	comp=Z,2.1nm,0.8s,baz=323,slow=8.2,SNR=4.2						
KBZ	**Khabaz**	**59.63**	**321**	P	**P**	**13 07 49.9**	**+1.5**
	comp=Z,5.5nm,0.9s,baz=146,slow=6.3,SNR=16						
BR101	**Keskin Array S**	**64.32**	**313**	*e*P	**P**	**13 08 20.2**	**0.0**
BR131	**Keskin Array S**	**64.32**	**313**	*e*P	**P**	**13 08 19.8**	**-0.4**
BRTR	**Keskin Array B**	**64.32**	**313**	P	**P**	**13 08 20.2**	**0.0**
	comp=Z,2.3nm,0.8s,baz=133,slow=6.3,SNR=11						
BRTR				LR	LR	13 37 57.5	
	comp=Z,40nm,20.9s,baz=236,slow=38						
BR231	**Keskin MP Arra**	**64.99**	**313**	*e*P	**P**	**13 08 21.2**	**-3.3**
SORM	**Soroca**	**70.68**	**321**	*i*P	**P**	**13 09 00.1**	**+0.1**
AKASG	**Malin Array Be**	**70.99**	**323**	P	**P**	**13 09 00.9**	**-0.9**
	comp=Z,0.5nm,0.4s,baz=93,slow=5.1,SNR=5.3						
AKASG				LR	LR	13 42 59.6	
	comp=Z,31nm,21.8s,baz=35,slow=38						
VRI	**Vrincioaia**	**71.05**	**318**	*i*P	**P**	**13 09 04.5**	**+2.1**
PLOR	**Plostina**	**71.10**	**318**	*i*P	**P**	**13 09 04.4**	**+1.7**
TESR	**Tescani**	**71.29**	**319**	*i*P	**P**	**13 09 04.2**	**+0.4**
MLR	**Muntele Rosu**	**71.48**	**317**	P	**P**	**13 09 06.1**	**+1.0**
	comp=Z,1.8nm,0.9s,baz=76,slow=4.2,SNR=12						
MLR	**Muntele Rosu**	**71.48**	**317**	*i*P	**P**	**13 09 06.5**	**+1.4**
MLR	**Muntele Rosu**	**71.48**	**317**	*e*P	**P**	**13 09 05.9**	**+0.8**
	comp=Z,9.4nm,1.1s						
MLR				*e*P	**P**	**13 09 06.1**	**+1.0**
ARR	**Arges**	**72.33**	**317**	*i*P	**P**	**13 09 12.8**	**+2.6**
BURAR	**Bucovina Array**	**72.54**	**319**	*i*P	**P**	**13 09 13.8**	**+2.4**
BUR04	**Bucovina Ar. S**	**72.54**	**319**	*e*P	**P**	**13 09 12.0**	**+0.6**
BUR08	**Bucovina Ar. S**	**72.56**	**319**	*e*P	**P**	**13 09 12.9**	**+1.4**
VTS	**Vitosha**	**72.67**	**314**	*i*P	**P**	**13 09 12.9**	**+0.5**
VTS	**Vitosha**	**72.67**	**314**	*e*P	**P**	**13 09 12.4**	**0.0**
	comp=Z,4.0nm,0.9s						
TIXI	**Tiksi**	**72.81**	**11**	*e*P	**P**	**13 09 12.1**	**-0.3**
	comp=Z,6.5nm,0.8s						
LOT	**Lotru**	**72.94**	**317**	*i*P	**P**	**13 09 13.7**	**-0.1**
FIA0	**FINESS Array S**	**76.38**	**333**	*e*P	**P**	**13 09 33.0**	**-0.2**
FINES	**FINESS Array B**	**76.38**	**333**	P	**P**	**13 09 33.0**	**-0.2**
	comp=Z,3.9nm,0.8s,baz=102,slow=8.0,SNR=9.8						
FINES				LR	LR	13 45 12.4	
	comp=Z,68nm,20.9s,baz=180,slow=37						
GEA0	**GERESS Array S**	**80.32**	**319**	*e*P	**P**	**13 09 56.1**	**+0.7**
GEC2	**GERESS Array S**	**80.32**	**319**	*e*P	**P**	**13 09 56.1**	**+0.6**
	comp=Z,5.0nm,0.8s						
GERES	**GERESS Array B**	**80.32**	**319**	P	**P**	**13 09 56.5**	**+1.1**
	comp=Z,4.2nm,0.8s,baz=103,slow=5.8,SNR=15						
NOA	**NORSAR Array B**	**83.25**	**331**	LR	LR	13 51 09.0	
	comp=Z,31nm,18.5s,baz=125,slow=38						
SPITS	**Spitsbergen Ar**	**84.54**	**348**	LR	LR	13 51 54.9	
	comp=Z,61nm,21.9s,baz=65,slow=38						
VNDA	**Vanda**	**88.23**	**168**	LR	LR	13 44 29.1	
	comp=Z,100nm,19.4s,baz=250,slow=32						
VNDA	**Vanda**	**88.23**	**168**	*e*P	**P**	**13 10 34.5**	**-0.3**
NVAR	**Mina Array Bea**	**130.55**	**31**	PKP	**PKPdf**	**13 16 56.4**	**+0.8**
	comp=Z,0.3nm,0.7s,baz=123,slow=3.3,SNR=2.8						
LTX	**Lajitas**	**144.91**	**24**	*e*PKPbc	**PKPdf**	**13 17 22.1**	**0.0**
TXAR	**Lajitas Array**	**144.91**	**24**	PKPbc	**PKPdf**	**13 17 22.1**	**0.0**
	comp=Z,2.3nm,0.8s,baz=271,slow=1.4,SNR=14						
JCT	**Junction City**	**145.26**	**18**	*e*PKPbc	**PKPbc**	**13 17 21.9**	**-0.3**

*ISK **16** 13:00:38.5,39°.09N×29°.18E,h6km,ML2.3/8*
*ISCJB **16** 13:00:39.3±0.5,39°.10N±0°.04×29°.14E±0°.04,h7km±6km, Error ellipse: s-maj=7.2km s-min=4.2km az=145.2*
*CSEM **16** 13:00:39.3±0.1,39°.10N×29°.15E,h5km,ML2.3,Error ellipse: s-maj=3.3km s-min=1.9km az=130.0*
*DDA **16** 13:00:39.2,39°.11N×29°.12E,h7km,Ml2.5*
ISC 16 13:00:39.6±1.0,**39°.11N**±0°.03×**29°.14E**±0°.03**,h9km**±8km**, n24,**σ0§**38**/36**, Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIMA	**Simav-Kutahya**	**0.12**	**256**	PG	**Pg**	**13 00 42.5**	**0.0**
SIMA				SG	**Sg**	**13 00 44.4**	**-0.2**
SIMA	**Simav-Kutahya**	**0.12**	**256**	*e*Pg	**Pg**	**13 00 42.5**	**0.0**
SIMA				*e*Sg	**Sg**	**13 00 44.4**	**-0.2**
GDZ	**Gediz**	**0.27**	**95**	*i* P	**Pg**	**13 00 45.1**	**0.0**
GDZ				*i* S	**Sg**	**13 00 49.4**	**+0.6**
GDZ	**Gediz**	**0.27**	**95**	P	**Pg**	**13 00 45.1**	**0.0**
GDZ				S	**Sg**	**13 00 49.4**	**+0.6**
DEMI	**Demirci**	**0.33**	**258**	*i* P	**Pg**	**13 00 46.3**	**0.0**
DEMI				*i* S	**Sg**	**13 00 50.7**	**0.0**
DEMI	**Demirci**	**0.33**	**258**	P	**Pg**	**13 00 46.3**	**0.0**
DEMI				S	**Sg**	**13 00 50.7**	**0.0**
TVSB	**Tavsanli**	**0.42**	**37**	PG	**Pg**	**13 00 47.3**	**-0.6**
TVSB				SG	**Sg**	**13 00 53.0**	**-0.5**
TVSB	**Tavsanli**	**0.42**	**37**	*e*Pg	**Pg**	**13 00 47.3**	**-0.6**
TVSB				*e*Sg	**Sg**	**13 00 53.0**	**-0.5**
KULA	**Kula-Manisa**	**0.70**	**212**	PG	**Pg**	**13 00 52.9**	**-0.3**
KULA				SG	**Sg**	**13 01 01.9**	**-0.5**
KULA	**Kula-Manisa**	**0.70**	**212**	*e*Pg	**Pg**	**13 00 52.9**	**-0.3**
KULA				*e*Sg	**Sg**	**13 01 01.9**	**-0.5**
DURS	**Dursunbey**	**0.71**	**314**	*i* P	**Pg**	**13 00 52.9**	**-0.3**
DURS	**Dursunbey**	**0.71**	**314**	P	**Pg**	**13 00 52.9**	**-0.3**
MANT	**Manisa**	**0.77**	**216**	*i* P	**Pg**	**13 00 54.0**	**-0.4**
MANT				*i* S	**Sg**	**13 01 04.2**	**-0.2**
MANT	**Manisa**	**0.77**	**216**	P	**Pg**	**13 00 54.0**	**-0.4**
MANT				S	**Sg**	**13 01 04.2**	**-0.2**
CAVI	**Cavuskoy**	**1.22**	**26**	PN	**Pg**	**13 01 02.4**	**-0.6**
CAVI	**Cavuskoy**	**1.22**	**26**	*e*Pn	**Pg**	**13 01 02.4**	**-0.6**
MDNY	**Mudanya-Bursa**	**1.27**	**351**	PN	**Pg**	**13 01 04.1**	**+0.1**
MDNY	**Mudanya-Bursa**	**1.27**	**351**	*e*Pn	**Pg**	**13 01 04.1**	**+0.1**
KCTX	**Karacabey (Bur**	**1.30**	**333**	PN	**Pg**	**13 01 04.8**	**+0.3**
KCTX	**Karacabey (Bur**	**1.30**	**333**	*e*Pn	**Pg**	**13 01 04.8**	**+0.3**
YLV	**Yalova**	**1.46**	**7**	PN	**Pn**	**13 01 06.7**	**+0.5**
YLV	**Yalova**	**1.46**	**7**	*e*Pn	**Pn**	**13 01 06.7**	**+0.5**
ARMT	**Armutlu**	**1.47**	**352**	PN	**Pb**	**13 01 06.9**	**-0.1**
ARMT	**Armutlu**	**1.47**	**352**	*e*Pn	**Pb**	**13 01 06.9**	**-0.1**

*IDC **16** 13:02:04.3±1.1,25°.32S×179°.55W,h418km±11km, mb3.7/20,mb1 3.8/24,mb1mx3.7/46,mbtmp4.5/24,Error ellipse: s-maj=12.2km s-min=11.1km az=136.0*
*NEIC **16** 13:02:05.1±0.7,25°.47S×179°.57W,h423km±8km,mb4.3/37, Error ellipse: s-maj=8.6km s-min=6.8km az=121.0*
*WEL **16** 13:02:07.2±1.0,26°.S±9°×17°.9W±3°.2,h497km±20km*
ISC 16 13:02:05.3±0.4**,25°.38S**±0°.05×**179°.43W**±0°.08**,h432km, n128,**σ1§**61**/129**,mb4.2**/46**,South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RIZ	**Raoul Island**	**4.08**	**161**	P	**P**	**13 03 22.4**	**+2.4**
RAO	**Raoul Island**	**4.09**	**161**	P	**P**	**13 03 20.7**	**+0.7**
	84nm,0.3s,baz=75,slow=22,SNR=5.3						
RAO				S	**S**	**13 04

	1.3nm,0.8s,baz=359,slow=5.9,SNR=6.4								
SIJI	**Sorong**	**53.40**	**289**	P		**P**		**13 10 42.5**	**-0.9**
	9.2nm,0.8s,baz=109,slow=11,SNR=3.7								
NWAO	**Narrogin (SRO)**	**55.11**	**246**	P		**P**		**13 10 53.4**	**-1.9**
	4.1nm,0.6s,baz=331,slow=9.5,SNR=3.7								
QSPA	**South Pole Qui**	**64.71**	**180**	P		**P**		**13 12 00.5**	**+1.3**
	6.3nm,0.7s,baz=17,slow=0.8,SNR=15								
QSPA	**South Pole Qui**	**64.71**	**180**	*e*P		**P**		**13 12 00.6**	**+1.3**
	7.8nm,0.8s								
MJAR	**Matsushiro Arr**	**73.40**	**326**	P		**P**		**13 12 51.4**	**-0.7**
	1.6nm,0.8s,baz=172,slow=6.1,SNR=6.7								
MAW	**Mawson**	**76.55**	**200**	P		**P**		**13 13 09.6**	**+0.3**
	8.8nm,0.8s,baz=136,slow=4.4,SNR=9.2								
MAW	**Mawson**	**76.55**	**200**	*e*P		**P**		**13 13 10.1**	**+0.7**
	2.5nm,0.9s								
ASAJ	**Asahikawa**	**77.41**	**333**	P		**P**		**13 13 14.8**	**+0.4**
	6.1nm,0.8s,baz=243,slow=4.5,SNR=4.5								
KSRS	**Korea Array**	**79.71**	**320**	P		**P**		**13 13 27.3**	**+0.5**
	1.0nm,0.6s,baz=127,slow=5.6,SNR=5.1								
PETK	**Petropavlovsk-**	**80.65**	**346**	P		**P**		**13 13 31.5**	**+0.1**
	4.0nm,0.7s,baz=146,slow=6.0,SNR=8.4								
SNAA	**Sanae**	**83.19**	**179**	P		**P**		**13 13 44.5**	**0.0**
SNAA	**Sanae**	**83.19**	**179**	P		**P**		**13 13 44.4**	**0.0**
	1.2nm,0.6s,baz=204,slow=9.2,SNR=8.3								
VNA3	**Neumayer Olymp**	**83.38**	**177**	P		**P**		**13 13 45.3**	**-0.1**
ISA	**Isabella, Lake**	**83.67**	**46**	*e*P		**P**		**13 13 49.1**	**+1.7**
	8.5nm,1.3s								
VNA2	**Neumayer--Watz**	**83.80**	**177**	P		**P**		**13 13 47.9**	**+0.4**
	baz=182,slow=3.6								
CMB	**Columbia Colle**	**83.92**	**43**	*e*P		**P**		**13 13 49.8**	**+1.2**
	3.9nm,0.9s								
MDPB	**Devils Postpil**	**84.48**	**44**	*e*P		**P**		**13 13 53.6**	**+2.0**
	2.9nm,0.9s								
GSC	**Goldstone, Bar**	**84.55**	**47**	*e*P		**P**		**13 13 53.7**	**+1.9**
	6.9nm,1.0s								
GLA	**Glamis**	**84.58**	**50**	*e*P		**P**		**13 13 53.0**	**+1.1**
	4.8nm,0.9s								
WAKR	**Walker**	**84.80**	**43**	*e*P		**P**		**13 13 54.0**	**+0.9**
	4.0nm,1.0s								
YBH	**Yreka Blue Hor**	**84.90**	**39**	P		**P**		**13 13 52.3**	**-1.1**
	1.4nm,0.6s,baz=174,slow=15,SNR=5.6								
NV01	**Mina Array Sit**	**85.45**	**44**	*e*P		**P**		**13 13 57.5**	**+1.1**
NVAR	**Mina Array Bea**	**85.45**	**44**	P		**P**		**13 13 57.7**	**+1.3**
	1.4nm,0.7s,baz=224,slow=8.2,SNR=16								
TPNV	**Topopah Spring**	**85.88**	**46**	*e*P		**P**		**13 13 59.6**	**+1.2**
	3.4nm,0.8s								
TUC	**Tucson**	**87.01**	**52**	*e*P		**P**		**13 14 05.0**	**+1.3**
	4.9nm,0.8s								
319A	**Douglas**	**87.60**	**54**	*e*P		**P**		**13 14 08.3**	**+1.7**
	6.5nm,1.0s								
X16A	**Lo Mia Camp, P**	**87.68**	**50**	*e*P		**P**		**13 14 08.3**	**+1.3**
	2.2nm,0.9s								
LCMT	**Little Creek M**	**87.89**	**47**	*e*P		**P**		**13 14 09.4**	**+1.5**
	3.7nm,1.2s								
CCUT	**Cedar City**	**88.11**	**47**	*e*P		**P**		**13 14 10.4**	**+1.3**
	4.7nm,1.3s								
U15A	**North Rim**	**88.20**	**48**	*e*P		**P**		**13 14 11.2**	**+1.7**
	7.2nm,1.3s								
J08A	**Circle Bar Ran**	**88.35**	**40**	*e*P		**P**		**13 14 11.3**	**+1.4**
	9.2nm,1.3s								
MTPU	**Mount Pierson**	**89.16**	**47**	*e*P		**P**		**13 14 16.0**	**+1.9**
	4.9nm,0.9s								
G08A	**Pilot Rock**	**89.27**	**38**	*e*P		**P**		**13 14 15.5**	**+1.4**
	12nm,1.3s								
MFID	**Camas Ranch**	**89.93**	**41**	*e*P		**P**		**13 14 18.1**	**+0.9**
	4.3nm,0.8s								
TMUT	**Trail Mountain**	**90.48**	**46**	*e*P		**P**		**13 14 21.7**	**+1.6**
	5.0nm,0.8s								
CM01	**Chiang Mai Arr**	**90.49**	**290**	*e*P		**P**		**13 14 20.5**	**+0.3**
CMAR	**Chiang Mai Arr**	**90.52**	**290**	P		**P**		**13 14 21.8**	**+1.4**
	1.0nm,0.8s,baz=132,slow=4.0,SNR=8.3								
CHTO	**Chiang Mai**	**90.68**	**290**	*e*P		**P**		**13 14 21.3**	**+0.2**
	2.2nm,0.6s								
TX31	**Lajitas Ar. Si**	**90.77**	**58**	*e*P		**P**		**13 14 22.9**	**+1.5**
TXAR	**Lajitas Array**	**90.77**	**58**	P		**P**		**13 14 23.0**	**+1.6**
	0.9nm,0.7s,baz=210,slow=6.2,SNR=7.5								
SRU	**San Rafael Swe**	**90.83**	**47**	*e*P		**P**		**13 14 22.8**	**+1.2**
	9.5nm,1.4s								
HVU	**Hansel Valley**	**90.85**	**43**	*e*P		**P**		**13 14 22.5**	**+1.0**
	2.5nm,0.8s								
HHC	**Hu-ho-hao-te**	**91.82**	**315**	*e*P		**P**		**13 14 29.1**	**+3.1**
HHC					pmax	pmax			
	comp=Z,5.0nm,1.4s								
HHC					pmax	pmax			
	comp=Z,14nm,8.1s								
ILAR	**Eielson Array**	**93.34**	**13**	P		**P**		**13 14 31.8**	**-0.5**
	comp=Z,0.6nm,0.8s,baz=219,slow=5.2,SNR=14								
PDAR	**Pinedale Array**	**93.39**	**44**	P		**P**		**13 14 32.9**	**-0.5**
	comp=Z,0.4nm,0.7s,baz=204,slow=3.3,SNR=3.6								
BVAR	**Borovoye Array**	**121.88**	**318**	PKP		**PKPdf**		**13 20 08.3**	**-0.7**
	comp=Z,0.4nm,0.3s,baz=106,slow=3.1,SNR=3.7								
ARCES	**ARCESS Array B**	**133.43**	**348**	PKhKP	PKPpre			13 20 22.3	
	comp=Z,3.1nm,1.1s,baz=144,slow=37,SNR=2.8								
ARCES				PKP		**PKPdf**		**13 20 30.3**	**-0.2**
	comp=Z,1.0nm,0.6s,baz=46,slow=3.9,SNR=5.1								
FINES	**FINESS Array B**	**140.00**	**341**	PKhKP	PKPpre			13 20 34.3	
	comp=Z,2.2nm,0.9s,baz=116,slow=4.4,SNR=5.3								
FINES				PKP		**PKPdf**		**13 20 43.2**	**+0.4**
	comp=Z,1.7nm,0.8s,baz=64,slow=3.2,SNR=3.3								
FINES				PP		**PP**		**13 23 38.0**	**-7.0**
	comp=Z,3.3nm,0.8s,baz=41,slow=4.4,SNR=7.0								
NB2	**NORSAR Subarra**	**143.61**	**351**	PKP	PKPab			13 20 47.0	-0.6
	comp=Z,5.0nm,0.8s,baz=14,slow=3.3								
NOA	**NORSAR Array B**	**143.61**	**351**	PKP	PKPab			13 20 47.4	-0.3
	comp=Z,3.1nm,0.7s,baz=2.3,slow=2.2,SNR=11								
HFS	**Hagfors**	**144.09**	**349**	PKP	PKPbc			13 20 48.8	-0.5
	comp=Z,13nm,0.7s,baz=84,slow=4.5,SNR=25								
AKASG	**Malin Array Be**	**146.49**	**326**	PKPbc	**PKPdf**			**13 20 55.7**	**+1.2**
	comp=Z,3.0nm,0.5s,baz=45,slow=4.4,SNR=15								
AK11	**Malin Array Si**	**146.53**	**326**	*e*PKPdf	**PKPdf**			**13 20 55.2**	**+0.7**
MMAI	**Mount Meron Ar**	**148.76**	**292**	PKPbc	**PKPbc**			**13 21 04.3**	**+1.0**
	comp=Z,1.4nm,0.4s,baz=63,slow=6.6,SNR=3.1								
EKA	**Eskdalemuir Ar**	**149.95**	**4**	PKPbc	**PKPbc**			**13 21 04.1**	**-1.2**
	comp=Z,1.8nm,0.7s,baz=32,slow=2.8,SNR=3.6								
BUR04	**Bucovina Ar. S**	**150.47**	**325**	*e*PKPbc	**PKPbc**			**13 21 07.7**	**+0.7**

*ISCJB **16** 13:17:27.7±1.1,0.°0S±0.°2×91.°8E±0.°2,h10km,mb3.6/5, Error ellipse: s-maj=29.1km s-min=16.1km az=41.4*
*IDC **16** 13:17:28.4±1.5,0.°01N×91.°88E,h0km,mb3.6/5,mb1 3.8/7, mb1mx3.5/60,mbtmp3.5/7,ML3.6/2,Error ellipse: s-maj=50.0km s-min=21.4km az=52.0*
ISC 16 13:17:29.8±1.3,**0.°0N**±0.°2×**91.°9E**±0.°2,**h10**km,**n7**,σ0**86**/7, **mb3.7**/5,**North Indian Ocean**

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
PALK	**Pallekele**	**13.24**	**303**	Pn		**Pn**	**13 20 37.5**	**-0.6**
	0.4nm,0.3s,baz=116,slow=14,SNR=3.2							
PALK				Sn		Sn	13 22 54.6	-11
	0.2nm,0.3s,baz=115,slow=6.9,SNR=3.3							
CMAR	**Chiang Mai Arr**	**19.59**	**20**	P		**Pn**	**13 21 60.0**	**+0.4**
	0.1nm,0.3s,baz=214,slow=10,SNR=4.7							
WRA	**Warramunga Arr**	**46.09**	**118**	P		**P**	**13 25 53.9**	**-0.6**
	1.3nm,0.6s,baz=296,slow=8.5,SNR=17							
ASAR	**Alice Springs**	**47.11**	**123**	P		**P**	**13 26 02.5**	**+0.1**
	0.4nm,0.6s,baz=298,slow=7.7,SNR=7.0							
MKAR	**Makanchi Array**	**47.32**	**351**	P		**P**	**13 26 03.5**	**-0.2**
	0.2nm,0.7s,baz=154,slow=7.5,SNR=2.7							
SONM	**Songino Array**	**49.26**	**13**	P		**P**	**13 26 18.4**	**-0.4**
	0.2nm,0.4s,baz=185,slow=6.7,SNR=3.3							
GERES	**GERESS Array B**	**82.18**	**319**	P		**P**	**13 29 52.6**	**+1.4**
	0.4nm,0.4s,baz=93,slow=5.0,SNR=4.2							

*CSEM **16** 13:23:00.4,36.°93N×39.°66E,h7km,ML2.7*
*DDA **16** 13:23:00.4,36.°93N×39.°66E,h7km,ML2.7*
ISC 16 13:23:00.2±1.5,**36.°93N**±0.°07×**39.°68E**±0.°03,**h9**km±11km, **n12**,σ0**°78**/24,**Jordan-Syria region**

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
SANL	**SANLIURFA_Merk**	**0.60**	**294**	*i* P		**Pg**	**13 23 12.1**	**+0.2**
SANL				*i* S		**Sg**	**13 23 20.5**	**+0.7**
SANL	**SANLIURFA_Merk**	**0.60**	**294**	P		**Pg**	**13 23 12.1**	**+0.2**
SANL				S		**Sg**	**13 23 20.5**	**+0.7**
MAZI	**Mazidag**	**0.81**	**49**	PG		**Pb**	**13 23 16.9**	**+0.3**
MAZI				SG		**Sb**	**13 23 28.7**	**+1.0**
URFA	**Urfa**	**0.85**	**307**	PG		**Pg**	**13 23 15.8**	**-0.9**
URFA				SG		**Sg**	**13 23 26.6**	**-1.2**
SURC	**SANLIURFA_SURC**	**0.86**	**267**	*i* P		**Pg**	**13 23 17.0**	**+0.3**
SURC				*i* S		**Sb**	**13 23 28.7**	**-0.3**
SURC	**SANLIURFA_SURC**	**0.86**	**267**	P		**Pg**	**13 23 17.0**	**+0.3**
SURC				S		**Sb**	**13 23 28.7**	**-0.3**
MARD	**Mardin**	**0.96**	**66**	*i* P		**Pg**	**13 23 17.2**	**-1.4**
MARD				*i* S		**Sb**	**13 23 32.7**	**+0.7**
ELZG	**Elazig**	**1.66**	**341**	*i* P		**Pg**	**13 23 31.7**	**-0.4**
ELZG				*i* S		**Sg**	**13 23 54.9**	**+1.3**
ELZG	**Elazig**	**1.66**	**341**	P		**Pg**	**13 23 31.7**	**-0.4**
ELZG				S		**Sg**	**13 23 54.9**	**+1.3**
MALT	**Malatya**	**1.70**	**325**	*e*PG		**Pn**	**13 23 30.6**	**+0.4**
MALT				*e*SG		**Sn**	**13 23 51.9**	**-0.3**
AKCD	**Akcadag**	**1.95**	**315**	*i* P		**Pb**	**13 23 35.3**	**-0.7**
AKCD				*i* S		**Sg**	**13 24 02.8**	**-0.1**
AKCD	**Akcadag**	**1.95**	**315**	P		**Pb**	**13 23 35.3**	**-0.7**
AKCD				S		**Sg**	**13 24 02.8**	**-0.1**

GUC 16 13:24:58.2±0.3,**16.°53S**×**71.°63W**,**h173**km±23km,**ML4.3, 3C-5D**,**Southern Peru**

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
PB12	**IPOC Station P**	**2.42**	**149**	*i* P		Pn	13 25 41.0	+1.4
PB12				IAML			13 26 27.7	
	comp=N,1μm,0.2s							
MNMC	**Minye Minye**	**3.23**	**144**	*i* P		Pn	13 25 52.1	+2.4
MNMC				IAML			13 26 40.4	
	comp=N,398nm,0.1s							
LPAZ	**La Paz**	**3.36**	**86**	*i* P		Pn	13 25 54.1	+2.4
PSGC	**Pisagua**	**3.37**	**155**	*i* P		Pn	13 25 52.9	+1.6
PSGC				*i* S		Sn	13 26 34.4	+1.7
PB11	**IPOC Station P**	**3.72**	**150**	*i* P		Pn	13 25 57.7	+2.0
PB11				*i* S		Sn	13 26 43.1	+2.4
PB08	**IPOC Station P**	**4.29**	**147**	*i* P		Pn	13 26 06.1	+2.9
PB08				*i* S		Sn	13 26 57.8	+3.7
PB01	**IPOC Station P**	**4.93**	**156**	*i* P		Pn	13 26 13.2	+2.0
PB01				*i* S		Sn	13 27 10.6	+2.2
PB02	**IPOC Station P**	**5.04**	**161**	*i* P		Pn	13 26 14.9	+2.2
PB02				*i* S		Sn	13 27 12.2	+1.1

*ISCJB **16** 13:28:22.0±0.5,39.°09N±0.°04×29.°14E±0.°04,h8km±5km, Error ellipse: s-maj=7.7km s-min=4.4km az=150.1*
*CSEM **16** 13:28:21.9±0.1,39.°08N×29.°17E,h8km,ML2.3, Error ellipse: s-maj=3.1km s-min=1.8km az=132.0*
*ISK **16** 13:28:21.3,39.°10N×29.°17E,h5km,ML2.3/9*
*DDA **16** 13:28:21.9,39.°06N×29.°13E,h7km,Ml2.6*
ISC 16 13:28:22.2±0.9,**39.°10N**±0.°03×**29.°15E**±0.°03,**h10**km±8km, **n26**,σ0**°40**/36,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
SIMA	**Simav-Kutahya**	**0.13**	**262**	PG		**Pg**	**13 28 25.3**	**0.0**
SIMA				SG		**Sg**	**13 28 27.1**	**-0.3**
SIMA	**Simav-Kutahya**	**0.13**	**262**	*e*Pg		**Pg**	**13 28 25.3**	**0.0**
SIMA				*e*Sg		**Sg**	**13 28 27.1**	**-0.3**
GDZ	**Gediz**	**0.26**	**93**	*i* P		**Pg**	**13 28 27.5**	**0.0**
GDZ				*i* S		**Sg**	**13 28 32.0**	**+0.8**
GDZ	**Gediz**	**0.26**	**93**	P		**Pg**	**13 28 27.5**	**0.0**
GDZ				S		**Sg**	**13 28 32.0**	**+0.8**
DEMI	**Demirci**	**0.34**	**260**	*i* P		**Pg**	**13 28 29.0**	**0.0**
DEMI				*i* S		**Sg**	**13 28 33.3**	**-0.2**
DEMI	**Demirci**	**0.34**	**260**	P		**Pg**	**13 28 29.0**	**0.0**
DEMI				S		**Sg**	**13 28 33.3**	**-0.2**
TVSB	**Tavsanli**	**0.42**	**35**	PG		**Pg**	**13 28 30.0**	**-0.6**
TVSB				SG		**Sg**	**13 28 35.7**	**-0.5**
TVSB	**Tavsanli**	**0.42**	**35**	*e*Pg		**Pg**	**13 28 30.0**	**-0.6**
TVSB				*e*Sg		**Sg**	**13 28 35.7**	**-0.5**
KULA	**Kula-Manisa**	**0.70**	**213**	PG		**Pg**	**13 28 35.2**	**-0.5**
KULA	**Kula-Manisa**	**0.70**	**213**	*e*Pg		**Pg**	**13 28 35.2**	**-0.5**
DURS	**Dursunbey**	**0.72**	**314**	*i* P		**Pg**	**13 28 36.3**	**+0.2**
DURS	**Dursunbey**	**0.72**	**314**	P		**Pg**	**13 28 36.3**	**+0.2**
MANT	**Manisa**	**0.76**	**217**	*i* P		**Pg**	**13 28 36.8**	**-0.2**
MANT				*i* S		**Sg**	**13 28 46.5**	**-0.4**
MANT	**Manisa**	**0.76**	**217**	P		**Pg**	**13 28 36.8**	**-0.2**
MANT				S		**Sg**	**13 28 46.5**	**-0.4**
CAVI	**Cavuskoy**	**1.22**	**26**	PN		**Pb**	**13 28 45.3**	**-0.2**
CAVI	**Cavuskoy**	**1.22**	**26**	*e*Pn		**Pb**	**13 28 45.3**	**-0.2**
MDNY	**Mudanya-Bursa**	**1.28**	**351**	PN		**Pn**	**13 28 46.5**	**+0.3**
MDNY	**Mudanya-Bursa**	**1.28**	**351**	*e*Pn		**Pn**	**13 28 46.5**	**+0.3**
KCTX	**Karacabey (Bur**	**1.31**	**333**	PN		**Pn**	**13 28 46.9**	**+0.3**
KCTX	**Karacabey (Bur**	**1.31**	**333**	*e*Pn		**Pn**	**13 28 46.9**	**+0.3**
YLV	**Yalova**	**1.47**	**7**	PN		**Pn**	**13 28 48.9**	**0.0**
YLV	**Yalova**	**1.47**	**7**	*e*Pn		**Pn**	**13 28 48.9**	**0.0**
ARMT	**Armutlu**	**1.48**	**352**	PN		**Pb**	**13 28 49.9**	**+0.1**
ARMT	**Armutlu**	**1.48**	**352**	*e*Pn		**Pb**	**13 28 49.9**	**+0.1**
EDC	**Edincik**	**1.59**	**322**	PN		**Pn**	**13 28 51.1**	**+0.7**
EDC	**Edincik**	**1.59**	**322**	*e*Pn		**Pn**	**13 28 51.1**	**+0.7**

*CSEM **16** 13:29:31.9±0.3,41.°13N×30.°67E,h8km,ML2.3, Error ellipse: s-maj=5.2km s-min=2.7km az=44.0*
*DDA **16** 13:29:32.2,41.°08N×30.°64E,h7km,Ml2.7*
*ISK **16** 13:29:32.7,41.°09N×30.°58E,h8km,ML2.3/8*
ISC 16 13:29:31.3±1.7,**41.°11N**±0.°08×**30.°71E**±0.°06,**h13**km±11km, **n28**,σ0**°35**/38,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
SAHE	**Sakarya_HENDEK**	**0.28**	**157**	*i* P		**Pb**	**13 29 37.9**	**-0.3**
SAHE				*i* S		**Sb**	**13 29 42.5**	**-0.4**
SAHE	**Sakarya_HENDEK**	**0.28**	**157**	P		**Pb**	**13 29 37.9**	**-0.3**
SAHE				S		**Sb**	**13 29 42.5**	**-0.4**
KAND	**Kocaeli-Kandir**	**0.39**	**268**	*i* P		**Pg**	**13 29 39.3**	**+0.2**
KAND				*i* S		**Sg**	**13 29 44.5**	**+0.1**
KAND	**Kocaeli-Kandir**	**0.39**	**268**	P		**Pg**	**13 29 39.3**	**+0.2**
KAND				S		**Sg**	**13 29 44.5**	**+0.1**
SAUV	**Serdivan-Sakar**	**0.47**	**218**	PG		**Pb**	**13 29 41.4**	**0.0**
SAUV	**Serdivan-Sakar**	**0.47**	**218**	*e*Pg		**Pb**	**13 29 41.4**	**0.0**
GULT	**Gulveren**	**0.69**	**192**	PG		**Pb**	**13 29 45.8**	**+0.5**
GULT				SG		**Sb**	**13 29 55.3**	**+0.5**
GULT	**Gulveren**	**0.69**	**192**	*e*Pg		**Pb**	**13 29 45.8**	**+0.5**
GULT				*e*Sg		**Sb**	**13 29 55.3**	**+0.5**
GEYV	**SAKARYA_Geyve**	**0.70**	**207**	*i* P		**Pb**	**13 29 45.5**	**+0.2**
GEYV	**SAKARYA_Geyve**	**0.70**	**207**	P		**Pb**	**13 29 45.5**	**+0.2**
SILT	**Sile**	**0.81**	**273**	PG		**Pg**	**13 29 46.9**	**0.0**
SILT				SG		**Sg**	**13 29 57.3**	**-0.2**
SILT	**Sile**	**0.81**	**273**	*e*Pg		**Pg**	**13 29 46.9**	**0.0**
SILT				*e*Sg		**Sg**	**13 29 57.3**	**-0.2**
HRT	**Hereke**	**0.84**	**250**	PG		**Pg**	**13 29 47.0**	**-0.6**
HRT				SG		**Sb**	**13 29 58.2**	**-0.8**
HRT	**Hereke**	**0.84**	**250**	*e*Pg		**Pg**	**13 29 47.0**	**-0.6**
HRT				*e*Sg		**Sb**	**13 29 58.2**	**-0.8**
ADVT	**Abdulvahap**	**1.00**	**228**	PG		**Pb**	**13 29 50.5**	**0.0**
ADVT	**Abdulvahap**	**1.00**	**228**	*e*Pg		**Pb**	**13 29 50.5**	**0.0**
CAVI	**Cavuskoy**	**1.12**	**216**	PG		**Pn**	**13 29 53.2**	**+0.5**
CAVI	**Cavuskoy**	**1.12**	**216**	*e*Pg		**Pn**	**13 29 53.2**	**+0.5**
YLV	**Yalova**	**1.15**	**242**	PG		**Pn**	**13 29 53.3**	**+0.1**
YLV	**Yalova**	**1.15**	**242**	*e*Pg		**Pn**	**13 29 53.3**	**+0.1**
ISK	**Istanbul-Kandi**	**1.25**	**268**	PN		**Pb**	**13 29 54.8**	**+0.1**
ISK	**Istanbul-Kandi**	**1.25**	**268**	*e*Pn		**Pb**	**13 29 54.8**	**+0.1**
KLYT	**Kilyos**	**1.27**	**277**	PN		**Pg**	**13 29 55.5**	**-0.2**
KLYT	**Kilyos**	**1.27**	**277**	*e*Pn		**Pg**	**13 29 55.5**	**-0.2**
BGKT	**Bogazkoy**	**1.46**	**273**	PN		**Pb**	**13 29 58.7**	**+0.3**
BGKT	**Bogazkoy**	**1.46**	**273**	*e*Pn		**Pb**	**13 29 58.7**	**+0.3**
ARMT	**Armutlu**	**1.50**	**249**	PN		**Pb**	**13 29 59.1**	**0.0**
ARMT	**Armutlu**	**1.50**	**249**	*e*Pn		**Pb**	**13 29 59.1**	**0.0**

*ISK **16** 13:43:29.7,39.°11N×29.°17E,h4km,ML2.7/17*
*ISCJB **16** 13:43:30.2±0.5,39.°09N±0.°03×29.°16E±0.°03,h5km±5km, Error ellipse: s-maj=5.4km s-min=4.3km az=157.3*
*CSEM **16** 13:43:30.2±0.1,39.°09N×29.°18E,h5km,ML2.7, Error ellipse: s-maj=3.0km s-min=2.3km az=133.0*
*DDA **16** 13:43:30.4,39.°06N×29.°14E,h7km,Ml2.9*
ISC 16 13:43:30.6±1.0,**39.°11N**±0.°03×**29.°15E**±0.°02,**h7**km±10km, **n44**,σ0**°49**/56,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
SIMA	**Simav-Kutahya**	**0.13**	**260**	PG		**Pg**	**13 43 33.5**	**0.0**
SIMA	**Simav-Kutahya**	**0.13**	**260**	*e*Pg		**Pg**	**13 43 33.5**	**0.0**
GDZ	**Gediz**	**0.26**	**94**	*i* P		**Pg**	**13 43 35.7**	**0.0**
GDZ				*i* S		**Sg**	**13 43 40.0**	**+0.8**
GDZ	**Gediz**	**0.26**	**94**	P		**Pg**	**13 43 35.7**	**0.0**
GDZ				S		**Sg**	**13 43 40.0**	**+0.8**
DEMI	**Demirci**	**0.34**	**260**	*i* P		**Pg**	**13 43 37.3**	**-0.1**
DEMI				*i* S		**Sg**	**13 43 41.2**	**-0.7**
DEMI	**Demirci**	**0.34**	**260**	P		**Pg**	**13 43 37.3**	**-0.1**
DEMI				S		**Sg**	**13 43 41.2**	**-0.7**
TVSB	**Tavsanli**	**0.42**	**35**	PG		**Pg**	**13 43 38.0**	**-0.8**
TVSB	**Tavsanli**	**0.42**	**35**	*e*Pg		**Pg**	**13 43 38.0**	**-0.8**
KULA	**Kula-Manisa**	**0.70**	**213**	PG		**Pg**	**13 43 43.8**	**-0.3**
KULA	**Kula-Manisa**	**0.70**	**213**	*e*Pg		**Pg**	**13 43 43.8**	**-0.3**
DURS	**Dursunbey**	**0.72**	**314**	*i* P		**Pg**	**13 43 43.7**	**-0.8**
DURS				*i* S		**Sb**	**13 43 57.0**	**+1.3**
DURS	**Dursunbey**	**0.72**	**314**	P		**Pg**	**13 43 43.7**	**-0.8**
DURS				S		**Sb**	**13 43 57.0**	**+1.3**
MANT	**Manisa**	**0.77**	**217**	*i* P		**Pg**	**13 43 45.1**	**-0.3**
MANT				*i* S		**Sg**	**13 43 54.9**	**-0.5**
MANT	**Manisa**	**0.77**	**217**	P		**Pg**	**13 43 45.1**	**-0.3**
MANT				S		**Sg**	**13 43 54.9**	**-0.5**
ORLT	**Orhaneli**	**0.96**	**348**	PG		**Pg**	**13 43 48.8**	**-0.2**
ORLT				SG		**Sb**	**13 44 02.6**	**+0.1**
ORLT	**Orhaneli**	**0.96**	**348**	*e*Pg		**Pg**	**13 43 48.8**	**-0.2**
ORLT				*e*Sg		**Sb**	**13 44 02.6**	**+0.1**
BALB	**Balikesir**	**1.12**	**299**	PN		**Pb**	**13 43 52.3**	**0.0**
BALB	**Balikesir**	**1.12**	**299**	*e*Pn		**Pb**	**13 43 52.3**	**0.0**
STEP	**BALIKESIR_Sava**	**1.15**	**284**	*i* P		**Pb**	**13 43 52.9**	**+0.2**
STEP				*i* S		**Sb**	**13 44 08.1**	**+0.3**
STEP	**BALIKESIR_Sava**	**1.15**	**284**	P		**Pb**	**13 43 52.9**	**+0.2**
STEP				S		**Sb**	**13 44 08.1**	**+0.3**
CAVI	**Cavuskoy**	**1.22**	**26**	PN		**Pg**	**13 43 53.4**	**-0.6**
CAVI	**Cavuskoy**	**1.22**	**26**	*e*Pn		**Pg**	**13 43 53.4**	**-0.6**
SHUT	**Suhut-Afyon**	**1.22**	**116**	PN		**Pb**	**13 43 53.6**	**-0.5**
SHUT	**Suhut-Afyon**	**1.22**	**116**	*e*Pn		**Pb**	**13 43 53.6**	**-0.5**
MDNY	**Mudanya-Bursa**	**1.28**	**351**	PN		**Pn**	**13 43 54.8**	**0.0**
MDNY	**Mudanya-Bursa**	**1.28**	**351**	*e*Pn		**Pn**	**13 43 54.8**	**0.0**
KCTX	**Karacabey (Bur**	**1.31**	**332**	PN		**Pn**	**13 43 55.5**	**+0.2**
KCTX	**Karacabey (Bur**	**1.31**	**332**	*e*Pn		**Pn**	**13 43 55.5**	**+0.2**
ADVT	**Abdulvahap**	**1.40**	**19**	PN		**Pn**	**13 43 56.5**	**0.0**
ADVT	**Abdulvahap**	**1.40**	**19**	*e*Pn		**Pn**	**13 43 56.5**	**0.0**
YLV	**Yalova**	**1.47**	**7**	PN		**Pn**	**13 43 57.6**	**+0.1**
YLV	**Yalova**	**1.47**	**7**	*e*Pn		**Pn**	**13 43 57.6**	**+0.1**
GONE	**Gonen-Balikesi**	**1.47**	**310**	PN		**Pn**	**13 43 57.9**	**+0.4**
GONE	**Gonen-Balikesi**	**1.47**	**310**	*e*Pn		**Pn**	**13 43 57.9**	**+0.4**
ARMT	**Armutlu**	**1.48**	**351**	PN		**Pb**	**13 43 57.7**	**+0.1**
ARMT	**Armutlu**	**1.48**	**351**	*e*Pn		**Pb**	**13 43 57.7**	**+0.1**
AYDB	**Zeytinkoy-Aydi**	**1.52**	**221**	PN		**Pb**	**13 43 58.8**	**-0.4**
AYDB	**Zeytinkoy-Aydi**	**1.52**	**221**	*e*Pn		**Pb**	**13 43 58.8**	**-0.4**

ARMT	Armutlu	1.48	352	PN		Pn		13 46 08.3	-0.3
ARMT	Armutlu	1.48	352	*e*Pn		Pn		13 46 08.3	-0.3
GPA	Golpazari	1.49	37	PN		Pn		13 46 08.5	-0.3
GPA	Golpazari	1.49	37	*e*Pn		Pn		13 46 08.5	-0.3
AYDB	Zeytinkoy-Aydi	1.51	221	PN		Pn		13 46 08.5	-0.7
AYDB	Zeytinkoy-Aydi	1.51	221	*e*Pn		Pn		13 46 08.5	-0.7
EDC	Edincik	1.59	322	PN		Pn		13 46 10.1	0.0
EDC	Edincik	1.59	322	*e*Pn		Pn		13 46 10.1	0.0
ISP	Isparta	1.68	139	PN		Pn		13 46 11.2	-0.2
ISP	Isparta	1.68	139	⇓*i*P		Pg		13 46 17.4	+3.8
ISP	Isparta	1.68	139	*e*Pn		Pn		13 46 11.2	-0.2
GULT	Gulveren	1.70	38	PN		Pn		13 46 11.7	0.0
GULT	Gulveren	1.70	38	*e*Pn		Pn		13 46 11.7	0.0
DKL	Dikili	1.74	270	PN		Pn		13 46 12.2	+0.1
DKL	Dikili	1.74	270	*e*Pn		Pn		13 46 12.2	+0.1
BUY	Buyukada	1.75	359	PN		Pn		13 46 12.4	+0.1
BUY	Buyukada	1.75	359	*e*Pn		Pn		13 46 12.4	+0.1
HRT	Hereke	1.77	13	PN		Pn		13 46 12.4	-0.2
HRT	Hereke	1.77	13	*e*Pn		Pn		13 46 12.4	-0.2
BLCB	Balcova	1.79	247	PN		Pn		13 46 12.9	+0.1
BLCB	Balcova	1.79	247	*e*Pn		Pn		13 46 12.9	+0.1
SPNC	Sapanca-Adapaz	1.82	29	PN		Pn		13 46 13.4	+0.1
SPNC	Sapanca-Adapaz	1.82	29	*e*Pn		Pn		13 46 13.4	+0.1
SAUV	Serdivan-Sakar	1.87	29	PN		Pn		13 46 13.9	-0.1
SAUV	Serdivan-Sakar	1.87	29	*e*Pn		Pn		13 46 13.9	-0.1
SVRH	Sivrihisar-ESK	1.88	79	PN		Pn		13 46 14.1	-0.1
SVRH	Sivrihisar-ESK	1.88	79	*e*Pn		Pn		13 46 14.1	-0.1
FOCM	Fo˘ça	1.92	259	PN		Pn		13 46 14.8	+0.2
FOCM	Fo˘ça	1.92	259	*e*Pn		Pn		13 46 14.8	+0.2
KRBG	Karabiga-Canak	1.92	313	PN		Pn		13 46 14.6	0.0
KRBG	Karabiga-Canak	1.92	313	*e*Pn		Pn		13 46 14.6	0.0
ISK	Istanbul-Kandi	1.96	358	PN		Pn		13 46 15.7	+0.5
ISK	Istanbul-Kandi	1.96	358	*e*Pn		Pn		13 46 15.7	+0.5
SBT3	Marmara-Eregli	1.99	334	PN		Pn		13 46 15.8	+0.3
SBT3	Marmara-Eregli	1.99	334	*e*Pn		Pn		13 46 15.8	+0.3
GCAM	G?zlecaml?	2.05	228	PN		Pn		13 46 16.5	+0.1
GCAM	G?zlecaml?	2.05	228	*e*Pn		Pn		13 46 16.5	+0.1
YER	Yerkesik	2.08	199	PN		Pn		13 46 16.7	-0.1
YER	Yerkesik	2.08	199	*e*Pn		Pn		13 46 16.7	-0.1
SILT	Sile	2.08	10	PN		Pn		13 46 17.2	+0.3
SILT	Sile	2.08	10	*e*Pn		Pn		13 46 17.2	+0.3
MDUB	Mudurnu	2.09	49	PN		Pn		13 46 17.1	0.0
MDUB	Mudurnu	2.09	49	*e*Pn		Pn		13 46 17.1	0.0
BGKT	Bogazkoy	2.10	352	PN		Pn		13 46 17.6	+0.5
BGKT	Bogazkoy	2.10	352	*e*Pn		Pn		13 46 17.6	+0.5
MLSB	Milas	2.10	211	PN		Pn		13 46 17.2	+0.1
MLSB	Milas	2.10	211	*e*Pn		Pn		13 46 17.2	+0.1
URLA	Izmir	2.12	250	PN		Pn		13 46 17.9	+0.4
URLA	Izmir	2.12	250	*e*Pn		Pn		13 46 17.9	+0.4
KLYT	Kilyos	2.15	358	PN		Pn		13 46 18.1	+0.3
KLYT	Kilyos	2.15	358	*e*Pn		Pn		13 46 18.1	+0.3
CTKS	Kestanelik-??a	2.19	347	PN		Pn		13 46 18.6	+0.3
CTKS	Kestanelik-??a	2.19	347	*e*Pn		Pn		13 46 18.6	+0.3
RKY	Sarkoy-Tekirda	2.19	317	PN		Pn		13 46 18.6	+0.2
RKY	Sarkoy-Tekirda	2.19	317	*e*Pn		Pn		13 46 18.6	+0.2
LPK	Lapseki	2.23	305	PN		Pn		13 46 19.2	+0.3
LPK	Lapseki	2.23	305	*e*Pn		Pn		13 46 19.2	+0.3
SLVT	Silivri	2.24	342	PN		Pn		13 46 19.7	+0.6
SLVT	Silivri	2.24	342	*e*Pn		Pn		13 46 19.7	+0.6
TURN	Turunc	2.27	191	PN		Pb		13 46 21.9	-0.8
EZN	Ezine	2.30	289	PN		Pn		13 46 20.4	+0.6
EZN	Ezine	2.30	289	*e*Pn		Pn		13 46 20.4	+0.6
KORT	Korkueli	2.30	155	PN		Pn		13 46 19.9	-0.1
KORT	Korkueli	2.30	155	*e*Pn		Pn		13 46 19.9	-0.1
ELL	Elmali	2.43	165	PN		Pn		13 46 21.8	+0.1
ELL	Elmali	2.43	165	*e*Pn		Pn		13 46 21.8	+0.1
GELI	Tayfur-Gelibol	2.43	303	PN		Pn		13 46 22.5	+0.9
GELI	Tayfur-Gelibol	2.43	303	*e*Pn		Pn		13 46 22.5	+0.9
CTYL	Yalikoy Yolu	2.46	345	PN		Pn		13 46 22.5	+0.5
CTYL	Yalikoy Yolu	2.46	345	*e*Pn		Pn		13 46 22.5	+0.5
KIYI	Yal˘–koy-Catal	2.47	345	PN		Pn		13 46 22.8	+0.7
KIYI	Yal˘–koy-Catal	2.47	345	*e*Pn		Pn		13 46 22.8	+0.7
BOZC	Bozcaada	2.50	288	PN		Pn		13 46 22.7	+0.1
BOZC	Bozcaada	2.50	288	*e*Pn		Pn		13 46 22.7	+0.1
CHOS	Chios island	2.52	255	PN		Pn		13 46 23.7	+0.8
CHOS	Chios island	2.52	255	*e*Pn		Pn		13 46 23.7	+0.8
SIGR	SIGRI	2.56	274	PN		Pn		13 46 24.1	+0.7
SIGR	SIGRI	2.56	274	*e*Pn		Pn		13 46 24.1	+0.7
GADA	Gvkgeada	2.73	295	PN		Pn		13 46 26.7	+0.9
GADA	Gvkgeada	2.73	295	*e*Pn		Pn		13 46 26.7	+0.9
KDZ	Kurdzhali	3.82	313	*i* P		Pn		13 46 41.5	+0.8
JMB	Yambol	3.88	331	*i* P		Pn		13 46 42.8	+1.2
RZN	Rozhen	4.25	309	*i* P		Pn		13 46 45.4	-1.5
SZH	Strazhica	4.81	331	*i* P		Pn		13 46 54.6	+0.2
TIRR	Tirgusor	5.38	354	⇑*i*P		Pn		13 47 01.5	-0.7
TIRR	Tirgusor	5.38	354	⇑*i*P		Pn		13 47 01.5	-0.7
TLCR		6.09	358	⇑*i*P		Pn		13 47 10.2	-1.6
TLCR		6.09	358	⇑*i*P		Pn		13 47 10.2	-1.6
CFR	Carcaliu	6.12	353	⇓*i*P		Pn		13 47 12.6	+0.3
CFR	Carcaliu	6.12	353	⇓*i*P		Pn		13 47 12.6	+0.3
MLR	Muntele Rosu	6.81	341	⇑*i*P		Pn		13 47 26.4	+4.5
PLOR	Plostina	6.99	346	⇑*i*P		Pn		13 47 25.9	+1.5
PLOR	Plostina	6.99	346	⇑*i*P		Pn		13 47 25.9	+1.5
VRI	Vrincioaia	6.99	346	⇑*i*P		Pn		13 47 25.9	+1.6
VRI	Vrincioaia	6.99	346	⇑*i*P		Pn		13 47 25.9	+1.6
BURAR	Bucovina Array	8.98	343	⇑*i*P		Pn		13 47 53.6	+2.0
BURAR	Bucovina Array	8.98	343	⇑*i*P		Pn		13 47 53.6	+2.0

IDC 16 13:54:56.0±2.1, 1°45N×89°37E, h0km, mb3.5/4, mb1 3.5/5, mb1mx3.2/71, mbtmp3.5/5, ML3.3/1, Error ellipse: s-maj=69.9km s-min=26.7km az=50.0, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PALK	**Pallekele**	**10.40**	**304**	Pn	Pn	13 57 25.0	-1.6
PALK	0.3nm,0.3s,baz=118,slow=13,SNR=3.0			Sn	Sn	13 59 09.0	-15
H08S2	**Diego Garcia H**	**19.10**	**242**	T	T	14 19 30.3	
	baz=61,slow=75,SNR=37						
H08S3	**Diego Garcia H**	**19.10**	**242**	T	T	14 19 26.7	
	baz=61,slow=75,SNR=21						
H08S1	**Diego Carcia H**	**19.12**	**242**	T	T	14 19 29.2	
	baz=61,slow=75,SNR=27						
MKAR	**Makanchi Array**	**45.59**	**353**	P	P	14 03 19.3	+1.4
	0.3nm,0.4s,baz=171,slow=8.9,SNR=5.3						
SONM	**Songino Array**	**48.51**	**15**	P	P	14 03 39.5	-1.3
	0.4nm,0.4s,baz=190,slow=7.3,SNR=2.7						
ASAR	**Alice Springs**	**49.96**	**123**	P	P	14 03 52.2	-0.1
	0.3nm,0.8s,baz=298,slow=7.9,SNR=3.4						
BVAR	**Borovoye Array**	**53.77**	**346**	P	P	14 04 20.2	+0.1
	0.4nm,0.7s,baz=145,slow=7.9,SNR=3.0						

*ISCJB **16** 13:56:47.1±0.5, 79°.69N±0°.05×124°.6E±0°.4, h10km, mb3.6/20, MS3.5/2, Error ellipse: s-maj=9.9km s-min=7.3km az=162.0*
*MOS **16** 13:56:47.4±1.0, 79°.65N×124°.56E, h10km, mb4.0/10, Error ellipse: s-maj=59.1km s-min=10.2km az=89.1*
*IDC **16** 13:56:47.1±0.7, 79°.76N×124°.26E, h0km, mb3.6/15, mb1 3.8/18, mb1mx3.6/79, mbtmp3.6/18, ML3.3/2, MS3.6/2, Ms1 3.6/2, ms1mx2.6/69, Error ellipse: s-maj=18.3km s-min=14.1km az=142.0*
ISC 16 13:56:49.4±0.6, 79.71N±0°.07×123°.99E±0°.09, h10km, n34, σ1§34/34, mb3.6/20, 2C-4D, East of Severnaya Zemlya

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TIXI	**Tiksi**	**8.20**	**169**	Pn	**Pn**	**13 58 47.5**	**-0.6**
	0.2nm,0.3s,baz=359,slow=13,SNR=3.9						
TIXI				Sn	**Sn**	**14 00 19.9**	**-0.7**
	0.5nm,0.3s,baz=107,slow=11,SNR=2.9						
TIXI	**Tiksi**	**8.20**	**169**	⇓*e*P	**Pn**	**13 58 47.7**	**-0.4**
TIXI				pmax	pmax		
	comp=Z,9.0nm,3.4s						
BILL	**Bilibino**	**15.95**	**113**	*e*P	**P**	**14 00 39.5**	**+2.5**
BILL				pmax	pmax		
	comp=Z,3.0nm,1.1s						
YAK	**Yakutsk**	**17.85**	**171**	⇑*e*P	**P**	**14 00 58.8**	**+0.8**
YAK				pmax	pmax		
	comp=Z,6.0nm,0.8s						
SPITS	**Spitsbergen Ar**	**17.94**	**320**	P	**Pn**	**14 00 59.3**	**+0.9**
	baz=31,slow=15,SNR=5.3						
SEY	**Seymchan**	**18.72**	**137**	P	**P**	**14 01 06.8**	**-0.8**
	comp=Z,0.0nm,0.3s,baz=111,slow=15,SNR=1.7						
BOD	**Bodaibo**	**22.22**	**194**	*e*P	**P**	**14 01 45.9**	**+0.3**
BOD				pmax	pmax		
	comp=Z,6.0nm,1.4s						
ARCES	**ARCESS Array B**	**24.28**	**302**	P	**P**	**14 02 04.7**	**-1.5**
	comp=Z,1.9nm,0.7s,baz=24,slow=9.3,SNR=5.8						
ARCES	**ARCESS Array B**	**24.28**	**302**	*e*P	**P**	**14 02 06.4**	**+0.2**
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
INK	**Inuvik**	**26.00**	**56**	P	**P**	**14 02 20.1**	**-1.7**
	comp=Z,0.3nm,0.7s,baz=349,slow=5.2,SNR=2.1						
ILAR	**Eielson Array**	**27.13**	**70**	P	**P**	**14 02 29.4**	**-2.6**
	comp=Z,0.4nm,0.8s,baz=334,slow=11,SNR=5.5						
ILAR	**Eielson Array**	**27.13**	**70**	*e*P	**P**	**14 02 32.6**	**+0.6**
ZALV	**Zalesovo Beam**	**28.86**	**231**	P	**P**	**14 02 47.0**	**-0.5**
	comp=Z,0.3nm,0.3s,baz=2.9,slow=5.8,SNR=2.9						
ZALV	**Zalesovo Beam**	**28.86**	**231**	P	**P**	**14 02 47.0**	**-0.5**
BRVK	**Borovoye**	**31.95**	**247**	⇓*e*P	**P**	**14 03 17.6**	**+2.8**
BRVK				pmax	pmax		
	comp=Z,4.0nm,1.8s						
BVAR	**Borovoye Array**	**31.96**	**247**	P	**P**	**14 03 14.9**	**+0.1**
	comp=Z,0.6nm,0.7s,baz=51,slow=11,SNR=4.1						
SONM	**Songino Array**	**32.61**	**202**	P	**P**	**14 03 20.8**	**+0.1**
	comp=Z,0.4nm,0.6s,baz=355,slow=10,SNR=3.0						
DGZ	**Jazzator, Alta**	**32.66**	**226**	⇓*e*P	**P**	**14 03 22.8**	**+1.6**
DGZ				pmax	pmax		
	comp=Z,1.0nm,1.5s						
KURK	**Kurchatov**	**32.90**	**236**	⇓*e*P	**P**	**14 03 24.0**	**+0.9**
KURK				pmax	pmax		
	comp=Z,5.0nm,1.7s						
KURBB	**Kurchatov Arra**	**33.01**	**236**	P	**P**	**14 03 22.9**	**-1.1**
	comp=Z,1.3nm,0.7s,baz=19,slow=12,SNR=7.7						
YKA	**Yellowknife Ar**	**34.13**	**45**	P	**P**	**14 03 32.8**	**-0.8**
	comp=Z,0.4nm,0.7s,baz=344,slow=8.3,SNR=5.6						
NOA	**NORSAR Array B**	**34.36**	**307**	P	**P**	**14 03 34.1**	**-1.6**
	comp=Z,0.6nm,0.9s,baz=9.0,slow=8.6,SNR=2.8						
MKAR	**Makanchi Array**	**36.20**	**231**	P	**P**	**14 03 51.2**	**-0.5**
	comp=Z,0.9nm,0.7s,baz=33,slow=11,SNR=10						
MKAR				LR	LR	14 19 58.0	
	comp=Z,73nm,20.4s,baz=64,slow=38						
MKAR	**Makanchi Array**	**36.20**	**231**	*e*P	**P**	**14 03 52.2**	**+0.5**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
AKTO	**Aktyubinsk**	**36.58**	**259**	LR	LR	14 19 25.8	
	comp=Z,117nm,20.7s,baz=44,slow=37						
AAK	**Ala-Archa**	**41.41**	**238**	P	**P**	**14 04 35.6**	**+0.1**
	comp=Z,1.1nm,0.5s,baz=199,slow=5.2,SNR=3.7						
AAK	**Ala-Archa**	**41.41**	**238**	⇑*e*P	**P**	**14 04 37.3**	**+1.8**
AAK				pmax	pmax		
	comp=Z,2.0nm,0.7s						
AKASG	**Malin Array Be**	**41.44**	**287**	P	**P**	**14 04 34.6**	**-0.8**
	comp=Z,0.4nm,0.5s,baz=16,slow=8.9,SNR=2.4						
STHS	**Stebnicka Huta**	**44.02**	**294**	*e*P	**P**	**14 04 57.2**	**+0.7**
STHS	**Stebnicka Huta**	**44.02**	**294**	*e*P	**P**	**14 04 57.3**	**+0.7**
STHS				pmax	pmax		
	comp=Z,2.0nm,0.7s						
GERES	**GERESS Array B**	**45.79**	**300**	P	**P**	**14 05 11.2**	**+0.5**
	comp=Z,0.3nm,0.4s,baz=30,slow=6.8,SNR=2.7						
CMAR	**Chiang Mai Arr**	**62.35**	**207**	P	**P**	**14 07 11.8**	**+0.2**
	comp=Z,0.3nm,0.6s,baz=7.8,slow=7.3,SNR=3.9						
TXAR	**Lajitas Array**	**68.05**	**44**	P	**P**	**14 07 48.2**	**-0.5**
	comp=Z,1.1nm,0.6s,baz=23,slow=4.9,SNR=5.9						
TXAR	**Lajitas Array**	**68.05**	**44**	*e*P	**P**	**14 07 52.1**	**+3.4**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						

*ISK **16** 13:56:53.8, 38°.58N×37°.51E, h4km, ML2.2/2*
*ISCJB **16** 13:56:54.8±0.5, 38°.55N±0°.03×37°.48E±0°.03, h1km±6km, Error ellipse: s-maj=4.9km s-min=4.0km az=30.3*
*CSEM **16** 13:56:54.6±0.2, 38°.55N×37°.48E, h5km, ML2.2, Error ellipse: s-maj=5.4km s-min=4.2km az=39.0*
*DDA **16** 13:56:54.9, 38°.56N×37°.48E, h7km, Ml2.6*
ISC 16 13:56:54.4±1.0, 38°.56N±0°.03×37°.48E±0°.03, h2km±7km, n21, σ0§72/36, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DARE	**Darende-Malaty**	**0.01**	**1**	PG	**Pg**	**13 56 54.8**	**-0.2**
DARE	**Darende-Malaty**	**0.01**	**1**	*e*Pg	**Pg**	**13 56 54.8**	**-0.2**
CUGUR	**Gurin_S˘VAS**	**0.23**	**315**	*i* P	**Pg**	**13 56 58.9**	**-0.1**
CUGUR				*i* S	**Sg**	**13 57 02.8**	**+0.8**
ELBS	**KAHRAMANMARAS**	**0.36**	**230**	*i* P	**Pg**	**13 57 01.6**	**+0.3**
ELBS				*i* S	**Sb**	**13 57 08.3**	**-1.4**
AKCD	**Akcadag**	**0.43**	**127**	*i* P	**Pg**	**13 57 03.3**	**+0.6**
AKCD				*i* S	**Sb**	**13 57 10.9**	**-0.9**
AKCD	**Akcadag**	**0.43**	**127**	P	**Pg**	**13 57 03.3**	**+0.6**
AKCD				S	**Sb**	**13 57 10.9**	**-0.9**
HEKM	**Malatya_Hekimh**	**0.49**	**49**	*i* P	**Pg**	**13 57 04.0**	**+0.2**
HEKM				*i* S	**Sb**	**13 57 12.3**	**-1.4**
HEKM	**Malatya_Hekimh**	**0.49**	**49**	P	**Pg**	**13 57 04.0**	**+0.2**
HEKM				S	**Sb**	**13 57 12.3**	**-1.4**
CUKAN	**kangal_SIVAS**	**0.76**	**359**	*i* P	**Pg**	**13 57 09.6**	**+0.6**
CUKAN				*i* S	**Sb**	**13 57 20.8**	**-0.5**
CUKAN	**kangal_SIVAS**	**0.76**	**359**	P	**Pg**	**13 57 09.6**	**+0.6**
CUKAN				S	**Sb**	**13 57 20.8**	**-0.5**
MALT	**Malatya**	**0.78**	**108**	PG	**Pg**	**13 57 09.1**	**-0.2**
MALT				SG	**Sg**	**13 57 20.7**	**+1.3**
MALT	**Malatya**	**0.78**	**108**	*e*Pg	**Pg**	**13 57 09.1**	**-0.2**
MALT				*e*Sg	**Sg**	**13 57 20.7**	**+1.3**
KMRS	**Kahramanmaras**	**1.15**	**204**	PN	**Pb**	**13 57 16.9**	**0.0**
KMRS				SN	**Sn**	**13 57 33.6**	**-0.2**
KMRS	**Kahramanmaras**	**1.15**	**204**	*e*Pn	**Pb**	**13 57 16.9**	**0.0**
KMRS				*e*Sn	**Sn**	**13 57 33.6**	**-0.2**
ELZG	**Elazig**	**1.18**	**92**	*i* P	**Pn**	**13 57 18.9**	**+0.8**
ELZG				*i* S	**Sn**	**13 57 34.4**	**-0.4**
CUSAR	**Sarkisla-SIVAS**	**1.29**	**312**	*i* P	**Pb**	**13 57 19.5**	**0.0**
CUSAR				*i* S	**Sn**	**13 57 38.4**	**+0.8**
CUSAR	**Sarkisla-SIVAS**	**1.29**	**312**	P	**Pb**	**13 57 19.5**	**0.0**
CUSAR				S	**Sn**	**13 57 38.4**	**+0.8**
SVSK	**Karacayir**	**1.41**	**345**	PN	**Pn**	**13 57 20.7**	**-0.4**
SVSK	**Karacayir**	**1.41**	**345**	*e*Pn	**Pn**	**13 57 20.7**	**-0.4**
PTK	**Pertek**	**1.53**	**77**	PN	**Pn**	**13 57 22.4**	**-0.5**
PTK	**Pertek**	**1.53**	**77**	*e*Pn	**Pn**	**13 57 22.4**	**-0.5**

*JMA **16** 14:02:07.9±0.4, 32°.51N×138°.23E, h357km±4km, M3.3*
*ISCJB **16** 14:02:10.5±0.6, 32°.71N±0°.08×138°.07E±0°.08, h341km, mb2.8/7, Error ellipse: s-maj=11.5km s-min=7.8km az=152.1*
*IDC **16** 14:02:11.9±0.6, 32°.79N×138°.01E, h343km±9km, mb2.7/7, mb1 2.9/9, mb1mx2.7/66, mbtmp3.4/9, Error ellipse: s-maj=22.6km s-min=14.1km az=65.0*
ISC 16 14:02:11.8±0.9, 32°.91N±0°.09×138°.03E±0°.08, h341km, n30, σ1§29/34, mb2.9/7, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JHJ	**Hachijo jima 2**	**1.49**	**81**	P	**Pn**	**14 03 00.6**	**+1.6**
JHJ	16nm,0.3s,baz=232,slow=19,SNR=2.6			S	**S**	**14 03 37.9**	**+1.2**
	14nm,0.3s,baz=252,slow=19,SNR=2.6						
JIE	**Ise**	**1.85**	**324**	P	**Pn**	**14 03 02.2**	**+1.1**
HMMJ	**Hamamatsu 2**	**1.96**	**353**	P	**Pn**	**14 03 03.2**	**+1.3**
JKN2	**Miiekihoku**	**1.98**	**313**	P	**Pn**	**14 03 02.7**	**+0.7**
JWZ	**Kozaga**	**2.04**	**288**	P	**Pn**	**14 03 02.6**	**+0.1**
JWY	**Kouya**	**2.42**	**303**	P	**Pn**	**14 03 06.4**	**+0.9**
JAO	**Obara**	**2.44**	**345**	P	**Pn**	**14 03 06.5**	**+0.9**
JNY	**Yasuok**	**2.45**	**357**	P	**Pn**	**14 03 07.2**	**+1.5**
JOD2	**Odawara 2**	**2.51**	**20**	P	**Pn**	**14 03 06.7**	**+0.6**
JOD2				S	**S**	**14 03 52.2**	**+2.4**
JEG	**Eigenji**	**2.60**	**329**	P	**Pn**	**14 03 08.3**	**+1.3**
BSO3	**Boso 3**	**2.79**	**47**	P	**Pn**	**14 03 07.7**	**-0.6**
BSO3				S	**S**	**14 03 53.8**	**+0.1**
BSO4	**Boso 4**	**2.83**	**42**	P	**Pn**	**14 03 08.7**	**0.0**
BSO1	**Boso 1**	**3.01**	**54**	P	**Pn**	**14 03 09.2**	**-0.6**
JHU	**Hanno**	**3.11**	**19**	P	**Pn**	**14 03 12.0**	**+0.6**
JAI	**Aioi**	**3.12**	**287**	P	**Pn**	**14 03 11.7**	**+0.1**
JRY	**Ryogami san**	**3.18**	**13**	P	**Pn**	**14 03 13.2**	**+1.1**
JWT	**Wachi**	**3.22**	**318**	P	**Pn**	**14 03 13.4**	**+1.0**
JMN	**Monobe**	**3.57**	**284**	P	**Pn**	**14 03 16.2**	**+0.2**
MAT	**Matsushiro**	**3.63**	**2**	P	**Pn**	**14 03 17.8**	**+1.4**
MJAR	**Matsushiro Arr**	**3.63**	**2**	P	**Pn**	**14 03 17.4**	**+1.0**
	0.6nm,0.3s,baz=183,slow=11,SNR=7.7						
JAG	**Ashikaga**	**3.70**	**18**	P	**Pn**	**14 03 17.3**	**+0.2**
JAG				S	**S**	**14 04 07.1**	**-2.6**
JYT	**Yasato**	**3.76**	**28**	*e*S	**S**	**14 04 07.0**	**-3.8**
KSRS	**Korea Array**	**9.43**	**302**	P	**Pn**	**14 04 23.9**	**+1.1**
	0.2nm,0.3s,baz=122,slow=11,SNR=6.3						
CMAR	**Chiang Mai Arr**	**37.82**	**257**	P	**P**	**14 08 56.6**	**-0.3**
	0.4nm,0.6s,baz=71,slow=5.8,SNR=4.1						
MKAR	**Makanchi Array**	**44.09**	**305**	P	**P**	**14 09 47.1**	**-0.1**
	0.4nm,0.4s,baz=88,slow=9.6,SNR=15						
KURBB	**Kurchatov Arra**	**46.47**	**311**	P	**P**	**14 10 05.4**	**-0.2**
	0.5nm,0.4s,baz=89,slow=7.5,SNR=6.6						
BVAR	**Borovoye Array**	**51.38**	**314**	P	**P**	**14 10 43.3**	**+0.9**
	0.3nm,0.4s,baz=123,slow=8.0,SNR=2.9						
WRA	**Warramunga Arr**	**52.67**	**184**	P	**P**	**14 10 50.9**	**-1.3**
	0.1nm,0.3s,baz=360,slow=7.6,SNR=6.8						
ILAR	**Eielson Array**	**54.45**	**31**	P	**P**	**14 11 05.3**	**+0.8**
	0.3nm,0.7s,baz=266,slow=5.4,SNR=4.3						
ASAR	**Alice Springs**	**56.40**	**185**	P	**P**	**14 11 17.9**	**-0.9**
	0.3nm,0.7s,baz=17,slow=10.0,SNR=7.7						

*KRNET **16** 14:04:22.8±0.1, 43°.20N×78°.84E, h15km, mb2.6*
*SOME **16** 14:04:23.3, 43°.23N×78°.82E, h5km*
ISC 16 14:04:22.6±0.9, 43°.21N±0°.03×78°.83E±0°.03, h10km±8km, n19, σ0§50/38, 10C, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
UZB	**Uzynbulak**	**0.16**	**114**	*e*P	**Pg**	**14 04 26.2**	**0.0**
	44nm,0.1s						
UZB				*e*S	**Sg**	**14 04 28.6**	**-0.2**
	257nm,0.1s						
UZB	**Uzynbulak**	**0.16**	**114**	*e*P	**Pg**	**14 04 26.2**	**0.0**
	baz=12						
UZB				*e*S	**Sg**	**14 04 28.6**	**-0.2**
	baz=12						
KPKS	**Kokpek**	**0.28**	**338**	*e*P	**Pg**	**14 04 28.2**	**0.0**
	51nm,0.1s						
KPKS				*e*S	**Sg**	**14 04 32.1**	**+0.1**
	191nm,0.2s						
KPKS	**Kokpek**	**0.28**	**338**	*e*P	**Pg**	**14 04 28.3**	**0.0**
	baz=34						
KPKS				*e*S	**Sg**	**14 04 32.2**	**+0.1**
	baz=34						
SATY	**Saty**	**0.34**	**244**	*e*P	**Pg**	**14 04 29.4**	**-0.1**
	8.9nm,0.1s						
SATY				*e*S	**Sg**	**14 04 34.1**	**0.0**
	59nm,0.1s						
PDGK	**Podgornoye**	**0.50**	**76**	⇑*i*P	**Pg**	**14 04 32.7**	**+0.3**
	baz=75						
PDGK				⇑*i*S	**Sg**	**14 04 39.0**	**0.0**
	baz=75						
MNBS	**Baschi**	**0.92**	**341**	*e*P	**Pg**	**14 04 40.1**	**-0.3**
	3.8nm,0.2s						
MNBS				*e*S	**Sg**	**14 04 52.1**	**-0.3**
	6.5nm,0.3s						
MDOK	**Medeo**	**1.30**	**269**	*e*P	**Pg**	**14 04 47.6**	**0.0**
	1.2nm,0.2s						
MDOK				*e*S	**Sg**	**14 05 04.8**	**+0.3**
	5.4nm,0.1s						
MDOK	**Medeo**	**1.30**	**269**	*e*P	**Pg**	**14 04 47.6**	**0.0**
	baz=69						
MDOK				*e*S	**Sg**	**14 05 04.8**	**+0.3**
	baz=69						
DJR	**Jarkent**	**1.32**	**32**	*e*P	**Pb**	**14 04 47.5**	**0.0**
	2.2nm,0.1s						
DJR				*e*S	**Sg**	**14 05 05.0**	**-0.2**
	6.9nm,0.2s						
TNSS	**Tian-Shan**	**1.39**	**263**	*e*P	**Pb**	**14 04 48.8**	**-0

YER				*e*Sg	Sb	14 25 15.4	+0.7
DENT	**Denizli**	**0.67**	**356**	PG	Pg	14 25 04.8	+0.2
DENT	**Denizli**	**0.67**	**356**	*e*Pg	Pg	14 25 04.8	+0.2
ELL	**Elmali**	**0.73**	**117**	PG	Pg	14 25 04.7	-1.0
ELL	**Elmali**	**0.73**	**117**	*e*Pg	Pg	14 25 04.7	-1.0
AKAS	**Kas**	**0.94**	**154**	*i* P	Pb	14 25 10.8	+0.4
AKAS				*i* S	Sn	14 25 30.4	+5.2
AKAS	**Kas**	**0.94**	**154**	P	Pb	14 25 10.8	+0.4
KORT	**Korkueli**	**1.01**	**94**	PG	Pg	14 25 10.7	-0.3
KORT	**Korkueli**	**1.01**	**94**	*i* P	Pb	14 25 11.7	+0.2
KORT	**Korkueli**	**1.01**	**94**	*e*Pg	Pg	14 25 10.7	-0.3
KORT	**Korkueli**	**1.01**	**94**	P	Pb	14 25 11.7	+0.2
DATC	**Datca-Mugla**	**1.20**	**255**	PN	Pn	14 25 15.7	+0.9
DATC	**Datca-Mugla**	**1.20**	**255**	*e*Pn	Pn	14 25 15.7	+0.9
AYDB	**Zeytinkoy-Aydi**	**1.29**	**312**	PN	Pg	14 25 16.5	+0.1
AYDB	**Zeytinkoy-Aydi**	**1.29**	**312**	*e*Pn	Pg	14 25 16.5	+0.1
BODT	**Bodrum**	**1.43**	**270**	PN	Pb	14 25 18.3	-0.3
BODT	**Bodrum**	**1.43**	**270**	*e*Pn	Pb	14 25 18.3	-0.3
KULA	**Kula-Manisa**	**1.47**	**347**	PN	Pn	14 25 18.3	-0.3
KULA	**Kula-Manisa**	**1.47**	**347**	*e*Pn	Pn	14 25 18.3	-0.3
BAGO	**Egridir - ISPA**	**1.62**	**56**	*i* P	Pb	14 25 22.1	+0.2

CSEM ***16*** *14:25:02.6±0.1,39.10N×29.18E,h6km±1km,ML2.0,Error ellipse: s-maj=4.2km s-min=1.6km az=152.0*

ISK 16 14:25:01.9,39.11N×29.19E,h6km,ML2.0/4,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIMA	**Simav-Kutahya**	**0.16**	**262**	PG	Pg	14 25 05.9	+0.7
SIMA				SG	Sg	14 25 08.3	+1.0
SIMA	**Simav-Kutahya**	**0.16**	**262**	*e*Pg	Pg	14 25 05.9	+0.7
SIMA				*e*Sg	Sg	14 25 08.3	+1.0
GDZ	**Gediz**	**0.23**	**94**	*i* P	Pg	14 25 08.0	+1.5
GDZ				*i* S	Sg	14 25 12.1	+2.6
GDZ	**Gediz**	**0.23**	**94**	P	Pg	14 25 07.9	+1.5
GDZ				S	Sg	14 25 12.1	+2.6
DEMI	**Demirci**	**0.37**	**261**	*i* P	Pg	14 25 09.9	+0.7
DEMI				*i* S	Sg	14 25 14.5	+0.5
DEMI	**Demirci**	**0.37**	**261**	P	Pg	14 25 09.9	+0.8
DEMI				S	Sg	14 25 14.5	+0.5
TVSB	**Tavsanli**	**0.41**	**32**	PG	Pg	14 25 10.5	+0.7
TVSB				SG	Sg	14 25 16.3	+1.2
TVSB	**Tavsanli**	**0.41**	**32**	*e*Pg	Pg	14 25 10.5	+0.7
TVSB				*e*Sg	Sg	14 25 16.3	+1.2
MANT	**Manisa**	**0.79**	**219**	*i* P	Pb	14 25 17.8	-0.4
MANT				*i* S	Sg	14 25 27.7	+0.5
MANT	**Manisa**	**0.79**	**219**	S	Sg	14 25 27.7	+0.5
MANT	**Manisa**	**0.79**	**219**	P	Pb	14 25 17.8	-0.3
BALB	**Balikesir**	**1.15**	**298**	PN	Pn	14 25 24.9	+0.4
BALB				SN	Sn	14 25 41.1	+0.5
BALB	**Balikesir**	**1.15**	**298**	*e*Pn	Pn	14 25 24.9	+0.4
BALB				*e*Sn	Sn	14 25 41.1	+0.5
KCTX	**Karacabey (Bur**	**1.32**	**331**	PN	Pg	14 25 27.9	+0.6
KCTX	**Karacabey (Bur**	**1.32**	**331**	*e*Pn	Pg	14 25 27.9	+0.6

JMA 16 14:26:18.9,35.56N×136.35E,h13km,M2.8,Western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFM	**Mihama**	**0.30**	**264**	P	Pg	14 26 25.2	+0.1
JFM				S	Sg	14 26 29.6	+0.3
JKG	**Kaga**	**0.71**	**359**	P	Pg	14 26 32.8	0.0
JKG				*e*S	Sg	14 26 42.3	+0.1
JWT	**Wachi**	**0.82**	**251**	P	Pg	14 26 34.4	-0.4
JWT				S	Sg	14 26 44.5	-1.1
TSUJ	**Tsu 2**	**0.85**	**176**	P	Pg	14 26 34.9	-0.4
TSUJ				S	Sg	14 26 45.9	-0.6
JKY	**Yasaka**	**1.02**	**274**	P	Pb	14 26 38.1	-0.3
JKY				S	Sg	14 26 51.8	0.0
JHE	**Heguri**	**1.06**	**211**	P	Pb	14 26 38.8	-0.2
JHE				S	Sb	14 26 52.2	-0.6
MAT	**Matsushiro**	**1.80**	**56**	P	Pn	14 26 50.5	+0.9
MAT				S	Sg	14 27 15.9	-0.8

NEIC ***16*** *14:30:58.0±0.0,34.82N×96.25W,h5km,ML2.6(TUL), After TUL.*
ISCJB ***16*** *14:30:59.1±0.6,34.87N±0.05×96.31W±0.04,h10km,Error ellipse: s-maj=6.6km s-min=4.7km az=177.0*

ISC 16 14:30:58.3±1.1,34.82N±0.05×96.23W±0.03,h10km,n16, σ1s07/22,Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TUL1	**Leonard** baz=201	**1.15**	**18**	P	**Pb**	**14 31 19.4**	**-0.9**
TUL1				S	**Sb**	**14 31 34.8**	**-0.5**
	baz=201						
TUL1	**Leonard**	**1.15**	**18**	*e*Pb	**Pb**	**14 31 19.4**	**-0.9**
TUL1				*e*Sn	**Sb**	**14 31 34.6**	**-0.6**
X39A	**Fountain Ranch** baz=282	**1.77**	**99**	P	**Pb**	**14 31 30.0**	**-0.9**
X39A				S	**Sb**	**14 31 53.5**	**+0.2**
	baz=282						
W39A	**Magazine** baz=262	**2.05**	**79**	P	**Pb**	**14 31 34.2**	**-1.4**
W39A				S	**Sb**	**14 32 02.1**	**+1.0**
	baz=262						
WMOK	**Wichita Mounta** baz=86	**2.10**	**269**	P	**Pn**	**14 31 34.3**	**+0.8**
WMOK				S	**Sb**	**14 32 01.9**	**-0.7**
	baz=86						
WMOK	**Wichita Mounta**	**2.10**	**269**	*e*Pn	**Pn**	**14 31 34.0**	**+0.5**
MIAR	**Mount Ida** baz=279	**2.21**	**96**	S	**Sb**	**14 32 06.3**	**+0.6**
MIAR	**Mount Ida**	**2.21**	**96**	*e*Pn	**Pn**	**14 31 35.4**	**+0.4**
V39A	**Pettigrew** baz=246	**2.35**	**64**	P	**Pn**	**14 31 37.8**	**+0.7**
V39A				S	**Sb**	**14 32 10.5**	**+0.6**
	baz=246						
HHAR	**Hobbs**	**2.37**	**51**	*e*Pn	**Pn**	**14 31 38.0**	**+0.7**
Y40A	**Okolona** baz=290	**2.57**	**107**	S	**Sb**	**14 32 16.6**	**+0.4**
W40A	**Ferguson Farm,** baz=264	**2.62**	**81**	Sb	**Sg**	**14 32 20.4**	**-2.2**
T38A	**Diamond** baz=217	**2.71**	**35**	Sb	**Sb**	**14 32 22.5**	**+2.1**
U39A	**Green Forest** baz=237	**2.73**	**54**	Pb	**Pb**	**14 31 47.8**	**+0.5**
V41A	**Mountainview** baz=256	**3.47**	**73**	Pb	**Pb**	**14 32 00.7**	**+0.8**
MSTX	**Muleshoe**	**5.47**	**263**	*e*Pn	**Pn**	**14 32 21.5**	**+1.4**

MAN 16 15:05:08,10.23N×122.89E,h67km,mb4.2,ML3.0,MS2.7, Panay

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIM	**Jordan**	**0.50**	**323**	*e*P	Pn	15 05 23.8	+3.2
GUIM				*e*S	Sn	15 05 33.8	+4.1
OCLP	**Ormoc**	**1.88**	**64**	*e*P	Pn	15 05 39.3	+1.4
OCLP				*e*S	Sn	15 06 02.5	+1.8
MSLP	**Maasin**	**1.94**	**93**	*e*P	Pn	15 05 41.7	+3.0
MSLP				*e*S	Sn	15 06 04.6	+2.5

BJI ***16*** *15:06:45.4,36.68N×21.35E,h8km,mb4.9/45,mB4.9/27, Ms4.9/8,Ms7 4.6/6*
IDC ***16*** *15:06:49.0±0.5,36.75N×21.78E,h0km,mb4.6/33, mb1 4.6/42,mb1mx4.5/66,mbtmp4.5/42,ML4.0/9,MS3.7/35, Ms1 3.7/35,ms1mx3.6/71,Error ellipse: s-maj=12.1km s-min=10.2km az=19.0*
ISCJB ***16*** *15:06:51.4±0.2,36.64N±0.02×21.55E±0.02,h33km, mb4.8/114,MS3.8/31,Error ellipse: s-maj=2.7km s-min=1.7km az=43.6*
CSEM ***16*** *15:06:53.1±0.1,36.66N×21.63E,h30km,mb4.8/64,Error ellipse: s-maj=4.8km s-min=3.0km az=39.0*
ATH ***16*** *15:06:54.4,36.66N×21.67E,h34km±1km,ML4.4/18,Error ellipse: s-maj=2.3km s-min=1.2km az=51.0*
NEIC ***16*** *15:06:54.5±0.0,36.65N×21.68E,h32km,mb4.8/46, ML4.5(ATH),ML4.6(THE),After ATH.*
HLW ***16*** *15:06:55.5,36.16N×21.38E,h10km±30km,Ml4.2*
PDG ***16*** *15:06:55.1±0.8,36.72N×21.64E,h34km±2km,ML4.7/10, Error ellipse: s-maj=1.8km s-min=1.9km az=0.0*
MOS ***16*** *15:06:56.8±1.6,36.78N×21.78E,h76km,mb5.0/42,Error ellipse: s-maj=4.8km s-min=2.6km az=80.2*

THE ***16*** *15:06:56.2,36.72N×21.67E,h23km±1km,ML4.4/11,Error ellipse: s-maj=1.8km s-min=0.9km az=50.0*
TIR ***16*** *15:06:58.5,37.36N×21.98E,h30km,Md5.0/8*
GII ***16*** *15:07:05.8±0.0,35.80N×22.70E,h5km*

ISC 16 15:06:53.4±0.7,36.61N±0.03×21.60E±0.03,h34km±2km, n800,σ1s86/855,mb4.9/114,MS3.8/31,66C-40D, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MES2	**Methoni**	**0.23**	**23**	P	**Pb**	**15 07 00.3**	**-0.2**
MES2				S	**Sb**	**15 07 05.2**	**-0.1**
PYL	**PYLOS**	**0.31**	**23**	P	**Pb**	**15 07 01.1**	**-0.3**
PYL				S	**Sb**	**15 07 07.0**	**+0.2**
PYL				AML	AML	15 07 07.5	
PYL				AML	AML	15 07 07.7	
PYL	**PYLOS**	**0.31**	**23**	P	**Pb**	**15 07 01.5**	**+0.1**
PYL	**PYLOS**	**0.31**	**23**	P	**Pb**	**15 07 01.4**	**+0.1**
PYL				S	**Sb**	**15 07 05.7**	**-1.1**
PYL	**PYLOS**	**0.31**	**23**	P	**Pb**	**15 07 01.4**	**+0.1**
DYR	**Agios Nikonas**	**0.61**	**76**	P	**Pb**	**15 07 05.9**	**0.0**
DYR				S	**Sb**	**15 07 14.5**	**0.0**
DYR				AML	AML	15 07 18.2	
	comp=N,36287μm,0.3s						
DYR				AML	AML	15 07 19.8	
	comp=E,51977μm,0.6s						
DYR	**Agios Nikonas**	**0.61**	**76**	P	**Pb**	**15 07 05.8**	**-0.1**
DYR				S	**Sb**	**15 07 14.9**	**+0.5**
DYR	**Agios Nikonas**	**0.61**	**76**	P	**Pb**	**15 07 05.8**	**-0.1**
DYR				S	**Sb**	**15 07 14.9**	**+0.5**
ITM	**Ithomi**	**0.63**	**25**	P	**Pb**	**15 07 06.0**	**-0.2**
ITM				AML	AML	15 07 15.7	
ITM				S	**Sn**	**15 07 15.8**	**+1.1**
ITM				AML	AML	15 07 19.9	
ITM	**Ithomi**	**0.63**	**25**	P	**Pb**	**15 07 06.3**	**+0.2**
ITM				S	**Sn**	**15 07 17.4**	**+2.7**
ITM	**Ithomi**	**0.63**	**25**	P	**Pb**	**15 07 06.1**	**0.0**
ITM				S	**Sb**	**15 07 13.5**	**-1.3**
ITM	**Ithomi**	**0.63**	**25**	P	**Pb**	**15 07 06.3**	**+0.2**
ITM				S	**Sn**	**15 07 15.5**	**+0.8**
MES3	**Kyparissia**	**0.64**	**6**	P	**Pb**	**15 07 06.4**	**+0.1**
MES3				S	**Sn**	**15 07 16.4**	**+1.5**
MES3	**Kyparissia**	**0.64**	**6**	P	**Pn**	**15 07 06.6**	**+0.6**
MES3				S	**Sn**	**15 07 16.1**	**+1.1**
AMT	**Artemida-Makis**	**0.92**	**6**	P	**Pb**	**15 07 11.3**	**+0.3**
AMT				AML	AML	15 07 28.1	
	comp=N,89878μm,0.5s						
AMT				AML	AML	15 07 30.3	
	comp=E,99484μm,0.7s						
AMT	**Artemida-Makis**	**0.92**	**6**	P	**Pb**	**15 07 11.3**	**+0.3**
AMT				S	**Sn**	**15 07 22.2**	**+0.1**
AMT	**Artemida-Makis**	**0.92**	**6**	P	**Pb**	**15 07 11.3**	**+0.3**
AMT				S	**Sn**	**15 07 22.2**	**+0.1**
VLX	**Vlachokerasia**	**0.98**	**39**	P	**Pb**	**15 07 12.4**	**+0.3**
VLX				S	**Sb**	**15 07 25.6**	**+0.7**
VLX				AML	AML	15 07 27.7	
VLX				AML	AML	15 07 32.9	
	comp=E,93754μm,0.6s						
VLX	**Vlachokerasia**	**0.98**	**39**	P	**Pb**	**15 07 13.8**	**+1.7**
VLX				S	**Sb**	**15 07 28.9**	**+4.1**
VLX	**Vlachokerasia**	**0.98**	**39**	P	**Pb**	**15 07 11.9**	**-0.2**
VLX				S	**Sb**	**15 07 25.0**	**+0.2**
VLX	**Vlachokerasia**	**0.98**	**39**	P	**Pb**	**15 07 11.9**	**-0.2**
VLX				S	**Sb**	**15 07 25.0**	**+0.2**
TRIP	**Tripoli**	**1.06**	**30**	P	**Pb**	**15 07 13.6**	**+0.2**
TRIP				S	**Sn**	**15 07 26.5**	**+0.9**
TRIP				AML	AML	15 07 30.5	
	comp=N,43892μm,0.9s						
TRIP				AML	AML	15 07 35.3	
	comp=E,46869μm,0.6s						
TRIP	**Tripoli**	**1.06**	**30**	P	**Pb**	**15 07 13.1**	**-0.3**
TRIP				S	**Sn**	**15 07 26.5**	**+0.9**
TRIP	**Tripoli**	**1.06**	**30**	P	**Pb**	**15 07 13.1**	**-0.3**
TRIP				S	**Sn**	**15 07 26.5**	**+0.9**
VLI	**Veliai**	**1.08**	**84**	P	**Pb**	**15 07 14.9**	**+1.2**
VLI				S	**Sb**	**15 07 29.4**	**+1.8**
VLI				AML	AML	15 07 31.6	
	comp=E,24399μm,0.6s						
VLI				AML	AML	15 07 43.5	
	comp=N,24567μm,0.7s						
VLI	**Veliai**	**1.08**	**84**	P	**Pb**	**15 07 14.8**	**+1.1**
VLI				S	**Sb**	**15 07 31.0**	**+3.4**
VLI	**Veliai**	**1.08**	**84**	P	**Pn**	**15 07 13.4**	**+1.2**
VLI				S	**Sb**	**15 07 29.6**	**+2.0**
VLI	**Veliai**	**1.08**	**84**	P	**Pb**	**15 07 14.4**	**+0.7**
VLI				S	**Sb**	**15 07 28.8**	**+1.2**
MNVA	**Monemvasia**	**1.16**	**86**	P	**Pb**	**15 07 16.4**	**+1.4**
MNVA				S	**Sb**	**15 07 31.2**	**+1.4**
MNVA				AML	AML	15 07 46.9	
	comp=N,13137μm,1.3s						
MNVA				AML	AML	15 07 47.9	
	comp=E,19148μm,0.6s						
MNVA	**Monemvasia**	**1.16**	**86**	P	**Pb**	**15 07 15.7**	**+0.7**
MNVA				S	**Sb**	**15 07 30.7**	**+0.9**
KYTH	**Kithira**	**1.22**	**106**	P	**Pb**	**15 07 17.5**	**+1.5**
KYTH				S	**Sb**	**15 07 32.0**	**+0.5**
KYTH				AML	AML	15 07 45.8	
	comp=N,28985μm,0.6s						
KYTH				AML	AML	15 07 49.0	
	comp=E,30124μm,0.6s						
KYTH	**Kithira**	**1.22**	**106**	P	**Pb**	**15 07 16.7**	**+0.7**
KYTH				S	**Sb**	**15 07 34.3**	**+2.8**
KYTH	**Kithira**	**1.22**	**106**	P	**Pb**	**15 07 16.6**	**+0.6**
KYTH				S	**Sb**	**15 07 33.0**	**+1.5**
DRO	**Drossia**	**1.34**	**4**	P	**Pb**	**15 07 18.2**	**+0.2**
DRO				AML	AML	15 07 45.3	
	comp=N,49837μm,0.7s						
DRO				AML	AML	15 07 49.5	
	comp=E,78983μm,0.6s						
DRO	**Drossia**	**1.34**	**4**	P	**Pb**	**15 07 17.6**	**-0.4**
DRO				S	**Sn**	**15 07 33.2**	**+0.8**
DRO	**Drossia**	**1.34**	**4**	P	**Pb**	**15 07 17.6**	**-0.4**
DRO				S	**Sn**	**15 07 33.2**	**+0.8**
VTN	**Vitineika**	**1.34**	**346**	P	**Pb**	**15 07 18.5**	**+0.4**
VTN	**Vitineika**	**1.34**	**346**	P	**Pb**	**15 07 18.4**	**+0.4**
RLS	**Riolos of Patr**	**1.45**	**356**	P	**Pb**	**15 07 20.0**	**+0.2**
RLS				AML	AML	15 07 54.0	
	comp=E,15556μm,0.8s						
RLS				AML	AML	15 07 58.5	
	comp=N,19341μm,0.8s						
RLS	**Riolos of Patr**	**1.45**	**356**	P	**Pb**	**15 07 20.2**	**+0.4**
RLS				S	**Sb**	**15 07 42.3**	**+4.4**
RLS	**Riolos of Patr**	**1.45**	**356**	P	**Pb**	**15 07 19.1**	**-0.7**
RLS				S	**Sn**	**15 07 36.3**	**+1.4**
RLS	**Riolos of Patr**	**1.45**	**356**	P	**Pb**	**15 07 19.1**	**-0.7**
RLS				S	**Sn**	**15 07 36.3**	**+1.4**
GUR	**Goura**	**1.45**	**24**	P	**Pb**	**15 07 20.4**	**+0.5**
GUR	**Goura**	**1.45**	**24**	P	**Pb**	**15 07 21.9**	**+2.0**
GUR				S	**Sb**	**15 07 43.7**	**+5.6**
GUR	**Goura**	**1.45**	**24**	P	**Pb**	**15 07 19.2**	**-0.7**
GUR	**Goura**	**1.45**	**24**	P	**Pb**	**15 07 19.2**	**-0.7**
KRND	**KRANIDI**	**1.46**	**58**	P	**Pn**	**15 07 18.3**	**+1.0**
KRND				AML	AML	15 07 51.4	
	comp=E,23375μm,0.9s						
KRND				AML	AML	15 07 54.0	
	comp=N,24178μm,1.4s						
KRND	**KRANIDI**	**1.46**	**58**	P	**Pn**	**15 07 18.5**	**+1.1**
KRND				S	**Sn**	**15 07 36.2**	**+0.8**
KRND	**KRANIDI**	**1.46**	**58**	P	**Pn**	**15 07 18.5**	**+1.1**
KRND				S	**Sn**	**15 07 36.2**	**+0.8**
KLV	**Kalavryta, Ach**	**1.50**	**17**	P	**Pb**	**15 07 20.9**	**+0.2**
KLV				AML	AML	15 07 55.5	
	comp=N,23797μm,0.7s						
KLV				AML	AML	15 07 56.5	
	comp=E,29616μm,0.9s						
KLV	**Kalavryta, Ach**	**1.50**	**17**	P	**Pb**	**15 07 21.0**	**+0.3**
KLV				S	**Sb**	**15 07 44.5**	**+5.1**
KLV	**Kalavryta, Ach**	**1.50**	**17**	P	**Pb**	**15 07 19.8**	**-0.9**
KLV	**Kalavryta, Ach**	**1.50**	**17**	P	**Pb**	**15 07 19.8**	**-0.9**
ANKY	**Antikythira Is**	**1.57**	**118**	P	**Pb**	**15 07 21.9**	**+0.1**
ANKY				AML	AML	15 07 58.4	
	comp=E,21745μm,0.9s						
ANKY				AML	AML	15 08 01.4	
	comp=N,19164μm,0.7s						
ANKY	**Antikythira Is**	**1.57**	**118**	P	**Pb**	**15 07 21.9**	**+0.1**
ANKY	**Antikythira Is**	**1.57**	**118**	P	**Pb**	**15 07 21.6**	**-0.2**
ANKY	**Antikythira Is**	**1.57**	**118**	P	**Pb**	**15 07 21.9**	**+0.1**
DID	**Didima**	**1.59**	**55**	P	**Pn**	**15 07 19.7**	**+0.6**
DID				AML	AML	15 07 48.2	
	comp=E,20262μm,0.7s						
DID				AML	AML	15 07 48.2	
	comp=N,22532μm,0.6s						
DID	**Didima**	**1.59**	**55**	P	**Pb**	**15 07 22.0**	**-0.2**
DID	**Didima**	**1.59**	**55**	P	**Pn**	**15 07 20.4**	**+1.3**
KFL	**Anninata**	**1.63**	**337**	P	**Pb**	**15 07 22.7**	**-0.2**
KFL	**Anninata**	**1.63**	**337**	P	**Pb**	**15 07 22.6**	**-0.2**
KFL	**Anninata**	**1.63**	**337**	P	**Pb**	**15 07 22.6**	**-0.2**
LAKA	**Lakka**	**1.65**	**11**	P	**Pb**	**15 07 23.2**	**-0.1**
LAKA				S	**Sb**	**15 07 48.5**	**+4.7**
LAKA	**Lakka**	**1.65**	**11**	P	**Pb**	**15 07 23.2**	**-0.1**
THAL	**Thalero**	**1.66**	**31**	P	**Pn**	**15 07 21.5**	**+1.5**
THAL	**Thalero**	**1.66**	**31**	P	**Pn**	**15 07 21.9**	**+1.8**
YDRA	**Hydra**	**1.67**	**63**	P	**Pn**	**15 07 20.8**	**+0.6**
YDRA	**Hydra**	**1.67**	**63**	P	**Pn**	**15 07 21.5**	**+1.3**
VLS	**Valsamata**	**1.75**	**333**	P	**Pb**	**15 07 26.8**	**+1.8**
VLS	**Valsamata**	**1.75**	**333**	P	**Pb**	**15 07 26.8**	**+1.8**
LOUT	**Loutraki**	**1.76**	**38**	P	**Pn**	**15 07 22.1**	**+0.6**
LOUT	**Loutraki**	**1.76**	**38**	P	**Pn**	**15 07 22.8**	**+1.3**
LTK	**Loutraki**	**1.78**	**37**	P	**Pn**	**15 07 22.3**	**+0.5**
LTK				AML	AML	15 08 01.5	
	comp=E,22090μm,0.9s						
LTK				AML	AML	15 08 02.1	
	comp=N,20436μm,0.6s						
LTK	**Loutraki**	**1.78**	**37**	P	**Pb**	**15 07 26.7**	**+1.2**
LTK	**Loutraki**	**1.78**	**37**	P	**Pn**	**15 07 23.1**	**+1.3**
TRIZ	**Trizonia**	**1.79**	**12**	P	**Pb**	**15 07 25.6**	**0.0**
EFP	**Efpalio**	**1.83**	**8**	P	**Pb**	**15 07 26.5**	**+0.2**
KALE	**Kalithea**	**1.83**	**14**	P	**Pb**	**15 07 26.5**	**+0.2**
KALE	**Kalithea**	**1.83**	**14**	P	**Pb**	**15 07 25.9**	**-0.4**
KALE				S	**Sb**	**15 07 51.9**	**+2.2**
KALE	**Kalithea**	**1.83**	**14**	P	**Pb**	**15 07 25.9**	**-0.4**
SERG	**Sergoula**	**1.83**	**11**	P	**Pb**	**15 07 26.4**	**+0.1**
SERG				AML	AML	15 08 06.2	
	comp=N,12413μm,0.6s						
SERG				AML	AML	15 08 06.5	
	comp=E,19252μm,0.7s						
DSF	**Desfina**	**1.94**	**22**	P	**Pb**	**15 07 27.0**	**-1.2**
DSF	**Desfina**	**1.94**	**22**	P	**Pb**	**15 07 27.0**	**-1.2**
PROD	**Prodromos**	**1.94**	**32**	P	**Pn**	**15 07 24.6**	**+0.6**
PROD	**Prodromos**	**1.94**	**32**	P	**Pn**	**15 07 25.4**	**+1.4**
DLFA	**Delphi**	**2.00**	**21**	P	**Pn**	**15 07 25.7**	**+1.0**
DLFA	**Delphi**	**2.00**	**21**	P	**Pn**	**15 07 26.4**	**+1.6**
VLY	**Voula,Athens**	**2.15**	**54**	P	**Pb**	**15 07 31.4**	**-0.3**
VLY				S	**Sb**	**15 07 59.9**	**+2.0**
VLY	**Voula,Athens**	**2.15**	**54**	P	**Pb**	**15 07 31.4**	**-0.3**
ATH	**Athens Observa**	**2.17**	**51**	P	**Pb**	**15 07 31.8**	**-0.2**
ATH	**Athens Observa**	**2.17**	**51**	P	**Pb**	**15 07 31.8**	**-0.2**
ATH	**Athens Observa**	**2.17**	**51**	P	**Pb**	**15 07 31.8**	**-0.2**
ATHU	**Athens Univers**	**2.21**	**52**	P	**Pb**	**15 07 32.3**	**-0.4**
ATHU	**Athens Univers**	**2.21**	**52**	P	**Pb**	**15 07 32.3**	**-0.4**
IMMV	**Iera Moni Meta**	**2.25**	**120**	P	**Pn**	**15 07 30.2**	**+2.0**
IMMV	**Iera Moni Meta**	**2.25**	**120**	P	**Pn**	**15 07 30.6**	**+2.4**
LKD2	**Lefkada island**	**2.30**	**341**	P	**Pb**	**15 07 32.5**	**-1.7**
LKD2	**Lefkada island**	**2.30**	**341**	P	**Pb**	**15 07 32.5**	**-1.7**
EVR	**Evrytania**	**2.31**	**4**	P	**Pb**	**15 07 33.7**	**-0.7**
EVR	**Evrytania**	**2.31**	**4**	P	**Pb**	**15 07 33.7**	**-0.7**
PTL	**Penteli**	**2.31**	**51**	P	**Pb**	**15 07 33.5**	**-0.9**
PTL	**Penteli**	**2.31**	**51**	P	**Pb**	**15 07 33.5**	**-0.9**
AXAR	**Agios Charalam**	**2.31**	**21**	P	**Pb**	**15 07 33.5**	**-0.9**
AXAR	**Agios Charalam**	**2.31**	**21**	P	**Pb**	**15 07 33.5**	**-0.9**
LKR	**Lokris**	**2.32**	**28**	P	**Pb**	**15 07 34.3**	**-0.3**
VAM	**Vamos**	**2.43**	**119**	P	**Pn**	**15 07 33.2**	**+1.4**
VAM	**Vamos**	**2.43**	**119**	P	**Pn**	**15 07 33.2**	**+2.5**
VAM	**Vamos**	**2.43**	**119**	P	**Pn**	**15 07 33.2**	**+2.5**
VAM	**Vamos**	**2.43**	**119**	P	**Pn**	**15 07 33.2**	**+2.5**
AGG	**Agios Georgios**	**2.48**	**13**	P	**Pn**	**15 07 34.1**	**+2.8**
AGG	**Agios Georgios**	**2.48**	**13**	*e*Pn	**Pn**	**15 07 33.3**	**+1.9**
AGG	**Agios Georgios**	**2.48**	**13**	*e*P	**Pn**	**15 07 33.3**	**+1.9**
AGG	**Agios Georgios**	**2.48**	**13**	*e*P	**Pn**	**15 07 33.3**	**+1.9**
GVD	**Gavdhos**	**2.69**	**130**	P	**Pb**	**15 07 38.1**	**-2.8**
GVD				AML	AML	15 08 38.6	
	comp=E,3750μm,0.7s						
GVD				AML	AML	15 08 43.8	
	comp=N,4176μm,1.0s						
GVD	**Gavdhos**	**2.69**	**130**	P	**Pn**	**15 07 36.0**	**+1.7**
GVD	**Gavdhos**	**2.69**	**130**	P	**Pn**	**15 07 37.8**	**+3.5**
IDI	**Anoyia**	**2.98**	**115**	Pn	**Pn**	**15 07 38.3**	**-0.1**
	comp=N,5.1nm,0.3s,baz=305,slow=16,SNR=23						
IDI				Sn	**Sn**	**15 08 14.5**	**+1.6**
	comp=N,31nm,0.3s,baz=52,slow=19,SNR=8.3						
IDI				LR	LR	15 08 52.1	
	comp=N,523nm,21.7s,baz=277,slow=42						
IDI	**Anoyia**	**2.98**	**115**	P	**Pb**	**15 07 43.9**	**-2.0**
IDI	**Anoyia**	**2.98**	**115**	*e*Pn	**Pn**	**15 07 40.3**	**+2.0**
IDI				Sn	**Sn**	**15 08 14.5**	**+1.6**
IDI	**Anoyia**	**2.98**	**115**	*e*Pn	**Pn**	**15 07 40.3**	**+2.0**
IDI				Sn	**Sn**	**15 08 14.5**	**+1.6**
KEO	**Neokhori**	**2.98**	**25**	P	**Pb**	**15 07 43.2**	**-2.5**
FYTO	**Fytoko, Volos**	**2.99**	**20**	P	**Pb**	**15 07 43.2**	**-2.7**
FYTO	**Fytoko, Volos**	**2.99**	**20**	P	**Pb**	**15 07 43.2**	**-2.7**
XOR	**Xorichti**	**3.02**	**24**	P	**Pb**	**15 07 45.3**	**-1.3**
SIVA	**Sivas**	**3.06**	**120**	P	**Pn**	**15 07 42.0**	**+2.7**
SIVA	**Sivas**	**3.06**	**120**	P	**Pn**	**15 07 42.0**	**+2.7**
THR3	**Thira Island,**

SOH	Sokhos	4.42	18	P	Pn	15 08 03.3 +5.2	DIVS	Divibare	7.58	351	*e*Pn	Pn	15 08 40.5 -1.0	NIE	Niedzica	12.84	356	*e*P	Pn	15 09 53.2 -0.1
OHR	Ohrid	4.54	352	*i* Pn	Pn	15 08 01.6 +1.9	TRUS	Trudelj	7.66	354⇑	*i*Pn	Pn	15 08 41.5 -1.0	NIE	Niedzica	12.84	356	*e*P	Pn	15 09 53.2 -0.1
PRK	Paraskevi	4.54	53	P	Pn	15 08 04.4 +4.8	HAPS	Han Pijesak,Bl	7.73	346	*e*Pn	Pn	15 08 42.0 -1.6	KWP	Kalwaria Pacla	13.04	3	*e*P	Pn	15 09 58.7 +2.6
PRK	Paraskevi	4.54	53	P	Pn	15 08 04.4 +4.8	KUBS	Kucevo	7.79	0⇑	*i*Pn	Pn	15 08 41.9 -2.4	KWP	Kalwaria Pacla	13.04	3	*e*P	Pn	15 09 58.7 +2.6
PRK	Paraskevi	4.54	53	P	Pn	15 08 04.4 +4.8	SWA2		8.03	155	P	Pn	15 08 48.0 +0.4	WATA	Walderalm	13.04	328	Pn	Pn	15 09 57.4 +1.1
TIP	Timpagrande	4.60	305⇑	*i*P	Pn	15 08 03.9 +3.3		baz=152							comp=Z,4.0nm,0.2s					
TIP	Timpagrande	4.60	305	*e*Pn	Pn	15 08 01.6 +1.0	SWA2				S	Sn	15 10 09.8 -7.5	WATA	Walderalm	13.04	328	*e*Pn	Pn	15 09 57.4 +1.1
TIP	Timpagrande	4.60	305	*e*Pn	Pn	15 08 01.6 +1.0		baz=152							comp=Z,4.0nm,0.2s					
TIP	Timpagrande	4.60	305⇑	*i*P	Pn	15 08 03.9 +3.3	SWA2		8.03	155	P	Pn	15 08 48.0 +0.4	WATA				*e*Sn	Sn	15 12 13.0 -7.1
BODT	Bodrum	4.61	83	*e*P	Pn	15 08 01.4 +0.8	SWA2				S	Sn	15 10 09.8 -7.5		comp=Z,20nm,0.5s					
BODT	Bodrum	4.61	83	P	Pn	15 08 04.5 +3.9	TEKS	Tekeris	8.08	349	*i*Pn	Pn	15 08 47.4 -0.9	MBRI	Mt Berech	13.05	118	Pn	Pn	15 09 56.1 -0.4
BODT	Bodrum	4.61	83	P	Pn	15 08 04.5 +3.9	SRE	Strehaia	8.13	8	*i*P	Pn	15 08 49.5 +0.5	EIL	Elat	13.15	118	Pn	Pn	15 09 56.5 -1.3
KARP	Karpathos	4.63	102	*e*P	Pn	15 08 04.5 +3.5	HERR	Herculane	8.28	4	*i*P	Pn	15 08 51.8 +0.7		comp=Z,0.2nm,0.3s,baz=302,slow=9.5,SNR=2.1					
KARP	Karpathos	4.63	102	*e*Pn	Pn	15 08 01.9 +0.9	HUMR	Humele	8.32	17⇑	*i*P	Pn	15 08 53.4 +1.9	EIL				Sn	Sn	15 12 17.4 -5.4
KARP	Karpathos	4.63	102	*e*Pn	Pn	15 08 01.9 +0.9	AQU	L'Aquila	8.54	315	*e*Pn	Pn	15 08 52.7 -1.9		comp=Z,1.2nm,0.3s,baz=304,slow=19,SNR=4.4					
KNT	Kendrikon	4.66	12	P	Pn	15 08 07.4 +6.1		comp=N,72nm,0.9s						EIL	Elat	13.15	118	Pn	Pn	15 09 56.2 -1.6
KNT	Kendrikon	4.66	12	P	Pn	15 08 07.4 +6.1	AQU	L'Aquila	8.54	315	*e*P	Pn	15 08 52.7 -1.9	EIL				Sn	Sn	15 12 11.7 -11
BLCB	Balcova	4.68	66	*e*P	Pn	15 08 01.7 +0.1	AQU				pmax	pmax		FETA	Feichten	13.17	326	Pn	Pn	15 09 57.5 -0.6
KRUS	Krusevo	4.76	357	*i* Pn	Pn	15 08 03.9 +1.1		comp=Z,72nm,0.9s							comp=Z,8.3nm,0.7s					
KRUS				*e*Sn	Sn	15 08 56.3 -0.4	FGSL	Fruska Gora	8.64	352⇑	*i*Pn	Pn	15 08 54.6 -1.4	FETA	Feichten	13.17	326	*e*Pn	Pn	15 09 57.5 -0.6
SRS	Serrai	4.76	18	P	Pn	15 08 07.5 +4.8	BLY	Banja Luka	8.79	339	*i*P	Pn	15 08 57.8 -0.2		comp=Z,8.3nm,0.7s					
SRS	Serrai	4.76	18⇑	*i*Pn	Pn	15 08 04.0 +1.3	BLY	Banja Luka	8.79	339	*e*Pn	Pn	15 08 56.1 -1.9	VRAC	Vranov	13.20	346	Pn	Pn	15 09 55.4 -3.0
SRS	Serrai	4.76	18	P	Pn	15 08 07.5 +4.8	BLY	Banja Luka	8.79	339	*e*Pn	Pn	15 08 56.1 -1.9		comp=Z,0.4nm,0.3s,baz=173,slow=14,SNR=3.1					
BOZC	Bozcaada	4.77	46	*e*P	Pn	15 08 04.0 +1.2	LOT	Lotru	8.98	10⇑	*i*P	Pn	15 09 01.9 +1.2	VRAC				LR	LR	15 16 27.9
DKL	Dikili	4.87	58	*e*P	Pn	15 08 04.5 +0.3	BZS	Buzias	9.00	0⇑	*i*P	Pn	15 09 00.2 -0.6		comp=Z,721nm,18.1s,baz=167,slow=44					
EZN	Ezine	4.92	48	*e*P	Pn	15 08 05.0 +0.2	BZS	Buzias	9.00	0	*e*Pn	Pn	15 08 58.8 -2.0	VRAC	Vranov	13.20	346⇑	*i*P	Pn	15 09 57.8 -0.6
TIR	Tirane	4.92	345⇓	*i*P	Pn	15 08 06.4 +1.5	ARR	Arges	9.04	14⇓	*i*P	Pn	15 09 02.6 +1.1	VRAC	Vranov	13.20	346	*e*Pn	Pn	15 09 56.9 -1.5
TIR	Tirane	4.92	345	*e*Pn	Pn	15 08 05.4 +0.5	UDBI	Udbina	9.06	333	*e*Pn	Pn	15 09 02.9 +1.0	VRAC	Vranov	13.20	346⇑	*i*P	Pn	15 09 57.8 -0.6
TIR	Tirane	4.92	345	*e*P	Pn	15 08 05.4 +0.5	UDBI				Sn	Sn	15 10 36.8 -5.8	MOTA	Moosalm	13.25	327	Pn	Pn	15 09 59.9 +0.8
TIR				*i* Sn	Sn	15 08 58.2 -2.3	UDBI	Udbina	9.06	333	*e*Pn	Pn	15 09 02.8 +1.0		comp=Z,6.6nm,0.5s					
TIR	Tirane	4.92	345	*i* PN	Pn	15 08 06.3 +1.4	VOIR		9.19	15⇑	*i*P	Pn	15 09 05.4 +1.8	MOTA	Moosalm	13.25	327	*e*Pn	Pn	15 09 59.9 +0.8
TIR				*i* SN	Sn	15 08 58.2 -2.3	ISR	Istrita	9.29	22⇑	*i*P	Pn	15 09 07.3 +2.5		comp=Z,6.6nm,0.5s					
TIR	Tirane	4.92	345	*e*P	Pn	15 08 05.4 +0.5	DEV	Deva	9.31	6⇑	*i*P	Pn	15 09 06.9 +1.7	MOTA	Moosalm	13.25	327	Sn	Sn	15 12 17.0 -8.3
GADA	Gvkgeada	4.92	42	*e*P	Pn	15 08 05.0 +0.1	DEV	Deva	9.31	6	P	Pn	15 09 07.1 +1.9		comp=Z,25nm,0.6s					
NVR	Nevrokopi	5.05	20	P	Pn	15 08 11.4 +4.7		comp=Z,35nm,0.9s						ASF	Jabal al Asfar	13.39	105	Pn	Pn	15 10 01.3 +0.3
NVR	Nevrokopi	5.05	20	P	Pn	15 08 11.4 +4.7	DEV				pmax	pmax			comp=Z,0.3nm,0.3s,baz=297,slow=18,SNR=1.8					
PHP	Peshkopia	5.14	350	P	Pn	15 08 12.8 +4.8		comp=Z,35nm,0.9s						ASF				Sn	Sn	15 12 27.8 -0.9
PHP	Peshkopia	5.14	350	*i* Pn	Pn	15 08 09.0 +1.0	HARR	Harsova	9.39	29⇓	*i*P	Pn	15 09 07.1 +0.9		comp=Z,0.4nm,0.3s,baz=24,slow=20,SNR=2.9					
PHP				*i* Sn	Sn	15 09 04.4 -1.8	HARR	Harsova	9.39	29	P	Pn	15 09 07.1 +0.9	TREC	Trest	13.44	343	AMS	AMS	
PHP	Peshkopia	5.14	350	*i* PN	Pn	15 08 09.0 +1.0	HARR	Harsova	9.39	29	P	Pn	15 09 07.1 +0.9		comp=Z,1μm,16.2s					15 16 00.0
PHP				*i* SN	Sn	15 09 04.4 -1.8	TIRR	Tirgusor	9.40	31	*e*Pn	Pn	15 09 04.5 -1.8	TUE	Stuetta	13.44	321	*e*Pn	Pn	15 10 02.1 +0.3
PHP	Peshkopia	5.14	350	P	Pn	15 08 12.8 +4.8	TIRR	Tirgusor	9.40	31	*e*P	Pn	15 09 04.5 -1.8	TUE	Stuetta	13.44	321	*e*Pn	Pn	15 10 02.1 +0.3
TAR1	Taranto	5.17	320	*i* Pn	Pn	15 08 08.1 -0.1	TIRR	Tirgusor	9.40	31	*e*P	Pn	15 09 04.5 -1.8	OKC	Ostrava-Krasne	13.45	350	*e*P	P	15 10 08.7 -1.9
CGL1	Ceglie Messapi	5.17	323	*e*Pn	Pn	15 08 09.2 +0.9	NVLJ	Novalja	9.44	329	*e*Pn	Pn	15 09 06.6 -0.3	OKC				*ex*	x	15 10 12.2
AYDB	Zeytinkoy-Aydi	5.20	73	*e*P	Pn	15 08 10.1 +1.3	NVLJ				Sn	Sn	15 10 45.1 -6.7	OKC				AMS	AMS	15 16 00.0
MASS	Massafra	5.32	320	*e*Pn	Pn	15 08 11.3 +1.0	NVLJ	Novalja	9.44	329	*e*Pn	Pn	15 09 06.6 -0.3		comp=Z,500nm,16.2s					
MASS				Sn	Sn	15 09 04.8 -5.6	MLR	Muntele Rosu	9.46	19	Pn	Pn	15 09 08.5 +1.3	OKC	Ostrava-Krasne	13.45	350	*e*P	P	15 10 08.7 -1.9
FASA	Fasano	5.35	323	*e*Pn	Pn	15 08 11.6 +0.8		comp=Z,0.3nm,0.3s,baz=188,slow=8.1,SNR=32						OKC				MLR	MLR	
FASA				Sn	Sn	15 09 06.3 -4.9	MLR				LR	LR	15 13 33.8		comp=Z,500nm,16.2s					
SKO	Skopje	5.35	359	P	Pn	15 08 14.9 +4.0		comp=Z,215nm,18.6s,baz=192,slow=44						MORC	Moravsky Berou	13.48	349⇓	*i*P	P	15 10 12.5 +1.5
SKO	Skopje	5.35	359⇑	*i*Pn	Pn	15 08 11.8 +0.9	MLR	Muntele Rosu	9.46	19⇓	*i*P	Pn	15 09 09.8 +2.5	MORC	Moravsky Berou	13.48	349	*e*Pn	Pn	15 10 00.8 -1.4
SKO	Skopje	5.35	359	P	Pn	15 08 14.9 +4.0	MLR	Muntele Rosu	9.46	19	*e*Pn	Pn	15 09 08.4 +1.1	MORC	Moravsky Berou	13.48	349	*e*P	Pn	15 10 00.8 -1.4
SKO	Skopje	5.35	359	*i* Pn	Pn	15 08 11.8 +0.9	MLR	Muntele Rosu	9.46	19	*e*Pn	Pn	15 09 08.4 +1.1	RETA	Reutte	13.51	327	*e*Sn	Sn	15 12 24.4 -7.0
SKO	Skopje	5.35	359	P	Pn	15 08 14.9 +4.0	ÇSS	Mathiatis	9.68	96	Pn	Pn	15 09 11.7 +1.5		comp=Z,2μm,0.0s					
YER	Yerkesik	5.39	82	*e*P	Pn	15 08 12.4 +1.0	DOPR	Dopca	9.77	16⇓	*i*P	Pn	15 09 13.6 +2.1	GEA0	GERESS Array S	13.51	337	*e*Pn	Pn	15 10 00.5 -2.2
PUK	Puka	5.58	347	*i* Pn	Pn	15 08 14.9 +0.8	CFR	Carcaliu	9.88	28⇓	*i*P	Pn	15 09 12.9 0.0	GEA0	GERESS Array S	13.51	337	*e*Pn	Pn	15 10 00.5 -2.2
PUK	Puka	5.58	347	*i* PN	Pn	15 08 14.9 +0.8	KEST	Kesra	9.94	269	Pn	Pn	15 09 16.4 +2.4	GEC2	GERESS Array S	13.52	337	*e*Pn	Pn	15 10 00.2 -2.6
PUK				*i* SN	Sn	15 09 11.9 -5.1		comp=Z,0.8nm,0.3s,baz=56,slow=15,SNR=7.7						GEC2	GERESS Array S	13.52	337	*e*P	Pn	15 10 00.2 -2.6
TURN	Turunc	5.63	85	*e*P	Pn	15 08 12.4 -2.3	KEST				Sn	Sn	15 11 02.5 -1.8	GERES	GERESS Array B	13.52	337	Pn	Pn	15 10 00.8 -2.0
ULC	Ulcinj	5.65	342⇓	*i*Pn	Pn	15 08 15.1 +0.2		comp=Z,0.3nm,0.3s,baz=18,slow=19,SNR=4.5							comp=Z,0.5nm,0.3s,baz=156,slow=14,SNR=12					
ULC				*e*Sn	Sn	15 09 17.0 -1.5	KEST				LR	LR	15 13 50.0	GERES				Sn	Sn	15 12 23.3 -8.4
ULC	Ulcinj	5.65	342⇓	*i*Pn	Pn	15 08 15.1 +0.2		comp=Z,324nm,20.9s,baz=3.0,slow=42							comp=Z,1.3nm,0.3s,baz=154,slow=23,SNR=8.4					
ULC				*e*Sn	Sn	15 09 17.0 -1.5	KEST	Kesra	9.94	269	*e*Pn	Pn	15 09 16.2 +2.3	GERES				LR	LR	15 16 27.0
CUC	Castrocucco	5.66	308	*e*Pn	Pn	15 08 16.1 +1.0	BR131	Keskin Array S	9.98	68	*e*Pn	Pn	15 09 13.2 -1.3		comp=Z,1μm,18.7s,baz=136,slow=43					
CUC	Castrocucco	5.66	308	*e*Pn	Pn	15 08 16.1 +1.0	BR131	Keskin Array S	9.98	68	*e*Pn	Pn	15 09 13.2 -1.3	OJC	Ojcow	13.66	355	*e*P	Pn	15 10 05.2 +0.6
WDD	Wied Dalam	5.77	264	*e*Pn	Pn	15 08 17.7 +1.2	BRTR	Keskin Array B	9.98	68	Pn	Pn	15 09 16.2 +1.8	OJC	Ojcow	13.66	355	*e*Pn	Pn	15 10 02.2 -2.4
WDD	Wied Dalam	5.77	264	*e*Pn	Pn	15 08 17.7 +1.2		comp=Z,0.2nm,0.3s,baz=250,slow=13,SNR=16						OJC	Ojcow	13.66	355	*e*Pn	Pn	15 10 02.2 -2.4
BALB	Balikesir	5.80	57	*e*P	Pn	15 08 17.2 +0.2	VRI	Vrincioaia	10.02	21⇓	*i*P	Pn	15 09 15.9 +1.1	OJC	Ojcow	13.66	355	*e*Pn	Pn	15 10 05.2 +0.6
VAE	Valguarnera	5.81	281	Pn	Pn	15 08 20.0 +2.8	VRI	Vrincioaia	10.02	21⇓	*i*P	Pn	15 09 15.9 +1.1	DAVA	Damuels	13.76	324	*i* Pn	P	15 10 11.4 -2.8
	comp=N,4.8nm,0.3s,baz=166,slow=3.5,SNR=21						VRI	Vrincioaia	10.02	21	P	Pn	15 09 17.4 +2.6		comp=Z,13nm,0.7s					
VAE				Sn	Sn	15 09 23.9 +1.2	VSL	Villasalto	10.05	290	*e*Pn	Pn	15 09 15.8 +0.4	DAVA	Damuels	13.76	324	Sn	Sn	15 12 26.8 -11
	comp=N,20nm,0.3s,baz=169,slow=12,SNR=4.0						VSL	Villasalto	10.05	290	*e*Pn	Pn	15 09 15.8 +0.4		comp=Z,44nm,0.8s					
BCI	Bajram Curri	5.87	349	*i* Pn	Pn	15 08 19.3 +1.4	OZLJ	Ozalj	10.11	335	*i* Pn	Pn	15 09 15.6 -0.4	KHC	Kasperske Hory	13.81	337	*e*P	Pn	15 10 04.5 -2.2
BCI				*i* Sn	Sn	15 09 22.1 -1.9	OZLJ				Sn	Sn	15 11 01.3 -6.8	KHC				*ex*	x	15 10 14.3
BCI	Bajram Curri	5.87	349	*i* PN	Pn	15 08 19.3 +1.4	OZLJ	Ozalj	10.11	335	*i* Pn	Pn	15 09 15.6 -0.4	KHC				*ex*	x	15 12 30.5
BCI				*i* SN	Sn	15 09 22.1 -1.9	CJR	Cluj-Napoca	10.20	8⇓	*i*P	Pn	15 09 18.8 +1.3	KHC				*ex*	x	15 13 43.0
DRME	Dracevica, Mon	5.87	342⇑	*i*Pn	Pn	15 08 18.3 +0.3	CJR	Cluj-Napoca	10.20	8	P	Pn	15 09 18.7 +1.3	KHC				AMS	AMS	15 16 10.0
DRME				*e*Sn	Sn	15 09 22.0 -2.1	CJR	Cluj-Napoca	10.20	8	P	Pn	15 09 18.7 +1.3		comp=Z,1μm,15.1s					
DRME	Dracevica, Mon	5.87	342⇑	*i*Pn	Pn	15 08 18.3 +0.3	DRGR		10.21	4⇑	*i*P	Pn	15 09 19.1 +0.6	KHC	Kasperske Hory	13.81	337	*e*Pn	Pn	15 10 03.8 -2.9
DRME				*e*Sn	Sn	15 09 22.0 -2.1	TESR	Tescani	10.59	19⇑	*i*P	Pn	15 09 24.7 +2.1	KHC	Kasperske Hory	13.81	337	*e*Pn	Pn	15 10 04.5 -2.2
SLUM	Salum	5.92	149	P	Pn	15 08 20.0 +1.3	ARCR	ARCALIA	10.66	10⇑	*i*P	Pn	15 09 25.9 +2.2	KHC				*e*		15 12 30.5
	baz=144						TRI	Trieste	10.83	329	*e*Pn	Pn	15 09 25.1 -0.8	KHC				MLR	MLR	
SLUM				S	Sn	15 09 21.1 -4.3	TRI	Trieste	10.83	329	*e*P	Pn	15 09 25.1 -0.8		comp=Z,1μm,15.1s					
	baz=144						TRI	Trieste	10.83	329	*e*P	Pn	15 09 25.1 -0.8	KRLC	Kraliky	13.90	347	*e*P	Pn	15 10 08.5 +0.6
SLUM	Salum	5.92	149	P	Pn	15 08 20.0 +1.3	BMR	Baia Mare	11.14	7⇓	*i*P	Pn	15 09 32.5 +2.3	KRLC				*ex*	x	15 10 16.2
SLUM				S	Sn	15 09 21.1 -4.3	SOKA	Soboth	11.19	336	Pn	Pn	15 09 29.3 -1.6	KRLC	Kraliky	13.90	347	*e*P	Pn	15 10 08.5 +0.6
PLD	Plovdiv	5.99	23⇑	*i*Pn	Pn	15 08 21.3 +1.7		comp=Z,12nm,0.5s						GOPC	GO Pecny, Ondr	14.18	342	*e*P	Pn	15 10 10.7 -1.0
FETY	Fethiye	6.02	88	*e*P	Pn	15 08 22.4 +2.3	SOKA	Soboth	11.19	336	*i* Pn	Pn	15 09 29.3 -1.6	GOPC				AMS	AMS	15 16 20.0
FETY	Fethiye	6.02	88	P	Pn	15 08 23.9 +3.8		comp=Z,12nm,0.5s							comp=Z,800nm,15.5s					
FETY	Fethiye	6.02	88	P	Pn	15 08 23.9 +3.8	OBKA	Obir	11.20	334	Pn	Pn	15 09 30.4 -0.7	GOPC	GO Pecny, Ondr	14.18	342	*e*P	Pn	15 10 10.7 -1.0
BUM	Brajici-Budva	6.05	341⇑	*i*Pn	Pn	15 08 19.9 -0.6		comp=Z,3.7nm,0.3s						GOPC				MLR	MLR	
BUM				*e*Sn	Sn	15 09 27.2 -1.4	OBKA	Obir	11.20	334	*i* Pn	Pn	15 09 30.4 -0.7		comp=Z,800nm,15.5s					
BUM	Brajici-Budva	6.05	341⇑	*i*Pn	Pn	15 08 19.9 -0.6		comp=Z,3.7nm,0.3s						DPC	Dobruska-Polom	14.25	346	*e*P	Pn	15 10 11.2 -1.5
BUM				*e*Sn	Sn	15 09 27.2 -1.4	PRAR	RASCA	11.28	16⇓	*i*P	Pn	15 09 34.2 +2.1	DPC				*ex*	x	15 10 19.8
PDG	Podgorica	6.08	343⇓	*i*P	Pn	15 08 21.6 +0.7	BURAR	Bucovina Array	11.32	13⇓	*i*P	Pn	15 09 34.5 +1.8	DPC				AMS	AMS	15 16 40.0
PDG	Podgorica	6.08	343⇑	*i*Pn	Pn	15 08 21.6 +0.7	BUR04	Bucovina Ar. S	11.32	13	*e*Pn	Pn	15 09 33.2 +0.5		comp=Z,600nm,19.1s					
PDG				*e*Sn	Sn	15 09 27.5 -1.8	BUR04	Bucovina Ar. S	11.32	13	*e*Pn	Pn	15 09 33.2 +0.5	DPC	Dobruska-Polom	14.25	346	*e*P	Pn	15 10 11.2 -1.5
TTG	Podgorica	6.08	343⇑	*i*Pn	Pn	15 08 21.6 +0.7	BUR08	Bucovina Ar. S	11.34	12	*e*Pn	Pn	15 09 33.2 +0.1	DPC				MLR	MLR	
TTG				*e*Sn	Sn	15 09 27.5 -1.8	BUR08	Bucovina Ar. S	11.34	12	*e*Pn	Pn	15 09 33.2 +0.1		comp=Z,600nm,19.1s					
TTG	Podgorica	6.08	343	*e*Pn	Pn	15 08 20.5 -0.4	PSZ	Piszkesteto	11.37	354⇑	*i*P	Pn	15 09 32.8 -0.6	PRU	Pruhonice	14.31	341	*e*P	Pn	15 10 12.9 -0.6
TTG	Podgorica	6.08	343	*e*P	Pn	15 08 20.5 -0.4	PSZ	Piszkesteto	11.37	354	*e*Pn	Pn	15 09 31.8 -1.6	PRU				*ex*	x	15 10 21.1
TTG	Podgorica	6.08	343	*e*P	Pn	15 08 20.5 -0.4	PSZ	Piszkesteto	11.37	354	*e*P	Pn	15 09 31.8 -1.6	PRU				AMS	AMS	15 16 30.0
VTS	Vitosha	6.10	11⇑	*i*P	Pn	15 08 23.7 +2.4	PSZ	Piszkesteto	11.37	354	*e*P	Pn	15 09 31.8 -1.6		comp=Z,800nm,16.2s					
VTS	Vitosha	6.10	11	*e*Pn	Pn	15 08 22.4 +1.2	TRPA	Tarpa	11.53	3⇓	*i*P	Pn	15 09 36.7 +1.2	PRU	Pruhonice	14.31	341	*e*P	Pn	15 10 12.9 -0.6
VTS	Vitosha	6.10	11	*e*P	Pn	15 08 22.4 +1.2	ARSA	Arzberg	11.55	339	Pn	Pn	15 09 35.0 -0.7	PRU				MLR	MLR	
VTS	Vitosha	6.10	11	*e*P	Pn	15 08 22.4 +1.2		comp=Z,2.6nm,0.3s							comp=Z,800nm,16.2s					
PVY	Plav	6.11	349⇑	*i*Pn	Pn	15 08 22.8 +1.5	ARSA	Arzberg	11.55	339	*e*Pn	Pn	15 09 35.0 -0.7	PRA	Prague	14.41	341	AMS	AMS	15 16 30.0
PVY				*e*Sn	Sn	15 09 28.0 -2.0		comp=Z,2.6nm,0.3s							comp=Z,800nm,11.8s					
PVY	Plav	6.11	349⇑	*i*Pn	Pn	15 08 22.8 +1.5	KIS	Kishinev	11.69	25	*e*	Pn	15 09 44.0 +6.4	UPC	Upice	14.46	346	*e*P	Pn	15 10 14.5 -1.0
PVY				*e*Sn	Sn	15 09 28.0 -2.0	KIS				*e*L	L	15 12 58.0	UPC				*ex*	x	15 10 22.7
BARS	Barje	6.20	2⇑	*i*Pn	Pn	15 08 23.2 +0.7	MMAI	Mount Meron Ar	11.90	104	Pn	Pn	15 09 36.6 -4.2	UPC				AMS	AMS	15 16 50.0
CEME	Cevo	6.28	342⇑	*i*Pn	Pn	15 08 23.3 -0.3		comp=Z,1.3nm,0.3s,baz=303,slow=14,SNR=3.7							comp=Z,700nm,17.5s					
CEME				*e*Sn	Sn	15 09 32.4 -1.7	MMAI				Sn	Sn	15 11 41.4 -11	UPC	Upice	14.46	346	*e*P	Pn	15 10 14.5 -1.0
CEME	Cevo	6.28	342⇑	*i*Pn	Pn	15 08 23.3 -0.3		comp=Z,1.7nm,0.3s,baz=291,slow=32,SNR=3.4						UPC				MLR	MLR	
CEME				*e*Sn	Sn	15 09 32.4 -1.7	UZH	Uzhgorod	12.02	2	*e*P	Pn	15 09 42.8 +0.6		comp=Z,700nm,17.5s					
HCY	Herceg Novi	6.30	339⇓	*i*Pn	Pn	15 08 23.2 -0.7	UZH	Uzhgorod	12.02	2	*e*P	Pn	15 09 42.8 +0.6	ANN	Anapa	14.52	51	*e*P	Pn	15 10 13.8 -2.4
HCY				*e*Sn	Sn	15 09 32.6 -2.0	VYHS	Vyhne	12.05	351	*e*P	Pn	15 09 40.9 -1.7	ANN				*e*S	Sn	15 12 51.3 -4.5
HCY	Herceg Novi	6.30	339⇓	*i*Pn	Pn	15 08 23.2 -0.7	VYHS	Vyhne	12.05	351	*e*Pn	Pn	15 09 40.9 -1.7	ANN				pmax	pmax	
HCY				*e*Sn	Sn	15 09 32.6 -2.0	VYHS	Vyhne	12.05	351	*e*SN	Sn	15 11 46.0 -10		comp=Z,7.0nm,0.6s					
BEY	Berane	6.39	349⇓	*i*Pn	Pn	15 08 25.8 +0.7	VYHS	Vyhne	12.05	351	*e*P	Pn	15 09 40.9 -1.7	KSP	Ksiaz	14.73	347	*e*P	P	15 10 26.2 +1.4
BEY				*e*Sn	Sn	15 09 34.9 -2.0	CONA	Conrad Observa	12.07	341	Pn	Pn	15 09 43.5 +0.5	KSP	Ksiaz	14.73	347	*e*P	P	15 10 26.2 +1.4
IVA	Berane	6.39	349⇓	*i*Pn	Pn	15 08 25.8 +0.7		comp=Z,0.6nm,0.2s						KSP	Ksiaz	14.73	347	*e*P	P	15 10 26.2 +1.4
IVA				*e*Sn	Sn	15 09 34.9 -2.0	CONA	Conrad Observa	12.07	341	*e*Pn	Pn	15 09 43.5 +0.5	PVCC	Panska Ves	14.80	342	AMS	AMS	15 16 40.0
KOME	Kolasin	6.43	346	*e*Pn	Pn	15 08 26.7 +0.9		comp=Z,0.6nm,0.2s							comp=Z,700nm,11.0s					
KOME				*e*Sn	Sn	15 09 35.9 -2.1	KBA	Koelnbreinsper	12.12	332	Pn	Pn	15 09 43.6 -0.2	AK11	Malin Array Si	15.08	19	*e*Pn	Pn	15 10 19.5 -4.3
KOME	Kolasin	6.43	346	*e*Pn	Pn	15 08 26.7 +0.9		comp=Z,1.8nm,0.3s,SNR=4.1						GRFO	Grafenberg	15.09	333	*e*P	Pn	15 10 25.8 +1.9
KOME				*e*Sn	Sn	15 09 35.9 -2.1	KBA	Koelnbreinsper	12.12	332	*e*Pn	Pn	15 09 43.6 -0.2		comp=Z,24nm,0.9s					
AKAS	Kas	6.47	91	*e*P	Pn	15 08 29.5 +3.2		comp=Z,1.8nm,0.3s,SNR=4.1						GRFO	Grafenberg	15.09	333	*e*P	Pn	15 10 25.8 +1.9
NKME	Niksic	6.47	342⇓	*i*Pn	Pn	15 08 26.2 -0.1	KBA	Koelnbreinsper	12.12	332	Sn	Sn	15 11 48.7 -9.1	GRFO				pmax	pmax	
NKME				*e*Sn	Sn	15 09 37.0 -2.0		comp=Z,13nm,0.5s							comp=Z,24nm,0.9s					
NKME	Niksic	6.47	342⇓	*i*Pn	Pn	15 08 26.2 -0.1	MMLI	Mount Malkishu	12.14	106	Pn	Pn	15 09 44.1 +0.2	KIEV	Kiev	15.10	19	*e*Pn	Pn	15 10 21.0 -3.1
NKME				*e*Sn	Sn	15 09 37.0 -2.0	MODS	Modra-Piesok	12.18	346	*e*PN	Pn	15 09 41.5 -2.8	KIEV	Kiev	15.10	19	*e*Pn	Pn	15 10 21.0 -3.1
NKY	Niksic	6.51	343⇓	*i*Pn	Pn	15 08 26.9 +0.1	MODS	Modra-Piesok	12.18	346	*e*P	Pn	15 09 41.5 -2.8	KIEV	Kiev	15.10	19	*i* P	Pn	15 10 21.7 -2.4
NKY

comp=Z,14nm,1.3s
comp=N,609nm,13.0s
comp=E,296nm,18.9s
comp=Z,832nm,13.0s
BRG Berggiesshubel 15.28 341 *e*P **Pn** **15 10 25.4 -1.0**
BRG pmax pmax
comp=Z,6.0nm,1.1s
BRG pmax pmax
comp=Z,10.0nm,0.8s
BRG pmax pmax
comp=Z,14nm,1.3s
BRG MLR MLR
comp=N,609nm,13.0s
BRG MLR MLR
comp=E,296nm,18.9s
BRG MLR MLR
comp=Z,832nm,13.0s
CABF La Chapelle 15.28 316 *e*P **P** **15 10 30.8 -0.2**
comp=Z,21nm,1.2s
CABF La Chapelle 15.28 316 *e*P **P** **15 10 30.8 -0.2**
CABF pmax pmax
comp=Z,21nm,1.2s
SOC Sochi 15.50 58 *e*P **Pn** **15 10 31.4 +2.0**
comp=Z,17nm,0.5s
SOC Sochi 15.50 58 *e*P **Pn** **15 10 31.4 +2.0**
SOC *e* 15 13 25.7
SOC pmax pmax
comp=Z,17nm,0.5s
SOC MLR MLR
comp=Z,189nm,18.0s
HINF Hinteralfeld 15.61 320 *e*P **P** **15 10 35.9 +1.3**
comp=Z,9.0nm,0.6s
HINF Hinteralfeld 15.61 320 *e*P **P** **15 10 35.9 +1.3**
HINF pmax pmax
comp=Z,9.0nm,0.6s
ECH Echery 15.72 322 *e*Pn **Pn** **15 10 33.6 +1.4**
comp=Z,13nm,0.9s
ECH Echery 15.72 322 *e*P **Pn** **15 10 33.6 +1.4**
comp=Z,13nm,0.9s
ECH Echery 15.72 322 *e*P **Pn** **15 10 33.6 +1.4**
ECH pmax pmax
comp=Z,13nm,0.9s
MOX Moxa 15.76 336 P **P** **15 10 38.7 +2.5**
CLL Collm 15.92 340 *e*P **Pn** **15 10 34.0 -0.7**
CLL *i* 15 10 38.8
comp=Z,33nm,1.4s
CLL *i* (pP) **pP** **15 10 43.4 -3.5**
CLL Collm 15.92 340 *e*P **Pn** **15 10 34.0 -0.7**
GKP Gorka Klasztor 16.93 351 *e*P **P** **15 10 51.4 +2.2**
GKP Gorka Klasztor 16.93 351 *e*P **P** **15 10 51.4 +2.2**
WLF Walferdange 17.19 324 ⇓P **P** **15 10 55.1 +3.0**
WLF Walferdange 17.19 324 *e*P **Pn** **15 10 51.8 +1.0**
comp=Z,21nm,0.8s
WLF Walferdange 17.19 324 *e*P **Pn** **15 10 51.8 +1.0**
WLF pmax pmax
comp=Z,21nm,0.8s
SUW Suwalki 17.44 3 *e*P **Pn** **15 10 52.5 -1.2**
SUW Suwalki 17.44 3 *e*Pn **Pn** **15 10 52.6 -1.1**
comp=Z,400nm,1.2s
SUW Suwalki 17.44 3 *e*P **Pn** **15 10 52.7 -1.1**
comp=Z,400nm,1.2s
SUW Suwalki 17.44 3 *e*P **Pn** **15 10 52.7 -1.1**
SUW pmax pmax
comp=Z,400nm,1.2s
NEY Neytrino 17.48 61 *i* P **P** **15 10 56.5 +0.9**
comp=Z,5.0nm,0.9s
NEY Neytrino 17.48 61 ⇓*i* P **P** **15 10 56.5 +0.9**
NEY pmax pmax
comp=Z,5.0nm,0.9s
KIV Kislovodsk 17.66 59 *e*Pn **Pn** **15 10 55.0 -1.7**
comp=Z,23nm,1.0s
KIV Kislovodsk 17.66 59 *e*Pn **Pn** **15 10 55.0 -1.7**
comp=Z,23nm,1.0s
KIV Kislovodsk 17.66 59 *e*P **Pn** **15 10 57.1 +0.4**
comp=Z,84nm,13.0s
KIV Kislovodsk 17.66 59 P **Pn** **15 10 57.5 +0.9**
KIV Kislovodsk 17.66 59 *e*P **Pn** **15 10 57.1 +0.4**
KIV pmax pmax
comp=Z,25nm,1.1s
KIV MLR MLR
comp=Z,84nm,13.0s
KVAR Kislovodsk Arr 17.66 59 P **Pn** **15 10 54.6 -2.2**
baz=218,slow=4.0,SNR=15
KVAR LR LR 15 19 05.2
comp=Z,150nm,20.6s,baz=220,slow=42
AKH Akhalkalaki 17.67 68 *e*Pn **Pn** **15 10 55.9 -1.0**
comp=Z,22nm,0.8s
AKH Akhalkalaki 17.67 68 *e*P **Pn** **15 10 55.9 -1.0**
comp=Z,22nm,0.8s
AKH Akhalkalaki 17.67 68 *e*P **Pn** **15 10 55.9 -1.0**
AKH pmax pmax
comp=Z,22nm,0.8s
MEM Membach 17.92 326 ⇑P **P** **15 11 02.3 +2.1**
NCK Nalchik 18.16 61 *e*P **P** **15 11 03.9 +1.0**
comp=Z,21nm,0.8s
NCK Nalchik 18.16 61 ⇓*e*P **P** **15 11 03.9 +1.0**
NCK pmax pmax
comp=Z,21nm,0.8s
ZEI Tsey 18.22 63 *e*P **Pn** **15 11 01.5 -2.2**
comp=Z,21nm,0.7s
ZEI Tsey 18.22 63 *e*P **Pn** **15 11 01.5 -2.2**
ZEI pmax pmax
comp=Z,21nm,0.7s
DOU Dourbes 18.23 323 ⇑P **P** **15 11 04.9 +1.4**
comp=Z,7.5nm,0.8s
GOF Gofitskoye 18.25 56⇑*i* P **P** **15 11 03.1 -0.7**
GOF pmax pmax
comp=Z,43nm,0.7s
BAIF Baives 18.39 322 *e*P **Pn** **15 11 06.6 +1.1**
GNI Garni 18.48 72 P **P** **15 11 05.9 -0.6**
comp=Z,0.9nm,0.3s,baz=323,slow=2.9,SNR=8.8
GNI LR LR 15 19 25.3
comp=Z,244nm,19.4s,baz=278,slow=41
GNI Garni 18.48 72 *e*P **P** **15 11 07.2 +0.7**
comp=Z,68nm,1.0s
GNI Garni 18.48 72 P **Pn** **15 11 07.8 +1.0**
GNI Garni 18.48 72 ⇓*e*P **P** **15 11 07.2 +0.7**
GNI pmax pmax
comp=Z,68nm,1.0s
NACGM Naroch 18.64 9 *e*P **P** **15 11 07.0 -1.0**
NACGM PM 15 11 11.0
comp=Z,0.4nm,0.8s
SNF Seneffe 18.65 324 ⇑P **P** **15 11 07.9 -0.2**
IIGN Ignalina 19.01 8 *e*P **P** **15 11 10.9 -1.1**
IIGN IAmb IAmb 15 11 15.3
comp=Z,26nm,0.5s
NAX Nakhchivan 19.02 75 P **P** **15 11 10.2 -2.3**
NAX Nakhchivan 19.02 75 P **P** **15 11 10.2 -2.3**
IDID Didziasalis 19.04 9 *e*P **P** **15 11 11.1 -1.2**
IDID IAmb IAmb 15 11 13.4
comp=Z,16nm,0.9s
BSD Bornholm Skovb 19.06 348 *i* P **P** **15 11 11.9 -0.7**
comp=Z,40nm,0.7s
BSD Bornholm Skovb 19.06 348 *i* P **P** **15 11 11.9 -0.7**
BSD pmax pmax
comp=Z,40nm,0.7s
VSR Storozhevoye 19.25 35 *e*P **P** **15 11 13.0 -1.7**
VSR pmax pmax
comp=Z,10.0nm,0.7s
IZAR Zarasai 19.40 8 *e*P **P** **15 11 15.2 -1.1**
IZAR IAmb IAmb 15 11 17.3
comp=Z,26nm,0.6s
IZAR Zarasai 19.40 8 *e*P **P** **15 11 15.2 -1.1**
SNR=34
TAM Tamanrasset 19.57 230 *e*P **Pn** **15 11 21.8 +1.7**
comp=Z,7.7nm,0.8s
TAM Tamanrasset 19.57 230 *e*P **Pn** **15 11 21.8 +1.7**
comp=Z,7.7nm,0.8s
TAM Tamanrasset 19.57 230 *e*P **Pn** **15 11 21.8 +1.7**
TAM pmax pmax
comp=Z,8.0nm,0.8s
GROC Groznyy 19.66 63 *e*P **Pn** **15 11 22.3 +1.5**
GROC pmax pmax
comp=Z,61nm,1.5s
GANJ Ganja 19.71 71 P **P** **15 11 17.7 -2.2**
GANJ Ganja 19.71 71 P **P** **15 11 17.7 -2.2**
ZKTA Zakatala 20.03 68 P **P** **15 11 21.1 -2.2**
ZKTA Zakatala 20.03 68 P **P** **15 11 21.1 -2.2**
LPSR Galich'ya Gora 20.11 32 *e*P **P** **15 11 22.9 -1.1**
LPSR pmax pmax
comp=Z,40nm,0.6s
ES19 SONSECA Array 20.26 287 *e*P **P** **15 11 26.7 +0.8**
ES19 SONSECA Array 20.26 287 *e*P **P** **15 11 26.7 +0.8**
MNGR Mingechevir, A 20.30 70 P **P** **15 11 24.0 -2.2**
MNGR Mingechevir, A 20.30 70 P **P** **15 11 24.0 -2.2**
ESDC Sonseca Array 20.31 286 P **P** **15 11 27.7 +1.3**
comp=Z,2.5nm,0.7s,baz=82,slow=11,SNR=12
ESDC LR LR 15 19 33.7
comp=Z,26nm,19.5s,baz=70,slow=38
SEKA Sheki 20.42 69 P **P** **15 11 26.1 -1.5**
SEKA Sheki 20.42 69 P **P** **15 11 26.1 -1.5**
VRH Novokhopyorsk 20.47 38 *e*P **P** **15 11 27.3 -0.7**
VRH pmax pmax
comp=Z,130nm,0.7s
OBN Obninsk 21.16 24 P **P** **15 11 33.0 -2.3**
comp=Z,41nm,0.4s,baz=83,slow=4.0,SNR=10
OBN LR LR 15 20 31.8
comp=Z,214nm,18.9s,baz=268,slow=39
OBN Obninsk 21.16 24 *e*P **P** **15 11 33.0 -2.3**
comp=Z,58nm,0.5s
OBN Obninsk 21.16 24 *i* P **P** **15 11 33.9 -1.4**
comp=Z,192nm,17.6s
OBN Obninsk 21.16 24*c i*P **P** **15 11 33.9 -1.4**
OBN *e* 15 11 54.6
OBN pmax pmax
comp=Z,192nm,17.6s
OBN MLR MLR
comp=Z,192nm,18.0s
QUIF Quistinic 21.43 310 *e*P **P** **15 11 41.3 +3.0**
QUIF pmax pmax
comp=Z,26nm,1.2s
LKRN Lenkeran, Azer 21.60 76 P **P** **15 11 38.0 -2.2**
LKRN Lenkeran, Azer 21.60 76 P **P** **15 11 38.0 -2.2**
ROSF Rostrenen 21.66 311 *e*P **P** **15 11 41.9 +1.1**
ROSF pmax pmax
comp=Z,35nm,1.3s
MOS Moscow 22.02 25 *e*P **P** **15 11 41.9 -2.6**
comp=Z,200nm,1.1s
MOS Moscow 22.02 25 *e*P **P** **15 11 41.9 -2.6**
MOS pmax pmax
comp=Z,196nm,1.1s
MOS pmax pmax
comp=Z,200nm,1.1s
VSU Vasula 22.12 7*c i*P **P** **15 11 44.4 -1.3**
VSU pmax pmax
comp=Z,169nm,0.7s
PUL Pulkovo 23.85 11⇑*e*P **P** **15 12 03.5 +0.3**
PUL pmax pmax
comp=Z,116nm,1.0s
HFS Hagfors 24.08 350 P **P** **15 12 04.2 -1.2**
comp=Z,18nm,0.5s,baz=156,slow=11,SNR=119
HFS LR LR 15 22 55.6
comp=Z,180nm,20.2s,baz=170,slow=40
KONO Kongsberg 24.33 345⇑*i* P **P** **15 12 06.2 -1.4**
KONO pmax pmax
comp=Z,12nm,0.8s
RAYN Ar Rayn 24.38 116 *e*P **P** **15 12 09.7 +1.2**
comp=Z,4.3nm,0.7s
RAYN Ar Rayn 24.38 116 *e*P **P** **15 12 09.7 +1.2**
comp=Z,4.3nm,0.7s
NC602 NORSAR Array S 24.98 348 *e*P **P** **15 12 12.8 -0.8**
FINES FINESS Array B 25.01 5 P **P** **15 12 13.2 -0.6**
comp=Z,21nm,0.5s,baz=160,slow=11,SNR=197
FINES LR LR 15 23 12.9
comp=Z,414nm,20.0s,baz=190,slow=40
FIA1 FINESS Array S 25.02 5 *e*P **P** **15 12 12.7 -1.1**
NAO01 NORSAR Array S 25.19 348 *e*P **P** **15 12 14.8 -0.7**
EKA Eskdalemuir Ar 25.20 326 P **P** **15 12 15.9 +0.4**
comp=Z,4.1nm,0.6s,baz=127,slow=9.3,SNR=22
EKA Eskdalemuir Ar 25.20 326 P **P** **15 12 16.0 +0.4**
NC405 NORSAR Array S 25.31 349 *e*P **P** **15 12 14.5 -2.1**
NB201 NORSAR Array S 25.32 348 *e*P **P** **15 12 15.0 -1.6**
NB2 NORSAR Subarra 25.32 348 P **P** **15 12 16.0 -0.7**
comp=Z,18nm,0.7s,baz=156,slow=9.3
NB2 NORSAR Subarra 25.32 348 P **P** **15 12 16.0 -0.7**
baz=156,slow=9.3
NOA NORSAR Array B 25.32 348 P **P** **15 12 16.1 -0.5**
comp=Z,17nm,0.8s,baz=157,slow=8.9,SNR=42
NOA LR LR 15 23 50.0
comp=Z,114nm,18.7s,baz=155,slow=40
NBO00 NORSAR Array S 25.39 348 *e*P **P** **15 12 16.8 -0.5**
NBO02 NORSAR Array S 25.39 348 *e*P **P** **15 12 16.7 -0.6**
NC303 NORSAR Array S 25.47 348 *e*P **P** **15 12 16.7 -1.3**
NC204 NORSAR Array S 25.62 348 *e*P **P** **15 12 18.6 -0.8**
KLMR Klimovskoe 26.80 20 *e*P **P** **15 12 27.5 -2.6**
KLMR AMP 15 12 32.4
comp=Z,61nm,0.8s
KLMR Klimovskoe 26.80 20 *e*P **P** **15 12 27.4 -2.6**
KLMR pmax pmax
comp=Z,61nm,0.8s
GEYT Alibeck 28.98 76 P **P** **15 12 49.4 -0.4**
comp=Z,10nm,0.6s,baz=275,slow=9.3,SNR=27
GEYT LR LR 15 27 17.3
comp=Z,40nm,18.6s,baz=5.0,slow=43
GYA0B ALIBECK ARRAY 28.98 76 *e*P **P** **15 12 48.8 -1.0**
comp=Z,12nm,0.6s
GYA0B ALIBECK ARRAY 28.98 76 *e*P **P** **15 12 48.8 -1.0**
comp=Z,12nm,0.6s
TMCR Tamitsa 29.32 15 *e*P **P** **15 12 48.7 -3.7**
TMCR pmax pmax
comp=Z,7.0nm,0.6s
AKTO Aktyubinsk 29.48 50 P **P** **15 12 53.0 -1.0**
comp=Z,10.0nm,0.6s,baz=264,slow=8.9,SNR=30
AKTO LR LR 15 27 24.3
comp=Z,143nm,21.6s,baz=251,slow=42
AB31 Akbulak array 30.45 53 *i* P **P** **15 13 01.3 -1.4**
AB31 pmax pmax
comp=Z,5.0nm,0.8s
ABKAR Akbulak array 30.45 53 *e*P **P** **15 13 01.0 -1.6**
comp=Z,39nm,0.8s
MZR Muzera 30.66 107 P **P** **15 13 05.0 +0.3**
NAZ Nazwa, Dubai 31.32 102 P **P** **15 13 11.5 +0.9**
BANOM Banah 31.37 100 P **P** **15 13 11.7 +0.7**
BANOM Banah 31.37 100 P **P** **15 13 11.7 +0.7**
ATD Arta Tunnel 31.47 137 LR LR 15 25 44.6
comp=Z,48nm,20.2s,baz=178,slow=36
MSFE Esma-Masafi 31.53 101 P **P** **15 13 11.2 -1.3**
ARU Arti 31.69 39 *e*P **P** **15 13 11.6 -1.9**
comp=Z,24nm,0.8s
ARU Arti 31.69 39 *i* P **P** **15 13 11.8 -1.7**
ARU pmax pmax
comp=Z,30nm,0.8s
APA Apatity 31.73 9⇓*i*P **P** **15 13 12.9 -0.7**
APA pmax pmax
comp=Z,12nm,0.7s
APA MLR MLR
comp=Z,300nm,15.0s
KOWA Kowa 31.74 233 P **P** **15 13 16.3 +2.0**
comp=Z,12nm,0.6s,baz=35,slow=10.0,SNR=41
KOWA LR LR 15 26 31.0
comp=Z,223nm,21.8s,baz=34,slow=37
KOWA Kowa 31.74 233 *e*P **P** **15 13 16.0 +1.7**
comp=Z,13nm,0.6s
UOSS Minazif 31.76 102 P **P** **15 13 15.2 +0.7**
UOSS Minazif 31.76 102 P **P** **15 13 15.2 +0.7**
HATD Hatta, Dubai 31.77 102 P **P** **15 13 14.9 +0.4**
ALNE Al Ain 31.86 103 *i* P **P** **15 13 17.0 +1.7**
SNR=6.4
LVZ Lovozero 32.19 9⇑*e*P **P** **15 13 18.2 +0.4**
LVZ pmax pmax
comp=Z,13nm,1.0s
SOHO SOHO 32.43 103 P **P** **15 13 21.0 +0.7**
SNR=11
SOHO SOHO 32.43 103 *i* P **P** **15 13 21.0 +0.7**
SNR=11
SVE Sverdlovsk 32.90 40*c i*P **P** **15 13 23.6 -0.5**
SVE pmax pmax
comp=Z,79nm,0.7s
ARCES ARCESS Array B 33.05 3 P **P** **15 13 24.8 -0.5**
comp=Z,4.7nm,0.5s,baz=185,slow=9.5,SNR=57
ARCES LR LR 15 28 03.5
comp=Z,282nm,20.1s,baz=165,slow=39
WSAR Wadi Sarin 34.54 102 P **P** **15 13 39.7 +1.0**
comp=Z,3.0nm,0.8s,baz=287,slow=10,SNR=3.0
BRVK Borovoye 37.43 48 *e*P **P** **15 14 01.6 -1.6**
comp=Z,15nm,0.8s
BRVK Borovoye 37.43 48*ce*P **P** **15 14 02.4 -0.8**
BRVK pmax pmax
comp=Z,22nm,1.1s
IUG luzhnay 37.44 66 *e*P **P** **15 14 02.2 -1.3**
comp=Z,378nm,0.8s
BVAR Borovoye Array 37.49 48 P **P** **15 14 03.1 -0.6**
comp=Z,8.2nm,0.6s,baz=264,slow=6.0,SNR=77
BVAR LR LR 15 31 12.4
comp=Z,68nm,21.1s,baz=268,slow=39
KK31 Karatay Array 37.67 65 *e*P **P** **15 14 03.8 -1.5**
KK31 Karatay Array 37.67 65 *i* P **P** **15 14 04.6 -0.7**
KK31 pmax pmax
comp=Z,17nm,0.6s
KKAR Karatay Array 37.67 65 *e*P **P** **15 14 03.8 -1.5**
KKAR Karatay Array 37.67 65 *e*P **P** **15 14 03.8 -1.5**
KBL Kabul 38.34 79 *e*P **P** **15 14 10.6 -0.7**
comp=Z,9.5nm,0.6s
KBL Kabul 38.34 79 *e*P **P** **15 14 10.6 -0.7**
KBL pmax pmax
comp=Z,10.0nm,0.6s
DBIC Dimbokro 38.36 225 P **P** **15 14 13.0 +1.6**
comp=Z,7.9nm,0.7s,baz=12,slow=9.9,SNR=11
DBIC LR LR 15 30 29.9
comp=Z,94nm,22.0s,baz=26,slow=37
DBIC Dimbokro 38.36 225 *e*P **P** **15 14 13.0 +1.6**
comp=Z,40nm,1.6s
DBIC Dimbokro 38.36 225 *e*P **P** **15 14 13.0 +1.6**
DBIC pmax pmax
comp=Z,40nm,1.6s
TIC Toumodi 38.48 226 *e*P **P** **15 14 13.6 +1.2**
KIC Kosan Boka 38.55 225 *e*P **P** **15 14 14.0 +1.1**
comp=Z,23nm,0.9s
OTUK Ortayu 38.56 56 P **P** **15 14 10.5 -2.2**
OTUK pmax pmax
comp=Z,20nm,1.2s
LIC Lamto 38.82 225 *e*P **P** **15 14 16.5 +1.3**
comp=Z,32nm,0.5s
BTLS Baital 39.97 61⇓*e*P **P** **15 14 23.6 -0.9**
comp=Z,119nm,1.1s
EKS2 Erkin-Say 40.11 65 P **P** **15 14 25.7 -0.2**
SNR=47
AML Almayashu 40.13 66 P **P** **15 14 25.8 -0.6**
SNR=14
KMBO Kilima Mbogo 40.27 155 LR LR 15 33 47.4
comp=Z,105nm,18.3s,baz=88,slow=40
BBTS Babate 40.37 247 LR LR 15 33 47.5
comp=Z,316nm,18.6s,baz=57,slow=40
USP Ospenovka 40.53 64 P **P** **15 14 28.3 -1.0**
SNR=5.3
AAK Ala-Archa 40.63 65 P **P** **15 14 30.1 -0.1**
SNR=32
AAK Ala-Archa 40.63 65 *e*P **P** **15 14 29.3 -1.0**
comp=Z,20nm,0.9s
AAK Ala-Archa 40.63 65 *i* P **P** **15 14 30.0 -0.3**
SNR=5.6
AAK Ala-Archa 40.63 65*c i*P **P** **15 14 29.8 -0.4**
AAK pmax pmax
comp=Z,19nm,0.9s
FRU Bishkek 40.69 64 *e*P **P** **15 14 30.0 -0.6**
FRU pmax pmax
comp=Z,60nm,1.9s
UCH Uchtor 40.72 65 P **P** **15 14 31.0 -0.3**
SNR=14
CHMS Chumysh 40.76 64 P **P** **15 14 30.9 -0.2**
SNR=15
SCO Scoresbysund 40.95 339 *i* P **P** **15 14 34.1 +1.8**
comp=Z,12nm,1.0s
SCO Scoresbysund 40.95 339 *e*P **P** **15 14 32.4 +0.1**
comp=Z,10nm,0.9s
SCO Scoresbysund 40.95 339 *i* P **P** **15 14 34.1 +1.8**
SCO pmax pmax
comp=Z,12nm,1.0s
KBK Karagaybulak 40.96 65 P **P** **15 14 32.8 -0.2**
SNR=15
KZA Kyzart 41.28 65 P **P** **15 14 36.2 +0.3**
SNR=22
TKM2 Tokmak 2 41.38 64 P **P** **15 14 36.0 -0.5**
SNR=12
BMNS Besmoynak 41.40 64⇓*e*P **P** **15 14 36.1 -0.5**
comp=Z,68nm,0.9s
SPITS Spitsbergen Ar 41.73 358 P **P** **15 14 39.4 +0.7**
comp=Z,1.9nm,0.4s,baz=172,slow=6.7,SNR=17
SPITS LR LR 15 33 51.1
comp=Z,249nm,21.8s,baz=355,slow=39
KUU Kurty 41.75 62⇑*i*P **P** **15 14 38.8 -0.4**
comp=Z,112nm,1.0s
NIL Nilore 41.94 78 *e*P **P** **15 14 40.8 -0.1**
comp=Z,42nm,1.0s
NIL Nilore 41.94 78 *e*P **P** **15 14 40.8 -0.1**
comp=Z,42nm,1.0s
NIL Nilore 41.94 78 *e*P **P** **15 14 40.8 -0.1**
NIL pmax pmax
comp=Z,42nm,1.0s
ULHL Ulahol 41.98 65 P **P** **15 14 41.7 +0.3**
SNR=12
AAA Alma-Ata 42.28 63 *e*P **P** **15 14 43.5 -0.2**
KSH Kashi 42.37 69 P **P** **15 14 42.8 -1.7**
KSH S **S** **15 20 55.8 -7.8**
KSH pmax pmax
comp=Z,31nm,0.9s
KSH pmax pmax
comp=Z,99nm,2.8s
KSH LR LR
comp=Z,150nm,3.9s
KSH LR LR
comp=Z,160nm,5.3s
MDOK Medeo 42.39 63 *e*P **P** **15 14 43.8 -0.8**
comp=Z,103nm,1.0s
MDOK *e*S **S** **15 21 01.6 -2.3**
KURBB Kurchatov Arra 42.49 52 P **P** **15 14 44.1 -1.0**
comp=Z,5.4nm,0.6s,baz=276,slow=8.5,SNR=52
KURK Kurchatov 42.54 52 *e*P **P** **15 14 43.0 -2.6**
comp=Z,6.5nm,0.8s
KURK Kurchatov 42.54 52⇑*i*P **P** **15 14 43.9 -1.7**
KURK pmax pmax
comp=Z,16nm,1.5s
TARG Taragay, Kyrgy 43.22 65 *e*P **P** **15 14 49.9 -1.8**
comp=Z,25nm,1.4s
SATY Saty 43.38 63⇑*i*P **P** **15 14 52.2 -0.4**
comp=Z,378nm,1.1s
KPKS Kokpek 43.50 63 *e*P **P** **15 14 53.2 -0.3**
comp=Z,68nm,1.1s
UZB Uzynbulak 43.81 63 *e*P **P** **15 14 54.9 -1.2**
comp=Z,54nm,1.2s
DAG Danmarks Havn 44.01 348 *i* P **P** **15 14 57.2 +0.2**
comp=Z,1.3nm,0.4s
DAG Danmarks Havn 44.01 348 *i* P **P** **15 14 57.2 +0.2**
DAG pmax pmax
comp=Z,1.0nm,0.4s
PDGK Podgornoye 44.10 63 P **P** **15 14 56.8 -1.7**
PDGK pmax pmax
comp=Z,6.0nm,0.8s
NVS Novosibirsk 45.13 46⇑*i*P **P** **15 15 06.1 -0.2**
NVS pmax pmax
comp=N,4.0nm,0.5s
NVS pmax pmax
comp=E,7.0nm,0.5s
NVS pmax pmax
comp=Z,21nm,0.5s
MAKZ Makanchi 45.20 57 *e*P **P** **15 15 05.0 -1.9**
comp=Z,3.7nm,0.8s
MAKZ Makanchi 45.20 57 *e*P **P** **15 15 05.0 -1.9**
MAKZ pmax pmax
comp=Z,4.0nm,0.8s
MK31 Makanchi Array 45.41 57 *e*P **P** **15 15 07.1 -1.6**
MK31 Makanchi Array 45.41 57 *e*P **P** **15 15 07.1 -1.6**
MKAR Makanchi Array 45.41 57 P **P** **15 15 07.3 -1.4**
comp=Z,4.8nm,0.4s,baz=272,slow=7.5,SNR=75
MKAR LR LR 15 37 24.3
comp=Z,52nm,19.5s,baz=258,slow=41
MKAR Makanchi Array 45.41 57 *e*P **P** **15 15 07.1 -1.6**
comp=Z,56nm,0.6s
MK01 Makanchi Array 45.42 57 *e*P **P** **15 15 07.0 -1.8**
ZAA0 Zalesovo Array 46.11 47 *e*P **P** **15 15 11.4 -2.6**
comp=Z,13nm,0.7s
ZALV Zalesovo Beam 46.11 47 P **P** **15 15 12.5 -1.5**
comp=Z,16nm,0.4s,baz=268,slow=9.2,SNR=68
ZALV LR LR 15 38 05.7
comp=Z,62nm,18.5s,baz=257,slow=41
ZALV Zalesovo Beam 46.11 47 *e*P **P** **15 15 12.2 -1.8**
ZALV Zalesovo Beam 46.11 47 *e*P **P** **15 15 12.2 -1.8**
DGZ Jazzator, Alta 48.28 53 *i* P **P** **15 15 30.1 -1.1**
DGZ pmax pmax
comp=Z,3.0nm,1.1s
WMQ Urumqi 49.78 60 P **P** **15 15 42.6 -0.1**
WMQ pmax pmax
comp=Z,20nm,0.7s
WMQ pmax pmax
comp=Z,140nm,4.5s
WMQ LR LR
comp=Z,210nm,26.3s
WMQ LR LR
comp=Z,190nm,21.9s
WMQ LR LR
comp=Z,240nm,22.5s
SFJD Kangerlussuaq 50.01 331 LR LR 15 37 32.0
comp=Z,109nm,20.1s,baz=92,slow=37
PYUN Piuthan 51.79 81 *e*P **P** **15 15 57.7 -0.5**
comp=Z,43nm,0.6s
HVS Khovu-Aksy 51.91 50⇓*e*P **P** **15 15 58.6 0.0**
HVS pmax pmax

comp=Z,6.0nm,0.9s
KOLN Koldanda 52.42 81 *e*P **P 15 16 02.0 -0.9**
comp=Z,20nm,0.6s
GKN Gorkha 53.14 80 *e*P **P 15 16 07.2 -0.9**
comp=Z,36nm,0.6s
DMN Daman 53.69 80 *e*P **P 15 16 11.6 -0.7**
comp=Z,45nm,0.7s
KKN Kakani 53.74 80 *e*P **P 15 16 11.5 -1.2**
comp=Z,25nm,0.6s
PKIN Phulchoki 53.93 80 *e*P **P 15 16 13.5 -0.6**
comp=Z,23nm,0.7s
GUN Gumba 54.16 80 *e*P **P 15 16 15.0 -0.9**
comp=Z,35nm,0.8s
JIRN Jiri 54.52 80 *e*P **P 15 16 17.5 -1.0**
RAMN Ramite 55.17 80 *e*P **P 15 16 21.8 -1.3**
comp=Z,49nm,0.7s
LSA Lhasa 57.50 75 *e*P **P 15 16 39.7 -0.2**
comp=Z,7.8nm,0.7s
LSA Lhasa 57.50 75 *e*P **P 15 16 39.7 -0.2**
comp=Z,7.8nm,0.7s
LSA Lhasa 57.50 75 *e*P **P 15 16 39.7 -0.2**
LSA pmax pmax
comp=Z,8.0nm,0.7s
TLY Talaya 57.73 47 *e*P **P 15 16 40.7 +0.1**
TLY pmax pmax
comp=Z,3.0nm,0.7s
TLY MLR MLR
comp=Z,66nm,17.0s
ZAK Zakamensk 57.95 48 *e*P **P 15 16 39.9 -2.4**
ZAK pmax pmax
comp=Z,3.0nm,1.0s
GTA Gaotai 59.82 61 *e*P **P 15 16 54.8 -0.7**
GTA pmax pmax
comp=Z,7.0nm,1.1s
SONA1 Songino Array 60.80 50 *e*P **P 15 16 60.0 -2.1**
SONM Songino Array 60.80 50 P **P 15 17 00.5 -1.6**
comp=Z,2.3nm,0.6s,baz=282,slow=9.0,SNR=10
SONM LR LR 15 45 39.8
comp=Z,67nm,21.8s,baz=246,slow=38
TIXI Tiksi 60.82 20 *e*P **P 15 17 01.0 -0.6**
comp=Z,3.8nm,0.7s
TIXI Tiksi 60.82 20⇑*e*P **P 15 17 01.2 -0.4**
TIXI pmax pmax
comp=Z,4.0nm,0.8s
BOD Bodaibo 61.08 38 *e*P **P 15 17 02.3 -1.3**
BOD pmax pmax
comp=Z,11nm,0.9s
ULN Ulaanbaatar 61.19 50 *e*P **P 15 17 03.5 -1.3**
comp=Z,4.1nm,0.8s
ULN Ulaanbaatar 61.19 50c *i*P **P 15 17 03.9 -0.9**
ULN pmax pmax
comp=Z,3.0nm,0.7s
RES Resolute Bay 61.51 344 *e*P **P 15 17 07.0 +0.8**
comp=Z,4.3nm,0.8s
RES Resolute Bay 61.51 344 *e*P **P 15 17 07.0 +0.8**
RES pmax pmax
comp=Z,4.0nm,0.8s
LZH Lanzhou 64.14 63 *e*P **P 15 17 24.4 -0.3**
LZH pmax pmax
comp=Z,42nm,1.1s
LZH pmax pmax
comp=Z,130nm,5.0s
BOSA Boshof 64.97 176 P **P 15 17 31.6 +1.8**
comp=Z,1.1nm,0.5s,baz=336,slow=3.6,SNR=4.7
BOSA LR LR 15 48 00.4
comp=Z,107nm,18.5s,baz=196,slow=38
YAK Yakutsk 66.05 29 *e*P **P 15 17 34.9 -1.5**
comp=Z,19nm,0.8s
YAK Yakutsk 66.05 29 *e*P **P 15 17 34.6 -1.7**
YAK pmax pmax
comp=E,4.0nm,1.1s
YAK pmax pmax
comp=Z,17nm,0.9s
CD2 Chengdu 66.56 68 *e*P **P 15 17 40.4 +0.2**
HHC Hu-ho-hao-te 67.22 55 *e*P **P 15 17 44.3 0.0**
HHC pmax pmax
comp=Z,14nm,1.2s
HHC pmax pmax
comp=Z,27nm,7.3s
CMAI Chiengmai2 68.55 81 P **P 15 17 53.5 +0.4**
comp=Z,37nm,1.8s,comp=Z,5μm
KMI Kunming 68.72 74 P **P 15 17 54.8 +0.7**
KMI pmax pmax
comp=Z,9.0nm,0.5s
KMI pmax pmax
comp=Z,68nm,4.5s
XAN Xi'an 68.78 63 P **P 15 17 53.5 -0.7**
XAN pP pP 15 18 04.6 -0.1
XAN pmax pmax
comp=Z,10.0nm,0.7s
CHTO Chiang Mai 69.07 82 P **P 15 17 55.7 -0.4**
comp=Z,30nm,1.3s
CHTO Chiang Mai 69.07 82 *e*P **P 15 17 53.3 -2.8**
comp=Z,4.3nm,0.8s
CHTO Chiang Mai 69.07 82 *e*P **P 15 17 53.3 -2.8**
CHTO pmax pmax
comp=Z,4.0nm,0.8s
CM31 Chiang Mai Arr 69.26 82 *e*P **P 15 17 53.7 -3.6**
CMAR Chiang Mai Arr 69.26 82 P **P 15 17 56.6 -0.7**
comp=Z,4.0nm,0.8s,baz=303,slow=7.4,SNR=36
CM01 Chiang Mai Arr 69.29 82 *e*P **P 15 17 56.0 -1.6**
FCC Fort Churchill 71.03 330 *e*P **P 15 18 08.2 +0.8**
comp=Z,8.6nm,0.8s
FCC Fort Churchill 71.03 330 *e*P **P 15 18 08.2 +0.8**
FCC pmax pmax
comp=Z,9.0nm,0.8s
ENH Enshi 71.13 66 *e*P **P 15 18 08.2 -0.4**
comp=Z,12nm,0.8s
BILL Bilibino 72.35 13 *e*P **P 15 18 14.1 -1.2**
BILL *e* 15 18 27.5
BILL *e* 15 20 56.0
BILL *e*PPP PPP 15 22 43.0
BILL pmax pmax
comp=Z,7.0nm,1.4s
BILL MLR MLR
comp=Z,70nm,22.0s
SEY Seymchan 73.29 21⇑*i*P **P 15 18 21.2 +0.3**
TIA Tai'an 73.35 57 P **P 15 18 21.3 -0.5**
TIA pmax pmax
comp=Z,11nm,1.0s
INK Inuvik 73.75 351 P **P 15 18 24.1 +0.6**
comp=Z,1.1nm,0.5s,baz=1,3,slow=8.1,SNR=10
INK Inuvik 73.75 351 *e*P **P 15 18 23.6 +0.1**
comp=Z,3.1nm,1.0s
SKNT Sakolnakorn 74.08 81 P **P 15 18 25.0 -1.3**
comp=Z,5.9nm,0.8s
SRAK Srakaew 74.19 84 P **P 15 18 29.8 +2.8**
CN2 Changchun 74.33 47 *e*P **P 15 18 27.1 -0.3**
CN2 pmax pmax
comp=Z,10.0nm,0.8s
KLR Kul'dur 74.53 40c *i*P **P 15 18 28.1 -0.4**
YKA Yellowknife Ar 75.15 341 P **P 15 18 32.6 +0.8**
comp=Z,1.7nm,0.7s,baz=37,slow=5.6,SNR=38
MA2 Magadan 75.38 24 *i*P **P 15 18 33.7 +0.6**
MA2 pmax pmax
comp=Z,27nm,1.1s
GRNR Gornyy 75.86 36 *e*P **P 15 18 37.2 +1.1**
GRNR pmax pmax
comp=Z,20nm,0.9s
NKL Nikolayevsk 76.20 33 *e*P **P 15 18 37.5 -0.4**
NKL pmax pmax
comp=Z,22nm,1.0s
NJ2 Nanjing 76.86 60 *e*P **P 15 18 42.0 -0.1**
NJ2 pmax pmax
comp=Z,14nm,0.5s
FFC Flin Flon 76.96 330 *e*P **P 15 18 42.8 +0.6**
comp=Z,7.2nm,0.9s
FFC Flin Flon 76.96 330 *e*P **P 15 18 42.8 +0.6**
FFC pmax pmax
comp=Z,7.0nm,0.9s
ULM Lac du Bonnet 77.47 324 P **P 15 18 46.6 +1.5**
comp=Z,3.0nm,0.4s,baz=20,slow=4.6,SNR=6.4
IM3 Indian Mountai 77.67 358 *e*P **P 15 18 47.0 +1.0**
USRK Ussuriysk Ar. 77.83 44 P **P 15 18 46.7 -0.6**
comp=Z,6.9nm,0.7s,baz=297,slow=5.2,SNR=20
PSI Prapat 78.16 95 P **P 15 18 49.4 -0.3**
comp=Z,5.1nm,0.4s,baz=297,slow=4.5,SNR=4.3
MDM Murphy Dome 78.45 356 *e*P **P 15 18 51.1 +0.8**
comp=Z,27nm,1.9s
MLY Manley 78.51 357 *e*P **P 15 18 51.7 +0.9**
comp=Z,3.6nm,0.9s
ILAR Eielson Array 78.54 355 P **P 15 18 51.8 +0.9**
comp=Z,1.1nm,0.5s,baz=346,slow=3.0,SNR=35
ILB Eielson Array 78.54 355 *e*P **P 15 18 51.1 +0.2**
WRH Wood River Hil 78.92 355 *e*P **P 15 18 53.3 +0.3**
comp=Z,5.0nm,0.8s

DOT Dot Lake 79.42 354 *e*P **P 15 18 56.5 +0.8**
comp=Z,72nm,1.8s
KS01 Wonju Array Si 79.62 51 *e*P **P 15 18 56.2 -1.0**
KS15 Wonju Array Si 79.64 51 *e*P **P 15 18 56.4 -1.0**
KSAR Wonju Array Be 79.64 51 P **P 15 18 57.0 -0.3**
KSAR Wonju Array Be 79.64 51 P **P 15 18 57.1 -0.3**
KSRS Korea Array 79.66 51 P **P 15 18 57.0 -0.4**
comp=Z,6.6nm,0.7s,baz=312,slow=4.8,SNR=37
KSRS LR LR 15 57 47.8
comp=Z,47nm,20.4s,baz=296,slow=38
CAST Castle Rocks 80.18 357 *e*P **P 15 19 01.2 +1.4**
comp=Z,31nm,2.0s
DHY Denali Highway 80.26 355 *e*P **P 15 19 01.1 +0.7**
comp=Z,8.5nm,0.6s
YSS Yuzh-Sakhalins 81.52 36 *e*P **P 15 19 07.3 0.0**
comp=Z,30nm,1.1s
YSS Yuzh-Sakhalins 81.52 36 *i*P **P 15 19 07.4 +0.1**
YSS pmax pmax
comp=Z,38nm,1.3s
EDM Edmonton 82.38 335 *e*P **P 15 19 12.4 +0.7**
comp=Z,20nm,1.3s
EDM Edmonton 82.38 335 *e*P **P 15 19 12.4 +0.7**
EDM pmax pmax
comp=Z,20nm,1.3s
RC01 Rabbit Creek A 82.39 356 *e*P **P 15 19 12.2 +0.6**
PETK Petropavlovsk- 82.86 25 P **P 15 19 13.2 -1.0**
comp=Z,2.3nm,0.8s,baz=186,slow=5.2,SNR=4.2
PETK LR LR 16 01 47.4
comp=Z,40nm,18.2s,baz=287,slow=40
ASAJ Asahikawa 83.49 38 P **P 15 19 17.3 -0.3**
comp=Z,3.5nm,0.7s,baz=241,slow=13,SNR=6.3
EGMT Eagleton 85.22 330 *e*P **P 15 19 25.5 -1.0**
comp=Z,14nm,1.1s
MAJO Matsushiro 86.46 46||*e*P **P 15 19 33.3 +0.6**
MAJO pmax pmax
comp=Z,10.0nm,1.3s
MJAR Matsushiro Arr 86.46 46 P **P 15 19 32.4 -0.3**
comp=Z,2.6nm,0.8s,baz=318,slow=5.1,SNR=9.2
JOW Kunigami 86.55 59 P **P 15 19 33.6 +0.4**
comp=Z,17nm,0.9s,baz=256,slow=17,SNR=4.3
JTMT Jette 87.23 332 *e*P **P 15 19 37.6 +1.3**
comp=Z,14nm,1.2s
NEW Newport 87.83 334 LR LR 16 00 44.8
comp=Z,119nm,21.1s,baz=202,slow=37
PDAR Pinedale Array 89.32 326 P **P 15 19 47.0 +0.5**
comp=Z,0.4nm,0.8s,baz=46,slow=6.4,SNR=3.7
PDAR LR LR 16 02 23.2
comp=Z,61nm,18.8s,baz=36,slow=37
YBH Yreka Blue Hor 95.47 334 LR LR 16 05 55.4
comp=Z,83nm,18.1s,baz=21,slow=37
NVAR Mina Array Bea 96.65 329 LR LR 16 06 09.7
comp=Z,80nm,18.1s,baz=270,slow=37
TXAR Lajitas Array 96.67 314 P **P 15 20 22.7 +2.2**
comp=Z,0.3nm,0.7s,baz=62,slow=4.3,SNR=2.9
CPUP Villa Florida 97.08 243 LR LR 16 06 18.5
comp=Z,113nm,18.7s,baz=88,slow=37
WRA Warramunga Arr 119.60 94 PKP **PKPdf 15 25 39.7 -0.3**
comp=Z,0.6nm,0.7s,baz=311,slow=1.6,SNR=6.9
ASAR Alice Springs 121.14 98 PKP **PKPdf 15 25 43.0 +0.1**
comp=Z,0.8nm,0.7s,baz=312,slow=1.5,SNR=14
ASAR Alice Springs 121.14 98 PKIKP **PKPdf 15 25 43.0 +0.1**

*ISCJB **16** 15:25:35.8±0.7,32.2°N±0.03°×115.22°W±0.06,h21km±6km, Error ellipse: s-maj=8.4km s-min=5.3km az=158.8*
*ECX **16** 15:25:37.0±0.7,32.21°N×115.24°W,h8km,MD2.2,ML2.4*
*MEX **16** 15:25:38.1±0.3,32.28°N×115.22°W,h16km,MD3.5*
ISC 16 15:25:34.8±1.2,32°26N±0.04×115°19W±0.06,h26km±9km, n15,σ0≧45/22,5C-1D,California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
MBIG	**Mexicali**	**0.14**	**355**	*e*P		**Pn**	**15 25 41.2**	**-0.2**
MBIG				*i* S		**Sb**	**15 25 43.6**	**+0.1**
CPBX	**Cerro Prieto**	**0.19**	**327**	*e*P		**Pb**	**15 25 40.4**	**-0.1**
CPBX				*e*S		**Sb**	**15 25 44.5**	**+0.2**
CPBX				IAML			15 25 46.4	
	comp=N,3μm,0.2s							
CPBX				⇑*e*			15 25 46.4	
SGL	**Mount Signal**	**0.60**	**310**	⇑*i*P		**Pn**	**15 25 47.9**	**+0.2**
YUH	**Yuha Desert**	**0.73**	**302**	⇑*i*P		**Pn**	**15 25 49.8**	**+0.3**
ECBX	**El Chinero**	**0.80**	**172**	*e*P		**Pn**	**15 25 50.5**	**+0.1**
ECBX				*e*S		**Sb**	**15 26 00.7**	**+0.3**
ECBX				*e*			15 26 01.9	
RMX	**La Rumorosa**	**0.83**	**294**	‖*e*P		**Pn**	**15 25 50.4**	**-0.6**
RMX				*e*S		**Sb**	**15 26 00.3**	**-1.2**
RMX				⇓*e*			15 26 02.5	
RMX				IAML			15 26 02.5	
	comp=E,168nm,0.1s							
IKP	**In-Ko-Pah, Jac**	**0.87**	**297**	⇑*e*P		**Pn**	**15 25 52.2**	**+0.7**
ZAX	**El Zacaton**	**1.19**	**231**	*e*S		**Sb**	**15 26 11.4**	**-0.3**
SPIG	**San Pedro Mart**	**1.24**	**191**	*e*P		**Pb**	**15 25 57.5**	**-0.2**
SPIG	**San Pedro Mart**	**1.24**	**191**	*e*P		**Pb**	**15 25 57.2**	**-0.5**
SPIG				*e*S		**Sn**	**15 26 13.2**	**+0.4**
SPX	**San Pedro Mart**	**1.24**	**191**	*e*P		**Pb**	**15 25 57.4**	**-0.3**
CBX	**Cerro Bola**	**1.25**	**273**	*e*P		**Pb**	**15 25 57.7**	**-0.2**
CBX				*e*S		**Sb**	**15 26 14.0**	**+0.3**
CBX				IAML			15 26 15.4	
	comp=E,60nm,0.2s							
CBX				*e*			15 26 15.4	
BAR	**Barrett**	**1.32**	**289**	*e*P		**Pb**	**15 25 59.3**	**+0.3**
ECNX	**Esteban Cantu**	**1.34**	**244**	*e*P		**Pb**	**15 25 59.3**	**-0.1**
ECNX				*e*S		**Sb**	**15 26 16.5**	**+0.2**
SDRC	**San Diego Road**	**1.56**	**288**	*e*P		**Pb**	**15 26 03.0**	**0.0**

*IDC **16** 15:33:23.3±1.2,8.87°N×93.69°E,h0km,mb3.6/8,mb1 3.7/9, mb1mx3.5/69,mbtmp3.6/9,ML3.8/1,Error ellipse: s-maj=51.5km s-min=18.8km az=55.0*
*ISCJB **16** 15:33:25.4±0.9,8.9°N±0.1×93.9°E±0.2,h23km,mb3.5/8, Error ellipse: s-maj=26.0km s-min=12.6km az=144.9*
ISC 16 15:33:27.0±1.2,8°38N±0.2×93°38E±0.2,h23km,n17, σ0≧88/17,mb3.4/8,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**10.81**	**27**	Pn		**Pn**	**15 36 00.5**	**0.0**
	0.2nm,0.3s,baz=210,slow=15,SNR=7.2							
RAMN	**Ramite**	**19.25**	**340**	*e*P		**Pn**	**15 37 51.8**	**+0.5**
	32nm,0.5s							
JIRN	**Jiri**	**20.05**	**340**	*e*P		**P**	**15 37 59.8**	**+0.7**
PKIN	**Phulchoki**	**20.25**	**338**	*e*P		**P**	**15 38 02.3**	**+1.1**
	13nm,0.6s							
GUN	**Gumba**	**20.38**	**340**	*e*P		**P**	**15 38 03.2**	**+0.5**
DMN	**Daman**	**20.39**	**337**	*e*P		**P**	**15 38 03.3**	**+0.6**
	6.3nm,0.6s							
GKN	**Gorkha**	**20.92**	**337**	*e*P		**P**	**15 38 08.7**	**+0.4**
	9.5nm,0.4s							
KOLN	**Koldanda**	**21.14**	**334**	*e*P		**P**	**15 38 11.7**	**+1.0**
	8.8nm,0.6s							
PYUN	**Piuthan**	**21.69**	**333**	*e*P		**P**	**15 38 17.4**	**+0.7**
MKAR	**Makanchi Array**	**39.08**	**347**	P		**P**	**15 40 51.7**	**-0.7**
	0.6nm,0.7s,baz=162,slow=8.4,SNR=6.0							
GEYT	**Alibeck**	**43.24**	**318**	P		**P**	**15 41 27.8**	**+1.0**
	1.4nm,0.7s,baz=171,slow=10,SNR=3.6							
KURBB	**Kurchatov Arra**	**43.53**	**346**	P		**P**	**15 41 28.0**	**-0.8**
	0.4nm,0.7s,baz=168,slow=6.8,SNR=3.7							
ZALV	**Zalesovo Beam**	**45.56**	**353**	P		**P**	**15 41 44.2**	**-0.8**
	2.2nm,0.4s,baz=177,slow=8.9,SNR=12							
BVAR	**Borovoye Array**	**47.97**	**341**	P		**P**	**15 42 02.5**	**-1.3**
	0.3nm,0.5s,baz=131,slow=7.5,SNR=3.7							
WRA	**Warramunga Arr**	**49.12**	**126**	P		**P**	**15 42 13.6**	**+0.4**
	0.2nm,0.6s,baz=306,slow=8.5,SNR=3.3							
ASAR	**Alice Springs**	**50.81**	**130**	P		**P**	**15 42 26.5**	**+0.4**
	0.2nm,0.8s,baz=305,slow=7.4,SNR=4.1							
GERES	**GERESS Array B**	**76.87**	**318**	P		**P**	**15 45 16.2**	**-1.3**
	0.1nm,0.3s,baz=94,slow=6.2,SNR=3.4							

*ISCJB **16** 15:42:43.4±1.1,1.4°N±0.2×91.7°E±0.2,h10km,mb3.8/7, Error ellipse: s-maj=33.6km s-min=12.6km az=44.0*
*IDC **16** 15:42:43.2±1.8,1.27°N×91.58°E,h0km,mb3.8/6,mb1 4.0/6, mb1mx3.5/63,mbtmp3.8/6,Error ellipse: s-maj=73.2km s-min=20.9km az=53.0*
*NEIC **16** 15:42:44.9±0.7,1.38°N×91.69°E,h10km,mb4.3/1,Error ellipse: s-maj=25.0km s-min=9.3km az=224.0*
ISC 16 15:42:44.9±1.5,1°4N±0.3×91°7E±0.2,h10km,n17, σ0≧57/11,mb3.8/7,North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
GSI	**Gunungsitoli**	**5.89**	**91**	*e*Pn		**Pn**	**15 44 12.1**	**-0.3**
H08S2	**Diego Garcia H**	**21.13**	**245**	T		T	16 09 16.8	
	baz=65,slow=75,SNR=8.0							
H08S3	**Diego Garcia H**	**21.13**	**245**	T		T	16 09 17.9	
	baz=65,slow=75,SNR=10							
H08S1	**Diego Garcia H**	**21.15**	**245**	T		T	16 09 20.6	
	baz=65,slow=75,SNR=10							
FITZ	**Fitzroy Crossi**	**38.61**	**122**	P		**P**	**15 50 08.6**	**-0.1**
	1.4nm,1.1s,baz=270,slow=20							
H01W3	**Cape Leeuwin H**	**41.74**	**152**	T		T	16 34 51.7	
	baz=326,slow=75,SNR=5.3							
H01W2	**Cape Leeuwin H**	**41.76**	**152**	T		T	16 34 56.1	
	baz=326,slow=75,SNR=4.2							
H01W1	**Cape Leeuwin H**	**41.76**	**152**	T		T	16 34 56.4	
	baz=326,slow=75,SNR=4.4							
KKAR	**Karatay Array**	**45.66**	**338**	P		**P**	**15 51 06.1**	**+0.2**
MKAR	**Makanchi Array**	**45.98**	**351**	P		**P**	**15 51 08.5**	**+0.1**
	0.4nm,0.7s,baz=172,slow=9.7,SNR=5.3							
WRA	**Warramunga Arr**	**46.87**	**119**	P		**P**	**15 51 16.1**	**+0.3**
	2.0nm,0.7s,baz=296,slow=8.6,SNR=17							
WRAB	**Tennant Creek**	**46.87**	**119**	*e*P		**P**	**15 51 16.1**	**+0.3**
	1.7nm,0.7s							
ASAR	**Alice Springs**	**47.98**	**124**	P		**P**	**15 51 24.4**	**0.0**
	0.7nm,1.0s,baz=304,slow=8.4,SNR=4.9							
SONM	**Songino Array**	**48.01**	**13**	P		**P**	**15 51 25.1**	**+0.7**
	0.9nm,0.5s,baz=194,slow=7.9,SNR=8.4							
KURK	**Kurchatov**	**50.41**	**349**	*e*P		**P**	**15 51 41.2**	**-1.2**
GERES	**GERESS Array B**	**81.07**	**319**	P		**P**	**15 55 00.6**	**0.0**
	0.8nm,0.8s,baz=70,slow=6.0,SNR=4.0							
TXAR	**Lajitas Array**	**146.12**	**25**	PKPbc		**PKPbc**	**16 02 25.8**	**-0.4**
	0.4nm,0.5s,baz=240,slow=2.5,SNR=5.9							

*IDC **16** 15:51:26.6±2.5,2.60°N×90.18°E,h0km,mb3.6/5,mb1 3.6/6, mb1mx3.3/65,mbtmp3.5/6,ML3.2/1,Error ellipse: s-maj=85.5km s-min=28.8km az=60.0*
*ISCJB **16** 15:51:29.9±1.8,2.7°N±0.2×90.3°E±0.3,h33km,mb3.6/5, Error ellipse: s-maj=44.3km s-min=23.7km az=154.6*
ISC 16 15:51:32.4±2.1,2.7°N±0.2×90.4°E±0.4,h35km,n10,σ1≧20/7, mb3.7/5,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**17.77**	**28**	Pn		**P**	**15 55 36.9**	**-0.8**
	0.0nm,0.3s,baz=228,slow=13,SNR=3.5							
H08S3	**Diego Garcia H**	**20.58**	**240**	T		T	16 16 56.3	
	baz=60,slow=75,SNR=8.3							
H08S2	**Diego Garcia H**	**20.58**	**240**	T		T	16 16 55.0	
	baz=60,slow=75,SNR=15							
H08S1	**Diego Garcia H**	**20.60**	**240**	T		T	16 16 57.6	
	baz=60,slow=75,SNR=6.9							
MKAR	**Makanchi Array**	**44.47**	**352**	P		**P**	**15 59 38.5**	**-1.7**
	0.3nm,0.6s,baz=153,slow=8.2,SNR=3.7							
SONM	**Songino Array**	**47.04**	**15**	P		**P**	**16 00 02.0**	**+1.4**
	1.2nm,0.6s,baz=200,slow=10,SNR=5.4							
WRA	**Warramunga Arr**	**48.68**	**120**	P		**P**	**16 00 13.5**	**-0.1**
	0.6nm,0.7s,baz=297,slow=8.7,SNR=6.0							
KURBB	**Kurchatov Arra**	**48.78**	**350**	P		**P**	**16 00 14.2**	**+0.3**
	0.2nm,0.4s,baz=172,slow=6.2,SNR=3.7							
ZALV	**Zalesovo Beam**	**51.28**	**356**	P		**P**	**16 00 33.1**	**+0.3**
	0.3nm,0.3s,baz=193,slow=5.9,SNR=2.7							
TXAR	**Lajitas Array**	**145.42**	**22**	PKPbc		**PKPdf**	**16 11 07.4**	**-0.2**
	0.5nm,0.5s,baz=327,slow=1.8,SNR=5.5							

*IDC **16** 15:58:51.4±0.7,3.56°N×128.83E,h0km,mb4.1/14, mb1 4.2/14,mb1mx3.8/65,mbtmp4.1/14,MS4.1/1, Ms1 4.1/1,ms1mx2.7/48,Error ellipse: s-maj=35.8km s-min=12.2km az=77.0*
*ISCJB **16** 15:58:54.4±0.5,3.64°N±0.05×128.98E±0.08,h33km, mb4.1/17,MS4.2/1,Error ellipse: s-maj=11.2km s-min=6.7km az=5.2*
*DJA **16** 15:58:58.4±1.3,3°N±8°×12°9E±1°0,h10km,M4.5/7, mB4.7/2,mb4.8/4,MLv4.4/7,Mw(mB)3.9/2*
*NEIC **16** 15:58:58.8±1.4,3.52°N×128.86E,h56km±13km,mb4.1/4, Error ellipse: s-maj=15.0km s-min=8.5km az=69.0*
ISC 16 15:58:56.9±0.7,3°57N±0.08×129°0E±0.1,h35km,n31, σ1≧15/29,mb4.1/17,North of Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
TNTI	**Ternate**	**3.21**	**210**	*e*Pn		**Pn**	**15 59 45.0**	**+0.2**
LBMI	**Labuha**	**4.43**	**199**	P		**Pn**	**16 00 02.8**	**+1.1**
KMSI	**Cibinong**	**5.80**	**239**	P		**Pn**	**16 00 21.6**	**+1.1**
SANI	**Sanana**	**6.33**	**208**	P		**Pn**	**16 00 28.0**	**+0.3**
FAKI	**Fak Fak**	**7.24**	**153**	*e*Pn		**Pn**	**16 00 41.7**	**+1.5**
MRSI	**Marisa**	**7.66**	**247**	P		**Pn**	**16 00 46.5**	**+0.4**
LUWI	**Luwuk**	**7.70**	**234**	*e*Pn		**Pn**	**16 00 48.0**	**+1.4**
	23nm,0.6s							
APSI	**Ampana**	**8.56**	**239**	P		**Pn**	**16 01 01.5**	**+3.1**
MPSI	**Mapaga**	**9.61**	**251**	P		Pn	16 01 20.3	+7.5
GUMO	**Guam**	**18.60**	**57**	LR		LR	16 08 32.7	
	comp=Z,55nm,20.2s,baz=234,slow=31							
FITZ	**Fitzroy Crossi**	**21.78**	**189**	P		**P**	**16 03 44.7**	**-1.1**
	3.0nm,0.4s,baz=28,slow=15,SNR=21							
WRAB	**Tennant Creek**	**23.95**	**167**	*e*P		**P**	**16 04 08.6**	**+0.5**
	6.7nm,0.4s							
WRA	**Warramunga Arr**	**23.96**	**167**	P		**P**	**16 04 08.0**	**-0.1**
	5.7nm,0.4s,baz=347,slow=10,SNR=64							
ASAR	**Alice Springs**	**27.50**	**170**	P		**P**	**16 04 39.9**	**-0.4**
	1.0nm,0.5s,baz=351,slow=8.1,SNR=21							
ASAR				PcP		**PcP**	**16 07 58.7**	**+0.6**
	0.8nm,0.6s,baz=353,slow=2.2,SNR=10.0							
CMAR	**Chiang Mai Arr**	**32.89**	**299**	P		**P**	**16 05 27.9**	**-0.1**
	0.3nm,0.5s,baz=98,slow=6.5,SNR=6.5							
KSAR	**Wonju Array Be**	**33.72**	**358**	P		**P**	**16 05 35.1**	**+0.1**
KSRS	**Korea Array**	**33.73**	**359**	P		**P**	**16 05 35.1**	**0.0**
	0.5nm,0.6s,baz=182,slow=9.7,SNR=3.2							
MJAR	**Matsushiro Arr**	**33.90**	**13**	P		**P**	**16 05 36.4**	**-0.2**
	1.7nm,0.9s,baz=193,slow=9.9,SNR=5.3							
STKA	**Stephens Creek**	**37.24**	**162**	P		**P**	**16 06 05.0**	**-0.3**
	7.4nm,0.7s,baz=334,slow=9.3,SNR=26							
NWAO	**Narrogin (SRO)**	**37.96**	**196**	P		**P**	**16 06 10.1**	**-1.2**
	5.5nm,0.9s,baz=250,slow=12,SNR=4.6							
MKAR	**Makanchi Array**	**58.97**	**324**	P		**P**	**16 08 52.5**	**-0.5**
	1.5nm,0.4s,baz=113,slow=7.4,SNR=29							
ZALV	**Zalesovo Beam**	**61.75**	**332**	P		**P**	**16 09 10.2**	**-1.6**
	0.6nm,0.5s,baz=116,slow=5.1,SNR=2.7							
KURK	**Kurchatov**	**63.08**	**327**	P		**P**	**16 09 19.9**	**-0.8**
KURBB	**Kurchatov Arra**	**63.09**	**327**	P		**P**	**16 09 19.9**	**-0.8**
	2.0nm,0.6s,baz=126,slow=6.2,SNR=15							
TIXI	**Tiksi**	**67.99**	**360**	P		**P**	**16 09 52.3**	**+0.3**
	1.3nm,0.6s,baz=170,slow=6.7,SNR=5.5							
TIXI	**Tiksi**	**67.99**	**360**	*e*P		**P**	**16 09 52.2**	**+0.1**
	0.9nm,0.6s							
BVAR	**Borovoye Array**	**68.68**	**326**	P		**P**	**16 09 55.8**	**-1.0**
	1.3nm,0.7s,baz=126,slow=7.5,SNR=10							
ABKAR	**Akbulak array**	**73.69**	**320**	*e*P		**P**	**16 10 25.6**	**-1.5**
	0.7nm,0.7s							
AKTO	**Aktyubinsk**	**75.17**	**321**	P		**P**	**16 10 35.0**	**-0.8**
	0.9nm,0.5s,baz=135,slow=8.6,SNR=4.2							
COLD	**Coldfoot**	**83.17**	**23**	*e*P		**P**	**16 11 21.6**	**+2.5**
	1.9nm,0.8s							
ARCES	**ARCESS Array B**	**91.36**	**340**	LR		LR	16 55 53.0	
	comp=Z,91nm,22.0s,baz=120,slow=38							

*IDC **16** 16:02:58.9±1.4,3.70°N×93.03E,h0km,mb3.9/9, mb1 4.0/11,mb1mx3.6/73,mbtmp3.9/11,ML3.8/2,MS4.2/2, Ms1 4.3/2,ms1mx3.1/58,Error ellipse: s-maj=47.7km s-min=18.2km az=52.0*
*ISCJB **16** 16:02:59.9±0.8,3.7°N±0.1×93.07E±0.08,h19km,mb3.9/11, MS4.2/2,Error ellipse: s-maj=17.0km s-min=7.4km az=31.2*
*NEIC **16** 16:03:00.2±0.7,3.69°N×93.01E,h10km,mb4.0/4,Error ellipse: s-maj=13.8km s-min=7.2km az=219.0*
ISC 16 16:03:02.0±1.0,3°8N±0.1×93°1E±0.1,h19km,n24, σ0≧67/20,mb3.9/11,Off west coast of northern Sumatera

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

baz=330,slow=76,SNR=5.0
H01W1 Cape Leeuwin H 43.26 154 T T 16 57 24.8
baz=330,slow=76,SNR=3.7
MKAR Makanchi Array 43.87 349 P **P** **16 11 07.7 +0.6**
1.4nm,0.5s,baz=167,slow=8.9,SNR=13
KKAR Karatay Array 44.00 336 *eP* **P** **16 11 08.5 +0.2**
0.7nm,0.2s
SONM Songino Array 45.37 13 P **P** **16 11 19.6 +0.4**
0.4nm,0.5s,baz=186,slow=9.6,SNR=2.3
WRA Warramunga Arr 46.88 122 P **P** **16 11 31.1 -0.3**
0.7nm,0.9s,baz=297,slow=9.1,SNR=4.1
ASAR Alice Springs 48.22 127 P **P** **16 11 41.6 -0.2**
0.3nm,0.7s,baz=303,slow=8.0,SNR=3.4
KURBB Kurchatov Arra 48.27 348 P **P** **16 11 42.3 +0.6**
1.6nm,0.7s,baz=171,slow=7.1,SNR=14
KURK Kurchatov 48.34 348 *eP* **P** **16 11 42.4 +0.1**
ATD Arta Tunnel 50.32 282 LR LR 16 30 32.6
comp=Z,143nm,18.2s,baz=90,slow=33
ZALV Zalesovo Beam 50.48 354 P **P** **16 11 59.4 +0.9**
1.6nm,0.4s,baz=190,slow=7.0,SNR=8.8
BVAR Borovoye Array 52.55 343 P **P** **16 12 13.7 -0.3**
0.6nm,0.7s,baz=140,slow=11,SNR=4.5
ABKAR Akbulak array 53.36 333 *eP* **P** **16 12 19.5 -0.6**
1.3nm,0.9s
TIXI Tiksi 71.44 11 P **P** **16 14 20.6 -0.1**
2.0nm,0.5s,baz=222,slow=2.9,SNR=14
TIXI Tiksi 71.44 11 *eP* **P** **16 14 20.0 -0.7**
2.1nm,0.5s
GERES GERESS Array B 80.18 319 P **P** **16 15 11.8 +0.5**
0.7nm,0.8s,baz=67,slow=7.6,SNR=4.3
ILAR Eielson Array 98.92 22 LR LR 17 04 26.4
comp=Z,136nm,18.4s,baz=306,slow=37

ISCJB ***16*** *16:05:49.5±1.5,21.0°S±0.5°×179.2°W±0.2°, h619km, mb4.0/7, Error ellipse: s-maj=66.7km s-min=21.3km az=162.0*

IDC ***16*** *16:05:53.2±3.2,20.89°S×179.19°W, h661km±39km, mb3.3/7, mb1 3.4/7, mb1mx3.0/51, mbtmp4.4/7, Error ellipse: s-maj=59.4km s-min=20.2km az=160.0*

ISC 16 16:05:50.1±1.5, 20.9°S±0.5°×179.1°W±0.2°, h619km, n8, σ1§46/9, mb4.1/7, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
CTA	**Charters Tower**	**32.42**	**265**	P	**P**		**16 11 32.2**	**+0.7**
	6.1nm,0.4s,baz=90,slow=11,SNR=28							
PMG	**Port Moresby**	**34.42**	**284**	P	**P**		**16 11 48.9**	**+0.6**
	11nm,0.7s,baz=147,slow=10,SNR=4.1							
STKA	**Stephens Creek**	**36.70**	**244**	P	**P**		**16 12 07.3**	**+0.5**
	1.1nm,0.8s,baz=84,slow=11,SNR=4.4							
ASAR	**Alice Springs**	**43.43**	**257**	P	**P**		**16 13 00.4**	**0.0**
ASAR	5.9nm,0.8s,baz=96,slow=7.7,SNR=88			S	**S**		**16 18 44.4**	**-1.2**
	1.2nm,0.9s,baz=94,slow=15,SNR=4.8							
WRA	**Warramunga Arr**	**43.53**	**263**	P	**P**		**16 13 00.8**	**-0.4**
	2.3nm,0.3s,baz=100,slow=8.2,SNR=120							
FITZ	**Fitzroy Crossi**	**51.95**	**263**	P	**P**		**16 14 03.8**	**0.0**
	5.5nm,0.7s,baz=78,slow=4.2,SNR=10							
TXAR	**Lajitas Array**	**88.12**	**58**	P	**P**		**16 17 37.5**	**+0.8**
	0.3nm,0.7s,baz=217,slow=6.8,SNR=3.1							
AKASG	**Malin Array Be**	**142.82**	**330**	PKP	**PKPdf**		**16 24 11.0**	**-3.1**
	1.1nm,0.4s,baz=41,slow=4.5,SNR=16							

BJI ***16*** *16:05:47.2,0.3°S×92.6°E, h6km, mb4.9/72, mB4.9/49, Ms4.9/72, Ms7 4.6/67*

ISCJB ***16*** *16:05:52.7±0.1,0.2°N±0.0°×92.2°E±0.0°,02, h11km, mb5.0/180, MS4.5/59, Error ellipse: s-maj=3.7km s-min=2.6km az=29.9*

IDC ***16*** *16:05:52.4±0.4, 0.18°N×92.24°E, h0km, mb4.8/43, mb1 4.9/47, mb1mx4.7/72, mbtmp4.8/47, ML4.6/4, MS4.3/34, Ms1 4.3/34, ms1mx4.2/50, Error ellipse: s-maj=11.5km s-min=9.8km az=46.0*

GCMT ***16*** *16:05:53.6±0.2, 0.18°N×92.24°E, h12km, MW5.1/109, Moment Tensor Solution. s34,c45; s109,c177; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr 0.63±.10; Mθθ -2.68±.09; Mϕϕ 2.05±.10; Mrθ -1.61±.25; Mθϕ -3.83±.07; Mϕr -3.11±.26; Best double couple: M◎ 5.66900×10^16 NP1:ϕs 198.00000°, δ88.00000°, λ38.00000°. NP2: ϕs 107.00000°, δ52.00000°, λ178.00000°. Principal axes: T 5.1930, Plg27.0000°, Azm69.0000°; N 0.9560, Plg52.0000°, Azm201.0000°; P -6.1460, Plg24.0000°, Azm326.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***16*** *16:05:53.6±0.1, 0.18°N×92.24°E, h10km, mb5.2/64 Error ellipse: s-maj=4.3km s-min=3.1km az=205.0*

MOS ***16*** *16:05:54.5±1.1, 0.23°N×92.28°E, h24km, mb5.3/82, MS4.4/13, Error ellipse: s-maj=6.6km s-min=4.0km az=110.6*

DJA ***16*** *16:05:55.5±0.2, 0°N±2°×92°E±°, h10km, M5.0/54, mb5.2/54, mB5.5/31, MLv5.7/9, Mw(mB)4.9/31*

ISC 16 16:05:54.9±0.7, 0.19°N±0.04°×92.14°E±0.04°, h15km±4km, n610, σ1§62/617, mb5.1/199, MS4.5/61, 30C-24D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
GSI	**Gunungsitoli**	**5.54**	**78**	P	**Pn**		**16 07 14.5**	**-2.4**
GSI	**Gunungsitoli**	**5.54**	**78**	*e*Pn	**Pn**		**16 07 14.2**	**-2.7**
MLSI	**Meulaboh, Aceh**	**5.87**	**46**	P	**Pn**		**16 07 18.2**	**-3.2**
TPTI		**5.88**	**59**	P	**Pn**		**16 07 18.2**	**-3.4**
BSI	**Banda Aceh**	**6.14**	**31**	P	**Pn**		**16 07 22.1**	**-3.0**
PBSI	**Pulau Batu**	**6.14**	**92**	P	**Pn**		**16 07 23.2**	**-1.9**
LHMI	**Lhok Sumawe**	**6.93**	**44**	P	**Pn**		**16 07 35.0**	**-1.0**
LHMI	**Lhok Sumawe**	**6.93**	**44**	*e*Pn	**Pn**		**16 07 34.8**	**-1.1**
SISI	**Saibi**	**7.11**	**102**	P	**Pn**		**16 07 36.3**	**-2.1**
TSI	**Tuntungan**	**7.21**	**63**	P	**Pn**		**16 07 37.8**	**-2.0**
PSI	**Prapat**	**7.26**	**69**	Pn	**Pn**		**16 07 37.6**	**-3.0**
	7.4nm,0.3s,baz=267,slow=6.0,SNR=28							
PSI				LR	LR		16 10 48.7	
	comp=Z,9μm,18.6s,baz=267,slow=42							
PSI	**Prapat**	**7.26**	**69**	*e*Pn	**Pn**		**16 07 37.4**	**-3.2**
PSI	**Prapat**	**7.26**	**69**	P	**Pn**		**16 07 37.6**	**-3.0**
PSI				pmax	pmax			
	comp=Z,7.0nm,0.3s							
PSI				MLR	MLR			
	comp=Z,9μm,18.6s							
MNSI	**Mandailing Nat**	**7.46**	**85**	P	**Pn**		**16 07 41.4**	**-1.8**
PDSI	**Padang**	**8.39**	**98**	P	**Pn**		**16 07 53.3**	**-2.8**
PPSI	**Pulau Pagai**	**8.39**	**111**	P	**Pn**		**16 07 54.4**	**-1.7**
BKNI	**Bangkinang**	**8.90**	**89**	P	Pn		16 08 09.9	+6.9
BKNI	**Bangkinang**	**8.90**	**89**	*e*Pn	**Pn**		**16 08 00.8**	**-2.1**
SDSI	**Sungai Dareh**	**9.35**	**97**	P	**Pn**		**16 08 10.1**	**+0.9**
PKDT	**Phuket**	**9.83**	**39**	P	**Pn**		**16 08 11.7**	**-4.0**
	comp=Z,80nm,0.9s,comp=Z,2μm							
IPM	**Ipoh**	**9.84**	**64**	*e*Pn	**Pn**		**16 08 13.4**	**-2.6**
RGRI	**Rengat**	**10.21**	**93**	P	**Pn**		**16 08 23.7**	**+2.8**
MASI	**Maura Aman, Be**	**10.62**	**108**	P	**Pn**		**16 08 26.8**	**+0.1**
TRTT	**Trang**	**10.69**	**45**	P	**Pn**		**16 08 23.9**	**-3.6**
	comp=Z,57nm,1.0s,comp=Z,439nm							
SKLT	**Songkhla**	**10.93**	**50**	P	**Pn**		**16 08 27.3**	**-3.6**
	comp=Z,227nm,1.0s,comp=Z,2μm							
PBA	**Port Blair**	**11.40**	**3**	*e*P	Pn		16 08 36.1	-1.2
MNAI	**Manna**	**11.71**	**113**	*e*Pn	**Pn**		**16 08 38.9**	**-2.6**
MYKOM	**Kota Tinggi**	**11.81**	**82**	*e*Pn	**Pn**		**16 08 40.1**	**-2.8**
TPRI	**Tanjung Pinang**	**12.40**	**87**	P	**Pn**		**16 08 48.7**	**-2.3**
	comp=Z,105nm,0.8s							
MDSI	**Maura Dua**	**12.89**	**111**	P	**Pn**		**16 08 55.3**	**-2.4**
DGPR	**DIGLIPUR**	**12.92**	**3**	*e*P	**Pn**		**16 08 55.8**	**-2.3**
LWLI	**Liwa**	**12.98**	**114**	P	**Pn**		**16 09 02.2**	**+3.2**
PALK	**Pallekele**	**13.40**	**302**	Pn	**Pn**		**16 09 03.8**	**-0.9**
	comp=Z,6.0nm,0.3s,baz=116,slow=11,SNR=12							
PALK				Sn	Sn		16 11 21.7	-12
	comp=Z,11nm,0.3s,baz=296,slow=12,SNR=5.2							
PALK				LR	LR		16 13 17.4	
	comp=Z,2μm,20.4s,baz=116,slow=33							
PALK	**Pallekele**	**13.40**	**302**	*e*Pn	**Pn**		**16 09 03.5**	**-1.2**
PALK				Sn	Sn		16 11 21.7	-12
PALK	**Pallekele**	**13.40**	**302**	*e*P	**Pn**		**16 09 05.0**	**+0.3**
KLI	**Kotabumi**	**13.66**	**112**	P	P		16 09 26.8	+10
PPBI	**Pangkal Pinang**	**14.19**	**100**	P	P		16 09 28.7	+5.9
PHET	**Kaeng Krachan**	**14.65**	**30**	P	**Pn**		**16 09 20.5**	**-1.3**
	comp=Z,25nm,0.9s,comp=Z,199nm							
NAYO	**Nakonayok**	**16.71**	**33**	P	**P**		**16 09 50.6**	**-0.3**
	comp=Z,71nm,1.1s,comp=Z,1μm							
SRAK	**Srakaew**	**16.87**	**35**	P	**P**		**16 09 53.5**	**+0.9**
LEM	**Lembang**	**16.94**	**115**	Pn	**Pn**		**16 09 49.9**	**-1.9**
	comp=Z,1.8nm,0.3s,baz=165,slow=12,SNR=6.1							
LEM				LR	LR		16 15 59.1	
	comp=Z,1μm,18.9s,baz=277,slow=36							
TRD	**Trivandrum**	**17.23**	**299**	*e*P	**Pn**		**16 09 55.1**	**-0.1**
MDRS	**Chennai**	**17.40**	**318**	*e*P	**Pn**		**16 09 57.1**	**-0.1**
CISI	**Cisompet, Garu**	**17.42**	**117**	P	**Pn**		**16 09 57.8**	**+0.2**
CISI	**Cisompet, Garu**	**17.42**	**117**	*e*Pn	**Pn**		**16 09 55.1**	**-2.6**
	comp=Z,168nm,1.0s							
KSM	**Kuching**	**18.21**	**86**	*e*Pn	**P**		**16 10 07.8**	**+0.4**
	comp=Z,184nm,1.4s							
KPJI	**Karang Pucung**	**18.34**	**114**	P	**P**		**16 10 09.3**	**+0.4**
CHAI	**Chaiyaphum**	**18.39**	**31**	P	**P**		**16 10 08.7**	**-0.7**
	comp=Z,32nm,1.0s,comp=Z,243nm							
PBKT	**Sadao Pong**	**18.45**	**28**	P	**P**		**16 10 07.8**	**-2.3**
	comp=Z,76nm,1.1s,comp=Z,1μm							
PHIT	**Phitsanulok**	**18.75**	**25**	P	**P**		**16 10 13.2**	**-0.2**
	comp=Z,194nm,1.0s,comp=Z,1μm							
CM01	**Chiang Mai Arr**	**19.31**	**20**	*e*P	**P**		**16 10 19.4**	**-0.2**
STKI	**Sintang**	**19.34**	**90**	P	**Pn**		**16 10 20.9**	**-0.1**
CM31	**Chiang Mai Arr**	**19.34**	**20**	*e*P	**P**		**16 10 19.9**	**0.0**
CMAR	**Chiang Mai Arr**	**19.34**	**20**	P	**P**		**16 10 19.5**	**-0.4**
	comp=Z,0.9nm,0.3s,baz=212,slow=12,SNR=103							
VIS	**Vishakhapatnam**	**19.46**	**334**	*i* P	**P**		**16 10 21.4**	**+0.2**
VIS				*i* x	x		16 13 51.4	
CHTO	**Chiang Mai**	**19.67**	**19**	P	**P**		**16 10 23.7**	**+0.2**
	comp=Z,272nm,1.1s,comp=Z,3μm							
CHTO	**Chiang Mai**	**19.67**	**19**	*e*P	**P**		**16 10 23.2**	**-0.2**
	comp=Z,97nm,1.3s							
CHTO	**Chiang Mai**	**19.67**	**19**	P	**P**		**16 10 24.0**	**+0.5**
	SNR=42							
CHTO	**Chiang Mai**	**19.67**	**19**	P	**P**		**16 10 24.0**	**+0.5**
	SNR=42							
CHTO	**Chiang Mai**	**19.67**	**19**	*e*P	**P**		**16 10 23.3**	**-0.2**
CHTO				pmax	pmax			
	comp=Z,97nm,1.3s							
CMMT	**Chiang Mai**	**19.67**	**19**	P	**P**		**16 10 22.6**	**-0.9**
	comp=Z,61nm,1.2s,comp=Z,678nm							
PBKI	**Pangkalan Bun**	**19.73**	**99**	P	**Pn**		**16 10 26.6**	**+0.9**
SBUM	**Sibu**	**20.20**	**83**	*e*P	**P**		**16 10 28.8**	**-0.4**
	comp=Z,84nm,1.1s							
SKNT	**Sakolnakorn**	**20.35**	**34**	P	**P**		**16 10 28.8**	**-2.1**
	comp=Z,34nm,1.0s							
PCJI	**Pacitan**	**20.72**	**114**	P	**P**		**16 10 36.0**	**+1.0**
	comp=Z,80nm,1.2s							
CMAI	**Chiengmai2**	**20.75**	**19**	P	**P**		**16 10 36.6**	**+1.2**
	comp=Z,562nm,1.1s,comp=Z,11μm							
DGAR	**Diego Garcia**	**21.04**	**249**	*i*P	**P**		**16 10 39.7**	**+1.3**
PWJI	**Pagerwojo**	**21.23**	**113**	P	**P**		**16 10 42.5**	**+2.0**
	comp=Z,39nm,0.9s							
HYB	**Hyderabad**	**21.72**	**323**	*i* P	**P**		**16 10 48.0**	**+2.3**
	comp=Z,110nm,1.0s							
HYB				*e*S	**S**		**16 14 44.0**	**-1.9**
HYB	**Hyderabad**	**21.72**	**323**	*e*P	**P**		**16 10 46.0**	**+0.3**
SAIH	**SAIHA**	**22.18**	**2**	*e*P	**P**		**16 10 49.8**	**-0.9**
SAIH				IAmb	IAmb		16 10 56.7	
	comp=Z,51nm,0.9s							
MTKI	**Muara Teweh, K**	**22.78**	**93**	P	**P**		**16 10 58.1**	**+1.0**
	comp=Z,59nm,1.3s,comp=Z,2μm							
BBKI	**Banjar Baru**	**22.98**	**99**	P	P		16 11 09.6	+10
AZL	**Aizawl**	**23.41**	**1**	*e*P	**P**		**16 11 01.8**	**-1.8**
AZL				IAmb	IAmb		16 11 07.2	
	comp=Z,11nm,0.7s							
JAGI	**Jajag, Banyuwa**	**23.56**	**112**	P	**P**		**16 11 07.9**	**+2.9**
	comp=Z,44nm,0.9s							
JAGI	**Jajag, Banyuwa**	**23.56**	**112**	*e*P	**P**		**16 11 04.2**	**-0.9**
	comp=Z,54nm,1.2s							
BOK	**Bokaro**	**24.23**	**346**	*e*P	**P**		**16 11 12.9**	**+1.6**
KBKI	**Kotabaru**	**24.26**	**98**	P	**P**		**16 11 16.0**	**+4.3**
	comp=Z,23nm,1.0s							
NGP	**Nagpur**	**24.44**	**329**	*e*P	**P**		**16 11 13.5**	**+0.2**
NGP				IAmb	IAmb		16 11 18.1	
	comp=Z,23nm,0.6s							
NGP				*ex*	x		16 15 50.4	
IMP	**Imphal**	**24.55**	**4**	*e*P	**P**		**16 11 14.6**	**+0.3**
IMP				IAmb	IAmb		16 11 16.1	
	comp=Z,56nm,0.8s							
KKM	**Kota Kinabalu**	**24.72**	**76**	*e*P	**P**		**16 11 14.8**	**-1.2**
	comp=Z,117nm,1.2s							
BKB	**Balikpapan**	**24.79**	**93**	P	**P**		**16 11 19.6**	**+3.1**
	comp=Z,216nm,1.0s							
SHL	**Shillong**	**25.23**	**359**	*e*P	**P**		**16 11 20.4**	**-0.1**
SHL	**Shillong**	**25.23**	**359**	P	**P**		**16 11 21.1**	**+0.6**
SHL				pmax	pmax			
	comp=Z,111nm,0.9s							
TURI	**Tura**	**25.27**	**356**	*e*P	**P**		**16 11 19.7**	**-0.9**
KOHI	**KOHIMA**	**25.45**	**4**	*e*P	**P**		**16 11 22.1**	**-0.4**
QIZ	**Qiongzhong**	**25.54**	**42**	P	**P**		**16 11 23.5**	**+0.3**
QIZ				S	**S**		**16 15 51.9**	**+1.5**
QIZ				pmax	pmax			
	comp=Z,9.0nm,1.1s							
QIZ				LR	LR			
	comp=Z,980nm,11.4s							
QIZ				LR	LR			
	comp=Z,2μm,16.5s							
QIZ				LR	LR			
	comp=Z,1μm,15.8s							
POO	**Poona**	**25.59**	**316**	*e*P	**P**		**16 11 24.7**	**+1.0**
GUWA	**GUWAHATI**	**25.85**	**359**	*e*P	**P**		**16 11 26.6**	**+0.6**
GUWA				IAmb	IAmb		16 11 29.2	
	comp=Z,78nm,0.9s							
MOKO	**MOKOCHONG**	**26.08**	**5**	*e*P	**P**		**16 11 28.5**	**+0.3**
TEZP	**TEZPUR**	**26.28**	**1**	*e*P	**P**		**16 11 30.6**	**+0.8**
TEZP				IAmb	IAmb		16 11 32.7	
	comp=Z,48nm,0.8s							
JORH	**JORHAT**	**26.47**	**4**	*e*P	**P**		**16 11 31.9**	**+0.4**
MYLDM	**Lahad Datu**	**26.78**	**79**	*e*P	**P**		**16 11 34.4**	**-0.1**
	comp=Z,89nm,1.1s							
KMI	**Kunming**	**26.82**	**22**	P	**P**		**16 11 37.1**	**+2.1**
KMI				pP	pP		16 11 40.4	+0.8
KMI				sP	sP		16 11 41.4	-0.1
KMI				PP	**PnPn**		**16 12 22.0**	**+5.3**
KMI				S	**S**		**16 16 12.3**	**+1.3**
KMI				pmax	pmax			
	comp=Z,120nm,4.5s							
KMI				LR	LR			
	comp=Z,970nm,13.8s							
KMI				LR	LR			
	comp=Z,1μm,13.5s							
KMI				LR	LR			
	comp=Z,710nm,17.1s							
ITAN	**ITANAGAR**	**26.84**	**3**	*e*P	**P**		**16 11 34.8**	**-0.1**
ODAN	**Odare**	**26.90**	**351**	*e*P	**P**		**16 11 36.8**	**+1.1**
	comp=Z,235nm,1.0s							
BHPL	**Bhopal**	**27.01**	**329**	*e*P	**P**		**16 11 37.5**	**+1.0**
RAMN	**Ramite**	**27.13**	**349**	*e*P	**P**		**16 11 39.2**	**+1.4**
	comp=Z,167nm,1.2s							
GTK	**Tadong**	**27.18**	**353**	*e*P	**P**		**16 11 38.6**	**+0.5**
GTK				IAmb	IAmb		16 11 42.3	
	comp=Z,89nm,0.9s							
GTK	**Tadong**	**27.18**	**353**	*e*P	**P**		**16 11 39.5**	**+1.4**
LKP	**Lekhapani**	**27.22**	**7**	*e*P	**P**		**16 11 38.2**	**-0.1**
LKP				IAmb	IAmb		16 11 40.2	
	comp=Z,37nm,0.8s							
ZIRO	**ZIRO**	**27.23**	**3**	*e*P	**P**		**16 11 39.1**	**+0.5**
ZIRO				IAmb	IAmb		16 11 44.2	
	comp=Z,84nm,0.8s							
JIRN	**Jiri**	**27.90**	**349**	*e*P	**P**		**16 11 45.6**	**+0.8**
PKIN	**Phulchoki**	**27.99**	**347**	*e*P	**P**		**16 11 46.7**	**+1.2**
	comp=Z,36nm,0.8s							
DMN	**Daman**	**28.08**	**347**	*e*P	**P**		**16 11 47.3**	**+1.0**
	comp=Z,43nm,0.9s							
GUN	**Gumba**	**28.21**	**348**	*e*P	**P**		**16 11 48.3**	**+0.8**
	comp=Z,89nm,0.9s							
KKN	**Kakani**	**28.22**	**347**	*e*P	**P**		**16 11 48.0**	**+0.5**
	comp=Z,61nm,0.9s							
BNSI	**Bone**	**28.31**	**100**	P	P		16 12 02.1	+14
GKN	**Gorkha**	**28.57**	**346**	*e*P	**P**		**16 11 51.2**	**+0.6**
	comp=Z,79nm,0.9s							
KOLN	**Koldanda**	**28.62**	**344**	*e*P	**P**		**16 11 51.8**	**+0.8**
	comp=Z,54nm,0.9s							
PYUN	**Piuthan**	**29.10**	**343**	*e*P	**P**		**16 11 55.9**	**+0.5**
	comp=Z,138nm,0.9s							
LSA	**Lhasa**	**29.36**	**358**	P	**P**		**16 11 59.6**	**+1.7**
LSA				pmax	pmax			
	comp=Z,15nm,1.0s							
LSA	**Lhasa**	**29.36**	**358**	*e*P	**P**		**16 11 59.2**	**+1.3**
	comp=Z,34nm,0.8s							
LSA	**Lhasa**	**29.36**	**358**	*e*P	**P**		**16 11 59.2**	**+1.3**
LSA				pmax	pmax			
	comp=Z,34nm,0.8s							
APSI	**Ampana**	**29.53**	**92**	P	P		16 12 09.5	+10
GYA	**Guiyang**	**29.62**	**27**	*i*P	**P**		**16 12 00.9**	**+1.0**
GYA				PP	**PnPn**		**16 12 58.8**	**+3.9**
GYA				PcP	**PcP**		**16 15 06.3**	**+1.7**
GYA				S	**S**		**16 16 56.8**	**+1.8**
GYA				SS	**SnSn**		**16 18 31.0**	**+7.1**
GYA				ScS	**ScS**		**16 22 40.5**	**-0.7**
GYA				pmax	pmax			
	comp=Z,20nm,0.7s							
GYA				pmax	pmax			
	comp=Z,120nm,5.4s							
GYA				LR	LR			
	comp=Z,520nm,17.2s							
GYA				LR	LR			
	comp=Z,540nm,17.6s							
GYA				LR	LR			
	comp=Z,560nm,17.8s							
MRSI	**Marisa**	**29.80**	**89**	P	**P**		**16 12 03.6**	**+2.1**
	comp=Z,14nm,1.0s,comp=Z,255nm							
LUWI	**Luwuk**	**30.65**	**92**	P	P		16 12 17.7	+8.7
TGY	**Tagaytay City**	**31.67**	**63**	LR	LR		16 24 31.4	
	comp=Z,391nm,20.8s,baz=254,slow=35							
CD2	**Chengdu**	**32.48**	**19**	P	**P**		**16 12 25.4**	**+0.5**
CD2				pP	pP		16 12 28.4	-1.2
CD2				PP	**PP**		**16 13 39.1**	**+0.6**
CD2				S	**S**		**16 17 42.1**	**+2.7**
CD2				pmax	pmax			
	comp=Z,90nm,0.5s							
CD2				pmax	pmax			
	comp=Z,120nm,4.2s							
CD2				LR	LR			
	comp=Z,910nm,17.4s							
CD2				LR	LR			
	comp=Z,2μm,16.9s							
CD2				LR	LR			
	comp=Z,1μm,14.4s							
BATI	**Baumata**	**33.01**	**109**	P	**P**		**16 12 27.2**	**-2.6**
	comp=Z,18nm,0.6s,baz=247,slow=7.7,SNR=8.1							
BATI				LR	LR		16 28 24.2	
	comp=Z,652nm,19.1s,baz=304,slow=41							
SOEI	**Soe**	**33.46**	**108**	*e*P	**P**		**16 12 31.1**	**-2.8**
	comp=Z,28nm,0.9s							
SMLA	**Simla**	**33.89**	**337**	*e*P	**P**		**16 12 38.2**	**+1.1**
SMLA				IAmb	IAmb		16 12 40.1	
	comp=Z,44nm,0.7s							
DAV	**Davao City (W)**	**34.04**	**78**	LR	LR		16 26 28.4	
	comp=Z,460nm,21.3s,baz=232,slow=36							
ENH	**Enshi**	**34.16**	**27**	*e*P	**P**		**16 12 37.9**	**-1.7**
	comp=Z,55nm,0.9s							
MBWA	**Marble Bar**	**34.30**	**130**	*e*P	**P**		**16 12 39.7**	**-1.2**
	comp=Z,13nm,1.1s							
DHRM	**DHARAMSHALA**	**35.22**	**336**	*e*P	**P**		**16 12 48.9**	**-0.1**
DHRM				IAmb	IAmb		16 12 51.9	
	comp=Z,34nm,0.5s							
LBMI	**Labuha**	**35.37**	**91**	P	**P**		**16 12 54.1**	**+3.8**
	comp=Z,47nm,1.5s,comp=Z,627nm							
QZH	**Quanzhou**	**35.49**	**44**	*e*P	**P**		**16 12 52.1**	**+0.9**
QZH				S	S		16 18 35.9	+10
QZH				LR	LR			
	comp=Z,870nm,11.4s							
QZH				LR	LR			
	comp=Z,1μm,11.8s							
QZH				LR	LR			
	comp=Z,1μm,11.8s							
SSLB	**Suanglung**	**36.49**	**48**	*e*P	**P**		**16 13 00.7**	**+0.9**
	comp=Z,32nm,1.0s							
WHN	**Wuhan**	**36.83**	**33**	P	**P**		**16 13 03.3**	**+0.8**
WHN				S	**S**		**16 18 48.3**	**+1.9**
WHN				LR	LR			
	comp=Z,2μm,12.5s							
WHN				LR	LR			
	comp=Z,610nm,10.6s							
WHN				LR	LR			
	comp=Z,3μm,16.6s							
MEEK	**Meekatharra**	**36.90**	**138**	P	**P**		**16 13 03.5**	**+0.3**
	baz=37,SNR=17							
XAN	**Xi'an**	**37.16**	**23**	P	**P**		**16 13 04.8**	**-0.6**
XAN				pP	sP		16 13 12.9	+0.9
XAN				PP	**PnPn**		**16 14 35.8**	**+5.1**
XAN				PcP	**PcP**		**16 15 25.3**	**-0.2**
XAN				S	**S**		**16 18 47.9**	**-3.7**
XAN				sS	sS		16 19 02.8	+3.4
XAN				ScS	**ScS**		**16 23 15.8**	**-4.1**
XAN				pmax	pmax			
	comp=Z,77nm,1.0s							
XAN				pmax	pmax			
	comp=Z,110nm,3.2s							
XAN				LR	LR			
	comp=Z,890nm,13.3s							
XAN				LR	LR			
	comp=Z,650nm,12.7s							
XAN				LR	LR			
	comp=Z,1μm,14.1s							
LZH	**Lanzhou**	**37.33**	**16**	*e*P	**P**		**16 13 07.5**	**+0.6**
LZH				pP	sP		16 13 13.0	-0.5
LZH				sP	pP		16 13 15.3	+3.7
LZH				PP	**PnPn**		**16 14 37.3**	**+4.5**
LZH				S	**S**		**16 18 50.1**	**-4.2**
LZH				SS	**SnSn**		**16 21 31.4**	**+0.5**
LZH				pmax	pmax			
	comp=Z,52nm,1.3s							
LZH				pmax	pmax			
	comp=Z,240nm,4.3s							
LZH				LR	LR			
	comp=Z,1μm,14.8s							
LZH				LR	LR			
	comp=Z,2μm,14.1s							
LZH				LR	LR			
	comp=Z,2μm,15.0s							
FITZ	**Fitzroy Crossi**	**37.62**	**121**	P	**P**		**16 13 08.3**	**-1.1**
	comp=Z,17nm,0.9s,baz=282,slow=6.3,SNR=32							
FITZ	**Fitzroy Crossi**	**37.62**	**121**	P	**P**		**16 13 08.3**	**-1.1**
	baz=38							
NIL	**Nilore**	**37.72**	**334**	*e*P	**P**		**16 13 10.2**	**+0.1**

WRKA Warakurna 43.03 128 P **P** 16 13 54.3 0.0
baz=43,SNR=19
SFK Sufi-Kurgan 43.12 339 P **P** 16 13 54.9 -0.1
SFK pmax pmax
comp=Z,14nm,0.9s
BTO Baotou 43.38 20 *e*P **P** 16 13 57.3 +0.4
WMQ Urumqi 43.62 355 P **P** 16 14 00.1 +1.4
WMQ pP pP 16 14 03.8 +0.3
WMQ sP sP 16 14 07.1 +1.7
WMQ PcS **PcS** 16 19 39.6 +0.8
WMQ S **S** 16 20 29.1 +1.3
WMQ SS **SS** 16 23 36.5 -6.6
WMQ pmax pmax
comp=Z,31nm,1.3s
WMQ pmax pmax
comp=Z,290nm,5.3s
WMQ LR LR
comp=Z,1μm,25.3s
WMQ LR LR
comp=Z,690nm,21.1s
WMQ LR LR
comp=Z,1μm,25.3s
JOW Kunigami 43.68 50 LR LR 16 33 19.5
comp=Z,334nm,19.1s,baz=246,slow=38
BAKI Biak 43.98 92 P P 16 14 16.3 +14
HHC Hu-ho-hao-te 44.14 21 *e*P **P** 16 14 04.3 +1.3
HHC PP **PcP** 16 15 48.8 +0.8
HHC S **S** 16 20 36.6 +1.0
HHC SS **SS** 16 23 46.3 -7.2
HHC pmax pmax
comp=Z,37nm,1.0s
HHC pmax pmax
comp=Z,93nm,5.3s
HHC LR LR
comp=Z,450nm,14.8s
HHC LR LR
comp=Z,890nm,14.8s
HHC LR LR
comp=Z,800nm,14.3s
ULHL Ulahol 44.25 343 P **P** 16 14 04.5 +0.5
SNR=13
KZA Kyzart 44.39 342 P **P** 16 14 07.8 +2.4
SNR=12
PDGK Podgornoye 44.41 347 P **P** 16 14 05.2 0.0
PDGK pmax pmax
comp=Z,35nm,1.0s
UCH Uchtor 44.76 341 P **P** 16 14 08.7 +0.4
SNR=20
AML Almayashu 44.94 341 P **P** 16 14 10.3 +0.5
SNR=26
KBK Karagaybulak 45.01 342 P **P** 16 14 12.5 +2.5
SNR=14
TKM2 Tokmak 2 45.05 343 P **P** 16 14 10.6 +0.2
SNR=19
TKM2 Tokmak 2 45.05 343 P **P** 16 14 10.1 -0.3
TKM2 pmax pmax
comp=Z,21nm,1.1s
AAK Ala-Archa 45.13 342 P **P** 16 14 13.1 +2.1
SNR=5.9
AAK Ala-Archa 45.13 342 P **P** 16 14 13.1 +2.1
SNR=5.9
AAK Ala-Archa 45.13 342⇓ *e*P **P** 16 14 13.1 +2.1
AAK pmax pmax
comp=Z,12nm,1.2s
FRU Bishkek 45.27 342 *e*P **P** 16 14 12.0 +0.1
FRU *e* 16 15 50.0
BJT Baijiatuau 45.29 26 *e*P **P** 16 14 12.2 +0.2
comp=Z,117nm,1.2s
BJT Baijiatuau 45.29 26 *e*P **P** 16 14 12.2 +0.2
BJT pmax pmax
comp=Z,117nm,1.2s
BJI Beijing 45.31 26⇓ *e*P **P** 16 14 13.6 +1.4
BJI S **S** 16 20 55.9 +3.7
BJI pmax pmax
comp=Z,100nm,1.1s
BJI LR LR
comp=Z,800nm,21.2s
BJI LR LR
comp=Z,1μm,30.3s
EKS2 Erkin-Say 45.39 341 P **P** 16 14 13.6 +0.7
SNR=16
MNAS Manas 45.66 340 P **P** 16 14 16.4 +1.3
MNAS pmax pmax
comp=Z,10.0nm,1.2s
USP Ospenovka 45.70 342 P **P** 16 14 15.5 +0.2
SNR=17
WRA Warramunga Arr 45.91 118 P **P** 16 14 16.3 -1.0
comp=Z,25nm,0.9s,baz=296,slow=8.5,SNR=64
WRAB Tennant Creek 45.91 118 *e*P **P** 16 14 16.1 -1.3
comp=Z,28nm,0.8s
WRAB Tennant Creek 45.91 118 *d i*P **P** 16 14 16.2 -1.2
WRAB pmax pmax
comp=Z,33nm,1.0s
WB2 Warramunga Arr 45.92 118 *e*P **P** 16 14 15.6 -1.8
comp=Z,31nm,0.8s
FORT Forrest 45.95 135 P **P** 16 14 17.8 +0.4
baz=46
FORT Forrest 45.95 135 *e*P **P** 16 14 17.5 +0.1
comp=Z,460nm,1.0s
KK31 Karatay Array 46.91 338 *e*P **P** 16 14 24.2 -0.6
KK31 Karatay Array 46.91 338 *i*P **P** 16 14 24.7 -0.1
KK31 pmax pmax
comp=Z,9.0nm,0.8s
KKAR Karatay Array 46.91 338 *e*P **P** 16 14 24.1 -0.7
KKAR Karatay Array 46.91 338 *e*P **P** 16 14 24.1 -0.7
AS31 Alice Springs 46.95 123 *e*P **P** 16 14 24.4 -1.2
comp=Z,2.1nm,0.9s
ASAR Alice Springs 46.95 123 P **P** 16 14 24.6 -0.9
comp=Z,6.7nm,1.0s,baz=297,slow=6.8,SNR=28
ASAR PcP **PcP** 16 15 57.8 -0.3
comp=Z,2.3nm,0.8s,baz=302,slow=4.3,SNR=4.6
AS01 Alice Springs 46.99 123 *e*P **P** 16 14 24.0 -1.8
DL2 Dalian 47.06 32 P **P** 16 14 26.8 +0.8
DL2 S **S** 16 21 22.9 +5.5
DL2 pmax pmax
comp=Z,21nm,0.9s
DL2 LR LR
comp=Z,260nm,21.6s
DL2 LR LR
comp=Z,440nm,19.6s
DL2 LR LR
comp=Z,650nm,17.7s
MK01 Makanchi Array 47.18 351 *e*P **P** 16 14 26.1 -0.7
MK31 Makanchi Array 47.20 351 *e*P **P** 16 14 26.4 -0.7
MK31 Makanchi Array 47.20 351 *i*P **P** 16 14 26.6 -0.5
MK31 pmax pmax
comp=Z,39nm,1.0s
MKAR Makanchi Array 47.20 351 P **P** 16 14 26.8 -0.3
comp=Z,28nm,0.9s,baz=165,slow=7.8,SNR=110
MKAR Makanchi Array 47.20 351 *e*P **P** 16 14 26.4 -0.6
comp=Z,157nm,0.9s
MAKZ Makanchi 47.27 351 *e*P **P** 16 14 27.0 -0.6
comp=Z,17nm,1.0s
MAKZ Makanchi 47.27 351 *e*P **P** 16 14 27.0 -0.6
MAKZ pmax pmax
comp=Z,17nm,1.0s
OPO Ambohidratompo 47.92 245 P **P** 16 14 34.2 +1.0
comp=Z,12nm,0.8s,baz=54,slow=6.5,SNR=12
ABPO Ambohimpanom 48.02 244 *e*P **P** 16 14 34.4 +0.4
comp=Z,23nm,0.9s
ABPO Ambohimpanom 48.02 244 *e*P **P** 16 14 34.4 +0.4
ABPO pmax pmax
comp=Z,23nm,0.9s
GENI Genyem 48.09 94 P P 16 14 40.9 +6.4
comp=Z,38nm,1.0s
TJN Taejon 48.60 38⇓ *i*P **P** 16 14 37.1 -0.9
JAY Jayapura 48.62 94 P P 16 14 46.9 +8.3
GEYT Alibeck 48.90 324 P **P** 16 14 39.8 -0.5
comp=Z,6.9nm,0.9s,baz=157,slow=8.0,SNR=14
GEYT LR LR 16 36 00.2
comp=Z,413nm,21.3s,baz=145,slow=37
GYA0B ALIBECK ARRAY 48.90 324 *e*P **P** 16 14 41.2 +0.8
comp=Z,14nm,0.9s
JNU Nakatsue 48.97 44 LR LR 16 38 05.7
comp=Z,435nm,18.4s,baz=250,slow=40
SONM Songino Array 49.04 13 P **P** 16 14 42.2 +0.8
comp=Z,42nm,0.9s,baz=194,slow=8.6,SNR=116
SONM LR LR 16 37 20.8
comp=Z,336nm,19.1s,baz=212,slow=38
SONA1 Songino Array 49.06 13 *e*P **P** 16 14 41.7 +0.2
ULN Ulaanbaatar 49.22 13 *e*P **P** 16 14 42.9 +0.1
comp=Z,27nm,1.2s
ULN Ulaanbaatar 49.22 13 P **P** 16 14 44.2 +1.4
SNR=15
ULN Ulaanbaatar 49.22 13 P **P** 16 14 44.2 +1.4
SNR=15

ULN Ulaanbaatar 49.22 13 *d i*P **P** 16 14 43.4 +0.6
ULN pmax pmax
comp=Z,21nm,1.0s
DGZ Jazzator, Alta 49.48 356 *i* P **P** 16 14 45.1 +0.4
DGZ pmax pmax
comp=Z,8.0nm,0.9s
KS15 Wonju Array Si 49.60 38 *e*P **P** 16 14 45.7 0.0
KSAR Wonju Array Be 49.60 38 P **P** 16 14 45.6 -0.1
KSAR Wonju Array Be 49.60 38 P **P** 16 14 45.6 -0.1
KS01 Wonju Array Si 49.63 38 *e*P **P** 16 14 45.3 -0.6
KSRS Korea Array 49.64 38 P **P** 16 14 45.6 -0.3
comp=Z,9.6nm,1.0s,baz=232,slow=8.3,SNR=29
KSRS LR LR 16 36 51.0
comp=Z,316nm,19.4s,baz=236,slow=38
SNY Shenyang 50.22 30 ⇓P **P** 16 14 50.3 +0.1
SNY pmax pmax
comp=Z,26nm,0.9s
SNY LR LR
comp=Z,660nm,15.3s
SNY LR LR
comp=Z,350nm,15.3s
SNY LR LR
comp=Z,580nm,22.1s
HVS Khovu-Aksy 50.77 1 *de*P **P** 16 14 55.0 +0.6
HVS pmax pmax
comp=Z,116nm,1.0s
QIS Mount Isa 50.78 117 P **P** 16 14 53.5 -1.4
baz=51,SNR=3.5
RAYN Ar Rayn 50.84 301 *e*P **P** 16 14 55.9 +0.5
comp=Z,11nm,0.9s
RAYN Ar Rayn 50.84 301⇑ *e*P **P** 16 14 56.6 +1.2
RAYN pmax pmax
comp=Z,6.0nm,0.8s
OTUK Ortayu 50.85 343 P **P** 16 14 54.4 -0.6
OTUK pmax pmax
comp=Z,66nm,1.0s
ZAK Zakamensk 50.90 9 *e*P **P** 16 14 55.7 +0.3
ZAK pmax pmax
comp=Z,9.0nm,1.0s
KURBB Kurchatov Arra 51.56 349 P **P** 16 14 59.6 -0.6
comp=Z,34nm,0.9s,baz=170,slow=7.1,SNR=110
KURK Kurchatov 51.63 349 *e*P **P** 16 15 00.2 -0.6
comp=Z,50nm,0.9s
KURK Kurchatov 51.63 349 P **P** 16 15 02.4 +1.7
SNR=21
KURK Kurchatov 51.63 349 P **P** 16 15 02.4 +1.7
SNR=21
KURK Kurchatov 51.63 349 *ce*P **P** 16 15 00.0 -0.8
KURK pmax pmax
comp=Z,56nm,1.0s
MOY Mondy 51.83 7 *e*P **P** 16 15 03.8 +1.4
MOY pmax pmax
comp=Z,22nm,3.0s
TLY Talaya 52.21 9 P **P** 16 15 05.8 +0.6
comp=Z,9.4nm,0.9s,baz=212,slow=9.5,SNR=26
TLY Talaya 52.21 9 *e*P **P** 16 15 04.2 -0.9
comp=Z,11nm,0.9s
TLY Talaya 52.21 9 P **P** 16 15 07.5 +2.3
SNR=11
TLY Talaya 52.21 9 P **P** 16 15 07.5 +2.3
SNR=11
TLY Talaya 52.21 9 *e*P **P** 16 15 05.7 +0.6
TLY pmax pmax
comp=Z,15nm,1.1s
TLY MLR MLR
comp=Z,264nm,19.0s
CN2 Changchun 52.59 30 *e*P **P** 16 15 08.5 +0.4
CN2 *es*P sP 16 15 15.5 +0.7
CN2 *e*S **S** 16 22 34.6 -0.1
CN2 pmax pmax
comp=Z,10.0nm,1.0s
CN2 pmax pmax
comp=Z,200nm,4.0s
BBOO Buckleboo 52.78 133 P **P** 16 15 08.8 -0.9
baz=53
IRK Irkutsk 52.86 9 *e*P **P** 16 15 10.4 +0.5
IRK pmax pmax
comp=Z,28nm,2.9s
GUMO Guam 53.87 73 LR LR 16 37 31.4
comp=Z,160nm,21.5s,baz=251,slow=35
ZAA0 Zalesovo Array 53.91 355 *e*P **P** 16 15 16.8 -0.8
comp=Z,43nm,0.9s
ZALV Zalesovo Beam 53.91 355 P **P** 16 15 16.9 -0.6
comp=Z,42nm,0.8s,baz=183,slow=6.9,SNR=96
ZALV LR LR 16 39 20.5
comp=Z,540nm,21.4s,baz=242,slow=37
ZALV Zalesovo Beam 53.91 355 *e*P **P** 16 15 16.5 -1.1
ZALV Zalesovo Beam 53.91 355 P **P** 16 15 17.0 -0.6
ZALV pmax pmax
comp=Z,42nm,0.9s
ZALV MLR MLR
comp=Z,540nm,21.4s
HIA Hailar 54.34 22 *e*P **P** 16 15 21.0 +0.2
comp=Z,21nm,0.9s
HIA Hailar 54.34 22 *e*P **P** 16 15 21.0 +0.2
HIA pmax pmax
comp=Z,21nm,0.9s
MTSU Mount Surprise 54.40 113 P **P** 16 15 21.4 -0.4
baz=54
CIT Chita 54.70 16 *e*P **P** 16 15 24.4 +1.0
CIT *e* 16 15 32.3
CIT *e* 16 15 38.8
CIT pmax pmax
comp=Z,63nm,1.2s
MSHR Mys Shultsa 54.82 35⇑ *i*P **P** 16 15 25.5 +1.1
KMBO Kilima Mbogo 54.90 268 P **P** 16 15 25.9 +0.1
comp=Z,2.2nm,0.5s,baz=55,slow=6.5,SNR=8.3
KMBO LR LR 16 34 03.0
comp=Z,270nm,21.4s,baz=96,slow=31
KMBO Kilima Mbogo 54.90 268 *e*P **P** 16 15 26.1 +0.3
comp=Z,7.5nm,1.2s
KMBO Kilima Mbogo 54.90 268 *e*P **P** 16 15 26.1 +0.3
KMBO pmax pmax
comp=Z,7.0nm,1.2s
NVS Novosibirsk 54.96 354 *e*P **P** 16 15 23.9 -1.2
NVS pmax pmax
comp=N,23nm,1.1s
NVS pmax pmax
comp=E,9.0nm,1.1s
NVS pmax pmax
comp=Z,35nm,1.1s
MDJ Mudanjiang 55.30 32 P **P** 16 15 28.1 +0.3
MDJ pP pP 16 15 31.3 -1.4
MDJ sP sP 16 15 32.8 -1.7
MDJ PP **PP** 16 17 31.8 +0.2
MDJ S **S** 16 23 13.3 +2.0
MDJ sS sS 16 23 18.8 -0.5
MDJ ScS **ScS** 16 25 17.4 +0.7
MDJ pmax pmax
comp=Z,7.0nm,1.1s
MDJ pmax pmax
comp=Z,130nm,6.2s
MDJ LR LR
comp=Z,370nm,13.1s
MDJ LR LR
comp=Z,550nm,15.1s
MDJ LR LR
comp=Z,710nm,16.7s
JHJ Hachijo jima 2 55.44 49 LR LR 16 40 17.4
comp=Z,108nm,18.1s,baz=266,slow=37
PMG Port Moresby 55.59 101 LR LR 16 41 03.3
comp=Z,120nm,20.3s,baz=258,slow=38
KRAR Krasnoyarsk 55.64 0⇑ *e*P **P** 16 15 31.2 +1.1
BVA0 Borovoye Array 55.69 344 *i*P **P** 16 15 29.3 -1.2
BVA0 pmax pmax
comp=Z,19nm,0.9s
BVAR Borovoye Array 55.69 344 P **P** 16 15 29.1 -1.3
comp=Z,18nm,0.8s,baz=147,slow=6.5,SNR=71
BRVK Borovoye 55.75 344 *e*P **P** 16 15 29.6 -1.3
comp=Z,20nm,1.0s
BRVK Borovoye 55.75 344 P **P** 16 15 30.2 -0.7
SNR=8.0
BRVK Borovoye 55.75 344 P **P** 16 15 30.2 -0.7
SNR=8.0
BRVK Borovoye 55.75 344 *c*P **P** 16 15 29.8 -1.1
BRVK pmax pmax
comp=Z,49nm,1.0s
MAJO Matsushiro 55.89 44⇓ *e*P **P** 16 15 31.4 -0.9
MAJO pmax pmax
comp=Z,4.0nm,0.8s
MJAR Matsushiro Arr 55.89 44 P **P** 16 15 31.6 -0.7
comp=Z,3.8nm,1.0s,baz=235,slow=8.6,SNR=10
MJAR LR LR 16 40 29.8
comp=Z,181nm,21.3s,baz=255,slow=37
AB31 Akbulak array 56.15 335 *i*P **P** 16 15 33.2 -0.7
AB31 pmax pmax
comp=Z,20nm,1.0s
ABKAR Akbulak array 56.15 335 *e*P **P** 16 15 33.1 -0.8
comp=Z,146nm,1.0s
USRK Ussuriysk Ar. 56.32 34 P **P** 16 15 35.0 -0.2
comp=Z,5.8nm,0.9s,baz=228,slow=4.9,SNR=13
USRK LR LR 16 42 07.4
comp=Z,644nm,18.1s,baz=211,slow=39
STKA Stephens Creek 56.54 129 P **P** 16 15 36.2 -0.8
comp=Z,3.9nm,0.9s,baz=279,slow=9.4,SNR=6.0
STKA Stephens Creek 56.54 129 P **P** 16 15 36.7 -0.3
baz=57,SNR=4.3
STKA Stephens Creek 56.54 129 *e*P **P** 16 15 35.4 -1.6
comp=Z,4.5nm,1.5s
CTA Charters Tower 56.65 114 P **P** 16 15 37.5 -0.5
comp=Z,9.8nm,1.0s,baz=269,slow=14,SNR=5.2
CTA Charters Tower 56.65 114 P **P** 16 15 37.1 -0.9
baz=57
CTAO Charters Tower 56.65 114 *e*P **P** 16 15 36.4 -1.5
comp=Z,20nm,1.1s
CTAO Charters Tower 56.65 114 *e*P **P** 16 15 36.4 -1.5
CTAO pmax pmax
comp=Z,20nm,1.1s
AKT Akhty 57.39 321 *e*P **P** 16 15 44.4 +1.5
AKT *e* 16 16 35.8
AKT *e* 16 17 51.9
AKT pmax pmax
comp=Z,37nm,1.2s
SEKA Sheki 57.57 321 P **P** 16 15 43.6 -0.6
GANJ Ganja 57.83 320 P **P** 16 15 45.7 -0.3
AKTO Aktyubinsk 57.86 335 P **P** 16 15 45.5 -0.5
comp=Z,7.4nm,0.9s,baz=119,slow=7.3,SNR=22
AKTO LR LR 16 42 50.4
comp=Z,233nm,18.2s,baz=145,slow=38
ZKTA Zakatala 58.17 321 P **P** 16 15 48.2 -0.1
GNI Garni 58.60 319 P **P** 16 15 52.5 +1.0
comp=Z,5.7nm,0.8s,baz=17,slow=20,SNR=3.1
GNI LR LR 16 42 43.2
comp=Z,300nm,21.9s,baz=109,slow=38
GNI Garni 58.60 319⇑ *e*P **P** 16 15 54.2 +2.6
GNI pmax pmax
comp=Z,18nm,0.9s
ARPS Mount Arapiles 58.84 134 P **P** 16 15 53.2 +0.1
baz=59
TBLG Delisi 59.41 320 *e*P **P** 16 15 57.3 +0.3
comp=Z,23nm,0.7s
TBLG Delisi 59.41 320 *e*P **P** 16 15 57.3 +0.3
TBLG pmax pmax
comp=Z,23nm,0.7s
KLR Kul'dur 59.50 29 P **P** 16 15 57.2 -0.2
comp=Z,1.5nm,1.1s,baz=263,slow=6.1,SNR=24
KLR Kul'dur 59.50 29 *d i*P **P** 16 15 57.4 0.0
GROC Groznyy 59.53 322 *e*P **P** 16 15 57.2 -0.5
GROC *e* 16 16 44.7
GROC pmax pmax
comp=Z,62nm,1.0s
CMSA Cobar Meteorol 59.63 127 P **P** 16 15 58.5 -0.2
baz=60,SNR=13
BOD Bodaibo 60.03 13 *e*P **P** 16 16 01.1 +0.2
BOD pmax pmax
comp=Z,42nm,1.1s
AKH Akhalkalaki 60.06 319 *e*P **P** 16 16 01.1 -0.5
comp=Z,17nm,1.3s
AKH Akhalkalaki 60.06 319 *e*P **P** 16 16 01.1 -0.5
AKH pmax pmax
comp=Z,17nm,1.3s
ZEI Tsey 60.49 321 *e*P **P** 16 16 05.6 +1.0
ZEI pmax pmax
comp=Z,11nm,1.0s
ZEA Zeya 60.75 23 *e*P **P** 16 16 06.6 +0.8
ZEA pmax pmax
comp=Z,23nm,1.0s
NCK Nalchik 61.05 321⇑ *e*P **P** 16 16 10.4 +2.2
NCK pmax pmax
comp=Z,38nm,1.1s
NEY Neytrino 61.47 321⇑ *e*P **P** 16 16 15.2 +4.0
NEY pmax pmax
comp=Z,2.0nm,1.0s
TOO Toolangi 61.82 134 P **P** 16 16 14.4 +0.9
baz=62
KIV Kislovodsk 61.85 322 *e*P **P** 16 16 13.8 +0.1
comp=Z,30nm,1.1s
KIV Kislovodsk 61.85 322 P **P** 16 16 16.0 +2.3
SNR=8.1
KIV Kislovodsk 61.85 322 P **P** 16 16 16.0 +2.3
SNR=8.1
KIV Kislovodsk 61.85 322 *e*P **P** 16 16 15.7 +2.0
KIV *e*S **S** 16 24 40.4 +3.5
KIV pmax pmax
comp=Z,25nm,1.0s
KIV MLR MLR
comp=Z,200nm,17.0s
SVE Sverdlovsk 61.87 341⇓ *e*P **P** 16 16 12.9 -0.5
SVE pmax pmax
comp=Z,33nm,0.9s
SVE MLR MLR
comp=Z,586nm,19.0s
GOF Gofitskoye 62.20 323⇑ *e*P **P** 16 16 17.2 +1.4
GOF pmax pmax
comp=Z,24nm,1.3s
ARU Arti 62.25 340 *e*P **P** 16 16 14.7 -1.3
comp=Z,19nm,1.0s
ARU Arti 62.25 340 *e*P **P** 16 16 14.7 -1.3
ARU pmax pmax
comp=Z,19nm,1.0s
CLNS Chul'man 62.29 20 *e*P **P** 16 16 16.4 +0.1
CLNS pmax pmax
comp=N,16nm,0.9s
CLNS pmax pmax
comp=Z,35nm,0.9s
CLNS pmax pmax
comp=E,21nm,1.0s
MMAI Mount Meron Ar 62.44 308 P **P** 16 16 19.4 +1.6
comp=E,0.5nm,0.3s,baz=116,slow=9.8,SNR=3.3
MMAI LR LR 16 43 44.2
comp=E,436nm,19.2s,baz=110,slow=36
ASAJ Asahikawa 62.55 39 P **P** 16 16 19.3 +1.1
comp=E,4.7nm,0.7s,baz=104,slow=7.4,SNR=5.0
GRNR Gornyy 62.79 30 *e*P **P** 16 16 21.1 +1.4
GRNR pmax pmax
comp=Z,26nm,1.0s
SOC Sochi 63.55 320 *e*P **P** 16 16 25.2 +0.3
SOC *e*S **S** 16 25 00.8 +2.8
SOC pmax pmax
comp=Z,15nm,0.5s
CAN Canberra 63.57 130 P **P** 16 16 25.4 +0.1
baz=64
YSS Yuzh-Sakhalins 64.08 36 *e*P **P** 16 16 28.1 -0.2
YSS *e* 16 16 42.0
YSS *e*S **S** 16 25 04.2 -0.2
YSS pmax pmax
comp=Z,10.0nm,1.3s
YSS MLR MLR
comp=N,190nm,17.0s
YSS MLR MLR
comp=Z,230nm,17.0s
YSS MLR MLR
comp=E,200nm,16.0s
LSZ Lusaka 64.98 253 *e*P **P** 16 16 33.2 -1.7
comp=E,8.4nm,0.8s
LSZ Lusaka 64.98 253 *e*P **P** 16 16 33.2 -1.7
LSZ pmax pmax
comp=Z,8.0nm,0.8s
ANN Anapa 65.56 320 *e*P **P** 16 16 34.4 -3.6
ANN *e**PP **pP** 16 16 38.9 -4.0
ANN *e*S **S** 16 25 18.4 -4.4
ANN pmax pmax
comp=Z,32nm,1.2s
BR131 Keskin Array S 66.11 314 *e*P **P** 16 16 41.8 0.0
BRTR Keskin Array B 66.11 314 P **P** 16 16 42.0 +0.2
comp=Z,4.7nm,0.7s,baz=130,slow=6.9,SNR=14
BRTR LR LR 16 47 05.7
comp=Z,267nm,19.8s,baz=106,slow=37
VRH Novokhopyorsk 66.21 328 *e*P **P** 16 16 42.9 +0.9
VRH pmax pmax
comp=Z,20nm,1.0s
NKL Nikolayevsk 66.33 30 *e*P **P** 16 16 42.0 -0.7
NKL pmax pmax
comp=Z,22nm,1.0s
ILGA Ilgaz 66.53 315 *e*P **P** 16 16 44.3 -0.3
comp=Z,13nm,1.0s
VSR Storozhevoye 67.58 327 *e*P **P** 16 16 50.2 -0.6
VSR pmax pmax
comp=Z,10.0nm,1.1s
CASY Casey 67.62 172 *e*P **P** 16 16 51.5 +0.8
comp=Z,14nm,1.0s
SIM Simferopol' 67.77 319 *e*P **P** 16 16 53.5 +1.4

SIM S **S** **16 25 56.6 +7.1**
SIM pmax pmax
comp=Z,17nm,1.1s
SIM MLR MLR
comp=Z,220nm,17.0s
YAK Yakutsk 67.86 18 P **P** **16 16 52.4 0.0**
comp=Z,52nm,0.8s,baz=316,slow=2.7,SNR=34
YAK Yakutsk 67.86 18 *e*P **P** **16 16 51.6 -0.7**
comp=Z,92nm,1.0s
YAK Yakutsk 67.86 18 *e*P **P** **16 16 51.6 -0.7**
YAK *e**PP **sP** **16 16 59.5 +0.4**
YAK *e* 16 17 16.2
YAK *e*PPP PPP 16 20 56.6
YAK *e*S **S** **16 25 47.4 -2.6**
YAK pmax pmax
comp=Z,90nm,1.1s
YAK pmax pmax
comp=E,28nm,1.3s
YAK pmax pmax
comp=N,19nm,1.0s
YAK pmax pmax
comp=Z,11nm,1.1s
YAK pmax pmax
comp=N,13nm,1.5s
YAK smax smax
comp=E,47nm,2.6s
YAK smax smax
comp=N,18nm,2.3s
YAK MLR MLR
comp=Z,264nm,19.0s
YAK MLR MLR
comp=N,417nm,19.0s
YAK MLR MLR
comp=E,163nm,18.0s
HNR Honiara 68.15 100 LR LR 16 47 38.5
comp=E,110nm,21.6s,baz=250,slow=37
LPSR Galich'ya Gora 68.41 328 *e*P **P** **16 16 55.7 -0.3**
LPSR pmax pmax
comp=Z,20nm,1.0s
LBTB Lobatse 68.92 243 *e*P **P** **16 16 59.3 -0.5**
comp=Z,26nm,0.8s
LBTB Lobatse 68.92 243 *e*P **P** **16 16 59.3 -0.5**
LBTB pmax pmax
comp=Z,27nm,0.8s
BOSA Boshof 69.91 239 P **P** **16 17 06.0 +0.1**
comp=Z,10nm,0.7s,baz=85,slow=6.4,SNR=19
BOSA Boshof 69.91 239 *e*P **P** **16 17 05.7 -0.2**
comp=Z,14nm,0.8s
BOSA Boshof 69.91 239 P **P** **16 17 06.0 +0.1**
BOSA pmax pmax
comp=Z,10.0nm,0.7s
MAW Mawson 70.66 191 P **P** **16 17 09.9 +0.3**
comp=Z,9.1nm,0.9s,baz=355,slow=7.0,SNR=7.6
MAW Mawson 70.66 191 P **P** **16 17 10.4 +0.9**
baz=71
MAW Mawson 70.66 191 *e*P **P** **16 17 10.0 +0.5**
comp=Z,1.9nm,0.9s
MAW Mawson 70.66 191 *e*P **P** **16 17 10.0 +0.5**
MAW pmax pmax
comp=Z,2.0nm,0.9s
MOS Moscow 70.67 331 *e*P **P** **16 17 10.4 +0.6**
MOS pmax pmax
comp=Z,48nm,0.8s
OBN Obninsk 70.88 330*ce*P **P** **16 17 12.1 +1.0**
OBN *i* S **S** **16 26 19.8 -6.0**
OBN *i* SS **SS** **16 31 04.3 +5.7**
OBN pmax pmax
comp=Z,22nm,1.0s
OBN MLR MLR
comp=Z,235nm,20.0s
TIRR Tirgusor 71.38 317⇑*i*P **P** **16 17 15.5 +1.1**
TIRR Tirgusor 71.38 317 *e*P **P** **16 17 14.1 -0.3**
comp=Z,20nm,1.0s
TIRR Tirgusor 71.38 317 *e*P **P** **16 17 14.1 -0.3**
TIRR pmax pmax
comp=Z,20nm,1.0s
IDI Anoyia 71.44 307 P **P** **16 17 15.9 +0.9**
comp=Z,9.8nm,0.6s,baz=96,slow=10,SNR=8.4
IDI LR LR 16 51 21.2
comp=Z,115nm,19.7s,baz=89,slow=38
IDI Anoyia 71.44 307‖*i*P **P** **16 17 16.4 +1.3**
CFR Carcaliu 71.80 318⇑*i*P **P** **16 17 17.4 +0.5**
CFR Carcaliu 71.80 318 P **P** **16 17 17.3 +0.4**
KIS Kishinev 71.96 320 *e*P **P** **16 17 17.0 -0.8**
KIS *e*L L 16 45 08.0
KIS LRM MLR 16 51 44.0
comp=Z,300nm,19.0s
KIS Kishinev 71.96 320 *e*P **P** **16 17 17.0 -0.8**
KIS *e* 16 17 25.0
KIS *e* 16 17 37.0
KIS MLR MLR
comp=E,400nm,19.0s
KIS MLR MLR
comp=Z,300nm,19.0s
KIS MLR MLR
comp=Z,300nm,19.0s
KLMR Klimovskoe 72.54 336 *e*P **P** **16 17 19.9 -1.1**
KLMR AMP 16 17 22.7
comp=Z,23nm,1.1s
KLMR LQ LQ 16 45 43.9
KLMR LQ LQ 16 45 43.9
KLMR Klimovskoe 72.54 336 *e*P **P** **16 17 19.9 -1.1**
KLMR pmax pmax
comp=Z,23nm,1.1s
SORM Soroca 72.64 321⇑*i*P **P** **16 17 21.8 -0.1**
SORM Soroca 72.64 321 P **P** **16 17 21.8 -0.1**
ISR Istrita 72.85 318⇑*i*P **P** **16 17 24.0 +0.7**
ISR Istrita 72.85 318 P **P** **16 17 24.0 +0.7**
VRI Vrincioaia 72.96 318⇑*i*P **P** **16 17 25.3 +1.4**
VRI Vrincioaia 72.96 318 P **P** **16 17 25.2 +1.4**
PLOR Plostina 73.00 318⇑*i*P **P** **16 17 25.9 +1.7**
AKASG Malin Array Be 73.02 324 P **P** **16 17 24.0 -0.1**
comp=Z,5.8nm,0.9s,baz=89,slow=4.9,SNR=36
AKASG LR LR 16 51 12.0
comp=Z,235nm,22.0s,baz=100,slow=37
AKASG Malin Array Be 73.02 324 P **P** **16 17 24.0 -0.1**
AKBB Malin Array Si 73.02 324 *e*P **P** **16 17 23.6 -0.5**
comp=Z,18nm,1.0s
AKBB Malin Array Si 73.02 324 *e*P **P** **16 17 23.6 -0.5**
AKBB pmax pmax
comp=Z,18nm,1.0s
KIEV Kiev 73.02 324 *e*P **P** **16 17 23.6 -0.5**
comp=Z,19nm,1.1s
KIEV Kiev 73.02 324*ce*P **P** **16 17 23.9 -0.2**
KIEV pmax pmax
comp=Z,19nm,1.1s
AK11 Malin Array Si 73.04 324 *e*P **P** **16 17 23.5 -0.7**
TESR Tescani 73.21 319⇑*i*P **P** **16 17 25.8 +0.5**
MLR Muntele Rosu 73.36 318 P **P** **16 17 28.4 +2.0**
comp=Z,7.9nm,0.9s,baz=90,slow=2.0,SNR=32
MLR LR LR 16 52 40.7
comp=Z,93nm,21.9s,baz=91,slow=38
MLR Muntele Rosu 73.36 318⇑*i*P **P** **16 17 27.6 +1.2**
MLR Muntele Rosu 73.36 318 *e*P **P** **16 17 27.4 +1.0**
comp=Z,34nm,0.8s
MLR Muntele Rosu 73.36 318 *e*P **P** **16 17 27.4 +1.0**
MLR pmax pmax
comp=Z,34nm,0.8s
DOPR Dopca 73.88 318‖*i*P **P** **16 17 30.2 +0.9**
VOIR 73.95 318⇑*i*P **P** **16 17 29.8 0.0**
VOIR 73.95 318 P **P** **16 17 29.8 0.0**
HORU Horodok 74.20 322 P **P** **16 17 31.7 +0.6**
ARR Arges 74.21 317⇑*i*P **P** **16 17 32.8 +1.5**
SUR Sutherland 74.39 236 *e*P **P** **16 17 33.5 +0.7**
comp=Z,36nm,0.9s
MA2 Magadan 74.46 27 P **P** **16 17 32.8 +0.5**
baz=180,slow=7.1
MA2 Magadan 74.46 27‖*e*P **P** **16 17 33.0 +0.6**
MA2 pmax pmax
comp=Z,20nm,1.5s
VTS Vitosha 74.47 314‖*i*P **P** **16 17 33.4 +0.4**
VTS Vitosha 74.47 314 *e*P **P** **16 17 33.0 +0.1**
comp=Z,7.9nm,1.0s
VTS Vitosha 74.47 314 *e*P **P** **16 17 33.1 +0.1**
VTS pmax pmax
comp=Z,8.0nm,1.0s
BURAR Bucovina Array 74.48 320‖*i*P **P** **16 17 33.8 +0.9**
BURAR Bucovina Array 74.48 320 P **P** **16 17 33.7 +0.9**
BUR04 Bucovina Ar. S 74.48 320 *e*P **P** **16 17 33.8 +0.9**
BUR08 Bucovina Ar. S 74.50 320 *e*P **P** **16 17 33.8 +0.8**
KSV Kosov 74.78 320 P **P** **16 17 35.3 +0.8**
TMCR Tamitsa 74.94 338 *e*P **P** **16 17 35.7 +0.7**
TMCR pmax pmax
comp=Z,35nm,1.1s
TIXI Tiksi 75.10 11 P **P** **16 17 35.4 -0.5**
comp=Z,37nm,0.8s,baz=210,slow=3.0,SNR=149
TIXI Tiksi 75.10 11 *e*P **P** **16 17 35.1 -0.7**
comp=Z,40nm,0.8s
TIXI Tiksi 75.10 11*d i*P **P** **16 17 35.1 -0.7**
TIXI pmax pmax
comp=Z,43nm,0.8s
PETK Petropavlovsk- 75.39 35 LR LR 16 51 31.1
comp=Z,271nm,20.8s,baz=229,slow=36
DZM Mont Dzumac 75.54 113 *e*LR LR 16 41 02.9
comp=Z,341nm,24.5s
HERR Herculane 75.60 316‖*i*P **P** **16 17 39.7 +0.4**
LVV L'vov 75.88 322 *e*P **P** **16 17 42.9 +2.2**
DRGR 75.89 318⇑*i*P **P** **16 17 41.8 +0.8**
DRGR 75.89 318 P **P** **16 17 41.8 +0.8**
NACGM Naroch 75.91 327 *e* **P** **16 17 41.0 +0.2**
PET Petropavlovsk 75.91 35‖*e*P **P** **16 17 40.7 -0.1**
PET pmax pmax
comp=Z,26nm,1.3s
PUL Pulkovo 76.00 333⇑*e*P **P** **16 17 42.9 +1.7**
PUL pmax pmax
comp=Z,55nm,0.9s
IDID Didziasalis 76.07 328 *e*P **P** **16 17 42.5 +0.8**
IDID IAmb IAmb 16 17 44.8
comp=Z,17nm,1.0s
BZS Buzias 76.33 317 P **P** **16 17 45.2 +1.8**
TRPA Tarpa 76.35 320‖*i*P **P** **16 17 45.2 +1.8**
IIGN Ignalina 76.36 328 *e*P **P** **16 17 44.2 +0.9**
IIGN IAmb IAmb 16 17 46.5
comp=Z,19nm,1.1s
IZAR Zarasai 76.49 328 *e*P **P** **16 17 44.9 +0.8**
IZAR IAmb IAmb 16 17 47.0
comp=Z,9.2nm,0.9s
KWP Kalwaria Pacla 76.65 321 *e*P **P** **16 17 46.1 +0.9**
KWP Kalwaria Pacla 76.65 321 *e*P **P** **16 17 46.1 +0.9**
SEY Seymchan 76.70 24 P **P** **16 17 44.6 -0.5**
comp=Z,6.1nm,0.9s,baz=249,slow=4.4,SNR=14
SEY Seymchan 76.70 24⇑*i*P **P** **16 17 45.1 0.0**
VSU Vasula 77.20 331‖*i*P **P** **16 17 49.3 +1.3**
VSU pmax pmax
comp=Z,86nm,1.0s
CRVS Cervenica-Dubn 77.24 320 *e*P **P** **16 17 51.0 +2.5**
CRVS Cervenica-Dubn 77.24 320 *e*P **P** **16 17 51.0 +2.5**
CRVS pmax pmax
comp=Z,9.0nm,1.0s
STHS Stebnicka Huta 77.51 321 *e*P **P** **16 17 51.5 +1.5**
STHS Stebnicka Huta 77.51 321 *e*P **P** **16 17 51.5 +1.5**
STHS pmax pmax
comp=Z,19nm,1.0s
SUW Suwalki 77.61 326 *e*P **P** **16 17 51.5 +1.1**
SUW Suwalki 77.61 326 *e*P **P** **16 17 50.9 +0.5**
comp=Z,85nm,0.9s
SUW Suwalki 77.61 326 *e*P **P** **16 17 51.5 +1.1**
LVZ Lovozero 78.08 341⇑*e*P **P** **16 17 54.9 +2.1**
LVZ pmax pmax
comp=Z,35nm,1.7s
NIE Niedzica 78.11 321 *e*P **P** **16 17 55.3 +1.9**
NIE Niedzica 78.11 321 *e*P **P** **16 17 55.3 +1.9**
APA Apatity 78.33 340⇑*i*P **P** **16 17 53.3 -0.8**
APA pmax pmax
comp=Z,11nm,0.9s
APA MLR MLR
comp=Z,500nm,17.0s
FIA1 FINESS Array S 78.59 333 *e*P **P** **16 17 55.2 -0.4**
FINES FINESS Array B 78.59 333 P **P** **16 17 55.8 +0.1**
comp=Z,13nm,1.0s,baz=74,slow=6.9,SNR=17
OJC Ojcow 78.61 321 *e*P **P** **16 17 57.7 +1.6**
OJC Ojcow 78.61 321 *e*P **P** **16 17 55.5 -0.6**
comp=Z,18nm,1.1s
OJC Ojcow 78.61 321 *e*P **P** **16 17 57.7 +1.6**
VYHS Vyhne 78.84 320 *e*P **P** **16 17 59.2 +1.8**
VYHS Vyhne 78.84 320 *e*P **P** **16 17 59.2 +1.8**
VYHS pmax pmax
comp=Z,10.0nm,1.3s
OKC Ostrava-Krasne 79.57 321 *e*P **P** **16 18 05.7 +4.4**
OKC Ostrava-Krasne 79.57 321 *e*P **P** **16 18 05.7 +4.4**
SMOL Smolenice 79.76 319 P **P** **16 18 05.8 +3.4**
MODS Modra-Piesok 79.83 319 *e*P **P** **16 18 03.3 +0.5**
MODS *e*PCP **PcP** **16 18 11.3 +0.9**
MODS Modra-Piesok 79.83 319 *e*P **P** **16 18 03.4 +0.6**
MODS *e* 16 18 11.3
comp=Z,47nm,1.0s
MORC Moravsky Berou 79.94 321‖*i*P **P** **16 18 05.1 +1.7**
MORC Moravsky Berou 79.94 321 *e*P **P** **16 18 03.5 +0.1**
comp=Z,44nm,1.2s
MORC Moravsky Berou 79.94 321 *e*P **P** **16 18 03.5 +0.1**
MORC pmax pmax
comp=Z,45nm,1.2s
KRLC Kraliky 80.48 321 *e*P **P** **16 18 08.0 +1.7**
KRLC *ex* x 16 18 15.9
KRLC Kraliky 80.48 321 *e*P **P** **16 18 08.0 +1.7**
KRLC *e* 16 18 15.9
CONA Conrad Observa 80.68 319 *e*P **P** **16 18 08.1 +0.6**
comp=Z,9.7nm,1.1s
BOJS Bojanci 80.68 316 *e*P **P** **16 18 08.6 +1.1**
ARSA Arzberg 80.79 318 *e*P **P** **16 18 09.4 +1.4**
comp=Z,25nm,1.1s,SNR=9.3
DPC Dobruska-Polom 80.82 321 *e*P **P** **16 18 10.0 +1.8**
DPC *ex* x 16 18 17.3
DPC Dobruska-Polom 80.82 321 *e*P **P** **16 18 10.0 +1.8**
DPC *e* 16 18 17.3
KSP Ksiaz 80.93 321 *e*P **P** **16 18 11.1 +2.4**
KSP Ksiaz 80.93 321 *e*P **P** **16 18 11.1 +2.4**
PERS Pernice 80.96 317 *e*P **P** **16 18 10.1 +1.1**
VISS Visnje 81.02 316 *i* P **P** **16 18 09.8 +0.5**
SOKA Soboth 81.02 317 *e*P **P** **16 18 10.6 +1.3**
comp=Z,26nm,1.2s,SNR=9.6
UPC Upice 81.05 321 *e*P **P** **16 18 12.1 +2.8**
UPC Upice 81.05 321 *e*P **P** **16 18 12.1 +2.8**
TREC Trest 81.16 320 AMS AMS 16 56 40.0
comp=Z,300nm,22.7s
OBKA Obir 81.33 317 *ep*P **P** **16 18 14.1 +3.1**
comp=Z,12nm,1.0s
AQU L'Aquila 81.55 313 *e*P **P** **16 18 10.9 -1.3**
comp=Z,28nm,1.0s
AQU L'Aquila 81.55 313 *e*P **P** **16 18 10.9 -1.3**
AQU pmax pmax
comp=Z,28nm,1.0s
JAVS Javornik 81.56 316 *i* P **P** **16 18 13.2 +0.9**
MOA Molln 81.72 318 *ep*P **P** **16 18 14.7 +1.7**
comp=Z,12nm,1.4s
ARCES ARCESS Array B 81.80 341 P **P** **16 18 12.9 0.0**
comp=Z,19nm,0.9s,baz=101,slow=6.5,SNR=20
ARCES ARCESS Array B 81.80 341 *e*P **P** **16 18 13.1 +0.2**
ARCES ARCESS Array B 81.80 341 *e*P **P** **16 18 13.1 +0.2**
PRU Pruhonice 81.89 320 *e*P **P** **16 18 16.2 +2.5**
PRU *ex* x 16 18 24.0
PRU Pruhonice 81.89 320 *e*P **P** **16 18 16.2 +2.5**
PRU *e* 16 18 24.0
MYKA Terra Mystica 81.96 317 *ep*P **P** **16 18 16.0 +1.7**
comp=Z,12nm,1.0s
KBA Koelnbreinsper 82.23 317 *ep*P **P** **16 18 18.1 +2.3**
comp=Z,12nm,1.2s,SNR=6.1
KBA Koelnbreinsper 82.23 317 P **P** **16 18 17.8 +2.0**
GEA0 GERESS Array S 82.25 319 *e*P **P** **16 18 16.6 +0.8**
GEC2 GERESS Array S 82.25 319 *e*P **P** **16 18 16.5 +0.7**
comp=Z,37nm,1.0s
GEC2 GERESS Array S 82.25 319 *e*P **P** **16 18 16.5 +0.7**
GEC2 pmax pmax
comp=Z,37nm,1.0s
GERES GERESS Array B 82.25 319 P **P** **16 18 17.4 +1.5**
comp=Z,26nm,1.0s,baz=102,slow=5.6,SNR=66
GERES LR LR 16 58 40.1
comp=Z,189nm,20.9s,baz=89,slow=38
KHC Kasperske Hory 82.37 319 *e*P **P** **16 18 18.2 +1.8**
KHC *ex* x 16 18 25.6
KHC AMS AMS 16 55 50.0
comp=Z,300nm,28.2s
KHC Kasperske Hory 82.37 319 *e*P **P** **16 18 17.1 +0.8**
comp=Z,3.7nm,1.1s
KHC Kasperske Hory 82.37 319 *e*P **P** **16 18 17.2 +0.8**
KHC pmax pmax
comp=Z,4.0nm,1.1s
BRG Berggiesshubel 82.41 321 *e*P **P** **16 18 18.4 +2.0**
comp=Z,14nm,1.3s
BRG *e* 16 18 25.2
comp=Z,12nm,1.1s
comp=N,174nm,11.8s
comp=E,142nm,22.6s
comp=Z,146nm,20.2s
BRG Berggiesshubel 82.41 321 *e*P **P** **16 18 18.4 +2.0**
BRG *e* 16 18 25.2
BRG pmax pmax
comp=Z,14nm,1.3s
BRG pmax pmax
comp=Z,12nm,1.2s
BRG MLR MLR
comp=N,174nm,11.8s
BRG MLR MLR
comp=E,142nm,22.6s
BRG MLR MLR
comp=Z,146nm,20.2s
CLL Collm 83.06 322⇑*i*P **P** **16 18 21.2 +1.4**
comp=Z,22nm,1.3s
CLL *i* 16 18 28.9
CLL Collm 83.06 322 *e*P **P** **16 18 20.9 +1.1**
comp=Z,21nm,1.2s
CLL Collm 83.06 322 *e*P **P** **16 18 20.9 +1.1**
CLL pmax pmax
comp=Z,21nm,1.2s
WTTA Wattenberg 83.41 317 *i* P **P** **16 18 22.9 +0.9**
comp=Z,17nm,1.2s
WATA Walderalm 83.46 318 *i* P **P** **16 18 22.7 +0.5**
comp=Z,11nm,0.9s
MOTA Moosalm 83.78 317 *e*P **P** **16 18 24.0 +0.1**
comp=Z,18nm,1.1s
BILL Bilibino 83.92 21 *e*P **P** **16 18 24.2 +0.3**
BILL *e* 16 18 27.6
BILL *e* 16 21 36.8
BILL *e*PPP PPP 16 23 30.4
BILL pmax pmax
comp=Z,5.0nm,1.1s
BILL MLR MLR
comp=Z,308nm,20.0s
FETA Feichten 84.00 317 *e*P **P** **16 18 26.0 +1.0**
comp=Z,22nm,1.2s
RETA Reutte 84.02 318 *i* P **P** **16 18 25.1 +0.1**
comp=Z,26nm,1.4s
KEST Kesra 84.03 306 P **P** **16 18 26.2 +0.9**
comp=Z,7.2nm,0.9s,baz=264,slow=7.9,SNR=4.7
HFS Hagfors 84.08 330 P **P** **16 18 25.2 +0.4**
comp=Z,9.2nm,0.9s,baz=131,slow=4.0,SNR=11
DAVA Damsls 84.60 317 *i* P **P** **16 18 29.0 +1.0**
comp=Z,28nm,1.1s,SNR=6.3
TUE Stuetta 84.89 316 *e*P **P** **16 18 29.0 -0.5**
comp=Z,13nm,1.1s
NB2 NORSAR Subarra 85.43 331 P **P** **16 18 32.4 +0.7**
comp=Z,9.9nm,1.0s,baz=94,slow=5.1
NOA NORSAR Array B 85.43 331 P **P** **16 18 31.2 -0.5**
comp=Z,5.7nm,1.0s,baz=96,slow=5.8,SNR=6.4
NB002 NORSAR Array S 85.60 331 *e*P **P** **16 18 31.9 -0.7**
VNDA Vanda 85.86 168 P **P** **16 18 33.3 -0.2**
comp=Z,2.5nm,0.9s,baz=320,slow=4.3,SNR=9.9
VNDA Vanda 85.86 168 *e*P **P** **16 18 33.4 -0.2**
comp=Z,25nm,1.9s
VNDA Vanda 85.86 168 *e*P **P** **16 18 33.4 -0.1**
VNDA pmax pmax
comp=Z,25nm,1.9s
TAM Tamanrasset 86.81 293 *e*P **P** **16 18 37.8 -1.7**
comp=Z,17nm,1.2s
TAM Tamanrasset 86.81 293 *e*P **P** **16 18 37.8 -1.7**
TAM pmax pmax
comp=Z,17nm,1.2s
SPITS Spitsbergen Ar 86.91 348 P **P** **16 18 38.3 -0.4**
comp=Z,17nm,1.0s,baz=158,slow=15,SNR=3.5
SPITS LR LR 17 01 20.9
comp=Z,392nm,21.4s,baz=120,slow=38
SBA Scott Base 86.97 168 *e*P **P** **16 18 39.0 0.0**
comp=Z,11nm,1.1s
SBA Scott Base 86.97 168 *e*P **P** **16 18 39.0 0.0**
SBA pmax pmax
comp=Z,11nm,1.1s
QSPA South Pole Qui 90.15 180 *e*P **P** **16 18 54.6 +0.3**
comp=Z,71nm,1.3s
SNAA Sanae 91.76 198 P **P** **16 19 02.7 +1.0**
SNAA Sanae 91.76 198 P **P** **16 19 01.3 -0.4**
comp=Z,1.6nm,0.8s,baz=91,slow=4.1,SNR=4.6
SNAA Sanae 91.76 198‖*e*P **P** **16 19 01.6 -0.1**
EKA Eskdalemuir Ar 92.87 325 LR LR 17 06 16.5
comp=Z,124nm,18.9s,baz=100,slow=39
VNA2 Neumayer--Watz 93.30 199 P **P** **16 19 09.6 +0.8**
baz=78,slow=4.9
ESDC Sonseca Array 94.59 310 LR LR 17 05 14.6
comp=Z,54nm,20.3s,baz=110,slow=38
KOWA Kowa 95.92 285 P **P** **16 19 22.7 +0.8**
comp=Z,2.4nm,0.7s,baz=43,slow=2.9,SNR=5.1
AFI Afiamalu 95.95 104 LR LR 17 04 51.8
comp=Z,54nm,19.9s,baz=240,slow=37
KIC Kosan Boka 96.82 276 *e*PKP1 **P** **16 19 26.3 +0.2**
comp=Z,25nm,1.0s
DBIC Dimbokro 96.93 277 P **P** **16 19 26.9 +0.4**
comp=Z,4.1nm,0.8s,baz=71,slow=9.1,SNR=4.9
DBIC LR LR 17 03 21.0
comp=Z,206nm,18.8s,baz=88,slow=36
DBIC Dimbokro 96.93 277 P **P** **16 19 27.0 +0.4**
TIC Toumodi 97.09 277 *e*PKP1 **P** **16 19 26.5 -0.8**
LIC Lamto 97.11 276 *e*PKP1 **P** **16 19 27.1 -0.3**
comp=Z,29nm,1.2s
YKA Yellowknife Ar 114.31 13 PKiKP PKPdf 16 24 34.4 +0.7
comp=Z,0.2nm,0.5s,baz=328,slow=2.3,SNR=4.3
PPT2 Papeete2 116.93 110 *e*LR LR 17 00 18.2
comp=Z,186nm,22.8s
MSO Missoula 127.90 22 *e*PKPdf **PKPdf** **16 24 59.2 -1.3**
RKT Rikitea 128.89 120 *e*LR LR 17 05 44.1
comp=Z,241nm,24.5s
NVAR Mina Array Bea 132.46 33 PKP **PKPdf** **16 25 10.8 +1.2**
comp=Z,0.8nm,0.7s,baz=252,slow=1.9,SNR=5.3
PDAR Pinedale Array 133.00 22 PKP **PKPdf** **16 25 10.1 -0.4**
comp=Z,1.2nm,1.0s,baz=333,slow=1.7,SNR=6.7
PDAR Pinedale Array 133.00 22 *e*PKPdf **PKPdf** **16 25 08.0 -2.4**
ECSD EROS Data Cent 135.57 9 *e*PKPdf **PKPdf** **16 25 12.2 -2.7**
PV09 Paradox Valley 136.81 25 *e*PKPdf **PKPdf** **16 25 16.8 -1.0**
PV10 Paradox Valley 136.95 25 *e*PKPdf **PKPdf** **16 25 17.3 -0.7**
T42A Van Buren 142.84 4 P **PKPdf** **16 25 25.0 -3.3**
baz=354
U47A Clarksville 143.55 359 P PKPbc 16 25 27.1 +0.3
baz=0.8
WMOK Wichita Mounta 143.78 15 P PKPbc 16 25 28.3 +0.7
baz=341
WMOK Wichita Mounta 143.78 15 *e*PKPpre PKPab 16 25 26.3 -0.6
WMOK Wichita Mounta 143.78 15 *e*PKIKP PKPab 16 25 26.3 -0.6
WVT Waverly 143.86 360 P PKPbc 16 25 28.5 +0.7
baz=360
V41A Mountainview 143.98 6 P PKPbc 16 25 28.7 +0.5
baz=353
V47A Nunnelly 144.16 360 P PKPbc 16 25 28.9 +0.2
baz=0.4
V46A Holladay 144.19 0 P PKPbc 16 25 29.1 +0.3
baz=359
MNTX Cornudas Mount 144.20 26 P PKPbc 16 25 29.6 +0.6
baz=329
MNTX Cornudas Mount 144.20 26 *e*PKPdf PKPbc 16 25 29.7 +0.7
V48A Smith Brothers 144.24 359 P PKPbc 16 25 29.2 +0.3
baz=1.6
KMSC Kings Mountain 144.32 351 P PKPbc 16 25 30.1 +0.9
baz=11
BG3 Lake Jocassee 144.69 353 *e*PKPdf PKPbc 16 25 30.7 +0.2
W47A Westpoint 144.74 360 P **PKPab** **16 25 30.2 -0.3**
baz=0.3,SNR=6.2
W48A Pulaski 144.84 359 P **PKPab** **16 25 29.5 -1.3**
baz=1.4,SNR=5.7
W46A Michie 144.85 1 P **PKPab** **16 25 30.3 -0.5**
baz=359
X39A Fountain Ranch 144.98 9 P **PKPab** **16 25 31.1 -0.3**
baz=349
PLAL Pickwick Lake 145.00 0 *e*PKPbc **PKPab** **16 25 30.3 -1.1**
MIAR Mount Ida 145.03 8 P **PKPbc** **16 25 31.1 -0.3**
baz=350
MIAR Mount Ida 145.03 8 *e*PKPbc **PKPbc** **16 25 31.2 -0.3**
MIAR Mount Ida 145.03 8 *e*PKIKP **PKPbc** **16 25 31.2 -0.3**
JSC Jenkinsville 145.15 350 *e*PKPbc **PKPbc** **16 25 31.4 -0.5**
JSC Jenkinsville 145.15 350 *e*PKIKP **PKPbc** **16 25 31.4 -0.5**
X40A Basin Creek Fa 145.19 7 P **PKPbc** **16 25 31.8 -0.2**
baz=351
HODGE Hodges 145.35 352 *e*PKPbc **PKPbc** **16 25 32.6 0.0**
X44A Crenshaw 145.42 3 P **PKPbc** **16 25 32.4 -0.3**
baz=356
X46A Booneville 145.42 1 P **PKPbc** **16 25 32.5 -0.3**
baz=359
OXF Oxford 145.44 2 P **PKPbc** **16 25 32.5 -0.3**
baz=357
OXF Oxford 145.44 2 *e*PKPbc **PKPbc** **16 25 31.8 -1.1**
OXF Oxford 145.44 2 *e*PKIKP **PKPbc** **16 25 31.8 -1.1**
X49A Woodville 145.44 358 P **PKPbc** **16 25 32.3 -0.6**
baz=2.5,SNR=5.3
X47A Russelville 145.47 360 P **PKPbc** **16 25 32.3 -0.6**
baz=360,SNR=7.6
ABTX Abilene, Hawle 145.51 18 P **PKPbc** **16 25 33.1 -0.1**
baz=339
ABTX Abilene, Hawle 145.51 18 *e*PKPdf **PKPbc** **16 25 32.3 -0.9**
X48A Hartselle 145.53 359 P **PKPdf** **16 25 32.5 -0.6**

	baz=1.3							
X45A	**UM Field Stati**	145.53	2	P		PKPdf	16 25 32.9	-0.2
	baz=357							
Y40A	**Okolona**	145.59	8	P		PKPbc	16 25 33.4	+0.1
	baz=350							
Y41A	**Eaglette Beard**	145.81	7	P		PKPab	16 25 34.2	-0.2
	baz=351							
CCAR	**Cane Creek**	145.87	6	*e*PKPdf		PKPdf	16 25 33.4	-0.3
WLAR	**White Oak Lake**	145.94	8	*e*PKPdf		PKPbc	16 25 34.5	+0.1
Y43A	**Makayla and Ka**	145.95	5	P		PKPab	16 25 35.1	+0.2
	baz=354							
Y50A	**Piedmont**	146.04	357	P		PKPbc	16 25 34.6	-0.1
	baz=3.6							
Y48A	**Jasper**	146.07	359	P		PKPbc	16 25 34.5	-0.3
	baz=1.1,SNR=6.9							
Y45A	**Yeager Farm, C**	146.08	3	P		PKPbc	16 25 35.0	+0.2
	baz=357							
Y47A	**UCPARC, Winfie**	146.08	360	P		PKPdf	16 25 34.4	+0.4
	baz=360,SNR=7.3							
Y46A	**Houston**	146.09	1	P		PKPbc	16 25 34.7	-0.2
	baz=358,SNR=6.3							
NHSC	**New Hope**	146.09	348	P		PKPab	16 25 35.5	0.0
	baz=14							
Y49A	**Blount Mountai**	146.10	358	P		PKPbc	16 25 34.7	-0.3
	baz=2.4,SNR=6.8							
GOGA	**Godfrey**	146.32	353	P		PKPbc	16 25 35.9	+0.3
	baz=7.7,SNR=7.6							
GOGA	**Godfrey**	146.32	353	*e*PKPdf		PKPdf	16 25 34.8	+0.3
GOGA	**Godfrey**	146.32	353	*e*PKP2		PKPdf	16 25 34.8	+0.3
Z40A	**Long Farm, Mag**	146.32	8	P		PKPbc	16 25 35.4	-0.2
	baz=350							
Z48A	**Northport**	146.61	360	P		PKPbc	16 25 36.1	-0.4
	baz=0.4							
Z44A	**Pea Ridge, Bel**	146.62	4	P		PKPbc	16 25 36.3	-0.2
	baz=355							
Z49A	**Columbiana**	146.77	358	P		PKPbc	16 25 37.1	+0.1
	baz=2.2							
LRAL	**Lakeview Retre**	146.94	359	P		PKPbc	16 25 37.7	+0.3
	baz=1.4							
155A	**Kite**	146.97	352	P		PKPbc	16 25 38.1	+0.6
	baz=9.7							
TX31	**Lajitas Ar. Si**	146.98	26	*e*PKPbc		PKPbc	16 25 36.9	-0.9
TXAR	**Lajitas Array**	146.98	26	PKPbc		PKPbc	16 25 37.0	-0.8
	comp=Z,7.6nm,0.9s,baz=282,slow=2.4,SNR=41							
TXAR	**Lajitas Array**	146.98	26	PKP2		PKPbc	16 25 37.0	-0.8
154A	**Montrose**	147.06	353	P		PKPbc	16 25 38.4	+0.6
	baz=8.6							
143A	**Socs Landing,**	147.11	6	P		PKPbc	16 25 38.5	+0.6
	baz=353							
144A	**Alexander Plac**	147.26	4	P		PKPbc	16 25 38.5	+0.2
	baz=355							
147A	**Livingston**	147.31	1	P		PKPbc	16 25 38.8	+0.4
	baz=359							
145A	**Houston Renfro**	147.32	3	P		PKPbc	16 25 38.9	+0.4
	baz=356							
150A	**Eclectic**	147.33	357	P		PKPbc	16 25 38.9	+0.4
	baz=3.2							
148A	**Greensboro**	147.33	360	P		PKPbc	16 25 39.2	+0.7
	baz=0.4							
151A	**Opelika**	147.37	356	P		PKPbc	16 25 39.1	+0.4
	baz=4.5							
149A	**Jones**	147.37	358	P		PKPbc	16 25 39.4	+0.7
	baz=1.8							
JCT	**Junction City**	147.45	19	P		PKPbc	16 25 39.4	+0.4
	baz=337							
JCT	**Junction City**	147.45	19	*e*PKPdf		PKPdf	16 25 36.5	0.0
JCT	**Junction City**	147.45	19	*e*PKIKP		PKPdf	16 25 36.5	0.0
NATX	**Nacogdoches**	147.57	11	P		PKPbc	16 25 40.0	+0.8
	baz=347							
242A	**Grayson**	147.66	7	P		PKPbc	16 25 40.0	+0.5
	baz=352							
VBMS	**Vicksburg**	147.66	4	P		PKPbc	16 25 39.8	+0.4
	baz=355							
254A	**Abbeville**	147.74	353	P		PKPbc	16 25 40.3	+0.6
	baz=8.4							
251A	**Midway**	147.80	356	P		PKPbc	16 25 40.4	+0.6
	baz=4.4							
252A	**Lumpkin**	147.85	355	P		PKPbc	16 25 40.5	+0.6
	baz=5.7							
245A	**Little AP, Sta**	147.89	3	P		PKPbc	16 25 40.9	+0.8
	baz=356							
249A	**Camden**	148.00	359	P		PKPbc	16 25 41.4	+1.1
	baz=1.2							
HPIG		148.04	31	*e*PKPdf		PKPdf	16 25 38.2	+0.4
356A	**Blackshear**	148.19	351	P		PKPbc	16 25 41.3	+0.4
	baz=11							
TIGA	**Tifton**	148.28	353	P		PKPbc	16 25 42.1	+1.0
	baz=7.9							
353A	**Camilla**	148.44	354	P		PKPbc	16 25 42.9	+1.4
	baz=6.8							
455A	**Stateville**	148.89	352	P		PKPbc	16 25 43.6	+0.8
	baz=9.2							
454A	**Quitman**	149.00	353	P		PKPbc	16 25 44.7	+1.7
	baz=8.0							
555A	**McAlpin**	149.50	352	P		PKPbc	16 25 45.7	+1.4
	baz=9.4							
542A	**Morse**	149.52	8	P		PKPbc	16 25 46.0	+1.7
	baz=351							
556A	**Lake Butler**	149.53	351	P		PKPbc	16 25 46.6	+2.2
	baz=11							
833A	**Chaparral WMA,**	149.56	20	P		PKPbc	16 25 46.6	+2.1
	baz=337							
657A	**Interlachen**	149.84	350	P		PKPbc	16 25 47.1	+2.0
	baz=12							
060A	**Indiantown**	151.98	346	P		PKPab	16 25 55.8	-3.5
	baz=16							
LPAZ	**La Paz**	154.81	230	PKP		PKPdf	16 25 49.1	+0.2
	comp=Z,2.4nm,0.9s,baz=59,slow=8.4,SNR=6.3							
LPAZ				PKPab		PKPab	16 26 12.8	+0.4
	comp=Z,2.7nm,0.8s,baz=88,slow=8.2,SNR=3.7							

JMA 16 16:11:22.9±0.2, 38.51N×139.31E, h181km±2km, M2.5, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYA	**Atsumi**	0.33	75	*e*S	Sn	16 12 05.8	-0.1
JTB	**Tobi-shima**	0.71	16	P	Pn	16 11 48.8	0.0
JYK	**Kaneyama**	0.92	63	P	Pn	16 11 50.2	+0.1
JYK				*e*S	Sn	16 12 10.8	-0.3
JSD	**Sado**	0.95	241	P	Pn	16 11 50.5	+0.2
JSD				*e*S	Sn	16 12 11.1	-0.4
JOU	**Okura**	1.07	97	P	Pn	16 11 51.6	+0.3
JMM	**Marumori**	1.33	118	P	Pn	16 11 53.5	+0.1
JMK	**Ichinoseki**	1.56	73	P	Pn	16 11 55.6	+0.2
JFK	**Kawauchi**	1.68	132	P	Pn	16 11 56.6	-0.2
JFK				*e*S	Sn	16 12 22.3	-0.7
JOM	**Ohasama**	1.82	57	P	Pn	16 11 58.1	0.0
JHO	**Hitachi**	2.14	152	P	Pn	16 12 00.9	-0.7
MAT	**Matsushiro**	2.15	204	P	Pn	16 12 02.6	+0.9
JYT	**Yasato**	2.38	163	S	Sn	16 12 34.5	-2.0

*NIED **16** 16:21:00,36.40N×140.60E,h62km,Mw3.8 Best double couple: M0 6.10000×10^14 NP1:ϕs 179.00000°,δ28.00000°, λ122.00000°. NP2:ϕs 324.00000°,δ66.00000°,λ74.00000°.*
*ISCJB **16** 16:21:38.9±0.8,36.28N±0.05×140.69E±0.07,h57km±6km, mb3.5/5,MS2.7/1,Error ellipse: s-maj=10.3km s-min=6.9km az=33.0*
*JMA **16** 16:21:40.9,36.34N×140.59E,h52km±1km,M3.6*
JMA Felt I J1.
*IDC **16** 16:21:50.0±1.2,35.36N×138.58E,h78km±13km,mb3.2/5, mb1 3.4/6,mb1mx3.1/66,mbtmp3.6/6,MS2.9/2,Ms1 2.9/2, ms1mx2.4/28,Error ellipse: s-maj=34.3km s-min=14.1km az=74.0*

ISC 16 16:21:39.9±1.1, 36.28N±0.05×140.63E±0.06, h56km±8km, n18,σ2.9 29/26, mb3.5/5, 4C-4D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHO	**Hitachi**	0.33	352	⇑P	Pn	16 21 50.0	+0.1
JHO				S	Sn	16 21 56.1	-1.0
JYT	**Yasato**	0.36	261	⇓P	Pn	16 21 50.7	+0.6
JYT				*i* S	Sn	16 21 57.5	+0.1
ONAJ	**Iwakimizuishiy**	0.83	9	⇑P	Pn	16 21 55.2	-0.4
ONAJ				S	Sn	16 22 05.6	-1.5
JAG	**Ashikaga**	0.96	279	⇓P	Pn	16 21 57.8	+0.6
JAG				S	Sn	16 22 09.6	-0.5
JFK	**Kawauchi**	1.10	10	⇑P	Pn	16 21 58.6	-0.5
JKT	**Katashina**	1.21	294	⇓P	Pn	16 22 01.5	+0.8
JKT				S	Sn	16 22 16.6	+0.4
JFT	**Otama**	1.25	349	⇑P	Pn	16 22 01.5	+0.3
JFT				S	Sn	16 22 16.5	-0.6
JFY	**Yanaizu**	1.34	327	P	Pn	16 22 02.9	+0.5
JFY				S	Sn	16 22 18.7	-0.6
JRY	**Ryogami san**	1.42	260	⇓P	Pn	16 22 04.4	+0.9
JRY				S	Sn	16 22 21.6	+0.4
MJAR	**Matsushiro Arr**	1.97	278	P	Pn	16 22 11.8	+1.0
	14nm,0.3s,baz=150,slow=10,SNR=150						
MJAR				S	Sn	16 22 27.4	-7.0
	26nm,0.3s,baz=81,slow=17,SNR=24						
MAT	**Matsushiro**	1.97	278	P	Pn	16 22 12.4	+1.5
MAT				S	Sn	16 22 27.6	-6.9
JHJ	**Hachijo jima 2**	3.23	193	P	Pn	16 22 27.3	-0.8
	26nm,0.3s,baz=49,slow=20,SNR=3.0						
JHJ				LR	LR	16 23 37.9	
	comp=Z,205nm,18.0s,baz=86,slow=44						
MA2	**Magadan**	24.22	13	LR	LR	16 36 60.0	
	comp=Z,26nm,19.6s,baz=115,slow=36						
MKAR	**Makanchi Array**	43.99	303	P	**P**	16 29 43.5	+2.0
	0.3nm,0.7s,baz=92,slow=8.9,SNR=4.0						
KURBB	**Kurchatov Arra**	45.97	308	P	**P**	16 29 57.7	+0.5
	0.3nm,0.5s,baz=82,slow=7.5,SNR=6.5						
ILAR	**Eielson Array**	50.46	32	P	P	16 30 51.9	+20
	0.2nm,0.6s,baz=254,slow=6.5,SNR=3.6						
WRA	**Warramunga Arr**	56.23	187	P	**P**	16 31 15.8	+1.4
	0.9nm,0.6s,baz=4.0,slow=7.3,SNR=9.5						
ASAR	**Alice Springs**	59.96	187	P	**P**	16 31 39.5	-0.9
	0.8nm,0.8s,baz=10,slow=7.0,SNR=7.7						

IDC 16 16:22:31.4±59.0, 22.46S×178.76W, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.4/46, mbtmp3.7/3, Error ellipse: s-maj=1070.0km s-min=159.0km az=85.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	36.34	246	P	P	16 29 36.0	-1.2
	1.2nm,0.9s,baz=90,slow=10,SNR=4.5						
ASAR	**Alice Springs**	43.42	259	P	P	16 30 36.1	-0.1
	0.4nm,0.6s,baz=94,slow=7.2,SNR=17						
WRA	**Warramunga Arr**	43.67	264	P	P	16 30 38.9	+0.6
	0.8nm,0.4s,baz=97,slow=8.4,SNR=46						

*ISCJB **16** 16:32:58.1±1.5,32.95S±0.07×70.38W±0.09, h116km±11km,Error ellipse: s-maj=13.9km s-min=9.4km az=40.7*
*GUC **16** 16:32:58.6±0.4,32.75S×70.25W,h97km±5km,ML2.9*
*SJA **16** 16:32:58.1±0.5,33.16S×70.19W,h92km±9km,ML2.5, MW3.1*

ISC 16 16:32:58.5±2.9, 32.96S±0.07×70.37W±0.09, h112km±20km, n9,σ1.908/17, 1C-1D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PEL	**Peldehue**	0.32	236	*e*P	**Pn**	16 33 14.3	-0.4
PEL				*i* S	Sn	16 33 25.8	-1.0
FCH	**Farellones**	0.37	170	*e*P	**Pn**	16 33 15.1	-0.2
FCH				*i* S	Sn	16 33 27.6	-0.3
FCH				IAML		16 33 29.0	
	comp=E,829nm,0.2s						
ROCH	**El Roble**	0.54	269	⇑*i* P	**Pn**	16 33 15.9	-0.2
ROCH				*i* S	Sn	16 33 29.0	-0.3
ROCH				IAML		16 33 29.9	
	comp=E,930nm,0.2s						
ROC1	**El Roble**	0.54	268	*e*P	**Pn**	16 33 16.0	-0.2
ROC1				*e*S	Sn	16 33 29.4	-0.1
LMEL	**Las Melosas**	0.89	171	⇓*i* P	**Pn**	16 33 19.9	+0.9
LMEL				*e*S	Sn	16 33 36.4	+1.9
LMEL				IAML		16 33 40.7	
	comp=N,204nm,0.1s						
AUSP	**Uspallata**	1.11	49	*e*P	**Pn**	16 33 21.7	+0.4
AUSP				*e*S	Sn	16 33 38.4	-0.1
RTLS	**Leoncito**	1.47	38	*e*P	**Pn**	16 33 26.3	+0.8
RTLS				*e*S	Sn	16 33 47.6	+1.7
RTLS				IAML		16 33 49.6	
	comp=Z,44nm,0.2s						
AMOG	**MOGNA**	2.57	39	*e*P	**Pn**	16 33 39.4	+0.3
ACAN	**Cantantal**	2.77	77	*e*P	**Pn**	16 33 40.7	-0.8
ACAN				*e*S	Sn	16 34 12.6	-2.2

IDC 16 16:34:26.8±2.0, 6.06S×132.94E, h0km, mb3.8/2, mb1 4.1/5, mb1mx3.6/46, mbtmp3.9/5, ML3.9/3, Error ellipse: s-maj=159.9km s-min=22.3km az=73.0, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	5.42	342	Pn	Pn	16 35 47.2	-1.7
	1.9nm,0.3s,baz=210,slow=20,SNR=3.3						
SIJI				Sn	Sn	16 36 45.3	-6.8
	5.2nm,0.3s,baz=208,slow=23,SNR=9.3						
WRA	**Warramunga Arr**	13.87	175	Pn	Pn	16 37 43.7	-1.1
	0.7nm,0.3s,baz=352,slow=14,SNR=24						
WRA				Sn	Sn	16 40 12.3	-7.3
	0.4nm,0.3s,baz=359,slow=24,SNR=4.4						
ASAR	**Alice Springs**	17.53	177	P	Pn	16 38 32.8	0.0
	0.4nm,0.3s,baz=357,slow=13,SNR=35						
ASAR				S	Sn	16 41 44.1	-4.7
	0.1nm,0.3s,baz=358,slow=28,SNR=3.9						
STKA	**Stephens Creek**	26.93	164	P	P	16 40 09.9	0.0
	1.2nm,0.5s,baz=345,slow=8.5,SNR=9.9						
MKAR	**Makanchi Array**	69.08	325	P	P	16 45 35.3	+0.6
	0.3nm,0.4s,baz=133,slow=7.3,SNR=4.5						

*IDC **16** 16:35:38.8±6.6,0.59N×95.71E,h0km,mb3.7/5,mb1 3.6/7, mb1mx3.4/64,mbtmp3.6/7,ML3.2/2,Error ellipse: s-maj=125.8km s-min=45.8km az=173.0*

ISC 16 16:35:46.8±4.8, 1.0N±0.6×95.9E±0.2, h35km, n7,σ0.975/7, mb3.8/5, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	3.53	59	Pn	**Pn**	16 36 39.2	-0.1
	0.4nm,0.3s,baz=149,slow=19,SNR=1.8						
CMAR	**Chiang Mai Arr**	17.65	10	P	**Pn**	16 39 49.9	-0.1
	0.1nm,0.3s,baz=202,slow=11,SNR=9.7						
MKAR	**Makanchi Array**	47.18	347	P	**P**	16 44 16.2	+0.2
	0.8nm,0.7s,baz=170,slow=8.4,SNR=10						
SONM	**Songino Array**	47.58	10	P	**P**	16 44 19.7	+0.5
	0.8nm,0.8s,baz=186,slow=9.6,SNR=3.7						
KURBB	**Kurchatov Arra**	51.64	346	P	**P**	16 44 48.6	-1.3
	0.5nm,0.5s,baz=159,slow=6.5,SNR=4.7						
ZALV	**Zalesovo Beam**	53.61	352	P	**P**	16 45 04.0	-0.3
	1.1nm,0.6s,baz=186,slow=7.3,SNR=6.2						
BVAR	**Borovoye Array**	56.07	342	P	**P**	16 45 21.7	-0.5
	0.2nm,0.5s,baz=150,slow=12,SNR=3.6						

*ISCJB **16** 16:36:48.0±0.6,39.09N±0.04×29.16E±0.04,h2km±8km, Error ellipse: s-maj=7.0km s-min=4.3km az=146.1*
*ISK **16** 16:36:47.2,39.09N×29.18E,h5km,ML2.3/5*
*CSEM **16** 16:36:48.3±0.1,39.09N×29.15E,h8km,ML2.3, Error ellipse: s-maj=4.0km s-min=2.8km az=132.0*
*DDA **16** 16:36:48.4,39.05N×29.13E,h7km,Ml2.5*

ISC 16 16:36:48.3±0.9, 39.10N±0.03×29.15E±0.03, h8km±7km, n28,σ0.941/40, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIMA	**Simav-Kutahya**	0.13	262	PG	**Pg**	16 36 51.5	+0.3
SIMA				SG	**Sg**	16 36 53.1	-0.1
SIMA	**Simav-Kutahya**	0.13	262	*e*Pg	**Pg**	16 36 51.5	+0.3
SIMA				*e*Sg	**Sg**	16 36 53.1	-0.1
GDZ	**Gediz**	0.26	93	*i* P	**Pg**	16 36 53.8	+0.3
GDZ	**Gediz**	0.26	93	P	**Pg**	16 36 53.8	+0.3
DEMI	**Demirci**	0.34	260	*i* P	**Pg**	16 36 55.2	+0.2
DEMI				*i* S	**Sg**	16 36 59.1	-0.4
DEMI	**Demirci**	0.34	260	P	**Pg**	16 36 55.2	+0.2
DEMI				S	**Sg**	16 36 59.1	-0.4
TVSB	**Tavsanli**	0.42	35	PG	**Pg**	16 36 55.9	-0.7
TVSB				SG	**Sg**	16 37 01.9	-0.3
TVSB	**Tavsanli**	0.42	35	*e*Pg	**Pg**	16 36 55.9	-0.7
TVSB				*e*Sg	**Sg**	16 37 01.9	-0.3
KULA	**Kula-Manisa**	0.70	213	PG	**Pg**	16 37 01.1	-0.6
KULA				SG	**Sg**	16 37 10.9	0.0
KULA	**Kula-Manisa**	0.70	213	*e*Pg	**Pg**	16 37 01.1	-0.6
KULA				*e*Sg	**Sg**	16 37 10.9	0.0
DURS	**Dursunbey**	0.72	314	*i* P	**Pb**	16 37 02.9	-0.3
DURS	**Dursunbey**	0.72	314	P	**Pb**	16 37 02.8	-0.3
MANT	**Manisa**	0.76	217	*i* P	**Pg**	16 37 02.9	-0.1
MANT				*i* S	**Sg**	16 37 12.4	-0.6
MANT	**Manisa**	0.76	217	P	**Pg**	16 37 02.9	-0.1
MANT				S	**Sg**	16 37 12.4	-0.6
KHAL	**Karahalli**	0.78	160	*i* P	**Pb**	16 37 04.1	0.0
KHAL	**Karahalli**	0.78	160	P	**Pb**	16 37 04.1	0.0
STEP	**BALIKESIR_Sava**	1.14	284	*i* P	**Pg**	16 37 10.3	+0.1
STEP				*i* S	**Sn**	16 37 26.6	+0.1
STEP	**BALIKESIR_Sava**	1.14	284	P	**Pg**	16 37 10.3	+0.1
STEP				S	**Sn**	16 37 26.5	+0.1
CAVI	**Cavuskoy**	1.22	26	PN	**Pb**	16 37 11.0	-0.6
CAVI	**Cavuskoy**	1.22	26	*e*Pn	**Pb**	16 37 11.0	-0.6
BORA	**Eskisehir**	1.27	52	*i* P	**Pg**	16 37 13.5	+0.7
BORA	**Eskisehir**	1.27	52	P	**Pg**	16 37 13.5	+0.7
KCTX	**Karacabey (Bur**	1.31	333	PN	**Pb**	16 37 13.4	+0.2
KCTX	**Karacabey (Bur**	1.31	333	*e*Pn	**Pb**	16 37 13.4	+0.2
YLV	**Yalova**	1.47	7	PN	**Pn**	16 37 15.4	+0.2
YLV	**Yalova**	1.47	7	*e*Pn	**Pn**	16 37 15.4	+0.2
ARMT	**Armutlu**	1.48	352	PN	**Pn**	16 37 15.6	+0.4
ARMT	**Armutlu**	1.48	352	*e*Pn	**Pn**	16 37 15.6	+0.4

MEX 16 16:37:19.9±0.5, 16.88N×100.33W, h4km±6km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	0.17	21	*i* P	Pg	16 37 23.0	-0.3
CAIG				*i* S	Sg	16 37 25.7	0.0
ACP2	**Acapulco**	0.43	91	*e*P	Pg	16 37 27.5	-0.7
ACP2				*e*S	Sg	16 37 34.2	+0.4
ACX	**Acapulco**	0.46	92	*e*P	Pg	16 37 28.6	-0.1
ACX				*e*S	Sg	16 37 34.7	+0.1
MEIG	**Mezcala**	1.24	33	*e*P	Pg	16 37 40.2	-3.5
MEIG				*e*S	Sg	16 37 55.2	-4.6
ZIIG	**Zihuatanejo**	1.30	304	*i* P	Pn	16 37 40.8	-4.0
ZIIG				*e*S	Sg	16 37 56.6	-5.1
ARIG	**Puente Sto Nin**	1.39	359	*e*P	Pn	16 37 42.3	-3.8
ARIG				*e*S	Sb	16 37 59.5	-5.1
PLIG	**Platanillo**	1.70	28	*i* P	Pn	16 37 47.4	-3.0
PLIG				*e*S	Sn	16 38 07.4	-5.1

*ISCJB **16** 16:39:09.4±0.5,45.69N±0.02×26.48E±0.04,h153km±4km, Error ellipse: s-maj=4.4km s-min=3.7km az=28.2*
*CSEM **16** 16:39:09.7±0.2,45.67N×26.48E,h154km±2km,MD4.1, Error ellipse: s-maj=3.5km s-min=3.2km az=134.0*
*SIGU **16** 16:39:09.4,45.76N×26.49E,h158km,mb3.0*
*BUC **16** 16:39:10.1±0.7,45.66N×26.47E,h157km±7km,MD4.1/3, Error ellipse: s-maj=4.4km s-min=3.7km az=98.0*
*SOF **16** 16:39:12.8,45.49N×26.50E,h120km,MD3.5*

ISC 16 16:39:08.7±1.3, 45.67N±0.03×26.48E±0.03, h164km±6km, n132,σ0.999/190, 52C-54D, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLOR	**Plostina**	0.21	34	⇑*i* P	Pn	16 39 30.9	+0.2
PLOR	**Plostina**	0.21	34	⇑*i* P	Pn	16 39 30.9	+0.2
PLOR				*i* S	Sn	16 39 46.6	-1.0
PLOR	**Plostina**	0.21	34	⇑*i* P	Pn	16 39 30.9	+0.2
PLOR				*i* S	Sn	16 39 46.6	-1.0
VRI	**Vrincioaia**	0.26	42	⇑*i* P	Pn	16 39 31.1	+0.4
VRI	**Vrincioaia**	0.26	42	⇑*i* P	Pn	16 39 31.1	+0.4
VRI				*i* S	Sn	16 39 46.6	-1.1
VRI	**Vrincioaia**	0.26	42	⇑*i* P	Pn	16 39 31.1	+0.4
VRI				S	Sn	16 39 46.7	-1.0
ODBI	**Odobesti**	0.41	77	⇑*i* P	Pn	16 39 32.6	+1.4
ODBI	**Odobesti**	0.41	77	⇑*i* P	Pn	16 39 32.6	+1.4
ODBI				*i* S	Sn	16 39 48.7	+0.3
ODBI	**Odobesti**	0.41	77	⇑*i* P	Pn	16 39 32.6	+1.4
ODBI				*i* S	Sn	16 39 48.7	+0.3
MLR	**Muntele Rosu**	0.42	244	⇑*i* P	Pn	16 39 31.8	+0.4
MLR	**Muntele Rosu**	0.42	244	S	Sn	16 39 47.1	-1.6
MLR	**Muntele Rosu**	0.42	244	⇑*i* P	Pn	16 39 31.8	+0.4
MLR				*i* S	Sn	16 39 47.1	-1.6
MLR	**Muntele Rosu**	0.42	244	⇑*i* P	Pn	16 39 31.8	+0.4
MLR				*i* S	Sn	16 39 47.1	-1.6
GRER		0.46	130	⇓*i* P	Pn	16 39 32.3	+0.9
GRER		0.46	130	⇓*i* P	Pn	16 39 32.3	+0.9
GRER				*i* S	Sn	16 39 47.3	-1.4
GRER		0.46	130	⇓*i* P	Pn	16 39 32.3	+0.9
GRER				*i* S	Sn	16 39 47.3	-1.4
PETR	**Petresti**	0.53	84	⇑*i* P	Pn	16 39 32.7	+1.0
PETR	**Petresti**	0.53	84	⇑*i* P	Pn	16 39 32.7	+1.0
PETR				*i* S	Sn	16 39 49.2	0.0
PETR	**Petresti**	0.53	84	⇑*i* P	Pn	16 39 32.7	+1.0
PETR				S	Sn	16 39 49.0	-0.2
ISR	**Istrita**	0.56	175	⇓*i* P	Pn	16 39 32.0	0.0
ISR	**Istrita**	0.56	175	⇓*i* P	Pn	16 39 32.0	0.0
ISR				*i* S	Sn	16 39 50.6	+0.9
ISR	**Istrita**	0.56	175	⇓*i* P	Pn	16 39 32.0	0.0
ISR				*i* S	Sn	16 39 50.6	+0.9
SECR		0.70	205	⇓*i* P	Pn	16 39 33.5	+0.8
SECR		0.70	205	⇓*i* P	Pn	16 39 33.5	+0.8
SECR				*i* S	Sn	16 39 51.3	+0.3
SECR		0.70	205	⇓*i* P	Pn	16 39 33.5	+0.8
SECR				*i* S	Sn	16 39 51.3	+0.3
DOPR	**Dopca**	0.82	291	⇑*i* P	Pn	16 39 33.9	+0.5
DOPR	**Dopca**	0.82	291	⇑*i* P	Pn	16 39 33.9	+0.5
DOPR	**Dopca**	0.82	291	⇑*i* P	Pn	16 39 33.9	+0.5
PLAR	**PLOIESTI**	0.82	203	⇓*i* P	Pn	16 39 34.3	+0.9
PLAR	**PLOIESTI**	0.82	203	⇓*i* P	Pn	16 39 34.3	+0.9
PLAR	**PLOIESTI**	0.82	203	⇓*i* P	Pn	16 39 34.3	+0.9

LEOM	**Leova**	**1.47**	**56**	⇓	*i* P		**Pn**	**16 39 40.0**	**+1.1**
LEOM					*i* S		**Sn**	**16 40 01.8**	**-0.4**
LEOM	**Leova**	**1.47**	**56**		P		**Pn**	**16 39 40.0**	**+1.1**
LEOM					S		**Sn**	**16 40 01.8**	**-0.4**
LEOM	**Leova**	**1.47**	**56**	⇓	*i* P		**Pn**	**16 39 40.0**	**+1.1**
LEOM					S		**Sn**	**16 40 01.4**	**-0.8**
SGRR	**Singureni**	**1.50**	**194**	⇓	*i* P		**Pn**	**16 39 39.8**	**+0.6**
SGRR	**Singureni**	**1.50**	**194**	⇓	*i* P		**Pn**	**16 39 39.8**	**+0.6**
SGRR					*i* S		**Sn**	**16 40 01.4**	**-1.3**
SGRR	**Singureni**	**1.50**	**194**	⇓	*i* P		**Pn**	**16 39 39.8**	**+0.6**
SGRR					*i* S		**Sn**	**16 40 01.4**	**-1.3**
HUMR	**Humele**	**1.56**	**223**	⇓	*i* P		**Pn**	**16 39 40.3**	**+0.4**
HUMR	**Humele**	**1.56**	**223**	⇓	*i* P		**Pn**	**16 39 40.3**	**+0.4**
HUMR					*i* S		**Sn**	**16 40 03.0**	**-0.9**
HUMR	**Humele**	**1.56**	**223**	⇓	*i* P		**Pn**	**16 39 40.3**	**+0.4**
HUMR					*i* S		**Sn**	**16 40 03.0**	**-0.9**
IAS	**Iasi**	**1.69**	**26**	⇑	*i* P		**Pn**	**16 39 42.2**	**+1.0**
IAS	**Iasi**	**1.69**	**26**	⇑	*i* P		**Pn**	**16 39 42.2**	**+1.0**
IAS	**Iasi**	**1.69**	**26**	⇑	*i* P		**Pn**	**16 39 42.2**	**+1.0**
IAS					S		**Sn**	**16 40 05.3**	**-1.1**
TLCR		**1.71**	**106**	⇑	*i* P		**Pn**	**16 39 42.2**	**+0.7**
TLCR		**1.71**	**106**	⇑	*i* P		**Pn**	**16 39 42.2**	**+0.7**
TLCR					*i* S		**Sn**	**16 40 06.0**	**-0.7**
TLCR		**1.71**	**106**	⇑	*i* P		**Pn**	**16 39 42.2**	**+0.7**
TLCR					*i* S		**Sn**	**16 40 06.0**	**-0.7**
CVDA	**Cernavoda**	**1.74**	**140**	⇓	*i* P		**Pn**	**16 39 42.6**	**+0.9**
CVDA	**Cernavoda**	**1.74**	**140**	⇓	*i* P		**Pn**	**16 39 42.6**	**+0.9**
CVDA					*i* S		**Sn**	**16 40 05.8**	**-1.3**
CVDA	**Cernavoda**	**1.74**	**140**	⇓	*i* P		**Pn**	**16 39 42.6**	**+0.9**
CVDA					*i* S		**Sn**	**16 40 05.8**	**-1.3**
TIRR	**Tirgusor**	**1.83**	**131**	⇓	*i* P		**Pn**	**16 39 43.5**	**+0.8**
TIRR	**Tirgusor**	**1.83**	**131**	⇓	*i* P		**Pn**	**16 39 43.5**	**+0.8**
TIRR					*i* S		**Sn**	**16 40 07.4**	**-1.6**
TIRR	**Tirgusor**	**1.83**	**131**	⇓	*i* P		**Pn**	**16 39 43.5**	**+0.8**
TIRR					*i* S		**Sn**	**16 40 07.4**	**-1.6**
MILM	**Milestii Mici**	**2.04**	**52**	⇑	*i* P		**Pn**	**16 39 46.1**	**+1.1**
MILM	**Milestii Mici**	**2.04**	**52**		S		**Sn**	**16 40 12.0**	**-1.2**
MILM	**Milestii Mici**	**2.04**	**52**	⇑	*i* P		**Pn**	**16 39 46.1**	**+1.1**
MILM					*i* S		**Sn**	**16 40 12.0**	**-1.2**
MILM	**Milestii Mici**	**2.04**	**52**	⇑	*i* P		**Pn**	**16 39 46.1**	**+1.1**
MILM					S		**Sn**	**16 40 11.9**	**-1.2**
KIS	**Kishinev**	**2.09**	**50**		*e*P		**Pn**	**16 39 45.8**	**+0.2**
KIS					*i* S		**Sn**	**16 40 12.4**	**-1.8**
	1µm,0.7s								
KIS	**Kishinev**	**2.09**	**50**	⇓	*i* P		**Pn**	**16 39 46.6**	**+1.0**
KIS	**Kishinev**	**2.09**	**50**		S		**Sn**	**16 40 13.4**	**-0.8**
KIS	**Kishinev**	**2.09**	**50**	⇓	*i* P		**Pn**	**16 39 46.6**	**+1.0**
KIS					*i* S		**Sn**	**16 40 13.4**	**-0.8**
KIS	**Kishinev**	**2.09**	**50**		*e*P		**Pn**	**16 39 45.8**	**+0.2**
KIS					Pm		**Sn**	**16 40 12.4**	**-1.8**
KIS					*i* S		**Sn**	**16 40 12.4**	**-1.8**
KIS					Sm			16 40 13.0	
KIS	**Kishinev**	**2.09**	**50**	⇓	*i* P		**Pn**	**16 39 46.6**	**+1.0**
KIS					*i* S		**Sn**	**16 40 13.4**	**-0.8**
BURAR	**Bucovina Array**	**2.13**	**336**	⇑	*i* P		**Pn**	**16 39 48.6**	**+2.4**
BURAR	**Bucovina Array**	**2.13**	**336**	⇑	*i* P		**Pn**	**16 39 48.6**	**+2.4**
BURAR	**Bucovina Array**	**2.13**	**336**	⇑	*i* P		**Pn**	**16 39 48.6**	**+2.4**
ZIMR		**2.17**	**202**		S		**Sn**	**16 40 14.2**	**-1.6**
ZIMR		**2.17**	**202**		*i* S		**Sn**	**16 40 14.2**	**-1.6**
EFOR	**EFORIE**	**2.21**	**135**	⇑	*i* P		**Pn**	**16 39 48.2**	**+1.2**
EFOR	**EFORIE**	**2.21**	**135**	⇑	*i* P		**Pn**	**16 39 48.2**	**+1.2**
EFOR	**EFORIE**	**2.21**	**135**		P		**Pn**	**16 39 48.1**	**+1.1**
CJR	**Cluj-Napoca**	**2.26**	**298**	⇓	*i* P		**Pn**	**16 39 48.7**	**+1.1**
CJR	**Cluj-Napoca**	**2.26**	**298**	⇓	*i* P		**Pn**	**16 39 48.7**	**+1.1**
CJR	**Cluj-Napoca**	**2.26**	**298**	⇓	*i* P		**Pn**	**16 39 48.7**	**+1.1**
PSN	**Preselentsi**	**2.33**	**148**		P		**Pn**	**16 39 49.4**	**+0.9**
PSN	**Preselentsi**	**2.33**	**148**		P		**Pn**	**16 39 49.4**	**+0.9**
MANR	**Mangalia**	**2.39**	**140**	⇓	*i* P		**Pn**	**16 39 50.1**	**+1.0**
MANR	**Mangalia**	**2.39**	**140**	⇓	*i* P		**Pn**	**16 39 50.1**	**+1.0**
MANR	**Mangalia**	**2.39**	**140**	⇓	*i* P		**Pn**	**16 39 50.1**	**+1.0**
SZH	**Strazhica**	**2.44**	**189**		P		**Pn**	**16 39 50.3**	**+0.5**
SZH	**Strazhica**	**2.44**	**189**		P		**Pn**	**16 39 50.3**	**+0.5**
PRD	**Provadia**	**2.56**	**165**		P		**Pn**	**16 39 52.6**	**+1.4**
PRD	**Provadia**	**2.56**	**165**		P		**Pn**	**16 39 52.6**	**+1.4**
SORM	**Soroca**	**2.78**	**27**	⇑	*i* P		**Pn**	**16 39 54.6**	**+0.9**
SORM	**Soroca**	**2.78**	**27**	⇑	*i* P		**Pn**	**16 39 54.6**	**+0.9**
SORM	**Soroca**	**2.78**	**27**	⇑	*i* P		**Pn**	**16 39 54.6**	**+0.9**
SORM					S		**Sn**	**16 40 27.4**	**-1.4**
DRGR		**2.84**	**294**	⇓	*i* P		**Pn**	**16 39 55.3**	**+0.6**
DRGR		**2.84**	**294**	⇓	*i* P		**Pn**	**16 39 55.3**	**+0.6**
DRGR		**2.84**	**294**	⇓	*i* P		**Pn**	**16 39 55.3**	**+0.6**
BZS	**Buzias**	**3.41**	**271**		*e*Pn		**Pn**	**16 40 02.3**	**+0.6**
HORU	**Horodok**	**3.54**	**359**		*e*P		**Pn**	**16 40 04.1**	**+0.8**
HORU					eS		**Sn**	**16 40 44.8**	**-1.2**
ZAGS	**Zajecar**	**3.55**	**240**		*e*Pn		**Pn**	**16 40 03.5**	**0.0**
BRIU	**Brid**	**3.56**	**320**		*e*P		**Pn**	**16 40 04.0**	**+0.4**
BRIU					Pm			16 40 05.6	
BRIU					*e*S		**Sn**	**16 40 46.2**	**-0.2**
BRIU					Sm			16 40 46.9	
KUBS	**Kucevo**	**3.63**	**251**		*e*Pn		**Pn**	**16 40 04.1**	**-0.5**
ZAPS	**Zavoj**	**3.65**	**230**		*e*Pn		**Pn**	**16 40 05.7**	**+0.8**

IDC ***16*** *16:39:53.8±2.5,0.°18S×124.°15E,h51km±22km,mb3.7/11, mb1 3.8/12,mb1mx3.6/53,mbtmp4.0/12,ML3.9/1, Error ellipse: s-maj=25.8km s-min=15.1km az=55.0*

ISCJB ***16*** *16:39:55.5±0.4,0.°07S±0.°05×124.°57E±0.°04,h73km, mb3.9/13,Error ellipse: s-maj=8.0km s-min=6.0km az=20.3*

DJA ***16*** *16:39:58.4±0.2,0.°5S±4.°×12.°5E±.°,h56km±6km,M4.5/14, mb4.5/9,mB4.8/4,MLv4.7/14,Mw(mB)4.0/4*

ISC 16 16:39:56.9±0.6,**0.°13S**±0.°07×**124.°46E**±0.°06,**h73km**,**n33,** σ2°11/35,**mb4.1**/13,**Southern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**0.85**	**326**		P	**Pn**	**16 40 14.7**	**+1.0**
LUWI	**Luwuk**	**1.91**	**242**		P	**Pn**	**16 40 28.6**	**+1.2**
SANI	**Sanana**	**2.44**	**141**		P	**Pn**	**16 40 33.2**	**-1.4**
MRSI	**Marisa**	**2.59**	**284**		P	**Pn**	**16 40 36.7**	**+0.2**
APSI	**Ampana**	**2.91**	**255**		P	**Pn**	**16 40 43.1**	**+2.2**
LBMI	**Labuha**	**3.09**	**99**		P	**Pn**	**16 40 42.9**	**-0.4**
NLAI	**Namlea**	**4.06**	**139**		P	**Pn**	**16 40 56.6**	**0.0**
KDI	**Kendari**	**4.22**	**206**		P	**Pn**	**16 40 59.9**	**+1.1**
MPSI	**Mapaga**	**4.58**	**276**		P	**Pn**	**16 41 06.8**	**+3.1**
PCI	**Palu**	**4.68**	**261**		P	Pn	16 41 10.6	+5.5
TTSI	**Tana Toraja**	**5.46**	**238**		P	**Pn**	**16 41 17.7**	**+1.9**
	103nm,0.7s,1µm0.9nm							
MSAI	**Masohi**	**5.49**	**126**		P	**Pn**	**16 41 18.2**	**+2.0**
BBSI	**Bau Bau**	**5.64**	**199**		P	Pn	16 41 29.1	+11
BNSI	**Bone**	**6.07**	**226**		P	**Pn**	**16 41 26.1**	**+2.0**
SIJI	**Sorong**	**6.85**	**96**		P	**Pn**	**16 41 34.9**	**+0.2**
	2.0nm,0.3s,baz=266,slow=23,SNR=4.0							
SIJI					S	**Sn**	**16 42 57.1**	**+5.8**
	3.5nm,0.3s,baz=233,slow=23,SNR=3.0							
BSSI	**Bau Bau, Buton**	**7.16**	**213**		P	Pn	16 41 51.8	+13
FAKI	**Fak Fak**	**8.27**	**110**		P	**Pn**	**16 41 52.8**	**-1.3**
STKI	**Sintang**	**12.98**	**271**		P	**P**	**16 43 04.3**	**-1.9**
	7.3nm,0.8s							
TPRI	**Tanjung Pinang**	**19.96**	**273**		P	**Pn**	**16 44 29.0**	**+3.4**
	22nm,0.9s							
WRA	**Warramunga Arr**	**21.94**	**154**		P	**P**	**16 44 43.1**	**-1.5**
	0.6nm,0.5s,baz=334,slow=11,SNR=3.8							
ASAR	**Alice Springs**	**25.13**	**159**		P	**P**	**16 45 14.8**	**-0.5**
	0.8nm,0.7s,baz=337,slow=7.2,SNR=5.7							
ASAR					PcP	**PcP**	**16 48 48.8**	**+0.9**
	0.4nm,0.4s,baz=348,slow=2.0,SNR=8.7							
KHON	**Khomkaen**	**26.89**	**309**		P	**P**	**16 45 36.1**	**+4.9**
CMAR	**Chiang Mai Arr**	**31.14**	**308**		P	**P**	**16 46 06.5**	**-2.5**
	0.8nm,0.8s,baz=134,slow=7.4,SNR=7.0							
CMAR					PcP	**PcP**	**16 49 02.9**	**+0.1**
	0.3nm,0.7s,baz=175,slow=1.1,SNR=4.0							
CMAR					ScP	**ScP**	**16 52 40.3**	**+0.8**
	0.3nm,0.9s,baz=148,slow=2.2,SNR=4.5							
XAN	**Xi'an**	**36.99**	**338**		P	**P**	**16 46 59.6**	**+0.2**
XAN					pP	pP	16 47 05.8	-11
XAN					pmax	pmax		
	comp=Z,6.0nm,0.9s							
MJAR	**Matsushiro Arr**	**38.66**	**18**		P	**P**	**16 47 13.3**	**-0.2**
	comp=Z,1.3nm,0.8s,baz=204,slow=8.8,SNR=3.4							
USRK	**Ussuriysk Ar.**	**44.65**	**8**		P	**P**	**16 48 02.7**	**+0.5**
	comp=Z,1.8nm,0.5s,baz=200,slow=9.0,SNR=8.8							
GTA	**Gaotai**	**45.36**	**333**		*e*P	**P**	**16 48 09.0**	**+0.9**
GTA					pP	pP	16 48 13.3	-13
GTA					sP	sP	16 48 16.3	-18
GTA					pmax	pmax		
	comp=Z,6.0nm,1.0s							
SONM	**Songino Array**	**50.29**	**344**		P	**P**	**16 48 45.0**	**-1.1**
	comp=Z,1.6nm,0.7s,baz=158,slow=9.1,SNR=8.1							
MKAR	**Makanchi Array**	**59.50**	**328**		P	**P**	**16 49 51.0**	**-1.5**
	comp=Z,1.8nm,0.6s,baz=123,slow=8.1,SNR=23							
MKAR					ScP	**ScP**	**16 54 32.9**	**-1.1**
	comp=Z,0.6nm,0.9s,baz=145,slow=4.4,SNR=4.6							
ZALV	**Zalesovo Beam**	**63.04**	**335**		P	**P**	**16 50 12.9**	**-3.3**
	comp=Z,1.0nm,0.5s,baz=157,slow=8.0,SNR=4.8							
KURBB	**Kurchatov Arra**	**63.81**	**329**		P	**P**	**16 50 19.5**	**-1.9**
	comp=Z,1.8nm,0.6s,baz=118,slow=6.0,SNR=22							
BVAR	**Borovoye Array**	**69.35**	**328**		P	**P**	**16 50 56.7**	**0.0**
	comp=Z,1.2nm,0.8s,baz=116,slow=6.7,SNR=7.4							
AKTO	**Aktyubinsk**	**75.30**	**323**		P	**P**	**16 51 29.6**	**-2.5**
	comp=Z,1.2nm,0.5s,baz=95,slow=7.0,SNR=5.2							

ISK ***16*** *16:45:12.2,38.°86N×43.°31E,h5km,ML2.3/4*

CSEM ***16*** *16:45:13.4±0.3,38.°88N×43.°28E,h5km,ML2.6,Error ellipse: s-maj=8.1km s-min=7.3km az=51.0*

DDA ***16*** *16:45:13.6,38.°83N×43.°22E,h7km,Ml2.6*

ISC 16 16:45:13.0±1.5,**38.°87N**±0.°03×**43.°28E**±0.°03,**h3**km±18km, **n20,**σ0°66/23,**Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ERCV	**ERCIS-VAN**	**0.15**	**17**		PG	**Pg**	**16 45 15.7**	**-0.4**
ERCV	**ERCIS-VAN**	**0.15**	**17**		*e*Pg	**Pg**	**16 45 15.7**	**-0.4**
VMUR	**Van-Muradiye**	**0.26**	**63**		*i* P	**Pb**	**16 45 19.8**	**-0.6**
VMUR					*i* S	**Sb**	**16 45 25.3**	**-0.1**
VMUR	**Van-Muradiye**	**0.26**	**63**		P	**Pb**	**16 45 19.8**	**-0.6**
VANB	**Van**	**0.29**	**163**		PG	**Pb**	**16 45 20.2**	**-0.7**
VANB	**Van**	**0.29**	**163**		*e*Pg	**Pb**	**16 45 20.2**	**-0.7**
TVAN	**Van**	**0.36**	**164**		*i* P	**Pg**	**16 45 20.9**	**+1.0**
TVAN	**Van**	**0.36**	**164**		P	**Pg**	**16 45 20.9**	**+1.0**
ADCV	**BITLIS_Adilcev**	**0.44**	**262**		*i* P	**Pg**	**16 45 20.5**	**-0.9**
ADCV	**BITLIS_Adilcev**	**0.44**	**262**		P	**Pg**	**16 45 20.5**	**-0.9**
CLDR	**Caldiran**	**0.57**	**61**		PG	**Pg**	**16 45 24.4**	**+0.5**
CLDR	**Caldiran**	**0.57**	**61**		*i* P	**Pg**	**16 45 23.8**	**-0.1**
CLDR	**Caldiran**	**0.57**	**61**		P	**Pg**	**16 45 23.8**	**-0.1**
CLDR	**Caldiran**	**0.57**	**61**		*e*Pg	**Pg**	**16 45 24.4**	**+0.5**
TUTA	**Tutak**	**0.64**	**326**		*i* P	**Pg**	**16 45 26.2**	**+0.9**
TUTA	**Tutak**	**0.64**	**326**		P	**Pg**	**16 45 26.2**	**+0.9**
AGRB	**Hanur-Agry**	**0.74**	**343**		PG	**Pb**	**16 45 28.6**	**0.0**
AGRB					SG	**Sb**	**16 45 39.3**	**+0.1**
AGRB	**Hanur-Agry**	**0.74**	**343**		*e*Pg	**Pb**	**16 45 28.6**	**0.0**
AGRB					*e*Sg	**Sb**	**16 45 39.3**	**+0.1**
EKAR	**Karacoban**	**1.02**	**292**		*i* P	**Pb**	**16 45 33.7**	**+0.2**
EKAR	**Karacoban**	**1.02**	**292**		P	**Pb**	**16 45 33.7**	**+0.2**

IDC ***16*** *16:55:06.5±0.9,0.°68N×126.°15E,h0km,mb3.9/9, mb1 4.1/9,mb1mx3.7/64,mbtmp3.9/9,Error ellipse: s-maj=80.9km s-min=17.7km az=68.0*

ISCJB ***16*** *16:55:11.0±0.4,0.°82N±0.°06×126.°52E±0.°06,h47km, mb4.2/15,MS4.3/1,Error ellipse: s-maj=10.0km s-min=7.2km az=138.0*

DJA ***16*** *16:55:11.7±0.5,1.°1N±6.°×12.°7E±.°,h10km,M4.1/6,mB4.7/1, mb4.5/1,MLv3.9/6,Mw(mB)3.9/1*

NEIC ***16*** *16:55:11.6±1.0,0.°79N×126.°45E,h36km±10km,mb4.4/5, Error ellipse: s-maj=12.3km s-min=7.4km az=53.0*

ISC 16 16:55:13.1±0.8,**0.°74N**±0.°09×**126.°45E**±0.°09,**h47**km,**n29,** σ1°38/29,**mb4.2**/15,**Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**0.92**	**88**		*e*Pn	**Pn**	**16 55 28.5**	**-1.1**
LBMI	**Labuha**	**1.72**	**142**		P	**Pn**	**16 55 39.2**	**-1.4**
KMSI	**Cibinong**	**2.47**	**266**		P	**Pn**	**16 55 50.7**	**-0.2**
LUWI	**Luwuk**	**4.08**	**244**		P	**Pn**	**16 56 15.4**	**+2.4**
LUWI	**Luwuk**	**4.08**	**244**		*e*Pn	**Pn**	**16 56 12.8**	**-0.1**
MRSI	**Marisa**	**4.52**	**267**		P	**Pn**	**16 56 21.7**	**+2.7**
APSI	**Ampana**	**5.07**	**251**		P	**Pn**	**16 56 28.4**	**+1.8**
MYLDM	**Lahad Datu**	**9.08**	**299**		*e*Pn	**Pn**	**16 57 18.7**	**-2.9**
WRAB	**Tennant Creek**	**21.95**	**160**		*e*P	**P**	**17 00 01.9**	**-1.0**
	17nm,1.0s							
WRA	**Warramunga Arr**	**21.96**	**160**		P	**P**	**17 00 02.1**	**-0.9**
	8.9nm,0.8s,baz=337,slow=11,SNR=23							
WB2	**Warramunga Arr**	**21.96**	**160**		*e*P	**P**	**17 00 02.2**	**-0.9**
	14nm,0.9s							
AS31	**Alice Springs**	**25.32**	**164**		*e*P	**P**	**17 00 36.2**	**+0.6**
	2.6nm,1.0s							
ASAR	**Alice Springs**	**25.32**	**164**		P	**P**	**17 00 36.0**	**+0.4**
	8.6nm,0.9s,baz=342,slow=8.4,SNR=33							
AS01	**Alice Springs**	**25.33**	**164**		*e*P	**P**	**17 00 36.5**	**+0.8**
LHMI	**Lhok Sumawe**	**29.79**	**279**		*e*P	**P**	**17 01 16.5**	**+0.7**
	166nm,0.5s							
HHC	**Hu-ho-hao-te**	**42.15**	**343**		*e*P	**P**	**17 03 02.3**	**+1.2**
HHC					pmax	pmax		
	comp=Z,11nm,1.0s							
HHC					pmax	pmax		
	comp=Z,16nm,5.8s							
SONM	**Songino Array**	**50.04**	**342**		P	**P**	**17 04 03.9**	**+0.8**
	comp=Z,0.4nm,0.5s,baz=154,slow=8.0,SNR=2.9							
WMQ	**Urumqi**	**55.02**	**326**		P	**P**	**17 04 41.1**	**+1.1**
WMQ					LR	LR		
	comp=N,420nm,17.7s							
WMQ					LR	LR		
	comp=E,320nm,17.7s							
WMQ					LR	LR		
	comp=Z,130nm,18.9s							
MK01	**Makanchi Array**	**59.84**	**326**		*e*P	**P**	**17 05 12.0**	**-1.8**
MK31	**Makanchi Array**	**59.86**	**326**		*e*P	**P**	**17 05 12.9**	**-1.1**
MKAR	**Makanchi Array**	**59.86**	**326**		P	**P**	**17 05 13.0**	**-1.0**
	comp=Z,0.8nm,0.6s,baz=120,slow=7.8,SNR=7.8							
MKAR	**Makanchi Array**	**59.86**	**326**		*e*P	**P**	**17 05 12.9**	**-1.1**
	comp=Z,6.6nm,0.6s							
ZALV	**Zalesovo Beam**	**63.12**	**334**		P	**P**	**17 05 36.8**	**+1.0**
	comp=Z,0.5nm,0.5s,baz=135,slow=7.4,SNR=3.4							
KURBB	**Kurchatov Arra**	**64.11**	**328**		P	**P**	**17 05 41.1**	**-1.3**
	comp=Z,1.0nm,0.7s,baz=129,slow=5.9,SNR=11							
KURK	**Kurchatov**	**64.11**	**328**		*e*P	**P**	**17 05 42.0**	**-0.4**
	comp=Z,2.7nm,0.6s							
BVAR	**Borovoye Array**	**69.67**	**328**		P	**P**	**17 06 17.7**	**-0.1**
	comp=Z,0.6nm,0.5s,baz=135,slow=9.0,SNR=6.7							
TIXI	**Tiksi**	**70.82**	**1**		P	**P**	**17 06 23.9**	**-0.5**
	comp=Z,0.4nm,0.4s,baz=195,slow=3.3,SNR=5.4							
ABKAR	**Akbulak array**	**74.29**	**321**		*e*P	**P**	**17 06 44.2**	**-1.3**
AKTO	**Aktyubinsk**	**75.83**	**322**		P	**P**	**17 06 53.0**	**-1.3**
	comp=Z,0.9nm,0.6s,baz=118,slow=4.2,SNR=3.6							

IDC 16 16:56:40.3±25.0,**22.°80S×177.°88W,h436**km±90km, **mb3.7/5,mb1 3.8/5,mb1mx3.1/51,mbtmp4.5/5,Error ellipse: s-maj=335.9km s-min=103.7km az=79.0,South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**33.44**	**268**		P	P	17 02 42.0	+0.6
	12nm,0.3s,baz=95,slow=11,SNR=46							
STKA	**Stephens Creek**	**36.94**	**247**		P	P	17 03 09.7	-0.9
	1.7nm,0.5s,baz=96,slow=10,SNR=4.0							
ASAR	**Alice Springs**	**44.15**	**259**		P	P	17 04 08.3	-0.4
	2.7nm,0.5s,baz=94,slow=7.3,SNR=50							
ASAR					ScP	ScP	17 08 54.0	-0.5
	0.4nm,0.7s,baz=105,slow=3.9,SNR=5.8							
WRA	**Warramunga Arr**	**44.44**	**264**		P	P	17 04 10.5	-0.6
	4.3nm,0.4s,baz=94,slow=8.3,SNR=134							
FITZ	**Fitzroy Crossi**	**52.87**	**264**		P	P	17 05 14.6	+0.4
	1.8nm,0.5s,baz=106,slow=8.4,SNR=12							

KRSC ***16*** *17:02:54.1±1.4,55.°36N×165.°52E,h53km±14km,ML4.9, FELT [IV] at Nikolskoe.*

IDC ***16*** *17:02:54.3±0.6,55.°55N×165.°43E,h0km,mb3.9/26, mb1 4.0/30,mb1mx3.9/82,mbtmp3.9/30,ML3.7/4,MS3.3/12, Ms1 3.3/12,ms1mx3.1/71,Error ellipse: s-maj=16.5km s-min=11.1km az=161.0*

NEIC ***16*** *17:02:55.7±0.3,55.°52N×165.°42E,h10km,mb4.7/4,Error ellipse: s-maj=7.2km s-min=4.2km az=154.0*

MOS ***16*** *17:02:56.9±1.0,55.°38N×165.°48E,h45km,mb4.4/12,Error ellipse: s-maj=6.0km s-min=5.1km az=49.5*

MOS Feli (IV) at Nikol'skoe.

ISC 16 17:02:56.0±1.1,**55.°43N**±0.°04×**165.°39E**±0.°04,**h12**km±8km, **n171,**σ1°43/214,**mb4.0**/36,**MS3.2**/10,**5C-8D, Komandorsky Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.40**	**123**		*i* P	**Pg**	**17 03 03.9**	**-0.1**
BKI					*i* S	**Sg**	**17 03 09.8**	**+0.5**
BKI	**Bering**	**0.40**	**123**		PN	**Pg**	**17 03 03.9**	**-0.1**
KBTR	**Krutoberegovo**	**1.65**	**300**		*e*P	**Pn**	**17 03 23.1**	**-1.6**
KBTR					*e*S	**Sn**	**17 03 43.8**	**-2.0**
KBTR	**Krutoberegovo**	**1.65**	**300**		PN	**Pn**	**17 03 23.1**	**-1.6**
KBTR					S	**Sn**	**17 03 43.8**	**-2.0**
KBG	**Krutoberegovo**	**1.73**	**300**		*i* P	**Pn**	**17 03 24.1**	**-1.7**
KBG					*i* S	**Sn**	**17 03 46.0**	**-1.7**
KBG	**Krutoberegovo**	**1.73**	**300**		PN	**Pn**	**17 03 24.1**	**-1.7**
KBG					S	**Sn**	**17 03 46.0**	**-1.7**
SMKR	**Semkarok**	**2.49**	**299**		*i* P	**Pn**	**17 03 36.4**	**+0.1**
SMKR					*e*S	**Sn**	**17 04 07.1**	**+0.5**
SMKR	**Semkarok**	**2.49**	**299**		PN	**Pn**	**17 03 36.4**	**+0.1**
SMKR					S	**Sn**	**17 04 07.1**	**+0.5**
BDR	**Baidarnaya**	**2.61**	**298**		*e*P	**Pn**	**17 03 38.5**	**+0.5**
BDR					*e*S	**Sb**	**17 04 11.6**	**-3.2**
BDR	**Baidarnaya**	**2.61**	**298**		PN	**Pn**	**17 03 38.5**	**+0.5**
BDR					S	**Sb**	**17 04 11.6**	**-3.2**
ZLN	**Zelenaya**	**2.66**	**285**		*e*P	**Pn**	**17 03 39.4**	**+0.7**
ZLN					*e*S	**Sn**	**17 04 11.8**	**+0.9**
ZLN	**Zelenaya**	**2.66**	**285**		PN	**Pn**	**17 03 39.4**	**+0.7**
ZLN					S	**Sn**	**17 04 11.8**	**+0.9**
SRKR	**Sorokina**	**2.67**	**299**		*i* P	**Pn**	**17 03 39.2**	**+0.4**
SRKR					*e*S	**Sn**	**17 04 11.3**	**+0.2**
SRKR	**Sorokina**	**2.67**	**299**		PN	**Pn**	**17 03 39.2**	**+0.4**
SRKR					S	**Sn**	**17 04 11.3**	**+0.2**
CIRR	**Tsirk**	**2.71**	**287**		*e*P	**Pn**	**17 03 40.8**	**+1.3**
CIRR					*e*S	**Sb**	**17 04 14.4**	**-3.3**
CIRR	**Tsirk**	**2.71**	**287**		PN	**Pn**	**17 03 40.8**	**+1.3**
CIRR					S	**Sb**	**17 04 14.4**	**-3.3**
LGNR	**Loginova**	**2.73**	**286**		*e*P	**Pn**	**17 03 40.9**	**+1.0**
LGNR					*e*S	**Sn**	**17 04 12.8**	**-0.2**
LGNR	**Loginova**	**2.73**	**286**		PN	**Pn**	**17 03 40.9**	**+1.0**
LGNR					S	**Sn**	**17 04 12.8**	**-0.2**
KLY	**Klyuchi**	**2.81**	**290**		*e*P	**Pn**	**17 03 40.0**	**-0.7**
KLY					*e*S	**Sn**	**17 04 11.2**	**-3.3**
KLY	**Klyuchi**	**2.81**	**290**		PN	**Pn**	**17 03 40.0**	**-0.7**
KLY					S	**Sn**	**17 04 11.2**	**-3.3**
BZMR	**Bezymyannaya**	**2.82**	**282**		*e*P	**Pn**	**17 03 42.0**	**+1.0**
BZMR	**Bezymyannaya**	**2.82**	**282**		PN	**Pn**	**17 03 42.0**	**+1.0**
BZWR	**Bezymyannyi-We**	**2.82**	**283**		*e*P	**Pn**	**17 03 42.3**	**+1.3**
BZWR	**Bezymyannyi-We**	**2.82**	**283**		PN	**Pn**	**17 03 42.3**	**+1.3**
KRSR	**Krestovskiy**	**2.83**	**288**		*e*P	**

SKR	**Severo-Kuril's**	**7.33**	**233**	*e*P	**Pn**	**17 04 42.3**	**-0.4**
SKR				*e*S	**Sn**	**17 06 02.8**	**-2.9**
SKR	**Severo-Kuril's**	**7.33**	**233**	*e*PN	**Pn**	**17 04 42.6**	**-0.1**
SKR	comp=Z,136nm,0.5s			pmax	pmax		
MA2	**Magadan**	**8.90**	**304**	LR	LR	17 08 28.9	
SEY	comp=Z,171nm,19.8s,baz=102,slow=38 **Seymchan**	**10.04**	**324**	Pn	**Pn**	**17 05 19.7**	**-0.1**
SEY	comp=Z,0.1nm,0.3s,baz=359,slow=23,SNR=1.7 **Seymchan**	**10.04**	**324**	*e*PN	**Pn**	**17 05 22.2**	**+2.4**
BILL	**Bilibino**	**12.67**	**2**	*e*PN	**Pn**	**17 05 55.2**	**-0.5**
BILL	comp=Z,4.0nm,1.0s			pmax	pmax		
GAMB	**Gambell**	**14.22**	**45**	*e*Pn	**Pn**	**17 06 15.6**	**-1.4**
TYV	comp=Z,20nm,0.6s **Tymovskoe**	**14.36**	**261**	*e*P	Pn	17 06 12.6	-6.3
TYV	comp=Z,4.0nm,1.3s			pmax	pmax		
NKL	**Nikolayevsk**	**14.58**	**271**	*e*P	**Pn**	**17 06 23.5**	**+1.6**
KUR	**Kuril'sk**	**15.09**	**235**	*e*P	**Pn**	**17 06 27.6**	**-1.2**
YSS	**Yuzh-Sakhalins**	**16.47**	**248**	*e*P	**Pn**	**17 06 43.4**	**-3.2**
YSS	comp=Z,10.0nm,1.4s			pmax	pmax		
GRNR	**Gornyy**	**17.93**	**267**	*i* P	**P**	**17 07 08.4**	**+2.9**
ASAJ	**Asahikawa**	**18.47**	**242**	P	**Pn**	**17 07 11.2**	**-0.3**
YAK	comp=Z,1.4nm,0.3s,baz=69,slow=15,SNR=19 **Yakutsk**	**19.47**	**304**	P	**P**	**17 07 22.3**	**0.0**
YAK	comp=Z,0.0nm,0.3s,baz=185,slow=3.4,SNR=4.3 **Yakutsk**	**19.47**	**304**	*e*P	**P**	**17 07 21.6**	**-0.7**
YAK	comp=Z,8.0nm,0.9s			pmax	pmax		
YAK	comp=N,1.0nm,1.1s			pmax	pmax		
YAK	comp=E,4.0nm,0.9s			pmax	pmax		
ERM	**Erimo**	**19.76**	**236**	*e*P	**P**	**17 07 23.6**	**-2.0**
KLR	**Kul'dur**	**21.32**	**267**	P	**P**	**17 07 42.5**	**0.0**
KLR	comp=E,0.1nm,0.7s,baz=10,0,slow=12,SNR=1.8 **Kul'dur**	**21.32**	**267**	*e*P	**P**	**17 07 44.5**	**+2.1**
TIXI	**Tiksi**	**22.42**	**330**	P	**P**	**17 07 54.3**	**+0.3**
TIXI	comp=E,2.1nm,0.6s,baz=117,slow=9.5,SNR=11			LR	LR	17 16 38.8	
TIXI	comp=E,88nm,18.8s,baz=55,slow=37 **Tiksi**	**22.42**	**330**	*e*P	**P**	**17 07 54.2**	**+0.2**
TIXI	comp=Z,2.0nm,0.7s			pmax	pmax		
USRK	**Ussuriysk Ar.**	**24.06**	**256**	LR	LR	17 18 00.6	
ILAR	comp=Z,99nm,20.4s,baz=56,slow=38 **Eielson Array**	**24.95**	**49**	P	**P**	**17 08 17.1**	**-1.6**
MJA0	comp=Z,9.7nm,0.9s,baz=256,slow=8.7,SNR=18 **Matsu Arr-Jizo**	**26.41**	**236**	*e*P	**P**	**17 08 33.2**	**+0.9**
MJA0	comp=Z,2.0nm,0.7s			pmax	pmax		
MAJO	**Matsushiro**	**26.43**	**236**	*e*P	**P**	**17 08 33.3**	**+0.9**
MAJO	comp=Z,11nm,0.7s **Matsushiro**	**26.43**	**236**	*e*P	**P**	**17 08 33.5**	**+1.1**
MAJO	comp=Z,5.0nm,0.7s			pmax	pmax		
MJAR	**Matsushiro Arr**	**26.43**	**236**	P	**P**	**17 08 33.2**	**+0.8**
MJAR	comp=Z,2.3nm,0.7s,baz=29,slow=8.7,SNR=9.1			LR	LR	17 18 45.9	
INK	comp=Z,23nm,18.8s,baz=80,slow=36 **Inuvik**	**30.10**	**40**	P	**P**	**17 09 04.0**	**-0.8**
KSRS	comp=Z,0.8nm,0.3s,baz=268,slow=6.4,SNR=5.1 **Korea Array**	**30.95**	**250**	P	**P**	**17 09 13.7**	**+1.1**
KSRS	comp=Z,1.9nm,1.0s,baz=44,slow=10,SNR=5.9			LR	LR	17 20 33.1	
KSAR	comp=Z,41nm,21.4s,baz=40,slow=34 **Wonju Array Be**	**30.98**	**250**	P	**P**	**17 09 13.7**	**+0.8**
KSAR	**Wonju Array Be**	**30.98**	**250**	P	**P**	**17 09 13.7**	**+0.8**
JNU	**Nakatsue**	**32.75**	**242**	LR	LR	17 21 52.1	
H11N2	comp=Z,36nm,19.7s,baz=300,slow=35 **WAKE ISLAND Hy**	**35.65**	**178**	T	T	17 47 29.5	
H11N3	baz=359,slow=76,SNR=3252 **WAKE ISLAND Hy**	**35.67**	**178**	T	T	17 47 37.7	
H11N1	baz=359,slow=76,SNR=2991 **WAKE ISLAND Hy**	**35.67**	**178**	T	T	17 47 38.0	
SONM	baz=359,slow=76,SNR=3337 **Songino Array**	**36.39**	**283**	P	**P**	**17 10 00.3**	**+0.3**
SONM	comp=Z,1.5nm,0.8s,baz=61,slow=8.5,SNR=1.7			LR	LR	17 25 28.4	
KRAR	comp=Z,59nm,19.0s,baz=246,slow=37 **Krasnoyarsk**	**39.10**	**302**	P	**P**	**17 10 26.3**	**+3.7**
YKA	**Yellowknife Ar**	**39.32**	**46**	P	**P**	**17 10 23.2**	**-1.2**
ZALV	comp=Z,0.9nm,0.7s,baz=297,slow=8.0,SNR=12 **Zalesovo Beam**	**44.12**	**303**	P	**P**	**17 11 04.9**	**+1.2**
ZALV	comp=Z,0.3nm,0.4s,baz=52,slow=6.2,SNR=2.2			LR	LR	17 30 57.4	
GUMO	comp=Z,38nm,18.7s,baz=248,slow=38 **Guam**	**44.69**	**209**	LR	LR	17 26 39.6	
EDM	comp=Z,29nm,20.7s,baz=186,slow=32 **Edmonton**	**44.88**	**57**	*e*P	**P**	**17 11 13.9**	**+4.1**
EDM	comp=Z,6.4nm,0.8s **Edmonton**	**44.88**	**57**	*e*P	**P**	**17 11 14.0**	**+4.1**
EDM	comp=Z,6.0nm,0.8s			pmax	pmax		
DGZ	**Jazzator, Alta**	**45.41**	**297**	*e*P	**P**	**17 11 15.4**	**+1.1**
DGZ	comp=Z,1.0nm,0.7s			pmax	pmax		
ENH	**Enshi**	**46.48**	**261**	*e*P	**P**	**17 11 22.7**	**-0.1**
YBH	comp=Z,6.4nm,0.6s **Yreka Blue Hor**	**47.36**	**75**	P	**P**	**17 11 29.7**	**0.0**
KURK	comp=Z,0.8nm,0.7s,baz=71,slow=22,SNR=1.2 **Kurchatov**	**49.11**	**303**	P	**P**	**17 11 43.4**	**+0.5**
KURK	**Kurchatov**	**49.11**	**303**	P	**P**	**17 11 43.4**	**+0.5**
KURBB	**Kurchatov Arra**	**49.21**	**303**	P	**P**	**17 11 43.4**	**-0.3**
MKAR	comp=Z,1.1nm,0.6s,baz=51,slow=7.7,SNR=6.8 **Makanchi Array**	**49.91**	**297**	P	**P**	**17 11 48.3**	**-0.8**
MCMT	comp=Z,0.5nm,0.7s,baz=55,slow=6.3,SNR=3.0 **McKenzie Canyo**	**50.55**	**66**	*e*P	**P**	**17 11 54.1**	**-0.1**
BVAR	**Borovoye Array**	**51.34**	**310**	P	**P**	**17 11 59.3**	**-0.4**
BRVK	comp=Z,0.8nm,0.6s,baz=60,slow=8.8,SNR=8.5 **Borovoye**	**51.36**	**310**	P	**P**	**17 11 59.5**	**-0.4**
BRVK	comp=Z,17nm,0.9s **Borovoye**	**51.36**	**310**	*de*P	**P**	**17 12 04.5**	**+4.6**
BRVK	comp=Z,6.0nm,0.9s			pmax	pmax		
ARCES	**ARCESS Array B**	**51.99**	**343**	P	**P**	**17 12 02.8**	**-1.6**
NVAR	comp=Z,2.9nm,1.0s,baz=26,slow=9.4,SNR=3.1 **Mina Array Bea**	**52.08**	**75**	P	**P**	**17 12 05.8**	**0.0**
PDAR	comp=Z,2.0nm,0.5s,baz=229,slow=36,SNR=2.3 **Pinedale Array**	**53.70**	**66**	P	**P**	**17 12 18.0**	**+0.4**
ARU	comp=Z,0.3nm,0.5s,baz=4.1,slow=6.2,SNR=5.1 **Arti**	**53.74**	**319**	P	**P**	**17 12 16.6**	**-0.8**
ARU	comp=Z,0.7nm,0.5s,baz=279,slow=20,SNR=1.7 **Arti**	**53.74**	**319**	*e*P	P	17 12 22.6	+5.2
ARU	comp=Z,4.0nm,0.9s			pmax	pmax		
OTUK	**Ortayu**	**53.79**	**304**	P	P	17 12 23.7	+5.7
OTUK	comp=Z,5.0nm,1.1s			pmax	pmax		
ULM	**Lac du Bonnet**	**54.95**	**51**	P	**P**	**17 12 26.5**	**+0.2**
RSSD	comp=Z,2.9nm,0.7s,baz=359,slow=11,SNR=2.5 **Black Hills**	**55.54**	**61**	P	P	17 12 36.8	+5.8
RSSD	comp=Z,8.0nm,0.8s			pmax	pmax		
AAK	**Ala-Archa**	**56.77**	**298**	P	**P**	**17 12 38.9**	**-0.8**
MNAS	comp=Z,0.8nm,0.8s,baz=238,slow=12,SNR=2.1 **Manas**	**57.88**	**299**	P	P		
MNAS	comp=Z,1.0nm,1.2s			pmax	pmax	17 12 55.7	+8.1
ISCO	**Idaho Springs**	**57.89**	**65**	P	P	17 12 54.5	+6.6
ISCO	comp=Z,5.0nm,1.0s			pmax	pmax		
AKTO	**Aktyubinsk**	**58.48**	**314**	P	**P**	**17 12 51.7**	**+0.3**
FINES	comp=Z,0.9nm,0.7s,baz=356,slow=13,SNR=1.6 **FINESS Array B**	**59.15**	**339**	P	**P**	**17 12 54.7**	**-1.2**
ANMO	comp=Z,3.4nm,1.0s,baz=324,slow=9.4,SNR=1.9 **Albuquerque**	**61.08**	**70**	*e*P	P	17 13 15.1	+5.3
ANMO	comp=Z,2.0nm,0.8s			pmax	pmax		
CMAR	**Chiang Mai Arr**	**61.65**	**261**	P	**P**	**17 13 14.0**	**+0.4**
CMAR	comp=Z,0.8nm,0.8s,baz=20,slow=6.9,SNR=9.3			LR	LR	17 40 53.0	
CMAR	comp=Z,30nm,19.5s,baz=187,slow=37 **Chiang Mai Arr**	**61.65**	**261**	P	**P**	**17 13 14.0**	**+0.4**
NB2	**NORSAR Subarra**	**62.10**	**346**	P	**P**	**17 13 14.7**	**-1.4**
NOA	comp=Z,1.0nm,0.5s,baz=17,slow=6.9 **NORSAR Array B**	**62.10**	**346**	P	**P**	**17 13 15.2**	**-0.9**
HFS	comp=Z,0.8nm,0.8s,baz=18,slow=7.0,SNR=5.6 **Hagfors**	**62.61**	**344**	P	**P**	**17 13 18.0**	**-1.4**
HFS	comp=Z,0.8nm,0.6s,baz=44,slow=8.9,SNR=3.1 **Hagfors**	**62.61**	**344**	P	**P**	**17 13 18.0**	**-1.4**
TXAR	**Lajitas Array**	**66.91**	**72**	P	**P**	**17 13 48.2**	**+0.1**
TXAR	comp=Z,0.6nm,0.6s,baz=287,slow=4.2,SNR=2.6 **Lajitas Array**	**66.91**	**72**	*e*P	P	17 13 54.7	+6.6
TXAR	comp=Z,2.0nm,0.8s			pmax	pmax		
CLL	**Collm**	**71.19**	**342**	*e*P	**P**	**17 14 16.0**	**+1.9**
CLL	**Collm**	**71.19**	**342**	*e*P	**P**	**17 14 16.0**	**+1.9**
BRTR	**Keskin Array B**	**76.69**	**324**	LR	LR	17 51 04.4	
WRA	comp=Z,39nm,18.1s,baz=221,slow=38 **Warramunga Arr**	**79.58**	**210**	P	**P**	**17 15 03.9**	**+1.3**
ASAR	comp=Z,1.2nm,0.9s,baz=16,slow=5.4,SNR=5.5 **Alice Springs**	**83.23**	**209**	P	**P**	**17 15 23.0**	**+1.1**
ASAR	comp=Z,0.9nm,0.7s,baz=19,slow=5.5,SNR=11 **Alice Springs**	**83.23**	**209**	*e*P	**P**	**17 15 24.3**	**+2.3**
ASAR	comp=Z,1.0nm,0.6s			pmax	pmax		

IDC ***16*** *17:04:26.5±1.1,51.66N×96.37E,h0km,mb1 3.1/4, mb1mx2.9/77,mbtmp3.1/4,ML2.7/4,Error ellipse: s-maj=38.3km s-min=10.5km az=0.0*
MOS ***16*** *17:04:29.0±2.8,51.51N×95.73E,h10km,mb4.2/3,Error ellipse: s-maj=17.2km s-min=9.4km az=171.5*
ISC 16 17:04:28.9±0.7,51.56N±0.07×95.82E±0.05,h10km,n25, σ2863/23,mb4.2/3,4C-2D,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op ISC	h m s	ISC
KZLR	**Kyzyl**	**0.87**	**280**	*e*PG	**Pg**	**17 04 43.6**	**-2.0**
HVS	**Khovu-Aksy**	**1.40**	**253**	*d* PG	**Pg**	**17 04 54.3**	**-1.4**
HVS				*i* S	**Sg**	**17 05 15.1**	**+1.2**
ORL	**Orlik**	**2.65**	**67**	*e*PN	**Pn**	**17 05 08.6**	**-3.2**
ORL	comp=Z,53nm,0.3s			pmax	pmax		
MOY	**Mondy**	**3.22**	**86**	*e*PN	**Pn**	**17 05 16.9**	**-2.8**
MOY				*e*		17 06 00.8	
MOY	comp=Z,44nm,0.5s			pmax	pmax		
MOY	comp=N,229nm,0.7s			smax	smax		
ARS	**Arshan**	**4.12**	**82**	*e*PN	**Pn**	**17 05 36.0**	**+4.1**
ARS				*e*		17 06 29.6	
ARS	comp=Z,42nm,0.3s			pmax	pmax		
ARS	comp=E,524nm,0.7s			smax	smax		
LUZB	**Luzhba, Kemero**	**4.71**	**299**	*e*PN	**Pn**	**17 05 42.2**	**+2.1**
KRAR	**Krasnoyarsk**	**4.79**	**340**	*e*PN	**Pb**	**17 05 51.8**	**-1.1**
KRAR				*e*S	**Sb**	**17 06 53.2**	**+2.7**
ZAK	**Zakamensk**	**4.86**	**101**	*e*PN	Pb	17 05 49.1	-5.0
ZAK				*e*		17 06 52.5	
ZAK	comp=Z,24nm,0.7s			pmax	pmax		
ZAK	comp=N,76nm,1.0s			smax	smax		
TLY	**Talaya**	**4.87**	**86**	Pg	**Pn**	**17 05 46.4**	**+4.1**
TLY	comp=N,0.0nm,0.3s,baz=117,slow=14,SNR=3.3			Lg	Lg	17 06 48.7	
TLY	comp=N,0.0nm,0.3s,baz=135,slow=11,SNR=5.5 **Talaya**	**4.87**	**86**	*e*PN	Pb	17 05 49.4	-5.0
TLY				*e*		17 06 49.7	
TLY	comp=Z,9.0nm,0.5s			pmax	pmax		
IRK	**Irkutsk**	**5.28**	**79**	*e*PN	Pn	17 05 55.4	+7.6
IRK				*e*		17 07 00.7	
IRK	comp=Z,36nm,0.4s			pmax	pmax		
IRK	comp=N,235nm,1.1s			smax	smax		
DGZ	**Jazzator, Alta**	**5.66**	**254**	*i* PN	**Pn**	**17 05 55.6**	**+2.5**
ZALV	**Zalesovo Beam**	**7.09**	**294**	Pn	**Pn**	**17 06 16.0**	**+3.3**
ZALV	comp=N,0.3nm,0.3s,baz=102,slow=12,SNR=4.7			Lg	Lg	17 08 08.3	
OGRR	comp=N,1.5nm,0.3s,baz=113,slow=24,SNR=8.0 **Ongureny**	**7.47**	**69**	*e*P	**Pb**	**17 06 37.7**	**-0.8**
OGRR	comp=Z,4.0nm,0.7s			pmax	pmax		
SONM	**Songino Array**	**7.80**	**114**	Pg	**Pb**	**17 06 42.9**	**-1.3**
SONM	comp=Z,0.8nm,0.3s,baz=304,slow=17,SNR=9.8			Lg	Lg	17 08 26.8	
ULN	comp=Z,0.8nm,0.3s,baz=296,slow=30,SNR=5.8 **Ulaanbaatar**	**8.16**	**113**	*e*P	Pn	17 06 22.5	-5.0
MKAR	**Makanchi Array**	**10.06**	**247**	Pn	**Pn**	**17 06 57.2**	**+3.8**
MKAR	comp=Z,0.1nm,0.3s,baz=51,slow=16,SNR=4.9			Lg	Lg	17 09 50.7	
KURK	comp=Z,0.2nm,0.3s,baz=62,slow=30,SNR=7.8 **Kurchatov**	**10.85**	**272**	*e*P	**Pn**	**17 07 04.5**	**+0.4**
KURK	comp=Z,1.0nm,1.1s			pmax	pmax		
KURBB	**Kurchatov Arra**	**10.92**	**272**	Pn	**Pn**	**17 07 07.7**	**+2.6**
KURBB	comp=Z,0.0nm,0.3s,baz=74,slow=16,SNR=2.8			Lg	Lg	17 10 10.8	
BVAR	comp=Z,0.0nm,0.3s,baz=83,slow=36,SNR=5.6 **Borovoye Array**	**15.61**	**285**	Pn	**Pn**	**17 08 08.5**	**-0.3**
BRVK	comp=Z,0.1nm,0.3s,baz=67,slow=11,SNR=4.2 **Borovoye**	**15.67**	**286**	*e*P	**P**	**17 08 13.2**	**-0.5**
BRVK	comp=Z,2.0nm,1.2s			pmax	pmax		
ZEA	**Zeya**	**19.11**	**71**	*e*P	**Pn**	**17 08 55.8**	**+3.3**
TIXI	**Tiksi**	**24.94**	**24**	*e*P	**P**	**17 09 49.1**	**-2.8**
TIXI	comp=Z,8.0nm,1.1s			pmax	pmax		
KIV	**Kislovodsk**	**35.83**	**279**	*e*P	**P**	**17 11 27.8**	**-0.7**
KIV	comp=Z,4.0nm,1.1s			pmax	pmax		
KIV	comp=Z,36nm,16.0s			MLR	MLR		
BILL	**Bilibino**	**36.64**	**36**	*e*P	**P**	**17 11 32.4**	**-2.6**
BILL				*e*		17 12 55.9	
BILL	comp=Z,1.0nm,1.1s			pmax	pmax		

DJA 16 17:11:19.6±1.1,3°S±2.°×12°2E±,°,h28km±10km,M3.9/11, mb3.9/1,MLv3.8/11,Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op ISC	h m s	ISC
KDI	**Kendari**	**1.49**	**150**	P	Pn	17 11 44.4	-0.1
APSI	**Ampana**	**1.75**	**353**	P	Pn	17 11 47.7	-0.4
APSI				S	Sn	17 12 10.3	+0.8
LUWI	**Luwuk**	**1.84**	**29**	P	Pn	17 11 49.0	-0.4
LUWI				S	Sn	17 12 12.8	+1.0
TTSI	**Tana Toraja**	**2.08**	**259**	P	Pn	17 11 52.5	-0.2
TTSI				S	Sn	17 12 17.7	0.0
BNSI	**Bone**	**2.47**	**225**	P	Pn	17 11 57.6	-0.4
BNSI				S	Sn	17 12 27.0	-0.2
PCI	**Palu**	**2.68**	**311**	P	Pn	17 12 02.5	+1.6
MRSI	**Marisa**	**3.12**	**1**	P	Pn	17 12 06.6	-0.3
MPSI	**Mapaga**	**3.57**	**326**	P	Pn	17 12 12.6	-0.6
BSSI	**Bau Bau, Buton**	**3.72**	**202**	P	Pn	17 12 13.3	-2.0
KMSI	**Cibinong**	**3.84**	**33**	P	Pn	17 12 16.3	-0.6
SANI	**Sanana**	**4.16**	**82**	P	Pn	17 12 20.1	-1.2

IDC 16 17:16:00.6±3.1,14.40S×178.36W,h346km±40km, mb2.9/5,mb1 3.3/6,mb1mx3.0/51,mbtmp3.7/6,Error ellipse: s-maj=83.7km s-min=15.1km az=152.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op ISC	h m s	ISC
AFI	**Afiamalu**	**6.40**	**86**	P	Pn	17 17 36.1	0.0
STKA	5.5nm,0.3s,baz=311,slow=1.9,SNR=10.0 **Stephens Creek**	**40.45**	**238**	P	P	17 23 07.0	+0.2
WRA	1.2nm,0.8s,baz=94,slow=13,SNR=3.1 **Warramunga Arr**	**45.41**	**256**	P	P	17 23 45.9	-0.5
ASAR	0.3nm,0.3s,baz=91,slow=7.4,SNR=29 **Alice Springs**	**45.88**	**251**	P	P	17 23 49.9	-0.1
ILAR	10nm,0.5s,baz=85,slow=8.4,SNR=329 **Eielson Array**	**82.48**	**13**	P	P	17 27 45.2	+0.5
TXAR	0.5nm,0.8s,baz=220,slow=8.3,SNR=4.7 **Lajitas Array**	**84.09**	**58**	P	P	17 27 53.7	-0.1
PDAR	0.2nm,0.6s,baz=220,slow=6.9,SNR=3.3 **Pinedale Array**	**84.79**	**44**	P	P	17 27 56.7	-0.4
	0.2nm,0.5s,baz=190,slow=4.6,SNR=3.2						

IDC 16 17:19:20.5±2.2,0.97N×127.41E,h0km,mb3.3/3, mb1 3.6/3,mb1mx3.2/55,mbtmp3.4/3,Error ellipse: s-maj=177.5km s-min=25.5km az=66.0,Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.87**	**162**	P	P	17 24 14.4	-0.6
ASAR	1.2nm,0.7s,baz=341,slow=11,SNR=6.6 **Alice Springs**	**25.29**	**166**	P	P	17 24 49.3	+0.5
	0.7nm,0.8s,baz=346,slow=11,SNR=6.2						

MKAR	**Makanchi Array**	**60.20**	**326**	P	P	17 29 30.3	-0.1
	0.2nm,0.6s,baz=114,slow=7.5,SNR=2.7						

IDC 16 17:20:46.8±3.8,2.86N×89.08E,h0km,mb3.8/3,mb1 3.8/4, mb1mx3.3/64,mbtmp3.7/4,ML3.5/1,MS3.4/1,Ms1 3.4/1, ms1mx2.6/60,Error ellipse: s-maj=91.3km s-min=73.4km az=120.0,North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**18.27**	**31**	P	P	17 25 02.2	+0.1
MKAR	0.1nm,0.3s,baz=224,slow=14,SNR=6.7 **Makanchi Array**	**44.16**	**353**	P	P	17 28 58.1	+0.8
SONM	0.4nm,0.6s,baz=172,slow=9.2,SNR=6.1 **Songino Array**	**47.23**	**16**	P	P	17 29 21.4	-0.3
JNU	2.0nm,0.6s,baz=195,slow=9.4,SNR=9.2 **Nakatsue**	**49.32**	**48**	LR	LR	17 53 00.3	
ZALV	comp=Z,33nm,18.2s,baz=309,slow=39 **Zalesovo Beam**	**51.05**	**357**	P	P	17 29 49.7	-0.9
TXAR	0.6nm,0.5s,baz=173,slow=5.8,SNR=3.7 **Lajitas Array**	**145.74**	**20**	PKPbc	PKPdf	17 40 27.5	-0.7
	0.5nm,0.6s,baz=276,slow=0.3,SNR=6.6						

IDC 16 17:27:35.7±3.1,3.79N×93.08E,h0km,mb3.4/4,mb1 3.6/5, mb1mx3.3/61,mbtmp3.5/5,ML3.6/1,MS3.8/1,Ms1 3.8/1, ms1mx2.6/40,Error ellipse: s-maj=108.5km s-min=23.9km az=48.0,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op ISC	h m s	ISC
PSI	**Prapat**	**5.92**	**99**	Pn	Pn	17 29 05.4	+0.6
PSI	1.5nm,0.3s,baz=308,slow=10,SNR=6.8			Sn	Sn	17 30 11.3	-2.1
MKAR	1.0nm,0.3s,baz=135,slow=4.3,SNR=4.2 **Makanchi Array**	**43.84**	**349**	P	P	17 35 44.1	+0.4
WRA	0.5nm,0.6s,baz=169,slow=8.3,SNR=6.8 **Warramunga Arr**	**46.89**	**122**	P	P	17 36 08.0	-0.2
OPO	0.4nm,0.8s,baz=299,slow=8.6,SNR=3.1 **Ambohidratompo**	**50.36**	**242**	LR	LR	17 56 09.9	
ZALV	comp=Z,90nm,18.8s,baz=176,slow=34 **Zalesovo Beam**	**50.45**	**354**	P	P	17 36 34.2	-0.8
BVAR	0.4nm,0.5s,baz=184,slow=9.3,SNR=2.4 **Borovoye Array**	**52.52**	**343**	P	P	17 36 50.7	+0.1
	0.1nm,0.5s,baz=158,slow=9.2,SNR=2.0						

KRSC 16 17:37:46.2±1.1,47.99N×156.29E,h40km±25km,ML3.7, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op ISC	h m s	ISC
SKR	**Severo-Kuril's**	**2.70**	**358**	*e*P	Pn	17 38 29.3	+2.3
SKR				*e*S	Sn	17 39 01.3	+3.0
PAU	**Pauzhetka**	**3.50**	**5**	*e*P	Pn	17 38 42.4	+4.4
PAU				*e*S	Sn	17 39 23.5	+5.5
KDTR	**Khodutka, Kamc**	**3.99**	**16**	*e*P	Pn	17 38 49.4	+4.6
KDTR				*e*S	Sn	17 39 35.5	+5.2
MIPR	**Malaya Ipel'ka**	**4.30**	**4**	P	Pn	17 38 53.7	+4.7
ASAK	**Asacha**	**4.52**	**13**	*e*P	Pn	17 38 56.1	+4.0
RUS	**Russkaya**	**4.67**	**17**	*e*P	Pn	17 38 58.2	+4.1
RUS				*e*S	Sn	17 39 51.8	+4.9
KRMR	**Karymshinskiy**	**4.99**	**13**	*e*P	Pn	17 39 02.1	+3.7
UGLR	**Uglovaya**	**5.47**	**16**	*e*P	Pn	17 39 10.7	+5.6
AVH	**Avacha**	**5.50**	**16**	*e*P	Pn	17 39 09.7	+4.1
SMAR	**Somma**	**5.51**	**16**	*e*P	Pn	17 39 11.3	+5.4
SDLR	**Sedlovina**	**5.54**	**16**	*e*P	Pn	17 39 10.6	+4.4
SPN	**Mys Shipunski**	**5.64**	**24**	P	Pn	17 39 12.4	+5.0
SPN				*e*S	Sn	17 40 15.6	+4.8

IDC 16 17:38:42.5±6.6,3.59N×94.94E,h0km,mb3.3/4,mb1 3.4/4, mb1mx3.2/61,mbtmp3.3/4,Error ellipse: s-maj=336.1km s-min=23.6km az=56.0,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op ISC	h m s	ISC
MKAR	**Makanchi Array**	**44.41**	**348**	P	P	17 46 56.2	+1.2
WRA	0.3nm,0.6s,baz=156,slow=9.3,SNR=4.5 **Warramunga Arr**	**45.21**	**123**	P	P	17 47 00.8	-1.0
ASAR	0.6nm,0.8s,baz=300,slow=8.6,SNR=6.9 **Alice Springs**	**46.63**	**128**	P	P	17 47 13.7	+0.7
KURBB	0.1nm,0.8s,baz=299,slow=7.6,SNR=3.2 **Kurchatov Arra**	**48.87**	**346**	P	P	17 47 28.6	-1.2
	0.3nm,0.5s,baz=171,slow=7.7,SNR=3.7						

MEX 16 17:45:34.0±0.4,16.27N×98.26W,h8km±6km,MD3.7,Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op ISC	h m s	ISC
PNIG	**Pinotepa**	**0.17**	**46**	*i* P	Pg	17 45 37.3	-0.3
PNIG				*e*S	Sg	17 45 39.9	-0.1
VHO	**Vista Hermosa**	**1.66**	**61**	*e*P	Pn	17 46 00.2	-3.5
MEIG	**Mezcala**	**2.10**	**322**	*e*P	Pn	17 46 06.4	-3.2
HUIG	**Huatulco**	**2.13**	**103**	*e*P	Pn	17 46 02.8	-7.1

ISCJB ***16*** *17:54:27.8±0.8,27.46S±0.04×69.07W±0.06, h137km±10km,Error ellipse: s-maj=9.0km s-min=6.2km az=177.4*
SJA ***16*** *17:54:28.6±0.6,27.54S×68.82W,h160km±5km,ML3.2, MW3.2*
GUC ***16*** *17:54:28.5±0.8,27.42S×69.09W,h110km±11km,ML3.5*
ISC 16 17:54:27.4±1.7,27.44S±0.05×69.04W±0.06, h144km±14km,n17,σ1°41/30,4C-2D,Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op ISC	h m s	ISC
GO03	**Copiap**	**1.07**	**261**	*i* P	Pn	**17 54 52.0**	**-0.3**
GO03				*i* S	Sn	**17 55 09.5**	**-1.8**
GO03	comp=N,2μm,0.1s			IAML		17 55 09.9	
VCA	**Vinchina**	**1.49**	**151**	*e*P	Pn	**17 54 57.5**	**+0.9**
VCA				*e*S	Sn	**17 55 19.4**	**+0.5**
VCA	comp=Z,304nm,0.3s			IAML		17 55 21.3	
VCA	**Vinchina**	**1.49**	**151**	*i* P	Pn	**17 54 57.1**	**+0.6**
VCA				*i* S	Sn	**17 55 18.3**	**-0.6**
VCA	comp=E,530nm,0.3s			IAML		17 55 19.7	
AGUA	**GUANDACOL**	**2.10**	**167**	*e*P	Pn	**17 55 04.9**	**+1.5**
AGUA				*e*S	Sn	**17 55 31.6**	**+0.4**
LCO	**Las Campanas**	**

IDC **16** *18:01:12.7±0.3,2˚.51S×121˚.82E,h0km,mb4.8/36, mb1 4.9/39,mb1mx4.8/55,mbtmp4.8/39,ML4.8/3,MS4.6/40, Ms1 4.6/40,ms1mx4.5/61,Error ellipse: s-maj=14.3km s-min=9.2km az=59.0*

NEIC **16** *18:01:14.9±0.2,2˚.58S×121˚.94E,h10km,mb5.4/30, MW5.3,Error ellipse: s-maj=5.8km s-min=4.7km az=56.0 Best double couple: NP1:φ=200.00000°,δ87.00000°, λ-157.00000°. NP2:φ=109.00000°,δ68.00000°, λ-3.00000°. Principal axes: T 0.9000, Plg13.0000°, Azm332.0000°; N 0.2200, Plg67.0000°, Azm208.0000°; P -1.1100, Plg18.0000°, Azm67.0000°;*

NEIC Felt [III] at Morowali.

GCMT **16** *18:01:14.9±0.1,2˚.65S×121˚.94E,h15km,MW5.3/126, Moment Tensor Solution. s103,c168; s126,c241; Duration: 1ŝ1 Moment tensor: Scale 10^17Nm; Mrr-0.04±.01; Mθθ0.92±.01; Mφφ-0.88±.01; Mrθ0.49±.04; Mθφ0.57±.01; Mφr0.48±.04; Best double couple: M=1.25900×10^17 NP1:φ=29.00000°,δ86.00000°, λ149.00000°. NP2:φ=121.00000°,δ59.00000°,λ4.00000°. Principal axes: T 1.3570, Plg24.0000°, Azm340.0000°; N -0.1950, Plg59.0000°, Azm203.0000°; P -1.1620, Plg19.0000°, Azm79.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

MOS **16** *18:01:16.0±1.1,2˚.53S×121˚.88E,h33km,mb5.4/45, MS4.5/12 Error ellipse: s-maj=7.7km s-min=4.7km az=118.6*

BJI **16** *18:01:17.6,2˚.60S×121˚.90E,h45km,mb5.1/57,mB5.2/39, Ms4.9/56,Ms7 4.6/50*

ISCJB **16** *18:01:17.5±0.3,2˚.58S±0˚.02×121˚.95E±0˚.02,h45km±3km, mb5.1/144,MS4.6/54,Error ellipse: s-maj=3.3km s-min=2.9km az=158.8*

DJA **16** *18:01:17.8±0.6,3˚S±1˚×12˚2E±˚,h17km±5km,M5.2/85, mb5.3/85,mB5.6/68,MLv5.7/27,Mw(mB)5.2/68,Mwp5.5/4*

ISC 16 18:01:19.0±0.4**,2˚.59S**±0˚.04×**121˚.90E**±0˚.04**,h40**km±4km**, n418,σ1ŝ91/433,mb5.1**/151**,MS4.6**/56**,22C-15D,Sulawesi**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res	ISC
APSI	**Ampana**	**1.69**	**352**	P		**Pn**	**18 01 45.8**	**-0.2**	
LUWI	**Luwuk**	**1.77**	**30**	P		**Pn**	**18 01 46.4**	**-0.7**	
LUWI	**Luwuk**	**1.77**	**30**	*e*Pn		**Pn**	**18 01 47.0**	**-0.1**	
TTSI	**Tana Toraja**	**2.12**	**258**	P		**Pn**	**18 01 50.0**	**-2.0**	
BNSI	**Bone**	**2.54**	**225**	P		**Pn**	**18 01 55.4**	**-2.2**	
PCI	**Palu**	**2.65**	**309**	P		**Pn**	**18 01 59.3**	**0.0**	
PCI	**Palu**	**2.65**	**309**	P		**Pn**	**18 01 59.2**	**0.0**	
BBSI	**Bau Bau**	**2.95**	**167**	P		**Pn**	**18 02 00.9**	**-2.5**	
MRSI	**Marisa**	**3.05**	**1**	P		**Pn**	**18 02 04.1**	**-0.6**	
KAPI	**Kappang**	**3.22**	**222**	P		**Pn**	**18 02 05.5**	**-1.6**	
	SNR=691								
MPSI	**Mapaga**	**3.53**	**325**	P		**Pn**	**18 02 10.6**	**-0.7**	
KMSI	**Cibinong**	**3.77**	**34**	P		**Pn**	**18 02 15.0**	**+0.3**	
BSSI	**Bau Bau, Buton**	**3.80**	**202**	P		**Pn**	**18 02 13.1**	**-1.9**	
SANI	**Sanana**	**4.12**	**83**	P		**Pn**	**18 02 15.2**	**-4.3**	
SGKI	**Sangatta, Kali**	**4.75**	**295**	P		Pn	18 02 35.8	+7.6	
SMKI	**Samarinda**	**5.15**	**294**	P		**Pn**	**18 02 34.3**	**+0.7**	
BKB	**Balikpapan**	**5.17**	**285**	P		**Pn**	**18 02 34.2**	**+0.3**	
NLAI	**Namlea**	**5.24**	**97**	P		**Pn**	**18 02 34.4**	**-0.4**	
KBKI	**Kotabaru**	**5.76**	**263**	P		**Pn**	**18 02 41.2**	**-0.9**	
LBMI	**Labuha**	**5.93**	**71**	P		**Pn**	**18 02 42.9**	**-1.4**	
AAI	**Ambon**	**6.38**	**100**	P		**Pn**	**18 02 51.3**	**+0.7**	
AAI	**Ambon**	**6.38**	**100**	P		**Pn**	**18 02 51.5**	**+0.9**	
	AAI			pmax	pmax				
	comp=Z,323nm,1.0s								
TNTI	**Ternate**	**6.41**	**59**	*e*Pn		**Pn**	**18 02 49.8**	**-1.1**	
MSAI	**Masohi**	**7.06**	**96**	P		**Pn**	**18 02 59.9**	**0.0**	
MTKI	**Muara Teweh, K**	**7.19**	**283**	P		**Pn**	**18 03 03.2**	**+1.6**	
WSI	**Waingapu**	**7.21**	**193**	P		**Pn**	**18 03 02.6**	**+0.7**	
PLAI	**Plampang**	**7.43**	**213**	P		**Pn**	**18 03 03.1**	**-1.8**	
WBSI	**Waikabubak, Su**	**7.43**	**199**	P		**Pn**	**18 03 05.6**	**+0.6**	
SOEI	**Soe**	**7.50**	**162**	P		**Pn**	**18 03 06.1**	**+0.1**	
SOEI	**Soe**	**7.50**	**162**	*e*Pn		**Pn**	**18 03 05.2**	**-0.8**	
BASI	**Baing, Sumba**	**7.69**	**190**	P		**Pn**	**18 03 07.6**	**-0.9**	
BATI	**Baumata**	**7.77**	**167**	Pn		**Pn**	**18 03 09.8**	**+0.2**	
	comp=Z,11nm,0.3s,baz=214,slow=1.4,SNR=32								
	BATI				LR	LR	18 06 30.1		
	comp=Z,14µm,20.8s,baz=43,slow=40								
BATI	**Baumata**	**7.77**	**167**	P		**Pn**	**18 03 10.4**	**+0.8**	
BNDI	**Bandanaira**	**8.22**	**104**	P		**Pn**	**18 03 19.4**	**+3.6**	
MYLDM	**Lahad Datu**	**8.43**	**336**	*e*Pn		**Pn**	**18 03 20.1**	**+1.4**	
SRBI	**Singaraja**	**8.61**	**230**	P		**Pn**	**18 03 19.5**	**-1.6**	
DNP	**Denpasar**	**8.99**	**227**	P		Pn	18 03 35.4	+9.1	
KMMI	**Kalianget**	**9.06**	**240**	P		**Pn**	**18 03 29.6**	**+2.3**	
ABJI	**Asem Bagus**	**9.22**	**236**	P		Pn	18 03 34.3	+4.9	
	comp=Z,50nm,1.0s,comp=Z,1µm								
SIJI	**Sorong**	**9.52**	**80**	Pn		**Pn**	**18 03 32.0**	**-1.6**	
	comp=Z,14nm,0.3s,baz=250,slow=10,SNR=53								
	SIJI				LR	LR	18 08 57.0		
	comp=Z,1µm,19.0s,baz=246,slow=48								
JAGI	**Jajag, Banyuwa**	**9.67**	**233**	P		**Pn**	**18 03 37.5**	**+1.8**	
	comp=Z,102nm,1.0s,comp=Z,2µm								
JAGI	**Jajag, Banyuwa**	**9.67**	**233**	*e*Pn		**Pn**	**18 03 34.2**	**-1.4**	
GMJI	**Gumukmas**	**10.13**	**236**	P		Pn	18 03 47.4	+5.4	
	comp=Z,111nm,1.3s,comp=Z,1µm								
PBKI	**Pangkalan Bun**	**10.22**	**269**	P		Pn	18 03 49.1	+5.9	
	comp=Z,256nm,1.0s,comp=Z,3µm								
DAV	**Davao City (W)**	**10.28**	**21**	Pn		**Pn**	**18 03 44.7**	**+0.7**	
	comp=Z,31nm,0.3s,baz=107,slow=1.6,SNR=5.8								
	DAV				LR	LR	18 07 40.4		
	comp=Z,4µm,18.2s,baz=24,slow=38								
DAV	**Davao City (W)**	**10.28**	**21**	PnPn		Pn	18 03 55.8	+12	
	SNR=8.0								
KKM	**Kota Kinabalu**	**10.28**	**327**	*e*Pn		**Pn**	**18 03 48.7**	**+4.5**	
GRJI	**Gresik**	**10.32**	**245**	P		**Pn**	**18 03 48.4**	**+3.8**	
	comp=Z,74nm,1.0s,comp=Z,890nm								
IPIL	**Ipil**	**10.33**	**4**	*e*P		**Pn**	**18 03 45.1**	**+0.4**	
FAKI	**Fak Fak**	**10.35**	**92**	P		**Pn**	**18 03 44.8**	**-0.2**	
	comp=Z,161nm,1.0s,comp=Z,2µm,comp=Z,4µm								
FAKI	**Fak Fak**	**10.35**	**92**	*e*Pn		**Pn**	**18 03 44.0**	**-0.9**	
STKI	**Sintang**	**10.74**	**284**	P		**Pn**	**18 03 54.9**	**+4.5**	
	comp=Z,61nm,1.1s,comp=Z,12µm								
TBJI	**Tambak Boyo**	**10.86**	**247**	P		**Pn**	**18 03 56.1**	**+4.2**	
	comp=Z,146nm,1.4s,comp=Z,2µm								
BUKP	**Musuan**	**10.87**	**17**	*e*P		**Pn**	**18 03 52.8**	**+0.6**	
SBUM	**Sibu**	**10.89**	**297**	*e*Pn		**Pn**	**18 03 52.5**	**+0.1**	
PWJI	**Pagerwojo**	**11.40**	**241**	P		**Pn**	**18 04 03.1**	**+3.7**	
	comp=Z,71nm,1.0s,comp=Z,1µm								
PCJI	**Pacitan**	**12.03**	**242**	P		**Pn**	**18 04 12.2**	**+4.2**	
	comp=Z,156nm,1.1s,comp=Z,2µm								
WOJI	**Wonogiri, Jawa**	**12.10**	**244**	P		**Pn**	**18 04 12.9**	**+3.9**	
	comp=Z,63nm,1.6s								
SMRI	**Semarang**	**12.24**	**248**	P		Pn	18 04 15.8	+4.9	
	comp=Z,127nm,1.0s,comp=Z,3µm								
SMRI	**Semarang**	**12.24**	**248**	*e*Pn		**Pn**	**18 04 12.8**	**+1.9**	
KSM	**Kuching**	**12.27**	**289**	*e*Pn		**Pn**	**18 04 12.2**	**+0.9**	
UGM	**Wanagama**	**12.49**	**245**	P		**P**	**18 04 21.3**	**-4.1**	
	comp=Z,218nm,1.9s,comp=Z,4µm								
UGM	**Wanagama**	**12.49**	**245**	*e*Pn		**Pn**	**18 04 17.6**	**+3.2**	
MSLP	**Maasin**	**12.99**	**13**	*e*P		**Pn**	**18 04 21.9**	**+0.9**	
GUIM	**Jordan**	**13.15**	**3**	*e*P		**Pn**	**18 04 23.7**	**+0.4**	
MTN	**Manton Dam**	**13.69**	**139**	P		**Pn**	**18 04 27.9**	**-2.7**	
	baz=14,SNR=10.0								
MTN	**Manton Dam**	**13.69**	**139**	*e*Pn		**Pn**	**18 04 27.9**	**-2.7**	
KPJI	**Karang Pucung**	**13.75**	**249**	P		**P**	**18 04 36.0**	**-3.2**	
	comp=Z,362nm,1.0s,comp=Z,3µm								
OCLP	**Ormoc**	**13.82**	**11**	*e*P		**Pn**	**18 04 33.5**	**+1.0**	
ENPP	**El Nido**	**13.92**	**350**	*e*P		**Pn**	**18 04 34.0**	**+0.2**	
BAKI	**Biak**	**14.27**	**85**	P		**Pn**	**18 04 41.4**	**+2.8**	
	comp=Z,423nm,1.4s,comp=Z,6µm								
	BAKI				P		**P**	**18 04 47.1**	**+2.0**
	comp=Z,423nm,1.4s,comp=Z,6µm								
LEM	**Lembang**	**14.84**	**253**	Pn		**Pn**	**18 04 47.0**	**+0.7**	
	comp=Z,1.8nm,0.3s,baz=143,slow=20,SNR=2.2								
OTRP	**Odiongan**	**14.86**	**0**	*e*P		**P**	**18 04 52.8**	**+1.2**	
CISI	**Cisompet, Garu**	**14.86**	**250**	P		**Pn**	**18 04 48.3**	**+1.7**	
	comp=Z,177nm,1.7s,comp=Z,2µm								
CISI	**Cisompet, Garu**	**14.86**	**250**	*e*Pn		**Pn**	**18 04 46.6**	**0.0**	
SJMP	**San Jose**	**14.97**	**357**	*e*P		**Pn**	**18 04 49.9**	**+1.9**	
CNP	**Catarman**	**15.25**	**10**	*e*P		**Pn**	**18 04 52.5**	**+0.9**	
AUQP	**San Andres**	**15.83**	**3**	*e*P		**P**	**18 05 01.6**	**-0.8**	
FITZ	**Fitzroy Crossi**	**15.84**	**167**	Pn		**Pn**	**18 04 59.8**	**+0.6**	
	comp=Z,2.1nm,0.3s,baz=4.9,slow=12,SNR=32								
	FITZ				LR	LR	18 11 51.0		
	comp=Z,3µm,20.5s,baz=332,slow=40								
FITZ	**Fitzroy Crossi**	**15.84**	**167**	*e*Pn		**Pn**	**18 04 53.7**	**-5.6**	
	comp=Z,153nm,1.3s								
SKJI	**Sukabumi**	**15.90**	**253**	P		P	18 05 13.4	+10	
BOAC	**Boac**	**15.95**	**360**	*e*P		**Pn**	**18 05 01.9**	**+1.3**	
PALU	**Palau**	**15.97**	**52**	P		**Pn**	**18 04 60.0**	**-0.9**	
	baz=16,SNR=4.3								
SBJI	**Serang**	**16.11**	**257**	P		**P**	**18 05 09.1**	**+3.6**	
	comp=Z,493nm,0.9s,comp=Z,7µm								
PVCP	**Virac**	**16.24**	**8**	*e*P		**P**	**18 05 07.2**	**+0.3**	
LUBP	**Lubang**	**16.30**	**354**	*e*P		**Pn**	**18 05 05.3**	**+0.2**	
TGY	**Tagaytay City**	**16.61**	**357**	Pn		**P**	**18 05 10.4**	**-0.8**	
	comp=Z,20nm,0.3s,baz=288,slow=5.7,SNR=11								
	TGY				LR	LR	18 11 27.3		
	comp=Z,2µm,21.7s,baz=172,slow=37								
BLSI	**Bandar Lampung**	**16.84**	**260**	P		**P**	**18 05 17.6**	**+4.0**	
	comp=Z,76nm,0.5s,comp=Z,3µm								
KLI	**Kotabumi**	**17.15**	**262**	P		**P**	**18 05 23.6**	**+6.5**	
	comp=Z,178nm,1.3s,comp=Z,3µm								
KASI	**Kota Agung**	**17.60**	**260**	P		**P**	**18 05 25.0**	**+3.0**	
	comp=Z,196nm,1.3s,comp=Z,4µm								
TPRI	**Tanjung Pinang**	**17.71**	**281**	P		**P**	**18 05 24.4**	**+1.1**	
	comp=Z,102nm,1.6s,comp=Z,2µm								
MDSI	**Maura Dua**	**17.78**	**263**	P		**P**	**18 05 25.4**	**+1.3**	
	comp=Z,139nm,1.0s,comp=Z,2µm								
XMIS	**Christmas Isla**	**17.93**	**243**	*e*Pn		**Pn**	**18 05 24.6**	**-0.9**	
	comp=Z,135nm,1.0s								
LWLI	**Liwa**	**17.96**	**262**	P		**P**	**18 05 29.6**	**+3.4**	
	comp=Z,216nm,0.9s,comp=Z,11µm								
BALP	**Baler**	**18.22**	**359**	*e*P		**Pn**	**18 05 29.4**	**+0.5**	
GENI	**Genyem**	**18.25**	**90**	P		**Pn**	**18 05 29.7**	**+0.3**	
	comp=Z,289nm,1.2s,comp=Z,5µm								
SCZP	**Santa Cruz**	**18.35**	**354**	*e*P		**P**	**18 05 30.2**	**-0.1**	
MYKOM	**Kota Tinggi**	**18.56**	**283**	*e*P		**P**	**18 05 32.7**	**0.0**	
	comp=Z,105nm,1.1s								
MBWA	**Marble Bar**	**18.58**	**186**	*e*P		**Pn**	**18 05 33.2**	**-0.1**	
	comp=Z,239nm,1.6s								
MBWA	**Marble Bar**	**18.58**	**186**	P		**Pn**	**18 05 33.1**	**-0.2**	
	SNR=9.4								
MBWA	**Marble Bar**	**18.58**	**186**	P		**Pn**	**18 05 33.1**	**-0.2**	
	SNR=9.4								
JAY	**Jayapura**	**18.79**	**90**	P		**Pn**	**18 05 37.6**	**+1.6**	
	comp=Z,1µm,1.2s,comp=Z,17µm								
JAY	**Jayapura**	**18.79**	**90**	P		**Pn**	**18 05 37.3**	**+1.3**	
	JAY			pmax	pmax				
	comp=Z,1µm,1.3s								
BOLP	**Bolinao**	**18.95**	**354**	*e*P		**Pn**	**18 05 37.3**	**-0.5**	
MNAI	**Manna**	**18.99**	**264**	*e*P		**Pn**	**18 05 40.3**	**+2.0**	
	comp=Z,429nm,1.0s								
CAUP	**Cauayan**	**19.41**	**360**	*e*P		**Pn**	**18 05 43.2**	**-0.1**	
MASI	**Maura Aman, Be**	**19.64**	**268**	P		**Pn**	**18 05 46.5**	**+0.3**	
	comp=Z,635nm,1.1s,comp=Z,8µm								
ABRA	**Dolores**	**20.14**	**357**	*e*P		**P**	**18 05 49.1**	**-0.8**	
APYP	**Conner**	**20.33**	**358**	*e*P		**P**	**18 05 51.8**	**-0.2**	
BKNI	**Bangkinang**	**21.05**	**278**	P		**P**	**18 06 02.6**	**+2.8**	
	comp=Z,251nm,1.1s,comp=Z,4µm								
BKNI	**Bangkinang**	**21.05**	**278**	*e*P		**P**	**18 06 00.8**	**+1.0**	
	comp=Z,455nm,1.3s								
WRAB	**Tennant Creek**	**21.10**	**146**	*e*P		**P**	**18 05 58.8**	**-1.5**	
	comp=Z,80nm,0.9s								
WRAB	**Tennant Creek**	**21.10**	**146**	*e*P		**P**	**18 05 58.3**	**-2.0**	
	WRAB				pmax	pmax			
	comp=Z,15nm,0.8s								
WRA	**Warramunga Arr**	**21.10**	**146**	P		**P**	**18 05 58.4**	**-1.9**	
	comp=Z,16nm,0.7s,baz=325,slow=11,SNR=82								
	WRA					Sn	18 09 57.1	-3.9	
	comp=Z,5.1nm,1.2s,baz=342,slow=18,SNR=6.2								
	WRA				LR	LR	18 15 58.1		
	comp=Z,3µm,18.1s,baz=320,slow=42								
WB2	**Warramunga Arr**	**21.11**	**146**	*e*P		**P**	**18 05 58.8**	**-1.5**	
	comp=Z,76nm,0.8s								
PDSI	**Padang**	**21.49**	**274**	P		**P**	**18 06 05.9**	**+1.4**	
	comp=Z,99nm,1.2s								
PPSI	**Pulau Pagai**	**21.86**	**269**	P		**P**	**18 06 15.4**	**+6.9**	
	comp=Z,320nm,1.0s,comp=Z,5µm								
IPM	**Ipoh**	**22.00**	**289**	*e*P		**P**	**18 06 10.7**	**+0.6**	
	comp=Z,320nm,1.3s								
MNSI	**Mandailing Nat**	**22.56**	**278**	P		**P**	**18 06 16.3**	**+0.3**	
	comp=Z,116nm,1.0s,comp=Z,2µm								
SISI	**Saibi**	**22.83**	**273**	P		**P**	**18 06 22.5**	**+3.7**	
	comp=Z,98nm,1.2s,comp=Z,2µm								
WRKA	**Warakurna**	**23.15**	**165**	P		**P**	**18 06 21.4**	**-0.7**	
	baz=23,SNR=27								
SKLT	**Songkhla**	**23.34**	**295**	P		**P**	**18 06 23.7**	**-0.3**	
	comp=Z,108nm,1.4s,comp=Z,2µm								
PSI	**Prapat**	**23.58**	**283**	P		**P**	**18 06 25.4**	**-1.0**	
	comp=Z,52nm,0.9s,baz=101,slow=6.8,SNR=38								
	PSI				LR	LR	18 17 00.5		
	comp=Z,5µm,18.4s,baz=100,slow=40								
PSI	**Prapat**	**23.58**	**283**	*e*P		**P**	**18 06 26.3**	**-0.1**	
	comp=Z,427nm,1.4s								
PSI	**Prapat**	**23.58**	**283**	*e*P		**P**	**18 06 26.3**	**-0.1**	
	PSI				pmax	pmax			
	comp=Z,427nm,1.4s								
COEN	**Coen**	**23.86**	**119**	P		**P**	**18 06 27.8**	**-1.2**	
	baz=24,SNR=15								
AS31	**Alice Springs**	**23.96**	**152**	*e*P		**P**	**18 06 29.3**	**-0.5**	
	comp=Z,38nm,1.2s								
ASAR	**Alice Springs**	**23.96**	**152**	P		**P**	**18 06 28.9**	**-0.8**	
	comp=Z,22nm,0.6s,baz=326,slow=7.5,SNR=198								
	ASAR				LR	LR	18 16 05.8		
	comp=Z,2µm,21.6s,baz=323,slow=37								
ASAR	**Alice Springs**	**23.96**	**152**	P		**P**	**18 06 29.0**	**-0.8**	
AS01	**Alice Springs**	**23.98**	**152**	*e*P		**P**	**18 06 28.5**	**-1.5**	
TSI	**Tuntungan**	**24.09**	**284**	P		**P**	**18 06 33.8**	**+2.7**	
	comp=Z,140nm,1.4s								
MEEK	**Meekatharra**	**24.12**	**187**	P		**P**	**18 06 30.1**	**-1.1**	
	baz=24,SNR=24								
TRTT	**Trang**	**24.45**	**295**	P		**P**	**18 06 34.3**	**-0.1**	
	comp=Z,46nm,1.9s,comp=Z,635nm								
QIZ	**Qiongzhong**	**24.54**	**332**	P		**P**	**18 06 35.0**	**-0.1**	
	QIZ				pmax	pmax			
	QIZ			comp=Z,59nm,1.4s					
					LR	LR			
	QIZ			comp=Z,780nm,11.3s					
					LR	LR			
	QIZ			comp=Z,1µm,16.1s					
					LR	LR			
	QIZ			comp=Z,1µm,18.7s					
GSI	**Gunungsitoli**	**24.62**	**279**	P		**P**	**18 06 37.3**	**+1.4**	
	comp=Z,186nm,1.0s,comp=Z,2µm								
GSI	**Gunungsitoli**	**24.62**	**279**	*e*P		**P**	**18 06 36.0**	**+0.1**	
	comp=Z,169nm,1.0s								
CHBT	**CHBT**	**24.70**	**309**	P		**P**	**18 06 38.2**	**+1.7**	
	comp=Z,371nm,1.2s								
QIS	**Mount Isa**	**24.84**	**137**	P		**P**	**18 06 38.1**	**+0.2**	
	baz=25,SNR=31								
TWG	**Pinlang**	**25.27**	**358**	*e*P		**P**	**18 06 42.9**	**+1.2**	
	comp=Z,296nm,1.1s								
TPTI		**25.38**	**283**	P		P	18 06 51.0	+8.2	
MANU	**Manus Island**	**25.45**	**89**	*e*P		**P**	**18 06 44.2**	**+0.7**	
	comp=Z,201nm,1.5s								
SRAK	**Srakaew**	**25.68**	**310**	P		**P**	**18 06 42.1**	**-3.4**	
	comp=Z,203nm,1.0s,comp=Z,2µm								
PKDT	**Phuket**	**25.71**	**294**	P		**P**	**18 06 45.4**	**-0.4**	
	comp=Z,27nm,1.3s,comp=Z,364nm								
TPUB	**Ta-pu**	**25.76**	**357**	*e*P		**P**	**18 06 47.3**	**+1.1**	
	comp=Z,121nm,1.0s								
YULB	**Yu-li**	**25.83**	**359**	*e*P		**P**	**18 06 49.1**	**+2.3**	
	comp=Z,51nm,1.0s								
PMG	**Port Moresby**	**26.01**	**106**	P		**P**	**18 06 48.2**	**-0.3**	
	comp=Z,131nm,0.9s,baz=299,slow=5.9,SNR=30								
PMG	**Port Moresby**	**26.01**	**106**	*e*P		**P**	**18 06 48.5**	**0.0**	
	comp=Z,201nm,1.0s								
PMG	**Port Moresby**	**26.01**	**106**	*i* P		**P**	**18 06 47.8**	**-0.7**	
	PMG				pmax	pmax			
	comp=Z,897nm,1.1s								
LHMI	**Lhok Sumawe**	**26.11**	**287**	*e*P		**P**	**18 06 51.1**	**+1.7**	
	comp=Z,256nm,1.3s								
SSLB	**Suanglung**	**26.23**	**358**	*e*P		**P**	**18 06 49.9**	**-0.5**	
	comp=Z,118nm,1.0s								
SKNT	**Sakolnakorn**	**26.28**	**318**	P		**P**	**18 06 50.7**	**-0.2**	
	comp=Z,59nm,0.8s								
MLSI	**Meulaboh, Aceh**	**26.37**	**285**	P		**P**	**18 06 52.3**	**+0.5**	
	comp=Z,129nm,1.1s								
NAYO	**Nakonayok**	**26.42**	**310**	P		**P**	**18 06 53.1**	**+0.9**	
	comp=Z,39nm,1.0s,comp=Z,2µm								
COCO	**West Island**	**26.59**	**248**	*e*P		**P**	**18 06 55.5**	**+1.7**	
	comp=Z,207nm,1.2s								
COCO	**West Island**	**26.59**	**248**	*e*P		**P**	**18 06 55.5**	**+1.7**	
	COCO				pmax	pmax			
	comp=Z,207nm,1.2s								
KHON	**Khomkaen**	**26.63**	**316**	P		**P**	**18 06 55.2**	**+1.2**	
	comp=Z,23nm,1.0s,comp=Z,401nm								
MTSU	**Mount Surprise**	**26.87**	**127**	P		**P**	**18 06 56.6**	**+0.3**	
	baz=27,SNR=10.0								
MORW	**Morawa**	**26.91**	**191**	P		**P**	**18 06 58.6**	**+2.1**	
	baz=27,SNR=11								
CHAI	**Chaiyaphum**	**26.93**	**314**	P		**P**	**18 06 57.6**	**+0.8**	
	comp=Z,15nm,0.9s,comp=Z,198nm								
PHET	**Kaeng Krachan**	**26.94**	**305**	P		**P**	**18 06 58.4**	**+1.5**	
	comp=Z,23nm,0.9s,comp=Z,204nm								
QZH	**Quanzhou**	**27.56**	**354**	*e*P		**P**	**18 07 01.3**	**-1.0**	
	QZH				S	**S**	**18 11 42.6**	**+1.6**	
	QZH				LR	LR			
	comp=Z,1µm,11.4s								
	QZH				LR	LR			
	comp=Z,860nm,16.1s								
	QZH				LR	LR			
	comp=Z,1µm,17.1s								
PBKT	**Sadao Pong**	**28.10**	**313**	P		**P**	**18 07 07.0**	**-0.2**	
	comp=Z,26nm,1.0s,comp=Z,522nm								
SRDT	**SRDT**	**28.16**	**307**	P		**P**	**18 07 09.1**	**+1.3**	
	comp=Z,56nm,1.2s,comp=Z,552nm								
BLDU	**Ballidu**	**28.30**	**189**	P		**P**	**18 07 08.8**	**-0.1**	
	baz=28,SNR=9.3								
KMBL	**Kambalda**	**28.62**	**180**	P		**P**	**18 07 12.0**	**+0.2**	
	baz=29,SNR=4.9								
FORT	**Forrest**	**28.64**	**169**	*e*P		**P**	**18 07 11.4**	**-0.5**	
	comp=Z,707nm,0.9s								
PHIT	**Philsanukok**	**28.91**	**314**	P		**P**	**18 07 15.7**	**+1.3**	
	comp=Z,35nm,0.9s,comp=Z,303nm								
KLBR	**Kellerberrin**	**29.11**	**187**	P		**P**	**18 07 18.7**	**+2.6**	
	baz=29,SNR=5.1								
CTA	**Charters Tower**	**29.46**	**128**	P		**P**	**18 07 19.7**	**+0.3**	
	comp=Z,17nm,0.9s,baz=314,slow=12,SNR=8.0								
JOW	**Kunigami**	**29.89**	**11**	LR		LR	18 19 54.9		
	comp=Z,2µm,20.2s,baz=192,slow=38								
RABL	**Rabaul**	**30.25**	**94**	*e*P		**P**	**18 07 27.3**	**+0.8**	
	comp=Z,207nm,1.1s								
NWAO	**Narrogin (SRO)**	**30.49**	**188**	P		**P**	**18 07 29.4**	**+1.1**	
	comp=Z,8.9nm,0.7s,baz=249,slow=7.8,SNR=8.4								
	NWAO				LR	LR	18 22 24.9		
	comp=Z,997nm,18.1s,baz=242,slow=42								
NWAO	**Narrogin (SRO)**	**30.49**	**188**	P		**P**	**18 07 29.6**	**+1.2**	
	baz=31,SNR=4.6								
	NWAO				P	**P**	**18 07 29.6**	**+1.2**	
	baz=31,SNR=4.6								
NWAO	**Narrogin (SRO)**	**30.49**	**188**	*e*P		**P**	**18 07 31.0**	**+2.7**	
	comp=Z,210nm,2.0s								
CM01	**Chiang Mai Arr**	**30.76**	**314**	*e*P		**P**	**18 07 32.1**	**+1.3**	
CM31	**Chiang Mai Arr**	**30.79**	**314**	*e*P		**P**	**18 07 32.4**	**+1.3**	
CMAR	**Chiang Mai Arr**	**30.79**	**314**	P		**P**	**18 07 31.2**	**+0.1**	
	comp=Z,21nm,0.8s,baz=138,slow=7.0,SNR=210								
	CMAR				PcP	**PcP**	**18 10 27.9**	**0.0**	
	comp=Z,2.9nm,1.0s,baz=178,slow=1.8,SNR=4.1								
	CMAR				LR	LR	18 22 12.6		
	comp=Z,1µm,20.1s,baz=148,slow=41								
CMMT	**Chiang Mai**	**31.02**	**314**	P		**P**	**18 07 33.0**	**-0.1**	
	comp=Z,59nm,1.4s,comp=Z,741nm								
CHTO	**Chiang Mai**	**31.02**	**314**	P		**P**	**18 07 34.1**	**+0.9**	
	comp=Z,264nm,1.3s,comp=Z,3µm		

TIA S **S** **18 14 37.8 +2.0**
TIA pmax pmax
comp=Z,16nm,0.9s
TIA pmax pmax
comp=Z,120nm,3.4s
TIA LR LR
comp=Z,570nm,18.4s
TIA LR LR
comp=Z,600nm,23.9s
TIA LR LR
comp=Z,910nm,21.2s
TJN Taejon 39.10 7⇓ *e*P **P 18 08 43.4 +0.9**
JHJ Hachijo jima 2 39.34 24 LR LR 18 22 43.9
comp=Z,325nm,20.4s,baz=260,slow=33
ARMA Armidale 39.47 138 P **P 18 08 47.1 +1.3**
baz=40,SNR=8.2
ARMA Armidale 39.47 138 *e*P **P 18 08 47.5 +1.7**
comp=Z,86nm,1.5s
YNG Young 40.06 145 P **P 18 08 51.4 +0.7**
baz=40,SNR=15
KS15 Wonju Array Si 40.22 7 *e*P **P 18 08 53.3 +1.6**
KSAR Wonju Array Be 40.22 7 P **P 18 08 51.4 -0.4**
KSAR Wonju Array Be 40.22 7 P **P 18 08 51.4 -0.4**
KSRS Korea Array 40.23 7 P **P 18 08 51.4 -0.5**
comp=Z,11nm,0.8s,baz=187,slow=9.4,SNR=48
KSRS LR LR 18 26 27.8
comp=Z,512nm,19.0s,baz=196,slow=38
KSRS Korea Array 40.23 7 P **P 18 08 51.4 -0.5**
KSRS pmax pmax
comp=Z,12nm,0.8s
KSRS MLR MLR
comp=Z,512nm,19.0s
KS01 Wonju Array Si 40.25 7 *e*P **P 18 08 51.5 -0.5**
INU Inuyama 40.31 19 *e*P **P 18 08 52.6 0.0**
comp=Z,18nm,0.9s
SHL Shillong 40.35 316 *e*P **P 18 08 54.0 +0.7**
SHL *ex* x 18 15 46.8
TOO Toolangi 41.00 151 P **P 18 08 59.9 +1.6**
baz=41,SNR=14
CAN Canberra 41.14 146 *e*P **P 18 09 00.2 +0.6**
comp=Z,70nm,1.0s
CAN Canberra 41.14 146 *e*P **P 18 09 00.2 +0.6**
CAN pmax pmax
comp=Z,70nm,1.0s
DL2 Dalian 41.29 360 P **P 18 09 00.4 -0.2**
DL2 S **S** **18 15 10.4 -1.7**
DL2 pmax pmax
comp=Z,17nm,0.8s
DL2 pmax pmax
comp=Z,100nm,5.9s
DL2 LR LR
comp=Z,720nm,17.7s
DL2 LR LR
comp=Z,530nm,16.1s
DL2 LR LR
comp=Z,1μm,24.5s
CNB Canberra Magne 41.35 145 P **P 18 09 01.9 +0.6**
baz=41,SNR=8.2
MAJO Matsushiro 41.80 20*c i*P **P 18 09 03.3 -1.5**
MAJO pmax pmax
comp=Z,15nm,0.7s
MJAR Matsushiro Arr 41.80 20 P **P 18 09 03.0 -1.8**
comp=Z,13nm,0.8s,baz=195,slow=9.3,SNR=36
MJAR LR LR 18 25 24.2
comp=Z,626nm,22.0s,baz=215,slow=35
MJAR Matsushiro Arr 41.80 20 P **P 18 09 03.0 -1.8**
MJAR Matsushiro Arr 41.80 20 P **P 18 09 03.0 -1.8**
VIS Vishakhapatnam 43.04 299 *e*P **P 18 09 15.5 +0.3**
VIS IAmb IAmb 18 09 16.7
comp=Z,152nm,1.4s
BOK Bokaro 43.76 309 *e*P **P 18 09 21.2 +0.3**
BOK IAmb IAmb 18 09 21.8
comp=Z,16nm,1.0s
SNY Shenyang 44.24 2 ⇓P **P 18 09 23.8 -0.6**
SNY S **S** **18 15 52.4 -2.8**
SNY pmax pmax
comp=Z,19nm,1.4s
SNY LR LR
comp=Z,610nm,17.8s
SNY LR LR
comp=Z,460nm,14.2s
SNY LR LR
comp=Z,1μm,19.9s
HHC Hu-ho-hao-te 44.25 349 *e*P **P 18 09 23.8 -0.9**
HHC sP sP 18 09 45.1 +4.4
HHC S **S** **18 15 55.1 -0.7**
HHC pmax pmax
comp=Z,15nm,1.0s
HHC pmax pmax
comp=Z,150nm,5.4s
HHC LR LR
comp=Z,450nm,15.0s
HHC LR LR
comp=Z,510nm,14.9s
HHC LR LR
comp=Z,490nm,15.1s
ODAN Odare 44.34 314 *e*P **P 18 09 26.2 +0.4**
comp=Z,93nm,1.0s
BTO Baotou 44.34 347 *e*P **P 18 09 22.6 -2.8**
RAMN Ramite 44.96 313 *e*P **P 18 09 31.4 +0.6**
comp=Z,217nm,1.1s
JIRN Jiri 45.67 314 *e*P **P 18 09 36.7 +0.2**
MSHR Mys Shultsa 45.74 10⇓ *e*P **P 18 09 37.5 +1.2**
GUN Gumba 46.04 314 *e*P **P 18 09 39.5 +0.1**
comp=Z,144nm,1.0s
PKIN Phulchoki 46.20 313 *e*P **P 18 09 40.7 +0.1**
comp=Z,25nm,0.6s
KKN Kakani 46.40 313 *e*P **P 18 09 42.0 -0.1**
comp=Z,83nm,1.1s
DMN Daman 46.43 313 *e*P **P 18 09 42.4 0.0**
comp=Z,95nm,1.0s
GTA Gaotai 46.47 336 *e*P **P 18 09 42.9 +0.6**
GTA pP pP 18 09 51.8 -1.9
GTA sP sP 18 09 56.6 -1.8
GTA S **S** **18 16 35.3 +7.4**
GTA pmax pmax
comp=Z,18nm,1.2s
GTA pmax pmax
comp=Z,160nm,5.7s
GTA LR LR
comp=Z,610nm,16.4s
GTA LR LR
comp=Z,740nm,19.7s
GTA LR LR
comp=Z,560nm,22.1s
GKN Gorkha 46.99 313 *e*P **P 18 09 46.5 -0.2**
comp=Z,60nm,0.7s
HYB Hyderabad 47.13 297 *i* P **P 18 09 46.5 -1.3**
HYB Hyderabad 47.13 297 *e*P **P 18 09 46.4 -1.3**
HYB IAmb IAmb 18 09 47.8
comp=Z,457nm,2.9s
DZM Mont Dzumac 47.38 118 LR LR 18 32 06.7
comp=Z,889nm,18.8s,baz=300,slow=39
DZM Mont Dzumac 47.38 118 *e*P **P 18 09 49.2 -0.5**
comp=Z,86nm,1.4s
DZM Mont Dzumac 47.38 118 *e*LQ LQ 18 21 21.4
comp=Z,3μm,32.2s
DZM *e*LR LR 18 23 17.4
comp=Z,1μm,25.8s
USRK Ussuriysk Ar. 47.45 10 P **P 18 09 47.9 -1.9**
comp=Z,11nm,0.8s,baz=191,slow=8.0,SNR=26
USRK LR LR 18 30 03.7
comp=Z,499nm,19.7s,baz=178,slow=36
KOLN Koldanda 47.63 312 *e*P **P 18 09 51.8 +0.1**
comp=Z,43nm,0.7s
DANN Dangsing 47.83 313 *e*P **P 18 09 53.8 +0.5**
NGP Nagpur 48.12 302 *e*P **P 18 09 54.9 -0.5**
NGP *ex* x 18 10 49.5
PYUN Piuthan 48.26 312 *e*P **P 18 09 56.8 +0.2**
comp=Z,179nm,1.0s
ERM Erimo 48.41 21⇑ *e*P **P 18 09 58.8 +1.6**
ERM pmax pmax
comp=Z,55nm,1.4s
TEY Ternei 49.20 14 *e*P **P 18 10 01.0 -2.2**
ASAJ Asahikawa 50.06 19 *e*P **P 18 10 10.2 +0.4**
comp=Z,20nm,0.8s
BHPL Bhopal 50.35 303 *e*P **P 18 10 11.1 -1.3**
BHPL IAmb IAmb 18 10 12.3
comp=Z,32nm,1.0s
GOA Goa 50.83 292 *e*P **P 18 10 18.1 +2.0**
POO Poona 51.72 296 *ex* P **P 18 10 30.9 +8.1**
ULN Ulaanbaatar 51.90 347 *e*P **P 18 10 22.6 -1.2**
ULN Ulaanbaatar 51.90 347 P **P 18 10 23.5 -0.3**
SNR=12
ULN Ulaanbaatar 51.90 347*ce*P **P 18 10 23.3 -0.5**
ULN pmax pmax
comp=Z,23nm,1.7s
SONM Songino Array 52.02 347 P **P 18 10 23.6 -1.0**
comp=Z,3.5nm,0.7s,baz=167,slow=7.9,SNR=14
SONM LR LR 18 34 46.3
comp=Z,1μm,19.5s,baz=161,slow=39
SONA1 Songino Array 52.03 347 *e*P **P 18 10 23.1 -1.6**
KLR Kul'dur 52.31 8*c i*P **P 18 10 25.2 -1.4**
YSS Yuzh-Sakhalins 52.64 18 *e*P **P 18 10 29.0 0.0**
YSS Yuzh-Sakhalins 52.64 18⇑ *e*P **P 18 10 28.7 -0.4**
YSS pmax pmax
comp=Z,10.0nm,0.8s
YSS MLR MLR
comp=Z,200nm,15.0s
DDI Dehra Dun 53.10 311 *e*P **P 18 10 32.9 0.0**
SMLA Simla 54.16 312 *e*P **P 18 10 39.9 -0.7**
SMLA IAmb IAmb 18 10 40.8
comp=Z,41nm,0.4s
GRNR Gornyy 54.59 11 *e*P **P 18 10 44.0 +0.7**
GRNR pmax pmax
comp=Z,26nm,1.0s
ZAK Zakamensk 55.14 346 *e*P **P 18 10 45.2 -2.2**
ZAK pmax pmax
comp=Z,3.0nm,1.5s
DHRM DHARAMSHALA 55.36 313 *e*P **P 18 10 47.8 -1.7**
TYV Tymovskoe 56.13 16 *e*P P 18 11 01.5 +7.1
TYV pmax pmax
comp=Z,200nm,5.7s
TLY Talaya 56.25 346 *e*P P 18 11 06.5 +11
TLY *e*S **S** **18 18 47.9 +5.6**
TLY pmax pmax
comp=Z,7.0nm,0.9s
TLY MLR MLR
comp=Z,417nm,19.0s
ZEA Zeya 56.31 4 *e*P **P 18 10 55.7 +0.1**
ZEA pmax pmax
comp=Z,28nm,1.4s
ZEA MLR MLR
comp=Z,600nm,18.0s
ZEA MLR MLR
comp=N,600nm,19.0s
IRK Irkutsk 56.63 347 *e*P **P 18 10 59.1 +1.2**
IRK pmax pmax
comp=Z,32nm,2.9s
MOY Mondy 56.90 345 *e*P **P 18 10 59.2 -0.8**
MOY pmax pmax
comp=Z,29nm,2.4s
MSVF Nonsavu 57.05 109 *e*P **P 18 11 03.1 +1.5**
MSVF Nonsavu 57.05 109⇓ *e*P **P 18 11 03.1 +1.5**
MSVF pmax pmax
comp=Z,56nm,0.9s
NKL Nikolayevsk 57.74 13 *e*P **P 18 11 05.0 -0.7**
NKL *e* 18 19 04.0
NKL pmax pmax
comp=N,13nm,1.0s
NKL pmax pmax
comp=Z,34nm,1.0s
NKL MLR MLR
comp=N,500nm,20.0s
NKL MLR MLR
comp=Z,500nm,20.0s
HVS Khovu-Aksy 58.68 340 *e*P **P 18 11 12.7 +0.2**
HVS pmax pmax
comp=Z,25nm,1.2s
WHZ Wether Hill Ro 58.91 144 *e*P **P 18 11 18.1 +4.0**
PDGK Podgornoye 59.50 325 P **P 18 11 16.8 -1.6**
PDGK pmax pmax
comp=Z,27nm,1.1s
RPZ Rata Peaks 59.69 141 *e*P **P 18 11 19.9 +0.4**
DGZ Jazzator, Alta 59.96 335 *e*P **P 18 11 20.8 -0.6**
DGZ pmax pmax
comp=Z,11nm,0.9s
THZ Tophouse 60.00 138 *e*P **P 18 11 22.2 +0.5**
MK01 Makanchi Array 60.23 330 *e*P **P 18 11 21.9 -1.3**
MK31 Makanchi Array 60.25 330 *e*P **P 18 11 23.2 -0.1**
MK31 Makanchi Array 60.25 330 *i* P **P 18 11 22.6 -0.7**
MK31 pmax pmax
comp=Z,9.0nm,0.6s
MKAR Makanchi Array 60.25 330 P **P 18 11 22.9 -0.4**
comp=Z,10nm,0.6s,baz=125,slow=7.7,SNR=146
MKAR PcP **PcP** **18 12 08.7 +0.3**
comp=Z,14nm,0.7s,baz=170,slow=3.8,SNR=12
MKAR Makanchi Array 60.25 330 *e*P **P 18 11 23.2 -0.1**
MKAR PcP **PcP** **18 12 08.7 +0.3**
BOD Bodaibo 60.55 355 *e*P **P 18 11 23.7 -1.4**
BOD pmax pmax
comp=Z,22nm,1.5s
SKR Severo-Kuril's 60.60 24⇑ *e*P **P 18 11 26.6 +1.0**
KHZ Kahutara 60.71 138 *e*P **P 18 11 30.0 +3.5**
ULHL Ulahol 60.76 323 P **P 18 11 27.0 -0.1**
SNR=9.1
SFK Sufi-Kurgan 61.27 319 P **P 18 11 29.8 -0.9**
SFK pmax pmax
comp=Z,14nm,1.0s
KZA Kyzart 61.28 322 P **P 18 11 31.1 +0.2**
SNR=23
BKZ Black Stump Fm 61.44 134 *e*P **P 18 11 32.4 +0.8**
TKM2 Tokmak 2 61.54 323 P **P 18 11 31.8 -0.6**
SNR=22
TKM2 Tokmak 2 61.54 323 P **P 18 11 31.5 -0.9**
TKM2 pmax pmax
comp=Z,27nm,1.3s
KBK Karagaybulak 61.78 322 P **P 18 11 34.2 +0.2**
SNR=14
KBL Kabul 61.79 312 *e*P **P 18 11 33.8 -0.5**
KBL Kabul 61.79 312 *e*P **P 18 11 33.8 -0.5**
UCH Uchtor 61.81 322 P **P 18 11 34.6 0.0**
SNR=15
AAK Ala-Archa 62.05 322 P **P 18 11 35.8 0.0**
SNR=18
AAK Ala-Archa 62.05 322 *e*P **P 18 11 35.8 0.0**
AAK Ala-Archa 62.05 322 P **P 18 11 36.3 +0.5**
SNR=16
AAK Ala-Archa 62.05 322 P **P 18 11 36.3 +0.5**
SNR=16
AAK Ala-Archa 62.05 322*c i*P **P 18 11 35.6 -0.2**
AAK pmax pmax
comp=Z,21nm,1.0s
FRU Bishkek 62.09 322⇓ *e*P **P 18 11 36.0 +0.1**
FRU pmax pmax
comp=Z,60nm,2.0s
AML Almayashu 62.27 321 P **P 18 11 37.5 -0.1**
SNR=25
USP Ospenovka 62.40 323 P **P 18 11 37.6 -0.3**
SNR=8.3
EKS2 Erkin-Say 62.51 322 P **P 18 11 38.9 +0.1**
SNR=16
KRAR Krasnoyarsk 63.03 342⇓ *e*P **P 18 11 40.0 -1.8**
PETK Petropavlovsk- 63.09 23 P **P 18 11 43.2 +1.0**
comp=Z,24nm,0.7s,baz=200,slow=3.0,SNR=35
PETK LR LR 18 38 15.6
comp=Z,298nm,21.1s,baz=220,slow=35
MNAS Manas 63.21 321 P **P 18 11 42.3 -1.2**
MNAS pmax pmax
comp=Z,29nm,1.1s
PET Petropavlovsk 63.40 24 *e*P **P 18 11 45.2 +0.9**
PET *e*S **S** **18 20 13.6 -0.5**
PET pmax pmax
comp=Z,100nm,8.8s
PET pmax pmax
comp=Z,57nm,1.3s
CASY Casey 64.07 185 *e*P **P 18 11 50.0 +1.5**
ZALV Zalesovo Beam 64.22 337 P **P 18 11 47.8 -1.9**
comp=Z,7.5nm,0.8s,baz=132,slow=4.4,SNR=30
KURBB Kurchatov Arra 64.66 331 P **P 18 11 50.5 -2.2**
comp=Z,9.0nm,0.9s,baz=135,slow=5.8,SNR=59
KURK Kurchatov 64.68 331 *e*P **P 18 11 51.7 -1.0**
KURK Kurchatov 64.68 331 P **P 18 11 52.0 -0.7**
SNR=25
KURK Kurchatov 64.68 331 P **P 18 11 52.0 -0.7**
SNR=25
KURK Kurchatov 64.68 331*c i*P **P 18 11 51.6 -1.2**
KURK pmax pmax
comp=Z,80nm,1.7s
YAK Yakutsk 64.72 4 *e*P **P 18 11 52.0 -0.8**
YAK Yakutsk 64.72 4 *e*P **P 18 11 51.1 -1.7**
YAK *e*PP **pP** **18 12 00.6 -4.0**
YAK *e* 18 12 33.2
YAK *e*SS **sS** **18 20 51.2 +1.5**
YAK *e* 18 21 42.7
YAK pmax pmax
comp=Z,56nm,0.9s
YAK pmax pmax
comp=N,29nm,1.3s
YAK pmax pmax
comp=E,14nm,1.3s
YAK pmax pmax
comp=N,5.0nm,0.9s
YAK pmax pmax
comp=Z,47nm,1.9s
YAK MLR MLR
comp=Z,321nm,22.0s
YAK MLR MLR
comp=N,432nm,22.0s
KK31 Karatay Array 64.78 321 *i* P **P 18 11 52.4 -1.3**
KK31 pmax pmax
comp=Z,6.0nm,0.9s
NVS Novosibirsk 65.51 337 *e*P **P 18 11 55.8 -2.2**
NVS pmax pmax
comp=N,10.0nm,1.3s
NVS pmax pmax
comp=E,13nm,1.3s
NVS pmax pmax
comp=Z,26nm,1.3s
MA2 Magadan 66.01 16⇑ *e*P **P 18 12 02.3 +1.1**
MA2 pmax pmax
comp=Z,59nm,1.1s
AFI Afiamalu 66.41 104 LR LR 18 40 01.9
comp=Z,216nm,21.9s,baz=266,slow=35
OTUK Ortayu 66.44 326 P **P 18 12 03.4 -0.8**
OTUK pmax pmax
comp=Z,15nm,1.2s
WSAR Wadi Sarin 66.69 297 P **P 18 12 04.2 -2.1**
comp=Z,8.5nm,0.9s,baz=111,slow=8.5,SNR=4.8
WSAR LR LR 18 42 16.1
comp=Z,496nm,20.8s,baz=122,slow=37
SEY Seymchan 69.27 14*c i*P **P 18 12 22.7 +1.0**
BVAR Borovoye Array 70.14 330 P **P 18 12 25.5 -1.7**
comp=Z,4.0nm,0.9s,baz=132,slow=8.6,SNR=23
BVAR LR LR 18 45 59.6
comp=Z,468nm,21.2s,baz=126,slow=38
BRVK Borovoye 70.21 330 P **P 18 12 27.3 -0.4**
SNR=12
BRVK Borovoye 70.21 330 P **P 18 12 27.3 -0.4**
SNR=12
BRVK Borovoye 70.21 330 P **P 18 12 26.2 -1.5**
BRVK pmax pmax
comp=Z,20nm,1.2s
GEYT Alibeck 71.24 311 P **P 18 12 33.9 -0.5**
comp=Z,8.6nm,0.8s,baz=140,slow=4.8,SNR=24
GEYT LR LR 18 48 21.7
comp=Z,539nm,20.9s,baz=130,slow=40
AB31 Akbulak array 74.11 323 P **P 18 12 49.0 -2.1**
AB31 pmax pmax
comp=Z,6.0nm,0.8s
TIXI Tiksi 74.25 2 LR LR 18 47 44.1
comp=Z,524nm,20.5s,baz=189,slow=38
TIXI Tiksi 74.25 2*c i*P **P 18 12 50.1 -1.3**
TIXI pmax pmax
comp=Z,25nm,1.0s
ABPO Ambohimpanom 74.67 251 P **P 18 12 53.6 -1.6**
OPO Ambohidratompo 74.69 252 P **P 18 12 55.1 -0.2**
comp=Z,7.6nm,0.9s,baz=69,slow=8.6,SNR=5.7
AKTO Aktyubinsk 75.72 324 P **P 18 12 58.7 -1.7**
comp=Z,5.6nm,0.7s,baz=125,slow=14,SNR=25
AKTO LR LR 18 50 15.2
comp=Z,341nm,21.5s,baz=128,slow=39
MAW Mawson 76.20 200 P **P 18 13 02.6 -0.2**
comp=Z,12nm,1.0s,baz=43,slow=7.4,SNR=5.4
MAW Mawson 76.20 200 P **P 18 13 03.9 +1.1**
baz=76,SNR=4.3
BILL Bilibino 76.88 16*c i*P **P 18 13 06.3 -0.3**
BILL *e* 18 13 16.7
BILL *e* 18 13 22.2
BILL *e* 18 16 00.5
BILL pmax pmax
comp=Z,26nm,1.4s
BILL MLR MLR
comp=Z,304nm,18.0s
SVE Sverdlovsk 76.90 330⇓ *e*P **P 18 13 05.7 -1.3**
SVE pmax pmax
comp=Z,30nm,1.1s
VNDA Vanda 77.86 172 P **P 18 13 12.4 +0.4**
comp=Z,6.0nm,0.8s,baz=321,slow=6.6,SNR=24
VNDA LR LR 18 47 28.2
comp=Z,544nm,18.5s,baz=324,slow=36
SBA Scott Base 78.82 171 P **P 18 13 20.5 +3.2**
GROC Groznyy 81.67 314 *e*P **P 18 13 31.1 -2.2**
GROC *e*S **S** **18 23 38.8 -4.3**
GROC pmax pmax
comp=Z,7.0nm,0.4s
GNI Garni 81.87 311⇓ *e*P **P 18 13 35.1 +0.5**
GNI pmax pmax
comp=Z,19nm,1.0s
ZEI Tsey 82.96 313 *e*P **P 18 13 39.5 -0.8**
ZEI pmax pmax
comp=Z,18nm,1.0s
NCK Nalchik 83.30 314⇓ *e*P **P 18 13 41.6 -0.2**
NCK pmax pmax
comp=Z,6.0nm,0.6s
KBZ Khabaz 83.84 314 P **P 18 13 42.9 -1.6**
comp=Z,10nm,0.9s,baz=96,slow=3.9,SNR=23
KBZ LR LR 18 58 11.6
comp=Z,274nm,20.2s,baz=98,slow=41
NEY Neytrino 83.89 314⇑ *e*P **P 18 13 46.0 +0.9**
NEY pmax pmax
comp=Z,2.0nm,0.8s
GOF Gofitskoye 83.96 316⇑ *e*P **P 18 13 44.2 -0.9**
GOF pmax pmax
comp=Z,22nm,1.0s
KVAR Kislovodsk Arr 84.02 314 LR LR 18 57 53.5
comp=Z,245nm,20.8s,slow=40
KIV Kislovodsk 84.03 314 *e*P **P 18 13 45.2 -0.5**
KIV *e*S **S** **18 24 04.8 -2.5**
KIV pmax pmax
comp=Z,7.0nm,1.1s
KMBO Kilima Mbogo 84.60 269 P **P 18 13 48.3 -1.1**
comp=Z,7.8nm,0.9s,baz=60,slow=5.6,SNR=15
KMBO LR LR 18 47 56.4
comp=Z,394nm,21.1s,baz=96,slow=33
KMBO Kilima Mbogo 84.60 269 P **P 18 13 50.2 +0.8**
SNR=8.1
KMBO Kilima Mbogo 84.60 269 PcP **P 18 13 50.2 +0.8**
SNR=8.1
VRH Novokhopyorsk 85.85 322 *e*P **P 18 13 53.1 -1.4**
VRH pmax pmax
comp=Z,40nm,0.8s
SOC Sochi 86.10 314 *e*P **P 18 13 51.8 -4.1**
SOC *e* 18 17 11.1
SOC *e*S **SKSac** **18 24 14.0 -5.0**
SOC *e*SS **SS** **18 29 59.6 -7.1**
SOC pmax pmax
comp=Z,21nm,0.8s
SOC MLR MLR
comp=Z,105nm,12.0s
ASF Jabal al Asfar 87.13 302 P **P 18 14 01.0 -0.3**
comp=Z,12nm,0.9s,baz=180,slow=3.8,SNR=16
QSPA South Pole Qui 87.36 180 P **P 18 14 01.5 -0.2**
comp=Z,5.3nm,0.8s,baz=143,slow=0.7,SNR=8.7
QSPA LR LR 18 52 34.6
comp=Z,394nm,19.2s,baz=304,slow=35
VSR Storozhevoye 87.44 321 *e*P **P 18 14 00.3 -2.0**
VSR pmax pmax
comp=Z,20nm,0.7s
LPSR Galich'ya Gora 87.76 323 *e*P **P 18 14 02.4 -1.4**
LPSR pmax pmax
comp=Z,40nm,0.8s
PPT2 Papeete2 87.82 107 *e*LR LR 18 41 39.8
comp=Z,410nm,25.0s
ANN Anapa 87.87 315 *e*P **P 18 13 59.7 -4.8**
ANN *e* 18 17 26.7
ANN *e*S **SKSac** **18 24 23.9 -5.9**
ANN pmax pmax
comp=Z,46nm,1.0s
MMAI Mount Meron Ar 88.45 303 P **P 18 14 07.3 -0.4**
comp=Z,2.7nm,0.6s,baz=67,slow=11,SNR=8.1
MMAI LR LR 18 59 58.2
comp=Z,444nm,18.5s,baz=80,slow=40
KLMR Klimovskoe 88.53 331 *e*P **P 18 14 04.0 -3.2**
KLMR AMP 18 14 08.7
comp=Z,53nm,1.3s
KLMR LQ LQ 18 49 49.2
KLMR LQ LQ 18 49 49.2
KLMR LR LR 18 56 33.2
KLMR Klimovskoe 88.53 331 *e*P **P 18 14 04.0 -3.2**
KLMR pmax pmax
comp=Z,53nm,1.3s
OBN Obninsk 89.43 325⇓ *e*P **P 18 14 10.4 -1.1**
OBN *i* S **SKSac** **18 24 40.0 +1.5**
OBN pmax pmax
comp=Z,41nm,1.7s
OBN MLR MLR

	comp=Z,285nm,21.0s							
TMCR	**Tamitsa**		**89.63**	**334**	*e*P	**P**	18 14 08.5	**-3.8**
TMCR					pmax	pmax		
	comp=Z,22nm,1.1s							
SIM	**Simferopol'**		**90.24**	**315**	*e*P	**P**	18 14 15.3	**-0.3**
SIM					*e*PS	PnS	18 26 44.0	+26
SIM					pmax	pmax		
	comp=Z,8.0nm,0.8s							
SIM					MLR	MLR		
	comp=Z,220nm,17.4s							
BRTR	**Keskin Array B**		**90.30**	**310**	P	**P**	18 14 14.1	**-2.1**
	comp=Z,4.6nm,0.8s,baz=123,slow=4.6,SNR=28							
BRTR					PP	**PP**	18 17 53.0	**+2.5**
	comp=Z,1.1nm,0.8s,baz=123,slow=4.6,SNR=3.8							
BRTR					LR	LR	19 01 48.3	
	comp=Z,178nm,19.9s,baz=102,slow=40							
LVZ	**Lovozero**		**91.34**	**338**⇓	*e*P	**P**	18 14 18.8	**-1.5**
LVZ					pmax	pmax		
	comp=Z,44nm,1.5s							
COLA	**College**		**92.43**	**25**⇓	*e*P	**P**	18 14 24.6	**-0.7**
COLA					pmax	pmax		
	comp=Z,3.0nm,0.7s							
ILAR	**Eielson Array**		**92.85**	**25**	P	**P**	18 14 25.9	**-1.3**
	comp=Z,1.9nm,1.2s,baz=243,slow=4.9,SNR=6.8							
ILAR					PKKPbc	**PKKPbc**	18 31 42.0	**+1.2**
	comp=Z,0.6nm,0.9s,baz=54,slow=1.5,SNR=4.2							
ILAR	**Eielson Array**		**92.85**	**25**	P	**P**	18 14 26.0	**-1.3**
ILAR							18 31 42.0	
AKASG	**Malin Array Be**		**93.68**	**320**	P	**P**	18 14 29.7	**-1.7**
	comp=Z,1.2nm,0.7s,baz=75,slow=5.2,SNR=14							
AKASG					LR	LR	19 00 21.1	
	comp=Z,171nm,20.6s,baz=80,slow=38							
KIEV	**Kiev**		**93.69**	**320**⇑	*e*P	**P**	18 14 29.2	**-2.3**
KIEV					pmax	pmax		
	comp=Z,4.0nm,0.9s							
BOSA	**Boshof**		**94.60**	**241**	LR	LR	18 54 28.2	
	comp=Z,447nm,18.5s,baz=102,slow=34							
ARCES	**ARCESS Array B**		**94.65**	**339**	P	**P**	18 14 34.6	**-0.9**
	comp=Z,2.5nm,0.6s,baz=79,slow=7.8,SNR=16							
OUL	**Oulu**		**94.87**	**335**	P	**P**	18 14 36.8	**+0.3**
OUL					pmax	pmax		
	comp=Z,16nm,1.5s							
VSU	**Vasula**		**94.90**	**328**⇑	*e*P	**P**	18 14 35.4	**-1.4**
VSU					pmax	pmax		
	comp=Z,58nm,1.0s							
FINES	**FINESS Array B**		**95.05**	**331**	P	**P**	18 14 35.9	**-1.6**
	comp=Z,2.7nm,0.8s,baz=108,slow=6.2,SNR=5.9							
FINES					LR	LR	19 01 37.3	
	comp=Z,141nm,18.7s,baz=116,slow=38							
VRI	**Vrincioaia**		**95.45**	**316**⇓	*i*P	**P**	18 14 38.4	**-1.3**
VRI	**Vrincioaia**		**95.45**	**316**	P	**P**	18 14 38.4	**-1.3**
TESR	**Tescani**		**95.48**	**316**⇑	*i*P	**P**	18 14 36.6	**-3.2**
SPITS	**Spitsbergen Ar**		**95.69**	**348**	P	**P**	18 14 39.3	**-0.8**
	comp=Z,12nm,0.9s,baz=237,slow=19,SNR=4.4							
SPITS					LR	LR	19 01 35.3	
	comp=Z,216nm,20.8s,baz=55,slow=38							
MLR	**Muntele Rosu**		**96.01**	**315**	P	**P**	18 14 39.8	**-2.6**
	comp=Z,0.9nm,1.0s,baz=130,slow=4.9,SNR=5.6							
MLR					LR	LR	19 07 20.2	
	comp=Z,77nm,18.9s,baz=66,slow=41							
MLR	**Muntele Rosu**		**96.01**	**315**⇑	*i*P	**P**	18 14 40.6	**-1.8**
MLR	**Muntele Rosu**		**96.01**	**315**	P	**P**	18 14 40.6	**-1.8**
BURAR	**Bucovina Array**		**96.41**	**317**⇓	*i*P	**P**	18 14 43.9	**-0.2**
BURAR	**Bucovina Array**		**96.41**	**317**	P	**P**	18 14 43.9	**-0.2**
IDI	**Anoyia**		**97.21**	**305**	LR	LR	19 05 49.1	
	comp=Z,208nm,20.8s,baz=86,slow=40							
INK	**Inuvik**		**97.77**	**21**	P	**P**	18 14 48.9	**-0.8**
	comp=Z,1.9nm,1.0s,baz=297,slow=5.0,SNR=4.8							
SNAA	**Sanae**		**97.90**	**195**	LR	LR	18 54 43.2	
	comp=Z,549nm,21.7s,baz=105,slow=33							
DRGR			**98.17**	**317**⇑	*i*P	**P**	18 14 48.8	**-3.3**
DRGR			**98.17**	**317**	P	**P**	18 14 48.8	**-3.3**
STHS	**Stebnicka Huta**		**98.89**	**319**	*e*PDIFF	Pdif	18 14 57.3	+2.1
STHS	**Stebnicka Huta**		**98.89**	**319**	*e*P	Pdif	18 14 57.3	+2.1
SIRR	**Siria**		**98.94**	**316**⇓	*i*P	**P**	18 14 54.2	**-1.3**
HFS	**Hagfors**		**101.25**	**331**	P	**Pdif**	18 15 04.2	**-1.1**
	comp=Z,2.7nm,0.8s,baz=155,slow=7.9,SNR=3.7							
NOA	**NORSAR Array B**		**102.18**	**332**	P	**Pdif**	18 15 09.7	**+0.2**
	comp=Z,0.9nm,0.7s,baz=73,slow=4.7,SNR=3.3							
CLL	**Collm**		**103.77**	**322**	*e*SKSac	**SKSac**	18 25 56.0	**+2.4**
CLL					*e*SKKSac	**SKKSac**	18 26 36.0	**+0.1**
CLL					*e*Sdif	**Sdif**	18 27 18.0	**+15**
CLL					*e*SP	**SP**	18 28 36.0	**-3.5**
CLL					*e*PPS	PPS	18 29 30.0	
CLL					*e*		18 30 18.0	
CLL					*e*		18 35 30.0	
CLL					*e*SSS	SSS	18 38 00.0	
CLL					*e*		18 42 54.0	
CLL					*e*		18 44 48.0	
GERES	**GERESS Array B**		**103.87**	**320**	Pdiff	**Pdif**	18 15 17.3	**-0.2**
	comp=Z,0.3nm,0.6s,baz=70,slow=6.8,SNR=2.4							
GERES					PP	**PKiKP**	18 19 37.1	**+2.0**
	comp=Z,0.5nm,0.7s,baz=62,slow=6.2,SNR=4.3							
YKA	**Yellowknife Ar**		**107.20**	**24**	PKiKP	**PKiKP**	18 19 40.6	**0.0**
	comp=Z,0.3nm,0.6s,baz=310,slow=1.9,SNR=4.5							
YKA					PKKPbc	**PKKPbc**	18 30 56.5	**-3.1**
	comp=Z,0.5nm,0.8s,baz=112,slow=2.4,SNR=5.3							
NVAR	**Mina Array Bea**		**114.69**	**49**	PKP	PKPdf	18 19 56.8	+1.0
	comp=Z,0.6nm,0.8s,baz=234,slow=4.0,SNR=3.7							
PDAR	**Pinedale Array**		**119.26**	**41**	PKP	**PKPdf**	18 20 03.9	**-0.7**
	comp=Z,0.4nm,0.6s,baz=152,slow=6.7,SNR=4.4							
PDAR					PKKPbc	**PKKPbc**	18 30 18.9	**+0.3**
	comp=Z,0.5nm,0.7s,baz=102,slow=4.9,SNR=3.8							
ULM	**Lac du Bonnet**		**122.78**	**28**	PKP	**PKPdf**	18 20 12.6	**+1.8**
	comp=Z,2.2nm,0.7s,baz=59,slow=6.0,SNR=2.9							
ANMO	**Albuquerque**		**124.82**	**48**	PKP	**PKPdf**	18 20 16.9	**+1.4**
	comp=Z,2.0nm,0.5s,baz=48,slow=6.3,SNR=6.6							
KOWA	**Kowa**		**125.36**	**286**	PKP	**PKPdf**	18 20 16.8	**+0.2**
	comp=Z,1.4nm,0.5s,baz=56,slow=1.7,SNR=4.1							
TXAR	**Lajitas Array**		**129.24**	**54**	PKP	**PKPdf**	18 20 25.2	**+1.3**
	comp=Z,1.1nm,0.9s,baz=205,slow=2.6,SNR=4.3							
CPUP	**Villa Florida**		**151.24**	**181**	PKPbc	**PKPbc**	18 21 08.8	**-0.2**
	comp=Z,3.3nm,0.7s,baz=178,slow=5.3,SNR=10							
LPAZ	**La Paz**		**158.79**	**152**	PKP	**PKPdf**	18 21 15.0	**+0.7**
	comp=Z,1.1nm,0.9s,baz=359,slow=0.2,SNR=2.1							
SDV	**Santo Domingo**		**166.06**	**63**	PKP	**PKPdf**	18 21 21.9	**+0.8**
	comp=Z,2.5nm,0.4s,baz=173,slow=9.0,SNR=4.2							

MAN 16 18:02:04,9.04N×125.93E,h34km,mb3.9,ML2.7,MS2.3, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUTP	**Butuan**	**0.31**	**258**	*e*P	Pn	18 02 14.5	+2.5
BUTP				*e*S	Sb	18 02 25.0	+7.6
BUKP	**Musuan**	**1.43**	**217**	*e*P	Pn	18 02 28.7	+1.1
BUKP				*e*S	Sb	18 02 49.6	+1.4

JMA 16 18:02:08.8,35.78N×136.00E,h12km,M2.6,Western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFM	**Mihama**	**0.25**	**183**	P	Pg	18 02 14.1	0.0
JFM				S	Sg	18 02 17.6	0.0
JKG	**Kaga**	**0.56**	**28**	P	Pg	18 02 20.1	+0.3
JKG				S	Sg	18 02 27.6	+0.3
JWT	**Wachi**	**0.70**	**225**	P	Pg	18 02 21.9	-0.4
JWT				S	Sg	18 02 31.1	-0.4
JKY	**Yasaka**	**0.74**	**259**	P	Pg	18 02 22.6	-0.6
JKY				S	Sg	18 02 32.6	-0.4
MAT	**Matsushiro**	**1.94**	**66**	P	Pb	18 02 43.2	-0.9
MAT				S	Sg	18 03 12.5	+1.3

*ISCJB **16** 18:08:26.7±0.6,40.16N±0.03×42.54E±0.05,h9km±7km, Error ellipse: s-maj=6.5km s-min=4.6km az=175.4*
*DDA **16** 18:08:26.5,40.16N×42.55E,h7km,Ml2.5*
*CSEM **16** 18:08:26.4±0.2,40.15N×42.52E,h10km,ML2.5,Error ellipse: s-maj=5.7km s-min=2.8km az=81.0*
*ISK **16** 18:08:26.2,40.17N×42.55E,h4km,ML2.4/2*
ISC 16 18:08:26.7±1.1,40.16N±0.02×42.55E±0.04,h12km±12km, n15,σ0946/26,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EATA	**Eleskirt**	**0.30**	**189**	*i* P	**Pg**	**18 08 32.6**	**-0.4**
EATA				*i* S	**Sg**	**18 08 37.4**	**+0.3**
EATA	**Eleskirt**	**0.30**	**189**	P	**Pg**	**18 08 32.6**	**-0.4**
EATA				S	**Sg**	**18 08 37.4**	**+0.3**
SENK	**Senkaya-Erzuru**	**0.43**	**340**	PG	**Pg**	**18 08 35.2**	**-0.2**
SENK				SG	**Sg**	**18 08 41.7**	**+0.5**
SENK	**Senkaya-Erzuru**	**0.43**	**340**	*e*Pg	**Pg**	**18 08 35.2**	**-0.2**
SENK				*e*Sg	**Sg**	**18 08 41.7**	**+0.5**
HOMI	**Horasan**	**0.51**	**258**	*i* P	**Pg**	**18 08 35.9**	**-0.8**
HOMI				*i* S	**Sg**	**18 08 44.1**	**+0.6**
KARS	**Kars**	**0.62**	**40**	PG	**Pg**	**18 08 38.7**	**-0.2**
KARS				SG	**Sb**	**18 08 47.9**	**-0.4**
KARS	**Kars**	**0.62**	**40**	*e*Pg	**Pg**	**18 08 38.7**	**-0.2**
KARS				*e*Sg	**Sb**	**18 08 47.9**	**-0.4**
AGRB	**Hanur-Agry**	**0.67**	**149**	PG	**Pg**	**18 08 39.4**	**-0.4**
AGRB				SG	**Sb**	**18 08 50.2**	**+0.4**
AGRB	**Hanur-Agry**	**0.67**	**149**	*e*Pg	**Pg**	**18 08 39.4**	**-0.4**
AGRB				*e*Sg	**Sb**	**18 08 50.2**	**+0.4**
TUTA	**Tutak**	**0.78**	**165**	*i* P	**Pg**	**18 08 41.3**	**-0.6**
TUTA				*i* S	**Sb**	**18 08 53.4**	**+0.4**
TUTA	**Tutak**	**0.78**	**165**	P	**Pg**	**18 08 41.3**	**-0.6**
TUTA				S	**Sb**	**18 08 53.4**	**+0.4**
DDEM	**Demirkent**	**0.95**	**321**	*i* P	**Pg**	**18 08 44.9**	**-0.4**
DDEM	**Demirkent**	**0.95**	**321**	P	**Pg**	**18 08 44.8**	**-0.4**
EKAR	**Karacoban**	**0.97**	**203**	*i* P	**Pg**	**18 08 45.2**	**-0.3**
EKAR	**Karacoban**	**0.97**	**203**	P	**Pg**	**18 08 45.2**	**-0.3**

DJA 16 18:09:34.7±0.8,3°N±5°×9°6E±°,h10km,M3.6/5,MLv3.6/5, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPTI		**0.77**	**106**	P	Pg	18 09 49.6	+0.1
TPTI				S	Sg	18 09 59.9	+0.3
MLSI	**Meulaboh, Aceh**	**0.79**	**357**	P	Pb	18 09 50.7	+0.1
MLSI				S	Sb	18 10 01.9	+0.5
LHMI	**Lhok Sumawe**	**1.82**	**16**	P	Pn	18 10 06.8	+0.7
BSI	**Banda Aceh**	**2.31**	**331**	P	Pn	18 10 11.5	-1.4
MNSI	**Mandailing Nat**	**4.11**	**130**	P	Pn	18 10 38.8	+1.2

*ISCJB **16** 18:10:41.8±0.4,44.11N±0.04×105.35W±0.05,h0km, Error ellipse: s-maj=6.4km s-min=5.2km az=145.3*
*IDC **16** 18:10:43.4±0.9,44.15N×105.66W,h0km,mb1 3.6/5, mb1mx3.3/68,mbtmp3.3/5,ML3.4/5,Error ellipse: s-maj=21.5km s-min=7.8km az=146.0*
*NEIC **16** 18:10:43.6±0.3,44.11N×105.36W,h0km,ML3.1,Error ellipse: s-maj=4.6km s-min=3.7km az=146.0,Suspected Mining explosion.*
NEIC 23 km [14 miles] SSE of Gillette.
ISC 16 18:10:43.2±0.9,44.11N±0.06×105.38W±0.05,h0km,n32, σ0888/32,Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.97**	**89**	*e*P	**Pb**	**18 11 02.0**	**-1.0**
K22A	**Casper**	**1.68**	**210**	*e*P	**Pn**	**18 11 13.4**	**-0.6**
LAO	**LASA Array**	**2.64**	**347**	*e*P	**Pn**	**18 11 27.6**	**+0.5**
RLMT	**Red Lodge**	**2.95**	**291**	*e*P	**Pn**	**18 11 32.5**	**+0.9**
BW06	**Boulder Array**	**3.33**	**248**	*e*P	**Pn**	**18 11 37.3**	**+0.6**
PDAR	**Pinedale Array**	**3.33**	**248**	Pn	**Pn**	**18 11 37.3**	**+0.6**
	3.6nm,0.3s,baz=68,slow=18,SNR=50						
PDAR				Pg	**Pb**	**18 11 41.9**	**-1.3**
	21nm,0.3s,baz=72,slow=18,SNR=83						
PDAR				Lg	Lg	18 12 23.9	
	28nm,0.3s,baz=67,slow=35,SNR=12						
GCMT	**Greycliff**	**3.48**	**300**	*e*P	**Pn**	**18 11 39.7**	**+1.0**
H17A	**Grant Village**	**3.75**	**276**	*e*P	**Pn**	**18 11 44.2**	**+1.8**
OGNE	**Ogallala**	**4.02**	**141**	*e*P	**Pn**	**18 11 46.2**	**+0.1**
ISCO	**Idaho Springs**	**4.31**	**182**	*e*P	**Pn**	**18 11 50.8**	**+0.5**
DGMT	**Dagmar**	**4.43**	**10**	*e*P	**Pn**	**18 11 53.6**	**+1.9**
O20A	**White River Ci**	**4.51**	**209**	*e*P	**Pn**	**18 11 53.2**	**+0.3**
LRM	**Limekiln Ridge**	**5.30**	**291**	*e*P	**Pn**	**18 12 03.3**	**-0.5**
	5.4nm,0.5s						
TCUT	**Toone Canyon**	**5.36**	**238**	*e*P	**Pn**	**18 12 05.3**	**+0.6**
	41nm,0.3s						
MCMT	**McKenzie Canyo**	**5.39**	**280**	*e*P	**Pn**	**18 12 05.2**	**+0.1**
	2.0nm,0.4s						
JLU	**Jordanelle**	**5.70**	**234**	*e*P	**Pn**	**18 12 09.5**	**+0.1**
	6.9nm,0.4s						
CTU	**Camp Tracy**	**5.83**	**236**	*e*P	**Pn**	**18 12 11.6**	**+0.6**
	47nm,0.3s						
HVU	**Hansel Valley**	**5.91**	**249**	*e*P	**Pn**	**18 12 12.0**	**-0.1**
	7.0nm,0.4s						
SPUT	**South Promonto**	**5.92**	**244**	*e*P	**Pn**	**18 12 12.8**	**+0.7**
	6.1nm,0.5s						
MPU	**Maple Canyon**	**6.20**	**231**	*e*P	**Pn**	**18 12 16.4**	**+0.3**
	18nm,0.6s						
PV04	**Paradox Valley**	**6.30**	**206**	*e*P	**Pn**	**18 12 17.9**	**+0.4**
SRU	**San Rafael Swe**	**6.31**	**219**	*e*P	**Pn**	**18 12 17.4**	**-0.3**
	13nm,0.4s						
ECSD	**EROS Data Cent**	**6.34**	**90**	*e*P	**Pn**	**18 12 18.0**	**+0.1**
	6.6nm,0.4s						
SDCO	**Great Sand Dun**	**6.36**	**181**	*e*P	**Pn**	**18 12 18.9**	**+0.5**
	2.0nm,0.4s						
DUG	**Dugway, Tooele**	**6.77**	**237**	*e*P	**Pn**	**18 12 24.4**	**+0.4**
	24nm,0.4s						
MSU	**Marysvale**	**7.58**	**225**	*e*P	**Pn**	**18 12 34.9**	**-0.2**
	0.3nm,0.5s						
AGMN	**Agassiz Nation**	**7.81**	**54**	*e*P	**Pn**	**18 12 37.6**	**-0.5**
	8.9nm,0.4s						
I10CA	**LAC DU BONNET**	**8.81**	**43**	*i*		19 04 20.0	
	baz=227,slow=334,SNR=2.8						
ULM	**Lac du Bonnet**	**8.91**	**43**	Pn	**Pn**	**18 12 53.0**	**-0.2**
	2.5nm,0.3s,baz=227,slow=11,SNR=14						
ULM				Lg	Lg	18 15 24.1	
	0.6nm,0.3s,baz=274,slow=14,SNR=2.3						
NVAR	**Mina Array Bea**	**11.26**	**244**	Pn	**Pn**	**18 13 26.5**	**+1.0**
	baz=50,slow=18,SNR=3.0						
TXAR	**Lajitas Array**	**14.81**	**174**	Pn	**Pn**	**18 14 16.2**	**+2.2**
	0.0nm,0.3s,baz=354,slow=16,SNR=2.9						
YKA	**Yellowknife Ar**	**19.18**	**347**	P	**P**	**18 15 07.0**	**-1.1**
	0.1nm,0.3s,baz=167,slow=12,SNR=8.3						

*IDC **16** 18:11:34.2±1.1,3°0.2S×121°.09E,h0km,mb3.3/5, mb1 3.6/6,mb1mx3.3/55,mbtmp3.5/6,ML2.7/1,Error ellipse: s-maj=176.0km s-min=19.5km az=61.0*
*ISCJB **16** 18:11:37.7±0.5,2.69S±0.05×121.90E±0.07,h33km, mb3.4/5,Error ellipse: s-maj=10.0km s-min=7.2km az=176.9*
*DJA **16** 18:11:37.4±1.7,3°S±2°×12°2E±°,h14km±15km,M4.4/11, mb5.0/1,MLv4.1/11*
ISC 16 18:11:39.6±0.9,2.69S±0.05×121.88E±0.06,h35km,n16, σ1818/17,mb3.5/5,Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDI	**Kendari**	**1.46**	**150**	P	**Pn**	**18 12 04.6**	**+1.0**
APSI	**Ampana**	**1.78**	**353**	P	**Pn**	**18 12 07.5**	**-0.4**
APSI				S	**Sn**	**18 12 32.4**	**+3.1**
LUWI	**Luwuk**	**1.86**	**29**	P	**Pn**	**18 12 08.3**	**-0.8**
TTSI	**Tana Toraja**	**2.08**	**260**	P	**Pn**	**18 12 11.2**	**-0.9**
BNSI	**Bone**	**2.45**	**226**	P	**Pn**	**18 12 17.3**	**+0.2**
PCI	**Palu**	**2.70**	**311**	P	**Pn**	**18 12 21.9**	**+1.3**
MRSI	**Marisa**	**3.14**	**1**	P	**Pn**	**18 12 26.0**	**-0.7**
MPSI	**Mapaga**	**3.60**	**327**	P	**Pn**	**18 12 31.6**	**-1.3**
BSSI	**Bau Bau, Buton**	**3.70**	**202**	P	**Pn**	**18 12 33.8**	**-0.5**
LBMI	**Labuha**	**5.98**	**70**	P	**Pn**	**18 13 05.4**	**-0.3**
FITZ	**Fitzroy Crossi**	**15.75**	**167**	Pn	**Pn**	**18 15 18.1**	**-0.9**
	0.0nm,0.3s,baz=357,slow=9.5,SNR=2.5						
WRA	**Warramunga Arr**	**21.03**	**146**	P	**P**	**18 16 19.9**	**-0.6**
	0.8nm,0.9s,baz=322,slow=11,SNR=4.8						
ASAR	**Alice Springs**	**23.88**	**152**	P	**P**	**18 16 50.7**	**+0.5**
	0.6nm,0.7s,baz=322,slow=8.0,SNR=8.5						
MKAR	**Makanchi Array**	**60.32**	**330**	P	**P**	**18 21 44.0**	**-1.0**
	0.2nm,0.5s,baz=128,slow=7.3,SNR=4.6						
ZALV	**Zalesovo Beam**	**64.30**	**337**	P	**P**	**18 22 11.8**	**+0.4**
	0.4nm,0.5s,baz=110,slow=13,SNR=1.9						
KURBB	**Kurchatov Arra**	**64.73**	**331**	P	**P**	**18 22 13.7**	**-0.6**
	0.2nm,0.4s,baz=134,slow=6.6,SNR=3.2						

*IDC **16** 18:13:24.0±0.9,12.60N×86.63W,h0km,mb4.1/9, mb1 4.4/11,mb1mx4.0/50,mbtmp4.1/11,ML3.4/2,MS3.1/1, Ms1 3.1/1,ms1mx2.6/41,Error ellipse: s-maj=38.7km s-min=21.0km az=62.0*
*UCR **16** 18:13:32.1±1.4,12.28N×87.44W,h49km±22km,MD4.4, ML4.1,mb4.4(NEIC)*
*NEIC **16** 18:13:33.0±1.1,12.51N×87.07W,h68km±11km,mb4.4/8, Error ellipse: s-maj=26.8km s-min=9.6km az=52.0*
ISC 16 18:13:25.4±1.4,11.99N±0.04×87.62W±0.03,h16km±8km, n73,σ1852/86,mb4.2/17,1C-1D,Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRIN	**San Cristobal**	**0.90**	**38**	*e*P	**Pn**	**18 13 45.2**	**+1.7**
CRIN				*e*S	**Sb**	**18 13 54.3**	**-0.2**
TELN	**Telica**	**0.98**	**52**	*e*P	**Pn**	**18 13 45.8**	**+1.1**
TELN				*e*S	**Sb**	**18 13 56.3**	**-0.6**
COPN	**Copaltepe**	**1.02**	**79**⇑	*e*P	**Pg**	**18 13 47.4**	**+2.2**
CNGN	**Cerro Negro**	**1.03**	**61**	*e*P	**Pg**	**18 13 45.5**	**+0.1**
CNGN				*e*S	**Sb**	**18 13 57.5**	**-0.9**
MOMN	**Momotombo**	**1.13**	**69**	*e*P	**Pg**	**18 13 48.2**	**+0.9**
MOMN				*e*S	**Sb**	**18 14 00.8**	**-0.5**
XAVN	**Gruta Xavier**	**1.27**	**83**	*e*P	**Pg**	**18 13 51.0**	**+1.0**
CRUN	**El Crucero**	**1.29**	**90**	*e*P	**Pg**	**18 13 52.2**	**+1.9**
CNCH	**Conchagua**	**1.29**	**351**	*e*P	**Pg**	**18 13 51.4**	**+1.0**
CNCH				*e*S	**Sb**	**18 14 05.1**	**-0.9**
TISN	**Laguna Tiscapa**	**1.33**	**83**	*e*P	**Pg**	**18 13 51.8**	**+0.8**
LCND	**La Ca˜–ada**	**1.33**	**349**⇓	*e*P	**Pg**	**18 13 51.9**	**+0.7**
LCND				*e*S	**Sn**	**18 14 05.2**	**-1.7**
MGAN	**Managua**	**1.35**	**83**	*e*P	**Pg**	**18 13 52.0**	**+0.5**
MGAN				*e*S	**Sn**	**18 14 06.7**	**-0.6**
BRAN	**Las Pilas**	**1.44**	**60**	*e*P	**Pn**	**18 13 50.9**	**0.0**
MASN	**Masaya**	**1.44**	**90**	*e*P	**Pg**	**18 13 53.7**	**+0.6**
MASN				AML	AML	18 14 12.7	
	comp=N,4μm,0.3s						
VSM	**San Miguel**	**1.56**	**336**	*e*P	**Pg**	**18 13 56.3**	**+0.7**
VSM				*e*S	**Sb**	**18 14 14.4**	**+0.6**
LCY	**Lacayo**	**1.57**	**335**	*e*P	**Pg**	**18 13 56.0**	**+0.4**
PACA	**Pacayal**	**1.62**	**335**	*e*P	**Pg**	**18 13 57.1**	**+0.4**
PACA				*e*S	**Sb**	**18 14 14.8**	**-0.6**
TECA	**Tecapa**	**1.72**	**330**	*e*P	**Pg**	**18 13 58.3**	**-0.3**
CAHU	**Cacacuatique**	**1.86**	**342**	*e*P	**Pb**	**18 13 59.8**	**+0.6**
MATN	**Matagalpa**	**1.90**	**60**	*e*P	**Pb**	**18 13 58.6**	**-1.2**
SNVI	**San Vicente**	**2.00**	**324**	*e*P	**Pb**	**18 14 02.3**	**+0.7**
RCON	**San Juan de Ri**	**2.06**	**44**	*e*P	**Pb**	**18 14 01.0**	**+1.4**
LFRS	**El Faro**	**2.15**	**319**	*e*P	**Pb**	**18 14 04.8**	**+0.7**
CRZ1	**La Cruz**	**2.15**	**115**	*e*P	**Pb**	**18 14 04.0**	**0.0**
LBRS	**Las Brisas**	**2.22**	**321**	*e*P	**Pb**	**18 14 05.5**	**+0.2**
LFU	**La Fuente**	**2.27**	**320**	*e*P	**Pb**	**18 14 05.8**	**-0.5**
LFU				*e*S	**Sb**	**18 14 32.8**	**-1.4**
SNET	**Serv Nac Est T**	**2.30**	**317**	IAML		18 14 37.3	
	comp=Z,2μm,0.3s						
UEES	**San Salvador**	**2.34**	**318**	IAML		18 14 42.7	
	comp=Z,2μm,0.2s						
BOQS	**Boqueron**	**2.37**	**317**	*e*P	**Pb**	**18 14 08.8**	**+0.9**
BOQS				*e*S	**Sb**	**18 14 36.4**	**-0.7**
GBS3	**Finca Las Im˜¡**	**2.44**	**119**	*e*P	**Pb**	**18 14 10.3**	**+1.3**
NY14	**Universidad de**	**2.44**	**123**	*e*P	**Pg**	**18 14 11.1**	**-1.2**
LAPC	**Finca la Perla**	**2.46**	**119**	*e*P	**Pb**	**18 14 11.0**	**+1.5**
GB1A	**Borinquen Arri**	**2.47**	**118**	*e*P	**Pb**	**18 14 10.2**	**+0.6**
GB1A				*e*S	**Sb**	**18 14 39.6**	**-0.3**
BUEV	**Buena Vista**	**2.47**	**118**	*e*P	**Pb**	**18 14 10.9**	**+1.3**
BUAI	**Buenos Aires**	**2.50**	**116**	*e*P	**Pb**	**18 14 09.8**	**-0.3**
MESS	**Mesas**	**2.68**	**117**	*e*P	**Pb**	**18 14 12.8**	**-0.4**
HORNC	**Hornillas**	**2.71**	**118**	*e*P	**Pb**	**18 14 13.3**	**-0.3**
COLC	**Colonia**	**2.71**	**119**	*e*P	**Pb**	**18 14 13.1**	**-0.6**
CUI	**Cuipilapa**	**2.75**	**119**	*e*P	**Pb**	**18 14 14.1**	**-0.3**
PLVR	**Palo Verde**	**2.76**	**126**	*e*P	**Pb**	**18 14 14.1**	**-0.5**
ACAL	**Aguas Claras**	**2.87**	**118**	*e*P	**Pb**	**18 14 15.5**	**-0.9**
PTEN	**Parque Tenorio**	**2.88**	**116**	*e*P	**Pb**	**18 14 15.2**	**-1.2**
AMAS	**Alto Masis**	**2.92**	**118**	*e*P	**Pb**	**18 14 16.6**	**-0.6**
JTS	**JuntasAbangare**	**3.12**	**123**	Pn	**Pb**	**18 14 18.2**	**-2.3**
	comp=Z,9.6nm,0.3s,baz=22,slow=20,SNR=27						
JTS				Sn	**Sn**	**18 14 54.2**	**+3.2**
	comp=Z,39nm,0.3s,baz=285,slow=10,SNR=5.9						
JTS				Lg	Lg	18 15 06.3	
	comp=Z,84nm,0.3s,baz=180,slow=21,SNR=7.6						
JCR	**Jicaral**	**3.25**	**131**	*e*P	**Pb**	**18 14 22.1**	**-0.8**
CGA2	**Cerro Gallo 2**	**3.67**	**122**	*e*P	**Pb**	**18 14 29.3**

*ISCJB **16** 18:24:27.3±0.6,6.11S±0.06×127.80E±0.09,h400km, mb2.9/3,Error ellipse: s-maj=12.4km s-min=7.5km az=18.3.*

*IDC **16** 18:24:27.6±1.1,6.10S×127.83E,h388km±13km, mb2.6/3, mb1 2.9/8,mb1mx2.7/59,mbtmp3.6/8,Error ellipse: s-maj=17.6km s-min=10.3km az=85.0*

ISC 16 18:24:28.1±0.8,**6.11S**±0.08×**127.8E**±0.1,**h400**km,**n8,** σ1§**67**/12,**mb2.9**/3,**Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**5.78**	**225**	P	**Pn**	**18 25 58.2**	**-0.2**
	5.6nm,0.3s,baz=9.6,slow=19,SNR=18						
BATI				S	**S**	**18 27 09.4**	**-2.5**
	4.1nm,0.3s,baz=121,slow=19,SNR=6.7						
SIJI	**Sorong**	**6.25**	**34**	P	**Pn**	**18 26 03.8**	**+0.3**
	1.1nm,0.3s,baz=137,slow=24,SNR=5.7						
SIJI				S	**S**	**18 27 18.4**	**-2.8**
	1.9nm,0.3s,baz=282,slow=24,SNR=9.4						
FITZ	**Fitzroy Crossi**	**12.10**	**190**	P	**P**	**18 27 08.6**	**-0.4**
	0.1nm,0.3s,baz=357,slow=6.4,SNR=8.7						
WRA	**Warramunga Arr**	**15.14**	**156**	P	**P**	**18 27 43.2**	**+1.0**
	0.5nm,0.3s,baz=337,slow=12,SNR=56						
WRA				S	**S**	**18 30 21.5**	**-1.3**
	0.2nm,0.3s,baz=329,slow=17,SNR=5.5						
ASAR	**Alice Springs**	**18.41**	**162**	P	**P**	**18 28 18.9**	**+1.8**
	0.2nm,0.3s,baz=346,slow=12,SNR=7.4						
ASAR				S	**S**	**18 31 27.3**	**+1.3**
	0.1nm,0.3s,baz=341,slow=20,SNR=11						
CMAR	**Chiang Mai Arr**	**37.51**	**311**	P	**P**	**18 31 07.8**	**+1.8**
	0.4nm,0.6s,baz=148,slow=7.3,SNR=4.8						
MKAR	**Makanchi Array**	**66.31**	**328**	P	**P**	**18 34 35.1**	**-0.1**
	0.2nm,0.5s,baz=134,slow=4.2,SNR=2.9						
KURBB	**Kurchatov Arra**	**70.63**	**329**	P	**P**	**18 35 01.4**	**0.0**
	0.1nm,0.4s,baz=72,slow=5.9,SNR=2.5						

*ISCJB **16** 18:36:13.7±0.2,38.63S±0.02×175.75E±0.03,h160km±2km, mb4.0/10,Error ellipse: s-maj=4.7km s-min=3.3km az=23.6*

*IDC **16** 18:36:13.2±0.6,38.66S×175.84E,h151km±6km,mb3.9/10, mb1 4.1/12,mb1mx3.8/42,mbtmp4.4/12,MS4.1/1, Ms1 4.1/1,ms1mx3.1/37,Error ellipse: s-maj=12.9km s-min=12.3km az=147.0*

*WEL **16** 18:36:15.0,39°S±1°×17°E±°,h152km±3km*

*NEIC **16** 18:36:15.4±0.0,38.56S×175.81E,h150km,ML5.0(WEL), After WEL.*

ISC 16 18:36:14.7±0.6,**38.64S**±0.04×**175.76E**±0.04,**h162**km±4km, **n296,** σ1§**29**/303,**mb4.1**/10,**North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WATZ	**Wairara**	**0.08**	**198**	Pn	**Pn**	**18 36 38.8**	**-0.5**
WATZ				Sn	**Sn**	**18 36 52.1**	**-0.7**
KUTZ	**Kaahu Road**	**0.15**	**18**	Pn	**Pn**	**18 36 35.6**	**-0.8**
KUTZ				Sn	**Sn**	**18 36 52.0**	**-0.9**
KUTZ	**Kaahu Road**	**0.15**	**18**	P	**Pn**	**18 36 35.7**	**-0.8**
WHTZ	**Whakaora**	**0.15**	**102**	Pn	**Pn**	**18 36 35.8**	**-0.6**
WHTZ	**Whakaora**	**0.15**	**102**	P	**Pn**	**18 36 35.9**	**-0.6**
RATZ	**Rangitukua**	**0.23**	**178**	Pn	**Pn**	**18 36 35.6**	**-0.9**
WPRZ	**Whakapapatarin**	**0.33**	**70**	Pn	**Pn**	**18 36 35.8**	**-0.9**
WPRZ	**Whakapapatarin**	**0.33**	**70**	P	**Pn**	**18 36 35.9**	**-0.9**
KATZ	**Kakaramea**	**0.34**	**189**	Pn	**Pn**	**18 36 36.5**	**-0.5**
RITZ	**Rihia Road**	**0.35**	**168**	Pn	**Pn**	**18 36 36.6**	**-0.2**
TLZ	**Tolley Road**	**0.35**	**330**	Pn	**Pn**	**18 36 35.5**	**-1.4**
TLZ				Sn	**Sn**	**18 36 52.2**	**-1.5**
HATZ	**Hinemaiaia**	**0.36**	**135**	Pn	**Pn**	**18 36 36.2**	**-0.7**
GRRZ	**Galatos Road**	**0.39**	**44**	P	**Pn**	**18 36 36.1**	**-0.9**
ALRZ	**Allen Road**	**0.46**	**81**	Pn	**Pn**	**18 36 36.1**	**-1.1**
ALRZ	**Allen Road**	**0.46**	**81**	P	**Pn**	**18 36 36.2**	**-1.0**
KRVZ	**Karewarewa**	**0.47**	**192**	Pn	**Pn**	**18 36 36.9**	**-0.4**
KRVZ	**Karewarewa**	**0.47**	**192**	P	**Pn**	**18 36 37.0**	**-0.4**
HRRZ	**Handcock Road**	**0.48**	**59**	Pn	**Pn**	**18 36 36.4**	**-0.9**
HRRZ	**Handcock Road**	**0.48**	**59**	P	**Pn**	**18 36 36.4**	**-0.9**
HSRZ	**Hossack Road**	**0.50**	**50**	P	**Pn**	**18 36 36.5**	**-0.9**
WTVZ	**West Tongariro**	**0.50**	**196**	Pn	**Pn**	**18 36 37.2**	**-0.3**
WTVZ				Sn	**Sn**	**18 36 54.1**	**-1.0**
WTVZ	**West Tongariro**	**0.50**	**196**	P	**Pn**	**18 36 37.2**	**-0.3**
TWVZ	**Taurewa**	**0.50**	**210**	Pn	**Pn**	**18 36 37.3**	**-0.2**
TWVZ				Sn	**Sn**	**18 36 53.3**	**-1.8**
TWVZ	**Taurewa**	**0.50**	**210**	P	**Pn**	**18 36 37.3**	**-0.2**
TWVZ	**Taurewa**	**0.50**	**210**	P	**Pn**	**18 36 37.3**	**-0.2**
TWVZ	**Taurewa**	**0.50**	**210**	S	**Sn**	**18 36 54.0**	**-1.1**
PRRZ	**Plateau Road**	**0.51**	**75**	Pn	**Pn**	**18 36 36.5**	**-0.9**
PRRZ	**Plateau Road**	**0.51**	**75**	P	**Pn**	**18 36 36.4**	**-1.0**
OTVZ	**Oturere**	**0.53**	**188**	Pn	**Pn**	**18 36 37.3**	**-0.5**
MRHZ	**Matea Rd**	**0.55**	**111**	P	**Pn**	**18 36 36.8**	**-0.9**
MRHZ	**Matea Rd**	**0.55**	**111**	S	**Sn**	**18 36 52.7**	**-2.5**
NGZ	**Ngauruhoe**	**0.56**	**193**	Pn	**Pn**	**18 36 37.4**	**-0.4**
NGZ	**Ngauruhoe**	**0.56**	**193**	P	**Pn**	**18 36 37.4**	**-0.4**
UTU	**Utuhina**	**0.57**	**37**	Pn	**Pn**	**18 36 36.8**	**-0.9**
UTU	**Utuhina**	**0.57**	**37**	P	**Pn**	**18 36 37.0**	**-0.8**
COVZ	**Chateau Observ**	**0.59**	**197**	P	**Pn**	**18 36 37.6**	**-0.4**
COVZ	**Chateau Observ**	**0.59**	**197**	S	**Sn**	**18 36 54.8**	**-1.1**
HLRZ	**Highlands Stat**	**0.60**	**51**	P	**Pn**	**18 36 37.4**	**-0.5**
NGRZ	**Ngongotaha**	**0.63**	**32**	P	**Pn**	**18 36 37.1**	**-1.0**
TUVZ	**Tukino**	**0.64**	**188**	Pn	**Pn**	**18 36 38.1**	**-0.1**
TUVZ	**Tukino**	**0.64**	**188**	P	**Pn**	**18 36 38.2**	**-0.1**
TUVZ	**Tukino**	**0.64**	**188**	S	**Sn**	**18 36 55.5**	**-0.9**
FWVZ	**Far West T-bar**	**0.64**	**195**	Pn	**Pn**	**18 36 37.6**	**-0.8**
FWVZ	**Far West T-bar**	**0.64**	**195**	P	**Pn**	**18 36 38.1**	**-0.3**
FWVZ	**Far West T-bar**	**0.64**	**195**	S	**Sn**	**18 36 55.6**	**-1.1**
DRZ	**Dome Shelter**	**0.66**	**194**	Pn	**Pn**	**18 36 38.5**	**-0.1**
DRZ	**Dome Shelter**	**0.66**	**194**	P	**Pn**	**18 36 38.5**	**-0.1**
DRZ	**Dome Shelter**	**0.66**	**194**	P	**Pn**	**18 36 38.8**	**+0.2**
RRRZ	**Republican Roa**	**0.66**	**64**	Pn	**Pn**	**18 36 36.8**	**-1.4**
RRRZ				Sn	**Sn**	**18 36 54.4**	**-1.9**
RRRZ	**Republican Roa**	**0.66**	**64**	P	**Pn**	**18 36 37.3**	**-1.0**
WHVZ	**Whangaehu Hut**	**0.66**	**192**	Pn	**Pn**	**18 36 38.1**	**-0.4**
WHVZ				Sn	**Sn**	**18 36 55.3**	**-1.5**
WHVZ	**Whangaehu Hut**	**0.66**	**192**	P	**Pn**	**18 36 38.3**	**-0.2**
WHVZ	**Whangaehu Hut**	**0.66**	**192**	P	**Pn**	**18 36 38.6**	**+0.1**
WHVZ	**Whangaehu Hut**	**0.66**	**192**	S	**Sn**	**18 36 55.7**	**-1.1**
TRVZ	**Turoa**	**0.68**	**194**	Pn	**Pn**	**18 36 38.0**	**-0.6**
TRVZ	**Turoa**	**0.68**	**194**	P	**Pn**	**18 36 38.5**	**-0.1**
WNVZ	**Wahianoa**	**0.70**	**191**	Pn	**Pn**	**18 36 38.7**	**0.0**
TARZ	**Mount Tarawera**	**0.71**	**56**	Pn	**Pn**	**18 36 37.6**	**-1.0**
TARZ	**Mount Tarawera**	**0.71**	**56**	P	**Pn**	**18 36 37.6**	**-1.0**
OMRZ	**Omania**	**0.71**	**42**	Pn	**Pn**	**18 36 37.4**	**-1.1**
OMRZ	**Omania**	**0.71**	**42**	P	**Pn**	**18 36 37.5**	**-1.1**
KARZ	**Kaharoa**	**0.72**	**32**	Pn	**Pn**	**18 36 37.5**	**-1.2**
KARZ	**Kaharoa**	**0.72**	**32**	P	**Pn**	**18 36 37.5**	**-1.2**
HIZ	**Hauiti**	**0.72**	**279**	Pn	**Pn**	**18 36 37.7**	**-0.9**
HIZ	**Hauiti**	**0.72**	**279**	P	**Pn**	**18 36 38.2**	**-0.4**
HIZ	**Hauiti**	**0.72**	**279**	S	**Sn**	**18 36 56.0**	**-0.8**
PKVZ	**Pokaka**	**0.73**	**206**	P	**Pn**	**18 36 38.7**	**0.0**
PKVZ	**Pokaka**	**0.73**	**206**	S	**Sn**	**18 36 56.7**	**-0.5**
MKRZ	**Makatiti**	**0.74**	**48**	Pn	**Pn**	**18 36 38.1**	**-0.7**
MKRZ	**Makatiti**	**0.74**	**48**	P	**Pn**	**18 36 38.2**	**-0.7**
MOVZ	**Moawhango**	**0.77**	**181**	Pn	**Pn**	**18 36 38.8**	**-0.2**
MOVZ	**Moawhango**	**0.77**	**181**	P	**Pn**	**18 36 38.8**	**-0.2**
MOVZ	**Moawhango**	**0.77**	**181**	S	**Sn**	**18 36 55.7**	**-2.0**
BKZ	**Black Stump Fm**	**0.78**	**133**	Pn	**Pn**	**18 36 37.6**	**-1.4**
BKZ	**Black Stump Fm**	**0.78**	**133**	P	**Pn**	**18 36 38.7**	**-0.3**
BKZ	**Black Stump Fm**	**0.78**	**133**	S	**Sn**	**18 36 55.8**	**-1.9**
MTVZ	**Mangateitei**	**0.78**	**197**	Pn	**Pn**	**18 36 38.6**	**-0.5**
MTVZ	**Mangateitei**	**0.78**	**197**	P	**Pn**	**18 36 39.3**	**+0.2**
LIRZ	**Lichensteins R**	**0.80**	**38**	P	**Pn**	**18 36 38.1**	**-1.0**
KMRZ	**Kaimai**	**0.80**	**10**	P	**Pn**	**18 36 38.1**	**-1.0**
MUGZ	**Murupara**	**0.81**	**79**	P	**Pn**	**18 36 37.9**	**-1.2**
MTHZ	**Maungataniwha**	**0.87**	**105**	P	**Pn**	**18 36 39.1**	**-0.5**
MTHZ	**Maungataniwha**	**0.87**	**105**	S	**Sn**	**18 36 56.6**	**-2.2**
BHHZ	**Black Hill Sta**	**0.89**	**165**	Pn	**Pn**	**18 36 39.6**	**-0.2**
BHHZ	**Black Hill Sta**	**0.89**	**165**	P	**Pn**	**18 36 39.6**	**-0.2**
BHHZ	**Black Hill Sta**	**0.89**	**165**	S	**Sn**	**18 36 57.0**	**-2.2**
VRZ	**Vera Road**	**0.92**	**238**	P	**Pn**	**18 36 40.2**	**+0.2**
TOZ	**Tahuroa Road**	**0.93**	**347**	Pn	**Pn**	**18 36 38.9**	**-1.1**
TOZ	**Tahuroa Road**	**0.93**	**347**	P	**Pn**	**18 36 39.1**	**-0.9**
TOZ	**Tahuroa Road**	**0.93**	**347**	S	**Sn**	**18 36 57.3**	**-2.0**
EDRZ	**Edgecumbe**	**0.93**	**56**	Pn	**Pn**	**18 36 38.7**	**-1.4**
EDRZ	**Edgecumbe**	**0.93**	**56**	P	**Pn**	**18 36 38.8**	**-1.3**
NMHZ	**Naumai**	**0.94**	**120**	Pn	**Pn**	**18 36 40.5**	**+0.4**
NMHZ	**Naumai**	**0.94**	**120**	P	**Pn**	**18 36 40.6**	**+0.4**
KWHZ	**Kaweka Forest**	**0.94**	**147**	P	**Pn**	**18 36 40.3**	**+0.1**
RTZ	**Ruatahuna**	**0.95**	**89**	P	**Pn**	**18 36 39.4**	**-0.9**
RTZ	**Ruatahuna**	**0.95**	**89**	S	**Sn**	**18 36 57.6**	**-2.3**
MARZ	**Manawahe**	**0.97**	**48**	Pn	**Pn**	**18 36 39.2**	**-1.1**
MARZ	**Manawahe**	**0.97**	**48**	P	**Pn**	**18 36 39.3**	**-1.1**
TGRZ	**Tauranga**	**0.99**	**24**	Pn	**Pn**	**18 36 39.3**	**-1.2**
TGRZ	**Tauranga**	**0.99**	**24**	P	**Pn**	**18 36 39.3**	**-1.2**
OPRZ	**Ohinepanea**	**1.01**	**39**	Pn	**Pn**	**18 36 39.2**	**-1.4**
OPRZ				Sn	**Sn**	**18 36 57.5**	**-3.0**
OPRZ	**Ohinepanea**	**1.01**	**39**	P	**Pn**	**18 36 39.3**	**-1.4**
OPRZ	**Ohinepanea**	**1.01**	**39**	S	**Sn**	**18 36 58.3**	**-2.1**
RAHZ	**Arahi**	**1.07**	**106**	P	**Pn**	**18 36 41.1**	**0.0**
RAHZ	**Arahi**	**1.07**	**106**	P	**Pn**	**18 36 41.1**	**0.0**
MCHZ	**McNeill Hill**	**1.09**	**138**	Pn	**Pn**	**18 36 42.1**	**+0.8**
MCHZ	**McNeill Hill**	**1.09**	**138**	P	**Pn**	**18 36 42.1**	**+0.8**
KRHZ	**Kereru**	**1.11**	**155**	P	**Pn**	**18 36 41.8**	**+0.3**
URZ	**Urewera**	**1.12**	**71**	P	**Pn**	**18 36 40.0**	**-1.5**
	112nm,0.3s,baz=260,slow=6.1,SNR=842						
URZ				S	**Sn**	**18 36 57.9**	**-4.3**
	1µm,0.3s,baz=114,slow=19,SNR=299						
URZ	**Urewera**	**1.12**	**71**	Pn	**Pn**	**18 36 39.7**	**-1.9**
URZ				S	**Sn**	**18 36 57.9**	**-4.3**
URZ	**Urewera**	**1.12**	**71**	P	**Pn**	**18 36 40.1**	**-1.5**
ARHZ	**Aropaoanui**	**1.15**	**124**	Pn	**Pn**	**18 36 42.2**	**+0.4**
ARHZ	**Aropaoanui**	**1.15**	**124**	P	**Pn**	**18 36 42.2**	**+0.4**
MHEZ	**Mangahewa**	**1.21**	**248**	Pn	**Pn**	**18 36 42.9**	**+0.6**
MHEZ	**Mangahewa**	**1.21**	**248**	P	**Pn**	**18 36 42.9**	**+0.6**
MHEZ	**Mangahewa**	**1.21**	**248**	P	**Pn**	**18 36 43.0**	**+0.6**
WHHZ	**Waihua**	**1.23**	**111**	P	**Pn**	**18 36 42.7**	**+0.1**
WHRZ	**Whale Island**	**1.23**	**51**	P	**Pn**	**18 36 42.4**	**-0.2**
SNGZ	**Shannon Statio**	**1.24**	**97**	Pn	**Pn**	**18 36 42.4**	**-0.3**
SNGZ	**Shannon Statio**	**1.24**	**97**	P	**Pn**	**18 36 42.6**	**-0.1**
WAZ	**Wanganui**	**1.27**	**208**	Pn	**Pn**	**18 36 43.4**	**+0.5**
WAZ	**Wanganui**	**1.27**	**208**	P	**Pn**	**18 36 43.4**	**+0.5**
RAGZ	**Rawiri**	**1.30**	**84**	Pn	**Pn**	**18 36 42.4**	**-0.9**
RAGZ	**Rawiri**	**1.30**	**84**	P	**Pn**	**18 36 42.4**	**-0.9**
PNHZ	**Pukenui**	**1.32**	**165**	Pn	**Pn**	**18 36 43.6**	**+0.2**
PNHZ	**Pukenui**	**1.32**	**165**	P	**Pn**	**18 36 43.6**	**+0.2**
DREZ	**Durham Road**	**1.34**	**245**	Pn	**Pn**	**18 36 44.0**	**+0.5**
DREZ	**Durham Road**	**1.34**	**245**	P	**Pn**	**18 36 44.1**	**+0.5**
LREZ	**Lake Rotokare**	**1.34**	**232**	P	**Pn**	**18 36 44.4**	**+0.8**
MWZ	**Matawai**	**1.42**	**78**	Pn	**Pn**	**18 36 43.2**	**-1.1**
MWZ	**Matawai**	**1.42**	**78**	P	**Pn**	**18 36 43.3**	**-1.1**
MWZ	**Matawai**	**1.42**	**78**	P	**Pn**	**18 36 43.3**	**-1.1**
TSZ	**Takapari Road**	**1.43**	**174**	Pn	**Pn**	**18 36 44.0**	**-0.4**
TSZ	**Takapari Road**	**1.43**	**174**	P	**Pn**	**18 36 44.7**	**+0.2**
PREZ	**Palmer Road**	**1.44**	**240**	Pn	**Pn**	**18 36 45.2**	**+0.7**
PREZ	**Palmer Road**	**1.44**	**240**	P	**Pn**	**18 36 45.3**	**+0.7**
KAHZ	**Kahuranaki**	**1.45**	**144**	Pn	**Pn**	**18 36 45.1**	**+0.5**
KAHZ	**Kahuranaki**	**1.45**	**144**	P	**Pn**	**18 36 45.2**	**+0.5**
CKHZ	**Cape Kidnapper**	**1.45**	**135**	Pn	**Pn**	**18 36 45.1**	**+0.5**
CKHZ	**Cape Kidnapper**	**1.45**	**135**	P	**Pn**	**18 36 45.1**	**+0.5**
NEZ	**North Egmont**	**1.45**	**243**	Pn	**Pn**	**18 36 45.3**	**+0.6**
PKEZ	**Pukeiti**	**1.49**	**247**	Pn	**Pn**	**18 36 45.5**	**+0.4**
PKE	**Pukeiti**	**1.49**	**247**	P	**Pn**	**18 36 45.5**	**+0.4**
KHEZ	**Kahui Hut**	**1.51**	**244**	Pn	**Pn**	**18 36 45.8**	**+0.4**
WPHZ	**Waipukurau**	**1.52**	**160**	Pn	**Pn**	**18 36 45.6**	**+0.3**
WPHZ	**Waipukurau**	**1.52**	**160**	P	**Pn**	**18 36 45.6**	**+0.3**
KNZ	**Kokohu**	**1.54**	**105**	Pn	**Pn**	**18 36 44.9**	**-0.7**
KNZ	**Kokohu**	**1.54**	**105**	P	**Pn**	**18 36 45.2**	**-0.4**
RIGZ	**Rimuhau**	**1.57**	**93**	P	**Pn**	**18 36 45.5**	**-0.4**
WIZ	**White Island**	**1.58**	**46**	P	**Pn**	**18 36 44.7**	**-1.2**
MKAZ	**Moumakai**	**1.60**	**342**	Pn	**Pn**	**18 36 44.9**	**-1.3**
MKAZ	**Moumakai**	**1.60**	**342**	P	**Pn**	**18 36 45.3**	**-0.9**
OHWZ	**Ohakea**	**1.61**	**192**	P	**Pn**	**18 36 47.0**	**+0.8**
PXZ	**Pawanui**	**1.63**	**149**	Pn	**Pn**	**18 36 46.7**	**+0.2**
PXZ	**Pawanui**	**1.63**	**149**	P	**Pn**	**18 36 46.7**	**+0.2**
TKGZ	**Te Karaka**	**1.65**	**84**	Pn	**Pn**	**18 36 46.3**	**-0.4**
TKGZ	**Te Karaka**	**1.65**	**84**	P	**Pn**	**18 36 46.3**	**-0.4**
RUGZ	**Raukumara Rang**	**1.65**	**67**	P	**Pn**	**18 36 44.6**	**-2.2**
NMEZ	**Namu Road**	**1.66**	**242**	Pn	**Pn**	**18 36 47.3**	**+0.5**
NMEZ	**Namu Road**	**1.66**	**242**	P	**Pn**	**18 36 47.3**	**+0.5**
PRGZ	**Paritu Road**	**1.68**	**101**	Pn	**Pn**	**18 36 46.6**	**-0.5**
PRGZ	**Paritu Road**	**1.68**	**101**	P	**Pn**	**18 36 46.7**	**-0.4**
KBAZ	**Karaka Road Bo**	**1.69**	**335**	P	**Pn**	**18 36 46.3**	**-0.8**
DVHZ	**Dannevirke**	**1.69**	**169**	Pn	**Pn**	**18 36 47.1**	**-0.1**
DVHZ	**Dannevirke**	**1.69**	**169**	P	**Pn**	**18 36 47.1**	**-0.1**
MHGZ	**Mahia Peninsul**	**1.75**	**108**	Pn	**Pn**	**18 36 47.7**	**-0.1**
MHGZ	**Mahia Peninsul**	**1.75**	**108**	P	**Pn**	**18 36 47.7**	**-0.1**
POWZ	**Post Office Ro**	**1.75**	**180**	Pn	**Pn**	**18 36 47.7**	**-0.1**
POWZ	**Post Office Ro**	**1.75**	**180**	P	**Pn**	**18 36 47.7**	**-0.1**
PRHZ	**Porangahau**	**1.76**	**158**	Pn	**Pn**	**18 36 48.1**	**+0.2**
PRHZ	**Porangahau**	**1.76**	**158**	P	**Pn**	**18 36 48.1**	**+0.2**
AWAZ	**Awhitu Peninsu**	**1.80**	**330**	P	**Pn**	**18 36 47.6**	**-0.8**
TWGZ	**Tauwhareparae**	**1.80**	**76**	P	**Pn**	**18 36 47.7**	**-0.7**
ETAZ	**East Tamaki Re**	**1.80**	**338**	P	**Pn**	**18 36 47.4**	**-1.0**
HAZ	**Te Kaha**	**1.82**	**62**	P	**Pn**	**18 36 46.4**	**-2.0**
KUZ	**Kuaotunu**	**1.89**	**359**	Pn	**Pn**	**18 36 47.6**	**-1.6**
KUZ	**Kuaotunu**	**1.89**	**359**	P	**Pn**	**18 36 48.0**	**-1.3**
ANWZ	**Angora Road**	**1.90**	**163**	P	**Pn**	**18 36 49.7**	**+0.3**
WIAZ	**Waiheke Island**	**1.91**	**345**	P	**Pn**	**18 36 48.5**	**-1.0**
CNGZ	**Carnagh Statio**	**1.92**	**86**	Pn	**Pn**	**18 36 49.4**	**-0.3**
CNGZ	**Carnagh Statio**	**1.92**	**86**	P	**Pn**	**18 36 49.4**	**-0.3**
PRWZ	**Pori Road**	**1.92**	**175**	Pn	**Pn**	**18 36 49.8**	**+0.1**
PRWZ	**Pori Road**	**1.92**	**175**	P	**Pn**	**18 36 49.8**	**+0.1**
WTAZ	**Waiatarua**	**1.94**	**331**	P	**Pn**	**18 36 49.5**	**-0.5**
PKGZ	**Pakihiroa**	**1.97**	**68**	P	**Pn**	**18 36 49.1**	**-1.1**
MRZ	**Mangatainoka R**	**2.03**	**184**	Pn	**Pn**	**18 36 50.1**	**-0.7**
MRZ	**Mangatainoka R**	**2.03**	**184**	P	**Pn**	**18 36 50.5**	**-0.3**
PUZ	**Puketiti**	**2.04**	**75**	Pn	**Pn**	**18 36 49.4**	**-1.6**
PUZ	**Puketiti**	**2.04**	**75**	P	**Pn**	**18 36 49.7**	**-1.3**
BFZ	**Birch Farm**	**2.08**	**170**	P	**Pn**	**18 36 51.2**	**-0.2**
TIWZ	**Tintock**	**2.14**	**178**	Pn	**Pn**	**18 36 51.8**	**-0.4**
TIWZ	**Tintock**	**2.14**	**178**	P	**Pn**	**18 36 51.8**	**-0.4**
ABAZ	**Army Bay**	**2.16**	**340**	P	**Pn**	**18 36 51.5**	**-0.9**
ABAZ	**Army Bay**	**2.16**	**340**	P	**Pn**	**18 36 51.5**	**-0.9**
OGWZ	**Otaki Gorge**	**2.23**	**192**	Pn	**Pn**	**18 36 52.8**	**-0.3**
OGWZ	**Otaki Gorge**	**2.23**	**192**	P	**Pn**	**18 36 52.8**	**-0.3**
WMGZ	**Waiomatatini S**	**2.24**	**70**	P	**Pn**	**18 36 51.9**	**-1.4**
HOWZ	**Holdsworth Sta**	**2.27**	**185**	Pn	**Pn**	**18 36 53.0**	**-0.6**
HOWZ	**Holdsworth Sta**	**2.27**	**185**	P	**Pn**	**18 36 53.0**	**-0.6**
MXZ	**Matakaoa Point**	**2.27**	**63**	Pn	**Pn**	**18 36 52.2**	**-1.4**
MXZ	**Matakaoa Point**	**2.27**	**63**	P	**Pn**	**18 36 52.5**	**-1.2**
CPWZ	**Castlepoint**	**2.30**	**172**	Pn	**Pn**	**18 36 54.0**	**+0.1**
CPWZ	**Castlepoint**	**2.30**	**172**	P	**Pn**	**18 36 54.1**	**+0.1**
KIW	**Kapiti Island**	**2.32**	**196**	Pn	**Pn**	**18 36 53.5**	**-0.7**
KIW	**Kapiti Island**	**2.32**	**196**	P	**Pn**	**18 36 53.5**	**-0.7**
GRZ	**Great Barrier**	**2.39**	**354**	P	**Pn**	**18 36 54.1**	**-1.0**
TMWZ	**Te Maipa**	**2.47**	**178**	Pn	**Pn**	**18 36 55.3**	**-0.7**
TMWZ	**Te Maipa**	**2.47**	**178**	P	**Pn**	**18 36 55.4**	**-0.7**
CAW	**Cannon Point**	**2.53**	**192**	Pn	**Pn**	**18 36 55.9**	**-0.8**
CAW	**Cannon Point**	**2.53**	**192**	P	**Pn**	**18 36 55.9**	**-0.8**
MTW	**Mount Morrison**	**2.53**	**184**	Pn	**Pn**	**18 36 55.7**	**-1.0**
MTW	**Mount Morrison**	**2.53**	**184**	P	**Pn**	**18 36 55.7**	**-1.0**
DUWZ	**D'Urville Isla**	**2.59**	**213**	Pn	**Pn**	**18 36 56.5**	**-0.9**
DUWZ	**D'Urville Isla**	**2.59**	**213**	P	**Pn**	**18 36 56.5**	**-0.9**
WEL	**Wellington**	**2.75**	**196**	Pn	**Pn**	**18 36 58.5**	**-1.0**
PAWZ	**Paruwai Farm**	**2.76**	**185**	Pn	**Pn**	**18 36 58.4**	**-1.1**
PAWZ	**Paruwai Farm**	**2.76**	**185**	P	**Pn**	**18 36 58.5**	**-1.0**
TRWZ	**Traveller**	**2.76**	**181**	Pn	**Pn**	**18 36 58.6**	**-1.0**
TRWZ	**Traveller**	**2.76**	**181**	P	**Pn**	**18 36 58.6**	**-1.0**
MSWZ	**Moikau Station**	**2.81**	**188**	Pn	**Pn**	**18 36 58.9**	**-1.2**
MSWZ	**Moikau Station**	**2.81**	**188**	P	**Pn**	**18 36 58.9**	**-1.2**
TCW	**Tory Channel**	**2.81**	**203**	Pn	**Pn**	**18 36 59.1**	**-1.0**
TCW	**Tory Channel**	**2.81**	**203**	P	**Pn**	**18 36 59.1**	**-1.0**
BHW	**Baring Head**	**2.85**	**194**	Pn	**Pn**	**18 36 59.5**	**-1.2**
BHW	**Baring Head**	**2.85**	**194**	P	**Pn**	**18 36 59.5**	**-1.2**
PLWZ	**Palliser**	**2.96**	**187**	Pn	**Pn**	**18 37 00.6**	**-1.4**
PLWZ	**Palliser**	**2.96**	**187**	P	**Pn**	**18 37 00.6**	**-1.4**
TUWZ	**Tuamarina**	**3.12**	**206**	Pn	**Pn**	**18 37 02.5**	**-1.4**
TUWZ	**Tuamarina**	**3.12**	**206**	P	**Pn**	**18 37 02.6**	**-1.4**
NNZ	**Nelson**	**3.16**	**215**	Pn	**Pn**	**18 37 02.9**	**-1.7**
NNZ	**Nelson**	**3.16**	**215**	P	**Pn**	**18 37 03.2**	**-1.3**
QRZ	**Quartz Range**	**3.32**	**228**	Pn	**Pn**	**18 37 04.6**	**-1.9**
QRZ	**Quartz Range**	**3.32**	**228**	P	**Pn**	**18 37 04.6**	**-1.9**
CMWZ	**Cape Campbell**	**3.33**	**200**	Pn	**Pn**	**18 37 06.1**	**-0.5**
CMWZ	**Cape Campbell**	**3.33**	**200**	P	**Pn**	**18 37 06.1**	**-0.5**
BSWZ	**Blackbirch Sta**	**3.40**	**205**	Pn	**Pn**	**18 37 06.3**	**-1.2**
BSWZ	**Blackbirch Sta**	**3.40**	**205**	P	**Pn**	**18 37 06.3**	**-1.2**
THZ	**Tophouse**	**3.81**	**214**	Pn	**Pn**	**18 37 10.8**	**-2.1**
KHZ	**Kahutara**	**4.14**	**203**	Pn	**Pn**	**18 37 15.4**	**-1.6**
DSZ	**Denniston Nort**	**4.34**	**223**	Pn	**Pn**	**18 37 17.2**	**-2.5**
LTZ	**Lake Taylor**	**4.92**	**212**	Pn	**Pn**	**18 37 24.5**	**-2.7**
OXZ	**Oxford**	**5.47**	**210**	Pn	**Pn**	18 37 30.8	-3.6
CRLZ	**Canterbury Las**	**5.47**	**205**	Pn	**Pn**	**18 37 32.1**	**-2.3**
MQZ	**McQueen's Vall**	**5.58**	**204**	Pn	**Pn**	18 37 32.1	-3.8
WVZ	**Waitaha Valley**	**5.85**	**219**	Pn	**Pn**	18 37 35.4	-4.0
RPZ	**Rata Peaks**	**6.19**	**213**	P	**Pn**	**18 37 41.6**	**-2.4**
	7.7nm,0.3s,baz=197,slow=1.8,SNR=81						
RPZ				S	**Sn**	**18 38 48.5**	**-5.6**
	47nm,0.3s,baz=336,slow=17,SNR=34						
RPZ	**Rata Peaks**	**6.19**	**213**	Pn	Pn	18 37 40.1	-4.0
RPZ				S	**Sn**	**18 38 48.5**	**-5.6**
FOZ	**Fox Glacier**	**6

ellipse: s-maj=21.8km s-min=11.0km az=160.0

ISC 16 18:45:24.6±0.8, 19°1'S±0'1×169°0'E±0'1, h10km, n20, σ1°05/16, mb4.3/9, MS3.5/4, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.80**	**219**	Pn	**Pn**	**18 46 23.8**	**+0.5**
	0.2nm,0.3s,baz=48,slow=12,SNR=12						
DZM				Sn	**Sn**	**18 47 07.7**	**-0.4**
	31nm,0.3s,baz=100,slow=22,SNR=14						
DZM	**Mont Dzumac**	**3.80**	**219**	*e*Pn	**Pn**	**18 46 23.4**	**+0.1**
DZM				Sn	**Sn**	**18 47 07.7**	**-0.4**
MSVF	**Nonsavu**	**8.66**	**82**	*e*P	**Pn**	**18 47 29.2**	**-0.9**
	25nm,1.1s						
HNR	**Honiara**	**13.07**	**316**	LR	LR	18 52 22.1	
	comp=Z,178nm,20.5s,baz=82,slow=32						
URZ	**Urewera**	**20.30**	**161**	LR	LR	18 57 03.3	
	comp=Z,266nm,18.6s,baz=285,slow=34						
CTA	**Charters Tower**	**21.49**	**264**	P	**P**	**18 50 14.2**	**+0.6**
	9.8nm,0.9s,baz=97,slow=12,SNR=4.1						
CTAO	**Charters Tower**	**21.49**	**264**	*e*P	**P**	**18 50 12.5**	**-1.2**
	45nm,1.0s						
STKA	**Stephens Creek**	**27.74**	**237**	P	**P**	**18 51 14.1**	**+0.6**
	1.0nm,0.5s,baz=68,slow=12,SNR=5.2						
WRAB	**Tennant Creek**	**32.67**	**263**	*e*P	**P**	**18 51 55.4**	**-1.9**
	5.4nm,1.0s						
WRA	**Warramunga Arr**	**32.68**	**263**	P	**P**	**18 51 56.0**	**-1.3**
	1.3nm,0.5s,baz=87,slow=8.4,SNR=27						
ASAR	**Alice Springs**	**32.97**	**256**	P	**P**	**18 51 59.5**	**-0.3**
	6.3nm,0.6s,baz=84,slow=8.7,SNR=99						
GUMO	**Guam**	**40.31**	**322**	LR	LR	19 10 24.5	
	comp=Z,34nm,18.2s,baz=166,slow=37						
BATI	**Baumata**	**44.68**	**275**	LR	LR	19 12 34.8	
	comp=Z,90nm,18.2s,baz=223,slow=37						
JNU	**Nakatsue**	**63.48**	**325**	LR	LR	19 19 27.8	
	comp=Z,28nm,21.9s,baz=286,slow=32						
CMAR	**Chiang Mai Arr**	**78.30**	**294**	P	**P**	**18 57 26.6**	**+1.2**
	0.8nm,0.9s,baz=129,slow=5.2,SNR=6.6						
SONM	**Songino Array**	**87.03**	**323**	P	**P**	**18 58 09.7**	**-0.8**
	1.6nm,0.9s,baz=141,slow=5.2,SNR=9.2						
SNAA	**Sanae**	**89.25**	**183**	P	**P**	**18 58 21.4**	**+0.8**
	1.9nm,1.0s,baz=189,slow=15,SNR=7.1						
ILAR	**Eielson Array**	**90.19**	**17**	P	**P**	**18 58 25.6**	**+0.8**
	0.2nm,0.6s,baz=215,slow=4.4,SNR=3.1						
MKAR	**Makanchi Array**	**101.54**	**316**	P	**Pdif**	**18 59 18.3**	**+1.4**
	0.3nm,0.6s,baz=97,slow=6.6,SNR=3.9						
GERES	**GERESS Array B**	**144.32**	**332**	PKP	PKPbc	19 04 59.8	+0.4
	0.7nm,0.7s,baz=13,slow=2.2,SNR=5.3						

*IDC **16** 18:49:16.6±1.4, 2°.38N×91°.73E, h0km, mb3.5/8, mb1 3.7/11, mb1mx3.5/69, mbtmp3.6/11, ML3.5/3, Error ellipse: s-maj=37.9km s-min=22.5km az=32.0*
*ISCJB **16** 18:49:19.5±1.2, 2°.4N±0°.2×91°.8E±0°.1, h33km, mb3.5/8, Error ellipse: s-maj=25.7km s-min=15.3km az=25.5*

ISC 16 18:49:22.2±1.3, 2°.5N±0°.2×91°.9E±0°.2, h35km, n12, σ0°56/11, mb3.6/8, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**7.04**	**87**	Pn	**Pn**	**18 51 02.8**	**0.0**
	1.0nm,0.3s,baz=205,slow=3.0,SNR=3.9						
PALK	**Pallekele**	**12.12**	**294**	Pn	Pn	18 52 07.4	-5.1
	0.5nm,0.3s,baz=115,slow=7.5,SNR=5.0						
PALK				Sn	Sn	18 54 13.1	-13
	1.1nm,0.3s,baz=115,slow=9.1,SNR=4.6						
CMAR	**Chiang Mai Arr**	**17.32**	**23**	P	**Pn**	**18 53 20.6**	**-0.7**
	0.1nm,0.3s,baz=217,slow=13,SNR=7.0						
MKAR	**Makanchi Array**	**44.92**	**351**	P	**P**	**18 57 33.4**	**-0.2**
	0.4nm,0.4s,baz=170,slow=8.3,SNR=7.3						
SONM	**Songino Array**	**46.89**	**13**	P	**P**	**18 57 49.8**	**+0.6**
	0.5nm,0.7s,baz=189,slow=12,SNR=6.5						
WRA	**Warramunga Arr**	**47.24**	**120**	P	**P**	**18 57 52.2**	**-0.1**
	0.5nm,0.7s,baz=297,slow=8.6,SNR=5.6						
KURBB	**Kurchatov Arra**	**49.28**	**349**	P	**P**	**18 58 07.7**	**+0.2**
	0.3nm,0.6s,baz=171,slow=7.5,SNR=4.2						
ZALV	**Zalesovo Beam**	**51.63**	**355**	P	**P**	**18 58 25.9**	**+0.8**
	0.5nm,0.5s,baz=163,slow=5.7,SNR=3.7						
BVAR	**Borovoye Array**	**53.43**	**344**	P	**P**	**18 58 38.3**	**-0.2**
	0.4nm,0.7s,baz=148,slow=11,SNR=3.4						
BRTR	**Keskin Array B**	**64.35**	**313**	P	**P**	**18 59 54.0**	**-0.8**
	0.2nm,0.4s,baz=152,slow=8.3,SNR=2.5						
GERES	**GERESS Array B**	**80.36**	**319**	P	**P**	**19 01 30.5**	**+0.4**
	0.4nm,0.6s,baz=100,slow=5.1,SNR=3.5						
TXAR	**Lajitas Array**	**145.03**	**24**	PKPbc	**PKPab**	**19 08 56.1**	**0.0**
	0.3nm,0.5s,baz=188,slow=2.5,SNR=4.8						

*ISCJB **16** 18:55:09.5±0.4, 63°.66N±0°.02×26°.19E±0°.06, h0km, Error ellipse: s-maj=4.1km s-min=2.9km az=175.1*
*IDC **16** 18:55:13.2±1.1, 63°.65N×26°.52E, h0km, mb1 3.0/4, mb1mx2.8/68, mbtmp3.0/4, ML2.1/4, Error ellipse: s-maj=15.5km s-min=7.0km az=90.0*
*HEL **16** 18:55:13.4±0.1, 63°.66N×26°.09E, h0km, ML1.8, Explosion*
*CSEM **16** 18:55:13.4, 63°.66N×26°.09E, h0km, ML1.8, Mining explosion.*

ISC 16 18:55:12.3±0.7, 63°.67N±0°.02×26°.08E±0°.03, h0km, n46, σ1°31/76, Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OUF	**Merijarvi**	**0.92**	**321**	Pg	**Pg**	**18 55 29.5**	**-0.4**
OUF				Sb	**Sb**	**18 55 43.2**	**-0.7**
OUF	**Merijarvi**	**0.92**	**321**	PG	**Pg**	**18 55 29.5**	**-0.4**
OUF				MSG		18 55 41.9	
	comp=Z,9.6nm,0.2s						
OUF				SB	**Sb**	**18 55 43.2**	**-0.7**
OUL	**Oulu**	**1.43**	**357**	Pg	**Pn**	**18 55 39.2**	**-0.2**
OUL				Sb	**Sn**	**18 55 59.1**	**+0.2**
OUL	**Oulu**	**1.43**	**357**	PG	**Pn**	**18 55 39.2**	**-0.2**
OUL				SB	**Sn**	**18 55 59.1**	**+0.2**
KAF	**Kangasniemi**	**1.56**	**176**	Pg	**Pb**	**18 55 41.8**	**-0.2**
KAF				Sn	**Sg**	**18 56 03.5**	**+1.1**
KAF	**Kangasniemi**	**1.56**	**176**	PG	**Pb**	**18 55 41.8**	**-0.2**
	baz=359						
KAF				MSG		18 56 00.1	
	comp=Z,6.1nm,0.2s						
KAF				SN	**Sg**	**18 56 03.5**	**+1.1**
KEF	**Keuruu**	**1.60**	**201**	Pg	**Pn**	**18 55 41.6**	**-0.2**
KEF				Sn	**Sg**	**18 56 03.8**	**+0.1**
KEF	**Keuruu**	**1.60**	**201**	PG	**Pn**	**18 55 41.6**	**-0.2**
KEF				MSG		18 56 01.4	
	comp=Z,6.7nm,0.2s						
KEF				SN	**Sg**	**18 56 03.8**	**+0.1**
VAF	**Ylistaro**	**1.66**	**249**	Pg	**Pb**	**18 55 43.2**	**-0.5**
VAF				Sn	**Sg**	**18 56 06.2**	**+0.7**
VAF	**Ylistaro**	**1.66**	**249**	PG	**Pb**	**18 55 43.2**	**-0.5**
VAF				MSG		18 56 03.2	
	comp=Z,11nm,0.2s						
VAF				SN	**Sg**	**18 56 06.2**	**+0.7**
FIA0	**FINESS Array S**	**2.23**	**180**	Pg	**Pb**	**18 55 53.0**	**-0.4**
FIA0				Sg	**Sb**	**18 56 22.4**	**+0.9**
FIA0	**FINESS Array S**	**2.23**	**180**	PG	**Pb**	**18 55 53.0**	**-0.4**
	baz=1.0						
FIA0				SG	**Sb**	**18 56 22.4**	**+0.9**
FINES	**FINESS Array B**	**2.23**	**180**	Pn	**Pb**	**18 55 53.2**	**-0.2**
	comp=Z,0.7nm,0.3s,baz=1.6,slow=15,SNR=41						
FINES				Lg	Lg	18 56 22.9	
	comp=Z,1.5nm,0.3s,baz=4.2,slow=28,SNR=13						
BURU	**Burvik**	**2.26**	**296**	Pg	**Pb**	**18 55 54.4**	**+0.5**
BURU				Sg	**Sg**	**18 56 24.6**	**-0.2**
BURU	**Burvik**	**2.26**	**296**	PG	**Pb**	**18 55 54.4**	**+0.5**
BURU				SG	**Sg**	**18 56 24.6**	**-0.2**
JOF	**Joensuu**	**2.48**	**105**	Pg	**Pb**	**18 55 57.4**	**-0.3**
JOF				Sg	**Sb**	**18 56 29.3**	**+0.6**
JOF	**Joensuu**	**2.48**	**105**	PG	**Pb**	**18 55 57.4**	**-0.3**
	baz=288						
JOF				SG	**Sb**	**18 56 29.3**	**+0.6**
KALU	**Kalix**	**2.49**	**333**	Pg	**Pb**	**18 55 58.4**	**+0.5**
KALU				Sg	**Sg**	**18 56 32.0**	**-0.3**
KALU	**Kalix**	**2.49**	**333**	PG	**Pb**	**18 55 58.4**	**+0.5**
KALU				SG	**Sg**	**18 56 32.0**	**-0.3**
TOF	**Tornio**	**2.54**	**344**	Pb	**Pb**	**18 55 57.7**	**-1.0**
TOF				Sg	**Sg**	**18 56 33.3**	**-0.5**
	comp=Z,2.6nm,0.2s						
TOF	**Tornio**	**2.54**	**344**	PB	**Pb**	**18 55 57.7**	**-1.0**
TOF				MSG		18 56 28.3	
	comp=Z,2.6nm,0.2s						
TOF				SG	**Sg**	**18 56 33.3**	**-0.5**
MSF	**Maaselka**	**2.59**	**28**	Pg	**Pb**	**18 55 59.2**	**-0.3**
MSF				Sg	**Sb**	**18 56 32.7**	**+0.9**
MSF	**Maaselka**	**2.59**	**28**	PG	**Pb**	**18 55 59.2**	**-0.3**
	baz=206						
MSF				SG	**Sb**	**18 56 32.7**	**+0.9**
KU6	**Riekki**	**2.88**	**33**	Pb	**Pb**	**18 56 03.9**	**-0.5**
KU6				Sb	**Sb**	**18 56 40.0**	**-0.1**
KU6	**Riekki**	**2.88**	**33**	PB	**Pb**	**18 56 03.9**	**-0.5**
KU6				MSG		18 56 38.1	
	comp=Z,2.6nm,0.2s						
KU6				SB	**Sb**	**18 56 40.0**	**-0.1**
RNF	**Rovaniemi**	**2.96**	**359**	Pb	**Pb**	**18 56 03.6**	**-2.2**
RNF	**Rovaniemi**	**2.96**	**359**	PB	**Pb**	**18 56 03.6**	**-2.2**
PVF	**Pernaja**	**3.13**	**182**	Pg	**Pb**	**18 56 08.9**	**+0.1**
PVF				Sg	**Sb**	**18 56 48.2**	**+0.7**
	comp=Z,1.4nm,0.2s						
PVF	**Pernaja**	**3.13**	**182**	PG	**Pb**	**18 56 08.9**	**+0.1**
	baz=2.0						
PVF				MSG		18 56 45.4	
	comp=Z,1.4nm,0.2s						
PVF				SG	**Sb**	**18 56 48.2**	**+0.7**
VJF	**Virojoki**	**3.21**	**167**	Sg	**Sb**	**18 56 50.8**	**+1.0**
	comp=Z,2.2nm,0.2s						
VJF	**Virojoki**	**3.21**	**167**	MSG		18 56 47.5	
	comp=Z,2.2nm,0.2s						
VJF				SG	**Sb**	**18 56 50.8**	**+1.0**
RAF	**Rauma**	**3.33**	**219**	Pb	**Pb**	**18 56 10.9**	**-1.2**
RAF				Sg	**Sb**	**18 56 53.7**	**+0.6**
RAF	**Rauma**	**3.33**	**219**	PB	**Pb**	**18 56 10.9**	**-1.2**
	baz=35						
RAF				SG	**Sb**	**18 56 53.7**	**+0.6**
ERTU	**Ertsjaerv**	**3.33**	**332**	Sg	**Sb**	**18 56 56.0**	**+2.7**
ERTU	**Ertsjaerv**	**3.33**	**332**	SG	**Sb**	**18 56 56.0**	**+2.7**
MEF	**Metsahovi**	**3.55**	**194**	Pb	**Pb**	**18 56 14.2**	**-1.7**
MEF	**Metsahovi**	**3.55**	**194**	PB	**Pb**	**18 56 14.2**	**-1.7**
HEMU	**Hemsoen**	**3.78**	**258**	Pn	**Pn**	**18 56 14.1**	**+2.4**
HEMU	**Hemsoen**	**3.78**	**258**	PN	**Pn**	**18 56 14.1**	**+2.4**
SGF	**Sodankyl**	**3.80**	**3**	Pn	**Pn**	**18 56 14.8**	**+2.8**
SGF	**Sodankyl**	**3.80**	**3**	PN	**Pn**	**18 56 14.8**	**+2.8**
AAL	**Aland**	**4.53**	**222**	Sg	**Sg**	**18 57 33.2**	**-4.4**
AAL	**Aland**	**4.53**	**222**	SG	**Sg**	**18 57 33.2**	**-4.4**
ARCES	**ARCESS Array B**	**5.90**	**358**	Pn	**Pn**	**18 56 41.3**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=173,slow=13,SNR=6.4						
ARCES				Sn	**Sn**	**18 57 47.4**	**-1.7**
	comp=Z,0.2nm,0.3s,baz=178,slow=24,SNR=3.2						
HFS	**Hagfors**	**6.83**	**244**	Pn	**Pn**	**18 56 55.9**	**+2.3**
	comp=Z,0.1nm,0.3s,baz=53,slow=13,SNR=4.2						
HFS				Sn	**Sn**	**18 58 11.7**	**-0.4**
	comp=Z,0.1nm,0.3s,baz=58,slow=25,SNR=3.2						
HFS				Lg	Lg	18 58 46.0	
	comp=Z,0.4nm,0.3s,baz=57,slow=30,SNR=7.0						
NOA	**NORSAR Array B**	**7.40**	**256**	Pn	**Pn**	**18 57 01.9**	**+0.5**
	comp=Z,0.1nm,0.3s,baz=78,slow=12,SNR=2.7						

*DDA **16** 18:59:38.9, 39°.13N×29°.15E, h7km, Ml2.6*
*ISK **16** 18:59:38.8, 39°.09N×29°.17E, h5km, ML2.5/16*
*ISCJB **16** 18:59:39.1±0.5, 39°.10N±0°.04×29°.16E±0°.04, h3km±6km, Error ellipse: s-maj=7.5km s-min=4.7km az=176.1*
*CSEM **16** 18:59:39.0±0.1, 39°.09N×29°.18E, h2km, ML2.5, Error ellipse: s-maj=3.7km s-min=2.7km az=137.0*

ISC 16 18:59:39.2±0.9, 39°.10N±0°.03×29°.16E±0°.02, h9km±8km, n41, σ0°49/47, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIMA	**Simav-Kutahya**	**0.14**	**262**	PG	**Pg**	**18 59 42.4**	**0.0**
SIMA				SG	**Sg**	**18 59 44.6**	**0.0**
SIMA	**Simav-Kutahya**	**0.14**	**262**	*e*Pg	**Pg**	**18 59 42.4**	**0.0**
SIMA				*e*Sg	**Sg**	**18 59 44.6**	**0.0**
GDZ	**Gediz**	**0.25**	**93**	*i* P	**Pg**	**18 59 44.3**	**0.0**
GDZ				*i* S	**Sg**	**18 59 48.4**	**+0.5**
GDZ	**Gediz**	**0.25**	**93**	P	**Pg**	**18 59 44.3**	**0.0**
GDZ				S	**Sg**	**18 59 48.3**	**+0.5**
DEMI	**Demirci**	**0.35**	**260**	*i* P	**Pg**	**18 59 46.0**	**-0.2**
DEMI				*i* S	**Sg**	**18 59 50.3**	**-0.5**
DEMI	**Demirci**	**0.35**	**260**	P	**Pg**	**18 59 46.0**	**-0.2**
DEMI				S	**Sg**	**18 59 50.3**	**-0.5**
TVSB	**Tavsanli**	**0.42**	**34**	PG	**Pg**	**18 59 46.6**	**-0.9**
TVSB	**Tavsanli**	**0.42**	**34**	*e*Pg	**Pg**	**18 59 46.6**	**-0.9**
KULA	**Kula-Manisa**	**0.70**	**214**	PG	**Pg**	**18 59 52.9**	**+0.1**
KULA	**Kula-Manisa**	**0.70**	**214**	*e*Pg	**Pg**	**18 59 52.9**	**+0.1**
DURS	**Dursunbey**	**0.73**	**313**	*i* P	**Pg**	**18 59 52.8**	**-0.5**
DURS	**Dursunbey**	**0.73**	**313**	P	**Pg**	**18 59 52.8**	**-0.5**
MANT	**Manisa**	**0.77**	**218**	*i* P	**Pg**	**18 59 53.8**	**-0.3**
MANT	**Manisa**	**0.77**	**218**	P	**Pg**	**18 59 53.8**	**-0.3**
KHAL	**Karahalli**	**0.78**	**160**	*i* P	**Pg**	**18 59 54.8**	**-0.1**
BALB	**Balikesir**	**1.13**	**299**	PN	**Pn**	**19 00 01.9**	**+0.8**
BALB	**Balikesir**	**1.13**	**299**	*e*Pn	**Pn**	**19 00 01.9**	**+0.8**
SHUT	**Suhut-Afyon**	**1.22**	**116**	PN	**Pn**	**19 00 02.4**	**-0.1**
SHUT	**Suhut-Afyon**	**1.22**	**116**	*e*Pn	**Pn**	**19 00 02.4**	**-0.1**
CAVI	**Cavuskoy**	**1.22**	**25**	PN	**Pn**	**19 00 03.1**	**+0.7**
CAVI	**Cavuskoy**	**1.22**	**25**	*e*Pn	**Pn**	**19 00 03.1**	**+0.7**
MDNY	**Mudanya-Bursa**	**1.28**	**351**	PN	**Pg**	**19 00 04.1**	**+0.3**
MDNY	**Mudanya-Bursa**	**1.28**	**351**	*e*Pn	**Pg**	**19 00 04.1**	**+0.3**
KCTX	**Karacabey (Bur**	**1.32**	**332**	PN	**Pn**	**19 00 03.7**	**-0.1**
KCTX	**Karacabey (Bur**	**1.32**	**332**	*e*Pn	**Pn**	**19 00 03.7**	**-0.1**
YLV	**Yalova**	**1.47**	**6**	PN	**Pb**	**19 00 06.9**	**+0.1**
YLV	**Yalova**	**1.47**	**6**	*e*Pn	**Pb**	**19 00 06.9**	**+0.1**
GONE	**Gonen-Balikesi**	**1.48**	**310**	PN	**Pb**	**19 00 06.9**	**+0.1**
GONE	**Gonen-Balikesi**	**1.48**	**310**	*e*Pn	**Pb**	**19 00 06.9**	**+0.1**
ARMT	**Armutlu**	**1.48**	**351**	PN	**Pb**	**19 00 06.9**	**0.0**
ARMT	**Armutlu**	**1.48**	**351**	*e*Pn	**Pb**	**19 00 06.9**	**0.0**
AYDB	**Zeytinkoy-Aydi**	**1.52**	**221**	PN	**Pb**	**19 00 07.3**	**-0.4**
AYDB	**Zeytinkoy-Aydi**	**1.52**	**221**	*e*Pn	**Pb**	**19 00 07.3**	**-0.4**
GULT	**Gulveren**	**1.69**	**38**	PN	**Pb**	**19 00 09.9**	**-0.6**
GULT	**Gulveren**	**1.69**	**38**	*e*Pn	**Pb**	**19 00 09.9**	**-0.6**
BUY	**Buyukada**	**1.75**	**359**	PN	**Pb**	**19 00 11.1**	**-0.3**
BUY	**Buyukada**	**1.75**	**359**	*e*Pn	**Pb**	**19 00 11.1**	**-0.3**
SBT3	**Marmara-Eregli**	**2.00**	**333**	PN	**Pb**	**19 00 14.9**	**-0.7**
SBT3	**Marmara-Eregli**	**2.00**	**333**	*e*Pn	**Pb**	**19 00 14.9**	**-0.7**
CTKS	**Kestanelik-??a**	**2.19**	**347**	PN	**Pn**	**19 00 16.8**	**+1.1**
CTKS	**Kestanelik-??a**	**2.19**	**347**	*e*Pn	**Pn**	**19 00 16.8**	**+1.1**

IDC 16 19:01:27.3±1.7, 4°.05S×144°.63E, h0km, mb3.2/3, mb1 3.5/5, mb1mx3.2/48, mbtmp3.3/5, ML2.5/2, Error ellipse: s-maj=46.0km s-min=27.0km az=118.0, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.88**	**155**	Pn	Pn	19 02 54.2	-1.6
	1.2nm,0.3s,baz=333,slow=9.0,SNR=4.9						
PMG				Sn	Sn	19 03 49.1	-15
	2.8nm,0.3s,baz=172,slow=21,SNR=17						
WRA	**Warramunga Arr**	**18.71**	**212**	P	P	19 05 47.7	+0.1
	0.1nm,0.3s,baz=30,slow=11,SNR=5.0						
ASAR	**Alice Springs**	**22.08**	**207**	P	P	19 06 23.3	-0.8
	0.1nm,0.5s,baz=34,slow=12,SNR=4.5						
FITZ	**Fitzroy Crossi**	**23.24**	**232**	P	P	19 06 37.1	+0.6
	1.6nm,0.9s,baz=51,slow=13,SNR=3.3						
ILAR	**Eielson Array**	**84.64**	**24**	P	P	19 14 03.0	+0.4
	0.2nm,0.6s,baz=243,slow=5.1,SNR=5.1						

MEX 16 19:06:24.3±0.8, 16°.26N×98°.47W, h1km, MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.36**	**68**	*i* P	Pg	19 06 30.8	-0.4
PNIG				*e*S	Sg	19 06 35.9	+0.1
TLIG	**Tlapa**	**1.30**	**356**	*i* P	Pg	19 06 45.3	-4.0
VHO	**Vista Hermosa**	**1.85**	**64**	*e*P	Pn	19 06 55.6	-1.8
CAIG	**El Cayaco**	**1.89**	**295**	*e*P	Pn	19 06 53.9	-3.9
HUIG	**Huatulco**	**2.32**	**102**	*e*P	Pn	19 07 02.4	-1.3

*IDC **16** 19:09:33.9±7.0, 35°.70N×20°.49E, h0km, mb3.6/6, mb1 3.5/8, mb1mx3.3/65, mbtmp3.5/8, ML2.5/2, MS3.7/3, Ms1 3.8/3, ms1mx2.9/67, Error ellipse: s-maj=133.3km s-min=30.0km az=31.0*
*ATH **16** 19:09:48.7, 36°.57N×21°.56E, h30km, ML3.0/11, Error ellipse: s-maj=2.3km s-min=1.0km az=54.0*
*CSEM **16** 19:09:48.0±0.2, 36°.51N×21°.50E, h10km, ML3.0, Error ellipse: s-maj=4.7km s-min=2.8km az=54.0*
*THE **16** 19:09:48.8, 36°.53N×21°.53E, h5km, ML3.0/8, Error ellipse: s-maj=1.5km s-min=0.8km az=53.0*

ISC 16 19:09:47.3±1.3, 36°.53N±0°.04×21°.41E±0°.05, h33km±3km, n113, σ1°67/149, mb3.5/6, MS3.7/3, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MES2	**Methoni**	**0.37**	**39**	P	**Pb**	**19 09 56.3**	**+0.2**
MES2				S	**Sb**	**19 10 01.5**	**-0.6**
MES2	**Methoni**	**0.37**	**39**	P	**Pb**	**19 09 56.1**	**0.0**
MES2				S	**Sb**	**19 10 01.4**	**-0.6**
PYL	**PYLOS**	**0.45**	**36**	P	**Pb**	**19 09 57.1**	**0.0**
PYL				S	**Sb**	**19 10 02.9**	**-1.0**
PYL				AML	AML	19 10 03.6	
	comp=E,8371μm,0.5s						
PYL				AML	AML	19 10 05.5	
	comp=N,7166μm,0.2s						
PYL	**PYLOS**	**0.45**	**36**	P	**Pb**	**19 09 57.1**	**0.0**
PYL				S	**Sb**	**19 10 02.5**	**-1.4**
PYL	**PYLOS**	**0.45**	**36**	P	**Pb**	**19 09 57.1**	**0.0**
PYL				S	**Sb**	**19 10 02.5**	**-1.4**
MES3	**Kyparissia**	**0.74**	**16**	P	**Pb**	**19 10 01.9**	**0.0**
MES3				S	**Sn**	**19 10 12.7**	**+1.1**
MES3	**Kyparissia**	**0.74**	**16**	P	**Pb**	**19 10 02.2**	**+0.3**
MES3				S	**Sn**	**19 10 12.6**	**+1.0**
ITM	**Ithomi**	**0.77**	**32**	P	**Pn**	**19 10 01.9**	**+0.1**
ITM				S	**Sb**	**19 10 12.5**	**0.0**
ITM				AML	AML	19 10 14.0	
	comp=N,3634μm,0.2s						
ITM				AML	AML	19 10 14.3	
	comp=E,4444μm,0.2s						
ITM	**Ithomi**	**0.77**	**32**	P	**Pb**	**19 10 02.9**	**+0.6**
ITM				S	**Sb**	**19 10 12.2**	**-0.2**
ITM	**Ithomi**	**0.77**	**32**	P	**Pb**	**19 10 02.9**	**+0.6**
ITM				S	**Sb**	**19 10 12.4**	**0.0**
DYR	**Agios Nikonas**	**0.77**	**73**	P	**Pn**	**19 10 01.9**	**0.0**
DYR				S	**Sb**	**19 10 12.7**	**0.0**
DYR				AML	AML	19 10 14.7	
	comp=N,1373μm,0.3s						
DYR				AML	AML	19 10 18.1	
	comp=E,2025μm,0.5s						
DYR	**Agios Nikonas**	**0.77**	**73**	P	**Pn**	**19 10 02.0**	**+0.1**
DYR				S	**Sb**	**19 10 11.3**	**-1.4**
DYR	**Agios Nikonas**	**0.77**	**73**	P	**Pn**	**19 10 02.0**	**+0.1**
DYR				S	**Sb**	**19 10 11.3**	**-1.4**
AMT	**Artemida-Makis**	**1.02**	**13**	P	**Pb**	**19 10 06.9**	**+0.3**
AMT				S	**Sb**	**19 10 21.7**	**+1.9**
AMT				AML	AML	19 10 28.5	
	comp=N,2521μm,0.6s						
AMT				AML	AML	19 10 28.7	
	comp=E,2278μm,0.5s						
AMT	**Artemida-Makis**	**1.02**	**13**	P	**Pb**	**19 10 07.5**	**+0.9**
AMT				S	**Sb**	**19 10 22.8**	**+3.0**
AMT	**Artemida-Makis**	**1.02**	**13**	P	**Pb**	**19 10 07.5**	**+0.9**
AMT				S	**Sb**	**19 10 21.4**	**+1.6**
VLX	**Vlachokerasia**	**1.14**	**42**	P	**Pb**	**19 10 07.9**	**-0.6**
VLX				S	**Sn**	**19 10 22.6**	**+1.0**
VLX				AML	AML	19 10 30.1	
	comp=E,2870μm,0.5s						
VLX				AML	AML	19 10 30.2	
	comp=N,2053μm,0.7s						
VLX	**Vlachokerasia**	**1.14**	**42**	P	**Pb**	**19 10 08.4**	**-0.2**
VLX				S	**Sb**	**19 10 24.8**	**+1.7**
VLX	**Vlachokerasia**	**1.14**	**42**	P	**Pb**	**19 10 08.4**	**-0.2**
VLX				S	**Sb**	**19 10 24.8**	**+1.7**
TRIP	**Tripoli**	**1.21**	**34**	P	**Pn**	**19 10 08.6**	**+0.7**
TRIP				S	**Sb**	**19 10 26.1**	**+1.1**
TRIP	**Tripoli**	**1.21**	**34**	P	**Pb**	**19 10 09.6**	**-0.1**
TRIP				S	**Sb**	**19 10 27.8**	**+2.8**
TRIP	**Tripoli**	**1.21**	**34**	P	**Pb**	**19 10 09.6**	**-0.1**
TRIP				S	**Sb**	**19 10 25.6**	**+0.6**
VLI	**Veliai**	**1.24**	**81**	P	**Pb**	**19 10 10.1**	**0.0**
VLI				S	**Sb**	**19 10 25.6**	**-0.2**
VLI				AML	AML	19 10 27.9	
	comp=E,902μm,0.6s						
VLI				AML	AML	19 10 39.5	
	comp=N,962μm,0.5s						
VLI	**Veliai**	**1.24**	**81**	P	**Pb**	**19 10 10.2**	**0.0**
VLI				S	**Sb**	**19 10 27.6**	**+1.8**
VLI	**Veliai**	**1.24**	**81**	P	**Pb**	**19 10 10.2**	**0.0**
VLI				S	**Sb**	**19 10 25.5**	**-0.3**
MNVA	**Monemvasia**	**1.31**	**83**	P	**Pb**	**19 10 12.3**	**+0.8**
MNVA	**Monemvasia**	**1.31**	**83**	P	**Pb**	**19 10 11.7**	**+0.3**
KYTH	**Kithira**	**1.34**	**101**	P	**Pb**	**19 10 12.7**	**+0.8**
KYTH				AML	AML	19 10 36.2	
	comp=N,1373μm,0.5s						
KYTH				AML	AML	19 10 37.4	

EVR	**Evrytania**	**2.40**	**7**	P		**Pb**	**19 10 28.7**	**-1.2**
LKR	**Lokris**	**2.46**	**30**	P		**Pn**	**19 10 27.1**	**+2.0**
LKR	**Lokris**	**2.46**	**30**	P		**Pn**	**19 10 27.1**	**+2.0**
VAM	**Vamos**	**2.52**	**116**	P		**Pn**	**19 10 27.3**	**+1.4**
VAM	**Vamos**	**2.52**	**116**	P		**Pn**	**19 10 28.0**	**+2.0**
AGG	**Agios Georgios**	**2.59**	**16**	P		**Pb**	**19 10 30.2**	**-2.9**
AGG	**Agios Georgios**	**2.59**	**16**	P		**Pb**	**19 10 30.2**	**-2.9**
THL	**Klokotos Trika**	**3.06**	**9**	P		**Pn**	**19 10 36.7**	**+3.3**
THL	**Klokotos Trika**	**3.06**	**9**	P		**Pn**	**19 10 36.7**	**+3.3**
IDI	**Anoyia**	**3.08**	**113**	Pn		**Pn**	**19 10 33.3**	**-0.4**
	comp=E,0.2nm,0.3s,baz=311,slow=20,SNR=2.7							
IDI				Sn		**Sn**	**19 11 13.3**	**+3.9**
	comp=E,2.7nm,0.3s,baz=163,slow=21,SNR=6.6							
FYTO	**Fytoko, Volos**	**3.11**	**22**	P		**Pn**	**19 10 37.2**	**+3.1**
FYTO	**Fytoko, Volos**	**3.11**	**22**	P		**Pn**	**19 10 37.2**	**+3.1**
KPRO	**Kipourio**	**3.42**	**359**	P		**Pn**	**19 10 42.4**	**+4.1**
KPRO	**Kipourio**	**3.42**	**359**	P		**Pn**	**19 10 42.4**	**+4.1**
LIT	**Litokhoron**	**3.66**	**13**	P		**Pn**	**19 10 44.9**	**+3.3**
LIT	**Litokhoron**	**3.66**	**13**	P		**Pn**	**19 10 44.9**	**+3.3**
STON	**Ston**	**6.95**	**337**	*e*Pn		**Pn**	**19 11 25.8**	**-0.9**
STON				Sn		**Sn**	**19 12 37.5**	**-7.0**
UDBI	**Udbina**	**9.07**	**333**	*e*Pn		**Pn**	**19 11 56.5**	**+0.7**
UDBI				Sn		**Sn**	**19 13 32.5**	**-4.2**
NVLJ	**Novalja**	**9.44**	**330**	*e*Pn		**Pn**	**19 12 02.7**	**+1.9**
NVLJ				Sn		**Sn**	**19 13 39.8**	**-5.9**
BRTR	**Keskin Array B**	**10.14**	**68**	Pn		Pn	19 12 17.9	+7.2
	comp=E,0.1nm,0.3s,baz=254,slow=14,SNR=2.4							
HFS	**Hagfors**	**24.14**	**351**	P		**P**	**19 14 59.0**	**-0.9**
	comp=E,0.9nm,0.5s,baz=146,slow=13,SNR=3.7							
FINES	**FINESS Array B**	**25.11**	**5**	P		**P**	**19 15 08.4**	**-0.3**
	comp=E,0.7nm,0.5s,baz=167,slow=9.6,SNR=6.1							
BVAR	**Borovoye Array**	**37.66**	**48**	P		**P**	**19 16 59.1**	**+0.1**
	comp=E,0.3nm,0.5s,baz=276,slow=11,SNR=3.4							
AAK	**Ala-Archa**	**40.80**	**65**	P		**P**	**19 17 26.0**	**+0.4**
	comp=E,0.4nm,0.4s,baz=219,slow=8.3,SNR=3.1							
MKAR	**Makanchi Array**	**45.57**	**57**	P		**P**	**19 18 03.5**	**-0.5**
	comp=E,0.1nm,0.3s,baz=276,slow=7.5,SNR=5.2							
ZALV	**Zalesovo Beam**	**46.27**	**47**	P		**P**	**19 18 07.7**	**-1.7**
	comp=E,0.9nm,0.3s,baz=265,slow=9.1,SNR=4.7							
ZALV				LR		LR	19 41 59.0	
	comp=E,39nm,18.9s,baz=217,slow=41							
RES	**Resolute Bay**	**61.54**	**344**	LR		LR	19 47 25.1	
	comp=E,63nm,21.7s,baz=12,slow=37							
PDAR	**Pinedale Array**	**89.31**	**326**	LR		LR	20 04 49.0	
	comp=E,90nm,19.0s,baz=71,slow=37							

MAN 16 19:10:52,7.64N×125.8**4E, h28**km**, mb4.0, ML2.8, MS2.4, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUKP	**Musuan**	**0.80**	**287**	*e*P	Pb	19 11 07.0	-0.4
BUKP				*e*S	Sn	19 11 25.6	+7.0
BUTP	**Butuan**	**1.34**	**351**	*e*P	Pn	19 11 15.2	+0.4
BUTP				*e*S	Sn	19 11 32.0	+0.2

*JMA **16** 19:11:24.7±0.2, 37.32N×141.90E, h33km±5km, M3.2*
*ISCJB **16** 19:11:25.3±1.4, 37.31N±0.06×141.9E±0.1, h46km±12km, mb3.4/3, Error ellipse: s-maj=15.6km s-min=8.0km az=23.0*
*IDC **16** 19:11:38.7±1.4, 35.06N×136.59E, h0km, mb3.4/3, mb1 3.5/3, mb1mx3.1/67, mbtmp3.4/3, Error ellipse: s-maj=34.8km s-min=28.9km az=93.0*
ISC 16 19:11:24.4±2.4, 37.34N±0.06×141.89E±0.1, h27km**±15**km**, n14, σ1s16/21, mb3.5/3, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.81**	**272**	P	**Pn**	**19 11 40.2**	**+0.1**
JFK				S	**Sn**	**19 11 50.6**	**-0.6**
ONAJ	**Iwakimizuishiy**	**0.90**	**255**	P	**Pn**	**19 11 41.2**	**-0.2**
ONAJ				*e*S	**Sn**	**19 11 52.6**	**-0.9**
JMM	**Marumori**	**1.02**	**301**	P	**Pn**	**19 11 43.4**	**+0.5**
JMM				S	**Sn**	**19 11 54.9**	**-1.4**
JIO	**Ouri**	**1.19**	**339**	P	**Pn**	**19 11 45.7**	**+0.4**
JIO				S	**Sn**	**19 12 00.0**	**-0.6**
JFT	**Otama**	**1.25**	**279**	P	**Pb**	**19 11 47.5**	**+0.2**
JFT				S	**Sb**	**19 12 03.3**	**+0.3**
JHO	**Hitachi**	**1.28**	**236**	P	**Pn**	**19 11 46.2**	**-0.3**
JOU	**Okura**	**1.41**	**317**	P	**Pb**	**19 11 49.6**	**-0.5**
JOU				S	**Sb**	**19 12 08.0**	**+0.4**
JMK	**Ichinoseki**	**1.69**	**342**	P	**Pn**	**19 11 53.4**	**+1.2**
JYK	**Kaneyama**	**1.98**	**323**	P	**Pb**	**19 11 58.4**	**-1.4**
MJAR	**Matsushiro Arr**	**3.05**	**256**	Pn	**Pn**	**19 12 14.2**	**+3.2**
	0.9nm,0.3s,baz=215,slow=20,SNR=12							
MAT	**Matsushiro**	**3.06**	**256**	P	**Pn**	**19 12 11.9**	**+1.0**
MAT				*e*S	**Sn**	**19 12 45.6**	**-1.0**
MKAR	**Makanchi Array**	**44.28**	**302**	P	**P**	**19 19 31.9**	**+0.3**
	0.7nm,0.9s,baz=89,slow=7.6,SNR=4.3							
KURBB	**Kurchatov Arra**	**46.11**	**308**	P	**P**	**19 19 47.3**	**+1.3**
	0.6nm,0.7s,baz=84,slow=8.4,SNR=5.0							
WRA	**Warramunga Arr**	**57.42**	**188**	P	**P**	**19 21 09.9**	**-0.7**
	0.2nm,0.7s,baz=7.2,slow=7.1,SNR=4.5							

*NIED **16** 19:24:00, 39.60N×143.60E, h23km, Mw3.7 Best double couple: M0 4.42000×10^14 NP1:φs177.00000°, δ33.00000°, λ61.00000°. NP2:φs31.00000°, δ62.00000°, λ107.00000°.*
*ISCJB **16** 19:24:23.0±1.3, 39.55N±0.04×143.68E±0.06, h16km±9km, mb3.6/8, Error ellipse: s-maj=7.8km s-min=5.4km az=29.2*
*JMA **16** 19:24:22.4±0.2, 39.57N×143.63E, h8km±3km, M4.0*
*IDC **16** 19:24:28.7±3.8, 39.46N×143.35E, h38km±32km, mb3.4/8, mb1 3.5/11, mb1mx3.3/68, mbtmp3.6/11, ML2.9/3, Error ellipse: s-maj=27.1km s-min=21.0km az=107.0*
ISC 16 19:24:22.4±3.0, 39.60N±0.05×143.56E±0.07, h1km**±17**km**, n28, σ1s42/42, mb3.6/8, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIYJ	**Miyakonagasawa**	**1.34**	**270**	P	**Pn**	**19 24 48.1**	**-0.3**
MIYJ				*e*S	**Sn**	**19 25 06.3**	**-0.6**
JTH	**Tanohata**	**1.35**	**285**	P	**Pn**	**19 24 48.0**	**-0.4**
JTH				*e*S	**Sg**	**19 25 07.4**	**+1.6**
OFUJ	**Ofunato**	**1.55**	**251**	P	**Pn**	**19 24 51.0**	**-0.2**
OFUJ				*e*S	**Sn**	**19 25 11.3**	**-0.7**
JANG	**Nango**	**1.75**	**297**	P	**Pn**	**19 24 53.9**	**-0.1**
JANG				*e*S	**Sb**	**19 25 17.8**	**0.0**
JOM	**Ohasama**	**1.76**	**267**	P	**Pn**	**19 24 54.4**	**+0.4**
JOM				*e*S	**Sb**	**19 25 17.8**	**-0.2**
JMK	**Ichinoseki**	**1.93**	**251**	P	**Pn**	**19 24 56.5**	**+0.1**
JMK				*e*S	**Sn**	**19 25 21.6**	**+0.4**
JIO	**Ouri**	**2.06**	**237**	P	**Pn**	**19 24 58.2**	**-0.1**
JIO				*e*S	**Sb**	**19 25 26.0**	**-0.9**
JTM	**Tenmabayashi**	**2.25**	**303**	P	**Pn**	**19 25 01.5**	**+0.7**
JTM				*e*S	**Sn**	**19 25 30.1**	**+1.0**
JRG	**Rokugo**	**2.27**	**266**	P	**Pn**	**19 25 02.0**	**+0.9**
JRG				*e*S	**Sb**	**19 25 31.7**	**-1.1**
JAH	**Hinai**	**2.32**	**286**	P	**Pn**	**19 25 02.8**	**+1.0**
JAH				*e*S	**Sb**	**19 25 33.2**	**-1.1**
JOU	**Okura**	**2.57**	**242**	P	**Pn**	**19 25 05.7**	**+0.5**
JOU				*e*S	**Sn**	**19 25 36.5**	**-0.7**
JYK	**Kaneyama**	**2.58**	**256**	P	**Pn**	**19 25 05.9**	**+0.6**
JYK				*e*S	**Sb**	**19 25 42.0**	**+0.4**
JOT	**Ohata**	**2.61**	**314**	P	**Pb**	**19 25 08.0**	**-2.1**
JOT				*e*S	**Sn**	**19 25 39.4**	**+1.2**
JNBK	**Urakawa-nobuka**	**2.75**	**347**	P	**Pn**	**19 25 09.4**	**+1.8**
JNBK				*e*S	**Sn**	**19 25 41.5**	**0.0**
JCH	**Churui**	**3.02**	**357**	S	**Sn**	**19 25 48.2**	**+0.1**
JFT	**Otama**	**3.27**	**232**	P	**Pn**	**19 25 15.4**	**+0.5**
ASAJ	**Asahikawa**	**4.57**	**351**	Pn	**Pn**	**19 25 35.2**	**+2.5**
	0.5nm,0.3s,baz=199,slow=16,SNR=11							
ASAJ				Sn	**Sb**	**19 26 33.0**	**-6.0**
	1.5nm,0.3s,baz=36,slow=19,SNR=2.9							
MAT	**Matsushiro**	**5.21**	**236**	P	**Pn**	**19 25 43.4**	**+1.9**
MJAR	**Matsushiro Arr**	**5.21**	**236**	Pn	**Pn**	**19 25 42.5**	**+1.0**
	1.3nm,0.3s,baz=37,slow=12,SNR=32							
USRK	**Ussuriysk Ar.**	**9.77**	**302**	Pn	**Pn**	**19 26 45.6**	**+1.6**
	0.3nm,0.3s,baz=82,slow=10,SNR=4.1							
SEY	**Seymchan**	**23.96**	**10**	P	**P**	**19 29 40.0**	**+2.0**
	1.1nm,0.7s,baz=200,slow=6.3,SNR=4.2							
SONM	**Songino Array**	**27.87**	**299**	P	**P**	**19 30 14.2**	**+0.4**
	0.5nm,0.5s,baz=97,slow=9.0,SNR=4.8							
ZALV	**Zalesovo Beam**	**41.49**	**310**	P	**P**	**19 32 11.2**	**+0.4**
	0.8nm,0.6s,baz=86,slow=10,SNR=3.2							
MKAR	**Makanchi Array**	**44.23**	**300**	P	**P**	**19 32 33.6**	**+0.3**
	0.8nm,0.8s,baz=82,slow=9.1,SNR=8.9							
KURBB	**Kurchatov Arra**	**45.80**	**306**	P	**P**	**19 32 46.3**	**+0.7**
	1.1nm,0.5s,baz=81,slow=9.3,SNR=13							
ILAR	**Eielson Array**	**46.43**	**34**	P	P	19 32 53.8	+3.4
	0.3nm,0.8s,baz=263,slow=7.2,SNR=2.6							
BVAR	**Borovoye Array**	**50.13**	**311**	P	**P**	**19 33 19.2**	**+0.1**
	0.6nm,0.5s,baz=74,slow=5.1,SNR=5.0							
WRA	**Warramunga Arr**	**59.85**	**190**	P	**P**	**19 34 28.5**	**-1.2**
	0.3nm,0.9s,baz=20,slow=26,SNR=3.0							

*IDC **16** 19:50:27.0±1.0, 0.19N×92.29E, h0km, mb3.8/11, mb1 4.0/14, mb1mx3.7/65, mbtmp3.8/14, ML3.7/3, MS3.6/17, Ms1 3.6/17, ms1mx3.4/62, Error ellipse: s-maj=33.1km s-min=16.1km az=44.0*
*ISCJB **16** 19:50:30.8±0.7, 0.3N±0.1×92.5E±0.1, h33km, mb3.8/11, MS3.6/14, Error ellipse: s-maj=19.6km s-min=11.4km az=34.0*
ISC 16 19:50:32.8±1.1, 0.3N±0.2×92.5E±0.1, h35km**, n34, σ0s96/19, mb3.8/11, MS3.6/14, 2C-2D, Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**6.94**	**69**	Pn	**Pn**	**19 52 11.7**	**-0.4**
	1.3nm,0.3s,baz=176,slow=14,SNR=2.3						
PSI				LR	LR	19 55 23.0	
	comp=Z,930nm,18.3s,baz=252,slow=42						
PALK	**Pallekele**	**13.64**	**301**	Pn	Pn	19 53 38.8	-5.1
	0.4nm,0.3s,baz=115,slow=14,SNR=4.1						
PALK				Sn		19 55 58.1	-16
	1.2nm,0.3s,baz=295,slow=3.8,SNR=5.5						
PALK				LR	LR	19 58 00.9	
	comp=Z,276nm,18.9s,baz=116,slow=34						
LEM	**Lembang**	**16.68**	**115**	LR	LR	20 00 33.8	
	comp=Z,194nm,18.7s,baz=321,slow=36						
CMAR	**Chiang Mai Arr**	**19.18**	**19**	P	**Pn**	**19 54 55.6**	**+1.0**
	0.1nm,0.3s,baz=212,slow=12,SNR=21						
CMAR				LR	LR	20 01 36.0	
	comp=Z,9.4nm,21.5s,baz=190,slow=35						
H08S2	**Diego Garcia H**	**21.40**	**248**	T	T	20 16 57.9	
	baz=68,slow=75,SNR=4.8						
H08S3	**Diego Garcia H**	**21.40**	**248**	T	T	20 17 07.9	
	baz=68,slow=75,SNR=4.1						
H08S1	**Diego Garcia H**	**21.42**	**248**	T	T	20 17 11.3	
	baz=68,slow=75,SNR=5.3						
HYB	**Hyderabad**	**21.87**	**322**	*e*P	**P**	**19 55 22.5**	**-0.2**
DAV	**Davao City (W)**	**33.72**	**78**	LR	LR	20 11 22.9	
	comp=Z,49nm,20.7s,baz=240,slow=37						
FITZ	**Fitzroy Crossi**	**37.38**	**121**	P	**P**	**19 57 42.1**	**-0.4**
	2.6nm,0.9s,baz=260,slow=8.3,SNR=4.4						
WSAR	**Wadi Sarin**	**40.02**	**307**	LR	LR	20 12 48.3	
	comp=Z,180nm,18.8s,baz=166,slow=34						
WRA	**Warramunga Arr**	**45.66**	**119**	P	**P**	**19 58 50.8**	**+0.4**
	2.4nm,0.8s,baz=295,slow=8.5,SNR=14						
ASAR	**Alice Springs**	**46.72**	**124**	P	**P**	**19 58 59.2**	**+0.4**
	0.6nm,0.7s,baz=310,slow=7.6,SNR=5.1						
MKAR	**Makanchi Array**	**47.20**	**350**	P	**P**	**19 59 00.8**	**-1.3**
	0.6nm,0.7s,baz=178,slow=8.5,SNR=6.8						
JNU	**Nakatsue**	**48.71**	**44**	LR	LR	20 22 59.7	
	comp=Z,47nm,18.1s,baz=298,slow=40						
SONM	**Songino Array**	**48.91**	**12**	P	**P**	**19 59 16.1**	**+0.6**
	1.1nm,0.5s,baz=194,slow=8.8,SNR=11						
GEYT	**Alibeck**	**49.03**	**324**	LR	LR	20 19 23.3	
	comp=Z,81nm,22.0s,baz=205,slow=35						
KSRS	**Korea Array**	**49.39**	**37**	LR	LR	20 20 55.4	
	comp=Z,38nm,19.2s,baz=246,slow=37						
KURBB	**Kurchatov Arra**	**51.56**	**349**	P	**P**	**19 59 34.3**	**-1.0**
	0.3nm,0.3s,baz=176,slow=7.4,SNR=4.5						
ZALV	**Zalesovo Beam**	**53.88**	**354**	P	**P**	**19 59 51.3**	**-1.1**
	1.0nm,0.6s,baz=190,slow=7.5,SNR=5.1						
ZALV				LR	LR	20 23 54.6	
	comp=Z,62nm,21.5s,baz=250,slow=37						
MJAR	**Matsushiro Arr**	**55.63**	**44**	LR	LR	20 28 07.8	
	comp=Z,26nm,18.1s,baz=265,slow=40						
BVAR	**Borovoye Array**	**55.71**	**344**	P	**P**	**20 00 05.2**	**-0.5**
	0.2nm,0.3s,baz=15,slow=6.0,SNR=3.1						
BVAR				LR	LR	20 24 05.3	
	comp=Z,118nm,21.3s,baz=187,slow=36						
AKTO	**Aktyubinsk**	**57.94**	**335**	LR	LR	20 26 19.7	
	comp=Z,48nm,18.4s,baz=211,slow=37						
BRTR	**Keskin Array B**	**66.29**	**314**	P	**P**	**20 01 16.3**	**-1.7**
	0.5nm,0.6s,baz=139,slow=5.9,SNR=3.8						
BRTR				LR	LR	20 31 39.4	
	comp=Z,38nm,19.5s,baz=173,slow=37						
OBN	**Obninsk**	**70.98**	**330**	LR	LR	20 35 58.9	
	comp=Z,42nm,19.4s,baz=87,slow=38						
VRI	**Vrincioaia**	**73.12**	**318**	*i*P	**P**	**20 02 00.7**	**+0.9**
PLOR	**Plostina**	**73.17**	**318**	*i*P	**P**	**20 01 59.7**	**-0.4**
MLR	**Muntele Rosu**	**73.53**	**318**	P	**P**	**20 02 03.2**	**+0.9**
	0.5nm,0.7s,baz=195,slow=11						
MLR				LR	LR	20 38 18.3	
	comp=Z,19nm,18.9s,baz=149,slow=39						
MLR	**Muntele Rosu**	**73.53**	**318**	*i*P	**P**	**20 02 03.4**	**+1.0**
BURAR	**Bucovina Array**	**74.63**	**320**	*i*P	**P**	**20 02 10.4**	**+1.7**
GERES	**GERESS Array B**	**82.41**	**319**	P	**P**	**20 02 51.9**	**+0.3**
	1.3nm,0.7s,baz=104,slow=4.8,SNR=11						
NOA	**NORSAR Array B**	**85.53**	**121**	LR	LR	20 43 24.9	
	comp=Z,33nm,19.6s,baz=250,slow=37						
SPITS	**Spitsbergen Ar**	**86.91**	**348**	LR	LR	20 49 03.9	
	comp=Z,38nm,18.1s,baz=85,slow=40						
TXAR	**Lajitas Array**	**146.79**	**26**	PKPbc	**PKPdf**	**20 10 10.7**	**+0.3**
	0.3nm,0.6s,baz=158,slow=0.8,SNR=4.1						

*IDC **16** 19:55:26.0±1.6, 1.85N×93.84E, h0km, mb3.6/6, mb1 3.7/9, mb1mx3.5/65, mbtmp3.7/9, ML3.4/3, Error ellipse: s-maj=45.7km s-min=19.5km az=51.0*
*ISCJB **16** 19:55:28.6±1.0, 1.8N±0.1×93.8E±0.1, h33km, mb3.6/6, Error ellipse: s-maj=22.2km s-min=13.6km az=30.2*
ISC 16 19:55:30.7±1.3, 1.9N±0.2×93.9E±0.1, h35km**, n9, σ1s90/9, mb3.6/6, Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**5.13**	**80**	Pn	**Pn**	**19 56 43.9**	**-1.3**
	1.9nm,0.3s,baz=268,slow=4.6,SNR=7.3						
PALK	**Pallekele**	**14.18**	**293**	Pn	**Pn**	**19 58 48.4**	**-0.8**
	0.1nm,0.3s,baz=117,slow=13,SNR=2.5						
CMAR	**Chiang Mai Arr**	**17.21**	**16**	P	**P**	**19 59 30.3**	**+0.4**
	0.0nm,0.3s,baz=212,slow=10,SNR=4.3						
WRA	**Warramunga Arr**	**45.22**	**121**	P	**P**	**20 03 45.1**	**+0.2**
	0.4nm,1.0s,baz=292,slow=11,SNR=2.7						
MKAR	**Makanchi Array**	**45.87**	**349**	P	**P**	**20 03 50.7**	**+1.0**
	1.4nm,0.7s,baz=159,slow=8.2,SNR=11						
ASAR	**Alice Springs**	**46.47**	**126**	P	**P**	**20 03 55.8**	**+1.0**
	0.2nm,0.5s,baz=298,slow=8.1,SNR=3.6						
SONM	**Songino Array**	**47.05**	**12**	P	**P**	**20 03 59.5**	**+0.5**
	0.3nm,0.6s,baz=191,slow=2.9,SNR=3.2						
KURBB	**Kurchatov Arra**	**50.29**	**347**	P	**P**	**20 04 22.9**	**-0.8**
	0.3nm,0.3s,baz=169,slow=7.2,SNR=4.5						
ZALV	**Zalesovo Beam**	**52.44**	**353**	P	**P**	**20 04 40.5**	**+0.8**
	0.8nm,0.4s,baz=174,slow=7.4,SNR=3.6						

*ISK **16** 19:57:51.8, 39.09N×29.18E, h5km, ML2.4/4*
*ISCJB **16** 19:57:52.8±0.4, 39.09N±0.03×29.14E±0.03, h5km±6km, Error ellipse: s-maj=4.8km s-min=4.1km az=155.5*
*CSEM **16** 19:57:52.9±0.1, 39.10N×29.15E, h5km, ML2.4, Error ellipse: s-maj=3.1km s-min=2.3km az=126.0*
*DDA **16** 19:57:52.5, 39.08N×29.15E, h7km, Ml2.5*
ISC 16 19:57:52.9±0.9, 39.10N±0.02×29.15E±0.02, h8km**±7**km**, n26, σ0s32/44, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIMA	**Simav-Kutahya**	**0.13**	**265**	PG	**Pg**	**19 57 55.8**	**0.0**
SIMA				SG	**Sg**	**19 57 57.8**	**-0.1**
SIMA	**Simav-Kutahya**	**0.13**	**265**	*e*Pg	**Pg**	**19 57 55.8**	**0.0**
SIMA				*e*Sg	**Sg**	**19 57 57.8**	**-0.1**
GDZ	**Gediz**	**0.26**	**92**	*i*P	**Pg**	**19 57 58.0**	**-0.1**
GDZ				*i*S	**Sg**	**19 58 02.0**	**+0.4**
GDZ	**Gediz**	**0.26**	**92**	P	**Pg**	**19 57 58.0**	**-0.1**
GDZ				S	**Sg**	**19 58 02.0**	**+0.4**
DEMI	**Demirci**	**0.34**	**261**	*i*P	**Pg**	**19 58 00.1**	**+0.4**
DEMI				*i*S	**Sg**	**19 58 04.0**	**-0.1**
DEMI	**Demirci**	**0.34**	**261**	P	**Pg**	**19 58 00.1**	**+0.4**
DEMI				S	**Sg**	**19 58 04.1**	**-0.1**
TVSB	**Tavsanli**	**0.43**	**34**	PG	**Pg**	**19 58 00.7**	**-0.5**
TVSB				SG	**Sg**	**19 58 06.5**	**-0.4**
TVSB	**Tavsanli**	**0.43**	**34**	*e*Pg	**Pg**	**19 58 00.7**	**-0.5**
TVSB				*e*Sg	**Sg**	**19 58 06.5**	**-0.4**
KULA	**Kula-Manisa**	**0.70**	**214**	PG	**Pg**	**19 58 05.9**	**-0.4**
KULA				SG	**Sg**	**19 58 15.3**	**-0.1**
KULA	**Kula-Manisa**	**0.70**	**214**	*e*Pg	**Pg**	**19 58 05.9**	**-0.4**
KULA				*e*Sg	**Sg**	**19 58 15.3**	**-0.1**
DURS	**Dursunbey**	**0.73**	**314**	*i*P	**Pg**	**19 58 07.0**	**+0.1**
DURS				*i*S	**Sb**	**19 58 18.1**	**+0.1**
DURS	**Dursunbey**	**0.73**	**314**	P	**Pg**	**19 58 07.0**	**+0.1**
DURS				S	**Sb**	**19 58 18.1**	**+0.1**
MANT	**Manisa**	**0.76**	**218**	*i*P	**Pg**	**19 58 07.3**	**-0.3**
MANT				*i*S	**Sg**	**19 58 17.0**	**-0.5**
MANT	**Manisa**	**0.76**	**218**	P	**Pg**	**19 58 07.3**	**-0.3**
MANT				S	**Sg**	**19 58 17.0**	**-0.5**
KHAL	**Karahalli**	**0.77**	**160**	*i*P	**Pb**	**19 58 09.1**	**+0.5**
KHAL				*i*S	**Sb**	**19 58 18.7**	**-0.6**
KHAL	**Karahalli**	**0.77**	**160**	P	**Pb**	**19 58 09.1**	**+0.5**
KHAL				S	**Sb**	**19 58 18.7**	**-0.6**
BORA	**Eskisehir**	**1.28**	**52**	*i*P	**Pg**	**19 58 17.5**	**+0.1**
BORA				*i*S	**Sn**	**19 58 34.6**	**+0.2**
BORA	**Eskisehir**	**1.28**	**52**	P	**Pg**	**19 58 17.5**	**+0.1**
BORA				S	**Sn**	**19 58 34.6**	**+0.2**
MDNY	**Mudanya-Bursa**	**1.29**	**351**	PN	**Pb**	**19 58 17.3**	**0.0**
MDNY	**Mudanya-Bursa**	**1.29**	**351**	*e*Pn	**Pb**	**19 58 17.3**	**0.0**
KCTX	**Karacabey (Bur**	**1.32**	**333**	PN	**Pb**	**19 58 17.9**	**0.0**
KCTX	**Karacabey (Bur**	**1.32**	**333**	*e*Pn	**Pb**	**19 58 17.9**	**0.0**
YLV	**Yalova**	**1.48**	**7**	PN	**Pn**	**19 58 19.9**	**+0.1**
YLV	**Yalova**	**1.48**	**7**	*e*Pn	**Pn**	**19 58 19.9**	**+0.1**
ARMT	**Armutlu**	**1.48**	**351**	PN	**Pn**	**19 58 20.0**	**+0.1**
ARMT	**Armutlu**	**1.48**	**351**	*e*Pn	**Pn**	**19 58 20.0**	**+0.1**

*ISK **16** 19:58:49.2, 38.87N×44.14E, h10km, ML3.3/10*
*ATA **16** 19:58:50.5±1.3, 39.02N×43.77E, h5km±47km, ML3.5, MW3.4*
*ISCJB **16** 19:58:51.2±0.6, 39.00N±0.02×43.91E±0.03, h1km±5km, Error ellipse: s-maj=5.0km s-min=3.4km az=40.0*
*CSEM **16** 19:58:51.2±0.2, 39.04N×43.84E, h2km, ML2.9, Error ellipse: s-maj=5.4km s-min=4.0km az=146.0*
*DDA **16** 19:58:51.2, 39.05N×43.81E, h5km, Ml2.9*
ISC 16 19:58:51.8±0.8, 39.05N±0.02×43.83E±0.02, h10km**±5**km**, n78, σ1s35/92, 7C-7D, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLDR	**Caldiran**	**0.12**	**35**	PG	**Pg**	**19 58 55.8**	**+1.0**
CLDR				SG	**Sg**	**19 59 00.9**	**+3.9**
CLDR	**Caldiran**	**0.12**	**35**	*i*P	**Pg**	**19 58 52.8**	**-2.1**
CLDR				*i*S	**Sg**	**19 58 56.1**	**-0.8**
CLDR	**Caldiran**	**0.12**	**35**	P	**Pg**	**19 58 52.8**	**-2.1**
CLDR	**Caldiran**	**0.12**	**35**	*e*Pg	**Pg**	**19 58 55.8**	**+1.0**
CLDR				S	**Sg**	**19 58 56.2**	**-0.8**
VMUR	**Van-Muradiye**	**0.21**	**254**	*i*P	**Pg**	**19 58 54.6**	**-1.7**
VMUR				*i*S	**Sg**	**19 59 03.5**	**+4.2**
VMUR	**Van-Muradiye**	**0.21**	**254**	P	**Pg**	**19 58 54.6**	**-1.7**
ERCV	**ERCIS-VAN**	**0.39**	**266**	PG	**Pn**	**19 59 02.3**	**-1.4**
ERCV				SG	**Sb**	**19 59 11.5**	**+4.5**
ERCV	**ERCIS-VAN**	**0.39**	**266**	*e*Pg	**Pn**	**19 59 02.3**	**-1.4**
DYDN	**Diyadin**	**0.51**	**347**	*e*P	**Pg**	**19 59 01.2**	**-0.5**
DYDN				*e*S	**Sg**	**19 59 09.2**	**+0.7**
DYDN				IAML		19 59 21.0	
	comp=Z,354nm,0.5s						
DYDN	**Diyadin**	**0.51**	**347**	*i*P	**Pg**	**19 59 00.8**	**-1.0**
DYDN				*i*S	**Sb**	**19 59 09.7**	**-0.9**
DYDN	**Diyadin**	**0.51**	**347**	P	**Pg**	**19 59 00.8**	**-1.0**
DYDN				S	**Sb**	**19 59 09.7**	**-0.9**
VANB	**Van**	**0.57**	**218**	PG	**Pg**	**19 59 02.6**	**-0.3**
VANB	**Van**	**0.57**	**218**	*e*Pg	**Pg**	**19 59 02.6**	**-0.3**
TVAN	**Van**	**0.62**	**213**	*i*P	**Pg**	**19 59 03.5**	**-0.3**
TVAN				*i*S	**Sb**	**19 59 14.5**	**+0.9**
TVAN	**Van**	**0.62**	**213**	P	**Pg**	**19 59 03.5**	**-0.3**

Azm10.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.
*NEIC **16** 20:16:31.6±0.3, 18°.96S×169°.06E, h10km, mb4.9/16 Error ellipse: s-maj=9.3km s-min=7.5km az=135.0*
*ISCJB **16** 20:16:35.0±0.3, 18°.98S±0°.04×168°.92E±0°.05, h42km, mb4.7/37, MS3.9/22, Error ellipse: s-maj=7.6km s-min=5.7km az=30.4*
*BJI **16** 20:16:40.4, 18°.67S×169°.31E, h91km, mb4.7/23, mB4.9/15*

ISC 16 20:16:36.4±0.4, 18°.98S±0°.06×168°.89E±0°.07, h42km, n128, σ1§34/121, mb4.8/37, MS3.9/22, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**3.84**	**216**	Pn	**Pn**	**20 17 31.3**	**-1.8**
	4.6nm,0.3s,baz=55,slow=12,SNR=45						
DZM				LR	LR	20 18 12.1	
	comp=Z,387nm,21.1s,baz=40,slow=26						
DZM				Sn	**Sn**	**20 18 16.4**	**-0.6**
	79nm,0.3s,baz=296,slow=22,SNR=12						
DZM	**Mont Dzumac**	**3.84**	**216**	*e*Pn	**Pn**	**20 17 31.1**	**-1.9**
	99nm,0.2s						
DZM				*e*Sn	**Sn**	**20 18 15.0**	**-2.0**
	193nm,0.3s						
MSVF	**Nonsavu**	**8.79**	**83**	*e*Pn	**Pn**	**20 18 43.6**	**+2.6**
	327nm,1.8s						
NFK	**Norfolk Island**	**10.06**	**185**	P	**Pn**	**20 18 58.9**	**+0.6**
	baz=10,SNR=4.9						
HNR	**Honiara**	**12.84**	**316**	*e*P	**Pn**	**20 19 37.0**	**+0.6**
HNR	**Honiara**	**12.84**	**316**	Pn	**Pn**	**20 19 35.7**	**-0.8**
	10nm,0.3s,baz=186,slow=5.7,SNR=11						
HNR				LR	LR	20 23 42.0	
	comp=Z,580nm,19.6s,baz=181,slow=33						
EIDS	**Eidsvold**	**17.67**	**246**	P	**P**	**20 20 41.9**	**+2.0**
	baz=18,SNR=6.2						
EIDS	**Eidsvold**	**17.67**	**246**	*e*Pn	**P**	**20 20 41.0**	**+1.1**
	17nm,0.8s						
ARMA	**Armidale**	**19.35**	**231**	P	**Pn**	**20 21 01.3**	**+1.3**
	baz=19,SNR=4.0						
ARMA	**Armidale**	**19.35**	**231**	*e*Pn	**Pn**	**20 21 01.2**	**+1.3**
	100nm,1.6s						
RMQ	**Roma**	**20.00**	**244**	P	**Pn**	**20 21 08.4**	**+0.9**
	baz=20,SNR=13						
URZ	**Urewera**	**20.51**	**161**	P	**P**	**20 21 10.3**	**-0.6**
	11nm,0.8s,baz=311,slow=6.7,SNR=7.9						
URZ				LR	LR	20 27 40.2	
	comp=Z,742nm,20.1s,baz=338,slow=33						
MGCD	**Mangrove Creek**	**21.30**	**225**	P	**P**	**20 21 21.9**	**+2.4**
	baz=21,SNR=4.6						
CTA	**Charters Tower**	**21.36**	**263**	P	**P**	**20 21 21.1**	**+0.9**
	22nm,0.7s,baz=87,slow=12,SNR=21						
CTA	**Charters Tower**	**21.36**	**263**	P	**P**	**20 21 22.4**	**+2.1**
	baz=21						
CTAO	**Charters Tower**	**21.36**	**263**	*e*P	**P**	**20 21 22.4**	**+2.1**
	364nm,1.0s						
PMG	**Port Moresby**	**23.09**	**291**	P	**P**	**20 21 39.0**	**+0.4**
	28nm,0.9s,baz=117,slow=6.3,SNR=6.4						
PMG				LR	LR	20 29 10.1	
	comp=Z,312nm,19.2s,baz=121,slow=33						
PMG	**Port Moresby**	**23.09**	**291**	*e*P	**P**	**20 21 39.8**	**+1.1**
MTSU	**Mount Surprise**	**23.30**	**268**	P	**P**	**20 21 41.8**	**+1.0**
	baz=23,SNR=17						
CNB	**Canberra Magne**	**23.73**	**223**	P	**P**	**20 21 46.6**	**+1.8**
	baz=24,SNR=19						
YNG	**Young**	**23.77**	**226**	P	**P**	**20 21 47.4**	**+2.2**
	baz=24,SNR=9.3						
QLP	**Quilpie**	**23.93**	**247**	P	**P**	**20 21 47.5**	**+0.9**
	baz=24,SNR=26						
CAN	**Canberra**	**23.97**	**223**	P	**P**	**20 21 48.6**	**+1.6**
	baz=24						
CAN	**Canberra**	**23.97**	**223**	*e*P	**P**	**20 21 48.0**	**+1.0**
	24nm,0.8s						
CMSA	**Cobar Meteorol**	**24.36**	**235**	P	**P**	**20 21 51.5**	**+0.9**
	baz=24,SNR=23						
RPZ	**Rata Peaks**	**24.73**	**176**	P	**P**	**20 21 54.0**	**+0.2**
	14nm,1.0s,baz=68,slow=16,SNR=2.1						
RPZ				LR	LR	20 31 19.3	
	comp=Z,650nm,18.0s,baz=12,slow=36						
MILA	**Mila**	**24.97**	**220**	P	**P**	**20 21 58.3**	**+2.3**
	baz=25,SNR=6.0						
COEN	**Coen**	**25.14**	**278**	P	**P**	**20 22 00.3**	**+2.5**
	baz=25,SNR=6.0						
COEN	**Coen**	**25.14**	**278**	*e*P	**P**	**20 22 00.2**	**+2.4**
	14nm,0.7s						
TOO	**Toolangi**	**27.58**	**223**	P	**P**	**20 22 21.4**	**+1.7**
	baz=28						
QIS	**Mount Isa**	**27.59**	**262**	P	**P**	**20 22 21.6**	**+1.7**
	baz=28,SNR=5.6						
STKA	**Stephens Creek**	**27.71**	**237**	P	**P**	**20 22 21.8**	**+1.1**
	4.9nm,0.5s,baz=72,slow=10,SNR=22						
STKA				PcP	**PcP**	**20 25 37.9**	**+0.9**
	4.4nm,0.9s,baz=354,slow=4.9,SNR=3.8						
STKA				LR	LR	20 33 36.4	
	comp=Z,152nm,18.6s,baz=347,slow=37						
STKA	**Stephens Creek**	**27.71**	**237**	P	**P**	**20 22 21.9**	**+1.1**
	baz=28,SNR=14						
RAR	**Rarotonga**	**29.49**	**100**	LR	LR	20 31 50.1	
	comp=Z,101nm,21.2s,baz=300,slow=31						
ARPS	**Mount Arapiles**	**29.61**	**228**	P	**P**	**20 22 37.8**	**+0.1**
	baz=30						
MOO	**Moorlands**	**29.75**	**213**	P	**P**	**20 22 40.4**	**+1.6**
	baz=30						
HTT	**Hallett**	**30.36**	**236**	P	**P**	**20 22 44.9**	**+0.4**
	baz=30						
GENI	**Genyem**	**32.48**	**297**	P	P	20 23 04.7	+1.6
WRA	**Warramunga Arr**	**32.56**	**262**	P	**P**	**20 23 03.0**	**-0.8**
	3.4nm,0.4s,baz=88,slow=8.4,SNR=125						
WRA				PcP	**PcP**	**20 25 49.9**	**+0.1**
	1.5nm,0.7s,baz=85,slow=3.3,SNR=5.2						
WRA				LR	LR	20 36 18.0	
	comp=Z,304nm,18.6s,baz=150,slow=36						
ASAR	**Alice Springs**	**32.87**	**256**	P	**P**	**20 23 06.5**	**-0.1**
	32nm,0.8s,baz=82,slow=8.5,SNR=239						
ASAR				PcP	**PcP**	**20 25 50.2**	**-0.4**
	1.1nm,0.9s,baz=103,slow=1.2,SNR=3.4						
MTN	**Manton Dam**	**36.76**	**274**	P	**P**	**20 23 40.8**	**+0.6**
	baz=37,SNR=6.5						
WRKA	**Warakurna**	**38.01**	**253**	P	**P**	**20 23 50.8**	**0.0**
	baz=38,SNR=20						
KNRA	**Kununurra**	**38.39**	**269**	P	**P**	**20 23 53.1**	**-0.8**
	baz=38						
FORT	**Forrest**	**38.66**	**244**	P	**P**	**20 23 56.5**	**+0.4**
	baz=39						
PPT2	**Papeete2**	**39.40**	**95**	*e*LR	LR	20 34 51.7	
	262nm,27.8s						
GUMO	**Guam**	**40.09**	**322**	LR	LR	20 39 04.5	
	comp=Z,178nm,18.7s,baz=134,slow=34						
FITZ	**Fitzroy Crossi**	**40.94**	**264**	P	**P**	**20 24 15.8**	**+0.7**
	baz=41,SNR=21						
FITZ	**Fitzroy Crossi**	**40.94**	**264**	*e*P	**P**	**20 24 15.4**	**+0.3**
	21nm,0.8s						
SIJI	**Sorong**	**41.03**	**292**	LR	LR	20 42 54.9	
	comp=Z,134nm,18.8s,slow=38						
KMBL	**Kambalda**	**43.99**	**244**	P	**P**	**20 24 39.8**	**0.0**
	baz=44,SNR=7.8						
SOEI	**Soe**	**44.08**	**276**	P	P	20 24 54.5	+14
BATI	**Baumata**	**44.52**	**275**	P	**P**	**20 24 45.4**	**+1.2**
	31nm,0.8s,baz=113,slow=13,SNR=9.5						
BATI				LR	LR	20 43 28.8	
	comp=Z,197nm,18.5s,baz=159,slow=36						
BATI	**Baumata**	**44.52**	**275**	P	P	20 24 46.3	+2.0
MBWA	**Marble Bar**	**46.08**	**259**	*e*P	**P**	**20 24 55.8**	**-0.7**
	85nm,1.0s						
MEEK	**Meekatharra**	**46.73**	**251**	P	**P**	**20 25 01.9**	**+0.3**
	baz=47,SNR=34						
KLBR	**Kellerberrin**	**47.52**	**244**	P	**P**	**20 25 07.6**	**-0.2**
	baz=48,SNR=6.5						
NWAO	**Narrogin (SRO)**	**48.04**	**243**	P	**P**	**20 25 11.8**	**+0.1**
	baz=48,SNR=7.3						
NWAO				P	**P**	**20 25 11.8**	**+0.1**
	baz=48,SNR=7.3						
NWAO	**Narrogin (SRO)**	**48.04**	**243**	*e*P	**P**	**20 25 11.3**	**-0.3**
	107nm,1.0s						
BLDU	**Ballidu**	**48.39**	**246**	P	**P**	**20 25 14.3**	**-0.1**
	baz=48,SNR=7.5						
MUN	**Mundaring**	**48.86**	**244**	P	**P**	**20 25 18.1**	**+0.1**
	baz=49						
MORW	**Morawa**	**48.96**	**248**	P	**P**	**20 25 19.0**	**+0.2**
	baz=49,SNR=4.5						
KAPI	**Kappang**	**49.84**	**280**	*e*P	**P**	**20 25 27.1**	**+1.4**
	18nm,1.1s						
RKT	**Rikitea**	**52.30**	**105**	*e*LR	LR	20 41 01.7	
	256nm,31.8s						
JHJ	**Hachijo jima 2**	**58.79**	**331**	LR	LR	20 51 31.4	
	comp=Z,42nm,19.2s,baz=96,slow=36						
LEM	**Lembang**	**60.67**	**273**	P	**P**	**20 26 44.7**	**+0.7**
	44nm,0.7s,baz=72,slow=6.4,SNR=14						
LEM				LR	LR	20 53 16.7	
	comp=Z,80nm,20.0s,baz=140,slow=36						
MJAR	**Matsushiro Arr**	**62.36**	**332**	P	**P**	**20 26 54.4**	**-0.3**
	5.6nm,0.8s,baz=172,slow=8.0,SNR=16						
MJAR				LR	LR	20 49 29.1	
	comp=Z,32nm,21.8s,baz=160,slow=32						
MAJO	**Matsushiro**	**62.37**	**332**	*e*P	**P**	**20 26 54.3**	**-0.4**
	7.7nm,0.8s						
MAT	**Matsushiro**	**62.37**	**332**	P	**P**	**20 26 54.2**	**-0.6**
JNU	**Nakatsue**	**63.26**	**325**	LR	LR	20 51 21.7	
	comp=Z,50nm,21.9s,baz=120,slow=33						
ASAJ	**Asahikawa**	**67.24**	**340**	P	**P**	**20 27 27.5**	**+1.2**
	7.6nm,0.8s,baz=226,slow=10,SNR=6.8						
KSRS	**Korea Array**	**68.10**	**326**	P	**P**	**20 27 32.3**	**+0.4**
	0.2nm,0.3s,baz=176,slow=18,SNR=4.2						
KSRS				LR	LR	20 55 47.0	
	comp=Z,54nm,20.1s,baz=122,slow=35						
KSAR	**Wonju Array Be**	**68.11**	**326**	P	**P**	**20 27 32.3**	**+0.3**
QSPA	**South Pole Qui**	**71.08**	**180**	P	**P**	**20 27 49.9**	**-0.2**
	12nm,0.9s,baz=11,slow=3.3,SNR=19						
USRK	**Ussuriysk Ar.**	**71.35**	**333**	P	**P**	**20 27 51.2**	**-0.6**
	1.0nm,0.6s,baz=143,slow=3.8,SNR=4.3						
USRK				LR	LR	20 56 56.0	
	comp=Z,46nm,20.4s,baz=128,slow=34						
PSI	**Prapat**	**72.05**	**279**	LR	LR	21 03 34.1	
	comp=Z,138nm,18.3s,baz=182,slow=39						
PETK	**Petropavlovsk-**	**72.43**	**353**	P	**P**	**20 27 58.1**	**0.0**
	1.2nm,0.4s,baz=124,slow=9.3,SNR=4.0						
PETK				LR	LR	20 54 24.0	
	comp=Z,108nm,20.1s,baz=148,slow=31						
TIA	**Tai'an**	**73.53**	**319**	P	**P**	**20 28 05.4**	**+0.5**
TIA				*p*max	*p*max		
	comp=Z,7.0nm,1.0s						
ENH	**Enshi**	**75.25**	**310**	*e*P	**P**	**20 28 15.5**	**+0.4**
	7.0nm,0.7s						
XAN	**Xi'an**	**77.69**	**313**	P	**P**	**20 28 29.3**	**+0.4**
XAN				*p*max	*p*max		
	comp=Z,11nm,0.9s						
XAN				*p*max	*p*max		
	comp=Z,110nm,4.9s						
CMAR	**Chiang Mai Arr**	**78.09**	**294**	P	**P**	**20 28 33.1**	**+1.8**
	7.1nm,0.9s,baz=132,slow=4.3,SNR=56						
CMAR				LR	LR	21 02 08.3	
	comp=Z,18nm,20.9s,baz=215,slow=35						
CHTO	**Chiang Mai**	**78.24**	**295**	*e*P	**P**	**20 28 33.4**	**+1.2**
	12nm,1.0s						
ULN	**Ulaanbaatar**	**86.45**	**324**	*e*P	**P**	**20 29 15.1**	**+0.4**
	17nm,1.1s						
GTA	**Gaotai**	**86.70**	**314**	*e*P	**P**	**20 29 16.9**	**+0.8**
GTA				*p*max	*p*max		
	comp=Z,9.0nm,1.0s						
SONM	**Songino Array**	**86.81**	**323**	P	**P**	**20 29 17.0**	**+0.7**
	7.4nm,0.9s,baz=141,slow=5.4,SNR=40						
SONM				LR	LR	21 06 38.6	
	comp=Z,28nm,20.1s,baz=94,slow=35						
YBH	**Yreka Blue Hor**	**87.34**	**44**	LR	LR	21 02 29.4	
	comp=Z,59nm,18.3s,baz=192,slow=32						
ISA	**Isabella, Lake**	**87.57**	**51**	*e*P	**P**	**20 29 20.2**	**-0.1**
	15nm,1.6s						
PAHR	**Pah Rah Range**	**88.67**	**47**	*e*P	**P**	**20 29 26.5**	**+1.0**
	5.9nm,0.8s						
NVAR	**Mina Array Bea**	**88.88**	**49**	P	**P**	**20 29 26.5**	**-0.1**
	0.5nm,0.7s,baz=238,slow=6.2,SNR=7.6						
SNAA	**Sanae**	**89.41**	**183**	P	**P**	**20 29 27.8**	**-0.6**
SNAA	**Sanae**	**89.41**	**183**	P	**P**	**20 29 27.3**	**-1.1**
	2.7nm,0.6s,baz=212,slow=9.4,SNR=20						
VNA3	**Neumayer Olymp**	**90.01**	**180**	P	**P**	**20 29 30.4**	**-0.8**
ILAR	**Eielson Array**	**90.08**	**17**	P	**P**	**20 29 29.9**	**-1.5**
	0.9nm,0.8s,baz=232,slow=5.3,SNR=7.9						
ILAR				LR	LR	21 05 00.1	
	comp=Z,55nm,19.3s,baz=207,slow=32						
VNA2	**Neumayer--Watz**	**90.30**	**181**	P	**P**	**20 29 32.1**	**-0.4**
	baz=162,slow=4.9						
TLY	**Talaya**	**90.35**	**326**	*e*P	**P**	**20 29 33.3**	**+0.3**
	3.8nm,0.8s						
VNA1	**Neumayer--Stat**	**90.59**	**181**	P	**P**	**20 29 31.6**	**-2.2**
PDAR	**Pinedale Array**	**96.68**	**47**	P	**P**	**20 30 01.9**	**-0.6**
	0.2nm,0.7s,baz=65,slow=5.3,SNR=2.3						
TXAR	**Lajitas Array**	**96.93**	**61**	P	**P**	**20 30 04.8**	**+0.9**
	0.7nm,0.8s,baz=229,slow=3.8,SNR=8.1						
YKA	**Yellowknife Ar**	**100.59**	**27**	P	**Pdif**	**20 30 19.4**	**+0.2**
	0.3nm,0.7s,baz=250,slow=4.9,SNR=5.6						
MKAR	**Makanchi Array**	**101.32**	**316**	P	**Pdif**	**20 30 23.4**	**+0.5**
	0.5nm,0.6s,baz=88,slow=7.2,SNR=6.8						
ARCES	**ARCESS Array B**	**124.73**	**345**	PKP	**PKPdf**	**20 35 29.0**	**-1.9**
	0.8nm,0.6s,baz=28,slow=5.5,SNR=4.0						
KLMR	**Klimovskoe**	**125.15**	**332**	*e*PKPdf	**PKPdf**	**20 35 28.9**	**-2.9**
KLMR				AMP		20 35 31.9	
	comp=Z,7.0nm,1.2s						
FINES	**FINESS Array B**	**130.22**	**338**	PKP	**PKPdf**	**20 35 42.2**	**+0.7**
	comp=Z,2.4nm,0.8s,baz=195,slow=10,SNR=3.3						
BRTR	**Keskin Array B**	**136.39**	**308**	PKP	**PKPdf**	**20 35 53.5**	**-0.4**
	comp=Z,1.0nm,1.1s,baz=158,slow=1.3,SNR=4.4						
PRU	**Pruhonice**	**142.89**	**332**	AMS	AMS	21 42 40.0	
	comp=Z,100nm,23.5s						
EKA	**Eskdalemuir Ar.**	**143.20**	**352**	PKP	**PKPdf**	**20 36 03.6**	**-2.1**
	comp=Z,0.6nm,0.5s,baz=27,slow=3.3,SNR=3.4						
NKC	**Novy Kostel**	**143.59**	**334**	*e*PKP	**PKPdf**	**20 36 03.7**	**-2.9**
CONA	**Conrad Observa**	**143.75**	**329**	*i* PKPdf	**PKPdf**	**20 36 05.9**	**-1.0**
	comp=Z,8.5nm,0.9s,SNR=5.3						
KHC	**Kasperske Hory**	**143.95**	**332**	*e*PKP	**PKPdf**	**20 36 05.2**	**-2.0**
KHC	**Kasperske Hory**	**143.95**	**332**	*e*PKPdf	**PKPdf**	**20 36 05.4**	**-1.9**
GERES	**GERESS Array B**	**144.10**	**332**	PKP	**PKPdf**	**20 36 05.9**	**-1.7**
	comp=Z,3.3nm,0.8s,baz=43,slow=2.4,SNR=21						
IDI	**Anoyia**	**144.31**	**304**	PKP	**PKPdf**	**20 36 07.7**	**-0.6**
	comp=Z,8.6nm,0.8s,baz=168,slow=4.1,SNR=6.3						
ARSA	**Arzberg**	**144.38**	**328**	*i* PKPdf	**PKPdf**	**20 36 07.3**	**-0.7**
	comp=Z,15nm,1.4s,SNR=5.3						
GRFO	**Grafenberg**	**144.51**	**335**	*e*PKPdf	**PKPdf**	**20 36 06.5**	**-1.6**
MOA	**Molln**	**144.57**	**330**	*i* PKPdf	**PKPdf**	**20 36 07.9**	**-0.4**
	comp=Z,21nm,1.0s,SNR=6.8						
SOKA	**Soboth**	**145.01**	**328**	*i* PKPdf	**PKPdf**	**20 36 09.0**	**-0.2**
	comp=Z,19nm,0.9s,SNR=8.8						
OBKA	**Obir**	**145.37**	**328**	*i* PKPdf	**PKPdf**	**20 36 09.7**	**-0.2**
	comp=Z,18nm,0.9s						
KBA	**Koelnbreinsper**	**145.56**	**330**	*i* PKiKP	**PKiKP**	**20 36 10.3**	**-3.9**
	comp=Z,25nm,1.2s,SNR=7.1						
MYKA	**Terra Mystica**	**145.73**	**329**	*i* PKPab	**PKPab**	**20 36 10.7**	**-0.6**
	comp=Z,9.1nm,0.7s						
ABTA	**Abfaltersbach**	**146.19**	**330**	*e*PKPab	**PKPab**	**20 36 12.0**	**-1.0**
	comp=Z,25nm,1.6s						
WTTA	**Wattenberg**	**146.21**	**332**	*e*PKiKP	**PKiKP**	**20 36 12.9**	**-2.7**
	comp=Z,15nm,1.3s						
MOTA	**Moosalm**	**146.38**	**332**	*e*PKiKP	**PKiKP**	**20 36 13.2**	**-2.8**
	comp=Z,14nm,0.8s,SNR=14						
WLF	**Walferdange**	**146.40**	**340**	*e*PKPdf	**PKPab**	**20 36 13.3**	**-0.3**
RETA	**Reutte**	**146.42**	**333**	*e*PKiKP	**PKiKP**	**20 36 13.3**	**-2.6**
	comp=Z,6.4nm,0.8s						
BFO	**Black Forest**	**146.74**	**336**	*e*PKPdf	**PKPab**	**20 36 13.9**	**-1.1**
FETA	**Feichten**	**146.79**	**332**	*e*PKiKP	**PKiKP**	**20 36 14.6**	**-2.2**
	comp=Z,14nm,0.8s,SNR=5.7						
DAVA	**Damuels**	**146.95**	**333**	*e*PKiKP	**PKiKP**	**20 36 15.0**	**-2.1**
	comp=Z,9.9nm,0.9s						
TUE	**Stuetta**	**147.82**	**333**	*e*PKPbc	**PKPab**	**20 36 17.3**	**-2.2**
BNI	**Bardonecchia**	**150.08**	**334**	*e*PKPbc	**PKPbc**	**20 36 22.8**	**+0.1**

IDC 16 20:26:02.3±3.5, 18°.71S×168°.82E, h0km, mb3.8/4, mb1 4.0/5, mb1mx3.6/41, mbtmp3.8/5, ML3.4/1, MS3.3/2, Ms1 3.3/2, ms1mx2.8/45, Error ellipse: s-maj=87.8km s-min=31.4km az=116.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**4.02**	**213**	Pn	Pn	20 27 04.9	-0.3
	2.7nm,0.3s,baz=139,slow=18,SNR=10						
DZM				Sn	Sn	20 27 52.2	-0.8
	4.9nm,0.3s,baz=114,slow=21,SNR=5.1						
HNR	**Honiara**	**12.61**	**316**	LR	LR	20 32 51.1	
	comp=Z,106nm,18.6s,baz=278,slow=32						
AFI	**Afiamalu**	**19.22**	**78**	LR	LR	20 36 17.5	
	comp=Z,92nm,19.6s,baz=121,slow=32						
WRA	**Warramunga Arr**	**32.53**	**262**	P	P	20 32 34.7	-0.6
	0.4nm,0.8s,baz=88,slow=8.3,SNR=7.3						
ASAR	**Alice Springs**	**32.88**	**255**	P	P	20 32 38.2	-0.1
	2.3nm,0.6s,baz=83,slow=8.3,SNR=25						
CMAR	**Chiang Mai Arr**	**77.93**	**294**	P	P	20 38 04.0	+1.3
	0.4nm,0.6s,baz=140,slow=4.0,SNR=4.7						
SONM	**Songino Array**	**86.56**	**323**	P	P	20 38 47.4	-0.1
	0.7nm,0.9s,baz=134,slow=4.2,SNR=4.6						
GERES	**GERESS Array B**	**143.84**	**332**	PKP	PKPbc	20 45 37.0	-0.3
	0.1nm,0.4s,baz=34,slow=3.9,SNR=3.6						

IDC 16 20:29:48.1±3.2, 31°.44N×140°.26E, h142km±24km, mb2.9/4, mb1 3.1/6, mb1mx2.8/61, mbtmp3.5/6, Error ellipse: s-maj=118.7km s-min=15.9km az=62.0, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**4.65**	**158**	P	Pn	20 30 56.9	+0.1
	1.6nm,0.3s,baz=53,slow=19,SNR=3.9						
JCJ				S	Sn	20 31 50.1	0.0
	13nm,0.3s,baz=286,slow=21,SNR=6.6						
KSRS	**Korea Array**	**11.81**	**304**	P	Pn	20 32 34.2	+2.2
	0.3nm,0.3s,baz=122,slow=16,SNR=4.7						
MKAR	**Makanchi Array**	**46.48**	**307**	P	P	20 37 59.6	-1.2
	0.2nm,0.6s,baz=78,slow=7.5,SNR=3.2						
KURBB	**Kurchatov Arra**	**48.85**	**312**	P	P	20 38 19.1	+0.1
	0.2nm,0.5s,baz=90,slow=9.4,SNR=4.3						
WRA	**Warramunga Arr**	**51.41**	**187**	P	P	20 38 38.1	-0.4
	0.3nm,0.3s,baz=2.9,slow=7.8,SNR=10.0						
ASAR	**Alice Springs**	**55.13**	**187**	P	P	20 39 06.8	+1.1
	0.1nm,0.5s,baz=8.9,slow=5.9,SNR=4.1						

DJA 16 20:30:07.7±0.3, 3°S±3°×12°2E±°, h10km, M3.5/8, MLv3.5/8, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KDI	**Kendari**	**1.50**	**149**	P	Pn	20 30 34.6	-0.1
APSI	**Ampana**	**1.76**	**354**	P	Pn	20 30 37.5	-0.7
LUWI	**Luwuk**	**1.87**	**30**	P	Pn	20 30 38.5	-1.2
LUWI				S	Sb	20 31 04.9	-0.4
TTSI	**Tana Toraja**	**2.05**	**259**	P	Pn	20 30 41.6	-0.7
BNSI	**Bone**	**2.44**	**225**	P	Pn	20 30 47.8	+0.2
PCI	**Palu**	**2.66**	**311**	P	Pn	20 30 51.7	+1.0
MRSI	**Marisa**	**3.13**	**2**	P	Pn	20 30 56.4	-0.7
MPSI	**Mapaga**	**3.56**	**327**	P	Pn	20 31 02.8	-0.3

*IDC **16** 20:45:04.8±2.5, 2°.02N×93°.22E, h0km, mb3.6/6, mb1 3.6/7, mb1mx3.4/65, mbtmp3.5/7, ML3.3/1, MS3.8/2, Ms1 3.8/2, ms1mx2.8/56, Error ellipse: s-maj=92.3km s-min=20.8km az=60.0*
*ISCJB **16** 20:45:07.8±1.6, 2°.1N±0°.2×93°.3E±0°.3, h33km, mb3.6/6, MS3.8/2, Error ellipse: s-maj=50.2km s-min=17.1km az=155.1*

ISC 16 20:45:10.3±2.3, 2°.1N±0°.2×93°.3E±0°.4, h35km, n9, σ0§26/7, mb3.7/6, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**17.18**	**18**	P	**Pn**	**20 49 07.6**	**-0.2**
	0.0nm,0.3s,baz=217,slow=9.8,SNR=4.5						
MKAR	**Makanchi Array**	**45.56**	**349**	P	**P**	**20 53 26.7**	**-0.1**
	0.6nm,0.6s,baz=172,slow=9.2,SNR=7.1						
WRA	**Warramunga Arr**	**45.80**	**121**	P	**P**	**20 53 28.9**	**-0.1**
	0.8nm,0.7s,baz=299,slow=8.6,SNR=8.8						
SONM	**Songino Array**	**46.96**	**12**	P	**P**	**20 53 38.1**	**+0.2**
	0.3nm,0.4s,baz=200,slow=7.5,SNR=3.2						
ASAR	**Alice Springs**	**47.04**	**125**	P	**P**	**20 53 38.9**	**+0.1**
	0.3nm,0.9s,baz=296,slow=7.1,SNR=3.4						
KURBB	**Kurchatov Arra**	**49.96**	**348**	P	**P**	**20 54 00.5**	**-0.3**
	0.3nm,0.4s,baz=177,slow=6.9,SNR=4.4						
ZALV	**Zalesovo Beam**	**52.17**	**354**	P	**P**	**20 54 17.6**	**+0.3**
	0.5nm,0.3s,baz=174,slow=8.2,SNR=4.1						
BVAR	**Borovoye Array**	**54.22**	**343**	LR	LR	21 18 46.6	
	comp=Z,83nm,20.4s,baz=90,slow=37						
GERES	**GERESS Array B**	**81.60**	**319**	LR	LR	21 39 18.4	
	comp=Z,51nm,19.4s,baz=50,slow=40						

*DDA **16** 20:45:30.1, 36°.72N×27°.34E, h7km, Ml2.8*
*ATH **16** 20:45:32.5, 36°.81N×27°.48E, h32km±1km, ML2.3/5, Error ellipse: s-maj=2.4km s-min=1.2km az=239.0*
*CSEM **16** 20:45:32.9±0.1, 36°.82N×27°.46E, h13km±1km, ML2.7, Error ellipse: s-maj=3.1km s-min=2.7km az=40.0*
*ISK **16** 20:45:32.2, 36°.81N×27°.46E, h10km, ML2.7/10*
*ISCJB **16** 20:45:33.0±0.4, 36°.82N±0°.02×27°.46E±0°.03, h11km±3km, Error ellipse: s-maj=3.7km s-min=3.3km az=43.1*
*THE **16** 20:45:33.7, 36°.85N×27°.47E, h11km±2km, ML2.4/3, Error ellipse: s-maj=2.2km s-min=1.0km az=303.0*

ISC 16 20:45:32.7±0.8, 36°.82N±0°.02×27°.49E±0°.02, h15km±5km, n54, σ1§05/89, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res

KARP	**Karpathos**	**1.30**	**192**	P	**Pg**	**20 45 57.2**	**-0.5**
KARP				S	**Sg**	**20 46 14.0**	**-0.6**
KARP				AML	AML	20 46 20.2	
	comp=E,131μm,0.4s						
KARP				AML	AML	20 46 22.1	
	comp=N,107μm,0.4s						
KARP	**Karpathos**	**1.30**	**192**	P	**Pb**	**20 45 56.8**	**-0.1**
KARP				S	**Sn**	**20 46 13.5**	**0.0**
KARP	**Karpathos**	**1.30**	**192**	*e*Pn	**Pn**	**20 45 56.4**	**0.0**
KARP	**Karpathos**	**1.30**	**192**	P	**Pb**	**20 45 56.7**	**-0.1**
KARP				S	**Sn**	**20 46 13.5**	**0.0**
TAVA	**DENIZLI_Tavas**	**1.31**	**60**	*i* P	**Pg**	**20 45 58.6**	**+0.7**
TAVA	**DENIZLI_Tavas**	**1.31**	**60**	P	**Pg**	**20 45 58.6**	**+0.7**
DGB	**¨zmir**	**1.32**	**339**	*i* P	**Pn**	**20 45 55.4**	**-1.2**
ANAF	**Anafi Island**	**1.46**	**252**	P	**Pn**	**20 45 56.6**	**-1.9**
ANAF				S	**Sb**	**20 46 18.4**	**+0.5**
ANAF	**Anafi Island**	**1.46**	**252**	P	**Pn**	**20 45 57.5**	**-1.0**
ANAF				S	**Sb**	**20 46 17.8**	**-0.1**
APE	**Apeiranthos**	**1.59**	**279**	PN	**Pn**	**20 46 00.7**	**+0.4**
APE	**Apeiranthos**	**1.59**	**279**	P	**Pn**	**20 45 60.0**	**-0.3**
APE				S	**Sn**	**20 46 19.4**	**-1.2**
APE				AML	AML	20 46 28.5	
	comp=N,82μm,0.4s						
APE				AML	AML	20 46 30.8	
	comp=E,78μm,0.4s						
APE	**Apeiranthos**	**1.59**	**279**	P	**Pn**	**20 46 00.2**	**-0.1**
APE	**Apeiranthos**	**1.59**	**279**	*e*Pn	**Pn**	**20 46 00.7**	**+0.4**
APE				S	**Sn**	**20 46 20.1**	**-0.5**
BLCB	**Balcova**	**1.60**	**347**	PN	**Pb**	**20 46 01.9**	**0.0**
BLCB	**Balcova**	**1.60**	**347**	*e*Pn	**Pb**	**20 46 01.9**	**0.0**
CHOS	**Chios island**	**1.93**	**324**	P	**Pn**	**20 46 05.8**	**+0.8**
CHOS	**Chios island**	**1.93**	**324**	P	**Pn**	**20 46 05.6**	**+0.5**

*IDC **16** 20:50:56.2±1.5,23˚.00S×114˚.25W, h0km, mb3.7/3, mb1 4.1/3, mb1mx3.7/45, mbtmp3.7/3, MS3.8/4, Ms1 3.8/4, ms1mx3.3/30, Error ellipse: s-maj=94.9km s-min=48.3km az=111.0*

*NEIC **16** 20:50:59.8±0.9,22˚.53S×115˚.49W, h10km, mb4.6/2, Error ellipse: s-maj=39.6km s-min=26.4km az=71.0*

ISC 16 20:50:59.1±1.1,**22˚.6S**±0˚.2×**115˚.6W**±0˚.3,**h10**km,**n17,** σ1§**27**/13,**mb3.8**/5,**MS3.8**/4,**Southern East Pacific Rise**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLCA	**Paso Flores**	**41.91**	**126**	LR	LR	21 11 15.3	
	comp=Z,206nm,18.8s,baz=243,slow=30						
TRQA	**Tornquist**	**48.17**	**121**	*e*P	**P**	**20 59 40.0**	**+0.3**
	5.3nm,0.8s						
ROSC	**El Rosal**	**48.73**	**61**	LR	LR	21 15 57.9	
	comp=Z,86nm,20.2s,baz=223,slow=31						
CPUP	**Villa Florida**	**52.82**	**107**	LR	LR	21 18 02.0	
	comp=Z,91nm,18.1s,baz=215,slow=32						
TXAR	**Lajitas Array**	**52.91**	**13**	P	**P**	**21 00 16.2**	**+0.6**
	1.0nm,1.0s,baz=190,slow=6.4,SNR=4.5						
AFI	**Afiamalu**	**53.76**	**269**	LR	LR	21 19 24.4	
	comp=Z,47nm,18.4s,baz=209,slow=31						
JCT	**Junction City**	**54.93**	**17**	*e*P	**P**	**21 00 30.4**	**+0.1**
	2.2nm,0.4s						
PDAR	**Pinedale Array**	**65.28**	**5**	P	**P**	**21 01 40.9**	**-0.5**
	0.5nm,0.7s,baz=184,slow=8.9,SNR=4.6						
YKA	**Yellowknife Ar**	**84.81**	**0**	P	**P**	**21 03 33.6**	**+0.4**
	0.5nm,0.8s,baz=182,slow=5.0,SNR=9.5						
ZALV	**Zalesovo Beam**	**145.09**	**339**	PKPbc	**PKPdf**	**21 10 38.0**	**+1.5**
	0.5nm,0.4s,baz=4.8,slow=1.7,SNR=2.5						
CMAR	**Chiang Mai Arr**	**147.40**	**269**	PKPbc	**PKPab**	**21 10 45.9**	**0.0**
	0.5nm,0.8s,baz=7.3,slow=0.6,SNR=5.3						
BRTR	**Keskin Array B**	**148.86**	**50**	PKPbc	**PKPdf**	**21 10 44.0**	**+0.5**
	1.6nm,0.9s,baz=242,slow=2.7,SNR=7.0						
BVAR	**Borovoye Array**	**149.28**	**353**	PKPbc	**PKPbc**	**21 10 46.8**	**-1.1**
	0.5nm,0.7s,baz=350,slow=4.4,SNR=3.7						
KURK	**Kurchatov**	**149.81**	**342**	PKPbc	**PKPbc**	**21 10 50.8**	**+1.6**
KURBB	**Kurchatov Arra**	**149.92**	**342**	PKPbc	**PKPbc**	**21 10 50.8**	**+1.3**
	0.9nm,0.9s,baz=20,slow=1.8,SNR=5.8						
MKAR	**Makanchi Array**	**151.86**	**333**	PKPbc	**PKPbc**	**21 10 53.1**	**-1.1**
	0.3nm,0.6s,baz=48,slow=2.0,SNR=3.9						
KBZ	**Khabaz**	**152.46**	**35**	PKPbc	**PKPbc**	**21 10 53.0**	**-2.5**
	1.9nm,0.9s,baz=207,slow=4.5,SNR=3.7						

*IDC **16** 20:55:16.0±2.8,21˚.33S×70˚.53W, h0km, mb3.6/4, mb1 3.9/6, mb1mx3.7/39, mbtmp3.7/6, ML3.7/2, MS2.9/1, Ms1 2.9/1, ms1mx2.5/31, Error ellipse: s-maj=73.5km s-min=32.9km az=158.0*

*ISCJB **16** 20:55:24.4±1.1,20˚.78S±0˚.04×70˚.7W±0˚.1, h48km±13km, mb3.5/4, Error ellipse: s-maj=16.0km s-min=6.4km az=178.0*

*GUC **16** 20:55:24.3±0.6,20˚.78S×70˚.57W, h57km±16km, ML4.6*

ISC 16 20:55:23.3±2.2,**20˚.7S**±0˚.08×**70˚.63W**±0˚.09,**h29**km±15km, **n16,** σ0§**81**/21,**mb3.6**/4,**3C-3D, Near coast of northern Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB02	**IPOC Station P**	**0.91**	**131**	*e*P	**Pn**	**20 55 40.8**	**+0.6**
PB02				*i* S	**Sn**	**20 55 52.6**	**+0.2**
PB02				IAML		20 55 52.9	
	comp=N,34μm,0.2s						
PB01	**IPOC Station P**	**1.11**	**106**	*e*P	**Pn**	**20 55 43.6**	**+0.5**
PB01				*i* S	**Sn**	**20 55 57.7**	**+0.2**
PB01				IAML		20 55 59.1	
	comp=E,27μm,0.2s						
PB07	**IPOC Station P**	**1.21**	**145**↑	*i* P	**Pn**	**20 55 45.0**	**+0.4**
PB07				*i* S	**Sn**	**20 55 59.4**	**-0.7**
PSGC	**Pisagua**	**1.22**	**23**↓	*i* P	**Pb**	**20 55 46.1**	**+0.3**
PSGC				*i* S	**Sb**	**20 56 01.4**	**+0.1**
PB11	**IPOC Station P**	**1.33**	**44**↓	*i* P	**Pb**	**20 55 47.5**	**-0.2**
PB11				*i* S	**Sb**	**20 56 04.8**	**+0.4**
PB11				IAML		20 56 05.4	
	comp=N,23μm,0.4s						
PB08	**IPOC Station P**	**1.50**	**67**↑	*i* P	**Pb**	**20 55 50.3**	**-0.5**
PB08				*i* S	**Sb**	**20 56 09.3**	**-0.3**
PB04	**IPOC Station P**	**1.66**	**164**↓	*i* P	**Pn**	**20 55 50.8**	**+0.2**
PB09	**IPOC Station P**	**1.68**	**130**↑	*i* P	**Pn**	**20 55 52.4**	**+1.5**
PB09				*i* S	**Sn**	**20 56 12.9**	**+1.4**
PB09				IAML		20 56 13.7	
	comp=E,8μm,0.2s						
LPAZ	**La Paz**	**5.01**	**29**	Pn	Pn	20 56 41.9	+4.7
	comp=E,0.6nm,0.3s,baz=260,slow=2.8,SNR=9.6						
SIV	**San Ignacio**	**10.22**	**64**	Pn	**Pn**	**20 57 47.1**	**-1.1**
	comp=E,1.5nm,0.3s,baz=263,slow=12,SNR=20						
NNA	**Nana**	**10.54**	**325**	LR	LR	21 02 26.8	
	comp=E,58nm,18.5s,baz=191,slow=39						
PTGA	**Pitinga**	**22.44**	**29**	P	**P**	**21 00 20.6**	**+0.5**
	comp=E,1.9nm,0.5s,baz=153,slow=18,SNR=3.6						
PDAR	**Pinedale Array**	**72.65**	**331**	P	**P**	**21 06 48.9**	**+0.3**
	comp=E,0.2nm,0.5s,baz=108,slow=8.8,SNR=2.8						
NVAR	**Mina Array Bea**	**73.30**	**323**	P	**P**	**21 06 57.2**	**+1.2**
	comp=E,0.2nm,0.4s,baz=161,slow=5.7,SNR=2.6						
YKA	**Yellowknife Ar**	**89.94**	**341**	P	**P**	**21 08 18.4**	**-0.9**
	comp=E,0.4nm,0.8s,baz=139,slow=4.9,SNR=6.5						
MKAR	**Makanchi Array**	**145.93**	**34**	PKPbc	**PKPdf**	**21 14 58.5**	**-0.9**
	comp=E,0.5nm,0.6s,baz=337,slow=2.6,SNR=5.6						

*IDC **16** 21:03:57.0±1.0,3˚.31N×92˚.97E, h0km, mb3.7/12, mb1 3.8/15, mb1mx3.7/70, mbtmp3.7/15, ML3.7/3, Error ellipse: s-maj=33.9km s-min=17.0km az=41.0*

*ISCJB **16** 21:04:00.1±0.8,3˚.3N±0˚.1×93˚.01E±0˚.09, h33km, mb3.7/12, Error ellipse: s-maj=19.8km s-min=11.3km az=26.6*

ISC 16 21:04:02.3±1.0,**3˚.4N**±0˚.2×**93˚.0E**±0˚.1,**h35**km,**n15,** σ0§**82**/15,**mb3.7**/12,**Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**5.92**	**95**	Pn	**Pn**	**21 05 27.6**	**0.0**
	0.7nm,0.3s,baz=334,slow=17,SNR=4.6						
PALK	**Pallekele**	**12.87**	**288**	Pn	**Pn**	**21 07 02.7**	**-0.2**
	1.1nm,0.3s,baz=114,slow=9.0,SNR=6.6						
CMAR	**Chiang Mai Arr**	**16.10**	**21**	Pn	**Pn**	**21 07 45.5**	**-0.6**
	0.1nm,0.3s,baz=216,slow=12,SNR=12						
MKAR	**Makanchi Array**	**44.27**	**349**	P	**P**	**21 12 09.3**	**+0.8**
	1.6nm,0.6s,baz=166,slow=8.5,SNR=17						
SONM	**Songino Array**	**45.79**	**13**	P	**P**	**21 12 21.2**	**+0.4**
	0.4nm,0.6s,baz=195,slow=9.3,SNR=4.0						
WRA	**Warramunga Arr**	**46.71**	**121**	P	**P**	**21 12 27.6**	**-0.6**
	0.9nm,0.8s,baz=299,slow=8.6,SNR=4.1						
GEYT	**Alibeck**	**46.93**	**322**	P	**P**	**21 12 30.5**	**+0.8**
	1.6nm,0.6s,baz=146,slow=9.0,SNR=5.2						
ASAR	**Alice Springs**	**48.02**	**126**	P	**P**	**21 12 39.1**	**+0.7**
	0.1nm,0.6s,baz=310,slow=7.2,SNR=2.7						
KURBB	**Kurchatov Arra**	**48.67**	**348**	P	**P**	**21 12 43.5**	**+0.6**
	1.3nm,0.7s,baz=173,slow=7.4,SNR=12						
ZALV	**Zalesovo Beam**	**50.89**	**354**	P	**P**	**21 13 00.5**	**+0.8**
	1.0nm,0.4s,baz=180,slow=8.2,SNR=5.8						
BVAR	**Borovoye Array**	**52.93**	**343**	P	**P**	**21 13 13.0**	**-1.9**
	0.6nm,0.7s,baz=107,slow=5.0,SNR=4.7						
BRTR	**Keskin Array B**	**64.59**	**313**	P	**P**	**21 14 35.8**	**-0.7**
	0.3nm,0.7s,baz=113,slow=3.3,SNR=3.0						
MLR	**Muntele Rosu**	**71.65**	**317**	P	**P**	**21 15 20.7**	**0.0**
	0.3nm,0.6s,baz=193,slow=14,SNR=4.2						
TIXI	**Tiksi**	**71.86**	**11**	P	**P**	**21 15 20.9**	**-0.3**
	1.4nm,0.6s,baz=255,slow=2.2,SNR=9.3						
GERES	**GERESS Array B**	**80.46**	**319**	P	**P**	**21 16 10.8**	**+0.1**
	0.3nm,0.5s,baz=106,slow=4.3,SNR=5.1						

*KRNET **16** 21:09:43.6±0.1,40˚.16N×71˚.14E, h21km, mb2.4*
*SOME **16** 21:09:43.6, 40˚.25N×71˚.18E, h0km*
*NNC **16** 21:09:46.4±1.7,40˚.32N×71˚.26E, h9km±11km, mb2.9, mpv2.5, Error ellipse: s-maj=15.6km s-min=9.0km az=75.0*

ISC 16 21:09:43.3±1.2,**40˚.1N**±0˚.1×**71˚.19E**±0˚.04,**h5**km±16km,**n16,** σ1§**36**/28,**17C-6D, Tajikistan**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BTK	**Batken**	**0.28**	**269**↑	*i* P	**Pg**	**21 09 48.9**	**0.0**
BTK				↑*i* S	**Sg**	**21 09 53.4**	**+0.8**
	baz=47						
SFK	**Sufi-Kurgan**	**1.78**	**91**	↓P	**Pg**	**21 10 17.3**	**-0.1**
	0.3nm,0.1s						
SFK				↑S	**Sg**	**21 10 40.1**	**-0.5**
	5.3nm,0.2s						
SFK	**Sufi-Kurgan**	**1.78**	**91**↑	*i* P	**Pb**	**21 10 15.6**	**-1.0**
	baz=94						
SFK				↑*i* S	**Sg**	**21 10 40.0**	**-0.5**
	baz=94						
ARK	**Arkit**	**1.83**	**19**↓	*i* P	**Pn**	**21 10 15.0**	**-0.6**
	baz=21						
ARK				↓*i* S	**Sn**	**21 10 37.6**	**-1.6**
	baz=21						
ARSB	**Arslanbob**	**1.86**	**47**↑	*i* P	**Pn**	**21 10 15.3**	**-0.7**
	baz=50						
ARSB				↑*i* S	**Sb**	**21 10 39.6**	**-1.9**
	baz=50						
IUG	**Iuzhnay**	**2.26**	**338**	*e*P	**Pb**	**21 10 23.2**	**-1.4**
	12nm,0.3s						
IUG				*e*S	**Sb**	**21 10 52.1**	**-0.9**
	52nm,0.5s						
MNAS	**Manas**	**2.62**	**22**	↓Pg	**Pb**	**21 10 29.7**	**-1.1**
	1.6nm,0.3s						
MNAS				↑Lg	Lg	21 11 02.4	
	4.9nm,0.5s						
MNAS	**Manas**	**2.62**	**22**↑	*i* P	**Pn**	**21 10 26.9**	**+0.5**
	baz=23						
MNAS				↑*i* S	**Sn**	**21 10 58.4**	**-0.3**
	baz=23						
AML	**Almayashu**	**2.80**	**42**↑	*i* P	**Pn**	**21 10 29.9**	**+0.7**
	baz=44						
AML				↑*i* S	**Sn**	**21 11 04.0**	**+0.4**
	baz=44						
KK31	**Karatay Array**	**3.08**	**351**	Pg	**Pb**	**21 10 36.6**	**-2.0**
	0.4nm,0.2s,baz=93,slow=3.8,SNR=14						
KK31				↓Lg	Lg	21 11 16.9	
	5.7nm,0.3s,baz=152,slow=30,SNR=7.0						
MRKS	**Merke**	**3.09**	**29**	*e*P	**Pb**	**21 10 38.7**	**-0.1**
	2.2nm,0.3s						
MRKS				*e*S	**Sb**	**21 11 18.3**	**+1.5**
	12nm,0.5s						
BRLS	**Borolday**	**3.13**	**342**	*e*P	**Pn**	**21 10 35.2**	**+1.8**
	0.8nm,0.3s						
BRLS				*e*S	**Sn**	**21 11 12.3**	**+1.1**
	6.7nm,0.2s						
UCH	**Uchtor**	**3.31**	**48**↑	*e*P	**Pn**	**21 10 36.9**	**+0.6**
	baz=50						
UCH				↑*i* S	**Sn**	**21 11 16.4**	**+0.1**
	baz=50						
AAK	**Ala-Archa**	**3.58**	**43**	↓Pg	**Pb**	**21 10 48.6**	**+1.4**
	0.7nm,0.4s						
AAK				↑Lg	Lg	21 11 32.2	
	122nm,0.1s						
TKM2	**Tokmak 2**	**4.37**	**48**	↑Sn	**Sn**	**21 11 40.4**	**-1.6**
	0.9nm,0.5s						
TKM2				↑Lg	Lg	21 11 56.7	
	2.4nm,0.6s						
DGS	**Degeres**	**4.68**	**46**	*e*P	**Pb**	**21 11 06.3**	**+0.4**
	0.5nm,0.5s						
DGS				*e*S	**Sb**	**21 12 06.4**	**+3.8**
	2.4nm,0.8s						

*ISCJB **16** 21:12:07.1±0.3,24˚.40N±0˚.02×121˚.85E±0˚.02, h10km±2km, Error ellipse: s-maj=3.4km s-min=2.5km az=142.5*
*TAP **16** 21:12:07.2,24˚.41N×121˚.83E, h11km, ML2.6, C*
*JMA **16** 21:12:07.5±0.1,24˚.38N×121˚.80E, h15km±4km, M2.4*

ISC 16 21:12:07.1±0.8,**24˚.39N**±0˚.02×**121˚.83E**±0˚.02,**h11**km±5km, **n38,** σ0§**47**/65,**Taiwan**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ENAH	**Nanao**	**0.06**	**345**	*i* P	**Pg**	**21 12 09.4**	**+0.1**
ENAH				S	**Sg**	**21 12 10.8**	**-0.1**
	baz=333						
NANB	**Nanao**	**0.08**	**296**	P	**Pg**	**21 12 09.8**	**+0.2**
	baz=285						
NANB				S	**Sg**	**21 12 11.2**	**-0.1**
	baz=285						
ENA	**Nanau**	**0.08**	**293**	P	**Pg**	**21 12 09.8**	**+0.2**
	baz=284						
ENA				S	**Sg**	**21 12 11.4**	**-0.1**
	baz=284						
TWC	**Suao**	**0.21**	**6**	P	**Pg**	**21 12 11.9**	**+0.2**
	baz=16						
TWC				S	**Sg**	**21 12 14.7**	**0.0**
	baz=16						
NACB	**Ninganchiao**	**0.30**	**224**	P	**Pg**	**21 12 13.4**	**+0.2**
	baz=214						
NACB				S	**Sg**	**21 12 18.1**	**+0.8**
	baz=214						
EOS1	**EOS1**	**0.32**	**61**	*e*P	**Pg**	**21 12 14.2**	**+0.7**
	baz=54						
EOS1				*e*S	**Sb**	**21 12 19.4**	**-0.5**
	baz=54						
ENTT	**Nioudou**	**0.34**	**316**	*i* P	**Pg**	**21 12 14.4**	**+0.5**
	baz=315						
ENTT				S	**Sg**	**21 12 19.0**	**+0.5**
	baz=315						
TWE	**Neicheng**	**0.36**	**336**	P	**Pg**	**21 12 14.7**	**+0.5**
	baz=337						
TWE				*i* S	**Sg**	**21 12 19.2**	**+0.2**
	baz=337						
TWD	**Chiawan**	**0.38**	**214**	P	**Pg**	**21 12 14.8**	**+0.3**
	baz=212						
TWD				*e*S	**Sg**	**21 12 20.6**	**+1.0**
	baz=212						
NNSB	**Datong**	**0.41**	**275**	P	**Pg**	**21 12 15.6**	**+0.4**
	baz=273						
NNSB				S	**Sg**	**21 12 21.4**	**+0.8**
	baz=273						
NNS	**Nan Shan**	**0.41**	**276**	P	**Pg**	**21 12 15.7**	**+0.4**
	baz=274						
NNS				S	**Sg**	**21 12 21.3**	**+0.5**
	baz=274						
EGS		**0.46**	**12**	*e*P	**Pg**	**21 12 16.8**	**+0.7**
	baz=15						
NWLT	**Wulai**	**0.48**	**322**	P	**Pg**	**21 12 17.2**	**+0.6**
	baz=321						
YHNB	**Yeheng**	**0.49**	**304**	P	**Pb**	**21 12 17.4**	**-0.4**
	baz=308						
YHNB				S	**Sg**	**21 12 24.0**	**+0.6**
	baz=308						
WHF	**Hehuan Shan**	**0.57**	**244**	*e*P	**Pg**	**21 12 18.8**	**+0.5**
	baz=243						
WHF				*e*S	**Sb**	**21 12 27.0**	**-0.6**
	baz=243						
TDCB	**Techi**	**0.62**	**257**	*e*P	**Pg**	**21 12 19.7**	**+0.4**
	baz=249						
TDCB				*e*S	**Sb**	**21 12 28.3**	**-0.6**
	baz=249						
TWB1	**Santiao Chiao**	**0.63**	**14**	*e*P	**Pg**	**21 12 19.8**	**+0.5**
	baz=14						
TWB1				*e*S	**Sg**	**21 12 27.4**	**-0.2**
	baz=14						
TATO	**Taipei**	**0.66**	**332**	*e*P	**Pb**	**21 12 20.3**	**-0.2**
	baz=331						
TATO				*e*S	**Sg**	**21 12 28.6**	**+0.2**
	baz=331						

CHGB	**Renai**	**0.68**	**241**	*e*P	**Pb**	**21 12 21.0**	**-0.1**
	baz=240						
CHGB				*e*S	**Sb**	**21 12 30.4**	**-0.2**
	baz=240						
LIOB	**Emei**	**0.78**	**289**	*e*P	**Pb**	**21 12 23.1**	**+0.5**
	baz=294						
YM10	**YM10**	**0.80**	**342**	*e*P	**Pg**	**21 12 22.7**	**+0.2**
	baz=343						
YM07	**YM07**	**0.80**	**347**	*e*P	**Pg**	**21 12 22.3**	**-0.3**
	baz=337						
YM07				*e*S	**Sb**	**21 12 34.5**	**+0.6**
	baz=337						
YM04	**YM04**	**0.80**	**341**	*e*P	**Pb**	**21 12 23.6**	**+0.6**
	baz=341						
YM05	**YM05**	**0.80**	**343**	*e*P	**Pg**	**21 12 22.7**	**+0.1**
	baz=342						
YM05				*e*S	**Sb**	**21 12 33.9**	**-0.1**
	baz=342						
DPDB	**Guoxing**	**0.90**	**247**	*e*P	**Pn**	**21 12 25.3**	**-0.4**
	baz=246						
DPDB				*e*S	**Sb**	**21 12 37.1**	**+0.4**
	baz=246						
HGSD	**Ruisui**	**0.97**	**202**	*e*P	**Pg**	**21 12 26.0**	**+0.2**
	baz=217						
SMLT	**Sun Moon Lake**	**0.99**	**239**	*e*P	**Pb**	**21 12 26.0**	**-0.2**
	baz=238						
SMLT				*e*S	**Sn**	**21 12 40.3**	**-0.6**
	baz=238						
EHY	**Hungye**	**1.00**	**208**	*e*P	**Pb**	**21 12 26.1**	**-0.2**
	baz=218						
SSLB	**Suanglung**	**1.00**	**233**	*e*P	**Pb**	**21 12 26.2**	**-0.2**
	baz=233						
SSLB				*e*S	**Sg**	**21 12 39.7**	**+0.3**
	baz=233						
TYC	**Yuchr**	**1.01**	**241**	*e*P	**Pb**	**21 12 26.6**	**0.0**
	baz=239						
JYNG	**Yonagunijimaku**	**1.02**	**87**	P	**Pb**	**21 12 26.9**	**+0.1**
JYNG				S	**Sg**	**21 12 40.7**	**+0.6**
YULB	**Yu-li**	**1.11**	**206**	*e*P	**Pb**	**21 12 28.3**	**0.0**
	baz=215						
FULB	**Fuli**	**1.29**	**202**	*e*P	**Pb**	**21 12 31.4**	**+0.1**
	baz=214						
ELDTW	**Lidau**	**1.41**	**212**	*e*P	**Pb**	**21 12 33.6**	**+0.2**
	baz=210						
IRIF	**Iriomote-Funau**	**1.74**	**92**	P	**Pn**	**21 12 36.9**	**-0.3**
IRIF				S	**Sn**	**21 12 58.9**	**-0.4**
JKRS	**Kuro-shima**	**2.00**	**94**	P	**Pn**	**21 12 41.1**	**+0.4**
JKRS				S	**Sn**	**21 13 05.4**	**-0.3**
JIJ	**Ishigaki jima**	**2.11**	**90**	P	**Pn**	**21 12 42.3**	**0.0**
JIJ				S	**Sn**	**21 13 07.0**	**-1.6**
JISG	**Ishigakijimahi**	**2.27**	**85**	P	**Pn**	**21 12 44.4**	**-0.1**
JISG				S	**Sn**	**21 13 12.3**	**-0.2**

*ATH **16** 21:18:35.5,39˚.56N×25˚.83E, h26km±1km, ML2.1/8, Error ellipse: s-maj=1.9km s-min=0.8km az=234.0*
*ISCJB **16** 21:18:36.0±0.4,39˚.58N±0˚.02×25˚.82E±0˚.03, h9km±3km, Error ellipse: s-maj=4.1km s-min=3.1km az=172.6*
*CSEM **16** 21:18:36.3±0.1,39˚.57N×25˚.82E, h10km, ML2.7, Error ellipse: s-maj=2.5km s-min=1.9km az=81.0*
*ISK **16** 21:18:36.1,39˚.59N×25˚.86E, h9km, ML2.7/13*

ISC 16 21:18:36.1±0.9,**39˚.57N**±0˚.02×**25˚.82E**±0˚.02,**h12**km±8km, **n62,** σ0§**59**/87,**Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GPNR	**Gulpinar-Canak**	**0.27**	**116**	PG	**Pg**	**21 18 41.5**	**-0.2**
GPNR				SG	**Sg**	**21 18 45.4**	**0.0**
GPNR	**Gulpinar-Canak**	**0.27**	**116**	*e*Pg	**Pg**	**21 18 41.5**	**-0.2**
GPNR				*e*Sg	**Sg**	**21 18 45.4**	**0.0**
BOZC	**Bozcaada**	**0.32**	**34**	PG	**Pg**	**21 18 42.5**	**-0.2**
BOZC				SG	**Sg**	**21 18 47.2**	**+0.2**
BOZC	**Bozcaada**	**0.32**	**34**	*e*Pg	**Pg**	**21 18 42.5**	**-0.2**
BOZC				*e*Sg	**Sg**	**21 18 47.2**	**+0.2**
SIGR	**SIGRI**	**0.36**	**176**	PG	**Pb**	**21 18 44.1**	**-0.4**
SIGR				SG	**Sb**	**21 18 49.8**	**-0.3**
SIGR	**SIGRI**	**0.36**	**176**	P	**Pg**	**21 18 43.3**	**-0.1**
SIGR				S	**Sg**	**21 18 48.9**	**+0.7**
SIGR				AML	AML	21 18 49.6	
	comp=E,1432μm,0.3s						
SIGR				AML	AML	21 18 49.6	
	comp=N,1614μm,0.3s						
SIGR	**SIGRI**	**0.36**	**176**	P	**Pg**	**21 18 43.4**	**0.0**
SIGR	**SIGRI**	**0.36**	**176**	*e*Pg	**Pb**	**21 18 44.1**	**-0.4**
SIGR				S	**Sg**	**21 18 49.1**	**+0.9**
EZN	**Ezine**	**0.46**	**57**	PG	**Pg**	**21 18 45.1**	**-0.1**
EZN				SG	**Sg**	**21 18 51.4**	**0.0**
EZN	**Ezine**	**0.46**	**57**	*e*Pg	**Pg**	**21 18 45.1**	**-0.1**
EZN				*e*Sg	**Sg**	**21 18 51.4**	**0.0**
PRK	**Paraskevi**	**0.48**	**133**	P	**Pg**	**21 18 45.8**	**+0.3**
PRK				S	**Sg**	**21 18 51.7**	**-0.2**
PRK				AML	AML	21 18 52.9	
	comp=N,500μm,0.5s						
PRK				AML	AML	21 18 53.1	
	comp=E,916μm,0.5s						
PRK	**Paraskevi**	**0.48**	**133**	P	**Pg**	**21 18 45.6**	**+0.1**
PRK				S	**Sg**	**21 18 52.1**	**+0.2**
LIA	**Limnos Island**	**0.59**	**304**	P	**Pb**	**21 18 48.9**	**+0.6**
LIA				S	**Sb**	**21 18 56.4**	**-0.1**
LIA				AML	AML	21 18 57.0	
	comp=E,316μm,0.3s						
LIA				AML	AML	21 18 57.6	
	comp=N,222μm,0.2s						
LIA	**Limnos Island**	**0.59**	**304**	P	**Pb**	**21 18 48.3**	**0.0**
LIA				S	**Sb**	**21 18 56.5**	**-0.1**
GADA	**Gvkgeada**	**0.62**	**6**	PG	**Pg**	**21 18 48.0**	**-0.2**
GADA	**Gvkgeada**	**0.62**	**6**	*e*Pg	**Pg**	**21 18 48.0**	**-0.2**
EFSA	**Agios Efstrati**	**0.64**	**267**	P	**Pb**	**21 18 49.5**	**+0.3**
EFSA				S	**Sg

SMG					AML	AML	21 19 47.3	
	comp=N,73μm,0.7s							
SMG					AML	AML	21 19 48.4	
	comp=E,69μm,0.5s							
SMG	**Samos**	**2.03**	**157**	P	**Pn**		**21 19 10.9**	**+0.8**
DION	**Dionisos Attik**	**2.10**	**225**	P	**Pn**		**21 19 09.2**	**-1.9**
DION	**Dionisos Attik**	**2.10**	**225**	P	**Pn**		**21 19 10.1**	**-1.0**
SBT3	**Marmara-Eregli**	**2.11**	**51**	PN	**Pb**		**21 19 12.8**	**-1.3**
SBT3	**Marmara-Eregli**	**2.11**	**51**	*e*Pn	**Pb**		**21 19 12.8**	**-1.3**
SRS	**Serrai**	**2.30**	**313**	P	**Pn**		**21 19 14.4**	**+0.6**
SRS					AML	AML	21 19 51.2	
	comp=E,40μm,0.6s							
SRS					AML	AML	21 19 51.3	
	comp=N,30μm,0.6s							
SRS	**Serrai**	**2.30**	**313**	P	**Pn**		**21 19 14.2**	**+0.4**
NVR	**Nevrokopi**	**2.32**	**321**	P	**Pn**		**21 19 15.3**	**+1.2**
NVR					AML	AML	21 19 53.4	
	comp=E,24μm,0.9s							
NVR					AML	AML	21 19 54.3	
	comp=N,20μm,0.6s							
NVR	**Nevrokopi**	**2.32**	**321**	P	**Pn**		**21 19 14.9**	**+0.8**
EDRB	**Edirne**	**2.38**	**17**	PN	**Pn**		**21 19 16.4**	**+1.5**
EDRB	**Edirne**	**2.38**	**17**	*e*Pn	**Pn**		**21 19 16.4**	**+1.5**

SJA 16 21:24:07.4±0.6, 31°.63S×69°.06W, h112km±3km, ML3.1, MW3.6, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTLS	**Leoncito**	**0.27**	**230**	*i* P	Pn	21 24 24.6	+0.9
RTLS				IAML		21 24 37.2	
	comp=Z,496nm,0.1s						
RTLS				*i* S	Sn	21 24 37.3	+1.5
ZON	**Zonda**	**0.33**	**76**	*i* P	Pn	21 24 24.0	+0.4
RTCV	**Cerro Valdivia**	**0.50**	**118**	*i* P	Pn	21 24 25.5	+1.0
RTCV				*i* S	Sn	21 24 38.3	+0.9
AUSP	**Uspallata**	**0.66**	**205**	*i* P	Pn	21 24 27.2	+1.2
AMOG	**MOGNA**	**0.84**	**35**	*i* P	Pn	21 24 28.3	+1.0
AMOG				*i* S	Sn	21 24 43.4	+1.1
AROD	**Rodeo**	**1.50**	**346**	*i* P	Pn	21 24 36.4	+1.8
AROD				*i* S	Sn	21 24 57.1	+1.8
ACAN	**Cantantal**	**1.71**	**113**	*i* P	Pn	21 24 38.0	+1.0
APLL	**PUNTA DE LOS L**	**2.49**	**61**	*i* P	Pn	21 24 47.7	+0.8

*IDC **16** 21:31:01.2±1.4, 3°.80N×92°.60E, h0km, mb3.6/7, mb1 3.8/10, mb1mx3.5/68, mbtmp3.6/10, ML3.5/3, Error ellipse: s-maj=39.3km s-min=22.0km az=38.0*
*ISCJB **16** 21:31:04.3±1.1, 3°.9N±0°.2×92°.5E±0°.1, h33km, mb3.6/7, Error ellipse: s-maj=23.5km s-min=18.0km az=8.3*
ISC 16 21:31:05.8±1.1, 3°.8N±0°.2×92°.6E±0°.1, h35km, n10, σ1°.39/10, mb3.5/7, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**6.36**	**99**	Pn	**Pn**	**21 32 35.8**	**-1.5**
	2.7nm,0.3s,baz=322,slow=18,SNR=5.2						
PALK	**Pallekele**	**12.36**	**287**	Pn	**Pn**	**21 33 57.7**	**-1.6**
	0.3nm,0.3s,baz=114,slow=18,SNR=4.2						
PALK				Sn	Sn	21 36 05.3	-11
	2.1nm,0.3s,baz=110,slow=3.1,SNR=10						
CMAR	**Chiang Mai Arr**	**15.81**	**23**	Pn	**Pn**	**21 34 44.5**	**-1.5**
	0.0nm,0.3s,baz=216,slow=13,SNR=5.1						
MKAR	**Makanchi Array**	**43.75**	**350**	P	**P**	**21 39 08.8**	**+1.0**
	0.6nm,0.7s,baz=171,slow=8.8,SNR=8.2						
SONM	**Songino Array**	**45.43**	**13**	P	**P**	**21 39 22.1**	**+0.8**
	0.3nm,0.4s,baz=190,slow=11,SNR=3.5						
WRA	**Warramunga Arr**	**47.28**	**12**	P	**P**	**21 39 37.4**	**+1.2**
	0.4nm,0.8s,baz=297,slow=8.6,SNR=2.8						
KURBB	**Kurchatov Arra**	**48.14**	**348**	P	**P**	**21 39 43.4**	**+1.2**
	0.3nm,0.6s,baz=165,slow=7.3,SNR=5.0						
ZALV	**Zalesovo Beam**	**50.39**	**354**	P	**P**	**21 39 59.8**	**+0.4**
	1.4nm,0.4s,baz=173,slow=7.8,SNR=9.1						
MLR	**Muntele Rosu**	**71.05**	**317**	P	**P**	**21 42 21.8**	**+1.3**
	0.3nm,0.7s,baz=194,slow=12						
GERES	**GERESS Array B**	**79.86**	**319**	P	**P**	**21 43 10.8**	**-0.2**
	0.6nm,0.7s,baz=106,slow=4.3,SNR=4.9						

IDC 16 21:42:51.6±4.9, 24°.37S×179°.88W, h484km±39km, mb3.4/6, mb1 3.6/6, mb1mx3.1/47, mbtmp4.3/6, Error ellipse: s-maj=85.9km s-min=34.7km az=149.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**31.59**	**271**	P	P	21 48 34.1	+0.3
	8.1nm,0.4s,baz=55,slow=11,SNR=13						
STKA	**Stephens Creek**	**34.65**	**249**	P	P	21 48 60.0	+0.3
	1.8nm,0.5s,baz=96,slow=11,SNR=12						
ASAR	**Alice Springs**	**42.07**	**261**	P	P	21 49 60.0	-0.4
	1.1nm,0.4s,baz=94,slow=7.2,SNR=19						
WRA	**Warramunga Arr**	**42.48**	**267**	P	P	21 50 02.8	-0.8
	4.2nm,0.5s,baz=98,slow=8.3,SNR=79						
WRA				ScP	ScP	21 54 49.1	-1.0
	0.8nm,1.1s,baz=96,slow=4.1,SNR=5.0						
FITZ	**Fitzroy Crossi**	**2.00**	**266**	P	P	21 51 06.9	-0.6
	3.2nm,0.6s,baz=129,slow=7.3,SNR=9.3						
CMAR	**Chiang Mai Arr**	**89.79**	**290**	P	P	21 55 00.1	+1.7
	0.6nm,0.9s,baz=152,slow=4.6,SNR=4.1						
HFS	**Hagfors**	**143.03**	**349**	PKP	PKPab	22 01 26.4	-0.1
	1.3nm,0.4s,baz=58,slow=6.0,SNR=15						
AKASG	**Malin Array Be**	**145.43**	**327**	PKPbc	PKPdf	22 01 33.5	-0.1
	0.3nm,0.3s,baz=47,slow=4.2,SNR=4.0						
BRTR	**Keskin Array B**	**147.95**	**307**	PKPbc	PKPbc	22 01 41.8	-0.4
	0.3nm,0.4s,baz=128,slow=2.4,SNR=3.8						
MMAI	**Mount Meron Ar**	**147.99**	**294**	PKPbc	PKPbc	22 01 42.9	+0.5
	1.4nm,0.5s,baz=137,slow=3.4,SNR=5.9						

*IDC **16** 21:44:23.6±1.1, 1°.30N×91°.58E, h0km, mb3.7/8, mb1 3.9/10, mb1mx3.6/67, mbtmp3.7/10, ML3.8/2, MS3.8/3, Ms1 3.8/3, ms1mx3.0/63, Error ellipse: s-maj=38.7km s-min=19.5km az=48.0*
ISC 16 21:44:28.2±1.2, 1°.0N±0°.2×91°.4E±0°.2, h35km, n29, σ4°.81/18, mb3.8/8, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**7.75**	**76**	LR	LR	21 49 32.7	
	comp=Z,219nm,18.0s,baz=272,slow=41						
PALK	**Pallekele**	**12.37**	**301**	Pn	**Pn**	**21 47 19.4**	**-2.6**
	1.2nm,0.3s,baz=117,slow=12,SNR=12						
PALK				Sn	Sn	21 49 25.5	-13
	3.1nm,0.3s,baz=115,slow=5.1,SNR=5.9						
CMAR	**Chiang Mai Arr**	**18.91**	**23**	P	**P**	**21 48 41.9**	**-4.2**
	0.1nm,0.3s,baz=217,slow=13,SNR=11						
H08S2	**Diego Garcia H**	**20.70**	**245**	T	T	22 10 57.9	
	baz=64,slow=75,SNR=7.8						
H08S3	**Diego Garcia H**	**20.70**	**245**	T	T	22 10 55.5	
	baz=64,slow=75,SNR=18						
H08S1	**Diego Garcia H**	**20.71**	**245**	T	T	22 10 49.1	
	baz=64,slow=75,SNR=14						
ODAN	**Odare**	**26.04**	**352**	*e*P	**P**	**21 50 05.2**	**+6.6**
	49nm,0.9s						
RAMN	**Ramite**	**26.25**	**350**	*e*P	**P**	**21 50 07.7**	**+7.2**
	35nm,1.0s						
JIRN	**Jiri**	**27.02**	**350**	*e*P	**P**	**21 50 14.3**	**+6.7**
	55nm,1.0s						
DMN	**Daman**	**27.18**	**348**	*e*P	P	21 50 16.3	+7.4
GUN	**Gumba**	**27.32**	**349**	*e*P	**P**	**21 50 15.8**	**+5.6**
	26nm,1.1s						
KKN	**Kakani**	**27.32**	**348**	*e*P	**P**	**21 50 16.4**	**+6.3**
GKN	**Gorkha**	**27.66**	**347**	*e*P	**P**	**21 50 19.6**	**+6.5**
KOLN	**Koldanda**	**27.69**	**345**	*e*P	**P**	**21 50 20.1**	**+6.7**
PYUN	**Piuthan**	**28.16**	**344**	*e*P	P	21 50 24.1	+6.4
H01W3	**Cape Leeuwin H**	**41.53**	**151**	T	T	22 36 35.7	
	baz=327,slow=75,SNR=9.0						
H01W2	**Cape Leeuwin H**	**41.54**	**151**	T	T	22 36 38.7	
	baz=327,slow=75,SNR=7.8						
H01W1	**Cape Leeuwin H**	**41.54**	**151**	T	T	22 36 38.3	
	baz=327,slow=75,SNR=6.2						
MKAR	**Makanchi Array**	**46.34**	**351**	P	**P**	**21 52 48.5**	**-2.3**
	1.4nm,0.7s,baz=163,slow=8.6,SNR=12						
WRA	**Warramunga Arr**	**46.93**	**119**	P	**P**	**21 52 55.8**	**-0.1**
	0.8nm,0.6s,baz=297,slow=8.6,SNR=6.8						
ASAR	**Alice Springs**	**48.00**	**124**	P	**P**	**21 53 04.9**	**+0.7**
	0.1nm,0.4s,baz=302,slow=8.7,SNR=2.9						
SONM	**Songino Array**	**48.48**	**13**	P	**P**	**21 53 06.0**	**-1.6**
	2.8nm,0.6s,baz=192,slow=9.2,SNR=16						
KURBB	**Kurchatov Arra**	**50.68**	**349**	P	**P**	**21 53 21.6**	**-2.5**
	0.8nm,0.8s,baz=170,slow=6.6,SNR=7.3						
ZALV	**Zalesovo Beam**	**53.09**	**355**	P	**P**	**21 53 39.1**	**-2.9**
	0.9nm,0.6s,baz=188,slow=9.0,SNR=5.0						
BRTR	**Keskin Array B**	**65.04**	**314**	P	**P**	**21 55 06.8**	**+1.4**
	0.1nm,0.5s,baz=107,slow=5.0,SNR=2.6						
SUR	**Sutherland**	**74.19**	**236**	LR	LR	22 25 03.8	
	comp=Z,16nm,18.2s,baz=103,slow=33						
SEY	**Seymchan**	**76.31**	**24**	LR	LR	22 31 32.5	
	comp=Z,376nm,18.8s,baz=150,slow=37						
GERES	**GERESS Array B**	**81.19**	**319**	P	**P**	**21 56 40.1**	**-0.5**
	0.7nm,0.7s,baz=90,slow=5.3,SNR=4.7						
TXAR	**Lajitas Array**	**146.62**	**24**	PKPbc	**PKPbc**	**22 04 06.7**	**-0.3**
	0.2nm,0.5s,baz=9.1,slow=1.0,SNR=7.1						

*ISCJB **16** 21:50:50.0±0.5, 36°.51S±0°.10×79°.1E±0°.1, h12km, mb4.2/20, MS4.4/33, Error ellipse: s-maj=15.2km s-min=12.3km az=40.5*
*IDC **16** 21:50:50.1±0.6, 36°.40S×79°.19E, h0km, mb3.9/14, mb1 4.0/14, mb1mx3.9/57, mbtmp3.9/14, MS4.4/33, Ms1 4.4/33, ms1mx4.3/46, Error ellipse: s-maj=22.4km s-min=18.5km az=46.0*
*GCMT **16** 21:50:51.4±0.2, 36°.57S×78°.88E, h16km, MW5.2/111, Moment Tensor Solution. s53,c72; s111,c181; Duration: 1s0 Moment tensor: Scale 10^17 Nm; Mrr 0.04±.02; Mθθ -0.77±.02; Mφφ 0.73±.02; Mrθ 0.10±.04; Mθφ 0.11±.01; Mφr 0.00±.04; Best double couple: M0 0.76900×10^17 NP1:φs229.00000°, δ86.00000°, λ-5.00000°. NP2:φs319.00000°, δ85.00000°, λ-176.00000°. Principal axes: T 0.7450, Plg1.0000°, Azm274.00000°; N 0.0480, Plg83.0000°, Azm9.0000°; P -0.7930, Plg7.0000°, Azm184.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **16** 21:50:51.4±0.4, 36°.48S×79°.10E, h10km, mb4.5/6 Error ellipse: s-maj=14.2km s-min=11.4km az=38.0*
ISC 16 21:50:51.9±0.6, 36°.4S±0°.1×79°.0E±0°.1, h12km, n59, σ1°.56/28, mb4.2/20, MS4.5/33, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W2	**Cape Leeuwin H**	**28.50**	**97**	T	T	22 26 33.4	
	baz=255,slow=75,SNR=1462						
H01W3	**Cape Leeuwin H**	**28.50**	**97**	T	T	22 26 33.8	
	baz=255,slow=75,SNR=1283						
H01W1	**Cape Leeuwin H**	**28.52**	**97**	T	T	22 26 34.7	
	baz=255,slow=75,SNR=1369						
H08S2	**Diego Garcia H**	**29.27**	**347**	T	T	22 27 38.0	
	baz=170,slow=76,SNR=788						
H08S1	**Diego Garcia H**	**29.27**	**347**	T	T	22 27 38.2	
	baz=170,slow=76,SNR=767						
H08S3	**Diego Garcia H**	**29.29**	**347**	T	T	22 27 39.4	
	baz=170,slow=76,SNR=937						
OPO	**Ambohidratompo**	**33.15**	**294**	LR	LR	22 07 49.9	
	comp=Z,2μm,18.4s,baz=142,slow=31						
PSI	**Prapat**	**43.24**	**30**	LR	LR	22 13 02.9	
	comp=Z,1μm,21.1s,baz=206,slow=31						
BOSA	**Boshof**	**45.48**	**264**	P	**P**	**21 59 13.3**	**+2.0**
	3.3nm,1.0s,baz=100,slow=5.9,SNR=3.7						
BOSA				LR	LR	22 14 03.1	
	comp=Z,540nm,21.6s,baz=114,slow=30						
BATI	**Baumata**	**48.04**	**69**	LR	LR	22 17 02.6	
	comp=Z,359nm,21.7s,baz=245,slow=33						
ASAR	**Alice Springs**	**48.62**	**91**	P	**P**	**21 59 35.2**	**-0.5**
	3.1nm,1.2s,baz=230,slow=6.7,SNR=5.3						
ASAR				PcP	**PcP**	**22 01 00.1**	**-1.1**
	0.6nm,0.6s,baz=240,slow=2.8,SNR=5.7						
ASAR				LR	LR	22 17 46.7	
	comp=Z,1μm,19.8s,baz=250,slow=33						
LSZ	**Lusaka**	**49.71**	**281**	*e*P	**P**	**21 59 42.9**	**-1.3**
	5.0nm,0.8s						
WRA	**Warramunga Arr**	**50.81**	**87**	P	**P**	**21 59 51.1**	**-1.3**
	1.4nm,0.8s,baz=239,slow=7.4,SNR=4.5						
WRA				PcP	**PcP**	**22 01 08.8**	**-0.4**
	0.7nm,1.1s,baz=241,slow=2.7,SNR=2.7						
WRA				LR	LR	22 19 09.2	
	comp=Z,1μm,20.3s,baz=255,slow=34						
WRAB	**Tennant Creek**	**50.83**	**87**	*e*P	**P**	**21 59 52.2**	**-0.3**
	3.6nm,1.2s						
STKA	**Stephens Creek**	**51.21**	**104**	P	**P**	**21 59 54.5**	**-0.7**
	2.1nm,0.9s,baz=255,slow=16,SNR=2.6						
STKA				LR	LR	22 17 47.7	
	comp=Z,885nm,20.4s,baz=240,slow=32						
KMBO	**Kilima Mbogo**	**52.18**	**303**	P	**P**	**22 00 04.8**	**+1.8**
	0.3nm,0.3s,baz=158,slow=11,SNR=2.3						
VNDA	**Vanda**	**53.20**	**164**	P	**P**	**22 00 09.9**	**+0.6**
	2.6nm,0.9s,baz=271,slow=6.2,SNR=8.3						
SNAA	**Sanae**	**53.33**	**203**	LR	LR	22 17 56.8	
	comp=Z,705nm,21.7s,baz=71,slow=30						
QSPA	**South Pole Qui**	**53.72**	**180**	P	**P**	**22 00 12.8**	**-0.8**
	3.4nm,0.8s,baz=308,slow=0.6,SNR=8.3						
QSPA	**South Pole Qui**	**53.72**	**180**	*e*P	**P**	**22 00 12.3**	**-1.2**
SBA	**Scott Base**	**54.22**	**165**	*e*P	**P**	**22 00 15.1**	**-1.7**
	37nm,1.9s						
CMAR	**Chiang Mai Arr**	**57.77**	**23**	P	**P**	**22 00 42.4**	**-0.5**
	0.8nm,0.8s,baz=218,slow=6.9,SNR=5.1						
CMAR				LR	LR	22 22 01.2	
	comp=Z,263nm,20.5s,baz=219,slow=32						
ATD	**Arta Tunnel**	**58.62**	**317**	LR	LR	22 20 42.7	
	comp=Z,233nm,21.1s,baz=142,slow=30						
WSAR	**Wadi Sarin**	**62.40**	**339**	LR	LR	22 22 20.2	
	comp=Z,582nm,20.8s,baz=163,slow=30						
TGY	**Tagaytay City**	**63.98**	**46**	LR	LR	22 27 22.2	
	comp=Z,92nm,21.2s,baz=204,slow=34						
PMG	**Port Moresby**	**66.92**	**85**	LR	LR	22 28 30.0	
	comp=Z,863nm,21.6s,baz=226,slow=34						
RAYN	**Ar Rayn**	**67.50**	**327**	*e*P	**P**	**22 01 47.4**	**-0.5**
	1.6nm,0.8s						
DZM	**Mont Dzumac**	**75.27**	**107**	LR	LR	22 31 39.8	
	comp=Z,316nm,18.6s,baz=234,slow=33						
DZM	**Mont Dzumac**	**75.27**	**107**	*e*S	**S**	**22 12 20.4**	**+5.9**
	252nm,40.7s						
DZM	**Mont Dzumac**	**75.27**	**107**	*e*LR	LR	22 25 50.3	
	830nm,25.9s						
GEYT	**Aiibck**	**76.48**	**343**	LR	LR	22 32 57.1	
	comp=Z,84nm,18.2s,baz=165,slow=33						
JOW	**Kunigami**	**78.20**	**44**	LR	LR	22 34 11.9	
	comp=Z,95nm,21.8s,baz=346,slow=33						
AAK	**Ala-Archa**	**78.81**	**357**	*e*P	**P**	**22 02 55.1**	**+0.7**
	8.5nm,1.5s						
KKAR	**Karatay Array**	**79.54**	**354**	*e*P	**P**	**22 02 58.1**	**-0.2**
	4.3nm,0.7s						
MMAI	**Mount Meron Ar**	**80.21**	**324**	LR	LR	22 34 10.2	
	comp=Z,140nm,20.0s,baz=145,slow=32						
GNI	**Garni**	**82.47**	**334**	LR	LR	22 37 51.9	
	comp=Z,283nm,18.6s,baz=134,slow=34						
MKAR	**Makanchi Array**	**82.91**	**2**	P	**P**	**22 03 14.7**	**-1.4**
	0.9nm,0.7s,baz=165,slow=5.0,SNR=6.5						
MKAR				LR	LR	22 37 54.8	
	comp=Z,339nm,20.4s,baz=182,slow=34						
JNU	**Nakatsue**	**84.49**	**42**	LR	LR	22 34 33.4	
	comp=Z,54nm,21.9s,baz=291,slow=31						
KSAR	**Wonju Array Be**	**86.33**	**37**	P	**P**	**22 03 34.0**	**+0.4**
KSRS	**Korea Array**	**86.36**	**37**	P	**P**	**22 03 34.0**	**+0.3**
	0.4nm,0.3s,baz=191,slow=5.4,SNR=2.6						
KSRS				LR	LR	22 42 29.8	
	comp=Z,61nm,18.0s,baz=232,slow=36						
BRTR	**Keskin Array B**	**86.53**	**327**	P	**P**	**22 03 35.1**	**+0.5**
	0.9nm,0.9s,baz=161,slow=8.6,SNR=5.4						
BRTR				LR	LR	22 39 50.6	
	comp=Z,149nm,18.0s,baz=134,slow=34						
KURBB	**Kurchatov Arra**	**86.69**	**360**	P	**P**	**22 03 34.3**	**-0.6**
	1.2nm,0.8s,baz=192,slow=4.7,SNR=6.2						
KURK	**Kurchatov**	**86.78**	**360**	*e*P	**P**	**22 03 36.4**	**+1.0**
SONM	**Songino Array**	**87.40**	**18**	P	**P**	**22 03 38.9**	**+0.1**
	0.4nm,0.8s,baz=173,slow=2.5,SNR=3.1						
SONM				LR	LR	22 41 06.6	
	comp=Z,255nm,20.3s,baz=198,slow=34						
AKTO	**Aktyubinsk**	**88.46**	**347**	LR	LR	22 40 28.5	
	comp=Z,168nm,21.8s,baz=153,slow=34						
DBIC	**Dimbokro**	**88.99**	**279**	LR	LR	22 40 41.5	
	comp=Z,521nm,19.3s,baz=102,slow=34						
BVAR	**Bovoye Array**	**89.41**	**355**	P	**P**	**22 03 48.1**	**+0.2**
	0.4nm,0.7s,baz=188,slow=4.4,SNR=3.2						
BVAR				LR	LR	22 41 56.6	
	comp=Z,208nm,19.4s,baz=173,slow=34						
JHJ	**Hachijo jima 2**	**89.50**	**47**	LR	LR	22 43 47.8	
	comp=Z,36nm,18.1s,baz=270,slow=36						
ZALV	**Zalesovo Beam**	**90.16**	**3**	LR	LR	22 41 37.2	
	comp=Z,276nm,21.9s,baz=248,slow=34						
MJAR	**Matsushiro Arr**	**91.04**	**44**	LR	LR	22 44 06.8	
	comp=Z,44nm,19.8s,baz=265,slow=35						
USRK	**Ussuriysk Ar.**	**93.54**	**35**	LR	LR	22 46 29.9	
	comp=Z,83nm,18.5s,baz=216,slow=36						
MLR	**Muntele Rosu**	**94.55**	**326**	LR	LR	22 45 08.5	
	comp=Z,27nm,19.1s,baz=122,slow=34						
KEST	**Kesra**	**96.64**	**310**	LR	LR	22 46 47.3	
	comp=Z,191nm,19.2s,baz=232,slow=35						
AFI	**Afiamalu**	**96.70**	**113**	LR	LR	22 39 47.4	
	comp=Z,82nm,20.6s,baz=248,slow=30						
PPT2	**Papeete2**	**109.35**	**131**	*e*LR	LR	22 41 47.4	
	158nm,24.8s						
RKT	**Rikitea**	**112.63**	**146**	*e*LR	LR	22 43 19.8	
	250nm,31.8s						
RKT	**Rikitea**	**112.63**	**146**	*e*T	T	00 12 01.1	
	7.1nm,0.2s						
ILAR	**Eielson Array**	**140.80**	**29**	PKP	**PKPdf**	**22 10 21.9**	**+1.2**
	0.4nm,1.0s,baz=249,slow=2.9,SNR=4.3						
YKA	**Yellowknife Ar**	**152.58**	**14**	PKPbc	**PKPbc**	**22 10 45.9**	**-1.4**
	0.5nm,0.9s,baz=347,slow=2.2,SNR=7.4						

SJA 16 21:51:51.4±0.4, 36°.90S×73°.74W, h21km±5km, ML3.4, MW3.5, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**1.08**	**45**	*i* P	Pb	21 52 12.2	+0.7
COCH				*i* S	Sn	21 52 25.6	-0.1
CCHI	**Chillan**	**1.37**	**78**	*i* P	Pb	21 52 17.1	+0.8
CCHI				*i* S	Sb	21 52 36.4	+3.1
CANA	**Caviahue**	**2.35**	**116**	*i* P	Pb	21 52 31.6	-1.4
CANA				*i* S	Sb	21 53 01.1	-0.6
CANA				IAML		21 53 07.4	
	comp=Z,191nm,0.5s						
PLCA	**Paso Flores**	**4.56**	**148**	*i* P	Pn	21 53 03.0	+3.7

*DDA **16** 22:00:56.1, 37°.89N×29°.29E, h7km, Md2.6*
*CSEM **16** 22:00:57.1±0.2, 37°.94N×29°.27E, h2km, ML2.6, Error ellipse: s-maj=5.2km s-min=4.8km az=73.0*
ISK 16 22:00:57.4, 37°.95N×29°.27E, h5km, ML2.6/10, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DENT	**Denizli**	**0.27**	**223**	PG	Pg	22 01 03.1	+0.3
DENT	**Denizli**	**0.27**	**223**	*e*Pg	Pg	22 01 03.1	+0.3
KHL	**Karahalli**	**0.42**	**28**	PG	Pb	22 01 06.0	-0.7
KHL				SG	Sg	22 01 11.5	+0.5
KHL	**Karahalli**	**0.42**	**28**	*e*Pg	Pb	22 01 06.6	-0.7
KHL				*e*Sg	Sg	22 01 11.5	+0.5
KHAL	**Karahalli**	**0.45**	**23**	*i* P	Pg	22 01 05.2	-0.9
KHAL	**Karahalli**	**0.45**	**23**	P	Pg	22 01 05.2	-0.9
TAVA	**DENIZLI_Tavas**	**0.56**	**210**	*i* P	Pg	22 01 06.8	-1.4
TAVA	**DENIZLI_Tavas**	**0.56**	**210**	P	Pg	22 01 06.8	-1.5
BRDR	**BURDUR-Merkez**	**0.68**	**112**	*i* P	Pg	22 01 09.1	-1.3
BRDR				*i* S	Sb	22 01 20.4	-1.0
BRDR	**BURDUR-Merkez**	**0.68**	**112**	P	Pg	22 01 09.1	-1.3
BRDR				S	Sb	22 01 20.4	-1.0
KULA	**Kula-Manisa**	**0.74**	**320**	PG	Pg	22 01 11.9	+0.3
KULA				SG	Sb	22 01 23.2	0.0
KULA	**Kula-Manisa**	**0.74**	**320**	*e*Pg	Pg	22 01 11.9	+0.3
KULA				*e*Sg	Sb	22 01 23.2	0.0
KZIL	**AFYON_Kizioren**	**0.75**	**66**	*i* P	Pg	22 01 11.4	-0.4
KZIL	**AFYON_Kizioren**	**0.75**	**66**	P	Pg	22 01 11.4	-0.4
GOLH	**Golhisar**	**0.75**	**162**	*i* P	Pg	22 01 08.9	-3.0
GOLH				*i* S	Sb	22 01 22.8	-0.8
GOLH	**Golhisar**	**0.75**	**162**	P	Pg	22 01 08.9	-2.9
GOLH				S	Sb	22 01 22.8	-0.8
MANT	**Manisa**	**0.78**	**314**	*i* P	Pg	22 01 12.7	+0.3
MANT	**Manisa**	**0.78**	**314**	P	Pg	22 01 12.4	+0.1
MANT	**Manisa**	**0.78**	**314**	*i* P	Pg	22 01 12.4	0.0
ISP	**Isparta**	**1.00**	**97**	PG	Pg	22 01 16.7	+0.1
ISP	**Isparta**	**1.00**	**97**	*e*Pg	Pg	22 01 16.7	+0.1
AYDB	**Zeytinkoy-Aydi**	**1.09**	**270**	PN	Pg	22 01 17.9	-0.4
AYDB				SN	Sn	22 01 34.2	-0.7
AYDB	**Zeytinkoy-Aydi**	**1.09**	**270**	*e*Pn	Pg	22 01 17.9	-0.4
AYDB				*e*Sn	Sn	22 01 34.2	-0.7
YER	**Yerkesik**	**1.13**	**224**	PN	Pb	22 01 19.5	0.0
YER	**Yerkesik**	**1.13**	**224**	*e*Pn	Pb	22 01 19.5	0.0
SIMA	**Simav-Kutahya**	**1.15**	**349**	PN	Pb	22 01 19.7	-0.1
SIMA	**Simav-Kutahya**	**1.15**	**349**	*e*Pn	Pb	22 01 19.7	-0.1
SHUT	**Suhut-Afyon**	**1.17**	**59**	PN	Pn	22 01 20.6	+0.1
SHUT	**Suhut-Afyon**	**1.17**	**59**	*e*Pn	Pn	22 01 20.6	+0.1
TJRN	**Turunc**	**1.20**	**206**	PN	Pn	22 01 24.0	+3.2
KORT	**Korkueli**	**1.28**	**138**	PN	Pb	22 01 22.4	+0.3
KORT	**Korkueli**	**1.28**	**138**	*e*Pn	Pb	22 01 22.4	+0.3
ELL	**Elmali**	**1.31**	**157**	PN	Pb	22 01 23.2	+0.7
ELL	**Elmali**	**1.31**	**157**	*e*

KZIL	AFYON_Kizioren	1.16	137	*i* P		Pn	22 11 04.7	-0.2
KZIL	AFYON_Kizioren	1.16	137	P		Pn	22 11 04.7	-0.2
CAVI	Cavuskoy	1.23	26	PN		Pg	22 11 07.0	+1.1
CAVI	Cavuskoy	1.23	26	*e*Pn		Pg	22 11 07.0	+1.1
SHUT	Suhut-Afyon	1.24	116	PN		Pg	22 11 06.8	+0.7
SHUT	Suhut-Afyon	1.24	116	*e*Pn		Pg	22 11 06.8	+0.7
MDNY	Mudanya-Bursa	1.28	351	PN		Pg	22 11 07.0	+0.1
MDNY	Mudanya-Bursa	1.28	351	*e*Pn		Pg	22 11 07.0	+0.1
KCTX	Karacabey (Bur	1.30	333	PN		Pg	22 11 07.6	+0.2
KCTX	Karacabey (Bur	1.30	333	*e*Pn		Pg	22 11 07.6	+0.2
ADVT	Abdulvahap	1.41	19	PN		Pg	22 11 09.9	+0.5
ADVT	Abdulvahap	1.41	19	*e*Pn		Pg	22 11 09.9	+0.5
GONE	Gonen-Balikesi	1.46	311	PN		Pg	22 11 10.5	+0.1
GONE	Gonen-Balikesi	1.46	311	*e*Pn		Pg	22 11 10.5	+0.1
YLV	Yalova	1.47	7	PN		Pg	22 11 10.8	+0.2
YLV	Yalova	1.47	7	*e*Pn		Pg	22 11 10.8	+0.2
ARMT	Armutlu	1.48	352	PN		Pg	22 11 10.8	+0.2
ARMT	Armutlu	1.48	352	*e*Pn		Pg	22 11 10.8	+0.2
AYDB	Zeytinkoy-Aydi	1.51	220	PN		Pb	22 11 10.8	+0.1
AYDB	Zeytinkoy-Aydi	1.51	220	*e*Pn		Pb	22 11 10.8	+0.1
EDC	Edincik	1.58	322	PN		Pg	22 11 12.4	-0.3
EDC	Edincik	1.58	322	*e*Pn		Pg	22 11 12.4	-0.3
GULT	Gulveren	1.70	38	PN		Pb	22 11 14.3	+0.4
GULT	Gulveren	1.70	38	*e*Pn		Pb	22 11 14.3	+0.4
KRBG	Karabiga-Canak	1.91	313	PN		Pb	22 11 16.9	-0.5
KRBG	Karabiga-Canak	1.91	313	*e*Pn		Pb	22 11 16.9	-0.5
ISK	Istanbul-Kandi	1.96	358	PN		Pb	22 11 17.5	-0.7
ISK	Istanbul-Kandi	1.96	358	*e*Pn		Pb	22 11 17.5	-0.7
SBT3	Marmara-Eregli	1.99	334	PN		Pb	22 11 18.1	-0.5
SBT3	Marmara-Eregli	1.99	334	*e*Pn		Pb	22 11 18.1	-0.5
SILT	Sile	2.08	11	PN		Pb	22 11 19.9	-0.4
SILT	Sile	2.08	11	*e*Pn		Pb	22 11 19.9	-0.4
KLYT	Kilyos	2.15	358	PN		Pb	22 11 20.7	-0.7
KLYT	Kilyos	2.15	358	*e*Pn		Pb	22 11 20.7	-0.7
RKY	Sarkoy-Tekirda	2.18	317	PN		Pb	22 11 21.3	-0.8
RKY	Sarkoy-Tekirda	2.18	317	*e*Pn		Pb	22 11 21.3	-0.8
CTKS	Kestanelik-??a	2.18	348	PN		Pb	22 11 21.3	-0.7
CTKS	Kestanelik-??a	2.18	348	*e*Pn		Pb	22 11 21.3	-0.7
LPK	Lapseki	2.23	305	PN		Pb	22 11 21.8	-1.0
LPK	Lapseki	2.23	305	*e*Pn		Pb	22 11 21.8	-1.0

IDC 16 22:17:03.0±1.9, 36°53S×78°64E, h0km, mb3.7/7, mb1 3.8/7, mb1mx3.5/57, mbtmp3.7/7, MS3.8/6, Ms1 3.8/6, ms1mx3.3/51, Error ellipse: s-maj=68.9km s-min=28.1km az=33.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W2	**Cape Leeuwin H**	**28.77**	**97**	T	T	22 52 53.0	
	baz=255,slow=75,SNR=220						
H01W3	**Cape Leeuwin H**	**28.78**	**97**	T	T	22 52 53.4	
	baz=255,slow=75,SNR=186						
H01W1	**Cape Leeuwin H**	**28.79**	**97**	T	T	22 52 54.3	
	baz=255,slow=75,SNR=194						
H08S2	**Diego Garcia H**	**29.30**	**347**	T	T	22 53 47.6	
	baz=170,slow=76,SNR=105						
H08S1	**Diego Garcia H**	**29.30**	**347**	T	T	22 53 47.9	
	baz=170,slow=76,SNR=97						
H08S3	**Diego Garcia H**	**29.32**	**347**	T	T	22 53 49.0	
	baz=170,slow=76,SNR=115						
H08N1	**Diego Garcia H**	**30.85**	**345**	T	T	22 56 07.2	
	baz=248,slow=72,SNR=8.4						
H08N3	**Diego Garcia H**	**30.85**	**345**	T	T	22 55 46.1	
	baz=248,slow=72,SNR=16						
H08N2	**Diego Garcia H**	**30.87**	**345**	T	T	22 55 47.5	
	baz=248,slow=72,SNR=12						
BOSA	**Boshof**	**45.19**	**264**	LR	LR	22 40 18.6	
	comp=Z,143nm,20.6s,baz=122,slow=31						
ASAR	**Alice Springs**	**48.90**	**91**	P	P	22 25 50.3	-0.5
	0.6nm,0.9s,baz=240,slow=5.2,SNR=3.6						
ASAR				PcP	PcP	22 27 15.1	-0.3
	0.4nm,0.8s,baz=240,slow=3.1,SNR=3.0						
WRA	**Warramunga Arr**	**51.10**	**87**	P	P	22 26 07.0	-0.6
	1.1nm,1.1s,baz=238,slow=7.4,SNR=3.4						
WRA				PcP	PcP	22 27 24.8	+1.4
	0.4nm,1.0s,baz=242,slow=2.7,SNR=3.1						
STKA	**Stephens Creek**	**51.46**	**104**	LR	LR	22 42 45.7	
	comp=Z,123nm,21.7s,baz=236,slow=30						
CMAR	**Chiang Mai Arr**	**57.96**	**23**	P	P	22 26 58.1	+0.8
	0.5nm,0.7s,baz=195,slow=6.5,SNR=2.8						
CMAR				LR	LR	22 49 31.3	
	comp=Z,56nm,18.7s,baz=185,slow=34						
PMG	**Port Moresby**	**67.22**	**85**	LR	LR	22 54 33.6	
	comp=Z,90nm,20.9s,baz=226,slow=34						
MKAR	**Makanchi Array**	**83.02**	**3**	P	P	22 29 28.3	-1.4
	0.6nm,0.8s,baz=180,slow=5.8,SNR=5.7						
MKAR				LR	LR	23 04 30.6	
	comp=Z,43nm,19.2s,baz=189,slow=34						
BRTR	**Keskin Array B**	**86.45**	**327**	P	P	22 29 47.6	+0.2
	0.3nm,0.7s,baz=145,slow=5.3,SNR=3.2						
KURBB	**Kurchatov Arra**	**86.78**	**360**	P	P	22 29 49.4	+0.9
	0.8nm,0.6s,baz=192,slow=4.6,SNR=6.4						
DBIC	**Dimbokro**	**88.72**	**279**	LR	LR	23 07 28.2	
	comp=Z,51nm,19.1s,baz=134,slow=34						
BVAR	**Borovoye Array**	**89.48**	**355**	P	P	22 30 00.3	-1.0
	0.2nm,0.6s,baz=160,slow=4.6,SNR=2.3						
YKA	**Yellowknife Ar**	**152.74**	**13**	PKPbc	PKPbc	22 37 00.4	-0.4
	0.5nm,1.1s,baz=322,slow=1.9,SNR=3.6						

IDC 16 22:29:35.2±3.3, 2°83S×139°55E, h0km, mb3.5/3, mb1 3.7/4, mb1mx3.3/46, mbtmp3.5/4, ML3.3/1, MS3.7/1, Ms1 3.7/1, ms1mx2.8/38, Error ellipse: s-maj=115.6km s-min=26.2km az=94.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.75**	**196**	P	Pn	22 33 42.5	-1.5
	0.1nm,0.3s,baz=17,slow=12,SNR=3.7						
FITZ	**Fitzroy Crossi**	**20.40**	**221**	P	P	22 34 14.0	+0.1
	1.3nm,0.8s,baz=40,slow=11,SNR=4.9						
ASAR	**Alice Springs**	**21.02**	**194**	P	P	22 34 25.4	+0.4
	1.2nm,0.8s,baz=19,slow=9.8,SNR=9.2						
ASAR				LR	LR	22 44 03.1	
	comp=Z,168nm,18.4s,baz=220,slow=40						
SONM	**Songino Array**	**58.19**	**334**	P	P	22 39 31.3	0.0
	0.6nm,0.5s,baz=142,slow=7.3,SNR=6.4						

ISCJB ***16*** *22:30:55.0±0.8, 42°.65N×144°.63E±0°.05, h90km±7km, Error ellipse: s-maj=10.8km s-min=4.5km az=151.9*
JMA ***16*** *22:30:56.0±0.1, 42°.68N×144°.60E, h87km±1km, M3.1*
SKHL ***16*** *22:30:56.5±0.2, 42°.39N×145°.03E, h45km±7km, mb4.5/4*
MOS ***16*** *22:30:57.0±2.8, 42°.40N×145°.00E, h45km, mb4.2/1, Error ellipse: s-maj=99.9km s-min=15.0km az=70.9*

ISC 16 22:30:54.7±1.5, 42°62N±0°.07×144°65E±0°.04, h93km±11km, n25, σ0°91/43, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAK	**Akkeshi**	**0.38**	**6**	P	**Pn**	**22 31 09.3**	**+0.4**
JAK				*e*S	**Sn**	**22 31 19.2**	**-0.2**
JOB	**Onbets**	**0.66**	**296**	P	**Pn**	**22 31 11.7**	**+0.6**
JOB				*e*S	**Sn**	**22 31 23.1**	**-0.2**
JAR	**Ashorobuto**	**0.94**	**317**	P	**Pn**	**22 31 14.2**	**+0.3**
JAR				*e*S	**Sn**	**22 31 27.4**	**-0.8**
JCH	**Churui**	**0.95**	**270**	P	**Pn**	**22 31 14.7**	**+0.7**
JCH				*e*S	**Sn**	**22 31 27.9**	**-0.5**
JNK	**Nakash**	**0.97**	**3**	P	**Pn**	**22 31 14.1**	**-0.2**
JNK				*e*S	**Sn**	**22 31 27.1**	**-1.8**
NEM2	**Nemuro 2**	**1.10**	**47**	P	**Pn**	**22 31 16.1**	**+0.4**
NEM2				*e*S	**Sn**	**22 31 30.5**	**-1.0**
JEM	**Erimo**	**1.26**	**242**	P	**Pn**	**22 31 19.4**	**+1.8**
GLVR	**Golovnino**	**1.29**	**29**	*e*P	**Pn**	**22 31 19.0**	**+1.0**
GLVR				*e*S	**Sn**	**22 31 35.9**	**+0.4**
GLVR				pmax	pmax		
	comp=N,82nm,0.1s						
GLVR				pmax	pmax		
	comp=E,100nm,0.1s						
GLVR				pmax	pmax		
	comp=Z,217nm,0.1s						
GLVR				smax	smax		
	comp=N,703nm,0.1s						
GLVR				smax	smax		
	comp=E,1μm,0.3s						
JRA	**Rausu**	**1.37**	**15**	P	**Pn**	**22 31 19.6**	**+0.7**
JRA				*e*S	**Sn**	**22 31 36.9**	**-0.3**
JNBK	**Urakawa-nobuka**	**1.44**	**257**	P	**Pn**	**22 31 20.1**	**+0.3**
JNBK				*e*S	**Sn**	**22 31 37.7**	**-1.1**
JTKR	**Abashiri--Toko**	**1.46**	**339**	P	**Pn**	**22 31 20.8**	**+0.8**
JTKR				*e*S	**Sn**	**22 31 39.2**	**0.0**
GRPR	**Tuman**	**1.60**	**30**	*e*PN	**Pn**	**22 31 22.9**	**+1.0**
GRPR				*e*S	**Sn**	**22 31 42.3**	**-0.2**
GRPR				pmax	pmax		
	comp=Z,345nm,0.3s						
GRPR				pmax	pmax		
	comp=N,132nm,0.2s						
GRPR				pmax	pmax		
	comp=E,169nm,0.2s						
GRPR				smax	smax		
	comp=N,1μm,0.2s						
GRPR				smax	smax		
	comp=E,1μm,0.2s						
JFR	**Furan**	**1.60**	**291**	P	**Pn**	**22 31 22.2**	**+0.3**
LAGR	**Lagunnoye**	**1.66**	**30**	*e*P	**Pn**	**22 31 24.0**	**+1.4**
LAGR				AMB	AMB	22 31 24.7	
	comp=E,67nm,0.2s						
LAGR				*e*S	**Sn**	**22 31 44.5**	**+0.7**
LAGR				A	A	22 31 46.2	
	comp=E,252nm,0.2s						
LAGR				A	A	22 31 46.2	
	comp=E,700nm,0.2s						
LAGR	**Lagunnoye**	**1.66**	**30**	*e*PN	**Pn**	**22 31 24.0**	**+1.4**
LAGR				*e*S	**Sn**	**22 31 44.5**	**+0.7**
LAGR				pmax	pmax		
	comp=N,222nm,0.4s						
LAGR				pmax	pmax		
	comp=Z,669nm,0.4s						
LAGR				pmax	pmax		
	comp=E,104nm,0.1s						
LAGR				smax	smax		
	comp=N,252nm,0.1s						
LAGR				smax	smax		
	comp=E,697nm,0.2s						
YUK	**Yuzh-Kuril'sk**	**1.67**	**32**	*e*P	**Pn**	**22 31 23.8**	**+1.1**
YUK				AMB	AMB	22 31 24.1	
	comp=E,270nm,0.3s						
YUK				*e*S	**Sn**	**22 31 44.2**	**+0.2**
YUK				A	A	22 31 45.0	
	comp=E,580nm,0.3s						
YUK				A	A	22 31 45.0	
	comp=E,340nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**1.67**	**32**	*e*PN	**Pn**	**22 31 23.8**	**+1.1**
YUK				*e*S	**Sn**	**22 31 44.2**	**+0.2**
YUK				pmax	pmax		
	comp=Z,370nm,0.2s						
YUK				pmax	pmax		
	comp=E,70nm,0.1s						
YUK				pmax	pmax		
	comp=N,78nm,0.2s						
YUK				smax	smax		
	comp=N,131nm,0.1s						
YUK				smax	smax		
	comp=E,357nm,0.3s						
JMP	**Maruseppu**	**1.68**	**326**	P	**Pn**	**22 31 22.8**	**-0.1**
JBT2	**Biratori 2**	**1.69**	**276**	P	**Pn**	**22 31 22.9**	**-0.1**
JKK2	**Kamakawa 2**	**1.87**	**313**	P	**Pn**	**22 31 26.0**	**+0.7**
JKK2				*e*S	**Sn**	**22 31 47.9**	**-0.7**
SHO	**Shikotan**	**2.03**	**51**	*e*P	**Pn**	**22 31 27.1**	**-0.3**
SHO				AMB	AMB	22 31 27.7	
	comp=E,29nm,0.2s						
SHO				*e*S	**Sn**	**22 31 50.3**	**-2.0**
SHO				A	A	22 31 52.0	
	comp=E,270nm,0.2s						
SHO				A	A	22 31 52.0	
	comp=E,240nm,0.2s						
SHO	**Shikotan**	**2.03**	**51**	*e*PN	**Pn**	**22 31 27.1**	**-0.3**
SHO				*e*S	**Sn**	**22 31 50.3**	**-2.0**
SHO				pmax	pmax		
	comp=Z,42nm,0.4s						
SHO				pmax	pmax		
	comp=N,10.0nm,0.2s						
SHO				pmax	pmax		
	comp=E,14nm,0.3s						
SHO				smax	smax		
	comp=N,127nm,0.2s						
SHO				smax	smax		
	comp=E,231nm,0.2s						
YSS	**Yuzh-Sakhalins**	**4.54**	**343**	*e*P	Pn	22 32 08.3	+7.2
SKR	**Severo-Kuril's**	**11.27**	**40**	*e*PN	**Pn**	**22 33 32.4**	**-0.1**

ISCJB ***16*** *22:34:01.1±0.4, 26°.55N±0°.07×126°.20E±0°.06, h124km±5km, mb3.6/10, Error ellipse: s-maj=14.0km s-min=3.8km az=141.3*
JMA ***16*** *22:34:02.9±0.2, 26°.49N×126°.26E, h119km±2km, M3.7*
IDC ***16*** *22:34:02.3±2.2, 26°.57N×126°.15E, h119km±21km, mb3.4/10, mb1 3.5/11, mb1mx3.2/66, mbtmp3.7/11, Error ellipse: s-maj=27.2km s-min=15.9km az=63.0*

ISC 16 22:34:02.4±0.7, 26°55N±0°.08×126°20E±0°.06, h120km±8km, n27, σ0°88/47, mb3.5/10, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKE	**Kume jima 2**	**0.57**	**113**	P	**Pn**	**22 34 21.0**	**+0.3**
JKE				S	**Sn**	**22 34 34.0**	**-0.6**
JAGN	**Aguni-jima**	**0.93**	**87**	P	**Pn**	**22 34 23.9**	**+0.2**
JAGN				S	**Sn**	**22 34 39.1**	**-0.8**
JJT3	**Tamagusuku3**	**1.47**	**105**	P	**Pn**	**22 34 30.2**	**+0.7**
JJT3				S	**Sn**	**22 34 50.0**	**-0.1**
JNTH	**Nagotoyohara**	**1.63**	**91**	P	**Pn**	**22 34 31.6**	**+0.3**
JNTH				S	**Sn**	**22 34 51.7**	**-1.6**
JIH	**Iheya**	**1.65**	**72**	P	**Pn**	**22 34 32.0**	**+0.5**
JIH				S	**Sn**	**22 34 52.8**	**-1.0**
JIKM	**Ikemajima**	**1.83**	**208**	P	**Pn**	**22 34 34.2**	**+0.4**
JIKM				S	**Sn**	**22 34 57.4**	**-0.3**
JOW	**Kunigami**	**1.88**	**81**	P	**Pn**	**22 34 34.4**	**+0.1**
	30nm,0.3s,baz=91,slow=19,SNR=78						
JOW				S	**Sn**	**22 34 57.2**	**-1.4**
	425nm,0.3s,baz=298,slow=19,SNR=87						
JOW	**Kunigami**	**1.88**	**81**	P	**Pn**	**22 34 34.4**	**+0.1**
JOW				S	**Sn**	**22 34 57.9**	**-0.8**
JMJ	**Miyako jima 2**	**1.91**	**206**	P	**Pn**	**22 34 35.2**	**+0.5**
JMJ				*e*S	**Sn**	**22 34 58.7**	**-0.7**
JOGS	**Gusukube**	**1.92**	**202**	P	**Pn**	**22 34 35.4**	**+0.6**
JOGS				*e*S	**Sn**	**22 35 00.1**	**+0.5**
JIRB	**Irabujima**	**1.95**	**209**	P	**Pn**	**22 34 35.3**	**+0.1**
JIRB				S	**Sn**	**22 34 59.5**	**-0.7**
JOKE	**Okinoerabujima**	**2.26**	**68**	P	**Pn**	**22 34 39.0**	**-0.1**
JOKE				*e*S	**Sn**	**22 35 05.9**	**-1.4**
JTJ	**Tarama**	**2.33**	**216**	P	**Pn**	**22 34 40.3**	**+0.3**
JTJ				*e*S	**Sn**	**22 35 07.8**	**-1.1**
JISG	**Ishigakijimahi**	**2.59**	**222**	P	**Pn**	**22 34 43.6**	**+0.2**
JISG				S	**Sn**	**22 35 13.4**	**-1.5**
JTK	**Tokunoshima**	**2.74**	**63**	P	**Pn**	**22 34 45.2**	**-0.1**
JTK				S	**Sn**	**22 35 17.3**	**-1.0**
JIJ	**Ishigaki jima**	**2.86**	**221**	P	**Pn**	**22 34 46.5**	**-0.4**
JIJ				S	**Sn**	**22 35 18.5**	**-2.7**
KSRS	**Korea Array**	**10.97**	**7**	P	**Pn**	**22 36 36.8**	**+1.0**
	0.1nm,0.3s,baz=186,slow=13,SNR=4.7						
MKAR	**Makanchi Array**	**39.97**	**312**	P	**P**	**22 41 24.8**	**-0.2**
	0.6nm,0.4s,baz=98,slow=11,SNR=14						
MKAR				PcP	**PcP**	**22 43 28.3**	**+0.3**
	0.3nm,0.7s,baz=75,slow=3.9,SNR=3.0						
ZALV	**Zalesovo Beam**	**40.90**	**323**	P	**P**	**22 41 31.5**	**-1.1**
	1.2nm,0.3s,baz=119,slow=9.0,SNR=6.7						
ZALV				PcP	**PcP**	**22 43 30.8**	**0.0**
	0.4nm,0.5s,baz=131,slow=6.1,SNR=2.7						
KURBB	**Kurchatov Arra**	**43.37**	**317**	P	**P**	**22 41 52.2**	**-0.5**
	0.3nm,0.3s,baz=106,slow=8.8,SNR=2.8						
KURBB				PcP	**PP**	**22 43 37.8**	**+2.1**
	0.3nm,0.5s,baz=122,slow=3.7,SNR=2.7						
WRA	**Warramunga Arr**	**46.88**	**169**	P	**P**	**22 42 20.5**	**-0.2**
	0.4nm,0.4s,baz=349,slow=8.9,SNR=4.8						
BVAR	**Borovoye Array**	**48.83**	**318**	P	**P**	**22 42 35.1**	**-0.3**
	0.3nm,0.3s,baz=104,slow=8.2,SNR=4.5						
BVAR				PcP	**PcP**	**22 43 58.8**	**+0.6**
	0.5nm,0.5s,baz=114,slow=2.8,SNR=4.6						
ASAR	**Alice Springs**	**50.47**	**171**	P	**P**	**22 42 48.7**	**+0.5**
	0.3nm,0.4s,baz=359,slow=14,SNR=5.6						
ILAR	**Eielson Array**	**65.02**	**28**	P	**P**	**22 44 28.9**	**-0.4**
	0.1nm,0.5s,baz=290,slow=7.5,SNR=4.3						
FINES	**FINESS Array B**	**71.69**	**330**	P	**P**	**22 45 10.1**	**-0.7**
	1.9nm,0.9s,baz=45,slow=3.0,SNR=4.0						
NOA	**NORSAR Array B**	**78.22**	**333**	P	**P**	**22 45 47.9**	**-0.6**
	0.4nm,0.7s,baz=52,slow=4.6,SNR=2.3						
YKA	**Yellowknife Ar**	**79.00**	**24**	P	**P**	**22 45 53.1**	**+0.5**
	0.7nm,0.6s,baz=302,slow=5.4,SNR=15						

IDC 16 22:41:59.3±7.1, 0°01N×90°13E, h0km, mb3.1/3, mb1 3.4/3, mb1mx3.1/63, mbtmp3.2/3, Error ellipse: s-maj=186.1km s-min=40.4km az=72.0, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**20.28**	**25**	P	Pn	22 46 38.2	-0.5
	0.1nm,0.3s,baz=204,slow=13,SNR=3.5						
WRA	**Warramunga Arr**	**47.60**	**117**	P	P	22 50 37.3	-0.1
	0.4nm,0.9s,baz=301,slow=8.5,SNR=2.9						
SONM	**Songino Array**	**49.70**	**14**	P	P	22 50 52.3	-0.9
	0.1nm,0.4s,baz=203,slow=7.6,SNR=3.3						

ISCJB ***16*** *22:56:55.2±1.4, 0°.8N±0°.2×91°.8E±0°.1, h10km, mb3.6/4, Error ellipse: s-maj=28.1km s-min=14.9km az=17.9*
IDC ***16*** *22:56:56.0±2.0, 0°.83N×91°.82E, h0km, mb3.6/4, mb1 3.7/7, mb1mx3.4/70, mbtmp3.6/7, ML3.7/3, Error ellipse: s-maj=48.7km s-min=27.5km az=43.0*

ISC 16 22:56:57.9±1.4, 1°.0N±0°.2×91°.99E±0°.09, h10km, n8, σ1°84/9, mb3.7/4, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**7.17**	**75**	Pn	**Pn**	**22 58 44.3**	**+1.2**
	0.9nm,0.3s,baz=291,slow=14,SNR=3.8						
PSI				Sn	**Sn**	**23 00 01.5**	**-3.3**
	0.4nm,0.3s,baz=173,slow=22,SNR=1.9						
PALK	**Pallekele**	**12.89**	**299**	Pn	**Pn**	**22 59 59.9**	**-1.4**
	0.4nm,0.3s,baz=114,slow=12,SNR=3.1						
PALK				Sn	Sn	23 02 08.8	-16
	0.5nm,0.3s,baz=115,slow=7.7,SNR=4.0						
CMAR	**Chiang Mai Arr**	**18.70**	**21**	P	**Pn**	**23 01 18.5**	**+1.6**
	0.1nm,0.3s,baz=221,slow=12,SNR=5.6						
WRA	**Warramunga Arr**	**46.40**	**119**	P	**P**	**23 05 25.3**	**+0.2**
	0.4nm,0.6s,baz=293,slow=8.9,SNR=4.5						
MKAR	**Makanchi Array**	**46.44**	**351**	P	**P**	**23 05 23.8**	**-1.2**
	0.4nm,0.7s,baz=185,slow=6.7,SNR=3.3						
SONM	**Songino Array**	**48.35**	**13**	P	**P**	**23 05 40.8**	**+0.9**
	0.4nm,0.4s,baz=198,slow=7.9,SNR=4.3						
ZALV	**Zalesovo Beam**	**53.16**	**355**	P	**P**	**23 06 16.9**	**+1.0**
	0.5nm,0.4s,baz=182,slow=6.6,SNR=4.0						
TXAR	**Lajitas Array**	**146.38**	**25**	PKPbc	**PKPbc**	**23 16 39.8**	**-0.2**
	0.1nm,0.4s,baz=331,slow=1.2,SNR=4.6						

NIED ***16*** *22:58:00, 42°.70N×145°.00E, h32km, Mw3.7 Best double couple: M0 4.41000×10^14 NP1:φs 105.00000°, δ36.00000°, λ-42.00000°. NP2:φs 232.00000°, δ67.00000°, λ-118.00000°.*
MOS ***16*** *22:58:50.3±1.0, 42°.60N×145°.07E, h56km, mb4.2/10, Error ellipse: s-maj=14.7km s-min=7.6km az=82.5*
ISCJB ***16*** *22:58:50.1±0.9, 42°.61N±0°.07×145°.09E±0°.06, h53km±5km, mb3.8/20, MS3.2/1, Error ellipse: s-maj=12.3km s-min=5.5km az=153.1*
SKHL ***16*** *22:58:50.9±0.6, 42°.54N×145°.18E, h37km±3km, mb4.8/5*
JMA ***16*** *22:58:51.0±0.1, 42°.67N×145°.02E, h49km±1km, M3.8*
JMA Felt I J1.
IDC ***16*** *22:58:54.7±2.6, 42°.67N×144°.99E, h77km±19km, mb3.4/19, mb1 3.6/21, mb1mx3.4/89, mbtmp3.8/21, MS3.3/1, Ms1 3.3/1, ms1mx2.3/53, Error ellipse: s-maj=20.7km s-min=15.9km az=169.0*

ISC 16 22:58:50.7±1.5, 42°60N±0°.09×145°11E±0°.05, h44km±11km, n50, σ1°19/59, mb3.7/20, 2C-1D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAK	**Akkeshi**	**0.50**	**322**	P	**Pn**	**22 59 01.0**	**-0.6**
JAK				*e*S	**Sn**	**22 59 08.2**	**-1.1**
NEM2	**Nemuro 2**	**0.89**	**31**	P	**Pn**	**22 59 06.9**	**+0.1**
NEM2				*e*S	**Sn**	**22 59 18.7**	**+0.1**
JOB	**Onbets**	**0.99**	**288**	P	**Pn**	**22 59 07.7**	**-0.4**
JNK	**Nakash**	**1.02**	**344**	P	**Pn**	**22 59 07.8**	**-0.8**
GLVR	**Golovnino**	**1.17**	**15**	*i* P	**Pn**	**22 59 10.7**	**0.0**
GLVR				AMB	AMB	22 59 11.6	
	774nm,0.6s						
GLVR				*i* S	**Sn**	**22 59 25.4**	**-0.1**
GLVR				A	A	22 59 25.8	
	2μm,0.3s						
GLVR				A	A	22 59 25.8	
	4μm,0.3s						
GLVR	**Golovnino**	**1.17**	**15**	⇑*i* PN	**Pn**	**22 59 10.7**	**0.0**
GLVR				*i* S	**Sn**	**22 59 25.4**	**-0.1**
GLVR				pmax	pmax		
	comp=Z,774nm,0.6s						
GLVR				pmax	pmax		
	comp=E,152nm,0.7s						
GLVR				pmax	pmax		
	comp=N,196nm,0.2s						
GLVR				smax	smax		
	comp=N,2μm,0.3s						
GLVR				smax	smax		
	comp=E,4μm,0.3s						
JAR	**Ashorobuto**	**1.21**	**306**	P	**Pn**	**22 59 10.3**	**-0.8**
JCH	**Churui**	**1.29**	**271**	P	**Pn**	**22 59 12.2**	**-0.1**
JRA	**Rausu**	**1.33**	**0**	P	**Pn**	**22 59 12.6**	**-0.3**
JRA				*e*S	**Sn**	**22 59 28.8**	**-0.6**
GRPR	**Tuman**	**1.47**	**19**	*e*PN	**Pn**	**22 59 14.8**	**+0.1**
GRPR				*i* S	**Sn**	**22 59 32.5**	**-0.3**
GRPR				pmax	pmax		
	comp=Z,620nm,0.2s						
GRPR				pmax	pmax		
	comp=N,111nm,0.1s						
GRPR				pmax	pmax		
	comp=E,125nm,0.1s						
GRPR				smax	smax		
	comp=N,5μm,0.3s						
GRPR				smax	smax		
	comp=E,2μm,0.3s						
YUK	**Yuzh-Kuril'sk**	**1.53**	**21**	*e*P	**Pn**	**22 59 15.7**	**+0.1**
YUK				AMB	AMB	22 59 16.8	
	comp=E,790nm,0.4s						
YUK				*i* S	**Sn**	**22 59 34.2**	**-0.1**
YUK				A	A	22 59 38.0	
	comp=E,162nm,0.5s						
YUK				A	A	22 59 38.0	

	comp=N,13nm,0.2s										
SHO						pmax	pmax				
	comp=E,22nm,0.2s										
SHO						pmax	pmax				
	comp=Z,54nm,0.2s										
SHO						smax	smax				
	comp=E,2μm,0.3s										
SHO						smax	smax				
	comp=N,653nm,0.2s										
ASAJ	**Asahikawa**	**2.38**	**310**	P		**Pn**		**22 59 28.6**	**+1.4**		
	comp=N,22nm,0.3s,baz=157,slow=8.9,SNR=67										
ASAJ				S		**Sn**		**22 59 58.1**	**+3.1**		
	comp=N,32nm,0.3s,baz=233,slow=20,SNR=12										
KUR	**Kuril'sk**	**3.30**	**36**	*i* P		**Pn**		**22 59 41.6**	**+1.8**		
KUR				AMB		AMB		22 59 44.7			
	comp=N,110nm,0.6s										
KUR				*i* S		**Sn**		**23 00 19.3**	**+1.6**		
KUR				A		A		23 00 23.4			
	comp=N,170nm,0.4s										
KUR				A		A		23 00 23.4			
	comp=N,243nm,0.4s										
KUR	**Kuril'sk**	**3.30**	**36**	*e*PN		**Pn**		**22 59 42.2**	**+2.4**		
KUR				*e*S		**Sn**		**23 00 19.9**	**+2.2**		
KUR				pmax		pmax					
	comp=Z,53nm,0.5s										
KUR				smax		smax					
	comp=E,168nm,0.4s										
KUR				smax		smax					
	comp=N,106nm,0.3s										
KLR	**Kul'dur**	**11.42**	**310**	P		**Pn**		**23 01 33.8**	**+2.7**		
	comp=N,0.0nm,0.3s,baz=115,slow=16,SNR=9.9										
PETK	**Petropavlovsk-**	**13.46**	**34**	P		**P**		**23 02 02.8**	**-4.4**		
	comp=N,0.2nm,0.3s,baz=187,slow=12,SNR=3.7										
SONM	**Songino Array**	**27.56**	**294**	P		**P**		**23 04 33.6**	**+0.2**		
	comp=N,0.5nm,0.5s,baz=74,slow=8.8,SNR=3.5										
SONM				LR		LR		23 16 53.5			
	comp=N,54nm,18.2s,baz=267,slow=39										
H11N2	**WAKE ISLAND Hy**	**29.29**	**134**	T		T		23 36 08.1			
	baz=327,slow=75,SNR=106										
H11N1	**WAKE ISLAND Hy**	**29.30**	**134**	T		T		23 35 57.8			
	baz=327,slow=75,SNR=126										
H11N3	**WAKE ISLAND Hy**	**29.30**	**134**	T		T		23 36 04.6			
	baz=327,slow=75,SNR=86										
H11S1	**WAKE ISLAND Hy**	**30.20**	**136**	T		T		23 37 13.8			
	baz=327,slow=76,SNR=276										
H11S3	**WAKE ISLAND Hy**	**30.20**	**136**	T		T		23 37 09.6			
	baz=327,slow=76,SNR=183										
H11S2	**WAKE ISLAND Hy**	**30.22**	**136**	T		T		23 37 15.1			
	baz=327,slow=76,SNR=41										
ILAR	**Eielson Array**	**43.29**	**35**	P		**P**		**23 06 48.2**	**+0.6**		
	comp=N,0.7nm,0.5s,baz=252,slow=5.7,SNR=14										
MKAR	**Makanchi Array**	**43.80**	**298**	P		**P**		**23 06 51.6**	**-0.4**		
	comp=N,0.5nm,0.5s,baz=84,slow=12,SNR=7.7										
KURK	**Kurchatov**	**44.94**	**304**	P		**P**		**23 07 02.2**	**+1.2**		
KURK				pmax		pmax					
	comp=Z,1.0nm,0.3s										
KURBB	**Kurchatov Arra**	**45.02**	**304**	P		**P**		**23 07 02.2**	**+0.5**		
	comp=Z,1.1nm,0.3s,baz=74,slow=9.2,SNR=3.7										
INK	**Inuvik**	**48.14**	**30**	P		**P**		**23 07 26.9**	**+1.1**		
	comp=Z,1.2nm,0.5s,baz=288,slow=6.1,SNR=9.4										
BVAR	**Borovoye Array**	**49.08**	**310**	P		**P**		**23 07 33.7**	**+0.4**		
	comp=Z,0.5nm,0.4s,baz=80,slow=8.7,SNR=11										
ARU	**Arti**	**54.16**	**317**	P		**P**		**23 08 10.9**	**-0.2**		
	comp=Z,0.9nm,0.4s,baz=342,slow=3.2,SNR=3.0										
RES	**Resolute Bay**	**56.40**	**16**	P		**P**		**23 08 27.5**	**-0.1**		
	comp=Z,1.3nm,0.5s,baz=313,slow=6.7,SNR=9.4										
YKA	**Yellowknife Ar**	**57.58**	**33**	P		**P**		**23 08 35.2**	**-0.3**		
	comp=Z,0.1nm,0.3s,baz=306,slow=6.8,SNR=4.0										
WRA	**Warramunga Arr**	**63.02**	**191**	P		**P**		**23 09 13.0**	**-0.1**		
	comp=Z,0.3nm,0.9s,baz=6.3,slow=6.9,SNR=2.4										
WRA	**Warramunga Arr**	**63.02**	**191**	P		**P**		**23 09 13.0**	**-0.1**		
FINES	**FINESS Array B**	**65.21**	**332**	P		**P**		**23 09 26.9**	**-0.1**		
	comp=Z,1.1nm,0.5s,baz=46,slow=8.2,SNR=7.1										
ASAR	**Alice Springs**	**66.74**	**191**	P		**P**		**23 09 38.7**	**+1.5**		
	comp=Z,0.4nm,0.8s,baz=22,slow=5.3,SNR=3.1										
NOA	**NORSAR Array B**	**70.12**	**338**	P		**P**		**23 09 56.2**	**-1.9**		
	comp=Z,0.3nm,0.5s,baz=34,slow=6.4,SNR=2.9										
HFS	**Hagfors**	**70.16**	**336**	P		**P**		**23 09 58.1**	**-0.1**		
	comp=Z,0.5nm,0.4s,baz=42,slow=6.7,SNR=5.4										
AKASG	**Malin Array Be**	**71.61**	**323**	P		**P**		**23 10 06.3**	**-0.8**		
	comp=Z,0.4nm,0.5s,baz=36,slow=5.7,SNR=4.6										
PDAR	**Pinedale Array**	**71.79**	**48**	P		**P**		**23 10 08.8**	**+0.1**		
	comp=Z,0.3nm,0.6s,baz=199,slow=3.1,SNR=4.0										
BRTR	**Keskin Array B**	**77.24**	**313**	P		**P**		**23 10 38.7**	**-1.6**		
	comp=Z,0.3nm,0.4s,baz=74,slow=6.2,SNR=3.2										
EKA	**Eskdalemuir Ar**	**78.77**	**342**	P		**P**		**23 10 48.3**	**0.0**		
	comp=Z,2.5nm,1.0s,baz=25,slow=5.1,SNR=3.5										
TXAR	**Lajitas Array**	**84.53**	**55**	P		**P**		**23 11 20.7**	**+1.5**		
	comp=Z,0.3nm,0.7s,baz=305,slow=4.4,SNR=4.2										
SIV	**San Ignacio**	**145.28**	**48**	PKPbc		**PKPdf**		**23 18 24.2**	**+0.3**		
	comp=Z,0.7nm,0.7s,baz=338,slow=5.4,SNR=4.7										

IDC ***16*** *23:17:00.1±0.8, 11.°50N×141.°65E, h0km, mb3.7/12, mb1 3.9/13, mb1mx3.7/61, mbtmp3.7/13, ML3.9/1, MS3.2/5, Ms1 3.2/5, ms1mx2.8/63, Error ellipse: s-maj=25.1km s-min=18.7km az=90.0*

ISCJB ***16*** *23:17:02.4±0.6, 11.°43N±0.°09×141.°50E±0.°08, h27km, mb3.8/14, MS3.1/4, Error ellipse: s-maj=14.6km s-min=9.0km az=140.1*

NEIC ***16*** *23:17:05.5±0.4, 11.°45N×141.°60E, h35km, mb4.0/3, Error ellipse: s-maj=13.6km s-min=9.3km az=105.0*

ISC 16 23:17:04.4±0.8, 11.°4N±0.°1×141.°5E±0.°1, h27km, n23, σ0§94/21, mb3.8/14, MS3.0/4, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**3.90**	**57**	Pn		**Pn**		**23 18 01.2**	**-1.4**
	9.3nm,0.3s,baz=177,slow=16,SNR=4.0								
GUMO				Sn		**Sn**		**23 18 48.9**	**+1.3**
	7.9nm,0.3s,baz=127,slow=20,SNR=3.0								
GUMO				LR		LR		23 19 37.4	
	comp=Z,170nm,19.2s,baz=208,slow=42								
GUMO	**Guam**	**3.90**	**57**	*e*Pn		**Pn**		**23 18 02.1**	**-0.5**
GUMO				Sn		**Sn**		**23 18 48.9**	**+1.3**
PMG	**Port Moresby**	**21.46**	**165**	LR		LR		23 29 32.1	
	comp=Z,112nm,18.7s,baz=338,slow=35								
JHJ	**Hachijo jima 2**	**21.63**	**356**	LR		LR		23 29 13.1	
	comp=Z,58nm,18.9s,baz=304,slow=34								
MJAR	**Matsushiro Arr**	**25.17**	**354**	LR		LR		23 30 13.6	
	comp=Z,42nm,19.9s,baz=235,slow=32								
KSRS	**Korea Array**	**28.64**	**337**	LR		LR		23 34 52.0	
	comp=Z,40nm,18.5s,baz=142,slow=37								
WRAB	**Tennant Creek**	**31.97**	**193**	*e*P		**P**		**23 23 28.3**	**-0.1**
	2.1nm,0.9s								
WRA	**Warramunga Arr**	**31.98**	**193**	P		P		**23 23 28.0**	**-0.5**
	1.4nm,1.0s,baz=15,slow=9.6,SNR=4.2								
ASAR	**Alice Springs**	**35.68**	**192**	P		P		**23 24 01.5**	**+0.9**
	0.3nm,0.4s,baz=18,slow=13,SNR=5.1								
KLR	**Kul'dur**	**38.54**	**350**	P		P		**23 24 24.7**	**+0.2**
	0.2nm,0.7s,baz=173,slow=2.6,SNR=9.8								
SONM	**Songino Array**	**46.69**	**328**	P		**P**		**23 25 31.8**	**+0.8**
	0.4nm,0.9s,baz=140,slow=7.4,SNR=3.3								
MKAR	**Makanchi Array**	**60.80**	**317**	P		**P**		**23 27 14.9**	**+0.7**
	0.5nm,0.9s,baz=96,slow=8.9,SNR=3.6								
ZALV	**Zalesovo Beam**	**61.50**	**326**	P		**P**		**23 27 18.4**	**-0.3**
	0.6nm,0.7s,baz=99,slow=9.1,SNR=2.8								
KURK	**Kurchatov**	**64.15**	**321**	P		**P**		**23 27 36.5**	**+0.1**
KURBB	**Kurchatov Arra**	**64.18**	**321**	P		**P**		**23 27 36.5**	**-0.1**
	0.6nm,0.3s,baz=106,slow=7.1,SNR=5.9								
BVAR	**Borovoye Array**	**69.60**	**322**	P		**P**		**23 28 11.5**	**+0.4**
	0.4nm,0.4s,baz=93,slow=7.2,SNR=4.9								
ILAR	**Eielson Array**	**71.89**	**25**	P		**P**		**23 28 23.1**	**-1.8**
	0.5nm,0.5s,baz=245,slow=6.1,SNR=10								
INK	**Inuvik**	**77.58**	**22**	P		**P**		**23 28 56.1**	**-1.5**
	0.5nm,0.5s,baz=214,slow=7.3,SNR=3.1								
INK	**Inuvik**	**77.58**	**22**	*e*P		**P**		**23 28 56.6**	**-1.1**
	1.0nm,0.9s								
YKA	**Yellowknife Ar**	**86.25**	**27**	P		P		**23 29 43.2**	**-0.2**
	0.5nm,0.7s,baz=290,slow=4.8,SNR=8.5								
RES	**Resolute Bay**	**87.37**	**13**	*e*P		**P**		**23 29 48.8**	**+0.2**
	1.4nm,0.9s								
NVAR	**Mina Array Bea**	**90.80**	**51**	P		P		**23 30 06.1**	**+0.3**
	0.8nm,0.7s,baz=266,slow=6.0,SNR=7.2								
LPAZ	**La Paz**	**150.83**	**103**	PKPbc		**PKPbc**		**23 36 57.1**	**+0.9**
	1.1nm,0.7s,baz=224,slow=4.9,SNR=5.7								

ISCJB ***16*** *23:19:16.9±2.6, 2.°2N±0.°4×90.°2E±0.°1, h33km, mb3.8/4, Error ellipse: s-maj=64.7km s-min=10.4km az=9.7*

IDC ***16*** *23:19:16.1±3.2, 2.°39N×90.°11E, h0km, mb3.7/4, mb1 3.8/6, mb1mx3.5/67, mbtmp3.8/6, ML3.9/2, Error ellipse: s-maj=78.5km s-min=30.6km az=9.0*

ISC 16 23:19:20.2±2.7, 2.°3N±0.°5×90.°2E±0.°1, h35km, n13, σ0§85/8, mb3.9/4, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**8.78**	**87**	Pn		**Pn**		**23 21 25.3**	**+0.5**
	2.5nm,0.3s,baz=292,slow=5.4,SNR=4.0								
PSI				Sn		**Sn**		**23 23 01.4**	**-1.2**
	0.3nm,0.3s,baz=4.7,slow=23,SNR=1.9								
PALK	**Pallekele**	**10.64**	**298**	Pn		**Pn**		**23 21 49.4**	**-0.9**
	0.6nm,0.3s,baz=115,slow=12,SNR=8.8								
PALK				Sn		Sn		23 23 37.3	-11
	3.1nm,0.3s,baz=118,slow=1.4,SNR=9.8								
H08S2	**Diego Garcia H**	**20.20**	**241**	T		T		23 45 05.7	
	baz=60,slow=75								
H08S3	**Diego Garcia H**	**20.20**	**241**	T		T		23 44 54.2	
	baz=60,slow=75								
H08S1	**Diego Garcia H**	**20.21**	**241**	T		T		23 44 46.7	
	baz=60,slow=75								
H01W3	**Cape Leeuwin H**	**43.28**	**151**	T		T		00 13 38.6	
	baz=325,slow=76								
H01W2	**Cape Leeuwin H**	**43.30**	**151**	T		T		00 13 39.4	
	baz=325,slow=76								
H01W1	**Cape Leeuwin H**	**43.30**	**151**	T		T		00 13 40.2	
	baz=325,slow=76								
MKAR	**Makanchi Array**	**44.85**	**352**	P		**P**		**23 27 30.7**	**-0.3**
	0.4nm,0.5s,baz=186,slow=8.0,SNR=5.2								
GEYT	**Alibeck**	**46.04**	**324**	P		**P**		**23 27 41.5**	**+0.9**
	1.9nm,0.8s,baz=131,slow=5.9,SNR=4.7								
SONM	**Songino Array**	**47.49**	**15**	P		**P**		**23 27 52.4**	**+0.4**
	0.8nm,0.6s,baz=199,slow=9.0,SNR=7.0								
BRTR	**Keskin Array B**	**63.23**	**314**	P		**P**		**23 29 45.4**	**-0.1**
	0.6nm,0.8s,baz=129,slow=6.3,SNR=4.9								
TXAR	**Lajitas Array**	**145.88**	**22**	PKPbc		**PKPab**		**23 38 57.5**	**+0.3**
	0.2nm,0.6s,baz=350,slow=2.1,SNR=3.1								

ISCJB ***16*** *23:25:27.4±1.0, 2.°6N±0.°1×89.°9E±0.°1, h10km, mb3.6/7, Error ellipse: s-maj=19.8km s-min=16.9km az=2.5*

IDC ***16*** *23:25:28.1±1.1, 2.°68N×89.°90E, h0km, mb3.6/7, mb1 3.7/9, mb1mx3.5/66, mbtmp3.6/9, ML3.8/1, MS3.1/1, Ms1 3.1/1, ms1mx2.5/66, Error ellipse: s-maj=28.6km s-min=24.2km az=47.0*

ISC 16 23:25:29.4±1.1, 2.°7N±0.°2×90.°0E±0.°1, h10km, n13, σ0§99/10, mb3.8/7, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**10.28**	**297**	Pn		**Pn**		**23 27 58.1**	**+0.9**
	0.7nm,0.3s,baz=117,slow=13,SNR=4.7								
PALK				Sn		Sn		23 29 43.0	-10
	2.9nm,0.3s,baz=21,slow=0.1,SNR=13								
PALK				LR		LR		23 30 48.6	
	comp=Z,106nm,19.3s,baz=286,slow=31								
CMAR	**Chiang Mai Arr**	**18.00**	**29**	P		**P**		**23 29 41.7**	**+1.3**
	baz=292,slow=13,SNR=3.3								
H08S2	**Diego Garcia H**	**20.20**	**239**	T		T		23 50 50.7	
	baz=60								
H08S3	**Diego Garcia H**	**20.20**	**239**	T		T		23 50 56.8	
	baz=60								
H08S1	**Diego Garcia H**	**20.22**	**239**	T		T		23 51 01.4	
	baz=60								
MKAR	**Makanchi Array**	**44.46**	**352**	P		**P**		**23 33 40.1**	**-0.7**
	0.2nm,0.5s,baz=179,slow=9.2,SNR=4.1								
GEYT	**Alibeck**	**45.62**	**324**	P		**P**		**23 33 49.2**	**-1.0**
	0.7nm,0.5s,baz=157,slow=7.8,SNR=3.0								
SONM	**Songino Array**	**47.19**	**15**	P		**P**		**23 34 02.0**	**-0.5**
	0.7nm,0.5s,baz=195,slow=9.6,SNR=7.0								
KURBB	**Kurchatov Arra**	**48.75**	**350**	P		**P**		**23 34 13.3**	**-1.1**
	0.4nm,0.7s,baz=169,slow=7.7,SNR=4.3								
WRA	**Warramunga Arr**	**49.01**	**119**	P		P		**23 34 16.9**	**0.0**
	0.9nm,1.0s,baz=299,slow=8.4,SNR=4.0								
BRTR	**Keskin Array B**	**62.82**	**314**	P		**P**		**23 35 56.0**	**+0.2**
	0.2nm,0.5s,baz=141,slow=7.7,SNR=2.4								
BOSA	**Boshof**	**69.30**	**238**	P		**P**		**23 36 37.4**	**-0.2**
	0.7nm,0.5s,baz=121,slow=6.0,SNR=3.8								
TXAR	**Lajitas Array**	**145.61**	**21**	PKPbc		**PKPab**		**23 45 10.6**	**+1.2**
	0.2nm,0.6s,baz=329,slow=3.2,SNR=3.0								

IDC 16 23:25:32.7±3.4, 21.°21S×67.°09E, h0km, mb4.1/10, mb1 4.3/10, mb1mx3.7/67, mbtmp4.1/10, Error ellipse: s-maj=101.9km s-min=23.9km az=52.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
H08S1	**Diego Garcia H**	**14.46**	**22**	T		T		23 42 16.5	
	baz=199,slow=76,SNR=27								
H08S2	**Diego Garcia H**	**14.46**	**22**	T		T		23 42 12.7	
	baz=199,slow=76,SNR=57								
H08S3	**Diego Garcia H**	**14.48**	**22**	T		T		23 42 14.3	
	baz=199,slow=76,SNR=36								
H08N3	**Diego Garcia H**	**15.26**	**15**	T		T		23 43 38.0	
	baz=192,slow=76								
H08N1	**Diego Garcia H**	**15.26**	**15**	T		T		23 43 35.1	
	baz=192,slow=76								
H08N2	**Diego Garcia H**	**15.28**	**15**	T		T		23 43 34.8	
	baz=192,slow=76								
CMAR	**Chiang Mai Arr**	**50.28**	**41**	P		P		23 34 30.4	-0.7
	1.7nm,0.9s,baz=234,slow=8.2,SNR=10.0								
FITZ	**Fitzroy Crossi**	**54.97**	**98**	P		P		23 35 05.6	-0.4
	2.0nm,0.8s,baz=248,slow=6.1,SNR=3.4								
ASAR	**Alice Springs**	**61.29**	**106**	P		P		23 35 50.6	+0.2
	2.5nm,0.8s,baz=263,slow=6.0,SNR=8.1								
WRA	**Warramunga Arr**	**62.52**	**102**	P		P		23 35 58.2	-0.5
	2.5nm,0.8s,baz=263,slow=6.2,SNR=10								
MKAR	**Makanchi Array**	**69.07**	**11**	P		P		23 36 38.4	-1.8
	1.3nm,1.0s,baz=186,slow=6.0,SNR=6.3								
KURBB	**Kurchatov Arra**	**72.23**	**8**	P		P		23 37 00.7	+1.3
	2.6nm,1.2s,baz=203,slow=6.3,SNR=6.6								
BVAR	**Borovoye Array**	**73.98**	**2**	P		P		23 37 07.9	-1.8
	0.7nm,0.7s,baz=165,slow=7.4,SNR=2.7								
ZALV	**Zalesovo Beam**	**76.40**	**11**	P		P		23 37 24.5	+0.9
	1.1nm,0.6s,baz=212,slow=5.1,SNR=2.7								
SONM	**Songino Array**	**77.26**	**26**	P		P		23 37 30.3	+1.5
	1.9nm,0.9s,baz=208,slow=4.7,SNR=10								
MJAR	**Matsushiro Arr**	**88.29**	**50**	P		P		23 38 27.7	+1.4
	1.6nm,0.7s,baz=232,slow=6.7,SNR=5.4								

KRSC 16 23:32:24.9±1.4, 51.°88N×155.°71E, h268km±14km, ML3.5, Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PAU	**Pauzhetka**	**0.80**	**120**	*e*P		Pn		23 33 01.9	+1.1
PAU				*e*S		S		23 33 29.9	+0.8
APC	**Apacha**	**1.38**	**40**	*e*P		Pn		23 33 04.1	+0.2
ASAK	**Asacha**	**1.44**	**69**	*e*P		Pn		23 33 05.9	+1.4
KDTR	**Khodutka, Kamc**	**1.47**	**92**	*e*P		Pn		23 33 05.5	+1.0
KDTR				*e*S		S		23 33 36.4	+0.4
MTVR	**Mutnovka**	**1.64**	**67**	*e*P		Pn		23 33 07.6	+1.6
KRMR	**Karymshinskiy**	**1.77**	**56**	*e*P		Pn		23 33 07.8	+1.1
RUS	**Russkaya**	**1.82**	**71**	*e*P		Pn		23 33 08.4	+1.3
RUS				*e*S		S		23 33 41.5	+0.8
GNL	**Ganaly**	**2.27**	**36**	*e*P		Pn		23 33 11.8	+0.6
AVH	**Avacha**	**2.31**	**52**	*e*P		Pn		23 33 14.0	+2.4
UGLR	**Uglovaya**	**2.32**	**54**	*e*P		Pn		23 33 14.5	+2.8
KRER	**Koryakskii**	**2.34**	**51**	*e*P		Pn		23 33 13.5	+1.5
SMAR	**Somma**	**2.34**	**52**	*e*P		Pn		23 33 14.4	+2.4
SDLR	**Sedlovina**	**2.39**	**53**	*e*P		Pn		23 33 14.3	+1.9
SPN	**Mys Shipunski**	**2.91**	**63**	*e*P		Pn		23 33 18.4	+1.1
SPN				*e*S		S		23 33 58.4	-0.7
KBTR	**Krutoberegovo**	**6.03**	**41**	*e*P		Pn		23 33 55.2	+1.7

IDC 16 23:42:12.0±5.6, 29.°19S×177.°71W, h0km, mb3.8/2, mb1 4.1/2, mb1mx3.7/42, mbtmp3.8/2, Error ellipse: s-maj=309.8km s-min=78.9km az=165.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**43.44**	**266**	P		P		23 50 17.4	+0.5
	0.8nm,0.5s,baz=106,slow=8.0,SNR=10								
WRA	**Warramunga Arr**	**44.32**	**271**	P		P		23 50 23.3	-0.7
	0.5nm,0.4s,baz=110,slow=8.1,SNR=10								
FINES	**FINESS Array B**	**144.09**	**341**	PKP		PKPdf		00 01 48.4	-0.6
	1.5nm,0.3s,baz=34,slow=0.5,SNR=18								

IDC ***16*** *23:42:18.9±0.5, 36.°75S×79.°14E, h0km, mb4.3/26, mb1 4.3/26, mb1mx4.2/64, mbtmp4.2/26, MS4.6/31, Ms1 4.6/31, ms1mx4.4/52, Error ellipse: s-maj=15.8km s-min=15.1km az=29.0*

ISCJB ***16*** *23:42:20.2±0.3, 36.°45S±0.°07×79.°10E±0.°10, h12km, mb4.3/32, MS4.7/31, Error ellipse: s-maj=11.9km s-min=9.3km az=22.9*

NEIC ***16*** *23:42:20.5±0.3, 36.°75S×79.°10E, h10km, mb4.6/6, Error ellipse: s-maj=11.5km s-min=10.6km az=2.0*

GCMT ***16*** *23:42:20.5±0.2, 36.°52S×78.°85E, h12km, MW5.1/109, Moment Tensor Solution. s54,c80; s109,c180; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr0.58±.13; Mθθ-6.33±.12; Mφφ5.75±.13; Mrθ0.34±.34; Mθφ1.12±.13; Mrφ0.04±.34; Best double couple: Mw6.15100×10¹⁶ NP1:φs230.00000°, δ89.00000°, λ-2.00000°. NP2: φs320.00000°, δ88.00000°, λ-179.00000°. Principal axes: T 5.8540, Plg1.0000°, Azm275.0000°; N 0.6000, Plg87.0000°, Azm20.0000°; P -6.4490, Plg3.0000°, Azm185.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 16 23:42:21.4±0.5, 36.°58S±0.°10×79.°1E±0.°1, h12km, n80, σ1§47/58, mb4.3/32, MS4.7/31, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
H01W2	**Cape Leeuwin H**	**28.38**	**97**	T		T		00 18 02.6	
	baz=255,slow=75								
H01W3	**Cape Leeuwin H**	**28.38**	**97**	T		T		00 18 03.0	
	baz=255,slow=75								
H01W1	**Cape Leeuwin H**	**28.39**	**97**	T		T		00 18 03.9	
	baz=255,slow=75								
H08S2	**Diego Garcia H**	**29.43**	**347**	T		T		00 19 10.0	
	baz=172,slow=76								
H08S1	**Diego Garcia H**	**29.44**	**346**	T		T		00 19 07.5	
	baz=172,slow=76								
H08S3	**Diego Garcia H**	**29.45**	**347**	T		T		00 19 11.8	
	baz=172,slow=76								
H08N1	**Diego Garcia H**	**31.00**	**344**	T		T		00 21 09.0	
	baz=177,slow=76								
H08N3	**Diego Garcia H**	**31.00**	**344**	T		T		00 21 03.8	
	baz=177,slow=76								
H08N2	**Diego Garcia H**	**31.02**	**344**	T		T		00 21 05.3	
	baz=177,slow=76								
NWAO	**Narrogin (SRO)**	**31.39**	**95**	LR		LR		23 58 42.2	
	comp=Z,2μm,19.4s,baz=150,slow=31								
MAW	**Mawson**	**32.41**	**192**	LR		LR		23 59 41.8	
	comp=Z,3μm,18.1s,baz=26,slow=32								
OPO	**Ambohidratompo**	**33.30**	**294**	LR		LR		23 58 59.5	
	comp=Z,2μm,20.1s,baz=140,slow=30								
PSI	**Prapat**	**43.31**	**30**	LR		LR		00 04 30.8	
	comp=Z,1μm,21.0s,baz=204,slow=31								
PALK	**Pallekele**	**43.65**	**2**	LR		LR		00 04 45.9	
	comp=Z,968nm,19.4s,baz=117,slow=31								
BOSA	**Boshof**	**45.57**	**264**	P		**P**		**23 50 40.5**	**-1.0**
	2.6nm,0.9s,baz=121,slow=12,SNR=2.8								
BOSA				LR		LR		00 05 42.5	
	comp=Z,419nm,20.2s,baz=115,slow=31								
LBTB	**Lobatse**	**46.87**	**269**	P		**P**		**23 50 51.4**	**-0.3**
	2.7nm,0.8s,baz=126,slow=6.6,SNR=4.4								
LBTB				LR		LR		00 06 29.3	
	comp=Z,1μm,20.5s,baz=124,slow=31								
SUR	**Sutherland**	**47.62**	**257**	P		**P**		**23 50 56.5**	**-1.1**
	0.7nm,0.8s,baz=135,slow=11,SNR=3.3								
SUR				LR		LR		00 06 09.4	
	comp=Z,77nm,21.8s,baz=118,slow=30								
SUR	**Sutherland**	**47.62**	**257**	*e*P		**P**		**23 50 56.8**	**-0.8**
ASAR	**Alice Springs**	**48.51**	**91**	P		**P**		**23 51 04.8**	**+0.4**
	3.1nm,1.0s,baz=237,slow=7.7,SNR=14								
ASAR				PcP		**PcP**		**23 52 28.6**	**-1.7**
	0.8nm,0.7s,baz=232,slow=3.5,SNR=4.9								
ASAR				LR		LR		00 09 15.5	
	comp=Z,1μm,19.9s,baz=250,slow=33								
LSZ	**Lusaka**	**49.84**	**281**	*e*P		**P**		**23 51 13.5**	**-1.2**
	10nm,0.8s								
WRA	**Warramunga Arr**	**50.72**	**87**	P		**P**		**23

comp=Z,150nm,20.6s,baz=149,slow=34
BRTR Keskin Array B 86.70 327 P **P 23 55 05.0 0.0**
comp=Z,2.8nm,0.9s,baz=155,slow=6.3,SNR=16
KURBB Kurchatov Arra 86.83 360 P **P 23 55 05.2 0.0**
comp=Z,5.0nm,0.9s,baz=192,slow=4.8,SNR=9.2
KURK Kurchatov 86.93 360 P **P 23 55 05.2 -0.4**
ABKAR Akbulak array 87.15 348 *eP* **eP 23 55 05.6 -1.1**
comp=Z,1.0nm,0.8s
SONM Songino Array 87.51 18 P **P 23 55 07.9 -0.9**
comp=Z,0.5nm,0.6s,baz=204,slow=4.8,SNR=4.9
SONM LR LR 00 32 35.1
comp=Z,249nm,20.6s,baz=188,slow=34
AKTO Aktyubinsk 88.63 347 P **P 23 55 15.8 +2.0**
comp=Z,3.4nm,0.9s,baz=157,slow=4.7,SNR=9.4
AKTO LR LR 00 31 45.7
comp=Z,210nm,21.6s,baz=152,slow=33
DBIC Dimbokro 89.12 279 LR LR 00 32 00.7
comp=Z,498nm,19.3s,baz=100,slow=33
BVAR Borovoye Array 89.56 355 P **P 23 55 17.5 -0.6**
comp=Z,1.6nm,0.9s,baz=134,slow=4.2,SNR=5.3
BVAR LR LR 00 33 35.1
comp=Z,195nm,19.1s,baz=175,slow=34
ZALV Zalesovo Beam 90.30 3 P **P 23 55 21.5 0.0**
comp=Z,0.5nm,0.6s,baz=235,slow=5.1,SNR=2.7
ZALV LR LR 00 33 05.5
comp=Z,304nm,21.9s,baz=250,slow=34
MJAR Matsushiro Arr 91.08 44 P **P 23 55 25.6 -0.1**
comp=Z,0.6nm,0.3s,baz=212,slow=6.1,SNR=4.7
KOWA Kowa 93.12 286 LR LR 00 35 06.4
comp=Z,751nm,19.9s,baz=134,slow=34
USRK Ussuriysk Ar. 93.60 35 LR LR 00 38 08.6
comp=Z,72nm,18.2s,baz=214,slow=36
MLR Muntele Rosu 94.73 326 P **P 23 55 41.7 -0.7**
comp=Z,0.9nm,1.1s,baz=120,slow=7.3,SNR=3.3
PPT2 Papeete2 109.18 131 *e*LR LR 00 33 14.6
comp=Z,162nm,25.2s
RKT Rikitea 112.45 146 *e*T T 02 03 29.4
comp=Z,8.1nm,0.2s
RES Resolute Bay 141.70 357 PKP **PKPdf 00 01 51.8 +0.3**
comp=Z,1.6nm,1.0s,baz=345,slow=6.3,SNR=4.1
INK Inuvik 143.41 20 PKP **PKPdf 00 01 54.9 +0.3**
comp=Z,1.8nm,0.8s,baz=64,slow=2.5,SNR=4.5
YKA Yellowknife Ar 152.70 14 PKPbc **PKPbc 00 02 15.1 -2.0**
comp=Z,1.5nm,0.9s,baz=347,slow=1.7,SNR=7.9

CSEM ***16*** *23:47:17.5, 35.42N, 6.43E, h0km, ML3.8*
CRAAG ***16*** *23:47:17.5, 35.42N, 6.43E, Ml3.8*
IDC ***16*** *23:47:24.0, 3.4, 36.09N, 6.43E, h0km, mb3.5/4, mb1 3.5/6, mb1mx3.2/75, mbtmp3.4/6, ML3.5/2, Error ellipse: s-maj=88.3km s-min=21.9km az=20.0*
ISC 16 23:47:22.4±1.1, 35.49N±0.08, 6.48E±0.04, h10km, n28, σ1s36/29, mb3.8/3, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
CTEI	**Djebel Teioual**	**0.57**	**354**	P		**Pg**	**23 47 34.3**	**+0.8**
CTEI	**Djebel Teioual**	**0.57**	**354**	P		**Pg**	**23 47 34.3**	**+0.8**
CASM	**Ain Smara**	**0.77**	**1**	P		**Pn**	**23 47 39.4**	**+0.1**
CASM	**Ain Smara**	**0.77**	**1**	P		**Pn**	**23 47 39.4**	**+0.1**
CKFL	**Kef-Lekhel**	**0.93**	**12**	P		**Pn**	**23 47 42.6**	**+1.0**
CKFL	**Kef-Lekhel**	**0.93**	**12**	P		**Pn**	**23 47 42.6**	**+1.0**
CKHR	**Kef el Ahmar**	**0.94**	**304**	P		**Pb**	**23 47 40.8**	**-0.1**
CKHR	**Kef el Ahmar**	**0.94**	**304**	P		**Pb**	**23 47 40.8**	**-0.1**
SET	**Setif**	**1.12**	**309**	P		**Pn**	**23 47 45.0**	**+0.7**
SET	**Setif**	**1.12**	**309**	P		**Pn**	**23 47 45.0**	**+0.7**
ABSA	**Djebel Ababsia**	**1.12**	**46**	P		**Pn**	**23 47 46.0**	**+1.7**
ABSA	**Djebel Ababsia**	**1.12**	**46**	P		**Pn**	**23 47 46.0**	**+1.7**
DFRA	**Djebel Bou Aff**	**1.16**	**335**	P		**Pn**	**23 47 45.7**	**+0.9**
DFRA	**Djebel Bou Aff**	**1.16**	**335**	P		**Pn**	**23 47 45.7**	**+0.9**
CAEH	**'Ain El Ouahch**	**1.32**	**13**	P		**Pn**	**23 47 44.5**	**-2.4**
CAEH	**'Ain El Ouahch**	**1.32**	**13**	P		**Pn**	**23 47 44.5**	**-2.4**
CMAH	**Djebel Manchou**	**1.36**	**34**	P		**Pb**	**23 47 48.9**	**+0.8**
CMAH	**Djebel Manchou**	**1.36**	**34**	P		**Pb**	**23 47 48.9**	**+0.8**
KEST	**Kesra**	**2.35**	**83**	Pn		**Pb**	**23 48 04.5**	**-0.3**
	3.3nm,0.3s,baz=101,slow=6.5,SNR=48							
KEST					Sn	**Sb**	**23 48 35.0**	**+1.0**
	3.2nm,0.3s,baz=210,slow=21,SNR=3.5							
EMHD	**Djebel Mahouad**	**2.95**	**285**	P		**Pn**	**23 48 11.0**	**+1.6**
EMHD	**Djebel Mahouad**	**2.95**	**285**	P		**Pn**	**23 48 11.0**	**+1.6**
EANR	**'Ain N'Sour**	**4.40**	**278**	P		**Pn**	**23 48 28.0**	**-1.3**
EANR	**'Ain N'Sour**	**4.40**	**278**	P		**Pn**	**23 48 28.0**	**-1.3**
ESDC	**Sonseca Array**	**9.28**	**300**	Pn		**Pn**	**23 49 36.0**	**-0.2**
	0.2nm,0.3s,baz=111,slow=13,SNR=4.7							
EKA	**Eskdalemuir Ar**	**20.92**	**344**	P		**P**	**23 52 01.7**	**-3.3**
	2.0nm,0.8s,baz=155,slow=10,SNR=2.8							
KURBB	**Kurchatov Arra**	**52.72**	**50**	P		**P**	**23 56 38.3**	**+1.2**
	0.8nm,0.7s,baz=285,slow=8.5,SNR=2.9							
MKAR	**Makanchi Array**	**56.12**	**53**	P		**P**	**23 57 02.9**	**+0.9**
	0.5nm,0.4s,baz=264,slow=5.9,SNR=9.3							
YKA	**Yellowknife Ar**	**71.56**	**335**	P		**P**	**23 58 42.4**	**-0.8**
	0.1nm,0.5s,baz=49,slow=6.1,SNR=5.4							

ISCJB ***16*** *23:48:24.4±1.1, 2.6N±0.2×89.86E±0.10, h10km, mb3.7/6, MS4.1/1, Error ellipse: s-maj=25.1km s-min=12.5km az=17.7*
IDC ***16*** *23:48:25.1±1.5, 2.61N×89.85E, h0km, mb3.6/6, mb1 3.7/9, mb1mx3.5/74, mbtmp3.7/9, ML3.5/3, MS4.2/1, Ms1 4.2/1, ms1mx2.9/58, Error ellipse: s-maj=40.6km s-min=22.1km az=30.0*
ISC 16 23:48:26.3±1.2, 2.7N±0.2×89.89E±0.09, h10km, n17, σ3s39/12, mb3.6/6, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**9.02**	**89**	Pn		**Pn**	**23 50 38.0**	**+1.1**
	0.6nm,0.3s,baz=249,slow=8.2,SNR=2.8							
PSI					Sn	**Sn**	**23 52 12.7**	**-6.0**
	1.0nm,0.3s,baz=176,slow=19,SNR=2.8							
PALK	**Pallekele**	**10.20**	**297**	Pn		**Pn**	**23 50 55.0**	**+2.0**
	0.4nm,0.3s,baz=115,slow=13,SNR=8.1							
PALK					Sn	**Sn**	**23 52 40.2**	**-7.4**
	3.6nm,0.3s,baz=296,slow=2.7,SNR=14							
CMAR	**Chiang Mai Arr**	**17.97**	**29**	P		**P**	**23 52 38.1**	**+1.1**
	0.1nm,0.3s,baz=220,slow=11,SNR=4.4							
H08S3	**Diego Garcia H**	**20.19**	**239**	T		T	00 13 48.7	
	baz=60,slow=75							
H08S2	**Diego Garcia H**	**20.19**	**239**	T		T	00 13 44.3	
	baz=60,slow=75							
H08S1	**Diego Carcia H**	**20.20**	**239**	T		T	00 13 58.6	
	baz=60,slow=75							
H01W3	**Cape Leeuwin H**	**43.80**	**151**	T		T	00 43 25.5	
	baz=318							
H01W2	**Cape Leeuwin H**	**43.81**	**151**	T		T	00 43 07.0	
	baz=318							
H01W1	**Cape Leeuwin H**	**43.81**	**151**	T		T	00 43 19.7	
	baz=318							
NWAO	**Narrogin (SRO)**	**43.90**	**146**	LR		LR	00 11 25.2	
	comp=Z,254nm,19.3s,baz=122,slow=32							
MKAR	**Makanchi Array**	**44.38**	**353**	P		**P**	**23 56 38.2**	**+1.1**
	0.6nm,0.7s,baz=170,slow=8.2,SNR=5.1							
GEYT	**Alibeck**	**45.53**	**324**	P		**P**	**23 56 46.0**	**-0.4**
	0.9nm,0.6s,baz=177,slow=7.2,SNR=3.6							
SONM	**Songino Array**	**47.14**	**15**	P		**P**	**23 57 00.5**	**+1.6**
	1.5nm,0.5s,baz=201,slow=9.0,SNR=8.8							
KURBB	**Kurchatov Arra**	**48.68**	**350**	P		**P**	**23 57 11.4**	**+0.8**
	0.2nm,0.4s,baz=178,slow=4.6,SNR=2.5							
WRA	**Warramunga Arr**	**49.09**	**119**	P		**P**	**23 57 14.2**	**-0.2**
	0.2nm,0.3s,baz=296,slow=8.8,SNR=5.7							
BRTR	**Keskin Array B**	**62.74**	**314**	P		**P**	**23 58 53.0**	**+0.9**
	0.3nm,0.8s,baz=120,slow=5.6,SNR=3.0							
TXAR	**Lajitas Array**	**145.57**	**21**	PKPbc		**PKPdf**	**00 08 06.2**	**+0.4**
	0.4nm,0.8s,baz=316,slow=3.8,SNR=3.4							

MDD ***16*** *23:51:26.9±1.1, 36.85N×0.39E, h28km±14km, mbLg2.7/34, Error ellipse: s-maj=8.2km s-min=4.7km az=146.0, PRXIMO*
CRAAG ***16*** *23:51:26.4, 36.80N×0.42E, Ml2.4*
INMG ***16*** *23:51:27.9±1.2, 36.92N×0.32E, h31km, ML2.4, Error ellipse: s-maj=4.7km s-min=2.6km az=135.0*
CSEM ***16*** *23:51:28.8±0.3, 37.02N×0.19E, h30km, ML2.7, Error ellipse: s-maj=5.8km s-min=3.4km az=152.0*
ISC 16 23:51:25.2±1.5, 36.86N±0.06×0.40E±0.05, h35km, n130, σ1s75/206, 2D, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
EANR	**'Ain N'Sour**	**1.07**	**148**	P		Pn	23 51 45.0	+1.2
EANR	**'Ain N'Sour**	**1.07**	**148**	P		Pn	23 51 45.0	+1.2
EBNR	**Beni Rached**	**1.07**	**121**	P		Pn	23 51 52.0	+8.2
EBNR	**Beni Rached**	**1.07**	**121**	P		Pn	23 51 52.0	+8.2
CART	**Cartagena**	**1.33**	**304**	⇓P		**Pn**	**23 51 47.6**	**+0.3**
CART	**Cartagena**	**1.33**	**304**	P		**Pn**	**23 51 47.6**	**+0.3**
EMUR	**La Murta**	**1.63**	**308**	P		**Pn**	**23 51 52.2**	**+0.7**
	13nm,0.2s,SNR=59							
EMUR					S	**Sn**	**23 52 11.1**	**-0.2**
	46nm,0.3s,SNR=5.3							
EMUR	**La Murta**	**1.63**	**308**	P		**Pn**	**23 51 52.2**	**+0.7**
	13nm,0.2s,SNR=59							
EMUR					S	**Sn**	**23 52 11.1**	**-0.2**
	46nm,0.3s,SNR=5.3							
AFON	**Font Roja**	**1.95**	**338**	P		**Pn**	**23 51 57.5**	**+1.5**
	3.7nm,0.2s,SNR=9.1							
AFON					S	**Sn**	**23 52 19.3**	**0.0**
	12nm,0.2s,SNR=6.4							
AFON	**Font Roja**	**1.95**	**338**	P		**Pn**	**23 51 57.5**	**+1.5**
	3.7nm,0.2s,SNR=9.1							
AFON					S	**Sn**	**23 52 19.3**	**0.0**
	12nm,0.2s,SNR=6.4							
ENIJ	**Nijar**	**2.09**	**274**	P		**Pn**	**23 51 58.2**	**+0.4**
	1.6nm,0.1s,SNR=7.9							
ENIJ					S	**Sn**	**23 52 21.8**	**-0.7**
	29nm,0.2s,SNR=7.9							
ENIJ	**Nijar**	**2.09**	**274**	P		**Pn**	**23 51 58.2**	**+0.4**
	1.6nm,0.1s,SNR=7.9							
ENIJ					S	**Sn**	**23 52 21.8**	**-0.7**
	29nm,0.2s,SNR=7.9							
EIBI	**Ibiza**	**2.29**	**19**	P		**Pn**	**23 52 01.9**	**+1.4**
	4.9nm,0.1s,SNR=7.9							
EIBI					S	**Sn**	**23 52 26.8**	**-0.7**
	12nm,0.1s,SNR=7.9							
EIBI	**Ibiza**	**2.29**	**19**	P		**Pn**	**23 52 01.9**	**+1.4**
	4.9nm,0.1s,SNR=7.9							
ETOB	**Tobarra**	**2.36**	**320**	⇓P		**Pn**	**23 52 03.7**	**+2.2**
	16nm,0.1s,SNR=18							
ETOB					S	**Sn**	**23 52 29.3**	**+0.1**
	18nm,0.2s,SNR=5.8							
ETOB	**Tobarra**	**2.36**	**320**	P		**Pn**	**23 52 03.7**	**+2.2**
	16nm,0.1s,SNR=18							
ETOB					S	**Sn**	**23 52 29.3**	**+0.1**
	18nm,0.2s,SNR=5.8							
EBER	**Berja**	**2.63**	**272**	P		**Pn**	**23 52 06.2**	**+0.8**
	1.9nm,0.1s,SNR=25							
EBER					S	**Sn**	**23 52 36.0**	**-0.2**
	31nm,0.3s,SNR=17							
EBER	**Berja**	**2.63**	**272**	P		**Pn**	**23 52 06.2**	**+0.8**
	1.9nm,0.1s,SNR=25							
EBER					S	**Sn**	**23 52 36.0**	**-0.2**
	31nm,0.3s,SNR=17							
SESP	**Santiago Espad**	**2.66**	**299**	P		**Pn**	**23 52 08.2**	**+2.5**
	17nm,0.2s,SNR=7.9							
SESP					S	**Sn**	**23 52 36.7**	**0.0**
	67nm,0.2s,SNR=7.9							
SESP	**Santiago Espad**	**2.66**	**299**	P		**Pn**	**23 52 08.2**	**+2.5**
	17nm,0.2s,SNR=7.9							
SESP					S	**Sn**	**23 52 36.7**	**0.0**
	67nm,0.2s,SNR=7.9							
GORA	**Gorafe**	**2.81**	**284**	P		**Pn**	**23 52 10.0**	**+2.2**
	3.2nm,0.2s,SNR=7.9							
GORA					S	**Sn**	**23 52 40.7**	**+0.2**
	34nm,0.2s,SNR=7.9							
GORA	**Gorafe**	**2.81**	**284**	P		**Pn**	**23 52 10.0**	**+2.2**
	3.2nm,0.2s,SNR=7.9							
GORA					S	**Sn**	**23 52 40.7**	**+0.2**
	34nm,0.2s,SNR=7.9							
EALB	**Alboran**	**2.91**	**253**	S		**Sn**	**23 52 42.6**	**-0.2**
	12nm,0.1s,SNR=7.9							
EALB	**Alboran**	**2.91**	**253**	S		**Sn**	**23 52 42.6**	**-0.2**
	12nm,0.1s,SNR=7.9							
EQES	**Quesada**	**2.92**	**290**	P		**Pn**	**23 52 11.4**	**+2.2**
	7.4nm,0.1s,SNR=86							
EQES					S	**Sn**	**23 52 43.2**	**+0.1**
	16nm,0.2s							
EQES	**Quesada**	**2.92**	**290**	P		**Pn**	**23 52 11.4**	**+2.2**
	7.4nm,0.1s,SNR=86							
EQES					S	**Sn**	**23 52 43.2**	**+0.1**
	16nm,0.2s							
EQUE	**Quentar**	**3.09**	**278**	P		**Pn**	**23 52 13.3**	**+1.8**
	0.5nm,0.1s,SNR=12							
EQUE					S	**Sn**	**23 52 46.9**	**-0.4**
	8.5nm,0.2s							
EQUE	**Quentar**	**3.09**	**278**	P		**Pn**	**23 52 13.3**	**+1.8**
	0.5nm,0.1s,SNR=12							
EQUE					S	**Sn**	**23 52 46.9**	**-0.4**
	8.5nm,0.2s							
ELGU	**Los Guajares,**	**3.23**	**271**	P		**Pn**	**23 52 14.2**	**+0.8**
	1.5nm,0.1s,SNR=7.9							
ELGU					S	**Sn**	**23 52 50.3**	**-0.3**
	7.1nm,0.2s,SNR=7.9							
ELGU	**Los Guajares,**	**3.23**	**271**	P		**Pn**	**23 52 14.2**	**+0.8**
	1.5nm,0.1s,SNR=7.9							
ELGU					S	**Sn**	**23 52 50.3**	**-0.3**
	7.1nm,0.2s,SNR=7.9							
ETOS	**Mallorca**	**3.47**	**32**	P		**Pn**	**23 52 17.9**	**+1.1**
	3.7nm,0.1s,SNR=7.9							
ETOS					S	**Sn**	**23 52 55.6**	**-1.1**
	5.6nm,0.2s,SNR=7.9							
EMOS	**Mosqueruela**	**3.57**	**349**	P		**Pn**	**23 52 20.0**	**+1.8**
	1.5nm,0.1s,SNR=15							
EMOS					S	**Sn**	**23 52 58.6**	**-0.6**
	6.3nm,0.2s,SNR=7.1							
EMOS	**Mosqueruela**	**3.57**	**349**	P		**Pn**	**23 52 20.0**	**+1.8**
	1.5nm,0.1s,SNR=15							
EMOS					S	**Sn**	**23 52 58.6**	**-0.6**
	6.3nm,0.2s,SNR=7.1							
EGOR	**Sierra Gorda,**	**3.62**	**275**	S		**Sn**	**23 52 59.5**	**-0.9**
	6.3nm,0.3s,SNR=7.9							
EGOR	**Sierra Gorda,**	**3.62**	**275**	S		**Sn**	**23 52 59.5**	**-0.9**
	6.3nm,0.3s,SNR=7.9							
ERTA	**Horta de San J**	**4.09**	**359**	P		**Pn**	**23 52 27.0**	**+1.7**
	0.8nm,0.1s,SNR=6.2							
ERTA					S	**Sn**	**23 53 11.0**	**-1.0**
	5.8nm,0.2s							
ERTA	**Horta de San J**	**4.09**	**359**	P		**Pn**	**23 52 27.0**	**+1.7**
	0.8nm,0.1s,SNR=6.2							
ERTA					S	**Sn**	**23 53 11.0**	**-1.0**
	5.8nm,0.2s							
EMIJ	**Mijas**	**4.16**	**268**	P		**Pn**	**23 52 25.9**	**-0.4**
	0.9nm,0.1s,SNR=15							
EMIJ					S	**Sn**	**23 53 12.1**	**-1.6**
	2.6nm,0.1s,SNR=8.1							
EMIJ	**Mijas**	**4.16**	**268**	P		**Pn**	**23 52 25.9**	**-0.4**
	0.9nm,0.1s,SNR=15							
EMIJ					S	**Sn**	**23 53 12.1**	**-1.6**
	2.6nm,0.1s,SNR=8.1							
EADA	**Adamuz**	**4.16**	**290**	P		**Pn**	**23 52 27.6**	**+1.3**
	1.4nm,0.1s,SNR=15							
EADA					S	**Sn**	**23 53 12.4**	**-1.3**
	3.4nm,0.1s							
EADA	**Adamuz**	**4.16**	**290**	P		**Pn**	**23 52 27.6**	**+1.3**
	1.4nm,0.1s,SNR=15							
EADA					S	**Sn**	**23 53 12.4**	**-1.3**
	3.4nm,0.1s							
ETOR	**Torete**	**4.39**	**335**	P		**Pn**	**23 52 31.2**	**+1.7**
	0.3nm,0.2s,SNR=4.0							
ETOR					S	**Sn**	**23 53 18.1**	**-1.4**
	0.6nm,0.2s,SNR=7.9							
ETOR	**Torete**	**4.39**	**335**	P		**Pn**	**23 52 31.2**	**+1.7**
	0.3nm,0.2s,SNR=4.0							
ETOR					S	**Sn**	**23 53 18.1**	**-1.4**
	0.6nm,0.2s,SNR=7.9							
ESDC	**Sonseca Array**	**4.43**	**311**	P		**Pn**	**23 52 31.3**	**+1.3**
	2.8nm,0.1s,baz=122,slow=12,SNR=31							
ESDC					S	**Sn**	**23 53 18.9**	**-1.6**
	2.0nm,0.2s,baz=122,slow=22,SNR=7.9							
ESDC	**Sonseca Array**	**4.43**	**311**	P		**Pn**	**23 52 31.3**	**+1.3**
	2.8nm,0.1s,slow=12,SNR=31							
ESDC					S	**Sn**	**23 53 18.9**	**-1.6**
	2.0nm,0.2s,baz=122,slow=22,SNR=7.9							
EPOB	**Poblet**	**4.52**	**7**	P		**Pn**	**23 52 33.2**	**+2.0**
	2.4nm,0.1s,SNR=10							
EPOB					S	**Sn**	**23 53 21.1**	**-1.5**
	5.9nm,0.2s,SNR=6.5							
EPOB	**Poblet**	**4.52**	**7**	P		**Pn**	**23 52 33.2**	**+2.0**
	2.4nm,0.1s,SNR=10							
EPOB					S	**Sn**	**23 53 21.0**	**-1.5**
	5.9nm,0.2s,SNR=6.5							
PAB	**San Pablo**	**4.60**	**307**	P		**Pn**	**23 52 33.8**	**+1.5**
	1.5nm,0.1s,SNR=7.9							
PAB					S	**Sn**	**23 53 23.1**	**-1.4**
	0.9nm,0.1s,SNR=7.9							
PAB	**San Pablo**	**4.60**	**307**	P		**Pn**	**23 52 33.8**	**+1.5**
	1.5nm,0.1s,SNR=7.9							
PAB					S	**Sn**	**23 53 23.1**	**-1.4**
	0.9nm,0.1s,SNR=7.9							
ECAB	**El Cabril**	**4.78**	**286**	P		**Pn**	**23 52 35.8**	**+1.0**
	2.8nm,0.2s,SNR=29							
ECAB					S	**Sn**	**23 53 26.9**	**-2.0**
	1.6nm,0.1s,SNR=7.4							
ECAB	**El Cabril**	**4.78**	**286**	P		**Pn**	**23 52 35.8**	**+1.0**
	2.8nm,0.2s,SNR=29							
ECAB					S	**Sn**	**23 53 27.0**	**-2.0**
	1.6nm,0.1s,SNR=7.4							
EMIR	**Miracle**	**5.13**	**9**	P		**Pn**	**23 52 41.3**	**+1.8**
	4.6nm,0.3s,SNR=13							
EMIR					S	**Sn**	**23 53 36.1**	**-1.4**
	2.9nm,0.1s,SNR=7.9							
EMIR	**Miracle**	**5.13**	**9**	P		**Pn**	**23 52 41.3**	**+1.8**
	4.6nm,0.3s,SNR=13							
EMIR					S	**Sn**	**23 53 36.1**	**-1.4**
	2.9nm,0.1s,SNR=7.9							
CFON	**Fontmartina**	**5.15**	**17**	P		**Pn**	**23 52 40.9**	**+1.1**
	7.3nm,0.2s,SNR=4.0							
CFON					S	**Sn**	**23 53 35.5**	**-2.6**
	4.7nm,0.2s,SNR=7.9							
CFON	**Fontmartina**	**5.15**	**17**	P		**Pn**	**23 52 40.9**	**+1.1**
	7.3nm,0.2s,SNR=4.0							
GUD	**Guadarrama**	**5.19**	**318**	P		**Pn**	**23 52 41.5**	**+1.1**
	2.0nm,0.2s,SNR=8.0							
GUD					S	**Sn**	**23 53 36.7**	**-2.4**
	0.6nm,0.2s,SNR=4.0							
GUD	**Guadarrama**	**5.19**	**318**	P		**Pn**	**23 52 41.5**	**+1.1**
	2.0nm,0.2s,SNR=8.0							
GUD					S	**Sn**	**23 53 36.7**	**-2.4**
	0.6nm,0.2s,SNR=4.0							
CSOR	**Sort**	**5.54**	**6**	P		**Pn**	**23 52 47.2**	**+1.9**
	0.8nm,0.2s,SNR=7.9							
CSOR					S	**Sn**	**23 53 45.5**	**-2.2**
	2.1nm,0.2s,SNR=7.9							
CSOR	**Sort**	**5.54**	**6**	P		**Pn**	**23 52 47.2**	**+1.9**
	0.8nm,0.2s,SNR=7.9							
EMIN	**Mina Concepcio**	**5.71**	**281**	P		**Pn**	**23 52 48.6**	**+1.2**
	0.5nm,0.1s,SNR=11							
EMIN					S	**Sn**	**23 53 48.8**	**-2.9**
	3.1nm,0.3s,SNR=11							
EMIN	**Mina Concepcio**	**5.71**	**281**	P		**Pn**	**23 52 48.6**	**+1.2**
	0.5nm,0.1s,SNR=11							
EMIN					S	**Sn**	**23 53 48.8**	**-2.9**
	3.1nm,0.3s,SNR=11							
CLLI	**Llivia**	**5.75**	**12**	P		**Pn**	**23 52 50.0**	**+1.9**
	0.3nm,0.1s,SNR=6.9							
CLLI					S	**Sn**	**23 53 50.5**	**-2.4**
	1.3nm,0.4s,SNR=7.9							
CLLI	**Llivia**	**5.75**	**12**	P		**Pn**	**23 52 50.0**	**+1.9**
	0.3nm,0.1s,SNR=6.9							
EJON	**La Jonquera**	**5.91**	**18**	P		**Pn**	**23 52 52.1**	**+1.9**
	1.4nm,0.2s,SNR=7.9							
EJON					S	**Sn**	**23 53 54.0**	**-2.7**
	2.2nm,0.2s,SNR=7.9							
EJON	**La Jonquera**	**5.91**	**18**	P		**Pn**	**23 52 52.1**	**+1.9**
	1.4nm,0.2s,SNR=7.9							
SJAF	**Saint Jean de**	**5.94**	**18**	P		**Pn**	**23 52 52.7**	**+2.1**
	0.2nm,0.1s,SNR=7.9							
SJAF					S	**Sn**	**23 53 54.7**	**-2.7**
	0.7nm,0.2s,SNR=7.9							
SJAF	**Saint Jean de**	**5.94**	**18**	P		**Pn**	**23 52 52.7**	**+2.1**
	0.2nm,0.1s,SNR=7.9							
EPLA	**Plasencia**	**6.00**	**304**	P		**Pn**	**23 52 52.9**	**+1.3**
	0.4nm,0.1s,SNR=6.3							
EPLA					S	**Sn**	**23 53 56.8**	**-2.3**
	0.6nm,0.1s,SNR=4.0							
EPLA	**Plasencia**	**6.00**	**304**	P		**Pn**	**23 52 52.9**	**+1.3**
	0.4nm,0.1s,SNR=6.3							
EPLA					S	**Sn**	**23 53 56.8**	**-2.3**
	0.6nm,0.1s,SNR=4.0							
PBAR	**Barrancos**	**6.05**	**285**	*e*Pn		**Pn**	**23 52 54.1**	**+1.9**
PBAR					*e*Sn	**Sn**	**23 53 58.3**	**-1.9**
PBAR					A	A	23 54 00.5	
	4.2nm,0.2s							
PBAR	**Barrancos**	**6.05**	**285**	P		**Pn**	**23 52 54.1**	**+1.9**
PBAR					S	**Sn**	**23 53 58.3**	**-1.9**
	4.2nm,0.2s							
PBAR	**Barrancos**	**6.05**	**285**	P		**Pn**	**23 52 54.1**	**+1.9**
PBAR					S	**Sn**	**23 53 58.3**	**-1.9**
	4.2nm,0.2s							
IELO	**Elcoad**	**6.11**	**349**	S		**Sn**	**23 53 59.1**	**-2.6**
	4.2nm,6.4s,SNR=7.9							
IELO	**Elcoad**	**6.11**	**349**	S		**Sn**	**23 53 59.1**	**-2.6**
	4.2nm,6.4s,SNR=7.9							
EBAD	**Badajoz**	**6.16**	**290**	P		**Pn**	**23 52 54.9**	**+1.2**
	0.5nm,0.1s,SNR=5.8							
EBAD					S	**Sn**	**23 53 59.5**	**-3.5**
	3.1nm,0.2s,SNR=6.0							
EBAD	**Badajoz**	**6.16**	**290**	P		**Pn**	**23 52 54.9**	**+1.2**
	0.5nm,0.1s,SNR=5.8							
EBAD					S	**Sn**	**23 53 59.5**	**-3.5**
	3.1nm,0.2s,SNR=6.0							
ATE	**Arette**	**6.28**	**353**	P		**Pn**	**23 52 57.1**	**+1.8**
	0.2nm,0.2s,SNR=4.0							
ATE					S	**Sn**	**23 54 03.2**	**-2.5**
	1.1nm,0.2s,

PVIS	**Viseu**	**7.53 303**	P	**Pn**	**23 53 14.5 +1.9**	
PVIS	**Viseu**	**7.53 303**	P	**Pn**	**23 53 14.5 +1.9**	
PCAS	**Casmilo, Conde**	**7.67 297**	*e*Pn	**Pn**	**23 53 17.2 +2.8**	
PCAS	**Casmilo, Conde**	**7.67 297**	*e*Pn	**Pn**	**23 53 17.2 +2.8**	
EARI	**Arriondas**	**7.74 328**	P	**Pn**	**23 53 17.3 +2.0**	
	0.7nm,0.3s,SNR=7.9					
EARI	**Arriondas**	**7.74 328**	P	**Pn**	**23 53 17.3 +2.0**	
	0.7nm,0.3s,SNR=7.9					
POLO	**Lamas de Olo**	**7.80 308**	*e*Pn	**Pn**	**23 53 18.2 +1.9**	
POLO			*e*Sn	**Sn**	**23 54 42.9 -0.4**	
POLO	**Lamas de Olo**	**7.80 308**	*e*Pn	**Pn**	**23 53 18.2 +1.9**	
POLO			*e*Sn	**Sn**	**23 54 42.9 -0.4**	
PCAB	**Cabril**	**8.13 309**	*e*Pn	**Pn**	**23 53 22.5 +1.8**	
PCAB	**Cabril**	**8.13 309**	P	**Pn**	**23 53 22.5 +1.8**	
PCAB	**Cabril**	**8.13 309**	P	**Pn**	**23 53 22.5 +1.8**	
ELOB	**Lobios**	**8.24 310**	P	**Pn**	**23 53 23.3 +1.0**	
	0.5nm,0.1s,SNR=8.0					
ELOB	**Lobios**	**8.24 310**	P	**Pn**	**23 53 23.3 +1.0**	
	0.5nm,0.1s,SNR=8.0					
PGAV	**Gavieira, Arco**	**8.42 310**	*e*Pn	**Pn**	**23 53 26.5 +1.7**	
PGAV	**Gavieira, Arco**	**8.42 310**	*e*Pn	**Pn**	**23 53 26.5 +1.7**	
EPON	**Pontenova**	**8.67 321**	P	**Pn**	**23 53 29.7 +1.7**	
	0.5nm,0.1s,SNR=7.9					
EPON	**Pontenova**	**8.67 321**	P	**Pn**	**23 53 29.7 +1.7**	
	0.5nm,0.1s,SNR=7.9					
EAGO	**Agolada(Pontev**	**8.82 315**	P	**Pn**	**23 53 31.4 +1.3**	
	0.8nm,0.2s,SNR=7.9					
EAGO	**Agolada(Pontev**	**8.82 315**	P	**Pn**	**23 53 31.4 +1.3**	
	0.8nm,0.2s,SNR=7.9					

ISCJB ***16*** *23:53:28.1±0.3,36.˚55S±0.˚06×78.˚91E±0.˚07,h10km, mb4.7/64,MS4.6/30,Error ellipse: s-maj=8.5km s-min=7.7km az=11.2*

IDC ***16*** *23:53:28.6±0.4,36.˚51S×78.˚94E,h0km,mb4.4/28, mb1 4.5/28,mb1mx4.4/58,mbtmp4.4/28,MS4.5/24, Ms1 4.5/24,ms1mx4.3/55,Error ellipse: s-maj=15.5km s-min=13.1km az=9.0*

GCMT ***16*** *23:53:29.8±0.2,36.˚51S×78.˚88E,h13km±1km,MW5.1/112, Moment Tensor Solution. s40,c52; s112,c173; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr0.03±.14; Mθθ-5.98±.17; Mϕϕ5.95±.17; Mrθ0.50±.34; Mrϕ0.52±.13; Mθϕ1.68±.38; Best double couple: Mo6.23000×10^16 NP1:ϕs317.00000°,δ76.00000°,λ172.00000°. Principal axes: T 6.4260, Plg15.0000°, Azm273.0000°; N -0.3880, Plg74.0000°, Azm76.0000°; P -6.0340, Plg4.0000°, Azm182.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***16*** *23:53:29.8±0.2,36.˚53S×78.˚88E,h10km,mb5.0/27 Error ellipse: s-maj=8.5km s-min=7.5km az=21.0*

BJI ***16*** *23:53:29.6,36.˚60S×78.˚80E,h6km,mb4.9/41,mB5.1/23, Ms4.9/19,Ms7 4.6/19*

ISC 16 23:53:28.9±1.2,36.˚66S±0.˚08×78.˚77E±0.˚08,h6km±7km, n158,σ1s90/145,mb4.7/64,MS4.7/30,1C-1D,Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W2	**Cape Leeuwin H**	**28.64**	**97**	T	T	00 29 13.0	
	baz=255,slow=75,SNR=1839						
H01W3	**Cape Leeuwin H**	**28.65**	**97**	T	T	00 29 09.3	
	baz=255,slow=75,SNR=2675						
H01W1	**Cape Leeuwin H**	**28.66**	**97**	T	T	00 29 10.2	
	baz=255,slow=75,SNR=2643						
H08S2	**Diego Garcia H**	**29.44**	**347**	T	T	00 30 16.6	
	baz=170,slow=76,SNR=969						
H08S1	**Diego Garcia H**	**29.45**	**347**	T	T	00 30 16.9	
	baz=170,slow=76,SNR=1013						
H08S3	**Diego Garcia H**	**29.46**	**347**	T	T	00 30 18.1	
	baz=170,slow=76,SNR=1303						
H08N1	**Diego Garcia H**	**31.00**	**345**	T	T	00 32 16.1	
	baz=224						
H08N3	**Diego Garcia H**	**31.00**	**345**	T	T	00 32 11.4	
	baz=224						
H08N2	**Diego Garcia H**	**31.02**	**345**	T	T	00 32 11.8	
	baz=224						
MAW	**Mawson**	**32.28**	**191**	LR	LR	00 10 52.2	
	comp=Z,2μm,18.2s,baz=26,slow=32						
OPO	**Ambohidratompo**	**33.08**	**294**	LR	LR	00 10 29.4	
	comp=Z,1μm,18.5s,baz=145,slow=31						
LEM	**Lembang**	**39.68**	**49**	LR	LR	00 13 34.2	
	comp=Z,72nm,21.9s,baz=207,slow=30						
BKNI	**Bangkinang**	**42.20**	**34**	*e*P	**P**	**00 01 20.0**	**-2.7**
BKNI				*e*PP	PP	00 02 52.1	-8.4
PSI	**Prapat**	**43.52**	**30**	LR	LR	00 16 11.4	
	comp=Z,966nm,19.2s,baz=206,slow=32						
PSI	**Prapat**	**43.52**	**30**	*e*P	**P**	**00 01 33.7**	**+0.1**
	6.3nm,0.7s						
PALK	**Pallekele**	**43.74**	**3**	LR	LR	00 15 55.5	
	comp=Z,766nm,19.3s,baz=116,slow=31						
FITZ	**Fitzroy Crossi**	**45.05**	**79**	P	**P**	**00 01 44.1**	**-1.6**
	5.8nm,1.0s,baz=247,slow=10,SNR=6.0						
FITZ				LR	LR	00 17 26.3	
	comp=Z,866nm,20.4s,baz=257,slow=32						
BOSA	**Boshof**	**45.29**	**264**	P	**P**	**00 01 47.5**	**-0.2**
	3.4nm,0.9s,baz=110,slow=10,SNR=4.0						
BOSA				LR	LR	00 16 42.3	
	comp=Z,516nm,21.5s,baz=114,slow=31						
LBTB	**Lobatse**	**46.59**	**269**	P	**P**	**00 01 58.4**	**+0.4**
	9.2nm,1.0s,baz=116,slow=13,SNR=5.2						
BBOO	**Buckleboo**	**46.64**	**103**	*e*P	**P**	**00 01 58.1**	**0.0**
	34nm,1.4s						
SUR	**Sutherland**	**47.33**	**257**	P	**P**	**00 02 05.3**	**+1.5**
	1.1nm,0.7s,baz=116,slow=11,SNR=12						
BATI	**Baumata**	**48.28**	**69**	LR	LR	00 19 29.6	
	comp=Z,418nm,21.9s,baz=239,slow=32						
ASAR	**Alice Springs**	**48.79**	**91**	P	**P**	**00 02 14.4**	**-0.6**
	7.5nm,1.0s,baz=240,slow=6.8,SNR=30						
ASAR				PcP	**PcP**	**00 03 39.4**	**-0.5**
	2.1nm,0.5s,baz=225,slow=3.4,SNR=5.8						
ASAR				LR	LR	00 20 24.8	
	comp=Z,1μm,19.7s,baz=247,slow=33						
AS31	**Alice Springs**	**48.79**	**91**	*e*P	**P**	**00 02 14.7**	**-0.4**
AS31				*e*PcP	**PcP**	**00 03 39.4**	**-0.5**
AS01	**Alice Springs**	**48.83**	**91**	*e*P	**P**	**00 02 14.8**	**-0.5**
AS01				*e*PcP	**PcP**	**00 03 40.2**	**+0.2**
LSZ	**Lusaka**	**49.58**	**282**	P	**P**	**00 02 22.2**	**+1.0**
	13nm,0.9s,baz=120,slow=8.5,SNR=20						
LSZ				LR	LR	00 20 35.2	
	comp=Z,1μm,18.8s,baz=126,slow=33						
LSZ	**Lusaka**	**49.58**	**282**	*e*P	**P**	**00 02 21.4**	**+0.2**
SBUM	**Sibu**	**49.83**	**46**	*e*P	**P**	**00 02 22.6**	**-0.3**
	8.2nm,0.9s						
WR1	**Warramunga Arr**	**51.00**	**87**	*e*P	**P**	**00 02 31.1**	**-0.8**
	29nm,1.3s						
WR1				*e*PcP	**PcP**	**00 03 48.3**	**+0.3**
WRA	**Warramunga Arr**	**51.00**	**87**	P	**P**	**00 02 31.1**	**-0.8**
	9.9nm,0.9s,baz=238,slow=7.0,SNR=23						
WRA				PcP	**PcP**	**00 03 48.3**	**+0.3**
	1.0nm,0.6s,baz=236,slow=2.5,SNR=7.6						
WRA				LR	LR	00 21 47.3	
	comp=Z,1μm,20.2s,baz=255,slow=33						
WB2	**Warramunga Arr**	**51.01**	**87**	*e*P	**P**	**00 02 31.5**	**-0.4**
WB2				*e*PcP	**PcP**	**00 03 46.6**	**-1.5**
STKA	**Stephens Creek**	**51.33**	**104**	P	**P**	**00 02 33.9**	**-0.2**
	8.2nm,0.9s,baz=275,slow=4.4,SNR=11						
STKA	**Stephens Creek**	**51.33**	**104**	*e*P	**P**	**00 02 34.1**	**0.0**
KMBO	**Kilima Mbogo**	**52.15**	**303**	P	**P**	**00 02 42.6**	**+1.9**
	2.2nm,0.6s,baz=99,slow=7.1,SNR=3.9						
KMBO	**Kilima Mbogo**	**52.15**	**303**	*e*P	P	00 02 47.5	+6.7
	7.4nm,1.1s						
VNDA	**Vanda**	**53.04**	**164**	P	**P**	**00 02 47.1**	**+0.9**
	6.2nm,0.8s,baz=263,slow=6.1,SNR=11						
VNDA				LR	LR	00 22 57.3	
	comp=Z,980nm,19.9s,baz=262,slow=33						
VNDA	**Vanda**	**53.04**	**164**	*e*P	**P**	**00 02 48.4**	**+2.2**
	11nm,1.0s						
SNAA	**Sanae**	**53.05**	**203**	P	**P**	**00 02 43.1**	**-3.4**
SNAA	**Sanae**	**53.05**	**203**	P	**P**	**00 02 49.3**	**+2.8**
	2.4nm,0.8s,baz=123,slow=3.7,SNR=5.4						
SNAA				LR	LR	00 21 34.1	
	comp=Z,383nm,20.0s,baz=104,slow=32						
SNAA	**Sanae**	**53.05**	**203**	*e*P	**P**	**00 02 47.4**	**+0.9**
QSPA	**South Pole Qui**	**53.50**	**180**	P	**P**	**00 02 50.9**	**+1.0**
	7.2nm,1.0s,baz=255,slow=5.4,SNR=6.5						
QSPA				LR	LR	00 23 31.7	
	comp=Z,2μm,19.7s,baz=290,slow=34						
SBA	**Scott Base**	**54.06**	**165**	*e*P	P	00 02 57.5	+3.9
	12nm,1.5s						
VNA2	**Neumayer--Watz**	**54.61**	**204**	P	**P**	**00 02 58.0**	**+0.2**
	baz=87,slow=6.3						
VNA1	**Neumayer--Stat**	**54.95**	**204**	P	**P**	00 02 54.4	-5.8
VNA3	**Neumayer Olymp**	**55.28**	**203**	P	**P**	**00 02 59.5**	**-3.2**
MYLDM	**Lahad Datu**	**55.76**	**50**	*e*P	**P**	**00 03 06.2**	**-0.5**
TSUM	**Tsumeb**	**55.91**	**271**	*e*P	**P**	**00 03 08.1**	**0.0**
	4.9nm,0.8s						
CM01	**Chiang Mai Arr**	**58.01**	**23**	*e*P	**P**	**00 03 21.7**	**-0.8**
CM31	**Chiang Mai Arr**	**58.04**	**23**	*e*P	**P**	**00 03 21.9**	**-0.9**
CM31				*e*PcP	**PcP**	**00 04 08.1**	**-6.6**
CMAR	**Chiang Mai Arr**	**58.04**	**23**	P	**P**	**00 03 22.2**	**-0.6**
	1.9nm,0.8s,baz=214,slow=6.9,SNR=13						
CMAR				LR	LR	00 24 49.4	
	comp=Z,229nm,20.2s,baz=206,slow=32						
CHTO	**Chiang Mai**	**58.37**	**23**	*e*P	**P**	**00 03 24.3**	**-0.8**
	5.7nm,1.1s						
ATD	**Arta Tunnel**	**58.66**	**318**	LR	LR	00 23 22.7	
	comp=Z,203nm,21.8s,baz=148,slow=31						
CTAO	**Charters Tower**	**60.50**	**94**	*e*P	**P**	**00 03 40.0**	**-0.1**
	38nm,1.4s						
DAV	**Davao City (W)**	**61.73**	**55**	LR	LR	00 27 39.6	
	comp=Z,133nm,21.8s,baz=168,slow=33						
WSAR	**Wadi Sarin**	**62.54**	**339**	LR	LR	00 24 36.9	
	comp=Z,722nm,21.9s,baz=170,slow=30						
QIZ	**Qiongzhong**	**62.68**	**33**	P	**P**	**00 03 57.5**	**+2.9**
QIZ				S	**S**	**00 12 29.8**	**+6.2**
QIZ				LR	LR		
	comp=N,210nm,10.8s						
QIZ				LR	LR		
	comp=E,220nm,12.4s						
QIZ				LR	LR		
	comp=Z,250nm,14.1s						
SHL	**Shillong**	**63.12**	**13**	*e*P	**P**	**00 03 56.5**	**-1.1**
	17nm,0.4s						
RAMN	**Ramite**	**63.70**	**8**	*e*P	**P**	**00 04 01.1**	**-0.4**
	94nm,1.2s						
PKIN	**Phulchoki**	**64.20**	**7**	*e*P	**P**	**00 04 03.6**	**-1.2**
	97nm,1.7s						
DMN	**Daman**	**64.20**	**6**	*e*P	**P**	**00 04 04.1**	**-0.7**
	53nm,1.0s						
KOLN	**Koldanda**	**64.25**	**5**	*e*P	**P**	**00 04 03.9**	**-1.1**
	52nm,1.3s						
JIRN	**Jiri**	**64.36**	**7**	*e*P	**P**	**00 04 05.3**	**-0.6**
	72nm,1.1s						
KKN	**Kakani**	**64.40**	**6**	*e*P	**P**	**00 04 05.2**	**-0.8**
	42nm,1.0s						
PYUN	**Piuthan**	**64.54**	**4**	*e*P	**P**	**00 04 05.8**	**-1.1**
	110nm,1.2s						
GKN	**Gorkha**	**64.56**	**6**	*e*P	**P**	**00 04 05.9**	**-1.1**
	110nm,1.4s						
GUN	**Gumba**	**64.57**	**7**	*e*P	**P**	**00 04 06.9**	**-0.4**
	299nm,1.5s						
MLZ	**Mavora Lakes**	**64.65**	**129**	*e*P	**P**	**00 04 05.7**	**-1.7**
	71nm,0.4s						
KMI	**Kunming**	**65.48**	**24**	P	P	00 04 17.4	+4.3
KMI				pmax	pmax		
	comp=Z,13nm,1.0s						
KMI				pmax	pmax		
	comp=Z,120nm,5.5s						
LSA	**Lhasa**	**67.03**	**12**	*e*P	**P**	**00 04 22.7**	**-0.6**
	14nm,0.9s						
RPZ	**Rata Peaks**	**67.28**	**128**	LR	LR	00 27 11.3	
	comp=Z,544nm,20.9s,baz=242,slow=30						
GYA	**Guiyang**	**68.06**	**27**	*e*P	P	00 04 32.8	+3.4
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
NIL	**Nilore**	**70.14**	**355**	*e*P	**P**	**00 04 40.4**	**-1.7**
	20nm,1.4s						
KBL	**Kabul**	**71.42**	**352**	*e*P	**P**	**00 04 50.2**	**+0.2**
	30nm,1.4s						
ENH	**Enshi**	**72.55**	**28**	*e*P	**P**	**00 04 55.5**	**-1.3**
	24nm,1.1s						
URZ	**Urewera**	**74.05**	**126**	LR	LR	00 33 17.0	
	comp=Z,227nm,18.9s,baz=240,slow=32						
WHN	**Wuhan**	**74.71**	**31**	||P	P	00 05 13.5	+4.1
WHN				LR	LR		
	comp=Z,950nm,31.6s						
DZM	**Mont Dzumac**	**75.38**	**107**	LR	LR	00 34 34.6	
	comp=Z,346nm,18.1s,baz=218,slow=33						
XAN	**Xi'an**	**75.75**	**25**	P	**P**	**00 05 14.6**	**-0.8**
XAN				pP	sP	00 05 20.8	+2.9
XAN				sP	PcP	00 05 24.1	-3.9
XAN				pmax	pmax		
	comp=Z,25nm,1.0s						
XAN				pmax	pmax		
	comp=Z,110nm,3.4s						
XAN				LR	LR		
	comp=N,340nm,18.5s						
XAN				LR	LR		
	comp=E,260nm,21.6s						
XAN				LR	LR		
	comp=Z,260nm,17.3s						
KSH	**Kashi**	**75.85**	**358**	P	**P**	**00 05 13.4**	**-2.5**
KSH				pP	sP	00 05 20.1	+1.6
KSH				S	**S**	**00 14 50.1**	**-8.5**
KSH				SS	**SS**	**00 19 46.0**	**-5.5**
KSH				pmax	pmax		
	comp=Z,24nm,1.2s						
KSH				pmax	pmax		
	comp=Z,230nm,4.1s						
KSH				LR	LR		
	comp=N,180nm,6.7s						
KSH				LR	LR		
	comp=E,200nm,6.0s						
KSH				LR	LR		
	comp=Z,440nm,9.5s						
LZH	**Lanzhou**	**76.03**	**21**	*e*P	**P**	**00 05 17.3**	**+0.2**
LZH				pP	sP	00 05 23.5	+3.8
LZH				sP	PcP	00 05 27.0	-2.4
LZH				pmax	pmax		
	comp=Z,19nm,1.0s						
LZH				pmax	pmax		
	comp=Z,81nm,4.3s						
LZH				LR	LR		
	comp=N,280nm,13.0s						
LZH				LR	LR		
	comp=E,300nm,13.2s						
LZH				LR	LR		
	comp=Z,370nm,16.8s						
GEYT	**Alibeck**	**76.64**	**343**	P	**P**	**00 05 20.2**	**-0.1**
	0.9nm,0.5s,baz=207,slow=8.3,SNR=6.8						
GYA0B	**ALIBECK ARRAY**	**76.64**	**343**	*e*P	**P**	**00 05 20.6**	**+0.2**
	7.5nm,1.1s						
NJ2	**Nanjing**	**77.97**	**34**	*e*P	**P**	**00 05 30.0**	**+2.2**
NJ2				pmax	pmax		
	comp=Z,16nm,0.5s						
TARG	**Taragay, Kyrgy**	**78.02**	**359**	*e*P	**P**	**00 05 27.0**	**-1.4**
	13nm,1.4s						
GTA	**Gaotai**	**78.14**	**17**	*e*P	**P**	**00 05 28.6**	**-0.2**
GTA				pP	sP	00 05 32.8	+1.4
GTA				sP	PcP	00 05 36.4	-2.0
GTA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
KDJ	**Kajisay**	**78.43**	**359**	*e*P	**P**	**00 05 30.2**	**-0.2**
JOW	**Kunigami**	**78.48**	**44**	LR	LR	00 39 59.7	
	comp=Z,88nm,18.6s,baz=101,slow=36						
ASF	**Jabal al Asfar**	**78.89**	**325**	P	**P**	**00 05 34.4**	**+1.3**
	1.9nm,0.6s,baz=200,slow=1.9,SNR=4.4						
AAK	**Ala-Archa**	**79.02**	**357**	*e*P	**P**	**00 05 32.3**	**-1.3**
KK31	**Karatay Array**	**79.74**	**354**	*e*P	**P**	**00 05 38.0**	**+0.6**
KKAR	**Karatay Array**	**79.74**	**354**	*e*P	**P**	**00 05 38.0**	**+0.6**
MMAI	**Mount Meron Ar**	**80.29**	**324**	P	**P**	**00 05 42.9**	**+2.2**
	2.4nm,0.6s,baz=156,slow=7.6,SNR=4.3						
WMQ	**Urumqi**	**80.51**	**7**	P	**P**	**00 05 41.1**	**-0.5**
WMQ				pP	PcP	00 05 46.4	-2.1
WMQ				S	**S**	**00 15 48.1**	**-0.4**
WMQ				SS	**SS**	**00 21 02.8**	**+1.2**
WMQ				pmax	pmax		
	comp=Z,38nm,1.7s						
WMQ				pmax	pmax		
	comp=Z,210nm,3.6s						
WMQ				LR	LR		
	comp=N,950nm,20.9s						
WMQ				LR	LR		
	comp=E,420nm,18.3s						
WMQ				LR	LR		
	comp=Z,660nm,25.1s						
TIA	**Tai'an**	**80.77**	**31**	P	**P**	**00 05 42.8**	**-0.3**
TIA				pmax	pmax		
	comp=Z,5.0nm,1.3s						
HHC	**Hu-ho-hao-te**	**82.79**	**24**	*e*P	P	00 05 57.1	+3.3
HHC				PP	**PP**	**00 09 10.4**	**+6.0**
HHC				S	**S**	**00 16 15.4**	**+3.1**
HHC				SS	**SS**	**00 21 43.3**	**+7.6**
HHC				pmax	pmax		
	comp=Z,25nm,1.4s						
HHC				pmax	pmax		
	comp=Z,60nm,8.3s						
HHC				LR	LR		
	comp=N,240nm,18.5s						
HHC				LR	LR		
	comp=E,180nm,17.3s						
HHC				LR	LR		
	comp=Z,250nm,17.8s						
MK01	**Makanchi Array**	**83.11**	**2**	*e*P	**P**	**00 05 53.6**	**-1.5**
MK31	**Makanchi Array**	**83.14**	**2**	*e*P	**P**	**00 05 53.7**	**-1.6**
MK32	**Makanchi Array**	**83.14**	**2**	*e*P	**P**	**00 05 54.2**	**-1.1**
MKAR	**Makanchi Array**	**83.14**	**2**	P	**P**	**00 05 54.2**	**-1.1**
	3.8nm,0.9s,baz=167,slow=5.7,SNR=20						
MKAR	**Makanchi Array**	**83.14**	**2**	*e*P	**P**	**00 05 53.7**	**-1.6**
MAKZ	**Makanchi**	**83.14**	**2**	*e*P	**P**	**00 05 54.5**	**-0.8**
	13nm,1.1s						
BJI	**Beijing**	**83.72**	**28**	||*e*P	P	00 06 03.8	+5.4
BJI				pmax	pmax		
	comp=Z,13nm,0.9s						
TBLG	**Delisi**	**84.00**	**335**	*e*P	**P**	**00 05 59.9**	**0.0**
	16nm,1.0s						
AKH	**Akhalkalaki**	**84.14**	**334**	*e*P	**P**	**00 05 59.6**	**-1.2**
JNU	**Nakatsue**	**84.77**	**42**	*e*P	**P**	**00 06 04.5**	**+0.5**
	42nm,1.1s						
KBZ	**Khabaz**	**86.40**	**335**	P	**P**	**00 06 12.7**	**+0.9**
	1.4nm,0.8s,baz=149,slow=4.0,SNR=2.7						
KS15	**Wonju Array Si**	**86.61**	**37**	*e*P	**P**	**00 06 13.6**	**+0.6**
KSAR	**Wonju Array Be**	**86.61**	**37**	P	**P**	**00 06 13.6**	**+0.6**
BR101	**Keskin Array S**	**86.61**	**327**	*e*P	**P**	**00 06 12.7**	**-0.5**
BR131	**Keskin Array S**	**86.61**	**327**	*e*P	**P**	**00 06 12.9**	**-0.2**
BRTR	**Keskin Array B**	**86.61**	**327**	P	**P**	**00 06 12.7**	**-0.5**
	1.9nm,1.0s,baz=129,slow=4.0,SNR=10						
KSRS	**Korea Array**	**86.64**	**37**	P	**P**	**00 06 13.6**	**+0.4**
	2.7nm,1.1s,baz=219,slow=5.2,SNR=7.4						
KS01	**Wonju Array Si**	**86.64**	**37**	*e*P	**P**	**00 06 13.7**	**+0.5**
KURBB	**Kurchatov Arra**	**86.91**	**360**	P	**P**	**00 06 13.4**	**-0.7**
	4.7nm,1.0s,baz=192,slow=4.7,SNR=17						
KURK	**Kurchatov**	**87.00**	**360**	*e*P	**P**	**00 06 14.6**	**0.0**
	28nm,1.4s						
BR231	**Keskin MP Arra**	**87.09**	**326**	*e*P	**P**	**00 06 13.6**	**-1.9**
ABKAR	**Akbulak array**	**87.16**	**348**	*e*P	**P**	**00 06 17.4**	**+2.0**
	9.8nm,0.7s						
SONA0	**Songino Array**	**87.67**	**18**	*e*P	**P**	**00 06 17.4**	**-0.7**
SONM	**Songino Array**	**87.67**	**18**	P	**P**	**00 06 17.4**	**-0.7**
	2.1nm,1.0s,baz=196,slow=5.8,SNR=11						
ILGA	**Ilgaz**	**87.67**	**328**	*e*P	**P**	**00 06 19.7**	**+1.4**
	18nm,1.3s						
SONA1	**Songino Array**	**87.68**	**18**	*e*P	**P**	**00 06 17.7**	**-0.4**
ULN	**Ulaanbaatar**	**87.86**	**19**	*e*P	**P**	**00 06 17.5**	**-1.5**
	9.3nm,1.3s						
AKTO	**Aktyubinsk**	**88.64**	**347**	P	**P**	**00 06 22.5**	**+0.1**
	2.0nm,0.8s,baz=149,slow=7.3,SNR=4.7						
DBIC	**Dimbokro**	**88.85**	**279**	P	**P**	**00 06 25.4**	**+1.1**
	3.0nm,1.1s,baz=214,slow=3.6,SNR=2.9						
BVAR	**Borovoye Array**	**89.61**	**355**	P	**P**	**00 06 26.3**	**-0.6**
	0.7nm,0.8s,baz=142,slow=7.3,SNR=5.6						
BRVK	**Borovoye**	**89.65**	**355**	*e*P	**P**	**00 06 27.2**	**+0.2**
	4.7nm,1.0s						
ZALV	**Zalesovo Beam**	**90.39**	**4**	P	**P**	**00 06 30.1**	**-0.4**
	0.5nm,0.5s,baz=260,slow=7.4,SNR=3.8						
ZALV	**Zalesovo Beam**	**90.39**	**4**	*e*P	**P**	**00 06 29.7**	**-0.8**
ZAA1	**Zalesovo Array**	**90.39**	**4**	*e*P	**P**	**00 06 30.1**	**-0.4**
MAJO	**Matsushiro**	**91.32**	**44**	*e*P	**P**	**00 06 34.5**	**-0.8**
MJAR	**Matsushiro Arr**	**91.32**	**44**	P	**P**	**00 06 34.5**	**-0.8**
	5.8nm,1.0s,baz=217,slow=6.3,SNR=8.9						
MJAR				LR	LR	00 47 04.0	
	comp=Z,40nm,19.6s,baz=330,slow=35						
MLR	**Muntele Rosu**	**94.63**	**326**	P	**P**	**00 06 52.3**	**+1.8**
	1.2nm,0.8s,baz=162,slow=13						
MLR	**Muntele Rosu**	**94.63**	**326**	*e*P	**P**	**00 06 51.2**	**+0.6**
	20nm,1.2s						
AFI	**Afiamalu**	**96.78**	**113**	LR	LR	00 42 36.7	
	comp=Z,130nm,20.1s,baz=245,slow=30						
IM04	**Indian Mountai**	**137.95**	**29**	*e*PKPpre	PKPpre	00 12 44.7	
IM04				*e*PKPdf	pPKPdf	00 12 55.4	0.0
IM3	**Indian Mountai**	**137.96**	**29**	*e*PKPpre	PKPpre	00 12 45.1	
IM3				*e*PKPdf	**PKPdf**	**00 12 52.0**	**-1.5**
TOLK	**Toolik Lake Re**	**138.50**	**24**	*e*PKPdf	**PKPdf**	**00 12 55.9**	**+1.4**
ILAR	**Eielson Array**	**141.07**	**29**	PKP	**PKPdf**	**00 12 57.7**	**-1.5**
	0.7nm,1.0s,baz=282,slow=4.5,SNR=5.4						
ILB	**Eielson Array**	**141.07**	**29**	*e*PKPdf	**PKPdf**	**00 12 57.7**	**-1.5**
RES	**Resolute Bay**	**141.77**	**357**	PKP	**PKPdf**	**00 13 01.7**	**+1.5**
	2.6nm,1.0s,baz=180,slow=2.0,SNR=5.3						
RES	**Resolute Bay**	**141.77**	**357**	*e*PKPdf	**PKPdf**	**00 13 05.5**	**+5.3**
INK	**Inuvik**	**143.57**	**20**	*e*PKPdf	**PKPdf**	**00 13 01.8**	**-1.7**
DAWY	**Dawson**	**144.28**	**28**	*e*PKPdf	**PKPdf**	**00 13 06.5**	**+1.5**
HYT	**Haines Junctio**	**146.70**	**32**	*e*PKPdf	**PKPab**	**00 13 10.6**	**-1.6**
SKAG	**Skagway**	**148.34**	**33**	*e*PKPbc	**PKPab**	**00 13 16.9**	**-1.6**
SCHQ	**Schefferville**	**150.32**	**319**	*e*PKPdf	**PKPdf**	**00 13 15.1**	**-0.2**
DIB	**Dawson Inlet,**	**152.68**	**43**	*e*PKPdf	**PKPdf**	**00 13 17.1**	**-1.7**
YKA	**Yellowknife Ar**	**152.84**	**14**	PKPbc	**PKPbc**	**00 13 26.9**	**+1.0**
	3.3nm,1.0s,baz=338,slow=2.3,SNR=10						
IP03	**Louisa**	**161.50**	**281**	*e*PKPdf	**PKPdf**	**00 13 28.6**	**-1.9**
JBNB	**Ben Lomond Mou**	**163.25**	**82**	*e*PKPab	**PKPab**	**00 14 23.6**	**+0.6**
WVOR	**Wild Horse Val**	**165.39**	**61**	*e*PKPdf	**PKPdf**	**00 13 33.5**	**-0.7**
MDYM	**Dry Creek**	**165.78**

BPAW				S		**Sn**	**23 58 01.1**	**-1.1**
DHY	**Denali Highway**	**1.75**	**68**	P		**Pn**	**23 57 43.0**	**0.0**
SCM	**Sheep Creek Mo**	**1.81**	**109**	P		**Pn**	**23 57 43.5**	**-0.3**
SLKM	**Skilak Lake**	**1.99**	**170**	P		**Pn**	**23 57 46.8**	**+0.7**
DFR	**Drift River**	**2.05**	**205**	P		**Pn**	**23 57 46.8**	**-0.1**
DFR				S		**Sn**	**23 58 12.4**	**+0.6**
NCT	**North Crescent**	**2.13**	**207**	P		**Pn**	**23 57 48.3**	**+0.3**
RDWB	**Redoubt West**	**2.18**	**206**	P		**Pn**	**23 57 48.7**	**0.0**
TT01	**Tatalina**	**2.38**	**283**	P		**Pn**	**23 57 51.0**	**-0.3**
WRH	**Wood River Hil**	**2.39**	**31**	P		**Pn**	**23 57 51.3**	**-0.1**
JPK	**Jack Peak**	**2.50**	**122**	P		**Pn**	**23 57 52.4**	**-0.6**
PS10	**TAPS Pump St10**	**2.56**	**66**	P		**Pn**	**23 57 55.1**	**+1.5**
KLU	**Klutina**	**2.56**	**110**	P		**Pn**	**23 57 52.5**	**-1.2**
VLZ	**Valdez**	**2.56**	**119**	P		**Pn**	**23 57 52.4**	**-1.3**
PAX	**Paxson**	**2.57**	**76**	P		**Pn**	**23 57 54.5**	**+0.6**
MLY	**Manley**	**2.58**	**2**	P		**Pn**	**23 57 54.0**	**0.0**
PS11	**TAPS Pump St11**	**2.59**	**96**	P		**Pn**	**23 57 54.8**	**+0.8**
SVW2	**Sparrevohn**	**2.59**	**240**	P		**Pn**	**23 57 53.6**	**-0.6**
CCB	**Clear Creek Bu**	**2.61**	**31**	P		**Pn**	**23 57 54.1**	**-0.1**
HDA	**Harding Lake**	**2.66**	**41**	P		**Pn**	**23 57 55.3**	**+0.4**
HARP	**HAARP**	**2.69**	**89**	P		**Pn**	**23 57 56.0**	**+0.6**
BRLK	**Bradley Lake**	**2.71**	**179**	P		**Pn**	**23 57 56.9**	**+1.2**
MDM	**Murphy Dome**	**2.78**	**25**	P		**Pn**	**23 57 56.9**	**+0.2**
COLA	**College**	**2.79**	**28**	*e*Pn		**Pn**	**23 57 56.5**	**-0.2**
PS08	**TAPS Pump Stn8**	**2.79**	**40**	P		**Pn**	**23 57 57.1**	**+0.3**
ILAR	**Eielson Array**	**2.94**	**36**	P		**Pn**	**23 57 58.9**	**+0.1**
	8.1nm,0.3s,baz=221,slow=14,SNR=259							
ILAR				S		**Sn**	**23 58 31.6**	**-1.5**
	14nm,0.3s,baz=220,slow=24,SNR=28							
ILB	**Eielson Array**	**2.94**	**36**	P		**Pn**	**23 57 58.9**	**+0.1**
RIDG	**Independ'e Rid**	**3.06**	**62**	P		**Pn**	**23 58 01.5**	**+1.1**
DOT	**Dot Lake**	**3.35**	**66**	P		**Pn**	**23 58 04.7**	**+0.3**
BMRM	**Bremner River**	**3.37**	**114**	P		**Pn**	**23 58 03.3**	**-1.3**
BMRM				*e*S		Sn	23 58 53.1	+10
SCRK	**Sand Creek**	**3.50**	**61**	P		**Pn**	**23 58 06.7**	**+0.2**
IM3	**Indian Mountai**	**3.74**	**342**	P		**Pn**	**23 58 10.0**	**+0.4**
VRDI	**Verde Repeater**	**3.76**	**106**	P		**Pn**	**23 58 08.9**	**-1.2**
PRP	**Porcupine Dome**	**3.89**	**36**	P		**Pn**	**23 58 12.3**	**+0.5**
BCA3	**Beaver Creek A**	**4.25**	**78**	P		**Pn**	**23 58 16.3**	**-0.4**
BALM	**Baldy**	**4.33**	**105**	P		**Pn**	**23 58 17.5**	**-0.2**
KIAG	**Kiagna River**	**4.37**	**107**	P		**Pn**	**23 58 16.9**	**-1.5**
BARN	**Barnard Glacie**	**4.63**	**104**	P		**Pn**	**23 58 21.4**	**-0.5**
KDAK	**Kodiak Island**	**4.76**	**191**	P		**Pn**	**23 58 25.6**	**+2.0**
	0.7nm,0.3s,baz=6.3,slow=17,SNR=7.3							
KDAK				S		**Sn**	**23 59 15.5**	**-1.9**
	1.1nm,0.3s,baz=151,slow=19,SNR=8.5							
COLD	**Coldfoot**	**4.80**	**3**	*e*Pn		**Pn**	**23 58 24.4**	**+0.4**
EGAK	**Eagle**	**4.95**	**58**	*e*Pn		**Pn**	**23 58 25.9**	**-0.1**
DAWY	**Dawson**	**5.46**	**68**	P		**Pn**	**23 58 32.9**	**-0.2**
BM3	**Burnt Mountain**	**5.66**	**26**	P		**Pn**	**23 58 36.2**	**+0.5**
INK	**Inuvik**	**9.31**	**43**	P		**Pn**	**23 59 24.7**	**-0.7**
	0.1nm,0.3s,baz=234,slow=16,SNR=5.3							
INK				S		**Sn**	**00 01 05.5**	**-2.8**
	0.1nm,0.3s,baz=73,slow=28,SNR=3.1							
YKA	**Yellowknife Ar**	**16.66**	**74**	P		**P**	**00 01 04.5**	**+1.0**
	0.0nm,0.3s,baz=284,slow=13,SNR=4.8							
RES	**Resolute Bay**	**22.70**	**35**	LR		LR	00 12 10.9	
	comp=Z,55nm,18.7s,baz=42,slow=40							
NVAR	**Mina Array Bea**	**31.19**	**125**	P		**P**	**00 03 27.6**	**+1.8**
	0.1nm,0.4s,baz=301,slow=7.0,SNR=3.6							
TXAR	**Lajitas Array**	**45.02**	**115**	P		**P**	**00 05 22.6**	**+0.9**
	0.2nm,0.6s,baz=323,slow=6.9,SNR=4.1							
MKAR	**Makanchi Array**	**63.12**	**322**	P		**P**	**00 07 30.9**	**-2.1**
	0.2nm,0.4s,baz=34,slow=5.4,SNR=2.7							

MAN 16 23:59:07,8.42N×126.79E,h3km,mb4.3,ML3.1,MS2.8, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUKP	**Musuan**	**1.80**	**253**	*e*P	Pn	23 59 39.3	+0.4
BUKP				*e*S	Sb	00 00 03.6	0.0

*ISCJB **17** 00:07:46.7±0.9, 1.8N±0.1×90.94E±0.07, h10km, mb3.9/10, MS3.9/1, Error ellipse: s-maj=20.4km s-min=8.7km az=18.2*
*IDC **17** 00:07:47.7±1.3, 1.81N×90.97E, h0km, mb3.9/9, mb1 4.0/12, mb1mx3.7/64, mbtmp3.9/12, ML3.7/3, MS3.9/1, Ms1 3.9/1, ms1mx2.9/59, Error ellipse: s-maj=36.7km s-min=21.1km az=29.0*
*NEIC **17** 00:07:48.9±0.8, 1.76N×90.91E, h10km, mb4.0/3, Error ellipse: s-maj=18.0km s-min=7.6km az=18.0*
ISC 17 00:07:48.8±1.1, 1.8N±0.2×91.06E±0.08, h10km, n26, σ2.905/22, mb4.0/10, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSI	**Gunungsitoli**	**6.53**	**94**	*e*Pn	**Pn**	**00 09 26.5**	**+1.4**
	36nm,0.5s						
GSI				*e*S	**Sn**	**00 10 37.0**	**-2.8**
PSI	**Prapat**	**7.92**	**83**	Pn	**Pn**	**00 09 46.0**	**+1.7**
	0.9nm,0.3s,baz=311,slow=10,SNR=4.8						
PSI				Sn	**Sn**	**00 11 08.1**	**-6.1**
	0.8nm,0.3s,baz=7.0,slow=8.9,SNR=2.1						
IPM	**Ipoh**	**10.30**	**75**	*e*Pn	**Pn**	**00 10 19.0**	**+2.1**
	11nm,0.7s						
PALK	**Pallekele**	**11.66**	**298**	Pn	**Pn**	**00 10 33.3**	**-2.2**
	0.9nm,0.3s,baz=118,slow=11,SNR=6.0						
PALK				Sn	Sn	00 12 33.7	-12
	1.3nm,0.3s,baz=117,slow=13,SNR=3.8						
PALK	**Pallekele**	**11.66**	**298**	*e*Pn	**Pn**	**00 10 32.6**	**-2.9**
PALK				*e*S	Sn	00 12 31.8	-14
CMAR	**Chiang Mai Arr**	**18.27**	**25**	P	**Pn**	**00 12 03.0**	**+0.3**
	0.1nm,0.3s,baz=216,slow=13,SNR=9.1						
CHTO	**Chiang Mai**	**18.59**	**24**	*e*P	**Pn**	**00 12 08.7**	**+2.1**
	3.1nm,1.0s						
KSM	**Kuching**	**19.25**	**91**	*e*P	**Pn**	**00 12 15.8**	**+1.2**
	3.5nm,0.3s						
H08S2	**Diego Garcia H**	**20.76**	**243**	T	T	00 33 35.8	
	baz=62,slow=75,SNR=7.0						
H08S3	**Diego Garcia H**	**20.76**	**243**	T	T	00 33 39.3	
	baz=62,slow=75,SNR=5.9						
H08S1	**Diego Garcia H**	**20.78**	**243**	T	T	00 33 44.1	
	baz=62,slow=75,SNR=6.7						
NIL	**Nilore**	**35.80**	**334**	*e*P	**P**	**00 14 48.4**	**-0.2**
H01W3	**Cape Leeuwin H**	**42.42**	**151**	T	T	01 01 01.2	
	baz=326,slow=74,SNR=3.3						
H01W2	**Cape Leeuwin H**	**42.44**	**151**	T	T	01 00 58.8	
	baz=326,slow=74,SNR=3.5						
H01W1	**Cape Leeuwin H**	**42.44**	**151**	T	T	01 00 59.0	
	baz=326,slow=74,SNR=4.1						
MKAR	**Makanchi Array**	**45.46**	**352**	P	**P**	**00 16 08.1**	**0.0**
	1.2nm,0.8s,baz=168,slow=9.4,SNR=10						
GEYT	**Alibeck**	**46.97**	**324**	P	**P**	**00 16 20.3**	**+0.1**
	1.4nm,0.6s,baz=145,slow=10,SNR=5.1						
GEYT				LR	LR	00 35 37.4	
	comp=Z,123nm,18.4s,baz=160,slow=36						
WRA	**Warramunga Arr**	**47.63**	**119**	P	**P**	**00 16 26.1**	**+0.5**
	1.0nm,0.8s,baz=297,slow=8.9,SNR=3.5						
SONM	**Songino Array**	**47.74**	**14**	P	**P**	**00 16 27.1**	**+0.9**
	3.9nm,0.7s,baz=196,slow=9.3,SNR=20						
ZALV	**Zalesovo Beam**	**52.23**	**355**	P	**P**	**00 16 59.5**	**-0.5**
	1.2nm,0.5s,baz=182,slow=8.4,SNR=7.6						
BVAR	**Borovoye Array**	**53.86**	**345**	P	**P**	**00 17 11.2**	**-0.9**
	0.6nm,0.8s,baz=127,slow=6.0,SNR=4.8						
ABKAR	**Akbulak array**	**54.25**	**335**	*e*P	**P**	**00 17 14.8**	**-0.1**
	1.6nm,0.8s						
KBZ	**Khabaz**	**59.68**	**321**	P	**P**	**00 17 55.5**	**+2.0**
	2.8nm,1.0s,baz=167,slow=4.3,SNR=4.5						
BRTR	**Keskin Array B**	**64.22**	**314**	P	**P**	**00 18 23.8**	**-0.6**
	0.6nm,0.7s,baz=136,slow=8.6,SNR=5.5						
GERES	**GERESS Array B**	**80.33**	**319**	P	**P**	**00 20 00.8**	**+0.4**
	0.4nm,0.7s,baz=115,slow=9.0,SNR=4.6						
TXAR	**Lajitas Array**	**145.98**	**23**	PKPbc	**PKPbc**	**00 27 30.1**	**+0.3**
	0.7nm,0.8s,baz=221,slow=1.3,SNR=7.2						

*ISCJB **17** 00:12:02.5±0.6, 35.44N±0.02×119.34W±0.02, h13km±4km, Error ellipse: s-maj=3.4km s-min=2.5km az=160.2*
*NEIC **17** 00:12:03.7±0.0, 35.47N×119.35W, h25km, ML3.4(PAS), After PAS.*
NEIC Felt [III] at Bakersfield and [II] at Shafter. Also felt at Buttonwillow, California City, California Hot Springs, Delano, Goleta, Posey, Santa Barbara and Wasco.
ISC 17 00:12:02.6±1.1, 35.41N±0.02×119.36W±0.02, h10km±9km, n66, σ1.934/94, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VES	**Vestal, Richgr**	**0.48**	**28**	P	**Pg**	**00 12 11.9**	**-0.1**
	baz=208,SNR=323						
VES				S	**Sg**	**00 12 17.7**	**-0.6**
	baz=208						
ARVC	**Arvin**	**0.52**	**123**	P	**Pb**	**00 12 14.1**	**+0.3**
	baz=311,SNR=55						
ARVC				S	**Sg**	**00 12 21.2**	**+1.7**
	baz=311						
SMMC	**Simmler**	**0.53**	**259**	P	**Pb**	**00 12 14.3**	**+0.2**
	baz=73,SNR=131						
SMMC				S	**Sb**	**00 12 22.4**	**+0.6**
	baz=73						
PKM	**Mcpherson Peak**	**0.64**	**215**	P	**Pg**	**00 12 16.2**	**+1.2**
	baz=34,SNR=120						
PKM				S	**Sb**	**00 12 25.4**	**+0.2**
	baz=34						
ISA	**Isabella, Lake**	**0.77**	**71**	P	**Pg**	**00 12 17.3**	**-0.1**
	baz=255,SNR=183						
ISA				S	**Sg**	**00 12 26.8**	**-0.6**
	baz=255						
ISA	**Isabella, Lake**	**0.77**	**71**	*e*Pg	**Pg**	**00 12 17.3**	**-0.1**
ISA				*e*Sg	**Sg**	**00 12 26.7**	**-0.6**
RCTC	**Rector, Farmer**	**0.90**	**6**	P	**Pb**	**00 12 18.5**	**-1.7**
	baz=184,SNR=88						
RCTC				S	**Sg**	**00 12 29.8**	**-1.7**
	baz=184						
OSI	**Osito Audit: C**	**0.95**	**147**	P	**Pb**	**00 12 21.2**	**-0.1**
	baz=331,SNR=24						
OSI				S	**Sb**	**00 12 34.1**	**+0.1**
	baz=331						
OSI	**Osito Audit: C**	**0.95**	**147**	*e*Pg	**Pb**	**00 12 21.2**	**-0.1**
OSI				*e*S	**Sb**	**00 12 29.4**	**-4.6**
SBC	**Santa Barbara**	**1.01**	**197**	P	**Pg**	**00 12 22.9**	**+0.9**
	baz=17,SNR=21						
EDW2	**Edwards Air Fo**	**1.24**	**115**	Pb	**Pn**	**00 12 25.6**	**-0.5**
	baz=299,SNR=122						
EDW2				S	**Sb**	**00 12 41.9**	**-0.4**
	baz=299						
BLG	**Laguna Peak, P**	**1.32**	**169**	P	**Pn**	**00 12 26.9**	**-0.3**
	baz=351,SNR=23						
BLG				S	**Sn**	**00 12 44.7**	**-0.2**
	baz=351						
PMPB	**Monarch Peak**	**1.42**	**305**	*e*Pn	**Pn**	**00 12 27.3**	**-1.2**
DECC	**Green Verdugo**	**1.43**	**144**	Pb	**Pn**	**00 12 29.2**	**+0.5**
	baz=327						
DECC				Sb	**Sb**	**00 12 48.4**	**+0.6**
	baz=327						
SCZ2	**Santa Cruz Isl**	**1.43**	**189**	P	**Pn**	**00 12 28.2**	**-0.5**
	baz=9.7,SNR=16						
CWC	**Cottonwood Cre**	**1.46**	**45**	Pb	**Pn**	**00 12 28.9**	**-0.3**
	baz=227						
CWC				Sb	**Sn**	**00 12 47.0**	**-1.5**
	baz=227						
PASC	**Pasadena Art C**	**1.57**	**142**	*e*Pn	**Pn**	**00 12 31.2**	**+0.6**
PASC				*e*S	**Sn**	**00 12 50.6**	**-0.5**
MWC	**Mount Wilson**	**1.60**	**138**	*e*Pn	**Pn**	**00 12 31.3**	**+0.1**
MWC				*e*S	**Sb**	**00 12 53.8**	**+1.1**
MPMC	**Manual Prospec**	**1.65**	**67**	Pb	**Pn**	**00 12 31.8**	**-0.1**
	baz=249						
DAC	**Darwin (Calif)**	**1.67**	**59**	*e*Pn	**Pn**	**00 12 32.0**	**-0.2**
DAC				*e*S	**Sb**	**00 12 54.0**	**-0.9**
BFSC	**Mount Baldy Ra**	**1.83**	**129**	P	**Pn**	**00 12 34.1**	**-0.1**
	baz=313,SNR=28						
BFSC				S	**Sn**	**00 12 56.7**	**-0.8**
	baz=313						
TIN	**Tinemaha, Big**	**1.88**	**29**	Pb	**Pn**	**00 12 35.8**	**+0.9**
	baz=210						
GSC	**Goldstone, Bar**	**2.09**	**92**	*e*Pn	**Pn**	**00 12 37.3**	**-0.5**
GSC				*e*S	**Sb**	**00 13 08.4**	**+1.6**
SAO	**San Andreas Ge**	**2.16**	**309**	*e*Pn	**Pn**	**00 12 37.3**	**-1.4**
SNCC	**San Nicolas Is**	**2.17**	**184**	P	**Pn**	**00 12 38.1**	**-0.6**
	baz=4.2						
SNCC				S	**Sn**	**00 13 04.9**	**-0.8**
	baz=4.2						
SNCC	**San Nicolas Is**	**2.17**	**184**	*e*Pn	**Pn**	**00 12 39.4**	**+0.6**
SNCC				*e*S	**Sn**	**00 13 06.8**	**+1.1**
MDPB	**Devils Postpil**	**2.23**	**6**	*e*Pn	**Pn**	**00 12 40.1**	**+0.2**
MLAC	**Mammoth, Mammo**	**2.25**	**11**	Pb	**Pn**	**00 12 41.0**	**+0.8**
	baz=190						
GRAC	**Grapevine Rang**	**2.26**	**45**	Pb	**Pn**	**00 12 41.0**	**+1.0**
	baz=227						
BBRC	**Big Bear Solar**	**2.31**	**119**	S	**Sn**	**00 13 08.3**	**-1.4**
	baz=302						
MURC	**Murrieta**	**2.54**	**135**	P	**Pn**	**00 12 43.7**	**-0.3**
	baz=318,SNR=12						
MURC				S	**Sn**	**00 13 13.7**	**-1.4**
	baz=318						
HEC	**Hector,Ludlow**	**2.55**	**102**	P	**Pn**	**00 12 43.5**	**-0.6**
	baz=286						
CMB	**Columbia Colle**	**2.74**	**343**	*e*Pn	**Pn**	**00 12 47.0**	**+0.2**
CMB				*e*S	**Sn**	**00 13 19.1**	**-1.0**
RDG13	**Poverty Ridge**	**2.78**	**317**	*e*Pn	**Pn**	**00 12 45.5**	**-1.8**
TUQ	**Turquise Moun**	**2.81**	**89**	P	**Pn**	**00 12 46.9**	**-0.9**
	baz=272						
TPNV	**Topopah Spring**	**2.95**	**58**	P	**Pn**	**00 12 50.2**	**+0.6**
	baz=240						
TPNV	**Topopah Spring**	**2.95**	**58**	*e*Pn	**Pn**	**00 12 50.2**	**+0.6**
TPNV				*e*Sn	**Sb**	**00 13 32.5**	**+1.0**
PFO	**Pinyon Flats O**	**3.00**	**126**	P	**Pn**	**00 12 50.0**	**-0.3**
	baz=309						
PFO	**Pinyon Flats O**	**3.00**	**126**	*e*Pn	**Pn**	**00 12 51.2**	**+0.9**
PFO				*e*S	**Sn**	**00 13 26.3**	**-0.1**
XPFO	**Piæon Flat**	**3.00**	**126**	*e*Pn	**Pn**	**00 12 51.1**	**+0.8**
WAKR	**Walker**	**3.09**	**359**	*e*Pn	**Pn**	**00 12 52.9**	**+1.3**
WAKR				*e*Sn	**Sn**	**00 13 31.4**	**+2.7**
GMRC	**Granite Mounta**	**3.10**	**101**	P	**Pn**	**00 12 50.8**	**-1.0**
	baz=284,SNR=8.8						
BELC	**Belle Mtn. Jos**	**3.11**	**116**	P	**Pn**	**00 12 51.2**	**-0.7**
	baz=299,SNR=8.2						
NV01	**Mina Array Sit**	**3.13**	**15**	*e*Pn	**Pn**	**00 12 52.9**	**+0.6**
NV11	**Mina Array Sit**	**3.16**	**17**	*e*Pn	**Pn**	**00 12 53.3**	**+0.7**
RYN	**Ryan**	**3.28**	**12**	*e*Pn	**Pn**	**00 12 55.2**	**+1.0**
MONP2	**Monument Peak**	**3.50**	**135**	P	**Pn**	**00 12 57.6**	**+0.2**
	baz=318						
BAR	**Barrett**	**3.52**	**140**	*e*Pn	**Pn**	**00 12 58.3**	**+0.8**
BAR				*e*S	**Sn**	**00 13 38.5**	**-0.7**
YERR	**Yerington**	**3.57**	**2**	*e*Pn	**Pn**	**00 13 03.1**	**-2.8**
SHPR	**Sheep Range**	**3.58**	**71**	*e*Pn	**Pn**	**00 12 59.5**	**+1.2**
RUBR	**Rubicon Trail**	**3.69**	**350**	*e*Pn	**Pn**	**00 13 01.7**	**+1.8**
AFDM	**Forest Hills D**	**3.75**	**340**	*e*Pn	**Pn**	**00 13 01.6**	**+0.9**
KVN	**Kaiserville**	**3.77**	**15**	*e*Pn	**Pn**	**00 13 02.1**	**+1.1**
VCNR	**Virginia City**	**3.88**	**357**	*e*Pn	**Pn**	**00 13 05.5**	**+2.9**
R11A	**Troy Canyon, C**	**4.21**	**45**	*e*Pn	**Pn**	**00 13 08.1**	**+1.0**
R11A				*e*S	**Sb**	**00 14 12.5**	**+4.6**
PAHR	**Pah Rah Range**	**4.29**	**360**	*e*Pn	**Pn**	**00 13 07.0**	**-1.0**
PAHR				*e*S	**Sb**	**00 14 13.7**	**+3.7**
Y12C	**Blythe**	**4.32**	**111**	*e*Pn	**Pn**	**00 13 11.8**	**+3.3**
GDXM	**Geysers**	**4.36**	**322**	*e*Pn	**Pn**	**00 13 08.2**	**-0.8**
GLA	**Glamis**	**4.43**	**121**	*e*Pn	**Pn**	**00 13 10.2**	**+0.2**
ORV	**Oroville**	**4.47**	**338**	*e*Pn	**Pn**	**00 13 11.8**	**+1.3**
W13A	**Hualapai Mount**	**4.49**	**92**	*e*Pn	**Pn**	**00 13 10.7**	**-0.3**
BEKR	**Beckworth**	**4.51**	**350**	*e*Pn	**Pn**	**00 13 11.0**	**-0.3**
LCMT	**Little Creek M**	**5.20**	**70**	*e*Pn	**Pn**	**00 13 20.1**	**-0.4**
Y14A	**Wickenburg**	**5.44**	**104**	*e*Pn	**Pn**	**00 13 24.0**	**+0.2**
U15A	**North Rim**	**5.83**	**78**	*e*Pn	**Pn**	**00 13 32.3**	**+3.0**
KMRM	**Mail Ridge**	**5.91**	**326**	*e*Pn	**Pn**	**00 13 29.5**	**-0.8**

*ISCJB **17** 00:12:08.2±0.9, 1.1N±0.1×92.02E±0.2, h10km, mb3.8/10, Error ellipse: s-maj=27.2km s-min=16.4km az=141.9*
*IDC **17** 00:12:08.4±1.1, 1.11N×91.95E, h0km, mb3.7/10, mb1 3.9/11, mb1mx3.6/64, mbtmp3.7/11, ML3.6/1, Error ellipse: s-maj=40.2km s-min=18.7km az=47.0*
ISC 17 00:12:09.8±1.2, 1.1N±0.2×92.02E±0.2, h10km, n12, σ0.965/12, mb3.8/10, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**18.56**	**21**	P	**Pn**	**00 16 27.0**	**-0.1**
	0.1nm,0.3s,baz=199,slow=13,SNR=3.7						
MKAR	**Makanchi Array**	**46.28**	**351**	P	**P**	**00 20 35.0**	**-0.5**
	0.7nm,0.8s,baz=167,slow=8.2,SNR=5.9						
WRA	**Warramunga Arr**	**46.51**	**119**	P	**P**	**00 20 37.9**	**+0.1**
	1.9nm,0.7s,baz=298,slow=8.6,SNR=13						
ASAR	**Alice Springs**	**47.61**	**124**	P	**P**	**00 20 46.5**	**+0.1**
	0.2nm,0.5s,baz=298,slow=8.1,SNR=3.2						
GEYT	**Alibeck**	**48.05**	**324**	P	**P**	**00 20 50.4**	**+0.8**
	0.7nm,0.4s,baz=108,slow=4.7,SNR=3.3						
SONM	**Songino Array**	**48.20**	**13**	P	**P**	**00 20 51.2**	**+0.5**
	1.2nm,0.7s,baz=194,slow=7.8,SNR=7.0						
ZALV	**Zalesovo Beam**	**52.99**	**355**	P	**P**	**00 21 26.4**	**-0.1**
	0.5nm,0.4s,baz=163,slow=6.0,SNR=3.7						
BVAR	**Borovoye Array**	**54.76**	**344**	P	**P**	**00 21 39.0**	**-0.6**
	0.2nm,0.5s,baz=153,slow=8.1,SNR=3.2						
BRTR	**Keskin Array B**	**65.34**	**314**	P	**P**	**00 22 51.8**	**-0.9**
	0.4nm,0.7s,baz=128,slow=9.0,SNR=3.9						
MLR	**Muntele Rosu**	**72.57**	**318**	P	**P**	**00 23 38.4**	**+1.0**
	0.7nm,0.8s,baz=212,slow=12,SNR=5.1						
GERES	**GERESS Array B**	**81.44**	**319**	P	**P**	**00 24 27.6**	**+0.3**
	1.6nm,0.8s,baz=101,slow=5.6,SNR=13						
TXAR	**Lajitas Array**	**146.24**	**25**	PKPbc	**PKPab**	**00 31 51.5**	**-0.6**
	0.9nm,0.9s,baz=238,slow=1.0,SNR=4.7						

IDC 17 00:26:09.5±422.0, 37.97N×115.66W, h0km, Error ellipse: s-maj=160.7km s-min=90.1km az=7.0, Southern Nevada

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I57US	**PINON FLAT INF**	**4.40**	**189**	*i*		00 53 50.0	
	baz=6.2,slow=314,SNR=0.6						
I56US	**NEWPORT INFRASI**	**0.35**	**355**	*i*		01 33 10.2	
	baz=171,slow=368						
I10CA	**LAC DU BONNET**	**18.60**	**43**	*i*		02 19 10.0	
	baz=235,slow=334,SNR=1.6						

IDC 17 00:32:57.8±422.0, 37.93N×116.34W, h0km, Error ellipse: s-maj=160.9km s-min=99.3km az=0.0, Southern Nevada

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I57US	**PINON FLAT INF**	**4.31**	**181**	*i*		01 00 35.1	
	baz=360,slow=309,SNR=1.5						
I56US	**NEWPORT INFRASI**	**0.35**	**357**	*i*		01 39 00.0	
	baz=176,slow=377,SNR=0.4						
I10CA	**LAC DU BONNET**	**19.00**	**43**	*i*		02 30 10.0	
	baz=235,slow=334,SNR=1.7						

DJA 17 00:52:23.4±0.5, 7.7S±5.1×107.5E±2.1, h10km, M4.0/6, mb4.4/2, MLv3.9/6, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKJI	**Sukabumi**	**1.45**	**80**	P	Pn	00 52 49.6	-0.1
SBJI	**Serang**	**1.51**	**42**	P	Pn	00 52 48.7	-1.9
KASI	**Kota Agung**	**1.83**	**340**	P	Pn	00 52 55.2	+0.2
KLI	**Kotabumi**	**2.40**	**354**	P	Sb	00 53 34.0	-2.3
LWLI	**Liwa**	**2.46**	**335**	P	Sb	00 53 39.3	+0.9
CISI	**Cisompet, Garu**	**2.69**	**96**	P	Pn	00 53 07.3	+0.5
MDSI	**Maura Dua**	**2.91**	**341**	P	Pn	00 53 10.4	+0.6
PWJI	**Pagerwojo**	**6.67**	**97**	P	Pn	00 54 02.7	+1.2
PPSI	**Pulau Pagai**	**6.77**	**311**	P	Pn	00 54 02.8	-0.1
MTKI	**Muara Teweh, K**	**11.59**	**58**	P	Pn	00 55 14.3	+5.2
WSI	**Waingapu**	**15.20**	**100**	P	P	00 56 08.0	+4.6

*GUC **17** 01:01:48.3±0.5, 30.72S×69.38W, h81km±11km, ML3.6*
*SJA **17** 01:01:48.4±0.8, 30.50S×69.35W, h16km±2km, ML3.3, MW3.7*
*ISCJB **17** 01:01:49.2±1.0, 30.49S±0.03×69.35W±0.04, h6km±7km, Error ellipse: s-maj=5.5km s-min=4.5km az=141.0*
ISC 17 01:01:48.3±1.6, 30.50S±0.03×69.34W±0.04, h6km±14km, n17, σ0.983/25, 3D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AROD	**Rodeo**	**0.35**	**341**	*i* P	**Pb**	**01 01 57.3**	**0.0**
ACDV	**Cuesta del Vie**	**0.38**	**30**	*i* P	**Pb**	**01 01 57.3**	**-0.3**
AMOG	**MOGNA**	**0.85**	**121**	*i* P	**Pg**	**01 02 05.1**	**+0.4**
RTLL	**Cerro Villicun**	**1.11**	**138**	*i* P	**Pg**	**01 02 10.1**	**+0.4**
ZON	**Zonda**	**1.19**	**151**	*i* P	**Pb**	**01 02 10.9**	**-0.4**
AGUA	**GUANDACOL**	**1.25**	**36**	*i* P	**Pn**	**01 02 11.8**	**-0.8**
AGUA				*i* S	**Sn**	**01 02 29.7**	**-0.1**
RTLS	**Leoncito**	**1.29**	**178**	*i* P	**Pg**	**01 02 13.5**	**+0.3**
RTLS				*i* S	**Sn**	**01 02 32.0**	**+0.9**
RTLS				IAML		01 02 32.6	
	comp=Z,253nm,0.4s						
GO04	**Tololo Observa**	**1.30**	**284**	*e*P	**Pn**	**01 02 12.7**	**-0.7**
GO04				*e*S	**Sb**	**01 02 30.0**	**-0.5**
GO04				IAML		01 02 31.8	
	comp=E,2µm,0.3s						
TLL	**Tololo Astrono**	**1.31

GERES	**GERESS Array B**	**79.92**	**319**	P		**P**		**01 33 33.9**	**+0.2**
	1.0nm,0.7s,baz=97,slow=5.4,SNR=7.4									

IDC 17 01:34:59.3±3.5, 1.91N×93.44E, h0km, mb3.4/2, mb1 3.7/3, mb1mx3.2/60, mbtmp3.5/3, ML4.2/1, Error ellipse: s-maj=113.6km s-min=34.5km az=61.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**17.31**	**18**	P	Pn	01 39 03.1	+0.5
	0.3nm,0.3s,baz=209,slow=12,SNR=4.4						
WRA	**Warramunga Arr**	**45.62**	**120**	P	P	01 43 21.6	-0.2
	0.3nm,0.8s,baz=302,slow=8.2,SNR=1.7						
MKAR	**Makanchi Array**	**45.75**	**349**	P	P	01 43 22.4	-0.2
	0.7nm,0.6s,baz=165,slow=8.6,SNR=8.3						

*ISCJB **17** 01:41:23.0±0.3, 20.33S±0.07×67.87E±0.05, h10km, mb4.7/67, MS4.1/35, Error ellipse: s-maj=10.0km s-min=7.2km az=167.1*

*IDC **17** 01:41:22.6±0.5, 20.34S×68.07E, h0km, mb4.4/24, mb1 4.5/25, mb1mx4.2/66, mbtmp4.4/25, ML3.6/1, MS4.0/30, Ms1 4.0/30, ms1mx3.8/55, Error ellipse: s-maj=14.8km s-min=13.2km az=147.0*

*GCMT **17** 01:41:24.9±0.3, 20.24S×68.00E, h13km±1km, MW4.8/83, Moment Tensor Solution. s17,c19; s83,c112; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr-0.53±.09; Mθθ2.25±.11; Mϕϕ-1.72±.08; Mrθ0.11±.21; Mrϕ-0.78±.08; Mθϕ0.81±.25; Best double couple: Mo2.32700×10^16 NP1:ϕs143.00000°, δ73.00000°, λ-19.00000°. NP2: ϕs239.00000°, δ72.00000°, λ-162.00000°. Principal axes: T 2.3990, Plg1.0000°, Azm191.0000°; N -0.1440, Plg65.0000°, Azm283.0000°; P -2.2550, Plg25.0000°, Azm101.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **17** 01:41:24.9±0.3, 20.31S×67.94E, h10km, mb4.9/30 Error ellipse: s-maj=10.8km s-min=8.1km az=179.0*

*BJI **17** 01:41:24.7, 19.68S×67.42E, h5km, mb4.8/38, mB4.9/29, Ms4.7/14, Ms7 4.5/12*

ISC 17 01:41:25.6±0.4, 20.34S±0.09×67.83E±0.07, h10km, n130, σ1s88/109, mb4.8/67, MS4.1/35, 1C, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**13.40**	**20**	T	T	01 58 09.7	
	baz=199,slow=76,SNR=95						
H08S2	**Diego Garcia H**	**13.41**	**20**	T	T	01 58 08.6	
	baz=199,slow=76,SNR=128						
H08S3	**Diego Garcia H**	**13.42**	**20**	T	T	01 58 08.4	
	baz=199,slow=76,SNR=70						
H08N3	**Diego Garcia H**	**14.25**	**13**	T	T	01 59 16.9	
	baz=193,slow=76,SNR=40						
H08N1	**Diego Garcia H**	**14.26**	**13**	T	T	01 59 13.9	
	baz=193,slow=76,SNR=28						
H08N2	**Diego Garcia H**	**14.27**	**13**	T	T	01 59 16.6	
	baz=193,slow=76,SNR=37						
OPO	**Ambohidratompo**	**19.54**	**272**	P	**P**	**01 45 53.8**	**+0.2**
	0.2nm,0.3s,baz=139,slow=11,SNR=3.8						
OPO				LR	LR	01 51 30.2	
	comp=Z,879nm,22.0s,baz=104,slow=31						
PALK	**Pallekele**	**30.22**	**26**	LR	LR	01 56 44.8	
	comp=Z,301nm,20.7s,baz=115,slow=31						
KMBO	**Kilima Mbogo**	**35.46**	**299**	P	**P**	**01 48 23.5**	**+0.8**
	1.4nm,0.5s,baz=117,slow=9.0,SNR=4.0						
KMBO	**Kilima Mbogo**	**35.46**	**299**	*eP*	**P**	**01 48 22.7**	**0.0**
	7.0nm,1.0s						
GSI	**Gunungsitoli**	**36.23**	**57**	*eP*	**P**	**01 48 28.9**	**-0.1**
	106nm,1.9s						
LSZ	**Lusaka**	**38.01**	**271**	LR	LR	02 02 50.3	
	comp=Z,92nm,20.1s,baz=121,slow=34						
LSZ	**Lusaka**	**38.01**	**271**	*eP*	**P**	**01 48 44.3**	**0.0**
	17nm,0.9s						
LBTB	**Lobatse**	**39.13**	**255**	P	**P**	**01 48 54.8**	**+1.1**
	19nm,1.0s,baz=90,slow=7.7,SNR=13						
LBTB				LR	LR	02 01 59.4	
	comp=Z,222nm,19.6s,baz=94,slow=31						
LBTB	**Lobatse**	**39.13**	**255**	*eP*	**P**	**01 48 55.4**	**+1.7**
	26nm,1.1s						
BOSA	**Boshof**	**39.44**	**249**	P	**P**	**01 48 55.7**	**-0.6**
	1.9nm,0.7s,baz=84,slow=8.4,SNR=5.0						
BOSA				LR	LR	02 02 20.3	
	comp=Z,96nm,18.0s,baz=102,slow=32						
BOSA	**Boshof**	**39.44**	**249**	*eP*	**P**	**01 48 55.8**	**-0.5**
	26nm,1.7s						
LEM	**Lembang**	**40.82**	**76**	LR	LR	02 02 07.0	
	comp=Z,180nm,21.8s,baz=202,slow=31						
TRTT	**Trang**	**42.03**	**51**	P	**P**	**01 49 16.0**	**-1.5**
	5.1nm,1.8s						
H01W2	**Cape Leeuwin H**	**43.15**	**120**	T	T	02 35 16.8	
	baz=279,slow=75,SNR=4.1						
H01W3	**Cape Leeuwin H**	**43.15**	**120**	T	T	02 35 11.3	
	baz=279,slow=75,SNR=5.1						
H01W1	**Cape Leeuwin H**	**43.16**	**120**	T	T	02 35 12.4	
	baz=279,slow=75,SNR=4.5						
SUR	**Sutherland**	**43.48**	**244**	LR	LR	02 05 50.2	
	comp=Z,7.5nm,18.9s,baz=154,slow=34						
WSAR	**Wadi Sarin**	**44.24**	**348**	LR	LR	02 04 43.5	
	comp=Z,196nm,18.4s,baz=181,slow=32						
JAGI	**Jajag, Banyuwa**	**46.24**	**82**	*eP*	**P**	**01 49 51.1**	**-0.4**
	32nm,1.0s						
TSUM	**Tsumeb**	**47.14**	**262**	P	**P**	**01 50 00.6**	**+2.0**
	6.1nm,1.1s,baz=106,slow=7.2,SNR=3.5						
MAW	**Mawson**	**47.35**	**183**	LR	LR	02 04 53.6	
	comp=Z,452nm,20.0s,baz=308,slow=30						
NAYO	**Nakonayok**	**47.65**	**46**	P	**P**	**01 50 02.3**	**0.0**
	12nm,1.4s						
MBWA	**Marble Bar**	**48.36**	**101**	*eP*	**P**	**01 50 08.0**	**+0.1**
	14nm,0.9s						
RAYN	**Ar Rayn**	**48.73**	**332**	*eP*	**P**	**01 50 08.4**	**-2.1**
	3.8nm,1.0s						
PBKT	**Sadao Pong**	**49.04**	**44**	P	**P**	**01 50 11.3**	**-1.7**
	19nm,1.1s,862nm						
SBUM	**Sibu**	**49.06**	**68**	*eP*	**P**	**01 50 16.8**	**+3.4**
	16nm,1.0s						
CM01	**Chiang Mai Arr**	**49.15**	**40**	*eP*	**P**	**01 50 12.6**	**-1.3**
CMAR	**Chiang Mai Arr**	**49.17**	**40**	P	**P**	**01 50 12.9**	**-1.2**
	3.2nm,0.7s,baz=237,slow=8.5,SNR=24						
CMAR				LR	LR	02 07 18.1	
	comp=Z,156nm,21.6s,baz=226,slow=32						
CHTO	**Chiang Mai**	**49.45**	**40**	*eP*	**P**	**01 50 15.6**	**-0.5**
	11nm,1.0s						
SHL	**Shillong**	**51.27**	**28**	*eP*	**P**	**01 50 28.0**	**-2.1**
SKNT	**Sakolnakorn**	**51.33**	**46**	P	**P**	**01 50 32.3**	**+1.9**
	4.8nm,2.1s						
FITZ	**Fitzroy Crossi**	**54.40**	**98**	*eP*	**P**	**01 50 51.1**	**-2.1**
BATI	**Baumata**	**54.58**	**88**	LR	LR	02 09 03.9	
	comp=Z,104nm,21.6s,baz=204,slow=31						
MYLDM	**Lahad Datu**	**55.85**	**69**	*eP*	**P**	**01 51 07.0**	**+3.2**
	18nm,0.9s						
KMI	**Kunming**	**56.52**	**38**	P	**P**	**01 51 10.5**	**+2.0**
KMI				pmax	pmax		
	comp=Z,11nm,0.5s						
KMI				pmax	pmax		
	comp=Z,60nm,4.0s						
GEYT	**Alibeck**	**58.68**	**351**	LR	LR	02 14 05.0	
	comp=Z,168nm,19.1s,baz=135,slow=33						
GYA	**Guiyang**	**59.86**	**41**	I/iP	**P**	**01 51 32.8**	**+1.0**
GYA				PP	**PP**	**01 53 47.6**	**+3.5**
GYA				ScP	**ScP**	**01 56 19.8**	**+0.3**
GYA				S	**S**	**01 59 43.3**	**-0.5**
GYA				SS	**SS**	**02 03 40.6**	**+0.1**
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
GYA				pmax	pmax		
	comp=Z,110nm,6.2s						
GYA				LR	LR		
	comp=N,300nm,18.2s						
GYA				LR	LR		
	comp=E,240nm,19.0s						
GYA				LR	LR		
	comp=Z,260nm,18.8s						
KSH	**Kashi**	**60.03**	**7**	P	**P**	**01 51 28.0**	**-4.7**
KSH				pmax	pmax		
	comp=Z,30nm,0.9s						
ASAR	**Alice Springs**	**60.87**	**106**	P	**P**	**01 51 35.9**	**-2.9**
	2.7nm,0.8s,baz=260,slow=6.1,SNR=25						
ASAR				LR	LR	02 14 12.1	
	comp=Z,361nm,21.4s,baz=280,slow=32						
AS31	**Alice Springs**	**60.87**	**106**	*eP*	**P**	**01 51 36.6**	**-2.2**
	3.3nm,0.8s						
AS01	**Alice Springs**	**60.91**	**106**	*eP*	**P**	**01 51 37.3**	**-1.8**
MMAI	**Mount Meron Ar**	**61.44**	**329**	LR	LR	02 16 10.4	
	comp=Z,56nm,19.3s,baz=175,slow=34						
CD2	**Chengdu**	**61.55**	**35**	*eP*	**P**	**01 51 43.4**	**+0.3**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
WRA	**Warramunga Arr**	**62.03**	**102**	P	**P**	**01 51 43.9**	**-2.8**
	12nm,0.9s,baz=261,slow=6.1,SNR=18						
WRA				LR	LR	02 15 51.2	
	comp=Z,172nm,19.4s,baz=185,slow=34						
WB2	**Warramunga Arr**	**62.04**	**102**	*eP*	**P**	**01 51 49.6**	**+2.8**
	16nm,1.0s						
WRAB	**Tennant Creek**	**62.04**	**102**	*eP*	**P**	**01 51 47.7**	**+1.0**
	17nm,0.9s						
KDJ	**Kajisay**	**62.76**	**8**	*eP*	**P**	**01 51 50.3**	**-0.9**
	8.3nm,1.3s						
DAV	**Davao City (W)**	**62.96**	**70**	LR	LR	02 17 50.6	
	comp=Z,38nm,19.5s,baz=332,slow=35						
AAK	**Ala-Archa**	**62.97**	**6**	*eP*	**P**	**01 51 52.9**	**+0.4**
	6.0nm,1.0s						
KK31	**Karatay Array**	**63.18**	**2**	*eP*	**P**	**01 51 53.9**	**+0.2**
KKAR	**Karatay Array**	**63.18**	**2**	*eP*	**P**	**01 51 53.9**	**+0.2**
GNI	**Garni**	**63.91**	**340**	LR	LR	02 18 06.3	
	comp=Z,108nm,20.1s,baz=154,slow=34						
ENH	**Enshi**	**64.33**	**40**	*eP*	**P**	**01 52 04.3**	**+2.7**
	26nm,1.1s						
SNAA	**Sanae**	**64.78**	**199**	P	**P**	**01 52 03.0**	**-1.1**
SNAA	**Sanae**	**64.78**	**199**	P	**P**	**01 52 03.1**	**-1.0**
	2.1nm,0.9s,baz=113,slow=7.8,SNR=3.0						
SNAA				LR	LR	02 17 52.6	
	comp=Z,310nm,18.1s,baz=112,slow=34						
LZH	**Lanzhou**	**65.66**	**32**	*eP*	**P**	**01 52 09.5**	**-0.8**
LZH				pP	sP	01 52 14.1	-0.7
LZH				sP	pP	01 52 16.5	+2.9
LZH				PP	**PP**	**01 54 38.4**	**+3.3**
LZH				pmax	pmax		
	comp=Z,27nm,1.2s						
LZH				pmax	pmax		
	comp=Z,140nm,6.3s						
LZH				LR	LR		
	comp=N,360nm,10.0s						
LZH				LR	LR		
	comp=E,350nm,12.7s						
LZH				LR	LR		
	comp=Z,490nm,14.2s						
VNA2	**Neumayer--Watz**	**66.10**	**200**	P	P	01 52 05.9	-6.7
	baz=85,slow=6.0						
STKA	**Stephens Creek**	**66.12**	**117**	LR	LR	02 17 04.0	
	comp=Z,136nm,20.4s,baz=212,slow=32						
STKA	**Stephens Creek**	**66.12**	**117**	*eP*	**P**	**01 52 16.4**	**+3.0**
	2.6nm,1.2s						
WMQ	**Urumqi**	**66.40**	**16**	P	**P**	**01 52 14.0**	**-0.8**
WMQ				pP	sP	01 52 18.4	-0.9
WMQ				sP	pP	01 52 23.8	+5.7
WMQ				pmax	pmax		
	comp=Z,25nm,1.5s						
WMQ				pmax	pmax		
	comp=Z,250nm,4.7s						
WMQ				LR	LR		
	comp=N,300nm,20.9s						
WMQ				LR	LR		
	comp=E,260nm,20.9s						
WMQ				LR	LR		
	comp=Z,270nm,19.1s						
GTA	**Gaotai**	**66.54**	**27**	*eP*	**P**	**01 52 14.4**	**-1.5**
GTA				pP	pP	01 52 18.9	-0.2
GTA				sP	sP	01 52 22.3	+1.9
GTA				pmax	pmax		
	comp=Z,8.0nm,1.2s						
XAN	**Xi'an**	**66.75**	**36**	P	**P**	**01 52 15.5**	**-1.8**
XAN				pP	pP	01 52 19.3	-1.2
XAN				pmax	pmax		
	comp=Z,10.0nm,1.0s						
XAN				pmax	pmax		
	comp=Z,100nm,4.2s						
XAN				LR	LR		
	comp=N,160nm,20.6s						
XAN				LR	LR		
	comp=E,99nm,14.1s						
XAN				LR	LR		
	comp=Z,170nm,20.6s						
VNA3	**Neumayer Olymp**	**66.88**	**200**	P	P	01 52 12.6	-4.9
WHN	**Wuhan**	**67.53**	**43**	P	**P**	**01 52 25.3**	**+3.2**
KBZ	**Khabaz**	**67.74**	**341**	LR	LR	02 20 18.7	
	comp=Z,49nm,21.9s,baz=162,slow=34						
BR131	**Keskin Array S**	**67.75**	**332**	*eP*	**P**	**01 52 23.7**	**+0.1**
BRTR	**Keskin Array B**	**67.75**	**332**	P	**P**	**01 52 23.5**	**-0.1**
	2.3nm,0.9s,baz=146,slow=7.3,SNR=15						
MK01	**Makanchi Array**	**68.07**	**11**	*eP*	**P**	**01 52 22.7**	**-2.6**
MK31	**Makanchi Array**	**68.09**	**11**	*eP*	**P**	**01 52 23.2**	**-2.2**
MKAR	**Makanchi Array**	**68.09**	**11**	P	**P**	**01 52 23.0**	**-2.4**
	4.9nm,0.9s,baz=202,slow=5.2,SNR=15						
MKAR	**Makanchi Array**	**68.09**	**11**	*eP*	**P**	**01 52 23.2**	**-2.2**
	20nm,0.9s						
BR231	**Keskin MP Arra**	**68.23**	**332**	*eP*	**P**	**01 52 24.7**	**-1.8**
QSPA	**South Pole Qui**	**69.77**	**180**	P	**P**	**01 52 33.6**	**-2.3**
	3.7nm,0.7s,baz=232,slow=2.4,SNR=7.3						
QSPA				LR	LR	02 19 29.9	
	comp=Z,252nm,18.0s,baz=264,slow=33						
AKTO	**Aktyubinsk**	**71.00**	**353**	P	**P**	**01 52 41.9**	**-1.3**
	2.3nm,0.8s,baz=171,slow=8.0,SNR=4.6						
AKTO				LR	LR	02 22 59.0	
	comp=Z,47nm,18.5s,baz=165,slow=35						
VNDA	**Vanda**	**71.16**	**167**	P	**P**	**01 52 42.0**	**-1.9**
	1.1nm,0.9s,baz=279,slow=8.7,SNR=9.8						
VNDA				LR	LR	02 19 41.1	
	comp=Z,178nm,18.3s,baz=220,slow=32						
VNDA	**Vanda**	**71.16**	**167**	*eP*	**P**	**01 52 46.9**	**+2.9**
	6.9nm,1.3s						
KURBB	**Kurchatov Arra**	**71.28**	**7**	P	**P**	**01 52 42.5**	**-2.4**
	4.4nm,0.9s,baz=202,slow=6.7,SNR=13						
KURK	**Kurchatov**	**71.38**	**7**	*eP*	**P**	**01 52 43.4**	**-2.1**
	16nm,1.4s						
NJ2	**Nanjing**	**71.42**	**44**	*eP*	**P**	**01 52 45.8**	**-0.4**
NJ2				pmax	pmax		
	comp=Z,15nm,0.5s						
TIA	**Tai'an**	**73.05**	**40**	P	**P**	**01 52 55.3**	**-0.6**
TIA				pmax	pmax		
	comp=Z,6.0nm,1.0s						
BVAR	**Borovoye Array**	**73.09**	**2**	P	**P**	**01 52 53.2**	**-2.6**
	4.1nm,1.0s,baz=145,slow=5.4,SNR=14						
BVAR				LR	LR	02 23 46.3	
	comp=Z,197nm,21.2s,baz=196,slow=35						
BRVK	**Borovoye**	**73.12**	**2**	*eP*	**P**	**01 52 58.0**	**+2.1**
	3.7nm,0.8s						
HHC	**Hu-ho-hao-te**	**73.19**	**33**	*eP*	**P**	**01 52 54.6**	**-2.2**
HHC				S	**S**	**02 02 24.8**	**-0.1**
HHC				pmax	pmax		
	comp=Z,13nm,1.3s						
HHC				pmax	pmax		
	comp=Z,77nm,7.8s						
HHC				LR	LR		
	comp=N,450nm,17.7s						
HHC				LR	LR		
	comp=E,320nm,18.0s						
HHC				LR	LR		
	comp=Z,410nm,17.7s						
ZAA0	**Zalesovo Array**	**75.42**	**10**	*eP*	**P**	**01 53 08.1**	**-1.2**
	6.4nm,0.8s						
ZALV	**Zalesovo Beam**	**75.42**	**10**	P	**P**	**01 53 07.0**	**-2.3**
	4.9nm,0.7s,baz=209,slow=6.3,SNR=11						
ZALV	**Zalesovo Beam**	**75.42**	**10**	*eP*	**P**	**01 53 06.8**	**-2.5**
KIC	**Kosan Boka**	**76.03**	**282**	*eP*	**P**	**01 53 12.3**	**-1.4**
	25nm,1.0s						
SONM	**Songino Array**	**76.18**	**26**	P	**P**	**01 53 11.8**	**-2.1**
	1.9nm,0.8s,baz=210,slow=4.0,SNR=19						
SONA1	**Songino Array**	**76.19**	**26**	*eP*	**P**	**01 53 11.9**	**-2.1**
LIC	**Lamto**	**76.24**	**282**	*eP*	P	01 53 09.4	-5.5
	86nm,1.5s						
DBIC	**Dimbokro**	**76.25**	**283**	P	**P**	**01 53 15.1**	**+0.1**
	11nm,1.0s,baz=125,slow=2.9,SNR=3.4						
DBIC				LR	LR	02 25 23.6	
	comp=Z,158nm,18.6s,baz=100,slow=34						
TIC	**Toumodi**	**76.39**	**282**	*eP*	**P**	**01 53 13.3**	**-2.5**
ULN	**Ulaanbaatar**	**76.47**	**26**	*eP*	**P**	**01 53 15.1**	**-0.5**
	12nm,1.2s						
PMG	**Port Moresby**	**76.85**	**95**	LR	LR	02 23 46.5	
	comp=Z,135nm,21.3s,baz=204,slow=33						
AKASG	**Malin Array Be**	**78.48**	**336**	P	**P**	**01 53 24.9**	**-1.8**
	2.1nm,0.7s,baz=139,slow=4.3,SNR=5.9						
AKASG				LR	LR	02 30 18.3	
	comp=Z,41nm,18.1s,baz=50,slow=37						
AKBB	**Malin Array Si**	**78.48**	**336**	*eP*	**P**	**01 53 29.7**	**+3.1**
	7.2nm,1.1s						
KIEV	**Kiev**	**78.48**	**336**	*eP*	**P**	**01 53 29.4**	**+2.7**
	7.2nm,1.1s						
KOWA	**Kowa**	**78.62**	**290**	P	**P**	**01 53 28.0**	**-0.2**
	10nm,1.0s,baz=121,slow=10.0,SNR=8.5						
KOWA				LR	LR	02 27 05.2	
	comp=Z,193nm,18.6s,baz=55,slow=35						
KOWA	**Kowa**	**78.62**	**290**	*eP*	**P**	**01 53 28.3**	**+0.1**
	12nm,1.0s						
JNU	**Nakatsue**	**80.28**	**49**	LR	LR	02 29 22.5	
	comp=Z,78nm,19.1s,baz=295,slow=36						
JNU	**Nakatsue**	**80.28**	**49**	*eP*	**P**	**01 53 38.3**	**+1.4**
	24nm,1.2s						
CRVS	**Cervenica-Dubn**	**80.35**	**331**	*eP*	**P**	**01 53 39.1**	**+2.2**
KSAR	**Wonju Array Be**	**80.59**	**44**	P	**P**	**01 53 37.5**	**-0.8**
KS01	**Wonju Array Si**	**80.61**	**44**	*eP*	**P**	**01 53 40.8**	**+2.2**
KSRS	**Korea Array**	**80.62**	**44**	P	**P**	**01 53 37.5**	**-1.0**
	2.4nm,0.7s,baz=238,slow=6.4,SNR=9.8						
STHS	**Stebnicka Huta**	**80.82**	**331**	*ePCP*	**PcP**	**01 53 47.3**	**+1.3**
VYHS	**Vyhne**	**81.28**	**329**	*eP*	**P**	**01 53 44.9**	**+3.0**
RABL	**Rabaul**	**83.26**	**92**	*eP*	**P**	**01 53 52.3**	**-0.8**
	221nm,0.4s						
USRK	**Ussuriysk Ar.**	**86.90**	**40**	P	**P**	**01 54 08.7**	**-1.9**
	1.3nm,0.7s,baz=243,slow=5.7,SNR=4.7						
USRK				LR	LR	02 33 04.3	
	comp=Z,20nm,19.5s,baz=208,slow=36						
MJB9	**Matsu-Tunnel**	**87.20**	**49**	*eP*	**P**	**01 54 15.2**	**+3.0**
	14nm,1.1s						
MAJO	**Matsushiro**	**87.20**	**49**	*eP*	**P**	**01 54 15.2**	**+2.9**
	13nm,1.1s						
MAT	**Matsushiro**	**87.20**	**49**	P	**P**	**01 54 14.7**	**+2.4**
MJAR	**Matsushiro Arr**	**87.20**	**49**	P	**P**	**01 54 11.5**	**-0.8**
	8.6nm,0.9s,baz=229,slow=6.0,SNR=14						
ESDC	**Sonseca Array**	**89.62**	**313**	P	**P**	**01 54 25.9**	**+2.2**
	0.8nm,0.8s,baz=124,slow=7.4,SNR=4.6						
DZM	**Mont Dzumac**	**90.08**	**113**	LR	LR	02 30 55.9	
	comp=Z,127nm,20.3s,baz=220,slow=33						
HFS	**Hagfors**	**91.38**	**336**	P	**P**	**01 54 31.6**	**+0.3**
	1.6nm,0.6s,baz=120,slow=10,SNR=2.9						
ILAR	**Eielson Array**	**130.00**	**19**	PKP	**PKPdf**	**02 00 33.3**	**-1.7**
	0.3nm,0.8s,baz=259,slow=1.8,SNR=3.3						
YKA	**Yellowknife Ar**	**137.85**	**2**	PKhKP	PKPpre	02 00 42.2	
	0.2nm,0.8s,baz=315,slow=3.8,SNR=5.2						
YKA				PKP	**PKPdf**	**02 00 48.8**	**-1.0**
	0.3nm,0.7s,baz=8.3,slow=2.0,SNR=6.5						
YKA				PP	**PP**	**02 03 37.1**	**+0.5**
	0.4nm,0.9s,baz=358,slow=6.1,SNR=5.2						
FFC	**Flin Flon**	**144.81**	**350**	*ePKPdf*	**PKPab**	**02 00 59.8**	**-1.6**
EDM	**Edmonton**	**147.17**	**1**	*ePKPdf*	**PKPbc**	**02 01 07.6**	**-1.3**
ULM	**Lac du Bonnet**	**147.48**	**340**	PKPbc	**PKPdf**	**02 01 06.7**	**-0.5**
	4.1nm,0.6s,baz=66,slow=2.6,SNR=5.1						
LAO	**LASA Array**	**153.27**	**351**	*ePKPbc*	**PKPbc**	**02 01 26.8**	**+2.8**
TXAR	**Lajitas Array**	**168.18**	**321**	PKPab	**PKPab**	**02 02 41.2**	**+0.1**
	0.6nm,0.9s,baz=97,slow=2.8,SNR=4.0						
TX31	**Lajitas Ar. Si**	**168.18**	**321**	*ePKPab*	**PKPab**	**02 02 42.4**	**+1.2**

IDC 17 01:45:51.6±2.2, 0.64N×126.83E, h0km, mb3.2/3, mb1 3.5/3, mb1mx3.2/54, mbtmp3.3/3, Error ellipse: s-maj=167.8km s-min=29.3km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.74**	**161**	P	P	01 50 44.1	-0.7
	1.0nm,0.6s,baz=339,slow=11,SNR=6.9						
ASAR	**Alice Springs**	**25.12**	**165**	P	P	01 51 19.2	+0.7
	0.3nm,0.6s,baz=348,slow=13,SNR=2.2						
MKAR	**Makanchi Array**	**60.15**	**326**	P	P	01 56 01.1	-0.1
	0.2nm,0.5s,baz=131,slow=7.5,SNR=1.9						

*ISCJB **17** 01:53:59.0±1.4, 2.76N±0.2×89.76E±0.1, h10km, mb3.5/4, Error ellipse: s-maj=27.4km s-min=15.4km az=17.8*

*IDC **17** 01:54:00.1±1.8, 2.64N×89.75E, h0km, mb3.4/4, mb1 3.6/6, mb1mx3.3/67, mbtmp3.5/6, ML3.5/2, Error ellipse: s-maj=49.1km s-min=26.8km az=50.0*

ISC 17 01:54:01.4±1.5, 2.76N±0.2×89.76E±0.1, h10km, n10, σ1s71/8, mb3.4/4, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**10.06**	**298**	Pn	**Pn**	**01 56 28.4**	**+2.3**
	0.2nm,0.3s,baz=117,slow=13,SNR=2.2						
PALK				Sn	**Sn**	**01 58 16.8**	**-2.4**
	3.8nm,0.3s,baz=295,slow=3.8,SNR=12						
CMAR	**Chiang Mai Arr**	**18.19**	**29**	P	**Pn**	**01 58 14.4**	**+0.2**
	0.1nm,0.3s,baz=226,slow=12,SNR=2.4						
H01W3	**Cape Leeuwin H**	**43.80**	**151**	T	T	02 48 55.4	
	baz=325,slow=76,SNR=7.6						
H01W2	**Cape Leeuwin H**	**43.81**	**151**	T	T	02 48 57.4	
	baz=325,slow=76,SNR=10						
H01W1	**Cape Leeuwin H**	**43.81**	**151**	T	T	02 48 49.5	
	baz=325,slow=76,SNR=5.7						
MKAR	**Makanchi Array**	**44.48**	**353**	P	**P**	**02 02 12.3**	**-0.6**
	0.3nm,0.6s,baz=180,slow=8.5,SNR=3.5						
SONM	**Songino Array**	**47.32**	**15**	P	**P**	**02 02 36.2**	**+0.8**
	0.9nm,0.5s,baz=196,slow=9.6,SNR=8.9						
KURBB	**Kurchatov Arra**	**48.77**	**351**	P	**P**	**02 02 45.0**	**-1.4**
	0.2nm,0.6s,baz=156,slow=4.9,SNR=3.2						
WRA	**Warramunga Arr**	**49.23**	**119**	P	**P**	**02 02 49.8**	**-0.7**
	0.2nm,0.4s,baz=298,slow=8.6,SNR=3.1						
TXAR	**Lajitas Array**	**145.77**	**21**	*PKPbc*	**PKPab**	**02 13 42.1**	**+0.2**
	0.1nm,0.5s,baz=343,slow=2.8,SNR=5.0						

MEX 17 01:58:34.6±0.3, 15.50N×96.67W, h18km±999km, MD3.7, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.61**	**63**	*eP*	Pg	01 58 44.6	-2.1
HUIG				*eS*	Sg	01 58 52.4	-2.4
VHO	**Vista Hermosa**	**1.57**	**358**	*eP*	Pn	01 58 58.6	-3.2
VHO				*eS*	Sn	01 59 16.2	-5.6

JMA 17 01:59:29.1, 26.17N×130.49E, h32km, M3.9, Southeast of Ryukyu Islands

| Code | Station

KMBO				Lg	Lg	02 01 49.9	
	2µm,0.3s,baz=271,slow=21,SNR=66						
KMBO	**Kilima Mbogo**	**0.97**	**342**	*e*Pg	**Pg**	**02 01 38.7**	**-0.1**
KMBO				*e*Sg	**Sg**	**02 01 49.8**	**-1.7**
ATD	**Arta Tunnel**	**14.49**	**21**	LR	LR	02 10 16.0	
	comp=Z,135nm,20.0s,baz=196,slow=37						
LSZ	**Lusaka**	**16.05**	**215**	Pn	**Pn**	**02 05 05.1**	**-1.2**
	0.8nm,0.3s,baz=41,slow=11,SNR=13						
LSZ				LR	LR	02 11 31.2	
	comp=Z,140nm,19.2s,baz=64,slow=38						
LSZ	**Lusaka**	**16.05**	**215**	*e*Pn	**Pn**	**02 05 05.5**	**-0.8**
	9.3nm,0.8s						
LSZ				*e*S	**S**	**02 08 20.9**	**+2.6**
ABPO	**Ambohimpanom**	**19.34**	**151**	P	**P**	**02 05 43.0**	**-3.1**
LBTB	**Lobatse**	**25.57**	**206**	LR	LR	02 17 15.2	
	comp=Z,152nm,20.1s,baz=63,slow=37						
TSUM	**Tsumeb**	**25.93**	**228**	LR	LR	02 17 45.3	
	comp=Z,352nm,18.9s,baz=54,slow=38						
BOSA	**Boshof**	**28.90**	**203**	LR	LR	02 19 23.2	
	comp=Z,106nm,18.3s,baz=92,slow=38						
SUR	**Sutherland**	**34.03**	**206**	*e*P	P	02 08 18.0	+13
BRTR	**Keskin Array B**	**41.73**	**355**	P	**P**	**02 09 11.8**	**+2.2**
	0.7nm,0.8s,baz=184,slow=12,SNR=4.7						
BUR04	**Bucovina Ar. S**	**50.63**	**349**	*e*P	**P**	**02 10 17.4**	**-2.1**
AKASG	**Malin Array Be**	**53.03**	**353**	P	**P**	**02 10 37.5**	**+0.2**
	2.3nm,0.8s,baz=172,slow=6.3,SNR=12						
AKBB	**Malin Array Si**	**53.03**	**353**	*e*P	**P**	**02 10 37.5**	**+0.2**
	4.1nm,1.0s						
KSH	**Kashi**	**54.34**	**36**	P	**P**	**02 10 46.8**	**-0.4**
KSH				pmax	pmax		
	comp=Z,8.0nm,0.7s						
AKTO	**Aktyubinsk**	**55.16**	**16**	P	**P**	**02 10 53.0**	**+0.2**
	comp=Z,2.0nm,0.8s,baz=237,slow=5.9,SNR=8.0						
ES19	**SONSECA Array**	**56.27**	**322**	*e*P	**P**	**02 10 59.5**	**-1.6**
ESDC	**Sonseca Array**	**56.29**	**322**	P	**P**	**02 11 02.0**	**+0.8**
	comp=Z,2.0nm,0.8s,baz=132,slow=6.0,SNR=11						
ESLA	**Sonseca Array**	**56.29**	**322**	*e*P	**P**	**02 11 02.6**	**+1.4**
	comp=Z,3.3nm,1.0s						
MK01	**Makanchi Array**	**62.49**	**33**	*e*P	**P**	**02 11 44.0**	**+0.2**
MK31	**Makanchi Array**	**62.50**	**33**	*e*P	**P**	**02 11 44.3**	**+0.4**
MKAR	**Makanchi Array**	**62.50**	**33**	P	**P**	**02 11 44.1**	**+0.2**
	comp=Z,1.1nm,0.7s,baz=224,slow=6.6,SNR=8.4						
MKAR	**Makanchi Array**	**62.50**	**33**	*e*P	**P**	**02 11 44.3**	**+0.3**
	comp=Z,9.4nm,0.6s						
KURBB	**Kurchatov Arra**	**63.06**	**28**	P	**P**	**02 11 48.1**	**+0.5**
	comp=Z,2.1nm,0.8s,baz=231,slow=7.3,SNR=18						
KURK	**Kurchatov**	**63.16**	**28**	P	**P**	**02 11 48.1**	**-0.1**
CMAR	**Chiang Mai Arr**	**63.71**	**68**	P	**P**	**02 11 53.4**	**+0.8**
	comp=Z,5.0nm,0.5s,baz=258,slow=6.8,SNR=4.2						
FIA0	**FINESS Array S**	**63.94**	**354**	*e*P	**P**	**02 11 53.5**	**+0.4**
FIA1	**FINESS Array S**	**63.94**	**354**	*e*P	**P**	**02 11 54.0**	**+0.8**
FINES	**FINESS Array B**	**63.94**	**354**	P	**P**	**02 11 53.5**	**+0.4**
	comp=Z,2.2nm,1.0s,baz=193,slow=7.6,SNR=3.5						
WMQ	**Urumqi**	**63.96**	**38**	P	P	02 12 01.4	+7.6
WMQ				LR	LR		
	comp=N,84nm,18.1s						
WMQ				LR	LR		
	comp=E,67nm,20.7s						
WMQ				LR	LR		
	comp=Z,130nm,20.7s						
HFS	**Hagfors**	**64.75**	**347**	LR	LR	02 41 02.8	
	comp=Z,88nm,21.8s,baz=108,slow=37						
NB200	**NORSAR Array S**	**66.12**	**346**	*e*P	**P**	**02 12 07.5**	**0.0**
NOA	**NORSAR Array B**	**66.12**	**346**	P	**P**	**02 12 07.5**	**0.0**
	comp=Z,0.6nm,0.8s,baz=150,slow=6.1,SNR=2.7						
ZALV	**Zalesovo Beam**	**68.16**	**28**	P	**P**	**02 12 20.4**	**-0.1**
	comp=Z,2.1nm,0.7s,baz=231,slow=6.3,SNR=7.6						
ZALV	**Zalesovo Beam**	**68.16**	**28**	*e*P	**P**	**02 12 20.1**	**-0.4**
ARA0	**ARCESS Array S**	**71.92**	**356**	*e*P	**P**	**02 12 43.8**	**+0.5**
ARCES	**ARCESS Array B**	**71.92**	**356**	P	**P**	**02 12 43.8**	**+0.5**
	comp=Z,4.8nm,1.0s,baz=176,slow=7.3,SNR=8.7						
ARE0	**ARCESS Array S**	**71.92**	**356**	*e*P	**P**	**02 12 43.8**	**+0.5**
	comp=Z,8.8nm,1.0s						
LZH	**Lanzhou**	**72.27**	**51**	*e*P	P	02 12 54.8	+8.5
LZH				pP	PcP	02 12 58.3	-6.1
LZH				sP	sP	02 13 00.1	+9.3
LZH				pmax	pmax		
	comp=Z,19nm,1.0s						
HHC	**Hu-ho-hao-te**	**79.31**	**48**	*e*P	P	02 13 33.1	+6.7
HHC				pmax	pmax		
	comp=Z,7.0nm,1.3s						
HHC				pmax	pmax		
	comp=Z,27nm,8.6s						
NJ2	**Nanjing**	**83.72**	**58**	*e*P	P	02 13 58.5	+8.7
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.5s						

ISCJB ***17*** *02:12:05.8±0.4,3°.33S±0°.05×127°.96E±0°.05,h111km, mb3.9/5,Error ellipse: s-maj=7.1km s-min=6.4km az=6.7*
DJA ***17*** *02:12:08.6±0.3,3°.3S±3°×12°.8E±°,h51km±6km,M4.6/13, mb4.7/6,mB5.2/3,MLv4.6/13,Mw(mB)4.5/3*
IDC ***17*** *02:12:08.6±3.4,3°.41S±128°.14E,h123km±33km,mb3.9/4, mb1 4.1/7,mb1mx3.5/58,mbtmp4.4/7,MS3.5/2,Ms1 3.5/2, ms1mx2.8/49,Error ellipse: s-maj=35.2km s-min=12.5km az=82.0*

ISC 17 02:12:06.6±0.7,3°.43S±0°.07×127°.93E±0°.06,h111km,n22, σ2s15/24,mb3.5/4,Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAI	**Ambon**	**0.37**	**134**	P	**Pn**	**02 12 21.1**	**-1.7**
AAI				S	**Sn**	**02 12 31.6**	**-3.4**
NLAI	**Namlea**	**0.85**	**283**	P	**Pn**	**02 12 24.2**	**-2.2**
NLAI				S	**Sn**	**02 12 36.8**	**-4.5**
MSAI	**Masohi**	**1.00**	**85**	P	**Pn**	**02 12 27.0**	**-0.9**
BNDI	**Bandanaira**	**2.25**	**119**	P	**Pn**	**02 12 45.1**	**+2.3**
SANI	**Sanana**	**2.38**	**305**	P	**Pn**	**02 12 41.2**	**-3.3**
LBMI	**Labuha**	**2.80**	**351**	P	**Pn**	**02 12 48.9**	**-1.2**
SIJI	**Sorong**	**4.19**	**53**	P	**Pn**	**02 13 08.9**	**+0.4**
	124nm,0.3s,baz=81,slow=6.9,SNR=148						
SIJI				S	**Sn**	**02 13 55.0**	**-1.7**
	21nm,0.3s,baz=66,slow=23,SNR=14						
FAKI	**Fak Fak**	**4.34**	**83**	P	**Pn**	**02 13 11.2**	**+0.6**
BNSI	**Bone**	**7.87**	**263**	P	**Pn**	**02 13 59.5**	**+1.2**
BSSI	**Bau Bau, Buton**	**7.89**	**253**	P	**Pn**	**02 14 01.5**	**+2.8**
TTSI	**Tana Toraja**	**8.11**	**272**	P	**Pn**	**02 14 03.7**	**+2.1**
	44nm,0.8s,4µm0.2nm						
MPSI	**Mapaga**	**8.86**	**295**	P	**Pn**	**02 14 14.0**	**+2.2**
FITZ	**Fitzroy Crossi**	**14.75**	**189**	P	**P**	**02 15 33.6**	**+0.7**
	0.5nm,0.3s,baz=20,slow=10.0,SNR=15						
WRA	**Warramunga Arr**	**17.57**	**160**	P	**P**	**02 16 04.4**	**+0.3**
	3.6nm,0.3s,baz=342,slow=12,SNR=108						
WRA				S	**Sn**	**02 19 17.3**	**-3.3**
	0.2nm,0.3s,baz=342,slow=21,SNR=3.2						
ASAR	**Alice Springs**	**20.39**	**165**	P	**P**	**02 16 41.6**	**+1.0**
	28nm,0.7s,baz=346,slow=10,SNR=143						
PSI	**Prapat**	**29.65**	**282**	LR	LR	02 33 56.7	
	comp=Z,46nm,18.2s,baz=29,slow=44						
STKA	**Stephens Creek**	**31.08**	**157**	P	**P**	**02 18 15.6**	**+1.2**
	5.6nm,0.6s,baz=334,slow=8.9,SNR=18						
MKAR	**Makanchi Array**	**64.13**	**327**	P	**P**	**02 22 30.3**	**+1.1**
	0.2nm,0.4s,baz=135,slow=8.5,SNR=2.8						
KURBB	**Kurchatov Arra**	**68.41**	**329**	P	**P**	**02 22 57.0**	**+0.6**
	0.3nm,0.5s,baz=131,slow=5.8,SNR=3.5						
VNDA	**Vanda**	**76.22**	**173**	P	**P**	**02 23 42.6**	**+0.2**
	1.2nm,0.9s,baz=308,slow=5.9,SNR=5.9						
SPITS	**Spitsbergen Ar**	**97.69**	**349**	LR	LR	03 17 01.0	
	comp=Z,40nm,18.1s,baz=300,slow=40						
TXAR	**Lajitas Array**	**124.78**	**56**	PKP	**PKPdf**	**02 30 55.4**	**+1.2**
	0.4nm,0.9s,baz=270,slow=0.9,SNR=3.4						

NIED ***17*** *02:14:00,27°.20N×141°.30E,h77km,Mw4.2 Best double couple: M○2.01000×10^15 NP1:φ○103.00000°,δ43.00000°, λ84.00000°. NP2:φ○291.00000°,δ48.00000°,λ95.00000°.*
ISCJB ***17*** *02:14:51.2±0.3,27°.22N±0°.03×140°.79E±0°.04,h76km, mb4.2/32,Error ellipse: s-maj=5.3km s-min=4.5km az=41.1*
NEIC ***17*** *02:14:53.5±1.2,26°.45N×140°.77E,h41km±11km,mb4.8/13, Error ellipse: s-maj=12.2km s-min=7.8km az=151.0*
NEIC Recorded [1 JMA] in the Chichijima-retto and Hahajima-retto.
IDC ***17*** *02:14:53.3±1.0,27°.29N×140°.94E,h94km±10km,mb3.7/22, mb1 3.9/23,mb1mx3.7/63,mbtmp4.1/23,MS2.9/1, Ms1 2.9/1,ms1mx2.3/58,Error ellipse: s-maj=14.7km s-min=12.0km az=91.0*
JMA ***17*** *02:14:55.8±0.2,27°.15N×141°.27E,h116km,M4.3*
JMA Felt I J1.

ISC 17 02:14:52.1±0.4,27°.24N±0°.05×140°.89E±0°.06,h76km,n75, σ2s02/65,mb4.2/32,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.16**	**97**	P	**Pn**	**02 15 15.9**	**+3.0**
CBIJ				*e*S	**Sn**	**02 15 31.5**	**+2.9**
CBIJ	**Chichi jima**	**1.16**	**97**	*e*Pn	**Pn**	**02 15 15.9**	**+3.0**
CBIJ				*e*Sn	**Sn**	**02 15 31.3**	**+2.8**
JCJ	**Chichijima**	**1.16**	**97**	P	**Pn**	**02 15 16.1**	**+3.1**
	1µm,0.3s,baz=282,slow=14,SNR=310						
JCJ				S	**Sn**	**02 15 30.7**	**+2.1**
	1µm,0.3s,baz=94,slow=22,SNR=68						
JHHJ	**Haha-jima-NKT**	**1.30**	**117**	P	**Pn**	**02 15 17.2**	**+2.5**
JHHJ				S	**Sn**	**02 15 33.1**	**+1.5**
BSO3	**Boso 3**	**7.55**	**358**	S	**Sn**	**02 18 07.2**	**+4.1**
BSO4	**Boso 4**	**7.75**	**357**	P	Pn	02 16 47.3	+5.3
BSO4				*e*S	**Sn**	**02 18 12.4**	**+4.3**
JAG	**Ashikaga**	**9.24**	**353**	P	**Pn**	**02 17 03.8**	**+1.3**
JAG				*e*S	**Sn**	**02 18 45.8**	**+0.9**
JHO	**Hitachi**	**9.35**	**358**	P	**Pn**	**02 17 08.6**	**+4.6**
JFK	**Kawauchi**	**10.10**	**360**	*e*S	**Sn**	**02 19 01.1**	**-4.8**
JNU	**Nakatsue**	**10.46**	**307**	P	Pn	02 17 30.8	+12
	0.6nm,0.3s,baz=106,slow=7.5,SNR=7.6						
JNU	**Nakatsue**	**10.46**	**307**	*e*Pn	Pn	02 17 28.2	+9.0
JOW	**Kunigami**	**11.25**	**271**	*e*Pn	**Pn**	**02 17 30.6**	**+0.6**
KSRS	**Korea Array**	**14.95**	**316**	P	**P**	**02 18 21.9**	**-0.9**
	0.2nm,0.3s,baz=133,slow=12,SNR=2.3						
YHNB	**Yeheng**	**17.73**	**266**	*e*Pn	**Pn**	**02 18 59.5**	**+5.4**
	22nm,0.7s						
YULB	**Yu-li**	**18.12**	**262**	*e*Pn	**Pn**	**02 19 00.1**	**+1.4**
	61nm,1.6s						
SSLB	**Suanglung**	**18.32**	**264**	*e*P	**Pn**	**02 19 02.6**	**+1.5**
	18nm,0.8s						
USRK	**Ussuriysk Ar.**	**18.39**	**339**	P	**P**	**02 19 01.3**	**+0.4**
	0.2nm,0.3s,baz=164,slow=13,SNR=6.5						
MDJ	**Mudanjiang**	**19.57**	**335**	*e*P	Pn	02 19 23.9	+8.1
	6.0nm,0.4s						
KLR	**Kul'dur**	**23.07**	**345**	P	**P**	**02 19 50.7**	**-0.4**
	0.1nm,0.3s,baz=174,slow=6.4,SNR=9.5						
DAV	**Davao City (W)**	**24.77**	**219**	LR	LR	02 28 21.7	
	comp=Z,29nm,21.9s,baz=336,slow=32						
H11N2	**WAKE ISLAND Hy**	**24.98**	**102**	T	T	02 45 26.6	
	baz=339,slow=74,SNR=8.2						
H11N3	**WAKE ISLAND Hy**	**24.98**	**102**	T	T	02 45 28.1	
	baz=295,slow=74,SNR=6.3						
H11S3	**WAKE ISLAND Hy**	**25.27**	**105**	T	T	02 45 52.6	
	baz=297,slow=74,SNR=9.3						
H11S1	**WAKE ISLAND Hy**	**25.28**	**105**	T	T	02 45 57.2	
	baz=297,slow=74,SNR=3.3						
H11S2	**WAKE ISLAND Hy**	**25.29**	**105**	T	T	02 45 55.0	
	baz=297,slow=74,SNR=4.5						
SONM	**Songino Array**	**33.82**	**317**	P	**P**	**02 21 27.7**	**+0.7**
	0.2nm,0.4s,baz=103,slow=6.2,SNR=2.8						
SAUI	**Saumlaki**	**36.22**	**196**	*e*P	**P**	**02 21 50.4**	**+2.6**
	869nm,1.3s						
SEY	**Seynchan**	**36.49**	**9**	P	**P**	**02 21 49.9**	**+0.3**
	2.0nm,0.6s,baz=194,slow=6.2,SNR=7.6						
PBKT	**Sadao Pong**	**38.38**	**262**	*e*P	**P**	**02 22 08.1**	**+2.0**
	9.8nm,0.9s						
CMAR	**Chiang Mai Arr**	**39.48**	**266**	P	**P**	**02 22 17.0**	**+1.6**
	1.1nm,0.4s,baz=52,slow=8.1,SNR=11						
MTN	**Manton Dam**	**40.95**	**195**	*e*P	**P**	**02 22 25.7**	**-1.7**
	39nm,1.6s						
TIXI	**Tiksi**	**44.96**	**355**	P	**P**	**02 22 58.4**	**-0.8**
	1.1nm,0.3s,baz=142,slow=2.7,SNR=3.1						
PSI	**Prapat**	**46.89**	**246**	P	**P**	**02 23 16.5**	**+1.2**
	7.3nm,0.5s,baz=12,slow=6.8,SNR=7.0						
PSI	**Prapat**	**46.89**	**246**	*e*P	**P**	**02 23 17.0**	**+1.7**
	9.9nm,0.5s						
WRAB	**Tennant Creek**	**47.31**	**188**	*e*P	**P**	**02 23 18.4**	**+0.2**
	9.8nm,0.4s						
WB2	**Warramunga Arr**	**47.32**	**188**	*e*P	**P**	**02 23 18.4**	**+0.1**
	9.3nm,0.6s						
WRA	**Warramunga Arr**	**47.33**	**188**	P	**P**	**02 23 17.3**	**-1.1**
	5.7nm,0.4s,baz=10,slow=8.7,SNR=48						
ODAN	**Odane**	**47.33**	**282**	*e*P	**P**	**02 23 19.7**	**+0.9**
	18nm,0.5s						
FITZ	**Fitzroy Crossi**	**47.43**	**200**	P	**P**	**02 23 19.0**	**-0.1**
	1.3nm,0.3s,baz=33,slow=12,SNR=12						
GAMB	**Gambell**	**47.51**	**26**	*e*P	P	02 23 30.1	+11
	25nm,0.5s						
RAMN	**Ramite**	**48.00**	**283**	*e*P	**P**	**02 23 24.8**	**+0.9**
	12nm,0.4s						
JIRN	**Jiri**	**48.19**	**284**	*e*P	**P**	**02 23 26.9**	**+1.3**
	38nm,0.4s						
GUN	**Gumba**	**48.41**	**284**	*e*P	**P**	**02 23 28.4**	**+1.2**
	16nm,0.6s						
GSI	**Gunungsitoli**	**48.85**	**246**	*e*P	**P**	**02 23 31.5**	**+1.2**
	44nm,1.5s						
DMN	**Daman**	**49.14**	**284**	*e*P	**P**	**02 23 33.7**	**+1.0**
	6.9nm,0.4s						
MKAR	**Makanchi Array**	**49.49**	**310**	P	**P**	**02 23 33.2**	**-1.6**
	0.2nm,0.3s,baz=87,slow=9.5,SNR=4.5						
DANN	**Dangsing**	**50.13**	**285**	*e*P	**P**	**02 23 41.4**	**+1.1**
KOLN	**Koldanda**	**50.40**	**285**	*e*P	**P**	**02 23 42.8**	**+0.6**
	7.0nm,0.5s						
PYUN	**Piuthan**	**50.85**	**285**	*e*P	**P**	**02 23 46.8**	**+1.2**
	9.4nm,0.4s						
AS01	**Alice Springs**	**51.04**	**188**	*e*P	**P**	**02 23 44.5**	**-2.1**
ASAR	**Alice Springs**	**51.05**	**188**	P	**P**	**02 23 46.1**	**-0.6**
	0.3nm,0.4s,baz=5.1,slow=8.1,SNR=6.2						
KURBB	**Kurchatov Arra**	**52.19**	**314**	P	**P**	**02 23 53.4**	**-1.1**
	1.4nm,0.3s,baz=90,slow=6.8,SNR=23						
MBWA	**Marble Bar**	**52.29**	**205**	*e*P	**P**	**02 23 55.1**	**-0.8**
	16nm,1.6s						
AKTO	**Aktyubinsk**	**65.12**	**316**	P	**P**	**02 25 22.8**	**-2.0**
	1.1nm,0.5s,baz=77,slow=15,SNR=7.1						
SPITS	**Spitsbergen Ar**	**70.04**	**350**	P	**P**	**02 25 54.4**	**-0.9**
	4.8nm,0.9s,baz=134,slow=8.3,SNR=6.5						
YKA	**Yellowknife Ar**	**72.57**	**28**	P	**P**	**02 26 09.5**	**-1.2**
	0.8nm,0.6s,baz=293,slow=6.1,SNR=21						
ARCES	**ARCESS Array B**	**73.03**	**341**	P	**P**	**02 26 12.4**	**-1.0**
	2.2nm,0.7s,baz=74,slow=8.7,SNR=12						
FINES	**FINESS Array B**	**77.31**	**333**	P	**P**	**02 26 36.1**	**-1.9**
	1.1nm,0.4s,baz=70,slow=5.1,SNR=27						
BGH	**Bear Gulch**	**78.97**	**54**	*e*P	P	02 26 57.2	+9.4
PMPB	**Monarch Peak**	**80.58**	**54**	*e*P	P	02 27 05.9	+9.4
	76nm,1.9s						
NVAR	**Mina Array Bea**	**81.34**	**51**	P	**P**	**02 26 60.0**	**-0.8**
	0.3nm,0.5s,baz=293,slow=5.4,SNR=2.5						
AKASG	**Malin Array Be**	**81.80**	**323**	P	**P**	**02 27 00.8**	**-1.9**
	0.6nm,0.5s,baz=51,slow=5.0,SNR=4.3						
HFS	**Hagfors**	**82.84**	**336**	P	**P**	**02 27 05.8**	**-2.1**
	1.7nm,0.5s,baz=73,slow=4.8,SNR=15						
NB2	**NORSAR Subarra**	**83.05**	**338**	P	**P**	**02 27 08.1**	**-0.9**
	comp=Z,2.0nm,1.0s,baz=43,slow=5.3						
NOA	**NORSAR Array B**	**83.05**	**338**	P	**P**	**02 27 07.3**	**-1.8**
	comp=Z,0.3nm,0.5s,baz=30,slow=5.1,SNR=5.7						
LEOC	**Leona Valley**	**83.12**	**55**	*e*P	P	02 27 18.9	+8.9
CJV	**Casa Juvan**	**83.28**	**55**	*e*P	P	02 27 19.3	+7.4
BFSC	**Mount Baldy Ra**	**83.77**	**55**	*e*P	P	02 27 22.3	+8.9
PDAR	**Pinedale Array**	**84.92**	**44**	P	**P**	**02 27 17.6**	**-1.5**
	comp=Z,0.4nm,0.6s,baz=279,slow=2.9,SNR=3.6						
EML	**El Monte Cty P**	**85.02**	**56**	*e*P	P	02 27 27.5	+8.0
BRTR	**Keskin Array B**	**85.06**	**312**	P	**P**	**02 27 17.4**	**-2.4**
	comp=Z,0.5nm,0.6s,baz=94,slow=4.1,SNR=4.7						
TXAR	**Lajitas Array**	**96.44**	**53**	P	**P**	**02 28 12.8**	**-0.6**
	comp=Z,0.3nm,0.9s,baz=336,slow=3.2,SNR=4.0						
PTGA	**Pitinga**	**146.90**	**41**	PKPbc	**PKPbc**	**02 34 25.8**	**-0.8**
	comp=Z,1.3nm,0.4s,baz=282,slow=4.0,SNR=6.3						
PLCA	**Paso Flores**	**150.83**	**126**	PKP	**PKPdf**	**02 34 29.6**	**-0.7**
	comp=Z,4.1nm,1.2s,baz=333,slow=6.8,SNR=3.0						
PLCA				PKPbc	**PKPbc**	**02 34 34.2**	**-1.7**
	comp=Z,1.7nm,1.0s,baz=329,slow=5.8,SNR=3.2						
LPAZ	**La Paz**	**151.00**	**74**	PKPbc	**PKPbc**	**02 34 38.5**	**+0.8**
	comp=Z,0.8nm,0.5s,baz=264,slow=4.6,SNR=5.6						

MAN 17 02:20:24,8°.19N×123°.76E,h2km,mb4.6,ML3.4,MS3.3, 1C,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAGZ	**Pagadian**	**0.50**	**227**	*e*P	Pg	02 20 34.1	+0.4
PAGZ				*e*S	Sg	02 20 41.4	+1.2
DCPH	**Dipolog City**	**0.56**	**314**	*e*P	Pb	02 20 37.0	+0.5
DCPH				*e*S	Sn	02 20 49.3	+0.4
IPIL	**Ipil**	**1.24**	**251**	*e*P	Pn	02 20 49.2	+0.9
IPIL				*e*S	Sg	02 21 03.1	-0.8
BUKP	**Musuan**	**1.33**	**103**	*e*P	Pb	02 20 50.5	+0.8
BUKP				*e*S	Sn	02 21 08.8	+0.8
TBP	**Tagbilaran**	**1.50**	**4**	*e*P	Pn	02 20 51.3	-0.6

NEIC ***17*** *02:37:40.3±0.0,28°.44N×52°.91E,h10km,mb4.6/40, ML4.3(THR),MN4.2(TEH),After THR.*
TEH ***17*** *02:37:40.3,28°.44N×52°.91E,h10km,ML4.2*
ISN ***17*** *02:37:40.9±2.3,28°.63N×52°.94E,h15km,ML4.6*
MOS ***17*** *02:37:41.5±1.1,28°.49N×52°.99E,h13km,mb4.7/44,Error ellipse: s-maj=6.7km s-min=4.0km az=108.2*
THR ***17*** *02:37:41.7±0.6,28°.49N×53°.10E,h15km±6km,ML4.3*
ISCJB ***17*** *02:37:42.4±0.1,28°.49N±0°.02×52°.96E±0°.02,h16km, mb4.5/94,MS3.7/8,Error ellipse: s-maj=3.4km s-min=2.2km az=136.1*
CSEM ***17*** *02:37:43.3±0.1,28°.51N×52°.96E,h10km,mb4.6/41,Error ellipse: s-maj=4.7km s-min=3.2km az=35.0*
IDC ***17*** *02:37:44.8±3.1,28°.49N×52°.97E,h22km±19km,mb4.1/27, mb1 4.2/35,mb1mx4.1/70,mbtmp4.3/35,ML3.7/6,MS3.5/12, Ms1 3.5/12,ms1mx3.2/62,Error ellipse: s-maj=14.3km s-min=11.2km az=3.0*
OMAN ***17*** *02:37:49.3±1.2,27°.98N×52°.98E,h10km,Error ellipse: s-maj=10.7km s-min=8.2km az=26.0*
DSN ***17*** *02:37:50.4±0.2,28°.06N×53°.10E,h15km,ML4.3/8,Error ellipse: s-maj=6.1km s-min=3.7km az=11.0*

ISC 17 02:37:43.5±0.3,28°.50N±0°.03×52°.98E±0°.03,h16km,n422, σ1s63/447,mb4.6/96,MS3.9/8,20C-47D,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GHIR	**Ghir-Karzin**	**0.21**	**178**	*e*Pg	**Pg**	**02 37 47.1**	**-1.5**
GHIR	**Ghir-Karzin**	**0.21**	**178**	*e*Pg	**Pg**	**02 37 47.1**	**-1.5**
GHIR				AML	AML	02 37 53.3	
	comp=N,61µm,0.4s						
GHIR				AML	AML	02 37 57.6	
	comp=E,54µm,0.5s						
JHRM	**Jahrom**	**0.53**	**89**	*e*Pg	**Pg**	**02 37 51.7**	**-2.4**
JHRM				*e*AMB	AMB	02 38 09.8	
	comp=Z,99nm,0.2s						
JHRM	**Jahrom**	**0.53**	**89**	*e*Pg	**Pg**	**02 37 51.7**	**-2.4**
IPAR	**Pars**	**1.34**	**3**	*e*AMB	AMB	02 38 34.5	
	comp=Z,44µm,0.4s						
IPAR				*e*Pg	**Pn**	**02 38 07.3**	**-0.6**
AHBU	**AHRAM**	**1.52**	**284**	*e*Pn	**Pb**	**02 38 11.6**	**+0.2**
AHBU				*e*Sg	**Sg**	**02 38 33.2**	**+0.5**
IKAZ	**Kazeroun**	**1.62**	**322**	*e*Pn	**Pb**	**02 38 13.0**	**-0.2**
IKAZ				*e*Sg	**Sg**	**02 38 36.0**	**+0.1**
IKAZ				*e*AMB	AMB	02 38 46.6	
	comp=Z,68µm,0.2s						
IKAZ	**Kazeroun**	**1.62**	**322**	Pn	**Pb**	**02 38 13.0**	**-0.2**
IKAZ				Sg	**Sg**	**02 38 35.9**	**+0.1**
IKAZ	**Kazeroun**	**1.62**	**322**	*e*Pn	**Pb**	**02 38 13.0**	**-0.2**
IKAZ				Sg	**Sg**	**02 38 35.9**	**+0.1**
GENO	**Geno**	**3.03**	**110**	*e*Pn	**Pn**	**02 38 33.2**	**+2.2**
GENO				*e*AMB	AMB	02 40 15.8	
	comp=Z,48µm,1.1s						
GENO	**Geno**	**3.03**	**110**	*e*Pn	**Pn**	**02 38 33.2**	**+2.2**
IMEH	**Mehriz**	**3.21**	**26**	*e*Pn	**Pn**	**02 38 35.5**	**+1.9**
IMEH				*e*AMB	AMB	02 38 50.3	
	comp=Z,4µm,0.4s						
IMEH	**Mehriz**	**3.21**	**26**	Pn	**Pn**	**02 38 35.5**	**+1.9**
IMEH	**Mehriz**	**3.21**	**26**	*e*Pn	**Pn**	**02 38 35.5**	**+1.9**
IRAM	**Ramesheh**	**3.34**	**351**	*e*Pn	**Pn**	**02 38 36.4**	**+1.1**
IRAM				*e*AMB	AMB	02 39 46.0	
	comp=Z,3µm,0.5s						
IRAM	**Ramesheh**	**3.34**	**351**	Pn	**Pn**	**02 38 36.3**	**+1.0**
IRAM	**Ramesheh**	**3.34**	**351**	Pn	**Pn**	**02 38 36.3**	**+1.0**
ISAD	**Sadrabad**	**3.46**	**10**	*e*Pn	**Pn**	**02 38 39.2**	**+2.2**
ISAD				*e*AMB	AMB	02 39 48.1	
	comp=Z,4µm,0.3s						
ISAD	**Sadrabad**	**3.46**	**10**	Pn	**Pn**	**02 38 39.1**	**+2.1**
ISAD	**Sadrabad**	**3.46**	**10**	Pn	**Pn**	**02 38 39.1**	**+2.1**
NGRK	**Negar Kerman**	**3.48**	**70**	*e*Pn	**Pn**	**02 38 39.1**	**+1.8**
NGR

IKLH eAMB AMB 02 40 54.9
comp=Z,3µm,0.7s
IKLH Kolahrood 4.95 346 Pn **Pn 02 38 58.6 +1.1**
IKLH Kolahrood 4.95 346 ePn **Pn 02 38 58.6 +1.1**
ALNE Al Ain 5.08 150 P **Pn 02 39 01.4 +2.4**
SNR=6.8
ALNE Al Ain 5.08 150 *i* P **Pn 02 39 00.7 +1.6**
SNR=6.8
SHGR Shooshtar-Gavs 5.10 316 ePn **Pn 02 39 00.8 +1.6**
SOHO SOHO 5.39 143 P **Pn 02 39 04.5 +1.2**
SNR=21
SOHO SOHO 5.39 143 *i* P **Pn 02 39 04.5 +1.2**
SNR=21
QAM Ghamsar 5.41 346 ePn **Pn 02 39 04.9 +1.2**
QAM eAMB AMB 02 40 16.6
comp=Z,961nm,0.2s
KHMZ Khomeyn 5.83 334 ePn **Pn 02 39 10.5 +1.0**
KHMZ Khomeyn 5.83 334 ePn **Pn 02 39 10.5 +1.0**
GHVR GHOM 6.13 347 ePn **Pn 02 39 14.8 +1.2**
GHVR GHOM 6.13 347 ePn **Pn 02 39 14.8 +1.2**
TABS Tabas 6.24 34 ePn **Pn 02 39 15.4 +0.3**
TABS Tabas 6.24 34 ePn **Pn 02 39 15.4 +0.3**
HOQ Hoqain 6.26 141 PnPn **Pn 02 39 18.0 +2.7**
SNR=18
HOQ Hoqain 6.26 141 P **Pn 02 39 18.0 +2.7**
SNR=18
BIDO Bidbid 6.78 136 pPn **Pn 02 39 24.1 +1.6**
SNR=9.3
BIDO Sn **Sn 02 40 39.1 -0.3**
BIDO Bidbid 6.78 136 P **Pn 02 39 24.1 +1.6**
SNR=9.3
BIDO S **Sn 02 40 39.1 -0.3**
BSY Bisya 6.88 145 pPn **Pn 02 39 25.1 +1.2**
SNR=28
BSY Sn **Sn 02 40 40.8 -1.0**
BSY Bisya 6.88 145 P **Pn 02 39 25.1 +1.2**
SNR=28
BSY S **Sn 02 40 40.8 -1.0**
SMDO Samad 7.09 139 pPn **Pn 02 39 28.2 +1.5**
SNR=11
SMDO Samad 7.09 139 P **Pn 02 39 28.2 +1.5**
SNR=11
IDMV Damavand 7.10 354 ePn **Pn 02 39 27.4 +0.3**
IDMV eAMB AMB 02 40 09.4
comp=Z,341nm,0.4s
IDMV Damavand 7.10 354 Pn **Pn 02 39 27.4 +0.3**
CHBR Chabahar 7.29 112 ePn **Pn 02 39 28.1 -1.3**
CHBR Chabahar 7.29 112 ePn **Pn 02 39 28.1 -1.3**
WSAR Wadi Sarin 7.30 135 Pn **Pn 02 39 30.5 +0.9**
comp=Z,13nm,0.3s,baz=310,slow=10,SNR=104
WSAR Sn **Sn 02 40 50.5 -1.7**
comp=Z,4.9nm,0.3s,baz=152,slow=19,SNR=8.0
WSAR Wadi Sarin 7.30 135 pPn **Pn 02 39 30.5 +0.9**
SNR=62
WSAR Sn **Sn 02 40 50.8 -1.4**
WSAR Wadi Sarin 7.30 135 P **Pn 02 39 30.5 +0.9**
SNR=62
WSAR S **Sn 02 40 50.8 -1.4**
IVIS Veis 7.96 320 ePn **Pn 02 39 39.1 +0.3**
IVIS eAMB AMB 02 41 18.8
comp=Z,666nm,0.2s
IVIS Veis 7.96 320 Pn **Pn 02 39 39.0 +0.3**
IVIS Veis 7.96 320 Pn **Pn 02 39 39.0 +0.3**
IGHG Ghaleghazi 7.98 318 ePn **Pn 02 39 39.1 -0.1**
IGHG eAMB AMB 02 41 14.8
comp=Z,1µm,0.2s
IGHG Ghaleghazi 7.98 318 Pn **Pn 02 39 39.0 -0.1**
IGHG Ghaleghazi 7.98 318 Pn **Pn 02 39 39.0 -0.1**
ILIN Lien 8.20 323 ePn **Pn 02 39 42.2 +0.1**
ILIN eAMB AMB 02 41 19.6
comp=Z,863nm,0.3s
ILIN Lien 8.20 323 Pn **Pn 02 39 42.2 +0.1**
RAYN Ar Rayn 8.35 235 ePn **Pn 02 39 43.8 -0.3**
RAYN eSn **Sn 02 41 14.9 -3.2**
RAYN Ar Rayn 8.35 235 ePn **Pn 02 39 43.8 -0.3**
RAYN eSn **Sn 02 41 14.9 -3.2**
BHD Baghdad 8.78 305 ePn **Pn 02 39 50.0 +0.1**
SNR=5.0
BHD *i* Sn **Sn 02 41 20.0 -8.6**
SNR=5.0
GEYT Alibeck 10.34 23 Pn **Pn 02 40 13.4 +2.2**
comp=Z,0.4nm,0.3s,baz=208,slow=12,SNR=16
GEYT LR LR 02 45 18.8
comp=Z,172nm,19.6s,baz=200,slow=44
GYA0B ALIBECK ARRAY 10.34 23 ePn **Pn 02 40 13.8 +2.5**
GYA0B ALIBECK ARRAY 10.34 23 ePn **Pn 02 40 13.8 +2.5**
GNI Garni 13.46 332 Pn **Pn 02 40 56.9 +2.9**
comp=Z,0.4nm,0.3s,baz=66,slow=12,SNR=3.2
GNI LR LR 02 45 39.3
comp=Z,72nm,21.3s,baz=140,slow=35
GNI Garni 13.46 332 ePn **Pn 02 40 52.4 -1.6**
GNI Garni 13.46 332 ePn **Pn 02 40 52.4 -1.6**
GNI Garni 13.46 332‖ eP **Pn 02 40 55.7 +1.7**
AKT Akhty 13.64 343 eP **Pn 02 40 57.1 +0.7**
AKT pmax pmax
comp=Z,10.0nm,0.7s
KBL Kabul 14.96 62 ePn **Pn 02 41 14.3 -0.3**
KBL Kabul 14.96 62 ePn **Pn 02 41 14.3 -0.3**
KBL Kabul 14.96 62 eP **Pn 02 41 14.3 -0.3**
MAK Makhachkala 15.09 344 eP **Pn 02 41 14.9 -1.1**
MAK eS **Sn 02 44 05.2 +2.4**
MAK pmax pmax
comp=Z,106nm,1.1s
MAK MLR MLR
comp=Z,125nm,14.0s
MMAI Mount Meron Ar 15.76 291 Pn **Pn 02 41 25.1 +0.1**
comp=Z,0.5nm,0.3s,baz=101,slow=20,SNR=7.8
MMAI LR LR 02 47 54.9
comp=Z,40nm,20.2s,baz=190,slow=39
EIL Elat 15.81 279 Pn **P 02 41 27.8 -1.5**
comp=Z,0.3nm,0.3s,baz=76,slow=12,SNR=2.3
DAMY Dhamar 15.99 212 ePn **Pn 02 41 26.1 -2.1**
comp=Z,26nm,0.7s
ZEI Tsey 16.04 335 eP **P 02 41 30.4 -1.6**
ZEI pmax pmax
comp=Z,16nm,0.8s
NCK Nalchik 16.76 336⇑ eP **P 02 41 40.3 +0.5**
NCK pmax pmax
comp=Z,15nm,1.1s
NEY Neytrino 16.88 333⇑ eP **P 02 41 41.4 +0.1**
NEY pmax pmax
comp=Z,2.0nm,0.8s
KBZ Khabaz 17.22 335 P **Pn 02 41 43.0 -0.3**
comp=Z,0.1nm,0.3s,baz=150,slow=9.0,SNR=8.6
KBZ Khabaz 17.22 335 ePn **Pn 02 41 43.0 -0.3**
KBZ Khabaz 17.22 335 eP **Pn 02 41 43.0 -0.3**
KVAR Kislovodsk Arr 17.49 335 P **Pn 02 41 46.5 -0.3**
baz=302,slow=2.9,SNR=9.9
KVAR LR LR 02 48 45.8
comp=Z,30nm,18.1s,baz=180,slow=38
KIV Kislovodsk 17.49 335 ePn **Pn 02 41 44.1 -2.8**
comp=Z,22nm,1.1s
KIV Kislovodsk 17.49 335 ePn **Pn 02 41 44.1 -2.8**
comp=Z,22nm,1.1s
KIV Kislovodsk 17.49 335 eP **Pn 02 41 47.0 +0.2**
KIV pmax pmax
comp=Z,22nm,1.1s
KIV MLR MLR
comp=Z,49nm,14.0s
CSS Mathiatis 17.90 296 ePn **Pn 02 41 48.8 -3.1**
comp=Z,6.4nm,0.7s
CSS Mathiatis 17.90 296 ePn **Pn 02 41 48.8 -3.1**
comp=Z,6.4nm,0.7s
NIL Nilore 18.10 68 ePn **Pn 02 41 52.6 -1.8**
comp=Z,11nm,0.6s
NIL Nilore 18.10 68 ePn **Pn 02 41 52.6 -1.8**
comp=Z,11nm,0.6s
NIL Nilore 18.10 68 eP **Pn 02 41 52.6 -1.8**
NIL pmax pmax
comp=Z,11nm,0.6s
GOF Gofitskoye 18.32 337⇑ eP **P 02 42 03.7 +6.8**
GOF pmax pmax
comp=Z,24nm,0.7s
COAL Corum-Alaca 18.88 313 *i* P **Pn 02 42 04.4 +0.5**
CDAG Cicekdag 18.95 311 *i* P **Pn 02 42 05.5 +0.7**
CTAK Corum_Osmancik 19.22 314 *i* P **Pn 02 42 08.9 +0.8**
ATD Arta Tunnel 19.36 211 LR LR 02 50 47.3
comp=Z,345nm,18.4s,baz=27,slow=40
BRTR Keskin Array B 19.50 310 P **Pn 02 42 11.2 -0.1**
comp=Z,0.4nm,0.3s,baz=129,slow=12,SNR=46
BR101 Keskin Array S 19.50 310 eP **Pn 02 42 11.2 -0.2**
BR101 Keskin Array S 19.50 310 eP **Pn 02 42 11.2 -0.2**
BR131 Keskin Array S 19.50 310 eP **Pn 02 42 11.3 -0.1**
BR131 Keskin Array S 19.50 310 eP **Pn 02 42 11.3 -0.1**
KKUL Konya-Kulu 19.73 308 *i* P **Pn 02 42 14.7 +0.5**

ILGA Ilgaz 20.12 314 *i* P Pn 02 42 18.7 -0.1
ILGA Ilgaz 20.12 314 eP Pn 02 42 18.7 -0.2
comp=Z,11nm,0.8s
ILGA Ilgaz 20.12 314 P Pn 02 42 18.7 -0.2
BR231 Keskin MP Arra 20.14 309 eP Pn 02 42 19.9 +1.0
BR231 Keskin MP Arra 20.14 309 eP Pn 02 42 19.9 +1.0
ANTO Ankara 20.14 310 eP **P 02 42 12.6 -4.4**
comp=Z,22nm,0.9s
ANTO Ankara 20.14 310 eP **P 02 42 12.6 -4.4**
comp=Z,22nm,0.9s
ANTO Ankara 20.14 310 eP **P 02 42 12.6 -4.4**
ANTO pmax pmax
comp=Z,22nm,0.9s
KK31 Karatay Array 20.30 39 eP **P 02 42 19.2 +0.5**
KK31 Karatay Array 20.30 39 eP **P 02 42 19.2 +0.5**
KK31 Karatay Array 20.30 39 *i* P **P 02 42 19.0 +0.3**
KK31 pmax pmax
comp=Z,7.0nm,0.7s
KKAR Karatay Array 20.30 39 eP **P 02 42 19.2 +0.6**
KKAR Karatay Array 20.30 39 eP **P 02 42 19.2 +0.6**
KKAR Karatay Array 20.30 39 eP **P 02 42 19.3 +0.6**
ANN Anapa 20.44 327 eP **P 02 42 21.1 +1.0**
ANN e*PP **pP 02 42 24.1 -0.6**
ANN eS Sn 02 46 12.9 +0.6
ANN pmax pmax
comp=Z,10.0nm,0.8s
CMDR Camlidere-ANKA 20.65 311 *i* P Pn 02 42 24.4 -0.5
MNAS Manas 21.09 43 P **P 02 42 28.5 +1.2**
MNAS pmax pmax
comp=Z,15nm,1.3s
AB31 Akbulak array 21.40 13 eP **P 02 42 31.0 +0.5**
AB31 pmax pmax
comp=Z,4.0nm,0.7s
ABKAR Akbulak array 21.40 13 eP **P 02 42 31.3 +0.8**
ABKAR Akbulak array 21.40 13 eP **P 02 42 31.3 +0.8**
AKTO Aktyubinsk 22.24 9 P **P 02 42 40.2 +0.8**
comp=Z,12nm,0.8s,baz=202,slow=10,SNR=26
AKTO LR LR 02 53 24.9
comp=Z,283nm,19.1s,baz=155,slow=42
AKTO Aktyubinsk 22.24 9 P **P 02 42 39.2 -0.3**
AKTO pmax pmax
comp=Z,12nm,0.8s
AAK Ala-Archa 22.39 45 P **P 02 42 42.7 +1.3**
comp=Z,3.0nm,0.8s,baz=207,slow=6.1,SNR=5.6
AAK Ala-Archa 22.39 45 eP **P 02 42 43.2 +1.8**
AAK Ala-Archa 22.39 45 eP **P 02 42 43.2 +1.8**
AAK Ala-Archa 22.39 45⇑ eP **P 02 42 42.5 +1.1**
AAK pmax pmax
comp=Z,5.0nm,1.1s
NRN Naryn 22.77 49 eP **P 02 42 48.5 +2.9**
comp=Z,14nm,1.4s
NRN Naryn 22.77 49 eP **P 02 42 48.5 +2.9**
comp=Z,14nm,1.4s
NRN Naryn 22.77 49 eP **P 02 42 48.5 +2.9**
NRN pmax pmax
comp=Z,14nm,1.4s
TARG Taragay, Kyrgy 24.12 50 eP **P 02 43 03.5 +4.4**
comp=Z,4.6nm,0.9s
TARG Taragay, Kyrgy 24.12 50 eP **P 02 43 03.5 +4.4**
comp=Z,4.6nm,0.9s
VRH Novokhopyorsk 24.21 343 eP **P 02 42 59.2 -0.1**
VRH pmax pmax
comp=Z,20nm,0.9s
IDI Anoyia 24.74 293 P **P 02 43 05.7 +1.3**
comp=Z,13nm,0.6s,baz=97,slow=8.1,SNR=7.7
IDI LR LR 02 56 18.2
comp=Z,31nm,18.8s,baz=94,slow=45
IDI Anoyia 24.74 293 eP **P 02 43 05.7 +1.3**
comp=Z,21nm,0.9s
IDI Anoyia 24.74 293 eP **P 02 43 05.7 +1.3**
comp=Z,21nm,0.9s
OTUK Ortayu 24.75 32 P **P 02 43 05.4 +1.1**
OTUK pmax pmax
comp=Z,18nm,1.2s
VSR Storozhevoye 24.96 339 eP **P 02 43 05.8 -0.3**
VSR pmax pmax
comp=Z,10.0nm,0.9s
TIRR Tirgusor 25.24 316‖ *i* P **P 02 43 09.1 +0.4**
TIRR Tirgusor 25.24 316 eP **P 02 43 06.7 -2.0**
comp=Z,14nm,1.0s
TIRR Tirgusor 25.24 316‖ *i* P **P 02 43 09.1 +0.4**
TIRR Tirgusor 25.24 316 eP **P 02 43 06.7 -2.0**
TIRR pmax pmax
comp=Z,14nm,1.0s
HARR Harsova 25.65 316‖ *i* P **P 02 43 13.7 +1.3**
HARR Harsova 25.65 316‖ *i* P **P 02 43 13.7 +1.3**
HARR Harsova 25.65 316 ‖ P **P 02 43 13.7 +1.3**
CFR Carcaliu 25.78 317⇑ *i* P **P 02 43 13.7 +0.1**
CFR Carcaliu 25.78 317⇑ *i* P **P 02 43 13.7 +0.1**
CFR Carcaliu 25.78 317⇑ P **P 02 43 13.7 +0.1**
PDGK Podgornoye 25.93 48 P **P 02 43 17.3 +2.1**
PDGK pmax pmax
comp=Z,9.0nm,1.1s
LPSR Galich'ya Gora 26.24 340 eP **P 02 43 17.2 -0.5**
LPSR pmax pmax
comp=Z,20nm,0.8s
MILM Milestii Mici 26.35 321⇑ *i* P **P 02 43 19.2 +0.4**
ISR Istrita 26.72 315‖ *i* P **P 02 43 24.3 +2.1**
ISR Istrita 26.72 315‖ *i* P **P 02 43 24.3 +2.1**
ISR Istrita 26.72 315 ‖ P **P 02 43 24.3 +2.1**
VRI Vrincioaia 26.98 317‖ *i* P **P 02 43 25.9 +1.4**
VRI Vrincioaia 26.98 317‖ *i* P **P 02 43 25.9 +1.4**
VRI Vrincioaia 26.98 317 ‖ P **P 02 43 25.9 +1.4**
PLOR Plostina 27.02 317⇑ *i* P **P 02 43 26.6 +1.7**
PLOR Plostina 27.02 317⇑ *i* P **P 02 43 26.6 +1.7**
PLOR Plostina 27.02 317 ⇑ P **P 02 43 26.6 +1.7**
SRS Serrai 27.08 305 P **P 02 43 27.4 +2.0**
SRS pmax pmax
comp=Z,20nm,1.1s
MLR Muntele Rosu 27.27 316 P **P 02 43 29.6 +2.4**
comp=Z,1.1nm,0.7s,baz=4.4,slow=11,SNR=12
MLR Muntele Rosu 27.27 316‖ *i* P **P 02 43 29.4 +2.2**
MLR Muntele Rosu 27.27 316 eP **P 02 43 29.6 +2.4**
comp=Z,11nm,1.0s
MLR Muntele Rosu 27.27 316‖ *i* P **P 02 43 29.4 +2.2**
MLR Muntele Rosu 27.27 316 ‖ P **P 02 43 29.4 +2.2**
SORM Soroca 27.33 323‖ *i* P **P 02 43 27.0 -0.5**
SORM Soroca 27.33 323‖ *i* P **P 02 43 27.0 -0.5**
SORM Soroca 27.33 323 ‖ P **P 02 43 27.0 -0.5**
TESR Tescani 27.36 318‖ *i* P **P 02 43 28.4 +0.5**
AGG Agios Georgios 27.44 300 eP **P 02 43 27.6 -1.2**
comp=Z,122nm,1.7s
AGG Agios Georgios 27.44 300 eP **P 02 43 27.5 -1.2**
comp=Z,122nm,1.7s
AGG Agios Georgios 27.44 300 eP **P 02 43 27.6 -1.2**
AGG pmax pmax
comp=Z,122nm,1.7s
BRVK Borovoye 27.67 23⇑ eP **P 02 43 30.8 +0.3**
BRVK pmax pmax
comp=Z,3.0nm,0.7s
BVAR Borovoye Array 27.67 23 P **P 02 43 31.4 +0.8**
comp=Z,1.9nm,0.5s,baz=206,slow=7.5,SNR=12
VOIR 27.80 315‖ *i* P **P 02 43 33.3 +1.4**
VOIR 27.80 315‖ *i* P **P 02 43 33.3 +1.4**
VOIR 27.80 315 ‖ P **P 02 43 33.3 +1.4**
DOPR Dopca 27.84 316‖ *i* P **P 02 43 33.2 +1.0**
ARU Arti 28.20 7 LR LR 02 56 36.5
comp=Z,210nm,18.8s,baz=188,slow=40
ARU Arti 28.20 7*c i* P **P 02 43 36.9 +1.7**
ARU 02 44 21.1
ARU S **S 02 48 26.9 +6.9**
ARU SS **SnSn 02 49 45.1 +8.7**
ARU pmax pmax
comp=Z,9.0nm,2.5s
AKASG Malin Array Be 28.52 328 P **P 02 43 37.6 -0.6**
comp=Z,3.5nm,0.7s,baz=129,slow=8.9,SNR=14
AKBB Malin Array Si 28.52 328 eP **P 02 43 38.0 -0.2**
comp=Z,11nm,1.1s
AKBB Malin Array Si 28.52 328 eP **P 02 43 38.0 -0.2**
comp=Z,11nm,1.1s
AKBB Malin Array Si 28.52 328 eP **P 02 43 38.0 -0.2**
AKBB pmax pmax
comp=Z,11nm,1.1s
KIEV Kiev 28.53 328 eP **P 02 43 38.0 -0.2**
comp=Z,11nm,1.1s
KIEV Kiev 28.53 328 eP **P 02 43 38.0 -0.2**
comp=Z,11nm,1.1s
KIEV Kiev 28.53 328‖ eP **P 02 43 37.6 -0.6**
KIEV pmax pmax
comp=Z,8.0nm,1.1s
AK11 Malin Array Si 28.53 327 eP **P 02 43 41.2 +2.9**
AK11 Malin Array Si 28.53 327 eP **P 02 43 41.2 +2.9**
SRE Strehaia 28.63 312‖ *i* P **P 02 43 41.4 +2.1**
SRE Strehaia 28.63 312‖ *i* P **P 02 43 41.4 +2.1**

SRE Strehaia 28.63 312‖ P **P 02 43 41.4 +2.1**
BURAR Bucovina Array 28.78 319‖ *i* P **P 02 43 42.2 +1.6**
BURAR Bucovina Array 28.78 319‖ P **P 02 43 42.2 +1.6**
BUR04 Bucovina Ar. S 28.78 319 eP **P 02 43 40.8 +0.1**
BUR04 Bucovina Ar. S 28.78 319 eP **P 02 43 40.8 +0.1**
BUR08 Bucovina Ar. S 28.80 319 eP **P 02 43 43.3 +2.4**
BUR08 Bucovina Ar. S 28.80 319 eP **P 02 43 43.3 +2.4**
MAKZ Makanchi 29.10 43 eP **P 02 43 46.3 +2.9**
comp=Z,3.7nm,0.8s
MAKZ Makanchi 29.10 43 eP **P 02 43 46.3 +2.9**
comp=Z,3.7nm,0.8s
MAKZ Makanchi 29.10 43 eP **P 02 43 46.3 +2.9**
MAKZ pmax pmax
comp=Z,4.0nm,0.8s
OBN Obninsk 29.12 341 LR LR 02 57 39.1
comp=Z,56nm,19.2s,baz=89,slow=41
OBN Obninsk 29.12 341 eP **P 02 43 43.0 -0.4**
OBN *e* 02 43 53.3
OBN e*PPP PPP 02 44 41.5
OBN pmax pmax
comp=Z,21nm,1.8s
OBN MLR MLR
comp=Z,40nm,16.0s
HERR Herculane 29.23 312⇑ *i* P **P 02 43 45.5 +0.9**
MK01 Makanchi Array 29.28 43 eP **P 02 43 45.7 +0.7**
MK01 Makanchi Array 29.28 43 eP **P 02 43 45.7 +0.7**
MK31 Makanchi Array 29.28 43 eP **P 02 43 45.1 0.0**
MK31 Makanchi Array 29.28 43 eP **P 02 43 45.1 0.0**
MK31 Makanchi Array 29.28 43 eP **P 02 43 45.1 0.0**
MK32 Makanchi Array 29.28 43 eP **P 02 43 45.9 +0.8**
MK32 Makanchi Array 29.28 43 eP **P 02 43 45.8 +0.8**
MKAR Makanchi Array 29.28 43 P **P 02 43 45.9 +0.8**
comp=Z,1.6nm,0.8s,baz=226,slow=9.0,SNR=14
MKAR Makanchi Array 29.28 43 eP **P 02 43 45.0 -0.1**
comp=Z,15nm,0.9s
MKAR Makanchi Array 29.28 43 eP **P 02 43 45.0 -0.1**
comp=Z,15nm,0.9s
MKAR Makanchi Array 29.28 43 eP **P 02 43 45.0 -0.1**
MKAR pmax pmax
comp=Z,15nm,0.9s
KURBB Kurchatov Arra 29.34 34 P **P 02 43 46.5 +1.0**
comp=Z,1.4nm,0.6s,baz=236,slow=8.8,SNR=12
KURBB ScP **ScP 02 50 32.9 +0.1**
comp=Z,0.5nm,0.8s,baz=220,slow=5.3,SNR=4.6
KURK Kurchatov 29.44 34 eP **P 02 43 47.7 +1.4**
KURK eScP **ScP 02 50 32.9 -0.2**
KURK Kurchatov 29.44 34 eP **P 02 43 47.7 +1.4**
KURK eScP **ScP 02 50 32.9 -0.2**
KURK Kurchatov 29.44 34 eP **P 02 43 47.7 +1.4**
KURK *e* 02 50 32.9
DRGR 29.86 316‖ *i* P **P 02 43 51.3 +1.0**
DRGR 29.86 316‖ *i* P **P 02 43 51.3 +1.0**
DRGR 29.86 316 ‖ P **P 02 43 51.3 +1.0**
BZS Buzias 30.05 313‖ *i* P **P 02 43 52.6 +0.8**
BZS Buzias 30.05 313‖ *i* P **P 02 43 52.6 +0.8**
BZS Buzias 30.05 313 ‖ P **P 02 43 52.6 +0.8**
SIRR Siria 30.29 314‖ *i* P **P 02 43 55.5 +1.6**
TIP Timpagrande 31.73 299 eP **P 02 44 07.4 +0.6**
comp=Z,44nm,1.5s
TIP Timpagrande 31.73 299 eP **P 02 44 07.4 +0.6**
comp=Z,44nm,1.5s
IDID Didziasalis 32.78 332 eP **P 02 44 15.3 -0.4**
IDID IAmb IAmb 02 44 21.2
comp=Z,7.1nm,0.8s
IDID Didziasalis 32.78 332 eP **P 02 44 15.3 -0.4**
VYHS Vyhne 32.97 317 eP **P 02 44 17.9 +0.4**
comp=Z,33nm,2.8s
VYHS Vyhne 32.97 317 eP **P 02 44 17.9 +0.4**
VYHS Vyhne 32.97 317 eP **P 02 44 17.9 +0.4**
VYHS pmax pmax
comp=Z,33nm,2.8s
IIGN Ignalina 33.02 332 eP **P 02 44 18.1 +0.3**
IIGN IAmb IAmb 02 44 22.6
comp=Z,13nm,0.7s
OJC Ojcow 33.17 320 P **P 02 44 19.9 +0.6**
OJC pmax pmax
comp=Z,9.0nm,0.8s
KLMR Klimovskoe 33.60 348 eP **P 02 44 21.7 -1.1**
KLMR AMP 02 44 26.4
comp=Z,8.0nm,0.8s
KLMR Klimovskoe 33.60 348 eP **P 02 44 21.7 -1.1**
KLMR pmax pmax
comp=Z,8.0nm,0.8s
DGZ Jazzator, Alta 33.67 41⇑ *i* P **P 02 44 25.2 +1.4**
DGZ pmax pmax
comp=Z,2.0nm,0.8s
MORC Moravsky Berou 34.28 318⇑ *i* P **P 02 44 29.5 +0.6**
MORC Moravsky Berou 34.28 318 eP **P 02 44 29.3 +0.4**
comp=Z,19nm,0.9s
MORC Moravsky Berou 34.28 318 eP **P 02 44 29.3 +0.4**
MORC Moravsky Berou 34.28 318 eP **P 02 44 29.3 +0.4**
MORC pmax pmax
comp=Z,19nm,0.9s
ZAA0 Zalesovo Array 34.43 33 eP **P 02 44 30.7 +0.6**
comp=Z,15nm,1.4s
ZAA0 Zalesovo Array 34.43 33 eP **P 02 44 30.7 +0.6**
comp=Z,15nm,1.4s
ZALV Zalesovo Beam 34.43 33 P **P 02 44 30.4 +0.4**
comp=Z,4.4nm,0.4s,baz=244,slow=9.7,SNR=17
ZALV LR LR 03 00 34.0
comp=Z,285nm,18.1s,baz=248,slow=40
ZALV Zalesovo Beam 34.43 33 eP **P 02 44 30.2 +0.2**
ZALV Zalesovo Beam 34.43 33 eP **P 02 44 30.2 +0.2**
ZALV Zalesovo Beam 34.43 33 eP **P 02 44 30.3 +0.2**
ZAA1 Zalesovo Array 34.43 33 eP **P 02 44 30.4 +0.3**
ZAA1 Zalesovo Array 34.43 33 eP **P 02 44 30.4 +0.3**
VRAC Vranov 34.65 317‖ *i* P **P 02 44 31.0 -1.1**
VRAC Vranov 34.65 317‖ *i* P **P 02 44 31.0 -1.1**
VRAC Vranov 34.65 317 ‖ P **P 02 44 31.0 -1.1**
KRLC Kraliky 34.85 318 eP **P 02 44 36.3 +2.4**
KRLC Kraliky 34.85 318 P **P 02 44 36.3 +2.4**
KRLC Kraliky 34.85 318 eP **P 02 44 36.3 +2.4**
VSU Vasula 35.04 336*de* P **P 02 44 35.0 -0.3**
VSU pmax pmax
comp=Z,46nm,1.0s
DPC Dobruska-Polom 35.23 318 eP **P 02 44 37.6 +0.5**
DPC e*pP **pP 02 44 40.2 -1.9**
DPC Dobruska-Polom 35.23 318 P **P 02 44 37.6 +0.5**
DPC Dobruska-Polom 35.23 318 eP **P 02 44 37.6 +0.5**
DPC *e* 02 44 40.2
TREC Trest 35.31 316 eP **P 02 44 38.8 +1.0**
TREC Trest 35.31 316 P **P 02 44 38.8 +1.0**
TREC Trest 35.31 316 eP **P 02 44 38.8 +1.0**
MOA Molln 35.57 314 P **P 02 44 40.7 +0.7**
MOA Molln 35.57 314 *i* P **P 02 44 40.7 +0.7**
KBA Koelnbreinsper 35.92 312 P **P 02 44 44.0 +0.7**
comp=Z,13nm,0.8s
KBA Koelnbreinsper 35.92 312 *i* P **P 02 44 44.0 +0.7**
comp=Z,13nm,0.8s
KBA Koelnbreinsper 35.92 312 P **P 02 44 44.4 +1.1**
KBA pmax pmax
comp=Z,15nm,0.9s
GEC2 GERESS Array S 36.25 315 eP **P 02 44 45.5 -0.5**
comp=Z,4.3nm,1.1s
GEC2 e*PcP **PcP 02 47 10.6 -0.3**
GEC2 GERESS Array S 36.25 315 eP **P 02 44 45.5 -0.5**
comp=Z,4.3nm,1.1s
GEC2 GERESS Array S 36.25 315 eP **P 02 44 45.5 -0.5**
GEC2 *e* 02 47 10.6
GEC2 pmax pmax
comp=Z,4.0nm,1.1s
GERES GERESS Array B 36.25 315 P **P 02 44 45.5 -0.5**
comp=Z,0.8nm,0.7s,baz=114,slow=9.0,SNR=7.2
GERES PcP **PcP 02 47 10.6 -0.3**
comp=Z,0.5nm,0.6s,baz=159,slow=4.1,SNR=4.1
GERES ScP **ScP 02 50 55.9 -0.9**
comp=Z,0.1nm,0.3s,baz=266,slow=9.2,SNR=3.4
ABTA Abfaltersbach 36.38 311 P **P 02 44 47.5 +0.4**
comp=Z,7.9nm,0.9s,SNR=7.5
ABTA Abfaltersbach 36.38 311 eP **P 02 44 47.5 +0.4**
comp=Z,7.9nm,0.9s,SNR=7.5
KHC Kasperske Hory 36.42 315 eP **P 02 44 47.9 +0.6**
KHC e*pP **pP 02 44 50.7 -1.6**
KHC Kasperske Hory 36.42 315 eP **P 02 44 48.0 +0.6**
comp=Z,1.9nm,0.8s
KHC Kasperske Hory 36.42 315 eP **P 02 44 48.0 +0.6**
KHC pmax pmax
comp=Z,2.0nm,0.8s
BRG Berggiesshubel 36.83 318 eP **P 02 44 51.0 +0.2**
comp=Z,3.9nm,1.2s
BRG Berggiesshubel 36.83 318 eP **P 02 44 51.0 +0.2**
BRG pmax pmax
comp=Z,4.0nm,1.2s
WTTA Wattenberg 37.10 312 P **P 02 44 53.5 +0.2**

comp=Z,9.0nm,0.8s,SNR=6.0
WTTA Wattenberg 37.10 312 *i* P **P 02 44 53.5 +0.2**
comp=Z,9.0nm,0.8s,SNR=6.0
WATA Walderalm 37.15 312 *e*P **P 02 44 53.6 -0.2**
comp=Z,12nm,1.0s
JOF Joensuu 37.21 344 P **P 02 44 55.2 +1.4**
JOF pmax pmax
comp=Z,15nm,0.9s
KEST Kesra 37.41 292 P **P 02 44 57.5 +1.5**
comp=Z,6.4nm,0.9s,baz=30,slow=8.4,SNR=3.8
KEST Kesra 37.41 292 *e*P **P 02 44 57.5 +1.5**
comp=Z,47nm,1.7s
KEST Kesra 37.41 292 *e*P **P 02 44 57.5 +1.5**
comp=Z,47nm,1.7s
MOTA Moosalm 37.47 312 P **P 02 44 56.0 -0.4**
comp=Z,8.2nm,0.8s,SNR=11
MOTA Moosalm 37.47 312 *e*P **P 02 44 56.0 -0.4**
comp=Z,8.2nm,0.8s,SNR=11
FIA0 FINESS Array S 37.49 339 *e*P **P 02 44 56.2 0.0**
FIA0 FINESS Array S 37.49 339 *e*P **P 02 44 56.2 0.0**
FIA1 FINESS Array S 37.49 339 *e*P **P 02 44 55.8 -0.4**
comp=Z,12nm,0.8s
FINES FINESS Array B 37.49 339 P **P 02 44 56.2 0.0**
comp=Z,6.5nm,0.7s,baz=141,slow=10,SNR=26
CLL Collm 37.54 319 ⇓*i*P **P 02 44 57.7 +0.9**
comp=Z,8.0nm,0.9s
CLL *e*PP **PnPn 02 46 25.0 +1.7**
CLL Collm 37.54 319 *e*P **P 02 44 57.6 +0.9**
comp=Z,7.1nm,0.9s
CLL Collm 37.54 319 ⇓*i*P **P 02 44 57.7 +0.9**
CLL pmax pmax
comp=Z,8.0nm,0.9s
FETA Feichten 37.63 311 P **P 02 44 58.1 +0.3**
comp=Z,14nm,0.8s
FETA Feichten 37.63 311 *i*P **P 02 44 58.1 +0.3**
comp=Z,14nm,0.8s
RETA Reutte 37.73 312 P **P 02 44 58.1 -0.5**
comp=Z,4.2nm,0.7s,SNR=5.6
RETA Reutte 37.73 312 *i*P **P 02 44 58.1 -0.5**
comp=Z,4.2nm,0.7s,SNR=5.6
HVS Khovu-Aksy 37.92 42⇑*e*P **P 02 45 01.3 +1.2**
HVS pmax pmax
comp=Z,4.0nm,0.9s
DAVA Damuels 38.26 311 P **P 02 45 03.1 0.0**
comp=Z,19nm,0.7s,SNR=21
DAVA Damuels 38.26 311 *i*P **P 02 45 03.1 0.0**
comp=Z,19nm,0.7s,SNR=21
CLZ Clausthal 39.27 318 P **P 02 45 12.3 +0.9**
CLZ pmax pmax
comp=Z,12nm,0.8s
GTA Gaotai 39.95 62 *e*P **P 02 45 18.8 +1.5**
GTA pP pP 02 45 23.1 +0.8
GTA sP sP 02 45 26.6 +2.3
GTA pmax pmax
comp=Z,5.0nm,1.0s
BNI Bardonecchia 40.02 307 *e*P **P 02 45 17.7 -0.1**
comp=Z,14nm,1.1s
BNI Bardonecchia 40.02 307 *e*P **P 02 45 17.7 -0.1**
comp=Z,14nm,1.1s
BNI Bardonecchia 40.02 307 *e*P **P 02 45 17.7 -0.1**
BNI pmax pmax
comp=Z,14nm,1.1s
OUL Oulu 40.36 343 P **P 02 45 20.4 +0.2**
OUL pmax pmax
comp=Z,14nm,2.5s
HFS Hagfors 41.24 331 P **P 02 45 27.6 0.0**
comp=Z,9.8nm,0.7s,baz=127,slow=9.3,SNR=25
NC405 NORSAR Array S 42.59 332 *e*P **P 02 45 37.3 -1.3**
NB2 NORSAR Subarra 42.76 331 P **P 02 45 39.2 -0.8**
comp=Z,4.6nm,0.8s,baz=122,slow=8.6
NB200 NORSAR Array S 42.76 331 *e*P **P 02 45 39.4 -0.7**
NOA NORSAR Array B 42.76 331 *e*P **P 02 45 39.4 -0.7**
comp=Z,4.3nm,0.8s,baz=121,slow=8.1,SNR=12
TAM Tamanrasset 42.94 274 *e*P **P 02 45 43.7 +1.6**
comp=Z,5.4nm,0.8s
TAM Tamanrasset 42.94 274 *e*P **P 02 45 43.7 +1.6**
TAM pmax pmax
comp=Z,5.0nm,0.8s
CHTO Chiang Mai 42.97 93 *e*P **P 02 45 43.7 +1.5**
comp=Z,2.9nm,0.8s
CHTO Chiang Mai 42.97 93 *e*P **P 02 45 43.7 +1.5**
CHTO pmax pmax
comp=Z,3.0nm,0.8s
CM31 Chiang Mai Arr 43.10 93 *e*P **P 02 45 43.8 +0.5**
CMAR Chiang Mai Arr 43.10 93 P **P 02 45 43.8 +0.5**
comp=Z,0.6nm,0.4s,baz=283,slow=8.4,SNR=5.2
ZAK Zakamensk 43.57 46 *e*P **P 02 45 46.8 0.0**
ZAK pmax pmax
comp=Z,2.0nm,1.1s
ARA0 ARCESS Array S 44.03 346 *e*P **P 02 45 50.1 +0.1**
ARCES ARCESS Array B 44.03 346 P **P 02 45 50.1 +0.1**
comp=Z,3.3nm,0.8s,baz=157,slow=9.1,SNR=7.7
SONA0 Songino Array 45.23 50 *e*P **P 02 46 01.0 +0.8**
SONM Songino Array 45.23 50 P **P 02 46 01.0 +0.8**
comp=Z,1.8nm,0.9s,baz=258,slow=9.1,SNR=11
SONM Songino Array 45.23 50 P **P 02 46 01.0 +0.8**
SONA1 Songino Array 45.24 50 *e*P **P 02 46 01.0 +0.8**
SONA1 Songino Array 45.24 50 *e*P **P 02 46 01.0 +0.8**
ULN Ulaanbaatar 45.68 50 *e*P **P 02 46 00.5 -3.2**
comp=Z,4.8nm,1.1s
ULN Ulaanbaatar 45.68 50⇑*e*P **P 02 46 00.9 -2.8**
ULN pmax pmax
comp=Z,2.0nm,0.7s
ESDC Sonseca Array 47.75 299 P **P 02 46 19.7 -0.2**
comp=Z,0.4nm,0.5s,baz=73,slow=7.0,SNR=5.5
EKA Eskdalemuir Ar 47.95 320 P **P 02 46 21.3 +0.1**
comp=Z,2.2nm,0.7s,baz=107,slow=8.6,SNR=6.3
BOD Bodaibo 51.01 37 *e*P **P 02 46 43.5 -1.0**
BOD pmax pmax
comp=Z,8.0nm,1.0s
KOWA Kowa 54.38 268 P **P 02 47 10.2 +0.2**
comp=Z,4.8nm,0.5s,baz=64,slow=9.1,SNR=22
DBIC Dimbokro 58.66 260 P **P 02 47 40.6 +0.1**
comp=Z,7.1nm,0.9s,baz=37,slow=8.1,SNR=11
DBIC Dimbokro 58.66 260 *e*P **P 02 47 40.6 +0.1**
comp=Z,11nm,0.9s
DBIC Dimbokro 58.66 260 *e*P **P 02 47 40.6 +0.1**
DBIC pmax pmax
comp=Z,11nm,0.9s
KIC Kosan Boka 58.71 260 *e*P **P 02 47 40.6 -0.2**
comp=Z,52nm,1.5s
TIXI Tiksi 58.79 21⇓*e*P **P 02 47 39.9 -0.6**
TIXI pmax pmax
comp=Z,4.0nm,2.1s
TIC Toumodi 58.81 260 *e*P **P 02 47 41.1 -0.5**
LIC Lamto 59.02 260 *e*P **P 02 47 42.7 -0.3**
comp=Z,57nm,1.6s
LBTB Lobatse 59.37 209 *e*P **P 02 47 47.0 +1.7**
comp=Z,21nm,1.5s
LBTB Lobatse 59.37 209 *e*P **P 02 47 47.0 +1.7**
LBTB pmax pmax
comp=Z,21nm,1.5s
TJN Taejon 61.87 62⇑*i*P **P 02 48 01.4 -0.8**
KLR Kul'dur 61.91 47 *de*P **P 02 48 01.5 -0.8**
BOSA Boshof 62.69 207 P **P 02 48 08.2 +0.5**
comp=Z,1.3nm,0.5s,baz=15,slow=5.3,SNR=7.1
BOSA LR LR 03 15 41.6
comp=Z,107nm,18.2s,baz=74,slow=36
VLA Vladivostok 63.43 53 *ce*P **P 02 48 11.5 -1.0**
VLA pmax pmax
comp=Z,19nm,0.6s
SEY Seymchan 69.12 29 P **P 02 48 49.5 +0.8**
comp=Z,1.1nm,0.3s,baz=279,slow=6.5,SNR=6.1
SEY Seymchan 69.12 29‖*e*P **P 02 48 50.2 +1.5**
MA2 Magadan 69.64 33‖*e*P **P 02 48 52.4 +0.5**
MA2 pmax pmax
comp=Z,8.0nm,1.0s
BILL Bilibino 72.01 21⇓*i*P **P 02 49 07.9 +1.7**
BILL *e* 02 51 47.4
BILL *e*PPP PPP 02 53 31.2
BILL *e*S **S 02 58 19.6 -7.2**
BILL pmax pmax
comp=Z,4.0nm,1.0s
BILL MLR MLR
comp=Z,107nm,20.0s
PETK Petropavlovsk- 75.88 37 LR LR 03 26 36.1
comp=Z,80nm,18.4s,baz=255,slow=39
TOLK Toolik Lake Re 81.73 8 *e*P **P 02 50 02.2 +1.2**
comp=Z,3.2nm,0.8s
IM3 Indian Mountai 83.61 11 *e*P **P 02 50 10.7 0.0**
MLY Manley 84.97 10 *e*P **P 02 50 18.5 +0.8**
comp=Z,3.0nm,0.8s
MDM Murphy Dome 85.39 9 *e*P **P 02 50 20.5 +0.7**
comp=Z,5.6nm,1.0s
COLA College 85.53 9⇓*e*P **P 02 50 20.3 -0.1**
COLA pmax pmax
comp=Z,4.0nm,1.0s
IL1 Eielson Array 85.75 8 *e*P **P 02 50 21.0 -0.6**
ILAR Eielson Array 85.75 8 P **P 02 50 21.2 -0.4**
comp=Z,1.7nm,0.8s,baz=325,slow=4.3,SNR=16
ILB Eielson Array 85.75 8 *e*P **P 02 50 21.6 0.0**
BPAW Bear Paw Mtn. 85.80 10 *e*P **P 02 50 22.5 +0.5**
comp=Z,5.8nm,1.0s
CAST Castle Rocks 86.26 11 *e*P **P 02 50 25.1 +0.9**
comp=Z,5.7nm,0.9s
EGAK Eagle 86.38 6 *e*P **P 02 50 25.3 +0.6**
comp=Z,6.2nm,0.9s
MCK McKinley 86.46 10 *e*P **P 02 50 24.8 -0.4**
comp=Z,5.8nm,0.8s
MCK McKinley 86.46 10 *e*P **P 02 50 24.8 -0.4**
MCK pmax pmax
comp=Z,6.0nm,0.8s
SCRK Sand Creek 86.87 7 *e*P **P 02 50 28.3 +1.0**
comp=Z,6.1nm,1.1s
YKA Yellowknife Ar 88.78 354 P **P 02 50 36.7 +0.4**
comp=Z,2.1nm,0.8s,baz=6.0,slow=4.9,SNR=65
YKB5 Yellowknife Ar 88.78 354 *e*P **P 02 50 36.7 +0.4**
WRA Warramunga Arr 92.09 111 P **P 02 50 52.2 -0.3**
comp=Z,0.4nm,0.5s,baz=314,slow=3.9,SNR=6.0
WR1 Warramunga Arr 92.10 111 *e*P **P 02 50 52.2 -0.3**
comp=Z,21nm,1.8s
AS31 Alice Springs 93.57 115 *e*P **P 02 50 58.8 -0.4**
comp=Z,0.7nm,0.9s
ASAR Alice Springs 93.57 115 P **P 02 50 58.8 -0.4**
comp=Z,0.8nm,0.7s,baz=299,slow=4.5,SNR=7.6

PRU 17 02:44:02.9, 50.15N×18.63E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	**Ostrava-Krasne**	**0.44**	**225**	*e*PG	Pg	02 44 12.0	+0.7
OKC				*e*SG	Sg	02 44 16.6	-0.4
	comp=Z,14nm,1.2s						
DPC	**Dobruska-Polom**	**1.50**	**279**	*e*PG	Pn	02 44 30.7	-0.3
DPC				*e*SG	Sg	02 44 50.5	-0.4

DDA ***17*** *02:54:34.0, 37.92N×29.31E, h7km, Ml2.6*
CSEM ***17*** *02:54:34.9±0.2, 37.94N×29.29E, h2km, ML2.3, Error ellipse: s-maj=5.4km s-min=4.5km az=83.0*
ISK ***17*** *02:54:35.7, 37.96N×29.22E, h10km, ML2.3/6*
ISC 17 02:54:35.1±1.1, 37.98N±0.02×29.26E±0.03, h4km±10km, n29, σ1s48/48, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DENT	**Denizli**	**0.29**	**219**		**Pg**	**02 54 41.6**	**+0.9**
DENT	**Denizli**	**0.29**	**219**	*e*Pg	**Pg**	**02 54 41.6**	**+0.9**
KHAL	**Karahalli**	**0.43**	**25**	*i*P	**Pg**	**02 54 43.2**	**-0.3**
KHAL				*i*S	**Sg**	**02 54 50.1**	**+0.9**
KHAL	**Karahalli**	**0.43**	**25**	P	**Pg**	**02 54 43.2**	**-0.3**
KHAL				S	**Sg**	**02 54 50.1**	**+0.9**
TAVA	**DENIZLI_Tavas**	**0.58**	**209**	*i*P	**Pg**	**02 54 44.7**	**-1.6**
TAVA				*i*S	**Sg**	**02 54 52.8**	**-1.0**
TAVA	**DENIZLI_Tavas**	**0.58**	**209**	P	**Pg**	**02 54 44.7**	**-1.6**
TAVA				S	**Sg**	**02 54 52.8**	**-1.0**
BRDR	**BURDUR-Merkez**	**0.69**	**114**	*i*P	**Pg**	**02 54 47.0**	**-1.4**
BRDR				*i*S	**Sg**	**02 54 58.6**	**+1.2**
BRDR	**BURDUR-Merkez**	**0.69**	**114**	P	**Pg**	**02 54 47.0**	**-1.4**
BRDR				S	**Sg**	**02 54 58.6**	**+1.2**
KULA	**Kula-Manisa**	**0.72**	**319**	PG	**Pb**	**02 54 50.2**	**-0.1**
KULA				SG	**Sb**	**02 55 00.3**	**-0.2**
KULA	**Kula-Manisa**	**0.72**	**319**	*e*Pg	**Pb**	**02 54 50.2**	**-0.1**
KULA				*e*Sg	**Sb**	**02 55 00.3**	**-0.2**
MANT	**Manisa**	**0.76**	**313**	*i*P	**Pb**	**02 54 50.6**	**-0.4**
MANT				*i*S	**Sb**	**02 55 00.6**	**-1.2**
MANT	**Manisa**	**0.76**	**313**	P	**Pb**	**02 54 50.6**	**-0.4**
MANT				S	**Sb**	**02 55 00.6**	**-1.2**
GOLH	**Golhisar**	**0.78**	**162**	*i*P	**Pg**	**02 54 47.3**	**-2.7**
GOLH				*i*S	**Sg**	**02 55 00.0**	**-0.1**
GOLH	**Golhisar**	**0.78**	**162**	P	**Pg**	**02 54 47.3**	**-2.7**
GOLH				S	**Sg**	**02 55 00.0**	**-0.1**
AYDB	**Zeytinkoy-Aydi**	**1.08**	**269**	PG	**Pn**	**02 54 56.6**	**-0.7**
AYDB	**Zeytinkoy-Aydi**	**1.08**	**269**	*e*Pg	**Pn**	**02 54 56.6**	**-0.7**
SIMA	**Simav-Kutahya**	**1.13**	**349**	PN	**Pb**	**02 54 57.4**	**+0.1**
SIMA				SN	**Sn**	**02 55 13.5**	**-0.4**
SIMA	**Simav-Kutahya**	**1.13**	**349**	*e*Pn	**Pb**	**02 54 57.4**	**+0.1**
SIMA				*e*Sn	**Sn**	**02 55 13.5**	**-0.4**
YER	**Yerkesik**	**1.15**	**223**	PN	**Pb**	**02 54 57.1**	**-0.5**
YER				SN	**Sn**	**02 55 13.2**	**-1.0**
YER	**Yerkesik**	**1.15**	**223**	*e*Pn	**Pb**	**02 54 57.1**	**-0.5**
YER				*e*Sn	**Sn**	**02 55 13.2**	**-1.0**
SHUT	**Suhut-Afyon**	**1.17**	**60**	PN	**Pb**	**02 54 58.5**	**+0.5**
SHUT				SN	**Sn**	**02 55 16.4**	**+1.5**
SHUT	**Suhut-Afyon**	**1.17**	**60**	*e*Pn	**Pb**	**02 54 58.5**	**+0.5**
SHUT				*e*Sn	**Sn**	**02 55 16.4**	**+1.5**
TURN	**Turunc**	**1.22**	**206**	PN	**Pg**	**02 55 01.7**	**+3.2**
TURN				SN	**Sn**	**02 55 21.3**	**+5.3**
TURN	**Turunc**	**1.22**	**206**	*i*P	**Pg**	**02 55 00.9**	**+2.4**
TURN	**Turunc**	**1.22**	**206**	P	**Pg**	**02 55 00.9**	**+2.4**
ELL	**Elmali**	**1.33**	**157**	PN	**Pg**	**02 55 01.7**	**+1.1**
ELL	**Elmali**	**1.33**	**157**	*e*Pn	**Pg**	**02 55 01.7**	**+1.1**
TVSB	**Tavsanli**	**1.48**	**6**	PN	**Pb**	**02 55 03.6**	**+0.3**
TVSB	**Tavsanli**	**1.48**	**6**	*e*Pn	**Pb**	**02 55 03.6**	**+0.3**

IDC ***17*** *02:58:48.9±0.8, 2.06S×122.73E, h0km, mb3.7/8, mb1 3.9/8, mb1mx3.6/55, mbtmp3.7/8, MS3.2/3, Ms1 3.2/3, ms1mx2.7/57, Error ellipse: s-maj=90.3km s-min=16.0km az=62.0*
ISCJB ***17*** *02:58:52.7±0.5, 2.65S±0.05×121.93E±0.07, h33km, mb3.6/8, MS3.2/1, Error ellipse: s-maj=9.8km s-min=7.2km az=170.3*
DJA ***17*** *02:58:52.0±0.3, 3°S±3°×12°2E±°, h10km, M4.2/12, mb4.3/3, MLv4.2/12*
ISC 17 02:58:54.6±0.7, 2.61S±0.06×121.95E±0.06, h35km, n23, σ1s99/20, mb3.7/8, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APSI	**Ampana**	**1.72**	**350**	P	**Pn**	**02 59 21.4**	**-0.7**
LUWI	**Luwuk**	**1.76**	**28**	P	**Pn**	**02 59 23.9**	**+1.2**
TTSI	**Tana Toraja**	**2.17**	**259**	P	**Pn**	**02 59 26.3**	**-2.0**
BNSI	**Bone**	**2.56**	**226**	P	**Pn**	**02 59 32.0**	**-1.6**
PCI	**Palu**	**2.71**	**309**	P	**Pn**	**02 59 37.7**	**+2.0**
MRSI	**Marisa**	**3.07**	**360**	P	**Pn**	**02 59 40.7**	**0.0**
MPSI	**Mapaga**	**3.58**	**325**	P	**Pn**	**02 59 46.5**	**-1.2**
BSSI	**Bau Bau, Buton**	**3.80**	**202**	P	**Pn**	**02 59 49.7**	**-1.0**
SANI	**Sanana**	**4.08**	**82**	P	**Pn**	**02 59 53.0**	**-1.5**
KBKI	**Kotabaru**	**5.81**	**263**	P	Pn	03 00 29.9	+11
SOEI	**Soe**	**7.46**	**162**	P	**Pn**	**03 00 42.5**	**+1.3**
BATI	**Baumata**	**7.73**	**167**	LR	LR	03 04 48.0	
	comp=Z,173nm,18.6s,baz=148,slow=44						
LEM	**Lembang**	**14.88**	**253**	LR	LR	03 08 36.5	
	comp=Z,72nm,20.5s,baz=55,slow=37						
MDSI	**Maura Dua**	**17.83**	**264**	P	**P**	**03 03 05.7**	**+5.0**
RGRI	**Rengat**	**19.74**	**276**	P	Pn	03 03 36.3	+13
WRA	**Warramunga Arr**	**21.05**	**146**	P	**P**	**03 03 35.1**	**-0.7**
	2.4nm,0.9s,baz=324,slow=11,SNR=8.4						
ASAR	**Alice Springs**	**23.91**	**152**	P	**P**	**03 04 05.5**	**0.0**
	1.4nm,0.8s,baz=325,slow=8.5,SNR=14						
ASAR				LR	LR	03 14 52.8	
	comp=Z,74nm,20.0s,baz=290,slow=40						
CMAR	**Chiang Mai Arr**	**30.85**	**314**	P	**P**	**03 05 07.8**	**0.0**
	0.7nm,0.4s,baz=139,slow=6.7,SNR=6.2						
STKA	**Stephens Creek**	**34.49**	**150**	P	**P**	**03 05 39.3**	**-0.2**
	0.8nm,0.5s,baz=309,slow=14,SNR=3.5						
SONM	**Songino Array**	**52.05**	**347**	P	**P**	**03 07 57.1**	**-3.9**
	0.2nm,0.5s,baz=141,slow=5.5,SNR=2.6						
MKAR	**Makanchi Array**	**60.30**	**330**	P	**P**	**03 08 59.5**	**-0.3**
	0.6nm,0.6s,baz=131,slow=8.2,SNR=7.7						
MKAR				PcP	**PcP**	**03 09 44.5**	**-0.4**
	0.9nm,0.7s,baz=141,slow=4.8,SNR=6.1						
KURBB	**Kurchatov Arra**	**64.70**	**331**	P	**P**	**03 09 28.5**	**-0.7**
	0.3nm,0.5s,baz=135,slow=6.4,SNR=3.1						
VNDA	**Vanda**	**77.83**	**172**	P	**P**	**03 10 50.6**	**+2.6**
	1.0nm,0.9s,baz=290,slow=6.6,SNR=4.3						

IDC 17 03:01:17.9±5.4, 1.28N×91.92E, h0km, mb3.7/2, mb1 3.8/2, mb1mx3.3/63, mbtmp3.7/2, Error ellipse: s-maj=189.1km s-min=42.4km az=65.0, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S2	**Diego Garcia H**	**21.30**	**245**	T	T	03 27 43.0	
	baz=62,slow=74,SNR=9.0						
H08S3	**Diego Garcia H**	**21.31**	**245**	T	T	03 27 41.3	
	baz=62,slow=74,SNR=2.8						
H08S1	**Diego Carcia H**	**21.32**	**245**	T	T	03 27 44.7	
	baz=62						
WRA	**Warramunga Arr**	**46.62**	**119**	P	P	03 09 48.2	-0.1
	0.4nm,0.7s,baz=295,slow=8.4,SNR=2.6						
SONM	**Songino Array**	**48.05**	**13**	P	P	03 09 59.1	-0.1
	0.8nm,0.4s,baz=188,slow=9.2,SNR=6.3						
TXAR	**Lajitas Array**	**146.11**	**25**	PKPbc	PKPdf	03 20 59.9	-0.1
	0.1nm,0.4s,baz=343,slow=1.2,SNR=3.9						

JMA 17 03:13:50.3, 35.44N×137.36E, h57km, M3.0, 1C-2D Broadband fault plane solution: P waves. NP1: ϕ_s216.00000°, δ77.00000°, λ-14.00000°. **NP2:** ϕ_s310.00000°, δ76.00000°, λ-167.00000°. **Principal axes:** T Plg1.0000°, Azm263.0000°; N Plg71.0000°, Azm356.0000°; P Plg19.0000°, Azm173.0000°; **Eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JGF	**Kuroka**	**0.16**	**359**	P	Sn	03 14 05.4	-0.4
JAO	**Obara**	**0.19**	**206**	⇓P	Pn	03 13 59.3	-0.1
JAO				S	Sn	03 14 06.1	+0.1
SHZ3	**Shizuoka 3**	**0.79**	**118**	⇑P	Pn	03 14 05.0	-0.6
SHZ3				S	Sn	03 14 16.5	-0.2
JYN	**Shimob**	**0.97**	**86**	P	Pn	03 14 08.2	+0.3
TSUJ	**Tsu 2**	**1.06**	**227**	P	Pn	03 14 09.2	+0.2
TSUJ				*e*S	Sn	03 14 22.7	-0.2
TK04	**Tokai 4**	**1.13**	**158**	⇓P	Pn	03 14 10.0	+0.1
TK04				S	Sn	03 14 25.6	+1.1
MAT	**Matsushiro**	**1.30**	**32**	P	Pn	03 14 12.3	+0.1
MAT				S	Sn	03 14 30.1	+1.5

DDA ***17*** *03:15:26.6, 39.12N×29.08E, h7km, Ml2.5*
ISK ***17*** *03:15:26.9, 39.14N×29.13E, h5km, ML2.4/11*
CSEM ***17*** *03:15:27.2±0.1, 39.13N×29.09E, h2km, ML2.4, Error ellipse: s-maj=2.1km s-min=1.7km az=116.0*
ISC 17 03:15:27.3±0.9, 39.13N±0.02×29.09E±0.02, h7km±8km, n34, σ0s53/54, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIMA	**Simav-Kutahya**	**0.10**	**240**	PG	**Pg**	**03 15 29.9**	**+0.4**
SIMA	**Simav-Kutahya**	**0.10**	**240**	*e*Pg	**Pg**	**03 15 29.9**	**+0.4**
DEMI	**Demirci**	**0.30**	**253**	*i*P	**Pg**	**03 15 33.4**	**+0.1**
DEMI				*i*S	**Sg**	**03 15 37.2**	**-0.1**
DEMI	**Demirci**	**0.30**	**253**	P	**Pg**	**03 15 33.4**	**+0.1**
DEMI				S	**Sg**	**03 15 37.2**	**-0.1**
GDZ	**Gediz**	**0.31**	**98**	*i*P	**Pg**	**03 15 33.0**	**-0.4**
GDZ				*i*S	**Sg**	**03 15 37.8**	**+0.4**
GDZ	**Gediz**	**0.31**	**98**	P	**Pg**	**03 15 33.0**	**-0.4**
GDZ				S	**Sg**	**03 15 37.8**	**+0.4**
TVSB	**Tavsanli**	**0.43**	**42**	PG	**Pg**	**03 15 35.1**	**-0.5**
TVSB				SG	**Sg**	**03 15 40.9**	**-0.4**
TVSB	**Tavsanli**	**0.43**	**42**	*e*Pg	**Pg**	**03 15 35.1**	**-0.5**
TVSB				*e*Sg	**Sg**	**03 15 40.9**	**-0.4**
DURS	**Dursunbey**	**0.67**	**315**	*i*P	**Pg**	**03 15 40.1**	**-0.1**
DURS				*i*S	**Sg**	**03 15 48.0**	**-0.9**
DURS	**Dursunbey**	**0.67**	**315**	P	**Pg**	**03 15 40.1**	**-0.1**
DURS				S	**Sg**	**03 15 48.0**	**-0.9**
KULA	**Kula-Manisa**	**0.70**	**209**	PG	**Pg**	**03 15 40.6**	**-0.2**
KULA	**Kula-Manisa**	**0.70**	**209**	*e*Pg	**Pg**	**03 15 40.6**	**-0.2**
MANT	**Manisa**	**0.76**	**213**	*i*P	**Pg**	**03 15 41.6**	**-0.3**
MANT				*i*S	**Sg**	**03 15 51.1**	**-0.8**
MANT	**Manisa**	**0.76**	**213**	P	**Pg**	**03 15 41.6**	**-0.3**
MANT				S	**Sg**	**03 15 51.1**	**-0.8**
KHAL	**Karahalli**	**0.82**	**157**	*i*P	**Pb**	**03 15 43.8**	**-0.2**
KHAL				*i*S	**Sg**	**03 15 54.0**	**+0.2**
KHAL	**Karahalli**	**0.82**	**157**	P	**Pb**	**03 15 43.8**	**-0.2**
KHAL				S	**Sg**	**03 15 54.0**	**+0.2**
AKHS	**Akhisar**	**1.02**	**256**	*i*P	**Pg**	**03 15 46.6**	**-0.3**
AKHS				*i*S	**Sb**	**03 16 00.5**	**-0.6**
AKHS	**Akhisar**	**1.02**	**256**	P	**Pg**	**03 15 46.6**	**-0.3**
AKHS				S	**Sb**	**03 16 00.5**	**-0.6**
BALB	**Balikesir**	**1.07**	**299**	PN	**Pn**	**03 15 48.8**	**+0.2**
BALB	**Balikesir**	**1.07**	**299**	*e*Pn	**Pn**	**03 15 48.8**	**+0.2**
MDNY	**Mudanya-Bursa**	**1.25**	**353**	PN	**Pn**	**03 15 51.8**	**+0.7**
MDNY				SN	**Sn**	**03 16 08.7**	**+0.5**
MDNY	**Mudanya-Bursa**	**1.25**	**353**	*e*Pn	**Pn**	**03 15 51.8**	**+0.7**
MDNY				*e*Sn	**Sn**	**03 16 08.7**	**+0.5**
KCTX	**Karacabey (Bur**	**1.27**	**334**	PN	**Pn**	**03 15 51.5**	**+0.1**
KCTX				SN	**Sn**	**03 16 09.9**	**+1.2**
KCTX	**Karacabey (Bur**	**1.27**	**334**	*e*Pn	**Pn**	**03 15 51.5**	**+0.1**
KCTX				*e*Sn	**Sn**	**03 16 09.9**	**+1.2**
SHUT	**Suhut-Afyon**	**1.28**	**116**	PN	**Pb**	**03 15 52.0**	**+0.2**
SHUT	**Suhut-Afyon**	**1.28**	**116**	*e*Pn	**Pb**	**03 15 52.0**	**+0.2**
ARMT	**Armutlu**	**1.44**	**353**	PN	**Pg**	**03 15 54.9**	**-0.1**
ARMT				SN	**Sg**	**03 16 14.6**	**+0.9**
ARMT	**Armutlu**	**1.44**	**353**	*e*Pn	**Pg**	**03 15 54.9**	**-0.1**
ARMT				*e*Sn	**Sg**	**03 16 14.6**	**+0.9**
YLV	**Yalova**	**1.45**	**9**	PN	**Pg**	**03 15 54.7**	**-0.4**
YLV	**Yalova**	**1.45**	**9**	*e*Pn	**Pg**	**03 15 54.7**	**-0.4**
AYDB	**Zeytinkoy-Aydi**	**1.51**	**219**	PN	**Pg**	**03 15 55.8**	**-0.4**
AYDB	**Zeytinkoy-Aydi**	**1.51**	**219**	*e*Pn	**Pg**	**03 15 55.8**	**-0.4**
GULT	**Gulveren**	**1.70**	**40**	PN	**Pb**	**03 15 58.2**	**-0.8**
GULT	**Gulveren**	**1.70**	**40**	*e*Pn	**Pb**	**03 15 58.2**	**-0.8**

IDC ***17*** *03:16:19.5±1.1, 2.78S×100.14E, h0km, mb4.1/14, mb1 4.2/14, mb1mx3.9/63, mbtmp4.1/14, Error ellipse: s-maj=38.3km s-min=15.7km az=54.0*
ISCJB ***17*** *03:16:22.9±0.8, 2.83S±0.06×100.09E±0.07, h41km±6km, mb4.2/21, Error ellipse: s-maj=14.0km s-min=6.1km az=136.7*
DJA ***17*** *03:16:22.0±1.2, 3°S±7°×10°0E±°, h19km±5km, M4.2/8, MLv4.2/8*
NEIC ***17*** *03:16:24.1±2.5, 2.79S×100.21E, h31km±18km, mb4.5/8, Error ellipse: s-maj=12.1km s-min=5.5km az=51.0*
ISC 17 03:16:22.8±1.1, 2.82S±0.08×100.05E±0.08, h24km±7km, n60, σ1s09/58, mb4.3/21, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPSI	**Pulau Pagai**	**0.06**	**324**	P	**Pb**	**03 16 27.0**	**0.0**
SISI	**Saibi**	**1.76**	**327**	P	**Pn**	**03 16 51.9**	**+0.1**
PDSI	**Padang**	**1.94**	**12**	P	**Pn**	**03 16 54.5**	**+0.2**
MASI	**Maura Aman, Be**	**2.21**	**98**	P	**Pn**	**03 16 59.0**	**+0.9**
SDSI	**Sungai Dareh**	**2.32**	**36**	P	**Pn**	**03 17 01.2**	**+1.6**
BKNI	**Bangkinang**	**3.27**	**18**	P	**Pn**	**03 17 13.4**	**+0.7**
MNAI	**Manna**	**3.28**	**118**	P	**Pn**	**03 17 13.1**	**+0.3**
MNAI	**Manna**	**3.28**	**118**	*e*Pn	**Pn**	**03 17 12.6**	**-0.2**
MNAI				*e*Sn	**Sn**	**03 17 51.1**	**-0.1**
MNSI	**Mandailing Nat**	**3.62**	**353**	P	**Pn**	**03 17 17.5**	**+0.1**
MDSI	**Maura Dua**	**4.44**	**112**	P	**Pn**	**03 17 29.3**	**+0.5**
GSI	**Gunungsitoli**	**4.78**	**329**	*e*Pn	**Pn**	**03 17 35.4**	**

0.4nm,0.3s,baz=222,slow=7.6,SNR=5.3
STKA Stephens Creek 48.58 131 *e*P **P** **P** **03 25 05.4 +0.8**
2.8nm,1.0s,baz=13,slow=9.8,SNR=4.1
STKA Stephens Creek 48.58 131 *e*P **P** **P** **03 25 03.8 -0.8**
1.0nm,1.1s
NRN Naryn 49.18 336 *e*P **P** **P** **03 25 11.0 +1.6**
3.2nm,0.8s
KDJ Kajisay 49.31 338 *e*P **P** **P** **03 25 11.7 +1.5**
5.5nm,0.9s
SONA0 Songino Array 50.74 6 *e*P **P** **P** **03 25 22.0 +1.0**
SONA0 *e*PcP **PcP** **03 26 38.3 +0.4**
SONM Songino Array 50.74 6 P **P** **P** **03 25 22.0 +1.0**
3.7nm,0.9s,baz=190,slow=9.9,SNR=21
SONM PcP **PcP** **03 26 38.3 +0.4**
0.4nm,0.6s,baz=209,slow=1.5,SNR=2.4
SONA1 Songino Array 50.76 6 *e*P **P** **P** **03 25 21.9 +0.9**
ULN Ulaanbaatar 50.84 6 *e*P **P** **P** **03 25 21.1 -0.6**
3.0nm,0.8s
MK01 Makanchi Array 51.80 345 *e*P **P** **P** **03 25 29.3 +0.6**
MK31 Makanchi Array 51.82 345 *e*P **P** **P** **03 25 30.0 +1.1**
MK32 Makanchi Array 51.82 345 *e*P **P** **P** **03 25 29.8 +0.8**
MKAR Makanchi Array 51.82 345 P **P** **P** **03 25 29.8 +0.8**
7.4nm,0.7s,baz=149,slow=8.3,SNR=63
MKAR Makanchi Array 51.82 345 *e*P **P** **P** **03 25 30.0 +1.1**
40nm,0.6s
MAJO Matsushiro 52.88 39 *e*P **P** **P** **03 25 35.6 -1.3**
MJAR Matsushiro Arr 52.88 39 P **P** **P** **03 25 35.6 -1.3**
1.5nm,0.8s,baz=225,slow=8.0,SNR=4.1
USRK Uusuriysk Ar. 54.85 28 P **P** **P** **03 25 51.6 +0.4**
7.8nm,0.8s,baz=214,slow=4.8,SNR=10
KURBB Kurchatov Arra 56.34 344 P **P** **P** **03 26 02.4 +0.6**
3.1nm,0.8s,baz=163,slow=7.3,SNR=20
KURK Kurchatov 56.40 344 *e*P **P** **P** **03 26 03.1 +1.0**
ZALV Zalesovo Beam 57.97 349 P **P** **P** **03 26 13.6 +0.3**
2.0nm,0.4s,baz=180,slow=5.3,SNR=8.6
ZALV Zalesovo Beam 57.97 349 *e*P **P** **P** **03 26 13.4 +0.2**
ZAA1 Zalesovo Array 57.98 349 *e*P **P** **P** **03 26 13.6 +0.3**
BVAR Borovoye Array 60.96 340 P **P** **P** **03 26 33.6 -0.3**
0.4nm,0.4s,baz=138,slow=11,SNR=3.9
ABKAR Akbulak array 62.37 332 *e*P **P** **P** **03 26 43.0 -0.6**
BR101 Keskin Array S 73.91 313 *e*P **P** **P** **03 27 56.2 -0.1**
BRTR Keskin Array B 73.91 313 P **P** **P** **03 27 56.2 -0.1**
0.3nm,0.6s,baz=130,slow=5.5,SNR=3.6
FIA0 FINESS Array S 84.85 332 *e*P **P** **P** **03 28 55.7 +0.4**
FINES FINESS Array B 84.85 332 P **P** **P** **03 28 55.7 +0.4**
1.1nm,0.8s,baz=180,slow=1.1,SNR=3.6
LTX Lajitas 145.31 38 *e*PKPbc **PKPdf** **03 36 00.1 +0.6**
TXAR Lajitas Array 145.31 38 PKPbc **PKPdf** **03 36 00.1 +0.6**
3.1nm,0.9s,baz=268,slow=1.0,SNR=28
TKL Tuckaleechee C 147.13 6 PKPbc **PKPbc** **03 36 03.9 -0.5**
2.5nm,0.7s,baz=211,slow=5.9,SNR=4.7

TIR ***17*** *03:18:42.5, 42°.24N×19°.28E, h9km, Md2.9/5*
ISCJB ***17*** *03:18:45.6±0.3, 42°.20N±0°.01×19°.34E±0°.02, h1km±2km, Error ellipse: s-maj=2.7km s-min=1.9km az=153.1*
SKO ***17*** *03:18:46.5, 42°.19N×19°.25E, h4km, M2.5, ML2.9*
THE ***17*** *03:18:46.0, 42°.17N×19°.25E, h0km±2km, ML2.7/2, Error ellipse: s-maj=2.7km s-min=0.6km az=261.0*
PDG ***17*** *03:18:46.2±0.5, 42°.18N×19°.33E, h10km, MD2.6/2, ML2.5/9, Error ellipse: s-maj=0.6km s-min=0.9km az=0.0*
CSEM ***17*** *03:18:46.1±0.1, 42°.20N×19°.34E, h2km, ML3.1/11, Error ellipse: s-maj=3.0km s-min=2.2km az=65.0*
BEO ***17*** *03:18:47.8±0.3, 42°.22N×19°.40E, h0km±2km*
ISC 17 03:18:46.7±0.8, 42°.18N±0°.01×19°.33E±0°.02, h9km±6km, n121, σ1§17/213, 20C-10D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
DRME	**Dracevica, Mon**	**0.11**	**272**	⇑*i*Pg		**Pg**	**03 18 48.9**	**-0.4**
DRME				*e*Sg		**Sg**	**03 18 51.2**	**+0.1**
DRME	**Dracevica, Mon**	**0.11**	**272**	⇑*i*Pg		**Pg**	**03 18 48.8**	**-0.5**
DRME				*e*Sg		**Sg**	**03 18 51.2**	**+0.1**
ULC	**Ulcinj**	**0.23**	**196**	⇑*i*Pg		**Pg**	**03 18 50.5**	**-0.9**
ULC				*e*Sg		**Sg**	**03 18 54.8**	**+0.3**
ULC	**Ulcinj**	**0.23**	**196**	⇑*i*Pg		**Pg**	**03 18 50.5**	**-0.9**
ULC				*e*Sg		**Sg**	**03 18 54.8**	**+0.3**
PDG	**Podgorica**	**0.25**	**348**	*e*Pg		**Pg**	**03 18 51.1**	**-0.7**
PDG				*e*Sg		**Sg**	**03 18 55.5**	**+0.2**
915nm,0.6s								
PDG				*e*Sg		Sg	03 18 55.6	+0.4
752nm,0.3s								
PDG	**Podgorica**	**0.25**	**348**	⇓*i*P		**Pg**	**03 18 51.0**	**-0.7**
PDG				S		**Sg**	**03 18 55.4**	**+0.2**
PDG	**Podgorica**	**0.25**	**348**	P		**Pg**	**03 18 51.1**	**-0.7**
PDG				S		**Sg**	**03 18 55.3**	**+0.1**
PDG	**Podgorica**	**0.25**	**348**	P		**Pg**	**03 18 51.1**	**-0.7**
PDG				S		**Sg**	**03 18 55.3**	**+0.1**
TTG	**Podgorica**	**0.25**	**348**	⇑*i*Pg		**Pg**	**03 18 51.1**	**-0.7**
TTG				*e*Sg		**Sg**	**03 18 55.5**	**+0.2**
PUK	**Puka**	**0.44**	**108**	*i*Pg		**Pg**	**03 18 53.9**	**-1.5**
PUK				*i*Sg		**Sb**	**03 19 03.0**	**-0.6**
PUK	**Puka**	**0.44**	**108**	*i*PG		**Pg**	**03 18 53.9**	**-1.5**
PUK				*i*SG		**Sb**	**03 19 03.0**	**-0.5**
CEME	**Cevo**	**0.47**	**320**	⇑*i*Pg		**Pg**	**03 18 55.1**	**-0.9**
CEME				*e*Sg		**Sg**	**03 19 02.6**	**+0.4**
CEME	**Cevo**	**0.47**	**320**	⇑*i*Pg		**Pg**	**03 18 55.1**	**-0.9**
CEME				*e*Sg		**Sg**	**03 19 02.6**	**+0.4**
BCI	**Bajram Curri**	**0.58**	**71**	*i*Pg		**Pg**	**03 18 56.7**	**-1.2**
BCI				*i*Sg		**Sg**	**03 19 06.4**	**+0.8**
BCI	**Bajram Curri**	**0.58**	**71**	*i*PG		**Pg**	**03 18 56.7**	**-1.2**
BCI				*i*SG		**Sg**	**03 19 06.4**	**+0.8**
PVY	**Plav**	**0.62**	**49**	⇑*i*Pg		**Pg**	**03 18 57.7**	**-1.1**
PVY				*e*Sg		**Sg**	**03 19 07.7**	**+0.7**
PVY	**Plav**	**0.62**	**49**	⇑*i*Pg		**Pg**	**03 18 57.7**	**-1.1**
PVY				*e*Sg		**Sg**	**03 19 07.7**	**+0.7**
NKME	**Niksic**	**0.65**	**335**	⇑*i*Pg		**Pg**	**03 18 57.9**	**-1.3**
NKME				*e*Sg		**Sg**	**03 19 08.3**	**+0.6**
NKME	**Niksic**	**0.65**	**335**	⇑*i*Pg		**Pg**	**03 18 57.9**	**-1.3**
NKME				*e*Sg		**Sg**	**03 19 08.3**	**+0.6**
HCY	**Herceg Novi**	**0.67**	**293**	⇑*i*Pg		**Pg**	**03 18 58.5**	**-1.2**
HCY				*e*Sg		**Sb**	**03 19 09.4**	**-0.7**
HCY	**Herceg Novi**	**0.67**	**293**	⇑*i*Pg		**Pg**	**03 18 58.5**	**-1.2**
HCY				*e*Sg		**Sg**	**03 19 09.2**	**+0.7**
NKY	**Niksic**	**0.68**	**339**	⇓*i*Pg		**Pg**	**03 18 58.7**	**-1.1**
NKY				*e*Sg		**Sb**	**03 19 09.6**	**-0.7**
NKY	**Niksic**	**0.68**	**339**	⇓*i*Pg		**Pg**	**03 18 58.7**	**-1.1**
NKY				*e*Sg		**Sb**	**03 19 09.6**	**-0.7**
KOME	**Kolasin**	**0.68**	**12**	⇑*i*Pg		**Pg**	**03 18 59.0**	**-0.9**
KOME				*e*Sg		**Sb**	**03 19 09.6**	**-0.8**
KOME	**Kolasin**	**0.68**	**12**	⇑*i*Pg		**Pg**	**03 18 59.0**	**-0.9**
KOME				*e*Sg		**Sb**	**03 19 09.6**	**-0.8**
BEY	**Berane**	**0.81**	**31**	⇓*i*Pg		**Pg**	**03 19 00.9**	**-1.4**
BEY				*e*Sg		**Sb**	**03 19 13.9**	**-0.1**
IVA	**Berane**	**0.81**	**31**	⇓*i*Pg		**Pg**	**03 19 00.9**	**-1.4**
IVA				*e*Sg		**Sb**	**03 19 13.9**	**-0.1**
TREB	**Trebinje**	**0.90**	**307**	*e*Pg		**Pg**	**03 19 02.3**	**-1.7**
BRY	**Bratogost**	**0.92**	**321**	⇓*i*Pg		**Pg**	**03 19 03.4**	**-1.1**
BRY				*e*Sg		**Sb**	**03 19 17.9**	**+0.4**
BRY	**Bratogost**	**0.92**	**321**	*e*Pg		**Pg**	**03 19 03.5**	**-1.1**
BRY				*e*Sg		**Sb**	**03 19 17.9**	**+0.4**
TIR	**Tirane**	**0.93**	**154**	*e*Pg		**Pg**	**03 19 03.6**	**-0.9**
TIR				*e*Sg		**Sb**	**03 19 18.3**	**+0.9**
149nm,0.4s								
TIR				*e*Sg		**Sb**	**03 19 18.4**	**+1.0**
146nm,0.3s								
TIR	**Tirane**	**0.93**	**154**	⇓*i*P		**Pg**	**03 19 03.0**	**-1.5**
TIR	**Tirane**	**0.93**	**154**	P		**Pg**	**03 19 03.1**	**-1.4**
TIR				S		**Sb**	**03 19 18.4**	**+1.0**
TIR	**Tirane**	**0.93**	**154**	P		**Pg**	**03 19 03.1**	**-1.4**
TIR	**Tirane**	**0.93**	**154**	*e*Pg		**Pg**	**03 19 03.6**	**-0.9**
TIR				*e*Sg		**Sb**	**03 19 18.3**	**+0.9**
149nm,0.4s								
TIR	**Tirane**	**0.93**	**154**	*i*PG		**Pg**	**03 19 03.2**	**-1.4**
TIR				*i*SG		**Sn**	**03 19 19.2**	**-0.2**
PHP	**Peshkopia**	**0.97**	**121**	P		**Pg**	**03 19 03.5**	**-1.9**
PHP				S		**Sb**	**03 19 19.4**	**+0.7**
PHP	**Peshkopia**	**0.97**	**121**	P		**Pg**	**03 19 03.5**	**-1.9**
PHP				S		**Sb**	**03 19 19.4**	**+0.7**
PHP				*i*Sg		**Sn**	**03 19 20.7**	**+0.2**
baz=120								
PHP	**Peshkopia**	**0.97**	**121**	*i*PG		**Pg**	**03 19 03.5**	**-1.8**
PHP				*i*SG		**Sn**	**03 19 20.7**	**+0.2**
PLE	**Pljevlja**	**1.15**	**2**	⇓*i*Pg		**Pg**	**03 19 07.6**	**-1.2**
PLE				*e*Sg		**Sn**	**03 19 25.4**	**+0.4**
PLE	**Pljevlja**	**1.15**	**2**	⇓*i*Pg		**Pg**	**03 19 07.6**	**-1.2**
SJES	**Sjenica**	**1.18**	**24**	*e*Pg		**Pg**	**03 19 08.7**	**-0.7**
SJES				*e*Sg		**Sg**	**03 19 23.9**	**-0.8**
68nm,0.5s								
SJES				*e*Sg		**Sb**	**03 19 24.4**	**-0.3**
105nm,0.6s								
SJES	**Sjenica**	**1.18**	**24**	*e*Pg		**Pg**	**03 19 08.7**	**-0.7**
SJES				*e*Sg		**Sg**	**03 19 23.9**	**-0.8**
68nm,0.5s								
STON	**Ston**	**1.39**	**300**	*e*Pn		**Pn**	**03 19 09.4**	**-2.8**
STON				Sn		**Sg**	**03 19 31.6**	**+0.4**
STON	**Ston**	**1.39**	**300**	*e*Pg		**Pn**	**03 19 11.1**	**-1.1**
STON				Sn		**Sg**	**03 19 31.6**	**+0.4**
IVAS	**Ivanjica**	**1.52**	**23**	*e*Pg		**Pn**	**03 19 14.6**	**+0.4**
IVAS	**Ivanjica**	**1.52**	**23**	*e*Pg		**Pn**	**03 19 14.6**	**+0.4**
OHR	**Ohrid**	**1.54**	**134**	*i*Pn		**Pn**	**03 19 15.0**	**+0.6**
OHR				*i*Sg		**Sg**	**03 19 38.5**	**+2.3**
OHR				*e*Lg		Lg	03 19 40.2	
comp=E,120nm,0.7s								
OHR				*e*Lg		Lg	03 19 40.9	
comp=N,85nm,0.4s								
KRUS	**Krusevo**	**1.65**	**119**	*i*Pn		**Pn**	**03 19 16.1**	**+0.1**
SELS	**Selova**	**1.68**	**51**	*e*Pg		**Pn**	**03 19 15.9**	**-0.4**
SELS				*e*Sg		**Sn**	**03 19 38.1**	**+0.1**
comp=N,24nm,0.7s								
SELS				*e*Sg		**Sb**	**03 19 38.9**	**-0.2**
comp=N,21nm,0.4s								
SELS	**Selova**	**1.68**	**51**	*e*Pg		**Pn**	**03 19 15.9**	**-0.4**
SELS				*e*Sg		**Sb**	**03 19 38.9**	**-0.2**
comp=N,21nm,0.4s								
BBLS	**Lazići**	**1.68**	**2**	*e*Pg		**Pb**	**03 19 18.0**	**+0.1**
BBLS				*e*Sg		**Sg**	**03 19 40.8**	**0.0**
comp=N,150nm,0.9s								
BBLS				*e*Sg		**Sg**	**03 19 40.8**	**0.0**
comp=N,37nm,0.5s								
BBLS	**Lazići**	**1.68**	**2**	*e*Pn		**Pn**	**03 19 16.2**	**-0.2**
BBLS	**Lazići**	**1.68**	**2**	*e*Pg		**Pb**	**03 19 18.0**	**+0.1**
BBLS				*e*Sn		**Sn**	**03 19 38.2**	**+0.1**
BBLS				*e*Sg		**Sg**	**03 19 40.8**	**0.0**
comp=N,150nm,0.9s								
BIA	**Bitola**	**1.90**	**127**	P		**Pb**	**03 19 21.2**	**-0.3**
BIA	**Bitola**	**1.90**	**127**	P		**Pb**	**03 19 21.2**	**-0.3**
BIA	**Bitola**	**1.90**	**127**	*i*Pn		**Pb**	**03 19 21.2**	**-0.3**
BIA				*e*Sg		**Sg**	**03 19 48.6**	**+0.9**
KBN	**Korca**	**1.91**	**144**	P		**Pb**	**03 19 20.9**	**-0.8**
KBN	**Korca**	**1.91**	**144**	P		**Pb**	**03 19 20.9**	**-0.8**
KBN	**Korca**	**1.91**	**144**	*i*Pg		**Pb**	**03 19 21.3**	**-0.4**
KBN	**Korca**	**1.91**	**144**	*i*PG		**Pb**	**03 19 21.3**	**-0.5**
HAPS	**Han Pijesak,BI**	**1.92**	**352**	*e*Pn		**Pn**	**03 19 19.8**	**+0.1**
HAPS				*e*Sn		**Sn**	**03 19 44.6**	**+0.5**
BARS	**Barje**	**1.95**	**70**	*e*Pg		**Pb**	**03 19 21.7**	**-0.7**
DIVS	**Divibare**	**1.98**	**14**	*e*Pg		**Pn**	**03 19 21.7**	**+1.3**
DIVS				*e*Sg		**Sb**	**03 19 48.4**	**+0.8**
comp=N,7.8nm,0.3s								
DIVS				*e*Sg		**Sb**	**03 19 48.5**	**+0.8**
comp=N,13nm,0.5s								
DIVS	**Divibare**	**1.98**	**14**	*e*Pn		**Pn**	**03 19 20.2**	**-0.2**
DIVS	**Divibare**	**1.98**	**14**	*e*Pg		**Pn**	**03 19 21.7**	**+1.3**
DIVS				*e*Sn		**Sn**	**03 19 45.6**	**+0.2**
DIVS				*e*Sg		**Sb**	**03 19 48.5**	**+0.8**
comp=N,13nm,0.5s								
GRUS	**Gruza**	**1.98**	**30**	*e*Pg		**Pn**	**03 19 21.5**	**+1.0**
GRUS				*e*Sg		**Sg**	**03 19 49.2**	**-1.3**
comp=N,7.5nm,0.8s								
GRUS				*e*Sg		**Sg**	**03 19 49.6**	**-0.9**
comp=N,20nm,0.9s								
GRUS	**Gruza**	**1.98**	**30**	*e*Pg		**Pn**	**03 19 21.5**	**+1.0**
GRUS				*e*Sg		**Sg**	**03 19 49.6**	**-0.9**
comp=N,20nm,0.9s								
FNA	**Florina**	**2.08**	**132**	P		**Pn**	**03 19 23.3**	**+1.4**
FNA				S		**Sb**	**03 19 50.9**	**+0.3**
FNA	**Florina**	**2.08**	**132**	P		**Pn**	**03 19 23.3**	**+1.4**
FNA				S		**Sb**	**03 19 50.9**	**+0.3**
TRUS	**Trudelj**	**2.19**	**21**	*e*Pg		**Pb**	**03 19 26.8**	**+0.3**
TRUS				*e*Sg		**Sb**	**03 19 55.0**	**+1.3**
comp=N,9.1nm,0.4s								
TRUS				*e*Sg		**Sg**	**03 19 56.6**	**-0.4**
comp=N,13nm,0.6s								
TRUS	**Trudelj**	**2.19**	**21**	*e*Pg		**Pb**	**03 19 26.8**	**+0.3**
TRUS				*e*Sg		**Sg**	**03 19 56.6**	**-0.4**
comp=N,13nm,0.6s								
NEST	**Nestorio**	**2.19**	**143**	P		**Pn**	**03 19 24.0**	**+0.6**
NEST				S		**Sn**	**03 19 52.0**	**+1.3**
NEST	**Nestorio**	**2.19**	**143**	P		**Pn**	**03 19 24.0**	**+0.6**
NEST				S		**Sn**	**03 19 52.0**	**+1.3**
BOVS	**Bovan**	**2.27**	**50**	*e*Pg		**Pb**	**03 19 27.9**	**0.0**
BOVS				*e*Sg		**Sb**	**03 19 56.5**	**+0.4**
comp=N,12nm,0.8s								
BOVS	**Bovan**	**2.27**	**50**	*e*Pg		**Pb**	**03 19 27.9**	**0.0**
BOVS				*e*Sg		**Sb**	**03 19 56.5**	**+0.4**
comp=N,12nm,0.8s								
SRN	**Sarande**	**2.36**	**167**	P		**Pn**	**03 19 25.2**	**-0.4**
SRN				S		**Sn**	**03 19 54.7**	**+0.1**
SRN	**Sarande**	**2.36**	**167**	P		**Pn**	**03 19 25.2**	**-0.4**
SRN				S		**Sn**	**03 19 54.7**	**+0.1**
TEKS	**Tekeris**	**2.37**	**3**	*e*Pn		**Pn**	**03 19 27.1**	**+1.3**
TEKS	**Tekeris**	**2.37**	**3**	*e*Pn		**Pn**	**03 19 26.2**	**+0.4**
TEKS				*e*Sn		**Sn**	**03 19 55.3**	**+0.3**
PENT	**Pentalofos**	**2.41**	**145**	P		**Pn**	**03 19 28.1**	**+1.6**
PENT	**Pentalofos**	**2.41**	**145**	P		**Pn**	**03 19 28.1**	**+1.6**
KEK	**Kerkira**	**2.49**	**172**	P		**Pn**	**03 19 26.8**	**-0.7**
KEK				S		**Sn**	**03 19 57.6**	**-0.4**
KEK	**Kerkira**	**2.49**	**172**	P		**Pn**	**03 19 26.8**	**-0.7**
KEK				S		**Sn**	**03 19 57.6**	**-0.4**
SVIS	**Svilajnac**	**2.50**	**33**	*e*Pg		**Pb**	**03 19 32.4**	**+0.7**
SVIS				*e*Sg		**Sg**	**03 20 05.6**	**-1.3**
comp=N,41nm,0.5s								
SVIS				*e*Sg		**Sb**	**03 20 06.3**	**+3.7**
comp=N,91nm,0.7s								
GRG	**Griva**	**2.61**	**117**	P		**Pn**	**03 19 30.2**	**+1.0**
GRG				S		**Sb**	**03 20 04.0**	**-1.9**
GRG	**Griva**	**2.61**	**117**	P		**Pn**	**03 19 30.2**	**+1.0**
GRG				S		**Sb**	**03 20 04.0**	**-1.9**
SGD	**Sagiada**	**2.66**	**165**	P		**Pn**	**03 19 29.6**	**-0.1**
SGD	**Sagiada**	**2.66**	**165**	P		**Pn**	**03 19 29.6**	**-0.1**
ZAPS	**Zavoj**	**2.67**	**65**	*e*Pn		**Pn**	**03 19 30.6**	**+0.7**
ZAPS				*e*Sn		**Sn**	**03 20 03.8**	**+1.4**
comp=N,7.5nm,0.4s								
ZAPS				*e*Sn		**Sb**	**03 20 04.4**	**-3.2**
comp=N,8.3nm,0.5s								
ZAPS	**Zavoj**	**2.67**	**65**	*e*Pn		**Pn**	**03 19 30.6**	**+0.7**
ZAPS				*e*Sn		**Sn**	**03 20 03.8**	**+1.4**
comp=N,7.5nm,0.4s								
ZAGS	**Zajecar**	**2.68**	**52**	*e*Pn		**Pn**	**03 19 31.5**	**+1.4**
ZAGS				*e*Sn		**Sn**	**03 20 04.4**	**+1.7**
comp=N,3.4nm,0.6s								
ZAGS				*e*Sn		**Sb**	**03 20 04.7**	**-3.2**
comp=N,16nm,0.4s								
ZAGS	**Zajecar**	**2.68**	**52**	*e*Pn		**Pn**	**03 19 31.5**	**+1.4**
ZAGS				*e*Sn		**Sn**	**03 20 04.4**	**+1.7**
comp=N,3.4nm,0.6s								
IGT	**Igoumenitsa**	**2.76**	**164**	P		**Pn**	**03 19 30.8**	**-0.3**
IGT				S		**Sn**	**03 20 05.9**	**+1.4**
IGT	**Igoumenitsa**	**2.76**	**164**	P		**Pn**	**03 19 30.8**	**-0.3**
IGT				S		**Sn**	**03 20 05.9**	**+1.4**
KUBS	**Kucevo**	**2.81**	**37**	*e*Pn		**Pn**	**03 19 32.5**	**+0.6**
KUBS	**Kucevo**	**2.81**	**37**	*e*Pn		**Pn**	**03 19 32.5**	**+0.6**
KNT	**Kendrikon**	**2.86**	**110**	P		**Pn**	**03 19 33.5**	**+0.9**
KNT				S		**Sn**	**03 20 09.2**	**+2.0**
KNT	**Kendrikon**	**2.86**	**110**	P		**Pn**	**03 19 33.5**	**+0.9**
KNT				S		**Sn**	**03 20 09.2**	**+2.0**
VTS	**Vitosha**	**2.90**	**81**	⇓*i*P		**Pn**	**03 19 35.2**	**+1.9**
VTS	**Vitosha**	**2.90**	**81**	P		**Pn**	**03 19 34.2**	**+0.9**
VTS	**Vitosha**	**2.90**	**81**	P		**Pn**	**03 19 34.2**	**+0.9**
FGSL	**Fruska Gora**	**2.99**	**7**	*e*Pn		**Pn**	**03 19 34.8**	**+0.4**
FRGS	**Fruska Gora**	**2.99**	**7**	*e*Pn		**Pn**	**03 19 34.8**	**+0.4**
BLY	**Banja Luka**	**3.00**	**329**	⇑*i*P		**Pn**	**03 19 36.6**	**+2.1**
BLY	**Banja Luka**	**3.00**	**329**	*e*Pn		**Pn**	**03 19 34.8**	**+0.3**
BLY	**Banja Luka**	**3.00**	**329**	⇑*i*P		**Pn**	**03 19 36.6**	**+2.1**
BLY				*e*Sn		**Sn**	**03 20 11.3**	**+0.7**
SOH	**Sokhos**	**3.32**	**113**	P		**Pn**	**03 19 40.5**	**+1.7**
SOH	**Sokhos**	**3.32**	**113**	P		**Pn**	**03 19 40.5**	**+1.7**
UDBI	**Udbina**	**3.50**	**313**	*e*Pn		**Pn**	**03 19 43.0**	**+1.6**
UDBI				Sn		**Sn**	**03 20 25.8**	**+2.8**
UDBI	**Udbina**	**3.50**	**313**	*e*Pn		**Pn**	**03 19 42.9**	**+1.6**
UDBI				Sn		**Sn**	**03 20 25.7**	**+2.8**
HERR	**Herculane**	**3.51**	**39**	⇑*i*P		**Pn**	**03 19 43.3**	**+1.9**
BZS	**Buzias**	**3.81**	**25**	⇑*i*P		**Pn**	**03 19 46.7**	**+1.1**
BZS	**Buzias**	**3.81**	**25**	⇑*i*P		**Pn**	**03 19 46.7**	**+1.1**
NVLJ	**Novalja**	**4.03**	**308**	*i*Pn		**Pn**	**03 19 48.8**	**+0.3**
NVLJ	**Novalja**	**4.03**	**308**	*i*Pn		**Pn**	**03 19 48.8**	**+0.3**
OZLJ	**Ozalj**	**4.42**	**322**	*i*Pn		**Pn**	**03 19 54.4**	**+0.5**
OZLJ	**Ozalj**	**4.42**	**322**	*i*Pn		**Pn**	**03 19 54.4**	**+0.5**
CRES	**Cresnjev**	**4.59**	**324**	*e*Pn		**Pn**	**03 19 56.2**	**-0.1**
CEY	**Cerknica**	**5.01**	**317**	*e*Pn		**Pn**	**03 20 02.1**	**0.0**
VYHS	**Vyhne**	**6.32**	**357**	*e*SN		**Sn**	**03 21 26.0**	**-6.4**

IDC ***17*** *03:19:46.9±2.0, 35°.41S×73°.99W, h0km, mb3.5/2, mb1 3.9/4, mb1mx3.6/34, mbtmp3.6/4, ML3.9/2, MS2.8/2, Ms1 2.8/2, ms1mx2.7/27, Error ellipse: s-maj=47.0km s-min=27.9km az=74.0*
ISCJB ***17*** *03:19:48.6±0.9, 35°.52S±0°.03×73°.91W±0°.08, h33km, mb3.5/2, Error ellipse: s-maj=9.5km s-min=4.9km az=5.4*
GUC ***17*** *03:19:48.7±0.5, 35°.44S×73°.87W, h29km±5km, ML3.4*
ISC 17 03:19:50.6±1.3, 35°.57S±0°.05×73°.9W±0°.1, h35km, n16, σ1§23/23, 2C, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
COCH	**Cobquecura**	**1.04**	**123**	*e*P		**Pn**	**03 20 07.9**	**-0.7**
COCH				*e*S		**Sn**	**03 20 22.0**	**+0.1**
COCH				IAML			03 20 22.7	
comp=N,1µm,0.3s								
CCSP	**San Pedro de C**	**1.41**	**155**	*e*P		**Pn**	**03 20 12.3**	**-1.6**
CCSP				*e*S		**Sn**	**03 20 29.1**	**-2.2**
CCSP				IAML			03 20 32.3	
comp=N,698nm,0.2s								
GO05	**HualaæØ**	**1.67**	**71**	⇑*e*P		**Pn**	**03 20 16.1**	**-1.4**
GO05				*e*S		**Sn**	**03 20 36.6**	**-1.1**
CCHI	**Chillan**	**1.78**	**126**	⇑*e*P		**Pn**	**03 20 19.5**	**+0.6**
CCHI				*e*S		**Sn**	**03 20 42.7**	**+2.5**
CCHI				IAML			03 20 43.7	
comp=N,1µm,0.5s								
TMU	**Temuco**	**3.32**	**163**	*e*P		**Pn**	**03 20 40.9**	**+0.9**
TMU				*e*S		**Sn**	**03 21 18.4**	**+0.1**
LMEL	**Las Melosas**	**3.46**	**61**	*e*P		**Pn**	**03 20 40.9**	**-1.3**
LMEL				*e*S		**Sn**	**03 21 21.2**	**-0.9**
RTLS	**Leoncito**	**5.34**	**47**	*i*P		**Pn**	**03 21 08.5**	**+0.3**
RTLS				*i*S		**Sn**	**03 22 10.8**	**+2.1**
RTLS				IAML			03 22 17.3	
comp=Z,18nm,0.4s								
RTCV	**Cerro Valdivia**	**5.77**	**52**	*i*P		**Pn**	**03 21 14.0**	**+0.2**
PLCA	**Paso Flores**	**5.78**	**154**	Pn		**Pn**	**03 21 15.7**	**+1.8**
comp=Z,0.7nm,0.3s,baz=349,slow=12,SNR=25								
PLCA				Sn		Sn	03 22 28.9	+10
comp=Z,0.5nm,0.3s,baz=264,slow=18,SNR=2.9								
PLCA				LR		LR	03 22 54.5	
comp=Z,44nm,21.4s,baz=17,slow=31								
AMOG	**MOGNA**	**6.44**	**46**	*i*P		**Pn**	**03 21 22.5**	**-0.5**
ACAN	**Cantantal**	**6.44**	**61**	*i*P		**Pn**	**03 21 23.1**	**+0.1**
AROD	**Rodeo**	**6.53**	**36**	*i*P		**Pn**	**03 21 24.2**	**-0.3**
AGUA	**GUANDACOL**	**7.57**	**38**	*i*P		**Pn**	**03 21 37.6**	**-1.0**
CPUP	**Villa Florida**	**16.89**	**62**	Pn		**P**	**03 23 45.4**	**-0.6**
comp=Z,0.1nm,0.3s,baz=240,slow=10,SNR=4.0								
CPUP				LR		LR	03 30 49.7	
comp=Z,70nm,21.8s,baz=245,slow=39								
SIV	**San Ignacio**	**22.60**	**34**	P		**P**	**03 24 48.2**	**-0.1**
comp=Z,1.7nm,0.7s,baz=214,slow=11,SNR=6.4		

GSI	**Gunungsitoli**	**5.00**	**144**	*e*Pn	**Pn**	**03 25 37.7**	**+0.2**
GSI				*e*Sn	**Sn**	**03 26 34.6**	**+0.5**
SURT	**Suratani**	**5.46**	**49**	P	**Pn**	**03 25 44.8**	**+1.1**
SKLT	**Songkhla**	**6.22**	**73**	P	**Pn**	**03 25 54.8**	**+0.6**
	325nm,0.7s,5µm1.4nm						
IPM	**Ipoh**	**6.44**	**98**	*e*Pn	**Pn**	**03 25 58.2**	**+1.0**
IPM				*e*Sn	**Sn**	**03 27 05.8**	**-3.7**
PBA	**Port Blair**	**6.51**	**344**	*e*P	Pn	03 25 59.7	+1.6
MNSI	**Mandailing Nat**	**6.72**	**132**	P	**Pn**	**03 26 00.5**	**-0.6**
	74nm,0.7s,3µm0.5nm						
DGPR	**DIGLIPUR**	**7.93**	**348**	*e*P	**Pn**	**03 26 18.6**	**+1.0**
SISI	**Saibi**	**8.01**	**146**	P	**Pn**	**03 26 18.8**	**0.0**
BKNI	**Bangkinang**	**8.14**	**128**	*e*Pn	**Pn**	**03 26 15.7**	**-4.8**
PDSI	**Padang**	**8.54**	**137**	P	**Pn**	**03 26 26.6**	**+0.5**
	21nm,0.5s						
PHET	**Kaeng Krachan**	**8.97**	**33**	P	**Pn**	**03 26 34.4**	**+2.5**
	22nm,0.8s,388nm0.1nm						
CHBT	**CHBT**	**10.56**	**46**	P	**Pn**	**03 26 57.1**	**+3.4**
	410nm,0.8s						
NAYO	**Nakonayok**	**11.06**	**36**	P	**Pn**	**03 27 03.7**	**+3.1**
	17nm,0.9s						
CHAI	**Chaiyaphum**	**12.71**	**34**	P	**Pn**	**03 27 27.8**	**+4.7**
	11nm,0.9s,101nm						
PBKT	**Sadao Pong**	**12.75**	**29**	*e*Pn	**Pn**	**03 27 26.2**	**+2.6**
MNAI	**Manna**	**12.76**	**139**	*e*Pn	**Pn**	**03 27 20.9**	**-2.9**
PHIT	**Phitsanulok**	**13.04**	**25**	P	**P**	**03 27 39.1**	**+2.3**
CM01	**Chiang Mai Arr**	**13.64**	**18**	*e*Pn	**P**	**03 27 40.9**	**-2.6**
CM01				*e*Sn	**Sn**	**03 30 04.0**	**-2.0**
CM31	**Chiang Mai Arr**	**13.67**	**18**	*e*Pn	**P**	**03 27 42.0**	**-1.9**
CM31				*e*Sn	**Sn**	**03 30 05.5**	**-1.2**
CM31				*e*ScP	**ScP**	**03 36 30.6**	**+1.7**
CMAR	**Chiang Mai Arr**	**13.67**	**18**	P	**Pn**	**03 27 39.7**	**+3.5**
	2.4nm,0.3s,baz=211,slow=14,SNR=22						
CMAR				LR	LR	03 32 42.6	
	comp=Z,152nm,19.9s,baz=196,slow=36						
CMAR				ScP	**ScP**	**03 36 30.6**	**+1.7**
	0.2nm,0.3s,baz=232,slow=2.6,SNR=4.2						
MDSI	**Maura Dua**	**13.68**	**136**	P	**Pn**	**03 27 36.8**	**+0.5**
	20nm,0.9s,993nm						
PALK	**Pallekele**	**13.96**	**278**	P	**Pn**	**03 27 42.8**	**+2.6**
	1.9nm,0.3s,baz=116,slow=15,SNR=9.5						
PALK				S	Sn	03 30 01.4	-13
	3.7nm,0.3s,baz=115,slow=7.4,SNR=8.5						
PALK				LR	LR	03 32 30.8	
	comp=Z,355nm,20.2s,baz=116,slow=35						
PALK	**Pallekele**	**13.96**	**278**	*e*Pn	**Pn**	**03 27 42.6**	**+2.3**
PALK				*e*Sn	Sn	03 30 02.7	-11
PALK	**Pallekele**	**13.96**	**278**	*e*P	**Pn**	**03 27 42.6**	**+2.3**
CHTO	**Chiang Mai**	**14.01**	**17**	P	**P**	**03 27 46.4**	**-1.2**
	263nm,0.8s,2µm						
CHTO	**Chiang Mai**	**14.01**	**17**	*e*Pn	**P**	**03 27 46.0**	**-1.6**
CHTO				*e*Sn	**Sn**	**03 30 09.0**	**-5.9**
CHTO	**Chiang Mai**	**14.01**	**17**	*e*P	**P**	**03 27 46.0**	**-1.6**
CHTO				*e*		03 30 09.0	
CMMT	**Chiang Mai**	**14.01**	**17**	P	**P**	**03 27 45.3**	**-2.3**
	59nm,0.8s,616nm						
CMAI	**Chiengmai2**	**15.10**	**16**	P	**P**	**03 28 01.7**	**+1.8**
	146nm,1.0s						
MDRS	**Chennai**	**16.11**	**299**	*e*P	**P**	**03 28 11.0**	**+0.1**
KSM	**Kuching**	**16.13**	**103**	*e*Pn	**P**	**03 28 12.7**	**+1.5**
	23nm,1.0s						
VIS	**Vishakhapatnam**	**16.51**	**319**	*e*P	**Pn**	**03 28 14.0**	**+0.7**
CHLP	**Challavanipeta**	**16.63**	**323**	*e*P	**Pn**	**03 28 15.1**	**+0.2**
PVM	**Polavaram**	**17.35**	**314**	*e*P	**P**	**03 28 25.3**	**+0.6**
COCO	**West Island**	**17.59**	**173**	*e*Pn	**Pn**	**03 28 25.9**	**-0.8**
	141nm,0.6s						
COCO	**West Island**	**17.59**	**173**	*e*P	**Pn**	**03 28 25.9**	**-0.8**
COCO				pmax	pmax		
	comp=Z,141nm,0.6s						
ADKI	**Addanki**	**17.75**	**307**	*e*P	**P**	**03 28 31.0**	**+1.9**
LEM	**Lembang**	**17.75**	**133**	LR	LR	03 35 09.9	
	comp=Z,131nm,21.3s,baz=244,slow=36						
SBUM	**Sibu**	**17.79**	**99**	*e*Pn	**P**	**03 28 30.9**	**+1.2**
	comp=Z,14nm,1.2s						
RCLA	**Racherla**	**18.36**	**304**	*e*P	**Pn**	**03 28 36.9**	**+0.7**
NJS	**Nagarjunasagar**	**18.68**	**308**	*e*P	**Pn**	**03 28 40.4**	**+0.4**
SRLM	**Srisailam**	**18.75**	**306**	*e*P	**Pn**	**03 28 42.1**	**+1.1**
IMP	**Imphal**	**19.36**	**358**	*e*P	**P**	**03 28 45.9**	**-0.9**
URV	**Uravakonda**	**19.54**	**300**	*e*P	**Pn**	**03 28 49.9**	**-0.6**
HYB	**Hyderabad**	**19.76**	**309**	*i* P	**Pn**	**03 28 55.0**	**+2.0**
HYB				*e*S	**S**	**03 32 25.0**	**-6.6**
HYBB	**Hyderabad (bro**	**19.76**	**309**	*e*P	**Pn**	**03 28 53.6**	**+0.6**
QIZ	**Qiongzhong**	**20.11**	**46**	P	**P**	**03 28 55.5**	**+0.5**
QIZ				S	Sn	03 32 41.0	-1.7
QIZ				pmax	pmax		
	comp=Z,25nm,1.7s						
QIZ				LR	LR		
	comp=Z,230nm,14.7s						
QIZ				LR	LR		
	comp=Z,280nm,17.5s						
BOK	**Bokaro**	**20.16**	**336**	*e*P	**P**	**03 28 56.1**	**+0.7**
BOK				IAmb	IAmb	03 28 59.4	
	comp=Z,56nm,0.8s						
KOHI	**KOHIMA**	**20.24**	**359**	*e*P	**P**	**03 28 54.8**	**-1.6**
SHL	**Shillong**	**20.25**	**353**	*e*P	**P**	**03 28 57.4**	**+0.8**
SHL	**Shillong**	**20.25**	**353**	P	**P**	**03 28 53.8**	**-2.8**
SHL				pmax	pmax		
	comp=Z,15nm,0.5s						
SRSP	**Sriramsagar**	**20.82**	**312**	*e*P	**P**	**03 29 03.8**	**+1.1**
MOKO	**MOKOCHONG**	**20.83**	**360**	*e*P	**P**	**03 29 01.8**	**-1.1**
KMI	**Kunming**	**21.12**	**21**	P	**P**	**03 29 09.6**	**+3.5**
KMI				pmax	pmax		
	comp=Z,31nm,0.8s						
KMI				LR	LR		
	comp=Z,200nm,15.3s						
KMI				LR	LR		
	comp=Z,210nm,15.6s						
KMI				LR	LR		
	comp=Z,230nm,21.7s						
KLRI	**Killari**	**21.66**	**307**	*e*P	**P**	**03 29 13.0**	**+1.2**
ITAN	**ITANAGAR**	**21.67**	**358**	*e*P	**P**	**03 29 09.4**	**-2.3**
ITAN				IAmb	IAmb	03 29 10.2	
	comp=Z,2µm,0.1s						
NGP	**Nagpur**	**21.77**	**318**	*e*P	**P**	**03 29 10.4**	**-2.5**
NGP				IAmb	IAmb	03 29 14.8	
	comp=Z,23nm,0.3s						
LKP	**Lekhapani**	**21.87**	**3**	*ex*	**P**	**03 29 15.6**	**+1.8**
ZIRO	**ZIRO**	**22.04**	**358**	*e*P	**P**	**03 29 12.5**	**-3.4**
ODAN	**Odare**	**22.45**	**343**	*e*P	**P**	**03 29 20.1**	**-0.3**
	comp=Z,35nm,0.6s						
RAMN	**Ramite**	**22.78**	**341**	*e*P	**P**	**03 29 23.3**	**-0.6**
	comp=Z,32nm,0.6s						
JIRN	**Jiri**	**23.57**	**341**	*e*P	**P**	**03 29 29.8**	**-2.0**
	comp=Z,45nm,0.4s						
PKIN	**Phulchoki**	**23.76**	**339**	*e*P	**P**	**03 29 32.8**	**-0.7**
	comp=Z,12nm,0.5s						
MYLDM	**Lahad Datu**	**23.78**	**89**	*e*P	**P**	**03 29 35.2**	**+1.7**
	comp=Z,22nm,1.0s						
DMN	**Daman**	**23.89**	**339**	*e*P	**P**	**03 29 34.3**	**-0.4**
	comp=Z,32nm,0.7s						
GUN	**Gumba**	**23.90**	**341**	*e*P	**P**	**03 29 33.3**	**-1.6**
	comp=Z,57nm,0.6s						
GYA	**Guiyang**	**23.91**	**27**⇑	*i* P	**P**	**03 29 35.3**	**+0.5**
GYA				pP	pP	03 29 47.8	+1.1
GYA				PP	**PnPn**	**03 30 11.0**	**+6.2**
GYA				PcP	**PcP**	**03 33 18.9**	**+2.3**
GYA				S	**S**	**03 33 48.6**	**+0.4**
GYA				sS	sS	03 34 06.9	-1.5
GYA				SS	**SnSn**	**03 34 40.3**	**+9.1**
GYA				pmax	pmax		
	comp=Z,70nm,0.7s						
GYA				pmax	pmax		
	comp=Z,140nm,4.9s						
GYA				LR	LR		
	comp=Z,1µm,15.2s						
GYA				LR	LR		
	comp=Z,840nm,15.6s						
GYA				LR	LR		
	comp=Z,1µm,15.8s						
KKN	**Kakani**	**24.00**	**339**	*e*P	**P**	**03 29 34.2**	**-1.4**
	comp=Z,39nm,0.8s						
POO	**Poona**	**24.12**	**305**	*e*P	**P**	**03 29 37.4**	**+0.7**
POO				IAmb	IAmb	03 29 44.0	
	comp=Z,29nm,0.1s						
LSA	**Lhasa**	**24.42**	**353**	*e*P	**P**	**03 29 38.8**	**-0.9**
	comp=Z,24nm,0.6s						
LSA	**Lhasa**	**24.42**	**353**	*e*P	**P**	**03 29 38.8**	**-0.9**
LSA				pmax	pmax		
	comp=Z,24nm,0.6s						
GKN	**Gorkha**	**24.42**	**338**	*e*P	**P**	**03 29 38.1**	**-1.4**
KOLN	**Koldanda**	**24.62**	**336**	*e*P	**P**	**03 29 41.4**	**+0.1**
	comp=Z,76nm,0.7s						
DANN	**Dangsing**	**25.07**	**337**	*e*P	**P**	**03 29 44.6**	**-0.9**
PYUN	**Piuthan**	**25.16**	**335**	*e*P	**P**	**03 29 46.4**	**+0.2**
	comp=Z,122nm,0.4s						

H08S2	**Diego Garcia H**	**25.59**	**240**	T	T	03 57 12.9	
	baz=60,slow=75,SNR=208						
H08S3	**Diego Garcia H**	**25.59**	**240**	T	T	03 57 04.5	
	baz=60,slow=75,SNR=167						
H08S1	**Diego Garcia H**	**25.60**	**240**	T	T	03 57 05.8	
	baz=60,slow=75,SNR=153						
KAPI	**Kappang**	**27.13**	**112**	*e*P	**P**	**03 30 04.1**	**+0.2**
	comp=Z,14nm,0.6s						
TGY	**Tagaytay City**	**27.32**	**70**	LR	LR	03 39 36.7	
	comp=Z,94nm,21.9s,baz=307,slow=33						
SMLA	**Simla**	**30.42**	**329**	*e*P	**P**	**03 30 32.7**	**-0.2**
WHN	**Wuhan**	**31.17**	**34**	P	**P**	**03 30 40.8**	**+1.2**
XAN	**Xi'an**	**31.46**	**23**⇑	P	**P**	**03 30 40.4**	**-1.8**
XAN				pmax	pmax		
	comp=Z,45nm,0.7s						
XAN				LR	LR		
	comp=Z,180nm,17.4s						
XAN				LR	LR		
	comp=Z,120nm,15.2s						
XAN				LR	LR		
	comp=Z,180nm,21.7s						
LZH	**Lanzhou**	**31.72**	**14**	*e*P	**P**	**03 30 47.8**	**+3.2**
LZH				pP	pP	03 30 58.6	+1.8
LZH				sP	sP	03 31 05.8	+3.5
LZH				pmax	pmax		
	comp=Z,29nm,1.0s						
LZH				pmax	pmax		
	comp=Z,150nm,4.8s						
LZH				LR	LR		
	comp=Z,320nm,10.1s						
LZH				LR	LR		
	comp=Z,360nm,12.4s						
LZH				LR	LR		
	comp=Z,510nm,14.8s						
DHRM	**DHARAMSHALA**	**31.75**	**330**	*e*P	**P**	**03 30 43.7**	**-1.3**
DHRM				IAmb	IAmb	03 30 47.8	
GTA	**Gaotai**	**34.21**	**7**	*e*P	**P**	**03 31 05.6**	**-0.6**
GTA				pP	pP	03 31 16.8	-1.7
GTA				sP	sP	03 31 22.9	-1.1
GTA				pmax	pmax		
	comp=Z,24nm,0.9s						
NIL	**Nilore**	**34.44**	**327**	*e*P	**P**	**03 31 07.6**	**-0.6**
	comp=Z,13nm,0.5s						
NIL	**Nilore**	**34.44**	**327**	*e*P	**P**	**03 31 07.6**	**-0.6**
NIL				pmax	pmax		
	comp=Z,13nm,0.5s						
NJ2	**Nanjing**	**34.90**	**38**	*e*P	**P**	**03 31 12.9**	**+0.7**
NJ2				pmax	pmax		
	comp=Z,35nm,0.5s						
TIA	**Tai'an**	**37.00**	**31**	P	**P**	**03 31 30.3**	**+0.2**
TIA				pmax	pmax		
	comp=Z,17nm,0.8s						
KSH	**Kashi**	**37.94**	**336**	P	**P**	**03 31 36.3**	**-1.8**
KSH				pmax	pmax		
	comp=Z,28nm,0.7s						
HHC	**Hu-ho-hao-te**	**38.45**	**21**	*e*P	**P**	**03 31 44.3**	**+1.9**
HHC				pmax	pmax		
	comp=Z,15nm,0.9s						
HHC				pmax	pmax		
	comp=Z,47nm,5.4s						
FITZ	**Fitzroy Crossi**	**38.48**	**128**	P	**P**	**03 31 42.5**	**-0.2**
	comp=Z,8.1nm,0.6s,baz=317,slow=5.5,SNR=24						
FITZ	**Fitzroy Crossi**	**38.48**	**128**	P	**P**	**03 31 42.5**	**-0.2**
	baz=39						
FAKI	**Fak Fak**	**38.48**	**101**	*e*P	**P**	**03 31 42.5**	**-0.4**
	comp=Z,19nm,0.6s						
WMQ	**Urumqi**	**38.77**	**352**	P	**P**	**03 31 45.4**	**+0.4**
WMQ				sP	sP	03 32 03.3	+0.4
WMQ				pmax	pmax		
	comp=Z,44nm,0.9s						
WMQ				pmax	pmax		
	comp=Z,46nm,3.8s						
WMQ				LR	LR		
	comp=Z,88nm,21.5s						
WMQ				LR	LR		
	comp=Z,200nm,29.5s						
WMQ				LR	LR		
	comp=Z,130nm,25.5s						
TARG	**Taragay, Kyrgy**	**39.19**	**340**	*e*P	**P**	**03 31 49.1**	**+0.2**
	comp=Z,20nm,0.7s						
SFK	**Sufi-Kurgan**	**39.38**	**334**	P	**P**	**03 31 50.8**	**+0.4**
SFK				pmax	pmax		
	comp=Z,29nm,0.8s						
NRN	**Naryn**	**39.57**	**338**	*e*P	**P**	**03 31 52.5**	**+0.4**
	comp=Z,18nm,0.6s						
NRN	**Naryn**	**39.57**	**338**	*e*P	**P**	**03 31 52.5**	**+0.4**
NRN				pmax	pmax		
	comp=Z,18nm,0.6s						
BJT	**Baijiatuao**	**39.57**	**26**	*e*P	**P**	**03 31 52.8**	**+1.1**
	comp=Z,22nm,0.8s						
BJT	**Baijiatuau**	**39.57**	**26**	*e*P	**P**	**03 31 52.8**	**+1.1**
BJT				pmax	pmax		
	comp=Z,23nm,0.8s						
BJI	**Beijing**	**39.59**	**26**⇑	*e*P	**P**	**03 31 52.8**	**+1.0**
BJI				pP	**pP**	**03 31 59.6**	**-4.7**
BJI				pmax	pmax		
	comp=Z,38nm,1.0s						
PRZ	**Przheval'sk**	**39.66**	**341**	*e*P	**P**	**03 31 54.5**	**+1.9**
	comp=Z,45nm,0.7s						
PRZ	**Przheval'sk**	**39.66**	**341**	*e*P	**P**	**03 31 54.5**	**+1.9**
PRZ				pmax	pmax		
	comp=Z,45nm,0.7s						
KNRA	**Kununurra**	**39.75**	**122**	P	**P**	**03 31 52.4**	**-1.0**
	baz=40						
KDJ	**Kajisay**	**39.76**	**340**	*e*P	**P**	**03 31 54.2**	**+0.9**
	comp=Z,36nm,0.6s						
KDJ	**Kajisay**	**39.76**	**340**	P	**P**	**03 31 54.3**	**+0.9**
KDJ				pmax	pmax		
	comp=Z,36nm,0.6s						
PDGK	**Podgornoye**	**40.09**	**343**	P	**P**	**03 31 56.8**	**+0.7**
PDGK				pmax	pmax		
	comp=Z,26nm,0.6s						
ULHL	**Ulahol**	**40.19**	**339**	P	**P**	**03 31 57.5**	**+0.5**
	SNR=41						
KZA	**Kyzart**	**40.41**	**338**	P	**P**	**03 31 59.3**	**+0.2**
	SNR=16						
MTN	**Manton Dam**	**40.54**	**117**	P	**P**	**03 31 59.5**	**-0.5**
	baz=41						
MTN	**Manton Dam**	**40.54**	**117**	*e*P	**P**	**03 31 59.7**	**-0.4**
	comp=Z,14nm,0.4s						
UCH	**Uchtor**	**40.82**	**337**	P	**P**	**03 32 03.3**	**+0.7**
	SNR=46						
TKM2	**Tokmak 2**	**41.01**	**339**	P	**P**	**03 32 04.4**	**+0.6**
	SNR=26						
TKM2	**Tokmak 2**	**41.01**	**339**	P	**P**	**03 32 04.1**	**+0.3**
TKM2				pmax	pmax		
	comp=Z,19nm,0.9s						
KBK	**Karagaybulak**	**41.02**	**338**	P	**P**	**03 32 05.2**	**+1.3**
	SNR=36						
AML	**Almayashu**	**41.07**	**336**	P	**P**	**03 32 05.3**	**+0.8**
	SNR=72						
AAK	**Ala-Archa**	**41.18**	**337**	P	**P**	**03 32 06.2**	**+1.0**
	SNR=22						
AAK	**Ala-Archa**	**41.18**	**337**	*e*P	**P**	**03 32 06.2**	**+1.0**
	comp=Z,17nm,0.8s						
AAK	**Ala-Archa**	**41.18**	**337**	*e*P	**P**	**03 32 06.2**	**+1.0**
AAK				pmax	pmax		
	comp=Z,17nm,0.8s						
FRU	**Bishkek**	**41.30**	**338**	*e*P	**P**	**03 32 06.0**	**0.0**
DL2	**Dalian**	**41.38**	**32**	P	**P**	**03 32 07.3**	**+0.7**
DL2				*e*S	**S**	**03 38 17.8**	**-0.4**
DL2				pmax	pmax		
	comp=Z,39nm,0.8s						
DL2				LR	LR		
	comp=Z,200nm,18.6s						
DL2				LR	LR		
	comp=Z,150nm,20.1s						
DL2				LR	LR		
	comp=Z,140nm,19.2s						
CHMS	**Chumysh**	**41.39**	**338**	P	**P**	**03 32 07.2**	**+0.4**
	SNR=6.3						
EKS2	**Erkin-Say**	**41.48**	**337**	P	**P**	**03 32 08.5**	**+1.0**
	SNR=7.9						
USP	**Ospenovka**	**41.72**	**338**	P	**P**	**03 32 10.0**	**+0.6**
	SNR=25						
MNAS	**Manas**	**41.85**	**335**	P	**P**	**03 32 11.0**	**+0.4**
MNAS				pmax	pmax		
	comp=Z,19nm,1.4s						
MK01	**Makanchi Array**	**42.59**	**347**	*e*P	**P**	**03 32 16.1**	**-0.4**
MK31	**Makanchi Array**	**42.62**	**347**	*e*P	**P**	**03 32 16.4**	**-0.2**
MK31	**Makanchi Array**	**42.62**	**347**	*e*P	**P**	**03 32 16.3**	**-0.3**
MK31				pmax	pmax		
	comp=Z,4.0nm,0.4s						
MK32	**Makanchi Array**	**42.62**	**347**	*e*P	**P**	**03 32 16.4**	**-0.2**
MKAR	**Makanchi Array**	**42.62**	**347**	P	**P**	**03 32 16.4**	**-0.2**
	comp=Z,12nm,0.7s,baz=163,slow=8.2,SNR=128						

MKAR				LR	LR	03 52 39.1	
	comp=Z,40nm,21.4s,baz=174,slow=40						
MKAR	**Makanchi Array**	**42.62**	**347**	*e*P	**P**	**03 32 16.4**	**-0.2**
	comp=Z,133nm,1.0s						
MAKZ	**Makanchi**	**42.70**	**347**	*e*P	**P**	**03 32 17.0**	**-0.3**
	comp=Z,16nm,0.6s						
MAKZ	**Makanchi**	**42.70**	**347**	*e*P	**P**	**03 32 17.0**	**-0.3**
MAKZ				pmax	pmax		
	comp=Z,16nm,0.6s						
TJN	**Taejon**	**43.05**	**40***c*	*i*P	**P**	**03 32 19.9**	**-0.3**
KK31	**Karatay Array**	**43.20**	**334**	*e*P	**P**	**03 32 21.6**	**+0.2**
KK31	**Karatay Array**	**43.20**	**334**	*e*P	**P**	**03 32 21.6**	**+0.2**
KK31				pmax	pmax		
	comp=Z,5.0nm,0.6s						
KKAR	**Karatay Array**	**43.20**	**334**	*e*P	**P**	**03 32 21.6**	**+0.2**
KKAR	**Karatay Array**	**43.20**	**334**	*e*P	**P**	**03 32 21.6**	**+0.2**
SONA0	**Songino Array**	**43.49**	**12**	*e*P	**P**	**03 32 23.0**	**-0.8**
SONA0				*e*PP	**PcP**	**03 34 11.3**	**+0.1**
SONA0				*e*ScP	**ScP**	**03 37 56.7**	**-2.4**
SONM	**Songino Array**	**43.49**	**12**	P	**P**	**03 32 23.0**	**-0.8**
	comp=Z,10nm,0.7s,baz=190,slow=8.6,SNR=79						
SONM				PcP	**PcP**	**03 34 11.3**	**+0.1**
	comp=Z,3.0nm,0.5s,baz=194,slow=3.9,SNR=15						
SONM				ScP	**ScP**	**03 37 56.7**	**-2.4**
	comp=Z,0.8nm,0.8s,baz=179,slow=3.5,SNR=4.8						
SONM				LR	LR	03 52 36.4	
	comp=Z,83nm,20.4s,baz=142,slow=39						
SONA1	**Songino Array**	**43.51**	**12**	*e*P	**P**	**03 32 23.0**	**-0.9**
JNU	**Nakatsue**	**43.58**	**46**	P	**P**	**03 32 24.7**	**0.0**
	comp=Z,8.2nm,0.7s,baz=234,slow=5.4,SNR=6.8						
JNU				LR	LR	03 52 28.6	
	comp=Z,88nm,19.4s,baz=295,slow=39						
JNU	**Nakatsue**	**43.58**	**46**	*e*P	**P**	**03 32 24.7**	**0.0**
	comp=Z,54nm,1.7s						
ULN	**Ulaanbaatar**	**43.66**	**12**	*e*P	**P**	**03 32 23.9**	**-1.3**
	comp=Z,9.5nm,0.6s						
ULN	**Ulaanbaatar**	**43.66**	**12***c*	*i*P	**P**	**03 32 24.2**	**-1.0**
ULN				pmax	pmax		
	comp=Z,7.0nm,0.6s						
KS15	**Wonju Array Si**	**44.03**	**39**	*e*P	**P**	**03 32 27.9**	**-0.3**
KSAR	**Wonju Array Be**	**44.03**	**39**	P	**P**	**03 32 27.9**	**-0.3**
KSAR	**Wonju Array Be**	**44.03**	**39**	P	**P**	**03 32 27.9**	**-0.3**
KS01	**Wonju Array Si**	**44.06**	**39**	*e*P	**P**	**03 32 27.6**	**-0.7**
KSRS	**Korea Array**	**44.06**	**39**	P	**P**	**03 32 27.9**	**-0.5**
	comp=Z,4.7nm,0.7s,baz=217,slow=8.9,SNR=24						
KSRS				LR	LR	03 52 20.8	
	comp=Z,67nm,18.6s,baz=226,slow=38						
DGZ	**Jazzator, Alta**	**44.59**	**353**	*i* P	**P**	**03 32 32.6**	**0.0**
DGZ				pmax	pmax		
	comp=Z,4.0nm,0.4s						
ZAK	**Zakamensk**	**45.44**	**8**	*e*P	**P**	**03 32 37.8**	**-1.5**
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.1s						
GEYT	**Alibeck**	**46.38**	**319**	P	**P**	**03 32 47.5**	**+0.6**
	comp=Z,6.9nm,0.5s,baz=156,slow=8.1,SNR=10						
GYA0B	**ALIBECK ARRAY**	**46.38**	**319**	*e*P	**P**	**03 32 47.8**	**+0.9**
	comp=Z,10nm,0.5s						
WR1	**Warramunga Arr**	**46.45**	**124**	*e*P	**P**	**03 32 47.8**	**+0.2**
	comp=Z,51nm,1.4s						
WR1				*e*ScP	**ScP**	**03 38 09.7**	**-2.1**
WRA	**Warramunga Arr**	**46.45**	**124**	P	**P**	**03 32 47.8**	**+0.2**
	comp=Z,7.5nm,0.5s,baz=307,slow=8.4,SNR=228						
WRA				ScP	**ScP**	**03 38 09.7**	**-2.1**
	comp=Z,0.6nm,0.9s,baz=304,slow=4.1,SNR=5.6						
WRAB	**Tennant Creek**	**46.46**	**124**	*e*P	**P**	**03 32 48.0**	**+0.4**
	comp=Z,21nm,0.6s						
WRAB	**Tennant Creek**	**46.46**	**124***c*	*i*P	**P**	**03 32 47.9**	**+0.2**
WRAB				pmax	pmax		
	comp=Z,13nm,0.8s						
WB2	**Warramunga Arr**	**46.46**	**124**	*e*P	**P**	**03 32 47.8**	**+0.1**
	comp=Z,20nm,0.6s						
TLY	**Talaya**	**46.76**	**8**	*e*P	**P**	**03 32 50.0**	**+0.4**
	comp=Z,4.7nm,0.9s						
TLY	**Talaya**	**46.76**	**8**	*e*P	**P**	**03 32 49.7**	**+0.1**
TLY				pmax	pmax		
	comp=Z,4.0nm,0.7s						
TLY				MLR	MLR		
	comp=Z,78nm,17.0s						
OTUK	**Ortayu**	**46.76**	**340**	P	**P**	**03 32 50.0**	**+0.4**
OTUK				pmax	pmax		
	comp=Z,30nm,0.5s						
CN2	**Changchun**	**46.90**	**31**	*e*P	**P**	**03 32 53.6**	**+2.8**
CN2				*es*P	sP	03 33 11.3	+2.5
CN2				*e*S	**S**	**03 39 41.0**	**+2.5**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
CN2				pmax	pmax		
	comp=Z,200nm,3.0s						
CN2				LR	LR		
	comp=Z,110nm,19.0s						
CN2				LR	LR		
	comp=Z,110nm,19.0s						
CN2				LR	LR		
	comp=Z,150nm,18.0s						
KURBB	**Kurchatov Arra**	**47.07**	**346**	P	**P**	**03 32 52.7**	**+0.7**
	comp=Z,32nm,0.6s,baz=171,slow=7.0,SNR=249						
KURBB				ScP	**ScP**	**03 38 13.2**	**-0.5**
	comp=Z,0.2nm,0.4s,baz=200,slow=28,SNR=3.2						
KURK	**Kurchatov**	**47.14**	**346**	*e*P	**P**	**03 32 52.9**	**+0.5**
KURK				*e*ScP	**ScP**	**03 38 13.2**	**-0.7**
KURK	**Kurchatov**	**47.14**	**346**	*e*P	**P**	**03 32 52.9**	**+0.5**
ASAR	**Alice Springs**	**47.97**	**129**	P	**P**	**03 32 59.6**	**+0.2**
	comp=Z,7.6nm,0.5s,baz=300,slow=7.5,SNR=104						
ASAR	**Alice Springs**	**47.97**	**129**	P	**P**	**03 32 59.7**	**+0.2**
ASAR				pmax	pmax		
	comp=Z,7.0nm,0.5s						
AS31	**Alice Springs**	**47.97**	**129**	*e*P	**P**

AB31 Akbulak array 52.64 332 *i* P **P** 03 33 34.4 +0.1
AB31 pmax pmax
comp=Z,5.0nm,0.5s
ABKAR Akbulak array 52.64 332 *e*P **P** 03 33 34.5 +0.2
KLR Kul'dur 53.80 29*c i*P **P** 03 33 42.8 0.0
AKTO Aktyubinsk 54.36 332 P **P** 03 33 46.4 -0.5
comp=Z,5.2nm,0.4s,baz=109,slow=9.9,SNR=16
PMG Port Moresby 54.38 106 P **P** 03 33 47.5 -0.1
comp=Z,11nm,0.5s,baz=326,slow=9.4,SNR=3.8
BOD Bodaibo 54.46 13⇓ *i*P **P** 03 33 46.0 -1.5
BOD pmax pmax
comp=Z,13nm,1.1s
GNI Garni 56.53 315⇓ *i*P **P** 03 34 03.2 +0.3
GNI pmax pmax
comp=Z,30nm,1.4s
CTA Charters Tower 56.69 118 P **P** 03 34 04.4 +0.2
comp=Z,3.7nm,0.6s,baz=311,slow=9.3,SNR=2.8
ASAJ Asahikawa 57.00 40 P **P** 03 34 06.7 +0.8
comp=Z,1.8nm,0.3s,baz=255,slow=12,SNR=5.6
ASAJ Asahikawa 57.00 40 *e*P **P** 03 34 06.7 +0.8
comp=Z,32nm,1.9s
SVE Sverdlovsk 57.89 339 *e*P **P** 03 34 12.0 0.0
SVE pmax pmax
comp=Z,23nm,0.9s
STKA Stephens Creek 58.05 133 P **P** 03 34 13.0 -0.6
comp=Z,3.6nm,0.6s,baz=308,slow=7.7,SNR=11
STKA Stephens Creek 58.05 133 P **P** 03 34 14.0 +0.5
baz=58,SNR=7.2
STKA Stephens Creek 58.05 133 *e*P **P** 03 34 13.0 -0.6
comp=Z,0.8nm,0.7s
ZEI Tsey 58.20 318 *e*P **P** 03 34 12.4 -2.3
ZEI pmax pmax
comp=Z,5.0nm,0.6s
ARU Arti 58.36 337 *e*P **P** 03 34 14.8 -0.5
comp=Z,10nm,1.0s
ARU *e*pP **pP** 03 34 27.3 -1.0
ARU Arti 58.36 337*c i*P **P** 03 34 14.8 -0.5
ARU 03 35 01.5
ARU S **S** 03 42 17.3 +2.7
ARU pmax pmax
comp=Z,18nm,1.7s
YSS Yuzh-Sakhalins 58.47 37⇑ *e*P **P** 03 34 16.0 -0.2
YSS *e* 03 34 33.5
YSS pmax pmax
comp=Z,20nm,0.6s
YSS MLR MLR
comp=Z,100nm,16.0s
KBZ Khabaz 59.26 319 P **P** 03 34 20.8 -1.0
comp=Z,3.6nm,0.9s,baz=110,slow=6.7,SNR=9.6
KIV Kislovodsk 59.49 319 *e*P **P** 03 34 23.0 -0.5
KIV pmax pmax
comp=Z,15nm,1.1s
ASF Jabal al Asfar 59.99 304 P **P** 03 34 27.5 +0.4
comp=Z,2.7nm,0.8s,baz=100,slow=6.1,SNR=4.1
NKL Nikolayevsk 60.63 30 *e*P **P** 03 34 30.0 -1.0
CMSA Cobar Meteorol 60.94 131 P **P** 03 34 34.2 +0.7
baz=61,SNR=26
MMAI Mount Meron Ar 61.41 305 P **P** 03 34 37.0 +0.3
comp=Z,4.4nm,0.7s,baz=66,slow=8.2,SNR=7.5
VRH Novokhopyorsk 63.25 326 *e*P **P** 03 34 47.3 -1.3
VRH pmax pmax
comp=Z,20nm,0.6s
CSS Mathiatis 63.52 306 *e*P **P** 03 34 51.1 +0.3
comp=Z,2.2nm,0.8s
BR101 Keskin Array S 64.42 312 *e*P **P** 03 34 56.0 -0.8
BRTR Keskin Array B 64.42 312 P **P** 03 34 56.0 -0.8
comp=Z,3.5nm,0.8s,baz=128,slow=7.5,SNR=31
BR131 Keskin Array S 64.42 312 *e*P **P** 03 34 56.0 -0.8
VSR Storozhevoye 64.70 325 *e*P **P** 03 34 56.1 -2.0
VSR pmax pmax
comp=Z,10.0nm,0.5s
ILGA Ilgaz 64.72 313 *e*P **P** 03 34 59.0 +0.2
LPSR Galich'ya Gora 65.42 326 *e*P **P** 03 35 01.2 -1.6
LPSR pmax pmax
comp=Z,10.0nm,0.8s
OBN Obninsk 67.74 328*c i*P **P** 03 35 16.5 -1.0
OBN *e* 03 35 36.4
OBN *e* 03 37 47.2
OBN *e*PPP PPP 03 39 24.4
OBN pmax pmax
comp=Z,7.0nm,0.8s
OBN MLR MLR
comp=Z,239nm,20.0s
MA2 Magadan 68.75 27 *i*P **P** 03 35 23.0 -0.8
MA2 pmax pmax
comp=Z,10.0nm,0.8s
KLMR Klimovskoe 68.90 335 *e*P **P** 03 35 22.6 -2.1
KLMR AMP 03 35 24.3
comp=Z,11nm,1.4s
KLMR Klimovskoe 68.90 335 *e*P **P** 03 35 22.5 -2.1
KLMR pmax pmax
comp=Z,11nm,1.4s
TIXI Tiksi 69.58 11 *e*P **P** 03 35 26.8 -1.9
comp=Z,13nm,0.6s
TIXI Tiksi 69.58 11 *i*P **P** 03 35 26.7 -1.9
TIXI pmax pmax
comp=Z,11nm,0.6s
CFR Carcaliu 69.71 316⇑ *i*P **P** 03 35 29.5 -0.5
CFR Carcaliu 69.71 316 ⇑P **P** 03 35 29.5 -0.5
SORM Soroca 70.28 319⇑ *i*P **P** 03 35 32.3 -1.1
SORM Soroca 70.28 319 ⇑P **P** 03 35 32.4 -1.0
IDI Anoyia 70.39 305 P **P** 03 35 34.7 +0.2
comp=Z,10nm,0.5s,baz=92,slow=8.8,SNR=14
IDI Anoyia 70.39 305⇓ *i*P **P** 03 35 35.2 +0.7
IDI Anoyia 70.39 305 *e*P **P** 03 35 34.6 +0.2
comp=Z,90nm,1.8s
AKASG Malin Array Be 70.40 322 P **P** 03 35 32.7 -1.5
comp=Z,4.3nm,0.5s,baz=92,slow=5.1,SNR=20
AKASG Malin Array Be 70.40 322 P **P** 03 35 32.7 -1.5
AKASG pmax pmax
comp=Z,2.0nm,0.5s
AKBB Malin Array Si 70.40 322 *e*P **P** 03 35 32.8 -1.4
comp=Z,27nm,1.8s
AKBB Malin Array Si 70.40 322 *e*P **P** 03 35 32.8 -1.4
AKBB pmax pmax
comp=Z,27nm,1.8s
KIEV Kiev 70.41 322 *e*P **P** 03 35 32.6 -1.6
comp=Z,29nm,1.8s
KIEV Kiev 70.41 322*c i*P **P** 03 35 32.8 -1.4
KIEV pmax pmax
comp=Z,3.0nm,0.5s
AK11 Malin Array Si 70.43 322 *e*P **P** 03 35 32.7 -1.6
ODBI Odobesti 70.58 317⇑ *i*P **P** 03 35 36.6 +1.2
VRI Vrincioaia 70.83 317⇓ *i*P **P** 03 35 37.6 +0.7
VRI Vrincioaia 70.83 317 ⇓P **P** 03 35 37.6 +0.7
PLOR Plostina 70.88 317⇓ *i*P **P** 03 35 38.0 +0.7
PLOR Plostina 70.88 317 ⇓P **P** 03 35 38.0 +0.7
SEY Seymchan 70.99 24⇑ *e*P **P** 03 35 36.2 -1.3
TESR Tescani 71.02 317⇑ *i*P **P** 03 35 37.2 -0.9
SECR 71.11 316⇑ *i*P **P** 03 35 37.4 -1.2
MLR Muntele Rosu 71.29 316 P **P** 03 35 39.6 -0.2
comp=Z,1.8nm,0.7s,baz=332,slow=7.1,SNR=25
MLR Muntele Rosu 71.29 316⇓ *i*P **P** 03 35 40.6 +0.8
MLR Muntele Rosu 71.29 316 ⇓P **P** 03 35 40.6 +0.8
PRAR RASCA 71.49 318⇓ *i*P **P** 03 35 40.8 -0.1
HUMR Humele 71.77 315⇑ *i*P **P** 03 35 42.1 -0.5
VOIR 71.90 316⇓ *i*P **P** 03 35 42.6 -0.8
VOIR 71.90 316 ⇓P **P** 03 35 42.6 -0.8
BURAR Bucovina Array 72.21 318⇓ *i*P **P** 03 35 45.9 +0.6
BURAR Bucovina Array 72.21 318 ⇓P **P** 03 35 45.9 +0.6
BUR04 Bucovina Ar. S 72.22 318 *e*P **P** 03 35 45.4 0.0
BUR08 Bucovina Ar. S 72.23 318 *e*P **P** 03 35 45.7 +0.3
VTS Vitosha 72.72 313⇑ *i*P **P** 03 35 47.9 -0.6
VTS Vitosha 72.72 313 ⇑P **P** 03 35 47.9 -0.6
SRE Strehaia 73.05 315⇓ *i*P **P** 03 35 46.2 -4.0
SRE Strehaia 73.05 315 ⇓P **P** 03 35 46.2 -4.0
JOF Joensuu 73.30 335 P **P** 03 35 51.3 0.0
JOF pmax pmax
comp=Z,10.0nm,0.8s
DRGR 73.74 317⇓ *i*P **P** 03 35 54.7 +0.4
DRGR 73.74 317 ⇓P **P** 03 35 54.7 +0.4
TRPA Tarpa 74.08 318⇓ *i*P **P** 03 35 56.2 0.0
KWP Kalwaria Pacla 74.24 320 *e*P **P** 03 35 57.2 +0.1
KWP Kalwaria Pacla 74.24 320 *e*P **P** 03 35 56.7 -0.4
comp=Z,217nm,1.4s
KWP Kalwaria Pacla 74.24 320 *e*P **P** 03 35 57.2 +0.1
BZS Buzias 74.30 316⇓ *i*P **P** 03 35 57.5 -0.1
BZS Buzias 74.30 316 ⇓P **P** 03 35 57.5 -0.1
SIRR Siria 74.37 316⇑ *i*P **P** 03 35 58.0 0.0
SUW Suwalki 74.80 325 *e*P **P** 03 35 58.9 -1.3
SUW Suwalki 74.80 325 *e*P **P** 03 35 58.9 -1.3
CRVS Cervenica-Dubn 74.92 319 *e*P **P** 03 36 01.5 +0.4
CRVS Cervenica-Dubn 74.92 319 *e*P **P** 03 36 01.5 +0.4
CRVS pmax pmax
comp=Z,10.0nm,1.5s
FIA0 FINESS Array S 75.13 332 *e*P **P** 03 36 01.4 -0.6
FIA0 FINESS Array S 75.13 332 *e*P **P** 03 36 01.4 -0.6
FINES FINESS Array B 75.13 332 P **P** 03 36 01.4 -0.6
comp=Z,3.3nm,0.5s,baz=103,slow=5.4,SNR=31
STHS Stebnicka Huta 75.14 320 *e*P **P** 03 36 03.1 +0.7
STHS Stebnicka Huta 75.14 320 *e*P **P** 03 36 03.1 +0.7
STHS pmax pmax
comp=Z,5.0nm,0.8s
MSF Maaselka 75.30 337 P **P** 03 36 02.1 -0.8
MSF pmax pmax
comp=Z,17nm,1.7s
PSZ Piszkesteto 75.80 318⇑ *i*P **P** 03 36 06.5 +0.2
PSZ Piszkesteto 75.80 318 ⇑P **P** 03 36 06.5 +0.2
OJC Ojcow 76.19 320 *e*P **P** 03 36 08.3 0.0
OJC Ojcow 76.19 320 *e*P **P** 03 36 07.7 -0.6
comp=Z,12nm,0.6s
OJC Ojcow 76.19 320 *e*P **P** 03 36 08.3 0.0
VYHS Vyhne 76.58 318 *e*P **P** 03 36 10.6 0.0
VYHS Vyhne 76.58 318 *e*P **P** 03 36 10.6 0.0
VYHS pmax pmax
comp=Z,37nm,2.8s
MORC Moravsky Berou 77.57 320⇑ *i*P **P** 03 36 16.1 -0.1
MORC Moravsky Berou 77.57 320 *e*P **P** 03 36 16.5 +0.3
comp=Z,65nm,1.5s
MORC Moravsky Berou 77.57 320 *e*P **P** 03 36 16.5 +0.3
MORC pmax pmax
comp=Z,65nm,1.5s
MODS Modra-Piesok 77.60 318 *e*P **P** 03 36 15.5 -0.8
MODS Modra-Piesok 77.60 318 *e*P **P** 03 36 15.5 -0.8
MODS pmax pmax
comp=Z,60nm,2.4s
ARA0 ARCESS Array S 77.76 340 *e*P **P** 03 36 16.8 0.0
ARCES ARCESS Array B 77.76 340 P **P** 03 36 16.8 0.0
comp=Z,3.9nm,0.4s,baz=91,slow=5.8,SNR=59
ARE0 ARCESS Array S 77.76 340 *e*P **P** 03 36 16.7 -0.1
HEF Hetta 78.07 339 *e*P **P** 03 36 18.4 -0.1
KRLC Kraliky 78.09 320 *e*P **P** 03 36 19.8 +0.7
KRLC Kraliky 78.09 320 *e*P **P** 03 36 19.8 +0.7
BILL Bilibino 78.22 21⇓ *e*P **P** 03 36 18.3 -1.0
BILL *e* 03 36 30.7
BILL *e* 03 39 11.6
BILL *e*S **S** 03 46 11.2 +0.7
BILL pmax pmax
comp=Z,3.0nm,1.0s
BILL MLR MLR
comp=Z,2µm,19.0s
KTK1 Kautokeino 78.39 340 *e*P **P** 03 36 19.8 -0.4
DPC Dobruska-Polom 78.42 320 *e*P **P** 03 36 21.8 +1.0
DPC Dobruska-Polom 78.42 320 *e*P **P** 03 36 21.8 +1.0
CONA Conrad Observa 78.50 318 *i*P **P** 03 36 20.2 -1.2
comp=Z,3.1nm,0.5s
ARSA Arzberg 78.67 317 *i*P **P** 03 36 22.8 +0.4
comp=Z,9.2nm,1.2s
HAMF Hammerfest 78.69 341 *e*P **P** 03 36 21.3 -0.5
TREC Trest 78.86 319 *e*P **P** 03 36 23.5 +0.2
TREC Trest 78.86 319 *e*P **P** 03 36 23.5 +0.2
SOKA Soboth 78.97 316 *e*P **P** 03 36 24.5 +0.5
comp=Z,14nm,1.3s,SNR=6.2
KIF Kilpisjarvi 79.23 339 *e*P **P** 03 36 24.5 -0.3
OBKA Obir 79.29 316 *e*P **P** 03 36 26.8 +1.0
comp=Z,8.3nm,1.0s
PRU Pruhonice 79.53 320 *e*P **P** 03 36 27.5 +0.6
PRU Pruhonice 79.53 320 *e*P **P** 03 36 27.5 +0.6
BRG Berggiesshubel 79.97 321 *e*P **P** 03 36 29.3 +0.1
comp=Z,2.9nm,0.7s
BRG Berggiesshubel 79.97 321 *e*P **P** 03 36 29.3 +0.1
BRG pmax pmax
comp=Z,3.0nm,0.7s
GEA0 GERESS Array S 80.00 319 *e*P **P** 03 36 29.5 -0.1
GEC2 GERESS Array S 80.00 319 *e*P **P** 03 36 30.1 +0.5
comp=Z,6.8nm,0.7s
GEC2 GERESS Array S 80.00 319 *e*P **P** 03 36 30.1 +0.5
GEC2 pmax pmax
comp=Z,7.0nm,0.7s
GERES GERESS Array B 80.00 319 P **P** 03 36 30.1 +0.5
comp=Z,5.6nm,0.7s,baz=101,slow=5.4,SNR=53
KHC Kasperske Hory 80.10 319 *e*P **P** 03 36 30.1 +0.1
KHC *e*x x 03 36 42.3
KHC Kasperske Hory 80.10 319 *e*P **P** 03 36 30.3 +0.3
comp=Z,1.6nm,0.9s
KHC Kasperske Hory 80.10 319 *e*P **P** 03 36 30.3 +0.3
KHC pmax pmax
comp=Z,2.0nm,0.9s
KBA Koelnbreinsper 80.15 317 *e*P **P** 03 36 29.9 -0.6
comp=Z,3.5nm,0.6s
KBA Koelnbreinsper 80.15 317 P **P** 03 36 30.0 -0.5
KBA pmax pmax
comp=Z,7.0nm,1.0s
CLL Collm 80.59 321 *e*P **P** 03 36 32.0 -0.6
HFS Hagfors 80.84 330 P **P** 03 36 33.5 -0.3
comp=Z,2.3nm,0.5s,baz=122,slow=5.4,SNR=5.1
STEI Steigen 81.06 338 *e*P **P** 03 36 33.9 -0.8
MOR8 Moi Rana 81.14 336 *e*P **P** 03 36 34.4 -0.9
MOTA Moosalm 81.68 317 *i*P **P** 03 36 38.1 -0.6
comp=Z,4.7nm,0.6s
RETA Reutte 81.92 317 *e*P **P** 03 36 39.5 -0.3
comp=Z,8.3nm,0.6s
NB200 NORSAR Array S 82.13 331 *e*P **P** 03 36 41.7 +1.1
NOA NORSAR Array B 82.13 331 P **P** 03 36 41.7 +1.1
comp=Z,0.5nm,0.9s,baz=105,slow=5.6,SNR=2.8
SPA0 Spitsbergen Ar 82.37 348 *e*P **P** 03 36 40.8 -0.7
SPA0 Spitsbergen Ar 82.37 348 *e*P **P** 03 36 41.0 -0.5
SPITS Spitsbergen Ar 82.37 348 P **P** 03 36 40.5 -1.0
comp=Z,17nm,0.8s,baz=78,slow=7.9,SNR=6.3
DAVA Damuels 82.52 317 *e*P **P** 03 36 42.7 -0.3
comp=Z,3.7nm,0.6s
KEST Kesra 83.06 305 P **P** 03 36 46.5 +0.4
comp=Z,6.0nm,0.8s,baz=111,slow=0.7,SNR=8.4
KEST Kesra 83.06 305 *e*P **P** 03 36 46.5 +0.4
comp=Z,37nm,1.4s
ES19 SONSECA Array 93.13 310 *e*P **P** 03 37 35.2 +0.8
ESDC Sonseca Array 93.18 310 P **P** 03 37 35.0 +0.3
comp=Z,0.9nm,0.6s,baz=56,slow=4.1,SNR=5.9
IM3 Indian Mountai 93.74 22 *e*P **P** 03 37 35.4 -1.1
TOLK Toolik Lake Re 94.14 19 P **P** 03 37 38.4 -0.1
baz=296
TOLK Toolik Lake Re 94.14 19 *e*P **P** 03 37 38.7 +0.3
comp=Z,6.3nm,0.9s
CAST Castle Rocks 95.40 25 *e*P **P** 03 37 44.8 +0.5
comp=Z,9.5nm,1.1s
BPAW Bear Paw Mtn. 95.57 24 *e*P **P** 03 37 44.9 -0.1
comp=Z,18nm,1.7s
ILAR Eielson Array 96.86 22 P **P** 03 37 49.1 -1.7
comp=Z,0.6nm,0.5s,baz=295,slow=4.0,SNR=17
ILB Eielson Array 96.86 22 *e*P **P** 03 37 49.1 -1.7
RES Resolute Bay 99.86 3 *e*Pdif **Pdif** 03 38 04.4 +0.4
comp=Z,3.0nm,0.6s
RES Resolute Bay 99.86 3 *e*P **Pdif** 03 38 04.4 +0.4
RES pmax pmax
comp=Z,3.0nm,0.6s
YKA Yellowknife Ar 108.72 14 PKiKP **PKiKP** 03 42 47.8 -0.8
comp=Z,0.2nm,0.6s,baz=338,slow=2.0,SNR=6.8
YKA PP **PP** 03 43 11.0 -3.6
comp=Z,0.3nm,0.8s,baz=336,slow=7.6,SNR=5.1
YKB5 Yellowknife Ar 108.72 14 *e*PKiKP **PKiKP** 03 42 47.9 -0.8
YKB5 *e*PP **PP** 03 43 11.0 -3.6
F10A Beach Ranch, E 121.54 26 *e*PKPdf **PKPdf** 03 43 13.6 -0.2
MSO Missoula 122.19 23 *e*PKPdf **PKPdf** 03 43 14.2 -0.9
EGMT Eagleton 122.67 19 P **PKPdf** 03 43 15.5 -0.4
baz=331
O03D Paynes Creek 123.56 33 P **PKPdf** 03 43 17.3 -0.5
baz=315
ULM Lac du Bonnet 123.86 8 PKP **PKPdf** 03 43 17.2 -0.7
comp=Z,3.6nm,0.5s,baz=13,slow=3.0,SNR=11
BOZ Bozeman (W) 124.10 22 P **PKPdf** 03 43 18.9 +0.1
baz=328
HLID Hailey 124.67 25 P **PKPdf** 03 43 20.4 +0.5
baz=324
HLID Hailey 124.67 25 *e*PKPdf **PKPdf** 03 43 20.6 +0.6
LAO LASA Array 124.96 17 P **PKPdf** 03 43 21.0 +0.7
baz=334
LAO LASA Array 124.96 17 *e*PKPdf **PKPdf** 03 43 21.3 +1.0
A32A Rocking H Ranc 125.07 9 P **PKPdf** 03 43 19.8 -0.5
baz=346
A33A Warroad 125.21 8 P **PKPdf** 03 43 20.5 -0.1
baz=348
B31A Greenbush Farm 125.36 10 P **PKPdf** 03 43 20.3 -0.6
baz=345
B32A Ashes, Strandq 125.57 9 P **PKPdf** 03 43 20.9 -0.4
baz=346
B34A Aery, Baudette 125.75 8 P **PKPdf** 03 43 21.4 -0.2
baz=349
C31A Landman Farms, 125.95 10 P **PKPdf** 03 43 21.4 -0.7
baz=345
C32A Crookston 126.12 9 P **PKPdf** 03 43 23.7 +1.3
baz=346
TPAW Teton Pass 126.14 23 *e*PKPdf **PKPdf** 03 43 23.6 +0.7
SNOW Snow King Moun 126.24 23 *e*PKPdf **PKPdf** 03 43 24.2 +1.0
REDW Red Top Meadow 126.29 23 *e*PKPdf **PKPdf** 03 43 23.3 +0.1
C34A RKJ Ranch, Bem 126.54 8 P **PKPdf** 03 43 22.7 -0.5
baz=348
EYMN Ely 126.63 5 P **PKPdf** 03 43 23.6 +0.2
baz=352
NV01 Mina Array Sit 126.78 32 *e*PKPdf **PKPdf** 03 43 24.0 -0.2
NVAR Mina Array Bea 126.78 32 PKP **PKPdf** 03 43 25.1 +0.8
comp=Z,1.2nm,0.5s,baz=290,slow=2.7,SNR=9.9
D33A AnnSam, Waubun 126.90 9 P **PKPdf** 03 43 23.6 -0.3
baz=347
D34A Park Rapids 127.05 8 P **PKPdf** 03 43 23.9 -0.3
baz=348
D35A Remer 127.21 7 P **PKPdf** 03 43 24.3 -0.3
baz=349
BW06 Boulder Array 127.30 22 P **PKPdf** 03 43 24.9 -0.2
baz=329
PD31 Pinedale Array 127.30 22 *e*PKPdf **PKPdf** 03 43 25.1 0.0
PDAR Pinedale Array 127.30 22 PKP **PKPdf** 03 43 24.8 -0.3
comp=Z,1.2nm,0.5s,baz=94,slow=2.2,SNR=15
PDAR Pinedale Array 127.30 22 *e*PKPdf **PKPdf** 03 43 23.7 -1.4
F31A Hecla 127.72 11 P **PKPdf** 03 43 25.2 -0.4
baz=344
RSSD Black Hills 127.94 17 P **PKPdf** 03 43 26.3 +0.1
baz=336
RSSD Black Hills 127.94 17 *e*PKPdf **PKPdf** 03 43 26.5 +0.2
RSSD Black Hills 127.94 17 *e*PKIKP **PKPdf** 03 43 26.5 +0.2
F33A 5 Mile Ranch, 128.09 10 P **PKPdf** 03 43 25.9 -0.3
baz=346
DUG Dugway, Tooele 128.10 27 P **PKPdf** 03 43 26.9 +0.3
baz=324
DUG Dugway, Tooele 128.10 27 *e*PKPdf **PKPdf** 03 43 27.3 +0.7
DUG Dugway, Tooele 128.10 27 *e*PKIKP **PKPdf** 03 43 27.3 +0.7
R11A Troy Canyon, C 128.25 30 P **PKPdf** 03 43 27.9 +0.9
baz=320
GATR Gnd/Air Tx Cnt 128.29 37 *e*PKPpre PKPpre 03 43 16.1
F36A Milaca 128.48 7 P **PKPdf** 03 43 27.1 +0.1
baz=350
G33A Ortonville 128.69 10 P **PKPdf** 03 43 27.3 -0.1
baz=346
F37A Hinrichs Farm, 128.72 7 P **PKPdf** 03 43 27.8 +0.4
baz=351
G34A Benson 128.78 9 P **PKPdf** 03 43 27.0 -0.6
baz=347
MPMC Manual Prospec 128.96 34 P **PKPdf** 03 43 29.4 +0.9
baz=317
G35A Watkins 128.98 8 P **PKPdf** 03 43 28.4 +0.5
baz=348
RWWY Rawlins 129.09 21 *e*Pdif **Pdif** 03 40 15.0 -0.2
H34A Spellman Lake, 129.32 10 P **PKPdf** 03 43 28.8 +0.2
baz=347
G38A Ridgeland 129.35 6 P **PKPdf** 03 43 28.6 -0.1
baz=352
H35A Sunnyside Ranc 129.44 9 P **PKPdf** 03 43 28.7 -0.1
baz=348
ROA Roan Cliffs 129.60 25 *e*PKPdf **PKPdf** 03 43 28.7 -1.0
H36A Jessenland, He 129.68 8 P **PKPdf** 03 43 30.2 +0.9
baz=349
I33A Coleman 129.74 11 P **PKPdf** 03 43 29.2 -0.3
baz=345
O20A White River Ci 130.06 23 P **PKPdf** 03 43 30.8 +0.4
baz=330
O20A White River Ci 130.06 23 *e*PKPdf **PKPdf** 03 43 31.2 +0.8
ECSD EROS Data Cent 130.07 11 P **PKPdf** 03 43 29.9 -0.2
baz=345
ECSD EROS Data Cent 130.07 11 *e*PKPdf **PKPdf** 03 43 30.1 0.0
J34A George 130.63 10 P **PKPdf** 03 43 31.1 -0.1
baz=346
I39A Houston 130.69 6 P **PKPdf** 03 43 30.7 -0.5
baz=352
K31A O'Neill 130.71 13 P **PKPdf** 03 43 31.1 -0.2
baz=342
J36A Seneca 1, Swea 130.85 9 P **PKPdf** 03 43 30.7 -0.8
baz=348
J39A Decorah 131.18 6 P **PKPdf** 03 43 31.5 -0.6
baz=352
U15A North Rim 131.38 29 *e*PKPdf **PKPdf** 03 43 34.3 +1.1
BORC Borrego Spring 131.60 35 *e*PKPpre PKPpre 03 43 22.8
L35A Bielow Farm, R 131.84 10 P **PKPdf** 03 43 32.8 -0.7
baz=346
M37A Trindle Farm, 132.78 9 P **PKPdf** 03 43 34.8 -0.4
baz=348
M38A Pleasantville 132.89 8 P **PKPdf** 03 43 35.1 -0.4
baz=349
X16A Lo Mia Camp, P 133.40 30 *e*PKPdf **PKPdf** 03 43 39.3 +2.4
T25A Trinidad 134.12 21 P **PKPdf** 03 43 38.9 +0.7
baz=333
P37A Lathrop 134.50 10 P **PKPdf** 03 43 38.9 +0.4
baz=348
Q38A Cooks Store, C 135.23 9 P **PKPdf** 03 43 39.9 0.0
baz=348
ANMO Albuquerque 135.25 25*c i*PKIKP **PKPdf** 03 43 42.3 +2.0
ANMO pmax pmax
comp=Z,4.0nm,2.5s
Q39A Willow Grove F 135.25 8 P **PKPdf** 03 43 40.6 +0.7
baz=349
Q40A Laux Farm, Aux 135.42 7 P **PKPdf** 03 43 40.7 +0.4
baz=350
Q42A Golden Eagle 135.68 6 P **PKPdf** 03 43 41.6 +0.8
baz=353
R38A Fenwick Farm, 135.94 10 P **PKPdf** 03 43 41.8 +0.5
baz=348
R39A Chumby, Stover 135.96 9 P **PKPdf** 03 43 41.0 -0.3
baz=349
R40A Maddies Statio 136.09 8 P **PKPdf** 03 43 41.2 -0.3
baz=350
R41A Rosebud 136.19 7 P **PKPdf** 03 43 41.5 -0.2
baz=351
R44A Waltonville 136.46 4 P **PKPdf** 03 43 41.9 -0.3
baz=355
S39A Bolivar 136.52 9 P **PKPdf** 03 43 42.0 -0.3
baz=348
S42A Caledonia 136.78 6 P **PKPdf** 03 43 42.4 -0.5
baz=352
S41A Jillco Farms, 136.85 7 P **PKPdf** 03 43 42.8 -0.2
baz=351
T42A Van Buren 137.48 7 P **PKPdf** 03 43 43.9 -0.3
baz=352
T43A Greenville 137.51 6 P **PKPdf** 03 43 43.7 -0.5
baz=353
MSTX Muleshoe 137.55 22 *e*PKPdf **PKPdf** 03 43 46.4 +1.9
U40A Yellville 137.90 9 P **PKPdf** 03 43 45.8 +0.9
baz=349
U41A Viola 138.05 8 P **PKPdf** 03 43 45.2 0.0
baz=350
U42A Revenden 138.13 7 P **PKPdf** 03 43 44.9 -0.4
baz=351
MNTX Cornudas Mount 138.49 26 P **PKPdf** 03 43 46.0 -0.2
baz=329
MNTX Cornudas Mount 138.49 26 *e*PKPdf **PKPdf** 03 43 48.1 +1.9
TKL Tuckaleechee C 139.16 358 PKP **PKPdf** 03 43 48.9 +1.6
comp=Z,2.1nm,0.5s,baz=126,slow=7.9,SNR=6.6
X39A Fountain Ranch 139.48 11 P **PKPdf** 03 43 47.8 -0.1
baz=347
W47A Westpoint 139.54 3 P **PKPdf** 03 43 47.7 -0.3
baz=357
W48A Pulaski 139.68 2 P **PKPdf** 03 43 49.5 +1.3
baz=358
LTX Lajitas 141.27 26 *e*PKPpre PKPpre 03 43 45.4
TX31 Lajitas Ar. Si 141.27 26 *e*PKPpre PKPpre 03 43 45.3
TXAR Lajitas Array 141.27 26 PKhKP PKPpre 03 43 45.4
comp=Z,0.6nm,0.6s,baz=241,slow=0.5,SNR=12
JCT Junction City 141.77 20 *e*PKPpre PKPpre 03 43 46.1
JCT Junction City 141.77 20 *e*PKHKP PKPpre 03 43 46.1
656A Williston 145.35 356 P **PKPdf** 03 43 58.5 0.0
baz=5.0
757A Oxford 145.73 355 P **PKPbc** 03 43 59.4 0.0
baz=5.8
CPUP Villa Florida 146.06 229 PKPbc **PKPbc** 03 44 00.6 0.0
comp=Z,1.0nm,0.5s,baz=105,slow=1.3,SNR=6.3
857A Zephyrhills 146.42 355 P **PKPbc** 03 44 01.6 0.0
baz=5.7
859A Kempfer Cattle 146.48 353 P **PKPbc** 03 44 01.9 +0.2
baz=8.1
LNIG Linares 146.93 24 *e*PKPdf **PKPbc** 03 44 02.4 -0.8
959A Okeechobee 147.01 353 P **PKPbc** 03 44 03.5 +0.3
baz=8.2
ZAIG Zacatecas 147.37 30 *e*PKPbc **PKPbc** 03 44 05.3 +0.5
058A Arcadia 147.57 354 P **PKPbc** 03 44 04.9 +0.1
baz=6.6
OBIP Obispado Ponce 150.26 322 *e*PKPbc **PKPbc** 03 44 12.2 +0.3
SIV San Ignacio 153.92 244 PKPbc **PKPbc** 03 44 19.7 -0.7
comp=Z,0.7nm,0.8s,baz=139,slow=4.6,SNR=2.7
PCRV Puerto La Cruz 154.20 307 PKPbc **PKPbc** 03 44 19.3 -1.7

comp=Z,6.4nm,0.5s,baz=70,slow=23,SNR=1.2

ISCJB ***17*** *03:29:03.9±0.5, 30.°81S±0.°05×179.°5W±0.°1, h350km, mb3.2/3, Error ellipse: s-maj=16.3km s-min=4.0km az=21.7.*

IDC ***17*** *03:29:03.8±1.3, 30.°79S×179.°68W, h361km±14km, mb3.1/3, mb1 3.5/5, mb1mx3.2/44, mbtmp4.0/5, Error ellipse: s-maj=32.6km s-min=18.4km az=137.0*

WEL ***17*** *03:29:06.7±0.8, 31.°5S±11.°1×17.°8W±2.°8, h333km±8km*

ISC 17 03:29:03.0±0.7, 30.°80S±0.°07×179.°6W±0.°1, h350km, n81, σ1=97/79, mb3.5/3, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**2.09**	**43**	P		**Pn**	**03 29 56.8**	**+1.9**
GLKZ	**Green Lake**	**2.09**	**43**	S		**S**	**03 30 35.9**	**-0.7**
RAO	**Raoul Island**	**2.10**	**43**	P		**Pn**	**03 29 57.5**	**+2.5**
	53nm,0.3s,baz=227,slow=22,SNR=3.3							
RAO				S		**S**	**03 30 36.7**	**-0.1**
	148nm,0.3s,baz=24,slow=22,SNR=5.3							
MXZ	**Matakaoa Point**	**6.98**	**194**	P		**Pn**	**03 30 48.4**	**+3.4**
MXZ	**Matakaoa Point**	**6.98**	**194**	S		**S**	**03 32 06.6**	**-1.3**
WMGZ	**Waiomatatini S**	**7.20**	**193**	P		**Pn**	**03 30 48.9**	**+1.4**
WMGZ	**Waiomatatini S**	**7.20**	**193**	S		**S**	**03 32 10.5**	**-2.2**
HAZ	**Te Kaha**	**7.28**	**197**	P		**Pn**	**03 30 51.2**	**+2.8**
HAZ	**Te Kaha**	**7.28**	**197**	S		**S**	**03 32 15.4**	**+1.0**
PKGZ	**Pakihiroa**	**7.34**	**195**	P		**Pn**	**03 30 52.2**	**+3.0**
PKGZ	**Pakihiroa**	**7.34**	**195**	S		**S**	**03 32 13.5**	**-2.3**
WIAZ	**Waiheke Island**	**7.43**	**215**	P		Pn	03 30 58.0	+7.7
PUZ	**Puketiti**	**7.48**	**193**	S		**S**	**03 32 16.8**	**-1.9**
RUGZ	**Raukumara Rang**	**7.51**	**197**	P		**Pn**	**03 30 52.7**	**+1.4**
RUGZ	**Raukumara Rang**	**7.51**	**197**	S		**S**	**03 32 18.8**	**-0.6**
TWGZ	**Tauwhareparae**	**7.64**	**195**	P		**Pn**	**03 30 56.9**	**+4.2**
TWGZ	**Tauwhareparae**	**7.64**	**195**	S		**S**	**03 32 22.8**	**+0.6**
OPRZ	**Ohinepanea**	**7.73**	**204**	P		Pn	03 31 00.3	+6.6
MARZ	**Manawahe**	**7.82**	**202**	P		Pn	03 31 01.1	+6.3
MWZ	**Matawai**	**7.89**	**197**	P		**Pn**	**03 30 57.0**	**+1.2**
MWZ	**Matawai**	**7.89**	**197**	S		**S**	**03 32 28.5**	**+0.7**
TKGZ	**Te Karaka**	**7.92**	**195**	P		**Pn**	**03 30 59.7**	**+3.7**
TKGZ	**Te Karaka**	**7.92**	**195**	S		**S**	**03 32 29.8**	**+1.6**
URZ	**Urewera**	**7.94**	**199**	P		**Pn**	**03 30 56.5**	**+0.3**
	2.8nm,0.3s,baz=271,slow=4.1,SNR=57							
URZ				S		**S**	**03 32 29.9**	**+1.4**
	11nm,0.3s,baz=267,slow=24,SNR=13							
URZ	**Urewera**	**7.94**	**199**	P		**Pn**	**03 30 56.6**	**+0.4**
URZ	**Urewera**	**7.94**	**199**	S		**S**	**03 32 28.7**	**+0.1**
KMRZ	**Kaimai**	**7.96**	**207**	P		Pn	03 31 03.5	+7.1
KARZ	**Kaharoa**	**8.00**	**205**	P		Pn	03 31 03.7	+6.8
OMRZ	**Omania**	**8.03**	**204**	P		**P**	**03 31 04.8**	**+4.5**
RAGZ	**Rawiri**	**8.07**	**197**	P		**Pn**	**03 30 58.7**	**+0.8**
RAGZ	**Rawiri**	**8.07**	**197**	S		**S**	**03 32 32.0**	**+0.2**
TARZ	**Mount Tarawera**	**8.10**	**203**	P		**P**	**03 31 05.0**	**+3.8**
WATZ	**Wairara**	**8.79**	**205**	P		**P**	**03 31 10.7**	**+1.8**
BKZ	**Black Stump Fm**	**8.96**	**200**	P		**Pn**	**03 31 08.9**	**+0.5**
BKZ	**Black Stump Fm**	**8.96**	**200**	S		**S**	**03 32 47.7**	**-3.2**
HIZ	**Hauiti**	**8.97**	**209**	P		**P**	**03 31 14.2**	**+3.5**
KRVZ	**Karewarewa**	**9.17**	**204**	P		**P**	**03 31 13.8**	**+0.7**
WTVZ	**West Tongariro**	**9.20**	**204**	P		**P**	**03 31 14.2**	**+0.6**
TWVZ	**Taurewa**	**9.22**	**205**	P		**P**	**03 31 14.9**	**+1.2**
NGZ	**Ngauruhoe**	**9.25**	**204**	P		**P**	**03 31 15.1**	**+0.9**
FWVZ	**Far West T-bar**	**9.34**	**204**	P		**Pn**	**03 31 13.7**	**+0.6**
FWVZ	**Far West T-bar**	**9.34**	**204**	S		**S**	**03 32 60.0**	**+0.3**
WHVZ	**Whangaehu Hut**	**9.35**	**204**	P		**P**	**03 31 15.4**	**+0.1**
WHVZ	**Whangaehu Hut**	**9.35**	**204**	S		**S**	**03 33 01.0**	**+1.1**
TRVZ	**Turoa**	**9.38**	**204**	P		**P**	**03 31 16.1**	**+0.5**
BHHZ	**Black Hill Sta**	**9.38**	**201**	P		**Pn**	**03 31 14.4**	**+1.0**
BHHZ	**Black Hill Sta**	**9.38**	**201**	S		**S**	**03 32 57.3**	**-3.1**
MOVZ	**Moawhango**	**9.41**	**203**	P		**P**	**03 31 15.6**	**-0.2**
MOVZ	**Moawhango**	**9.41**	**203**	S		**S**	**03 32 59.5**	**-1.4**
KRHZ	**Kereru**	**9.43**	**200**	P		**Pn**	**03 31 14.3**	**+0.2**
KRHZ	**Kereru**	**9.43**	**200**	S		**S**	**03 32 58.2**	**-3.1**
KAHZ	**Kahuranaki**	**9.44**	**197**	P		**Pn**	**03 31 14.3**	**+0.2**
KAHZ	**Kahuranaki**	**9.44**	**197**	S		**S**	**03 32 55.5**	**-6.0**
PKVZ	**Pokaka**	**9.45**	**205**	P		**P**	**03 31 16.6**	**+0.5**
PXZ	**Pawanui**	**9.66**	**197**	P		**P**	**03 31 18.1**	**-0.4**
PXZ	**Pawanui**	**9.66**	**197**	S		**S**	**03 33 04.3**	**-2.0**
PNHZ	**Pukenui**	**9.73**	**200**	P		**Pn**	**03 31 18.3**	**+0.7**
PNHZ	**Pukenui**	**9.73**	**200**	S		**S**	**03 33 06.8**	**-1.2**
PKEZ	**Pukeiti**	**9.91**	**211**	P		**P**	**03 31 25.5**	**+4.2**
TSZ	**Takapari Road**	**9.94**	**200**	P		**Pn**	**03 31 20.7**	**+0.7**
TSZ	**Takapari Road**	**9.94**	**200**	S		**S**	**03 33 09.2**	**-3.2**
PRHZ	**Porangahau**	**9.94**	**197**	P		**P**	**03 31 21.2**	**-0.4**
PRHZ	**Porangahau**	**9.94**	**197**	S		**S**	**03 33 11.4**	**-1.2**
DVHZ	**Dannevirke**	**10.10**	**199**	P		**P**	**03 31 23.5**	**+0.1**
DVHZ	**Dannevirke**	**10.10**	**199**	S		**S**	**03 33 12.6**	**-3.5**
ANWZ	**Angora Road**	**10.17**	**197**	P		**P**	**03 31 25.0**	**+0.9**
ANWZ	**Angora Road**	**10.17**	**197**	S		**S**	**03 33 15.2**	**-2.2**
RPZ	**Rata Peaks**	**14.89**	**207**	P		**Pn**	**03 32 19.7**	**+1.3**
	0.5nm,0.3s,baz=39,slow=14,SNR=3.1							
RPZ				S		**S**	**03 34 56.3**	**-0.2**
	1.2nm,0.3s,baz=1.5,slow=14,SNR=2.8							
DZM	**Mont Dzumac**	**15.24**	**301**	P		**Pn**	**03 32 23.6**	**+0.8**
	0.5nm,0.3s,baz=316,slow=23,SNR=5.6							
ASAR	**Alice Springs**	**41.75**	**268**	P		**P**	**03 36 18.4**	**-0.9**
	0.3nm,0.4s,baz=104,slow=7.7,SNR=4.2							
WRA	**Warramunga Arr**	**42.77**	**273**	P		**P**	**03 36 26.2**	**-1.3**
	1.5nm,0.4s,baz=111,slow=8.0,SNR=8.4							
NVAR	**Mina Array Bea**	**89.44**	**44**	P		**P**	**03 41 21.4**	**+0.4**
	0.5nm,0.8s,baz=219,slow=9.2,SNR=3.6							
KURBB	**Kurchatov Arra**	**120.39**	**314**	PKP		**PKPdf**	**03 47 10.9**	**-1.7**
	0.5nm,0.6s,baz=124,slow=1.8,SNR=4.4							
BVAR	**Borovoye Array**	**125.75**	**316**	PKP		**PKPdf**	**03 47 21.7**	**-1.1**
	0.5nm,0.5s,baz=160,slow=4.6,SNR=2.9							
FINES	**FINESS Array B**	**145.04**	**339**	PKP		**PKPdf**	**03 47 57.1**	**-1.0**
	7.5nm,0.6s,baz=53,slow=3.5,SNR=43							
NB2	**NORSAR Subarra**	**148.92**	**350**	PKP		**PKPbc**	**03 48 07.8**	**-1.3**
	comp=Z,3.5nm,1.1s,baz=17,slow=2.6							
NOA	**NORSAR Array B**	**148.92**	**350**	PKPbc		**PKPbc**	**03 48 08.2**	**-0.9**
	comp=Z,1.1nm,0.6s,baz=16,slow=4.2,SNR=5.9							
HFS	**Hagfors**	**149.34**	**347**	PKPbc		**PKPbc**	**03 48 08.9**	**-1.3**
	comp=Z,0.9nm,0.4s,baz=66,slow=1.7,SNR=8.5							
MMAI	**Mount Meron Ar**	**150.32**	**284**	PKPbc		**PKPbc**	**03 48 13.9**	**+0.4**
	comp=Z,1.1nm,0.4s,baz=79,slow=9.0,SNR=3.6							
AKASG	**Malin Array Be**	**150.78**	**321**	PKPbc		**PKPbc**	**03 48 12.4**	**-1.4**
	comp=Z,0.6nm,0.4s,baz=51,slow=3.0,SNR=5.2							
BRTR	**Keskin Array B**	**151.60**	**297**	PKPbc		**PKPbc**	**03 48 15.2**	**-1.0**
	comp=Z,0.6nm,0.4s,baz=133,slow=4.1,SNR=8.7							

SJA 17 03:37:37.8±0.3, 31.°71S×69.°38W, h112km±3km, ML3.2, MW3.8, San Juan Province

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
RTLS	**Leoncito**	**0.12**	**142**	*i* P		Pn	03 37 54.5	+0.9
RTLS				IAML			03 37 54.8	
	comp=Z,647nm,0.2s							
RTLS				*i* S		Sn	03 38 07.0	+1.5
AUSP	**Uspallata**	**0.52**	**180**	*i* P		Pn	03 37 56.4	+1.1
AUSP				*i* S		Sn	03 38 10.0	+1.5
RTCV	**Cerro Valdivia**	**0.73**	**102**	*i* P		Pn	03 37 57.2	+0.6
RTCV				*i* S		Sn	03 38 11.8	+0.9
RTLL	**Cerro Villicun**	**0.86**	**64**	*i* P		Pn	03 37 58.8	+0.9
AMOG	**MOGNA**	**1.08**	**45**	*i* P		Pn	03 38 00.7	+0.7
AROD	**Rodeo**	**1.54**	**357**	*i* P		Pn	03 38 06.8	+1.3

IDC ***17*** *03:43:40.0±1.1, 52.°63N×169.°74W, h0km, mb3.8/8, mb1 4.1/9, mb1mx3.6/83, mbtmp3.7/9, ML3.0/1, Error ellipse: s-maj=39.9km s-min=20.4km az=144.0*

NEIC ***17*** *03:43:42.0±0.0, 52.°74N×169.°56W, h5km, ML3.7(AEIC), After AEIC.*

ISCJB ***17*** *03:43:44.3±0.5, 52.°77N±0.°10×169.°63W±0.°09, h40km, mb3.7/8, Error ellipse: s-maj=15.5km s-min=4.5km az=155.4*

ISC 17 03:43:46.1±0.8, 52.°7N±0.°1×169.°52W±0.°07, h40km, n33, σ1=31/31, mb3.8/8, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
OKWE	**Okmok W'ng Wal**	**1.06**	**46**	P		**Pn**	**03 44 02.6**	**-1.9**
OKAK	**Okmok**	**1.09**	**39**	P		**Pn**	**03 44 01.1**	**-3.8**
OKTU	**Okmok Mt. Tuli**	**1.10**	**53**	P		**Pn**	**03 44 02.8**	**-2.2**
MGOD	**Makushin Gods**	**1.91**	**55**	P		**Pn**	**03 44 15.1**	**-1.1**
MGOD				S		**Sn**	**03 44 40.6**	**+1.6**
MCIR	**Makushin Cirqu**	**1.99**	**51**	P		**Pn**	**03 44 17.3**	**+0.1**
UNV	**Unalaska Valle**	**2.12**	**57**	P		**Pn**	**03 44 17.9**	**-1.1**
UNV				S		**Sn**	**03 44 44.6**	**+0.5**
AKRB	**Akutan Reef Bi**	**2.49**	**55**	P		**Pn**	**03 44 24.1**	**0.0**
AKRB				S		**Sn**	**03 44 55.6**	**+2.5**
ZRO	**Akutan Zero**	**2.51**	**56**	P		**Pn**	**03 44 24.7**	**+0.3**
AKUT	**Akutan**	**2.64**	**57**	*e*Pn		**Pn**	**03 44 26.2**	**+0.1**
AKUT				*e*Sn		**Sn**	**03 44 57.6**	**+0.8**
AKSA	**Akutan Strait**	**2.68**	**57**	P		**Pn**	**03 44 26.2**	**-0.5**
KOFP	**Korovin Flat P**	**2.84**	**262**	P		**Pn**	**03 44 27.8**	**-1.1**
KOKL	**Mount Kliuchef**	**2.89**	**264**	P		**Pn**	**03 44 28.5**	**-1.2**
KOWE	**Korovin West**	**2.91**	**265**	P		**Pn**	**03 44 28.6**	**-1.3**
GSTD	**Great Sitkin T**	**4.12**	**263**	P		**Pn**	**03 44 45.6**	**-0.9**
SPIA	**Saint Paul Isl**	**4.47**	**355**	P		**Pn**	**03 44 51.3**	**+0.1**
KDAK	**Kodiak Island**	**10.89**	**56**	Pn		**Pn**	**03 46 18.2**	**-0.9**
	0.2nm,0.3s,baz=270,slow=10,SNR=3.1							
BPAW	**Bear Paw Mtn.**	**14.89**	**33**	*e*Pn		**Pn**	**03 47 12.7**	**-0.8**
	0.9nm,0.8s							
ILAR	**Eielson Array**	**16.70**	**35**	Pn		**Pn**	**03 47 35.8**	**-0.9**
	0.1nm,0.3s,baz=228,slow=12,SNR=5.5							
INK	**Inuvik**	**23.09**	**34**	P		**P**	**03 48 47.9**	**+0.1**
	1.1nm,0.8s,baz=258,slow=10,SNR=4.7							
YKA	**Yellowknife Ar**	**30.07**	**49**	P		**P**	**03 49 51.5**	**+0.5**
	0.3nm,0.6s,baz=270,slow=7.8,SNR=16							
YKA				PcP		**PcP**	**03 52 52.2**	**+0.4**
	0.1nm,0.7s,baz=286,slow=2.9,SNR=3.7							
NEW	**Newport**	**33.01**	**76**	P		**P**	**03 50 17.4**	**+0.2**
	1.1nm,0.5s,baz=288,slow=6.4,SNR=3.2							
H11N2	**WAKE ISLAND Hy**	**37.69**	**218**	T		T	04 30 48.0	
	baz=23,slow=76,SNR=42							
H11N3	**WAKE ISLAND Hy**	**37.70**	**218**	T		T	04 30 48.6	
	baz=23,slow=76,SNR=40							
H11N1	**WAKE ISLAND Hy**	**37.71**	**218**	T		T	04 30 47.3	
	baz=23,slow=76,SNR=34							
NVAR	**Mina Array Bea**	**37.76**	**91**	P		**P**	**03 50 59.9**	**+1.6**
	0.7nm,0.7s,baz=288,slow=9.2,SNR=5.4							
H11S1	**WAKE ISLAND Hy**	**38.88**	**218**	T		T	04 32 15.0	
	baz=23,slow=76,SNR=582							
H11S2	**WAKE ISLAND Hy**	**38.89**	**218**	T		T	04 32 16.4	
	baz=23,slow=76,SNR=492							
H11S3	**WAKE ISLAND Hy**	**38.90**	**218**	T		T	04 32 18.7	
	baz=23,slow=76,SNR=310							
PDAR	**Pinedale Array**	**40.42**	**79**	P		**P**	**03 51 20.8**	**+0.3**
	1.1nm,0.8s,baz=297,slow=3.7,SNR=11							
TXAR	**Lajitas Array**	**52.83**	**89**	P		**P**	**03 52 58.1**	**+0.5**
	1.5nm,0.8s,baz=296,slow=5.4,SNR=22							
H06E1	**SOCORRO T-PHAS**	**56.34**	**104**	T		T	04 54 20.6	
	SNR=5.5							
WRA	**Warramunga Arr**	**87.16**	**231**	P		**P**	**03 56 26.4**	**-1.3**
	0.9nm,1.1s,baz=36,slow=6.0,SNR=3.9							
ASAR	**Alice Springs**	**90.56**	**230**	P		**P**	**03 56 43.5**	**-0.2**
	1.0nm,0.8s,baz=31,slow=4.7,SNR=7.6							

ISCJB ***17*** *03:44:57.3±0.8, 15.°3S±0.°1×74.°0W±0.°1, h71km, mb3.6/4, Error ellipse: s-maj=22.7km s-min=9.4km az=42.7*

IDC ***17*** *03:44:59.9±2.2, 15.°27S×74.°01W, h83km±21km, mb3.4/5, mb1 3.7/7, mb1mx3.4/41, mbtmp3.9/7, Error ellipse: s-maj=29.9km s-min=15.0km az=47.0*

ISC 17 03:44:58.8±0.8, 15.°4S±0.°1×74.°0W±0.°1, h71km, n11, σ0=90/11, mb3.7/4, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
NNA	**Nana**	**4.32**	**320**	P		**Pn**	**03 46 03.8**	**+1.7**
	15nm,0.3s,baz=139,slow=9.3,SNR=27							
NNA				S		**Sn**	**03 46 51.4**	**+0.1**
	16nm,0.3s,baz=206,slow=22,SNR=6.4							
LPAZ	**La Paz**	**5.75**	**100**	P		**Pn**	**03 46 23.1**	**+0.9**
	2.0nm,0.3s,baz=294,slow=9.2,SNR=38							
SIV	**San Ignacio**	**12.49**	**95**	P		Pn	03 47 48.5	-5.3
	0.6nm,0.3s,baz=287,slow=9.8,SNR=22							
PTGA	**Pitinga**	**20.09**	**45**	P		**P**	**03 49 26.4**	**-0.5**
	2.1nm,0.5s,baz=148,slow=15,SNR=6.1							
TXAR	**Lajitas Array**	**52.85**	**327**	P		**P**	**03 54 06.7**	**-0.9**
	0.2nm,0.4s,baz=149,slow=8.3,SNR=10							
SNAA	**Sanae**	**69.64**	**161**	P		**P**	**03 56 00.6**	**+0.2**
	1.2nm,0.6s,baz=275,slow=8.5,SNR=12							
QSPA	**South Pole Qui**	**74.81**	**180**	P		**P**	**03 56 31.3**	**0.0**
	0.7nm,0.4s,baz=142,slow=4.4,SNR=4.3							
YKA	**Yellowknife Ar**	**83.84**	**342**	P		**P**	**03 57 19.0**	**-1.2**
	0.4nm,0.8s,baz=138,slow=5.5,SNR=6.8							
ASAR	**Alice Springs**	**132.58**	**216**	PKP		**PKPdf**	**04 04 06.3**	**+0.1**
	0.2nm,0.5s,baz=145,slow=1.5,SNR=4.2							
WRA	**Warramunga Arr**	**135.19**	**219**	PKP		**PKPdf**	**04 04 11.2**	**+0.1**
	0.5nm,0.5s,baz=134,slow=2.3,SNR=8.8							
SONM	**Songino Array**	**147.61**	**359**	PKPbc		**PKPbc**	**04 04 34.6**	**-0.8**
	0.9nm,0.6s,baz=337,slow=1.1,SNR=6.3							

IDC ***17*** *03:50:10.6±0.3, 32.°65S×71.°57W, h0km, mb5.8/26, mb1 5.9/30, mb1mx5.8/36, mbtmp5.8/30, ML5.3/4, MS6.5/20, Ms1 6.5/20, ms1mx6.2/34, Error ellipse: s-maj=15.0km s-min=9.9km az=75.0*

ISCJB ***17*** *03:50:12.5±0.9, 32.°42S±0.°02×71.°48W±0.°03, h16km±6km, mb6.0/419, MS6.3/387, Error ellipse: s-maj=4.9km s-min=3.4km az=174.2*

GUC ***17*** *03:50:13.1±0.7, 32.°69S×71.°82W, h32km±5km, MW6.5*

MOS ***17*** *03:50:13.2±0.9, 32.°64S×71.°57W, h25km, mb6.3/65, MS6.4/70, Error ellipse: s-maj=12.6km s-min=5.5km az=102.9*

SJA ***17*** *03:50:14.3±4.7, 32.°83S×71.°74W, h27km, ML6.4, MW6.1*

GCMT ***17*** *03:50:15.6±0.1, 32.°77S×71.°69W, h40km, MW6.7/150, Moment Tensor Solution. s150,c394; s142,c600; Duration: 5s4 Moment tensor: Scale 10¹⁹Nm; Mrr0.97±.01; Mθθ0.02±.00; Mϕϕ-0.99±.00; Mrθ0.09±.01; Mθϕ0.03±.00; Mϕr-0.91±.01; Best double couple: M₀1.34000×10¹⁹ NP1:ϕs176.00000°, δ66.00000°, λ88.00000°. NP2:ϕs2.00000°, δ24.00000°, λ95.00000°. Principal axes: T 1.3300, Plg68.0000°, Azm81.0000°; N 0.0200, Plg2.0000°, Azm177.0000°; P -1.3510, Plg21.0000°, Azm267.0000°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to surface/mantle waves, cutoff=50s.*

BJI ***17*** *03:50:15.0, 32.°66S×71.°45W, h30km, mB6.3/51, Ms6.8/79, Ms7 6.8/71*

NEIC ***17*** *03:50:15.6±0.1, 32.°63S×71.°37W, h29km, mb6.2/293, ME6.2, MS6.2/298, MW6.6, MW6.7, MW6.7, MD6.5(SJA), ML6.3(GUC), Error ellipse: s-maj=4.6km s-min=2.8km az=80.0, Moment Tensor Solution. s10 Moment tensor: Scale 10¹⁸Nm; Mrr5.94; Mθθ0.29; Mϕϕ-6.23; Mrθ2.23; Mθϕ-0.77; Mϕr-6.82; Best double couple: M₀9.40000×10¹⁸ NP1:ϕs168.00000°, δ70.00000°, λ77.00000°. NP2: ϕs23.00000°, δ23.00000°, λ123.00000°. Principal axes: T 9.5900, Plg62.0000°, Azm58.0000°; N -0.3000, Plg12.0000°, Azm173.0000°; P -9.2900, Plg24.0000°, Azm269.0000°; Broadband fault plane solution: P waves. NP1:ϕs355.00000°, δ25.00000°, λ90.00000°. NP2: ϕs175.00000°, δ65.00000°, λ90.00000°. Principal axes: T Plg70.0000°, Azm85.0000°; N Plg0.0000°, Azm0.0000°; P Plg20.0000°, Azm265.0000°; Complex earthquake, with two events about 2 seconds apart, observed on broadband displacement seismograms. Depth from synthetics of broadband displacement seismograms based on first event. Energy computed from BB mechanism.*

NEIC One person died of a heart attack in Quillota and one person killed at Papudo. Some buildings damaged slightly at Valparaiso. Rockslides occurred at Santiago. Felt [VII] at Casablanca, Hijuelas, La Calera, Petorca, Quillota, Rancagua, San Antonio, Tiltil, Valparaiso, Villa Alemana and Zapallar; [VI] at Calera, La Ligua, Lampa, Limache, Melipilla, Navidad, Penaflor, Pichilemu, Placilla, Quilpue, San Bernardo, San Felipe, San Fernando, San Jose de Maipo, Santiago and Talagante. Felt throughout central Chile and as far as Antofagasta and Puerto Varas. Felt [V] at Mendoza, [IV] at Cordoba and in San Juan, [III] at La Rioja and San Rafael and [II] at Buenos Aires, Argentina.

NEIC ***17*** *03:50:16.0±0.0, 32.°80S×71.°25W, h40km, Moment Tensor Solution. s27 Moment tensor: Scale 10¹⁹Nm; Mrr1.01; Mθθ0.04; Mϕϕ-1.05; Mrθ0.09; Mθϕ0.11; Mϕr-1.18; Best double couple: M₀1.60000×10¹⁹ NP1:ϕs175.00000°, δ69.00000°, λ91.00000°. NP2:ϕs353.00000°, δ21.00000°, λ87.00000°. Principal axes: T 1.5400, Plg65.0000°, Azm87.0000°; N 0.0500, Plg0.0000°, Azm355.0000°; P -1.5900, Plg24.0000°, Azm264.0000°;*

NEIC ***17*** *03:50:39.9±0.0, 33.°30S×71.°54W, h43km, Moment Tensor Solution. s41 Moment tensor: Scale 10¹⁹Nm; Mrr1.18; Mθθ-0.08; Mϕϕ-1.10; Mrθ0.26; Mθϕ0.05; Mϕr-1.06; Best double couple: M₀1.60000×10¹⁹ NP1:ϕs170.00000°, δ67.00000°, λ85.00000°. NP2:ϕs4.00000°, δ24.00000°, λ103.00000°. Principal axes: T 1.6300, Plg68.0000°, Azm70.0000°; N -0.0900, Plg5.0000°, Azm172.0000°; P -1.5300, Plg22.0000°, Azm264.0000°;*

ISC 17 03:50:15.3±0.6, 32.°64S±0.°02×71.°56W±0.°03, h30km±3km, n1991, σ2=206/2051, mb6.1/420, MS6.3/399, 70C-31D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PEL	**Peldehue**	**0.90**	**125**	*e*Pn		**Pn**	**03 50 31.7**	**-0.2**
PEL	**Peldehue**	**0.90**	**125**	*i* P		**Pb**	**03 50 32.1**	**-0.2**
PEL				*e*S		**Sb**	**03 50 45.7**	**+1.8**
PEL	**Peldehue**	**0.90**	**125**	*e*P		**Pn**	**03 50 31.7**	**-0.2**
RCDM	**Rinconada Maip**	**1.06**	**143**	*e*P		**Pn**	**03 50 31.3**	**-2.9**
RCDM				*e*S		**Sn**	**03 50 45.7**	**-2.3**
ANTU	**Antumapu**	**1.21**	**140**	*e*P		**Pn**	**03 50 36.6**	**+0.3**
ANTU				IAML			03 50 59.5	
	comp=N,1090μm,0.6s							
FCH	**Farellones**	**1.27**	**123**	⇓ *i* P		**Pn**	**03 50 37.7**	**+0.3**
FCH				*i* S		**Sb**	**03 50 56.3**	**+1.3**
LMEL	**Las Melosas**	**1.66**	**137**	⇓ *i* P		**Pn**	**03 50 43.8**	**+1.3**
LMEL				*e*S		**Sb**	**03 51 06.2**	**+0.3**
LMEL				IAML			03 51 12.2	
	comp=N,795μm,0.1s							
CHPI	**Pichilemu**	**1.79**	**192**	*e*P		**Pn**	**03 50 41.9**	**-2.2**
AUSP	**Uspallata**	**1.89**	**78**	*i* P		**Pb**	**03 50 49.4**	**+0.1**
RTLS	**Leoncito**	**2.10**	**67**	*i* P		**Pb**	**03 50 53.1**	**+0.3**
RTLS				IAML			03 51 34.7	
	comp=Z,130μm,0.6s							
GO05	**HualaæØ**	**2.39**	**187**	*e*Pn		**Pn**	**03 50 52.4**	**0.0**
GO05				*e*Sn		**Sn**	**03 51 17.1**	**-3.6**
GO05	**HualaæØ**	**2.39**	**187**	*i* P		**Pn**	**03 50 52.2**	**-0.2**
GO05	**HualaæØ**	**2.39**	**187**	*e*P		**Pn**	**03 50 50.5**	**-1.9**
GO05				*e*S		**Sn**	**03 51 18.0**	**-2.6**
GO05				IAML			03 51 48.8	
	comp=N,112μm,0.5s							
GO04	**Tololo Observa**	**2.54**	**15**	⇑ *i* P		**Pn**	**03 50 55.4**	**+0.6**
GO04				*i* S		**Sb**	**03 51 29.2**	**-2.1**
RTCV	**Cerro Valdivia**	**2.68**	**74**	*i* P		**Pb**	**03 51 00.3**	**-2.2**
SJA	**San Juan**	**2.78**	**67**	*i* P		**Pb**	**03 51 04.3**	**+0.1**
RTLL	**Cerro Villicun**	**2.93**	**64**	*i* P		**Pb**	**03 51 05.7**	**-1.2**
RTLL				IAML			03 51 54.3	
	comp=Z,141μm,0.4s							
AROD	**Rodeo**	**3.04**	**37**	*i* P		**Pb**	**03 51 06.2**	**-2.8**
AMOG	**MOGNA**	**3.12**	**58**	*i* P		**Pb**	**03 51 06.5**	**-3.5**
ACDV	**Cuesta del Vie**	**3.23**	**41**	*i* P		**Pb**	**03 51 11.3**	**-0.7**
COCH	**Cobquecura**	**3.63**	**196**	*i* P		**Pn**	**03 51 08.7**	**-0.7**
COCH	**Cobquecura**	**3.63**	**196**	*e*P		**Pn**	**03 51 06.7**	**-2.8**
LCO	**Las Campanas**	**3.69**	**12**	*e*Pn		**Pn**	**03 51 11.1**	**+0.5**
LCO				*e*Sn		**Sn**	**03 51 50.4**	**-2.8**
LCO	**Las Campanas**	**3.69**	**12**	*i* P		**Pn**	**03 51 14.5**	**+3.9**
LCO				*i* S		**Sb**	**03 52 01.3**	**-3.0**
LCO	**Las Campanas**	**3.69**	**12**	⇑ *i* P		**Pn**	**03 51 11.0**	**+0.5**
LCO	**Las Campanas**	**3.69**	**12**	P		**Pn**	**03 51 10.9**	**+0.3**
ACAN	**Cantantal**	**3.72**	**86**	*i* P		**Pn**	**03 51 15.1**	**+4.4**
CCHI	**Chillan**	**3.98**	**186**	*i* P		**Pn**	**03 51 15.2**	**+0.9**
CCHI	**Chillan**	**3.98**	**186**	*e*P		**Pn**	**03 51 13.6**	**-0.6**
AGUA	**GUANDACOL**	**4.10**	**41**	*i* P		**Pn**	**03 51 20.8**	**+4.8**
CCSP	**San Pedro de C**	**4.38**	**196**	*e*P		**Pn**	**03 51 16.9**	**-2.9**
VCA	**Vinchina**	**4.85**	**38**	*i* P		**Pn**	**03 51 30.1**	**+3.7**
VCA				*i* S		**Sb**	**03 52 39.7**	**+2.2**
CANA	**Caviahue**	**5.25**	**176**	*i* P		**Pn**	**03 51 33.1**	**+1.1**
SUCO	**SUCO**

GCUF Volcan Galeras 34.12 350 *e*P **P** **03 57 02.6 +4.5**
GCUF *e*P P 03 57 03.3 +5.2
GCUF *e*P P 03 57 03.3 +5.2
FLOC Florencia 34.25 353 *e*P **P** **03 57 02.6 +3.9**
FLOC *e*P P 03 57 06.0 +7.2
CRUC La Cruz 34.40 350 *e*P P 03 57 05.3 +4.9
TUMC Tumaco 34.94 347 *e*P **P** **03 57 04.5 -0.1**
comp=Z,605nm,1.0s
GUVC San Jose del G 35.01 358 *e*P **P** **03 57 06.6 +1.4**
BETC Betania 35.32 353 *e*P **P** **03 57 11.3 +3.3**
MARP Paez Belalcaza 35.53 352 *e*P **P** **03 57 12.6 +2.5**
GRGC Isla de Gorgon 35.99 349 *e*P P 03 57 20.6 +6.9
PRAC Prado 36.29 354 *e*P **P** **03 57 17.8 +1.5**
comp=Z,464nm,1.0s
PRAC LR LR
comp=Z,16µm,19.0s
VILC Villavicencio, 36.60 356 *e*P **P** **03 57 21.9 +2.9**
YOTC Yotoco, Valle 36.70 352 *e*P **P** **03 57 21.9 +2.0**
MALC Bahia Malaga 36.86 350 *e*P **P** **03 57 23.9 +2.8**
MALC *e*P P 03 57 27.9 +6.8
MALC *e*P P 03 57 29.2 +8.2
ANIL Santa Ana 37.10 354 *e*P **P** **03 57 25.9 +2.4**
ANIL *e*P **P** **03 57 27.9 +4.4**
ANIL *e*P P 03 57 29.9 +6.4
CHIC Chingaza 37.12 356 *e*P **P** **03 57 23.9 +0.1**
CHIC *e*P **P** **03 57 27.9 +4.1**
CHIC *e*P P 03 57 30.6 +6.8
ROSC El Rosal 37.36 355 P **P** **03 57 28.5 +2.7**
comp=Z,58nm,0.8s,baz=200,slow=6.6,SNR=35
ROSC El Rosal 37.36 355 *e*P **P** **03 57 29.1 +3.2**
comp=Z,155nm,0.9s
ROSC LR LR
comp=Z,54µm,21.0s
MAPC Malpelo 37.67 343 *e*P P 03 57 33.2 +5.3
RUSC La Rusia 38.34 358 *e*P **P** **03 57 33.1 -1.1**
comp=Z,387nm,1.1s
HELC Santa Helena 38.80 354 *e*P **P** **03 57 38.2 +0.3**
comp=Z,2µm,1.4s
HELC LR LR
comp=Z,76µm,22.0s
HELC Santa Helena 38.80 354 *e*P **P** **03 57 39.2 +1.3**
HELC *e*P **P** **03 57 39.9 +2.0**
HELC *e*P **P** **03 57 42.5 +4.7**
BARC Barichara 39.04 357 *e*P **P** **03 57 41.2 +1.4**
BRRC Barranca, Sant 39.58 357 *e*P **P** **03 57 45.9 +1.9**
BRRC *e*P P 03 57 51.2 +7.2
BRRC *e*P P 03 57 53.2 +9.2
ZARC Zaragoza, Cauc 40.03 355 *e*P **P** **03 57 47.2 -0.6**
SDV Santo Domingo 41.30 1 P **P** **03 57 58.3 -0.2**
comp=Z,118nm,0.8s,baz=214,slow=3.9,SNR=36
SDV Santo Domingo 41.30 1 *e*P **P** **03 57 57.9 -0.5**
comp=Z,220nm,0.9s
SDV LR LR
comp=Z,41µm,20.0s
BCIP Isla Barro Col 42.31 348 *e*P **P** **03 58 09.7 +3.2**
comp=Z,228nm,1.0s
BCIP LR LR
comp=Z,23µm,21.0s
RCBR Riachuelo 42.60 59 P **P** **03 58 10.2 +1.3**
comp=Z,237nm,1.0s,baz=320,slow=0.0,SNR=26
RCBR Riachuelo 42.60 59 *e*P **P** **03 58 09.2 +0.3**
comp=Z,360nm,1.1s
PCRV Puerto La Cruz 43.08 10 P **P** **03 58 13.3 +0.5**
comp=Z,52nm,0.9s,baz=173,slow=3.9,SNR=11
PCRV LR LR 04 18 09.8
comp=Z,110µm,21.8s,baz=168,slow=39
TBH Brigand Hill 44.03 15 *e*P **P** **03 58 23.3 +2.9**
HDC Heredia 44.06 342 *e*P **P** **03 58 24.5 +3.8**
comp=Z,202nm,0.8s
HDC LR LR
comp=Z,12µm,22.0s
URIC Uribia, Colomb 44.09 359 *e*P **P** **03 58 17.8 -3.1**
JTS JuntasAbangare 44.56 341 P **P** **03 58 25.8 +1.1**
comp=Z,44nm,0.8s,baz=155,slow=7.4,SNR=15
TOSP Speyside 44.94 15 *e*P **P** **03 58 28.3 +0.6**
GRGR Grenville 45.51 14 *e*P **P** **03 58 31.4 -0.8**
comp=Z,2µm,1.0s
GRGR LR LR
comp=Z,55µm,19.0s
GRHS Sauteurs 45.60 14 *e*P **P** **03 58 34.9 +2.0**
GRSS Sisters 45.68 14 *e*P **P** **03 58 35.3 +1.8**
SVB Belmont 46.70 14 *e*P **P** **03 58 41.9 +0.3**
comp=Z,418nm,0.5s
SVB LR LR
comp=Z,55µm,22.0s
SVB Belmont 46.70 14 *e*P **P** **03 58 43.5 +1.9**
SVCV St. Vincent, C 46.73 14 *e*P **P** **03 58 42.2 +0.4**
SVV Soufriere Volc 46.76 14 *e*P **P** **03 58 43.5 +1.6**
SSV Crater Summit 46.77 14 *e*P **P** **03 58 45.6 +3.5**
BBGH Gun Hill 46.95 16 *e*P **P** **03 58 43.4 0.0**
MCLT Moule a Chique 47.19 14 *e*P **P** **03 58 43.7 -1.7**
SLB Belfond 47.29 14 *e*P **P** **03 58 46.8 +0.6**
FDF Fort de France 48.15 14 *e*P **P** **03 58 51.4 -1.4**
comp=Z,426nm,1.0s
FDF LR LR
comp=Z,73µm,22.0s
FDF Fort de France 48.15 14 *e*P **P** **03 58 51.3 -1.5**
FDF Fort de France 48.15 14 *e*P **P** **03 58 51.4 -1.4**
FDF pmax pmax
comp=Z,430nm,1.0s
DSHT Scott's Head 48.57 13 *e*P **P** **03 58 57.1 +1.1**
DLPL La Plaine 48.71 13 *e*P P 03 59 05.7 +8.6
BBL Barber's Block 48.85 13 *e*P **P** **03 58 56.0 -2.2**
MDPO Dominica; Chan 48.91 13 *e*P **P** **03 58 54.7 -3.9**
MDVC Dominica, Viel 48.95 13 *e*P **P** **03 59 01.2 +2.3**
SNET Serv Nac Est T 49.06 337 *e*P **P** **03 59 03.4 +3.5**
comp=Z,5µm,0.4s
TBG Guadaloupe-3 49.14 13 *e* **P** **03 59 01.5 +1.1**
MGG Marie-Galante 49.27 13 *e*P **P** **03 59 00.2 -1.2**
GDHS Morne Mazeau, 49.53 12 *e*P **P** **03 59 04.5 +1.1**
comp=Z,1µm,1.8s
DEG La Desirade 49.70 13 *e*P **P** **03 59 02.8 -1.9**
DEG La Desirade 49.70 13 *e*P **P** **03 59 03.0 -1.8**
MLYT Lee's Yard 49.89 12 *e*P **P** **03 59 03.7 -2.4**
PCJ Portland Cotta 50.38 353 *i*P **P** **03 59 11.6 +1.9**
SKI Saint Kitts 50.40 11 *e*P **P** **03 59 09.7 -0.3**
comp=Z,5µm,1.4s
SKI LR LR
comp=Z,146µm,20.0s
SKI Saint Kitts 50.40 11 *e*P **P** **03 59 06.8 -3.2**
SKI Saint Kitts 50.40 11 *e*P **P** **03 59 09.7 -0.3**
SKI pmax pmax
comp=Z,5µm,1.4s
ICMP Isla Caja de M 50.47 6 *e*P **P** **03 59 09.8 -0.6**
VNA3 Neumayer Olymp 50.47 158 P **P** **03 59 10.3 +0.3**
SEUS St. Eustatius 50.52 11 *e*P **P** **03 59 10.9 +0.1**
comp=Z,2µm,1.7s
SEUS LR LR
comp=Z,69µm,22.0s
CDVI St. Croix 50.52 8 *e*P **P** **03 59 09.2 -1.7**
comp=Z,349nm,1.0s
CRPR Cabo Rojo, PR 50.54 5 *e*P **P** **03 59 10.0 -0.9**
comp=Z,557nm,0.8s
HOJ Hope 50.60 354 *i*P **P** **03 59 10.6 -0.9**
SABA Saba 50.60 10 *e*P **P** **03 59 09.9 -1.6**
comp=Z,706nm,0.8s
SABA Saba 50.60 10 *e*P **P** **03 59 10.3 -1.2**
OBIP Obispado Ponce 50.62 6 *e*P **P** **03 59 11.0 -0.6**
comp=Z,278nm,0.9s
OBIP LR LR
comp=Z,28µm,20.0s
GWJ Greenwich 50.66 354 *i*P **P** **03 59 12.1 0.0**
STH Stony Hill 50.68 354 *i*P **P** **03 59 08.1 -3.9**
APG El Apazote 50.71 336 P **P** **03 59 13.2 +0.7**
comp=Z,70nm,0.8s,baz=159,slow=3.6,SNR=33
SJG San Juan 50.73 7 P **P** **03 59 11.9 -0.5**
comp=Z,205nm,1.1s,baz=191,slow=3.1,SNR=19
SJG San Juan 50.73 7 *e*P **P** **03 59 11.2 -1.2**
comp=Z,420nm,1.0s
SJG LR LR
comp=Z,50µm,20.0s
MPR Mayaguez 50.74 5 *e*P **P** **03 59 12.0 -0.5**
comp=Z,858nm,1.7s
MPR LR LR
comp=Z,30µm,18.0s
VNA1 Neumayer--Stat 50.77 157 P **P** **03 59 13.0 +0.8**
SDD Santo Domingo 50.83 2 *e*P **P** **03 59 13.3 +0.2**
comp=Z,749nm,1.1s
SDD LR LR
comp=Z,26µm,21.0s
LGNH LØogne 50.87 359 *e*P **P** **03 59 13.1 -0.3**
comp=Z,308nm,1.2s
ANWB Willy Bob 50.89 12 *e*P **P** **03 59 12.7 -0.9**
comp=Z,906nm,1.4s
ANWB LR LR
comp=Z,36µm,19.0s
MTDJ Mount Denham 50.90 353 *e*P **P** **03 59 15.5 +1.7**
comp=Z,577nm,1.5s
MTDJ LR LR
comp=Z,8µm,19.0s
AOPR Arecibo Observ 50.90 6 *e*P **P** **03 59 12.9 -0.9**
comp=Z,967nm,1.6s
AOPR LR LR
comp=Z,36µm,19.0s
CBYP Canovanas 50.91 7 *e*P **P** **03 59 13.1 -0.8**
comp=Z,592nm,1.1s
AGP Aguadilla 50.93 5 PFAKE 03 59 30.0 +16
AGP LR LR
comp=Z,43µm,18.0s
SMRT St. Maarten 51.05 10 *e*P **P** **03 59 11.6 -3.3**
comp=Z,344nm,1.0s
SMRT LR LR
comp=Z,70µm,22.0s
STVI Saint Thomas 51.09 8 *e*P **P** **03 59 14.8 -0.3**
comp=Z,477nm,1.6s
STVI LR LR
comp=Z,35µm,20.0s
VNA2 Neumayer--Watz 51.11 158 P **P** **03 59 15.2 +0.3**
baz=285,slow=7.6
PTCN Pitcairn Islan 51.27 263 PFAKE 03 59 30.0 +13
PTCN LR LR
comp=Z,23µm,21.0s
SDDR Presa de Saban 51.33 0 *e*P **P** **03 59 17.6 +0.6**
comp=Z,118nm,0.9s
SDDR LR LR
comp=Z,32µm,20.0s
ABVI Anegada Island 51.54 9 *e*P **P** **03 59 18.8 +0.3**
comp=Z,957nm,1.2s
ABVI LR LR
comp=Z,34µm,20.0s
GTBY Guantanamo Bay 52.38 356 *e*P **P** **03 59 25.1 +0.4**
comp=Z,227nm,0.9s
GTBY LR LR
comp=Z,12µm,20.0s
FSCY Frank Sound, G 52.47 349 *e*P **P** **03 59 26.5 +1.1**
comp=Z,3µm,1.9s
WBCY West Bay, Gran 52.57 348 *e*P **P** **03 59 27.5 +1.3**
comp=Z,2µm,1.7s
SNAA Sanae 52.70 158 P **P** **03 59 27.1 +0.4**
SNAA Sanae 52.70 158 P **P** **03 59 26.4 -0.3**
comp=Z,172nm,1.0s,baz=272,slow=7.9,SNR=136
SNAA LR LR 04 20 16.1
comp=Z,76µm,20.9s,baz=290,slow=34
SNAA Sanae 52.70 158 *e*P **P** **03 59 25.1 -1.6**
comp=Z,450nm,1.0s
SNAA Sanae 52.70 158 *c i*P **P** **03 59 26.5 -0.2**
GRTK Grand Turk 53.84 0 *e*P **P** **03 59 35.1 -0.4**
comp=Z,2µm,1.7s
CMIG Matias Romero 54.25 332 P **P** **03 59 38.9 +0.4**
comp=Z,33nm,0.8s,baz=166,slow=3.1,SNR=29
TEIG Tepich 54.94 341 PFAKE 04 00 00.0 +16
TEIG LR LR
comp=Z,12µm,20.0s
MYIG MØrida 56.06 339 *e*P **P** **03 59 55.8 +4.2**
comp=Z,289nm,1.0s
RKT Rikitea 56.13 263 *e*S **S** **04 07 40.1 +0.5**
comp=Z,38µm,33.2s
RKT *e*SS **SS** **04 11 30.0 +3.9**
comp=Z,17µm,33.5s
RKT *e*LR LR 04 16 18.9
comp=Z,30µm,26.0s,baz=122
RKT Rikitea 56.13 263 *e*T T 05 00 24.7
comp=Z,50nm,0.2s
QSPA South Pole Qui 57.59 180 P **P** **04 00 02.7 +0.5**
comp=Z,385nm,1.0s,baz=146,slow=2.7,SNR=106
QSPA LR LR 04 24 08.9
comp=Z,28µm,21.6s,baz=160,slow=35
QSPA South Pole Qui 57.59 180 *e*P **P** **04 00 02.8 +0.5**
comp=Z,2µm,1.0s
UNM Universidad Na 58.03 329 PFAKE 04 00 20.0 +14
UNM LR LR
comp=Z,36µm,20.0s
H10N3 ASCENSION HYDR 58.18 78 P **P** **04 00 08.6 +2.1**
baz=248,slow=5.9,SNR=9.4
H10N1 ASCENSION HYDR 58.19 78 P **P** **04 00 09.0 +2.4**
baz=248,slow=5.9,SNR=10
H10N2 ASCENSION HYDR 58.20 78 P **P** **04 00 08.1 +1.5**
baz=248,slow=5.9,SNR=7.4
ASCN Ascension 58.24 78 *e*P **P** **04 00 08.8 +1.5**
comp=Z,450nm,0.8s
ASCN LR LR
comp=Z,67µm,20.0s
MOIG Morelia 59.24 327 *e*P **P** **04 00 17.9 +3.6**
059Z Ave Maria 59.40 350 P **P** **04 00 14.0 -0.9**
baz=170,SNR=9.7
JRQG Juriquilla Cam 59.80 328 *e*P **P** **04 00 21.8 +3.6**
comp=Z,451nm,1.4s
JRQG LR LR
comp=Z,68µm,20.0s
060A Indiantown 59.93 351 P **P** **04 00 18.4 -0.2**
baz=171
059A Moore Haven 59.97 350 P **P** **04 00 17.8 -1.0**
baz=170,SNR=6.9
058A Arcadia 60.16 349 P **P** **04 00 19.7 -0.5**
baz=170,SNR=17
058A S **S** **04 08 29.8 -1.8**
baz=170
959A Okeechobee 60.48 350 P **P** **04 00 22.5 +0.2**
baz=171
958A Wauchula 60.67 350 P **P** **04 00 23.4 -0.2**
baz=170
957A Wimauma 60.83 349 P **P** **04 00 24.2 -0.4**
baz=170
859A Kempfer Cattle 61.01 351 P **P** **04 00 24.4 -1.5**
baz=171,SNR=6.7
DWPF Disney Wildern 61.14 350 P **P** **04 00 26.8 0.0**
baz=170
DWPF Disney Wildern 61.14 350 *e*P **P** **04 00 28.3 +1.5**
comp=Z,233nm,1.2s
DWPF LR LR
comp=Z,13µm,20.0s
858A St. Cloud 61.23 350 P **P** **04 00 27.4 0.0**
baz=170
SHEL Horse Pasture 61.37 91 *e*P **P** **04 00 30.9 +2.1**
comp=Z,237nm,0.8s
SHEL LR LR
comp=Z,54µm,19.0s
SHEL Horse Pasture 61.37 91 *e*P **P** **04 00 30.9 +2.1**
857A Zephyrhills 61.41 349 P **P** **04 00 28.6 0.0**
baz=170
757A Oxford 62.05 350 P **P** **04 00 32.2 -0.8**
baz=170,SNR=14
658A Bunnell 62.40 350 P **P** **04 00 34.8 -0.5**
baz=171
656A Willston 62.54 349 P **P** **04 00 35.3 -0.9**
baz=169,SNR=25
ZAIG Zacatecas 62.55 328 *e*P **P** **04 00 38.5 +1.7**
657A Interlachen 62.65 350 P **P** **04 00 36.2 -0.7**
baz=170,SNR=20
655A Horseshoe Beac 62.80 349 P **P** **04 00 36.9 -1.0**
baz=169,SNR=7.1
557A Orange Park 63.05 350 P **P** **04 00 38.7 -0.9**
baz=170,SNR=26
LNIG Linares 63.10 332 *e*P **P** **04 00 38.8 -1.3**
comp=Z,95nm,1.2s
LNIG LR LR
comp=Z,5µm,21.0s
556A Lake Butler 63.14 349 P **P** **04 00 39.6 -0.6**
baz=170,SNR=18
555A McAlpin 63.35 349 P **P** **04 00 41.2 -0.4**
baz=169,SNR=26
554A Perry 63.43 348 P **P** **04 00 41.6 -0.5**
baz=168,SNR=10
H06S1 SOCORRO T 63.48 318 T T 05 09 51.1
SNR=16
457A Yulee 63.62 350 P **P** **04 00 43.0 -0.4**
baz=170
553A Crawfordville 63.66 348 P **P** **04 00 44.0 +0.3**
baz=168,SNR=14
552A Lynn Haven 63.77 347 P **P** **04 00 44.3 -0.1**
baz=167
456A Hilliard 63.79 350 P **P** **04 00 44.2 -0.3**
baz=170,SNR=6.2
455A Stateville 63.96 349 P **P** **04 00 45.6 0.0**
baz=169,SNR=16
454A Quitman 64.04 348 P **P** **04 00 45.8 -0.3**
baz=169,SNR=7.8
646A Port Sulphur 64.26 342 P **P** **04 00 49.3 +1.7**
baz=163
453A Whigham 64.29 348 P **P** **04 00 47.6 -0.1**
baz=168,SNR=16
451A Vernon 64.33 346 P **P** **04 00 48.0 0.0**
baz=167
645A Chauvin 64.34 342 P **P** **04 00 49.1 +1.0**
baz=162
356A Blackshear 64.40 350 P **P** **04 00 47.9 -0.5**
baz=170
357A Townsend 64.40 351 P **P** **04 00 48.1 -0.4**
baz=171
452A Marianna 64.45 347 P **P** **04 00 48.4 -0.4**
baz=167,SNR=7.0
SBA Scott Base 64.49 192 *e*P **P** **04 00 50.1 +1.6**
comp=Z,464nm,1.7s
SBA Scott Base 64.49 192 *e*P **P** **04 00 50.1 +1.6**
355A Pearson 64.53 349 P **P** **04 00 48.3 -1.0**
baz=169,SNR=14
450A Crestview 64.68 346 P **P** **04 00 50.4 +0.1**
baz=166
TIGA Tifton 64.74 349 P **P** **04 00 49.8 -0.8**
baz=169,SNR=24
TIGA Tifton 64.74 349 *e*P **P** **04 00 50.5 -0.2**
comp=Z,224nm,1.1s
TIGA LR LR
comp=Z,13µm,21.0s
353A Camilla 64.75 348 P **P** **04 00 50.4 -0.4**
baz=168,SNR=24
449A Pace 64.77 345 P **P** **04 00 50.9 0.0**
baz=165
546A Slidell 64.85 343 P **P** **04 00 52.5 +1.1**
baz=163
545A Edgard 64.87 342 P **P** **04 00 50.7 -0.9**
baz=162
KVTX Kingsville 64.88 334 *e*P **P** **04 00 53.0 +1.3**
comp=Z,405nm,1.1s
257A Skidaway Islan 64.88 351 P **P** **04 00 51.5 -0.1**
baz=171
351A Pinckard 64.94 347 P **P** **04 00 51.4 -0.6**
baz=167,SNR=18
BBSR BB Station 64.98 6 *e*P **P** **04 00 52.9 +0.6**
comp=Z,124nm,0.9s
BBSR LR LR
comp=Z,10µm,21.0s
256A Glennville 65.01 350 P **P** **04 00 51.9 -0.5**
baz=170,SNR=8.6
352A Blakely 65.01 347 P **P** **04 00 51.6 -0.8**
baz=167,SNR=16
448A Bay Minette 65.08 345 P **P** **04 00 53.2 +0.3**
baz=165
544A White Castle 65.11 341 P **P** **04 00 54.5 +1.4**
baz=162
447A Lucedale 65.13 344 P **P** **04 00 53.9 +0.7**
baz=164
BRAL Brewton 65.13 345 P **P** **04 00 52.6 -0.6**
baz=166,SNR=8.9
BRAL Brewton 65.13 345 *e*P **P** **04 00 54.0 +0.7**
comp=Z,241nm,0.9s
BRAL LR LR
comp=Z,7µm,19.0s
254A Abbeville 65.19 349 P **P** **04 00 52.5 -1.1**
baz=169,SNR=23
350A Dozier 65.23 346 P **P** **04 00 53.3 -0.5**
baz=166,SNR=19
543A St. Martinvill 65.28 341 P **P** **04 00 53.2 -1.0**
baz=161
446A Poplarville 65.30 343 P **P** **04 00 54.9 +0.5**
baz=163,SNR=9.1
349A Repton 65.34 345 P **P** **04 00 54.4 -0.2**
baz=165,SNR=15
253A Americus 65.44 348 P **P** **04 00 54.1 -1.1**
baz=168,SNR=14
252A Lumpkin 65.48 348 P **P** **04 00 54.4 -1.1**
baz=168,SNR=18
445A Amite 65.48 342 P **P** **04 00 56.2 +0.6**
baz=162,SNR=13
VNDA Vanda 65.51 191 P **P** **04 00 56.1 +0.9**
comp=Z,29nm,1.0s,baz=141,slow=4.3,SNR=32
VNDA LR LR 04 24 01.2
comp=Z,6µm,21.8s,baz=132,slow=31
VNDA PKPPKP P'P'df 04 29 32.8 -8.2
comp=Z,5.6nm,1.2s,baz=304,slow=3.5,SNR=11
VNDA Vanda 65.51 191 *e*P **P** **04 00 55.8 +0.6**
comp=Z,164nm,1.4s
VNDA P'P' 04 29 32.8
542A Morse 65.51 340 P **P** **04 00 55.1 -0.6**
baz=160
348A Jackson 65.55 345 P **P** **04 00 56.3 +0.3**
baz=165,SNR=9.5
444A Pine Grove 65.58 342 P **P** **04 00 57.0 +0.9**
baz=162,SNR=9.7
347A Saraland 65.69 344 P **P** **04 00 57.1 +0.3**
baz=164,SNR=10.0
251A Midway 65.70 347 P **P** **04 00 55.8 -1.1**
baz=167,SNR=48
RGRS Roger Stewart 65.70 352 *e*P **P** **04 00 57.5 +0.6**
comp=Z,1µm,0.6s
155A Kite 65.72 350 P **P** **04 00 56.1 -0.9**
baz=170,SNR=34
250A Grady 65.75 346 P **P** **04 00 56.4 -0.9**
baz=166,SNR=22
CSU Charleston Sou 65.77 352 *e*P **P** **04 00 57.6 +0.4**
154A Montrose 65.81 349 P **P** **04 00 56.5 -1.1**
baz=169,SNR=27
346A Big Creek Wild 65.89 343 P **P** **04 00 58.2 +0.1**
baz=163,SNR=34
NHSC New Hope 65.90 352 P **P** **04 00 57.8 -0.3**
baz=172,SNR=22
NHSC New Hope 65.90 352 *e*P **P** **04 00 57.7 -0.5**
comp=Z,661nm,1.1s
NHSC LR LR
comp=Z,11µm,20.0s
443A Delano Plantat 65.90 341 P **P** **04 00 59.2 +1.0**
baz=161
SACV Santiago Islan 65.90 52 *e*P **P** **04 00 58.1 -0.4**
comp=Z,394nm,1.0s
SACV LR LR
comp=Z,29µm,21.0s
249A Camden 65.92 346 P **P** **04 00 57.6 -0.7**
baz=166,SNR=24
345A Thompson Farm, 65.96 343 P **P** **04 00 58.7 +0.2**
baz=163,SNR=12
153A Fort Valley 65.96 349 P **P** **04 00 57.5 -1.1**
baz=169,SNR=10
442A Mamou 66.03 340 P **P** **04 00 58.9 -0.2**
baz=161
151A Opelika 66.11 347 P **P** **04 00 58.5 -1.0**
baz=167,SNR=44
833A Chaparral WMA, 66.14 333 P **P** **04 00 59.8 0.0**
baz=154,SNR=36
248A Dixon Mills 66.17 345 P **P** **04 00 59.1 -0.9**
baz=165,SNR=21
344A Westbrook Farm 66.27 342 P **P** **04 01 00.9 +0.3**
baz=162,SNR=28
441A DeRidder 66.29 340 P **P** **04 01 00.1 -0.6**
baz=160
150A Eclectic 66.31 347 P **P** **04 01 00.2 -0.6**
baz=167,SNR=45
247A Quitman 66.33 344 P **P** **04 01 01.1 +0.2**
baz=164,SNR=10
343A Vidalia 66.35 341 P **P** **04 01 01.5 +0.5**
baz=162
HKT Hockley 66.36 337 *e*P **P** **04 01 02.5 +1.4**
comp=Z,509nm,1.8s
HKT LR LR
comp=Z,9µm,18.0s
HKT Hockley 66.36 337 *e*P **P** **04 01 02.5 +1.4**
246A Jackson Lee, B 66.41 344 P **P** **04 01 01.3 -0.2**
baz=164,SNR=5.2
149A Jones 66.46 346 P **P** **04 01 00.6 -1.2**
baz=166,SNR=27
245A Little AP, Sta 66.61 343 P **P** **04 01 02.6 -0.2**
baz=163,SNR=36
342A Flagon Creek P 66.63 341 P **P** **04 01 03.1 +0.3**
baz=161,SNR=18
GOGA Godfrey 66.65 349 P **P** **04 01 01.8 -1.2**
baz=169,SNR=29
GOGA Godfrey 66.65 349 *e*P **P** **04 01 02.8 -0.2**
comp=Z,106nm,0.9s
GOGA LR LR
comp=Z,9µm,21.0s
GOGA Godfrey 66.65 349 *e*P **P** **04 01 02.8 -0.2**
148A Greensboro 66.67 345 P **P** **04 01 02.6 -0.5**
baz=165,SNR=24
244A Avery, Jackson 66.82 342 P **P** **04 01 04.6 +0.5**
baz=162,SNR=34
341A Kurthwood 66.83 340 P **P** **04 01 05.0 +0.9**
baz=160,SNR=23
147A Livingston 66.85 345 P **P** **04 01 03.5 -0.7**
baz=165,SNR=7.4
243A Waterproof 66.87 342 P **P** **04 01 04.6 +0.2**
baz=162,SNR=5.6
Z50A Ashland 66.92 347 P **P** **04 01 04.0 -0.8**

baz=167,SNR=56
LRAL Lakeview Retre 66.92 346 P **P 04 01 04.2 -0.5**
baz=166,SNR=31
LRAL Lakeview Retre 66.92 346 *e*P **P 04 01 04.4 -0.3**
comp=Z,124nm,1.1s
LRAL LR LR
comp=Z,13µm,20.0s
SLBS Sierra La Lagu 66.92 322 *e*P **P 04 01 06.7 +1.7**
comp=Z,93nm,1.1s
VBMS Vicksburg 66.94 343 P **P 04 01 05.5 +0.7**
baz=163,SNR=13
VBMS Vicksburg 66.94 343 *e*P **P 04 01 05.8 +0.9**
comp=Z,366nm,1.1s
Z49A Columbiana 66.98 346 P **P 04 01 04.3 -0.8**
baz=166,SNR=48
SYO Syowa Base 66.98 159⇑ *i*P **P 04 01 03.0 -1.8**
146A Union 66.99 344 P **P 04 01 05.2 +0.1**
baz=164,SNR=13
145A Houston Renfro 67.17 343 P **P 04 01 07.1 +0.8**
baz=163,SNR=56
JSC Jenkinsville 67.19 351 *e*P **P 04 01 06.4 0.0**
comp=Z,165nm,1.1s
JSC LR LR
comp=Z,8µm,22.0s
JSC Jenkinsville 67.19 351 *e*P **P 04 01 06.4 0.0**
242A Grayson 67.23 341 P **P 04 01 07.4 +0.8**
baz=161,SNR=60
TAOE Nuku Hiva Isla 67.26 274 *e*P **P 04 01 10.5 +3.0**
comp=Z,187nm,1.4s
TAOE *e*S **S 04 10 02.2 +1.2**
comp=Z,7µm,29.3s
TAOE Nuku Hiva Isla 67.26 274 *e*LR LR 04 21 26.2
HODGE Hodges 67.27 350 *e*P **P 04 01 07.3 +0.4**
comp=Z,200nm,1.4s
HODGE LR LR
comp=Z,18µm,20.0s
Z47A Carrollton 67.31 345 P **P 04 01 06.7 -0.5**
baz=165,SNR=63
144A Alexander Plac 67.31 343 P **P 04 01 08.0 +0.8**
baz=163
Z48A Northport 67.37 346 P **P 04 01 06.7 -0.8**
baz=165,SNR=42
241A Mo Tay, Goldon 67.40 340 P **P 04 01 08.2 +0.4**
baz=160,SNR=18
LPIG La Paz 67.45 322 LR LR 04 24 14.6
comp=Z,4µm,21.6s,baz=120,slow=30
Z46A Louisville 67.50 344 P **P 04 01 08.8 +0.4**
baz=164,SNR=48
Y50A Piedmont 67.51 347 P **P 04 01 07.8 -0.6**
baz=167,SNR=71
HPIG 67.55 327 *e*P **P 04 01 09.6 +0.5**
comp=Z,169nm,1.1s
HPIG LR LR
comp=Z,22µm,21.0s
Y49A Blount Mountai 67.60 347 P **P 04 01 08.4 -0.6**
baz=166,SNR=32
142A Monroe 67.63 341 P **P 04 01 09.5 +0.3**
baz=161,SNR=5.4
143A Socs Landing, 67.63 342 P **P 04 01 09.4 +0.2**
baz=162,SNR=45
240A Hunter Patters 67.66 340 P **P 04 01 09.4 0.0**
baz=160,SNR=12
NATX Nacogdoches 67.67 339 P **P 04 01 10.1 +0.6**
baz=159,SNR=17
NATX Nacogdoches 67.67 339 *e*P **P 04 01 11.0 +1.5**
comp=Z,252nm,1.0s
435B Jarrell 67.72 336 P **P 04 01 10.3 +0.5**
baz=156
CNNC Cliffs of the 67.78 354 P **P 04 01 09.8 -0.3**
baz=174,SNR=14
CNNC Cliffs of the 67.78 354 *e*P **P 04 01 10.8 +0.7**
comp=Z,411nm,1.0s
CNNC LR LR
comp=Z,18µm,22.0s
PAULI Pauline 67.79 351 *e*P **P 04 01 10.8 +0.6**
comp=Z,82nm,1.1s
Y48A Jasper 67.81 346 P **P 04 01 09.8 -0.5**
baz=166,SNR=25
Z45A Winona 67.84 344 P **P 04 01 10.6 +0.1**
baz=163,SNR=32
Z44A Pea Ridge, Bel 67.93 343 P **P 04 01 11.2 +0.1**
baz=163,SNR=26
Y47A UCPARC, Winfie 67.94 345 P **P 04 01 10.4 -0.7**
baz=165,SNR=121
141A Papa Simpson, 67.95 341 P **P 04 01 11.6 +0.4**
baz=161,SNR=19
KMSC Kings Mountain 68.05 351 P **P 04 01 11.1 -0.7**
baz=171,SNR=38
KMSC Kings Mountain 68.05 351 *e*P **P 04 01 11.7 -0.1**
comp=Z,225nm,1.1s
KMSC LR LR
comp=Z,14µm,21.0s
Z43A Armstrong Fami 68.07 342 P **P 04 01 11.7 -0.3**
baz=162,SNR=6.4
BG3 Lake Jocassee 68.12 350 *e*P **P 04 01 10.5 -1.7**
comp=Z,275nm,1.1s
BG3 LR LR
comp=Z,21µm,21.0s
Y46A Houston 68.14 345 P **P 04 01 11.7 -0.7**
baz=164,SNR=62
140A Cam and Jess, 68.17 340 P **P 04 01 13.4 +0.8**
baz=160,SNR=10.0
X49A Woodville 68.22 347 P **P 04 01 12.5 -0.4**
baz=166,SNR=42
JCT Junction City 68.23 334 P **P 04 01 12.9 -0.3**
baz=154,SNR=29
JCT Junction City 68.23 334 *e*P **P 04 01 11.1 -2.1**
comp=Z,488nm,1.3s
JCT LR LR
comp=Z,2µm,21.0s
JCT Junction City 68.23 334 *e*P **P 04 01 11.1 -2.1**
Y45A Yeager Farm, C 68.28 344 P **P 04 01 13.5 +0.2**
baz=164,SNR=77
X48A Hartselle 68.30 346 P **P 04 01 12.7 -0.7**
baz=166,SNR=98
Z42A Norrel Spur, H 68.32 342 P **P 04 01 13.4 -0.1**
baz=162
Y44A Strider, Charl 68.53 343 P **P 04 01 14.7 -0.1**
baz=163,SNR=25
Z41A Richland Creek 68.53 341 P **P 04 01 15.0 +0.2**
baz=161,SNR=21
X47A Russelville 68.53 346 P **P 04 01 14.3 -0.6**
baz=165,SNR=94
Y43A Makayla and Ka 68.66 343 P **P 04 01 15.5 -0.1**
baz=162,SNR=38
Z40A Long Farm, Mag 68.70 340 P **P 04 01 16.4 +0.5**
baz=160,SNR=19
X46A Booneville 68.73 345 P **P 04 01 15.6 -0.5**
baz=164,SNR=41
TXAR Lajitas Array 68.75 330 P **P 04 01 16.6 +0.2**
comp=Z,13nm,0.7s,baz=150,slow=8.0,SNR=72
TXAR PKPPKP **P'P'df 04 29 25.1 -0.2**
comp=Z,2.0nm,1.1s,baz=253,slow=1.3,SNR=4.1
TX31 Lajitas Ar. Si 68.75 330 *e*P **P 04 01 16.8 +0.4**
WHTX Lake Whitney, 68.78 337 P **P 04 01 16.4 0.0**
baz=157,SNR=34
WHTX Lake Whitney, 68.78 337 *e*P **P 04 01 17.4 +0.9**
comp=Z,158nm,0.9s
WHTX LR LR
comp=Z,3µm,22.0s
X45A UM Field Stati 68.78 344 P **P 04 01 15.7 -0.7**
baz=164,SNR=106
Y42A Garnett, Star 68.81 342 P **P 04 01 16.9 +0.3**
baz=162,SNR=10
CPCT Cooper Cave 68.81 349 *e*P **P 04 01 16.2 -0.4**
SWET Sewanee 68.83 347 *e*P **P 04 01 16.6 -0.2**
comp=Z,203nm,0.9s
OXF Oxford 68.87 344 P **P 04 01 16.0 -1.0**
baz=164,SNR=89
OXF Oxford 68.87 344 *e*P **P 04 01 16.4 -0.6**
comp=Z,581nm,1.0s
OXF LR LR
comp=Z,9µm,21.0s
OXF Oxford 68.87 344 *e*P **P 04 01 16.4 -0.6**
CCAR Cane Creek 68.88 342 *e*P **P 04 01 18.3 +1.3**
comp=Z,389nm,1.4s
TKL Tuckaleechee C 68.90 349 P **P 04 01 16.8 -0.3**
comp=Z,86nm,0.9s,baz=164,slow=7.5,SNR=60
TKL Tuckaleechee C 68.90 349 *e*P **P 04 01 16.1 -1.1**
comp=Z,639nm,1.8s
W48A Pulaski 68.95 347 P **P 04 01 17.1 -0.4**
baz=166,SNR=43
WLAR White Oak Lake 69.02 341 *e*P **P 04 01 19.1 +1.2**
comp=Z,651nm,1.5s
PLAL Pickwick Lake 69.03 346 *e*P **P 04 01 17.0 -0.9**
comp=Z,140nm,0.9s
X44A Crenshaw 69.03 344 P **P 04 01 17.2 -0.7**
baz=163,SNR=6.8
Y41A Eaglette Beard 69.07 341 P **P 04 01 18.4 +0.2**
baz=161,SNR=64
W47A Westpoint 69.19 346 P **P 04 01 18.6 -0.4**
baz=165,SNR=48
X43A Marvell 69.22 343 P **P 04 01 19.0 -0.1**
baz=162,SNR=12
W46A Michie 69.24 345 P **P 04 01 18.0 -1.2**
baz=165,SNR=17
Y40A Okolona 69.38 341 P **P 04 01 19.9 -0.2**
baz=160,SNR=29
W45A Hickory Valley 69.44 345 P **P 04 01 19.7 -0.7**
baz=164,SNR=38
X42A Stuttgart 69.44 342 P **P 04 01 20.2 -0.3**
baz=162,SNR=18
V48A Smith Brothers 69.51 347 P **P 04 01 20.4 -0.5**
baz=166,SNR=149
W44A Shelby Farms P 69.56 344 P **P 04 01 20.7 -0.5**
baz=164
MET Memphis--Engin 69.58 344 *e*P **P 04 01 23.8 +2.5**
comp=Z,378nm,0.7s
X41A Kaden, Bauxite 69.62 342 P **P 04 01 21.0 -0.6**
baz=161,SNR=24
X40A Basin Creek Fa 69.70 341 P **P 04 01 21.3 -0.8**
baz=161,SNR=17
W43A Forest City 69.72 343 P **P 04 01 21.8 -0.4**
baz=163
TZTN Tazewell 69.73 350 P **P 04 01 21.4 -0.8**
baz=169,SNR=16
TZTN Tazewell 69.73 350 *e*P **P 04 01 22.0 -0.3**
comp=Z,508nm,1.8s
TZTN LR LR
comp=Z,9µm,20.0s
V47A Nunnelly 69.73 346 P **P 04 01 21.3 -0.9**
baz=166,SNR=108
V46A Holladay 69.83 346 P **P 04 01 21.7 -1.2**
baz=165,SNR=59
UALR University of 69.84 342 *e*P **P 04 01 23.4 +0.4**
comp=Z,63nm,0.8s
V45A Humboldt 69.95 345 P **P 04 01 23.0 -0.6**
baz=164,SNR=31
MIAR Mount Ida 69.96 341 P **P 04 01 23.6 -0.1**
baz=160,SNR=43
MIAR Mount Ida 69.96 341 *e*P **P 04 01 24.0 +0.3**
comp=Z,181nm,1.1s
MIAR Mount Ida 69.96 341 *e*P **P 04 01 24.0 +0.3**
VWCC Virginia Weste 69.97 353 *e*P **P 04 01 24.0 +0.3**
BLA Blacksburg 69.98 352 P **P 04 01 23.5 -0.3**
baz=172,SNR=12
BLA Blacksburg 69.98 352 *e*P **P 04 01 24.1 +0.3**
comp=Z,199nm,1.2s
BLA LR LR
comp=Z,8µm,21.0s
BLA Blacksburg 69.98 352 *e*P **P 04 01 24.1 +0.3**
X39A Fountain Ranch 70.08 340 P **P 04 01 24.8 +0.4**
baz=160,SNR=45
WVT Waverly 70.08 346 P **P 04 01 23.8 -0.6**
baz=165
WVT Waverly 70.08 346 *e*P **P 04 01 23.7 -0.7**
comp=Z,460nm,0.9s
WVT LR LR
comp=Z,10µm,20.0s
WVT Waverly 70.08 346 *e*P **P 04 01 23.7 -0.7**
W42A Bald Knob 70.10 343 P **P 04 01 24.1 -0.5**
baz=162
ABTX Abilene, Hawle 70.11 335 P **P 04 01 24.8 +0.1**
baz=155,SNR=35
ABTX Abilene, Hawle 70.11 335 *e*P **P 04 01 25.0 +0.3**
comp=Z,435nm,1.3s
ABTX LR LR
comp=Z,3µm,21.0s
HBAR Harrisburg 70.16 344 *e*P **P 04 01 25.0 +0.1**
W41B Gary Mavity, V 70.19 342 P **P 04 01 24.8 -0.3**
baz=161,SNR=28
HALT Halls 70.19 345 *e*P **P 04 01 24.2 -0.9**
U48A Cassie Pea, Po 70.20 347 P **P 04 01 24.4 -0.7**
baz=166,SNR=53
JSRW J. Sargeant Re 70.22 355 *e*P **P 04 01 26.1 +0.9**
V44A Blytheville 70.24 344 P **P 04 01 24.9 -0.4**
baz=164
U47A Clarksville 70.28 347 P **P 04 01 24.5 -1.0**
baz=166,SNR=195
WHAR Wooly Hollow 70.31 342 *e*P **P 04 01 26.1 +0.3**
comp=Z,404nm,1.5s
IP05 Boswell Churc 70.34 355 *e*P **P 04 01 26.7 +0.8**
comp=Z,406nm,1.0s
IP05 LR LR
comp=Z,17µm,21.0s
VAH Vaihoa 70.35 264 *e*P **P 04 01 29.1 +2.5**
comp=Z,176nm,1.1s
V43A Jonesboro 70.35 344 P **P 04 01 25.7 -0.4**
baz=163,SNR=10
U46A Springville 70.38 346 P **P 04 01 25.4 -0.8**
baz=165,SNR=198
GNAR Gosnell 70.40 344 *e*P **P 04 01 26.5 +0.2**
comp=Z,5µm,1.1s
W40A Ferguson Farm, 70.43 341 P **P 04 01 26.8 +0.3**
baz=161,SNR=27
W40A Ferguson Farm, 70.43 341 *e*P **P 04 01 27.4 +0.8**
comp=Z,431nm,1.4s
IP07 Quail 70.45 355 *e*P **P 04 01 27.4 +0.7**
comp=Z,591nm,1.3s
IP07 LR LR
comp=Z,16µm,21.0s
IP06 Yanceyville 70.46 355 *e*P **P 04 01 27.8 +1.1**
comp=Z,320nm,1.4s
IP06 LR LR
comp=Z,14µm,22.0s
TVO Taravao 70.47 261 *e*P **P 04 01 30.3 +2.9**
comp=Z,71nm,1.1s
TVO Taravao 70.47 261 *e*T T 05 18 18.4
comp=Z,5.2nm,0.2s
IP01 Cuckoo 70.48 355 *e*P **P 04 01 27.8 +1.0**
comp=Z,488nm,1.2s
IP01 LR LR
comp=Z,17µm,21.0s
U45A Rockin P Farm, 70.49 345 P **P 04 01 26.5 -0.3**
baz=164,SNR=23
UTMT University of 70.51 345 *e*P **P 04 01 27.0 0.0**
comp=Z,588nm,0.9s
GLAT Glass 70.53 345 *e*P **P 04 01 26.7 -0.4**
SPRD Spng Road, M 70.55 355 *e*P **P 04 01 28.0 +0.8**
comp=Z,714nm,1.5s
BBTS Babate 70.55 57 P **P 04 01 28.2 +0.6**
comp=Z,491nm,1.0s,baz=246,slow=2.3,SNR=18
BBTS LR LR 04 31 37.3
comp=Z,66µm,19.3s,baz=228,slow=35
IP03 Louisa 70.55 355 *e*P **P 04 01 28.2 +1.0**
comp=Z,847nm,1.6s
IP03 LR LR
comp=Z,16µm,21.0s
V42A Cord 70.58 343 P **P 04 01 26.6 -0.8**
baz=162,SNR=16
CVRD Centerville Ro 70.58 355 *e*P **P 04 01 28.1 +0.6**
comp=Z,1µm,1.8s
U44B Burton Farm, H 70.61 345 P **P 04 01 27.4 -0.2**
baz=164,SNR=33
W39A Magazine 70.63 341 P **P 04 01 27.7 -0.1**
baz=160,SNR=112
IP04 Greensprings 70.63 355 *e*P **P 04 01 28.4 +0.6**
comp=Z,680nm,1.3s
IP04 LR LR
comp=Z,16µm,21.0s
TIAR Tiarei 70.65 261 *e*P **P 04 01 31.2 +2.7**
comp=Z,41nm,1.0s
TIAR Tiarei 70.65 261 *e*T T 05 18 33.0
comp=Z,22nm,0.3s
PMOR Pomariorio Ree 70.69 264 *e*P **P 04 01 31.0 +2.4**
comp=Z,112nm,1.1s
CBN Coin Frederi 70.69 355 P **P 04 01 28.3 +0.3**
baz=175,SNR=12
CBN Corbin Frederi 70.69 355 *e*P **P 04 01 28.9 +0.9**
comp=Z,491nm,1.4s
CBN LR LR
comp=Z,18µm,21.0s
V41A Mountainview 70.75 342 P **P 04 01 27.6 -0.9**
baz=162,SNR=73
T48A Bowling Green 70.76 347 P **P 04 01 27.6 -0.9**
baz=167,SNR=49
PVMO Portageville 70.76 345 *e*P **P 04 01 31.4 +2.9**
comp=Z,831nm,1.0s
T47A Sharon Grove 70.77 347 P **P 04 01 27.9 -0.7**
baz=166,SNR=42
PAE Paea 70.80 261 *e*P **P 04 01 32.0 +2.7**
comp=Z,63nm,1.1s
PAE Paea 70.80 261 *e*T T 05 18 43.0
comp=Z,2.6nm,0.2s
PPTF Pamatai, Papee 70.82 261 *e*P **P 04 01 30.5 +0.9**
comp=Z,539nm,1.3s
PPTF LR LR
comp=Z,11µm,21.0s
PPT2 Papeete2 70.83 261 *e*P **P 04 01 32.4 +2.8**
comp=Z,348nm,1.2s
PPT2 *e*S **S 04 10 43.2 +0.1**
comp=Z,26µm,29.0s
PPT2 Papeete2 70.83 261 *e*LR LR 04 23 02.5
comp=Z,30µm,26.2s,baz=121
PPT2 Papeete2 70.83 261 *e*T T 05 18 37.5
comp=Z,5.2nm,0.2s
U44A Portageville 70.84 345 P **P 04 01 29.0 0.0**
baz=164,SNR=13
U43A Rector 70.88 344 P **P 04 01 28.8 -0.5**
baz=163,SNR=25
V40A Witts Springs 70.94 342 P **P 04 01 29.1 -0.6**
baz=161,SNR=32
T46A Princeton 70.98 346 P **P 04 01 29.3 -0.6**
baz=165,SNR=73
PARMO Parma 71.01 345 *e*P **P 04 01 30.3 +0.3**
U42A Revenden 71.06 343 P **P 04 01 29.9 -0.5**
baz=162,SNR=70
SRIG Santa Rosalia 71.08 322 *e*P **P 04 01 31.3 +0.6**
SRIG LR LR
comp=Z,6µm,20.0s
T45A Paducah 71.11 346 P **P 04 01 30.0 -0.7**
baz=165,SNR=8.6
V39A Pettigrew 71.19 341 P **P 04 01 31.0 -0.3**
baz=160,SNR=141
U41A Viola 71.22 343 P **P 04 01 30.6 -0.8**
baz=162,SNR=29
S48A Wiedeman Farm, 71.23 348 P **P 04 01 29.7 -1.6**
baz=167,SNR=44
PBMO Poplar Bluff 71.27 344 *e*P **P 04 01 31.1 -0.5**
comp=Z,147nm,0.8s
T44A Benton 71.38 345 P **P 04 01 31.7 -0.6**
baz=164
CLNB Carlsbad 71.40 331 *e*P **P 04 01 33.1 +0.5**
comp=Z,13nm,1.0s
U40A Yellville 71.47 342 P **P 04 01 32.2 -0.7**
baz=161,SNR=103
MNTX Cornudas Mount 71.53 330 P **P 04 01 32.4 -0.9**
baz=150,SNR=169
MNTX Cornudas Mount 71.53 330 *e*P **P 04 01 32.9 -0.4**
comp=Z,86nm,0.8s
MNTX LR LR
comp=Z,22µm,20.0s
T43A Greenville 71.53 344 P **P 04 01 32.6 -0.6**
baz=163,SNR=77
GDL2 Guadalupe Moun 71.54 331 *e*P **P 04 01 34.3 +0.7**
S46A Don Dixon Farm 71.56 347 P **P 04 01 32.2 -1.2**
baz=166,SNR=33
U39A Green Forest 71.66 341 P **P 04 01 33.2 -0.8**
baz=160,SNR=72
T42A Van Buren 71.67 344 P **P 04 01 32.9 -1.1**
baz=163
HHAR Hobbs 71.69 341 *e*P **P 04 01 34.1 -0.1**
comp=Z,142nm,0.7s
S45A Carrier Mills 71.73 346 P **P 04 01 33.6 -0.8**
baz=165,SNR=12
WMOK Wichita Mounta 71.73 337 P **P 04 01 33.7 -0.8**
baz=156,SNR=28
WMOK Wichita Mounta 71.73 337 *e*P **P 04 01 34.2 -0.3**
comp=Z,219nm,1.6s
WMOK LR LR
comp=Z,5µm,21.0s
WMOK Wichita Mounta 71.73 337 *e*P **P 04 01 34.2 -0.3**
HSIG 71.81 324 *e*P **P 04 01 36.5 +1.4**
HSIG LR LR
comp=Z,11µm,20.0s
USIN University of 71.83 347 *e*P **P 04 01 34.5 -0.5**
comp=Z,344nm,1.0s
USIN LR LR
comp=Z,12µm,21.0s
WCI Wyandotte Cave 71.83 348 P **P 04 01 34.0 -0.9**
baz=167
WCI Wyandotte Cave 71.83 348 *e*P **P 04 01 34.2 -0.7**
comp=Z,98nm,0.8s
WCI LR LR
comp=Z,19µm,22.0s
WCI Wyandotte Cave 71.83 348 *e*P **P 04 01 34.2 -0.7**
T41A Mountain View 71.84 343 P **P 04 01 34.2 -0.9**
baz=162,SNR=57
SDMD Soldier's Deli 71.85 356 *e*P **P 04 01 36.0 +1.0**
comp=Z,241nm,1.3s
SDMD LR LR
comp=Z,6µm,20.0s
TUL1 Leonard 71.87 339 P **P 04 01 34.1 -1.2**
baz=159,SNR=61
TUL1 Leonard 71.87 339 *e*P **P 04 01 35.2 0.0**
comp=Z,146nm,0.8s
TUL1 LR LR
comp=Z,6µm,22.0s
S44A Carbondale 71.89 345 P **P 04 01 35.0 -0.3**
baz=164,SNR=38
SIUC Southern Illin 71.90 345 *e*P **P 04 01 35.1 -0.3**
comp=Z,224nm,1.0s
R48A Northridge Ran 71.92 348 P **P 04 01 34.7 -0.8**
baz=167,SNR=40
R47A Wooly Knot Far 71.93 348 P **P 04 01 34.1 -1.5**
baz=167,SNR=13
S43A Fulton Ridge, 71.95 345 P **P 04 01 35.0 -0.7**
baz=164,SNR=98
R46A Gibon Southern 72.04 347 P **P 04 01 34.7 -1.5**
baz=166,SNR=21
CPRX Cap Rock 72.07 332 *e*P **P 04 01 37.4 +0.6**
comp=Z,38nm,0.8s
EPT El Paso 72.07 329 *e*P **P 04 01 37.6 +0.8**
comp=Z,362nm,1.8s
EPT LR LR
comp=Z,22µm,20.0s
T40A Mansfield 72.13 343 P **P 04 01 36.4 -0.4**
baz=161,SNR=33
T39A Clever 72.24 342 P **P 04 01 36.7 -0.8**
baz=161,SNR=53
R45A Skylar, Fairfi 72.27 346 P **P 04 01 36.4 -1.2**
baz=165,SNR=16
PSUB Penn St. - Bra 72.29 357 *e*P **P 04 01 38.8 +1.1**
comp=Z,1µm,2.0s
PSUB LR LR
comp=Z,16µm,22.0s
S42A Caledonia 72.31 344 P **P 04 01 36.9 -1.0**
baz=163,SNR=53
MCWV Mont Chateau 72.34 353 P **P 04 01 37.7 -0.3**
baz=172,SNR=17
MCWV Mont Chateau 72.34 353 *e*P **P 04 01 38.6 +0.6**
comp=Z,167nm,1.0s
MCWV LR LR
comp=Z,17µm,21.0s
S41A Jillco Farms, 72.36 343 P **P 04 01 37.3 -0.9**
baz=162,SNR=104
R44A Waltonville 72.39 346 P **P 04 01 37.2 -1.0**
baz=164,SNR=18
MVL Millersville 72.41 356 *e*P **P 04 01 39.4 +1.0**
comp=Z,455nm,1.4s
MSTX Muleshoe 72.47 333 P **P 04 01 38.8 -0.3**
baz=153,SNR=96
MSTX Muleshoe 72.47 333 *e*P **P 04 01 39.0 -0.1**
comp=Z,242nm,1.0s
MSTX LR LR
comp=Z,10µm,22.0s
T38A Diamond 72.49 341 P **P 04 01 38.4 -0.6**
baz=160,SNR=43
Q47A Bedord North L 72.54 348 P **P 04 01 38.3 -0.9**
baz=167,SNR=8.1
S40A Lebanon 72.55 343 P **P 04 01 38.9 -0.4**
baz=162,SNR=61
R43A Red Bud 72.59 345 P **P 04 01 39.1 -0.5**
baz=164,SNR=34
OLIL Olney 72.66 347 *e*P **P 04 01 39.3 -0.6**
comp=Z,315nm,1.4s
PAGS Pennsylvania G 72.66 356 *e*P **P 04 01 40.6 +0.8**
comp=Z,334nm,1.2s
PAGS LR LR
comp=Z,16µm,20.0s
CCM Cathedral Cave 72.68 344 P **P 04 01 39.5 -0.5**
baz=163
CCM Cathedral Cave 72.68 344 *e*P **P 04 01 39.8 -0.3**
comp=Z,323nm,0.9s
CCM LR LR
comp=Z,8µm,22.0s
CCM Cathedral Cave 72.68 344 *e*P **P 04 01 39.8 -0.3**
BLO Bloomington 72.78 348 *e*P **P 04 01 40.0 -0.6**
comp=Z,139nm,0.8s
BLO LR LR
comp=Z,15µm,20.0s
BLO Bloomington 72.78 348 *e*P **P 04 01 40.0 -0.6**
Q46A CEJHS Indians, 72.79 347 P **P 04 01 39.5 -1.2**

baz=166
R42A Luebbering 72.79 344 P P 04 01 40.4 -0.4
baz=163,SNR=34
Q45A Warren Harvey, 72.82 347 P P 04 01 39.6 -1.2
baz=165
O56A Blue Knob Stat 72.83 354 P P 04 01 40.9 0.0
baz=174,SNR=28
O56A Blue Knob Stat 72.83 354 eP P 04 01 41.1 +0.2
comp=Z,631nm,1.6s
O56A LR LR
comp=Z,16µm,21.0s
S39A Bolivar 72.85 342 P P 04 01 40.6 -0.5
baz=161,SNR=82
AMTX Amarillo 72.88 334 P P 04 01 41.2 -0.3
baz=154
AMTX Amarillo 72.88 334 eP P 04 01 41.2 -0.3
comp=Z,186nm,0.9s
AMTX LR LR
comp=Z,4µm,19.0s
R41A Rosebud 72.94 344 P P 04 01 40.9 -0.7
baz=162,SNR=84
S38A Stockton 72.95 342 P P 04 01 41.3 -0.4
baz=160,SNR=106
LUPA Lehigh Univers 72.96 357 eP P 04 01 42.7 +1.0
comp=Z,36nm,1.5s
LUPA LR LR
comp=Z,2µm,22.0s
319A Douglas 72.98 327 eP P 04 01 43.6 +1.4
comp=Z,824nm,1.8s
319A LR LR
comp=Z,17µm,18.0s
Q44A Meyer Farm, Va 73.00 346 P P 04 01 40.8 -1.2
baz=164,SNR=17
SLM Saint Louis 73.01 345 eP P 04 01 42.1 +0.1
comp=Z,207nm,0.8s
SLM LR LR
comp=Z,8µm,22.0s
SLM Saint Louis 73.01 345 eP P 04 01 42.1 +0.1
BRNJ Basking Ridge 73.01 358 eP P 04 01 43.0 +1.1
comp=Z,378nm,1.3s
BRNJ LR LR
comp=Z,25µm,21.0s
P47A Martinsville 73.05 348 P P 04 01 41.2 -1.0
baz=167,SNR=15
CPNY Central Park 73.10 358 eP P 04 01 43.3 +0.9
comp=Z,709nm,1.9s
CPNY LR LR
comp=Z,14µm,22.0s
SSPA Standing Stone 73.14 355 P P 04 01 42.7 -0.1
baz=174
SSPA Standing Stone 73.14 355 eP P 04 01 43.2 +0.5
comp=Z,824nm,1.8s
SSPA LR LR
comp=Z,13µm,22.0s
R40A Maddies Statio 73.15 343 P P 04 01 42.3 -0.5
baz=162,SNR=142
Q43A New Douglas 73.18 345 P P 04 01 42.1 -0.9
baz=164,SNR=52
ACSO Alum Creek Sta 73.27 351 P P 04 01 42.6 -0.9
baz=170,SNR=33
ACSO Alum Creek Sta 73.27 351 eP P 04 01 43.2 -0.3
comp=Z,210nm,0.7s
ACSO LR LR
comp=Z,13µm,22.0s
121A Cookes Peak, D 73.28 329 P P 04 01 44.9 +0.9
baz=149,SNR=74
121A Cookes Peak, D 73.28 329 eP P 04 01 45.1 +1.1
comp=Z,332nm,1.2s
N59A State Game Lan 73.29 357 P P 04 01 44.1 +0.5
baz=176,SNR=37
N59A State Game Lan 73.29 357 eP P 04 01 44.8 +1.2
comp=Z,481nm,1.3s
N59A LR LR
comp=Z,16µm,21.0s
PAL Palisades 73.31 358 P P 04 01 44.0 +0.3
baz=178
PAL Palisades 73.31 358 eP P 04 01 44.5 +0.8
comp=Z,277nm,1.4s
PAL LR LR
comp=Z,13µm,20.0s
PAL Palisades 73.31 358 eP P 04 01 44.5 +0.8
Q42A Golden Eagle 73.34 345 P P 04 01 43.2 -0.7
baz=163,SNR=62
P46A Rosedale 73.34 347 P P 04 01 42.2 -1.7
baz=166,SNR=34
P45A Graceland, Par 73.35 347 P P 04 01 42.6 -1.4
baz=166,SNR=14
R39A Chumby, Stover 73.37 343 P P 04 01 43.6 -0.5
baz=161,SNR=62
ODNJ Ogdensburg 73.41 358 eP P 04 01 45.1 +0.9
comp=Z,442nm,1.4s
ODNJ LR LR
comp=Z,23µm,22.0s
P44A Sand Creek, Wi 73.47 346 P P 04 01 43.5 -1.2
baz=165,SNR=16
R38A Fenwick Farm, 73.47 342 P P 04 01 44.2 -0.5
baz=160,SNR=36
Q41A Truxton 73.54 344 P P 04 01 44.6 -0.5
baz=163,SNR=83
YLE Yale 73.60 359 eP P 04 01 46.7 +1.4
comp=Z,877nm,1.4s
YLE LR LR
comp=Z,25µm,22.0s
N54A Moraine State 73.65 353 P P 04 01 45.1 -0.6
baz=172,SNR=18
N54A Moraine State 73.65 353 eP P 04 01 45.9 +0.2
comp=Z,365nm,1.4s
N54A LR LR
comp=Z,16µm,21.0s
O47A Sheridan 73.76 348 P P 04 01 45.0 -1.4
baz=167,SNR=39
Q40A Laux Farm, Aux 73.77 343 P P 04 01 46.0 -0.5
baz=162,SNR=78
P43A Skaggs, Pawnee 73.82 346 P P 04 01 45.3 -1.4
baz=164,SNR=43
P42A Winchester 73.94 345 P P 04 01 46.9 -0.6
baz=164,SNR=35
LIC Lamto 73.97 72 eP P 04 01 47.4 -0.8
comp=Z,657nm,1.1s
Q39A Willow Grove F 74.04 343 P P 04 01 47.3 -0.7
baz=161,SNR=17
O45A Potomac 74.05 347 P P 04 01 46.8 -1.3
baz=166,SNR=33
SFIN Lafayette 74.06 348 P P 04 01 46.5 -1.6
baz=166,SNR=15
SFIN Lafayette 74.06 348 eP P 04 01 46.6 -1.6
comp=Z,458nm,1.7s
SFIN LR LR
comp=Z,14µm,20.0s
O44A Mansfield 74.10 347 P P 04 01 47.0 -1.4
baz=165,SNR=16
Q38A Cooks Store, C 74.12 342 P P 04 01 48.0 -0.5
baz=161,SNR=54
M54A Oil Creek Stat 74.16 354 P P 04 01 47.8 -0.9
baz=173,SNR=15
M54A Oil Creek Stat 74.16 354 eP P 04 01 48.7 0.0
comp=Z,132nm,1.0s
M54A LR LR
comp=Z,12µm,20.0s
BNM Barren Site 74.17 330 eP P 04 01 50.5 +1.2
P41A Barry, Barry 74.19 344 P P 04 01 47.9 -1.0
baz=163,SNR=38
BRYW Bryant College 74.19 0 eP P 04 01 50.2 +1.3
comp=Z,476nm,1.3s
TIC Toumodi 74.22 71 eP P 04 01 48.5 -1.2
Y22D IRIS PASSCAL I 74.23 330 P P 04 01 50.1 +0.6
baz=150
Y22D IRIS PASSCAL I 74.23 330 PFAKE 04 02 00.0 +11
Y22D LR LR
comp=Z,20µm,20.0s
Y22E IRIS PASSCAL I 74.23 330 P P 04 01 50.1 +0.6
baz=150
Q37A Longview Farm, 74.26 342 P P 04 01 48.6 -0.8
baz=160,SNR=13
P40A Paris 74.28 344 P P 04 01 48.6 -0.8
baz=162,SNR=112
KIC Kosan Boka 74.28 72 eP P 04 01 49.0 -1.1
comp=Z,571nm,0.8s
LPM Los Pinos Moun 74.31 330 eP P 04 01 51.1 +1.1
ALLY Alegheny Colle 74.34 353 eP P 04 01 50.1 +0.3
comp=Z,346nm,1.4s
ALLY LR LR
comp=Z,16µm,21.0s
DBIC Dimbokro 74.37 71 P P 04 01 50.0 -0.6
comp=Z,211nm,0.9s,baz=205,slow=6.1,SNR=78
DBIC LR LR 04 34 44.8
comp=Z,38µm,18.1s,baz=215,slow=36
DBIC Dimbokro 74.37 71 eP P 04 01 51.1 +0.5
comp=Z,246nm,0.9s
DBIC Dimbokro 74.37 71 eP P 04 01 51.1 +0.5
DBIC pmax pmax
comp=Z,246nm,0.9s
MAW Mawson 74.37 163 P P 04 01 50.3 +0.6
comp=Z,265nm,1.0s,baz=221,slow=7.3,SNR=36
MAW LR LR 04 34 03.2
comp=Z,50µm,19.9s,baz=230,slow=35
MAW Mawson 74.37 163 eP P 04 01 49.6 -0.1
comp=Z,64nm,1.0s
MAW Mawson 74.37 163 eP P 04 01 49.6 -0.1
MAW pmax pmax
comp=Z,64nm,1.0s
O43A Sugar Creek Fa 74.39 346 P P 04 01 48.6 -1.5
baz=164,SNR=29
P39B Salisbury 74.41 343 P P 04 01 49.3 -0.9
baz=161,SNR=42
TUC Tucson 74.45 326 P P 04 01 51.2 +0.4
baz=146
TUC Tucson 74.45 326 eP P 04 01 52.2 +1.4
comp=Z,219nm,1.5s
TUC LR LR
comp=Z,12µm,21.0s
TUC Tucson 74.45 326 eP P 04 01 52.2 +1.4
O42A Bath 74.47 345 P P 04 01 49.5 -1.1
baz=164,SNR=19
N46A Monticello 74.50 348 P P 04 01 49.5 -1.2
baz=167,SNR=15
QUA2 Belchertown 74.55 359 eP P 04 01 51.7 +0.8
comp=Z,289nm,1.2s
O41A Passleys Farm, 74.57 345 P P 04 01 50.3 -0.8
baz=163,SNR=51
BINY Binghamton 74.58 357 P P 04 01 50.7 -0.5
baz=176,SNR=17
BINY Binghamton 74.58 357 eP P 04 01 51.6 +0.5
comp=Z,659nm,1.8s
BINY LR LR
comp=Z,21µm,22.0s
N45A Kentland 74.59 348 P P 04 01 50.2 -1.0
baz=166,SNR=11
LAZ Ladron 74.60 330 eP P 04 01 53.0 +1.4
BCX Boston College 74.61 0 eP P 04 01 52.4 +1.2
comp=Z,508nm,1.8s
HDIL Hopedale 74.65 346 P P 04 01 50.7 -0.8
baz=164,SNR=27
HDIL Hopedale 74.65 346 eP P 04 01 50.7 -0.8
comp=Z,282nm,1.1s
HDIL LR LR
comp=Z,14µm,22.0s
N44A Piper City 74.66 347 P P 04 01 50.4 -1.2
baz=165,SNR=25
WES Weston 74.66 0 eP P 04 01 52.8 +1.3
comp=Z,650nm,1.9s
WES Weston 74.66 0 eP P 04 01 52.8 +1.3
WES pmax pmax
comp=Z,650nm,1.9s
P38A Dawn 74.73 343 P P 04 01 51.1 -1.0
baz=161,SNR=74
HRV Adam Dziewonsk 74.78 0 P P 04 01 53.1 +0.9
baz=180
HRV Adam Dziewonsk 74.78 0 eP P 04 01 53.3 +1.1
comp=Z,912nm,1.9s
HRV LR LR
comp=Z,10µm,18.0s
HRV Adam Dziewonsk 74.78 0 eP P 04 01 53.3 +1.1
HRV pmax pmax
comp=Z,912nm,1.9s
HRV MLR MLR
comp=Z,10µm,18.0s
ANMO Albuquerque 74.78 331 P P 04 01 53.2 +0.4
baz=150
ANMO Albuquerque 74.78 331 eP P 04 01 53.9 +1.1
comp=Z,430nm,1.8s
ANMO LR LR
comp=Z,22µm,21.0s
ANMO Albuquerque 74.78 331 c iP P 04 01 52.8 +0.1
ANMO pmax pmax
comp=Z,96nm,1.9s
ANMO MLR MLR
comp=Z,5µm,16.0s
ERPA Erie 74.79 354 P P 04 01 51.9 -0.5
baz=172
ERPA Erie 74.79 354 eP P 04 01 53.3 +1.0
comp=Z,273nm,1.2s
ERPA LR LR
comp=Z,14µm,19.0s
O40A La Belle 74.80 344 P P 04 01 51.9 -0.5
baz=162,SNR=35
P37A Lathrop 74.91 342 P P 04 01 52.0 -1.1
baz=160,SNR=29
M46A Old House Fiel 74.93 349 P P 04 01 51.9 -1.3
baz=167,SNR=14
N43A Stutzman Famil 75.00 346 P P 04 01 53.1 -0.5
baz=165,SNR=13
TRY Troy 75.03 358 eP P 04 01 54.9 +1.2
comp=Z,489nm,1.2s
M45A Boilermakers S 75.07 348 P P 04 01 52.6 -1.3
baz=166
N42A Yates City 75.07 346 P P 04 01 53.0 -0.9
baz=164,SNR=34
KSU1 Kansas State U 75.07 340 P P 04 01 53.6 -0.4
baz=158,SNR=18
KSU1 Kansas State U 75.07 340 eP P 04 01 53.9 -0.1
comp=Z,95nm,0.8s
KSU1 LR LR
comp=Z,6µm,22.0s
O39A Kirksville 75.08 344 P P 04 01 53.7 -0.4
baz=162,SNR=62
N41A Harden Midland 75.13 345 P P 04 01 53.2 -1.1
baz=163,SNR=34
214A Organ Pipe Nat 75.14 325 P P 04 01 55.6 +1.0
baz=145,SNR=31
214A Organ Pipe Nat 75.14 325 eP P 04 01 55.7 +1.0
comp=Z,1µm,1.5s
SUR Sutherland 75.14 119 P P 04 01 56.0 +0.9
comp=Z,14nm,0.9s,baz=245,slow=6.8,SNR=38
SUR Sutherland 75.14 119 eP P 04 01 56.5 +1.4
comp=Z,209nm,0.9s
SUR LR LR
comp=Z,46µm,20.0s
SUR Sutherland 75.14 119 P P 04 01 57.1 +2.0
SNR=7.3
SUR Sutherland 75.14 119 P P 04 01 57.1 +2.0
SNR=7.3
O38A Galt 75.18 343 P P 04 01 54.0 -0.6
baz=161,SNR=18
M44A Midewin, Midew 75.21 347 P P 04 01 53.4 -1.4
baz=166,SNR=17
MMNY Mt. Morris Dam 75.23 355 eP P 04 01 55.5 +0.7
comp=Z,562nm,1.3s
MMNY LR LR
comp=Z,14µm,22.0s
O37A Wolven Farm, M 75.40 342 P P 04 01 55.1 -0.8
baz=160,SNR=99
AAM Ann Arbor 75.40 351 P P 04 01 54.9 -0.9
baz=169
AAM Ann Arbor 75.40 351 eP P 04 01 56.8 +1.0
comp=Z,298nm,1.4s
AAM LR LR
comp=Z,11µm,19.0s
AAM Ann Arbor 75.40 351 eP P 04 01 56.8 +1.0
AAM pmax pmax
comp=Z,298nm,1.4s
AAM MLR MLR
comp=Z,11µm,19.0s
M43A Waltham Townsh 75.43 347 P P 04 01 55.1 -0.9
baz=165,SNR=24
N40A Mertquake, Sal 75.46 344 P P 04 01 55.3 -1.0
baz=162,SNR=28
M42A Sheffield 75.61 346 P P 04 01 55.5 -1.5
baz=164,SNR=13
N39A Derby Farms, D 75.66 344 P P 04 01 56.9 -0.5
baz=162,SNR=37
ACCN Adirondack Com 75.68 358 eP P 04 01 58.2 +0.8
comp=Z,615nm,1.6s
ACCN LR LR
comp=Z,15µm,21.0s
M41A Milan 75.70 345 P P 04 01 56.3 -1.3
baz=163,SNR=29
FFD Franklin Falls 75.74 360 eP P 04 01 59.3 +1.5
comp=Z,240nm,0.9s
CBKS Cedar Bluff 75.76 338 P P 04 01 58.2 +0.2
baz=156,SNR=30
CBKS Cedar Bluff 75.76 338 eP P 04 01 58.9 +0.8
comp=Z,171nm,0.8s
CBKS LR LR
comp=Z,6µm,20.0s
CBKS Cedar Bluff 75.76 338 eP P 04 01 58.9 +0.8
CBKS pmax pmax
comp=Z,171nm,0.8s
CBKS MLR MLR
comp=Z,6µm,20.0s
N38A Joes South For 75.76 343 P P 04 01 57.2 -0.8
baz=161,SNR=51
T25A Trinidad 75.89 333 P P 04 01 59.9 +0.8
baz=152,SNR=224
T25A Trinidad 75.89 333 eP P 04 01 59.7 +0.6
comp=Z,246nm,0.9s
M40A Post Highland 75.94 345 P P 04 01 58.0 -1.0
baz=163,SNR=24
L44A Lake County Fo 75.95 348 P P 04 01 58.1 -0.9
baz=166,SNR=5.1
O35A Humboldt 75.96 341 P P 04 01 57.1 -2.0
baz=159,SNR=12
N37A Lee Faris, Mou 75.97 342 P P 04 01 58.4 -0.8
baz=160,SNR=39
HNH Hanover 75.98 359 eP P 04 02 00.4 +1.3
comp=Z,1µm,1.9s
MHTCO State Highway 75.99 333 eP P 04 02 00.4 +0.8
comp=Z,314nm,1.1s
O34A Beatrice 76.10 340 P P 04 01 59.4 -0.6
baz=158,SNR=55
L43A Garden Prairie 76.11 347 P P 04 01 58.7 -1.2
baz=165,SNR=19
L42A Oliver, Polo 76.12 346 P P 04 01 59.1 -0.8
baz=164,SNR=22
M39A Webster 76.16 344 P P 04 01 59.1 -1.1
baz=162,SNR=29
N36A Muff Farm, Cla 76.22 342 P P 04 01 59.6 -1.0
baz=160,SNR=28
O33A Hebron 76.25 340 P P 04 02 00.5 -0.4
baz=158,SNR=35
113A Mohawk Valley, 76.26 324 eP P 04 02 02.3 +1.3
comp=Z,88nm,1.2s
113A LR LR
comp=Z,8µm,21.0s
NCB Newcomb 76.28 358 eP P 04 02 01.2 +0.3
comp=Z,148nm,1.2s
NCB LR LR
comp=Z,13µm,21.0s
W18A Petrified Fore 76.33 329 P P 04 02 02.3 +0.7
baz=148,SNR=25
W18A Petrified Fore 76.33 329 eP P 04 02 03.2 +1.6
comp=Z,673nm,1.7s
W18A LR LR
comp=Z,13µm,19.0s
M38A Pleasantville 76.34 343 P P 04 02 00.5 -0.7
baz=161,SNR=54
L41A Preston 76.36 346 P P 04 02 00.1 -1.2
baz=164,SNR=52
DRWO Darlington Wes 76.42 355 P P 04 02 01.0 -0.6
baz=174,SNR=9.2
N35A Tabor 76.44 341 P P 04 02 01.1 -0.8
baz=159,SNR=106
WLVO Wesleyville 76.45 355 P P 04 02 01.6 -0.2
baz=174,SNR=7.9
L40A Anamosa 76.50 345 P P 04 02 01.2 -1.0
baz=163,SNR=42
X16A Lo Mia Camp, P 76.51 327 eP P 04 02 04.1 +1.5
comp=Z,513nm,1.8s
X16A LR LR
comp=Z,13µm,21.0s
LBNH Lisbon 76.51 360 P P 04 02 02.3 +0.1
baz=180,SNR=30
LBNH Lisbon 76.51 360 eP P 04 02 03.2 +1.0
comp=Z,113nm,0.8s
LBNH LR LR
comp=Z,8µm,20.0s
LBNH Lisbon 76.51 360 eP P 04 02 03.2 +1.0
LBNH pmax pmax
comp=Z,113nm,0.8s
LBNH MLR MLR
comp=Z,8µm,20.0s
M37A Trindle Farm, 76.54 343 P P 04 02 01.7 -0.6
baz=160,SNR=75
K43A Burlington 76.54 347 P P 04 02 01.7 -0.7
baz=165
VT1 Waterbury 76.61 359 eP P 04 02 03.6 +0.9
comp=Z,245nm,1.8s
N34A Lincoln 76.65 341 P P 04 02 01.9 -1.2
baz=158,SNR=41
L39A Vinton 76.73 345 P P 04 02 02.6 -0.8
baz=162,SNR=14
M36A Felix, Anita 76.78 342 P P 04 02 02.9 -0.8
baz=160,SNR=96
K42A Prairie Point, 76.80 347 P P 04 02 03.0 -0.8
baz=164,SNR=31
SCIA State Center 76.81 344 P P 04 02 03.3 -0.6
baz=161,SNR=21
SCIA State Center 76.81 344 eP P 04 02 03.5 -0.4
comp=Z,542nm,1.4s
SCIA LR LR
comp=Z,8µm,20.0s
N33A J Bar K, Exete 76.83 340 P P 04 02 03.6 -0.5
baz=158,SNR=13
K41A Shullsburg 76.83 346 P P 04 02 03.1 -0.8
baz=164,SNR=50
SDCO Great Sand Dun 76.84 333 P P 04 02 05.2 +0.7
baz=151,SNR=126
SDCO Great Sand Dun 76.84 333 eP P 04 02 04.6 +0.1
comp=Z,93nm,0.9s
SDCO LR LR
comp=Z,10µm,20.0s
Y14A Wickenburg 76.85 326 eP P 04 02 04.7 +0.3
comp=Z,188nm,1.4s
Y14A LR LR
comp=Z,6µm,18.0s
WVL Waterville 76.86 1 eP P 04 02 05.6 +1.6
comp=Z,646nm,1.6s
KSCO Kaye Shedlock' 76.90 336 P P 04 02 05.4 +0.7
baz=153,SNR=27
KSCO Kaye Shedlock' 76.90 336 eP P 04 02 06.2 +1.5
comp=Z,280nm,1.3s
KSCO LR LR
comp=Z,6µm,21.0s
LONY Lake Ozonia 76.94 358 P P 04 02 04.6 0.0
baz=177,SNR=27
LONY Lake Ozonia 76.94 358 eP P 04 02 05.0 +0.4
comp=Z,267nm,1.3s
LONY LR LR
comp=Z,19µm,22.0s
L38A Oak Wood Farm, 76.97 344 P P 04 02 04.2 -0.6
baz=162,SNR=18
DELO Deloro Mine 76.99 356 P P 04 02 04.5 -0.3
baz=175,SNR=8.7
GLA Glamis 77.02 324 P P 04 02 06.5 +1.2
baz=144,SNR=13
GLA Glamis 77.02 324 eP P 04 02 07.1 +1.7
comp=Z,239nm,1.4s
GLA LR LR
comp=Z,9µm,19.0s
GLA Glamis 77.02 324 eP P 04 02 07.1 +1.7
GLA pmax pmax
comp=Z,239nm,1.4s
GLA MLR MLR
comp=Z,9µm,19.0s
M35A Neola 77.02 342 P P 04 02 04.2 -0.9
baz=159,SNR=24
BRCO Bruce Peninsul 77.04 353 P P 04 02 04.7 -0.4
baz=171,SNR=5.4
EMMW East Machias 77.07 3 eP P 04 02 06.6 +1.3
comp=Z,710nm,1.7s
K40A Colesburg 77.09 345 P P 04 02 04.4 -1.1
baz=163,SNR=29
JFWS Jewell Farm 77.11 346 P P 04 02 05.0 -0.6
baz=164,SNR=16
JFWS Jewell Farm 77.11 346 eP P 04 02 05.6 0.0
comp=Z,494nm,1.4s
JFWS LR LR
comp=Z,13µm,20.0s
JFWS Jewell Farm 77.11 346 eP P 04 02 05.6 0.0
JFWS pmax pmax
comp=Z,494nm,1.4s
JFWS MLR MLR
comp=Z,13µm,20.0s
FRNY Flat Rock 77.13 359 eP P 04 02 06.2 +0.6
comp=Z,138nm,0.9s
FRNY LR LR
comp=Z,13µm,22.0s
L37A Phoenix Point, 77.14 343 P P 04 02 04.9 -0.9
baz=161,SNR=19
J43A Natural Harves 77.21 347 P P 04 02 05.2 -1.0
baz=165,SNR=15
K39A Oelwein 77.26 345 P P 04 02 04.6 -1.8
baz=162,SNR=33
J42A Columbus 77.28 347 P P 04 02 06.0 -0.5

baz=165,SNR=23
M34A Aspy Farms, Fr 77.29 341 P P 04 02 06.0 -0.6
baz=158
IKP In-Ko-Pah, Jac 77.34 323 P P 04 02 08.6 +1.3
baz=143,SNR=12
L36A Harm Buss Farm 77.35 343 P P 04 02 06.1 -0.8
baz=160,SNR=21
SADO Sadowa 77.35 354 eP P 04 02 06.8 0.0
SADO comp=Z,188nm,1.0s LR LR
comp=Z,13µm,22.0s
S22A 4UR Ranch, Cre 77.36 332 P P 04 02 08.2 +0.8
baz=150,SNR=78
S22A 4UR Ranch, Cre 77.36 332 eP P 04 02 08.2 +0.8
S22A comp=Z,126nm,1.2s LR LR
comp=Z,10µm,22.0s
WUAZ Wupatki 77.39 328 P P 04 02 08.7 +1.2
baz=146,SNR=90
WUAZ Wupatki 77.39 328 eP P 04 02 08.2 +0.6
WUAZ comp=Z,199nm,1.1s LR LR
comp=Z,11µm,22.0s
K38A Parkersburg 77.41 344 P P 04 02 05.8 -1.5
baz=162,SNR=12
SWSC Sam W. Stewart 77.42 323 P P 04 02 08.9 +1.4
baz=143,SNR=13
RAR Rarotonga 77.43 253 LR LR 04 27 52.9
comp=Z,12µm,21.9s,baz=154,slow=29
Y12C Blythe 77.43 324 P P 04 02 08.8 +1.3
baz=144,SNR=23
Y12C Blythe 77.43 324 eP P 04 02 09.2 +1.6
Y12C comp=Z,351nm,1.4s LR LR
comp=Z,8µm,20.0s
PLVO Plevna 77.47 356 P P 04 02 07.5 0.0
baz=175,SNR=11
PLVO Plevna 77.47 356 eP P 04 02 08.2 +0.7
PLVO comp=Z,309nm,1.4s LR LR
comp=Z,16µm,21.0s
J41A Loganville 77.50 346 P P 04 02 07.4 -0.4
baz=164,SNR=24
BANO Bancroft 77.51 355 P P 04 02 07.1 -0.6
baz=174,SNR=7.4
M33A Taylor Creek F 77.53 341 P P 04 02 07.1 -0.8
baz=158,SNR=9.9
PKME Peaks-Kenny Pk 77.56 2 P P 04 02 08.3 +0.4
baz=182,SNR=19
PKME Peaks-Kenny Pk 77.56 2 eP P 04 02 09.1 +1.1
PKME comp=Z,988nm,1.9s LR LR
comp=Z,13µm,21.0s
MVCO Mesa Verde 77.57 331 P P 04 02 09.3 +0.7
baz=149,SNR=66
MVCO Mesa Verde 77.57 331 eP P 04 02 09.7 +1.1
MVCO comp=Z,253nm,1.3s LR LR
comp=Z,19µm,20.0s
L35A Bielow Farm, R 77.58 342 P P 04 02 07.7 -0.6
baz=159,SNR=71
I43A Langenfeld Bro 77.65 348 P P 04 02 08.0 -0.5
baz=166
BGNE Belgrade 77.65 340 P P 04 02 08.6 0.0
baz=157,SNR=35
BGNE Belgrade 77.65 340 eP P 04 02 09.1 +0.4
BGNE comp=Z,407nm,1.1s LR LR
comp=Z,8µm,22.0s
BAR Barrett 77.66 322 eP P 04 02 10.6 +1.6
BAR comp=Z,194nm,1.4s LR LR
comp=Z,11µm,19.0s
L34A Svendsen Farm, 77.67 341 P P 04 02 07.9 -0.8
baz=159,SNR=24
J40A Soldiers Grove 77.68 346 P P 04 02 08.2 -0.5
baz=163,SNR=44
PDMCI Parker Dam,Lak 77.69 325 P P 04 02 09.7 +0.7
baz=144,SNR=7.1
MONP2 Monument Peak 77.70 323 P P 04 02 10.2 +0.8
baz=142,SNR=11
K37A Belmond 77.72 344 P P 04 02 08.1 -0.9
baz=161,SNR=22
Q24A Divide 77.77 334 P P 04 02 10.4 +0.7
baz=151,SNR=48
Q24A Divide 77.77 334 eP P 04 02 11.0 +1.2
Q24A comp=Z,175nm,0.8s LR LR
comp=Z,7µm,22.0s
I42A Draeger Farm, 77.79 347 P P 04 02 08.9 -0.5
baz=165,SNR=14
I42A Draeger Farm, 77.79 347 eP P 04 02 09.2 -0.2
I42A comp=Z,170nm,1.0s LR LR
comp=Z,11µm,20.0s
K36A Gilmore City 77.80 343 P P 04 02 08.9 -0.5
baz=160,SNR=69
BC3 Big Chuckawall 77.81 324 P P 04 02 11.0 +1.1
baz=143,SNR=56
J39A Decorah 77.82 345 P P 04 02 08.6 -1.0
baz=163,SNR=47
ALFO Alfred 77.96 358 P P 04 02 10.1 -0.1
baz=177,SNR=25
J38A Wedel Dairy, R 77.98 345 P P 04 02 09.4 -1.0
baz=162,SNR=16
GLMI Grayling 78.00 351 P P 04 02 09.9 -0.6
baz=169
GLMI Grayling 78.00 351 eP P 04 02 10.5 0.0
GLMI comp=Z,166nm,0.8s LR LR
comp=Z,13µm,20.0s
KLBO Killbear Provi 78.02 354 P P 04 02 10.4 -0.2
baz=172,SNR=12
109C Camp Elliot, M 78.05 322 P P 04 02 11.9 +0.9
baz=142
CPE Camp Elliot 78.05 322 eP P 04 02 14.5 +3.5
CPE comp=Z,268nm,1.9s LR LR
comp=Z,13µm,19.0s
IRM Iron Mountain 78.06 324 P P 04 02 12.4 +1.2
baz=144,SNR=28
K35A Storm Lake 78.08 342 P P 04 02 10.5 -0.4
baz=160,SNR=34
L33A Hoskins 78.10 341 P P 04 02 10.4 -0.7
baz=158,SNR=12
I40A Norwalk 78.13 346 P P 04 02 10.5 -0.8
baz=164,SNR=16
I41A Arkdale 78.14 347 P P 04 02 10.7 -0.6
baz=164,SNR=20
H43A Windswept, Lux 78.15 348 P P 04 02 10.7 -0.6
baz=166
H43A Windswept, Lux 78.15 348 eP P 04 02 11.2 -0.1
H43A comp=Z,280nm,1.2s LR LR
comp=Z,8µm,21.0s
L32A Elgin 78.16 340 P P 04 02 11.3 -0.2
baz=157,SNR=19
W13A Hualapai Mount 78.21 326 eP P 04 02 13.6 +1.4
W13A comp=Z,299nm,1.6s LR LR
comp=Z,5µm,20.0s
J37A Redenius Farm, 78.22 344 P P 04 02 11.2 -0.5
baz=161,SNR=22
K34A Le Mars 78.27 342 P P 04 02 11.6 -0.5
baz=159,SNR=19
I39A Houston 78.28 345 P P 04 02 11.1 -1.0
baz=163,SNR=54
XPFO Piæon Flat 78.28 323 eP P 04 02 14.0 +1.5
XPFO comp=Z,264nm,1.3s LR LR
comp=Z,15µm,20.0s
PFO Pinyon Flats O 78.28 323 P P 04 02 14.0 +1.5
baz=142,SNR=35
PFO Pinyon Flats O 78.28 323 eP P 04 02 14.0 +1.5
PFO comp=Z,225nm,1.3s LR LR
comp=Z,14µm,20.0s
PFO Pinyon Flats O 78.28 323 eP P 04 02 14.0 +1.5
PFO comp=Z,225nm,1.3s pmax pmax
PFO comp=Z,14µm,20.0s MLR MLR
NEE2 Needles Airpor 78.30 325 P P 04 02 12.7 +0.3
baz=144
H42A Shiocton 78.32 348 P P 04 02 11.7 -0.6
baz=165,SNR=12
H42A Shiocton 78.32 348 eP P 04 02 12.2 0.0
comp=Z,302nm,1.4s

H42A LR LR
comp=Z,8µm,20.0s
BELC Belle Mtn. Jos 78.36 324 P P 04 02 14.5 +1.5
baz=143,SNR=24
PV01 Paradox Valley 78.39 331 eP P 04 02 14.2 +1.1
J36A Seneca 1, Swea 78.42 343 P P 04 02 12.2 -0.7
baz=160,SNR=98
K33A Hardington 78.43 341 P P 04 02 12.7 -0.2
baz=158,SNR=21
OGNE Ogallala 78.44 337 P P 04 02 13.3 +0.2
baz=154,SNR=11
OGNE Ogallala 78.44 337 eP P 04 02 14.1 +1.0
OGNE comp=Z,264nm,1.4s LR LR
comp=Z,8µm,22.0s
WI01 McKinley Avenu 78.48 348 PFAKE 04 02 30.0 +17
WI01 LR LR
comp=Z,9µm,21.0s
WI04 River Road, Cl 78.49 348 eP P 04 02 13.0 -0.2
WI04 comp=Z,166nm,1.1s LR LR
comp=Z,10µm,22.0s
WI03 Lunz Road, Cli 78.50 348 eP P 04 02 13.9 +0.7
WI03 comp=Z,173nm,1.0s LR LR
comp=Z,9µm,22.0s
TRQ Mont Tremblant 78.54 358 eP P 04 02 13.6 +0.1
PV05 Paradox Valley 78.56 331 eP P 04 02 14.9 +0.8
U15A North Rim 78.56 328 eP P 04 02 15.2 +1.0
comp=Z,146nm,1.1s
U15A LR LR
comp=Z,11µm,19.0s
I38A Scanlan Farm, 78.63 345 P P 04 02 13.1 -0.9
baz=162,SNR=49
H41A Junction City 78.63 347 P P 04 02 13.1 -0.9
baz=164,SNR=9.0
H41A Junction City 78.63 347 eP P 04 02 14.0 0.0
H41A comp=Z,108nm,0.9s LR LR
comp=Z,11µm,20.0s
MURC Murrieta 78.65 323 P P 04 02 15.3 +0.9
baz=142,SNR=21
SMCO Snowmass 78.65 333 eP P 04 02 15.2 +0.5
SMCO comp=Z,343nm,1.2s LR LR
comp=Z,10µm,20.0s
J35A Milford 78.67 343 P P 04 02 13.3 -0.9
baz=160,SNR=20
ISCO Idaho Springs 78.68 334 P P 04 02 15.5 +0.8
baz=151,SNR=95
ISCO Idaho Springs 78.68 334 eP P 04 02 15.4 +0.6
ISCO comp=Z,294nm,1.6s LR LR
comp=Z,6µm,19.0s
ISCO Idaho Springs 78.68 334 eP P 04 02 15.4 +0.6
ISCO pmax pmax
ISCO comp=Z,294nm,1.6s MLR MLR
comp=Z,6µm,19.0s
PV04 Paradox Valley 78.75 331 eP P 04 02 15.5 +0.4
K32A Verdigre 78.75 340 P P 04 02 14.4 -0.4
baz=157,SNR=15
H40A Chili 78.78 346 P P 04 02 13.8 -1.0
baz=164,SNR=14
LDFC Landfair 78.78 325 eP P 04 02 17.1 +1.8
LDFC comp=Z,489nm,1.6s LR LR
comp=Z,10µm,20.0s
J34A George 78.79 342 P P 04 02 14.4 -0.5
baz=159,SNR=30
PV10 Paradox Valley 78.79 331 eP P 04 02 15.7 +0.3
GMRC Granite Mounta 78.82 324 P P 04 02 16.5 +1.1
baz=143,SNR=48
I37A Lemond, Waseca 78.85 344 P P 04 02 14.5 -0.7
baz=161,SNR=58
SCI2 San Clemente I 78.87 321 P P 04 02 14.1 -1.5
baz=141
G43A Wallace 78.90 348 P P 04 02 14.9 -0.5
baz=166,SNR=5.7
G43A Wallace 78.90 348 eP P 04 02 15.6 +0.1
G43A comp=Z,391nm,1.6s LR LR
comp=Z,12µm,22.0s
PV09 Paradox Valley 78.93 331 eP P 04 02 17.5 +1.3
K31A O'Neill 78.94 340 P P 04 02 15.7 0.0
baz=157,SNR=140
F46A Macinaw City C 78.96 351 P P 04 02 15.0 -0.7
baz=169
F45A CMU Biological 78.97 350 P P 04 02 15.1 -0.7
baz=168
I36A Fitzsimmons Fa 79.00 344 P P 04 02 15.0 -1.0
baz=161,SNR=55
PQI Presque Isle 79.01 2 eP P 04 02 16.9 +0.9
comp=Z,889nm,1.9s
G42A Montain 79.01 348 P P 04 02 15.8 -0.3
baz=165,SNR=13
G42A Mountain 79.01 348 eP P 04 02 16.1 +0.1
G42A comp=Z,132nm,0.8s LR LR
comp=Z,8µm,20.0s
H39A Augusta 79.02 346 P P 04 02 15.6 -0.5
baz=163,SNR=11
BBRC Big Bear Solar 79.03 323 P P 04 02 18.1 +1.4
baz=142,SNR=17
I35A Creekview Farm 79.08 343 P P 04 02 15.8 -0.7
baz=160,SNR=152
J33A Davis 79.09 341 P P 04 02 15.6 -0.9
baz=158,SNR=80
G41A Antigo 79.12 347 P P 04 02 16.1 -0.5
baz=165,SNR=12
CIS Catalina Islan 79.13 322 P P 04 02 17.9 +0.9
baz=141
HEC Hector,Ludlow 79.19 324 P P 04 02 19.0 +1.6
baz=143,SNR=36
TSUM Tsumeb 79.20 106 P P 04 02 18.2 +0.1
comp=Z,247nm,0.9s,baz=231,slow=5.9,SNR=100
TSUM Tsumeb 79.20 106 eP P 04 02 18.1 +0.1
TSUM comp=Z,305nm,0.9s LR LR
comp=Z,67µm,20.0s
H38A Maiden Rock 79.22 345 P P 04 02 16.6 -0.6
baz=162,SNR=13
H37A Dierke Farm, C 79.28 345 P P 04 02 16.9 -0.7
baz=162,SNR=20
KNB Kanab 79.29 328 eP P 04 02 19.2 +1.2
KNB comp=Z,374nm,1.4s LR LR
comp=Z,8µm,19.0s
KNB Kanab 79.29 328 eP P 04 02 19.2 +1.2
KNB pmax pmax
KNB comp=Z,374nm,1.4s MLR MLR
comp=Z,8µm,19.0s
FMP Fort Macarthur 79.31 322 P P 04 02 18.6 +0.6
baz=141
G40A Rib Lake 79.37 347 P P 04 02 17.5 -0.5
baz=164
F43A Flat Rock, Esc 79.37 349 P P 04 02 17.6 -0.4
baz=166,SNR=5.5
J32A Parkston 79.38 341 P P 04 02 17.6 -0.5
baz=158,SNR=65
ECSD EROS Data Cent 79.38 342 P P 04 02 17.8 -0.4
baz=159,SNR=212
ECSD EROS Data Cent 79.38 342 eP P 04 02 17.5 -0.7
ECSD comp=Z,175nm,0.9s LR LR
comp=Z,9µm,21.0s
BFSC Mount Baldy Ra 79.39 323 P P 04 02 19.5 +0.9
baz=142,SNR=13
F44A Big Bay de Noc 79.39 350 P P 04 02 17.5 -0.6
baz=167,SNR=7.6
PKCU Pink Cliffs 79.41 328 eP P 04 02 20.4 +1.6
comp=Z,165nm,1.3s
F42A Maple Grove Fa 79.46 348 P P 04 02 18.0 -0.5
baz=166,SNR=9.0
I34A Hadley 79.47 342 P P 04 02 18.3 -0.4
baz=159,SNR=22
TUQ Turquoise Moun 79.47 324 P P 04 02 20.2 +1.2
baz=143,SNR=51
LCMT Little Creek M 79.47 327 eP P 04 02 20.1 +1.1
LCMT comp=Z,80nm,1.2s LR LR
comp=Z,8µm,19.0s
H36A Jessenland, He 79.50 344 P P 04 02 18.6 -0.2
baz=161,SNR=53
J31A Geddes 79.55 340 P P 04 02 18.7 -0.4
baz=157,SNR=25
RRX Edison Barstow 79.56 323 P P 04 02 19.9 +0.6
baz=142
G39A Holcombe 79.58 346 P P 04 02 18.5 -0.6
baz=163,SNR=12
MWC Mount Wilson 79.58 322 eP P 04 02 21.3 +1.6
comp=Z,225nm,1.4s
MWC LR LR
comp=Z,11µm,21.0s
MWC Mount Wilson 79.58 322 eP P 04 02 21.3 +1.6
MWC pmax pmax
MWC comp=Z,225nm,1.4s MLR MLR
comp=Z,11µm,21.0s
E45A Wooded Hills, 79.58 350 P P 04 02 19.0 -0.1
baz=168
SNCC San Nicolas Is 79.60 321 P P 04 02 19.9 +0.4
baz=140
SNCC San Nicolas Is 79.60 321 eP P 04 02 20.5 +1.0
G38A Ridgeland 79.61 346 P P 04 02 18.2 -1.1
baz=163,SNR=18
PASC Pasadena Art C 79.61 322 eP P 04 02 23.1 +3.5
comp=Z,192nm,1.3s
PASC LR LR
comp=Z,9µm,21.0s
F41A Three Lakes 79.61 348 P P 04 02 19.1 -0.3
baz=165,SNR=9.2
KOWA Kowa 79.71 65 P P 04 02 20.2 -0.4
comp=Z,197nm,0.9s,baz=230,slow=4.2,SNR=141
KOWA LR LR 04 36 21.8
comp=Z,136µm,19.9s,baz=234,slow=35
KOWA Kowa 79.71 65 eP P 04 02 20.2 -0.4
comp=Z,496nm,1.2s
I33A Coleman 79.72 342 P P 04 02 19.2 -0.7
baz=158,SNR=20
DECC Green Verdugo 79.75 322 P P 04 02 21.4 +1.0
baz=141
N23A Red Feather La 79.76 334 P P 04 02 21.2 +0.6
baz=151,SNR=28
N23A Red Feather La 79.76 334 eP P 04 02 20.0 -0.6
N23A comp=Z,221nm,1.4s LR LR
comp=Z,7µm,20.0s
GSC Goldstone, Bar 79.80 324 P P 04 02 21.7 +1.0
baz=142,SNR=28
GSC Goldstone, Bar 79.80 324 eP P 04 02 22.2 +1.5
GSC comp=Z,204nm,1.4s LR LR
comp=Z,12µm,22.0s
GSC Goldstone, Bar 79.80 324 eP P 04 02 22.2 +1.5
GSC pmax pmax
GSC comp=Z,205nm,1.4s MLR MLR
comp=Z,12µm,22.0s
H35A Sunnyside Ranc 79.83 343 P P 04 02 19.9 -0.7
baz=160,SNR=149
MTPU Mount Pierson 79.85 329 eP P 04 02 22.2 +1.0
MTPU comp=Z,85nm,1.0s LR LR
comp=Z,15µm,22.0s
SPMN Marine on St. 79.86 345 P P 04 02 20.0 -0.7
baz=162,SNR=33
SPMN Marine on St. 79.86 345 eP P 04 02 19.6 -1.1
SPMN comp=Z,256nm,1.4s LR LR
comp=Z,11µm,21.0s
E43A Lone Tree Farm 79.88 349 P P 04 02 20.7 -0.1
baz=167
I32A Karley and Nic 79.88 341 P P 04 02 20.5 -0.4
baz=158,SNR=29
SZCU Shurtz Canyon 79.88 328 eP P 04 02 23.1 +1.8
comp=Z,398nm,1.7s
SZCU LR LR
comp=Z,12µm,22.0s
PHWY Pilot Hill 79.94 335 eP P 04 02 20.6 -1.0
comp=Z,141nm,1.1s
PHWY LR LR
comp=Z,5µm,22.0s
E44A Grand Marais A 79.95 350 P P 04 02 21.6 +0.4
baz=168
SHPR Sheep Range 79.96 326 eP P 04 02 23.1 +1.5
comp=Z,143nm,1.1s
SHPR LR LR
comp=Z,7µm,22.0s
CCUT Cedar City 79.97 327 eP P 04 02 23.5 +1.8
comp=Z,267nm,1.3s
CCUT LR LR
comp=Z,11µm,22.0s
COWI Conover 79.97 348 eP P 04 02 20.8 -0.5
comp=Z,197nm,1.4s
COWI LR LR
comp=Z,8µm,21.0s
O20A White River Ci 79.97 332 P P 04 02 22.5 +0.9
baz=149,SNR=36
O20A White River Ci 79.97 332 eP P 04 02 22.6 +0.9
comp=Z,169nm,1.1s
O20A LR LR
comp=Z,15µm,22.0s
F40A Park Falls 79.98 347 P P 04 02 21.0 -0.3
baz=164,SNR=15
SHOC Shoshone, Teco 80.01 325 P P 04 02 22.7 +1.0
baz=143
BLG Laguna Peak, P 80.02 322 P P 04 02 22.8 +1.0
baz=141
SRU San Rafael Swe 80.03 330 eP P 04 02 22.6 +0.6
comp=Z,122nm,1.0s
SRU LR LR
comp=Z,16µm,19.0s
SRU San Rafael Swe 80.03 330 eP P 04 02 22.6 +0.6
SRU pmax pmax
SRU comp=Z,122nm,1.0s MLR MLR
comp=Z,16µm,19.0s
H34A Spellman Lake, 80.03 343 P P 04 02 21.2 -0.5
baz=159,SNR=128
EDW2 Edwards Air Fo 80.06 323 P P 04 02 22.5 +0.4
baz=142,SNR=27
E42A Champion 80.08 349 P P 04 02 21.4 -0.4
baz=166,SNR=9.6
G36A St. Michael 80.08 344 P P 04 02 21.3 -0.5
baz=161,SNR=18
F39A Loretta 80.13 346 P P 04 02 21.5 -0.7
baz=163,SNR=18
Q16A Castle Valley 80.14 330 eP P 04 02 24.1 +1.5
comp=Z,552nm,1.7s
Q16A LR LR
comp=Z,16µm,21.0s
I31A Royce, Wessing 80.17 341 P P 04 02 22.0 -0.4
baz=157,SNR=19
SCZ2 Santa Cruz Isl 80.23 321 P P 04 02 24.1 +1.1
baz=140
OSI Osito Audit: C 80.23 322 P P 04 02 23.8 +0.8
baz=141
OSI Osito Audit: C 80.23 322 PFAKE 04 02 40.0 +17
OSI LR LR
comp=Z,9µm,20.0s
MSU Marysvale 80.23 329 eP P 04 02 24.2 +1.0
MSU Marysvale 80.23 329 eP P 04 02 24.2 +1.0
G35A Watkins 80.24 344 P P 04 02 22.2 -0.6
baz=160,SNR=27
E41A Kenton 80.29 348 P P 04 02 22.7 -0.3
baz=165,SNR=7.7
H33A Prehn Over Nor 80.30 342 P P 04 02 22.8 -0.3
baz=158,SNR=113
F37A Hinrichs Farm, 80.30 345 P P 04 02 22.5 -0.5
baz=162,SNR=36
H32A Carlson Farm, 80.31 342 P P 04 02 22.4 -0.8
baz=158,SNR=52
P18A Preston Nutter 80.35 331 eP P 04 02 24.7 +0.8
P18A comp=Z,139nm,0.8s LR LR
comp=Z,16µm,20.0s
BOSA Boshof 80.35 118 iP P 04 02 24.2 +0.1
BOSA Boshof 80.35 118 P P 04 02 23.6 -0.5
comp=Z,245nm,1.0s,baz=236,slow=5.9,SNR=116
BOSA LR LR 04 35 30.9
comp=Z,76µm,18.7s,baz=230,slow=34
BOSA Boshof 80.35 118 eP P 04 02 23.7 -0.5
comp=Z,259nm,0.9s
BOSA Boshof 80.35 118 iP P 04 02 24.2 +0.1
BOSA Boshof 80.35 118 eP P 04 02 23.7 -0.4
BOSA pmax pmax
comp=Z,259nm,0.9s
F38A Pierce - Schro 80.36 346 P P 04 02 23.0 -0.4
baz=163,SNR=38
LRMC Laurel Mtn Rad 80.38 323 P P 04 02 25.0 +1.1
baz=142,SNR=18
MIR Mirnyy 80.42 174 iP P 04 02 24.0 +0.4
MIR ePS PnS 04 13 42.0 +27
MIR pmax pmax

comp=Z,168nm,1.0s
MIR pmax pmax
comp=Z,7µm,8.0s
MIR MLR MLR
comp=N,24µm,18.0s
MIR MLR MLR
comp=E,14µm,18.0s
MIR MLR MLR
comp=Z,28µm,18.0s
P17A Butcher Ranch, 80.42 330 *eP* **P 04 02 24.9 +0.8**
comp=Z,154nm,1.2s
P17A LR LR
comp=Z,15µm,19.0s
TCRU Three Creeks R 80.43 329 PFAKE 04 02 40.0 +16
TCRU LR LR
comp=Z,15µm,21.0s
E40A Wakefield 80.44 347 P **P 04 02 23.8 0.0**
baz=164,SNR=14
TMUT Trail Mountain 80.47 330 *eP* **P 04 02 25.8 +1.2**
comp=Z,244nm,1.6s
TMUT LR LR
comp=Z,14µm,19.0s
E39A Mellen 80.50 347 P **P 04 02 23.3 -0.8**
baz=164,SNR=19
G34A Benson 80.54 343 P **P 04 02 23.6 -0.7**
baz=160,SNR=39
H31A Wolsey 80.57 341 P **P 04 02 23.7 -0.9**
baz=157,SNR=31
SBC Santa Barbara 80.61 321 P **P 04 02 25.4 +0.4**
baz=140
F36A Milaca 80.63 345 P **P 04 02 24.1 -0.7**
baz=161,SNR=65
SUSD Miller 80.67 340 P **P 04 02 24.8 -0.3**
baz=157,SNR=18
ARVC Arvin 80.69 322 P **P 04 02 26.5 +1.1**
baz=141
G33A Ortonville 80.69 342 P **P 04 02 24.5 -0.7**
baz=159,SNR=34
MPMC Manual Prospec 80.73 324 P **P 04 02 26.6 +0.7**
baz=142,SNR=33
FURC Furnace Creek, 80.75 325 P **P 04 02 27.0 +1.4**
baz=143,SNR=41
D41A Chassel 80.80 348 P **P 04 02 25.9 +0.2**
baz=165,SNR=12
TPNV Topopah Spring 80.83 325 P **P 04 02 27.7 +1.4**
baz=143,SNR=42
TPNV Topopah Spring 80.83 325 *eP* **P 04 02 27.9 +1.6**
comp=Z,371nm,1.6s
TPNV LR LR
comp=Z,12µm,19.0s
TPNV Topopah Spring 80.83 325 *eP* **P 04 02 27.9 +1.6**
TPNV pmax pmax
comp=Z,371nm,1.6s
TPNV MLR MLR
comp=Z,12µm,19.0s
H07S1 FLORES T-PHASE 80.84 31 *eP* **P 04 02 27.7 +1.6**
F35A Swanville 80.86 344 P **P 04 02 25.6 -0.5**
baz=160,SNR=40
E38A The Farm, Brul 80.92 346 P **P 04 02 25.9 -0.4**
baz=163,SNR=10
RWWY Rawlins 80.92 334 *eP* **P 04 02 27.6 +0.8**
comp=Z,194nm,1.1s
RWWY LR LR
comp=Z,8µm,21.0s
ISA Isabella, Lake 80.92 323 P **P 04 02 28.0 +1.3**
baz=141,SNR=33
ISA Isabella, Lake 80.92 323 *eP* **P 04 02 28.2 +1.5**
comp=Z,191nm,1.4s
ISA LR LR
comp=Z,10µm,21.0s
ISA Isabella, Lake 80.92 323 *eP* **P 04 02 28.2 +1.5**
ISA pmax pmax
comp=Z,191nm,1.4s
ISA MLR MLR
comp=Z,10µm,21.0s
DAC Darwin (Calif) 80.96 324 *eP* **P 04 02 28.3 +1.2**
comp=Z,304nm,1.4s
DAC LR LR
comp=Z,12µm,22.0s
DAC Darwin (Calif) 80.96 324 *eP* **P 04 02 28.3 +1.2**
DAC pmax pmax
comp=Z,304nm,1.4s
DAC MLR MLR
comp=Z,12µm,22.0s
F34A Alexandria 80.97 343 P **P 04 02 26.1 -0.5**
baz=160,SNR=30
PKM Mcpherson Peak 81.01 322 P **P 04 02 28.3 +0.9**
baz=140,SNR=32
G32A Webster 81.03 342 P **P 04 02 26.0 -1.0**
baz=158,SNR=37
E37A Wrenshall 81.05 346 P **P 04 02 26.4 -0.7**
baz=162
G31A Conde 81.19 341 P **P 04 02 27.0 -0.9**
baz=157,SNR=13
E36A McGregor 81.19 345 P **P 04 02 27.3 -0.5**
baz=162,SNR=62
MPU Maple Canyon 81.25 330 *eP* **P 04 02 29.3 +0.8**
comp=Z,75nm,1.0s
MPU LR LR
comp=Z,18µm,21.0s
F33A 5 Mile Ranch, 81.26 343 P **P 04 02 27.6 -0.6**
baz=159,SNR=32
HOR Horta 81.28 33 *eP* **P 04 02 29.9 +1.5**
PCAN Candelaria 81.30 33 *eP* **P 04 02 32.1 +3.5**
CWC Cottonwood Cre 81.33 324 P **P 04 02 30.2 +1.2**
baz=142
PCED Cedros 81.33 33 *eP* **P 04 02 31.2 +2.5**
comp=Z,90nm,1.0s
PICO Pico 81.36 33 *eP* **P 04 02 31.7 +2.8**
comp=Z,90nm,1.1s
VES Vestal, Richgr 81.37 323 P **P 04 02 29.9 +0.9**
baz=141,SNR=32
CASY Casey 81.39 181 *eP* **P 04 02 29.4 +0.7**
comp=Z,180nm,0.9s
CASY LR LR
comp=Z,18µm,22.0s
NLU North Lily Min 81.39 330 *eP* **P 04 02 30.2 +0.9**
comp=Z,238nm,1.5s
NLU LR LR
comp=Z,18µm,21.0s
GRAC Grapevine Rang 81.41 325 P **P 04 02 30.8 +1.5**
baz=142,SNR=10
SMMC Simmler 81.43 322 P **P 04 02 31.1 +1.7**
baz=140,SNR=13
E35A Pequot Lakes 81.48 344 P **P 04 02 29.2 -0.1**
baz=161,SNR=48
K22A Casper 81.50 335 P **P 04 02 30.1 +0.3**
baz=151,SNR=45
K22A Casper 81.50 335 *eP* **P 04 02 30.5 +0.7**
comp=Z,544nm,1.6s
K22A LR LR
comp=Z,9µm,21.0s
F32A Veblen 81.50 342 P **P 04 02 28.6 -0.8**
baz=158,SNR=8.6
PMAN Manadas 81.62 33 *eP* **P 04 02 34.4 +4.2**
comp=Z,318nm,1.0s
ROSA Rosais 81.62 33 *eP* **P 04 02 32.1 +1.9**
comp=Z,186nm,0.9s
ROSA Rosais 81.62 33 *eP* **P 04 02 31.9 +1.6**
comp=Z,149nm,0.9s
ROSA LR LR
comp=Z,37µm,22.0s
E34A Wadena 81.62 344 P **P 04 02 29.4 -0.7**
baz=160
D37A Cotton 81.62 346 P **P 04 02 29.7 -0.3**
baz=162,SNR=17
R11A Troy Canyon, C 81.64 326 P **P 04 02 31.6 +1.0**
baz=144,SNR=72
R11A Troy Canyon, C 81.64 326 *eP* **P 04 02 31.9 +1.3**
comp=Z,140nm,1.3s
JLU Jordanelle 81.66 330 *eP* **P 04 02 31.4 +0.7**
comp=Z,366nm,1.9s
JLU LR LR
comp=Z,16µm,20.0s
PSMA Santa Maria 81.72 36 *eP* **P 04 02 32.1 +1.3**
comp=Z,96nm,0.8s
C40A Isle Royale Na 81.73 348 P **P 04 02 30.1 -0.5**
baz=165
PSMN Pico do Norte, 81.76 36 *eP* **P 04 02 32.6 +1.5**
comp=Z,112nm,1.1s
F31A Hecla 81.79 342 P **P 04 02 30.3 -0.6**
baz=157,SNR=68
D36A Goodland 81.80 345 P **P 04 02 30.0 -0.9**
baz=162,SNR=5.2
C39A Grand Marais 81.81 347 P **P 04 02 30.3 -0.7**
baz=164,SNR=15
E33A Westby DABS, E 81.81 343 P **P 04 02 30.3 -0.7**
baz=159,SNR=28

RCTC Rector, Farmer 81.81 323 P **P 04 02 30.6 -0.7**
baz=141
CTU Camp Tracy 81.86 330 *eP* **P 04 02 32.3 +0.6**
comp=Z,65nm,1.1s
CTU LR LR
comp=Z,13µm,20.0s
TIN Tinemaha, Big 81.89 324 P **P 04 02 33.1 +1.3**
baz=142,SNR=14
PAGB Antelope Grade 81.89 322 *eP* **P 04 02 33.4 +1.6**
comp=Z,152nm,1.1s
PAGB LR LR
comp=Z,8µm,20.0s
D35A Remer 81.90 345 P **P 04 02 30.8 -0.7**
baz=161,SNR=61
DUG Dugway, Tooele 81.90 329 P **P 04 02 32.4 +0.4**
baz=146,SNR=38
DUG Dugway, Tooele 81.90 329 *eP* **P 04 02 32.8 +0.9**
comp=Z,149nm,1.2s
DUG LR LR
comp=Z,16µm,22.0s
DUG Dugway, Tooele 81.90 329 *eP* **P 04 02 32.8 +0.9**
DUG pmax pmax
comp=Z,149nm,1.2s
DUG MLR MLR
comp=Z,16µm,22.0s
C38A Sawbill Land. 81.92 347 P **P 04 02 30.6 -1.1**
baz=163,SNR=16
RSSD Black Hills 81.94 337 P **P 04 02 32.3 +0.2**
baz=153
RSSD Black Hills 81.94 337 *eP* **P 04 02 32.5 +0.4**
comp=Z,148nm,1.1s
RSSD LR LR
comp=Z,7µm,22.0s
RSSD Black Hills 81.94 337 *eP* **P 04 02 32.5 +0.4**
RSSD pmax pmax
comp=Z,148nm,1.1s
RSSD MLR MLR
comp=Z,7µm,22.0s
PGRA Graciosa 81.99 33 *eP* **P 04 02 33.9 +1.7**
comp=Z,98nm,1.4s
ADH Angra Heroismo 82.03 34 *eP* **P 04 02 33.6 +1.2**
comp=Z,59nm,0.8s
PDA Ponta Delgada 82.05 35 *eP* **P 04 02 35.7 +3.2**
comp=Z,108nm,1.2s
TCUT Toone Canyon 82.08 331 *eP* **P 04 02 33.8 +0.8**
comp=Z,834nm,1.8s
TCUT LR LR
comp=Z,22µm,19.0s
PSET Sete Cidades 82.09 35 *eP* **P 04 02 34.8 +2.0**
comp=Z,128nm,1.0s
C37A Embarrass 82.12 346 P **P 04 02 31.7 -0.9**
baz=162,SNR=18
CMLA Cha da Macela 82.14 35 *eP* **P 04 02 32.8 -0.2**
comp=Z,59nm,0.9s
CMLA Cha da Macela 82.14 35 *eP* **P 04 02 34.9 +1.9**
comp=Z,190nm,1.3s
CMLA LR LR
comp=Z,26µm,20.0s
CMLA Cha da Macela 82.14 35 *eP* **P 04 02 34.9 +1.9**
CMLA pmax pmax
comp=Z,189nm,1.3s
CMLA MLR MLR
comp=Z,26µm,20.0s
E32A Braaten, Kindr 82.16 343 P **P 04 02 32.5 -0.4**
baz=158,SNR=17
D34A Park Rapids 82.16 344 P **P 04 02 32.2 -0.7**
baz=160,SNR=32
PCALD Caldeiras da R 82.18 35 *eP* **P 04 02 34.8 +1.6**
EYMN Ely 82.19 347 P **P 04 02 32.0 -1.1**
baz=163,SNR=15
EYMN Ely 82.19 347 *eP* **P 04 02 33.0 -0.1**
comp=Z,179nm,1.1s
EYMN LR LR
comp=Z,8µm,21.0s
C36A Pine Crest Far 82.28 346 P **P 04 02 32.6 -0.9**
baz=162,SNR=28
BART Pico Bartolome 82.32 35 *eP* **P 04 02 33.7 -0.4**
comp=Z,144nm,1.0s
E31A Nome 82.34 342 P **P 04 02 33.3 -0.5**
baz=158,SNR=32
D33A AnnSam, Waubun 82.37 344 P **P 04 02 33.4 -0.6**
baz=159,SNR=22
C35A Jirik Farms, M 82.47 345 P **P 04 02 33.9 -0.6**
baz=161,SNR=45
LBTB Lobatse 82.51 115 P **P 04 02 35.2 -0.4**
comp=Z,213nm,1.0s,baz=245,slow=6.2,SNR=118
LBTB Lobatse 82.51 115 *eP* **P 04 02 35.1 -0.5**
comp=Z,715nm,1.5s
PMPB Monarch Peak 82.54 322 *eP* **P 04 02 38.7 +3.4**
comp=Z,643nm,1.8s
PMPB LR LR
comp=Z,10µm,19.0s
HWUT Hardware Ranch 82.55 331 *eP* **P 04 02 35.7 +0.3**
comp=Z,266nm,1.4s
HWUT LR LR
comp=Z,20µm,19.0s
BGU Big Grassy Mou 82.60 330 *eP* **P 04 02 36.2 +0.6**
comp=Z,267nm,1.7s
BGU LR LR
comp=Z,14µm,21.0s
C34A RKJ Ranch, Bem 82.63 344 P **P 04 02 34.6 -0.7**
baz=160,SNR=32
MLAC Mammoth, Mammo 82.64 324 P **P 04 02 36.6 +0.7**
baz=141
D32A Dogwood Acres, 82.65 343 P **P 04 02 34.9 -0.5**
baz=158,SNR=23
SPUT South Promonto 82.67 330 *eP* **P 04 02 36.8 +0.8**
comp=Z,282nm,1.4s
SPUT LR LR
comp=Z,10µm,21.0s
BW06 Boulder Array 82.73 333 P **P 04 02 36.2 -0.1**
baz=148,SNR=14
BW06 Boulder Array 82.73 333 *eP* **P 04 02 35.8 -0.5**
comp=Z,72nm,1.2s
BW06 LR LR
comp=Z,18µm,21.0s
PD31 Pinedale Array 82.73 333 *eP* **P 04 02 36.2 -0.1**
PDAR Pinedale Array 82.73 333 P **P 04 02 36.0 -0.3**
comp=Z,8.5nm,0.7s,baz=125,slow=6.4,SNR=41
PDAR PKKPbc **PKKPbc 04 20 59.8 -2.3**
comp=Z,2.8nm,0.6s,baz=111,slow=0.5,SNR=17
PDAR PKPPKP **P'P'df 04 28 58.7 -2.1**
comp=Z,0.7nm,0.9s,baz=341,slow=3.1,SNR=3.9
PDAR Pinedale Array 82.73 333 *eP* **P 04 02 35.0 -1.3**
PDAR PKKPbc **PKKPbc 04 20 59.8 -2.3**
PDAR P'P' 04 28 58.7
D31A Mcclaflin, Tow 82.75 342 P **P 04 02 35.4 -0.5**
baz=158,SNR=40
MDPB Devils Postpil 82.76 324 *eP* **P 04 02 37.6 +1.0**
comp=Z,83nm,1.2s
MDPB LR LR
comp=Z,12µm,21.0s
PMOZ Porto Moniz, M 82.86 44 *eP* **P 04 02 36.6 -0.4**
comp=Z,344nm,1.5s
PMOZ Porto Moniz, M 82.86 44 *e*SKS **S 04 12 56.3 +2.7**
PMOZ Porto Moniz, M 82.86 44 *e*LQ LQ 04 24 47.9
PMOZ *e*LR LR 04 29 33.7
comp=Z,22µm,22.0s
FUL Funchal 82.91 44 *eP* **P 04 02 38.7 +1.6**
comp=Z,272nm,1.4s
NV11 Mina Array Sit 82.93 325 *eP* **P 04 02 38.2 +0.9**
comp=Z,5.5nm,1.1s
C33A Trail 82.93 344 P **P 04 02 36.2 -0.7**
baz=160,SNR=22
MCQ Macquarie Isla 82.93 207 PFAKE 04 02 50.0 +13
MCQ LR LR
comp=Z,8µm,19.0s
PMAR Madeira 82.95 44 *eP* **P 04 02 37.3 -0.3**
comp=Z,350nm,1.6s
NV01 Mina Array Sit 83.00 325 *eP* **P 04 02 38.0 +0.2**
NVAR Mina Array Bea 83.00 325 P **P 04 02 38.8 +1.0**
comp=Z,32nm,0.8s,baz=155,slow=5.9,SNR=90
NVAR PKKPbc **PKKPbc 04 21 02.1 +0.9**
comp=Z,5.5nm,0.9s,baz=290,slow=1.7,SNR=14
NVAR PKPPKP **P'P'df 04 29 01.4 +0.5**
comp=Z,1.0nm,0.8s,baz=254,slow=4.3,SNR=4.3
B35A Bob, Littlefor 83.04 345 P **P 04 02 36.8 -0.6**
baz=161,SNR=41
C32A Crookston 83.17 343 P **P 04 02 37.7 -0.4**
baz=159,SNR=7.4
HVU Hansel Valley 83.20 330 *eP* **P 04 02 38.8 +0.2**
comp=Z,89nm,1.0s
HVU LR LR
comp=Z,10µm,20.0s
HVU Hansel Valley 83.20 330 *eP* **P 04 02 38.8 +0.2**
HVU pmax pmax
comp=Z,89nm,1.0s
HVU MLR MLR

comp=Z,10µm,20.0s
RYN Ryan 83.26 325 *eP* **P 04 02 40.5 +1.4**
comp=Z,99nm,1.1s
RYN LR LR
comp=Z,7µm,22.0s
SAO San Andreas Ge 83.30 322 *eP* **P 04 02 42.1 +3.0**
comp=Z,45nm,1.0s
SAO LR LR
comp=Z,9µm,20.0s
SAO San Andreas Ge 83.30 322 *eP* **P 04 02 42.1 +3.0**
SAO pmax pmax
comp=Z,45nm,1.0s
SAO MLR MLR
comp=Z,9µm,20.0s
AHID Auburn Hatcher 83.34 332 *eP* **P 04 02 41.0 +1.6**
comp=Z,464nm,2.0s
AHID LR LR
comp=Z,14µm,22.0s
B34A Aery, Baudette 83.36 345 P **P 04 02 38.3 -0.7**
baz=160,SNR=32
B33A Robert and Kas 83.37 344 P **P 04 02 38.2 -1.0**
baz=160,SNR=15
KVN Kaiserville 83.39 325 PFAKE 04 02 50.0 +10
KVN LR LR
comp=Z,9µm,20.0s
C31A Landman Farms, 83.44 343 P **P 04 02 39.1 -0.4**
baz=158,SNR=45
AGMN Agassiz Nation 83.46 344 P **P 04 02 39.0 -0.6**
baz=159,SNR=47
AGMN Agassiz Nation 83.46 344 *eP* **P 04 02 38.5 -1.1**
comp=Z,300nm,1.5s
AGMN LR LR
comp=Z,8µm,20.0s
WAKR Walker 83.61 324 *eP* **P 04 02 42.5 +1.6**
comp=Z,140nm,1.3s
WAKR LR LR
comp=Z,14µm,20.0s
B32A Ashes, Strandq 83.71 344 P **P 04 02 40.2 -0.6**
baz=159,SNR=81
CMB Columbia Colle 83.72 323 *eP* **P 04 02 42.0 +0.7**
comp=Z,174nm,1.5s
CMB Columbia Colle 83.72 323 *eP* **P 04 02 42.0 +0.7**
CMB pmax pmax
comp=Z,174nm,1.5s
REDW Red Top Meadow 83.74 332 *eP* **P 04 02 41.3 -0.1**
comp=Z,63nm,0.9s
REDW LR LR
comp=Z,12µm,22.0s
SNOW Snow King Moun 83.79 332 *eP* **P 04 02 42.1 +0.3**
comp=Z,112nm,1.1s
SNOW LR LR
comp=Z,12µm,20.0s
LOHW Long Hollow 83.85 333 *eP* **P 04 02 42.2 +0.2**
comp=Z,98nm,1.4s
LOHW LR LR
comp=Z,18µm,21.0s
TPAW Teton Pass 83.89 332 *eP* **P 04 02 42.5 +0.2**
comp=Z,140nm,1.3s
TPAW LR LR
comp=Z,9µm,22.0s
YERR Yerington 83.89 325 *eP* **P 04 02 44.0 +1.6**
comp=Z,165nm,1.2s
YERR LR LR
comp=Z,14µm,21.0s
BFZ Birch Farm 83.90 225 *eP* **P 04 02 44.9 +2.5**
comp=Z,116nm,1.2s
BFZ LR LR
comp=Z,14µm,20.0s
A33A Warroad 83.95 344 P **P 04 02 41.6 -0.5**
baz=160,SNR=34
RDG13 Poverty Ridge 83.96 322 *eP* **P 04 02 45.1 +2.6**
comp=Z,173nm,1.4s
MDND Maddock 83.98 341 P **P 04 02 42.3 0.0**
baz=156,SNR=62
MDND Maddock 83.98 341 *eP* **P 04 02 42.3 0.0**
comp=Z,952nm,1.4s
MDND LR LR
comp=Z,10µm,22.0s
B31A Greenbush Farm 84.00 343 P **P 04 02 42.0 -0.4**
baz=158,SNR=44
MOOW Moose Ponds 84.02 333 *eP* **P 04 02 43.2 +0.3**
comp=Z,146nm,1.6s
MOOW LR LR
comp=Z,16µm,20.0s
FXWY Fox Creek 84.04 332 *eP* **P 04 02 42.8 -0.2**
comp=Z,38nm,0.9s
MQZ McQueen's Vall 84.06 221 PFAKE 04 03 00.0 +17
MQZ LR LR
comp=Z,9µm,20.0s
BMN Battle Mountai 84.06 327 *eP* **P 04 02 44.2 +1.1**
comp=Z,32nm,1.0s
BMN Battle Mountai 84.06 327 *eP* **P 04 02 44.2 +1.1**
BMN pmax pmax
comp=Z,32nm,1.0s
CRLZ Canterbury Las 84.17 221 PFAKE 04 03 00.0 +16
CRLZ LR LR
comp=Z,8µm,20.0s
A32A Rocking H Ranc 84.19 344 P **P 04 02 42.8 -0.5**
baz=159,SNR=18
IMW Indian Meadow 84.22 333 *eP* **P 04 02 44.3 +0.3**
comp=Z,62nm,0.9s
IMW LR LR
comp=Z,12µm,20.0s
ODZ Otahua Downs 84.28 219 *eP* **P 04 02 45.6 +1.3**
comp=Z,109nm,1.2s
ODZ LR LR
comp=Z,18µm,19.0s
VCNR Virginia City 84.33 325 *eP* **P 04 02 46.1 +1.5**
comp=Z,68nm,1.0s
VCNR LR LR
comp=Z,12µm,21.0s
A31A Linda, St. Vin 84.36 343 P **P 04 02 43.8 -0.4**
baz=158,SNR=15
RUBR Rubicon Trail 84.39 324 *eP* **P 04 02 47.0 +2.1**
comp=Z,129nm,0.8s
KHZ Kahutara 84.39 222 *eP* **P 04 02 47.8 +3.0**
comp=Z,398nm,1.8s
YPP Pitchstone Pla 84.49 333 *eP* **P 04 02 46.6 +1.2**
comp=Z,88nm,1.4s
YPP LR LR
comp=Z,20µm,20.0s
H17A Grant Village 84.50 333 P **P 04 02 46.5 +1.2**
baz=148,SNR=19
H17A Grant Village 84.50 333 *eP* **P 04 02 46.4 +1.0**
comp=Z,41nm,1.0s
H17A LR LR
comp=Z,33µm,22.0s
PAHR Pah Rah Range 84.52 325 *eP* **P 04 02 46.6 +1.2**
comp=Z,293nm,1.6s
PAHR LR LR
comp=Z,13µm,22.0s
RLMT Red Lodge 84.63 334 P **P 04 02 46.0 +0.1**
baz=149,SNR=37
RLMT Red Lodge 84.63 334 *eP* **P 04 02 46.3 +0.3**
comp=Z,233nm,1.5s
RLMT LR LR
comp=Z,8µm,18.0s
OXZ Oxford 84.65 221 *eP* **P 04 02 48.0 +1.8**
comp=Z,186nm,1.4s
OXZ LR LR
comp=Z,9µm,20.0s
YFT Old Faithful 84.65 333 *eP* **P 04 02 48.1 +2.0**
comp=Z,75nm,0.9s
YFT LR LR
comp=Z,22µm,20.0s
BKZ Black Stump Fm 84.69 226 *eP* **P 04 02 47.5 +1.0**
comp=Z,144nm,1.4s
BKZ LR LR
comp=Z,26µm,20.0s
AFDM Forest Hills D 84.72 324 *eP* **P 04 02 47.3 +1.0**
comp=Z,130nm,1.4s
URZ Urewera 84.87 227 PKKPbc PKKPbc 04 20 54.4 -0.3
comp=Z,8.3nm,1.0s,baz=0.5,slow=7.2,SNR=4.9
URZ PKPPKP **P'P'df 04 29 00.7 -5.3**
comp=Z,9.1nm,0.9s,baz=194,slow=3.0,SNR=5.4
URZ LR LR 04 31 41.2
comp=Z,16µm,21.6s,baz=144,slow=29
URZ Urewera 84.87 227 *eP* **P 04 02 48.9 +1.6**
comp=Z,68nm,1.1s
URZ PKKPbc **PKKPbc 04 20 54.4 -0.3**
URZ P'P' 04 29 00.7
LTZ Lake Taylor 84.88 222 *eP* **P 04 02 48.5 +1.2**
comp=Z,124nm,0.9s
YMR Madison River 84.89 333 *eP* **P 04 02 48.0 +0.8**
comp=Z,230nm,1.0s
YMR LR LR
comp=Z,12µm,20.0s
LAO LASA Array 84.93 337 P **P 04 02 47.0 -0.2**

baz=151,SNR=38
LAO LASA Array 84.93 337 eP P 04 02 46.8 -0.4
comp=Z,99nm,0.9s
LAO LR LR
comp=Z,6µm,22.0s
RPZ Rata Peaks 84.94 220 eP P 04 02 49.0 +1.5
comp=Z,169nm,1.0s
YHH Holmes Hill 84.94 333 eP P 04 02 48.5 +0.8
comp=Z,155nm,1.0s
YHH LR LR
comp=Z,14µm,21.0s
LBZ Lake Benmore 84.96 219 eP P 04 02 49.2 +1.5
comp=Z,181nm,1.6s
LBZ LR LR
comp=Z,20µm,19.0s
YHB Horse Butte 85.04 333 eP P 04 02 49.2 +1.2
comp=Z,94nm,1.1s
YHB LR LR
comp=Z,9µm,20.0s
MCCM Marconi Confer 85.09 322 eP P 04 02 49.6 +1.5
comp=Z,99nm,1.0s
WHZ Wether Hill Ro 85.11 217 eP P 04 02 49.7 +1.2
comp=Z,163nm,1.4s
BEKR Beckworth 85.12 324 PFAKE 04 03 00.0 +12
BEKR LR LR
comp=Z,10µm,21.0s
THZ Tophouse 85.17 223 eP P 04 02 50.8 +2.0
comp=Z,146nm,1.0s
QLMT Earthquake Lak 85.20 333 eP P 04 02 50.3 +1.5
WKZ Wanaka 85.28 218 eP P 04 02 47.5 -1.9
comp=Z,123nm,1.1s
WKZ LR LR
comp=Z,18µm,19.0s
ULM Lac du Bonnet 85.29 345 P P 04 02 48.2 -0.6
comp=Z,79nm,0.8s,baz=159,slow=4.2,SNR=71
ULM PKKPbc **PKKPbc 04 20 53.7 -2.4**
comp=Z,7.7nm,0.8s,baz=342,slow=3.0,SNR=10
ULM PKPPKP **P'P'df 04 28 58.1 +3.0**
comp=Z,1.7nm,0.8s,baz=110,slow=4.3,SNR=3.5
ULM Lac du Bonnet 85.29 345 eP P 04 02 48.3 -0.6
comp=Z,135nm,1.0s
ULM PKKPbc **PKKPbc 04 20 53.7 -2.4**
ULM P'P' 04 28 58.1
ULM Lac du Bonnet 85.29 345 eP P 04 02 48.3 -0.6
ULM pmax pmax
comp=Z,135nm,1.0s
HLID Hailey 85.35 330 P P 04 02 50.2 +0.7
baz=145,SNR=76
HLID Hailey 85.35 330 eP P 04 02 50.2 +0.7
comp=Z,117nm,1.1s
HLID LR LR
comp=Z,7µm,21.0s
GCMT Greycliff 85.35 334 eP P 04 02 49.4 0.0
MLZ Mavora Lakes 85.39 218 eP P 04 02 52.0 +2.2
comp=Z,239nm,1.9s
MLZ LR LR
comp=Z,15µm,22.0s
ORV Oroville 85.45 324 eP P 04 02 50.9 +1.0
comp=Z,350nm,1.5s
ORV LR LR
comp=Z,9µm,21.0s
ORV Oroville 85.45 324 eP P 04 02 50.9 +1.0
ORV pmax pmax
comp=Z,350nm,1.5s
ORV MLR MLR
comp=Z,9µm,21.0s
PYZ Puysegur Point 85.56 216 PFAKE 04 03 00.0 +9.4
PYZ LR LR
comp=Z,9µm,19.0s
FOZ Fox Glacier 85.73 220 eP P 04 02 53.9 +2.4
comp=Z,197nm,1.6s
FOZ LR LR
comp=Z,18µm,20.0s
MCMT McKenzie Canyo 85.75 332 eP P 04 02 52.5 +0.9
DCZ Deep Cove 85.81 217 PFAKE 04 03 00.0 +8.1
DCZ LR LR
comp=Z,7µm,21.0s
HOPS Hopland Field 85.82 322 eP P 04 02 55.1 +3.4
comp=Z,418nm,1.7s
MFID Camas Ranch 85.83 329 eP P 04 02 52.4 +0.5
comp=Z,152nm,1.4s
MFID LR LR
comp=Z,11µm,20.0s
DGMT Dagmar 85.86 339 P P 04 02 52.0 +0.2
baz=153,SNR=30
DGMT Dagmar 85.86 339 eP P 04 02 52.4 +0.6
comp=Z,384nm,1.1s
DGMT LR LR
comp=Z,8µm,22.0s
BOZ Bozeman (W) 85.92 333 P P 04 02 52.5 +0.2
baz=147,SNR=36
BOZ Bozeman (W) 85.92 333 eP P 04 02 52.5 +0.2
comp=Z,47nm,1.0s
BOZ LR LR
comp=Z,14µm,22.0s
BOZ Bozeman (W) 85.92 333 eP P 04 02 52.5 +0.2
BOZ pmax pmax
comp=Z,47nm,1.0s
BOZ MLR MLR
comp=Z,14µm,22.0s
HIZ Hauiti 86.10 226 eP P 04 02 55.8 +2.4
comp=Z,139nm,1.2s
HIZ LR LR
comp=Z,17µm,20.0s
DLMT Dillon 86.10 332 eP P 04 02 53.9 +0.7
comp=Z,170nm,1.4s
DLMT LR LR
comp=Z,14µm,21.0s
O03D Paynes Creek 86.16 324 P P 04 02 53.3 -0.2
baz=139,SNR=16
WVOR Wild Horse Val 86.30 327 eP P 04 02 55.1 +0.9
comp=Z,138nm,1.5s
WVOR LR LR
comp=Z,9µm,20.0s
WVOR Wild Horse Val 86.30 327 eP P 04 02 55.1 +0.9
WVOR pmax pmax
comp=Z,138nm,1.5s
WVOR MLR MLR
comp=Z,9µm,20.0s
LRM Limekiln Ridge 86.42 333 eP P 04 02 55.4 +0.5
KCPM Cahto Peak 86.60 322 eP P 04 02 57.9 +2.1
comp=Z,192nm,1.1s
MOD Modoc Plateau 86.66 326 eP P 04 02 56.9 +0.9
comp=Z,209nm,1.5s
WDC Whiskeytown Da 86.74 324 eP P 04 02 56.0 -0.3
comp=Z,177nm,1.6s
WDC LR LR
comp=Z,6µm,20.0s
WDC Whiskeytown Da 86.74 324 eP P 04 02 56.0 -0.3
WDC pmax pmax
comp=Z,177nm,1.6s
WDC MLR MLR
comp=Z,6µm,20.0s
HRY Holter Researc 86.93 334 eP P 04 02 58.0 +0.8
RAO Raoul Island 86.94 237 LR LR 04 31 46.9
comp=Z,8µm,21.1s,baz=124,slow=29
RAO Raoul Island 86.94 237 PFAKE 04 03 10.0 +12
RAO LR LR
comp=Z,9µm,22.0s
J08A Circle Bar Ran 86.95 328 eP P 04 02 58.0 +0.6
comp=Z,230nm,0.9s
J08A LR LR
comp=Z,8µm,20.0s
KMRM Mail Ridge 87.06 323 eP P 04 03 00.0 +2.1
comp=Z,295nm,1.1s
N02D Trinity Center 87.12 324 P P 04 02 58.5 +0.2
baz=139,SNR=17
SCHQ Schefferville 87.21 3 P P 04 02 57.4 -0.8
comp=Z,84nm,0.9s,baz=175,slow=3.2,SNR=35
SCHQ PKKP **PKKPbc 04 20 50.2 -1.5**
comp=Z,3.7nm,0.8s,baz=317,slow=0.8,SNR=3.7
SCHQ LR LR 04 43 05.1
comp=Z,12µm,21.6s,baz=178,slow=36
SCHQ Schefferville 87.21 3 eP P 04 02 58.0 -0.2
comp=Z,1µm,2.0s
SCHQ PKKP **PKKPbc 04 20 50.2 -1.5**
EGMT Eagleton 87.29 335 P P 04 02 58.5 -0.3
baz=148,SNR=21
EGMT Eagleton 87.29 335 eP P 04 02 58.5 -0.3
comp=Z,130nm,1.1s
EGMT LR LR
comp=Z,6µm,20.0s
M04C Macdoel 87.31 325 P P 04 02 59.5 +0.3
baz=139,SNR=21
M02C Callahan 87.51 324 P P 04 03 00.7 +0.6
baz=139,SNR=11
KHMM Horse Mountain 87.56 323 eP P 04 03 02.2 +1.8
comp=Z,204nm,1.1s

K05A Summer Lake 87.57 326 eP P 04 03 01.7 +1.2
comp=Z,285nm,1.2s
BMO Blue Mountains 87.62 329 eP P 04 03 00.7 +0.2
comp=Z,330nm,1.9s
BMO LR LR
comp=Z,11µm,20.0s
BMO Blue Mountains 87.62 329 eP P 04 03 00.7 +0.2
BMO pmax pmax
comp=Z,330nm,1.9s
BMO MLR MLR
comp=Z,11µm,20.0s
XMAS Kiritimati 87.62 274 PFAKE 04 03 10.0 +8.8
XMAS LR LR
comp=Z,14µm,20.0s
JCC Jacoby Creek, 87.67 323 eP P 04 03 03.1 +2.4
comp=Z,322nm,1.4s
YBH Yreka Blue Hor 87.69 324 eP P 04 03 00.8 -0.2
comp=Z,56nm,0.9s
YBH LR LR
comp=Z,10µm,22.0s
YBH Yreka Blue Hor 87.69 324 eP P 04 03 00.8 -0.2
YBH pmax pmax
comp=Z,56nm,0.9s
YBH MLR MLR
comp=Z,10µm,22.0s
MSO Missoula 87.84 332 P P 04 03 01.8 +0.3
baz=145,SNR=15
MSO Missoula 87.84 332 eP P 04 03 02.4 +0.8
comp=Z,154nm,1.4s
MSO LR LR
comp=Z,16µm,21.0s
K04D Chiloquin, OR 87.91 325 P P 04 03 02.7 +0.7
baz=140,SNR=5.3
I07A Izee 87.98 328 eP P 04 03 03.5 +1.1
comp=Z,130nm,1.1s
J05D Fort Rock, OR 88.16 326 P P 04 03 03.9 +0.6
baz=140,SNR=13
PINE Pine Mountain 88.42 327 eP P 04 03 05.6 +1.1
comp=Z,146nm,1.0s
L02D Cave Junction, 88.45 324 P P 04 03 05.6 +1.1
baz=138,SNR=17
HUMO Hull Mountain 88.47 325 eP P 04 03 05.0 +0.5
comp=Z,42nm,1.0s
F10A Beach Ranch, E 88.48 330 eP P 04 03 04.6 0.0
comp=Z,148nm,1.2s
F10A LR LR
comp=Z,7µm,22.0s
J04D Umpqua Nationa 88.54 326 P P 04 03 05.7 +0.6
baz=139,SNR=9.7
G08A Pilot Rock 88.68 329 eP P 04 03 06.2 +0.5
comp=Z,83nm,1.3s
G08A LR LR
comp=Z,14µm,19.0s
JTMT Jette 88.72 333 eP P 04 03 05.8 +0.1
comp=Z,83nm,1.1s
JTMT LR LR
comp=Z,11µm,22.0s
OUZ Omahuta 88.97 228 eP P 04 03 10.5 +3.2
comp=Z,54nm,1.3s
OUZ LR LR
comp=Z,7µm,18.0s
I05D Terrebonne, OR 89.02 327 P P 04 03 08.1 +1.0
baz=140,SNR=8.1
I04A Tendick Farm, 89.11 326 P P 04 03 08.0 +0.4
baz=139
E09A Wood Farm, Sta 89.30 330 eP P 04 03 10.0 +1.7
comp=Z,57nm,1.3s
E09A LR LR
comp=Z,8µm,21.0s
G06A Carlson Farm, 89.39 328 eP P 04 03 10.2 +1.4
comp=Z,134nm,1.3s
G06A LR LR
comp=Z,7µm,19.0s
I03D Drain, OR 89.48 325 P P 04 03 09.4 +0.2
baz=138
F07A Phinny Hill Vi 89.58 329 eP P 04 03 12.2 +2.6
comp=Z,57nm,0.8s
F07A LR LR
comp=Z,13µm,18.0s
WALA Waterton Lakes 89.66 334 eP P 04 03 10.6 +0.5
comp=Z,222nm,1.4s
WALA LR LR
comp=Z,13µm,20.0s
E08A Dider Farm, El 89.67 329 eP P 04 03 12.2 +2.2
comp=Z,83nm,1.2s
E08A LR LR
comp=Z,12µm,20.0s
H04A Detroit Lake 89.67 327 eP P 04 03 12.1 +2.0
comp=Z,83nm,1.1s
H04A LR LR
comp=Z,11µm,21.0s
G05D Wamic, OR 89.70 327 P P 04 03 10.7 +0.4
baz=140
HAWA Hanford 89.79 329 eP P 04 03 11.8 +1.1
comp=Z,134nm,1.1s
HAWA LR LR
comp=Z,13µm,21.0s
LSZ Lusaka 89.85 108 P P 04 03 12.9 +1.0
comp=Z,101nm,0.9s,baz=225,slow=3.6,SNR=92
LSZ Lusaka 89.85 108 eP P 04 03 12.9 +1.0
comp=Z,515nm,1.4s
LSZ LR LR
comp=Z,98µm,20.0s
LSZ Lusaka 89.85 108 PcP **P 04 03 13.3 +1.4**
SNR=67
LSZ Lusaka 89.85 108 P P 04 03 13.3 +1.4
SNR=67
LSZ Lusaka 89.85 108 eP P 04 03 12.9 +1.0
LSZ pmax pmax
comp=Z,515nm,1.4s
LSZ MLR MLR
comp=Z,98µm,20.0s
RTC Rabat Centre 89.95 49 PFAKE 04 03 20.0 +8.3
RTC LR LR
comp=Z,213µm,19.0s
D08A Wollman Farm, 90.05 330 eP P 04 03 12.5 +0.7
comp=Z,69nm,0.9s
D08A LR LR
comp=Z,12µm,21.0s
E07A Sunnyside 90.06 329 eP P 04 03 13.9 +2.0
comp=Z,50nm,0.9s
E07A LR LR
comp=Z,16µm,21.0s
COR Corvallis 90.12 326 eP P 04 03 16.1 +3.9
comp=Z,208nm,1.3s
COR LR LR
comp=Z,6µm,21.0s
COR Corvallis 90.12 326 eP P 04 03 16.1 +3.9
COR pmax pmax
comp=Z,208nm,1.3s
COR MLR MLR
comp=Z,6µm,21.0s
NEW Newport 90.26 332 P P 04 03 12.3 -0.5
baz=143,SNR=12
NEW Newport 90.26 332 eP P 04 03 12.2 -0.5
comp=Z,30nm,0.9s
NEW LR LR
comp=Z,12µm,20.0s
NEW Newport 90.26 332 eP P 04 03 12.3 -0.5
NEW pmax pmax
comp=Z,30nm,0.9s
NEW MLR MLR
comp=Z,12µm,20.0s
C09A Chrisman Ranch 90.36 331 eP P 04 03 13.8 +0.5
comp=Z,109nm,0.8s
C09A LR LR
comp=Z,10µm,21.0s
G03D McMinnville, O 90.57 326 P P 04 03 15.6 +1.3
baz=138
PFVI Vila Bisbo 90.79 45 eP P 04 03 14.3 -1.2
PFVI Vila Bisbo 90.79 45 ePP PP 04 06 51.6 -0.2
PFVI eSKS **S 04 14 10.7 +0.8**
PFVI Vila Bisbo 90.79 45 PFAKE 04 03 30.0 +15
PFVI LR LR
comp=Z,46µm,19.0s
FFC Flin Flon 90.87 343 eP P 04 03 15.2 -0.2
comp=Z,96nm,1.4s
FFC LR LR
comp=Z,13µm,19.0s
FFC Flin Flon 90.87 343 eP P 04 03 15.2 -0.2
FFC pmax pmax
comp=Z,97nm,1.4s
FFC MLR MLR
comp=Z,13µm,19.0s
LTY Liberty 90.96 329 eP P 04 03 16.6 +0.4
comp=Z,61nm,1.0s
LTY LR LR
comp=Z,12µm,20.0s

AFI Afiamalu 90.98 253 LR LR 04 35 52.6
comp=Z,14µm,18.6s,baz=118,slow=30
AFI Afiamalu 90.98 253 PFAKE 04 03 30.0 +13
AFI LR LR
comp=Z,15µm,20.0s
MORF Marmelete 91.01 45 eP P 04 03 17.1 +0.5
MORF eSKSac **SKSac 04 13 45.9 -0.5**
MORF AMS AMS 04 43 16.1
comp=Z,45µm,20.1s
MORF Marmelete 91.01 45 eP P 04 03 16.8 +0.2
comp=Z,108nm,1.4s
MORF Marmelete 91.01 45 ePP PP 04 06 52.1 -1.5
MORF eSKS **S 04 14 15.0 +2.9**
MORF Marmelete 91.01 45 eP P 04 03 17.1 +0.5
MORF e 04 13 45.9
LON Longmire 91.07 328 eP P 04 03 16.8 +0.1
comp=Z,41nm,1.1s
LON LR LR
comp=Z,9µm,20.0s
LON Longmire 91.07 328 eP P 04 03 16.8 +0.1
LON pmax pmax
comp=Z,41nm,1.1s
LON MLR MLR
comp=Z,9µm,20.0s
F04D Rainier, OR 91.11 327 P P 04 03 17.8 +1.0
baz=139
PTEO Sao Teotonio 91.12 45 eP P 04 03 17.1 +0.1
comp=Z,162nm,1.4s
B08A Colville Reser 91.24 330 eP P 04 03 17.2 -0.1
comp=Z,34nm,1.0s
B08A LR LR
comp=Z,12µm,22.0s
F03A Seaside 91.25 327 PFAKE 04 03 30.0 +13
F03A LR LR
comp=Z,8µm,20.0s
PBDV Barranco-do-Ve 91.40 46 eP P 04 03 19.1 +0.7
comp=Z,160nm,1.3s
PBDV Barranco-do-Ve 91.40 46 ePP PP 04 06 53.5 -3.2
PBDV eSKS **S 04 14 14.6 -1.0**
D05A Enumclaw 91.48 328 eP P 04 03 19.4 +0.9
comp=Z,108nm,1.1s
D05A LR LR
comp=Z,11µm,21.0s
PAF Port-aux-Franc 91.57 156 PFAKE 04 03 30.0 +11
PAF LR LR
comp=Z,18µm,21.0s
PCVE Castro Verde 91.59 45 eP P 04 03 18.8 -0.4
comp=Z,87nm,1.5s
PCVE Castro Verde 91.59 45 ePP PP 04 06 57.2 -0.9
PCVE eSKS **S 04 14 17.9 +0.7**
PNCL Nicolau / Gran 91.61 45 eP P 04 03 16.7 -2.6
comp=Z,93nm,1.5s
PNCL Nicolau / Gran 91.61 45 ePP PP 04 06 58.7 +0.4
PNCL eSKS **S 04 14 17.7 +0.3**
PVAQ Vaqueiros 91.63 46 eP P 04 03 19.5 +0.1
comp=Z,102nm,1.6s
PVAQ Vaqueiros 91.63 46 ePP PP 04 06 58.2 -0.3
PVAQ eSKS **S 04 14 16.7 -0.9**
PVAQ Vaqueiros 91.63 46 eLR LR 04 33 44.9
comp=Z,36µm,20.0s
PMST Lisbon--Monsan 91.64 44 eP P 04 03 23.1 +3.7
comp=Z,189nm,1.7s
PMST Lisbon--Monsan 91.64 44 ePP PP 04 06 57.6 -0.9
LIS Lisbon 91.64 44 eP P 04 03 20.0 +0.6
LIS ePP **PP 04 06 58.6 +0.1**
LIS eSKSac **SKSac 04 13 49.3 -0.5**
LIS AMS AMS 04 43 09.4
comp=Z,26µm,18.7s
LIS Lisbon 91.64 44 eP P 04 03 20.0 +0.6
LIS e 04 06 58.6
LIS e 04 13 49.2
E03A Lebam 91.71 327 epP pP 04 03 31.2 +2.2
E03A LR LR
comp=Z,10µm,21.0s
PMAFR Mafra 91.72 44 eP P 04 03 19.5 -0.3
comp=Z,227nm,1.8s
PMAFR Mafra 91.72 44 ePP PP 04 06 58.2 -1.0
PMAFR eSKS **S 04 14 19.4 +1.0**
TAM Tamanrasset 91.88 64 eP P 04 03 21.9 +0.8
comp=Z,174nm,1.5s
TAM LR LR
comp=Z,92µm,20.0s
TAM Tamanrasset 91.88 64 eP P 04 03 21.9 +0.8
TAM pmax pmax
comp=Z,174nm,1.5s
TAM MLR MLR
comp=Z,92µm,20.0s
PBEJ Beja 91.95 45 eP P 04 03 20.9 0.0
comp=Z,84nm,1.5s
SFS San Fernando 91.95 47 PFAKE 04 03 30.0 +9.1
SFS LR LR
comp=Z,17µm,18.0s
ALMR Almeirim 92.27 44 eP P 04 03 22.9 +0.6
ALMR ePP **PP 04 07 03.4 -0.1**
ALMR eSKSac **SKSac 04 13 53.2 -0.1**
ALMR AMS AMS 04 43 08.3
comp=Z,24µm,20.2s
ALMR Almeirim 92.27 44 eP P 04 03 21.8 -0.5
comp=Z,216nm,1.5s
ALMR Almeirim 92.27 44 ePP PP 04 07 02.6 -0.9
ALMR Almeirim 92.27 44 eP P 04 03 22.9 +0.6
ALMR e 04 07 03.4
ALMR e 04 13 53.2
B06A Marblemount 92.28 329 eP P 04 03 22.8 +0.7
comp=Z,55nm,0.9s
B06A LR LR
comp=Z,13µm,20.0s
B05A Bryant 92.35 329 P P 04 03 22.4 0.0
baz=139
PMTG Montargil 92.42 44 eP P 04 03 22.4 -0.6
comp=Z,129nm,1.4s
PMTG Montargil 92.42 44 ePP PP 04 07 04.4 -0.2
NLWA Neilton Lookou 92.48 327 PFAKE 04 03 40.0 +17
NLWA LR LR
comp=Z,7µm,21.0s
PBAR Barrancos 92.54 45 eP P 04 03 23.6 0.0
comp=Z,143nm,1.4s
PBAR Barrancos 92.54 45 ePP PP 04 07 03.9 -1.7
PESTR Estremoz 92.66 45 eP P 04 03 23.1 -1.1
comp=Z,91nm,1.5s
PESTR Estremoz 92.66 45 ePP PP 04 07 06.2 -0.4
PESTR eSKS **SKSac 04 13 57.2 +1.6**
PESTR Estremoz 92.66 45 eP P 04 03 24.2 0.0
comp=Z,116nm,2.0s
PESTR LR LR
comp=Z,22µm,20.0s
PTOM Tomar 92.67 44 eP P 04 03 24.3 +0.1
EDM Edmonton 92.90 336 eP P 04 03 23.6 -1.3
comp=Z,78nm,0.9s
EDM LR LR
comp=Z,7µm,21.0s
EDM Edmonton 92.90 336 eP P 04 03 23.6 -1.3
EDM pmax pmax
comp=Z,78nm,0.9s
EDM MLR MLR
comp=Z,7µm,21.0s
PCAS Casmilo, Conde 92.91 43 eP P 04 03 27.5 +2.3
comp=Z,76nm,1.6s
PCAS Casmilo, Conde 92.91 43 ePP PP 04 07 08.1 -0.4
PCAS eSKS **S 04 14 32.8 +3.9**
A04D Lummi Island 92.96 329 P P 04 03 25.2 0.0
baz=139
FCC Fort Churchill 92.98 348 eP P 04 03 25.1 +0.1
comp=Z,52nm,0.8s
FCC LR LR
comp=Z,18µm,22.0s
FCC Fort Churchill 92.98 348 eP P 04 03 25.1 +0.1
FCC pmax pmax
comp=Z,52nm,0.8s
FCC MLR MLR
comp=Z,18µm,22.0s
PMRV Marv??o 93.14 44 eP P 04 03 24.3 -2.1
comp=Z,33nm,1.4s
PMRV Marv??o 93.14 44 ePP PP 04 07 10.0 -0.4
PMRV eSKS **S 04 14 33.3 +2.2**
PMRV Marv??o 93.14 44 eLQ LQ 04 28 04.0
PMRV eLR LR 04 34 38.8
comp=Z,23µm,18.0s
PGC Sidney 93.23 328 PFAKE 04 03 40.0 +14
PGC LR LR
comp=Z,10µm,22.0s
PCBR Castelo Branco 93.36 44 eP P 04 03 27.4 +0.1
comp=Z,59nm,1.7s
PCBR Castelo Branco 93.36 44 ePP PP 04 07 12.8 +0.8
MTE Manteigas 93.68 43 eP P 04 03 27.7 -1.2

comp=Z,83nm,1.3s
MTE Manteigas 93.68 43 *e*PP PP 04 07 11.9 -2.8
MTE *e*SKS **S** **04 14 37.5 +1.6**
MTE Manteigas 93.68 43 *e*LQ LQ 04 30 32.1
MTE *e*LR LR 04 34 49.9
comp=Z,52µm,20.0s
MTE Manteigas 93.68 43 *e*P **P** **04 03 29.5 +0.6**
comp=Z,71nm,1.2s
MTE LR LR
comp=Z,53µm,21.0s
PVIS Viseu 93.69 43 *e*P **P** **04 03 29.5 +0.6**
comp=Z,47nm,1.5s
PVIS Viseu 93.69 43 *e*PP PP 04 07 14.8 +0.1
LLLB Lillooet 94.04 331 *e*P **P** **04 03 32.7 +2.4**
comp=Z,98nm,1.6s
LLLB LR LR
comp=Z,11µm,21.0s
PVRL Vila Real 94.15 43 *e*P **P** **04 03 32.3 +1.3**
comp=Z,71nm,1.4s
PVRL Vila Real 94.15 43 *e*PP PP 04 07 17.8 -0.5
POLO Lamas de Olo 94.17 43 *e*P **P** **04 03 30.5 -0.7**
comp=Z,29nm,1.8s
POLO Lamas de Olo 94.17 43 *e*PP PP 04 07 18.9 +0.4
PCAB Cabril 94.26 42 *e*P **P** **04 03 31.3 -0.2**
comp=Z,57nm,1.4s
PGAV Gavieira, Arco 94.29 42 *e*P **P** **04 03 30.4 -1.3**
comp=Z,55nm,1.7s
PGAV Gavieira, Arco 94.29 42 *e*PP PP 04 07 17.8 -1.6
PGAV Gavieira, Arco 94.29 42 *e*LQ LQ 04 30 43.2
PGAV *e*LR LR 04 34 50.9
comp=Z,36µm,20.0s
MVO Moncorvo 94.48 43 *e*P **P** **04 03 30.9 -1.6**
comp=Z,96nm,1.2s
MVO Moncorvo 94.48 43 *e*PP PP 04 07 19.8 -1.0
MVO *e*SKS **S** **04 14 43.1 +0.3**
MVO Moncorvo 94.48 43 *e*LQ LQ 04 30 51.1
MVO *e*LR LR 04 34 51.8
comp=Z,53µm,22.0s
JCUZ Jacuzzi 95.02 290 PFAKE 04 03 50.0 +14
JCUZ LR LR
comp=Z,7µm,20.0s
NPOC North of Pu'u 95.03 290 PFAKE 04 03 50.0 +14
NPOC LR LR
comp=Z,8µm,22.0s
PAB San Pablo 95.03 46 *e*P **P** **04 03 35.3 +0.2**
comp=Z,57nm,1.3s
PAB LR LR
comp=Z,35µm,19.0s
PAB San Pablo 95.03 46 *e*P **P** **04 03 35.3 +0.2**
PAB pmax pmax
comp=Z,57nm,1.3s
PAB MLR MLR
comp=Z,35µm,19.0s
STCH Steam Cracks 95.03 290 PFAKE 04 03 50.0 +14
STCH LR LR
comp=Z,6µm,19.0s
PBRG Braganca 95.05 43 *e*P **P** **04 03 35.4 +0.3**
comp=Z,67nm,1.5s
PBRG Braganca 95.05 43 *e*PP PP 04 07 23.7 -1.6
HLP Hilina Pali 95.13 289 PFAKE 04 03 50.0 +14
HLP LR LR
comp=Z,9µm,19.0s
BYL Byron's Ledge 95.16 290 PFAKE 04 03 50.0 +14
BYL LR LR
comp=Z,3µm,18.0s
RIM Rim 95.16 290 PFAKE 04 03 50.0 +14
RIM LR LR
comp=Z,6µm,18.0s
SDHHI Sand Hill 95.17 290 PFAKE 04 03 50.0 +14
SDHHI LR LR
comp=Z,8µm,19.0s
NPH North Pit 95.17 290 PFAKE 04 03 50.0 +14
NPH LR LR
comp=Z,6µm,19.0s
ESDC Sonseca Array 95.35 46 P **P** **04 03 36.4 -0.1**
comp=Z,13nm,1.0s,baz=240,slow=4.3,SNR=19
ESDC LR LR 04 46 01.2
comp=Z,23µm,18.8s,baz=225,slow=35
ESLA Sonseca Array 95.35 46 *e*P **P** **04 03 36.8 +0.3**
comp=Z,123nm,2.0s
ES19 SONSECA Array 95.40 46 *e*P **P** **04 03 35.7 -1.1**
IVI Ivigtut 95.44 11 PFAKE 04 03 50.0 +14
IVI LR LR
comp=Z,20µm,19.0s
MWH Moku'aweowe 95.46 290 PFAKE 04 03 50.0 +12
MWH LR LR
comp=Z,8µm,21.0s
HUH Hualalai 95.76 290 PFAKE 04 03 50.0 +11
HUH LR LR
comp=Z,9µm,21.0s
HPAH Hawaii Prepara 95.83 290 PFAKE 04 03 50.0 +11
HPAH LR LR
comp=Z,8µm,22.0s
NRS Narsarsuaq 95.87 12 *i* P **P** **04 03 33.5 -4.7**
NRS *i* 04 07 27.9
comp=Z,20µm,19.0s
NRS Narsarsuaq 95.87 12 PFAKE 04 03 50.0 +12
NRS LR LR
comp=Z,24µm,21.0s
NRS Narsarsuaq 95.87 12 *i* P **P** **04 03 33.5 -4.7**
NRS *i* 04 07 27.9
NRS MLR MLR
comp=Z,20µm,19.0s
CART Cartagena 95.91 49 PFAKE 04 03 50.0 +11
CART LR LR
comp=Z,23µm,22.0s
MSVF Nonsavu 96.75 244 PFAKE 04 04 00.0 +16
MSVF LR LR
comp=Z,8µm,21.0s
MSVF Nonsavu 96.75 244⇑ *e*P **P** **04 03 44.4 +0.8**
TAU Tasmania Unive 96.80 208 PFAKE 04 04 00.0 +17
TAU LR LR
comp=Z,6µm,20.0s
KNTN Kanton 97.05 262 PFAKE 04 04 00.0 +15
KNTN LR LR
comp=Z,14µm,22.0s
BBB Bella Bella 97.85 329 PFAKE 04 04 00.0 +13
BBB LR LR
comp=Z,4µm,21.0s
SJPF Ste Jean 99.07 44 *e*P **Pdif** **04 03 54.2 +1.0**
SJPF pmax pmax
comp=Z,36nm,1.0s
VAL Valentia 99.84 33 *e*P **Pdif** **04 03 54.4 -1.9**
VAL *e*PP **PP** **04 08 02.6 +0.9**
LHI Lord Howe Isla 100.25 222 PFAKE 04 04 10.0 +11
LHI LR LR
comp=Z,8µm,19.0s
SFJD Kangerlussuaq 100.59 8 *i* P **Pdif** **04 03 53.1 -6.3**
SFJD *i* 04 08 00.8
comp=Z,12µm,20.0s
SFJD Kangerlussuaq 100.59 8 PFAKE 04 04 10.0 +11
SFJD LR LR
comp=Z,15µm,21.0s
SFJD Kangerlussuaq 100.59 8 *i* P **Pdif** **04 03 53.1 -6.3**
SFJD MLR MLR
comp=Z,12µm,20.0s
QUIF Quistinic 100.85 40 *e*P **Pdif** **04 04 00.3 -0.7**
QUIF pmax pmax
comp=Z,75nm,1.4s
YKA Yellowknife Ar 100.90 341 P **Pdif** **04 03 59.7 -1.1**
comp=Z,2.9nm,0.6s,baz=143,slow=4.4,SNR=53
YKA PP **PKiKP** **04 08 24.4 -1.7**
comp=Z,3.0nm,1.0s,baz=151,slow=7.2,SNR=11
YKA PKKPbc **PKKPbc** **04 20 11.3 -3.7**
comp=Z,1.8nm,0.6s,baz=321,slow=3.3,SNR=30
YKA PKPPKP **P'P'df** **04 28 29.8 +3.5**
comp=Z,0.4nm,0.9s,baz=351,slow=2.5,SNR=3.8
ANGG Ammassalik, Gr 101.40 14 PFAKE 04 04 10.0 +7.0
ANGG LR LR
comp=Z,20µm,20.0s
RJF Les Rejaudoux 101.95 44 *e*P **Pdif** **04 04 08.9 +2.9**
RJF pmax pmax
comp=Z,30nm,1.3s
CAF Calviac 102.05 44 *e*P **Pdif** **04 04 06.6 +0.1**
CAF pmax pmax
comp=Z,11nm,0.8s
ABPO Ambohimpanom 102.16 122 PFAKE 04 04 20.0 +12
ABPO LR LR
comp=Z,26µm,21.0s
CRAG Craig 102.26 329 PFAKE 04 04 20.0 +13
CRAG LR LR
comp=Z,6µm,21.0s
DZM Mont Dzumac 102.36 234 *e*Pdif **Pdif** **04 04 08.2 -0.4**
comp=Z,1µm,28.6s
DZM Mont Dzumac 102.36 234 *e*SKSac **SKSac** **04 14 44.8 -1.9**
comp=Z,8µm,27.1s
DZM *e*SP **SP** **04 17 20.7 -3.2**
comp=Z,12µm,30.7s
DZM *e*SS **SS** **04 22 56.0 -0.3**
comp=Z,27µm,31.0s
DZM Mont Dzumac 102.36 234 *e*LQ LQ 04 33 20.4
comp=Z,14µm,37.5s
DZM *e*LR LR 04 37 38.6
comp=Z,23µm,22.2s
DZM Mont Dzumac 102.36 234 PFAKE 04 04 20.0 +11
DZM LR LR
comp=Z,14µm,21.0s
CAN Canberra 102.43 213 PFAKE 04 04 20.0 +11
CAN LR LR
comp=Z,5µm,21.0s
DSB Dublin 102.49 34 PFAKE 04 04 20.0 +12
DSB LR LR
comp=Z,23µm,22.0s
WRAK Wrangell Islan 102.56 330 PFAKE 04 04 20.0 +12
WRAK LR LR
comp=Z,7µm,19.0s
ILULI Ilulissat 102.66 7 *i* P **Pdif** **04 04 02.2 -6.3**
ILULI *i* 04 08 17.3
comp=Z,19µm,18.0s
ILULI Ilulissat 102.66 7 PFAKE 04 04 20.0 +11
ILULI LR LR
comp=Z,21µm,20.0s
ILULI Ilulissat 102.66 7 *i* P **Pdif** **04 04 02.2 -6.3**
ILULI MLR MLR
comp=Z,19µm,18.0s
BGF Bois d'Agland 103.42 43 *e*P **Pdif** **04 04 13.0 +0.5**
BGF pmax pmax
comp=Z,30nm,1.4s
VIVF Saint-Julien-l 103.56 45 *e*P **Pdif** **04 04 15.2 +2.0**
VIVF pmax pmax
comp=Z,17nm,1.2s
SSB Saint Sauveur 103.71 45 PFAKE 04 04 30.0 +16
SSB LR LR
comp=Z,43µm,22.0s
VSL Villasalto 103.72 52 PFAKE 04 04 30.0 +16
VSL LR LR
comp=Z,35µm,22.0s
AVF Avril sur Loir 103.83 43 *e*P **Pdif** **04 04 13.7 -0.6**
AVF pmax pmax
comp=Z,11nm,1.0s
SIT Sitka 104.23 330 PFAKE 04 04 30.0 +14
SIT LR LR
comp=Z,9µm,21.0s
ORIF Oris-en-Rattie 104.32 46 *e*P **Pdif** **04 04 20.5 +3.8**
ORIF pmax pmax
comp=Z,24nm,1.1s
BNI Bardonecchia 104.88 46 PFAKE 04 04 30.0 +11
BNI LR LR
comp=Z,44µm,20.0s
KMBO Kilima Mbogo 105.17 101 PFAKE 04 08 50.0
KMBO LR LR
comp=Z,57µm,20.0s
ESK Eskdalemuir 105.22 33 PFAKE 04 08 50.0
ESK LR LR
comp=Z,22µm,19.0s
HINF Hinteralfeld 106.40 43 *e*P **Pdif** **04 04 29.0 +3.2**
HINF pmax pmax
comp=Z,15nm,1.4s
SUMG Summit 107.39 10 *i* P **Pdif** **04 04 26.6 -3.4**
SUMG *e* 04 07 00.4
SUMG Summit 107.39 10 *i* P **Pdif** **04 04 26.6 -3.4**
DAVA Damuels 107.92 45 *e*PKiKP **PKiKP** **04 08 39.3 -0.4**
comp=Z,28nm,1.4s
FETA Feichten 108.30 46 *e*PKiKP **PKiKP** **04 08 41.9 +1.4**
comp=Z,21nm,1.3s
RETA Reutte 108.54 45 *e*PKiKP **PKiKP** **04 08 42.9 +2.1**
comp=Z,10.0nm,1.1s
STKA Stephens Creek 108.59 209 PKKPbc PKKPbc 04 19 51.0 +0.5
comp=Z,3.0nm,0.7s,baz=359,slow=4.8,SNR=5.8
MOTA Moosalm 108.68 45 *i* PKiKP **PKiKP** **04 08 41.5 +0.3**
comp=Z,12nm,0.9s
SCO Scoresbysund 108.77 16 *i* P **Pdif** **04 04 30.9 -4.8**
comp=Z,13µm,19.0s
SCO Scoresbysund 108.77 16 *i* P **Pdif** **04 04 30.9 -4.8**
SCO MLR MLR
comp=Z,13µm,19.0s
WTTA Wattenberg 108.96 46 *e*PKiKP **PKiKP** **04 08 40.8 -1.0**
comp=Z,14nm,1.5s
MATE Matera 109.20 54⇓ *i*P PKiKP 04 08 50.9 +8.8
MYKA Terra Mystica 109.90 47 *e*PKiKP **PKiKP** **04 08 45.1 +1.7**
comp=Z,21nm,1.4s
KBA Koelnbreinsper 109.92 46 *e*PKiKP **PKiKP** **04 08 44.5 +1.0**
comp=Z,11nm,1.2s
LJU Ljubljana 110.19 48 *e*Pdiff **Pdif** **04 04 45.4 +2.8**
LJU *e*PP **PP** **04 09 17.6 -1.1**
LJU *e* 04 19 03.2
BOJS Bojanci 110.40 49 *e*Pdiff **Pdif** **04 04 45.7 +2.1**
BOJS *i* PP **PP** **04 09 18.2 -2.1**
BOJS *e*SKSac **SKSac** **04 15 22.9 +2.3**
BOJS *e* 04 17 18.9
BOJS *e* 04 25 20.7
BOJS *e* 04 35 31.2
BOJS *e* 04 42 38.8
OBKA Obir 110.41 47 *e*PKiKP **PKiKP** **04 08 46.2 +1.9**
comp=Z,17nm,1.0s
INK Inuvik 110.54 339 *e*Pdif **Pdif** **04 04 45.4 +1.9**
INK Inuvik 110.54 339 *e*P **Pdif** **04 04 45.4 +1.9**
NKC Novy Kostel 110.79 43 *e*PDIFF **Pdif** **04 04 45.3 +0.1**
NKC *e*PKP **PKiKP** **04 08 46.0 +1.1**
NKC *e*PP **PP** **04 09 15.4 -7.6**
NKC *e*SP SP 04 18 52.1 +2.6
NKC AMS AMS 04 52 40.0
comp=Z,40µm,22.0s
NKC Novy Kostel 110.79 43 *e*P **Pdif** **04 04 45.3 +0.1**
NKC *e* 04 08 46.0
NKC *e*SP SP 04 18 52.1 +2.6
NKC MLR MLR
comp=Z,40µm,22.0s
MOA Molln 110.82 46 *i* PKiKP **PKiKP** **04 08 45.5 +0.5**
GERES GERESS Array B 110.91 45 PKiKP **PKiKP** **04 08 44.6 -0.6**
comp=Z,12nm,1.0s,baz=198,slow=2.5,SNR=16
GERES PKKP **PKKPdf** **04 19 56.5 -5.5**
comp=Z,2.3nm,0.9s,baz=37,slow=3.3,SNR=5.6
KHC Kasperske Hory 110.97 44 *e*PDIFF **Pdif** **04 04 47.6 +1.6**
KHC *e*PKP **PKiKP** **04 08 43.9 -1.4**
KHC *e*PP **PP** **04 09 21.0 -3.3**
KHC *e*SKS **SKSac** **04 15 24.2 +1.3**
KHC *e*SP **SP** **04 18 52.4 +1.2**
KHC *e*PKKP **PKKPdf** **04 19 57.0 -4.9**
KHC *e*SS **SS** **04 24 58.9 +5.1**
KHC AMS AMS 05 00 10.0
comp=Z,26µm,18.2s
KHC Kasperske Hory 110.97 44 *e*P **Pdif** **04 04 47.6 +1.6**
KHC *e* 04 08 43.9
KHC *e* 04 09 21.0
KHC *e* 04 15 24.2
KHC *e*SP SP 04 18 52.4 +1.2
KHC *e* 04 19 57.0
KHC *e*SS **SS** **04 24 58.9 +5.1**
KHC MLR MLR
comp=Z,26µm,18.2s
GROS Grobnik 110.98 48 *e*Pdiff **Pdif** **04 04 47.6 +1.5**
BLY Banja Luka 111.31 50⇑ *i*P **PKiKP** **04 08 46.9 +0.9**
ARSA Arzberg 111.33 47 *i* PKiKP **PKiKP** **04 08 46.3 +0.3**
CLL Collm 111.57 42 *e*Pdif **Pdif** **04 04 51.0 +2.4**
CLL ⇓ *i*PKiKP **PKiKP** **04 08 47.9 +1.6**
comp=Z,19nm,1.1s
CLL *e*PP **PP** **04 09 24.0 -4.5**
CLL *e*PP 04 09 35.0
CLL *e*PPP PPP 04 11 48.0
CLL *e*SKSac **SKSac** **04 15 20.0 -5.1**
CLL *e*Sdif **Sdif** **04 17 04.0 -1.9**
CLL *e*PS **PS** **04 19 01.0 +0.4**
CLL *e* 04 19 32.0
CLL *e*PPS PPS 04 20 20.0
CLL *e*SS **SS** **04 25 00.0 -1.7**
CLL *e* 04 25 54.0
CLL *e*SSS SSS 04 29 12.0
CLL *e* 04 33 24.0
CLL *e*Lmax 04 54 36.0
CLL Lm MLR 04 55 00.0
comp=N,15µm,19.3s
CLL Lm MLR 04 55 00.0
comp=E,24µm,19.3s
CLL Lm MLR 04 55 00.0
comp=Z,38µm,19.2s
CLL Collm 111.57 42 ⇓ *i*PKiKP **PKiKP** **04 08 47.9 +1.6**
CLL *e* 04 15 20.0
CLL pmax pmax
comp=Z,19nm,1.1s
CLL MLR MLR
comp=Z,38µm,19.2s
TIR Tirane 111.66 54⇓ *i*P **PKiKP** **04 08 46.0 -0.8**
TIR Tirane 111.66 54 ⇓PKiKP **PKiKP** **04 08 46.0 -0.8**
MUD Monsted U'grnd 111.78 36 *i* P **Pdif** **04 04 42.6 -6.7**
comp=Z,17µm,18.0s
MUD Monsted U'grnd 111.78 36 *i* P **Pdif** **04 04 42.6 -6.7**
MUD MLR MLR
comp=Z,17µm,18.0s
CONA Conrad Observa 111.82 46 PKiKP **PKiKP** **04 08 46.9 -0.1**
comp=Z,9.6nm,0.9s
PRA Prague 111.87 44 *e*PDIFF **Pdif** **04 04 51.6 +1.7**
PRA *e*PP **PP** **04 09 29.3 -1.4**
PRA *e*SP SP 04 18 59.8 +0.4
PRA *ex* x 04 25 16.9
PRA AMS AMS 04 53 20.0
comp=Z,25µm,21.7s
PRA Prague 111.87 44 *e*P **Pdif** **04 04 51.6 +1.7**
PRA *e* 04 09 29.3
PRA *e*SP SP 04 18 59.8 +0.4
PRA *e*SS SS 04 25 16.9 +11
PRA MLR MLR
comp=Z,25µm,21.7s
PRU Pruhonice 111.90 44 *e*PDIFF **Pdif** **04 04 52.4 +2.3**
PRU *e*PKP **PKiKP** **04 08 47.7 +0.8**
PRU *e*PP **PP** **04 09 27.5 -3.4**
PRU *e*SKS **SKSac** **04 15 25.4 -1.1**
PRU *e*SP **SP** **04 19 00.8 +1.2**
PRU *e*SS **SS** **04 25 10.0 +3.9**
PRU AMS AMS 04 53 10.0
comp=Z,25µm,21.9s
PRU Pruhonice 111.90 44 *e*P **Pdif** **04 04 52.4 +2.3**
PRU *e* 04 08 47.7
PRU *e* 04 09 27.5
PRU *e* 04 15 25.4
PRU *e*SP SP 04 19 00.8 +1.2
PRU *e*SS **SS** **04 25 10.0 +3.9**
PRU MLR MLR
comp=Z,25µm,21.9s
BRG Berggiesshubel 111.92 43 *e*PKP **PKiKP** **04 08 46.9 -0.1**
comp=Z,8.7nm,0.9s
BRG PP PP 04 09 23.0 -8.1
BRG SKS **SKSac** **04 15 27.0 +0.4**
BRG SDIFF **Sdif** **04 17 07.0 -1.9**
BRG PS **PS** **04 19 00.0 -3.9**
BRG *e*PKKP **PKKPab** **04 19 49.5 +3.2**
comp=Z,16nm,1.6s
BRG *e*PKKS 04 23 21.3
comp=Z,18nm,1.8s
BRG SS **SS** **04 25 02.0 -4.4**
comp=N,18µm,18.5s
comp=E,14µm,17.9s
comp=Z,21µm,18.4s
BRG Berggiesshubel 111.92 43 *e*PKiKP **PKiKP** **04 08 46.9 -0.1**
BRG 04 15 27.0
BRG PS **PS** **04 19 00.0 -3.9**
BRG SS SS 04 25 02.0 -4.4
BRG pmax pmax
comp=Z,9.0nm,0.9s
BRG pmax pmax
comp=Z,16nm,1.6s
BRG pmax pmax
comp=Z,18nm,1.8s
BRG MLR MLR
comp=N,18µm,18.5s
BRG MLR MLR
comp=E,14µm,17.9s
BRG MLR MLR
comp=Z,21µm,18.4s
BRG Berggiesshubel 111.92 43 PDIFF **Pdif** **04 04 58.7 +8.5**
comp=Z,3.7nm,1.1s
GOPC GO Pecny, Ondr 112.01 44 *e*PDIFF **Pdif** **04 04 51.6 +1.0**
GOPC *e*SKS **SKSac** **04 15 27.9 +0.9**
GOPC *e*SP **SP** **04 19 01.7 +1.0**
GOPC *e*SS **SS** **04 25 14.1 +6.4**
GOPC AMS AMS 04 56 40.0
comp=Z,20µm,19.8s
GOPC GO Pecny, Ondr 112.01 44 *e*P **Pdif** **04 04 51.6 +1.0**
GOPC *e* 04 15 27.9
GOPC *e*SP SP 04 19 01.7 +1.0
GOPC *e*SS **SS** **04 25 14.1 +6.4**
GOPC MLR MLR
comp=Z,20µm,19.8s
PVCC Panska Ves 112.14 43 *e*PDIFF **Pdif** **04 04 53.0 +1.9**
PVCC *e*PKP **PKiKP** **04 08 47.9 +0.5**
PVCC *e*PP **PP** **04 09 29.0 -3.6**
PVCC *e*SP SP 04 19 02.4 +0.6
PVCC *ex* x 04 25 23.9
PVCC AMS AMS 05 00 50.0
comp=Z,23µm,17.2s
PVCC Panska Ves 112.14 43 *e*P **Pdif** **04 04 53.0 +1.9**
PVCC *e* 04 08 47.9
PVCC *e* 04 09 29.0
PVCC *e*SP SP 04 19 02.4 +0.6
PVCC *e*SS SS 04 25 23.9 +15
PVCC MLR MLR
comp=Z,23µm,17.2s
TREC Trest 112.17 45 *e*PKP **PKiKP** **04 08 47.1 -0.4**
TREC *e*PP **PP** **04 09 25.5 -7.4**
TREC *e*SP SP 04 19 06.9 +4.7
TREC AMS AMS 04 59 50.0
comp=Z,25µm,18.0s
TREC Trest 112.17 45 *e*PKiKP **PKiKP** **04 08 47.1 -0.4**
TREC *e*SP SP 04 19 06.9 +4.7
TREC MLR MLR
comp=Z,25µm,18.0s
ZST Bratislava 112.69 46 *e*PP PP 04 09 31.8 -4.8
VRAC Vranov 112.83 45⇓ *i*P **PKiKP** **04 08 50.2 +1.4**
VRAC Vranov 112.83 45 ⇓PKiKP **PKiKP** **04 08 50.2 +1.4**
MODS Modra-Piesok 112.87 46 *e*PKP **PKiKP** **04 08 48.1 -0.8**
MODS *e*PP **PP** **04 09 33.2 -4.7**
MODS Modra-Piesok 112.87 46 *e*PKiKP **PKiKP** **04 08 48.1 -0.8**
UPC Upice 112.97 44 *e*PKP **PKiKP** **04 08 50.4 +1.4**
UPC *e*PP **PP** **04 09 33.5 -5.1**
UPC *e*SP SP 04 19 14.0 +4.5
UPC AMS AMS 04 53 50.0
comp=Z,25µm,22.1s
UPC Upice 112.97 44 *e*PKiKP **PKiKP** **04 08 50.4 +1.4**
UPC *e*SP SP 04 19 14.0 +4.5
UPC MLR MLR
comp=Z,25µm,22.1s
DPC Dobruska-Polom 113.09 44 *e*PDIFF **Pdif** **04 04 55.3 -0.1**
DPC *e*PKP **PKiKP** **04 08 49.7 +0.4**
DPC *e*PP **PP** **04 09 34.6 -4.9**
DPC *e*PS **PS** **04 19 15.9 +1.1**
DPC *e*PKKP **PKKPab** **04 19 48.9 +7.7**
DPC *ex* x 04 19 58.8
DPC AMS AMS 04 54 00.0
comp=Z,24µm,22.6s
COP Copenhagen 113.10 38 *i* P **Pdif** **04 04 53.7 -1.5**
comp=Z,20µm,20.0s
COP Copenhagen 113.10 38 *i* P **Pdif** **04 04 53.7 -1.5**
COP MLR MLR
comp=Z,20µm,20.0s
ILAR Eielson Array 113.16 333 Pdiff **Pdif** **04 04 55.0 -0.3**
comp=Z,0.5nm,0.8s,baz=145,slow=2.8,SNR=5.3
ILAR PKiKP **PKiKP** **04 08 48.9 0.0**
comp=Z,4.8nm,0.8s,baz=156,slow=0.9,SNR=16
ILAR PKKPbc **PKKPbc** **04 19 35.8 -0.7**
comp=Z,3.2nm,0.8s,baz=286,slow=2.6,SNR=8.0
KRLC Kraliky 113.25 45 *e*PKP **PKiKP** **04 08 49.8 +0.2**
KRLC Kraliky 113.25 45 *e*PKiKP **PKiKP** **04 08 49.8 +0.2**
KRLC *e* 05 05 01.5
KSP Ksiaz 113.27 44 *e*PKPdf **PKiKP** **04 08 49.6 +0.1**
KSP *e*PP **PP** **04 09 39.7 -1.0**
KSP *e*SKPdf **SKPdf** **04 12 17.7 -5.1**
KSP *e*SKSdf **SKSdf** **04 15 50.6 -8.7**
KSP *e*PS **PS** **04 19 16.8 +0.5**
KSP *e*SS **SS** **04 25 34.9 +11**
KSP LMZ LR 04 55 08.6
comp=Z,26µm,21.3s
KSP Ksiaz 113.27 44 *e*PKiKP **PKiKP** **04 08 49.6 +0.1**
KSP *e* 04 09 39.7
KSP *e* 04 15 50.6
KSP *e*PS **PS** **04 19 16.8 +0.5**
KSP *e*SS SS 04 25 34.9 +11
KSP MLR MLR
comp=Z,26µm,21.3s
KONO Kongsberg 113.36 33*d* *i*PKiKP **PKiKP** **04 08 50.0 +0.6**
KONO MLR MLR
comp=Z,15µm,21.0s
COLA College 113.58 333⇑ *e*PKiKP **PKiKP** **04 08 50.4 +0.8**
MORC Moravsky Berou 113.59 45⇑ *i*P **PKiKP** **04 08 50.8 +0.6**

MORC	Moravsky Berou	113.59	45	⇑PKIKP	PKiKP	04 08 50.8	+0.6	
VYHS	Vyhne	113.87	47	*e*PKP	PKiKP	04 08 50.6	-0.2	
DAG	Danmarks Havn	113.90	12	*i* P	Pdif	04 04 54.8	-3.6	
	comp=Z,5.9nm,0.9s							
	comp=Z,22µm,19.0s							
DAG	Danmarks Havn	113.90	12	*i* P	PKKPbc	04 19 31.7	-2.4	
	comp=Z,16nm,1.1s							
DAG	Danmarks Havn	113.90	12	*i* P	Pdif	04 04 54.8	-3.6	
DAG				pmax	pmax			
	comp=Z,6.0nm,0.9s							
DAG				MLR	MLR			
	comp=Z,22µm,19.0s							
OKC	Ostrava-Krasne	113.97	45	*e*PKP		04 08 52.6		
OKC				*e*SKS	SKSac	04 15 34.2	-0.5	
OKC				AMS	AMS	04 55 00.0		
	comp=Z,19µm,21.7s							
OKC	Ostrava-Krasne	113.97	45	*e*PKIKP		04 08 52.6		
OKC				*e*		04 15 34.2		
OKC				MLR	MLR			
	comp=Z,19µm,21.7s							
KKB	Krupnik	114.08	55	P	Pdif	04 04 57.8	-2.2	
BSD	Bornholm Skovb	114.18	39	*i* P	Pdif	04 04 58.0	-2.0	
	comp=Z,44µm,21.0s							
BSD	Bornholm Skovb	114.18	39	*i* P	Pdif	04 04 58.0	-2.0	
BSD				MLR	MLR			
	comp=Z,44µm,21.0s							
MMB	Musomiste	114.41	55	P	Pdif	04 04 59.8	-1.7	
VTS	Vitosha	114.44	54	⇑*i*P	PKPdf	04 08 51.7	-0.5	
VTS	Vitosha	114.44	54	P	Pdif	04 04 59.8	-2.0	
VTS	Vitosha	114.44	54	P	PP	04 09 47.9	-1.5	
VTS	Vitosha	114.44	54	⇑PKIKP	PKPdf	04 08 51.7	-0.5	
LANS	Liptovska Anna	114.51	46	*e*PKP	PKPdf	04 08 53.9	+1.9	
LANS	Liptovska Anna	114.51	46	*e*PKIKP	PKPdf	04 08 53.9	+1.9	
BZS	Buzias	114.53	50	⇑*i*P	PKPdf	04 08 52.4	+0.3	
BZS	Buzias	114.53	50	⇑PKIKP	PKPdf	04 08 52.4	+0.3	
NB2	NORSAR Subarra	114.66	32	PKPdf	PKPdf	04 08 51.4	-0.5	
	comp=Z,8.7nm,1.0s,baz=248,slow=1.9							
NB2	NORSAR Subarra	114.66	32	P	PKKPbc	04 19 34.3	+3.0	
	comp=Z,13nm,1.4s,baz=70,slow=4.4							
NB2	NORSAR Subarra	114.66	32	P	PKKPbc	04 19 34.3	+3.0	
	baz=70,slow=4.4							
NOA	NORSAR Array B	114.66	32	PKP	PKPdf	04 08 51.5	-0.4	
	comp=Z,7.4nm,0.9s,baz=251,slow=2.1,SNR=19							
NOA				PKKPbc	PKKPab	04 19 35.0	+1.2	
	comp=Z,1.8nm,0.7s,baz=68,slow=4.6,SNR=8.5							
GKP	Gorka Klasztor	114.74	41	*e*PKPdf	PKPdf	04 08 53.7	+1.5	
GKP				*e*PP	PP	04 09 47.4	-3.6	
GKP				*e*PS	PKKPab	04 19 34.8	+1.1	
GKP				*e*SS	SS	04 25 59.4	+16	
GKP				LMZ	LR	04 56 38.7		
	comp=Z,42µm,20.2s							
GKP	Gorka Klasztor	114.74	41	*e*PKIKP	PKPdf	04 08 53.7	+1.5	
GKP				*e*		04 09 47.4		
GKP				*e*PS	PKKPab	04 19 34.8	+1.1	
GKP				*e*SS	SS	04 25 59.4	+16	
GKP				MLR	MLR			
	comp=Z,42µm,20.2s							
HERR	Herculane	114.78	51	⇑*i*P	PKPdf	04 08 53.0	+0.4	
SIRR	Siria	114.80	50	⇓*i*P	PKPdf	04 08 54.0	+1.4	
MPEP	Malo Peshtene	115.09	53	P	PP	04 09 50.9	-2.9	
OJC	Ojcow	115.10	45	*e*PKPdf	PKPdf	04 08 53.4	+0.3	
OJC				*e*PP	PP	04 09 49.5	-4.1	
OJC				*e*SKPdf	SKiKP	04 12 29.1	+2.6	
OJC				*e*PS	PS	04 19 39.5	+6.4	
OJC				*e*SS	SS	04 25 43.0	-5.5	
OJC				LMZ	LR	04 55 40.0		
	comp=Z,24µm,22.3s							
OJC	Ojcow	115.10	45	*e*PKIKP	PKPdf	04 08 53.4	+0.3	
OJC				*e*		04 12 29.1		
OJC				*e*PS	PS	04 19 39.5	+6.4	
OJC				*e*SS	SS	04 25 43.0	-5.5	
NIE	Niedzica	115.11	46	*e*PKPdf	PKPdf	04 08 52.9	-0.3	
NIE				*e*PP	PP	04 09 51.9	-1.9	
NIE				*e*SKSdf	SKSdf	04 16 01.9	-1.1	
NIE				*e*PS	PS	04 19 37.7	+4.4	
NIE				*e*SS	SS	04 26 03.7	+15	
NIE				*e*SKKSdf	tx	04 26 29.2		
NIE				LMZ	LR	04 55 40.4		
	comp=Z,22µm,22.6s							
NIE	Niedzica	115.11	46	*e*PKIKP	PKPdf	04 08 52.9	-0.3	
NIE				*e*		04 09 51.9		
NIE				*e*		04 16 01.9		
NIE				*e*PS	PS	04 19 37.7	+4.4	
NIE				*e*SS	SS	04 26 03.7	+15	
NIE				MLR	MLR			
	comp=Z,22µm,22.6s							
RZN	Rozhen	115.14	55	P	PP	04 09 51.4	-3.0	
URLA	Izmir	115.21	59	*i* P	PP	04 09 51.4	-3.4	
PLD	Plovdiv	115.28	55	P	PP	04 09 53.0	-2.1	
DGB	˙zmir	115.30	60	*i* P	PP	04 09 52.5	-2.8	
BDRM	Kayabasi	115.33	61	*i* P	PP	04 09 52.2	-3.4	
BOZC	Bozcaada	115.38	58	*i* P	PP	04 09 51.5	-4.4	
GCAM	G?zelcaml?	115.42	60	*i* P	PP	04 09 52.7	-3.4	
COLD	Coldfoot	115.45	335	*e*PKPdf	PKPdf	04 08 54.3	+1.0	
HFS	Hagfors	115.45	34	PKP	PKPdf	04 08 52.3	-1.1	
	comp=Z,6.3nm,0.7s,baz=174,slow=3.0,SNR=8.9							
KDZ	Kurdzhali	115.61	56	P	Pdif	04 05 09.1	+2.3	
KDZ	Kurdzhali	115.61	56	P	PP	04 09 52.9	-4.6	
AYVA	Ayvalik	115.64	58	*i* P	PP	04 09 55.3	-2.4	
CRVS	Cervenica-Dubn	115.64	47	*e*PP	PP	04 09 53.0	-4.5	
DRGR		115.67	49	⇓*i*P	PKPdf	04 08 54.0	-0.1	
DRGR		115.67	49	⇓PKIKP	PKPdf	04 08 54.3	-0.1	
STHS	Stebnicka Huta	115.69	46	*e*PKP	PKPdf	04 08 53.4	-0.9	
STHS	Stebnicka Huta	115.69	46	*e*PKIKP	PKPdf	04 08 53.4	-0.9	
BAYC	CANAKKALE_Bay	115.69	58	*i* P	PP	04 09 55.4	-2.8	
TOLK	Toolik Lake Re	115.80	337	PKiKP	PKiKP	04 08 54.4	+0.4	
	baz=113							
TOLK	Toolik Lake Re	115.80	337	*e*PKPdf	PKPdf	04 08 54.1	+0.2	
LOT	Lotru	115.88	51	⇓*i*P	PKPdf	04 08 55.1	+0.2	
TRPA	Tarpa	116.04	48	⇑*i*P	PKPdf	04 08 55.3	+0.4	
UZH	Uzhgorod	116.06	47	*c i*PKIKP	PKPdf	04 08 56.0	+1.1	
UZH				*i*		04 08 59.2		
UZH				*e*		04 09 06.6		
UZH				*e*	SKSdf	04 16 01.2	-3.5	
UZH				*i* PS	tx	04 20 49.2		
TURN	Turunc	116.11	62	*i* P	PP	04 09 54.3	-6.8	
PVL	Pavlikeni	116.12	54	P	PP	04 09 56.1	-4.9	
KESN	Edirne-Kesan	116.19	57	*i* P	PP	04 09 57.1	-5.0	
CJR	Cluj-Napoca	116.21	50	⇑*i*P	PKPdf	04 08 56.2	+0.8	
CJR	Cluj-Napoca	116.21	50	⇑PKIKP	PKPdf	04 08 56.2	+0.8	
BEL	Belsk	116.26	44	*e*PKPdf	PKPdf	04 08 56.6	+1.4	
BEL				*e*PS	PKKPdf	04 19 49.8	-1.9	
BEL				LMZ	LR	04 57 32.1		
	comp=Z,28µm,20.4s							
BEL	Belsk	116.26	44	*e*PKIKP	PKPdf	04 08 56.6	+1.4	
BEL				*e*PS	PKKPdf	04 19 49.8	-1.9	
BEL				MLR	MLR			
	comp=Z,28µm,20.4s							
IM3	Indian Mountai	116.28	333	*e*PKPdf	PKPdf	04 08 54.9	0.0	
AKHS	Akhisar	116.28	59	*i* P	PP	04 09 59.3	-3.0	
HUMR	Humele	116.35	52	⇑*i*P	PKPdf	04 08 55.3	-0.4	
STEP	BALIKESIR_Sava	116.40	59	*i* P	PP	04 09 56.8	-6.3	
BALY	Balya	116.46	58	*i* P	PP	04 09 58.5	-5.1	
SART	Tekirdag	116.50	57	*i* P	PP	04 09 59.6	-4.2	
SZH	Strazhica	116.55	54	P	Pdif	04 05 08.8	-2.1	
TAVA	DENIZLI_Tavas	116.56	61	*i* P	PP	04 09 57.2	-7.2	
AKAS	Kas	116.62	63	*i* P	PP	04 10 03.5	-1.3	
KWP	Kalwaria Pacla	116.66	47	*e*PKPdf	PKPdf	04 08 56.0	-0.1	
KWP				*e*PP	PP	04 10 00.6	-4.0	
KWP				*e*SKSac	SKSac	04 15 48.2	+3.2	
KWP				*e*PS	PKKPdf	04 19 55.7	+4.7	
KWP				LMZ	LR	04 56 31.6		
	comp=Z,28µm,22.8s							
KWP	Kalwaria Pacla	116.66	47	*e*PKIKP	PKPdf	04 08 56.0	-0.1	
KWP				*e*		04 10 00.6		
KWP				*e*		04 15 48.2		
MANT	Manisa	116.68	60	*i* P	PP	04 10 02.4	-2.9	
VOIR		116.72	52	⇓*i*P	PKPdf	04 08 56.6	+0.2	
VOIR		116.72	52	⇓PKIKP	PKPdf	04 08 56.6	+0.2	
ARCR	ARCALIA	116.83	50	⇑*i*P	PKPdf	04 08 56.7	+0.2	
GOLH	Golhisar	116.96	61	*i* P	PP	04 10 05.8	-1.3	
DEMI	Demirci	117.00	59	*i* P	PP	04 10 03.5	-3.8	
DURS	Dursunbey	117.03	59	*i* P	PP	04 10 02.8	-4.7	
DOPR	Dopca	117.12	51	⇑*i*P	PKPdf	04 08 57.3	+0.2	
SECR		117.25	52	⇑*i*P	PKPdf	04 08 57.9	+0.5	
KHAL	Karahalli	117.32	60	*i* P	PP	04 10 05.2	-4.5	
MLR	Muntele Rosu	117.33	52	PKP	PKPdf	04 08 56.6	-1.1	
	comp=Z,5.3nm,0.9s,baz=221,slow=2.3,SNR=20							
MLR	Muntele Rosu	117.33	52	⇓*i*P	PKPdf	04 08 58.9	+1.2	
MLR	Muntele Rosu	117.33	52	*e*PKPdf	PKPdf	04 08 57.0	-0.7	
MLR	Muntele Rosu	117.33	52	⇓PKIKP	PKPdf	04 08 58.9	+1.2	
KORT	Korkueli	117.46	62	*i* P	PP	04 10 07.0	-3.7	
BRDR	BURDUR-Merkez	117.50	61	*i* P	PP	04 10 07.5	-3.4	
LVV	L'vov	117.53	47	*e*PKIKP	PKPdf	04 08 57.5	-0.3	
LVV				*e*		04 19 51.8		
LVV				*e*		04 21 20.6		
LVV				MLR	MLR			
	comp=Z,8µm,23.0s							
LVV				MLR	MLR			
	comp=N,4µm,23.0s							
LVV				MLR	MLR			
	comp=E,6µm,23.0s							
PRD	Provadia	117.53	55	P	Pdif	04 05 06.5	-8.8	
PRD	Provadia	117.53	55	P	PP	04 09 54.0	-17	
ELBA	Catalca	117.54	57	*i* P	PP	04 10 08.2	-2.8	
BUR04	Bucovina Ar. S	117.56	49	*e*PKPdf	PKPdf	04 08 57.9	-0.1	
BUR08	Bucovina Ar. S	117.56	49	*e*PKPdf	PKPdf	04 08 58.2	+0.2	
BURAR	Bucovina Array	117.56	49	⇑*i*P	PKPdf	04 09 00.1	+2.1	
BURAR	Bucovina Array	117.56	49	⇑PKIKP	PKPdf	04 09 00.1	+2.1	
GDZ	Gediz	117.57	60	*i* P	PP	04 10 05.6	-5.8	
ISR	Istrita	117.60	52	⇓*i*P	PKPdf	04 08 59.2	+1.1	
ISR	Istrita	117.60	52	⇓PKIKP	PKPdf	04 08 59.2	+1.1	
KZIL	AFYON_Kizioren	117.76	61	*i* P	PP	04 10 07.0	-5.7	
PLOR	Plostina	117.91	52	⇑*i*P	PKPdf	04 08 58.0	-0.7	
PLOR	Plostina	117.91	52	⇑PKIKP	PKPdf	04 08 58.0	-0.7	
BUY	Buyukada	117.93	58	*i* P	PP	04 10 10.7	-2.9	
VRI	Vrincioaia	117.97	52	⇓*i*P	PKPdf	04 08 58.1	-0.7	
VRI	Vrincioaia	117.97	52	⇓PKIKP	PKPdf	04 08 58.1	-0.7	
PRAR	RASCA	118.12	50	⇑*i*P	PKPdf	04 08 59.4	+0.4	
TESR	Tescani	118.13	51	⇑*i*P	PKPdf	04 08 57.6	-1.4	
BAGO	Egridir - ISPA	118.14	61	*i* P	PP	04 10 10.7	-4.7	
ODBI	Odobesti	118.15	52	⇓*i*P	PKPdf	04 08 59.8	+0.7	
PSN	Preselentsi	118.23	54	P	PP	04 10 12.1	-3.6	
AUBOZ	BOZOYUK	118.26	59	*i* P	PP	04 10 13.2	-2.9	
AUKUT	KUTAHYA	118.27	59	*i* P	PP	04 10 15.0	-1.2	
SUW	Suwalki	118.33	42	*e*PKPdf	PKPdf	04 08 58.2	-0.9	
SUW				*e*PP	PP	04 10 14.2	-1.8	
SUW				*e*SP	SP	04 20 01.1	+3.1	
SUW				*e*PS	PS	04 20 06.2	+4.0	
SUW				*e*SS	SKKSdf	04 26 44.7	-14	
SUW				LMZ	LR	04 59 01.2		
	comp=E,35µm,20.6s							
SUW	Suwalki	118.33	42	*e*PKPdf	PKPdf	04 08 58.5	-0.6	
SUW	Suwalki	118.33	42	*e*PKIKP	PKPdf	04 08 58.5	-0.6	
KEPZ	Antalya-Kepez	118.36	62	*i* P	PP	04 10 13.3	-3.6	
HARR	Harsova	118.39	53	⇑*i*P	PKPdf	04 08 59.5	0.0	
HARR	Harsova	118.39	53	⇑PKIKP	PKPdf	04 08 59.5	0.0	
BOLV	Bolvadin	118.51	60	*i* P	PP	04 10 13.3	-4.7	
BORA	Eskisehir	118.55	59	*i* P	PP	04 10 12.8	-5.3	
TIRR	Tirgusor	118.64	53	⇓*i*P	PKPdf	04 09 00.6	+0.6	
TIRR	Tirgusor	118.64	53	*e*PKPdf	PKPdf	04 08 58.9	-1.2	
TIRR	Tirgusor	118.64	53	⇓PKIKP	PKPdf	04 09 00.6	+0.6	
GEYV	SAKARYA_Geyve	118.64	58	*i* P	PP	04 10 13.5	-5.2	
CFR	Carcaliu	118.69	53	⇑*i*P	PKPdf	04 08 59.7	-0.4	
CFR	Carcaliu	118.69	53	⇑PKIKP	PKPdf	04 08 59.7	-0.4	
KAND	Kocaeli-Kandir	118.78	58	*i* P	PP	04 10 13.6	-6.0	
DOGA	KONYA_Doganhis	118.83	61	*i* P	PP	04 10 11.9	-8.3	
ASAR	Alice Springs	118.96	207	PKP	PKPdf	04 08 59.9	-1.6	
	comp=E,4.7nm,0.7s,baz=149,slow=1.9,SNR=20							
ASAR				PKKPbc	PKKPbc	04 19 17.6	+2.2	
	comp=E,10nm,0.8s,baz=339,slow=3.1,SNR=19							
ASAR				SKKPbc	SKKPbc	04 23 12.3	+15	
	comp=E,3.8nm,0.8s,baz=351,slow=5.1,SNR=4.5							
AS31	Alice Springs	118.96	207	*e*PKPdf	PKPdf	04 09 01.3	-0.2	
CSS	Mathiatis	118.97	65	*e*PKPdf	PKPdf	04 09 01.4	+0.4	
TLCR		119.14	53	⇑*i*P	PKPdf	04 09 00.6	-0.4	
TLCR		119.14	53	⇑PKIKP	PKPdf	04 09 00.6	-0.4	
LEOM	Leova	119.16	51	⇑*i*P	PKPdf	04 09 00.7	-0.3	
LEOM	Leova	119.16	51	⇑PKIKP	PKPdf	04 09 00.7	-0.3	
SAHE	Sakarya_HENDEK	119.17	58	*i* P	PP	04 10 17.6	-4.6	
BTAS	Taskesti	119.18	58	*i* P	PP	04 10 18.2	-4.2	
KMER	Konya-Meram	119.23	62	*i* P	PP	04 10 18.7	-4.3	
ERMK	Ermenek	119.25	63	*i* P	PP	04 10 18.1	-5.0	
AUMH	MIHALICIK	119.30	59	*i* P	PP	04 10 21.1	-2.2	
KDHN	Kadinhani	119.30	61	*i* P	PP	04 10 17.9	-5.5	
GULN	MERSIN_Gulnar	119.56	64	*i* P	PP	04 10 16.2	-8.9	
KIS	Kishinev	119.69	51	*e*P	Pdif	04 05 26.0	+1.2	
KIS	Kishinev	119.69	51	*e*PKP	PKPdf	04 09 00.0	-2.0	
KIS	Kishinev	119.69	51	*i* PP	PP	04 10 17.0	-8.7	
	comp=E,2µm,14.0s							
KIS				*e*SKP		04 12 30.0		
KIS	Kishinev	119.69	51	*e*PPP	PPP	04 13 00.0		
KIS				*e*SKS	tx	04 15 32.0		
KIS				*e*SKKS		04 17 15.0		
KIS	Kishinev	119.69	51	*i* PS	PS	04 20 13.0	-1.8	
KIS	Kishinev	119.69	51	*e*P	Pdif	04 05 26.0	+1.2	
KIS				*e*		04 09 00.0		
KIS				*e*PPP	PPP	04 13 00.0		
KIS				*i* PS	PS	04 20 13.0	-1.8	
	comp=Z,2µm,14.0s							
KIS				pmax	pmax			
	comp=Z,2µm,20.0s							
SORM	Soroca	119.73	49	⇑*i*P	PKPdf	04 09 00.4	-1.6	
SORM	Soroca	119.73	49	⇑PKIKP	PKPdf	04 09 00.4	-1.6	
MMAI	Mount Meron Ar	119.86	68	PKP	PKPdf	04 09 02.6	-0.3	
	comp=Z,5.0nm,0.6s,baz=251,slow=1.5,SNR=11							
BCAM	Yenicaga	120.03	58	*i* P	PP	04 10 22.2	-6.1	
KKUL	Konya-Kulu	120.11	60	*i* P	PP	04 10 25.7	-3.3	
KIZK	Mersin	120.12	64	*i* P	PP	04 10 22.4	-6.5	
CMDR	Camlidere-ANKA	120.22	59	*i* P	PP	04 10 24.3	-5.3	
BR231	Keskin MP Arra	120.23	60	*e*PKPdf	PKPdf	04 09 00.8	+0.4	
BR231				*e*PKPdf	PKiKP	04 09 04.2	+0.7	
ANTO	Ankara	120.25	60	⇑*i*P	PKPdf	04 09 03.5	+0.1	
ANTO	Ankara	120.25	60	*e*PKPdf	PKPdf	04 09 03.6	+0.1	
ANTO	Ankara	120.25	60	PKiKP	PKiKP	04 09 05.2	+1.7	
	SNR=7.4							
ANTO	Ankara	120.25	60	P	PKiKP	04 09 05.2	+1.7	
	SNR=7.4							
ANTO	Ankara	120.25	60	⇑PKIKP	PKPdf	04 09 03.5	+0.1	
TRO	Tromso	120.35	24	*e*P	PKPdf	04 09 03.1	+0.5	
BBAL	Bala	120.38	60	*i* P	PP	04 10 27.2	-3.6	
IIGN	Ignalina	120.39	41	*e*P	PKPdf	04 09 02.1	-0.9	
IIGN				IAmb	IAmb	04 09 05.4		
	comp=Z,26nm,0.8s							
BTIN	Bart˙–n	120.42	58	*i* P	PP	04 10 23.5	-7.3	
KERG	Konya-Eregli	120.42	63	*i* P	PP	04 10 24.1	-7.1	
AKSY	AKSARAY - Alti	120.56	61	*i* P	PP	04 10 27.3	-4.7	
NACGM	Naroch	120.59	42	*e*PKP	PKPdf	04 09 03.0	-0.5	
NACGM				PKPM		04 09 06.0		
	comp=Z,0.3nm,1.0s							
NACGM				*e*PP	PP	04 10 20.0	-12	
NACGM				*e*PPP	PPP	04 12 40.0		
NACGM				*e*SKS	SKSdf	04 16 00.0	-13	
NACGM				*e*SKKKS		04 17 46.0		
NACGM				*e*PS	PS	04 20 09.0	-14	
NACGM				*e*SS	SKKSdf	04 26 54.0	-0.1	
NACGM				*e*SSS	SSS	04 30 50.0		
NACGM				*e*LQ	LQ	04 48 14.0		
NACGM				LRM	MLR	05 01 53.0		
	comp=N,26nm,21.0s							
NACGM				LRM	MLR	05 01 57.0		
	comp=Z,46nm,21.0s							
NACGM				LRM	MLR	05 02 02.0		
	comp=E,21nm,21.0s							
IDID	Didziasalis	120.67	41	*e*P	PKPdf	04 09 02.6	-0.9	
IDID				IAmb	IAmb	04 09 05.8		
	comp=Z,25nm,0.9s							
BR131	Keskin Array S	120.82	60	*e*PKPdf	PKPdf	04 09 04.5	-0.2	
BRTR	Keskin Array B	120.82	60	PKP	PKPdf	04 09 04.4	-0.2	
	comp=Z,24nm,0.9s,baz=200,slow=2.8,SNR=44							
GULE	Gulek	120.87	63	*i* P	PP	04 10 27.4	-6.8	
HSPB	Hornsund (broa	120.87	15	*e*P	Pdif	04 05 37.6	+8.2	
HSPB				*e*		04 10 29.4		
HSPB				*e*PS	PS	04 20 28.0	+3.6	
HSPB				*e*SS	SS	04 27 06.4	+4.4	
KIF	Kilpisjarvi	120.88	25	*e*P	PKPdf	04 09 02.3	-1.3	
ELDT	Eldivan	120.91	59	*i* P	PP	04 10 31.5	-2.9	
KIEV	Kiev	120.96	47	*e*PKPdf	PKPdf	04 09 03.1	-1.2	
KIEV	Kiev	120.96	47	*i* P	PKPdf	04 09 03.2	-1.1	
	SNR=46							
KIEV	Kiev	120.96	47	*c i*PKIKP	PKPdf	04 09 03.0	-1.2	
KIEV				MLR	MLR			
	comp=Z,19µm,21.0s							
AKASG	Malin Array Be	120.98	47	PKP	PKPdf	04 09 03.0	-1.3	
	comp=Z,35nm,0.8s,baz=266,slow=2.5,SNR=62							
AKASG				PKKPbc	PKKPbc	04 19 10.7	+2.5	
	comp=Z,2.3nm,0.9s,baz=57,slow=4.7,SNR=4.1							
AKBB	Malin Array Si	120.98	47	*e*PKPdf	PKPdf	04 09 03.1	-1.2	
AKBB	Malin Array Si	120.98	47	*e*PKIKP	PKPdf	04 09 03.2	-1.2	
MICGM	Minsk	121.12	42	*e*P	PKPdf	04 09 10.0	+5.5	
MICGM				*e*PP	PP	04 10 32.0	-3.2	
MICGM				*e*PPP	PPP	04 13 12.0		
MICGM				*e*SKS	SKSdf	04 16 00.0	-14	
MICGM				*e*SKKS	SKKSac	04 17 32.0	+0.2	
MICGM				*e*PS	PS	04 20 23.0	-4.2	
MICGM				*e*SS	SS	04 27 08.0	+1.8	
MICGM				*e*SSS	SSS	04 31 26.0		
MICGM				*e*LR	LR	05 48 26.0		
MICGM				LRM	MLR	06 00 56.0		
	comp=E,33nm,20.0s							
MICGM				LRM	MLR	06 01 00.0		
	comp=Z,37nm,19.0s							
MNK	Minsk	121.12	42	*e*PKIKP	PKPdf	04 09 10.0	+5.5	
MNK				*e*		04 10 32.0		
MNK				*e*PPP	PPP	04 13 12.0		
MNK				*e*		04 16 00.0		
MNK				*e*PS	PS	04 20 23.0	-4.2	
MNK				*e*SS	SS	04 27 08.0	+1.8	
MNK				MLR	MLR			
	comp=E,33µm,20.0s							
MNK				MLR	MLR			
	comp=Z,37µm,19.0s							
SPA0	Spitsbergen Ar	121.26	14	*e*PKPdf	PKPdf	04 09 05.9	+1.7	
SPA0	Spitsbergen Ar	121.26	14	*e*P	PKPdf	04 09 03.9	-0.3	
SPITS	Spitsbergen Ar	121.26	14	PKKPbc	PKKPbc	04 19 08.1	+0.5	
	comp=Z,11nm,0.9s,baz=82,slow=6.1,SNR=7.4							
ILGA	Ilgaz	121.29	59	*i* P	PP	04 10 30.5	-6.6	
ILGA	Ilgaz	121.29	59	*e*PKPdf	PKPdf	04 09 07.3	+1.7	
CDAG	Cicekdag	121.32	60	*i* P	PP	04 10 29.9	-7.3	
BJO	Bjornoya	121.33	18	*e*P	PKPdf	04 09 07.0	+2.6	
VSU	Vasula	121.38	38	*c i*PKIKP	PKPdf	04 09 04.2	-0.6	
VSU				MLR	MLR			
	comp=Z,38µm,20.0s							
AVNS	Nevsehir-Avano	121.42	61	*i* P	PP	04 10 32.4	-5.5	
YAYL	Yayladag	121.46	65	*i* P	PP	04 10 27.5	-11	
YAHY	KAYSERI_Yahyal	121.57	62	*i* P	PP	04 10 33.8	-5.2	
FINES	FINESS Array B	121.64	34	PKP	PKPdf	04 09 04.9	-0.3	
	comp=Z,21nm,0.8s,baz=101,slow=1.9,SNR=27							
FINES				PKPbc	PKKPbc	04 19 07.0	+1.1	
	comp=Z,3.6nm,0.6s,baz=74,slow=5.4,SNR=16							
FIA1	FINESS Array S	121.64	34	*e*PKPdf	PKPdf	04 09 04.5	-0.8	
FIA1				*e*PKPdf	PKiKP	04 09 06.3	+0.9	
KTK1	Kautokeino	121.75	25	*e*P	PKPdf	04 09 04.5	-0.8	
HEF	Hetta	121.81	26	*e*P	PKPdf	04 09 03.5	-2.0	
CTAK	Corum_Osmancik	121.94	59	*i* P	PP	04 10 34.3	-7.2	
COAL	Corum-Alaca	121.97	60	*i* P	PP	04 10 36.3	-5.3	
SAIM	ADANA	122.08	63	*i* P	PP	04 10 39.3	-3.1	
WB2	Warramunga Arr	122.14	209	*e*PKPdf	PKPdf	04 09 06.4	-1.3	
WB2				*e*PKPdf	PKiKP	04 09 06.7	-1.1	
WRA	Warramunga Arr	122.14	209	PKP	PKPdf	04 09 06.7	-1.0	
	comp=Z,14nm,0.9s,baz=157,slow=1.8,SNR=46							
WRA				PKKPbc	PKKPbc	04 19 04.0	+0.5	
	comp=Z,5.2nm,0.6s,baz=339,slow=4.2,SNR=30							
WRA				SKKPbc	S

baz=116,slow=76,SNR=238
H11N2 WAKE ISLAND Hyt 26.58 271 T T 06 28 48.7
baz=116,slow=76,SNR=1844
SIRN S¯–rnak 126.73 65 *i* P **PP** **04 11 07.1 -6.5**
MOS Moscow 126.83 42 *i* PKIKP **PKPdf** **04 09 13.8 -1.6**
MOS *i* 04 11 10.3
MOS *e*PPP PPP 04 13 53.7
MOS *e* 04 16 23.1
MOS *e*PPS PPS 04 22 40.2
MOS *e*SS SS 04 28 17.8 -0.5
MOS pmax pmax
comp=Z,100nm,0.9s
MOS MLR MLR
comp=E,22μm,19.0s
MOS MLR MLR
comp=Z,25μm,19.0s
EKAR Karacoban 126.93 63 *i* P **PP** **04 11 11.1 -3.9**
HOMI Horasan 127.01 62 *i* P **PP** **04 11 09.4 -6.2**
DBAD Bademkaya 127.09 61 *i* P **PP** **04 11 10.3 -5.6**
DDEM Demirkent 127.10 61 *i* P **PP** **04 11 09.9 -6.1**
DBOC Borcka 127.14 60 *i* P PP 04 11 07.8 -8.4
VSR Storozhevoye 127.24 48 *e*PKIKP **PKPdf** **04 09 15.2 -1.1**
VSR *e* 04 11 11.7
VSR *e*SS SS 04 28 27.7 +4.1
VSR pmax pmax
comp=Z,70nm,1.1s
VSR MLR MLR
comp=Z,21μm,20.0s
LPSR Galich'ya Gora 127.27 46 *e*PKIKP **PKPdf** **04 09 16.8 +0.5**
LPSR pmax pmax
comp=Z,110nm,0.8s
ARTV Artvin 127.30 60 *i* P **PP** **04 11 11.6 -5.8**
ADCV BITLIS_Adilcev 127.31 64 *i* P **PP** **04 11 15.3 -2.3**
TMCR Tamitsa 127.34 31 *e*PKIKP **PKPdf** **04 09 15.8 -0.3**
TMCR pmax pmax
comp=Z,74nm,0.9s
EATA Eleskirt 127.40 62 *i* P **PP** **04 11 12.3 -5.9**
GEVA Gevas 127.44 64 *i* P **PP** **04 11 11.8 -6.6**
DGAR Diego Garcia 127.47 133 *e*PKPdf **PKPdf** **04 09 17.7 -0.3**
DGAR Diego Garcia 127.47 133 *e*PKIKP **PKPdf** **04 09 17.7 -0.3**
HAKT HAKKARI 127.74 65 *i* P **PP** **04 11 12.7 -7.7**
TVAN Van 127.76 64 *i* P **PP** **04 11 14.6 -5.9**
EPOS Posof 127.96 60 *i* P **PP** **04 11 15.7 -6.0**
VMUR Van-Muradiye 128.00 64 *i* P **PP** **04 11 17.5 -4.5**
KLMR Klimovskoe 128.07 35 *e*PKPdf **PKPdf** **04 09 16.1 -1.6**
KLMR AMP 04 09 20.0
comp=Z,161nm,1.0s
KLMR *e*PP **PP** **04 11 16.2 -5.3**
KLMR *e*PKS PKSdf 04 12 37.5 -16
KLMR *e*PKS PKSdf 04 12 37.5 -16
KLMR *e*SS **SS** **04 28 27.4 -5.9**
KLMR *e*SS **SS** **04 28 27.4 -5.9**
KLMR LQ LQ 04 51 08.5
KLMR LQ LQ 04 51 08.5
KLMR LR LR 04 57 33.3
KLMR AMP 05 14 14.8
comp=Z,2μm,17.4s
KLMR Klimovskoe 128.07 35 *e*PKIKP **PKPdf** **04 09 16.0 -1.6**
KLMR *e*SS SS 04 28 27.4 -5.9
KLMR pmax pmax
comp=Z,161nm,1.0s
DIGO Kars 128.19 62 *i* P **PP** **04 11 17.9 -5.4**
DYDN Diyadin 128.22 63 *i* P **PP** **04 11 19.2 -4.3**
CLDR Caldiran 128.30 63 *i* P **PP** **04 11 17.9 -6.2**
NEY Neytrino 128.32 58 *d* PKIKP **PKPdf** **04 09 19.8 +0.9**
NEY MLR MLR
comp=Z,14μm,21.0s
EAK Akyaka 128.42 61 *i* P **PP** **04 11 18.8 -6.0**
KIV Kislovodsk 128.43 57 *e*PKPdf **PKPdf** **04 09 19.8 +0.9**
KIV Kislovodsk 128.43 57 PKiKP **PKiKP** **04 09 19.7 +0.1**
SNR=16
KIV Kislovodsk 128.43 57 P **PKiKP** **04 09 19.7 +0.1**
SNR=16
KIV Kislovodsk 128.43 57 *i* P **PKPdf** **04 09 19.0 0.0**
SNR=8.4
KIV Kislovodsk 128.43 57 *i* P **Pdif** **04 06 02.8 -1.1**
KIV *i* 04 09 18.8
KIV *e* 04 11 23.5
KIV *e*PS **PS** **04 21 30.6 -1.8**
KIV *e*SS SS 04 28 38.2 -0.9
KIV *e*SSS SSS 04 33 23.4
KIV pmax pmax
comp=Z,101nm,1.0s
KIV MLR MLR
comp=Z,13μm,23.0s
KBZ Khabaz 128.54 58 PKP **PKPdf** **04 09 19.6 +0.6**
comp=Z,56nm,0.9s,baz=235,slow=2.5,SNR=34
IGDI IGDIR 128.59 63 *i* P **PP** **04 11 19.8 -6.0**
VRH Novokhopyorsk 128.83 48 *e*PKIKP **PKPdf** **04 09 19.4 0.0**
VRH *e* 04 11 23.1
VRH pmax pmax
comp=Z,50nm,0.9s
GOF Gofitskoye 128.88 56⇑ *e*PKIKP **PKPdf** **04 09 21.2 +1.5**
GOF pmax pmax
comp=Z,187nm,1.0s
NCK Nalchik 128.99 58⇓⇓ *i*PKIKP **PKPdf** **04 09 20.8 +0.8**
NCK MLR MLR
comp=Z,21μm,22.0s
ZEI Tsey 129.08 59 *i* PKIKP **PKPdf** **04 09 16.9 -3.5**
ZEI pmax pmax
comp=Z,33nm,1.0s
GNI Garni 129.15 62 PKP **PKPdf** **04 09 21.3 +0.7**
comp=Z,34nm,1.0s,baz=300,slow=0.8,SNR=17
GNI Garni 129.15 62 *e*PKPdf **PKPdf** **04 09 21.9 +1.3**
GNI Garni 129.15 62 PKiKP **PKiKP** **04 09 21.7 +0.4**
SNR=14
GNI Garni 129.15 62 P **PKiKP** **04 09 21.7 +0.4**
SNR=14
GNI Garni 129.15 62 *i* P **PKPdf** **04 09 20.9 +0.3**
SNR=11
GNI Garni 129.15 62 *c* *i*PKIKP **PKPdf** **04 09 20.1 -0.5**
MTN Manton Dam 129.84 209 *e*PKPdf **PKPdf** **04 09 22.2 -0.2**
SHAO Shalim 130.57 94 P **PKPdf** **04 09 25.2 +1.5**
AKT Akhty 131.63 61⇑ *i*PKIKP **PKPdf** **04 09 25.3 +0.1**
AKT pmax pmax
comp=Z,76nm,1.0s
MAK Makhachkala 131.71 59 *i* P **Pdif** **04 06 18.2 -0.1**
MAK *i* 04 09 26.4
MAK *e* 04 11 45.4
MAK *e*PPP PPP 04 14 32.8
MAK *e* 04 16 29.8
MAK *e*PS **PS** **04 21 53.7 -6.9**
MAK *e*SS SS 04 29 24.9 +5.6
MAK pmax pmax
comp=Z,149nm,1.0s
BILL Bilibino 131.78 335 *c* *i*PKIKP **PKPdf** **04 09 24.3 -0.2**
BILL *e* 04 11 50.9
BILL *e*PPP PPP 04 14 32.9
BILL pmax pmax
comp=Z,88nm,1.2s
AJN Ajban 132.80 85 *i* P **PKPdf** **04 09 25.5 -2.2**
SNR=6.1
ALNE Al Ain 133.25 86 *i* P **PKPdf** **04 09 28.5 -0.2**
SNR=9.4
NAZ Nazwa, Dubai 133.53 85 PKiKP **PKiKP** **04 09 32.0 +1.6**
SNR=5.5
NAZ Nazwa, Dubai 133.53 85 P **PKiKP** **04 09 32.0 +1.6**
SNR=5.5
NAZ Nazwa, Dubai 133.53 85 P **PKPdf** **04 09 28.1 -1.0**
UMQ Umm Al-Quwin 133.73 85 P **PKPdf** **04 09 29.3 -0.1**
HATD Hatta, Dubai 133.86 86 P **PKPdf** **04 09 28.8 -1.0**
SOHO SOHO 133.94 87 *i* P **PKPdf** **04 09 29.1 -0.8**
SNR=16
UOSS Minazif 133.97 86 *e*PKPdf **PKPdf** **04 09 30.5 +0.6**
UOSS Minazif 133.97 86 P **PKPdf** **04 09 28.4 -1.5**
SHME Shamm 134.32 84 P **PKPdf** **04 09 29.8 -0.8**
SMDO Samad 134.79 89 pPKPdf pPKPdf 04 09 41.0 -0.5
SNR=7.2
SOEI Soe 135.22 202 *e*PKPdf **PKPdf** **04 09 32.6 -0.2**
WSAR Wadi Sarin 135.35 89 PKP **PKPdf** **04 09 33.0 +0.4**
comp=Z,42nm,0.9s,baz=238,slow=3.4,SNR=26
PLAI Plampang 137.82 194 PKP PKPpre 04 09 30.5
PLAI PKP PKPpre 04 09 30.7
ARU Arti 138.45 40 *e*PKPpre PKPpre 04 09 28.4
ARU Arti 138.45 40 *i* PKIKP **PKPdf** **04 09 36.9 -0.4**
ARU MLR MLR
comp=Z,30μm,23.0s
JAGI Jajag, Banyuwa 138.76 189 *e*PKPdf **PKPdf** **04 09 39.8 +0.5**
PET Petropavlovsk 138.93 315 *e*PKPdf **PKPdf** **04 09 39.6 +1.4**
PET Petropavlovsk 138.93 315 *i* PKHKP PKPpre 04 09 30.2
PET pmax pmax
comp=Z,600nm,17.9s
PET pmax pmax
comp=Z,1μm,19.2s

GEYT Alibeck 138.99 68 PKhKP PKPpre 04 09 29.4
comp=Z,7.8nm,1.0s,baz=269,slow=10,SNR=7.6
GYA0B ALIBECK ARRAY 138.99 68 *e*PKPpre PKPpre 04 09 32.2
SEY Seymchan 139.04 331⇑ *e*PKHKP PKPpre 04 09 29.6
comp=Z,7.4nm,0.7s,baz=102,slow=5.8,SNR=10
SEY Seymchan 139.04 331⇑ *e*PKIKP **PKPdf** **04 09 38.8 +0.7**
MNCY Minicoy 139.23 119 *e*P **PKPdf** **04 09 39.2 -0.8**
TIXI Tiksi 139.43 350 PKhKP PKPpre 04 09 32.0
comp=Z,8.6nm,0.7s,baz=68,slow=3.8,SNR=6.9
TIXI Tiksi 139.43 350 *c* *i*PKIKP **PKPdf** **04 09 37.6 -1.0**
SVE Sverdlovsk 139.46 39 *i* PKHKP PKPpre 04 09 32.9
SVE *e*PPP PPP 04 15 38.2
SVE *e*SSS SSS 04 36 06.9
SVE pmax pmax
comp=Z,63nm,1.3s
SVE MLR MLR
comp=E,17μm,21.0s
SVE MLR MLR
comp=Z,21μm,22.0s
PEA0B Petropavlovsk- 139.48 315 *e*PKPdf **PKPdf** **04 09 38.0 -1.3**
PETK Petropavlovsk- 139.48 315 PKhKP PKPpre 04 09 31.5
comp=Z,6.6nm,0.7s,baz=92,slow=7.3,SNR=8.6
PETK Petropavlovsk- 139.48 315 *e*PKPpre PKPpre 04 09 32.2
CISI Cisompet, Garu 140.03 179 *e*PKPpre PKPpre 04 09 36.1
SMRI Semarang 140.49 183 *e*PKPdf **PKPdf** **04 09 42.6 +0.3**
AB31 Akbulak array 140.52 51 *i* PKHKP PKPpre 04 09 33.2
AB31 pmax pmax
comp=Z,61nm,0.9s
ABKAR Akbulak array 140.52 51 *e*PKPpre PKPpre 04 09 33.3
LEM Lembang 140.75 179 PKhKP PKPpre 04 09 37.7
comp=Z,120nm,0.9s,baz=129,slow=5.9,SNR=7.6
SKR Severo-Kuril's 140.85 312 *e*PKHKP PKPpre 04 09 28.7
SKR *e* 04 12 46.4
SKR *e*SS SS 04 31 11.0 +3.3
SKR pmax pmax
comp=Z,2μm,8.9s
SKR pmax pmax
comp=Z,1μm,8.7s
KAPI Kappang 141.04 198 pPKPdf **PKPdf** **04 09 50.5 +7.1**
SNR=7.6
KAPI Kappang 141.04 198 P **PKPdf** **04 09 50.5 +7.1**
SNR=7.6
MA2 Magadan 141.21 327 PKhKP PKPpre 04 09 36.5
comp=Z,14nm,0.7s,baz=72,slow=2.4,SNR=10.0
MA2 Magadan 141.21 327 *e*PKIKP **PKPdf** **04 09 42.4 +0.2**
SANI Sanana 141.71 209 PKP **PKPdf** **04 09 40.4 -4.2**
TRD Trivandrum 142.25 122 *e*P **PKPdf** **04 09 43.5 -2.0**
MNAI Manna 142.84 171 *e*PKPdf **PKPdf** **04 09 44.4 -2.1**
MDSI Maura Dua 142.86 173 PKP **PKPdf** **04 09 42.3 -4.3**
LUWI Luwuk 143.87 205 *e*PKPdf **PKPdf** **04 09 47.9 -0.5**
MASI Maura Aman, Be 143.94 169 PKP PKPbc 04 09 46.5 +0.2
PALK Pallekele 143.94 128 PKP PKPbc 04 09 46.3 0.0
comp=Z,179nm,0.9s,baz=297,slow=1.4,SNR=55
PALK Pallekele 143.94 128 *e*PKPdf PKPab 04 09 45.7 0.0
PALK Pallekele 143.94 128 PKPdf **PKPdf** **04 09 47.4 -1.1**
SNR=28
PALK Pallekele 143.94 128 *i* P PKPab 04 09 45.2 -0.6
SNR=20
GOA Goa 144.29 110 *e*P **PKPdf** **04 09 49.0 0.0**
GOA IAMs_20 IAMs_20 05 03 44.5
comp=Z,18μm,22.0s
BHJ Bhuj 144.65 95 *e*P **PKPab** **04 09 47.5 -0.6**
BHJ IAMs_20 IAMs_20 05 03 01.2
comp=Z,14μm,28.0s
SISI Saibi 145.08 164 PKP **PKPdf** **04 09 51.3 +0.8**
BOM Bombay 145.30 104 *ex* **PKiKP** **04 10 01.8 +7.2**
BRVK Borovoye 145.94 42 *e*PKPdf **PKPbc** **04 09 51.4 -0.1**
BRVK Borovoye 145.94 42 PKPbc **PKPdf** **04 09 50.9 +0.2**
SNR=124
BRVK Borovoye 145.94 42 P **PKPdf** **04 09 50.9 +0.2**
SNR=124
BRVK Borovoye 145.94 42 *c* *i*PKP2 **PKPdf** **04 09 50.2 -0.5**
POO Poona 145.96 106 *e*P **PKPbc** **04 09 52.4 -0.2**
BVA0 Borovoye Array 146.01 42 PKP2 **PKPbc** **04 09 51.4 -0.3**
BVA0 pmax pmax
comp=Z,209nm,0.8s
BVAR Borovoye Array 146.01 42 PKPbc **PKPbc** **04 09 51.5 -0.2**
comp=Z,104nm,0.6s,baz=302,slow=2.6,SNR=210
URV Uravakonda 146.65 114 *e*PKPdf **PKPdf** **04 09 52.4 -0.6**
BKNI Bangkinang 147.11 166 *e*PKPdf **PKPdf** **04 09 54.5 +0.5**
KUR Kuril'sk 147.17 304 *i* PKP2 **PKPbc** **04 09 55.5 +0.3**
KUR *i* 04 13 24.8
GSI Gunungsitoli 147.20 160 *e*PKPdf **PKPdf** **04 09 53.8 -0.3**
KBL Kabul 147.27 76 *e*PKPdf **PKPdf** **04 09 54.5 +0.7**
KBL Kabul 147.27 76 *e*PKP2 **PKPdf** **04 09 54.5 +0.7**
DZET Dzherino 147.45 68 PKP2 **PKPdf** **04 09 54.7 +0.8**
DZET pmax pmax
comp=Z,397nm,0.9s
YAK Yakutsk 147.58 341 PKPbc **PKPbc** **04 09 55.5 -0.3**
comp=Z,538nm,0.7s,baz=88,slow=0.2,SNR=52
YAK Yakutsk 147.58 341 *e*PKIKP **PKPdf** **04 09 52.5 -0.6**
YAK *e* 04 13 18.8
YAK *e*SSS SSS 04 38 05.9
YAK pmax pmax
comp=Z,1μm,0.9s
YAK pmax pmax
comp=N,256nm,1.5s
YAK pmax pmax
comp=E,319nm,1.4s
YAK pmax pmax
comp=Z,1μm,3.0s
YAK pmax pmax
comp=N,541nm,3.3s
YAK pmax pmax
comp=E,458nm,3.5s
YAK MLR MLR
comp=Z,10μm,21.0s
YAK MLR MLR
comp=N,16μm,24.0s
YAK MLR MLR
comp=E,8μm,29.0s
MDRS Chennai 147.70 121 *e*P **PKPdf** **04 09 55.3 +0.5**
MDRS IAMs_20 IAMs_20 05 00 24.9
comp=Z,15μm,42.8s
SKHT Srikalahasti 147.75 119 *e*PKPdf **PKPdf** **04 09 54.5 -0.3**
KLRI Killari 147.93 109 *e*PKPdf **PKPdf** **04 09 54.7 -0.5**
RCLA Racherla 148.26 116 *e*PKPdf **PKPdf** **04 09 55.7 0.0**
IUG Iuzhnay 148.27 61⇑ *e*PKP **PKPdf** **04 09 55.0 -0.1**
IUG *e*PP **PP** **04 13 27.3 -0.5**
IUG LR LR 05 19 27.6
comp=Z,6μm,20.1s
BRZS Berezniki 148.42 46 *e*PKP **PKPdf** **04 09 55.3 +0.3**
BRZS *e*PP **PP** **04 13 29.4 +1.3**
KK31 Karatay Array 148.53 60 *e*PKPdf **PKPdf** **04 09 55.9 +0.5**
KK31 Karatay Array 148.53 60 *e*PKIKP **PKPdf** **04 09 55.9 +0.5**
KKAR Karatay Array 148.53 60 *e*PKPdf **PKPdf** **04 09 55.9 +0.5**
KKAR Karatay Array 148.53 60 *e*PKIKP **PKPdf** **04 09 55.9 +0.5**
SRLM Srisailam 148.60 115 *e*PKPdf **PKPdf** **04 09 55.8 -0.5**
OTUK Ortayu 148.75 49 PKP2 **PKPbc** **04 09 58.1 -1.3**
OTUK pmax pmax
comp=Z,457nm,1.0s
YUK Yuzh-Kuril'sk 148.77 302 *e*PKHKP PKPpre 04 09 46.1
YUK *e*SS SS 04 32 39.3 +0.5
YUK pmax pmax
comp=Z,265nm,1.2s
KSM Kuching 148.95 184 *e*PKPdf **PKPdf** **04 09 57.1 +0.1**
PSI Prapat 149.00 161 PKP **PKPdf** **04 09 56.0 -1.2**
comp=Z,35nm,0.7s,baz=267,slow=1.1,SNR=15
PSI PKPbc **PKPbc** **04 10 00.4 -0.8**
comp=Z,266nm,0.8s,baz=241,slow=1.8,SNR=66
PSI Prapat 149.00 161 *e*PKPdf **PKPdf** **04 09 57.4 +0.2**
PSI Prapat 149.00 161 *e*PKIKP **PKPdf** **04 09 57.4 +0.2**
MYKOM Kota Tinggi 149.01 171 *e*PKPdf **PKPdf** **04 09 56.5 -0.5**
TYV Tymovskoe 149.02 316 *e*PKIKP **PKPdf** **04 09 55.3 -0.6**
TYV pmax pmax
comp=Z,3μm,4.4s
TYV pmax pmax
comp=Z,171nm,1.0s
HYB Hyderabad 149.11 112 *i* PKP **PKPdf** **04 09 57.0 -0.1**
HYB *e*PP **PP** **04 13 32.0 -0.6**
HYB *e* 04 23 44.0
HYB *e*PPS PPS 04 26 22.0
HYB *e*SS SS 04 32 36.0 -7.1
HYB Hyderabad 149.11 112 *e*P **PKPdf** **04 09 56.5 -0.6**
HYBB Hyderabad (bro 149.11 112 *e*PKPdf **PKPdf** **04 09 56.4 -0.7**
NKL Nikolayevsk 149.12 321 *i* PKIKP **PKPdf** **04 09 55.0 -0.9**
NKL pmax pmax
comp=N,60nm,1.0s
NKL pmax pmax
comp=E,110nm,1.0s
NKL pmax pmax
comp=Z,47nm,1.0s
NKL pmax pmax
comp=N,1μm,15.0s

NKL pmax pmax
comp=E,2μm,15.0s
NKL pmax pmax
comp=Z,8μm,15.0s
NJS Nagarjunasagar 149.19 114 *e*PKPdf **PKPdf** **04 09 56.8 -0.4**
ADKI Addanki 149.26 116 *e*PKPdf **PKPdf** **04 09 57.2 -0.1**
SBUM Sibu 149.76 188 *e*PKPdf **PKPdf** **04 09 59.2 +1.0**
SRSP Sriramsagar 149.78 109 *e*PKPdf **PKPdf** **04 09 57.4 -0.7**
DAV Davao City (W) 149.98 216⇑ *i* P **PKPdf** **04 09 56.9 -1.7**
YSS Yuzh-Sakhalins 150.27 309 *e*PKPbc **PKPbc** **04 10 02.4 -0.8**
YSS Yuzh-Sakhalins 150.27 309⇑ *i*PKIKP **PKPdf** **04 09 57.0 -1.0**
YSS *e* 04 13 38.0
YSS *e*SS SS 04 32 57.0 +1.8
YSS pmax pmax
comp=Z,20nm,1.3s
YSS pmax pmax
comp=Z,2μm,3.7s
RPR Rampur 150.50 111 *e*PKPdf **PKPdf** **04 09 58.5 -0.6**
NIL Nilore 150.61 78 *e*PKPdf **PKPdf** **04 09 59.4 +0.4**
NIL Nilore 150.61 78 *e*PKIKP **PKPdf** **04 09 59.4 +0.4**
LHMI Lhok Sumawe 150.69 156 *e*PKPdf **PKPdf** **04 10 00.8 +1.1**
EKS2 Erkin-Say 150.97 60 P **PKPdf** **04 10 01.8 +2.4**
SNR=22
AML Almayashu 150.98 61 P **PKPdf** **04 10 00.7 +0.9**
SNR=53
ERM Erimo 151.01 299 *e*PKPbc **PKPbc** **04 10 06.2 +1.1**
ERM Erimo 151.01 299 *c* *i*PKIKP **PKPbc** **04 10 06.7 +1.6**
ASAJ Asahikawa 151.07 303 PKP **PKPdf** **04 10 00.6 +1.3**
comp=Z,24nm,0.7s,baz=259,slow=14,SNR=5.4
ASAJ PKPbc **PKPbc** **04 10 03.3 -1.9**
comp=Z,91nm,0.8s,baz=217,slow=2.2,SNR=45
ASAJ Asahikawa 151.07 303 *e*PKPdf **PKPdf** **04 10 01.0 +1.7**
BHPL Bhopal 151.13 101 *e*P **PKPdf** **04 10 00.7 +0.5**
IPM Ipoh 151.14 165 *e*PKPdf **PKPdf** **04 10 01.2 +0.8**
PVM Polavaram 151.38 116 *e*PKPdf **PKPdf** **04 10 00.5 0.0**
USP Ospenovka 151.39 58 P **PKPdf** **04 10 00.7 +0.8**
SNR=15
AAK Ala-Archa 151.49 60 P **PKPdf** **04 10 01.3 +1.1**
SNR=38
AAK Ala-Archa 151.49 60 *e*PKPdf **PKPdf** **04 10 01.2 +0.9**
AAK Ala-Archa 151.49 60 PKPdf **PKPdf** **04 10 00.9 +0.7**
SNR=215
AAK Ala-Archa 151.49 60 P **PKPdf** **04 10 00.9 +0.7**
SNR=215
AAK Ala-Archa 151.49 60 *i* P **PKPdf** **04 09 59.4 -0.9**
SNR=58
AAK Ala-Archa 151.49 60 *c* *i*PKIKP **PKPdf** **04 10 00.4 +0.1**
NGP Nagpur 151.50 106 *e*P **PKPdf** **04 10 01.3 +0.6**
NGP *ex* x 04 13 45.4
FRU Bishkek 151.55 59 *e*PKIKP **PKPdf** **04 10 00.0 -0.2**
FRU *i* 04 10 07.0
FRU *i* 04 13 47.0
FRU pmax pmax
comp=Z,125nm,3.0s
UCH Uchtor 151.57 61 P **PKPdf** **04 10 02.0 +1.2**
SNR=66
NVS Novosibirsk 151.57 31 *e*PKIKP **PKPdf** **04 10 01.0 +1.3**
NVS pmax pmax
comp=N,38nm,0.9s
NVS pmax pmax
comp=E,100nm,0.9s
NVS pmax pmax
comp=Z,427nm,0.9s
KURBB Kurchatov Arra 151.60 42 PKP **PKPdf** **04 09 59.9 0.0**
comp=Z,18nm,1.0s,baz=297,slow=2.4,SNR=66
KURBB PKPbc **PKPbc** **04 10 06.2 0.0**
comp=Z,290nm,0.9s,baz=303,slow=2.9,SNR=77
KURBB PP PP 04 13 58.4 +12
comp=Z,25nm,0.9s,baz=284,slow=6.0,SNR=4.2
KURK Kurchatov 151.61 42 *e*PKPdf **PKPdf** **04 10 00.2 +0.3**
KURK PKPbc **PKPbc** **04 10 06.2 0.0**
KURK PP PP 04 13 58.4 +12
KURK Kurchatov 151.61 42 PKPdf **PKPdf** **04 10 02.4 +2.5**
SNR=108
KURK Kurchatov 151.61 42 P **PKPdf** **04 10 02.4 +2.5**
SNR=108
KURK Kurchatov 151.61 42 *c* *i*PKIKP **PKPdf** **04 09 59.5 -0.4**
CHMS Chumysh 151.62 59 P **PKPbc** **04 10 07.2 +0.7**
SNR=47
KBK Karagaybulak 151.82 60 P **PKPdf** **04 10 02.8 +2.0**
SNR=17
KZA Kyzart 152.13 61 P **PKPdf** **04 10 02.6 +1.1**
SNR=22
TKM2 Tokmak 2 152.25 59 P **PKPdf** **04 10 01.9 +0.5**
SNR=48
BMNS Besmoynak 152.26 58 *e*PKP **PKPdf** **04 10 01.4 0.0**
BMNS *i* PP **PP** **04 13 51.0 +0.3**
BMNS LR LR 05 23 01.5
comp=Z,4μm,18.2s
KKM Kota Kinabalu 152.56 197 *e*PKPbc **PKPbc** **04 10 09.8 +0.2**
KUU Kurty 152.57 57 *e*PKP **PKPdf** **04 10 00.8 -0.8**
KUU *i* PP **PP** **04 13 51.8 -0.5**
KUU LR LR 05 21 31.3
comp=Z,4μm,19.2s
GRNR Gornyy 152.59 320 *e*PKIKP **PKPdf** **04 10 04.5 +3.1**
GRNR pmax pmax
comp=Z,21nm,1.0s
SEM Semipalatinsk 152.67 41 *e*PKP **PKPdf** **04 10 01.6 -0.2**
SEM *i* PP **PP** **04 13 53.0 +0.4**
SEM LR LR 05 17 50.7
comp=Z,11μm,21.1s
NRN Naryn 152.79 62 PKIKP **PKPdf** **04 10 03.0 +0.6**
ULHL Ulahol 152.84 60 P **PKPdf** **04 10 03.4 +1.0**
SNR=29
ZAA0 Zalesovo Array 152.86 31 *e*PKPdf **PKPdf** **04 10 01.5 -0.2**
ZALV Zalesovo Beam 152.86 31 PKP **PKPdf** **04 10 01.4 -0.3**
comp=Z,50nm,1.0s,baz=266,slow=2.1,SNR=54
ZALV PKPbc **PKiKP** **04 10 09.3 +0.2**
comp=Z,358nm,0.8s,baz=302,slow=2.7,SNR=59
DHRM DHARAMSHALA 152.93 82 *eP* **PKPdf** **04 10 02.5 -0.4**
DHRM IAMs_20 IAMs_20 04 56 37.6
comp=Z,3μm,30.3s
VIS Vishakhapatnam 152.95 117 *i* P **PKPdf** **04 10 03.0 +0.1**
KSH Kashi 152.98 66 PKPbc **PKPdf** **04 10 02.1 -0.4**
KSH sPKP 04 10 16.3
KSH SKKS 04 20 34.3
KSH SS **SS** **04 33 20.5 -5.7**
KSH AMB AMB
comp=Z,3μm,13.1s
KSH LR LR
comp=Z,5μm,17.4s
KSH LR LR
comp=Z,4μm,15.0s
KSH LR LR
comp=Z,12μm,18.0s
AAA Alma-Ata 153.13 58 *e*PKP **PKPdf** **04 10 02.4 -0.2**
AAA *i* PP **PP** **04 13 55.7 +0.1**
AAA LR LR 05 23 12.0
comp=Z,3μm,19.2s
AAA Alma-Ata 153.13 58 *i* PKIKP **PKPdf** **04 10 02.4 -0.2**
AAA pmax pmax
comp=Z,2μm,9.8s
MDOK Medeo 153.24 58 *e*PKP **PKPdf** **04 10 02.3 -0.6**
MDOK *i* PP **PP** **04 13 56.4 +0.2**
MDOK LR LR 05 23 20.7
comp=Z,6μm,20.1s
CLNS Chul'man 153.27 340 *e*PKIKP **PKPdf** **04 10 03.0 +0.7**
CLNS pmax pmax
comp=E,11nm,0.8s
CLNS pmax pmax
comp=Z,95nm,0.9s
CLNS pmax pmax
comp=N,23nm,1.0s
SMLA Simla 153.45 85 *e*P **PKPdf** **04 10 03.8 +0.6**
KDJ Kajisay 153.54 60 *e*PKPdf **PKPdf** **04 10 02.9 -0.4**
KDJ Kajisay 153.54 60 PKIKP **PKPdf** **04 10 02.8 -0.5**
SKLT Songkhla 153.64 162 PKP **PKPdf** **04 10 04.8 +0.7**
PKDT Phuket 153.65 157 PKP **PKPbc** **04 10 10.4 -1.4**
CHLP Challavanipeta 153.97 117 *e*PKPdf **PKPdf** **04 10 03.1 -1.3**
TRTT Trang 154.02 160 PKP **PKPdf** **04 10 05.0 +0.4**
DDI Dehra Dun 154.03 87 *eP* **PKPdf** **04 10 04.2 -0.1**
DDI IAMs_20 IAMs_20 05 01 42.8
comp=Z,3μm,19.6s
TARG Taragay, Kyrgy 154.07 61 *e*PKPdf **PKPdf** **04 10 05.4 +1.0**
ZHN Zhinishke 154.22 57 *e*PKP **PKPdf** **04 10 02.9 -1.3**
ZHN *i* PP **PP** **04 14 00.7 -1.1**
ZHN LR LR 05 22 25.0
comp=Z,4μm,22.1s
KPKS Kokpek 154.33 57 *e*PKP **PKPdf** **04 10 04.1 -0.2**
KPKS *i* PP **PP** **04 14 01.5 -0.8**
KPKS LR LR 05 25 31.1
comp=Z,10μm,19.2s
BOD Bodaibo 154.53 353 *e*PKIKP **PKPdf** **04 10 02.2 -1.7**
BOD pmax pmax
comp=Z,35nm,1.5s

PBA	**Port Blair**	**154.62**	**142**	*e*P	PKPdf	04 10 05.6	+0.2
PBA				IAMs_20	IAMs_20	05 06 01.1	
	comp=Z,10μm,23.0s						
UZB	**Uzynbulak**	**154.65**	**57**	*e*PKP	**PKPdf**	**04 10 04.1**	**-0.7**
UZB				*i* PP	**PP**	**04 14 03.8**	**-0.4**
UZB				LR	LR	05 25 10.0	
	comp=Z,2μm,17.3s						
SURT	**Suratani**	**154.80**	**157**	PKP	**PKPdf**	**04 10 06.4**	**+0.7**
PDGK	**Podgornoye**	**154.93**	**56**	PKIKP	**PKPdf**	**04 10 04.1**	**-1.1**
PDGK				pmax	pmax		
	comp=Z,34nm,0.9s						
TEY	**Ternei**	**154.94**	**308**	*e*PKIKP	**PKPdf**	**04 10 03.8**	**-1.1**
TEY				pmax	pmax		
	comp=Z,4μm,10.0s						
TEY				pmax	pmax		
	comp=Z,21nm,0.8s						
ZEA	**Zeya**	**154.99**	**333**	*i* PKIKP	**PKPdf**	**04 10 03.3**	**-1.4**
ZEA				*e*		04 14 06.0	
ZEA				*e*		04 17 02.0	
ZEA				pmax	pmax		
	comp=Z,2μm,10.0s						
ZEA				pmax	pmax		
	comp=N,65nm,1.2s						
ZEA				pmax	pmax		
	comp=Z,160nm,1.8s						
MJAR	**Matsushiro Arr**	**155.23**	**287**	PKP	**PKPdf**	**04 10 05.1**	**-0.5**
	comp=Z,9.0nm,1.1s,baz=240,slow=2.2,SNR=17						
MAJO	**Matsushiro**	**155.23**	**287**	*e*PKPdf	**PKPdf**	**04 10 06.8**	**+1.2**
MAJO	**Matsushiro**	**155.23**	**287**⇑	*e*PKIKP	**PKPdf**	**04 10 06.2**	**+0.6**
MAT	**Matsushiro**	**155.23**	**287**	PKP	**PKPdf**	**04 10 04.9**	**-0.7**
MJB9	**Matsu-Tunnel**	**155.23**	**287**	*e*PKPdf	**PKPdf**	**04 10 06.8**	**+1.2**
MAKZ	**Makanchi**	**155.36**	**47**	*e*PKPdf	**PKPdf**	**04 10 05.4**	**-0.1**
MAKZ	**Makanchi**	**155.36**	**47**	PKIKP	**PKPdf**	**04 10 04.7**	**-0.8**
MAKZ				pmax	pmax		
	comp=Z,39nm,1.0s						
MK31	**Makanchi Array**	**155.56**	**47**	*e*PKPdf	**PKPdf**	**04 10 05.5**	**-0.3**
MK31	**Makanchi Array**	**155.56**	**47**	*i* PKIKP	**PKPdf**	**04 10 05.4**	**-0.3**
MK31				pmax	pmax		
	comp=Z,30nm,1.0s						
MKAR	**Makanchi Array**	**155.56**	**47**	PKP	**PKPdf**	**04 10 05.2**	**-0.6**
	comp=Z,22nm,0.9s,baz=350,slow=0.9,SNR=58						
MKAR				PKPab	**PKPab**	**04 10 31.3**	**-0.6**
	comp=Z,34nm,0.6s,baz=296,slow=3.8,SNR=8.0						
MK01	**Makanchi Array**	**155.58**	**47**	*e*PKPdf	**PKPdf**	**04 10 05.0**	**-0.8**
KLR	**Kul'dur**	**155.96**	**320**	PKP	**PKPdf**	**04 10 05.0**	**-1.2**
	comp=Z,1.4nm,0.9s,baz=359,slow=3.0,SNR=30						
KLR	**Kul'dur**	**155.96**	**320***c*	*i* PKIKP	**PKPdf**	**04 10 04.0**	**-2.2**
DGPR	**DIGLIPUR**	**155.99**	**140**	*e*P	**PKPdf**	**04 10 07.6**	**+0.4**
DGPR				IAMs_20	IAMs_20	05 01 15.6	
	comp=Z,3μm,34.4s						
INU	**Inuyama**	**156.18**	**284**	*e*PKPdf	**PKPdf**	**04 10 08.6**	**+1.7**
ZSN	**Zaisan**	**156.79**	**44**⇑	*i* PKP	**PKPdf**	**04 10 07.0**	**-0.4**
ZSN				*i* PP	**PP**	**04 14 14.6**	**-0.9**
ZSN				LR	LR	05 24 59.5	
	comp=Z,3μm,20.1s						
DGZ	**Jazzator, Alta**	**156.88**	**36**	*i* PKIKP	**PKPdf**	**04 10 06.7**	**-0.9**
PYUN	**Piuthan**	**157.60**	**95**	*e*P	**PKPdf**	**04 10 08.9**	**-0.4**
KOLN	**Koldanda**	**158.01**	**96**	*e*P	**PKPdf**	**04 10 09.2**	**-0.6**
BOK	**Bokaro**	**158.30**	**108**	*e*P	**PKPdf**	**04 10 11.0**	**+1.1**
USRK	**Ussuriysk Ar.**	**158.31**	**309**	PKP	**PKPdf**	**04 10 08.7**	**-0.6**
	comp=Z,9.5nm,1.1s,baz=225,slow=0.5,SNR=8.7						
USRK				PKPab	**PKPab**	**04 10 41.9**	**-1.9**
	comp=Z,8.2nm,0.8s,baz=224,slow=5.3,SNR=6.2						
DANN	**Dangsing**	**158.33**	**95**	*e*P	**PKPdf**	**04 10 10.7**	**+0.5**
HVS	**Khovu-Aksy**	**158.58**	**26**⇓	*e*PKIKP	**PKPdf**	**04 10 09.5**	**0.0**
PHET	**Kaeng Krachan**	**158.77**	**156**	PKP	**PKPdf**	**04 10 12.6**	**+1.9**
VLA	**Vladivostok**	**158.80**	**306***c*	*e*PKIKP	**PKPdf**	**04 10 08.3**	**-1.6**
GKN	**Gorkha**	**158.96**	**96**	*e*P	**PKPdf**	**04 10 10.2**	**-0.6**
DMN	**Daman**	**159.22**	**98**	*e*P	**PKPdf**	**04 10 10.8**	**-0.5**
KKN	**Kakani**	**159.43**	**98**	*e*P	**PKPdf**	**04 10 10.8**	**-0.7**
PKIN	**Phulchoki**	**159.45**	**98**	*e*P	**PKPdf**	**04 10 10.6**	**-1.0**
MSHR	**Mys Shultsa**	**159.50**	**305***c*	*i* PKIKP	**PKPdf**	**04 10 08.6**	**-2.1**
MDJ	**Mudanjiang**	**159.66**	**312**	PKP	**PKPdf**	**04 10 09.4**	**-1.5**
MDJ				pPKP	pPKPdf	04 10 18.8	-1.9
MDJ				sPKP		04 10 23.4	
MDJ				PP	**PP**	**04 14 32.5**	**+1.2**
MDJ				AMB	AMB		
	comp=Z,1μm,11.8s						
MDJ				LR	LR		
	comp=Z,10μm,21.4s						
MDJ				LR	LR		
	comp=Z,6μm,20.6s						
MDJ				LR	LR		
	comp=Z,16μm,18.7s						
MDJ	**Mudanjiang**	**159.66**	**312**	*e*PKPdf	**PKPdf**	**04 10 11.1**	**+0.2**
SRDT	**SRDT**	**159.91**	**153**	PKP	**PKPdf**	**04 10 12.6**	**+0.6**
GUN	**Gumba**	**159.97**	**98**	*e*P	**PKPdf**	**04 10 11.3**	**-0.9**
JIRN	**Jiri**	**160.14**	**99**	*e*P	**PKPdf**	**04 10 11.8**	**-0.7**
IRK	**Irkutsk**	**160.17**	**8**	*e*PKIKP	**PKPdf**	**04 10 10.4**	**-0.8**
IRK				*e*		04 10 52.0	
IRK				*e*		04 14 38.8	
IRK				pmax	pmax		
	comp=Z,121nm,2.0s						
MOY	**Mondy**	**160.22**	**14**	*e*PKIKP	**PKPdf**	**04 10 11.0**	**-0.5**
MOY				pmax	pmax		
	comp=Z,162nm,3.3s						
RAMN	**Ramite**	**160.23**	**101**	*e*P	**PKPdf**	**04 10 12.3**	**-0.1**
CIT	**Chita**	**160.27**	**351**	*e*PKP2	**PKPab**	**04 10 52.3**	**+0.3**
CIT				pmax	pmax		
	comp=Z,290nm,3.6s						
WMQ	**Urumqi**	**160.30**	**50**	PKP	**PKPdf**	**04 10 11.4**	**-0.4**
WMQ				pPKP	pPKPdf	04 10 21.8	+0.2
WMQ				PKPab	**PKPab**	**04 10 53.5**	**+1.0**
WMQ				PP	**PP**	**04 14 40.9**	**+6.0**
WMQ				SS	SS	04 34 44.4	+0.5
WMQ				AMB	AMB		
	comp=Z,10μm,11.6s						
NAYO	**Nakonanyok**	**160.64**	**159**	PKP	**PKPdf**	**04 10 14.3**	**+1.5**
TLY	**Talaya**	**160.65**	**9**	PKP	**PKPdf**	**04 10 12.7**	**+0.9**
	comp=Z,11nm,0.9s,baz=309,slow=2.2,SNR=8.9						
TLY				PKPab	**PKPab**	**04 10 54.8**	**+1.2**
	comp=Z,18nm,0.7s,baz=213,slow=0.8,SNR=6.7						
TLY	**Talaya**	**160.65**	**9**	*e*PKPdf	**PKPdf**	**04 10 12.9**	**+1.1**
TLY				*e*PKPab	**PKPab**	**04 10 54.5**	**+0.9**
TLY	**Talaya**	**160.65**	**9**	PKPdf	**PKPdf**	**04 10 11.5**	**-0.3**
	SNR=17						
TLY	**Talaya**	**160.65**	**9**	P	**PKPdf**	**04 10 11.5**	**-0.3**
	SNR=17						
TLY	**Talaya**	**160.65**	**9**	*e*PKIKP	**PKPdf**	**04 10 10.7**	**-1.1**
TLY				*e*		04 14 36.1	
TLY				*e*PPS	PPS	04 27 58.9	
TLY				*e*SS	SS	04 34 47.2	+1.7
TLY				pmax	pmax		
	comp=Z,45nm,2.2s						
ODAN	**Odare**	**160.85**	**102**	*e*P	**PKPdf**	**04 10 12.8**	**-0.3**
HIA	**Hailar**	**161.36**	**336**	*e*PKPab	**PKPab**	**04 10 58.0**	**+1.2**
HIA	**Hailar**	**161.36**	**336***c*	*i* PKIKP	**PKPdf**	**04 10 10.0**	**-2.7**
ZAK	**Zakamensk**	**161.86**	**11**	*e*PKIKP	**PKPdf**	**04 10 13.0**	**-0.2**
ZAK				pmax	pmax		
	comp=Z,45nm,1.5s						
GTK	**Tadong**	**162.03**	**102**	*e*P	**PKPdf**	**04 10 13.8**	**-0.4**
CHAI	**Chaiyaphum**	**162.34**	**159**	PKP	**PKPdf**	**04 10 21.1**	**+6.5**
CN2	**Changchun**	**162.63**	**315**	*e*PKP	**PKPdf**	**04 10 12.6**	**-1.5**
CN2				*es*PKP		04 10 27.0	
CN2				*e*PP	**PP**	**04 14 49.4**	**+2.3**
CN2				*e*SS	SS	04 35 07.4	-0.4
CN2				AMB	AMB		
	comp=Z,2μm,15.0s						
CN2				LR	LR		
	comp=Z,6μm,24.0s						
CN2				LR	LR		
	comp=Z,5μm,24.0s						
CN2				LR	LR		
	comp=Z,6μm,23.0s						
PBKT	**Sadao Pong**	**162.63**	**155**	PKP	**PKPdf**	**04 10 14.2**	**-0.6**
TURI	**Tura**	**162.69**	**109**	*e*P	**PKPdf**	**04 10 15.5**	**+0.8**
KSRS	**Korea Array**	**163.34**	**292**	PKP	**PKPdf**	**04 10 14.3**	**-0.6**
	comp=Z,18nm,0.9s,baz=117,slow=0.7,SNR=46						
KSRS				PKPab	**PKPab**	**04 11 07.3**	**+1.4**
	comp=Z,8.9nm,0.8s,baz=92,slow=3.1,SNR=4.8						
KS15	**Wonju Array Si**	**163.37**	**292**	*e*PKPdf	**PKPdf**	**04 10 15.6**	**+0.6**
KSAR	**Wonju Array Be**	**163.37**	**292**	PKP	**PKPdf**	**04 10 14.3**	**-0.6**
KSAR				PKPab	**PKPab**	**04 11 07.3**	**+1.2**
KSAR	**Wonju Array Be**	**163.37**	**292**	PKIKP	**PKPdf**	**04 10 14.4**	**-0.6**
KSAR						04 11 07.3	
CM01	**Chiang Mai Arr**	**163.47**	**147**	*e*PKPdf	**PKPdf**	**04 10 15.2**	**-0.5**
CM31	**Chiang Mai Arr**	**163.50**	**147**	*e*PKPdf	**PKPdf**	**04 10 17.8**	**+2.1**
CMAR	**Chiang Mai Arr**	**163.50**	**147**	PKP	**PKPdf**	**04 10 15.4**	**-0.2**
	comp=Z,13nm,0.9s,baz=246,slow=2.5,SNR=35						
CMAR				PKPab	**PKPab**	**04 11 06.8**	**-0.1**
	comp=Z,10.0nm,1.0s,baz=244,slow=3.0,SNR=4.7						
CHTO	**Chiang Mai**	**163.81**	**146**	PKP	**PKPdf**	**04 10 16.6**	**+0.6**
CHTO	**Chiang Mai**	**163.81**	**146**	*e*PKPdf	**PKPdf**	**04 10 17.0**	**+1.0**
CHTO	**Chiang Mai**	**163.81**	**146**	PKPdf	**PKPdf**	**04 10 17.1**	**+1.1**
	SNR=18						
CHTO	**Chiang Mai**	**163.81**	**146**	P	**PKPdf**	**04 10 17.1**	**+1.1**
	SNR=18						
CHTO	**Chiang Mai**	**163.81**	**146**	*e*PKIKP	**PKPdf**	**04 10 17.0**	**+1.1**
CMMT	**Chiang Mai**	**163.81**	**146**	PKP	**PKPdf**	**04 10 15.8**	**-0.2**
SKNT	**Sakolnakorn**	**163.89**	**164**	PKP	**PKPdf**	**04 10 15.9**	**-0.2**
SHL	**Shillong**	**163.92**	**112**	*e*P	**PKPdf**	**04 10 15.6**	**-0.6**
SHL				IAMs_20	IAMs_20	04 58 29.6	
	comp=Z,5μm,34.1s						
TJN	**Taejon**	**163.96**	**289***c*	*i* PKIKP	**PKPdf**	**04 10 14.2**	**-1.4**
GUWA	**GUWAHATI**	**164.07**	**109**	*e*P	**PKPdf**	**04 10 15.7**	**-0.3**
SONA1	**Songino Array**	**164.73**	**5**	*e*PKPdf	**PKPdf**	**04 10 14.3**	**-1.8**
SONM	**Songino Array**	**164.74**	**5**	PKP	**PKPdf**	**04 10 15.2**	**-0.9**
	comp=Z,5.5nm,0.8s,baz=228,slow=0.9,SNR=24						
SONM				PKPab	**PKPab**	**04 11 12.4**	**+0.7**
	comp=Z,21nm,1.1s,baz=312,slow=3.4,SNR=7.2						
SONM				PP	PP	04 15 05.7	+8.2
	comp=Z,4.7nm,0.9s,baz=348,slow=3.9,SNR=3.6						
ULN	**Ulaanbaatar**	**164.75**	**4**	*e*PKPdf	**PKPdf**	**04 10 16.8**	**+0.6**
ULN	**Ulaanbaatar**	**164.75**	**4**	PKPdf	**PKPdf**	**04 10 17.7**	**+1.6**
	SNR=25						
ULN	**Ulaanbaatar**	**164.75**	**4**	P	**PKPdf**	**04 10 17.7**	**+1.6**
	SNR=25						
ULN	**Ulaanbaatar**	**164.75**	**4***c*	*i* PKIKP	**PKPdf**	**04 10 13.9**	**-2.2**
CMAI	**Chiengmai2**	**164.81**	**144**	PKP	**PKPdf**	**04 10 19.8**	**+2.8**
SNY	**Shenyang**	**164.87**	**312**	⇑PKP	**PKPdf**	**04 10 15.0**	**-1.2**
SNY				PKPab	**PKPab**	**04 11 14.9**	**+2.5**
SNY				PP	PP	04 15 06.8	+7.8
SNY				SKKS		04 21 46.6	
SNY				AMB	AMB		
	comp=Z,3μm,13.2s						
SNY				LR	LR		
	comp=Z,11μm,21.6s						
SNY				LR	LR		
	comp=Z,2μm,17.7s						
SNY				LR	LR		
	comp=Z,18μm,31.4s						
LSA	**Lhasa**	**164.91**	**97**	PKP	**PKPdf**	**04 10 17.9**	**+0.6**
TEZP	**TEZPUR**	**165.14**	**110**	*ex*	**PKPab**	**04 11 13.8**	**-0.3**
KOHI	**KOHIMA**	**165.72**	**115**	*e*P	**PKPdf**	**04 10 15.7**	**-2.0**
SSLB	**Suanglung**	**165.88**	**235**	*e*PKPdf	**PKPdf**	**04 10 19.1**	**+1.5**
MOKO	**MOKOCHONG**	**166.34**	**114**	*e*P	**PKPdf**	**04 10 20.4**	**+2.3**
ZIRO	**ZIRO**	**166.39**	**108**	*e*P	**PKPdf**	**04 10 20.5**	**+2.4**
QIZ	**Qiongzhong**	**166.39**	**186**	PKP	**PKPdf**	**04 10 18.4**	**+0.3**
QIZ				PP	**PP**	**04 15 04.9**	**-1.0**
QIZ				SS	SS	04 35 44.9	+0.3
QIZ				AMB	AMB		
	comp=Z,3μm,14.7s						
QIZ				LR	LR		
	comp=Z,4μm,20.6s						
QIZ				LR	LR		
	comp=Z,4μm,22.7s						
QIZ				LR	LR		
	comp=Z,9μm,26.4s						
DL2	**Dalian**	**167.60**	**304**⇑	*i* PKP	**PKPdf**	**04 10 17.1**	**-1.3**
DL2				PKPab	**PKPab**	**04 11 22.3**	**-2.3**
DL2				PP	**PP**	**04 15 17.8**	**+4.4**
DL2				SKKS		04 21 56.3	
DL2				AMB	AMB		
	comp=Z,2μm,9.6s						
DL2				LR	LR		
	comp=Z,3μm,18.8s						
DL2				LR	LR		
	comp=Z,12μm,19.9s						
DL2				LR	LR		
	comp=Z,20μm,20.0s						
LKP	**Lekhapani**	**167.88**	**113**	*e*P	**PKPdf**	**04 10 18.3**	**-0.7**
QZH	**Quanzhou**	**168.25**	**232**	*i* PKP	**PKPdf**	**04 10 18.8**	**-0.5**
QZH				PKPab	**PKPab**	**04 11 29.4**	**+1.6**
QZH				PP	**PP**	**04 15 22.5**	**+5.9**
QZH				SKKS		04 21 58.8	
QZH				SS	**SS**	**04 36 07.4**	**+1.9**
QZH				AMB	AMB		
	comp=Z,2μm,10.9s						
QZH				LR	LR		
	comp=Z,8μm,19.9s						
QZH				LR	LR		
	comp=Z,6μm,18.5s						
QZH				LR	LR		
	comp=Z,15μm,20.4s						
SSE	**Sheshan**	**169.05**	**265**	PKP	**PKPdf**	**04 10 18.0**	**-1.7**
SSE				SS	SS	04 36 13.3	-1.4
SSE				LR	LR		
	comp=Z,5μm,22.0s						
SSE				LR	LR		
	comp=Z,4μm,20.2s						
SSE				LR	LR		
	comp=Z,7μm,21.6s						
GTA	**Gaotai**	**170.29**	**43**	*e*PKP	**PKPdf**	**04 10 19.8**	**-0.5**
GTA				pPKP	pPKPdf	04 10 30.0	-0.2
GTA				sPKP		04 10 34.1	
GTA				PP	**PP**	**04 15 26.6**	**-0.2**
GTA				SKKS		04 22 13.8	
GTA				SS	**SS**	**04 36 27.9**	**+2.3**
GTA				AMB	AMB		
	comp=Z,5μm,15.4s						
GTA				LR	LR		
	comp=Z,6μm,24.9s						
GTA				LR	LR		
	comp=Z,8μm,24.8s						
GTA				LR	LR		
	comp=Z,8μm,24.4s						
BJI	**Beijing**	**170.33**	**322**	PKP	**PKPdf**	**04 10 19.4**	**-0.7**
BJI				pPKP	**pPKPdf**	**04 10 29.8**	**-0.2**
BJI				PP	**PP**	**04 15 27.5**	**+0.9**
BJI				SS	SS	04 36 27.3	+2.0
BJI				AMB	AMB		
	comp=Z,4μm,13.4s						
BJI				LR	LR		
	comp=Z,3μm,19.0s						
BJI				LR	LR		
	comp=Z,1μm,20.8s						
BJI				LR	LR		
	comp=Z,8μm,23.7s						
BJI	**Beijing**	**170.33**	**322**	PKIKP	**PKPdf**	**04 10 21.3**	**+1.2**
BJT	**Baijiatuau**	**170.35**	**322**	*e*PKPdf	**PKPdf**	**04 10 21.3**	**+1.1**
BJT	**Baijiatuau**	**170.35**	**322**	*e*PKIKP	**PKPdf**	**04 10 21.3**	**+1.1**
KMI	**Kunming**	**171.00**	**145**	PKP	**PKPdf**	**04 10 20.8**	**-0.5**
KMI				pPKP	pPKPdf	04 10 31.8	+0.7
KMI				sPKP		04 10 36.6	
NJ2	**Nanjing**	**171.17**	**269**	*e*PKP	**PKPdf**	**04 10 22.0**	**+1.2**
NJ2				pPKP	**pPKPdf**	**04 10 30.4**	**-0.3**
NJ2				PKPab	**PKPab**	**04 11 41.0**	**+0.3**
NJ2				PP	**PP**	**04 15 38.8**	**+6.8**
NJ2				AMB	AMB		
	comp=Z,2μm,8.1s						
NJ2				LR	LR		
	comp=Z,11μm,20.6s						
NJ2				LR	LR		
	comp=Z,21μm,18.4s						
HHC	**Hu-ho-hao-te**	**171.43**	**344**	*e*PKP	**PKPdf**	**04 10 20.5**	**-0.4**
HHC				SKS	**SKSdf**	**04 17 16.1**	**-6.1**
HHC				SKKS	**SKKSac**	**04 22 19.8**	**+2.9**
HHC				SS	**SS**	**04 36 33.8**	**-1.6**
HHC				AMB	AMB		
	comp=Z,1μm,9.7s						
HHC				LR	LR		
	comp=Z,2μm,19.9s						
HHC				LR	LR		
	comp=Z,1μm,20.6s						
HHC				LR	LR		
	comp=Z,2μm,20.4s						
BTO	**Baotou**	**171.95**	**351**	*e*PKP	**PKPdf**	**04 10 19.8**	**-1.3**
TIA	**Tai'an**	**171.99**	**299**	PKP	**PKPdf**	**04 10 20.4**	**-0.7**
TIA				PP	**PP**	**04 15 34.5**	**-1.1**
TIA				AMB	AMB		
	comp=Z,2μm,7.3s						
TIA				LR	LR		
	comp=Z,7μm,19.6s						
TIA				LR	LR		
	comp=Z,9μm,22.4s						
TIA				LR	LR		
	comp=Z,16μm,22.0s						
GYA	**Guiyang**	**173.65**	**165**	*i* PKP	**PKPdf**	**04 10 23.6**	**+1.3**
GYA				PKPab	**PKPab**	**04 11 53.0**	**+1.3**
GYA				PP	**PP**	**04 15 45.3**	**+2.7**
GYA				SKKS		04 22 27.3	
GYA				SS	**SS**	**04 36 56.5**	**-0.5**
GYA				AMB	AMB		
	comp=Z,280nm,9.3s						
TIY	**Taiyuan**	**173.97**	**328**	*e*PKP	**PKPdf**	**04 10 19.3**	**-2.7**
TIY				PKPab	**PKPab**	**04 11 56.4**	**+3.5**
TIY				PP	**PP**	**04 15 43.3**	**-1.2**
TIY				AMB	AMB		
	comp=Z,2μm,10.4s						
TIY				LR	LR		
	comp=Z,10μm,17.9s						
TIY				LR	LR		
	comp=Z,2μm,17.0s						
TIY				LR	LR		
	comp=Z,11μm,17.5s						
WHN	**Wuhan**	**174.54**	**249**	*i* PKP	**PKPdf**	**04 10 21.4**	**-0.9**
WHN				PKPab	**PKPab**	**04 11 57.0**	**+1.3**
WHN				PP	**PP**	**04 15 50.9**	**+2.6**
WHN				SKKS		04 22 27.4	
WHN				LR	LR		
	comp=Z,14μm,20.1s						
WHN				LR	LR		
	comp=Z,34μm,21.4s						
LZH	**Lanzhou**	**174.88**	**47**	PKP	**PKPdf**	**04 10 22.8**	**+0.3**
LZH				pPKP	pPKPdf	04 10 33.0	+0.7
LZH				sPKP		04 10 37.5	
LZH				PKPab	**PKPab**	**04 11 58.3**	**+1.2**
LZH				SKKS		04 22 32.0	
LZH				SS	**SS**	**04 37 10.6**	**0.0**
LZH				AMB	AMB		
	comp=Z,8μm,10.7s						
LZH				LR	LR		
	comp=Z,9μm,17.6s						
LZH				LR	LR		
	comp=Z,14μm,19.9s						
LZH				LR	LR		
	comp=Z,18μm,20.6s						
CD2	**Chengdu**	**175.66**	**112**	PKP	**PKPdf**	**04 10 22.3**	**-0.4**
CD2				pPKP	pPKPdf	04 10 34.1	+1.6
CD2				sPKP		04 10 38.4	
CD2				SKS	**SKSdf**	**04 17 22.3**	**-1.4**
CD2				SKKS	**SKKSac**	**04 22 35.6**	**-2.3**
CD2				SS	**SS**	**04 37 11.9**	**-7.1**
CD2				AMB	AMB		
	comp=Z,10μm,8.7s						
CD2				LR	LR		
	comp=Z,11μm,17.7s						
CD2				LR	LR		
	comp=Z,7μm,17.7s						
CD2				LR	LR		
	comp=Z,19μm,19.9s						
ENH	**Enshi**	**177.48**	**201**	*e*PKPdf	**PKPdf**	**04 10 24.0**	**+1.0**
XAN	**Xi'an**	**178.54**	**344**	PKP	**PKPdf**	**04 10 22.3**	**-0.8**
XAN				pPKP	pPKPdf	04 10 32.4	-0.5
XAN				sPKP		04 10 37.0	
XAN				PKPab	**pPKPab**	**04 12 14.1**	**-8.6**
XAN				SKKS		04 22 47.5	
XAN				LR	LR		
	comp=Z,12μm,22.1s						
XAN				LR	LR		
	comp=Z,10μm,21.6s						
XAN				LR	LR		
	comp=Z,15μm,23.5s						

JMA 17 03:51:42.6±0.1, 36.71N×141.47E, h35km±2km, M2.6, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time			Res
				Op	ISC	h	m	s	ISC
ONAJ	**Iwakimizuishiy**	**0.67**	**306**	P	Pn	03 51 55.2			-0.4
ONAJ				S	Sn	03 52 04.5			-0.4
JHO	**Hitachi**	**0.73**	**262**	P	Pn	03 51 56.6			+0.2
JHO				S	Sn	03 52 06.4			0.0
JFK	**Kawauchi**	**0.81**	**324**	P	Pn	03 51 57.6			0.0
JFK				S	Sn	03 52 08.9			+0.5
JFT	**Otama**	**1.21**	**312**	P	Pn	03 52 04.5			+1.4
JMM	**Marumori**	**1.27**	**335**	P	Pn	03 52 04.3			+0.4
JMM				S	Sn	03 52 20.7			+0.9
MAT	**Matsushiro**	**2.63**	**267**	P	Pn	03 52 25.0			+2.4
MAT				S	Sn	03 52 58.8			+5.5

ISCJB ***17*** *03:55:45.4±0.7, 36.50N±0.03×21.54E±0.04, h24km±4km, mb3.5/5, Error ellipse: s-maj=6.3km s-min=3.3km az=139.5*
CSEM ***17*** *03:55:45.5±0.3, 36.54N×21.58E, h15km, ML3.2, Error ellipse: s-maj=5.5km s-min=3.0km az=47.0*
ATH ***17*** *03:55:45.9, 36.58N×21.61E, h32km, ML3.2/8, Error ellipse: s-maj=2.1km s-min=0.8km az=46.0*
THE ***17*** *03:55:46.3, 36.55N×21.57E, h13km±1km, ML3.1/18, Error ellipse: s-maj=1.4km s-min=0.9km az=52.0*
IDC ***17*** *03:55:48.0±6.3, 36.34N×21.57E, h80km±37km, mb3.3/5, mb1 3.2/7, mb1mx3.0/64, mbtmp3.5/7, Error ellipse: s-maj=108.3km s-min=29.0km az=39.0*

ISC 17 03:55:43.8±1.3, 36.54N±0.03×21.64E±0.03, h15km±8km, n144, σ19.51/201, mb3.6/5, Southern Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time			Res
				Op	ISC	h	m	s	ISC
MES2	**Methoni**	**0.29**	**11**	P	**Pn**	**03 55 53.2**			**-0.4**
MES2				S	**Sb**	**03 55 57.8**			**+2.4**
MES2				AML	AML	03 55 58.8			
	comp=N,22329μm,0.4s								
MES2				AML	AML	03 55 59.4			
	comp=E,29560μm,0.5s								
MES2	**Methoni**	**0.29**	**11**	P	**Pn**	**03 55 53.1**			**-0.4**
MES2				S	**Sb**	**03 55 58.1**			**+2.7**
PYL	**PYLOS**	**0.37**	**13**	P	**Pb**	**03 55 54.0**			**+2.0**
PYL				S	**Sb**	**03 55 59.7**			**+2.1**
PYL				AML	AML	03 56 00.4			
	comp=E,8778μm,0.4s								
PYL				AML	AML	03 56 00.8			
	comp=N,5466μm,0.4s								
PYL	**PYLOS**	**0.37**	**13**	P	**Pb**	**03 55 54.0**			**+2.0**
PYL				S	**Sb**	**03 55 59.6**			**+2.0**
PYL	**PYLOS**	**0.37**	**13**	P	**Pb**	**03 55 54.0**			**+2.0**
PYL				S	**Sb**	**03 55 59.6**			**+2.0**
DYR	**Agios Nikonas**	**0.60**	**68**	P	**Pn**	**03 55 58.4**			**+0.5**
DYR				S	**Sn**	**03 56 08.9**			**+1.5**
DYR				AML	AML	03 56 12.1			
	comp=N,1707μm,0.3s								
DYR				AML	AML	03 56 13.1			
	comp=E,1962μm,0.4s								
DYR	**Agios Nikonas**	**0.60**	**68**	P	**Pn**	**03 55 58.7**			**+0.8**

TRIP	Tripoli	1.11	27	P	Pn	03 56 06.3	+1.4
TRIP				S	Sn	03 56 23.1	+3.1
TRIP	Tripoli	1.11	27	P	Pn	03 56 06.3	+1.4
TRIP				S	Sn	03 56 23.1	+3.1
MNVA	Monemvasia	1.14	82	P	Pn	03 56 08.3	+3.1
MNVA	Monemvasia	1.14	82	P	Pn	03 56 07.8	+2.7
KYTH	Kithira	1.17	103	P	Pn	03 56 09.5	+3.8
KYTH	Kithira	1.17	103	P	Pn	03 56 09.3	+3.7
KYTH				S	Sn	03 56 25.9	+4.6
DRO	Drossia	1.41	2	P	Pg	03 56 10.9	-0.2
DRO				S	Sn	03 56 28.9	+1.5
DRO				AML	AML	03 56 44.4	
	comp=N,1490μm,0.5s						
DRO				AML	AML	03 56 44.6	
	comp=E,2122μm,0.4s						
DRO	Drossia	1.41	2	P	Pg	03 56 11.1	+0.1
DRO				S	Sg	03 56 29.0	-0.5
DRO	Drossia	1.41	2	P	Pb	03 56 10.7	+0.8
DRO				S	Sn	03 56 28.8	+1.5
KRND	KRANIDI	1.48	55	P	Pg	03 56 11.7	-0.6
KRND	KRANIDI	1.48	55	P	Pg	03 56 11.7	-0.6
KRND				S	Sg	03 56 33.5	+2.0
KRND	KRANIDI	1.48	55	P	Pg	03 56 11.9	-0.4
KRND				S	Sg	03 56 33.5	+2.0
ANKY	Antikythira Is	1.50	116	P	Pg	03 56 13.7	+1.0
ANKY	Antikythira Is	1.50	116	P	Pg	03 56 13.3	+0.6
ANKY	Antikythira Is	1.50	116	P	Pg	03 56 13.3	+0.6
GUR	Goura	1.51	22	P	Pg	03 56 12.7	-0.1
GUR	Goura	1.51	22	P	Pg	03 56 12.8	-0.1
GUR				S	Sg	03 56 31.9	-0.5
GUR	Goura	1.51	22	P	Pg	03 56 12.4	-0.4
GUR				S	Sg	03 56 31.9	-0.5
RLS	Riolos of Patr	1.52	355	P	Pb	03 56 12.7	+1.0
RLS	Riolos of Patr	1.52	355	P	Pb	03 56 12.4	+0.7
RLS				S	Sg	03 56 32.9	-0.1
RLS	Riolos of Patr	1.52	355	P	Pb	03 56 12.4	+0.7
RLS				S	Sg	03 56 32.9	-0.1
KLV	Kalavryta, Ach	1.56	15	P	Pb	03 56 13.2	+0.9
KLV	Kalavryta, Ach	1.56	15	P	Pb	03 56 13.0	+0.6
KLV				S	Sg	03 56 33.8	-0.3
KLV	Kalavryta, Ach	1.56	15	P	Pb	03 56 13.0	+0.6
KLV				S	Sg	03 56 33.8	-0.3
DID	Didima	1.61	52	P	Pb	03 56 13.1	-0.1
DID	Didima	1.61	52	P	Pb	03 56 13.2	0.0
DID				S	Sg	03 56 34.9	-0.7
DID	Didima	1.61	52	P	Pb	03 56 13.4	+0.2
DID				S	Sg	03 56 34.9	-0.7
THAL	Thalero	1.71	28	P	Pb	03 56 15.2	+0.4
THAL	Thalero	1.71	28	P	Pb	03 56 14.7	-0.2
THAL	Thalero	1.71	28	P	Pb	03 56 15.1	+0.2
KFL	Anninata	1.71	337	P	Pn	03 56 14.9	+1.9
KFL	Anninata	1.71	337	P	Pn	03 56 14.8	+1.8
KFL				S	Sn	03 56 36.7	+2.1
KFL	Anninata	1.71	337	P	Pn	03 56 14.8	+1.8
KFL				S	Sn	03 56 36.7	+2.1
LAKA	Lakka	1.72	9	P	Pb	03 56 15.8	+0.7
LAKA	Lakka	1.72	9	P	Pb	03 56 15.8	+0.7
LAKA				S	Sb	03 56 36.9	+0.3
LAKA	Lakka	1.72	9	P	Pb	03 56 15.4	+0.3
LAKA				S	Sb	03 56 36.9	+0.3
LOUT	Loutraki	1.80	36	P	Pn	03 56 15.9	+1.6
LOUT	Loutraki	1.80	36	P	Pn	03 56 15.4	+1.6
LTK	Loutraki	1.82	35	P	Pn	03 56 15.4	+0.8
LTK	Loutraki	1.82	35	P	Pn	03 56 16.0	+1.4
LTK				S	Sg	03 56 41.0	-1.6
LTK	Loutraki	1.82	35	P	Pn	03 56 16.1	+1.4
LTK				S	Sg	03 56 41.0	-1.6
VLS	Valsamata	1.84	333	P	Pn	03 56 14.6	-0.2
VLS	Valsamata	1.84	333	P	Pn	03 56 15.5	+0.7
TRIZ	Trizonia	1.86	11	P	Pb	03 56 17.6	+0.2
TRIZ	Trizonia	1.86	11	P	Pb	03 56 17.6	+0.2
KALE	Kalithea	1.89	12	P	Pb	03 56 18.5	+0.4
KALE	Kalithea	1.89	12	P	Pb	03 56 18.6	+0.5
KALE				S	Sb	03 56 41.6	0.0
KALE	Kalithea	1.89	12	P	Pb	03 56 18.0	-0.1
KALE				S	Sb	03 56 41.6	0.0
EFP	Efpalio	1.90	6	P	Pb	03 56 18.4	+0.3
EFP	Efpalio	1.90	6	P	Pb	03 56 18.4	+0.3
SERG	Sergoula	1.90	10	P	Pg	03 56 19.7	-0.6
SERG	Sergoula	1.90	10	P	Pb	03 56 18.8	+0.6
SERG	Sergoula	1.90	10	P	Pb	03 56 18.4	+0.4
PROD	Prodromos	1.99	30	P	Pb	03 56 19.2	+0.6
PROD	Prodromos	1.99	30	P	Pn	03 56 18.1	+1.2
PROD	Prodromos	1.99	30	P	Pb	03 56 19.1	-0.6
DSF	Desfina	2.00	21	P	Pn	03 56 18.6	+1.5
DSF	Desfina	2.00	21	P	Pn	03 56 18.6	+1.5
DSF	Desfina	2.00	21	P	Pn	03 56 18.8	+1.7
PVO	Paravola	2.08	358	P	Pb	03 56 21.6	+0.4
PVO	Paravola	2.08	358	P	Pb	03 56 21.3	+0.1
PVO	Paravola	2.08	358	P	Pb	03 56 20.8	-0.4
PDO	Prodromos	2.09	350	P	Pb	03 56 21.2	-0.2
PDO	Prodromos	2.09	350	P	Pb	03 56 20.9	-0.5
PDO	Prodromos	2.09	350	P	Pn	03 56 20.6	+2.4
FSK	Fiskardo	2.10	336	P	Pn	03 56 20.2	+1.8
FSK				S	Sn	03 56 45.8	+1.6
VILL	Villia	2.10	39	P	Pn	03 56 19.3	+0.8
VILL				S	Sb	03 56 48.5	+0.9
VILL	Villia	2.10	39	P	Pn	03 56 19.5	+1.0
VILL				S	Sb	03 56 48.5	+0.9
VIL2	Platees	2.12	37	P	Pn	03 56 18.3	-0.4
VLY	Voula,Athens	2.17	52	P	Pn	03 56 20.3	+1.0
VLY	Voula,Athens	2.17	52	P	Pn	03 56 20.3	+1.0
VLY	Voula,Athens	2.17	52	P	Pn	03 56 21.0	+1.7
IMMV	Iera Moni Meta	2.19	119	P	Pb	03 56 22.4	-0.6
IMMV	Iera Moni Meta	2.19	119	P	Pb	03 56 22.4	-0.6
IMMV				S	Sb	03 56 49.8	-0.1
IMMV	Iera Moni Meta	2.19	119	P	Pb	03 56 22.6	-0.4
IMMV				S	Sb	03 56 49.8	-0.1
ATH	Athens Observa	2.19	49	P	Pn	03 56 20.0	+0.3
ATH	Athens Observa	2.19	49	P	Pn	03 56 20.8	+1.1
ATH	Athens Observa	2.19	49	P	Pn	03 56 21.0	+1.3
ATHU	Athens Univers	2.23	50	P	Pn	03 56 20.3	+0.1
ATHU	Athens Univers	2.23	50	P	Pn	03 56 21.4	+1.2
ATHU	Athens Univers	2.23	50	P	Pn	03 56 21.4	+1.2
MHLO	Agia Marina, M	2.23	85	P	Pn	03 56 22.4	+2.2
MHLO				S	Sb	03 56 50.9	-0.3
MHLO	Agia Marina, M	2.23	85	P	Pn	03 56 22.4	+2.2
MHLO				S	Sb	03 56 50.9	-0.3
PTL	Penteli	2.33	49	P	Pn	03 56 21.9	+0.2
PTL	Penteli	2.33	49	P	Pn	03 56 22.7	+1.1
PTL	Penteli	2.33	49	P	Pn	03 56 22.9	+1.3
VAM	Vamos	2.37	118	P	Pb	03 56 24.8	-1.3
VAM				S	Sb	03 56 54.4	-0.7
VAM	Vamos	2.37	118	P	Pb	03 56 24.8	-1.3
VAM				S	Sb	03 56 54.4	-0.7
AXAR	Agios Charalam	2.37	20	P	Pb	03 56 25.4	-0.8
AXAR	Agios Charalam	2.37	20	P	Pb	03 56 25.4	-0.8
SERI	Serifos	2.37	74	P	Pn	03 56 22.8	+0.7
SERI				S	Sn	03 56 51.9	+1.0
SERI	Serifos	2.37	74	P	Pn	03 56 22.8	+0.7
SERI				S	Sn	03 56 51.9	+1.0
LKR	Lokris	2.37	27	P	Pn	03 56 23.2	+1.1
LKR	Lokris	2.37	27	P	Pn	03 56 22.9	+0.8
LKR	Lokris	2.37	27	P	Pn	03 56 23.8	+1.7
LKD2	Lefkada island	2.38	341	P	Pn	03 56 24.3	+2.0
LKD2	Lefkada island	2.38	341	P	Pn	03 56 24.6	+2.4
LKD2				S	Sn	03 56 53.4	+2.3
LKD2	Lefkada island	2.38	341	P	Pn	03 56 24.2	+2.0
LKD2				S	Sn	03 56 53.4	+2.3
EVR	Evrytania	2.38	3	P	Pb	03 56 26.7	+0.3
EVR	Evrytania	2.38	3	P	Pb	03 56 26.2	-0.2
EVR	Evrytania	2.38	3	P	Pb	03 56 25.5	-0.9
DION	Dionisos Attik	2.39	49	P	Pn	03 56 22.7	+0.3
DION	Dionisos Attik	2.39	49	P	Pn	03 56 23.8	+1.4
AGG	Agios Georgios	2.54	12	P	Pn	03 56 26.7	+2.2
AGG	Agios Georgios	2.54	12	P	Pn	03 56 26.5	+2.0
AGG	Agios Georgios	2.54	12	P	Pn	03 56 26.5	+2.0
SMIA	Simia	2.65	28	P	Pn	03 56 27.0	+1.0
SMIA	Simia	2.65	28	P	Pn	03 56 27.0	+1.0
KARY	Karystos	2.69	55	P	Pn	03 56 27.3	+0.8
KARY	Karystos	2.69	55	P	Pn	03 56 27.3	+0.8
IDI	Anoyia	2.92	114	P	Pn	03 56 32.7	+2.9
	comp=E,0.6nm,0.3s,baz=349,slow=18,SNR=1.6						
IDI				S	Sn	03 57 06.0	+1.4
	comp=E,2.3nm,0.3s,baz=68,slow=21,SNR=2.3						
THL	Klokotos Trika	3.04	6	P	Pn	03 56 33.0	+1.7
THL	Klokotos Trika	3.04	6	P	Pn	03 56 33.2	+1.9
XOR	Xorichti	3.08	23	P	Pn	03 56 32.9	+1.0
XOR	Xorichti	3.08	23	P	Pn	03 56 33.5	+1.6
STON	Ston	7.01	336	*e*Pn	Pn	03 57 21.8	-4.0
STON				Sn	Sn	03 58 35.4	-10
AKASG	Malin Array Be	15.18	19	P	P	03 59 21.2	-1.2
	comp=E,0.7nm,0.3s,baz=215,slow=11,SNR=4.4						
HFS	Hagfors	24.16	350	P	P	04 00 57.5	-1.5
	comp=E,1.5nm,0.7s,baz=158,slow=12,SNR=1.5						
FINES	FINESS Array B	25.09	5	P	P	04 01 06.3	-1.1
	comp=E,0.9nm,0.5s,baz=170,slow=9.9,SNR=1.7						
KURBB	Kurchatov Arra	42.51	52	P	P	04 03 35.7	-2.6
	comp=E,0.3nm,0.5s,baz=278,slow=8.4,SNR=2.9						
MKAR	Makanchi Array	45.42	57	P	P	04 04 00.0	-1.8
	comp=E,0.3nm,0.4s,baz=269,slow=8.6,SNR=3.8						
SONM	Songino Array	60.82	50	P	P	04 05 53.4	-1.9
	comp=E,0.2nm,0.4s,baz=279,slow=8.3,SNR=1.9						

DJA ***17*** *03:57:28.8±2.1,1°N±4°×9°2E±°, h7km±16km, M5.0/23, mb5.0/23, mB5.5/13, MLv5.2/9, Mw(mB)4.9/13*
IDC ***17*** *03:57:30.0±1.1, 1°.09N×92°.07E, h0km, mb4.1/11, mb1 4.2/13, mb1mx3.9/71, mbtmp4.1/13, ML4.1/2, MS4.1/1, Ms1 4.1/1, ms1mx3.5/67, Error ellipse: s-maj=32.2km s-min=17.7km az=40.0*
NEIC ***17*** *03:57:31.3±0.6, 1°.02N×92°.03E, h10km, mb4.6/13, Error ellipse: s-maj=15.6km s-min=8.4km az=47.0*

ISC 17 03:57:35.7±0.8, 1°.08N±0°.09×92°.23E±0°.07, h35km, n80, σ1§64/75, mb4.4/20, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLSI	Meulaboh, Aceh	5.23	53	P	Pn	03 58 50.4	-1.1
	238nm,0.7s,5μm1.6nm						
GSI	Gunungsitoli	5.35	88	P	Pn	03 58 53.7	+0.6
	400nm,1.0s,3μm1.4nm						
GSI	Gunungsitoli	5.35	88	*e*Pn	Pn	03 58 53.6	+0.5
GSI				*e*Sn	Sn	03 59 52.0	-1.5
BSI	Banda Aceh	5.35	35	P	Pn	03 58 51.8	-1.3
	78nm,0.7s,2μm0.8nm						
TPTI		5.40	66	P	Pn	03 58 53.5	-0.3
	299nm,0.8s,4μm1.3nm						
PBSI	Pulau Batu	6.15	100	P	Pn	03 59 04.8	+0.7
	782nm,0.8s,12μm2.4nm						
LHMI	Lhok Sumawe	6.26	49	P	Pn	03 59 04.4	-1.2
LHMI	Lhok Sumawe	6.26	49	*e*Pn	Pn	03 59 06.8	+1.3
PSI	Prapat	6.90	76	Pn	Pn	03 59 14.6	0.0
	3.7nm,0.3s,baz=257,slow=7.0,SNR=18						
PSI				LR	LR	04 02 26.4	
	comp=Z,1μm,19.1s,baz=270,slow=42						
PSI	Prapat	6.90	76	*e*Pn	Pn	03 59 14.2	-0.4
PSI				*e*Sn	Sn	04 00 28.1	-4.0
SISI	Saibi	7.26	109	P	Pn	03 59 19.4	0.0
	261nm,0.7s,2μm0.8nm						
MNSI	Mandailing Nat	7.35	92	P	Pn	03 59 21.1	+0.5
	235nm,0.6s,4μm1.2nm						
PDSI	Padang	8.46	103	P	Pn	03 59 36.7	+0.8
	123nm,0.9s,22μm						
BKNI	Bangkinang	8.84	95	P	Pn	03 59 41.5	+0.5
IPM	Ipoh	9.41	69	*e*Pn	Pn	03 59 49.6	+0.7
MASI	Maura Aman, Be	10.85	113	P	Pn	04 00 09.0	+0.4
	129nm,0.9s,2μm						
MNAI	Manna	12.00	117	*e*Pn	Pn	04 00 22.7	-1.7
PALK	Pallekele	13.04	298	Pn	Pn	04 00 31.9	-6.7
	1.6nm,0.3s,baz=115,slow=13,SNR=7.6						
PALK				Sn	Sn	04 02 42.3	-20
	8.0nm,0.3s,baz=297,slow=2.5,SNR=18						
PALK	Pallekele	13.04	298	*e*Pn	Pn	04 00 32.5	-6.1
PALK				*e*Sn	Sn	04 02 42.3	-20
MDSI	Maura Dua	13.15	115	P	Pn	04 00 40.0	-0.1
	17nm,0.7s						
NAYO	Nakonayok	15.93	34	P	P	04 01 24.0	+3.4
CHAI	Chaiyaphum	17.59	33	P	P	04 01 41.6	+2.6
	4.5nm,1.1s						
PBKT	Sadao Pong	17.64	29	P	P	04 01 39.5	0.0
	16nm,1.0s						
PBKT	Sadao Pong	17.64	29	*e*Pn	Pn	04 01 37.1	-1.7
	12nm,0.9s						
CISI	Cisompet, Garu	17.75	119	*e*Pn	Pn	04 01 37.9	-2.4
	44nm,0.4s						
PHIT	Phitsanulok	17.92	26	P	P	04 01 44.5	+1.8
	8.7nm,0.9s						
KSM	Kuching	18.07	89	*e*P	P	04 01 47.9	+3.4
	26nm,0.8s						
CM01	Chiang Mai Arr	18.46	21	*e*P	Pn	04 01 50.8	+2.0
CM31	Chiang Mai Arr	18.49	20	*e*P	P	04 01 47.5	-1.4
CMAR	Chiang Mai Arr	18.49	20	P	P	04 01 47.5	-1.4
	0.3nm,0.3s,baz=216,slow=13,SNR=16						
CHTO	Chiang Mai	18.82	20	P	Pn	04 01 55.4	+2.2
	42nm,1.4s						
CHTO	Chiang Mai	18.82	20	*e*P	Pn	04 01 53.8	+0.6
	10.0nm,1.1s						
CMMT	Chiang Mai	18.82	20	P	P	04 01 52.8	+0.3
	9.4nm,1.5s						
STKI	Sintang	19.27	93	P	P	04 01 55.9	-1.6
SKNT	Sakolnakorn	19.58	36	P	Pn	04 02 09.5	+7.1
SBUM	Sibu	20.02	86	*e*P	Pn	04 02 08.0	+0.3
	15nm,0.9s						
HYB	Hyderabad	21.09	321	*i* P	P	04 02 20.0	+2.7
H08S2	Diego Garcia H	21.51	246	T	T	04 24 17.9	
	baz=65,slow=75,SNR=38						
H08S3	Diego Garcia H	21.51	246	T	T	04 24 15.0	
	baz=65,slow=75,SNR=4.9						
H08S1	Diego Garcia H	21.53	246	T	T	04 24 15.7	
	baz=65,slow=75,SNR=4.8						
POO	Poona	25.03	315	*e*P	P	04 03 06.0	+9.2
RAMN	Ramite	26.29	349	*e*P	P	04 03 08.0	-0.3
	35nm,0.7s						
MYLDM	Lahad Datu	26.54	81	*e*P	P	04 03 13.3	+2.8
	22nm,1.1s						
JIRN	Jiri	27.06	348	*e*P	P	04 03 14.7	-0.7
	40nm,0.7s						
GUN	Gumba	27.37	348	*e*P	P	04 03 16.5	-1.7
	39nm,0.8s						
KOLN	Koldanda	27.80	343	*e*P	P	04 03 20.9	-1.0
	14nm,0.7s						
PYUN	Piuthan	28.29	343	*e*P	P	04 03 25.8	-0.5
	31nm,0.8s						
LSA	Lhasa	28.48	358	P	P	04 03 28.7	+0.4
	11nm,0.6s						
NIL	Nilore	36.97	333	*e*P	P	04 04 40.2	-1.6
	34nm,0.9s						
KK31	Karatay Array	46.13	338	*e*P	P	04 05 58.3	+1.6
KKAR	Karatay Array	46.13	338	*e*P	P	04 05 58.3	+1.6
WR1	Warramunga Arr	46.25	119	*e*P	P	04 05 58.5	+0.5
	20nm,1.5s						
WRA	Warramunga Arr	46.25	119	P	P	04 05 58.5	+0.5
	4.2nm,0.6s,baz=297,slow=8.6,SNR=48						
WB2	Warramunga Arr	46.26	119	*e*P	P	04 05 58.5	+0.3
MK01	Makanchi Array	46.33	351	*e*P	P	04 05 56.8	-1.5
MK32	Makanchi Array	46.35	351	*e*P	P	04 05 57.0	-1.4
MKAR	Makanchi Array	46.35	351	P	P	04 05 57.0	-1.4
	1.0nm,0.6s,baz=169,slow=9.4,SNR=12						
AS31	Alice Springs	47.37	124	*e*P	P	04 06 07.1	+0.3
	1.4nm,1.4s						
ASAR	Alice Springs	47.37	124	P	P	04 06 07.1	+0.3
	0.6nm,0.5s,baz=164,slow=5.3,SNR=4.1						
SONA0	Songino Array	48.17	13	*e*P	P	04 06 12.8	+0.2
SONM	Songino Array	48.17	13	P	P	04 06 12.8	+0.2
	3.7nm,0.9s,baz=191,slow=8.0,SNR=14						
SONA1	Songino Array	48.18	13	*e*P	P	04 06 12.6	-0.2
GEYT	Alibeck	48.24	324	P	P	04 06 12.9	-0.4
	2.0nm,0.3s,baz=156,slow=11,SNR=4.5						
ULN	Ulaanbaatar	48.34	13	*e*P	P	04 06 14.1	0.0
	4.2nm,0.9s						
KS15	Wonju Array Si	48.86	38	*e*P	P	04 06 17.4	-0.5
KSAR	Wonju Array Be	48.86	38	P	P	04 06 17.4	-0.5
KSRS	Korea Array	48.89	38	P	P	04 06 17.4	-0.7
	0.5nm,0.4s,baz=214,slow=8.7,SNR=4.5						
KURBB	Kurchatov Arra	50.72	349	P	P	04 06 30.3	-1.6
	1.3nm,0.6s,baz=172,slow=6.9,SNR=15						
KURK	Kurchatov	50.79	349	*e*P	P	04 06 31.1	-1.3
	7.8nm,0.9s						
ZALV	Zalesovo Beam	53.05	355	P	P	04 06 47.7	-1.5
	1.8nm,0.4s,baz=178,slow=7.4,SNR=6.0						
ZAA1	Zalesovo Array	53.05	355	*e*P	P	04 06 47.7	-1.6
BVAR	Borovoye Array	54.87	344	P	P	04 07 02.1	-0.4
	1.1nm,0.8s,baz=162,slow=7.0,SNR=5.6						
BRVK	Borovoye	54.93	344	*e*P	P	04 07 04.2	+1.2
	4.0nm,0.9s						
ABKAR	Akbulak array	55.40	335	*e*P	P	04 07 06.8	+0.4
KLR	Kul'dur	58.69	29	P	P	04 07 30.6	+0.9
	0.2nm,0.9s,baz=257,slow=14,SNR=3.6						
KBZ	Khabaz	60.98	321	P	P	04 07 44.9	-0.6
	2.1nm,0.9s,baz=111,slow=8.6,SNR=2.9						
BR101	Keskin Array S	65.56	314	*e*P	P	04 08 14.2	-2.0
BRTR	Keskin Array B	65.56	314	P	P	04 08 14.2	-2.0
	1.4nm,1.0s,baz=126,slow=6.9,SNR=4.6						
LTX	Lajitas	146.15	25	*e*PKPdf	PKPbc	04 17 12.7	-0.5
TXAR	Lajitas Array	146.15	25	PKPbc	PKPbc	04 17 12.7	-0.5
	0.9nm,0.5s,baz=44,slow=0.9,SNR=29						

UCR 17 03:59:20.6±0.6, 12°.99N×89°.65W, h30km±2km, MD3.8, ML4.0, 10C-2D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COLS	Colinas	0.76	27	*e*P	Pb	03 59 35.2	-0.1
SNET	Serv Nac Est T	0.81	30	*e*P	Pn	03 59 35.8	-0.2
SNET				*e*S	Sn	03 59 47.5	+0.4
SNET				IAML		03 59 51.2	
	comp=Z,6μm,0.3s						
SANM	San Marcos	0.81	34	*e*P	Pn	03 59 35.8	-0.3
SANM				IAML		03 59 48.9	
	comp=Z,2μm,0.1s						
BOQS	Boqueron	0.82	26	*e*P	Pn	03 59 36.3	-0.1
BOQS				*e*S	Sn	03 59 48.3	+0.6
UTEC	San Salvador	0.83	31	*e*P	Pn	03 59 36.3	-0.1
UTEC				IAML		03 59 49.1	
	comp=Z,4μm,0.2s						
UEES	San Salvador	0.83	28	*e*P	Pn	03 59 36.2	-0.3
UEES				IAML		03 59 49.9	
	comp=Z,6μm,0.1s						
UESS	San Salvador	0.84	31	*e*P	Pn	03 59 36.6	+0.1
UESS				IAML		03 59 52.3	
	comp=Z,5μm,0.2s						
OPAM	San Salvador	0.85	31	*e*P	Pn	03 59 36.5	-0.1
OPAM				IAML		03 59 50.2	
	comp=Z,10μm,0.3s						
SBLS	San Blas	0.85	2	*e*P	Pn	03 59 36.6	-0.2
LFRS	El Faro	0.85	42	*i*P	Pn	03 59 36.7	0.0
UDBS	Soyapango	0.88	33	*e*P	Pn	03 59 36.9	-0.1
UDBS				IAML		03 59 50.4	
	comp=Z,7μm,0.3s						
SNJE	San Jose	0.88	3	*e*P	Pn	03 59 36.9	-0.2
RTR	El Retiro	0.90	0	*e*P	Pn	03 59 37.4	-0.1
LFU	La Fuente	0.92	35	*e*P	Pn	03 59 37.8	+0.2
UESV	Ojushtada	0.92	65	*e*P	Pb	03 59 39.3	+1.2
LBRS	Las Brisas	0.95	38	*e*P	Pn	03 59 38.3	+0.2
SNVI	San Vicente	1.00	52	*e*P	Pn	03 59 38.9	0.0
TECA	Tecapa	1.23	66	*e*P	Pn	03 59 41.5	-0.4
LLGN	La Laguna	1.36	30	*e*P	Pn	03 59 43.8	+0.1
LLGN				IAML		04 00 04.4	
	comp=Z,1μm,0.5s						
PACA	Pacayal	1.38	70	*e*P	Pn	03 59 44.2	+0.2
LCY	Lacayo	1.39	72	*e*P	Pn	03 59 44.2	+0.1
LCY				*e*S	Sn	04 00 02.2	+0.7
VSM	San Miguel	1.41	72	*e*P	Pn	03 59 44.6	0.0
CAHU	Cacacuatique	1.60	61	*e*P	Pn	03 59 47.3	+0.1
LCND	La Ca¯ada	1.74	79	*e*P	Pn	03 59 48.9	0.0
LCND				IAML		03 59 49.8	
	comp=Z,2μm,0.4s						
LCND				*e*S	Sn	04 00 10.6	+0.4
CNCH	Conchagua	1.79	81	*e*P	Pn	03 59 49.5	-0.1

IDC ***17*** *04:03:11.6±0.9, 32°.53S×71°.55W, h0km, mb4.5/9, mb1 4.7/11, mb1mx4.4/30, mbtmp4.5/11, ML4.4/2, Error ellipse: s-maj=38.5km s-min=22.7km az=51.0*
ISCJB ***17*** *04:03:15.7±0.7, 32°.71S±0°.03×71°.78W±0°.06, h49km±7km, mb4.7/17, Error ellipse: s-maj=8.9km s-min=5.5km az=2.2*
SJA ***17*** *04:03:16.9±4.0, 32°.99S×71°.23W, h125km±128km, ML4.3, MW4.7*
GUC ***17*** *04:03:17.5±0.7, 33°.08S×71°.59W, h5km±8km, ML4.3*
NEIC ***17*** *04:03:18.0±0.0, 32°.55S×71°.37W, h40km, mb4.9/10, ML4.5(GUC), After GUC.*
NEIC Felt [V] at Santiago and [IV] at Vina del Mar. Also felt at La Serena, Paine, Quilpue, Salamanca, San Fernando and Valparaiso. Felt at Mendoza, Argentina.

ISC 17 04:03:17.4±1.0, 32°.78S±0°.04×71°.69W±0°.06, h43km±9km, n148, σ1§39/159, mb4.8/17, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PEL	Peldehue	0.92	113	*e*Pn	Pn	04 03 34.1	+0.2
PEL				*e*Sn	Sn	04 03 47.9	+2.0
PEL	Peldehue	0.92	113	*e*P	Pn	04 03 33.8	-0.1
PEL				*e*S	Sn	04 03 45.2	-0.7
RCDM	Rinconada Maip	1.02	134	*e*P	Pn	04 03 33.3	-1.9
RCDM				*e*S	Sn	04 03 45.6	-2.8
ANTU	Antumapu	1.18	132	*e*P	Pn	04 03 39.0	+1.5
ANTU				*e*S	Sn	04 03 55.2	+2.8
ANTU				IAML		04 03 57.1	
	comp=N,16μm,0.6s						
FCH	Farellones	1.29	115	*e*P	Pn

comp=Z,0.9nm,0.7s,baz=148,slow=7.0,SNR=8.0
X45A UM Field Stati 68.89 344 P P 04 14 17.0 -0.5
baz=164
OXF Oxford 68.98 344 P P 04 14 17.0 -1.0
baz=164
TKL Tuckaleechee C 69.02 349 P P 04 14 17.1 -1.3
comp=Z,4.3nm,0.7s,baz=164,slow=11,SNR=3.8
W48A Pulaski 69.06 347 P P 04 14 17.9 -0.7
baz=166
W47A Westpoint 69.31 346 P P 04 14 19.1 -1.0
baz=165
V48A Smith Brothers 69.63 347 P P 04 14 21.4 -0.7
baz=166
V47A Nunnelly 69.85 346 P P 04 14 22.4 -1.0
baz=166
V46A Holladay 69.94 346 P P 04 14 22.7 -1.3
baz=165
X39A Fountain Ranch 70.18 340 P P 04 14 25.2 -0.2
baz=160
WVT Waverly 70.20 346 P P 04 14 24.6 -0.9
baz=165
WVT Waverly 70.20 346 *e*P P 04 14 25.0 -0.5
comp=Z,20nm,0.7s
U47A Clarksville 70.40 347 P P 04 14 25.7 -1.0
baz=166
U46A Springville 70.49 346 P P 04 14 26.5 -0.8
baz=165
W39A Magazine 70.73 341 P P 04 14 28.7 -0.1
baz=160
V41A Mountainview 70.86 342 P P 04 14 28.8 -0.8
baz=162
T46A Princeton 71.10 346 P P 04 14 30.1 -0.9
baz=165
U42A Revenden 71.17 343 P P 04 14 29.6 -1.8
baz=162
V39A Pettigrew 71.30 341 P P 04 14 31.5 -0.8
baz=160
U40A Yellville 71.58 342 P P 04 14 33.0 -0.9
baz=161
T43A Greenville 71.64 344 P P 04 14 33.3 -1.0
baz=163
U39A Green Forest 71.77 342 P P 04 14 33.6 -1.5
baz=160
T41A Mountain View 71.95 343 P P 04 14 35.2 -1.0
baz=162
TUL1 Leonard 71.97 340 P P 04 14 34.9 -1.4
baz=158
R48A Northridge Ran 72.04 348 P P 04 14 35.5 -1.2
baz=167
S43A Fulton Ridge, 72.06 345 P P 04 14 35.5 -1.3
baz=164
T39A Clever 72.34 342 P P 04 14 38.2 -0.3
baz=161
S42A Caledonia 72.42 344 P P 04 14 36.7 -2.3
baz=163
S40A Lebanon 72.66 343 P P 04 14 39.7 -0.7
baz=162
S39A Bolivar 72.96 342 P P 04 14 41.4 -0.8
baz=161
S38A Stockton 73.05 342 P P 04 14 41.2 -1.5
baz=160
R41A Rosebud 73.06 344 P P 04 14 41.7 -1.0
baz=162
R40A Maddies Statio 73.26 343 P P 04 14 43.0 -1.0
baz=162
ACSO Alum Creek Sta 73.40 351 P P 04 14 43.7 -1.0
baz=170
R38A Fenwick Farm, 73.58 342 P P 04 14 44.9 -0.8
baz=160
Q41A Truxton 73.65 344 P P 04 14 45.3 -0.8
baz=163
O47A Sheridan 73.88 349 P P 04 14 46.4 -1.1
baz=167
Q40A Laux Farm, Aux 73.88 344 P P 04 14 46.4 -1.2
baz=162
P43A Skaggs, Pawnee 73.93 346 P P 04 14 46.5 -1.3
baz=164
P42A Winchester 74.06 345 P P 04 14 47.7 -0.9
baz=163
Q38A Cooks Store, C 74.23 342 P P 04 14 49.0 -0.6
baz=161
P40A Paris 74.39 344 P P 04 14 49.9 -0.6
baz=162
DBIC Dimbokro 74.51 71 P P 04 14 51.1 -0.7
comp=Z,10nm,0.9s,baz=232,slow=4.1,SNR=7.6
O41A Passleys Farm, 74.68 345 P P 04 14 50.7 -1.5
baz=163
HDIL Hopedale 74.77 346 P P 04 14 51.5 -1.2
baz=164
O39A Kirksville 75.19 344 P P 04 14 53.9 -1.3
baz=162
O37A Wolven Farm, M 75.50 342 P P 04 14 56.2 -0.7
baz=160
T25A Trinidad 75.97 334 P P 04 15 00.1 +0.1
baz=152
N36A Muff Farm, Cla 76.32 342 P P 04 15 01.2 -0.4
baz=160
M38A Pleasantville 76.45 344 P P 04 15 01.4 -0.9
baz=161
N35A Tabor 76.55 342 P P 04 15 01.6 -1.2
baz=159
M37A Trindle Farm, 76.65 343 P P 04 15 02.9 -0.5
baz=160
M36A Felix, Anita 76.88 342 P P 04 15 04.0 -0.7
baz=160
K42A Prairie Point, 76.92 347 P P 04 15 03.7 -1.2
baz=164
K41A Shullsburg 76.95 346 P P 04 15 04.1 -0.9
baz=164
K40A Colesburg 77.21 345 P P 04 15 05.4 -1.1
baz=163
L35A Bielow Farm, R 77.69 342 P P 04 15 08.6 -0.7
baz=159
J40A Soldiers Grove 77.79 346 P P 04 15 08.8 -1.0
baz=163
Q24A Divide 77.86 334 P P 04 15 10.4 -0.2
baz=151
K36A Gilmore City 77.91 343 P P 04 15 09.8 -0.6
baz=160
I41A Arkdale 78.26 347 P P 04 15 11.4 -0.9
baz=164
J37A Redenius Farm, 78.33 344 P P 04 15 11.7 -1.0
baz=161
I39A Houston 78.39 345 P P 04 15 12.1 -1.0
baz=163
K31A O'Neill 79.04 340 P P 04 15 16.4 -0.3
baz=157
I35A Creekview Farm 79.19 343 P P 04 15 16.3 -1.2
baz=160
J33A Davis 79.19 342 P P 04 15 16.8 -0.7
baz=158
J32A Parkston 79.48 341 P P 04 15 18.3 -0.8
baz=158
ECSD EROS Data Cent 79.48 342 P P 04 15 18.7 -0.4
baz=159
ECSD EROS Data Cent 79.48 342 *e*P P 04 15 18.4 -0.7
comp=Z,7.7nm,0.7s
KOWA Kowa 79.87 66 P P 04 15 21.3 -0.5
comp=Z,9.5nm,0.6s,baz=226,slow=7.4,SNR=8.9
KOWA Kowa 79.87 66 *e*P P 04 15 21.5 -0.3
comp=Z,11nm,0.8s
H35A Sunnyside Ranc 79.94 343 P P 04 15 20.6 -1.0
baz=160
H34A Spellman Lake, 80.14 343 P P 04 15 22.2 -0.4
baz=159
BOSA Boshof 80.38 118 P P 04 15 25.5 +0.8
comp=Z,9.3nm,0.9s,baz=250,slow=2.4,SNR=8.3
BOSA Boshof 80.38 118 *e*P P 04 15 25.4 +0.7
comp=Z,39nm,1.5s
H33A Prehn Over Nor 80.40 342 P P 04 15 22.8 -1.2
baz=158
F37A Hinrichs Farm, 80.41 345 P P 04 15 22.5 -1.5
baz=162
NVAR Mina Array Bea 83.06 325 P P 04 15 38.8 +0.3
comp=Z,1.2nm,0.7s,baz=142,slow=5.5,SNR=6.5
ULM Lac du Bonnet 85.40 345 P P 04 15 48.9 -0.9
comp=Z,2.5nm,0.8s,baz=174,slow=11,SNR=3.6
SCHQ Schefferville 87.36 3 P P 04 15 58.2 -1.1
comp=Z,4.0nm,0.9s,baz=222,slow=14,SNR=2.1
YBH Yreka Blue Hor 87.75 324 P P 04 16 01.1 -0.5
comp=Z,1.6nm,0.8s,baz=215,slow=9.9,SNR=3.8
CLL Collm 111.75 42 *e*PP PP 04 22 21.0 -9.3
AKASG Malin Array Be 121.15 47 PKP PKPdf 04 22 03.6 -1.4
comp=Z,0.5nm,0.5s,baz=259,slow=2.7,SNR=6.2
BVAR Borovoye Array 146.19 42 PKPbc PKPab 04 22 53.0 -0.2
comp=Z,3.8nm,0.6s,baz=305,slow=3.6,SNR=13
KK31 Karatay Array 148.69 60 *e*PKPbc PKPbc 04 22 59.9 +0.1
KKAR Karatay Array 148.69 60 *e*PKPbc PKPbc 04 22 59.9 +0.1

AAK Ala-Archa 151.66 60 PKPbc PKPbc 04 23 07.9 +0.8
comp=Z,14nm,0.7s,baz=185,slow=2.4,SNR=28
KURBB Kurchatov Arra 151.78 42 PKPbc PKPbc 04 23 07.0 +0.1
comp=Z,9.7nm,0.7s,baz=300,slow=2.9,SNR=43
KURK Kurchatov 151.79 42 PKPbc PKPbc 04 23 07.0 +0.1
ZALV Zalesovo Beam 153.04 31 PKPbc PKPbc 04 23 09.5 -0.1
comp=Z,10nm,0.7s,baz=302,slow=3.2,SNR=17
KSH Kashi 153.13 66 PKPbc PKPdf 04 23 04.6 +1.6
KSH pPKP pPKPdf 04 23 15.8 -0.7
KSH SKS SKSdf 04 30 06.4 -0.3
MKAR Makanchi Array 155.74 47 PKPab PKPab 04 23 32.5 -0.4
comp=Z,2.9nm,0.6s,baz=284,slow=2.9,SNR=13
WMQ Urumqi 160.48 50 PKP PKPdf 04 23 12.3 +0.1
BJI Beijing 170.38 321 PKP PKPdf 04 23 23.0 +2.6
KMI Kunming 170.94 146 PKP PKPdf 04 23 21.0 -0.5
NJ2 Nanjing 171.06 268 *e*PKP PKPdf 04 23 22.8 +1.8
HHC Hu-ho-hao-te 171.54 343 *e*PKP PKPdf 04 23 21.6 +0.4
GYA Guiyang 173.53 167 *e*PKP PKPdf 04 23 22.0 -0.5
GYA PKPab PKPab 04 24 52.4 +0.9
GYA PKS PKSdf 04 26 52.6 -2.4
GYA PP PP 04 28 46.0 +3.6
GYA AMB AMB
comp=Z,120nm,7.9s
LZH Lanzhou 175.05 47 *e*PKP PKPdf 04 23 26.5 +3.7
LZH pPKP pPKPdf 04 23 36.3 +0.1
LZH sPKP 04 23 41.9
LZH LR LR
comp=Z,190nm,16.1s
LZH LR LR
comp=Z,250nm,18.4s
LZH LR LR
comp=Z,310nm,19.8s
ENH Enshi 177.30 202 *e*PKPdf PKPdf 04 23 25.2 +2.0
XAN Xi'an 178.65 338 PKP PKPdf 04 23 12.8 -11
XAN pPKP pPKPdf 04 23 22.5 -14

GUC 17 04:06:19.0±0.7, 32°.67S×71°.23W, h48km±11km, ML3.7, 1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PEL	**Peldehue**	**0.66**	**136**	*e*P	Pn	04 06 33.0	+0.8
PEL				*e*S	Sn	04 06 43.8	+2.1
FCH	**Farellones**	**1.03**	**130**	*e*P	Pn	04 06 39.0	+1.7
FCH				*e*S	Sn	04 06 54.1	+3.2
FCH				IAML		04 06 54.7	
	comp=E,3μm,0.2s						
ANTU	**Antumapu**	**1.03**	**151**	*e*P	Pn	04 06 38.1	+1.0
ANTU				*e*S	Sn	04 06 52.7	+2.2
ANTU				IAML		04 06 57.2	
	comp=N,2μm,0.2s						
LMEL	**Las Melosas**	**1.46**	**144**	*e*P	Pn	04 06 44.9	+1.8
LMEL				*e*S	Sn	04 07 04.6	+3.5
LMEL				IAML		04 07 09.7	
	comp=N,3μm,0.2s						

IDC 17 04:06:55.8±4.7, 6°.33S×148°.91E, h94km±47km, mb4.3/3, mb1 4.5/5, mb1mx3.7/52, mbtmp4.6/5, Error ellipse: s-maj=89.2km s-min=30.0km az=133.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.52**	**209**	P	Pn	04 07 48.3	-0.2
	33nm,0.3s,baz=16,slow=10,SNR=35						
PMG				S	Sn	04 08 29.6	+0.5
	50nm,0.3s,baz=13,slow=21,SNR=3.7						
WRA	**Warramunga Arr**	**19.59**	**225**	P	P	04 11 16.6	0.0
	3.6nm,0.3s,baz=50,slow=11,SNR=16						
ASAR	**Alice Springs**	**22.48**	**218**	P	P	04 11 47.9	+0.1
	18nm,0.8s,baz=57,slow=9.2,SNR=31						
FITZ	**Fitzroy Crossi**	**25.54**	**241**	P	P	04 12 15.8	-0.2
	38nm,0.8s,baz=81,slow=10.0						
ILAR	**Eielson Array**	**85.04**	**23**	P	P	04 19 21.1	+0.3
	0.7nm,0.6s,baz=247,slow=4.8,SNR=6.9						

*SJA **17** 04:15:44.8±0.6, 33°.04S×72°.29W, h41km±22km, ML3.7, MW4.6*
*GUC **17** 04:15:53.6±0.4, 32°.51S×71°.38W, h45km±2km, ML3.6*
ISC 17 04:15:52.6±2.8, 32°.85S±0°.08×71°.8W±0°.2, h22km±8km, n11, σ0°.88/16, 1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PEL	**Peldehue**	**0.97**	**108**	*e*P	Pb	**04 16 09.7**	**-1.0**
PEL				*e*S	Sb	**04 16 22.2**	**-0.9**
ANTU	**Antumapu**	**1.20**	**127**	*e*P	Pb	**04 16 15.2**	**+0.5**
ANTU				*e*S	Sn	**04 16 31.7**	**+1.8**
ANTU				IAML		04 16 35.1	
	comp=N,3μm,0.4s						
FCH	**Farellones**	**1.34**	**111**	*e*P	Pn	**04 16 16.0**	**-0.3**
FCH				*e*S	Sn	**04 16 32.8**	**-0.9**
FCH				IAML		04 16 35.1	
	comp=E,1μm,0.1s						
LMEL	**Las Melosas**	**1.66**	**128**	*e*P	Pb	**04 16 22.0**	**-0.5**
LMEL				*e*S	Sb	**04 16 43.6**	**+0.6**
LMEL				IAML		04 16 50.1	
	comp=N,2μm,0.3s						
AUSP	**Uspallata**	**2.11**	**74**	*i* P	Pn	**04 16 26.9**	**-0.1**
AUSP				*i* S	Sb	**04 16 57.8**	**+1.5**
RTLS	**Leoncito**	**2.35**	**64**	*i* P	Pn	**04 16 29.8**	**-0.4**
RTLS				IAML		04 16 41.6	
	comp=Z,275nm,0.6s						
RTCV	**Cerro Valdivia**	**2.91**	**71**	*i* P	Pn	**04 16 38.0**	**+0.2**
AROD	**Rodeo**	**3.32**	**37**	*i* P	Pn	**04 16 43.4**	**-0.1**
AMOG	**MOGNA**	**3.38**	**57**	*i* P	Pn	**04 16 44.2**	**0.0**
ACAN	**Cantantal**	**3.92**	**83**	*i* P	Pn	**04 16 51.4**	**-0.2**
AGUA	**GUANDACOL**	**4.38**	**41**	*i* P	Pn	**04 16 57.8**	**-0.1**

*SJA **17** 04:21:22.6±0.3, 33°.27S×72°.44W, h68km±8km, ML3.3, MW3.7*
*ISCJB **17** 04:21:30.6±2.5, 32°.82S±0°.05×71°.8W±0°.1, h4km±21km, Error ellipse: s-maj=15.5km s-min=6.9km az=155.4*
*GUC **17** 04:21:32.1±0.6, 32°.75S×71°.69W, h44km±4km, ML3.4*
ISC 17 04:21:28.0±1.9, 32°.92S±0°.06×71°.92W±0°.07, h8km±12km, n10, σ1°.15/16, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PEL	**Peldehue**	**1.06**	**102**	*e*P	Pn	**04 21 49.5**	**+0.2**
PEL				*i* S	Sg	**04 22 02.3**	**-0.1**
PEL				IAML		04 22 02.6	
	comp=N,1μm,0.2s						
ANTU	**Antumapu**	**1.26**	**121**	*e*P	Pg	**04 21 53.7**	**+1.5**
ANTU				*i* S	Sn	**04 22 09.8**	**+0.6**
ANTU				IAML		04 22 10.7	
	comp=E,1μm,0.3s						
FCH	**Farellones**	**1.43**	**107**	*e*P	Pg	**04 21 55.5**	**0.0**
FCH				*e*S	Sn	**04 22 12.5**	**-1.3**
FCH				IAML		04 22 12.9	
	comp=E,2μm,0.2s						
LMEL	**Las Melosas**	**1.71**	**123**	*e*P	Pg	**04 22 01.0**	**+0.1**
LMEL				*e*S	Sb	**04 22 21.9**	**+0.3**
LMEL				IAML		04 22 24.5	
	comp=N,684nm,0.1s						
GO05	**HualaæØ**	**2.09**	**180**	*e*P	Pg	**04 22 08.3**	**+0.2**
AUSP	**Uspallata**	**2.25**	**73**	*i* P	Pb	**04 22 07.5**	**-1.7**
AUSP				*i* S	Sg	**04 22 40.8**	**+0.4**
RTLS	**Leoncito**	**2.49**	**64**	*i* P	Pb	**04 22 11.3**	**-1.9**
RTLS				IAML		04 22 22.0	
	comp=Z,82nm,0.5s						
TLL	**Tololo Astrono**	**2.91**	**19**	*e*P	Pn	**04 22 14.8**	**0.0**
TLL				*e*S	Sn	**04 22 51.0**	**+1.0**
TLL				IAML		04 23 02.3	
	comp=N,248nm,0.7s						
RTCV	**Cerro Valdivia**	**3.05**	**71**	*i* P	Pn	**04 22 18.0**	**+1.4**
AMOG	**MOGNA**	**3.52**	**57**	*i* P	Pn	**04 22 24.6**	**+1.5**

*BJI **17** 04:24:58.1, 38°.27N×142°.57E, h44km, mb4.6/38, mB5.2/10, Ms4.9/8, Ms7 4.6/8*
*ISCJB **17** 04:24:59.6±1.0, 38°.35N±0°.03×142°.33E±0°.04, h33km±6km, mb4.5/60, MS4.9/2, Error ellipse: s-maj=5.2km s-min=3.9km az=43.5*
*JMA **17** 04:24:59.8±0.1, 38°.42N×142°.30E, h34km±2km, M4.4*
JMA Felt II J1.
*NEIC **17** 04:25:03.9±0.6, 38°.27N×142°.27E, h62km±5km, mb4.6/26, Error ellipse: s-maj=6.0km s-min=4.6km az=124.0*

NEIC Felt at Fukushima and Tokai. Recorded [2 JMA] in Miyagi.
*IDC **17** 04:25:06.3±2.0, 38°.37N×142°.24E, h78km±17km, mb4.0/26, mb1 4.1/30, mb1mx4.0/64, mbtmp4.3/30, MS4.2/1, Ms1 4.2/1, ms1mx3.5/64, Error ellipse: s-maj=13.8km s-min=11.1km az=107.0*
ISC 17 04:24:59.4±1.5, 38°.32N±0°.04×142°.32E±0°.05, h24km±10km, n163, σ1°.43/176, mb4.6/60, MS4.8/3, 9C-6D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIO	**Ouri**	**0.77**	**280**	P	**Pb**	**04 25 14.0**	**-0.2**
JIO				S	**Sb**	**04 25 23.8**	**-0.5**
OFUJ	**Ofunato**	**0.92**	**327**	P	**Pb**	**04 25 15.1**	**-1.5**
OFUJ				S	**Sb**	**04 25 26.1**	**-2.3**
JMK	**Ichinoseki**	**1.07**	**307**	P	**Pn**	**04 25 17.8**	**-1.1**
JMK				S	**Sb**	**04 25 30.9**	**-1.8**
JMM	**Marumori**	**1.28**	**250**	P	**Pn**	**04 25 21.6**	**-0.3**
JMM				S	**Sn**	**04 25 37.6**	**-0.7**
JOU	**Okura**	**1.30**	**273**	P	**Pn**	**04 25 22.2**	**+0.1**
JOU				S	**Sn**	**04 25 38.4**	**-0.4**
JOM	**Ohasama**	**1.40**	**326**	P	**Pn**	**04 25 22.6**	**-1.0**
JOM				S	**Sn**	**04 25 39.2**	**-2.1**
JFK	**Kawauchi**	**1.48**	**231**	P	**Pn**	**04 25 24.3**	**-0.4**
JFK				S	**Sn**	**04 25 42.0**	**-1.4**
JYK	**Kaneyama**	**1.65**	**292**	P	**Pn**	**04 25 26.8**	**-0.1**
JFT	**Otama**	**1.76**	**244**	P	**Pn**	**04 25 29.2**	**+0.8**
JFT				S	**Sn**	**04 25 51.0**	**+0.9**
JYS	**Shirataka**	**1.77**	**268**	P	**Pn**	**04 25 29.4**	**+0.7**
JYS				eS	**Sn**	**04 25 50.6**	**+0.1**
MJAR	**Matsushiro Arr**	**3.72**	**243**	P	**Pn**	**04 25 59.1**	**+3.7**
	4.3nm,0.3s,baz=65,slow=11,SNR=47						
MJAR				S	**Sb**	**04 26 45.5**	**-3.6**
	8.3nm,0.3s,baz=82,slow=28,SNR=5.0						
MJAR				LR	LR	04 27 46.0	
	comp=Z,4μm,21.4s,baz=195,slow=44						
MAJO	**Matsushiro**	**3.72**	**243**	*e*Pn	**Pn**	**04 25 55.7**	**+0.3**
MAJO				*e*Sn	**Sn**	**04 26 39.5**	**+1.0**
MAT	**Matsushiro**	**3.72**	**243**	P	**Pn**	**04 25 57.8**	**+2.4**
MAT				S	**Sb**	**04 26 46.2**	**-2.9**
MJB9	**Matsu-Tunnel**	**3.72**	**243**	*e*Pn	**Pn**	**04 25 58.8**	**+3.3**
ERM	**Erimo**	**3.75**	**10**	*e*Pn	**Pn**	**04 25 53.8**	**-1.9**
ERM				*e*Sn	**Sn**	**04 26 36.3**	**-2.8**
INU	**Inuyama**	**5.18**	**237**	*e*Pn	**Pn**	**04 26 18.8**	**+3.3**
INU				*e*Sn	**Sn**	**04 27 17.1**	**+2.6**
JHJ2	**Mitsune**	**5.58**	**202**	*e*Pn	**Pn**	**04 26 21.1**	**+0.2**
JHJ2				*e*Sn	**Sn**	**04 27 21.7**	**-2.6**
JHJ	**Hachijo jima 2**	**5.58**	**202**	P	**Pn**	**04 26 22.8**	**+1.8**
	20nm,0.3s,baz=354,slow=22,SNR=5.3						
JHJ				S	**Sn**	**04 27 22.0**	**-2.4**
	45nm,0.3s,baz=296,slow=23,SNR=5.8						
ASAJ	**Asahikawa**	**5.80**	**2**	*e*Pn	**Pn**	**04 26 27.3**	**+3.4**
USRK	**Ussuriysk Ar.**	**9.74**	**310**	P	**Pn**	**04 27 21.2**	**+3.2**
	0.4nm,0.3s,baz=123,slow=14,SNR=18						
JNU	**Nakatsue**	**10.64**	**244**	P	**Pn**	**04 27 33.5**	**+3.0**
	0.4nm,0.3s,baz=65,slow=10,SNR=7.0						
KSRS	**Korea Array**	**11.41**	**270**	P	Pn	04 27 45.8	+4.9
	0.3nm,0.3s,baz=85,slow=14,SNR=9.4						
KS15	**Wonju Array Si**	**11.44**	**270**	*e*Pn	**Pn**	**04 27 45.8**	**+4.5**
KSAR	**Wonju Array Be**	**11.44**	**270**	P	**Pn**	**04 27 45.8**	**+4.5**
KLR	**Kul'dur**	**13.30**	**328**	P	**Pn**	**04 28 11.1**	**+4.4**
	0.0nm,0.3s,baz=154,slow=6.7,SNR=4.0						
CN2	**Changchun**	**13.85**	**299**	*e*P	**Pn**	**04 28 16.9**	**+2.7**
CN2				*e*sP	P	04 28 32.0	+10
CN2				*e*S	**Sn**	**04 30 49.6**	**+2.4**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
CN2				pmax	pmax		
	comp=Z,200nm,3.0s						
CN2				LR	LR		
	comp=N,1μm,19.0s						
CN2				LR	LR		
	comp=E,3μm,19.0s						
CN2				LR	LR		
	comp=Z,1μm,23.0s						
NJ2	**Nanjing**	**20.14**	**259**	*e*P	Pn	04 29 33.0	-0.8
NJ2				pP	sP	04 29 43.3	+1.9
NJ2				sP	pP	04 29 50.0	+12
NJ2				S	**S**	**04 33 15.5**	**-1.5**
NJ2				sS	pS	04 33 32.3	+0.2
NJ2				pmax	pmax		
	comp=Z,18nm,0.5s						
NJ2				pmax	pmax		
	comp=Z,2μm,8.7s						
NJ2				LR	LR		
	comp=N,3μm,16.3s						
NJ2				LR	LR		
	comp=E,5μm,24.9s						
NJ2				LR	LR		
	comp=Z,4μm,22.8s						
TIA	**Tai'an**	**20.15**	**272**	P	Pn	04 29 33.4	-0.4
TIA				pmax	pmax		
	comp=Z,10.0nm,1.3s						
BJI	**Beijing**	**20.32**	**283**	*e*P	**P**	**04 29 30.0**	**-3.7**
BJI				pmax	pmax		
	comp=Z,6.0nm,0.9s						
YULB	**Yu-li**	**23.31**	**236**	*e*P	**P**	**04 30 05.2**	**-0.5**
	comp=Z,8.5nm,0.8s						
HHC	**Hu-ho-hao-te**	**23.78**	**286**	*e*P	**P**	**04 30 09.5**	**-0.8**
HHC				pmax	pmax		
	comp=Z,43nm,0.9s						
HHC				pmax	pmax		
	comp=Z,100nm,4.4s						
TPUB	**Ta-pu**	**23.81**	**237**	*e*P	**P**	**04 30 08.4**	**-2.2**
	comp=Z,6.7nm,0.6s						
WHN	**Wuhan**	**24.27**	**260**	⇑P	**P**	**04 30 14.6**	**-0.2**
SEY	**Seymchan**	**25.40**	**11**	P	**P**	**04 30 25.9**	**+1.2**
	comp=Z,4.2nm,0.7s,baz=194,slow=6.9,SNR=14						
XAN	**Xi'an**	**27.20**	**271**	P	**P**	**04 30 41.0**	**-0.4**
XAN				pP	sP	04 30 50.3	-1.0
XAN				pmax	pmax		
	comp=Z,7.0nm,0.7s						
ULN	**Ulaanbaatar**	**27.26**	**302**	*e*P	**P**	**04 30 40.5**	**-1.4**
	comp=Z,2.5nm,1.1s						
SONA1	**Songino Array**	**27.69**	**302**	*e*P	**P**	**04 30 45.6**	**-0.1**
SONA0	**Songino Array**	**27.69**	**302**	*e*P	**P**	**04 30 45.8**	**0.0**
SONM	**Songino Array**	**27.69**	**302**	P	**P**	**04 30 45.8**	**0.0**
	comp=Z,1.0nm,0.7s,baz=98,slow=5.2,SNR=7.7						
ENH	**Enshi**	**28.17**	**263**	*e*P	**P**	**04 30 50.7**	**+0.6**
	comp=Z,17nm,0.8s						
H11N2	**WAKE ISLAND Hy**	**28.23**	**124**	T	T	05 00 39.5	
	baz=322,slow=75,SNR=997						
H11N1	**WAKE ISLAND Hy**	**28.24**	**124**	T	T	05 01 19.7	
	SNR=1151						
H11N3	**WAKE ISLAND Hy**	**28.25**	**124**	T	T	05 00 40.6	
	baz=312,slow=75,SNR=852						
H11S1	**WAKE ISLAND Hy**	**28.99**	**126**	T	T	05 02 06.6	
	baz=318,slow=76,SNR=231						
H11S3	**WAKE ISLAND Hy**	**29.00**	**126**	T	T	05 01 41.9	
	baz=318,slow=76,SNR=375						
H11S2	**WAKE ISLAND Hy**	**29.01**	**126**	T	T	05 02 07.8	
	baz=318,slow=76,SNR=164						
LZH	**Lanzhou**	**30.58**	**278**	*e*P	**P**	**04 31 12.8**	**+1.3**
LZH				pP	sP	04 31 23.4	+1.9
LZH				sP	pP	04 31 27.5	+8.9
LZH				pmax	pmax		
	comp=Z,19nm,1.0s						
GYA	**Guiyang**	**32.16**	**259**	⇑P	**P**	**04 31 24.9**	**-0.5**
GYA				pP	sP	04 31 38.3	+2.9
GYA				PP	**PnPn**	**04 32 34.0**	**+2.5**
GYA				S	**S**	**04 36 34.3**	**-2.6**
GYA				sS	sS	04 36 53.4	+4.8
GYA				SS	**SnSn**	**04 38 28.6**	**+0.5**
GYA				pmax	pmax		
	comp=Z,20nm,0.8s						
GYA				pmax	pmax		
	comp=Z,120nm,5.0s						
GYA				LR	LR		
	comp=Z,520nm,17.2s						
GYA				LR	LR		
	comp=Z,550nm,17.6s						
GYA				LR	LR		
	comp=Z,490nm,17.8s						
GTA	**Gaotai**	**32.89**	**285**	*e*P	**P**	**04 31 31.5**	**-0.3**
GTA				pmax	pmax		
	comp=Z,6.0nm,0.6s						
KMI	**Kunming**	**35.87**	**260**	P	**P**	**04 31 58.9**	**+1.1**
KMI				pmax	pmax		
	comp=Z,9.0nm,0.8s						
MYLDM	**Lahad Datu**	**39.46**	**219**	*e*P	**P**	**04 32 25.4**	**-2.5**
	comp=Z,9.3nm,0.8s						
WMQ	**Urumqi**	**40.92**	**296**	P	**P**	**04 32 42.3**	**+2.4**
WMQ				pP	sP	04 32 50.0	+0.1
WMQ				pmax	pmax		

	comp=Z,30nm,1.1s					
WMQ				LR	LR	
	comp=Z,7μm,39.3s					
WMQ				LR	LR	
	comp=Z,12μm,39.1s					
WMQ				LR	LR	
	comp=Z,10μm,36.9s					
ZAA1	**Zalesovo Array**	**41.59**	**311**	*e*P	**P**	**04 32 45.0 -0.2**
ZAA1				*e*PcP	**PcP**	**04 34 41.6 -0.3**
ZALV	**Zalesovo Beam**	**41.59**	**311**	P	**P**	**04 32 45.0 -0.2**
	comp=Z,3.4nm,0.6s,baz=69,slow=6.7,SNR=9.6					
ZALV				PcP	**PcP**	**04 34 41.6 -0.3**
	comp=Z,1.3nm,0.5s,baz=66,slow=2.6,SNR=3.7					
FAKI	**Fak Fak**	**42.08**	**195**	*e*P	**P**	**04 32 48.0 -1.5**
	comp=Z,28nm,1.0s					
PBKT	**Sadao Pong**	**42.16**	**251**	*e*P	**P**	**04 32 50.4 +0.2**
	comp=Z,7.7nm,1.2s					
CHTO	**Chiang Mai**	**42.31**	**255**	*e*P	**P**	**04 32 51.7 +0.3**
CM31	**Chiang Mai Arr**	**42.52**	**255**	*e*P	**P**	**04 32 53.2 0.0**
CMAR	**Chiang Mai Arr**	**42.52**	**255**	P	**P**	**04 32 53.2 0.0**
	comp=Z,2.2nm,0.6s,baz=44,slow=7.2,SNR=14					
CM01	**Chiang Mai Arr**	**42.53**	**255**	*e*P	**P**	**04 32 53.6 +0.3**
MK01	**Makanchi Array**	**44.06**	**301**	*e*P	**P**	**04 33 05.0 -0.3**
MK31	**Makanchi Array**	**44.06**	**301**	*e*P	**P**	**04 33 05.5 +0.2**
MK32	**Makanchi Array**	**44.06**	**301**	*e*P	**P**	**04 33 05.2 -0.1**
MKAR	**Makanchi Array**	**44.06**	**301**	P	**P**	**04 33 05.2 -0.1**
	comp=Z,2.2nm,0.7s,baz=83,slow=9.3,SNR=19					
MKAR	**Makanchi Array**	**44.06**	**301**	*e*P	**P**	**04 33 05.5 +0.2**
	comp=Z,23nm,0.6s					
KURK	**Kurchatov**	**45.72**	**307**	*e*P	**P**	**04 33 18.2 -0.2**
	comp=Z,20nm,0.9s					
KURBB	**Kurchatov Arra**	**45.79**	**307**	P	**P**	**04 33 18.9 -0.1**
	comp=Z,13nm,0.8s,baz=81,slow=8.3,SNR=90					
KTH	**Kantishna Hill**	**46.28**	**35**	*e*P	**P**	**04 33 21.2 -1.6**
	comp=Z,1.3nm,0.8s					
TOLK	**Toolik Lake Re**	**47.00**	**28**	*e*P	**P**	**04 33 28.3 0.0**
	comp=Z,1.6nm,0.9s					
RND	**Reindeer**	**47.22**	**35**	*e*P	**P**	**04 33 30.1 0.0**
	comp=Z,3.5nm,1.2s					
SML	**Sawmill**	**47.54**	**37**	*e*P	**P**	**04 33 33.1 +0.5**
	comp=Z,6.1nm,1.0s					
JIRN	**Jiri**	**47.62**	**275**	*e*P	**P**	**04 33 34.6 +0.5**
RAMN	**Ramite**	**47.63**	**273**	*e*P	**P**	**04 33 34.4 +0.3**
	comp=Z,52nm,0.9s					
GUN	**Gumba**	**47.75**	**275**	*e*P	**P**	**04 33 35.5 +0.4**
	comp=Z,42nm,0.9s					
ILAR	**Eielson Array**	**48.03**	**33**	P	**P**	**04 33 36.9 +0.6**
	comp=Z,0.7nm,0.7s,baz=265,slow=6.2,SNR=13					
ILB	**Eielson Array**	**48.03**	**33**	*e*P	**P**	**04 33 36.9 +0.6**
KKN	**Kakani**	**48.28**	**275**	*e*P	**P**	**04 33 39.3 +0.3**
	comp=Z,47nm,0.9s					
PKIN	**Phulchoki**	**48.28**	**275**	*e*P	**P**	**04 33 39.1 0.0**
GKN	**Gorkha**	**48.68**	**276**	*e*P	**P**	**04 33 42.2 +0.2**
	comp=Z,49nm,1.0s					
DANN	**Dangsing**	**49.21**	**277**	*e*P	**P**	**04 33 47.2 +1.0**
MENT	**Mentasta**	**49.57**	**35**	*e*P	**P**	**04 33 49.3 +1.1**
	comp=Z,33nm,0.2s					
KOLN	**Koldanda**	**49.60**	**276**	*e*P	**P**	**04 33 49.5 +0.4**
	comp=Z,11nm,0.6s					
PYUN	**Piuthan**	**49.92**	**277**	*e*P	**P**	**04 33 51.9 +0.3**
	comp=Z,72nm,1.1s					
BVAR	**Borovoye Array**	**50.25**	**312**	P	**P**	**04 33 53.2 -0.2**
	comp=Z,2.5nm,0.6s,baz=75,slow=7.6,SNR=13					
BVAR				PcP	**PcP**	**04 35 12.6 +0.4**
	comp=Z,2.1nm,0.5s,baz=78,slow=3.0,SNR=5.3					
BRVK	**Borovoye**	**50.30**	**312**	*e*P	**P**	**04 33 53.4 -0.5**
	comp=Z,11nm,0.8s					
INK	**Inuvik**	**52.92**	**28**	P	**P**	**04 34 13.8 +0.7**
	comp=Z,1.0nm,0.8s,baz=310,slow=4.9,SNR=3.8					
INK	**Inuvik**	**52.92**	**28**	*e*P	**P**	**04 34 13.8 +0.7**
	comp=Z,2.2nm,1.1s					
KK31	**Karatay Array**	**53.11**	**300**	*e*P	**P**	**04 34 15.2 +0.2**
KKAR	**Karatay Array**	**53.11**	**300**	*e*P	**P**	**04 34 15.2 +0.2**
NIL	**Nilore**	**54.90**	**288**	*e*P	**P**	**04 34 29.1 +0.8**
	comp=Z,18nm,0.8s					
ARU	**Arti**	**55.88**	**318**	*e*P	**P**	**04 34 35.0 +0.1**
	comp=Z,13nm,0.7s					
ABKAR	**Akbulak array**	**57.67**	**310**	*e*P	**P**	**04 34 47.1 -0.6**
AKTO	**Aktyubinsk**	**58.36**	**312**	P	**P**	**04 34 52.3 -0.2**
	comp=Z,6.2nm,0.8s,baz=68,slow=11,SNR=18					
WR1	**Warramunga Arr**	**58.43**	**189**	*e*P	**P**	**04 34 53.4 +0.2**
	comp=Z,25nm,0.9s					
WRA	**Warramunga Arr**	**58.43**	**189**	P	**P**	**04 34 53.4 +0.2**
	comp=Z,20nm,0.7s,baz=7.3,slow=7.2,SNR=130					
AS31	**Alice Springs**	**62.16**	**189**	*e*P	**P**	**04 35 19.3 +0.6**
	comp=Z,3.0nm,0.8s					
ASAR	**Alice Springs**	**62.16**	**189**	P	**P**	**04 35 19.3 +0.6**
	comp=Z,9.6nm,0.7s,baz=11,slow=6.5,SNR=93					
YKA	**Yellowknife Ar**	**62.34**	**31**	P	**P**	**04 35 19.7 +0.2**
	comp=Z,0.5nm,0.6s,baz=300,slow=6.4,SNR=13					
YKB5	**Yellowknife Ar**	**62.34**	**31**	*e*P	**P**	**04 35 19.7 +0.2**
ARA0	**ARCESS Array S**	**63.05**	**339**	*e*P	**P**	**04 35 24.1 0.0**
ARCES	**ARCESS Array B**	**63.05**	**339**	P	**P**	**04 35 24.1 0.0**
	comp=Z,2.6nm,0.8s,baz=56,slow=8.9,SNR=7.0					
KLMR	**Klimovskoe**	**63.06**	**328**	*e*P	**P**	**04 35 21.9 -2.4**
KLMR				AMP		04 35 23.8
	comp=Z,12nm,1.5s					
GEYT	**Alibeck**	**63.84**	**299**	P	**P**	**04 35 30.1 +0.1**
	comp=Z,2.6nm,0.8s,baz=350,slow=6.0,SNR=4.6					
FIA0	**FINESS Array S**	**68.01**	**332**	*e*P	**P**	**04 35 56.1 -0.2**
FINES	**FINESS Array B**	**68.01**	**332**	P	**P**	**04 35 56.1 -0.2**
	comp=Z,10nm,0.7s,baz=58,slow=7.6,SNR=32					
STKA	**Stephens Creek**	**69.84**	**181**	P	**P**	**04 36 08.4 +0.6**
	comp=Z,4.0nm,0.9s,baz=357,slow=6.4,SNR=7.0					
STKA	**Stephens Creek**	**69.84**	**181**	*e*P	**P**	**04 36 08.4 +0.6**
	comp=Z,0.8nm,0.9s					
KIV	**Kislovodsk**	**70.61**	**311**	*e*P	**P**	**04 36 13.2 +0.4**
	comp=Z,30nm,1.0s					
KBZ	**Khabaz**	**70.61**	**311**	P	**P**	**04 36 12.7 0.0**
	comp=Z,7.7nm,0.9s,baz=71,slow=3.3,SNR=17					
BBOO	**Buckleboo**	**71.00**	**186**	*e*P	**P**	**04 36 16.1 +1.1**
	comp=Z,13nm,0.8s					
HFS	**Hagfors**	**73.21**	**336**	P	**P**	**04 36 28.1 0.0**
	comp=Z,6.5nm,0.8s,baz=55,slow=5.6,SNR=7.7					
NC204	**NORSAR Array S**	**73.23**	**338**	*e*P	**P**	**04 36 28.5 +0.3**
NB2	**NORSAR Subarra**	**73.28**	**337**	P	**P**	**04 36 27.9 -0.6**
	comp=Z,8.3nm,0.9s,baz=39,slow=6.2					
NB200	**NORSAR Array S**	**73.28**	**337**	*e*P	**P**	**04 36 28.3 -0.2**
NOA	**NORSAR Array B**	**73.28**	**337**	P	**P**	**04 36 28.3 -0.2**
	comp=Z,5.0nm,0.8s,baz=39,slow=6.0,SNR=19					
NV01	**Mina Array Sit**	**73.65**	**54**	*e*P	**P**	**04 36 32.6 +1.3**
NVAR	**Mina Array Bea**	**73.65**	**54**	P	**P**	**04 36 32.6 +1.3**
	comp=Z,0.7nm,0.8s,baz=278,slow=7.0,SNR=4.6					
AKASG	**Malin Array Be**	**73.72**	**322**	P	**P**	**04 36 30.8 -0.4**
	comp=Z,7.4nm,0.7s,baz=45,slow=6.0,SNR=33					
AKBB	**Malin Array Si**	**73.72**	**322**	*e*P	**P**	**04 36 31.1 -0.1**
	comp=Z,12nm,0.8s					
KIEV	**Kiev**	**73.73**	**322**	*e*P	**P**	**04 36 30.8 -0.5**
	comp=Z,11nm,0.8s					
AK11	**Malin Array Si**	**73.76**	**322**	*e*P	**P**	**04 36 31.2 -0.2**
SORM	**Soroca**	**75.85**	**321**	*i*P	**P**	**04 36 43.2 -0.4**
PASC	**Pasadena Art C**	**76.25**	**57**	*e*P	**P**	**04 36 46.3 +0.1**
PD31	**Pinedale Array**	**76.26**	**46**	*e*P	**P**	**04 36 46.8 +0.5**
PDAR	**Pinedale Array**	**76.26**	**46**	P	**P**	**04 36 46.8 +0.5**
	comp=Z,1.0nm,0.6s,baz=252,slow=1.8,SNR=14					
EL2	**El Mirage 2**	**76.46**	**57**	*e*P	**P**	**04 36 47.1 -0.4**
KWP	**Kalwaria Pacla**	**77.50**	**325**	*e*P	**P**	**04 36 54.1 +1.1**
KWP	**Kalwaria Pacla**	**77.50**	**325**	*e*P	**P**	**04 36 53.9 +1.0**
	comp=Z,112nm,1.0s					
P17A	**Butcher Ranch,**	**77.67**	**49**	*e*P	**P**	**04 36 53.6 -0.6**
	comp=Z,7.4nm,1.2s					
BURAR	**Bucovina Array**	**77.75**	**322**	*i*P	**P**	**04 36 54.9 +0.5**
TESR	**Tescani**	**77.81**	**320**	*i*P	**P**	**04 36 54.3 -0.4**
STHS	**Stebnicka Huta**	**78.32**	**325**	*e*P	**P**	**04 36 58.2 +0.7**
OJC	**Ojcow**	**78.37**	**326**	*e*P	**P**	**04 36 58.5 +0.8**
BR101	**Keskin Array S**	**78.53**	**312**	*e*P	**P**	**04 36 59.2 +0.2**
BR131	**Keskin Array S**	**78.53**	**312**	*e*P	**P**	**04 36 60.0 +1.0**
BRTR	**Keskin Array B**	**78.53**	**312**	P	**P**	**04 36 59.2 +0.2**
	comp=Z,1.1nm,0.8s,baz=95,slow=3.1,SNR=9.6					
TRPA	**Tarpa**	**78.66**	**324**	*i*P	**P**	**04 37 00.1 +0.8**
DOPR	**Dopca**	**78.81**	**321**	*i*P	**P**	**04 37 01.9 +1.6**
MLR	**Muntele Rosu**	**78.87**	**320**	*i*P	**P**	**04 37 02.0 +1.3**
BR231	**Keskin MP Arra**	**78.96**	**312**	*e*P	**P**	**04 36 59.8 -1.5**
CJR	**Cluj-Napoca**	**79.17**	**322**	*i*P	**P**	**04 37 03.5 +1.3**
VOIR		**79.36**	**320**	*i*P	**P**	**04 37 04.4 +1.1**
PV10	**Paradox Valley**	**79.39**	**49**	*e*P	**P**	**04 37 05.4 +1.6**
MORC	**Moravsky Berou**	**79.67**	**327**	*i*P	**P**	**04 37 05.4 +0.5**
DPC	**Dobruska-Polom**	**79.75**	**328**	*e*P	**P**	**04 37 06.2 +0.9**
PSZ	**Piszkesteto**	**80.03**	**325**	*i*P	**P**	**04 37 07.8 +0.9**
VYHS	**Vyhne**	**80.07**	**326**	*e*P	**P**	**04 37 07.7 +0.6**
CLL	**Collm**	**80.34**	**330**	*e*P	**P**	**04 37 08.0 -0.4**
RAYN	**Ar Rayn**	**80.83**	**293**	*e*P	**P**	**04 37 11.8 +0.2**
	comp=Z,3.0nm,0.8s					
BZS	**Buzias**	**80.91**	**322**	*i*P	**P**	**04 37 11.6 0.0**
MMAI	**Mount Meron Ar**	**81.80**	**306**	P	**P**	**04 37 17.5 +0.8**
	comp=Z,0.5nm,0.2s,baz=24,slow=14,SNR=3.3					

KHC	**Kasperske Hory**	**81.82**	**329**	*e*P	**P**	**04 37 16.9 +0.5**
KHC				*ex*	x	04 37 27.1
GEC2	**GERESS Array S**	**82.00**	**329**	*e*P	**P**	**04 37 16.8 -0.6**
GERES	**GERESS Array B**	**82.00**	**329**	P	**P**	**04 37 16.8 -0.6**
	comp=Z,0.7nm,0.6s,baz=46,slow=4.1,SNR=6.2					
VTS	**Vitosha**	**82.31**	**319**	*i*P	**P**	**04 37 20.1 +0.8**
VTS	**Vitosha**	**82.31**	**319**	*e*P	**P**	**04 37 20.1 +0.8**
	comp=Z,5.8nm,0.9s					
LTX	**Lajitas**	**88.77**	**53**	*e*P	**P**	**04 37 51.7 +0.1**
TXAR	**Lajitas Array**	**88.77**	**53**	P	**P**	**04 37 51.7 +0.1**
	comp=Z,0.7nm,0.6s,baz=289,slow=3.3,SNR=11					
SNAA	**Sanae**	**142.18**	**197**	PKP	**PKPdf**	**04 44 23.5 -5.1**
VNA2	**Neumayer--Watz**	**143.75**	**196**	PKP	PKPbc	04 44 29.0 +0.1
	baz=128,slow=3.7					
VNA3	**Neumayer Olymp**	**143.99**	**195**	PKP	PKPbc	04 44 29.5 -0.2
LPAZ	**La Paz**	**145.42**	**59**	PKPbc	**PKPbc**	**04 44 36.4 -0.2**
	comp=Z,2.0nm,0.5s,baz=8.0,slow=4.5,SNR=10					
LPAZ	**La Paz**	**145.42**	**59**	*e*PKPdf	**PKPab**	**04 44 36.7 -0.1**

DJA 17 04:26:31.7±2.4, 2°N±8°×9°3E±2°2, h10km, M4.3/4, MLv4.3/4, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MLSI	**Meulaboh, Aceh**	**3.78**	**60**	P	Pn	04 27 30.3	+0.3
BSI	**Banda Aceh**	**3.79**	**35**	P	Pn	04 27 29.5	-0.8
BSI				S	Sn	04 28 15.7	+0.7
TPTI		**4.14**	**77**	P	Pn	04 27 34.3	-0.8
LHMI	**Lhok Sumawe**	**4.76**	**53**	P	Pn	04 27 45.1	+1.6
KCSI	**Kotacane, Aceh**	**4.78**	**76**	P	Pn	04 27 43.6	-0.2

SJA 17 04:29:24.6±0.5, 32°.87S×72°.06W, h60km±200km, ML3.2, MW3.7
GUC 17 04:29:29.3±1.1, 32°.96S×71°.89W, h42km±10km, ML3.6

ISC 17 04:29:24.0±3.2, 33°.05±0°.1×72°.1W±0°.2, h21km±6km, n11, σ0s88/18, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RCDM	**Rinconada Maip**	**1.24**	**116**	*e*P	**Pb**	**04 29 46.6**	**-0.1**
RCDM				*e*S	**Sb**	**04 30 00.8**	**-1.4**
ANTU	**Antumapu**	**1.40**	**116**	*e*P	**Pb**	**04 29 50.7**	**+1.2**
ANTU				*e*S	**Sb**	**04 30 06.9**	**0.0**
FSR	**Penalolen**	**1.45**	**111**	*e*P	**Pb**	**04 29 51.6**	**+1.3**
FSR				*e*S	**Sb**	**04 30 08.4**	**0.0**
FCH	**Farellones**	**1.59**	**104**	*i*P	**Pn**	**04 29 51.7**	**+0.3**
FCH				*i*S	**Sn**	**04 30 09.6**	**-1.9**
LMEL	**Las Melosas**	**1.85**	**119**	*e*P	**Pb**	**04 29 57.4**	**+0.2**
LMEL				*e*S	**Sb**	**04 30 19.7**	**-0.2**
LMEL				IAML		04 30 21.7	
	comp=E,1μm,0.5s						
LMEL				IAML		04 30 21.8	
	comp=E,1μm,0.4s						
AUSP	**Uspallata**	**2.44**	**73**	*i*P	**Pn**	**04 30 03.4**	**+0.5**
AUSP				*i*S	**Sn**	**04 30 32.1**	**-0.2**
RTLS	**Leoncito**	**2.67**	**65**	*i*P	**Pn**	**04 30 06.7**	**+0.6**
RTLS				IAML		04 30 41.1	
	comp=Z,108nm,0.4s						
TLL	**Tololo Astrono**	**3.01**	**23**	*e*P	**Pn**	**04 30 09.9**	**-0.8**
TLL				*e*S	**Sn**	**04 30 45.8**	**-0.5**
RTCV	**Cerro Valdivia**	**3.24**	**71**	*i*P	**Pn**	**04 30 13.7**	**0.0**
AROD	**Rodeo**	**3.60**	**40**	*i*P	**Pn**	**04 30 19.4**	**+0.5**
AMOG	**MOGNA**	**3.70**	**58**	*i*P	**Pn**	**04 30 20.7**	**+0.6**

SJA 17 04:43:35.8±0.4, 33°.05S×72°.10W, h40km±999km, ML3.5, MW4.0, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AUSP	**Uspallata**	**2.44**	**71**	*i*P	Pn	04 44 15.6	+2.3
AUSP				*i*S	Sn	04 44 45.3	+3.2
RTLS	**Leoncito**	**2.68**	**63**	*i*P	Pn	04 44 19.4	+2.6
RTLS				IAML		04 44 29.2	
	comp=Z,184nm,0.6s						
RTCV	**Cerro Valdivia**	**3.24**	**69**	*i*P	Pn	04 44 26.7	+2.5
AMOG	**MOGNA**	**3.72**	**56**	*i*P	Pn	04 44 33.4	+2.6

MAN 17 04:45:42, 8°.14N×123°.76E, h1km, mb4.8, ML3.7, MS3.6, 2C, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PAGZ	**Pagadian**	**0.47**	**232**	*e*P	Pg	04 45 51.2	+0.2
PAGZ				*e*S	Sg	04 45 58.2	+1.1
DCPH	**Dipolog City**	**0.60**	**318**	*e*P	Pg	04 45 54.0	+0.5
DCPH				*e*S	Sn	04 46 06.5	-1.5
CTBH	**Cotabato--PC H**	**1.03**	**152**	*i*P	Pg	04 45 58.7	-3.1
CTBH				*i*S	Sg	04 46 11.9	-3.2
IPIL	**Ipil**	**1.23**	**254**	*e*P	Sg	04 46 20.8	-0.6
SNPH	**Sibulan**	**1.31**	**337**	*e*P	Pg	04 46 06.6	-0.5
SNPH				*e*S	Sn	04 46 25.9	+0.4
BUKP	**Musuan**	**1.32**	**101**	*e*P	Pg	04 46 07.0	-0.3
BUKP				*e*S	Sg	04 46 24.0	-0.3
TBP	**Tagbilaran**	**1.55**	**4**	*e*P	Pn	04 46 09.2	-1.6
TBP				*i*S	Sg	04 46 33.0	+1.1

MEX 17 04:46:10.7±0.7, 16°.20N×98°.41W, h5km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.33**	**55**	*e*P	Pg	04 46 16.5	-0.6
PNIG				*e*S	Sg	04 46 21.8	+0.3
TLIG	**Tlapa**	**1.36**	**354**	*e*P	Pn	04 46 32.7	-3.8
TLIG				*e*S	Sg	04 46 50.8	-3.7
VHO	**Vista Hermosa**	**1.83**	**62**	*e*P	Pn	04 46 40.0	-3.0
VHO				*e*S	Sn	04 47 05.2	-1.4

ISK 17 04:47:28.1, 37°.29N×30°.68E, h23km, ML2.3/4
ISCJB 17 04:47:29.5±0.5, 37°.28N±0°.03×30°.67E±0°.04, h5km±9km, Error ellipse: s-maj=5.5km s-min=5.0km az=135.3
CSEM 17 04:47:29.2±0.2, 37°.28N×30°.69E, h10km, ML2.3, Error ellipse: s-maj=5.0km s-min=4.2km az=127.0
DDA 17 04:47:29.1, 37°.27N×30°.70E, h7km, Md2.8

ISC 17 04:47:28.9±1.3, 37°.27N±0°.03×30°.69E±0°.03, h8km±12km, n20, σ0s55/32, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BCK	**Bucak**	**0.20**	**336**	PG	**Pg**	**04 47 33.0**	**-0.1**
BCK	**Bucak**	**0.20**	**336**	*e*Pg	**Pg**	**04 47 33.0**	**-0.1**
SUTC	**Sutluce-Ispart**	**0.32**	**50**	PG	**Pg**	**04 47 35.4**	**+0.2**
SUTC				SG	**Sb**	**04 47 41.3**	**-1.0**
SUTC	**Sutluce-Ispart**	**0.32**	**50**	*e*Pg	**Pg**	**04 47 35.4**	**+0.2**
SUTC				*e*Sg	**Sb**	**04 47 41.3**	**-1.0**
ANTB	**Antalya**	**0.37**	**185**	PG	**Pg**	**04 47 36.2**	**0.0**
ANTB	**Antalya**	**0.37**	**185**	*e*Pg	**Pg**	**04 47 36.2**	**0.0**
KORT	**Korkueli**	**0.39**	**225**	PG	**Pg**	**04 47 36.5**	**0.0**
KORT				SG	**Sb**	**04 47 43.8**	**-0.5**
KORT	**Korkueli**	**0.39**	**225**	*i*P	**Pg**	**04 47 36.5**	**0.0**
KORT				*i*S	**Sb**	**04 47 43.4**	**-0.9**
KORT	**Korkueli**	**0.39**	**225**	P	**Pg**	**04 47 36.5**	**0.0**
KORT				S	**Sb**	**04 47 43.4**	**-0.9**
ISP	**Isparta**	**0.56**	**346**	PG	**Pg**	**04 47 40.5**	**+0.6**
ISP	**Isparta**	**0.56**	**346**	*e*Pg	**Pg**	**04 47 40.5**	**+0.6**
BRDR	**BURDUR-Merkez**	**0.66**	**310**	*i*P	**Pg**	**04 47 41.1**	**-0.5**
BRDR				*i*S	**Sb**	**04 47 52.5**	**+0.4**
BRDR	**BURDUR-Merkez**	**0.66**	**310**	P	**Pg**	**04 47 41.1**	**-0.5**
BRDR				S	**Sb**	**04 47 52.5**	**+0.4**
BAGO	**Egridir - ISPA**	**0.72**	**6**	*i*P	**Pg**	**04 47 41.5**	**-1.3**
BAGO				*i*S	**Sb**	**04 47 54.6**	**+0.7**
KEPZ	**Antalya-Kepez**	**0.82**	**117**	*i*P	**Pb**	**04 47 45.7**	**+0.3**
KEPZ				*i*S	**Sn**	**04 47 59.5**	**+0.4**
KEPZ	**Antalya-Kepez**	**0.82**	**117**	P	**Pb**	**04 47 45.7**	**+0.3**
KEPZ				S	**Sn**	**04 47 59.5**	**+0.4**
ELL	**Elmali**	**0.82**	**230**	PG	**Pg**	**04 47 44.8**	**+0.2**
ELL	**Elmali**	**0.82**	**230**	*e*Pg	**Pg**	**04 47 44.8**	**+0.2**
GOLH	**Golhisar**	**0.91**	**268**	*i*P	**Pb**	**04 47 46.8**	**-0.1**
GOLH				*i*S	**Sb**	**04 47 59.5**	**+0.3**
GOLH	**Golhisar**	**0.91**	**268**	P	**Pb**	**04 47 46.8**	**-0.1**
GOLH				S	**Sb**	**04 47 59.5**	**+0.3**

CSEM 17 04:48:13.3, 37°.11N×28°.62E, h6km, ML2.3

ISK 17 04:48:13.3, 37°.11N×28°.62E, h6km, ML2.3/5, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TURN	**Turunc**	**0.23**	**183**	PG	Pg	04 48 21.9	+4.1
TURN	**Turunc**	**0.23**	**183**	*e*Pg	Pg	04 48 21.9	+4.1
YER	**Yerkesik**	**0.27**	**276**	PG	Pg	04 48 19.3	+0.7
YER				SG	Sg	04 48 23.7	+1.4
YER	**Yerkesik**	**0.27**	**276**	*e*Pg	Pg	04 48 19.3	+0.7
YER				*e*Sg	Sg	04 48 23.7	+1.4
FETY	**Fethiye**	**0.60**	**141**	PG	Pg	04 48 24.7	-0.1
FETY	**Fethiye**	**0.60**	**141**	*e*Pg	Pg	04 48 24.7	-0.1
MLSB	**Milas**	**0.70**	**286**	PG	Pg	04 48 26.9	+0.1
MLSB				SG	Sb	04 48 37.8	0.0
MLSB	**Milas**	**0.70**	**286**	*e*Pg	Pg	04 48 26.9	+0.1
MLSB				*e*Sg	Sb	04 48 37.8	0.0
AYDB	**Zeytinkoy-Aydi**	**1.02**	**326**	PG	Pg	04 48 33.0	+0.1
AYDB	**Zeytinkoy-Aydi**	**1.02**	**326**	*e*Pg	Pg	04 48 33.0	+0.1
BODT	**Bodrum**	**1.05**	**268**	PG	Pg	04 48 33.5	+0.1
BODT				SG	Sn	04 48 49.2	-0.3
BODT	**Bodrum**	**1.05**	**268**	*e*Pg	Pg	04 48 33.5	+0.1
BODT				*e*Sg	Sn	04 48 49.2	-0.3
AKAS	**Kas**	**1.18**	**137**	PN	Pn	04 48 36.7	+0.3
AKAS				SN	Sn	04 48 53.7	+0.9
AKAS	**Kas**	**1.18**	**137**	*i*P	Pn	04 48 36.6	+0.2
AKAS				*i*S	Sn	04 48 54.0	+1.1
AKAS	**Kas**	**1.18**	**137**	*e*Pn	Pn	04 48 36.7	+0.3
AKAS				*e*Sn	Sn	04 48 53.7	+0.9
KULA	**Kula-Manisa**	**1.41**	**1**	PN	Pg	04 48 40.2	-0.1
KULA	**Kula-Manisa**	**1.41**	**1**	*e*Pn	Pg	04 48 40.2	-0.1

IDC 17 04:48:15.2±2.6, 37°.80N×143°.01E, h0km, mb3.6/3, mb1 3.6/4, mb1mx3.3/64, mbtmp3.4/4, ML3.1/1, Error ellipse: s-maj=69.2km s-min=29.9km az=65.0
JMA 17 04:48:22.4±0.2, 37°.67N×142°.28E, h36km±3km, M3.5

ISC 17 04:48:19.0±3.7, 37°.61N±0°.06×142°.32E±0°.09, h10km±23km, n20, σ1s16/22, mb3.8/3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIO	**Ouri**	**1.14**	**318**	P	**Pn**	**04 48 41.5**	**+0.5**
JIO				S	**Sb**	**04 48 54.7**	**-0.9**
JFK	**Kawauchi**	**1.18**	**258**	P	**Pn**	**04 48 42.4**	**+0.9**
JFK				S	**Sb**	**04 48 56.8**	**+0.1**
JMM	**Marumori**	**1.24**	**282**	P	**Pn**	**04 48 43.1**	**+0.8**
JMM				S	**Sn**	**04 48 58.1**	**-1.0**
ONAJ	**Iwakimizuishiy**	**1.32**	**248**	P	**Pn**	**04 48 44.7**	**+1.3**
ONAJ				S	**Sn**	**04 49 00.5**	**-0.6**
JOU	**Okura**	**1.51**	**300**	P	**Pn**	**04 48 47.4**	**+1.3**
JOU				*e*S	**Sn**	**04 49 05.9**	**+0.1**
JFT	**Otama**	**1.58**	**267**	P	**Pb**	**04 48 49.1**	**+0.8**
JFT				S	**Sn**	**04 49 08.2**	**+0.7**
JMK	**Ichinoseki**	**1.59**	**327**	P	**Pn**	**04 48 48.1**	**+0.9**
JMK				S	**Sn**	**04 49 06.5**	**-1.4**
JYK	**Kaneyama**	**2.02**	**311**	P	**Pn**	**04 48 54.6**	**+1.5**
JOM	**Ohasama**	**2.03**	**337**	P	**Pn**	**04 48 54.2**	**+1.0**
JOM				S	**Sn**	**04 49 17.9**	**-0.7**
JRG	**Rokugo**	**2.22**	**324**	P	**Pn**	**04 48 57.5**	**+1.7**
MJAR	**Matsushiro Arr**	**3.46**	**253**	Pn	**Pb**	**04 49 17.9**	**-2.3**
	1.4nm,0.3s,baz=72,slow=8.4,SNR=4.4						
H11N2	**WAKE ISLAND Hy**	**27.84**	**123**	T	T	05 23 26.4	
	baz=315,slow=75,SNR=13						
H11N1	**WAKE ISLAND Hy**	**27.84**	**123**	T	T	05 23 23.2	
	baz=315,slow=75,SNR=9.9						
H11N3	**W

PEL	**Peldehue**	**0.91**	**126**	*e*P	**Pg**	05 18 02.5	**+0.6**
PEL				*e*S	**Sn**	05 18 15.8	**-1.0**
ANTU	**Antumapu**	**1.23**	**141**	*e*P	**Pg**	05 18 07.8	**-0.3**
ANTU				*e*S	**Sb**	05 18 24.5	**+0.5**
FCH	**Farellones**	**1.29**	**124**	⇓*i*P	**Pg**	05 18 08.8	**-0.3**
FCH				*e*S	**Sn**	05 18 26.4	**0.0**
FCH				IAML		05 18 27.1	
	comp=N,2μm,0.2s						
LMEL	**Las Melosas**	**1.68**	**138**	*e*P	**Pn**	05 18 14.4	**+0.3**
LMEL				*e*S	**Sn**	05 18 36.9	**+1.0**
LMEL				IAML		05 18 41.3	
	comp=N,1μm,0.2s						
AUSP	**Uspallata**	**1.88**	**79**	*i* P	**Pg**	05 18 20.6	**+0.2**
AUSP				*i* S	**Sg**	05 18 46.1	**+1.4**
RTLS	**Leoncito**	**2.08**	**68**	*i* P	**Pg**	05 18 23.8	**-0.5**
RTLS				IAML		05 19 04.7	
	comp=Z,159nm,0.4s						
GO05	**HualaæØ**	**2.42**	**187**	*e*P	Pn	05 18 20.7	-3.3
GO04	**Tololo Observa**	**2.51**	**15**	*e*P	**Pn**	05 18 25.6	**0.0**
GO04				*e*S	**Sn**	05 18 58.0	**+1.4**
TLL	**Tololo Astrono**	**2.52**	**15**	*e*P	**Pn**	05 18 25.6	**-0.1**
RTCV	**Cerro Valdivia**	**2.67**	**75**	*i* P	**Pb**	05 18 31.4	**-1.0**
AROD	**Rodeo**	**3.02**	**37**	*i* P	**Pb**	05 18 38.0	**-0.4**
AMOG	**MOGNA**	**3.10**	**58**	*i* P	**Pb**	05 18 37.9	**-1.8**
LCO	**Las Campanas**	**3.66**	**12**	⇓*e*P	**Pn**	05 18 41.6	**+0.2**

SOME ***17*** *05:20:54.1, 44˚.22N×82˚.63E, h20km*
NNC ***17*** *05:20:58.7±3.6, 44˚.16N×82˚.24E, h0km, mb2.7, mpv2.3, Error ellipse: s-maj=42.2km s-min=15.4km az=121.0*

ISC 17 05:20:53.8±2.5, 44˚.23N±0˚.07×82˚.5E±0˚.1, h2km±19km, n9, σ0°81/17, 5C-3D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KTMS	**Ketmen**	**1.74**	**244**	*e*P	**Pg**	**05 21 26.9**	**-0.3**
KTMS	5.7nm,0.2s						
				*e*S	**Sg**	**05 21 50.3**	**+0.5**
KTMS	20nm,0.3s						
DJR	**Jarkent**	**1.95**	**274**	*e*P	**Pg**	**05 21 31.2**	**-0.1**
DJR	8.4nm,0.2s						
				*e*S	**Sg**	**05 21 57.4**	**+0.9**
DJR	12nm,0.4s						
PDGK	**Podgornoye**	**2.36**	**249**	⇓Pn	**Pb**	**05 21 36.1**	**-1.0**
PDGK	1.8nm,0.5s						
				⇑Lg	Lg	05 22 07.6	
PDGK	4.6nm,0.5s						
KAPS	**Kapalarasan**	**2.48**	**296**	⇓*i*P	**Pg**	**05 21 40.9**	**-0.5**
KAPS	0.7nm,0.2s						
				⇑*i*S	**Sg**	**05 22 13.7**	**+0.2**
KAPS	5.9nm,0.3s						
MK31	**Makanchi Array**	**2.57**	**357**	⇓Pn	**Pb**	**05 21 40.1**	**-0.5**
MK31	0.2nm,0.5s,baz=179,slow=15,SNR=4.9						
				⇑Sn	**Sg**	**05 22 16.6**	**+0.2**
MK31	1.2nm,0.5s,baz=182,slow=27,SNR=8.4						
MAKZ	**Makanchi**	**2.61**	**352**	⇑Pn	**Pg**	**05 21 44.8**	**+1.0**
MAKZ	1.9nm,0.7s						
				⇑Sn	**Sg**	**05 22 16.5**	**-1.1**
MAKZ	1.7nm,0.7s						
UZB	**Uzynbulak**	**2.75**	**248**	*e*P	**Pb**	**05 21 43.8**	**+0.1**
UZB	0.9nm,0.4s						
				*e*S	**Sb**	**05 22 19.4**	**+1.5**
UZB	2.0nm,0.3s						
KPKS	**Kokpek**	**2.87**	**256**	*e*P	**Pb**	**05 21 45.1**	**-0.6**
KPKS	6.9nm,0.4s						
				*e*S	**Sb**	**05 22 20.6**	**-0.6**
KPKS	15nm,0.3s						
SATY	**Saty**	**3.20**	**250**	*e*P	**Pb**	**05 21 50.9**	**-0.5**
SATY	1.2nm,0.2s						
				*e*S	**Sb**	**05 22 31.4**	**+0.6**
SATY	4.8nm,0.4s						

DJA 17 05:29:09.5±1.1, 3˚N±5˚×9˚4E±˚, h11km±6km, M4.1/4, MLv4.1/4, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MLSI	**Meulaboh, Aceh**	**3.06**	**56**	P	Pn	05 29 58.0	+0.1
MLSI				Pg	Pg	05 30 08.2	-0.1
MLSI				S	Sn	05 30 35.6	+1.0
BSI	**Banda Aceh**	**3.27**	**26**	P	Pn	05 30 00.9	+0.2
BSI				S	Sn	05 30 40.4	+0.8
TPTI		**3.39**	**78**	P	Pn	05 30 03.3	+0.9
TPTI				S	Sn	05 30 43.7	+1.0
GSI	**Gunungsitoli**	**3.91**	**108**	P	Pn	05 30 09.0	-0.6
KCSI	**Kotacane, Aceh**	**4.03**	**76**	P	Pn	05 30 10.9	-0.3
KCSI				S	Sn	05 30 59.4	+1.0
LHMI	**Lhok Sumawe**	**4.08**	**49**	P	Pn	05 30 14.8	+3.0

IDC 17 05:29:36.5±3.9, 4˚12S×95˚07E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.3/64, mbtmp3.5/4, Error ellipse: s-maj=120.4km s-min=29.4km az=59.0, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**22.76**	**10**	P	P	05 34 40.5	0.0
	0.4nm,0.6s,baz=222,slow=10,SNR=5.1						
WRA	**Warramunga Arr**	**41.35**	**116**	P	P	05 37 24.1	-0.5
	1.1nm,0.9s,baz=299,slow=8.8,SNR=6.9						
MKAR	**Makanchi Array**	**51.94**	**349**	P	P	05 38 45.9	-1.3
	0.3nm,0.6s,baz=162,slow=9.8,SNR=2.7						
SONM	**Songino Array**	**52.69**	**10**	P	P	05 38 54.6	+1.8
	0.6nm,0.4s,baz=204,slow=9.7,SNR=4.8						

ISCJB ***17*** *05:33:57.7±0.6, 41˚.01N±0˚.03×26˚.14E±0˚.03, h8km±3km, Error ellipse: s-maj=5.3km s-min=3.6km az=6.1*
DDA ***17*** *05:33:57.8, 40˚.95N×26˚.12E, h7km, Ml2.9*
CSEM ***17*** *05:33:58.3±0.2, 40˚.98N×26˚.12E, h10km, ML2.7, Error ellipse: s-maj=4.9km s-min=3.2km az=2.0*
THE ***17*** *05:33:58.8, 41˚.01N×26˚.06E, h9km±1km, ML1.8/3, Error ellipse: s-maj=1.8km s-min=0.7km az=58.0*
ISK ***17*** *05:33:58.9, 40˚.90N×26˚.13E, h8km, ML2.7/11*

ISC 17 05:33:58.5±0.9, 40˚.99N±0˚.03×26˚.11E±0˚.02, h17km±5km, n44, σ0°85/71, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ALN	**Alexandroupoli**	**0.10**	**210**	PG	**Pg**	**05 34 01.4**	**-0.6**
ALN	**Alexandroupoli**	**0.10**	**210**	P	**Pg**	**05 34 01.6**	**-0.4**
ALN				S	**Sg**	**05 34 03.9**	**-0.3**
ALN	**Alexandroupoli**	**0.10**	**210**	P	**Pg**	**05 34 01.6**	**-0.4**
ALN				S	**Sg**	**05 34 03.9**	**-0.3**
ENEZ	**Enez**	**0.25**	**173**	PG	**Pg**	**05 34 03.7**	**-0.4**
ENEZ	**Enez**	**0.25**	**173**	P	**Pg**	**05 34 04.1**	**0.0**
ENEZ				S	**Sg**	**05 34 08.5**	**+0.7**
ENEZ	**Enez**	**0.25**	**173**	*e*Pg	**Pg**	**05 34 03.7**	**-0.4**
ENEZ	**Enez**	**0.25**	**173**	P	**Pg**	**05 34 04.1**	**0.0**
ENEZ				S	**Sg**	**05 34 08.5**	**+0.7**
ERIK	**Erikli-Kesan**	**0.44**	**136**	PG	**Pg**	**05 34 06.7**	**-0.6**
ERIK				S	**Sg**	**05 34 12.8**	**-0.5**
ERIK	**Erikli-Kesan**	**0.44**	**136**	*e*Pg	**Pg**	**05 34 06.7**	**-0.6**
ERIK				*e*Sg	**Sg**	**05 34 12.8**	**-0.5**
KESN	**Edirne-Kesan**	**0.46**	**110**	*i* P	**Pg**	**05 34 07.0**	**-0.9**
KESN				*i* S	**Sg**	**05 34 13.2**	**-1.0**
KESN	**Edirne-Kesan**	**0.46**	**110**	P	**Pg**	**05 34 06.9**	**-0.9**
KESN				S	**Sg**	**05 34 13.2**	**-1.0**
RDO	**Rodhopi**	**0.46**	**290**	P	**Pg**	**05 34 07.1**	**-0.7**
RDO				S	**Sg**	**05 34 13.2**	**-0.9**
RDO	**Rodhopi**	**0.46**	**290**	P	**Pg**	**05 34 07.1**	**-0.7**
RDO				S	**Sg**	**05 34 13.2**	**-0.9**
SMTH	**Samothraki Isl**	**0.68**	**221**	P	**Pg**	**05 34 11.7**	**-0.1**
SMTH				S	**Sb**	**05 34 21.6**	**+0.6**
SMTH	**Samothraki Isl**	**0.68**	**221**	P	**Pg**	**05 34 11.7**	**-0.1**
SMTH				S	**Sb**	**05 34 21.6**	**+0.6**
LPK	**Lapseki**	**0.79**	**141**	PG	**Pg**	**05 34 12.8**	**-1.0**
LPK				SG	**Sg**	**05 34 23.8**	**-0.4**
LPK	**Lapseki**	**0.79**	**141**	*e*Pg	**Pg**	**05 34 12.8**	**-1.0**
LPK				*e*Sg	**Sg**	**05 34 23.8**	**-0.4**
GADA	**Gvkgeada**	**0.81**	**192**	PG	**Pg**	**05 34 12.8**	**-1.5**
GADA				SG	**Sg**	**05 34 24.1**	**-0.9**
GADA	**Gvkgeada**	**0.81**	**192**	P	**Pg**	**05 34 14.5**	**+0.2**
GADA				S	**Sn**	**05 34 27.1**	**+0.3**
GADA	**Gvkgeada**	**0.81**	**192**	*e*Pg	**Pg**	**05 34 12.8**	**-1.5**
GADA	**Gvkgeada**	**0.81**	**192**	P	**Pg**	**05 34 14.5**	**+0.2**
GADA				*e*Sg	**Sg**	**05 34 24.1**	**-0.9**
GADA				S	**Sn**	**05 34 27.1**	**+0.3**
RKY	**Sarkoy-Tekirda**	**0.86**	**110**	PG	**Pg**	**05 34 14.5**	**-0.7**
RKY	**Sarkoy-Tekirda**	**0.86**	**110**	*e*Pg	**Pg**	**05 34 14.5**	**-0.7**
SART	**Tekirdag**	**0.86**	**110**	*i* P	**Pg**	**05 34 13.6**	**-1.7**
SART				*i* S	**Sg**	**05 34 24.9**	**-1.8**
SART	**Tekirdag**	**0.86**	**110**	P	**Pg**	**05 34 13.6**	**-1.7**
SART				S	**Sg**	**05 34 24.9**	**-1.8**
TKR	**Tekirdag**	**1.08**	**89**	PG	**Pn**	**05 34 20.1**	**+1.3**
TKR	**Tekirdag**	**1.08**	**89**	*e*Pg	**Pn**	**05 34 20.1**	**+1.3**
KRBG	**Karabiga-Canak**	**1.08**	**123**	PG	**Pg**	**05 34 18.8**	**-0.5**
KRBG	**Karabiga-Canak**	**1.08**	**123**	*e*Pg	**Pg**	**05 34 18.8**	**-0.5**
BOZC	**Bozcaada**	**1.14**	**182**	PG	**Pb**	**05 34 18.7**	**-1.1**
BOZC	**Bozcaada**	**1.14**	**182**	*i* P	**Pb**	**05 34 18.7**	**-1.1**
BOZC				*i* S	**Sg**	**05 34 34.2**	**-1.3**
BOZC	**Bozcaada**	**1.14**	**182**	*e*Pg	**Pb**	**05 34 18.7**	**-1.1**
EZN	**Ezine**	**1.17**	**172**	PN	**Pb**	**05 34 19.9**	**-0.4**
EZN	**Ezine**	**1.17**	**172**	*e*Pn	**Pb**	**05 34 19.9**	**-0.4**
KAVA	**Kavala**	**1.21**	**271**	P	**Pn**	**05 34 21.2**	**+0.5**
KAVA				S	**Sb**	**05 34 36.6**	**+0.3**
KAVA	**Kavala**	**1.21**	**271**	P	**Pn**	**05 34 21.2**	**+0.5**
KAVA				S	**Sb**	**05 34 36.6**	**+0.3**
BAYC	**CANAKKALE_Bayr**	**1.29**	**165**	*i* P	**Pn**	**05 34 22.0**	**+0.2**
BAYC				*i* S	**Sb**	**05 34 39.5**	**+1.0**
BAYC	**CANAKKALE_Bayr**	**1.29**	**165**	P	**Pn**	**05 34 22.0**	**+0.2**
BAYC				S	**Sb**	**05 34 39.5**	**+1.0**
LIA	**Limnos Island**	**1.30**	**213**	P	**Pn**	**05 34 22.2**	**+0.3**
LIA				S	**Sb**	**05 34 40.0**	**+1.2**
LIA	**Limnos Island**	**1.30**	**213**	P	**Pn**	**05 34 22.2**	**+0.3**
LIA				S	**Sb**	**05 34 40.0**	**+1.2**
SBT3	**Marmara-Eregli**	**1.41**	**93**	PN	**Pb**	**05 34 25.4**	**+1.1**
SBT3	**Marmara-Eregli**	**1.41**	**93**	*e*Pn	**Pb**	**05 34 25.4**	**+1.1**
EDC	**Edincik**	**1.48**	**115**	PN	**Pb**	**05 34 25.9**	**+0.4**
EDC	**Edincik**	**1.48**	**115**	*e*Pn	**Pb**	**05 34 25.9**	**+0.4**

ISCJB ***17*** *05:37:49.9±0.7, 2˚.8N±0˚.2×126˚.4E±0˚.3, h63km, mb4.1/10, Error ellipse: s-maj=44.6km s-min=13.1km az=155.4*
IDC ***17*** *05:37:50.6±4.1, 2˚.81N×126˚.57E, h54km±36km, mb3.8/10, mb1 4.0/10, mb1mx3.7/52, mbtmp4.1/10, Error ellipse: s-maj=53.3km s-min=12.3km az=67.0*

ISC 17 05:37:51.7±0.8, 2˚.8N±0˚.2×126˚.6E±0˚.3, h63km, n10, σ0°56/11, mb4.2/10, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.89**	**162**	P	**P**	**05 42 58.8**	**-0.9**
	4.5nm,0.7s,baz=341,slow=11,SNR=38						
				S	**S**	**05 47 12.5**	**+0.9**
WRA	0.8nm,1.0s,baz=326,slow=21,SNR=4.4						
ASAR	**Alice Springs**	**27.30**	**165**	P	**P**	**05 43 30.1**	**-0.5**
	1.2nm,0.4s,baz=342,slow=9.1,SNR=16						
CMAR	**Chiang Mai Arr**	**31.20**	**302**	P	**P**	**05 44 05.2**	**-0.1**
	0.6nm,0.2s,baz=112,slow=6.4,SNR=4.8						
STKA	**Stephens Creek**	**37.36**	**159**	P	**P**	**05 44 58.5**	**+0.1**
	2.5nm,0.6s,baz=349,slow=9.9,SNR=5.9						
SONM	**Songino Array**	**48.09**	**342**	P	**P**	**05 46 25.0**	**-0.1**
	0.9nm,0.8s,baz=157,slow=7.7,SNR=5.7						
MKAR	**Makanchi Array**	**58.20**	**326**	P	**P**	**05 47 39.1**	**-0.2**
	1.2nm,0.4s,baz=119,slow=7.3,SNR=21						
KURBB	**Kurchatov Arra**	**62.40**	**328**	P	**P**	**05 48 07.5**	**-0.4**
	1.7nm,0.6s,baz=130,slow=6.2,SNR=19						
AKTO	**Aktyubinsk**	**74.26**	**322**	P	**P**	**05 49 22.6**	**+0.5**
	2.3nm,0.6s,baz=90,slow=11,SNR=9.3						
ILAR	**Eielson Array**	**85.97**	**25**	P	**P**	**05 50 24.8**	**-0.1**
	0.2nm,0.6s,baz=262,slow=5.0,SNR=4.2						
ARCES	**ARCESS Array B**	**91.22**	**340**	P	**P**	**05 50 50.2**	**+0.5**
	2.3nm,0.8s,baz=65,slow=5.1,SNR=6.5						

GII ***17*** *05:46:17.8±0.0, 34˚.53N×33˚.37E, h1km*
CSEM ***17*** *05:46:19.3±0.8, 34˚.48N×33˚.22E, h5km, ML2.7, Error ellipse: s-maj=13.1km s-min=7.2km az=176.0*
ISCJB ***17*** *05:46:19.2±0.6, 34˚.49N±0˚.02×33˚.23E±0˚.05, h7km±4km, Error ellipse: s-maj=7.2km s-min=3.6km az=161.4*
DDA ***17*** *05:46:19.4, 34˚.65N×33˚.40E, h5km, Ml3.0*
NIC ***17*** *05:46:19.2±0.2, 34˚.53N×33˚.26E, h3km, ML3.1*
ISK ***17*** *05:46:25.9, 34˚.98N×33˚.21E, h6km, ML2.7/8*

ISC 17 05:46:19.7±1.4, 34˚.55N±0˚.03×33˚.24E±0˚.03, h8km±11km, n44, σ1°22/66, Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SZAC	**Souni**	**0.36**	**305**	P	**Pg**	**05 46 27.5**	**+0.7**
	baz=126						
SZAC				S	**Sb**	**05 46 33.3**	**-1.0**
SZAC	**Souni**	**0.36**	**305**	P	**Pg**	**05 46 27.5**	**+0.7**
SZAC				S	**Sb**	**05 46 33.3**	**-1.0**
CSS	**Mathiatis**	**0.42**	**10**	PG	**Pb**	**05 46 28.8**	**-0.7**
CSS	**Mathiatis**	**0.42**	**10**	P	**Pg**	**05 46 28.1**	**+0.2**
	baz=188						
CSS				S	**Sb**	**05 46 35.9**	**-0.1**
CSS	**Mathiatis**	**0.42**	**10**	P	**Pg**	**05 46 28.1**	**+0.2**
CSS	**Mathiatis**	**0.42**	**10**	*e*Pg	**Pb**	**05 46 28.8**	**-0.7**
CSS				S	**Sb**	**05 46 35.9**	**-0.1**
CSS	**Mathiatis**	**0.42**	**10**	Pg	**Pg**	**05 46 27.7**	**-0.2**
AKIN	**Ak¨–nc¨–lar- K**	**0.50**	**21**	PG	**Pb**	**05 46 30.3**	**-0.5**
AKIN	**Ak¨–nc¨–lar- K**	**0.50**	**21**	*e*Pg	**Pb**	**05 46 30.3**	**-0.5**
MAMC	**Mammari**	**0.62**	**358**	P	**Pg**	**05 46 32.3**	**+0.5**
	baz=177						
MAMC	**Mammari**	**0.62**	**358**	P	**Pg**	**05 46 32.3**	**+0.5**
LEF	**Lefka**	**0.64**	**333**	PG	**Pb**	**05 46 32.8**	**-0.4**
LEF	**Lefka**	**0.64**	**333**	P	**Pg**	**05 46 32.1**	**0.0**
LEF	**Lefka**	**0.64**	**333**	*e*Pg	**Pb**	**05 46 32.8**	**-0.4**
LEF				S	**Sb**	**05 46 43.5**	**+1.2**
AKDN	**Akdeniz- K¨–br**	**0.78**	**343**	PG	**Pg**	**05 46 33.9**	**-0.9**
AKDN	**Akdeniz- K¨–br**	**0.78**	**343**	*e*Pg	**Pg**	**05 46 33.9**	**-0.9**
ALFC	**Alefka**	**0.81**	**319**	P	**Pb**	**05 46 35.8**	**-0.2**
	baz=139						
ALFC				S	**Sb**	**05 46 47.8**	**+0.7**
ALFC	**Alefka**	**0.81**	**319**	P	**Pb**	**05 46 35.8**	**-0.2**
ALFC				S	**Sb**	**05 46 47.8**	**+0.7**
PPCY	**Paphos**	**0.81**	**295**	P	**Pg**	**05 46 35.6**	**+0.3**
	baz=114						
PPCY	**Paphos**	**0.81**	**295**	P	**Pg**	**05 46 35.6**	**+0.3**
AKKU	**Akkuyu-Mersin**	**1.63**	**9**	PN	**Pn**	**05 46 49.3**	**+0.6**
AKKU				SN	**Sn**	**05 47 06.5**	**-3.4**
AKKU	**Akkuyu-Mersin**	**1.63**	**9**	*e*Pn	**Pn**	**05 46 49.3**	**+0.6**
GULN	**MERSIN_Gulnar**	**1.65**	**9**	*i* P	**Pn**	**05 46 48.6**	**-0.4**
GULN				*i* S	**Sn**	**05 47 10.6**	**+0.1**
GULN	**MERSIN_Gulnar**	**1.65**	**9**	P	**Pn**	**05 46 48.6**	**-0.4**
GULN				S	**Sn**	**05 47 10.6**	**+0.1**
TEVE	**Tevekalti-Mers**	**1.89**	**5**	PN	**Pn**	**05 46 53.4**	**+1.0**
TEVE				SN	**Sn**	**05 47 13.6**	**-2.9**
TEVE	**Tevekalti-Mers**	**1.89**	**5**	*e*Pn	**Pn**	**05 46 53.4**	**+1.0**
SILI	**Silifke-Mersin**	**1.90**	**17**	PN	**Pb**	**05 46 54.6**	**0.0**
SILI	**Silifke-Mersin**	**1.90**	**17**	*e*Pn	**Pb**	**05 46 54.6**	**0.0**
KIZK	**Mersin**	**2.07**	**21**	PN	**Pb**	**05 46 56.8**	**-0.7**
KIZK	**Mersin**	**2.07**	**21**	*i* P	**Pn**	**05 46 55.9**	**+1.2**
KIZK				*i* S	**Sn**	**05 47 21.2**	**+0.5**
KIZK	**Mersin**	**2.07**	**21**	P	**Pn**	**05 46 55.9**	**+1.2**
KIZK				S	**Sn**	**05 47 21.2**	**+0.5**
MMA0B	**Mount Meron ar**	**2.36**	**130**	Pn	**Pn**	**05 46 58.1**	**-0.7**
MMA0B				Sn	**Sn**	**05 47 27.6**	**-0.4**
KEPZ	**Antalya-Kepez**	**2.70**	**331**	*i* P	**Pn**	**05 47 02.4**	**-1.1**
KEPZ				*i* S	**Sn**	**05 47 36.8**	**+0.4**
KEPZ	**Antalya-Kepez**	**2.70**	**331**	P	**Pn**	**05 47 02.4**	**-1.1**
KEPZ				S	**Sn**	**05 47 36.8**	**+0.4**
MMLI	**Mount Malkishu**	**2.78**	**138**	Sn	**Sn**	**05 47 39.0**	**+0.6**
KERG	**Konya-Eregli**	**2.95**	**14**	*i* P	**Pn**	**05 47 09.6**	**+2.6**
KERG				*i* S	**Sb**	**05 47 46.5**	**-2.5**
KERG	**Konya-Eregli**	**2.95**	**14**	P	**Pn**	**05 47 09.6**	**+2.6**
KERG				S	**Sb**	**05 47 46.5**	**-2.5**
HMDT	**Nahal Hemdat**	**2.98**	**139**	Pn	**Pn**	**05 47 06.9**	**-0.4**
HMDT				Sn	**Sn**	**05 47 43.9**	**+0.7**
GULE	**Gulek**	**3.00**	**24**	*i* P	**Pn**	**05 47 09.4**	**+1.6**
GULE				*i* S	**Sn**	**05 47 46.9**	**+2.9**
GULE	**Gulek**	**3.00**	**24**	P	**Pn**	**05 47 09.4**	**+1.6**
GULE				S	**Sn**	**05 47 46.9**	**+2.9**
DSI	**Dead Sea**	**3.47**	**148**	Pn	**Pn**	**05 47 13.6**	**-0.4**
PRNI	**Paran**	**4.44**	**160**	Pn	**Pn**	**05 47 27.4**	**0.0**
PRNI				Sn	**Sn**	**05 48 19.9**	**+0.6**
HRFI	**Mount Harif**	**4.75**	**161**	Pn	**Pn**	**05 47 31.4**	**-0.2**
MBRI	**Mt Berech**	**4.95**	**163**	Sn	**Sn**	**05 48 33.9**	**+2.1**

IDC 17 05:57:36.1±6.6, 5˚.61S×147˚.12E, h163km±71km, mb3.1/3, mb1 3.4/5, mb1mx3.1/47, mbtmp3.6/5, Error ellipse: s-maj=91.5km s-min=27.5km az=138.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.78**	**179**	P	Pn	05 58 34.5	+0.7
	3.3nm,0.3s,baz=42,slow=5.7,SNR=7.0						
PMG				S	Sn	05 59 18.8	0.0

7.7nm,0.3s,baz=43,slow=18,SNR=14

WRA	**Warramunga Arr**	**18.91**	**220**	P	P	06 01 44.3	-0.2
	0.3nm,0.3s,baz=40,slow=12,SNR=19						
ASAR	**Alice Springs**	**22.01**	**214**	P	P	06 02 17.9	+0.4
	0.7nm,0.5s,baz=47,slow=8.0,SNR=9.9						
FITZ	**Fitzroy Crossi**	**24.38**	**238**	P	P	06 02 39.0	-0.4
	1.0nm,0.5s,baz=53,slow=9.2,SNR=7.3						
ILAR	**Eielson Array**	**85.07**	**23**	P	P	06 09 53.2	+0.1
	0.3nm,0.7s,baz=251,slow=5.6,SNR=4.6						

IDC ***17*** *05:58:10.6±0.8, 2˚.32N×89˚.79E, h0km, mb4.0/10, mb1 4.1/13, mb1mx3.8/68, mbtmp4.0/13, ML4.1/2, Error ellipse: s-maj=25.6km s-min=15.8km az=49.0*
NEIC ***17*** *05:58:13.7±0.6, 1˚.77N×89˚.80E, h10km, mb4.1/9, Error ellipse: s-maj=13.1km s-min=8.7km az=207.0*

ISC 17 05:58:12.9±0.6, 2˚.33N±0˚.10×89˚.92E±0˚.06, h10km, n68, σ2°44/43, mb4.1/16, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BSI	**Banda Aceh**	**6.21**	**59**	P	**Pn**	**05 59 45.0**	**+0.2**
	136nm,0.8s						
MLSI	**Meulaboh, Aceh**	**6.75**	**73**	P	**Pn**	**05 59 52.7**	**+0.5**
	115nm,0.5s						
TPTI		**7.31**	**83**	P	**Pn**	**05 59 59.7**	**-0.1**
	67nm,0.6s						
LHMI	**Lhok Sumawe**	**7.58**	**67**	P	**Pn**	**06 00 03.9**	**+0.4**
LHMI	**Lhok Sumawe**	**7.58**	**67**	*e*Pn	Pn	06 00 09.6	+6.1
GSI	**Gunungsitoli**	**7.72**	**97**	P	**Pn**	**06 00 05.3**	**-0.2**
	46nm,0.6s						
GSI	**Gunungsitoli**	**7.72**	**97**	*e*Pn	**Pn**	**06 00 05.2**	**-0.3**
PSI	**Prapat**	**9.01**	**87**	Pn	**Pn**	**06 00 22.4**	**-0.9**
	1.7nm,0.3s,baz=292,slow=6.6,SNR=8.4						
PSI				Sn	**Sn**	**06 01 59.8**	**-5.1**
	1.2nm,0.3s,baz=191,slow=3.6,SNR=2.2						
PSI	**Prapat**	**9.01**	**87**	*e*Pn	**Pn**	**06 00 23.6**	**+0.4**
PSI				*e*Sn	**Sn**	**06 01 59.8**	**-5.1**
MNSI	**Mandailing Nat**	**9.77**	**99**	P	Pn	06 00 27.4	-6.3
PKDT	**Phuket**	**10.03**	**56**	P	Pn	06 00 43.3	+6.1
	23nm,1.0s						
PALK	**Pallekele**	**10.41**	**298**	Pn	**Pn**	**06 00 41.4**	**-1.1**
	1.8nm,0.3s,baz=115,slow=12,SNR=7.5						
PALK				Sn		06 02 23.3	-16
	7.1nm,0.3s,baz=296,slow=3.4,SNR=9.3						
PALK	**Pallekele**	**10.41**	**298**	*e*Pn	**Pn**	**06 00 43.2**	**+0.7**
PALK				*e*Sn	Sn	06 02 23.3	-16
SURT	**Suratani**	**11.01**	**53**	P	Pn	06 00 56.6	+6.0
	26nm,0.8s						
TRTT	**Trang**	**11.16**	**60**	P	Pn	06 00 58.5	+5.8
	7.7nm,0.9s						
IPM	**Ipoh**	**11.29**	**79**	*e*Pn	Pn	06 01 00.5	+6.0
PHET	**Kaeng Krachan**	**14.24**	**42**	P	**P**	**06 01 42.2**	**0.0**
	4.6nm,0.9s						
SRDT	**SRDT**	**15.00**	**37**	P	**P**	**06 01 51.7**	**+1.0**
	29nm,0.7s						
MDSI	**Maura Dua**	**15.78**	**115**	P	**Pn**	**06 01 54.0**	**-1.4**
LWLI	**Liwa**	**15.90**	**117**	P	**P**	**06 02 04.9**	**+4.1**
NAYO	**Nakonayok**	**16.39**	**43**	P	P	06 02 19.3	+13
KASI	**Kota Agung**	**16.52**	**118**	P	**P**	**06 02 08.4**	**+0.9**
VIS	**Vishakhapatnam**	**16.61**	**337**	*i* P	**Pn**	**06 02 03.0**	**-3.0**
VIS				*i* S	Sn	06 04 51.4	-19
VIS				*i* S	Sn	06 04 53.1	-17
HMDM	**Hanimaadhoo**	**17.26**	**285**	*e*Sn	**Sn**	**06 05 26.6**	**+0.2**
PBKT	**Sadao Pong**	**17.84**	**37**	P	P	06 02 29.6	+7.5
	22nm,1.2s,1μm						
PBKT	**Sadao Pong**	**17.84**	**37**	*e*P	**P**	**06 02 28.5**	**+6.4**
	24nm,1.1s						
CHAI	**Chaiyaphum**	**

BJI ***17*** *06:07:31.7, 16.03S×172.76W, h10km, mb4.9/8, mB4.9/2*
IDC ***17*** *06:07:32.7±0.5, 15.77S×172.87W, h0km, mb4.3/17, mb1 4.5/18, mb1mx4.3/54, mbtmp4.3/18, ML3.4/1, Error ellipse: s-maj=23.1km s-min=13.2km az=135.0*
ISCJB ***17*** *06:07:35.7±0.3, 15.69S±0.07×173.03W±0.07, h29km, mb4.4/63, Error ellipse: s-maj=13.2km s-min=6.2km az=137.6*
NEIC ***17*** *06:07:36.5±2.8, 15.73S×172.90W, h23km±19km, mb4.5/47, Error ellipse: s-maj=10.0km s-min=5.3km az=150.0*

ISC 17 06:07:37.1±0.4, 15.63S±0.08×172.82W±0.08, h29km, n118, σ1°41/114, mb4.4/63, 5C-3D, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
AFI	**Afiamalu**	**1.98**	**31**	*e*Pn	**Pn**		**06 08 04.2**	**-4.6**
MSVF	**Nonsavu**	**9.00**	**255**	*e*Pn	**Pn**		**06 09 46.0**	**+0.8**
RAR	**Rarotonga**	**13.57**	**116**	Pn	**Pn**		**06 10 44.7**	**-3.0**
	1.8nm,0.3s,baz=299,slow=13,SNR=3.0							
RAR	**Rarotonga**	**13.57**	**116**	*e*Pn	**Pn**		**06 10 47.2**	**-0.5**
DZM	**Mont Dzumac**	**20.64**	**249**	P	**P**		**06 12 12.1**	**-2.5**
	6.3nm,0.9s,baz=134,slow=14,SNR=6.5							
DZM	**Mont Dzumac**	**20.64**	**249**	*e*P	**P**		**06 12 12.2**	**-2.4**
	10.0nm,1.0s							
URZ	**Urewera**	**24.23**	**200**	P	**P**		**06 12 49.6**	**-1.9**
	11nm,0.6s,baz=14,slow=6.7,SNR=13							
URZ				S	**S**		**06 17 11.7**	**+3.5**
	3.5nm,0.6s,baz=76,slow=16,SNR=5.8							
URZ	**Urewera**	**24.23**	**200**	*e*P	**P**		**06 12 49.6**	**-1.9**
URZ				*e*P	**P**		**06 12 51.0**	**-0.5**
URZ				*e*S	**S**		**06 17 11.7**	**+3.5**
BKZ	**Black Stump Fm**	**25.26**	**200**	*e*P	**P**		**06 13 01.2**	**+0.4**
	8.9nm,0.9s							
LTZ	**Lake Taylor**	**29.93**	**202**	*e*P	**P**		**06 13 43.2**	**+0.5**
	7.6nm,0.7s							
H11S2	**WAKE ISLAND Hy**	**39.45**	**328**	T	T		06 57 06.9	
	baz=154							
H11S3	**WAKE ISLAND Hy**	**39.46**	**328**	T	T		06 57 17.9	
	baz=154							
H11S1	**WAKE ISLAND Hy**	**39.46**	**329**	T	T		06 57 15.8	
	baz=154							
H11N3	**WAKE ISLAND Hy**	**40.38**	**330**	T	T		06 58 25.6	
	baz=149							
H11N1	**WAKE ISLAND Hy**	**40.39**	**330**	T	T		06 58 20.8	
	baz=149							
H11N2	**WAKE ISLAND Hy**	**40.40**	**330**	T	T		06 58 24.3	
	baz=149							
STKA	**Stephens Creek**	**44.41**	**240**	P	**P**		**06 15 43.1**	**-2.3**
	3.5nm,0.9s,baz=72,slow=10,SNR=6.9							
STKA	**Stephens Creek**	**44.41**	**240**	*e*P	**P**		**06 15 43.8**	**-1.7**
	0.9nm,0.8s							
WR1	**Warramunga Arr**	**50.34**	**257**	*e*P	**P**		**06 16 29.9**	**-1.9**
	22nm,0.8s							
WRA	**Warramunga Arr**	**50.34**	**257**	P	**P**		**06 16 29.9**	**-1.9**
	2.2nm,0.8s,baz=96,slow=6.9,SNR=18							
AS01	**Alice Springs**	**50.53**	**252**	*e*P	**P**		**06 16 31.4**	**-1.8**
AS31	**Alice Springs**	**50.57**	**252**	*e*P	**P**		**06 16 32.9**	**-0.7**
	3.0nm,0.9s							
ASAR	**Alice Springs**	**50.57**	**252**	P	**P**		**06 16 31.5**	**-2.1**
	3.8nm,0.7s,baz=86,slow=7.7,SNR=29							
FITZ	**Fitzroy Crossi**	**58.71**	**258**	P	**P**		**06 17 32.2**	**-0.4**
	1.3nm,0.7s,baz=80,slow=6.1,SNR=3.5							
VNDA	**Vanda**	**63.21**	**186**	P	**P**		**06 18 02.6**	**+0.4**
	1.5nm,0.7s,baz=13,slow=8.2,SNR=11							
BAKC	**Calstate**	**71.82**	**44**	*e*P	**P**		**06 19 00.9**	**+3.6**
ARVC	**Arvin**	**71.88**	**44**	*e*P	**P**		**06 18 56.8**	**-0.9**
CMB	**Columbia Colle**	**72.56**	**41**	*e*P	**P**		**06 19 01.9**	**+0.2**
PETK	**Petropavlovsk-**	**73.02**	**342**	P	**P**		**06 19 05.8**	**+1.8**
	2.4nm,0.8s,baz=114,slow=6.5,SNR=5.0							
PEA1	**Petropavlovsk-**	**73.02**	**342**	*e*P	**P**		**06 19 05.8**	**+1.8**
MDPB	**Devils Postpil**	**73.16**	**42**	*e*P	**P**		**06 19 06.8**	**+1.2**
	2.5nm,0.9s							
YERR	**Yerington**	**73.85**	**41**	*e*P	**P**		**06 19 10.5**	**+1.0**
	1.6nm,1.0s							
NV01	**Mina Array Sit**	**74.12**	**42**	*e*P	**P**		**06 19 11.8**	**+0.6**
NVAR	**Mina Array Bea**	**74.12**	**42**	P	**P**		**06 19 12.2**	**+1.1**
	4.1nm,1.0s,baz=230,slow=9.9,SNR=16							
NV11	**Mina Array Sit**	**74.22**	**42**	*e*P	**P**		**06 19 12.7**	**+1.1**
	0.3nm,0.9s							
QSPA	**South Pole Qui**	**74.42**	**180**	P	**P**		**06 19 12.0**	**-0.3**
	2.4nm,0.7s,baz=5.8,slow=4.6,SNR=5.2							
KVN	**Kaiserville**	**74.61**	**41**	*e*P	**P**		**06 19 15.4**	**+1.4**
	4.9nm,1.1s							
TPNV	**Topopah Spring**	**74.63**	**44**	*e*P	**P**		**06 19 15.3**	**+1.2**
	4.0nm,1.0s							
MOD	**Modoc Plateau**	**74.95**	**38**	*e*P	**P**		**06 19 17.1**	**+1.3**
	5.8nm,1.1s							
U15A	**North Rim**	**77.05**	**46**	*e*P	**P**		**06 19 29.6**	**+1.6**
	3.3nm,1.0s							
G08A	**Pilot Rock**	**77.79**	**36**	*e*P	**P**		**06 19 33.0**	**+1.3**
	7.4nm,1.0s							
MTPU	**Mount Pierson**	**77.95**	**45**	*e*P	**P**		**06 19 34.4**	**+1.2**
	5.2nm,1.2s							
MSU	**Marysvale**	**78.19**	**44**	*e*P	**P**		**06 19 35.8**	**+1.4**
BMO	**Blue Mountains**	**78.47**	**37**	*e*P	**P**		**06 19 36.5**	**+1.0**
	2.8nm,0.8s							
DUG	**Dugway, Tooele**	**78.65**	**43**	*e*P	**P**		**06 19 37.6**	**+1.0**
	4.3nm,1.0s							
Q16A	**Castle Valley**	**79.08**	**44**	*e*P	**P**		**06 19 40.8**	**+1.6**
	2.0nm,0.9s							
MPU	**Maple Canyon**	**79.33**	**43**	*e*P	**P**		**06 19 42.1**	**+1.7**
	4.6nm,1.2s							
HLID	**Hailey**	**79.45**	**39**	*e*P	**P**		**06 19 42.5**	**+1.4**
	6.4nm,1.1s							
CTU	**Camp Tracy**	**79.60**	**43**	*e*P	**P**		**06 19 43.4**	**+1.5**
	4.1nm,0.9s							
P17A	**Butcher Ranch,**	**79.65**	**44**	*e*P	**P**		**06 19 43.6**	**+1.5**
	6.7nm,1.1s							
JLU	**Jordanelle**	**79.75**	**43**	*e*P	**P**		**06 19 44.1**	**+1.2**
	4.4nm,1.0s							
MNTX	**Cornudas Mount**	**79.91**	**53**	*e*P	**P**		**06 19 44.9**	**+1.3**
	4.0nm,1.0s							
TCUT	**Toone Canyon**	**80.04**	**42**	*e*P	**P**		**06 19 45.5**	**+1.1**
	19nm,1.1s							
PV09	**Paradox Valley**	**80.26**	**46**	*e*P	**P**		**06 19 45.9**	**+0.2**
LTX	**Lajitas**	**80.27**	**56**	*e*P	**P**		**06 19 45.7**	**0.0**
TX31	**Lajitas Ar. Si**	**80.27**	**56**	*e*P	**P**		**06 19 46.1**	**+0.4**
TX31				*e*P	**P**		**06 19 46.8**	**+1.1**
TXAR	**Lajitas Array**	**80.27**	**56**	P	**P**		**06 19 45.7**	**0.0**
	3.4nm,1.0s,baz=232,slow=6.2,SNR=13							
ANMO	**Albuquerque**	**80.52**	**50**	P	**P**		**06 19 47.5**	**+0.5**
	1.7nm,1.0s,baz=194,slow=4.2,SNR=2.8							
ANMO	**Albuquerque**	**80.52**	**50**	*e*P	**P**		**06 19 47.5**	**+0.5**
	2.9nm,1.1s							
NEW	**Newport**	**80.58**	**34**	P	**P**		**06 19 48.0**	**+1.1**
	2.0nm,0.8s,baz=290,slow=15,SNR=2.4							
NJ2	**Nanjing**	**80.75**	**307**	*e*P	**P**		**06 19 46.8**	**-1.2**
NJ2				pmax	pmax			
	comp=Z,7.0nm,0.5s							
TRF	**Thorofare Moun**	**80.75**	**10**	*e*P	**P**		**06 19 48.1**	**+0.5**
	8.9nm,1.0s							
RND	**Reindeer**	**80.95**	**11**	*e*P	**P**		**06 19 47.9**	**-0.6**
	8.4nm,1.0s							
MCMT	**McKenzie Canyo**	**81.08**	**39**	*e*P	**P**		**06 19 50.4**	**+0.5**
MCK	**McKinley**	**81.24**	**11**	*e*P	**P**		**06 19 50.5**	**+0.5**
	13nm,0.8s							
S22A	**4UR Ranch, Cre**	**81.51**	**47**	*e*P	**P**		**06 19 53.4**	**+1.0**
	2.6nm,1.1s							
REDW	**Red Top Meadow**	**81.54**	**41**	*e*P	**P**		**06 19 53.2**	**+0.9**
	2.3nm,1.1s							
FXWY	**Fox Creek**	**81.57**	**40**	*e*P	**P**		**06 19 53.6**	**+1.1**
	2.4nm,1.0s							
SNOW	**Snow King Moun**	**81.65**	**41**	*e*P	**P**		**06 19 53.8**	**+0.9**
	5.9nm,1.1s							
IMW	**Indian Meadow**	**81.76**	**40**	*e*P	**P**		**06 19 55.3**	**+1.7**
	4.1nm,1.0s							
YHB	**Horse Butte**	**82.04**	**39**	*e*P	**P**		**06 19 56.2**	**+1.3**
	8.6nm,1.1s							
PD31	**Pinedale Array**	**82.06**	**42**	*e*P	**P**		**06 19 56.0**	**+1.0**
PDAR	**Pinedale Array**	**82.06**	**42**	P	**P**		**06 19 55.2**	**+0.2**
	2.4nm,0.9s,baz=219,slow=2.9,SNR=16							
PDAR	**Pinedale Array**	**82.06**	**42**	*e*P	**P**		**06 19 55.1**	**0.0**
SMCO	**Snowmass**	**82.07**	**46**	*e*P	**P**		**06 19 56.4**	**+1.0**
	5.5nm,1.1s							
WRH	**Wood River Hil**	**82.07**	**11**	*e*P	**P**		**06 19 55.2**	**+0.9**
	14nm,0.9s							
DOT	**Dot Lake**	**82.10**	**13**	*e*P	**P**		**06 19 55.2**	**+0.6**
	19nm,1.1s							
YMR	**Madison River**	**82.14**	**39**	*e*P	**P**		**06 19 56.6**	**+1.1**
	6.9nm,1.1s							
BOZ	**Bozeman (W)**	**82.22**	**38**	*e*P	**P**		**06 19 55.8**	**0.0**
	3.3nm,1.1s							
BOZ				*e*S	**S**		**06 30 12.2**	**+2.8**
YHH	**Holmes Hill**	**82.27**	**39**	*e*P	**P**		**06 19 57.7**	**+1.4**
	1.7nm,1.1s							
CCB	**Clear Creek Bu**	**82.28**	**11**	*e*P	**P**		**06 19 56.1**	**+0.7**
	11nm,1.0s							
SCRK	**Sand Creek**	**82.41**	**12**	*e*P	**P**		**06 19 57.0**	**+0.7**
	3.6nm,0.6s							
YTP	**The Promontory**	**82.42**	**40**	*e*P	**P**		**06 20 01.0**	**+4.0**
IL1	**Eielson Array**	**82.56**	**11**	*e*P	**P**		**06 19 56.9**	**0.0**
ILAR	**Eielson Array**	**82.56**	**11**	P	**P**		**06 19 57.2**	**+0.3**
	1.9nm,0.8s,baz=216,slow=5.1,SNR=19							
IM3	**Indian Mountai**	**82.62**	**8**	*e*P	**P**		**06 19 57.8**	**+0.6**
RLMT	**Red Lodge**	**83.41**	**40**	*e*P	**P**		**06 20 02.1**	**0.0**
	5.2nm,1.0s							
DAWY	**Dawson**	**83.50**	**14**	*e*P	**P**		**06 20 02.9**	**+1.0**
	7.2nm,1.0s							
EGAK	**Eagle**	**83.71**	**13**	*e*P	**P**		**06 20 04.2**	**+1.3**
	7.1nm,1.0s							
EDM	**Edmonton**	**85.39**	**31**	*e*P	**P**		**06 20 11.7**	**+0.1**
	11nm,1.0s							
INK	**Inuvik**	**88.36**	**14**	P	**P**		**06 20 26.6**	**+1.0**
	2.2nm,0.9s,baz=123,slow=4.6,SNR=7.8							
INK	**Inuvik**	**88.36**	**14**	*e*P	**P**		**06 20 26.6**	**+1.0**
	3.0nm,0.9s							
HHC	**Hu-ho-hao-te**	**89.59**	**313**	*e*P	**P**		**06 20 32.4**	**+0.1**
HHC				pmax	pmax			
	comp=Z,11nm,1.3s							
HHC				pmax	pmax			
	comp=Z,20nm,8.2s							
YKA	**Yellowknife Ar**	**90.08**	**23**	P	**P**		**06 20 34.1**	**+0.3**
	0.9nm,0.8s,baz=239,slow=4.9,SNR=7.8							
VNA3	**Neumayer Olymp**	**92.58**	**175**	P	**P**		**06 20 45.7**	**+0.2**
VNA2	**Neumayer~Watz**	**93.08**	**175**	P	**P**		**06 20 47.6**	**-0.3**
	baz=158,slow=3.1							
LZH	**Lanzhou**	**93.81**	**306**	*e*P	P		06 20 42.3	-10
LZH				pP	PcP		06 20 47.3	-5.2
LZH				sP	pP		06 20 49.8	-12
LZH				pmax	pmax			
	comp=Z,18nm,1.3s							
BVAR	**Borovoye Array**	**118.40**	**322**	PKP	**PKPdf**		**06 26 21.9**	**+0.1**
	comp=Z,0.5nm,0.7s,baz=36,slow=5.4,SNR=4.1							
DPC	**Dobruska-Polom**	**144.58**	**350**	*e*PKP	**PKPdf**		**06 27 11.6**	**+0.7**
BUR08	**Bucovina Ar. S**	**144.76**	**339**	*e*PKPdf	**PKPdf**		**06 27 11.9**	**+0.5**
BUR04	**Bucovina Ar. S**	**144.78**	**339**	*e*PKPdf	**PKPdf**		**06 27 11.4**	**0.0**
BURAR	**Bucovina Array**	**144.78**	**339**	*i*P	**PKPdf**		**06 27 12.4**	**+1.0**
CFR	**Carcaliu**	**145.65**	**333**	*i*P	**PKPab**		**06 27 15.1**	**+1.7**
VRI	**Vrincioaia**	**145.68**	**336**	*i*P	PKPab		06 27 25.3	+12
PLOR	**Plostina**	**145.73**	**336**	*i*P	PKPab		06 27 25.2	+11
KMBO	**Kilima Mbogo**	**145.94**	**243**	PKPbc	**PKPab**		**06 27 16.2**	**+0.4**
	comp=Z,1.1nm,0.3s,baz=19,slow=4.7,SNR=5.4							
KHC	**Kasperske Hory**	**146.18**	**352**	*e*PKP	**PKPab**		**06 27 16.9**	**+1.5**
MLR	**Muntele Rosu**	**146.30**	**336**	PKPbc	**PKPab**		**06 27 17.0**	**+0.9**
	comp=Z,0.4nm,0.8s,baz=65,slow=12,SNR=3.2							
MLR	**Muntele Rosu**	**146.30**	**336**	*i*P	**PKPab**		**06 27 17.0**	**+0.9**
MLR	**Muntele Rosu**	**146.30**	**336**	*e*PKPdf	**PKPab**		**06 27 16.3**	**+0.2**
DRGR		**146.34**	**341**	*i*P	**PKPab**		**06 27 16.6**	**+0.5**
GERES	**GERESS Array B**	**146.44**	**352**	PKPbc	**PKPbc**		**06 27 15.6**	**0.0**
	comp=Z,0.7nm,0.7s,baz=48,slow=2.0,SNR=3.4							
BR101	**Keskin Array S**	**146.68**	**321**	*e*PKPdf	**PKPab**		**06 27 18.1**	**+0.3**
BR131	**Keskin Array S**	**146.68**	**321**	*e*PKPdf	**PKPdf**		**06 27 15.3**	**+0.3**
BRTR	**Keskin Array B**	**146.68**	**321**	PKPbc	**PKPab**		**06 27 18.1**	**+0.3**
	comp=Z,4.3nm,0.9s,baz=120,slow=2.0,SNR=21							
VOIR		**146.69**	**337**	*i*P	**PKPab**		**06 27 18.5**	**+1.0**
BZS	**Buzias**	**147.73**	**341**	*i*P	**PKPbc**		**06 27 19.8**	**+0.6**
MMAI	**Mount Meron Ar**	**149.14**	**309**	PKPbc	**PKPbc**		**06 27 24.9**	**+1.6**
	comp=Z,3.7nm,0.7s,baz=46,slow=6.2,SNR=5.3							

IDC ***17*** *06:10:31.9±1.8, 1.95N×93.77E, h0km, mb3.7/7, mb1 3.7/9, mb1mx3.5/63, mbtmp3.7/9, ML3.5/1, Error ellipse: s-maj=56.1km s-min=19.3km az=53.0*
DJA ***17*** *06:11:11.6±1.9, 2.1N±14.9×97E±1.2, h12km±22km, M2.7/2, MLv2.7/2*

ISC 17 06:10:34.7±1.3, 2.1N±0.1×94.0E±0.1, h10km, n13, σ1°73/14, mb3.7/7, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MLSI	**Meulaboh, Aceh**	**3.22**	**49**	P	**Pb**		**06 11 35.0**	**+2.9**
BSI	**Banda Aceh**	**3.59**	**21**	P	**Sn**		**06 12 09.9**	**-3.2**
GSI	**Gunungsitoli**	**3.69**	**103**	P	**Pn**		**06 11 32.5**	**+0.6**
PSI	**Prapat**	**4.99**	**82**	Pn	**Pn**		**06 11 50.6**	**+0.7**
	1.6nm,0.3s,baz=248,slow=5.3,SNR=9.6							
PSI				Sn	**Sn**		**06 12 44.6**	**-3.2**
	1.4nm,0.3s,baz=31,slow=5.9,SNR=2.2							
MNSI	**Mandailing Nat**	**5.76**	**103**	P	**Pn**		**06 12 01.0**	**+0.7**
CMAR	**Chiang Mai Arr**	**16.94**	**16**	P	**P**		**06 14 33.9**	**-0.1**
	baz=215,slow=19,SNR=4.5							
WRA	**Warramunga Arr**	**45.27**	**121**	P	**P**		**06 18 52.0**	**-0.9**
	0.8nm,0.9s,baz=300,slow=8.3,SNR=2.7							
MKAR	**Makanchi Array**	**45.64**	**349**	P	**P**		**06 18 55.3**	**-0.1**
	1.6nm,0.6s,baz=166,slow=8.3,SNR=16							
ASAR	**Alice Springs**	**46.54**	**126**	P	**P**		**06 19 02.3**	**-0.6**
	0.2nm,0.4s,baz=312,slow=8.5,SNR=2.6							
SONM	**Songino Array**	**46.78**	**11**	P	**P**		**06 19 05.2**	**+0.7**
	0.5nm,0.6s,baz=189,slow=8.3,SNR=2.0							
KURBB	**Kurchatov Arra**	**50.06**	**347**	P	**P**		**06 19 29.3**	**-0.3**
	0.9nm,0.6s,baz=170,slow=7.2,SNR=4.5							
ZALV	**Zalesovo Beam**	**52.20**	**353**	P	**P**		**06 19 45.3**	**-0.3**
	1.2nm,0.6s,baz=189,slow=7.6,SNR=5.5							
BVAR	**Borovoye Array**	**54.36**	**343**	P	**P**		**06 20 00.8**	**-0.8**
	0.2nm,0.5s,baz=134,slow=8.3,SNR=3.0							

IDC 17 06:11:05.7±11.0, 0.22N×93.56E, h0km, mb3.7/4, mb1 3.7/5, mb1mx3.4/61, mbtmp3.7/5, ML3.5/1, Error ellipse: s-maj=241.7km s-min=99.4km az=151.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CMAR	**Chiang Mai Arr**	**18.88**	**16**	P	P		06 15 27.9	0.0
	0.1nm,0.3s,baz=213,slow=12,SNR=1.6							
MKAR	**Makanchi Array**	**47.42**	**349**	P	P		06 19 42.0	0.0
	0.9nm,0.5s,baz=177,slow=10,SNR=4.9							
SONM	**Songino Array**	**48.72**	**11**	P	P		06 19 51.2	-0.9
	0.3nm,0.5s,baz=189,slow=7.6,SNR=1.7							
KURBB	**Kurchatov Arra**	**51.82**	**348**	P	P		06 20 15.3	-0.1
	0.6nm,0.5s,baz=166,slow=6.5,SNR=2.5							
ZALV	**Zalesovo Beam**	**54.03**	**354**	P	P		06 20 32.2	+0.5
	0.9nm,0.5s,baz=176,slow=5.6,SNR=1.9							

ISCJB ***17*** *06:14:37.5±0.5, 43.15N±0.02×126.41W±0.06, h14km, mb4.0/6, Error ellipse: s-maj=6.1km s-min=3.2km az=169.0*
IDC ***17*** *06:14:37.8±1.7, 43.28N×126.25W, h0km, mb3.5/4, mb1 3.7/9, mb1mx3.5/65, mbtmp3.5/9, ML3.2/5, Error ellipse: s-maj=28.9km s-min=12.6km az=52.0*
NEIC ***17*** *06:14:39.2±0.7, 43.17N×126.38W, h10km, mb3.9/6, Error ellipse: s-maj=8.3km s-min=3.3km az=82.0*

ISC 17 06:14:38.7±0.9, 43.10N±0.05×126.46W±0.07, h14km, n122, σ1°30/118, mb4.0/6, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KEBM	**Edson Butte**	**1.57**	**97**	*e*Pn	**Pn**		**06 15 04.3**	**-1.9**
KBO	**Bosley Butte**	**1.87**	**117**	*e*Pn	**Pn**		**06 15 08.6**	**-1.7**
L02D	**Cave Junction,**	**2.31**	**113**	P	**Pn**		**06 15 14.8**	**-1.5**
	baz=297,SNR=53							
L02D				S	**Sn**		**06 15 44.0**	**-0.4**
	baz=297							
I03D	**Drain, OR**	**2.34**	**74**	P	**Pn**		**06 15 15.4**	**-1.3**
	baz=258,SNR=134							
I03D				S	**Sn**		**06 15 44.2**	**-1.1**
	baz=258							
HUMO	**Hull Mountain**	**2.62**	**100**	*e*Pn	**Pn**		**06 15 19.6**	**-1.0**
COR	**Corvallis**	**2.73**	**56**	*e*Pn	**Pn**		**06 15 20.8**	**-1.2**
KHMM	**Horse Mountain**	**3.01**	**137**	*e*Pn	**Pn**		**06 15 26.0**	**-0.1**
I04A	**Tendick Farm,**	**3.03**	**75**	P	**Pn**		**06 15 25.3**	**-1.0**
	baz=259,SNR=27							
YBH	**Yreka Blue Hor**	**3.09**	**115**	Pn	**Pn**		**06 15 27.1**	**-0.1**
	1.6nm,0.3s,baz=305,slow=12,SNR=60							
YBH				Sn	**Sn**		**06 16 05.4**	**+1.4**
	1.6nm,0.3s,baz=120,slow=17,SNR=4.0							
G03D	**McMinnville, O**	**3.12**	**46**	P	**Pn**		**06 15 25.9**	**-1.6**
	baz=229,SNR=12							
G03D				S	**Sn**		**06 16 04.0**	**-0.6**
	baz=229							
M02C	**Callahan**	**3.17**	**121**	P	**Pn**		**06 15 27.2**	**-1.0**
	baz=305,SNR=6.9							
J04D	**Umpqua Nationa**	**3.19**	**86**	P	**Pn**		**06 15 28.6**	**+0.1**
	baz=270,SNR=56							
IRO	**Indian Ridge**	**3.19**	**72**	*e*Pn	**Pn**		**06 15 28.1**	**-0.4**
PRLK	**Prince Lake**	**3.45**	**70**	*e*Pn	**Pn**		**06 15 31.8**	**-0.2**
H04A	**Detroit Lake**	**3.47**	**61**	*e*Pn	**Pn**		**06 15 31.8**	**-0.5**
K04D	**Chiloquin, OR**	**3.49**	**96**	P	**Pn**		**06 15 32.3**	**-0.4**
	baz=281							
WIFE	**Three Sisters-**	**3.51**	**72**	*e*Pn	**Pn**		**06 15 32.9**	**-0.1**
N02D	**Trinity Center**	**3.51**	**126**	S	**Sn**		**06 16 15.9**	**+1.6**
	baz=310							
KMRM	**Mail Ridge**	**3.53**	**143**	*e*Pn	**Pn**		**06 15 34.0**	**+0.8**
G04A	**Mulino**	**3.56**	**52**	*e*Pn	**Pn**		**06 15 33.1**	**-0.4**
J05D	**Fort Rock, OR**	**3.83**	**85**	P	**Pn**		**06 15 36.5**	**-0.8**
	baz=270,SNR=14							
B023	**Clatskanie**	**3.86**	**38**	*e*Pn	**Pn**		**06 15 37.6**	**0.0**
F04D	**Rainier, OR**	**3.87**	**38**	S	**Sn**		**06 16 23.3**	**+0.3**
	baz=221							
TDH	**Tom, Dick, Har**	**4.01**	**55**	*e*Pn	**Pn**		**06 15 41.2**	**+1.3**
E03A	**Lebam**	**4.02**	**30**	*e*Pn	**Pn**		**06 15 38.2**	**-1.5**
KCPM	**Cahto Peak**	**4.04**	**147**	*e*Pn	**Pn**		**06 15 40.7**	**+0.5**
PINE	**Pine Mountain**	**4.08**	**78**	*e*Pn	**Pn**		**06 15 40.2**	**-0.6**
K05A	**Summer Lake**	**4.11**	**93**	*e*Pn	**Pn**		**06 15 41.0**	**-0.2**
LVP	**Lakeview Peak**	**4.15**	**43**	*e*Pn	**Pn**		**06 15 40.9**	**-0.7**
MTMW	**Mount Mitchell**	**4.22**	**45**	*e*Pn	**Pn**		**06 15 42.0**	**-0.7**
G05D	**Wamic, OR**	**4.28**	**58**	P	**Pn**		**06 15 43.0**	**-0.4**
	baz=242,SNR=19							
SHW	**Mount Saint He**	**4.32**	**43**	*e*Pn	**Pn**		**06 15 43.5**	**-0.5**
ERK	**Elk Rock**	**4.35**	**41**	*e*Pn	**Pn**		**06 15 44.1**	**-0.3**
VALT	**Mount Saint He**	**4.36**	**43**	*e*Pn	**Pn**		**06 15 44.1**	**-0.6**
ESD	**East Dome**	**4.37**	**43**	*e*Pn	**Pn**		**06 15 44.2**	**-0.6**
B201	**Coldwater, Mou**	**4.38**	**42**	*e*Pn	**Pn**		**06 15 44.6**	**-0.3**
SOSW	**Source of Smit**	**4.41**	**43**	*e*Pn	**Pn**		**06 15 44.8**	**-0.5**
TDL	**Tradedollar La**	**4.44**	**41**	*e*Pn	**Pn**		**06 15 45.4**	**-0.3**
GULW	**Guler Mountain**	**4.48**	**49**	*e*Pn	**Pn**		**06 15 46.1**	**-0.1**
NLWA	**Neilton Lookou**	**4.67**	**22**	*e*Pn	**Pn**		**06 15 48.1**	**-0.7**
G06A	**Carlson Farm,**	**4.70**	**61**	*e*Pn	**Pn**		**06 15 48.5**	**-0.7**
MOD	**Modoc Plateau**	**4.71**	**103**	*e*Pn	**Pn**		**06 15 49.5**	**+0.2**
GLK	**Glacier Lake**	**4.89**	**43**	*e*Pn	**Pn**		**06 15 51.7**	**-0.2**
B941	**Kapowsin**	**4.92**	**36**	*e*Pn	**Pn**		**06 15 53.1**	**+1.1**
LON	**Longmire**	**4.92**	**40**	*e*Pn	**Pn**		**06 15 51.6**	**-0.7**
WPW	**White Pass**	**5.01**	**42**	*e*Pn	**Pn**		**06 15 53.6**	**0.0**
PANH	**Panhandle Gap,**	**5.08**	**41**	*e*Pn	**Pn**		**06 15 54.7**	**+0.1**
FMW	**Mount Fremont**	**5.12**	**40**	*e*Pn	**Pn**		**06 15 55.5**	**+0.4**
ORV	**Oroville**	**5.14**	**132**	*e*Pn	**Pn**		**06 15 56.7**	**+1.4**
I07A	**Izee**	**5.15**	**77**	*e*Pn	**Pn**		**06 15 55.1**	**-0.3**
D05A	**Enumclaw**	**5.17**	**36**	*e*Pn	**Pn**		**06 15 55.6**	**0.0**
BABE	**Bainbridge Sch**	**5.29**	**30**	*e*Pn	**Pn**		**06 16 00.3**	**+3.1**
F07A	**Phinny Hill Vi**	**5.45**	**57**	*e*Pn	**Pn**		**06 15 58.8**	**-0.5**
BEKR	**Beckworth**	**5.60**	**123**	*e*Pn	**Pn**		**06 16 04.9**	**+3.2**
EBG	**Ellensburg**	**5.65**	**46**	*e*Pn	**Pn**		**06 16 02.7**	**+0.4**
C05A	**Tolt Reservoir**	**5.69**	**34**	*e*Pn	**Pn**		**06

MLv3.9/6

ISC 17 06:20:18.8±0.9, 7°13S±0.07×105°13E±0.05, h23km, n23, σ1§47/24, mb3.8/7, Jawa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SBJI	**Serang**	**1.41**	**45**	P	**Pb**	**06 20 45.0**	**+0.6**
SBJI				S	**Sb**	**06 21 01.9**	**0.0**
SKJI	**Sukabumi**	**1.42**	**85**	P	**Pb**	**06 20 45.2**	**+0.6**
SKJI				S	**Sb**	**06 21 02.5**	**+0.3**
KASI	**Kota Agung**	**1.71**	**338**	P	**Pb**	**06 20 50.6**	**+1.0**
KASI				S	**Sb**	**06 21 12.0**	**+1.3**
BLSI	**Bandar Lampung**	**1.75**	**4**	S	**Sb**	**06 21 11.6**	**-0.2**
TNG	**Tangerang**	**1.78**	**58**	S	**Sn**	**06 21 10.8**	**+0.8**
TNG				S	**Sb**	**06 21 10.5**	**-2.1**
LEM	**Lembang**	**2.48**	**83**	Pn	**Pb**	**06 21 01.8**	**-1.0**
	18nm,0.3s,baz=251,slow=3.9,SNR=14						
LEM				Sn	**Sb**	**06 21 33.3**	**+0.2**
	28nm,0.3s,baz=134,slow=22,SNR=6.0						
LEM	**Lembang**	**2.48**	**83**	P	**Pb**	**06 21 01.6**	**-1.3**
CISI	**Cisompet, Garu**	**2.69**	**99**	P	**Pb**	**06 21 03.0**	**-3.4**
MDSI	**Maura Dua**	**2.79**	**340**	P	**Pb**	**06 21 04.3**	**-3.7**
FITZ	**Fitzroy Crossi**	**22.76**	**121**	P	**P**	**06 25 20.7**	**+1.0**
	1.7nm,0.7s,baz=292,slow=6.3,SNR=4.3						
H01W3	**Cape Leeuwin H**	**28.84**	**165**	T	T	06 56 34.6	
	baz=344,slow=76,SNR=8.3						
H01W1	**Cape Leeuwin H**	**28.86**	**165**	T	T	06 56 34.8	
	baz=344,slow=76,SNR=9.9						
H01W2	**Cape Leeuwin H**	**28.86**	**165**	T	T	06 56 40.0	
	baz=344,slow=76,SNR=9.3						
WRA	**Warramunga Arr**	**31.05**	**117**	P	**P**	**06 26 35.9**	**+0.5**
	1.1nm,0.8s,baz=298,slow=11,SNR=15						
WRA				PcP	**PcP**	**06 29 31.8**	**+0.9**
	0.3nm,0.6s,baz=308,slow=2.2,SNR=5.4						
ASAR	**Alice Springs**	**32.14**	**124**	P	**P**	**06 26 45.8**	**+0.9**
	0.3nm,0.5s,baz=312,slow=8.5,SNR=4.4						
ASAR				PcP	**PcP**	**06 29 33.4**	**-0.4**
	0.6nm,0.5s,baz=87,slow=8.5,SNR=9.5						
H08S2	**Diego Garcia H**	**32.37**	**267**	T	T	07 01 04.3	
	baz=91,slow=76,SNR=22						
H08S3	**Diego Garcia H**	**32.38**	**267**	T	T	07 01 05.1	
	baz=91,slow=76,SNR=18						
H08S1	**Diego Garcia H**	**32.39**	**267**	T	T	07 01 05.8	
	baz=91,slow=76,SNR=19						
STKA	**Stephens Creek**	**41.95**	**131**	P	**P**	**06 28 09.7**	**+1.6**
	1.4nm,0.4s,baz=306,slow=8.9,SNR=6.7						
MKAR	**Makanchi Array**	**57.40**	**342**	P	**P**	**06 30 04.5**	**-1.0**
	0.3nm,0.4s,baz=149,slow=8.4,SNR=5.1						
ZALV	**Zalesovo Beam**	**63.21**	**347**	P	**P**	**06 30 43.4**	**-1.6**
	0.8nm,0.3s,baz=149,slow=3.0,SNR=3.6						
BVAR	**Borovoye Array**	**66.77**	**338**	P	**P**	**06 31 08.4**	**+0.1**
	0.8nm,0.6s,baz=138,slow=8.8,SNR=5.6						
TXAR	**Lajitas Array**	**145.03**	**47**	PKPbc	**PKPdf**	**06 39 55.1**	**-0.1**
	0.7nm,0.9s,baz=339,slow=1.3,SNR=5.8						

IDC 17 06:42:02.7±3.0, 15°35S×174°71W, h0km, mb3.6/5, mb1 mb3.9/5, mb1mx3.5/52, mbtmp3.6/5, Error ellipse: s-maj=184.9km s-min=27.0km az=148.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**48.62**	**257**	P	P	06 50 50.5	+1.7
	0.6nm,0.9s,baz=92,slow=9.3,SNR=2.4						
ASAR	**Alice Springs**	**48.92**	**252**	P	P	06 50 49.7	-1.4
	1.3nm,0.7s,baz=86,slow=7.5,SNR=9.4						
NVAR	**Mina Array Bea**	**75.14**	**43**	P	P	06 53 46.3	-1.0
	0.5nm,0.7s,baz=237,slow=9.2,SNR=3.7						
ILAR	**Eielson Array**	**82.65**	**12**	P	P	06 54 27.3	-0.3
	0.3nm,1.0s,baz=205,slow=4.0,SNR=2.0						
PDAR	**Pinedale Array**	**83.08**	**42**	P	P	06 54 32.2	+1.5
	0.2nm,0.3s,baz=248,slow=4.8,SNR=3.6						

IDC 17 06:49:56.2±12.0, 43°61N×132°08E, h0km, Error ellipse: s-maj=94.8km s-min=11.6km az=173.0, Primorye

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
USRK	**Ussuriysk Ar.**	**0.60**	**354**	Pg	Pg	06 50 07.7	0.0
	0.4nm,0.3s,baz=171,slow=17,SNR=5.5						
I45RU	**USSURIYSK INFR**	**0.60**	**353**	*i*		06 53 00.0	
	baz=174,slow=321,SNR=10						
I30JP	**ISUMI INFRASON**	**10.44**	**140**	*i*		07 51 30.0	
	baz=327,slow=327,SNR=0.5						

ISCJB 17 06:51:26.4±0.9, 14°91N±0.10×93°21W±0.07, h67km, mb3.3/5, Error ellipse: s-maj=16.1km s-min=5.2km az=33.7

MEX 17 06:51:26.9±0.5, 14°88N×93°18W, h74km±21km, MD3.5

IDC 17 06:51:29.3±3.2, 15°11N×93°03W, h70km±22km, mb3.1/5, mb1 3.6/9, mb1mx3.4/47, mbtmp3.6/9, Error ellipse: s-maj=82.7km s-min=20.8km az=34.0

ISC 17 06:51:28.4±1.2, 15°0N±0°1×93°2W±0°1, h67km, n12, σ1§39/17, mb3.5/5, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PCIG		**0.70**	**356**	*eP*	**Pn**	**06 51 42.3**	**-0.9**
PCIG				*eS*	**Sn**	**06 51 53.9**	**-0.1**
THIG		**0.88**	**96**	*eP*	**Pn**	**06 51 42.8**	**-2.4**
THIG				*eS*	**Sn**	**06 51 55.8**	**-1.9**
APG	**El Apazote**	**2.61**	**90**	P	**Pn**	**06 52 08.2**	**-0.3**
	18nm,0.3s,baz=230,slow=22,SNR=188						
APG				S	**Sn**	**06 52 41.5**	**+2.1**
	46nm,0.3s,baz=180,slow=22,SNR=5.7						
CMIG	**Matias Romero**	**2.65**	**322**	P	**Pn**	**06 52 08.5**	**-0.4**
	9.5nm,0.3s,baz=155,slow=11,SNR=100						
CMIG				S	**Sn**	**06 52 38.9**	**-1.1**
	53nm,0.3s,baz=69,slow=12,SNR=10						
JTS	**JuntasAbangare**	**9.28**	**119**	P	**Pn**	**06 53 39.6**	**0.0**
	0.6nm,0.3s,baz=51,slow=14,SNR=5.0						
JTS				S	**Sn**	**06 55 22.9**	**+0.4**
	0.4nm,0.3s,baz=328,slow=19,SNR=2.2						
TXAR	**Lajitas Array**	**17.25**	**328**	P	**P**	**06 55 27.4**	**+1.8**
	0.1nm,0.3s,baz=153,slow=12,SNR=10.0						
ANMO	**Albuquerque**	**23.18**	**331**	P	**P**	**06 56 28.7**	**-1.0**
	0.5nm,0.6s,baz=348,slow=10.0,SNR=4.4						
PDAR	**Pinedale Array**	**31.05**	**336**	P	**P**	**06 57 40.6**	**+0.4**
	0.1nm,0.3s,baz=132,slow=3.8,SNR=3.0						
NVAR	**Mina Array Bea**	**32.19**	**321**	P	**P**	**06 57 52.8**	**+2.4**
	0.6nm,0.6s,baz=133,slow=8.5,SNR=7.3						
YKA	**Yellowknife Ar**	**49.80**	**347**	P	**P**	**07 00 13.6**	**-0.6**
	0.4nm,0.7s,baz=152,slow=7.2,SNR=11						
ILAR	**Eielson Array**	**61.48**	**337**	P	**P**	**07 01 37.6**	**-0.3**
	0.3nm,0.8s,baz=146,slow=5.3,SNR=5.2						
CMAR	**Chiang Mai Arr**	**144.68**	**340**	PKP	**PKPab**	**07 10 56.8**	**-0.4**
	0.5nm,0.3s,baz=332,slow=3.5,SNR=4.2						

MAN 17 06:55:26, 9°97N×123°46E, h27km, mb4.0, ML2.7, MS2.7, 1C, Negros

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TBP	**Tagbilaran**	**0.49**	**125**	*eP*	Pn	06 55 38.5	+1.3
LLP	**Lapu-Lapu**	**0.61**	**55**	*eP*	Pb	06 55 38.1	0.0
LLP				*eS*	Sn	06 55 49.0	+1.2
SNPH	**Sibulan**	**0.66**	**199**	*eP*	Pn	06 55 39.4	-0.2
SNPH				*eS*	Sn	06 55 49.9	+0.7
GUIM	**Jordan**	**1.07**	**308**	*eP*	Pn	06 55 41.3	-4.0
GUIM				*eS*	Sn	06 55 53.6	-5.7
RCP	**Roxas**	**1.73**	**336**	*eP*	Pn	06 55 54.7	+0.3
RCP				*eS*	Sn	06 56 16.5	+1.0

IDC 17 06:57:26.8±4.4, 15°33S×173°21W, h0km, mb3.6/5, mb1 3.8/5, mb1mx3.6/44, mbtmp3.6/5, Error ellipse: s-maj=222.0km s-min=28.2km az=139.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**44.23**	**240**	P	P	07 05 38.6	+0.6
	1.1nm,0.8s,baz=95,slow=11,SNR=1.9						
WRA	**Warramunga Arr**	**50.04**	**257**	P	P	07 06 23.4	-0.3
	0.2nm,0.5s,baz=91,slow=7.4,SNR=4.0						
ASAR	**Alice Springs**	**50.31**	**252**	P	P	07 06 24.8	-0.8
	0.8nm,0.6s,baz=86,slow=7.6,SNR=13						
ILAR	**Eielson Array**	**82.34**	**11**	P	P	07 09 50.1	+0.1
	0.3nm,0.7s,baz=226,slow=6.1,SNR=5.2						
YKA	**Yellowknife Ar**	**89.96**	**23**	P	P	07 10 26.7	-0.9
	0.2nm,0.8s,baz=247,slow=4.1,SNR=4.3						
BRTR	**Keskin Array B**	**146.22**	**321**	PKPbc	PKPab	07 17 10.4	+0.1
	0.4nm,0.6s,baz=72,slow=4.7,SNR=1.9						

ATA 17 07:07:39.8±1.4, 38°84N×43°56E, h11km±14km, ML3.5, MW3.5

ISK 17 07:07:39.9, 38°86N×43°58E, h5km, ML3.2/8

DDA 17 07:07:40.0, 38°84N×43°57E, h19km, Ml3.3

CSEM 17 07:07:40.3±0.2, 38°86N×43°57E, h5km, ML3.3, Error ellipse: s-maj=4.9km s-min=3.7km az=105.0

ISC 17 07:07:40.5±1.0, 38°86N±0°02×43°58E±0°02, h11km±8km, n61, σ1§13/87, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VMUR	**Van-Muradiye**	**0.13**	**359**	*i* P	**Pb**	**07 07 44.2**	**-0.9**
VMUR	**Van-Muradiye**	**0.13**	**359**	P	**Pb**	**07 07 44.2**	**-0.9**
ERCV	**ERCIS-VAN**	**0.25**	**311**	PG	**Pg**	**07 07 45.5**	**-0.2**
ERCV	**ERCIS-VAN**	**0.25**	**311**	*e*Pg	**Pg**	**07 07 45.5**	**-0.2**
VANB	**Van**	**0.30**	**209**	PG	**Pb**	**07 07 47.9**	**0.0**
VANB	**Van**	**0.30**	**209**	*e*Pg	**Pb**	**07 07 47.9**	**0.0**
TVAN	**Van**	**0.35**	**202**	*i* P	**Pg**	**07 07 47.7**	**+0.1**
TVAN				*i* S	**Sb**	**07 07 54.0**	**-0.5**
TVAN	**Van**	**0.35**	**202**	P	**Pg**	**07 07 47.7**	**+0.1**
TVAN				S	**Sb**	**07 07 54.0**	**-0.5**
CLDR	**Caldiran**	**0.39**	**43**	PG	**Pg**	**07 07 47.6**	**-0.7**
CLDR				SG	**Sg**	**07 07 53.7**	**+0.2**
CLDR	**Caldiran**	**0.39**	**43**	*i* P	**Pg**	**07 07 47.8**	**-0.5**
CLDR				*i* S	**Sb**	**07 07 55.2**	**-0.5**
CLDR	**Caldiran**	**0.39**	**43**	*e*Pg	**Pg**	**07 07 47.6**	**-0.7**
CLDR	**Caldiran**	**0.39**	**43**	P	**Pg**	**07 07 47.8**	**-0.5**
CLDR				*e*Sg	**Sg**	**07 07 53.7**	**+0.2**
CLDR				S	**Sb**	**07 07 55.2**	**-0.5**
ADCV	**BITLIS_Adilcev**	**0.67**	**266**	*i* P	**Pg**	**07 07 52.3**	**-1.1**
ADCV				*i* S	**Sb**	**07 07 58.3**	**+0.3**
ADCV	**BITLIS_Adilcev**	**0.67**	**266**	P	**Pg**	**07 07 52.3**	**-1.1**
ADCV				S	**Sb**	**07 08 03.8**	**+0.3**
GEVA	**Gevas**	**0.68**	**217**	*e*P	**Pg**	**07 07 52.6**	**-1.1**
GEVA				*e*S	**Sb**	**07 08 03.9**	**0.0**
GEVA				IAML		07 08 12.9	
	comp=Z,298nm,0.9s						
GEVA	**Gevas**	**0.68**	**217**	*i* P	**Pg**	**07 07 52.5**	**-1.1**
GEVA	**Gevas**	**0.68**	**217**	P	**Pg**	**07 07 52.5**	**-1.1**
DYDN	**Diyadin**	**0.69**	**7**	*e*P	**Pg**	**07 07 53.5**	**-0.4**
DYDN				*e*S	**Sb**	**07 08 05.2**	**+0.9**
DYDN				IAML		07 08 08.4	
	comp=Z,97nm,0.3s						
DYDN	**Diyadin**	**0.69**	**7**	*i* P	**Pb**	**07 07 54.0**	**-0.7**
DYDN				*i* S	**Sb**	**07 08 05.2**	**+0.9**
DYDN	**Diyadin**	**0.69**	**7**	P	**Pb**	**07 07 54.0**	**-0.7**
TUTA	**Tutak**	**0.81**	**313**	*i* P	**Pg**	**07 07 55.3**	**-0.8**
TUTA				*e*S	**Sn**	**07 08 08.8**	**-1.3**
TUTA				IAML		07 08 13.5	
	comp=Z,250nm,0.2s						
TUTA	**Tutak**	**0.81**	**313**	*i* P	**Pg**	**07 07 55.2**	**-0.8**
TUTA	**Tutak**	**0.81**	**313**	P	**Pg**	**07 07 55.2**	**-0.8**
AGRB	**Hanur-Agry**	**0.85**	**328**	PG	**Pb**	**07 07 56.6**	**-0.7**
AGRB				SG	**Sb**	**07 08 08.7**	**-0.1**
AGRB	**Hanur-Agry**	**0.85**	**328**	*e*Pg	**Pb**	**07 07 56.6**	**-0.7**
AGRB				*e*Sg	**Sb**	**07 08 08.7**	**-0.1**
IGDI	**IGDIR**	**1.08**	**21**	*e*P	**Pn**	**07 08 01.6**	**0.0**
IGDI				*e*S	**Sn**	**07 08 18.2**	**+1.5**
IGDI				IAML		07 08 24.2	
	comp=Z,41nm,0.4s						
IGDI	**IGDIR**	**1.08**	**21**	*i* P	**Pn**	**07 08 01.3**	**-0.3**
IGDI				*i* S	**Sn**	**07 08 18.9**	**+2.3**
EKAR	**Karacoban**	**1.24**	**289**	*e*P	**Pb**	**07 08 03.6**	**-0.5**
EKAR				*e*S	**Sn**	**07 08 23.5**	**+2.7**
EKAR				IAML		07 08 26.9	
	comp=Z,60nm,0.4s						
EKAR	**Karacoban**	**1.24**	**289**	*i* P	**Pn**	**07 08 03.1**	**-0.9**
EKAR				*i* S	**Sn**	**07 08 23.6**	**+2.7**
EKAR	**Karacoban**	**1.24**	**289**	P	**Pn**	**07 08 03.1**	**-0.9**
GURO	**Guroymak-BITLI**	**1.25**	**256**	PN	**Pg**	**07 08 04.2**	**-0.2**
GURO				SN	**Sn**	**07 08 21.3**	**+0.5**
GURO	**Guroymak-BITLI**	**1.25**	**256**	*e*Pn	**Pg**	**07 08 04.2**	**-0.2**
GURO				*e*Sn	**Sn**	**07 08 21.3**	**+0.5**
HAKT	**HAKKARI**	**1.30**	**175**	*i* P	**Pn**	**07 08 03.6**	**-1.2**
HAKT				*i* S	**Sg**	**07 08 26.0**	**+3.6**
HAKT	**HAKKARI**	**1.30**	**175**	P	**Pn**	**07 08 03.6**	**-1.2**
EATA	**Eleskirt**	**1.31**	**320**	*e*P	**Pb**	**07 08 04.7**	**-0.5**
EATA				*e*S	**Sg**	**07 08 24.3**	**+1.6**
EATA				IAML		07 08 29.7	
	comp=Z,18nm,0.5s						
EATA	**Eleskirt**	**1.31**	**320**	*i* P	**Pb**	**07 08 04.8**	**-0.5**
EATA	**Eleskirt**	**1.31**	**320**	P	**Pb**	**07 08 04.8**	**-0.5**
YOVA	**Hakkari_Y˜…kse**	**1.39**	**156**	*i* P	**Pb**	**07 08 06.2**	**-0.3**
YOVA				*i* S	**Sg**	**07 08 24.7**	**-0.4**
YOVA	**Hakkari_Y˜…kse**	**1.39**	**156**	P	**Pb**	**07 08 06.2**	**-0.3**
YOVA				S	**Sg**	**07 08 24.7**	**-0.4**
SRTM	**Siirt_Merkez**	**1.56**	**237**	*i* P	**Pg**	**07 08 09.4**	**-1.0**
SRTM	**Siirt_Merkez**	**1.56**	**237**	P	**Pg**	**07 08 09.4**	**-1.0**
DIGO	**Kars**	**1.56**	**354**	*e*P	**Pb**	**07 08 09.4**	**-0.2**
DIGO				*e*S	**Sg**	**07 08 34.6**	**+3.8**
DIGO				IAML		07 08 34.9	
	comp=Z,9.7nm,0.6s						
DIGO	**Kars**	**1.56**	**354**	*i* P	**Pg**	**07 08 09.9**	**-0.6**
DIGO	**Kars**	**1.56**	**354**	P	**Pg**	**07 08 09.9**	**-0.6**
SIRT	**Sirnak**	**1.62**	**214**	PN	**Pb**	**07 08 10.2**	**-0.3**
SIRT	**Sirnak**	**1.62**	**214**	*e*Pn	**Pb**	**07 08 10.2**	**-0.3**
VRTB	**Varto-Mus**	**1.68**	**281**	PN	**Pb**	**07 08 10.5**	**-1.0**
VRTB	**Varto-Mus**	**1.68**	**281**	*e*Pn	**Pb**	**07 08 10.5**	**-1.0**
HOMI	**Horasan**	**1.75**	**313**	*e*P	**Pg**	**07 08 12.9**	**-1.2**
HOMI				IAML		07 08 43.4	
	comp=Z,25nm,0.5s						
EAK	**Akyaka**	**1.83**	**1**	*e*P	**Pg**	**07 08 15.6**	**+0.1**
EAK				IAML		07 08 47.3	
	comp=Z,24nm,0.6s						
ERZM	**Erzurum**	**2.01**	**302**	*e*P	**Pb**	**07 08 16.7**	**-0.4**
ERZM				*e*S	**Sg**	**07 08 45.9**	**+0.9**
ERZM	**Erzurum**	**2.01**	**302**	*i* P	**Pb**	**07 08 16.7**	**-0.4**
ERZM	**Erzurum**	**2.01**	**302**	P	**Pb**	**07 08 16.7**	**-0.4**
ECAT	**Cat-ERZURUM**	**2.15**	**291**	*e*P	**Pb**	**07 08 19.7**	**+0.1**
ECAT				IAML		07 08 35.0	
	comp=Z,10.0nm,0.7s						
BNGB	**Bing˜‖**	**2.26**	**274**	PN	**Pn**	**07 08 19.0**	**+1.1**
BINT	**Bingol**	**2.41**	**271**	*e*Pn	**Pn**	**07 08 19.0**	**-0.9**
EPOS	**Posof**	**2.72**	**346**	*e*P	**Pb**	**07 08 26.8**	**-2.5**
EPOS				IAML		07 09 07.4	
	comp=Z,2.5nm,0.3s						
MAZI	**Mazidag**	**2.83**	**241**	PN	**Pn**	**07 08 26.3**	**+0.5**
MAZI	**Mazidag**	**2.83**	**241**	*e*Pn	**Pn**	**07 08 26.3**	**+0.5**
BAYB	**BAYBURT**	**2.92**	**300**	*e*P	**Pg**	**07 08 34.1**	**-2.4**
KELT	**Kelkit**	**3.58**	**292**	*e*P	**Pb**	**07 08 41.2**	**-2.8**
KELT				IAML		07 09 00.4	
	comp=Z,1.6nm,0.5s						

SJA 17 07:09:06.3±0.3, 32°92S×72°01W, h16km±76km, ML2.8, MW3.4

GUC 17 07:09:12.1±0.6, 32°71S×71°62W, h33km±5km, ML3.1

ISC 17 07:09:10.9±2.5, 32°90S±0°09×71°8W±0°1, h17km±13km, n11, σ0§55/17, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PEL	**Peldehue**	**1.00**	**104**	*e*P	**Pb**	**07 09 29.1**	**-0.7**
PEL				*e*S	**Sb**	**07 09 42.4**	**-0.3**
ANTU	**Antumapu**	**1.21**	**124**	*e*P	**Pb**	**07 09 33.9**	**+0.5**
ANTU				*e*S	**Sg**	**07 09 50.2**	**-0.1**
ANTU				IAML		07 09 53.4	
	comp=N,599nm,0.6s						
FSR	**Penalolen**	**1.25**	**118**	*e*P	**Pg**	**07 09 34.7**	**-0.2**
FSR				*e*S	**Sg**	**07 09 51.7**	**+0.5**
FCH	**Farellones**	**1.37**	**109**	*e*P	**Pn**	**07 09 35.0**	**-0.5**
FCH				*e*S	**Sn**	**07 09 52.8**	**-0.6**
FCH				IAML		07 09 53.7	
	comp=E,544nm,0.3s						
LMEL	**Las Melosas**	**1.67**	**125**	*e*P	**Pb**	**07 09 41.0**	**-0.2**
LMEL				*e*S	**Sb**	**07 10 03.1**	**+1.2**
LMEL				IAML		07 10 06.5	
	comp=N,590nm,0.3s						
AUSP	**Uspallata**	**2.18**	**73**	*i* P	**Pn**	**07 09 46.9**	**+0.3**
AUSP				*i* S	**Sb**	**07 10 17.0**	**+0.2**
RTLS	**Leoncito**	**2.42**	**64**	*i* P	**Pn**	**07 09 50.2**	**+0.4**
RTLS				IAML		07 10 28.6	
	comp=Z,42nm,0.5s						
TLL	**Tololo Astrono**	**2.87**	**18**	*e*P	**Pn**	**07 09 55.8**	**-0.2**
RTCV	**Cerro Valdivia**	**2.98**	**71**	*i* P	**Pn**	**07 09 57.8**	**+0.4**
AROD	**Rodeo**	**3.39**	**37**	*i* P	**Pn**	**07 10 03.8**	**+0.5**
AMOG	**MOGNA**	**3.46**	**56**	*i* P	**Pn**	**07 10 04.3**	**+0.4**

MAN 17 07:13:07, 8°12N×123°73E, h12km, mb4.6, ML3.4, MS3.3, 2C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PAGZ	**Pagadian**	**0.44**	**232**	*e*P	Pb	07 13 16.9	+0.3
PAGZ				*e*S	Sb	07 13 24.3	+1.2
DCPH	**Dipolog City**	**0.59**	**321**	*e*P	Pb	07 13 19.6	+0.2
DCPH				*e*S	Sn	07 13 31.5	+0.6
CTBH	**Cotabato--PC H**	**1.03**	**150**	*e*P	Pb	07 13 24.6	-2.2
CTBH				*i* S	Sb	07 13 37.5	-2.7
IPIL	**Ipil**	**1.19**	**254**	*e*P	Pg	07 13 30.1	+0.1
IPIL				*e*S	Sn	07 13 46.7	+1.0
SNPH	**Sibulan**	**1.31**	**338**	*e*P	Pb	07 13 31.7	0.0
SNPH				*i* S	Sg	07 13 51.5	+2.2
BUKP	**Musuan**	**1.34**	**100**	*e*P	Pn	07 13 31.6	0.0
BUKP				*e*S	Sg	07 13 50.0	-0.3
TBP	**Tagbilaran**	**1.57**	**5**	*e*P	Pn	07 13 34.8	+0.1
TBP				*i* S	Sg	07 13 58.9	+1.3

NEIC 17 07:13:49.0±0.1, 5°46S×147°12E, h198km, mb6.5/297, ME6.6, MW6.8, MW6.8, Error ellipse: s-maj=2.7km s-min=2.6km az=153.0, Moment Tensor Solution. s44 Moment tensor: Scale 10¹⁹Nm; Mrr1.68; Mθθ-1.77; Mφφ0.10; Mrθ0.32; Mθφ0.49; Mφr~0.94; Best double couple: M₀2.00000×10¹⁹ NP1:φs126.00000°, δ58.00000°, λ117.00000°. NP2:φs262.00000°, δ41.00000°, λ54.00000°. Principal axes: T 2.1200, Plg65.0000°, Azm87.0000°; N -0.1400, Plg23.0000°, Azm291.0000°; P -1.9800, Plg9.0000°, Azm197.0000°; Broadband fault plane solution: P waves. NP1:φs281.00000°, δ31.00000°, λ73.00000°. NP2:φs120.00000°, δ60.00000°, λ100.00000°. Principal axes: T Plg73.0000°, Azm55.0000°; N Plg0.0000°, Azm0.0000°; P Plg14.0000°, Azm203.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.

NEIC Felt [V] at Lae, [IV] at Mount Hagen and [III] at Madang and Port Moresby. Also felt at Bulolo, Finschhafen, Goroka and Kainantu. Felt at Kimbe, New Britain.

BJI 17 07:13:49.0, 5°45S×147°15E, h200km, mb6.2/90, mB6.8/77

MOS 17 07:13:49.2±0.8, 5°46S×147°12E, h210km, mb6.5/85, MS6.1/23, Error ellipse: s-maj=5.9km s-min=4.3km az=101.5

GCMT 17 07:13:49.0±0.0, 5°66S×147°16E, h209km, MW6.9/152, Moment Tensor Solution. s152,c410; s152,c770; Duration: 6s5 Moment tensor: Scale 10¹⁹Nm; Mrr1.85±.01; Mθθ-2.27±.01; Mφφ0.42±.01; Mrθ0.39±.01; Mθφ0.70±.01; Mφr-0.93±.01; Best double couple: M₀2.42000×10¹⁹ NP1:φs127.00000°, δ58.00000°, λ120.00000°. NP2:φs260.00000°, δ43.00000°, λ52.00000°. Principal axes: T 2.3130, Plg64.0000°, Azm89.0000°; N 0.2200, Plg25.0000°, Azm290.0000°; P -2.5270, Plg8.0000°, Azm196.0000°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to surface/mantle waves, cutoff=50s.

ISCJB 17 07:13:49.1±0.4, 5°47S±0°02×147°09E±0°01, h207km±3km, mb6.3/433 Error ellipse: s-maj=2.7km s-min=2.2km az=16.9

IDC 17 07:13:50.8±0.4, 5°52S×147°14E, h210km±3km, mb6.0/48, mb1 6.0/54, mb1mx5.9/58, mbtmp6.5/54, Error ellipse: s-maj=7.0km s-min=4.9km az=85.0

NEIC 17 07:13:50.0±0.0, 5°58S×147°00E, h210km, Moment Tensor Solution. s31 Moment tensor: Scale 10¹⁹Nm; Mrr1.51; Mθθ-1.95; Mφφ0.44; Mrθ0.55; Mθφ0.56; Mφr-0.73; Best double couple: M₀2.10000×10¹⁹ NP1:φs124.00000°, δ60.00000°, λ117.00000°. NP2:φs259.00000°, δ39.00000°, λ52.00000°. Principal axes: T 1.9000, Plg64.0000°, Azm81.0000°; N 0.3200, Plg22.0000°, Azm289.0000°; P -2.2100, Plg10.0000°, Azm194.0000°;

DJA 17 07:13:51.2±0.3, 6°S±2°×14°7E±°, h214km±3km, M6.6/127, mb6.0/125, mB6.7/127, MLv7.5/3, Mw(mB)6.6/127, Mwp6.5/83

NEIC 17 07:14:00.7±0.0, 5°94S×147°13E, h189km, Moment Tensor Solution. s117 Moment tensor: Scale 10¹⁹Nm; Mrr1.69; Mθθ-2.14; Mφφ0.45; Mrθ0.22; Mθφ0.66; Mφr-0.73; Best double couple: M₀2.20000×10¹⁹ NP1:φs260.00000°, δ45.00000°, λ54.00000°. NP2:φs126.00000°, δ55.00000°, λ120.00000°. Principal axes: T 2.0300, Plg65.0000°, Azm93.0000°; N 0.3100, Plg24.0000°, Azm287.0000°; P -2.3400, Plg6.0000°, Azm195.0000°;

ISC 17 07:13:49.9±0.2, 5°53S±0°02×147°13E±0°02, h208km±1km, h209km:pP-P, n2516, σ1§50/3128, mb6.4/433, 151C-92D, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MANU	**Manus Island**	**3.48**	**4**	*e*Pn	**Pn**	**07 14 46.8**	**+1.1**
PMG	**Port Moresby**	**3.85**	**180**	P	**Pn**	**07 14 49.8**	**-0.3**
	4µm,0.3s,baz=173,slow=0.9,SNR=4108						
PMG	**Port Moresby**	**3.85**	**180**	*e*Pn	**Pn**	**07 14 49.5**	**-0.6**
PMG	**Port Moresby**	**3.85**	**180**	*d* P	**Pn**	**07 14 49.1**	**-1.0**
RABL	**Rabaul**	**5.20**	**75**	*e*Pn	**Pn**	**07 15 06.6**	**-0.5**
JAY	**Jayapura**	**7.07**	**295**	P	**Pn**	**

WRAB 6µm,0.9s *e*S **S** 07 21 20.4 +0.6
WRAB Tennant Creek 18.95 220 *de*P **P** 07 17 57.1 +1.5
WRAB pmax pmax
comp=Z,9µm,1.1s
AAI Ambon 18.96 275 P **P** 07 17 56.4 +0.7
comp=Z,2µm,0.9s,comp=Z,58µmcomp=Z,131µm
AAI S **S** 07 21 18.7 -1.3
comp=Z,2µm,0.9s,comp=Z,58µmcomp=Z,131µm
AAI Ambon 18.96 275 P **P** 07 17 57.2 +1.5
AAI pmax pmax
comp=Z,2µm,0.9s
WB2 Warramunga Arr 18.96 220 *e*P **Pn** 07 17 57.4 -1.5
comp=Z,7µm,1.0s
WB2 *e*S **S** 07 21 19.8 -0.2
WRA Warramunga Arr 18.97 220 P **Pn** 07 17 57.6 -1.4
comp=Z,651nm,0.3s,baz=46,slow=12,SNR=2467
WRA S **S** 07 21 20.8 +0.7
baz=39,slow=19,SNR=14
WRA PKiKP **PKiKP** 07 30 02.9 +0.3
baz=319,slow=1.2,SNR=4.7
WRA P3KPbc 07 52 22.9
comp=Z,0.1nm,0.3s,baz=220,slow=2.9,SNR=18
WRA P3KP 07 52 57.1
comp=Z,0.1nm,0.3s,baz=290,slow=2.6,SNR=4.6
GUMO Guam 19.13 353 P **P** 07 17 58.8 +1.3
comp=Z,43nm,0.3s,baz=180,slow=4.9,SNR=62
GUMO S **S** 07 21 27.0 +3.7
baz=180,slow=24,SNR=184
GUMO Guam 19.13 353 *e*P **P** 07 17 58.5 +1.0
comp=Z,6µm,1.1s
GUMO S **S** 07 21 27.0 +3.7
GUMO Guam 19.13 353 *e*P **P** 07 17 58.5 +1.0
GUMO S **S** 07 21 27.0 +3.7
GUMO pmax pmax
comp=Z,6µm,1.1s
EIDS Eidsvold 20.09 170 P **P** 07 18 09.8 +2.1
baz=20,SNR=260
EIDS Eidsvold 20.09 170 *e*P **P** 07 18 09.7 +2.1
comp=Z,2µm,1.2s
NLAI Namlea 20.09 276 P **P** 07 18 09.6 +1.7
comp=Z,2µm,1.0s,comp=Z,67µmcomp=Z,113µm
NLAI S **S** 07 21 42.4 +0.1
comp=Z,2µm,1.0s,comp=Z,67µmcomp=Z,113µm
LBMI Labuha 20.18 283 P **P** 07 18 10.0 +1.1
comp=Z,2µm,1.0s,comp=Z,48µmcomp=Z,104µm
LBMI S **S** 07 21 45.2 +1.2
comp=Z,2µm,1.0s,comp=Z,48µmcomp=Z,104µm
KNRA Kununurra 20.65 239 P **P** 07 18 14.2 +0.4
baz=21,SNR=1000
TNTI Ternate 20.70 287 *e*P **P** 07 18 14.2 -0.2
comp=Z,1µm,1.2s
RMQ Roma 20.89 176 P **P** 07 18 18.6 +2.4
baz=21,SNR=1000
QLP Quilpie 21.11 187 P **P** 07 18 20.3 +1.7
baz=21,SNR=600
SANI Sanana 21.37 279 P **P** 07 18 21.8 +0.4
comp=Z,2µm,0.9s,comp=Z,72µmcomp=Z,156µm
AS01 Alice Springs 22.04 214 *e*P **P** 07 18 29.4 +1.4
AS31 Alice Springs 22.07 214 *e*P **P** 07 18 29.9 +1.7
comp=Z,1µm,0.9s
ASAR Alice Springs 22.07 214 P **P** 07 18 30.2 +1.9
comp=Z,4µm,0.9s,baz=52,slow=8.7,SNR=3162
ASAR pP **pP** 07 19 05.2 +1.2
comp=Z,1µm,1.0s,baz=38,slow=13,SNR=1.6
ASAR S **S** 07 22 21.5 +5.1
comp=Z,743nm,1.0s,baz=39,slow=17,SNR=8.0
ASAR P3KPbc 07 52 09.2
comp=Z,9.3nm,0.9s,baz=217,slow=3.2,SNR=11
ASAR P3KP 07 52 56.4
comp=Z,2.5nm,0.8s,baz=153,slow=1.7,SNR=4.7
SOEI Soe 23.03 258 P **P** 07 18 38.3 +1.1
comp=Z,4µm,1.1s,comp=Z,94µmcomp=Z,212µm
SOEI Soe 23.03 258 *e*P **P** 07 18 38.8 +1.6
comp=Z,7µm,1.1s
BATI Baumata 23.69 257 P **P** 07 18 45.5 +2.4
comp=Z,5µm,0.9s,baz=72,slow=4.3,SNR=115
BATI S **S** 07 22 46.7 +4.0
comp=Z,415nm,1.0s,baz=162,slow=19,SNR=6.0
BATI Baumata 23.69 257 P **P** 07 18 45.7 +2.6
comp=Z,3µm,0.9s,comp=Z,46µmcomp=Z,94µm
KMSI Cibinong 23.89 284 P **P** 07 18 46.9 +2.0
comp=Z,1µm,1.0s,comp=Z,20µmcomp=Z,3µm
FITZ Fitzroy Crossi 24.42 237 P **P** 07 18 51.5 +1.9
comp=Z,3µm,0.4s,baz=62,slow=8.8,SNR=691
FITZ S **S** 07 22 52.8 -1.3
comp=Z,140nm,0.8s,baz=270,slow=24,SNR=9.6
FITZ P3KPbc 07 52 00.9
comp=Z,67nm,1.0s,baz=227,slow=3.4,SNR=37
LUWI Luwuk 24.71 280 P **P** 07 18 54.8 +2.5
comp=Z,1µm,1.2s,comp=Z,61µmcomp=Z,175µm
LUWI Luwuk 24.71 280 *e*P **P** 07 18 52.8 +0.5
comp=Z,9µm,1.7s
BIPH Bislig 24.79 303 ⇓ *i*P **P** 07 18 55.2 +2.3
BIPH *i* S PP 07 19 46.5 -7.1
DAV Davao City (W) 24.88 300 *e*P **P** 07 18 53.4 -0.4
comp=Z,7µm,1.9s
MMRI Maumere 24.89 261 P **P** 07 18 53.2 -0.7
comp=Z,3µm,0.9s,comp=Z,50µmcomp=Z,125µm
MMRI Maumere 24.89 261 *e*P **P** 07 18 52.8 -1.1
comp=Z,2µm,0.5s
DZM Mont Dzumac 24.89 133 P **P** 07 18 54.3 +0.5
comp=Z,449nm,0.5s,baz=314,slow=4.9,SNR=95
DZM S **S** 07 23 02.4 +0.7
comp=Z,24nm,0.8s,baz=0.0,slow=20,SNR=2.6
DZM Mont Dzumac 24.89 133 ⇑ *i*P **P** 07 18 54.4 +0.5
comp=Z,6µm,1.4s
DZM Mont Dzumac 24.89 133 *e*P **P** 07 18 54.4 +0.5
comp=Z,6µm,1.6s
DZM S **S** 07 23 02.4 +0.7
ARMA Armidale 25.11 171 P **P** 07 18 58.1 +2.2
baz=25,SNR=832
ARMA Armidale 25.11 171 *e*P **P** 07 18 58.3 +2.5
comp=Z,2µm,0.8s
EDFI Ende, Flores 25.43 261 P **P** 07 18 58.7 -0.3
comp=Z,883nm,0.5s,comp=Z,36µmcomp=Z,91µm
BUKP Musuan 25.73 301 *e*P **P** 07 19 02.3 +0.8
BUTP Butuan 25.83 304 *e*P P 07 18 53.8 -8.5
APSI Ampana 25.84 279 P **P** 07 19 03.9 +1.4
comp=Z,611nm,1.5s,comp=Z,56µmcomp=Z,172µm
MRSI Marisa 25.85 283 P **P** 07 19 03.9 +1.4
comp=Z,148nm,0.7s,comp=Z,20µmcomp=Z,81µm
CMSA Cobar Meteorol 25.90 183 P **P** 07 19 04.4 +1.6
baz=26,SNR=154
CTBH Cotabato--PC H 26.11 299 ⇑ *e*P **P** 07 19 04.1 -0.8
CTBH *i* S **pP** 07 19 50.9 +4.3
SCPH Surigao 26.39 305 ⇓ *e*P **P** 07 19 10.8 +3.4
BSSI Bau Bau, Buton 26.50 267 P **P** 07 19 09.5 +1.1
comp=Z,1µm,1.4s,comp=Z,108µmcomp=Z,183µm
TARA Tarawa 26.66 76 *e*P **P** 07 19 08.7 -1.1
comp=Z,2µm,1.2s
BASI Baing, Sumba 26.70 258 P **P** 07 19 13.0 +2.9
comp=Z,6µm,0.9s,comp=Z,95µmcomp=Z,132µm
STKA Stephens Creek 26.71 191 P **P** 07 19 11.1 +1.0
comp=Z,160nm,0.5s,baz=355,slow=8.1,SNR=298
STKA S **S** 07 23 28.2 -1.9
comp=Z,44nm,0.6s,baz=6.2,slow=19,SNR=1.4
STKA P3KPbc 07 51 48.7
comp=Z,6.4nm,1.0s,baz=151,slow=5.1,SNR=6.9
STKA Stephens Creek 26.71 191 P **P** 07 19 11.0 +1.0
baz=27,SNR=251
STKA Stephens Creek 26.71 191 *e*P **P** 07 19 11.0 +0.9
comp=Z,198nm,0.8s
STKA S **S** 07 23 28.2 -1.9
STKA *e* 07 51 48.7
WSI Waingapu 26.90 260 P **P** 07 19 13.0 +1.1
comp=Z,10µm,1.1s,comp=Z,147µmcomp=Z,145µm
BNSI Bone 26.94 271 P **P** 07 19 13.2 +0.9
comp=Z,447nm,1.2s,comp=Z,47µmcomp=Z,128µm
MSLP Maasin 27.09 305 *e*P **P** 07 19 15.4 +1.7
KAPI Kappang 27.26 270 P **P** 07 19 15.9 +0.7
SNR=46
KAPI Kappang 27.26 270 P **P** 07 19 15.9 +0.7
SNR=46
TTSI Tana Toraja 27.34 274 P **P** 07 19 17.0 +1.1
comp=Z,334nm,2.0s,comp=Z,38µmcomp=Z,111µm
PLP Palo 27.59 307 ⇓ *e*P **P** 07 19 17.3 -0.7
PCI Palu 27.62 279 P **P** 07 19 19.6 +1.2
comp=Z,442nm,1.1s,comp=Z,46µmcomp=Z,125µm
WBSI Waikabubak, Su 27.79 260 P **P** 07 19 19.5 -0.4
comp=Z,3µm,1.3s,comp=Z,56µmcomp=Z,99µm
MGCD Mangrove Creek 27.79 173 P **P** 07 19 22.0 +2.4
baz=28,SNR=53
MPSI Mapaga 27.81 281 P **P** 07 19 19.2 -0.8
comp=Z,73nm,0.8s,comp=Z,18µm
SNPH Sibulan 28.02 302 *e*P **P** 07 19 24.0 +2.0
SNPH *e*S **pP** 07 20 04.7 +0.7
LHI Lord Howe Isla 28.17 158 *e*P **P** 07 19 24.0 +1.0
comp=Z,2µm,1.5s
CNP Catarman 28.63 309 *e*P **P** 07 19 26.4 -0.9
YNG Young 28.65 178 P **P** 07 19 29.3 +2.0
baz=29,SNR=100
HTT Hallett 28.79 194 P **P** 07 19 30.0 +1.4
baz=29,SNR=722
BBOO Buckleboo 29.04 199 P **P** 07 19 31.7 +1.0
baz=29,SNR=547
BBOO Buckleboo 29.04 199 *e*P **P** 07 19 31.7 +1.0
comp=Z,3µm,1.8s
PLAI Plampang 29.30 262 P **P** 07 19 30.1 -3.1
RCP Roxas 29.61 305 ⇑ *e*P **P** 07 19 36.2 +0.3
CAN Canberra 29.69 177 *e*P **P** 07 19 38.3 +1.8
comp=Z,394nm,0.8s
CAN Canberra 29.69 177 *e*P **P** 07 19 38.3 +1.8
CAN pmax pmax
comp=Z,395nm,0.8s
CNB Canberra Magne 29.71 176 P **P** 07 19 38.7 +2.1
baz=30,SNR=169
SGKI Sangatta, Kali 29.89 279 P **P** 07 19 37.9 -0.6
SMKI Samarinda 30.29 279 P **P** 07 19 42.1 +0.1
BKB Balikpapan 30.46 277 P **P** 07 19 44.0 +0.5
MYLDM Lahad Datu 30.50 290 *e*P **P** 07 19 44.7 +0.9
comp=Z,2µm,1.5s
OTRP Odiongan 30.64 306 *e*P **P** 07 19 44.2 -0.8
AUQP San Andres 30.67 308 *e*P **P** 07 19 47.5 +2.3
H11S3 WAKE ISLAND Hy 30.70 38 P **P** 07 19 45.6 +0.3
H11S3 T T 07 53 42.8
baz=222,slow=75,SNR=18
H11S2 WAKE ISLAND Hy 30.70 39 P **P** 07 19 46.0 +0.7
H11S2 T T 07 53 34.8
baz=222,slow=75,SNR=24
H11S1 WAKE ISLAND Hy 30.71 38 P **P** 07 19 46.1 +0.7
H11S1 T T 07 53 38.9
baz=222,slow=75,SNR=21
MBWA Marble Bar 30.76 237 *e*P **P** 07 19 47.3 +1.2
comp=Z,3µm,1.6s
MBWA Marble Bar 30.76 237 P **P** 07 19 47.8 +1.7
SNR=129
MBWA Marble Bar 30.76 237 P **P** 07 19 47.8 +1.7
SNR=129
FORT Forrest 30.85 213 P **P** 07 19 48.3 +1.6
baz=31,SNR=493
FORT Forrest 30.85 213 *e*P **P** 07 19 47.9 +1.2
comp=Z,40µm,0.6s
KBKI Kotabaru 30.94 273 P **P** 07 19 47.7 0.0
comp=Z,70nm,1.1s,comp=Z,11µm
WAKE Wake Island 31.27 37 *e*P **P** 07 19 49.7 -0.8
comp=Z,887nm,1.5s
MILA Mila 31.43 177 P **P** 07 19 53.8 +2.0
baz=32,SNR=80
SJMP San Jose 31.43 305 *e*P **P** 07 19 52.2 +0.3
ARPS Mount Arapiles 31.46 188 P **P** 07 19 53.9 +2.0
baz=32,SNR=244
H11N1 WAKE ISLAND Hy 31.75 37 P **P** 07 19 53.9 -0.4
H11N1 T T 07 54 56.4
baz=219,slow=76,SNR=30
H11N3 WAKE ISLAND Hy 31.76 37 P **P** 07 19 55.2 +0.7
H11N3 T T 07 54 57.5
baz=219,slow=76,SNR=19
H11N2 WAKE ISLAND Hy 31.76 37 P **P** 07 19 55.2 +0.7
H11N2 T T 07 54 54.8
baz=219,slow=76,SNR=46
SRBI Singaraja 31.78 264 P **P** 07 19 53.9 -1.2
comp=Z,90nm,1.2s,comp=Z,10µmcomp=Z,35µm
DNP Denpasar 31.82 263 P **P** 07 19 53.6 -1.8
comp=Z,750nm,0.8s,comp=Z,27µm
IGBI Denpasar 31.89 262 P **P** 07 19 54.8 -1.2
comp=Z,634nm,0.5s,comp=Z,30µmcomp=Z,81µm
TOO Toamgi 31.92 182 P **P** 07 19 58.3 +2.2
baz=32,SNR=282
FUNA Funafuti 31.96 97 *e*P **P** 07 19 56.6 0.0
comp=Z,6µm,1.4s
MTKI Muara Teweh, K 32.49 277 P **P** 07 20 00.6 -0.7
comp=Z,151nm,0.5s,comp=Z,11µmcomp=Z,73µm
TGY Tagaytay City 32.49 307 P **P** 07 20 02.0 +0.7
comp=Z,806nm,0.7s,baz=158,slow=2.0,SNR=24
TGY S **S** 07 25 00.1 -0.8
comp=Z,203nm,0.3s,baz=243,slow=16,SNR=2.0
TGY ScS **ScS** 07 30 11.4 +3.9
comp=Z,106nm,0.3s,baz=114,slow=20,SNR=9.1
MSVF Nonsavu 32.56 114 *e*P **P** 07 20 03.2 +1.3
comp=Z,4µm,1.6s
MSVF Nonsavu 32.56 114 *c i*P **P** 07 20 03.4 +1.5
MSVF pmax pmax
comp=Z,3µm,1.7s
CBIJ Chichi jima 32.79 352 *e*P **P** 07 20 02.6 -1.0
comp=Z,2µm,0.8s
CBIJ S **S** 07 25 01.0 -4.1
CBIJ ScS **ScS** 07 30 06.1 -2.4
JCJ Chichijima 32.79 352 P **P** 07 20 03.0 -0.6
comp=Z,1µm,0.6s,baz=254,slow=4.2,SNR=50
JCJ S **S** 07 25 01.0 -4.1
comp=Z,41nm,0.6s,baz=270,slow=20,SNR=4.6
JCJ ScS **ScS** 07 30 06.1 -2.4
comp=Z,41nm,0.5s,baz=285,slow=20,SNR=2.7
LUBP Lubang 32.84 306 *e*P **P** 07 20 01.2 -3.0
JAGI Jajag, Banyuwa 32.85 263 P **P** 07 20 02.5 -1.9
comp=Z,631nm,1.2s,comp=Z,13µmcomp=Z,52µm
JAGI Jajag, Banyuwa 32.85 263 *e*P **P** 07 20 02.0 -2.4
comp=Z,1µm,1.4s
JAGI *e*S **S** 07 25 03.3 -3.2
KKM Kota Kinabalu 32.93 290 *e*P **P** 07 20 04.0 -1.2
comp=Z,502nm,1.3s
BALP Baler 32.97 310 *e*P **P** 07 20 05.1 -0.2
KMMI Kalianget 32.99 266 P **P** 07 20 05.2 -0.4
CAUP Cauayan 33.53 312 *e*P **P** 07 20 11.4 +1.2
GMJI Gumukmas 33.54 263 P **P** 07 20 08.5 -1.8
comp=Z,149nm,1.0s,comp=Z,10µmcomp=Z,45µm
BWJI Bawean 34.30 268 P **P** 07 20 18.1 +1.2
comp=Z,229nm,1.2s,comp=Z,7µm
MEEK Meekatharra 34.35 229 P **P** 07 20 18.5 +1.3
baz=34,SNR=906
APYP Conner 34.54 313 *e*P **P** 07 20 18.5 -0.4
BOLP Bolinao 34.62 309 *e*P **P** 07 20 16.6 -2.9
ABRA Dolores 34.80 312 *e*P **P** 07 20 19.6 -1.5
KMBL Kambalda 34.94 220 P **P** 07 20 23.4 +1.3
baz=35,SNR=329
TBJI Tambak Boyo 35.09 266 P **P** 07 20 21.9 -1.8
PWJI Pagerwojo 35.15 264 P **P** 07 20 21.9 -2.3
PBKI Pangkalan Bun 35.47 273 P **P** 07 20 27.9 +1.0
SBUM Sibu 35.76 282 *e*P **P** 07 20 29.2 -0.1
comp=Z,788nm,1.6s
PCJI Pacitan 35.78 264 P **P** 07 20 29.1 -0.4
comp=Z,603nm,0.7s,comp=Z,17µmcomp=Z,92µm
WOJI Wonogiri, Jawa 36.02 264 P **P** 07 20 31.3 -0.3
comp=Z,410nm,1.1s,comp=Z,12µmcomp=Z,31µm
STKI Sintang 36.02 278 P **P** 07 20 32.5 +0.9
comp=Z,149nm,1.1s,comp=Z,25µm
UGM Wanagama 36.42 264 P **P** 07 20 34.9 -0.1
comp=Z,767nm,1.6s,comp=Z,24µm
UGM Wanagama 36.42 264 *e*P **P** 07 20 34.4 -0.6
comp=Z,3µm,1.8s
UGM *e*S **S** 07 26 00.3 -0.9
SMRI Semarang 36.49 266 P **P** 07 20 36.1 +0.5
comp=Z,491nm,0.9s,comp=Z,33µmcomp=Z,66µm
SMRI Semarang 36.49 266 *e*P **P** 07 20 35.6 0.0
comp=Z,1µm,1.6s
MOO Moorlands 36.75 180 P **P** 07 20 40.1 +2.8
baz=37,SNR=79
JOW Kunigami 36.99 331 P **P** 07 20 41.2 +1.6
comp=Z,576nm,0.7s,baz=337,slow=4.2,SNR=76
JOW S **S** 07 26 10.2 +0.8
comp=Z,40nm,1.0s,baz=73,slow=19,SNR=7.5
JOW Kunigami 36.99 331 *e*P **P** 07 20 40.6 +1.0
comp=Z,818nm,0.8s
JOW S **S** 07 26 10.2 +0.8
TAU Tasmania Unive 37.22 180 *e*P **P** 07 20 43.2 +1.9
comp=Z,319nm,1.0s
TAU Tasmania Unive 37.22 180 *e*P **P** 07 20 43.2 +1.9
TAU pmax pmax
comp=Z,319nm,1.0s
KSM Kuching 37.42 280 *e*P **P** 07 20 43.3 -0.1
comp=Z,394nm,1.2s
MORW Morawa 37.57 228 P **P** 07 20 46.1 +1.6
baz=38,SNR=418
KLBR Kellerberrin 37.80 223 P **P** 07 20 47.4 +1.1
baz=38,SNR=278
BLDU Ballidu 37.95 225 P **P** 07 20 49.0 +1.4
baz=38,SNR=389
YOJ Yonaguni jima 37.96 323 *e*P **P** 07 20 49.5 +1.8
comp=Z,3µm,1.4s
YOJ *e*S **S** 07 26 25.3 +1.3
YOJ Yonaguni jima 37.96 323 *e*P **P** 07 20 49.5 +1.8
YOJ *e*S **S** 07 26 25.3 +1.3
YOJ pmax pmax
comp=Z,3µm,1.4s
KPJI Karang Pucung 37.99 265 P **P** 07 20 48.5 +0.4
comp=Z,487nm,1.2s,comp=Z,25µm
TWG Pinlang 37.99 319 *e*P **P** 07 20 47.3 -0.7
comp=Z,770nm,0.7s
YULB Yu-li 38.24 320 *e*P **P** 07 20 50.0 -0.2
comp=Z,614nm,0.6s
YULB *e*S **S** 07 26 28.6 +0.2
OUZ Omahuta 38.32 144 *e*P **P** 07 20 53.1 +2.5
comp=Z,977nm,1.1s
TPUB Ta-pu 38.61 319 *e*P **P** 07 20 53.1 -0.1
comp=Z,919nm,0.7s
NACB Ninganchiao 38.62 321 *e*P **P** 07 20 54.1 +0.9
comp=Z,4µm,1.4s
JCJI Jatiwangi 38.65 267 P **P** 07 20 54.4 +0.8
comp=Z,831nm,0.7s,comp=Z,36µmcomp=Z,63µm
SSLB Suanglung 38.75 320 *e*P **P** 07 20 54.5 +0.2
comp=Z,630nm,0.7s
NWAO Narrogin (SRO) 38.96 222 P **P** 07 20 57.4 +1.4
comp=Z,301nm,0.7s,baz=284,slow=7.8,SNR=73
NWAO PP **PP** 07 22 29.7 -0.2
comp=Z,648nm,0.9s,baz=270,slow=13,SNR=8.5
NWAO S **S** 07 26 40.5 +1.6
comp=Z,102nm,1.0s,baz=178,slow=18,SNR=4.0
NWAO Narrogin (SRO) 38.96 222 P **P** 07 20 57.4 +1.4
baz=39,SNR=81
NWAO P **P** 07 20 57.4 +1.4
baz=39,SNR=81
NWAO Narrogin (SRO) 38.96 222 *e*P **P** 07 20 57.1 +1.1
comp=Z,3µm,1.8s
NWAO PP **PP** 07 22 29.7 -0.2
NWAO S **S** 07 26 40.5 +1.6
NWAO Narrogin (SRO) 38.96 222 P **P** 07 20 58.1 +2.1
SNR=52
NWAO Narrogin (SRO) 38.96 222 P **P** 07 20 58.1 +2.1
SNR=52
NWAO Narrogin (SRO) 38.96 222 *e*P **P** 07 20 57.1 +1.1
NWAO 07 22 29.7
NWAO S **S** 07 26 40.6 +1.6
NWAO pmax pmax
comp=Z,3µm,1.8s
JHJ2 Mitsune 39.05 350 *e*P **P** 07 20 55.9 -0.7
comp=Z,4µm,1.3s
JHJ Hachijo jima 2 39.07 350 P **P** 07 20 55.9 -0.9
comp=Z,1µm,1.1s,baz=184,slow=6.7,SNR=14
JHJ S **S** 07 26 36.4 -4.0
comp=Z,215nm,0.9s,baz=277,slow=8.1,SNR=4.6
MUN Mundaring 39.08 224 P **P** 07 20 58.7 +1.6
baz=39,SNR=101
CISI Cisompet, Garu 39.10 265 P **P** 07 20 56.9 -0.5
comp=Z,2µm,0.8s,comp=Z,32µmcomp=Z,57µm
CISI Cisompet, Garu 39.10 265 *e*P **P** 07 20 56.9 -0.5
comp=Z,1µm,0.8s
CISI *e*S **S** 07 26 41.2 -0.3
YHNB Yeheng 39.11 321 *e*P **P** 07 20 58.8 +1.3
comp=Z,2µm,0.7s
TATO Taipei 39.26 322 *e*P **P** 07 21 00.1 +1.5
comp=Z,9µm,1.4s
TATO Taipei 39.26 322 P **P** 07 21 00.4 +1.8
SNR=63
TATO Taipei 39.26 322 P **P** 07 21 00.4 +1.8
SNR=63
LEM Lembang 39.29 266 P **P** 07 20 59.6 +0.5
comp=Z,475nm,0.8s,baz=62,slow=9.2,SNR=49
LEM S **S** 07 26 38.6 -6.1
comp=Z,54nm,0.7s,baz=18,slow=15,SNR=7.3
LEM Lembang 39.29 266 P **P** 07 20 57.9 -1.3
RKGY Rocky Gully 40.17 220 P **P** 07 21 08.0 +2.1
baz=40,SNR=86
TNG Tangerang 40.27 267 P **P** 07 21 05.8 -1.2
TNG P **P** 07 21 05.3 -1.7
SKJI Sukabumi 40.34 266 P **P** 07 21 06.8 -0.9
RAO Raoul Island 40.58 130 P **P** 07 21 10.6 +1.2
comp=Z,428nm,0.5s,baz=199,slow=2.9,SNR=11
RAO Raoul Island 40.58 130 *e*P **P** 07 21 10.2 +0.8
comp=Z,3µm,1.4s
RAO Raoul Island 40.58 130 *e*P **P** 07 21 10.2 +0.8
RAO pmax pmax
comp=Z,3µm,1.4s
SBJI Serang 40.78 267 P **P** 07 21 10.6 -0.6
comp=Z,194nm,1.3s,comp=Z,20µm
PPBI Pangkal Pinang 41.02 273 P **P** 07 21 14.4 +1.2
QZH Quanzhou 41.09 319 ⇑ *i*P **P** 07 21 14.9 +1.4
QZH pP **pP** 07 21 55.3 -2.3
QZH ScP **ScP** 07 26 38.5 -0.6
QZH S **S** 07 27 04.5 -6.1
QZH pmax pmax
comp=Z,990nm,1.5s
QZH pmax pmax
comp=Z,16µm,4.9s
QZH LR LR
comp=Z,40µm,16.6s
QZH LR LR
comp=Z,32µm,16.1s
QZH LR LR
comp=Z,22µm,15.2s
KNTN Kanton 41.13 88 *e*P **P** 07 21 14.7 +0.6
comp=Z,3µm,1.0s
AFI Afiamalu 41.30 105 *e*P **P** 07 21 16.4 +0.9
comp=Z,6µm,1.4s
AFI Afiamalu 41.30 105 *e*P **P** 07 21 16.4 +0.9
AFI pmax pmax
comp=Z,6µm,1.4s
XMIS Christmas Isla 41.34 260 *e*P **P** 07 21 16.6 +0.9
comp=Z,895nm,0.8s
HIZ Hauiti 41.36 146 *e*P **P** 07 21 18.8 +3.2
comp=Z,3µm,1.5s
JNU Nakatsue 41.42 339 P **P** 07 21 17.0 +0.8
comp=Z,1µm,1.1s,baz=151,slow=5.4,SNR=116
JNU pP **pP** 07 22 02.6 +2.2
comp=Z,294nm,0.9s,baz=132,slow=2.6,SNR=2.7
JNU PcP **PcP** 07 23 09.9 -0.1
comp=Z,268nm,0.8s,baz=36,slow=2.5,SNR=8.1
JNU ScP **ScP** 07 26 39.1 -1.2
comp=Z,151nm,1.0s,baz=80,slow=3.8,SNR=7.2
JNU S **S** 07 27 13.4 -2.0
comp=Z,14nm,0.8s,baz=45,slow=19,SNR=4.8
JNU ScS **ScS** 07 30 59.0 +1.8
comp=Z,2.3nm,0.6s,baz=92,slow=23,SNR=5.6
JNU Nakatsue 41.42 339 *e*P **P** 07 21 17.0 +0.8
comp=Z,2µm,1.3s
JNU pP **pP** 07 22 02.6 +2.2
JNU PcP **PcP** 07 23 09.9 -0.1
JNU ScP **ScP** 07 26 39.1 -1.2
JNU S **S** 07 27 13.4 -2.0
JNU ScS **ScS** 07 30 59.0 +1.8
BLSI Bandar Lampung 41.69 268 P **P** 07 21 17.5 -1.1
INU Inuyama 41.76 348 *e*P **P** 07 21 18.8 0.0
comp=Z,951nm,1.2s
KLI Kotabumi 42.09 269 P **P** 07 21 21.0 -0.9
comp=Z,149nm,0.7s,comp=Z,10µm
H01W1 Cape Leeuwin H 42.18 222 P **P** 07 21 25.4 +3.4
baz=72,slow=6.6,SNR=19
H01W3 Cape Leeuwin H 42.19 222 P **P** 07 21 25.2 +3.1
baz=72,slow=6.6,SNR=25
H01W2 Cape Leeuwin H 42.20 222 P **P** 07 21 25.3 +3.1
baz=72,slow=6.6,SNR=35
KASI Kota Agung 42.42 268 P **P** 07 21 23.3 -1.3
comp=Z,219nm,1.0s,comp=Z,20µmcomp=Z,50µm
URZ Urewera 42.46 144 P **P** 07 21 25.8 +1.3
comp=Z,250nm,0.7s,baz=275,slow=3.4,SNR=130
URZ ScP **ScP** 07 26 46.5 +2.1
comp=Z,86nm,1.0s,baz=359,slow=5.6,SNR=5.7
URZ PcS **PcS** 07 27 04.3 -1.4
comp=Z,59nm,0.9s,baz=135,slow=21,SNR=7.2
URZ S **S** 07 27 31.8 +1.3
comp=Z,47nm,1.0s,baz=41,slow=19,SNR=8.8
URZ ScS **ScS** 07 31 00.2 -3.2
comp=Z,63nm,1.2s,baz=90,slow=20,SNR=8.7
URZ Urewera 42.46 144 *e*P **P** 07 21 25.6 +1.2
comp=Z,378nm,0.9s
URZ ScP **ScP** 07 26 46.5 +2.1
URZ PcS **PcS** 07 27 04.3 -1.4
URZ S **S** 07 27 31.8 +1.3
URZ ScS **ScS** 07 31 00.2 -3.2
HKC Hong Kong Obse 42.49 312 ⇑ P **P** 07 21 27.0 +2.1
MJAR Matsushiro Arr 42.68 349 P **P** 07 21 26.5 +0.3
comp=Z,869nm,1.1s,baz=178,slow=8.5,SNR=461
MJAR pP **pP** 07 22 12.6 +1.9
comp=Z,336nm,1.2s,baz=181,slow=8.0,SNR=2.4
MJAR PcP **PcP** 07 23 15.0 +0.8
comp=Z,233nm,1.0s,baz=194,slow=3.6,SNR=8.0
MJAR ScP **ScP** 07 26 44.2 -1.0
comp=Z,82nm,1.1s,baz=188,slow=5.4,SNR=9.9
MJAR S **S** 07 27 34.4 +0.6
comp=Z,13nm,1.2s,baz=221,slow=11,SNR=2.2

MJAR ScS **ScS** **07 31 06.8 +2.0**
comp=Z,1.9nm,0.6s,baz=178,slow=7.6,SNR=3.1
MAJO **Matsushiro** **42.68 349** *e*P **P** **07 21 26.6 +0.4**
comp=Z,2μm,1.1s
MAJO **Matsushiro** **42.68 349***c i*P **P** **07 21 26.7 +0.4**
MAJO pmax pmax
comp=Z,2μm,1.1s
MAT **Matsushiro** **42.68 349** P **P** **07 21 26.7 +0.4**
MAT S **S** **07 27 33.3 -0.5**
MJB9 **Matsu-Tunnel** **42.69 349** *e*P **P** **07 21 26.7 +0.4**
comp=Z,1μm,1.1s
MXZ **Matakaoa Point** **42.70 143** *e*P **P** **07 21 27.9 +1.5**
comp=Z,2μm,1.3s
BKZ **Black Stump Fm** **42.72 146** *e*P **P** **07 21 28.1 +1.5**
comp=Z,377nm,0.7s
THZ **Tophouse** **42.77 151** *e*P **P** **07 21 28.2 +1.2**
comp=Z,528nm,1.0s
DSRI **Dabo** **42.77 275** P **P** **07 21 27.9 +0.5**
comp=Z,320nm,1.5s,comp=Z,28μm
MDSI **Maura Dua** **42.79 269** P **P** **07 21 26.8 -0.7**
comp=Z,90nm,1.4s,comp=Z,18μmcomp=Z,40μm
FOZ **Fox Glacier** **42.81 156** *e*P **P** **07 21 28.9 +1.8**
comp=Z,201nm,0.9s
JCZ **Jackson Bay** **42.84 157** P **P** **07 21 30.5 +2.9**
MCO **Taipa Grande** **42.84 311** P **P** **07 21 31.0 +3.2**
LWLI **Liwa** **42.88 269** P **P** **07 21 27.3 -1.1**
comp=Z,251nm,0.7s,comp=Z,36μm
TPRI **Tanjung Pinang** **43.02 277** P **P** **07 21 30.2 +0.8**
MSZ **Milford Sound** **43.03 158** P **P** **07 21 32.1 +3.2**
LTZ **Lake Taylor** **43.26 153** *e*P **P** **07 21 32.3 +1.4**
comp=Z,544nm,1.0s
SNZO **South Karori** **43.31 149** *e*P **P** **07 21 32.1 +0.9**
comp=Z,593nm,1.0s
DCZ **Deep Cove** **43.43 159** *e*P **P** **07 21 33.8 +1.7**
comp=Z,921nm,0.9s
DCZ **Deep Cove** **43.43 159** P **P** **07 21 35.3 +3.2**
RPZ **Rata Peaks** **43.47 155** P **P** **07 21 33.6 +1.1**
comp=Z,734nm,0.8s,baz=298,slow=1.1,SNR=78
RPZ ScP **ScP** **07 26 50.6 +2.2**
comp=Z,53nm,0.9s,baz=14,slow=5.5,SNR=5.2
RPZ S **S** **07 27 47.8 +2.7**
comp=Z,21nm,1.0s,baz=17,slow=19,SNR=5.3
RPZ ScS **SS** **07 31 08.5 +0.8**
comp=Z,33nm,1.1s,baz=30,slow=20,SNR=4.4
RPZ **Rata Peaks** **43.47 155** *e*P **P** **07 21 33.6 +1.1**
comp=Z,670nm,0.8s
RPZ ScP **ScP** **07 26 50.6 +2.2**
RPZ S **S** **07 27 47.9 +2.7**
RPZ ScS **SS** **07 31 08.5 +0.8**
WKZ **Wanaka** **43.57 157** *e*P **P** **07 21 35.1 +1.8**
comp=Z,660nm,1.1s
WKZ **Wanaka** **43.57 157** P **P** **07 21 36.3 +3.0**
KHZ **Kahutara** **43.57 151** *e*P **P** **07 21 33.8 +0.5**
comp=Z,363nm,0.9s
GZH **Guangzhou** **43.57 312** P **P** **07 21 36.3 +2.7**
GZH pP **pP** **07 22 17.1 -1.1**
GZH S **S** **07 27 53.6 +6.6**
GZH pmax pmax
comp=Z,14μm,4.5s
OXZ **Oxford** **43.59 154** *e*P **P** **07 21 34.1 +0.6**
comp=Z,449nm,1.1s
BFZ **Birch Farm** **43.66 148** *e*P **P** **07 21 35.2 +1.2**
comp=Z,7μm,2.0s
LBZ **Lake Benmore** **43.66 156** *e*P **P** **07 21 35.3 +1.3**
comp=Z,863nm,1.1s
MLZ **Mavora Lakes** **43.69 159** *e*P **P** **07 21 36.2 +1.9**
comp=Z,793nm,1.0s
MLZ **Mavora Lakes** **43.69 159** P **P** **07 21 36.2 +1.9**
MYKOM **Kota Tinggi** **43.83 278** *e*P **P** **07 21 36.3 +0.5**
comp=Z,317nm,1.3s
PYZ **Puysegur Point** **43.88 160** *e*P **P** **07 21 37.6 +1.9**
comp=Z,886nm,0.9s
PYZ **Puysegur Point** **43.88 160** P **P** **07 21 38.7 +3.0**
NIUE **Niue** **43.93 112** P **P** **07 21 38.4 +1.9**
baz=44,SNR=91
MNAI **Manna** **44.01 269** P **P** **07 21 36.0 -1.3**
EAZ **Earnscleugh** **44.02 157** P **P** **07 21 38.8 +1.9**
CRLZ **Canterbury Las** **44.05 153** *e*P **P** **07 21 39.0 +1.9**
comp=Z,881nm,1.0s
SSE **Sheshan** **44.06 327** P **P** **07 21 38.8 +1.5**
SSE S **S** **07 27 52.1 -1.7**
SSE sS **sS** **07 29 13.0 +0.5**
SSE pmax pmax
comp=Z,630nm,1.3s
SSE pmax pmax
comp=Z,8μm,3.5s
WHZ **Wether Hill Ro** **44.08 159** *e*P **P** **07 21 37.7 +0.4**
comp=Z,681nm,0.9s
WHZ **Wether Hill Ro** **44.08 159** P **P** **07 21 39.0 +1.7**
QIZ **Qiongzhong** **44.09 305** P **P** **07 21 38.3 +0.5**
QIZ pP **pP** **07 22 22.3 -0.2**
QIZ PP **PP** **07 23 26.8 +1.6**
QIZ S **S** **07 27 54.0 -0.8**
QIZ pmax pmax
comp=Z,150nm,1.7s
QIZ pmax pmax
comp=Z,9μm,9.2s
QIZ LR LR
comp=Z,9μm,15.8s
QIZ LR LR
comp=Z,11μm,16.5s
QIZ **Qiongzhong** **44.09 305** *e*P **P** **07 21 38.3 +0.5**
comp=Z,178nm,0.8s
MQZ **McQueen's Vall** **44.16 153** *e*P **P** **07 21 38.9 +0.9**
comp=Z,828nm,1.1s
ODZ **Otahua Downs** **44.39 156** *e*P **P** **07 21 41.1 +1.3**
comp=Z,177nm,1.1s
ODZ **Otahua Downs** **44.39 156** P **P** **07 21 41.9 +2.1**
TUZ **Tuapeka** **44.75 158** P **P** **07 21 44.6 +2.0**
MASI **Maura Aman, Be** **44.81 271** P **P** **07 21 42.8 -0.9**
comp=Z,284nm,0.8s,comp=Z,19μm
APZ **The Paps** **44.91 160** P **P** **07 21 45.4 +1.5**
RGRI **Rengat** **45.01 275** P **P** **07 21 45.6 +0.4**
SYZ **Scrubby Hill** **45.06 159** P **P** **07 21 46.8 +1.8**
HHSZ **Highcliff Hill** **45.06 157** P **P** **07 21 48.7 +3.6**
TJN **Taejon** **45.62 338***ce*P **P** **07 21 50.3 +0.8**
SDSI **Sungai Dareh** **45.84 274** P **P** **07 21 51.2 -0.5**
NJ2 **Nanjing** **46.06 326** *e*P **P** **07 21 55.0 +1.9**
NJ2 pP **pP** **07 22 38.0 -0.2**
NJ2 sP **sP** **07 22 59.6 -1.9**
NJ2 PP **PP** **07 23 41.4 -3.2**
NJ2 S **S** **07 28 28.4 +5.8**
NJ2 sS **sS** **07 29 45.5 +3.6**
NJ2 ScS **ScS** **07 31 28.5 +1.9**
NJ2 pmax pmax
comp=Z,1μm,0.7s
NJ2 pmax pmax
comp=Z,11μm,6.0s
NJ2 LR LR
comp=Z,35μm,21.7s
NJ2 LR LR
comp=Z,39μm,24.9s
NJ2 LR LR
comp=Z,22μm,20.1s
KSRS **Korea Array** **46.36 339** P **P** **07 21 56.6 +1.3**
comp=Z,404nm,0.8s,baz=155,slow=8.9,SNR=487
KSRS pP **pP** **07 22 42.4 +1.9**
comp=Z,216nm,1.2s,baz=158,slow=9.8,SNR=2.1
KSRS PcP **PcP** **07 23 28.3 +1.5**
comp=Z,79nm,0.8s,baz=152,slow=5.2,SNR=8.6
KSRS ScP **ScP** **07 27 01.0 +0.6**
comp=Z,32nm,1.1s,baz=143,slow=4.3,SNR=5.7
KSRS S **S** **07 28 27.4 +0.7**
comp=Z,13nm,1.2s,baz=158,slow=9.9,SNR=4.3
KSRS PKiKP **PKiKP** **07 30 22.0 +0.4**
comp=Z,7.6nm,0.8s,baz=162,slow=0.7,SNR=8.4
KSRS PKKP **PKKPdf** **07 44 54.6 -2.1**
comp=Z,1.7nm,0.9s,baz=246,slow=3.9,SNR=4.5
KSRS P3KP 07 52 05.7
comp=Z,0.9nm,0.7s,baz=48,slow=1.8,SNR=4.7
KS15 **Wonju Array Si** **46.37 339** *e*P **P** **07 21 56.5 +1.2**
KSAR **Wonju Array Be** **46.37 339** P **P** **07 21 56.6 +1.2**
KSAR pP **pP** **07 22 42.4 +1.9**
KSAR PcP **PcP** **07 23 28.3 +1.5**
KSAR ScP **ScP** **07 27 01.0 +0.6**
KSAR S **S** **07 28 27.4 +0.6**
KSAR PKiKP **PKiKP** **07 30 22.0 +0.4**
KSAR PKKP **PKKPdf** **07 44 54.6 -2.1**
KSAR PKKKP 07 52 05.7
KSAR **Wonju Array Be** **46.37 339** P **P** **07 21 56.6 +1.2**
KSAR *PP **pP** **07 22 42.4 +1.9**
KSAR 07 23 28.3
KSAR S **S** **07 28 27.4 +0.6**
BKNI **Bangkinang** **46.38 276** P **P** **07 21 56.2 +0.3**
BKNI **Bangkinang** **46.38 276** *e*P **P** **07 21 55.7 -0.2**
comp=Z,2μm,1.2s
KS01 **Wonju Array Si** **46.40 339** *e*P **P** **07 21 56.0 +0.4**
PDSI **Padang** **46.80 274** P **P** **07 21 57.0 -2.2**
INCN **Inchon** **46.87 338** *e*P **P** **07 22 00.6 +1.3**
comp=Z,1μm,1.2s
INCN **Inchon** **46.87 338** P **P** **07 22 00.8 +1.5**
SNR=91
INCN **Inchon** **46.87 338** P **P** **07 22 00.8 +1.5**
SNR=91
PPSI **Pulau Pagai** **47.06 271** P **P** **07 21 59.6 -1.6**
IPM **Ipoh** **47.10 281** *e*P **P** **07 22 01.2 -0.3**
comp=Z,462nm,1.2s
ERM **Erimo** **47.46 356** *e*P **P** **07 22 04.5 +0.8**
comp=Z,679nm,1.1s
ERM **Erimo** **47.46 356***de*P **P** **07 22 05.8 +2.1**
WHN **Wuhan** **47.65 321**⇑*i*P **P** **07 22 07.5 +2.1**
WHN S **S** **07 28 39.4 -5.8**
WHN sS **sS** **07 30 07.1 +2.2**
WHN pmax pmax
comp=Z,2μm,0.9s
WHN pmax pmax
comp=Z,31μm,9.6s
WHN LR LR
comp=Z,32μm,11.4s
WHN LR LR
comp=Z,5μm,12.4s
WHN LR LR
comp=Z,32μm,15.3s
MNSI **Mandailing Nat** **47.89 276** P **P** **07 22 06.8 -0.8**
comp=Z,85nm,0.5s,comp=Z,11μmcomp=Z,54μm
MIDW **Midway** **47.93 44** *e*P **P** **07 22 08.0 +0.4**
comp=Z,793nm,0.8s
CHBT **CHBT** **48.08 292** P **P** **07 22 11.0 +2.1**
comp=Z,177nm,0.9s
SKLT **Songkhla** **48.09 285** P **P** **07 22 08.6 -0.5**
comp=Z,645nm,1.8s,comp=Z,10μm
SISI **Saibi** **48.12 273** P **P** **07 22 08.7 -0.6**
comp=Z,72nm,0.8s,comp=Z,16μm
SKNT **Sakolnakorn** **48.15 299** P **P** **07 22 08.7 -0.7**
comp=Z,134nm,1.0s,comp=Z,6μm
JOHN **Johnston Islan** **48.23 62** *e*P **P** **07 22 09.8 -0.3**
comp=Z,2μm,1.2s
PSI **Prapat** **48.85 279** P **P** **07 22 14.3 -0.7**
comp=Z,42nm,0.5s,baz=87,slow=6.2,SNR=55
PSI S **S** **07 29 00.7 -2.1**
comp=Z,14nm,1.1s,baz=306,slow=19,SNR=8.4
PSI PKP2ab 07 54 06.7
comp=Z,1.5nm,0.4s,baz=255,slow=6.5,SNR=4.8
PSI **Prapat** **48.85 279** *e*P **P** **07 22 14.2 -0.9**
comp=Z,1μm,1.4s
PSI S **S** **07 29 00.7 -2.1**
PSI P'P'ab **P'P'ab** **07 54 06.7 -2.7**
PBSI **Pulau Batu** **49.07 275** P **P** **07 22 15.7 -0.8**
TSI **Tuntungan** **49.33 279** P **P** **07 22 17.1 -1.4**
YUK **Yuzh-Kuril'sk** **49.35 359** *i*P **P** **07 22 18.4 +0.3**
YUK *i*S **S** **07 29 10.6 +2.1**
YUK *e*SS **SS** **07 32 33.5 -10**
YUK pmax pmax
comp=Z,599nm,1.2s
YUK pmax pmax
comp=Z,2μm,1.3s
YUK pmax pmax
comp=N,707nm,1.2s
CHAI **Chaiyaphum** **49.49 296** P **P** **07 22 19.9 +0.2**
comp=N,37nm,0.7s,comp=N,852nm
ASAJ **Asahikawa** **49.59 356** P **P** **07 22 21.9 +2.0**
comp=N,670nm,1.1s,baz=227,slow=12,SNR=163
ASAJ ScP **ScP** **07 27 15.5 +1.6**
comp=N,72nm,0.9s,baz=240,slow=9.4,SNR=8.5
ASAJ S **S** **07 29 12.3 +0.5**
comp=N,4.2nm,0.8s,baz=11,slow=16,SNR=1.7
ASAJ PKPPKP **P'P'df** **07 53 14.3 +2.4**
comp=N,4.7nm,0.9s,baz=255,slow=21,SNR=4.1
ASAJ PKP2ab 07 54 04.8
comp=N,4.8nm,0.8s,baz=22,slow=17,SNR=2.2
ASAJ **Asahikawa** **49.59 356** *e*P **P** **07 22 21.5 +1.6**
comp=N,582nm,1.0s
ASAJ ScP **ScP** **07 27 15.5 +1.6**
ASAJ S **S** **07 29 12.3 +0.5**
ASAJ P'P' 07 53 14.3
ASAJ P'P'ab **P'P'ab** **07 54 04.8 +2.0**
MCQ **Macquarie Isla** **49.75 171** P **P** **07 22 23.3 +2.4**
baz=50,SNR=24
MCQ **Macquarie Isla** **49.75 171** *e*P **P** **07 22 22.6 +1.6**
comp=N,723nm,0.9s
MCQ **Macquarie Isla** **49.75 171** *e*P **P** **07 22 22.6 +1.6**
MCQ pmax pmax
comp=Z,723nm,0.9s
GSI **Gunungsitoli** **49.95 276** P **P** **07 22 22.4 -0.8**
comp=Z,132nm,0.9s,comp=Z,16μmcomp=Z,53μm
GSI **Gunungsitoli** **49.95 276** *e*P **P** **07 22 22.1 -1.1**
comp=Z,404nm,1.1s
MSHR **Mys Shultsa** **50.04 345***ce*P **P** **07 22 24.9 +1.6**
COCO **West Island** **50.07 259** *e*P **P** **07 22 26.1 +2.1**
comp=Z,2μm,1.6s
COCO **West Island** **50.07 259** P **P** 07 22 29.4 +5.4
SNR=6.7
COCO **West Island** **50.07 259***ce*P **P** **07 22 27.0 +3.0**
KCSI **Kotacane, Aceh** **50.11 279** P **P** **07 22 26.6 +2.2**
comp=Z,3μm,0.8s,comp=Z,54μm
DL2 **Dalian** **50.13 334**⇑*i*P **P** **07 22 25.3 +1.3**
DL2 pP **pP** **07 23 09.8 -0.1**
DL2 PcP **PcP** **07 23 40.8 +0.4**
DL2 ScP **ScP** **07 27 16.6 +0.3**
DL2 PcS **PcS** **07 27 37.3 -0.3**
DL2 S **S** **07 29 20.4 +1.0**
DL2 sS **sS** **07 30 37.8 -2.0**
DL2 ScS **ScS** **07 31 51.8 -1.7**
DL2 pmax pmax
comp=Z,690nm,1.3s
DL2 pmax pmax
comp=Z,14μm,5.0s
TIA **Tai'an** **50.15 328** P **P** **07 22 24.9 +0.6**
TIA pP **pP** **07 23 09.8 -0.3**
TIA S **S** **07 29 16.9 -3.0**
TIA ScS **ScS** **07 31 54.5 +0.7**
TIA pmax pmax
comp=Z,790nm,1.2s
TIA pmax pmax
comp=Z,12μm,7.0s
TIA LR LR
comp=Z,43μm,17.9s
TIA LR LR
comp=Z,56μm,18.1s
TIA LR LR
comp=Z,23μm,17.5s
VLA **Vladivostok** **50.36 346***c i*P **P** **07 22 27.0 +1.3**
VLA pmax pmax
comp=Z,1μm,1.6s
PKDT **Phuket** **50.46 285** P **P** **07 22 26.0 -1.0**
comp=Z,107nm,1.2s,comp=Z,4μm
GYA **Guiyang** **50.47 311**⇑*i*P **P** **07 22 28.4 +1.4**
GYA pP pP 07 23 15.3 +2.4
GYA sP sP 07 23 38.6 +2.6
GYA PcP **PcP** **07 23 43.0 +0.9**
GYA PP **PP** **07 24 27.8 +2.8**
GYA ScP **ScP** **07 27 18.5 +0.2**
GYA PcS **PcS** **07 27 40.0 +0.1**
GYA S **S** **07 29 24.8 -0.1**
GYA sS sS 07 30 45.6 +0.3
GYA SS **SS** **07 33 00.8 -1.0**
GYA pmax pmax
comp=Z,300nm,1.0s
GYA pmax pmax
comp=Z,10μm,11.7s
GYA LR LR
comp=Z,6μm,16.6s
GYA LR LR
comp=Z,6μm,20.3s
GYA LR LR
comp=Z,8μm,20.9s
KUR **Kuril'sk** **50.54** **1***c i*P **P** **07 22 28.9 +1.9**
KUR *i**PP **pP** **07 23 16.6 +3.7**
KUR *i* 07 23 38.5
KUR *i* 07 24 34.2
KUR *i*S **S** **07 29 29.1 +4.2**
KUR *i**SS **sS** **07 30 46.4 +1.0**
KUR *i*SS **SS** **07 33 05.1 +3.1**
KUR pmax pmax
comp=Z,5μm,1.2s
KUR pmax pmax
comp=E,819nm,1.3s
KUR pmax pmax
comp=N,663nm,1.2s
KUR pmax pmax
comp=Z,6μm,5.9s
PHET **Kaeng Krachan** **50.62 292** P **P** **07 22 28.9 +0.8**
comp=Z,50nm,0.8s,comp=Z,1μm
TPTI **50.65 279** P **P** **07 22 26.9 -1.5**
comp=Z,142nm,0.9s,comp=Z,21μm
ENH **Enshi** **50.66 317** *e*P **P** **07 22 29.1 +0.7**
comp=Z,2μm,1.5s
TEY **Ternei** **51.22 350** *e*P **P** **07 22 30.6 -1.5**
TEY *e*S **S** **07 29 38.0 +3.8**
TEY pmax pmax
comp=N,6μm,6.0s
TEY pmax pmax
comp=E,2μm,6.0s
TEY pmax pmax
comp=Z,17μm,6.0s
TEY pmax pmax
comp=E,138nm,1.3s
TEY pmax pmax
comp=N,386nm,1.5s
TEY pmax pmax
comp=Z,1μm,1.7s
TEY smax smax
comp=E,9μm,13.0s
TEY MLR MLR
comp=E,7μm,16.0s
TEY MLR MLR
comp=N,2μm,10.0s
TEY MLR MLR
comp=Z,9μm,12.0s
LHMI **Lhok Sumawe** **51.23 281** P **P** **07 22 33.0 +0.2**
comp=Z,296nm,1.0s,comp=Z,18μmcomp=Z,64μm
LHMI **Lhok Sumawe** **51.23 281** *e*P **P** **07 22 32.4 -0.3**
comp=Z,2μm,1.5s
USRK **Ussuriysk Ar.** **51.35 346** P **P** **07 22 34.5 +1.4**
comp=Z,260nm,0.8s,baz=145,slow=7.0,SNR=369
USRK pP **pP** **07 23 20.0 +0.9**
comp=Z,67nm,0.9s,baz=184,slow=12,SNR=1.6
USRK PcP **PcP** **07 23 45.7 +0.9**
comp=Z,91nm,0.8s,baz=174,slow=1.2,SNR=6.6
USRK ScP **ScP** **07 27 20.2 -1.2**
comp=Z,51nm,0.9s,baz=177,slow=3.2,SNR=7.3
USRK S **S** **07 29 38.5 +2.4**
comp=Z,16nm,1.1s,baz=156,slow=8.8,SNR=3.1
USRK PKPPKP **P'P'df** **07 53 09.0 -0.7**
comp=Z,4.2nm,0.9s,baz=48,slow=4.3,SNR=4.9
USRK PKP2ab 07 53 56.9
comp=Z,4.0nm,0.8s,baz=8.5,slow=2.9,SNR=2.9
PHIT **Phitsanulok** **51.37 297** P **P** **07 22 34.7 +1.0**
comp=Z,104nm,0.8s,comp=Z,2μm
SRDT **SRDT** **51.55 293** P **P** **07 22 34.8 -0.2**
comp=Z,242nm,2.2s,comp=Z,12μm
MLSI **Meulaboh, Aceh** **51.58 280** P **P** **07 22 34.3 -1.1**
comp=Z,312nm,0.7s,comp=Z,15μm
NANT **Nan** **51.73 299** P **P** **07 22 37.3 +0.9**
comp=Z,92nm,0.6s,comp=Z,1μm
SNY **Shenyang** **51.80 338**⇑P **P** **07 22 37.5 +1.0**
SNY pP **pP** **07 23 21.8 -0.8**
SNY PcS **PcS** **07 27 45.0 +0.2**
SNY S **S** **07 29 39.3 -3.0**
SNY sS **sS** **07 31 03.6 +0.4**
SNY pmax pmax
comp=Z,1μm,2.4s
SNY LR LR
comp=Z,13μm,20.6s
SNY LR LR
comp=Z,11μm,18.1s
SNY LR LR
comp=Z,31μm,20.8s
MDJ **Mudanjiang** **52.35 344** P **P** **07 22 39.8 -0.7**
MDJ pP pP 07 23 26.8 +0.1
MDJ ScP **ScP** **07 27 25.4 -0.4**
MDJ PcS **PcS** **07 27 43.1 -4.0**
MDJ S **S** **07 29 50.5 +0.8**
MDJ ScS **ScS** **07 32 04.6 -4.1**
MDJ pmax pmax
comp=Z,520nm,1.4s
MDJ pmax pmax
comp=Z,18μm,9.6s
MDJ LR LR
comp=Z,12μm,22.1s
MDJ LR LR
comp=Z,37μm,21.9s
MDJ **Mudanjiang** **52.35 344** *e*P **P** **07 22 41.7 +1.2**
comp=Z,1μm,1.5s
YSS **Yuzh-Sakhalins** **52.40 356** *e*P **P** **07 22 42.0 +1.3**
comp=Z,5μm,1.9s
YSS **Yuzh-Sakhalins** **52.40 356**α *i*P **P** **07 22 42.2 +1.4**
YSS *e**PP **pP** **07 23 27.2 +0.2**
YSS *e* 07 24 40.0
YSS *e* 07 25 50.0
YSS *e*S **S** **07 29 51.4 +1.1**
YSS *e*SS **SKiKP** **07 33 36.0 -4.3**
YSS pmax pmax
comp=Z,580nm,1.2s
YSS pmax pmax
comp=N,320nm,1.3s
YSS pmax pmax
comp=E,320nm,1.0s
YSS pmax pmax
comp=Z,16μm,3.8s
YSS pmax pmax
comp=N,8μm,3.6s
YSS pmax pmax
comp=E,4μm,3.7s
YSS smax smax
comp=E,150nm,2.3s
YSS smax smax
comp=N,17μm,8.0s
YSS smax smax
comp=E,19μm,7.6s
KMI **Kunming** **52.81 307** P **P** **07 22 46.5 +2.0**
KMI pP pP 07 23 32.0 +1.2
KMI sP sP 07 23 54.6 +0.8
KMI PP **PP** **07 24 52.6 +6.3**
KMI S **S** **07 29 59.1 +2.0**
KMI sS sS 07 31 19.8 +1.6
KMI pmax pmax
comp=E,330nm,1.5s
KMI pmax pmax
comp=E,11μm,9.5s
KMI LR LR
comp=E,6μm,16.8s
KMI LR LR
comp=E,11μm,16.0s
KMI LR LR
comp=E,10μm,19.3s
CN2 **Changchun** **52.87 340** *e*P **P** **07 22 44.8 +0.5**
CN2 *e*pP pP 07 23 30.6 0.0
CN2 *e*S **S** **07 29 58.0 +1.3**
CN2 pmax pmax
comp=E,110nm,1.0s
CN2 pmax pmax
comp=E,16μm,5.0s
CN2 LR LR
comp=E,18μm,16.0s
CN2 LR LR
comp=E,10μm,16.0s
CN2 LR LR
comp=E,21μm,17.0s
BSI **Banda Aceh** **52.90 281** P **P** **07 22 43.4 -1.7**
comp=E,186nm,2.0s,comp=E,11μmcomp=E,71μm
CM01 **Chiang Mai Arr** **53.11 298** *e*P **P** **07 22 47.0 +0.5**
CM31 **Chiang Mai Arr** **53.14 298** *e*P **P** **07 22 47.9 +1.1**
CMAR **Chiang Mai Arr** **53.14 298** P **P** **07 22 48.0 +1.2**
comp=E,47nm,0.7s,baz=122,slow=5.8,SNR=153
CMAR PcP **PcP** **07 23 52.5 +0.3**
comp=E,119nm,0.9s,baz=111,slow=5.6,SNR=5.2
CMAR S **S** **07 30 04.5 +3.1**
comp=E,0.8nm,0.3s,baz=97,slow=7.4,SNR=4.9
CMAR PKP2bc 07 53 23.9
comp=E,13nm,1.0s,baz=320,slow=2.0,SNR=5.6
CMAR PKP2ab 07 53 47.8
comp=E,5.3nm,1.0s,baz=276,slow=4.2,SNR=2.0
CMMT **Chiang Mai** **53.27 298** P **P** **07 22 47.2 -0.5**
comp=E,302nm,2.2s,comp=E,11μm
CHTO **Chiang Mai** **53.27 298** P **P** **07 22 48.2 +0.5**
comp=E,2μm,0.8s,comp=E,46μm
CHTO **Chiang Mai** **53.27 298** *e*P **P** **07 22 48.5 +0.8**
comp=E,508nm,1.3s
CHTO **Chiang Mai** **53.27 298** P **P** **07 22 48.7 +1.0**
SNR=76
CHTO **Chiang Mai** **53.27 298** P **P** **07 22 48.7 +1.0**
SNR=76
CHTO **Chiang Mai** **53.27 298** *e*P **P** **07 22 48.5 +0.8**
CHTO pmax pmax
comp=Z,508nm,1.3s
XAN **Xi'an** **53.41 320**⇑P **P** **07 22 49.3 +0.8**
XAN pP pP 07 23 33.8 -1.1

XAN					sP	sP	07 23 55.5	-2.3	
XAN					PcS	**PcS**	**07 27 51.6**	**-0.7**	
XAN					S	**S**	**07 30 04.0**	**-0.5**	
XAN					sS	sS	07 31 25.0	-0.7	
XAN					ScS	**ScS**	**07 32 14.4**	**-2.3**	
XAN					SS	**SKiKP**	**07 33 41.9**	**-0.1**	
XAN					pmax	pmax			
	comp=Z,1μm,1.4s								
XAN					pmax	pmax			
	comp=Z,16μm,4.1s								
XAN					LR	LR			
	comp=Z,14μm,18.1s								
XAN					LR	LR			
	comp=Z,9μm,19.6s								
XAN					LR	LR			
	comp=Z,21μm,32.5s								
BJT	**Baijiatuau**	**53.55**	**331**	*e*P	**P**	**07 22 50.3**	**+1.0**		
	comp=Z,3μm,1.6s								
BJT	**Baijiatuau**	**53.55**	**331**	*e*P	**P**	**07 22 50.3**	**+1.0**		
BJT				pmax	pmax				
	comp=Z,3μm,1.6s								
BJI	**Beijing**	**53.56**	**331**	⇑*i*P	**P**	**07 22 50.3**	**+0.9**		
BJI				pP	**pP**	**07 23 36.0**	**+0.2**		
BJI				PcP	**PcP**	**07 23 54.6**	**+1.4**		
BJI				sP	**sP**	**07 23 56.3**	**-2.5**		
BJI				S	**S**	**07 30 06.6**	**+0.4**		
BJI				sS	**sS**	**07 31 29.8**	**+2.3**		
BJI				ScS	**ScS**	**07 32 19.8**	**+2.4**		
BJI				pmax	pmax				
	comp=Z,1μm,2.0s								
BJI				pmax	pmax				
	comp=Z,6μm,4.1s								
BJI	**Beijing**	**53.56**	**331**	P	**P**	**07 22 50.3**	**+0.9**		
CMAI	**Chiengmai2**	**53.62**	**300**	P	**P**	**07 22 51.4**	**+1.0**		
	comp=Z,995nm,1.2s,comp=Z,61μm								
RAR	**Rarotonga**	**53.70**	**112**	P	**P**	**07 22 51.6**	**+0.9**		
	comp=Z,516nm,1.0s,baz=248,slow=4.5,SNR=40								
RAR	**Rarotonga**	**53.70**	**112**	*e*P	**P**	**07 22 50.8**	**0.0**		
	comp=Z,3μm,1.7s								
TIY	**Taiyuan**	**53.79**	**326**	*e*P	**P**	**07 22 52.3**	**+1.1**		
TIY				pP	**pP**	**07 23 34.9**	**-2.8**		
TIY				sP	**sP**	**07 24 03.4**	**+2.7**		
TIY				PP	**PP**	**07 24 59.3**	**+4.6**		
TIY				S	**S**	**07 30 09.8**	**+0.2**		
TIY				sS	**sS**	**07 31 33.9**	**+3.0**		
TIY				SS	**SS**	**07 33 49.5**	**-4.3**		
TIY				pmax	pmax				
	comp=Z,740nm,1.3s								
TIY				pmax	pmax				
	comp=Z,11μm,4.3s								
TIY				LR	LR				
	comp=Z,6μm,13.1s								
TIY				LR	LR				
	comp=Z,7μm,14.2s								
TIY				LR	LR				
	comp=Z,14μm,16.0s								
CD2	**Chengdu**	**55.04**	**314**	⇑P	**P**	**07 23 01.0**	**+0.7**		
CD2				pP	pP	07 23 45.5	-1.5		
CD2				sP	sP	07 24 07.6	-2.3		
CD2				PcS	**PcS**	**07 27 59.9**	**+0.3**		
CD2				S	**S**	**07 30 28.8**	**+2.3**		
CD2				sS	sS	07 31 47.1	-1.1		
CD2				SS	**SS**	**07 34 17.0**	**+3.3**		
CD2				pmax	pmax				
	comp=Z,2μm,0.6s								
CD2				pmax	pmax				
	comp=Z,20μm,5.0s								
CD2				LR	LR				
	comp=Z,16μm,16.1s								
CD2				LR	LR				
	comp=Z,16μm,16.7s								
CD2				LR	LR				
	comp=Z,20μm,16.3s								
XMAS	**Kiritimati**	**55.87**	**84**	*e*P	**P**	**07 23 06.7**	**+0.2**		
	comp=Z,498nm,1.0s								
KLR	**Kul'dur**	**56.16**	**348**	P	**P**	**07 23 09.3**	**+1.4**		
	comp=Z,68nm,1.1s,baz=165,slow=6.0,SNR=612								
KLR				ScP	**ScP**	**07 27 42.4**	**0.0**		
	comp=Z,7.0nm,1.0s,baz=180,slow=3.6,SNR=7.8								
KLR				S	**S**	**07 30 41.9**	**+1.3**		
	comp=Z,1.3nm,1.2s,baz=51,slow=19,SNR=3.7								
KLR				PKPPKP	**P'P'df**	**07 53 04.2**	**+1.4**		
	comp=Z,0.6nm,1.0s,baz=356,slow=2.8,SNR=6.8								
KLR				PKP2bc		07 53 16.4			
	comp=Z,2.7nm,1.0s,baz=352,slow=2.6,SNR=12								
KLR	**Kul'dur**	**56.16**	**348**	*c i*P	**P**	**07 23 09.4**	**+1.5**		
TYV	**Tymovskoe**	**56.30**	**357**	*e*P	**P**	**07 23 10.6**	**+1.8**		
TYV				*e*S	**S**	**07 30 45.7**	**+3.4**		
TYV				pmax	pmax				
	comp=Z,772nm,1.1s								
TYV				pmax	pmax				
	comp=Z,19μm,5.5s								
TYV				smax	smax				
	comp=N,166nm,2.5s								
TYV				smax	smax				
	comp=N,22μm,8.1s								
HHC	**Hu-ho-hao-te**	**56.51**	**328**	*e*P	**P**	**07 23 11.8**	**+1.2**		
HHC				pP	pP	07 23 53.5	-4.0		
HHC				S	**S**	**07 30 42.5**	**-3.1**		
HHC				SS	**SS**	**07 34 37.8**	**+1.2**		
HHC				pmax	pmax				
	comp=N,750nm,1.1s								
HHC				pmax	pmax				
	comp=N,3μm,6.6s								
SKR	**Severo-Kuril's**	**56.53**	**7**	*e*P	**P**	**07 23 11.9**	**+1.5**		
SKR				*e*		07 24 02.8			
SKR				*i* S	**S**	**07 30 50.3**	**+5.1**		
SKR				*e*SS	**SS**	**07 34 36.7**	**+0.5**		
SKR				pmax	pmax				
	comp=Z,18μm,6.6s								
SKR				pmax	pmax				
	comp=Z,2μm,1.1s								
SKR				pmax	pmax				
	comp=Z,11μm,9.6s								
SKR				smax	smax				
	comp=N,29μm,15.6s								
SKR				smax	smax				
	comp=E,54μm,14.4s								
SKR				MLR	MLR				
	comp=Z,11μm,15.0s								
SKR				MLR	MLR				
	comp=Z,11μm,16.0s								
GRNR	**Gornyy**	**56.83**	**352**	⇑*i*P	**P**	**07 23 16.0**	**+3.4**		
GRNR				*i*		07 24 03.2			
GRNR				pmax	pmax				
	comp=N,660nm,1.1s								
GRNR				pmax	pmax				
	comp=E,140nm,1.1s								
GRNR				pmax	pmax				
	comp=Z,1μm,1.1s								
BTO	**Baotou**	**57.16**	**327**	*i* P	**P**	**07 23 16.3**	**+1.1**		
BTO				pmax	pmax				
	comp=Z,300nm,1.5s								
LZH	**Lanzhou**	**57.94**	**319**	⇑P	**P**	**07 23 22.3**	**+1.5**		
LZH				pP	PcP	07 24 09.9	-0.7		
LZH				sP	sP	07 24 31.9	+1.1		
LZH				PP	**PP**	**07 25 32.4**	**+0.6**		
LZH				S	**S**	**07 30 59.3**	**-5.3**		
LZH				sS	sS	07 32 26.3	-0.8		
LZH				ScS	**ScS**	**07 32 46.0**	**-3.7**		
LZH				pmax	pmax				
	comp=Z,2μm,1.6s								
LZH				pmax	pmax				
	comp=Z,7μm,6.4s								
LZH				LR	LR				
	comp=Z,27μm,14.2s								
LZH				LR	LR				
	comp=Z,28μm,13.4s								
LZH				LR	LR				
	comp=Z,33μm,16.5s								
KEKH	**Kekaha**	**58.78**	**60**	*e*P	**P**	**07 23 27.6**	**+0.9**		
	comp=Z,1μm,1.4s								
PEA0B	**Petropavlovsk-**	**59.10**	**7**	*e*P	**P**	**07 23 30.1**	**+1.8**		
	comp=Z,3μm,1.3s								
PETK	**Petropavlovsk-**	**59.10**	**7**	P	**P**	**07 23 29.9**	**+1.6**		
	comp=Z,2μm,1.1s,baz=144,slow=2.8,SNR=332								
PETK				ScP	**ScP**	**07 27 55.8**	**+0.4**		
	comp=Z,48nm,0.8s,baz=159,slow=4.8,SNR=4.4								
PETK				S	**S**	**07 31 23.6**	**+4.9**		
	comp=Z,9.5nm,0.9s,baz=168,slow=10,SNR=7.0								
PETK				PKPPKP	**P'P'df**	**07 52 54.8**	**-3.3**		
	comp=Z,6.0nm,1.0s,baz=35,slow=5.4,SNR=5.4								
PETK				PKP2bc		07 53 07.2			
	comp=Z,52nm,1.2s,baz=67,slow=3.7,SNR=12								
PETK	**Petropavlovsk-**	**59.10**	**7**	*e*P	**P**	**07 23 29.1**	**+0.8**		
PETK				ScP	**ScP**	**07 27 55.8**	**+0.4**		
PETK				S	**S**	**07 31 23.6**	**+4.9**		
PETK				P'P'		07 52 54.8			
PETK				⇑*e*		07 53 07.2			
PETK	**Petropavlovsk-**	**59.10**	**7**	*e*P	**P**	**07 23 29.1**	**+0.8**		
PETK				S	**S**	**07 31 23.6**	**+4.9**		
PET	**Petropavlovsk**	**59.15**	**8**	*e*P	**P**	**07 23 29.8**	**+1.3**		
	comp=Z,838nm,1.0s								
PET	**Petropavlovsk**	**59.15**	**8**	*α i*P	**P**	**07 23 29.7**	**+1.2**		
PET				*e**PP	**PcP**	**07 24 14.7**	**-0.1**		
PET				*e**SP	**sP**	**07 24 36.0**	**-2.6**		
PET				*e*S	**S**	**07 31 19.8**	**+0.6**		
PET				*e*		07 32 56.4			
PET				*e*SS	**SS**	**07 35 13.9**	**-3.5**		
PET				pmax	pmax				
	comp=Z,19μm,6.0s								
PET				pmax	pmax				
	comp=Z,989nm,1.0s								
PET				pmax	pmax				
	comp=Z,15μm,13.2s								
HIA	**Hailar**	**59.56**	**340**	*e*P	**P**	**07 23 32.8**	**+1.3**		
	comp=Z,2μm,1.3s								
HIA	**Hailar**	**59.56**	**340**	*c i*P	**P**	**07 23 32.8**	**+1.3**		
HIA				pmax	pmax				
	comp=Z,2μm,1.3s								
HON	**Honolulu**	**60.04**	**62**	*e*P	**P**	**07 23 35.8**	**+0.5**		
HON	**Honolulu**	**60.04**	**62**	*e*P	**P**	**07 23 35.8**	**+0.5**		
KIP	**Kipapa**	**60.06**	**62**	*e*P	**P**	**07 23 36.8**	**+1.3**		
	comp=Z,1μm,1.1s								
KIP	**Kipapa**	**60.06**	**62**	*ce*P	**P**	**07 23 36.1**	**+0.7**		
KIP				pmax	pmax				
	comp=Z,7μm,1.3s								
OPA	**Opana**	**60.16**	**61**	*e*P	**P**	**07 23 37.0**	**+0.9**		
	comp=Z,1μm,1.0s								
OPA	**Opana**	**60.16**	**61**	*e*P	**P**	**07 23 37.0**	**+0.9**		
OPA				pmax	pmax				
	comp=Z,1μm,1.0s								
KKH	**Kailua Kona**	**61.26**	**64**	*e*P	**P**	**07 23 45.1**	**+1.6**		
KKH	**Kailua Kona**	**61.26**	**64**	*e*P	**P**	**07 23 45.1**	**+1.6**		
KHLH	**Kahului Airpor**	**61.29**	**63**	*e*P	**P**	**07 23 44.7**	**+1.0**		
	comp=Z,1μm,1.0s								
KHLU	**Kahalu'u**	**61.35**	**64**	*e*P	**P**	**07 23 44.6**	**+0.3**		
	comp=Z,874nm,1.0s								
ZEA	**Zeya**	**61.38**	**347**	*c i*P	**P**	**07 23 45.1**	**+1.4**		
ZEA				*e**PP	**PcP**	**07 24 24.1**	**+0.3**		
ZEA				*e*		07 24 32.0			
ZEA				*i* S	**S**	**07 31 49.0**	**+1.5**		
ZEA				pmax	pmax				
	comp=N,2μm,1.2s								
ZEA				pmax	pmax				
	comp=Z,2μm,1.2s								
ZEA				pmax	pmax				
	comp=Z,21μm,10.0s								
ZEA				pmax	pmax				
	comp=N,13μm,8.0s								
ZEA				pmax	pmax				
	comp=E,6μm,8.0s								
ZEA				smax	smax				
	comp=E,15μm,8.0s								
ZEA				smax	smax				
	comp=N,18μm,11.0s								
ZEA				MLR	MLR				
	comp=Z,11μm,15.0s								
ZEA				MLR	MLR				
	comp=N,5μm,16.0s								
HLK	**Haleakala**	**61.40**	**63**	*e*P	**P**	**07 23 45.3**	**+0.5**		
	comp=N,1μm,1.2s								
HUH	**Hualalai**	**61.43**	**64**	*e*P	**P**	**07 23 45.5**	**+0.5**		
	comp=N,582nm,0.9s								
KHU	**Kahuku**	**61.49**	**65**	*e*P	**P**	**07 23 45.0**	**-0.4**		
	comp=N,2μm,1.3s								
KHU	**Kahuku**	**61.49**	**65**	*e*P	**P**	**07 23 45.0**	**-0.4**		
KHU				pmax	pmax				
	comp=Z,2μm,1.3s								
MHA	**Mahukona**	**61.53**	**64**	*e*P	**P**	**07 23 46.5**	**+1.2**		
MHA	**Mahukona**	**61.53**	**64**	*e*P	**P**	**07 23 46.5**	**+1.2**		
MWH	**Moku'aweowe**	**61.58**	**64**	*e*P	**P**	**07 23 46.2**	**-0.2**		
	comp=Z,735nm,1.3s								
MLOA	**Mauna Loa Obse**	**61.62**	**64**	*e*P	**P**	**07 23 46.8**	**+0.3**		
	comp=Z,654nm,0.9s								
HPAH	**Hawaii Prepara**	**61.66**	**64**	*e*P	**P**	**07 23 46.5**	**+0.1**		
	comp=Z,756nm,0.7s								
AIN	**Ainahou**	**61.67**	**65**	*e*P	**P**	**07 23 47.2**	**+0.6**		
	comp=Z,527nm,0.9s								
HMH	**Humu'ula Sheep**	**61.72**	**64**	*e*P	**P**	**07 23 47.9**	**+0.9**		
	comp=Z,2μm,1.0s								
POHA	**Pohakuloa**	**61.72**	**64**	*e*P	**P**	**07 23 47.2**	**+0.2**		
	comp=Z,2μm,0.9s								
MLH	**Mauna Loa**	**61.78**	**65**	*e*P	**P**	**07 23 46.7**	**-0.6**		
	comp=Z,1μm,1.4s								
MLH	**Mauna Loa**	**61.78**	**65**	*e*P	**P**	**07 23 46.7**	**-0.6**		
MLH				pmax	pmax				
	comp=Z,1μm,1.4s								
HLP	**Hilina Pali**	**61.79**	**65**	*e*P	**P**	**07 23 46.9**	**-0.3**		
	comp=Z,1μm,1.5s								
SDHHI	**Sand Hill**	**61.83**	**65**	*e*P	**P**	**07 23 47.7**	**+0.2**		
	comp=Z,603nm,1.0s								
WRMHI	**West Rim**	**61.83**	**65**	*e*P	**P**	**07 23 47.7**	**+0.2**		
	comp=Z,678nm,1.2s								
UWE	**Uwekahuna**	**61.84**	**65**	*e*P	**P**	**07 23 47.9**	**+0.3**		
	comp=Z,1μm,1.6s								
OBL	**Observatory Le**	**61.84**	**65**	*e*P	**P**	**07 23 47.8**	**+0.2**		
	comp=Z,1μm,1.3s								
NPH	**North Pit**	**61.85**	**65**	*e*P	**P**	**07 23 48.4**	**+0.8**		
	comp=Z,1μm,1.5s								
NPH	**North Pit**	**61.85**	**65**	*e*P	**P**	**07 23 48.4**	**+0.8**		
NPH				pmax	pmax				
	comp=Z,1μm,1.5s								
RIM	**Rim**	**61.85**	**65**	*e*P	**P**	**07 23 47.9**	**+0.2**		
	comp=Z,476nm,1.0s								
UWB	**Uwekahuna B**	**61.85**	**65**	*e*P	**P**	**07 23 47.6**	**0.0**		
	comp=Z,2μm,1.7s								
KKO	**Keanakako'i**	**61.85**	**65**	*e*P	**P**	**07 23 47.5**	**-0.2**		
	comp=Z,537nm,0.9s								
SBLHI	**Steaming Bluff**	**61.86**	**65**	*e*P	**P**	**07 23 47.7**	**0.0**		
	comp=Z,1μm,1.7s								
BYL	**Byron's Ledge**	**61.86**	**65**	*e*P	**P**	**07 23 48.1**	**+0.4**		
	comp=Z,1μm,1.6s								
HATHI	**Halema'uma'u T**	**61.87**	**65**	*e*P	**P**	**07 23 47.7**	**-0.1**		
	comp=Z,2μm,1.6s								
PUH	**Pauahi**	**61.89**	**65**	*e*P	**P**	**07 23 47.9**	**0.0**		
	comp=Z,403nm,0.9s								
STCH	**Steam Cracks**	**61.98**	**65**	*e*P	**P**	**07 23 48.4**	**-0.1**		
	comp=Z,788nm,1.1s								
NPOC	**North of Pu'u**	**61.99**	**65**	*e*P	**P**	**07 23 49.2**	**+0.6**		
	comp=Z,447nm,0.7s								
HULD	**Heiheiahulu Di**	**62.12**	**65**	*e*P	**P**	**07 23 49.6**	**+0.3**		
	comp=Z,650nm,0.9s								
SMY	**Shemya**	**62.39**	**18**	*e*P	**P**	**07 23 51.9**	**+1.5**		
	comp=Z,3μm,1.2s								
SMY	**Shemya**	**62.39**	**18**	*e*P	**P**	**07 23 51.9**	**+1.5**		
SMY				pmax	pmax				
	comp=Z,3μm,1.2s								
GTA	**Gaotai**	**62.47**	**320**	⇑P	**P**	**07 23 53.0**	**+1.6**		
GTA				pP	pP	07 24 41.0	+1.7		
GTA				sP	sP	07 25 02.0	+0.1		
GTA				S	**S**	**07 32 06.8**	**+4.8**		
GTA				ScS	**SKSac**	**07 33 22.5**	**-0.8**		
GTA				sS	sS	07 33 25.6	0.0		
GTA				SS	**SS**	**07 36 08.1**	**-2.0**		
GTA				pmax	pmax				
	comp=Z,710nm,1.2s								
GTA				pmax	pmax				
	comp=Z,17μm,5.7s								
GTA				LR	LR				
	comp=Z,7μm,20.4s								
GTA				LR	LR				
	comp=Z,8μm,16.9s								
GTA				LR	LR				
	comp=Z,10μm,19.5s								
PAE	**Paea**	**62.91**	**107**	⇑*i*P	**P**	**07 23 56.0**	**+1.4**		
	comp=Z,96nm,1.0s								
PAE	**Paea**	**62.91**	**107**	*e*P'P'df	P'P'df	07 53 00.0	+4.7		
	comp=Z,19nm,1.3s								
PPT2	**Papeete2**	**62.91**	**107**	⇑*i*P	**P**	**07 23 56.5**	**+1.8**		
	comp=Z,629nm,1.3s								
PPT2				*e*S	**S**	**07 32 06.6**	**-1.6**		
	comp=Z,21μm,24.8s								
PPT2	**Papeete2**	**62.91**	**107**	*e*LR	LR	07 43 02.4			
	comp=Z,18μm,23.8s								
PPT2	**Papeete2**	**62.91**	**107**	*e*P'P'df	P'P'df	07 53 00.0	+4.6		
	comp=Z,88nm,1.5s								
PPTF	**Pamatai, Papee**	**62.92**	**107**	*e*P	**P**	**07 23 56.3**	**+1.6**		
	comp=Z,654nm,1.1s								
TIAR	**Tiarei**	**63.13**	**107**	⇑*i*P	**P**	**07 23 57.9**	**+1.9**		
	comp=Z,290nm,1.0s								
TIAR	**Tiarei**	**63.13**	**107**	*e*P'P'df	P'P'df	07 52 59.0	+4.0		
	comp=Z,32nm,1.1s								
TVO	**Taravao**	**63.23**	**107**	⇑*i*P	**P**	**07 23 58.6**	**+1.9**		
	comp=Z,450nm,1.4s								
TVO	**Taravao**	**63.23**	**107**	*e*P'P'df	P'P'df	07 52 59.3	+4.4		
	comp=Z,38nm,1.1s								
ULN	**Ulaanbaatar**	**63.76**	**331**	*e*P	**P**	**07 24 01.5**	**+1.7**		
	comp=Z,698nm,0.8s								
ULN	**Ulaanbaatar**	**63.76**	**331**	P	**P**	**07 24 01.7**	**+1.9**		
	SNR=625								
ULN	**Ulaanbaatar**	**63.76**	**331**	P	**P**	**07 24 01.7**	**+1.9**		
	SNR=625								
ULN	**Ulaanbaatar**	**63.76**	**331**	*ce*P	**P**	**07 24 01.2**	**+1.4**		
ULN				pmax	pmax				
	comp=Z,962nm,0.9s								
SONM	**Songino Array**	**64.06**	**331**	P	**P**	**07 24 03.1**	**+1.4**		
	comp=Z,1μm,1.2s,baz=152,slow=6.5,SNR=925								
SONM				PKiKP	**PKiKP**	**07 30 42.4**	**+0.5**		
	comp=Z,11nm,1.1s,baz=42,slow=2.5,SNR=4.1								
SONM				S	**S**	**07 32 23.4**	**+2.0**		
	comp=Z,4.4nm,1.1s,baz=160,slow=11,SNR=2.2								
SONM				PKKP	**PKKPdf**	**07 44 31.1**	**-4.2**		
	comp=Z,2.4nm,1.1s,baz=354,slow=2.9,SNR=4.0								
SONM				PKP2bc		07 52 55.3			
	comp=Z,78nm,1.0s,baz=243,slow=0.9,SNR=19								
LSA	**Lhasa**	**64.06**	**307**	P	**P**	**07 24 03.1**	**+0.6**		
LSA				S	**S**	**07 32 21.9**	**-0.9**		
LSA				pmax	pmax				
	comp=Z,240nm,1.9s								
LSA	**Lhasa**	**64.06**	**307**	*e*P	**P**	**07 24 03.6**	**+1.1**		
	comp=Z,346nm,1.2s								
LSA	**Lhasa**	**64.06**	**307**	P	**P**	**07 24 03.5**	**+1.1**		
LSA	**Lhasa**	**64.06**	**307**	*e*P	**P**	**07 24 03.6**	**+1.1**		
LSA				pmax	pmax				
	comp=Z,346nm,1.2s								
SONA1	**Songino Array**	**64.06**	**331**	*e*P	**P**	**07 24 02.4**	**+0.7**		
CIT	**Chita**	**64.08**	**338**	*e*P	**P**	**07 24 03.6**	**+2.0**		
CIT				*e*		07 24 35.9			
CIT				*e*		07 24 53.2			
CIT				*e*S	**S**	**07 32 24.8**	**+3.5**		
CIT				pmax	pmax				
	comp=Z,5μm,2.6s								
PMOR	**Pomariorio Ree**	**64.44**	**104**	⇑*i*P	**P**	**07 24 06.3**	**+1.7**		
	comp=Z,2μm,1.0s								
PMOR	**Pomariorio Ree**	**64.44**	**104**	*e*P'P'df	P'P'df	07 52 56.1	+3.2		
	comp=Z,306nm,1.1s								
VAH	**Vaihoa**	**64.70**	**104**	⇑*i*P	**P**	**07 24 07.6**	**+1.3**		
	comp=Z,1μm,1.3s								
VAH	**Vaihoa**	**64.70**	**104**	*e*P'P'df	P'P'df	07 52 55.4	+3.0		
	comp=Z,359nm,1.1s								
CLNS	**Chul'man**	**64.76**	**347**	*e*P	**P**	**07 24 08.1**	**+2.2**		
CLNS				*e*		07 24 40.0			
CLNS				*e**PP	**pP**	**07 24 53.2**	**-0.9**		
CLNS				*e*		07 26 31.7			
CLNS				*e*S	**S**	**07 32 33.6**	**+4.1**		
CLNS				*e*		07 33 36.7			
CLNS				*e*SS	**SS**	**07 36 48.7**	**+3.6**		
CLNS				pmax	pmax				
	comp=Z,1μm,1.1s								
CLNS				pmax	pmax				
	comp=N,691nm,1.1s								
CLNS				pmax	pmax				
	comp=E,252nm,1.0s								
CLNS				pmax	pmax				
	comp=E,131nm,1.4s								
CLNS				pmax	pmax				
	comp=N,128nm,1.2s								
CLNS				smax	smax				
	comp=E,12μm,11.0s								
CLNS				smax	smax				
	comp=N,14μm,11.4s								
MA2	**Magadan**	**64.97**	**2**	P	**P**	**07 24 08.5**	**+1.4**		
	comp=N,1μm,0.9s,baz=174,slow=6.7,SNR=244								
MA2				S	**S**	**07 32 36.0**	**+4.2**		
	comp=N,9.6nm,1.0s,baz=89,slow=23,SNR=6.1								
MA2				PKP2bc		07 52 52.9			
	comp=N,29nm,1.1s,baz=23,slow=2.7,SNR=5.5								
MA2	**Magadan**	**64.97**	**2**	*e*P	**P**	**07 24 08.5**	**+1.4**		
MA2				pmax	pmax				
	comp=Z,1μm,1.0s								
CASY	**Casey**	**65.74**	**195**	*e*P	**P**	**07 24 12.9**	**+0.9**		
	comp=Z,242nm,0.7s								
ODAN	**Odare**	**66.10**	**302**	*e*P	**P**	**07 24 14.9**	**-0.5**		
CHLP	**Challavanipeta**	**66.57**	**293**	*e*P	**P**	**07 24 19.2**	**+1.0**		
CHLP				IAmb	IAmb	07 24 21.3			
	comp=Z,184nm,0.8s								
CHLP				*e*PcP	**PcP**	**07 24 46.2**	**+0.3**		
CHLP				*e*pP	**pP**	**07 25 08.0**	**+1.4**		
CHLP				*e*S	**S**	**07 32 53.3**	**+0.6**		
CHLP				*e*SKSac	**SKSac**	**07 33 52.4**	**-2.5**		
RAMN	**Ramite**	**66.80**	**302**	*e*P	**P**	**07 24 19.2**	**-0.6**		
ZAK	**Zakamensk**	**67.29**	**331**	*e*P	**P**	**07 24 23.2**	**+0.9**		
ZAK				*e*		07 25 12.4			
ZAK				pmax	pmax				
	comp=Z,1μm,1.1s								
JIRN	**Jiri**	**67.38**	**303**	*e*P	**P**	**07 24 23.1**	**-0.5**		
	comp=Z,444nm,0.7s								
PALK	**Pallekele**	**67.38**	**280**	P	**P**	**07 24 24.5**	**+0.4**		
	comp=Z,24nm,0.7s,baz=116,slow=7.2,SNR=22								
PALK				PKP2bc		07 52 47.3			
	comp=Z,31nm,1.0s,baz=297,slow=3.1,SNR=11								
PALK	**Pallekele**	**67.48**	**280**	*e*P	**P**	**07 24 24.4**	**+0.2**		
	comp=Z,454nm,1.6s								
PALK				⇑*e*		07 52 47.3			
PALK	**Pallekele**	**67.48**	**280**	P	**P**	**07 24 24.9**	**+0.8**		
	SNR=18								
PALK	**Pallekele**	**67.48**	**280**	P	**P**	**07 24 24.9**	**+0.8**		
	SNR=18								
PALK	**Pallekele**	**67.48**	**280**	*i* P	**P**	**07 24 24.5**	**+0.4**		
	SNR=16								
PALK	**Pallekele**	**67.48**	**280**	*i* P	**P**	**07 24 25.1**	**+1.0**		
GUN	**Gumba**	**67.72**	**303**	*e*P	**P**	**07 24 25.1**	**-0.6**		
	comp=Z,756nm,0.7s								
TLY	**Talaya**	**67.99**	**332**	P	**P**	**07 24 28.1**	**+1.6**		
	comp=Z,203nm,0.7s,baz=158,slow=5.8,SNR=201								
TLY				PKiKP	**PKiKP**	**07 30 47.8**	**+0.9**		
	comp=Z,11nm,0.8s,baz=239,slow=5.9,SNR=3.8								
TLY				S	**S**	**07 33 12.1**	**+3.6**		
	comp=Z,2.3nm,0.5s,baz=239,slow=19,SNR=5.3								

comp=Z,12nm,0.4s,baz=278,slow=23,SNR=20
YAK PKP2bc 07 52 40.3
comp=Z,11nm,0.3s,baz=204,slow=1.0,SNR=3.9
YAK Yakutsk 68.70 351 *eP* **P 07 24 32.0 +1.4**
comp=Z,3μm,1.1s
YAK S **S 07 33 19.2 +2.8**
YAK ⇑*e* 07 52 40.3
YAK Yakutsk 68.70 351*c iP* **P 07 24 32.0 +1.4**
YAK *e* 07 24 53.9
YAK *e**PP **pP 07 25 20.8 +1.4**
YAK *e*S **S 07 33 18.6 +2.2**
YAK *e* 07 34 04.9
YAK *e*SS **SS 07 37 42.9 -2.7**
YAK pmax pmax
comp=Z,3μm,1.2s
YAK pmax pmax
comp=N,1μm,1.1s
YAK pmax pmax
comp=E,106nm,1.0s
YAK smax smax
comp=E,9μm,2.8s
YAK smax smax
comp=N,13μm,6.3s
GKN Gorkha 68.79 303 *eP* **P 07 24 31.3 -0.8**
comp=N,476nm,0.7s
MOY Mondy 69.23 331 *eP* **P 07 24 35.8 +1.5**
MOY pmax pmax
comp=Z,3μm,2.7s
SKHT Srikalahasti 69.58 287 *eP* **P 07 24 37.0 0.0**
SKHT IAmb IAmb 07 24 39.2
comp=Z,213nm,1.5s
SKHT *e*PcP **PcP 07 24 59.2 +0.6**
SKHT *e*pP **pP 07 25 26.1 +0.3**
SKHT *e*S **S 07 33 27.2 -1.3**
SKHT *e*SKSac **SKSac 07 34 16.4 -1.5**
KOLN Koldanda 69.58 302 *eP* **P 07 24 36.6 -0.5**
comp=Z,515nm,0.7s
DANN Dangsing 69.63 303 *eP* **P 07 24 37.2 -0.2**
ADKI Addanki 69.76 289 *eP* **P 07 24 38.1 +0.1**
ADKI IAmb IAmb 07 24 40.3
comp=Z,106nm,0.8s
ADKI *e*PcP **PcP 07 24 59.0 -0.4**
ADKI *e*pP **pP 07 25 27.0 +0.1**
ADKI *e*S **S 07 33 29.6 -0.9**
ADKI *e*sS **sS 07 34 52.6 -3.3**
PYUN Piuthan 70.20 302 *eP* **P 07 24 39.8 -1.0**
comp=Z,705nm,0.8s
NJS Nagarjunasagar 70.53 290 *eP* **P 07 24 41.9 -0.8**
NJS IAmb IAmb 07 24 44.5
comp=Z,185nm,1.3s
NJS *e*pP **pP 07 25 31.1 -0.6**
NJS *e*S **S 07 33 36.8 -2.7**
NJS *e*SKSac **SKSac 07 34 23.4 -1.6**
RCLA Racherla 70.64 288 *eP* **P 07 24 42.7 -0.7**
RCLA IAmb IAmb 07 24 44.9
comp=Z,151nm,1.4s
RCLA *e*PcP **PcP 07 25 03.1 0.0**
RCLA *e*pP **pP 07 25 32.3 -0.1**
RCLA *e*S **S 07 33 43.5 +2.8**
UNV Unalaska Valle 70.74 27 *eP* **P 07 24 43.9 +0.7**
comp=Z,1μm,1.2s
SRLM Srisailam 70.83 289 *eP* **P 07 24 43.6 -1.0**
SRLM IAmb IAmb 07 24 46.2
comp=Z,145nm,0.7s
SRLM *e*pP **pP 07 25 33.5 -0.1**
SRLM *e*S **S 07 33 39.8 -3.2**
SRLM *e*SKSac **SKSac 07 34 24.5 -2.8**
RPR Rampur 71.04 292 *eP* **P 07 24 45.5 -0.2**
RPR IAmb IAmb 07 24 47.7
comp=Z,104nm,0.8s
RPR *e*PcP **PcP 07 25 03.2 -1.6**
RPR *e*pP **pP 07 25 34.9 0.0**
RPR *e*S **S 07 33 43.4 -1.8**
RPR *e*SKSac **SKSac 07 34 25.9 -2.9**
MIR Mirnyy 71.26 200⇑*iP* **P 07 24 50.0 +3.9**
MIR *e* 07 25 09.0
MIR *e*S **PnS 07 34 46.0 -0.6**
MIR pmax pmax
comp=Z,9μm,8.0s
AKUT Akutan 71.26 27 *eP* **P 07 24 47.1 +0.8**
comp=Z,2μm,1.1s
HYB Hyderabad 71.42 290 *i* P **P 07 24 48.0 -0.1**
comp=Z,220nm,1.0s
HYB *e*PcP **PcP 07 25 07.0 +0.5**
HYB *e*pP **pP 07 25 39.0 +1.8**
HYB *e*sP **sP 07 26 02.0 +2.5**
HYB *e*S **S 07 33 48.0 -1.7**
HYB *e*SKS **SKSac 07 34 30.0 -1.8**
HYB *e*sS **sS 07 35 10.0 -5.4**
HYB *e*SS **SS 07 38 28.0 -1.1**
HYB *e*PKPPKP **P'P'df 07 52 37.0 -3.7**
HYBB Hyderabad (bro 71.42 290 *eP* **P 07 24 47.4 -0.7**
HYBB IAmb IAmb 07 24 49.6
comp=Z,77nm,0.7s
HYBB *e*PcP **PcP 07 25 06.1 -0.3**
HYBB *e*pP **pP 07 25 36.1 -1.1**
HYBB *e*S **S 07 33 46.5 -3.2**
HYBB *e*SKSac **SKSac 07 34 29.3 -2.6**
NGP Nagpur 71.78 294 *eP* **P 07 24 47.0 -3.2**
NGP *ex* x 07 33 50.8
SRSP Sriramsagar 71.93 292 *eP* **P 07 24 50.4 -0.8**
SRSP IAmb IAmb 07 24 52.6
comp=Z,109nm,0.8s
SRSP *e*PcP **PcP 07 25 08.1 -0.5**
SRSP *e*pP **pP 07 25 40.4 0.0**
SRSP *e*S **S 07 33 51.9 -3.6**
SRSP *e*SKSac **SKSac 07 34 33.1 -2.5**
TAOE Nuku Hiva Isla 72.14 97⇑*iP* **P 07 24 53.6 +1.0**
comp=Z,3μm,1.2s
TAOE Nuku Hiva Isla 72.14 97 *eP* **P 07 24 53.3 +0.7**
comp=Z,2μm,1.3s
URV Uravakonda 72.14 288 *eP* **P 07 24 52.1 -0.4**
URV IAmb IAmb 07 24 54.3
comp=Z,328nm,1.7s
URV *e*PcP **PcP 07 25 09.6 0.0**
URV *e*pP **pP 07 25 41.8 +0.1**
URV *e*S **S 07 33 54.9 -3.2**
URV *e*SKSac **SKSac 07 34 34.7 -2.6**
URV *e*SKKSac **SKKSac 07 34 36.9 -0.6**
VNDA Vanda 72.37 177 P **P 07 24 54.1 +1.5**
comp=Z,242nm,0.6s,baz=333,slow=6.9,SNR=113
VNDA S **SKiKP 07 34 04.2 -2.0**
comp=Z,11nm,1.0s,baz=116,slow=18,SNR=21
VNDA PKP2bc 07 52 28.4
comp=Z,5.5nm,1.1s,baz=274,slow=4.3,SNR=6.3
VNDA PKPPKP **P'P'df 07 52 36.9 +0.1**
comp=Z,12nm,1.2s,baz=310,slow=2.8,SNR=6.6
VNDA Vanda 72.37 177 *eP* **P 07 24 54.1 +1.5**
comp=Z,2μm,1.9s
VNDA S **SKiKP 07 34 04.2 -2.0**
VNDA ⇑*e* 07 52 28.4
VNDA P'P' 07 52 36.9
WMQ Urumqi 72.52 319 P **P 07 24 55.1 +0.9**
WMQ pP pP 07 25 43.1 -0.4
WMQ sP sP 07 26 05.1 -0.6
WMQ S **S 07 34 03.0 +1.5**
WMQ ScS **ScS 07 34 40.5 -1.1**
WMQ sS sS 07 35 28.8 +1.3
WMQ pmax pmax
comp=Z,1μm,1.9s
WMQ LR LR
comp=Z,32μm,22.1s
WMQ LR LR
comp=Z,24μm,26.1s
WMQ LR LR
comp=Z,16μm,26.1s
HVS Khovu-Aksy 72.58 328*d iP* **P 07 24 56.0 +1.6**
HVS pmax pmax
comp=Z,2μm,1.3s
FALS False Pass 72.79 27 *eP* **P 07 24 56.3 +0.9**
comp=Z,1μm,1.4s
SBA Scott Base 73.01 176 *eP* **P 07 24 58.8 +2.4**
comp=Z,530nm,1.4s
SBA Scott Base 73.01 176 *eP* **P 07 24 58.8 +2.4**
SBA pmax pmax
comp=Z,530nm,1.4s
KLRI Killari 73.37 291 *eP* **P 07 24 58.5 -1.1**
KLRI IAmb IAmb 07 25 01.0
comp=Z,323nm,1.5s
KLRI *e*PcP **PcP 07 25 13.6 -1.3**
KLRI *e*pP **pP 07 25 48.5 -0.6**
KLRI *e*SKiKP **SKiKP 07 34 08.1 -1.3**
KLRI *e*SKSac **SKSac 07 34 45.4 -1.1**
JOSI Joshimath 73.79 304 *ex* **P 07 25 02.9 +0.8**

H08S2 Diego Garcia H 74.09 264 P **P 07 25 05.7 +2.1**
baz=45,slow=6.0,SNR=80
H08S3 Diego Garcia H 74.10 264 P **P 07 25 05.9 +2.2**
baz=45,slow=6.0,SNR=74
H08S1 Diego Garcia H 74.11 264 P **P 07 25 05.6 +2.0**
baz=45,slow=6.0,SNR=65
DGAR Diego Garcia 74.14 264 *eP* **P 07 25 05.3 +1.1**
comp=Z,2μm,1.9s
DGAR Diego Garcia 74.14 264 P **P 07 25 06.0 +1.8**
SNR=11
DGAR Diego Garcia 74.14 264 P **P 07 25 06.0 +1.8**
SNR=11
DGAR Diego Garcia 74.14 264*c iP* **P 07 25 04.7 +0.5**
SDPT Sand Point 74.44 28 *eP* **P 07 25 05.6 +0.6**
comp=Z,2μm,1.0s
BILL Bilibino 74.64 7*c iP* **P 07 25 06.7 +0.8**
BILL *e* 07 27 56.7
BILL *i* S **S 07 34 19.3 -4.8**
BILL pmax pmax
comp=Z,1μm,1.1s
DGZ Jazzator, Alta 75.33 325 *i* P **P 07 25 11.0 +0.6**
DGZ pmax pmax
comp=Z,204nm,0.9s
H08N1 Diego Garcia H 75.64 265 P **P 07 25 09.3 -3.1**
baz=155,slow=2.1,SNR=196
H08N2 Diego Garcia H 75.66 265 P **P 07 25 09.8 -2.7**
baz=155,slow=2.1,SNR=178
H08N3 Diego Garcia H 75.66 265 P **P 07 25 09.4 -3.1**
baz=155,slow=2.1,SNR=165
KRAR Krasnoyarsk 75.68 332 *i* P **P 07 25 12.7 +0.6**
GAMB Gambell 75.70 18 *eP* **P 07 25 13.2 +1.2**
comp=Z,1μm,1.5s
ZSN Zaisan 75.87 322⇑*iP* **P 07 25 14.3 +0.9**
comp=Z,716nm,1.5s
CHGN Chignik 75.94 28 *eP* **P 07 25 14.1 +0.6**
comp=Z,1μm,1.2s
KHET Khetri 76.30 301 *ex* **P 07 25 16.2 0.0**
RKT Rikitea 76.73 112⇑*iP* **P 07 25 19.7 +0.9**
comp=Z,1μm,1.4s
RKT *e*S **S 07 34 46.9 -1.9**
comp=Z,21μm,26.8s
RKT Rikitea 76.73 112 *e*LQ LQ 07 46 02.3
comp=Z,26μm,30.8s
RKT *e*LR LR 07 49 21.8
comp=Z,39μm,59.0s
MK01 Makanchi Array 77.20 320 *eP* **P 07 25 20.8 -0.1**
MK31 Makanchi Array 77.22 320 *eP* **P 07 25 21.6 +0.6**
MK31 Makanchi Array 77.22 320 P **P 07 25 21.2 +0.2**
MK31 pmax pmax
comp=Z,1μm,1.6s
MKAR Makanchi Array 77.22 320 P **P 07 25 21.6 +0.6**
comp=Z,226nm,0.7s,baz=100,slow=7.8,SNR=452
MKAR pP **pP 07 26 10.5 -0.4**
comp=Z,115nm,1.0s,baz=109,slow=6.7,SNR=1.4
MKAR PP **PP 07 28 20.9 +2.9**
comp=Z,22nm,0.8s,baz=111,slow=7.9,SNR=2.2
MKAR PKiKP **PKiKP 07 31 00.7 +0.3**
comp=Z,25nm,1.1s,baz=117,slow=4.0,SNR=3.8
MKAR S **S 07 34 51.0 -2.1**
comp=Z,2.0nm,0.8s,baz=130,slow=6.6,SNR=2.8
MKAR PKKPbc **PKKPbc 07 44 26.3 -1.7**
comp=Z,4.6nm,0.9s,baz=306,slow=2.6,SNR=6.9
MKAR PKP2ab 07 52 18.5
comp=Z,7.7nm,1.2s,baz=308,slow=2.8,SNR=7.9
MKAR PKPPKP **P'P'df 07 52 24.7 -4.0**
comp=Z,4.5nm,0.9s,baz=303,slow=1.7,SNR=7.3
MKAR Makanchi Array 77.22 320 *eP* **P 07 25 21.6 +0.6**
comp=Z,3μm,1.1s
MKAR pP **pP 07 26 10.5 -0.4**
MKAR PP **PP 07 28 20.9 +2.9**
MKAR PKiKP **PKiKP 07 31 00.7 +0.3**
MKAR S **S 07 34 51.0 -2.1**
MKAR PKKPbc **PKKPbc 07 44 26.3 -1.7**
MKAR P'P'ab 07 52 18.5
MKAR P'P' 07 52 24.7
MKAR Makanchi Array 77.22 320 *eP* **P 07 25 21.6 +0.6**
MKAR *PP **pP 07 26 10.5 -0.4**
MKAR 07 28 20.9
MKAR S **S 07 34 51.1 -2.1**
MKAR pmax pmax
comp=Z,3μm,1.1s
PAF Port-aux-Franc 77.30 221 *eP* **P 07 25 23.1 +1.8**
comp=Z,2μm,1.8s
PAF Port-aux-Franc 77.30 221 *eP* **P 07 25 23.1 +1.8**
PAF pmax pmax
comp=Z,2μm,1.8s
MAKZ Makanchi 77.42 320 *eP* **P 07 25 22.6 +0.5**
comp=Z,1μm,1.5s
MAKZ Makanchi 77.42 320 *eP* **P 07 25 22.6 +0.5**
MAKZ pmax pmax
comp=Z,1μm,1.5s
TIXI Tiksi 77.96 354 P **P 07 25 24.3 -0.2**
comp=Z,691nm,1.0s,baz=147,slow=6.8,SNR=247
TIXI S **S 07 35 00.3 +0.2**
comp=Z,6.6nm,1.0s,baz=272,slow=23,SNR=7.1
TIXI PKKPbc **PKKPbc 07 44 25.5 -2.1**
comp=Z,4.4nm,0.9s,baz=301,slow=3.2,SNR=4.8
TIXI Tiksi 77.96 354 *eP* **P 07 25 24.3 -0.2**
comp=Z,788nm,1.0s
TIXI S **S 07 35 00.3 +0.2**
TIXI PKKPbc **PKKPbc 07 44 25.5 -2.1**
TIXI Tiksi 77.96 354*c iP* **P 07 25 24.0 -0.5**
TIXI pmax pmax
comp=Z,983nm,1.2s
UZB Uzynbulak 78.09 316⇑*iP* **P 07 25 26.7 +0.7**
comp=Z,5μm,1.3s
UZB *i* sP **sP 07 26 36.4 -1.7**
UZB *i* S **S 07 35 03.5 +0.6**
PRZ Przheval'sk 78.30 315 P **P 07 25 28.8 +1.5**
KPKS Kokpek 78.42 316⇑*iP* **P 07 25 28.5 +0.7**
comp=Z,6μm,1.6s
KPKS *i* pP **pP 07 26 16.8 -1.1**
SATY Saty 78.48 316⇑*iP* **P 07 25 28.9 +0.7**
comp=Z,6μm,1.4s
SATY *i* pP **pP 07 26 17.7 -0.5**
SATY *i* S **S 07 35 07.9 +0.8**
TARG Taragay, Kyrgy 78.49 314 *eP* **P 07 25 29.3 +0.7**
comp=Z,613nm,1.2s
ZHN Zhinishke 78.50 316⇑*iP* **P 07 25 28.9 +0.6**
comp=Z,2μm,1.5s
ZHN *i* pP **pP 07 26 17.6 -0.7**
ZHN *i* S **S 07 35 07.8 +0.6**
ZHN *e*sS **sS 07 36 33.4 -1.2**
ZAA0 Zalesovo Array 78.69 328 *eP* **P 07 25 28.5 -0.4**
comp=Z,354nm,0.8s
ZALV Zalesovo Beam 78.69 328 P **P 07 25 28.5 -0.3**
comp=Z,311nm,0.7s,baz=114,slow=5.6,SNR=338
ZALV PP **PP 07 28 28.4 -1.6**
comp=Z,24nm,0.9s,baz=109,slow=7.8,SNR=2.2
ZALV S **S 07 35 06.2 -2.2**
comp=Z,4.6nm,0.9s,baz=154,slow=7.9,SNR=3.8
ZALV PKKPbc **PKKPbc 07 44 23.0 -2.1**
comp=Z,11nm,0.6s,baz=298,slow=3.2,SNR=15
ZALV PKPPKP **P'P'df 07 52 25.9 +0.3**
comp=Z,26nm,1.0s,baz=297,slow=2.9,SNR=5.8
ZALV Zalesovo Beam 78.69 328 *eP* **P 07 25 27.9 -1.0**
ZALV PP **PP 07 28 28.4 -1.6**
ZALV S **S 07 35 06.2 -2.2**
ZALV PKKPbc **PKKPbc 07 44 23.0 -2.1**
ZALV P'P' 07 52 25.9
OHAK Old Harbor 78.83 29 *eP* **P 07 25 30.6 +1.0**
comp=Z,3μm,2.0s
KDJ Kajisay 79.05 315 *eP* **P 07 25 32.1 +0.8**
comp=Z,948nm,1.3s
KDJ Kajisay 79.05 315 P **P 07 25 32.2 +0.8**
KSH Kashi 79.16 312 P **P 07 25 33.8 +1.9**
KSH PcP **PcP 07 25 42.1 +2.5**
KSH pP pP 07 26 23.4 +1.4
KSH PP **PP 07 28 35.3 +0.8**
KSH S **S 07 35 19.3 +4.9**
KSH ScS **ScS 07 35 38.3 +2.8**
KSH pmax pmax
comp=Z,1μm,1.4s
KSH pmax pmax
comp=Z,21μm,4.5s
KSH LR LR
comp=Z,16μm,15.2s
KSH LR LR
comp=Z,16μm,17.1s
KSH LR LR
comp=Z,21μm,17.5s
KDAK Kodiak Island 79.43 28 P **P 07 25 33.9 +1.2**
comp=Z,441nm,1.0s,baz=212,slow=3.4,SNR=54
KDAK S **S 07 35 21.3 +5.2**
comp=Z,18nm,1.0s,baz=288,slow=20,SNR=3.8
KDAK Kodiak Island 79.43 28 *eP* **P 07 25 33.9 +1.2**
comp=Z,640nm,1.0s
KDAK S **S 07 35 21.3 +5.2**
KDAK Kodiak Island 79.43 28*ce*P **P 07 25 34.1 +1.3**
MDOK Medeo 79.46 316 *i* P **P 07 25 34.2 +0.7**
comp=Z,3μm,1.3s
MDOK *i* pP **pP 07 26 22.1 -1.6**
MDOK *e*S **S 07 35 18.5 +1.0**
AAA Alma-Ata 79.57 316⇑*eP* **P 07 25 35.1 +1.1**
comp=Z,1μm,1.6s
AAA *i* S **S 07 35 19.8 +1.4**
AAA *es*S **sS 07 36 44.8 -1.1**
NRN Naryn 79.69 314 P **P 07 25 35.5 +0.5**
ULHL Ulahol 79.75 315 P **P 07 25 36.0 +0.8**
SNR=77
NIL Nilore 79.76 305 *eP* **P 07 25 35.3 +0.1**
comp=Z,916nm,0.8s
NIL Nilore 79.76 305 *eP* **P 07 25 35.3 +0.1**
NIL pmax pmax
comp=Z,916nm,0.8s
SVW2 Sparrevohn 79.77 25 *eP* **P 07 25 36.3 +1.7**
comp=Z,1μm,1.1s
NVS Novosibirsk 79.91 328⇑*iP* **P 07 25 35.6 +0.2**
NVS *e* 07 26 26.7
NVS *e*S **S 07 35 17.9 -3.3**
NVS pmax pmax
comp=N,634nm,2.6s
NVS pmax pmax
comp=E,1μm,2.6s
NVS pmax pmax
comp=Z,3μm,2.6s
NVS smax smax
comp=N,774nm,3.2s
NVS smax smax
comp=E,2μm,3.2s
KUU Kurty 80.17 316⇑*iP* **P 07 25 37.5 +0.4**
comp=E,4μm,1.5s
TKM2 Tokmak 2 80.41 315 P **P 07 25 39.2 +0.5**
SNR=339
TKM2 Tokmak 2 80.41 315 P **P 07 25 39.0 +0.3**
TKM2 pmax pmax
comp=Z,302nm,1.1s
BMNS Besmoynak 80.41 315⇑*iP* **P 07 25 39.1 +0.5**
comp=Z,4μm,1.4s
BMNS *i* S **S 07 35 28.1 +0.7**
BMNS *es*S **sS 07 36 53.4 -1.8**
KZA Kyzart 80.41 314 P **P 07 25 40.5 +1.5**
SNR=44
HOM Homer 80.75 27 *eP* **P 07 25 40.5 +0.7**
comp=Z,5μm,1.1s
KBK Karagaybulak 80.79 315 P **P 07 25 41.4 +0.7**
SNR=101
KURK Kurchatov 80.91 323 *eP* **P 07 25 41.2 +0.3**
comp=Z,1μm,1.5s
KURK pP **pP 07 26 30.5 -0.7**
KURK PP **PP 07 28 48.9 +0.3**
KURK PKiKP **PKiKP 07 31 06.5 +0.6**
KURK S **S 07 35 30.5 -1.4**
KURK PKKPbc **PKKPbc 07 44 18.4 -1.5**
KURK P'P' 07 52 23.4
KURK Kurchatov 80.91 323 P **P 07 25 41.4 +0.6**
SNR=350
KURK Kurchatov 80.91 323 P **P 07 25 41.4 +0.6**
SNR=350
KURK Kurchatov 80.91 323 *eP* **P 07 25 41.2 +0.3**
KURK *PP **pP 07 26 30.5 -0.7**
KURK 07 28 48.9
KURK S **S 07 35 30.5 -1.4**
KURK 07 44 18.4
KURK pmax pmax
comp=Z,1μm,1.5s
KURBB Kurchatov Arra 80.94 323 P **P 07 25 41.2 +0.2**
comp=Z,262nm,1.1s,baz=108,slow=4.8,SNR=386
KURBB pP **pP 07 26 30.5 -0.8**
comp=Z,64nm,1.0s,baz=108,slow=4.1,SNR=3.0
KURBB PP **PP 07 28 48.9 +0.1**
comp=Z,46nm,1.2s,baz=114,slow=6.4,SNR=4.4
KURBB PKiKP **PKiKP 07 31 06.5 +0.6**
comp=Z,13nm,0.9s,baz=129,slow=1.4,SNR=4.3
KURBB S **S 07 35 30.5 -1.6**
comp=Z,8.7nm,1.2s,baz=112,slow=7.7,SNR=4.5
KURBB PKKPbc **PKKPbc 07 44 18.4 -1.5**
comp=Z,24nm,1.1s,baz=291,slow=2.9,SNR=14
KURBB PKPPKP **P'P'df 07 52 23.4 +1.6**
comp=Z,14nm,1.0s,baz=281,slow=2.8,SNR=13
UCH Uchtor 80.98 314 P **P 07 25 43.1 +1.0**
SNR=400
CHMS Chumysh 81.02 315 P **P 07 25 42.2 +0.5**
SNR=106
FRU1 Bishkek 81.06 315 P **P 07 25 42.5 +0.6**
FRU Bishkek 81.07 315⇑*iP* **P 07 25 42.0 0.0**
FRU *PP **pP 07 26 31.0 -1.3**
FRU *e*S **S 07 35 32.0 -2.0**
FRU *e*PS **PnS 07 36 38.0 -12**
FRU pmax pmax
comp=Z,4μm,2.6s
AAK Ala-Archa 81.11 315 P **P 07 25 43.1 +0.8**
comp=Z,118nm,0.6s,baz=90,slow=4.9,SNR=208
AAK S **S 07 35 35.5 +0.9**
comp=Z,17nm,1.2s,baz=277,slow=22,SNR=6.1
AAK PKKPbc **PKKPbc 07 44 19.5 +0.2**
comp=Z,12nm,0.8s,baz=190,slow=2.3,SNR=15
AAK PKPPKP **P'P'df 07 52 20.4 -1.9**
comp=Z,11nm,1.0s,baz=251,slow=3.8,SNR=9.8
AAK Ala-Archa 81.11 315 P **P 07 25 42.8 +0.6**
SNR=230
AAK Ala-Archa 81.11 315 *eP* **P 07 25 42.9 +0.6**
comp=Z,860nm,1.5s
AAK S **S 07 35 35.5 +0.9**
AAK PKKPbc **PKKPbc 07 44 19.5 +0.2**
AAK P'P' 07 52 20.4
AAK Ala-Archa 81.11 315 P **P 07 25 43.1 +0.8**
SNR=249
AAK Ala-Archa 81.11 315 P **P 07 25 43.1 +0.8**
SNR=249
AAK Ala-Archa 81.11 315 *i* P **P 07 25 43.0 +0.8**
SNR=255
AAK Ala-Archa 81.11 315*c iP* **P 07 25 42.7 +0.4**
AAK pmax pmax
comp=Z,371nm,1.4s
SFK Sufi-Kurgan 81.13 312 P **P 07 25 42.9 +0.3**
SFK pmax pmax
comp=Z,806nm,1.9s
BRLK Bradley Lake 81.14 27 *eP* **P 07 25 42.4 +0.5**
comp=Z,1μm,1.2s
PTCN Pitcairn Islan 81.15 114 *eP* **P 07 25 44.6 +1.9**
comp=Z,4μm,2.0s
USP Ospenovka 81.27 315 P **P 07 25 43.6 +0.6**
SNR=261
AML Almayashu 81.54 314 P **P 07 25 45.9 +1.0**
SNR=582
EKS2 Erkin-Say 81.62 314 P **P 07 25 45.7 +0.7**
SNR=246
SUA Susitna One 81.99 25 *eP* **P 07 25 46.0 -0.5**
comp=Z,601nm,1.2s
PPLA Purkeypile 82.06 24 *eP* **P 07 25 47.0 +0.1**
comp=Z,1μm,1.7s
BTLS Baital 82.08 317⇑*iP* **P 07 25 47.7 +0.5**
comp=Z,5μm,1.4s
RC01 Rabbit Creek A 82.25 26 *eP* **P 07 25 47.5 -0.2**
comp=Z,1μm,1.0s
CAST Castle Rocks 82.36 23 *eP* **P 07 25 48.4 +0.2**
comp=Z,788nm,1.1s
MNAS Manas 82.48 314 P **P 07 25 50.4 +0.9**
MNAS pmax pmax
comp=Z,898nm,1.2s
MAW Mawson 82.72 203 P **P 07 25 51.0 +1.0**
comp=Z,126nm,0.6s,baz=102,slow=6.4,SNR=44
MAW pP **pP 07 26 40.7 +0.2**
comp=Z,212nm,1.0s,baz=75,slow=5.3,SNR=5.3
MAW S **S 07 35 46.0 -3.8**
comp=Z,4.8nm,0.8s,baz=162,slow=20,SNR=1.8
MAW PKKPbc **PKKPbc 07 44 14.0 -2.1**
comp=Z,56nm,1.0s,baz=277,slow=6.0,SNR=13
MAW Mawson 82.72 203 *eP* **P 07 25 51.0 +1.0**
comp=Z,262nm,1.7s
MAW pP **pP 07 26 40.7 +0.2**
MAW S **S 07 35 46.0 -3.8**
MAW PKKPbc **PKKPbc 07 44 14.0 -2.1**
MAW Mawson 82.72 203 *eP* **P 07 25 51.0 +1.0**
MAW *PP **pP 07 26 40.7 +0.2**
MAW S **S 07 35 46.0 -3.8**
MAW pmax pmax
comp=Z,262nm,1.7s
PMR Palmer 82.73 26 *eP* **P 07 25 50.0 -0.1**
comp=Z,824nm,1.0s
PMR Palmer 82.73 26 *eP* **P 07 25 50.0 -0.1**

PMR pmax pmax
comp=Z,824nm,1.0s
KTH Kantishna Hill 82.88 23 *eP* **P 07 25 50.6 -0.3**
comp=Z,905nm,1.0s
IM3 Indian Mountai 83.01 21 *eP* **P 07 25 51.7 +0.3**
TRF Thorofare Moun 83.09 24 *eP* **P 07 25 51.6 -0.5**
comp=Z,435nm,1.0s
MID Middleton Isla 83.09 28 *eP* **P 07 25 53.0 +1.0**
comp=Z,4µm,2.0s
MID Middleton Isla 83.09 28 *eP* **P 07 25 53.0 +1.0**
MID pmax pmax
comp=Z,4µm,2.0s
BPAW Bear Paw Mtn. 83.11 23 *eP* **P 07 25 51.9 -0.1**
comp=Z,816nm,1.2s
SML Sawmill 83.17 26 *eP* **P 07 25 52.9 +0.4**
comp=Z,2µm,1.1s
SML Sawmill 83.17 26 *eP* **P 07 25 52.9 +0.4**
SML pmax pmax
comp=Z,2µm,1.1s
KBL Kabul 83.36 306 *eP* **P 07 25 53.0 -1.3**
comp=Z,398nm,1.3s
KBL Kabul 83.36 306 *eP* **P 07 25 53.0 -1.3**
KBL pmax pmax
comp=Z,398nm,1.3s
SCM Sheep Creek Mo 83.62 26 *eP* **P 07 25 55.4 +0.6**
comp=Z,2µm,1.1s
SCM Sheep Creek Mo 83.62 26 *eP* **P 07 25 55.4 +0.6**
SCM pmax pmax
comp=Z,2µm,1.1s
MLY Manley 83.64 22 *eP* **P 07 25 55.3 +0.5**
comp=Z,1µm,1.1s
MCK McKinley 83.75 24 *eP* **P 07 25 55.1 -0.3**
comp=Z,2µm,1.1s
MCK McKinley 83.75 24 *eP* **P 07 25 55.1 -0.3**
MCK pmax pmax
comp=Z,2µm,1.1s
EYAK Cordova Ski Ar 83.80 27 *eP* **P 07 25 56.1 +0.5**
comp=Z,561nm,1.2s
DIV Divide 84.02 27 *eP* **P 07 25 57.7 +0.9**
comp=Z,1µm,1.1s
KK31 Karatay Array 84.06 314 *eP* **P 07 25 57.4 +0.1**
KK31 Karatay Array 84.06 314 *i* P **P 07 25 57.1 -0.2**
KK31 pmax pmax
comp=Z,879nm,1.4s
KKAR Karatay Array 84.06 314 *eP* **P 07 25 57.4 +0.1**
KKAR Karatay Array 84.06 314 *eP* **P 07 25 57.4 +0.1**
OTUK Ortayu 84.07 320 P **P 07 25 58.1 +0.8**
OTUK pmax pmax
comp=Z,2µm,1.5s
KLU Klutina 84.09 26 *eP* **P 07 25 58.0 +0.8**
comp=Z,1µm,1.1s
DHY Denali Highway 84.11 25 *eP* **P 07 25 57.7 +0.4**
comp=Z,1µm,1.1s
IUG Iuzhnay 84.19 313⇑ *iP* **P 07 25 58.7 +0.6**
comp=Z,5µm,1.6s
RAGM Ragged Mountai 84.23 28 *eP* **P 07 25 58.8 +1.0**
comp=Z,2µm,1.4s
BRZS Berezniki 84.31 321⇑ *iP* **P 07 25 58.9 +0.5**
comp=Z,878nm,1.5s
BRZS *i* pP **pP 07 26 47.7 -1.5**
BRZS *i* PP **PP 07 29 16.4 0.0**
DZET Dzherino 84.38 310 P **P 07 25 59.0 -0.2**
DZET pmax pmax
comp=Z,676nm,1.4s
WRH Wood River Hil 84.41 23 *eP* **P 07 25 58.0 -0.6**
comp=Z,1µm,1.0s
QSPA South Pole Qui 84.43 180 P **P 07 25 59.5 +0.6**
comp=Z,286nm,0.7s,baz=346,slow=1.4,SNR=326
QSPA pP **pP 07 26 51.0 +1.4**
comp=Z,215nm,0.8s,baz=302,slow=13,SNR=3.0
QSPA PKiKP **PKiKP 07 31 11.7 +0.5**
comp=Z,17nm,0.8s,baz=271,slow=5.0,SNR=3.3
QSPA S S 07 35 57.6 -10
comp=Z,18nm,1.0s,baz=45,slow=4.1,SNR=4.0
QSPA PKKPbc **PKKPbc 07 44 09.8 -3.1**
comp=Z,41nm,0.9s,baz=197,slow=1.0,SNR=19
QSPA PKPPKP **P'P'df 07 52 13.6 -1.9**
comp=Z,27nm,1.1s,baz=220,slow=4.9,SNR=6.3
BMRM Bremner River 84.48 27 *eP* **P 07 25 59.8 +0.7**
comp=Z,2µm,1.3s
MDM Murphy Dome 84.56 23 *eP* **P 07 25 58.8 -0.6**
comp=Z,2µm,2.0s
CCB Clear Creek Bu 84.59 23 *eP* **P 07 25 58.8 -0.7**
comp=Z,1µm,1.0s
COLA College 84.67 23 *eP* **P 07 25 59.3 -0.6**
comp=Z,1µm,1.1s
COLA College 84.67 23 *eP* **P 07 25 59.3 -0.6**
COLA pmax pmax
comp=Z,1µm,1.1s
HARP HAARP 84.78 26 *eP* **P 07 26 01.4 +0.9**
comp=Z,1µm,1.1s
HDA Harding Lake 84.83 23 *eP* **P 07 26 00.3 -0.4**
comp=Z,1µm,1.4s
COLD Coldfoot 84.86 20 *eP* **P 07 26 02.1 +1.3**
comp=Z,770nm,1.0s
PAX Paxson 84.86 25 *eP* **P 07 26 01.3 +0.3**
comp=Z,1µm,1.7s
PAX Paxson 84.86 25 *eP* **P 07 26 01.3 +0.3**
PAX pmax pmax
comp=Z,1µm,1.7s
NRIK Noril'sk 84.87 342 P **P 07 26 01.1 +0.3**
comp=Z,317nm,0.8s,baz=151,slow=2.0
ILAR Eielson Array 85.01 23 P **P 07 26 00.6 -0.9**
comp=Z,697nm,1.0s,baz=259,slow=3.4,SNR=434
ILAR pP **pP 07 26 53.1 +0.7**
comp=Z,96nm,0.9s,baz=253,slow=5.3,SNR=2.7
ILAR PKiKP **PKiKP 07 31 12.3 +0.2**
comp=Z,3.5nm,0.7s,baz=254,slow=3.9,SNR=4.7
ILAR S **S 07 36 08.2 -4.5**
comp=Z,2.0nm,0.8s,baz=227,slow=3.6,SNR=3.9
ILAR PKKP **PKKPdf 07 43 57.2 -5.6**
comp=Z,3.6nm,1.1s,baz=70,slow=5.2,SNR=4.5
ILAR PKKPbc **PKKPbc 07 44 08.6 -2.5**
comp=Z,5.5nm,0.9s,baz=315,slow=1.9,SNR=8.3
ILAR PKPPKP **P'P'df 07 52 12.2 -1.5**
comp=Z,4.1nm,1.0s,baz=116,slow=0.9,SNR=5.0
ILB Eielson Array 85.01 23 *eP* **P 07 26 00.7 -0.9**
RIDG Independ'e Rid 85.42 24 *eP* **P 07 26 03.9 +0.2**
comp=Z,2µm,1.4s
BALM Baldy 85.54 27 *eP* **P 07 26 05.3 +0.9**
comp=Z,1µm,1.3s
BALM Baldy 85.54 27 *eP* **P 07 26 05.3 +0.9**
BALM pmax pmax
comp=Z,1µm,1.3s
MENT Mentasta 85.59 25 *eP* **P 07 26 05.3 +0.7**
comp=Z,550nm,1.0s
DOT Dot Lake 85.71 25 *eP* **P 07 26 05.5 +0.4**
comp=Z,5µm,1.2s
TOLK Toolik Lake Re 85.72 19 P **P 07 26 06.5 +1.5**
baz=243
TOLK S **S 07 36 18.1 -1.5**
baz=243
TOLK Toolik Lake Re 85.72 19 *eP* **P 07 26 06.3 +1.3**
comp=Z,558nm,1.1s
SCRK Sand Creek 85.86 24 *eP* **P 07 26 06.2 +0.2**
comp=Z,566nm,1.2s
FYU Fort Yukon 86.35 22 *eP* **P 07 26 08.7 +0.6**
comp=Z,2µm,1.2s
BVA0 Borovoye Array 86.47 324 *i* P **P 07 26 08.3 -0.7**
BVA0 pmax pmax
comp=Z,270nm,1.0s
BVAR Borovoye Array 86.47 324 P **P 07 26 08.6 -0.4**
comp=Z,127nm,0.7s,baz=106,slow=5.4,SNR=344
BVAR pP **pP 07 27 00.4 +0.4**
comp=Z,39nm,0.7s,baz=118,slow=5.4,SNR=3.3
BVAR PP **PP 07 29 34.1 +0.4**
comp=Z,17nm,0.8s,baz=82,slow=12,SNR=3.3
BVAR PKiKP **PKiKP 07 31 15.4 +0.6**
comp=Z,7.9nm,0.7s,baz=132,slow=6.0,SNR=5.1
BVAR S **SKSac 07 36 13.2 -2.3**
comp=Z,10nm,1.0s,baz=123,slow=5.5,SNR=4.1
BVAR PKKPbc **PKKPbc 07 44 06.4 -0.7**
comp=Z,6.2nm,0.8s,baz=300,slow=3.3,SNR=8.0
BVAR PKPPKP **P'P'df 07 52 12.5 +0.9**
comp=Z,5.7nm,1.0s,baz=241,slow=3.1,SNR=8.7
BRVK Borovoye 86.54 324 *eP* **P 07 26 09.0 -0.4**
comp=Z,286nm,1.1s
BRVK Borovoye 86.54 324 P **P 07 26 09.2 -0.1**
SNR=144
BRVK Borovoye 86.54 324 P **P 07 26 09.2 -0.1**
SNR=144
BRVK Borovoye 86.54 324*c* *iP* **P 07 26 08.7 -0.6**
BRVK pmax pmax
comp=Z,270nm,1.1s
EGAK Eagle 87.29 24 *eP* **P 07 26 13.4 +0.6**
comp=Z,2µm,1.3s
HYT Haines Junctio 87.73 28 *eP* **P 07 26 15.3 +0.2**
comp=Z,1µm,1.1s
MRIV Mauritius Mete 87.76 250 *eP* **P 07 26 15.7 -0.3**
DAWY Dawson 87.80 25 *eP* **P 07 26 16.2 +1.0**
comp=Z,2µm,1.3s
SIT Sitka 87.88 32 *eP* **P 07 26 16.8 +1.2**
comp=Z,1µm,1.6s
SIT Sitka 87.88 32 *eP* **P 07 26 16.8 +1.2**
SIT pmax pmax
comp=Z,1µm,1.6s
SKAG Skagway 88.44 30 *eP* **P 07 26 19.4 +1.2**
comp=Z,683nm,1.1s
BESE Bessie Mountai 88.47 31 *eP* **P 07 26 19.7 +1.2**
comp=Z,871nm,1.2s
DIB Dawson Inlet, 88.66 36 *eP* **P 07 26 20.2 +0.8**
comp=Z,1µm,1.6s
H02S1 DAWSON INLET T 88.66 36 P **P 07 26 21.8 +2.4**
CRAG Craig 88.73 34 *eP* **P 07 26 20.7 +1.0**
comp=Z,461nm,1.3s
WHY Whitehorse 88.93 29 *eP* **P 07 26 21.5 +0.8**
comp=Z,768nm,1.5s
RER Riviere de l'E 89.31 249 *eP* **P 07 26 24.1 +0.8**
comp=Z,987nm,1.0s
WRAK Wrangell Islan 89.35 33 *eP* **P 07 26 23.6 +1.1**
comp=Z,628nm,1.3s
WSAR Wadi Sarin 90.78 293 P **P 07 26 29.3 -0.7**
comp=Z,47nm,1.0s,baz=135,slow=5.0,SNR=30
WSAR S **SKSac 07 36 41.9 -0.4**
comp=Z,5.5nm,0.9s,baz=18,slow=19,SNR=7.4
WSAR PKKPbc **PKKPbc 07 43 56.0 +1.0**
comp=Z,15nm,0.8s,baz=271,slow=6.9,SNR=11
WSAR PKPPKP **P'P'df 07 52 02.5 -2.8**
comp=Z,5.3nm,0.9s,baz=208,slow=20,SNR=4.0
DLBC Dease Lake 90.93 31 *eP* **P 07 26 30.7 +0.7**
comp=Z,954nm,1.8s
SYO Syowa Base 91.07 200‖ *iP* **P 07 26 29.4 -0.9**
SYO Syowa Base 91.07 200‖ *iPcP* **PcP 07 26 32.9 +1.7**
BBB Bella Bella 91.12 38 P **P 07 26 31.7 +0.8**
comp=Z,314nm,0.9s,baz=261,slow=5.6,SNR=38
BBB Bella Bella 91.12 38 *eP* **P 07 26 31.7 +0.8**
comp=Z,504nm,1.0s
INK Inuvik 91.18 21 P **P 07 26 30.6 -0.1**
comp=Z,478nm,1.0s,baz=258,slow=6.2,SNR=202
INK PKiKP **PKiKP 07 31 22.5 +0.3**
comp=Z,23nm,1.1s,baz=245,slow=5.9,SNR=5.5
INK S **SKSac 07 36 40.9 -1.7**
comp=Z,18nm,1.0s,baz=55,slow=32,SNR=22
INK PKKPbc **PKKPdf 07 43 51.7 -0.2**
comp=Z,11nm,0.8s,baz=167,slow=0.4,SNR=10
INK PKPPKP **P'P'df 07 52 01.6 -0.4**
comp=Z,4.3nm,1.1s,baz=59,slow=4.5,SNR=7.3
INK Inuvik 91.18 21 *eP* **P 07 26 30.7 -0.1**
comp=Z,688nm,1.1s
INK PKiKP **PKiKP 07 31 22.5 +0.3**
INK S **SKSac 07 36 40.9 -1.7**
INK PKKPbc **PKKPdf 07 43 51.7 -0.2**
INK P'P' 07 52 01.6
INK Inuvik 91.18 21 *eP* **P 07 26 30.7 -0.1**
INK S **SKSac 07 36 40.9 -1.7**
INK pmax pmax
comp=Z,688nm,1.1s
BIDO Bidbid 91.26 293 PcP **P 07 26 33.0 +0.8**
SNR=22
BIDO Bidbid 91.26 293 P **P 07 26 33.0 +0.8**
SNR=22
SMDO Samad 91.29 293 PcP P 07 26 39.0 +6.5
SNR=7.1
HOQ Hoqain 92.01 293 PcP **P 07 26 38.0 +2.2**
SNR=7.3
HOQ Hoqain 92.01 293 P **P 07 26 38.0 +2.2**
SNR=7.3
ABKAR Akbulak array 92.31 319 *eP* **P 07 26 35.2 -1.3**
comp=Z,796nm,1.0s
GEYT Alibeck 92.58 308 P **P 07 26 37.5 -0.6**
comp=Z,75nm,0.8s,baz=107,slow=2.0,SNR=91
GEYT PP **PP 07 30 24.8 +2.1**
comp=Z,5.6nm,0.7s,baz=95,slow=3.2,SNR=3.3
GEYT PKKP **PKKPbc 07 43 54.0 +2.9**
comp=Z,3.9nm,0.5s,baz=235,slow=4.9,SNR=4.3
GEYT PKPPKP **P'P'df 07 52 00.6 -0.6**
comp=Z,2.3nm,0.9s,baz=304,slow=2.8,SNR=3.5
GYA0B ALIBECK ARRAY 92.58 308 *eP* **P 07 26 37.2 -0.9**
comp=Z,337nm,1.4s
KEBM Edson Butte 92.65 47 *eP* **P 07 26 38.8 +0.5**
comp=Z,480nm,1.1s
SVE Sverdlovsk 92.67 327*d* *iP* **P 07 26 37.2 -0.7**
SVE *e* 07 30 19.2
SVE *eS* **SKSac 07 36 48.1 -3.3**
SVE *e* 07 37 20.0
SVE pmax pmax
comp=Z,408nm,2.5s
KBO Bosley Butte 92.68 48 *eP* **P 07 26 39.7 +1.2**
comp=Z,1µm,1.2s
JCC Jacoby Creek, 92.70 49 *eP* **P 07 26 39.4 +0.9**
comp=Z,723nm,1.1s
SOHO SOHO 92.77 294 *i* P **P 07 26 38.1 -1.0**
SNR=18
KMRM Mail Ridge 92.90 50 *eP* **P 07 26 40.2 +0.7**
comp=Z,735nm,1.1s
KHMM Horse Mountain 92.93 49 *eP* **P 07 26 41.1 +1.3**
comp=Z,1µm,1.1s
KCPM Cahto Peak 92.95 51 *eP* **P 07 26 40.5 +0.7**
comp=Z,1µm,1.0s
MDH Madha 93.08 295 *i* P **P 07 26 41.0 +0.4**
SNR=17
BANOM Banah 93.13 296 PcP **P 07 26 42.8 +1.9**
SNR=16
BANOM Banah 93.13 296 P **P 07 26 42.8 +1.9**
SNR=16
BANOM Banah 93.13 296 *i* P **P 07 26 40.4 -0.4**
SNR=28
L02D Cave Junction, 93.13 48 P **P 07 26 41.7 +1.2**
baz=266,SNR=97
UOSS Minazif 93.14 295 *eP* **P 07 26 39.3 -1.5**
comp=Z,125nm,1.2s
UOSS Minazif 93.14 295 *i* P **P 07 26 39.6 -1.3**
SNR=25
HATD Hatta, Dubai 93.19 295 PcP **P 07 26 42.0 +0.8**
SNR=22
HATD Hatta, Dubai 93.19 295 P **P 07 26 42.0 +0.8**
SNR=22
HATD Hatta, Dubai 93.19 295 *i* P **P 07 26 40.2 -0.9**
SNR=10
MSFE Esma-Masafi 93.21 295 *i* P **P 07 26 40.7 -0.5**
SNR=25
ASHO Ashiyiah 93.25 294 PcP **P 07 26 41.8 +0.4**
SNR=22
ASHO Ashiyiah 93.25 294 P **P 07 26 41.8 +0.4**
SNR=22
ASHO Ashiyiah 93.25 294 *i* P **P 07 26 41.7 +0.3**
SNR=13
SHME Shamm 93.28 296 *i* P **P 07 26 40.8 -0.7**
SNR=18
HOPS Hopland Field 93.29 51 *eP* **P 07 26 41.3 +0.1**
comp=Z,792nm,1.4s
NLWA Neilton Lookou 93.36 43 *eP* **P 07 26 42.2 +0.8**
comp=Z,596nm,1.3s
MCCM Marconi Confer 93.37 52 *eP* **P 07 26 41.2 -0.4**
comp=Z,586nm,1.5s
I03D Drain, OR 93.44 47 P **P 07 26 42.6 +0.9**
baz=266,SNR=24
ALNE Al Ain 93.48 294 *i* P **P 07 26 42.9 +0.4**
SNR=54
GDXM Geysers 93.49 52 *eP* **P 07 26 43.0 +0.8**
comp=Z,656nm,1.3s
E03A Lebam 93.50 44 *eP* **P 07 26 42.4 +0.4**
comp=Z,791nm,1.0s
COR Corvallis 93.54 46 *eP* **P 07 26 42.9 +0.7**
comp=Z,586nm,1.7s
COR Corvallis 93.54 46 *eP* **P 07 26 42.9 +0.7**
COR pmax pmax
comp=Z,586nm,1.7s
G03D McMinnville, O 93.61 45 P **P 07 26 43.5 +1.0**
baz=266,SNR=14
NAZ Nazwa, Dubai 93.63 295 P **P 07 26 43.2 +0.1**
SNR=19
NAZ Nazwa, Dubai 93.63 295 P **P 07 26 43.2 +0.1**
SNR=19
NAZ Nazwa, Dubai 93.63 295 *i* P **P 07 26 43.0 -0.1**
SNR=38
M02C Callahan 93.63 49 P **P 07 26 44.2 +1.3**
baz=266,SNR=57
HUMO Hull Mountain 93.64 48 *eP* **P 07 26 43.4 +0.5**
comp=Z,666nm,1.1s
AKTO Aktyubinsk 93.66 320 P **P 07 26 41.4 -1.2**
comp=Z,28nm,0.9s,baz=89,slow=5.7,SNR=101
AKTO PP **PP 07 30 32.1 +1.5**
comp=Z,9.0nm,0.7s,baz=116,slow=6.6,SNR=3.6
AKTO PKiKP **PKiKP 07 31 27.6 +0.7**
comp=Z,11nm,0.9s,baz=184,slow=2.8,SNR=4.3
AKTO S **SKSac 07 36 56.0 -1.2**
comp=Z,3.2nm,0.9s,baz=234,slow=22,SNR=24
AKTO PKKPbc **PKKPdf 07 43 47.7 +0.5**
comp=Z,37nm,1.4s,baz=275,slow=2.5,SNR=6.6
AKTO PKPPKP **P'P'df 07 51 54.3 -4.1**
comp=Z,1.6nm,0.9s,baz=224,slow=3.5,SNR=3.4
UMQ Umm Al-Quwin 93.67 295 *i* P **P 07 26 44.2 +1.0**
SNR=5.3
N02D Trinity Center 93.72 49 P **P 07 26 44.4 +1.2**
baz=266,SNR=323
PGC Sidney 93.73 42 *eP* **P 07 26 43.4 +0.4**
comp=Z,507nm,1.1s
YBH Yreka Blue Hor 93.77 49 P **P 07 26 43.8 +0.3**
comp=Z,522nm,1.0s,baz=242,slow=0.8,SNR=203
YBH PP **PP 07 30 30.6 -1.2**
comp=Z,11nm,1.1s,baz=255,slow=8.4,SNR=2.3
YBH S **SKSac 07 36 58.8 +0.5**
comp=Z,1.7nm,1.0s,baz=180,slow=20,SNR=5.0
YBH PKKPbc **PKKPbc 07 43 48.6 +0.3**
comp=Z,2.1nm,1.0s,baz=89,slow=8.9,SNR=3.5
YBH PKPPKP **P'P'df 07 51 55.6 -3.2**
comp=Z,2.6nm,1.1s,baz=100,slow=6.1,SNR=4.7
YBH Yreka Blue Hor 93.77 49 *eP* **P 07 26 44.0 +0.5**
comp=Z,720nm,1.1s
YBH PP **PP 07 30 30.6 -1.2**
YBH S **SKSac 07 36 58.9 +0.5**
YBH PKKPbc **PKKPbc 07 43 48.6 +0.3**
YBH P'P' 07 51 55.6
ARU Arti 93.77 326 P **P 07 26 41.5 -1.5**
comp=Z,28nm,0.5s,baz=97,slow=3.2,SNR=97
ARU PP **PP 07 30 30.8 -0.5**
comp=Z,14nm,0.6s,baz=107,slow=2.0,SNR=5.6
ARU PKiKP **PKiKP 07 31 28.8 +1.8**
comp=Z,6.3nm,0.3s,baz=121,slow=5.9,SNR=3.5
ARU PKKPbc **PKKPdf 07 43 47.8 +0.7**
comp=Z,30nm,0.8s,baz=276,slow=1.8,SNR=20
ARU PKPPKP **P'P'df 07 51 53.6 -4.2**
comp=Z,4.3nm,0.2s,baz=272,slow=1.8,SNR=5.8
ARU Arti 93.77 326 *eP* **P 07 26 41.4 -1.7**
comp=Z,321nm,1.4s
ARU PP **PP 07 30 30.8 -0.5**
ARU PKiKP **PKiKP 07 31 28.8 +1.8**
ARU PKKPbc **PKKPdf 07 43 47.8 +0.7**
ARU P'P' 07 51 53.6
ARU Arti 93.77 326*c* *iP* **P 07 26 41.6 -1.5**
ARU *e**PP **pP 07 27 30.8 -3.6**
ARU *e* 07 30 28.9
ARU S **SKSac 07 36 56.4 -1.1**
ARU 07 37 25.6
ARU PS PS 07 38 49.4 -27
ARU SSS SSS 07 47 39.3
WDC Whiskeytown Da 93.81 50 *eP* **P 07 26 44.1 +0.5**
comp=Z,946nm,1.4s
WDC Whiskeytown Da 93.81 50 *eP* **P 07 26 44.1 +0.5**
WDC pmax pmax
comp=Z,946nm,1.4s
F04D Rainier, OR 93.85 44 P **P 07 26 44.7 +1.0**
baz=266
I04A Tendick Farm, 94.12 47 P **P 07 26 45.3 +0.3**
baz=266,SNR=38
AJN Ajban 94.21 294 *i* P **P 07 26 44.9 -0.8**
SNR=36
RDG13 Poverty Ridge 94.22 53 *eP* **P 07 26 45.8 +0.1**
comp=Z,302nm,1.1s
A04D Lummi Island 94.23 42 P **P 07 26 46.5 +1.2**
baz=266,SNR=46
J04D Umpqua Nationa 94.31 47 P **P 07 26 46.9 +0.8**
baz=266,SNR=87
H04A Detroit Lake 94.34 46 *eP* **P 07 26 46.0 0.0**
comp=Z,233nm,1.0s
O03D Paynes Creek 94.36 50 P **P 07 26 46.4 +0.2**
baz=266,SNR=350
SAO San Andreas Ge 94.42 54 *eP* **P 07 26 47.2 +0.7**
comp=Z,295nm,1.2s
SAO San Andreas Ge 94.42 54 *eP* **P 07 26 47.2 +0.7**
SAO pmax pmax
comp=Z,295nm,1.2s
M04C Macdoel 94.42 49 P **P 07 26 47.0 +0.5**
baz=266,SNR=234
K04D Chiloquin, OR 94.53 48 P **P 07 26 47.5 +0.5**
baz=267,SNR=73
ORV Oroville 94.54 51 *eP* **P 07 26 47.1 +0.1**
comp=Z,423nm,0.9s
ORV Oroville 94.54 51 *eP* **P 07 26 47.1 +0.1**
ORV pmax pmax
comp=Z,423nm,0.9s
B05A Bryant 94.61 42 P **P 07 26 47.9 +0.8**
baz=267,SNR=88
D05A Emmclaw 94.62 43 *eP* **P 07 26 47.7 +0.5**
comp=Z,627nm,1.1s
LON Longmire 94.72 44 *eP* **P 07 26 47.3 -0.4**
comp=Z,205nm,1.4s
LON Longmire 94.72 44 *eP* **P 07 26 47.3 -0.4**
LON pmax pmax
comp=Z,205nm,1.4s
LLLB Lillooet 94.87 40 *eP* **P 07 26 49.1 +0.8**
comp=Z,652nm,1.2s
PMPB Monarch Peak 94.90 54 *eP* **P 07 26 49.4 +0.6**
comp=Z,377nm,1.1s
AFDM Forest Hills D 94.92 51 *eP* **P 07 26 49.1 +0.3**
comp=Z,539nm,1.1s
I05D Terrebonne, OR 94.92 46 P **P 07 26 49.3 +0.6**
baz=267,SNR=64
J05D Fort Rock, OR 94.95 47 P **P 07 26 49.8 +0.8**
baz=267,SNR=237
G05D Wamic, OR 94.99 45 P **P 07 26 49.8 +0.8**
baz=267,SNR=39
B06A Marblemount 95.03 42 *eP* **P 07 26 49.2 +0.3**
comp=Z,536nm,1.3s
K05A Summer Lake 95.17 48 *eP* **P 07 26 50.2 +0.2**
comp=Z,639nm,1.2s
PINE Pine Mountain 95.19 47 *eP* **P 07 26 50.6 +0.5**
comp=Z,358nm,1.1s
PAGB Antelope Grade 95.32 55 *eP* **P 07 26 51.1 +0.4**
comp=Z,1µm,1.9s
CMB Columbia Colle 95.33 52 *eP* **P 07 26 50.6 -0.1**
comp=Z,504nm,1.5s
CMB Columbia Colle 95.33 52 *eP* **P 07 26 50.6 -0.1**
CMB pmax pmax
comp=Z,504nm,1.5s
C06D Leavenworth 95.39 42 P **P 07 26 51.3 +0.6**
baz=268
G06A Carlson Farm, 95.47 45 *eP* **P 07 26 50.9 -0.2**
comp=Z,582nm,1.8s
MZR Muzera 95.48 293 P **P 07 26 51.6 -0.1**
SMMC Simmler 95.51 55 P **P 07 26 52.6 +1.1**
baz=267,SNR=62
LTY Liberty 95.52 43 *eP* **P 07 26 51.4 +0.1**
comp=Z,685nm,1.6s
RUBR Rubicon Trail 95.56 51 *eP* **P 07 26 52.1 +0.2**
comp=Z,534nm,1.4s
MOD Modoc Plateau 95.57 49 *eP* **P 07 26 52.0 +0.1**
comp=Z,420nm,1.3s
PKM Mcpherson Peak 95.64 56 P **P 07 26 53.3 +1.0**
baz=267,SNR=112
SBC Santa Barbara 95.70 56 P **P 07 26 53.2 +0.9**
baz=267,SNR=11
SCZ2 Santa Cruz Isl 95.74 56 P **P 07 26 53.4 +0.8**
baz=267,SNR=23
SNCC San Nicolas Is 95.80 57 P **P 07 26 54.5 +1.6**
baz=267,SNR=23
SNCC San Nicolas Is 95.80 57 *eP* **P 07 26 53.0 +0.2**
comp=Z,856nm,1.0s
VCNR Virginia City 95.96 51 *eP* **P 07 26 54.0 +0.3**
comp=Z,190nm,0.9s
F07A Phinny Hill Vi 95.99 45 *eP* **P 07 26 54.5 +1.1**
comp=Z,215nm,0.9s
E07A Sunnyside 96.06 44 *eP* **P 07 26 54.6 +0.9**
comp=Z,467nm,1.0s
WAKR Walker 96.10 52 *eP* **P 07 26 54.3 -0.1**
comp=Z,908nm,1.9s
RCTC Rector, Farmer 96.17 54 P **P 07 26 54.5 0.0**
baz=268,SNR=37
PAHR Pah Rah Range 96.18 51 *eP* **P 07 26 54.8 +0.2**
comp=Z,140nm,0.9s
BLG Laguna Peak, P 96.22 56 P **P 07 26 55.1 +0.3**
baz=268,SNR=20
I07A Izee 96.23 46 *eP* **P 07 26 55.4 +0.6**
comp=Z,302nm,1.4s
YERR Yerington 96.27 51 *eP* **P 07 26 55.2 +0.1**
comp=Z,575nm,1.7s
HAWA Hanford 96.28 44 *eP* **P 07 26 54.7 0.0**
comp=Z,494nm,1.0s
VES Vestal, Richgr 96.28 55 P **P 07 26 54.8 -0.1**
baz=268,SNR=156
MDPB Devils Postpil 96.35 53 *eP* **P 07 26 56.0 +0.5**

comp=Z,178nm,0.9s
B08A Colville Reser 96.45 42 *e*P **P 07 26 55.6 0.0**
comp=Z,291nm,0.9s
ARVC Arvin 96.45 55 P **P 07 26 56.6 +0.8**
baz=268,SNR=21
OSI Osito Audit: C 96.52 56 P **P 07 26 57.0 +0.8**
baz=268,SNR=9.3
OSI Osito Audit: C 96.52 56 *e*P **P 07 26 57.2 +1.0**
comp=Z,132nm,1.0s
MLAC Mammoth, Mammc 96.54 53 P **P 07 26 57.1 +0.7**
baz=268,SNR=64
E08A Dider Farm, El 96.61 44 *e*P **P 07 26 57.0 +0.9**
comp=Z,1µm,1.4s
SCI2 San Clemente I 96.61 58 P **P 07 26 57.1 +0.6**
baz=268,SNR=12
G08A Pilot Rock 96.65 45 *e*P **P 07 26 56.7 +0.1**
comp=Z,357nm,1.1s
D08A Wollman Farm, 96.71 43 *e*P **P 07 26 57.1 +0.4**
comp=Z,1µm,2.0s
CIS Catalina Islan 96.73 57 P **P 07 26 57.4 +0.2**
baz=268,SNR=66
ISA Isabella, Lake 96.77 55 P **P 07 26 57.5 +0.2**
baz=268,SNR=130
ISA Isabella, Lake 96.77 55 *e*P **P 07 26 57.3 0.0**
comp=Z,118nm,0.9s
ISA Isabella, Lake 96.77 55 *e*P **P 07 26 57.3 0.0**
ISA pmax pmax
comp=Z,118nm,0.9s
RYN Ryan 96.82 52 *e*P **P 07 26 57.8 +0.3**
comp=Z,228nm,1.1s
WVOR Wild Horse Val 96.83 48 *e*P **P 07 26 57.6 +0.1**
comp=Z,265nm,1.0s
WVOR Wild Horse Val 96.83 48 *e*P **P 07 26 57.6 +0.1**
WVOR pmax pmax
comp=Z,265nm,1.0s
DECC Green Verdugo 96.83 56 P **P 07 26 58.2 +0.7**
baz=268,SNR=17
FMP Fort Macarthur 96.84 57 P **P 07 26 57.9 +0.3**
baz=268,SNR=6.0
PASC Pasadena Art C 96.95 56 *e*P **P 07 26 58.0 -0.1**
comp=Z,358nm,1.0s
J08A Circle Bar Ran 96.96 47 *e*P **P 07 26 57.8 -0.2**
comp=Z,282nm,0.9s
NV01 Mina Array Sit 96.98 52 *e*P **P 07 26 58.1 -0.3**
NVAR Mina Array Bea 96.98 52 P **P 07 26 59.5 +1.1**
comp=Z,175nm,0.9s,baz=254,slow=4.7,SNR=244
NVAR PP **PP 07 30 56.5 -0.4**
comp=Z,11nm,1.0s,baz=259,slow=8.9,SNR=4.1
NVAR PKiKP **PKiKP 07 31 36.4 +3.0**
comp=Z,9.2nm,1.0s,baz=247,slow=3.2,SNR=4.8
NVAR S **SKSac 07 37 18.6 +2.8**
comp=Z,1.5nm,1.0s,baz=332,slow=3.6,SNR=2.3
NVAR PKKPbc **PKKPbc 07 43 40.1 +0.4**
comp=Z,2.7nm,0.9s,baz=151,slow=1.6,SNR=3.6
NVAR PKPPKP **P'P'df 07 51 50.8 -2.4**
comp=Z,2.0nm,1.0s,baz=80,slow=4.0,SNR=4.9
TIN Tinemaha, Big 97.00 53 P Pdif 07 26 59.2 +0.7
baz=268,SNR=54
MWC Mount Wilson 97.06 56 *e*P Pdif 07 26 59.0 +0.2
comp=Z,682nm,1.1s
MWC Mount Wilson 97.06 56 *e*P Pdif 07 26 59.0 +0.2
MWC pmax pmax
comp=Z,682nm,1.1s
NV11 Mina Array Sit 97.10 52 *e*P Pdif 07 26 59.0 +0.1
comp=Z,21nm,1.0s
CWC Cottonwood Cre 97.11 54 P Pdif 07 26 59.5 +0.5
baz=268
EDW2 Edwards Air Fo 97.13 56 P Pdif 07 26 59.7 +0.7
baz=268,SNR=137
C09A Chrisman Ranch 97.16 43 *e*P **P 07 26 58.7 0.0**
comp=Z,313nm,0.9s
E09A Wood Farm, Sta 97.24 44 *e*P Pdif 07 26 59.2 +0.1
comp=Z,699nm,0.9s
BFSC Mount Baldy Ra 97.39 56 P **P 07 27 00.2 0.0**
baz=268,SNR=77
LRMC Laurel Mtn Rad 97.41 55 P Pdif 07 27 01.1 +0.8
baz=269,SNR=66
DAC Darwin (Calif) 97.50 54 *e*P **P 07 26 59.9 -0.8**
comp=Z,333nm,1.0s
DAC Darwin (Calif) 97.50 54 *e*P **P 07 26 59.9 -0.8**
DAC pmax pmax
comp=Z,333nm,1.0s
ABPO Ambohimpanom 97.52 250 *e*P Pdif 07 27 01.2 0.0
comp=Z,109nm,0.9s
ABPO Ambohimpanom 97.52 250 *e*P Pdif 07 27 01.2 0.0
ABPO pmax pmax
comp=Z,109nm,0.9s
MPMC Manual Prospec 97.58 54 P Pdif 07 27 01.4 +0.2
baz=269,SNR=331
OPO Ambohidratompo 97.62 251 P **P 07 27 01.5 -0.1**
comp=Z,210nm,1.0s,baz=92,slow=4.3,SNR=76
OPO PP **PP 07 31 02.7 +0.5**
comp=Z,34nm,1.2s,baz=98,slow=6.3,SNR=3.4
OPO PKKPbc **PKKPbc 07 43 38.0 +0.8**
comp=Z,17nm,1.0s,baz=256,slow=1.4,SNR=7.3
GRAC Grapevine Rang 97.69 54 P Pdif 07 27 01.9 +0.5
baz=269
MURC Murrieta 97.76 57 P Pdif 07 27 02.0 +0.2
baz=269
109C Camp Elliot, M 97.81 58 P Pdif 07 27 02.9 +0.9
baz=268
CPE Camp Elliot 97.81 58 *e*P Pdif 07 27 02.6 +0.6
comp=Z,352nm,1.1s
BMO Blue Mountains 97.82 46 *e*P **P 07 27 01.8 0.0**
comp=Z,250nm,0.9s
BMO Blue Mountains 97.82 46 *e*P **P 07 27 01.8 0.0**
BMO pmax pmax
comp=Z,250nm,0.9s
BMN Battle Mountai 97.86 50 *e*P Pdif 07 27 02.7 +0.4
comp=Z,259nm,1.3s
BMN Battle Mountai 97.86 50 *e*P Pdif 07 27 02.7 +0.5
BMN pmax pmax
comp=Z,259nm,1.3s
F10A Beach Ranch, E 97.87 44 *e*P Pdif 07 27 02.1 +0.1
comp=Z,494nm,0.8s
NEW Newport 97.93 42 P Pdif 07 27 02.5 +0.3
comp=Z,394nm,0.9s,baz=248,slow=3.8,SNR=224
NEW PP **PP 07 31 00.1 -3.6**
comp=Z,32nm,1.2s,baz=282,slow=9.1,SNR=4.9
NEW Newport 97.93 42 P Pdif 07 27 02.8 +0.6
baz=271
NEW Newport 97.93 42 *e*P Pdif 07 27 02.7 +0.5
comp=Z,483nm,0.9s
NEW PP **PP 07 31 00.1 -3.6**
RRX Edison Barstow 97.95 56 P Pdif 07 27 03.3 +0.7
baz=269
BBRC Big Bear Solar 98.00 56 P Pdif 07 27 03.4 +0.3
baz=269
FURC Furnace Creek, 98.09 54 P Pdif 07 27 03.7 +0.6
baz=269
GSC Goldstone, Bar 98.12 55 P Pdif 07 27 03.9 +0.4
baz=269
GSC Goldstone, Bar 98.12 55 *e*P Pdif 07 27 03.7 +0.3
comp=Z,149nm,1.2s
GSC Goldstone, Bar 98.12 55 *e*P Pdif 07 27 03.7 +0.3
GSC pmax pmax
comp=Z,149nm,1.2s
BAR Barrett 98.17 58 *e*P Pdif 07 27 04.3 +0.7
comp=Z,189nm,1.2s
PFO Pinyon Flats O 98.37 57 P Pdif 07 27 05.2 +0.6
baz=269
PFO Pinyon Flats O 98.37 57 *e*P Pdif 07 27 05.2 +0.6
comp=Z,197nm,1.0s
PFO Pinyon Flats O 98.37 57 *e*P Pdif 07 27 05.2 +0.6
PFO pmax pmax
comp=Z,197nm,1.0s
XPFO Pæon Flat 98.38 57 *e*P Pdif 07 27 05.3 +0.6
comp=Z,210nm,1.0s
MONP2 Monument Peak 98.39 58 P Pdif 07 27 05.7 +0.9
baz=269
HEC Hector Ludlow 98.50 56 P Pdif 07 27 05.6 +0.5
baz=269
SHOC Shoshone, Teco 98.56 55 P Pdif 07 27 05.8 +0.5
baz=269
TPNV Topopah Spring 98.59 54 P Pdif 07 27 06.0 +0.4
baz=270
TPNV Topopah Spring 98.59 54 *e*P Pdif 07 27 05.6 0.0
comp=Z,188nm,1.0s
TPNV Topopah Spring 98.59 54 *e*P Pdif 07 27 05.6 0.0
TPNV pmax pmax
comp=Z,188nm,1.0s
IKP In-Ko-Pah, Jac 98.65 58 P Pdif 07 27 07.1 +1.2
baz=269
YKA Yellowknife Ar 98.70 28 P **P 07 27 05.1 -0.1**
comp=Z,84nm,0.9s,baz=274,slow=4.5,SNR=241
YKA PP **PP 07 31 07.9 -1.0**
comp=Z,16nm,1.0s,baz=275,slow=7.4,SNR=6.8
YKA PKiKP **PKiKP 07 31 35.8 +0.4**
comp=Z,6.8nm,0.8s,baz=278,slow=1.3,SNR=19
YKA PKKPbc **PKKPbc 07 43 33.6 -2.1**
comp=Z,17nm,0.9s,baz=90,slow=2.8,SNR=29
YKA PKPPKP **P'P'df 07 51 43.3 -4.8**
comp=Z,1.6nm,1.1s,baz=67,slow=2.4,SNR=4.6
BELC Belle Mtn. Jos 98.76 57 P Pdif 07 27 07.1 +0.7
baz=269
TUQ Turquoise Moun 98.84 55 P Pdif 07 27 07.1 +0.4
baz=270
MFID Camas Ranch 98.89 47 *e*P Pdif 07 27 06.7 0.0
comp=Z,282nm,1.1s
SWSC Sam W. Stewart 98.91 58 P Pdif 07 27 07.8 +0.9
baz=269
GMRC Granite Mounta 99.05 56 P **Pdif 07 27 08.2 +0.5**
baz=270,SNR=121
R11A Troy Canyon, C 99.12 52 P **Pdif 07 27 08.4 +0.5**
baz=270,SNR=243
R11A Troy Canyon, C 99.12 52 *e*Pdif **Pdif 07 27 07.8 -0.1**
comp=Z,164nm,1.2s
BC3 Big Chuckawall 99.21 57 P **Pdif 07 27 09.5 +1.1**
baz=270,SNR=107
SHPR Sheep Range 99.46 54 *e*Pdif **Pdif 07 27 08.9 -0.5**
comp=Z,340nm,1.7s
IRM Iron Mountain 99.47 56 P **Pdif 07 27 10.2 +0.8**
baz=270,SNR=98
LDFC Landfair 99.50 55 *e*P **Pdif 07 27 10.3 +0.7**
comp=Z,244nm,1.1s
GLA Glamis 99.73 58 P **Pdif 07 27 11.9 +1.3**
baz=270,SNR=34
GLA Glamis 99.73 58 *e*P **Pdif 07 27 11.7 +1.1**
comp=Z,136nm,1.1s
GLA Glamis 99.73 58 *e*P **Pdif 07 27 11.7 +1.1**
GLA pmax pmax
comp=Z,136nm,1.1s
JTMT Jette 99.85 43 *e*Pdif **Pdif 07 27 10.5 -0.4**
comp=Z,54nm,0.9s
NEE2 Needles Airpor 99.91 56 P **Pdif 07 27 12.3 +1.0**
baz=270,SNR=36
HLID Hailey 99.92 47 P **Pdif 07 27 12.1 +0.8**
baz=272
HLID Hailey 99.92 47 *e*Pdif **Pdif 07 27 11.8 +0.4**
comp=Z,162nm,1.0s
Y12C Blythe 99.99 57 P **Pdif 07 27 12.8 +1.2**
baz=270,SNR=35
WALA Waterton Lakes 100.03 41 *e*Pdif **Pdif 07 27 12.8 +1.2**
comp=Z,394nm,1.4s
EDM Edmonton 100.11 37 *e*Pdif **Pdif 07 27 12.8 +1.0**
comp=Z,153nm,1.0s
EDM Edmonton 100.11 37 *e*P **Pdif 07 27 12.8 +1.0**
EDM pmax pmax
comp=Z,153nm,1.0s
MSO Missoula 100.12 44 P **Pdif 07 27 12.1 0.0**
baz=273,SNR=56
MSO Missoula 100.12 44 *e*Pdif **Pdif 07 27 12.0 0.0**
PDMCI Parker Dam,Lak 100.30 56 P **Pdif 07 27 14.2 +1.2**
baz=270,SNR=96
SNAA Sanae 100.47 189 P **Pdif 07 27 13.3 +0.3**
SNAA Sanae 100.47 189 P PKKPbc 07 43 18.7 -12
SNAA Sanae 100.47 189 P **Pdif 07 27 13.4 +0.3**
comp=Z,56nm,1.1s,baz=140,slow=4.9,SNR=41
SNAA PP **PP 07 31 22.1 +0.2**
comp=Z,124nm,1.0s,baz=146,slow=9.0,SNR=12
SNAA S **SKSac 07 37 32.2 +0.5**
comp=Z,9.1nm,1.1s,baz=340,slow=23,SNR=9.3
SNAA PKKPbc **PKKPbc 07 43 28.0 -3.0**
comp=Z,42nm,1.0s,baz=316,slow=2.8,SNR=18
SNAA PKPPKP **P'P'df 07 51 40.6 -4.5**
comp=Z,13nm,1.2s,baz=32,slow=2.2,SNR=6.4
SNAA Sanae 100.47 189*c* *i*P **Pdif 07 27 13.2 +0.1**
AKT Akhty 100.68 311⇑ *i*P **Pdif 07 27 12.8 -1.9**
AKT *e* 07 37 29.7
AKT pmax pmax
comp=Z,60nm,1.4s
MAK Makhachkala 100.79 313 *e*P **Pdif 07 27 12.9 -2.0**
MAK *e* 07 31 23.6
MAK *e*PPP PPP 07 33 31.6
MAK *e* 07 37 32.2
MAK *e*SS SS 07 45 46.3 +9.4
MAK *e*SSS SSS 07 49 36.1
MAK pmax pmax
comp=Z,477nm,1.8s
MAK MLR MLR
comp=Z,10µm,15.0s
CCUT Cedar City 100.89 53 *e*Pdif **Pdif 07 27 16.7 +0.8**
comp=Z,42nm,1.2s
MCMT McKenzie Canyo 100.99 46 *e*Pdif **Pdif 07 27 17.3 +1.2**
comp=Z,145nm,0.5s
LCMT Little Creek M 101.00 54 *e*Pdif **Pdif 07 27 16.8 +0.5**
BGU Big Grassy Mou 101.04 50 *e*Pdif **Pdif 07 27 16.2 -0.1**
comp=Z,75nm,0.9s
HVU Hansel Valley 101.19 49 *e*Pdif **Pdif 07 27 17.2 +0.2**
comp=Z,1µm,0.4s
HVU Hansel Valley 101.19 49 *e*P **Pdif 07 27 17.2 +0.2**
HVU pmax pmax
comp=Z,1µm,0.4s
LRM Limekiln Ridge 101.21 45 *e*Pdif **Pdif 07 27 18.1 +0.9**
comp=Z,4µm,1.0s
DUG Dugway, Tooele 101.23 50 P **Pdif 07 27 18.0 +0.7**
baz=272,SNR=150
DUG Dugway, Tooele 101.23 50 *e*Pdif **Pdif 07 27 17.2 0.0**
DUG Dugway, Tooele 101.23 50 *e*P **Pdif 07 27 17.2 0.0**
KNB Kanab 101.33 53 *e*Pdif **Pdif 07 27 18.8 +1.0**
KNB Kanab 101.33 53 *e*P **Pdif 07 27 18.8 +1.0**
214A Organ Pipe Nat 101.44 59 P **Pdif 07 27 20.1 +1.9**
baz=271
214A Organ Pipe Nat 101.44 59 *e*Pdif **Pdif 07 27 19.7 +1.6**
comp=Z,678nm,1.1s
SPUT South Promonto 101.46 49 *e*Pdif **Pdif 07 27 18.4 +0.2**
comp=Z,170nm,1.0s
HRY Holter Researc 101.58 44 *e*Pdif **Pdif 07 27 19.5 +1.0**
MSU Marysvale 101.79 52 *e*Pdif **Pdif 07 27 20.5 +0.6**
MSU Marysvale 101.79 52 *e*P **Pdif 07 27 20.5 +0.6**
BOZ Bozeman (W) 101.80 45 P **Pdif 07 27 20.3 +0.6**
baz=274,SNR=52
BOZ Bozeman (W) 101.80 45 *e*Pdif **Pdif 07 27 20.0 +0.4**
comp=Z,171nm,1.1s
BOZ Bozeman (W) 101.80 45 *e*P **Pdif 07 27 20.0 +0.4**
BOZ pmax pmax
comp=Z,171nm,1.1s
NLU North Lily Min 101.81 50 *e*Pdif **Pdif 07 27 20.6 +0.7**
VNA2 Neumayer--Watz 101.83 188 P **Pdif 07 27 19.8 +0.7**
baz=151,slow=3.5
VNA2 Neumayer--Watz 101.83 188 P **PKKPbc 07 43 20.9 -6.1**
baz=347,slow=3.0
VNA3 Neumayer Olymp 101.85 187 P **Pdif 07 27 19.6 +0.5**
VNA3 Neumayer Olymp 101.85 187 P PKKPbc 07 43 16.6 -10
DDFL Dedoflistskaro 101.89 311 P **Pdif 07 27 20.4 +0.3**
QLMT Earthquake Lak 102.00 45 *e*Pdif **Pdif 07 27 22.3 +1.7**
comp=Z,20nm,1.2s
CTU Camp Tracy 102.02 50 *e*Pdif **Pdif 07 27 20.6 -0.1**
HWUT Hardware Ranch 102.11 49 *e*Pdif **Pdif 07 27 20.9 -0.2**
MPU Maple Canyon 102.14 50 *e*Pdif **Pdif 07 27 21.5 +0.1**
comp=Z,439nm,1.0s
VNA1 Neumayer--Stat 102.20 188 P **Pdif 07 27 21.5 +0.8**
VNA1 Neumayer--Stat 102.20 188 P PKKPbc 07 43 17.2 -8.6
TCUT Toone Canyon 102.25 49 *e*Pdif **Pdif 07 27 21.9 0.0**
comp=Z,243nm,1.7s
YMR Madison River 102.34 46 *e*Pdif **Pdif 07 27 24.2 +2.1**
comp=Z,181nm,1.1s
FXWY Fox Creek 102.37 47 *e*Pdif **Pdif 07 27 22.7 +0.3**
AHID Auburn Hatcher 102.38 48 *e*Pdif **Pdif 07 27 22.8 +0.4**
comp=Z,146nm,1.0s
YFT Old Faithful M 102.45 46 *e*Pdif **Pdif 07 27 24.6 +2.0**
comp=Z,187nm,1.1s
RES Resolute Bay 102.50 14 P **Pdif 07 27 21.8 -0.1**
comp=Z,35nm,0.9s,baz=305,slow=5.2,SNR=66
RES PKiKP **PKiKP 07 31 41.7 -0.2**
comp=Z,18nm,0.8s,baz=225,slow=2.8,SNR=10
RES S **SKSac 07 37 39.7 -1.2**
comp=Z,6.5nm,1.1s,baz=77,slow=22,SNR=9.6
RES PKKPbc **PKKPbc 07 43 23.5 -1.6**
comp=Z,11nm,0.9s,baz=124,slow=4.8,SNR=10
RES PKPPKP **P'P'df 07 51 35.9 -4.4**
comp=Z,1.8nm,1.1s,baz=91,slow=1.6,SNR=4.1
TMUT Trail Mountain 102.51 51 *e*Pdif **Pdif 07 27 23.6 +0.4**
comp=Z,292nm,0.4s
REDW Red Top Meadow 102.52 47 *e*Pdif **Pdif 07 27 23.7 +0.7**
WUAZ Wupatki 102.55 55 P **Pdif 07 27 24.8 +1.5**
baz=272
WUAZ Wupatki 102.55 55 *e*Pdif **Pdif 07 27 23.2 0.0**
comp=Z,4µm,0.3s
MOOW Moose Ponds 102.57 47 *e*Pdif **Pdif 07 27 23.7 +0.5**
H17A Grant Village 102.64 46 P **Pdif 07 27 25.6 +2.1**
baz=275,SNR=68
H17A Grant Village 102.64 46 *e*Pdif **Pdif 07 27 25.2 +1.7**
comp=Z,73nm,1.0s
RAYN Ar Rayn 102.83 293 *e*Pdif **Pdif 07 27 24.4 -0.1**
EGMT Eagleton 102.87 42 P **Pdif 07 27 25.0 +0.8**
baz=276
EGMT Eagleton 102.87 42 *e*Pdif **Pdif 07 27 24.4 +0.1**
comp=Z,247nm,0.4s
TBLG Delisi 102.91 311 P **Pdif 07 27 23.4 -1.1**
TBLG Delisi 102.91 311 *e*P **Pdif 07 27 23.4 -1.1**
DUS Dusheti 102.91 312 P **Pdif 07 27 24.1 -0.5**
DUS Dusheti 102.91 312 *e*P **Pdif 07 27 24.0 -0.5**
GNI Garni 103.01 310 Pdiff **Pdif 07 27 24.3 -0.9**
comp=Z,12nm,0.5s,baz=231,slow=1.0,SNR=9.5
GNI PKiKP **PKiKP 07 31 45.2 +1.1**
comp=Z,16nm,0.6s,baz=11,slow=4.8,SNR=4.8
GNI PKKPbc **PKKPbc 07 43 22.8 +0.2**
comp=Z,11nm,0.5s,baz=194,slow=3.7,SNR=3.5
GNI Garni 103.01 310 Pdiff **Pdif 07 27 25.7 +0.5**
SNR=7.9
GNI Garni 103.01 310 P **Pdif 07 27 25.7 +0.5**
SNR=7.9
GNI Garni 103.01 310 *i* P **Pdif 07 27 24.7 -0.4**
SNR=8.2
GUDG Gudauri 103.04 312 P **Pdif 07 27 24.6 -0.7**
SRU San Rafael Swe 103.05 51 *e*Pdif **Pdif 07 27 25.4 0.0**
comp=Z,696nm,1.0s
SRU San Rafael Swe 103.05 51 *e*P **Pdif 07 27 25.4 0.0**
SRU pmax pmax
comp=Z,697nm,1.0s
HSIG 103.08 62 *e*Pdif **Pdif 07 27 27.5 +1.9**
TUC Tucson 103.15 58 P **Pdif 07 27 27.6 +1.8**
baz=272
TUC Tucson 103.15 58 *e*Pdif **Pdif 07 27 26.9 +1.1**
comp=Z,48nm,1.0s
TUC Tucson 103.15 58 *e*P **Pdif 07 27 26.9 +1.1**
TUC pmax pmax
comp=Z,48nm,1.0s
GCMT Greycliff 103.15 44 *e*Pdif **Pdif 07 27 27.8 +2.1**
comp=Z,56nm,1.1s
SPITS Spitsbergen Ar 103.16 351 Pdiff **Pdif 07 27 23.4 -1.4**
comp=Z,11nm,0.7s,baz=51,slow=6.6,SNR=16
SPITS PKiKP **PKiKP 07 31 44.9 +1.7**
comp=Z,50nm,1.0s,baz=0.0,slow=1.2,SNR=15
SPITS sPdiff 07 37 49.8
comp=Z,15nm,1.0s,baz=103,slow=18,SNR=3.6
SPITS PKKPbc **PKKPbc 07 43 21.2 -2.0**
comp=Z,15nm,0.8s,baz=270,slow=1.7,SNR=12
TMCR Tamitsa 103.22 335 *e*P **Pdif 07 27 22.9 -2.4**
TMCR pmax pmax
comp=Z,189nm,1.0s
KLMR Klimovskoe 103.35 331 *e*Pdif **Pdif 07 27 22.7 -3.2**
KLMR AMP 07 27 26.4
comp=Z,133nm,0.9s
KLMR *ep*Pdif **pPdif 07 28 14.9 -2.5**
KLMR *es*Pdif **sPdif 07 28 30.8 -8.3**
KLMR *e*PP **PKiKP 07 31 39.7 -4.2**
KLMR *e*PKKP **PKKPbc 07 43 20.1 -2.1**
KLMR Klimovskoe 103.35 331 *e*P **Pdif 07 27 22.7 -3.2**
KLMR *e* 07 31 39.7
KLMR pmax pmax
comp=Z,133nm,0.9s
ZEI Tsey 103.44 313 *e*P **Pdif 07 27 24.1 -3.0**
ZEI pmax pmax
comp=Z,44nm,1.5s
LVZ Lovozero 103.45 339 *e*Pdif **Pdif 07 27 24.6 -1.7**
comp=Z,174nm,1.0s
LVZ Lovozero 103.45 339 *e*P **Pdif 07 27 24.6 -1.7**
LVZ pmax pmax
comp=Z,174nm,1.0s
RLMT Red Lodge 103.50 45 P **Pdif 07 27 28.7 +1.4**
baz=276,SNR=71
RLMT Red Lodge 103.50 45 *e*Pdif **Pdif 07 27 28.2 +0.9**
comp=Z,68nm,1.0s
BW06 Boulder Array 103.51 47 P **Pdif 07 27 27.3 -0.2**
baz=275,SNR=80
BW06 Boulder Array 103.51 47 *e*Pdif **Pdif 07 27 26.9 -0.5**
PD31 Pinedale Array 103.51 47 *e*Pdif **Pdif 07 27 26.6 -0.8**
PDAR Pinedale Array 103.51 47 Pdiff **Pdif 07 27 28.1 +0.6**
comp=Z,107nm,0.9s,baz=225,slow=1.9,SNR=246
PDAR PKiKP **PP 07 31 47.1 +1.0**
comp=Z,21nm,1.1s,baz=232,slow=1.0,SNR=7.0
PDAR PKKPbc **PKKPbc 07 43 20.4 -0.9**
comp=Z,2.3nm,0.6s,baz=90,slow=4.7,SNR=9.9
PDAR PKPPKP **P'P'df 07 51 38.5 -1.9**
comp=Z,2.2nm,1.0s,baz=90,slow=3.0,SNR=6.5
LPIG La Paz 103.70 67 Pdiff **Pdif 07 27 31.1 +2.8**
comp=Z,30nm,1.1s,baz=204,slow=12,SNR=3.2
LPIG PKiKP **PKiKP 07 31 45.9 +0.3**
comp=Z,31nm,1.0s,baz=44,slow=5.4,SNR=5.8
LPIG PKPPKP **P'P'df 07 51 38.6 -2.3**
comp=Z,37nm,1.1s,baz=51,slow=6.5,SNR=3.2
ONI Oni 103.79 312 P **Pdif 07 27 27.8 -0.6**
ONI Oni 103.79 312 *e*P **Pdif 07 27 27.8 -0.6**
GOF Gofitskoye 103.84 315‖ *e*P **Pdif 07 27 27.9 -0.6**
GOF pmax pmax
comp=Z,26nm,0.6s
AKH Akhalkalaki 103.86 311 P **Pdif 07 27 28.4 -0.6**
AKH Akhalkalaki 103.86 311 *e*P **Pdif 07 27 28.3 -0.6**
W18A Petrified Fore 103.91 55 P **Pdif 07 27 30.5 +1.2**
baz=273,SNR=49
W18A Petrified Fore 103.91 55 *e*Pdif **Pdif 07 27 29.4 +0.2**
comp=Z,153nm,1.3s
VRH Novokhopyorsk 103.93 321 *e*P **Pdif 07 27 27.1 -1.6**
VRH *i* 07 31 48.3
VRH *e* 07 37 42.4
VRH pmax pmax
comp=Z,60nm,1.2s
VRH pmax pmax
comp=Z,120nm,1.0s
APA Apatity 104.01 339⇑ *i*P **Pdif 07 27 27.0 -1.7**
APA *i* 07 31 47.0
APA *i* 07 37 47.0
APA *i* 07 38 39.0
APA *i* PS PS 07 41 57.0 +52
APA pmax pmax
comp=Z,120nm,0.8s
HSPB Hornsund (broa 104.06 350 *e*P **Pdif 07 27 28.2 -0.6**
HSPB *e* 07 31 47.4
HSPB *e* 07 37 47.2
HSPB eS **Sdif 07 38 56.9 -3.4**
HSPB *e*PS **PS 07 40 59.7 -5.2**
HSPB eSS **SS 07 46 27.0 +7.1**
KBZ Khabaz 104.08 314 Pdiff **Pdif 07 27 27.6 -2.0**
comp=Z,3.0nm,0.7s,baz=94,slow=5.4,SNR=11
KBZ PKiKP **PP 07 31 48.1 -1.8**
comp=Z,8.0nm,0.8s,baz=86,slow=8.5,SNR=11
KBZ PKKPbc **PKKPbc 07 43 17.6 -1.7**
comp=Z,7.9nm,0.8s,baz=279,slow=5.2,SNR=6.6
KVAR Kislovodsk Arr 104.20 314 Pdiff **Pdif 07 27 29.9 -0.4**
comp=Z,2.9nm,0.3s,baz=73,slow=4.4,SNR=7.7
KVAR PKKPbc **PKKPbc 07 43 18.9 -0.2**
comp=Z,16nm,0.9s,baz=221,slow=1.6,SNR=7.8
KIV Kislovodsk 104.21 314 Pdiff **Pdif 07 27 30.2 -0.1**
SNR=7.7
KIV Kislovodsk 104.21 314 P **Pdif 07 27 30.2 -0.1**
SNR=7.7
KIV Kislovodsk 104.21 314 *i* P **Pdif 07 27 29.0 -1.3**
SNR=11
KIV Kislovodsk 104.21 314 *i* P **Pdif 07 27 28.8 -1.5**
KIV *e* 07 37 49.1
KIV *e*PS **PS 07 41 06.8 -1.2**
KIV eSS SS 07 46 23.5 -0.6
KIV pmax pmax
comp=Z,176nm,1.1s
PV04 Paradox Valley 104.36 52 *e*Pdif **Pdif 07 27 31.4 +0.1**
PV01 Paradox Valley 104.65 52 *e*Pdif **Pdif 07 27 33.4 +0.9**
comp=Z,2µm,0.7s
O20A White River Ci 104.73 50 P **Pdif 07 27 33.3 +0.4**
baz=275,SNR=66
O20A White River Ci 104.73 50 *e*Pdif **Pdif 07 27 33.0 +0.1**
MVCO Mesa Verde 104.77 53 P **Pdif 07 27 34.3 +1.1**
baz=274,SNR=61
MVCO Mesa Verde 104.77 53 *e*Pdif **Pdif 07 27 33.8 +0.6**
comp=Z,801nm,0.5s
ATD Arta Tunnel 105.05 280 Pdiff **Pdif 07 27 34.6 0.0**
comp=Z,2.4nm,0.3s,baz=86,slow=19,SNR=3.6
ATD PKiKP **PKiKP 07 31 50.2 +1.8**
comp=Z,13nm,0.9s,baz=304,slow=11,SNR=3.5
ATD PP **PP 07 31 58.5 +0.5**
comp=Z,11nm,0.8s,baz=82,slow=2.6,SNR=4.4
ATD PKKPbc **PKKPbc 07 43 18.0 +2.4**
comp=Z,11nm,0.8s,baz=270,slow=14,SNR=5.0
LPSR Galich'ya Gora 105.40 323 *e*P **Pdif 07 27 33.7 -1.5**
LPSR *e* 07 37 51.9
LPSR pmax pmax
comp=Z,30nm,0.9s
LAO LASA Array 105.42 43 P **PKiKP 07 31 48.6 +0.4**
baz=278

LAO LASA Array 105.42 43 *e*Pdif **Pdif 07 27 35.5 0.0**
comp=Z,240nm,1.2s
LAO *e*PP **PP 07 31 58.9 -0.9**
MOS Moscow 105.48 326 *i* P **Pdif 07 27 32.9 -2.6**
MOS pmax pmax
comp=Z,180nm,2.2s
VSR Storozhevoye 105.52 322 *e*P **Pdif 07 27 33.8 -2.0**
VSR *e* 07 37 50.9
VSR pmax pmax
comp=Z,30nm,1.1s
121A Cookes Peak, D 105.67 58 P **PKiKP 07 31 49.3 +0.1**
baz=274
121A Cookes Peak, D 105.67 58 *e*Pdif **Pdif 07 27 39.2 +2.0**
121A *e*PP **PP 07 31 59.8 -2.5**
K22A Casper 105.75 47 P **PKiKP 07 31 49.1 0.0**
baz=277
K22A Casper 105.75 47 *e*PP PP 07 32 02.0 -0.5
ARCES ARCESS Array B 105.86 342 Pdiff **Pdif 07 27 36.2 -0.7**
comp=Z,199nm,0.9s,baz=67,slow=4.1,SNR=139
ARCES PKiKP **PKiKP 07 31 49.0 +0.8**
comp=Z,12nm,0.4s,baz=102,slow=1.4,SNR=65
ARCES PP **PP 07 32 02.3 +0.2**
comp=Z,11nm,0.7s,baz=116,slow=1.5,SNR=4.2
ARCES PKKPbc **PKKPbc 07 43 12.4 -2.6**
comp=Z,21nm,0.8s,baz=255,slow=2.4,SNR=19
ARE0 ARCESS Array S 105.86 342 *e*PP PP 07 32 01.6 -0.5
S22A 4UR Ranch, Cre 106.05 52 P **PKiKP 07 31 49.3 -0.7**
baz=276
LAZ Ladron 106.09 56 *e*Pdif **Pdif 07 27 41.1 +2.1**
comp=Z,26nm,1.2s
OBN Obninsk 106.21 326 Pdiff **Pdif 07 27 37.7 -1.1**
comp=Z,17nm,0.3s,baz=55,slow=6.7,SNR=14
OBN PKiKP **PKiKP 07 31 49.9 +0.6**
comp=Z,21nm,0.3s,baz=67,slow=1.6,SNR=8.1
OBN PP **PP 07 32 05.0 -0.1**
comp=Z,23nm,0.5s,baz=75,slow=10,SNR=4.3
OBN Obninsk 106.21 326 *i* P **Pdif 07 27 37.7 -1.1**
OBN pmax pmax
comp=Z,34nm,1.1s
Y22D IRIS PASSCAL I 106.29 56 P **PKiKP 07 31 50.7 +0.4**
baz=274
Y22E IRIS PASSCAL I 106.29 56 P **PKiKP 07 31 50.9 +0.6**
baz=274
SOC Sochi 106.39 314 *i* P **Pdif 07 27 37.6 -2.3**
SOC *e* 07 32 07.1
N23A Red Feather La 106.39 49 P **PKiKP 07 31 51.3 +0.8**
baz=277
N23A Red Feather La 106.39 49 *e*Pdif **Pdif 07 27 40.3 0.0**
JOF Joensuu 106.47 335 P **Pdif 07 27 39.2 -0.6**
DGMT Dagmar 106.48 41 P **PKiKP 07 31 50.6 +0.6**
baz=281
SGF Sodankyl 106.49 340 P **Pdif 07 27 39.1 -0.7**
FFC Flin Flon 106.50 34 *e*Pdif **Pdif 07 27 40.3 +0.2**
FFC Flin Flon 106.50 34 *e*P **Pdif 07 27 40.3 +0.2**
LPM Los Pinos Moun 106.51 56 *e*Pdif **Pdif 07 27 42.4 +1.5**
comp=Z,3.9nm,1.0s
LPM *e*PKPdf **PKiKP 07 31 51.2 +0.4**
ANMO Albuquerque 106.60 55 Pdiff **Pdif 07 27 42.7 +1.4**
comp=Z,18nm,1.1s,baz=81,slow=5.0,SNR=43
ANMO PKiKP **PKiKP 07 31 52.0 +1.1**
comp=Z,32nm,1.0s,baz=20,slow=2.5,SNR=18
ANMO PP **PP 07 32 08.3 -0.8**
comp=Z,29nm,1.2s,baz=90,slow=5.8,SNR=6.9
ANMO PKKPab **PKKPab 07 43 28.2 +1.3**
comp=Z,29nm,0.9s,baz=309,slow=6.2,SNR=30
ANMO Albuquerque 106.60 55 P **PKiKP 07 31 50.7 -0.2**
baz=275
ANMO Albuquerque 106.60 55 *e*Pdif **Pdif 07 27 42.4 +1.1**
comp=Z,76nm,0.3s
ANMO PKiKP **PKiKP 07 31 52.0 +1.1**
ANMO PP **PP 07 32 08.3 -0.8**
ANMO PKKPab **PKKPab 07 43 28.2 +1.3**
ANMO Albuquerque 106.60 55 *c i*P **Pdif 07 27 42.2 +0.9**
ANMO pmax pmax
comp=Z,50nm,1.2s
ISCO Idaho Springs 106.78 50 P **PKiKP 07 31 51.4 +0.1**
baz=277
ISCO Idaho Springs 106.78 50 *e*Pdif **Pdif 07 27 41.9 -0.2**
ISCO Idaho Springs 106.78 50 *e*P **Pdif 07 27 41.9 -0.2**
SDCO Great Sand Dun 107.10 52 P **PKiKP 07 31 52.7 +0.8**
baz=276
SDCO Great Sand Dun 107.10 52 *e*Pdif **Pdif 07 27 43.7 +0.1**
comp=Z,30nm,1.2s
Q24A Divide 107.23 51 P **PKiKP 07 31 51.1 -1.1**
baz=277
RSSD Black Hills 107.33 46 P **PKiKP 07 31 51.3 -0.7**
baz=279
RSSD Black Hills 107.33 46 *e*Pdif **Pdif 07 27 44.4 0.0**
RSSD Black Hills 107.33 46 *e*P **Pdif 07 27 44.4 0.0**
MNTX Cornudas Mount 107.77 59 P **PKiKP 07 31 51.8 -1.2**
baz=275
MNTX Cornudas Mount 107.77 59 *e*Pdif **Pdif 07 27 46.1 -0.2**
MNTX *e*PKPdf **PKiKP 07 31 53.1 +0.1**
TRO Tromso 107.77 343 *e* 07 31 52.0
ANN Anapa 107.82 315 *i* P **Pdif 07 27 44.8 -1.4**
ANN pmax pmax
comp=Z,43nm,2.3s
ANN pmax pmax
comp=Z,1μm,10.4s
T25A Trinidad 108.03 53 P **PKiKP 07 31 52.4 -1.1**
baz=277
DAG Danmarks Havn 108.39 357 *i* P **Pdif 07 27 46.7 -1.3**
comp=Z,52nm,1.3s
DAG Danmarks Havn 108.39 357 *i* P **PKiKP 07 31 51.9 -0.9**
DAG Danmarks Havn 108.39 357 *i* P **Pdif 07 27 46.7 -1.3**
DAG pmax pmax
comp=Z,52nm,1.3s
RSDY Resadiye-TOKAT 108.62 311 *i* P **PKiKP 07 31 52.6 -1.7**
SVSK Karacayir 108.94 310 *e*P **PKiKP 07 31 55.3 +0.4**
KSCO Kaye Shedlock' 109.17 51 P **PKiKP 07 31 55.4 -0.2**
baz=279
FIA1 FINESS Array S 109.31 334 *e*Pdif **Pdif 07 27 51.9 -0.6**
FINES FINESS Array B 109.31 334 Pdiff **Pdif 07 27 51.0 -1.4**
comp=Z,24nm,0.8s,baz=72,slow=6.2,SNR=61
FINES PKiKP **PKiKP 07 31 55.0 +0.1**
comp=Z,24nm,0.6s,baz=36,slow=2.1,SNR=34
FINES PP **PP 07 32 28.9 +1.5**
comp=Z,17nm,0.7s,baz=71,slow=6.5,SNR=4.3
FINES PKKPbc **PKKPbc 07 43 02.2 -1.6**
comp=Z,13nm,0.8s,baz=281,slow=1.0,SNR=12
FINES PKKPab **PKKPab 07 43 15.3 +1.0**
comp=Z,6.3nm,0.7s,baz=158,slow=2.1,SNR=4.3
OGNE Ogallala 109.32 49 P **PKiKP 07 31 55.3 -0.4**
baz=280
FCC Fort Churchill 109.36 29 *e*Pdif **Pdif 07 27 52.0 -0.7**
FCC Fort Churchill 109.36 29 *e*P **Pdif 07 27 52.0 -0.7**
TXAR Lajitas Array 109.43 61 Pdiff **Pdif 07 27 56.7 +2.8**
comp=Z,3.9nm,1.0s,baz=257,slow=2.9,SNR=22
TXAR PKiKP **PKiKP 07 31 56.7 +0.4**
comp=Z,30nm,1.0s,baz=230,slow=0.6,SNR=32
TXAR PP **PP 07 32 29.5 -0.2**
comp=Z,15nm,1.0s,baz=262,slow=2.5,SNR=5.8
TXAR PKKPbc **PKKPbc 07 43 02.4 -0.1**
comp=Z,7.0nm,0.8s,baz=115,slow=4.7,SNR=24
TXAR PKKPab **PKKPab 07 43 15.8 +1.4**
comp=Z,28nm,0.8s,baz=111,slow=4.2,SNR=27
TXAR PKPPKP **P'P'df 07 51 31.6 +1.8**
comp=Z,1.3nm,0.8s,baz=103,slow=3.2,SNR=6.7
KVT Kavak 109.47 312 *i* P **PKiKP 07 32 00.2 +4.3**
KULLO Kullorsuaq 109.57 7 *i* P **PKiKP 07 31 55.1 0.0**
comp=Z,63nm,1.0s
MDND Maddock 109.61 41 P **PKiKP 07 31 55.3 -0.6**
baz=284,SNR=11
MDND Maddock 109.61 41 *e*Pdif **Pdif 07 27 54.5 +0.3**
MDND *e*PKPdf **PKiKP 07 31 55.1 -0.8**
KMBO Kilima Mbogo 109.66 267 Pdiff **Pdif 07 27 56.6 +1.2**
comp=Z,2.0nm,0.8s,baz=90,slow=5.1,SNR=7.8
KMBO PKiKP **PKiKP 07 31 57.7 +0.4**
comp=Z,4.3nm,0.8s,baz=53,slow=6.7,SNR=7.1
KMBO PP **PP 07 32 30.1 -1.8**
comp=Z,3.6nm,0.8s,baz=95,slow=5.0,SNR=4.9
KMBO PKKPbc **PKKPbc 07 42 57.4 -4.0**
comp=Z,3.0nm,0.7s,baz=29,slow=2.4,SNR=3.0
KMBO PKKPab **PKKPdf 07 43 16.6 -0.6**
comp=Z,8.8nm,0.9s,baz=302,slow=3.5,SNR=8.4
KMBO Kilima Mbogo 109.66 267 P **PKiKP 07 31 56.5 -0.8**
MSTX Muleshoe 109.73 56 P **PKiKP 07 31 56.0 -0.7**
baz=277
STEI Steigen 109.87 343 *e* **PKiKP 07 31 56.1 +0.4**
STEI IAmb IAmb 07 31 57.7
comp=Z,47nm,0.8s
SNOP Sinop 109.92 313 *e*P **PKiKP 07 31 55.9 -0.8**
DIKM Dikmen 109.95 312 *e*P **PKiKP 07 31 58.7 +2.0**
ASF Jabal al Asfar 110.04 302 Pdiff **Pdif 07 27 55.9 -0.5**
comp=Z,2.3nm,0.6s,baz=60,slow=2.2,SNR=5.5
ASF PKiKP **PKiKP 07 31 58.2 +0.9**
comp=Z,7.3nm,0.7s,baz=44,slow=2.0,SNR=5.9
ASF PKKPbc **PKKPbc 07 43 02.3 +1.7**
comp=Z,16nm,1.0s,baz=274,slow=1.5,SNR=10
ASF PKPPKP **P'P'df 07 51 26.3 -2.1**
comp=Z,3.1nm,0.3s,baz=80,slow=6.1,SNR=8.9
SIM Simferopol' 110.10 316 *i* P **Pdif 07 27 56.0 -0.4**
SIM *i* 07 32 33.0
SIM *e* 07 38 16.0
SIM *e*PS **SP 07 41 41.0 -0.2**
SIM *e*SS **SS 07 47 50.0 +6.6**
SIM pmax pmax
comp=Z,34nm,0.8s
SIM pmax pmax
comp=Z,2μm,11.4s
LOF Lofoten 110.24 343 *e* **PKiKP 07 31 56.5 0.0**
LOF *e*PP **PP 07 32 33.8 0.0**
VSU Vasula 110.25 331 *c i*P **Pdif 07 27 55.5 -1.2**
VSU *i* 07 31 58.0
VSU pmax pmax
comp=Z,226nm,1.2s
YOZ Yozgat 110.27 310 *e*P **PKiKP 07 31 55.9 -1.7**
AMTX Amarillo 110.51 55 P **PKiKP 07 31 57.4 -0.7**
baz=278
CORM Corum 110.69 311 *e*P **PKiKP 07 31 58.9 +0.5**
B31A Greenbush Farm 110.73 40 P **PKiKP 07 31 57.2 -0.8**
baz=286,SNR=26
BZK Bozkurt 110.81 313 *e*P **PKiKP 07 31 57.8 -0.5**
C31A Landman Farms, 110.85 41 P **PKiKP 07 31 57.5 -0.7**
baz=286,SNR=38
SUSD Miller 110.85 44 P **PKiKP 07 31 57.8 -0.6**
baz=283,SNR=8.1
A31A Linda, St. Vin 110.89 40 P **PKiKP 07 31 57.3 -0.9**
baz=286
F31A Hecla 111.00 43 P **PKiKP 07 31 57.6 -1.0**
baz=284,SNR=11
D31A Mcclaflin, Tow 111.05 42 P **PKiKP 07 31 57.9 -0.7**
baz=285,SNR=8.7
E31A Nome 111.07 42 P **PKiKP 07 31 57.9 -0.9**
baz=285,SNR=9.1
GULE Gulek 111.08 308 *i* P **PKiKP 07 31 59.6 +0.4**
H31A Wolsey 111.17 44 P **PKiKP 07 31 58.0 -1.0**
baz=284,SNR=12
G31A Conde 111.18 44 P **PKiKP 07 31 57.9 -1.1**
baz=284
MICGM Minsk 111.19 327 *e*P **Pdif 07 28 01.0 +0.1**
MICGM *e*pP **pPdif 07 28 48.0 -4.4**
MICGM *e*PKP PKiKP 07 31 47.0 -12
MICGM *e*PP **PP 07 32 42.0 +0.9**
MICGM PPM 07 32 44.0
comp=Z,11nm,4.0s
MICGM *e*PPP PPP 07 34 40.0
MICGM *e*SKKS 07 39 16.0
MICGM *e*PS PS 07 41 54.0 -22
MICGM *e*PPS PPS 07 42 55.0
MICGM *e*SS SS 07 47 46.0 -11
MICGM *e*SSS SSS 07 52 10.0
MICGM *e*LR LR 07 59 12.0
MMAI Mount Meron Ar 111.19 303 Pdiff **Pdif 07 28 02.3 +0.7**
comp=Z,2.3nm,0.6s,baz=60,slow=8.7,SNR=4.8
MMAI PKiKP **PKiKP 07 32 01.1 +1.7**
comp=Z,8.1nm,0.6s,baz=71,slow=6.6,SNR=9.3
MMAI PP **PP 07 32 42.3 +0.2**
comp=Z,4.0nm,0.7s,baz=93,slow=5.8,SNR=3.1
MMAI PKKPbc **PKKPbc 07 42 58.8 +1.9**
comp=Z,9.2nm,0.8s,baz=270,slow=1.4,SNR=7.3
MOR8 Moi Rana 111.20 341 *e*PP PP 07 32 39.7 -1.2
I31A Royce, Wessing 111.24 45 P **PKiKP 07 31 58.5 -0.6**
baz=283,SNR=6.9
J31A Geddes 111.26 46 P **PKiKP 07 31 58.5 -0.7**
baz=283
ULM Lac du Bonnet 111.32 38 Pdiff **Pdif 07 28 01.1 -0.5**
comp=Z,4.1nm,0.7s,baz=266,slow=6.2,SNR=9.3
ULM PKiKP **PKiKP 07 31 58.6 -0.5**
comp=Z,57nm,0.9s,baz=293,slow=2.6,SNR=39
ULM PP **PP 07 32 40.4 -1.9**
comp=Z,40nm,1.2s,baz=297,slow=7.0,SNR=8.1
ULM PKKPbc **PKKPbc 07 42 55.2 -1.8**
comp=Z,8.6nm,0.9s,baz=55,slow=4.1,SNR=6.3
ULM PKKPab **PKKPab 07 43 05.2 -0.4**
comp=Z,13nm,1.0s,baz=112,slow=2.9,SNR=6.0
ULM PKPPKP **P'P'df 07 51 22.4 -2.2**
comp=Z,2.7nm,1.0s,baz=37,slow=1.9,SNR=3.0
A32A Rocking H Ranc 111.33 39 P **PKiKP 07 31 57.9 -1.2**
baz=287,SNR=22
K31A O'Neill 111.40 46 P **PKiKP 07 31 58.7 -0.8**
baz=283
KONS Konsvik 111.41 342 *e* **PKiKP 07 31 59.2 +0.5**
KONS IAmb IAmb 07 32 00.6
comp=Z,47nm,0.8s
CBKS Cedar Bluff 111.43 51 P **PKiKP 07 31 59.3 -0.4**
baz=281
B32A Ashes, Strandq 111.45 40 P **PKiKP 07 31 58.4 -1.0**
baz=287,SNR=22
D32A Dogwood Acres, 111.49 41 P **PKiKP 07 31 58.3 -1.2**
baz=286,SNR=21
IDID Didziasalis 111.50 328 *e*P **PKiKP 07 31 59.9 +0.7**
IDID IAmb IAmb 07 32 02.3
comp=Z,47nm,0.9s
BRTR Keskin Array B 111.53 311 Pdiff **Pdif 07 28 01.4 -1.6**
comp=Z,1.4nm,0.8s,baz=141,slow=6.1,SNR=6.6
BRTR PKiKP **PKiKP 07 32 00.3 +0.3**
comp=Z,30nm,1.0s,baz=130,slow=1.9,SNR=25
BRTR PP **PP 07 32 44.0 -0.3**
comp=Z,9.9nm,0.9s,baz=90,slow=3.7,SNR=4.5
BRTR PKKPbc **PKKPbc 07 42 56.8 +0.6**
comp=Z,21nm,1.1s,baz=203,slow=4.0,SNR=15
BRTR SKKPbc SKKPbc 07 46 15.6 -5.3
comp=Z,7.0nm,1.0s,baz=238,slow=3.5,SNR=4.2
BRTR PKPPKP **P'P'df 07 51 25.0 -0.2**
comp=Z,0.6nm,0.7s,baz=197,slow=1.3,SNR=3.8
STOK Stokkvaagen 111.55 342 *e* **PKiKP 07 32 00.3 +1.3**
STOK *e*PP **PP 07 32 44.4 +1.1**
IZAR Zarasai 111.58 329 *e*P **PKiKP 07 32 00.0 +0.6**
IZAR IAmb IAmb 07 32 02.4
comp=Z,56nm,1.1s
E32A Braaten, Kindr 111.60 42 P **PKiKP 07 31 58.7 -1.0**
baz=286,SNR=7.1
C32A Crookston 111.62 41 P **PKiKP 07 31 58.9 -0.8**
baz=286,SNR=7.2
NACGM Naroch 111.63 328 *e*P **Pdif 07 28 03.0 +0.1**
NACGM *e*pP **pPdif 07 28 48.0 -6.4**
NACGM *e*PKP **PKiKP 07 32 00.0 +0.5**
NACGM PKPM 07 32 02.0
comp=Z,0.3nm,1.0s
NACGM *e*PP **PP 07 32 44.0 -0.3**
NACGM *e*SKS SKSdf 07 38 27.0 -25
NACGM *e*SKKS **SKKSac 07 39 31.0 +5.5**
NACGM *e*S **Sdif 07 40 04.0 -0.3**
NACGM *e*PS **PS 07 42 14.0 -5.7**
NACGM *e*SS SS 07 48 14.0 +11
NACGM *e*SSS SSS 07 52 56.0
NACGM *e*LQ LQ 08 04 05.0
NACGM *e*LR LR 08 12 16.0
NACGM LRM MLR 08 19 47.0
comp=Z,18nm,22.0s
NACGM Naroch 111.63 328 *e* **PKKPbc 07 42 53.0 -3.1**
G32A Webster 111.66 43 P **PKiKP 07 31 59.2 -0.7**
AKASG Malin Array Be 111.72 323 Pdiff **Pdif 07 28 01.8 -1.6**
comp=Z,2.0nm,0.7s,baz=55,slow=4.7,SNR=14
AKASG PKiKP **PKiKP 07 31 59.6 -0.2**
comp=Z,29nm,0.7s,baz=62,slow=2.6,SNR=53
AKASG PP **PP 07 32 45.4 +0.3**
comp=Z,46nm,1.0s,baz=56,slow=6.9,SNR=14
AKASG PKKPbc **PKKPbc 07 42 53.5 -2.2**
comp=Z,17nm,0.8s,baz=262,slow=4.1,SNR=35
AKASG PKKPab **PKKPab 07 43 04.0 +0.3**
comp=Z,4.0nm,0.7s,baz=264,slow=4.8,SNR=7.0
AKASG PKPPKP **P'P'df 07 51 22.3 -1.5**
comp=Z,0.2nm,0.3s,baz=261,slow=1.9,SNR=3.3
AKBB Malin Array Si 111.72 323 *e*Pdif **Pdif 07 28 02.3 -1.1**
AKBB Malin Array Si 111.72 323 *e*P **Pdif 07 28 02.3 -1.1**
SERE Sereflikochisa 111.73 310 *e*P **PKiKP 07 31 59.6 -0.8**
KIEV Kiev 111.73 323 *i* P **PKiKP 07 31 58.8 -1.0**
SNR=17
KIEV Kiev 111.73 323 *i* P **Pdif 07 28 00.3 -3.1**
KIEV *i* 07 31 58.6
IIGN Ignalina 111.75 328 *e*P **PKiKP 07 32 00.5 +0.8**
IIGN IAmb IAmb 07 32 02.9
comp=Z,57nm,0.9s
F32A Veblen 111.76 43 P **PKiKP 07 31 59.3 -0.8**
baz=285,SNR=11
KURC Kurucasile-Bar 111.76 313 *e*P **PKiKP 07 32 01.1 +1.0**
AK11 Malin Array Si 111.77 323 *e*Pdif **Pdif 07 28 02.9 -0.7**
J32A Parkston 111.88 45 P **PKiKP 07 31 59.4 -0.9**
baz=284,SNR=22
H32A Carlson Farm, 111.89 44 P **PKiKP 07 31 59.8 -0.6**
baz=284,SNR=44
SULT Sultanhani-AKS 111.91 309 *e*P **PKiKP 07 32 05.4 +4.7**
AGMN Agassiz Nation 111.91 40 P **PKiKP 07 31 59.0 -1.2**
baz=287,SNR=15
K32A Verdigre 111.95 46 P **PKiKP 07 31 59.2 -1.3**
baz=283,SNR=18
EIL Elat 111.97 300 PKKPab PKKPab 07 43 03.5 +0.5
comp=Z,6.8nm,0.5s,baz=310,slow=0.8,SNR=5.0
EIL PKKP **PKKPdf 07 43 13.4 +0.4**
comp=Z,20nm,1.1s,baz=333,slow=7.6,SNR=4.1
I32A Karley and Nic 111.99 45 P **PKiKP 07 31 59.7 -0.9**
baz=284,SNR=9.6
AFSR Af˙ar-Bala (A 112.01 310 *e*P **PKiKP 07 31 58.1 -2.7**
A33A Warroad 112.02 39 P **PKiKP 07 31 59.4 -1.0**
baz=288,SNR=24
L32A Elgin 112.08 47 P **PKiKP 07 31 59.7 -1.1**
baz=283
B33A Robert and Kas 112.09 40 P **PKiKP 07 31 59.4 -1.2**
baz=287,SNR=23
BGNE Belgrade 112.10 48 P **PKiKP 07 31 59.8 -1.1**
baz=283
BGNE Belgrade 112.10 48 *e*PKPdf **PKiKP 07 31 59.7 -1.1**
C33A Trail 112.13 40 P **PKiKP 07 31 59.6 -1.1**
baz=287,SNR=28
ANTO Ankara 112.14 311 *i* P **PKiKP 07 32 01.4 +0.4**
ANTO Ankara 112.14 311 ⇓*i*P **PKiKP 07 32 02.2 +1.2**
ANTO Ankara 112.14 311 ⇓*i*P **PKKPbc 07 42 55.6 +1.6**
ANTO Ankara 112.14 311 *e*PKPdf **PKiKP 07 32 01.9 +0.9**
ANTO Ankara 112.14 311 PKiKP **PKiKP 07 32 01.7 +0.7**
SNR=20
ANTO Ankara 112.14 311 P **PKiKP 07 32 01.7 +0.7**
SNR=20
ANTO Ankara 112.14 311 *e*PKIKP **PKiKP 07 32 01.9 +0.9**
MOIG Morelia 112.25 71 *e*PKPdf **PKiKP 07 32 02.5 +0.5**
D33A AnnSam, Wauburn 112.26 41 P **PKiKP 07 31 59.9 -1.1**
baz=287,SNR=14
F33A 5 Mile Ranch, 112.33 43 P **PKiKP 07 32 00.1 -1.0**
baz=286,SNR=29
H33A Prehn Over Nor 112.33 44 P **PKiKP 07 32 00.4 -0.8**
baz=285,SNR=10
E33A Westby DABS, E 112.33 42 P **PKiKP 07 32 00.1 -1.0**
baz=286,SNR=18
G33A Ortonville 112.40 43 P **PKiKP 07 32 00.5 -0.8**
baz=286,SNR=43
I33A Coleman 112.45 44 P **PKiKP 07 32 00.6 -0.9**
baz=285,SNR=13
ABTX Abilene, Hawle 112.50 57 P **PKiKP 07 32 01.6 -0.3**
baz=278
ABTX Abilene, Hawle 112.50 57 *e*PKPdf **PKiKP 07 32 02.1 +0.2**
J33A Davis 112.51 45 P **PKiKP 07 32 00.6 -0.9**
baz=284,SNR=28
L33A Hoskins 112.57 47 P **PKiKP 07 32 00.7 -1.1**
baz=284
CSS Mathiatis 112.61 306 *e*PKPdf **PKiKP 07 32 02.3 +0.3**
CSS Mathiatis 112.61 306 P **PKiKP 07 32 01.7 -0.3**
B34A Aery, Baudette 112.63 39 P **PKiKP 07 32 00.5 -1.1**
baz=288,SNR=27
JCT Junction City 112.65 59 P **PKiKP 07 32 02.1 -0.2**
baz=277
JCT Junction City 112.65 59 *e*Pdif **Pdif 07 28 09.3 +1.2**
JCT *e*PKPdf **PKiKP 07 32 01.7 -0.6**
JCT Junction City 112.65 59 *e*P **Pdif 07 28 09.3 +1.2**
JCT *e* 07 32 01.7
ECSD EROS Data Cent 112.66 45 P **PKiKP 07 32 01.2 -0.7**
baz=285,SNR=51
ECSD EROS Data Cent 112.66 45 *e*Pdif **Pdif 07 28 07.4 -0.4**
ERMK Ermenek 112.66 307 *i* P **PKiKP 07 32 04.9 +2.6**
K33A Hardington 112.66 46 P **PKiKP 07 32 01.2 -0.7**
baz=284,SNR=9.2
D34A Park Rapids 112.70 41 P **PKiKP 07 32 00.9 -0.9**
baz=288,SNR=22
C34A RKJ Ranch, Bem 112.72 40 P **PKiKP 07 32 00.7 -1.1**
baz=288,SNR=22
M33A Taylor Creek F 112.77 47 P **PKiKP 07 32 00.9 -1.2**
baz=284,SNR=22
N33A J Bar K, Exete 112.77 48 P **PKiKP 07 32 01.3 -0.9**
baz=283
JMIC Jan Mayen 112.81 352 PKiKP **PKiKP 07 32 01.3 0.0**
comp=Z,26nm,0.8s,baz=275,slow=8.3,SNR=3.9
JMIC PP **PP 07 32 52.2 +0.2**
comp=Z,15nm,0.8s,baz=118,slow=13,SNR=3.2
O33A Hebron 112.81 49 P **PKiKP 07 32 01.7 -0.5**
baz=283
E34A Wadena 112.89 42 P **PKiKP 07 32 01.3 -0.9**
baz=287,SNR=9.0
WMOK Wichita Mounta 112.89 55 P **PKiKP 07 32 02.3 -0.2**
baz=280
WMOK Wichita Mounta 112.89 55 *e*PKPdf **PKiKP 07 32 02.5 -0.1**
WMOK Wichita Mounta 112.89 55 *e*PKIKP **PKiKP 07 32 02.5 -0.1**
KDHN Kadinhani 112.92 309 *i* P **PKiKP 07 32 01.9 -0.7**
G34A Benson 112.93 43 P **PKiKP 07 32 01.8 -0.5**
baz=286,SNR=40
SUMG Summit 112.94 2 *i* P **PKiKP 07 32 03.1 +1.0**
comp=Z,133nm,1.1s
SUMG *i* 07 32 55.6
SUMG Summit 112.94 2 *e*PKPdf **PKiKP 07 32 03.2 +1.2**
SUMG Summit 112.94 2 *e*PKIKP **PKiKP 07 32 03.2 +1.2**
H34A Spellman Lake, 113.00 44 P **PKiKP 07 32 01.9 -0.6**
baz=286,SNR=71
F34A Alexandria 113.03 42 P **PKiKP 07 32 01.7 -0.8**
baz=287,SNR=20
NSS Namsos 113.05 341 *e* **PKiKP 07 32 01.7 -0.2**
NSS *e*PP **PP 07 32 54.1 +0.2**
SORM Soroca 113.08 320 ⇑*i*P **PKiKP 07 32 03.0 +0.6**
SORM Soroca 113.08 320 ⇑*i*P **PKKPbc 07 42 50.8 -0.2**
I34A Hadley 113.11 44 P **PKiKP 07 32 02.0 -0.7**
baz=286,SNR=27
KIS Kishinev 113.14 319 ⇑*i*P **Pdif 07 28 08.0 -1.8**
comp=Z,900nm,10.0s
KIS *i* pP **pPdif 07 29 08.0 +6.7**
KIS Kishinev 113.14 319 *e*PKP **PKiKP 07 32 00.0 -2.6**
KIS *i* pPKP **PP 07 32 55.0 -0.3**
KIS Kishinev 113.14 319 *i* PS PS 07 43 07.0 +33
KIS LRM MLR 08 21 40.0
comp=Z,8μm,20.0s
KIS Kishinev 113.14 319 *c i*P **Pdif 07 28 08.0 -1.8**
KIS *e* 07 32 00.0
KIS *i* 07 32 55.0
KIS *i* 07 38 24.0
KIS *i* 07 42 06.0
KIS pmax pmax
comp=Z,900nm,10.0s
KIS pmax pmax
comp=Z,1μm,7.0s
KIS MLR MLR
comp=Z,8μm,20.0s
MDUB Mudurnu 113.20 312 *i* P **PKiKP 07 32 02.7 -0.4**
M34A Aspy Farms, Fr 113.23 47 P **PKiKP 07 32 01.5 -1.5**
baz=284,SNR=6.1
J34A George 113.23 45 P **PKiKP 07 32 01.6 -1.4**
baz=285,SNR=23
B35A Bob, Littlefor 113.25 39 P **PKiKP 07 32 01.6 -1.2**
baz=289,SNR=16
833A Chaparral WMA, 113.26 62 P **PKiKP 07 32 01.9 -1.5**
baz=276
L34A Svendsen Farm, 113.27 47 P **PKiKP 07 32 01.6 -1.4**
baz=284,SNR=7.0
K34A Le Mars 113.29 46 P **PKiKP 07 32 01.9 -1.1**
baz=285,SNR=24
C35A Jirik Farms, M 113.30 40 P **PKiKP 07 32 01.5 -1.4**
baz=288,SNR=21
E35A Pequot Lakes 113.38 41 P **PKiKP 07 32 02.3 -0.8**
baz=288,SNR=50
D35A Remer 113.45 41 P **PKiKP 07 32 02.3 -0.9**
baz=288,SNR=30
N34A Lincoln 113.45 48 P **PKiKP 07 32 01.9 -1.5**
baz=284,SNR=20
O34A Beatrice 113.45 49 P **PKiKP 07 32 02.1 -1.4**
baz=283,SNR=21
F35A Swanville 113.47 42 P **PKiKP 07 32 02.6 -0.7**
baz=287,SNR=57
H35A Sunnyside Ranc 113.64 43 P **PKiKP 07 32 03.1 -0.6**
baz=287,SNR=41
KEPZ Antalya-Kepez 113.64 308 *i* P **PKiKP 07 32 03.1 -0.9**
LEOM Leova 113.67 319 ⇑*i*P **PKiKP 07 32 04.5 +0.9**
ESKT Eskisehir 113.67 311 *i* P **PKiKP 07 32 03.6 -0.5**
TLCR 113.68 317 ⇓*i*P **PKiKP 07 32 04.4 +0.7**
G35A Watkins 113.72 43 P **PKiKP 07 32 03.4 -0.4**
baz=287,SNR=38
J35A Milford 113.74 45 P **PKiKP 07 32 02.7 -1.2**
baz=286,SNR=45
KSU1 Kansas State U 113.76 50 P **PKiKP 07 32 03.8 -0.3**
baz=283
KSU1 Kansas State U 113.76 50 *e*PKPdf **PKiKP 07 32 04.0 0.0**
I35A Creekview Farm 113.77 44 P **PKiKP 07 32 02.8 -1.1**

baz=286,SNR=35
L35A **Bielow Farm, R** 113.83 46 P PKiKP 07 32 03.3 -0.8
baz=285,SNR=19
GEYV **SAKARYA_Geyve** 113.87 312 *i* P PKiKP 07 32 04.2 0.0
M35A **Neola** 113.89 47 P PKiKP 07 32 03.3 -0.9
baz=285,SNR=48
BORA **Eskisehir** 113.89 311 *i* P PKiKP 07 32 04.7 +0.3
K35A **Storm Lake** 113.90 46 P PKiKP 07 32 03.2 -1.1
baz=285,SNR=19
SUW **Suwalki** 113.91 328 *e*Pdiff Pdif 07 28 12.8 -0.3
SUW *e*PKPdf PKiKP 07 32 03.7 -0.1
SUW *e*PP PP 07 32 59.5 -1.0
SUW *e* 07 33 46.5
SUW *e*SKPdf SKPdf 07 35 18.0 -1.7
SUW *e*SKSac SKSac 07 38 29.4 -1.0
SUW *e*SKKSac SKKSac 07 39 37.8 -3.2
SUW *e*SS SS 07 48 35.1 +2.1
SUW *e*SKKSdf SKKSdf 07 49 54.5 -8.1
SUW *e* 07 50 28.5
SUW *e*SSS SSS 07 52 50.0
SUW LMZ LR 08 14 47.4
comp=Z,12µm,33.5s
SUW **Suwalki** 113.91 328 *e*PKIKP PKiKP 07 32 03.7 -0.1
SUW *e* 07 32 59.5
SUW *e* 07 38 29.4
SUW *e*SS SS 07 48 35.1 +2.1
SUW *e*SSS SSS 07 52 50.0
D36A **Goodland** 113.99 40 P PKiKP 07 32 03.2 -1.1
baz=289,SNR=27
C36A **Pine Crest Far** 114.01 40 P PKiKP 07 32 03.2 -1.1
baz=290,SNR=27
O35A **Humboldt** 114.02 48 P PKPdf 07 32 03.5 -1.0
baz=284,SNR=7.6
BAGO **Egridir - ISPA** 114.06 309 *i* P PKPdf 07 32 05.1 +0.3
N35A **Tabor** 114.07 48 P PKPdf 07 32 03.8 -0.8
baz=284,SNR=16
EFOR **EFORIE** 114.12 316 ⇓ *i* P PKPdf 07 32 06.2 +1.7
CFR **Carcaliu** 114.14 317 ⇑ *i* P PKPdf 07 32 05.5 +0.9
CFR **Carcaliu** 114.14 317 ⇓ *i* P PKKPbc 07 42 47.3 -0.1
E36A **McGregor** 114.14 41 P PKPdf 07 32 03.7 -0.9
baz=289,SNR=38
TIRR **Tirgusor** 114.16 316 ⇓ *i* P PKPdf 07 32 05.6 +1.0
TIRR **Tirgusor** 114.16 316 ⇓ *i* P PKKPbc 07 42 47.1 -0.2
TIRR **Tirgusor** 114.16 316 *e*PKPdf PKPdf 07 32 04.8 +0.1
TIRR **Tirgusor** 114.16 316 *e*PKIKP PKPdf 07 32 04.8 +0.2
F36A **Milaca** 114.17 42 P PKPdf 07 32 03.9 -0.8
baz=288,SNR=59
G36A **St. Michael** 114.21 43 P PKPdf 07 32 04.5 -0.2
baz=288,SNR=50
H36A **Jessenland, He** 114.29 43 P PKPdf 07 32 05.0 +0.1
baz=287,SNR=38
ISP **Isparta** 114.30 309 ⇑ *i* P PKPdf 07 32 06.3 +1.0
ISP **Isparta** 114.30 309 ⇑ *i* P PKKPbc 07 42 47.4 +0.7
ISP **Isparta** 114.30 309 *e*PKPdf PKPdf 07 32 05.0 -0.3
ISP **Isparta** 114.30 309 *e*PKIKP PKPdf 07 32 05.0 -0.3
J36A **Seneca 1, Swea** 114.36 45 P PKPdf 07 32 04.0 -1.1
baz=286,SNR=30
I36A **Fitzsimmons Fa** 114.39 44 P PKPdf 07 32 04.4 -0.8
baz=287,SNR=56
HARR **Harsova** 114.42 317 ⇓ *i* P PKPdf 07 32 06.5 +1.4
WHTX **Lake Whitney,** 114.43 57 P PKPdf 07 32 05.5 0.0
baz=279
WHTX **Lake Whitney,** 114.43 57 *e*PKPdf PKPdf 07 32 05.8 +0.2
C37A **Embarrass** 114.44 40 P PKPdf 07 32 04.2 -0.9
baz=290,SNR=17
L36A **Harm Buss Farm** 114.46 46 P PKPdf 07 32 04.4 -0.9
baz=286,SNR=9.2
D37A **Cotton** 114.47 40 P PKPdf 07 32 04.4 -0.8
baz=290,SNR=49
K36A **Gilmore City** 114.47 45 P PKPdf 07 32 04.7 -0.6
baz=286,SNR=46
435B **Jarrell** 114.50 59 P PKPdf 07 32 05.6 -0.1
baz=279
M36A **Felix, Anita** 114.54 47 P PKPdf 07 32 04.5 -1.0
baz=285,SNR=6.6
PETR **Petresti** 114.58 318 ⇑ *i* P PKPdf 07 32 08.0 +2.6
N36A **Muff Farm, Cla** 114.59 48 P PKPdf 07 32 05.1 -0.5
baz=285,SNR=32
KORT **Korkueli** 114.61 308 *i* P PKPdf 07 32 04.5 -1.4
BOSA **Boshof** 114.61 235 Pdiff Pdif 07 28 22.8 +5.8
comp=Z,3.5nm,0.8s,baz=107,slow=5.2,SNR=4.5
BOSA PKP PKiKP 07 32 06.5 +0.3
comp=Z,14nm,0.7s,baz=109,slow=1.9,SNR=18
BOSA PKKPbc PKKPbc 07 42 45.8 +0.4
comp=Z,32nm,0.9s,baz=275,slow=3.4,SNR=16
BOSA PKKPab PKKPab 07 42 53.6 +1.4
comp=Z,115nm,1.0s,baz=304,slow=4.9,SNR=31
BOSA PKPPKP P'P'df 07 51 17.9 -2.2
comp=Z,1.7nm,0.6s,baz=180,slow=4.0,SNR=2.8
ODBI **Odobesti** 114.68 318 ⇑ *i* P PKPdf 07 32 06.8 +1.2
E37A **Wrenshall** 114.69 41 P PKPdf 07 32 04.8 -0.8
baz=289,SNR=24
PRAR **RASCA** 114.69 320 ⇑ *i* P PKPdf 07 32 07.0 +1.4
PRAR **RASCA** 114.69 320 ⇓ *i* P PKKPbc 07 42 45.7 +0.1
TESR **Tescani** 114.70 319 ⇓ *i* P Pdif 07 28 17.4 +0.6
TESR **Tescani** 114.70 319 ⇓ *i* P PKPdf 07 32 05.8 +0.1
SCO **Scoresbysund** 114.75 356 *i* P PKPdf 07 32 05.5 +0.5
comp=Z,52nm,1.0s
SCO **Scoresbysund** 114.75 356 *i* PKIKP PKPdf 07 32 05.5 +0.5
SCO pmax pmax
comp=Z,53nm,1.0s
EYMN **Ely** 114.80 39 P PKPdf 07 32 05.2 -0.6
baz=291,SNR=19
EYMN **Ely** 114.80 39 *e*PKPdf PKPdf 07 32 05.1 -0.7
GDZ **Gediz** 114.81 311 *i* P PKPdf 07 32 05.2 -1.1
F37A **Hinrichs Farm,** 114.81 42 P PKPdf 07 32 05.2 -0.7
baz=289,SNR=65
I37A **Lemond, Waseca** 114.81 44 P PKPdf 07 32 05.3 -0.6
baz=287,SNR=45
AMRR **Amara** 114.85 317 ⇓ *i* P PKPdf 07 32 09.1 +3.2
SPMN **Marine on St.** 114.85 42 P PKPdf 07 32 05.2 -0.8
baz=288,SNR=29
SPMN **Marine on St.** 114.85 42 *e*PKPdf PKPdf 07 32 05.5 -0.4
VRI **Vrincioaia** 114.86 318 ⇑ *i* P Pdif 07 28 19.1 +1.6
VRI **Vrincioaia** 114.86 318 ⇓ *i* P PKPdf 07 32 06.5 +0.5
VRI **Vrincioaia** 114.86 318 ⇓ *i* P PKKPbc 07 42 45.1 +0.1
J37A **Redenius Farm,** 114.92 45 P PKPdf 07 32 05.2 -1.0
baz=287,SNR=44
PLOR **Plostina** 114.92 318 ⇓ *i* P Pdif 07 28 19.3 +1.5
PLOR **Plostina** 114.92 318 ⇓ *i* P PKPdf 07 32 06.3 +0.2
PLOR **Plostina** 114.92 318 ⇑ *i* P PKKPbc 07 42 45.0 +0.2
KHAL **Karahalli** 114.97 310 *i* P PKPdf 07 32 07.1 +0.5
H37A **Dierke Farm, C** 114.97 43 P PKPdf 07 32 05.3 -0.9
baz=288,SNR=19
K37A **Belmond** 115.01 45 P PKPdf 07 32 05.3 -1.1
baz=287,SNR=38
C38A **Sawbill Land.** 115.02 39 P PKPdf 07 32 04.9 -1.3
baz=291,SNR=7.6
TUL1 **Leonard** 115.08 53 P PKPdf 07 32 06.4 -0.3
baz=282,SNR=47
TUL1 **Leonard** 115.08 53 *e*PKPdf PKPdf 07 32 07.1 +0.4
M37A **Trindle Farm,** 115.09 47 P PKPdf 07 32 06.0 -0.6
baz=286,SNR=49
L37A **Phoenix Point,** 115.11 46 P PKPdf 07 32 05.7 -0.9
baz=286
LVV **L'vov** 115.15 323 *e*PKIKP PKPdf 07 32 06.4 0.0
LVV *e* 07 32 58.8
LVV *e* 07 33 15.9
LVV *e* 07 48 42.9
LVV *e* 08 32 59.3
LVV MLR MLR
comp=E,1µm,17.0s
LVV MLR MLR
comp=Z,3µm,17.0s
LVV MLR MLR
comp=N,2µm,18.0s
N37A **Lee Faris, Mou** 115.15 47 P PKPdf 07 32 06.0 -0.7
baz=285,SNR=32
GOLH **Golhisar** 115.17 309 *i* P PKPdf 07 32 07.1 +0.1
HFS **Hagfors** 115.18 336 Pdiff Pdif 07 28 18.5 -0.1
comp=N,8.9nm,1.0s,baz=115,slow=2.4,SNR=9.1
HFS PKP PKiKP 07 32 05.7 -0.4
comp=N,11nm,0.5s,baz=36,slow=2.8,SNR=36
HFS PP PP 07 33 06.4 -2.7
comp=N,19nm,0.8s,baz=59,slow=7.1,SNR=5.3
HFS PKKPbc PKKPbc 07 42 42.6 -1.8
comp=N,7.8nm,0.7s,baz=204,slow=3.2,SNR=11
HFS PKPPKP P'P'df 07 51 15.8 -0.6
comp=N,5.5nm,1.0s,baz=216,slow=6.9,SNR=3.7
E38A **The Farm, Brul** 115.22 41 P PKPdf 07 32 05.7 -1.0
baz=290,SNR=43
ISR **Istrita** 115.23 318 ⇓ *i* P PKPdf 07 32 07.9 +1.1
ISR **Istrita** 115.23 318 ⇑ *i* P PKKPbc 07 42 44.1 +0.3
F38A **Pierce - Schro** 115.23 41 P PKPdf 07 32 06.1 -0.5
baz=290,SNR=43

PRD **Provadia** 115.23 315 *i* P PKPdf 07 32 06.7 0.0
BUR08 **Bucovina Ar. S** 115.25 321 *e*Pdif Pdif 07 28 19.8 +0.5
BUR08 *e*PKPdf PKiKP 07 32 06.5 -0.3
BURAR **Bucovina Array** 115.25 321 ⇑ *i* P Pdif 07 28 19.3 0.0
BURAR **Bucovina Array** 115.25 321 ⇓ *i* P PKPdf 07 32 08.0 +1.2
BURAR **Bucovina Array** 115.25 321 ⇓ *i* P PKKPbc 07 42 45.0 +1.1
BUR04 **Bucovina Ar. S** 115.25 321 *e*Pdif Pdif 07 28 19.5 +0.2
BUR04 *e*PKPdf PKiKP 07 32 05.9 -0.9
ILULI **Ilulissat** 115.28 7 *i* P PKPdf 07 32 06.4 +0.3
comp=N,152nm,0.9s
ILULI **Ilulissat** 115.28 7 *e*PKPdf PKPdf 07 32 05.9 -0.2
ILULI **Ilulissat** 115.28 7 *e*PKIKP PKPdf 07 32 05.9 -0.2
NC405 **NORSAR Array S** 115.34 338 *e*PKPdf PKPdf 07 32 06.1 -0.4
P37A **Lathrop** 115.35 49 P PKPdf 07 32 06.0 -1.1
baz=285,SNR=32
O37A **Wolven Farm, M** 115.35 48 P PKPdf 07 32 06.1 -1.0
baz=285,SNR=43
AKAS **Kas** 115.36 307 *i* P PKPdf 07 32 06.4 -1.0
H38A **Maiden Rock** 115.38 43 P PKPdf 07 32 06.0 -1.0
baz=289,SNR=32
KSL **Kastellorizon** 115.39 307 P PKPdf 07 32 06.6 -0.7
NC303 **NORSAR Array S** 115.39 338 *e*PKPdf PKPdf 07 32 05.9 -0.6
Q37A **Longview Farm,** 115.45 49 P PKPdf 07 32 06.1 -1.3
baz=284,SNR=24
G38A **Ridgeland** 115.50 42 P PKPdf 07 32 06.0 -1.3
baz=289,SNR=46
MLR **Muntele Rosu** 115.50 318 Pdiff Pdif 07 28 21.1 +0.6
comp=N,0.4nm,0.6s,baz=90,slow=6.1,SNR=3.9
MLR PKP PKiKP 07 32 07.6 +0.2
comp=N,18nm,0.8s,baz=32,slow=2.5,SNR=40
MLR PP PP 07 33 12.1 -0.1
comp=N,5.0nm,0.9s,baz=100,slow=7.0,SNR=4.8
MLR PKKPbc PKKPbc 07 42 41.8 -1.1
comp=N,4.2nm,0.7s,baz=228,slow=6.9,SNR=5.1
MLR **Muntele Rosu** 115.50 318 ⇑ *i* P Pdif 07 28 21.6 +1.1
MLR **Muntele Rosu** 115.50 318 ⇓ *i* P PKPdf 07 32 08.1 +0.7
MLR **Muntele Rosu** 115.50 318 ⇓ *i* P PKKPbc 07 42 42.7 -0.2
MLR **Muntele Rosu** 115.50 318 Pdif Pdif 07 28 21.1 +0.6
MLR *e*PKPdf PKPdf 07 32 06.4 -1.0
MLR PP PP 07 33 12.1 -0.1
MLR PKKPbc PKKPbc 07 42 41.9 -1.1
MLR **Muntele Rosu** 115.50 318 P Pdif 07 28 21.1 +0.6
MLR *e* 07 32 06.4
MLR 07 33 12.1
NB201 **NORSAR Array S** 115.54 338 *e*PKPdf PKPdf 07 32 06.2 -0.6
I38A **Scanlan Farm,** 115.54 44 P PKPdf 07 32 06.1 -1.2
baz=288,SNR=30
SCIA **State Center** 115.56 46 P PKPdf 07 32 07.0 -0.5
baz=287,SNR=26
SCIA **State Center** 115.56 46 *e*PKPdf PKPdf 07 32 07.1 -0.3
NB2 **NORSAR Subarra** 115.57 338 P Pdif 07 28 18.9 -1.5
comp=Z,35nm,1.1s,baz=53,slow=4.8
NB2 **NORSAR Subarra** 115.57 338 P Pdif 07 28 18.9 -1.5
baz=53,slow=4.8
NOA **NORSAR Array B** 115.57 338 Pdiff Pdif 07 28 19.6 -0.8
comp=Z,14nm,1.0s,baz=58,slow=4.3,SNR=15
NOA PKP PKPdf 07 32 06.8 -0.1
comp=Z,107nm,1.1s,baz=53,slow=2.0,SNR=62
NOA PP PP 07 33 11.2 -0.6
comp=Z,22nm,1.0s,baz=56,slow=6.2,SNR=4.3
NOA PKKPbc PKKPbc 07 42 41.5 -1.6
comp=Z,15nm,0.9s,baz=53,slow=3.4,SNR=37
SECR 115.57 318 ⇓ *i* P PKPdf 07 32 08.7 +1.3
NC204 **NORSAR Array S** 115.59 338 *e*PKPdf PKPdf 07 32 06.0 -1.0
LBTB **Lobatse** 115.59 239 Pdiff Pdif 07 28 20.1 -1.3
comp=Z,1.7nm,0.8s,baz=58,slow=9.5,SNR=1.7
LBTB PKP PKiKP 07 32 09.1 +0.9
comp=Z,28nm,0.9s,baz=139,slow=3.2,SNR=21
LBTB PP PP 07 33 14.3 +1.1
comp=Z,14nm,1.0s,baz=123,slow=9.9,SNR=3.8
LBTB **Lobatse** 115.59 239 Pdif Pdif 07 28 20.1 -1.3
LBTB *e*PKPdf PKiKP 07 32 08.7 +0.6
LBTB PP PP 07 33 14.3 +1.1
LBTB **Lobatse** 115.59 239 P Pdif 07 28 20.1 -1.3
LBTB *e* 07 32 08.7
LBTB 07 33 14.4
TAVA **DENIZLI_Tavas** 115.62 309 *i* P PKPdf 07 32 08.1 +0.3
NC602 **NORSAR Array S** 115.64 338 *e*PKPdf PKPdf 07 32 06.0 -1.0
NC602 **NORSAR Array S** 115.64 338 *e*PKPdf PKPdf 07 32 07.2 +0.2
NC602 *e*PP PP 07 33 11.8 -0.5
MANT **Manisa** 115.65 310 *e*PKPdf PKPdf 07 32 07.4 -0.7
K38A **Parkersburg** 115.66 45 P PKPdf 07 32 06.8 -0.8
baz=287,SNR=15
J38A **Wedel Dairy, R** 115.67 44 P PKPdf 07 32 06.5 -1.2
baz=288,SNR=27
L38A **Oak Wood Farm,** 115.67 46 P PKPdf 07 32 06.7 -0.9
baz=287,SNR=40
FETY **Fethiye** 115.68 308 P PKPdf 07 32 05.8 -2.1
DOMB **Dombas** 115.69 340 *e*PKPdf PKPdf 07 32 07.0 -0.2
NBO02 **NORSAR Array S** 115.70 338 *e*PKPdf PKPdf 07 32 06.8 -0.3
C39A **Grand Marais** 115.70 39 P PKPdf 07 32 06.2 -1.3
baz=292,SNR=12
M38A **Pleasantville** 115.71 46 P PKPdf 07 32 07.1 -0.7
baz=286,SNR=60
DOPR **Dopca** 115.71 319 ⇑ *i* P PKKPbc 07 42 42.4 +0.3
NBO00 **NORSAR Array S** 115.74 338 *e*PKPdf PKPdf 07 32 07.0 -0.3
NAO01 **NORSAR Array S** 115.82 338 *e*PKPdf PKPdf 07 32 07.9 +0.5
MOL **Molde** 115.84 341 *e*PKPdf PKPdf 07 32 07.4 +0.1
MOL *e*PP PP 07 33 13.7 +0.2
N38A **Joes South For** 115.86 47 P PKPdf 07 32 07.1 -1.0
baz=286,SNR=33
O38A **Galt** 115.86 48 P PKPdf 07 32 07.2 -0.9
baz=286,SNR=26
F39A **Loretta** 115.87 41 P PKPdf 07 32 07.1 -0.8
baz=290,SNR=53
G39A **Holcombe** 115.92 42 P PKPdf 07 32 07.2 -0.8
baz=290,SNR=24
E39A **Mellen** 115.95 41 P PKPdf 07 32 07.2 -0.9
baz=291,SNR=56
P38A **Dawn** 115.95 48 P PKPdf 07 32 07.7 -0.5
baz=285,SNR=114
ARCR **ARCALIA** 115.98 320 ⇓ *i* P PKPdf 07 32 09.2 +1.1
ARCR **ARCALIA** 115.98 320 ⇓ *i* P PKKPbc 07 42 41.5 +0.3
TURN **Turunc** 116.00 308 *i* P PKPdf 07 32 08.4 0.0
T38A **Diamond** 116.01 51 P PKPdf 07 32 08.0 -0.5
baz=284,SNR=52
KWP **Kalwaria Pacla** 116.02 323 *e*Pdiff Pdif 07 28 23.1 +0.6
KWP *e*PKPdf PKPdf 07 32 08.0 -0.1
KWP *e*PP PP 07 33 08.9 -6.4
KWP *e*SKPdf SKiKP 07 35 24.1 +0.1
KWP *e*SKSac SKSac 07 38 37.4 -1.3
KWP *e*SKKSac SKKSac 07 39 57.0 +1.6
KWP *e*SP SP 07 42 35.1 +0.2
KWP *e*SS SS 07 49 03.5 +2.7
KWP *e* 07 50 17.5
KWP LMZ LR 08 15 38.3
comp=Z,11µm,27.6s
KWP **Kalwaria Pacla** 116.02 323 *e*PKIKP PKPdf 07 32 08.0 -0.1
KWP *e* 07 38 37.4
KWP *e*SP SP 07 42 35.1 +0.2
KWP *e*SS SS 07 49 03.5 +2.7
JMB **Yambol** 116.02 315 *i* P PKPdf 07 32 07.5 -0.8
R38A **Fenwick Farm,** 116.03 50 P PKPdf 07 32 07.3 -1.2
baz=284,SNR=31
H39A **Augusta** 116.05 43 P PKPdf 07 32 07.4 -0.9
baz=289,SNR=51
Q38A **Cooks Store, C** 116.06 49 P PKPdf 07 32 07.5 -1.0
baz=285,SNR=34
LSZ **Lusaka** 116.09 250 Pdiff Pdif 07 28 25.8 +2.1
comp=Z,3.8nm,0.5s,baz=123,slow=5.2,SNR=6.8
LSZ PKP PKiKP 07 32 10.5 +1.2
comp=Z,14nm,0.4s,baz=76,slow=2.1,SNR=16
LSZ PP PP 07 33 17.2 0.0
comp=Z,28nm,1.1s,baz=81,slow=8.1,SNR=3.8
LSZ **Lusaka** 116.09 250 PKiKP PKiKP 07 32 12.4 +3.1
SNR=11
VOIR 116.12 318 ⇓ *i* P PKPdf 07 32 09.2 +0.7
VOIR 116.12 318 ⇑ *i* P PKKPbc 07 42 40.0 -0.7
HKT **Hockley** 116.13 59 *e*PKPdf PKPdf 07 32 08.2 -0.6
HKT **Hockley** 116.13 59 *e*PKIKP PKPdf 07 32 08.2 -0.6
I39A **Houston** 116.16 43 P PKPdf 07 32 07.0 -1.5
baz=289,SNR=43
S38A **Stockton** 116.17 51 P PKPdf 07 32 08.0 -0.8
baz=284,SNR=31
BEL **Belsk** 116.17 326 *e*Pdiff Pdif 07 28 23.7 +0.5
BEL *e*PKPdf PKPdf 07 32 08.5 +0.2
BEL *e*PP PP 07 33 19.1 +2.8
BEL *e* 07 34 03.2
BEL *e* 07 43 55.5
BEL LMZ LR 08 16 14.6
comp=Z,11µm,25.5s
BEL **Belsk** 116.17 326 *e*PKIKP PKPdf 07 32 08.5 +0.2
BEL *e* 07 33 19.1
BEL *e* 07 43 55.5

MTUR **Matau** 116.18 318 ⇓ *i* P PKPdf 07 32 09.6 +0.9
J39A **Decorah** 116.19 44 P PKPdf 07 32 07.1 -1.5
baz=288,SNR=29
SZH **Strazhica** 116.23 316 *i* P PKPdf 07 32 08.3 -0.4
K39A **Oelwein** 116.26 45 P PKPdf 07 32 07.3 -1.5
baz=288,SNR=35
C40A **Isle Royale Na** 116.27 39 P PKPdf 07 32 07.7 -0.9
baz=293,SNR=17
BMR **Baia Mare** 116.31 321 ⇓ *i* P PKPdf 07 32 09.4 +0.7
E40A **Wakefield** 116.35 40 P PKPdf 07 32 08.3 -0.6
baz=291,SNR=31
L39A **Vinton** 116.36 45 P PKPdf 07 32 08.0 -0.9
baz=288,SNR=55
N39A **Derby Farms, D** 116.36 47 P PKPdf 07 32 08.3 -0.7
baz=287,SNR=38
GOLR 116.38 318 ⇑ *i* P PKPdf 07 32 10.0 +1.1
F40A **Park Falls** 116.39 41 P PKPdf 07 32 08.3 -0.7
baz=291,SNR=58
ARR **Arges** 116.42 318 ⇑ *i* P Pdif 07 28 25.3 +0.8
ARR **Arges** 116.42 318 ⇓ *i* P PKPdf 07 32 10.4 +1.3
ARR **Arges** 116.42 318 ⇓ *i* P PKKPbc 07 42 40.1 +0.4
M39A **Webster** 116.43 46 P PKPdf 07 32 08.5 -0.6
baz=287,SNR=70
FRB **Frobisher Bay** 116.45 17 PP PP 07 33 17.2 -0.5
comp=Z,27nm,0.9s,baz=327,slow=8.0,SNR=3.2
FRB PKKPbc PKKPbc 07 42 37.9 -2.2
comp=Z,4.4nm,0.5s,baz=135,slow=5.4,SNR=14
HHAR **Hobbs** 116.46 52 *e*PKPdf PKPdf 07 32 08.8 -0.5
OSL **Oslo** 116.47 337 *e* PKPdf 07 32 08.3 -0.3
HUMR **Humele** 116.47 317 ⇓ *i* P PKKPbc 07 42 38.7 -0.6
O39A **Kirksville** 116.51 48 P PKPdf 07 32 08.9 -0.4
baz=286,SNR=46
Q39A **Willow Grove F** 116.52 49 P PKPdf 07 32 08.7 -0.7
baz=286,SNR=94
ARG **Arkhangelos** 116.53 308 P PKPdf 07 32 08.8 -0.7
ARG **Arkhangelos** 116.53 308 P PKPdf 07 32 08.8 -0.7
ARG **Arkhangelos** 116.53 308 PKIKP PKPdf 07 32 08.8 -0.7
P39B **Salisbury** 116.57 48 P PKPdf 07 32 09.0 -0.5
baz=286,SNR=87
G40A **Rib Lake** 116.57 42 P PKPdf 07 32 08.3 -1.1
baz=291,SNR=43
SUR **Sutherland** 116.60 230 PKP PKPdf 07 32 11.9 +1.9
comp=Z,2.6nm,0.8s,baz=174,slow=6.3,SNR=19
SUR PKKPbc PKKPbc 07 42 39.3 +0.5
comp=Z,3.2nm,1.2s,baz=300,slow=0.9,SNR=5.8
S39A **Bolivar** 116.60 51 P PKPdf 07 32 09.0 -0.6
baz=285,SNR=132
CJR **Cluj-Napoca** 116.60 320 ⇓ *i* P PKPdf 07 32 10.4 +1.0
CJR **Cluj-Napoca** 116.60 320 ⇓ *i* P PKKPbc 07 42 39.5 +0.5
R39A **Chumby, Stover** 116.66 50 P PKPdf 07 32 09.1 -0.6
baz=285,SNR=117
H40A **Chili** 116.67 42 P PKPdf 07 32 08.5 -1.0
baz=290,SNR=26
UZH **Uzhgorod** 116.67 322 *c i* PKIKP PKPdf 07 32 08.4 -0.9
UZH *e* 07 32 57.6
UZH *i* 07 33 18.6
X39A **Fountain Ranch** 116.71 54 P PKPdf 07 32 10.0 +0.1
baz=282,SNR=91
TRPA **Tarpa** 116.72 322 ⇓ *i* P PKPdf 07 32 10.1 +0.6
TRPA **Tarpa** 116.72 322 ⇑ *i* P PKKPbc 07 42 38.0 -0.6
TRPA **Tarpa** 116.72 322 ⇓ *e*PKPdf PKPdf 07 32 10.0 +0.6
T39A **Clever** 116.72 51 P PKPdf 07 32 09.3 -0.6
baz=284,SNR=70
LVIG **Laguna Verde** 116.74 71 *e*PKPdf PKPdf 07 32 11.5 +1.2
I40A **Norwalk** 116.76 43 P PKPdf 07 32 08.5 -1.3
baz=290,SNR=20
K40A **Colesburg** 116.79 45 P PKPdf 07 32 08.7 -1.1
baz=289,SNR=61
V39A **Pettigrew** 116.79 53 P PKPdf 07 32 09.5 -0.6
baz=283,SNR=101
U39A **Green Forest** 116.80 52 P PKPdf 07 32 09.2 -0.8
baz=284,SNR=108
NATX **Nacogdoches** 116.81 57 P PKPdf 07 32 10.2 0.0
baz=281,SNR=30
NATX **Nacogdoches** 116.81 57 *e*PKPdf PKPdf 07 32 09.5 -0.6
W39A **Magazine** 116.83 53 P PKPdf 07 32 09.7 -0.4
baz=283,SNR=59
BAYC **CANAKKALE_Bayi** 116.84 312 *i* P PKPdf 07 32 08.5 -1.5
CHRN **Cochrane** 116.84 151 *e*PKPdf PKPdf 07 32 09.8 0.0
J40A **Soldiers Grove** 116.84 44 P PKPdf 07 32 08.5 -1.3
baz=289,SNR=32
BDRM **Kayabasi** 116.86 309 *i* P PKPdf 07 32 09.7 -0.4
ALN **Alexandroupoli** 116.87 313 P PKPdf 07 32 08.7 -1.3
M40A **Post Highland** 116.92 46 P PKPdf 07 32 09.6 -0.5
baz=288,SNR=52
L40A **Anamosa** 116.93 45 P PKPdf 07 32 09.1 -1.0
baz=288,SNR=44
E41A **Kenton** 116.94 40 P PKPdf 07 32 09.1 -0.8
baz=292,SNR=26
LOT **Lotru** 116.96 319 ⇑ *i* P PKPdf 07 32 10.5 +0.3
LOT **Lotru** 116.96 319 ⇓ *i* P PKKPbc 07 42 39.3 +1.5
BODT **Bodrum** 116.96 309 P PKPdf 07 32 08.3 -2.0
COWI **Conover** 116.97 40 *e*PKPdf PKPdf 07 32 09.4 -0.7
D41A **Chassel** 116.97 39 P PKPdf 07 32 09.3 -0.6
baz=293,SNR=12
STHS **Stebnicka Huta** 116.97 324 *e*PDIFF Pdif 07 28 27.3 +0.5
STHS **Stebnicka Huta** 116.97 324 *e*PKP PKPdf 07 32 11.0 +1.0
STHS **Stebnicka Huta** 116.97 324 *e*P Pdif 07 28 27.3 +0.5
STHS *e* 07 32 11.0
EZN **Ezine** 116.98 312 P PKPdf 07 32 10.5 +0.3
EZN **Ezine** 116.98 312 P PKPdf 07 32 10.5 +0.3
EZN **Ezine** 116.98 312 PKIKP PKPdf 07 32 10.5 +0.3
N40A **Mertquake, Sal** 117.03 47 P PKPdf 07 32 09.5 -0.8
baz=287,SNR=25
O40A **La Belle** 117.04 48 P PKPdf 07 32 09.9 -0.5
baz=287,SNR=62
CRVS **Cervenica-Dubn** 117.06 323 *e*PDIFF Pdif 07 28 28.0 +0.8
CRVS **Cervenica-Dubn** 117.06 323 *e*PKP PKPdf 07 32 10.2 +0.1
CRVS *e*PDIFF PKKPbc 07 42 37.2 -0.3
CRVS *e*SP SP 07 42 47.7 +3.3
CRVS *e*SS SKKSdf 07 50 09.2 +13
CRVS **Cervenica-Dubn** 117.06 323 *e*P Pdif 07 28 28.0 +0.8
CRVS *e* 07 32 10.3
CRVS *e* 07 42 47.7
P40A **Paris** 117.08 48 P PKPdf 07 32 10.0 -0.5
baz=286,SNR=56
KONO **Kongsberg** 117.09 337 *e*PKPdf PKPdf 07 32 09.0 -0.8
KONO **Kongsberg** 117.09 337 *e*PKPdf PKPdf 07 32 09.9 +0.1
KONO **Kongsberg** 117.09 337 *c i* PKIKP PKPdf 07 32 08.7 -1.1
KONO pmax pmax
comp=Z,84nm,1.2s
KDZ **Kurdzhali** 117.10 314 *i* P PKPdf 07 32 09.2 -1.2
F41A **Three Lakes** 117.12 41 P PKPdf 07 32 09.8 -0.5
baz=292,SNR=82
DRGR 117.14 320 ⇓ *i* P PKPdf 07 32 11.3 +0.9
DRGR 117.14 320 ⇑ *i* P PKKPbc 07 42 36.4 -0.8
MIAR **Mount Ida** 117.14 54 P PKPdf 07 32 10.8 +0.1
baz=283,SNR=53
MIAR **Mount Ida** 117.14 54 *e*PKPdf PKPdf 07 32 10.4 -0.3
MIAR **Mount Ida** 117.14 54 *e*PKIKP PKPdf 07 32 10.4 -0.3
H41A **Junction City** 117.16 42 P PKPdf 07 32 09.4 -1.1
baz=291,SNR=23
H41A **Junction City** 117.16 42 *e*PKPdf PKPdf 07 32 09.7 -0.8
RDO **Rodhopi** 117.17 314 P PKPdf 07 32 09.5 -1.0
PRK **Paraskevi** 117.18 311 P PKPdf 07 32 10.8 +0.2
PRK **Paraskevi** 117.18 311 P PKPdf 07 32 10.8 +0.2
PRK **Paraskevi** 117.18 311 PKIKP PKPdf 07 32 10.8 +0.2
Q40A **Laux Farm, Aux** 117.21 49 P PKPdf 07 32 10.2 -0.5
baz=286,SNR=127
I41A **Arkdale** 117.21 43 P PKPdf 07 32 09.3 -1.2
baz=290,SNR=14
R40A **Maddies Statio** 117.25 50 P PKPdf 07 32 09.9 -0.9
baz=286,SNR=63
S40A **Lebanon** 117.26 50 P PKPdf 07 32 09.8 -1.1
baz=285,SNR=46
G41A **Antigo** 117.26 41 P PKPdf 07 32 09.7 -1.0
baz=291,SNR=36
ZEY **˙zmir** 117.28 310 *i* P PKPdf 07 32 10.3 -0.5
HYA **Hoyanger** 117.29 340 *e*PKPdf PKPdf 07 32 10.3 +0.2
HYA lAmb lAmb 07 32 13.4
comp=Z,101nm,0.9s
U40A **Yellville** 117.29 52 P PKPdf 07 32 10.1 -0.8
baz=284,SNR=131
CRAR **CRAIOVA** 117.34 318 ⇓ *i* P PKPdf 07 32 12.9 +2.1
JFWS **Jewell Farm** 117.34 44 P PKPdf 07 32 09.7 -1.1
baz=289,SNR=56
JFWS **Jewell Farm** 117.34 44 *e*PKPdf PKPdf 07 32 08.8 -2.0
JFWS **Jewell Farm** 117.34 44 *e*PKIKP PKPdf 07 32 08.8 -2.0
J41A **Loganville** 117.35 44 P PKPdf 07 32 09.8 -1.0
baz=290,SNR=57
T40A **Mansfield** 117.36 51 P PKPdf 07 32 10.2 -0.9
baz=285,SNR=72
FOO **Floro** 117.36 341 *e*PKPdf PKPdf 07 32 10.5 +0.3
DEV **Deva** 117.36 319 ⇓ *i* P PKPdf 07 32 11.3 +0.5
DEV **Deva** 117.36 319 ⇑ *i* P PKKPbc 07 42 37.0 +0.7

SMTH	Samothraki Isl	117.37	313		P		PKPdf	07 32 10.8	-0.2
GKP	Gorka Klasztor	117.39	329		ePdiff		Pdif	07 28 28.8	+0.3
GKP					ePKPdf		PKPdf	07 32 10.5	-0.1
GKP					ePP		PP	07 33 24.4	-0.2
GKP					e			07 34 11.6	
GKP					eSS	SS		07 49 17.8	-0.4
GKP					e			07 50 09.8	
GKP					LMZ	LR		08 14 16.8	
	comp=Z,12µm,28.2s								
GKP	Gorka Klasztor	117.39	329		ePKIKP		PKPdf	07 32 10.5	-0.1
GKP					e			07 33 24.4	
GKP					eSS	SS		07 49 17.8	-0.4
W40A	Ferguson Farm,	117.40	53		P		PKPdf	07 32 11.1	-0.1
	baz=284,SNR=47								
W40A	Ferguson Farm,	117.40	53		ePKPdf		PKPdf	07 32 10.8	-0.4
K41A	Shullsburg	117.40	44		P		PKPdf	07 32 09.9	-1.0
	baz=289,SNR=23								
SFJD	Kangerlussuaq	117.43	8		PKP		PKPdf	07 32 09.5	-0.8
	comp=Z,125nm,0.9s,baz=18,slow=0.7,SNR=40								
SFJD					PP		sPKPdf	07 33 27.1	+1.8
	comp=Z,32nm,0.9s,baz=323,slow=9.5,SNR=4.0								
SFJD					PKKPab		PKKPab	07 42 38.3	+0.1
	comp=Z,10nm,0.5s,baz=135,slow=3.2,SNR=11								
SFJD	Kangerlussuaq	117.43	8	*i*	P		PKPdf	07 32 10.3	0.0
	comp=Z,118nm,0.9s								
SFJD	Kangerlussuaq	117.43	8		ePKPdf		PKPdf	07 32 10.2	0.0
SFJD					PP		sPKPdf	07 33 27.1	+1.8
SFJD					PKKPab		PKKPab	07 42 38.3	+0.1
SFJD	Kangerlussuaq	117.43	8	*i*	PKIKP		PKPdf	07 32 10.3	0.0
SFJD					pmax	pmax			
	comp=Z,120nm,0.9s								
L41A	Preston	117.44	45		P		PKPdf	07 32 10.0	-1.0
	baz=289,SNR=27								
KARP	Karpathos	117.44	307		ePKPdf		PKPdf	07 32 12.1	+0.8
KARP	Karpathos	117.44	307		P		PKPdf	07 32 10.5	-0.8
V40A	Witts Springs	117.45	52		P		PKPdf	07 32 10.5	-0.8
	baz=284,SNR=163								
OJC	Ojcow	117.46	325		ePdiff		Pdif	07 28 29.2	+0.3
OJC					ePKPdf		PKPdf	07 32 10.6	-0.3
OJC					eSKSac		SKSac	07 38 42.0	-2.0
OJC					eSKKSac		SKKSac	07 40 04.5	-0.4
OJC					eSP		SP	07 42 34.2	-14
OJC					ePKKPdf		PKKPdf	07 42 57.0	-6.0
OJC					eSKKPdf		SKKPbc	07 46 00.8	-2.5
OJC					eSS		SS	07 49 24.4	+5.0
OJC					e			07 50 11.3	
OJC					LMN			08 15 11.1	
	comp=Z,20µm,22.5s								
OJC	Ojcow	117.46	325		ePKIKP		PKPdf	07 32 10.6	-0.3
OJC					e			07 38 42.0	
OJC					eSS	SS		07 49 24.4	+5.0
Y40A	Okolona	117.50	55		P		PKPdf	07 32 11.3	-0.1
	baz=283								
SIGR	SIGRI	117.50	312		P		PKPdf	07 32 10.9	-0.3
SIGR	SIGRI	117.50	312		P		PKPdf	07 32 10.9	-0.3
240A	Hunter Patters	117.51	57		P		PKPdf	07 32 11.8	+0.3
	baz=282,SNR=17								
NIE	Niedzica	117.53	324		ePdiff		Pdif	07 28 29.9	+0.5
NIE					ePKPdf		PKPdf	07 32 11.8	+0.8
NIE					e			07 33 04.3	
NIE					ePP		PP	07 33 25.5	-0.4
NIE					e			07 34 12.8	
NIE					ePPP	PPP		07 35 54.5	
NIE					eSKSac		SKSac	07 38 44.7	+0.3
NIE					eSKKSac		SKKSac	07 40 06.8	+1.3
NIE					eSP		SP	07 42 35.9	-13
NIE					ePKKPdf		PKKPdf	07 42 58.3	-4.6
NIE					eSKKPdf		SKKPdf	07 46 14.1	-4.4
NIE					e			07 50 12.7	
NIE					eSSS	SSS		07 53 40.5	
NIE					LME			08 15 33.7	
	comp=Z,27µm,22.0s								
NIE	Niedzica	117.53	324		ePKIKP		PKPdf	07 32 11.8	+0.8
NIE					e			07 33 04.3	
NIE					e			07 33 25.5	
NIE					ePPP	PPP		07 35 54.5	
NIE					e			07 38 44.7	
NIE					eSSS	SSS		07 53 40.5	
140A	Cam and Jess,	117.54	56		P		PKPdf	07 32 12.0	+0.5
	baz=282,SNR=43								
BSD	Bornholm Skovb	117.56	331	*i*	P		PKPdf	07 32 10.6	-0.2
	comp=Z,164nm,1.0s								
BSD				*i*				07 33 25.8	
BSD	Bornholm Skovb	117.56	331	*i*	PKIKP		PKPdf	07 32 10.6	-0.2
BSD				*i*				07 33 25.8	
BSD					pmax	pmax			
	comp=Z,160nm,1.0s								
Z40A	Long Farm, Mag	117.56	55		P		PKPdf	07 32 11.5	0.0
	baz=282,SNR=14								
CHOS	Chios island	117.58	311		P		PKPdf	07 32 11.3	-0.2
CHOS	Chios island	117.58	311		P		PKPdf	07 32 11.3	-0.2
RZN	Rozhen	117.58	314	*i*	P		PKPdf	07 32 10.3	-1.3
N41A	Harden Midland	117.61	47		P		PKPdf	07 32 10.6	-0.8
	baz=288,SNR=28								
SRE	Strehaia	117.61	318	⇑*i*	P		PKPdf	07 32 12.3	+1.0
SRE	Strehaia	117.61	318	⇓*i*	P		PKKPbc	07 42 36.2	+0.9
E42A	Champion	117.63	40		P		PKPdf	07 32 10.7	-0.6
	baz=293,SNR=16								
M41A	Milan	117.63	46		P		PKPdf	07 32 10.4	-1.0
	baz=288,SNR=61								
WLAR	White Oak Lake	117.70	55		ePKPdf		PKPdf	07 32 11.9	+0.1
WI04	River Road, Cl	117.74	42		ePKPdf		PKPdf	07 32 10.7	-0.9
F42A	Maple Grove Fa	117.74	41		P		PKPdf	07 32 10.3	-1.2
	baz=293,SNR=15								
G42A	Mountain	117.75	41		P		PKPdf	07 32 10.6	-1.0
	baz=292,SNR=35								
G42A	Mountain	117.75	41		ePKPdf		PKPdf	07 32 10.8	-0.8
X40A	Basin Creek Fa	117.75	54		P		PKPdf	07 32 11.2	-0.7
	baz=283,SNR=22								
WI01	McKinley Avenu	117.76	42		ePKPdf		PKPdf	07 32 12.5	+0.9
WI03	Lunz Road, Cli	117.76	42		ePKPdf		PKPdf	07 32 10.2	-1.4
P41A	Barry, Barry	117.77	48		P		PKPdf	07 32 11.1	-0.7
	baz=287,SNR=46								
O41A	Passleys Farm,	117.77	47		P		PKPdf	07 32 11.0	-0.7
	baz=288,SNR=85								
LIA	Limnos Island	117.80	312		P		PKPdf	07 32 11.0	-0.8
LIA	Limnos Island	117.80	312		P		PKPdf	07 32 11.0	-0.8
S41A	Jillco Farms,	117.84	50		P		PKPdf	07 32 11.2	-0.8
	baz=286,SNR=40								
SUE	Sulen	117.85	340		ePKPdf		PKPdf	07 32 11.3	+0.1
Q41A	Truxton	117.85	49		P		PKPdf	07 32 11.8	-0.2
	baz=287,SNR=141								
I42A	Draeger Farm,	117.92	43		P		PKPdf	07 32 10.6	-1.3
	baz=291,SNR=19								
I42A	Draeger Farm,	117.92	43		ePKPdf		PKPdf	07 32 10.4	-1.5
R41A	Rosebud	117.92	49		P		PKPdf	07 32 11.5	-0.6
	baz=286,SNR=154								
KAVA	Kavala	117.95	314		P		PKPdf	07 32 11.3	-0.7
KAVA	Kavala	117.95	314		P		PKPdf	07 32 11.3	-0.7
H42A	Shiocton	117.95	42		P		PKPdf	07 32 10.9	-1.1
	baz=292,SNR=19								
H42A	Shiocton	117.95	42		ePKPdf		PKPdf	07 32 10.8	-1.1
T41A	Mountain View	117.97	51		P		PKPdf	07 32 11.4	-0.8
	baz=285,SNR=36								
J42A	Columbus	117.98	43		P		PKPdf	07 32 10.9	-1.2
	baz=291,SNR=34								
V41A	Mountainview	117.98	52		P		PKPdf	07 32 11.4	-1.0
	baz=284,SNR=77								
WHAR	Wooly Hollow	118.00	53		ePKPdf		PKPdf	07 32 11.2	-1.1
X41A	Kaden, Bauxite	118.01	54		P		PKPdf	07 32 12.0	-0.3
	baz=284,SNR=20								
K42A	Prairie Point,	118.01	44		P		PKPdf	07 32 10.8	-1.3
	baz=290,SNR=30								
SIRR	Siria	118.01	320	⇑*i*	P		PKPdf	07 32 13.0	+0.9
SIRR	Siria	118.01	320	⇓*i*	P		PKKPbc	07 42 34.3	+0.3
ODD1	Odda	118.02	339		ePKPdf		PKPdf	07 32 11.8	+0.1
U41A	Viola	118.03	52		P		PKPdf	07 32 11.4	-0.9
	baz=285,SNR=76								
L42A	Oliver, Polo	118.05	45		P		PKPdf	07 32 11.3	-1.0
	baz=290,SNR=88								
Z41A	Richland Creek	118.05	55		P		PKPdf	07 32 12.5	+0.1
	baz=283,SNR=36								
W41B	Gary Mavity, V	118.06	53		P		PKPdf	07 32 11.9	-0.5
	baz=284,SNR=114								
Y41A	Eaglette Beard	118.07	55		P		PKPdf	07 32 12.5	0.0
	baz=283,SNR=64								
UALR	University of	118.08	53		ePKPdf		PKPdf	07 32 12.3	-0.2
CCM	Cathedral Cave	118.09	50		P		PKPdf	07 32 11.6	-0.8
	baz=286								
CCM	Cathedral Cave	118.09	50		ePKPdf		PKPdf	07 32 11.6	-0.8
CCM	Cathedral Cave	118.09	50		ePKIKP		PKPdf	07 32 11.6	-0.8
141A	Papa Simpson,	118.10	56		P		PKPdf	07 32 13.2	+0.6
	baz=282,SNR=31								
LANS	Liptovska Anna	118.13	324		ePKP		PKPdf	07 32 13.5	+1.3
LANS					ePDIFF		PKKPbc	07 42 33.4	-0.3
LANS	Liptovska Anna	118.13	324		ePKIKP		PKPdf	07 32 13.5	+1.3
BER	Bergen	118.14	340		ePKPdf		PKPdf	07 32 12.0	+0.2
341A	Kurthwood	118.14	57		P		PKPdf	07 32 12.9	+0.2
	baz=282,SNR=31								
M42A	Sheffield	118.16	46		P		PKPdf	07 32 11.6	-0.9
	baz=289,SNR=35								
N42A	Yates City	118.17	46		P		PKPdf	07 32 11.8	-0.6
	baz=289,SNR=31								
241A	Mo Tay, Goldon	118.21	57		P		PKPdf	07 32 13.3	+0.5
	baz=282,SNR=31								
G43A	Wallace	118.23	41		P		PKPdf	07 32 11.6	-0.9
	baz=293,SNR=24								
G43A	Wallace	118.23	41		ePKPdf		PKPdf	07 32 11.4	-1.1
E43A	Lone Tree Farm	118.23	40		P		PKPdf	07 32 11.8	-0.7
	baz=294,SNR=11								
441A	DeRidder	118.24	58		P		PKPdf	07 32 13.7	+0.8
	baz=281,SNR=15								
BZS	Buzias	118.30	320	⇓*i*	P		PKPdf	07 32 13.5	+0.9
BZS	Buzias	118.30	320	⇓*i*	P		PKKPbc	07 42 33.5	+0.6
ZKR	Zakros	118.30	307		P		PKPdf	07 32 13.7	+0.8
ZKR	Zakros	118.30	307		P		PKPdf	07 32 13.7	+0.8
NVR	Nevrokopi	118.30	314		P		PKPdf	07 32 11.3	-1.5
MMB	Musomiste	118.32	315	*i*	P		PKPdf	07 32 11.9	-0.9
P42A	Winchester	118.32	48		P		PKPdf	07 32 12.3	-0.5
	baz=288,SNR=108								
O42A	Bath	118.33	47		P		PKPdf	07 32 12.0	-0.8
	baz=288,SNR=45								
APE	Apeiranthos	118.33	309	⇓*i*	P		PKPdf	07 32 13.4	+0.4
APE	Apeiranthos	118.33	309		P		PKPdf	07 32 12.8	-0.2
APE	Apeiranthos	118.33	309		P		PKPdf	07 32 12.8	-0.2
APE	Apeiranthos	118.33	309		PKIKP		PKPdf	07 32 12.8	-0.2
F43A	Flat Rock, Esc	118.34	40		P		PKPdf	07 32 12.1	-0.5
	baz=293,SNR=22								
VTS	Vitosha	118.34	316	⇓*i*	P		PKPdf	07 32 13.9	+0.9
VTS	Vitosha	118.34	316	⇑*i*	P		PKKPbc	07 42 33.6	+0.7
VTS	Vitosha	118.34	316		ePKPdf		PKPdf	07 32 12.0	-1.0
VTS	Vitosha	118.34	316	*i*	P		PKPdf	07 32 12.4	-0.6
VTS	Vitosha	118.34	316		P		PKPdf	07 32 13.1	+0.1
VTS	Vitosha	118.34	316		ePKIKP		PKPdf	07 32 12.0	-1.0
CMIG	Matias Romero	118.34	74		PP		PP	07 33 29.7	-3.1
	baz=269,slow=4.6								
CMIG					PKKPab		PKKPab	07 42 33.9	-1.2
	comp=Z,18nm,0.9s,baz=61,slow=5.1,SNR=10.0								
R42A	Luebbering	118.37	49		P		PKPdf	07 32 12.3	-0.7
	baz=287,SNR=90								
Q42A	Golden Eagle	118.38	49		P		PKPdf	07 32 12.4	-0.6
	baz=287,SNR=52								
COP	Copenhagen	118.39	333	*i*	P		PKPdf	07 32 14.6	+2.2
	comp=Z,158nm,0.9s								
	comp=Z,8µm,19.0s								
COP	Copenhagen	118.39	333	*i*	PKIKP		PKPdf	07 32 14.6	+2.2
COP					pmax	pmax			
	comp=Z,160nm,0.9s								
COP					MLR	MLR			
	comp=Z,8µm,19.0s								
BLS5	Blasjo	118.42	338		ePKPdf		PKPdf	07 32 12.4	0.0
BLS5					IAmb	IAmb		07 32 16.1	
	comp=Z,251nm,1.2s								
BLS5					ePP		PP	07 33 33.0	+1.4
PSZ	Piszkesteto	118.42	322	⇓*i*	P		PKPdf	07 32 13.8	+0.9
PSZ	Piszkesteto	118.42	322	⇑*i*	P		PKKPbc	07 42 31.6	-1.1
PSZ	Piszkesteto	118.42	322	⇑	ePKPdf		PKPdf	07 32 12.4	-0.5
PSZ	Piszkesteto	118.42	322		ePKPdf		PKPdf	07 32 12.1	-0.8
PSZ	Piszkesteto	118.42	322		ePKIKP		PKPdf	07 32 12.1	-0.8
HOMB	Homborsund	118.43	337		ePKPdf		PKPdf	07 32 12.7	+0.3
HOMB					ePP		PP	07 33 33.0	+1.4
J43A	Natural Harves	118.44	43		P		PKPdf	07 32 11.6	-1.4
	baz=291,SNR=18								
I43A	Langenfeld Bro	118.44	43		P		PKPdf	07 32 11.8	-1.1
	baz=292,SNR=25								
RAC	Raciborz	118.44	325		ePKIKP		PKPdf	07 32 13.4	+0.7
RAC					e			07 33 33.4	
RAC					e			07 38 47.9	
RAC					MLR	MLR			
	comp=Z,14µm,21.4s								
H43A	Windswept, Lux	118.47	42		P		PKPdf	07 32 11.8	-1.2
	baz=292,SNR=11								
H43A	Windswept, Lux	118.47	42		ePKPdf		PKPdf	07 32 11.3	-1.6
T42A	Van Buren	118.49	51		P		PKPdf	07 32 12.3	-0.9
	baz=286,SNR=59								
TIM	Timisoara	118.50	320	⇑*i*	P		PKPdf	07 32 15.4	+2.5
S42A	Caledonia	118.51	50		P		PKPdf	07 32 12.3	-1.0
	baz=286,SNR=37								
U42A	Revenden	118.56	51		P		PKPdf	07 32 12.4	-0.9
	baz=285,SNR=63								
SRS	Serrai	118.57	314		P		PKPdf	07 32 11.0	-2.3
SRS	Serrai	118.57	314		P		PKPdf	07 32 11.0	-2.3
SRS	Serrai	118.57	314		PKIKP		PKPdf	07 32 11.0	-2.3
SANT	Santorini	118.58	309	⇑*i*	P		PKPdf	07 32 13.8	+0.3
SANT	Santorini	118.58	309		ePKPdf		PKPdf	07 32 13.3	-0.2
V42A	Cord	118.58	52		P		PKPdf	07 32 12.6	-0.8
	baz=285,SNR=157								
OKC	Ostrava-Krasne	118.58	325		ePDIFF		Pdif	07 28 34.4	+0.5
OKC					ePKPdf		PKiKP	07 32 14.1	+1.1
OKC					AMS	AMS		08 21 40.0	
	comp=Z,7µm,17.0s								
OKC	Ostrava-Krasne	118.58	325		eP		Pdif	07 28 34.4	+0.5
OKC					e			07 32 14.1	
OKC					MLR	MLR			
	comp=Z,7µm,17.0s								
THT1	Athinios (Pele	118.59	309		P		PKPdf	07 32 12.8	-0.6
W42A	Bald Knob	118.61	53		P		PKPdf	07 32 12.8	-0.7
	baz=285,SNR=31								
L43A	Garden Prairie	118.63	45		P		PKPdf	07 32 12.5	-0.9
	baz=290,SNR=36								
KKB	Krupnik	118.68	315	*i*	P		PKPdf	07 32 12.4	-1.1
SLM	Saint Louis	118.69	49		ePKPdf		PKPdf	07 32 12.5	-1.0
SLM	Saint Louis	118.69	49		ePKIKP		PKPdf	07 32 12.5	-1.0
LLD	Lille Linde	118.70	333	*i*	P		PKPdf	07 32 10.3	-2.7
LLD	Lille Linde	118.70	333	*i*	PKIKP		PKPdf	07 32 10.3	-2.7
X42A	Stuttgart	118.70	54		P		PKPdf	07 32 13.3	-0.3
	baz=284,SNR=25								
K43A	Burlington	118.74	44		P		PKPdf	07 32 12.2	-1.3
	baz=291,SNR=30								
M43A	Waltham Townsh	118.74	45		P		PKPdf	07 32 12.8	-0.7
	baz=290,SNR=83								
CCAR	Cane Creek	118.74	54		ePKPdf		PKPdf	07 32 13.5	-0.3
NPS	Neapolis	118.74	307		P		PKPdf	07 32 12.8	-1.0
NPS	Neapolis	118.74	307		P		PKPdf	07 32 12.8	-1.0
NPS	Neapolis	118.74	307		PKIKP		PKPdf	07 32 12.8	-1.0
Z42A	Norrel Spur, H	118.74	55		P		PKPdf	07 32 13.9	+0.1
	baz=283,SNR=92								
Y42A	Garnett, Star	118.74	54		P		PKPdf	07 32 13.9	+0.1
	baz=284,SNR=42								
N43A	Stutzman Famil	118.75	46		P		PKPdf	07 32 12.8	-0.8
	baz=289,SNR=12								
F44A	Big Bay de Noc	118.76	40		P		PKPdf	07 32 12.9	-0.5
	baz=294,SNR=22								
HDIL	Hopedale	118.79	46		P		PKPdf	07 32 13.2	-0.4
	baz=289,SNR=96								
HDIL	Hopedale	118.79	46		ePKPdf		PKPdf	07 32 13.3	-0.4
VYHS	Vyhne	118.80	323		ePDIFF		Pdif	07 28 37.6	+2.6
VYHS	Vyhne	118.80	323		ePKP		PKPdf	07 32 13.1	-0.4
VYHS					e			07 42 19.7	
VYHS					ePDIFF		PKKPbc	07 42 28.4	-2.8
VYHS					e			07 42 31.3	
VYHS					eSS	SS		07 50 13.9	+37
VYHS	Vyhne	118.80	323		eP		Pdif	07 28 37.6	+2.6
VYHS					e			07 32 13.2	
E44A	Grand Marais A	118.81	39		P		PKPdf	07 32 13.5	-0.1
	baz=295								
SOH	Sokhos	118.84	314		P		PKPdf	07 32 13.7	-0.1
SOH	Sokhos	118.84	314		P		PKPdf	07 32 13.7	-0.1
SOH	Sokhos	118.84	314		PKIKP		PKPdf	07 32 13.7	-0.1
342A	Flagon Creek P	118.84	57		P		PKPdf	07 32 14.1	+0.1
	baz=282,SNR=25								
242A	Grayson	118.84	56		P		PKPdf	07 32 14.2	+0.1
	baz=282,SNR=36								
O43A	Sugar Creek Fa	118.86	47		P		PKPdf	07 32 13.4	-0.4
	baz=289,SNR=64								
LAST	Lasithi	118.87	307		P		PKPdf	07 32 13.9	-0.2
LAST	Lasithi	118.87	307		P		PKPdf	07 32 13.9	-0.2
SNART	Snartemo	118.89	337		ePKPdf		PKPdf	07 32 13.5	+0.2
SNART					IAmb	IAmb		07 32 16.4	
	comp=Z,126nm,0.9s								
542A	Morse	118.90	59		P		PKPdf	07 32 13.5	-0.7
	baz=281								
KARY	Karystos	118.90	311		P		PKPdf	07 32 14.0	0.0
142A	Monroe	118.91	56		P		PKPdf	07 32 14.2	0.0
	baz=283,SNR=25								
P43A	Skaggs, Pawnee	118.91	47		P		PKPdf	07 32 13.7	-0.2
	baz=288,SNR=84								
MORC	Moravsky Berou	118.95	325	⇓*i*	P		PKPdf	07 32 15.2	+1.4
MORC	Moravsky Berou	118.95	325	⇑*i*	P		PKKPbc	07 42 30.0	-0.8
MORC	Moravsky Berou	118.95	325		ePKPdf		PKPdf	07 32 14.0	+0.2
MORC	Moravsky Berou	118.95	325		ePKIKP		PKPdf	07 32 14.0	+0.2
Q43A	New Douglas	119.00	48		P		PKPdf	07 32 13.0	-1.1
	baz=288,SNR=24								
KMY	Karmoy	119.01	339		ePKPdf		PKPdf	07 32 13.8	+0.3
KMY					IAmb	IAmb		07 32 17.0	
	comp=Z,236nm,1.2s								
KMY					ePP		PP	07 33 35.9	+0.3
R43A	Red Bud	119.02	49		P		PKPdf	07 32 13.2	-1.0
	baz=287,SNR=56								
STAV	Stavanger	119.04	338		ePKPdf		PKPdf	07 32 13.2	-0.3
KNT	Kendrikon	119.05	314		P		PKPdf	07 32 11.2	-3.0
KNT	Kendrikon	119.05	314		P		PKPdf	07 32 11.2	-3.0
KNT	Kendrikon	119.05	314		PKIKP		PKPdf	07 32 11.2	-3.0
PBMO	Poplar Bluff	119.07	51		ePKPdf		PKPdf	07 32 13.8	-0.6
EFI	East Falkland	119.07	162		ePKPdf		PKPdf	07 32 14.1	+0.2
EFI	East Falkland	119.07	162		ePKIKP		PKPdf	07 32 14.1	+0.2
HORT	Hortiatis	119.09	314		P		PKPdf	07 32 11.8	-2.6
HORT	Hortiatis	119.09	314		P		PKPdf	07 32 11.8	-2.6
T43A	Greenville	119.09	50		P		PKPdf	07 32 13.3	-1.1
	baz=286,SNR=65								
S43A	Fulton Ridge,	119.12	50		P		PKPdf	07 32 13.3	-1.1
	baz=287,SNR=41								
KSP	Ksiaz	119.12	327		ePdiff		Pdif	07 28 37.1	+0.7
KSP					ePKPdf		PKPdf	07 32 14.1	+0.1
KSP					ePP		PP	07 33 38.4	+1.7
KSP					e			07 34 24.4	
KSP					eSKKSac		SKKSac	07 40 14.5	-1.4
KSP					eSP		SP	07 43 03.0	+0.2
KSP					ePKKS			07 46 25.7	
KSP					eSS		SS	07 49 41.5	+0.7
KSP					e			07 49 58.4	
KSP					LME			08 14 10.0	
	comp=Z,13µm,26.1s								
KSP	Ksiaz	119.12	327		ePKIKP		PKPdf	07 32 14.1	+0.1
KSP					e			07 33 38.4	
KSP					eSP	SP		07 43 03.0	+0.3
KSP					eSS	SS		07 49 41.5	+0.7
KSP					e			07 49 58.4	
BUD	Budapest	119.14	322	⇑	ePKPdf		PKPdf	07 32 13.9	-0.2
THE	Thessaloniki	119.18	314		P		PKPdf	07 32 11.3	-3.1
THE	Thessaloniki	119.18	314		P		PKPdf	07 32 11.3	-3.1
THE	Thessaloniki	119.18	314		PKIKP		PKPdf	07 32 11.3	-3.1
U43A	Rector	119.20	51		P		PKPdf	07 32 13.8	-0.7
	baz=286,SNR=16								
L44A	Lake County Fo	119.21	44		P		PKPdf	07 32 13.7	-0.8
	baz=291,SNR=20								
HBAR	Harrisburg	119.22	52		ePKPdf		PKPdf	07 32 14.2	-0.5
KRLC	Kraliky	119.24	326		ePKPdf		PKPdf	07 32 15.1	+0.8
KRLC					ePKKP		PKKPbc	07 42 29.7	-0.1
KRLC	Kraliky	119.24	326		ePKIKP		PKPdf	07 32 15.1	+0.8
V43A	Jonesboro	119.25	52		P		PKPdf	07 32 14.5	-0.2
	baz=286,SNR=50								
SKIA	Skiathos	119.28	312		P		PKPdf	07 32 14.1	-0.6
W43A	Forest City	119.30	53		P		PKPdf	07 32 14.2	-0.6
	baz=285,SNR=7.4								
IDI	Anoyia	119.30	307		PKP		PKPdf	07 32 14.5	-0.4
	comp=Z,301nm,1.2s,baz=135,slow=4.1,SNR=39								
IDI					PP		PP	07 33 37.9	-0.9
	comp=Z,16nm,0.6s,baz=218,slow=10,SNR=1.8								
IDI					PKKPab		PKKPab	07 42 30.7	+0.1
	comp=Z,69nm,0.8s,baz=276,slow=2.1,SNR=13								
IDI	Anoyia	119.30	307	⇓*i*	P		PKPdf	07 32 16.4	+1.5
IDI	Anoyia	119.30	307	⇓*i*	P		PKKPbc	07 42 34.4	+5.4
IDI	Anoyia	119.30	307		ePKPdf		PKPdf	07 32 14.0	-0.

VILL	Villia	119.71	311		P		PKPdf	07 32 14.8	-0.8
U44A	Portageville	119.72	51		P		PKPdf	07 32 15.0	-0.6
	baz=287,SNR=22								
VRAC	Vranov	119.72	325		Pdiff		Pdif	07 28 38.6	-0.5
	comp=Z,1.8nm,0.4s,baz=129,slow=0.9,SNR=5.8								
VRAC					PKP		PKPdf	07 32 14.9	-0.3
	comp=Z,98nm,1.1s,baz=81,slow=1.8,SNR=33								
VRAC					PP		PP	07 33 42.2	+1.3
	comp=Z,15nm,0.8s,baz=79,slow=6.3,SNR=7.2								
VRAC					PKKPab		PKKPab	07 42 28.4	-0.1
	comp=Z,13nm,0.9s,baz=246,slow=1.0,SNR=5.0								
VRAC	Vranov	119.72	325	⇑	iP		PKPdf	07 32 15.3	+0.1
VRAC	Vranov	119.72	325	⇑	iP		PKKPbc	07 42 30.4	+2.5
SIUC	Southern Illin	119.73	49		ePKPdf		PKPdf	07 32 14.8	-0.7
PVMO	Portageville	119.73	51		ePKPdf		PKPdf	07 32 15.0	-0.6
V44A	Blytheville	119.75	52		P		PKPdf	07 32 15.1	-0.6
	baz=286,SNR=9.8								
MODS	Modra-Piesok	119.78	324		ePKP		PKPdf	07 32 14.4	-1.0
MODS					ePDIFF		PKKPbc	07 42 24.4	-3.3
MODS					e			07 42 29.7	
MODS					e			07 42 58.2	
MODS					eSS		SS	07 51 12.3	+83
MODS	Modra-Piesok	119.78	324		ePKIKP		PKPdf	07 32 14.4	-1.0
SKO	Skopje	119.79	316		P		PKPdf	07 32 16.1	+0.5
SKO	Skopje	119.79	316		P		PKPdf	07 32 16.1	+0.5
SKO	Skopje	119.79	316		iP		PKPdf	07 32 15.9	+0.3
SKO	Skopje	119.79	316		PKIKP		PKPdf	07 32 16.1	+0.5
LKR	Lokris	119.79	312		P		PKPdf	07 32 14.1	-1.6
LKR	Lokris	119.79	312		P		PKPdf	07 32 14.1	-1.6
VAM	Vamos	119.82	308		P		PKPdf	07 32 16.6	+0.8
KTI	Kastanea	119.87	314		P		PKPdf	07 32 16.0	0.0
F46A	Macinaw City C	119.90	39		P		PKPdf	07 32 15.2	-0.5
	baz=296,SNR=14								
X44A	Crenshaw	119.90	53		P		PKPdf	07 32 15.5	-0.5
	baz=285,SNR=45								
MET	Memphis–Engin	119.91	53		ePKPdf		PKPdf	07 32 15.5	-0.5
ANGG	Ammassalik, Gr	119.93	2		ePKPdf		PKPdf	07 32 14.5	-0.6
MORH	M¨‡r¨igy, Hung	119.94	321	⇑	ePKPdf		PKPdf	07 32 15.3	-0.4
M45A	Boilermakers S	119.96	45		P		PKPdf	07 32 15.4	-0.5
	baz=291,SNR=16								
DIVS	Divibare	119.96	318		ePKPdf		PKPdf	07 32 15.7	-0.3
N45A	Kentland	119.96	46		P		PKPdf	07 32 15.8	-0.1
	baz=291,SNR=70								
DID	Didima	119.96	310		P		PKPdf	07 32 14.3	-1.8
DID	Didima	119.96	310		P		PKPdf	07 32 14.3	-1.8
ZST	Bratislava	119.97	324		ePKP		PKPdf	07 32 14.7	-1.0
ZST	Bratislava	119.97	324		ePKIKP		PKPdf	07 32 14.7	-1.0
IMMV	Iera Moni Meta	119.97	308		P		PKPdf	07 32 16.1	0.0
Z44A	Pea Ridge, Bel	119.98	55		P		PKPdf	07 32 16.0	-0.2
	baz=284,SNR=134								
Y44A	Strider, Charl	119.98	54		P		PKPdf	07 32 15.8	-0.4
	baz=285,SNR=104								
PROD	Prodromos	119.99	311		P		PKPdf	07 32 14.4	-1.7
W44A	Shelby Farms P	119.99	52		P		PKPdf	07 32 15.1	-1.0
	baz=286,SNR=8.0								
AXAR	Agios Charalam	120.01	312		P		PKPdf	07 32 15.8	-0.3
AXAR	Agios Charalam	120.01	312		P		PKPdf	07 32 15.8	-0.3
LTK	Loutraki	120.01	311		P		PKPdf	07 32 14.0	-2.1
LTK	Loutraki	120.01	311		P		PKPdf	07 32 14.0	-2.1
LOUT	Loutraki	120.02	311		P		PKPdf	07 32 14.4	-1.7
O45A	Potomac	120.02	46		P		PKPdf	07 32 15.9	-0.2
	baz=290,SNR=72								
U44B	Burton Farm, H	120.03	51		P		PKPdf	07 32 15.7	-0.5
	baz=287,SNR=19								
244A	Avery, Jackson	120.06	56		P		PKPdf	07 32 16.1	-0.3
	baz=283,SNR=72								
KRND	KRANIDI	120.07	310		P		PKPdf	07 32 13.5	-2.7
544A	White Castle	120.08	58		P		PKPdf	07 32 16.9	+0.4
	baz=282								
GLAT	Glass	120.09	51		ePKPdf		PKPdf	07 32 15.8	-0.5
144A	Alexander Plac	120.14	55		P		PKPdf	07 32 16.6	+0.1
	baz=284,SNR=48								
KRUS	Krusevo	120.14	315		iP		PKPdf	07 32 16.7	+0.3
KZN	Kozani	120.14	314		P		PKPdf	07 32 14.9	-1.5
KZN	Kozani	120.14	314		P		PKPdf	07 32 14.9	-1.5
KZN	Kozani	120.14	314		PKIKP		PKPdf	07 32 14.9	-1.5
Q45A	Warren Harvey,	120.15	48		P		PKPdf	07 32 16.2	-0.2
	baz=289,SNR=168								
344A	Westbrook Farm	120.16	57		P		PKPdf	07 32 17.2	+0.7
	baz=283,SNR=65								
VBMS	Vicksburg	120.16	56		P		PKPdf	07 32 16.4	-0.2
	baz=284,SNR=49								
VBMS	Vicksburg	120.16	56		ePKPdf		PKPdf	07 32 16.6	+0.1
AGG	Agios Georgios	120.17	312		ePKPdf		PKPdf	07 32 15.2	-1.3
AGG	Agios Georgios	120.17	312		P		PKPdf	07 32 15.3	-1.1
AGG	Agios Georgios	120.17	312		ePKIKP		PKPdf	07 32 15.2	-1.3
DSF	Desfina	120.22	312		P		PKPdf	07 32 15.0	-1.6
DSF	Desfina	120.22	312		P		PKPdf	07 32 15.0	-1.6
S45A	Carrier Mills	120.22	49		P		PKPdf	07 32 16.1	-0.4
	baz=288,SNR=35								
THL	Klokotos Trika	120.22	313		P		PKPdf	07 32 14.4	-2.1
PVCC	Panska Ves	120.23	327		ePDIFF		Pdif	07 28 42.5	+1.3
PVCC					ePKPdf		PKPdf	07 32 16.1	0.0
PVCC					ePP		PP	07 33 46.0	+1.8
PVCC					AMS		AMS	08 19 50.0	
	comp=Z,10µm,23.9s								
PVCC	Panska Ves	120.23	327		eP		Pdif	07 28 42.5	+1.3
PVCC					e			07 32 16.1	
PVCC					e			07 33 46.0	
PVCC					MLR		MLR		
	comp=Z,10µm,23.9s								
THAL	Thalero	120.23	311		P		PKPdf	07 32 16.1	-0.4
OLIL	Olney	120.25	48		ePKPdf		PKPdf	07 32 16.3	-0.2
P45A	Graceland, Par	120.25	47		P		PKPdf	07 32 16.3	-0.2
	baz=290,SNR=91								
R45A	Skylar, Fairfi	120.25	49		P		PKPdf	07 32 16.4	-0.1
	baz=289,SNR=110								
FNA	Florina	120.26	314		P		PKPdf	07 32 15.1	-1.5
FNA	Florina	120.26	314		P		PKPdf	07 32 15.1	-1.5
FNA	Florina	120.26	314		PKIKP		PKPdf	07 32 15.1	-1.5
444A	Pine Grove	120.30	58		P		PKPdf	07 32 17.3	+0.4
	baz=283,SNR=8.7								
HOPE	Hope Point	120.33	178		ePKPdf		PKPdf	07 32 16.5	+0.3
TREC	Trest	120.36	325		ePKPdf		PKPdf	07 32 17.1	+0.6
TREC					ex		x	07 34 33.6	
TREC					AMS		AMS	08 26 10.0	
	comp=Z,12µm,18.5s								
TREC	Trest	120.36	325		ePKIKP		PKPdf	07 32 17.1	+0.6
TREC					MLR		MLR		
	comp=Z,12µm,18.5s								
T45A	Paducah	120.37	50		P		PKPdf	07 32 16.4	-0.4
	baz=288,SNR=37								
BRG	Berggiesshubel	120.38	328		ePDIFF		Pdif	07 28 42.1	+0.2
	comp=Z,30nm,1.8s								
BRG					pPDIFF			07 29 33.0	
BRG					sPDIFF			07 29 52.9	
	comp=Z,27nm,1.9s								
BRG	Berggiesshubel	120.38	328		iPKP		PKPdf	07 32 17.2	+0.8
	comp=Z,247nm,0.9s								
BRG					sPKP			07 33 10.0	
	comp=Z,89nm,1.4s								
BRG					iPP		PP	07 33 46.4	+1.1
	comp=Z,1µm,2.8s								
BRG					iSKP			07 35 31.3	
	comp=Z,82nm,1.6s								
BRG					e			07 40 20.7	
	comp=Z,33nm,1.7s								
BRG					SDIFF			07 41 20.0	
BRG					iPKKP		PKKPbc	07 42 24.0	-1.6
	comp=Z,174nm,2.2s								
BRG					iPKKS			07 46 12.8	
	comp=Z,45nm,1.5s								
BRG					SS		SS	07 49 56.0	-0.7
	comp=N,11µm,31.1s								
	comp=E,9µm,22.7s								
	comp=Z,9µm,22.3s								
BRG	Berggiesshubel	120.38	328		iPKIKP		PKPdf	07 32 17.2	+0.8
BRG								07 33 10.0	
BRG					i			07 33 46.4	
BRG					SS		SS	07 49 56.0	-0.7
BRG					pmax		pmax		
	comp=Z,247nm,0.9s								
BRG					pmax		pmax		
	comp=Z,1µm,2.8s								
BRG					pmax		pmax		
	comp=N,83nm,1.6s								
BRG					MLR		MLR		
	comp=E,9µm,22.7s								
BRG					MLR		MLR		
	comp=Z,9µm,22.3s								
GLMI	Grayling	120.39	40		P		PKPdf	07 32 16.2	-0.4
	baz=295,SNR=17								
GLMI	Grayling	120.39	40		ePKPdf		PKPdf	07 32 16.1	-0.6
ANKY	Antikythira Is	120.39	309		P		PKPdf	07 32 17.1	+0.2
ANKY	Antikythira Is	120.39	309		P		PKPdf	07 32 17.1	+0.2
UTMT	University of	120.40	51		ePKPdf		PKPdf	07 32 16.1	-0.8
SFIN	Lafayette	120.42	46		P		PKPdf	07 32 16.4	-0.5
	baz=291,SNR=66								
SFIN	Lafayette	120.42	46		ePKPdf		PKPdf	07 32 16.3	-0.5
VLI	Veliai	120.43	310		P		PKPdf	07 32 16.7	-0.3
VLI	Veliai	120.43	310		P		PKPdf	07 32 16.7	-0.3
GOPC	GO Pecny, Ondr	120.43	326		ePDIFF		Pdif	07 28 40.5	-1.7
GOPC					ePKPdf		PKiKP	07 32 17.2	+0.5
GOPC					ePP		PP	07 33 48.4	+2.7
GOPC					ePKKP		PKKPab	07 42 25.7	+0.3
GOPC					AMS		AMS	08 20 00.0	
	comp=Z,10µm,23.0s								
GOPC	GO Pecny, Ondr	120.43	326		eP		Pdif	07 28 40.5	-1.7
GOPC					e			07 32 17.2	
GOPC					e			07 33 48.4	
GOPC					MLR		MLR		
	comp=Z,10µm,23.0s								
LRW	Lerwick	120.45	342		eP		PKPdf	07 32 16.4	+0.2
KYTH	Kithira	120.48	309		P		PKPdf	07 32 16.9	-0.2
KYTH	Kithira	120.48	309		P		PKPdf	07 32 16.9	-0.2
U45A	Rockin P Farm,	120.48	51		P		PKPdf	07 32 16.1	-0.9
	baz=287,SNR=36								
OXF	Oxford	120.48	53		P		PKPdf	07 32 16.3	-0.8
	baz=286,SNR=64								
OXF	Oxford	120.48	53		ePKPdf		PKPdf	07 32 15.8	-1.3
OXF	Oxford	120.48	53		ePKIKP		PKPdf	07 32 15.8	-1.3
W45A	Hickory Valley	120.49	52		P		PKPdf	07 32 16.3	-0.8
	baz=286,SNR=98								
N46A	Monticello	120.50	45		P		PKPdf	07 32 16.5	-0.5
	baz=291,SNR=85								
V45A	Humboldt	120.50	52		P		PKPdf	07 32 16.2	-0.9
	baz=287,SNR=85								
GUR	Goura	120.51	311		P		PKPdf	07 32 15.8	-1.4
GUR	Goura	120.51	311		P		PKPdf	07 32 15.8	-1.4
IVA	Berane	120.51	317	⇓	iPKP		PKPdf	07 32 17.2	+0.1
KALE	Kalithea	120.51	312		P		PKPdf	07 32 16.0	-1.2
KALE	Kalithea	120.51	312		P		PKPdf	07 32 16.0	-1.2
X45A	UM Field Stati	120.52	53		P		PKPdf	07 32 16.4	-0.8
	baz=286,SNR=43								
PRU	Pruhonice	120.53	327		ePDIFF		Pdif	07 28 43.5	+0.9
PRU					ePKPdf		PKiKP	07 32 17.1	+0.3
PRU					epPKP		pPKPdf	07 33 06.5	-4.1
PRU					ePP		PP	07 33 48.3	+2.0
PRU					ePKKP		PKKPab	07 42 24.7	-0.2
PRU					AMS		AMS	08 19 50.0	
	comp=Z,12µm,21.3s								
PRU	Pruhonice	120.53	327		eP		Pdif	07 28 43.5	+0.9
PRU					e			07 32 17.1	
PRU					e			07 33 06.5	
PRU					e			07 33 48.3	
PRU					MLR		MLR		
	comp=Z,12µm,21.3s								
SOP	Sopron	120.53	323	⇑	ePKPdf		PKPdf	07 32 16.6	-0.2
PRA	Prague	120.54	327		ePKPdf		PKPdf	07 32 16.2	-0.6
PRA					ePP		PP	07 33 49.2	+2.8
PRA					ex		x	07 34 31.9	
PRA					AMS		AMS	08 19 40.0	
	comp=Z,11µm,20.9s								
PRA	Prague	120.54	327		ePKIKP		PKPdf	07 32 16.2	-0.6
PRA					e			07 33 49.2	
PRA					MLR		MLR		
	comp=Z,11µm,20.9s								
Y45A	Yeager Farm, C	120.55	54		P		PKPdf	07 32 17.0	-0.2
	baz=285,SNR=105								
145A	Houston Renfro	120.55	55		P		PKPdf	07 32 17.0	-0.3
	baz=284,SNR=45								
OHR	Ohrid	120.55	315		iP		PKPdf	07 32 17.2	0.0
Z45A	Winona	120.55	54		P		PKPdf	07 32 17.0	-0.2
	baz=285,SNR=50								
KPRO	Kipourio	120.56	314		P		PKPdf	07 32 16.2	-1.0
SAN1	Sandwick	120.56	342		eP		PKPdf	07 32 16.6	+0.2
SERG	Sergoula	120.57	312		P		PKPdf	07 32 17.5	+0.3
TRIZ	Trizonia	120.57	312		P		PKPdf	07 32 16.7	-0.5
PVY	Plav	120.57	317	⇓	iPKP		PKPdf	07 32 17.3	+0.1
ALIK	Aliki, Aigiali	120.58	312		P		PKPdf	07 32 18.6	+1.4
M46A	Old House Fiel	120.58	45		P		PKPdf	07 32 16.8	-0.3
	baz=292,SNR=46								
EVR	Evrytania	120.59	312		P		PKPdf	07 32 17.1	-0.2
EVR	Evrytania	120.59	312		P		PKPdf	07 32 17.1	-0.2
BCI	Bajram Curri	120.59	317		iP		PKPdf	07 32 16.8	-0.3
PHP	Peshkopia	120.59	316		P		PKPdf	07 32 16.6	-0.6
PHP	Peshkopia	120.59	316		iP		PKPdf	07 32 15.9	-1.3
P46A	Rosedale	120.61	47		P		PKPdf	07 32 17.1	-0.1
	baz=290,SNR=37								
KLV	Kalavryta, Ach	120.62	311		P		PKPdf	07 32 16.8	-0.6
KLV	Kalavryta, Ach	120.62	311		P		PKPdf	07 32 16.8	-0.6
NEST	Nestorio	120.62	314		P		PKPdf	07 32 16.5	-0.9
CLL	Collm	120.63	328		ePdif		Pdif	07 28 44.0	+1.0
CLL					epPdif		pPdif	07 29 27.0	-7.5
CLL				⇓	iPKPdf		PKiKP	07 32 17.5	+0.5
	comp=Z,249nm,0.8s								
CLL					e			07 32 21.0	
CLL					ePP		PP	07 33 48.0	+1.0
CLL					e			07 34 11.0	
CLL					epPP			07 34 36.0	
CLL					esPP			07 34 54.0	
CLL					eSKKSac		SKKSac	07 40 26.0	+0.3
CLL					eSdif		Sdif	07 41 21.0	+1.4
CLL					ePKKPab		PKKPab	07 42 24.0	-0.4
	comp=Z,59nm,1.2s								
CLL					esSdiff		sSdif	07 42 48.0	-2.5
CLL					ePKKPdf		PKKPdf	07 42 55.0	-1.9
CLL					eSP		SP	07 43 17.0	+0.9
CLL					epSP			07 44 22.0	
CLL					ePPS		PPS	07 44 54.0	
CLL					i		PcPPKPre	07 46 21.7	
	comp=Z,31nm,1.3s								
CLL					e			07 49 50.0	
	comp=Z,329nm,2.7s								
CLL					eSS		SS	07 50 04.0	+4.1
CLL					esSS			07 51 25.0	
CLL					esSSS			07 55 48.0	
CLL	Collm	120.63	328		ePKPdf		PKPdf	07 32 16.8	-0.1
CLL	Collm	120.63	328		ePKIKP		PKPdf	07 32 16.8	-0.1
PENT	Pentalofos	120.64	314		P		PKPdf	07 32 17.8	+0.4
445A	Amite	120.64	58		P		PKPdf	07 32 17.8	+0.2
	baz=283,SNR=12								
VLX	Vlachokerasia	120.66	310		P		PKPdf	07 32 18.2	+0.7
VLX	Vlachokerasia	120.66	310		P		PKPdf	07 32 18.2	+0.7
545A	Edgard	120.66	58		P		PKPdf	07 32 17.3	-0.3
	baz=282								
PLE	Pljevlja	120.67	318	⇓	iPKP		PKPdf	07 32 17.3	-0.1
EFP	Efpalio	120.67	312		P		PKPdf	07 32 17.3	-0.1
LAKA	Lakka	120.68	312		P		PKPdf	07 32 16.2	-1.3
LAKA	Lakka	120.68	312		P		PKPdf	07 32 16.2	-1.3
TRIP	Tripoli	120.69	311		P		PKPdf	07 32 17.8	+0.3
Q46A	CEJHS Indians,	120.70	48		P		PKPdf	07 32 17.1	-0.3
	baz=290,SNR=15								
245A	Little AP, Sta	120.72	56		P		PKPdf	07 32 17.6	0.0
	baz=284,SNR=46								
KBN	Korca	120.73	314		P		PKPdf	07 32 17.7	+0.2
KBN	Korca	120.73	314		P		PKPdf	07 32 17.7	+0.2
KBN	Korca	120.73	314		iP		PKPdf	07 32 18.8	+1.2
KBN	Korca	120.73	314		PKIKP		PKPdf	07 32 17.7	+0.2
345A	Thompson Farm,	120.77	57		P		PKPdf	07 32 18.1	+0.3
	baz=283,SNR=36								
KOME	Kolasin	120.77	317	⇓	iPKP		PKPdf	07 32 18.1	+0.5
USIN	University of	120.82	49		ePKPdf		PKPdf	07 32 16.5	-1.2
CONA	Conrad Observa	120.82	324		iPKiKP		PKPdf	07 32 17.3	-0.2
	comp=Z,114nm,0.9s,SNR=35								
CONA					ePP		PP	07 33 51.4	+2.8
	comp=Z,214nm,1.3s								
CONA					ePKKPbc		PKKPab	07 42 21.5	-2.3
	comp=Z,26nm,0.9s,SNR=5.5								
PUK	Puka	120.83	316		iP		PKPdf	07 32 20.1	+2.4
R46A	Gibon Southern	120.85	48		P		PKPdf	07 32 17.2	-0.5
	baz=289,SNR=23								
S46A	Don Dixon Farm	120.87	49		P		PKPdf	07 32 16.8	-0.9
	baz=289,SNR=22								
DYR	Agios Nikonas	120.88	310		P		PKPdf	07 32 16.2	-1.7
PVO	Paravola	120.89	312		P		PKPdf	07 32 17.7	-0.1
U46A	Springville	120.93	51		P		PKPdf	07 32 17.2	-0.7
	baz=288,SNR=69								
T46A	Princeton	120.94	50		P		PKPdf	07 32 17.7	-0.3
	baz=288,SNR=39								
BEHE	Becsehely	120.97	322	⇑	ePKPdf		PKPdf	07 32 17.6	-0.1
DRO	Drossia	120.97	311		P		PKPdf	07 32 19.1	+1.1
JAN	Janina	121.03	313		P		PKPdf	07 32 18.4	+0.3
JAN	Janina	121.03	313		P		PKPdf	07 32 18.4	+0.3
JAN	Janina	121.03	313		PKIKP		PKPdf	07 32 18.4	+0.3
ITM	Ithomi	121.06	310		P		PKPdf	07 32 17.0	-1.2
Y46A	Houston	121.09	54		P		PKPdf	07 32 17.6	-0.8
	baz=286,SNR=56								
AMT	Artemida-Makis	121.11	311		P		PKPdf	07 32 18.9	+0.6
PDG	Podgorica	121.12	317	⇓	iP		PKPdf	07 32 18.4	+0.3
PDG	Podgorica	121.12	317	⇑	iP		PKKPbc	07 42 23.5	+1.0
PDG	Podgorica	121.12	317		P		PKPdf	07 32 17.2	-0.9
TIR	Tirane	121.12	316	⇓	iP		PKPdf	07 32 19.1	+1.0
TIR	Tirane	121.12	316		ePKPdf		PKPdf	07 32 18.1	0.0
TIR	Tirane	121.12	316		P		PKPdf	07 32 18.9	+0.8
TIR	Tirane	121.12	316		ePKIKP		PKPdf	07 32 18.2	0.0
TTG	Podgorica	121.12	317	⇓	iPKP		PKPdf	07 32 18.7	+0.6
TTG	Podgorica	121.12	317		ePKPdf		PKPdf	07 32 17.8	-0.3
TTG	Podgorica	121.12	317		ePKIKP		PKPdf	07 32 17.8	-0.3
RLS	Riolos of Patr	121.12	311		P		PKPdf	07 32 19.3	+1.1
RLS	Riolos of Patr	121.12	311		P		PKPdf	07 32 19.3	+1.1
X46A	Booneville	121.13	53		P		PKPdf	07 32 17.4	-0.9
	baz=286,SNR=6.0								
W46A	Michie	121.13	52		P		PKPdf	07 32 16.8	-1.5
	baz=287,SNR=34								
O47A	Sheridan	121.13	46		P		PKPdf	07 32 17.5	-0.7
	baz=291,SNR=120								
V46A	Holladay	121.14	51		P		PKPdf	07 32 17.0	-1.3
	baz=287,SNR=119								
PDO	Prodromos	121.15	312		P		PKPdf	07 32 19.3	+1.0
NKME	Niksic	121.19	317	⇓	iPKP		PKPdf	07 32 18.3	0.0
Z46A	Louisville	121.21	54		P		PKPdf	07 32 18.6	0.0
	baz=285,SNR=73								
346A	Big Creek Wild	121.22	57		P		PKPdf	07 32 18.9	+0.2
	baz=284,SNR=46								
146A	Union	121.25	55		P		PKPdf	07 32 18.3	-0.4
	baz=285,SNR=81								
BLO	Bloomington	121.26	47		ePKPdf		PKPdf	07 32 17.8	-0.7
BLO	Bloomington	121.26	47		ePKIKP		PKPdf	07 32 17.8	-0.7
DRME	Dracevica, Mon	121.26	317	⇓	iPKP		PKPdf	07 32 19.1	+0.7
WVT	Waverly	121.26	51		P		PKPdf	07 32 17.5	-1.0
	baz=288								
WVT	Waverly	121.26	51		ePKPdf		PKPdf	07 32 17.6	-1.0
WVT	Waverly	121.26	51		ePKIKP		PKPdf	07 32 17.6	-1.0
546A	Slidell	121.28	58		P		PKPdf	07 32 18.2	-0.5
	baz=283								
PYL	PYLOS	121.29	310		P		PKPdf	07 32 18.4	-0.2
CEME	Cevo	121.30	317	⇓	iPKP		PKPdf	07 32 19.1	+0.5
KOGS	Kog	121.31	322		ePdiff		Pdif	07 28 46.8	+0.7
KOGS					iPKPdf		PKPdf	07 32 17.9	-0.5
KOGS					e			07 33 44.4	
KOGS					e			07 40 30.5	
KOGS					eSdiff			07 41 26.4	
KOGS					e			07 49 51.9	
ULC	Ulcinj	121.31	316	⇓	iPKP		PKPdf	07 32 19.0	+0.5
646A	Port Sulphur	121.33	59		P		PKPdf	07 32 18.9	0.0
	baz=282								
P47A	Martinsville	121.33	47		P		PKPdf	07 32 18.1	-0.6
	baz=291,SNR=83								
246A	Jackson Lee, B	121.35	56		P		PKPdf	07 32 18.6	-0.3
	baz=284								
ARSA	Arzberg	121.36	323		iPKPdf		PKPdf	07 32 18.0	-0.4
	comp=Z,57nm,0.9s,SNR=17								
ARSA					ePP		PP	07 33 54.2	+2.1
	comp=Z,32nm,1.4s								
ARSA					iPKKPab		PKKPab	07 42 21.1	-0.3
	comp=Z,38nm,1.1s,SNR=9.0								
BRY	Bratogost	121.41	318	⇓	iPKP		PKPdf	07 32 18.9	0.0
Q47A	Bedord North L	121.41	47		P		PKPdf	07 32 18.4	-0.4
	baz=290,SNR=93								
446A	Poplarville	121.45	57		P		PKPdf	07 32 19.0	-0.1
	baz=284,SNR=14								
IGT	Igoumenitsa	121.45	313		P		PKPdf	07 32 18.3	-0.6
IGT	Igoumenitsa	121.45	313		P		PKPdf	07 32 18.3	-0.6
IGT	Igoumenitsa	121.45	313		PKIKP		PKPdf	07 32 18.3	-0.6
LKD2	Lefkada island	121.47	313		P		PKPdf	07 32 19.9	+0.9
LKD2	Lefkada island	121.47	313		P		PKPdf	07 32 19.9	+0.9
SGD	Sagiada	121.49	314		P		PKPdf	07 32 18.6	-0.3
BLY	Banja Luka	121.50	320	⇑	iP		PKPd

baz=295,SNR=34
AAM Ann Arbor 122.08 43 *e*PKPdf **PKPdf** 07 32 19.5 -0.5
AAM Ann Arbor 122.08 43 *e*PKIKP **PKPdf** 07 32 19.5 -0.5
S48A Wiedeman Farm, 122.12 49 P **PKPdf** 07 32 19.7 -0.5
baz=290,SNR=148
U48A Cassie Pea, Po 122.13 50 P **PKPdf** 07 32 19.3 -0.9
baz=289,SNR=84
V48A Smith Brothers 122.16 51 P **PKPdf** 07 32 19.1 -1.3
baz=288,SNR=123
OZLJ Ozalj 122.18 322 P **PKPdf** 07 32 19.4 -0.6
W48A Pulaski 122.26 52 P **PKPdf** 07 32 19.2 -1.3
baz=288,SNR=59
Z48A Northport 122.28 54 P **PKPdf** 07 32 19.6 -1.0
baz=286,SNR=60
OBKA Obir 122.30 323 *i* PKPdf **PKPdf** 07 32 19.9 -0.5
comp=Z,71nm,0.8s,SNR=16
OBKA *e*PP **PP** 07 34 00.3 +1.7
comp=Z,49nm,1.3s
OBKA *i* PKKPab **PKKPab** 07 42 17.7 +0.3
comp=Z,154nm,1.5s,SNR=16
BOJS Bojanci 122.37 322 *e*Pdiff **Pdif** 07 28 52.2 +1.3
BOJS *i* PKPdf **PKPdf** 07 32 20.2 -0.2
BOJS *e*Sdiff 07 41 37.4
BOJS *e*PKKPbc **PKKPbc** 07 42 17.5 -0.4
BOJS *e* 07 43 11.6
BOJS *e*SS SS 07 51 09.1 +47
BOJS *e* 08 03 22.3
X48A Hartselle 122.38 52 P **PKPdf** 07 32 19.5 -1.3
baz=287,SNR=88
Y48A Jasper 122.43 53 P **PKPdf** 07 32 19.8 -1.1
baz=287,SNR=48
PLCA Paso Flores 122.44 147 PKP **PKPdf** 07 32 21.9 +1.0
comp=Z,87nm,0.8s,baz=269,slow=2.6,SNR=109
PLCA PP **PP** 07 33 59.3 0.0
comp=Z,13nm,0.7s,baz=252,slow=7.6,SNR=2.5
PLCA PKKPbc **PKKPbc** 07 42 17.4 -0.3
comp=Z,23nm,1.0s,baz=77,slow=4.4,SNR=21
PLCA PKKP **PKKPdf** 07 42 53.3 +0.1
comp=Z,7.0nm,0.9s,baz=70,slow=2.4,SNR=4.6
PLCA SKKP 07 46 09.1
comp=Z,15nm,1.1s,baz=74,slow=2.7,SNR=4.0
148A Greensboro 122.46 55 P **PKPdf** 07 32 20.3 -0.6
baz=286,SNR=53
248A Dixon Mills 122.47 55 P **PKPdf** 07 32 21.1 0.0
baz=285,SNR=52
GRFO Grafenberg 122.49 328 *e*PKPdf **PKPdf** 07 32 20.0 -0.5
GRFO Grafenberg 122.49 328 *e*PKIKP **PKPdf** 07 32 20.0 -0.5
UDBI Udbina 122.51 320 P **PKPdf** 07 32 19.8 -1.1
348A Jackson 122.51 56 P **PKPdf** 07 32 21.4 +0.3
baz=285,SNR=40
LJU Ljubljana 122.55 323 *i* PKPdf **PKPdf** 07 32 20.4 -0.4
LJU *i* pPKPdf **pPKPdf** 07 33 13.3 -1.3
LJU *e*PP **PP** 07 34 02.3 +2.2
LJU *e* 07 34 52.2
LJU *e*Sdiff 07 41 41.1
LJU *e*PKKPbc **PKKPbc** 07 42 19.6 +2.4
LJU *e* 07 43 33.3
MLA1 Latheron 122.59 342‖ *e*P **PKPdf** 07 32 20.7 +0.3
448A Bay Minette 122.67 57 P **PKPdf** 07 32 21.8 +0.4
baz=285,SNR=15
APG El Apazote 122.70 76 PKP **PKPdf** 07 32 21.5 -0.6
comp=Z,159nm,1.1s,baz=325,slow=5.5,SNR=49
APG PKKPbc **PKKPbc** 07 42 15.1 -0.9
comp=Z,9.3nm,0.8s,baz=184,slow=13,SNR=2.3
APG SKKPbc SKKPbc 07 45 45.7 +0.5
comp=Z,13nm,0.9s,baz=176,slow=1.4,SNR=5.2
KBA Koelnbreinsper 122.73 324 *i* PKPdf **PKPdf** 07 32 20.3 -1.0
comp=Z,198nm,1.2s,SNR=40
KBA *i* PP **PP** 07 34 03.3 +1.8
comp=Z,179nm,1.7s
KBA *i* PKKPab **PKKPab** 07 42 15.6 -0.1
comp=Z,25nm,0.9s,SNR=7.9
MYKA Terra Mystica 122.78 324 *i* PKPdf **PKPdf** 07 32 20.3 -1.0
comp=Z,103nm,0.8s,SNR=20
MYKA *i* PP **PP** 07 34 02.5 +0.7
comp=Z,66nm,1.3s
MYKA *i* PKKPab **PKKPab** 07 42 15.8 +0.5
comp=Z,34nm,0.9s,SNR=11
LRAL Lakeview Retre 122.82 54 P **PKPdf** 07 32 20.9 -0.7
baz=286,SNR=118
LRAL Lakeview Retre 122.82 54 *e*PKPdf **PKPdf** 07 32 20.5 -1.2
MYIG MÖrida 122.86 69 *e*PKPdf **PKPdf** 07 32 21.6 -0.4
X49A Woodville 122.92 52 P **PKPdf** 07 32 20.8 -1.0
baz=288,SNR=106
249A Camden 123.01 55 P **PKPdf** 07 32 21.9 -0.1
baz=286,SNR=85
SWET Sewanee 123.01 51 *e*PKPdf **PKPdf** 07 32 20.5 -1.6
Y49A Blount Mountai 123.05 53 P **PKPdf** 07 32 21.0 -1.1
baz=287,SNR=39
NVLJ Novalja 123.06 321 P **PKPdf** 07 32 19.8 -1.9
RSC Scourie 123.10 343‖ *e*P **PKPdf** 07 32 21.9 +0.5
149A Jones 123.11 55 P **PKPdf** 07 32 21.6 -0.7
baz=286,SNR=61
349A Repton 123.12 56 P **PKPdf** 07 32 22.7 +0.4
baz=285,SNR=75
MCD Coleburn Disti 123.15 341‖ *e*P **PKPdf** 07 32 21.3 -0.2
Z49A Columbiana 123.15 54 P **PKPdf** 07 32 21.8 -0.5
baz=287,SNR=102
TRI Trieste 123.18 323 *e*PKPdf **PKPdf** 07 32 20.9 -1.0
TRI Trieste 123.18 323 *e*PKIKP **PKPdf** 07 32 20.9 -1.0
449A Pace 123.25 57 P **PKPdf** 07 32 22.9 +0.3
baz=285,SNR=11
MME1 Meikle Cairn 123.27 341‖ *e*P **PKPdf** 07 32 21.4 -0.5
IVI Ivigtut 123.28 9 *e*PKPdf **PKPdf** 07 32 20.9 -0.8
BRAL Brewton 123.28 56 P **PKPdf** 07 32 22.8 +0.2
baz=285,SNR=18
BRAL Brewton 123.28 56 *e*PKPdf **PKPdf** 07 32 22.8 +0.2
WTSB Winterswijk 123.32 332 *e*PKPdf **PKPdf** 07 32 21.9 -0.1
comp=Z,626nm,1.5s
ABTA Abfaltersbach 123.39 324 *i* PKPdf **PKPdf** 07 32 21.4 -1.1
comp=Z,337nm,1.2s,SNR=50
ABTA *i* PKKPab **PKKPab** 07 42 13.4 +0.7
comp=Z,38nm,0.9s,SNR=10.0
ACSO Alum Creek Sta 123.39 45 P **PKPdf** 07 32 22.1 -0.5
baz=294,SNR=118
DRUM Mains of Drumt 123.44 341 *e*P **PKPdf** 07 32 22.2 +0.1
Y50A Piedmont 123.58 53 P **PKPdf** 07 32 22.3 -0.8
baz=288,SNR=54
MATE Matera 123.59 316‖ *i* P **PKPdf** 07 32 23.8 +0.9
WATA Walderalm 123.61 325 *i* PKiKP **PKPdf** 07 32 22.6 -0.4
comp=Z,145nm,0.6s,SNR=36
WATA *e*PKKPab **PKKPab** 07 42 12.1 +0.2
comp=Z,24nm,1.0s
MDO Dochfour 123.61 342‖ *e*P **PKPdf** 07 32 22.2 -0.3
WTTA Wattenberg 123.61 325 *i* PKiKP **PKPdf** 07 32 22.8 -0.2
comp=Z,321nm,0.9s,SNR=62
WTTA *e*PP **PP** 07 34 08.9 +1.4
comp=Z,146nm,2.0s
WTTA *e*PKKPab **PKKPab** 07 42 12.2 +0.4
comp=Z,19nm,1.2s
Z50A Ashland 123.62 54 P **PKPdf** 07 32 22.5 -0.8
baz=287,SNR=96
RRR Rubha Reidh 123.70 343‖ *e*P **PKPdf** 07 32 22.8 +0.2
NRS Narsarsuaq 123.70 7 *i* P **PKPdf** 07 32 22.0 -0.5
comp=Z,710nm,1.0s
NRS Narsarsuaq 123.70 7 *e*PKPdf **PKPdf** 07 32 21.8 -0.7
NRS Narsarsuaq 123.70 7 *e*PKIKP **PKPdf** 07 32 21.8 -0.7
250A Grady 123.71 55 P **PKPdf** 07 32 23.1 -0.3
baz=286,SNR=77
150A Eclectic 123.73 54 P **PKPdf** 07 32 22.8 -0.6
baz=287,SNR=65
450A Crestview 123.76 57 P **PKPdf** 07 32 23.9 +0.3
baz=285,SNR=7.7
SCHQ Schefferville 123.77 23 PKP **PKPdf** 07 32 22.5 -0.3
comp=Z,162nm,0.9s,baz=355,slow=3.3,SNR=46
SCHQ PP **PP** 07 34 05.5 -2.4
comp=Z,76nm,1.2s,baz=357,slow=7.9,SNR=4.8
SCHQ PKKPbc **PKKPbc** 07 42 12.6 -0.2
comp=Z,36nm,0.9s,baz=137,slow=4.0,SNR=14
350A Dozier 123.80 56 P **PKPdf** 07 32 23.7 +0.1
baz=286,SNR=69
KAC Achnashellach 123.85 342‖ *e*P **PKPdf** 07 32 23.2 +0.3
MOTA Moosalm 123.87 325 *i* PKPdf **PKPdf** 07 32 22.7 -0.8
comp=Z,263nm,0.7s,SNR=90
MOTA *i* PKKPab **PKKPab** 07 42 11.3 +0.6
comp=Z,40nm,1.1s,SNR=8.5
SADO Sadowa 123.88 38 PKP **PKPdf** 07 32 22.7 -0.6
comp=Z,259nm,0.9s,baz=310,slow=3.6,SNR=44
SADO PP **PP** 07 34 07.4 -1.7
comp=Z,17nm,0.8s,baz=302,slow=17,SNR=3.2
SADO PKKPbc **PKKPbc** 07 42 11.9 -0.1
comp=Z,10nm,0.9s,baz=132,slow=1.1,SNR=5.4
RRH Rhenigidale 123.90 344‖ *e*P **PKPdf** 07 32 23.1 +0.2
EDU Dundee 123.91 341‖ *e*P **PKPdf** 07 32 23.3 +0.3
SNET Serv Nac Est T 123.95 77 *e*PKPdf **PKPdf** 07 32 23.6 -0.8
RETA Reutte 123.98 326 *i* PKPdf **PKPdf** 07 32 23.1 -0.4
comp=Z,163nm,1.2s,SNR=33
RETA *e*PP **PP** 07 34 11.2 +1.4
comp=Z,57nm,1.2s
RETA *e*PKKPab **PKKPab** 07 42 10.3 +0.2
comp=Z,26nm,1.1s
CPCT Cooper Cave 124.03 51 *e*PKPdf **PKPdf** 07 32 23.1 -0.8
KPL Plockton 124.09 343 *e*P **PKPdf** 07 32 23.6 +0.3
STU Stuttgart 124.10 328 *e*PKPdf **PKPdf** 07 32 24.0 +0.4
STU Stuttgart 124.10 328 *e*PKIKP **PKPdf** 07 32 24.0 +0.4
KSB Sheil Bridge 124.13 342‖ *e*P **PKPdf** 07 32 23.6 +0.2
TIP Timpagrande 124.15 314⇑ *i* P **PKPdf** 07 32 24.7 +0.6
TIP Timpagrande 124.15 314⇑ *i* P **PKKPbc** 07 42 11.8 +1.0
TIP Timpagrande 124.15 314 *e*PKPdf **PKPdf** 07 32 23.7 -0.4
TIP Timpagrande 124.15 314 P **PKPdf** 07 32 24.3 +0.2
FETA Feichten 124.26 325 *i* PKiKP **PKPdf** 07 32 24.1 -0.2
comp=Z,349nm,0.9s,SNR=79
FETA *i* PKKPab **PKKPbc** 07 42 10.1 -0.7
comp=Z,48nm,1.0s,SNR=6.3
ESY Stoneypath 124.28 340‖ *e*P **PKPdf** 07 32 24.1 +0.4
151A Opelika 124.31 54 P **PKPdf** 07 32 24.1 -0.4
baz=287,SNR=49
251A Midway 124.37 55 P **PKPdf** 07 32 24.4 -0.3
baz=287,SNR=151
TZTN Tazewell 124.39 49 P **PKPdf** 07 32 24.3 -0.3
baz=291,SNR=110
351A Pinckard 124.45 56 P **PKPdf** 07 32 24.8 0.0
baz=286,SNR=18
CUC Castrocucco 124.48 316 *e*PKPdf **PKPdf** 07 32 24.3 -0.4
451A Vernon 124.51 57 P **PKPdf** 07 32 25.4 +0.5
baz=286,SNR=16
HGN Heimansgroeve 124.51 331 *e*PKPdf **PKPdf** 07 32 23.5 -0.9
comp=Z,620nm,1.6s
HGN *e*PP **PP** 07 34 16.0 +3.1
TKL Tuckaleechee C 124.53 50 PKP **PKPdf** 07 32 24.6 -0.3
comp=Z,467nm,1.0s,baz=150,slow=1.5,SNR=138
TKL PP **PP** 07 34 11.7 -2.2
comp=Z,16nm,0.9s,baz=288,slow=3.6,SNR=3.1
TKL PKKPbc **PKKPbc** 07 42 09.9 +0.7
comp=Z,17nm,1.2s,baz=208,slow=3.6,SNR=3.7
TKL Tuckaleechee C 124.53 50 *e*PKIKP **PKPdf** 07 32 24.3 -0.6
TKL 07 34 11.7
MEM Membach 124.58 331 ‖PKP **PKPdf** 07 32 25.1 +0.6
TSUM Tsumeb 124.58 242 PKP **PKPdf** 07 32 25.9 +0.3
comp=Z,67nm,0.8s,baz=118,slow=2.6,SNR=58
TSUM PKKPbc **PKKPab** 07 42 10.5 +1.7
comp=Z,76nm,1.0s,baz=284,slow=3.2,SNR=35
TSUM SKKPbc SKKPbc 07 45 36.4 -2.2
comp=Z,5.1nm,0.7s,baz=322,slow=2.1,SNR=5.2
TSUM Tsumeb 124.58 242 *e*PKPdf **PKPdf** 07 32 25.2 -0.3
TSUM PKKPbc **PKKPab** 07 42 10.5 +1.7
TSUM SKKPbc SKKPbc 07 45 36.4 -2.2
DAVA Damuels 124.59 326 *i* PKiKP **PKPdf** 07 32 24.5 -0.3
comp=Z,332nm,1.1s,SNR=56
DAVA *i* PP **PP** 07 34 14.8 +0.8
comp=Z,80nm,1.5s
DAVA *e*PKKPab **PKKPbc** 07 42 08.9 -0.6
comp=Z,32nm,0.8s,SNR=6.2
ERPA Erie 124.61 41 P **PKPdf** 07 32 24.2 -0.7
baz=298,SNR=14
ERPA Erie 124.61 41 *e*PKPdf **PKPdf** 07 32 23.9 -1.0
BEBN Eben Emael 124.61 331⇑ PKP **PKPdf** 07 32 24.9 +0.4
EAB Aberfoyle 124.63 341‖ *e*P **PKPdf** 07 32 24.7 +0.3
ALLY Alegheny Colle 124.72 42 *e*PKPdf **PKPdf** 07 32 23.9 -1.2
BFO Black Forest 124.83 328 *e*PKPdf **PKPdf** 07 32 23.8 -1.3
BFO Black Forest 124.83 328 *i* PKIKP **PKPdf** 07 32 25.1 0.0
EDMD Edmundbyers 124.91 339 *e*P **PKPdf** 07 32 25.2 +0.2
452A Marianna 124.91 56 P **PKPdf** 07 32 26.0 +0.3
baz=286,SNR=60
EKA Eskdalemuir Ar 124.93 340 PKP **PKPdf** 07 32 25.1 +0.1
comp=Z,181nm,0.9s,baz=21,slow=2.2,SNR=67
EKA PP **PP** 07 34 11.0 -4.5
comp=Z,39nm,1.0s,baz=44,slow=4.8,SNR=6.6
EKA PKKPbc **PKKPbc** 07 42 07.2 -1.0
comp=Z,6.7nm,0.5s,baz=215,slow=3.8,SNR=16
EKA SKKPbc SKKPbc 07 45 39.1 -0.2
comp=Z,8.7nm,1.0s,baz=238,slow=2.4,SNR=3.0
352A Blakely 124.94 55 P **PKPdf** 07 32 25.8 +0.1
baz=287,SNR=43
252A Lumpkin 124.95 55 P **PKPdf** 07 32 25.7 -0.1
baz=287,SNR=53
ESK Eskdalemuir 124.96 340 *e*PKPdf **PKPdf** 07 32 24.8 -0.3
ESK Eskdalemuir 124.96 340 *e*P **PKPdf** 07 32 24.6 -0.5
ESK Eskdalemuir 124.96 340 *e*PKIKP **PKPdf** 07 32 24.8 -0.3
552A Lynn Haven 125.01 57 P **PKPdf** 07 32 26.1 +0.1
baz=286,SNR=15
BCLA Clavier 125.04 331 ‖PKP **PKPdf** 07 32 26.0 +0.6
AQU L'Aquila 125.05 319 *e*PKPdf **PKPdf** 07 32 24.8 -1.0
AQU L'Aquila 125.05 319 *e*PKIKP **PKPdf** 07 32 24.8 -1.0
M54A Oil Creek Stat 125.11 42 P **PKPdf** 07 32 25.2 -0.6
baz=298,SNR=82
M54A Oil Creek Stat 125.11 42 *e*PKPdf **PKPdf** 07 32 25.0 -0.9
WLF Walferdange 125.12 330⇑ PKP **PKPdf** 07 32 26.9 +1.4
WLF Walferdange 125.12 330 *e*PKPdf **PKPdf** 07 32 26.1 +0.5
WLF Walferdange 125.12 330 *e*PKIKP **PKPdf** 07 32 26.1 +0.5
CEL Celeste 125.14 314 *e*PKPdf **PKPdf** 07 32 25.1 -0.9
N54A Moraine State 125.14 43 P **PKPdf** 07 32 25.4 -0.5
baz=297,SNR=90
N54A Moraine State 125.14 43 *e*PKPdf **PKPdf** 07 32 25.0 -0.9
BHH Howats Hill 125.14 340 *e*P **PKPdf** 07 32 26.1 +0.6
UCC Uccle 125.24 332⇑ PKP **PKPdf** 07 32 24.9 -0.8
UCC Uccle 125.24 332 *e*PKPdf **PKPdf** 07 32 25.5 -0.2
UCC Uccle 125.24 332 *e*PKIKP **PKPdf** 07 32 25.5 -0.2
TUE Stuetta 125.36 325 *e*PKPdf **PKPdf** 07 32 25.9 -0.6
253A Americus 125.42 54 P **PKPdf** 07 32 26.2 -0.5
baz=288,SNR=38
GO05 HualaæØ 125.44 141 *e*PKPdf **PKPdf** 07 32 26.7 0.0
BBO1 Bothel 125.44 339 *e*P **PKPdf** 07 32 26.6 +0.6
HPK Haverah Park 125.46 338 *e*P **PKPdf** 07 32 26.3 +0.2
SNF Seneffe 125.47 332‖ PKP **PKPdf** 07 32 27.2 +1.1
153A Fort Valley 125.48 54 P **PKPdf** 07 32 26.4 -0.4
baz=288,SNR=10
KESW Keswick, Cumbr 125.51 339 *e*P **PKPdf** 07 32 26.4 +0.2
WACR West Acre 125.51 336 *e*P **PKPdf** 07 32 25.7 -0.4
ECH Echery 125.52 328 *e*PKPdf **PKPdf** 07 32 25.8 -0.6
ECH Echery 125.52 328 *e*PKIKP **PKPdf** 07 32 25.8 -0.6
GOGA Godfrey 125.53 53 P **PKPdf** 07 32 26.7 -0.2
baz=289,SNR=94
GOGA Godfrey 125.53 53 *e*PKPdf **PKPdf** 07 32 26.3 -0.5
GOGA Godfrey 125.53 53 *e*PKIKP **PKPdf** 07 32 26.3 -0.5
353A Camilla 125.56 55 P **PKPdf** 07 32 27.1 +0.1
baz=287,SNR=51
DOU Dourbes 125.60 331⇑ PKP **PKPdf** 07 32 26.7 +0.2
453A Whigham 125.62 56 P **PKPdf** 07 32 27.4 +0.3
baz=287,SNR=54
553A Crawfordville 125.72 57 P **PKPdf** 07 32 27.5 +0.2
baz=286,SNR=25
TRQ Mont Tremblant 125.81 35 *e*PKPdf **PKPdf** 07 32 26.7 -0.4
MCWV Mont Chateau 125.82 44 P **PKPdf** 07 32 26.7 -0.5
baz=296,SNR=22
LBWR Ladybower, Pea 125.93 338 *e*P **PKPdf** 07 32 27.5 +0.5
VLC Villacollemand 126.03 322 *e*PKPdf **PKPdf** 07 32 27.6 +0.1
TIGA Tifton 126.05 55 P **PKPdf** 07 32 28.0 +0.1
baz=288,SNR=65
TIGA Tifton 126.05 55 *e*PKPdf **PKPdf** 07 32 27.6 -0.3
154A Montrose 126.07 53 P **PKPdf** 07 32 27.6 -0.3
baz=289,SNR=27
CLGH Cloghs, Cushen 126.11 341 *e*P **PKPdf** 07 32 27.5 +0.2
254A Abbeville 126.13 54 P **PKPdf** 07 32 27.9 -0.1
baz=288,SNR=31
HODGE Hodges 126.19 51 *e*PKPdf **PKPdf** 07 32 27.8 -0.3
454A Quitman 126.23 56 P **PKPdf** 07 32 28.2 -0.1
baz=287,SNR=28
IOMK Kirk Michael 126.28 340 *e*P **PKPdf** 07 32 27.7 +0.1
PAULI Pauline 126.33 50 *e*PKPdf **PKPdf** 07 32 28.2 -0.1
554A Perry 126.37 57 P **PKPdf** 07 32 28.6 +0.1
baz=287,SNR=28
O56A Blue Knob Stat 126.42 43 P **PKPdf** 07 32 28.0 -0.4
baz=298,SNR=52
O56A Blue Knob Stat 126.42 43 *e*PKPdf **PKPdf** 07 32 27.8 -0.6
BLA Blacksburg 126.45 47 P **PKPdf** 07 32 28.3 -0.3
baz=294,SNR=86
BLA Blacksburg 126.45 47 *e*PKPdf **PKPdf** 07 32 27.7 -0.9
BLA Blacksburg 126.45 47 *e*PKIKP **PKPdf** 07 32 27.7 -0.9
VAE Valguarnera 126.53 313 PKP **PKPdf** 07 32 29.3 +0.6
comp=Z,58nm,1.0s,baz=98,slow=5.4,SNR=7.4
IDGL Inch Island, C 126.56 342 *e*P **PKPdf** 07 32 28.1 0.0
KMSC Kings Mountain 126.58 50 P **PKPdf** 07 32 28.7 -0.1
baz=292,SNR=130
KMSC Kings Mountain 126.58 50 *e*PKPdf **PKPdf** 07 32 28.5 -0.3
155A Kite 126.58 53 P **PKPdf** 07 32 28.9 +0.1
baz=290,SNR=57
355A Pearson 126.68 55 P **PKPdf** 07 32 29.0 0.0
baz=288,SNR=27
SSPA Standing Stone 126.70 42 P **PKPdf** 07 32 28.5 -0.4
baz=299
SSPA Standing Stone 126.70 42 *e*PKPdf **PKPdf** 07 32 28.3 -0.6
LONY Lake Ozonia 126.71 36 P **PKPdf** 07 32 28.2 -0.6
baz=304
LONY Lake Ozonia 126.71 36 *e*PKPpre PKPpre 07 32 18.6
LONY *e*PKPdf **PKPdf** 07 32 27.9 -0.9
455A Stateville 126.72 56 P **PKPdf** 07 32 29.3 +0.1
baz=288,SNR=26
VWCC Virginia Weste 126.76 47 *e*PKPdf **PKPdf** 07 32 28.3 -0.8
655A Horseshoe Beac 126.89 57 P **PKPdf** 07 32 29.0 -0.5
baz=287
FOEL Foel Wylfa 126.89 338 *e*P **PKPdf** 07 32 28.2 -0.7
555A McAlpin 126.95 56 P **PKPdf** 07 32 29.8 +0.2
baz=287,SNR=32
WPS Cemaes, Angles 126.95 339 *e*P **PKPdf** 07 32 29.3 +0.4
WLF1 Llynfaes 127.00 339 *e*P **PKPdf** 07 32 29.3 +0.3
HLM1 Long Mynd 127.06 337 *e*P **PKPdf** 07 32 29.6 +0.4
SSW Stow on the Wo 127.08 336‖ *e*P **PKPdf** 07 32 30.1 +0.8
LLW Llanuwchllyn 127.09 338 *e*P **PKPdf** 07 32 29.2 0.0
BINY Binghamton 127.16 40 P **PKPdf** 07 32 29.3 -0.4
baz=302,SNR=52
BINY Binghamton 127.16 40 *e*PKPdf **PKPdf** 07 32 29.2 -0.6
FRNY Flat Rock 127.17 36 *e*PKPpre PKPpre 07 32 20.1
FRNY *e*PKPdf **PKPdf** 07 32 28.6 -1.1
256A Glennville 127.25 54 P **PKPdf** 07 32 30.5 +0.3
baz=289,SNR=19
356A Blackshear 127.27 55 P **PKPdf** 07 32 30.2 -0.1
baz=289,SNR=23
NCB Newcomb 127.29 37 *e*PKPpre PKPpre 07 32 19.9
NCB *e*PKPdf **PKiKP** 07 32 30.9 +0.4
WOL Wolverton 127.33 336 *e*P **PKPdf** 07 32 29.8 +0.1
STRD Stroud 127.36 336 *e*P **PKPdf** 07 32 29.7 -0.1
SWN1 Swindon 127.41 336 *e*P **PKPdf** 07 32 30.5 +0.6
PEL Peldehue 127.42 140 *e*PKPpre PKPpre 07 32 22.8
PEL *e*PKPdf **PKiKP** 07 32 30.9 -0.2
556A Lake Butler 127.45 56 P **PKPdf** 07 32 30.6 0.0
baz=288,SNR=40
MCH1 Michaelchurch 127.51 337 *e*P **PKPdf** 07 32 29.5 -0.6
656A Willston 127.53 57 P **PKPdf** 07 32 30.7 -0.1
baz=287,SNR=18
456A Hilliard 127.55 55 P **PKPdf** 07 32 31.1 +0.4
baz=288,SNR=35
CRZ1 La Cruz 127.56 80 *e*P **PKPdf** 07 32 26.1 -5.2
MONM Monmouth 127.56 337 *e*P **PKPdf** 07 32 29.9 -0.2
PAGS Pennsylvania G 127.68 42 *e*PKPpre PKPpre 07 32 20.7
PAGS *e*PKPdf **PKPdf** 07 32 29.4 -1.3
BNI Bardonecchia 127.70 325 *e*PKPdf **PKPdf** 07 32 30.8 -0.1
BNI Bardonecchia 127.70 325 *e*PKIKP **PKPdf** 07 32 30.8 -0.1
HGH Gray Hill 127.72 337‖ *e*P **PKPdf** 07 32 30.6 +0.1
DSB Dublin 127.73 340 *e*PKPdf **PKPdf** 07 32 29.9 -0.5
357A Townsend 127.76 54 P **PKPdf** 07 32 31.3 +0.1
baz=289,SNR=9.7
LPW Lampeter 127.83 338 *e*P **PKPdf** 07 32 31.0 +0.3
PLVR Palo Verde 127.85 81 *e*P **PKPdf** 07 32 30.2 -1.8
SPRD Spring Road, M 127.92 45 *e*PKPdf **PKPdf** 07 32 30.4 -0.9
IP01 Cuckoo 127.93 45 *e*PKPdf **PKPdf** 07 32 30.5 -0.8
257A Skidaway Islan 127.94 53 P **PKPdf** 07 32 31.9 +0.4
baz=290,SNR=6.9
VT1 Waterbury 127.94 36 *e*PKPpre PKPpre 07 32 21.4
VT1 *e*PKPdf **PKPdf** 07 32 31.1 -0.1
ACCN Adirondack Com 127.95 37 *e*PKPdf **PKPdf** 07 32 30.4 -0.8
CVRD Centerville Ro 127.95 45 *e*PKPdf **PKPdf** 07 32 30.5 -0.8
457A Yulee 127.96 55 P **PKPdf** 07 32 31.6 +0.1
baz=289
N59A State Game Lan 127.96 41 P **PKPdf** 07 32 31.4 +0.1
baz=301,SNR=49
N59A State Game Lan 127.96 41 *e*PKPpre PKPpre 07 32 19.2
N59A *e*PKPdf **PKPdf** 07 32 31.0 -0.3
SDMD Soldier's Deli 128.00 43 *e*PKPpre PKPpre 07 32 22.6
SDMD *e*PKPdf **PKPdf** 07 32 30.7 -0.7
557A Orange Park 128.01 56 P **PKPdf** 07 32 31.6 0.0
baz=288,SNR=18
657A Interlachen 128.02 57 P **PKPdf** 07 32 31.8 +0.1
baz=288,SNR=29
MVL Millersville 128.04 42 *e*PKPdf **PKPdf** 07 32 31.2 -0.2
757A Oxford 128.04 57 P **PKPdf** 07 32 31.6 -0.2
baz=287,SNR=24
IP05 Hopewell Churc 128.10 45 *e*PKPdf **PKPdf** 07 32 31.2 -0.4
857A Zephyrhills 128.10 58 P **PKPdf** 07 32 31.8 -0.1
baz=286,SNR=19
CBN Corbin Frederi 128.19 45 P **PKPdf** 07 32 31.5 -0.3
baz=298,SNR=45
CBN Corbin Frederi 128.19 45 *e*PKPdf **PKPdf** 07 32 31.3 -0.5
NHSC New Hope 128.22 52 P **PKPdf** 07 32 32.1 +0.2
baz=292,SNR=33
NHSC New Hope 128.22 52 *e*PKPdf **PKPdf** 07 32 32.1 +0.2
JTS JuntasAbangare 128.25 81 PKP **PKPdf** 07 32 32.8 +0.3
comp=Z,265nm,1.0s,baz=34,slow=3.1,SNR=35
JTS PP **PP** 07 34 38.5 -0.9
comp=Z,55nm,1.1s,baz=344,slow=3.7,SNR=3.9
957A Wimauma 128.26 59 P **PKPdf** 07 32 32.6 +0.4
baz=286,SNR=21
RGRS Roger Stewart 128.28 52 *e*PKPdf **PKPdf** 07 32 32.6 +0.6
TRY Troy 128.32 38 *e*PKPpre PKPpre 07 32 20.8
TRY *e*PKPdf **PKPdf** 07 32 31.8 0.0
CSU Charleston Sou 128.34 52 *e*PKPdf **PKPdf** 07 32 32.0 -0.2
LUPA Lehigh Univers 128.38 41 *e*PKPdf **PKPdf** 07 32 30.9 -1.2
LBNH Lisbon 128.48 35 P **PKPdf** 07 32 32.4 +0.2
baz=307
658A Bunnell 128.58 57 P **PKPdf** 07 32 32.8 +0.1
baz=288,SNR=10
HNH Hanover 128.59 36 *e*PKPpre PKPpre 07 32 21.9
HNH *e*PKPdf **PKPdf** 07 32 32.3 0.0
ODNJ Ogdensburg 128.63 40 *e*PKPpre PKPpre 07 32 19.6
ODNJ *e*PKPdf **PKPdf** 07 32 31.7 -0.8
PSUB Penn St. - Bra 128.67 42 *e*PKPpre PKPpre 07 32 22.8
PSUB *e*PKPdf **PKPdf** 07 32 31.9 -0.7
958A Wauchula 128.69 59 P **PKPdf** 07 32 33.4 +0.4
baz=286,SNR=17
SRA1 San Ram˙ţn 128.72 82 *e*P **PKPdf** 07 32 32.8 -0.8
CGA2 Cerro Gallo 2 128.73 82 *e*P **PKPdf** 07 32 32.8 -0.8
SSB Saint Sauveur 128.76 327 *e*PKPpre PKPpre 07 32 23.3
SSB *e*PKPdf **PKPdf** 07 32 32.5 -0.2
058A Arcadia 128.79 60 P **PKPdf** 07 32 33.2 0.0
baz=286,SNR=13
DWPF Disney Wildern 128.82 58 P **PKPdf** 07 32 33.4 +0.1
baz=287
DWPF Disney Wildern 128.82 58 *e*PKPdf **PKPdf** 07 32 33.1 -0.2
858A St. Cloud 128.85 58 P **PKPdf** 07 32 33.2 -0.1
baz=287,SNR=18
HTL Hartland 128.88 337 *e*P **PKPdf** 07 32 33.2 +0.5
TRQA Tornquist 128.88 150 *e*PKPpre PKPpre 07 32 21.7
TRQA *e*PKPdf **PKPdf** 07 32 33.0 -0.2
PQI Presque Isle 129.05 31 *e*PKPpre PKPpre 07 32 19.4
PQI *e*PKPdf **PKPdf** 07 32 32.2 -0.9
HDC Heredia 129.08 82 *e*PKPdf **PKPdf** 07 32 34.7 +0.4
FFD Franklin Falls 129.10 36 *e*PKPdf **PKPdf** 07 32 33.4 +0.1
DYA Yadsworthy 129.10 336 *e*P **PKPdf** 07 32 32.4 -0.7
VSL Villasalto 129.11 318 *e*PKPdf **PKPdf** 07 32 33.6 +0.1
PAL Palisades 129.12 40 P **PKPdf** 07 32 33.2 -0.3
baz=303
PAL Palisades 129.12 40 *e*PKPpre PKPpre 07 32 20.2
PAL *e*PKPdf **PKPdf** 07 32 32.5 -1.0
PAL Palisades 129.12 40 *e*PKHKP PKPpre 07 32 20.2
PAL *e* 07 32 32.5
CNNC Cliffs of the 129.13 48 P **PKPdf** 07 32 33.7 +0.1
baz=295,SNR=53
CNNC Cliffs of the 129.13 48 *e*PKPdf **PKPdf** 07 32 33.1 -0.5
SJS Escuela Geolog 129.14 82 *e*P **PKPdf** 07 32 36.1 +1.6
LCR2 La Lucha 2 129.19 82 *e*P **PKPdf** 07 32 33.8 -0.8
CPNY Central Park 129.20 40 *e*PKPdf **PKPdf** 07 32 33.2 -0.3
JQE Queens East 129.27 334‖ *e*P **PKPdf** 07 32 33.8 +0.4
859A Kempfer Cattle 129.29 58 P **PKPdf** 07 32 34.3 +0.2
baz=287,SNR=12
059Z Ave Maria 129.30 60 P **PKPdf** 07 32 34.6 +0.4
baz=286,SNR=16
PKME Peaks-Kenny Pk 129.31 33 P **PKPdf** 07 32 33.8 +0.1
baz=310
PKME Peaks-Kenny Pk 129.31 33 *e*PKPpre PKPpre 07 32 21.1
PKME *e*PKPdf **PKPdf** 07 32 33.4 -0.3
QUA2 Belchertown 129.38 38 *e*PKPpre PKPpre 07 32 20.3
QUA2 *e*PKPdf **PKPdf** 07 32 33.5 -0.4
059A Moore Haven 129.39 60 P **PKPdf** 07 32 34.8 +0.4
baz=286,SNR=9.8
URSC Urasca 129.41 82 *e*P **PKPdf** 07 32 34.8 -0.2
CVTR Volcan Turrial 129.43 82 *e*P **PKPdf** 07 32 35.1 -0.2
BUS Buena Vista 129.44 82 *e*P **PKPdf** 07 32 35.1 -0.3
959A Okeechobee 129.46 59 P **PKPdf** 07 32 34.3 -0.2
baz=287,SNR=18
WVL Waterville 129.56 34 *e*PKPpre PKPpre 07 32 21.6
WVL *

HRV	Adam Dziewonsk	129.72	37	ePKPdf	PKPdf	07 32 34.3	-0.3		
HRV	Adam Dziewonsk	129.72	37	ePKIKP	PKPdf	07 32 34.3	-0.3		
CCA1	Carnmenellis	129.81	337	eP	PKPdf	07 32 34.9	+0.4		
LCO	Las Campanas	129.97	135	ePKPpre	PKPpre	07 32 24.4			
LCO				ePKPdf	PKPdf	07 32 36.5	+0.7		
LCO	Las Campanas	129.97	135	PKIKP	PKPdf	07 32 36.6	+0.7		
060A	Indiantown	130.04	59	P	PKPdf	07 32 36.0	+0.4		
	baz=287								
WBCY	West Bay, Gran	130.84	69	ePKPdf	PKPdf	07 32 37.1	-0.2		
KEST	Kesra	130.95	314	PKP	PKPdf	07 32 38.3	+1.1		
	comp=Z,196nm,1.0s,baz=286,slow=2.4,SNR=43								
KEST				SKPbc	SKPbc	07 35 41.8	-0.4		
	comp=Z,94nm,1.1s,baz=240,slow=2.4,SNR=7.8								
KEST	Kesra	130.95	314	ePKPdf	PKPdf	07 32 35.9	-1.4		
KEST				SKPbc	SKPbc	07 35 41.8	-0.4		
FSCY	Frank Sound, G	131.05	69	ePKPdf	PKPdf	07 32 37.3	-0.4		
CMAH	Djebel Manchou	131.89	316	P	PKPdf	07 32 39.4	+0.4		
LCCY	Blossom Villag	132.01	69	ePKPdf	PKPdf	07 32 38.5	-1.1		
ABSA	Djebel Ababsia	132.02	315	P	PKPdf	07 32 40.0	+0.7		
CAEH	'Ain El Ouahch	132.20	316	P	PKPdf	07 32 42.2	+2.7		
CBCY	The Bluff, Cay	132.30	68	ePKPdf	PKPdf	07 32 39.7	-0.3		
CKFL	Kef-Lekhel	132.49	316	P	PKPdf	07 32 41.0	+0.8		
CASM	Ain Smara	132.72	316	P	PKPdf	07 32 41.1	+0.6		
ATAH	Atahualpa	132.87	105	PKhKP	PKPpre	07 32 30.0			
	comp=Z,16nm,0.7s,baz=299,slow=13,SNR=5.8								
ATAH				PKP	PKiKP	07 32 43.4	+0.3		
	comp=Z,131nm,0.7s,baz=322,slow=1.4,SNR=46								
ATAH				PP	PP	07 35 07.7	-1.9		
	comp=Z,17nm,0.9s,baz=270,slow=10,SNR=3.0								
ATAH				SKP		07 35 54.0			
	comp=Z,101nm,0.9s,baz=280,slow=1.7,SNR=5.7								
CTEI	Djebel Teioual	132.88	316	P	PKPdf	07 32 42.9	+2.0		
NNA	Nana	132.94	112	PKhKP	PKPpre	07 32 33.6			
	comp=Z,22nm,0.9s,baz=264,slow=3.1,SNR=5.7								
NNA				PKP	PKPdf	07 32 41.9	+0.4		
	comp=Z,133nm,0.9s,baz=238,slow=2.2,SNR=24								
NNA				SKP		07 35 53.1			
	comp=Z,42nm,0.9s,baz=251,slow=3.9,SNR=4.1								
DFRA	Djebel Bou Aff	132.99	316	P	PKPdf	07 32 42.6	+1.5		
PB10	IPOC Station P	133.25	130	ePKPdf	PKPdf	07 32 43.1	+1.3		
BCIP	Isla Barro Col	133.31	83	ePKPdf	PKPdf	07 32 41.7	-0.4		
H09N1	TRISTAN DA CUNI	133.47	203	PKP	PKPdf	07 32 43.1	+1.3		
SET	Setif	133.50	316	P	PKPdf	07 32 45.0	+2.9		
OTAV	Otavalo	134.20	95	ePKPdf	PKPdf	07 32 44.3	-0.2		
OTAV	Otavalo	134.20	95	PKIKP	PKPdf	07 32 44.4	0.0		
PB04	IPOC Station P	134.20	129	ePKPdf	PKPdf	07 32 43.9	+0.1		
ABA	Alger-Bouzarea	134.77	318	P	PKPdf	07 32 46.0	+1.7		
GRGC	Isla de Gorgon	134.77	91	eP	PKPdf	07 32 45.5	+0.6		
EMHD	Djebel Mahouad	135.16	318	P	PKPdf	07 32 45.7	+0.5		
PB01	IPOC Station P	135.41	127	ePKPpre	PKPpre	07 32 33.6			
PB01				ePKPdf	PKPdf	07 32 46.5	+0.5		
GCUF	Volcan Galeras	135.41	94	eP	PKPdf	07 32 46.8	0.0		
GCUF				eP	PKiKP	07 32 48.1	-0.2		
CPAS2	Pasto	135.51	94	eP	PKPdf	07 32 48.1	+1.4		
CPAS2				eP	PKiKP	07 32 50.1	+1.8		
CPAS2				eP	PKiKP	07 32 50.1	+1.8		
MALC	Bahia Malaga	135.68	90	eP	PKPdf	07 32 48.1	+1.5		
CAPC	Capurgana	135.77	83	eP	PKPdf	07 32 45.5	-1.3		
CRUC	La Cruz	135.84	93	eP	PKPdf	07 32 48.8	+1.4		
PB11	IPOC Station P	135.94	126	ePKPpre	PKPpre	07 32 33.8			
PB11				ePKPdf	PKPdf	07 32 47.1	0.0		
MNMC	Minye Minye	136.31	125	ePKPpre	PKPpre	07 32 34.3			
MNMC				ePKPdf	PKPdf	07 32 48.1	+0.1		
EANR	'Ain N'Sour	136.53	319	P	PKPdf	07 32 46.7	-1.0		
GTBY	Guantanamo Bay	136.54	67	ePKPpre	PKPpre	07 32 40.7			
ETRT	Tiaret	136.73	318	P	PKPdf	07 32 50.0	+1.9		
CART	Cartagena	136.86	322	ePKPdf	PKPdf	07 32 47.0	+1.1		
PBRG	Braganca	137.03	331⇑	ePKPdf	PKPdf	07 32 48.3	-0.1		
PBRG				*i* P	pPKPdf	07 33 40.0	-2.3		
PBRG	Braganca	137.03	331	ePKPdf	PP	07 35 32.7	-1.0		
ES19	SONSECA Array	137.12	327	ePKPpre	PKPpre	07 32 36.8			
ES19				ePKPdf	PKPdf	07 32 48.6	0.0		
FLOC	Florencia	137.14	94	eP	PKPdf	07 32 50.1	+0.8		
ESDC	Sonseca Array	137.17	327	PKhKP	PKPpre	07 32 36.7			
	comp=Z,9.1nm,0.8s,baz=29,slow=2.3,SNR=9.8								
ESDC				PKP	PKPdf	07 32 48.9	+0.2		
	comp=Z,46nm,1.1s,baz=7.9,slow=2.2,SNR=26								
ESDC				PP	PP	07 35 35.2	+0.4		
	comp=Z,27nm,0.9s,baz=33,slow=5.5,SNR=4.4								
ESDC				SKPbc	SKPbc	07 36 02.5	+0.1		
	comp=Z,11nm,0.7s,baz=21,slow=3.2,SNR=4.6								
ESDC				PKKP	PKKPdf	07 42 25.3	+0.3		
	comp=Z,0.8nm,0.5s,baz=264,slow=1.3,SNR=4.1								
ESDC				SKKPbc	SKKPbc	07 44 52.9	-2.1		
	comp=Z,5.4nm,1.0s,baz=218,slow=5.5,SNR=5.1								
ESLA	Sonseca Array	137.17	327	ePKPpre	PKPpre	07 32 41.6			
BETC	Betania	137.46	92	eP	PKPdf	07 32 50.1	+0.1		
PAB	San Pablo	137.47	327	ePKPpre	PKPpre	07 32 42.1			
PAB				ePKPdf	PKPdf	07 32 49.1	-0.3		
PAB	San Pablo	137.47	327	ePKHKP	PKPpre	07 32 42.1			
PAB				*e*		07 32 49.1			
HELC	Santa Helena	137.57	87	ePKPpre	PKPpre	07 32 40.7			
HELC				ePKPdf	PKPdf	07 32 50.4	-0.2		
HELC	Santa Helena	137.57	87	eP	PKPdf	07 32 48.8	-1.8		
PGAV	Gavieira, Arco	137.63	333⇑	ePKPdf	PKPdf	07 32 49.9	+0.3		
PGAV				*i* P	pPKPdf	07 33 42.7	-0.7		
PGAV	Gavieira, Arco	137.63	333	ePP	PP	07 35 37.1	-0.3		
ANIL	Santa Ana	137.63	89	eP	PKPdf	07 32 47.5	-3.1		
ANIL				eP	PKiKP	07 32 50.1	-2.5		
ANIL				eP	PKiKP	07 32 50.1	-2.5		
MVO	Moncorvo	137.66	331⇑	ePKPdf	PKPdf	07 32 49.8	+0.2		
MVO				*i* P	pPKPdf	07 33 41.6	-1.9		
MVO	Moncorvo	137.66	331	ePP	PP	07 35 38.1	+0.4		
GUYC	Guyana, Colomb	137.68	88	eP	PKPdf	07 32 50.1	-0.8		
GUYC				eP	PKiKP	07 32 52.1	-0.8		
GUYC				eP	PKiKP	07 32 53.5	+0.5		
PCAB	Cabril	137.71	332⇑	ePKPdf	PKPdf	07 32 49.9	+0.3		
PCAB	Cabril	137.71	332	ePP	PP	07 35 39.1	+1.2		
POLO	Lamas de Olo	137.87	332⇑	ePKPdf	PKPdf	07 32 50.1	+0.1		
POLO				*i* P	pPKPdf	07 33 42.6	-1.3		
POLO	Lamas de Olo	137.87	332	ePP	PP	07 35 39.3	+0.3		
PVRL	Vila Real	137.91	331⇑	ePKPdf	PKPdf	07 32 50.4	+0.4		
PVRL	Vila Real	137.91	331	ePP	PP	07 35 40.4	+1.3		
PRAC	Prado	138.09	91	ePKPpre	PKPpre	07 32 39.4			
PRAC				ePKPdf	PKPdf	07 32 50.9	-0.2		
PVIS	Viseu	138.43	331⇑	ePKPdf	PKPdf	07 32 50.9	-0.1		
PVIS	Viseu	138.43	331	ePP	PP	07 35 43.8	+1.4		
MTE	Manteigas	138.50	330⇑	ePKPdf	PKPdf	07 32 51.4	+0.2		
MTE				*i* P	pPKPdf	07 33 44.5	-0.5		
MTE	Manteigas	138.50	330	ePP	PP	07 35 43.5	+0.7		
MTE	Manteigas	138.50	330	ePKPdf	PKPdf	07 32 51.2	+0.1		
ROSC	El Rosal	138.72	89	PKhKP	PKPpre	07 32 43.8			
	comp=Z,35nm,0.7s,baz=155,slow=3.8,SNR=27								
ROSC				PKP	PKiKP	07 32 54.1	-0.8		
	comp=Z,280nm,0.9s,baz=0.0,slow=2.0,SNR=32								
ROSC				PP	PP	07 35 41.6	-4.9		
	comp=Z,32nm,1.1s,baz=24,slow=20,SNR=2.6								
ROSC				SKPbc	SKiKP	07 36 10.1	-1.3		
	comp=Z,56nm,0.7s,baz=108,slow=11,SNR=4.7								
ROSC	El Rosal	138.72	89	ePKPpre	PKPpre	07 32 43.3			
ROSC				ePKPdf	PKPdf	07 32 53.3	+0.6		
ROSC				PP	PP	07 35 41.6	-4.9		
ROSC				SKPbc	SKiKP	07 36 10.1	-1.3		
PCBR	Castelo Branco	138.89	330⇑	ePKPdf	PKPdf	07 32 52.5	+0.7		
PCBR	Castelo Branco	138.89	330	ePP	PP	07 35 47.3	+2.1		
LPAZ	La Paz	138.93	122	PKhKP	PKPpre	07 32 44.0			
	comp=Z,38nm,0.8s,baz=351,slow=0.4,SNR=34								
LPAZ				PKP	PKiKP	07 32 55.1	-0.4		
	comp=Z,153nm,0.8s,baz=203,slow=1.5,SNR=29								
LPAZ				PP	PP	07 35 41.8	-5.5		
	comp=Z,14nm,0.9s,baz=220,slow=12,SNR=1.8								
LPAZ				SKPbc	SKPbc	07 36 09.6	+0.9		
	comp=Z,58nm,0.8s,baz=265,slow=4.1,SNR=4.6								
LPAZ	La Paz	138.93	122	ePKPpre	PKPpre	07 32 42.7			
LPAZ				ePKPdf	PKPdf	07 32 54.2	+0.9		
LPAZ				PP	PP	07 35 41.8	-5.5		
LPAZ				SKPbc	SKPbc	07 36 09.6	+0.9		
LPAZ	La Paz	138.93	122	ePKHKP	PKPpre	07 32 42.7			
LPAZ				*e*		07 32 54.2			
PMRV	Marv??o	139.16	329⇑	ePKPdf	PKPdf	07 32 52.0	-0.3		
PMRV				*i* P	pPKPdf	07 33 45.4	-0.8		
PMRV	Marv??o	139.16	329	ePP	PP	07 35 47.8	+0.9		
TAM	Tamanrasset	139.18	299	ePKPpre	PKPpre	07 32 47.8			
TAM				ePKPdf	PKiKP	07 32 54.4	-0.9		
TAM	Tamanrasset	139.18	299	ePKIKP	PKPpre	07 32 47.8			
PCAS	Casmilo, Conde	139.23	331⇑	ePKPdf	PKPdf	07 32 52.4	0.0		
PCAS	Casmilo, Conde	139.23	331	ePP	PP	07 35 47.7	+0.4		
CHIC	Chingaza	139.30	89	eP	PKPpre	07 32 44.8			
BRRC	Barranca, Sant	139.39	86	eP	PKPpre	07 32 48.1			
PTOM	Tomar	139.52	330	ePKPdf	PKPdf	07 32 52.5	-0.5		
PTOM	Tomar	139.52	330	ePP	PP	07 35 50.7	+1.6		
CODC	Agust'›n Codaz	139.58	81	eP	PKPpre	07 32 46.1			

PESTR	Estremoz	139.68	329⇑	ePKPdf	PKPdf	07 32 53.1	-0.2		
PESTR				*i* P	pPKPdf	07 33 46.5	-0.7		
PESTR	Estremoz	139.68	329	ePP	PP	07 35 50.9	+0.8		
GRTK	Grand Turk	139.71	63	ePKPdf	PKPdf	07 32 53.5	-0.3		
PMTG	Montargil	139.85	330⇑	ePKPdf	PKPdf	07 32 53.4	-0.2		
PMTG	Montargil	139.85	330	ePP	PP	07 35 51.7	+0.6		
BARC	Barichara	139.91	86	eP	PKPpre	07 32 46.1			
PBAR	Barrancos	139.91	328⇑	ePKPdf	PKPdf	07 32 54.1	+0.4		
PBAR				*i* P	pPKPdf	07 33 46.9	-0.7		
PBAR	Barrancos	139.91	328	ePP	PP	07 35 54.1	+2.6		
ALMR	Almeirim	139.96	330	ePKPdf	PKPpre	07 32 47.3			
ALMR				AMS	AMS	08 28 43.9			
	comp=N,14μm,19.8s								
ALMR	Almeirim	139.96	330⇑	ePKPdf	PKPdf	07 32 53.7	-0.1		
ALMR				*i* P	pPKPdf	07 33 45.7	-1.9		
ALMR	Almeirim	139.96	330	ePP	PP	07 35 52.5	+0.8		
ALMR	Almeirim	139.96	330	ePKHKP	PKPpre	07 32 47.3			
RUSC	La Rusia	140.00	87	ePKPpre	PKPpre	07 32 46.7			
GUVC	San Jose del G	140.24	93	eP	PKPpre	07 32 47.5			
SDDR	Presa de Saban	140.27	67	ePKPpre	PKPpre	07 32 47.2			
CPUP	Villa Florida	140.44	144	PKhKP	PKPpre	07 32 46.8			
	comp=N,43nm,0.8s,baz=244,slow=3.4,SNR=58								
CPUP				PKP	PKiKP	07 32 56.4	-1.2		
	comp=N,116nm,0.9s,baz=242,slow=2.1,SNR=18								
CPUP				PP	PP	07 35 51.6	-3.2		
	comp=N,36nm,1.1s,baz=311,slow=19,SNR=2.4								
CPUP				SKPbc	SKiKP	07 36 16.1	+2.0		
	comp=N,76nm,1.1s,baz=295,slow=5.0,SNR=3.8								
PBEJ	Beja	140.46	328	ePKPdf	PKPpre	07 32 47.4			
PBEJ	Beja	140.46	328	ePP	PP	07 35 58.0	+3.1		
PMAFR	Mafra	140.46	331⇑	ePKPdf	PKPdf	07 32 54.5	-0.2		
PMAFR				*i* P	pPKPdf	07 33 46.5	-2.1		
PMAFR	Mafra	140.46	331	ePP	PP	07 35 54.9	+0.1		
LIS	Lisbon	140.58	330	ePKPdf	PKPpre	07 32 48.6			
LIS				AMS	AMS	08 28 13.2			
	comp=E,15μm,20.3s								
LIS	Lisbon	140.58	330	ePKHKP	PKPpre	07 32 48.5			
PMST	Lisbon--Monsan	140.59	330⇑	ePKPdf	PKPdf	07 32 55.0	+0.1		
PMST				*i* P	pPKPdf	07 33 46.9	-1.9		
PMST	Lisbon--Monsan	140.59	330	ePP	PP	07 35 56.6	+1.1		
PNCL	Nicolau / Gran	140.74	329⇑	ePKPdf	PKPdf	07 32 54.9	-0.3		
PNCL	Nicolau / Gran	140.74	329	ePP	PP	07 35 56.1	-0.4		
PVAQ	Vaqueiros	140.84	328⇑	ePKPdf	PKPdf	07 32 56.4	+1.0		
PVAQ				*i* P	pPKPdf	07 33 48.5	-0.8		
PVAQ	Vaqueiros	140.84	328	ePP	PP	07 35 59.4	+2.2		
PCVE	Castro Verde	140.84	328⇑	ePKPdf	PKPdf	07 32 55.4	0.0		
PCVE				*i* P	pPKPdf	07 33 46.5	-2.8		
PCVE	Castro Verde	140.84	328	ePP	PP	07 35 58.6	+1.4		
PBDV	Barranco-do-Ve	141.08	328⇑	ePKPdf	PKPpre	07 32 48.3			
PBDV				*i* P	pPKPdf	07 33 49.4	-0.4		
PBDV	Barranco-do-Ve	141.08	328	ePP	PP	07 36 01.3	+2.6		
PTEO	Sao Teotonio	141.27	329⇓	ePKPdf	PKPpre	07 32 50.9			
MORF	Marmelete	141.41	328	ePKPdf	PKPpre	07 32 49.8			
MORF				AMS	AMS	08 27 31.6			
	comp=N,9μm,25.3s								
MORF	Marmelete	141.41	328⇑	ePKPdf	PKPpre	07 32 50.7			
MORF				*i* P	pPKPdf	07 33 49.1	-1.3		
MORF	Marmelete	141.41	328	ePP	PP	07 36 02.8	+2.1		
MORF	Marmelete	141.41	328	ePKHKP	PKPpre	07 32 49.7			
PFVI	Vila Bisbo	141.63	328⇑	ePKPdf	PKPpre	07 32 51.3			
PFVI	Vila Bisbo	141.63	328	ePP	PP	07 36 03.9	+1.9		
SDD	Santo Domingo	141.66	67	ePKPpre	PKPpre	07 32 49.8			
SDV	Santo Domingo	142.41	83	PKhKP	PKPpre	07 32 54.5			
	comp=N,169nm,0.5s,baz=265,slow=3.1,SNR=106								
SDV				PKP	PKPdf	07 32 59.0	-0.1		
	comp=N,240nm,0.5s,baz=230,slow=1.7,SNR=89								
SDV				PP	PP	07 36 08.2	-0.5		
	comp=N,18nm,0.9s,baz=90,slow=20,SNR=1.5								
SDV	Santo Domingo	142.41	83	ePKPpre	PKPpre	07 32 54.9			
SDV				PP	PP	07 36 08.2	-0.5		
RTC	Rabat Centre	142.80	323	ePKPdf	PKPdf	07 32 57.0	-2.0		
OBIP	Obispado Ponce	144.80	66	ePKPpre	PKPpre	07 33 01.2	-1.3		
SIV	San Ignacio	144.84	128	PKP	PKPpre	07 33 02.6	0.0		
	comp=N,1μm,1.0s,baz=251,slow=4.6,SNR=819								
SIV				PP	PP	07 36 20.4	-1.7		
	comp=N,56nm,0.9s,baz=317,slow=18,SNR=2.6								
ICMP	Isla Caja de M	144.91	67	ePKPpre	PKPpre	07 33 01.3	-1.5		
SJG	San Juan	145.19	66	PKPpre	PKPdf	07 33 02.9	-0.7		
	comp=N,3μm,1.1s,baz=306,slow=3.3,SNR=172								
SJG				PP	PP	07 36 21.7	-3.0		
	comp=N,33nm,0.7s,baz=15,slow=9.7,SNR=3.1								
SJG	San Juan	145.19	66	ePKPdf	PKPdf	07 33 01.7	-1.9		
SJG				PP	PP	07 36 21.7	-3.0		
CBYP	Canovanas	145.41	66	ePKPdf	PKPdf	07 33 02.8	-1.2		
SHEL	Horse Pasture	145.69	231	ePKPdf	PKPab	07 33 07.1	+1.2		
SHEL	Horse Pasture	145.69	231	*i* PKP2	PKPab	07 33 08.9	+3.0		
STVI	Saint Thomas	146.21	65	ePKPdf	PKPdf	07 33 04.9	-0.4		
H07S1	FLORES T-PHASE	146.27	358	PKPbc	PKPbc	07 33 06.4	0.0		
H07S1	FLORES T-PHASE	146.27	358	ePKPdf	PKPab	07 33 07.1	-0.4		
PGRA	Graciosa	146.36	353	ePKPdf	PKPbc	07 33 06.8	+0.2		
SAML	Samuel	146.53	115	ePKPdf	PKPdf	07 33 06.3	+0.3		
CDVI	St. Croix	146.56	66	ePKPdf	PKPdf	07 33 05.6	-0.3		
ADH	Angra Heroismo	146.63	352	ePKPdf	PKPbc	07 33 07.8	+0.4		
ABVI	Anegada Island	146.64	64	ePKPdf	PKPdf	07 33 08.0	+0.2		
ROSA	Rosais	146.70	353	ePKPdf	PKPbc	07 33 07.8	+0.2		
ROSA	Rosais	146.70	353	ePKPdf	PKPdf	07 33 05.9	+0.2		
PMAN	Manadas	146.77	353	ePKPdf	PKPbc	07 33 07.5	-0.2		
PCED	Cedros	146.84	354	ePKPdf	PKPbc	07 33 07.5	-0.5		
CALA	Caldeira	146.88	354	ePKPdf	PKPab	07 33 10.9	+1.0		
HOR	Horta	146.93	354	ePKPdf	PKPab	07 33 09.5	-0.5		
PCAN	Candelaria	146.98	354	ePKPdf	PKPbc	07 33 07.9	-0.5		
BART	Pico Bartolome	147.15	349	ePKPdf	PKPbc	07 33 07.9	-1.1		
PCALD	Caldeiras da R	147.19	349	ePKPdf	PKPbc	07 33 08.5	-0.5		
PSET	Sete Cidades	147.21	350	ePKPdf	PKPbc	07 33 08.5	-0.5		
CMLA	Cha da Macela	147.23	349	ePKPdf	PKPdf	07 33 07.6	+1.1		
CMLA	Cha da Macela	147.23	349	ePKPdf	PKPdf	07 33 07.3	+0.7		
CMLA	Cha da Macela	147.23	349	*i* PKP2	PKPbc	07 33 08.2	-0.9		
PDA	Ponta Delgada	147.27	349	ePKPdf	PKPbc	07 33 09.7	+0.6		
SPB	Sao Paulo	147.75	154	ePKPdf	PKPdf	07 33 09.0	+1.2		
SPB				ePKPbc	PKiKP	07 33 12.3	-0.4		
PSMN	Pico do Norte,	147.87	348	ePKPdf	PKPdf	07 33 08.4	+0.8		
PSMA	Santa Maria	147.89	348	ePKPdf	PKPdf	07 33 08.9	+1.3		
SABA	Saba	147.98	65	ePKPdf	PKPdf	07 33 07.8	-0.5		
SABA				ePKPbc	PKPbc	07 33 12.3	+0.6		
SABA	Saba	147.98	65	eP	PKPbc	07 33 11.3	-0.3		
SMRT	St. Maarten	147.99	65	ePKPdf	PKPdf	07 33 07.3	-1.0		
SMRT				ePKPbc	PKPbc	07 33 11.9	+0.3		
SMRT	St. Maarten	147.99	65	eP	PKPdf	07 33 08.4	+0.1		
SMRT	St. Maarten	147.99	65	*e*	PKPab	07 33 29.9	+15		
PCRV	Puerto La Cruz	148.21	80	PKP	PKPdf	07 33 07.8	-1.0		
	comp=N,352nm,0.9s,baz=359,slow=5.0,SNR=28								
PCRV				PKPbc	PKPbc	07 33 12.8	+0.4		
	comp=N,237nm,0.7s,baz=354,slow=2.6,SNR=71								
SEUS	St. Eustatius	148.26	65	ePKPdf	PKPdf	07 33 07.9	-0.8		
SEUS				ePKPbc	PKPbc	07 33 12.9	+0.6		
SEUS	St. Eustatius	148.26	65	eP	PKPbc	07 33 11.2	-1.1		
SKI	Saint Kitts	148.53	66	ePKPdf	PKPdf	07 33 08.1	-1.1		
SKI				ePKPbc	PKPbc	07 33 13.7	+0.6		
SKI	Saint Kitts	148.53	66	eP	PKPdf	07 33 08.1	-1.1		
SKI	Saint Kitts	148.53	66	ePKIKP	PKPdf	07 33 08.1	-1.1		
SKI				*e*		07 33 13.7			
PMPS	Porto Santo	148.58	333⇑	ePKPdf	PKPdf	07 33 09.3	+0.4		
PMPS	Porto Santo	148.58	333	ePP	PP	07 36 43.7	+0.7		
NEV	Hard Times	148.74	66	eP	PKPdf	07 33 08.4	-1.1		
PMAR	Madeira	149.12	333⇑	ePKPdf	PKPdf	07 33 10.7	+0.7		
PMOZ	Porto Moniz, M	149.16	334⇑	ePKPdf	PKPdf	07 33 10.5	+0.5		
PMOZ	Porto Moniz, M	149.16	334	ePP	PP	07 36 45.9	-0.6		
FUL	Funchal	149.18	333	ePKPdf	PKPdf	07 33 10.8	+1.0		
FUL	Funchal	149.18	333	ePP	PP	07 36 47.3	+0.9		
MLYT	Lee's Yard	149.21	66	eP	PKPdf	07 33 10.6	+0.3		
ANWB	Willy Bob	149.28	64	ePKPdf	PKPdf	07 33 09.6	-0.8		
ANWB				ePKPbc	PKPbc	07 33 15.3	+0.4		
ANWB	Willy Bob	149.28	64	eP	PKPbc	07 33 14.9	0.0		
BPA	Boggy Peak	149.42	66	eP	PKPdf	07 33 10.9	+0.3		
GDHS	Morne Mazeau,	149.74	67	ePKPdf	PKPdf	07 33 10.5	-0.7		
GDHS				ePKPbc	PKiKP	07 33 16.6	-0.4		
TBG	Guadaloupe-3	149.97	68	eP	PKPdf	07 33 11.9	+0.4		
TBG	Guadaloupe-3	149.97	68	eP	PKPbc	07 33 17.4	+0.8		
BBL	Barber's Block	150.22	68	eP	PKPdf	07 33 12.2	+0.2		
BBL	Barber's Block	150.22	68	eP	PKPbc	07 33 17.4	+0.1		
MDPO	Dominica; Chan	150.23	68	eP	PKPbc	07 33 18.4	+1.2		
MDPV	Dominica, Penn	150.24	68	eP	PKPbc	07 33 19.0	+1.7		
KOWA	Kowa	150.25	290	PKP	PKPdf	07 33 11.3	-0.7		
	comp=N,72nm,1.1s,baz=77,slow=1.0,SNR=40								
KOWA				PKPbc	PKiKP	07 33 18.3	+0.3		
	comp=N,604nm,0.9s,baz=57,slow=2.8,SNR=157								
KOWA				pPKP	pPKPdf	07 34 05.8	-0.2		
	comp=N,29nm,0.4s,baz=92,slow=5.9,SNR=0.9								
KOWA				pPKPbc	pPKPbc	07 34 11.4	+0.5		
	comp=N,87nm,0.8s,baz=36,slow=5.1,SNR=1.5								
MGG	Marie-Galante	150.25	67	eP	PKPbc	07 33 16.8	-0.5		

MDMP	Dominica, Moor	150.26	68	eP	PKPbc	07 33 18.8	+1.5		
MDVC	Dominica, Viel	150.26	68	eP	PKPbc	07 33 17.7	+0.4		
MDN	Morne-Daniel	150.35	69	eP	PKPdf	07 33 11.9	-0.2		
MDN	Morne-Daniel	150.35	69	eP	PKPbc	07 33 18.7	+1.1		
DEG	La Desirade	150.37	67	eP	PKPdf	07 33 13.0	+0.8		
H05N1	Guadeloupe/Mar	150.37	67	PKP	PKPdf	07 33 12.5	+0.3		
H05N1				PKPbc	PKiKP	07 33 18.0	-0.3		
DSHT	Scott's Head	150.40	69	eP	PKPbc	07 33 18.1	+0.4		
DSHT	Scott's Head	150.40	69	eP	PKPbc	07 33 19.6	+1.9		
DBCT	Belle View Cho	150.41	69	eP	PKPbc	07 33 18.1

	comp=E,219nm,0.5s							
FCH	**Farellones**	**1.14**	**118**	*e*P		**Pg**	**07 47 52.2**	**+0.1**
FCH				*e*S		**Sg**	**07 48 07.2**	**+0.3**
FCH				IAML			07 48 08.0	
	comp=E,394nm,0.2s							
LMEL	**Las Melosas**	**1.50**	**134**	*e*P		**Pn**	**07 47 57.9**	**-0.2**
LMEL				*e*S		**Sn**	**07 48 17.4**	**-0.7**
LMEL				IAML			07 48 19.4	
	comp=N,405nm,0.2s							
AUSP	**Uspallata**	**1.87**	**72**	*i* P		**Pb**	**07 48 03.9**	**-1.4**
AUSP				*i* S		**Sn**	**07 48 27.5**	**0.0**
RTLS	**Leoncito**	**2.11**	**62**	*i* P		**Pb**	**07 48 07.8**	**-1.5**
RTLS				IAML			07 48 37.6	
	comp=Z,30nm,0.4s							
RTCV	**Cerro Valdivia**	**2.67**	**70**	*i* P		**Pn**	**07 48 14.9**	**+0.8**
AROD	**Rodeo**	**3.15**	**34**	*i* P		**Pn**	**07 48 22.1**	**+1.2**
AMOG	**MOGNA**	**3.16**	**55**	*i* P		**Pn**	**07 48 21.4**	**+0.5**

*ISCJB **17** 07:49:32.6±0.5, 39.07N±0.03×29.16E±0.02, h3km±5km, Error ellipse: s-maj=5.1km s-min=3.8km az=158.6*
*ISK **17** 07:49:32.0, 39.06N×29.18E, h5km, ML2.7/11*
*DDA **17** 07:49:32.6, 39.08N×29.16E, h10km, Ml2.7*
*CSEM **17** 07:49:32.9±0.2, 39.05N×29.17E, h10km, ML2.7, Error ellipse: s-maj=4.1km s-min=3.3km az=120.0*

ISC 17 07:49:32.6±0.9, 39.06N±0.02×29.16E±0.02, h9km±8km, n42, σ0.946/64, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIMA	**Simav-Kutahya**	**0.14**	**278**	PG	**Pg**	**07 49 35.6**	**-0.1**
SIMA	**Simav-Kutahya**	**0.14**	**278**	*e*Pg	**Pg**	**07 49 35.6**	**-0.1**
GDZ	**Gediz**	**0.26**	**84**	*i* P	**Pg**	**07 49 37.4**	**-0.4**
GDZ				*i* S	**Sg**	**07 49 41.5**	**+0.2**
GDZ	**Gediz**	**0.26**	**84**	P	**Pg**	**07 49 37.4**	**-0.4**
GDZ				S	**Sg**	**07 49 41.5**	**+0.2**
DEMI	**Demirci**	**0.34**	**267**	*i* P	**Pg**	**07 49 39.5**	**+0.1**
DEMI				*i* S	**Sg**	**07 49 43.8**	**-0.2**
DEMI	**Demirci**	**0.34**	**267**	P	**Pg**	**07 49 39.5**	**+0.1**
DEMI				S	**Sg**	**07 49 43.8**	**-0.2**
TVSB	**Tavsanli**	**0.45**	**32**	PG	**Pg**	**07 49 40.5**	**-1.0**
TVSB	**Tavsanli**	**0.45**	**32**	*e*Pg	**Pg**	**07 49 40.5**	**-1.0**
KULA	**Kula-Manisa**	**0.67**	**215**	PG	**Pg**	**07 49 45.5**	**-0.1**
KULA				SG	**Sb**	**07 49 55.2**	**-0.9**
KULA	**Kula-Manisa**	**0.67**	**215**	*e*Pg	**Pg**	**07 49 45.5**	**-0.1**
KULA				*e*Sg	**Sb**	**07 49 55.2**	**-0.9**
MANT	**Manisa**	**0.74**	**219**	*i* P	**Pb**	**07 49 47.4**	**-0.4**
MANT				*i* S	**Sg**	**07 49 57.1**	**+0.5**
MANT	**Manisa**	**0.74**	**219**	P	**Pb**	**07 49 47.4**	**-0.4**
MANT				S	**Sg**	**07 49 57.1**	**+0.5**
KHAL	**Karahalli**	**0.74**	**159**	*i* P	**Pb**	**07 49 47.9**	**0.0**
KHAL				*i* S	**Sb**	**07 49 57.9**	**-0.2**
KHAL	**Karahalli**	**0.74**	**159**	P	**Pb**	**07 49 47.8**	**0.0**
KHAL				S	**Sb**	**07 49 57.9**	**-0.2**
DURS	**Dursunbey**	**0.75**	**316**	*i* P	**Pg**	**07 49 46.5**	**-0.6**
DURS				*i* S	**Sn**	**07 49 60.0**	**-1.2**
DURS	**Dursunbey**	**0.75**	**316**	P	**Pg**	**07 49 46.5**	**-0.6**
DURS				S	**Sn**	**07 50 00.0**	**-1.2**
AKHS	**Akhisar**	**1.06**	**260**	*i* P	**Pb**	**07 49 53.5**	**+0.3**
AKHS				*i* S	**Sb**	**07 50 07.5**	**+0.2**
AKHS	**Akhisar**	**1.06**	**260**	P	**Pb**	**07 49 53.5**	**+0.3**
AKHS				S	**Sb**	**07 50 07.5**	**+0.2**
BALB	**Balikesir**	**1.14**	**301**	PN	**Pn**	**07 49 55.1**	**+0.2**
BALB	**Balikesir**	**1.14**	**301**	*e*Pn	**Pn**	**07 49 55.1**	**+0.2**
STEP	**BALIKESIR_Sava**	**1.16**	**286**	*i* P	**Pn**	**07 49 55.4**	**+0.3**
STEP				*i* S	**Sb**	**07 50 10.4**	**+0.3**
STEP	**BALIKESIR_Sava**	**1.16**	**286**	P	**Pn**	**07 49 55.4**	**+0.3**
STEP				S	**Sb**	**07 50 10.4**	**+0.3**
CAVI	**Cavuskoy**	**1.25**	**25**	PN	**Pg**	**07 49 56.7**	**0.0**
CAVI				SN	**Sn**	**07 50 14.2**	**+0.7**
CAVI	**Cavuskoy**	**1.25**	**25**	*e*Pn	**Pg**	**07 49 56.7**	**0.0**
CAVI				*e*Sn	**Sn**	**07 50 14.2**	**+0.7**
MDNY	**Mudanya-Bursa**	**1.32**	**351**	PN	**Pg**	**07 49 58.3**	**+0.3**
MDNY	**Mudanya-Bursa**	**1.32**	**351**	*e*Pn	**Pg**	**07 49 58.3**	**+0.3**
KCTX	**Karacabey (Bur**	**1.35**	**333**	PN	**Pb**	**07 49 58.2**	**+0.1**
KCTX	**Karacabey (Bur**	**1.35**	**333**	*e*Pn	**Pb**	**07 49 58.2**	**+0.1**
BALY	**Balya**	**1.37**	**300**	*i* P	**Pb**	**07 49 58.3**	**-0.2**
BALY				*i* S	**Sb**	**07 50 15.7**	**-0.4**
BALY	**Balya**	**1.37**	**300**	P	**Pb**	**07 49 58.3**	**-0.2**
BALY				S	**Sb**	**07 50 15.7**	**-0.4**
AYDB	**Zeytinkoy-Aydi**	**1.49**	**222**	PN	**Pb**	**07 50 00.8**	**+0.2**
AYDB	**Zeytinkoy-Aydi**	**1.49**	**222**	*e*Pn	**Pb**	**07 50 00.8**	**+0.2**
GONE	**Gonen-Balikesi**	**1.50**	**311**	PN	**Pb**	**07 50 00.9**	**+0.2**
GONE	**Gonen-Balikesi**	**1.50**	**311**	*e*Pn	**Pb**	**07 50 00.9**	**+0.2**
YLV	**Yalova**	**1.51**	**6**	PN	**Pg**	**07 50 01.3**	**-0.3**
YLV	**Yalova**	**1.51**	**6**	*e*Pn	**Pg**	**07 50 01.3**	**-0.3**
ARMT	**Armutlu**	**1.52**	**352**	PN	**Pb**	**07 50 01.3**	**+0.3**
ARMT				SN	**Sg**	**07 50 21.3**	**-0.1**
ARMT	**Armutlu**	**1.52**	**352**	*e*Pn	**Pb**	**07 50 01.3**	**+0.3**
ARMT				*e*Sn	**Sg**	**07 50 21.3**	**-0.1**
EDC	**Edincik**	**1.62**	**323**	PN	**Pn**	**07 50 01.7**	**+0.2**
EDC	**Edincik**	**1.62**	**323**	*e*Pn	**Pn**	**07 50 01.7**	**+0.2**
GULT	**Gulveren**	**1.72**	**37**	PN	**Pn**	**07 50 03.5**	**+0.6**
GULT	**Gulveren**	**1.72**	**37**	*e*Pn	**Pn**	**07 50 03.5**	**+0.6**

*IDC **17** 07:50:35.9±0.6, 0.26S×132.36E, h0km, mb4.3/14, mb1 4.4/16, mb1mx4.1/57, mbtmp4.3/16, ML4.3/2, Error ellipse: s-maj=25.2km s-min=13.6km az=84.0*
*DJA **17** 07:50:38.0±1.8, 0.35±8S×13.26±7E, h12km±13km, M4.5/7, MLv4.5/7*
*ISCJB **17** 07:50:39.5±0.3, 0.43S±0.03×132.30E±0.05, h33km, mb4.4/29, Error ellipse: s-maj=7.4km s-min=4.4km az=3.2*
*NEIC **17** 07:50:41.5±0.2, 0.34S×132.36E, h35km, mb4.6/21, Error ellipse: s-maj=10.0km s-min=5.0km az=86.0*

ISC 17 07:50:41.1±0.5, 0.44S±0.05×132.26E±0.06, h33km, n67, σ2.914/72, mb4.5/29, 1D, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**1.08**	**247**	Pn	**Pn**	**07 50 59.3**	**-0.5**
	88nm,0.3s,baz=246,slow=19,SNR=195						
SIJI				Sn	**Sb**	**07 51 15.2**	**+0.2**
	106nm,0.3s,baz=139,slow=19,SNR=71						
RKPI	**Ransiki, Papua**	**2.19**	**119**	P	**Pb**	**07 51 18.3**	**-1.9**
FAKI	**Fak Fak**	**2.46**	**180**	P	**Pn**	**07 51 21.6**	**+2.7**
FAKI	**Fak Fak**	**2.46**	**180**	*e*Pn	**Pn**	**07 51 21.6**	**+2.7**
BNDI	**Bandanaira**	**4.68**	**210**	P	**Pn**	**07 51 52.3**	**+2.8**
LBMI	**Labuha**	**4.76**	**268**	P	**Pn**	**07 51 49.4**	**-1.1**
TNTI	**Ternate**	**5.04**	**284**	*e*Pn	**Pn**	**07 51 55.7**	**+1.4**
MTN	**Manton Dam**	**12.37**	**185**	*e*Pn	**Pn**	**07 53 34.8**	**-0.2**
MTN				*e*Sn	**Sn**	**07 55 51.9**	**+0.1**
BATI	**Baumata**	**12.93**	**221**	Pn	**Pn**	**07 53 44.9**	**+2.3**
	5.9nm,0.3s,baz=270,slow=4.0,SNR=3.8						
MYLDM	**Lahad Datu**	**14.83**	**292**	*e*Pn	**P**	**07 54 14.6**	**+0.6**
FITZ	**Fitzroy Crossi**	**18.71**	**200**	P	**P**	**07 54 55.5**	**-1.4**
	0.2nm,0.3s,baz=36,slow=11,SNR=4.7						
FITZ				S	**Sn**	**07 58 20.2**	**-5.8**
	0.1nm,0.3s,baz=168,slow=13,SNR=3.6						
FITZ	**Fitzroy Crossi**	**18.71**	**200**	*e*P	**P**	**07 54 55.5**	**-1.4**
	3.9nm,0.9s						
FITZ				S	**Sn**	**07 58 20.2**	**-5.8**
WRAB	**Tennant Creek**	**19.48**	**174**	*e*P	**P**	**07 55 05.3**	**-0.1**
	9.2nm,1.0s						
WR1	**Warramunga Arr**	**19.49**	**174**	*e*P	**Pn**	**07 55 06.7**	**-0.2**
	114nm,0.8s						
WR1				*e*S	**S**	**07 58 37.4**	**-6.6**
WRA	**Warramunga Arr**	**19.49**	**174**	P	**Pn**	**07 55 06.7**	**-0.2**
	0.5nm,0.3s,baz=353,slow=12,SNR=15						
WRA				S	**S**	**07 58 37.4**	**-6.6**
	0.1nm,0.3s,baz=359,slow=25,SNR=3.8						
WB2	**Warramunga Arr**	**19.49**	**174**	*e*P	**P**	**07 55 06.0**	**+0.5**
	17nm,1.1s						
AS31	**Alice Springs**	**23.14**	**176**	*e*P	**P**	**07 55 46.1**	**+1.5**
	3.8nm,0.8s						
ASAR	**Alice Springs**	**23.14**	**176**	P	**P**	**07 55 46.0**	**+1.3**
	15nm,0.8s,baz=357,slow=9.3,SNR=40						
ASAR				PcP	**PcP**	**07 59 32.7**	**-0.1**
	0.5nm,0.6s,baz=358,slow=2.8,SNR=4.0						
ASAR				S	**S**	**08 00 01.5**	**+7.4**
	1.0nm,1.0s,baz=360,slow=25,SNR=3.0						
AS01	**Alice Springs**	**23.14**	**176**	*e*P	**P**	**07 55 46.0**	**+1.3**
MBWA	**Marble Bar**	**23.95**	**210**	*e*P	**P**	**07 55 54.6**	**+2.1**
	8.4nm,1.0s						
IPM	**Ipoh**	**31.58**	**279**	*e*P	**P**	**07 57 03.1**	**+2.1**
	11nm,0.6s						
STKA	**Stephens Creek**	**32.49**	**165**	P	**P**	**07 57 09.0**	**+0.3**
	2.0nm,0.7s,baz=331,slow=8.3,SNR=3.8						
CMAR	**Chiang Mai Arr**	**37.74**	**302**	PcP	**PcP**	**08 00 11.8**	**+0.8**
	1.8nm,0.9s,baz=115,slow=4.1,SNR=7.8						
H11N1	**WAKE ISLAND Hy**	**39.42**	**57**	T	T	08 39 56.9	
	baz=245,slow=74,SNR=10						
H11N2	**WAKE ISLAND Hy**	**39.43**	**57**	T	T	08 39 59.7	
	baz=245,slow=74,SNR=16						
H11N3	**WAKE ISLAND Hy**	**39.44**	**57**	T	T	08 39 59.2	
	baz=245,slow=74,SNR=14						
SONA0	**Songino Array**	**53.09**	**338**	*e*P	**P**	**07 59 54.5**	**-1.0**
SONM	**Songino Array**	**53.09**	**338**	P	**P**	**07 59 54.5**	**-1.0**
	0.6nm,0.5s,baz=147,slow=6.8,SNR=3.7						
MK01	**Makanchi Array**	**64.11**	**324**	*e*P	**P**	**08 01 12.1**	**0.0**
MK31	**Makanchi Array**	**64.13**	**324**	*e*P	**P**	**08 01 12.6**	**+0.3**
MK32	**Makanchi Array**	**64.13**	**324**	*e*P	**P**	**08 01 12.5**	**+0.3**
MKAR	**Makanchi Array**	**64.13**	**324**	P	**P**	**08 01 12.5**	**+0.3**
	2.2nm,0.6s,baz=117,slow=7.7,SNR=21						
MKAR	**Makanchi Array**	**64.13**	**324**	*e*P	**P**	**08 01 12.5**	**+0.3**
	15nm,0.7s						
SEY	**Seymchan**	**65.00**	**10**	P	**P**	**08 01 15.6**	**-1.9**
	2.8nm,0.8s,baz=118,slow=2.1,SNR=7.7						
KDJ	**Kajisay**	**65.12**	**318**	*e*P	**P**	**08 01 19.9**	**+0.8**
	2.2nm,0.6s						
ZALV	**Zalesovo Beam**	**66.82**	**332**	P	**P**	**08 01 27.5**	**-2.0**
	1.3nm,0.6s,baz=134,slow=4.2,SNR=3.8						
ZALV	**Zalesovo Beam**	**66.82**	**332**	*e*P	**P**	**08 01 29.5**	**+0.1**
ZAA1	**Zalesovo Array**	**66.82**	**332**	*e*P	**P**	**08 01 27.5**	**-2.0**
KURK	**Kurchatov**	**68.22**	**327**	*e*P	**P**	**08 01 38.6**	**+0.3**
KURBB	**Kurchatov Arra**	**68.23**	**326**	P	**P**	**08 01 38.6**	**+0.2**
	1.4nm,0.5s,baz=126,slow=5.8,SNR=9.7						
BVAR	**Borovoye Array**	**73.82**	**326**	P	**P**	**08 02 11.5**	**-0.8**
	0.6nm,0.5s,baz=90,slow=7.2,SNR=5.5						
GEYT	**Ailbeck**	**77.79**	**309**	P	**P**	**08 02 36.2**	**+0.8**
	3.4nm,0.9s,baz=194,slow=9.9,SNR=4.3						
VNDA	**Vanda**	**78.66**	**174**	P	**P**	**08 02 41.0**	**+1.6**
	1.9nm,0.7s,baz=324,slow=6.5,SNR=14						
VNDA	**Vanda**	**78.66**	**174**	*e*P	**P**	**08 02 41.0**	**+1.6**
	2.2nm,0.8s						
ABKAR	**Akbulak array**	**78.86**	**320**	*e*P	**P**	**08 02 41.4**	**+0.4**
	27nm,0.8s						
SBA	**Scott Base**	**79.51**	**173**	*e*P	**P**	**08 02 46.9**	**+2.9**
	2.6nm,0.9s						
AKTO	**Aktyubinsk**	**80.34**	**321**	P	**P**	**08 02 48.8**	**-0.2**
	2.1nm,0.8s,baz=94,slow=4.9,SNR=5.4						
PPLA	**Purkeypile**	**83.83**	**26**	*e*P	**P**	**08 03 07.8**	**+0.6**
	8.3nm,1.2s						
IM3	**Indian Mountai**	**83.92**	**23**	*e*P	**P**	**08 03 08.1**	**+0.7**
RC01	**Rabbit Creek A**	**84.59**	**29**	*e*P	**P**	**08 03 10.5**	**-0.5**
	6.1nm,0.9s						
MLY	**Manley**	**84.92**	**25**	*e*P	**P**	**08 03 13.2**	**+0.6**
	4.1nm,0.9s						
PMR	**Palmer**	**84.97**	**28**	*e*P	**P**	**08 03 12.0**	**-0.9**
	10nm,1.4s						
RND	**Reindeer**	**85.42**	**26**	*e*P	**P**	**08 03 14.9**	**-0.3**
	5.8nm,0.8s						
DHY	**Denali Highway**	**86.03**	**27**	*e*P	**P**	**08 03 19.2**	**+0.9**
	6.4nm,1.4s						
CCB	**Clear Creek Bu**	**86.08**	**25**	*e*P	**P**	**08 03 18.0**	**-0.3**
	3.9nm,0.9s						
ILAR	**Eielson Array**	**86.49**	**25**	P	**P**	**08 03 19.2**	**-1.2**
	1.7nm,0.9s,baz=250,slow=5.7,SNR=12						
ILB	**Eielson Array**	**86.49**	**25**	*e*P	**P**	**08 03 19.2**	**-1.2**
IL1	**Eielson Array**	**86.50**	**25**	*e*P	**P**	**08 03 19.1**	**-1.2**
DOT	**Dot Lake**	**87.58**	**26**	*e*P	**P**	**08 03 25.5**	**-0.2**
	7.8nm,1.2s						
BALM	**Baldy**	**88.15**	**29**	*e*P	**P**	**08 03 29.2**	**+0.7**
	3.9nm,0.8s						
QSPA	**South Pole Qui**	**89.49**	**180**	P	**P**	**08 03 36.0**	**+1.3**
	4.0nm,0.8s,baz=285,slow=1.7,SNR=6.7						
SYO	**Syowa Base**	**90.55**	**201**	*i* P	**P**	**08 03 39.0**	**-0.5**
ARA0	**ARCESS Array S**	**96.23**	**340**	*e*P	**P**	**08 04 04.2**	**-1.5**
ARCES	**ARCESS Array B**	**96.23**	**340**	P	**P**	**08 04 04.2**	**-1.5**
	2.2nm,0.9s,baz=58,slow=8.6,SNR=5.2						
YKA	**Yellowknife Ar**	**100.91**	**26**	P	**Pdif**	**08 04 24.7**	**-2.0**
	0.3nm,0.9s,baz=300,slow=5.4,SNR=3.1						
T25A	**Trinidad**	**116.34**	**48**	*e*PKPdf	**PKPdf**	**08 09 19.6**	**-2.5**
CPUP	**Villa Florida**	**151.82**	**162**	*e*PKPbc	**PKPbc**	**08 10 33.1**	**-0.1**

MEX 17 07:52:59.6±0.8, 17.23N×100.42W, h32km±19km, MD3.7, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.23**	**140**	*e*P	Pb	07 53 04.7	-1.8
CAIG				*e*S	Sb	07 53 09.4	-1.6
ACP2	**Acapulco**	**0.62**	**124**	*e*P	Pb	07 53 10.5	-1.7
ACP2				*e*S	Sb	07 53 17.1	-3.6
ACX	**Acapulco**	**0.65**	**123**	*e*P	Pb	07 53 11.1	-1.5
ACX				*i* S	Sb	07 53 17.7	-3.7
MEIG	**Mezcala**	**1.03**	**48**	*e*S	Sn	07 53 28.3	-3.1
ARIG	**Puente Sto Nin**	**1.05**	**4**	*e*P	Pn	07 53 16.2	-1.9
ARIG				*e*S	Sn	07 53 28.3	-3.5
PLIG	**Platanillo**	**1.45**	**37**	*e*P	Pn	07 53 21.0	-2.8
PLIG				*e*S	Sn	07 53 39.0	-2.8

JMA 17 07:53:28.8, 33.99N×136.29E, h33km, M3.8, 5C-3D Broadband fault plane solution: P waves. NP1: ϕ_S301.00000°, δ64.00000°, λ144.00000°. **NP2:** ϕ_S49.00000°, δ58.00000°, λ31.00000°. **Principal axes:** T Plg43.0000°, Azm263.0000°; N Plg47.0000°, Azm90.0000°; P Plg4.0000°, Azm356.0000°; **Near south coast of western Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKN2	**Miekihoku**	**0.25**	**357**	↑P	Pb	07 53 35.6	-0.3
JKN2				S	Sb	07 53 40.4	-0.4
JIE	**Ise**	**0.53**	**41**	↑P	Pb	07 53 39.6	-0.3
JIE				S	Sb	07 53 47.1	-0.4
TTO1	**TONANKAI O.B.S**	**0.55**	**132**	↓P	Pb	07 53 39.8	-0.2
JWY	**Kouya**	**0.62**	**292**	↑P	Pn	07 53 41.1	-0.3
JWY				S	Sb	07 53 49.7	-0.3
JWZ	**Kozaga**	**0.66**	**226**	↑P	Pn	07 53 41.2	-0.7
JWZ				*i* S	Sb	07 53 50.5	-0.6
TSUJ	**Tsu 2**	**0.73**	**8**	↓P	Pn	07 53 42.4	-0.3
TSUJ				S	Sn	07 53 52.4	-0.3
JWM	**Minabe**	**0.79**	**260**	↑P	Pn	07 53 43.4	-0.2
JWM				S	Sn	07 53 54.1	-0.2
JHE	**Heguri**	**0.83**	**323**	↓P	Pn	07 53 43.9	-0.3
JHE				S	Sn	07 53 55.3	0.0
MAT	**Matsushiro**	**2.99**	**31**	P	Pn	07 54 15.1	+1.2
MAT				*e*S	Sn	07 54 51.7	+3.0

*SJA **17** 07:55:27.8±0.4, 32.97S×71.65W, h40km±999km, ML2.6, MW3.3*
*GUC **17** 07:55:28.1±0.3, 32.60S×71.38W, h36km±3km, ML3.0*

ISC 17 07:55:30.3±3.3, 32.88S±0.07×71.5W±0.1, h13km±17km, n9, σ0.994/14, 1C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PEL	**Peldehue**	**0.70**	**112**	*e*P	**Pb**	**07 55 43.8**	**-0.7**
PEL				*e*S	**Sn**	**07 55 55.8**	**-1.0**
ANTU	**Antumapu**	**0.97**	**135**	*e*P	**Pn**	**07 55 49.2**	**-0.5**
ANTU				*e*S	**Sn**	**07 56 05.5**	**+2.0**
ANTU				IAML		07 56 08.7	
	comp=N,618nm,0.4s						
FCH	**Farellones**	**1.08**	**115**	↑ *i* P	**Pb**	**07 55 50.4**	**-0.7**
FCH				*e*S	**Sn**	**07 56 07.2**	**+0.8**
FCH				IAML		07 56 08.1	
	comp=N,543nm,0.2s						
LMEL	**Las Melosas**	**1.43**	**133**	*e*P	**Pb**	**07 55 56.2**	**-0.7**
LMEL				*e*S	**Sg**	**07 56 17.4**	**+1.0**
LMEL				IAML		07 56 23.9	
	comp=N,345nm,0.4s						
AUSP	**Uspallata**	**1.87**	**70**	*i* P	**Pn**	**07 56 02.1**	**-0.2**
AUSP				*i* S	**Sb**	**07 56 27.7**	**-0.2**
RTLS	**Leoncito**	**2.13**	**60**	*i* P	**Pn**	**07 56 06.1**	**+0.2**
RTLS				IAML		07 56 16.6	
	comp=Z,32nm,0.3s						
RTCV	**Cerro Valdivia**	**2.67**	**68**	*i* P	**Pn**	**07 56 13.1**	**0.0**
AMOG	**MOGNA**	**3.18**	**53**	*i* P	**Pn**	**07 56 20.3**	**+0.1**
AROD	**Rodeo**	**3.19**	**33**	*i* P	**Pn**	**07 56 20.9**	**+0.3**

*BJI **17** 07:58:09.9, 3.14N×92.66E, h10km, mb4.7/21, mB5.2/7, Ms5.4/1, Ms7 5.1/1*
*IDC **17** 07:58:14.0±0.7, 3.64N×92.58E, h0km, mb4.2/20, mb1 4.3/23, mb1mx4.0/76, mbtmp4.2/23, ML4.1/2, Error ellipse: s-maj=24.6km s-min=14.3km az=38.0*
*ISCJB **17** 07:58:14.1±0.3, 3.71N±0.05×92.70E±0.03, h10km, mb4.4/34, MS5.1/1, Error ellipse: s-maj=7.6km s-min=4.4km az=14.5*

*NEIC **17** 07:58:16.0±0.3, 3.75N×92.70E, h10km, mb4.9/11, Error ellipse: s-maj=7.7km s-min=5.0km az=204.0*
*DJA **17** 07:58:21.1±1.2, 4.1N±4.9×97.3E±1.7, h21km±26km, M4.7/10, mB5.1/1, mb4.6/6, MLv4.7/10, Mw(mB)4.4/1*

ISC 17 07:58:15.7±0.5, 3.69N±0.06×92.77E±0.05, h10km, n96, σ1.952/101, mb4.6/34, 9C-5D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSI	**Banda Aceh**	**3.10**	**54**	P	**Pn**	**07 59 05.1**	**+0.5**
BSI				S	**Sn**	**07 59 36.7**	**-5.0**
MLSI	**Meulaboh, Aceh**	**3.67**	**81**	P	**Pn**	**07 59 12.8**	**+0.2**
MLSI				S	**Sn**	**07 59 53.1**	**-2.9**
TPTI		**4.43**	**95**	P	**Pn**	**07 59 23.7**	**+0.8**
TPTI				S	**Sn**	**08 00 10.2**	**-4.4**
LHMI	**Lhok Sumawe**	**4.44**	**70**	P	**Pn**	**07 59 23.5**	**+0.4**
LHMI				S	**Sn**	**08 00 17.4**	**+2.5**
LHMI	**Lhok Sumawe**	**4.44**	**70**	*e*Pn	**Pn**	**07 59 25.4**	**+2.3**
KCSI	**Kotacane, Aceh**	**5.00**	**92**	P	**Pn**	**07 59 31.3**	**+0.5**
GSI	**Gunungsitoli**	**5.36**	**116**	P	**Pn**	**07 59 37.1**	**+1.4**
	59nm,0.8s,0.3nm						
GSI				S	**Sn**	**08 00 34.8**	**-2.7**
	59nm,0.8s,0.3nm						
GSI	**Gunungsitoli**	**5.36**	**116**	*e*Pn	**Pn**	**07 59 37.5**	**+1.8**
PSI	**Prapat**	**6.21**	**98**	Pn	**Pn**	**07 59 50.0**	**+2.4**
	5.2nm,0.3s,baz=314,slow=7.5,SNR=20						
PSI				Sn	**Sn**	**08 00 57.0**	**-1.8**
	5.1nm,0.3s,baz=18,slow=10,SNR=5.3						
PSI	**Prapat**	**6.21**	**98**	*e*Pn	**Pn**	**07 59 49.5**	**+1.9**
PSI				Sn	**Sn**	**08 00 57.0**	**-1.8**
PKDT	**Phuket**	**6.94**	**53**	P	**Pn**	**07 59 57.9**	**+0.4**
	26nm,0.7s,0.1nm						
MNSI	**Mandailing Nat**	**7.39**	**113**	P	**Pn**	**08 00 05.2**	**+1.5**
MNSI				S	**Sn**	**08 01 21.3**	**-6.3**
TRTT	**Trang**	**8.03**	**59**	P	**Pn**	**08 00 13.5**	**+1.1**
	44nm,0.9s,0.2nm						
SISI	**Saibi**	**8.05**	**128**	P	**Pn**	**08 00 14.9**	**+2.2**
IPM	**Ipoh**	**8.28**	**84**	*e*Pn	**Pn**	**08 00 15.9**	**0.0**
PALK	**Pallekele**	**12.52**	**287**	Pn	**Pn**	**08 01 12.3**	**-1.9**
	0.7nm,0.3s,baz=116,slow=15,SNR=4.9						
PALK				Sn	Sn	08 03 17.8	-16
	2.9nm,0.3s,baz=297,slow=1.0,SNR=13						
PALK	**Pallekele**	**12.52**	**287**	*e*Pn	**Pn**	**08 01 12.6**	**-1.5**
PALK				Sn	Sn	08 03 17.8	-16
CHBT	**CHBT**	**13.06**	**46**	P	Pn	08 01 17.5	-3.9
	382nm,1.1s						
CM01	**Chiang Mai Arr**	**15.85**	**22**	*e*Pn	**Pn**	**08 01 58.3**	**-0.7**
CM31	**Chiang Mai Arr**	**15.87**	**22**	*e*Pn	**Pn**	**08 01 58.3**	**-1.0**
CMAR	**Chiang Mai Arr**	**15.87**	**22**	Pn	**Pn**	**08 01 58.9**	**-0.5**
	baz=216,slow=14,SNR=19						
CHTO	**Chiang Mai**	**16.20**	**21**	*e*Pn	**Pn**	**08 02 02.1**	**-1.5**
	4.7nm,0.8s						
HYB	**Hyderabad**	**19.50**	**315**	*i* P	**P**	**08 02 44.0**	**+0.7**
KMI	**Kunming**	**23.37**	**23**	P	**P**	**08 03 26.6**	**+1.7**
KMI				pmax	pmax		
	comp=Z,18nm,0.6s						
CD2	**Chengdu**	**29.00**	**20**	P	**P**	**08 04 16.5**	**+0.7**
CD2				S	**S**	**08 09 08.8**	**+1.8**
CD2				LR	LR		
	comp=N,3μm,15.4s						
CD2				LR	LR		
	comp=E,3μm,13.9s						
CD2				LR	LR		
	comp=Z,4μm,17.9s						
XAN	**Xi'an**	**33.74**	**25**	P	**P**	**08 04 57.3**	**-0.2**
XAN				pP	sP	08 05 05.4	+3.5
XAN				pmax	pmax		
	comp=Z,7.0nm,0.7s						
LZH	**Lanzhou**	**33.82**	**16**	*e*P	**P**	**08 05 01.1**	**+2.7**
LZH				pP	sP	08 05 08.8	+6.1
LZH				sP	pP	08 05 13.0	+12
LZH				pmax	pmax		
	comp=Z,27nm,1.1s						
LZH				pmax	pmax		
	comp=Z,160nm,4.6s						
NIL	**Nilore**	**34.93**	**331**	*e*P	**P**	**08 05 07.8**

BUR08	Bucovina Ar. S	72.27	319	*e*P	P	08 09 42.1	+0.6
VTS	Vitosha	72.51	313	⇑*i*P	P	08 09 42.8	-0.3
LOT	Lotru	72.71	317	⇓*i*P	P	08 09 43.3	-0.9
DRGR		73.72	318	⇑*i*P	P	08 09 48.8	-1.3
BANR	Banloc	74.52	316	⇓*i*P	P	08 09 53.1	-1.5
FIA1	FINESS Array S	75.77	333	*e*P	P	08 10 00.9	-0.6
FINES	FINESS Array B	75.77	333	P	P	08 10 00.8	-0.7
	2.0nm,0.9s,baz=98,slow=14,SNR=5.1						
KRLC	Kraliky	78.19	320	*e*P	P	08 10 15.9	+0.4
DPC	Dobruska-Polom	78.53	321	*e*P	P	08 10 18.1	+0.7
GEA0	GERESS Array S	80.03	319	*e*P	P	08 10 25.9	+0.2
GEC2	GERESS Array S	80.04	319	*e*P	P	08 10 25.3	-0.4
	7.7nm,1.0s						
GERES	GERESS Array B	80.04	319	P	P	08 10 26.2	+0.5
	4.3nm,0.8s,baz=97,slow=5.8,SNR=23						
KHC	Kasperske Hory	80.15	319	*e*P	P	08 10 26.4	+0.2
SYO	Syowa Base	81.03	197	⇑*e*P	P	08 10 33.4	+3.0
HFS	Hagfors	81.37	330	P	P	08 10 32.3	-0.2
	3.9nm,1.0s,baz=110,slow=12,SNR=3.3						
NOA	NORSAR Array B	82.69	331	P	P	08 10 39.1	-0.4
	1.8nm,1.0s,baz=100,slow=5.1,SNR=2.6						
PHWY	Pilot Hill	132.24	19	*e*PKPdf	PKPdf	08 17 27.6	-3.2
HPIG		144.73	29	*e*PKPdf	PKPab	08 17 54.3	+1.7

IDC ***17*** *08:16:38.2±2.5, 1°.93N×93°.07E, h0km, mb3.5/5, mb1 3.6/6, mb1mx3.4/68, mbtmp3.6/6, ML3.4/1, Error ellipse: s-maj=74.6km s-min=27.5km az=49.0*

ISCJB ***17*** *08:16:41.8±2.0, 2°.0N±0°.3×93°.2E±0°.2, h33km, mb3.7/5, Error ellipse: s-maj=45.7km s-min=18.6km az=35.4*

ISC 17 08:16:43.8±2.1, 2°.0N±0°.3×93°.2E±0°.2, h35km, n7, σ0s84/7, mb3.7/5, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PSI	Prapat	5.76	82			Pn	08 18 06.8	-0.3
	1.0nm,0.3s,baz=154,slow=8.8,SNR=2.5							
MKAR	Makanchi Array	45.63	350	P		P	08 25 01.4	+0.6
	0.2nm,0.4s,baz=168,slow=7.4,SNR=1.9							
WRA	Warramunga Arr	45.85	120	P		P	08 25 03.3	+0.3
	0.8nm,0.9s,baz=297,slow=8.5,SNR=5.2							
SONM	Songino Array	47.07	12	P		P	08 25 13.0	+0.7
	0.6nm,0.6s,baz=187,slow=10,SNR=3.3							
KURBB	Kurchatov Arra	50.03	348	P		P	08 25 33.7	-1.1
	0.2nm,0.2s,baz=171,slow=6.2,SNR=2.0							
ZALV	Zalesovo Beam	52.25	354	P		P	08 25 51.1	-0.3
	0.6nm,0.3s,baz=190,slow=7.3,SNR=2.0							
TXAR	Lajitas Array	144.91	26	PKPbc		PKPab	08 36 16.6	-0.6
	0.3nm,0.5s,baz=98,slow=0.8,SNR=5.7							

IDC 17 08:16:46.4±6.3, 32°.65S×137°.16E, h0km, mb1 3.1/3, mb1mx3.1/42, mbtmp2.9/3, ML2.9/3, Error ellipse: s-maj=73.9km s-min=20.9km az=22.0, Near coast of South Australia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
STKA	Stephens Creek	3.84	80	Pn		Pn	08 17 47.3	+0.5
	0.2nm,0.3s,baz=258,slow=13,SNR=4.1							
STKA				Pg		Pb	08 17 55.6	+0.6
	0.4nm,0.3s,baz=251,slow=12,SNR=4.3							
STKA				Sn		Sn	08 18 32.1	-0.5
	0.9nm,0.3s,baz=270,slow=5.1,SNR=6.0							
STKA				Lg		Lg	08 18 49.4	
	1.3nm,0.3s,baz=330,slow=21,SNR=5.7							
ASAR	Alice Springs	9.39	341	Pn		Pn	08 19 04.3	+1.2
	0.1nm,0.3s,baz=163,slow=9.7,SNR=9.4							
ASAR				Sn		Sn	08 20 51.6	+2.1
	0.1nm,0.3s,baz=162,slow=22,SNR=5.9							
WRA	Warramunga Arr	12.90	348	Pn		Pn	08 19 50.0	-1.2
	0.1nm,0.3s,baz=163,slow=12,SNR=10							
WRA				Sn		Sn	08 22 15.0	-0.5
	0.1nm,0.3s,baz=177,slow=24,SNR=3.9							

ISCJB ***17*** *08:17:01.6±1.7, 0°.2N±0°.2×91°.7E±0°.2, h10km, mb3.7/5, Error ellipse: s-maj=33.1km s-min=19.9km az=36.1*

IDC ***17*** *08:17:01.3±2.1, 0°.12N×91°.55E, h0km, mb3.6/5, mb1 3.7/7, mb1mx3.5/68, mbtmp3.6/7, ML4.0/2, Error ellipse: s-maj=58.0km s-min=26.7km az=52.0*

ISC 17 08:17:03.4±1.8, 0°.2N±0°.2×91°.6E±0°.2, h10km, n8, σ0s63/8, mb3.9/5, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PSI	Prapat	7.75	70	Pn		Pn	08 18 56.5	0.0
	1.0nm,0.3s,baz=229,slow=9.3,SNR=4.7							
PSI				Sn		Sn	08 20 16.2	-8.3
	1.1nm,0.3s,baz=204,slow=19,SNR=2.0							
CMAR	Chiang Mai Arr	19.54	21	Pn		P	08 21 31.3	0.0
	0.3nm,0.3s,baz=215,slow=14,SNR=4.3							
WRA	Warramunga Arr	46.36	118	P		P	08 25 30.0	-0.2
	0.3nm,0.8s,baz=150,slow=26,SNR=3.0							
MKAR	Makanchi Array	47.14	351	P		P	08 25 35.0	-0.9
	1.0nm,0.6s,baz=180,slow=8.7,SNR=4.0							
SONM	Songino Array	49.18	13	P		P	08 25 52.0	+0.2
	0.2nm,0.4s,baz=6.3,slow=39,SNR=2.2							
KURBB	Kurchatov Arra	51.48	349	P		P	08 26 08.5	-0.5
	1.0nm,0.6s,baz=177,slow=6.8,SNR=5.8							
ZALV	Zalesovo Beam	53.88	355	P		P	08 26 27.5	+0.8
	0.6nm,0.3s,baz=164,slow=6.4,SNR=2.8							
TXAR	Lajitas Array	147.22	25	PKPbc		PKPdf	08 36 46.2	+0.5
	0.2nm,0.5s,baz=25,slow=2.5,SNR=5.9							

ISCJB ***17*** *08:22:06.7±0.3, 2°.61S±0°.04×121°.93E±0°.05, h10km, mb4.0/21, Error ellipse: s-maj=6.9km s-min=5.4km az=156.6*

IDC ***17*** *08:22:06.5±0.6, 2°.52S×122°.06E, h0km, mb3.9/16, mb1 4.0/16, mb1mx3.9/56, mbtmp3.9/16, Error ellipse: s-maj=27.1km s-min=12.9km az=59.0*

NEIC ***17*** *08:22:08.2±0.2, 2°.59S×121°.94E, h10km, mb4.4/8, Error ellipse: s-maj=8.2km s-min=4.6km az=69.0*

DJA ***17*** *08:22:09.1±0.2, 3°.S±3°.×122°.2E±°., h10km, MA6.6/14, mB5.2/1, mb4.7/5, MLv4.5/14, Mw(mB)4.6/1*

ISC 17 08:22:08.7±0.5, 2°.67S±0°.05×121°.94E±0°.05, h10km, n61, σ1s57/60, mb4.1/21, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
APSI	Ampana	1.77	351	P		Pn	08 22 39.6	+0.2
LUWI	Luwuk	1.82	27	P		Pn	08 22 40.8	+0.7
LUWI	Luwuk	1.82	27	*e*Pn		Pn	08 22 40.6	+0.4
LUWI				*e*Sn		Sb	08 23 07.2	+2.1
TTSI	Tana Toraja	2.15	260	P		Pn	08 22 43.8	-0.8
BNSI	Bone	2.51	227	P		Pn	08 22 49.2	-0.4
PCI	Palu	2.73	310	P		Pn	08 22 53.9	+1.2
MRSI	Marisa	3.13	0	P		Pn	08 22 58.2	+0.1
KAPI	Kappang	3.19	223	*e*Pn		Pn	08 22 59.4	+0.5
MPSI	Mapaga	3.62	326	P		Pn	08 23 03.8	-1.0
BSSI	Bau Bau, Buton	3.74	203	P		Pn	08 23 07.4	+0.8
KMSI	Cibinong	3.82	32	P		Pg	08 23 22.8	+0.9
NLAI	Namlea	5.19	96	P		Pn	08 23 27.5	+1.0
KBKI	Kotabaru	5.79	264	P		Pn	08 23 34.4	-0.4
LBMI	Labuha	5.92	70	P		Pn	08 23 37.7	+1.2
	121nm,0.5s,2μm							
SOEI	Soe	7.41	162	P		Pn	08 23 58.0	+0.8
SOEI	Soe	7.41	162	*e*Pn		Pn	08 23 57.4	+0.2
BATI	Baumata	7.68	167	P		Pb	08 24 15.3	-6.9
MYLDM	Lahad Datu	8.52	336	*e*Pn		Pn	08 24 16.4	+4.1
KPJI	Karang Pucung	13.76	250	P		P	08 25 38.6	+6.0
FITZ	Fitzroy Crossi	15.76	167	Pn		P	08 25 55.3	+0.4
	0.3nm,0.3s,baz=18,slow=9.6,SNR=7.4							
FITZ	Fitzroy Crossi	15.76	167	*e*Pn		P	08 25 54.8	0.0
	4.5nm,0.8s							
KASI	Kota Agung	17.62	260	P		P	08 26 23.8	+8.2
MDSI	Maura Dua	17.81	264	P		P	08 26 22.9	+5.2
MASI	Maura Aman, Be	19.68	268	P		Pn	08 26 44.7	+5.0
WR1	Warramunga Arr	21.01	146	*e*P		P	08 26 52.3	-0.4
	79nm,0.8s							
WRA	Warramunga Arr	21.01	146	P		P	08 26 52.3	-0.4
	1.4nm,0.7s,baz=319,slow=11,SNR=16							
WB2	Warramunga Arr	21.02	146	*e*P		P	08 26 53.2	+0.4
	25nm,1.4s							
PSI	Prapat	23.64	283	P		P	08 27 20.3	-0.3
	25nm,1.1s,baz=128,slow=6.7,SNR=7.8							
COEN	Coen	23.79	119	*e*P		P	08 27 22.6	+0.7
	29nm,1.4s							
AS31	Alice Springs	23.87	152	*e*P		P	08 27 22.1	-0.5
	4.7nm,1.4s							
ASAR	Alice Springs	23.87	152	P		P	08 27 22.9	+0.3
	1.5nm,0.7s,baz=324,slow=8.1,SNR=18							
ASAR				PcP		PcP	08 31 04.9	-0.9
	0.5nm,0.9s,baz=331,slow=2.3,SNR=4.0							
AS01	Alice Springs	23.89	152	*e*P		P	08 27 23.7	+0.9
CMAR	Chiang Mai Arr	30.87	314	P		P	08 28 25.7	+0.1
	0.3nm,0.3s,baz=144,slow=6.0,SNR=5.5							
BBOO	Buckleboo	32.78	158	*e*P		P	08 28 46.1	+3.9
	13nm,1.4s							
STKA	Stephens Creek	34.45	150	P		P	08 28 57.1	+0.3
	3.8nm,0.9s,baz=324,slow=9.8,SNR=6.3							
STKA	Stephens Creek	34.45	150	*e*P		P	08 28 56.8	+0.1
	1.9nm,1.3s							
MAJO	Matsushiro	41.86	20	*e*P		P	08 29 57.3	-1.8
MJAR	Matsushiro Arr	41.86	20	P		P	08 29 57.3	-1.8
	1.2nm,0.8s,baz=207,slow=8.4,SNR=3.7							
DZM	Mont Dzumac	47.31	118	P		P	08 30 40.9	-2.2
	10nm,0.9s,baz=274,slow=13,SNR=3.4							
DZM	Mont Dzumac	47.31	118	*e*P		P	08 30 43.3	+0.3
	27nm,1.2s							
SONA0	Songino Array	52.10	347	*e*P		P	08 31 17.8	-1.4
SONM	Songino Array	52.10	347	P		P	08 31 17.8	-1.4
	0.2nm,0.4s,baz=143,slow=5.0,SNR=3.0							
MK32	Makanchi Array	60.34	330	*e*P		P	08 32 17.4	-0.6
MKAR	Makanchi Array	60.34	330	P		P	08 32 17.4	-0.6
	0.5nm,0.6s,baz=127,slow=8.0,SNR=6.2							
PETK	Petropavlovsk-	63.14	23	P		P	08 32 34.7	-2.0
	1.0nm,0.6s,baz=257,slow=5.0,SNR=3.0							
PEA1	Petropavlovsk-	63.15	23	*e*P		P	08 32 34.7	-2.0
ZALV	Zalesovo Beam	64.31	337	P		P	08 32 42.8	-1.6
	0.6nm,0.4s,baz=111,slow=6.3,SNR=2.5							
ZAA1	Zalesovo Array	64.31	337	*e*P		P	08 32 42.8	-1.6
KURBB	Kurchatov Arra	64.75	331	P		P	08 32 46.1	-1.2
	0.7nm,0.7s,baz=142,slow=4.6,SNR=2.9							
KURK	Kurchatov	64.77	331	*e*P		P	08 32 46.1	-1.3
BVAR	Borovoye Array	70.22	330	P		P	08 33 21.0	-0.9
	0.2nm,0.3s,baz=126,slow=7.3,SNR=2.6							
GEYT	Alibeck	71.32	311	P		P	08 33 27.9	-1.1
	1.2nm,0.4s,baz=149,slow=3.0,SNR=2.6							
VNDA	Vanda	77.77	172	P		P	08 34 05.6	0.0
	1.2nm,0.7s,baz=331,slow=5.4,SNR=6.3							
BR101	Keskin Array S	90.38	310	*e*P		P	08 35 09.5	-1.3
BRTR	Keskin Array B	90.38	310	P		P	08 35 09.5	-1.3
	0.2nm,0.4s,baz=97,slow=3.5,SNR=2.6							
LTX	Lajitas	129.26	54	*e*PKPdf		PKPdf	08 41 17.3	-0.9
TXAR	Lajitas Array	129.26	54	PKP		PKPdf	08 41 17.3	-0.9
	0.2nm,0.8s,baz=232,slow=5.6,SNR=2.7							
TRQ	Mont Tremblant	134.29	16	*e*PKPdf		PKPdf	08 41 28.1	+0.9
CPUP	Villa Florida	151.16	181	PKPbc		PKPbc	08 42 03.0	-0.2
	1.6nm,1.0s,baz=194,slow=4.2,SNR=3.8							
PB10	IPOC Station P	151.27	156	*e*PKPbc		PKPbc	08 42 03.2	-0.3
RCBR	Riachuelo	156.31	249	PKP		PKPdf	08 42 05.4	+0.4
	108nm,0.9s,baz=55,slow=0.4,SNR=4.4							

IDC ***17*** *08:36:13.3±1.4, 3°.03S×148°.33E, h0km, mb4.1/11, mb1 4.3/11, mb1mx4.0/42, mbtmp4.1/11, MS4.3/1, Ms1 4.5/1, ms1mx3.6/53, Error ellipse: s-maj=47.0km s-min=18.5km az=119.0*

ISCJB ***17*** *08:36:14.7±0.5, 2°.81S±0°.05×148°.01E±0°.08, h10km, mb4.2/15, MS4.3/1, Error ellipse: s-maj=11.7km s-min=6.5km az=4.0*

NEIC ***17*** *08:36:16.5±0.5, 2°.81S×148°.00E, h10km, mb4.5/6, Error ellipse: s-maj=11.6km s-min=7.7km az=100.0*

ISC 17 08:36:16.8±0.6, 2°.75S±0°.07×147°.99E±0°.10, h10km, n37, σ1s35/32, mb4.2/15, Admiralty Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MANU	Manus Island	0.94	318	*e*Pg		Pg	08 36 34.6	-0.2
PMG	Port Moresby	6.67	187	Pn		Pn	08 37 55.4	+0.5
	0.8nm,0.3s,baz=295,slow=19,SNR=2.8							
PMG				Sn		Sn	08 39 12.6	+1.7
	0.7nm,0.3s,baz=329,slow=18,SNR=2.2							
COEN	Coen	12.11	203	*e*Pn		Pn	08 39 09.4	-0.2
HNR	Honiara	13.61	120	*e*Pn		Pn	08 39 30.1	0.0
MTN	Manton Dam	19.47	238	*e*P		Pn	08 40 44.2	-0.9
	22nm,1.1s							
WRAB	Tennant Creek	21.66	217	*e*P		P	08 41 07.1	-0.6
	14nm,1.0s							
WB2	Warramunga Arr	21.67	217	*e*P		P	08 41 06.2	-1.6
	20nm,1.1s							
WR1	Warramunga Arr	21.68	217	*e*P		P	08 41 05.2	-2.7
	71nm,0.8s							
WRA	Warramunga Arr	21.68	217	P		P	08 41 05.2	-2.7
	8.7nm,0.8s,baz=41,slow=11,SNR=35							
AS01	Alice Springs	24.84	212	*e*P		P	08 41 37.9	-1.6
AS31	Alice Springs	24.86	212	*e*P		P	08 41 38.3	-1.5
	1.4nm,0.6s							
ASAR	Alice Springs	24.86	212	P		P	08 41 38.0	-1.9
	5.4nm,0.8s,baz=39,slow=7.6,SNR=38							
BATI	Baumata	25.27	252	P		P	08 41 45.2	+1.6
	10nm,0.5s,baz=60,slow=14,SNR=5.5							
FITZ	Fitzroy Crossi	26.70	234	P		P	08 41 54.7	-1.7
	24nm,1.0s,baz=78,slow=8.6,SNR=26							
FITZ	Fitzroy Crossi	26.70	234	*e*P		P	08 41 57.5	+1.1
	26nm,1.0s							
H11S3	WAKE ISLAND Hy	28.01	40	T		T	09 11 34.3	
	baz=222,slow=75,SNR=352							
H11S2	WAKE ISLAND Hy	28.02	40	T		T	09 11 35.1	
	baz=222,slow=75,SNR=204							
H11S1	WAKE ISLAND Hy	28.02	40	T		T	09 11 35.9	
	baz=222,slow=75,SNR=219							
H11N1	WAKE ISLAND Hy	29.03	39	T		T	09 12 54.8	
	baz=221,slow=76,SNR=52							
H11N3	WAKE ISLAND Hy	29.05	39	T		T	09 12 49.9	
	baz=221,slow=76,SNR=136							
H11N2	WAKE ISLAND Hy	29.05	39	T		T	09 12 50.0	
	baz=221,slow=76,SNR=117							
CM31	Chiang Mai Arr	52.67	296	*e*P		P	08 45 32.3	+0.5
CMAR	Chiang Mai Arr	52.67	296	P		P	08 45 32.3	+0.5
	0.5nm,0.3s,baz=119,slow=5.2,SNR=3.7							
CMAR				LR		LR	09 05 58.7	
	comp=Z,287nm,19.7s,baz=300,slow=34							
PETK	Petropavlovsk-	56.25	7	P		P	08 45 58.0	+0.8
	1.4nm,0.6s,baz=163,slow=5.8,SNR=4.1							
PETK	Petropavlovsk-	56.25	7	*e*P		P	08 45 58.4	+1.2
PEA1	Petropavlovsk-	56.25	7	*e*P		P	08 45 58.0	+0.7
SONA0	Songino Array	62.09	330	*e*P		P	08 46 39.4	+1.4
SONM	Songino Array	62.09	330	P		P	08 46 39.4	+1.4
	0.5nm,0.7s,baz=141,slow=7.1,SNR=3.3							
KURK	Kurchatov	79.23	323	*e*P		P	08 48 21.9	-0.3
KURBB	Kurchatov Arra	79.25	323	P		P	08 48 21.9	-0.4
	0.3nm,0.2s,baz=126,slow=4.8,SNR=3.6							
ILAR	Eielson Array	82.12	23	P		P	08 48 35.2	-2.2
	1.3nm,1.1s,baz=254,slow=3.3,SNR=3.5							
ILB	Eielson Array	82.12	23	*e*P		P	08 48 36.3	-1.1
IL1	Eielson Array	82.12	23	*e*P		P	08 48 36.6	-0.8
BVAR	Borovoye Array	84.75	324	P		P	08 48 51.9	+0.7
	0.5nm,0.6s,baz=90,slow=8.6,SNR=3.2							
YKA	Yellowknife Ar	95.85	28	P		P	08 49 42.2	-1.2
	0.5nm,0.9s,baz=272,slow=4.6,SNR=5.2							
SCHQ	Schefferville	120.88	23	*e*PKPdf		PKPdf	08 55 10.0	+0.6
SAML	Samuel	146.82	111	*e*PKPdf		PKPdf	08 55 59.1	+0.4

NNC ***17*** *08:43:35.2±1.9, 37°.32N×71°.06E, h152km±19km, mb2.7, mpv3.7, Error ellipse: s-maj=17.2km s-min=7.6km az=162.0*

ISC 17 08:43:34.3±3.2, 37°.2N±0°.2×71°.18E±0°.08, h88km, n14, σ1s35/20, 4C-10D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
DZET	Dzherino	2.47	312	⇓P		Pn	08 44 13.5	+0.7
	26nm,0.4s							
DZET				⇓S		Sn	08 44 44.8	+2.5
	176nm,0.5s							
SFK	Sufi-Kurgan	3.37	32	⇓P		Pn	08 44 26.4	+1.5
	5.5nm,0.3s							
SFK				⇑S		Sn	08 45 07.3	+3.2
	19nm,0.4s							
AML	Almayashu	5.32	21	P		Pn	08 44 52.3	+0.7
	SNR=24							
MNAS	Manas	5.40	10	⇓P		Pn	08 44 53.2	+0.7
	3.3nm,0.5s							
MNAS				⇓S		Sn	08 45 52.5	-0.9
	7.0nm,0.5s							
UCH	Uchtor	5.66	26	P		Pn	08 44 56.6	+0.3
	SNR=13							
KZA	Kyzart	5.82	31	P		Pn	08 44 58.3	-0.1
	SNR=6.2							
EKS2	Erkin-Say	5.83	19	P		Pn	08 44 59.3	+1.0
	SNR=7.0							
KK31	Karatay Array	5.94	355	⇓P		Pn	08 45 00.9	+1.2
	2.3nm,0.5s,baz=181,slow=13,SNR=41							
KK31				⇓S		Sn	08 46 06.0	-0.4
	2.2nm,0.3s,baz=182,slow=21,SNR=8.0							
AAK	Ala-Archa	6.02	24	⇑P		Pn	08 45 01.5	+0.5
	5.9nm,0.4s							
AAK				⇑S		Sn	08 46 08.8	+0.4
	5.3nm,0.8s							
AAK	Ala-Archa	6.02	24	P		Pn	08 45 01.8	+0.8
	SNR=15							
USP	Ospenovka	6.59	22	P		Pn	08 45 09.2	+0.6
	SNR=7.3							
TKM2	Tokmak 2	6.66	29	⇓P		Pn	08 45 10.0	+0.3
	5.0nm,0.6s							
TKM2				⇓S		Sn	08 46 23.5	-0.7
	2.2nm,0.9s							
TKM2	Tokmak 2	6.66	29	P		Pn	08 45 10.0	+0.3
	SNR=9.1							
AB31	Akbulak array	14.57	329	⇑P		Pn	08 46 53.6	-2.3
	0.3nm,0.5s,baz=143,slow=13,SNR=12							
AB31				⇓S		Sn	08 49 26.9	-9.3
	0.1nm,0.3s							

BJI ***17*** *08:51:23.4, 31°.44S×176°.73W, h9km, mb5.8/50, mB6.2/24, Ms5.5/30, Ms7 5.3/28*

WEL ***17*** *08:51:24.1±1.0, 32°.S±4°.×17°.7W±1°.4, h33km, ML6.4/11*

IDC ***17*** *08:51:24.3±0.3, 31°.63S×177°.22W, h0km, mb5.3/41, mb1 5.3/42, mb1mx5.2/50, mbtmp5.2/42, ML5.6/1, MS5.1/13, Ms1 5.1/13, ms1mx4.7/42, Error ellipse: s-maj=11.7km s-min=10.0km az=12.0*

NEIC ***17*** *08:51:24.9±0.1, 31°.89S×177°.24W, h10km, mb5.6/207, MS5.5/135, Error ellipse: s-maj=4.2km s-min=2.5km az=141.0*

ISCJB ***17*** *08:51:27.2±0.1, 31°.96S±0°.02×177°.28W±0°.03, h33km, mb5.5/284, MS5.4/156, Error ellipse: s-maj=4.0km s-min=2.0km az=42.6*

MOS ***17*** *08:51:28.4±0.8, 31°.59S×177°.32W, h33km, mb5.9/60, MS5.4/23, Error ellipse: s-maj=9.0km s-min=7.4km az=90.2*

ISC 17 08:51:26.3±0.5, 31°.71S±0°.04×177°.19W±0°.04, h15km±2km, h16km: pP-P, n1183, σ1s43/1188, mb5.6/277, MS5.4/157, 58C-42D, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
GLKZ	Green Lake	2.52	345	P		Pn	08 52 04.5	-2.1
GLKZ	Green Lake	2.52	345	S		Sn	08 52 33.2	-3.8
RAO	Raoul Island	2.53	346	Pn		Pn	08 52 04.3	-2.4
	1μm,0.3s,baz=111,slow=4.9,SNR=61							
RAO				Sn		Sn	08 52 33.1	-4.1
	5μm,0.3s,baz=96,slow=20,SNR=17							
RIZ	Raoul Island	2.54	345	P		Pn	08 52 05.0	-1.9
RIZ	Raoul Island	2.54	345	S		Sn	08 52 33.2	-4.3
MXZ	Matakaoa Point	6.92	211	*e*Pn		Pn	08 53 03.4	-3.7
MXZ	Matakaoa Point	6.92	211	P		Pn	08 53 03.7	-3.4
MXZ	Matakaoa Point	6.92	211	S		Sn	08 54 21.7	-3.8
WMGZ	Waiomatatini S	7.09	209	P		Pn	08 53 06.6	-2.8
WMGZ	Waiomatatini S	7.09	209	S		Sn	08 54 27.0	-2.6
PKGZ	Pakihiroa	7.29	211	P		Pn	08 53 09.0	-3.3
PKGZ	Pakihiroa	7.29	211	S		Sn	08 54 31.6	-3.1
HAZ	Te Kaha	7.31	213	P		Pn	08 53 11.0	-1.5
HAZ	Te Kaha	7.31	213	S		Sn	08 54 35.6	+0.4
PUZ	Puketiti	7.37	209	P		Sn	08 54 34.3	-2.2
PUZ	Puketiti	7.37	209	P		Pn	08 53 09.6	-3.7
RUGZ	Raukumara Rang	7.53	213	P		Pn	08 53 13.0	-2.7
RUGZ	Raukumara Rang	7.53	213	S		Sn	08 54 40.5	-0.3
TWGZ	Tauwhareparae	7.57	210	S		Sn	08 54 39.8	-1.9
TWGZ	Tauwhareparae	7.57	210	P		Pn	08 53 13.5	-2.7
KUZ	Kuaotunu	7.72	227	P		Pn	08 53 18.9	+0.8
CNGZ	Carnagh Statio	7.74	208	P		Pn	08 53 14.7	-3.7
CNGZ	Carnagh Statio	7.74	208	S		Sn	08 54 45.4	-0.3
TKGZ	Te Karaka	7.85	210	P		Pn	08 53 16.8	-3.0
TKGZ	Te Karaka	7.85	210	S		Sn	08 54 46.0	-2.4
MWZ	Matawai	7.90	212	P		Pn	08 53 17.6	-3.1
MWZ	Matawai	7.90	212	S		Sn	08 54 46.6	-3.1
OPRZ	Ohinepanea	7.99	218	P		Pn	08 53 20.0	-1.8
OPRZ	Ohinepanea	7.99	218	S		Sn	08 54 50.6	-1.4
URZ	Urewera	8.03	214	Pn		Pn	08 53 18.5	-3.9
	7.6nm,0.3s,baz=358,slow=2.1,SNR=58							
URZ				Sn		Sn	08 54 49.0	-3.9
	17nm,0.3s,baz=173,slow=17,SNR=3.8							
URZ	Urewera	8.03	214	S		Sn	08 54 49.3	-3.6
UR

comp=Z,9μm,31.6s
DZM Mont Dzumac 17.45 299 *e*Pn **P 08 55 33.0 +2.5**
comp=Z,323nm,1.3s
DZM S **Sn 08 58 40.9 -2.4**
MLZ Mavora Lakes 17.79 216 *e*Pn **Pn 08 55 29.9 -3.4**
comp=Z,75nm,0.8s
WHZ Wether Hill Ro 18.25 215 *e*P **Pn 08 55 34.4 -4.5**
comp=Z,84nm,0.8s
DCZ Deep Cove 18.35 217 *e*P **Pn 08 55 35.3 -4.8**
comp=Z,54nm,0.8s
AFI Afiamalu 18.40 17 *e*P **P 08 55 37.5 -3.4**
comp=Z,498nm,1.4s
AFI Afiamalu 18.40 17 *e*P **P 08 55 37.5 -3.4**
AFI pmax pmax
comp=Z,500nm,1.4s
RAR Rarotonga 18.75 60 P **P 08 55 39.2 -5.4**
comp=Z,13nm,0.3s,baz=216,slow=6.7,SNR=21
RAR S Sn 08 58 49.3 -25
comp=Z,3.1nm,0.3s,baz=104,slow=19,SNR=5.3
RAR LR LR 09 00 53.6
comp=Z,3μm,20.8s,baz=236,slow=30
RAR Rarotonga 18.75 60 *e*P **P 08 55 39.3 -5.4**
comp=Z,209nm,0.9s
RAR S Sn 08 58 49.4 -25
RAR Rarotonga 18.75 60 *e*P **P 08 55 39.3 -5.4**
RAR pmax pmax
comp=Z,210nm,1.0s
PYZ Puysegur Point 19.07 216 *e*P **P 08 55 44.4 -3.7**
comp=Z,91nm,0.8s
LHI Lord Howe Isla 20.22 264 P Pn 08 56 04.6 +2.0
baz=20,SNR=4.0
LHI Lord Howe Isla 20.22 264 *e*P Pn 08 56 05.5 +2.8
comp=Z,353nm,1.4s
ARMA Armidale 26.69 265 P **P 08 57 08.1 +3.1**
baz=27,SNR=5.9
ARMA Armidale 26.69 265 *e*P **P 08 57 04.4 -0.6**
comp=Z,105nm,1.4s
MGCD Mangrove Creek 26.74 258 P **P 08 57 08.2 +3.0**
baz=27,SNR=9.3
CNB Canberra Magne 28.04 253 P **P 08 57 19.6 +2.6**
baz=28,SNR=6.6
CAN Canberra 28.34 253 *e*P **P 08 57 18.2 -1.4**
comp=Z,96nm,1.6s
CAN LR LR
comp=Z,4μm,19.0s
CAN Canberra 28.34 253 *e*P **P 08 57 18.2 -1.4**
CAN pmax pmax
comp=Z,96nm,1.6s
EIDS Eidsvold 28.51 275 P **P 08 57 22.8 +1.6**
baz=29,SNR=9.0
EIDS Eidsvold 28.51 275 *e*P **P 08 57 21.2 0.0**
comp=Z,180nm,1.8s
PAE Paea 28.62 67 *e*P **P 08 57 20.3 -1.9**
comp=Z,6.0nm,0.8s
PAE Paea 28.62 67 *e*T T 09 26 49.2
comp=Z,5.4nm,0.2s
PPT2 Papeete2 28.67 67 *e*P **P 08 57 21.1 -1.6**
comp=Z,55nm,1.2s
PPT2 *e*LR LR 09 04 21.3
comp=Z,11μm,27.2s,baz=229
PPT2 Papeete2 28.67 67 *e*T T 09 26 53.1
comp=Z,3.8nm,0.2s
PPTF Pamatai, Papee 28.68 67 *e*P **P 08 57 21.7 -1.1**
comp=Z,263nm,1.7s
TVO Taravao 28.81 68 *e*P **P 08 57 22.7 -1.3**
comp=Z,8.9nm,0.8s
TVO Taravao 28.81 68 *e*T T 09 27 03.4
comp=Z,0.8nm,0.3s
TIAR Tiarei 28.87 67 *e*P **P 08 57 22.8 -1.6**
comp=Z,21nm,0.7s
YNG Young 28.89 256 P **P 08 57 27.4 +2.8**
baz=29,SNR=7.7
KNTN Kanton 29.24 11 *e*P **P 08 57 26.7 -1.0**
comp=Z,410nm,1.4s
RMQ Roma 30.12 271 P **P 08 57 38.2 +2.7**
baz=30,SNR=13
TAU Tasmania Unive 30.15 238 *e*P **P 08 57 35.8 +0.3**
comp=Z,40nm,1.0s
TAU LR LR
comp=Z,4μm,19.0s
TAU Tasmania Unive 30.15 238 *e*P **P 08 57 35.8 +0.3**
TAU pmax pmax
comp=Z,40nm,1.0s
TAU MLR MLR
comp=Z,4μm,19.0s
MOO Moorlands 30.17 239 P **P 08 57 37.6 +1.9**
baz=30,SNR=3.7
HNR Honiara 30.68 311 P **P 08 57 39.0 -1.4**
comp=Z,22nm,0.3s,baz=197,slow=11,SNR=2.8
HNR Honiara 30.68 311 *e*P **P 08 57 39.1 -1.4**
comp=Z,88nm,0.5s
HNR LR LR
comp=Z,2μm,20.0s
HNR Honiara 30.68 311 *e*P **P 08 57 39.1 -1.4**
HNR pmax pmax
comp=Z,88nm,0.5s
TOO Toolangi 31.11 249 P **P 08 57 46.6 +2.4**
baz=31,SNR=7.5
TOO Toolangi 31.11 249 P **P 08 57 46.3 +2.1**
TOO pmax pmax
comp=Z,48nm,1.6s
PMOR Pomariorio Ree 31.48 65 *e*P **P 08 57 46.0 -1.5**
comp=Z,98nm,1.3s
CMSA Cobar Meteorol 31.51 260 P **P 08 57 49.4 +1.7**
baz=32,SNR=75
VAH Vaihoa 31.55 66 *e*P **P 08 57 46.4 -1.7**
comp=Z,144nm,1.3s
VAH Vaihoa 31.55 66 *e*T T 09 30 28.3
comp=Z,14nm,0.2s
QLP Quilpie 33.95 269 P **P 08 58 10.1 +1.0**
baz=34,SNR=27
ARPS Mount Arapiles 34.05 250 P **P 08 58 11.8 +1.9**
baz=34,SNR=28
TARA Tarawa 34.19 342 *e*P **P 08 58 11.6 +0.3**
comp=Z,128nm,1.0s
TARA LR LR
comp=Z,296nm,19.0s
CTA Charters Tower 34.70 281 P **P 08 58 17.5 +1.7**
comp=Z,69nm,0.9s,baz=106,slow=9.7,SNR=33
CTA PcP **PcP 09 00 50.7 +1.2**
comp=Z,4.4nm,0.4s,baz=88,slow=3.4,SNR=3.8
CTA S **S 09 03 43.0 -2.3**
comp=Z,2.6nm,0.5s,baz=65,slow=17,SNR=2.5
CTA ScS **ScS 09 08 37.8 0.0**
comp=Z,4.3nm,0.8s,baz=176,slow=0.3,SNR=3.4
CTAO Charters Tower 34.70 281 *e*P **P 08 58 17.4 +1.7**
comp=Z,358nm,1.5s
CTAO LR LR
comp=Z,6μm,22.0s
CTAO Charters Tower 34.70 281 *e*P **P 08 58 17.4 +1.7**
CTAO pmax pmax
comp=Z,360nm,1.5s
STKA Stephens Creek 34.88 259 P **P 08 58 18.4 +1.3**
comp=Z,28nm,0.7s,baz=97,slow=10,SNR=44
STKA PcP **PcP 09 00 50.7 +0.8**
comp=Z,17nm,1.1s,baz=60,slow=2.4,SNR=3.5
STKA S **S 09 03 44.6 -3.1**
comp=Z,2.3nm,0.9s,baz=300,slow=16,SNR=2.0
STKA LR LR 09 12 04.3
comp=Z,4μm,19.2s,baz=107,slow=36
STKA Stephens Creek 34.88 259 P **P 08 58 18.6 +1.5**
baz=35,SNR=72
STKA Stephens Creek 34.88 259 *e*P **P 08 58 18.6 +1.5**
comp=Z,11nm,0.9s
STKA PcP **PcP 09 00 50.7 +0.8**
STKA S **S 09 03 44.6 -3.1**
STKA Stephens Creek 34.88 259 *e*P **P 08 58 18.6 +1.5**
STKA pmax pmax
comp=Z,11nm,0.9s
HTT Hallett 36.82 255 P **P 08 58 34.8 +1.0**
baz=37,SNR=26
MTSU Mount Surprise 37.23 282 P **P 08 58 39.3 +1.9**
baz=37,SNR=8.6
RKT Rikitea 38.25 88 *e*LR LR 09 08 55.9
comp=Z,7μm,28.8s,baz=251
RKT Rikitea 38.25 88 *e*T T 09 38 47.8
comp=Z,1.3nm,0.2s
BBOO Buckleboo 39.30 256 P **P 08 58 54.6 0.0**
baz=40,SNR=29
BBOO Buckleboo 39.30 256 *e*P **P 08 58 54.4 -0.2**
comp=Z,70nm,0.9s
RABL Rabaul 39.71 307 *e*P **P 08 58 57.9 -0.3**
comp=Z,64nm,0.8s
PMG Port Moresby 39.80 296 P **P 08 58 59.2 +0.3**
comp=Z,41nm,1.1s,baz=82,slow=3.4,SNR=8.9
PMG PcP **PcP 09 01 06.0 +1.0**
comp=Z,40nm,0.9s,baz=12,slow=7.1,SNR=6.8
PMG LR LR 09 11 47.2
comp=Z,2μm,21.1s,baz=150,slow=31
PMG Port Moresby 39.80 296 *e*P **P 08 58 59.8 +0.9**
comp=Z,110nm,1.4s
PMG PcP **PcP 09 01 06.0 +1.0**
PMG Port Moresby 39.80 296 *ce*P **P 08 58 59.7 +0.8**
PMG pmax pmax
comp=Z,321nm,1.3s
PMG MLR MLR
comp=Z,8μm,17.0s
QIS Mount Isa 40.11 275 P **P 08 59 01.9 +0.3**
baz=40,SNR=12
COEN Coen 40.30 287 P **P 08 59 04.2 +1.0**
baz=40,SNR=5.4
COEN Coen 40.30 287 *e*P **P 08 59 03.6 +0.4**
comp=Z,60nm,1.1s
TAOE Nuku Hiva Isla 41.21 65 *e*LR LR 09 10 10.2
comp=Z,5μm,26.9s
AS01 Alice Springs 43.70 268 *e*P **P 08 59 30.4 -0.5**
AS31 Alice Springs 43.74 268 *e*P **P 08 59 30.7 -0.5**
comp=Z,15nm,1.0s
ASAR Alice Springs 43.74 268 P **P 08 59 30.8 -0.5**
comp=Z,36nm,0.9s,baz=111,slow=7.5,SNR=207
ASAR ScP **ScP 09 05 12.0 +2.9**
comp=Z,2.2nm,0.8s,baz=112,slow=3.6,SNR=4.2
ASAR S **S 09 05 53.8 -7.4**
comp=Z,1.1nm,0.8s,baz=110,slow=15,SNR=3.3
ASAR ScS **ScS 09 09 30.0 -0.5**
comp=Z,1.0nm,0.9s,baz=124,slow=6.4,SNR=4.3
MANU Manus Island 44.56 304 *e*P **P 08 59 38.1 +0.3**
comp=Z,37nm,0.9s
WRAB Tennant Creek 44.84 273 *e*P **P 08 59 40.1 0.0**
comp=Z,145nm,1.1s
WRAB LR LR
comp=Z,3μm,22.0s
WRAB Tennant Creek 44.84 273 *de*P **P 08 59 39.2 -0.9**
WRAB pmax pmax
comp=Z,156nm,1.1s
WRAB MLR MLR
comp=Z,3μm,15.0s
WRA Warramunga Arr 44.85 273 P **P 08 59 39.4 -0.7**
comp=Z,95nm,1.0s,baz=112,slow=7.8,SNR=150
WRA ScP **ScP 09 05 17.8 +4.1**
comp=Z,11nm,1.0s,baz=114,slow=4.2,SNR=8.5
WRA S **S 09 06 10.8 -6.5**
comp=Z,3.2nm,0.9s,baz=114,slow=14,SNR=5.1
WRA LR LR 09 18 16.8
comp=Z,2μm,18.4s,baz=130,slow=36
PATS Pohnpei 44.90 324 *e*P **P 08 59 39.3 -1.2**
comp=Z,135nm,1.4s
FORT Forrest 46.39 256 P **P 08 59 51.8 -0.4**
baz=47,SNR=10
FORT Forrest 46.39 256 *e*P **P 08 59 51.8 -0.4**
comp=Z,1μm,1.0s
VNDA Vanda 46.87 186 P **P 08 59 57.8 +2.5**
comp=Z,5.7nm,0.9s,baz=20,slow=6.1,SNR=26
VNDA PcP **PcP 09 01 29.1 +1.3**
comp=Z,13nm,1.1s,baz=359,slow=6.4,SNR=3.6
VNDA Vanda 46.87 186 *e*P **P 08 59 58.0 +2.7**
comp=Z,25nm,1.3s
VNDA PcP **PcP 09 01 29.1 +1.3**
VNDA Vanda 46.87 186 *e*P **P 08 59 58.0 +2.7**
VNDA pmax pmax
comp=Z,25nm,1.2s
WRKA Warakurna 48.01 264 P **P 09 00 03.7 -1.3**
baz=48,SNR=51
JAY Jayapura 49.11 298 P **P 09 00 14.2 +0.7**
comp=Z,56nm,1.0s,baz=136,slow=10,SNR=5.4
JAY Jayapura 49.11 298 P **P 09 00 13.9 +0.4**
GENI Genyem 49.47 297 P **P 09 00 16.6 +0.4**
MTN Manton Dam 50.87 280 *e*P **P 09 00 26.5 -0.3**
comp=Z,43nm,1.0s
KNRA Kununurra 51.50 275 P **P 09 00 31.4 -0.1**
baz=52,SNR=15
WAKE Wake Island 53.02 341 *e*P **P 09 00 42.3 -0.3**
comp=Z,254nm,1.0s
WAKE LR LR
comp=Z,2μm,19.0s
FITZ Fitzroy Crossi 53.05 270 P **P 09 00 42.6 -0.4**
comp=Z,46nm,1.1s,baz=125,slow=6.6,SNR=34
FITZ ScP **ScP 09 05 53.0 +4.5**
comp=Z,5.7nm,1.0s,baz=114,slow=9.7,SNR=2.7
FITZ LR LR 09 22 38.9
comp=Z,2μm,19.1s,baz=180,slow=35
CASY Casey 54.31 208 *e*P **P 09 00 52.1 +0.5**
comp=Z,41nm,0.9s
CASY LR LR
comp=Z,245nm,21.0s
KLBR Kellerberrin 54.59 252 P **P 09 00 53.2 -1.0**
baz=55,SNR=4.0
NWAO Narrogin (SRO) 54.59 250 P **P 09 00 55.3 +1.1**
comp=Z,7.9nm,0.9s,baz=117,slow=14,SNR=2.3
NWAO LR LR 09 20 07.7
comp=Z,1μm,20.6s,baz=24,slow=32
KHLU Kahalu'u 54.95 25 *e*P **P 09 00 57.7 +0.9**
comp=Z,241nm,1.1s
MWH Moku'aweowe 54.95 25 *e*P **P 09 00 57.3 -0.1**
comp=Z,220nm,1.4s
HMH Humu'ula Sheep 55.10 25 *e*P **P 09 00 58.9 +0.7**
comp=Z,314nm,1.1s
POHA Pohakuloa 55.23 25 PFAKE
POHA LR LR 09 01 10.0 +11
comp=Z,3μm,21.0s
HPAH Hawaii Prepara 55.42 25 *e*P **P 09 01 00.7 +0.5**
comp=Z,306nm,1.1s
FAKI Fak Fak 55.44 291 P **P 09 01 00.4 -0.1**
FAKI Fak Fak 55.44 291 *e*P **P 09 00 59.6 -0.9**
comp=Z,83nm,0.9s
MHA Mahukona 55.49 24 *e*P **P 09 01 01.8 +1.1**
MHA Mahukona 55.49 24 *e*P **P 09 01 02.4 +1.8**
MEEK Meekatharra 55.57 258 P **P 09 01 00.3 -1.1**
baz=56,SNR=6.9
HON Honolulu 55.85 22 *e*P **P 09 01 03.9 +0.7**
comp=Z,319nm,1.2s
HON Honolulu 55.85 22 *e*P **P 09 01 03.9 +0.7**
HON pmax pmax
comp=Z,319nm,1.2s
KIP Kipapa 55.94 22 *e*P **P 09 01 04.7 +1.0**
comp=Z,265nm,1.3s
KIP Kipapa 55.94 22 *ce*P **P 09 01 04.8 +1.0**
KIP pmax pmax
comp=Z,3μm,2.5s
KIP MLR MLR
comp=Z,4μm,14.0s
MBWA Marble Bar 56.77 264 *e*P **P 09 01 08.5 -1.5**
comp=Z,29nm,1.0s
MBWA LR LR
comp=Z,2μm,19.0s
SIJI Sorong 57.46 292 P **P 09 01 15.0 +0.1**
comp=Z,47nm,1.0s,baz=86,slow=7.7,SNR=16
GUMO Guam 57.89 315 PFAKE
GUMO LR LR 09 01 30.0 +12
comp=Z,1μm,22.0s
SOEI Soe 58.23 278 P **P 09 01 22.9 +2.4**
comp=Z,102nm,1.2s,comp=Z,2μm
SOEI Soe 58.23 278 *e*P **P 09 01 21.4 +1.0**
comp=Z,106nm,1.1s
QSPA South Pole Qui 58.41 180 P **P 09 01 22.7 +1.7**
comp=Z,104nm,1.1s,baz=40,slow=2.6,SNR=72
QSPA South Pole Qui 58.41 180 *e*P **P 09 01 22.7 +1.7**
comp=Z,163nm,1.1s
QSPA LR LR
comp=Z,2μm,20.0s
RPN Rapa Nui 58.43 104 LR LR 09 19 43.0
comp=Z,1μm,21.8s,baz=294,slow=29
BATI Baumata 58.51 278 P **P 09 01 24.1 +1.9**
comp=Z,13nm,0.3s,baz=135,slow=1.4,SNR=6.3
BATI LR LR 09 27 17.9
comp=Z,2μm,18.1s,baz=150,slow=37
NLAI Namlea 59.41 287 P **P 09 01 28.8 +0.3**
comp=Z,56nm,1.1s,comp=Z,2μm
MIDW Midway 59.59 360 *e*P **P 09 01 28.8 -0.6**
comp=Z,256nm,1.6s
MIDW LR LR
comp=Z,2μm,20.0s
PALU Palau 60.29 301 P **P 09 01 35.1 +0.6**
baz=60,SNR=3.9
MMRI Maumere 60.52 278 P **P 09 01 37.8 +1.6**
comp=Z,66nm,1.0s
MMRI Maumere 60.52 278 *e*P **P 09 01 35.5 -0.7**
comp=Z,98nm,1.0s
LBMI Labuha 60.60 289 P **P 09 01 39.9 +3.2**
comp=Z,49nm,1.4s
SANI Sanana 61.00 287 P **P 09 01 40.3 +0.9**
comp=Z,67nm,1.6s,comp=Z,1μm
MIR Mirnyy 61.28 207 *i*P **P 09 01 44.0 +3.5**
MIR *i* 09 02 18.0
MIR pmax pmax
comp=Z,84nm,1.0s
PLAI Plampang 64.19 276 P **P 09 02 01.2 +0.4**
comp=Z,103nm,1.2s,comp=Z,1μm
KAPI Kappang 64.52 280 PFAKE 09 02 10.0 +7.1
KAPI LR LR
comp=Z,748nm,19.0s
BNSI Bone 64.56 281 P **P 09 02 04.5 +1.4**
comp=Z,35nm,1.6s
TTSI Tana Toraja 65.53 282 P **P 09 02 10.4 +0.9**
comp=Z,25nm,1.5s,comp=Z,2μm
PCI Palu 66.70 284 P **P 09 02 19.9 +2.9**
comp=Z,144nm,1.3s,comp=Z,2μm
PCI Palu 66.70 284 P **P 09 02 18.2 +1.2**
PCI pmax pmax
comp=Z,143nm,1.3s
DAV Davao City (W) 66.80 295 PFAKE 09 02 30.0 +12
DAV LR LR
comp=Z,601nm,21.0s
MPSI Mapaga 67.35 285 P **P 09 02 20.0 -1.1**
comp=Z,29nm,1.2s
JAGI Jajag, Banyuwa 67.45 274 P **P 09 02 22.3 +0.5**
comp=Z,86nm,1.2s
JAGI Jajag, Banyuwa 67.45 274 *e*P **P 09 02 20.6 -1.2**
comp=Z,108nm,1.2s
GMJI Gumukmas 68.16 274 P **P 09 02 26.0 -0.2**
comp=Z,114nm,1.1s,comp=Z,1μm
KMMI Kalianget 68.34 275 P **P 09 02 29.0 +1.7**
comp=Z,107nm,1.1s,comp=Z,2μm
KBKI Kotabaru 68.45 280 P **P 09 02 29.0 +1.0**
comp=Z,50nm,1.4s,comp=Z,1μm
PWJI Pagerwojo 69.68 273 P **P 09 02 36.5 +0.8**
comp=Z,56nm,0.6s
PCJI Pacitan 70.12 273 P **P 09 02 38.6 +0.2**
comp=Z,297nm,1.0s,comp=Z,3μm
WOJI Wonogiri, Jawa 70.52 273 P **P 09 02 41.1 +0.2**
comp=Z,111nm,0.9s
PMSA Palmer Station 70.79 155 PFAKE 09 02 50.0 +8.3
PMSA LR LR
comp=Z,3μm,22.0s
UGM Wanagama 70.82 272 *e*P **P 09 02 42.9 +0.1**
comp=Z,83nm,1.0s
MYLDM Lahad Datu 71.27 289 *e*P **P 09 02 46.1 +0.7**
comp=Z,64nm,1.5s
MAW Mawson 71.33 201 P **P 09 02 46.7 +1.9**
comp=Z,58nm,1.1s,baz=134,slow=7.0,SNR=9.9
MAW Mawson 71.33 201 *e*P **P 09 02 46.9 +2.0**
comp=Z,17nm,1.2s
MAW Mawson 71.33 201 *e*P **P 09 02 46.9 +2.0**
MAW pmax pmax
comp=Z,17nm,1.2s
KPJI Karang Pucung 72.47 272 P **P 09 02 52.9 +0.2**
comp=Z,61nm,1.0s,comp=Z,2μm
PBKI Pangkalan Bun 72.56 278 P **P 09 02 55.0 +1.9**
comp=Z,171nm,0.7s,comp=Z,15μm
CISI Cisompet, Garu 73.31 271 P **P 09 02 58.5 +0.8**
comp=Z,69nm,1.3s,comp=Z,3μm
CISI Cisompet, Garu 73.31 271 *e*P **P 09 02 56.1 -1.6**
comp=Z,103nm,1.1s
KKM Kota Kinabalu 73.62 288 *e*P **P 09 02 58.7 -0.8**
comp=Z,79nm,1.4s
KKM LR LR
comp=Z,586nm,19.0s
LEM Lembang 73.85 272 P **P 09 03 00.7 -0.3**
comp=Z,80nm,0.8s,baz=116,slow=4.6,SNR=16
LEM PP **PP 09 05 49.3 +3.5**
comp=Z,13nm,0.3s,baz=125,slow=14,SNR=4.1
STKI Sintang 74.20 280 P **P 09 03 03.6 +0.8**
comp=Z,126nm,1.1s,comp=Z,35μm
TGY Tagaytay City 74.74 298 P **P 09 03 07.0 +1.1**
comp=Z,130nm,0.3s,baz=260,slow=4.0,SNR=10
SBUM Sibu 74.88 283 *e*P **P 09 03 06.2 -0.6**
comp=Z,51nm,1.0s
KSM Kuching 75.94 281 *e*P **P 09 03 12.4 -0.5**
comp=Z,64nm,1.0s
KSM LR LR
comp=Z,633nm,20.0s
SYO Syowa Base 76.00 193 ||*i*P **P 09 03 10.0 -2.3**
SYO Syowa Base 76.00 193 ||*i*pP **P 09 03 11.6 -0.7**
JHJ2 Mitsune 76.18 324 *e*P **P 09 03 12.8 -0.9**
comp=Z,319nm,0.9s
JHJ Hachijo jima 2 76.20 324 P **P 09 03 12.9 -1.0**
comp=Z,269nm,0.9s,baz=91,slow=4.8,SNR=3.9
SNAA Sanae 76.83 178 P **P 09 03 17.3 +0.2**
SNAA Sanae 76.83 178 P **P 09 03 17.4 +0.3**
comp=Z,42nm,1.1s,baz=178,slow=5.2,SNR=27
SNAA Sanae 76.83 178 *e*P **P 09 03 17.3 +0.3**
comp=Z,68nm,1.2s
VNA3 Neumayer Olymp 76.96 176 P **P 09 03 17.7 -0.1**
KASI Kota Agung 77.18 271 P **P 09 03 19.5 -0.4**
comp=Z,62nm,1.0s
VNA2 Neumayer--Watz 77.40 177 P **P 09 03 20.5 +0.3**
baz=175,slow=4.9
VNA1 Neumayer--Stat 77.62 176 P **P 09 03 21.1 -0.4**
LWLI Liwa 77.81 272 P **P 09 03 28.3 +4.7**
MDSI Maura Dua 77.98 272 P **P 09 03 22.4 -2.0**
JOW Kunigami 78.05 312 P **P 09 03 24.3 -0.1**
comp=Z,59nm,1.0s,baz=165,slow=8.8,SNR=4.9
JOW Kunigami 78.05 312 *e*P **P 09 03 24.7 +0.3**
comp=Z,98nm,1.1s
INU Inuyama 79.36 323 *e*P **P 09 03 31.1 -0.4**
comp=Z,98nm,1.1s
PAF Port-aux-Franc 79.54 218 PFAKE 09 03 40.0 +7.6
PAF LR LR
comp=Z,2μm,19.0s
MJAR Matsushiro Arr 79.71 325 P **P 09 03 32.5 -0.8**
comp=Z,39nm,1.0s,baz=169,slow=5.6,SNR=57
MAJO Matsushiro 79.71 325 *e*P **P 09 03 31.9 -1.4**
comp=Z,97nm,1.1s
MAJO LR LR
comp=Z,854nm,19.0s
MAJO Matsushiro 79.71 325 *d*iP **P 09 03 32.4 -0.9**
MAJO pmax pmax
comp=Z,105nm,1.2s
MAT Matsushiro 79.71 325 P **P 09 03 32.5 -0.8**
MAT S **S 09 13 43.0 +7.8**
MJB9 Matsu-Tunnel 79.71 325 *e*P **P 09 03 32.0 -1.4**
comp=Z,103nm,1.2s
COCO West Island 80.31 262 PFAKE 09 03 50.0 +13
COCO LR LR
comp=Z,2μm,20.0s
MASI Maura Aman, Be 80.33 272 P **P 09 03 36.9 -0.4**
comp=Z,177nm,0.8s,comp=Z,3μm
NACB Ninganchiao 80.68 306 *e*P **P 09 03 37.6 -1.2**
comp=Z,54nm,1.0s
SSLB Suanglung 80.88 305 *e*P **P 09 03 39.0 -1.0**
comp=Z,23nm,0.9s
JNU Nakatsue 80.99 318 P **P 09 03 39.9 -0.4**
comp=Z,53nm,0.9s,baz=95,slow=3.0,SNR=21
JNU Nakatsue 80.99 318 *e*P **P 09 03 39.6 -0.7**
comp=Z,118nm,1.1s
PLCA Paso Flores 81.11 133 P **P 09 03 41.6 +0.5**
comp=Z,17nm,0.9s,baz=242,slow=5.7,SNR=25
YHNB Yeheng 81.16 306 PFAKE 09 03 50.0 +8.5
YHNB LR LR
comp=Z,728nm,20.0s
TATO Taipei 81.28 306 PFAKE 09 03 50.0 +8.0
TATO LR LR
comp=Z,988nm,19.0s
EFI East Falkland 81.32 147 PFAKE 09 03 50.0 +8.1
EFI LR LR
comp=Z,2μm,21.0s
MYKOM Kota Tinggi 81.55 277 *e*P **P 09 03 43.3 -0.5**
comp=Z,105nm,1.9s
ERM Erimo 81.94 331 *e*P **P 09 03 45.7 +0.6**
comp=Z,510nm,2.0s
ERM LR LR
comp=Z,1μm,19.0s
ERM Erimo 81.94 331 *de*P **P 09 03 47.0 +2.0**
ERM pmax pmax
comp=Z,132nm,1.2s
PDSI Padang 83.00 273 P **P 09 03 51.7 +0.3**
comp=Z,25nm,1.4s,comp=Z,13μm
GO05 HualaæØ 83.42 127 *e*P **P 09 03 53.5 +0.1**
comp=Z,161nm,1.9s
ASAJ Asahikawa 83.92 332 P **P 09 03 55.9 +0.7**
comp=Z,44nm,0.8s,baz=227,slow=7.8,SNR=58
ASAJ Asahikawa 83.92 332 *e*P **P 09 03 56.8 +1.5**
comp=Z,55nm,0.9s
SNCC San Nicolas Is 84.46 45 P **P 09 03 59.0 +0.7**
baz=226
LPIG La Paz 84.64 58 LR LR 09 35 00.3
comp=Z,1μm,19.2s,baz=82,slow=31
MNSI Mandailing Nat 84.65 274 P **P 09 03 58.6 -1.2**
comp=Z,28nm,1.1s
SLBS Sierra La Lagu 84.65 58 *e*P **P 09 03 59.9 +0.2**
comp=Z,161nm,1.5s
SCI2 San Clemente I 84.87 46 P **P 09 04 00.8 +0.4**
baz=227

SCZ2 Santa Cruz Isl 84.91 45 P P 09 04 01.4 +0.8
baz=226
SBC Santa Barbara 85.17 44 P P 09 04 02.9 +1.1
baz=226
CIS Catalina Islan 85.24 46 P P 09 04 02.5 +0.2
baz=227
BLG Laguna Peak, P 85.33 45 P P 09 04 03.2 +0.5
baz=226
PEL Peldehue 85.33 126 *e*P P 09 04 02.9 -0.1
comp=Z,90nm,1.0s
PEL Peldehue 85.33 126 *e*P P 09 04 02.9 -0.1
PEL pmax pmax
comp=Z,90nm,1.0s
TJN Taejon 85.34 318 *de*P P 09 04 02.8 +0.2
IPM Ipoh 85.36 278 *e*P P 09 04 02.6 -0.8
comp=Z,22nm,1.0s
SKR Severo-Kuril's 85.36 343 *e*P P 09 04 01.1 -1.3
SKR pmax pmax
comp=Z,65nm,1.8s
PKM Mcpherson Peak 85.42 44 P P 09 04 04.3 +0.9
baz=226
FMP Fort Macarthur 85.53 46 P P 09 04 04.3 +0.7
baz=227
SMMC Simmler 85.61 44 P P 09 04 05.1 +1.0
baz=226
109C Camp Elliot, M 85.70 47 P P 09 04 05.0 +0.4
baz=228
PAGB Antelope Grade 85.75 43 *e*P P 09 04 05.4 +0.6
comp=Z,159nm,1.7s
PMPB Monarch Peak 85.77 42 *e*P P 09 04 05.0 +0.1
comp=Z,120nm,1.7s
SAO San Andreas Ge 85.78 42 *e*P P 09 04 03.6 -1.3
comp=Z,42nm,1.4s
SAO San Andreas Ge 85.78 42 *e*P P 09 04 06.0 +1.1
SAO pmax pmax
comp=Z,42nm,1.4s
KSRS Korea Array 85.79 319 P P 09 04 05.9 +1.0
comp=Z,30nm,0.9s,baz=141,slow=5.7,SNR=77
KS15 Wonju Array Si 85.80 319 *e*P P 09 04 04.9 0.0
KSAR Wonju Array Be 85.80 319 P P 09 04 05.9 +1.0
KSAR Wonju Array Be 85.80 319 P P 09 04 05.9 +1.0
KS01 Wonju Array Si 85.82 319 *e*P P 09 04 05.3 +0.3
BAR Barrett 85.83 47 *e*P P 09 04 05.5 +0.2
comp=Z,46nm,1.5s
DECC Green Verdugo 85.87 45 P P 09 04 05.6 +0.2
baz=227
OSI Osito Audit: C 85.88 45 P P 09 04 06.4 +1.0
baz=226
OSI Osito Audit: C 85.88 45 *e*P P 09 04 06.4 +1.0
comp=Z,16nm,0.7s
PASC Pasadena Art C 85.90 45 *e*P P 09 04 05.8 +0.2
comp=Z,67nm,1.6s
MWC Mount Wilson 86.02 45 *e*P P 09 04 06.6 +0.3
comp=Z,39nm,1.3s
MWC Mount Wilson 86.02 45 *e*P P 09 04 07.2 +0.9
MWC pmax pmax
comp=Z,39nm,1.3s
RDG13 Poverty Ridge 86.09 41 *e*P P 09 04 06.3 -0.1
comp=Z,237nm,1.9s
MURC Murrieta 86.12 46 P P 09 04 07.5 +0.8
baz=228,SNR=13
MONP2 Monument Peak 86.13 47 P P 09 04 07.8 +0.8
baz=228,SNR=13
ARVC Arvin 86.17 44 P P 09 04 07.4 +0.6
baz=226,SNR=5.1
IKP In-Ko-Pah, Jac 86.17 48 P P 09 04 08.0 +1.0
baz=228,SNR=9.1
QIZ Qiongzhong 86.17 295 PFAKE 09 04 20.0 +13
QIZ LR LR
comp=Z,570nm,20.0s
YSS Yuzh-Sakhalins 86.22 334 *e*P P 09 04 07.9 +1.1
comp=Z,153nm,1.0s
YSS LR LR
comp=Z,845nm,20.0s
YSS Yuzh-Sakhalins 86.22 334 *k i*P P 09 04 08.3 +1.6
YSS *e* 09 04 19.3
YSS pmax pmax
comp=Z,120nm,1.1s
YSS pmax pmax
comp=Z,1μm,5.0s
YSS MLR MLR
comp=Z,800nm,19.0s
PSI Prapat 86.25 276 P P 09 04 05.6 -2.3
comp=Z,13nm,0.8s,baz=161,slow=5.0,SNR=27
PSI PP PP 09 07 29.8 +0.9
comp=Z,2.6nm,0.4s,baz=144,slow=9.6,SNR=4.3
PSI LR LR 09 42 50.4
comp=Z,770nm,21.1s,baz=322,slow=36
PSI Prapat 86.25 276 *e*P P 09 04 05.9 -2.0
comp=Z,55nm,1.2s
PSI PP PP 09 07 29.8 +0.9
PSI Prapat 86.25 276 *e*P P 09 04 05.9 -2.0
PSI 09 07 29.8
PSI pmax pmax
comp=Z,55nm,1.2s
BFSC Mount Baldy Ra 86.27 46 P P 09 04 08.0 +0.4
baz=227,SNR=16
HOPS Hopland Field 86.47 39 *e*P P 09 04 09.1 +0.8
comp=Z,98nm,1.4s
GDXM Geysers 86.49 40 *e*P P 09 04 10.0 +1.6
comp=Z,46nm,1.2s
EDW2 Edwards Air Fo 86.50 45 P P 09 04 09.2 +0.6
baz=227,SNR=19
VES Vestal, Richgr 86.51 44 P P 09 04 09.0 +0.5
baz=226,SNR=30
INCN Inchon 86.53 319 PFAKE 09 04 20.0 +11
INCN LR LR
comp=Z,2μm,22.0s
INCN Inchon 86.53 319 PcP P 09 04 11.8 +3.2
SNR=5.1
INCN Inchon 86.53 319 P P 09 04 11.8 +3.2
SNR=5.1
SWSC Sam W. Stewart 86.56 48 P P 09 04 09.7 +0.9
baz=228,SNR=7.5
PFO Pinyon Flats O 86.59 47 P P 09 04 10.0 +0.9
baz=228,SNR=17
PFO Pinyon Flats O 86.59 47 *e*P P 09 04 09.6 +0.6
comp=Z,38nm,1.2s
PFO LR LR
comp=Z,2μm,19.0s
PFO Pinyon Flats O 86.59 47 *e*P P 09 04 09.7 +0.6
PFO pmax pmax
comp=Z,38nm,1.2s
XPFO Pīæon Flat 86.59 47 *e*P P 09 04 09.7 +0.6
comp=Z,40nm,1.2s
GSI Gunungsitoli 86.62 274 P P 09 04 10.4 +0.8
comp=Z,140nm,1.1s
GSI Gunungsitoli 86.62 274 *e*P P 09 04 09.8 +0.2
comp=Z,194nm,1.2s
RCTC Rector, Farmer 86.73 43 P P 09 04 09.5 0.0
baz=226
BBRC Big Bear Solar 86.74 46 P P 09 04 10.8 +0.9
baz=228
ISA Isabella, Lake 86.75 44 P P 09 04 10.7 +1.0
baz=227,SNR=27
ISA Isabella, Lake 86.75 44 *e*P P 09 04 10.5 +0.8
comp=Z,96nm,1.4s
ISA Isabella, Lake 86.75 44 *e*P P 09 04 10.5 +0.8
ISA pmax pmax
comp=Z,96nm,1.4s
PET Petropavlovsk 86.97 346 *e*P P 09 04 09.8 -0.4
comp=Z,156nm,1.7s
PET LR LR
comp=Z,2μm,22.0s
PET Petropavlovsk 86.97 346 *e*P P 09 04 09.8 -0.4
PET *e*S S 09 14 46.6 -1.2
PET pmax pmax
comp=Z,43nm,1.0s
KMRM Mail Ridge 87.03 38 *e*P P 09 04 10.9 -0.1
comp=Z,77nm,1.3s
LRMC Laurel Mtn Rad 87.09 45 P P 09 04 12.4 +0.8
baz=227,SNR=14
RRX Edison Barstow 87.10 46 P P 09 04 12.1 +0.6
baz=228
SKLT Songkhla 87.13 280 P P 09 04 11.7 -0.3
comp=Z,44nm,1.1s
BELC Belle Mtn. Jos 87.13 47 P P 09 04 12.7 +0.9
baz=228,SNR=20
TEY Ternei 87.17 329 *e*P P 09 04 10.0 -1.4
TEY pmax pmax
comp=Z,1μm,4.0s
TEY pmax pmax
comp=Z,61nm,1.1s
HSIG 87.23 53 *e*P P 09 04 12.6 +0.4
BC3 Big Chuckawall 87.24 47 P P 09 04 13.5 +1.2
baz=228,SNR=28
GLA Glamis 87.24 48 P P 09 04 13.5 +1.2
baz=229,SNR=7.5
GLA Glamis 87.24 48 *e*P P 09 04 12.2 0.0
comp=Z,36nm,1.0s
GLA Glamis 87.24 48 *e*P P 09 04 13.4 +1.2
GLA pmax pmax
comp=Z,36nm,1.0s
PEA0B Petropavlovsk- 87.25 345 *e*P P 09 04 12.3 +0.6
comp=Z,259nm,1.4s
PETK Petropavlovsk- 87.25 345 P P 09 04 12.1 +0.4
comp=Z,52nm,0.9s,baz=116,slow=6.9,SNR=59
PETK Petropavlovsk- 87.25 345 *e*P P 09 04 11.7 0.0
CMB Columbia Colle 87.28 41 *e*P P 09 04 11.6 -0.6
comp=Z,80nm,1.5s
CMB Columbia Colle 87.28 41 *e*P P 09 04 12.7 +0.5
CMB pmax pmax
comp=Z,80nm,1.5s
HEC Hector,Ludlow 87.47 46 P P 09 04 14.1 +0.8
baz=228,SNR=9.7
KHMM Horse Mountain 87.49 38 *e*P P 09 04 13.7 +0.4
comp=Z,36nm,1.2s
GSC Goldstone, Bar 87.50 45 P P 09 04 14.2 +0.8
baz=228,SNR=22
GSC Goldstone, Bar 87.50 45 *e*P P 09 04 14.2 +0.8
comp=Z,136nm,1.7s
GSC Goldstone, Bar 87.50 45 *e*P P 09 04 14.2 +0.8
GSC pmax pmax
comp=Z,140nm,1.7s
CWC Cottonwood Cre 87.51 44 P P 09 04 14.0 +0.5
baz=227
AFDM Forest Hills D 87.59 40 *e*P P 09 04 13.6 -0.1
comp=Z,45nm,1.3s
MPMC Manual Prospec 87.60 44 P P 09 04 14.9 +0.8
baz=227,SNR=33
NJ2 Nanjing 87.62 310 *e*P P 09 04 15.0 +1.1
NJ2 pmax pmax
comp=Z,58nm,0.7s
LCO Las Campanas 87.68 123 *e*P P 09 04 14.6 -0.3
comp=Z,46nm,1.2s
LCO LR LR
comp=Z,2μm,20.0s
DAC Darwin (Calif) 87.69 44 *e*P P 09 04 14.6 +0.2
comp=Z,20nm,1.2s
DAC Darwin (Calif) 87.69 44 *e*P P 09 04 14.9 +0.5
DAC pmax pmax
comp=Z,20nm,1.2s
ORV Oroville 87.73 40 *e*P P 09 04 14.0 -0.3
comp=Z,117nm,2.0s
ORV Oroville 87.73 40 *e*P P 09 04 14.5 +0.2
ORV pmax pmax
comp=Z,120nm,2.0s
113A Mohawk Valley, 87.74 49 *e*P P 09 04 15.2 +0.6
comp=Z,40nm,1.4s
MDPB Devils Postpil 87.74 42 *e*P P 09 04 15.8 +1.1
comp=Z,91nm,1.8s
IRM Iron Mountain 87.77 47 P P 09 04 16.1 +1.4
baz=229,SNR=39
MSHR Mys Shultsa 87.82 325 *ce*P P 09 04 16.3 +1.7
214A Organ Pipe Nat 87.84 50 P P 09 04 16.1 +1.1
baz=230
214A Organ Pipe Nat 87.84 50 *e*P P 09 04 15.7 +0.7
comp=Z,275nm,1.6s
TIN Tinemaha, Big 87.84 43 P P 09 04 15.8 +0.8
baz=227
GMRC Granite Mounta 87.86 46 P P 09 04 16.3 +1.1
baz=228,SNR=20
VLA Vladivostok 87.87 325 *d i*P P 09 04 15.8 +1.0
VLA pmax pmax
comp=Z,140nm,2.0s
MLAC Mammoth, Mammo 87.88 43 P P 09 04 16.2 +0.8
baz=226,SNR=13
HOPE Hope Point 87.88 158 *e*P P 09 04 15.6 +0.6
comp=Z,130nm,1.5s
HOPE LR LR
comp=Z,1μm,21.0s
Y12C Blythe 87.89 48 P P 09 04 16.4 +1.1
baz=229,SNR=6.4
Y12C Blythe 87.89 48 *e*P P 09 04 15.5 +0.3
comp=Z,52nm,1.4s
WDC Whiskeytown Da 87.90 38 *e*P P 09 04 15.8 +0.7
comp=Z,162nm,1.8s
WDC Whiskeytown Da 87.90 38 *e*P P 09 04 15.8 +0.7
WDC pmax pmax
comp=Z,160nm,1.8s
TPTI 87.97 275 P P 09 04 16.6 +0.5
comp=Z,68nm,1.3s
TRQA Tornquist 88.03 134 *e*P P 09 04 16.4 +0.3
comp=Z,68nm,1.6s
TRQA LR LR
comp=Z,2μm,19.0s
O03D Paynes Creek 88.09 39 P P 09 04 16.3 +0.2
baz=224,SNR=20
N02D Trinity Center 88.10 38 P P 09 04 17.1 +1.0
baz=224,SNR=13
RUBR Rubicon Trail 88.12 41 *e*P P 09 04 16.6 +0.2
comp=Z,194nm,1.9s
TUQ Turquoise Moun 88.13 46 P P 09 04 17.5 +1.0
baz=228,SNR=13
WAKR Walker 88.14 42 *e*P P 09 04 17.3 +0.8
comp=Z,130nm,1.5s
SHOC Shoshone, Teco 88.22 45 P P 09 04 17.7 +0.9
baz=228,SNR=23
FURC Furnace Creek, 88.25 44 P P 09 04 17.7 +0.8
baz=228,SNR=12
TRTT Trang 88.26 280 P P 09 04 16.7 -0.8
comp=Z,18nm,1.4s
GRAC Grapevine Rang 88.31 44 P P 09 04 18.3 +1.1
baz=227,SNR=19
M02C Callahan 88.32 38 P P 09 04 18.3 +1.1
baz=224,SNR=12
LDFC Landfair 88.39 46 *e*P P 09 04 18.5 +0.8
comp=Z,288nm,1.6s
L02D Cave Junction, 88.49 37 P P 09 04 18.6 +0.8
baz=223
PDMCI Parker Dam,Lak 88.49 48 P P 09 04 19.3 +1.2
baz=229,SNR=20
NEE2 Needles Airpor 88.50 47 P P 09 04 19.2 +1.2
baz=229,SNR=5.8
VCNR Virginia City 88.57 41 *e*P P 09 04 18.7 +0.2
comp=Z,83nm,1.6s
YERR Yerington 88.58 41 *e*P P 09 04 18.7 +0.1
comp=Z,93nm,1.6s
USRK Ussuriysk Ar. 88.63 326 P P 09 04 19.5 +1.1
comp=Z,40nm,0.8s,baz=138,slow=3.6,SNR=76
YBH Yreka Blue Hor 88.64 38 P P 09 04 19.2 +0.5
comp=Z,11nm,1.1s,baz=167,slow=0.3,SNR=14
YBH Yreka Blue Hor 88.64 38 *e*P P 09 04 19.0 +0.3
comp=Z,37nm,1.3s
YBH Yreka Blue Hor 88.64 38 *e*P P 09 04 19.8 +1.1
YBH pmax pmax
comp=Z,37nm,1.3s
NV01 Mina Array Sit 88.73 42 *e*P P 09 04 19.2 -0.2
NVAR Mina Array Bea 88.73 42 P P 09 04 19.9 +0.5
comp=Z,20nm,1.1s,baz=219,slow=7.2,SNR=66
NVAR PKPPKP P'P'df 09 30 14.9 +11
comp=Z,0.3nm,0.7s,baz=64,slow=4.1,SNR=4.2
RYN Ryan 88.74 42 *e*P P 09 04 19.6 +0.2
comp=Z,79nm,1.6s
NV11 Mina Array Sit 88.82 42 *e*P P 09 04 19.8 0.0
comp=Z,4.7nm,1.4s
TPNV Topopah Spring 88.94 44 P P 09 04 21.3 +0.9
baz=228,SNR=27
TPNV Topopah Spring 88.94 44 *e*P P 09 04 20.1 -0.2
comp=Z,82nm,1.5s
TPNV Topopah Spring 88.94 44 *e*P P 09 04 21.2 +0.9
TPNV pmax pmax
comp=Z,83nm,1.5s
PAHR Pah Rah Range 89.00 41 *e*P P 09 04 20.4 -0.1
comp=Z,77nm,1.6s
CHGN Chignik 89.11 10 *e*P P 09 04 21.1 +0.8
comp=Z,112nm,1.2s
M04C Macdoel 89.13 38 P P 09 04 21.4 +0.4
baz=224,SNR=11
HUMO Hull Mountain 89.14 37 *e*P P 09 04 21.5 +0.5
comp=Z,86nm,1.5s
MLSI Meulaboh, Aceh 89.16 275 P P 09 04 21.4 -0.3
comp=Z,87nm,0.7s,comp=Z,3μm
W13A Hualapai Mount 89.17 47 *e*P P 09 04 22.3 +0.8
comp=Z,42nm,1.3s
SHPR Sheep Range 89.30 45 *e*P P 09 04 23.2 +1.2
comp=Z,68nm,1.4s
TUC Tucson 89.39 51 P P 09 04 23.6 +1.2
baz=231
TUC Tucson 89.39 51 *e*P P 09 04 23.5 +1.0
comp=Z,123nm,1.8s
TUC LR LR
comp=Z,4μm,21.0s
TUC Tucson 89.39 51 *e*P P 09 04 23.8 +1.3
TUC pmax pmax
comp=Z,120nm,1.7s
PKDT Phuket 89.43 280 P P 09 04 23.1 +0.2
comp=Z,20nm,1.1s
TYV Tymovskoe 89.53 336 *e*P P 09 04 23.6 +1.1
TYV pmax pmax
comp=Z,134nm,1.3s
TYV pmax pmax
comp=Z,900nm,4.6s
ZAIG Zacatecas 89.58 63 *e*P P 09 04 24.7 +0.9
SKNT Sakolnakorn 89.64 290 P P 09 04 23.5 -0.3
comp=Z,51nm,1.1s
WHN Wuhan 89.68 307 ⇓P P 09 04 24.3 +0.6
HPIG 89.69 58 *e*P P 09 04 24.3 +0.1
comp=Z,60nm,1.6s
I03D Drain, OR 89.73 36 P P 09 04 24.5 +0.9
baz=223
K04D Chiloquin, OR 89.78 37 P P 09 04 24.6 +0.5
baz=224
319A Douglas 89.82 52 *e*P P 09 04 24.6 0.0
comp=Z,32nm,1.1s
MOD Modoc Plateau 90.03 39 *e*P P 09 04 24.8 -0.5
comp=Z,54nm,1.4s
J04D Umpqua Nationa 90.03 37 P P 09 04 26.1 +0.7
baz=224,SNR=8.3
JRQG Juriquilla Cam 90.05 66 *e*P P 09 04 26.6 +0.6
comp=Z,179nm,1.4s
MDJ Mudanjiang 90.09 325 P P 09 04 24.4 -0.9
MDJ pmax pmax
comp=Z,140nm,1.4s
MDJ Mudanjiang 90.09 325 *e*P P 09 04 26.1 +0.8
comp=Z,177nm,1.2s
MDJ LR LR
comp=Z,2μm,21.0s
R11A Troy Canyon, C 90.26 44 P P 09 04 26.7 +0.3
baz=228,SNR=8.5
R11A Troy Canyon, C 90.26 44 *e*P P 09 04 26.8 +0.3
comp=Z,16nm,1.4s
I04A Tendick Farm, 90.27 36 P P 09 04 26.7 +0.4
baz=224
X16A Lo Mia Camp, P 90.28 49 *e*P P 09 04 28.1 +1.4
K05A Summer Lake 90.29 38 *e*P P 09 04 26.8 +0.2
comp=Z,115nm,1.3s
DL2 Dalian 90.38 317 ⇓*i*P P 09 04 27.8 +1.0
DL2 *e*S S 09 15 21.9 +1.2
DL2 pmax pmax
comp=Z,99nm,1.0s
DL2 pmax pmax
comp=Z,730nm,5.5s
DL2 LR LR
comp=Z,900nm,23.6s
DL2 LR LR
comp=Z,700nm,21.9s
DL2 LR LR
comp=Z,2μm,19.8s
J05D Fort Rock, OR 90.51 37 P P 09 04 28.2 +0.7
baz=225
CHAI Chaiyaphum 90.66 288 P P 09 04 29.2 +0.6
comp=Z,22nm,0.9s,comp=Z,193nm
BMN Battle Mountai 90.71 41 *e*P P 09 04 28.3 -0.2
comp=Z,62nm,1.4s
BMN Battle Mountai 90.71 41 *e*P P 09 04 29.0 +0.5
BMN pmax pmax
comp=Z,62nm,1.4s
BSI Banda Aceh 90.74 276 P P 09 04 28.2 -0.9
comp=Z,57nm,1.2s
LCMT Little Creek M 90.80 46 *e*P P 09 04 29.6 +0.6
comp=Z,38nm,1.3s
G03D McMinnville, O 90.87 35 P P 09 04 30.1 +1.2
baz=223
PHET Kaeng Krachan 91.00 284 P P 09 04 31.8 +1.6
comp=Z,17nm,1.1s,comp=Z,183nm
U15A North Rim 91.01 47 *e*P P 09 04 31.4 +1.2
comp=Z,56nm,1.1s
WUAZ Wupatki 91.02 48 P P 09 04 31.2 +1.1
baz=231
WUAZ Wupatki 91.02 48 *e*P P 09 04 31.3 +1.1
comp=Z,46nm,1.1s
WUAZ LR LR
comp=Z,3μm,20.0s
PINE Pine Mountain 91.02 37 *e*P P 09 04 30.1 +0.1
comp=Z,82nm,1.2s
H04A Detroit Lake 91.02 36 *e*P P 09 04 29.5 -0.2
comp=Z,83nm,1.4s
KNB Kanab 91.06 46 *e*P P 09 04 30.7 +0.5
comp=Z,84nm,1.4s
KNB Kanab 91.06 46 *e*P P 09 04 31.5 +1.2
KNB pmax pmax
comp=Z,84nm,1.3s
CCUT Cedar City 91.07 46 *e*P P 09 04 31.3 +0.9
comp=Z,60nm,1.6s
I05D Terrebonne, OR 91.20 36 P P 09 04 31.2 +0.6
baz=225
SNY Shenyang 91.24 320 ⇓P P 09 04 31.3 +0.6
SNY pmax pmax
comp=Z,66nm,1.0s
SZCU Shurtz Canyon 91.27 46 *e*P P 09 04 32.2 +0.9
comp=Z,81nm,1.7s
WVOR Wild Horse Val 91.29 39 *e*P P 09 04 31.7 +0.6
comp=Z,61nm,1.4s
WVOR LR LR
comp=Z,4μm,21.0s
WVOR Wild Horse Val 91.29 39 *e*P P 09 04 31.9 +0.8
WVOR pmax pmax
comp=Z,61nm,1.4s
X18A Snowflake 91.31 50 *e*P P 09 04 31.8 +0.2
comp=Z,44nm,1.3s
TIA Tai'an 91.36 313 P P 09 04 32.6 +1.1
TIA pmax pmax
comp=Z,140nm,1.1s
TIA pmax pmax
comp=Z,500nm,6.0s
TIA LR LR
comp=Z,230nm,14.7s
TIA LR LR
comp=Z,530nm,21.3s
TIA LR LR
comp=Z,510nm,20.3s
KDAK Kodiak Island 91.52 13 P P 09 04 32.6 +1.1
comp=Z,4.7nm,0.6s,baz=225,slow=9.7,SNR=2.6
KDAK Kodiak Island 91.52 13 P P 09 04 32.6 +1.1
KDAK LR LR
comp=Z,2μm,21.0s
KDAK Kodiak Island 91.52 13 P P 09 04 32.6 +1.1
KDAK MLR MLR
comp=Z,2μm,21.0s
121A Cookes Peak, D 91.53 52 P P 09 04 33.5 +1.0
baz=233
CN2 Changchun 91.60 322 *e*P P 09 04 32.8 +0.5
CN2 *es*P sP 09 04 39.8 +0.5
CN2 *e*S S 09 15 30.6 -1.1
CN2 pmax pmax
comp=Z,110nm,1.0s
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=Z,230nm,19.0s
CN2 LR LR
comp=Z,780nm,19.0s
F04D Rainier, OR 91.63 34 P P 09 04 33.9 +1.5
baz=224
PKCU Pink Cliffs 91.64 46 *e*P P 09 04 34.4 +1.3
comp=Z,22nm,1.2s
E03A Lebam 91.70 34 *e*P P 09 04 33.8 +1.1
comp=Z,144nm,1.4s
W18A Petrified Fore 91.81 49 P P 09 04 34.5 +0.7
baz=232
W18A Petrified Fore 91.81 49 *e*P P 09 04 34.4 +0.6
comp=Z,58nm,1.4s
PBKT Sadao Pong 91.84 288 P P 09 04 34.3 +0.2
comp=Z,39nm,1.4s
G05D Wamic, OR 91.86 36 P P 09 04 34.2 +0.7
baz=225
EPT El Paso 91.95 54 *e*P P 09 04 34.4 -0.1
comp=Z,40nm,1.5s
I07A Izee 91.97 38 *e*P P 09 04 34.0 -0.2
comp=Z,26nm,1.2s
J08A Circle Bar Ran 92.01 39 *e*P P 09 04 34.8 +0.4
comp=Z,47nm,1.2s
ELK Elko 92.04 42 P P 09 04 36.0 +1.2
comp=Z,7.0nm,0.9s,baz=268,slow=6.0,SNR=16
ELK Elko 92.04 42 P P 09 04 36.0 +1.2
MTPU Mount Pierson 92.10 46 *e*P P 09 04 36.3 +1.0
comp=Z,37nm,1.2s
NLWA Neilton Lookou 92.17 33 PFAKE 09 04 50.0 +15
NLWA LR LR
comp=Z,6μm,19.0s
SRDT SRDT 92.17 285 P P 09 04 36.0 +0.3

comp=Z,40nm,1.6s
G06A Carlson Farm, 92.19 36 *e*P P 09 04 35.2 0.0
comp=Z,48nm,1.1s
NNA Nana 92.40 106 PFAKE 09 04 50.0 +13
NNA LR LR
comp=Z,1μm,19.0s
MSU Marysvale 92.40 45 *e*P P 09 04 37.8 +1.3
MSU Marysvale 92.40 45 *e*P P 09 04 37.8 +1.3
CMIG Matias Romero 92.50 72 P P 09 04 38.4 +1.3
comp=Z,11nm,1.0s,baz=235,slow=4.9,SNR=15
KLR Kul'dur 92.51 329 P P 09 04 37.4 +1.0
comp=Z,1.9nm,1.0s,baz=121,slow=3.1,SNR=55
KLR PKKP **PKKPbc** 09 21 51.0 0.0
comp=Z,0.0nm,0.4s,baz=326,slow=2.8,SNR=4.5
KLR Kul'dur 92.51 329*d i*P P 09 04 37.2 +0.8
TXAR Lajitas Array 92.52 57 P P 09 04 37.4 +0.3
comp=Z,8.6nm,1.1s,baz=208,slow=5.1,SNR=38
TXAR LR LR 09 37 01.9
comp=Z,1μm,22.0s,baz=0.0,slow=30
PHIT Phitsanulok 92.62 288 P P 09 04 39.0 +1.3
comp=Z,20nm,0.9s,comp=Z,399nm
MNTX Cornudas Mount 92.68 54 P P 09 04 38.0 +0.4
baz=234
MNTX Cornudas Mount 92.68 54 *e*P P 09 04 37.0 -0.6
comp=Z,14nm,1.2s
MNTX LR LR
comp=Z,3μm,20.0s
LON Longmire 92.68 35 *e*P P 09 04 37.4 0.0
comp=Z,64nm,1.8s
LON Longmire 92.68 35 *e*P P 09 04 37.9 +0.5
LON pmax pmax
comp=Z,65nm,1.8s
GYA Guiyang 92.80 299⇑ *i*P P 09 04 38.8 +0.3
GYA PP **PP** 09 08 24.0 +2.9
GYA SKS **SKSac** 09 15 12.1 +0.1
GYA S **S** 09 15 42.8 -0.7
GYA SS **SS** 09 22 00.8 +3.4
GYA pmax pmax
comp=Z,30nm,1.0s
GYA pmax pmax
comp=Z,140nm,6.3s
GYA LR LR
comp=Z,840nm,19.6s
GYA LR LR
comp=Z,670nm,20.0s
GYA LR LR
comp=Z,620nm,20.2s
ENH Enshi 92.91 304 *e*P P 09 04 39.6 +0.8
comp=Z,190nm,1.1s
ENH LR LR
comp=Z,1μm,22.0s
D05A Enumclaw 92.91 34 *e*P P 09 04 38.0 -0.3
comp=Z,151nm,1.5s
F07A Phinny Hill Vi 93.01 36 *e*P P 09 04 39.8 +1.0
comp=Z,133nm,1.9s
Y22D IRIS PASSCAL I 93.03 51 P P 09 04 40.2 +0.8
baz=233
Y22E IRIS PASSCAL I 93.03 51 P P 09 04 40.2 +0.8
baz=233
G08A Pilot Rock 93.08 37 *e*P P 09 04 39.6 +0.3
comp=Z,53nm,1.2s
LAZ Ladron 93.08 51 *e*P P 09 04 40.4 +0.7
DUG Dugway, Tooele 93.09 44 P P 09 04 39.6 +0.1
baz=230
DUG Dugway, Tooele 93.09 44 *e*P P 09 04 40.1 +0.6
comp=Z,17nm,1.5s
DUG LR LR
comp=Z,4μm,21.0s
DUG Dugway, Tooele 93.09 44 *e*P P 09 04 40.1 +0.6
DUG pmax pmax
comp=Z,17nm,1.5s
Q16A Castle Valley 93.27 46 *e*P P 09 04 40.0 -0.5
comp=Z,19nm,1.5s
BNM Barren Site 93.27 52 *e*P P 09 04 41.2 +0.5
LPM Los Pinos Moun 93.37 51 *e*P P 09 04 41.6 +0.6
NLU North Lily Min 93.38 44 *e*P P 09 04 41.3 +0.3
comp=Z,44nm,2.0s
BGU Big Grassy Mou 93.43 43 *e*P P 09 04 41.2 +0.1
comp=Z,18nm,1.5s
MFID Camas Ranch 93.47 40 *e*P P 09 04 41.4 +0.2
comp=Z,28nm,1.0s
TMUT Trail Mountain 93.48 45 *e*P P 09 04 42.5 +0.9
comp=Z,18nm,1.1s
HAWA Hanford 93.55 36 *e*P P 09 04 41.3 0.0
comp=Z,40nm,1.2s
HAWA LR LR
comp=Z,4μm,19.0s
B05A Bryant 93.63 33 P P 09 04 42.0 +0.4
baz=224
BMO Blue Mountains 93.64 38 *e*P P 09 04 41.6 -0.3
comp=Z,97nm,2.0s
BMO LR LR
comp=Z,5μm,20.0s
BMO Blue Mountains 93.64 38 *e*P P 09 04 42.2 +0.3
BMO pmax pmax
comp=Z,97nm,2.0s
A04D Lummi Island 93.67 33 P P 09 04 42.4 +0.6
baz=224
MPU Maple Canyon 93.68 44 *e*P P 09 04 42.5 +0.2
comp=Z,7.1nm,1.1s
SRU San Rafael Swe 93.78 46 *e*P P 09 04 42.9 0.0
comp=Z,18nm,1.1s
SRU San Rafael Swe 93.78 46 *e*P P 09 04 43.5 +0.7
SRU pmax pmax
comp=Z,18nm,1.1s
PB11 IPOC Station P 93.79 116 *e*P P 09 04 43.8 +0.4
comp=Z,45nm,1.0s
ANMO Albuquerque 93.86 51 P P 09 04 43.4 +0.1
comp=Z,4.7nm,0.9s,baz=272,slow=5.9,SNR=23
ANMO Albuquerque 93.86 51 P P 09 04 43.4 +0.1
baz=234
ANMO Albuquerque 93.86 51 *e*P P 09 04 43.5 +0.2
comp=Z,9.7nm,1.1s
ANMO LR LR
comp=Z,2μm,19.0s
ANMO Albuquerque 93.86 51*d e*P P 09 04 43.6 +0.3
ANMO pmax pmax
comp=Z,11nm,1.1s
P17A Butcher Ranch, 93.88 45 *e*P P 09 04 43.2 -0.1
comp=Z,13nm,1.1s
MVCO Mesa Verde 93.88 48 P P 09 04 43.5 +0.1
baz=232
MVCO Mesa Verde 93.88 48 *e*P P 09 04 42.8 -0.6
comp=Z,20nm,1.5s
MVCO LR LR
comp=Z,2μm,21.0s
PV05 Paradox Valley 94.03 47 *e*P P 09 04 44.0 0.0
HVU Hansel Valley 94.12 43 *e*P P 09 04 44.2 -0.1
comp=Z,37nm,1.3s
HVU Hansel Valley 94.12 43 *e*P P 09 04 45.0 +0.7
HVU pmax pmax
comp=Z,37nm,1.3s
JLU Jordanelle 94.16 44 *e*P P 09 04 44.3 -0.3
comp=Z,22nm,1.6s
MNMC Minye Minye 94.20 115 *e*P P 09 04 44.7 -0.7
comp=Z,34nm,0.9s
PV09 Paradox Valley 94.27 47 *e*P P 09 04 45.9 +0.7
P18A Preston Nutter 94.27 45 *e*P P 09 04 44.5 -0.7
comp=Z,7.7nm,1.1s
D08A Wollman Farm, 94.31 36 *e*P P 09 04 45.7 +0.9
comp=Z,135nm,1.9s
BJT Baijiatuau 94.33 315 *e*P P 09 04 45.6 +0.6
comp=Z,240nm,2.0s
BJT LR LR
comp=Z,1μm,22.0s
BJT Baijiatuau 94.33 315 *e*P P 09 04 45.6 +0.6
BJT pmax pmax
comp=Z,240nm,2.0s
BJT MLR MLR
comp=Z,1μm,22.0s
E09A Wood Farm, Sta 94.33 36 *e*P P 09 04 44.7 -0.2
comp=Z,26nm,1.0s
BJI Beijing 94.34 315⇓ *e*P P 09 04 45.9 +0.9
BJI pmax pmax
comp=Z,57nm,1.5s
HLID Hailey 94.35 40 P P 09 04 45.9 +0.6
baz=229
HLID Hailey 94.35 40 *e*P P 09 04 45.0 -0.3
comp=Z,16nm,1.0s
HLID LR LR
comp=Z,5μm,20.0s
PV01 Paradox Valley 94.40 47 *e*P P 09 04 45.8 +0.1
F10A Beach Ranch, E 94.44 37 *e*P P 09 04 45.1 -0.4
comp=Z,26nm,1.0s
CM01 Chiang Mai Arr 94.45 289 *e*P P 09 04 46.7 +0.6
CMAR Chiang Mai Arr 94.48 289 P P 09 04 47.4 +1.1
comp=Z,3.6nm,0.8s,baz=149,slow=3.4,SNR=27
CMAR PKKP **PKKPbc** 09 21 44.9 +0.3
comp=Z,0.4nm,0.3s,baz=286,slow=4.5,SNR=6.1
TCUT Toone Canyon 94.50 44 *e*P P 09 04 46.9 +0.7
comp=Z,60nm,1.7s
CHTO Chiang Mai 94.67 289 P P 09 04 48.0 +0.9
comp=Z,92nm,1.2s
CHTO Chiang Mai 94.67 289 *e*P P 09 04 47.4 +0.3
comp=Z,36nm,1.6s
CHTO LR LR
comp=Z,511nm,20.0s
CHTO Chiang Mai 94.67 289 PcP P 09 04 48.3 +1.2
SNR=10.0
CHTO Chiang Mai 94.67 289 P P 09 04 48.3 +1.2
SNR=10.0
CHTO Chiang Mai 94.67 289 *e*P P 09 04 48.0 +0.9
CHTO pmax pmax
comp=Z,36nm,1.6s
HWUT Hardware Ranch 94.72 43 *e*P P 09 04 45.9 -1.2
comp=Z,6.6nm,1.1s
HWUT LR LR
comp=Z,4μm,19.0s
MA2 Magadan 94.73 344 P P 09 04 43.8 -2.6
comp=Z,5.9nm,0.8s,baz=175,slow=12,SNR=3.9
MA2 Magadan 94.73 344⇑ *e*P P 09 04 46.4 0.0
MA2 pmax pmax
comp=Z,10.0nm,0.9s
KMI Kunming 95.02 296 P P 09 04 49.9 +1.0
KMI pmax pmax
comp=Z,26nm,1.2s
KMI LR LR
comp=Z,390nm,22.5s
KMI LR LR
comp=Z,490nm,22.0s
KMI LR LR
comp=Z,770nm,22.0s
APG El Apazote 95.02 76 P P 09 04 48.3 -0.8
comp=Z,7.3nm,1.0s,baz=226,slow=11,SNR=5.2
APG LR LR 09 38 26.0
comp=Z,827nm,20.9s,baz=21,slow=30
833A Chaparral WMA, 95.05 60 P P 09 04 48.5 -0.1
baz=236
CMAI Chiengmai2 95.17 290 P P 09 04 51.0 +1.4
GAMB Gambell 95.26 2 *e*P P 09 04 49.2 +0.6
comp=Z,15nm,1.3s
S22A 4UR Ranch, Cre 95.27 49 P P 09 04 50.6 +0.8
baz=234
S22A 4UR Ranch, Cre 95.27 49 *e*P P 09 04 49.9 +0.1
comp=Z,28nm,1.8s
XAN Xi'an 95.45 307 P P 09 04 51.6 +1.2
XAN pP sP 09 04 57.4 0.0
XAN sP pP 09 05 00.4 +4.8
XAN pmax pmax
comp=Z,17nm,2.4s
XAN pmax pmax
comp=Z,500nm,5.5s
XAN LR LR
comp=Z,460nm,19.5s
XAN LR LR
comp=Z,730nm,21.7s
XAN LR LR
comp=Z,850nm,20.6s
WRAK Wrangell Islan 95.69 23 PFAKE 09 05 00.0 +9.2
WRAK LR LR
comp=Z,5μm,19.0s
AHID Auburn Hatcher 95.71 43 *e*P P 09 04 52.0 +0.4
comp=Z,33nm,1.4s
AHID LR LR
comp=Z,4μm,20.0s
KVTX Kingsville 95.75 61 PFAKE 09 05 00.0 +8.2
KVTX LR LR
comp=Z,3μm,19.0s
MSTX Muleshoe 95.78 54 P P 09 04 51.4 -0.5
baz=235
MSTX Muleshoe 95.78 54 *e*P P 09 04 51.7 -0.3
comp=Z,13nm,1.1s
O20A White River Ci 95.81 46 P P 09 04 51.7 -0.4
baz=233
JCT Junction City 95.93 58 P P 09 04 51.8 -0.9
baz=236
JCT Junction City 95.93 58 PFAKE 09 05 00.0 +7.3
JCT LR LR
comp=Z,2μm,21.0s
MCMT McKenzie Canyo 96.02 40 *e*P P 09 04 53.3 +0.3
SMCO Snowmass 96.02 47 *e*P P 09 04 53.9 +0.6
comp=Z,10nm,1.1s
NEW Newport 96.03 36 P P 09 04 54.2 +1.5
comp=Z,2.0nm,0.8s,baz=270,slow=6.1,SNR=2.8
NEW Newport 96.03 36 P P 09 04 52.9 +0.2
baz=228
NEW Newport 96.03 36 P P 09 04 54.2 +1.5
NEW LR LR
comp=Z,3μm,19.0s
NEW Newport 96.03 36 P P 09 04 54.2 +1.5
NEW MLR MLR
comp=Z,3μm,19.0s
SDCO Great Sand Dun 96.12 49 P P 09 04 53.6 -0.1
baz=234
SDCO Great Sand Dun 96.12 49 *e*P P 09 04 53.3 -0.4
comp=Z,17nm,1.9s
SDCO LR LR
comp=Z,3μm,19.0s
REDW Red Top Meadow 96.22 42 *e*P P 09 04 53.4 -0.6
comp=Z,27nm,1.4s
TPAW Teton Pass 96.25 42 *e*P P 09 04 53.7 -0.3
comp=Z,12nm,1.2s
FXWY Fox Creek 96.30 42 *e*P P 09 04 54.3 +0.1
comp=Z,8.0nm,1.0s
SNOW Snow King Moun 96.34 42 *e*P P 09 04 54.1 -0.4
comp=Z,12nm,0.9s
T25A Trinidad 96.48 50 P P 09 04 55.1 -0.1
baz=235
T25A Trinidad 96.48 50 *e*P P 09 04 54.5 -0.7
comp=Z,8.2nm,1.1s
DLMT Dillon 96.50 40 *e*P P 09 04 54.7 -0.3
comp=Z,19nm,1.3s
IMW Indian Meadow 96.50 42 *e*P P 09 04 55.1 -0.2
comp=Z,15nm,1.3s
LOHW Long Hollow 96.52 42 *e*P P 09 04 55.1 -0.1
comp=Z,36nm,1.9s
MOOW Moose Ponds 96.52 42 *e*P P 09 04 55.0 -0.3
comp=Z,11nm,1.4s
BW06 Boulder Array 96.61 43 P P 09 04 55.6 -0.1
baz=232
BW06 Boulder Array 96.61 43 PFAKE 09 05 10.0 +14
BW06 LR LR
comp=Z,3μm,20.0s
PD31 Pinedale Array 96.61 43 *e*P P 09 04 55.2 -0.5
PDAR Pinedale Array 96.61 43 P P 09 04 55.3 -0.4
comp=Z,2.7nm,0.9s,baz=206,slow=4.4,SNR=17
PDAR PP **PP** 09 08 48.9 -1.8
comp=Z,0.7nm,0.9s,baz=243,slow=6.5,SNR=4.5
PDAR PKKPbc **PKKPbc** 09 21 39.8 -0.4
comp=Z,0.4nm,0.7s,baz=90,slow=3.6,SNR=5.3
PDAR Pinedale Array 96.61 43 *e*P P 09 04 54.7 -1.0
PDAR PP **PP** 09 08 48.9 -1.8
PDAR PKKPbc **PKKPbc** 09 21 39.8 -0.4
MSO Missoula 96.71 38 P P 09 04 56.7 +0.8
baz=230
MSO Missoula 96.71 38 *e*P P 09 04 55.8 -0.1
comp=Z,6.2nm,1.2s
QLMT Earthquake Lak 96.81 41 *e*P P 09 04 57.5 +1.0
YPP Pitchstone Pla 96.81 42 *e*P P 09 04 55.6 -1.1
comp=Z,9.4nm,1.3s
YHB Horse Butte 96.89 41 *e*P P 09 04 56.3 -0.6
comp=Z,8.9nm,1.2s
YFT Old Faithful 96.91 41 *e*P P 09 04 58.2 +1.2
comp=Z,8.2nm,1.0s
YMR Madison River 96.97 41 *e*P P 09 04 57.3 0.0
comp=Z,21nm,1.2s
LPAZ La Paz 96.98 114 P P 09 04 58.5 -0.1
comp=Z,2.4nm,1.1s,baz=235,slow=4.4,SNR=6.1
LPAZ PKKP **PKKPdf** 09 21 40.9 +1.5
comp=Z,1.5nm,1.2s,baz=152,slow=3.5,SNR=3.6
LPAZ La Paz 96.98 114 *e*P P 09 04 59.2 +0.7
comp=Z,24nm,1.8s
LPAZ PKKP **PKKPdf** 09 21 40.9 +1.5
H17A Grant Village 97.02 42 P Pdif 09 04 58.7 +1.0
baz=232
H17A Grant Village 97.02 42 *e*P Pdif 09 04 57.6 0.0
comp=Z,7.1nm,1.0s
YHH Holmes Hill 97.11 41 *e*P Pdif 09 04 59.2 +1.1
comp=Z,20nm,1.3s
BOZ Bozeman (W) 97.17 40 P Pdif 09 04 58.4 +0.3
baz=231
BOZ Bozeman (W) 97.17 40 *e*P Pdif 09 04 58.4 +0.2
comp=Z,27nm,1.4s
BOZ LR LR
comp=Z,4μm,20.0s
BOZ Bozeman (W) 97.17 40 *e*P Pdif 09 04 58.4 +0.2
BOZ pmax pmax
comp=Z,27nm,1.4s
ABTX Abilene, Hawle 97.22 56 P P 09 04 58.0 -0.5
baz=237
ABTX Abilene, Hawle 97.22 56 *e*P P 09 04 57.5 -0.9
comp=Z,18nm,1.5s
JTS JuntasAbangare 97.22 82 P Pdif 09 05 00.3 +1.3
comp=Z,5.8nm,0.9s,baz=292,slow=4.3,SNR=5.0
JTS JuntasAbangare 97.22 82 P Pdif 09 05 00.3 +1.3
JTS LR LR
comp=Z,965nm,20.0s
JTS JuntasAbangare 97.22 82 P Pdif 09 05 00.3 +1.3
JTS MLR MLR
comp=Z,965nm,20.0s
LKWY Lake 97.22 41 PFAKE 09 05 10.0 +11
LKWY LR LR
comp=Z,3μm,19.0s
TRF Thorofare Moun 97.22 12 *e*P P 09 04 57.1 -0.8
comp=Z,8.4nm,1.0s
ISCO Idaho Springs 97.24 47 P P 09 04 58.8 0.0
baz=234
ISCO Idaho Springs 97.24 47 PFAKE 09 05 10.0 +11
ISCO LR LR
comp=Z,3μm,19.0s
CD2 Chengdu 97.36 302 *e*P P 09 04 58.8 -0.4
CD2 pmax pmax
comp=Z,10.0nm,0.5s
SEY Seymchan 97.41 346 P Pdif 09 04 58.7 +0.1
comp=Z,4.8nm,0.9s,baz=118,slow=5.0,SNR=8.4
SEY Seymchan 97.41 346*ce*P Pdif 09 04 58.9 +0.4
RND Reindeer 97.44 12 *e*P P 09 04 58.1 -0.7
comp=Z,31nm,1.6s
RND Reindeer 97.44 12 *e*P Pdif 09 04 58.9 +0.1
RND pmax pmax
comp=Z,31nm,1.6s
OTAV Otavalo 97.57 94 PFAKE 09 05 10.0 +8.9
OTAV LR LR
comp=Z,835nm,20.0s
HHC Hu-ho-hao-te 97.64 314 *e*P Pdif 09 05 01.3 +1.0
HHC S **S** 09 16 22.5 -2.4
HHC pmax pmax
comp=Z,27nm,1.5s
HHC pmax pmax
comp=Z,740nm,8.2s
HHC LR LR
comp=Z,640nm,18.4s
HHC LR LR
comp=Z,590nm,17.2s
HHC LR LR
comp=Z,810nm,18.4s
N23A Red Feather La 97.67 46 P Pdif 09 05 00.7 +0.1
baz=234
ZEA Zeya 97.72 330 *e*P Pdif 09 05 00.5 +0.3
ZEA pmax pmax
comp=Z,73nm,1.6s
HIA Hailar 98.18 324 PFAKE 09 05 10.0 +7.6
HIA LR LR
comp=Z,2μm,22.0s
HIA Hailar 98.18 324 *i* P P 09 05 02.3 -0.1
HIA pmax pmax
comp=Z,5.0nm,1.1s
RLMT Red Lodge 98.20 42 Pdiff Pdif 09 05 03.4 +0.5
baz=233
RLMT Red Lodge 98.20 42 PFAKE 09 05 10.0 +7.2
RLMT LR LR
comp=Z,3μm,20.0s
K22A Casper 98.33 45 Pdiff Pdif 09 05 03.7 +0.2
baz=234
K22A Casper 98.33 45 *e*P P 09 05 03.1 -0.3
comp=Z,7.3nm,1.0s
DOT Dot Lake 98.60 14 *e*P Pdif 09 05 04.3 +0.4
comp=Z,16nm,1.2s
CPUP Villa Florida 98.64 128 P Pdif 09 05 05.8 +0.7
comp=Z,2.2nm,0.8s,baz=235,slow=6.0,SNR=6.0
CPUP PKKPbc **PKKPbc** 09 21 34.1 +1.0
comp=Z,1.7nm,0.8s,baz=49,slow=3.8,SNR=5.9
CCB Clear Creek Bu 98.76 12 *e*P P 09 05 03.6 -0.9
comp=Z,32nm,2.0s
WMOK Wichita Mounta 98.96 55 PFAKE 09 05 20.0 +14
WMOK LR LR
comp=Z,3μm,20.0s
COLA College 98.96 12 *e*P P 09 05 04.8 -0.6
comp=Z.4.0nm,0.8s
COLA LR LR
comp=Z,3μm,21.0s
COLA College 98.96 12 *e*P P 09 05 04.8 -0.6
COLA pmax pmax
comp=Z,4.0nm,0.8s
COLA MLR MLR
comp=Z,3μm,21.0s
ILAR Eielson Array 99.05 13 P Pdif 09 05 05.4 -0.4
comp=Z,1.9nm,0.8s,baz=220,slow=5.6,SNR=16
ILAR PP PP 09 09 17.7 +9.1
comp=Z,4.3nm,1.3s,baz=225,slow=7.1,SNR=6.2
ILB Eielson Array 99.05 13 *e*P Pdif 09 05 04.9 -1.0
EGMT Eagleton 99.68 39 Pdiff Pdif 09 05 09.9 +0.8
baz=233
EGMT Eagleton 99.68 39 PFAKE 09 05 20.0 +11
EGMT LR LR
comp=Z,3μm,22.0s
LZH Lanzhou 100.05 306 *e*P Pdif 09 05 13.3 +2.1
LZH pP sPdif 09 05 17.8 -0.5
LZH sP sP 09 05 20.8 +2.5
LZH pmax pmax
comp=Z,27nm,1.2s
LZH pmax pmax
comp=Z,160nm,4.8s
LZH LR LR
comp=Z,1μm,13.5s
LZH LR LR
comp=Z,2μm,12.8s
LZH LR LR
comp=Z,1μm,14.2s
OGNE Ogallala 100.14 48 PFAKE 09 05 20.0 +8.6
OGNE LR LR
comp=Z,3μm,20.0s
EGAK Eagle 100.21 15 PFAKE 09 05 20.0 +9.0
EGAK LR LR
comp=Z,4μm,20.0s
BILL Bilibino 100.21 354⇑ *i*P Pdif 09 05 11.3 +0.4
BILL *e* 09 09 15.6
BILL pmax pmax
comp=Z,9.0nm,1.5s
NATX Nacogdoches 100.35 59 PFAKE 09 05 20.0 +7.6
NATX LR LR
comp=Z,2μm,19.0s
CBKS Cedar Bluff 100.48 51 PFAKE 09 05 20.0 +7.1
CBKS LR LR
comp=Z,2μm,20.0s
541A Lake Charles 100.58 61 Pdiff Pdif 09 05 13.7 +0.2
baz=239
RSSD Black Hills 100.66 45 Pdiff Pdif 09 05 14.4 +0.6
baz=236
RSSD Black Hills 100.66 45 *e*Pdif Pdif 09 05 13.0 -0.8
RSSD Black Hills 100.66 45 *e*P Pdif 09 05 14.2 +0.4
LAO LASA Array 100.84 41 Pdiff Pdif 09 05 15.1 +0.8
baz=235
LAO LASA Array 100.84 41 *e*Pdif Pdif 09 05 15.7 +1.4
LAO LR LR
comp=Z,3μm,19.0s
BCIP Isla Barro Col 100.98 86 PFAKE 09 05 30.0 +14
BCIP LR LR
comp=Z,874nm,19.0s
EDM Edmonton 101.07 33 *e*Pdif Pdif 09 05 15.2 +0.1
EDM Edmonton 101.07 33 *e*P Pdif 09 05 15.3 +0.1
MIAR Mount Ida 102.53 57 PFAKE 09 05 30.0 +7.9
MIAR LR LR
comp=Z,1μm,19.0s
O33A Hebron 102.56 51 Pdiff Pdif 09 05 23.1 +1.0
baz=239
YAK Yakutsk 102.72 337 PFAKE 09 05 30.0 +7.8
YAK LR LR
comp=Z,2μm,20.0s
DGMT Dagmar 102.98 41 PFAKE 09 05 40.0 +16
DGMT LR LR
comp=Z,3μm,20.0s
DGAR Diego Garcia 103.12 253 PFAKE 09 05 40.0 +15
DGAR LR LR
comp=Z,572nm,21.0s
U40A Yellville 103.94 56 Pdiff Pdif 09 05 28.9 +0.6
baz=241
SONM Songino Array 104.57 317 Pdiff Pdif 09 05 30.9 -0.1
comp=Z,1.5nm,1.1s,baz=134,slow=4.3,SNR=8.8
SONM PKiKP **PKiKP** 09 09 46.2 -0.6

comp=Z,1.3nm,0.8s,baz=112,slow=2.6,SNR=4.5
SONM PKKPbc **PKKPbc** **09 21 17.2 +0.1**
comp=Z,1.1nm,0.8s,baz=270,slow=2.9,SNR=6.2
SONA1 Songino Array 104.57 317 *e*Pdif **Pdif** **09 05 30.0 -1.0**
INK Inuvik 104.85 15 Pdiff **Pdif** **09 05 34.6 +3.1**
comp=Z,0.4nm,0.8s,baz=151,slow=1.7,SNR=2.1
INK PKIKP **PKiKP** **09 09 46.0 -0.5**
comp=Z,4.4nm,1.2s,baz=207,slow=0.6,SNR=6.6
ECSD EROS Data Cent 105.02 48 PFAKE 09 10 00.0
ECSD LR LR
comp=Z,2µm,19.0s
SAML Samuel 105.18 111 PFAKE 09 10 00.0
SAML LR LR
comp=Z,1µm,19.0s
BRAL Brewton 105.74 63 PFAKE 09 10 00.0
BRAL LR LR
comp=Z,1µm,19.0s
LSA Lhasa 106.22 295 PFAKE 09 10 00.0
LSA LR LR
comp=Z,521nm,19.0s
YKA Yellowknife Ar 106.32 25 Pdiff **Pdif** **09 05 38.5 +0.3**
comp=Z,0.3nm,0.9s,baz=238,slow=3.8,SNR=5.4
YKA PKiKP **PKiKP** **09 09 48.8 -0.5**
comp=Z,0.5nm,0.6s,baz=252,slow=1.4,SNR=13
YKA PKKPbc **PKKPbc** **09 21 10.6 -1.3**
comp=Z,0.8nm,0.8s,baz=42,slow=2.9,SNR=12
YKA PKKP **PKKPab** **09 21 23.9 +0.3**
comp=Z,0.4nm,0.7s,baz=41,slow=3.4,SNR=5.3
SCIA State Center 106.34 51 PFAKE 09 10 00.0
SCIA LR LR
comp=Z,2µm,19.0s
SPB Sao Paulo 106.97 132 PFAKE 09 10 00.0
SPB LR LR
comp=Z,1µm,20.0s
MTDJ Mount Denham 107.37 79 PFAKE 09 10 00.0
MTDJ LR LR
comp=Z,1µm,22.0s
FFC Flin Flon 107.45 36 PFAKE 09 10 00.0
FFC LR LR
comp=Z,2µm,19.0s
ZAK Zakamensk 107.61 319 *e*P **Pdif** **09 05 43.6 -0.8**
ZAK pmax pmax
comp=Z,2.0nm,1.5s
AGMN Agassiz Nation 107.67 44 PFAKE 09 10 00.0
AGMN LR LR
comp=Z,2µm,19.0s
TLY Talaya 108.03 320 Pdiff **Pdif** **09 05 46.1 0.0**
comp=Z,0.9nm,0.3s,baz=131,slow=20,SNR=1.7
TLY PP **PP** **09 10 21.3 +5.3**
comp=Z,3.9nm,0.6s,baz=117,slow=6.8,SNR=3.0
TLY Talaya 108.03 320 Pdif **Pdif** **09 05 46.1 0.0**
TLY PP **PP** **09 10 21.3 +5.3**
TLY LR LR
comp=Z,2µm,21.0s
TLY Talaya 108.03 320 P **Pdif** **09 05 46.1 0.0**
TLY 09 10 21.3
TLY MLR MLR
comp=Z,2µm,21.0s
HDIL Hopedale 108.36 53 PFAKE 09 10 10.0
HDIL LR LR
comp=Z,2µm,20.0s
ULM Lac du Bonnet 108.57 42 PKiKP **PKiKP** **09 09 52.7 -1.3**
comp=Z,2.0nm,0.8s,baz=228,slow=4.7,SNR=3.3
ULM PKKPab **PKKPdf** **09 21 17.9 -1.9**
comp=Z,2.0nm,1.0s,baz=103,slow=5.0,SNR=3.3
SDV Santo Domingo 108.68 91 PFAKE 09 10 10.0
SDV LR LR
comp=Z,1µm,20.0s
JFWS Jewell Farm 108.75 51 PFAKE 09 10 10.0
JFWS LR LR
comp=Z,1µm,20.0s
D37A Cotton 109.22 46 PKiKP **PKiKP** **09 09 55.1 -0.3**
baz=244
S48A Wiedeman Farm, 109.37 57 PKiKP **PKiKP** **09 09 55.1 -0.7**
baz=244
WCI Wyandotte Cave 109.44 57 PKiKP **PKiKP** **09 09 55.6 -0.4**
baz=244
GOGA Godfrey 109.45 62 PFAKE 09 10 10.0
GOGA LR LR
comp=Z,926nm,21.0s
TIXI Tiksi 109.71 344 PKiKP **PKiKP** **09 09 54.2 -1.2**
comp=Z,2.3nm,0.7s,baz=106,slow=2.6,SNR=5.5
TIXI PKKPab **PKKPab** **09 21 12.2 +3.8**
comp=Z,0.7nm,0.2s,baz=314,slow=5.5,SNR=3.2
TIXI Tiksi 109.71 344 PKiKP **PKiKP** **09 09 54.2 -1.2**
TIXI PKKPab **PKKPab** **09 21 12.2 +3.8**
TIXI LR LR
comp=Z,1µm,20.0s
EYMN Ely 110.13 46 PFAKE 09 10 10.0
EYMN LR LR
comp=Z,1µm,20.0s
TKL Tuckaleechee C 110.18 60 PKiKP **PKiKP** **09 09 56.8 -0.7**
comp=Z,3.0nm,0.9s,baz=160,slow=7.4,SNR=4.3
GTBY Guantanamo Bay 110.19 79 PFAKE 09 10 10.0
GTBY LR LR
comp=Z,863nm,20.0s
COWI Conover 110.83 48 PFAKE 09 10 10.0
COWI LR LR
comp=Z,1µm,19.0s
NHSC New Hope 111.82 64 PFAKE 09 10 10.0
NHSC LR LR
comp=Z,1µm,20.0s
ACSO Alum Creek Sta 112.61 56 PKiKP **PKiKP** **09 10 01.1 -0.8**
baz=247
ACSO Alum Creek Sta 112.61 56 PFAKE 09 10 10.0
ACSO LR LR
comp=Z,2µm,19.0s
AAM Ann Arbor 112.94 54 PFAKE 09 10 10.0
AAM LR LR
comp=Z,1µm,22.0s
SDDR Presa de Saban 112.96 81 PFAKE 09 10 10.0
SDDR LR LR
comp=Z,716nm,20.0s
GLMI Grayling 113.25 51 PFAKE 09 10 10.0
GLMI LR LR
comp=Z,2µm,19.0s
BLA Blacksburg 113.28 60 PKiKP **PKiKP** **09 10 02.7 -0.7**
baz=247
BLA Blacksburg 113.28 60 PFAKE 09 10 10.0
BLA LR LR
comp=Z,1µm,19.0s
ABPO Ambohimpanom 113.98 226 PFAKE 09 10 20.0
ABPO LR LR
comp=Z,559nm,19.0s
SUR Sutherland 114.02 197 PFAKE 09 10 20.0 +15
SUR LR LR
comp=Z,1µm,19.0s
GRTK Grand Turk 114.22 79 PFAKE 09 10 20.0 +14
GRTK LR LR
comp=Z,1µm,22.0s
CNNC Cliffs of the 114.41 63 PFAKE 09 10 20.0 +14
CNNC LR LR
comp=Z,906nm,20.0s
WMQ Urumqi 114.57 308 PKP PKPdf 09 10 05.8 +0.1
N54A Moraine State 114.99 56 PKiKP PKPdf 09 10 05.5 -1.0
baz=249
IP03 Louisa 115.35 60 *e*PKPdf **PKPdf** **09 10 07.5 +0.2**
M54A Oil Creek Stat 115.42 56 PKiKP **PKPdf** **09 10 06.4 -1.0**
baz=249
SPRD Spring Road, M 115.45 60 *e*PKPdf **PKPdf** **09 10 05.6 -1.9**
O56A Blue Knob Stat 115.76 57 PKiKP **PKPdf** **09 10 07.5 -0.6**
baz=249
O56A Blue Knob Stat 115.76 57 *e*PKPdf **PKPdf** **09 10 06.8 -1.3**
CBN Corbin Frederi 115.89 60 PFAKE 09 10 20.0 +12
CBN LR LR
comp=Z,1µm,19.0s
BOSA Boshof 116.32 202 PKP **PKPdf** **09 10 10.6 +0.8**
comp=Z,4.4nm,0.9s,baz=152,slow=5.7,SNR=5.4
BOSA PP **PP** **09 11 21.5 +7.2**
comp=Z,3.7nm,1.0s,baz=148,slow=11,SNR=3.8
SSPA Standing Stone 116.37 57 PKiKP **PKPdf** **09 10 08.5 -0.6**
baz=250
DGZ Jazzator, Alta 116.72 314 *i* PKIKP **PKPdf** **09 10 08.7 -1.0**
MVL Millersville 117.26 58 *e*PKPdf **PKPdf** **09 10 10.4 -0.4**
ZSN Zaisan 117.65 311 *e*PKP **PKPdf** **09 10 11.5 +0.1**
ZSN *e*PP **PP** **09 11 25.9 +1.2**
GRGR Grenville 117.94 93 PFAKE 09 10 20.0 +7.1
GRGR LR LR
comp=Z,555nm,20.0s
N59A State Game Lan 117.98 57 PKiKP **PKPdf** **09 10 12.0 -0.3**
baz=251
N59A State Game Lan 117.98 57 *e*PKPdf **PKPdf** **09 10 12.1 -0.3**
BINY Binghamton 118.24 56 PKiKP **PKPdf** **09 10 12.5 -0.3**
baz=251
BINY Binghamton 118.24 56 PFAKE 09 10 20.0 +7.3
BINY LR LR
comp=Z,2µm,19.0s
RES Resolute Bay 118.28 17 PKP **PKPdf** **09 10 10.9 -0.9**
comp=Z,13nm,0.9s,baz=288,slow=2.7,SNR=39
MK01 Makanchi Array 119.12 309 *e*PKPdf **PKPdf** **09 10 13.6 -0.7**
MK31 Makanchi Array 119.14 309 *e*PKPdf **PKPdf** **09 10 13.9 -0.4**
MK31 Makanchi Array 119.14 309 *e*PKIKP **PKPdf** **09 10 13.9 -0.4**
MKAR Makanchi Array 119.14 309 PKP **PKPdf** **09 10 13.6 -0.8**
comp=Z,9.0nm,0.9s,baz=69,slow=2.3,SNR=44
MKAR PKKPbc **PKKPab** **09 20 29.2 +0.8**
comp=Z,1.5nm,0.8s,baz=262,slow=3.7,SNR=9.0
MKAR SKKPbc SKKPbc 09 24 25.4 +8.5
comp=Z,0.4nm,0.8s,baz=262,slow=1.3,SNR=3.9
MKAR Makanchi Array 119.14 309 *e*PKPdf **PKPdf** **09 10 13.9 -0.4**
MKAR PKKPbc **PKKPab** **09 20 29.2 +0.8**
MKAR SKKPbc SKKPbc 09 24 25.4 +8.5
MKAR Makanchi Array 119.14 309 *e*PKIKP **PKPdf** **09 10 13.9 -0.4**
MAKZ Makanchi 119.35 309 *e*PKPdf **PKPdf** **09 10 14.2 -0.5**
MAKZ Makanchi 119.35 309 *e*PKIKP **PKPdf** **09 10 14.2 -0.5**
PAL Palisades 119.35 58 PKiKP **PKPdf** **09 10 14.6 -0.2**
baz=252
ZAA0 Zalesovo Array 119.46 318 *e*PKPdf **PKPdf** **09 10 13.7 -0.9**
ZALV Zalesovo Beam 119.46 318 PKP **PKPdf** **09 10 14.0 -0.6**
comp=Z,3.7nm,0.7s,baz=246,slow=1.5,SNR=12
ZALV Zalesovo Beam 119.46 318 *e*PKPdf **PKPdf** **09 10 13.8 -0.8**
LBTB Lobatse 119.54 204 PKP **PKPdf** **09 10 15.9 -0.1**
comp=Z,1.3nm,0.5s,baz=108,slow=3.2,SNR=2.3
FDF Fort de France 119.62 90 PFAKE 09 10 30.0 +14
FDF LR LR
comp=Z,627nm,21.0s
LONY Lake Ozonia 119.94 54 PKiKP **PKPdf** **09 10 15.5 -0.4**
baz=254
LONY Lake Ozonia 119.94 54 *e*PKPdf **PKPdf** **09 10 16.3 +0.4**
LONY LR LR
comp=Z,1µm,20.0s
NCB Newcomb 120.00 54 *e*PKPdf **PKPdf** **09 10 15.8 -0.2**
UZB Uzynbulak 120.33 305 ↓ *i* PKP **PKPdf** **09 10 16.6 -0.3**
ANWB Willy Bob 120.43 87 PFAKE 09 10 30.0 +12
ANWB LR LR
comp=Z,810nm,19.0s
NVS Novosibirsk 120.57 319 *e*PKIKP **PKPdf** **09 10 16.0 -0.7**
NVS pmax pmax
comp=N,9.0nm,1.5s
NVS pmax pmax
comp=E,14nm,1.5s
NVS pmax pmax
comp=Z,27nm,1.5s
KPKS Kokpek 120.66 305 ↓ *i* PKP **PKPdf** **09 10 17.4 -0.1**
KPKS LR LR 10 02 36.2
comp=Z,443nm,17.1s
SATY Saty 120.74 304 ↓ *e*PKP **PKPdf** **09 10 17.6 -0.1**
SATY *e*PP **PP** **09 11 44.7 -1.7**
ZHN Zhinishke 120.75 304 ↓ *e*PKP **PKPdf** **09 10 17.4 -0.3**
ZHN *e*PP **PP** **09 11 45.2 -1.2**
TARG Taragay, Kyrgy 120.80 303 *e*PKPdf **PKPdf** **09 10 18.4 +0.2**
KDJ Kajisay 121.36 303 *e*PKPdf **PKPdf** **09 10 18.5 -0.5**
HRV Adam Dziewonsk 121.47 57 PKiKP **PKPdf** **09 10 18.4 -0.5**
baz=254
KSH Kashi 121.49 300 PKP **PKPdf** **09 10 20.3 +1.1**
LBNH Lisbon 121.67 55 PKiKP **PKPdf** **09 10 18.9 -0.3**
baz=255
MDOK Medeo 121.73 304 *i* PKP **PKPdf** **09 10 19.3 -0.3**
MDOK *e*SKS **SKSdf** **09 17 31.0 -0.1**
MDOK LR LR 10 07 27.9
comp=Z,286nm,19.1s
NIL Nilore 121.76 292 *e*PKPdf **PKPdf** **09 10 19.1 -0.7**
NIL LR LR
comp=Z,331nm,21.0s
NIL Nilore 121.76 292 *e*PKIKP **PKPdf** **09 10 19.1 -0.7**
NIL MLR MLR
comp=Z,331nm,21.0s
ULHL Ulahol 122.06 303 P **PKPdf** **09 10 21.1 +0.7**
SNR=7.9
KUU Kurty 122.41 305 ↓ *i* PKP **PKPdf** **09 10 20.0 -0.7**
KUU *e*PP **PP** **09 11 56.1 -1.5**
KUU *e*SKS **SKSdf** **09 17 32.2 +0.2**
KURK Kurchatov 122.45 313 *e*PKPdf **PKPdf** **09 10 19.7 -0.8**
KURK PKKPbc **PKKPbc** **09 20 16.1 +0.2**
KURK LR LR
comp=Z,2µm,20.0s
KURK Kurchatov 122.45 313 PKPdf **PKPdf** **09 10 20.0 -0.5**
SNR=13
KURK Kurchatov 122.45 313 P **PKPdf** **09 10 20.0 -0.5**
SNR=13
KURK Kurchatov 122.45 313 *c i* PKIKP **PKPdf** **09 10 20.0 -0.5**
KURK pmax pmax
comp=Z,33nm,0.8s
KURBB Kurchatov Arra 122.48 313 PKP **PKPdf** **09 10 19.9 -0.6**
comp=Z,17nm,0.8s,baz=103,slow=2.0,SNR=59
KURBB PKKPbc **PKKPbc** **09 20 16.1 +0.3**
comp=Z,0.2nm,0.2s,baz=283,slow=4.5,SNR=4.7
BMNS Besmoynak 122.69 304 ↓ *e*PKP **PKPdf** **09 10 21.3 -0.1**
BMNS *e*PP **PP** **09 11 58.6 -1.0**
TKM2 Tokmak 2 122.69 304 P **PKPdf** **09 10 21.2 -0.4**
SNR=25
KZA Kyzart 122.72 302 P **PKPdf** **09 10 22.1 +0.2**
SNR=29
KBK Karagaybulak 123.09 303 P **PKPdf** **09 10 22.3 +0.1**
SNR=14
UCH Uchtor 123.29 302 P **PKPdf** **09 10 23.4 +0.4**
SNR=46
CHMS Chumysh 123.31 303 P **PKPdf** **09 10 22.4 -0.1**
SNR=9.8
WVL Waterville 123.32 55 *e*PKPdf **PKPdf** **09 10 21.9 -0.5**
FRU Bishkek 123.37 303 *e*PKIKP **PKPdf** **09 10 22.0 -0.6**
AAK Ala-Archa 123.41 303 PKP **PKPdf** **09 10 23.0 +0.1**
comp=Z,12nm,0.8s,baz=134,slow=5.0,SNR=26
AAK Ala-Archa 123.41 303 P **PKPdf** **09 10 23.2 +0.4**
SNR=13
AAK Ala-Archa 123.41 303 *e*PKPdf **PKPdf** **09 10 22.8 0.0**
AAK LR LR
comp=Z,831nm,21.0s
AAK Ala-Archa 123.41 303 PKiKP **PKiKP** **09 10 23.1 0.0**
SNR=12
AAK Ala-Archa 123.41 303 P **PKiKP** **09 10 23.1 0.0**
SNR=12
AAK Ala-Archa 123.41 303 *i* PKiKP **PKPdf** **09 10 22.9 +0.1**
SNR=5.9
AAK Ala-Archa 123.41 303 *e*PKIKP **PKPdf** **09 10 21.4 -1.4**
USP Ospenovka 123.56 304 P **PKPdf** **09 10 23.2 +0.3**
SNR=9.9
BBSR BB Station 123.69 70 PFAKE 09 10 30.0 +6.6
BBSR LR LR
comp=Z,716nm,19.0s
PKME Peaks-Kenny Pk 123.73 54 PKiKP **PKPdf** **09 10 22.9 -0.2**
baz=257
PKME Peaks-Kenny Pk 123.73 54 *e*PKPdf **PKPdf** **09 10 21.2 -2.0**
PKME LR LR
comp=Z,1µm,20.0s
AML Almayashu 123.86 302 P **PKPdf** **09 10 24.1 0.0**
SNR=42
EKS2 Erkin-Say 123.93 303 P **PKPdf** **09 10 24.2 +0.4**
SNR=14
TULEG Thule 124.85 16 *e*PKPdf **PKPdf** **09 10 23.7 -0.7**
PQI Presque Isle 124.89 52 *e*PKPdf **PKPdf** **09 10 24.3 -1.0**
KBL Kabul 125.36 292 *e*PKPdf **PKPdf** **09 10 26.9 0.0**
KBL Kabul 125.36 292 *e*PKIKP **PKPdf** **09 10 26.9 0.0**
FRB Frobisher Bay 126.13 31 PKP **PKPdf** **09 10 26.5 -0.6**
comp=Z,26nm,0.9s,baz=305,slow=2.2,SNR=39
KK31 Karatay Array 126.36 303 *e*PKPdf **PKPdf** **09 10 27.9 -0.4**
KK31 Karatay Array 126.36 303 *e*PKIKP **PKPdf** **09 10 27.9 -0.4**
KKAR Karatay Array 126.36 303 *e*PKPdf **PKPdf** **09 10 27.9 -0.4**
KKAR Karatay Array 126.36 303 *e*PKIKP **PKPdf** **09 10 27.9 -0.4**
IUG luzhnay 126.52 301 ↓ *i* PKP **PKPdf** **09 10 29.0 +0.3**
IUG *e*PP **PP** **09 12 24.9 -0.3**
IUG *e*SKS **SKSdf** **09 17 40.9 +0.9**
SCHQ Schefferville 126.74 43 PKP **PKPdf** **09 10 27.7 -0.9**
comp=Z,27nm,1.0s,baz=322,slow=1.1,SNR=9.1
LSZ Lusaka 127.32 211 PKP **PKPdf** **09 10 32.2 +1.0**
comp=Z,4.9nm,0.8s,baz=121,slow=1.9,SNR=6.4
LSZ Lusaka 127.32 211 *e*PKPdf **PKPdf** **09 10 32.4 +1.2**
LSZ LR LR
comp=Z,1µm,19.0s
TSUM Tsumeb 127.43 198 PKP **PKPdf** **09 10 31.9 +0.6**
comp=Z,1.1nm,0.4s,baz=208,slow=5.0,SNR=4.7
TSUM PP **PP** **09 12 33.4 +3.5**
comp=Z,5.9nm,0.9s,baz=171,slow=3.7,SNR=4.4
TSUM Tsumeb 127.43 198 *e*PKPdf **PKPdf** **09 10 32.5 +1.2**
TSUM PP **PP** **09 12 33.4 +3.5**
TSUM LR LR
comp=Z,1µm,20.0s
RCBR Riachuelo 127.51 128 PKP **PKPdf** **09 10 32.4 +0.9**
comp=Z,106nm,0.9s,baz=227,slow=0.1
BVAR Borovoye Array 127.82 315 PKP **PKPdf** **09 10 30.8 +0.1**
comp=Z,17nm,0.9s,baz=96,slow=3.0,SNR=64
BRVK Borovoye 127.89 315 *e*PKPpre PKPpre 09 10 23.4
BRVK *e*PKPdf **PKPdf** **09 10 30.2 -0.6**
BRVK LR LR
comp=Z,588nm,20.0s
BRVK Borovoye 127.89 315 P **PKPdf** **09 10 30.8 0.0**
SNR=15
BRVK Borovoye 127.89 315 *c i* PKIKP **PKPdf** **09 10 30.9 0.0**
BRVK pmax pmax
comp=Z,46nm,1.2s
KULLO Kullorsuaq 128.16 17 *i* P **PKPdf** **09 10 30.5 -0.3**
comp=Z,20nm,0.9s
KULLO Kullorsuaq 128.16 17 *i* PKIKP **PKPdf** **09 10 30.5 -0.3**
KULLO pmax pmax
comp=Z,20nm,0.9s
WSAR Wadi Sarin 130.21 275 PKP **PKPdf** **09 10 35.9 -0.3**
comp=Z,12nm,1.1s,baz=259,slow=2.5,SNR=4.5
SHAO Shalim 130.61 267 PKPdf **PKPdf** **09 10 36.0 -1.1**
SHEL Horse Pasture 131.90 169 PFAKE 09 10 50.0 +10
SHEL LR LR
comp=Z,269nm,20.0s
SOHO SOHO 132.33 275 *i* PKPdf **PKPdf** **09 10 39.7 -0.5**
SNR=6.3
KBS Kingsbay 132.52 358 PFAKE 09 10 50.0 +11
KBS LR LR
comp=Z,676nm,21.0s
UOSS Minazif 132.90 276 P **SKPdf** **09 14 11.2 -4.7**
UOSS Minazif 132.90 276 PKiKP **PKPdf** **09 10 41.6 +0.4**
HATD Hatta, Dubai 132.92 276 P **SKPdf** **09 14 12.4 -3.6**
SNR=7.0
HATD Hatta, Dubai 132.92 276 *i* PKiKP **PKiKP** **09 10 42.0 -0.5**
SNR=6.2
ASHO Ashiyiah 132.93 275 P **SKPdf** **09 14 13.2 -2.8**
SNR=8.2
ASHO Ashiyiah 132.93 275 PKiKP **PKPdf** **09 10 41.2 -0.1**
MDH Madha 132.94 276 PKiKP **PKPdf** **09 10 41.2 -0.1**
SPA0 Spitsbergen Ar 133.05 356 *e*PKPdf **PKPdf** **09 10 40.1 +0.1**
SPITS Spitsbergen Ar 133.05 356 PKP **PKPdf** **09 10 40.1 +0.1**
comp=Z,17nm,0.9s,baz=82,slow=12,SNR=7.8
MSFE Esma-Masafi 133.08 276 PKiKP **PKiKP** **09 10 42.5 -0.3**
BANOM Banah 133.16 277 P **SKPdf** **09 14 16.0 -0.4**
NAZ Nazwa, Dubai 133.37 276 P **SKPdf** **09 14 12.3 -4.5**
SNR=5.9
DAG Danmarks Havn 133.76 7 *i* P **PKPdf** **09 10 39.9 -1.4**
comp=Z,15nm,1.0s
DAG Danmarks Havn 133.76 7 *i* PKIKP **PKPdf** **09 10 39.9 -1.4**
DAG pmax pmax
comp=Z,15nm,1.0s
SUMG Summit 133.77 16 *i* P **PKPdf** **09 10 43.5 +1.5**
comp=Z,16nm,1.0s
SUMG Summit 133.77 16 *e*PKPdf **PKPdf** **09 10 42.0 +0.1**
SUMG Summit 133.77 16 *e*PKIKP **PKPdf** **09 10 42.1 +0.1**
KMBO Kilima Mbogo 133.83 232 PKP **PKPdf** **09 10 45.1 +1.4**
comp=Z,1.5nm,0.6s,baz=166,slow=4.7,SNR=4.5
KMBO SKP 09 14 19.7
comp=Z,8.8nm,1.0s,baz=51,slow=2.4,SNR=11
KMBO Kilima Mbogo 133.83 232 PKP **PKPdf** **09 10 45.1 +1.4**
KMBO SKP 09 14 19.7
KMBO LR LR
comp=Z,931nm,20.0s
KMBO Kilima Mbogo 133.83 232 PKIKP **PKPdf** **09 10 45.1 +1.4**
KMBO MLR MLR
comp=Z,931nm,20.0s
ABKAR Akbulak array 134.28 310 *e*PKPpre PKPpre 09 10 32.5
ABKAR *e*PKPdf **PKPdf** **09 10 42.8 -0.3**
ARU Arti 134.53 320 SKP **SKPdf** **09 14 19.7 +1.9**
comp=Z,6.0nm,0.2s,baz=196,slow=2.0,SNR=5.0
ARU Arti 134.53 320 *e*PKPdf **PKPdf** **09 10 42.5 -0.8**
ARU SKP 09 14 19.7
ARU LR LR
comp=Z,616nm,21.0s
ARU Arti 134.53 320 *i* PKIKP **PKPdf** **09 10 42.9 -0.4**
ARU 09 13 15.3
GEYT Alibeck 134.73 294 PKhKP PKPpre 09 10 35.2
comp=Z,1.5nm,0.4s,baz=210,slow=1.2,SNR=4.0
GEYT PKP **PKPdf** **09 10 44.1 -0.3**
comp=Z,8.5nm,0.8s,baz=222,slow=2.0,SNR=11
GEYT SKP 09 14 20.9
comp=Z,4.4nm,0.8s,baz=114,slow=3.6,SNR=4.4
GYA0B ALIBECK ARRAY 134.73 294 *e*PKPdf **PKPdf** **09 10 42.5 -1.8**
AKTO Aktyubinsk 135.49 311 PKhKP PKPpre 09 10 35.2
comp=Z,2.0nm,0.7s,baz=79,slow=2.7,SNR=5.8
AKTO PKP **PKPdf** **09 10 45.4 0.0**
comp=Z,11nm,0.9s,baz=81,slow=2.1,SNR=16
AKTO SKPbc **SKPbc** **09 14 17.3 +1.4**
comp=Z,1.3nm,0.5s,baz=196,slow=21,SNR=17
H10S3 ASCENSION HYDR 136.25 155 T T 11 42 56.7
baz=204,slow=74,SNR=2.7
H10S2 ASCENSION HYDR 136.25 155 T T 11 43 06.3
baz=204,slow=74,SNR=2.9
H10S1 ASCENSION HYDR 136.27 155 T T 11 43 13.9
baz=204,slow=74,SNR=3.6
ASCN Ascension 137.30 154 PFAKE 09 11 00.0 +10
ASCN LR LR
comp=Z,971nm,20.0s
H10N3 ASCENSION HYDR 137.34 154 T T 11 44 20.7
baz=249,slow=74,SNR=6.9
H10N1 ASCENSION HYDR 137.34 154 T T 11 44 18.5
H10N2 ASCENSION HYDR 137.35 154 T T 11 44 28.1
baz=206,slow=74,SNR=5.8
SCO Scoresbysund 138.83 12 *i* P **PKPdf** **09 10 53.4 +2.5**
comp=Z,29nm,1.2s
SCO Scoresbysund 138.83 12 *e*PKPdf **PKPdf** **09 10 50.5 -0.4**
SCO Scoresbysund 138.83 12 *e*PKIKP **PKPdf** **09 10 50.5 -0.4**
LVZ Lovozero 139.30 342 PFAKE 09 11 00.0 +8.1
LVZ LR LR
comp=Z,596nm,21.0s
LVZ Lovozero 139.30 342 *c i* PKIKP **PKPdf** **09 10 53.9 +2.0**
LVZ pmax pmax
comp=Z,21nm,1.7s
KEV Kevo 139.55 347 PFAKE 09 11 00.0 +7.8
KEV LR LR
comp=Z,598nm,19.0s
APA Apatity 139.87 342 ↓ *i* PKIKP PKPpre 09 10 47.7
APA pmax pmax
comp=Z,5.0nm,1.3s
ARCES ARCESS Array B 140.01 348 PKhKP PKPpre 09 10 46.6
comp=Z,7.6nm,0.8s,baz=34,slow=4.5,SNR=3.9
ARCES PKP **PKPdf** **09 10 53.0 -0.1**
comp=Z,10nm,0.9s,baz=3.3,slow=3.2,SNR=12
RAYN Ar Rayn 141.49 269 *e*PKPpre PKPpre 09 10 51.3
RAYN LR LR
comp=Z,578nm,20.0s
KLMR Klimovskoe 142.24 331 *e*PKPdf PKPpre 09 10 51.5
KLMR AMP 09 10 58.2
comp=Z,31nm,1.2s
KLMR *e*PP PP 09 13 52.6 -11
KLMR Klimovskoe 142.24 331 *e*PKHKP PKPpre 09 10 51.5
KLMR pmax pmax
comp=Z,31nm,1.2s
SEKA Sheki 143.40 298 PKIKP **PKPdf** **09 10 59.1 -1.0**
GANJ Ganja 144.06 297 PKIKP **PKPdf** **09 11 00.4 -0.8**
DDFL Dedoflistskaro 144.21 298 P **PKPdf** **09 11 01.7 +0.2**
GROC Groznyy 144.36 301 *i* PKIKP PKPbc 09 11 00.0 0.0
GROC pmax pmax
comp=Z,372nm,1.8s
NAX Nakhchivan 144.69 294 PKIKP **PKPab** **09 11 00.1 -1.1**
BTNK Botanikuri 145.19 299 P **PKPdf** **09 11 03.5 +0.4**
TBLG Delisi 145.23 299 P **PKPdf** **09 11 03.4 +0.2**
TBLG Delisi 145.23 299 *e*PKPbc **PKPdf** **09 11 03.5 +0.2**
TBLG Delisi 145.23 299 *e*PKIKP **PKPdf** **09 11 03.4 +0.2**
DUS Dusheti 145.24 299 P **PKPdf** **09 11 04.2 +0.9**
DUS Dusheti 145.24 299 *e*PKIKP **PKPdf** **09 11 04.2 +0.9**
GNI Garni 145.28 296 PKPbc **PKPdf** **09 11 04.3 +0.8**
comp=Z,76nm,0.9s,baz=77,slow=0.5,SNR=70
GNI Garni 145.28 296 *e*PKPbc **PKPdf** **09 11 04.0 +0.4**
GNI LR LR
comp=Z,839nm,20.0s
GNI Garni 145.28 296 PKPdf **PKPdf** **09 11 04.3 +0.8**
SNR=81
GNI Garni 145.28 296 P **PKPdf** **09 11 04.3 +0.8**
SNR=81
GNI Garni 145.28 296 *i* PKPdf **PKPdf** **09 11 03.9 +0.4**
SNR=22
GNI Garni 145.28 296 *c i* PKIKP **PKPdf** **09 11 04.5 +1.0**
GNI pmax pmax
comp=Z,1µm,1.7s
GUDG Gudauri 145.38 300 P **PKPab** **09 11 05.7 +1.9**
VRH Novokhopyorsk 145.46 316 *e*PKIKP **PKPdf** **09 11 02.5 -0.7**
VRH pmax pmax
comp=Z,180nm,0.8s
ZEI Tsey 145.78 301 *i* PKHKP PKPpre 09 10 59.8
ZEI pmax pmax
comp=Z,247nm,1.5s
MOS Moscow 145.80 325 *k i* PKP2 **PKPdf** **09 11 03.4 -0.3**
MOS *e* 09 14 21.0
MOS pmax pmax

	comp=Z,702nm,1.4s								
CLDR	**Caldiran**	**145.91 294**		*e*P		**PKPdf**	**09 11 03.8**	**-1.0**
GOF	**Gofitskoye**	**146.11 305**⇑		*e*PKP2		**PKPdf**	**09 11 05.0**	**+0.4**
GOF				pmax	pmax				
	comp=Z,280nm,1.3s								
ONI	**Oni**	**146.12 300**		P		**PKPbc**	**09 11 05.9**	**+0.1**
ONI	**Oni**	**146.12 300**		*e*PKP2		**PKPbc**	**09 11 05.8**	**+0.1**
AKH	**Akhalkalaki**	**146.18 298**		P		**PKPab**	**09 11 07.2**	**+0.4**
AKH	**Akhalkalaki**	**146.18 298**		*e*PKPdf		**PKPdf**	**09 11 05.4**	**+0.4**
AKH	**Akhalkalaki**	**146.18 298**		*e*PKP2		**PKPdf**	**09 11 05.4**	**+0.4**
VAF	**Vlistaro**	**146.19 344**		*e*PKP2		**PKPbc**	**09 11 04.7**	**-0.4**
VANB	**Van**	**146.32 293**		*e*P		**PKPbc**	**09 11 06.8**	**+0.3**
KBZ	**Khabaz**	**146.40 302**		PKPbc		**PKPbc**	**09 11 06.7**	**+0.3**
	comp=Z,21nm,0.9s,baz=86,slow=1.2,SNR=33								
KVAR	**Kislovodsk Arr**	**146.52 303**		PKPbc		**PKPbc**	**09 11 07.1**	**+0.1**
	comp=Z,59nm,1.1s,baz=75,slow=3.0,SNR=16								
KIV	**Kislovodsk**	**146.53 303**		*e*PKPdf		**PKPdf**	**09 11 05.1**	**-0.3**
KIV				*e*PKPbc		**PKPab**	**09 11 07.8**	**-0.1**
KIV				LR	LR				
	comp=Z,478nm,19.0s								
KIV	**Kislovodsk**	**146.53 303**		PKPbc		**PKPdf**	**09 11 06.2**	**+0.7**
	SNR=32								
KIV	**Kislovodsk**	**146.53 303**		P		**PKPdf**	**09 11 06.2**	**+0.7**
	SNR=32								
KIV	**Kislovodsk**	**146.53 303**		*i* PKPab		**PKPab**	**09 11 07.8**	**-0.1**
	SNR=7.8								
KIV	**Kislovodsk**	**146.53 303**		*e*PKP2		**PKPdf**	**09 11 05.5**	**+0.1**
KIV				pmax	pmax				
	comp=Z,77nm,1.1s								
LPSR	**Galich'ya Gora**	**146.55 319**		*e*PKP2		**PKPdf**	**09 11 05.6**	**+0.6**
LPSR				pmax	pmax				
	comp=Z,260nm,1.0s								
FIA1	**FINESS Array S**	**146.61 340**		*e*PKPdf		**PKPdf**	**09 11 04.9**	**0.0**
FIA1				*e*PKPbc		**PKPbc**	**09 11 06.4**	**0.0**
FINES	**FINESS Array B**	**146.61 340**		PKPbc		**PKPbc**	**09 11 05.8**	**-0.6**
	comp=Z,73nm,0.9s,baz=64,slow=4.8,SNR=115								
AGRB	**Hanur-Agry**	**146.63 295**		*e*P		**PKPbc**	**09 11 07.1**	**-0.4**
OBN	**Obninsk**	**146.63 325**		PKPbc		**PKPbc**	**09 11 06.5**	**-0.1**
	comp=Z,58nm,0.8s,baz=50,slow=1.4,SNR=25								
OBN	**Obninsk**	**146.63 325**		*e*PKPdf		**PKPdf**	**09 11 05.1**	**+0.1**
OBN				LR	LR				
	comp=Z,601nm,19.0s								
OBN	**Obninsk**	**146.63 325**		*e*PKIKP		**PKPdf**	**09 11 04.0**	**-1.1**
OBN				*e*			09 14 31.6		
OBN				*e*PPP	PPP		09 17 44.8		
OBN				pmax	pmax				
	comp=Z,76nm,1.0s								
VSR	**Storozhevoye**	**146.96 317**		*e*PKP2		**PKPdf**	**09 11 06.4**	**+0.6**
VSR				pmax	pmax				
	comp=Z,120nm,1.1s								
SIRT	**Sirnak**	**147.05 291**		*e*P		**PKPdf**	**09 11 07.4**	**+0.9**
SENK	**Senkaya-Erzuru**	**147.09 297**		*e*P		**PKPbc**	**09 11 09.2**	**+0.4**
GURO	**Guroymak-BITLI**	**147.38 293**		*e*P		**PKPbc**	**09 11 09.9**	**+0.3**
VRTB	**Varto-Mus**	**147.83 294**		*e*P		**PKPbc**	**09 11 11.3**	**+0.5**
SVAN	**Silvan-Diyarba**	**148.04 292**		*e*P		**PKPbc**	**09 11 11.3**	**0.0**
CHOM	**Cayeli-Rize**	**148.26 298**		*e*P		**PKPbc**	**09 11 11.8**	**+0.1**
BNGB	**Bing˜ll**	**148.44 294**		*e*P		**PKPdf**	**09 11 09.8**	**+1.0**
MAZI	**Mazidag**	**148.63 291**		*e*P		**PKPbc**	**09 11 10.9**	**+1.0**
VSU	**Vasula**	**148.70 336**		*e*PKIKP		**PKPdf**	**09 11 07.4**	**-1.0**
SOC	**Sochi**	**148.71 303**		*i* PKP2		**PKPbc**	**09 11 12.6**	**-0.1**
SOC				*e*PPP	PPP		09 17 59.6		
BAYT	**Ayd¨–ntepe-Bay**	**148.78 297**		*e*P		**PKPbc**	**09 11 14.4**	**+1.1**
DYBB	**Diyarbakir**	**148.88 292**		*e*P		**PKPbc**	**09 11 13.8**	**+0.3**
KTUT	**Trabzon**	**149.01 298**		*e*P		**PKPbc**	**09 11 14.0**	**+0.4**
ERZN	**Erzincan**	**149.16 295**		*e*P		**PKPbc**	**09 11 14.0**	**-0.2**
PTK	**Pertek**	**149.44 294**		*e*P		**PKPbc**	**09 11 15.8**	**+0.8**
ESPY	**Espiye-Giresun**	**149.81 298**		*e*P		**PKPbc**	**09 11 13.8**	**-1.8**
NC303	**NORSAR Array S**	**149.94 352**		*e*PKPdf		**PKPdf**	**09 11 10.4**	**0.0**
NC303				*e*PKPbc		**PKPbc**	**09 11 15.0**	**-0.2**
NC204	**NORSAR Array S**	**149.97 352**		*e*PKPdf		**PKPdf**	**09 11 11.2**	**+0.7**
NC204				*e*PKPbc		**PKPbc**	**09 11 14.6**	**-0.8**
NC405	**NORSAR Array S**	**150.01 351**		*e*PKPdf		**PKPdf**	**09 11 10.2**	**-0.3**
NC405				*e*PKPbc		**PKPbc**	**09 11 14.4**	**-1.0**
ILIC	**ilic-Erzincan**	**150.05 295**		*e*P		**PKPbc**	**09 11 17.4**	**+1.0**
ANN	**Anapa**	**150.07 306**		*i* PKP2		**PKPbc**	**09 11 16.1**	**+0.1**
ANN				pmax	pmax				
	comp=Z,228nm,1.2s								
NB201	**NORSAR Array S**	**150.12 352**		*e*PKPdf		**PKPdf**	**09 11 09.9**	**-0.8**
NB201				*e*PKPbc		**PKPbc**	**09 11 14.8**	**-0.9**
NB2	**NORSAR Subarra**	**150.14 352**		PKP		**PKPdf**	**09 11 10.0**	**-0.7**
	comp=Z,154nm,1.7s,baz=18,slow=3.1								
NB2	**NORSAR Subarra**	**150.14 352**		PKP		**PKPdf**	**09 11 10.0**	**-0.7**
	baz=18,slow=3.1								
NOA	**NORSAR Array B**	**150.14 352**		PKP		**PKPdf**	**09 11 10.7**	**0.0**
	comp=Z,9.1nm,0.9s,baz=21,slow=1.8,SNR=15								
NOA				PKPbc		**PKPbc**	**09 11 15.4**	**-0.4**
	comp=Z,34nm,1.0s,baz=14,slow=4.2,SNR=33								
NBO02	**NORSAR Array S**	**150.18 352**		*e*PKPdf		**PKPdf**	**09 11 10.3**	**-0.4**
NBO02				*e*PKPbc		**PKPbc**	**09 11 15.6**	**-0.3**
NBO00	**NORSAR Array S**	**150.20 352**		*e*PKPdf		**PKPdf**	**09 11 11.2**	**+0.4**
NBO00				*e*PKPbc		**pPKPdf**	**09 11 16.1**	**-0.1**
NAO01	**NORSAR Array S**	**150.37 352**		*e*PKPdf		**PKPdf**	**09 11 10.8**	**-0.2**
NAO01				*e*PKPbc		**pPKPdf**	**09 11 16.6**	**+0.2**
NC602	**NORSAR Array S**	**150.40 351**		*e*PKPdf		**PKPdf**	**09 11 11.0**	**-0.1**
NC602				*e*PKPbc		**PKPbc**	**09 11 16.1**	**-0.3**
HFS	**Hagfors**	**150.66 349**		PKP		**PKPdf**	**09 11 10.9**	**-0.6**
	comp=Z,7.7nm,1.0s,baz=336,slow=3.2,SNR=7.3								
HFS				PKPbc		**pPKPdf**	**09 11 16.5**	**-0.3**
	comp=Z,44nm,0.9s,baz=0.0,slow=0.3,SNR=37								
SACV	**Santiago Islan**	**150.69 119**		PFAKE			**09 11 20.0**	**+1.6**
SACV				LR	LR				
	comp=Z,245nm,21.0s								
IZAR	**Zarasai**	**150.87 332**		*e*P		**PKPbc**	**09 11 16.3**	**-1.3**
IZAR				IAmb	IAmb		09 11 19.1		
	comp=Z,49nm,0.9s								
IDID	**Didziasalis**	**150.98 331**		*e*P		**PKPbc**	**09 11 16.9**	**-0.9**
IDID				IAmb	IAmb		09 11 19.2		
	comp=Z,50nm,1.1s								
MICGM	**Minsk**	**151.06 329**⇑		*e*P		**PKPbc**	**09 11 18.0**	**-0.1**
MICGM				PM			09 11 19.0		
	comp=Z,0.3nm,1.5s								
MNK	**Minsk**	**151.06 329**⇑		*e*PKIKP		**PKPbc**	**09 11 18.0**	**-0.1**
MNK				pmax	pmax				
	comp=Z,340nm,1.5s								
ASF	**Jabal al Asfar**	**151.13 280**		PKP		**PKPdf**	**09 11 13.1**	**-0.2**
	comp=Z,1.8nm,0.5s,baz=111,slow=2.8,SNR=7.4								
ASF				PKPbc		**sPKPdf**	**09 11 20.3**	**-0.1**
	comp=Z,32nm,0.8s,baz=82,slow=1.5,SNR=39								
ASF				PKPab		**PKPab**	**09 11 27.6**	**+0.6**
	comp=Z,33nm,0.9s,baz=82,slow=0.7,SNR=14								
IIGN	**Ignalina**	**151.17 332**		*e*P		**PKPbc**	**09 11 17.1**	**-1.2**
IIGN				IAmb	IAmb		09 11 19.8		
	comp=Z,51nm,0.9s								
NACGM	**Naroch**	**151.25 331**		*e*P		**PKPbc**	**09 11 18.0**	**-0.5**
NACGM				PM			09 11 20.0		
	comp=Z,0.5nm,1.0s								
KONO	**Kongsberg**	**151.69 353**		*e*PKPbc		**PKPbc**	**09 11 19.6**	**+0.2**
KONO	**Kongsberg**	**151.69 353**	*c*	*i* PKIKP		**PKPbc**	**09 11 19.6**	**+0.2**
KONO				pmax	pmax				
	comp=Z,132nm,1.2s								
SIM	**Simferopol'**	**152.29 307**	*d*	*i* PKIKP		**PKPbc**	**09 11 21.9**	**+0.6**
SIM				*i*			09 11 32.0		
SIM				pmax	pmax				
	comp=Z,47nm,0.8s								
EIL	**Elat**	**152.33 274**		PKPab		**PKPab**	**09 11 30.1**	**-1.9**
	comp=Z,38nm,0.8s,baz=90,slow=5.1,SNR=28								
MMAI	**Mount Meron Ar**	**152.49 281**		PKPbc		**PKPbc**	**09 11 23.6**	**+1.4**
	comp=Z,45nm,0.8s,baz=71,slow=3.6,SNR=39								
MMAI				PKPab		**sPKPbc**	**09 11 29.7**	**+0.4**
	comp=Z,37nm,0.9s,baz=113,slow=3.9,SNR=8.9								
AKASG	**Malin Array Be**	**152.75 322**		PKPdf		**PKPdf**	**09 11 13.7**	**-1.3**
	comp=Z,2.6nm,0.9s,baz=45,slow=1.5,SNR=18								
AKASG				PKPbc		**PKiKP**	**09 11 22.4**	**+0.1**
	comp=Z,29nm,0.9s,baz=48,slow=2.7,SNR=22								
AKASG				PKPab		**PKPab**	**09 11 32.8**	**-0.1**
	comp=Z,30nm,0.8s,baz=46,slow=4.3,SNR=31								
AKASG				PP	PP		09 15 14.4	+8.6	
	comp=Z,0.6nm,0.3s,baz=45,slow=6.9,SNR=5.1								
AKBB	**Malin Array Si**	**152.75 322**		*e*PKPdf		**PKPdf**	**09 11 14.5**	**-0.4**
AKBB				*e*PKPbc		**PKPbc**	**09 11 22.0**	**-0.1**
AKBB				*e*PKPab		**PKPab**	**09 11 32.4**	**-0.5**
AKBB	**Malin Array Si**	**152.75 322**		*e*PKIKP		**PKPdf**	**09 11 14.5**	**-0.4**
AKBB				*e*			09 11 22.0		
AKBB				*e*			09 11 32.4		
KIEV	**Kiev**	**152.77 322**		*e*PKPdf		**PKPdf**	**09 11 14.5**	**-0.5**
KIEV				*e*PKPbc		**PKPbc**	**09 11 21.6**	**-0.5**
KIEV				*e*PKPab		**PKPab**	**09 11 32.5**	**-0.5**
KIEV				LR	LR				
	comp=Z,670nm,21.0s								
KIEV	**Kiev**	**152.77 322**		*e*PKIKP		**PKPdf**	**09 11 14.5**	**-0.5**
KIEV				*e*			09 11 21.6		
KIEV				*e*			09 11 32.5		
KIEV				MLR	MLR				
	comp=Z,670nm,21.0s								
AK11	**Malin Array Si**	**152.80 322**		*e*PKPdf		**PKPdf**	**09 11 14.2**	**-0.9**
AK11				*e*PKPbc		**sPKPdf**	**09 11 21.9**	**-0.3**
AK11				*e*PKPab		**PKPab**	**09 11 32.5**	**-0.6**
SUW	**Suwalki**	**153.35 333**		*e*PKP		**PKPbc**	**09 11 23.3**	**0.0**
SUW	**Suwalki**	**153.35 333**		*e*PKPdf		**PKPdf**	**09 11 15.7**	**0.0**
SUW				*e*PKPbc		**PKiKP**	**09 11 23.8**	**+0.4**
SUW				*e*PKPab		**PKPab**	**09 11 35.1**	**-0.3**
SUW	**Suwalki**	**153.35 333**		*e*PKIKP		**PKPdf**	**09 11 15.7**	**0.0**
SUW				*e*			09 11 23.8		
SUW				*e*			09 11 35.1		
ILGA	**Ilgaz**	**153.54 299**		*e*PKPdf		**PKPdf**	**09 11 17.0**	**+0.2**
ILGA				*e*PKPbc		**PKiKP**	**09 11 25.5**	**+0.9**
ILGA				*e*PKPab		**PKPab**	**09 11 38.1**	**+1.2**
LIC	**Lamto**	**153.61 162**		*e*PKIKP		**PKPdf**	**09 11 17.4**	**0.0**
	comp=Z,149nm,1.5s								
ROSA	**Rosais**	**153.77 66**		*e*PKPdf		**PKPdf**	**09 11 16.2**	**-0.6**
ROSA				*e*PKPbc		**PKiKP**	**09 11 25.3**	**+0.4**
KIC	**Kosan Boka**	**153.81 163**		*e*PKIKP		**PKPdf**	**09 11 17.4**	**-0.3**
	comp=Z,154nm,1.5s								
BR131	**Keskin Array S**	**153.81 296**		*e*PKPdf		**PKPdf**	**09 11 16.4**	**-0.6**
BR131				*e*PKPbc		**PKiKP**	**09 11 25.0**	**0.0**
BR131				*e*PKPab		**PKPab**	**09 11 38.2**	**+0.1**
BRTR	**Keskin Array B**	**153.81 296**		PKP		**PKPdf**	**09 11 16.4**	**-0.6**
	comp=Z,4.6nm,1.1s,baz=144,slow=2.3,SNR=21								
BRTR				PKPbc		**PKiKP**	**09 11 25.4**	**+0.3**
	comp=Z,10nm,0.9s,baz=116,slow=2.9,SNR=27								
BRTR				PKPab		**PKPab**	**09 11 38.7**	**+0.7**
	comp=Z,25nm,0.8s,baz=118,slow=3.1,SNR=23								
TIC	**Toumodi**	**154.01 162**		*e*PKIKP		**PKPdf**	**09 11 17.9**	**-0.1**
DBIC	**Dimbokro**	**154.08 162**		PKP		**PKPdf**	**09 11 18.4**	**+0.4**
	comp=Z,10nm,1.1s,baz=162,slow=3.7,SNR=5.6								
DBIC				PKPbc		**PKiKP**	**09 11 26.6**	**+0.4**
	comp=Z,15nm,1.0s,baz=143,slow=4.2,SNR=9.8								
DBIC				PKPab		**PKPab**	**09 11 38.2**	**-1.2**
	comp=Z,10nm,0.9s,baz=134,slow=4.5,SNR=5.1								
DBIC	**Dimbokro**	**154.08 162**		*e*PKPdf		**PKPdf**	**09 11 18.9**	**+0.9**
DBIC				*e*PKPbc		**PKiKP**	**09 11 26.6**	**+0.4**
DBIC				PKPab		**PKPab**	**09 11 38.2**	**-1.2**
DBIC	**Dimbokro**	**154.08 162**		*e*PKIKP		**PKPdf**	**09 11 18.9**	**+0.9**
DBIC				*e*			09 11 26.6		
DBIC				*e*			09 11 38.2		
CSS	**Mathiatis**	**154.34 286**		*e*PKPbc		**PKPbc**	**09 11 25.5**	**-0.6**
CSS				LR	LR				
	comp=Z,142nm,21.0s								
ANTO	**Ankara**	**154.44 297**⇑		*i* P		**PKPab**	**09 11 41.1**	**+0.5**
ANTO	**Ankara**	**154.44 297**		*e*PKPdf		**PKPdf**	**09 11 17.2**	**-0.6**
ANTO				*e*PKPbc		**PKiKP**	**09 11 26.5**	**+0.3**
ANTO				*e*PKPab		**PKPab**	**09 11 40.8**	**+0.2**
ANTO				LR	LR				
	comp=Z,400nm,20.0s								
ANTO	**Ankara**	**154.44 297**		PKPdf		**PKPdf**	**09 11 17.8**	**-0.1**
	SNR=14								
ANTO	**Ankara**	**154.44 297**		P		**PKPdf**	**09 11 17.8**	**-0.1**
	SNR=14								
ANTO	**Ankara**	**154.44 297**		*e*PKIKP		**PKPdf**	**09 11 17.3**	**-0.6**
ANTO				*e*			09 11 26.5		
ANTO				*e*			09 11 40.8		
ANTO				MLR	MLR				
	comp=Z,400nm,20.0s								
BR231	**Keskin MP Arra**	**154.45 297**		*e*PKPdf		**PKPdf**	**09 11 16.6**	**-1.3**
BR231				*e*PKPbc		**pPKPdf**	**09 11 17.2**	**-6.0**
BR231				*e*PKPbc		**PKPbc**	**09 11 25.9**	**-0.4**
BR231				*e*PKPbc		**PKiKP**	**09 11 26.6**	**+0.3**
BR231				*e*PKPab		**PKPab**	**09 11 39.0**	**-1.8**
SORM	**Soroca**	**154.62 318**⇑		*i* P		**PKPab**	**09 11 42.0**	**+1.1**
SORM	**Soroca**	**154.62 318**	⇑	PKP2		**PKPab**	**09 11 42.0**	**+1.1**
TLCR		**155.71 311**⇑		*i* P		**PKPab**	**09 11 47.0**	**+1.3**
TLCR		**155.71 311**	⇑	PKP2		**PKPab**	**09 11 47.0**	**+1.3**
EKA	**Eskdalemuir Ar**	**156.01 8**		PKPab		**PKPab**	**09 11 47.1**	**+0.5**
	comp=Z,6.1nm,0.8s,baz=336,slow=3.9,SNR=6.4								
CFR	**Carcaliu**	**156.15 312**⇑		*i* P		**PKPab**	**09 11 47.9**	**+0.3**
CFR	**Carcaliu**	**156.15 312**	⇑	PKP2		**PKPab**	**09 11 47.9**	**+0.3**
TIRR	**Tirgusor**	**156.27 310**⇑		*i* P		**PKPab**	**09 11 48.9**	**+0.7**
TIRR	**Tirgusor**	**156.27 310**		*e*PKPab		**PKPab**	**09 11 48.8**	**+0.7**
TIRR	**Tirgusor**	**156.27 310**	⇑	PKP2		**PKPab**	**09 11 48.9**	**+0.7**
TESR	**Tescani**	**156.44 316**⇓		*i* P		**PKPab**	**09 11 48.4**	**-0.4**
PETR	**Petresti**	**156.47 313**⇓		*i* P		**PKPab**	**09 11 50.8**	**+1.8**
ISP	**Isparta**	**156.48 293**⇑		*i* P		**PKPab**	**09 11 48.7**	**-0.7**
ISP	**Isparta**	**156.48 293**		*e*PKPab		**PKPab**	**09 11 48.8**	**-0.7**
ISP				LR	LR				
	comp=Z,500nm,20.0s								
ISP	**Isparta**	**156.48 293**		*e*PKP2		**PKPab**	**09 11 48.8**	**-0.7**
ISP				MLR	MLR				
	comp=Z,500nm,20.0s								
HARR	**Harsova**	**156.49 311**⇑		*i* P		**PKPab**	**09 11 50.0**	**+0.9**
HARR	**Harsova**	**156.49 311**	⇑	PKP2		**PKPab**	**09 11 50.0**	**+0.9**
ODBI	**Odobesti**	**156.56 314**⇓		*i* P		**PKPab**	**09 11 52.0**	**+2.6**
BUR08	**Bucovina Ar. S**	**156.66 319**		*e*PKPdf		**PKPdf**	**09 11 19.5**	**-1.1**
BUR08				*e*PKPab		**PKPab**	**09 11 50.3**	**+0.4**
BUR04	**Bucovina Ar. S**	**156.67 319**		*e*PKPdf		**PKPdf**	**09 11 20.3**	**-0.4**
BUR04				*e*PKPab		**PKPab**	**09 11 50.6**	**+0.7**
BURAR	**Bucovina Array**	**156.67 319**⇑		*i* P		**PKPab**	**09 11 50.6**	**+0.7**
BURAR	**Bucovina Array**	**156.67 319**	⇑	PKP2		**PKPab**	**09 11 50.6**	**+0.7**
KWP	**Kalwaria Pacla**	**156.70 326**		*e*PKPdf		**PKPdf**	**09 11 20.1**	**-0.4**
KWP				*e*PKPab		**PKPab**	**09 11 50.4**	**+0.6**
KWP				*e*pPKPab		**sPKPab**	**09 12 02.6**	**+5.7**
KWP	**Kalwaria Pacla**	**156.70 326**		*e*PKPdf		**PKPdf**	**09 11 20.6**	**+0.1**
KWP				*e*PKPab		**PKPab**	**09 11 50.5**	**+0.6**
KWP	**Kalwaria Pacla**	**156.70 326**		*e*PKIKP		**PKPdf**	**09 11 20.1**	**-0.4**
VRI	**Vrincioaia**	**156.72 314**⇓		*i* P		**PKPab**	**09 11 51.2**	**+1.1**
VRI	**Vrincioaia**	**156.72 314**	⇓	PKP2		**PKPab**	**09 11 51.2**	**+1.1**
PLOR	**Plostina**	**156.77 314**⇑		*i* P		**PKPab**	**09 11 51.2**	**+0.9**
PLOR	**Plostina**	**156.77 314**	⇑	PKP2		**PKPab**	**09 11 51.2**	**+0.9**
GRER		**156.79 313**⇓		*i* P		**PKPab**	**09 11 52.5**	**+2.1**
ISR	**Istrita**	**157.19 313**⇑		*i* P		**PKPab**	**09 11 53.6**	**+1.4**
ISR	**Istrita**	**157.19 313**	⇑	PKP2		**PKPab**	**09 11 53.6**	**+1.4**
MLR	**Muntele Rosu**	**157.38 314**		PKP		**PKPdf**	**09 11 20.9**	**-0.8**
	comp=Z,3.7nm,1.3s,baz=127,slow=5.1,SNR=7.8								
MLR				PKPab		**PKPab**	**09 11 52.8**	**-0.3**
	comp=Z,5.0nm,1.1s,baz=24,slow=5.2,SNR=3.1								
MLR	**Muntele Rosu**	**157.38 314**⇑		*i* P		**PKPab**	**09 11 53.7**	**+0.6**
MLR	**Muntele Rosu**	**157.38 314**		*e*PKPdf		**PKPdf**	**09 11 20.8**	**-0.8**
MLR				*e*PKPab		**PKPab**	**09 11 53.4**	**+0.4**
ARCR	**ARCALIA**	**157.46 319**⇓		*i* P		**PKPab**	**09 11 55.0**	**+1.8**
DOPR	**Dopca**	**157.47 316**⇑		*i* P		**PKPab**	**09 11 53.9**	**+0.6**
SECR		**157.52 313**⇑		*i* P		**PKPab**	**09 11 54.7**	**+1.1**
STHS	**Stebnicka Huta**	**157.54 327**		*e*PKP		**PKPdf**	**09 11 22.3**	**+0.7**
STHS				*e*			09 11 54.0		
STHS	**Stebnicka Huta**	**157.54 327**		*e*PKIKP		**PKPdf**	**09 11 22.3**	**+0.7**
SULR		**157.57 312**⇓		*i* P		**PKPab**	**09 11 54.9**	**+1.2**
BMR	**Baia Mare**	**157.57 321**⇑		*i* P		**PKPab**	**09 11 54.8**	**+1.2**
BMR	**Baia Mare**	**157.57 321**	⇑	PKP2		**PKPab**	**09 11 54.8**	**+1.2**
UZH	**Uzhgorod**	**157.58 325**		*e*PKIKP		**PKPdf**	**09 11 21.2**	**-0.4**
UZH				*e*			09 11 32.4		
UZH				*i*			09 11 53.0		
OJC	**Ojcow**	**157.59 331**		*e*PKPdf		**PKPdf**	**09 11 21.4**	**-0.2**
OJC				*e*PKPab		**PKPab**	**09 11 53.6**	**0.0**
OJC	**Ojcow**	**157.59 331**		*e*PKPdf		**PKPdf**	**09 11 20.7**	**-0.9**
OJC				*e*PKPab		**PKPab**	**09 11 53.8**	**+0.2**
OJC	**Ojcow**	**157.59 331**		*e*PKIKP		**PKPdf**	**09 11 21.4**	**-0.2**
TRPA	**Tarpa**	**157.78 323**⇑		*i* P		**PKPab**	**09 11 55.2**	**+0.7**
CRVS	**Cervenica-Dubn**	**157.80 326**		*e*PKP		**PKPdf**	**09 11 21.8**	**-0.1**
CRVS				*e*			09 11 55.1		
CRVS	**Cervenica-Dubn**	**157.80 326**		*e*PKIKP		**PKPdf**	**09 11 21.8**	**-0.1**
CRVS				*e*			09 11 55.1		
MANT	**Manisa**	**157.91 295**		*e*PKPab		**PKPab**	**09 11 56.1**	**+0.3**
VOIR		**157.95 315**⇑		*i* P		**PKPab**	**09 11 55.8**	**+0.3**
VOIR		**157.95 315**	⇑	PKP2		**PKPab**	**09 11 55.8**	**+0.3**
NIE	**Niedzica**	**157.97 328**		*e*PKPdf		**PKPdf**	**09 11 22.3**	**+0.2**
NIE				*e*PKPab		**PKPab**	**09 11 55.9**	**+0.6**
NIE	**Niedzica**	**157.97 328**		*e*PKIKP		**PKPdf**	**09 11 22.3**	**+0.2**
CJR	**Cluj-Napoca**	**158.09 319**⇑		*i* P		**PKPab**	**09 11 57.3**	**+1.3**
CJR	**Cluj-Napoca**	**158.09 319**	⇑	PKP2		**PKPab**	**09 11 57.3**	**+1.3**
ARR	**Arges**	**158.24 315**⇑		*i* P		**PKPab**	**09 11 58.0**	**+1.3**
KSP	**Ksiaz**	**158.43 336**		*e*PKPdf		**PKPdf**	**09 11 22.4**	**-0.2**
KSP				*e*PKPab		**PKPab**	**09 11 57.9**	**+0.7**
KSP	**Ksiaz**	**158.43 336**		*e*PKIKP		**PKPdf**	**09 11 22.4**	**-0.2**
HUMR	**Humele**	**158.44 313**⇑		*i* P		**PKPab**	**09 11 58.1**	**+0.6**
DRGR		**158.54 320**⇓		*i* P		**PKPab**	**09 11 58.2**	**+0.3**
DRGR		**158.54 320**	⇓	PKP2		**PKPab**	**09 11 58.2**	**+0.3**
OKC	**Ostrava-Krasne**	**158.56 332**		*e*PKPAB		**PKPab**	**09 11 58.6**	**+0.8**
OKC	**Ostrava-Krasne**	**158.56 332**		*e*PKP2		**PKPab**	**09 11 58.6**	**+0.8**
LOT	**Lotru**	**158.71 316**⇑		*i* P		**PKPab**	**09 11 59.6**	**+0.8**
UPC	**Upice**	**158.81 336**		*e*PKPAB		**PKPab**	**09 11 59.2**	**+0.4**
UPC	**Upice**	**158.81 336**		*e*PKP2		**PKPab**	**09 11 59.2**	**+0.4**
DPC	**Dobruska-Polom**	**158.83 336**		*e*PKPDF		**PKPdf**	**09 11 23.2**	**+0.1**
DPC				*e*PKPAB		**PKPab**	**09 11 59.6**	**+0.6**
DPC				*e*PP	PP		**09 15 37.2**	**-2.1**
DPC	**Dobruska-Polom**	**158.83 336**		*e*PKIKP		**PKPdf**	**09 11 23.2**	**+0.1**
DPC				*e*			09 11 59.6		
DPC				*e*			09 15 37.2		
MORC	**Moravsky Berou**	**158.84 333**⇓		*i* P		**PKPab**	**09 11 59.2**	**+0.1**
MORC	**Moravsky Berou**	**158.84 333**		*e*PKPdf		**PKPdf**	**09 11 22.7**	**-0.5**
MORC				*e*PKPab		**PKPab**	**09 11 58.3**	**-0.8**
MORC	**Moravsky Berou**	**158.84 333**		*e*PKIKP		**PKPdf**	**09 11 22.7**	**-0.5**
MORC				*e*			09 11 58.3		
KRLC	**Kraliky**	**158.89 334**		*e*PKPAB		**PKPab**	**09 11 59.7**	**+0.4**
KRLC	**Kraliky**	**158.89 334**		*e*PKP2		**PKPab**	**09 11 59.7**	**+0.4**
CLL	**Collm**	**159.02 342**		*e*PKPdf		**PKPdf**	**09 11 23.0**	**-0.2**
CLL			⇑	*i*PKPab		**PKPab**	**09 11 59.3**	**-0.4**
	comp=Z,45nm,1.3s		

	comp=Z,25nm,1.3s,SNR=5.0							
WATA	**Walderalm**	**163.01**	**339**	*e*PKPab	**PKPab**	**09 12 17.7**	**+0.3**	
	comp=Z,18nm,0.9s							
LJU	**Ljubljana**	**163.05**	**331**	*e*PKPdf	**PKPdf**	**09 11 28.0**	**+0.2**	
WTTA	**Wattenberg**	**163.05**	**339**	*e*PKPdf	**PKPdf**	**09 11 27.4**	**-0.5**	
	comp=Z,6.4nm,0.7s							
WTTA				*i* PKPab	**PKPab**	**09 12 18.2**	**+0.5**	
	comp=Z,39nm,1.6s,SNR=5.1							
PDG	**Podgorica**	**163.09**	**314** ⇑	*i*P	**PKPab**	**09 12 18.4**	**+0.6**	
TTG	**Podgorica**	**163.09**	**314**	*e*PKPab	**PKPab**	**09 12 18.5**	**+0.6**	
TTG	**Podgorica**	**163.09**	**314**	*e*PKP2	**PKPab**	**09 12 18.5**	**+0.6**	
RETA	**Reutte**	**163.11**	**341**	*i* PKPab	**PKPab**	**09 12 18.1**	**+0.4**	
	comp=Z,34nm,1.5s,SNR=7.1							
MOTA	**Moosalm**	**163.14**	**340**	*e*PKPdf	**PKPdf**	**09 11 26.8**	**-1.2**	
	comp=Z,7.5nm,0.9s							
MOTA				*i* PKPab	**PKPab**	**09 12 18.3**	**+0.2**	
	comp=Z,54nm,1.5s,SNR=6.0							
ECH	**Echery**	**163.18**	**350**	*e*PKPab	**PKPab**	**09 12 17.3**	**-0.7**	
ECH	**Echery**	**163.18**	**350**	*e*PKP2	**PKPab**	**09 12 17.3**	**-0.7**	
ABTA	**Abfaltersbach**	**163.23**	**336**	*e*PKPdf	**PKPdf**	**09 11 27.1**	**-0.9**	
	comp=Z,16nm,1.4s							
ABTA				*e*PKPab	**PKPab**	**09 12 17.8**	**-0.6**	
	comp=Z,27nm,1.3s							
TIR	**Tirane**	**163.28**	**310** ⇑	*i*P	**PKPab**	**09 12 19.6**	**+0.9**	
TIR	**Tirane**	**163.28**	**310**	*e*PKPab	**PKPab**	**09 12 17.1**	**-1.6**	
TIR				LR	LR			
	comp=Z,680nm,19.0s							
TIR	**Tirane**	**163.28**	**310**	*e*PKP2	**PKPab**	**09 12 17.1**	**-1.6**	
TIR				MLR	MLR			
	comp=Z,680nm,19.0s							
JAVS	**Javornik**	**163.36**	**332**	*e*PKPdf	**PKPdf**	**09 11 28.0**	**-0.2**	
JAVS				*i* PKPab	**PKPab**	**09 12 18.1**	**-0.9**	
SLE	**Schleitheim**	**163.39**	**346**	PKIKP	**PKPdf**	**09 11 30.2**	**+2.1**	
DAVA	**Damuels**	**163.52**	**343**	*i* PKPdf	**PKPdf**	**09 11 28.0**	**-0.4**	
	comp=Z,11nm,1.3s							
DAVA				PKPab	**PKPab**	**09 12 19.8**	**0.0**	
	comp=Z,21nm,1.2s							
FETA	**Feichten**	**163.54**	**341**	*e*PKPdf	**PKPdf**	**09 11 28.1**	**-0.3**	
	comp=Z,16nm,1.1s							
FETA				*i* PKPab	**PKPab**	**09 12 19.8**	**-0.1**	
	comp=Z,31nm,1.4s,SNR=5.8							
TUE	**Stuetta**	**164.42**	**343**	*e*PKPdf	**PKPdf**	**09 11 29.0**	**-0.3**	
TUE				LR	LR			
	comp=Z,786nm,19.0s							
MATE	**Matera**	**165.68**	**312** ⇓	*i*P	**PKPab**	**09 12 30.1**	**+0.8**	
VLC	**Villacollemand**	**166.21**	**337**	PFAKE		09 11 40.0	+9.4	
VLC				LR	LR			
	comp=Z,790nm,22.0s							
BNI	**Bardonecchia**	**166.34**	**348**	*e*PKPdf	**PKPdf**	**09 11 29.9**	**-0.9**	
BNI				LR	LR			
	comp=Z,1µm,22.0s							
BNI	**Bardonecchia**	**166.34**	**348**	*e*PKIKP	**PKPdf**	**09 11 29.9**	**-0.9**	
BNI				MLR	MLR			
	comp=Z,1µm,22.0s							
SSB	**Saint Sauveur**	**166.38**	**355**	PFAKE		09 11 40.0	+9.3	
SSB				LR	LR			
	comp=Z,321nm,19.0s							
TIP	**Timpagrande**	**166.41**	**307** ⇓	*i*P	**PKPab**	**09 12 33.5**	**+0.8**	
TIP	**Timpagrande**	**166.41**	**307**	*e*PKPab	**PKPab**	**09 12 33.2**	**+0.5**	
TIP				LR	LR			
	comp=Z,565nm,20.0s							
AQU	**L'Aquila**	**166.43**	**324**	*e*PKPab	**PKPab**	**09 12 33.0**	**+0.4**	
AQU				LR	LR			
	comp=Z,762nm,21.0s							
AQU	**L'Aquila**	**166.43**	**324**	*e*PKP2	**PKPab**	**09 12 33.0**	**+0.4**	
AQU				MLR	MLR			
	comp=Z,762nm,21.0s							
PGAV	**Gavieira, Arco**	**166.47**	**38**	*e*PKPdf	**PKPdf**	**09 11 32.2**	**+1.2**	
CUC	**Castrocucco**	**166.61**	**312**	*e*PKPab	**PKPab**	**09 12 33.6**	**+0.1**	
CUC				LR	LR			
	comp=Z,364nm,20.0s							
CEL	**Celeste**	**167.44**	**305**	*e*PKPab	**PKPab**	**09 12 38.1**	**+0.8**	
CEL				LR	LR			
	comp=Z,511nm,19.0s							
PCAS	**Casmilo, Conde**	**167.62**	**45**	*e*PKPab	**PKPab**	**09 12 38.0**	**+0.1**	
MVO	**Moncorvo**	**167.69**	**37**	*e*PKPdf	**PKPdf**	**09 11 33.5**	**+1.6**	
MVO	**Moncorvo**	**167.69**	**37**	*e*PKPab	**PKPab**	**09 12 38.6**	**+0.4**	
MTE	**Manteigas**	**167.95**	**41**	*e*PKPab	**PKPab**	**09 12 39.1**	**-0.3**	
MTE	**Manteigas**	**167.95**	**41**	*e*PKPdf	**PKPdf**	**09 11 33.0**	**+0.9**	
MTE				LR	LR			
	comp=Z,775nm,20.0s							
PCBR	**Castelo Branco**	**168.36**	**43**	*e*PKPdf	**PKPdf**	**09 11 34.1**	**+1.8**	
PMRV	**Marv??o**	**168.68**	**44**	*e*PKPab	**PKPab**	**09 12 42.3**	**-0.3**	
PNCL	**Nicolau / Gran**	**168.72**	**52**	*e*PKPdf	**PKPdf**	**09 11 34.1**	**+1.5**	
VAE	**Valguarnera**	**168.84**	**304**	PKPab	**PKPab**	**09 12 45.0**	**+1.4**	
	comp=Z,13nm,0.6s,baz=94,slow=16,SNR=2.6							
PBEJ	**Beja**	**169.21**	**51**	*e*PKPdf	**PKPdf**	**09 11 34.9**	**+2.0**	
PCVE	**Castro Verde**	**169.30**	**54**	*e*PKPdf	**PKPdf**	**09 11 34.0**	**+1.0**	
WDD	**Wied Dalam**	**169.41**	**296**	PFAKE		09 11 40.0	+6.9	
WDD				LR	LR			
	comp=Z,528nm,21.0s							
PBAR	**Barrancos**	**169.66**	**49**	*e*PKPdf	**PKPdf**	**09 11 34.6**	**+1.4**	
PAB	**San Pablo**	**170.25**	**35**	*e*PKPdf	**PKPdf**	**09 11 33.4**	**-0.2**	
PAB				LR	LR			
	comp=Z,825nm,22.0s							
PAB	**San Pablo**	**170.25**	**35**	*e*PKIKP	**PKPdf**	**09 11 33.4**	**-0.2**	
PAB				MLR	MLR			
	comp=Z,825nm,22.0s							
ESDC	**Sonseca Array**	**170.34**	**33**	PKP	**PKPdf**	**09 11 34.0**	**+0.4**	
	comp=Z,0.3nm,0.2s,baz=347,slow=4.6,SNR=9.7							
ESDC				PKPab	**PKPab**	**09 12 49.6**	**-0.3**	
	comp=Z,0.4nm,0.4s,baz=318,slow=3.9,SNR=7.4							
ESDC				PP	**PP**	**09 16 41.6**	**+1.8**	
	comp=Z,0.1nm,0.3s,baz=343,slow=3.9,SNR=4.7							
ESLA	**Sonseca Array**	**170.34**	**33**	*e*PKPdf	**PKPdf**	**09 11 33.6**	**0.0**	
ES19	**SONSECA Array**	**170.34**	**32**	*e*PKPdf	**PKPdf**	**09 11 33.9**	**+0.3**	
ES19				*e*PKPab	**PKPab**	**09 12 48.8**	**-1.1**	
TAM	**Tamanrasset**	**170.80**	**196**	*e*PKPdf	**PKPdf**	**09 11 35.6**	**+1.1**	
TAM				LR	LR			
	comp=Z,542nm,20.0s							
TAM	**Tamanrasset**	**170.80**	**196**	*e*PKIKP	**PKPdf**	**09 11 35.6**	**+1.1**	
TAM				MLR	MLR			
	comp=Z,542nm,20.0s							
KEST	**Kesra**	**173.23**	**308**	PKPab	**PKPab**	**09 13 03.9**	**+0.9**	
	comp=Z,34nm,1.0s,baz=34,slow=2.2,SNR=10							
KEST	**Kesra**	**173.23**	**308**	*e*PKPab	**PKPab**	**09 13 04.2**	**+1.2**	

*ISCJB **17** 08:51:43.3±0.8, 38°.90N×0°.04×142°.03E±0°.09, h53km±5km, mb3.8/14, Error ellipse: s-maj=12.5km s-min=6.4km az=16.7*
*JMA **17** 08:51:44.3±0.1, 38°.88N×141°.98E, h49km±1km, M3.8*
JMA Felt I J1.
*IDC **17** 08:51:47.5±2.5, 39°.02N×141°.94E, h71km±18km, mb3.6/14, mb1 3.6/18, mb1mx3.4/89, mbtmp3.8/18, Error ellipse: s-maj=23.7km s-min=14.6km az=144.0*
ISC 17 08:51:44.6±1.2, 38°.91N±0°.05×142°.03E±0°.09, h47km±9km, n35, σ1s75/38, mb3.9/14, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OFUJ	**Ofunato**	**0.33**	**301**	P	**Pn**	**08 51 53.5**	**-0.2**
OFUJ				*e*S	**Sn**	**08 51 59.7**	**-0.5**
JMK	**Ichinoseki**	**0.63**	**274**	P	**Pn**	**08 51 56.7**	**-0.6**
JMK				*e*S	**Sn**	**08 52 05.5**	**-1.0**
JIO	**Ouri**	**0.70**	**230**	P	**Pn**	**08 51 57.2**	**-1.0**
JIO				*e*S	**Sn**	**08 52 06.0**	**-2.0**
JOM	**Ohasama**	**0.81**	**315**	P	**Pn**	**08 51 59.3**	**-0.3**
JOM				*e*S	**Sn**	**08 52 10.0**	**-0.5**
JRG	**Rokugo**	**1.19**	**295**	P	**Pn**	**08 52 04.2**	**-0.6**
JRG				*e*S	**Sn**	**08 52 18.8**	**-1.1**
JOU	**Okura**	**1.20**	**244**	P	**Pn**	**08 52 03.9**	**-1.1**
JYK	**Kaneyama**	**1.30**	**271**	P	**Pn**	**08 52 05.7**	**-0.7**
JMM	**Marumori**	**1.43**	**223**	P	**Pn**	**08 52 06.6**	**-1.4**
JMM				*e*S	**Sn**	**08 52 23.4**	**-2.2**
JANG	**Nango**	**1.52**	**345**	P	**Pn**	**08 52 08.8**	**-0.5**
MAT	**Matsushiro**	**3.84**	**233**	P	**Pn**	**08 52 43.2**	**+2.0**
MAT				S	**Sn**	**08 53 31.0**	**+5.9**
MJAR	**Matsushiro Arr**	**3.84**	**233**	P	**Pn**	**08 52 42.4**	**+1.2**
	1.7nm,0.3s,baz=36,slow=11,SNR=48						
MJAR				S	Sn	08 53 35.0	+10
	0.6nm,0.3s,baz=77,slow=9.8,SNR=4.5						
ASAJ	**Asahikawa**	**5.22**	**4**	P	**Pn**	**08 53 00.5**	**+0.4**
	0.7nm,0.3s,baz=220,slow=12,SNR=7.2						
ASAJ				S	**Sn**	**08 53 59.6**	**+0.7**
	0.6nm,0.3s,baz=291,slow=17,SNR=4.4						
USRK	**Ussuriysk Ar.**	**9.20**	**308**	P	**Pn**	**08 53 57.5**	**+3.0**
	0.4nm,0.3s,baz=117,slow=13,SNR=9.9						
KSRS	**Korea Array**	**11.20**	**267**	P	**Pn**	**08 54 25.7**	**+3.7**
	0.2nm,0.3s,baz=84,slow=14,SNR=3.6						
SEY	**Seymchan**	**24.86**	**11**	P	**P**	**08 57 02.1**	**-0.2**
	1.3nm,0.9s,baz=225,slow=7.5,SNR=4.7						
SONM	**Songino Array**	**27.20**	**301**	P	**P**	**08 57 24.5**	**+0.7**
	0.4nm,0.6s,baz=94,slow=7.7,SNR=3.5						
H11N2	**WAKE ISLAND Hy**	**28.75**	**125**	T	T	09 28 03.1	
	baz=317,slow=75,SNR=110						
H11N1	**WAKE ISLAND Hy**	**28.76**	**125**	T	T	09 28 03.9	
	baz=317,slow=75,SNR=242						
H11N3	**WAKE ISLAND Hy**	**28.77**	**125**	T	T	09 28 04.7	
	baz=317,slow=75,SNR=146						
H11S1	**WAKE ISLAND Hy**	**29.52**	**127**	T	T	09 28 59.6	
	baz=318,slow=76,SNR=53						
H11S3	**WAKE ISLAND Hy**	**29.53**	**127**	T	T	09 28 59.8	
	baz=318,slow=76,SNR=92						
H11S2	**WAKE ISLAND Hy**	**29.54**	**127**	T	T	09 29 02.2	
	baz=318,slow=76,SNR=62						
TIXI	**Tiksi**	**33.49**	**352**	P	**P**	**08 58 19.1**	**+0.2**
	1.6nm,0.3s,baz=174,slow=9.2,SNR=3.3						
ZALV	**Zalesovo Beam**	**41.04**	**311**	P	**P**	**08 59 22.5**	**-0.6**
	0.8nm,0.5s,baz=78,slow=14,SNR=5.9						
ZALV				PcP	**PcP**	**09 01 20.6**	**-1.5**
	0.4nm,0.3s,baz=74,slow=6.2,SNR=2.4						
MKAR	**Makanchi Array**	**43.56**	**301**	P	**P**	**08 59 43.0**	**-0.8**
	1.6nm,0.6s,baz=83,slow=9.9,SNR=16						
KURBB	**Kurchatov Arra**	**45.26**	**307**	P	**P**	**08 59 56.2**	**-0.9**
	3.1nm,0.6s,baz=80,slow=8.2,SNR=5.9						
BVAR	**Borovoye Array**	**49.69**	**311**	P	**P**	**09 00 31.0**	**-0.5**
	1.0nm,0.5s,baz=75,slow=7.9,SNR=4.3						
AKTO	**Aktyubinsk**	**57.80**	**311**	P	**P**	**09 01 30.1**	**-0.8**
	0.6nm,0.4s,baz=82,slow=13,SNR=3.3						
YKA	**Yellowknife Ar**	**61.95**	**31**	P	**P**	**09 01 57.6**	**-1.5**
	0.2nm,0.6s,baz=299,slow=7.9,SNR=3.2						
FINES	**FINESS Array B**	**67.39**	**332**	P	**P**	**09 02 34.0**	**-0.6**
	0.7nm,0.6s,baz=74,slow=10,SNR=3.3						
YBH	**Yreka Blue Hor**	**68.82**	**53**	P	**P**	**09 02 45.9**	**+1.9**
	2.3nm,0.8s,baz=0.0,slow=6.1,SNR=8.7						
YBH	**Yreka Blue Hor**	**68.82**	**53**	*e*P	**P**	**09 02 46.4**	**+2.3**
	2.6nm,0.8s						
NOA	**NORSAR Array B**	**72.65**	**337**	P	**P**	**09 03 05.9**	**-1.0**
	0.9nm,0.8s,baz=38,slow=5.6,SNR=2.9						
FRB	**Frobisher Bay**	**74.84**	**14**	P	**P**	**09 03 17.6**	**-2.0**
	2.0nm,0.7s,baz=319,slow=9.9,SNR=7.6						
PDAR	**Pinedale Array**	**76.01**	**46**	P	**P**	**09 03 28.3**	**+1.3**
	0.4nm,0.7s,baz=318,slow=2.0,SNR=5.1						

*IDC **17** 08:55:08.7±1.2, 63°.18N×178°.02E, h0km, mb3.7/13, mb1 3.8/13, mb1mx3.6/94, mbtmp3.7/13, MS4.0/1, Ms1 4.0/1, ms1mx3.6/73, Error ellipse: s-maj=35.0km s-min=16.0km az=169.0*
*ISCJB **17** 08:55:09.0±0.4, 63°.32N±0°.09×178°.07E±0°.07, h10km, mb4.0/24, MS4.0/1, Error ellipse: s-maj=12.6km s-min=4.6km az=176.8*
*NEIC **17** 08:55:10.7±0.4, 63°.25N×178°.13E, h10km, mb4.0/27, Error ellipse: s-maj=13.4km s-min=5.2km az=178.0*
ISC 17 08:55:10.7±0.6, 63°.2N±0°.1×178°.25E±0°.06, h10km, n65, σ1s28/62, mb4.0/24, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GAMB	**Gambell**	**4.55**	**78**	*e*Pn	**Pn**	**08 56 16.8**	**-2.5**
SEY	**Seymchan**	**11.71**	**280**	Pn	**Pn**	**08 58 00.6**	**+3.0**
	0.2nm,0.3s,baz=67,slow=22,SNR=2.6						
SEY				Sn	Sn	09 00 20.9	+13
	0.1nm,0.3s,baz=17,slow=19,SNR=2.1						
SEY				Lg	Lg	09 01 25.9	
	0.1nm,0.3s,baz=348,slow=23,SNR=1.6						
IM3	**Indian Mountai**	**12.30**	**64**	*e*Pn	**Pn**	**08 58 05.2**	**-0.3**
SVW2	**Sparrevohn**	**12.38**	**88**	*e*Pn	**Pn**	**08 58 05.5**	**-1.2**
CAST	**Castle Rocks**	**13.29**	**76**	*e*Pn	**Pn**	**08 58 17.8**	**-1.2**
PPLA	**Purkeypile**	**13.36**	**78**	*e*Pn	**Pn**	**08 58 20.6**	**+0.5**
MLY	**Manley**	**13.60**	**68**	*e*Pn	**Pn**	**08 58 22.0**	**-1.4**
BPAW	**Bear Paw Mtn.**	**13.63**	**72**	*e*Pn	**Pn**	**08 58 23.1**	**-0.7**
COLD	**Coldfoot**	**13.74**	**59**	*e*Pn	**Pn**	**08 58 26.2**	**+1.0**
KTH	**Kantishna Hill**	**13.77**	**75**	*e*Pn	**Pn**	**08 58 26.1**	**+0.5**
TRF	**Thorofare Moun**	**14.06**	**75**	*e*Pn	**Pn**	**08 58 30.5**	**+0.6**
TOLK	**Toolik Lake Re**	**14.10**	**53**	*e*Pn	**Pn**	**08 58 30.9**	**+0.7**
SUA	**Susitna One**	**14.44**	**83**	*e*Pn	**Pn**	**08 58 35.3**	**+0.5**
HOM	**Homer**	**14.75**	**90**	*e*Pn	**Pn**	**08 58 40.5**	**+1.4**
WRH	**Wood River Hil**	**14.81**	**70**	*e*Pn	**Pn**	**08 58 40.2**	**+0.4**
CCB	**Clear Creek Bu**	**14.90**	**69**	*e*Pn	**Pn**	**08 58 40.4**	**-0.6**
ILAR	**Eielson Array**	**15.27**	**68**	Pn	**Pn**	**08 58 44.6**	**-1.3**
	0.1nm,0.3s,baz=274,slow=13,SNR=11						
ILB	**Eielson Array**	**15.27**	**68**	*e*Pn	**Pn**	**08 58 45.5**	**-0.5**
HDA	**Harding Lake**	**15.31**	**70**	*e*Pn	**P**	**08 58 50.9**	**-0.4**
	8.6nm,0.9s						
SML	**Sawmill**	**15.40**	**80**	*e*Pn	**Pn**	**08 58 50.0**	**+2.3**
	5.3nm,0.9s						
FYU	**Fort Yukon**	**15.72**	**61**	*e*Pn	**Pn**	**08 58 52.3**	**+0.5**
	11nm,1.2s						
SCM	**Sheep Creek Mo**	**15.84**	**79**	*e*Pn	**P**	**08 58 56.1**	**-1.2**
	9.7nm,1.1s						
PAX	**Paxson**	**16.30**	**74**	*e*Pn	**P**	**08 59 01.5**	**-0.9**
	8.7nm,1.4s						
KLU	**Klutina**	**16.59**	**80**	*e*Pn	**P**	**08 59 05.2**	**-0.4**
	8.6nm,1.0s						
SCRK	**Sand Creek**	**16.67**	**70**	*e*Pn	**Pn**	**08 59 05.0**	**+1.0**
	2.6nm,1.1s						
DOT	**Dot Lake**	**16.72**	**72**	*e*Pn	**Pn**	**08 59 04.2**	**-0.4**
	27nm,1.7s						
MENT	**Mentasta**	**17.07**	**74**	*e*Pn	**P**	**08 59 11.6**	**+0.7**
	2.9nm,0.8s						
EGAK	**Eagle**	**17.67**	**67**	*e*Pn	**Pn**	**08 59 16.1**	**-0.4**
	3.3nm,1.0s						
DAWY	**Dawson**	**18.59**	**68**	*e*P	**P**	**08 59 27.1**	**-0.5**
	3.3nm,0.8s						
INK	**Inuvik**	**20.01**	**54**	P	**P**	**08 59 43.8**	**+0.8**
	8.2nm,0.5s,baz=283,slow=10.0,SNR=95						
INK	**Inuvik**	**20.01**	**54**	*e*P	Pn	08 59 43.9	-0.8
	9.2nm,0.6s						
TIXI	**Tiksi**	**20.15**	**316**	*e*P	Pn	08 59 45.9	-0.4
	6.9nm,0.4s						
HYT	**Haines Junctio**	**20.59**	**76**	*e*P	**P**	**08 59 47.7**	**-1.9**
	5.2nm,0.8s						
BESE	**Bessie Mountai**	**22.85**	**80**	*e*P	**P**	**09 00 14.0**	**+0.2**
	6.6nm,1.0s						
KLR	**Kul'dur**	**28.64**	**263**	P	**P**	**09 01 06.0**	**-1.0**
	0.1nm,0.5s,baz=37,slow=10,SNR=6.5						
YKA	**Yellowknife Ar**	**29.41**	**61**	P	**P**	**09 01 13.3**	**-0.3**
	0.4nm,0.6s,baz=301,slow=8.3,SNR=8.0						
RES	**Resolute Bay**	**30.03**	**32**	P	**P**	**09 01 19.3**	**+0.2**
	0.8nm,0.6s,baz=248,slow=7.1						
RES	**Resolute Bay**	**30.03**	**32**	*e*P	**P**	**09 01 19.3**	**+0.2**
	0.2nm,0.6s						
LON	**Longmire**	**36.55**	**88**	*e*P	**P**	**09 02 16.4**	**+0.2**
	2.0nm,0.9s						
JHJ	**Hachijo jima 2**	**38.49**	**237**	LR	LR	09 17 44.1	
	comp=Z,236nm,20.4s,baz=24,slow=35						
PINE	**Pine Mountain**	**39.21**	**90**	*e*P	**P**	**09 02 41.0**	**+2.1**
	3.3nm,0.8s						
FCC	**Fort Churchill**	**39.63**	**55**	*e*P	**P**	**09 02 41.8**	**0.0**
	5.2nm,1.3s						
KSRS	**Korea Array**	**39.63**	**254**	P	**P**	**09 02 40.9**	**-1.3**
	0.6nm,0.4s,baz=34,slow=13,SNR=3.6						
KS15	**Wonju Array Si**	**39.66**	**254**	*e*P	**P**	**09 02 41.5**	**-0.9**
KSAR	**Wonju Array Be**	**39.66**	**254**	P	**P**	**09 02 40.9**	**-1.5**
K05A	**Summer Lake**	**40.07**	**91**	*e*P	**P**	**09 02 48.8**	**+2.9**
	24nm,1.8s						
SONA0	**Songino Array**	**41.09**	**283**	*e*P	**P**	**09 02 54.8**	**+0.6**
SONM	**Songino Array**	**41.09**	**283**	P	**P**	**09 02 54.8**	**+0.6**
	1.0nm,0.8s,baz=52,slow=6.1,SNR=5.2						
CMB	**Columbia Colle**	**44.07**	**95**	*e*P	**P**	**09 03 20.3**	**+1.8**
	1.1nm,1.0s						
WAKR	**Walker**	**44.12**	**94**	*e*P	**P**	**09 03 20.7**	**+1.6**
	1.0nm,0.5s						
NVAR	**Mina Array Bea**	**44.69**	**93**	P	**P**	**09 03 24.1**	**+0.4**
	0.9nm,0.7s,baz=312,slow=7.2,SNR=5.5						
HPAH	**Hawaii Prepara**	**46.63**	**145**	*e*P	**P**	**09 03 39.2**	**+0.2**
	75nm,0.6s						
SRU	**San Rafael Swe**	**47.66**	**85**	*e*P	**P**	**09 03 48.7**	**+1.7**
	3.3nm,0.8s						
KNB	**Kanab**	**48.33**	**89**	*e*P	**P**	**09 03 53.9**	**+1.6**
	2.2nm,0.8s						
U15A	**North Rim**	**49.06**	**89**	*e*P	**P**	**09 03 59.2**	**+1.3**
	1.6nm,0.8s						
KURK	**Kurchatov**	**50.23**	**305**	*e*P	**P**	**09 04 05.1**	**-1.2**
KURBB	**Kurchatov Arra**	**50.34**	**305**	P	**P**	**09 04 05.1**	**-2.1**
	0.2nm,0.3s,baz=40,slow=8.2,SNR=3.8						
BVAR	**Borovoye Array**	**51.23**	**312**	P	**P**	**09 04 11.1**	**-2.8**
	0.2nm,0.4s,baz=108,slow=9.5,SNR=2.4						
NRS	**Narsarsuaq**	**51.66**	**25**	*e*P	**P**	**09 04 17.1**	**+0.3**
	16nm,0.9s						
MK32	**Makanchi Array**	**52.04**	**300**	*e*P	**P**	**09 04 18.2**	**-1.8**
MKAR	**Makanchi Array**	**52.04**	**300**	P	**P**	**09 04 18.2**	**-1.8**
	0.4nm,0.6s,baz=48,slow=8.4,SNR=2.8						
FIA0	**FINESS Array S**	**53.93**	**344**	*e*P	**P**	**09 04 33.7**	**0.0**
FINES	**FINESS Array B**	**53.93**	**344**	P	**P**	**09 04 33.7**	**0.0**
	1.3nm,0.8s,baz=23,slow=11,SNR=3.1						
HFS	**Hagfors**	**56.45**	**351**	P	**P**	**09 04 52.4**	**+0.5**
	0.9nm,0.5s,baz=53,slow=7.6,SNR=4.2						
AAK	**Ala-Archa**	**58.55**	**303**	P	**P**	**09 05 05.9**	**-1.2**
	1.4nm,0.4s,baz=23,slow=13,SNR=1.7						

*ISCJB **17** 09:02:28.8±0.8, 36°.44N±0°.06×70°.94E±0°.09, h188km, mb3.3/6, Error ellipse: s-maj=10.9km s-min=8.5km az=24.3*
*IDC **17** 09:02:32.5±4.6, 36°.58N×71°.22E, h214km±37km, mb3.1/6, mb1 3.2/11, mb1mx2.9/85, mbtmp3.7/11, Error ellipse: s-maj=39.8km s-min=20.4km az=42.0*
*NNC **17** 09:02:37.1±1.0, 36°.93N×70°.99E, h189km±10km, mb2.5, mpv3.6, Error ellipse: s-maj=9.7km s-min=4.5km az=156.0*
ISC 17 09:02:29.8±1.2, 36°.5N±0°.1×71°.03E±0°.08, h188km, n25, σ1s91/32, mb3.3/6, 6C-6D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZET	**Dzherino**	**2.89**	**323** ⇑	P	**Pn**	**09 03 20.7**	**+3.1**
	6.3nm,0.3s						
DZET				⇑S	**Sn**	**09 03 55.5**	**+0.5**
	128nm,0.6s						
SFK	**Sufi-Kurgan**	**4.01**	**28** ⇓	P	**Pn**	**09 03 35.1**	**+3.6**
	3.1nm,0.4s						
SFK				⇑S	**Sn**	**09 04 19.6**	**-0.4**
	38nm,0.7s						
AML	**Almayashu**	**5.99**	**19**	P	**Pn**	**09 03 59.5**	**+2.4**
	SNR=77						
MNAS	**Manas**	**6.09**	**10** ⇓	P	**Pn**	**09 04 00.4**	**+2.3**
	2.8nm,0.3s						
MNAS				⇑S	**Sn**	**09 05 05.8**	**-2.1**
	9.4nm,0.4s						
UCH	**Uchtor**	**6.33**	**24**	P	**Pn**	**09 04 04.0**	**+2.5**
	SNR=27						
KZA	**Kyzart**	**6.46**	**29**	P	**Pn**	**09 04 05.3**	**+2.1**
	SNR=11						
EKS2	**Erkin-Say**	**6.51**	**18**	P	**Pn**	**09 04 06.1**	**+2.5**
	SNR=5.3						
KK31	**Karatay Array**	**6.61**	**357** ⇓	P	**Pn**	**09 04 06.1**	**+1.3**
	0.7nm,0.3s,baz=178,slow=13,SNR=37						
KK31				⇑S	**Sn**	**09 05 17.8**	**-2.2**
	2.0nm,0.4s,baz=176,slow=21,SNR=6.3						
AAK	**Ala-Archa**	**6.69**	**23**	P	**Pn**	**09 04 08.7**	**+2.8**
	5.5nm,0.3s,baz=156,slow=5.0,SNR=51						
AAK				S	**Sn**	**09 05 22.2**	**+0.1**
	0.3nm,0.3s,baz=240,slow=3.8,SNR=3.8						
AAK	**Ala-Archa**	**6.69**	**23** ⇓	P	**Pn**	**09 04 08.0**	**+2.0**
	6.3nm,0.3s						
AAK				⇑S	**Sn**	**09 05 21.5**	**-0.6**
	9.6nm,0.7s						
AAK	**Ala-Archa**	**6.69**	**23**	P	**Pn**	**09 04 08.6**	**+2.6**
	SNR=23						
ULHL	**Ulahol**	**7.02**	**34**	P	**Pn**	**09 04 12.8**	**+2.5**
	SNR=7.1						
USP	**Ospenovka**	**7.27**	**20**	P	**Pn**	**09 04 15.7**	**+2.3**
	SNR=6.1						
TKM2	**Tokmak 2**	**7.32**	**27** ⇓	P	**Pn**	**09 04 16.2**	**+2.0**
	5.8nm,0.5s						
TKM2				⇓S	**Sn**	**09 05 36.6**	**-0.4**
	2.0nm,0.8s						
TKM2	**Tokmak 2**	**7.32**	**27**	P	**Pn**	**09 04 16.6**	**+2.4**
	SNR=13

STKA	**Stephens Creek**	**26.39**	**190**	P	P	09 11 02.1	-0.6
	0.5nm,0.6s,baz=22,slow=11,SNR=2.0							
JCJ	**Chichijima**	**32.98**	**353**	LR	LR	09 22 19.2		
	comp=Z,806nm,20.9s,baz=52,slow=30							

*ISCJB **17** 09:06:03.8±0.4,59˚.02N±0˚.03×18˚.17E±0˚.04, h0km, Error ellipse: s-maj=4.1km s-min=3.3km az=170.9*
*UPP **17** 09:06:04.2±0.1,58˚.99N×18˚.22E, h0km, ML2.1*
*CSEM **17** 09:06:04.6±0.2,59˚.01N×18˚.15E, h2km, ML2.1, Error ellipse: s-maj=4.5km s-min=3.8km az=153.0, Mining explosion.*
*IDC **17** 09:06:04.7±2.5,58˚.83N×18˚.29E, h0km, mb1 3.0/4, mb1mx2.8/86, mbtmp2.9/4, ML2.4/4, Error ellipse: s-maj=33.0km s-min=9.2km az=177.0*
*HEL **17** 09:06:05.2±0.1,59˚.00N×18˚.20E, h0km, ML2.2, ML2.1(UPP), Explosion*
*BER **17** 09:06:07.3±3.8,59˚.10N×18˚.17E, h0km, ML2.1(NAO), Suspected explosion*
*NAO **17** 09:06:08.9±1.2,59˚.43N×18˚.13E, ML2.1*

ISC 17 09:06:04.1±0.7, 58˚.99N±0˚.02×18˚.17E±0˚.02, h0km, n80, σ1§20/114, Baltic Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
						h m s	ISC
NRTU	**Norrtaelje**	**0.73**	**19**	P	**Pg**	**09 06 17.8**	**-0.2**
NRTU				S	**Sg**	**09 06 27.1**	**-0.3**
NRTU	**Norrtaelje**	**0.73**	**19**	*i* P	**Pg**	**09 06 17.8**	**-0.2**
NRTU				*i* S	**Sg**	**09 06 27.1**	**-0.3**
VIKU	**Vikbolandet**	**0.91**	**238**	P	**Pg**	**09 06 21.8**	**+0.3**
VIKU	**Vikbolandet**	**0.91**	**238**	P	**Pg**	**09 06 21.8**	**+0.3**
VIKU	**Vikbolandet**	**0.91**	**238**	*e*P	**Pg**	**09 06 21.8**	**+0.3**
UPP	**Uppsala**	**0.91**	**342**	P	**Pg**	**09 06 22.0**	**+0.4**
UPP	**Uppsala**	**0.91**	**342**	P	**Pg**	**09 06 22.0**	**+0.4**
UPP	**Uppsala**	**0.91**	**342**	*e*P	**Pg**	**09 06 22.0**	**+0.4**
ESKU	**Eskilstuna**	**0.95**	**285**	P	**Pg**	**09 06 22.1**	**-0.1**
ESKU	**Eskilstuna**	**0.95**	**285**	P	**Pg**	**09 06 22.1**	**-0.1**
ESKU	**Eskilstuna**	**0.95**	**285**	*e*P	**Pg**	**09 06 22.1**	**-0.1**
FIBU	**Brunna**	**1.00**	**336**	P	**Pg**	**09 06 23.1**	**-0.2**
FIBU	**Brunna**	**1.00**	**336**	P	**Pg**	**09 06 23.1**	**-0.2**
BACU	**Backbrunna**	**1.02**	**328**	P	**Pg**	**09 06 23.4**	**-0.3**
BACU	**Backbrunna**	**1.02**	**328**	P	**Pg**	**09 06 23.4**	**-0.3**
BACU	**Backbrunna**	**1.02**	**328**	*e*P	**Pg**	**09 06 23.4**	**-0.3**
FLYU	**Flymyra**	**1.15**	**353**	P	**Pg**	**09 06 25.7**	**-0.4**
FLYU	**Flymyra**	**1.15**	**353**	P	**Pg**	**09 06 25.7**	**-0.4**
FLYU	**Flymyra**	**1.15**	**353**	*e*P	**Pg**	**09 06 25.7**	**-0.4**
GOTU	**Gotland**	**1.33**	**171**	P	**Pg**	**09 06 28.6**	**-0.8**
GOTU	**Gotland**	**1.33**	**171**	P	**Pg**	**09 06 28.6**	**-0.8**
GOTU	**Gotland**	**1.33**	**171**	*e*P	**Pg**	**09 06 28.6**	**-0.8**
OSTU	**Oestervaala**	**1.35**	**337**	P	**Pg**	**09 06 29.4**	**-0.5**
OSTU				S	**Sg**	**09 06 47.1**	**-0.3**
OSTU	**Oestervaala**	**1.35**	**337**	P	**Pg**	**09 06 29.4**	**-0.5**
OSTU				S	**Sg**	**09 06 47.1**	**-0.3**
OSTU	**Oestervaala**	**1.35**	**337**	*e*P	**Pg**	**09 06 29.4**	**-0.5**
OSTU				*e*S	**Sg**	**09 06 47.1**	**-0.3**
GRAU	**Graesoe**	**1.36**	**8**	P	**Pg**	**09 06 29.4**	**-0.7**
GRAU	**Graesoe**	**1.36**	**8**	P	**Pg**	**09 06 29.5**	**-0.7**
GRAU	**Graesoe**	**1.36**	**8**	*e*P	**Pg**	**09 06 29.4**	**-0.7**
FORU	**Forsmark**	**1.40**	**0**	P	**Pn**	**09 06 30.2**	**-0.6**
FORU	**Forsmark**	**1.40**	**0**	P	**Pn**	**09 06 30.2**	**-0.6**
FORU	**Forsmark**	**1.40**	**0**	*e*P	**Pn**	**09 06 30.2**	**-0.6**
AAL	**Aland**	**1.51**	**37**	*e*P	**Pn**	**09 06 31.6**	**-0.7**
AAL				*e*Sb	**Sg**	**09 06 51.5**	**-1.0**
AAL	**Aland**	**1.51**	**37**	*e*P	**Pn**	**09 06 31.6**	**-0.7**
AAL				*e*SB	**Sg**	**09 06 51.5**	**-1.0**
VSTU	**Vaestervik**	**1.59**	**214**	P	**Pb**	**09 06 33.9**	**-0.4**
VSTU	**Vaestervik**	**1.59**	**214**	P	**Pb**	**09 06 33.9**	**-0.4**
VSTU	**Vaestervik**	**1.59**	**214**	*e*P	**Pb**	**09 06 33.9**	**-0.4**
LNKU	**Linkoeping**	**1.59**	**242**	P	**Pn**	**09 06 33.8**	**+0.3**
LNKU	**Linkoeping**	**1.59**	**242**	P	**Pn**	**09 06 33.8**	**+0.3**
LNKU	**Linkoeping**	**1.59**	**242**	*e*P	**Pn**	**09 06 33.8**	**+0.3**
NRAU	**Nora**	**1.71**	**291**	P	**Pb**	**09 06 35.8**	**-0.5**
NRAU	**Nora**	**1.71**	**291**	P	**Pb**	**09 06 35.8**	**-0.5**
NRAU	**Nora**	**1.71**	**291**	*e*P	**Pb**	**09 06 35.8**	**-0.5**
ASKU	**Askersund**	**1.74**	**268**	P	**Pb**	**09 06 36.2**	**-0.6**
ASKU	**Askersund**	**1.74**	**268**	P	**Pb**	**09 06 36.2**	**-0.6**
ASKU	**Askersund**	**1.74**	**268**	*e*P	**Pb**	**09 06 36.2**	**-0.6**
HFS	**Hagfors**	**2.55**	**299**	Pn	**Pn**	**09 06 48.4**	**+1.8**
	baz=105,slow=14						
HFS				Lg	Lg	09 07 22.4	
	baz=115,slow=28						
HFS	**Hagfors**	**2.55**	**299**	Pn	**Pn**	**09 06 48.4**	**+1.8**
	0.5nm,0.3s,baz=117,slow=16,SNR=24						
HFS				Sn	**Sb**	**09 07 21.7**	**-0.9**
	2.3nm,0.3s,baz=119,slow=29,SNR=25						
HFS	**Hagfors**	**2.55**	**299**	Pn	**Pn**	**09 06 48.4**	**+1.8**
	SNR=8.8						
HFS				Lg	Lg	09 07 22.4	
	SNR=1.0						
HFS	**Hagfors**	**2.55**	**299**	Pn	**Pn**	**09 06 48.4**	**+1.8**
	baz=105,slow=14						
HFS				Lg	Lg	09 07 22.4	
	baz=115,slow=28						
SLIT	**Slitere, Latvi**	**2.57**	**120**	*e*P	**Pn**	**09 06 47.0**	**+0.2**
	SNR=50						
SLIT				*e*S	**Sb**	**09 07 23.0**	**0.0**
	SNR=50						
RAF	**Rauma**	**2.72**	**40**	*e*P	**Pn**	**09 06 49.8**	**+0.8**
RAF				*e*S	**Sn**	**09 07 23.8**	**+1.2**
RAF	**Rauma**	**2.72**	**40**	*e*P	**Pn**	**09 06 49.8**	**+0.8**
	baz=228						
RAF				*e*S	**Sn**	**09 07 23.8**	**+1.2**
RAF				MSG		09 07 24.9	
	comp=Z,9.1nm,0.2s						
MTSE	**Matsula**	**2.94**	**93**	*e*P	**Pn**	**09 06 52.8**	**+0.8**
	SNR=50						
MTSE				*e*S	**Sn**	**09 07 29.0**	**+1.0**
	SNR=50						
MTSE	**Matsula**	**2.94**	**93**	*e*P	**Pn**	**09 06 53.1**	**+1.0**
MTSE				*e*S	**Sn**	**09 07 29.8**	**+1.7**
MEF	**Metsahovi**	**3.39**	**66**	*e*P	**Pn**	**09 06 59.7**	**+1.5**
	SNR=50						
MEF				*e*S	**Sn**	**09 07 39.2**	**+0.1**
	comp=Z,4.6nm,0.2s,SNR=50						
HEMU	**Hemsoen**	**3.70**	**359**	*e*P	**Pn**	**09 07 03.0**	**+0.6**
HEMU	**Hemsoen**	**3.70**	**359**	*e*P	**Pn**	**09 07 03.0**	**+0.6**
NRA0	**NORESS Array S**	**3.77**	**300**	Pn	**Pn**	**09 07 02.9**	**-0.5**
	baz=107,slow=12						
NRA0				Pg	**Pb**	**09 07 12.0**	**+0.5**
	baz=103,slow=16						
NRA0				Sn	**Sn**	**09 07 47.5**	**-1.0**
	baz=111,slow=16						
NRA0				Lg	Lg	09 08 01.1	
	baz=113,slow=28						
NRA0	**NORESS Array S**	**3.77**	**300**	Pn	**Pn**	**09 07 02.9**	**-0.5**
	SNR=4.7						
NRA0	**NORESS Array S**	**3.77**	**300**	Pg	**Pb**	**09 07 12.0**	**+0.5**
	SNR=8.1						
NRA0				Sn	**Sn**	**09 07 47.5**	**-1.0**
	SNR=3.6						
NRA0				Lg	Lg	09 08 01.1	
	SNR=9.3						
NRA0	**NORESS Array S**	**3.77**	**300**	Pn	**Pn**	**09 07 02.9**	**-0.5**
	baz=107,slow=12						
NRA0				Pg	**Pb**	**09 07 12.0**	**+0.5**
	baz=103,slow=16						
NRA0				Sn	**Sn**	**09 07 47.5**	**-1.0**
	baz=111,slow=16						
NRA0				Lg	Lg	09 08 01.1	
	baz=113,slow=28						
NB2	**NORSAR Subarra**	**4.05**	**303**	Pn	**Pn**	**09 07 08.1**	**+0.8**
	baz=125,slow=14						
NB2				Pg	**Pb**	**09 07 16.9**	**+0.7**
	baz=123,slow=14						
NB2				Sn	**Sn**	**09 07 56.5**	**+1.1**
NB2				Lg	Lg	09 08 11.2	
	baz=123,slow=28						
NB2	**NORSAR Subarra**	**4.05**	**303**	Pn	**Pn**	**09 07 08.1**	**+0.8**
	SNR=0.5						
NB2	**NORSAR Subarra**	**4.05**	**303**	Pg	**Pb**	**09 07 17.0**	**+0.7**
	SNR=3.8						
NB2				Sn	**Sn**	**09 07 56.5**	**+1.1**
NB2				Lg	Lg	09 08 11.2	
	SNR=4.6						
NB2	**NORSAR Subarra**	**4.05**	**303**	Pn	**Pn**	**09 07 08.1**	**+0.8**
	baz=125,slow=14						
NB2				Pg	**Pb**	**09 07 16.9**	**+0.7**
	baz=123,slow=14						
NB2				Sn	**Sn**	**09 07 56.5**	**+1.1**
NB2				Lg	Lg	09 08 11.2	
	baz=123,slow=28						
NOA	**NORSAR Array B**	**4.05**	**303**	Pn	**Pn**	**09 07 08.2**	**+0.8**
	comp=Z,0.1nm,0.3s,baz=130,slow=19,SNR=6.7						
NOA				Sn	**Sn**	**09 07 55.8**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=321,slow=24,SNR=2.4						
NOA				Lg	Lg	09 08 12.3	
	comp=Z,1.0nm,0.3s,baz=128,slow=24,SNR=7.2						
KEF	**Keuruu**	**4.59**	**43**	*e*P	**Pn**	**09 07 16.4**	**+1.8**
KEF	**Keuruu**	**4.59**	**43**	*e*P	**Pn**	**09 07 16.4**	**+1.8**
	baz=230						
KEF				*e*SG	**Sb**	**09 08 26.1**	**+4.9**
VAF	**Ylistaro**	**4.62**	**26**	*e*P	**Pn**	**09 07 17.3**	**+2.3**
VAF				*e*Sg	**Sg**	**09 08 27.3**	**-4.9**
VAF	**Ylistaro**	**4.62**	**26**	*e*P	**Pn**	**09 07 17.3**	**+2.3**
	baz=213						
VAF				*e*SG	**Sg**	**09 08 27.3**	**-4.9**
FIA0	**FINESS Array S**	**4.65**	**55**	Pn	**Pn**	**09 07 15.2**	**-0.2**
	baz=243,slow=14						
FIA0				Sn	**Sn**	**09 08 10.0**	**0.0**
	baz=244,slow=22						
FIA0				Lg	Lg	09 08 27.4	
	baz=248,slow=28						
FIA0	**FINESS Array S**	**4.65**	**55**	Pn	**Pn**	**09 07 15.2**	**-0.2**
	SNR=8.8						
FIA0	**FINESS Array S**	**4.65**	**55**	*e*P	**Pn**	**09 07 16.8**	**+1.4**
FIA0				Sn	**Sn**	**09 08 10.0**	**0.0**
	SNR=5.3						
FIA0				Lg	Lg	09 08 27.4	
	SNR=0.3						
FIA0	**FINESS Array S**	**4.65**	**55**	*e*P	**Pn**	**09 07 16.8**	**+1.4**
	baz=233						
FIA0				*e*S	**Sn**	**09 08 10.6**	**+0.6**
FIA0	**FINESS Array S**	**4.65**	**55**	Pn	**Pn**	**09 07 15.2**	**-0.2**
	baz=243,slow=14						
FIA0				Sn	**Sn**	**09 08 10.0**	**0.0**
	baz=244,slow=22						
FIA0				Lg	Lg	09 08 27.4	
	baz=248,slow=28						
FINES	**FINESS Array B**	**4.65**	**55**	Pn	**Pn**	**09 07 16.6**	**+1.2**
	comp=Z,0.3nm,0.3s,baz=245,slow=12,SNR=14						
FINES				Sn	**Sn**	**09 08 09.9**	**0.0**
	comp=Z,1.0nm,0.3s,baz=245,slow=20,SNR=14						
FINES				Lg	Lg	09 08 27.3	
	comp=Z,1.0nm,0.3s,baz=244,slow=23,SNR=7.4						
ARA0	**ARCESS Array S**	**11.04**	**14**	Pn	**Pn**	**09 08 40.8**	**-2.2**
	baz=194,slow=12						
ARA0	**ARCESS Array S**	**11.04**	**14**	Pn	**Pn**	**09 08 40.8**	**-2.2**
	baz=194,slow=12						
ARCES	**ARCESS Array B**	**11.04**	**14**	Pn	**Pn**	**09 08 41.4**	**-1.7**
	comp=Z,0.1nm,0.3s,baz=194,slow=13,SNR=10						

*IDC **17** 09:14:58.8±1.4,52˚.51N×170˚.62W, h0km, mb3.4/7, mb1 3.8/9, mb1mx3.5/78, mbtmp3.6/9, ML3.7/2, Error ellipse: s-maj=44.2km s-min=15.1km az=3.0*
*ISCJB **17** 09:15:03.3±0.7,51˚.99N±0˚.10×170˚.40W±0˚.07, h35km, mb3.6/8, Error ellipse: s-maj=14.8km s-min=4.0km az=160.6*
*NEIC **17** 09:15:05.2±0.0,52˚.22N×170˚.52W, h40km, ML3.5(AEIC), After AEIC.*

ISC 17 09:15:03.5±0.9, 52˚.2N±0˚.1×170˚.52W±0˚.06, h35km, n35, σ2§24/33, mb3.5/8, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
						h m s	ISC
OKSP	**Okmok Steeple**	**1.74**	**51**	P	**Pn**	**09 15 33.0**	**+1.8**
OKSP				S	**Sn**	**09 15 53.9**	**+1.8**
OKWE	**Okmok W'ng Wal**	**1.90**	**46**	P	**Pn**	**09 15 35.9**	**+2.4**
OKAK	**Okmok**	**1.93**	**42**	P	**Pn**	**09 15 34.5**	**+0.8**
OKTU	**Okmok Mt. Tuli**	**1.94**	**50**	P	**Pn**	**09 15 36.4**	**+2.4**
OKTU				S	**Sn**	**09 16 00.7**	**+3.6**
KOFP	**Korovin Flat P**	**2.20**	**274**	P	**Pn**	**09 15 40.4**	**+2.8**
KOFP				S	**Sn**	**09 16 07.0**	**+3.4**
KOKL	**Mount Kliuchef**	**2.27**	**275**	P	**Pn**	**09 15 41.1**	**+2.6**
KOWE	**Korovin West**	**2.30**	**276**	P	**Pn**	**09 15 41.5**	**+2.6**
MGOD	**Makushin Gods**	**2.74**	**52**	P	**Pn**	**09 15 46.8**	**+1.8**
MREP	**Makushin Rep't**	**2.81**	**53**	P	**Pn**	**09 15 48.0**	**+2.0**
MTBL	**Makushin Table**	**2.94**	**51**	P	**Pn**	**09 15 49.9**	**+2.2**
UNV	**Unalaska Valle**	**2.95**	**54**	P	**Pn**	**09 15 49.6**	**+1.8**
UNV				S	**Sn**	**09 16 24.3**	**+2.3**
AKRB	**Akutan Reef Bi**	**3.32**	**52**	P	**Pn**	**09 15 55.5**	**+2.6**
AHB	**Akutan Harbor**	**3.44**	**54**	P	**Pn**	**09 15 56.8**	**+2.2**
GSTD	**Great Sitkin T**	**3.47**	**270**	P	**Pn**	**09 15 57.2**	**+2.2**
ETKA	**Kagalaska Isla**	**3.65**	**267**	P	**Pn**	**09 15 59.8**	**+2.3**
ADAG	**Mount Adagdak**	**3.76**	**269**	P	**Pn**	**09 16 01.6**	**+2.7**
KIKV	**Kanaga Island**	**4.12**	**269**	P	**Pn**	**09 16 06.1**	**+2.2**
SPIA	**Saint Paul Isl**	**5.02**	**2**	P	**Pn**	**09 16 18.5**	**+2.3**
KDAK	**Kodiak Island**	**11.72**	**54**	Pn	**Pn**	**09 17 46.1**	**-1.9**
	0.7nm,0.3s,baz=206,slow=6.1,SNR=9.7						
KDAK				Sn	Sn	09 19 46.9	-10
	0.2nm,0.3s,baz=285,slow=20,SNR=2.4						
PETK	**Petropavlovsk-**	**19.23**	**285**	P	**P**	**09 19 24.3**	**-0.1**
	0.9nm,0.3s,baz=84,slow=14,SNR=15						
INK	**Inuvik**	**23.90**	**34**	P	**P**	**09 20 11.5**	**-2.0**
	0.3nm,0.4s,baz=234,slow=6.9,SNR=4.3						
YKA	**Yellowknife Ar**	**30.50**	**48**	P	**P**	**09 21 15.8**	**-0.6**
	0.1nm,0.7s,baz=273,slow=8.2,SNR=3.2						
YAK	**Yakutsk**	**32.77**	**311**	P	**P**	**09 21 30.8**	**-1.9**
	16nm,0.4s,baz=83,slow=1.6,SNR=2.5						
KLR	**Kul'dur**	**35.85**	**289**	P	**P**	**09 21 56.7**	**-2.9**
	0.0nm,0.4s,baz=16,slow=18,SNR=3.6						
H11N2	**WAKE ISLAND Hy**	**36.86**	**217**	T	T	10 01 52.7	
	baz=22,slow=75						
H11N3	**WAKE ISLAND Hy**	**36.87**	**217**	T	T	10 01 31.7	
	baz=22						
H11N1	**WAKE ISLAND Hy**	**36.88**	**217**	T	T	10 02 06.4	
	baz=22,slow=75						
H11S1	**WAKE ISLAND Hy**	**38.06**	**217**	T	T	10 03 28.4	
	baz=22,slow=76,SNR=23						
H11S2	**WAKE ISLAND Hy**	**38.07**	**217**	T	T	10 02 59.2	
	baz=22,slow=76,SNR=28						
H11S3	**WAKE ISLAND Hy**	**38.07**	**217**	T	T	10 02 59.5	
	baz=22,slow=76,SNR=22						
NVAR	**Mina Array Bea**	**38.37**	**90**	P	**P**	**09 22 22.9**	**+1.5**
	0.5nm,0.7s,baz=280,slow=8.8,SNR=4.7						
PDAR	**Pinedale Array**	**41.14**	**78**	P	**P**	**09 22 44.3**	**-0.1**
	0.4nm,0.7s,baz=324,slow=4.5,SNR=2.8						
SONM	**Songino Array**	**50.79**	**300**	P	**P**	**09 23 58.2**	**-2.0**
	0.2nm,0.4s,baz=35,slow=5.3,SNR=2.7						
TXAR	**Lajitas Array**	**53.46**	**88**	P	**P**	**09 24 20.6**	**+0.4**
	0.7nm,0.8s,baz=313,slow=6.2,SNR=8.4						
BRTR	**Keskin Array B**	**86.09**	**342**	P	**P**	**09 27 41.2**	**+0.6**
	0.2nm,0.3s,baz=24,slow=3.9,SNR=2.8						

*ISCJB **17** 09:31:50.1±0.7,0˚.92S±0˚.07×99˚.88E±0˚.06, h57km, mb3.7/5, Error ellipse: s-maj=11.1km s-min=8.0km az=28.0*
*DJA **17** 09:31:50.7±0.7,1˚.S±4˚×10˚0E±˚, h33km±13km, M3.8/7, MLv3.8/7*
*IDC **17** 09:31:55.8±3.5,0˚.14S×100˚.94E, h102km±46km, mb3.4/5, mb1 3.4/6, mb1mx3.1/62, mbtmp3.7/6, Error ellipse: s-maj=243.1km s-min=18.4km az=53.0*

ISC 17 09:31:48.9±1.0, 0˚.91S±0˚.07×99˚.93E±0˚.07, h57km, n14, σ1§81/12, mb3.6/5, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
						h m s	ISC
PDSI	**Padang**	**0.53**	**91**	P	**Pn**	**09 32 03.1**	**+2.1**
SISI	**Saibi**	**0.94**	**244**	P	**Pn**	**09 32 08.0**	**+1.9**
SDSI	**Sungai Dareh**	**1.50**	**91**	P	Pn	09 32 16.1	+2.6
BKNI	**Bangkinang**	**1.65**	**42**	P	Pn	09 32 19.0	+3.4
MNSI	**Mandailing Nat**	**1.73**	**348**	P	**Pn**	**09 32 18.4**	**+1.7**
PPSI	**Pulau Pagai**	**1.85**	**178**	P	**Pn**	**09 32 20.0**	**+1.7**
PBSI	**Pulau Batu**	**1.86**	**297**	S	**Sn**	**09 32 41.5**	**+0.7**
GSI	**Gunungsitoli**	**3.22**	**313**	P	**Pn**	**09 32 37.7**	**+0.6**
PSI	**Prapat**	**3.82**	**345**	P	**Pn**	**09 32 47.9**	**+2.5**
	2.6nm,0.3s,baz=161,slow=15,SNR=5.2						
WRA	**Warramunga Arr**	**38.61**	**122**	P	**P**	**09 39 05.9**	**-1.0**
	0.3nm,0.4s,baz=304,slow=8.9,SNR=5.9						
ASAR	**Alice Springs**	**39.95**	**127**	P	**P**	**09 39 17.3**	**-0.8**
	0.2nm,0.4s,baz=295,slow=7.5,SNR=4.1						
MKAR	**Makanchi Array**	**49.97**	**344**	P	**P**	**09 40 36.2**	**-1.1**
	0.7nm,0.3s,baz=155,slow=8.3,SNR=16						
KURBB	**Kurchatov Arra**	**54.49**	**343**	P	**P**	**09 41 09.2**	**-1.5**
	0.2nm,0.3s,baz=168,slow=8.0,SNR=4.2						
ZALV	**Zalesovo Beam**	**56.09**	**349**	P	**P**	**09 41 20.4**	**-1.7**
	0.8nm,0.3s,baz=168,slow=7.4,SNR=3.7						

*ISCJB **17** 09:49:20.5±0.4,24˚.27S±0˚.04×67˚.39W±0˚.03, h166km±4km, mb3.7/9, Error ellipse: s-maj=6.9km s-min=4.7km az=23.9*
*GUC **17** 09:49:20.9±0.3,24˚.19S×67˚.65W, h180km±9km, ML4.6*
*SJA **17** 09:49:20.0±0.9,24˚.36S×67˚.39W, h172km±12km, ML3.5, MW3.9*
*IDC **17** 09:49:20.9±2.6,24˚.27S×67˚.16W, h156km±23km, mb3.6/9, mb1 3.8/13, mb1mx3.6/38, mbtmp4.0/13, Error ellipse: s-maj=27.6km s-min=16.4km az=68.0*

ISC 17 09:49:21.2±0.8, 24˚.26S±0˚.05×67˚.37W±0˚.04, h159km±7km, n32, σ1§12/43, mb3.9/9, 2C-1D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
						h m s	ISC
SLA	**San Lorenzo**	**1.76**	**106**	*e*P	**Pn**	**09 49 55.2**	**+0.8**
SLA				IAML		09 49 55.9	
	comp=Z,376nm,0.7s						
SLA				*e*S	**Sn**	**09 50 20.6**	**+0.6**
AZAP	**Zapla**	**2.10**	**90**	*e*P	**Pn**	**09 49 58.8**	**+0.4**
AZAP				*e*S	**Sn**	**09 50 28.0**	**+1.1**
AZAP				IAML		09 50 29.6	
	comp=Z,178nm,0.6s						
GO02	**Mina Guanaco**	**2.21**	**246**	*e*P	**Pn**	**09 49 59.8**	**+0.1**
GO02				*e*S	**Sn**	**09 50 29.4**	**+0.1**
GO02				IAML		09 50 30.4	
	comp=N,2μm,0.4s						
FSA	**Cafayete**	**2.23**	**146**	*e*P	**Pn**	**09 49 58.7**	**-1.1**
FSA				IAML		09 49 59.2	
	comp=Z,155nm,0.3s						
PB06	**IPOC Station P**	**2.55**	**307**	⇑*i*P	**Pn**	**09 50 04.8**	**+1.2**
PB06				*e*S	**Sn**	**09 50 36.6**	**+0.4**
PB06				IAML		09 50 39.7	
	comp=N,2μm,0.1s						
ASTB	**Santa Barbara**	**2.68**	**84**	*e*P	**Pn**	**09 50 05.5**	**+0.2**
YJA	**Yavi**	**2.69**	**40**	*e*P	**Pn**	**09 50 07.4**	**+1.9**
PB14	**IPOC Station P**	**2.79**	**262**	*e*P	**Pn**	**09 50 06.4**	**-0.3**
PB14	**IPOC Station P**	**2.79**	**262**	⇑*i*P	**Pn**	**09 50 06.4**	**-0.3**
PB14				*e*S	**Sn**	**09 50 40.5**	**-1.3**
PB14				IAML		09 50 41.6	
	comp=E,534nm,0.6s						
PB10	**IPOC Station P**	**3.01**	**284**	*e*P	**Pn**	**09 50 09.6**	**+0.5**
PB10				*e*S	**Sn**	**09 50 45.4**	**-0.7**
PB10	**IPOC Station P**	**3.01**	**284**	*e*P	**Pn**	**09 50 09.6**	**+0.5**
PB10				*e*S	**Sn**	**09 50 45.3**	**-0.8**
PB10				IAML		09 50 50.2	
	comp=E,3μm,0.6s						
AHML	**Horco Molle**	**3.12**	**144**	*e*P	**Pn**	**09 50 10.0**	**-0.4**
AHML				IAML		09 50 10.4	
	comp=Z,88nm,0.5s						
PB04	**IPOC Station P**	**3.19**	**306**	*e*P	**Pn**	**09 50 12.0**	**+0.4**
PB04				*e*S	**Sn**	**09 50 48.7**	**-2.0**
PB04				IAML		09 50 50.9	
	comp=N,2μm,0.2s						
PB07	**IPOC Station P**	**3.42**	**317**	*e*P	**Pn**	**09 50 13.8**	**-0.8**
PB07				*e*S	**Sn**	**09 50 54.6**	**-1.3**
PB08	**IPOC Station P**	**4.42**	**338**	⇓*i*P	**Pn**	**09 50 28.4**	**+0.8**
PB08				*e*S	**Sn**	**09 51 19.8**	**+0.6**
PB08				IAML		09 51 21.6	
	comp=E,214nm,0.3s						
LPAZ	**La Paz**	**7.96**	**355**	P	**Pn**	**09 51 15.7**	**+0.9**
	comp=E,5.3nm,0.3s,baz=156,slow=7.9,SNR=115						
LPAZ				S	**Sn**	**09 52 41.4**	**-2.7**
	comp=E,0.1nm,0.3s,baz=47,slow=19,SNR=2.4						
CPUP	**Villa Florida**	**9.32**	**105**	P	**Pn**	**09 51 29.4**	**-2.7**
	comp=E,0.2nm,0.3s,baz=294,slow=11,SNR=13						
SIV	**San Ignacio**	**10.13**	**37**	P	**Pn**	**09 51 40.5**	**-2.4**
	comp=E,4.5nm,0.3s,baz=225,slow=13,SNR=40						
SIV				S	Sn	09 53 20.9	-14
	baz=207,slow=18,SNR=3.2						
PLCA	**Paso Flores**	**16.64**	**188**	P	**P**	**09 53 04.7**	**-0.2**
	comp=E,0.1nm,0.3s,baz=43,slow=11,SNR=3.3						
PTGA	**Pitinga**	**24.46**	**18**	P	**P**	**09 54 24.3**	**-1.3**
	comp=E,1.6nm,0.3s,baz=282,slow=19,SNR=3.6						
APG	**El Apazote**	**45.07**	**328**	P	**P**	**09 57 23.3**	**+1.5**
	comp=E,3.6nm,0.7s,baz=102,slow=14,SNR=3.8						
TXAR	**Lajitas Array**	**63.69**	**325**	P	**P**	**09 59 36.7**	**+0.8**
	comp=E,0.4nm,0.6s,baz=104,slow=7.0,SNR=5.8						
QSPA	**South Pole Qui**	**65.95**	**180**	P	**P**	**09 59 50.4**	**+0.4**
	comp=E,1.0nm,0.6s,baz=147,slow=3.3,SNR=3.8						
KOWA	**Kowa**	**72.85**	**65**	P	**P**	**10 00 32.5**	**-0.6**
	comp=E,1.4nm,0.5s,baz=261,slow=9.4,SNR=3.9						
PDAR	**Pinedale Array**	**77.20**	**330**	P	**P**	**10 00 58.6**	**+0.8**
	comp=E,0.3nm,0.5s,baz=123,slow=6.7,SNR=4.6						
ULM	**Lac du Bonnet**	**78.37**	**342**	P	**P**	**10 01 03.8**	**+0.1**
	comp=E,1.1nm,0.5s,baz=144,slow=1.8,SNR=4.7						
NVAR	**Mina Array Bea**	**78.53**	**322**	P	**P**	**10 01 05.1**	**0.0**
	comp

*ISCJB **17** 10:25:32.2±0.4, 18°.81N±0°.05×145°.4E±0°.1, h214km, mb3.7/19, Error ellipse: s-maj=19.4km s-min=7.6km az=1.1*
*IDC **17** 10:25:37.7±4.9, 18°.81N×145°.41E, h254km±49km, mb3.6/18, mb1 3.7/19, mb1mx3.4/61, mbtmp4.1/19, Error ellipse: s-maj=20.7km s-min=9.6km az=93.0*

ISC 17 10:25:33.6±0.6, **18.79N**±0°.08×**145.4E**±0°.2, **h214km, n21, σ0.71/21, mb3.8/19, Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**5.20**	**186**	S	**S**	**10 27 51.1**	**-0.8**
	6.9nm,0.3s,baz=0.0,slow=20,SNR=2.9						
MJAR	**Matsushiro Arr**	**18.79**	**342**	P	**P**	**10 29 37.7**	**+0.7**
	0.5nm,0.3s,baz=171,slow=9.8,SNR=6.3						
ASAJ	**Asahikawa**	**25.36**	**355**	P	**P**	**10 30 42.2**	**+1.2**
	2.1nm,0.5s,baz=181,slow=7.6,SNR=6.2						
KLR	**Kul'dur**	**32.31**	**343**	P	**P**	**10 31 42.6**	**+0.3**
	0.1nm,0.3s,baz=138,slow=11,SNR=4.1						
WRA	**Warramunga Arr**	**40.00**	**196**	P	**P**	**10 32 48.1**	**+0.3**
	8.9nm,0.5s,baz=22,slow=9.1,SNR=161						
FITZ	**Fitzroy Crossi**	**41.49**	**209**	P	**P**	**10 33 00.5**	**+0.5**
	1.9nm,0.3s,baz=31,slow=8.9,SNR=25						
ASAR	**Alice Springs**	**43.67**	**195**	P	**P**	**10 33 17.6**	**+0.1**
	0.6nm,0.3s,baz=20,slow=8.1,SNR=23						
DZM	**Mont Dzumac**	**45.52**	**152**	P	**P**	**10 33 32.7**	**+0.6**
	5.5nm,0.8s,baz=304,slow=17,SNR=3.5						
STKA	**Stephens Creek**	**50.51**	**184**	P	**P**	**10 34 10.3**	**+0.3**
	1.1nm,0.5s,baz=54,slow=8.7,SNR=3.0						
ZALV	**Zalesovo Beam**	**57.79**	**323**	P	**P**	**10 35 02.2**	**-0.2**
	0.9nm,0.3s,baz=134,slow=4.2,SNR=3.7						
MKAR	**Makanchi Array**	**58.22**	**314**	P	**P**	**10 35 06.0**	**+0.4**
	0.6nm,0.7s,baz=90,slow=8.5,SNR=3.5						
KURBB	**Kurchatov Arra**	**61.08**	**318**	P	**P**	**10 35 24.7**	**-0.2**
	1.8nm,0.2s,baz=92,slow=7.4,SNR=4.6						
ILAR	**Eielson Array**	**63.68**	**26**	P	**P**	**10 35 40.8**	**-1.0**
	1.0nm,0.7s,baz=253,slow=5.5,SNR=14						
BVAR	**Borovoye Array**	**66.24**	**320**	P	**P**	**10 35 58.6**	**-0.1**
	0.8nm,0.5s,baz=83,slow=6.0,SNR=5.2						
INK	**Inuvik**	**69.39**	**23**	P	**P**	**10 36 17.8**	**-0.1**
	1.0nm,0.5s,baz=278,slow=4.8,SNR=10						
YKA	**Yellowknife Ar**	**78.03**	**28**	P	**P**	**10 37 08.0**	**-0.2**
	1.0nm,0.6s,baz=290,slow=5.4,SNR=25						
YBH	**Yreka Blue Hor**	**79.09**	**50**	P	**P**	**10 37 14.0**	**-0.5**
	1.5nm,0.8s,baz=339,slow=8.6,SNR=4.4						
ARCES	**ARCESS Array B**	**82.33**	**342**	P	**P**	**10 37 30.7**	**-0.3**
	0.9nm,0.8s,baz=61,slow=7.4,SNR=3.5						
NVAR	**Mina Array Bea**	**83.28**	**52**	P	**P**	**10 37 37.7**	**+0.8**
	2.2nm,0.5s,baz=268,slow=5.9,SNR=28						
FINES	**FINESS Array B**	**86.69**	**335**	P	**P**	**10 37 51.2**	**-1.8**
	1.6nm,0.9s,baz=94,slow=6.3,SNR=4.2						
PDAR	**Pinedale Array**	**87.94**	**45**	P	**P**	**10 37 59.5**	**-0.2**
	0.4nm,0.6s,baz=267,slow=2.5,SNR=3.8						

*ISCJB **17** 10:32:11.2±0.8, 6°.9N±0°.1×92°.06E±0°.07, h23km, mb3.5/4, Error ellipse: s-maj=16.9km s-min=9.9km az=10.3*
*IDC **17** 10:32:12.2±1.5, 7°.04N×92°.43E, h0km, mb3.5/4, mb1 3.8/7, mb1mx3.5/69, mbtmp3.6/7, ML3.5/3, Error ellipse: s-maj=40.8km s-min=22.2km az=56.0*

ISC 17 10:32:13.7±1.0, **6.9N**±0°.1×**92.12E**±0°.10, **h23km, n10, σ0.92/7, mb3.5/4, Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**7.90**	**121**	Pn	**Pn**	**10 34 06.6**	**-0.8**
	1.3nm,0.3s,baz=341,slow=16,SNR=4.9						
PALK	**Pallekele**	**11.34**	**273**	Pn	Pn	10 35 01.8	+7.3
	0.1nm,0.3s,baz=117,slow=8.0,SNR=2.4						
PALK				Sn	**Sn**	**10 37 00.2**	**-0.5**
	0.8nm,0.3s,baz=115,slow=14,SNR=6.6						
CMAR	**Chiang Mai Arr**	**13.28**	**29**	Pn	**Pn**	**10 35 20.2**	**-0.7**
	0.1nm,0.3s,baz=227,slow=8.3,SNR=8.3						
H08S3	**Diego Garcia H**	**24.33**	**234**	T	T	11 03 32.3	
	baz=53,slow=75,SNR=54						
H08S2	**Diego Garcia H**	**24.33**	**234**	T	T	11 03 36.6	
	baz=53,slow=75,SNR=68						
H08S1	**Diego Carcia H**	**24.34**	**234**	T	T	11 03 25.3	
	baz=53,slow=75,SNR=55						
MKAR	**Makanchi Array**	**40.64**	**350**	P	**P**	**10 39 51.8**	**-0.2**
	0.2nm,0.4s,baz=168,slow=8.9,SNR=2.4						
SONM	**Songino Array**	**42.57**	**14**	P	**P**	**10 40 09.1**	**+1.1**
	0.2nm,0.4s,baz=220,slow=6.7,SNR=3.2						
WRA	**Warramunga Arr**	**49.36**	**124**	P	**P**	**10 41 02.2**	**+0.4**
	1.5nm,0.8s,baz=305,slow=9.0,SNR=16						
ASAR	**Alice Springs**	**50.86**	**128**	P	**P**	**10 41 13.9**	**+0.8**
	0.8nm,0.8s,baz=301,slow=7.4,SNR=9.7						

KRSC 17 10:32:20.3±1.0, **51.79N**×**159.23E, h40km**±**14km, ML3.6, Off east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KDTR	**Khodutka, Kamc**	**0.72**	**272**	*e*P	Pn	10 32 34.8	+0.9
KDTR				*e*S	Sn	10 32 44.1	+0.3
RUS	**Russkaya**	**0.78**	**326**	*e*P	Pn	10 32 35.5	+0.6
RUS				*e*S	Sn	10 32 45.4	0.0
MTVR	**Mutnovka**	**0.95**	**318**	*e*P	Pn	10 32 38.4	+1.1
MTVR				*e*S	Sn	10 32 50.5	+0.8
ASAK	**Asacha**	**1.01**	**306**	*e*P	Pn	10 32 39.5	+1.4
ASAK				*e*S	Sn	10 32 52.3	+1.1
KRMR	**Karymshinskiy**	**1.24**	**327**	*e*P	Pn	10 32 42.5	+1.3
KRMR				*e*S	Sn	10 32 57.5	+0.8
DALK	**Dalny**	**1.28**	**347**	*e*P	Pn	10 32 42.8	+1.2
DALK				*e*S	Sn	10 32 59.0	+1.4
PET	**Petropavlovsk**	**1.29**	**344**	*e*P	Pn	10 32 43.2	+1.4
PET				*e*S	Sn	10 32 59.4	+1.6
SPN	**Mys Shipunski**	**1.40**	**20**	*e*P	Pn	10 32 45.3	+2.0
SPN				*e*S	Sn	10 33 03.1	+2.6
UGLR	**Uglovaya**	**1.45**	**350**	*e*P	Pn	10 32 45.5	+1.5
SMAR	**Somma**	**1.50**	**350**	*e*P	Pn	10 32 46.8	+1.9
SDLR	**Sedlovina**	**1.51**	**352**	*e*P	Pn	10 32 45.9	+1.0
AVH	**Avacha**	**1.51**	**349**	*e*P	Pn	10 32 46.7	+1.8
PAU	**Pauzhetka**	**1.54**	**259**	*e*P	Pn	10 32 47.6	+2.3
PAU				*e*S	Sn	10 33 06.8	+2.8
KRER	**Koryakskii**	**1.55**	**349**	*e*P	Pn	10 32 47.3	+1.8
KOK	**Koryaka**	**1.55**	**347**	*e*P	Pn	10 32 48.1	+2.6
KOK				*e*S	Sn	10 33 07.5	+3.1
MIPR	**Malaya Ipel'ka**	**1.60**	**289**	*e*P	Pn	10 32 48.5	+2.4
MIPR				*e*S	Sn	10 33 07.9	+2.3
KRX	**Arik**	**1.61**	**347**	*e*P	Pn	10 32 48.7	+2.3
KRX				*e*S	Sn	10 33 08.7	+2.7
APC	**Apacha**	**1.71**	**313**	*e*P	Pn	10 32 50.1	+2.6
APC				*e*S	Sn	10 33 11.8	+3.7
GNL	**Ganaly**	**2.06**	**338**	*e*P	Pn	10 32 55.1	+2.5
SKR	**Severo-Kuril's**	**2.25**	**242**	*e*P	Pn	10 32 57.3	+2.4
SKR				*e*S	Sn	10 33 22.9	+1.5
TUMD	**Tumrok D**	**3.49**	**11**	*e*P	Pn	10 33 15.4	+3.3
TUMR	**Tumrok**	**3.54**	**8**	*e*P	Pn	10 33 16.8	+3.9
KBTR	**Krutoberegovo**	**4.91**	**24**	*e*P	Pn	10 33 34.8	+3.4

WEL 17 10:40:56.4±1.4, **32°S**±8°×**17°8E**±4°6, **h33km, ML4.1/4, ML4.3/8, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HAZ	**Te Kaha**	**5.73**	**184**	P	Pn	10 42 19.8	+0.6
HAZ	**Te Kaha**	**5.73**	**184**	S	Sn	10 43 24.7	+0.9
WMGZ	**Waiomatatini S**	**5.78**	**179**	P	Pn	10 42 20.8	+1.0
WMGZ	**Waiomatatini S**	**5.78**	**179**	S	Sn	10 43 27.8	+2.7
PKGZ	**Pakihiroa**	**5.85**	**182**	P	Pn	10 42 21.7	+0.8
RUGZ	**Raukumara Rang**	**5.95**	**185**	P	Pn	10 42 22.6	+0.3
RUGZ	**Raukumara Rang**	**5.95**	**185**	S	Sn	10 43 29.4	+0.1
PUZ	**Puketiti**	**6.03**	**180**	P	Pn	10 42 23.5	+0.2
PUZ	**Puketiti**	**6.03**	**180**	S	Sn	10 43 30.0	-1.3
TWGZ	**Tauwhareparae**	**6.14**	**182**	P	Pn	10 42 25.0	+0.1
TWGZ	**Tauwhareparae**	**6.14**	**182**	S	Sn	10 43 35.0	+1.0
URZ	**Urewera**	**6.29**	**188**	P	Pn	10 42 26.8	-0.2
URZ	**Urewera**	**6.29**	**188**	S	Sn	10 43 38.9	+1.3
MWZ	**Matawai**	**6.33**	**185**	P	Pn	10 42 27.2	-0.2
MWZ	**Matawai**	**6.33**	**185**	S	Sn	10 43 41.1	+2.6
TKGZ	**Te Karaka**	**6.41**	**183**	P	Pn	10 42 26.0	-2.5
TKGZ	**Te Karaka**	**6.41**	**183**	S	Sn	10 43 40.0	-0.5
CNGZ	**Carnagh Statio**	**6.44**	**181**	P	Pn	10 42 28.5	-0.4
RIGZ	**Rimuhau**	**6.68**	**184**	P	Pn	10 42 30.1	-2.2
RIGZ	**Rimuhau**	**6.68**	**184**	S	Sn	10 43 47.8	+0.6

*BJI **17** 10:49:19.6, 50°.13N×156°.16E, h66km, mb4.5/21, mB4.8/12, Ms4.1/5, Ms7 4.0/5*
*KRSC **17** 10:49:19.7±2.0, 49°.61N×156°.82E, h40km±23km, ML5.2, FELT [III] at Severo-Kurilsk.*
*ISCJB **17** 10:49:21.9±0.4, 49°.83N±0°.03×155°.78E±0°.04, h75km±3km, mb4.4/160, Error ellipse: s-maj=5.9km s-min=2.6km az=146.2*
*SKHL **17** 10:49:21.8±0.3, 49°.72N×156°.12E, h73km±5km, mb5.0/10*
SKHL Felt (II-III) at Severo-Kurilsk.
*MOS **17** 10:49:22.3±0.8, 49°.84N×155°.79E, h79km, mb4.6/53, Error ellipse: s-maj=7.7km s-min=3.2km az=73.9*
MOS Felt (II-III) at Severo-Kuril'sk.
*NEIC **17** 10:49:24.0±0.5, 49°.87N×155°.73E, h77km±4km, mb4.5/118, Error ellipse: s-maj=4.8km s-min=2.4km az=153.0*
*IDC **17** 10:49:23.5±2.0, 49°.84N×155°.70E, h74km±18km, mb4.1/41, mb1 4.2/47, mb1mx4.1/81, mbtmp4.4/47, MS3.3/4, Ms1 3.3/4, ms1mx3.0/72, Error ellipse: s-maj=11.9km s-min=8.5km az=144.0*

ISC 17 10:49:21.8±0.8, **49.71N**±0°.05×**155.98E**±0°.05, **h65km**±6km, **n386, σ1.37/440, mb4.5/160, 13C-3D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**0.98**	**5**	*i* P	**Pn**	**10 49 39.0**	**-0.8**
SKR				AMB	AMB	10 49 39.1	
	2μm,0.4s						
SKR				*e*S	**Sn**	**10 49 52.1**	**-0.9**
SKR				A	A	10 49 52.7	
	16μm,0.5s						
SKR				A	A	10 49 52.7	
	15μm,0.5s						
SKR	**Severo-Kuril's**	**0.98**	**5**	*i* P	**Pn**	**10 49 38.9**	**-0.8**
SKR				*i* S	**Sn**	**10 49 52.1**	**-0.9**
SKR	**Severo-Kuril's**	**0.98**	**5**	*i*PN	**Pn**	**10 49 39.0**	**-0.8**
SKR				*e*S	**Sn**	**10 49 52.1**	**-0.9**
SKR				pmax	pmax		
	comp=Z,2μm,0.4s						
SKR				smax	smax		
	comp=N,16μm,0.5s						
SKR				smax	smax		
	comp=E,15μm,0.4s						
PAU	**Pauzhetka**	**1.84**	**17**	*e*P	**Pn**	**10 49 50.8**	**-0.3**
PAU				AMB	AMB	10 49 51.3	
	comp=E,616nm,0.4s						
PAU				*e*S	**Sn**	**10 50 12.5**	**-0.8**
PAU				A	A	10 50 16.7	
	comp=E,8μm,0.4s						
PAU				A	A	10 50 16.7	
	comp=E,13μm,0.4s						
PAU	**Pauzhetka**	**1.84**	**17**	*i* P	**Pn**	**10 49 50.5**	**-0.6**
PAU				*e*S	**Sn**	**10 50 13.5**	**+0.1**
PAU	**Pauzhetka**	**1.84**	**17**	PN	**Pn**	**10 49 50.5**	**-0.6**
PAU				S	**Sn**	**10 50 13.5**	**+0.1**
KDTR	**Khodutka, Kamc**	**2.49**	**32**	*e*P	**Pn**	**10 49 58.7**	**-1.2**
KDTR				*e*S	**Sn**	**10 50 26.9**	**-2.2**
MIPR	**Malaya Ipel'ka**	**2.62**	**11**	*e*P	**Pn**	**10 50 02.0**	**+0.3**
MIPR	**Malaya Ipel'ka**	**2.62**	**11**	PN	**Pn**	**10 50 02.0**	**+0.3**
MTVR	**Mutnovka**	**3.11**	**26**	*e*P	**Pn**	**10 50 09.1**	**+0.6**
MTVR				*e*S	**Sn**	**10 50 44.9**	**+0.5**
MTVR	**Mutnovka**	**3.11**	**26**	PN	**Pn**	**10 50 09.1**	**+0.6**
MTVR				S	**Sn**	**10 50 44.9**	**+0.5**
RUS	**Russkaya**	**3.16**	**29**	*i* P	**Pn**	**10 50 08.1**	**-1.0**
RUS				*e*S	**Sn**	**10 50 42.9**	**-2.7**
RUS	**Russkaya**	**3.16**	**29**	PN	**Pn**	**10 50 08.1**	**-1.0**
RUS				S	**Sn**	**10 50 42.9**	**-2.7**
APC	**Apacha**	**3.31**	**13**	*e*P	**Pn**	**10 50 12.5**	**+1.5**
APC	**Apacha**	**3.31**	**13**	PN	**Pn**	**10 50 12.5**	**+1.5**
PEA0B	**Petropavlovsk-**	**3.57**	**17**	*e*Pn	**Pn**	**10 50 14.8**	**+0.6**
PEA0B				*e*Sn	**Sn**	**10 50 54.8**	**-0.8**
PETK	**Petropavlovsk-**	**3.57**	**17**	P	**Pn**	**10 50 15.6**	**+0.9**
	comp=E,18nm,0.3s,baz=183,slow=12,SNR=144						
PETK				LR	LR	10 51 49.8	
	comp=E,821nm,21.2s,baz=204,slow=42						
PETK	**Petropavlovsk-**	**3.57**	**17**	*e*Pn	**Pn**	**10 50 15.1**	**+0.4**
PEA1	**Petropavlovsk-**	**3.58**	**17**	*e*Pn	**Pn**	**10 50 15.6**	**+0.9**
PET	**Petropavlovsk**	**3.72**	**26**	*e*P	**Pn**	**10 50 16.6**	**-0.1**
PET				AMB	AMB	10 50 22.0	
	comp=E,68nm,0.3s						
PET				*e*S	**Sn**	**10 50 57.5**	**-1.7**
PET				A	A	10 51 06.3	
	comp=E,950nm,0.4s						
PET				A	A	10 51 06.3	
	comp=E,788nm,0.4s						
PET	**Petropavlovsk**	**3.72**	**26**	*e*Pn	**Pn**	**10 50 16.9**	**+0.2**
PET				*e*Sn	**Sn**	**10 50 59.0**	**-0.1**
PET	**Petropavlovsk**	**3.72**	**26**	*i* P	**Pn**	**10 50 17.4**	**+0.7**
PET				*e*S	**Sn**	**10 50 59.1**	**-0.1**
PET	**Petropavlovsk**	**3.72**	**26**	PN	**Pn**	**10 50 17.4**	**+0.7**
PET				S	**Sn**	**10 50 59.1**	**-0.1**
DALK	**Dalny**	**3.75**	**27**	*e*P	**Pn**	**10 50 17.2**	**+0.1**
DALK				*e*S	**Sn**	**10 51 00.0**	**0.0**
DALK	**Dalny**	**3.75**	**27**	PN	**Pn**	**10 50 17.2**	**+0.1**
DALK				S	**Sn**	**10 51 00.0**	**0.0**
UGLR	**Uglovaya**	**3.93**	**26**	*i* P	**Pn**	**10 50 21.0**	**+1.3**
UGLR				*e*S	**Sn**	**10 51 05.7**	**+1.1**
UGLR	**Uglovaya**	**3.93**	**26**	PN	**Pn**	**10 50 21.0**	**+1.3**
UGLR				S	**Sn**	**10 51 05.7**	**+1.1**
KOK	**Koryaka**	**3.95**	**24**	*e*P	**Pn**	**10 50 22.3**	**+2.3**
KOK				*e*S	**Sn**	**10 51 07.1**	**+2.0**
KOK	**Koryaka**	**3.95**	**24**	PN	**Pn**	**10 50 22.3**	**+2.3**
KOK				S	**Sn**	**10 51 07.1**	**+2.0**
AVH	**Avacha**	**3.96**	**25**	*e*P	**Pn**	**10 50 21.7**	**+1.7**
AVH				*e*S	**Sn**	**10 51 06.1**	**+0.9**
AVH	**Avacha**	**3.96**	**25**	PN	**Pn**	**10 50 21.7**	**+1.7**
AVH				S	**Sn**	**10 51 06.1**	**+0.9**
SMAR	**Somma**	**3.97**	**25**	*e*P	**Pn**	**10 50 21.9**	**+1.5**
SMAR	**Somma**	**3.97**	**25**	PN	**Pn**	**10 50 21.9**	**+1.5**
KRER	**Koryakskii**	**4.00**	**25**	*i* P	**Pn**	**10 50 22.3**	**+1.7**
KRER				*e*S	**Sn**	**10 51 06.7**	**+0.4**
KRER	**Koryakskii**	**4.00**	**25**	PN	**Pn**	**10 50 22.3**	**+1.7**
KRER				S	**Sn**	**10 51 06.7**	**+0.4**
SDLR	**Sedlovina**	**4.01**	**26**	*i* P	**Pn**	**10 50 21.5**	**+0.7**
SDLR				*e*S	**Sn**	**10 51 05.8**	**-0.7**
SDLR	**Sedlovina**	**4.01**	**26**	PN	**Pn**	**10 50 21.5**	**+0.7**
SDLR				S	**Sn**	**10 51 05.8**	**-0.7**
KRX	**Arik**	**4.02**	**24**	*e*P	**Pn**	**10 50 22.4**	**+1.5**
KRX	**Arik**	**4.02**	**24**	PN	**Pn**	**10 50 22.4**	**+1.5**
NLC	**Nalytchevo**	**4.06**	**30**	*e*S	**Sn**	**10 51 04.4**	**-3.0**
GNL	**Ganaly**	**4.17**	**16**	*i* P	**Pn**	**10 50 24.8**	**+1.8**
GNL	**Ganaly**	**4.17**	**16**	PN	**Pn**	**10 50 24.8**	**+1.8**
SPN	**Mys Shipunski**	**4.24**	**35**	*e*P	**Pn**	**10 50 23.3**	**-0.4**
SPN				*e*S	**Sn**	**10 51 09.8**	**-2.0**
SPN	**Mys Shipunski**	**4.24**	**35**	PN	**Pn**	**10 50 23.3**	**-0.4**
SPN				S	**Sn**	**10 51 09.8**	**-2.0**
KII	**Karymskiy**	**4.84**	**25**	*e*P	**Pn**	**10 50 32.9**	**+0.9**
KII				*e*S	**Sn**	**10 51 25.9**	**-0.8**
KII	**Karymskiy**	**4.84**	**25**	PN	**Pn**	**10 50 32.9**	**+0.9**
KII				S	**Sn**	**10 51 25.9**	**-0.8**
KZV	**Kizimen**	**6.02**	**24**	*e*P	**Pn**	**10 50 49.4**	**+1.1**
KZV	**Kizimen**	**6.02**	**24**	PN	**Pn**	**10 50 49.4**	**+1.1**
TUMD	**Tumrok D**	**6.13**	**24**	*e*P	**Pn**	**10 50 50.5**	**+0.8**
TUMR	**Tumrok**	**6.13**	**23**	*e*P	**Pn**	**10 50 52.0**	**+2.2**
TUMR	**Tumrok**	**6.13**	**23**	PN	**Pn**	**10 50 52.0**	**+2.2**
KMNR	**Kamenistaya**	**6.58**	**21**	*e*P	**Pn**	**10 50 58.1**	**+2.1**
KMNR	**Kamenistaya**	**6.58**	**21**	PN	**Pn**	**10 50 58.1**	**+2.1**
KPT	**Kopyto**	**6.77**	**21**	*e*P	**Pn**	**10 51 00.1**	**+1.6**
KPT	**Kopyto**	**6.77**	**21**	PN	**Pn**	**10 51 00.1**	**+1.6**
KOZ	**Kozyrevsk**	**6.78**	**19**	*e*P	**Pn**	**10 51 02.2**	**+3.6**
KOZ	**Kozyrevsk**	**6.78**	**19**	PN	**Pn**	**10 51 02.2**	**+3.6**
KIRR	**Kirishev**	**6.79**	**21**	*e*P	**Pn**	**10 51 01.2**	**+2.4**
KIRR	**Kirishev**	**6.79**	**21**	PN	**Pn**	**10 51 01.2**	**+2.4**
BZMR	**Bezymyannaya**	**6.81**	**22**	*e*P	**Pn**	**10 51 01.1**	**+2.1**
BZMR	**Bezymyannaya**	**6.81**	**22**	PN	**Pn**	**10 51 01.1**	**+2.1**
BZWR	**Bezymyannyi-We**	**6.84**	**22**	*e*P	**Pn**	**10 51 01.4**	**+2.0**
BZWR	**Bezymyannyi-We**	**6.84**	**22**	PN	**Pn**	**10 51 01.4**	**+2.0**
KRSR	**Krestovskiy**	**7.08**	**21**	*e*P	**Pn**	**10 51 04.2**	**+1.5**
KRSR	**Krestovskiy**	**7.08**	**21**	PN	**Pn**	**10 51 04.2**	**+1.5**
KUR	**Kuril'sk**	**7.09**	**234**	*i* P	**Pn**	**10 51 04.7**	**+2.0**
KUR				AMB	AMB	10 51 13.3	
	comp=E,110nm,0.4s						
KUR				*e*S	**Sn**	**10 52 22.6**	**+0.8**
KUR				A	A	10 52 33.0	
	comp=E,170nm,0.7s						
KUR				A	A	10 52 33.0	
	comp=E,122nm,0.7s						
KUR	**Kuril'sk**	**7.09**	**234**	*e*PN	**Pn**	**10 51 05.8**	**+3.1**
KUR				*e*S	**Sn**	**10 52 25.4**	**+3.6**
KUR				pmax	pmax		
	comp=Z,41nm,0.4s						
KUR				pmax	pmax		
	comp=N,19nm,0.1s						
KUR				pmax	pmax		
	comp=E,37nm,0.1s						
BDR	**Baidarnaya**	**7.55**	**23**	*e*P	**Pn**	**10 51 10.9**	**+1.7**
BDR	**Baidarnaya**	**7.55**	**23**	PN	**Pn**	**10 51 10.9**	**+1.7**
SRKR	**Sorokina**	**7.62**	**22**	*e*P	**Pn**	**10 51 11.2**	**+1.1**
SRKR	**Sorokina**	**7.62**	**22**	PN	**Pn**	**10 51 11.2**	**+1.1**
SMKR	**Semkarok**	**7.63**	**23**	*e*P	**Pn**	**10 51 10.5**	**+0.3**
SMKR	**Semkarok**	**7.63**	**23**	PN	**Pn**	**10 51 10.5**	**+0.3**
KBTR	**Krutoberegovo**	**7.71**	**30**	*e*P	**Pn**	**10 51 11.3**	**+0.1**
KBTR	**Krutoberegovo**	**7.71**	**30**	PN	**Pn**	**10 51 11.3**	**+0.1**
BKI	**Bering**	**8.21**	**44**	*e*P	**Pn**	**10 51 16.6**	**-1.5**
BKI	**Bering**	**8.21**	**44**	PN	**Pn**	**10 51 16.6**	**-1.5**
SHO	**Shikotan**	**8.57**	**230**	*e*P	**Pn**	**10 51 20.2**	**-2.8**
SHO				AMB	AMB	10 51 21.8	
	comp=E,24nm,0.6s						
SHO				*e*S	**Sn**	**10 52 50.6**	**-7.5**
SHO	**Shikotan**	**8.57**	**230**	*e*PN	**Pn**	**10 51 20.2**	**-2.8**
SHO				pmax	pmax		
	comp=Z,24nm,0.6s						
SHO				pmax	pmax		
	comp=N,12nm,0.5s						
SHO				pmax	pmax		
	comp=E,19nm,0.6s						
TYV	**Tymovskoe**	**8.61**	**283**	*e*P	**Pn**	**10 51 25.8**	**+2.3**
TYV				AMB	AMB	10 51 27.8	
	comp=E,21nm,0.8s						
TYV				*e*S	**Sn**	**10 52 58.7**	**-0.3**
TYV	**Tymovskoe**	**8.61**	**283**	*e*PN	**Pn**	**10 51 25.8**	**+2.3**
TYV				*e*S	**Sn**	**10 52 57.9**	**-1.1**
TYV				pmax	pmax		
	comp=Z,21nm,0.8s						
TYV				smax	smax		
	comp=N,10.0nm,1.7s						
YUK	**Yuzh-Kuril'sk**	**8.95**	**234**	*e*P	**Pn**	**10 51 28.7**	**+0.5**
YUK				AMB	AMB	10 51 30.1	
	comp=N,144nm,0.3s						
YUK				*e*S	**Sn**	**10 53 06.2**	**-1.2**
YUK	**Yuzh-Kuril'sk**	**8.95**	**234**	PN	**Pn**	**10 51 28.7**	**+0.5**
YUK				pmax	pmax		
	comp=N,69nm,0.3s						
YUK				pmax	pmax		
	comp=E,97nm,0.3s						
YUK				pmax	pmax		
	comp=Z,144nm,0.3s						
UGL	**Uglegorsk**	**9.10**	**271**	*e*P	**Pn**	**10 51 32.9**	**+2.7**
UGL				AMB	AMB	10 51 35.1	
	comp=Z,220nm,0.7s						
YSS	**Yuzh-Sakhalins**	**9.23**	**258**	*e*P	**Pn**	**10 51 34.7**	**+2.7**
YSS				AMB	AMB	10 51 35.8	
	comp=Z,30nm,0.7s						
YSS	**Yuzh-Sakhalins**	**9.23**	**258**	*e*Pn	**Pn**	**10 51 33.0**	**+1.0**
YSS	**Yuzh-Sakhalins**	**9.23**	**258**	*e*PN	**Pn**	**10 51 35.5**	**+3.5**
YSS				*e*S	**Sn**	**10 53 18.7**	**+4.5**
YSS				pmax	pmax		
	comp=Z,30nm,0.6s						
YSS				pmax	pmax		
	comp=N,20nm,0.7s						
YSS				smax	smax		
	comp=N,30nm,0.7s						
YSS				MLR	MLR		
	comp=Z,300nm,15.0s						
MA2	**Magadan**	**10.33**	**345**	P	**Pn**	**10 51 47.4**	**+0.4**
	comp=Z,2.4nm,0.3s,baz=156,slow=10,SNR=28						
MA2				LR	LR	10 56 27.7	
	comp=Z,278nm,19.4s,baz=178,slow=42						
MA2	**Magadan**	**10.33**	**345**	*e*P	**Pn**	**10 51 47.7**	**+0.7**
MA2	**Magadan**	**10.33**	**345**	*e*Pn	**Pn**	**10 51 47.7**	**+0.7**
MA2	**Magadan**	**10.33**	**345**	*e*PN	**Pn**	**10 51 47.7**	**+0.7**
ASAJ	**Asahikawa**	**10.72**	**244**	P	**Pn**	**10 51 54.0**	**+1.6**
	comp=Z,34nm,0.3s,baz=69,slow=12,SNR=52						
ASAJ	**Asahikawa**	**10.72**	**244**	*e*Pn	**Pn**	**10 51 54.4**	**+2.0**
ERM	**Erimo**	**11.78**	**234**	*e*P	**Pn**	**10 52 08.3**	**+1.5**
ERM	**Erimo**	**11.78**	**234**	*e*Pn	**Pn**	**10 52 07.0**	**+0.1**
ERM				*e*Sn	**Sn**	**10 54 15.7**	**-0.8**
ERM	**Erimo**	**11.78**	**234**	*i* PN	**Pn**	**

H11N3 WAKE ISLAND Hy 31.18 160 T T 11 28 41.2
baz=347,slow=76,SNR=564
BPAW Bear Paw Mtn. 31.27 43 *eP* **P 10 55 35.8 +0.8**
comp=Z,8.8nm,1.0s
KTH Kantishna Hill 31.28 44 *eP* **P 10 55 36.2 +1.0**
comp=Z,7.7nm,0.9s
MLY Manley 31.41 41 *eP* **P 10 55 37.3 +0.9**
comp=Z,4.4nm,0.8s
TRF Thorofare Moun 31.56 44 *eP* **P 10 55 38.3 +0.5**
comp=Z,7.1nm,0.9s
COLD Coldfoot 31.81 37 *eP* **P 10 55 40.4 +0.7**
comp=Z,9.3nm,1.0s
HHC Hu-ho-hao-te 32.07 271 *eP* **P 10 55 43.0 +0.5**
HHC pmax pmax
comp=Z,15nm,0.9s
HHC pmax pmax
comp=Z,69nm,4.8s
MCK McKinley 32.17 43 *eP* **P 10 55 43.8 +0.8**
MCK McKinley 32.17 43 *eP* **P 10 55 43.7 +0.7**
comp=Z,13nm,0.9s
MCK McKinley 32.17 43 *eP* **P 10 55 43.7 +0.7**
MCK pmax pmax
comp=Z,13nm,0.9s
RND Reindeer 32.21 44 *eP* **P 10 55 43.6 +0.2**
comp=Z,13nm,1.0s
RND Reindeer 32.21 44 *eP* **P 10 55 43.6 +0.2**
RND pmax pmax
comp=Z,13nm,1.0s
TOLK Toolik Lake Re 32.22 34 *eP* **P 10 55 44.0 +0.6**
comp=Z,7.1nm,0.6s
SONA0 Songino Array 32.26 286 *eP* **P 10 55 42.7 -1.3**
SONA0 *e*PcP **PcP 10 58 31.2 +0.3**
SONM Songino Array 32.26 286 P **P 10 55 42.7 -1.3**
comp=Z,0.3nm,0.4s,baz=76,slow=7.1,SNR=2.9
SONM PcP **PcP 10 58 31.2 +0.3**
comp=Z,1.5nm,0.7s,baz=129,slow=1.9,SNR=7.4
H11S1 WAKE ISLAND Hy 32.30 161 T T 11 29 50.2
baz=347,slow=76,SNR=2868
H11S3 WAKE ISLAND Hy 32.31 161 T T 11 29 50.6
baz=347,slow=76,SNR=5582
H11S2 WAKE ISLAND Hy 32.32 161 T T 11 29 51.6
baz=347,slow=76,SNR=2391
MDM Murphy Dome 32.48 41 *eP* **P 10 55 46.2 +0.6**
comp=Z,7.4nm,0.6s
SML Sawmill 32.52 47 *eP* **P 10 55 47.0 +0.8**
SML Sawmill 32.52 47 *eP* **P 10 55 46.9 +0.7**
comp=Z,36nm,0.8s
SML Sawmill 32.52 47 *eP* **P 10 55 46.9 +0.8**
SML pmax pmax
comp=Z,36nm,0.8s
WRH Wood River Hil 32.53 42 *eP* **P 10 55 46.6 +0.5**
comp=Z,15nm,1.4s
COLA College 32.64 41 *eP* **P 10 55 47.9 +1.0**
COLA College 32.64 41 *eP* **P 10 55 48.0 +1.0**
comp=Z,23nm,0.8s
COLA College 32.64 41 *eP* **P 10 55 48.0 +1.0**
COLA pmax pmax
comp=Z,23nm,0.8s
CCB Clear Creek Bu 32.66 42 *eP* **P 10 55 47.8 +0.6**
comp=Z,6.2nm,0.6s
NJ2 Nanjing 32.73 251 *eP* **P 10 55 49.4 +1.3**
NJ2 pmax pmax
comp=Z,9.0nm,0.5s
DHY Denali Highway 32.89 44 *eP* **P 10 55 49.5 +0.1**
comp=Z,7.9nm,1.2s
SCM Sheep Creek Mo 33.00 47 *eP* **P 10 55 51.0 +0.7**
comp=Z,16nm,0.9s
SCM Sheep Creek Mo 33.00 47 *eP* **P 10 55 51.0 +0.7**
SCM pmax pmax
comp=Z,16nm,0.9s
HDA Harding Lake 33.03 42 *eP* **P 10 55 50.6 +0.2**
comp=Z,14nm,0.4s
IL1 Eielson Array 33.05 41 *eP* **P 10 55 50.5 -0.1**
ILAR Eielson Array 33.05 41 P **P 10 55 50.9 +0.3**
comp=Z,4.5nm,0.7s,baz=256,slow=6.9,SNR=74
ILB Eielson Array 33.05 41 *eP* **P 10 55 50.9 +0.3**
KLU Klutina 33.70 47 *eP* **P 10 55 57.1 +0.7**
comp=Z,9.5nm,1.1s
FYU Fort Yukon 33.73 38 *eP* **P 10 55 58.0 +1.6**
comp=Z,18nm,0.8s
PAX Paxson 33.77 45 *eP* **P 10 55 57.8 +0.8**
comp=Z,2.4nm,0.8s
PAX Paxson 33.77 45 *eP* **P 10 55 57.8 +0.8**
PAX pmax pmax
comp=Z,2.0nm,0.8s
DIV Divide 33.82 48 *eP* **P 10 55 58.0 +0.6**
DIV Divide 33.82 48 *eP* **P 10 55 58.0 +0.6**
comp=Z,12nm,0.7s
HARP HAARP 33.96 46 *eP* **P 10 55 59.5 +0.9**
comp=Z,42nm,1.5s
RIDG Independ'e Rid 33.99 43 *eP* **P 10 55 58.8 -0.1**
comp=Z,8.4nm,0.8s
DOT Dot Lake 34.34 43 *eP* **P 10 56 01.5 -0.4**
comp=Z,15nm,0.6s
SCRK Sand Creek 34.35 43 *eP* **P 10 56 01.8 -0.2**
comp=Z,8.1nm,1.0s
BMRM Bremner River 34.40 48 *eP* **P 10 56 03.0 +0.5**
comp=Z,11nm,0.9s
MENT Mentasta 34.56 44 *eP* **P 10 56 04.6 +0.8**
comp=Z,3.7nm,0.8s
EGAK Eagle 35.50 41 *eP* **P 10 56 11.7 0.0**
comp=Z,12nm,0.6s
DAWY Dawson 36.35 42 *eP* **P 10 56 19.8 +0.7**
comp=Z,3.8nm,0.8s
KRAR Krasnoyarsk 37.41 304 *i* P **P 10 56 28.7 +0.6**
HYT Haines Junctio 37.83 47 *eP* **P 10 56 32.6 +0.8**
comp=Z,8.8nm,0.8s
INK Inuvik 38.13 35 P **P 10 56 35.0 +1.0**
comp=Z,2.3nm,0.4s,baz=285,slow=6.7,SNR=22
INK PcP **PcP 10 58 48.0 +0.5**
comp=Z,1.7nm,0.8s,baz=265,slow=0.6,SNR=3.4
INK Inuvik 38.13 35 *eP* **P 10 56 35.0 +1.0**
comp=Z,3.7nm,0.6s
HVS Khovu-Aksy 38.65 297 *eP* **P 10 56 39.0 +0.3**
HVS Khovu-Aksy 38.65 297 *i* P **P 10 56 39.0 +0.3**
WHY Whitehorse 39.12 47 *eP* **P 10 56 44.2 +1.6**
comp=Z,7.1nm,0.9s
LZH Lanzhou 39.75 270 *eP* **P 10 56 47.3 -0.9**
LZH pP pP 10 57 04.3 0.0
LZH sP sP 10 57 14.6 +2.8
LZH pmax pmax
comp=Z,24nm,1.2s
LZH pmax pmax
comp=Z,120nm,4.3s
ZAA1 Zalesovo Array 42.48 304 *eP* **P 10 57 09.0 -1.2**
ZAA1 *e*PcP **PcP 10 59 02.1 +0.3**
ZALV Zalesovo Beam 42.48 304 P **P 10 57 09.0 -1.2**
comp=Z,1.1nm,0.4s,baz=60,slow=6.9,SNR=5.9
ZALV PcP **PcP 10 59 02.1 +0.3**
comp=Z,1.9nm,0.4s,baz=60,slow=3.6,SNR=8.0
DGZ Jazzator, Alta 42.89 297 *i* P **P 10 57 14.0 +0.3**
DGZ pmax pmax
comp=Z,1.0nm,0.7s
WMQ Urumqi 45.68 290 P **P 10 57 37.8 +1.9**
WMQ LR LR
comp=Z,160nm,19.7s
WMQ LR LR
comp=Z,85nm,23.7s
WMQ LR LR
comp=Z,310nm,22.5s
MK31 Makanchi Array 47.31 296 *eP* **P 10 57 48.1 -0.6**
MK31 Makanchi Array 47.31 296 *eP* **P 10 57 48.1 -0.6**
MK32 Makanchi Array 47.31 296 *eP* **P 10 57 48.0 -0.7**
MK32 *e*PcP **PcP 10 59 18.8 +0.1**
MKAR Makanchi Array 47.31 296 P **P 10 57 48.0 -0.6**
comp=Z,2.2nm,0.7s,baz=62,slow=7.3,SNR=17
MKAR PcP **PcP 10 59 18.8 +0.1**
comp=Z,1.1nm,0.7s,baz=60,slow=4.8,SNR=3.9
MKAR Makanchi Array 47.31 296 *eP* **P 10 57 48.1 -0.6**
comp=Z,23nm,1.0s
MKAR Makanchi Array 47.31 296 *eP* **P 10 57 48.1 -0.6**
MKAR pmax pmax
comp=Z,23nm,1.0s
MK01 Makanchi Array 47.32 296 *eP* **P 10 57 47.7 -1.0**
KURK Kurchatov 47.35 303 *eP* **P 10 57 48.7 -0.1**
KURK Kurchatov 47.35 303 *eP* **P 10 57 48.2 -0.7**
comp=Z,13nm,1.0s
KURK *e*PcP **PcP 10 59 19.2 +0.6**
KURK Kurchatov 47.35 303 *ce*P **P 10 57 48.7 -0.1**
KURK pmax pmax
comp=Z,9.0nm,0.8s
RES Resolute Bay 47.41 20 P **P 10 57 49.4 +0.4**
comp=Z,3.1nm,0.6s,baz=298,slow=6.4,SNR=25
RES PcP **PcP 10 59 19.2 +0.8**
comp=Z,1.6nm,0.7s,baz=308,slow=2.9,SNR=4.2
RES Resolute Bay 47.41 20 *eP* **P 10 57 49.6 +0.6**
comp=Z,4.5nm,1.0s
RES *e*PcP **PcP 10 59 19.2 +0.8**
RES Resolute Bay 47.41 20 *eP* **P 10 57 49.6 +0.6**
RES *e* 10 59 19.2
RES pmax pmax
comp=Z,5.0nm,1.0s
YKA Yellowknife Ar 47.41 39 P **P 10 57 50.0 +0.8**
comp=Z,3.3nm,0.7s,baz=298,slow=7.8,SNR=48
YKA PcP **PcP 10 59 18.9 +0.2**
comp=Z,0.9nm,0.9s,baz=306,slow=3.8,SNR=3.7
KURBB Kurchatov Arra 47.45 302 P **P 10 57 49.0 -0.6**
comp=Z,6.3nm,0.6s,baz=64,slow=7.8,SNR=20
KURBB PcP **PcP 10 59 19.2 +0.2**
comp=Z,2.7nm,0.7s,baz=62,slow=3.3,SNR=9.7
SPITS Spitsbergen Ar 50.03 350 P **P 10 58 07.0 -2.1**
comp=Z,7.2nm,0.9s,baz=36,slow=7.6,SNR=8.8
SPITS Spitsbergen Ar 50.03 350 P **P 10 58 07.0 -2.1**
SPITS pmax pmax
comp=Z,7.0nm,0.9s
BVAR Borovoye Array 50.48 309 P **P 10 58 11.7 -1.0**
comp=Z,3.0nm,0.5s,baz=59,slow=7.1,SNR=22
BVAR PcP **PcP 10 59 29.9 -0.1**
comp=Z,2.3nm,0.7s,baz=64,slow=3.4,SNR=7.7
BRVK Borovoye 50.52 309 *eP* **P 10 58 12.2 -0.8**
comp=Z,6.9nm,1.0s
BRVK Borovoye 50.52 309 *ce*P **P 10 58 12.5 -0.5**
BRVK pmax pmax
comp=Z,7.0nm,1.0s
OTUK Ortayu 52.13 303 P **P 10 58 25.1 -0.1**
OTUK pmax pmax
comp=Z,5.0nm,0.9s
EDM Edmonton 52.90 49 *eP* **P 10 58 32.0 +1.1**
EDM Edmonton 52.90 49 *eP* **P 10 58 32.0 +1.1**
KDJ Kajisay 52.97 294 *eP* **P 10 58 31.3 -0.4**
comp=Z,5.3nm,1.1s
KDJ Kajisay 52.97 294 P **P 10 58 31.5 -0.2**
KDJ pmax pmax
comp=Z,5.0nm,1.2s
DAG Danmarks Havn 53.75 358 *i* P **PcP 10 59 41.9 +0.1**
comp=Z,3.6nm,0.8s
ARU Arti 54.13 317 *eP* **P 10 58 38.1 -1.7**
comp=Z,7.7nm,0.9s
ARU Arti 54.13 317 *c i*P **P 10 58 38.0 -1.7**
ARU *PP **pP 10 58 53.8 -2.7**
ARU 10 59 42.6
ARU S **S 11 06 05.0 -6.3**
ARU pmax pmax
comp=Z,7.0nm,0.8s
AAK Ala-Archa 54.25 296 *eP* **P 10 58 41.1 +0.1**
AAK Ala-Archa 54.25 296 *i* P **P 10 58 41.1 +0.1**
AAK pmax pmax
comp=Z,2.0nm,0.8s
CHTO Chiang Mai 54.66 257 *eP* **P 10 58 45.0 +0.9**
comp=Z,6.6nm,0.8s
CHTO Chiang Mai 54.66 257 *eP* **P 10 58 45.0 +0.9**
CHTO pmax pmax
comp=Z,7.0nm,0.8s
YBH Yreka Blue Hor 54.70 65 P **P 10 58 46.5 +2.3**
comp=Z,1.8nm,0.8s,baz=346,slow=7.0,SNR=5.1
CMAR Chiang Mai Arr 54.92 257 P **P 10 58 45.9 -0.1**
comp=Z,3.7nm,0.8s,baz=30,slow=7.2,SNR=23
CM01 Chiang Mai Arr 54.94 257 *eP* **P 10 58 46.9 +0.8**
MNAS Manas 55.50 297 P **P 10 58 50.4 +0.4**
MNAS pmax pmax
comp=Z,3.0nm,0.7s
ARA0 ARCESS Array S 55.68 341 *eP* **P 10 58 48.5 -2.3**
ARA0 *e*PcP **PcP 10 59 49.6 +0.2**
ARCES ARCESS Array B 55.68 341 P **P 10 58 48.5 -2.3**
comp=Z,1.2nm,0.7s,baz=42,slow=7.7,SNR=4.4
ARCES PcP **PcP 10 59 49.6 +0.2**
comp=Z,2.3nm,1.0s,baz=42,slow=5.6,SNR=4.3
MOD Modoc Plateau 56.01 64 *eP* **P 10 58 55.2 +1.6**
comp=Z,5.2nm,1.3s
J08A Circle Bar Ran 56.15 61 *eP* **P 10 58 57.1 +2.5**
comp=Z,6.9nm,1.2s
KK31 Karatay Array 56.26 299 *eP* **P 10 58 54.9 -0.4**
KK31 Karatay Array 56.26 299 *eP* **P 10 58 54.9 -0.4**
KKAR Karatay Array 56.26 299 *eP* **P 10 58 54.9 -0.4**
KKAR Karatay Array 56.26 299 *eP* **P 10 58 54.9 -0.4**
WVOR Wild Horse Val 56.63 62 *eP* **P 10 58 59.9 +1.8**
comp=Z,3.6nm,0.9s
WVOR Wild Horse Val 56.63 62 *eP* **P 10 58 59.9 +1.8**
WVOR pmax pmax
comp=Z,4.0nm,0.9s
FFC Flin Flon 57.25 42 *eP* **P 10 59 03.7 +1.6**
FFC Flin Flon 57.25 42 *eP* **P 10 59 03.3 +1.2**
comp=Z,5.0nm,1.0s
FFC Flin Flon 57.25 42 *eP* **P 10 59 03.3 +1.2**
FFC pmax pmax
comp=Z,5.0nm,1.0s
BEKR Beckworth 57.26 65 *eP* **P 10 59 03.6 +1.0**
comp=Z,2.2nm,1.0s
SUMG Summit 57.60 5 *i* P **P 10 59 04.7 0.0**
comp=Z,11nm,0.9s
SUMG Summit 57.60 5 *e*P **P 10 59 04.8 0.0**
comp=Z,15nm,1.0s
SUMG Summit 57.60 5 *e*P **P 10 59 04.8 0.0**
SUMG pmax pmax
comp=Z,15nm,1.0s
FCC Fort Churchill 57.74 35 *eP* **P 10 59 06.0 +0.6**
comp=Z,8.4nm,0.8s
FCC Fort Churchill 57.74 35 *eP* **P 10 59 06.0 +0.6**
FCC pmax pmax
comp=Z,8.0nm,0.8s
ABKAR Akbulak array 58.00 310 *eP* **P 10 59 06.6 -0.9**
LUWI Luwuk 58.04 220 *eP* **P 10 59 08.3 +0.3**
comp=Z,24nm,0.8s
AKTO Aktyubinsk 58.18 312 P **P 10 59 07.5 -1.2**
comp=Z,2.2nm,0.5s,baz=66,slow=9.1,SNR=9.3
HLID Hailey 58.30 59 *eP* **P 10 59 11.6 +1.7**
comp=Z,3.3nm,1.1s
MCMT McKenzie Canyo 58.34 57 *eP* **P 10 59 11.2 +1.0**
BOZ Bozeman (W) 58.49 55 *eP* **P 10 59 12.6 +1.4**
comp=Z,3.5nm,0.8s
BOZ Bozeman (W) 58.49 55 *eP* **P 10 59 12.6 +1.4**
BOZ pmax pmax
comp=Z,4.0nm,0.8s
YERR Yerington 58.49 66 *eP* **P 10 59 12.7 +1.4**
comp=Z,2.4nm,0.8s
BMN Battle Mountai 58.73 63 *eP* **P 10 59 14.6 +1.7**
comp=Z,3.8nm,0.9s
BMN Battle Mountai 58.73 63 *eP* **P 10 59 14.6 +1.7**
BMN pmax pmax
comp=Z,4.0nm,0.9s
KVN Kaiserville 59.12 65 *eP* **P 10 59 17.1 +1.4**
comp=Z,3.1nm,1.0s
KVN Kaiserville 59.12 65 *eP* **P 10 59 17.1 +1.4**
KVN pmax pmax
comp=Z,3.0nm,1.0s
RYN Ryan 59.15 65 *eP* **P 10 59 17.1 +1.3**
comp=Z,2.1nm,0.9s
YHB Horse Butte 59.28 56 *eP* **P 10 59 18.5 +1.8**
comp=Z,6.3nm,0.9s
GCMT Greycliff 59.41 54 *eP* **P 10 59 19.1 +1.7**
NVAR Mina Array Bea 59.41 65 P **P 10 59 19.2 +1.5**
comp=Z,1.4nm,0.7s,baz=290,slow=8.0,SNR=16
NVAR PcP **PcP 11 00 06.5 +1.6**
comp=Z,0.3nm,0.6s,baz=318,slow=5.3,SNR=2.2
YHH Holmes Hill 59.44 56 *eP* **P 10 59 19.8 +1.9**
comp=Z,4.4nm,0.7s
YMR Madison River 59.46 56 *eP* **P 10 59 19.7 +1.8**
comp=Z,3.3nm,0.7s
MCID Moose Creek 59.66 56 *eP* **P 10 59 18.8 -0.5**
H17A Grant Village 59.85 56 *eP* **P 10 59 23.7 +3.1**
comp=Z,4.8nm,0.9s
SBUM Sibu 59.95 233 *eP* **P 10 59 22.7 +1.4**
comp=Z,5.5nm,0.9s
IMW Indian Meadow 59.98 56 *eP* **P 10 59 23.4 +1.7**
comp=Z,7.5nm,1.5s
RLMT Red Lodge 60.06 55 *eP* **P 10 59 23.9 +1.9**
comp=Z,6.7nm,1.1s
FXWY Fox Creek 60.10 57 *eP* **P 10 59 24.8 +2.3**
comp=Z,1.6nm,0.8s
SCO Scoresbysund 60.11 359 *i* P **P 10 59 22.5 +0.8**
SCO Scoresbysund 60.11 359 *i* P **P 10 59 22.5 +0.8**
MOOW Moose Ponds 60.19 56 *eP* **P 10 59 24.8 +1.9**
comp=Z,1.7nm,0.8s
TPAW Teton Pass 60.24 57 *eP* **P 10 59 25.8 +2.4**
comp=Z,3.6nm,0.8s
LOHW Long Hollow 60.35 57 *eP* **P 10 59 26.1 +2.0**
comp=Z,3.9nm,1.1s
REDW Red Top Meadow 60.38 57 *eP* **P 10 59 26.3 +2.0**
comp=Z,3.2nm,0.9s
LAO LASA Array 60.59 52 *eP* **P 10 59 27.2 +1.7**
comp=Z,2.9nm,0.9s
R11A Troy Canyon, C 61.06 64 *eP* **P 10 59 30.0 +1.0**
comp=Z,2.1nm,0.9s
HWUT Hardware Ranch 61.17 59 *eP* **P 10 59 31.2 +1.6**
comp=Z,1.9nm,0.8s
DUG Dugway, Tooele 61.41 61 *eP* **P 10 59 33.2 +2.0**
DUG Dugway, Tooele 61.41 61 *eP* **P 10 59 33.0 +1.8**
comp=Z,2.8nm,0.8s
DUG Dugway, Tooele 61.41 61 *eP* **P 10 59 33.0 +1.8**
DUG pmax pmax
comp=Z,3.0nm,0.8s
BW06 Boulder Array 61.49 57 *eP* **P 10 59 33.2 +1.4**
comp=Z,4.6nm,0.9s
PDAR Pinedale Array 61.49 57 P **P 10 59 33.2 +1.5**
comp=Z,2.8nm,0.7s,baz=309,slow=2.4,SNR=30
TPNV Topopah Spring 61.61 65 *eP* **P 10 59 34.1 +1.5**
comp=Z,2.9nm,0.9s
TPNV Topopah Spring 61.61 65 *eP* **P 10 59 34.2 +1.5**
TPNV pmax pmax
comp=Z,3.0nm,0.9s
SFJD Kangerlussuaq 61.88 12 P **P 10 59 33.2 -0.5**
comp=Z,5.1nm,0.4s,baz=329,slow=4.9,SNR=11
NLU North Lily Min 61.99 60 *eP* **P 10 59 36.6 +1.4**
comp=Z,2.7nm,0.8s
FIA0 FINESS Array S 62.16 335 *eP* **P 10 59 34.4 -1.3**
FIA0 FINESS Array S 62.16 335 *eP* **P 10 59 34.4 -1.3**
FINES FINESS Array B 62.16 335 P **P 10 59 34.4 -1.3**
comp=Z,1.2nm,0.5s,baz=36,slow=7.3,SNR=12
MPU Maple Canyon 62.20 60 *eP* **P 10 59 38.5 +1.9**
comp=Z,3.4nm,0.9s
CCUT Cedar City 62.89 63 *eP* **P 10 59 43.0 +1.7**
comp=Z,3.0nm,0.9s
TMUT Trail Mountain 62.93 60 *eP* **P 10 59 43.2 +1.6**
comp=Z,2.9nm,0.8s
P17A Butcher Ranch, 63.08 60 *eP* **P 10 59 44.1 +1.7**
comp=Z,3.0nm,0.7s
MTPU Mount Pierson 63.24 62 *eP* **P 10 59 45.8 +2.1**
comp=Z,2.6nm,0.9s
LCMT Little Creek M 63.33 64 *eP* **P 10 59 45.6 +1.6**
comp=Z,3.4nm,0.8s
SRU San Rafael Swe 63.45 60 *eP* **P 10 59 46.3 +1.4**
comp=Z,7.0nm,0.9s
SRU San Rafael Swe 63.45 60 *eP* **P 10 59 46.3 +1.4**
SRU pmax pmax
comp=Z,7.0nm,0.9s
RSSD Black Hills 63.48 52 *eP* **P 10 59 45.9 +0.9**
comp=Z,9.1nm,1.1s
RSSD Black Hills 63.48 52 *eP* **P 10 59 45.9 +0.9**
RSSD pmax pmax
comp=Z,9.0nm,1.1s
LDFC Landfair 63.56 66 *eP* **P 10 59 46.9 +1.3**
comp=Z,6.5nm,0.8s
KNB Kanab 63.57 63 *eP* **P 10 59 47.2 +1.5**
comp=Z,3.6nm,1.0s
KNB Kanab 63.57 63 *eP* **P 10 59 47.2 +1.5**
KNB pmax pmax
comp=Z,4.0nm,1.0s
OBN Obninsk 63.93 326 *eP* **P 10 59 47.5 0.0**
OBN Obninsk 63.93 326 *eP* **P 10 59 47.5 0.0**
OBN pmax pmax
comp=Z,4.0nm,0.9s
AGMN Agassiz Nation 64.47 45 *eP* **P 10 59 50.4 -0.8**
comp=Z,3.6nm,1.1s
PV09 Paradox Valley 64.65 60 *eP* **P 10 59 53.8 +0.9**
N23A Red Feather La 64.73 56 *eP* **P 10 59 55.1 +1.8**
comp=Z,7.8nm,1.1s
PV10 Paradox Valley 64.79 60 *eP* **P 10 59 54.9 +1.1**
PV04 Paradox Valley 64.86 60 *eP* **P 10 59 55.9 +1.9**
comp=Z,4.7nm,0.9s
PV05 Paradox Valley 64.97 60 *eP* **P 10 59 56.2 +1.4**
comp=Z,8.3nm,0.8s
SMCO Snowmass 65.38 58 *eP* **P 10 59 58.9 +1.1**
comp=Z,4.1nm,0.8s
WUAZ Wupatki 65.45 64 *eP* **P 10 59 59.8 +1.8**
comp=Z,5.1nm,1.1s
ISCO Idaho Springs 65.68 57 *eP* **P 11 00 01.2 +1.6**
comp=Z,4.5nm,0.8s
ISCO Idaho Springs 65.68 57 *eP* **P 11 00 01.2 +1.6**
ISCO pmax pmax
comp=Z,4.0nm,0.8s
NC204 NORSAR Array S 65.89 342 *eP* **P 10 59 58.3 -1.9**
MVCO Mesa Verde 65.91 61 *eP* **P 11 00 02.3 +1.3**
comp=Z,3.0nm,0.8s
NB2 NORSAR Subarra 66.02 342 P **P 11 00 00.5 -0.5**
comp=Z,1.0nm,0.6s,baz=24,slow=6.5
NB200 NORSAR Array S 66.02 342 *eP* **P 11 00 01.1 +0.1**
NOA NORSAR Array B 66.02 342 P **P 11 00 01.1 +0.1**
comp=Z,1.7nm,0.7s,baz=25,slow=6.4,SNR=5.7
X16A Lo Mia Camp, P 66.19 65 *eP* **P 11 00 04.7 +1.9**
comp=Z,3.0nm,0.9s
HFS Hagfors 66.33 340 P **P 11 00 02.3 -0.7**
comp=Z,1.0nm,0.3s,baz=46,slow=6.2,SNR=8.7
S22A 4UR Ranch, Cre 66.47 59 *eP* **P 11 00 06.7 +2.0**
comp=Z,3.7nm,1.0s
W18A Petrified Fore 66.69 63 *eP* **P 11 00 07.6 +1.7**
comp=Z,3.4nm,0.8s
GEYT Alibeck 66.71 301 P **P 11 00 05.8 -0.1**
comp=Z,1.7nm,0.2s,baz=94,slow=4.3,SNR=3.0
OGNE Ogallala 66.77 54 *eP* **P 11 00 07.4 +1.1**
comp=Z,13nm,0.8s
X18A Snowflake 66.98 63 *eP* **P 11 00 09.7 +1.9**
comp=Z,4.2nm,1.1s
ECSD EROS Data Cent 67.47 48 *eP* **P 11 00 10.8 +0.3**
comp=Z,5.5nm,0.9s
MHTCO State Highway 68.10 58 *eP* **P 11 00 16.7 +1.9**
comp=Z,6.8nm,1.0s
ANMO Albuquerque 68.69 61 *eP* **P 11 00 19.9 +1.3**
comp=Z,2.1nm,0.9s
ANMO Albuquerque 68.69 61 *ce*P **P 11 00 19.8 +1.3**
ANMO pmax pmax
comp=Z,4.0nm,1.7s
LAZ Ladron 68.69 62 *eP* **P 11 00 20.1 +1.6**
319A Douglas 69.62 65 *eP* **P 11 00 25.5 +1.3**
comp=Z,5.2nm,0.8s
SCHQ Schefferville 69.83 25 P **P 11 00 24.8 -0.2**
comp=Z,7.0nm,0.6s,baz=290,slow=5.8,SNR=5.5
SCHQ Schefferville 69.83 25 *eP* **P 11 00 24.6 -0.4**
comp=Z,7.1nm,0.8s
KIV Kislovodsk 70.08 315 *eP* **P 11 00 26.2 -0.6**
KIV Kislovodsk 70.08 315 *eP* **P 11 00 26.2 -0.6**
KIV pmax pmax
comp=Z,5.0nm,1.0s
AKASG Malin Array Be 70.12 327 P **P 11 00 25.0 -1.8**
comp=Z,1.7nm,0.4s,baz=33,slow=6.5,SNR=7.9
KIEV Kiev 70.13 327 *eP* **P 11 00 24.7 -2.2**
KIEV pmax pmax
comp=Z,2.0nm,0.9s
KBZ Khabaz 70.16 315 P **P 11 00 27.1 -0.1**
comp=Z,2.1nm,0.6s,baz=0,slow=3.0,SNR=6.6
SCIA State Center 70.49 48 *eP* **P 11 00 29.9 +0.7**
comp=Z,10nm,0.7s
MNTX Cornudas Mount 71.67 63 *eP* **P 11 00 37.7 +1.1**
comp=Z,2.9nm,0.9s
WB2 Warramunga Arr 71.95 201 *eP* **P 11 00 38.4 +0.3**
comp=Z,9.5nm,1.3s
WR1 Warramunga Arr 71.95 201 *eP* **P 11 00 38.0 -0.1**
comp=Z,10nm,1.0s
WRA Warramunga Arr 71.95 201 P **P 11 00 38.0 -0.1**
comp=Z,5.1nm,0.9s,baz=16,slow=6.6,SNR=39
FITZ Fitzroy Crossi 72.66 210 P **P 11 00 42.6 +0.2**
comp=Z,4.6nm,0.8s,baz=16,slow=4.8,SNR=9.6
WMOK Wichita Mounta 73.09 56 *eP* **P 11 00 45.5 +0.5**
comp=Z,4.5nm,0.8s
WMOK Wichita Mounta 73.09 56 *eP* **P 11 00 45.5 +0.5**
WMOK pmax pmax
comp=Z,4.0nm,0.8s
EKA Eskdalemuir Ar 73.88 348 P **P 11 00 48.8 -0.4**
comp=Z,2.0nm,0.7s,baz=23,slow=5.2,SNR=6.2
BURAR Bucovina Array 74.14 328 ⇑ *i*P **P 11 00 49.7 -1.3**
LTX Lajitas 74.41 63 *eP* **P 11 00 54.1 +1.2**
LTX Lajitas 74.41 63 *eP* **P 11 00 54.1 +1.2**
TXAR Lajitas Array 74.41 63 P **P 11 00 54.1 +1.3**
comp=Z,6.3nm,0.7s,baz=299,slow=4.4,SNR=80
TRPA Tarpa 74.59 330 ⇑ *i*P **P 11 00 53.6 +0.1**
AS01 Alice Springs 75.63 201 *eP* **P 11 01 00.2 +0.6**
AS31 Alice Springs 75.64 201 *eP* **P 11 01 00.9 +1.2**
comp=Z,1.2nm,0.8s
ASAR Alice Springs 75.64 201 P **P 11 01 00.7 +1.0**
comp=Z,2.6nm,0.7s,baz=13,slow=5.0,SNR=40
MLR Muntele Rosu 75.70 326 P **P 11 01 00.1 -0.1**
comp=Z,0.6nm,0.5s,baz=62,slow=7.3,SNR=5.5
MLR Muntele Rosu 75.70 326 ⇑ *i*P **P 11 01 00.0 -0.1**
MLR Muntele Rosu 75.70 326 *eP* **P 11 00 60.0 -0.2**
comp=Z,2.6nm,0.7s
JCT Junction City 75.75 60 *eP* **P 11 01 01.6 +1.1**
comp=Z,4.9nm,0.8s
JCT Junction City 75.75 60 *eP* **P 11 01 01.6 +1.1**
JCT pmax pmax
comp=Z,5.0nm,0.8s

VOIR		76.07	327	⇑*iP*	P		11 01 02.0	-0.1
GERES	GERESS Array B	76.59	335	P	P		11 01 05.2	+0.1
	comp=Z,0.3nm,0.3s,baz=30,slow=6.0,SNR=4.3							
GERES	GERESS Array B	76.59	335	P	P		11 01 05.2	+0.1
GERES				pmax	pmax			
	comp=Z,1.0nm,0.4s							
UOSS	Minazif	77.35	294	*eP*	P		11 01 09.2	-0.4
	comp=Z,9.3nm,0.8s							
BR101	Keskin Array S	77.50	318	*eP*	P		11 01 09.5	-0.9
BRTR	Keskin Array B	77.50	318	P	P		11 01 09.5	-0.9
	comp=Z,0.8nm,0.5s,baz=69,slow=4.8,SNR=5.5							
BR231	Keskin MP Arra	77.78	319	*eP*	P		11 01 10.1	-1.7
TKL	Tuckaleechee C	79.92	46	P	P		11 01 23.7	+0.2
	comp=Z,2.5nm,0.8s,baz=323,slow=10,SNR=2.2							
TUE	Stuetta	79.92	337	*eP*	P		11 01 24.1	+0.5
	comp=Z,8.2nm,0.9s							
COCO	West Island	80.44	238	*ceP*	P		11 01 28.1	+1.7
ASF	Jabal al Asfar	82.21	312	P	P		11 01 35.4	-0.5
	comp=Z,4.6nm,0.8s,baz=22,slow=4.1,SNR=7.4							
STKA	Stephens Creek	82.23	192	P	P		11 01 35.7	+0.2
	comp=Z,1.6nm,0.8s,baz=26,slow=3.4,SNR=3.2							
MMAI	Mount Meron Ar	82.24	313	P	P		11 01 35.8	-0.2
	comp=Z,14nm,0.7s,baz=41,slow=9.6,SNR=12							
RAYN	Ar Rayn	84.64	300	*eP*	P		11 01 48.5	+0.1
	comp=Z,11nm,0.7s							
RAYN	Ar Rayn	84.64	300	P	P		11 01 48.3	-0.1
ES19	SONSECA Array	89.22	345	*eP*	P		11 02 09.7	-0.7
ESDC	Sonseca Array	89.25	345	P	P		11 02 09.8	-0.7
	comp=Z,0.5nm,0.4s,baz=13,slow=4.4,SNR=4.9							
KEST	Kesra	89.94	333	P	P		11 02 13.7	-0.2
	comp=Z,2.4nm,0.5s,baz=0.0,slow=4.0,SNR=3.0							
CPUP	Villa Florida	145.33	60	PKPbc	PKPab		11 08 52.2	+0.1
	comp=Z,3.8nm,1.0s,baz=320,slow=5.2,SNR=8.2							
PLCA	Paso Flores	146.50	93	PKPbc	PKPbc		11 08 55.8	+0.6
	comp=Z,3.7nm,1.0s,baz=298,slow=5.0,SNR=6.8							

ISK ***17*** *10:57:29.5,35°.19N×27°.73E,h29km, ML3.5/9*
ATH ***17*** *10:57:31.2,35°.50N×27°.91E,h17km±3km, ML3.0/4, Error ellipse: s-maj=8.5km s-min=2.0km az=318.0*
THE ***17*** *10:57:32.5,35°.52N×27°.78E,h0km±1km,ML3.0/5, Error ellipse: s-maj=4.0km s-min=1.1km az=145.0*
ISCJB ***17*** *10:57:32.2±1.0,35°.49N±0°.05×27°.81E±0°.04, h12km±6km, Error ellipse: s-maj=9.0km s-min=3.6km az=153.0*
CSEM ***17*** *10:57:32.0±0.4,35°.49N×27°.86E,h10km,ML3.0, Error ellipse: s-maj=10.1km s-min=4.2km az=155.0*
DDA ***17*** *10:58:20.4,34°.83N×27°.80E,h14km, Ml3.8*

ISC 17 10:57:31.0±1.4,35°.46N±0°.04×27°.84E±0°.03,h5km±10km, n73,σ1§14/102, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KARP	Karpathos	0.56	279	PG		Pb	10 57 42.6	-0.7
KARP				SG		Sb	10 57 51.5	-0.1
KARP	Karpathos	0.56	279	P		Pg	10 57 42.1	+0.4
KARP				S		Sb	10 57 52.9	+1.3
KARP				AML	AML		10 57 54.9	
	comp=N,4425μm,0.4s							
KARP				AML	AML		10 57 57.3	
	comp=E,3517μm,0.5s							
KARP	Karpathos	0.56	279	P		Pb	10 57 42.4	-0.9
KARP				S		Sb	10 57 51.3	-0.3
KARP	Karpathos	0.56	279	P		Pb	10 57 42.6	-0.7
KARP				S		Sb	10 57 51.3	-0.3
ARG	Arkhangelos	0.79	17	P		Pb	10 57 47.1	-0.1
ARG				S		Sg	10 57 54.6	-2.0
ARG				AML	AML		10 58 07.1	
	comp=N,1115μm,0.5s							
ARG				AML	AML		10 58 09.6	
	comp=E,1624μm,0.5s							
ARG	Arkhangelos	0.79	17	P		Pg	10 57 46.3	+0.1
ARG				S		Sb	10 58 00.1	+1.8
ARG	Arkhangelos	0.79	17	P		Pg	10 57 46.3	+0.1
ZKR	Zakros	1.37	256	P		Pn	10 57 56.4	-0.3
ZKR				S		Sn	10 58 19.5	+4.2
ZKR				AML	AML		10 58 27.0	
	comp=E,2329μm,0.5s							
ZKR				AML	AML		10 58 28.3	
	comp=N,791μm,0.6s							
ZKR	Zakros	1.37	256	P		Pn	10 57 56.5	-0.3
ZKR				S		Sn	10 58 16.5	+1.2
ZKR	Zakros	1.37	256	P		Pn	10 57 56.5	-0.3
ZKR				S		Sn	10 58 16.5	+1.2
TURN	Turunc	1.54	23	PN		Pn	10 57 56.5	-2.6
TURN				SN		Sn	10 58 17.8	-1.7
TURN	Turunc	1.54	23	*i* P		Pn	10 57 56.6	-2.5
TURN				*i* S		Sn	10 58 20.1	+0.5
TURN	Turunc	1.54	23	P		Pn	10 57 56.6	-2.5
TURN				*e*Sn		Sn	10 58 17.8	-1.7
TURN				S		Sn	10 58 20.0	+0.5
FETY	Fethiye	1.55	40	PN		Pn	10 57 58.9	-0.4
FETY	Fethiye	1.55	40	P		Pn	10 57 58.8	-0.5
FETY				S		Sg	10 58 21.1	+0.3
FETY	Fethiye	1.55	40	*e*Pn		Pn	10 57 58.9	-0.4
FETY				S		Sg	10 58 21.1	+0.3
AKAS	Kas	1.63	61	PN		Pn	10 58 00.1	-0.4
AKAS	Kas	1.63	61	*i* P		Pn	10 57 57.8	-2.7
AKAS	Kas	1.63	61	P		Pn	10 57 57.8	-2.7
AKAS	Kas	1.63	61	*e*Pn		Pn	10 58 00.1	-0.4
BDRM	Kayabasi	1.64	349	*i* P		Pn	10 58 00.3	-0.2
BDRM				*i* S		Sg	10 58 23.4	-0.2
BDRM	Kayabasi	1.64	349	P		Pn	10 58 00.3	-0.2
BDRM				S		Sg	10 58 23.4	-0.2
BODT	Bodrum	1.66	345	PN		Pn	10 57 59.9	-0.8
BODT	Bodrum	1.66	345	P		Pn	10 57 59.7	-1.0
BODT	Bodrum	1.66	345	*e*Pn		Pn	10 57 59.9	-0.8
YER	Yerkesik	1.71	12	PN		Pn	10 58 02.1	+0.6
YER	Yerkesik	1.71	12	P		Pb	10 58 03.0	0.0
YER				S		Sn	10 58 23.6	-0.2
YER	Yerkesik	1.71	12	*e*Pn		Pn	10 58 02.1	+0.6
YER	Yerkesik	1.71	12	P		Pb	10 58 03.0	0.0
YER				S		Sn	10 58 23.6	-0.2
NPS	Neapolis	1.83	265	P		Pb	10 58 05.2	+0.2
NPS				AML	AML		10 58 37.4	
	comp=E,794μm,0.7s							
NPS				AML	AML		10 58 40.7	
	comp=N,782μm,0.4s							
NPS	Neapolis	1.83	265	P		Pb	10 58 04.8	-0.1
NPS				S		Sn	10 58 26.3	-0.4
NPS	Neapolis	1.83	265	P		Pb	10 58 04.8	-0.1
NPS				S		Sn	10 58 26.3	-0.4
MLSB	Milas	1.83	358	PN		Pn	10 58 03.4	+0.2
MLSB	Milas	1.83	358	*e*Pn		Pn	10 58 03.4	+0.2
LAST	Lasithi	1.95	262	P		Pg	10 58 08.0	-0.4
LAST	Lasithi	1.95	262	P		Pn	10 58 06.2	-0.9
LAST				S		Sn	10 58 29.7	-0.1
LAST	Lasithi	1.95	262	P		Pb	10 58 06.2	-0.9
LAST				S		Sn	10 58 29.7	-0.1
ELL	Elmali	2.11	52	PN		Pn	10 58 07.7	+0.6
ELL	Elmali	2.11	52	*e*Pn		Pn	10 58 07.7	+0.6
THR6	Thira Island,	2.17	295	P		Pn	10 58 08.2	+0.4
THR6	Thira Island,	2.17	295	P		Pn	10 58 08.2	+0.4
TAVA	DENIZLI_Tavas	2.18	23	*i* P		Pn	10 58 08.2	+0.1
TAVA				*i* S		Sg	10 58 45.4	+4.3
TAVA	DENIZLI_Tavas	2.18	23	P		Pn	10 58 08.2	+0.1
THR3	Thira Island,	2.19	296	P		Pn	10 58 08.1	0.0
THR3	Thira Island,	2.19	296	P		Pn	10 58 08.1	0.0
GOLH	Golhisar	2.26	38	*i* P		Pn	10 58 09.0	0.0
GOLH	Golhisar	2.26	38	P		Pn	10 58 09.0	0.0
GCAM	G?zelcami?	2.29	348	PN		Pn	10 58 09.8	+0.4
GCAM	G?zelcami?	2.29	348	*e*Pn		Pn	10 58 09.8	+0.4
SMG	Samos	2.39	341	P		Pn	10 58 10.4	-0.4
SMG	Samos	2.39	341	P		Pn	10 58 10.4	-0.4
APE	Apeiranthos	2.46	311	PN		Pn	10 58 10.8	-1.0
APE	Apeiranthos	2.46	311	P		Pn	10 58 11.5	-0.4
APE	Apeiranthos	2.46	311	P		Pn	10 58 11.9	+0.1
APE				S		Sn	10 58 41.9	-0.4
APE	Apeiranthos	2.46	311	*e*Pn		Pn	10 58 10.8	-1.0
APE	Apeiranthos	2.46	311	P		Pn	10 58 11.9	+0.1
APE				S		Sn	10 58 41.9	-0.4
AYDB	Zeytinkoy-Aydi	2.48	1	PN		Pn	10 58 12.8	+0.6
AYDB	Zeytinkoy-Aydi	2.48	1	*e*Pn		Pn	10 58 12.8	+0.6
SIVA	Sivas	2.52	261	P		Pb	10 58 16.4	-0.3
SIVA	Sivas	2.52	261	P		Pb	10 58 15.5	-1.2
KORT	Korkueli	2.55	52	PN		Pn	10 58 14.4	+1.3
KORT	Korkueli	2.55	52	*e*Pn		Pn	10 58 14.4	+1.3
KORT				S		Sb	10 58 47.7	-1.3
KULA	Kula-Manisa	3.12	12	PN		Pn	10 58 22.1	+1.2
KULA	Kula-Manisa	3.12	12	*e*Pn		Pn	10 58 22.1	+1.2
IMMV	Iera Moni Meta	3.15	271	P		Pb	10 58 24.4	-3.0
IMMV	Iera Moni Meta	3.15	271	P		Pn	10 58 21.1	-0.1
IMMV	Iera Moni Meta	3.15	271	P		Pn	10 58 21.1	-0.1
SUTC	Sutluce-Ispart	3.25	51	PN		Pn	10 58 24.0	+1.3
SUTC	Sutluce-Ispart	3.25	51	*e*Pn		Pn	10 58 24.0	+1.3
CHOS	Chios island	3.25	334	PN		Pn	10 58 22.9	+0.1
CHOS	Chios island	3.25	334	*e*Pn		Pn	10 58 22.9	+0.1
VLI	Veliai	4.16	289	P		Pn	10 58 36.5	+1.3
VLI				S		Sn	10 59 23.9	-0.3
VLI	Veliai	4.16	289	P		Pn	10 58 36.5	+1.3
VLI				S		Sn	10 59 23.9	-0.3

ISCJB ***17*** *10:58:07.4±0.5, 19°.22S±0°.07×168°.82E±0°.07, h10km, mb4.4/16, Error ellipse: s-maj=11.4km s-min=8.2km az=141.0*
NEIC ***17*** *10:58:08.5±0.5, 19°.20S×168°.91E, h10km, mb4.5/7, Error ellipse: s-maj=12.7km s-min=10.8km az=153.0*
IDC ***17*** *10:58:08.2±1.1, 19°.24S×168°.78E, h0km, mb4.2/11, mb1 4.4/13, mb1mx4.0/49, mbtmp4.3/13, ML3.7/2, MS3.0/1, Ms1 3.0/1, ms1mx2.7/42, Error ellipse: s-maj=23.6km s-min=22.4km az=54.0*

ISC 17 10:58:08.9±0.7,19°.24S±0°.08×168°.85E±0°.09,h10km,n31, σ1§33/36,mb4.5/16,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
DZM	Mont Dzumac	3.61	218	Pn		Pn	10 59 03.1	-1.9
	0.7nm,0.3s,baz=65,slow=12,SNR=19							
DZM				LR		LR	10 59 49.4	
	comp=Z,200nm,18.9s,baz=354,slow=28							
DZM				Sn		Sn	10 59 50.6	+2.8
	14nm,0.3s,baz=148,slow=22,SNR=10.0							
DZM	Mont Dzumac	3.61	218	*e*Pn		Pn	10 59 04.0	-1.0
DZM				*e*Sn		Sn	10 59 45.4	-2.3
HNR	Honiara	13.01	317	Pn		Pn	11 01 13.8	-0.1
	3.4nm,0.3s,baz=118,slow=3.6,SNR=3.0							
HNR	Honiara	13.01	317	*e*Pn		Pn	11 01 14.2	+0.2
EIDS	Eidsvold	17.53	246	*e*Pn		Pn	11 02 12.8	-0.7
	19nm,1.1s							
EIDS				*e*Sn		Sn	11 05 27.1	-1.8
URZ	Urewera	20.27	161	P		P	11 02 45.1	+0.5
	2.7nm,0.6s,baz=284,slow=14,SNR=3.1							
CTA	Charters Tower	21.29	264	P		P	11 02 56.1	+0.2
	7.8nm,0.8s,baz=90,slow=15,SNR=6.8							
STKA	Stephens Creek	27.53	237	P		P	11 03 54.7	-1.2
	2.4nm,0.7s,baz=86,slow=10,SNR=6.7							
WB2	Warramunga Arr	32.48	263	*e*P		P	11 04 39.3	-0.5
WR1	Warramunga Arr	32.49	263	*e*P		P	11 04 39.5	-0.5
	4.1nm,0.8s							
WRA	Warramunga Arr	32.49	263	P		P	11 04 39.5	-0.5
	3.2nm,0.9s,baz=94,slow=8.2,SNR=23							
AS01	Alice Springs	32.73	256	*e*P		P	11 04 42.5	+0.5
AS31	Alice Springs	32.77	256	*e*P		P	11 04 43.2	+0.7
	5.0nm,0.7s							
ASAR	Alice Springs	32.77	256	P		P	11 04 42.7	+0.3
	14nm,0.7s,baz=84,slow=8.8,SNR=105							
MTN	Manton Dam	36.74	274	*e*P		P	11 05 17.0	+0.2
	9.9nm,0.9s							
FITZ	Fitzroy Crossi	40.87	264	P		P	11 05 52.3	+0.9
	14nm,0.8s,baz=108,slow=9.1,SNR=33							
MBWA	Marble Bar	45.99	259	*e*P		P	11 06 33.7	+0.9
	15nm,1.0s							
XMIS	Christmas Isla	61.43	268	*e*P		P	11 08 26.7	+0.7
	63nm,1.2s							
QSPA	South Pole Qui	70.82	180	P		P	11 09 27.8	+2.2
	4.4nm,0.9s,baz=24,slow=4.0,SNR=6.5							
CMAR	Chiang Mai Arr	78.17	294	P		P	11 10 11.1	+2.1
	0.5nm,0.4s,baz=128,slow=4.3,SNR=6.0							
SONA0	Songino Array	87.00	323	*e*P		P	11 10 54.3	-0.2
SONM	Songino Array	87.00	323	P		P	11 10 54.3	-0.2
	1.6nm,0.9s,baz=137,slow=4.8,SNR=9.3							
SONA1	Songino Array	87.00	323	*e*P		P	11 10 53.6	-0.9
DAC	Darwin (Calif)	88.67	51	*e*P		P	11 10 59.2	-3.7
	6.1nm,1.4s							
NVAR	Mina Array Bea	89.08	49	P		P	11 11 05.0	+0.2
	0.1nm,0.5s,baz=246,slow=5.5,SNR=2.7							
SNAA	Sanae	89.15	183	P		P	11 11 05.3	+0.8
	1.2nm,0.7s,baz=197,slow=11,SNR=4.8							
SNAA	Sanae	89.15	183	*e*P		P	11 11 04.3	-0.1
	1.0nm,0.7s							
VNA3	Neumayer Olymp	89.75	180	P		P	11 11 06.9	-0.3
VNA2	Neumayer--Watz	90.04	181	P		P	11 11 09.5	+0.9
	baz=176,slow=2.6							
YPP	Pitchstone Pla	96.55	45	*e*P		P	11 11 38.2	-1.0
YPP				*ep*P		pP	11 11 42.2	-0.4
YMS	Mount Sheridan	96.73	46	*e*P		P	11 11 38.2	-1.9
YMS				*ep*P		pP	11 11 42.5	-1.0

SOME ***17*** *11:01:13.4, 44°.77N×82°.20E, h15km*
NNC ***17*** *11:01:15.8±2.4, 44°.78N×82°.02E, h0km, mb3.0, mpv2.6, Error ellipse: s-maj=33.0km s-min=9.2km az=118.0*

ISC 17 11:01:12.9±2.9,44°.76N±0°.06×82°.2E±0°.1,h2km±29km,n8, σ0§57/16,4C-4D,Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
DJR	Jarkent	1.78	257	*e*P		Pb	11 01 46.2	0.0
	1.8nm,0.3s							
DJR				*e*S		Sb	11 02 09.4	+0.3
	7.3nm,0.6s							
KTMS	Ketmen	1.88	226	*e*P		Pb	11 01 47.8	-0.2
	0.7nm,0.2s							
KTMS				*e*S		Sb	11 02 12.4	+0.5
	16nm,0.2s							
MK31	Makanchi Array	2.03	2	⇓Pn		Pb	11 01 49.6	-0.9
	4.3nm,0.5s,baz=187,slow=15							
MK31				⇓Sn		Sg	11 02 18.4	+0.3
	11nm,0.8s,baz=189,slow=26							
MAKZ	Makanchi	2.05	356	⇑Pn		Pb	11 01 50.9	0.0
	1.9nm,0.5s							
MAKZ				⇑Sn		Sg	11 02 19.1	+0.3
	3.7nm,0.5s							
KAPS	Kapalarasan	2.08	285	⇓*i*P		Pb	11 01 51.1	-0.4
	1.0nm,0.4s							
KAPS				⇓*i*S		Sb	11 02 17.7	-0.1
	4.3nm,0.5s							
PDGK	Podgornoye	2.43	235	⇑Pn		Pn	11 01 54.3	+0.6
	1.2nm,0.5s							
PDGK				⇑Sn		Sb	11 02 26.8	-0.9
	17nm,0.7s							
UZB	Uzynbulak	2.81	236	*e*P		Pb	11 02 03.4	-0.5
	0.7nm,0.3s							
UZB				*e*S		Sb	11 02 38.8	0.0
	1.6nm,0.3s							
KPKS	Kokpek	2.85	244	*e*P		Pb	11 02 03.7	-0.8
	2.9nm,0.2s							
KPKS				*e*S		Sb	11 02 39.3	-0.5
	15nm,0.4s							

ISK ***17*** *11:01:48.5, 37°.55N×38°.89E, h5km, ML2.5/5*
DDA ***17*** *11:01:49.6, 37°.53N×38°.90E, h7km, Ml3.0*
CSEM ***17*** *11:01:49.5±0.2, 37°.55N×38°.90E, h2km, ML2.5, Error ellipse: s-maj=6.3km s-min=5.0km az=114.0*

ISC 17 11:01:49.5±1.1,37°.54N±0°.02×38°.89E±0°.02,h3km±11km, n32,σ0§52/41,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
URFA	Urfa	0.11	209	PG		Pg	11 01 51.5	-0.2
URFA	Urfa	0.11	209	*e*Pg		Pg	11 01 51.5	-0.2
SANL	SANLIURFA_Merk	0.37	168	*i* P		Pb	11 01 58.1	-0.6
SANL	SANLIURFA_Merk	0.37	168	P		Pb	11 01 58.2	-0.6
ATAB	Bozova	0.48	262	*i* P		Pg	11 01 53.8	-4.8
ATAB	Bozova	0.48	262	P		Pg	11 01 53.8	-4.8
SURC	SANLIURFA_SURC	0.69	199	*i* P		Pg	11 02 02.6	-0.1
SURC				*i* S		Sg	11 02 12.2	+0.5
SURC	SANLIURFA_SURC	0.69	199	P		Pg	11 02 02.6	-0.1
SURC				S		Sg	11 02 12.2	+0.5
MALT	Malatya	0.86	335	PG		Pg	11 02 05.9	0.0
MALT				SG		Sb	11 02 18.8	-0.2
MALT	Malatya	0.86	335	*e*Pg		Pg	11 02 05.9	0.0
MALT				*e*Sg		Sb	11 02 18.8	-0.2
ELZG	Elazig	0.96	4	*i* P		Pg	11 02 07.7	-0.3
ELZG	Elazig	0.96	4	P		Pg	11 02 07.7	-0.3
DYBB	Diyarbakir	1.08	67	PG		Pg	11 02 09.4	-0.7
DIY	Diyarbakir	1.12	71	*e*Pg		Pg	11 02 09.4	-1.6
MAZI	Mazidag	1.24	93	PN		Pn	11 02 13.7	-0.1
MAZI				SN		Sn	11 02 31.9	+0.7
MAZI	Mazidag	1.24	93	*e*Pn		Pn	11 02 13.7	-0.1
MAZI				*e*Sn		Sn	11 02 31.9	+0.7
GAZ	Gaziantep	1.39	255	PN		Pg	11 02 16.3	+0.3
GAZ	Gaziantep	1.39	255	*e*Pn		Pg	11 02 16.3	+0.3
PTK	Pertek	1.41	16	PN		Pn	11 02 15.6	-0.6
PTK	Pertek	1.41	16	*e*Pn		Pn	11 02 15.6	-0.6
HANI	Diyarbakir_Han	1.48	53	*i* P		Pg	11 02 18.3	+0.4
HANI				*i* S		Sg	11 02 38.0	+0.9
HANI	Diyarbakir_Han	1.48	53	P		Pg	11 02 18.3	+0.4
HANI				S		Sg	11 02 38.0	+0.9
DARE	Darende-Malaty	1.52	313	PN		Pn	11 02 17.6	0.0
DARE				SN		Sg	11 02 38.6	+0.4
DARE	Darende-Malaty	1.52	313	*e*Pn		Pn	11 02 17.6	0.0
DARE				*e*Sn		Sg	11 02 38.6	+0.4
MARD	Mardin	1.52	98	*i* P		Pg	11 02 19.3	+0.6
MARD				*i* S		Sg	11 02 38.5	+0.1
KMRS	Kahramanmaras	1.58	269	PN		Pn	11 02 17.9	-0.5
KMRS	Kahramanmaras	1.58	269	*e*Pn		Pn	11 02 17.9	-0.5
KUZU	Kuzuini	1.64	243	*i* P		Pg	11 02 21.0	+0.1
KUZU	Kuzuini	1.64	243	P		Pg	11 02 21.0	+0.1
BNGB	Bing˜ll	2.02	44	PN		Pn	11 02 24.8	+0.2
SRTM	Siirt_Merkez	2.45	78	*i* P		Pb	11 02 33.9	-0.3
SRTM	Siirt_Merkez	2.45	78	P		Pb	11 02 33.9	-0.3

MAN 17 11:04:01,9.86N×122.93E,h1km,mb4.3,ML3.1,MS2.9, 2C-1D,Negros

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SNPH	Sibulan	0.59	149	*e*P		Pb	11 04 14.6	+0.4
SNPH				*i* S		Sb	11 04 24.4	+1.3
GUIM	Jordan	0.84	336	*e*P		Pg	11 04 17.7	+0.6
GUIM				*e*S		Sb	11 04 29.1	-1.0
TBP	Tagbilaran	0.93	100	*e*P		Pb	11 04 20.1	+0.1
LLP	Lapu-Lapu	1.12	66⇑	*e*P		Pg	11 04 22.6	+0.2
LLP				*e*S		Sb	11 04 38.0	-0.2
DCPH	Dipolog City	1.33	162⇑	*e*P		Pb	11 04 27.0	+0.2
DCPH				*e*S		Sn	11 04 45.9	+0.7
RCP	Roxas	1.70	354⇓	*e*P		Pb	11 04 32.8	-0.4
RCP				*e*S		Sg	11 04 55.6	-0.2
MSLP	Maasin	1.92	82	*e*P		Pb	11 04 36.8	0.0
MSLP				*e*S		Sg	11 05 03.8	+1.0

IDC 17 11:14:14.6±14.0,17°.93S×166°.83E,h0km,mb3.5/3, mb1 3.7/4,mb1mx3.4/41,mbtmp3.5/4,ML3.2/1,Error ellipse: s-maj=239.1km s-min=37.4km az=65.0,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
DZM	Mont Dzumac	4.14	185	Pn		Pn	11 15 18.8	-0.3
	1.5nm,0.3s,baz=345,slow=20,SNR=37							
DZM				Sn		Sn	11 16 07.4	-0.9
	1.9nm,0.3s,baz=143,slow=20,SNR=3.3							
STKA	Stephens Creek	26.68	234	P		P	11 19 56.9	+1.4
	0.6nm,0.5s,baz=45,slow=11,SNR=3.7							
WRA	Warramunga Arr	30.77	261	P		P	11 20 31.9	-0.1
	0.4nm,1.0s,baz=76,slow=6.7,SNR=3.6							
ASAR	Alice Springs	31.26	254	P		P	11 20 35.5	-0.8
	0.3nm,0.5s,baz=80,slow=8.6,SNR=6.9							

ISCJB ***17*** *11:32:13.5±0.9, 59°.15N±0°.04×27°.82E±0°.09, h0km, Error ellipse: s-maj=7.0km s-min=4.4km az=30.0*
HEL ***17*** *11:32:14.5±0.3, 59°.14N×27°.98E, h0km, ML1.8, Explosion*
CSEM ***17*** *11:32:15.0±0.6, 59°.14N×27°.80E, h2km, ML1.8, Error ellipse: s-maj=11.9km s-min=8.6km az=124.0, Mining explosion.*
IDC ***17*** *11:32:15.8±2.5, 59°.21N×27°.74E, h0km, mb1 3.0/3, mb1mx2.8/59, mbtmp2.9/3, ML2.5/3, Error ellipse: s-maj=26.4km s-min=17.1km az=101.0*

ISC 17 11:32:13.2±1.1,59°.21N±0°.03×27°.83E±0°.05,h0km,n27, σ1§84/46,Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
VSU	Vasula	0.94	218	*e*Pb		Pg	11 32 31.7	+0.5
VSU				*e*S		Sg	11 32 43.0	-0.4
VSU	Vasula	0.94	218	*e*PB		Pg	11 32 31.7	+0.5
VSU				*e*S		Sg	11 32 43.0	-0.4
ARBE	Arbavere	0.97	284	*e*S		Sb	11 32 46.7	+0.5
ARBE	Arbavere	0.97	284	*e*S		Sb	11 32 46.7	+0.5
VJF	Virojoki	1.34	354	*e*P		Pn	11 32 39.7	+0.6
VJF				*e*Sb		Sn	11 32 58.4	+0.9
VJF	Virojoki	1.34	354	*e*P		Pn	11 32 39.7	+0.6
VJF				MSG			11 32 56.2	
	comp=Z,7.7nm,0.2s							
VJF				*e*SB		Sn	11 32 58.4	+0.9
PVF	Pernaja	1.67	324	*e*Pn		Pg	11 32 46.2	+1.1
PVF				*e*Sg		Sg	11 33 08.8	+2.2
	comp=Z,8.5nm,0.2s							
PVF	Pernaja

States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I43RU	**DUBNA INFRASON 4.04** baz=132,slow=316,SNR=0.6	**316**	*i*			12 11 50.0	
I31KZ	**AKTYUBINSK INF 10.29** baz=297,slow=320,SNR=0.8	**104**	*i*			12 50 10.0	
I26DE	**FREYUNG INFRAS18.47** baz=63,slow=334,SNR=0.7	**266**	*i*			13 41 50.0	

ISCJB ***17*** *11:50:17.9±0.6, 37°.21N±0°.05×28°.25E±0°.06, h0km, Error ellipse: s-maj=9.0km s-min=4.5km az=43.9*
ISK ***17*** *11:50:17.2, 37°.24N×28°.29E, h4km, ML2.5/7*
CSEM ***17*** *11:50:18.2±0.2, 37°.20N×28°.24E, h1km, ML2.5, Error ellipse: s-maj=6.7km s-min=3.6km az=35.0, Suspected Mining explosion.*
DDA ***17*** *11:50:18.3, 37°.23N×28°.21E, h7km, Ml2.8, Suspected Mining explosion.*

ISC 17 11:50:16.6±0.9, 37°.11N±0°.05×28°.12E±0°.05, h0km, n20, σ0s51/24, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YER	**Yerkesik**	**0.13**	**78**	PG	**Pg**	**11 50 20.1**	**+1.0**
YER	**Yerkesik**	**0.13**	**78**	*e*Pg	**Pg**	**11 50 20.1**	**+1.0**
MLSB	**Milas**	**0.34**	**304**	PG	**Pb**	**11 50 25.6**	**+0.1**
MLSB	**Milas**	**0.34**	**304**	*e*Pg	**Pb**	**11 50 25.6**	**+0.1**
TURN	**Turunc**	**0.45**	**121**	PG	**Pb**	**11 50 27.0**	**-0.4**
TURN	**Turunc**	**0.45**	**121**	*i* P	**Pb**	**11 50 27.2**	**-0.2**
TURN	**Turunc**	**0.45**	**121**	*e*Pg	**Pb**	**11 50 27.0**	**-0.4**
BODT	**Bodrum**	**0.65**	**266**	PG	**Pn**	**11 50 32.9**	**-0.2**
BODT	**Bodrum**	**0.65**	**266**	*e*Pg	**Pn**	**11 50 32.9**	**-0.2**
TAVA	**DENIZLI_Tavas**	**0.72**	**60**	*i* P	**Pg**	**11 50 30.6**	**+0.1**
TAVA	**DENIZLI_Tavas**	**0.72**	**60**	P	**Pg**	**11 50 30.6**	**+0.1**
AYDB	**Zeytinkoy-Aydi**	**0.86**	**348**	PG	**Pg**	**11 50 33.1**	**+0.1**
AYDB				SG	**Sg**	**11 50 43.9**	**-0.3**
AYDB	**Zeytinkoy-Aydi**	**0.86**	**348**	*e*Pg	**Pg**	**11 50 33.1**	**+0.1**
AYDB				*e*Sg	**Sg**	**11 50 43.9**	**-0.3**
FETY	**Fethiye**	**0.90**	**121**	PG	**Pg**	**11 50 34.5**	**+0.6**
FETY	**Fethiye**	**0.90**	**121**	*e*Pg	**Pg**	**11 50 34.5**	**+0.6**
GCAM	**G?zelcaml?**	**0.92**	**310**	PG	**Pb**	**11 50 36.1**	**+0.6**
GCAM				SG	**Sn**	**11 50 50.2**	**-0.6**
GCAM	**G?zelcaml?**	**0.92**	**310**	*i* P	**Pb**	**11 50 36.0**	**+0.6**
GCAM	**G?zelcaml?**	**0.92**	**310**	*e*Pg	**Pb**	**11 50 36.1**	**+0.6**
GCAM				*e*Sg	**Sn**	**11 50 50.2**	**-0.6**
AKAS	**Kas**	**1.48**	**126**	PN	**Pg**	**11 50 45.2**	**+0.3**
AKAS	**Kas**	**1.48**	**126**	*e*Pn	**Pg**	**11 50 45.2**	**+0.3**

IDC 17 11:53:40.9±3.1, 18°.78S×170°.50W, h0km, mb3.5/3, mb1 3.8/4, mb1mx3.5/50, mbtmp3.6/4, ML3.0/1, MS3.6/1, Ms1 3.6/1, ms1mx2.7/29, Error ellipse: s-maj=88.1km s-min=34.8km az=125.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**5.00**	**346**	Pn	Pn	11 54 57.6	+0.4
AFI	0.6nm,0.3s,baz=150,slow=20,SNR=3.1			Sn	Sn	11 55 48.5	-7.3
ASAR	2.0nm,0.3s,baz=41,slow=20,SNR=3.4 **Alice Springs**	**51.79**	**254**	P	P	12 02 51.3	+0.4
WRA	0.4nm,0.5s,baz=92,slow=8.1,SNR=11 **Warramunga Arr**	**51.85**	**259**	P	P	12 02 50.7	-0.7
SIJI	0.2nm,0.6s,baz=98,slow=7.6,SNR=5.9 **Sorong**	**59.76**	**280**	LR	LR	12 30 05.0	
ILAR	comp=Z,51nm,18.4s,baz=66,slow=36 **Eielson Array**	**85.25**	**10**	P	P	12 06 18.8	-0.2
	0.8nm,1.1s,baz=216,slow=4.5,SNR=4.1						

NNC 17 12:00:23.7±6.3, 36°.45N×70°.76E, h0km, mb3.9, mpv3.5, Error ellipse: s-maj=49.0km s-min=25.1km az=179.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**2.81**	**328**	Pn	Pn	12 01 10.8	+0.8
DZET	28nm,0.5s			Sn	Sn	12 01 46.0	+1.5
SFK	13nm,0.5s **Sufi-Kurgan**	**4.16**	**30**	Pn	Pn	12 01 30.6	+1.9
SFK	3.1nm,0.4s			Sn	Sn	12 02 20.8	+2.6
MNAS	7.9nm,0.6s **Manas**	**6.18**	**12**	Pn	Pn	12 01 52.2	-4.1
MNAS	3.1nm,0.6s			Sn	Sn	12 03 07.1	-0.7
KK31	0.9nm,0.6s **Karatay Array**	**6.65**	**358**	Pn	Pn	12 02 01.5	-1.2
KK31	1.2nm,0.5s,baz=192,slow=14,SNR=15			Sn	Sn	12 03 20.1	+1.0
AAK	0.6nm,0.5s,baz=200,slow=29,SNR=6.7 **Ala-Archa**	**6.82**	**24**	Pn	Pn	12 02 02.3	-2.8
AAK	1.1nm,0.4s			Sn	Sn	12 03 24.2	+0.6
	1.7nm,1.0s						

TEH ***17*** *12:05:19.9, 28°.39N×53°.01E, h8km, ML3.0*
IDC ***17*** *12:05:23.3±1.7, 29°.69N×55°.18E, h0km, mb3.6/5, mb1 3.7/6, mb1mx3.3/62, mbtmp3.6/6, ML3.7/1, Error ellipse: s-maj=49.9km s-min=26.8km az=65.0*

ISC 17 12:05:23.6±0.9, 29°.08N±0°.10×53°.99E±0°.09, h10km, n14, σ3s96/12, mb3.6/5, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ISRV	**Sarvestan**	**0.82**	**292**	*e*Pg	**Pb**	**12 05 40.5**	**+0.3**
IPAR	**Pars**	**1.12**	**313**	*e*Pg	**Pg**	**12 05 48.2**	**+3.1**
IPAR				*e*Sg	**Sn**	**12 06 10.2**	**+9.0**
IPAR	comp=Z,4μm,0.4s			*e*AMB	AMB	12 06 12.2	
IKAZ	**Kazeroun**	**2.00**	**291**	*e*Pn	**Pn**	**12 05 54.0**	**-3.8**
IKAZ				*e*Sg	**Sn**	**12 06 18.7**	**-4.3**
IKAZ	comp=Z,3μm,0.2s			*e*AMB	AMB	12 06 26.4	
IMEH	**Mehriz**	**2.37**	**13**	*e*Pn	Pg	12 06 15.2	+6.2
IMEH	comp=Z,262nm,0.2s			*e*AMB	AMB	12 06 53.6	
KHGB	**Koh Gabri**	**2.52**	**59**	*e*Pn	Pg	12 06 20.1	+8.2
KHGB	comp=Z,99nm,0.4s			*e*AMB	AMB	12 07 24.2	
IBAF	**Bafgh**	**2.85**	**28**	*e*Pn	Pg	12 06 22.6	+4.4
IBAF	comp=Z,219nm,0.1s			*e*AMB	AMB	12 06 26.2	
IRAM	**Ramesheh**	**3.06**	**333**	*e*Pn	**Pb**	**12 06 16.7**	**-1.5**
IRAM	comp=Z,258nm,0.5s			*e*AMB	AMB	12 07 33.3	
IZEF	**Zefreh**	**4.06**	**340**	*e*Pn	**Pb**	**12 06 31.6**	**-3.8**
IZEF	comp=Z,49nm,0.2s			*e*AMB	AMB	12 06 53.3	
WSAR	**Wadi Sarin**	**7.16**	**143**	Pn	**Pn**	**12 07 09.1**	**+0.8**
WSAR	comp=Z,1.3nm,0.3s,baz=341,slow=12,SNR=2.6			Sn	**Sn**	**12 08 29.1**	**-0.7**
KURBB	comp=Z,0.3nm,0.3s,baz=147,slow=9.8,SNR=3.2 **Kurchatov Arra**	**28.37**	**34**	P	P	12 11 09.2	-8.5
ZALV	comp=Z,0.2nm,0.2s,baz=224,slow=5.2,SNR=1.0 **Zalesovo Beam**	**33.46**	**33**	P	P	12 11 53.8	-8.8
FINES	comp=Z,0.3nm,0.3s,baz=212,slow=5.1,SNR=1.9 **FINESS Array B**	**37.28**	**338**	P	**P**	**12 12 35.0**	**-0.3**
HFS	comp=Z,0.7nm,0.7s,baz=151,slow=8.7,SNR=3.4 **Hagfors**	**41.17**	**331**	P	**P**	**12 13 07.6**	**-0.3**
YKA	comp=Z,1.2nm,0.6s,baz=122,slow=14,SNR=1.8 **Yellowknife Ar**	**88.29**	**355**	P	**P**	**12 18 15.5**	**+0.5**
	comp=Z,0.3nm,0.8s,baz=6.1,slow=5.2,SNR=6.6						

WEL 17 12:11:58.9±0.5, 40°.S±3°×17°.7E±°, h21km±4km, ML3.4/21, ML3.5/1, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CKHZ	**Cape Kidnapper**	**0.12**	**298**	P	Pb	12 12 03.1	-2.2
CKHZ	**Cape Kidnapper**	**0.12**	**298**	S	Sb	12 12 06.5	-3.3
KAHZ	**Kahuranaki**	**0.28**	**253**	P	Pb	12 12 06.4	+1.0
KAHZ	**Kahuranaki**	**0.28**	**253**	S	Sn	12 12 12.6	-0.8
PXZ	**Pawanui**	**0.42**	**221**	P	Pn	12 12 09.2	-0.5
PXZ	**Pawanui**	**0.42**	**221**	S	Sn	12 12 17.9	+1.1
ARHZ	**Aropaoanui**	**0.48**	**339**	P	Pb	12 12 09.5	+0.8
ARHZ	**Aropaoanui**	**0.48**	**339**	S	Sn	12 12 18.0	-0.4
MCHZ	**McNeill Hill**	**0.49**	**304**	P	Pb	12 12 09.4	+0.7
MCHZ	**McNeill Hill**	**0.49**	**304**	S	Sn	12 12 17.9	-0.6
WHHZ	**Waihua**	**0.64**	**1**	P	Pn	12 12 12.2	-0.5
WHHZ	**Waihua**	**0.64**	**1**	S	Sn	12 12 22.9	+0.7
KRHZ	**Kereru**	**0.66**	**276**	P	Pn	12 12 12.5	-0.6
KRHZ	**Kereru**	**0.66**	**276**	S	Sn	12 12 22.9	+0.2
KWHZ	**Kaweka Forest**	**0.68**	**295**	P	Pb	12 12 12.7	+0.6
WPHZ	**Waipukurau**	**0.69**	**240**	P	Pn	12 12 13.1	-0.4
NMHZ	**Naumai**	**0.70**	**333**	P	Pn	12 12 13.2	-0.4
NMHZ	**Naumai**	**0.70**	**333**	P	Pn	12 12 13.2	-0.3
NMHZ	**Naumai**	**0.70**	**333**	S	Sn	12 12 24.2	+0.5
PRHZ	**Porangahau**	**0.71**	**219**	P	Pn	12 12 13.2	-0.6
MHGZ	**Mahia Peninsul**	**0.78**	**44**	P	Pn	12 12 14.2	-0.4
KNZ	**Kokohu**	**0.78**	**27**	P	Pb	12 12 13.9	+0.2
BKZ	**Black Stump Fm**	**0.79**	**314**	P	Pb	12 12 14.2	+0.3
RAHZ	**Arahi**	**0.81**	**353**	P	Pn	12 12 14.7	-0.4
PNHZ	**Pukenui**	**0.81**	**256**	P	Pn	12 12 14.7	-0.4
MTHZ	**Maungataniwha**	**0.91**	**341**	P	Pb	12 12 16.1	+0.1
MTHZ	**Maungataniwha**	**0.91**	**341**	P	Pb	12 12 16.1	+0.1
BHHZ	**Black Hill Sta**	**0.92**	**284**	P	Pb	12 12 16.2	0.0
ANWZ	**Angora Road**	**0.94**	**217**	P	Pb	12 12 16.2	-0.2
SNGZ	**Shannon Statio**	**0.94**	**6**	P	Pn	12 12 16.8	-0.1
PRGZ	**Paritu Road**	**0.94**	**33**	P	Pb	12 12 16.3	-0.3
DVHZ	**Dannevirke**	**1.00**	**234**	P	Pb	12 12 17.0	-0.5
TSZ	**Takapari Road**	**1.03**	**250**	P	Pb	12 12 17.5	-0.5
MRHZ	**Matea Rd**	**1.08**	**325**	P	Pb	12 12 18.9	0.0
RIGZ	**Rimuhau**	**1.09**	**23**	P	Pn	12 12 18.3	-0.7
RTZ	**Ruatahuna**	**1.11**	**350**	P	Pn	12 12 18.8	-0.5
MOVZ	**Moawhango**	**1.18**	**285**	P	Pb	12 12 20.6	+0.1
HATZ	**Hinemaiaia**	**1.20**	**313**	P	Pb	12 12 21.9	+0.9
BFZ	**Birch Farm**	**1.22**	**217**	P	Pn	12 12 19.6	-1.1
PRWZ	**Pori Road**	**1.27**	**228**	P	Pn	12 12 21.2	-0.2
RITZ	**Rihia Road**	**1.29**	**305**	P	Pb	12 12 23.6	+1.2
TUVZ	**Tukino**	**1.29**	**290**	P	Pb	12 12 23.2	+0.7
POWZ	**Post Office Ro**	**1.30**	**238**	P	Pn	12 12 22.2	+0.3
WHVZ	**Whangaehu Hut**	**1.33**	**288**	P	Pb	12 12 23.9	+0.5
ALRZ	**Allen Road**	**1.34**	**329**	P	Pb	12 12 23.5	+0.2
DRZ	**Dome Shelter**	**1.35**	**288**	P	Pb	12 12 25.1	+1.4
TRVZ	**Turoa**	**1.36**	**287**	P	Pb	12 12 24.6	+0.8
NGZ	**Ngauruhoe**	**1.36**	**293**	P	Pb	12 12 24.4	+0.6
TKGZ	**Te Karaka**	**1.37**	**21**	P	Pn	12 12 21.7	-1.0
FWVZ	**Far West T-bar**	**1.37**	**289**	P	Pb	12 12 23.8	-0.2
KRVZ	**Karewarewa**	**1.37**	**296**	P	Pb	12 12 24.3	+0.4
PRRZ	**Plateau Road**	**1.38**	**332**	P	Pb	12 12 25.2	+1.3
MTVZ	**Mangateitei**	**1.39**	**283**	P	Pb	12 12 24.9	+0.7
KATZ	**Kakaramea**	**1.40**	**302**	P	Pb	12 12 25.0	+0.7
COVZ	**Chateau Observ**	**1.40**	**291**	P	Pb	12 12 25.0	+0.6
WTVZ	**West Tongariro**	**1.40**	**295**	P	Pb	12 12 25.0	+0.7
MWZ	**Matawai**	**1.40**	**10**	P	Pn	12 12 22.2	-1.1
RATZ	**Rangitukua**	**1.41**	**307**	P	Pb	12 12 26.0	+1.5
WHTZ	**Whakaora**	**1.44**	**317**	P	Pb	12 12 27.0	+2.0
WPRZ	**Whakapapatarin**	**1.45**	**325**	P	Pb	12 12 26.7	+1.5
CNGZ	**Carnagh Statio**	**1.45**	**32**	P	Pn	12 12 23.3	-0.6
URZ	**Urewera**	**1.46**	**357**	P	Pn	12 12 23.5	-0.5
TIWZ	**Tintock**	**1.47**	**224**	P	Pn	12 12 23.3	-0.9
RRRZ	**Republican Roa**	**1.48**	**338**	P	Pb	12 12 26.9	+1.2
PKVZ	**Pokaka**	**1.51**	**286**	P	Pb	12 12 27.3	+1.1
HRRZ	**Handcock Road**	**1.51**	**331**	P	Pb	12 12 27.9	+1.6
TWVZ	**Taurewa**	**1.52**	**294**	P	Pb	12 12 27.5	+1.0
WATZ	**Wairara**	**1.53**	**311**	P	Pb	12 12 28.1	+1.5
MRZ	**Mangatainoka R**	**1.57**	**233**	P	Pn	12 12 24.6	-1.0
TARZ	**Mount Tarawera**	**1.58**	**339**	P	Pb	12 12 28.8	+1.4
HSRZ	**Hossack Road**	**1.59**	**331**	P	Pb	12 12 29.6	+1.9
HLRZ	**Highlands Stat**	**1.61**	**335**	P	Pb	12 12 30.0	+2.0
KUTZ	**Kaahu Road**	**1.64**	**318**	P	Pb	12 12 29.0	+0.6
TWGZ	**Tauwhareparae**	**1.65**	**21**	P	Pn	12 12 25.9	-0.8
WAZ	**Wanganui**	**1.72**	**268**	P	Pb	12 12 31.9	+2.1
OMRZ	**Omania**	**1.74**	**337**	P	Pb	12 12 32.2	+2.1
HOWZ	**Holdsworth Sta**	**1.76**	**227**	P	Pn	12 12 26.6	-1.6
RUGZ	**Raukumara Rang**	**1.79**	**12**	P	Pn	12 12 27.8	-0.8
PUZ	**Puketiti**	**1.83**	**27**	P	Pn	12 12 27.5	-1.6
TLZ	**Tolley Road**	**1.91**	**316**	P	Pb	12 12 34.3	+1.4
PKGZ	**Pakihiroa**	**1.94**	**20**	P	Pn	12 12 29.6	-1.1
MTW	**Mount Morrison**	**1.95**	**222**	P	Pn	12 12 28.7	-2.0
VRZ	**Vera Road**	**2.00**	**286**	P	Pb	12 12 35.5	+1.0
HAZ	**Te Kaha**	**2.01**	**13**	P	Pn	12 12 30.7	-0.8
KIW	**Kapiti Island**	**2.10**	**236**	P	Pn	12 12 32.0	-0.9
CAW	**Cannon Point**	**2.15**	**229**	P	Pn	12 12 32.1	-1.4
LREZ	**Lake Rotokare**	**2.19**	**276**	P	Pb	12 12 40.3	+2.5
HIZ	**Hauiti**	**2.20**	**302**	P	Pb	12 12 38.3	+0.4

ISCJB ***17*** *12:12:01.5±0.6, 41°.21N±0°.03×36°.09E±0°.06, h0km, Error ellipse: s-maj=6.3km s-min=4.2km az=177.2*
CSEM ***17*** *12:12:01.3±0.4, 41°.20N×36°.13E, h1km, ML2.4, Error ellipse: s-maj=9.2km s-min=6.5km az=76.0, Suspected Mining explosion.*
ISK ***17*** *12:12:01.0, 41°.22N×36°.12E, h11km, ML2.4/5*
DDA ***17*** *12:12:01.6, 41°.20N×36°.17E, h7km, Ml2.9, Suspected Mining explosion.*

ISC 17 12:12:01.5±0.9, 41°.21N±0°.02×36°.07E±0°.04, h0km, n22, σ0s96/32, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KVT	**Kavak**	**0.13**	**187**	PG	**Pg**	**12 12 04.8**	**+0.9**
KVT				SG	**Sg**	**12 12 07.6**	**+2.0**
KVT	**Kavak**	**0.13**	**187**	*e*Pg	**Pg**	**12 12 04.8**	**+0.9**
KVT				*e*Sg	**Sg**	**12 12 07.6**	**+2.0**
SAMS	**Samsun-Alacam**	**0.18**	**31**	*i* P	**Pg**	**12 12 05.2**	**+0.4**
SAMS				*i* S	**Sg**	**12 12 08.8**	**+1.7**
SAMS	**Samsun-Alacam**	**0.18**	**31**	P	**Pg**	**12 12 05.2**	**+0.4**
SAMS				S	**Sg**	**12 12 08.8**	**+1.7**
HAVZ	**Havza**	**0.30**	**243**	*i* P	**Pb**	**12 12 09.2**	**-0.5**
HAVZ				*i* S	**Sb**	**12 12 15.5**	**+0.4**
HAVZ	**Havza**	**0.30**	**243**	P	**Pb**	**12 12 09.2**	**-0.5**
HAVZ				S	**Sb**	**12 12 15.5**	**+0.4**
ERBA	**Erbaa**	**0.74**	**135**	*i* P	**Pg**	**12 12 15.2**	**-0.5**
ERBA	**Erbaa**	**0.74**	**135**	P	**Pg**	**12 12 15.2**	**-0.5**
DIKM	**Dikmen**	**0.75**	**306**	PG	**Pg**	**12 12 16.5**	**+0.6**
DIKM				SG	**Sb**	**12 12 27.7**	**-0.5**
DIKM	**Dikmen**	**0.75**	**306**	*e*Pg	**Pg**	**12 12 16.5**	**+0.6**
DIKM				*e*Sg	**Sb**	**12 12 27.7**	**-0.5**
BOYT	**Boyabat**	**0.90**	**284**	*i* P	**Pg**	**12 12 18.3**	**-0.5**
BOYT	**Boyabat**	**0.90**	**284**	P	**Pg**	**12 12 18.3**	**-0.5**
SNOP	**Sinop**	**1.04**	**322**	PG	**Pg**	**12 12 21.8**	**+0.5**
SNOP				SG	**Sb**	**12 12 36.8**	**+0.4**
SNOP	**Sinop**	**1.04**	**322**	*e*Pg	**Pg**	**12 12 21.8**	**+0.5**
SNOP				*e*Sg	**Sb**	**12 12 36.8**	**+0.4**
SINO	**SINOP_Merkez**	**1.04**	**322**	*i* P	**Pg**	**12 12 21.3**	**-0.1**
SINO	**SINOP_Merkez**	**1.04**	**322**	P	**Pg**	**12 12 21.3**	**-0.1**
CTAK	**Corum_Osmancik**	**1.12**	**240**	*i* P	**Pb**	**12 12 23.4**	**-0.4**
CTAK	**Corum_Osmancik**	**1.12**	**240**	P	**Pb**	**12 12 23.4**	**-0.4**
CORM	**Corum**	**1.50**	**227**	PN	**Pn**	**12 12 29.1**	**-0.7**
CORM	**Corum**	**1.50**	**227**	*e*Pn	**Pn**	**12 12 29.1**	**-0.7**
YOZ	**Yozgat**	**1.67**	**200**	PN	**Pn**	**12 12 30.3**	**-1.8**
YOZ	**Yozgat**	**1.67**	**200**	*e*Pn	**Pn**	**12 12 30.3**	**-1.8**

IDC ***17*** *12:18:45.7±0.9, 1°.08N×92°.13E, h0km, mb3.8/13, mb1 4.0/16, mb1mx3.7/81, mbtmp3.8/16, ML3.8/3, MS3.4/3, Ms1 3.4/3, ms1mx2.8/66, Error ellipse: s-maj=32.9km s-min=14.9km az=42.0*
NEIC ***17*** *12:18:47.2±0.5, 1°.06N×92°.04E, h10km, mb4.0/4, Error ellipse: s-maj=11.5km s-min=6.1km az=204.0*
ISCJB ***17*** *12:18:48.7±0.5, 1°.14N±0°.06×92°.15E±0°.04, h33km, mb3.9/15, MS3.4/1, Error ellipse: s-maj=8.8km s-min=4.9km az=11.9*
DJA ***17*** *12:18:50.0±2.4, 1°.N±6°×9°2E±2°.1, h10km, M4.6/6, mb4.8/6, mB4.8/3, MLv4.6/6, Mw(mB)4.0/3*

ISC 17 12:18:50.8±0.7, 1°.09N±0°.09×92°.13E±0°.06, h35km, n43, σ0s76/44, mb3.8/15, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLSI	**Meulaboh, Aceh**	**5.31**	**53**	P	**Pn**	**12 20 08.5**	**+0.9**
BSI	**Banda Aceh**	**5.40**	**36**	P	**Pn**	**12 20 08.2**	**-0.7**
BSI				S	**Sn**	**12 21 10.0**	**+0.1**
GSI	**Gunungsitoli**	**5.45**	**88**	P	**Pn**	**12 20 08.9**	**-0.6**
GSI	**Gunungsitoli**	**5.45**	**88**	*e*Pn	**Pn**	**12 20 09.8**	**+0.2**
GSI				*e*Sn	**Sn**	**12 21 10.5**	**-0.6**
TPTI		**5.49**	**67**	P	**Pn**	**12 20 09.3**	**-0.8**
LHMI	**Lhok Sumawe**	**6.33**	**49**	P	**Pn**	**12 20 19.7**	**-1.9**
LHMI	**Lhok Sumawe**	**6.33**	**49**	*e*Pn	**Pn**	**12 20 23.4**	**+1.8**
PSI	**Prapat**	**7.00**	**76**	Pn	**Pn**	**12 20 30.8**	**-0.2**
PSI	0.5nm,0.3s,baz=100,slow=12,SNR=2.9			LR	LR	12 23 31.3	
	comp=Z,434nm,20.4s,baz=313,slow=41						
PSI	**Prapat**	**7.00**	**76**	*e*Pn	**Pn**	**12 20 30.6**	**-0.4**
PSI				*e*Sn	**Sn**	**12 21 48.4**	**-1.1**
SISI	**Saibi**	**7.36**	**109**	P	**Pn**	**12 20 35.1**	**-0.7**
MNSI	**Mandailing Nat**	**7.45**	**92**	P	**Pn**	**12 20 37.7**	**+0.6**
PDSI	**Padang**	**8.56**	**103**	P	Pn	12 21 00.4	+8.0
PALK	**Pallekele**	**12.94**	**299**	Pn	**Pn**	**12 21 52.1**	**-0.3**
PALK	0.4nm,0.3s,baz=116,slow=14,SNR=2.7			Sn	Sn	12 24 03.0	-12
PALK	1.2nm,0.3s,baz=121,slow=1.5,SNR=6.5 **Pallekele**	**12.94**	**299**	*e*Pn	**Pn**	**12 21 50.8**	**-1.6**
PALK				*e*Sn	**Sn**	**12 24 15.1**	**-0.2**
KSM	**Kuching**	**18.18**	**89**	*e*P	**P**	**12 23 01.5**	**+0.9**
CMAR	12nm,1.0s **Chiang Mai Arr**	**18.51**	**21**	P	**P**	**12 23 03.1**	**-1.1**
CMAR	0.3nm,0.3s,baz=218,slow=13,SNR=18			LR	LR	12 30 54.0	
CHTO	comp=Z,72nm,20.2s,baz=219,slow=39 **Chiang Mai**	**18.84**	**20**	*e*P	**P**	**12 23 07.5**	**-0.4**
SBUM	4.8nm,1.0s **Sibu**	**20.12**	**86**	*e*P	Pn	12 23 24.1	+0.2
KKM	6.2nm,1.0s **Kota Kinabalu**	**24.53**	**78**	*e*P	**P**	**12 24 08.0**	**+0.5**
FITZ	12nm,1.1s **Fitzroy Crossi**	**38.09**	**122**	P	**P**	**12 26 06.0**	**-0.5**
WSAR	1.2nm,0.9s,baz=292,slow=19,SNR=2.5 **Wadi Sarin**	**39.26**	**307**	LR	LR	12 41 07.4	
MK32	comp=Z,48nm,18.9s,baz=4.5,slow=34 **Makanchi Array**	**46.33**	**351**	*e*P	**P**	**12 27 12.8**	**-0.5**
MKAR	**Makanchi Array**	**46.33**	**351**	P	**P**	**12 27 12.8**	**-0.5**
WR1	0.8nm,0.8s,baz=161,slow=7.7,SNR=5.7 **Warramunga Arr**	**46.35**	**119**	*e*P	**P**	**12 27 14.0**	**+0.1**
WRA	22nm,0.8s **Warramunga Arr**	**46.35**	**119**	P	**P**	**12 27 14.0**	**+0.1**
ASAR	0.9nm,0.7s,baz=298,slow=8.6,SNR=11 **Alice Springs**	**47.46**	**124**	P	**P**	**12 27 22.1**	**-0.5**
GEYT	0.2nm,0.7s,baz=303,slow=7.9,SNR=3.9 **Alibeck**	**48.17**	**324**	P	**P**	**12 27 28.0**	**+0.2**
SONA0	1.5nm,0.5s,baz=119,slow=12,SNR=4.1 **Songino Array**	**48.18**	**13**	*e*P	**P**	**12 27 28.6**	**+0.8**
SONM	**Songino Array**	**48.18**	**13**	P	**P**	**12 27 28.6**	**+0.8**
KURBB	0.6nm,0.6s,baz=196,slow=8.2,SNR=7.5 **Kurchatov Arra**	**50.69**	**349**	P	**P**	**12 27 46.6**	**-0.1**
KURK	0.6nm,0.7s,baz=172,slow=6.9,SNR=5.8 **Kurchatov**	**50.76**	**349**	*e*P	**P**	**12 27 46.6**	**-0.7**
ZALV	**Zalesovo Beam**	**53.03**	**355**	P	**P**	**12 28 04.0**	**-0.1**
ZALV	0.4nm,0.4s,baz=177,slow=8.9,SNR=4.3 **Zalesovo Beam**	**53.03**	**355**	*e*P	**P**	**12 28 04.5**	**+0.3**
ZAA1	**Zalesovo Array**	**53.03**	**355**	*e*P	**P**	**12 28 04.0**	**-0.1**
BVAR	**Borovoye Array**	**54.83**	**344**	P	**P**	**12 28 16.2**	**-1.1**
ABKAR	0.6nm,0.7s,baz=126,slow=9.3,SNR=5.0 **Akbulak array**	**55.34**	**335**	*e*P	**P**	**12 28 21.4**	**+0.3**
KBZ	**Khabaz**	**60.90**	**321**	P	**P**	**12 29 00.6**	**+0.5**
BR101	0.7nm,0.3s,baz=117,slow=6.3,SNR=4.1 **Keskin Array S**	**65.48**	**314**	*e*P	**P**	**12 29 31.3**	**+0.5**
BRTR	**Keskin Array B**	**65.48**	**314**	P	**P**	**12 29 31.3**	**+0.5**
MLR	0.9nm,0.6s,baz=139,slow=5.5,SNR=1.6 **Muntele Rosu**	**72.70**	**318**	P	**P**	**12 30 16.2**	**+0.8**
GERES	0.9nm,0.8s,baz=163,slow=5.0,SNR=4.6 **GERESS Array B**	**81.57**	**319**	P	**P**	**12 31 05.4**	**+0.3**
LTX	0.4nm,0.2s,baz=111,slow=7.3,SNR=3.6 **Lajitas**	**146.19**	**25**	*e*PKPdf	**PKPab**	**12 38 29.6**	**+0.7**
TXAR	**Lajitas Array**	**146.19**	**25**	PKPbc	**PKPab**	**12 38 29.6**	**+0.7**
	0.3nm,0.6s,baz=266,slow=3.3,SNR=3.5						

IDC ***17*** *12:20:33.0±1.9, 1°.07N×91°.86E, h0km, mb3.5/6, mb1 3.7/8, mb1mx3.4/80, mbtmp3.6/8, ML3.9/2, Error ellipse: s-maj=59.3km s-min=23.5km az=55.0*

ISC 17 12:20:33.1±1.5, 1°.0N±0°.2×91°.7E±0°.1, h10km, n10, σ1s42/10, mb3.7/6, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**7.48**	**76**	Pn	**Pn**	**12 22 21.2**	**-1.2**
PALK	0.6nm,0.3s,baz=264,slow=13,SNR=2.0 **Pallekele**	**12.55**	**300**	Sn	**Sn**	**12 25 50.0**	**-1.9**
CMAR	1.1nm,0.3s,baz=120,slow=1.3,SNR=6.0 **Chiang Mai Arr**	**18.73**	**22**	Pn	**P

MNMC eSn Sn 12 29 05.1 -0.4
LPAZ La Paz 6.08 101 P Pn 12 28 07.7 +7.5
2.8nm,0.3s,baz=283,slow=6.9,SNR=46
LPAZ La Paz 6.08 101 ePn Pn 12 28 02.0 +1.7
PB11 IPOC Station P 6.34 136 ePn Pn 12 28 05.6 +2.3
PB11 eSn Sn 12 29 12.5 -2.1
PB01 IPOC Station P 7.39 142 ePn Pn 12 28 19.8 +2.1
PB01 eSn Sn 12 29 37.8 -2.4
PB04 IPOC Station P 8.09 151 ePn Pn 12 28 29.2 +1.8
PB10 IPOC Station P 8.96 157 ePn Pn 12 28 40.8 +1.6
ATAH Atahualpa 8.99 333 P Pn 12 28 44.1 +4.2
4.6nm,0.3s,baz=143,slow=3.7,SNR=23
ATAH S Sn 12 30 20.0 0.0
1.0nm,0.3s,baz=330,slow=20,SNR=1.8
ATAH LR LR 12 32 17.1
comp=Z,95nm,19.8s,baz=169,slow=38
GO02 Mina Guanaco 10.82 156 ePn Pn 12 29 07.5 +2.6
GO02 eSn Sn 12 31 02.3 -2.4
SAML Samuel 12.59 61 ePn Pn 12 29 28.9 +0.1
SIV San Ignacio 12.82 95 P Pn 12 29 31.9 0.0
0.4nm,0.3s,baz=282,slow=14,SNR=14
GO03 Copiap 12.86 163 ePn Pn 12 29 34.9 +2.4
LCO Las Campanas 14.10 167 ePn Pn 12 29 51.6 +2.0
GO04 Tololo Observa 15.21 168 ePn Pn 12 30 05.2 +1.3
27nm,0.8s
OTAV Otavalo 15.91 345 ePn Pn 12 30 13.2 -0.1
12nm,1.4s
SOTA Rioblanco 17.42 352 eP P 12 30 34.5 +1.7
TUMC Tumaco 17.51 345 ePn Pn 12 30 32.3 -0.5
68nm,1.0s
SJAC San Juan de Ar 18.41 1 eP P 12 30 42.9 -0.5
YOTC Yotoco, Valle 19.21 354 eP P 12 30 52.6 +0.4
CPUP Villa Florida 19.34 127 P Pn 12 30 57.1 +2.2
0.2nm,0.3s,baz=293,slow=12,SNR=2.7
CPUP Villa Florida 19.34 127 eP Pn 12 30 54.5 -0.3
3.2nm,1.0s
CHIC Chingaza 19.76 2 eP Pn 12 31 02.3 +2.0
GO05 HualaæØ 19.79 174 eP Pn 12 31 00.8 +0.6
12nm,1.0s
ROSC El Rosal 19.96 0 P Pn 12 31 06.8 +4.1
1.1nm,0.3s,baz=187,slow=11,SNR=2.7
RREF El Recreo 20.05 357 eP Pn 12 31 05.1 +1.2
PTGA Pitinga 20.25 46 P Pn 12 31 04.9 -0.8
3.3nm,0.3s,baz=230,slow=20,SNR=9.4
PTGA Pitinga 20.25 46 eP Pn 12 31 05.5 -0.2
12nm,0.9s
GUYC Guyana, Colomb 20.37 357 eP Pn 12 31 07.9 +0.3
RUSC La Rusia 21.05 4 eP P 12 31 14.2 +1.7
24nm,1.2s
RUSC La Rusia 21.05 4 eP P 12 31 13.9 +1.4
HELC Santa Helena 21.34 357 eP P 12 31 15.2 -0.2
25nm,0.9s
ZARC Zaragoza, Cauc 22.60 359 eP P 12 31 26.7 -2.0
SDV Santo Domingo 24.27 9 P P 12 31 45.0 +0.2
16nm,0.8s,baz=202,slow=5.5,SNR=16
SDV Santo Domingo 24.27 9 eP P 12 31 46.5 +1.7
19nm,0.8s
GO06 Curarrehue 24.37 175 eP P 12 31 46.8 +1.3
7.2nm,0.8s
TRQA Tornquist 25.21 157 eP P 12 31 53.0 0.0
6.5nm,1.1s
PLCA Paso Flores 25.60 173 P P 12 31 57.7 +1.1
4.1nm,0.6s,baz=8.5,slow=9.8,SNR=22
PLCA Paso Flores 25.60 173 eP P 12 31 58.1 +1.5
CRPR Cabo Rojo, PR 33.81 12 eP P 12 33 10.3 +0.8
138nm,1.5s
AOPR Arecibo Observ 34.22 13 eP P 12 33 12.4 -0.6
90nm,1.5s
KVTX Kingsville 48.28 332 eP P 12 35 06.8 -1.4
48nm,0.8s
SWET Sewanee 51.38 348 eP P 12 35 30.3 -1.4
6.8nm,0.7s
OXF Oxford 51.52 344 eP P 12 35 31.1 -1.6
9.7nm,0.9s
LTX Lajitas 52.59 327 eP P 12 35 40.6 -0.3
TXAR Lajitas Array 52.59 327 P P 12 35 40.6 -0.3
0.7nm,0.5s,baz=154,slow=8.8,SNR=19
TX31 Lajitas Ar. Si 52.59 327 eP P 12 35 40.6 -0.3
W41B Gary Mavity, V 52.95 342 eP P 12 35 42.2 -1.0
6.3nm,1.3s
WHAR Wooly Hollow 53.07 342 eP P 12 35 43.3 -0.9
5.0nm,0.9s
V40A Witts Springs 53.71 341 eP P 12 35 48.0 -0.9
4.7nm,0.8s
PBMO Poplar Bluff 53.93 344 eP P 12 35 49.0 -1.4
6.6nm,0.6s
WCI Wyandotte Cave 54.37 348 eP P 12 35 52.3 -1.3
16nm,0.8s
SIUC Southern Illin 54.51 346 eP P 12 35 53.5 -1.1
13nm,0.6s
WMOK Wichita Mounta 54.87 335 eP P 12 35 57.4 0.0
1.1nm,0.8s
O56A Blue Knob Stat 55.37 356 eP P 12 36 00.4 -0.5
12nm,1.4s
ODNJ Ogdensburg 56.05 360 eP P 12 36 02.6 -3.1
8.4nm,1.0s
SDCO Great Sand Dun 60.30 332 eP P 12 36 35.8 -0.1
1.6nm,0.6s
TMUT Trail Mountain 64.25 329 eP P 12 37 01.2 -1.1
2.9nm,1.3s
RSSD Black Hills 65.00 337 eP P 12 37 06.8 -0.1
2.2nm,0.6s
DUG Dugway, Tooele 65.74 328 eP P 12 37 09.1 -2.6
3.6nm,0.8s
PDAR Pinedale Array 66.18 332 P P 12 37 13.1 -1.5
0.3nm,0.6s,baz=103,slow=6.6,SNR=3.3
BGU Big Grassy Mou 66.40 329 eP P 12 37 15.5 -0.5
6.5nm,1.3s
REDW Red Top Meadow 67.23 332 eP P 12 37 22.0 +0.7
TPAW Teton Pass 67.38 332 eP P 12 37 20.5 -1.7
3.2nm,1.3s
FXWY Fox Creek 67.53 332 eP P 12 37 23.1 -0.1
1.4nm,0.8s
MCMT McKenzie Canyo 69.28 332 eP P 12 37 34.2 +0.1
DLMT Dillon 69.57 332 eP P 12 37 35.6 -0.1
6.5nm,1.4s
SNAA Sanae 69.83 161 P P 12 37 37.6 +0.7
3.6nm,0.6s,baz=259,slow=9.9,SNR=31
SNAA Sanae 69.83 161 eP P 12 37 37.7 +0.8
4.3nm,0.7s
KOWA Kowa 75.55 70 P P 12 38 11.8 0.0
1.8nm,0.6s,baz=251,slow=5.4,SNR=5.9
YKA Yellowknife Ar 83.66 342 P P 12 38 53.2 -1.5
0.4nm,0.7s,baz=136,slow=5.1,SNR=10
SYO Syowa Base 84.10 161‖ eP P 12 38 55.2 -1.9
ASAR Alice Springs 132.47 216 PKP PKPdf 12 45 40.8 -0.8
0.4nm,0.6s,baz=126,slow=2.2,SNR=7.8
WR1 Warramunga Arr 135.06 220 ePKPdf PKPdf 12 45 45.5 -1.0
WRA Warramunga Arr 135.06 220 PKP PKPdf 12 45 45.5 -1.0
0.5nm,0.6s,baz=132,slow=1.9,SNR=11
ZAA1 Zalesovo Array 138.08 18 ePKPdf PKPdf 12 45 50.5 -0.6
ZALV Zalesovo Beam 138.09 18 PKP PKPdf 12 45 50.5 -0.6
1.5nm,0.7s,baz=285,slow=2.4,SNR=8.1
KURK Kurchatov 138.45 26 ePKPdf PKPdf 12 45 52.6 +0.8
KURBB Kurchatov Arra 138.49 26 PKP PKPdf 12 45 52.6 +0.8
0.3nm,0.6s,baz=326,slow=1.7,SNR=3.0
SONA0 Songino Array 147.51 359 ePKPbc PKPbc 12 46 10.5 -0.2
SONM Songino Array 147.51 359 PKPbc PKPbc 12 46 10.5 -0.2
1.7nm,0.7s,baz=287,slow=1.2,SNR=15

NIED **17** *12:29:00,37.00N×141.40E,h5km,Mw4.2 Best double couple: M₀2.11000×10¹⁵ NP1:φ=203.00000°,δ42.00000°, λ-96.00000°. NP2:φ=31.00000°,δ48.00000°,λ-85.00000°.*
BJI **17** *12:29:02.1,36.90N×141.52E,h20km,mb4.5/32,mB4.8/16, Ms4.3/5,Ms7 4.1/4*
IDC **17** *12:29:02.6±0.5,37.01N×141.21E,h0km,mb4.3/31, mb1 4.4/36,mb1mx4.3/73,mbtmp4.3/36,ML3.4/5,MS3.2/8, Ms1 3.2/8,ms1mx2.9/68,Error ellipse: s-maj=13.5km s-min=10.4km az=116.0*
JMA **17** *12:29:04.6±0.1,37.00N×141.34E,h27km±1km,M4.5*
JMA Felt II J1.
ISCJB **17** *12:29:05.0±0.6,36.99N±0.02×141.30E±0.03,h25km±3km, mb4.6/138,MS3.7/6,Error ellipse: s-maj=4.1km s-min=3.1km az=41.4*
MOS **17** *12:29:05.1±1.1,37.17N×141.22E,h23km,mb4.6/53,Error ellipse: s-maj=7.3km s-min=5.1km az=90.2*
NEIC **17** *12:29:06.7±1.5,37.05N×141.21E,h22km±10km,mb4.6/83, Error ellipse: s-maj=5.2km s-min=3.5km az=133.0*
NEIC Felt at Fukushima, Hitachi, Narita and Tokai. Recorded [2 JMA] in Fukushima and Ibaraki.
ISC 17 12:29:04.6±0.8,37.04N±0.03×141.35E±0.04,h13km±4km,

2012 APR

n284,σ1§57/316,mb4.5/138,MS3.7/7,11C-6D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.45**	**278**	P		**Pb**		**12 29 13.9**	**-0.4**
ONAJ				*e*S		**Sb**		**12 29 20.1**	**-0.8**
JFK	**Kawauchi**	**0.50**	**311**	P		**Pb**		**12 29 15.0**	**-0.2**
JFK				*e*S		**Sb**		**12 29 22.5**	**0.0**
JHO	**Hitachi**	**0.76**	**236**	P		**Pg**		**12 29 18.3**	**-1.1**
JHO				*e*S		**Sg**		**12 29 27.9**	**-1.5**
JMM	**Marumori**	**0.93**	**332**	P		**Pb**		**12 29 22.2**	**-0.4**
JMM				*e*S		**Sn**		**12 29 35.4**	**-1.2**
JFT	**Otama**	**0.94**	**301**	P		**Pn**		**12 29 22.7**	**-0.8**
JFT				*e*S		**Sn**		**12 29 35.5**	**-1.2**
JSB	**Shiboa**	**1.15**	**267**	P		**Pb**		**12 29 25.9**	**-0.4**
JSB				*e*S		**Sn**		**12 29 41.1**	**-0.8**
JFY	**Yanaizu**	**1.36**	**286**	P		**Pb**		**12 29 29.3**	**-0.7**
JFY				*e*S		**Sg**		**12 29 47.0**	**-1.6**
JIO	**Ouri**	**1.41**	**360**	P		**Pn**		**12 29 29.3**	**-0.6**
JIO				*e*S		**Sn**		**12 29 47.3**	**-1.0**
JOU	**Okura**	**1.43**	**338**	P		**Pb**		**12 29 30.4**	**-0.7**
JOU				*e*S		**Sg**		**12 29 49.7**	**-1.0**
MJAR	**Matsushiro Arr**	**2.57**	**260**	Pn		**Pn**		**12 29 45.3**	**-0.6**
MJAR	13nm,0.3s,baz=89,slow=14,SNR=160			Sn		**Sn**		**12 30 18.7**	**+1.6**
	32nm,0.3s,baz=78,slow=25,SNR=6.1			LR		LR		12 30 46.6	
MJAR	comp=Z,166nm,21.7s,baz=100,slow=43								
MAJO	**Matsushiro**	**2.57**	**260**	*e*Pn		**Pn**		**12 29 46.6**	**+0.7**
MAJO				*e*Sn		**Sn**		**12 30 18.7**	**+1.6**
MAJO				eLg		Lg		12 30 18.9	
MAJO	**Matsushiro**	**2.57**	**260**	*d* P		**Pn**		**12 29 46.6**	**+0.7**
MAT	**Matsushiro**	**2.57**	**260**	P		**Pn**		**12 29 46.7**	**+0.8**
MAT				*e*S		**Sn**		**12 30 18.6**	**+1.5**
MJB9	**Matsu-Tunnel**	**2.57**	**260**	*e*Pn		**Pn**		**12 29 46.6**	**+0.6**
MJB9				*e*Sn		**Sn**		**12 30 15.3**	**-1.8**
INU	**Inuyama**	**3.89**	**246**	*e*Pn		**Pn**		**12 30 05.1**	**+1.0**
INU				*e*Sn		**Sn**		**12 30 47.1**	**-2.5**
JHJ	**Hachijo jima 2**	**4.12**	**199**	Pn		**Pn**		**12 30 07.0**	**-0.2**
JHJ	16nm,0.3s,baz=60,slow=20,SNR=3.8			Sn		**Sn**		**12 30 54.5**	**-0.7**
	35nm,0.3s,baz=240,slow=23,SNR=6.0								
ERM	**Erimo**	**5.16**	**15**	*e*Pn		**Pn**		**12 30 21.2**	**-0.2**
ERM				*e*Sn		**Sn**		**12 31 18.8**	**-2.0**
ERM	**Erimo**	**5.16**	**15**	*i* P		**Pn**		**12 30 21.0**	**-0.4**
ASAJ	**Asahikawa**	**7.13**	**7**	Pn		**Pn**		**12 30 48.2**	**-0.3**
ASAJ	1.9nm,0.3s,baz=217,slow=10,SNR=18			Sn		**Sn**		**12 32 11.0**	**+1.7**
	0.6nm,0.3s,baz=254,slow=20,SNR=3.3								
ASAJ	**Asahikawa**	**7.13**	**7**	*e*Pn		**Pn**		**12 30 48.1**	**-0.4**
ASAJ				*e*Sn		**Sn**		**12 32 08.7**	**-0.6**
GLVR	**Golovnino**	**7.41**	**24**	*e*P		**Pn**		**12 30 52.1**	**-0.2**
GLVR				*e*S		**Sn**		**12 32 12.7**	**-3.4**
LAGR	**Lagunnoye**	**7.78**	**24**	*e*P		**Pn**		**12 30 56.2**	**-1.1**
LAGR				*e*S		**Sn**		**12 32 21.6**	**-3.6**
LAGR	comp=Z,154nm,0.6s			pmax	pmax				
LAGR	comp=N,47nm,26.0s			pmax	pmax				
LAGR	comp=E,115nm,0.3s			pmax	pmax				
SHO	**Shikotan**	**8.00**	**30**	*e*P		**Pn**		**12 30 58.4**	**-2.0**
SHO				*e*S		**Sn**		**12 32 24.0**	**-6.6**
SHO	comp=Z,10.0nm,0.5s			pmax	pmax				
SHO	comp=N,7.0nm,0.6s			pmax	pmax				
SHO	comp=E,7.0nm,0.4s			pmax	pmax				
TEY	**Ternei**	**8.75**	**337**	*e*P		Pn		12 31 16.0	+5.3
JNU	**Nakatsue**	**9.43**	**249**	Pn		**Pn**		**12 31 19.4**	**-0.8**
	comp=E,0.1nm,0.3s,baz=36,slow=19,SNR=2.3								
JNU	**Nakatsue**	**9.43**	**249**	*e*Pn		**Pn**		**12 31 19.7**	**-0.4**
KUR	**Kuril'sk**	**9.54**	**29**	*e*P		**Pn**		**12 31 21.3**	**-0.3**
KUR				*e*S		**Sn**		**12 33 03.5**	**-5.1**
KUR	comp=Z,29nm,1.0s			pmax	pmax				
KUR	comp=N,33nm,0.4s			smax	smax				
KUR	comp=E,14nm,0.4s			smax	smax				
CBIJ	**Chichi jima**	**9.94**	**176**	*e*Pn		**Pn**		**12 31 29.3**	**+2.2**
JCJ	**Chichijima**	**9.94**	**176**	Sn		**Sn**		**12 33 10.5**	**-8.1**
	comp=E,4.6nm,0.3s,baz=292,slow=19,SNR=2.3								
YSS	**Yuzh-Sakhalins**	**9.96**	**6**	*e*Pn		**Pn**		**12 31 26.7**	**-0.5**
YSS	**Yuzh-Sakhalins**	**9.96**	**6‖**	*e*P		**Pn**		**12 31 27.0**	**-0.3**
YSS				*e*S		**Sn**		**12 33 10.7**	**-8.1**
YSS	comp=Z,10.0nm,0.8s			pmax	pmax				
YSS	comp=Z,300nm,14.0s			MLR	MLR				
USRK	**Ussuriysk Ar.**	**10.08**	**318**	Pn		**Pn**		**12 31 33.0**	**+4.0**
	comp=Z,0.4nm,0.3s,baz=129,slow=13,SNR=10								
USRK				LR		LR		12 35 04.5	
	comp=Z,212nm,19.0s,baz=125,slow=36								
KSRS	**Korea Array**	**10.71**	**276**	Pn		**Pn**		**12 31 40.7**	**+3.1**
	comp=Z,0.2nm,0.3s,baz=90,slow=14,SNR=12								
KSRS				LR		LR		12 35 24.6	
	comp=Z,147nm,21.1s,baz=82,slow=36								
KS01	**Wonju Array Si**	**10.74**	**276**	*e*Pn		**Pn**		**12 31 40.1**	**+2.1**
KS15	**Wonju Array Si**	**10.74**	**276**	*e*Pn		**Pn**		**12 31 39.5**	**+1.4**
TYV	**Tymovskoe**	**13.85**	**3**	*e*P		Pn		12 32 14.2	-6.2
TYV	comp=Z,8.0nm,1.5s			pmax	pmax				
CN2	**Changchun**	**13.86**	**304**	*e*P		**P**		**12 32 26.8**	**-2.1**
CN2				*es*P		sP		12 32 36.5	
CN2				*e*S		**Sn**		**12 34 58.3**	**+4.0**
CN2	comp=Z,10.0nm,0.7s			pmax	pmax				
CN2	comp=Z,200nm,3.0s			pmax	pmax				
KLR	**Kul'dur**	**14.04**	**333**	Pn		**Pn**		**12 32 23.9**	**+0.9**
	comp=Z,0.0nm,0.3s,baz=148,slow=13,SNR=3.4								
KLR				LR		LR		12 37 39.8	
	comp=Z,12nm,18.3s,baz=199,slow=37								
KLR	**Kul'dur**	**14.04**	**333**	*e*P		**Pn**		**12 32 23.5**	**+0.5**
NJ2	**Nanjing**	**19.17**	**262**	*e*P		**P**		**12 33 28.1**	**+0.3**
NJ2	comp=Z,14nm,0.5s			pmax	pmax				
ZEA	**Zeya**	**19.35**	**334**	*e*P		**Pn**		**12 33 31.7**	**+1.0**
ZEA	comp=Z,13nm,0.8s			pmax	pmax				
ZEA	comp=Z,300nm,14.0s			MLR	MLR				
PETK	**Petropavlovsk-**	**19.70**	**30**	P		**P**		**12 33 34.1**	**+0.7**
	comp=Z,0.2nm,0.3s,baz=227,slow=6.6,SNR=5.4								
PEA1	**Petropavlovsk-**	**19.71**	**30**	*e*P		**P**		**12 33 34.1**	**+0.6**
BJI	**Beijing**	**19.90**	**286‖**	*e*P		**Pn**		**12 33 36.4**	**-0.9**
BJI	comp=Z,11nm,0.9s			pmax	pmax				
BJI	comp=Z,190nm,5.9s			pmax	pmax				
BJT	**Baijiatuao**	**19.91**	**286**	*e*P		**P**		**12 33 35.9**	**+0.1**
	comp=Z,8.8nm,1.0s								
BJT	**Baijiatuao**	**19.91**	**286**	*e*P		**P**		**12 33 35.9**	**+0.1**
BJT	comp=Z,9.0nm,1.0s			pmax	pmax				
WHN	**Wuhan**	**23.31**	**262**	P		**P**		**12 34 13.8**	**+1.6**
MA2	**Magadan**	**23.36**	**12**	P		**P**		**12 34 12.6**	**+0.2**
	comp=Z,9.7nm,1.0s,baz=175,slow=12,SNR=3.8								
MA2	**Magadan**	**23.36**	**12**	*e*P		**P**		**12 34 13.4**	**+1.0**
	comp=Z,7.8nm,0.8s								
MA2	**Magadan**	**23.36**	**12**	*i* P		**P**		**12 34 15.4**	**+3.0**
MA2	comp=Z,9.0nm,1.0s			pmax	pmax				
HHC	**Hu-ho-hao-te**	**23.42**	**289**	*e*P		**P**		**12 34 10.9**	**-2.5**
HHC	comp=Z,30nm,0.7s			pmax	pmax				
HHC	comp=Z,99nm,4.4s			pmax	pmax				
HHC	comp=Z,800nm,12.8s			LR	LR				
HHC	comp=Z,1μm,13.1s			LR	LR				
HHC	comp=Z,1μm,12.7s			LR	LR				
YAK	**Yakutsk**	**26.05**	**347**	P		**P**		**12 34 35.9**	**-1.4**
	comp=Z,5.2nm,0.3s,baz=87,slow=1.4,SNR=5.1								
YAK	**Yakutsk**	**26.05**	**347**	*e*P		**P**		**12 34 37.2**	**-0.1**
	comp=Z,16nm,0.7s								
YAK	**Yakutsk**	**26.05**	**347**	*e*P		**P**		**12 34 36.6**	**-0.7**
YAK				*e**PP		**pP**		**12 34 40.9**	**-0.4**
YAK				*e*				12 35 14.4	
YAK				*e*PPP		PPP		12 35 26.3	
YAK				*e*				12 38 06.1	
YAK				*e*S		**S**		**12 39 06.0**	**-1.7**
YAK				*e**SS		**sS**		**12 39 14.7**	**+0.3**
YAK				*e*SSS		SSS		12 40 16.3	
YAK	comp=Z,15nm,0.9s			pmax	pmax				
YAK	comp=N,5.0nm,1.2s			pmax	pmax				
YAK	comp=E,2.0nm,1.0s			pmax	pmax				
YAK	comp=Z,10.0nm,0.7s			pmax	pmax				
YAK	comp=N,3.0nm,0.7s			pmax	pmax				
YAK	comp=E,2.0nm,0.7s			pmax	pmax				
YAK	comp=E,11nm,1.5s			smax	smax				
YAK	comp=N,31nm,2.3s			smax	smax				
SEY	**Seymchan**	**26.79**	**11**	P		**P**		**12 34 44.8**	**+0.8**
	comp=N,2.6nm,0.7s,baz=195,slow=5.8,SNR=9.6								
SEY	**Seymchan**	**26.79**	**11**	*ce*P		**P**		**12 34 45.6**	**+1.6**
BOD	**Bodaibo**	**27.50**	**328**	*e*P		**P**		**12 34 48.8**	**-1.6**
BOD	comp=Z,4.0nm,0.8s			pmax	pmax				
SONA1	**Songino Array**	**27.73**	**304**	*e*P		**P**		**12 34 50.9**	**-1.9**
SONA0	**Songino Array**	**27.74**	**304**	*e*P		**P**		**12 34 51.2**	**-1.6**
SONA0				*e*PcP		**PcP**		**12 38 09.2**	**0.0**
SONM	**Songino Array**	**27.74**	**304**	P		**P**		**12 34 51.2**	**-1.6**
	comp=Z,2.0nm,0.7s,baz=105,slow=9.3,SNR=10								
SONM				PcP		**PcP**		**12 38 09.2**	**0.0**
	comp=Z,0.8nm,0.6s,baz=128,slow=2.8,SNR=5.5								
H11N2	**WAKE ISLAND Hy**	**28.20**	**121**	T		T		13 04 21.5	
	baz=313,slow=75,SNR=1419								
H11N1	**WAKE ISLAND Hy**	**28.20**	**121**	T		T		13 04 22.3	
	baz=313,slow=75,SNR=1348								
H11N3	**WAKE ISLAND Hy**	**28.21**	**121**	T		T		13 04 22.9	
	baz=313,slow=75,SNR=1099								
H11S1	**WAKE ISLAND Hy**	**28.91**	**123**	T		T		13 05 17.1	
	baz=315,slow=76,SNR=454								
H11S3	**WAKE ISLAND Hy**	**28.91**	**123**	T		T		13 05 17.3	
	baz=315,slow=76,SNR=297								
H11S2	**WAKE ISLAND Hy**	**28.92**	**123**	T		T		13 05 18.8	
	baz=315,slow=76,SNR=252								
LZH	**Lanzhou**	**30.02**	**280**	*e*P		**P**		**12 35 15.6**	**+2.4**
LZH				pP		sP		12 35 23.3	+4.3
LZH				sP		pP		12 35 27.4	+10
LZH	comp=Z,18nm,1.2s			pmax	pmax				
ZAK	**Zakamensk**	**30.23**	**308**	*e*P		**P**		**12 35 14.3**	**-0.5**
ZAK	comp=Z,2.0nm,1.6s			pmax	pmax				
CD2	**Chengdu**	**31.62**	**270**	*e*P		**P**		**12 35 25.6**	**-1.7**
CD2	comp=Z,10.0nm,0.5s			pmax	pmax				
CD2	comp=Z,120nm,5.0s			pmax	pmax				
GTA	**Gaotai**	**32.51**	**287**	*e*P		**P**		**12 35 34.0**	**-1.1**
GTA				pP		sP		12 35 48.9	+8.0
GTA	comp=Z,4.0nm,0.6s			pmax	pmax				
BILL	**Bilibino**	**34.03**	**16‖**	*e*P		**P**		**12 35 48.5**	**+0.6**
BILL				*e*				12 37 06.6	
BILL				*e*S		**S**		**12 41 14.1**	**+1.4**
BILL	comp=Z,2.0nm,1.1s			pmax	pmax				
BILL	comp=Z,72nm,17.0s			MLR	MLR				
KMI	**Kunming**	**34.91**	**261**	P		**P**		**12 35 57.3**	**+1.0**
KMI	comp=Z,7.0nm,0.6s			pmax	pmax				
KMI	comp=Z,54nm,4.0s			pmax	pmax				
TIXI	**Tiksi**	**35.27**	**353**	P		**P**		**12 35 57.7**	**-0.9**
	comp=Z,0.6nm,0.3s,baz=155,slow=5.9,SNR=4.2								
TIXI	**Tiksi**	**35.27**	**353**	*ce*P		**P**		**12 35 57.9**	**-0.7**
TIXI	comp=Z,5.0nm,2.5s			pmax	pmax				
MYLDM	**Lahad Datu**	**37.99**	**219**	*e*P		**P**		**12 36 23.2**	**+1.0**
	comp=Z,10nm,0.9s								
KKM	**Kota Kinabalu**	**38.45**	**223**	*e*P		**P**		**12 36 26.2**	**-0.1**
	comp=Z,9.9nm,1.0s								
DGZ	**Jazzator, Alta**	**40.35**	**306**	*i* P		**P**		**12 36 42.8**	**+0.9**
DGZ	comp=Z,8.0nm,0.6s			pmax	pmax				
WMQ	**Urumqi**	**40.79**	**297**	P		**P**		**12 36 47.3**	**+1.7**
WMQ	comp=Z,34nm,0.9s			pmax	pmax				
WMQ	comp=Z,43nm,16.5s			LR	LR				
WMQ	comp=Z,200nm,29.1s			LR	LR				
WMQ	comp=Z,160nm,27.3s			LR	LR				
CMAR	**Chiang Mai Arr**	**41.45**	**255**	P		**P**		**12 36 49.8**	**-1.4**
	comp=Z,0.6nm,0.5s,baz=49,slow=8.5,SNR=2.7								
CMAR				LR		LR		12 53 59.3	
	comp=Z,38nm,18.1s,baz=206,slow=36								
CM01	**Chiang Mai Arr**	**41.46**	**255**	*e*P		**P**		**12 36 51.4**	**+0.2**
LUWI	**Luwuk**	**41.63**	**209**	*e*P		**P**		**12 36 51.7**	**-0.9**
	comp=Z,17nm,0.7s								
ZAA0	**Zalesovo Array**	**41.87**	**312**	*e*P		**P**		**12 36 54.1**	**0.0**
	comp=Z,6.7nm,0.8s								
ZAA1	**Zalesovo Array**	**41.87**	**312**	*e*P		**P**		**12 36 54.2**	**0.0**
ZAA1				*e*PcP		**PcP**		**12 38 49.5**	**-0.2**
ZALV	**Zalesovo Beam**	**41.87**	**312**	P		**P**		**12 36 54.2**	**0.0**
	comp=Z,7.3nm,0.7s,baz=94,slow=6.6,SNR=29								
ZALV				PcP		**PcP**		**12 38 49.5**	**-0.2**
	comp=Z,2.1nm,0.5s,baz=103,slow=3.0,SNR=5.6								
ZALV	**Zalesovo Beam**	**41.87**	**312**	*e*P		**P**		**12 36 53.9**	**-0.2**
NVS	**Novosibirsk**	**42.80**	**314**	*i* P		**P**		**12 37 02.0**	**+0.3**
SBUM	**Sibu**	**43.63**	**225**	*e*P		**P**		**12 37 08.9**	**0.0**
	comp=Z,7.4nm,0.9s								
MK01	**Makanchi Array**	**44.07**	**302**	*e*P		**P**		**12 37 12.1**	**-0.1**
MK31	**Makanchi Array**	**44.07**	**302**	*e*P		**P**		**12 37 12.2**	**0.0**
MK31	**Makanchi Array**	**44.07**	**302**	*e*P		**P**		**12 37 12.2**	**0.0**
MK32	**Makanchi Array**	**44.07**	**302**	*e*P		**P**		**12 37 12.1**	**-0.1**
MK32				*e*PP		**PcP**		**12 38 57.2**	**-0.1**
MKAR	**Makanchi Array**	**44.07**	**302**	P		**P**		**12 37 12.1**	**0.0**
	comp=Z,4.1nm,0.7s,baz=88,slow=10,SNR=35								
MKAR				PcP		**PcP**		**12 38 57.2**	**-0.1**
	comp=Z,1.3nm,0.8s,baz=64,slow=3.4,SNR=3.4								
MKAR	**Makanchi Array**	**44.07**	**302**	*e*P		**P**		**12 37 12.2**	**0.0**
	comp=Z,29nm,0.8s								
MKAR	**Makanchi Array**	**44.07**	**302**	*e*P		**P**		**12 37 12.2**	**0.0**
MKAR	comp=Z,29nm,0.8s			pmax	pmax				
MAKZ	**Makanchi**	**44.28**	**302**	*e*P		**P**		**12 37 13.9**	**+0.1**
	comp=Z,3.9nm,0.8s								
MAKZ	**Makanchi**	**44.28**	**302**	*e*P		**P**		**12 37 13.9**	**+0.1**
MAKZ	comp=Z,4.0nm,0.8s			pmax	pmax				
KSM	**Kuching**	**45.52**	**226**	*e*P		**P**		**12 37 24.8**	**+0.8**
	comp=Z,19nm,0.9s								
SVW2	**Sparrevohn**	**45.55**	**37**	*e*P		**P**		**12 37 25.6**	**+1.9**
	comp=Z,4.5nm,1.0s								
KURK	**Kurchatov**	**45.89**	**308**	*e*P		**P**		**12 37 25.8**	**-0.7**
	comp=Z,13nm,0.8s								
KURK				*e*PcP		**PcP**		**12 39 02.8**	**-0.7**
KURK	**Kurchatov**	**45.89**	**308**	*ce*P		**P**		**12 37 25.8**	**-0.7**
KURK	comp=Z,9.0nm,0.6s			pmax	pmax				
TARA	**Tarawa**	**45.92**	**133**	*e*P		**P**		**12 37 28.8**	**+1.7**
	comp=Z,147nm,1.2s								
KURBB	**Kurchatov Arra**	**45.96**	**308**	P		**P**		**12 37 26.8**	**-0.3**
	comp=Z,7.1nm,0.6s,baz=84,slow=8.0,SNR=51								
KURBB				PcP	

TARG	Taragay, Kyrgy		48.35	296	*e*P		P		12 37 47.8	+1.4
	comp=Z,9.3nm,1.2s										
DANN	Dangsing		48.60	277	*e*P		P		12 37 48.7	+0.4
KDJ	Kajisay		48.69	297	*e*P		P		12 37 48.8	+0.1
	comp=Z,1.8nm,0.8s										
RND	Reindeer		48.70	34	*e*P		P		12 37 49.2	+0.9
	comp=Z,3.9nm,1.0s										
RND	Reindeer		48.70	34	*e*P		P		12 37 49.3	+0.9
RND					pmax		pmax				
	comp=Z,4.0nm,1.0s										
MDM	Murphy Dome		48.94	32	*e*P		P		12 37 52.0	+2.0
	comp=Z,18nm,1.4s										
KOLN	Koldanda		48.98	277	*e*P		P		12 37 50.4	-0.7
WRH	Wood River Hil		49.01	33	*e*P		P		12 37 52.1	+1.6
	comp=Z,3.3nm,1.1s										
SML	Sawmill		49.02	36	*e*P		P		12 37 51.5	+0.8
	comp=Z,4.9nm,0.8s										
SML	Sawmill		49.02	36	*e*P		P		12 37 51.6	+0.8
SML					pmax		pmax				
	comp=Z,5.0nm,0.8s										
COLA	College		49.10	32	*i* P		P		12 37 53.7	+2.5
COLA					pmax		pmax				
	comp=Z,3.0nm,1.0s										
IPM	Ipoh		49.10	239	*e*P		P		12 37 51.4	-0.5
	comp=Z,8.8nm,1.0s										
SOEI	Soe		49.24	202	*e*P		P		12 37 54.1	+1.2
	comp=Z,47nm,1.5s										
PYUN	Piuthan		49.32	277	*e*P		P		12 37 53.5	-0.2
	comp=Z,40nm,1.0s										
SCM	Sheep Creek Mo		49.49	36	*e*P		P		12 37 54.6	+0.2
	comp=Z,13nm,1.4s										
SCM	Sheep Creek Mo		49.49	36	*e*P		P		12 37 54.6	+0.2
SCM					pmax		pmax				
	comp=Z,13nm,1.4s										
HDA	Harding Lake		49.50	33	*e*P		P		12 37 55.5	+1.1
	comp=Z,14nm,1.5s										
IL1	Eielson Array		49.51	32	*e*P		P		12 37 55.5	+1.0
ILAR	Eielson Array		49.51	32	P		P		12 37 55.5	+1.1
	comp=Z,2.0nm,0.5s,baz=265,slow=5.9,SNR=49										
ILB	Eielson Array		49.51	32	*e*P		P		12 37 55.5	+1.1
KLU	Klutina		50.19	37	*e*P		P		12 38 01.1	+1.3
	comp=Z,11nm,1.4s										
MID	Middleton Isla		50.22	39	*e*P		P		12 38 00.8	+0.9
	comp=Z,182nm,1.1s										
MID	Middleton Isla		50.22	39	*e*P		P		12 38 00.8	+0.9
MID					pmax		pmax				
	comp=Z,182nm,1.1s										
PAX	Paxson		50.26	35	*e*P		P		12 38 02.2	+2.0
	comp=Z,2.8nm,1.2s										
PAX	Paxson		50.26	35	*e*P		P		12 38 02.2	+2.0
PAX					pmax		pmax				
	comp=Z,3.0nm,1.2s										
OTUK	Ortayu		50.38	306	P		P		12 38 00.5	-0.8
OTUK					pmax		pmax				
	comp=Z,4.0nm,0.9s										
AAK	Ala-Archa		50.44	298	*i* P		P		12 38 02.3	+0.3
AAK					pmax		pmax				
	comp=Z,1.0nm,1.0s										
HARP	HAARP		50.45	35	*e*P		P		12 38 01.4	-0.2
	comp=Z,23nm,1.4s										
BVAR	Borovoye Array		50.53	312	P		P		12 38 02.3	0.0
	comp=Z,1.3nm,0.5s,baz=83,slow=7.8,SNR=9.0										
BVAR					PcP		PcP		12 39 19.8	-0.3
	comp=Z,3.0nm,0.6s,baz=104,slow=3.0,SNR=9.9										
MTN	Manton Dam		50.54	193	*e*P		P		12 38 02.2	-0.5
	comp=Z,9.1nm,0.8s										
BRVK	Borovoye		50.59	312	*i* P		P		12 38 02.1	-0.6
BRVK					pmax		pmax				
	comp=Z,1.0nm,0.8s										
DOT	Dot Lake		50.83	34	*e*P		P		12 38 05.2	+0.8
	comp=Z,5.5nm,0.8s										
SCRK	Sand Creek		50.83	33	*e*P		P		12 38 05.5	+1.0
	comp=Z,10.0nm,1.4s										
RAGM	Ragged Mountai		50.93	38	*e*P		P		12 38 05.9	+0.6
	comp=Z,9.8nm,1.0s										
MENT	Mentasta		51.06	35	*e*P		P		12 38 08.5	+2.3
	comp=Z,2.9nm,0.8s										
PSI	Prapat		51.76	239	P		P		12 38 11.3	-0.8
	comp=Z,3.4nm,0.6s,baz=35,slow=5.9,SNR=4.9										
PSI	Prapat		51.76	239	*e*P		P		12 38 11.3	-0.8
	comp=Z,4.6nm,0.8s										
PSI	Prapat		51.76	239	*e*P		P		12 38 11.3	-0.8
PSI					pmax		pmax				
	comp=Z,5.0nm,0.8s										
MNAS	Manas		51.89	299	P		P		12 38 13.3	+0.4
MNAS					pmax		pmax				
	comp=Z,4.0nm,0.8s										
EGAK	Eagle		51.96	32	*e*P		P		12 38 14.0	+1.1
	comp=Z,1.7nm,0.6s										
JAGI	Jajag, Banyuwa		51.96	215	*e*P		P		12 38 12.1	-1.4
	comp=Z,34nm,1.1s										
GSI	Gunungsitoli		53.76	239	*e*P		P		12 38 27.1	+0.3
HYT	Haines Junctio		54.32	37	*e*P		P		12 38 31.8	+1.3
	comp=Z,8.0nm,1.1s										
INK	Inuvik		54.40	27	*e*P		P		12 38 32.1	+1.3
	comp=Z,11nm,1.4s										
INK	Inuvik		54.40	27	*e*P		P		12 38 32.1	+1.3
INK					pmax		pmax				
	comp=Z,11nm,1.4s										
NIL	Nilore		54.56	288	*e*P		P		12 38 33.0	+0.4
	comp=Z,6.1nm,0.7s										
NIL	Nilore		54.56	288	*e*P		P		12 38 33.0	+0.4
NIL					pmax		pmax				
	comp=Z,6.0nm,0.7s										
SVE	Sverdlovsk		55.11	319	*e*P		P		12 38 36.0	-0.1
SVE					pmax		pmax				
	comp=Z,15nm,0.9s										
DZET	Dzherino		55.80	296	P		P		12 38 41.5	0.0
DZET					pmax		pmax				
	comp=Z,1.0nm,0.6s										
ARU	Arti		56.32	319	*e*P		P		12 38 44.7	-0.1
	comp=Z,11nm,0.8s										
ARU	Arti		56.32	319	*d* iP		P		12 38 44.6	-0.2
ARU									12 39 42.3	
ARU									12 40 49.3	
ARU					S		S		12 46 34.3	-0.1
ARU					SS		SS		12 50 13.2	-7.5
ARU					pmax		pmax				
	comp=Z,11nm,0.7s										
SIT	Sitka		56.41	41	*e*P		P		12 38 47.7	+2.3
	comp=Z,64nm,1.5s										
SIT	Sitka		56.41	41	*e*P		P		12 38 47.7	+2.3
SIT					pmax		pmax				
	comp=Z,65nm,1.5s										
FITZ	Fitzroy Crossi		56.81	198	P		P		12 38 47.5	-1.1
	comp=Z,1.8nm,0.7s,baz=43,slow=6.7,SNR=7.6										
HPAH	Hawaii Prepara		56.88	89	*e*P		P		12 38 48.4	-1.1
	comp=Z,179nm,1.2s										
HUH	Hualalai		56.95	89	*e*P		P		12 38 48.2	-1.9
	comp=Z,271nm,1.4s										
CTAO	Charters Tower		57.01	175	*e*P		P		12 38 51.1	+1.1
	comp=Z,17nm,1.3s										
CTAO	Charters Tower		57.01	175	*e*P		P		12 38 51.1	+1.1
CTAO					pmax		pmax				
	comp=Z,17nm,1.3s										
WRAB	Tennant Creek		57.05	188	*e*P		P		12 38 49.7	-0.6
	comp=Z,6.0nm,0.8s										
WRAB	Tennant Creek		57.05	188	*ce*P		P		12 38 50.7	+0.4
WRAB					pmax		pmax				
	comp=Z,4.0nm,0.7s										
WB2	Warramunga Arr		57.06	188	*e*P		P		12 38 49.4	-0.9
WR1	Warramunga Arr		57.06	188	*e*P		P		12 38 49.6	-0.8
	comp=Z,12nm,0.8s										
WR1					*e*PcP		PcP		12 39 45.6	+0.3
WRA	Warramunga Arr		57.06	188	P		P		12 38 49.6	-0.8
	comp=Z,5.1nm,0.6s,baz=5.5,slow=7.4,SNR=65										
WRA					PcP		PcP		12 39 45.6	+0.3
	comp=Z,1.5nm,0.6s,baz=360,slow=4.2,SNR=5.6										
POHA	Pohakuloa		57.16	89	*e*P		P		12 38 49.1	-2.5
	comp=Z,90nm,0.4s										
MLOA	Mauna Loa Obse		57.24	89	*e*P		P		12 38 50.4	-1.9
	comp=Z,245nm,1.5s										
KBL	Kabul		57.37	291	*e*P		P		12 38 52.5	-0.3
	comp=Z,12nm,1.3s										
KBL	Kabul		57.37	291	*e*P		P		12 38 52.5	-0.3
KBL					pmax		pmax				
	comp=Z,12nm,1.3s										
HLP	Hilina Pali		57.58	89	*e*P		P		12 38 53.9	-0.4
	comp=Z,302nm,1.2s										
ABKAR	Akbulak array		57.90	310	*e*P		P		12 38 55.6	-0.4
SPITS	Spitsbergen Ar		60.51	349	P		P		12 39 15.1	+1.4
	comp=Z,1.0nm,0.5s,baz=41,slow=6.7,SNR=5.2										
AS01	Alice Springs		60.78	188	*e*P		P		12 39 16.0	-0.2
AS31	Alice Springs		60.79	188	*e*P		P		12 39 16.4	+0.2
	comp=Z,0.9nm,0.7s										
ASAR	Alice Springs		60.79	188	P		P		12 39 16.1	-0.2
	comp=Z,2.8nm,0.7s,baz=15,slow=6.4,SNR=28										

PALK	Pallekele		62.32	258	*e*P		P		12 39 29.0	+2.1
	comp=Z,18nm,1.3s										
PALK	Pallekele		62.32	258	*e*P		P		12 39 29.0	+2.1
PALK					pmax		pmax				
	comp=Z,19nm,1.3s										
RES	Resolute Bay		62.60	14	P		P		12 39 28.6	+0.7
GEYT	Alibeck		63.79	299	P		P		12 39 35.8	-0.6
	comp=Z,5.5nm,1.0s,baz=68,slow=5.1,SNR=6.8										
YKA	Yellowknife Ar		63.83	30	P		P		12 39 36.5	+0.4
	comp=Z,1.0nm,0.8s,baz=297,slow=6.6,SNR=5.4										
YKA					PcP		PcP		12 40 12.6	+0.7
	comp=Z,0.4nm,0.7s,baz=299,slow=5.8,SNR=4.2										
ARA0	ARCESS Array S		63.97	339	*e*P		P		12 39 37.5	+0.5
ARCES	ARCESS Array B		63.97	339	P		P		12 39 37.5	+0.5
	comp=Z,3.3nm,0.9s,baz=60,slow=8.4,SNR=12										
OBN	Obninsk		68.06	323	*e*P		P		12 40 02.3	-1.2
OBN					*e*				12 42 32.8	
OBN					*e*PPP		PPP		12 44 08.6	
OBN					pmax		pmax				
	comp=Z,5.0nm,1.0s										
FORT	Forrest		68.61	192	*e*P		P		12 40 07.2	+0.1
	comp=Z,17nm,0.6s										
LTY	Liberty		68.69	46	*e*P		P		12 40 08.7	+1.0
	comp=Z,5.8nm,1.3s										
FIA1	FINESS Array S		68.78	332	*e*P		P		12 40 08.1	+0.2
	comp=Z,15nm,1.2s										
FIA0	FINESS Array S		68.78	332	*e*P		P		12 40 07.3	-0.6
FIA0	FINESS Array S		68.78	332	*e*P		P		12 40 07.4	-0.6
FINES	FINESS Array B		68.78	332	P		P		12 40 07.3	-0.6
	comp=Z,2.7nm,0.7s,baz=32,slow=11,SNR=6.5										
H04A	Detroit Lake		69.14	49	*e*P		P		12 40 08.7	-1.8
	comp=Z,19nm,1.5s										
PINE	Pine Mountain		70.37	50	*e*P		P		12 40 20.6	+2.2
	comp=Z,8.2nm,0.8s										
YBH	Yreka Blue Hor		70.38	52	P		P		12 40 19.3	+1.0
	comp=Z,1.4nm,0.7s,baz=315,slow=7.1,SNR=5.0										
VSU	Vasula		70.42	330	*ce*P		P		12 40 17.7	-0.4
VSU					pmax		pmax				
	comp=Z,57nm,1.7s										
ZEI	Tsey		70.75	309	*e*P		P		12 40 19.1	-1.6
ZEI					pmax		pmax				
	comp=Z,3.0nm,0.8s										
KBZ	Khabaz		70.86	311	P		P		12 40 21.2	+0.2
	comp=Z,4.7nm,0.8s,baz=77,slow=3.8,SNR=13										
KIV	Kislovodsk		70.86	311	*e*P		P		12 40 22.8	+1.6
KIV					pmax		pmax				
	comp=Z,17nm,1.1s										
BEKR	Beckworth		72.89	53	*e*P		P		12 40 35.0	+1.5
	comp=Z,3.5nm,0.9s										
FFC	Flin Flon		73.72	33	*e*P		P		12 40 39.2	+1.2
	comp=Z,5.0nm,0.9s										
FFC	Flin Flon		73.72	33	*e*P		P		12 40 39.2	+1.2
FFC					pmax		pmax				
	comp=Z,5.0nm,0.9s										
FCC	Fort Churchill		74.02	27	*e*P		P		12 40 39.7	+0.1
	comp=Z,8.6nm,1.1s										
FCC	Fort Churchill		74.02	27	*e*P		P		12 40 39.7	+0.1
FCC					pmax		pmax				
	comp=Z,9.0nm,1.1s										
HFS	Hagfors		74.06	336	P		P		12 40 39.8	0.0
	comp=Z,1.3nm,0.5s,baz=51,slow=5.9,SNR=9.9										
YERR	Yerington		74.10	53	*e*P		P		12 40 42.6	+1.8
	comp=Z,3.8nm,1.0s										
NB2	NORSAR Subarra		74.16	337	P		P		12 40 40.4	0.0
	comp=Z,5.9nm,1.0s,baz=40,slow=6.2										
NB200	NORSAR Array S		74.16	337	*e*P		P		12 40 40.5	0.0
NOA	NORSAR Array B		74.16	337	P		P		12 40 40.5	0.0
	comp=Z,2.5nm,0.7s,baz=43,slow=5.5,SNR=9.6										
NOA	NORSAR Array B		74.16	337	P		P		12 40 40.5	0.0
NOA					pmax		pmax				
	comp=Z,2.0nm,0.8s										
LRM	Limekiln Ridge		74.18	44	*e*P		P		12 40 43.0	+1.9
AKASG	Malin Array Be		74.26	322	P		P		12 40 40.3	-0.8
	comp=Z,1.0nm,0.3s,baz=46,slow=6.1,SNR=16										
AKASG					LR		LR		13 13 34.1		
	comp=Z,38nm,19.6s,baz=115,slow=36										
AKBB	Malin Array Si		74.26	322	*e*P		P		12 40 41.1	0.0
	comp=Z,6.5nm,0.9s										
AKBB	Malin Array Si		74.26	322	*e*P		P		12 40 41.1	0.0
AKBB					pmax		pmax				
	comp=Z,7.0nm,0.9s										
KIEV	Kiev		74.27	322	*e*P		P		12 40 41.2	0.0
	comp=Z,5.8nm,0.9s										
KIEV	Kiev		74.27	322	*e*P		P		12 40 41.2	0.0
KIEV					pmax		pmax				
	comp=Z,6.0nm,0.9s										
DLMT	Dillon		74.37	45	*e*P		P		12 40 44.2	+2.0
	comp=Z,4.5nm,0.6s										
BOZ	Bozeman (W)		74.77	44	*e*P		P		12 40 45.8	+1.3
	comp=Z,4.4nm,0.8s										
BOZ	Bozeman (W)		74.77	44	*e*P		P		12 40 45.8	+1.3
BOZ					pmax		pmax				
	comp=Z,4.0nm,0.8s										
KVN	Kaiserville		74.79	52	*e*P		P		12 40 46.4	+1.7
	comp=Z,4.6nm,1.0s										
KVN	Kaiserville		74.79	52	*e*P		P		12 40 46.4	+1.7
KVN					pmax		pmax				
	comp=Z,5.0nm,1.0s										
NV01	Mina Array Sit		75.02	53	*e*P		P		12 40 47.8	+1.7
NVAR	Mina Array Bea		75.02	53	P		P		12 40 47.5	+1.4
	comp=Z,2.0nm,0.7s,baz=289,slow=5.5,SNR=20										
YHB	Horse Butte		75.53	45	*e*P		P		12 40 50.9	+2.0
	comp=Z,3.7nm,0.7s										
H17A	Grant Village		76.10	45	*e*P		P		12 40 56.1	+3.8
	comp=Z,5.6nm,0.8s										
IMW	Indian Meadow		76.20	45	*e*P		P		12 40 55.6	+2.7
	comp=Z,3.3nm,0.7s										
FXWY	Fox Creek		76.31	45	*e*P		P		12 40 55.6	+2.1
	comp=Z,2.7nm,1.0s										
RLMT	Red Lodge		76.37	43	*e*P		P		12 40 55.5	+1.8
	comp=Z,2.4nm,0.9s										
TPAW	Teton Pass		76.45	45	*e*P		P		12 40 56.7	+2.5
	comp=Z,2.7nm,0.7s										
R11A	Troy Canyon, C		76.80	52	*e*P		P		12 40 57.8	+1.6
	comp=Z,5.8nm,1.3s										
TPNV	Topopah Spring		77.21	53	*e*P		P		12 40 59.9	+1.3
	comp=Z,4.9nm,1.2s										
TPNV	Topopah Spring		77.21	53	*e*P		P		12 40 59.9	+1.3
TPNV					pmax		pmax				
	comp=Z,5.0nm,1.2s										
DUG	Dugway, Tooele		77.39	49	*e*P		P		12 41 01.4	+1.9
	comp=Z,2.8nm,0.6s										
DUG	Dugway, Tooele		77.39	49	*e*P		P		12 41 01.4	+1.9
DUG					pmax		pmax				
	comp=Z,3.0nm,0.6s										
PD31	Pinedale Array		77.70	45	*e*P		P		12 41 02.3	+1.1
PDAR	Pinedale Array		77.70	45	P		P		12 41 02.5	+1.3
	comp=Z,1.5nm,0.6s,baz=272,slow=2.5,SNR=16										
PDAR	Pinedale Array		77.70	45	*e*P		P		12 41 02.3	+1.1
KWP	Kalwaria Pacla		78.09	324	*e*P		P		12 41 04.2	+1.2
	comp=Z,138nm,1.1s										
KWP	Kalwaria Pacla		78.09	324	*e*P		P		12 41 04.2	+1.2
KWP					pmax		pmax				
	comp=Z,138nm,1.1s										
BUR08	Bucovina Ar. S		78.26	322	*e*P		P		12 41 04.8	+0.6
BUR04	Bucovina Ar. S		78.27	322	*e*P		P		12 41 04.2	+0.1
BURAR	Bucovina Array		78.27	322	⇑ *i*P		P		12 41 04.8	+0.6
TESR	Tescani		78.30	320	⇓ *i*P		P		12 41 03.8	-0.4
VRI	Vrincioaia		78.69	320	⇑ *i*P		P		12 41 07.8	+1.4
BR101	Keskin Array S		78.81	312	*e*P		P		12 41 07.4	0.0
BRTR	Keskin Array B		78.81	312	P		P		12 41 07.4	0.0
	comp=Z,9.1nm,0.9s,baz=82,slow=2.7,SNR=5.8										
HARR	Harsova		78.84	318	⇓ *i*P		P		12 41 09.8	+2.6
LCMT	Little Creek M		79.08	52	*e*P		P		12 41 10.3	+1.5
	comp=Z,3.5nm,1.0s										
P17A	Butcher Ranch,		79.09	49	*e*P		P		12 41 11.0	+2.1
	comp=Z,3.7nm,0.7s										
MTPU	Mount Pierson		79.10	50	*e*P		P		12 41 11.7	+2.5
	comp=Z,2.6nm,0.9s										
BR231	Keskin MP Arra		79.25	312	*e*P		P		12 41 08.2	-1.5
P18A	Preston Nutter		79.28	48	*e*P		P		12 41 12.9	+2.7
	comp=Z,3.3nm,0.8s										
KNB	Kanab		79.34	52	P		P		12 41 13.5	+3.1
MLR	Muntele Rosu		79.35	320	LR		LR		13 19 16.0	
	comp=Z,15nm,18.3s,baz=28,slow=38										
SRU	San Rafael Swe		79.44	49	*e*P		P		12 41 12.7	+1.8
	comp=Z,4.4nm,0.7s										
SRU	San Rafael Swe		79.44	49	*e*P		P		12 41 12.7	+1.8
SRU					pmax		pmax				
	comp=Z,4.0nm,0.7s										
ULM	Lac du Bonnet		79.52	33	P		P		12 41 10.7	-0.1
	comp=Z,2.6nm,0.8s,baz=304,slow=5.1,SNR=3.5										
RSSD	Black Hills		79.86	42	*e*P		P		12 41 14.0	+0.9
	comp=Z,3.7nm,1.0s										
RSSD	Black Hills		79.86	42	*e*P		P		12 41 14.0	+0.9
RSSD					pmax		pmax				

	comp=Z,4.0nm,1.0s										
DRGR			80.08	322	⇑ *i*P		P		12 41 14.6	+0.6
RAYN	Ar Rayn		80.61	292	*e*P		P		12 41 17.5	+0.3
	comp=Z,5.2nm,1.1s										
RAYN	Ar Rayn		80.61	292	P		P		12 41 17.5	+0.3
PV09	Paradox Valley		80.67	49	*e*P		P		12 41 19.5	+1.8
WUAZ	Wupatki		81.19	52	*e*P		P		12 41 22.2	+1.9
	comp=Z,4.8nm,0.9s										
X16A	Lo Mia Camp, P		81.85	53	*e*P		P		12 41 26.1	+2.3
	comp=Z,2.6nm,1.0s										
MMAI	Mount Meron Ar		81.92	305	LR		LR		13 20 04.1		
	comp=Z,42nm,20.0s,baz=345,slow=37										
GEC2	GERESS Array S		82.68	328	*e*P		P		12 41 27.8	+0.1
	comp=Z,3.7nm,1.0s										
GEC2	GERESS Array S		82.68	328	*e*P		P		12 41 27.8	0.0
GEC2					pmax		pmax				
	comp=Z,4.0nm,1.0s										
GERES	GERESS Array B		82.68	328	P		P		12 41 27.9	+0.1
	comp=Z,1.1nm,0.5s,baz=46,slow=3.9,SNR=6.3										
T25A	Trinidad		84.37	47	*e*P		P		12 41 37.4	+0.6
	comp=Z,4.7nm,0.8s										
ANMO	Albuquerque		84.62	50	*e*P		P		12 41 40.3	+2.2
	comp=Z,3.2nm,1.0s										
ANMO	Albuquerque		84.62	50	*ce*P		P		12 41 40.8	+2.6
ANMO					pmax		pmax				
	comp=Z,4.0nm,1.2s										
TX31	Lajitas Ar. Si		90.16	52	*e*P		P		12 42 06.0	+1.1
LTX	Lajitas		90.16	52	*e*P		P		12 42 06.1	+1.2
LTX	Lajitas		90.16	52	*e*P		P		12 42 06.1	+1.2
TXAR	Lajitas Array		90.16	52	P		P		12 42 06.1	+1.2
	comp=Z,1.3nm,0.6s,baz=300,slow=2.8,SNR=19										
LPAZ	La Paz		146.73	59	PKPbc		PKPbc		12 48 47.3	-0.1
	comp=Z,4.1nm,0.9s,baz=17,slow=9.9,SNR=9.6										

IDC 17 12:29:17.3±27.0, 22.27S×173.39W, h0km, mb4.1/4, mb1 4.3/4, mb1mx3.7/44, mbtmp4.1/4, Error ellipse: s-maj=494.5km s-min=150.0km az=77.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CTA	Charters Tower	37.62	266	P		P	12 36 34.8	+0.6
	4.0nm,0.4s,baz=90,slow=11,SNR=9.9							
STKA	Stephens Creek	40.97	247	P		P	12 37 00.7	-1.3
	1.2nm,0.5s,baz=91,slow=9.6,SNR=5.3							
ASAR	Alice Springs	48.32	258	P		P	12 38 00.7	-0.2
	0.7nm,0.5s,baz=92,slow=6.8,SNR=11							
WRA	Warramunga Arr	48.63	263	P		P	12 38 03.5	+0.2
	1.4nm,0.3s,baz=97,slow=8.4,SNR=32							

ISK 17 12:43:57.0, 38.36N×27.14E, h18km, ML2.6/3
ISCJB 17 12:43:58.1±0.7, 38.16N±0.09×27.05E±0.06, h13km, Error ellipse: s-maj=13.5km s-min=4.0km az=24.5
CSEM 17 12:43:58.0±0.6, 38.21N×27.08E, h15km, ML2.6, Error ellipse: s-maj=22.1km s-min=7.4km az=30.0
DDA 17 12:43:58.6, 38.09N×26.98E, h7km, Ml2.5

ISC 17 12:43:56.5±1.1, 38.20N±0.07×27.10E±0.05, h13km, n13, σ0 29/21, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DGB	˜zmir	0.23	230	*i* P		Pg	12 44 01.2	-0.2
URLA	Izmir	0.43	292	PG		Pb	12 44 06.2	+0.3
URLA				SG		Sb	12 44 12.6	+0.2
URLA	Izmir	0.43	292	*i* P		Pb	12 44 06.3	+0.3
URLA				*i* S		Sb	12 44 12.6	+0.2
URLA	Izmir	0.43	292	P		Pb	12 44 06.3	+0.3
URLA				S		Sb	12 44 12.6	+0.2
ZEY	˜zmir	0.47	275	*i* P		Pb	12 44 06.7	+0.1
ZEY				*i

WEL 17 13:20:56.7±0.6, 40˝S±3˝×176˝E±˚, h16km±4km, ML4.1/31, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CKHZ	Cape Kidnapper	0.18	302	P	Pb	13 21 01.5	-0.1
CKHZ	Cape Kidnapper	0.18	302	S	Sb	13 21 05.1	+0.1
KAHZ	Kahuranaki	0.31	263	P	Pb	13 21 04.8	+0.9
KAHZ	Kahuranaki	0.31	263	S	Sn	13 21 11.0	-1.9
PXZ	Pawanui	0.42	229	P	Pn	13 21 07.5	-0.6
PXZ	Pawanui	0.42	229	S	Sn	13 21 16.4	+0.9
ARHZ	Aropaoanui	0.54	336	P	Pb	13 21 08.2	+0.5
ARHZ	Aropaoanui	0.54	336	S	Sb	13 21 16.5	+1.3
MCHZ	McNeill Hill	0.55	305	P	Pb	13 21 08.0	+0.1
MCHZ	McNeill Hill	0.55	305	S	Sb	13 21 16.5	+1.1
KRHZ	Kereru	0.71	279	P	Pb	13 21 10.9	+0.2
KRHZ	Kereru	0.71	279	S	Sn	13 21 21.5	-1.2
PRHZ	Porangahau	0.71	224	P	Pn	13 21 11.6	-0.5
WPHZ	Waipukurau	0.71	244	P	Pn	13 21 11.4	-0.7
KWHZ	Kaweka Forest	0.74	296	P	Pb	13 21 11.2	0.0
NMHZ	Naumai	0.75	331	P	Pb	13 21 11.8	+0.4
NMHZ	Naumai	0.75	331	S	Sn	13 21 23.0	-0.8
MHGZ	Mahia Peninsul	0.78	39	P	Pn	13 21 12.8	-0.2
KNZ	Kokohu	0.80	23	P	Pg	13 21 12.5	+0.4
PNHZ	Pukenui	0.84	259	P	Pg	13 21 13.0	0.0
BKZ	Black Stump Fm	0.85	314	P	Pb	13 21 12.7	-0.3
BKZ	Black Stump Fm	0.85	314	S	Sg	13 21 25.0	+0.7
RAHZ	Arahi	0.85	350	P	Pg	13 21 13.3	+0.1
RAHZ	Arahi	0.85	350	S	Sn	13 21 25.6	-0.6
ANWZ	Angora Road	0.93	221	P	Pb	13 21 14.4	-0.1
PRGZ	Paritu Road	0.96	30	P	Pb	13 21 15.0	+0.1
MTHZ	Maungataniwha	0.96	339	P	Pb	13 21 14.7	-0.3
BHHZ	Black Hill Sta	0.97	285	P	Pb	13 21 14.6	-0.6
SNGZ	Shannon Statio	0.97	3	P	Pb	13 21 15.2	0.0
DVHZ	Dannevirke	1.01	237	P	Pb	13 21 15.3	-0.5
TSZ	Takapari Road	1.06	253	P	Pb	13 21 15.9	-0.7
RIGZ	Rimuhau	1.11	20	P	Pb	13 21 17.0	-0.6
RIGZ	Rimuhau	1.11	20	P	Pn	13 21 17.0	-0.6
MRNZ	Matea Rd	1.14	324	P	Pb	13 21 17.5	-0.4
RTZ	Ruatahuna	1.16	348	P	Pn	13 21 17.8	-0.6
BFZ	Birch Farm	1.22	220	P	Pn	13 21 17.8	-1.2
MOVZ	Moawhango	1.23	286	P	Pn	13 21 18.9	-0.4
HATZ	Hinemaiaia	1.26	313	P	Pn	13 21 19.6	0.0
RAGZ	Rawiri	1.26	5	P	Pn	13 21 19.3	-0.5
PRWZ	Pori Road	1.28	231	P	Pn	13 21 19.3	-0.6
POWZ	Post Office Ro	1.32	241	P	Pn	13 21 19.8	-0.6
MUGZ	Murupara	1.34	343	P	Pb	13 21 21.5	+0.2
RITZ	Rihia Road	1.35	305	P	Pb	13 21 21.7	+0.2
TUVZ	Tukino	1.35	291	P	Pn	13 21 21.2	+0.2
TKGZ	Te Karaka	1.39	19	P	Pn	13 21 20.5	-0.9
WHVZ	Whangaehu Hut	1.39	289	P	Pn	13 21 21.8	+0.2
ALRZ	Allen Road	1.40	328	P	Pb	13 21 21.9	-0.4
DRZ	Dome Shelter	1.41	289	P	Pb	13 21 23.0	+0.2
TRVZ	Turoa	1.41	288	P	Pn	13 21 22.1	+0.2
NGZ	Ngauruhoe	1.42	304	P	Pn	13 21 22.4	+0.4
FWVZ	Far West T-bar	1.43	290	P	Pn	13 21 21.8	-0.3
KRVZ	Karewarewa	1.43	297	P	Pn	13 21 22.5	+0.5
PRRZ	Plateau Road	1.43	331	P	Pn	13 21 21.9	-0.1
MWZ	Matawai	1.43	8	P	Pn	13 21 20.9	-1.2
MTVZ	Mangateitei	1.45	284	P	Pb	13 21 23.5	+0.2
COVZ	Chateau Observ	1.45	292	P	Pb	13 21 23.0	-0.4
KATZ	Kakaramea	1.45	302	P	Pb	13 21 23.3	-0.1
WTVZ	West Tongariro	1.46	296	P	Pn	13 21 22.7	+0.3
CNGZ	Carnagh Statio	1.46	30	P	Pn	13 21 21.8	-0.5
RATZ	Rangitukua	1.47	307	P	Pb	13 21 23.7	+0.1
TIWZ	Tintock	1.47	226	P	Pn	13 21 21.7	-0.9
WHTZ	Whakaora	1.50	316	P	Pb	13 21 24.6	+0.5
URZ	Urewera	1.50	355	P	Pn	13 21 21.9	-1.0
WPRZ	Whakapapatarin	1.51	325	P	Pb	13 21 23.8	-0.5
RRRZ	Republican Roa	1.54	337	P	Pg	13 21 25.6	-0.6
PKVZ	Pokaka	1.56	287	P	Pb	13 21 25.2	-0.1
HRRZ	Handcock Road	1.57	330	P	Pn	13 21 24.3	+0.4
OHWZ	Ohakea	1.57	253	P	Pg	13 21 27.2	+0.6
TWVZ	Taurewa	1.58	295	P	Pb	13 21 25.2	-0.4
MRZ	Mangatainoka R	1.58	235	P	Pn	13 21 22.8	-1.2
WATZ	Wairara	1.59	311	P	Pb	13 21 25.1	-0.6
TARZ	Mount Tarawera	1.63	338	P	Pb	13 21 26.0	-0.4
HSRZ	Hossack Road	1.65	331	P	Pn	13 21 24.8	-0.2
HLRZ	Highlands Stat	1.67	334	P	Pg	13 21 28.3	-0.4
TWGZ	Tauwhareparae	1.67	19	P	Pn	13 21 24.5	-0.8
GRRZ	Galatos Road	1.67	327	P	Pg	13 21 28.7	-0.1
KUTZ	Kaahu Road	1.70	318	P	Pb	13 21 27.8	+0.2
EDRZ	Edgecumbe	1.70	346	P	Pg	13 21 29.1	-0.2
TMWZ	Te Maipa	1.71	218	P	Pn	13 21 24.3	-1.6
MKRZ	Makatiti	1.73	338	P	Pg	13 21 30.4	+0.4
HOWZ	Holdsworth Sta	1.77	229	P	Pn	13 21 25.0	-1.6
WAZ	Wanganui	1.77	269	P	Pb	13 21 29.0	+0.4
UTU	Utuhina	1.79	331	P	Pg	13 21 31.0	0.0
OMRZ	Omania	1.79	337	P	Pg	13 21 30.7	-0.4
RUGZ	Raukumara Rang	1.80	11	P	Pn	13 21 26.3	-1.0
MARZ	Manawahe	1.83	345	P	Pg	13 21 31.9	+0.1
PUZ	Puketiti	1.85	25	P	Pn	13 21 26.1	-1.6
NGRZ	Ngongotaha	1.86	332	P	Pg	13 21 32.4	+0.1
KARZ	Kaharoa	1.91	335	P	Pn	13 21 26.9	-1.7
WHRZ	Whale Island	1.91	353	P	Pb	13 21 31.4	+0.2
OGWZ	Otaki Gorge	1.93	236	P	Pn	13 21 27.2	-1.6
MTW	Mount Morrison	1.95	223	P	Pn	13 21 26.9	-2.2
TLZ	Tolley Road	1.97	316	P	Pb	13 21 31.3	-0.8
PKGZ	Pakihiroa	1.97	19	P	Pn	13 21 28.4	-1.0
OPRZ	Ohinepanea	1.99	343	P	Pn	13 21 29.2	-0.4
HAZ	Te Kaha	2.04	11	P	Pn	13 21 29.1	-1.1
TRWZ	Traveller	2.04	216	P	Pn	13 21 28.0	-2.3
VRZ	Vera Road	2.05	287	P	Pb	13 21 33.0	-0.5
KIW	Kapiti Island	2.12	238	P	Pn	13 21 30.4	-1.1
WMGZ	Waiomatatini S	2.13	25	P	Pn	13 21 30.1	-1.4
PAWZ	Paruwai Farm	2.15	220	P	Pn	13 21 29.6	-2.3
CAW	Cannon Point	2.16	231	P	Pn	13 21 30.1	-1.9
KMRZ	Kaimai	2.17	331	P	Pg	13 21 37.1	-1.3
TGRZ	Tauranga	2.17	338	P	Pg	13 21 37.7	-0.7
LREZ	Lake Rotokare	2.24	277	P	Pb	13 21 37.5	+0.8
HIZ	Hauiti	2.26	303	P	Pn	13 21 33.7	+0.4
MSWZ	Moikau Station	2.27	222	P	Pn	13 21 31.1	-2.4
MXZ	Matakaoa Point	2.33	21	P	Pn	13 21 33.1	-1.3
MXZ	Matakaoa Point	2.33	21	P	Pn	13 21 33.1	-1.3
PLWZ	Palliser	2.38	220	P	Pn	13 21 32.4	-2.6
PREZ	Palmer Road	2.45	279	P	Pb	13 21 38.5	-1.8
TOZ	Tahuroa Road	2.45	325	P	Pn	13 21 37.2	+1.2
PKE	Pukeiti	2.61	281	P	Pn	13 21 40.4	+2.2
NMEZ	Namu Road	2.65	276	P	Pb	13 21 43.9	+0.2
TCW	Tory Channel	2.71	237	P	Pn	13 21 37.8	-1.8
TUWZ	Tuamarina	3.04	236	P	Pn	13 21 41.7	-2.4
NNZ	Nelson	3.31	243	P	Pn	13 21 46.0	-1.8
QRZ	Quartz Range	3.79	252	P	Pn	13 21 52.4	-1.9
KHZ	Kahutara	3.88	226	P	Pn	13 21 53.2	-2.4
THZ	Tophouse	3.88	237	P	Pn	13 21 53.0	-2.7
WCZ	Waipu Caves	4.46	328	P	Pn	13 22 04.1	+0.5

IDC 17 13:21:34.4±3.9, 30.01S×135.90E, h0km, mb3.3/2, mb1 3.5/3, mb1mx3.2/45, mbtmpg3.3/3, ML2.4/1, Error ellipse: s-maj=180.2km s-min=29.3km az=80.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	16.90	185	Pn	Pn	13 25 33.0	+0.6
	0.0nm,0.3s,baz=4.3,slow=11,SNR=3.0						
ASAR	Alice Springs	20.62	185	P	P	13 26 15.2	-0.3
	0.8nm,0.6s,baz=7.1,slow=12,SNR=18						
MKAR	Makanchi Array	68.34	323	P	P	13 32 37.7	0.0
	0.3nm,0.6s,baz=126,slow=7.3,SNR=3.2						

WEL 17 13:26:18.9±0.6, 40˝S±4˝×176˝E±˚, h20km±4km, ML3.9/27, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CKHZ	Cape Kidnapper	0.16	305	P	Pg	13 26 23.7	+0.1
CKHZ	Cape Kidnapper	0.16	305	S	Sg	13 26 27.4	+0.7
KAHZ	Kahuranaki	0.29	261	P	Pn	13 26 26.9	-1.2
KAHZ	Kahuranaki	0.29	261	S	Sn	13 26 33.3	-0.7
PXZ	Pawanui	0.41	227	P	Pn	13 26 29.6	-0.1
ARHZ	Aropaoanui	0.53	338	P	Pg	13 26 30.4	+0.9
ARHZ	Aropaoanui	0.53	338	S	Sn	13 26 38.9	-0.8
MCHZ	McNeill Hill	0.53	306	P	Pg	13 26 30.1	+0.5
MCHZ	McNeill Hill	0.53	306	S	Sn	13 26 39.1	-0.5
WHHZ	Waihua	0.67	359	P	Pn	13 26 33.1	-0.3
KRHZ	Kereru	0.69	279	P	Pn	13 26 33.1	-0.5
WPHZ	Waipukurau	0.70	243	P	Pn	13 26 33.5	-0.2
PRHZ	Porangahau	0.70	222	P	Pn	13 26 33.6	-0.2
KWHZ	Kaweka Forest	0.72	297	P	Pg	13 26 33.5	+0.4
NMHZ	Naumai	0.74	332	P	Pn	13 26 34.0	-0.3
MHGZ	Mahia Peninsul	0.79	41	P	Pn	13 26 34.9	0.0
KNZ	Kokohu	0.80	24	P	Pg	13 26 34.7	0.0
PNHZ	Pukenui	0.82	258	P	Pg	13 26 35.2	+0.1
BKZ	Black Stump Fm	0.83	315	P	Pb	13 26 34.9	+0.2
MTHZ	Maungataniwha	0.95	340	P	Pb	13 26 36.7	0.0
BHHZ	Black Hill Sta	0.95	286	P	Pb	13 26 36.7	-0.1
PRGZ	Paritu Road	0.96	31	P	Pb	13 26 37.1	+0.1
SNGZ	Shannon Statio	0.97	4	P	Pn	13 26 37.6	+0.1
DVHZ	Dannevirke	0.99	236	P	Pb	13 26 37.4	-0.1
DVHZ	Dannevirke	0.99	236	P	Pb	13 26 37.4	-0.1
TSZ	Takapari Road	1.04	252	P	Pb	13 26 38.0	-0.3
RIGZ	Rimuhau	1.12	21	P	Pn	13 26 39.1	-0.4
MRHZ	Matea Rd	1.12	325	P	Pb	13 26 39.7	0.0
RTZ	Ruatahuna	1.15	349	P	Pn	13 26 39.7	-0.3
BFZ	Birch Farm	1.21	219	P	Pn	13 26 39.9	-0.8
MOVZ	Moawhango	1.21	286	P	Pb	13 26 41.0	-0.1
HATZ	Hinemaiaia	1.24	313	P	Pb	13 26 41.9	+0.2
PRWZ	Pori Road	1.27	230	P	Pn	13 26 41.4	-0.2
POWZ	Post Office Ro	1.30	240	P	Pn	13 26 42.1	0.0
TUVZ	Tukino	1.32	291	P	Pb	13 26 43.3	+0.1
RITZ	Rihia Road	1.33	305	P	Pb	13 26 43.9	+0.7
WHVZ	Whangaehu Hut	1.37	289	P	Pb	13 26 43.9	0.0
ALRZ	Allen Road	1.38	329	P	Pb	13 26 44.3	+0.2
DRZ	Dome Shelter	1.39	289	P	Pg	13 26 45.2	-0.6
TKGZ	Te Karaka	1.39	20	P	Pn	13 26 42.6	-0.6
TRVZ	Turoa	1.39	288	P	Pn	13 26 44.8	+0.4
NGZ	Ngauruhoe	1.40	294	P	Pn	13 26 44.4	-0.1
FWVZ	Far West T-bar	1.40	290	P	Pn	13 26 44.3	-0.3
KRVZ	Karewarewa	1.41	297	P	Pn	13 26 44.6	+0.1
PRRZ	Plateau Road	1.42	332	P	Pn	13 26 44.0	-0.4
COVZ	Chateau Observ	1.43	292	P	Pb	13 26 45.1	+0.1
MWZ	Matawai	1.43	9	P	Pn	13 26 43.0	-0.8
KATZ	Kakaramea	1.43	302	P	Pb	13 26 45.8	+0.7
WTVZ	West Tongariro	1.43	296	P	Pb	13 26 45.6	+0.6
RATZ	Rangitukua	1.45	307	P	Pb	13 26 45.9	+0.7
TIWZ	Tintock	1.46	225	P	Pn	13 26 43.6	-0.6
CNGZ	Carnagh Statio	1.47	31	P	Pn	13 26 44.0	-0.3
WHTZ	Whakaora	1.48	317	P	Pg	13 26 47.8	+0.3
WPRZ	Whakapapatarin	1.49	325	P	Pg	13 26 46.9	-0.9
URZ	Urewera	1.49	356	P	Pn	13 26 44.1	-0.5
RRRZ	Republican Roa	1.52	338	P	Pg	13 26 47.6	-0.7
PKVZ	Pokaka	1.54	287	P	Pb	13 26 47.8	+0.9
HRRZ	Handcock Road	1.55	331	P	Pb	13 26 47.8	+0.8
TWVZ	Taurewa	1.56	295	P	Pb	13 26 47.4	+0.2
MRZ	Mangatainoka R	1.57	234	P	Pn	13 26 45.1	-0.6
WATZ	Wairara	1.57	311	P	Pb	13 26 48.0	+0.7
TARZ	Mount Tarawera	1.62	339	P	Pg	13 26 49.2	-1.0
HSRZ	Hossack Road	1.64	331	P	Pg	13 26 50.3	-0.1
HLRZ	Highlands Stat	1.65	335	P	Pg	13 26 50.7	-0.1
GRRZ	Galatos Road	1.66	327	P	Pg	13 26 51.0	+0.1
TWGZ	Tauwhareparae	1.67	20	P	Pn	13 26 46.7	-0.5
KUTZ	Kaahu Road	1.68	318	P	Pg	13 26 50.6	-0.7
EDRZ	Edgecumbe	1.69	346	P	Pg	13 26 51.8	+0.3
TMWZ	Te Maipa	1.71	217	P	Pn	13 26 46.3	-1.3
WAZ	Wanganui	1.75	269	P	Pb	13 26 51.1	+0.8
HOWZ	Holdsworth Sta	1.75	229	P	Pn	13 26 47.0	-1.2
OMRZ	Omania	1.78	337	P	Pg	13 26 52.9	-0.3
RUGZ	Raukumara Rang	1.81	11	P	Pn	13 26 48.3	-0.8
PUZ	Puketiti	1.85	25	P	Pn	13 26 48.3	-1.3
WHRZ	Whale Island	1.91	353	P	Pg	13 26 54.8	-0.7
OGWZ	Otaki Gorge	1.91	236	P	Pn	13 26 49.5	-0.9
MTW	Mount Morrison	1.94	223	P	Pn	13 26 48.9	-1.8
TLZ	Tolley Road	1.95	316	P	Pb	13 26 53.4	-0.4
PKGZ	Pakihiroa	1.97	19	P	Pn	13 26 50.4	-0.8
OPRZ	Ohinepanea	1.98	344	P	Pn	13 26 53.1	-1.1
TRWZ	Traveller	2.03	215	P	Pn	13 26 50.1	-2.0
HAZ	Te Kaha	2.04	12	P	Pn	13 26 51.3	-0.8
KIW	Kapiti Island	2.10	237	P	Pn	13 26 52.3	-0.8
WMGZ	Waiomatatini S	2.13	26	P	Pn	13 26 52.2	-1.2
WMGZ	Waiomatatini S	2.13	26	P	Pn	13 26 52.2	-1.2
PAWZ	Paruwai Farm	2.14	220	P	Pn	13 26 51.7	-1.9
CAW	Cannon Point	2.15	230	P	Pn	13 26 52.3	-1.4
HIZ	Hauiti	2.23	303	P	Pn	13 26 56.4	+1.6
MSWZ	Moikau Station	2.25	222	P	Pn	13 26 53.1	-2.1
MXZ	Matakaoa Point	2.34	21	P	Pn	13 26 57.5	+1.3
PLWZ	Palliser	2.37	219	P	Pn	13 26 54.3	-2.4
BHW	Baring Head	2.45	227	P	Pn	13 26 54.6	-3.2
PKE	Pukeiti	2.59	281	P	Pb	13 27 02.5	-2.1
TCW	Tory Channel	2.69	236	P	Pn	13 26 59.7	-1.5
TUWZ	Tuamarina	3.02	235	P	Pn	13 27 03.7	-1.9
BSWZ	Blackbirch Sta	3.23	231	P	Pn	13 27 06.7	-1.8
NNZ	Nelson	3.29	242	P	Pn	13 27 08.1	-1.3
QRZ	Quartz Range	3.77	252	P	Pn	13 27 14.5	-1.4
THZ	Tophouse	3.86	237	P	Pn	13 27 15.1	-2.2
KHZ	Kahutara	3.87	225	P	Pn	13 27 15.1	-2.1

DJA 17 13:27:43.4±1.6, 0˚N±9˚×9˚2E±1˚2, h15km±13km, M4.4/7, mB5.0/2, mb4.3/7, MLv4.4/6, Mw(mB)4.3/2

IDC 17 13:27:48.5±1.5, 0.91N×91.21E, h0km, mb3.4/6, mb1 3.6/9, mb1mx3.4/69, mbtmp3.5/9, ML3.8/2, MS3.1/2, Ms1 3.1/2, ms1mx2.6/46, Error ellipse: s-maj=44.5km s-min=20.0km az=51.0

ISC 17 13:27:50.3±1.2, 1.2N±0.2×91.20E±0.10, h10km, n19, σ3.906/13, mb3.6/6, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSI	Banda Aceh	5.89	44	P	Pn	13 29 14.6	-3.2
MLSI	Meulaboh, Aceh	6.01	60	P	Pn	13 29 15.4	-4.0
TPTI		6.31	71	P	Pn	13 29 12.7	-11
GSI	Gunungsitoli	6.38	89	P	Pn	13 29 10.0	-14
GSI				S	Sn	13 29 57.4	-40
PSI	Prapat	7.88	78	Pn	Pn	13 29 45.3	+0.2
	0.6nm,0.3s,baz=232,slow=2.8,SNR=3.1						
MNSI	Mandailing Nat	8.39	93	P	Pn	13 29 38.1	-14
PALK	Pallekele	12.07	300	Pn	Pn	13 30 44.8	+2.3
	1.2nm,0.3s,baz=117,slow=12,SNR=7.7						
PALK				Sn	Sn	13 32 52.0	-5.3
	2.5nm,0.3s,baz=117,slow=4.2,SNR=6.5						
PALK				LR	LR	13 35 19.3	
	comp=Z,39nm,19.2s,baz=295,slow=37						
CMAR	Chiang Mai Arr	18.73	23	P	Pn	13 32 13.5	+3.7
	baz=216,slow=13,SNR=5.2						
H08S2	Diego Garcia H	20.64	244	T	T	13 54 15.2	
	baz=65,slow=75,SNR=13						
H08S3	Diego Garcia H	20.64	244	T	T	13 54 15.4	
	baz=65,slow=75,SNR=16						
H08S1	Diego Garcia H	20.65	244	T	T	13 54 13.8	
	baz=65,slow=75,SNR=17						
MKAR	Makanchi Array	46.05	352	P	P	13 36 15.9	+1.6
	0.3nm,0.5s,baz=178,slow=9.3,SNR=4.6						
WRA	Warramunga Arr	47.23	119	P	P	13 36 22.3	-1.6
	0.5nm,0.5s,baz=298,slow=8.7,SNR=3.2						
SONM	Songino Array	48.26	14	P	P	13 36 32.3	+0.7
	0.5nm,0.3s,baz=198,slow=8.0,SNR=3.9						
ASAR	Alice Springs	48.31	124	P	P	13 36 30.6	-1.7
	0.2nm,0.7s,baz=299,slow=8.4,SNR=3.2						
KURBB	Kurchatov Arra	50.38	350	P	P	13 36 49.4	+1.8
	0.2nm,0.6s,baz=170,slow=6.9,SNR=2.9						
ZALV	Zalesovo Beam	52.81	355	P	P	13 37 08.7	+2.9
	0.3nm,0.4s,baz=180,slow=7.5,SNR=2.3						
ARU	Arti	60.96	340	LR	LR	14 04 48.9	
	comp=Z,34nm,18.3s,baz=153,slow=36						
TXAR	Lajitas Array	146.45	24	PKPbc	PKPab	13 47 32.8	-0.6
	0.1nm,0.3s,baz=169,slow=0.9,SNR=5.8						

ISCJB 17 13:34:19.7±0.7, 6.45S±0.05×128.43E±0.08, h334km, mb3.3/2, Error ellipse: s-maj=11.7km s-min=7.0km az=12.8

IDC 17 13:34:20.9±1.3, 6.42S×128.65E, h344km±16km, mb2.9/2, mb1 3.1/7, mb1mx2.8/53, mbtmp3.8/7, Error ellipse: s-maj=25.2km s-min=10.9km az=86.0

ISC 17 13:34:20.1±0.8, 6.46S±0.07×128.5E±0.1, h334km, n7, σ2.933/12, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	Baumata	6.08	232	P	Pn	13 35 52.8	+1.4
	5.5nm,0.3s,baz=77,slow=7.6,SNR=6.2						
BATI				S	S	13 37 02.1	-3.1
	3.7nm,0.3s,baz=101,slow=16,SNR=3.3						
SIJI	Sorong	6.19	26	P	Pn	13 35 54.1	+1.4
	0.4nm,0.3s,baz=319,slow=20,SNR=3.1						
SIJI				S	S	13 37 06.9	-0.7
	1.7nm,0.3s,baz=131,slow=19,SNR=9.2						
FITZ	Fitzroy Crossi	11.90	193	P	P	13 37 00.7	-0.6
FITZ				S	S	13 39 18.7	+5.0
	0.0nm,0.3s,baz=187,slow=16,SNR=2.5						
WRA	Warramunga Arr	14.55	158	P	Pn	13 37 31.6	-0.6
	0.8nm,0.3s,baz=339,slow=11,SNR=34						
WRA				S	S	13 40 07.5	-1.2
	0.1nm,0.3s,baz=338,slow=20,SNR=3.5						
ASAR	Alice Springs	17.88	164	P	Pn	13 38 08.2	-2.6
	0.7nm,0.3s,baz=347,slow=11,SNR=43						
ASAR				S	S	13 41 14.3	-0.2
	0.1nm,0.3s,baz=342,slow=21,SNR=6.5						
MKAR	Makanchi Array	66.97	327	P	P	13 44 37.8	+0.2
	0.3nm,0.6s,baz=139,slow=6.2,SNR=3.3						
ZALV	Zalesovo Beam	70.45	334	P	P	13 44 58.5	-0.2
	0.4nm,0.5s,baz=138,slow=5.5,SNR=2.8						

MEX 17 13:40:38.7±0.6, 15.00N×93.44W, h64km±24km, MD3.7, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		0.73	17	eP	Pn	13 40 52.4	-1.2
PCIG				i S	Sn	13 41 02.6	-2.0
THIG		1.14	94	eP	Pn	13 40 56.9	-1.8
THIG				eS	Sn	13 41 12.4	-1.2
CCIG	Comitan	1.79	44	eP	Pn	13 41 07.2	-0.4
CCIG				eS	Sn	13 41 27.8	-1.7
TGIG		1.80	10	eP	Pn	13 41 05.6	-2.0
TGIG				eS	Sn	13 41 24.9	-4.6

IDC 17 13:45:24.6±2.8, 32.65N×88.23E, h0km, mb3.3/3, mb1 3.5/4, mb1mx3.2/73, mbtmp3.3/4, ML2.6/1, MS3.0/1, Ms1 3.0/1, ms1mx2.4/48, Error ellipse: s-maj=91.1km s-min=31.8km az=82.0, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	Makanchi Array	14.84	344	Pn	Pn	13 48 53.3	-2.4
	0.0nm,0.3s,baz=167,slow=15,SNR=3.5						
SONM	Songino Array	20.48	37	P	P	13 50 04.0	-0.1
	0.5nm,0.7s,baz=224,slow=11,SNR=5.1						
GEYT	Alibeck	25.07	291	LR	LR	14 01 37.4	
	comp=Z,34nm,20.9s,baz=105,slow=39						
WRA	Warramunga Arr	68.40	133	P	P	13 56 28.8	+0.4
	0.4nm,0.8s,baz=327,slow=6.1,SNR=3.3						
ASAR	Alice Springs	70.97	136	P	P	13 56 43.8	-0.4
	0.3nm,0.8s,baz=322,slow=5.9,SNR=2.8						

IDC 17 13:46:25.5±45.0, 15.85S×174.26W, h0km, mb4.0/3, mb1 4.1/3, mb1mx3.5/54, mbtmp4.0/3, Error ellipse: s-maj=863.3km s-min=178.8km az=78.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	43.09	240	P	P	13 54 27.9	+0.3
	1.6nm,0.9s,baz=104,slow=12,SNR=3.2						
WRA	Warramunga Arr	48.94	257	P	P	13 55 13.3	-0.6
	0.3nm,0.5s,baz=93,slow=8.1,SNR=16						
ASAR	Alice Springs	49.19	252	P	P	13 55 15.9	+0.1
	4.6nm,0.7s,baz=88,slow=8.1,SNR=107						

IDC 17 13:47:28.2±2.8, 32.56N×89.09E, h0km, mb3.3/3, mb1 3.4/4, mb1mx3.1/73, mbtmp3.2/4, ML2.9/1, Error ellipse: s-maj=90.9km s-min=32.5km az=82.0, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	Makanchi Array	15.14	342	Pn	Pn	13 50 59.9	-3.4
	0.1nm,0.3s,baz=158,slow=13,SNR=2.9						
SONM	Songino Array	20.11	36	P	P	13 52 03.8	+0.2
	0.3nm,0.3s

0.6nm,0.5s,baz=167,slow=8.5,SNR=8.7
WRA Warramunga Arr 47.51 121 P P 14 22 39.1 -0.1
0.2nm,0.6s,baz=298,slow=8.8,SNR=5.3
KURBB Kurchatov Arra 48.14 348 P P 14 22 43.1 -0.6
0.3nm,0.5s,baz=171,slow=7.2,SNR=2.7
ASAR Alice Springs 48.81 126 P P 14 22 49.5 +0.1
0.2nm,0.7s,baz=296,slow=7.6,SNR=4.1
ZALV Zalesovo Beam 50.42 354 P P 14 23 00.9 -0.2
0.5nm,0.4s,baz=172,slow=4.2,SNR=2.8
GERES GERESS Array B 79.70 319 P P 14 26 11.2 -0.6
0.3nm,0.3s,baz=99,slow=6.3,SNR=5.8

*ISCJB **17** 14:20:43.0±0.7,38.95N±0.03×43.54E±0.03, h21km±6km, Error ellipse: s-maj=9.5km s-min=5.3km az=14.1*
*CSEM **17** 14:20:42.8±0.3,38.97N×43.52E, h5km, ML2.8, Error ellipse: s-maj=8.1km s-min=6.3km az=111.0*
*ISK **17** 14:20:42.2, 38.93N×43.53E, h6km, ML2.5/6*
*DDA **17** 14:20:43.2, 38.88N×43.69E, h8km, Ml2.8*
ISC 17 14:20:43.2±0.8, 38.95N±0.03×43.54E±0.03, h17km±5km, n22, σ1§01/37, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VMUR	**Van-Muradiye**	**0.05**	**30**	*i* P	**Pg**	**14 20 46.7**	**+0.1**
VMUR				*i* S	**Sg**	**14 20 49.3**	**+0.5**
VMUR	**Van-Muradiye**	**0.05**	**30**	P	**Pg**	**14 20 46.7**	**+0.1**
VMUR				S	**Sg**	**14 20 49.3**	**+0.5**
ERCV	**ERCIS-VAN**	**0.17**	**295**	PG	**Pg**	**14 20 46.0**	**-1.8**
ERCV	**ERCIS-VAN**	**0.17**	**295**	*e*Pg	**Pg**	**14 20 46.0**	**-1.8**
CLDR	**Caldiran**	**0.35**	**56**	PG	**Pg**	**14 20 49.5**	**-1.2**
CLDR				SG	**Sg**	**14 20 55.7**	**0.0**
CLDR	**Caldiran**	**0.35**	**56**	*i* P	**Pg**	**14 20 48.9**	**-1.8**
CLDR				*i* S	**Sg**	**14 20 55.8**	**0.0**
CLDR	**Caldiran**	**0.35**	**56**	P	**Pg**	**14 20 48.9**	**-1.8**
CLDR	**Caldiran**	**0.35**	**56**	*e*Pg	**Pg**	**14 20 49.5**	**-1.2**
CLDR				S	**Sg**	**14 20 55.8**	**0.0**
VANB	**Van**	**0.37**	**199**	PG	**Pb**	**14 20 51.3**	**-0.1**
VANB				SG	**Sb**	**14 20 57.9**	**+0.9**
VANB	**Van**	**0.37**	**199**	*e*Pg	**Pb**	**14 20 51.3**	**-0.1**
VANB				*e*Sg	**Sb**	**14 20 57.9**	**+0.9**
TVAN	**Van**	**0.43**	**194**	*i* P	**Pg**	**14 20 51.5**	**-0.5**
TVAN				*i* S	**Sb**	**14 20 58.9**	**0.0**
TVAN	**Van**	**0.43**	**194**	P	**Pg**	**14 20 51.5**	**-0.5**
TVAN				S	**Sb**	**14 20 58.8**	**0.0**
TUTA	**Tutak**	**0.72**	**309**	*i* P	**Pb**	**14 20 57.5**	**0.0**
TUTA	**Tutak**	**0.72**	**309**	P	**Pb**	**14 20 57.5**	**0.0**
GEVA	**Gevas**	**0.74**	**211**	*i* P	**Pg**	**14 20 56.8**	**-0.9**
GEVA				*i* S	**Sg**	**14 21 07.0**	**-0.5**
GEVA	**Gevas**	**0.74**	**211**	P	**Pg**	**14 20 56.8**	**-0.9**
GEVA				S	**Sg**	**14 21 07.0**	**-0.5**
AGRB	**Hanur-Agry**	**0.76**	**326**	PG	**Pg**	**14 20 57.7**	**-0.4**
AGRB				SG	**Sb**	**14 21 08.8**	**+0.6**
AGRB	**Hanur-Agry**	**0.76**	**326**	*e*Pg	**Pg**	**14 20 57.7**	**-0.4**
AGRB				*e*Sg	**Sb**	**14 21 08.8**	**+0.6**
GURO	**Guroymak-BITLI**	**1.24**	**252**	PN	**Pg**	**14 21 05.7**	**-1.6**
GURO				SN	**Sn**	**14 21 23.9**	**+1.5**
GURO	**Guroymak-BITLI**	**1.24**	**252**	*e*Pn	**Pg**	**14 21 05.7**	**-1.6**
GURO				*e*Sn	**Sn**	**14 21 23.9**	**+1.5**
BNGB	**Bing˜¶‖**	**2.23**	**272**	PN	**Pn**	**14 21 20.6**	**+1.1**
BINT	**Bingol**	**2.38**	**269**	*e*Pn	**Pn**	**14 21 20.6**	**-1.0**

*CSEM **17** 14:26:30.6±0.4, 40.08N×19.79E, h20km, ML1.9, Error ellipse: s-maj=9.1km s-min=8.8km az=58.0*
*TIR **17** 14:26:30.6, 39.98N×19.74E, h20km, Md2.6/3*
ATH 17 14:26:29.9, 40.11N×19.80E, h25km±5km, ML1.9/3, Error ellipse: s-maj=5.8km s-min=1.5km az=188.0, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRN	**Sarande**	**0.28**	**145**	*i* Pg	Pb	14 26 36.1	-0.4
	baz=116						
SRN				*i* Sg	Sb	14 26 40.2	-0.8
	baz=116						
SRN	**Sarande**	**0.28**	**145**	*i* PG	Pb	14 26 36.1	-0.4
SRN				*i* SG	Sb	14 26 40.2	-0.7
KASA	**Kassiopi**	**0.38**	**163**	P	Pb	14 26 37.6	-0.3
KASA				S	Sb	14 26 43.5	0.0
KASA	**Kassiopi**	**0.38**	**163**	P	Pb	14 26 37.9	-0.1
KASA				S	Sb	14 26 43.8	+0.3
KEK	**Kerkira**	**0.39**	**180**	P	Pb	14 26 38.8	+0.6
KEK				S	Sb	14 26 44.8	+0.8
KEK				AML	AML	14 26 46.2	
	comp=E,478μm,0.2s						
KEK				AML	AML	14 26 49.9	
	comp=N,453μm,0.5s						
KEK	**Kerkira**	**0.39**	**180**	P	Pb	14 26 38.6	+0.3
KEK				S	Sb	14 26 44.7	+0.7
SGD	**Sagiada**	**0.60**	**145**	P	Pb	14 26 41.9	+0.2
SGD	**Sagiada**	**0.60**	**145**	P	Pb	14 26 41.9	+0.2
IGT	**Igoumenitsa**	**0.71**	**144**	P	Pb	14 26 43.4	-0.1
IGT				S	Sn	14 26 54.2	-0.2
IGT				AML	AML	14 26 57.9	
	comp=E,155μm,0.4s						
IGT				AML	AML	14 26 59.1	
	comp=N,117μm,0.4s						
IGT	**Igoumenitsa**	**0.71**	**144**	P	Pb	14 26 43.6	+0.1
IGT				S	Sn	14 26 54.1	-0.3
JAN	**Janina**	**0.93**	**119**	P	Pn	14 26 47.8	+0.4
JAN				S	Sn	14 27 00.8	+0.9
JAN				AML	AML	14 27 03.9	
	comp=E,205μm,0.6s						
JAN				AML	AML	14 27 04.0	
	comp=N,290μm,0.4s						
JAN	**Janina**	**0.93**	**119**	P	Pn	14 26 47.8	+0.4
JAN				S	Sn	14 27 00.8	+0.9
NEST	**Nestorio**	**1.01**	**72**	P	Pb	14 26 49.4	+0.7
NEST	**Nestorio**	**1.01**	**72**	P	Pb	14 26 49.3	+0.6
SCTE	**Santa Cesarea**	**1.02**	**269**	P	Pb	14 26 49.0	+0.2
SCTE	**Santa Cesarea**	**1.02**	**269**	P	Pb	14 26 49.2	+0.4
FNA	**Florina**	**1.38**	**60**	P	Pb	14 26 55.7	+0.6
FNA	**Florina**	**1.38**	**60**	P	Pb	14 26 55.7	+0.6

*NIED **17** 14:29:00, 38.80N×142.50E, h41km, Mw4.3 Best double couple: M0 3.06000×10^15 NP1:φs354.00000°, δ13.00000°, λ61.00000°. NP2:φs204.00000°, δ79.00000°, λ97.00000°.*
*BJI **17** 14:29:45.1, 38.63N×142.66E, h55km, mb4.6/41, mB4.8/21, Ms4.0/10, Ms7 3.8/8*
*JMA **17** 14:29:46.4±0.1, 38.79N×142.43E, h40km±2km, M4.4*
JMA Felt II J1.
*ISCJB **17** 14:29:46.7±0.5, 38.78N±0.03×142.37E±0.04, h56km±3km, mb4.3/57, MS3.7/14, Error ellipse: s-maj=6.2km s-min=4.2km az=27.8*
*IDC **17** 14:29:47.2±0.5, 38.73N×142.32E, h43km±4km, mb3.9/34, mb1 4.0/38, mb1mx3.9/74, mbtmp4.1/38, ML3.8/3, MS3.5/19, Ms1 3.5/19, ms1mx3.1/78, Error ellipse: s-maj=11.5km s-min=9.6km az=120.0*
*NEIC **17** 14:29:48.7±0.6, 38.80N×142.31E, h57km±5km, mb4.6/23, Error ellipse: s-maj=6.6km s-min=4.3km az=128.0*
NEIC Recorded [2 JMA] in Iwate and Miyagi.
ISC 17 14:29:47.1±0.5, 38.76N±0.04×142.41E±0.05, h45km±4km, n136, σ1§30/146, mb4.4/57, MS3.7/14, 1D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**0.66**	**299**	P	**Pn**	**14 29 59.5**	**-0.6**
OFUJ				*e*S	**Sn**	**14 30 08.6**	**-0.9**
JIO	**Ouri**	**0.88**	**250**	P	**Pn**	**14 30 02.8**	**-0.3**
JIO				*e*S	**Sn**	**14 30 14.2**	**-0.6**
JMK	**Ichinoseki**	**0.95**	**282**	P	**Pn**	**14 30 03.7**	**-0.3**
JMK				*e*S	**Sn**	**14 30 16.2**	**-0.1**
JOM	**Ohasama**	**1.12**	**310**	P	**Pn**	**14 30 06.3**	**-0.1**
JOM				*e*S	**Sn**	**14 30 21.1**	**+0.5**
JTH	**Tanohata**	**1.25**	**340**	P	**Pn**	**14 30 07.4**	**-0.7**
JTH				*e*S	**Sn**	**14 30 22.9**	**-0.8**
JOU	**Okura**	**1.42**	**254**	P	**Pn**	**14 30 10.8**	**+0.3**
JOU				*e*S	**Sn**	**14 30 28.5**	**+0.4**
JRG	**Rokugo**	**1.52**	**295**	P	**Pn**	**14 30 12.2**	**+0.4**
JRG				*e*S	**Sn**	**14 30 30.9**	**+0.5**
JMM	**Marumori**	**1.55**	**235**	P	**Pn**	**14 30 12.1**	**-0.2**
JMM				*e*S	**Sn**	**14 30 31.0**	**-0.2**
JYK	**Kaneyama**	**1.61**	**276**	P	**Pn**	**14 30 13.4**	**+0.4**
JYK				*e*S	**Sn**	**14 30 33.7**	**+1.2**
JANG	**Nango**	**1.75**	**337**	P	**Pn**	**14 30 14.3**	**-0.7**
JFK	**Kawauchi**	**1.84**	**221**	P	**Pn**	**14 30 16.2**	**-0.1**
JFK				*e*S	**Sn**	**14 30 38.7**	**+0.2**
ERM	**Erimo**	**3.30**	**10**	*e*Pn	**Pn**	**14 30 37.1**	**+0.9**
MJAR	**Matsushiro Arr**	**4.00**	**238**	P	**Pn**	**14 30 47.8**	**+1.9**
	12nm,0.3s,baz=37,slow=12,SNR=81						
MJAR				LR	LR	14 32 34.7	
	comp=Z,435nm,19.0s,baz=70,slow=43						
MAJO	**Matsushiro**	**4.00**	**238**	*e*Pn	**Pn**	**14 30 47.9**	**+2.0**
MAT	**Matsushiro**	**4.00**	**238**	P	**Pn**	**14 30 48.3**	**+2.4**
MAT				*e*S	**Sn**	**14 31 35.6**	**+4.0**
MJB9	**Matsu-Tunnel**	**4.00**	**238**	*e*Pn	**Pn**	**14 30 48.1**	**+2.1**
ASAJ	**Asahikawa**	**5.35**	**1**	P	**Pn**	**14 31 04.4**	**0.0**
	1.6nm,0.3s,baz=203,slow=20,SNR=26						
ASAJ				S	**Sn**	**14 32 02.9**	**-1.8**
	3.7nm,0.3s,baz=343,slow=16,SNR=3.8						
ASAJ	**Asahikawa**	**5.35**	**1**	*e*Pn	**Pn**	**14 31 03.7**	**-0.7**
ASAJ				S	**Sn**	**14 32 02.9**	**-1.8**
INU	**Inuyama**	**5.49**	**233**	*e*Pn	**Pn**	**14 31 08.8**	**+2.4**
JHJ	**Hachijo jima 2**	**6.02**	**201**	P	**Pn**	**14 31 13.4**	**-0.2**
	14nm,0.3s,baz=246,slow=20,SNR=4.0						
JHJ				S	**Sn**	**14 32 16.9**	**-4.3**
	18nm,0.3s,baz=59,slow=19,SNR=2.5						
JHJ				LR	LR	14 33 36.2	
	comp=Z,183nm,18.5s,baz=38,slow=38						
YSS	**Yuzh-Sakhalins**	**8.19**	**2**	*e*Pn	**Pn**	**14 31 43.4**	**+0.2**
USRK	**Ussuriysk Ar.**	**9.52**	**308**	P	**Pn**	**14 32 01.6**	**+0.1**
	0.5nm,0.3s,baz=97,slow=12,SNR=4.1						
USRK				LR	LR	14 35 34.5	
	comp=Z,284nm,18.3s,baz=111,slow=37						
JNU	**Nakatsue**	**10.90**	**242**	P	**Pn**	**14 32 21.4**	**+0.9**
	0.7nm,0.3s,baz=57,slow=0.5,SNR=7.6						
JNU				LR	LR	14 37 03.5	
	comp=Z,172nm,18.3s,baz=78,slow=40						
JNU	**Nakatsue**	**10.90**	**242**	*e*Pn	**Pn**	**14 32 21.6**	**+1.1**
MDJ	**Mudanjiang**	**11.22**	**306**	P	**Pn**	**14 32 25.8**	**+1.0**
MDJ				pmax	pmax		
	comp=Z,26nm,1.4s						
MDJ				pmax	pmax		
	comp=Z,82nm,3.5s						
KSRS	**Korea Array**	**11.49**	**268**	P	**Pn**	**14 32 32.7**	**+4.3**
	0.5nm,0.3s,baz=81,slow=14,SNR=18						
KSRS				LR	LR	14 36 34.5	
	comp=Z,175nm,19.2s,baz=82,slow=36						
KSAR	**Wonju Array Be**	**11.52**	**268**	P	**Pn**	**14 32 32.7**	**+3.8**
CBIJ	**Chichi jima**	**11.64**	**181**	P	**Pn**	**14 32 27.6**	**-2.9**
JCJ	**Chichijima**	**11.64**	**181**	P	**Pn**	**14 32 27.6**	**-2.9**
	4.5nm,0.3s,baz=268,slow=19,SNR=3.2						
KLR	**Kul'dur**	**12.96**	**327**	P	**Pn**	**14 32 48.0**	**-0.5**
	0.0nm,0.3s,baz=122,slow=12,SNR=4.3						
KLR				LR	LR	14 37 55.6	
	comp=Z,21nm,18.2s,baz=160,slow=38						
CN2	**Changchun**	**13.71**	**297**	*e*P	**Pn**	**14 33 00.6**	**+1.9**
CN2				*e*SP	P	14 33 19.4	+13
CN2				*e*S	**Sn**	**14 35 30.8**	**+1.4**
CN2				pmax	pmax		
	comp=Z,200nm,3.0s						
CN2				LR	LR		
	comp=N,130nm,12.0s						
CN2				LR	LR		
	comp=E,150nm,12.0s						
PETK	**Petropavlovsk-**	**17.80**	**31**	LR	LR	14 41 54.3	
	comp=Z,49nm,18.2s,baz=194,slow=41						
TIA	**Tai'an**	**20.21**	**271**	P	Pn	14 34 18.9	-1.4
TIA				pmax	pmax		
	comp=Z,8.0nm,0.8s						
BJI	**Beijing**	**20.29**	**282**	*e*P	Pn	14 34 19.8	-1.5
BJI				pP	pP	14 34 29.6	-0.1
BJI				pmax	pmax		
	comp=Z,17nm,1.2s						
BJT	**Baijiatuan**	**20.30**	**282**	*e*P	**P**	**14 34 16.8**	**-2.2**
	16nm,1.1s						
NJ2	**Nanjing**	**20.30**	**258**	*e*P	**P**	**14 34 18.3**	**-0.8**
NJ2				pmax	pmax		
	comp=Z,13nm,0.5s						
MA2	**Magadan**	**21.50**	**12**	P	**P**	**14 34 32.3**	**+0.5**
	4.1nm,0.7s,baz=126,slow=19,SNR=2.6						
HHC	**Hu-ho-hao-te**	**23.73**	**285**	*e*P	**P**	**14 34 54.1**	**-1.0**
HHC				S	**S**	**14 39 00.8**	**-6.4**
HHC				pmax	pmax		
	comp=Z,38nm,0.7s						
HHC				pmax	pmax		
	comp=Z,76nm,4.1s						
HHC				LR	LR		
	comp=N,920nm,11.1s						
HHC				LR	LR		
	comp=E,880nm,13.6s						
HHC				LR	LR		
	comp=Z,930nm,12.0s						
YAK	**Yakutsk**	**24.57**	**346**	P	**P**	**14 35 02.8**	**+0.3**
	5.2nm,0.4s,baz=276,slow=1.0,SNR=2.9						
SEY	**Seymchan**	**24.95**	**11**	P	**P**	**14 35 08.1**	**+2.3**
	1.4nm,0.3s,baz=188,slow=5.7,SNR=5.9						
XAN	**Xi'an**	**27.27**	**270**	P	**P**	**14 35 28.1**	**+0.9**
XAN				pP	pP	14 35 41.5	+2.4
XAN				pmax	pmax		
	comp=Z,7.0nm,0.7s						
SONA1	**Songino Array**	**27.52**	**301**	*e*P	**P**	**14 35 27.6**	**-1.9**
SONM	**Songino Array**	**27.52**	**301**	P	**P**	**14 35 29.7**	**+0.2**
	2.2nm,0.5s,baz=96,slow=9.0,SNR=12						
ENH	**Enshi**	**28.30**	**263**	*e*P	**P**	**14 35 35.6**	**-0.9**
	16nm,0.7s						
H11N2	**WAKE ISLAND Hy**	**28.42**	**125**	T	T	15 06 06.5	
	baz=317,slow=75,SNR=548						
H11N1	**WAKE ISLAND Hy**	**28.43**	**125**	T	T	15 06 06.1	
	baz=317,slow=75,SNR=810						
H11N3	**WAKE ISLAND Hy**	**28.44**	**125**	T	T	15 06 06.8	
	baz=317,slow=75,SNR=696						
H11S1	**WAKE ISLAND Hy**	**29.20**	**127**	T	T	15 07 04.7	
	baz=318,slow=76,SNR=52						
H11S3	**WAKE ISLAND Hy**	**29.20**	**127**	T	T	15 07 04.8	
	baz=318,slow=76,SNR=84						
H11S2	**WAKE ISLAND Hy**	**29.22**	**127**	T	T	15 07 06.8	
	baz=318,slow=76,SNR=45						
TLY	**Talaya**	**29.83**	**308**	P	**P**	**14 35 49.9**	**+0.1**
	2.3nm,0.7s,baz=99,slow=8.3,SNR=6.2						
TLY				LR	LR	14 48 20.9	
	comp=Z,113nm,19.5s,baz=98,slow=37						
TLY	**Talaya**	**29.83**	**308**	*e*P	**P**	**14 35 48.9**	**-0.9**
	4.1nm,0.9s						
LZH	**Lanzhou**	**30.59**	**277**	*e*P	**P**	**14 35 57.8**	**+0.9**
LZH				pP	pP	14 36 12.6	+3.8
LZH				sP	sP	14 36 20.6	+6.4
LZH				pmax	pmax		
	comp=Z,24nm,1.2s						
CD2	**Chengdu**	**32.49**	**268**	*e*P	**P**	**14 36 12.0**	**-1.4**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
TIXI	**Tiksi**	**33.68**	**352**	P	**P**	**14 36 23.4**	**+0.1**
	0.7nm,0.3s,baz=123,slow=2.8,SNR=3.8						
KMI	**Kunming**	**36.02**	**260**	P	**P**	**14 36 45.0**	**+0.7**
KMI				pmax	pmax		
	comp=Z,19nm,0.5s						
KMI				pmax	pmax		
	comp=Z,70nm,4.2s						
WMQ	**Urumqi**	**40.79**	**295**	P	**P**	**14 37 25.3**	**+1.3**
WMQ				LR	LR		
	comp=N,60nm,16.9s						
WMQ				LR	LR		
	comp=E,180nm,19.1s						
WMQ				LR	LR		
	comp=Z,100nm,24.1s						
ZAA0	**Zalesovo Array**	**41.35**	**311**	*e*P	**P**	**14 37 27.9**	**-0.4**
	3.9nm,0.6s						
ZALV	**Zalesovo Beam**	**41.35**	**311**	P	**P**	**14 37 28.2**	**-0.1**
	4.1nm,0.5s,baz=90,slow=7.5,SNR=16						
ZALV				LR	LR	14 55 14.9	
	comp=Z,83nm,18.5s,baz=70,slow=37						
ZALV	**Zalesovo Beam**	**41.35**	**311**	*e*P	**P**	**14 37 27.7**	**-0.7**
CHTO	**Chiang Mai**	**42.49**	**255**	*e*P	**P**	**14 37 38.4**	**+0.3**
	2.1nm,0.6s						
CMAR	**Chiang Mai Arr**	**42.71**	**254**	P	**P**	**14 37 39.5**	**-0.4**
	0.3nm,0.5s,baz=50,slow=6.0,SNR=3.3						
MK01	**Makanchi Array**	**43.89**	**301**	*e*P	**P**	**14 37 48.7**	**-0.4**
MK31	**Makanchi Array**	**43.89**	**301**	*e*P	**P**	**14 37 48.5**	**-0.6**
MKAR	**Makanchi Array**	**43.89**	**301**	P	**P**	**14 37 49.0**	**0.0**
	3.0nm,0.5s,baz=82,slow=9.0,SNR=34						
MKAR				LR	LR	14 56 20.3	
	comp=Z,65nm,19.7s,baz=34,slow=36						
MKAR	**Makanchi Array**	**43.89**	**301**	*e*P	**P**	**14 37 48.6**	**-0.4**
	35nm,0.7s						
MAKZ	**Makanchi**	**44.10**	**301**	*e*P	**P**	**14 37 50.2**	**-0.6**
	5.4nm,0.9s						
IM3	**Indian Mountai**	**44.77**	**31**	*e*P	**P**	**14 37 56.5**	**+0.7**
KDAK	**Kodiak Island**	**45.30**	**43**	P	**P**	**14 37 59.5**	**-0.6**
	8.0nm,0.9s,baz=275,slow=3.6,SNR=4.5						
KURK	**Kurchatov**	**45.50**	**307**	*e*P	**P**	**14 38 01.1**	**-0.8**
	9.6nm,0.7s						
KURBB	**Kurchatov Arra**	**45.58**	**307**	P	**P**	**14 38 02.2**	**-0.2**
	7.8nm,0.5s,baz=81,slow=8.3,SNR=45						
KTH	**Kantishna Hill**	**45.88**	**35**	*e*P	**P**	**14 38 05.7**	**+1.0**
	11nm,1.1s						
MLY	**Manley**	**45.97**	**33**	*e*P	**P**	**14 38 06.3**	**+0.9**
	4.7nm,1.0s						
TOLK	**Toolik Lake Re**	**46.58**	**28**	*e*P	**P**	**14 38 10.5**	**+0.4**
	23nm,2.0s						
IL1	**Eielson Array**	**47.62**	**33**	*e*P	**P**	**14 38 17.9**	**-0.3**
ILAR	**Eielson Array**	**47.62**	**33**	P	**P**	**14 38 18.8**	**+0.6**
	2.7nm,0.7s,baz=269,slow=6.6,SNR=37						
ILAR				pP	**pP**	**14 38 30.7**	**0.0**
	1.6nm,0.7s,baz=265,slow=6.4,SNR=7.3						
ILB	**Eielson Array**	**47.62**	**33**	*e*P	**P**	**14 38 18.2**	**0.0**
GUN	**Gumba**	**47.78**	**275**	*e*P	**P**	**14 38 20.5**	**+0.1**
	16nm,0.4s						
KKN	**Kakani**	**48.31**	**275**	*e*P	**P**	**14 38 24.2**	**-0.1**
DMN	**Daman**	**48.53**	**275**	*e*P	**P**	**14 38 26.3**	**+0.2**
GKN	**Gorkha**	**48.71**	**275**	*e*P	**P**	**14 38 27.3**	**0.0**
	9.4nm,0.4s						
SCRK	**Sand Creek**	**48.94**	**34**	*e*P	**P**	**14 38 28.9**	**+0.4**
	3.0nm,0.6s						
DANN	**Dangsing**	**49.23**	**276**	*e*P	**P**	**14 38 30.6**	**-0.8**
KOLN	**Koldanda**	**49.62**	**276**	*e*P	**P**	**14 38 32.4**	**-2.0**
	9.1nm,0.6s						
PYUN	**Piuthan**	**49.94**	**276**	*e*P	**P**	**14 38 37.1**	**+0.3**
BVAR	**Borovoye Array**	**50.01**	**311**	P	**P**	**14 38 36.3**	**-0.4**
	1.7nm,0.5s,baz=80,slow=7.7,SNR=13						
BRVK	**Borovoye**	**50.06**	**311**	*e*P	**P**	**14 38 36.5**	**-0.5**
	3.4nm,0.6s						
AAK	**Ala-Archa**	**50.38**	**297**	P	**P**	**14 38 39.9**	**+0.1**
	0.9nm,0.3s,baz=114,slow=8.4,SNR=4.1						
HYT	**Haines Junctio**	**52.45**	**38**	*e*P	**P**	**14 38 55.7**	**+0.7**
	10nm,1.0s						
INK	**Inuvik**	**52.49**	**28**	P	**P**	**14 38 55.8**	**+0.8**
	1.1nm,0.4s,baz=296,slow=6.4,SNR=13						
INK				pP	**pP**	**14 39 08.8**	**+1.1**
	2.2nm,0.7s,baz=288,slow=7.1,SNR=8.8						
INK	**Inuvik**	**52.49**	**28**	*e*P	**P**	**14 38 55.8**	**+0.8**
	2.5nm,0.8s						
INK				pP	**pP**	**14 39 08.8**	**+1.1**
KK31	**Karatay Array**	**52.95**	**299**	*e*P	**P**	**14 38 58.1**	**-0.8**
KKAR	**Karatay Array**	**52.95**	**299**	*e*P	**P**	**14 38 58.2**	**-0.7**
NIL	**Nilore**	**54.83**	**288**	*e*P	**P**	**14 39 12.6**	**-0.2**
	8.6nm,0.6s						
ARU	**Arti**	**55.60**	**318**	P	**P**	**14 39 17.9**	**+0.1**
	1.3nm,0.4s,baz=100,slow=17,SNR=3.1						
ARU	**Arti**	**55.60**	**318**	*e*P	**P**	**14 39 17.6**	**-0.2**
	7.1nm,0.7s						
ABKAR	**Akbulak array**	**57.44**	**310**	*e*P	**P**	**14 39 30.6**	**-0.4**
	86nm,0.5s						
AKTO	**Aktyubinsk**	**58.11**	**311**	P	**P**	**14 39 35.5**	**-0.4**
	1.0nm,0.5s,baz=198,slow=3.2,SNR=2.7						
FITZ	**Fitzroy Crossi**	**58.70**	**199**	P	**P**	**14 39 40.2**	**+0.1**
	1.5nm,0.8s,baz=31,slow=12						
FITZ				pP	**pP**	**14 39 52.4**	**-0.5**
	baz=7.1,slow=10						
WRAB	**Tennant Creek**	**58.87**	**189**	*e*P	**P**	**14 39 39.0**	**-2.3**
	6.2nm,0.8s						
WB2	**Warramunga Arr**	**58.88**	**189**	*e*P	**P**	**14 39 40.4**	**-1.0**
	6.7nm,0.8s						
WRA	**Warramunga Arr**	**58.88**	**189**	P	**P**	**14 39 41.0**	**-0.4**
	6.6nm,0.7s,baz=7.1,slow=6.9,SNR=67						
RES	**Resolute Bay**	**60.73**	**15**	P	**P**	**14 39 53.8**	**+0.3**
	1.7nm,0.8s,baz=342,slow=5.6,SNR=7.7						
RES				pP	**pP**	**14 40 06.2**	**-0.1**
	2.7nm,0.8s,baz=309,slow=5.6,SNR=6.3						
RES	**Resolute Bay**	**60.73**	**15**	*e*P	**P**	**14 39 51.9**	**-1.6**
	3.3nm,0.8s						
RES				pP	**pP**	**14 40 06.2**	**-0.1**
YKA	**Yellowknife Ar**	**61.92**	**31**	P	**P**	**14 40 02.0**	**+0.3**
	0.6nm,0.7s,baz=301,slow=6.6,SNR=12						
YKA				pP	**pP**	**14 40 15.8**	**+1.2**
	0.6nm,0.6s,baz=302,slow=6.3,SNR=8.4						
AS01	**Alice Springs**	**62.60**	**189**	*e*P	**P**	**14 40 06.1**	**-0.6**
AS31	**Alice Springs**	**62.61**	**189**	*e*P	**P**	**14 40 06.6**	**-0.1**
	1.0nm,0.9s						
ASAR	**Alice Springs**	**62.61**	**189**	P	**P**	**14 40 06.7**	**-0.1**
	2.2nm,0.6s,baz=357,slow=5.4,SNR=58						
ASAR				pP	**pP**	**14 40 18.9**	**-0.7**
	0.8nm,0.8s,baz=11,slow=14,SNR=3.7						
GEYT	**Alibeck**	**63.69**	**299**	P	**P**	**14 40 13.5**	**-0.5**
	1.3nm,0.7s,baz=104,slow=6.1,SNR=2.7						
FINES	**FINESS Array B**	**67.65**	**332**	P	**P**	**14 40 39.4**	**+0.4**
	1.0nm,0.6s,baz=116,slow=6.5,SNR=4.0						
FINES				LR	LR	15 12 07.0	
	comp=Z,72nm,18.2s,baz=15,slow=38						
AFI	**Afiamalu**	**67.66**	**131**	LR	LR	15 04 15.2	
	comp=Z,27nm,20.9s,baz=201,slow=31						
YBH	**Yreka Blue Hor**	**68.67**	**53**	P	**P**	**14 40 47.5**	**+1.6**
	1.2nm,0.7s,baz=234,slow=8.7,SNR=4.0						
KBZ	**Khabaz**	**70.38**	**311**	P	**P**	**14 40 57.1**	**+1.0**
	1.4nm,0.6s,baz=21,slow=0.6,SNR=4.5						
HFS	**Hagfors**	**72.84**	**336**	P	**P**	**14 41 10.8**	**+0.1**
	0.9nm,0.6s,baz=72,slow=5.2,SNR=4.4						
HFS				LR	LR	15 15 21.4

AUSP				*e*S	**Sg**	**14 34 53.5**	**-0.1**
GO05	**HualaæØ**	**2.28**	**181**	IAML		14 35 13.5	
	comp=E,127nm,0.5s						
RTLS	**Leoncito**	**2.36**	**68**	*e*P	**Pb**	**14 34 26.8**	**-1.2**
RTLS				*e*S	**Sg**	**14 34 59.3**	**-1.1**
RTLS				IAML		14 34 59.9	
	comp=Z,95nm,0.6s						
GO04	**Tololo Observa**	**2.70**	**20**	*e*P	**Pn**	**14 34 29.8**	**+0.4**
GO04				*e*S	**Sn**	**14 35 01.5**	**-1.3**
TLL	**Tololo Astrono**	**2.71**	**20**	*e*P	**Pn**	**14 34 29.6**	**+0.1**
TLL				*e*S	**Sn**	**14 35 02.2**	**-0.8**
TLL				IAML		14 35 17.3	
	comp=N,439nm,0.5s						
RTCV	**Cerro Valdivia**	**2.94**	**74**	*e*P	**Pn**	**14 34 34.6**	**+2.1**
RTCV				*e*S	**Sb**	**14 35 12.4**	**-1.9**
RTLL	**Cerro Villicun**	**3.19**	**65**	*e*P	**Pn**	**14 34 37.8**	**+1.8**
RTLL				*e*S	**Sb**	**14 35 19.0**	**-2.6**
RTLL				IAML		14 35 27.4	
	comp=Z,158nm,0.4s						
RTLL	**Cerro Villicun**	**3.19**	**65**	IAML		14 35 27.9	
	comp=E,519nm,0.4s						
AROD	**Rodeo**	**3.27**	**39**	*e*P	**Pn**	**14 34 40.1**	**+2.9**
AROD				*e*S	**Sb**	**14 35 23.4**	**-0.6**
AMOG	**MOGNA**	**3.37**	**59**	*e*P	**Pn**	**14 34 40.7**	**+2.2**
ACDV	**Cuesta del Vie**	**3.46**	**43**	*e*P	**Pn**	**14 34 42.5**	**+2.8**
ACDV				*e*S	**Sb**	**14 35 27.6**	**-1.7**
ACAN	**Cantantal**	**3.97**	**85**	*e*P	**Pn**	**14 34 47.9**	**+1.2**
ACAN				*e*S	**Sn**	**14 35 37.3**	**+3.3**
AGUA	**GUANDACOL**	**4.33**	**43**	*e*P	**Pn**	**14 34 54.6**	**+2.9**

*SJA **17** 14:36:58.3±0.5, 33°.17S×72°.22W, h49km±11km, ML3.8, MW3.9*
*GUC **17** 14:37:05.3±0.6, 32°.56S×71°.41W, h35km±15km, ML3.7*
ISC 17 14:36:56.0±2.5, 32°.91S±0°.07×72°.3W±0°.1, h15km±14km, n14, σ3°.08/23, 2C, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PEL	**Peldehue**	**1.36**	**100**	*e*P	**Pb**	**14 37 21.8**	**+0.4**
PEL				*e*S	**Sb**	**14 37 34.0**	**-4.6**
RCDM	**Rinconada Maip**	**1.37**	**115**	⇑*i*P	**Pn**	**14 37 17.7**	**-3.0**
RCDM				*i* S	Sb	14 37 30.6	-8.0
ANTU	**Antumapu**	**1.53**	**116**	*e*P	**Pg**	**14 37 26.9**	**+1.3**
ANTU				*i* S	**Sn**	**14 37 43.5**	**+0.9**
ANTU				IAML		14 37 45.8	
	comp=E,2μm,0.3s						
FCH	**Farellones**	**1.73**	**104**	*e*P	**Pb**	**14 37 27.9**	**+0.3**
FCH				*i* S	**Sn**	**14 37 45.6**	**-2.2**
FCH				IAML		14 37 47.4	
	comp=E,3μm,0.2s						
LMEL	**Las Melosas**	**1.98**	**119**	*e*P	**Pg**	**14 37 34.0**	**0.0**
LMEL				*i* S	**Sn**	**14 37 55.9**	**+2.2**
LMEL				IAML		14 37 59.4	
	comp=N,2μm,0.1s						
AUSP	**Uspallata**	**2.54**	**75**	*e*P	**Pb**	**14 37 40.1**	**-1.5**
AUSP				*e*S	**Sn**	**14 38 11.1**	**+3.2**
RTLS	**Leoncito**	**2.76**	**67**	*e*P	**Pb**	**14 37 43.6**	**-1.7**
RTLS				IAML		14 38 17.0	
	comp=Z,237nm,0.4s						
GO04	**Tololo Observa**	**3.01**	**25**	⇑*i*P	**Pn**	**14 37 46.3**	**+2.8**
GO04				*e*S	**Sn**	**14 38 17.6**	**-1.9**
TLL	**Tololo Astrono**	**3.02**	**25**	*e*P	**Pn**	**14 37 46.4**	**+2.9**
TLL				*e*S	**Sn**	**14 38 16.9**	**-2.7**
RTCV	**Cerro Valdivia**	**3.34**	**73**	*e*S	**Sn**	**14 38 30.0**	**+2.8**
RTLL	**Cerro Villicun**	**3.60**	**65**	*e*P	**Pn**	**14 37 55.2**	**+3.9**
RTLL				*e*S	**Sn**	**14 38 37.0**	**+3.3**
RTLL				IAML		14 38 42.8	
	comp=Z,191nm,0.3s						
ACDV	**Cuesta del Vie**	**3.85**	**46**	*e*P	**Pb**	**14 38 00.3**	**-3.4**
ACDV				*e*S	**Sb**	**14 38 45.9**	**-4.2**
ACAN	**Cantantal**	**4.35**	**83**	*e*P	**Pn**	**14 38 04.8**	**+3.1**
AGUA	**GUANDACOL**	**4.72**	**45**	*e*P	**Pn**	**14 38 11.5**	**+4.7**

IDC 17 14:47:57.1±17.0, 1°.16N×90°.50E, h0km, mb3.1/2, mb1 3.4/3, mb1mx3.1/69, mbtmp3.1/3, Error ellipse: s-maj=416.7km s-min=41.2km az=83.0, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**19.09**	**25**	P	P	14 52 21.6	+0.1
	baz=216,slow=12,SNR=4.9						
H08S2	**Diego Garcia H**	**19.97**	**244**	T	T	15 12 12.5	
	baz=61,slow=76,SNR=6.5						
H08S3	**Diego Garcia H**	**19.97**	**244**	T	T	15 12 08.6	
	baz=61,slow=76,SNR=9.5						
H08S1	**Diego Garcia H**	**19.99**	**244**	T	T	15 12 12.3	
	baz=61,slow=76,SNR=8.0						
WRA	**Warramunga Arr**	**47.81**	**118**	P	P	14 56 37.4	+0.6
	0.4nm,0.8s,baz=294,slow=8.4,SNR=3.3						
ASAR	**Alice Springs**	**48.85**	**123**	P	P	14 56 44.1	-0.8
	0.1nm,0.5s,baz=306,slow=7.9,SNR=3.2						

IDC 17 14:55:58.6±4.8, 5°.55S×147°.46E, h200km±54km, mb3.4/3, mb1 3.6/5, mb1mx3.6/50, mbtmp3.9/5, Error ellipse: s-maj=84.4km s-min=24.2km az=136.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.84**	**184**	P	Pn	14 57 00.3	+1.9
	3.3nm,0.3s,baz=37,slow=9.5,SNR=14						
PMG				S	Sn	14 57 44.9	-0.6
	6.5nm,0.3s,baz=351,slow=23,SNR=8.3						
WRA	**Warramunga Arr**	**19.17**	**221**	P	P	15 00 07.3	+0.1
	0.5nm,0.3s,baz=40,slow=12,SNR=30						
ASAR	**Alice Springs**	**22.25**	**215**	P	P	15 00 40.1	+0.9
	1.0nm,0.8s,baz=50,slow=8.4,SNR=18						
FITZ	**Fitzroy Crossi**	**24.69**	**238**	P	P	15 01 01.0	-0.5
	8.8nm,0.4s,baz=50,slow=11,SNR=81						
ILAR	**Eielson Array**	**84.89**	**23**	P	P	15 08 10.3	-0.4
	0.4nm,0.8s,baz=253,slow=4.8,SNR=7.2						

*CSEM **17** 15:03:21.0±0.3, 40°.61N×41°.21E, h2km, ML3.0, Error ellipse: s-maj=8.0km s-min=5.7km az=2.0*
DDA 17 15:03:18.3, 40°.56N×41°.30E, h1km, Ml3.0, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DDEM	**Demirkent**	**0.48**	**45**	*i* P	Pb	15 03 30.9	+1.3
DDEM	**Demirkent**	**0.48**	**45**	P	Pb	15 03 30.9	+1.3
DBAD	**Bademkaya**	**0.55**	**33**	*i* P	Pb	15 03 31.8	+1.0
DBAD	**Bademkaya**	**0.55**	**33**	P	Pb	15 03 31.8	+1.0
BAYB	**BAYBURT**	**0.85**	**250**	P	Pn	15 03 36.8	-0.8
BAYB	**BAYBURT**	**0.85**	**250**	P	Pn	15 03 36.8	-0.8
MACK	**Trabzon**	**1.23**	**289**	*i* P	Pn	15 03 42.7	+0.1
MACK	**Trabzon**	**1.23**	**289**	P	Pn	15 03 42.7	+0.1
KELT	**Kelkit**	**1.62**	**256**	*i* P	Pg	15 03 50.1	+0.8
KELT	**Kelkit**	**1.62**	**256**	P	Pg	15 03 50.1	+0.8

*ISK **17** 15:04:01.6, 38°.93N×43°.53E, h17km, ML2.9/4*
*ATA **17** 15:04:01.9±1.7, 38°.94N×43°.49E, h20km±24km, ML3.2, MW3.1*
*ISCJB **17** 15:04:02.9±0.5, 38°.91N±0°.02×43°.57E±0°.04, h16km±7km, Error ellipse: s-maj=5.9km s-min=3.8km az=20.3*
*CSEM **17** 15:04:02.0±0.2, 38°.92N×43°.54E, h10km, ML3.2, Error ellipse: s-maj=6.0km s-min=4.2km az=119.0*
*DDA **17** 15:04:02.0, 38°.89N×43°.56E, h5km, Ml3.2*
ISC 17 15:04:02.1±1.1, 38°.93N±0°.02×43°.54E±0°.02, h18km±3km, n46, σ1°.42/61, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VMUR	**Van-Muradiye**	**0.07**	**25**	*i* P	**Pg**	**15 04 04.8**	**-1.1**
VMUR	**Van-Muradiye**	**0.07**	**25**	P	**Pg**	**15 04 04.8**	**-1.1**
ERCV	**ERCIS-VAN**	**0.18**	**301**	PG	**Pg**	**15 04 06.2**	**-0.8**
ERCV	**ERCIS-VAN**	**0.18**	**301**	*e*Pg	**Pg**	**15 04 06.2**	**-0.8**
VANB	**Van**	**0.35**	**199**	PG	**Pb**	**15 04 10.5**	**+0.5**
VANB				SG	**Sn**	**15 04 17.6**	**-1.4**
VANB	**Van**	**0.35**	**199**	*e*Pg	**Pb**	**15 04 10.5**	**+0.5**
CLDR	**Caldiran**	**0.37**	**54**	PG	**Pg**	**15 04 09.8**	**-0.2**
CLDR				SG	**Sb**	**15 04 15.5**	**-0.3**
CLDR	**Caldiran**	**0.37**	**54**	*i* P	**Pg**	**15 04 09.1**	**-0.9**
CLDR				*i* S	**Sb**	**15 04 16.4**	**+0.6**
CLDR	**Caldiran**	**0.37**	**54**	P	**Pg**	**15 04 09.1**	**-0.9**
CLDR				*e*Sg	**Sb**	**15 04 15.5**	**-0.3**
CLDR				S	**Sb**	**15 04 16.4**	**+0.6**
CLDR	**Caldiran**	**0.37**	**54**	*e*Pg	**Pg**	**15 04 09.8**	**-0.2**
TVAN	**Van**	**0.41**	**194**	*i* P	**Pg**	**15 04 10.4**	**-0.4**
TVAN				*i* S	**Sb**	**15 04 17.9**	**+0.8**
TVAN	**Van**	**0.41**	**194**	P	**Pg**	**15 04 10.4**	**-0.4**
TVAN				S	**Sb**	**15 04 17.9**	**+0.8**
DYDN	**Diyadin**	**0.63**	**11**	*e*P	**Pb**	**15 04 15.2**	**+0.6**
DYDN				*e*S	**Sn**	**15 04 25.3**	**-0.7**
DYDN				IAML		15 04 26.8	
	comp=Z,38nm,0.2s						
DYDN	**Diyadin**	**0.63**	**11**	*i* P	**Pb**	**15 04 14.9**	**+0.3**
DYDN	**Diyadin**	**0.63**	**11**	P	**Pb**	**15 04 14.9**	**+0.3**
ADCV	**BITLIS_Adilcev**	**0.64**	**259**	*i* P	**Pg**	**15 04 15.0**	**0.0**
ADCV				*i* S	**Sb**	**15 04 25.2**	**+1.6**
ADCV	**BITLIS_Adilcev**	**0.64**	**259**	P	**Pg**	**15 04 15.0**	**0.0**
ADCV				S	**Sb**	**15 04 25.2**	**+1.6**
GEVA	**Gevas**	**0.72**	**211**	*e*P	**Pg**	**15 04 15.3**	**-1.1**
GEVA				*e*S	**Sb**	**15 04 27.2**	**+1.4**
GEVA				IAML		15 04 36.2	
	comp=Z,61nm,0.4s						
GEVA	**Gevas**	**0.72**	**211**	*i* P	**Pg**	**15 04 15.1**	**-1.2**
GEVA	**Gevas**	**0.72**	**211**	P	**Pg**	**15 04 15.1**	**-1.2**
TUTA	**Tutak**	**0.73**	**310**	*e*P	**Pg**	**15 04 16.2**	**-0.5**
TUTA				*e*S	**Sb**	**15 04 27.5**	**+1.2**
TUTA				IAML		15 04 31.4	
	comp=Z,127nm,0.3s						
TUTA	**Tutak**	**0.73**	**310**	*i* P	**Pb**	**15 04 16.5**	**0.0**
TUTA	**Tutak**	**0.73**	**310**	P	**Pb**	**15 04 16.5**	**0.0**
AGRB	**Hanur-Agry**	**0.77**	**327**	PG	**Pb**	**15 04 17.2**	**+0.1**
AGRB	**Hanur-Agry**	**0.77**	**327**	*e*Pg	**Pb**	**15 04 17.2**	**+0.1**
IGDI	**IGDIR**	**1.03**	**24**	*e*P	**Pg**	**15 04 22.4**	**+0.3**
IGDI				*e*S	**Sn**	**15 04 36.4**	**+0.7**
IGDI				IAML		15 04 47.3	
	comp=Z,14nm,0.6s						
EKAR	**Karacoban**	**1.19**	**286**	*e*P	**Pg**	**15 04 25.2**	**-0.1**
EKAR				*e*S	**Sg**	**15 04 42.0**	**+1.2**
EKAR				IAML		15 04 54.5	
	comp=Z,28nm,0.5s						
EKAR	**Karacoban**	**1.19**	**286**	*i* P	**Pg**	**15 04 25.1**	**-0.1**
EKAR				*i* S	**Sg**	**15 04 44.4**	**+3.6**
EKAR	**Karacoban**	**1.19**	**286**	P	**Pg**	**15 04 25.1**	**-0.1**
EATA	**Eleskirt**	**1.23**	**319**	*e*P	**Pg**	**15 04 25.1**	**-0.4**
EATA				*e*S	**Sg**	**15 04 42.3**	**0.0**
EATA				IAML		15 05 02.4	
	comp=Z,7.5nm,0.4s						
GURO	**Guroymak-BITLI**	**1.23**	**253**	PN	**Pn**	**15 04 24.6**	**0.0**
GURO	**Guroymak-BITLI**	**1.23**	**253**	*e*Pn	**Pn**	**15 04 24.6**	**0.0**
HAKT	**HAKKARI**	**1.38**	**174**	*i* P	**Pn**	**15 04 26.9**	**+0.3**
HAKT	**HAKKARI**	**1.38**	**174**	P	**Pn**	**15 04 26.9**	**+0.3**
SRTM	**Siirt_Merkez**	**1.57**	**234**	*i* P	**Pb**	**15 04 31.5**	**+0.8**
SRTM	**Siirt_Merkez**	**1.57**	**234**	P	**Pb**	**15 04 31.5**	**+0.8**
SIRN	**S¨¨rnak**	**1.68**	**212**	*i* P	**Pb**	**15 04 32.4**	**-0.3**
SIRN	**S¨¨rnak**	**1.68**	**212**	P	**Pb**	**15 04 32.3**	**-0.3**
ERZM	**Erzurum**	**1.94**	**301**	*e*P	**Pb**	**15 04 37.6**	**+0.4**
ERZM	**Erzurum**	**1.94**	**301**	*i* P	Pg	15 04 49.7	+10
ECAT	**Cat-ERZURUM**	**2.10**	**290**	*e*P	**Pb**	**15 04 39.1**	**-0.7**
ECAT				IAML		15 04 57.3	
	comp=Z,41nm,0.3s						
ECAT	**Cat-ERZURUM**	**2.10**	**290**	*i* P	Pg	15 04 49.3	+6.8
ECAT				*i* S	**Sn**	**15 04 54.1**	**-8.2**
KOPT	**Kop Dagi**	**2.59**	**296**	*i* P	**Pg**	**15 04 50.2**	**-1.7**
MAZI	**Mazidag**	**2.84**	**240**	PN	**Pn**	**15 04 47.6**	**+0.9**
MAZI	**Mazidag**	**2.84**	**240**	*e*Pn	**Pn**	**15 04 47.6**	**+0.9**
BAYB	**BAYBURT**	**2.86**	**299**	*e*P	**Pn**	**15 04 48.4**	**+1.3**

*ISCJB **17** 15:08:36.3±0.5, 8°.71S±0°.09×112°.83E±0°.05, h136km, mb3.5/5, Error ellipse: s-maj=12.9km s-min=5.8km az=18.8*
*IDC **17** 15:08:36.5±9.8, 8°.23S×113°.29E, h113km±97km, mb3.3/5, mb1 3.5/6, mb1mx3.2/60, mbtmp3.6/6, ML4.0/1, MS3.0/1, Ms1 3.0/1, ms1mx2.4/25, Error ellipse: s-maj=129.9km s-min=19.7km az=51.0*
*DJA **17** 15:08:37.6±0.4, 9°.S±8°.×11°.3E±°, h118km±5km, M4.1/18, mB5.2/1, mb4.7/1, MLv3.9/18, Mw(mB)4.6/1*
ISC 17 15:08:37.2±0.9, 8°.69S±0°.10×112°.83E±0°.05, h136km, n22, σ0°.60/22, mb3.6/5, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GMJI	**Gumukmas**	**0.73**	**56**	P	**Pn**	**15 08 58.2**	**-0.3**
GMJI				S	**Sn**	**15 09 13.4**	**-1.2**
PWJI	**Pagerwojo**	**1.21**	**303**	P	**Pn**	**15 09 02.3**	**-0.4**
JAGI	**Jajag, Banyuwa**	**1.33**	**81**	P	**Pn**	**15 09 03.7**	**-0.2**
PCJI	**Pacitan**	**1.71**	**287**	P	**Pn**	**15 09 08.0**	**-0.1**
GRJI	**Gresik**	**1.80**	**349**	P	**Pn**	**15 09 09.1**	**-0.1**
KMMI	**Kalianget**	**1.98**	**35**	P	**Pn**	**15 09 11.9**	**+0.6**
WOJI	**Wonogiri, Jawa**	**2.07**	**294**	P	**Pn**	**15 09 12.6**	**+0.2**
TBJI	**Tambak Boyo**	**2.10**	**332**	P	**Pn**	**15 09 13.2**	**+0.4**
IGBI	**Denpasar**	**2.29**	**93**	P	**Pn**	**15 09 15.4**	**+0.3**
UGM	**Wanagama**	**2.41**	**289**	P	**Pn**	**15 09 16.6**	**0.0**
SRBI	**Singaraja**	**2.43**	**76**	P	**Pn**	**15 09 16.8**	**-0.1**
SMRI	**Semarang**	**2.87**	**304**	P	**Pn**	**15 09 22.8**	**+0.3**
KPJI	**Karang Pucung**	**4.09**	**289**	P	**Pn**	**15 09 38.5**	**+0.2**
PLAI	**Plampang**	**4.89**	**92**	P	**Pn**	**15 09 48.7**	**-0.3**
CISI	**Cisompet, Garu**	**5.09**	**282**	P	**Pn**	**15 09 51.1**	**-0.6**
FITZ	**Fitzroy Crossi**	**15.57**	**128**	P	**Pn**	**15 12 08.4**	**-1.1**
	0.4nm,0.3s,baz=319,slow=9.0,SNR=18						
FITZ				S	Sn	15 14 50.5	-12
	0.3nm,0.3s,baz=183,slow=22,SNR=8.5						
WRA	**Warramunga Arr**	**23.62**	**121**	P	**P**	**15 13 36.9**	**+0.8**
	1.4nm,0.6s,baz=299,slow=12,SNR=22						
WRA				S	Sn	15 18 01.9	-13
	0.1nm,0.4s,baz=292,slow=24,SNR=4.6						
ASAR	**Alice Springs**	**25.07**	**129**	P	**P**	**15 13 50.2**	**+0.9**
	1.1nm,0.5s,baz=301,slow=9.4,SNR=21						
CMAR	**Chiang Mai Arr**	**30.26**	**333**	P	**P**	**15 14 35.9**	**+0.3**
	0.4nm,0.4s,baz=165,slow=8.5,SNR=4.8						
STKA	**Stephens Creek**	**35.29**	**135**	P	**P**	**15 15 20.0**	**+0.7**
	0.4nm,0.3s,baz=315,slow=17,SNR=3.7						
MJAR	**Matsushiro Arr**	**50.92**	**26**	LR	LR	15 39 13.7	
	comp=Z,16nm,21.9s,baz=190,slow=36						
MKAR	**Makanchi Array**	**61.58**	**337**	P	**P**	**15 18 39.6**	**-0.6**
	0.2nm,0.3s,baz=148,slow=7.1,SNR=4.7						

*BJI **17** 15:15:57.1, 36°.57N×70°.09E, h209km, mb4.7/41, mB4.7/25*
*ISCJB **17** 15:15:57.0±0.2, 36°.52N±0°.02×70°.15E±0°.02, h211km±2km, mb4.5/138, Error ellipse: s-maj=2.9km s-min=2.5km az=150.1*
*MOS **17** 15:15:57.6±1.0, 36°.52N×70°.15E, h216km, mb4.8/43, Error ellipse: s-maj=5.5km s-min=3.7km az=96.3*
*NEIC **17** 15:15:58.3±0.1, 36°.53N×70°.13E, mb4.6/67, Error ellipse: s-maj=3.6km s-min=3.1km az=213.0*
NEIC Felt at Bagrami, Charikar, Kabul and Mahmud-e Raqi. Also felt at Dushanbe, Tajikistan and at Islamabad and Peshawar, Pakistan.
*IDC **17** 15:15:58.6±0.5, 36°.45N×70°.12E, h213km±4km, mb4.2/40, mb1 4.3/46, mb1mx4.2/68, mbtmp4.8/46, Error ellipse: s-maj=7.5km s-min=5.9km az=20.0*
*NNC **17** 15:16:00.2±2.4, 36°.83N×70°.02E, h221km±29km, mb4.2, mpv5.4, Error ellipse: s-maj=23.8km s-min=14.2km az=172.0*
ISC 17 15:15:58.6±0.3, 36°.52N±0°.03×70°.13E±0°.03, h214km±3km, h213km:pP-P, n410, σ1°.46/470, mb4.6/141, 34C-29D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBL	**Kabul**	**2.17**	**204**	*e*Pn	**Pn**	**15 16 39.9**	**-0.2**
KBL				*e*S	**S**	**15 17 10.3**	**-1.8**
KBL	**Kabul**	**2.17**	**204**	*e*PN	**Pn**	**15 16 39.9**	**-0.2**
KBL				*e*S	**S**	**15 17 10.3**	**-1.8**
CEP	**Cherat**	**3.06**	**151**	P	**Pn**	**15 16 50.2**	**+0.3**
CEP				S	**S**	**15 17 29.0**	**-0.6**
CHCP	**Chirah Chowk**	**3.84**	**137**	P	**Pn**	**15 16 59.7**	**+0.6**
NIL	**Nilore**	**3.84**	**137**	*e*Pn	**Pn**	**15 16 59.7**	**+0.6**
NIL	**Nilore**	**3.84**	**137**	*e*PN	**Pn**	**15 16 59.7**	**+0.6**
THW	**Thamme Wali**	**3.95**	**160**	⇑P	**Pn**	**15 17 00.1**	**-0.3**
SFK	**Sufi-Kurgan**	**4.38**	**36**	⇑P	**Pn**	**15 17 05.6**	**-0.1**
	512nm,0.5s						
SFK				⇓S	**S**	**15 17 57.0**	**-1.5**
	4μm,0.4s						
SFK	**Sufi-Kurgan**	**4.38**	**36**	PN	**Pn**	**15 17 05.6**	**-0.1**
SFK				S	**S**	**15 17 56.9**	**-1.5**
SFK				pmax	pmax		
	comp=Z,512nm,0.5s						
SFK				smax	smax		
	comp=N,4μm,0.4s						
TAS	**Tashkent**	**4.84**	**352**	⇓P	**Pn**	**15 17 11.4**	**+0.1**
	comp=N,1μm,0.2s						
TAS				⇑S	**S**	**15 18 05.7**	**-2.9**
	comp=N,5μm,0.6s						
TAS	**Tashkent**	**4.84**	**352**	PN	**Pn**	**15 17 11.4**	**+0.1**
TAS				S	**S**	**15 18 05.6**	**-2.9**
TAS				pmax	pmax		
	comp=Z,1μm,0.2s						
TAS				smax	smax		
	comp=N,5μm,0.6s						
SARP	**Sargodha**	**5.05**	**155**	P	**Pn**	**15 17 13.6**	**-0.4**
KSH	**Kashi**	**5.50**	**55**	P	Pn	15 17 14.8	-4.9
KSH				S	S	15 18 09.1	-15
KSH				smax	smax		
	comp=N,3μm,0.8s						
KSH				smax	smax		
	comp=N,3μm,0.5s						
MNAS	**Manas**	**6.23**	**16**	⇑P	**Pn**	**15 17 28.5**	**-0.6**
	comp=N,144nm,0.5s						
MNAS				⇑S	**S**	**15 18 37.0**	**-3.8**
	comp=N,535nm,0.5s						
MNAS	**Manas**	**6.23**	**16**	PN	**Pn**	**15 17 28.5**	**-0.6**
MNAS				pmax	pmax		
	comp=Z,144nm,0.5s						
AML	**Almayashu**	**6.25**	**25**	P	**Pn**	**15 17 28.9**	**-0.6**
	SNR=2479						
KK31	**Karatay Array**	**6.58**	**2**	⇑P	**Pn**	**15 17 32.4**	**-1.0**
	comp=Z,70nm,0.3s,baz=180,slow=13,SNR=1396						
KK31				⇓S	**S**	**15 18 42.9**	**-5.9**
	comp=Z,331nm,0.8s,baz=189,slow=21,SNR=5.5						
KK31	**Karatay Array**	**6.58**	**2**	*e*Pn	**Pn**	**15 17 32.6**	**-0.8**
KK31	**Karatay Array**	**6.58**	**2**	*e*PN	**Pn**	**15 17 32.6**	**-0.8**
KK31				pmax	pmax		
	comp=Z,71nm,0.3s						
KKAR	**Karatay Array**	**6.58**	**2**	*e*Pn	**Pn**	**15 17 32.6**	**-0.8**
KKAR	**Karatay Array**	**6.58**	**2**	*e*PN	**Pn**	**15 17 32.6**	**-0.8**
UCH	**Uchtor**	**6.63**	**29**	P	**Pn**	**15 17 34.1**	**-0.4**
	SNR=682						
DHRM	**DHARAMSHALA**	**6.65**	**128**	*e*P	**Pn**	**15 17 33.1**	**-1.5**
DHRM				*e*S	**S**	**15 18 46.2**	**-4.6**
EKS2	**Erkin-Say**	**6.75**	**24**	P	**Pn**	**15 17 35.3**	**-0.4**
	SNR=153						
KZA	**Kyzart**	**6.82**	**34**	P	**Pn**	**15 17 36.4**	**-0.6**
	SNR=498						
AAK	**Ala-Archa**	**6.97**	**28**	P	**Pn**	**15 17 38.4**	**-0.3**
	comp=Z,77nm,0.3s,baz=183,slow=4.0,SNR=450						
AAK				S	**S**	**15 18 54.9**	**-3.4**
	comp=Z,69nm,0.3s,baz=316,slow=23,SNR=23						
AAK	**Ala-Archa**	**6.97**	**28**	⇓P	**Pn**	**15 17 38.5**	**-0.1**
	comp=Z,121nm,0.4s						
AAK				⇑S	**S**	**15 18 54.8**	**-3.5**
	comp=Z,663nm,0.5s						
AAK	**Ala-Archa**	**6.97**	**28**	P	**Pn**	**15 17 38.4**	**-0.3**
	SNR=489						
AAK	**Ala-Archa**	**6.97**	**28**	P	**Pn**	**15 17 38.6**	**0.0**
	SNR=53						
AAK	**Ala-Archa**	**6.97**	**28**	Pn	**Pn**	**15 17 38.6**	**0.0**
	SNR=53						
AAK	**Ala-Archa**	**6.97**	**28**	*i* P	**Pn**	**15 17 38.4**	**-0.3**
	SNR=657						
AAK	**Ala-Archa**	**6.97**	**28**	*d i*PN	**Pn**	**15 17 38.2**	**-0.5**
AAK				pmax	pmax		
	comp=Z,121nm,0.4s						
KBK	**Karagaybulak**	**7.17**	**30**	P	**Pn**	**15 17 41.2**	**0.0**
	SNR=137						
FRU	**Bishkek**	**7.19**	**27**	⇑*i*PN	**Pn**	**15 17 40.5**	**-0.8**
FRU				*i* S	**S**	**15 19 00.0**	**-3.1**
FRU				pmax	pmax		
	comp=Z,180nm,1.9s						
FRU				smax	smax		
	comp=E,2μm,1.3s						
CHMS	**Chumysh**	**7.38**	**27**	P	**Pn**	**15 17 43.4**	**-0.4**
	SNR=49						
ULHL	**Ulahol**	**7.42**	**38**	P	**Pn**	**15 17 43.9**	**-0.6**
	SNR=100						
USP	**Ospenovka**	**7.53**	**25**	P	**Pn**	**15 17 45.2**	**-0.4**
	SNR=45						
TKM2	**Tokmak 2**	**7.65**	**32**	⇓P	**Pn**	**15 17 46.9**	**-0.5**
	comp=E,100nm,0.6s						
TKM2				⇓S	**S**	**15 19 08.8**	**-5.5**
	comp=E,258nm,0.6s						
TKM2	**Tokmak 2**	**7.65**	**32**	P	**Pn**	**15 17 47.1**	**-0.4**
	SNR=66						
TKM2	**Tokmak 2**	**7.65**	**32**	PN	**Pn**	**15 17 46.9**	**-0.5**
TKM2				pmax	pmax		
	comp=Z,100nm,0.6s						
TARG	**Taragay, Kyrgy**	**7.91**	**47**	*e*Pn	**Pn**	**15 17 49.9**	**-1.1**
SMLA	**Simla**	**7.95**	**131**	*e*P	**Pn**	**15 17 50.3**	**-0.9**
SMLA				*e*S	**S**	**15 19 15.2**	**-5.9**
MDOK	**Medeo**	**8.50**	**37**	⇑P	**Pn**	**15 17 58.0**	**-0.4**
	comp=Z,55nm,0.6s						
MDOK				S	**S**	**15 19 29.9**	**-4.3**
	comp=Z,122nm,0.8s						
DDI	**Dehra Dun**	**9.06**	**131**	*e*P	**Pn**	**15 18 05.0**	**-0.7**
DDI				*e*S	**S**	**15 19 40.5**	**-7.1**
DDI				IAML		15 19 44.9	
	comp=N,412nm,0.7s						
DDI				IAML		15

DMN	**Daman**	15.48	121	*e*P		P	15 19 25.3	-1.0		
	comp=Z,38nm,0.3s									
KKN	**Kakani**	15.49	120	*e*P		P	15 19 25.3	-1.0		
	comp=Z,363nm,0.5s									
PKIN	**Phulchoki**	15.71	120	*e*P		P	15 19 28.0	-0.7		
	comp=Z,153nm,0.6s									
BANOM	**Banah**	15.84	232	*i* P		P	15 19 29.3	-0.7		
	SNR=5.4									
GUN	**Gumba**	15.84	118	*e*P		P	15 19 29.7	-0.6		
	comp=Z,248nm,0.6s									
SHME	**Shamm**	15.85	233	*i* P		P	15 19 29.8	-0.3		
	SNR=6.1									
JIRN	**Jiri**	16.21	118	*e*P		P	15 19 34.7	+0.3		
MDH	**Madha**	16.29	230	*i* P		P	15 19 33.8	-1.0		
	SNR=7.4									
MSFE	**Esma-Masafi**	16.33	231	*i* P		Pn	15 19 36.4	0.0		
	SNR=7.0									
AKTO	**Aktyubinsk**	16.42	332	P		Pn	15 19 36.9	-0.2		
	comp=Z,8.4nm,0.3s,baz=144,slow=10,SNR=240									
AKTO				S		S	15 22 31.4	-5.6		
	comp=Z,0.8nm,0.3s,baz=54,slow=19,SNR=2.4									
AKTO	**Aktyubinsk**	16.42	332	⇓P		P	15 19 36.0	0.0		
	comp=Z,136nm,1.1s									
AKTO				⇓S		S	15 22 35.5	-1.4		
	comp=Z,25nm,0.8s									
AKTO	**Aktyubinsk**	16.42	332	P		P	15 19 36.4	+0.4		
AKTO				S		S	15 22 35.5	-1.4		
AKTO				pmax		pmax				
	comp=Z,136nm,1.1s									
AKTO				smax		smax				
	comp=N,25nm,0.8s									
BVA0	**Borovoye Array**	16.50	1	P		P	15 19 37.4	+0.5		
BVA0				pmax		pmax				
	comp=Z,75nm,1.0s									
BVAR	**Borovoye Array**	16.50	1	P		Pn	15 19 37.5	-0.5		
	comp=Z,16nm,0.3s,baz=165,slow=12,SNR=128									
BVAR				S		S	15 22 40.6	+2.0		
	comp=Z,0.1nm,0.3s,baz=180,slow=18,SNR=5.4									
BRVK	**Borovoye**	16.53	0	*e*P		P	15 19 37.7	+0.4		
	comp=Z,68nm,0.6s									
BRVK	**Borovoye**	16.53	0	P		Pn	15 19 38.4	0.0		
	SNR=45									
BRVK	**Borovoye**	16.53	0	Pn		Pn	15 19 38.4	0.0		
	SNR=45									
BRVK	**Borovoye**	16.53	0	*ce*P		Pn	15 19 38.0	-0.4		
BRVK				pmax		pmax				
	comp=Z,129nm,1.2s									
WSAR	**Wadi Sarin**	16.55	220	P		Pn	15 19 39.6	+0.7		
	comp=Z,5.0nm,0.3s,baz=68,slow=4.8,SNR=43									
UOSS	**Minazif**	16.60	230	*e*P		P	15 19 37.8	-0.6		
	comp=Z,64nm,1.0s									
UOSS	**Minazif**	16.60	230	*i* P		Pn	15 19 39.0	-0.6		
	SNR=7.6									
HATD	**Hatta, Dubai**	16.74	230	P		Pn	15 19 44.0	+2.9		
	SNR=5.8									
HATD	**Hatta, Dubai**	16.74	230	P		Pn	15 19 44.0	+2.9		
	SNR=5.8									
HATD	**Hatta, Dubai**	16.74	230	*i* P		Pn	15 19 41.0	-0.1		
	SNR=9.5									
ASHO	**Ashiyiah**	16.89	230	P		Pn	15 19 44.8	+1.9		
	SNR=17									
ASHO	**Ashiyiah**	16.89	230	Pn		Pn	15 19 44.8	+1.9		
	SNR=17									
ASHO	**Ashiyiah**	16.89	230	*i* P		P	15 19 42.1	+0.7		
	SNR=39									
NAZ	**Nazwa, Dubai**	16.91	231	P		Pn	15 19 45.0	+1.8		
	SNR=7.2									
NAZ	**Nazwa, Dubai**	16.91	231	Pn		Pn	15 19 45.0	+1.8		
	SNR=7.2									
NAZ	**Nazwa, Dubai**	16.91	231	*i* P		Pn	15 19 43.6	+0.4		
	SNR=12									
RAMN	**Ramite**	16.93	120	*e*P		P	15 19 42.7	+0.5		
	comp=Z,279nm,0.6s									
SOHO	**SOHO**	17.01	227	*i* P		Pn	15 19 44.0	-0.3		
	SNR=6.9									
LKRN	**Lenkeran, Azer**	17.05	284	P		P	15 19 42.0	-1.1		
NGP	**Nagpur**	17.18	151	*e*P		P	15 19 44.8	+0.1		
NGP				*ex*		x	15 22 51.6			
ALNE	**Al Ain**	17.54	229	*i* P		P	15 19 49.0	+0.5		
	SNR=12									
ODAN	**Odare**	17.55	118	*e*P		Pn	15 19 50.1	-0.8		
	comp=Z,342nm,0.7s									
ARQ	**Araqi**	17.63	226	P		Pn	15 19 59.0	+7.4		
	SNR=6.6									
AJN	**Ajban**	17.64	232	*i* P		P	15 19 50.4	+0.7		
	SNR=6.6									
AKT	**Akhty**	18.08	293	*e*P		P	15 19 55.2	+0.8		
AKT				*e*S		S	15 23 11.0	+0.6		
AKT				pmax		pmax				
	comp=Z,11nm,0.6s									
AKT				smax		smax				
	comp=N,16nm,0.4s									
AKT				smax		smax				
	comp=E,15nm,0.4s									
DGZ	**Jazzator, Alta**	18.19	38	*i* P		Pn	15 19 57.2	-0.9		
SEKA	**Sheki**	18.44	292	P		P	15 19 56.3	-2.0		
MNGR	**Mingechevir, A**	18.48	290	P		P	15 19 57.4	-1.1		
LSA	**Lhasa**	18.86	105	P		Pn	15 20 06.0	-0.5		
LSA				pmax		pmax				
	comp=E,25nm,0.7s									
LSA	**Lhasa**	18.86	105	*e*P		Pn	15 20 05.5	-1.0		
	comp=E,20nm,0.7s									
LSA	**Lhasa**	18.86	105	*e*P		Pn	15 20 05.5	-1.0		
LSA				pmax		pmax				
	comp=Z,20nm,0.7s									
ZKTA	**Zakatala**	18.93	293	P		P	15 20 02.3	-1.2		
NAX	**Nakhchivan**	19.62	285	P		P	15 20 09.7	-1.2		
ZAA0	**Zalesovo Array**	20.19	26	*e*P		P	15 20 16.7	-0.2		
	comp=Z,109nm,0.6s									
ZALV	**Zalesovo Beam**	20.19	26	P		P	15 20 16.8	0.0		
	comp=Z,113nm,0.5s,baz=219,slow=11,SNR=262									
ZALV	**Zalesovo Beam**	20.19	26	*e*P		P	15 20 16.6	-0.2		
GNI	**Garni**	20.22	288	P		P	15 20 17.4	0.0		
	comp=Z,8.9nm,0.4s,baz=92,slow=3.9,SNR=12									
GNI	**Garni**	20.22	288	*e*P		P	15 20 16.9	-0.5		
	comp=Z,94nm,1.7s									
GNI	**Garni**	20.22	288	P		Pn	15 20 21.2	-1.2		
	SNR=8.5									
GNI	**Garni**	20.22	288	P		Pn	15 20 21.2	-1.2		
	SNR=8.5									
GNI	**Garni**	20.22	288	P		P	15 20 16.5	-1.0		
GNI	**Garni**	20.22	288	*ce*P		P	15 20 19.4	+2.0		
GNI				pmax		pmax				
	comp=Z,89nm,1.0s									
NVS	**Novosibirsk**	20.42	22	⇓*i*P		P	15 20 19.7	+0.5		
NVS				*e**PP		pP	15 20 57.7	+3.4		
NVS				*e*			15 21 22.2			
NVS				*e*S		S	15 23 55.4	-0.1		
NVS				pmax		pmax				
	comp=Z,90nm,0.8s									
NVS				pmax		pmax				
	comp=N,56nm,0.6s									
NVS				pmax		pmax				
	comp=E,23nm,0.6s									
NVS				smax		smax				
	comp=N,25nm,1.2s									
NVS				smax		smax				
	comp=E,2.0nm,0.5s									
HYB	**Hyderabad**	20.44	156	*i* P		P	15 20 20.5	+0.6		
	comp=E,140nm,1.0s									
HYB	**Hyderabad**	20.44	156	*e*P		P	15 20 19.0	-0.8		
HYB				*e*S		S	15 23 59.9	+3.2		
ZEI	**Tsey**	21.09	295	*e*P		P	15 20 26.6	-0.1		
ZEI				pmax		pmax				
	comp=Z,9.0nm,0.6s									
AKH	**Akhalkalaki**	21.24	291	*e*P		P	15 20 27.7	-0.5		
	comp=Z,30nm,1.1s									
AKH	**Akhalkalaki**	21.24	291	*e*P		P	15 20 27.7	-0.5		
AKH				pmax		pmax				
	comp=Z,30nm,1.1s									
SVE	**Sverdlovsk**	21.29	346	*de*P		P	15 20 28.8	+0.5		
SVE				*e*S		S	15 24 29.6	+19		
SVE				pmax		pmax				
	comp=Z,87nm,1.3s									
ARU	**Arti**	21.39	342	P		P	15 20 30.1	+0.8		
	comp=Z,33nm,0.5s,baz=138,slow=6.4,SNR=63									
ARU	**Arti**	21.39	342	*e*P		P	15 20 29.5	+0.1		
	comp=Z,159nm,1.2s									
ARU	**Arti**	21.39	342	*c i*P		P	15 20 29.3	0.0		
ARU				*PP		pP	15 21 05.2	+0.2		
ARU							15 21 11.2			
ARU				S		S	15 24 13.6	+1.1		
ARU				pmax		pmax				
	comp=Z,153nm,1.2s									
NCK	**Nalchik**	21.43	297	*i* P		P	15 20 30.7	+0.8		
NCK				pmax		pmax				
	comp=Z,21nm,1.0s									
SHL	**Shillong**	21.56	114	*e*P		P	15 20 30.6	-1.0		
SHL	**Shillong**	21.56	114	P		P	15 20 31.1	-0.5		
SHL				pmax		pmax				
	comp=Z,46nm,0.8s									
KBZ	**Khabaz**	21.96	298	P		P	15 20 34.8	-0.3		
	comp=Z,7.5nm,0.9s,baz=122,slow=8.2,SNR=18									
NEY	**Neytrino**	22.02	296	*i* P		P	15 20 37.8	+1.9		
NEY				pmax		pmax				
	comp=Z,2.0nm,0.8s									
KVAR	**Kislovodsk Arr**	22.15	298	P		P	15 20 37.2	+0.2		
	comp=Z,5.1nm,0.6s,baz=189,slow=2.3,SNR=5.2									
KIV	**Kislovodsk**	22.16	298	*e*P		P	15 20 36.2	-0.8		
	comp=Z,15nm,0.5s									
KIV	**Kislovodsk**	22.16	298	P		P	15 20 37.8	+0.8		
KIV	**Kislovodsk**	22.16	298	*e*P		P	15 20 37.0	-0.1		
KIV				*e*S		S	15 24 25.5	+0.3		
KIV				pmax		pmax				
	comp=Z,10.0nm,1.0s									
HVS	**Khovu-Aksy**	22.29	42	*d i*P		P	15 20 39.0	+0.8		
HVS				pmax		pmax				
	comp=Z,243nm,1.8s									
WHFO	**Wadi Hawf**	23.49	222	P		P	15 20 52.0	+2.6		
	SNR=5.5									
WHFO	**Wadi Hawf**	23.49	222	P		P	15 20 52.0	+2.6		
	SNR=5.5									
GTA	**Gaotai**	23.54	74	*e*P		P	15 20 51.3	+1.6		
GTA				pmax		pmax				
	comp=Z,16nm,1.0s									
ABTO	**Aybut**	24.21	222	P		P	15 20 60.0	+4.0		
	SNR=8.3									
ABTO	**Aybut**	24.21	222	P		P	15 20 60.0	+4.0		
	SNR=8.3									
KRAR	**Krasnoyarsk**	24.84	31	*i* P		P	15 21 02.4	+1.3		
RAYN	**Ar Rayn**	24.86	245	*e*P		P	15 21 00.9	-0.9		
	comp=Z,27nm,1.1s									
VRH	**Novokhopyorsk**	24.99	315	*e*P		P	15 21 04.1	+1.5		
VRH				pmax		pmax				
	comp=Z,9.0nm,0.9s									
ANN	**Anapa**	26.00	299	*e*P		P	15 21 12.2	+0.5		
ANN				*e**PP		pP	15 21 55.0	+0.7		
ANN				*e*S		S	15 25 27.9	+1.6		
ANN				pmax		pmax				
	comp=Z,18nm,0.8s									
VSR	**Storozhevoye**	26.47	313	*e*P		P	15 21 15.8	-0.1		
VSR				pmax		pmax				
	comp=Z,10.0nm,0.7s									
MOY	**Mondy**	26.59	46	*e*P		P	15 21 19.0	+1.9		
MOY				pmax		pmax				
	comp=Z,30nm,1.6s									
LZH	**Lanzhou**	27.10	81	*e*P		P	15 21 25.3	+3.4		
LZH				pP		pP	15 22 08.3	+3.8		
LZH				sP		sP	15 22 33.3	+4.0		
LZH				pmax		pmax				
	comp=Z,12nm,1.1s									
LPSR	**Galich'ya Gora**	27.15	316	*e*P		P	15 21 22.1	+0.3		
LPSR				pmax		pmax				
	comp=Z,30nm,0.7s									
ZAK	**Zakamensk**	27.51	49	*e*P		P	15 21 26.2	+1.0		
ZAK				*e*			15 22 10.1			
ZAK				pmax		pmax				
	comp=Z,14nm,1.0s									
ZAK				pmax		pmax				
	comp=Z,5.0nm,1.2s									
TLY	**Talaya**	28.14	47	P		P	15 21 32.9	+2.2		
	comp=Z,7.2nm,0.6s,baz=250,slow=8.5,SNR=12									
TLY	**Talaya**	28.14	47	*e*P		P	15 21 31.5	+0.8		
	comp=Z,10.0nm,0.7s									
TLY	**Talaya**	28.14	47	P		P	15 21 33.2	+2.6		
	SNR=5.3									
TLY	**Talaya**	28.14	47	P		P	15 21 33.2	+2.6		
	SNR=5.3									
TLY	**Talaya**	28.14	47	*e*P		P	15 21 32.8	+2.1		
TLY				pmax		pmax				
	comp=Z,10.0nm,0.9s									
CD2	**Chengdu**	28.44	91	*e*P		P	15 21 33.3	-0.3		
CD2				pmax		pmax				
	comp=Z,10.0nm,0.5s									
CD2				pmax		pmax				
	comp=Z,120nm,5.0s									
BRTR	**Keskin Array B**	28.76	288	P		P	15 21 37.9	+1.4		
	comp=Z,0.7nm,0.6s,baz=96,slow=8.2,SNR=5.5									
BRTR				pP		pP	15 22 18.7	-0.7		
	comp=Z,1.1nm,0.6s,baz=98,slow=7.2,SNR=2.6									
SONM	**Songino Array**	28.90	56	P		P	15 21 39.3	+1.7		
	comp=Z,11nm,0.7s,baz=257,slow=9.8,SNR=67									
SONA1	**Songino Array**	28.91	56	*e*P		P	15 21 38.8	+1.1		
OBN	**Obninsk**	29.46	320	P		P	15 21 43.2	+0.9		
	comp=Z,49nm,0.5s,baz=283,slow=3.3,SNR=10									
OBN	**Obninsk**	29.46	320	*e*P		P	15 21 42.6	+0.3		
	comp=Z,48nm,0.5s									
OBN	**Obninsk**	29.46	320	*ce*P		P	15 21 42.9	+0.6		
OBN				*e**PP		pP	15 22 26.2	+0.8		
OBN				*e**SP		sP	15 22 50.6	+0.5		
OBN				pmax		pmax				
	comp=Z,34nm,0.6s									
KMI	**Kunming**	30.09	103	P		P	15 21 49.8	+1.3		
KMI				pmax		pmax				
	comp=Z,11nm,0.6s									
KMI				pmax		pmax				
	comp=Z,130nm,4.0s									
CMAI	**Chiengmai2**	30.21	115	P		P	15 21 49.7	+0.2		
	comp=Z,51nm,0.9s									
PALK	**Pallekele**	30.68	159	P		P	15 21 54.2	+0.8		
	comp=Z,11nm,0.9s,baz=294,slow=7.5,SNR=4.5									
CHTO	**Chiang Mai**	30.86	117	P		P	15 21 55.8	+0.8		
	comp=Z,31nm,1.2s									
CHTO	**Chiang Mai**	30.86	117	*e*P		P	15 21 55.4	+0.4		
	comp=Z,4.9nm,0.8s									
CHTO	**Chiang Mai**	30.86	117	*e*P		P	15 21 55.4	+0.4		
CHTO				pmax		pmax				
	comp=Z,5.0nm,0.8s									
CMMT	**Chiang Mai**	30.86	117	P		P	15 21 54.9	-0.1		
	comp=Z,6.9nm,1.2s									
CM31	**Chiang Mai Arr**	31.09	118	*e*P		P	15 21 57.2	+0.2		
CMAR	**Chiang Mai Arr**	31.09	118	P		P	15 21 57.5	+0.5		
	comp=Z,6.7nm,0.8s,baz=296,slow=7.9,SNR=48									
CMAR				PcP		PcP	15 24 48.0	+0.9		
	comp=Z,1.8nm,0.8s,baz=301,slow=4.7,SNR=5.4									
CMAR				ScP		ScP	15 28 08.7	-0.8		
	comp=Z,3.3nm,1.0s,baz=294,slow=4.8,SNR=12									
KLMR	**Klimovskoe**	31.12	331	*e*P		P	15 21 55.7	-1.1		
KLMR				AMP			15 21 57.4			
	comp=Z,34nm,0.8s									
KLMR				*e*PcP		PcP	15 24 45.7	-0.7		
KLMR	**Klimovskoe**	31.12	331	*e*P		P	15 21 55.6	-1.2		
KLMR				*e*			15 24 45.7			
KLMR				pmax		pmax				
	comp=Z,34nm,0.8s									
CM01	**Chiang Mai Arr**	31.12	118	*e*P		P	15 21 56.7	-0.6		
XAN	**Xi'an**	31.62	83	P		P	15 22 02.3	+0.7		
XAN				pmax		pmax				
	comp=Z,11nm,0.8s									
XAN				pmax		pmax				
	comp=Z,120nm,6.5s									
NANT	**Nan**	32.13	115	P		P	15 22 05.4	-0.8		
	comp=Z,5.2nm,0.8s									
AKASG	**Malin Array Be**	32.38	309	P		P	15 22 08.4	+0.4		
	comp=Z,8.0nm,0.6s,baz=82,slow=7.1,SNR=52									
AKBB	**Malin Array Si**	32.38	309	*e*P		P	15 22 07.8	-0.2		
	comp=Z,388nm,0.4s									
AKBB	**Malin Array Si**	32.38	309	*e*P		P	15 22 07.8	-0.2		
AKBB				pmax		pmax				
	comp=Z,388nm,0.4s									
KIEV	**Kiev**	32.39	309	*e*P		P	15 22 07.8	-0.2		
	comp=Z,377nm,0.4s									
KIEV	**Kiev**	32.39	309	*i* P		P	15 22 07.0	-1.0		
KIEV				pmax		pmax				
	comp=Z,7.0nm,0.9s									
AK11	**Malin Array Si**	32.41	309	*e*P		P	15 22 07.9	-0.3		
HHC	**Hu-ho-hao-te**	32.41	69	*e*P		P	15 22 08.8	+0.3		
HHC				pmax		pmax				
	comp=Z,16nm,0.9s									
HHC				pmax		pmax				
	comp=Z,65nm,4.7s									
SORM	**Soroca**	32.61	304	⇓*i*P		P	15 22 10.3	+0.4		
SORM	**Soroca**	32.61	304	⇓P		P	15 22 10.3	+0.4		
ENH	**Enshi**	33.28	89	*e*P		P	15 22 16.1	0.0		
	comp=Z,6.1nm,0.7s									
VRI	**Vrincioaia**	33.60	300	⇓*i*P		P	15 22 19.4	+0.8		
VRI	**Vrincioaia**	33.60	300	⇓P		P	15 22 19.4	+0.8		
PLOR	**Plostina**	33.66	300	⇓*i*P		P	15 22 21.3	+2.2		
PLOR	**Plostina**	33.66	300	⇓P		P	15 22 21.3	+2.2		
TESR	**Tescani**	33.67	301	⇑*i*P		P	15 22 20.0	+0.8		
TMCR	**Tamitsa**	33.73	335	*e*P		P	15 22 20.0	+0.6		
TMCR				pmax		pmax				
	comp=Z,45nm,0.6s									
PBKT	**Sadao Pong**	33.78	118	P		P	15 22 20.1	-0.3		
	comp=Z,20nm,0.8s									
SRDT	**SRDT**	34.02	123	P		P	15 22 22.5	0.0		
	comp=Z,21nm,1.1s									
MLR	**Muntele Rosu**	34.15	299	P		P	15 22 25.6	+2.1		
	comp=Z,2.6nm,0.8s,baz=102,slow=7.1,SNR=15									
MLR	**Muntele Rosu**	34.15	299	⇑*i*P		P	15 22 26.1	+2.6		
MLR	**Muntele Rosu**	34.15	299	*e*P		P	15 22 23.1	-0.4		
	comp=Z,13nm,0.8s									
MLR	**Muntele Rosu**	34.15	299	⇑P		P	15 22 26.1	+2.6		
NRIK	**Noril'sk**	34.23	11	P		P	15 22 25.2	+1.5		
	comp=Z,24nm,0.5s,baz=331,slow=18									
BURAR	**Bucovina Array**	34.68	303	⇑*i*P		P	15 22 29.3	+1.3		
BURAR	**Bucovina Array**	34.68	303	⇑P		P	15 22 29.3	+1.3		
BUR04	**Bucovina Ar. S**	34.68	303	*e*P		P	15 22 28.4	+0.4		
BUR08	**Bucovina Ar. S**	34.69	303	*e*P		P	15 22 28.3	+0.2		
VOIR		34.78	299	⇓*i*P		P	15 22 30.1	+1.2		
VOIR		34.78	299	⇓P		P	15 22 30.1	+1.2		
IDID	**Didziasalis**	34.83	317	*e*P		P	15 22 27.3	-1.7		
IDID				IAmb		IAmb	15 22 31.2			
	comp=Z,9.9nm,0.8s									
CHAI	**Chaiyaphum**	34.95	118	P		P	15 22 31.1	+0.6		
	comp=Z,6.5nm,0.8s									
ARR	**Arges**	35.08	299	⇑*i*P		P	15 22 33.4	+2.0		
IIGN	**Ignalina**	35.13	317	*e*P		P	15 22 29.7	-1.8		
IIGN				IAmb		IAmb	15 22 33.7			
	comp=Z,20nm,0.6s									
IZAR	**Zarasai**	35.21	317	*e*P		P	15 22 30.6	-1.6		
IZAR				IAmb		IAmb	15 22 34.5			
	comp=Z,19nm,0.6s									
KHON	**Khomkaen**	35.26	116	P		P	15 22 33.9	+0.8		
	comp=Z,13nm,0.8s									
PHET	**Kaeng Krachan**	35.40	124	P		P	15 22 35.3	+1.0		
	comp=Z,7.7nm,0.8s									
JOF	**Joensuu**	35.50	330	P		P	15 22 35.1	+0.5		
JOF				pmax		pmax				
	comp=Z,70nm,0.8s									
LVV	**L'vov**	35.58	307	*e*P		P	15 22 36.4	+0.9		
SKNT	**Sakolnakorn**	35.70	114	P		P	15 22 35.7	-1.1		
	comp=Z,16nm,0.9s									
VSU	**Vasula**	35.73	322	*ce*P		P	15 22 36.9	+0.3		
VSU				pmax		pmax				
	comp=Z,90nm,0.7s									
BOD	**Bodaibo**	35.78	39	⇓*i*P		P	15 22 37.3	+0.3		
BOD				*e*			15 23 23.1			
BOD				pmax		pmax				
	comp=Z,26nm,1.1s									
DRGR		36.38	301	⇑*i*P		P	15 22 44.0	+1.6		
DRGR		36.38	301	⇑P		P	15 22 44.0	+1.6		
FIA1	**FINESS Array S**	37.07	326	*e*P		P	15 22 48.3	+0.4		
FINES	**FINESS Array B**	37.07	326	P		P	15 22 48.6	+0.7		
	comp=Z,24nm,0.6s,baz=107,slow=9.4,SNR=90									
LVZ	**Lovozero**	37.18	339	*e*P		P	15 22 49.1	+0.4		
	comp=Z,39nm,0.6s									
LVZ	**Lovozero**	37.18	339	*ce*P		P	15 22 49.2	+0.4		
LVZ				pmax		pmax				
	comp=Z,37nm,0.7s									
BZS	**Buzias**	37.19	300	⇑*i*P		P	15 22 50.3	+1.2		
BZS	**Buzias**	37.19	300	⇑P		P	15 22 50.3	+1.2		
TIA	**Tai'an**	37.55	76	P		P	15 22 53.6	+1.3		
TIA				pmax		pmax				
	comp=Z,14nm,0.7s									
NIE	**Niedzica**	37.99	306	*e*P		P	15 22 58.0	+2.2		
NIE	**Niedzica**	37.99	306	*e*P		P	15 22 58.0	+2.2		
OJC	**Ojcow**	38.33	307	*e*P		P	15 22 59.8	+1.2		
OJC	**Ojcow**	38.33	307	*e*P		P	15 22 59.8	+1.2		
TRTT	**Trang**	39.25	129	P		P	15 23 05.9	-0.7		
	comp=Z,5.3nm,0.9s									
MORC	**Moravsky Berou**	39.78	306	⇓*i*P		P	15 23 12.3	+1.6		
MORC	**Moravsky Berou**	39.78	306	*e*P		P	15 23 10.3	-0.4		
	comp=Z,23nm,0.7s									
MORC	**Moravsky Berou**	39.78	306	⇓P		P	15 23 12.3	+1.6		
NJ2	**Nanjing**	40.17	82	*e*P		P	15 23 14.4	+0.4		
NJ2				pmax		pmax				
	comp=Z,10.0nm,0.5s									
KRLC	**Kraliky**	40.27	307	*e*P		P	15 23 16.1	+1.4		
KRLC	**Kraliky**	40.27	307	*e*P		P	15 23 16.1	+1.4		
KEV	**Kevo**	40.52	339	*e*P		P	15 23 16.8	+0.4		
	comp=Z,29nm,0.9s									
KEV	**Kevo**	40.52	339	*e*P		P	15 23 16.8	+0.4		
KEV				pmax		pmax				
	comp=Z,29nm,0.9s									
DPC	**Dobruska-Polom**	40.56	307	*e*P		P	15 23 18.8	+1.8		
DPC	**Dobruska-Polom**	40.56	307	*e*P		P	15 23 18.8	+1.8		
ARCES	**ARCESS Array B**	40.86	338	P		P	15 23 20.1

YAK pmax pmax
comp=N,34nm,3.6s
YAK pmax pmax
comp=E,66nm,3.3s
YAK smax smax
comp=E,56nm,1.8s
YAK smax smax
comp=N,33nm,1.6s
KONO Kongsberg 44.62 321 *e*P **P 15 23 49.7 +0.2**
KONO Kongsberg 44.62 321 *ce*P **P 15 23 47.6 -1.9**
KONO pmax pmax
comp=Z,10.0nm,1.0s
HOPEN Hopen 44.81 346 *e*P **P 15 23 52.8 +2.1**
BJO Bjornoya 44.99 343 *e*P **P 15 23 53.6 +1.4**
DOMB Dombas 45.06 324 *e*P **P 15 23 53.9 +0.9**
KS01 Wonju Array Si 45.51 71 *e*P **P 15 23 56.1 -0.7**
KS15 Wonju Array Si 45.51 71 *e*P **P 15 23 57.3 +0.5**
KSAR Wonju Array Be 45.51 71 P **P 15 23 57.3 +0.5**
KSAR Wonju Array Be 45.51 71 P **P 15 23 57.3 +0.5**
KSRS Korea Array 45.54 71 P **P 15 23 57.3 +0.3**
comp=Z,7.2nm,0.7s,baz=274,slow=7.0,SNR=36
KSRS Korea Array 45.54 71 P **P 15 23 57.3 +0.3**
KSRS pmax pmax
comp=Z,8.0nm,0.7s
KLR Kul'dur 45.70 54 *c i*P **P 15 23 58.8 +0.7**
TIXI Tiksi 46.02 22 *e*P **P 15 24 00.1 -0.1**
comp=Z,36nm,0.8s
TIXI Tiksi 46.02 22 *ce*P **P 15 24 00.6 +0.4**
TIXI pmax pmax
comp=Z,39nm,0.8s
AKN Aaknes 46.04 324 *e*P **P 15 24 01.3 +0.7**
MYKOM Kota Tinggi 46.52 130 *e*P **P 15 24 04.4 -0.5**
comp=Z,11nm,0.8s
USRK Ussuriysk Ar. 46.77 61 P **P 15 24 07.1 +0.6**
comp=Z,3.8nm,0.7s,baz=280,slow=5.8,SNR=6.9
ASK Askoy 46.86 322 *e*P **P 15 24 07.4 +0.5**
HSPB Hornsund (broa 46.94 345 *e*P **P 15 24 08.9 +1.6**
VLA Vladivostok 46.95 62 *i* P **P 15 24 08.8 +0.9**
VLA pmax pmax
comp=Z,30nm,0.8s
SPA0 Spitsbergen Ar 47.31 347 *e*P **P 15 24 10.9 +0.7**
SPA0 Spitsbergen Ar 47.31 347 *e*P **P 15 24 11.8 +1.6**
SPITS Spitsbergen Ar 47.31 347 P **P 15 24 11.9 +1.7**
comp=Z,28nm,0.6s,baz=90,slow=8.6,SNR=70
KMBO Kilima Mbogo 48.33 227 P **P 15 24 20.3 +1.2**
comp=Z,8.0nm,0.6s,baz=48,slow=15,SNR=8.7
KBS Kingsbay 48.43 347 *e*P **P 15 24 19.6 +0.8**
comp=Z,68nm,0.8s
KBS Kingsbay 48.43 347 *e*P **P 15 24 20.4 +1.6**
KBS Kingsbay 48.43 347 *e*P **P 15 24 19.6 +0.8**
KBS pmax pmax
comp=Z,68nm,0.8s
JNU Nakatsue 49.27 75 P **P 15 24 26.9 +1.1**
comp=Z,14nm,0.7s,baz=350,slow=3.6,SNR=11
SBUM Sibu 51.51 121 *e*P **P 15 24 43.1 +0.4**
comp=Z,5.5nm,1.0s
EKA Eskdalemuir Ar 51.78 316 P **P 15 24 44.7 +0.5**
comp=Z,1.6nm,0.5s,baz=76,slow=7.3,SNR=3.4
KKM Kota Kinabalu 51.86 114 *e*P **P 15 24 45.9 +0.5**
comp=Z,20nm,1.0s
YSS Yuzh-Sakhalins 53.38 55 *e*P **P 15 24 56.2 +0.2**
comp=Z,28nm,0.7s
YSS Yuzh-Sakhalins 53.38 55⇑ *i*P **P 15 24 56.4 +0.4**
YSS *e* 15 25 47.2
YSS *e* 15 26 08.1
YSS pmax pmax
comp=Z,30nm,0.8s
MJB9 Matsu-Tunnel 53.59 68 *e*P **P 15 24 56.8 -1.1**
comp=Z,11nm,0.7s
MAJO Matsushiro 53.60 68 *e*P **P 15 24 56.8 -1.0**
comp=Z,10nm,0.7s
MAJO Matsushiro 53.60 68 *e*P **P 15 24 56.8 -1.0**
MAJO pmax pmax
comp=Z,11nm,0.7s
MAT Matsushiro 53.60 68 P **P 15 24 57.3 -0.5**
MJAR Matsushiro Arr 53.60 68 P **P 15 24 57.9 0.0**
comp=Z,5.6nm,0.8s,baz=288,slow=10,SNR=19
MJAR pP **pP 15 25 48.7 +3.5**
comp=Z,1.9nm,0.7s,baz=290,slow=11,SNR=3.0
ASAJ Asahikawa 54.14 58 *e*P **P 15 25 00.7 -0.9**
comp=Z,3.8nm,0.9s
DAG Danmarks Havn 54.51 344⇑ *i*P **P 15 25 04.3 +0.6**
comp=Z,22nm,0.8s
DAG *i* 15 25 52.5
DAG Danmarks Havn 54.51 344⇑ *i*P **P 15 25 04.3 +0.6**
DAG *i* 15 25 52.5
DAG pmax pmax
comp=Z,22nm,0.8s
MA2 Magadan 54.78 38 *i* P **P 15 25 06.0 +0.1**
MA2 pmax pmax
comp=Z,4.0nm,0.9s
SEY Seymchan 54.79 34 *ce*P **P 15 25 07.2 +1.3**
ESDC Sonseca Array 56.82 298 P **P 15 25 19.6 -1.2**
comp=Z,0.5nm,0.5s,baz=48,slow=7.7,SNR=5.7
ESDC pP **pP 15 26 10.4 +1.7**
comp=Z,0.9nm,0.5s,baz=63,slow=7.2,SNR=3.1
BILL Bilibino 58.90 26 *c i*P **P 15 25 35.3 +0.6**
BILL *i* *PP **pP 15 26 24.8 +1.9**
BILL *i* 15 27 47.2
BILL *e*S **S 15 33 25.7 +2.6**
BILL pmax pmax
comp=Z,10.0nm,1.0s
OPO Ambohidratompo 58.93 206 P **P 15 25 36.9 +1.2**
comp=Z,8.2nm,0.7s,baz=40,slow=6.0,SNR=9.4
PETK Petropavlovsk- 60.44 44 P **P 15 25 45.2 -0.3**
comp=Z,2.9nm,0.6s,baz=310,slow=4.3,SNR=9.9
SUMG Summit 60.81 341 *i* P **P 15 25 49.5 +1.4**
SUMG Summit 60.81 341 *e*P **P 15 25 47.6 -0.5**
comp=Z,17nm,1.1s
SUMG Summit 60.81 341 *i* P **P 15 25 49.5 +1.4**
PET Petropavlovsk 61.00 44 *e*P **P 15 25 48.1 -1.1**
PET pmax pmax
comp=Z,17nm,1.2s
TULEG Thule 64.29 350 *e*P **P 15 26 09.8 -0.8**
comp=Z,16nm,1.1s
LSZ Lusaka 64.97 225 *e*P **P 15 26 14.2 -1.7**
comp=Z,5.0nm,0.7s
LSZ Lusaka 64.97 225 *e*P **P 15 26 14.2 -1.7**
LSZ pmax pmax
comp=Z,5.0nm,0.7s
BATI Baumata 68.47 122 P **P 15 26 37.3 -0.6**
comp=Z,12nm,0.4s,baz=135,slow=5.7,SNR=3.9
SOEI Soe 68.57 121 P **P 15 26 38.6 -0.1**
comp=Z,11nm,0.9s
KOWA Kowa 68.86 273 P **P 15 26 39.7 -0.7**
comp=Z,5.0nm,0.7s,baz=56,slow=7.6,SNR=14
KOWA pP **pP 15 27 29.5 -0.7**
comp=Z,5.4nm,0.8s,baz=122,slow=11,SNR=5.3
KOWA Kowa 68.86 273 *e*P **P 15 26 39.7 -0.7**
comp=Z,59nm,1.9s
KOWA pP **pP 15 27 29.5 -0.7**
TOLK Toolik Lake Re 71.08 14 *e*P **P 15 26 53.5 +0.4**
comp=Z,18nm,0.6s
COLD Coldfoot 72.14 15 *e*P **P 15 26 57.8 -1.5**
comp=Z,10nm,0.8s
IM3 Indian Mountai 72.36 17 *e*P **P 15 27 00.0 -0.7**
FYU Fort Yukon 73.72 14 *e*P **P 15 27 09.5 +0.9**
comp=Z,14nm,0.8s
MLY Manley 73.86 17 *e*P **P 15 27 09.6 0.0**
comp=Z,7.0nm,0.9s
INK Inuvik 73.99 9 *e*P **P 15 27 10.1 -0.1**
comp=Z,15nm,0.8s
INK Inuvik 73.99 9 *e*P **P 15 27 10.1 -0.1**
INK pmax pmax
comp=Z,15nm,0.8s
DBIC Dimbokro 74.00 266 P **P 15 27 09.9 -1.1**
comp=Z,1.9nm,0.6s,baz=28,slow=7.5,SNR=3.4
DBIC pP **pP 15 28 00.6 -1.0**
comp=Z,2.4nm,0.6s,baz=31,slow=7.2,SNR=2.7
MDM Murphy Dome 74.49 16 *e*P **P 15 27 12.8 -0.4**
comp=Z,15nm,1.0s
BPAW Bear Paw Mtn. 74.58 17 *e*P **P 15 27 13.1 -0.6**
comp=Z,5.5nm,0.9s
COLA College 74.65 16 *e*P **P 15 27 13.9 -0.1**
comp=Z,16nm,0.9s
COLA College 74.65 16 *e*P **P 15 27 13.9 -0.1**
COLA pmax pmax
comp=Z,16nm,0.9s
CAST Castle Rocks 74.88 18 *e*P **P 15 27 15.4 0.0**
comp=Z,18nm,1.0s
WRH Wood River Hil 74.94 16 *e*P **P 15 27 15.6 -0.1**
comp=Z,5.8nm,1.0s
IL1 Eielson Array 74.95 15 *e*P **P 15 27 14.8 -0.9**
ILAR Eielson Array 74.95 15 P **P 15 27 15.6 -0.2**
comp=Z,5.0nm,1.0s,baz=320,slow=4.6,SNR=47
ILAR pP **pP 15 28 06.5 +0.2**
comp=Z,2.1nm,1.0s,baz=317,slow=4.8,SNR=4.1
ILAR PP **PP 15 30 07.1 +1.4**
comp=Z,1.0nm,0.9s,baz=316,slow=7.7,SNR=4.2
ILB Eielson Array 74.95 15 *e*P **P 15 27 15.3 -0.4**
KTH Kantishna Hill 75.06 18 *e*P **P 15 27 16.3 -0.2**
comp=Z,16nm,1.1s
MCK McKinley 75.38 17 *e*P **P 15 27 18.3 0.0**
comp=Z,4.9nm,0.9s
MCK McKinley 75.38 17 *e*P **P 15 27 18.3 0.0**
MCK pmax pmax
comp=Z,5.0nm,0.9s
FITZ Fitzroy Crossi 75.47 126 P **P 15 27 20.2 +0.8**
comp=Z,2.0nm,0.7s,baz=337,slow=5.4,SNR=8.6
RND Reindeer 75.68 17 *e*P **P 15 27 19.0 -1.0**
comp=Z,7.2nm,1.0s
RND Reindeer 75.68 17 *e*P **P 15 27 19.0 -1.0**
RND pmax pmax
comp=Z,7.0nm,1.0s
EGAK Eagle 76.09 13 *e*P **P 15 27 22.7 +0.5**
comp=Z,8.3nm,1.1s
SCRK Sand Creek 76.25 15 *e*P **P 15 27 23.2 -0.1**
comp=Z,9.1nm,0.9s
RIDG Independ'e Rid 76.29 15 *e*P **P 15 27 22.9 -0.5**
comp=Z,13nm,1.3s
DHY Denali Highway 76.31 17 *e*P **P 15 27 24.1 +0.4**
comp=Z,6.6nm,0.8s
DOT Dot Lake 76.53 15 *e*P **P 15 27 25.2 +0.4**
comp=Z,13nm,1.0s
PAX Paxson 76.83 16 *e*P **P 15 27 26.2 -0.3**
comp=Z,7.2nm,0.9s
PAX Paxson 76.83 16 *e*P **P 15 27 26.2 -0.3**
PAX pmax pmax
comp=Z,7.0nm,0.9s
DAWY Dawson 77.06 13 *e*P **P 15 27 27.6 -0.1**
comp=Z,9.4nm,1.0s
SML Sawmill 77.18 18 *e*P **P 15 27 28.2 -0.2**
comp=Z,16nm,1.0s
SML Sawmill 77.18 18 *e*P **P 15 27 28.3 -0.2**
SML pmax pmax
comp=Z,16nm,1.0s
BOSA Boshof 77.31 219 P **P 15 27 29.6 -0.1**
comp=Z,4.9nm,0.8s,baz=37,slow=3.9,SNR=4.8
SCM Sheep Creek Mo 77.40 17 *e*P **P 15 27 29.9 +0.2**
comp=Z,18nm,1.1s
SCM Sheep Creek Mo 77.40 17 *e*P **P 15 27 29.9 +0.2**
SCM pmax pmax
comp=Z,18nm,1.1s
KLU Klutina 78.03 17 *e*P **P 15 27 33.4 +0.2**
comp=Z,6.6nm,0.9s
BMRM Bremner River 78.79 16 *e*P **P 15 27 37.4 0.0**
comp=Z,17nm,1.2s
KDAK Kodiak Island 79.44 22 *i* P **P 15 27 41.1 +0.3**
HYT Haines Junctio 80.39 13 *e*P **P 15 27 45.6 -0.4**
comp=Z,6.6nm,1.0s
YKA Yellowknife Ar 81.25 2 P **P 15 27 50.8 +0.5**
comp=Z,3.8nm,0.7s,baz=349,slow=5.3,SNR=85
YKA pP **pP 15 28 42.8 +1.1**
comp=Z,2.1nm,0.7s,baz=350,slow=5.4,SNR=4.3
NWAO Narrogin (SRO) 81.92 142 P **P 15 27 52.3 -1.9**
comp=Z,8.7nm,1.0s,baz=135,slow=1.4,SNR=4.2
WRA Warramunga Arr 82.60 121 P **P 15 27 56.3 -1.7**
comp=Z,2.5nm,0.5s,baz=320,slow=5.1,SNR=36
WRA pP **pP 15 28 49.1 -0.6**
comp=Z,1.1nm,0.6s,baz=322,slow=4.8,SNR=2.5
FCC Fort Churchill 84.16 352 *e*P **P 15 28 05.6 +0.2**
comp=Z,8.0nm,1.0s
FCC Fort Churchill 84.16 352 *e*P **P 15 28 05.6 +0.2**
FCC pmax pmax
comp=Z,8.0nm,1.0s
AS31 Alice Springs 84.85 124 *e*P **P 15 28 07.9 -1.5**
comp=Z,1.7nm,0.6s
ASAR Alice Springs 84.85 124 P **P 15 28 07.8 -1.5**
comp=Z,3.7nm,0.6s,baz=311,slow=4.9,SNR=56
ASAR pP **pP 15 29 02.2 +1.0**
comp=Z,1.9nm,0.8s,baz=315,slow=5.3,SNR=3.2
AS01 Alice Springs 84.88 124 *e*P **P 15 28 07.7 -1.8**
FFC Flin Flon 88.86 355 *e*P **P 15 28 28.3 0.0**
comp=Z,13nm,1.4s
FFC Flin Flon 88.86 355 *e*P **P 15 28 28.3 0.0**
FFC pmax pmax
comp=Z,13nm,1.4s
EDM Edmonton 90.57 2 *e*P **P 15 28 35.1 -1.2**
comp=Z,8.7nm,0.6s
EDM Edmonton 90.57 2 *e*P **P 15 28 35.1 -1.2**
EDM pmax pmax
comp=Z,9.0nm,0.6s
CTA Charters Tower 91.19 114 P **P 15 28 38.7 -0.9**
comp=Z,1.2nm,0.3s,baz=270,slow=3.0,SNR=3.2
ULM Lac du Bonnet 92.72 351 P **P 15 28 45.4 -0.8**
comp=Z,3.8nm,1.0s,baz=330,slow=6.9,SNR=4.8
ULM Lac du Bonnet 92.72 351 *e*P **P 15 28 45.3 -1.0**
comp=Z,4.3nm,0.9s
VNA2 Neumayer--Watz 120.16 202 PKP **PKPdf 15 34 23.1 +0.3**
baz=21,slon=5.8
VNA3 Neumayer Olymp 120.97 202 PKP **PKPdf 15 34 24.6 +0.2**
CPUP Villa Florida 134.51 267 PKP **PKPdf 15 34 51.1 -0.4**
comp=Z,1.2nm,0.6s,baz=21,slow=6.0,SNR=4.1
PLCA Paso Flores 149.17 250 PKPbc **PKPbc 15 35 22.3 +0.7**
comp=Z,3.2nm,0.9s,baz=157,slow=4.3,SNR=4.8

BUC 17 15:21:28.4±0.2, 44.47N×28.49E, h8km±2km, MD2.1/2, 10C, Error ellipse: s-maj=2.2km s-min=1.2km az=88.0, Romania

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TIRR	**Tirgusor**	**0.06**	**255**⇑	*i*P	Pg	15 21 30.2	+0.1
TIRR				S	Sg	15 21 31.6	+0.2
TIRR	**Tirgusor**	**0.06**	**255**⇑	*i*P	Pg	15 21 30.2	+0.1
TIRR				*i* S	Sg	15 21 31.6	+0.2
HARR	**Harsova**	**0.45**	**299**⇑	*i*P	Pg	15 21 37.6	+0.4
HARR	**Harsova**	**0.45**	**299**⇑	*i*P	Pg	15 21 37.6	+0.4
MANR	**Mangalia**	**0.66**	**174**⇑	*i*P	Pg	15 21 40.9	-0.2
MANR	**Mangalia**	**0.66**	**174**⇑	*i*P	Pg	15 21 40.9	-0.2
MANR				*i* S	Sg	15 21 50.5	+0.8
CFR	**Carcaliu**	**0.75**	**341**⇑	*i*P	Pb	15 21 43.7	0.0
CFR	**Carcaliu**	**0.75**	**341**⇑	*i*P	Pb	15 21 43.7	0.0
CFR				*i* S	Sb	15 21 54.3	+0.2
TLCR		**0.75**	**18**⇑	*i*P	Pb	15 21 43.6	-0.1
TLCR		**0.75**	**18**⇑	*i*P	Pb	15 21 43.6	-0.1
TLCR				*i* S	Sb	15 21 54.5	+0.4

MAN 17 15:24:01, 11.84N×125.22E, h32km, mb4.0, ML2.8, MS2.4, 1D, Samar

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BESP	**Borongan**	**0.32**	**138**	*e*P	Pn	15 24 10.8	+1.3
BESP				*e*S	Sn	15 24 17.0	+2.0
PLP	**Palo**	**0.71**	**199**⇓	*e*P	Pb	15 24 15.4	+0.4
PLP				*e*S	Sn	15 24 25.5	+0.8
CNP	**Catarman**	**0.86**	**321**	*e*P	Pn	15 24 16.9	0.0
CNP				*e*S	Sn	15 24 28.1	-0.3

*IDC **17** 15:29:20.7±1.2, 4.03N×92.97E, h0km, mb3.6/9, mb1 3.8/12, mb1mx3.6/69, mbtmp3.7/12, ML3.7/2, MS3.2/1, Ms1 3.2/1, ms1mx2.5/51, Error ellipse: s-maj=40.4km s-min=16.2km az=50.0*
*ISCJB **17** 15:29:21.5±0.7, 4.11N±0.1×92.96E±0.1, h19km, mb3.7/9, MS3.1/1, Error ellipse: s-maj=19.2km s-min=10.8km az=37.5*
ISC 17 15:29:23.5±0.9, 4.11N±0.2×93.00E±0.10, h19km, n19, σ1§22/13, mb3.6/9, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**6.04**	**102**	Pn	**Pn**	**15 30 54.0**	**+2.0**
	2.5nm,0.3s,baz=286,slow=12,SNR=7.5						
PSI				Sn	**Sn**	**15 31 58.5**	**-2.2**
	2.3nm,0.3s,baz=270,slow=13,SNR=3.3						
PALK	**Pallekele**	**12.65**	**285**	Pn	**Pn**	**15 32 21.4**	**-1.1**
	0.3nm,0.3s,baz=117,slow=8.9,SNR=4.3						
PALK				Sn	Sn	15 34 28.1	-15
	0.6nm,0.3s,baz=114,slow=10.0,SNR=8.1						
CMAR	**Chiang Mai Arr**	**15.44**	**22**	Pn	**Pn**	**15 32 59.0**	**-1.4**
	baz=219,slow=14,SNR=13						
H08S2	**Diego Garcia H**	**23.54**	**240**	T	T	15 59 47.2	
	baz=60,slow=75,SNR=60						
H08S3	**Diego Garcia H**	**23.54**	**240**	T	T	15 59 49.3	
	baz=60,slow=75,SNR=63						
H08S1	**Diego Garcia H**	**23.56**	**240**	T	T	15 59 50.2	
	baz=60,slow=75,SNR=58						
DAV	**Davao City (W)**	**32.55**	**83**	LR	LR	15 52 06.9	
	comp=Z,39nm,18.7s,baz=336,slow=42						
FITZ	**Fitzroy Crossi**	**38.99**	**125**	P	**P**	**15 36 48.2**	**-0.8**
	2.4nm,1.1s,baz=315,slow=8.6,SNR=4.0						
H01W3	**Cape Leeuwin H**	**43.55**	**155**	T	T	16 24 23.6	
	baz=331,slow=76,SNR=9.0						
H01W2	**Cape Leeuwin H**	**43.56**	**155**	T	T	16 24 19.0	
	baz=331,slow=76,SNR=8.3						
MKAR	**Makanchi Array**	**43.56**	**349**	P	**P**	**15 37 26.4**	**+0.2**
	0.5nm,0.7s,baz=170,slow=7.4,SNR=5.4						
H01W1	**Cape Leeuwin H**	**43.56**	**155**	T	T	16 24 10.6	
	baz=331,slow=76,SNR=9.5						
SONM	**Songino Array**	**45.10**	**13**	P	**P**	**15 37 38.8**	**+0.2**
	0.5nm,0.7s,baz=196,slow=7.7,SNR=3.3						
WRA	**Warramunga Arr**	**47.10**	**122**	P	**P**	**15 37 55.1**	**+0.5**
	1.4nm,0.9s,baz=300,slow=9.1,SNR=6.7						
KURBB	**Kurchatov Arra**	**47.97**	**348**	P	**P**	**15 38 01.5**	**+0.7**
	0.7nm,1.0s,baz=168,slow=6.9,SNR=4.6						
ASAR	**Alice Springs**	**48.46**	**127**	P	**P**	**15 38 05.2**	**+0.1**
	0.5nm,1.0s,baz=316,slow=8.8,SNR=4.1						
ZALV	**Zalesovo Beam**	**50.17**	**354**	P	**P**	**15 38 18.4**	**+0.7**
	0.5nm,0.2s,baz=178,slow=8.8,SNR=6.1						
BVAR	**Borovoye Array**	**52.24**	**343**	P	**P**	**15 38 33.3**	**0.0**
	0.3nm,0.4s,baz=128,slow=11,SNR=2.2						
GERES	**GERESS Array B**	**79.91**	**319**	P	**P**	**15 41 32.2**	**+0.9**
	0.3nm,0.4s,baz=110,slow=5.8,SNR=4.2						

*NEIC **17** 15:29:27.1±1.1, 3.71N×93.35E, h10km, mb4.5/1, Error ellipse: s-maj=23.7km s-min=10.3km az=204.0*
*ISCJB **17** 15:29:30.3±0.6, 4.02N±0.06×93.67E±0.05, h23km, mb4.2/15, MS3.6/1, Error ellipse: s-maj=9.2km s-min=5.7km az=33.3*
*IDC **17** 15:29:30.6±1.1, 4.13N×93.01E, h0km, mb3.9/8, mb1 4.1/11, mb1mx3.7/69, mbtmp4.0/11, ML4.0/3, Error ellipse: s-maj=42.6km s-min=15.8km az=46.0*
*DJA **17** 15:29:31.3±1.3, 4°N±4°×9°4E±1°5, h27km±28km, M4.4/9, mb4.5/4, mB4.8/3, MLv4.4/9, Mw(mB)4.0/3*
ISC 17 15:29:32.8±0.9, 4.10N±0.07×93.74E±0.08, h23km, n47, σ1§47/45, mb4.2/15, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BSI	**Banda Aceh**	**2.08**	**48**	P	**Pn**	**15 30 05.0**	**-1.3**
BSI				S	**Sn**	**15 30 31.9**	**+0.3**
MLSI	**Meulaboh, Aceh**	**2.66**	**86**	P	**Pn**	**15 30 14.7**	**+0.4**
MLSI				S	**Sn**	**15 30 46.0**	**+0.1**
LHMI	**Lhok Sumawe**	**3.39**	**71**	P	**Pn**	**15 30 24.4**	**+0.1**
LHMI	**Lhok Sumawe**	**3.39**	**71**	*e*Pn	**Pn**	**15 30 25.4**	**+1.2**
TPTI		**3.53**	**104**	P	**Pn**	**15 30 26.7**	**+0.4**
TPTI				S	**Sn**	**15 31 11.0**	**+3.6**
KCSI	**Kotacane, Aceh**	**4.06**	**98**	P	**Pn**	**15 30 34.0**	**+0.4**
GSI	**Gunungsitoli**	**4.73**	**126**	P	**Pn**	**15 30 42.7**	**-0.1**
GSI	**Gunungsitoli**	**4.73**	**126**	*e*Pn	**Pn**	**15 30 41.7**	**-1.1**
PSI	**Prapat**	**5.33**	**104**	Pn	**Pb**	**15 31 02.4**	**-3.0**
	4.4nm,0.3s,baz=322,slow=8.9,SNR=11						
PSI	**Prapat**	**5.33**	**104**	*e*Pn	**Pn**	**15 30 51.8**	**+0.6**
PKDT	**Phuket**	**5.92**	**50**	P	**Pn**	**15 30 57.2**	**-2.0**
MNSI	**Mandailing Nat**	**6.69**	**119**	P	**Pn**	**15 31 10.5**	**+0.8**
SURT	**Suratani**	**6.96**	**46**	P	**Pn**	**15 31 11.5**	**-2.0**
	9.6nm,0.8s						
TRTT	**Trang**	**6.99**	**58**	P	**Pn**	**15 31 12.1**	**-1.7**
	10nm,1.2s,0.0nm						
IPM	**Ipoh**	**7.27**	**87**	*e*Pn	**Pn**	**15 31 17.6**	**-0.2**
SISI	**Saibi**	**7.59**	**135**	P	**Pn**	**15 31 22.1**	**0.0**
MYKOM	**Kota Tinggi**	**10.35**	**103**	*e*Pn	**Pn**	**15 31 59.8**	**-0.2**
CHBT	**CHBT**	**12.08**	**44**	P	**Pn**	**15 32 24.5**	**+0.8**
	188nm,0.7s,65μm						
PALK	**Pallekele**	**13.35**	**284**	Pn	Pn	15 32 30.2	-11
	1.1nm,0.3s,baz=116,slow=14,SNR=6.8						
CHAI	**Chaiyaphum**	**14.26**	**34**	P	P	15 33 08.2	+7.7
PBKT	**Sadao Pong**	**14.28**	**29**	P	**P**	**15 32 59.7**	**-1.1**
	7.0nm,1.0s						
PHIT	**Phitsanulok**	**14.56**	**26**	P	**P**	**15 33 01.9**	**-2.0**
	8.8nm,0.9s						
CMAR	**Chiang Mai Arr**	**15.15**	**19**	Pn	**P**	**15 33 08.6**	**-1.9**
	0.2nm,0.3s,baz=225,slow=14,SNR=16						
CHTO	**Chiang Mai**	**15.48**	**19**	P	**Pn**	**15 33 12.3**	**+2.4**
	48nm,0.9s						
CMMT	**Chiang Mai**	**15.48**	**19**	P	**Pn**	**15 33 11.2**	**+1.3**
	9.9nm,1.1s						
SKNT	**Sakolnakorn**	**16.27**	**37**	P	**Pn**	**15 33 18.4**	**-1.6**
	6.9nm,0.8s						
KMI	**Kunming**	**22.62**	**22**	P	**P**	**15 34 34.1**	**+1.6**
KMI				pmax	pmax		
	comp=Z,5.0nm,0.7s						
KMI				pmax	pmax		
	comp=Z,70nm,4.5s						
MYLDM	**Lahad Datu**	**24.70**	**87**	*e*P	**P**	**15 34 52.6**	**+0.1**
	comp=Z,56nm,1.6s						
CD2	**Chengdu**	**28.29**	**18**	*e*P	**P**	**15 35 26.0**	**+1.3**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
GTA	**Gaotai**	**35.58**	**8**	*e*P	**P**	**15 36 30.4**	**+1.7**
GTA				pP	pP	15 36 34.8	-0.8
GTA				sP	sP	15 36 38.4	-0.1
GTA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
NJ2	**Nanjing**	**36.44**	**37**	*e*P	**P**	**15 36 35.3**	**-0.7**
NJ2				pmax	pmax		
	comp=Z,13nm,0.5s						
FITZ	**Fitzroy Crossi**	**38.41**	**126**	P	P	15 36 58.6	+5.8
	comp=Z,1.2nm,0.7s,baz=308,slow=7.8,SNR=4.9						
WMQ	**Urumqi**	**39.92**	**353**	P	**P**	**15 37 05.6**	**+0.4**
WMQ				LR	LR		
	comp=N,110nm,22.5s						
WMQ				LR	LR		
	comp=E,86nm,21.1s						
WMQ				LR	LR		
	comp=Z,78nm,24.1s						
HHC	**Hu-ho-hao-te**	**39.95**	**21**	*e*P	**P**	**15 37 08.3**	**+2.7**
HHC				pmax	pmax		
	comp=Z,11nm,1.0s						
HHC				pmax	pmax		
	comp=Z,45nm,5.1s						
MK31	**Makanchi Array**	**43.67**	**349**	*e*P	**P**	**15 37 34.6**	**-1.2**
MKAR	**Makanchi Array**	**43.67**	**349**	P	**P**	**15 37 35.2**	**-0.6**
	comp=Z,1.3nm,0.7s,baz=165,slow=8.6,SNR=10						
MKAR	**Makanchi Array**	**43.67**	**349**	*e*P	**P**	**15 37 34.5**	**-1.3**
	comp=Z,9.1nm,0.7s						
WRA	**Warramunga Arr**	**46.49**	**122**	P	P	15 38 04.8	+6.2
	comp=Z,1.0nm,0.7s,baz=305,slow=8.7,SNR=6.8						
GEYT	**Alibeck**	**46.80**	**321**	P	**P**	**15 37 59.2**	**-1.6**
	comp=Z,1.9nm,0.7s,baz=133,slow=8.7,SNR=5.4						
ASAR	**Alice Springs**	**47.89**	**127**	P	P	15 38 15.8	+6.3
	comp=Z,0.3nm,0.6s,baz=294,slow=7.6,SNR=3.3						
KURBB	**Kurchatov Arra**	**48.10**	**347**	P	**P**	**15 38 10.2**	**-0.5**
	comp=Z,1.4nm,0.7s,baz=172,slow=7.2,SNR=14						
KURK	**Kurchatov**	**48.17**	**347**	P	**P**	**15 38 10.2**	**-1.0**
ZAA0	**Zalesovo Array**	**50.23**	**353**	*e*P	**P**	**15 38 26.9**	**0.0**
	comp=Z,7.7nm,1.3s						
ZALV	**Zalesovo Beam**	**50.23**	**353**	P	**P**	**15 38 27.6**	**+0.7**
	comp=Z,1.6nm,0.4s,baz=171,slow=8.6,SNR=8.7						
ZALV	**Zalesovo Beam**	**50.23**	**353**	*e*P	**P**	**15 38 26.6**	**-0.2**
GERES	**GERESS Array B**	**80.37**	**319**	P	**P**	**15 41 41.6**	**-0.9**
	comp=Z,1.0nm,0.8s,baz=78,slow=6.2,SNR=5.7						
TXAR	**Lajitas Array**	**142.80**	**26**	PKP	**PKPdf**	**15 49 08.1**	**+2.9**
	comp=Z,0.2nm,0.5s,baz=107,slow=0.9,SNR=3.3						

*IDC **17** 15:34:36.1±1.7, 2.24N×126.51E, h0km, mb3.4/5, mb1 3.6/5, mb1mx3.3/56, mbtmp3.5/5, Error ellipse: s-maj=120.7km s-min=20.0km az=70.0*
*DJA **17** 15:34:48.1±0.4, 2°N±5°×12°7E±°, h10km, M3.4/5, MLv3.4/5*
*ISCJB **17** 15:34:50.5±1.2, 1.7N±0.1×127.05E±0.09, h103km, mb3.3/4, Error ellipse: s-maj=16.7km s-min=11.5km az=27.5*
ISC 17 15:34:51.4±1.6, 1.67N±0.10×127.1E±0.1, h103km, n8, σ1§71/7, mb3.4/4, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LBMI	**Labuha**	**2.33**	**170**	P	**Pn**	**15 35 26.9**	**-1.5**
SGSI	**Sangihe**	**2.53**	**322**	P	**Pn**	**15 35 30.0**	**-1.0**
KMSI	**Cibinong**	**3.28**	**251**	P	**Pn**	**15 35 40.0**	**-1.0**
KMSI				S	**Sn**	**15 36 19.9**	**+0.6**
FITZ	**Fitzroy Crossi**	**19.70**	**184**	P	**Pn**	**15 39 14.5**	**-0.6**
	1.2nm,0.6s,baz=31,slow=7.9,SNR=4.7						
WRA	**Warramunga Arr**

KURBB **Kurchatov Arra** 63.65 328 P P 15 45 03.9 -7.7
0.3nm,0.5s,baz=127,slow=6.4,SNR=3.4

DJA 17 15:39:03.4±0.5, 7°S±4°×10°5E±°, h10km, M3.7/10, MLv3.7/10, Jawa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKJI	**Sukabumi**	**1.44**	**77**	P	Pn	15 39 29.7	+0.1
SKJI				S	Sn	15 39 47.7	-0.9
SBJI	**Serang**	**1.55**	**39**	P	Pn	15 39 31.0	-0.1
TNG	**Tangerang**	**1.89**	**53**	P	Pn	15 39 35.3	-0.4
TNG				P	Pb	15 39 35.4	-2.6
TNG				S	Sb	15 40 01.2	-0.4
KASI	**Kota Agung**	**1.91**	**340**	P	Pn	15 39 35.7	-0.3
KLI	**Kotabumi**	**2.47**	**353**	P	Pn	15 39 43.5	-0.2
LEM	**Lembang**	**2.51**	**79**	P	Pn	15 39 44.5	+0.1
LWLI	**Liwa**	**2.54**	**335**	P	Pn	15 39 45.5	+0.7
CISI	**Cisompet, Garu**	**2.66**	**95**	P	Pn	15 39 46.5	0.0
MDSI	**Maura Dua**	**2.98**	**341**	P	Pn	15 39 50.3	-0.5
KPJI	**Karang Pucung**	**3.76**	**90**	P	Pn	15 40 01.7	+0.2

IDC 17 15:41:20.2±2.9, 4°17N×92°49E, h0km, mb3.5/4, mb1 3.5/5, mb1mx3.3/64, mbtmp3.4/5, ML3.6/1, Error ellipse: s-maj=107.3km s-min=27.5km az=58.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**15.54**	**23**	Pn	Pn	15 45 01.6	+0.8
	0.1nm,0.3s,baz=224,slow=14,SNR=4.4						
MKAR	**Makanchi Array**	**43.37**	**350**	P	P	15 49 23.8	-0.6
	0.2nm,0.4s,baz=174,slow=8.2,SNR=5.0						
WRA	**Warramunga Arr**	**47.59**	**122**	P	P	15 49 58.0	-0.1
	0.4nm,1.1s,baz=297,slow=11,SNR=2.5						
KURBB	**Kurchatov Arra**	**47.76**	**348**	P	P	15 49 59.3	+0.3
	0.3nm,0.6s,baz=167,slow=7.4,SNR=4.8						
ZALV	**Zalesovo Beam**	**50.02**	**354**	P	P	15 50 16.2	-0.1
	0.5nm,0.5s,baz=172,slow=8.2,SNR=3.4						

ISN 17 15:52:23.1±1.4, 38°.50N×43°.51E, h0km±6km, ML3.6
ATA 17 15:52:24.3±1.5, 38°.90N×43°.54E, h0km±5km, ML4.0, MW3.9
ISK 17 15:52:24.3, 38°.90N×43°.58E, h5km, ML3.4/9
DDA 17 15:52:25.4, 38°.88N×43°.56E, h5km, Ml3.6
CSEM 17 15:52:26.4±0.2, 38°.90N×43°.49E, h2km, ML3.6, Error ellipse: s-maj=5.3km s-min=4.1km az=144.0

ISC 17 15:52:25.0±0.9, 38°.89N±0°.02×43°.50E±0°.02, h15km±6km, n83, σ1s54/112, 5C-5D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VMUR	**Van-Muradiye**	**0.11**	**28**	*i* P	**Pb**	**15 52 28.2**	**-0.9**
VMUR				*i* S	**Sg**	**15 52 31.5**	**+0.4**
VMUR	**Van-Muradiye**	**0.11**	**28**	P	**Pb**	**15 52 28.2**	**-0.9**
VMUR				S	**Sg**	**15 52 31.5**	**+0.4**
ERCV	**ERCIS-VAN**	**0.18**	**315**	PG	**Pb**	**15 52 29.6**	**-0.7**
ERCV	**ERCIS-VAN**	**0.18**	**315**	*e*Pg	**Pb**	**15 52 29.6**	**-0.7**
VANB	**Van**	**0.31**	**197**	PG	**Pn**	**15 52 33.5**	**-1.6**
VANB				SG	**Sn**	**15 52 40.7**	**-0.7**
VANB	**Van**	**0.31**	**197**	*e*Pg	**Pn**	**15 52 33.5**	**-1.6**
VANB				*e*Sg	**Sn**	**15 52 40.7**	**-0.7**
TVAN	**Van**	**0.37**	**192**	*i* P	**Pb**	**15 52 33.6**	**+0.2**
TVAN				*i* S	**Sn**	**15 52 42.2**	**-0.9**
TVAN	**Van**	**0.37**	**192**	P	**Pb**	**15 52 33.6**	**+0.2**
TVAN				S	**Sn**	**15 52 42.2**	**-0.9**
CLDR	**Caldiran**	**0.41**	**52**	PG	**Pg**	**15 52 32.4**	**-1.0**
CLDR	**Caldiran**	**0.41**	**52**	*i* P	**Pg**	**15 52 32.4**	**-1.0**
CLDR				*i* S	**Sg**	**15 52 39.5**	**+0.4**
CLDR	**Caldiran**	**0.41**	**52**	P	**Pg**	**15 52 32.4**	**-1.0**
CLDR				S	**Sg**	**15 52 39.5**	**+0.4**
ADCV	**BITLIS_Adilcev**	**0.61**	**263**	*i* P	**Pn**	**15 52 38.6**	**-0.8**
ADCV				*i* S	**Sn**	**15 52 48.8**	**-0.3**
ADCV	**BITLIS_Adilcev**	**0.61**	**263**	P	**Pn**	**15 52 38.6**	**-0.8**
ADCV				S	**Sn**	**15 52 48.8**	**-0.3**
DYDN	**Diyadin**	**0.67**	**12**	*e*P	**Pb**	**15 52 38.4**	**-0.2**
DYDN				*e*S	**Sg**	**15 52 48.5**	**+1.3**
DYDN				IAML		15 52 52.8	
	comp=Z,207nm,0.6s						
DYDN	**Diyadin**	**0.67**	**12**	*i* P	**Pg**	**15 52 38.6**	**+0.4**
DYDN				*i* S	**Sn**	**15 52 49.4**	**-1.2**
DYDN	**Diyadin**	**0.67**	**12**	P	**Pg**	**15 52 38.6**	**+0.4**
GEVA	**Gevas**	**0.67**	**211**	*i* P	**Pg**	**15 52 38.3**	**+0.1**
GEVA				*e*S	**Sn**	**15 52 50.9**	**+0.3**
GEVA				IAML		15 52 54.5	
	comp=Z,327nm,0.5s						
GEVA	**Gevas**	**0.67**	**211**	*i* P	**Pg**	**15 52 38.6**	**+0.4**
GEVA	**Gevas**	**0.67**	**211**	P	**Pg**	**15 52 38.7**	**+0.4**
TUTA	**Tutak**	**0.74**	**314**	*e*P	**Pg**	**15 52 39.6**	**+0.1**
TUTA				*e*S	**Sn**	**15 52 52.1**	**-0.2**
TUTA				IAML		15 52 54.6	
	comp=Z,915nm,0.2s						
TUTA	**Tutak**	**0.74**	**314**	*i* P	**Pg**	**15 52 39.9**	**+0.3**
TUTA				*i* S	**Sn**	**15 52 51.9**	**-0.5**
TUTA	**Tutak**	**0.74**	**314**	P	**Pg**	**15 52 39.9**	**+0.3**
AGRB	**Hanur-Agry**	**0.79**	**330**	PG	**Pg**	**15 52 40.9**	**+0.4**
AGRB				SG	**Sn**	**15 52 53.7**	**+0.1**
AGRB	**Hanur-Agry**	**0.79**	**330**	*e*Pg	**Pg**	**15 52 40.9**	**+0.4**
AGRB				*e*Sg	**Sn**	**15 52 53.7**	**+0.1**
IGDI	**IGDIR**	**1.07**	**24**	*e*P	**Pb**	**15 52 45.3**	**-0.1**
IGDI				*e*S	**Sg**	**15 53 03.1**	**+3.2**
IGDI				IAML		15 53 11.4	
	comp=Z,82nm,0.5s						
EKAR	**Karacoban**	**1.18**	**289**	*e*P	**Pg**	**15 52 48.2**	**+0.4**
EKAR				*e*S	**Sg**	**15 53 07.7**	**+4.5**
EKAR				IAML		15 53 11.3	
	comp=Z,196nm,0.4s						
GURO	**Guroymak-BITLI**	**1.20**	**254**	PN	**Pg**	**15 52 48.7**	**+0.5**
GURO	**Guroymak-BITLI**	**1.20**	**254**	*e*Pn	**Pg**	**15 52 48.7**	**+0.5**
EATA	**Eleskirt**	**1.25**	**321**	*e*P	**Pg**	**15 52 49.0**	**-0.1**
EATA				IAML		15 53 10.2	
	comp=Z,46nm,0.3s						
EATA	**Eleskirt**	**1.25**	**321**	*i* P	**Pg**	**15 52 49.2**	**0.0**
EATA				*i* S	**Sg**	**15 53 08.5**	**+3.0**
EATA	**Eleskirt**	**1.25**	**321**	P	**Pg**	**15 52 49.2**	**0.0**
HYR	**Heyderabad**	**1.33**	**51**	⇑P	**Pg**	**15 52 52.1**	**+1.4**
HAKT	**HAKKARI**	**1.34**	**173**	*i* P	**Pg**	**15 52 50.5**	**-0.3**
HAKT				*i* S	**Sg**	**15 53 13.4**	**+5.1**
HAKT	**HAKKARI**	**1.34**	**173**	P	**Pg**	**15 52 50.5**	**-0.3**
HAKT				S	**Sg**	**15 53 13.4**	**+5.1**
DIGO	**Kars**	**1.53**	**356**	*e*P	**Pb**	**15 52 53.1**	**-0.1**
SRTM	**Siirt_Merkez**	**1.53**	**235**	*i* P	**Pg**	**15 52 55.0**	**+0.5**
SRTM				*i* S	**Sg**	**15 53 17.0**	**+2.6**
SRTM	**Siirt_Merkez**	**1.53**	**235**	P	**Pg**	**15 52 55.0**	**+0.5**
SRTM				S	**Sg**	**15 53 17.0**	**+2.6**
NAX	**Nakhchivan**	**1.58**	**79**	⇑P	**Pg**	**15 52 55.4**	**+0.1**
NAX				⇓S	**Sg**	**15 53 18.6**	**+2.8**
VRTB	**Varto-Mus**	**1.62**	**280**	PN	**Pg**	**15 52 55.9**	**-0.2**
VRTB	**Varto-Mus**	**1.62**	**280**	*i* P	**Pg**	**15 52 57.5**	**+1.3**
VRTB	**Varto-Mus**	**1.62**	**280**	*e*Pn	**Pg**	**15 52 55.9**	**-0.2**
VRTB	**Varto-Mus**	**1.62**	**280**	P	**Pg**	**15 52 57.5**	**+1.3**
SIRT	**Sirnak**	**1.62**	**212**	PN	**Pg**	**15 52 55.7**	**-0.5**
SIRT	**Sirnak**	**1.62**	**212**	*e*Pn	**Pg**	**15 52 55.7**	**-0.5**
SBZ	**Shahbuz**	**1.67**	**72**	⇑P	**Pb**	**15 52 56.6**	**+1.0**
SBZ				⇓S	**Sg**	**15 53 20.9**	**+2.0**
HOMI	**Horasan**	**1.69**	**314**	*e*P	**Pg**	**15 52 57.3**	**-0.3**
HOMI				*e*S	**Sg**	**15 53 24.6**	**+5.0**
HOMI				IAML		15 53 31.7	
	comp=Z,48nm,0.6s						
HOMI	**Horasan**	**1.69**	**314**	*i* P	**Pg**	**15 52 57.5**	**-0.1**
KARS	**Kars**	**1.77**	**349**	PN	**Pb**	**15 52 57.1**	**-0.1**
KARS	**Kars**	**1.77**	**349**	*e*Pn	**Pb**	**15 52 57.1**	**-0.1**
EAK	**Akyaka**	**1.80**	**2**	*e*P	**Pg**	**15 53 00.9**	**+1.4**
EAK				*e*S	**Sg**	**15 53 26.1**	**+3.2**
EAK				IAML		15 53 41.8	
	comp=Z,52nm,0.6s						
EAK	**Akyaka**	**1.80**	**2**	*i* P	**Pg**	**15 53 01.1**	**+1.6**
SENK	**Senkaya-Erzuru**	**1.89**	**332**	PN	**Pb**	**15 52 59.6**	**+0.2**
SENK	**Senkaya-Erzuru**	**1.89**	**332**	*e*Pn	**Pb**	**15 52 59.6**	**+0.2**
ERZM	**Erzurum**	**1.94**	**302**	*e*P	**Pg**	**15 53 02.4**	**0.0**
ORD	**Ordubad**	**1.94**	**88**	⇓P	**Pb**	**15 53 01.2**	**+1.0**
ORD				⇑S	**Sg**	**15 53 27.6**	**0.0**
SVAN	**Silvan-Diyarba**	**1.95**	**249**	PN	**Pg**	**15 53 00.9**	**-1.6**
SVAN	**Silvan-Diyarba**	**1.95**	**249**	*e*Pn	**Pg**	**15 53 00.9**	**-1.6**
ECAT	**Cat-ERZURUM**	**2.09**	**291**	*e*P	**Pb**	**15 53 03.0**	**+0.2**
ECAT				IAML		15 53 17.8	
	comp=Z,63nm,0.2s						
BNGB	**Bing¨||i**	**2.21**	**274**	PN	**Pb**	**15 53 04.7**	**0.0**
BINT	**Bingol**	**2.35**	**271**	*e*Pn	**Pb**	**15 53 04.7**	**-2.5**
HANI	**Diyarbakir_Han**	**2.48**	**260**	*i* P	**Pg**	**15 53 12.2**	**-0.3**
GDB	**GÉDABAY**	**2.52**	**43**	⇓P	**Pb**	**15 53 10.3**	**+0.2**
KOPT	**Kop Dagi**	**2.59**	**297**	*e*P	**Pg**	**15 53 14.2**	**-0.4**
KOPT				IAML		15 53 34.7	
	comp=Z,32nm,0.5s						
ARTV	**Artvin**	**2.59**	**333**	*e*P	**Pb**	**15 53 10.0**	**-1.3**
ARTV				IAML		15 54 25.5	
	comp=Z,8.7nm,0.5s						
QZX	**Qazax, Azerbai**	**2.60**	**33**	⇓P	**Pb**	**15 53 10.5**	**-0.8**
EPOS	**Posof**	**2.68**	**347**	*e*P	**Pb**	**15 53 10.7**	**-2.1**
DIY	**Diyarbakir**	**2.76**	**250**	*e*Pn	**Pb**	**15 53 13.4**	**-0.7**
GANJ	**Ganja**	**2.79**	**50**	⇑P	**Pb**	**15 53 13.6**	**-1.0**
MAZI	**Mazidag**	**2.80**	**240**	PN	**Pb**	**15 53 13.2**	**-1.6**
MAZI	**Mazidag**	**2.80**	**240**	*e*Pn	**Pb**	**15 53 13.2**	**-1.6**
DYBB	**Diyarbakir**	**2.80**	**252**	PN	**Pb**	**15 53 13.4**	**-1.4**
BAYB	**BAYBURT**	**2.86**	**300**	*e*P	**Pg**	**15 53 19.1**	**-0.7**
BAYB				IAML		15 53 24.9	
	comp=Z,11nm,0.4s						
DGRG	**David-gareji**	**2.93**	**29**	*e*P	**Pb**	**15 53 18.8**	**+1.7**
BAYT	**Ayd¨–ntepe-Bay**	**3.00**	**301**	PN	**Pb**	**15 53 16.2**	**-2.1**
BAYT	**Ayd¨–ntepe-Bay**	**3.00**	**301**	*e*Pn	**Pb**	**15 53 16.2**	**-2.1**
ERZN	**Erzincan**	**3.02**	**285**	PN	**Pb**	**15 53 16.2**	**-2.4**
EUZM	**Uzumlu**	**3.06**	**287**	*e*P	**Pb**	**15 53 20.0**	**+0.7**
TNCL	**Tunceli-Merkez**	**3.10**	**275**	*e*P	**Pg**	**15 53 21.8**	**-2.6**
TNCL				IAML		15 53 41.1	
	comp=Z,17nm,0.7s						
EZC	**Erzincan**	**3.33**	**286**	*e*Pn	**Pn**	**15 53 16.2**	**-0.6**
KELT	**Kelkit**	**3.52**	**292**	*e*P	**Pg**	**15 53 30.3**	**-2.1**
REFA	**Refahiye_ERZ¨**	**3.72**	**279**	*e*P	**Pg**	**15 53 37.2**	**+0.9**
KEMA	**Kemaliye**	**3.92**	**277**	*e*P	**Pg**	**15 53 37.4**	**-2.7**
RTB	**Rutbah**	**6.39**	**205**	*e*Pn	**Pn**	**15 53 57.0**	**-1.8**
	SNR=3.0						
RTB				*i* Sn	Sn	15 55 01.0	-11
	SNR=3.0						

IDC 17 15:54:35.8±1.3, 6°.67S×132°.69E, h0km, mb3.6/4, mb1 3.9/7, mb1mx3.6/44, mbtmp3.8/7, ML4.0/3, MS3.2/1, Ms1 3.2/1, ms1mx2.4/35, Error ellipse: s-maj=54.0km s-min=21.9km az=71.0
ISCJB 17 15:54:36.8±0.6, 6°.58S±0°.05×132°.79E±0°.06, h33km, mb3.5/4, Error ellipse: s-maj=8.6km s-min=6.6km az=15.1
DJA 17 15:54:40.7±0.4, 6°S±3°×13°3E±°, h105km±15km, M4.5/12, mb4.5/9, mB5.0/7, MLv4.6/12, Mw(mB)4.3/7

ISC 17 15:54:38.5±0.8, 6°.62S±0°.05×132°.70E±0°.07, h35km, n20, σ2s65/25, mb3.6/4, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**1.94**	**226**	P	Pn	15 55 16.6	+7.7
KMPI	**Kaimana, Papua**	**3.11**	**19**	P	**Pn**	**15 55 24.5**	**-0.5**
KMPI				S	**Sn**	**15 55 59.0**	**-1.9**
BNDI	**Bandanaira**	**3.47**	**307**	P	**Pn**	**15 55 31.8**	**+1.7**
FAKI	**Fak Fak**	**3.70**	**353**	P	**Pn**	**15 55 32.8**	**-0.5**
FAKI				S	**Sn**	**15 56 11.8**	**-3.9**
MSAI	**Masohi**	**4.97**	**311**	P	**Pn**	**15 55 51.5**	**+0.9**
MSAI				S	**Sn**	**15 56 44.2**	**-2.7**
RKPI	**Ransiki, Papua**	**5.29**	**16**	P	**Pn**	**15 55 53.9**	**-1.1**
AAI	**Ambon**	**5.35**	**303**	P	**Pn**	**15 55 57.0**	**+1.1**
	76nm,0.8s,3µm						
NLAI	**Namlea**	**6.51**	**301**	P	**Pn**	**15 56 13.3**	**+1.5**
LBMI	**Labuha**	**7.89**	**319**	P	**Pn**	**15 56 30.5**	**-0.3**
LBMI				S	**Sn**	**15 57 56.0**	**-2.8**
SANI	**Sanana**	**8.08**	**304**	P	**Pn**	**15 56 34.1**	**+0.6**
GENI	**Genyem**	**8.45**	**62**	P	**Pn**	**15 56 38.4**	**-0.1**
SOEI	**Soe**	**8.91**	**249**	P	**Pn**	**15 56 48.6**	**+3.7**
	36nm,0.7s						
BATI	**Baumata**	**9.62**	**248**	Pn	**Pn**	**15 56 56.0**	**+1.4**
	4.6nm,0.3s,baz=96,slow=2.0,SNR=12						
BATI				Sn	**Sn**	**15 58 38.3**	**-3.3**
	1.7nm,0.3s,baz=307,slow=20,SNR=3.0						
BATI	**Baumata**	**9.62**	**248**	P	**Pn**	**15 56 58.2**	**+3.6**
WRA	**Warramunga Arr**	**13.34**	**173**	Pn	**Pn**	**15 57 44.4**	**-1.1**
	0.5nm,0.3s,baz=354,slow=13,SNR=36						
WRA				Sn	**Sn**	**16 00 08.6**	**-4.0**
	1.3nm,0.3s,baz=352,slow=24,SNR=4.9						
ASAR	**Alice Springs**	**16.99**	**176**	Pn	**Pn**	**15 58 32.3**	**-1.2**
	0.5nm,0.3s,baz=351,slow=14,SNR=37						
ASAR				Sn	**Sn**	**16 01 36.0**	**-5.5**
	0.3nm,0.3s,baz=359,slow=28,SNR=4.7						
ASAR				LR	LR	16 05 58.1	
	comp=Z,76nm,18.9s,baz=322,slow=40						
STKA	**Stephens Creek**	**26.47**	**163**	P	**P**	**16 00 14.8**	**+2.4**
	0.8nm,0.5s,baz=347,slow=14,SNR=4.0						
MKAR	**Makanchi Array**	**69.40**	**326**	P	P	16 05 46.1	+3.2
	0.3nm,0.5s,baz=106,slow=8.3,SNR=5.0						
VNDA	**Vanda**	**72.51**	**174**	P	**P**	**16 06 04.5**	**+3.2**
	0.7nm,0.8s,baz=307,slow=6.8,SNR=3.9						
KURBB	**Kurchatov Arra**	**73.61**	**327**	P	**P**	**16 06 10.7**	**+2.5**
	0.2nm,0.6s,baz=115,slow=4.9,SNR=3.3						

IDC 17 16:08:46.5±0.7, 17°.53S×63°.99W, h0km, mb4.1/10, mb1 4.3/12, mb1mx4.1/37, mbtmp4.0/12, ML3.7/2, MS3.1/1, Ms1 3.1/1, ms1mx2.6/36, Error ellipse: s-maj=20.9km s-min=18.0km az=70.0
SCB 17 16:08:46.9±0.1, 17°.45S×63°.84W, h40km, Ml3.7/2, Error ellipse: s-maj=4.8km s-min=3.2km az=166.0
ISCJB 17 16:08:49.6±0.3, 17°.55S±0°.05×63°.75W±0°.05, h33km, mb4.3/25, Error ellipse: s-maj=7.1km s-min=6.4km az=13.8
NEIC 17 16:08:51.5±2.0, 17°.58S×63°.87W, h34km±14km, mb4.5/16, Error ellipse: s-maj=9.8km s-min=7.4km az=62.0

ISC 17 16:08:47.2±0.5, 17°.56S±0°.04×64°.13W±0°.04, h10km, n54, σ2s00/59, mb4.5/25, Central Bolivia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIV	**San Ignacio**	**3.32**	**62**	Pn	**Pn**	**16 09 38.2**	**-1.0**
	14nm,0.3s,baz=260,slow=9.0,SNR=192						
SIV				Pg	**Pb**	**16 09 44.9**	**-1.3**
	102nm,0.3s,baz=262,slow=14,SNR=53						
SIV				Sn	**Sn**	**16 10 12.7**	**-6.1**
	42nm,0.3s,baz=278,slow=18,SNR=4.4						
SIV				Lg	Lg	16 10 23.9	
	60nm,0.3s,baz=321,slow=22,SNR=10.0						
SIV	**San Ignacio**	**3.32**	**62**	*e*Pn	**Pn**	**16 09 38.0**	**-1.3**
SIV				*e*Sn	**Sn**	**16 10 16.2**	**-2.6**
	26nm,0.2s						
BBOJ	**La Paz, Jacaqu**	**3.93**	**278**	*e*Pn	**Pb**	**16 09 54.9**	**-2.0**
MOCB	**Mochara**	**3.94**	**201**	*e*Pn	**Pb**	**16 09 53.8**	**-3.3**
MOCB				*e*Sn	**Sb**	**16 10 43.8**	**-1.2**
	40nm,0.3s						
LPAZ	**La Paz**	**4.04**	**288**	Pn	**Pb**	**16 09 56.1**	**-2.8**
	3.2nm,0.3s,baz=95,slow=8.6,SNR=50						
LPAZ				Sn	**Sb**	**16 10 46.5**	**-1.5**
	13nm,0.3s,baz=198,slow=20,SNR=3.2						
LPAZ				Lg	Lg	16 11 02.5	
	33nm,0.3s,baz=318,slow=15,SNR=9.2						
LPAZ	**La Paz**	**4.04**	**288**	*e*Pn	**Pb**	**16 09 56.0**	**-2.8**
LPAZ				*e*Sn	**Sb**	**16 10 46.0**	**-1.9**
BBOB	**La Paz, Bander**	**4.09**	**290**	*e*Pn	**Pb**	**16 09 56.5**	**-3.1**
BBOD	**La Paz, Gloria**	**4.37**	**281**	*e*Pn	Pb	16 10 01.1	-3.4
YJA	**Yavi**	**4.78**	**196**	*e*P	**Pn**	**16 10 04.5**	**+4.8**
YJA				*e*S	**Sg**	**16 11 23.3**	**+2.6**
YJA				IAML		16 11 26.4	
	comp=Z,104nm,0.5s						
ASTB	**Santa Barbara**	**6.37**	**183**	*e*P	**Pn**	**16 10 20.9**	**-0.4**
ASTB				*e*S	**Sn**	**16 11 30.1**	**-4.0**
SAML	**Samuel**	**8.61**	**6**	*e*Pn	**Pn**	**16 10 52.5**	**+0.6**
CPUP	**Villa Florida**	**10.77**	**145**	Pn	**Pn**	**16 11 20.4**	**-1.2**
	comp=Z,0.1nm,0.3s,baz=336,slow=18,SNR=2.1						
PTGA	**Pitinga**	**17.21**	**14**	Lg	Lg	16 17 47.7	
	comp=Z,0.3nm,0.3s,baz=116,slow=23,SNR=9.4						
PTGA	**Pitinga**	**17.21**	**14**	*e*Pn	**P**	**16 12 50.9**	**+1.3**
	comp=Z,11nm,1.3s						
PTGA				Lg	Lg	16 17 47.7	
PLCA	**Paso Flores**	**23.75**	**192**	P	**P**	**16 14 01.6**	**+1.7**
	comp=Z,2.2nm,0.7s,baz=34,slow=9.6,SNR=10.0						
SDV	**Santo Domingo**	**27.05**	**346**	LR	LR	16 26 57.7	
	comp=Z,40nm,19.0s,baz=347,slow=40						
TKL	**Tuckaleechee C**	**56.11**	**341**	P	**P**	**16 18 26.9**	**0.0**
	comp=Z,1.9nm,0.4s,baz=142,slow=7.2,SNR=4.1						
TXAR	**Lajitas Array**	**60.25**	**320**	P	**P**	**16 18 57.5**	**+1.5**
	comp=Z,0.4nm,0.7s,baz=150,slow=8.2,SNR=4.6						
VNA3	**Neumayer Olymp**	**62.41**	**163**	P	**P**	**16 19 09.6**	**-0.5**
VNA2	**Neumayer--Watz**	**62.92**	**162**	P	**P**	**16 19 12.8**	**-0.6**
	baz=308,slow=7.4						
SNAA	**Sanae**	**64.57**	**162**	P	**P**	**16 19 22.7**	**-1.7**
SNAA	**Sanae**	**64.57**	**162**	P	**P**	**16 19 24.7**	**+0.4**
	comp=Z,2.9nm,0.8s,baz=322,slow=8.8,SNR=6.1						

KOWA	**Kowa**	**67.30**	**66**	P	**P**	**16 19 41.8**	**-0.9**
	comp=Z,0.7nm,0.4s,baz=256,slow=4.2,SNR=2.8						
SDCO	**Great Sand Dun**	**67.37**	**325**	*e*P	**P**	**16 19 44.2**	**+1.0**
	comp=Z,3.8nm,0.8s						
MVCO	**Mesa Verde**	**68.66**	**323**	*e*P	**P**	**16 19 51.9**	**+0.7**
	comp=Z,7.3nm,0.8s						
U15A	**North Rim**	**70.37**	**320**	*e*P	**P**	**16 20 03.2**	**+1.3**
	comp=Z,4.1nm,0.9s						
KNB	**Kanab**	**71.08**	**321**	*e*P	**P**	**16 20 08.3**	**+2.3**
	comp=Z,8.8nm,0.9s						
SRU	**San Rafael Swe**	**71.13**	**323**	*e*P	**P**	**16 20 07.4**	**+1.1**
	comp=Z,4.1nm,1.0s						
P18A	**Preston Nutter**	**71.32**	**324**	*e*P	**P**	**16 20 09.6**	**+2.0**
	comp=Z,6.0nm,0.8s						
MSU	**Marysvale**	**71.68**	**322**	*e*P	**P**	**16 20 11.7**	**+2.0**
ULM	**Lac du Bonnet**	**73.09**	**339**	P	**P**	**16 20 17.8**	**+0.2**
	comp=Z,1.4nm,0.8s,baz=135,slow=1.4,SNR=4.4						
PD31	**Pinedale Array**	**73.13**	**327**	*e*P	**P**	**16 20 18.7**	**+0.5**
PDAR	**Pinedale Array**	**73.13**	**327**	P	**P**	**16 20 19.8**	**+1.5**
	comp=Z,0.8nm,0.6s,baz=120,slow=7.5,SNR=10						
PDAR	**Pinedale Array**	**73.13**	**327**	*e*P	**P**	**16 20 18.8**	**+0.5**
MOOW	**Moose Ponds**	**74.44**	**327**	*e*P	**P**	**16 20 27.6**	**+1.7**
	comp=Z,4.9nm,1.0s						
FXWY	**Fox Creek**	**74.51**	**327**	*e*P	**P**	**16 20 28.0**	**+1.6**
	comp=Z,2.2nm,0.8s						
IMW	**Indian Meadow**	**74.64**	**327**	*e*P	**P**	**16 20 29.1**	**+1.9**
	comp=Z,8.2nm,0.8s						
RLMT	**Red Lodge**	**74.65**	**329**	*e*P	**P**	**16 20 28.4**	**+1.3**
	comp=Z,6.7nm,1.1s						
YHH	**Holmes Hill**	**75.22**	**328**	*e*P	**P**	**16 20 33.1**	**+2.6**
	comp=Z,4.1nm,0.8s						
NVAR	**Mina Array Bea**	**75.35**	**319**	P	**P**	**16 20 31.9**	**+0.6**
	comp=Z,1.0nm,0.8s,baz=131,slow=6.1,SNR=6.3						
HLID	**Hailey**	**76.28**	**325**	*e*P	**P**	**16 20 38.6**	**+2.2**
	comp=Z,4.5nm,0.8s						
MCMT	**McKenzie Canyo**	**76.28**	**327**	*e*P	**P**	**16 20 38.6**	**+2.1**
MFID	**Camas Ranch**	**76.97**	**324**	*e*P	**P**	**16 20 42.5**	**+2.3**
	comp=Z,9.4nm,1.4s						
BMO	**Blue Mountains**	**78.70**	**325**	*e*P	**P**	**16 20 51.3**	**+1.4**
	comp=Z,4.6nm,1.0s						
ESDC	**Sonseca Array**	**79.88**	**43**	P	**P**	**16 20 57.9**	**+1.5**
	comp=Z,0.5nm,0.6s,baz=258,slow=5.5,SNR=4.3						
EDM	**Edmonton**	**82.24**	**333**	*e*P	**P**	**16 21 08.8**	**+0.2**
	comp=Z,5.3nm,0.8s						
YKA	**Yellowknife Ar**	**89.06**	**339**	P	**P**	**16 21 43.4**	**+1.2**
	comp=Z,2.9nm,0.8s,baz=121,slow=4.4,SNR=56						
ASAR	**Alice Springs**	**135.40**	**204**	PKP	**PKPdf**	**16 28 09.4**	**+1.0**
	comp=Z,0.7nm,0.8s,baz=157,slow=2.7,SNR=7.1						
KURK	**Kurchatov**	**135.58**	**33**	PKP	**PKPdf**	**16 28 07.4**	**-0.3**
KURBB	**Kurchatov Arra**	**135.58**	**34**	PKP	**PKPdf**	**16 28 07.4**	**-0.3**
	comp=Z,0.4nm,0.8s,baz=326,slow=3.5,SNR=3.3						
ZALV	**Zalesovo Beam**	**136.46**	**26**	PKP	**PKPdf**	**16 28 09.8**	**+0.5**
	comp=Z,0.8nm,0.5s,baz=289,slow=3.8,SNR=6.6						
WRA	**Warramunga Arr**	**138.56**	**207**	PKP	**PKPdf**	**16 28 15.1**	**+0.9**
	comp=Z,1.2nm,0.9s,baz=150,slow=1.7,SNR=8.2						
SONM	**Songino Array**	**148.82**	**12**	PKPbc	**PKPab**	**16 28 36.7**	**-2.4**
	comp=Z,2.8nm,0.8s,baz=291,slow=0.9,SNR=14						
USRK	**Ussuriysk Ar.**	**150.17**	**336**	PKPbc	**PKPbc**	**16 28

STON					Sg	Sg	17 03 04.9	+0.6
STON	**Ston**	**0.85**	**312**	*e*Pg	Pb	17 02 51.3	-1.7
STON				*e*Sg	Sn	17 03 05.7	-0.5
PUK	**Puka**	**1.02**	**105**	*i* Pg	Pb	17 02 53.2	-2.7
	baz=83						
PUK	**Puka**	**1.02**	**105**	*i* PG	Pb	17 02 53.2	-2.7
PUK				*i* SG	Sn	17 03 11.1	+0.7
BCI	**Bajram Curri**	**1.11**	**86**	*i* Pg	Pb	17 02 53.2	-4.3
	baz=89						
BCI	**Bajram Curri**	**1.11**	**86**	*i* PG	Pb	17 02 53.2	-4.3
BCI				*i* SG	Sn	17 03 14.6	+1.8
SJES	**Sjenica**	**1.41**	**47**	*e*Pg	Pn	17 03 01.1	-0.6
SJES				*e*Sg	Sg	17 03 21.2	-0.8
	60nm,0.7s						
SJES				*e*Sg	Sb	17 03 21.9	+1.5
	46nm,0.5s						
PHP	**Peshkopia**	**1.53**	**113**	*i* Pn	Pn	17 03 01.2	-2.1
	baz=98						
PHP				*i* Sn	Sn	17 03 22.9	-0.1
	baz=98						
PHP	**Peshkopia**	**1.53**	**113**	*i* PN	Pn	17 03 01.2	-2.1
PHP				*i* SN	Sn	17 03 22.9	-0.1
IVAS	**Ivanjica**	**1.72**	**42**	*e*Pg	Pb	17 03 07.6	-0.3
IVAS				*e*Sg	Sg	17 03 31.3	-0.7
	28nm,0.7s						
IVAS				*e*Sg	Sb	17 03 31.9	+2.5
	9.0nm,0.4s						
IVAS	**Ivanjica**	**1.72**	**42**	*e*Pg	Pb	17 03 07.6	-0.3
	baz=1.0						
IVAS				*e*Sg	Sg	17 03 31.3	-0.7
	28nm,0.7s,baz=1.0						
HAPS	**Han Pijesak,BI**	**1.80**	**9**	*e*Pn	Pb	17 03 08.9	-0.3
DIVS	**Divibare**	**2.07**	**30**	*e*Pg	Pb	17 03 13.5	-0.4
DIVS				*e*Sg	Sg	17 03 41.8	-1.3
	2.3nm,0.7s						
DIVS				*e*Sg	Sb	17 03 42.0	+2.6
	9.8nm,1.0s						
DIVS	**Divibare**	**2.07**	**30**	*e*Pg	Pb	17 03 13.5	-0.4
	baz=3.0						
DIVS				*e*Sg	Sg	17 03 42.0	-1.1
	9.8nm,1.0s,baz=4.0						
SELS	**Selova**	**2.09**	**63**	*e*Pn	Pn	17 03 10.7	-0.3
SELS	**Selova**	**2.09**	**63**	*e*Pn	Pn	17 03 10.7	-0.3
	baz=3.0						

MOS ***17*** *17:06:30.9±1.0,2.°07N×92.°44E,h14km,mb4.9/27,Error ellipse: s-maj=9.4km s-min=5.1km az=113.3*

IDC ***17*** *17:06:30.8±0.6,2.°06N×92.°45E,h0km,mb4.4/21, mb1 4.5/24,mb1mx4.2/65,mbtmp4.4/24,ML4.2/3,MS3.6/20, Ms1 3.6/20,ms1mx3.3/61,Error ellipse: s-maj=24.6km s-min=12.1km az=45.0*

NEIC ***17*** *17:06:32.7±2.0,2.°06N×92.°43E,h14km±13km,mb4.8/42, Error ellipse: s-maj=5.9km s-min=3.6km az=54.0*

ISCJB ***17*** *17:06:33.7±0.2,2.°05N±0.°03×92.°49E±0.°03,h33km, mb4.6/89,MS3.8/24,Error ellipse: s-maj=5.0km s-min=2.9km az=34.2*

DJA ***17*** *17:06:41.8±1.0,2.°N±3.°×9.°3E±.°,h67km±19km,M4.8/14, mb4.8/14,mB5.1/7,MLv5.0/10,Mw(mB)4.5/7*

ISC 17 17:06:35.8±0.4, 2.°08N±0.°05×92.°54E±0.°05, h35km, n284, σ1§52/280, mb4.7/99, MS3.7/24, 14C-14D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BSI	**Banda Aceh**	**4.37**	**39**	P		**Pn**	**17 07 40.0**	**+0.2**
BSI				S		**Sn**	**17 08 25.3**	**-4.3**
MLSI	**Meulaboh, Aceh**	**4.43**	**60**	P		**Pn**	**17 07 41.7**	**+1.1**
MLSI				S		Sn	17 08 20.2	-11
TPTI		**4.78**	**76**	P		**Pn**	**17 07 46.2**	**+0.7**
TPTI				S		**Sn**	**17 08 34.7**	**-5.0**
GSI	**Gunungsitoli**	**5.09**	**99**	P		**Pn**	**17 07 50.9**	**+1.2**
GSI	**Gunungsitoli**	**5.09**	**99**	*e*Pn		**Pn**	**17 07 50.6**	**+0.9**
GSI				*e*Sn		Sn	17 08 38.3	-9.0
LHMI	**Lhok Sumawe**	**5.40**	**54**	P		**Pn**	**17 07 55.2**	**+1.3**
LHMI	**Lhok Sumawe**	**5.40**	**54**	*e*Pn		**Pn**	**17 07 56.0**	**+2.1**
PBSI	**Pulau Batu**	**6.12**	**110**	P		**Pn**	**17 08 04.6**	**+0.8**
TSI	**Tuntungan**	**6.18**	**77**	P		**Pn**	**17 08 06.5**	**+1.8**
PSI	**Prapat**	**6.42**	**83**	Pn		**Pn**	**17 08 09.1**	**+1.0**
	3.4nm,0.3s,baz=265,slow=9.8,SNR=8.6							
PSI				Sn		**Sn**	**17 09 12.4**	**-7.8**
	3.1nm,0.3s,baz=297,slow=16,SNR=2.3							
PSI				LR		LR	17 09 53.2	
	comp=Z,38nm,21.5s,baz=182,slow=31							
PSI	**Prapat**	**6.42**	**83**	*e*Pn		**Pn**	**17 08 09.1**	**+1.0**
PSI				*e*Sn		**Sn**	**17 09 12.8**	**-7.4**
MNSI	**Mandailing Nat**	**7.15**	**100**	P		**Pn**	**17 08 18.9**	**+0.9**
SISI	**Saibi**	**7.37**	**117**	P		**Pn**	**17 08 22.2**	**+1.2**
PKDT	**Phuket**	**8.17**	**45**	P		**Pn**	**17 08 31.4**	**-0.6**
	68nm,0.8s,911nm0.3nm							
PDSI	**Padang**	**8.46**	**110**	P		**Pn**	**17 08 37.6**	**+1.6**
BKNI	**Bangkinang**	**8.67**	**101**	P		Pn	17 08 30.5	-8.4
BKNI	**Bangkinang**	**8.67**	**101**	*e*Pn		**Pn**	**17 08 41.1**	**+2.1**
IPM	**Ipoh**	**8.80**	**74**	*e*Pn		**Pn**	**17 08 41.7**	**+1.0**
IPM				*e*Sn		**Sn**	**17 10 12.2**	**-6.6**
PPSI	**Pulau Pagai**	**8.88**	**123**	P		**Pn**	**17 08 42.9**	**+1.1**
	461nm,0.8s,4μm							
TRTT	**Trang**	**9.14**	**51**	P		**Pn**	**17 08 44.6**	**-0.7**
	28nm,0.8s,387nm							
SKLT	**Songkhla**	**9.51**	**58**	P		**Pn**	**17 08 50.4**	**0.0**
	108nm,0.9s,848nm							
PBA	**Port Blair**	**9.52**	**1**	*e*P		Pn	17 08 48.6	-1.9
PBA	**Port Blair**	**9.52**	**1**	*e*Pn		Pn	17 08 49.8	-0.8
PBA				*e*Sn		Sn	17 10 20.9	-16
MASI	**Maura Aman, Be**	**10.99**	**118**	P		**Pn**	**17 09 12.2**	**+1.4**
	64nm,0.7s							
DGPR	**DIGLIPUR**	**11.04**	**2**	*e*P		**Pn**	**17 09 09.3**	**-2.1**
MYKOM	**Kota Tinggi**	**11.31**	**91**	*e*Pn		**Pn**	**17 09 14.8**	**-0.2**
MNAI	**Manna**	**12.21**	**122**	P		**Pn**	**17 09 28.4**	**+0.9**
	186nm,1.3s							
MNAI	**Manna**	**12.21**	**122**	*e*Pn		**Pn**	**17 09 27.1**	**-0.3**
MNAI				*e*Sn		Sn	17 11 26.8	-16
PALK	**Pallekele**	**12.88**	**294**	Pn		**Pn**	**17 09 34.6**	**-2.0**
	2.7nm,0.3s,baz=117,slow=12,SNR=17							
PALK				Sn		Sn	17 11 43.9	-15
	7.5nm,0.3s,baz=115,slow=5.9,SNR=14							
PALK				LR		LR	17 13 46.6	
	comp=Z,385nm,20.0s,baz=116,slow=34							
PALK	**Pallekele**	**12.88**	**294**	*e*Pn		**Pn**	**17 09 34.0**	**-2.6**
PALK				*e*Sn		Sn	17 11 45.8	-13
PALK	**Pallekele**	**12.88**	**294**	*e*P		**Pn**	**17 09 34.0**	**-2.6**
MDSI	**Maura Dua**	**13.33**	**119**	P		**Pn**	**17 09 43.8**	**+1.1**
LWLI	**Liwa**	**13.49**	**122**	P		**Pn**	**17 09 46.3**	**+1.3**
	62nm,0.8s							
KASI	**Kota Agung**	**14.13**	**122**	P		**Pn**	**17 09 55.0**	**+1.4**
	23nm,1.1s							
CHBT	**CHBT**	**14.37**	**42**	P		P	17 10 09.8	+6.4
COCO	**West Island**	**14.80**	**163**	*e*Pn		**Pn**	**17 10 02.1**	**-0.6**
COCO	**West Island**	**14.80**	**163**	P		**Pn**	**17 10 02.1**	**-0.6**
MDRS	**Chennai**	**16.35**	**313**	*e*P		**Pn**	**17 10 22.2**	**-0.7**
MDRS				IAmb		IAmb	17 10 23.6	
	comp=Z,43nm,0.4s							
CHAI	**Chaiyaphum**	**16.60**	**34**	P		**P**	**17 10 32.4**	**+4.3**
	comp=Z,6.0nm,0.9s							
PBKT	**Sadao Pong**	**16.62**	**29**	P		**P**	**17 10 28.3**	**-0.1**
PBKT	**Sadao Pong**	**16.62**	**29**	*e*Pn		**Pn**	**17 10 25.1**	**-1.2**
	comp=Z,11nm,0.7s							
TRD	**Trivandrum**	**16.77**	**293**	*e*P		**Pn**	**17 10 26.0**	**-2.2**
TRD				IAmb		IAmb	17 10 30.5	
	comp=Z,16nm,0.8s							
CM01	**Chiang Mai Arr**	**17.42**	**21**	*e*Pn		**Pn**	**17 10 35.2**	**-1.1**
CM31	**Chiang Mai Arr**	**17.45**	**21**	*e*Pn		**Pn**	**17 10 36.0**	**-0.7**
CMAR	**Chiang Mai Arr**	**17.45**	**21**	P		**Pn**	**17 10 36.1**	**-0.6**
	comp=Z,0.2nm,0.3s,baz=214,slow=13,SNR=23							
CMAR				LR		LR	17 18 03.6	
	comp=Z,142nm,18.3s,baz=207,slow=40							
LEM	**Lembang**	**17.45**	**121**	LR		LR	17 18 13.2	
	comp=Z,133nm,19.1s,baz=135,slow=40							
KSM	**Kuching**	**17.77**	**92**	*e*Pn		**Pn**	**17 10 40.5**	**-0.1**
	comp=Z,12nm,1.1s							
CHTO	**Chiang Mai**	**17.78**	**20**	*e*Pn		**Pn**	**17 10 39.4**	**-1.3**
	comp=Z,9.2nm,0.9s							
CHTO	**Chiang Mai**	**17.78**	**20**	P		**Pn**	**17 10 39.4**	**-1.3**
VIS	**Vishakhapatnam**	**17.99**	**330**	*e*P		**Pn**	**17 10 41.6**	**-1.7**
VIS				IAmb		IAmb	17 10 42.7	
	comp=Z,1μm,0.0s							
CISI	**Cisompet, Garu**	**17.99**	**122**	*e*Pn		**Pn**	**17 10 43.6**	**+0.2**
	comp=Z,31nm,1.0s							
SBUM	**Sibu**	**19.67**	**89**	*e*P		**Pn**	**17 11 03.3**	**-0.4**
	comp=Z,7.6nm,1.0s							
SAIH	**SAIHA**	**20.30**	**1**	*e*P		**P**	**17 11 09.3**	**+0.4**
SAIH				IAmb		IAmb	17 11 10.7	
	comp=Z,16nm,0.8s							
HYB	**Hyderabad**	**20.52**	**319**	*i* P		**P**	**17 11 12.0**	**+0.6**
HYB	**Hyderabad**	**20.52**	**319**	*e*P		**P**	**17 11 10.5**	**-0.9**
HYB				IAmb		IAmb	17 11 13.8	
	comp=Z,22nm,0.7s							
AZL	**Aizawl**	**21.54**	**0**	*e*P		**P**	**17 11 21.5**	**-0.7**
AZL				IAmb		IAmb	17 11 26.9	
	comp=Z,29nm,1.2s							
H08S2	**Diego Garcia H**	**22.21**	**244**	T		T	17 33 49.4	
	baz=64,slow=75,SNR=3.7							
H08S3	**Diego Garcia H**	**22.21**	**244**	T		T	17 33 34.5	
	baz=64,slow=75,SNR=4.7							
H08S1	**Diego Carcia H**	**22.22**	**244**	T		T	17 33 36.5	
	baz=64,slow=75,SNR=3.1							
BOK	**Bokaro**	**22.53**	**344**	*e*P		**P**	**17 11 33.2**	**+0.3**
BOK				IAmb		IAmb	17 11 36.0	
	comp=Z,179nm,1.7s							
IMP	**Imphal**	**22.66**	**3**	*e*P		**P**	**17 11 34.3**	**-0.1**
IMP				IAmb		IAmb	17 11 35.9	
	comp=Z,12nm,0.8s							
NGP	**Nagpur**	**23.07**	**326**	*e*P		**P**	**17 11 37.6**	**-0.9**
NGP				IAmb		IAmb	17 11 42.0	
	comp=Z,26nm,0.3s							
SHL	**Shillong**	**23.36**	**359**	*e*P		**P**	**17 11 41.6**	**+0.1**
SHL	**Shillong**	**23.36**	**359**	*e*P		**P**	**17 11 39.6**	**-2.0**
	comp=Z,30nm,0.7s							
SHL	**Shillong**	**23.36**	**359**	P		**P**	**17 11 43.3**	**+1.7**
SHL				pmax		pmax		
	comp=Z,39nm,0.7s							
TURI	**Tura**	**23.44**	**355**	*e*P		**P**	**17 11 39.8**	**-2.3**
KOHI	**KOHIMA**	**23.56**	**4**	*e*P		**P**	**17 11 42.7**	**-0.7**
DHUB	**DHUBRI**	**23.93**	**354**	*e*P		**P**	**17 11 46.0**	**-0.7**
DHUB				IAmb		IAmb	17 11 48.0	
	comp=Z,16nm,0.6s							
KKM	**Kota Kinabalu**	**23.94**	**80**	*e*P		**P**	**17 11 48.4**	**+1.3**
	comp=Z,13nm,1.2s							
MOKO	**MOKOCHONG**	**24.18**	**4**	*e*P		**P**	**17 11 49.0**	**-0.3**
MOKO				IAmb		IAmb	17 11 51.3	
	comp=Z,38nm,1.1s							
POO	**Poona**	**24.56**	**313**	*e*P		**P**	**17 11 52.0**	**-0.7**
KMI	**Kunming**	**24.94**	**22**	P		**P**	**17 11 58.3**	**+2.1**
KMI				pmax		pmax		
	comp=Z,26nm,0.8s							
KMI				pmax		pmax		
	comp=Z,120nm,4.8s							
ITAN	**ITANAGAR**	**24.95**	**2**	*e*P		**P**	**17 11 56.3**	**+0.2**
ITAN				IAmb		IAmb	17 11 58.8	
	comp=Z,25nm,0.7s							
ODAN	**Odare**	**25.14**	**349**	*e*P		**P**	**17 11 59.0**	**+1.0**
	comp=Z,43nm,0.6s							
LKP	**Lekhapani**	**25.32**	**7**	*e*P		**P**	**17 11 59.1**	**-0.2**
ZIRO	**ZIRO**	**25.34**	**3**	*e*P		**P**	**17 12 00.3**	**+0.5**
ZIRO				IAmb		IAmb	17 12 03.3	
	comp=Z,31nm,0.5s							
RAMN	**Ramite**	**25.38**	**348**	*e*P		**P**	**17 12 01.7**	**+1.4**
	comp=Z,49nm,0.6s							
BHPL	**Bhopal**	**25.64**	**326**	*e*P		**P**	**17 12 03.1**	**+0.6**
BHPL				IAmb		IAmb	17 12 03.8	
	comp=Z,14nm,0.4s							
MYLDM	**Lahad Datu**	**26.09**	**82**	*e*P		**P**	**17 12 06.0**	**-0.6**
	comp=Z,26nm,1.5s							
JIRN	**Jiri**	**26.16**	**347**	*e*P		**P**	**17 12 08.4**	**+1.0**
PKIN	**Phulchoki**	**26.27**	**346**	*e*P		**P**	**17 12 09.1**	**+0.8**
DMN	**Daman**	**26.37**	**345**	*e*P		**P**	**17 12 09.9**	**+0.7**
	comp=Z,18nm,0.8s							
GUN	**Gumba**	**26.47**	**347**	*e*P		**P**	**17 12 11.0**	**+0.8**
	comp=Z,42nm,0.6s							
KKN	**Kakani**	**26.50**	**345**	*e*P		**P**	**17 12 10.8**	**+0.5**
	comp=Z,12nm,0.6s							
GKN	**Gorkha**	**26.87**	**344**	*e*P		**P**	**17 12 14.3**	**+0.7**
	comp=Z,63nm,1.0s							
KOLN	**Koldanda**	**26.94**	**342**	*e*P		**P**	**17 12 15.1**	**+0.7**
	comp=Z,28nm,0.9s							
PYUN	**Puthn**	**27.44**	**341**	*e*P		**P**	**17 12 19.4**	**+0.6**
	comp=Z,40nm,0.9s							
LSA	**Lhasa**	**27.51**	**357**	*e*P		**P**	**17 12 21.2**	**+1.5**
	comp=Z,35nm,0.6s							
LSA	**Lhasa**	**27.51**	**357**	P		**P**	**17 12 21.2**	**+1.5**
LSA				pmax		pmax		
	comp=Z,35nm,0.7s							
GYA	**Guiyang**	**27.78**	**28**	*e*P		**P**	**17 12 24.3**	**+2.5**
GYA				pmax		pmax		
	comp=Z,10.0nm,0.7s							
CD2	**Chengdu**	**30.58**	**19**	*e*P		**P**	**17 12 48.0**	**+1.5**
CD2				pmax		pmax		
	comp=Z,10.0nm,0.5s							
DDI	**Dehra Dun**	**31.27**	**335**	*e*P		**P**	**17 12 52.2**	**-0.4**
SMLA	**Simla**	**32.35**	**335**	*e*P		**P**	**17 13 02.6**	**+0.7**
SMLA				IAmb		IAmb	17 13 03.1	
	comp=Z,22nm,0.7s							
DAV	**Davao City (W)**	**33.29**	**80**	LR		LR	17 28 26.0	
	comp=Z,41nm,18.0s,baz=220,slow=39							
BATI	**Baumata**	**33.30**	**112**	LR		LR	17 30 05.8	
	comp=Z,92nm,18.7s,baz=286,slow=42							
DHRM	**DHARAMSHALA**	**33.69**	**335**	*e*P		**P**	**17 13 12.9**	**-1.1**
XAN	**Xi'an**	**35.29**	**24**	P		**P**	**17 13 27.5**	**-0.1**
XAN				pP		pP	17 13 39.8	+2.0
XAN				pmax		pmax		
	comp=Z,19nm,0.8s							
XAN				pmax		pmax		
	comp=Z,98nm,5.5s							
XAN				LR		LR		
	comp=Z,160nm,19.5s							
XAN				LR		LR		
	comp=Z,160nm,22.8s							
LZH	**Lanzhou**	**35.43**	**16**	*e*P		**P**	**17 13 32.8**	**+3.9**
LZH				pP		pP	17 13 36.6	-2.4
LZH				sP		sP	17 13 39.3	-4.0
LZH				pmax		pmax		
	comp=Z,41nm,1.2s							
LZH				pmax		pmax		
	comp=Z,130nm,4.3s							
NIL	**Nilore**	**36.23**	**332**	*e*P		**P**	**17 13 35.4**	**-0.3**
	comp=Z,20nm,0.7s							
NIL	**Nilore**	**36.23**	**332**	P		**P**	**17 13 35.4**	**-0.3**
NIL				pmax		pmax		
	comp=Z,20nm,0.7s							
YOJ	**Yonaguni jima**	**36.90**	**50**	*e*P		**P**	**17 13 43.1**	**+1.7**
	comp=Z,65nm,1.0s							
YOJ	**Yonaguni jima**	**36.90**	**50**	P		**P**	**17 13 43.1**	**+1.7**
GTA	**Gaotai**	**37.75**	**9**	*e*P		**P**	**17 13 49.4**	**+0.8**
GTA				pP		pP	17 13 54.1	-4.7
GTA				sP		sP	17 13 57.3	-5.7
GTA				pmax		pmax		
	comp=Z,6.0nm,0.8s							
FITZ	**Fitzroy Crossi**	**38.26**	**123**	P		**P**	**17 13 53.3**	**+0.2**
	comp=Z,4.9nm,0.8s,baz=306,slow=6.0,SNR=13							
FITZ	**Fitzroy Crossi**	**38.26**	**123**	*e*P		**P**	**17 13 53.6**	**+0.5**
	comp=Z,6.0nm,0.8s							
NJ2	**Nanjing**	**38.77**	**37**	*e*P		**P**	**17 13 58.1**	**+1.0**
NJ2				pmax		pmax		
	comp=Z,19nm,0.6s							
WSAR	**Wadi Sarin**	**39.01**	**305**	LR		LR	17 27 54.0	
	comp=Z,65nm,22.0s,baz=100,slow=33							
KBL	**Kabul**	**39.03**	**328**	*e*P		**P**	**17 13 57.8**	**-1.7**
	comp=Z,2.5nm,0.8s							
KBL	**Kabul**	**39.03**	**328**	P		**P**	**17 13 57.8**	**-1.7**
KBL				pmax		pmax		
	comp=Z,3.0nm,0.8s							
SFK	**Sufi-Kurgan**	**41.53**	**338**	P		**P**	**17 14 20.6**	**+0.4**
SFK				pmax		pmax		
	comp=Z,21nm,1.1s							
TARG	**Taragay, Kyrgy**	**41.65**	**343**	*e*P		**P**	**17 14 22.0**	**+0.7**
	comp=Z,17nm,1.6s							
WMQ	**Urumqi**	**41.79**	**355**	P		**P**	**17 14 22.9**	**+0.8**
WMQ				pmax		pmax		
	comp=Z,22nm,2.2s							
WMQ				pmax		pmax		
	comp=Z,150nm,3.7s							
WMQ				LR		LR		
	comp=Z,140nm,22.3s							
WMQ				LR		LR		
	comp=Z,65nm,23.9s							
WMQ				LR		LR		
	comp=Z,130nm,23.9s							
NWAO	**Narrogin (SRO)**	**41.91**	**148**	LR		LR	17 30 07.2	
	comp=Z,158nm,19.4s,slow=34							
NWAO	**Narrogin (SRO)**	**41.91**	**148**	*e*P		**P**	**17 14 24.7**	**+1.5**
	comp=Z,46nm,1.4s							
KDJ	**Kajisay**	**42.20**	**343**	*e*P		**P**	**17 14 26.1**	**+0.5**
	comp=Z,7.6nm,0.7s							
KDJ	**Kajisay**	**42.20**	**343**	*e*P		**P**	**17 14 26.1**	**+0.5**
HHC	**Hu-ho-hao-te**	**42.26**	**22**	*e*P		**P**	**17 14 28.0**	**+2.0**
HHC				S		**S**	**17 20 52.1**	**+7.7**
HHC				pmax		pmax		
	comp=Z,34nm,1.0s							
HHC				pmax		pmax		
	comp=Z,74nm,5.8s							
HHC				LR		LR		
	comp=Z,740nm,14.0s							
HHC				LR		LR		
	comp=Z,870nm,14.9s							
HHC				LR		LR		
	comp=Z,1μm,14.1s							
ULHL	**Ulahol**	**42.58**	**342**	P		**P**	**17 14 29.2**	**+0.5**
	SNR=8.9							
PDGK	**Podgornoye**	**42.69**	**346**	P		**P**	**17 14 29.9**	**+0.4**
PDGK				pmax		pmax		
	comp=Z,14nm,1.2s							
KZA	**Kyzart**	**42.74**	**341**	P		**P**	**17 14 31.0**	**+0.7**
	SNR=6.5							
UCH	**Uchtor**	**43.12**	**340**	P		**P**	**17 14 34.2**	**+0.8**
	SNR=11							
AML	**Almayashu**	**43.32**	**339**	P		**P**	**17 14 35.4**	**+0.5**
	SNR=21							
KBK	**Karagaybulak**	**43.36**	**341**	P		**P**	**17 14 36.1**	**+1.1**
	SNR=9.0							
TKM2	**Tokmak 2**	**43.40**	**342**	P		**P**	**17 14 35.6**	**+0.3**
	SNR=9.3							
TKM2	**Tokmak 2**	**43.40**	**342**	P		**P**	**17 14 35.5**	**+0.2**
TKM2				pmax		pmax		
	comp=Z,5.0nm,0.7s							
AAK	**Ala-Archa**	**43.49**	**341**	*e*P		**P**	**17 14 36.3**	**+0.2**
	comp=Z,7.9nm,1.4s							
AAK	**Ala-Archa**	**43.49**	**341**	*e*P		**P**	**17 14 34.6**	**-1.5**
AAK				pmax		pmax		
	comp=Z,2.0nm,1.0s							
EKS2	**Erkin-Say**	**43.76**	**340**	P		**P**	**17 14 39.2**	**+1.1**
	SNR=10							
MNAS	**Manas**	**44.05**	**339**	P		**P**	**17 14 40.6**	**0.0**
MNAS				pmax		pmax		
	comp=Z,7.0nm,1.0s							
KK31	**Karatay Array**	**45.33**	**337**	*e*P		**P**	**17 14 50.4**	**-0.2**
KK31	**Karatay Array**	**45.33**	**337**	*i* P		**P**	**17 14 50.6**	**0.0**
KK31				pmax		pmax		
	comp=Z,5.0nm,0.6s							
KKAR	**Karatay Array**	**45.33**	**337**	*e*P		**P**	**17 14 50.1**	**-0.5**
KKAR	**Karatay Array**	**45.33**	**337**	*e*P		**P**	**17 14 50.1**	**-0.5**
MK01	**Makanchi Array**	**45.40**	**350**	*e*P		**P**	**17 14 51.0**	**-0.1**
MK31	**Makanchi Array**	**45.43**	**350**	*e*P		**P**	**17 14 51.2**	**-0.1**
MK31	**Makanchi Array**	**45.43**	**350**	P		**P**	**17 14 51.4**	**+0.1**
MK31				pmax		pmax		
	comp=Z,8.0nm,0.7s							
MK32	**Makanchi Array**	**45.43**	**350**	*e*P		**P**	**17 14 51.6**	**+0.4**
MKAR	**Makanchi Array**	**45.43**	**350**	P		**P**	**17 14 51.6**	**+0.4**
	comp=Z,8.6nm,0.7s,baz=167,slow=8.8,SNR=114							
MKAR	**Makanchi Array**	**45.43**	**350**	*e*P		**P**	**17 14 51.3**	**0.0**
	comp=Z,52nm,0.8s							
MKAR	**Makanchi Array**	**45.43**	**350**	*e*P		**P**	**17 14 51.3**	**0.0**
MAKZ	**Makanchi**	**45.50**	**350**	*e*P		**P**	**17 14 51.2**	**-0.6**
	comp=Z,4.7nm,0.8s							
WR1	**Warramunga Arr**	**46.48**	**120**	*e*P		**P**	**17 15 00.5**	**+0.5**
	comp=Z,42nm,0.8s							
WRA	**Warramunga Arr**	**46.48**	**120**	P		**P**	**17 15 00.5**	**+0.5**
	comp=Z,4.9nm,0.5s,baz=298,slow=8.6,SNR=39							
WRAB	**Tennant Creek**	**46.48**	**120**	*e*P		**P**	**17 15 00.1**	**+0.1**
	comp=Z,8.5nm,0.8s							
WRAB	**Tennant Creek**	**46.48**	**120**	*ce*P		**P**	**17 15 01.1**	**+1.1**
WRAB				pmax		pmax		
	comp=Z,14nm,1.7s							
WB2	**Warramunga Arr**	**46.48**	**120**	*e*P		**P**	**17 14 60.0**	**-0.1**
SONA0	**Songino Array**	**47.13**	**13**	*e*P		**P**	**17 15 05.8**	**+1.0**
SONA0				*e*PcP		**PcP**	**17 16 36.8**	**+0.7**
SONM	**Songino Array**	**47.13**	**13**	P		**P**	**17 15 05.8**	**+1.0**
	comp=Z,16nm,1.0s,baz=191,slow=9.6,SNR=47							
SONM				PcP		**PcP**	**17 16 36.8**	**+0.7**
	comp=Z,0.5nm,0.5s,baz=191,slow=2.9,SNR=2.3							
SONM				LR		LR	17 37 40.3	
	comp=Z,102nm,18.7s,baz=249,slow=40							
SONA1	**Songino Array**	**47.15**	**13**	*e*P		**P**	**17 15 05.6**	**+0.7**
GEYT	**Alibeck**	**47.63**	**323**	P		**P**	**17 15 09.7**	**+0.9**
	comp=Z,9.3nm,0.7s,baz=154,slow=8.2,SNR=25							
GEYT				LR		LR	17 35 44.2	
	comp=Z,119nm,21.2s,baz=185,slow=37							
GYA0B	**ALIBECK ARRAY**	**47.63**	**323**	*e*P		**P**	**17 15 09.6**	**+0.8**
	comp=Z,10nm,0.7s							
DGZ	**Jazzator, Alta**	**47.65**	**356**	*i* P		**P**	**17 15 09.9**	**+1.1**
DGZ				pmax		pmax		
	comp=Z,4.0nm,0.6s							
ASAR	**Alice Springs**	**47.67**	**125**	P		**P**	**17 15 09.8**	**+0.5**
	comp=Z,0.7nm,0.4s,baz=298,slow=7.3,SNR=17							
ASAR				PcP		**PcP**	**17 16 39.3**	**+0.8**
	comp=Z,0.7nm,0.7s,baz=298,slow=4.3,SNR=4.5							
AS31	**Alice Springs**	**47.67**	**125**

BOD pmax pmax
comp=Z,7.0nm,1.0s
ZEA Zeya 58.87 23 *e*P **P** 17 16 31.1 +0.1
ZEI Tsey 59.30 320 *e*P **P** 17 16 34.5 0.0
ZEI pmax pmax
comp=Z,3.0nm,0.6s
NCK Nalchik 59.85 321 *i* P **P** 17 16 37.6 -0.4
NCK pmax pmax
comp=Z,11nm,1.2s
CRZF Crozet Islands 60.12 211 *e*P **P** 17 16 39.3 -0.4
comp=Z,160nm,1.5s
SVE Sverdlovsk 60.23 340 *e*P **P** 17 16 39.8 -0.6
SVE pmax pmax
comp=Z,21nm,1.0s
NEY Neytrino 60.28 320 *i* P **P** 17 16 41.1 -0.1
NEY pmax pmax
comp=Z,1.0nm,0.8s
KBZ Khabaz 60.40 321 P **P** 17 16 42.4 +0.6
comp=Z,6.8nm,0.8s,baz=116,slow=5,2,SNR=22
ARU Arti 60.64 339 *e*P **P** 17 16 41.2 -2.0
comp=Z,8.0nm,1.0s
ARU Arti 60.64 339 *d*P **P** 17 16 41.9 -1.3
ARU 17 17 25.6
ARU S **S** 17 24 58.2 +1.2
ARU SS **SS** 17 28 52.0 -4.0
ARU pmax pmax
comp=Z,15nm,1.7s
KIV Kislovodsk 60.65 321 *e*P **P** 17 16 43.9 +0.3
comp=Z,10nm,0.8s
KIV Kislovodsk 60.65 321 *e*P **P** 17 16 42.2 -1.4
KIV pmax pmax
comp=Z,15nm,1.1s
MMAI Mount Meron Ar 61.63 307 LR LR 17 44 29.7
comp=Z,38nm,19.6s,baz=85,slow=37
YSS Yuzh-Sakhalins 62.34 36 *e*P P 17 17 08.4 +14
YSS pmax pmax
comp=Z,10.0nm,0.9s
BR101 Keskin Array S 65.10 313 *e*P **P** 17 17 13.3 -0.1
BR131 Keskin Array S 65.10 313 *e*P **P** 17 17 12.4 -1.0
BRTR Keskin Array B 65.10 313 P **P** 17 17 13.3 -0.1
comp=Z,3.1nm,0.7s,baz=132,slow=7,0,SNR=25
BRTR LR LR 17 46 49.8
comp=Z,20nm,19.1s,baz=101,slow=37
ILGA Ilgaz 65.49 315 *e*P **P** 17 17 14.8 -1.2
comp=Z,8.8nm,0.5s
ANTO Ankara 65.77 313⇑ *i*P **P** 17 17 18.0 +0.4
ANTO Ankara 65.77 313 *e*P **P** 17 17 17.4 -0.2
comp=Z,9.6nm,0.7s
ANTO Ankara 65.77 313 *e*P **P** 17 17 17.4 -0.2
BR231 Keskin MP Arra 65.77 313 *e*P **P** 17 17 14.0 -3.7
LSZ Lusaka 65.92 252 *e*P **P** 17 17 17.1 -1.9
comp=Z,25nm,1.9s
LSZ Lusaka 65.92 252 *e*P **P** 17 17 17.1 -1.9
YAK Yakutsk 65.97 18 *e*P **P** 17 17 17.8 -0.5
comp=Z,21nm,0.9s
YAK Yakutsk 65.97 18 *e*P **P** 17 17 17.1 -1.2
YAK *e* 17 17 44.7
YAK *e*PPP PPP 17 21 17.1
YAK *e*S **S** 17 25 59.9 -3.4
YAK *e**SS **sS** 17 26 21.2 +0.2
YAK *e* 17 27 13.1
YAK *e*SS **SS** 17 30 23.6 +4.7
YAK *e*SSS SSS 17 33 11.8
YAK pmax pmax
comp=Z,17nm,0.9s
YAK pmax pmax
comp=N,3.0nm,1.1s
YAK pmax pmax
comp=E,5.0nm,1.3s
YAK pmax pmax
comp=Z,81nm,3.5s
YAK pmax pmax
comp=E,85nm,4.3s
YAK pmax pmax
comp=N,29nm,3.5s
YAK smax smax
comp=E,11nm,1.9s
YAK smax smax
comp=N,6.0nm,1.4s
OBN Obninsk 69.47 329 *ce*P **P** 17 17 40.0 -0.5
OBN *e* 17 18 03.6
OBN *e* 17 20 11.5
OBN pmax pmax
comp=Z,5.0nm,0.4s
OBN MLR MLR
comp=Z,118nm,17.0s
LBTB Lobatse 70.12 243 *e*P **P** 17 17 45.9 +0.6
comp=Z,25nm,1.6s
CFR Carcaliu 70.68 317⇓ *i*P **P** 17 17 48.5 +0.3
CFR Carcaliu 70.68 317 ⇓P **P** 17 17 48.5 +0.3
KLMR Klimovskoe 71.00 336 *e*P **P** 17 17 47.1 -2.7
KLMR AMP 17 17 49.4
comp=Z,4.0nm,1.3s
KLMR Klimovskoe 71.00 336 *e*P **P** 17 17 47.0 -2.7
KLMR pmax pmax
comp=Z,4.0nm,1.3s
BOSA Boshof 71.20 239 P **P** 17 17 52.3 +0.4
comp=Z,1.6nm,0.6s,baz=120,slow=5,6,SNR=3.7
BOSA Boshof 71.20 239 *e*P **P** 17 17 50.2 -1.7
comp=Z,64nm,1.9s
BOSA Boshof 71.20 239 *e*P **P** 17 17 50.2 -1.7
SORM Soroca 71.45 320⇑ *i*P **P** 17 17 52.5 -0.3
SORM Soroca 71.45 320 ⇑P **P** 17 17 52.5 -0.3
AKASG Malin Array Be 71.75 323 P **P** 17 17 53.9 -0.6
comp=Z,0.4nm,0.4s,baz=92,slow=4.9,SNR=10
AKASG LR LR 17 51 54.7
comp=Z,26nm,19.7s,baz=295,slow=38
AKBB Malin Array Si 71.75 323 *e*P **P** 17 17 53.5 -1.0
comp=Z,18nm,2.0s
KIEV Kiev 71.76 323 *e*P **P** 17 17 53.3 -1.2
comp=Z,17nm,2.0s
KIEV Kiev 71.76 323 *i* P **P** 17 17 53.9 -0.7
KIEV pmax pmax
comp=Z,4.0nm,1.1s
VRI Vrincioaia 71.83 318⇑ *i*P **P** 17 17 55.9 +0.7
VRI Vrincioaia 71.83 318 ⇑P **P** 17 17 55.9 +0.7
PLOR Plostina 71.88 318⇓ *i*P **P** 17 17 56.6 +1.1
PLOR Plostina 71.88 318 ⇓P **P** 17 17 56.6 +1.1
TESR Tescani 72.06 319⇓ *i*P **P** 17 17 56.3 -0.3
MLR Muntele Rosu 72.25 317 P **P** 17 17 58.8 +0.9
comp=Z,1.2nm,0.8s,baz=45,slow=10.0,SNR=7.3
MLR Muntele Rosu 72.25 317⇑ *i*P **P** 17 17 58.8 +0.9
MLR Muntele Rosu 72.25 317 *e*P **P** 17 17 58.2 +0.3
comp=Z,6.2nm,0.8s
VOIR 72.85 317⇓ *i*P **P** 17 18 02.6 +1.3
VOIR 72.85 317 ⇓P **P** 17 18 02.6 +1.3
TIXI Tiksi 73.19 11 *e*P **P** 17 18 02.3 -0.4
comp=Z,12nm,0.6s
TIXI Tiksi 73.19 11 *de*P **P** 17 18 01.5 -1.2
TIXI pmax pmax
comp=Z,10.0nm,0.6s
BURAR Bucovina Array 73.31 319⇑ *i*P **P** 17 18 05.1 +1.0
BURAR Bucovina Array 73.31 319 ⇑P **P** 17 18 05.1 +1.0
BUR04 Bucovina Ar. S 73.32 319 *e*P **P** 17 18 04.9 +0.8
BUR08 Bucovina Ar. S 73.33 319 *e*P **P** 17 18 03.8 -0.4
VTS Vitosha 73.46 314⇑ *i*P **P** 17 18 05.2 +0.1
VTS Vitosha 73.46 314 ⇑P **P** 17 18 05.2 +0.1
PETK Petropavlovsk- **73.63 35** LR LR 17 55 21.5
comp=Z,13nm,18.9s,baz=286,slow=40
SEY Seymchan 74.83 24 *e*P **P** 17 18 12.0 -0.5
VSU Vasula 75.77 330 *e*P **P** 17 18 17.6 -0.3
VSU pmax pmax
comp=Z,11nm,0.8s
STHS Stebnicka Huta 76.32 320 *e*P **P** 17 18 21.9 +0.6
STHS Stebnicka Huta 76.32 320 *e*P **P** 17 18 21.9 +0.6
STHS pmax pmax
comp=Z,3.0nm,0.8s
FIA0 FINESS Array S 77.10 333 *e*P **P** 17 18 25.3 -0.1
FINES FINESS Array B 77.10 333 P **P** 17 18 25.3 -0.1
comp=Z,4.3nm,0.8s,baz=71,slow=6.5,SNR=9.8
FINES LR LR 17 55 28.5
comp=Z,73nm,18.1s,baz=110,slow=38
VYHS Vyhne 77.68 319 *e*P **P** 17 18 29.4 +0.4
VYHS Vyhne 77.68 319 *e*P **P** 17 18 29.4 +0.4
VYHS pmax pmax
comp=Z,10.0nm,1.7s
MODS Modra-Piesok 78.68 319 *e*P **P** 17 18 34.4 -0.1
MODS Modra-Piesok 78.68 319 *e*P **P** 17 18 34.4 -0.1
MODS pmax pmax
comp=Z,13nm,1.2s
KRLC Kraliky 79.29 321 *e*P **P** 17 18 39.0 +1.1
KRLC Kraliky 79.29 321 *e*P **P** 17 18 39.0 +1.1
SYO Syowa Base 79.43 197⇓ *e*X **P** 17 18 35.9 -2.2
SYO Syowa Base 79.43 197⇓ *ep*P **P** 17 18 42.4 +4.3
DPC Dobruska-Polom 79.62 321 *e*P **P** 17 18 41.0 +1.3

DPC Dobruska-Polom 79.62 321 *e*P **P** 17 18 41.0 +1.3
ARA0 ARCESS Array S 80.17 341 *e*P **P** 17 18 42.0 -0.2
ARCES ARCESS Array B 80.17 341 P **P** 17 18 42.0 -0.2
comp=Z,2.8nm,0.8s,baz=89,slow=5.0,SNR=9.4
ARCES ARCESS Array B 80.17 341 P **P** 17 18 42.0 -0.2
GEA0 GERESS Array S 81.09 319 *e*P **P** 17 18 47.6 0.0
GEC2 GERESS Array S 81.09 319 *e*P **P** 17 18 48.0 +0.3
comp=Z,8.1nm,0.9s
GERES GERESS Array B 81.09 319 P **P** 17 18 48.5 +0.8
comp=Z,19nm,0.8s,baz=100,slow=5.5,SNR=25
BRG Berggiesshubel 81.20 321 *e*(P) **P** 17 18 48.1 0.0
comp=Z,5.3nm,1.0s
BRG Berggiesshubel 81.20 321 *e*P **P** 17 18 48.1 0.0
BRG pmax pmax
comp=Z,5.0nm,1.0s
KHC Kasperske Hory 81.21 319 *e*P **P** 17 18 50.7 +2.5
KHC Kasperske Hory 81.21 319 *e*P **P** 17 18 50.7 +2.5
CLL Collm 81.84 321 *e*P **P** 17 18 52.0 +0.5
CLL Collm 81.84 321 *e*P **P** 17 18 52.0 +0.5
CLL pmax pmax
comp=Z,56nm,1.9s
CLL MLR MLR
comp=Z,3μm,20.0s
BILL Bilibino 82.03 21⇓ *i*P **P** 17 18 54.0 +1.9
BILL *e* 17 22 08.2
BILL pmax pmax
comp=Z,1.0nm,1.0s
BILL MLR MLR
comp=Z,62nm,21.0s
HFS Hagfors 82.65 330 P **P** 17 18 55.4 -0.1
comp=Z,2.3nm,0.7s,baz=90,slow=12,SNR=5.8
NB200 NORSAR Array S 83.99 331 *e*P **P** 17 19 01.1 -1.3
NOA NORSAR Array B 83.99 331 P **P** 17 19 01.1 -1.3
comp=Z,1.0nm,0.8s,baz=103,slow=5.5,SNR=3.1
VNDA Vanda 87.61 168 LR LR 17 52 09.2
comp=Z,56nm,20.6s,baz=298,slow=31
KMSC Kings Mountain 142.53 352 *e*PKPpre PKPpre 17 26 01.9
TX31 Lajitas Ar. Si 145.12 25 *e*PKPbc **PKPbc** 17 26 10.1 +0.1
LTX Lajitas 145.13 25 *e*PKPdc **PKPdf** 17 26 10.8 +0.3
TXAR Lajitas Array 145.13 25 PKPbc **PKPdf** 17 26 10.8 +0.3
comp=Z,1.0nm,0.7s,baz=270,slow=1.3,SNR=12

ISK ***17*** *17:09:53.9,38.95N×43.57E,h20km, ML2.5/3*
CSEM ***17*** *17:09:54.0,38.95N×43.57E,h20km, ML2.5*
ATA ***17*** *17:09:54.8±2.2,38.92N×43.50E,h3km±19km, ML2.8, MW2.8*
ISCJB ***17*** *17:09:55.5±0.7,38.91N±0.04×43.63E±0.06,h20km±9km, Error ellipse: s-maj=8.7km s-min=5.2km az=24.6*
ISC 17 17:09:54.8±1.0,38.89N±0.04×43.58E±0.04,h14km±8km, n17,σ1s30/27,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ERCV	**ERCIS-VAN**	**0.23**	**304**	PG		**Pg**	**17 09 59.2**	**-0.7**
ERCV	**ERCIS-VAN**	**0.23**	**304**	*e*Pg		**Pg**	**17 09 59.2**	**-0.7**
VANB	**Van**	**0.33**	**207**	PG		**Pb**	**17 10 03.7**	**+1.1**
VANB				SG		**Sn**	**17 10 11.1**	**-0.9**
VANB	**Van**	**0.33**	**207**	*e*Pg		**Pb**	**17 10 03.7**	**+1.1**
VANB				*e*Sg		**Sn**	**17 10 11.1**	**-0.9**
CLDR	**Caldiran**	**0.36**	**46**	PG		**Pg**	**17 10 01.5**	**-0.7**
CLDR				SG		**Sg**	**17 10 07.1**	**-0.2**
CLDR	**Caldiran**	**0.36**	**46**	*e*Pg		**Pg**	**17 10 01.5**	**-0.7**
CLDR				*e*Sg		**Sg**	**17 10 07.1**	**-0.2**
DYDN	**Diyadin**	**0.66**	**7**	*e*P		**Pb**	**17 10 08.1**	**-0.1**
DYDN				*e*S		**Sb**	**17 10 17.3**	**0.0**
DYDN				IAML			17 10 22.3	
comp=Z,21nm,0.3s								
GEVA	**Gevas**	**0.71**	**216**	*e*P		**Pb**	**17 10 08.3**	**-0.7**
GEVA				*e*S		**Sn**	**17 10 19.9**	**-1.5**
GEVA				IAML			17 10 26.7	
comp=Z,19nm,0.5s								
TUTA	**Tutak**	**0.79**	**311**	*e*P		**Pb**	**17 10 08.9**	**-1.5**
TUTA				*e*S		**Sb**	**17 10 20.2**	**-0.8**
TUTA				IAML			17 10 22.7	
comp=Z,53nm,0.2s								
AGRB	**Hanur-Agry**	**0.82**	**326**	PG		**Pb**	**17 10 09.8**	**-1.2**
AGRB	**Hanur-Agry**	**0.82**	**326**	*e*Pg		**Pb**	**17 10 09.8**	**-1.2**
IGDI	**IGDIR**	**1.05**	**21**	*e*P		**Pg**	**17 10 16.4**	**+1.3**
IGDI				*e*S		**Sg**	**17 10 31.7**	**+3.0**
IGDI				IAML			17 10 35.6	
comp=Z,12nm,0.6s								
EKAR	**Karacoban**	**1.24**	**288**	*e*P		**Pb**	**17 10 18.5**	**+0.5**
EKAR				*e*S		**Sg**	**17 10 37.5**	**+2.7**
EKAR				IAML			17 10 45.4	
comp=Z,13nm,0.5s								
GURO	**Guroymak-BITLI**	**1.26**	**255**	PN		**Pn**	**17 10 17.2**	**-0.9**
GURO	**Guroymak-BITLI**	**1.26**	**255**	*e*Pn		**Pn**	**17 10 17.2**	**-0.9**
EATA	**Eleskirt**	**1.29**	**319**	*e*P		**Pn**	**17 10 18.6**	**-0.1**
EATA				*e*S		**Sb**	**17 10 37.0**	**+1.5**
HOMI	**Horasan**	**1.74**	**312**	*e*P		**Pn**	**17 10 26.1**	**+1.3**

IDC ***17*** *17:18:40.6±1.5,0.39N×126.20E,h0km,mb3.8/4, mb1 3.8/5,mb1mx3.4/58,mbtmp3.7/5,ML2.9/1,Error ellipse: s-maj=107.8km s-min=22.2km az=67.0*
ISCJB ***17*** *17:18:45.7±1.1,0.45N±0.09×126.42E±0.07,h44km, mb3.8/4,Error ellipse: s-maj=14.9km s-min=6.9km az=29.0*
DJA ***17*** *17:18:49.5±1.3,0.0N±5.5×12.6E±°,h27km±13km,M3.7/9, MLv3.7/9*
ISC 17 17:18:47.6±1.2,0.4N±0.1×126.34E±0.07,h44km,n13, σ1s72/16,mb3.8/4,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
LBMI	**Labuha**	**1.53**	**131**	P		**Pn**	**17 19 14.6**	**+2.1**
LBMI				S		**Sn**	**17 19 33.7**	**+2.4**
KMSI	**Cibinong**	**2.37**	**275**	P		**Pn**	**17 19 24.9**	**+0.9**
SANI	**Sanana**	**2.43**	**188**	P		**Pn**	**17 19 25.6**	**+0.7**
NLAI	**Namlea**	**3.66**	**168**	P		**Pn**	**17 19 42.4**	**+0.6**
LUWI	**Luwuk**	**3.83**	**249**	P		**Pn**	**17 19 45.8**	**+1.6**
LUWI				S		**Sn**	**17 20 30.0**	**+1.9**
MRSI	**Marisa**	**4.40**	**271**	P		**Pn**	**17 19 54.5**	**+2.5**
AAI	**Ambon**	**4.43**	**155**	P		**Pn**	**17 19 54.1**	**+1.7**
AAI				S		**Sn**	**17 20 43.6**	**+0.8**
APSI	**Ampana**	**4.86**	**255**	P		**Pn**	**17 19 59.3**	**+1.0**
FITZ	**Fitzroy Crossi**	**18.36**	**182**	P		**P**	**17 22 56.4**	**-2.4**
0.0nm,0.3s,baz=356,slow=13,SNR=2.8								
WRA	**Warramunga Arr**	**21.65**	**159**	P		**P**	**17 23 33.2**	**-1.4**
1.0nm,0.3s,baz=338,slow=11,SNR=32								
ASAR	**Alice Springs**	**25.00**	**163**	P		**P**	**17 24 07.5**	**0.0**
1.0nm,0.4s,baz=344,slow=11,SNR=56								
STKA	**Stephens Creek**	**35.17**	**157**	P		**P**	**17 25 36.8**	**-0.7**
1.0nm,0.8s,baz=306,slow=14,SNR=3.5								
KURBB	**Kurchatov Arra**	**64.36**	**328**	P		**P**	**17 29 17.7**	**-1.3**
0.5nm,0.5s,baz=120,slow=7.3,SNR=5.8								

NIED ***17*** *17:20:00,36.70N×141.40E,h5km,Mw4.2 Best double couple: M₀2.32000×10¹⁵ NP1:φs190.00000°,δ43.00000°, λ-103.00000°. NP2:φs27.00000°,δ49.00000°, λ-79.00000°.*
ISCJB ***17*** *17:20:18.8±0.9,36.73N±0.03×141.38E±0.05,h19km±5km, mb4.2/23,MS3.5/4,Error ellipse: s-maj=6.9km s-min=4.3km az=25.3*
IDC ***17*** *17:20:18.1±0.7,36.79N×141.34E,h0km,mb3.9/12, mb1 3.9/14,mb1mx3.7/66,mbtmp3.8/14,ML3.4/2,MS3.1/7, Ms1 3.2/7,ms1mx2.8/63,Error ellipse: s-maj=18.6km s-min=16.4km az=103.0*
JMA ***17*** *17:20:19.9±0.1,36.75N×141.30E,h30km±1km,M4.3 JMA Felt II J1.*
NEIC ***17*** *17:20:22.9±0.6,36.76N×141.27E,h32km±3km,mb4.6/13, Error ellipse: s-maj=6.8km s-min=5.6km az=127.0*
NEIC Recorded [2 JMA] in Ibaraki.
ISC 17 17:20:18.8±1.9,36.75N±0.04×141.33E±0.06,h7km±11km, n75,σ1s00/73,mb4.2/23,MS3.5/4,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.55**	**310**	P		**Pg**	**17 20 30.5**	**+1.0**
ONAJ				S		**Sb**	**17 20 38.3**	**-0.7**
JHO	**Hitachi**	**0.63**	**257**	P		**Pb**	**17 20 31.5**	**-0.6**
JHO				S		**Sb**	**17 20 40.4**	**-0.7**
JFK	**Kawauchi**	**0.72**	**329**	P		**Pb**	**17 20 33.3**	**-0.3**
JFK				S		**Sb**	**17 20 42.8**	**-0.9**
JYT	**Yasato**	**1.05**	**241**	P		**Pb**	**17 20 38.3**	**-1.0**
JYT				*e*S		**Sb**	**17 20 51.6**	**-1.7**
JFT	**Otama**	**1.10**	**314**	P		**Pb**	**17 20 39.7**	**-0.5**

JFT S **Sb** 17 20 53.9 -0.9
JMM Marumori 1.19 339 P **Pn** 17 20 40.8 -1.1
JMM S **Sb** 17 20 56.4 -1.0
JFY Yanaizu 1.46 297 P **Pn** 17 20 45.7 +0.2
MJAR Matsushiro Arr 2.52 266 Pn **Pn** 17 21 00.6 +0.5
7.7nm,0.3s,baz=89,slow=15,SNR=50
MJAR Sn **Sn** 17 21 31.4 +0.4
12nm,0.3s,baz=87,slow=14,SNR=5.8
MJAR LR LR 17 21 37.0
comp=Z,161nm,20.2s,baz=90,slow=32
MAJO Matsushiro 2.52 266 *e*Pn **Pn** 17 21 01.0 +0.9
MAJO *e*Sn **Sn** 17 21 31.4 +0.3
MAJO *e*Lg Lg 17 21 38.8
MAT Matsushiro 2.52 266 P **Pn** 17 21 01.0 +0.8
MAT *e*S **Sn** 17 21 31.4 +0.3
MJB9 Matsu-Tunnel 2.52 266 *e*Pn **Pn** 17 21 00.6 +0.5
MJB9 *e*Sn **Sg** 17 21 38.6 -1.2
INU Inuyama 3.77 249 *e*Pn **Pn** 17 21 18.4 +1.2
JHJ2 Mitsune 3.84 199 *e*Pn **Pn** 17 21 17.9 -0.3
JHJ Hachijo jima 2 3.84 200 Sn **Sn** 17 22 02.0 -1.6
10.0nm,0.3s,baz=258,slow=19,SNR=3.2
ERM Erimo 5.45 14 *e*Pn **Pn** 17 21 42.4 +2.1
ERM *e*Sn **Sn** 17 22 44.6 +1.5
ASAJ Asahikawa 7.42 7 Pn **Pn** 17 22 06.2 -1.2
0.7nm,0.3s,baz=197,slow=15,SNR=11
ASAJ Sn **Sn** 17 23 32.6 +0.8
0.4nm,0.3s,baz=108,slow=16,SNR=3.1
ASAJ Asahikawa 7.42 7 *e*Pn **Pn** 17 22 07.9 +0.5
ASAJ *e*Sn **Sn** 17 23 28.0 -3.8
USRK Ussuriysk Ar. 10.29 319 Pn Pn 17 22 52.2 +5.4
0.1nm,0.3s,baz=134,slow=12,SNR=3.2
KSRS Korea Array 10.73 278 Pn Pn 17 22 56.9 +4.0
0.1nm,0.3s,baz=92,slow=15,SNR=3.3
KSRS LR LR 17 26 52.1
comp=Z,120nm,21.5s,baz=88,slow=37
KSAR Wonju Array Be 10.77 278 Pn Pn 17 22 56.9 +3.6
KLR Kul'dur 14.29 334 LR LR 17 28 51.0
comp=Z,16nm,19.4s,baz=151,slow=36
YAK Yakutsk 26.33 348 P **P** 17 25 54.5 -0.4
4.0nm,0.5s,baz=187,slow=1.0,SNR=5.5
YAK Yakutsk 26.33 348 *e*P **P** 17 25 54.6 -0.3
7.4nm,0.7s
SEY Seymchan 27.08 11 P **P** 17 26 00.7 -1.0
0.2nm,0.2s,baz=53,slow=20,SNR=2.0
SONA1 Songino Array 27.89 304 *e*P **P** 17 26 08.9 -0.4
SONA0 Songino Array 27.89 304 *e*P **P** 17 26 09.0 -0.3
SONM Songino Array 27.89 304 P **P** 17 26 09.0 -0.3
1.2nm,0.7s,baz=120,slow=8.5,SNR=3.5
H11N2 WAKE ISLAND Hy 28.06 120 T T 17 55 34.7
baz=313,slow=75,SNR=355
H11N1 WAKE ISLAND Hy 28.07 120 T T 17 55 36.9
baz=313,slow=75,SNR=497
H11N3 WAKE ISLAND Hy 28.08 120 T T 17 55 36.0
baz=313,slow=75,SNR=274
H11S1 WAKE ISLAND Hy 28.76 122 T T 17 56 29.8
baz=315,slow=75,SNR=120
H11S3 WAKE ISLAND Hy 28.76 122 T T 17 56 29.9
baz=315,slow=75,SNR=109
H11S2 WAKE ISLAND Hy 28.78 122 T T 17 56 30.9
baz=315,slow=75,SNR=71
CMAR Chiang Mai Arr 41.36 256 LR LR 17 47 54.2
comp=Z,26nm,19.5s,baz=59,slow=40
RABL Rabaul 41.97 164 *e*P **P** 17 28 11.6 +1.1
10nm,0.7s
ZAA0 Zalesovo Array 42.06 313 *e*P **P** 17 28 10.9 +0.1
3.4nm,1.1s
ZAA1 Zalesovo Array 42.06 313 *e*P **P** 17 28 11.5 +0.7
ZALV Zalesovo Beam 42.06 313 P **P** 17 28 11.5 +0.7
2.1nm,0.8s,baz=94,slow=8.0,SNR=8.1
ZALV Zalesovo Beam 42.06 313 *e*P **P** 17 28 10.7 -0.2
MK01 Makanchi Array 44.21 302 *e*P **P** 17 28 27.4 -1.1
MK31 Makanchi Array 44.21 302 *e*P **P** 17 28 27.8 -0.7
MK32 Makanchi Array 44.21 302 *e*P **P** 17 28 28.8 +0.4
MKAR Makanchi Array 44.21 302 P **P** 17 28 28.8 +0.4
0.9nm,0.7s,baz=86,slow=9.1,SNR=10
MKAR LR LR 17 46 57.0
comp=Z,46nm,20.4s,baz=91,slow=36
MKAR Makanchi Array 44.21 302 *e*P **P** 17 28 28.2 -0.3
7.6nm,0.8s
KURK Kurchatov 46.06 308 *e*P **P** 17 28 42.5 -0.4
4.8nm,0.8s
KURBB Kurchatov Arra 46.12 308 P **P** 17 28 43.3 -0.2
2.4nm,0.8s,baz=83,slow=8.6,SNR=11
IM3 Indian Mountai 46.93 30 *e*P **P** 17 28 48.5 -1.1
MDM Murphy Dome 49.19 32 *e*P **P** 17 29 09.3 +2.1
18nm,2.0s
IL1 Eielson Array 49.77 32 *e*P **P** 17 29 12.6 +1.1
ILAR Eielson Array 49.77 32 P **P** 17 29 13.5 +2.0
0.9nm,0.9s,baz=266,slow=6.2,SNR=8.7
ILB Eielson Array 49.77 32 *e*P **P** 17 29 11.5 0.0
HARP HAARP 50.70 35 *e*P **P** 17 29 19.8 +1.1
70nm,1.9s
BRVK Borovoye 50.77 313 *e*P **P** 17 29 19.6 +0.3
3.9nm,1.3s
KK31 Karatay Array 53.21 300 *e*P **P** 17 29 37.9 +0.3
KKAR Karatay Array 53.21 300 *e*P **P** 17 29 37.7 0.0
GSI Gunungsitoli 53.60 239 *e*P **P** 17 29 40.7 -0.1
21nm,1.3s
NIL Nilore 54.64 288 *e*P **P** 17 29 48.3 0.0
4.1nm,1.0s
WRAB Tennant Creek 56.76 188 *e*P **P** 17 30 03.5 +0.1
8.9nm,1.3s
WB2 Warramunga Arr 56.77 188 *e*P **P** 17 30 03.6 +0.1
28nm,1.8s
WR1 Warramunga Arr 56.77 188 *e*P **P** 17 30 04.2 +0.7
30nm,0.8s
WRA Warramunga Arr 56.77 188 P **P** 17 30 04.2 +0.7
1.1nm,0.7s,baz=5.1,slow=7.3,SNR=18
ABKAR Akbulak array 58.07 310 *e*P **P** 17 30 12.0 -0.4
AS01 Alice Springs 60.49 188 *e*P **P** 17 30 30.9 +1.5
ASAR Alice Springs 60.50 188 P **P** 17 30 29.8 +0.4
0.5nm,0.9s,baz=8.4,slow=15,SNR=6.5
FIA0 FINESS Array S 69.03 332 *e*P **P** 17 31 25.9 +1.2
FINES FINESS Array B 69.03 332 P **P** 17 31 25.9 +1.2
2.2nm,0.9s,baz=52,slow=5.4,SNR=3.4
NOA NORSAR Array B 74.42 337 LR LR 18 06 54.4
comp=Z,26nm,20.1s,baz=245,slow=38
PDAR Pinedale Array 77.91 45 P **P** 17 32 16.9 -0.7
0.2nm,0.6s,baz=312,slow=7.2,SNR=2.8
BR101 Keskin Array S 78.99 312 *e*P **P** 17 32 24.1 +0.6
BRTR Keskin Array B 78.99 312 P **P** 17 32 24.1 +0.6
0.3nm,0.3s,baz=15,slow=6.0,SNR=4.0
MMAI Mount Meron Ar 82.08 305 LR LR 18 10 56.8
comp=Z,38nm,18.0s,baz=295,slow=37
YLE Yele 96.21 25 *e*pP pP 17 33 59.5 +10
BLA Blacksburg 96.87 32 *e*pP pP 17 33 60.0 +6.8
LPAZ La Paz 146.89 60 PKPbc **PKPab** 17 40 04.7 +0.2
0.8nm,0.5s,baz=0.0,slow=6.1,SNR=3.8
SIV San Ignacio 151.32 50 PKPbc **PKPbc** 17 40 12.3 -1.3
0.6nm,0.5s,baz=304,slow=3.6,SNR=3.3

IDC 17 17:27:53.2±1.9,2.05N×126.54E,h0km,mb3.2/4, mb1 3.5/4,mb1mx3.3/55,mbtmp3.3/4,Error ellipse: s-maj=112.8km s-min=23.6km az=69.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**20.04**	**182**	P		P	17 32 28.6	+0.7
2.8nm,1.3s,baz=13,slow=14,SNR=2.6								
WRA	**Warramunga Arr**	**23.16**	**161**	P		P	17 33 01.0	-0.4
0.4nm,0.4s,baz=339,slow=11,SNR=9.0								
ASAR	**Alice Springs**	**26.54**	**165**	P		P	17 33 33.0	0.0
0.3nm,0.8s,baz=344,slow=7.6,SNR=5.1								
MKAR	**Makanchi Array**	**58.83**	**326**	P		P	17 37 53.5	-0.1
0.1nm,0.4s,baz=121,slow=8.8,SNR=2.9								

THE ***17*** *17:36:02.1,35.38N×27.42E,h6km±1km,ML2.5/3,Error ellipse: s-maj=1.8km s-min=0.4km az=325.0*
ATH ***17*** *17:36:02.1,35.53N×27.26E,h34km±1km,ML2.5/4,Error ellipse: s-maj=10.3km s-min=1.3km az=147.0*
CSEM ***17*** *17:36:03.2±0.2,35.66N×27.16E,h20km,ML2.5,Error ellipse: s-maj=19.9km s-min=4.2km az=146.0*
ISC 17 17:36:01.0±1.4,35.39N±0.08×27.41E±0.05,h16km±10km, n16,σ1s66/27,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.26**	**308**	P		**Pb**	**17 36 07.8**	**+0.5**
KARP				S		**Sb**	**17 36 12.5**	**+1.0**
KARP				AML	AML		17 36 12.7	
comp=E,9418μm,0.2s								
KARP				AML	AML		17 36 12.7	

comp=N,12400µm,0.1s
KARP Karpathos 0.26 308 P **Pb** 17 36 07.8 **+0.5**
KARP S **Sb** 17 36 12.1 **+0.6**
KARP Karpathos 0.26 308 P **Pb** 17 36 07.9 **+0.6**
KARP S **Sb** 17 36 12.4 **+0.9**
ARG Arkhangelos 1.01 35 P **Pg** 17 36 20.7 **+0.1**
ARG S **Sn** 17 36 34.8 **+0.5**
ARG AML AML 17 36 37.0
comp=E,446µm,0.2s
ARG AML AML 17 36 37.6
comp=N,311µm,0.2s
ARG Arkhangelos 1.01 35 P **Pn** 17 36 20.8 **+0.3**
ARG S **Sn** 17 36 35.4 **+1.1**
ARG Arkhangelos 1.01 35 P **Pn** 17 36 20.8 **+0.3**
ARG S **Sn** 17 36 34.7 **+0.4**
ZKR Zakros 1.01 255 P **Pn** 17 36 20.6 **0.0**
ZKR S **Sg** 17 36 33.3 **-0.6**
ZKR AML AML 17 36 37.6
comp=E,320µm,0.3s
ZKR AML AML 17 36 38.0
comp=N,183µm,0.2s
ZKR Zakros 1.01 255 P **Pn** 17 36 20.9 **+0.3**
ZKR S **Sn** 17 36 35.8 **+1.3**
ZKR Zakros 1.01 255 P **Pg** 17 36 20.4 **-0.3**
ZKR S **Sg** 17 36 33.4 **-0.6**
NPS Neapolis 1.48 266 P **Pn** 17 36 26.4 **-0.6**
NPS S **Sn** 17 36 44.7 **-1.2**
NPS AML AML 17 36 47.5
comp=E,230µm,0.3s
NPS AML AML 17 36 48.2
comp=N,219µm,0.4s
NPS Neapolis 1.48 266 P **Pn** 17 36 26.5 **-0.4**
NPS S **Sn** 17 36 44.7 **-1.2**
TURN Turunc 1.77 33 *i* S **Sn** 17 36 46.2 **-6.8**
FETY Fethiye 1.84 47 P **Pb** 17 36 34.3 **0.0**
TAVA DENIZLI_Tavas 2.40 30 *i* P **Pn** 17 36 39.4 **-0.3**
TAVA DENIZLI_Tavas 2.40 30 P **Pn** 17 36 39.4 **-0.3**
GOLH Golhisar 2.53 43 *i* S **Sb** 17 37 19.5 **+2.4**

ISCJB ***17*** *17:40:39.8±0.6, 18°.68N±0°.06×145°.5E±0°.2, h150km, mb3.6/13, Error ellipse: s-maj=28.4km s-min=8.4km az=4.1*
IDC ***17*** *17:40:42.4±2.3, 18°.63N×145°.56E, h162km±22km, mb3.4/13, mb1 3.6/14, mb1mx3.3/62, mbtmp3.9/14, MS3.5/1, Ms1 3.5/1, ms1mx2.3/28, Error ellipse: s-maj=26.3km s-min=12.6km az=95.0*
ISC 17 17:40:41.3±0.7, 18°.67N±0°.08×145°.6E±0°.2, h150km, n15, σ1♀11/15, mb3.7/13, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**5.10**	**188**	P	**Pn**	**17 41 58.4**	**+2.3**
	13nm,0.3s,baz=96,slow=1.4,SNR=14						
GUMO				S	**Sn**	**17 42 53.8**	**-0.7**
	8.1nm,0.3s,baz=180,slow=20,SNR=2.5						
ASAJ	**Asahikawa**	**25.49**	**355**	P	**P**	**17 45 57.3**	**+1.8**
	1.0nm,0.4s,baz=219,slow=14,SNR=4.7						
WRA	**Warramunga Arr**	**39.93**	**197**	P	**P**	**17 48 00.6**	**-0.4**
	2.2nm,0.4s,baz=21,slow=9.0,SNR=51						
FITZ	**Fitzroy Crossi**	**41.46**	**209**	P	**P**	**17 48 13.9**	**+0.4**
	1.5nm,0.3s,baz=25,slow=7.9,SNR=37						
ASAR	**Alice Springs**	**43.59**	**196**	P	**P**	**17 48 30.6**	**-0.2**
	1.0nm,0.4s,baz=16,slow=12,SNR=31						
DZM	**Mont Dzumac**	**45.35**	**152**	LR	LR	18 05 14.0	
	comp=Z,49nm,19.1s,baz=215,slow=32						
STKA	**Stephens Creek**	**50.41**	**184**	P	**P**	**17 49 21.6**	**-1.9**
	1.0nm,0.7s,baz=339,slow=14,SNR=4.4						
MKAR	**Makanchi Array**	**58.39**	**314**	P	**P**	**17 50 21.2**	**+0.1**
	0.3nm,0.5s,baz=94,slow=6.8,SNR=6.4						
KURBB	**Kurchatov Arra**	**61.25**	**318**	P	**P**	**17 50 39.9**	**-0.6**
	0.3nm,0.4s,baz=92,slow=7.4,SNR=5.0						
ILAR	**Eielson Array**	**63.72**	**26**	P	**P**	**17 50 55.9**	**-0.8**
	0.2nm,0.5s,baz=260,slow=5.8,SNR=4.1						
BVAR	**Borovoye Array**	**66.41**	**320**	P	**P**	**17 51 14.0**	**-0.2**
	0.4nm,0.4s,baz=92,slow=8.0,SNR=4.5						
YKA	**Yellowknife Ar**	**78.07**	**28**	P	**P**	**17 52 23.2**	**0.0**
	0.2nm,0.6s,baz=289,slow=5.6,SNR=3.4						
ARCES	**ARCESS Array B**	**82.48**	**342**	P	**P**	**17 52 46.9**	**+0.2**
	2.3nm,1.1s,baz=96,slow=8.2,SNR=4.3						
NVAR	**Mina Array Bea**	**83.25**	**52**	P	**P**	**17 52 52.3**	**+0.7**
	0.5nm,0.7s,baz=272,slow=6.2,SNR=5.2						
FINES	**FINESS Array B**	**86.85**	**335**	P	**P**	**17 53 08.0**	**-0.7**
	0.8nm,0.6s,baz=64,slow=6.3,SNR=3.2						

ISCJB ***17*** *17:53:55.9±0.9, 34°.02S±0°.03×72°.51W±0°.05, h12km±6km, mb4.6/9, Error ellipse: s-maj=6.7km s-min=4.7km az=171.6*
IDC ***17*** *17:53:55.8±1.0, 34°.00S×72°.05W, h0km, mb4.1/5, mb1 4.2/5, mb1mx3.9/25, mbtmp4.1/5, MS3.4/2, Ms1 3.4/2, ms1mx2.9/28, Error ellipse: s-maj=43.3km s-min=30.3km az=70.0*
GUC ***17*** *17:53:57.9±0.7, 34°.01S×72°.34W, h14km±4km, ML4.0*
NEIC ***17*** *17:53:57.2±1.8, 34°.00S×72°.34W, h11km±11km, mb4.1/4, Error ellipse: s-maj=16.3km s-min=7.8km az=89.0*
ISC 17 17:53:55.3±1.8, 33°.97S±0°.03×72°.47W±0°.06, h1km±11km, n52, σ2♀22/73, mb4.4/9, 4C-1D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHPI	**Pichilemu**	**0.57**	**138**	*e*P	**Pg**	**17 54 06.9**	**+0.7**
CHPI				*i* S	**Sb**	**17 54 14.3**	**-2.4**
GO05	**HualaæØ**	**1.13**	**157**	*e*Pg	**Pb**	**17 54 17.2**	**-0.4**
GO05				*e*Sn	**Sb**	**17 54 31.5**	**-1.4**
GO05	**HualaæØ**	**1.13**	**157**	⇓ *i* P	**Pb**	**17 54 17.3**	**-0.4**
GO05				*i* S	**Sg**	**17 54 31.8**	**+0.2**
GO05				IAML		17 54 32.5	
	comp=E,15µm,0.4s						
NICH	**Los Niches**	**1.45**	**136**	*e*P	**Pb**	**17 54 22.7**	**-0.5**
NICH				*i* S	**Sg**	**17 54 41.2**	**-0.7**
RCDM	**Rinconada Maip**	**1.46**	**71**	⇑ *i* P	**Pn**	**17 54 22.2**	**-0.7**
RCDM				*i* S	**Sn**	**17 54 40.3**	**-2.5**
ANTU	**Antumapu**	**1.58**	**76**	*e*P	**Pn**	**17 54 24.6**	**0.0**
ANTU				*e*S	**Sb**	**17 54 44.1**	**-1.7**
ANTU				IAML		17 54 51.8	
	comp=E,2µm,0.5s						
PEL	**Peldehue**	**1.70**	**62**	*e*Pn	**Pn**	**17 54 26.6**	**+0.4**
PEL	**Peldehue**	**1.70**	**62**	⇑ *i* P	**Pn**	**17 54 26.6**	**+0.4**
PEL				*e*S	**Sb**	**17 54 48.7**	**-0.6**
LMEL	**Las Melosas**	**1.89**	**87**	⇑ *i* P	**Pn**	**17 54 29.0**	**+0.1**
LMEL				*i* S	**Sb**	**17 54 53.1**	**-1.7**
LMEL				IAML		17 54 59.1	
	comp=N,3µm,1.2s						
FCH	**Farellones**	**1.92**	**71**	⇑ *i* P	**Pn**	**17 54 29.6**	**0.0**
FCH				*i* S	**Sb**	**17 54 53.8**	**-2.3**
FCH				IAML		17 55 00.6	
	comp=N,1µm,0.3s						
CCHI	**Chillan**	**2.65**	**173**	*e*P	**Pn**	**17 54 40.6**	**+1.4**
CCHI				IAML		17 55 28.5	
	comp=E,2µm,0.6s						
AUSP	**Uspallata**	**3.12**	**57**	*e*P	**Pb**	**17 54 50.7**	**-1.0**
AUSP				*e*S	**Sg**	**17 55 37.9**	**+2.4**
RFA	**San Rafael**	**3.40**	**105**	*e*P	**Pb**	**17 54 55.8**	**-0.8**
RFA				*e*S	**Sg**	**17 55 46.4**	**+1.7**
RTLS	**Leoncito**	**3.43**	**52**	*e*P	**Pb**	**17 54 54.6**	**-2.6**
RTLS				*e*S	**Sg**	**17 55 44.6**	**-1.0**
RTLS				IAML		17 55 49.7	
	comp=Z,155nm,0.5s						
RTCV	**Cerro Valdivia**	**3.91**	**59**	*e*P	**Pb**	**17 55 01.3**	**-3.8**
RTCV				*e*S	**Sb**	**17 55 56.4**	**+3.3**
CANA	**Caviahue**	**4.07**	**164**	*e*P	**Pn**	**17 54 58.6**	**-0.4**
CANA				*e*S	**Sb**	**17 55 51.4**	**-6.4**
RTLL	**Cerro Villicun**	**4.27**	**53**	*e*P	**Pn**	**17 55 05.3**	**+3.7**
RTLL				*e*S	**Sb**	**17 56 04.2**	**+0.8**
RTLL				IAML		17 56 15.9	
	comp=Z,151nm,0.7s						
AMOG	**MOGNA**	**4.52**	**49**	*e*P	**Pn**	**17 55 07.2**	**+2.2**
AROD	**Rodeo**	**4.56**	**35**	*e*P	**Pn**	**17 55 08.4**	**+2.6**
AROD				*e*S	**Sb**	**17 56 09.2**	**-2.8**
ACDV	**Cuesta del Vie**	**4.73**	**38**	*e*P	**Pn**	**17 55 10.0**	**+2.0**
ACDV				*e*S	**Sb**	**17 56 13.0**	**-3.8**
ACAN	**Cantantal**	**4.74**	**71**	*e*P	Pb	17 55 13.8	-5.5
ACAN				*e*S	**Sb**	**17 56 18.1**	**+1.3**
LCO	**Las Campanas**	**5.17**	**17**	*e*Pn	**Pn**	**17 55 14.3**	**+0.3**
LCO				*e*Sn	**Sn**	**17 56 10.8**	**-3.7**
LCO				*e*Lg	Lg	17 56 44.8	
AGUA	**GUANDACOL**	**5.61**	**38**	*e*P	**Pn**	**17 55 22.2**	**+2.3**
AGUA				*e*S	**Sb**	**17 56 33.2**	**-8.6**
VCA	**Vinchina**	**6.36**	**36**	*e*P	**Pn**	**17 55 32.3**	**+1.9**
VCA				*e*S	**Sn**	**17 56 50.2**	**+6.4**
VCA				IAML		17 57 15.2	
	comp=Z,59nm,0.6s						
PLCA	**Paso Flores**	**6.92**	**168**	LR	LR	17 58 37.6	
	comp=Z,265nm,18.5s,baz=11,slow=41						
PLCA	**Paso Flores**	**6.92**	**168**	*e*Pn	**Pn**	**17 55 39.0**	**+1.0**
TRQA	**Tornquist**	**9.42**	**119**	*e*Pn	**Pn**	**17 56 12.2**	**-0.1**
MNMC	**Minye Minye**	**15.00**	**11**	*e*Pn	**Pn**	**17 57 29.5**	**+0.7**
	comp=Z,8.4nm,0.7s						
MNMC				*e*Sn	Sn	17 59 57.5	-18
CPUP	**Villa Florida**	**15.14**	**64**	LR	LR	18 03 39.8	
	comp=Z,130nm,19.1s,baz=240,slow=39						
LPAZ	**La Paz**	**18.03**	**14**	*e*Pn	**Pn**	**17 58 08.3**	**+0.4**
	comp=Z,3.8nm,0.8s						
SAML	**Samuel**	**26.33**	**21**	*e*P	**P**	**17 59 35.0**	**+2.2**
	comp=Z,2.6nm,0.8s						
SNAA	**Sanae**	**51.75**	**158**	P	**P**	**18 03 04.3**	**+0.2**
	comp=Z,2.9nm,1.0s,baz=267,slow=10.0,SNR=7.6						
SNAA	**Sanae**	**51.75**	**158**	*e*P	**P**	**18 03 04.0**	**0.0**
	comp=Z,12nm,1.5s						
ICMP	**Isla Caja de M**	**51.87**	**7**	*e*P	**P**	**18 03 05.3**	**-0.1**
CBYP	**Canovanas**	**52.33**	**8**	*e*P	**P**	**18 03 07.8**	**-1.0**
	comp=Z,64nm,0.9s						
GTBY	**Guantanamo Bay**	**53.65**	**357**	*e*P	**P**	**18 03 18.1**	**-0.4**
	comp=Z,225nm,1.7s						
LTX	**Lajitas**	**69.53**	**331**	*e*P	**P**	**18 05 07.5**	**+1.7**
TXAR	**Lajitas Array**	**69.53**	**331**	P	**P**	**18 05 07.5**	**+1.7**
	comp=Z,0.3nm,0.6s,baz=157,slow=9.9,SNR=4.1						
DBIC	**Dimbokro**	**75.51**	**72**	P	**P**	**18 05 39.7**	**-2.0**
	comp=Z,1.7nm,0.6s,baz=243,slow=7.3,SNR=2.3						
FFD	**Franklin Falls**	**77.07**	**1**	*e*P	**P**	**18 05 52.8**	**+2.9**
	comp=Z,90nm,0.3s						
BOSA	**Boshof**	**80.40**	**118**	P	**P**	**18 06 07.2**	**-1.7**
	comp=Z,1.1nm,0.5s,baz=237,slow=6.5,SNR=4.2						
KOWA	**Kowa**	**80.95**	**66**	P	**P**	**18 06 10.9**	**-0.9**
	comp=Z,2.0nm,0.5s,baz=206,slow=3.2,SNR=6.9						
WR1	**Warramunga Arr**	**120.61**	**210**	*e*PKPdf	**PKPdf**	**18 12 48.9**	**-0.7**
WRA	**Warramunga Arr**	**120.61**	**210**	PKP	**PKPdf**	**18 12 48.9**	**-0.7**
	comp=Z,0.3nm,0.6s,baz=162,slow=1.7,SNR=7.2						
BVAR	**Borovoye Array**	**147.50**	**43**	PKPbc	**PKPbc**	**18 13 41.1**	**+0.5**
	comp=Z,1.7nm,0.6s,baz=312,slow=3.1,SNR=18						
AAK	**Ala-Archa**	**152.80**	**62**	*e*PKPbc	**PKPbc**	**18 13 54.5**	**+0.3**
KURBB	**Kurchatov Arra**	**153.09**	**43**	PKPbc	**PKPbc**	**18 13 54.6**	**+0.4**
	comp=Z,1.2nm,0.5s,baz=304,slow=2.8,SNR=12						
ZAA1	**Zalesovo Array**	**154.38**	**32**	*e*PKPbc	**PKPbc**	**18 13 57.3**	**+0.3**
ZAA1				*e*PKPab	**PKPab**	**18 14 11.5**	**+0.3**
ZALV	**Zalesovo Beam**	**154.39**	**32**	PKPbc	**PKPbc**	**18 13 57.3**	**+0.3**
	comp=Z,2.0nm,0.5s,baz=316,slow=3.2,SNR=9.1						
ZALV				PKPab	**PKPab**	**18 14 11.5**	**+0.3**
	comp=Z,0.9nm,0.6s,baz=289,slow=4.5,SNR=3.8						
ZALV	**Zalesovo Beam**	**154.39**	**32**	*e*PKPbc	**PKPbc**	**18 13 56.9**	**0.0**
ZALV				PKPab	**PKPab**	**18 14 11.5**	**+0.3**
MK32	**Makanchi Array**	**157.01**	**49**	*e*PKPab	**PKPab**	**18 14 22.5**	**-0.3**
MKAR	**Makanchi Array**	**157.01**	**49**	PKPbc	**PKPab**	**18 14 22.5**	**-0.3**
	comp=Z,0.6nm,0.6s,baz=294,slow=3.5,SNR=8.0						

IDC ***17*** *18:07:13.1±1.1, 33°.40N×142°.37E, h0km, mb3.7/8, mb1 3.8/12, mb1mx3.6/64, mbtmp3.8/12, ML3.8/4, MS3.1/3, Ms1 3.1/3, ms1mx2.5/63, Error ellipse: s-maj=27.9km s-min=17.4km az=70.0*
ISCJB ***17*** *18:07:15.9±0.4, 33°.46N±0°.04×142°.30E±0°.05, h35km, mb4.3/17, MS3.3/2, Error ellipse: s-maj=6.6km s-min=4.5km az=142.3*
NEIC ***17*** *18:07:16.8±0.4, 33°.46N×142°.41E, h30km, mb4.6/7, Error ellipse: s-maj=8.7km s-min=5.9km az=63.0*
JMA ***17*** *18:07:17.7±0.7, 33°.58N×142°.20E, h60km, MS3.7*
ISC 17 18:07:17.1±0.6, 33°.44N±0°.05×142°.39E±0°.07, h35km, n64, σ2♀12/73, mb4.3/17, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**1.68**	**316**	P	**Pn**	**18 07 42.4**	**-1.1**
BSO3	**Boso 3**	**2.06**	**312**	P	**Pn**	**18 07 48.2**	**-0.8**
JHJ2	**Mitsune**	**2.18**	**262**	P	**Pn**	**18 07 50.7**	**-0.1**
JHJ2	**Mitsune**	**2.18**	**262**	*e*Pn	**Pn**	**18 07 50.7**	**-0.1**
JHJ2				*e*Sn	**Sn**	**18 08 10.5**	**-6.0**
JHCJ	**Hachijojimakas**	**2.20**	**261**	P	**Pn**	**18 07 50.6**	**-0.5**
JHCJ				*e*S	**Sn**	**18 08 15.6**	**-1.5**
JHJ	**Hachijo jima 2**	**2.20**	**262**	Pn	**Pn**	**18 07 50.8**	**-0.3**
	35nm,0.3s,baz=54,slow=22,SNR=19						
JHJ				Sn	**Sn**	**18 08 13.8**	**-3.4**
	77nm,0.3s,baz=336,slow=23,SNR=6.4						
BSO4	**Boso 4**	**2.29**	**313**	P	**Pn**	**18 07 51.8**	**-0.5**
KTR	**Katsuura**	**2.41**	**315**	P	**Pn**	**18 07 53.6**	**-0.4**
JIM2	**Oshima 3**	**2.76**	**298**	P	**Pn**	**18 07 57.2**	**-1.7**
JIM2				*e*S	**Sn**	**18 08 27.4**	**-3.6**
JIZS	**Izushimoda**	**3.18**	**295**	P	**Pn**	**18 08 03.4**	**-1.1**
JOD2	**Odawara 2**	**3.28**	**305**	P	**Pn**	**18 08 04.3**	**-1.6**
JYN	**Shimoda**	**3.78**	**304**	P	**Pn**	**18 08 11.9**	**-1.0**
JAG	**Ashikaga**	**3.83**	**322**	P	**Pn**	**18 08 12.2**	**-1.3**
JAG				*e*S	**Sn**	**18 08 54.3**	**-3.0**
JRY	**Ryogami san**	**3.85**	**313**	P	**Pn**	**18 08 13.0**	**-0.8**
JFT	**Otama**	**4.40**	**338**	P	**Pn**	**18 08 19.7**	**-1.6**
JFT				*e*S	**Sn**	**18 09 06.2**	**-5.1**
MJAR	**Matsushiro Arr**	**4.62**	**313**	Pn	**Pn**	**18 08 23.8**	**-0.6**
	4.7nm,0.3s,baz=203,slow=9.4,SNR=45						
MAJO	**Matsushiro**	**4.62**	**313**	*e*Pn	**Pn**	**18 08 24.4**	**0.0**
MAJO				*e*Sn	**Sn**	**18 09 17.2**	**+0.4**
MAT	**Matsushiro**	**4.62**	**313**	P	**Pn**	**18 08 24.7**	**+0.3**
MAT				S	**Sn**	**18 09 14.5**	**-2.3**
MAT	**Matsushiro**	**4.62**	**313**	P	**Pn**	**18 08 24.7**	**+0.3**
MJB9	**Matsu-Tunnel**	**4.62**	**313**	*e*Pn	**Pn**	**18 08 24.2**	**-0.2**
MJB9				*e*Sn	**Sn**	**18 09 17.0**	**+0.2**
INU	**Inuyama**	**4.83**	**295**	*e*Pn	**Pn**	**18 08 28.8**	**-0.4**
JNS	**Sasagawa**	**5.03**	**331**	P	**Pn**	**18 08 29.3**	**-0.7**
CBIJ	**Chichi jima**	**6.33**	**182**	*e*Pn	**Pn**	**18 08 46.3**	**-1.6**
CBIJ				*e*Sn	**Sn**	**18 09 55.0**	**-4.0**
JCJ	**Chichijima**	**6.33**	**182**	Pn	**Pn**	**18 08 46.7**	**-1.2**
	16nm,0.3s,baz=51,slow=22,SNR=14						
JCJ				Sn	**Sn**	**18 09 54.2**	**-4.7**
	8.2nm,0.3s,baz=294,slow=20,SNR=3.1						
ERM	**Erimo**	**8.58**	**4**	*e*Pn	**Pn**	**18 09 16.6**	**-2.1**
ERM				*e*Sn	Sn	18 10 42.9	-11
JNU	**Nakatsue**	**9.64**	**271**	*e*Pn	**Pn**	**18 09 34.4**	**+1.0**
ASAJ	**Asahikawa**	**10.66**	**1**	Pn	**Pn**	**18 09 43.3**	**-3.9**
	0.6nm,0.3s,baz=219,slow=11,SNR=8.5						
ASAJ				Sn	Sn	18 11 35.5	-10
	0.2nm,0.3s,baz=114,slow=20,SNR=2.8						
ASAJ	**Asahikawa**	**10.66**	**1**	*e*Pn	**Pn**	**18 09 43.4**	**-3.8**
ASAJ				*e*Sn	Sn	18 11 35.9	-9.3
KSRS	**Korea Array**	**12.45**	**293**	Pn	**Pn**	**18 10 14.1**	**+2.4**
	0.1nm,0.3s,baz=106,slow=13,SNR=4.4						
KSRS				LR	LR	18 16 07.2	
	comp=Z,32nm,18.0s,baz=149,slow=43						
KSAR	**Wonju Array Be**	**12.48**	**293**	Pn	**Pn**	**18 10 14.1**	**+2.0**
KS01	**Wonju Array Si**	**12.48**	**293**	*e*Pn	**Pn**	**18 10 11.3**	**-0.8**
KS01				*e*Sn	**Sn**	**18 12 22.6**	**-7.3**
JOW	**Kunigami**	**13.87**	**245**	*e*Pn	Pn	18 10 26.1	-5.0
BJT	**Baijiatuau**	**21.97**	**295**	*e*P	**P**	**18 12 07.6**	**-0.2**
	9.0nm,0.6s						
PETK	**Petropavlovsk-**	**22.51**	**25**	*e*P	**P**	**18 12 12.7**	**-0.8**
SONA1	**Songino Array**	**30.55**	**309**	*e*P	**P**	**18 13 28.8**	**+1.5**
SONA0	**Songino Array**	**30.55**	**309**	*e*P	**P**	**18 13 28.9**	**+1.6**
SONM	**Songino Array**	**30.55**	**309**	P	**P**	**18 13 28.9**	**+1.6**
	0.6nm,0.5s,baz=112,slow=7.7,SNR=6.0						
ZAA1	**Zalesovo Array**	**44.97**	**315**	*e*P	**P**	**18 15 29.3**	**+0.7**
ZALV	**Zalesovo Beam**	**44.97**	**315**	P	**P**	**18 15 29.3**	**+0.8**
	0.5nm,0.5s,baz=101,slow=7.5,SNR=2.5						
ZALV	**Zalesovo Beam**	**44.97**	**315**	*e*P	**P**	**18 15 27.8**	**-0.8**
MK01	**Makanchi Array**	**46.77**	**305**	*e*P	**P**	**18 15 43.9**	**+1.0**
MK31	**Makanchi Array**	**46.77**	**305**	*e*P	**P**	**18 15 43.4**	**+0.5**
MK32	**Makanchi Array**	**46.77**	**305**	*e*P	**P**	**18 15 44.0**	**+1.1**
MKAR	**Makanchi Array**	**46.77**	**305**	P	**P**	**18 15 44.0**	**+1.1**
	0.7nm,0.5s,baz=87,slow=11,SNR=9.9						
MKAR	**Makanchi Array**	**46.77**	**305**	*e*P	**P**	**18 15 43.4**	**+0.5**
	20nm,0.6s						
MAKZ	**Makanchi**	**46.98**	**305**	*e*P	**P**	**18 15 44.6**	**+0.1**
	3.8nm,0.5s						
MTN	**Manton Dam**	**47.26**	**195**	*e*P	**P**	**18 15 47.5**	**+0.5**
	65nm,1.9s						
KURK	**Kurchatov**	**48.82**	**311**	*e*P	**P**	**18 15 59.2**	**+0.5**
	2.7nm,0.8s						
KURBB	**Kurchatov Arra**	**48.89**	**311**	P	**P**	**18 16 00.2**	**+0.9**
	1.4nm,0.6s,baz=84,slow=7.5,SNR=20						
BKNI	**Bangkinang**	**50.89**	**238**	*e*P	**P**	**18 16 19.4**	**+4.5**
	145nm,0.4s						
ILAR	**Eielson Array**	**52.13**	**31**	P	**P**	**18 16 25.5**	**+2.0**
	0.2nm,0.7s,baz=252,slow=5.6,SNR=3.6						
BVAR	**Borovoye Array**	**53.61**	**314**	P	**P**	**18 16 35.4**	**+0.8**
	0.2nm,0.3s,baz=115,slow=14,SNR=3.3						
WB2	**Warramunga Arr**	**53.64**	**189**	*e*P	**P**	**18 16 34.9**	**-0.2**
WR1	**Warramunga Arr**	**53.64**	**189**	*e*P	**P**	**18 16 35.9**	**+0.8**
	40nm,0.8s						
WRA	**Warramunga Arr**	**53.64**	**189**	P	**P**	**18 16 35.9**	**+0.8**
	1.0nm,0.6s,baz=7.7,slow=7.7,SNR=14						
FITZ	**Fitzroy Crossi**	**53.69**	**200**	*e*P	**P**	**18 16 36.9**	**+1.4**
	8.2nm,1.4s						
KK31	**Karatay Array**	**55.67**	**303**	*e*P	**P**	**18 16 50.9**	**+1.2**
KKAR	**Karatay Array**	**55.67**	**303**	*e*P	**P**	**18 16 51.1**	**+1.3**
MHA	**Mahukona**	**55.92**	**87**	*e*P	**P**	**18 16 52.2**	**+0.4**
AS31	**Alice Springs**	**57.36**	**189**	*e*P	**P**	**18 17 03.1**	**+1.2**
	0.7nm,0.9s						
ASAR	**Alice Springs**	**57.36**	**189**	P	**P**	**18 17 03.1**	**+1.2**
	0.6nm,0.8s,baz=13,slow=7.7,SNR=5.4						
AKTO	**Aktyubinsk**	**61.69**	**314**	LR	LR	18 46 49.5	
	comp=Z,45nm,18.6s,baz=293,slow=38						
AFI	**Afiamalu**	**64.24**	**129**	LR	LR	18 47 56.9	
	comp=Z,9.4nm,18.2s,baz=232,slow=38						
CLL	**Collm**	**84.61**	**331**	*e*P	**P**	**18 19 49.0**	**+2.3**
	comp=Z,6.0nm,1.4s						

MAN 17 18:10:38, 10°.11N×123°.25E, h3km, mb4.4, ML3.3, MS3.1, 2C, Cebu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TBP	**Tagbilaran**	**0.73**	**125**	*e*P	Pb	18 10 53.1	-0.3
TBP				*i* S	Sb	18 11 05.1	+1.2
LLP	**Lapu-Lapu**	**0.73**	**74**	*e*P	Pg	18 10 52.5	+0.4
LLP				*e*S	Sg	18 11 02.5	+0.9
SNPH	**Sibulan**	**0.76**	**181**	*e*P	Pb	18 10 54.6	+0.6
SNPH				*e*S	Sb	18 11 06.2	+1.4
GUIM	**Jordan**	**0.83**	**308**	*e*P	Pg	18 10 54.3	+0.4
GUIM				*e*S	Sb	18 11 06.0	-0.5
DCPH	**Dipolog City**	**1.52**	**176**	⇑ *e*P	Pn	18 11 05.0	-1.1
DCPH				*e*S	Sg	18 11 27.0	0.0
RCP	**Roxas**	**1.52**	**341**	⇑ *e*P	Pb	18 11 06.6	-0.3
RCP				*e*S	Sg	18 11 28.0	+1.0
MSLP	**Maasin**	**1.58**	**89**	*e*P	Pn	18 11 07.1	+0.1
MSLP				*e*S	Sg	18 11 29.5	+0.5
OCLP	**Ormoc**	**1.63**	**55**	*e*P	Pn	18 11 08.1	+0.4
OCLP				*e*S	Sb	18 11 29.7	-0.1
IPIL	**Ipil**	**2.40**	**196**	*e*P	Pn	18 11 18.4	+0.1
IPIL				*e*S	Sn	18 11 49.9	+1.6

IDC 17 18:21:05.9±1.3, 0°.53S×131°.64E, h0km, mb3.4/4, mb1 3.6/5, mb1mx3.3/55, mbtmp3.4/5, ML3.4/1, Error ellipse: s-maj=29.3km s-min=14.8km az=112.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**0.51**	**228**	Pg	Pg	18 21 15.6	0.0
	50nm,0.3s,baz=225,slow=19,SNR=68						
SIJI				Lg	Lg	18 21 33.8	
	204nm,0.3s,baz=262,slow=17,SNR=42						
WRA	**Warramunga Arr**	**19.47**	**172**	P	P	18 25 34.2	-0.3
	0.1nm,0.3s,baz=353,slow=11,SNR=7.0						
ASAR	**Alice Springs**	**23.11**	**175**	P	P	18 26 13.5	-0.1
	1.1nm,0.8s,baz=354,slow=7.8,SNR=12						
MKAR	**Makanchi Array**	**63.84**	**324**	P	P	18 31 40.7	+0.4
	0.3nm,0.7s,baz=106,slow=9.1,SNR=3.4						
KURBB	**Kurchatov Arra**	**67.96**	**327**	P	P	18 32 06.1	-0.5
	0.5nm,0.6s,baz=126,slow=6.1,SNR=5.5						
BVAR	**Borovoye Array**	**73.55**	**326**	P	P	18 32 41.0	+0.3
	0.2nm,0.5s,baz=132,slow=8.6,SNR=2.3						

ISCJB ***17*** *18:21:40.6±0.3, 5°.26S±0°.05×150°.04E±0°.07, h250km, mb4.4/34, Error ellipse: s-maj=9.7km s-min=6.3km az=14.3*
BJI ***17*** *18:21:41.4, 5°.22S×149°.79E, h236km, mb4.3/11, mB4.6/5*
NEIC ***17*** *18:21:43.0±0.6, 5°.26S×150°.10E, h265km±6km, mb4.7/20, Error ellipse: s-maj=10.1km s-min=6.9km az=118.0*
IDC ***17*** *18:21:43.8±1.5, 5°.28

	59nm,1.8s								
VNDA	Vanda	72.50	177	P		P	18 32 41.1	0.0	
	1.2nm,0.6s,baz=338,slow=7.2,SNR=9.2								
VNDA	Vanda	72.50	177	*eP*		P	18 32 41.2	+0.1	
	11nm,1.9s								
WMQ	Urumqi	74.29	318	P		P	18 32 53.0	+0.7	
MKAR	Makanchi Array	78.94	320	P		P	18 33 18.0	-0.1	
	0.3nm,0.6s,baz=92,slow=8.7,SNR=4.3								
ZALV	Zalesovo Beam	80.07	327	P		P	18 33 23.0	-1.0	
	0.7nm,0.6s,baz=101,slow=6.5,SNR=3.5								
CAST	Castle Rocks	80.92	23	*eP*		P	18 33 27.9	-0.4	
	17nm,2.0s								
KTH	Kantishna Hill	81.43	23	*eP*		P	18 33 30.2	-0.9	
	15nm,1.7s								
IM3	Indian Mountai	81.69	20	*eP*		P	18 33 31.9	-0.4	
EYAK	Cordova Ski Ar	82.18	27	*eP*		P	18 33 38.0	+3.1	
	53nm,1.8s								
KURBB	Kurchatov Arra	82.53	322	P		P	18 33 36.2	-0.8	
	0.4nm,0.5s,baz=117,slow=4.2,SNR=5.6								
ILAR	Eielson Array	83.57	23	P		P	18 33 40.1	-1.8	
	0.3nm,0.6s,baz=245,slow=5.0,SNR=6.6								
MENT	Mentasta	84.05	25	*eP*		P	18 33 43.3	-1.2	
	54nm,0.3s								
BVAR	Borovoye Array	88.02	324	P		P	18 34 01.7	-2.3	
	0.3nm,0.5s,baz=126,slow=7.3,SNR=2.9								
SYO	Syowa Base	92.37	200	⇓*iP*		P	18 34 24.4	+0.5	

IDC ***17*** *18:27:45.5±461.0, 32°.55N×132°.88E, h0km, Error ellipse: s-maj=194.4km s-min=123.7km az=31.0*

JMA 17 18:26:51.2, 32°.90N×132°.13E, h11km±1km**, M1.8, Shikoku**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JUS	Usuki	0.36	298	P	Pg	18 26 58.4	0.0
JUS				S	Sg	18 27 03.3	+0.1
UWA2	Uwa jima 2	0.52	53	P	Pg	18 27 01.4	0.0
UWA2				S	Sg	18 27 08.1	-0.2
JTO	Tosashimizu	0.57	94	P	Pg	18 27 02.3	+0.1
JTO				S	Sg	18 27 09.7	0.0
JNA	Nagahama	0.72	24	P	Pg	18 27 05.1	0.0
JTSN	Tsuno	0.84	219	S	Sg	18 27 17.9	-0.5
JKU	Kubokawa	0.88	62	P	Pg	18 27 07.8	-0.5
JKU				S	Sg	18 27 19.3	-0.5
JIU2	Izumi 2	1.16	253	P	Pb	18 27 13.1	-0.2
I30JP	ISUMI INFRASON	7.20	68	*i*		19 10 10.0	
	baz=248,slow=318,SNR=42						
I45RU	USSURIYSK INFR	11.28	359	*i*		19 41 20.0	
	baz=180,slow=315,SNR=1.9						
I34MN	SONGINO INFRAS	24.46	315	*i*		21 03 10.0	
	baz=118,slow=323,SNR=1.7						
I44RU	PETROPAVLOVSK	27.28	35	*i*		21 12 30.0	
	baz=230,slow=320,SNR=0.9						

ISCJB ***17*** *18:34:14.8±0.5, 39°.09N±0°.03×29°.10E±0°.03, h7km±5km, Error ellipse: s-maj=5.7km s-min=4.2km az=161.8*
DDA ***17*** *18:34:14.7, 39°.10N×29°.13E, h7km, Ml2.5*
ISK ***17*** *18:34:14.4, 39°.10N×29°.09E, h5km, ML2.4/11*
CSEM ***17*** *18:34:14.9±0.1, 39°.11N×29°.11E, h5km, ML2.4, Error ellipse: s-maj=2.7km s-min=2.0km az=122.0*

ISC 17 18:34:15.0±0.9, 39°.10N±0°.03×29°.12E±0°.02, h8km**±9**km**, n38, σ0°.942/53, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIMA	Simav-Kutahya	0.11	260	PG	Pg	18 34 17.7	+0.2
SIMA	Simav-Kutahya	0.11	260	*ePg*	Pg	18 34 17.7	+0.2
GDZ	Gediz	0.28	93	*iP*	Pg	18 34 20.3	-0.3
GDZ				*i* S	Sg	18 34 24.6	+0.2
GDZ	Gediz	0.28	93	P	Pg	18 34 20.3	-0.3
DEMI	Demirci	0.32	259	*i* P	Pg	18 34 21.5	+0.2
DEMI				*i* S	Sg	18 34 25.8	+0.3
DEMI	Demirci	0.32	259	P	Pg	18 34 21.5	+0.2
DEMI				S	Sg	18 34 25.8	+0.3
TVSB	Tavsanli	0.44	37	PG	Pg	18 34 22.8	-0.7
TVSB	Tavsanli	0.44	37	*ePg*	Pg	18 34 22.8	-0.7
KULA	Kula-Manisa	0.69	212	PG	Pg	18 34 28.3	+0.1
KULA				SG	Sg	18 34 37.2	0.0
KULA	Kula-Manisa	0.69	212	*ePg*	Pg	18 34 28.3	+0.1
KULA				*eSg*	Sg	18 34 37.2	0.0
DURS	Dursunbey	0.71	315	*iP*	Pg	18 34 28.5	-0.1
DURS	Dursunbey	0.71	315	P	Pg	18 34 28.5	-0.1
MANT	Manisa	0.75	216	*iP*	Pb	18 34 29.7	-0.8
MANT				*i* S	Sg	18 34 38.7	-0.6
MANT	Manisa	0.75	216	P	Pb	18 34 29.7	-0.8
MANT				S	Sg	18 34 38.7	-0.6
KHAL	Karahalli	0.79	158	*iP*	Pb	18 34 30.6	-0.4
KHAL				*i* S	Sg	18 34 40.7	+0.3
KHAL	Karahalli	0.79	158	P	Pb	18 34 30.6	-0.4
KHAL				S	Sg	18 34 40.7	+0.3
BALB	Balikesir	1.10	300	PN	Pg	18 34 35.8	-0.3
BALB				SN	Sb	18 34 50.9	+0.1
BALB	Balikesir	1.10	300	*ePn*	Pg	18 34 35.8	-0.3
BALB				*eSn*	Sb	18 34 50.9	+0.1
CAVI	Cavuskoy	1.23	27	PN	Pn	18 34 38.7	+0.1
CAVI				SN	Sn	18 34 55.9	+0.5
CAVI	Cavuskoy	1.23	27	*ePn*	Pn	18 34 38.7	+0.1
CAVI				*eSn*	Sn	18 34 55.9	+0.5
MDNY	Mudanya-Bursa	1.28	352	PN	Pb	18 34 39.4	+0.1
MDNY	Mudanya-Bursa	1.28	352	*ePn*	Pb	18 34 39.4	+0.1
BORA	Eskisehir	1.29	53	*iP*	Pb	18 34 40.0	+0.4
BORA				*i* S	Sb	18 34 56.8	+0.4
BORA	Eskisehir	1.29	53	P	Pb	18 34 40.0	+0.4
BORA				S	Sb	18 34 56.8	+0.4
KCTX	Karacabey (Bur	1.30	333	PN	Pg	18 34 39.7	-0.3
KCTX	Karacabey (Bur	1.30	333	*ePn*	Pg	18 34 39.7	-0.3
GONE	Gonen-Balikesi	1.46	311	PN	Pb	18 34 41.9	-0.4
GONE	Gonen-Balikesi	1.46	311	*ePn*	Pb	18 34 41.9	-0.4
ARMT	Armutlu	1.48	352	PN	Pb	18 34 42.4	-0.3
ARMT	Armutlu	1.48	352	*ePn*	Pb	18 34 42.4	-0.3
YLV	Yalova	1.48	8	PN	Pb	18 34 42.5	-0.2
YLV	Yalova	1.48	8	*ePn*	Pb	18 34 42.5	-0.2
EDC	Edincik	1.58	322	PN	Pb	18 34 43.7	-0.7
EDC	Edincik	1.58	322	*ePn*	Pb	18 34 43.7	-0.7
GULT	Gulveren	1.71	39	PN	Pb	18 34 46.0	-0.7
GULT	Gulveren	1.71	39	*ePn*	Pb	18 34 46.0	-0.7
HRT	Hereke	1.77	14	PN	Pn	18 34 46.3	+0.3
HRT	Hereke	1.77	14	*ePn*	Pn	18 34 46.3	+0.3

ISK ***17*** *18:37:18.6, 39°.11N×29°.15E, h6km, ML2.4/9*
ISCJB ***17*** *18:37:19.1±0.5, 39°.11N±0°.03×29°.12E±0°.03, h1km±7km, Error ellipse: s-maj=5.9km s-min=3.7km az=155.2*
DDA ***17*** *18:37:19.3, 39°.10N×29°.12E, h7km, Ml2.5*
CSEM ***17*** *18:37:19.4±0.1, 39°.11N×29°.13E, h8km, ML2.4, Error ellipse: s-maj=2.6km s-min=2.0km az=131.0*

ISC 17 18:37:19.3±0.9, 39°.11N±0°.03×29°.13E±0°.02, h8km**±8**km**, n38, σ0°.934/54, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIMA	Simav-Kutahya	0.12	256	PG	Pg	18 37 22.3	+0.2
SIMA	Simav-Kutahya	0.12	256	*ePg*	Pg	18 37 22.3	+0.2
GDZ	Gediz	0.28	95	*iP*	Pg	18 37 24.7	-0.2
GDZ				*i* S	Sg	18 37 29.0	+0.3
GDZ	Gediz	0.28	95	P	Pg	18 37 24.7	-0.2
GDZ				S	Sg	18 37 29.0	+0.3
DEMI	Demirci	0.33	258	*iP*	Pg	18 37 25.8	0.0
DEMI				*i* S	Sg	18 37 30.2	0.0
DEMI	Demirci	0.33	258	P	Pg	18 37 25.8	0.0
DEMI				S	Sg	18 37 30.2	0.0
TVSB	Tavsanli	0.43	38	PG	Pg	18 37 27.4	-0.3
TVSB				SG	Sg	18 37 32.9	-0.5
TVSB	Tavsanli	0.43	38	*ePg*	Pg	18 37 27.4	-0.3
TVSB				*eSg*	Sg	18 37 32.9	-0.5
KULA	Kula-Manisa	0.70	211	PG	Pg	18 37 33.0	+0.2
KULA				SG	Sg	18 37 42.1	+0.2
KULA	Kula-Manisa	0.70	211	*ePg*	Pg	18 37 33.0	+0.2
KULA				*eSg*	Sg	18 37 42.1	+0.2
DURS	Dursunbey	0.70	314	*iP*	Pg	18 37 32.9	-0.1
DURS	Dursunbey	0.70	314	P	Pg	18 37 32.8	-0.1
MANT	Manisa	0.76	216	*iP*	Pg	18 37 34.1	0.0
MANT				*i* S	Sg	18 37 43.4	-0.6
MANT	Manisa	0.76	216	P	Pg	18 37 34.1	0.0
MANT				S	Sg	18 37 43.4	-0.6
KHAL	Karahalli	0.79	159	*iP*	Pb	18 37 35.1	-0.3
KHAL				*i* S	Sb	18 37 45.7	-0.6
KHAL	Karahalli	0.79	159	P	Pb	18 37 35.1	-0.3
KHAL				S	Sb	18 37 45.7	-0.6
BALB	Balikesir	1.10	299	PN	Pg	18 37 40.4	-0.1
BALB	Balikesir	1.10	299	*ePn*	Pg	18 37 40.4	-0.1
STEP	BALIKESIR_Sava	1.12	284	*i* P	Pn	18 37 41.9	+0.5
STEP				*i* S	Sn	18 37 57.0	0.0
STEP	BALIKESIR_Sava	1.12	284	P	Pn	18 37 41.9	+0.5
STEP				S	Sn	18 37 57.0	0.0
CAVI	Cavuskoy	1.22	27	PN	Pb	18 37 42.6	-0.1
CAVI	Cavuskoy	1.22	27	*ePn*	Pb	18 37 42.6	-0.1
MDNY	Mudanya-Bursa	1.27	352	PN	Pn	18 37 43.3	0.0
MDNY	Mudanya-Bursa	1.27	352	*ePn*	Pn	18 37 43.3	0.0
BORA	Eskisehir	1.28	53	*iP*	Pg	18 37 44.3	+0.3
BORA				*i* S	Sn	18 38 01.5	+0.5
BORA	Eskisehir	1.28	53	P	Pg	18 37 44.3	+0.3
BORA				S	Sn	18 38 01.5	+0.5
KCTX	Karacabey (Bur	1.30	333	PN	Pn	18 37 43.9	+0.2
KCTX	Karacabey (Bur	1.30	333	*ePn*	Pn	18 37 43.9	+0.2
GONE	Gonen-Balikesi	1.45	310	PN	Pn	18 37 46.0	+0.2
GONE	Gonen-Balikesi	1.45	310	*ePn*	Pn	18 37 46.0	+0.2
ARMT	Armutlu	1.47	352	PN	Pn	18 37 46.5	+0.4
ARMT	Armutlu	1.47	352	*ePn*	Pn	18 37 46.5	+0.4
YLV	Yalova	1.47	7	PN	Pn	18 37 46.5	+0.4
YLV	Yalova	1.47	7	*ePn*	Pn	18 37 46.5	+0.4
EDC	Edincik	1.57	322	PN	Pn	18 37 47.8	+0.3
EDC	Edincik	1.57	322	*ePn*	Pn	18 37 47.8	+0.3
GULT	Gulveren	1.70	39	PN	Pn	18 37 49.9	+0.6
GULT	Gulveren	1.70	39	*ePn*	Pn	18 37 49.9	+0.6

SJA ***17*** *18:39:22.8±0.7, 32°.63S×72°.15W, h27km, ML3.2, MW3.7*
GUC ***17*** *18:39:25.3±0.7, 32°.71S×71°.79W, h51km±8km, ML3.5*

ISC 17 18:39:21.5±1.9, 32°.81S±0°.05×72°.01W±0°.07, h8km**±16**km**, n15, σ1°.66/21, 1D, Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PEL	Peldehue	1.16	107	*eP*	Pn	18 39 43.9	-0.3
PEL				*eS*	Sb	18 39 57.9	-1.2
PEL				*i* S	Sn	18 39 58.2	-2.0
ANTU	Antumapu	1.38	124	*eP*	Pg	18 39 48.2	+0.2
ANTU				*eS*	Sb	18 40 05.1	-0.4
ANTU				IAML		18 40 08.7	
	comp=N,1μm,0.3s						
FCH	Farellones	1.53	110	*eP*	Pb	18 39 50.0	-0.4
FCH				*eS*	Sn	18 40 08.6	-1.3
FCH				IAML		18 40 09.7	
	comp=E,1μm,0.3s						
LMEL	Las Melosas	1.83	125	*eP*	Pb	18 39 56.1	+0.7
LMEL				*eS*	Sb	18 40 18.9	+0.3
LMEL				IAML		18 40 22.6	
	comp=N,1μm,0.2s						
GO05	HualaæØ	2.20	178	*eP*	Pg	18 40 02.9	-0.8
GO05	HualaæØ	2.20	178	⇓*eP*	Pb	18 40 01.7	+0.1
GO05				IAML		18 40 51.2	
	comp=E,122nm,0.3s						
AUSP	Uspallata	2.29	76	*eP*	Pb	18 40 02.7	-0.6
AUSP				*eS*	Sb	18 40 33.4	+1.5
RTLS	Leoncito	2.51	67	*eP*	Pb	18 40 05.7	-1.3
RTLS				IAML		18 40 39.3	
	comp=Z,96nm,0.3s						
GO04	Tololo Observa	2.82	22	*eP*	Pn	18 40 07.1	-0.1
TLL	Tololo Astrono	2.83	22	*eP*	Pn	18 40 07.6	+0.4
TLL				IAML		18 40 49.4	
	comp=N,350nm,0.5s						
RTCV	Cerro Valdivia	3.08	73	*eP*	Pb	18 40 14.6	-2.1
AROD	Rodeo	3.41	40	*eP*	Pn	18 40 17.5	+2.2
AMOG	MOGNA	3.52	59	*eP*	Pn	18 40 19.2	+2.6
ACAN	Cantantal	4.11	84	*eP*	Pn	18 40 28.1	+3.5
AGUA	GUANDACOL	4.48	43	*eP*	Pn	18 40 32.1	+2.3

CRAAG ***17*** *18:43:40.1, 35°.36N×2°.00E, Ml3.1*
MDD ***17*** *18:43:43.3±3.0, 35°.34N×1°.97E, h0km, mb3.8/7, Error ellipse: s-maj=28.7km s-min=19.1km az=139.0, PRXIMO*
CSEM ***17*** *18:43:45.0±0.5, 35°.44N×1°.83E, h10km, mb3.8, Error ellipse: s-maj=10.2km s-min=5.6km az=133.0*

ISC 17 18:43:43.6±2.9, 35°.4N±0°.1×1°.9E±0°.1, h10km**, n25, σ0°.78/36, Northern Algeria**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ETRT	Tiaret	0.49	270	P	Pg	18 43 53.0	-0.3
ETRT	Tiaret	0.49	270	P	Pg	18 43 53.0	-0.3
EANR	'Ain N'Sour	0.86	310	P	Pg	18 44 00.5	+0.3
EANR	'Ain N'Sour	0.86	310	P	Pg	18 44 00.5	+0.3
EMHD	Djebel Mahouad	1.17	46	P	Pn	18 44 14.0	+7.8
EMUR	La Murta	3.52	315	P	Pn	18 44 38.7	+0.4
	0.8nm,0.2s,SNR=7.9						
EMUR				S	Sn	18 45 19.5	-0.6
	1.3nm,0.5s,SNR=7.9						
EMUR	La Murta	3.52	315	P	Pn	18 44 38.7	+0.4
	0.8nm,0.2s,SNR=7.9						
EMUR				S	Sn	18 45 19.5	-0.6
	1.3nm,0.5s,SNR=7.9						
EIBI	Ibiza	3.65	353	P	Pn	18 44 40.7	+0.5
	2.6nm,0.1s,SNR=8.9						
EIBI				S	Sn	18 45 22.6	-0.8
	2.0nm,0.2s						
EIBI	Ibiza	3.65	353	P	Pn	18 44 40.7	+0.5
	2.6nm,0.1s,SNR=8.9						
EIBI				S	Sn	18 45 22.6	-0.8
	2.0nm,0.2s						
EBER	Berja	4.16	293	P	Pn	18 44 47.4	+0.1
	1.1nm,0.2s,SNR=168						
EBER				S	Sn	18 45 35.7	-0.4
	2.8nm,0.6s						
EBER	Berja	4.16	293	P	Pn	18 44 47.4	+0.1
	1.1nm,0.2s,SNR=168						
EBER				S	Sn	18 45 35.7	-0.4
	2.8nm,0.6s						
ETOB	Tobarra	4.26	321	P	Pn	18 44 49.0	+0.4
	1.4nm,0.2s,SNR=14						
ETOB				S	Sn	18 45 38.4	0.0
	1.1nm,0.4s						
ETOB	Tobarra	4.26	321	P	Pn	18 44 49.0	+0.4
	1.4nm,0.2s,SNR=14						
ETOB				S	Sn	18 45 38.4	0.0
	1.1nm,0.4s						
SESP	Santiago Espad	4.49	309	P	Pn	18 44 52.8	+0.9
	1.4nm,0.2s,SNR=7.9						
SESP	Santiago Espad	4.49	309	P	Pn	18 44 52.8	+0.9
	1.4nm,0.2s,SNR=7.9						
EQES	Quesada	4.67	302	P	Pn	18 44 55.5	+1.3
	5.2nm,0.3s,SNR=26						
EQES				S	Sn	18 45 47.9	-0.7
	0.6nm,0.3s						
EQES	Quesada	4.67	302	P	Pn	18 44 55.5	+1.3
	5.2nm,0.3s,SNR=26						
EQES				S	Sn	18 45 47.8	-0.7
	0.6nm,0.3s						
EQUE	Quentar	4.68	294	P	Pn	18 44 55.2	+0.8
	1.3nm,0.2s,SNR=7.6						
EQUE	Quentar	4.68	294	P	Pn	18 44 55.2	+0.8
	1.3nm,0.2s,SNR=7.6						
ELGU	Los Guajares,	4.71	290	P	Pn	18 44 55.1	+0.3
	2.1nm,3.6s,SNR=7.9						
ELGU	Los Guajares,	4.71	290	P	Pn	18 44 55.1	+0.3
	2.1nm,3.6s,SNR=7.9						
EMOS	Mosqueruela	5.31	340	P	Pn	18 45 04.2	+1.2
	0.4nm,0.1s,SNR=7.6						
EMOS				S	Sn	18 46 02.6	-1.7
	0.3nm,0.2s,SNR=7.9						
EMOS	Mosqueruela	5.31	340	P	Pn	18 45 04.2	+1.2
	0.4nm,0.1s,SNR=7.6						
EMOS				S	Sn	18 46 02.6	-1.7
	0.3nm,0.2s,SNR=7.9						
ERTA	Horta de San J	5.69	348	P	Pn	18 45 08.5	+0.3
	0.9nm,1.6s,SNR=7.9						
ERTA	Horta de San J	5.69	348	P	Pn	18 45 08.5	+0.3
	0.9nm,1.6s,SNR=7.9						

IDC ***17*** *18:45:14.2±2.9, 10°.94S×113°.32E, h0km, mb3.5/5, mb1 3.6/5, mb1mx3.4/56, mbtmp3.6/5, Error ellipse: s-maj=155.0km s-min=21.1km az=45.0*
ISCJB ***17*** *18:45:17.1±0.9, 10°.86S±0°.06×113°.49E±0°.08, h25km, mb3.5/5, Error ellipse: s-maj=12.2km s-min=8.2km az=27.6*
DJA ***17*** *18:45:19.2±0.9, 11°.5S×7°.1×11°.4E±°, h10km, M3.8/9, MLv3.8/9*

ISC 17 18:45:18.7±1.4, 10°.9S±0°.1×113°.53E±0°.10, h25km**, n11, σ0°.74/15, mb3.9/5, South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAGI	Jajag, Banyuwa	2.46	15	P	Pn	18 45 57.3	+0.1
JAGI				S	Sn	18 46 26.9	+0.5
GMJI	Gumukmas	2.57	358	P	Pn	18 45 59.7	+0.9
IGBI	Denpasar	2.58	38	P	Pn	18 45 59.2	+0.3
IGBI				S	Sn	18 46 29.5	0.0
DNP	Denpasar	2.73	38	P	Pn	18 46 00.8	-0.2
DNP				S	Sn	18 46 33.6	+0.3
SRBI	Singaraja	3.22	31	P	Pn	18 46 07.6	-0.1
SRBI				S	Sn	18 46 44.5	-0.8
PWJI	Pagerwojo	3.29	329	P	Pn	18 46 08.7	0.0
WRA	Warramunga Arr	21.98	117	P	P	18 50 12.6	+1.5
	0.2nm,0.4s,baz=290,slow=11,SNR=3.4						
ASAR	Alice Springs	23.21	126	P	P	18 50 23.6	-0.4
	0.6nm,0.7s,baz=302,slow=9.4,SNR=8.4						
MKAR	Makanchi Array	63.83	337	P	P	18 55 48.9	0.0
	0.8nm,0.6s,baz=144,slow=7.1,SNR=11						
KURBB	Kurchatov Arra	68.39	337	P	P	18 56 18.1	0.0
	0.4nm,0.4s,baz=150,slow=5.7,SNR=4.5						
ZALV	Zalesovo Beam	69.01	342	P	P	18 56 20.4	-1.5
	0.6nm,0.5s,baz=137,slow=7.3,SNR=3.2						

GUC 17 18:55:56.7±0.4, 38°.15S×74°.82W, h22km±4km**, ML3.7, Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TMU	Temuco	1.83	109	*eP*	Pn	18 56 27.7	+0.8
TMU				*eS*	Sb	18 56 51.0	-1.0
CCSP	San Pedro de C	1.88	47	*eS*	Sn	18 56 51.3	+0.7
COCH	Cobquecura	2.59	39	*eP*	Pn	18 56 36.1	-1.1
COCH				*eS*	Sn	18 57 07.4	-0.6
COCH				IAML		18 57 09.8	
	comp=E,230nm,0.2s						
CCHI	Chillan	2.67	56	*eP*	Pn	18 56 38.8	+0.3
CCHI				IAML		18 57 16.0	
	comp=N,416nm,0.3s						
GO06	Curarrehue	2.98	120	*eP*	Pn	18 56 43.4	+0.7
GO05	HualaæØ	3.90	37	*eP*	Pn	18 56 53.5	-1.9

IDC ***17*** *19:01:19.8±6.3, 3°.54N×92°.42E, h0km, mb3.6/4, mb1 3.7/6, mb1mx3.4/63, mbtmp3.6/6, ML3.6/2, MS4.2/2, Ms1 4.2/2, ms1mx3.2/56, Error ellipse: s-maj=134.3km s-min=42.7km az=154.0*
ISCJB ***17*** *19:01:22.1±0.9, 3°.70N±0°.09×92°.55E±0°.05, h24km, mb3.6/4, MS4.2/2, Error ellipse: s-maj=12.9km s-min=6.9km az=18.4*
DJA ***17*** *19:01:24.3±1.1, 4°.N±5°.×9°.3E±1°.9, h16km±26km, M4.2/7, mB5.0/1, mb4.3/6, MLv4.2/7, Mw(mB)4.2/1*

ISC 17 19:01:23.8±1.0, 3°.73N±0°.10×92°.52E±0°.07, h24km**, n14, σ1°.06/16, mb3.6/4, Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BSI	Banda Aceh	3.28	58	P	Pn	19 02 13.9	+0.1
BSI				S	Sn	19 02 50.3	-1.8
MLSI	Meulaboh, Aceh	3.92	82	P	Pn	19 02 23.1	+0.6
MLSI				S	Sn	19 03 06.6	-1.2
LHMI	Lhok Sumawe	4.66	71	P	Pn	19 02 32.9	+0.1
TPTI		4.68	96	P	Pn	19 02 32.6	-0.4
TPTI				S	Sn	19 03 25.9	-0.7
GSI	Gunungsitoli	5.60	115	P	Pn	19 02 44.8	-0.9
	18nm,0.6s,0.1nm						
GSI				S	Sn	19 03 51.1	+1.8
	18nm,0.6s,0.1nm						
MNSI	Mandailing Nat	7.64	112	P	Pn	19 03 12.9	-0.8
	20nm,0.4s,830nm0.1nm						
PALK	Pallekele	12.27	287	Pn	Pn	19 04 15.9	-1.4
	0.5nm,0.3s,baz=116,slow=13,SNR=5.2						
PALK				Sn	Sn	19 06 18.0	-15
	2.0nm,0.3s,baz=114,slow=5.1,SNR=9.6						
CMAR	Chiang Mai Arr	15.93	23	Pn	P	19 05 09.9	-0.1
	0.1nm,0.3s,baz=216,slow=13,SNR=4.4						
AAK	Ala-Archa	41.94	340	LR	LR	19 27 56.7	
	comp=Z,139nm,18.4s,baz=322,slow=38						
MKAR	Makanchi Array	43.80	350	P	P	19 09 28.2	+0.4
	0.2nm,0.4s,baz=166,slow=8.0,SNR=5.4						
SONM	Songino Array	45.54	13	P	P	19 09 42.9	+1.1
	0.3nm,0.5s,baz=188,slow=8.7,SNR=2.4						
ZALV	Zalesovo Beam	50.46	354	P	P	19 10 20.1	+0.5
	0.7nm,0.5s,baz=182,slow=7.2,SNR=4.9						
CTA	Charters Tower	57.81	116	LR	LR	19 39 12.5	
	comp=Z,370nm,18.1s,slow=39						
GERES	GERESS Array B	79.84	319	P	P	19 13 31.3	+0.7
	0.5nm,0.6s,baz=101,slow=5.6,SNR=5.6						

IDC 17 19:02:31.2±2.1, 3°.88S×127°.91E, h0km, mb3.2/2, mb1 3.4/3, mb1mx3.2/49, mbtmp3.2/3, ML3.0/1, Error ellipse: s-maj=144.0km s-min=28.7km az=67.0, Seram

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	17.15	159	P	Pn	19 06 32.2	-0.3
	0.1nm,0.3s,baz=337,slow=13,SNR=8.4						
ASAR	Alice Springs	20.50	164	P	P	19 07 11.3	+0.2
	0.4nm,0.5s,baz=352,slow=12,SNR=10						
MKAR	Makanchi Array	64.49	327	P	P	19 13 09.8	-0.1
	0.2nm,0.5s,baz=127,slow=8.3,SNR=4.7						

ISCJB ***17*** *19:03:54.6±1.4, 59°.00S±0°.04×16°.61W±0°.06, h9km±8km, mb5.9/128, MS5.9/229, Error ellipse: s-maj=6.6km s-min=4.8km az=37.9*
IDC ***17*** *19:03:54.3±0.3, 59°.12S×16°.65W, h0km, mb5.4/26, mb1 5.5/27, mb1mx5.4/31, mbtmp5.4/27, ML5.8/1, MS5.8/30, Ms1 5.8/30, ms1mx5.7/33, Error ellip

HOPE **Hope Point** 11.85 286 *e*Pn **Pn** 19 06 44.7 -0.8
VNA1 **Neumayer--Stat** 12.05 166 P **Pn** 19 06 47.6 -0.5
VNA1 S **Sn** 19 08 58.3 -3.7
VNA2 **Neumayer--Watz** 12.41 166 P **Pn** 19 06 51.6 -1.5
baz=336,slow=13
VNA2 S **Sn** 19 09 03.8 -7.2
VNA3 **Neumayer Olymp** 12.46 169 P **Pn** 19 06 52.4 -1.4
VNA3 S Sn 19 09 00.2 -12
SNAA **Sanae** 13.75 161 P **Pn** 19 07 10.2 -1.3
SNAA S **Sn** 19 09 37.4 -6.3
SNAA **Sanae** 13.75 161 Pn **Pn** 19 07 08.8 -2.6
43nm,0.3s,baz=342,slow=13,SNR=258
SNAA Sn Sn 19 09 32.6 -11
2.8nm,0.3s,baz=230,slow=18,SNR=1.8
SNAA LR LR 19 11 33.9
comp=Z,79µm,19.2s,baz=329,slow=33
SNAA **Sanae** 13.75 161 *e*Pn **Pn** 19 07 09.0 -2.4
SNAA *e*Sn **Sn** 19 09 36.0 -7.8
SNAA **Sanae** 13.75 161 *c i*P **Pn** 19 07 09.1 -2.4
PMSA **Palmer Station** 22.42 236 PFAKE 19 09 10.0 +15
PMSA LR LR
comp=Z,23µm,22.0s
EFI **East Falkland** 24.24 270 *e*P **P** 19 09 13.0 -0.4
comp=Z,652nm,1.0s
EFI LR LR
comp=Z,14µm,22.0s
EFI **East Falkland** 24.24 270 *c i*P **P** 19 09 12.9 -0.4
EFI pmax pmax
comp=Z,518nm,1.0s
SYO **Syowa Base** 25.53 136 ⇓ *i*P **P** 19 09 20.4 -4.4
SYO **Syowa Base** 25.53 136 ⇓ *i*P **P** 19 09 22.4 -2.4
SYO **Syowa Base** 25.53 136 *e*SH **S** 19 13 55.5 +4.1
QSPA **South Pole Qui** 31.05 180 P **P** 19 10 15.0 +0.6
comp=Z,378nm,0.8s,baz=205,slow=4.8,SNR=57
QSPA S **S** 19 15 20.8 +2.0
comp=Z,6.0nm,0.9s,baz=194,slow=19,SNR=1.4
QSPA LR LR 19 22 55.5
comp=Z,13µm,18.3s,baz=203,slow=37
GO09 **Cerro Castillo** 31.78 260 *e*P **P** 19 10 21.2 +0.5
comp=Z,172nm,1.4s
MAW **Mawson** 34.19 138 P **P** 19 10 41.7 +0.3
comp=Z,244nm,1.1s,baz=239,slow=9.3,SNR=44
MAW S **S** 19 16 08.4 +1.4
comp=Z,7.6nm,0.9s,baz=330,slow=11,SNR=2.1
MAW LR LR 19 22 22.5
comp=Z,46µm,21.9s,baz=255,slow=32
MAW **Mawson** 34.19 138 *e*P **P** 19 10 40.6 -0.9
comp=Z,74nm,1.0s
MAW S **S** 19 16 08.4 +1.4
CHRN **Cochrane** 34.43 265 *e*P **P** 19 10 44.7 +0.9
comp=Z,30nm,1.0s
TRQA **Tornquist** 35.63 286 *e*P **P** 19 10 54.5 +0.2
comp=Z,735nm,1.1s
TRQA LR LR
comp=Z,6µm,20.0s
TRQA **Tornquist** 35.63 286 *e*P **P** 19 10 54.5 +0.2
SUR **Sutherland** 36.69 60 P **P** 19 11 02.0 -1.6
comp=Z,2.9nm,0.9s,baz=200,slow=11,SNR=18
SUR PcP **PcP** 19 13 25.1 -1.0
comp=Z,0.9nm,0.8s,baz=194,slow=3.5,SNR=1.7
SUR **Sutherland** 36.69 60 *e*P **P** 19 11 01.5 -2.0
comp=Z,502nm,1.9s
SUR PcP **PcP** 19 13 25.1 -1.0
SUR LR LR
comp=Z,17µm,22.0s
PLCA **Paso Flores** 37.94 275 P **P** 19 11 14.2 +0.1
comp=Z,61nm,0.9s,baz=167,slow=7.6,SNR=25
PLCA PP **PP** 19 12 40.5 -0.1
comp=Z,18nm,1.1s,baz=152,slow=12,SNR=2.9
PLCA PcP **PcP** 19 13 29.7 +0.1
comp=Z,16nm,0.9s,baz=168,slow=5.1,SNR=2.3
PLCA S **S** 19 17 06.8 +1.5
comp=Z,3.0nm,1.2s,baz=14,slow=17,SNR=1.5
PLCA LR LR 19 27 13.2
comp=Z,10µm,18.1s,baz=156,slow=37
PLCA PKKP **PKKPdf** 19 35 28.8 0.0
comp=Z,1.6nm,1.0s,baz=324,slow=1.0,SNR=2.9
PLCA **Paso Flores** 37.94 275 *e*P **P** 19 11 13.5 -0.5
comp=Z,513nm,1.8s
PLCA *e*PP **PP** 19 12 39.8 -0.7
PLCA PcP **PcP** 19 13 29.7 +0.1
PLCA S **S** 19 17 06.8 +1.5
PLCA PKKP **PKKPdf** 19 35 28.8 0.0
PLCA **Paso Flores** 37.94 275 *e*P **P** 19 11 13.9 -0.1
PLCA IVmB_BB 19 11 16.9
comp=Z,2µm,2.1s
CANA **Caviahue** 40.34 277 *e*P **P** 19 11 31.2 -3.0
CANA IVmB_BB 19 11 34.5
comp=Z,2µm,2.4s
SPB **Sao Paulo** 41.62 315 *e*P **P** 19 11 45.1 +0.5
comp=Z,756nm,1.8s
SPB LR LR
comp=Z,23µm,20.0s
BOSA **Boshof** 41.89 62 P **P** 19 11 44.9 -2.0
comp=Z,30nm,1.0s,baz=207,slow=8.2,SNR=27
BOSA PcP **PcP** 19 13 41.7 -0.8
comp=Z,13nm,0.8s,baz=214,slow=5.1,SNR=4.0
BOSA S **S** 19 18 01.0 -3.6
comp=Z,0.9nm,0.7s,baz=29,slow=19,SNR=1.9
BOSA LR LR 19 25 12.9
comp=Z,9µm,21.0s,baz=204,slow=31
BOSA **Boshof** 41.89 62 *e*P **P** 19 11 43.8 -3.2
comp=Z,259nm,1.5s
BOSA *e*PcP **PcP** 19 13 41.7 -0.8
BOSA *e*S **S** 19 18 01.0 -3.6
ACAN **Cantantal** 42.80 286 *e*P **P** 19 11 53.9 -0.4
GO05 **HualaæØ** 43.01 279 *e*P **P** 19 11 55.6 -0.3
comp=Z,2µm,1.5s
GO05 **HualaæØ** 43.01 279 *e*P **P** 19 11 56.6 +0.7
CPUP **Villa Florida** 43.16 302 P **P** 19 11 56.9 -0.3
comp=Z,28nm,0.8s,baz=149,slow=7.5,SNR=58
CPUP PP **PP** 19 13 35.2 -2.2
comp=Z,14nm,1.0s,baz=156,slow=13,SNR=2.2
CPUP S **S** 19 18 22.2 -0.9
comp=Z,2.2nm,1.0s,baz=3.4,slow=19,SNR=2.6
CPUP LR LR 19 27 08.7
comp=Z,10µm,21.9s,baz=155,slow=32
CPUP **Villa Florida** 43.16 302 *e*P **P** 19 11 56.6 -0.6
comp=Z,663nm,1.8s
CPUP *e*PP **PP** 19 13 34.7 -2.6
CPUP *e*S **S** 19 18 22.2 -0.9
SBA **Scott Base** 43.19 181 *e*P **P** 19 11 58.8 +1.9
comp=Z,423nm,1.0s
SBA LR LR
comp=Z,8µm,19.0s
SBA **Scott Base** 43.19 181 *e*P **P** 19 11 58.8 +1.9
SBA pmax pmax
comp=Z,420nm,1.0s
VNDA **Vanda** 43.54 180 P **P** 19 12 00.9 +1.2
comp=Z,122nm,0.9s,baz=194,slow=7.5,SNR=68
VNDA PP **PP** 19 13 41.3 +0.7
comp=Z,7.2nm,0.8s,baz=190,slow=15,SNR=1.7
VNDA S **S** 19 18 29.9 +2.2
comp=Z,2.4nm,0.9s,baz=299,slow=19,SNR=2.1
VNDA LR LR 19 28 57.8
comp=Z,9µm,21.0s,baz=182,slow=34
VNDA **Vanda** 43.54 180 *e*P **P** 19 12 01.3 +1.6
VNDA PP **PP** 19 13 41.3 +0.7
VNDA **Vanda** 43.54 180 *e*P **P** 19 12 01.5 +1.8
VNDA pmax pmax
comp=Z,260nm,1.0s
RTCV **Cerro Valdivia** 43.81 285 *e*P **P** 19 12 02.8 +0.4
PEL **Peldehue** 43.85 282 *e*P **P** 19 12 03.2 +0.5
comp=Z,2µm,1.1s
PEL **Peldehue** 43.85 282 *e*P **P** 19 12 03.3 +0.5
PEL pmax pmax
comp=Z,2µm,1.1s
SHEL **Horse Pasture** 43.93 15 *e*P **P** 19 12 02.2 -1.2
comp=Z,882nm,1.3s
SHEL LR LR
comp=Z,5µm,22.0s
SHEL **Horse Pasture** 43.93 15 *i*P **P** 19 12 03.5 +0.1
AUSP **Aspallata** 43.94 284 *e*P **P** 19 12 04.7 +1.0
APLL **PUNTA DE LOS L** 44.02 288 *e*P **P** 19 12 03.7 -0.4
ZON **Zonda** 44.13 285 *e*P **P** 19 12 05.5 +0.5
RTLL **Cerro Villicun** 44.21 286 *e*P **P** 19 12 07.3 +1.6
RTLS **Leoncito** 44.24 284 *e*P **P** 19 12 07.2 +1.1
MIR **Mirnyy** 44.29 147 ⇑ *i*P **P** 19 12 07.0 +1.2
MIR *e*PPP PPP 19 14 34.0
MIR pmax pmax
comp=Z,9µm,6.0s
MIR pmax pmax
comp=Z,1µm,2.0s
MIR MLR MLR
comp=N,31µm,17.0s
MIR MLR MLR
comp=E,31µm,17.0s
MIR MLR MLR
comp=Z,53µm,17.0s
AMOG **MOGNA** 44.53 286 *e*P **P** 19 12 09.2 +0.9
LBTB **Lobatse** 45.14 60 P **P** 19 12 11.0 -2.2
comp=Z,44nm,0.9s,baz=208,slow=9.1,SNR=46
LBTB LR LR 19 27 49.4
comp=Z,15µm,19.4s,baz=206,slow=32
LBTB **Lobatse** 45.14 60 *e*P **P** 19 12 10.5 -2.6
comp=Z,158nm,1.3s
LBTB **Lobatse** 45.14 60 P **P** 19 12 11.0 -2.2
LBTB pmax pmax
comp=Z,44nm,0.9s
LBTB MLR MLR
comp=Z,15µm,19.4s
ACDV **Cuesta del Vie** 45.47 286 *e*P **P** 19 12 17.1 +1.3
AROD **Rodeo** 45.65 286 *e*P **P** 19 12 18.7 +1.3
AGUA **GUANDACOL** 45.72 287 *e*P **P** 19 12 18.9 +1.1
VCA **Vinchina** 46.20 288 *e*P **P** 19 12 22.9 +1.3
AHML **Horco Molle** 46.45 292 *e*P **P** 19 12 22.4 -1.0
AHML *e*P **P** 19 12 22.5 -0.9
TSUM **Tsumeb** 47.02 47 P **P** 19 12 25.8 -2.2
comp=Z,9.2nm,0.8s,baz=195,slow=10,SNR=15
TSUM PP **PP** 19 14 19.6 +1.1
comp=Z,6.5nm,0.8s,baz=170,slow=6.4,SNR=3.6
TSUM LR LR 19 27 52.4
comp=Z,14µm,20.9s,baz=200,slow=31
TSUM **Tsumeb** 47.02 47 *e*P **P** 19 12 25.7 -2.4
comp=Z,175nm,1.6s
TSUM *e*PP **PP** 19 14 19.6 +1.1
LCO **Las Campanas** 47.21 285 *e*P **P** 19 12 29.7 +0.1
comp=Z,693nm,1.9s
LCO LR LR
comp=Z,8µm,22.0s
LCO **Las Campanas** 47.21 285 *e*P **P** 19 12 30.0 +0.4
LCO **Las Campanas** 47.21 285 *e*P **P** 19 12 29.7 +0.1
PAF **Port-aux-Franc** 48.23 119 *e*P **P** 19 12 36.7 -0.3
comp=Z,759nm,1.7s
PAF LR LR
comp=Z,20µm,21.0s
PAF **Port-aux-Franc** 48.23 119 *e*P **P** 19 12 36.7 -0.3
PAF pmax pmax
comp=Z,759nm,1.7s
PAF MLR MLR
comp=Z,20µm,21.0s
ALOL **LOMAS DE OLMED** 48.34 296 *e*P **P** 19 12 38.7 +0.5
ASTB **Santa Barbara** 48.44 295 *e*P **P** 19 12 39.9 +0.8
AZAP **Zapla** 48.49 295 *e*P **P** 19 12 39.2 -0.4
CASY **Casey** 48.87 155 *e*P **P** 19 12 42.1 +0.4
comp=Z,620nm,1.4s
CASY LR LR
comp=Z,7µm,21.0s
HJA **Humahuaca** 49.52 295 *e*P **P** 19 12 47.9 +0.2
H10S2 **ASCENSION HYDR** 50.15 3 T T 20 07 02.5
baz=181,slow=75,SNR=526
H10S3 **ASCENSION HYDR** 50.15 3 T T 20 06 57.4
baz=181,slow=75,SNR=582
H10S1 **ASCENSION HYDR** 50.16 3 T T 20 06 58.2
baz=181,slow=75,SNR=508
ASCN **Ascension** 51.17 3 *e*P **P** 19 12 60.0 +0.3
comp=Z,117nm,0.9s
ASCN LR LR
comp=Z,8µm,20.0s
H10N1 **ASCENSION HYDR** 51.26 3 T T 20 08 29.5
baz=190,slow=78
H10N3 **ASCENSION HYDR** 51.26 3 T T 20 08 26.8
baz=190,slow=78
H10N2 **ASCENSION HYDR** 51.27 3 T T 20 08 27.5
baz=190,slow=78
PB10 **IPOC Station P** 51.72 289 *e*P **P** 19 13 04.1 +0.3
comp=Z,782nm,1.4s
PB04 **IPOC Station P** 52.52 291 *e*P **P** 19 13 10.4 +0.5
comp=Z,599nm,1.3s
PB01 **IPOC Station P** 53.30 292 *e*P **P** 19 13 16.4 +0.7
comp=Z,433nm,1.3s
SIV **San Ignacio** 53.89 304 P **P** 19 13 19.5 -0.4
comp=Z,24nm,0.6s,baz=165,slow=7.5,SNR=91
PB11 **IPOC Station P** 54.48 293 *e*P **P** 19 13 24.7 +0.4
comp=Z,271nm,1.1s
LSZ **Lusaka** 54.84 57 S **S** 19 21 04.6 -3.1
baz=121,slow=19
LSZ **Lusaka** 54.84 57 *e*P **P** 19 13 24.8 -2.2
comp=Z,181nm,1.4s
LSZ S **S** 19 21 04.6 -3.1
LSZ LR LR
comp=Z,8µm,19.0s
LSZ **Lusaka** 54.84 57 P **P** 19 13 25.8 -1.2
SNR=32
LSZ **Lusaka** 54.84 57 P **P** 19 13 25.8 -1.2
SNR=32
LSZ **Lusaka** 54.84 57 *e*P **P** 19 13 24.8 -2.2
LSZ pmax pmax
comp=Z,180nm,1.4s
MNMC **Minye Minye** 55.00 293 *e*P **P** 19 13 28.5 +0.3
comp=Z,759nm,1.8s
RCBR **Riachuelo** 55.22 337 *e*P **P** 19 13 28.1 -1.5
comp=Z,151nm,1.6s
RCBR LR LR
comp=Z,104µm,21.0s
LPAZ **La Paz** 56.78 296 P **P** 19 13 41.7 +0.3
comp=Z,150nm,1.1s,baz=147,slow=5.7,SNR=164
LPAZ S **S** 19 21 31.2 -3.2
comp=Z,1.4nm,1.0s,baz=50,slow=18,SNR=2.1
LPAZ LR LR 19 36 52.7
comp=Z,9µm,21.8s,baz=152,slow=35
LPAZ **La Paz** 56.78 296 *e*P **P** 19 13 41.4 0.0
LPAZ S **S** 19 21 31.2 -3.2
ARE **Arequipa** 58.20 293 ⇑ *i*P **P** 19 13 51.8 +0.8
ARE **Arequipa** 58.20 293 ⇑ *i*P **P** 19 13 51.8 +0.8
ABPO **Ambohimpanom** 60.60 78 *e*P **P** 19 14 08.0 +0.5
comp=Z,162nm,1.5s
ABPO LR LR
comp=Z,2µm,19.0s
ABPO **Ambohimpanom** 60.60 78 *e*P **P** 19 14 08.0 +0.5
ABPO pmax pmax
comp=Z,160nm,1.5s
OPO **Ambohidratompo** 60.96 77 P **P** 19 14 08.4 -1.5
comp=Z,20nm,1.0s,baz=209,slow=5.5,SNR=9.3
OPO LR LR 19 36 46.5
comp=Z,6µm,18.2s,baz=204,slow=32
SAML **Samuel** 61.09 305 *e*P **P** 19 14 09.9 -0.7
comp=Z,206nm,1.2s
SAML LR LR
comp=Z,11µm,20.0s
RER **Riviere de l'E** 63.15 86 *e*P **P** 19 14 24.1 -0.4
comp=Z,192nm,1.1s
RER LR LR
comp=Z,9µm,20.0s
NNA **Nana** 64.63 290 *e*P **P** 19 14 34.0 -0.2
comp=Z,179nm,1.0s
NNA LR LR
comp=Z,6µm,22.0s
NNA **Nana** 64.63 290 *e*P **P** 19 14 34.0 -0.2
NNA pmax pmax
comp=Z,179nm,1.0s
NNA MLR MLR
comp=Z,6µm,22.0s
MRIV **Mauritius Mete** 64.76 87 *e*P **P** 19 14 35.2 +0.1
LIC **Lamto** 65.88 13 *e*P **P** 19 14 39.9 -2.3
comp=Z,729nm,1.7s
KIC **Kosan Boka** 66.05 13 *e*P **P** 19 14 41.0 -2.3
comp=Z,731nm,1.5s
TIC **Toumodi** 66.30 13 *e*P **P** 19 14 42.5 -2.4
DBIC **Dimbokro** 66.34 13 P **P** 19 14 43.2 -1.8
comp=Z,34nm,0.7s,baz=159,slow=8.7,SNR=28
DBIC S **S** 19 23 30.4 -3.9
comp=Z,12nm,1.3s,baz=180,slow=7.1,SNR=2.3
DBIC LR LR 19 37 01.2
comp=Z,8µm,19.8s,baz=168,slow=30
DBIC PKP2bc 19 43 22.3
comp=Z,3.2nm,0.9s,baz=296,slow=4.6,SNR=3.9
DBIC **Dimbokro** 66.34 13 *e*P **P** 19 14 43.3 -1.8
comp=Z,654nm,1.9s
DBIC S **S** 19 23 30.4 -3.9
DBIC ⇑ *e* 19 43 22.3
DBIC **Dimbokro** 66.34 13 *e*P **P** 19 14 43.3 -1.8
DBIC S **S** 19 23 30.4 -3.9
DBIC pmax pmax
comp=Z,654nm,1.9s
MCQ **Macquarie Isla** 66.61 177 *e*P **P** 19 14 48.0 +1.5
comp=Z,567nm,1.8s
MCQ **Macquarie Isla** 66.61 177 *e*P **P** 19 14 48.0 +1.5
MCQ pmax pmax
comp=Z,567nm,1.8s
PTGA **Pitinga** 67.27 312 *e*P **P** 19 14 50.4 -0.8
comp=Z,130nm,1.3s
PTGA LR LR
comp=Z,12µm,20.0s
RPN **Rapa Nui** 68.37 253 LR LR 19 38 00.4
comp=Z,3µm,21.5s,baz=146,slow=30
RPN **Rapa Nui** 68.37 253 *e*P **P** 19 14 59.2 +1.2
comp=Z,381nm,1.4s
RPN **Rapa Nui** 68.37 253 *e*P **P** 19 14 59.2 +1.2
RPN pmax pmax
comp=Z,381nm,1.4s
NAI **Nairobi** 71.08 58 *e*P **P** 19 15 15.0 0.0
comp=Z,321nm,1.8s
NAI **Nairobi** 71.08 58 *e*P **P** 19 15 15.0 0.0
NAI pmax pmax
comp=Z,321nm,1.8s
KMBO **Kilima Mbogo** 71.41 59 P **P** 19 15 17.9 +0.8
comp=Z,5.7nm,0.9s,baz=210,slow=8.5,SNR=11
KMBO S **S** 19 24 36.7 +1.7
comp=Z,0.5nm,0.3s,baz=277,slow=8.1,SNR=2.1
KMBO LR LR 19 44 25.6
comp=Z,11µm,18.5s,baz=186,slow=34
KMBO **Kilima Mbogo** 71.41 59 *e*P **P** 19 15 17.6 +0.5
KMBO *e*PcP **P** 19 15 17.9 +0.8
KMBO S **S** 19 24 36.7 +1.7
KMBO **Kilima Mbogo** 71.41 59 pP **P** 19 15 19.7 +2.6
SNR=26
KMBO **Kilima Mbogo** 71.41 59 P **P** 19 15 19.7 +2.6
SNR=26
KMBO **Kilima Mbogo** 71.41 59 *e*P **P** 19 15 17.6 +0.5
BBTS **Babate** 73.59 0 P **P** 19 15 28.2 -1.3
comp=Z,35nm,1.0s,baz=212,slow=6.4,SNR=1.8
BBTS S **S** 19 24 59.0 -0.1
comp=Z,14nm,0.4s,baz=226,slow=5.4,SNR=2.1
BBTS LR LR 19 42 45.5
comp=Z,5µm,18.3s,baz=189,slow=32
SACV **Santiago Islan** 74.10 353 *e*P **P** 19 15 31.4 -1.2
comp=Z,310nm,1.5s
SACV LR LR
comp=Z,2µm,20.0s
KOWA **Kowa** 74.16 13 P **P** 19 15 31.6 -1.3
comp=Z,58nm,0.9s,baz=194,slow=4.4,SNR=55
KOWA S **S** 19 25 04.5 -1.1
comp=Z,1.2nm,0.8s,baz=108,slow=20,SNR=2.5
KOWA LR LR 19 41 48.8
comp=Z,9µm,19.0s,baz=190,slow=31
WHZ **Wether Hill Ro** 75.21 183 *e*P **P** 19 15 41.5 +2.7
comp=Z,124nm,1.3s
DCZ **Deep Cove** 75.66 183 *e*P **P** 19 15 44.0 +2.7
comp=Z,79nm,1.1s
MLZ **Mavora Lakes** 75.73 184 *e*P **P** 19 15 43.4 +1.5
comp=Z,159nm,1.2s
ODZ **Otahua Downs** 75.95 185 *e*P **P** 19 15 44.4 +1.3
comp=Z,251nm,1.7s
FLOC **Florencia** 75.95 298 *e*P **P** 19 15 42.2 -1.3
OTAV **Otavalo** 76.06 295 *e*P **P** 19 15 45.4 +0.8
comp=Z,389nm,1.7s
OTAV LR LR
comp=Z,5µm,22.0s
OTAV **Otavalo** 76.06 295 *e*P **P** 19 15 45.5 +0.9
OTAV **Otavalo** 76.06 295 P **P** 19 15 45.8 +1.2
WKZ **Wanaka** 76.24 184 *e*P **P** 19 15 47.1 +2.4
comp=Z,108nm,1.4s
GCUF **Volcan Galeras** 76.41 296 *e*P **P** 19 15 46.8 +0.2
LBZ **Lake Benmore** 76.63 185 *e*P **P** 19 15 49.0 +2.0
comp=Z,516nm,1.9s
BETC **Betania** 76.83 299 *e*P **P** 19 15 48.8 +0.3
SOTA **Rioblanco** 76.88 298 *e*P **P** 19 15 49.5 +0.2
PCON **Cinco Dias** 76.95 298 *e*P **P** 19 15 50.2 +0.4
MQZ **McQueen's Vall** 77.17 187 *e*P **P** 19 15 52.4 +2.4
comp=Z,536nm,2.0s
RPZ **Rata Peaks** 77.25 186 *e*P **P** 19 15 51.5 +0.9
comp=Z,225nm,1.9s
POPC **Popayan, Colom** 77.27 298 *e*P **P** 19 15 50.8 -0.3
CRLZ **Canterbury Las** 77.30 187 *e*P **P** 19 15 52.7 +2.0
comp=Z,770nm,1.7s
TAU **Tasmania Unive** 77.42 168 *e*P **P** 19 15 50.9 -0.5
comp=Z,309nm,0.9s
TAU LR LR
comp=Z,24µm,20.0s
TAU **Tasmania Unive** 77.42 168 *e*P **P** 19 15 50.9 -0.5
FOZ **Fox Glacier** 77.50 185 *e*P **P** 19 15 54.8 +3.0
comp=Z,195nm,1.6s
PRAC **Prado** 77.50 300 *e*P **P** 19 15 51.9 -0.3
comp=Z,446nm,1.5s
PRAC **Prado** 77.50 300 *e*P **P** 19 15 51.5 -0.7
TUMC **Tumaco** 77.58 295 *e*P **P** 19 15 51.2 -1.4
comp=Z,189nm,1.0s
OXZ **Oxford** 77.59 187 *e*P **P** 19 15 53.3 +1.0
comp=Z,280nm,1.6s
CHIC **Chingaza** 77.80 301 *e*P **P** 19 15 53.5 -0.9
LTZ **Lake Taylor** 78.11 187 *e*P **P** 19 15 55.7 +0.4
comp=Z,172nm,1.2s
ROSC **El Rosal** 78.25 301 P **P** 19 15 56.7 -0.1
comp=Z,37nm,0.8s,baz=136,slow=4.0,SNR=17
ROSC S **S** 19 25 52.5 +0.9
comp=Z,4.7nm,0.5s,baz=221,slow=19,SNR=2.4
ROSC LR LR 19 51 44.7
comp=Z,4µm,19.3s,baz=176,slow=37
ROSC **El Rosal** 78.25 301 *e*P **P** 19 15 57.0 +0.2
comp=Z,182nm,1.8s
ROSC S **S** 19 25 52.5 +0.9
ROSC **El Rosal** 78.25 301 *e*P **P** 19 15 56.1 -0.7
GRGC **Isla de Gorgon** 78.36 297 *e*P **P** 19 15 57.5 +0.5
YOTC **Yotoco, Valle** 78.39 299 *e*P **P** 19 15 54.1 -3.1
KHZ **Kahutara** 78.39 188 *e*P **P** 19 15 59.8 +2.9
comp=Z,155nm,1.2s
ANIL **Santa Ana** 78.42 300 *e*P **P** 19 15 53.5 -4.2
RUSC **La Rusia** 78.65 302 *e*P **P** 19 15 57.7 -1.4
comp=Z,109nm,1.5s
RUSC **La Rusia** 78.65 302 *e*P **P** 19 15 56.1 -3.0
RREF **El Recreo** 78.76 300 *e*P **P** 19 15 58.1 -1.8
PCRV **Puerto La Cruz** 79.06 312 P **P** 19 16 00.9 +0.1
comp=Z,48nm,0.8s,baz=147,slow=3.2,SNR=7.7
PCRV S **S** 19 25 59.5 +0.1
comp=Z,4.9nm,0.6s,baz=38,slow=12,SNR=1.8
PCRV LR LR 19 49 33.8
comp=Z,11µm,20.5s,baz=137,slow=35
GUYC **Guyana, Colomb** 79.06 300 *e*P **P** 19 15 59.5 -1.9
THZ **Tophouse** 79.09 187 *e*P **P** 19 16 01.5 +0.8
comp=Z,894nm,2.0s
NORC **Norcasia** 79.14 301 *e*P **P** 19 15 58.8 -2.5
PLMC **San Jos˜ del** 79.18 299 *e*P **P** 19 16 00.1 -1.4
SNZO **South Karori** 79.41 189 *e*P **P** 19 16 03.4 +1.0
comp=Z,387nm,1.4s
SNZO LR LR
comp=Z,3µm,20.0s
GRGR **Grenville** 79.75 316 *e*P **P** 19 16 05.2 +0.7
comp=Z,786nm,1.4s
GRGR LR LR
comp=Z,8µm,19.0s
PAMC **Pamplona, Colo** 79.77 303 *e*P **P** 19 16 03.5 -1.8
PTCN **Pitcairn Islan** 79.82 238 PFAKE 19 16 20.0 +15
PTCN LR LR
comp=Z,5µm,22.0s
BFZ **Birch Farm** 79.90 190 *e*P **P** 19 16 07.6 +2.5
comp=Z,494nm,1.8s
BBGH **Gun Hill** 79.95 318 PFAKE 19 16 20.0 +14
BBGH LR LR
comp=Z,10µm,20.0s
HELC **Santa Helena** 79.99 300 *e*P **P** 19 16 04.8 -1.5
comp=Z,71nm,0.9s
HELC **Santa Helena** 79.99 300 *e*P **P** 19 16 03.5 -2.8
BRRC **Barranca, Sant** 80.00 302 *e*P **P** 19 16 03.5 -2.5
SDV **Santo Domingo** 80.29 306 P **P** 19 16 07.6 0.0
comp=Z,36nm,0.8s,baz=178,slow=4.8,SNR=44
SDV S **S** 19 26 13.8 +1.0
comp=Z,1.1nm,0.3s,baz=36,slow=19,SNR=2.5
SDV LR LR 19 50 23.7
comp=Z,8µm,21.1s,baz=156,slow=35
SDV **Santo Domingo** 80.29 306 *e*P **P** 19 16 07.0 -0.7
comp=Z,178nm,1.4s
SDV *e*S **S** 19 26 13.8 +1.0
SDV **Santo Domingo** 80.29 306 *e*P **P** 19 16 06.8 -0.9
NWAO **Narrogin (SRO)** 80.63 142 *e*P **P** 19 16 07.6 -1.6
comp=Z,313nm,1.5s
NWAO LR LR
comp=Z,4µm,19.0s
NWAO **Narrogin (SRO)** 80.63 142 PcP **PcP** 19 16 12.9 -3.1
SNR=5.2
NWAO **Narrogin (SRO)** 80.63 142 P **PcP** 19 16 12.9 -3.1
SNR=5.2
NWAO **Narrogin (SRO)** 80.63 142 *e*P **P** 19 16 07.6 -1.6
NWAO pmax pmax
comp=Z,313nm,1.5s
NWAO MLR MLR
comp=Z,4µm,19.0s
MAPC **Malpelo** 80.84 294 *e*P **P** 19 16 08.8 -1.7
ZARC **Zaragoza, Cauc** 80.85 302 *e*P **P** 19 16 08.1 -2.4

DBBC **Dabeiba** 81.02 300 *e*P P 19 16 12.1 +0.6
BKZ **Black Stump Fm** 81.38 190 *e*P P 19 16 12.8 -0.4
comp=Z,666nm,2.0s
FDF **Fort de France** 81.98 317 *e*P P 19 16 16.5 +0.1
comp=Z,405nm,1.4s
FDF LR LR
comp=Z,3µm,20.0s
FDF **Fort de France** 81.98 317 *e*P P 19 16 16.5 +0.1
HIZ **Hauiti** 82.17 189 *e*P P 19 16 17.1 -0.2
comp=Z,338nm,1.2s
URZ **Urewera** 82.22 191 *e*P P 19 16 18.6 +1.1
comp=Z,150nm,1.3s
MOTC **Monteria, Cord** 82.35 301 *e*P P 19 16 17.4 -0.9
MXZ **Matakaoa Point** 82.79 192 *e*P P 19 16 20.0 -0.5
comp=Z,97nm,1.1s
DGAR **Diego Garcia** 83.31 93 *e*P P 19 16 24.5 +1.1
comp=Z,629nm,1.6s
DGAR LR LR
comp=Z,4µm,21.0s
DGAR **Diego Garcia** 83.31 93 *c i*P P 19 16 24.6 +1.1
H08N3 **Diego Garcia H** 83.47 91 T T 20 48 58.6
baz=217,slow=74
H08N1 **Diego Garcia H** 83.48 91 T T 20 48 57.8
baz=217,slow=74
H08N2 **Diego Garcia H** 83.49 91 T T 20 48 58.0
baz=217
GDHS **Morne Mazeau,** 83.62 317 *e*P P 19 16 24.8 -0.1
comp=Z,421nm,1.3s
RKT **Rikitea** 83.62 235 *e*PP PP 19 19 34.4 -2.7
comp=Z,414nm,29.5s
RKT *e*S S 19 26 48.2 +1.4
comp=Z,2µm,29.2s
RKT *e*SS SS 19 32 18.5 +6.3
comp=Z,3µm,26.2s
RKT *e*LQ LQ 19 39 08.5
comp=Z,13µm,32.5s
RKT *e*LR LR 19 42 46.2
comp=Z,11µm,27.2s,baz=150
TAM **Tamanrasset** 83.73 21 *e*P P 19 16 25.4 0.0
comp=Z,391nm,1.9s
TAM LR LR
comp=Z,6µm,20.0s
TAM **Tamanrasset** 83.73 21 *e*P P 19 16 25.7 +0.2
BCIP **Isla Barro Col** 84.56 298 *e*P P 19 16 30.8 +1.0
comp=Z,348nm,1.6s
BCIP LR LR
comp=Z,4µm,20.0s
ANWB **Willy Bob** 84.92 317 *e*P P 19 16 33.0 +1.6
comp=Z,202nm,1.1s
ANWB LR LR
comp=Z,4µm,20.0s
SKI **Saint Kitts** 84.94 316 *e*P P 19 16 31.9 +0.3
comp=Z,2µm,2.0s
SKI **Saint Kitts** 84.94 316 *e*P P 19 16 31.9 +0.3
SKI pmax pmax
comp=Z,2µm,2.0s
CAN **Canberra** 85.10 168 *e*P P 19 16 32.6 +0.2
comp=Z,96nm,1.0s
CAN LR LR
comp=Z,11µm,20.0s
CAN **Canberra** 85.10 168 *e*P P 19 16 32.7 +0.2
CAN pmax pmax
comp=Z,96nm,1.0s
CAN MLR MLR
comp=Z,11µm,20.0s
ATD **Arta Tunnel** 85.15 58 P P 19 16 30.8 -1.9
comp=Z,3.1nm,0.4s,baz=107,slow=19,SNR=2.6
ATD PP PP 19 19 53.7 +3.4
comp=Z,2.2nm,0.4s,baz=101,slow=14,SNR=7.0
ATD S S 19 26 58.4 -3.6
comp=Z,2.6nm,0.3s,baz=90,slow=19,SNR=2.3
ATD LR LR 19 52 05.3
comp=Z,6µm,20.6s,baz=193,slow=34
SEUS **St. Eustatius** 85.18 316 *e*P P 19 16 31.7 -1.0
comp=Z,461nm,0.3s
SABA **Saba** 85.39 316 *e*P P 19 16 32.9 -0.9
comp=Z,275nm,1.4s
OUZ **Omahuta** 85.55 189 *e*P P 19 16 37.7 +3.2
comp=Z,199nm,1.3s
BBOO **Buckleboo** 85.61 157 *e*P P 19 16 34.2 -0.7
comp=Z,62nm,1.1s
SMRT **St. Maarten** 85.73 316 *e*P P 19 16 34.7 -0.7
comp=Z,150nm,1.5s
FORT **Forrest** 85.74 150 *e*P P 19 16 34.8 -0.8
comp=Z,198nm,1.3s
CDVI **St. Croix** 86.06 315 *e*P P 19 16 36.5 -0.6
comp=Z,211nm,1.4s
STVI **Saint Thomas** 86.68 315 *e*P P 19 16 38.6 -1.5
comp=Z,171nm,1.4s
SJG **San Juan** 86.90 314 *e*P P 19 16 40.4 -0.8
comp=Z,40nm,1.0s
SJG LR LR
comp=Z,8µm,22.0s
SJG **San Juan** 86.90 314 *e*P P 19 16 40.4 -0.8
SJG pmax pmax
comp=Z,40nm,1.0s
SJG MLR MLR
comp=Z,8µm,22.0s
CBYP **Canovanas** 86.94 314 *e*P P 19 16 40.3 -1.1
comp=Z,77nm,0.9s
OBIP **Obispado Ponce** 87.01 313 *e*P P 19 16 40.1 -1.6
comp=Z,62nm,1.4s
CRPR **Cabo Rojo, PR** 87.16 313 *e*P P 19 16 42.7 +0.2
comp=Z,80nm,1.0s
HDC **Heredia** 87.27 295 *e*P P 19 16 44.2 +0.9
comp=Z,410nm,1.6s
AOPR **Arecibo Observ** 87.34 313 *e*P P 19 16 44.7 +1.3
comp=Z,137nm,1.7s
MPR **Mayaguez** 87.36 313 *e*P P 19 16 43.9 +0.5
comp=Z,56nm,1.1s
STKA **Stephens Creek** 87.52 162 P P 19 16 43.8 -0.5
comp=Z,93nm,0.9s,baz=170,slow=5.9,SNR=50
STKA PP PP 19 20 12.9 +4.7
comp=Z,5.3nm,0.9s,baz=179,slow=13,SNR=3.8
STKA S SKSac 19 27 14.1 +2.5
comp=Z,1.3nm,0.9s,baz=0.0,slow=20,SNR=1.7
STKA LR LR 19 54 16.2
comp=Z,10µm,18.4s,baz=189,slow=34
STKA **Stephens Creek** 87.52 162 *e*P P 19 16 43.6 -0.7
comp=Z,34nm,1.0s
STKA PP PP 19 20 12.9 +4.7
STKA S SKSac 19 27 14.1 +2.5
STKA **Stephens Creek** 87.52 162 *e*P P 19 16 43.9 -0.4
JTS **JuntasAbangare** 87.91 294 P P 19 16 45.9 -0.4
comp=Z,48nm,1.2s,baz=193,slow=2.3,SNR=14
JTS PP PP 19 20 10.3 -2.3
comp=Z,7.9nm,0.9s,baz=213,slow=4.1,SNR=2.5
JTS S SKSac 19 27 13.9 -0.1
comp=Z,1.9nm,0.5s,baz=253,slow=17,SNR=2.6
JTS LR LR 19 58 41.2
comp=Z,2µm,19.5s,baz=185,slow=37
DAMY **Dhamar** 88.52 58 *e*P P 19 16 50.6 +1.2
comp=Z,244nm,1.6s
LHI **Lord Howe Isla** 89.57 176 *e*P P 19 16 56.5 +2.6
comp=Z,278nm,1.2s
SDDR **Presa de Saban** 89.67 310 *e*P P 19 16 55.2 +0.8
comp=Z,66nm,1.2s
SDDR LR LR
comp=Z,5µm,21.0s
LGNH **LOogne** 89.77 308 *e*P P 19 16 55.1 +0.2
comp=Z,472nm,1.6s
ARMA **Armidale** 90.21 170 *e*P P 19 16 57.1 -0.1
comp=Z,83nm,1.2s
RAO **Raoul Island** 90.51 196 PFAKE 19 17 10.0 +12
RAO LR LR
comp=Z,3µm,22.0s
COCO **West Island** 91.26 116 PFAKE 19 17 10.0 +8.0
COCO LR LR
comp=Z,8µm,20.0s
MTDJ **Mount Denham** 91.56 304 PFAKE 19 17 10.0 +6.7
MTDJ LR LR
comp=Z,6µm,19.0s
PMOZ **Porto Moniz, M** 91.67 360 *i*P S 19 28 13.3 +10
PMOZ **Porto Moniz, M** 91.67 360 eLQ LQ 19 41 10.7
PMOZ eLR LR 19 46 29.9
comp=Z,2µm,18.0s
GRTK **Grand Turk** 91.89 311 PFAKE 19 17 20.0 +15
GRTK LR LR
comp=Z,5µm,20.0s
GTBY **Guantanamo Bay** 92.06 307 PFAKE 19 17 20.0 +15
GTBY LR LR
comp=Z,9µm,20.0s
MBWA **Marble Bar** 92.36 140 *e*P P 19 17 05.5 -1.6
comp=Z,88nm,1.3s
MBWA LR LR
comp=Z,8µm,20.0s
MBWA **Marble Bar** 92.36 140 PcP P 19 17 10.6 +3.5
SNR=7.0
MBWA **Marble Bar** 92.36 140 P P 19 17 10.6 +3.5
SNR=7.0
RTC **Rabat Centre** 93.20 8 PFAKE 19 17 20.0 +10
RTC LR LR
comp=Z,25µm,19.0s
ASAR **Alice Springs** 93.98 153 P P 19 17 13.1 -1.6
comp=Z,18nm,0.8s,baz=193,slow=4.0,SNR=57
ASAR PP PP 19 20 59.2 -0.4
comp=Z,4.1nm,1.0s,baz=194,slow=4.9,SNR=4.5
ASAR PKKPbc PKKPbc 19 34 15.8 +1.8
comp=Z,1.1nm,0.8s,baz=4.8,slow=2.5,SNR=6.7
ASAR PKPPKP P'P'df 19 42 30.1 -3.8
comp=Z,0.9nm,0.9s,baz=2.9,slow=1.9,SNR=6.2
ASAR LR LR 19 55 50.4
comp=Z,7µm,20.3s,baz=198,slow=33
AS31 **Alice Springs** 93.98 153 *e*P P 19 17 12.7 -1.9
comp=Z,7.6nm,0.9s
AS01 **Alice Springs** 94.00 153 *e*P P 19 17 12.4 -2.3
RAR **Rarotonga** 94.30 214 LR LR 19 51 13.2
comp=Z,2µm,21.2s,baz=170,slow=30
PPT2 **Papeete2** 94.35 225 *e*PP PP 19 20 58.0 -4.9
comp=Z,312nm,24.8s
PPT2 *e*SKSac SKSac 19 27 49.2 -2.0
comp=Z,475nm,21.4s
PPT2 *e*S ScS 19 28 28.4 -0.7
comp=Z,2µm,25.8s
PPT2 *e*SP SP 19 29 42.4 +0.2
comp=Z,2µm,28.0s
PPT2 *e*SS SS 19 34 45.5 -2.7
comp=Z,3µm,26.8s
PPT2 **Papeete2** 94.35 225 *e*LQ LQ 19 45 11.3
comp=Z,2µm,25.0s
PPT2 *e*LR LR 19 47 49.3
comp=Z,7µm,27.2s,baz=164
APG **El Apazote** 94.62 292 P P 19 17 16.9 -0.8
comp=Z,16nm,0.8s,baz=58,slow=2.2,SNR=12
APG PP PP 19 21 07.2 +1.3
comp=Z,5.3nm,0.9s,baz=190,slow=13,SNR=3.4
APG S SKSac 19 27 54.3 +1.7
comp=Z,2.9nm,0.7s,baz=29,slow=19,SNR=2.3
EIDS **Eidsvold** 95.17 169 *e*P P 19 17 19.0 -1.0
comp=Z,93nm,1.6s
PSMA **Santa Maria** 96.08 353 *e*P P 19 17 29.0 +5.5
comp=Z,136nm,1.6s
PSMN **Pico do Norte,** 96.08 353 *e*P P 19 17 25.7 +2.2
comp=Z,112nm,1.6s
PSMN **Pico do Norte,** 96.08 353 eLQ LQ 19 43 53.8
PFVI **Vila Bisbo** 96.19 6 *e*SKS SKSac 19 28 05.1 +5.6
PFVI *i* P S 19 28 49.4 +6.9
PFVI *e*SS SS 19 35 16.1 +0.6
PBDV **Barranco-do-Ve** 96.36 7 *e*SKS SKSac 19 28 06.5 +6.1
PBDV *i* P S 19 28 59.2 +15
PBDV *e*SS SS 19 35 20.3 +2.4
MORF **Marmelete** 96.38 7 *e*SKS SKSac 19 28 03.4 +2.8
MORF *i* P S 19 28 55.6 +11
MORF *e*SS SS 19 35 18.9 +0.7
PVAQ **Vaqueiros** 96.53 7 *e*SKS SKSac 19 28 07.2 +5.9
PVAQ *i* P S 19 28 56.6 +11
PVAQ *e*SS SS 19 35 27.9 +7.6
PVAQ **Vaqueiros** 96.53 7 *e*LR LR 19 52 44.2
comp=Z,3µm,22.0s
PCVE **Castro Verde** 96.74 7 *i* P S 19 28 57.9 +11
PCVE *e*SS SS 19 35 30.4 +7.2
BART **Pico Bartolome** 96.86 353 *e*P P 19 17 35.0 +7.9
comp=Z,170nm,1.6s
CMLA **Cha da Macela** 96.87 353 *e*P P 19 17 25.1 -2.0
comp=Z,78nm,1.4s
CMLA **Cha da Macela** 96.87 353 eLQ LQ 19 44 04.8
CMLA **Cha da Macela** 96.87 353 PFAKE 19 17 40.0 +13
CMLA LR LR
comp=Z,3µm,19.0s
RAYN **Ar Rayn** 96.93 55 *e*P P 19 17 28.0 +0.2
comp=Z,30nm,1.6s
RAYN LR LR
comp=Z,5µm,20.0s
MNCY **Minicoy** 96.95 86 *e*P P 19 17 27.1 -0.9
KEST **Kesra** 97.04 21 P P 19 17 26.2 -1.8
comp=Z,5.1nm,0.9s,baz=200,slow=8.0,SNR=2.6
KEST PP PP 19 21 23.8 -0.6
comp=Z,4.3nm,0.8s,baz=167,slow=13,SNR=4.1
KEST LR LR 19 56 58.3
comp=Z,6µm,20.0s,baz=144,slow=33
KEST **Kesra** 97.04 21 *e*P Pdif 19 17 28.2 +0.1
comp=Z,32nm,1.1s
KEST *e*PP PP 19 21 23.0 -1.5
PNCL **Nicolau / Gran** 97.19 7 *i* P S 19 29 00.3 +9.4
PNCL *e*SS SS 19 35 35.2 +5.7
PBAR **Barrancos** 97.35 8 *e*SKS SKSac 19 28 10.9 +5.5
PBAR *e*SS SS 19 35 35.4 +3.6
WR1 **Warramunga Arr** 97.67 153 *e*P P 19 17 29.4 -2.0
comp=Z,31nm,0.8s
WR1 *e*PP PP 19 21 31.0 +2.7
WR1 *e*PKKPbc PKKPdf 19 34 05.4 +0.4
WR1 *e*P'P'df P'P'df 19 42 20.7 -6.0
WRA **Warramunga Arr** 97.67 153 P P 19 17 29.4 -2.0
comp=Z,9.8nm,1.0s,baz=194,slow=3.6,SNR=25
WRA PP PP 19 21 31.0 +2.7
comp=Z,7.3nm,1.0s,baz=194,slow=6.2,SNR=7.6
WRA PKKPbc PKKPdf 19 34 05.4 +0.4
comp=Z,2.3nm,0.9s,baz=0.2,slow=3.0,SNR=9.4
WRA PKPPKP P'P'df 19 42 20.7 -6.0
comp=Z,0.9nm,1.1s,baz=3.7,slow=2.6,SNR=5.2
WRA LR LR 19 58 17.6
comp=Z,6µm,21.1s,baz=195,slow=33
WB2 **Warramunga Arr** 97.67 153 *e*P Pdif 19 17 32.5 +1.0
comp=Z,61nm,1.5s
WRAB **Tennant Creek** 97.68 153 *e*P Pdif 19 17 32.6 +1.1
comp=Z,100nm,1.9s
WRAB LR LR
comp=Z,6µm,21.0s
WRAB **Tennant Creek** 97.68 153 *d i*P Pdif 19 17 32.1 +0.6
WRAB pmax pmax
comp=Z,10.0nm,1.2s
PMAFR **Mafra** 97.98 6 *e*SKS SKSac 19 28 14.4 +5.7
PMAFR *i* P S 19 29 11.2 +13
PMAFR *e*SS SS 19 35 44.8 +4.0
PESTR **Estremoz** 98.00 7 *e*SKS SKSac 19 28 13.7 +4.9
PESTR *i* P S 19 29 05.9 +8.0
PESTR *e*SS SS 19 35 48.0 +7.0
PMTG **Montargil** 98.16 7 *e*SKS SKSac 19 28 13.6 +4.1
PMTG *i* P S 19 29 11.1 +12
PMTG *e*SS SS 19 35 46.8 +3.6
WDD **Wied Dalam** 98.19 25 PFAKE 19 17 40.0 +6.9
WDD LR LR
comp=Z,3µm,19.0s
PGRA **Graciosa** 98.30 351 eLQ LQ 19 44 37.6
EIL **Eiat** 98.33 44 P P 19 17 33.2 -0.7
comp=Z,2.6nm,1.1s,baz=180,slow=9.1,SNR=1.8
EIL PP PP 19 21 34.4 0.0
comp=Z,1.8nm,0.7s,baz=214,slow=3.3,SNR=4.2
EIL S SKSac 19 28 11.2 +0.3
comp=Z,2.1nm,0.9s,baz=348,slow=19,SNR=2.0
TAOE **Nuku Hiva Isla** 98.54 237 *e*PP PP 19 21 30.4 -5.0
comp=Z,285nm,25.1s
TAOE **Nuku Hiva Isla** 98.54 237 eLQ LQ 19 45 30.0
comp=Z,16µm,32.5s
TAOE eLR LR 19 49 40.5
comp=Z,8µm,26.5s
PMRV **Marv??o** 98.57 7 *e*SKS SKSac 19 28 22.3 +11
PMRV *i* P S 19 29 12.1 +9.4
PMRV *e*SS SS 19 35 57.1 +8.1
PMRV **Marv??o** 98.57 7 eLQ LQ 19 46 35.7
PMRV eLR LR 19 53 22.1
comp=Z,3µm,18.0s
PAB **San Pablo** 98.92 10 PFAKE 19 17 50.0 +14
PAB LR LR
comp=Z,3µm,19.0s
DZM **Mont Dzumac** 99.00 183 LR LR 20 02 15.8
comp=Z,3µm,19.0s,baz=202,slow=35
DZM **Mont Dzumac** 99.00 183 *e*PP PP 19 21 37.6 -0.8
comp=Z,220nm,24.7s
DZM **Mont Dzumac** 99.00 183 *e*SS SS 19 35 57.0 +3.7
comp=Z,3µm,27.6s
DZM eLQ LQ 19 45 45.6
comp=Z,10µm,31.1s
DZM eLR LR 19 49 56.5
comp=Z,6µm,22.0s
DZM **Mont Dzumac** 99.00 183 *e*P Pdif 19 17 37.9 +0.4
comp=Z,26nm,1.1s
ESDC **Sonseca Array** 99.08 10 P Pdif 19 17 36.9 -0.1
comp=Z,0.2nm,0.5s,baz=188,slow=4.4,SNR=3.5
ESDC PP PP 19 21 39.1 -0.9
comp=Z,0.1nm,0.3s,baz=180,slow=6.3,SNR=3.4
ESDC LR LR 19 57 15.0
comp=Z,3µm,20.5s,baz=185,slow=32
PCAS **Casmilo, Conde** 99.12 6 *e*SKS SKSac 19 28 18.2 +3.8
PCAS *i* P S 19 29 19.1 +12
PCAS *e*SS SS 19 36 03.0 +6.3
TRD **Trivandrum** 99.17 89 *e*P Pdif 19 17 36.9 -1.2
BBSR **BB Station** 99.48 320 PFAKE 19 17 50.0 +11
BBSR LR LR
comp=Z,3µm,21.0s
MTE **Manteigas** 99.53 7 *e*SKS SKSac 19 28 19.2 +2.7
MTE *i* P S 19 29 21.7 +11
MTE *e*SS SS 19 36 05.1 +2.6
MTE eLQ LQ 19 45 45.8
MTE eLR LR 19 51 03.3
comp=Z,3µm,18.0s
MTE **Manteigas** 99.53 7 PFAKE 19 17 50.0 +11
MTE LR LR
comp=Z,2µm,20.0s
VAE **Valguarnera** 99.74 25 LR LR 19 59 11.3
comp=Z,7µm,19.0s,baz=138,slow=33
CTAO **Charters Tower** 99.80 164 PFAKE 19 17 50.0 +9.1
CTAO LR LR
comp=Z,31µm,20.0s
PALK **Pallekele** 100.05 93 LR LR 19 52 54.0
comp=Z,3µm,20.7s,baz=116,slow=29
MVO **Moncorvo** 100.32 7 *e*SKS SKSac 19 28 27.5 +7.1
MVO *i* P Sdif 19 29 31.9 +14
MVO *e*SS SS 19 36 20.7 +7.1
MVO eLQ LQ 19 46 03.3
MVO eLR LR 19 51 18.6
comp=Z,3µm,22.0s
POLO **Lamas de Olo** 100.48 7 *e*SKS SKSac 19 28 30.4 +9.2
POLO *i* P Sdif 19 29 31.0 +12
POLO *e*SS SS 19 36 20.7 +4.8
VSL **Villasalto** 100.70 20 PFAKE 19 17 50.0 +5.8
VSL LR LR
comp=Z,6µm,19.0s
CEL **Celeste** 100.82 26 PFAKE 19 17 50.0 +5.2
CEL LR LR
comp=Z,4µm,19.0s
LEM **Lembang** 100.82 123 P Pdif 19 17 45.9 +0.2
comp=Z,4.0nm,0.4s,baz=274,slow=19,SNR=1.6
LEM PP PP 19 21 54.1 +1.2
comp=Z,8.3nm,0.5s,baz=185,slow=12,SNR=5.5
PGAV **Gavieira, Arco** 101.04 6 *e*SKS SKSac 19 28 27.8 +3.9
PGAV **Gavieira, Arco** 101.04 6 eLR LR 19 51 50.3
comp=Z,3µm,22.0s
ASF **Jabal al Asfar** 101.30 44 P Pdif 19 17 46.8 -0.3
comp=Z,0.7nm,0.4s,baz=212,slow=6.3,SNR=1.6
SANT **Santorini** 101.46 34 PFAKE 19 18 00.0 +12
SANT LR LR
comp=Z,2µm,20.0s
MNGI **Mangalore** 101.83 85 *ex* Pdif 19 17 44.6 -5.2
MNGI IAMs_20 IAMs_20 19 52 28.8
comp=Z,8µm,32.2s
TIP **Timpagrande** 101.89 26 PFAKE 19 18 00.0 +10
TIP LR LR
comp=Z,4µm,20.0s
MSVF **Nonsavu** 102.40 194 PFAKE 19 18 00.0 +7.4
MSVF LR LR
comp=Z,4µm,20.0s
CUC **Castrocuco** 102.46 25 PFAKE 19 18 00.0 +7.9
CUC LR LR
comp=Z,1µm,22.0s
WSAR **Wadi Sarin** 102.55 66 PP PP 19 22 06.7 +0.3
comp=Z,7.0nm,1.0s,baz=90,slow=6.9,SNR=2.5
CSS **Mathiatis** 102.60 40 PFAKE 19 18 00.0 +7.2
CSS LR LR
comp=Z,953nm,19.0s
GOA **Goa** 103.48 82 *e*P Pdif 19 17 56.0 -1.1
BATI **Baumata** 103.88 140 PP PP 19 22 16.2 +0.7
comp=Z,8.2nm,0.9s,baz=157,slow=9.4,SNR=2.4
AQU **L'Aquila** 104.22 23 PFAKE 19 18 10.0 +10
AQU LR LR
comp=Z,3µm,19.0s
ISP **Isparta** 104.31 37 PFAKE 19 18 10.0 +10
ISP LR LR
comp=Z,3µm,20.0s
AFI **Afiamalu** 104.37 205 PFAKE 19 18 10.0 +8.7
AFI LR LR
comp=Z,2µm,19.0s
TIR **Tirane** 104.68 28 PFAKE 19 18 10.0 +8.2
TIR LR LR
comp=Z,2µm,19.0s
MDRS **Chennai** 104.73 89 *e*P Pdif 19 18 01.5 -1.2
PSI **Prapat** 105.36 111 PP PP 19 22 25.9 -1.1
comp=Z,3.4nm,0.3s,baz=180,slow=8.5,SNR=2.2
VLC **Villacollemand** 105.41 20 PFAKE 19 22 30.0
VLC LR LR
comp=Z,7µm,21.0s
SSB **Saint Sauveur** 105.58 15 PFAKE 19 22 30.0
SSB LR LR
comp=Z,7µm,20.0s
BNI **Bardonecchia** 105.67 17 PFAKE 19 22 30.0
BNI LR LR
comp=Z,4µm,20.0s
NHSC **New Hope** 105.81 309 PFAKE 19 22 30.0
NHSC LR LR
comp=Z,3µm,21.0s
BOM **Bombay** 105.83 80 *ex* Pdif 19 17 58.7 -8.8
MMB **Musomiste** 105.87 30 P PP 19 22 35.9 +4.9
KKB **Krupnik** 105.96 30 P PP 19 22 26.6 -5.0
POO **Poona** 106.05 81 *e*P Pdif 19 18 06.6 -2.0
POO IAMs_20 IAMs_20 19 38 32.4
comp=Z,771nm,9.5s
VTS **Vitosha** 106.68 30 ⇑ *i*P PP 19 22 36.7 -0.3
VTS **Vitosha** 106.68 30 P PP 19 22 30.4 -6.6
CNNC **Cliffs of the** 106.78 312 PFAKE 19 22 30.0
CNNC LR LR
comp=Z,3µm,20.0s
PGB **Panagyurishte** 106.89 30 P PP 19 22 40.6 +2.2
ANTO **Ankara** 106.90 38 PFAKE 19 22 30.0
ANTO LR LR
comp=Z,3µm,22.0s
BRAL **Brewton** 107.00 302 PFAKE 19 22 30.0
BRAL LR LR
comp=Z,6µm,20.0s
BR101 **Keskin Array S** 107.03 38 *e*Pdif Pdif 19 18 12.2 -0.4
BR101 *e*PKiKP PKiKP 19 22 21.8 -0.1
BR101 *e*PP PP 19 22 37.0 -2.6
BR101 *e*PKKPdf PKKPdf 19 33 53.0 +1.9
BRTR **Keskin Array B** 107.03 38 Pdiff Pdif 19 18 12.2 -0.4
comp=Z,0.2nm,0.6s,baz=193,slow=5.9,SNR=3.3
BRTR PKiKP PKiKP 19 22 21.8 -0.1
comp=Z,1.1nm,1.1s,baz=194,slow=3.7,SNR=3.0
BRTR PP PP 19 22 37.0 -2.6
comp=Z,4.1nm,1.1s,baz=196,slow=7.7,SNR=7.4
BRTR PKKP PKKPdf 19 33 53.0 +1.9
comp=Z,4.0nm,1.2s,baz=90,slow=1.2,SNR=8.2
KAPI **Kappang** 107.33 134 PFAKE 19 22 30.0
KAPI LR LR
comp=Z,2µm,22.0s
GOGA **Godfrey** 107.41 306 PFAKE 19 22 30.0
GOGA LR LR
comp=Z,5µm,21.0s
TUE **Stuetta** 107.47 19 PFAKE 19 22 30.0
TUE LR LR
comp=Z,4µm,19.0s
MPEP **Malo Peshtene** 107.53 30 P PP 19 22 38.5 -4.6
BHJ **Bhuj** 107.90 75 *e*P Pdif 19 18 14.8 -1.8
BHJ IAMs_20 IAMs_20 19 32 16.6
comp=Z,1µm,4.2s
SZH **Strazhica** 108.02 31 P PP 19 22 44.9 -1.8
ECH **Echery** 108.83 17 PFAKE 19 22 40.0
ECH LR LR
comp=Z,4µm,20.0s
KVTX **Kingsville** 108.88 292 PFAKE 19 22 40.0
KVTX LR LR
comp=Z,4µm,21.0s
BFO **Black Forest** 109.12 17 PFAKE 19 22 40.0
BFO LR LR
comp=Z,4µm,19.0s
BZS **Buzias** 109.13 27 ⇓ *i*P PP 19 22 54.6 -0.1
CBN **Corbin Frederi** 109.19 313 PFAKE 19 22 40.0
CBN LR LR
comp=Z,4µm,22.0s
KSM **Kuching** 109.42 122 PFAKE 19 22 40.0
KSM LR LR
comp=Z,4µm,21.0s
TKL **Tuckaleechee C** 109.48 307 PP PP 19 22 56.9 -0.6
comp=Z,1.9nm,0.4s,baz=163,slow=8.2,SNR=6.9
TKL **Tuckaleechee C** 109.48 307 *e*Pdif Pdif 19 18 25.3 +1.9
TKL *e*PP PP 19 22 56.7 -0.7
TKL **Tuckaleechee C** 109.48 307 *e*P Pdif 19 18 25.3 +1.9
TKL *e* 19 22 56.7
LOT **Lotru** 109.49 29 ⇓ *i*P PP 19 22 49.4 -8.1

ARR	**Arges**	**109.64**	**30**	⇓	*i*P	PP	19 22 47.2	-11
TIRR	**Tirgusor**	**109.80**	**33**	⇑	*i*P	**PP**	**19 22 56.0**	**-3.6**
VOIR		**109.81**	**30**	⇑	*i*P	PP	19 22 47.7	-12
ISR	**Istrita**	**109.90**	**31**	⇑	*i*P	**PP**	**19 22 53.2**	**-7.2**
PBA	**Port Blair**	**109.93**	**101**		*e*P	Pdif	19 18 21.6	-4.3
MLR	**Muntele Rosu**	**110.09**	**31**		PP	PP	19 22 57.1	-4.8
	comp=Z,2.1nm,1.2s,baz=203,slow=4.1,SNR=6.5							
MLR					PKKPbc	**PKKPbc**	**19 33 24.7**	**-3.6**
	comp=Z,0.6nm,0.7s,baz=335,slow=19,SNR=6.2							
MLR	**Muntele Rosu**	**110.09**	**31**	⇑	*i*P	PP	19 22 50.9	-11
WLF	**Walferdange**	**110.10**	**16**		PFAKE		19 22 40.0	
WLF					LR	LR		
	comp=Z,6µm,20.0s							
VIS	**Vishakhapatnam**	**110.23**	**89**		*e*P	**PKiKP**	**19 22 28.1**	**-0.2**
PMG	**Port Moresby**	**110.42**	**163**		PP	PP	19 23 04.0	+0.8
	comp=Z,17nm,1.1s,baz=208,slow=6.0,SNR=4.7							
PMG	**Port Moresby**	**110.42**	**163**		PFAKE		19 22 40.0	
PMG					LR	LR		
	comp=Z,14µm,19.0s							
DRGR		**110.49**	**28**	⇑	*i*P	**PP**	**19 23 04.4**	**-0.3**
GERES	**GERESS Array B**	**110.53**	**21**		PKiKP	**PKiKP**	**19 22 28.4**	**+0.3**
	comp=Z,1.4nm,1.0s,baz=183,slow=2.0,SNR=5.0							
GERES					PP	**PP**	**19 22 59.8**	**-5.1**
	comp=Z,1.8nm,0.8s,baz=190,slow=6.8,SNR=6.4							
GERES					PKKPbc	**PKKPbc**	**19 33 26.5**	**-0.4**
	comp=Z,0.4nm,0.7s,baz=13,slow=9.1,SNR=3.6							
GERES					PKKP	**PKKPdf**	**19 33 40.5**	**-4.3**
	comp=Z,1.0nm,0.8s,baz=35,slow=3.3,SNR=7.3							
PLOR	**Plostina**	**110.61**	**31**	⇑	*i*P	**PP**	**19 23 08.7**	**+3.2**
VRI	**Vrincioaia**	**110.64**	**31**	⇓	*i*P	**PP**	**19 23 04.4**	**-1.3**
MODS	**Modra-Piesok**	**110.77**	**24**		*e*P	**PP**	**19 23 09.0**	**+2.4**
KHC	**Kasperske Hory**	**110.78**	**21**		*ex*	x	19 22 42.7	
KHC					*e*PP	PP	19 23 09.7	+3.0
KHC					*e*PKKP	**PKKPab**	**19 33 38.5**	**+4.9**
KHC					*e*SS	SS	19 38 38.6	+2.4
KHC					AMS	AMS	20 04 30.0	
	comp=Z,5µm,21.0s							
NGP	**Nagpur**	**110.89**	**84**		*e*P	**PKiKP**	**19 22 29.6**	**+0.1**
NGP					*ex*	x	19 32 37.2	
NGP					*ex*	x	19 59 35.3	
	comp=Z,4µm,21.2s							
PSZ	**Piszkesteto**	**110.90**	**25**		PFAKE		19 22 40.0	
PSZ					LR	LR		
	comp=Z,3µm,19.0s							
NATX	**Nacogdoches**	**110.90**	**297**		PFAKE		19 22 40.0	
NATX					LR	LR		
	comp=Z,2µm,20.0s							
VYHS	**Vyhne**	**111.22**	**25**		*e*PP	PP	19 23 02.7	-7.1
VYHS	**Vyhne**	**111.22**	**25**		*e*P	**PP**	**19 23 10.7**	**+0.9**
GNI	**Garni**	**111.26**	**46**		PP	PP	19 23 07.0	-3.4
	comp=Z,7.9nm,1.1s,baz=245,slow=6.7,SNR=4.0							
GNI	**Garni**	**111.26**	**46**		PFAKE		19 22 40.0	
GNI					LR	LR		
	comp=Z,11µm,20.0s							
FUNA	**Funafuti**	**111.29**	**197**		PFAKE		19 22 40.0	
FUNA					LR	LR		
	comp=Z,4µm,19.0s							
TREC	**Trest**	**111.30**	**22**		*e*SS	SS	19 38 40.0	-3.1
TREC					AMS	AMS	20 04 30.0	
	comp=Z,4µm,19.9s							
DGPR	**DIGLIPUR**	**111.32**	**100**		*e*P	**PKiKP**	**19 22 29.2**	**-1.2**
DGPR					IAMs_20	IAMs_20	19 33 54.6	
	comp=Z,2µm,7.2s							
VRAC	**Vranov**	**111.53**	**23**		PP	PP	19 23 09.1	-2.9
	comp=Z,1.5nm,0.3s,baz=215,slow=8.5,SNR=4.7							
HNR	**Honiara**	**111.56**	**177**		PP	PP	19 23 12.4	+1.0
	comp=Z,63nm,1.1s,baz=141,slow=6.5,SNR=3.7							
HNR	**Honiara**	**111.56**	**177**		PFAKE		19 22 40.0	
HNR					LR	LR		
	comp=Z,6µm,20.0s							
NKC	**Novy Kostel**	**111.64**	**20**		*e*PP	PP	19 23 12.8	0.0
NKC					*e*PKKP	**PKKPdf**	**19 33 36.4**	**-6.2**
NKC					AMS	AMS	20 02 10.0	
	comp=Z,3µm,20.0s							
TRPA	**Tarpa**	**111.70**	**27**	⇑	*i*P	**PP**	**19 23 20.1**	**+6.9**
GOPC	**GO Pecny, Ondr**	**111.75**	**21**		*ex*	**SS**	**19 38 58.3**	**+9.1**
GOPC					AMS	AMS	20 05 40.0	
	comp=Z,4µm,19.9s							
PRU	**Pruhonice**	**111.78**	**21**		*e*PP	PP	19 23 17.5	+3.7
PRU					*e*SS	SS	19 38 49.0	-0.4
PRU					AMS	AMS	20 05 00.0	
	comp=Z,4µm,21.2s							
BHPL	**Bhopal**	**111.80**	**81**		*e*P	**PKiKP**	**19 22 31.1**	**-0.1**
BHPL					IAmb	IAmb	19 22 32.5	
	comp=Z,6.0nm,0.6s							
PRA	**Prague**	**111.84**	**21**		*ex*	**SS**	**19 39 00.3**	**+10**
PRA					AMS	AMS	20 05 10.0	
	comp=Z,4µm,21.8s							
BURAR	**Bucovina Array**	**111.88**	**29**	⇑	*i*P	**PP**	**19 23 12.9**	**-1.7**
UZH	**Uzhgorod**	**112.12**	**27**		*i*PKIKP	**PKiKP**	**19 22 32.6**	**+1.7**
UZH					*e*		19 22 39.2	
UZH					*i* SSS	SSS	19 43 00.4	
UZH					MLR	MLR		
	comp=N,3µm,20.0s							
UZH					MLR	MLR		
	comp=E,3µm,20.0s							
UZH					MLR	MLR		
	comp=Z,700nm,20.0s							
CRVS	**Cervenica-Dubn**	**112.18**	**26**		*e*P	**PP**	**19 23 14.7**	**-2.0**
BINY	**Binghamton**	**112.20**	**316**		PFAKE		19 22 40.0	
BINY					LR	LR		
	comp=Z,6µm,22.0s							
JCT	**Junction City**	**112.24**	**292**		PFAKE		19 22 40.0	
JCT					LR	LR		
	comp=Z,1µm,22.0s							
KIS	**Kishinev**	**112.25**	**32**		*e*PKP	**PP**	**19 23 20.0**	**+2.8**
KIS					LRM	MLR	20 10 06.0	
	comp=Z,2µm,20.0s							
PVCC	**Panska Ves**	**112.30**	**21**		AMS	AMS	20 05 10.0	
	comp=Z,3µm,21.0s							
OKC	**Ostrava-Krasne**	**112.34**	**24**		*e*SS	SS	19 38 56.8	-0.1
OKC					AMS	AMS	20 04 40.0	
	comp=Z,2µm,21.2s							
DPC	**Dobruska-Polom**	**112.47**	**22**		*e*PP	PP	19 23 19.3	+0.5
DPC					*e*SP	SP	19 32 55.3	+5.2
DPC					*e*PKKP	**PKKPab**	**19 33 31.8**	**+5.6**
DPC					*e*SS	**SS**	**19 38 56.5**	**-2.2**
DPC					AMS	AMS	20 04 30.0	
	comp=Z,3µm,21.1s							
SOC	**Sochi**	**112.50**	**41**		*i* P	**Pdif**	**19 18 34.4**	**-2.1**
SOC					*i*		19 22 32.6	
SOC					*e*		19 22 37.5	
SOC					*e*		19 23 17.1	
SOC					pmax	pmax		
	comp=Z,9.0nm,0.5s							
BRG	**Berggiesshubel**	**112.52**	**21**		*e*P	**PKiKP**	**19 22 33.9**	**+2.3**
	comp=Z,8.2nm,1.5s							
BRG					*e*		19 23 12.6	
	comp=Z,32nm,1.7s							
BRG					*e*		19 23 25.9	
	comp=Z,45nm,1.8s							
BRG					SCS		19 33 32.3	
	comp=Z,21nm,1.6s							
BRG					SS	**SS**	**19 38 56.0**	**-3.2**
BRG					*e*PKKP		19 40 15.4	
	comp=Z,11nm,1.6s							
	comp=N,3µm,17.8s							
	comp=E,3µm,19.8s							
	comp=Z,3µm,21.8s							
BRG	**Berggiesshubel**	**112.52**	**21**		*e*PKIKP	**PKiKP**	**19 22 33.9**	**+2.3**
BRG					*e*		19 23 25.9	
BRG					SS	SS	19 38 56.0	-3.2
BRG					pmax	pmax		
	comp=Z,8.0nm,1.5s							
BRG					pmax	pmax		
	comp=Z,32nm,1.7s							
BRG					pmax	pmax		
	comp=Z,45nm,1.8s							
BRG					pmax	pmax		
	comp=N,21nm,1.6s							
BRG					pmax	pmax		
	comp=Z,11nm,1.6s							
BRG					MLR	MLR		
	comp=N,3µm,17.8s							
BRG					MLR	MLR		
	comp=E,3µm,19.8s							
BRG					MLR	MLR		
	comp=Z,3µm,21.8s							
UPC	**Upice**	**112.56**	**22**		*e*SS	SS	19 38 56.1	-3.7
UPC					AMS	AMS	20 05 50.0	
	comp=Z,3µm,20.3s							
PKME	**Peaks-Kenny Pk**	**112.68**	**323**		PFAKE		19 22 40.0	
PKME					LR	LR		
	comp=Z,4µm,21.0s							
MIAR	**Mount Ida**	**112.75**	**299**		PFAKE		19 22 40.0	
MIAR					LR	LR		
	comp=Z,3µm,20.0s							
CLL	**Collm**	**112.77**	**20**		*e*PP	PP	19 23 16.0	-4.8
	comp=Z,56nm,1.9s							
CLL					*i*		19 23 40.6	
CLL					*i*		19 23 49.7	
CLL					*e*PPP	PPP	19 25 42.0	
CLL					*e*Sdif	Sdif	19 31 06.0	+5.4
CLL					*e*PS	**PS**	**19 32 58.0**	**+3.6**
CLL					*i* PKKPab	**PKKPab**	**19 33 27.6**	**+2.9**
CLL					*e*PPS	PPS	19 33 59.0	
CLL					*e*		19 36 00.0	
CLL					*e*SS	**SS**	**19 39 00.0**	**-2.5**
CLL					*e*		19 40 12.0	
CLL					*e*SSS	SSS	19 43 06.0	
CLL					*e*SSSS		19 46 42.0	
CLL					Lm	MLR	20 06 00.0	
	comp=N,3µm,19.4s							
CLL					Lm	MLR	20 06 00.0	
	comp=E,1µm,20.9s							
CLL					Lm	MLR	20 06 00.0	
	comp=Z,3µm,20.0s							
ANN	**Anapa**	**112.82**	**39**		*i* PKIKP	**PKiKP**	**19 22 33.0**	**+0.6**
ANN					pmax	pmax		
	comp=Z,68nm,1.7s							
ANN					MLR	MLR		
	comp=Z,2µm,18.0s							
ANN					MLR	MLR		
	comp=E,2µm,18.0s							
M54A	**Oil Creek Stat**	**112.93**	**313**		P	**PKiKP**	**19 22 33.7**	**+1.0**
	baz=150							
X39A	**Fountain Ranch**	**112.96**	**299**		P	**PKiKP**	**19 22 33.4**	**+0.3**
	baz=147							
ACSO	**Alum Creek Sta**	**113.10**	**310**		PFAKE		19 22 40.0	
ACSO					LR	LR		
	comp=Z,3µm,21.0s							
LTX	**Lajitas**	**113.16**	**289**		*e*PKiKP	**PKiKP**	**19 22 33.5**	**-0.2**
LTX					*e*PP	**PP**	**19 23 24.3**	**+0.3**
LTX					*e*PKKPab	**PKKPab**	**19 33 27.6**	**+2.2**
LTX	**Lajitas**	**113.16**	**289**		*e*PKIKP	**PKiKP**	**19 22 33.5**	**-0.2**
LTX					*e*		19 23 24.3	
TXAR	**Lajitas Array**	**113.16**	**289**		PKiKP	**PKiKP**	**19 22 33.5**	**-0.2**
	comp=Z,1.2nm,0.9s,baz=180,slow=0.5,SNR=7.3							
TXAR					PP	**PP**	**19 23 24.3**	**+0.3**
	comp=Z,0.5nm,0.7s,baz=148,slow=7.5,SNR=3.0							
TXAR					PKKPab	**PKKPab**	**19 33 27.6**	**+2.2**
	comp=Z,1.5nm,0.9s,baz=242,slow=2.1,SNR=6.9							
SORM	**Soroca**	**113.17**	**31**	⇓	*i*P	**PP**	**19 23 20.8**	**-2.9**
AKT	**Akhty**	**113.54**	**48**		*i* P	**Pdif**	**19 18 47.8**	**+6.4**
AKT					*i*		19 22 36.4	
AKT					*e*		19 23 28.7	
AKT					pmax	pmax		
	comp=Z,5.0nm,0.8s							
KBZ	**Khabaz**	**113.72**	**43**		PKiKP	**PKiKP**	**19 22 34.4**	**+0.3**
	comp=Z,1.9nm,0.9s,baz=236,slow=3.6,SNR=3.7							
KBZ					PP	**PP**	**19 23 26.8**	**-0.9**
	comp=Z,4.7nm,1.1s,baz=224,slow=2.7,SNR=5.9							
KBZ					PKKPab	**PKKPab**	**19 33 25.9**	**+4.7**
	comp=Z,1.3nm,0.8s,baz=65,slow=7.8,SNR=3.7							
LONY	**Lake Ozonia**	**113.83**	**319**		PFAKE		19 22 50.0	
LONY					LR	LR		
	comp=Z,5µm,21.0s							
KIV	**Kislovodsk**	**113.85**	**43**		PFAKE		19 22 50.0	
KIV					LR	LR		
	comp=Z,2µm,21.0s							
KIV	**Kislovodsk**	**113.85**	**43**		*i* PKIKP	**PKiKP**	**19 22 35.5**	**+1.0**
KIV					*e*		19 23 30.8	
KIV					*e*PS	**PS**	**19 33 08.6**	**+3.9**
KIV					*e*SS	SS	19 39 23.6	+6.4
KIV					pmax	pmax		
	comp=Z,7.0nm,1.1s							
KIV					MLR	MLR		
	comp=Z,3µm,22.0s							
KVAR	**Kislovodsk Arr**	**113.85**	**43**		PKiKP	**PKiKP**	**19 22 34.2**	**-0.4**
	comp=Z,3.2nm,0.8s,baz=238,slow=3.8,SNR=2.8							
KVAR					PP	**PP**	**19 23 27.7**	**-1.1**
	comp=Z,10nm,1.0s,baz=166,slow=4.0,SNR=5.2							
T41A	**Mountain View**	**114.04**	**302**		P	**PKiKP**	**19 22 36.5**	**+1.4**
	baz=147							
GROC	**Groznyy**	**114.31**	**45**		*i* PKIKP	PKPdf	19 22 37.7	+2.4
GROC					*e*		19 23 30.4	
GROC					pmax	pmax		
	comp=Z,15nm,1.4s							
S41A	**Jillco Farms,**	**114.49**	**303**		P	PKPdf	19 22 36.8	+0.9
	baz=147							
ESK	**Eskdalemuir**	**114.67**	**9**		PFAKE		19 22 50.0	+14
ESK					LR	LR		
	comp=Z,3µm,20.0s							
T39A	**Clever**	**114.73**	**301**		P	PKPdf	19 22 38.5	+2.1
	baz=146							
MAK	**Makhachkala**	**114.73**	**47**		*i* P	**Pdif**	**19 18 35.1**	**-11**
MAK					*i*		19 22 37.8	
MAK					*e*		19 23 37.6	
MAK					*e*		19 29 25.0	
MAK					pmax	pmax		
	comp=Z,99nm,0.9s							
P44A	**Sand Creek, Wi**	**114.73**	**306**		P	PKPdf	19 22 37.8	+1.6
	baz=147							
GEYT	**Alibeck**	**114.77**	**57**		PKP	PKPdf	19 22 36.4	0.0
	comp=Z,1.3nm,0.9s,baz=170,slow=4.4,SNR=4.4							
GEYT					PP	**PP**	**19 23 41.4**	**+6.2**
	comp=Z,2.1nm,0.8s,baz=212,slow=13,SNR=4.8							
GOF	**Gofitskoye**	**114.93**	**43**	⇑	*e*PKIKP	PKPpre	19 22 25.2	
SIJI	**Sorong**	**115.08**	**144**		PP	**PP**	**19 23 36.6**	**-0.1**
	comp=Z,9.6nm,1.0s,baz=347,slow=12,SNR=4.3							
AAM	**Ann Arbor**	**115.13**	**311**		PFAKE		19 22 50.0	+13
AAM					LR	LR		
	comp=Z,4µm,22.0s							
T38A	**Diamond**	**115.14**	**300**		P	**PKPdf**	**19 22 37.9**	**+0.7**
	baz=146							
S39A	**Bolivar**	**115.26**	**301**		P	**PKPdf**	**19 22 38.5**	**+1.1**
	baz=146							
WMOK	**Wichita Mounta**	**115.28**	**296**		P	**PKPdf**	**19 22 38.6**	**+1.1**
	baz=146							
WMOK	**Wichita Mounta**	**115.28**	**296**		PFAKE		19 22 50.0	+12
WMOK					LR	LR		
	comp=Z,1µm,22.0s							
AK11	**Malin Array Si**	**115.71**	**31**		*e*PKPdf	**PKPdf**	**19 22 38.4**	**+0.7**
KIEV	**Kiev**	**115.74**	**31**		*e*PKPdf	**PKPdf**	**19 22 38.6**	**+0.9**
KIEV					*e*PP	**PP**	**19 23 38.4**	**-3.4**
KIEV					LR	LR		
	comp=Z,1µm,21.0s							
KIEV	**Kiev**	**115.74**	**31**		*i* PKIKP	**PKPdf**	**19 22 39.3**	**+1.6**
AKASG	**Malin Array Be**	**115.75**	**31**		PKP	**PKPdf**	**19 22 36.5**	**-1.3**
	comp=Z,1.8nm,0.7s,baz=230,slow=1.6,SNR=16							
AKASG					PP	**PP**	**19 23 40.5**	**-1.4**
	comp=Z,3.6nm,1.0s,baz=207,slow=6.4,SNR=7.2							
AKASG					PKKPab	**PKKPab**	**19 33 14.9**	**+2.9**
	comp=Z,0.2nm,0.3s,baz=22,slow=3.3,SNR=7.8							
AKBB	**Malin Array Si**	**115.75**	**31**		*e*PKPdf	**PKPdf**	**19 22 38.9**	**+1.1**
AKBB					*e*PP	**PP**	**19 23 39.0**	**-2.9**
AKBB	**Malin Array Si**	**115.75**	**31**		*e*PKIKP	**PKPdf**	**19 22 38.9**	**+1.1**
Q40A	**Laux Farm, Aux**	**115.80**	**303**		P	**PKPdf**	**19 22 40.2**	**+1.9**
	baz=146							
HDIL	**Hopedale**	**115.93**	**306**		PFAKE		19 22 50.0	+12
HDIL					LR	LR		
	comp=Z,3µm,21.0s							
R38A	**Fenwick Farm,**	**115.93**	**301**		P	**PKPdf**	**19 22 39.7**	**+1.2**
	baz=146							
MNTX	**Cornudas Mount**	**115.94**	**289**		P	**PKPdf**	**19 22 39.6**	**+0.8**
	baz=145							
MNTX	**Cornudas Mount**	**115.94**	**289**		*e*PKPdf	**PKPdf**	**19 22 40.0**	**+1.1**
MNTX					*e*PP	**PP**	**19 23 39.2**	**-4.3**
MNTX					LR	LR		
	comp=Z,5µm,22.0s							
KKM	**Kota Kinabalu**	**116.04**	**126**		PFAKE		19 22 50.0	+10
KKM					LR	LR		
	comp=Z,4µm,22.0s							
P40A	**Paris**	**116.24**	**304**		P	**PKPdf**	**19 22 40.3**	**+1.2**
	baz=146							
Q38A	**Cooks Store, C**	**116.44**	**302**		P	**PKPdf**	**19 22 40.7**	**+1.2**
	baz=146							
M43A	**Waltham Townsh**	**116.53**	**307**		P	**PKPdf**	**19 22 40.6**	**+0.9**
	baz=147							
MSTX	**Muleshoe**	**116.53**	**292**		P	**PKPdf**	**19 22 41.1**	**+1.1**
	baz=145							
MSTX	**Muleshoe**	**116.53**	**292**		*e*PKPdf	**PKPdf**	**19 22 39.1**	**-1.0**
MSTX					*e*PP	**PP**	**19 23 41.8**	**-5.9**
BOK	**Bokaro**	**116.59**	**88**		*e*P	**PKPdf**	**19 22 41.7**	**+1.3**
BOK					IAMs_20	IAMs_20	19 41 08.4	
	comp=Z,380nm,7.7s							
SUW	**Suwalki**	**117.34**	**25**		*e*PKPdf	**PKPdf**	**19 22 42.6**	**+1.9**
SUW	**Suwalki**	**117.34**	**25**		*e*PKPdf	**PKPdf**	**19 22 40.1**	**-0.6**
SUW					*e*PP	**PP**	**19 23 48.1**	**-4.9**
SUW	**Suwalki**	**117.34**	**25**		*e*PKIKP	**PKPdf**	**19 22 40.1**	**-0.6**
GLMI	**Grayling**	**117.64**	**312**		PFAKE		19 22 50.0	+8.3
GLMI					LR	LR		
	comp=Z,5µm,21.0s							
121A	**Cookes Peak, D**	**117.79**	**287**		P	**PKPdf**	**19 22 43.1**	**+0.5**
	baz=144							
KSU1	**Kansas State U**	**117.88**	**300**		PFAKE		19 22 50.0	+7.7
KSU1					LR	LR		
	comp=Z,5µm,20.0s							
DDI	**Dehra Dun**	**117.93**	**77**		*e*P	**PKPdf**	**19 22 42.5**	**-0.2**
SMLA	**Simla**	**118.14**	**76**		*e*P	**PKPdf**	**19 22 43.7**	**+0.7**
PBKT	**Sadao Pong**	**118.23**	**106**		PKP	**PKPdf**	**19 22 44.9**	**+1.3**
PBKT	**Sadao Pong**	**118.23**	**106**		*e*PKPdf	**PKPdf**	**19 22 44.4**	**+0.8**
NIL	**Nilore**	**118.25**	**71**		*e*PKPdf	**PKPdf**	**19 22 44.7**	**+1.4**
NIL					LR	LR		
	comp=Z,1µm,22.0s							
NIL	**Nilore**	**118.25**	**71**		*e*PKIKP	**PKPdf**	**19 22 44.7**	**+1.4**
NIL					MLR	MLR		
	comp=Z,1µm,22.0s							
JFWS	**Jewell Farm**	**118.29**	**307**		P	**PKPdf**	**19 22 44.3**	**+1.3**
	baz=146							
JFWS	**Jewell Farm**	**118.29**	**307**		PFAKE		19 22 50.0	+7.0
JFWS					LR	LR		
	comp=Z,4µm,20.0s							
M38A	**Pleasantville**	**118.29**	**304**		P	**PKPdf**	**19 22 44.6**	**+1.6**
	baz=145							
PHIT	**Phitsanulok**	**118.48**	**105**		PKP	**PKPdf**	**19 22 46.8**	**+2.7**
DHRM	**DHARAMSHALA**	**118.62**	**75**		*e*P	**PKPdf**	**19 22 42.4**	**-1.8**
DHRM					IAmb	IAmb	19 22 46.1	
	comp=Z,62nm,0.9s							
PYUN	**Piuthan**	**118.63**	**83**		*e*P	**PKPdf**	**19 22 45.6**	**+1.2**
	comp=Z,74nm,0.9s							
KOLN	**Koldanda**	**118.67**	**83**		*e*P	**PKPdf**	**19 22 45.7**	**+1.2**
	comp=Z,52nm,0.8s							
SCIA	**State Center**	**118.70**	**304**		PFAKE		19 22 50.0	+6.2
SCIA					LR	LR		
	comp=Z,6µm,22.0s							
CM01	**Chiang Mai Arr**	**118.80**	**103**		*e*PKPdf	**PKPdf**	**19 22 43.5**	**-1.3**
CM31	**Chiang Mai Arr**	**118.82**	**103**		*e*PKPdf	**PKPdf**	**19 22 44.0**	**-0.7**
CMAR	**Chiang Mai Arr**	**118.82**	**103**		PKP	**PKPdf**	**19 22 43.9**	**-0.9**
	comp=Z,6.5nm,0.8s,baz=231,slow=3.7,SNR=42							
CMAR					PKKPab	**PKKPab**	**19 33 01.8**	**-0.4**
	comp=Z,1.8nm,0.7s,baz=9.3,slow=3.3,SNR=12							
CMAR					SKKP		19 36 59.8	
	comp=Z,1.1nm,0.9s,baz=356,slow=4.8,SNR=5.9							
MICGM	**Minsk**	**118.88**	**28**		*e*	**PKPdf**	**19 22 43.0**	**-0.7**
MICGM					*e*		19 24 08.0	
MICGM					*e*LR	LR	20 24 50.0	
MNK	**Minsk**	**118.88**	**28**		*e*PKIKP	**PKPdf**	**19 22 43.0**	**-0.7**
MNK					*e*		19 24 08.0	
VSR	**Storozhevoye**	**119.04**	**37**		*e*PKIKP	**PKPdf**	**19 22 44.5**	**+0.4**
VSR					*e*		19 24 04.5	
VSR					pmax	pmax		
	comp=Z,10.0nm,0.8s							
VSR					MLR	MLR		
	comp=Z,2µm,20.0s							
CBKS	**Cedar Bluff**	**119.06**	**298**		PFAKE		19 23 00.0	+15
CBKS					LR	LR		
	comp=Z,2µm,19.0s							
ANMO	**Albuquerque**	**119.10**	**290**		P	**PKPdf**	**19 22 47.1**	**+2.1**
	baz=144							
ANMO	**Albuquerque**	**119.10**	**290**		PFAKE		19 23 00.0	+15
ANMO					LR	LR		
	comp=Z,4µm,22.0s							
ANMO	**Albuquerque**	**119.10**	**290**		*i* PKIKP	**PKPdf**	**19 22 46.4**	**+1.3**
TUC	**Tucson**	**119.10**	**285**		P	**PKPdf**	**19 22 46.2**	**+1.2**
	baz=144							
TUC	**Tucson**	**119.10**	**285**		*e*PKPdf	**PKPdf**	**19 22 44.3**	**-0.7**
TUC					LR	LR		
	comp=Z,4µm,20.0s							
TUC	**Tucson**	**119.10**	**285**		*e*PKIKP	**PKPdf**	**19 22 44.3**	**-0.7**
TUC					MLR	MLR		
	comp=Z,4µm,20.0s							
CHTO	**Chiang Mai**	**119.12**	**102**		PKP	**PKPdf**	**19 22 47.5**	**+2.2**
CHTO	**Chiang Mai**	**119.12**	**102**		*e*PKPdf	**PKPdf**	**19 22 47.3**	**+2.0**
CHTO					LR	LR		
	comp=Z,3µm,22.0s							
CHTO	**Chiang Mai**	**119.12**	**102**		pPKiKP	**PKPdf**	**19 22 48.2**	**+2.8**
	SNR=7.9							
CHTO	**Chiang Mai**	**119.12**	**102**		P	**PKPdf**	**19 22 48.2**	**+2.8**
	SNR=7.9							
CHTO	**Chiang Mai**	**119.12**	**102**		*e*PKIKP	**PKPdf**	**19 22 47.3**	**+2.0**
CHTO					MLR	MLR		
	comp=Z,3µm,22.0s							
CMMT	**Chiang Mai**	**119.12**	**102**		PKP	**PKPdf**	**19 22 46.4**	**+1.0**
G43A	**Wallace**	**119.20**	**310**		P	**PKPdf**	**19 22 45.7**	**+1.1**
	baz=146							
J39A	**Decoorah**	**119.24**	**306**		P	**PKPdf**	**19 22 45.6**	**+0.8**
	baz=145							
DMN	**Daman**	**119.31**	**85**		*e*P	**PKPdf**	**19 22 47.2**	**+1.4**
	comp=Z,57nm,0.9s							
GKN	**Gorkha**	**119.39**	**84**		*e*P	**PKPdf**	**19 22 46.9**	**+1.1**
	comp=Z,61nm,0.8s							
PKIN	**Phulchoki**	**119.43**	**85**		*e*P	**PKPdf**	**19 22 47.8**	**+1.8**
	comp=Z,26nm,0.7s							
H41A	**Junction City**	**119.45**	**308**		P	**PKPdf**	**19 22 46.5**	**+1.3**
	baz=146							
F43A	**Flat Rock, Esc**	**119.47**	**311**		P	**PKPdf**	**19 22 45.5**	**+0.4**
	baz=146							
G42A	**

E39A Mellen 121.26 309 P PKPdf 19 22 49.4 +0.8
baz=144,SNR=6.9
HFS Hagfors 121.35 17 PP PP 19 24 14.6 -6.0
comp=Z,4.5nm,1.0s,baz=175,slow=7.2,SNR=4.0
HFS PKKPab PKKPbc 19 32 51.5 +2.5
comp=Z,7.0nm,1.0s,baz=52,slow=9.7,SNR=7.1
F38A Pierce - Schro 121.45 308 P PKPdf 19 22 50.2 +1.3
baz=144,SNR=6.6
S22A 4UR Ranch, Cre 121.52 292 P PKPdf 19 22 51.7 +1.9
baz=143
S22A 4UR Ranch, Cre 121.52 292 ePKPdf PKPdf 19 22 49.6 -0.2
NAO01 NORSAR Array S 121.62 16 ePKPdf PKPdf 19 22 48.4 -0.4
ECSD EROS Data Cent 121.64 303 ePKPdf PKPdf 19 22 49.0 -0.4
ECSD LR LR
comp=Z,4μm,20.0s
H35A Sunnyside Ranc 121.65 305 P PKPdf 19 22 50.9 +1.5
baz=144
OBN Obninsk 121.69 33 PKP PKPdf 19 22 48.9 -0.1
comp=Z,9.4nm,0.5s,baz=186,slow=12,SNR=5.8
OBN PP PP 19 24 19.7 -3.2
comp=Z,5.9nm,0.5s,baz=155,slow=22,SNR=4.1
OBN Obninsk 121.69 33 ePKPdf PKPdf 19 22 49.6 +0.5
OBN ePP PP 19 24 19.3 -3.6
OBN LR LR
comp=Z,2μm,20.0s
OBN Obninsk 121.69 33 d iPKIKP PKPdf 19 22 49.4 +0.4
OBN ePPP PPP 19 26 57.4
OBN pmax pmax
comp=Z,20nm,0.9s
OBN MLR MLR
comp=Z,1μm,19.0s
GLA Glamis 121.72 282 P PKPdf 19 22 51.6 +1.7
baz=143
NBO02 NORSAR Array S 121.81 15 ePKPdf PKPdf 19 22 49.9 +0.7
OGNE Ogallala 121.82 297 P PKPdf 19 22 51.7 +1.7
baz=143
OGNE Ogallala 121.82 297 PFAKE 19 23 00.0 +10
OGNE LR LR
comp=Z,3μm,20.0s
TARA Tarawa 121.83 191 PFAKE 19 23 00.0 +9.2
TARA LR LR
comp=Z,259nm,21.0s
NB2 NORSAR Subarra 121.86 16 PKPdf PKPdf 19 22 50.0 +0.7
comp=Z,28nm,1.4s,baz=188,slow=1.9
NB2 NORSAR Subarra 121.86 16 PKPdf PKPdf 19 22 50.0 +0.7
baz=188,slow=1.9
NB200 NORSAR Array S 121.86 16 ePKPdf PKPdf 19 22 49.4 +0.1
NB200 ePKKPbc PKKPbc 19 32 46.4 -0.8
NOA NORSAR Array B 121.86 16 PKP PKPdf 19 22 49.4 +0.1
comp=Z,12nm,1.1s,baz=181,slow=1.6,SNR=11
NOA PKKPbc PKKPbc 19 32 46.4 -0.8
comp=Z,1.3nm,0.8s,baz=348,slow=3.0,SNR=2.5
NB201 NORSAR Array S 121.88 16 ePKPdf PKPdf 19 22 49.7 +0.4
MVCO Mesa Verde 121.90 290 P PKPdf 19 22 52.2 +1.8
baz=143
MVCO Mesa Verde 121.90 290 PFAKE 19 23 00.0 +10
MVCO LR LR
comp=Z,3μm,19.0s
WUAZ Wupatki 121.96 287 P PKPdf 19 22 52.6 +2.1
baz=143,SNR=6.0
WUAZ Wupatki 121.96 287 ePKPdf PKPdf 19 22 51.3 +0.8
WUAZ LR LR
comp=Z,2μm,21.0s
NC204 NORSAR Array S 122.02 15 ePKPdf PKPdf 19 22 50.8 +1.2
IKP In-Ko-Pah, Jac 122.04 281 P PKPdf 19 22 52.8 +2.1
baz=143
F36A Milaca 122.05 307 P PKPdf 19 22 51.2 +1.1
baz=144,SNR=5.5
Y12C Blythe 122.12 283 P PKPdf 19 22 53.2 +2.6
baz=143
Y12C Blythe 122.12 283 ePKPdf PKPdf 19 22 51.6 +1.0
SWSC Sam W. Stewart 122.12 281 P PKPdf 19 22 53.2 +2.5
baz=143
VSU Vasula 122.22 25 c iPKIKP PKPdf 19 22 52.6 +2.6
VSU pmax pmax
comp=Z,83nm,1.2s
PDMCI Parker Dam,Lak 122.37 284 P PKPdf 19 22 53.1 +2.0
baz=143,SNR=5.3
MONP2 Monument Peak 122.39 281 P PKPdf 19 22 53.7 +2.3
baz=143
H33A Prehn Over Nor 122.45 304 P PKPdf 19 22 52.6 +1.6
baz=143
E36A McGregor 122.47 307 P PKPdf 19 22 52.0 +1.1
baz=144
F35A Swanville 122.48 306 P PKPdf 19 22 52.5 +1.6
baz=143
BC3 Big Chuckawall 122.51 282 P PKPdf 19 22 53.6 +2.1
baz=143,SNR=6.3
MOS Moscow 122.53 33 i PKIKP PKPdf 19 22 51.0 +0.3
MOS pmax pmax
comp=Z,44nm,0.9s
MOS MLR MLR
comp=E,2μm,19.0s
MOS MLR MLR
comp=Z,2μm,19.0s
ISCO Idaho Springs 122.57 294 P PKPdf 19 22 53.6 +1.8
baz=142
ISCO Idaho Springs 122.57 294 ePKPdf PKPdf 19 22 51.9 +0.2
ISCO LR LR
comp=Z,3μm,22.0s
ISCO Idaho Springs 122.57 294 ePKIKP PKPdf 19 22 51.9 +0.2
ISCO MLR MLR
comp=Z,3μm,22.0s
H32A Carlson Farm, 122.61 303 P PKPdf 19 22 52.5 +1.2
baz=143
C38A Sawbill Land. 122.63 309 P PKPdf 19 22 51.5 +0.4
baz=144
D37A Cotton 122.64 308 P PKPdf 19 22 52.7 +1.5
baz=144,SNR=14
I31A Royce, Wessing 122.71 302 P PKPdf 19 22 52.8 +1.3
baz=143
F34A Alexandria 122.72 305 P PKPdf 19 22 52.8 +1.4
baz=143
SMCO Snowmass 122.72 292 ePKPdf PKPdf 19 22 52.2 0.0
IRM Iron Mountain 122.75 283 P PKPdf 19 22 53.9 +2.0
baz=143,SNR=7.5
W13A Hualapai Mount 122.87 284 ePKPdf PKPdf 19 22 52.9 +0.6
PV05 Paradox Valley 122.87 290 ePKPdf PKPdf 19 22 51.8 -0.5
EYMN Ely 122.91 309 P PKPdf 19 22 53.0 +1.3
baz=144
EYMN Ely 122.91 309 ePKPdf PKPdf 19 22 51.6 -0.1
EYMN LR LR
comp=Z,4μm,19.0s
PFO Pinyon Flats O 122.98 281 P PKPdf 19 22 54.2 +1.7
baz=143
PFO Pinyon Flats O 122.98 281 PFAKE 19 23 00.0 +7.5
PFO LR LR
comp=Z,3μm,19.0s
C37A Embarrass 123.01 309 P PKPdf 19 22 54.0 +2.1
baz=143
BELC Belle Mtn. Jos 123.06 282 P PKPdf 19 22 55.0 +2.4
baz=143,SNR=8.9
U15A North Rim 123.13 287 ePKPdf PKPdf 19 22 52.3 -0.5
F33A 5 Mile Ranch, 123.19 305 P PKPdf 19 22 53.7 +1.4
baz=143
PV09 Paradox Valley 123.22 290 ePKPdf PKPdf 19 22 53.6 +0.5
SUSD Miller 123.22 302 P PKPdf 19 22 53.8 +1.4
baz=142
G32A Webster 123.23 304 P PKPdf 19 22 54.1 +1.6
baz=142
D35A Remer 123.24 307 P PKPdf 19 22 53.7 +1.3
baz=143
E34A Wadena 123.25 306 P PKPdf 19 22 53.7 +1.3
baz=143
C36A Pine Crest Far 123.29 308 P PKPdf 19 22 53.1 +0.7
baz=143
MURC Murrieta 123.35 281 P PKPdf 19 22 53.9 +0.9
baz=143
SFK Sufi-Kurgan 123.45 67 PKIKP PKPdf 19 22 54.0 +0.7
SFK pmax pmax
comp=Z,40nm,1.2s
IUG luzhnay 123.51 63 ||i PKP PKPdf 19 22 54.6 +1.4
IUG i PP PP 19 24 37.1 +1.5
IUG LR LR 20 18 02.9
comp=Z,652nm,19.0s
GMRC Granite Mounta 123.51 283 P PKPdf 19 22 55.7 +2.2
baz=142
G31A Conde 123.52 303 P PKPdf 19 22 54.2 +1.3
baz=142
N23A Red Feather La 123.59 295 P PKPdf 19 22 55.0 +1.4
baz=142
N23A Red Feather La 123.59 295 ePKPdf PKPdf 19 22 52.4 -1.2
PHWY Pilot Hill 123.68 295 ePKPdf PKPdf 19 22 52.8 -1.0
C35A Jirik Farms, M 123.71 308 P PKPdf 19 22 53.6 +0.4
baz=143
D34A Park Rapids 123.72 306 P PKPdf 19 22 54.6 +1.3
baz=142

CIS Catalina Islan 123.81 280 P PKPdf 19 22 55.4 +1.5
baz=142
KNB Kanab 123.86 287 ePKPdf PKPdf 19 22 54.0 -0.1
KNB Kanab 123.86 287 ePKIKP PKPdf 19 22 54.0 -0.1
HEC Hector,Ludlow 123.89 282 P PKPdf 19 22 56.2 +2.1
baz=142
D33A AnnSam, Waubun 124.03 306 P PKPdf 19 22 55.2 +1.3
baz=142,SNR=5.9
F31A Hecla 124.04 303 P PKPdf 19 22 55.2 +1.3
baz=142
LCMT Little Creek M 124.06 286 ePKPdf PKPdf 19 22 54.4 -0.1
O20A White River Ci 124.08 292 P PKPdf 19 22 56.0 +1.5
baz=142
O20A White River Ci 124.08 292 ePKPdf PKPdf 19 22 53.6 -0.9
LSA Lhasa 124.11 88 ePKPdf PKPdf 19 22 53.7 -1.5
LSA LR LR
comp=Z,3μm,20.0s
LSA Lhasa 124.11 88 ePKIKP PKPdf 19 22 53.7 -1.5
LSA MLR MLR
comp=Z,3μm,20.0s
B35A Bob, Littlefor 124.13 308 P PKPdf 19 22 54.8 +0.7
baz=143
TUQ Turquoise Moun 124.16 283 P PKPdf 19 22 56.7 +2.1
baz=142
KSH Kashi 124.24 69 PKP PKPdf 19 22 55.8 +1.1
KSH PP PP 19 24 44.6 +4.0
KSH SKS SKSdf 19 30 06.8 +0.9
KSH SS SS 19 41 26.1 -5.5
KSH AMB AMB
comp=Z,1μm,7.4s
KSH LR LR
comp=Z,900nm,11.8s
KSH LR LR
comp=Z,740nm,11.7s
KSH LR LR
comp=Z,2μm,13.0s
MTPU Mount Pierson 124.35 288 ePKPdf PKPdf 19 22 53.2 -2.1
SRU San Rafael Swe 124.37 290 ePKPdf PKPdf 19 22 54.3 -0.8
SRU San Rafael Swe 124.37 290 ePKIKP PKPdf 19 22 54.3 -0.8
SZCU Shurtz Canyon 124.44 287 ePKPdf PKPdf 19 22 53.8 -1.5
KK31 Karatay Array 124.48 63 ePKPdf PKPdf 19 22 53.8 -1.1
KK31 Karatay Array 124.48 63 PKIKP PKPdf 19 22 54.8 -0.1
KK31 pmax pmax
comp=Z,19nm,0.9s
KKAR Karatay Array 124.48 63 ePKPdf PKPdf 19 22 53.8 -1.1
KKAR Karatay Array 124.48 63 ePKIKP PKPdf 19 22 53.8 -1.1
C33A Trail 124.49 307 P PKPdf 19 22 55.9 +1.2
baz=142
GSC Goldstone, Bar 124.49 282 ePKPdf PKPdf 19 22 54.8 -0.5
GSC Goldstone, Bar 124.49 282 ePKIKP PKPdf 19 22 54.8 -0.5
Q16A Castle Valley 124.54 289 ePKPdf PKPdf 19 22 54.8 -0.6
CCUT Cedar City 124.54 287 ePKPdf PKPdf 19 22 53.0 -2.5
B34A Aery, Baudette 124.61 308 P PKPdf 19 22 56.0 +1.1
baz=142
SHPR Sheep Range 124.61 284 ePKPdf PKPdf 19 22 55.6 0.0
P18A Preston Nutter 124.64 290 ePKPdf PKPdf 19 22 55.9 +0.2
P18A ePP PP 19 24 43.4 -0.2
QIZ Qiongzhong 124.65 113 PKP PKPdf 19 22 50.3 -5.6
QIZ PP PP 19 24 43.5 +0.5
QIZ SS SS 19 41 40.3 +4.1
QIZ LR LR
comp=Z,4μm,20.1s
QIZ LR LR
comp=Z,1μm,20.6s
QIZ LR LR
comp=Z,5μm,19.8s
QIZ Qiongzhong 124.65 113 PFAKE 19 23 10.0 +14
QIZ LR LR
comp=Z,6μm,20.0s
DZA Taraz 124.69 63 ||e PKP PKPdf 19 22 56.3 +1.0
MSU Marysvale 124.71 288 ePKPdf PKPdf 19 22 56.1 +0.4
MSU eSdif Sdif 19 32 41.8 +0.3
MSU Marysvale 124.71 288 ePKIKP PKPdf 19 22 56.2 +0.4
P17A Butcher Ranch, 124.76 290 ePKPdf PKPdf 19 22 56.4 +0.6
EDW2 Edwards Air Fo 124.76 281 P PKPdf 19 22 57.6 +1.8
baz=142,SNR=10.0
AB31 Akbulak array 124.78 51 i PKIKP PKPdf 19 22 56.2 +1.0
AB31 pmax pmax
comp=Z,52nm,1.8s
ABKAR Akbulak array 124.78 51 ePKPdf PKPdf 19 22 54.5 -0.7
FIA0 FINESS Array S 124.79 23 ePKPdf PKPdf 19 22 53.0 -1.8
FIA0 ePP PP 19 24 42.9 -0.9
FIA0 FINESS Array S 124.79 23 ePKIKP PKPdf 19 22 53.0 -1.8
FIA0 e 19 24 42.9
FINES FINESS Array B 124.79 23 PKP PKPdf 19 22 53.0 -1.8
comp=Z,8.2nm,0.7s,baz=126,slow=2.6,SNR=20
FINES PP PP 19 24 42.9 -0.9
comp=Z,3.5nm,1.0s,baz=243,slow=9.2,SNR=3.4
FIA1 FINESS Array S 124.80 23 ePKPdf PKPdf 19 22 55.2 +0.4
FIA1 ePKPdf PKiKP 19 22 55.3 +0.2
TMUT Trail Mountain 124.85 289 ePKPdf PKPdf 19 22 55.8 -0.4
TMUT ePP PP 19 24 40.6 -4.3
MNAS Manas 124.92 64 PKIKP PKPdf 19 22 56.7 +0.8
MNAS pmax pmax
comp=Z,25nm,1.3s
AGMN Agassiz Nation 124.95 307 P PKPdf 19 22 56.5 +0.9
baz=142
AGMN Agassiz Nation 124.95 307 ePKPdf PKPdf 19 22 54.9 -0.7
AGMN ePP PP 19 24 41.3 -3.8
AGMN LR LR
comp=Z,4μm,20.0s
AKTO Aktyubinsk 124.95 49 PKP PKPdf 19 22 52.7 -2.8
comp=Z,7.4nm,1.1s,baz=196,slow=3.5,SNR=3.4
AKTO PKKPbc PKKPbc 19 32 33.9 -0.7
comp=Z,2.2nm,0.9s,baz=28,slow=2.2,SNR=2.6
AKTO Aktyubinsk 124.95 49 PKIKP PKPdf 19 22 56.1 +0.6
AKTO pmax pmax
comp=Z,65nm,1.9s
LRMC Laurel Mtn Rad 125.08 282 P PKPdf 19 22 57.2 +0.8
baz=142
AML Almayashu 125.19 66 P PKPdf 19 22 59.4 +2.5
SNR=22
RSSD Black Hills 125.23 298 P PKPdf 19 22 57.1 +0.6
baz=141
RSSD Black Hills 125.23 298 ePKPdf PKPdf 19 22 55.3 -1.3
RSSD ePP PP 19 24 43.2 -4.1
RSSD Black Hills 125.23 298 ePKIKP PKPdf 19 22 55.3 -1.3
RSSD e 19 24 43.2
K22A Casper 125.23 295 P PKPdf 19 22 56.8 +0.2
baz=141
K22A Casper 125.23 295 ePKPdf PKPdf 19 22 55.3 -1.3
A33A Warroad 125.26 308 P PKPdf 19 22 56.2 0.0
baz=142
B32A Ashes, Strandq 125.31 307 P PKPdf 19 22 56.0 -0.3
baz=142
C31A Landman Farms, 125.34 305 P PKPdf 19 22 56.0 -0.3
baz=141
MPMC Manual Prospec 125.43 282 P PKPdf 19 22 59.6 +2.4
baz=142,SNR=7.7
FURC Furnace Creek, 125.44 283 P PKPdf 19 22 59.7 +2.8
baz=141,SNR=5.6
TPNV Topopah Spring 125.50 284 P PKPdf 19 23 00.2 +3.0
baz=141,SNR=16
TPNV Topopah Spring 125.50 284 ePKPdf PKPdf 19 22 56.0 -1.2
TPNV ePP PP 19 24 46.2 -2.9
TPNV Topopah Spring 125.50 284 ePKIKP PKPdf 19 22 56.0 -1.2
TPNV e 19 24 46.3
MPU Maple Canyon 125.61 290 ePKPdf PKPdf 19 22 56.9 -0.5
MPU ePP PP 19 24 43.9 -6.0
ISA Isabella, Lake 125.62 281 P PKPdf 19 23 00.0 +2.6
baz=142,SNR=12
ISA Isabella, Lake 125.62 281 ePKPdf PKPdf 19 22 57.1 -0.3
ISA Isabella, Lake 125.62 281 ePKIKP PKPdf 19 22 57.1 -0.3
EKS2 Erkin-Say 125.64 65 P PKPdf 19 22 59.9 +2.6
SNR=20
UCH Uchtor 125.65 66 P PKPdf 19 23 00.4 +2.7
SNR=16
DAC Darwin (Calif) 125.66 282 ePKPdf PKPdf 19 22 57.3 -0.3
DAC Darwin (Calif) 125.66 282 ePKIKP PKPdf 19 22 57.3 -0.3
PKM Mcpherson Peak 125.69 280 P PKPdf 19 22 59.7 +1.9
baz=142
A32A Rocking H Ranc 125.70 307 P PKPdf 19 22 58.4 +1.4
baz=141
NLU North Lily Min 125.78 289 ePKPdf PKPdf 19 22 57.1 -0.7
KZA Kyzart 125.89 67 P PKPdf 19 23 00.8 +2.7
SNR=18
AAK Ala-Archa 125.96 66 PKP PKPdf 19 22 56.2 -1.8
comp=Z,17nm,0.7s,baz=176,slow=3.0,SNR=82
AAK Ala-Archa 125.96 66 P PKPdf 19 23 00.5 +2.6
SNR=25
AAK Ala-Archa 125.96 66 ePKPdf PKPdf 19 22 56.2 -1.8
AAK ePKPdf PKiKP 19 22 56.4 -1.9
AAK LR LR
comp=Z,2μm,20.0s
AAK Ala-Archa 125.96 66 pPKiKP PKPdf 19 22 59.9 +2.0
SNR=16
AAK Ala-Archa 125.96 66 PKIKP PKPdf 19 22 58.9 +1.0
AAK pmax pmax
comp=Z,29nm,0.9s
JLU Jordanelle 125.98 290 ePKPdf PKPdf 19 22 58.8 +0.6
CWC Cottonwood Cre 126.03 282 P PKPdf 19 23 01.0 +2.7
baz=141
GRAC Grapevine Rang 126.10 283 P PKPdf 19 23 00.8 +2.6
baz=141,SNR=5.5
SMMC Simmler 126.12 280 P PKPdf 19 23 01.5 +3.2
baz=142
FRU Bishkek 126.17 66 ||e PKIKP PKPdf 19 22 59.0 +0.8
FRU pmax pmax
comp=Z,75nm,1.8s
MDND Maddock 126.17 304 P PKPdf 19 22 58.6 +0.6
baz=141
KBK Karagaybulak 126.19 66 P PKPdf 19 23 01.8 +3.3
SNR=18
CTU Camp Tracy 126.19 290 ePKPdf PKPdf 19 22 58.8 +0.3
R11A Troy Canyon, C 126.26 285 P PKPdf 19 23 01.1 +2.4
baz=141,SNR=12
R11A Troy Canyon, C 126.26 285 ePKPdf PKPdf 19 22 59.1 +0.4
R11A ePP PP 19 24 50.8 -3.4
KMI Kunming 126.31 102 Pdif Pdif 19 19 53.8 +15
KMI PKP PKPdf 19 22 57.5 -1.7
KMI PP PP 19 24 59.8 +5.4
KMI Kunming 126.31 102 PKP PKPdf 19 22 57.5 -1.7
KMI PP PP 19 24 59.8 +5.4
KMI SKKS 19 31 49.1
KMI S Sdif 19 32 49.3 -6.1
KMI SS SS 19 42 02.3 +4.7
KMI AMB AMB
comp=Z,370nm,5.5s
KMI LR LR
comp=Z,2μm,18.0s
KMI LR LR
comp=Z,2μm,19.2s
KMI LR LR
comp=Z,2μm,19.5s
DUG Dugway, Tooele 126.33 289 P PKPdf 19 23 01.3 +2.5
baz=140,SNR=5.6
DUG Dugway, Tooele 126.33 289 ePKPdf PKPdf 19 22 57.8 -0.9
DUG ePP PP 19 24 54.8 +0.3
DUG LR LR
comp=Z,3μm,21.0s
DUG Dugway, Tooele 126.33 289 ePKIKP PKPdf 19 22 57.8 -0.9
DUG e 19 24 54.8
DUG MLR MLR
comp=Z,3μm,21.0s
TCUT Toone Canyon 126.36 291 ePKPdf PKPdf 19 22 58.8 -0.1
CHMS Chinmysh 126.36 66 P PKPdf 19 23 00.5 +2.0
SNR=12
USP Ospenovka 126.45 65 P PKPdf 19 23 01.7 +3.0
SNR=8.7
ULHL Ulahol 126.48 67 P PKPdf 19 23 00.8 +1.8
SNR=10
ULM Lac du Bonnet 126.49 308 PKP PKPdf 19 22 56.7 -1.8
comp=Z,13nm,0.7s,baz=143,slow=0.6,SNR=26
ULM PP PP 19 24 54.5 -0.8
comp=Z,8.2nm,1.2s,baz=139,slow=7.0,SNR=4.4
ULM Lac du Bonnet 126.49 308 ePKPdf PKPdf 19 22 57.0 -1.5
ULM ePP PP 19 24 46.0 -9.3
ULM PP PP 19 24 54.5 -0.8
ULM Lac du Bonnet 126.49 308 ePKIKP PKPdf 19 22 57.0 -1.5
ULM 19 24 54.5
PAGB Antelope Grade 126.57 280 ePKPdf PKPdf 19 22 58.5 -0.7
PAGB ePP PP 19 24 55.6 -0.4
TKM2 Tokmak 2 126.70 66 P PKPdf 19 23 02.2 +2.8
SNR=18
TKM2 Tokmak 2 126.70 66 PKIKP PKPdf 19 22 59.2 -0.2
TKM2 pmax pmax
comp=Z,63nm,1.9s
PD31 Pinedale Array 126.74 293 ePKPdf PKPdf 19 22 57.4 -2.2
PDAR Pinedale Array 126.74 293 PKP PKPdf 19 22 57.4 -2.2
comp=Z,3.5nm,0.8s,baz=149,slow=1.9,SNR=17
PDAR Pinedale Array 126.74 293 ePKPdf PKPdf 19 22 56.7 -2.9
BW06 Boulder Array 126.74 293 P PKPdf 19 23 00.9 +1.3
baz=140,SNR=6.9
BW06 Boulder Array 126.74 293 ePKPdf PKPdf 19 22 58.9 -0.7
BW06 LR LR
comp=Z,3μm,22.0s
HWUT Hardware Ranch 126.81 291 ePKPdf PKPdf 19 22 58.5 -1.2
HWUT LR LR
comp=Z,5μm,22.0s
TARG Taragay, Kyrgy 126.83 69 ePKPdf PKPdf 19 22 59.8 -0.2
BMNS Besmoynak 126.88 66 ePKP PKPdf 19 23 01.4 +1.7
BMNS ePP PP 19 25 00.7 +2.5
BMNS LR LR 20 22 06.5
comp=Z,581nm,17.0s
BGU Big Grassy Mou 126.99 289 ePKPdf PKPdf 19 23 00.3 +0.3
SPUT South Promonto 127.01 290 ePKPdf PKPdf 19 22 59.4 -0.6
MLAC Mammoth, Mammt 127.33 282 P PKPdf 19 23 02.4 +1.6
baz=141
OMMB Old Mammoth Mi 127.40 282 ePKPdf PKPdf 19 23 01.3 +0.2
KLMR Klimovskoe 127.43 31 ePKPdf PKPdf 19 22 58.8 -1.1
KLMR AMP 19 23 03.2
comp=Z,133nm,1.4s
KLMR ePP PP 19 24 59.2 -2.1
KLMR eSS SS 19 42 07.5 -3.3
KLMR eSS SS 19 42 07.5 -3.3
KLMR LQ LQ 20 12 25.5
KLMR LQ LQ 20 12 25.5
KLMR LR LR 20 14 25.7
KLMR Klimovskoe 127.43 31 ePKIKP PKPdf 19 22 58.8 -1.1
KLMR e 19 24 59.2
KLMR eSS SS 19 42 07.4 -3.4
KLMR pmax pmax
comp=Z,133nm,1.4s
AHID Auburn Hatcher 127.47 292 ePKPdf PKPdf 19 23 01.2 +0.3
AHID LR LR
comp=Z,3μm,20.0s
HVU Hansel Valley 127.53 290 ePKPdf PKPdf 19 23 00.1 -0.8
HVU Hansel Valley 127.53 290 ePKIKP PKPdf 19 23 00.1 -0.8
AAA Alma-Ata 127.54 67 ||e PKP PKPdf 19 23 02.3 +1.5
AAA ePP PP 19 25 04.5 +2.1
AAA LR LR 20 22 21.5
comp=Z,419nm,16.4s
MDOK Medeo 127.57 67 i PKP PKPdf 19 23 02.3 +1.3
MDOK LR LR 20 22 26.5
comp=Z,720nm,17.9s
NV11 Mina Array Sit 127.61 284 ePKPdf PKPdf 19 23 02.6 +1.4
NV01 Mina Array Sit 127.68 283 ePKPdf PKPdf 19 23 01.9 +0.5
NV01 ePP PP 19 25 04.1 +0.5
NVAR Mina Array Bea 127.68 283 PKP PKPdf 19 23 02.0 +0.5
comp=Z,2.3nm,0.7s,baz=144,slow=3.2,SNR=18
NVAR PP PP 19 25 04.1 +0.5
comp=Z,2.7nm,1.0s,baz=158,slow=7.6,SNR=3.5
KUU Kurty 127.79 66 i PKP PKPdf 19 23 02.0 +0.8
KUU LR LR 20 22 33.5
comp=Z,434nm,15.6s
REDW Red Top Meadow 127.81 293 ePKPdf PKPdf 19 23 01.3 -0.2
LOHW Long Hollow 127.88 293 ePKPdf PKPdf 19 23 00.7 -1.0
RYN Ryan 127.94 283 ePKPdf PKPdf 19 23 03.0 +1.1
RYN ePP PP 19 25 01.8 -3.4
TPAW Teton Pass 127.95 293 ePKPdf PKPdf 19 23 01.3 -0.5
SAO San Andreas Ge 127.98 280 ePKPdf PKPdf 19 23 01.3 -0.5
SAO San Andreas Ge 127.98 280 ePKIKP PKPdf 19 23 01.3 -0.5
MOOW Moose Ponds 128.05 293 ePKPdf PKPdf 19 23 00.8 -1.1
KVN Kaiserville 128.06 284 ePKPdf PKPdf 19 23 03.5 +1.4
KVN Kaiserville 128.06 284 ePKIKP PKPdf 19 23 03.5 +1.4
FXWY Fox Creek 128.10 293 ePKPdf PKPdf 19 23 01.5 -0.6
SATY Saty 128.14 68 ||i PKP PKPdf 19 23 03.4 +1.4
LAO LASA Array 128.19 299 P PKPdf 19 23 03.4 +1.5
baz=139
LAO LASA Array 128.19 299 ePKPdf PKPdf 19 23 02.0 +0.1
LAO ePP PP 19 25 04.3 -2.3
LAO LR LR
comp=Z,4μm,20.0s
ZHN Zhinishke 128.23 68 ||i PKP PKPdf 19 23 03.2 +1.0
ZHN LR LR 20 21 57.6
comp=Z,479nm,16.4s
IMW Indian Meadow 128.26 293 ePKPdf PKPdf 19 23 01.8 -0.7
WAKR Walker 128.31 283 ePKPdf PKPdf 19 23 01.7 -1.0
SFJD Kangerlussuaq 128.33 344 i P PKPdf 19 23 03.5 +2.1
SFJD Kangerlussuaq 128.33 344 PFAKE 19 23 10.0 +8.6
SFJD LR LR
comp=Z,3μm,20.0s
SFJD Kangerlussuaq 128.33 344 ePKIKP PKPdf 19 23 03.5 +2.1
RLMT Red Lodge 128.40 296 P PKPdf 19 23 04.4 +1.8
baz=139
RLMT Red Lodge 128.40 296 ePKPdf PKPdf 19 23 02.2 -0.4
RLMT ePP PP 19 25 00.8 -7.4

RLMT LR LR
comp=Z,4µm,21.0s
CMB Columbia Colle 128.42 282 *e*PKPdf **PKPdf** **19 23 03.5 +0.8**
CMB Columbia Colle 128.42 282 *e*PKIKP **PKPdf** **19 23 03.5 +0.8**
YPP Pitchstone Pla 128.47 294 *e*PKPdf **PKPdf** **19 23 03.5 +0.7**
YPP *e*PP **PP** **19 25 04.4 -4.5**
UZB Uzynbulak 128.50 68⇓ *i*PKP **PKPdf** **19 23 04.1 +1.4**
UZB LR LR 20 22 16.3
comp=Z,522nm,14.8s
LKWY Lake 128.51 294 PFAKE 19 23 10.0 +7.1
LKWY LR LR
comp=Z,2µm,22.0s
KPKS Kokpek 128.58 68 *e*PKP **PKPdf** **19 23 04.3 +1.4**
KPKS LR LR 20 23 35.1
comp=Z,2µm,17.2s
YERR Yerington 128.58 283 *e*PKPdf **PKPdf** **19 23 03.5 +0.4**
YFT Old Faithful 128.63 294 *e*PKPdf **PKPdf** **19 23 03.4 +0.3**
DGMT Dagmar 128.63 302 PFAKE 19 23 10.0 +7.3
DGMT LR LR
comp=Z,5µm,19.0s
RDG13 Poverty Ridge 128.64 280 *e*PKPdf **PKPdf** **19 23 04.3 +1.2**
BMN Battle Mountai 128.67 286 *e*PKPdf **PKPdf** **19 23 04.8 +1.6**
BMN Battle Mountai 128.67 286 *e*PKIKP **PKPdf** **19 23 04.8 +1.6**
SHLS Shalkode 128.72 69 *e*PKP **PKPdf** **19 23 03.3 +0.2**
SHLS *e*PP **PP** **19 25 12.2 +1.9**
SHLS LR LR 20 22 25.7
comp=Z,626nm,17.2s
YHH Holmes Hill 128.89 294 *e*PKPdf **PKPdf** **19 23 04.7 +1.1**
GCMT Greycliff 129.09 296 *e*PKPdf **PKPdf** **19 23 03.7 0.0**
PAHR Pah Rah Range 129.20 284 *e*PKPdf **PKPdf** **19 23 05.1 +0.9**
GYA Guiyang 129.38 105 Pdif **Pdif** **19 19 51.8 -0.5**
GYA PKP **PKiKP** **19 23 07.1 +1.4**
GYA PP **PP** **19 25 19.8 +5.3**
GYA PKS **PKSdf** **19 26 40.0 -1.7**
GYA SKKS 19 32 10.4
GYA SS **SS** **19 42 38.6 +3.1**
GYA AMB AMB
comp=Z,190nm,8.2s
GYA LR LR
comp=Z,340nm,19.9s
GYA LR LR
comp=Z,270nm,20.2s
AFDM Forest Hills D 129.42 282 *e*PKPdf **PKPdf** **19 23 03.0 -1.5**
SCO Scoresbysund 129.43 358 *i* P **PKPdf** **19 23 06.6 +3.2**
SCO Scoresbysund 129.43 358 *e*PKPdf **PKPdf** **19 23 04.7 +1.3**
SCO Scoresbysund 129.43 358 *e*PKIKP **PKPdf** **19 23 04.7 +1.3**
HLID Hailey 129.66 291 P **PKPdf** **19 23 07.7 +2.7**
baz=138,SNR=8.7
HLID Hailey 129.66 291 *e*PKPdf **PKPdf** **19 23 04.5 -0.6**
HLID LR LR
comp=Z,2µm,21.0s
ARU Arti 129.84 44 *e*PKPdf **PKPdf** **19 23 03.2 -1.4**
ARU LR LR
comp=Z,3µm,20.0s
ARU Arti 129.84 44 *i* PKIKP **PKPdf** **19 23 06.4 +1.8**
ARU 19 25 17.8
ARU PPP PPP 19 28 05.0
ARU MLR MLR
comp=Z,4µm,23.0s
TMCR Tamitsa 129.85 28 *e*PKIKP **PKPdf** **19 23 03.8 -0.6**
TMCR pmax pmax
comp=Z,171nm,1.5s
BOZ Bozeman (W) 129.86 294 P **PKPdf** **19 23 07.3 +2.0**
baz=138
BOZ Bozeman (W) 129.86 294 *e*PKPdf **PKPdf** **19 23 04.5 -0.8**
BOZ LR LR
comp=Z,3µm,20.0s
BOZ Bozeman (W) 129.86 294 *e*PKIKP **PKPdf** **19 23 04.5 -0.8**
BOZ MLR MLR
comp=Z,3µm,20.0s
MCMT McKenzie Canyo 129.86 293 *e*PKPdf **PKPdf** **19 23 02.7 -2.8**
DLMT Dillon 130.14 293 *e*PKPdf **PKPdf** **19 23 04.1 -1.7**
ORV Oroville 130.14 282 *e*PKPdf **PKPdf** **19 23 05.7 -0.1**
ORV Oroville 130.14 282 *e*PKIKP **PKPdf** **19 23 05.7 -0.1**
MFID Camas Ranch 130.24 289 *e*PKPdf **PKPdf** **19 23 05.3 -0.7**
LRM Limekiln Ridge 130.41 294 *e*PKPdf **PKPdf** **19 23 03.7 -2.7**
BRZS Berezniki 130.68 58 *e*PKP **PKPdf** **19 23 08.2 +1.7**
HRY Holter Researc 130.78 295 *e*PKPdf **PKPdf** **19 23 05.3 -1.6**
EGMT Eagleton 130.78 298 P **PKPdf** **19 23 09.0 +2.1**
baz=137
EGMT Eagleton 130.78 298 PFAKE 19 23 20.0 +13
EGMT LR LR
comp=Z,5µm,21.0s
O03D Paynes Creek 130.85 282 P **PKPdf** **19 23 09.1 +1.9**
baz=139
WVOR Wild Horse Val 130.88 287 *e*PKPdf **PKPdf** **19 23 05.4 -1.9**
WVOR LR LR
comp=Z,2µm,21.0s
WVOR Wild Horse Val 130.88 287 *e*PKIKP **PKPdf** **19 23 05.4 -1.9**
WVOR MLR MLR
comp=Z,2µm,21.0s
SVE Sverdlovsk 130.89 45⇓ *i* *e* PKIKP **PKPdf** **19 23 06.6 0.0**
SVE 19 25 23.9
SVE pmax pmax
comp=Z,108nm,1.7s
SVE MLR MLR
comp=Z,4µm,21.0s
SVE MLR MLR
comp=E,2µm,20.0s
SVE MLR MLR
comp=N,2µm,21.0s
MOD Modoc Plateau 131.31 285 *e*PKPdf **PKPdf** **19 23 06.4 -1.7**
WDC Whiskeytown Da 131.44 282 *e*PKPdf **PKPdf** **19 23 07.3 -0.9**
WDC Whiskeytown Da 131.44 282 *e*PKIKP **PKPdf** **19 23 07.3 -0.9**
J08A Circle Bar Ran 131.49 288 *e*PKPdf **PKPdf** **19 23 05.4 -3.0**
CD2 Chengdu 131.55 99 PKP **PKPdf** **19 23 08.8 0.0**
CD2 sPKP 19 23 14.3
CD2 PP **PP** **19 25 26.8 -1.7**
CD2 SKS **SKSdf** **19 30 19.9 +0.3**
CD2 SKKS **SKKSac** **19 32 23.4 -0.5**
CD2 SS **SS** **19 43 04.3 +2.2**
CD2 AMB AMB
comp=N,850nm,6.8s
CD2 LR LR
comp=N,3µm,22.4s
CD2 LR LR
comp=N,3µm,19.4s
CD2 LR LR
comp=N,4µm,22.8s
APA Apatity 131.70 23⇑ *i* *i* *i* PKIKP **PKPdf** **19 23 06.5 -1.3**
APA 19 25 28.9
APA 19 30 20.0
APA MLR MLR
comp=Z,2µm,22.0s
N02D Trinity Center 131.82 282 P **PKPdf** **19 23 11.6 +2.6**
baz=138,SNR=8.5
MSO Missoula 131.85 294 P **PKPdf** **19 23 11.0 +2.0**
baz=136
MSO Missoula 131.85 294 *e*PKPdf **PKPdf** **19 23 08.4 -0.5**
BRVK Borovoye 131.90 54 *e*PKPdf **PKPdf** **19 23 06.1 -2.6**
BRVK LR LR
comp=Z,926nm,19.0s
BRVK Borovoye 131.90 54 pPKiKP **PKPdf** **19 23 11.6 +3.0**
SNR=21
BRVK Borovoye 131.90 54 P **PKPdf** **19 23 11.6 +3.0**
SNR=21
BRVK Borovoye 131.90 54*c* *i* PKIKP **PKPdf** **19 23 11.3 +2.6**
BRVK pmax pmax
comp=Z,87nm,2.5s
BVA0 Borovoye Array 131.92 54 *i* PKHKP PKPpre 19 22 56.0
BVA0 pmax pmax
comp=Z,67nm,1.5s
BVAR Borovoye Array 131.92 54 PKhKP PKPpre 19 22 55.7
comp=Z,2.1nm,0.8s,baz=241,slow=3.0,SNR=17
BVAR PKP **PKPdf** **19 23 08.1 -0.6**
comp=Z,12nm,0.9s,baz=228,slow=1.7,SNR=24
ARA0 ARCESS Array S 131.97 19 *e*PKPpre PKPpre 19 22 57.5
ARA0 *e*PKPdf **PKPdf** **19 23 08.2 -0.1**
ARA0 *e*PP **PP** **19 25 33.8 +3.1**
ARCES ARCESS Array B 131.97 19 PKhKP PKPpre 19 22 57.5
comp=Z,2.2nm,1.0s,baz=207,slow=3.0,SNR=4.7
ARCES PKP **PKPdf** **19 23 08.2 -0.1**
comp=Z,9.8nm,0.8s,baz=229,slow=2.0,SNR=16
ARCES PP **PP** **19 25 33.8 +3.1**
comp=Z,7.5nm,1.0s,baz=246,slow=6.5,SNR=4.9
ARCES ARCESS Array B 131.97 19 PKPpre PKPpre 19 22 57.5
ARCES *e*PKPdf **PKPdf** **19 23 07.8 -0.5**
ARCES PP **PP** **19 25 33.8 +3.1**
ARCES ARCESS Array B 131.97 19 PKHKP PKPpre 19 22 57.5
ARCES *e* 19 23 07.8
ARCES 19 25 33.8
ARE0 ARCESS Array S 131.97 19 *e*PKPdf **PKPdf** **19 23 08.8 +0.5**
M04C Macdoel 131.99 284 P **PKPdf** **19 23 11.7 +2.3**
baz=138
BMO Blue Mountains 132.01 290 *e*PKPdf **PKPdf** **19 23 07.3 -2.0**
BMO LR LR
comp=Z,4µm,21.0s
BMO Blue Mountains 132.01 290 *e*PKIKP **PKPdf** **19 23 07.3 -2.0**
BMO MLR MLR
comp=Z,4µm,21.0s
M02C Callahan 132.21 283 P **PKPdf** **19 23 12.6 +2.9**
baz=138,SNR=8.9
LVZ Lovozero 132.24 24 PFAKE 19 23 20.0 +11
LVZ LR LR
comp=Z,2µm,20.0s
LVZ Lovozero 132.24 24⇓ *i* PKIKP **PKPdf** **19 23 09.5 +0.6**
LVZ pmax pmax
comp=Z,41nm,1.7s
FCC Fort Churchill 132.27 317 *e*PKPdf **PKPdf** **19 23 08.7 -0.4**
FCC Fort Churchill 132.27 317 *e*PKIKP **PKPdf** **19 23 08.7 -0.4**
FFC Flin Flon 132.31 309 *e*PKPpre PKPpre 19 23 02.1
FFC *e*PKPdf **PKPdf** **19 23 09.5 +0.1**
FFC LR LR
comp=Z,3µm,21.0s
SUMG Summit 132.33 351 *i* P **PKPdf** **19 23 11.5 +2.1**
SUMG Summit 132.33 351 *e*PKPdf **PKPdf** **19 23 08.6 -0.8**
SUMG Summit 132.33 351 *e*PKIKP **PKPdf** **19 23 08.6 -0.8**
YBH Yreka Blue Hor 132.38 283 *e*PKPdf **PKPdf** **19 23 09.9 -0.2**
YBH Yreka Blue Hor 132.38 283 *e*PKIKP **PKPdf** **19 23 09.9 -0.2**
KEV Kevo 132.41 19 PFAKE 19 23 20.0 +11
KEV LR LR
comp=Z,3µm,22.0s
GUMO Guam 132.48 156 PFAKE 19 23 20.0 +9.1
GUMO LR LR
comp=Z,3µm,20.0s
K04D Chiloquin, OR 132.57 284 P **PKPdf** **19 23 13.0 +2.5**
baz=137
MAKZ Makanchi 132.62 67 *e*PKPdf **PKPdf** **19 23 06.7 -3.6**
MAKZ Makanchi 132.62 67 *e*PKIKP **PKPdf** **19 23 06.7 -3.6**
JTMT Jette 132.68 294 *e*PKPdf **PKPdf** **19 23 08.1 -2.4**
MK01 Makanchi Array 132.74 68 *e*PKPpre PKPpre 19 22 59.6
MK01 *e*PKPdf **PKPdf** **19 23 07.8 -2.7**
MK31 Makanchi Array 132.75 68 *e*PKPpre PKPpre 19 23 01.0
MK31 *e*PKPdf **PKPdf** **19 23 07.7 -2.8**
MK31 Makanchi Array 132.75 68 PKIKP **PKPdf** **19 23 12.5 +2.0**
MK31 pmax pmax
comp=Z,14nm,0.9s
MK32 Makanchi Array 132.75 68 *e*PKPpre PKPpre 19 23 00.7
MK32 *e*PKPdf **PKPdf** **19 23 08.8 -1.7**
MK32 *e*PP **PP** **19 25 39.9 +3.6**
MKAR Makanchi Array 132.75 68 PKhKP PKPpre 19 23 00.7
comp=Z,1.2nm,0.8s,baz=228,slow=3.1,SNR=6.8
MKAR PKP **PKPdf** **19 23 08.8 -1.7**
comp=Z,24nm,1.1s,baz=236,slow=1.4,SNR=7.9
MKAR PP **PP** **19 25 39.9 +3.6**
comp=Z,6.7nm,1.2s,baz=193,slow=5.9,SNR=5.6
MKAR Makanchi Array 132.75 68 *e*PKPpre PKPpre 19 23 01.1
MKAR *e*PKPdf **PKPdf** **19 23 07.6 -2.9**
MKAR PP **PP** **19 25 39.9 +3.6**
MKAR Makanchi Array 132.75 68 *i* PKHKP PKPpre 19 23 00.7
MKAR 19 23 08.8
MKAR 19 25 39.9
MKAR pmax pmax
comp=Z,1.0nm,0.8s
MKAR pmax pmax
comp=Z,11nm,1.2s
MKAR pmax pmax
comp=Z,7.0nm,1.2s
F10A Beach Ranch, E 132.79 291 *e*PKPdf **PKPdf** **19 23 09.8 -0.9**
J05D Fort Rock, OR 132.79 285 P **PKPdf** **19 23 13.1 +2.2**
baz=137
PINE Pine Mountain 133.02 286 *e*PKPdf **PKPdf** **19 23 10.3 -1.1**
JOHN Johnston Islan 133.13 217 PFAKE 19 23 20.0 +7.9
JOHN LR LR
comp=Z,225nm,19.0s
G08A Pilot Rock 133.14 289 *e*PKPpre PKPpre 19 22 58.5
G08A *e*PKPdf **PKPdf** **19 23 11.0 -0.4**
L02D Cave Junction, 133.15 283 P **PKPdf** **19 23 14.1 +2.6**
baz=137
HUMO Hull Mountain 133.16 284 *e*PKPdf **PKPdf** **19 23 09.9 -1.5**
J04D Umpqua Nationa 133.20 285 P **PKPdf** **19 23 13.8 +2.1**
baz=137
WMQ Urumqi 133.22 74 PKP **PKPdf** **19 23 12.8 +1.2**
WMQ PP **PP** **19 25 42.1 +2.8**
WMQ PKS **PKSdf** **19 26 43.9 -4.0**
WMQ SS SS 19 43 24.1 +1.5
WMQ AMB AMB
comp=Z,2µm,7.3s
WMQ LR LR
comp=Z,7µm,25.7s
WMQ LR LR
comp=Z,4µm,25.7s
WMQ LR LR
comp=Z,6µm,23.3s
WALA Waterton Lakes 133.44 296 *e*PKPdf **PKPdf** **19 23 10.5 -1.4**
E09A Wood Farm, Sta 133.62 291 *e*PKPdf **PKPdf** **19 23 10.9 -1.3**
KURBB Kurchatov Arra 133.74 61 PKhKP PKPpre 19 23 04.0
comp=Z,1.4nm,0.7s,baz=228,slow=3.1,SNR=5.4
KURBB PKP **PKPdf** **19 23 10.6 -1.6**
comp=Z,6.0nm,0.9s,baz=223,slow=2.5,SNR=14
I04A Tendick Farm, 133.75 285 P **PKPdf** **19 23 14.6 +2.0**
baz=136
QZH Quanzhou 133.81 118⇓ *i* PKP **PKPdf** **19 23 14.1 +0.9**
QZH PKS **PKSdf** **19 26 45.3 -4.3**
QZH AMB AMB
comp=Z,670nm,7.8s
QZH LR LR
comp=Z,1µm,20.6s
QZH LR LR
comp=Z,2µm,23.1s
QZH LR LR
comp=Z,2µm,19.8s
KURK Kurchatov 133.85 61 *e*PKPdf **PKPdf** **19 23 10.6 -1.8**
KURK LR LR
comp=Z,4µm,20.0s
KURK Kurchatov 133.85 61 pPKPdf **PKPdf** **19 23 14.4 +2.0**
SNR=14
KURK Kurchatov 133.85 61 P **PKPdf** **19 23 14.4 +2.0**
SNR=14
KURK Kurchatov 133.85 61*c* *i* PKIKP **PKPdf** **19 23 11.5 -0.9**
KURK pmax pmax
comp=Z,27nm,1.2s
ENH Enshi 133.92 105 *e*PKPdf **PKPdf** **19 23 10.8 -2.5**
ENH LR LR
comp=Z,3µm,20.0s
E08A Dider Farm, El 134.05 290 *e*PKPdf **PKPdf** **19 23 11.8 -1.1**
I03D Drain, OR 134.15 284 P **PKPdf** **19 23 15.6 +2.4**
baz=136
HAWA Hanford 134.21 290 *e*PKPdf **PKPdf** **19 23 11.4 -1.8**
HAWA LR LR
comp=Z,3µm,21.0s
G05D Wamic, OR 134.26 287 P **PKPdf** **19 23 15.8 +2.4**
baz=136
NEW Newport 134.38 293 *e*PKPdf **PKPdf** **19 23 11.7 -1.9**
NEW LR LR
comp=Z,5µm,20.0s
NEW Newport 134.38 293 *e*PKIKP **PKPdf** **19 23 11.7 -1.9**
NEW MLR MLR
comp=Z,5µm,20.0s
D08A Wollman Farm, 134.39 291 *e*PKPdf **PKPdf** **19 23 12.2 -1.4**
ZSN Zaisan 134.45 69 *e*PKP **PKPdf** **19 23 15.4 +1.7**
ZSN *e*PP **PP** **19 25 48.4 +1.3**
ZSN LR LR 20 25 11.8
comp=Z,350nm,17.9s
YHNB Yeheng 134.82 121 PFAKE 19 23 30.0 +15
YHNB LR LR
comp=Z,2µm,20.0s
TATO Taipei 135.14 121 PFAKE 19 23 30.0 +14
TATO LR LR
comp=Z,2µm,20.0s
G03D McMinnville, O 135.19 286 P **PKPdf** **19 23 17.9 +2.7**
baz=135
LTY Liberty 135.37 290 *e*PKPdf **PKPdf** **19 23 14.8 -0.7**
B08A Colville Reser 135.50 292 *e*PKPdf **PKPdf** **19 23 15.0 -0.6**
LON Longmire 135.57 288 *e*PKPdf **PKPdf** **19 23 14.4 -1.5**
LON Longmire 135.57 288 *e*PKIKP **PKPdf** **19 23 14.4 -1.5**
LZH Lanzhou 135.67 94 *e*PKP **PKPdf** **19 23 20.3 +3.7**
LZH PP **PP** **19 25 59.8 +4.8**
LZH SKKS 19 32 50.8
LZH SS **SS** **19 43 53.5 +1.3**
LZH AMB AMB
comp=Z,1µm,7.5s
LZH LR LR
comp=Z,3µm,16.5s
LZH LR LR
comp=Z,3µm,17.4s
LZH LR LR
comp=Z,4µm,18.9s
DAG Danmarks Havn 135.71 359 *i* P **PKPdf** **19 23 15.0 -0.1**
comp=Z,2µm,22.0s
DAG Danmarks Havn 135.71 359 *e*PKIKP **PKPdf** **19 23 15.0 -0.1**
DAG MLR MLR
comp=Z,2µm,22.0s
C06D Leavenworth 135.95 290 P **PKPdf** **19 23 17.6 +1.1**
baz=134
D05A Enumclaw 135.97 289 *e*PKPdf **PKPdf** **19 23 15.8 -0.7**
EDM Edmonton 136.08 301 *e*PKPpre PKPpre 19 23 06.9
EDM *e*PKPdf **PKPdf** **19 23 15.4 -1.2**
EDM Edmonton 136.08 301 *e*PKHKP PKPpre 19 23 06.9
EDM *e* 19 23 15.4
GTA Gaotai 136.12 88 *e*PKP **PKPdf** **19 23 11.6 -5.6**
GTA PP **PP** **19 25 58.4 +0.6**
GTA SKKS 19 32 46.0
GTA SS **SS** **19 43 53.9 -3.7**
GTA AMB AMB
comp=Z,470nm,6.9s
GTA LR LR
comp=Z,2µm,20.9s
GTA LR LR
comp=Z,1µm,20.0s
GTA LR LR
comp=Z,3µm,22.6s
WHN Wuhan 136.54 109 PKP **PKPdf** **19 23 19.9 +1.8**
WHN PP **PP** **19 25 58.8 -1.2**
WHN PKS **PKSdf** **19 26 54.5 +0.2**
WHN SS SS 19 44 01.0 -0.9
WHN LR LR
comp=Z,4µm,19.7s
WHN LR LR
comp=Z,6µm,18.7s
WHN LR LR
comp=Z,9µm,20.7s
B06A Marblemount 136.64 290 *e*PKPdf **PKPdf** **19 23 16.1 -1.6**
XAN Xi'an 136.66 101 PKP **PKPdf** **19 23 18.4 +0.1**
XAN PP **PP** **19 25 58.8 -2.2**
XAN PKS **PKSdf** **19 26 49.8 -4.8**
XAN SKKS 19 32 54.3
XAN SS **SS** **19 43 59.6 -4.1**
XAN AMB AMB
comp=Z,440nm,10.3s
XAN LR LR
comp=Z,2µm,21.1s
XAN LR LR
comp=Z,700nm,19.6s
XAN LR LR
comp=Z,3µm,21.6s
B05A Bryant 136.76 290 P **PKPdf** **19 23 19.1 +1.1**
baz=133
NLWA Neilton Lookou 137.03 288 PFAKE 19 23 30.0 +11
NLWA LR LR
comp=Z,3µm,20.0s
DGZ Jazzator, Alta 137.24 68 *i* PKIKP **PKPdf** **19 23 19.8 +0.8**
A04D Lummi Island 137.37 290 P **PKPdf** **19 23 21.5 +2.5**
baz=133
LLLB Lillooet 138.25 292 *e*PKPpre PKPpre 19 23 11.9
LLLB *e*PKPdf **PKPdf** **19 23 20.0 -0.7**
SPA0 Spitsbergen Ar 138.60 10 *e*PKPpre PKPpre 19 23 12.4
SPITS Spitsbergen Ar 138.60 10 PKhKP PKPpre 19 23 12.4
comp=Z,4.2nm,0.8s,baz=238,slow=10.0,SNR=2.2
SPITS PP **PP** **19 26 12.5 +0.1**
comp=Z,21nm,0.9s,baz=188,slow=5.8,SNR=6.0
NVS Novosibirsk 138.70 60 *e*PKIKP PKPpre 19 23 16.4
NVS pmax pmax
comp=Z,39nm,1.6s
NVS pmax pmax
comp=N,7.0nm,0.7s
NVS pmax pmax
comp=E,7.0nm,0.8s
ZAA0 Zalesovo Array 138.84 62 *e*PKPpre PKPpre 19 23 17.2
ZALV Zalesovo Beam 138.84 62 PKhKP PKPpre 19 23 12.8
comp=E,0.7nm,0.5s,baz=282,slow=2.9,SNR=5.2
ZALV PP **PP** **19 26 18.4 +4.0**
comp=E,2.2nm,0.9s,baz=266,slow=4.3,SNR=3.5
ZALV Zalesovo Beam 138.84 62 *e*PKPpre PKPpre 19 23 12.3
ZALV PP **PP** **19 26 18.4 +4.0**
ZALV Zalesovo Beam 138.84 62 *e*PKHKP PKPpre 19 23 12.3
ZALV 19 26 18.4
ZAA1 Zalesovo Array 138.84 62 *e*PKPpre PKPpre 19 23 12.8
ZAA1 *e*PP **PP** **19 26 18.4 +4.0**
KBS Kingsbay 138.93 8 PFAKE 19 23 30.0 +8.9
KBS LR LR
comp=Z,2µm,21.0s
TULEG Thule 139.40 344 *e*PKPpre PKPpre 19 23 16.1
TULEG *e*PKPdf **PKPdf** **19 23 22.8 +0.8**
NJ2 Nanjing 139.94 113 *e*PKP **PKPdf** **19 23 24.4 +0.1**
NJ2 PP **PP** **19 26 19.1 -2.1**
NJ2 S **Sdif** **19 34 48.6 +0.3**
NJ2 SS **SS** **19 44 46.6 +4.4**
NJ2 AMB AMB
comp=Z,730nm,6.5s
NJ2 LR LR
comp=Z,3µm,18.4s
NJ2 LR LR
comp=Z,3µm,19.5s
NJ2 LR LR
comp=Z,3µm,18.4s
WAKE Wake Island 140.07 185 PFAKE 19 23 40.0 +15
WAKE LR LR
comp=Z,3µm,22.0s
HVS Khovu-Aksy 141.21 70 *i* PKIKP **PKPdf** **19 23 25.7 -0.4**
TIY Taiyuan 141.31 101 *e*PKP **PKPdf** **19 23 20.3 -6.4**
TIY PKS **PKSdf** **19 27 05.3 +2.7**
TIY SS SS 19 44 56.6 -1.9
TIY AMB AMB
comp=Z,570nm,6.2s
TIY LR LR
comp=Z,2µm,16.0s
TIY LR LR
comp=Z,960nm,15.5s
TIY LR LR
comp=Z,2µm,18.3s
BTO Baotou 142.26 95 *e*PKP **PKPdf** **19 23 24.3 -4.1**
YKA Yellowknife Ar 142.35 311 PKhKP PKPpre 19 23 21.8
comp=Z,4.3nm,0.7s,baz=110,slow=3.0,SNR=30
YKA PP **PP** **19 26 35.8 +0.1**
comp=Z,5.6nm,1.0s,baz=119,slow=7.5,SNR=6.1
YKB5 Yellowknife Ar 142.35 311 *e*PKPpre PKPpre 19 23 21.8
YKB5 *e*PP **PP** **19 26 35.8 +0.1**
TIA Tai'an 142.48 107 PKP **PKPdf** **19 23 25.1 -3.7**
TIA PP **PP** **19 26 37.1 +0.4**
TIA SS SS 19 45 17.5 +5.6
TIA AMB AMB
comp=Z,650nm,5.5s
TIA LR LR
comp=Z,2µm,18.6s
TIA LR LR
comp=Z,860nm,18.6s
TIA LR LR
comp=Z,2µm,17.6s
RES Resolute Bay 142.97 334 PKhKP PKPpre 19 23 24.1
baz=136,slow=4.4
RES PP **PP** **19 26 38.5 -0.7**
comp=Z,3.0nm,0.8s,baz=145,slow=6.8,SNR=4.3
RES Resolute Bay 142.97 334 *e*PP PP 19 26 37.6 -1.6
HHC Hu-ho-hao-te 143.23 97 *e*PKP PKPbc 19 23 28.3 +1.2
HHC PP **PP** **19 26 43.3 +1.9**
HHC PKS **PKSdf** **19 27 00.1 -5.7**
HHC SKS **SKSdf** **19 30 32.6 -6.4**
HHC SKKS **SKKSac** **19 33 37.0 +3.9**
HHC AMB AMB
comp=Z,1µm,8.1s
HHC LR LR
comp=Z,1µm,19.5s
HHC LR LR
comp=Z,1µm,19.6s
HHC LR LR
comp=Z,2µm,18.0s
KRAR Krasnoyarsk 143.78 63 *i* PKIKP **PKPdf** **19 23 29.9 -0.4**
BJT Baijiatuao 144.94 102 *e*PKPdf **PKPab** **19 23 30.1 -2.1**
BJT LR LR
comp=Z,2µm,19.0s
BJT Baijiatuao 144.94 102 *e*PKP2 **PKPab** **19 23 30.1 -2.1**
BJT MLR MLR
comp=Z,2µm,19.0s
BJI Beijing 144.97 102 *e*PKP **PKPab** **19 23 30.9 -1.4**
BJI PP **PP** **19 26 52.6 +1.0**
BJI SS SS 19 45 44.5 +4.0
BJI LR LR
comp=Z,2µm,21.6s
BJI LR LR
comp=Z,2µm,20.1s
BJI LR LR
comp=Z,2µm,23.7s
DIB Dawson Inlet, 144.98 289 *e*PKPbc PKPbc 19 23 29.9 -2.0

MOY	**Mondy**	**145.11**	**74**	*e*PKP2	**PKPbc**	**19 23 31.6**	**-1.0**
MOY				pmax	pmax		
	comp=Z,799nm,2.3s						
SONA0	**Songino Array**	**145.43**	**84**	*e*PKPbc	**PKPdf**	**19 23 32.3**	**-1.4**
SONA0				*e*PP	**PP**	**19 26 55.6**	**+1.0**
SONM	**Songino Array**	**145.43**	**84**	PKPbc	**PKPdf**	**19 23 32.3**	**-1.4**
	comp=Z,77nm,1.0s,baz=221,slow=4.3,SNR=109						
SONM				PP	**PP**	**19 26 55.6**	**+1.0**
	comp=Z,2.4nm,1.1s,baz=232,slow=7.0,SNR=2.4						
SONA1	**Songino Array**	**145.44**	**84**	*e*PKPbc	**PKPdf**	**19 23 31.7**	**-2.0**
ZAK	**Zakamensk**	**145.47**	**78**	*e*PKIKP	**PKPdf**	**19 23 32.5**	**-1.1**
ZAK				pmax	pmax		
	comp=Z,181nm,1.5s						
JNU	**Nakatsue**	**146.24**	**126**	PKPbc	**PKPdf**	**19 23 35.3**	**-0.2**
	comp=Z,21nm,0.8s,baz=318,slow=4.9,SNR=13						
JNU	**Nakatsue**	**146.24**	**126**	*e*PKPdf	**PKPdf**	**19 23 33.6**	**-1.8**
MIDW	**Midway**	**146.26**	**212**	PFAKE		19 23 50.0	+13
MIDW				LR	LR		
	comp=Z,2μm,19.0s						
TLY	**Talaya**	**146.44**	**76**	*e*PKPdf	**PKPdf**	**19 23 35.2**	**+0.1**
TLY				LR	LR		
	comp=Z,2μm,20.0s						
TLY	**Talaya**	**146.44**	**76**	*e*PKIKP	**PKPdf**	**19 23 35.7**	**+0.5**
TLY				pmax	pmax		
	comp=Z,98nm,1.4s						
DLBC	**Dease Lake**	**146.71**	**298**	*e*PKPdf	**PKPdf**	**19 23 35.8**	**+0.3**
WRAK	**Wrangell Islan**	**146.73**	**294**	PFAKE		19 23 50.0	+12
WRAK				LR	LR		
	comp=Z,2μm,20.0s						
DL2	**Dalian**	**146.80**	**109**	⇑*i*PKPbc	**PKPdf**	**19 23 36.8**	**+0.7**
DL2				*e*PP	**PP**	**19 27 05.8**	**+3.3**
DL2				SS	SS	19 46 06.8	+5.5
DL2				AMB	AMB		
	comp=Z,900nm,7.5s						
DL2				LR	LR		
	comp=Z,2μm,18.0s						
DL2				LR	LR		
	comp=Z,2μm,18.4s						
DL2				LR	LR		
	comp=Z,2μm,17.4s						
IRK	**Irkutsk**	**147.09**	**76**	*e*PKIKP	**PKPdf**	**19 23 37.1**	**+0.9**
IRK				pmax	pmax		
	comp=Z,374nm,1.9s						
TJN	**Taejon**	**147.47**	**119**	*c i*PKIKP	**PKPdf**	**19 23 37.5**	**+0.2**
INCN	**Inchon**	**148.04**	**116**	*e*PKPdf	**PKPdf**	**19 23 39.8**	**+1.5**
INCN				LR	LR		
	comp=Z,6μm,22.0s						
INCN	**Inchon**	**148.04**	**116**	pPKPbc	**PKPbc**	**19 23 42.3**	**+0.9**
	SNR=16						
INCN	**Inchon**	**148.04**	**116**	P	**PKPbc**	**19 23 42.3**	**+0.9**
	SNR=16						
KS15	**Wonju Array Si**	**148.58**	**118**	*e*PKPdf	**PKPdf**	**19 23 39.9**	**+0.8**
KS15				*e*PKPbc	**pPKPdf**	**19 23 45.4**	**+1.6**
KSAR	**Wonju Array Be**	**148.58**	**118**	PKPbc	**PKPbc**	**19 23 41.5**	**-1.3**
KSAR				PP	**PP**	**19 27 15.3**	**+2.5**
KSAR	**Wonju Array Be**	**148.58**	**118**	PKIKP	**PKPbc**	**19 23 41.5**	**-1.3**
KSAR						19 27 15.3	
KSRS	**Korea Array**	**148.61**	**118**	PKPbc	**PKPbc**	**19 23 41.5**	**-1.4**
	comp=Z,23nm,0.9s,baz=211,slow=1.9,SNR=24						
KSRS				PP	**PP**	**19 27 15.3**	**+2.4**
	comp=Z,2.4nm,1.0s,baz=219,slow=5.6,SNR=6.1						
KS01	**Wonju Array Si**	**148.61**	**118**	*e*PKPdf	**PKPdf**	**19 23 40.4**	**+1.2**
BESE	**Bessie Mountai**	**148.99**	**296**	*e*PKPdf	**PKPdf**	**19 23 37.1**	**-2.1**
BESE				*e*PKPbc	**sPKPdf**	**19 23 45.9**	**+0.4**
WHY	**Whitehorse**	**149.93**	**300**	*e*PKPdf	**PKPdf**	**19 23 39.0**	**-1.7**
WHY				*e*PKPbc	**PKiKP**	**19 23 46.8**	**+0.3**
SNY	**Shenyang**	**150.00**	**108**	⇓PKPbc	**PKPdf**	**19 23 42.3**	**+1.1**
SNY				PP	**PP**	**19 27 19.5**	**-1.6**
SNY				SS	SS	19 46 41.1	+3.9
SNY				AMB	AMB		
	comp=Z,890nm,9.8s						
SNY				LR	LR		
	comp=Z,2μm,18.4s						
SNY				LR	LR		
	comp=Z,1μm,16.7s						
SNY				LR	LR		
	comp=Z,3μm,20.6s						
INU	**Inuyama**	**150.63**	**133**	*e*PKPdf	**PKPdf**	**19 23 44.2**	**+1.8**
INU				*e*PKPbc	**sPKPdf**	**19 23 50.4**	**+1.7**
HYT	**Haines Junctio**	**151.18**	**299**	*e*PKPdf	**PKPdf**	**19 23 40.8**	**-1.9**
HYT				*e*PKPbc	**sPKPdf**	**19 23 50.1**	**+1.2**
CIT	**Chita**	**151.65**	**83**	*e*PKIKP	**PKPbc**	**19 23 47.0**	**-2.8**
CIT				*e*		19 24 01.6	
CIT				pmax	pmax		
	comp=Z,485nm,1.8s						
INK	**Inuvik**	**151.87**	**315**	PKP	**PKPdf**	**19 23 40.9**	**-2.4**
	comp=Z,6.0nm,1.0s,baz=91,slow=3.3,SNR=26						
INK				PKPbc	**pPKPdf**	**19 23 48.5**	**+0.5**
	comp=Z,84nm,0.8s,baz=78,slow=2.1,SNR=74						
INK	**Inuvik**	**151.87**	**315**	*e*PKPdf	**PKPdf**	**19 23 40.4**	**-2.9**
INK				*e*PKPbc	**PKiKP**	**19 23 50.0**	**-0.1**
MAJO	**Matsushiro**	**152.13**	**133**	*e*PKPdf	**PKPdf**	**19 23 42.9**	**-1.9**
MAJO				*e*PKPbc	**sPKPdf**	**19 23 53.2**	**+2.2**
MAJO				LR	LR		
	comp=Z,2μm,20.0s						
MAJO	**Matsushiro**	**152.13**	**133**	*e*PKIKP	**PKPdf**	**19 23 42.9**	**-1.9**
MAJO				*e*		19 23 53.2	
MAJO				MLR	MLR		
	comp=Z,2μm,20.0s						
MAT	**Matsushiro**	**152.13**	**133**	PKP	**PKPdf**	**19 23 45.6**	**+0.8**
MJAR	**Matsushiro Arr**	**152.13**	**133**	PKP	**PKPdf**	**19 23 45.4**	**+0.6**
	comp=Z,5.4nm,0.8s,baz=221,slow=3.4,SNR=11						
MJAR				PKPbc	**pPKPdf**	**19 23 50.4**	**+1.0**
	comp=Z,23nm,0.9s,baz=201,slow=2.4,SNR=20						
MJB9	**Matsu-Tunnel**	**152.13**	**133**	*e*PKPdf	**PKPdf**	**19 23 44.6**	**-0.1**
MJB9				*e*PKPbc	**sPKPdf**	**19 23 53.8**	**+2.8**
CN2	**Changchun**	**152.38**	**107**	*e*PKPbc	**PKPdf**	**19 23 46.0**	**+1.2**
CN2				*e*PP	**PP**	**19 27 38.4**	**+3.6**
CN2				*e*SS	SS	19 47 06.4	+2.8
CN2				AMB	AMB		
	comp=Z,1μm,6.4s						
CN2				LR	LR		
	comp=Z,1μm,21.0s						
CN2				LR	LR		
	comp=Z,420nm,21.0s						
CN2				LR	LR		
	comp=Z,890nm,23.0s						
DAWY	**Dawson**	**153.11**	**305**	*e*PKPdf	**PKPdf**	**19 23 44.0**	**-1.3**
DAWY				*e*PKPbc	**PKiKP**	**19 23 54.4**	**+1.5**
HIA	**Hailar**	**153.20**	**92**	*e*PKPdf	**PKPdf**	**19 23 46.8**	**+0.9**
HIA				*e*PKPbc	**PKiKP**	**19 23 55.2**	**+1.7**
HIA				LR	LR		
	comp=Z,4μm,21.0s						
HIA	**Hailar**	**153.20**	**92**	*e*PKIKP	**PKPdf**	**19 23 46.8**	**+0.9**
HIA				*e*		19 23 55.2	
HIA				MLR	MLR		
	comp=Z,4μm,21.0s						
BALM	**Baldy**	**153.45**	**298**	*e*PKPdf	**PKPdf**	**19 23 46.0**	**+0.1**
BALM				*e*PKPbc	**PKiKP**	**19 23 55.5**	**+1.7**
BALM	**Baldy**	**153.45**	**298**	*e*PKIKP	**PKPdf**	**19 23 46.1**	**+0.1**
BALM				*e*		19 23 55.5	
EGAK	**Eagle**	**154.04**	**306**	*e*PKPdf	**PKPdf**	**19 23 45.6**	**-0.9**
EGAK				*e*PKPbc	**PKiKP**	**19 23 56.3**	**+1.6**
EGAK				LR	LR		
	comp=Z,4μm,22.0s						
RAGM	**Ragged Mountai**	**154.30**	**295**	*e*PKPdf	**PKPdf**	**19 23 46.5**	**-0.7**
RAGM				*e*PKPbc	**PKiKP**	**19 23 58.0**	**+2.6**
BMRM	**Bremner River**	**154.46**	**297**	*e*PKPdf	**PKPdf**	**19 23 46.5**	**-0.8**
BMRM				*e*PKPbc	**pPKPbc**	**19 23 58.7**	**-1.7**
MENT	**Mentasta**	**154.66**	**301**	*e*PKPdf	**PKPdf**	**19 23 48.4**	**+0.9**
MENT				*e*PKPbc	**PKiKP**	**19 23 58.2**	**+2.1**
BOD	**Bodaibo**	**154.73**	**72**	*e*PKIKP	**PKPdf**	**19 23 46.7**	**-1.0**
BOD				*e*		19 27 44.8	
BOD				pmax	pmax		
	comp=Z,62nm,2.0s						
EYAK	**Cordova Ski Ar**	**154.85**	**295**	*e*PKPdf	**PKPdf**	**19 23 46.8**	**-1.0**
EYAK				*e*PKPbc	**pPKPbc**	**19 23 59.4**	**-1.8**
DOT	**Dot Lake**	**155.00**	**303**	*e*PKPdf	**PKPdf**	**19 23 46.0**	**-2.0**
DOT				*e*PKPbc	**sPKPdf**	**19 23 58.4**	**+4.2**
MDJ	**Mudanjiang**	**155.00**	**111**	PKPbc	**PKPdf**	**19 23 48.4**	**-0.2**
MDJ				AMB	AMB		
	comp=Z,750nm,6.6s						
MDJ	**Mudanjiang**	**155.00**	**111**	*e*PKPdf	**PKPdf**	**19 23 49.7**	**+1.1**
MDJ				*e*PKPbc		19 23 59.4	
MDJ				LR	LR		
	comp=Z,3μm,20.0s						
SCRK	**Sand Creek**	**155.04**	**304**	*e*PKPdf	**PKPdf**	**19 23 46.5**	**-1.7**
SCRK				*e*PKPbc	**sPKPdf**	**19 23 58.9**	**+4.5**
DIV	**Divide**	**155.05**	**297**	*e*PKPdf	**PKPdf**	**19 23 48.4**	**+0.3**
DIV				*e*PKPbc	pPKPbc	19 23 59.6	-2.1
HARP	**HAARP**	**155.15**	**300**	*e*PKPdf	**PKPdf**	**19 23 48.8**	**+0.6**
HARP				*e*PKPbc	pPKPbc	19 24 00.0	-1.8
HARP				*e*PKPab	**PKPab**	**19 24 11.7**	**-1.5**
KLU	**Klutina**	**155.23**	**297**	*e*PKPdf	**PKPdf**	**19 23 48.8**	**+0.4**
KLU				*e*PKPbc	pPKPbc	19 23 59.9	-2.2
RIDG	**Independ'e Rid**	**155.36**	**303**	*e*PKPdf	**PKPdf**	**19 23 46.1**	**-2.4**
RIDG				*e*PKPbc	**sPKPdf**	**19 23 58.8**	**+4.0**
PAX	**Paxson**	**155.44**	**301**	*e*PKPbc	PKPbc	19 23 59.3	
PAX				*e*PKPab	**PKPab**	**19 24 14.0**	**-0.5**
PAX	**Paxson**	**155.44**	**301**	*e*PKIKP	PKPbc	19 23 59.3	
PAX				*e*		19 24 14.0	
USRK	**Ussuriysk Ar.**	**155.83**	**114**	PKP	**PKPdf**	**19 23 50.0**	**+0.3**
	comp=Z,1.1nm,0.6s,baz=243,slow=8.4,SNR=5.5						
USRK				PKPab	**PKPab**	**19 24 14.1**	**-2.4**
	comp=Z,8.2nm,0.8s,baz=232,slow=3.5,SNR=7.1						
USRK				PP	**PP**	**19 27 54.7**	**+0.6**
	comp=Z,3.3nm,1.0s,baz=247,slow=3.9,SNR=7.8						
FYU	**Fort Yukon**	**156.03**	**310**	*e*PKPdf	**PKPdf**	**19 23 46.4**	**-2.8**
DHY	**Denali Highway**	**156.31**	**301**	*e*PKPdf	**PKPdf**	**19 23 48.8**	**-1.1**
HDA	**Harding Lake**	**156.40**	**304**	*e*PKPdf	**PKPdf**	**19 23 47.3**	**-2.5**
SML	**Sawmill**	**156.43**	**297**	*e*PKPdf	**PKPdf**	**19 23 47.3**	**-2.7**
SML				*e*PKPab	**PKPab**	**19 24 18.0**	**-0.7**
SML	**Sawmill**	**156.43**	**297**	*e*PKIKP	**PKPdf**	**19 23 47.3**	**-2.7**
SML				*e*		19 24 18.0	
ILAR	**Eielson Array**	**156.44**	**305**	PKP	**PKPdf**	**19 23 46.5**	**-3.3**
	comp=Z,1.9nm,0.9s,baz=303,slow=0.9,SNR=14						
ILB	**Eielson Array**	**156.44**	**305**	*e*PKPdf	**PKPdf**	**19 23 47.3**	**-2.5**
PMR	**Palmer**	**156.74**	**296**	*e*PKPdf	**PKPdf**	**19 23 47.0**	**-3.2**
PMR	**Palmer**	**156.74**	**296**	*e*PKIKP	**PKPdf**	**19 23 47.1**	**-3.2**
CCB	**Clear Creek Bu**	**156.81**	**304**	*e*PKPdf	**PKPdf**	**19 23 46.5**	**-3.8**
CCB				*e*PKPab	**PKPab**	**19 24 19.3**	**-0.9**
COLA	**College**	**156.86**	**305**	*e*PKPdf	**PKPdf**	**19 23 46.2**	**-4.1**
COLA				*e*PKPab	**PKPab**	**19 24 20.1**	**-0.4**
COLA				LR	LR		
	comp=Z,2μm,20.0s						
COLA	**College**	**156.86**	**305**	*e*PKIKP	**PKPdf**	**19 23 46.3**	**-4.1**
COLA				MLR	MLR		
	comp=Z,2μm,20.0s						
WRH	**Wood River Hil**	**156.90**	**304**	*e*PKPdf	**PKPdf**	**19 23 46.3**	**-4.1**
WRH				*e*PKPab	**PKPab**	**19 24 18.4**	**-2.3**
BRLK	**Bradley Lake**	**157.02**	**291**	*e*PKPdf	**PKPdf**	**19 23 48.0**	**-2.8**
BRLK				*e*PKPab	**PKPab**	**19 24 21.1**	**-0.2**
RND	**Reindeer**	**157.04**	**301**	*e*PKPdf	**PKPdf**	**19 23 47.7**	**-3.0**
RND				*e*PKPab	**PKPab**	**19 24 20.6**	**-0.8**
RND	**Reindeer**	**157.04**	**301**	*e*PKIKP	**PKPdf**	**19 23 47.7**	**-3.0**
MDM	**Murphy Dome**	**157.04**	**305**	*e*PKPdf	**PKPdf**	**19 23 47.4**	**-3.2**
MDM				*e*PKPab	**PKPab**	**19 24 20.4**	**-0.8**
MCK	**McKinley**	**157.13**	**302**	*e*PKPdf	**PKPdf**	**19 23 48.6**	**-2.2**
MCK				*e*PKPab	**PKPab**	**19 24 22.2**	**+0.5**
MCK	**McKinley**	**157.13**	**302**	*e*PKIKP	**PKPdf**	**19 23 48.6**	**-2.2**
KDAK	**Kodiak Island**	**157.15**	**286**	PKPab	**PKPab**	**19 24 21.9**	**0.0**
	comp=Z,20nm,0.8s,baz=142,slow=9.2,SNR=7.4						
KDAK	**Kodiak Island**	**157.15**	**286**	*e*PKPab	**PKPab**	**19 24 24.3**	**+2.4**
KDAK				LR	LR		
	comp=Z,1μm,20.0s						
OHAK	**Old Harbor**	**157.29**	**284**	*e*PKPdf	**PKPdf**	**19 23 49.4**	**-1.7**
OHAK				*e*PKPab	**PKPab**	**19 24 23.5**	**+1.0**
TRF	**Thorofare Moun**	**157.68**	**301**	*e*PKPdf	**PKPdf**	**19 23 49.3**	**-2.4**
TOLK	**Toolik Lake Re**	**157.78**	**315**	P	**PKPdf**	**19 23 49.6**	**-1.9**
	baz=88						
TOLK	**Toolik Lake Re**	**157.78**	**315**	*e*PKPdf	**PKPdf**	**19 23 49.4**	**-2.1**
TOLK				*e*PKPab	**PKPab**	**19 24 24.7**	**+0.3**
SKT	**Skwentna**	**157.94**	**297**	*e*PKPdf	**PKPdf**	**19 23 49.4**	**-2.5**
SKT				*e*PKPab	**PKPab**	**19 24 25.2**	**0.0**
COLD	**Coldfoot**	**158.03**	**311**	*e*PKPdf	**PKPdf**	**19 23 48.6**	**-3.2**
COLD				*e*PKPab	**PKPab**	**19 24 23.8**	**-1.7**
BPAW	**Bear Paw Mtn.**	**158.09**	**302**	*e*PKPdf	**PKPdf**	**19 23 47.4**	**-4.6**
BPAW				*e*PKPab	**PKPab**	**19 24 25.1**	**-0.7**
MLY	**Manley**	**158.10**	**305**	*e*PKPdf	**PKPdf**	**19 23 49.6**	**-2.4**
MLY				*e*PKPab	**PKPab**	**19 24 24.7**	**-1.2**
PPLA	**Purkeypile**	**158.42**	**299**	*e*PKPdf	**PKPdf**	**19 23 49.4**	**-3.1**
PPLA				*e*PKPab	**PKPab**	**19 24 28.1**	**+0.6**
CAST	**Castle Rocks**	**158.47**	**300**	*e*PKPdf	**PKPdf**	**19 23 49.1**	**-3.4**
CAST				*e*PKPab	**PKPab**	**19 24 26.4**	**-1.1**
TEY	**Ternei**	**158.58**	**120**	*e*PKIKP	**PKPdf**	**19 23 53.0**	**-0.1**
TEY				*e*		19 24 27.9	
TEY				pmax	pmax		
	comp=Z,2μm,7.0s						
TEY				pmax	pmax		
	comp=Z,55nm,1.1s						
ERM	**Erimo**	**158.76**	**135**	PFAKE		19 24 00.0	+6.6
ERM				LR	LR		
	comp=Z,3μm,20.0s						
KLR	**Kul'dur**	**159.28**	**105**	PKP	**PKPdf**	**19 23 51.5**	**-2.4**
	comp=Z,0.8nm,1.1s,baz=250,slow=3.7,SNR=24						
KLR				PKPab	**PKPab**	**19 24 30.2**	**-1.1**
	comp=Z,2.0nm,1.1s,baz=177,slow=2.3,SNR=8.4						
KLR				PP	**PP**	**19 28 12.8**	**-0.3**
	comp=Z,1.3nm,1.3s,baz=234,slow=6.6,SNR=6.7						
ZEA	**Zeya**	**159.59**	**90**	*i* PKIKP	**PKPdf**	**19 23 51.0**	**-3.0**
ZEA				*e*		19 28 17.0	
ZEA				pmax	pmax		
	comp=N,64nm,1.8s						
ZEA				pmax	pmax		
	comp=Z,140nm,2.0s						
ZEA				pmax	pmax		
	comp=Z,1μm,7.0s						
ZEA				pmax	pmax		
	comp=Z,800nm,10.0s						
ZEA				pmax	pmax		
	comp=Z,1μm,11.0s						
ZEA				pmax	pmax		
	comp=N,400nm,10.0s						
SVW2	**Sparrevohn**	**159.63**	**293**	*e*PKPdf	**PKPdf**	**19 23 51.6**	**-2.3**
SVW2				*e*PKPab	**PKPab**	**19 24 31.8**	**-0.7**
ASAJ	**Asahikawa**	**160.36**	**131**	PKP	**PKPdf**	**19 23 53.0**	**-2.2**
	comp=N,2.3nm,1.1s,baz=283,slow=18,SNR=1.9						
ASAJ				PKPab	**PKPab**	**19 24 35.6**	**-0.5**
	comp=N,5.6nm,0.9s,baz=262,slow=6.1,SNR=4.2						
ASAJ	**Asahikawa**	**160.36**	**131**	*e*PKPdf	**PKPdf**	**19 23 53.3**	**-1.9**
ASAJ				*e*PKPab	**PKPab**	**19 24 35.1**	**-1.0**
TIXI	**Tiksi**	**161.41**	**34**	PKP	**PKPdf**	**19 23 53.5**	**-2.0**
	comp=N,0.2nm,0.3s,baz=53,slow=0.5,SNR=9.4						
TIXI				PKPab	**PKPab**	**19 24 38.9**	**-1.1**
	comp=N,8.8nm,0.8s,baz=70,slow=1.3,SNR=15						
TIXI				PP	**PP**	**19 28 25.6**	**+1.4**
	comp=N,6.7nm,1.1s,baz=348,slow=1.4,SNR=5.1						
TIXI	**Tiksi**	**161.41**	**34**	*e*PKPdf	**PKPdf**	**19 23 53.4**	**-2.1**
TIXI				*e*PKPab	**PKPab**	**19 24 41.4**	**+1.3**
TIXI				LR	LR		
	comp=Z,3μm,20.0s						
YUK	**Yuzh-Kuril'sk**	**161.49**	**137**	*e*PKIKP	PKPpre	19 23 46.0	
YUK				*e*		19 28 23.1	
YUK				*e*		19 31 01.7	
YUK				*e*PPP	PPP	19 32 09.9	
YUK				*e*SS	SS	19 48 44.6	+4.0
YUK				*e*SSS	SSS	19 54 57.1	
GRNR	**Gornyy**	**162.58**	**107**	*e*PKIKP	**PKPdf**	**19 24 00.8**	**+3.5**
GRNR				*i*		19 28 31.4	
GRNR				pmax	pmax		
	comp=Z,31nm,1.0s						
YSS	**Yuzh-Sakhalins**	**162.75**	**126**	*e*PKPdf	**PKPdf**	**19 23 56.8**	**-0.8**
YSS				*e*PKPab	**PKPab**	**19 24 44.4**	**-2.1**
YSS				LR	LR		
	comp=Z,1μm,21.0s						
YSS	**Yuzh-Sakhalins**	**162.75**	**126**	⇑*i*PKIKP	**PKPdf**	**19 23 56.5**	**-1.1**
YSS				*e*		19 24 45.1	
YSS				*e*		19 28 30.6	
YSS				*e*SS	SS	19 49 59.0	+65
YSS				pmax	pmax		
	comp=Z,20nm,1.8s						
YSS				pmax	pmax		
	comp=Z,900nm,6.8s						
YSS				pmax	pmax		
	comp=Z,40μm,1.2s						
YSS				pmax	pmax		
	comp=Z,900nm,8.0s						
YSS				MLR	MLR		
	comp=Z,2μm,18.0s						
YSS				MLR	MLR		
	comp=E,1μm,19.0s						
YAK	**Yakutsk**	**163.42**	**66**	PKP	**PKPdf**	**19 23 55.6**	**-2.1**
	comp=E,3.7nm,0.4s,baz=288,slow=2.7,SNR=7.5						
YAK				PKPab	**PKPab**	**19 24 48.1**	**-1.0**
	comp=E,12nm,0.7s,baz=281,slow=3.4,SNR=6.0						
YAK	**Yakutsk**	**163.42**	**66**	*e*PKPdf	**PKPdf**	**19 23 55.8**	**-1.9**
YAK				*e*PKPab	**PKPab**	**19 24 47.6**	**-1.5**
YAK				LR	LR		
	comp=Z,3μm,22.0s						
YAK	**Yakutsk**	**163.42**	**66**	*e*PKIKP	**PKPdf**	**19 23 57.7**	**0.0**
YAK				*e*		19 28 36.2	
YAK				pmax	pmax		
	comp=Z,411nm,6.8s						
YAK				pmax	pmax		
	comp=N,28nm,6.8s						
YAK				pmax	pmax		
	comp=E,54nm,10.1s						
YAK				pmax	pmax		
	comp=Z,495nm,3.9s						
YAK				pmax	pmax		
	comp=N,62nm,3.6s						
YAK				pmax	pmax		
	comp=E,57nm,3.2s						
TYV	**Tymovskoe**	**165.62**	**116**	*e*PKIKP	**PKPdf**	**19 24 01.7**	**+1.7**
TYV				pmax	pmax		
	comp=Z,20nm,1.8s						
TYV				pmax	pmax		
	comp=Z,1μm,6.3s						
GAMB	**Gambell**	**167.20**	**302**	*e*PKPdf	**PKPdf**	**19 23 58.4**	**-2.5**
GAMB				*e*PKPab	**PKPab**	**19 25 05.8**	**+0.1**
SKR	**Severo-Kuril's**	**170.56**	**151**	*i* PKIKP	**PKPdf**	**19 24 03.0**	**-0.4**
SKR				*e*		19 29 07.4	
SKR				*e*PPP	PPP	19 33 24.8	
SKR				*e*SS	SS	19 50 11.8	-0.7
SKR				pmax	pmax		
	comp=Z,1μm,6.2s						
SKR				pmax	pmax		
	comp=Z,2μm,10.0s						
BILL	**Bilibino**	**171.01**	**353**	*d i*PKIKP	**PKPdf**	**19 24 00.3**	**-2.9**
BILL				*e*		19 29 17.2	
BILL				*i* SS	SS	19 50 09.0	-7.7
BILL				pmax	pmax		
	comp=Z,14nm,1.6s						
PEA0B	**Petropavlovsk-**	**173.18**	**151**	*e*PKPdf	**PKPdf**	**19 24 05.9**	**+1.3**
PEA0B				*e*PKPab	**PKPab**	**19 25 33.8**	**+1.3**
PETK	**Petropavlovsk-**	**173.18**	**151**	PKP	**PKPdf**	**19 24 03.5**	**-1.1**
	comp=Z,12nm,0.9s,baz=90,slow=1.7,SNR=16						
PETK				PKPab	**PKPab**	**19 25 33.4**	**+0.9**
	comp=Z,5.8nm,0.8s,baz=215,slow=4.8,SNR=4.2						
PETK				PP	**PP**	**19 29 26.6**	**+2.1**
	comp=Z,6.4nm,1.0s,baz=186,slow=12,SNR=4.9						
PETK	**Petropavlovsk-**	**173.18**	**151**	*e*PKPdf	**PKPdf**	**19 24 05.2**	**+0.6**
PETK				*e*PKPab	**PKPab**	**19 25 33.5**	**+1.0**
PETK				PP	**PP**	**19 29 26.6**	**+2.1**
PEA1	**Petropavlovsk-**	**173.18**	**151**	*e*PKPdf	**PKPdf**	**19 24 03.5**	**-1.1**
PEA1				*e*PKPab	**PKPab**	**19 25 33.4**	**+0.9**
PEA1				*e*PP	**PP**	**19 29 26.6**	**+2.1**
PET	**Petropavlovsk**	**173.32**	**156**	*e*PKPdf	**PKPdf**	**19 24 05.2**	**+0.6**
PET				*e*PKPab	**PKPab**	**19 25 33.3**	**+0.2**
PET				LR	LR		
	comp=Z,3μm,22.0s						
PET	**Petropavlovsk**	**173.32**	**156**	*i* PKIKP	**PKPdf**	**19 24 05.5**	**+0.9**
PET				*e*		19 29 24.6	
PET				*e*SS	SS	19 50 30.9	-8.6
PET				pmax	pmax		
	comp=Z,1μm,12.9s						
PET				MLR	MLR		
	comp=Z,3μm,20.0s						
SEY	**Seymchan**	**173.55**	**50**	PKP	**PKPdf**	**19 24 02.5**	**-1.9**
	comp=Z,19nm,1.2s,baz=96,slow=1.0,SNR=19						
SEY				PKPab	**PKPab**	**19 25 34.6**	**+0.7**
	comp=Z,10nm,1.1s,baz=294,slow=6.1,SNR=7.2						
SEY				PP	**PP**	**19 29 28.2**	**+1.7**
	comp=Z,11nm,1.3s,baz=295,slow=5.1,SNR=12						
MA2	**Magadan**	**173.64**	**81**	PKP	**PKPdf**	**19 24 02.7**	**-1.8**
	comp=Z,1.4nm,0.3s,baz=155,slow=2.8,SNR=9.8						
MA2				PKPab	**PKPab**	**19 25 33.6**	**-0.9**
	comp=Z,13nm,1.0s,baz=300,slow=5.1,SNR=8.1						
MA2				PP	**PP**	**19 29 29.2**	**+2.0**
	comp=Z,1.1nm,0.3s,baz=224,slow=3.2,SNR=4.0						
MA2	**Magadan**	**173.64**	**81**	*e*PKPdf	**PKPdf**	**19 24 03.8**	**-0.8**
MA2				*e*PKPab	**PKPab**	**19 25 35.8**	**+1.4**
MA2				*e*PP	**PP**	**19 29 29.2**	**+2.0**
MA2	**Magadan**	**173.64**	**81**	*e*PKIKP	**PKPdf**	**19 24 03.8**	**-0.8**
MA2				*e*		19 25 35.8	
MA2				*e*		19 29 29.2	

NNC 17 19:06:51.9±7.8, 36°.03N×68°.47E, h0km, mb3.6, mpv3.2, 5C-3D, Error ellipse: s-maj=66.2km s-min=55.9km az=144.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SFK	**Sufi-Kurgan**	**5.62**	**43**	⇑Pn	Pn	19 08 14.1	-2.8
	1.2nm,0.4s						
SFK				⇓Sn	Sn	19 09 22.7	+0.4
	1.6nm,0.4s						
MNAS	**Manas**	**7.17**	**25**	⇑Pn	Pn	19 08 37.8	-0.3
	0.5nm,0.5s						
MN

WR1	**Warramunga Arr**	**17.45**	**196**	*e*Pn		**P**	**19 27 45.1**	**+2.7**
	34nm,0.8s								
WR1				*e*Sn		**Sn**	**19 30 51.8**	**-3.4**
WRA	**Warramunga Arr**	**17.45**	**196**	P		**P**	**19 27 45.1**	**+2.7**
	0.6nm,0.3s,baz=18,slow=12,SNR=35								
WRA				S		**Sn**	**19 30 51.8**	**-3.4**
	0.1nm,0.3s,baz=14,slow=22,SNR=4.5								
WC3	**Warramunga Arr**	**17.46**	**195**	*e*Pn		**P**	**19 27 45.5**	**+3.0**
	14nm,0.8s								
FITZ	**Fitzroy Crossi**	**20.03**	**221**	P		**P**	**19 28 13.0**	**+2.3**
	1.2nm,0.7s,baz=54,slow=11,SNR=5.2								
FITZ				S		**S**	**19 31 47.1**	**-6.4**
	1.4nm,0.9s,baz=12,slow=19,SNR=2.4								
FITZ	**Fitzroy Crossi**	**20.03**	**221**	*e*P		**P**	**19 28 13.0**	**+2.3**
	21nm,1.8s								
FITZ				*e*S		**S**	**19 31 47.4**	**-6.1**
AS01	**Alice Springs**	**21.12**	**194**	*e*P		**P**	**19 28 26.6**	**+4.2**
AS31	**Alice Springs**	**21.13**	**194**	*e*P		**P**	**19 28 25.1**	**+2.5**
	1.1nm,0.8s								
ASAR	**Alice Springs**	**21.13**	**194**	P		**P**	**19 28 25.6**	**+3.0**
	1.6nm,0.7s,baz=20,slow=11,SNR=26								
HNR	**Honiara**	**21.53**	**108**	*e*P		**P**	**19 28 24.7**	**-2.3**
	49nm,0.6s								
MK32	**Makanchi Array**	**70.38**	**322**	*e*P		**P**	**19 34 49.4**	**-1.3**
MKAR	**Makanchi Array**	**70.38**	**322**	P		**P**	**19 34 49.4**	**-1.3**
	0.9nm,0.5s,baz=107,slow=6.9,SNR=7.0								
BVAR	**Borovoye Array**	**79.89**	**325**	P		**P**	**19 35 43.9**	**-1.5**
	2.5nm,1.1s,baz=115,slow=7.1,SNR=4.0								
ILAR	**Eielson Array**	**85.92**	**24**	P		**P**	**19 36 15.1**	**-1.2**
	0.8nm,0.7s,baz=261,slow=4.7,SNR=10								
SYO	**Syowa Base**	**90.63**	**201⇑**	*e*P		**P**	**19 36 42.6**	**+4.0**

ISK **17** *19:35:23.3, 39°.08N×29°.19E, h6km, ML2.4/11*
ISCJB **17** *19:35:24.3±0.4, 39°.09N±0°.03×29°.14E±0°.03, h6km±5km, Error ellipse: s-maj=5.0km s-min=3.9km az=159.0*
DDA **17** *19:35:24.2, 39°.09N×29°.12E, h7km, Ml2.5*
CSEM **17** *19:35:24.3±0.1, 39°.11N×29°.14E, h5km, ML2.4, Error ellipse: s-maj=2.4km s-min=1.8km az=132.0*

ISC 17 19:35:24.5±0.8**, 39°.10N**±0°.02×**29°.15E**±0°.02**, h10**km±6**km**, n38**, σ0**947/56, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIMA	**Simav-Kutahya**	**0.13**	**262**	PG	**Pg**	**19 35 27.4**	**-0.1**
SIMA				SG	**Sg**	**19 35 29.4**	**-0.3**
SIMA	**Simav-Kutahya**	**0.13**	**262**	*e*Pg	**Pg**	**19 35 27.4**	**-0.1**
SIMA				*e*Sg	**Sg**	**19 35 29.4**	**-0.3**
GDZ	**Gediz**	**0.26**	**93**	*i* P	**Pg**	**19 35 29.8**	**0.0**
GDZ				*i* S	**Sg**	**19 35 33.8**	**+0.4**
GDZ	**Gediz**	**0.26**	**93**	P	**Pg**	**19 35 29.8**	**0.0**
GDZ				S	**Sg**	**19 35 33.8**	**+0.4**
DEMI	**Demirci**	**0.34**	**260**	*i* P	**Pg**	**19 35 31.3**	**+0.1**
DEMI				*i* S	**Sg**	**19 35 35.5**	**-0.2**
DEMI	**Demirci**	**0.34**	**260**	P	**Pg**	**19 35 31.3**	**+0.1**
DEMI				S	**Sg**	**19 35 35.5**	**-0.2**
TVSB	**Tavsanli**	**0.43**	**35**	PG	**Pg**	**19 35 31.7**	**-1.2**
TVSB				SG	**Sg**	**19 35 37.8**	**-0.7**
TVSB	**Tavsanli**	**0.43**	**35**	*e*Pg	**Pg**	**19 35 31.7**	**-1.2**
TVSB				*e*Sg	**Sg**	**19 35 37.8**	**-0.7**
KULA	**Kula-Manisa**	**0.70**	**213**	PG	**Pg**	**19 35 37.6**	**-0.3**
KULA				SG	**Sg**	**19 35 47.0**	**-0.1**
KULA	**Kula-Manisa**	**0.70**	**213**	*e*Pg	**Pg**	**19 35 37.6**	**-0.3**
KULA				*e*Sg	**Sg**	**19 35 47.0**	**-0.1**
DURS	**Dursunbey**	**0.72**	**314**	*i* P	**Pg**	**19 35 38.0**	**-0.4**
DURS				*i* S	**Sn**	**19 35 51.4**	**-0.6**
DURS	**Dursunbey**	**0.72**	**314**	P	**Pg**	**19 35 38.0**	**-0.4**
DURS				S	**Sn**	**19 35 51.4**	**-0.6**
MANT	**Manisa**	**0.76**	**217**	*i* P	**Pg**	**19 35 39.1**	**-0.1**
MANT				*i* S	**Sg**	**19 35 48.5**	**-0.7**
MANT	**Manisa**	**0.76**	**217**	P	**Pg**	**19 35 39.1**	**-0.1**
MANT				S	**Sg**	**19 35 48.5**	**-0.7**
KHAL	**Karahalli**	**0.78**	**160**	*i* P	**Pb**	**19 35 40.0**	**-0.1**
KHAL				*i* S	**Sb**	**19 35 50.7**	**-0.1**
KHAL	**Karahalli**	**0.78**	**160**	P	**Pb**	**19 35 40.0**	**-0.1**
KHAL				S	**Sb**	**19 35 50.7**	**-0.1**
BALB	**Balikesir**	**1.12**	**299**	PN	**Pb**	**19 35 46.1**	**+0.2**
BALB	**Balikesir**	**1.12**	**299**	*e*Pn	**Pb**	**19 35 46.1**	**+0.2**
CAVI	**Cavuskoy**	**1.22**	**26**	PN	**Pg**	**19 35 47.8**	**-0.2**
CAVI	**Cavuskoy**	**1.22**	**26**	*e*Pn	**Pg**	**19 35 47.8**	**-0.2**
BORA	**Eskisehir**	**1.28**	**52**	*i* P	**Pb**	**19 35 49.2**	**+0.5**
BORA				*i* S	**Sb**	**19 36 06.0**	**+0.8**
BORA	**Eskisehir**	**1.28**	**52**	P	**Pb**	**19 35 49.2**	**+0.5**
BORA				S	**Sb**	**19 36 06.0**	**+0.8**
MDNY	**Mudanya-Bursa**	**1.28**	**351**	PN	**Pn**	**19 35 48.9**	**+0.4**
MDNY	**Mudanya-Bursa**	**1.28**	**351**	*e*Pn	**Pn**	**19 35 48.9**	**+0.4**
KCTX	**Karacabey (Bur**	**1.31**	**333**	PN	**Pb**	**19 35 49.5**	**+0.3**
KCTX	**Karacabey (Bur**	**1.31**	**333**	*e*Pn	**Pb**	**19 35 49.5**	**+0.3**
GONE	**Gonen-Balikesi**	**1.47**	**310**	PN	**Pn**	**19 35 51.6**	**+0.6**
GONE	**Gonen-Balikesi**	**1.47**	**310**	*e*Pn	**Pn**	**19 35 51.6**	**+0.6**
YLV	**Yalova**	**1.47**	**7**	PN	**Pn**	**19 35 51.6**	**+0.4**
YLV	**Yalova**	**1.47**	**7**	*e*Pn	**Pn**	**19 35 51.6**	**+0.4**
ARMT	**Armutlu**	**1.48**	**352**	PN	**Pb**	**19 35 52.2**	**+0.1**
ARMT	**Armutlu**	**1.48**	**352**	*e*Pn	**Pb**	**19 35 52.2**	**+0.1**
EDC	**Edincik**	**1.59**	**322**	PN	**Pn**	**19 35 53.2**	**+0.5**
EDC	**Edincik**	**1.59**	**322**	*e*Pn	**Pn**	**19 35 53.2**	**+0.5**
GULT	**Gulveren**	**1.70**	**38**	PN	**Pn**	**19 35 54.8**	**+0.5**
GULT	**Gulveren**	**1.70**	**38**	*e*Pn	**Pn**	**19 35 54.8**	**+0.5**
SVRH	**Sivrihisar-ESK**	**1.88**	**79**	PN	**Pn**	**19 35 56.7**	**0.0**
SVRH	**Sivrihisar-ESK**	**1.88**	**79**	*e*Pn	**Pn**	**19 35 56.7**	**0.0**

NEIC 17 19:37:22.0±0.0**, 19°.59N×66°.13W, h75**km**, MD3.7**(RSPR)**, After RSPR., Puerto Rico region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBYP	**Canovanas**	**1.34**	**169**	*e*Pn	Pn	19 37 43.4	-1.7
CBYP				*e*Sn	Sn	19 37 58.7	-3.7
AOPR	**Arecibo Observ**	**1.37**	**206**	*e*Pn	Pn	19 37 44.2	-1.3
AOPR				*e*Sn	Sn	19 38 03.2	0.0
SJG	**San Juan**	**1.47**	**181**	*e*Pn	Pn	19 37 45.9	-0.9
AGP	**Aguadilla**	**1.52**	**219**	*e*Pn	Pn	19 37 45.4	-2.0
AGP				*e*Sn	Sn	19 37 59.3	-7.3
OBIP	**Obispado Ponce**	**1.60**	**197**	*e*Pn	Pn	19 37 47.6	-0.9
STVI	**Saint Thomas**	**1.66**	**138**	*e*Pn	Pn	19 37 49.8	+0.6
MPR	**Mayaguez**	**1.67**	**215**	*e*Pn	Pn	19 37 48.7	-0.8
ICMP	**Isla Caja de M**	**1.74**	**193**	*e*Pn	Pn	19 37 48.8	-1.5
CRPR	**Cabo Rojo, PR**	**1.83**	**211**	*e*Pn	Pn	19 37 51.4	-0.2
ABVI	**Anegada Island**	**1.90**	**116**	*e*Pn	Pn	19 37 55.2	+2.8
CDVI	**St. Croix**	**2.24**	**145**	*e*Pn	Pn	19 38 00.6	+3.6
SMRT	**St. Maarten**	**3.27**	**117**	*e*Pn	Pn	19 38 12.8	+1.8
SMRT				*e*Sn	Sn	19 38 53.9	+5.1
SDDR	**Presa de Saban**	**4.91**	**264**	*e*Pn	Pn	19 38 35.8	+2.4
SDDR				*e*Sn	Sn	19 39 30.8	+1.8
GRTK	**Grand Turk**	**5.07**	**293**	*e*Pn	Pn	19 38 35.3	-0.1
GRTK				*e*Sn	Sn	19 39 29.1	-3.5

BJI **17** *19:45:31.1, 2°.03N×92°.59E, h10km, mb4.9/58, mB5.1/42, Ms4.9/32, Ms7 4.8/33*
IDC **17** *19:45:35.2±0.5, 2°.57N×92°.68E, h0km, mb4.6/33, mb1 4.6/37, mb1mx4.5/62, mbtmp4.6/37, ML4.7/4, MS5.0/2, Ms1 5.0/2, ms1mx3.9/62, Error ellipse: s-maj=15.3km s-min=12.2km az=21.0*
ISCJB **17** *19:45:36.4±1.1, 2°.54N±0°.03×92°.63E±0°.03, h19km±7km, mb4.8/140, MS5.0/12, Error ellipse: s-maj=5.1km s-min=3.6km az=139.1*
NEIC **17** *19:45:36.8±0.2, 2°.58N×92°.61E, h10km, mb5.0/66, Error ellipse: s-maj=4.4km s-min=3.0km az=212.0*
MOS **17** *19:45:37.4±1.0, 2°.60N×92°.62E, h27km, mb5.1/49, Error ellipse: s-maj=7.0km s-min=4.0km az=113.5*
DJA **17** *19:45:41.3±0.6, 3°N±2°×9°3E±°, h34km±6km, M5.4/33, mb5.3/33, mB5.8/21, MLv5.9/10, Mw(mB)5.3/21, Mwp6.3/1*

ISC 17 19:45:39.9±0.8**, 2°.59N**±0°.04×**92°.69E**±0°.04**, h30**km±5**km**, n427**, σ1$46/439**, mb4.9**/146**, MS5.0**/12**, 24C-18D, Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSI	**Banda Aceh**	**3.89**	**42**	P	**Pn**	**19 46 38.7**	**+1.1**
BSI				S	**Sn**	**19 47 18.2**	**-4.1**
MLSI	**Meulaboh, Aceh**	**4.06**	**66**	P	**Pn**	**19 46 41.6**	**+1.6**
TPTI		**4.53**	**81**	P	**Pn**	**19 46 46.8**	**+0.3**
TPTI				S	**Sn**	**19 47 34.3**	**-3.9**
LHMI	**Lhok Sumawe**	**4.99**	**58**	P	**Pn**	**19 46 54.3**	**+1.5**
LHMI	**Lhok Sumawe**	**4.99**	**58**	*e*Pn	**Pn**	**19 46 54.9**	**+2.1**
GSI	**Gunungsitoli**	**5.04**	**105**	P	**Pn**	**19 46 53.5**	**0.0**
	683nm,0.9s,19μm8.9nm						
GSI	**Gunungsitoli**	**5.04**	**105**	*e*Pn	**Pn**	**19 46 54.0**	**+0.5**
GSI				*e*Sn	**Sn**	**19 47 45.3**	**-5.5**
KCSI	**Kotacane, Aceh**	**5.16**	**79**	P	**Pn**	**19 46 55.8**	**+0.7**
TSI	**Tuntungan**	**5.93**	**81**	P	**Pn**	**19 47 07.5**	**+1.7**
	965nm,0.6s,13μm4.5nm						
PBSI	**Pulau Batu**	**6.17**	**115**	P	**Pn**	**19 47 09.9**	**+0.9**
PSI	**Prapat**	**6.23**	**88**	Pn	**Pn**	**19 47 10.7**	**+0.7**
	27nm,0.3s,baz=277,slow=7.0,SNR=140						
PSI				Sn	**Sn**	**19 48 14.0**	**-6.2**
	baz=229,slow=19						
PSI	**Prapat**	**6.23**	**88**	*e*Pn	**Pn**	**19 47 10.6**	**+0.7**
PSI				Sn	**Sn**	**19 48 14.0**	**-6.2**
PSI				*e*Sn	**Sn**	**19 48 19.7**	**-0.5**
MNSI	**Mandailing Nat**	**7.11**	**104**	P	**Pn**	**19 47 23.3**	**+1.4**
SISI	**Saibi**	**7.48**	**121**	P	**Pn**	**19 47 28.0**	**+0.9**
	236nm,0.7s,3μm4.4nm						
PKDT	**Phuket**	**7.70**	**47**	P	**Pn**	**19 47 30.0**	**-0.1**
	432nm,0.8s,4μm1.7nm						
PDSI	**Padang**	**8.51**	**114**	P	**Pn**	**19 47 41.8**	**+0.6**
IPM	**Ipoh**	**8.53**	**77**	*e*Pn	**Pn**	**19 47 42.0**	**+0.6**
IPM				*e*Sn	**Sn**	**19 49 11.6**	**-5.1**
BKNI	**Bangkinang**	**8.64**	**105**	P	**Pn**	**19 47 43.9**	**+0.9**
BKNI	**Bangkinang**	**8.64**	**105**	*e*Pn	**Pn**	**19 47 43.2**	**+0.2**
TRTT	**Trang**	**8.70**	**53**	P	**Pn**	**19 47 43.2**	**-0.6**
	148nm,0.5s,2μm0.6nm						
SURT	**Suratani**	**8.77**	**44**	P	**Pn**	**19 47 44.6**	**-0.1**
	101nm,0.7s,1μm						
PBA	**Port Blair**	**9.01**	**0**	*e*P	Pn	19 47 46.3	-1.7
PBA	**Port Blair**	**9.01**	**0**	*e*Pn	Pn	19 47 47.3	-0.7
PBA				*e*Sn	Sn	19 49 18.1	-10
PPSI	**Pulau Pagai**	**9.04**	**126**	P	**Pn**	**19 47 49.5**	**+1.1**
	558nm,0.6s,5μm						
SKLT	**Songkhla**	**9.12**	**60**	P	**Pn**	**19 47 49.5**	**0.0**
	655nm,0.8s,5μm1.9nm						
SDSI	**Sungai Dareh**	**9.41**	**112**	P	**Pn**	**19 47 54.6**	**+1.1**
	0.1nm,0.5s,4.8nm						
DGPR	**DIGLIPUR**	**10.53**	**1**	*e*P	**Pn**	**19 48 08.4**	**-0.4**
MASI	**Maura Aman, Be**	**11.11**	**121**	P	**Pn**	**19 48 19.6**	**+2.7**
	226nm,0.7s,3μm						
MYKOM	**Kota Tinggi**	**11.18**	**94**	*e*Pn	**Pn**	**19 48 17.8**	**+0.1**
TPRI	**Tanjung Pinang**	**11.94**	**98**	P	**Pn**	**19 48 28.7**	**+0.5**
PHET	**Kaeng Krachan**	**12.34**	**33**	P	Pn	19 48 37.2	+3.5
	12nm,0.8s,162nm						
MNAI	**Manna**	**12.36**	**124**	*e*Pn	**Pn**	**19 48 33.9**	**-0.1**
MNAI				*e*Sn	Sn	19 50 41.2	-10
PALK	**Pallekele**	**12.82**	**292**	Pn	**Pn**	**19 48 39.8**	**-0.5**
	5.1nm,0.3s,baz=116,slow=13,SNR=47						
PALK				Sn	Sn	19 50 51.0	-11
	59nm,0.3s,baz=296,slow=4.0,SNR=24						
PALK	**Pallekele**	**12.82**	**292**	*e*Pn	**Pn**	**19 48 39.8**	**-0.5**
PALK				*e*Sn	Sn	19 50 50.6	-11
SRDT	**SRDT**	**13.30**	**28**	P	**Pn**	**19 48 49.8**	**+3.0**
	29nm,1.1s,403nm						
MDSI	**Maura Dua**	**13.46**	**121**	P	**Pn**	**19 48 49.4**	**+0.5**
	35nm,0.6s						
LWLI	**Liwa**	**13.64**	**124**	P	**Pn**	**19 48 52.3**	**+0.8**
	167nm,0.7s,6μm						
CHBT	**CHBT**	**13.89**	**43**	P	**Pn**	**19 48 58.0**	**+3.1**
	191nm,0.5s,56μm						
KASI	**Kota Agung**	**14.28**	**124**	P	**Pn**	**19 48 58.6**	**-1.6**
	78nm,0.5s						
COCO	**West Island**	**15.24**	**164**	*e*Pn	**Pn**	**19 49 13.7**	**+0.6**
	504nm,1.9s						
COCO	**West Island**	**15.24**	**164**	*e*P	**Pn**	**19 49 13.7**	**+0.6**
COCO				pmax	pmax		
	comp=Z,504nm,1.9s						
CHAI	**Chaiyaphum**	**16.09**	**34**	P	**P**	**19 49 28.1**	**+1.0**
	comp=Z,12nm,1.4s,comp=Z,101nm						
PBKT	**Sadao Pong**	**16.11**	**30**	P	**Pn**	**19 49 23.8**	**-0.5**
	comp=Z,35nm,0.8s						
PBKT	**Sadao Pong**	**16.11**	**30**	*e*Pn	**Pn**	**19 49 23.7**	**-0.5**
	comp=Z,24nm,0.8s						
MDRS	**Chennai**	**16.13**	**311**	*e*P	**Pn**	**19 49 23.3**	**-1.3**
MDRS				IAmb	IAmb	19 49 26.1	
	comp=Z,80nm,1.2s						
PHIT	**Phitsanulok**	**16.38**	**27**	P	**Pn**	**19 49 28.1**	**+0.4**
	comp=Z,32nm,0.9s,comp=Z,293nm						
TRD	**Trivandrum**	**16.72**	**291**	*e*P	**Pn**	**19 49 29.8**	**-2.4**
SKJI	**Sukabumi**	**16.80**	**125**	P	P	19 49 49.8	+15
CM01	**Chiang Mai Arr**	**16.89**	**21**	*e*Pn	**Pn**	**19 49 32.8**	**-1.5**
KHON	**Khomkaen**	**16.91**	**35**	P	**P**	**19 49 38.2**	**+1.9**
	comp=Z,28nm,0.8s						
CM31	**Chiang Mai Arr**	**16.92**	**21**	*e*Pn	**Pn**	**19 49 34.3**	**-0.3**
CMAR	**Chiang Mai Arr**	**16.92**	**21**	Pn	**Pn**	**19 49 34.4**	**-0.2**
	comp=Z,0.8nm,0.3s,baz=216,slow=14,SNR=68						
CHTO	**Chiang Mai**	**17.25**	**20**	P	**Pn**	**19 49 38.8**	**0.0**
	comp=Z,132nm,0.8s						
CHTO	**Chiang Mai**	**17.25**	**20**	*e*Pn	**Pn**	**19 49 38.7**	**0.0**
	comp=Z,30nm,0.6s						
CHTO	**Chiang Mai**	**17.25**	**20**	*e*P	**Pn**	**19 49 38.7**	**0.0**
CHTO				pmax	pmax		
	comp=Z,30nm,0.6s						
CMMT	**Chiang Mai**	**17.25**	**20**	P	**Pn**	**19 49 37.7**	**-1.0**
	comp=Z,43nm,0.7s,comp=Z,423nm						
LEM	**Lembang**	**17.59**	**122**	P	**Pn**	**19 49 43.4**	**+0.3**
	comp=Z,2.7nm,0.3s,baz=28,slow=8.9,SNR=6.7						
VIS	**Vishakhapatnam**	**17.63**	**329**	*e*P	**Pn**	**19 49 42.9**	**-0.5**
VIS				*i* x	x	19 52 47.9	
KSM	**Kuching**	**17.64**	**93**	*e*Pn	**Pn**	**19 49 42.5**	**-1.0**
	comp=Z,75nm,1.1s						
SKNT	**Sakolnakorn**	**18.10**	**37**	P	**P**	**19 49 49.7**	**+0.3**
	comp=Z,25nm,1.0s						
CISI	**Cisompet, Garu**	**18.14**	**124**	P	P	19 50 03.8	+14
CISI	**Cisompet, Garu**	**18.14**	**124**	*e*Pn	**Pn**	**19 49 49.1**	**-0.7**
	comp=Z,75nm,1.1s						
CISI				*e*Sn	Sn	19 52 55.7	-16
XMIS	**Christmas Isla**	**18.30**	**135**	*e*P	**P**	**19 49 48.2**	**-3.4**
	comp=Z,83nm,1.1s						
CMAI	**Chiengmai2**	**18.32**	**19**	P	**Pn**	**19 49 52.8**	**+0.7**
	comp=Z,132nm,1.0s,comp=Z,25μm						
STKI	**Sintang**	**18.94**	**97**	P	**Pn**	**19 50 01.1**	**+1.6**
	comp=Z,78nm,1.1s						
KPJI	**Karang Pucung**	**18.96**	**121**	P	**Pn**	**19 50 02.2**	**+2.5**
	comp=Z,39nm,0.6s,comp=Z,3μmcomp=Z,82μm						
SBUM	**Sibu**	**19.51**	**90**	*e*P	**Pn**	**19 50 06.7**	**+0.4**
	comp=Z,42nm,0.9s						
PBKI	**Pangkalan Bun**	**19.68**	**105**	P	**P**	**19 50 05.4**	**-1.4**
HYB	**Hyderabad**	**20.25**	**318**	*i* P	**P**	**19 50 13.0**	**0.0**
	comp=Z,200nm,1.4s						
HYB				*e*S	S	19 53 46.0	-13
HYB	**Hyderabad**	**20.25**	**318**	*e*P	**P**	**19 50 13.4**	**+0.4**
HYB				IAmb	IAmb	19 50 16.2	
	comp=Z,54nm,0.9s						
BELO	**BELONIA**	**20.58**	**357**	*ex*	Pn	19 50 28.6	+10
UGM	**Wanagama**	**20.62**	**121**	*e*P	**P**	**19 50 18.4**	**+1.4**
AGT	**Agartala**	**21.22**	**356**	*e*P	**P**	**19 50 23.9**	**+0.6**
BOK	**Bokaro**	**22.09**	**343**	*e*P	**P**	**19 50 32.9**	**+0.2**
IMP	**Imphal**	**22.15**	**3**	*e*P	**P**	**19 50 33.9**	**+0.5**
MTKI	**Muara Teweh, K**	**22.47**	**99**	P	P	19 50 50.5	+14
DGAR	**Diego Garcia**	**22.51**	**244**	*e*P	**P**	**19 50 36.8**	**-0.5**
	comp=Z,78nm,0.8s						
DGAR	**Diego Garcia**	**22.51**	**244**	*e*P	**P**	**19 50 36.8**	**-0.5**
DGAR				pmax	pmax		
	comp=Z,79nm,0.8s						
H08S2	**Diego Garcia H**	**22.57**	**243**	T	T	20 12 49.8	
	baz=60,slow=74						
H08S3	**Diego Garcia H**	**22.57**	**243**	T	T	20 12 48.5	
	baz=60,slow=74						
GOA	**Goa**	**22.59**	**306**	*e*P	**P**	**19 50 37.2**	**-0.9**
GOA				IAmb	IAmb	19 50 42.2	
	comp=Z,42nm,0.4s						
H08S1	**Diego Carcia H**	**22.59**	**243**	T	T	20 12 50.1	
	baz=60						
SHL	**Shillong**	**22.86**	**358**	*e*P	**P**	**19 50 42.5**	**+1.4**
SHL				*ex*	x	19 54 57.0	
SHL	**Shillong**	**22.86**	**358**	*e*P	**P**	**19 50 39.1**	**-2.0**
	comp=Z,133nm,0.8s						
SHL				*e*S	**S**	**19 54 50.0**	**+1.0**
SHL	**Shillong**	**22.86**	**358**	*e*P	**P**	**19 50 39.1**	**-2.0**
SHL				*e*S	**S**	**19 54 50.0**	**+1.0**
SHL				pmax	pmax		
	comp=Z,133nm,0.8s						
TURI	**Tura**	**22.95**	**355**	*e*P	**P**	**19 50 43.7**	**+1.9**
KOHI	**KOHIMA**	**23.04**	**3**	*e*P	**P**	**19 50 42.4**	**-0.5**
GUWA	**GUWAHATI**	**23.49**	**358**	*e*P	**P**	**19 50 48.1**	**+0.9**
MOKO	**MOKOCHONG**	**23.66**	**4**	*e*P	**P**	**19 50 49.1**	**0.0**
KKM	**Kota Kinabalu**	**23.70**	**81**	*e*P	**P**	**19 50 50.1**	**+0.5**
	comp=Z,30nm,0.7s						
TEZP	**TEZPUR**	**23.89**	**0**	*e*P	**P**	**19 50 52.1**	**+1.0**
POO	**Poona**	**24.33**	**312**	*e*P	**P**	**19 50 56.5**	**+1.2**
POO	**Poona**	**24.33**	**312⇑**	*i*P	**P**	**19 50 54.0**	**-1.2**
	comp=Z,3.0nm,1.0s						
POO				*e*PP	**PnPn**	**19 51 32.5**	**+6.4**
POO				*i* S	**S**	**19 55 19.0**	**+6.2**
POO				eLR	LR	19 57 18.5	
KMI	**Kunming**	**24.41**	**22**	P	**P**	**19 50 58.3**	**+2.2**
KMI				pmax	pmax		
	comp=Z,38nm,0.9s						
KMI				pmax	pmax		
	comp=Z,320nm,9.3s						
KMI				LR	LR		
	comp=Z,610nm,26.9s						
KMI				LR	LR		
	comp=Z,900nm,26.9s						
KMI				LR	LR		
	comp=Z,790nm,25.7s						
ITAN	**ITANAGAR**	**24.44**	**2**	*e*P	**P**	**19 50 56.5**	**+0.4**
ODAN	**Odare**	**24.67**	**349**	*e*P	**P**	**19 50 59.5**	**+1.0**
	comp=Z,85nm,0.8s						
LKP	**Lekhapani**	**24.79**	**7**	*e*P	**P**	**19 50 59.2**	**-0.1**
GTK	**Tadong**	**24.91**	**351**	*e*P	**P**	**19 51 01.9**	**+1.4**
RAMN	**Ramite**	**24.92**	**347**	*e*P	**P**	**19 51 02.4**	**+1.6**
	comp=Z,147nm,0.9s						
BHPL	**Bhopal**	**25.31**	**325**	*e*P	**P**	**19 51 02.9**	**-1.2**
BHPL				IAmb	IAmb	19 51 05.7	
	comp=Z,50nm,1.2s						
JIRN	**Jiri**	**25.70**	**347**	*e*P	**P**	**19 51 09.1**	**+1.2**
PKIN	**Phulchoki**	**25.81**	**345**	*e*P	**P**	**19 51 09.7**	**+0.8**
MYLDM	**Lahad Datu**	**25.87**	**83**	*e*P	**P**	**19 51 10.0**	**+0.7**
	comp=Z,117nm,1.5s						
DMN	**Daman**	**25.92**	**344**	*e*P	**P**	**19 51 10.8**	**+1.0**
	comp=Z,33nm,0.7s						
GUN	**Gumba**	**26.01**	**346**	*e*P	**P**	**19 51 11.8**	**+1.0**
	comp=Z,86nm,0.8s						
KKN	**Kakani**	**26.05**	**345**	*e*P	**P**	**19 51 11.8**	**+0.9**
	comp=Z,72nm,1.1s						
GKN	**Gorkha**	**26.42**	**344**	*e*P	**P**	**19 51 15.3**	**+1.0**
	comp=Z,123nm,0.8s						
KOLN	**Koldanda**	**26.51**	**342**	*e*P	**P**	**19 51 16.4**	**+1.3**
	comp=Z,51nm,0.8s						
LSA	**Lhasa**	**27.01**	**357**	P	**P**	**19 51 21.9**	**+2.0**
LSA	**Lhasa**	**27.01**	**357**	*e*P	**P**	**19 51 21.6**	**+1.7**
	comp=Z,84nm,0.7s						
LSA	**Lhasa**	**27.01**	**357**	*e*P	**P**	**19 51 21.6**	**+1.7**
LSA				pmax	pmax		
	comp=Z,84nm,0.7s						
PYUN	**Piuthan**	**27.01**	**341**	*e*P	**P**	**19 51 20.6**	**+1.0**
	comp=Z,68nm,1.0s						
GYA	**Guiyang**	**27.26**	**28⇑**	*i*P	**P**	**19 51 19.5**	**-2.3**
GYA				PP	**PnPn**	**19 52 12.4**	**+6.2**
GYA				PcP	**PcP**	**19 54 43.3**	**+1.9**
GYA				SS	SS	19 57 19.6	-35
GYA				ScP	**ScP**	**19 58 22.0**	**+2.2**
GYA				ScS	**ScS**	**20 02 12.3**	**+0.9**
GYA				pmax	pmax		
	comp=Z,20nm,0.8s						
GYA				pmax	pmax		
	comp=Z,130nm,5.2s						
GYA				LR	LR		
	comp=Z,540nm,17.0s						
GYA				LR	LR		
	comp=Z,510nm,17.2s						
GYA				LR	LR		
	comp=Z,520nm,17.4s						
MPSI	**Mapaga**	**27.29**	**94**	P	P	19 51 34.1	+12
CD2	**Chengdu**	**30.05**	**19**	P	**P**	**19 51 47.3**	**+0.8**
CD2				pP	pP	19 51 51.3	-4.1
CD2				S	**S**	**19 56 47.4**	**+4.3**
CD2				sS	sS	19 56 54.3	-3.4
CD2				pmax	pmax		
	comp=Z,100nm,0.6s						
CD2				pmax	pmax		
	comp=Z,220nm,5.2s						
CD2				LR	LR		
	comp=Z,3μm,24.3s						
CD2				LR	LR	

comp=Z,5μm,28.5s
WMQ LR LR
comp=Z,2μm,30.9s
WMQ LR LR
comp=Z,4μm,28.5s
HHC Hu-ho-hao-te 41.73 22 eP P 19 53 27.8 +1.4
HHC pmax pmax
comp=Z,31nm,1.0s
HHC pmax pmax
comp=Z,91nm,5.7s
KDJ Kajisay 41.76 343 eP P 19 53 27.4 +0.7
comp=Z,24nm,0.8s
ULHL Ulahol 42.15 342 P **P 19 53 30.5 +0.6**
SNR=22
PDGK Podgornoye 42.24 346 P **P 19 53 30.8 +0.3**
PDGK pmax pmax
comp=Z,38nm,1.2s
KZA Kyzart 42.32 341 P **P 19 53 32.1 +0.6**
SNR=14
H01W3 Cape Leeuwin H 42.36 154 T T 20 39 43.4
baz=331,slow=75,SNR=7.5
H01W2 Cape Leeuwin H 42.37 154 T T 20 39 41.3
baz=331,slow=75,SNR=8.3
H01W1 Cape Leeuwin H 42.38 153 T T 20 39 41.4
baz=331,slow=75,SNR=5.9
UCH Uchtor 42.70 340 P **P 19 53 35.3 +0.7**
SNR=22
AML Almayashu 42.90 339 P **P 19 53 36.8 +0.5**
SNR=36
BJT Baijiatuau 42.91 27 eP P 19 53 37.8 +1.9
comp=Z,33nm,1.1s
BJT Baijiatuau 42.91 27 eP P 19 53 37.8 +1.9
BJT pmax pmax
comp=Z,33nm,1.1s
BJI Beijing 42.93 27⇓eP P 19 53 37.8 +1.8
BJI pmax pmax
comp=Z,30nm,0.8s
KBK Karagaybulak 42.93 341 P **P 19 53 37.3 +1.1**
SNR=18
TKM2 Tokmak 2 42.96 342 P **P 19 53 37.0 +0.5**
SNR=16
TKM2 Tokmak 2 42.96 342 P **P 19 53 36.6 +0.1**
TKM2 pmax pmax
comp=Z,18nm,1.1s
AAK Ala-Archa 43.07 340 P **P 19 53 38.2 +0.9**
SNR=8.8
AAK Ala-Archa 43.07 340 *eP* **P 19 53 37.8 +0.5**
comp=Z,7.7nm,0.9s
AAK Ala-Archa 43.07 340*ce*P **P 19 53 36.8 -0.5**
AAK pmax pmax
comp=Z,10.0nm,1.0s
FRU Bishkek 43.20 341 *eP* **P 19 53 38.5 +0.3**
EKS2 Erkin-Say 43.34 340 P **P 19 53 40.4 +1.0**
SNR=18
USP Ospenovka 43.63 341 P **P 19 53 42.2 +0.6**
SNR=6.0
MNAS Manas 43.64 338 P **P 19 53 41.6 -0.3**
MNAS pmax pmax
comp=Z,25nm,1.4s
WRKA Warakurna 44.11 131 P **P 19 53 49.7 +3.8**
baz=44,SNR=3.4
KK31 Karatay Array 44.92 337 *eP* **P 19 53 51.9 -0.2**
KK31 Karatay Array 44.92 337 *eP* **P 19 53 51.9 -0.2**
KKAR Karatay Array 44.92 337 *eP* **P 19 53 51.7 -0.3**
KKAR Karatay Array 44.92 337 *eP* **P 19 53 51.7 -0.3**
MK01 Makanchi Array 44.93 350 *eP* **P 19 53 52.2 +0.2**
MK31 Makanchi Array 44.96 350 *eP* **P 19 53 52.2 0.0**
MK31 Makanchi Array 44.96 350 *eP* **P 19 53 52.2 0.0**
MK32 Makanchi Array 44.96 350 *eP* **P 19 53 52.7 +0.5**
MKAR Makanchi Array 44.96 350 P **P 19 53 52.7 +0.5**
comp=Z,27nm,0.7s,baz=168,slow=8.8,SNR=372
MKAR Makanchi Array 44.96 350 *eP* **P 19 53 52.2 0.0**
comp=Z,171nm,0.6s
MKAR Makanchi Array 44.96 350 *eP* **P 19 53 52.2 0.0**
MKAR pmax pmax
comp=Z,171nm,0.6s
MAKZ Makanchi 45.03 350 *eP* **P 19 53 52.6 -0.2**
comp=Z,15nm,0.7s
MAKZ *ePcP* **PcP 19 55 31.1 -2.3**
MAKZ Makanchi 45.03 350 *eP* **P 19 53 52.6 -0.2**
MAKZ *e* 19 55 31.1
MAKZ pmax pmax
comp=Z,15nm,0.7s
WR1 Warramunga Arr 46.60 121 *eP* **P 19 54 05.3 -0.3**
comp=Z,114nm,0.8s
WRA Warramunga Arr 46.60 121 P **P 19 54 05.3 -0.3**
comp=Z,2.2nm,0.7s,baz=300,slow=8.6,SNR=38
WRAB Tennant Creek 46.60 121 *eP* **P 19 54 06.6 +1.0**
comp=Z,21nm,1.3s
WRAB Tennant Creek 46.60 121 *i* P **P 19 54 01.6 -4.0**
WRAB pmax pmax
comp=Z,9.0nm,1.0s
SONA0 Songino Array 46.60 13 *eP* **P 19 54 06.3 +1.0**
SONM Songino Array 46.60 13 P **P 19 54 06.3 +1.0**
comp=Z,18nm,0.7s,baz=192,slow=8.9,SNR=120
WB2 Warramunga Arr 46.61 121 *eP* **P 19 54 05.0 -0.7**
SONA1 Songino Array 46.62 13 *eP* **P 19 54 05.7 +0.2**
JNU Nakatsue 46.90 45 *eP* **P 19 54 09.0 +1.2**
comp=Z,88nm,2.0s
DGZ Jazzator, Alta 47.16 355 *i* P **P 19 54 10.8 +1.1**
DGZ pmax pmax
comp=Z,13nm,0.6s
FORT Forrest 47.29 137 *eP* **P 19 54 11.5 +0.7**
comp=Z,16nm,0.8s
GEYT Alibeck 47.32 322 P **P 19 54 12.0 +1.0**
comp=Z,25nm,0.8s,baz=148,slow=8.7,SNR=58
GYA0B ALIBECK ARRAY 47.32 322 *eP* **P 19 54 11.4 +0.4**
comp=Z,26nm,0.8s
KS15 Wonju Array Si 47.40 39 *eP* **P 19 54 11.8 +0.3**
KSAR Wonju Array Be 47.40 39 P **P 19 54 12.4 +0.9**
KSAR Wonju Array Be 47.40 39 P **P 19 54 12.5 +0.9**
KS01 Wonju Array Si 47.42 39 *eP* **P 19 54 11.0 -0.7**
KSRS Korea Array 47.43 39 P **P 19 54 12.4 +0.7**
comp=Z,8.9nm,0.9s,baz=220,slow=9.7,SNR=6.9
ASAR Alice Springs 47.84 125 P **P 19 54 14.8 -0.4**
comp=Z,0.5nm,0.4s,baz=297,slow=7.5,SNR=11
AS31 Alice Springs 47.84 125 *eP* **P 19 54 14.7 -0.6**
comp=Z,2.3nm,1.0s
AS01 Alice Springs 47.88 125 *eP* **P 19 54 15.0 -0.6**
HVS Khovu-Aksy 48.39 1*c iP* **P 19 54 20.0 +0.9**
HVS pmax pmax
comp=Z,60nm,0.7s
ZAK Zakamensk 48.46 9 *eP* **P 19 54 20.0 +0.3**
ZAK pmax pmax
comp=Z,7.0nm,0.9s
OTUK Ortayu 48.75 342 P **P 19 54 21.5 -0.3**
OTUK pmax pmax
comp=Z,27nm,1.0s
DAMY Dhamar 49.11 287 *eP* **P 19 54 23.6 -1.9**
comp=Z,18nm,1.2s
KURBB Kurchatov Arra 49.34 348 P **P 19 54 26.9 +0.6**
comp=Z,12nm,0.7s,baz=168,slow=6.6,SNR=125
MOY Mondy 49.41 7 *eP* **P 19 54 28.1 +1.2**
KURK Kurchatov 49.41 348 *eP* **P 19 54 26.8 0.0**
comp=Z,30nm,1.2s
KURK Kurchatov 49.41 348*de*P **P 19 54 27.0 +0.2**
KURK pmax pmax
comp=Z,24nm,1.1s
OPO Ambohidratompo 49.46 243 P **P 19 54 28.8 +0.8**
comp=Z,9.2nm,0.8s,baz=56,slow=5.8,SNR=8.6
ABPO Ambohimpanom 49.58 242 *eP* **P 19 54 29.3 +0.4**
comp=Z,21nm,0.8s
ABPO Ambohimpanom 49.58 242 *eP* **P 19 54 29.3 +0.4**
ABPO pmax pmax
comp=Z,21nm,0.8s
TLY Talaya 49.78 9 *eP* **P 19 54 30.2 +0.5**
comp=Z,8.1nm,0.9s
TLY Talaya 49.78 9 *eP* **P 19 54 31.7 +2.0**
TLY pmax pmax
comp=Z,8.0nm,0.9s
RAYN Ar Rayn 50.14 299 *eP* **P 19 54 32.0 -0.9**
comp=Z,4.1nm,0.8s
RAYN Ar Rayn 50.14 299 P **P 19 54 32.0 -0.9**
RAYN pmax pmax
comp=Z,4.0nm,0.9s
ZAA0 Zalesovo Array 51.60 354 *eP* **P 19 54 43.0 -0.3**
comp=Z,55nm,1.2s
ZALV Zalesovo Beam 51.60 354 P **P 19 54 43.8 +0.5**
comp=Z,26nm,0.4s,baz=188,slow=8.4,SNR=143
ZALV Zalesovo Beam 51.60 354 *eP* **P 19 54 43.3 -0.1**
ZALV Zalesovo Beam 51.60 354 *eP* **P 19 54 43.3 -0.1**
ZAA1 Zalesovo Array 51.61 354 *eP* **P 19 54 43.8 +0.4**
HIA Hailar 51.93 22 *eP* **P 19 54 46.7 +0.7**
comp=Z,28nm,1.2s
HIA Hailar 51.93 22*d iP* **P 19 54 46.6 +0.7**
HIA pmax pmax
comp=Z,23nm,1.1s
NVS Novosibirsk 52.66 353⇑*i*P **P 19 54 51.3 +0.1**
NVS *e* 19 55 05.5
NVS pmax pmax
comp=N,15nm,0.7s
NVS pmax pmax
comp=Z,23nm,0.7s
NVS pmax pmax
comp=E,10.0nm,0.6s
COEN Coen 52.67 110 P **P 19 54 54.5 +2.6**
baz=53
GUMO Guam 52.69 75 LR LR 20 19 20.2
comp=E,2μm,19.9s,baz=181,slow=38
KRAR Krasnoyarsk 53.27 0 *i* P **P 19 54 56.7 +1.1**
BVA0 Borovoye Array 53.56 343 P **P 19 54 56.1 -1.8**
BVA0 pmax pmax
comp=Z,7.0nm,0.8s
BVAR Borovoye Array 53.56 343 P **P 19 54 57.3 -0.5**
comp=Z,6.4nm,0.6s,baz=142,slow=8.6,SNR=53
BRVK Borovoye 53.62 343 *eP* **P 19 54 57.6 -0.7**
comp=Z,6.9nm,0.8s
BRVK Borovoye 53.62 343*ce*P **P 19 54 57.7 -0.6**
BRVK pmax pmax
comp=Z,11nm,1.2s
LKRN Lenkeran, Azer 53.78 318 P **P 19 54 58.5 -1.2**
MAJO Matsushiro 53.82 45 *eP* **P 19 55 00.9 +0.8**
MAJO Matsushiro 53.82 45 *eP* **P 19 55 00.9 +0.8**
MJAR Matsushiro Arr 53.82 45 P **P 19 55 00.9 +0.7**
comp=Z,0.8nm,0.7s,baz=243,slow=7.5,SNR=3.4
BBOO Buckleboo 54.02 134 P **P 19 55 05.2 +3.5**
baz=54
USRK Ussuriysk Ar. 54.04 34 P **P 19 55 01.3 -0.2**
comp=Z,2.7nm,0.8s,baz=278,slow=2.0,SNR=4.0
AB31 Akbulak array 54.24 334 *i* P **P 19 55 02.0 -0.9**
AB31 pmax pmax
comp=Z,27nm,0.9s
ABKAR Akbulak array 54.24 334 *eP* **P 19 55 02.1 -0.8**
KMBO Kilima Mbogo 55.55 267 P **P 19 55 13.8 +0.5**
comp=Z,3.3nm,0.6s,baz=60,slow=11,SNR=9.8
KMBO Kilima Mbogo 55.55 267 *eP* **P 19 55 12.9 -0.3**
comp=Z,8.6nm,1.2s
KMBO Kilima Mbogo 55.55 267 *eP* **P 19 55 13.0 -0.3**
KMBO pmax pmax
comp=Z,9.0nm,1.2s
MNGR Mingechevir, A 55.95 319 P **P 19 55 14.3 -1.1**
AKTO Aktyubinsk 55.96 334 P **P 19 55 14.3 -1.0**
comp=Z,5.8nm,0.9s,baz=116,slow=8.3,SNR=17
SEKA Sheki 56.10 320 P **P 19 55 14.9 -1.7**
NAX Nakhchivan 56.23 317 P **P 19 55 16.2 -1.4**
GANJ Ganja 56.39 319 P **P 19 55 17.4 -1.2**
ZKTA Zakatala 56.69 320 P **P 19 55 19.5 -1.2**
KLR Kul'dur 57.16 29 *i* P **P 19 55 23.6 -0.2**
GNI Garni 57.21 317 *eP* **P 19 55 24.7 +0.1**
comp=Z,24nm,1.3s
GNI Garni 57.21 317*ce*P **P 19 55 23.9 -0.7**
GNI pmax pmax
comp=Z,45nm,1.2s
BOD Bodaibo 57.59 13⇑*i*P **P 19 55 26.7 0.0**
BOD pmax pmax
comp=Z,28nm,1.0s
STKA Stephens Creek 57.65 131 P **P 19 55 26.9 -0.7**
comp=Z,1.5nm,0.9s,baz=329,slow=18,SNR=2.9
STKA Stephens Creek 57.65 131 P **P 19 55 30.8 +3.1**
baz=58,SNR=6.3
STKA Stephens Creek 57.65 131 *eP* **P 19 55 29.7 +2.0**
comp=Z,1.2nm,0.6s
TBLG Delisi 57.96 319 *eP* **P 19 55 30.2 +0.5**
comp=Z,24nm,1.1s
TBLG Delisi 57.96 319 *eP* **P 19 55 30.2 +0.5**
TBLG pmax pmax
comp=Z,24nm,1.1s
ZEA Zeya 58.35 23 *eP* **P 19 55 32.1 0.0**
ZEA pmax pmax
comp=Z,10.0nm,0.8s
AKH Akhalkalaki 58.63 318 *eP* **P 19 55 33.9 -0.7**
comp=Z,6.9nm,1.0s
AKH Akhalkalaki 58.63 318 *eP* **P 19 55 33.9 -0.7**
AKH pmax pmax
comp=Z,7.0nm,1.0s
ZEI Tsey 59.02 320 *eP* **P 19 55 36.2 -1.1**
ZEI pmax pmax
comp=Z,5.0nm,0.7s
NCK Nalchik 59.55 320 *i* P **P 19 55 40.4 -0.3**
NCK pmax pmax
comp=Z,10.0nm,1.0s
SVE Sverdlovsk 59.81 340 *eP* **P 19 55 41.3 -0.9**
NEY Neytrino 59.99 320 *i* P **P 19 55 44.1 +0.1**
NEY pmax pmax
comp=Z,1.0nm,0.8s
ASF Jabal al Asfar 60.00 306 P **P 19 55 45.4 +1.3**
comp=Z,3.8nm,0.7s,baz=63,slow=4.5,SNR=6.9
KBZ Khabaz 60.11 320 P **P 19 55 44.8 +0.3**
comp=Z,8.4nm,0.8s,baz=131,slow=4.6,SNR=23
ARU Arti 60.22 339 *eP* **P 19 55 43.4 -1.7**
ARU Arti 60.22 339*c iP* **P 19 55 43.3 -1.7**
ARU 19 56 28.2
ARU S **S 20 03 58.6 +1.8**
ARU SS **SS 20 07 50.7 -3.7**
ARU pmax pmax
comp=Z,21nm,1.7s
KIV Kislovodsk 60.35 320 *eP* **P 19 55 44.6 -1.6**
comp=Z,19nm,1.0s
KIV Kislovodsk 60.35 320 *eP* **P 19 55 44.1 -2.2**
KIV pmax pmax
comp=Z,22nm,1.1s
ASAJ Asahikawa 60.36 39 P **P 19 55 47.0 +0.7**
comp=Z,3.4nm,0.7s,baz=225,slow=2.9,SNR=7.8
ASAJ Asahikawa 60.36 39 *eP* **P 19 55 46.8 +0.5**
comp=Z,6.1nm,1.0s
ASAJ Asahikawa 60.36 39 P **P 19 55 47.0 +0.7**
ASAJ pmax pmax
comp=Z,3.0nm,0.7s
CMSA Cobar Meteorol 60.66 129 P **P 19 55 49.1 +0.6**
baz=61,SNR=11
RMQ Roma 61.32 122 P **P 19 55 55.8 +2.7**
baz=62
MMAI Mount Meron Ar 61.45 306 P **P 19 55 55.4 +1.4**
comp=Z,2.1nm,0.6s,baz=96,slow=10,SNR=6.8
YSS Yuzh-Sakhalins 61.84 37 *eP* **P 19 55 56.4 +0.2**
comp=Z,20nm,1.2s
YSS Yuzh-Sakhalins 61.84 37⇑*eP* **P 19 55 57.0 +0.8**
YSS *e* 19 56 10.9
YSS MLR MLR
comp=Z,1μm,21.0s
ANN Anapa 64.10 319 *eP* **P 19 56 08.2 -3.1**
ANN pmax pmax
comp=Z,71nm,1.8s
VRH Novokhopyorsk 64.50 327 *eP* **P 19 56 12.0 -1.7**
VRH pmax pmax
comp=Z,10.0nm,0.8s
BR101 Keskin Array S 64.87 313 *eP* **P 19 56 16.1 -0.4**
BR131 Keskin Array S 64.87 313 *eP* **P 19 56 15.1 -1.5**
BRTR Keskin Array B 64.87 313 P **P 19 56 16.1 -0.4**
comp=Z,2.6nm,0.6s,baz=140,slow=7.4,SNR=18
YAK Yakutsk 65.44 18 *eP* **P 19 56 19.1 -0.5**
comp=Z,50nm,0.9s
YAK Yakutsk 65.44 18 *eP* **P 19 56 18.8 -0.8**
YAK *e**PP **sP 19 56 31.7 -1.0**
YAK *e* 19 56 58.4
YAK *eS* **S 20 05 02.9 +1.0**
YAK *e**SS SKSac 20 05 19.2 -53
YAK *e* 20 06 07.6
YAK pmax pmax
comp=Z,44nm,0.9s
YAK pmax pmax
comp=N,11nm,1.1s
YAK pmax pmax
comp=E,8.0nm,1.0s
YAK pmax pmax
comp=Z,69nm,3.6s
YAK pmax pmax
comp=N,31nm,3.5s
YAK pmax pmax
comp=E,21nm,3.3s
YAK smax smax
comp=E,31nm,3.3s
YAK smax smax
comp=N,49nm,3.1s
YAK MLR MLR
comp=Z,1μm,31.0s
YAK MLR MLR
comp=N,5μm,29.0s
YAK MLR MLR
comp=E,1μm,30.0s
ANTO Ankara 65.53 313 *eP* **P 19 56 19.5 -1.3**
comp=E,13nm,1.3s
ANTO Ankara 65.53 313 *eP* **P 19 56 19.5 -1.3**
ANTO pmax pmax
comp=Z,13nm,1.3s
BR231 Keskin MP Arra 65.53 313 *eP* **P 19 56 17.0 -3.8**
VSR Storozhevoye 65.90 326 *eP* **P 19 56 20.9 -1.9**
VSR pmax pmax
comp=Z,10.0nm,0.9s
LSZ Lusaka 66.22 252 *eP* **P 19 56 25.2 -0.5**
comp=Z,5.5nm,0.9s
LSZ Lusaka 66.22 252 *eP* **P 19 56 25.2 -0.5**
LSZ pmax pmax
comp=Z,6.0nm,0.9s
LPSR Galich'ya Gora 66.69 328 *eP* **P 19 56 26.8 -1.1**
LPSR pmax pmax
comp=Z,20nm,0.7s
OBN Obninsk 69.11 329 *eP* **P 19 56 41.7 -1.3**
comp=Z,27nm,1.2s
OBN Obninsk 69.11 329*de*P **P 19 56 41.9 -1.1**
OBN *e* 19 57 05.4
OBN *e* 19 59 15.5
OBN pmax pmax
comp=Z,29nm,2.5s
TIRR Tirgusor 70.02 317⇓*i*P **P 19 56 48.6 -0.3**
TIRR Tirgusor 70.02 317 *eP* **P 19 56 48.0 -0.8**
comp=Z,9.2nm,1.0s
TIRR Tirgusor 70.02 317 *eP* **P 19 56 48.0 -0.8**
TIRR pmax pmax
comp=Z,9.0nm,1.0s
CFR Carcaliu 70.41 317⇓*i*P **P 19 56 50.8 -0.5**
CFR Carcaliu 70.41 317 P **P 19 56 50.8 -0.5**
IDI Anoyia 70.46 307 P **P 19 56 52.6 +0.8**
comp=Z,12nm,0.7s,baz=114,slow=12,SNR=4.3
IDI Anoyia 70.46 307 *eP* **P 19 56 52.3 +0.5**
comp=Z,184nm,1.6s
LBTB Lobatse 70.49 242 *eP* **P 19 56 52.0 -0.3**
comp=Z,27nm,0.8s
LBTB Lobatse 70.49 242 *eP* **P 19 56 52.0 -0.3**
LBTB pmax pmax
comp=Z,27nm,0.8s
KLMR Klimovskoe 70.60 335 *eP* **P 19 56 49.6 -2.5**
KLMR AMP 19 56 51.4
comp=Z,7.0nm,0.8s
KLMR *ePcP* **PcP 19 57 08.7 -4.3**
KLMR Klimovskoe 70.60 335 *eP* **P 19 56 49.6 -2.5**
KLMR *e* 19 57 08.6
KLMR pmax pmax
comp=Z,7.0nm,0.8s
SORM Soroca 71.15 320⇑*i*P **P 19 56 55.3 -0.5**
SORM Soroca 71.15 320 P **P 19 56 55.2 -0.5**
AKASG Malin Array Be 71.44 323 P **P 19 56 56.3 -1.1**
comp=Z,1.7nm,0.5s,baz=90,slow=5.1,SNR=15
AKBB Malin Array Si 71.44 323 *eP* **P 19 56 56.4 -1.0**
AKBB Malin Array Si 71.44 323 *eP* **P 19 56 56.4 -1.0**
KIEV Kiev 71.44 323 *eP* **P 19 56 56.3 -1.1**
comp=Z,9.3nm,1.4s
KIEV Kiev 71.44 323 *i* P **P 19 56 55.3 -2.1**
KIEV pmax pmax
comp=Z,3.0nm,1.1s
AK11 Malin Array Si 71.46 323 *eP* **P 19 56 55.9 -1.6**
ISR Istrita 71.48 317⇑*i*P **P 19 56 58.5 +0.6**
ISR Istrita 71.48 317 P **P 19 56 58.5 +0.6**
VRI Vrincioaia 71.56 318⇑*i*P **P 19 56 59.1 +0.8**
VRI Vrincioaia 71.56 318 P **P 19 56 59.1 +0.8**
BOSA Boshof 71.60 239 P **P 19 56 58.8 -0.2**
comp=Z,14nm,0.8s,baz=80,slow=7.4,SNR=31
BOSA Boshof 71.60 239 *eP* **P 19 56 58.6 -0.4**
comp=Z,22nm,0.9s
BOSA Boshof 71.60 239 *eP* **P 19 56 58.6 -0.4**
BOSA pmax pmax
comp=Z,22nm,0.9s
PLOR Plostina 71.61 318⇓*i*P **P 19 56 59.3 +0.7**
PLOR Plostina 71.61 318 P **P 19 56 59.3 +0.7**
TESR Tescani 71.79 318⇑*i*P **P 19 56 59.4 -0.2**
MLR Muntele Rosu 71.99 317 P **P 19 57 01.5 +0.6**
comp=Z,3.2nm,0.9s,baz=97,slow=3.8
MLR Muntele Rosu 71.99 317⇓*i*P **P 19 57 01.6 +0.6**
MLR Muntele Rosu 71.99 317 *eP* **P 19 57 00.6 -0.4**
comp=Z,16nm,0.9s
MLR Muntele Rosu 71.99 317 *eP* **P 19 57 00.6 -0.4**
MLR pmax pmax
comp=Z,16nm,0.9s
MA2 Magadan 72.10 27 *eP* **P 19 57 00.8 -0.4**
comp=Z,23nm,1.4s
MA2 Magadan 72.10 27⇑*eP* **P 19 56 59.2 -2.0**
MA2 pmax pmax
comp=Z,6.0nm,1.0s
PRAR RASCA 72.30 319⇓*i*P **P 19 57 02.6 -0.1**
HUMR Humele 72.40 316⇑*i*P **P 19 57 03.4 +0.1**
DOPR Dopca 72.49 318⇑*i*P **P 19 57 04.0 +0.2**
VOIR 72.58 317⇑*i*P **P 19 57 04.0 -0.5**
VOIR 72.58 317 P **P 19 57 04.0 -0.5**
TIXI Tiksi 72.67 11 *eP* **P 19 57 03.0 -1.3**
comp=Z,22nm,0.6s
TIXI Tiksi 72.67 11*de*P **P 19 57 03.6 -0.7**
TIXI pmax pmax
comp=Z,18nm,0.6s
ARR Arges 72.85 317⇓*i*P **P 19 57 05.6 -0.5**
TMCR Tamitsa 72.93 338 *eP* **P 19 57 05.5 -0.5**
TMCR pmax pmax
comp=Z,12nm,0.8s
BURAR Bucovina Array 73.03 319⇑*i*P **P 19 57 07.5 +0.4**
BURAR Bucovina Array 73.03 319 P **P 19 57 07.5 +0.4**
BUR04 Bucovina Ar. S 73.03 319 *eP* **P 19 57 07.1 0.0**
BUR08 Bucovina Ar. S 73.05 319 *eP* **P 19 57 06.4 -0.8**
ITM Ithomi 73.15 308 *eP* **P 19 57 07.5 -0.5**
comp=Z,68nm,1.4s
AGG Agios Georgios 73.17 310 *eP* **P 19 57 06.3 -1.7**
comp=Z,134nm,1.6s
AGG Agios Georgios 73.17 310 *eP* **P 19 57 06.3 -1.7**
AGG pmax pmax
comp=Z,134nm,1.6s
VTS Vitosha 73.22 314⇓*i*P **P 19 57 08.1 -0.3**
VTS Vitosha 73.22 314 *eP* **P 19 57 07.8 -0.6**
comp=Z,5.8nm,0.8s
VTS Vitosha 73.22 314 *eP* **P 19 57 07.8 -0.6**
VTS pmax pmax
comp=Z,6.0nm,0.8s
SEY Seymchan 74.31 24*ce*P **P 19 57 12.7 -1.4**
IDID Didziasalis 74.37 327 *eP* **P 19 57 13.9 -0.7**
IDID IAmb IAmb 19 57 16.5
comp=Z,7.3nm,1.2s
DRGR 74.48 318⇓*i*P **P 19 57 16.0 +0.3**
DRGR 74.48 318 P **P 19 57 15.9 +0.3**
IIGN Ignalina 74.66 327 *eP* **P 19 57 15.6 -0.8**
IIGN IAmb IAmb 19 57 17.2
comp=Z,7.2nm,1.1s
IZAR Zarasai 74.77 328 *eP* **P 19 57 16.2 -0.8**
IZAR IAmb IAmb 19 57 18.8
comp=Z,4.5nm,0.7s
TRPA Tarpa 74.90 319⇑*i*P **P 19 57 18.4 +0.5**
BZS Buzias 74.97 317⇑*i*P **P 19 57 18.3 -0.1**
KWP Kalwaria Pacla 75.15 321 *eP* **P 19 57 20.0 +0.6**
KWP Kalwaria Pacla 75.15 321 *eP* **P 19 57 18.8 -0.5**
comp=Z,66nm,0.7s
KWP Kalwaria Pacla 75.15 321 *eP* **P 19 57 18.8 -0.5**
KWP pmax pmax
comp=Z,66nm,0.7s
VSU Vasula 75.40 330*ce*P **P 19 57 21.1 +0.6**
VSU pmax pmax
comp=Z,80nm,2.5s
SUW Suwalki 75.96 325 *eP* **P 19 57 23.2 -0.7**
comp=Z,248nm,0.4s
SUW Suwalki 75.96 325 *eP* **P 19 57 23.2 -0.7**
SUW pmax pmax
comp=Z,248nm,0.4s
LVZ Lovozero 76.02 341 *eP* **P 19 57 23.1 -0.8**
comp=Z,37nm,1.5s
LVZ Lovozero 76.02 341 *eP* **P 19 57 23.2 -0.8**
LVZ pmax pmax
comp=Z,37nm,1.5s
STHS Stebnicka Huta 76.03 320 *eP* **P 19 57 25.2 +0.8**
STHS Stebnicka Huta 76.03 320 *eP* **P 19 57 25.2 +0.8**
STHS pmax pmax
comp=Z,8.0nm,1.2s
NIE Niedzica 76.63 320 *eP* **P 19 57 28.8 +0.9**
NIE Niedzica 76.63 320 *eP* **P 19 57 28.8 +0.9**
FIA0 FINESS Array S 76.71 333 *eP* **P 19 57 27.3 -0.7**
FIA0 FINESS Array S 76.71 333 *eP* **P 19 57 27.3 -0.7**
FINES FINESS Array B 76.71 333 P **P 19 57 27.3 -0.7**
comp=Z,5.1nm,0.7s,baz=97,slow=4.9,SNR=18
OJC Ojcow 77.11 321 *eP* **P 19 57 31.2 +0.7**
OJC Ojcow 77.11 321 *eP* **P 19 57 31.2 +0.7**
VYHS Vyhne 77.40 319 *eP* **P 19 57 32.0 -0.1**
VYHS Vyhne 77.40 319 *eP* **P 19 57 32.0 -0.1**

VYHS				pmax	pmax		
	comp=Z,6.0nm,1.4s						
MODS	**Modra-Piesok**	**78.40**	**319**	*e*P	**P**	**19 57 37.4**	**-0.3**
MODS	**Modra-Piesok**	**78.40**	**319**	*e*P	**P**	**19 57 37.4**	**-0.3**
MODS				pmax	pmax		
	comp=Z,19nm,1.2s						
MORC	**Moravsky Berou**	**78.46**	**320**	⇓*i*P	**P**	**19 57 38.7**	**+0.6**
MORC	**Moravsky Berou**	**78.46**	**320**	P	**P**	**19 57 38.6**	**+0.5**
KRLC	**Kraliky**	**78.99**	**320**	*e*P	**P**	**19 57 41.8**	**+0.8**
KRLC				*e*PCP	**PcP**	**19 57 50.6**	**+1.1**
KRLC	**Kraliky**	**78.99**	**320**	*e*P	**P**	**19 57 41.8**	**+0.8**
KRLC				*e*		19 57 50.6	
KRLC				*e*		19 57 53.7	
CONA	**Conrad Observa**	**79.27**	**318**	*e*P	**P**	**19 57 42.7**	**+0.1**
	comp=Z,1.1nm,0.5s						
DPC	**Dobruska-Polom**	**79.33**	**321**	*e*P	**P**	**19 57 43.8**	**+1.0**
DPC				*ex*	x	19 57 55.5	
DPC				*ex*	x	19 57 59.3	
DPC	**Dobruska-Polom**	**79.33**	**321**	*e*P	**P**	**19 57 43.8**	**+1.0**
DPC				*e*		19 57 55.5	
DPC				*e*		19 57 59.3	
ARSA	**Arzberg**	**79.40**	**317**	*e*P	**P**	**19 57 44.1**	**+0.8**
	comp=Z,8.4nm,0.8s,SNR=6.2						
UPC	**Upice**	**79.55**	**321**	*e*P	**P**	**19 57 45.0**	**+1.0**
UPC	**Upice**	**79.55**	**321**	*e*P	**P**	**19 57 45.0**	**+1.0**
SOKA	**Soboth**	**79.66**	**317**	*e*P	**P**	**19 57 45.1**	**+0.3**
	comp=Z,7.2nm,0.8s,SNR=6.4						
ARA0	**ARCESS Array S**	**79.74**	**341**	*e*P	**P**	**19 57 43.9**	**-0.8**
ARCES	**ARCESS Array B**	**79.74**	**341**	P	**P**	**19 57 43.9**	**-0.8**
	comp=Z,3.3nm,0.8s,baz=82,slow=6.5,SNR=20						
ARCES	**ARCESS Array B**	**79.74**	**341**	*e*P	**P**	**19 57 44.1**	**-0.5**
ARCES	**ARCESS Array B**	**79.74**	**341**	*e*P	**P**	**19 57 44.1**	**-0.5**
SYO	**Syowa Base**	**79.96**	**197**	⇓*e*P	**P**	**19 57 45.0**	**-0.7**
OBKA	**Obir**	**79.97**	**317**	*e*P	**P**	**19 57 47.1**	**+0.6**
	comp=Z,5.0nm,0.8s						
PRU	**Pruhonice**	**80.41**	**320**	*e*P	**P**	**19 57 49.3**	**+0.7**
PRU	**Pruhonice**	**80.41**	**320**	*e*P	**P**	**19 57 49.3**	**+0.7**
PVCC	**Panska Ves**	**80.46**	**321**	*e*P	**P**	**19 57 49.7**	**+0.8**
PVCC	**Panska Ves**	**80.46**	**321**	*e*P	**P**	**19 57 49.7**	**+0.8**
MYKA	**Terra Mystica**	**80.61**	**317**	*e*P	**P**	**19 57 50.2**	**+0.4**
	comp=Z,4.3nm,0.8s						
GEA0	**GERESS Array S**	**80.81**	**319**	*e*P	**P**	**19 57 50.9**	**-0.1**
GEC2	**GERESS Array S**	**80.81**	**319**	*e*P	**P**	**19 57 51.5**	**+0.6**
	comp=Z,17nm,0.9s						
GEC2	**GERESS Array S**	**80.81**	**319**	*e*P	**P**	**19 57 51.6**	**+0.6**
GEC2				pmax	pmax		
	comp=Z,17nm,0.9s						
GERES	**GERESS Array B**	**80.81**	**319**	P	**P**	**19 57 51.4**	**+0.5**
	comp=Z,9.2nm,0.8s,baz=100,slow=5.5,SNR=73						
KBA	**Koelnbreinsper**	**80.86**	**317**	*e*P	**P**	**19 57 51.3**	**0.0**
	comp=Z,6.6nm,1.3s						
BRG	**Berggiesshubel**	**80.90**	**321**	*e*P	**P**	**19 57 51.8**	**+0.6**
	comp=Z,8.4nm,1.0s						
BRG	**Berggiesshubel**	**80.90**	**321**	*e*P	**P**	**19 57 51.8**	**+0.6**
BRG				pmax	pmax		
	comp=Z,8.0nm,1.0s						
KHC	**Kasperske Hory**	**80.93**	**319**	*e*P	**P**	**19 57 51.7**	**+0.2**
KHC	**Kasperske Hory**	**80.93**	**319**	*e*P	**P**	**19 57 51.9**	**+0.4**
	comp=Z,3.0nm,1.1s						
KHC	**Kasperske Hory**	**80.93**	**319**	*e*P	**P**	**19 57 51.7**	**+0.2**
ABTA	**Abfaltersbach**	**81.39**	**317**	*e*P	**P**	**19 57 53.4**	**-0.6**
	comp=Z,2.8nm,0.8s						
BILL	**Bilibino**	**81.50**	**21**	⇓*i*P	**P**	**19 57 54.4**	**+0.3**
BILL				*e*		19 57 58.9	
BILL				*e*		20 01 01.5	
BILL				pmax	pmax		
	comp=Z,2.0nm,1.0s						
BILL				MLR	MLR		
	comp=Z,4μm,23.0s						
CLL	**Collm**	**81.54**	**321**	⇓*i*P	**P**	**19 57 54.5**	**-0.1**
	comp=Z,10.0nm,1.1s						
CLL	**Collm**	**81.54**	**321**	*e*P	**P**	**19 57 54.4**	**-0.2**
	comp=Z,7.1nm,1.0s						
CLL	**Collm**	**81.54**	**321**	⇓*i*P	**P**	**19 57 54.5**	**-0.1**
CLL				pmax	pmax		
	comp=Z,10.0nm,1.1s						
WTTA	**Wattenberg**	**82.03**	**317**	*e*P	**P**	**19 57 57.2**	**-0.3**
	comp=Z,9.4nm,1.0s						
WATA	**Walderalm**	**82.08**	**317**	*e*P	**P**	**19 57 57.6**	**-0.2**
	comp=Z,8.3nm,1.1s						
HFS	**Hagfors**	**82.29**	**330**	P	**P**	**19 57 57.8**	**-0.5**
	comp=Z,2.7nm,0.6s,baz=104,slow=6.1,SNR=14						
MOTA	**Moosalm**	**82.40**	**317**	*e*P	**P**	**19 57 59.0**	**-0.4**
	comp=Z,3.2nm,0.5s						
FETA	**Feichten**	**82.63**	**317**	*e*P	**P**	**19 58 00.8**	**+0.1**
	comp=Z,7.9nm,1.4s,SNR=4.3						
RETA	**Reutte**	**82.64**	**317**	*e*P	**P**	**19 58 00.3**	**-0.3**
	comp=Z,4.7nm,0.6s,SNR=5.5						
KEST	**Kesra**	**83.09**	**306**	P	**P**	**19 58 02.6**	**-0.6**
	comp=Z,6.3nm,0.9s,baz=37,slow=6.9,SNR=3.5						
DAVA	**Damuels**	**83.23**	**317**	*e*P	**P**	**19 58 04.1**	**+0.3**
	comp=Z,16nm,1.1s,SNR=5.5						
NB2	**NORSAR Subarra**	**83.62**	**331**	P	**P**	**19 58 04.3**	**-1.1**
	comp=Z,2.8nm,0.7s,baz=94,slow=5.1						
NB200	**NORSAR Array S**	**83.62**	**331**	*e*P	**P**	**19 58 04.2**	**-1.1**
NOA	**NORSAR Array B**	**83.62**	**331**	P	**P**	**19 58 04.2**	**-1.1**
	comp=Z,2.9nm,0.8s,baz=99,slow=5.6,SNR=6.3						
SPA0	**Spitsbergen Ar**	**84.69**	**348**	*e*P	**P**	**19 58 08.8**	**-1.7**
SPITS	**Spitsbergen Ar**	**84.69**	**348**	P	**P**	**19 58 08.8**	**-1.7**
	comp=Z,6.4nm,0.7s,baz=108,slow=9.5,SNR=6.9						
URZ	**Urewera**	**87.20**	**128**	LR	LR	20 41 05.0	
	comp=Z,515nm,18.1s,baz=4.5,slow=38						
GAMB	**Gambell**	**90.18**	**26**	*e*P	**P**	**19 58 36.2**	**-0.8**
	comp=Z,4.1nm,1.1s						
EKA	**Eskdalemuir Ar**	**91.23**	**325**	P	**P**	**19 58 41.5**	**-0.6**
	comp=Z,1.1nm,0.6s,baz=101,slow=3.8,SNR=3.9						
ESDC	**Sonseca Array**	**93.49**	**310**	P	**P**	**19 58 53.1**	**+0.1**
	comp=Z,0.5nm,0.5s,baz=42,slow=4.2,SNR=4.2						
LTX	**Lajitas**	**144.60**	**25**	*e*PKPdf	PKPbc	20 05 13.3	+0.2
LTX	**Lajitas**	**144.60**	**25**	*e*PKIKP	PKPbc	20 05 13.4	+0.3
TXAR	**Lajitas Array**	**144.60**	**25**	PKP	PKPbc	20 05 13.3	+0.2
	comp=Z,2.0nm,0.5s,baz=206,slow=1.0,SNR=18						

GUC 17 19:50:23.6±0.5, 36.86S×73.08W, h28km±1km, ML3.9, 2C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CCSP	**San Pedro de C**	**0.03**	**308**	⇑*i*P	Pb	19 50 27.8	-0.6
CCSP				*i* S	Sb	19 50 31.4	-0.2
CCSP				IAML		19 50 32.7	
	comp=N,30μm,0.4s						
COCH	**Cobquecura**	**0.77**	**18**	⇓*i*P	Pb	19 50 37.0	-1.3
COCH				*i* S	Sb	19 50 47.2	-1.2
CCHI	**Chillan**	**0.85**	**73**	⇓*i*P	Pn	19 50 38.5	-1.1
CCHI				*i* S	Sb	19 50 49.3	-1.5
CCHI				IAML		19 50 57.1	
	comp=E,9μm,0.2s						
TMU	**Temuco**	**1.91**	**169**	*e*P	Pn	19 50 54.3	+0.1
TMU				*i* S	Sn	19 51 18.9	+1.6
TMU				IAML		19 51 24.3	
	comp=N,788nm,0.4s						
GO05	**HualaæØ**	**2.07**	**27**	⇑*i*P	Pn	19 50 56.3	-0.2
GO05				*e*S	Sn	19 51 22.9	+1.6
GO05				IAML		19 51 30.0	
	comp=N,1μm,0.3s						
LMEL	**Las Melosas**	**3.82**	**39**	⇓*i*P	Pn	19 51 21.4	+0.8
PEL	**Peldehue**	**4.20**	**29**	*e*P	Pn	19 51 26.2	+0.4
PEL				*i* S	Sn	19 52 14.9	+1.0

ATA 17 19:59:05.1±1.3, 38.60N×43.46E, h0km±13km, ML3.0, MW3.3
ISK 17 19:59:05.6, 38.58N×43.49E, h3km, ML2.8/4
DDA 17 19:59:06.5, 38.62N×43.52E, h7km, Ml2.8
IASPEI 17 19:59:06.9±0.9, 38.60N±0.02×43.48E±0.03, h10km±5km, Error ellipse: s-maj=4.9km s-min=3.1km az=107.4, GT5 selection from ISC bulletin GT5 identified by Bond˙ȷr and McLaughlin (2009) selection criteria Bond˙ȷr and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009
CSEM 17 19:59:06.1±0.2, 38.59N×43.46E, h10km, ML2.8, Error ellipse: s-maj=7.0km s-min=4.1km az=97.0
ISCJB 17 19:59:06.6±0.6, 38.61N±0.03×43.52E±0.05, h5km±5km, Error ellipse: s-maj=7.1km s-min=4.2km az=13.7

ISC 17 19:59:06.9±0.9, 38.60N±0.02×43.48E±0.03, h10km±5km, n35, σ1s05/52, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VANB	**Van**	**0.07**	**268**	PG	**Pg**	**19 59 08.4**	**-0.9**
VANB	**Van**	**0.07**	**268**	*e*Pg	**Pg**	**19 59 08.4**	**-0.9**
TVAN	**Van**	**0.09**	**221**	*i* P	**Pg**	**19 59 08.4**	**-1.2**
TVAN				*i* S	**Sg**	**19 59 12.8**	**+1.3**
TVAN	**Van**	**0.09**	**221**	P	**Pg**	**19 59 08.4**	**-1.2**
TVAN				S	**Sg**	**19 59 12.8**	**+1.3**
VMUR	**Van-Muradiye**	**0.40**	**10**	*i* P	**Pg**	**19 59 13.9**	**-0.9**
VMUR				*i* S	**Sb**	**19 59 24.2**	**+1.7**
VMUR	**Van-Muradiye**	**0.40**	**10**	P	**Pg**	**19 59 13.9**	**-0.9**
VMUR				S	**Sb**	**19 59 24.2**	**+1.7**
ERCV	**ERCIS-VAN**	**0.44**	**345**	PG	**Pg**	**19 59 14.8**	**-0.8**
ERCV	**ERCIS-VAN**	**0.44**	**345**	*e*Pg	**Pg**	**19 59 14.8**	**-0.8**
GEVA	**Gevas**	**0.44**	**230**	*i* P	**Pg**	**19 59 14.7**	**-0.9**
GEVA				IAML		19 59 28.8	
	comp=Z,72nm,0.7s						
GEVA	**Gevas**	**0.44**	**230**	*i* P	**Pg**	**19 59 14.7**	**-0.9**
GEVA				*i* S	**Sb**	**19 59 24.0**	**+0.4**
GEVA	**Gevas**	**0.44**	**230**	P	**Pg**	**19 59 14.7**	**-0.9**
GEVA				S	**Sb**	**19 59 24.0**	**+0.4**
CLDR	**Caldiran**	**0.64**	**32**	PG	**Pg**	**19 59 18.4**	**-1.1**
CLDR				SG	**Sb**	**19 59 28.9**	**-0.7**
CLDR	**Caldiran**	**0.64**	**32**	*i* P	**Pg**	**19 59 18.2**	**-1.2**
CLDR				*i* S	**Sb**	**19 59 30.2**	**+0.6**
CLDR	**Caldiran**	**0.64**	**32**	*e*Pg	**Pg**	**19 59 18.4**	**-1.1**
CLDR				*e*Sg	**Sb**	**19 59 28.9**	**-0.7**
CLDR				S	**Sb**	**19 59 30.2**	**+0.6**
TUTA	**Tutak**	**0.96**	**327**	*e*P	**Pg**	**19 59 23.5**	**-1.9**
TUTA				IAML		19 59 42.1	
	comp=Z,43nm,0.6s						
TUTA	**Tutak**	**0.96**	**327**	*i* P	**Pg**	**19 59 23.9**	**-1.5**
TUTA				*i* S	**Sb**	**19 59 39.1**	**+0.5**
TUTA	**Tutak**	**0.96**	**327**	P	**Pg**	**19 59 23.9**	**-1.5**
TUTA				S	**Sb**	**19 59 39.2**	**+0.5**
DYDN	**Diyadin**	**0.96**	**10**	*e*P	**Pg**	**19 59 24.7**	**-0.7**
DYDN	**Diyadin**	**0.96**	**10**	*e*P	**Pb**	**19 59 25.6**	**-0.3**
DYDN	**Diyadin**	**0.96**	**10**	P	**Pb**	**19 59 25.6**	**-0.3**
AGRB	**Hanur-Agry**	**1.05**	**339**	PG	**Pb**	**19 59 26.7**	**-0.7**
AGRB				SG	**Sn**	**19 59 42.4**	**-0.4**
AGRB	**Hanur-Agry**	**1.05**	**339**	*e*Pg	**Pb**	**19 59 26.7**	**-0.7**
AGRB				*e*Sg	**Sn**	**19 59 42.4**	**-0.4**
HAKT	**HAKKARI**	**1.05**	**170**	*i* P	**Pg**	**19 59 26.3**	**-0.9**
HAKT				*i* S	**Sn**	**19 59 43.6**	**+0.7**
HAKT	**HAKKARI**	**1.05**	**170**	P	**Pg**	**19 59 26.3**	**-0.9**
HAKT				S	**Sn**	**19 59 43.6**	**+0.7**
GURO	**Guroymak-BITLI**	**1.14**	**268**	PN	**Pg**	**19 59 27.7**	**-1.1**
GURO	**Guroymak-BITLI**	**1.14**	**268**	*e*Pn	**Pg**	**19 59 27.7**	**-1.1**
YOVA	**Hakkari_Y˙…kse**	**1.19**	**147**	*e*P	**Pb**	**19 59 29.2**	**-0.6**
YOVA	**Hakkari_Y˙…kse**	**1.19**	**147**	P	**Pb**	**19 59 29.2**	**-0.6**
EKAR	**Karacoban**	**1.29**	**301**	*e*P	**Pg**	**19 59 31.2**	**-0.4**
IGDI	**IGDIR**	**1.35**	**20**	*e*P	**Pg**	**19 59 32.2**	**-0.7**
SIRT	**Sirnak**	**1.37**	**217**	PN	**Pb**	**19 59 32.3**	**-0.4**
SIRT	**Sirnak**	**1.37**	**217**	*e*Pn	**Pb**	**19 59 32.3**	**-0.4**
EATA	**Eleskirt**	**1.48**	**329**	*e*P	**Pb**	**19 59 33.9**	**-0.9**
EATA				*e*S	**Sg**	**19 59 57.5**	**+2.9**
HOMI	**Horasan**	**1.89**	**320**	*e*P	**Pb**	**19 59 40.8**	**-1.0**
ERZM	**Erzurum**	**2.10**	**309**	*e*P	**Pb**	**19 59 44.6**	**-0.7**

ISCJB 17 20:12:46.3±1.0, 43.01N±0.09×145.93E±0.06, h51km±11km, Error ellipse: s-maj=11.6km s-min=5.3km az=149.3
SKHL 17 20:12:47.3±0.7, 43.02N×145.91E, h55km±4km, mb4.7/3
JMA 17 20:12:47.2±0.1, 43.04N×145.84E, h50km±1km, M3.2
JMA Felt I J1.

ISC 17 20:12:46.5±1.8, 43.01N±0.09×145.93E±0.06, h47km±16km, n13, σ0s54/26, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NEM2	**Nemuro 2**	**0.38**	**339**	P	**Pn**	**20 12 56.6**	**+0.4**
NEM2				*e*S	**Sn**	**20 13 03.1**	**+0.1**
GLVR	**Golovnino**	**0.79**	**338**	*e*P	**Pn**	**20 13 01.0**	**-0.3**
GLVR				*e*S	**Sn**	**20 13 11.9**	**-0.1**
GLVR				A	A	20 13 14.1	
	1μm,0.2s						
GLVR				A	A	20 13 14.1	
	2μm,0.2s						
JAK	**Akkeshi**	**0.90**	**269**	P	**Pn**	**20 13 02.8**	**0.0**
JAK				*e*S	**Sn**	**20 13 14.6**	**-0.2**
GRPR	**Tuman**	**0.99**	**354**	*e*P	**Pn**	**20 13 04.1**	**+0.1**
GRPR				AMB	AMB	20 13 04.6	
	230nm,0.2s						
GRPR				*e*S	**Sn**	**20 13 16.1**	**-0.8**
GRPR				A	A	20 13 16.4	
	502nm,0.2s						
GRPR				A	A	20 13 16.4	
	1μm,0.2s						
YUK	**Yuzh-Kuril'sk**	**1.02**	**357**	*e*P	**Pn**	**20 13 05.1**	**+0.6**
YUK				AMB	AMB	20 13 05.7	
	251nm,0.2s						
YUK				*e*S	**Sn**	**20 13 17.7**	**0.0**
YUK				A	A	20 13 19.5	
	740nm,0.2s						
YUK				A	A	20 13 19.5	
	1μm,0.2s						
LAGR	**Lagunnoye**	**1.05**	**354**	*e*P	**Pn**	**20 13 04.6**	**-0.2**
LAGR				AMB	AMB	20 13 05.3	
	167nm,0.2s						
LAGR				*e*S	**Sn**	**20 13 17.9**	**-0.4**
LAGR				A	A	20 13 19.1	
	2μm,0.3s						
LAGR				A	A	20 13 19.1	
	2μm,0.3s						
JNK	**Nakash**	**1.05**	**303**	P	**Pn**	**20 13 04.6**	**-0.3**
JNK				S	**Sn**	**20 13 17.1**	**-1.3**
SHO	**Shikotan**	**1.08**	**37**	*e*P	**Pn**	**20 13 04.9**	**-0.4**
SHO				*e*S	**Sn**	**20 13 18.3**	**-0.8**
SHO				A	A	20 13 21.7	
	280nm,0.1s						
SHO				A	A	20 13 21.7	
	156nm,0.1s						
JRA	**Rausu**	**1.10**	**328**	P	**Pn**	**20 13 05.7**	**+0.2**
JRA				S	**Sn**	**20 13 19.2**	**-0.3**
JOB	**Onbets**	**1.54**	**267**	P	**Pn**	**20 13 11.7**	**+0.2**
JOB				*e*S	**Sn**	**20 13 29.8**	**-0.5**
JAR	**Ashorobuto**	**1.60**	**281**	P	**Pn**	**20 13 12.6**	**+0.2**
JAR				*e*S	**Sn**	**20 13 31.9**	**0.0**
JTKR	**Abashiri--Toko**	**1.75**	**304**	P	**Pn**	**20 13 15.3**	**+0.9**
JTKR				*e*S	**Sn**	**20 13 36.2**	**+0.6**
KUR	**Kuril'sk**	**2.62**	**31**	*e*P	**Pn**	**20 13 27.1**	**+0.7**
KUR				*e*S	**Sn**	**20 13 57.3**	**+0.3**

ISCJB 17 20:23:49.4±0.5, 37.83N±0.03×26.61E±0.04, h6km±5km, Error ellipse: s-maj=6.3km s-min=3.6km az=150.1
CSEM 17 20:23:49.6±0.1, 37.83N×26.59E, h8km, ML3.0, Error ellipse: s-maj=3.0km s-min=2.1km az=74.0
ATH 17 20:23:49.1, 37.81N×26.61E, h20km±2km, ML3.0/4, Error ellipse: s-maj=2.8km s-min=1.2km az=153.0
THE 17 20:23:49.8, 37.84N×26.61E, h0km, ML2.9/5, Error ellipse: s-maj=1.0km s-min=0.4km az=168.0
ISK 17 20:23:49.2, 37.84N×26.61E, h9km, ML3.1/12

ISC 17 20:23:49.9±0.9, 37.83N±0.02×26.60E±0.03, h13km±8km, n42, σ0s62/61, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SMG	**Samos**	**0.22**	**124**	P	**Pg**	**20 23 55.5**	**+0.8**
SMG				S	**Sg**	**20 23 57.1**	**-0.8**
SMG				AML	AML	20 23 58.4	
	comp=N,14052μm,0.2s						
SMG				AML	AML	20 23 59.0	
	comp=E,12116μm,0.2s						
SMG	**Samos**	**0.22**	**124**	P	**Pg**	**20 23 54.9**	**+0.2**
SMG				S	**Sg**	**20 23 58.1**	**+0.1**
SMG	**Samos**	**0.22**	**124**	P	**Pg**	**20 23 54.9**	**+0.2**
SMG				S	**Sg**	**20 23 58.1**	**+0.1**
GMLD	**Gumuldur**	**0.35**	**45**	PG	**Pg**	**20 23 56.4**	**-0.5**
GCAM	**G?zelcaml?**	**0.52**	**105**	PG	**Pg**	**20 23 59.5**	**-0.5**
GCAM				SG	**Sb**	**20 24 07.7**	**-0.5**
URLA	**Izmir**	**0.53**	**359**	PG	**Pg**	**20 23 58.9**	**-1.3**
URLA				SG	**Sg**	**20 24 07.5**	**+0.3**
URLA	**Izmir**	**0.53**	**359**	*e*Pg	**Pg**	**20 23 58.9**	**-1.3**
URLA				*e*Sg	**Sg**	**20 24 07.5**	**+0.3**
CHOS	**Chios island**	**0.70**	**322**	PG	**Pg**	**20 24 03.5**	**-0.1**
CHOS	**Chios island**	**0.70**	**322**	P	**Pg**	**20 24 03.6**	**+0.1**
CHOS				S	**Sb**	**20 24 13.2**	**-0.5**
CHOS				AML	AML	20 24 15.5	
	comp=N,1586μm,0.5s						
CHOS				AML	AML	20 24 15.9	
	comp=E,2916μm,0.4s						
CHOS	**Chios island**	**0.70**	**322**	P	**Pg**	**20 24 03.4**	**-0.1**
CHOS				S	**Sb**	**20 24 14.2**	**+0.6**
CHOS	**Chios island**	**0.70**	**322**	P	**Pg**	**20 24 03.4**	**-0.1**
CHOS				S	**Sb**	**20 24 13.3**	**-0.3**
KRBN	**Karaburun**	**0.76**	**357**	PG	**Pg**	**20 24 04.2**	**-0.4**
KRBN				SG	**Sb**	**20 24 14.8**	**-0.4**
KRBN	**Karaburun**	**0.76**	**357**	*e*Pg	**Pg**	**20 24 04.2**	**-0.4**
KRBN				*e*Sg	**Sb**	**20 24 14.8**	**-0.4**
FOCM	**Fo˘şa**	**0.88**	**7**	PG	**Pg**	**20 24 06.6**	**-0.4**
FOCM	**Fo˘şa**	**0.88**	**7**	*e*Pg	**Pg**	**20 24 06.6**	**-0.4**
BODT	**Bodrum**	**0.95**	**144**	PG	**Pg**	**20 24 07.9**	**-0.4**
BODT	**Bodrum**	**0.95**	**144**	*e*Pg	**Pg**	**20 24 07.9**	**-0.4**
AYDB	**Zeytinkoy-Aydi**	**1.02**	**83**	PG	**Pg**	**20 24 09.0**	**-0.6**
MLSB	**Milas**	**1.08**	**120**	PG	**Pg**	**20 24 10.0**	**-0.6**
APE	**Apeiranthos**	**1.15**	**229**	PN	**Pb**	**20 24 11.8**	**+0.3**
APE	**Apeiranthos**	**1.15**	**229**	P	**Pb**	**20 24 11.9**	**+0.3**
APE				S	**Sg**	**20 24 25.7**	**-1.1**
APE				AML	AML	20 24 30.5	
	comp=N,538μm,0.3s						
APE				AML	AML	20 24 30.7	
	comp=E,380μm,0.4s						
APE	**Apeiranthos**	**1.15**	**229**	P	**Pg**	**20 24 11.3**	**-0.6**
APE				S	**Sn**	**20 24 28.5**	**+1.3**
APE	**Apeiranthos**	**1.15**	**229**	P	**Pg**	**20 24 11.3**	**-0.6**
APE	**Apeiranthos**	**1.15**	**229**	*e*Pn	**Pb**	**20 24 11.8**	**+0.3**
APE				S	**Sg**	**20 24 26.1**	**-0.7**
DKL	**Dikili**	**1.26**	**11**	PN	**Pb**	**20 24 13.4**	**0.0**
DKL	**Dikili**	**1.26**	**11**	*e*Pn	**Pb**	**20 24 13.4**	**0.0**
PRK	**Paraskevi**	**1.43**	**350**	P	**Pn**	**20 24 15.5**	**0.0**
PRK				S	**Sg**	**20 24 36.7**	**+0.7**
PRK				AML	AML	20 24 41.4	
	comp=E,1139μm,0.9s						
PRK				AML	AML	20 24 46.1	
	comp=N,1044μm,0.7s						
PRK	**Paraskevi**	**1.43**	**350**	P	**Pn**	**20 24 15.8**	**+0.2**
PRK				S	**Sg**	**20 24 35.9**	**-0.2**
PRK	**Paraskevi**	**1.43**	**350**	P	**Pn**	**20 24 16.0**	**+0.4**
PRK				S	**Sg**	**20 24 35.9**	**-0.2**
SIGR	**SIGRI**	**1.50**	**337**	PN	**Pn**	**20 24 16.9**	**+0.5**
SIGR	**SIGRI**	**1.50**	**337**	P	**Pb**	**20 24 17.2**	**-0.3**
SIGR	**SIGRI**	**1.50**	**337**	P	**Pn**	**20 24 16.6**	**+0.2**
SIGR				S	**Sg**	**20 24 37.8**	**-0.2**
SIGR	**SIGRI**	**1.50**	**337**	P	**Pn**	**20 24 16.6**	**+0.2**
SIGR	**SIGRI**	**1.50**	**337**	*e*Pn	**Pn**	**20 24 16.9**	**+0.5**
SIGR				S	**Sg**	**20 24 37.8**	**-0.2**
YER	**Yerkesik**	**1.51**	**117**	PN	**Pn**	**20 24 17.0**	**+0.4**
KULA	**Kula-Manisa**	**1.76**	**67**	PN	**Pn**	**20 24 20.7**	**+0.6**
KULA	**Kula-Manisa**	**1.76**	**67**	*e*Pn	**Pn**	**20 24 20.7**	**+0.6**
TURN	**Turunc**	**1.86**	**120**	PN	**Pn**	**20 24 19.4**	**-2.0**
BALB	**Balikesir**	**2.06**	**29**	PN	**Pn**	**20 24 25.1**	**+0.9**
BALB	**Balikesir**	**2.06**	**29**	*e*Pn	**Pn**	**20 24 25.1**	**+0.9**
FETY	**Fethiye**	**2.31**	**120**	PN	**Pn**	**20 24 28.3**	**+0.6**
FETY	**Fethiye**	**2.31**	**120**	*e*Pn	**Pn**	**20 24 28.3**	**+0.6**

ISCJB 17 20:31:33.9±0.6, 40.99N±0.02×124.47W±0.05, h31km±4km, mb3.0/2, Error ellipse: s-maj=6.2km s-min=2.6km az=179.4
IDC 17 20:31:33.7±1.5, 40.92N×124.19W, h0km, mb3.2/3, mb1 3.7/5, mb1mx3.3/71, mbtmp3.2/5, ML3.5/2, Error ellipse: s-maj=17.2km s-min=12.9km az=125.0
NEIC 17 20:31:35.1±0.0, 40.97N×124.42W, h20km, MW4.1(BRK), After NCEDC.
NEIC Felt [II] at Arcata, Bayside, Eureka, McKinleyville, Samoa and Trinidad. Also felt at Korbel and Loleta.

ISC 17 20:31:35.2±1.1, 40.95N±0.03×124.42W±0.06, h19km±3km, n141, σ1s94/152, Near coast of northern California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCC	**Jacoby Creek,**	**0.32**	**114**	*e*Pg	**Pb**	**20 31 42.5**	**+0.1**
JCC				*e*Sg	**Sb**	**20 31 48.0**	**+0.8**
KCTM	**Capetown**	**0.48**	**173**	*e*Pg	**Pg**	**20 31 45.4**	**+0.5**
KHMM	**Horse Mountain**	**0.53**	**98**	*e*Pg	**Pb**	**20 31 45.5**	**-0.4**
KCRM	**Chalk Rock**	**0.69**	**139**	*e*Pg	**Pb**	**20 31 48.4**	**-0.3**
KJJM	**Johnny Jack Ri**	**0.71**	**173**	*e*Pn	**Pb**	**20 31 48.4**	**-0.5**
KSMM	**Slide Mountain**	**0.79**	**166**	*e*Pg	**Pb**	**20 31 49.5**	**-0.8**
KOMM	**Orleans Mounta**	**0.80**	**65**	*e*Pg	**Pb**	**20 31 49.4**	**-1.2**
KCSM	**Cold Springs**	**0.80**	**121**	*e*Pg	**Pb**	**20 31 50.0**	**-0.6**
KMRM	**Mail Ridge**	**0.91**	**143**	*e*Pg	**Pb**	**20 31 51.7**	**-0.7**
KKPM	**Kettenpom Peak**	**1.15**	**134**	*e*Pg	**Pn**	**20 31 54.1**	**-2.4**
KTRM	**Thompson Ridge**	**1.24**	**39**	*e*Pn	**Pn**	**20 31 55.3**	**-2.3**
M02C	**

PAHR	**Pah Rah Range**	**4.04**	**106**	*e*Pn		**Pn**	**20 32 35.8**	**-0.4**
H04A	**Detroit Lake**	**4.08**	**23**	*e*Pn		**Pn**	**20 32 35.3**	**-1.3**
I05D	**Terrebonne, OR**	**4.08**	**33**	P		**Pn**	**20 32 36.0**	**-0.6**
	baz=215							
RDG13	**Poverty Ridge**	**4.08**	**149**	*e*Pn		**Pn**	**20 32 37.0**	**+0.3**
CMB	**Columbia Colle**	**4.27**	**132**	*e*Pn		**Pn**	**20 32 39.9**	**+0.7**
JUCM	**University of**	**4.35**	**154**	*e*Pn		**Pn**	**20 32 40.6**	**+0.2**
YERR	**Yerington**	**4.43**	**115**	*e*Pn		**Pn**	**20 32 41.7**	**0.0**
WAKR	**Walker**	**4.55**	**121**	*e*Pn		**Pn**	**20 32 44.1**	**+0.8**
WVOR	**Wild Horse Val**	**4.58**	**69**	*e*Pn		**Pn**	**20 32 41.9**	**-1.6**
SAO	**San Andreas Ge**	**4.78**	**150**	*e*Pn		**Pn**	**20 32 46.8**	**+0.6**
SAO				*e*Sn		**Sn**	**20 33 44.6**	**+3.6**
I07A	**Izee**	**4.79**	**48**	*e*Pn		**Pn**	**20 32 46.3**	**-0.2**
G05D	**Wamic, OR**	**4.85**	**27**	P		**Pn**	**20 32 46.8**	**-0.4**
	baz=209							
BPRM	**Ponciano Ridge**	**5.00**	**154**	*e*Pn		**Pn**	**20 32 48.7**	**-0.6**
J08A	**Circle Bar Ran**	**5.03**	**59**	*e*Pn		**Pn**	**20 32 48.4**	**-1.4**
J08A				*e*Sn		**Sn**	**20 33 46.7**	**-0.7**
RYN	**Ryan**	**5.10**	**115**	*e*Pn		**Pn**	**20 32 50.0**	**-0.8**
G06A	**Carlson Farm,**	**5.10**	**32**	*e*Pn		**Pn**	**20 32 51.0**	**+0.4**
KVN	**Kaiserville**	**5.21**	**109**	*e*Pn		**Pn**	**20 32 51.7**	**-0.6**
LVP	**Lakeview Peak**	**5.32**	**15**	*e*Pn		**Pn**	**20 32 53.1**	**-0.6**
MTMW	**Mount Mitchell**	**5.32**	**17**	*e*Pn		**Pn**	**20 32 53.5**	**-0.2**
NV01	**Mina Array Sit**	**5.34**	**116**	*e*Pn		**Pn**	**20 32 53.9**	**-0.3**
NVAR	**Mina Array Bea**	**5.34**	**116**	Pn		**Pn**	**20 32 53.9**	**-0.3**
	baz=287,slow=14,SNR=29							
NVAR				Lg		Lg	20 34 10.8	
	baz=303,slow=24,SNR=2.4							
OMMB	**Old Mammoth Mi**	**5.36**	**127**	*e*Pn		**Pn**	**20 32 54.3**	**-0.2**
NV11	**Mina Array Sit**	**5.45**	**115**	*e*Pn		**Pn**	**20 32 55.0**	**-0.5**
SHW	**Mount Saint He**	**5.47**	**16**	*e*Sn		**Sn**	**20 33 53.2**	**-5.1**
PMPB	**Monarch Peak**	**5.51**	**148**	*e*Pn		**Pn**	**20 32 56.6**	**+0.3**
PMPB				*e*Sn		**Sn**	**20 34 00.9**	**+1.7**
E03A	**Lebam**	**5.63**	**6**	*e*Pn		**Pn**	**20 32 55.8**	**-2.0**
G08A	**Pilot Rock**	**5.90**	**41**	*e*Pn		**Pn**	**20 33 02.8**	**+1.1**
LON	**Longmire**	**6.10**	**17**	*e*Pn		**Pn**	**20 33 03.1**	**-1.2**
PAGB	**Antelope Grade**	**6.15**	**147**	*e*Pn		**Pn**	**20 33 05.2**	**+0.1**
PANH	**Panhandle Gap,**	**6.24**	**18**	*e*Pn		**Pn**	**20 33 06.1**	**-0.4**
PANH				*e*Pg		**Pg**	**20 33 35.4**	**+0.8**
PANH				*e*Sn		**Sn**	**20 34 20.6**	**+3.3**
PANH				*e*Sg		**Sb**	**20 34 41.4**	**+3.8**
NLWA	**Neilton Lookou**	**6.45**	**3**	*e*Pn		**Pn**	**20 33 05.9**	**-3.3**
D05A	**Enumclaw**	**6.48**	**15**	*e*Pn		**Pn**	**20 33 05.0**	**-4.5**
BMO	**Blue Mountains**	**6.52**	**51**	*e*Pn		**Pn**	**20 33 08.8**	**-1.3**
E08A	**Dider Farm, El**	**6.76**	**33**	*e*Pn		**Pn**	**20 33 13.2**	**-0.2**
MFID	**Camas Ranch**	**6.84**	**66**	*e*Pn		**Pn**	**20 33 12.5**	**-2.1**
LTY	**Liberty**	**6.86**	**22**	*e*Pn		**Pn**	**20 33 15.0**	**+0.2**
BAKC	**Calstate**	**6.99**	**142**	*e*Pn		Pn	20 33 11.3	-5.2
BAKC				*e*Sn		**Sn**	**20 34 27.0**	**-8.4**
ISA	**Isabella, Lake**	**7.05**	**137**	*e*Pn		**Pn**	**20 33 18.1**	**+0.7**
DAC	**Darwin (Calif)**	**7.09**	**129**	*e*Pn		**Pn**	**20 33 17.9**	**-0.2**
E09A	**Wood Farm, Sta**	**7.18**	**37**	*e*Pn		**Pn**	**20 33 18.9**	**-0.3**
F10A	**Beach Ranch, E**	**7.25**	**44**	*e*Pn		**Pn**	**20 33 20.1**	**-0.1**
R11A	**Troy Canyon, C**	**7.29**	**108**	*e*Pn		**Pn**	**20 33 20.8**	**-0.1**
SRTC	**Snort**	**7.42**	**133**	*e*Pn		**Pn**	**20 33 20.1**	**-2.4**
SRTC				*e*Sn		**Sn**	**20 34 47.4**	**+1.2**
SRTC				*e*Sg		**Sb**	**20 35 11.0**	**-0.4**
SRTC				*e*Lg		Lg	20 35 15.8	
JCW	**Jim Creek**	**7.46**	**13**	*e*Pn		**Pn**	**20 33 22.9**	**0.0**
HLD	**Hailey**	**7.87**	**67**	*e*Pn		**Pn**	**20 33 28.9**	**+0.1**
PASC	**Pasadena Art C**	**8.38**	**142**	*e*Sn		**Sn**	**20 35 09.2**	**-0.6**
BGU	**Big Grassy Mou**	**8.62**	**86**	*e*Pn		**Pn**	**20 33 40.1**	**+1.0**
RPV	**Rancho Palos V**	**8.64**	**144**	*e*Pn		**Pn**	**20 33 38.1**	**-1.0**
RPV				*e*Sn		Sn	20 35 25.6	+10
HEC	**Hector,Ludlow**	**8.84**	**131**	*e*Sn		**Sn**	**20 35 26.9**	**+5.8**
DUG	**Dugway, Tooele**	**8.87**	**91**	*e*Pn		**Pn**	**20 33 42.4**	**-0.1**
PNT	**Penticton**	**9.03**	**20**	*e*Sn		**Sn**	**20 35 31.5**	**+6.0**
BBSC	**Beaumont Base**	**9.17**	**138**	*e*Pn		**Pn**	**20 33 49.5**	**+2.9**
DGR	**Domenigoni Val**	**9.37**	**139**	*e*Pn		**Pn**	**20 33 49.7**	**+0.4**
MSO	**Missoula**	**9.57**	**49**	*e*Pn		**Pn**	**20 33 52.4**	**+0.3**
DNR	**Dunn Ranch,Anz**	**9.63**	**137**	*e*Sn		**Sn**	**20 35 38.4**	**-2.3**
PLM	**Palomar**	**9.68**	**139**	*e*Pn		**Pn**	**20 33 49.2**	**-4.5**
PLM				*e*Sn		**Sn**	**20 35 39.1**	**-3.0**
HWUT	**Hardware Ranch**	**9.70**	**82**	*e*Pn		**Pn**	**20 33 51.7**	**-2.2**
MSU	**Marysvale**	**9.74**	**101**	*e*Pn		**Pn**	**20 33 56.3**	**+1.8**
U15A	**North Rim**	**10.50**	**112**	*e*Pn		**Pn**	**20 34 09.0**	**+4.1**
PD31	**Pinedale Array**	**11.23**	**76**	*e*Pn		**Pn**	**20 34 16.0**	**+1.0**
PDAR	**Pinedale Array**	**11.23**	**76**	Pn		**Pn**	**20 34 15.8**	**+0.9**
	0.1nm,0.3s,baz=257,slow=10,SNR=2.2							
PDAR	**Pinedale Array**	**11.23**	**76**	*e*Pn		**Pn**	**20 34 16.1**	**+1.2**
Y14A	**Wickenburg**	**11.45**	**124**	*e*Pn		**Pn**	**20 34 20.6**	**+2.9**
S22A	**4UR Ranch, Cre**	**13.98**	**98**	*e*Pn		**Pn**	**20 34 56.2**	**+3.6**
SDCO	**Great Sand Dun**	**14.98**	**96**	*e*Pn		**P**	**20 35 08.8**	**-2.7**
TX31	**Lajitas Ar. Si**	**20.49**	**118**	*e*P		**P**	**20 36 12.9**	**+0.8**
LTX	**Lajitas**	**20.49**	**118**	*e*P		**P**	**20 36 13.0**	**+0.8**
TXAR	**Lajitas Array**	**20.49**	**118**	P		**P**	**20 36 13.0**	**+0.8**
	1.3nm,0.7s,baz=297,slow=8.1,SNR=10							
YKA	**Yellowknife Ar**	**22.36**	**12**	P		**P**	**20 36 31.3**	**-0.5**
	1.0nm,0.9s,baz=196,slow=10,SNR=9.0							
RAGM	**Ragged Mountai**	**23.13**	**334**	*e*P		**P**	**20 36 36.5**	**-3.6**
ILAR	**Eielson Array**	**27.14**	**339**	P		**P**	**20 37 20.7**	**+3.9**
	0.3nm,0.9s,baz=154,slow=11,SNR=2.7							
EBZ	**Ebenezer Churc**	**28.09**	**90**	*e*P		**P**	**20 37 27.4**	**+1.7**
H11N3	**WAKE ISLAND Hy**	**61.41**	**272**	T		T	21 48 29.2	
	baz=53,slow=75,SNR=106							
H11N2	**WAKE ISLAND Hy**	**61.41**	**272**	T		T	21 48 29.7	
	baz=53,slow=75,SNR=114							
H11N1	**WAKE ISLAND Hy**	**61.43**	**272**	T		T	21 48 27.9	
	baz=53,slow=75,SNR=92							
H11S1	**WAKE ISLAND Hy**	**62.29**	**271**	T		T	21 49 32.8	
	baz=50							
H11S2	**WAKE ISLAND Hy**	**62.30**	**271**	T		T	21 49 33.3	
	baz=50							
H11S3	**WAKE ISLAND Hy**	**62.31**	**271**	T		T	21 49 32.1	
	baz=50							

JMA **17** *20:34:42.3±0.1,38.°44N×142.°19E, h28km±1km, M3.8*
JMA Felt I J1.
IDC **17** *20:34:43.9±2.7,38.°62N×142.°28E, h49km±27km, mb3.3/3, mb1 3.4/5, mb1mx2.9/70, mbtmp3.3/5, ML2.6/2, Error ellipse: s-maj=36.4km s-min=12.2km az=116.0*
ISC 17 20:34:39.0±2.1,38.°45N±0.°05×142.°29E±0.°08, h12km±12km, n20,σ1°§43/25, mb3.8/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JIO	**Ouri**	**0.74**	**271**	P	**Pn**	**20 34 55.2**	**-0.2**
JIO				*e*S	**Sb**	**20 35 03.7**	**-0.3**
OFUJ	**Ofunato**	**0.80**	**322**	P	**Pn**	**20 34 56.5**	**+0.3**
OFUJ				*e*S	**Sb**	**20 35 06.4**	**+0.7**
JMK	**Ichinoseki**	**0.98**	**301**	P	**Pn**	**20 34 59.2**	**+0.6**
JMK				*e*S	**Sb**	**20 35 11.2**	**+0.3**
JOU	**Okura**	**1.28**	**267**	P	**Pg**	**20 35 03.6**	**-0.1**
JOU				*e*S	**Sb**	**20 35 18.9**	**-0.7**
JOM	**Ohasama**	**1.29**	**323**	P	**Pg**	**20 35 04.1**	**+0.3**
JOM				*e*S	**Sb**	**20 35 19.7**	**-0.1**
JMM	**Marumori**	**1.32**	**244**	P	**Pn**	**20 35 03.1**	**-0.2**
JMM				*e*S	**Sb**	**20 35 18.1**	**-2.5**
JFK	**Kawauchi**	**1.56**	**227**	P	**Sn**	**20 35 06.6**	**0.0**
JFK				*e*S	**Sn**	**20 35 23.9**	**-2.9**
JYK	**Kaneyama**	**1.58**	**288**	P	**Pb**	**20 35 08.4**	**+0.1**
JYK				*e*S	**Sn**	**20 35 27.2**	**-0.2**
JRG	**Rokugo**	**1.60**	**307**	P	**Pg**	**20 35 09.1**	**-0.7**
JRG				*e*S	**Sb**	**20 35 28.7**	**-0.2**
MJAR	**Matsushiro Arr**	**3.76**	**241**	P	**Pn**	**20 35 38.9**	**+2.0**
	0.5nm,0.3s,baz=58,slow=11,SNR=4.9						
MJAR				S	**Sn**	**20 36 24.9**	**+3.6**
	0.4nm,0.3s,baz=80,slow=24,SNR=3.1						
ASAJ	**Asahikawa**	**5.67**	**2**	P	**Pn**	**20 36 03.6**	**+0.6**
	0.2nm,0.3s,baz=204,slow=18,SNR=2.8						
ASAJ				S	**Sn**	**20 37 05.8**	**-2.4**
	0.2nm,0.3s,baz=204,slow=20,SNR=1.9						
H11N2	**WAKE ISLAND Hy**	**28.32**	**124**	T	T	21 10 55.1	
	baz=316,slow=75,SNR=56						
H11N1	**WAKE ISLAND Hy**	**28.33**	**124**	T	T	21 10 53.4	
	baz=316,slow=75,SNR=65						
H11N3	**WAKE ISLAND Hy**	**28.34**	**124**	T	T	21 10 52.8	
	baz=316,slow=75,SNR=64						
H11S1	**WAKE ISLAND Hy**	**29.09**	**126**	T	T	21 11 47.1	
	baz=318,slow=76,SNR=16						
H11S3	**WAKE ISLAND Hy**	**29.09**	**126**	T	T	21 11 48.2	
	baz=318,slow=76,SNR=22						
H11S2	**WAKE ISLAND Hy**	**29.10**	**126**	T	T	21 11 48.3	
	baz=318,slow=76,SNR=16						
KURBB	**Kurchatov Arra**	**45.70**	**307**	P	**P**	**20 42 58.6**	**-1.0**
	0.3nm,0.5s,baz=82,slow=8.2,SNR=4.0						
WRA	**Warramunga Arr**	**58.56**	**189**	P	**P**	**20 44 36.5**	**+0.9**
	1.0nm,0.9s,baz=6.0,slow=7.3,SNR=8.4						
ASAR	**Alice Springs**	**62.28**	**189**	P	**P**	**20 45 02.2**	**+1.2**
	0.5nm,0.7s,baz=359,slow=7.7,SNR=5.3						

IDC **17** *20:40:38.6±1.2,3.°06N×92.°88E, h0km, mb3.8/8, mb1 3.9/10, mb1mx3.6/73, mbtmp3.8/10, ML3.7/2, Error ellipse: s-maj=43.0km s-min=19.5km az=50.0*
NEIC **17** *20:40:39.6±0.4, 3.°03N×92.°84E, h10km, mb4.2/11, Error ellipse: s-maj=8.8km s-min=5.4km az=225.0*
ISCJB **17** *20:40:41.0±0.5, 3.°02N±0.°07×92.°90E±0.°06, h33km, mb4.1/17, Error ellipse: s-maj=11.3km s-min=6.7km az=43.3*
ISC 17 20:40:42.8±0.8, 3.°0N±0.°1×92.°89E±0.°08, h35km, n41, σ1°§14/40, **mb4.2/17, Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LHMI	**Lhok Sumawe**	**4.59**	**62**	*e*Pn	**Pn**	**20 41 48.4**	**-1.5**
GSI	**Gunungsitoli**	**4.99**	**110**	*e*Pn	**Pn**	**20 41 54.8**	**-0.5**
PSI	**Prapat**	**6.03**	**92**	*e*Pn	**Pn**	**20 42 09.8**	**+0.1**
IPM	**Ipoh**	**8.24**	**80**	*e*Pn	**Pn**	**20 42 39.8**	**-0.2**
PBA	**Port Blair**	**8.57**	**359**	*e*Pn	Pn	20 42 42.4	-2.0
MNAI	**Manna**	**12.45**	**126**	*e*Pn	**Pn**	**20 43 37.9**	**+0.2**
PALK	**Pallekele**	**12.85**	**290**	Pn	**Pn**	**20 43 41.8**	**-1.3**
	0.7nm,0.3s,baz=117,slow=14,SNR=7.8						
PALK				Sn	Sn	20 45 52.1	-13
	2.2nm,0.3s,baz=112,slow=3.2,SNR=6.6						
PALK	**Pallekele**	**12.85**	**290**	*e*Pn	**Pn**	**20 43 41.2**	**-1.9**
PALK				*e*Sn	Sn	20 45 51.6	-13
PBKT	**Sadao Pong**	**15.62**	**30**	*e*Pn	**Pn**	**20 44 22.1**	**+1.7**
	1.9nm,0.8s						
CM01	**Chiang Mai Arr**	**16.41**	**21**	*e*Pn	**P**	**20 44 32.6**	**-0.4**
CM31	**Chiang Mai Arr**	**16.43**	**21**	*e*Pn	**Pn**	**20 44 29.6**	**-1.3**
CMAR	**Chiang Mai Arr**	**16.43**	**21**	Pn	**Pn**	**20 44 29.4**	**-1.5**
	0.1nm,0.3s,baz=216,slow=13,SNR=7.3						
CHTO	**Chiang Mai**	**16.76**	**20**	*e*Pn	**Pn**	**20 44 35.9**	**+0.9**
	1.5nm,0.8s						
SBUM	**Sibu**	**19.32**	**91**	*e*P	**P**	**20 45 01.6**	**-3.5**
	2.5nm,0.9s						
SHL	**Shillong**	**22.42**	**358**	*e*P	**P**	**20 45 38.3**	**-0.6**
	6.5nm,0.5s						
LSA	**Lhasa**	**26.57**	**357**	*e*P	**P**	**20 46 19.5**	**+1.2**
	3.5nm,0.6s						
MK01	**Makanchi Array**	**44.53**	**350**	*e*P	**P**	**20 48 51.6**	**+0.6**
MK31	**Makanchi Array**	**44.55**	**350**	*e*P	**P**	**20 48 52.2**	**+1.0**
MK32	**Makanchi Array**	**44.55**	**350**	*e*P	**P**	**20 48 52.1**	**+0.8**
MKAR	**Makanchi Array**	**44.55**	**350**	P	**P**	**20 48 52.1**	**+0.8**
	1.0nm,0.5s,baz=171,slow=8.6,SNR=18						
MKAR	**Makanchi Array**	**44.55**	**350**	*e*P	**P**	**20 48 52.4**	**+1.1**
	9.5nm,0.6s						
MAKZ	**Makanchi**	**44.62**	**349**	*e*P	**P**	**20 48 52.5**	**+0.6**
	6.8nm,1.7s						
SONA0	**Songino Array**	**46.13**	**13**	*e*P	**P**	**20 49 04.9**	**+1.0**
SONM	**Songino Array**	**46.13**	**13**	P	**P**	**20 49 04.9**	**+1.0**
	0.4nm,0.5s,baz=196,slow=9.1,SNR=5.7						
SONA1	**Songino Array**	**46.14**	**13**	*e*P	**P**	**20 49 04.9**	**+0.9**
WR1	**Warramunga Arr**	**46.66**	**121**	*e*P	**P**	**20 49 09.9**	**+1.6**
	31nm,0.8s						
WRA	**Warramunga Arr**	**46.66**	**121**	P	**P**	**20 49 09.9**	**+1.6**
	0.6nm,0.6s,baz=298,slow=8.8,SNR=6.5						
WB2	**Warramunga Arr**	**46.67**	**121**	*e*P	**P**	**20 49 09.1**	**+0.7**
	12nm,1.4s						
GEYT	**Alibeck**	**47.09**	**322**	P	**P**	**20 49 12.4**	**+1.0**
	1.6nm,0.6s,baz=144,slow=8.8,SNR=4.2						
AS31	**Alice Springs**	**47.94**	**126**	*e*P	**P**	**20 49 18.3**	**0.0**
	0.8nm,1.0s						
ASAR	**Alice Springs**	**47.94**	**126**	P	**P**	**20 49 18.9**	**+0.6**
	0.3nm,0.8s,baz=295,slow=7.9,SNR=3.6						
KURBB	**Kurchatov Arra**	**48.95**	**348**	P	**P**	**20 49 26.1**	**+0.6**
	0.9nm,0.6s,baz=171,slow=7.2,SNR=10						
KURK	**Kurchatov**	**49.02**	**348**	*e*P	**P**	**20 49 26.1**	**+0.1**
RAYN	**Ar Rayn**	**50.10**	**298**	*e*P	**P**	**20 49 34.3**	**-0.6**
	11nm,1.6s						
ZAA0	**Zalesovo Array**	**51.18**	**354**	*e*P	**P**	**20 49 42.9**	**+0.4**
	3.7nm,1.2s						
ZALV	**Zalesovo Beam**	**51.18**	**354**	P	**P**	**20 49 43.2**	**+0.7**
	1.1nm,0.4s,baz=175,slow=6.8,SNR=5.9						
ZALV	**Zalesovo Beam**	**51.18**	**354**	*e*P	**P**	**20 49 43.1**	**+0.6**
ZAA1	**Zalesovo Array**	**51.19**	**354**	*e*P	**P**	**20 49 43.2**	**+0.7**
ABKAR	**Akbulak array**	**53.93**	**334**	*e*P	**P**	**20 50 02.1**	**-0.8**
TIXI	**Tiksi**	**72.19**	**11**	*e*P	**P**	**20 52 03.9**	**+0.2**
	2.1nm,0.9s						
GERES	**GERESS Array B**	**80.61**	**319**	P	**P**	**20 52 53.4**	**+1.3**
	0.1nm,0.3s,baz=98,slow=8.2,SNR=4.1						

MEX 17 20:42:14.5±0.4, 16.°06N×98.°65W, h16km±14km, MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.60**	**56**	*i* P	Pg	20 42 24.4	-2.0
PNIG				*e*S	Sg	20 42 31.7	-2.7
TLIG	**Tlapa**	**1.50**	**3**	*e*P	Pn	20 42 37.8	-3.1
TLIG				*e*S	Sn	20 42 55.0	-5.2
CAIG	**El Cayaco**	**1.84**	**303**	*e*P	Pn	20 42 44.4	-1.1
CAIG				*e*S	Sn	20 43 03.1	-5.3
VHO	**Vista Hermosa**	**2.09**	**61**	*e*P	Pn	20 42 45.8	-3.4
VHO				*e*S	Sn	20 43 10.2	-4.8

DDA **17** *20:45:16.7,39.°15N×29.°11E, h7km, Ml4.5*
ISCJB **17** *20:45:16.8±0.3,39.°14N±0.°01×29.°12E±0.°01, h3km±2km, mb4.0/23, MS4.4/1, Error ellipse: s-maj=2.2km s-min=1.9km az=1.8*
NEIC **17** *20:45:17.7±0.0,39.°15N×29.°10E, h6km, mb4.3/17, ML4.0(THE), ML4.3(ISK), After ISK.*
CSEM **17** *20:45:17.9±0.1,39.°11N×29.°12E, h5km, mb4.2/15, Error ellipse: s-maj=1.9km s-min=1.7km az=9.0*
ISK **17** *20:45:17.4,39.°14N×29.°10E, h6km, ML4.3/44*
IDC **17** *20:45:18.1±1.1,39.°16N×29.°12E, h0km, mb3.9/11, mb1 3.8/18, mb1mx3.7/61, mbtmp3.8/18, ML3.6/6, MS3.6/1, Ms1 3.6/1, ms1mx2.9/73, Error ellipse: s-maj=19.4km s-min=11.8km az=24.0*
MOS **17** *20:45:19.5±1.2,39.°20N×29.°06E, h23km, mb4.3/13, Error ellipse: s-maj=5.6km s-min=3.7km az=95.0*
THE **17** *20:45:19.1,39.°07N×29.°08E, h3km±2km, ML4.0/4, Error ellipse: s-maj=3.0km s-min=0.7km az=84.0*
SOF **17** *20:45:26.8,39.°74N×28.°70E, h12km, MD3.3*
ISC 17 20:45:18.4±1.0, 39.°12N±0.°02×29.°15E±0.°01, h3km±6km, n537,σ1°§49/588, mb3.9/23, 37C-45D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIMA	**Simav-Kutahya**	**0.14**	**254**	PG	**Pg**	**20 45 20.8**	**-0.4**
SIMA	**Simav-Kutahya**	**0.14**	**254**	*e*Pg	**Pg**	**20 45 20.8**	**-0.4**
GDZ	**Gediz**	**0.26**	**97**	*i* P	**Pg**	**20 45 22.6**	**-0.8**
GDZ	**Gediz**	**0.26**	**97**	P	**Pg**	**20 45 22.6**	**-0.8**
DEMI	**Demirci**	**0.35**	**257**	*i* P	**Pg**	**20 45 24.6**	**-0.6**
DEMI	**Demirci**	**0.35**	**257**	P	**Pg**	**20 45 24.6**	**-0.6**
TVSB	**Tavsanli**	**0.41**	**36**	PG	**Pg**	**20 45 25.3**	**-1.0**
TVSB	**Tavsanli**	**0.41**	**36**	Pg	**Pg**	**20 45 25.1**	**-1.1**
TVSB	**Tavsanli**	**0.41**	**36**	*e*Pg	**Pg**	**20 45 25.3**	**-1.0**
DURS	**Dursunbey**	**0.71**	**313**	*i* P	**Pg**	**20 45 31.4**	**-0.7**
DURS				*i* S	**Sg**	**20 45 41.4**	**+0.1**
DURS	**Dursunbey**	**0.71**	**313**	P	**Pg**	**20 45 31.4**	**-0.7**
DURS				S	**Sg**	**20 45 41.4**	**+0.1**
KULA	**Kula-Manisa**	**0.72**	**212**	PG	**Pg**	**20 45 31.3**	**-0.9**
KULA	**Kula-Manisa**	**0.72**	**212**	Pg	**Pg**	**20 45 31.2**	**-0.9**
KULA	**Kula-Manisa**	**0.72**	**212**	*e*Pg	**Pg**	**20 45 31.2**	**-0.9**
MANT	**Manisa**	**0.78**	**217**	*i* P	**Pg**	**20 45 32.3**	**-1.1**
MANT				*i* S	**Sg**	**20 45 42.3**	**-1.3**
MANT	**Manisa**	**0.78**	**217**	*e*Pg	**Pg**	**20 45 32.4**	**-1.1**
MANT				*e*Sg	**Sg**	**20 45 42.3**	**-1.3**
MANT	**Manisa**	**0.78**	**217**	*e*Pg	**Pg**	**20 45 32.4**	**-1.0**
MANT				S	**Sg**	**20 45 42.3**	**-1.3**
KHAL	**Karahalli**	**0.80**	**160**	*i* P	**Pg**	**20 45 33.3**	**-0.4**
KHAL				*i* S	**Sg**	**20 45 42.9**	**-1.1**
KHAL	**Karahalli**	**0.80**	**160**	P	**Pg**	**20 45 33.3**	**-0.4**
KHAL				S	**Sg**	**20 45 42.9**	**-1.1**
KHL	**Karahalli**	**0.85**	**160**	PG	**Pg**	**20 45 34.3**	**-0.4**
KHL	**Karahalli**	**0.85**	**160**	Pg	**Pg**	**20 45 35.0**	**+0.3**
KHL	**Karahalli**	**0.85**	**160**	*e*Pg	**Pg**	**20 45 34.3**	**-0.4**
ORLT	**Orhaneli**	**0.94**	**348**	PG	**Pg**	**20 45 35.7**	**-0.8**
ORLT				SG	**Sg**	**20 45 48.9**	**+0.1**
ORLT	**Orhaneli**	**0.94**	**348**	Pg	**Pg**	**20 45 35.9**	**-0.6**
ORLT	**Orhaneli**	**0.94**	**348**	*e*Pg	**Pg**	**20 45 35.9**	**-0.6**
ORLT				*e*Sg	**Sg**	**20 45 48.9**	**+0.1**
AUBOZ	**BOZOYUK**	**1.04**	**41**	*i* P	**Pg**	**20 45 37.4**	**-1.0**
AUBOZ	**BOZOYUK**	**1.04**	**41**	P	**Pg**	**20 45 37.4**	**-1.0**
AKHS	**Akhisar**	**1.07**	**257**	*i* P	**Pg**	**20 45 37.9**	**-1.0**
AKHS				*i* S	**Sg**	**20 45 52.7**	**-0.1**
AKHS	**Akhisar**	**1.07**	**257**	P	**Pg**	**20 45 37.9**	**-1.0**
AKHS				S	**Sg**	**20 45 52.7**	**-0.1**
AUKUT	**KUTAHYA**	**1.07**	**39**	*i* P	Pg	20 45 31.7	-7.2
AKS	**Akhisar**	**1.07**	**257**	PG	**Pg**	**20 45 37.3**	**-1.6**
AKS				SG	**Sg**	**20 45 52.5**	**-0.3**
AKS	**Akhisar**	**1.07**	**257**	Pg	**Pg**	**20 45 38.0**	**-1.0**
AKS	**Akhisar**	**1.07**	**257**	*e*Pg	**Pg**	**20 45 37.3**	**-1.6**
AKS				*e*Sg	**Sg**	**20 45 52.5**	**-0.3**
BALB	**Balikesir**	**1.11**	**298**	PN	**Pn**	**20 45 38.7**	**-1.1**
BALB				SN	**Sg**	**20 45 53.9**	**-0.3**
BALB	**Balikesir**	**1.11**	**298**	*e*Pn	**Pg**	**20 45 38.7**	**-1.1**
BALB				*e*Sn	**Sg**	**20 45 53.9**	**-0.3**
STEP	**BALIKESIR_Sava**	**1.14**	**283**	*i* P	**Pg**	**20 45 39.8**	**-0.5**
STEP	**BALIKESIR_Sava**	**1.14**	**283**	P	**Pg**	**20 45 39.8**	**-0.5**
KZIL	**AFYON_Kizioren**	**1.16**	**138**	*i* P	**Pg**	**20 45 40.2**	**-0.5**
KZIL	**AFYON_Kizioren**	**1.16**	**138**	P	**Pg**	**20 45 40.2**	**-0.5**
CAVI	**Cavuskoy**	**1.20**	**26**	PN	**Pg**	**20 45 41.1**	**-0.4**
CAVI	**Cavuskoy**	**1.20**	**26**	*e*Pn	**Pg**	**20 45 41.1**	**-0.4**
SHUT	**Suhut-Afyon**	**1.23**	**117**	PN	**Pb**	**20 45 42.4**	**0.0**
SHUT	**Suhut-Afyon**	**1.23**	**117**	*e*Pn	**Pb**	**20 45 42.4**	**0.0**
IZI	**Iznik**	**1.24**	**11**	PN	**Pg**	**20 45 41.6**	**-0.6**
IZI	**Iznik**	**1.24**	**11**	*e*Pn	**Pg**	**20 45 41.6**	**-0.6**
BORA	**Eskisehir**	**1.26**	**53**	*i* P	**Pg**	**20 45 41.4**	**-1.2**
BORA	**Eskisehir**	**1.26**	**53**	P	**Pg**	**20 45 41.4**	**-1.2**
MDNY	**Mudanya-Bursa**	**1.26**	**351**	PN	**Pg**	**20 45 41.6**	**-1.0**
MDNY	**Mudanya-Bursa**	**1.26**	**351**	*e*Pn	**Pg**	**20 45 41.6**	**-1.0**
KCTX	**Karacabey (Bur**	**1.30**	**332**	PN	**Pg**	**20 45 42.2**	**-1.1**
KCTX	**Karacabey (Bur**	**1.30**	**332**	*e*Pn	**Pg**	**20 45 42.2**	**-1.1**
GEMT	**Gemlik**	**1.31**	**1**	PN	**Pg**	**20 45 42.6**	**-1.0**
GEMT	**Gemlik**	**1.31**	**1**	*e*Pn	**Pg**	**20 45 42.6**	**-1.0**
BALY	**Balya**	**1.34**	**298**	*i* P	**Pg**	**20 45 41.8**	**-2.3**
BALY

EZN	Ezine	2.30	289	*e*Pn	Pn	20 45 56.2	-0.9
EZN				S	Sn	20 46 25.1	-0.8
EZN	Ezine	2.30	289	*e*P	Pn	20 45 56.1	-1.0
EZN				*e*		20 46 25.1	
SMG	Samos	2.30	233	P	Pn	20 45 54.9	-2.3
SMG	Samos	2.30	233	P	Pn	20 45 54.9	-2.3
KORT	Korkueli	2.32	156	PN	Pn	20 45 57.7	+0.1
KORT	Korkueli	2.32	156	⇓*i*P	Pn	20 45 57.1	-0.4
KORT	Korkueli	2.32	156	P	Pn	20 45 57.1	-0.4
KORT	Korkueli	2.32	156	*e*Pn	Pn	20 45 57.7	+0.1
GPNR	Gulpinar-Canak	2.37	279	PN	Pn	20 45 56.7	-1.4
GPNR	Gulpinar-Canak	2.37	279	*e*Pn	Pn	20 45 56.7	-1.4
KDHN	Kadinhani	2.39	104	*i*P	Pn	20 45 57.5	-1.0
KDHN	Kadinhani	2.39	104	P	Pn	20 45 57.5	-1.0
GELI	Tayfur-Gelibol	2.43	303	PN	Pn	20 45 58.2	-0.7
GELI	Tayfur-Gelibol	2.43	303	*e*Pn	Pn	20 45 58.2	-0.7
CTYL	Yalikoy Yolu	2.44	345	PN	Pn	20 45 57.9	-1.2
CTYL	Yalikoy Yolu	2.44	345	*e*Pn	Pn	20 45 57.9	-1.2
KIYI	Yal˘–koy-Catal	2.45	345	PN	Pn	20 45 58.7	-0.5
KIYI	Yal˘–koy-Catal	2.45	345	*e*Pn	Pn	20 45 58.7	-0.5
FETY	Fethiye	2.48	181	*e*Pn	Pn	20 45 58.3	-1.4
FETY	Fethiye	2.48	181	P	Pn	20 45 58.3	-1.4
FETY	Fethiye	2.48	181	P	Pn	20 45 58.3	-1.4
BOZC	Bozcaada	2.50	288	PN	Pn	20 45 59.1	-0.9
BOZC	Bozcaada	2.50	288	*e*Pn	Pn	20 45 59.1	-0.9
CHOS	Chios island	2.53	254	P	Pn	20 45 58.9	-1.5
CHOS				S	Sn	20 46 30.0	-1.7
CHOS	Chios island	2.53	254	P	Pn	20 45 58.9	-1.5
CHOS				S	Sn	20 46 30.0	-1.7
ERIK	Erikli-Kesan	2.55	308	PN	Pn	20 45 59.9	-0.7
ERIK	Erikli-Kesan	2.55	308	*e*Pn	Pn	20 45 59.9	-0.7
SIGR	SIGRI	2.56	273	*e*Pn	Pn	20 45 59.3	-1.5
SIGR	SIGRI	2.56	273	P	Pn	20 45 59.3	-1.5
SIGR				S	Sn	20 46 30.8	-1.6
SIGR	SIGRI	2.56	273	P	Pn	20 45 59.3	-1.5
SIGR				S	Sn	20 46 30.8	-1.6
LADK	Ladik-KONYA	2.68	109	PN	Pn	20 46 03.2	+0.7
LADK	Ladik-KONYA	2.68	109	*e*Pn	Pn	20 46 03.2	+0.7
GADA	Gvkgeada	2.73	294	*e*Pn	Pn	20 46 02.1	-1.0
GADA	Gvkgeada	2.73	294	P	Pn	20 46 02.1	-1.0
GADA				S	Sn	20 46 35.0	-1.5
GADA	Gvkgeada	2.73	294	P	Pn	20 46 02.1	-1.0
GADA				S	Sn	20 46 35.0	-1.5
PHSR	Pinarhisar	2.80	334	PN	Pn	20 46 03.1	-0.9
PHSR	Pinarhisar	2.80	334	*e*Pn	Pn	20 46 03.1	-0.9
KDZE	Karadeniz Ereo	2.81	38	PN	Pn	20 46 04.3	+0.2
KDZE	Karadeniz Ereo	2.81	38	*e*Pn	Pn	20 46 04.3	+0.2
ENEZ	Enez	2.81	306	P	Pn	20 46 03.8	-0.4
ENEZ	Enez	2.81	306	P	Pn	20 46 03.8	-0.4
BR231	Keskin MP Arra	2.90	74	*e*Pn	Pn	20 46 06.5	+1.0
BR231				*e*Pg	Pg	20 46 13.4	-0.5
BR231				*e*Sn	Sg	20 46 54.8	+3.3
BR231	Keskin MP Arra	2.90	74	*e*Pn	Pn	20 46 06.5	+1.0
LOD	Lodumlu	2.90	74	PN	Pn	20 46 05.8	+0.3
LOD	Lodumlu	2.90	74	*e*Pn	Pn	20 46 05.8	+0.3
ANTO	Ankara	2.92	74	PN	Pn	20 46 06.4	+0.7
ANTO	Ankara	2.92	74	*e*Pn	Pn	20 46 06.1	+0.4
ANTO				*e*Pg	Pg	20 46 13.8	-0.5
ANTO				*e*Sn	Sg	20 46 54.5	+2.4
ANTO	Ankara	2.92	74	*e*P	Pn	20 46 06.1	+0.4
ANTO	Ankara	2.92	74	*e*P	Pn	20 46 06.1	+0.4
ALN	Alexandroupoli	2.97	308	*e*Pn	Pn	20 46 05.6	-0.8
ALN				*e*Pg	Pb	20 46 12.9	+1.0
ALN				*e*Sg	Sb	20 46 50.0	+1.4
ALN	Alexandroupoli	2.97	308	P	Pn	20 46 05.7	-0.7
ALN				S	Sn	20 46 41.8	-0.7
ALN	Alexandroupoli	2.97	308	*e*P	Pn	20 46 05.6	-0.8
ALN	Alexandroupoli	2.97	308	*e*Pg	Pb	20 46 12.9	+1.0
ALN				S	Sn	20 46 41.8	-0.7
ALN	Alexandroupoli	2.97	308	*e*P	Pn	20 46 05.6	-0.8
SMTH	Samothraki Isl	3.10	297	*e*Pn	Pn	20 46 07.3	-0.9
SMTH	Samothraki Isl	3.10	297	P	Pn	20 46 07.3	-0.9
SMTH	Samothraki Isl	3.10	297	P	Pn	20 46 07.3	-0.9
LIA	Limnos Island	3.17	285	P	Pn	20 46 08.2	-0.9
LIA	Limnos Island	3.17	285	P	Pn	20 46 08.2	-0.9
RDO	Rodhopi	3.43	307	P	Pn	20 46 12.0	-0.7
RDO	Rodhopi	3.43	307	P	Pn	20 46 12.0	-0.7
APE	Apeiranthos	3.52	235	⇑*i*P	Pg	20 46 27.2	+1.4
APE	Apeiranthos	3.52	235	S	Sg	20 47 13.7	+2.4
APE	Apeiranthos	3.52	235	P	Pn	20 46 12.2	-1.7
APE	Apeiranthos	3.52	235	P	Pn	20 46 12.2	-1.7
BR101	Keskin Array S	3.53	79	*e*Pn	Pn	20 46 14.2	0.0
BR101				*e*Pg	Pg	20 46 24.9	-1.0
BR101				*e*Sn	Sn	20 46 54.4	-2.0
BR101				eLg	Lg	20 47 12.2	
BR101	Keskin Array S	3.53	79	*e*Pn	Pn	20 46 14.2	0.0
BR101	Keskin Array S	3.53	79	*e*Pg	Pg	20 46 25.0	-1.0
BR131	Keskin Array S	3.53	79	*e*Pn	Pn	20 46 14.3	+0.1
BR131				*e*Pg	Pg	20 46 25.2	-0.8
BR131	Keskin Array S	3.53	79	*e*Pn	Pn	20 46 14.3	+0.1
BRTR	Keskin Array B	3.53	79	Pn	Pn	20 46 14.2	+0.1
	1.1nm,0.3s,baz=252,slow=13,SNR=36						
BRTR				Pg	Pg	20 46 24.9	-1.1
	4.0nm,0.3s,baz=262,slow=16,SNR=39						
BRTR				Sn	Sn	20 46 54.4	-2.0
	3.8nm,0.3s,baz=198,slow=31,SNR=8.3						
BRTR				Lg	Lg	20 47 12.2	
	4.4nm,0.3s,baz=280,slow=22,SNR=7.1						
KDZ	Kurdzhali	3.81	313	*i*P	Pg	20 46 30.6	-0.8
KDZ	Kurdzhali	3.81	313	P	Pn	20 46 17.2	-0.7
KDZ	Kurdzhali	3.81	313	P	Pn	20 46 17.2	-0.7
JMB	Yambol	3.87	331	*i*P	Pn	20 46 18.5	-0.2
JMB	Yambol	3.87	331	*i*P	Pn	20 46 18.5	-0.2
KARP	Karpathos	3.91	205	*e*Pn	Pn	20 46 18.0	-1.3
KARP				*e*Sn	Sn	20 47 03.6	-2.0
KARP	Karpathos	3.91	205	*e*Pn	Pn	20 46 18.0	-1.3
KARP				*e*Sn	Sn	20 47 03.6	-2.0
ILGA	Ilgaz	4.00	60	*e*Pg	Pg	20 46 34.3	-0.7
ILGA	Ilgaz	4.00	60	*e*Pg	Pg	20 46 34.3	-0.7
SANT	Santorini	4.01	228	*e*Pn	Pn	20 46 19.8	-1.0
SANT	Santorini	4.01	228	*e*Pn	Pn	20 46 19.8	-1.0
DIM	Dimitrovgrad	4.02	318	*i*P	Pn	20 46 20.2	-0.6
DIM	Dimitrovgrad	4.02	318	P	Pn	20 46 20.1	-0.7
DIM	Dimitrovgrad	4.02	318	P	Pn	20 46 20.1	-0.7
KAVA	Kavala	4.02	299	P	Pn	20 46 19.9	-0.9
KAVA	Kavala	4.02	299	P	Pn	20 46 19.9	-0.9
RZN	Rozhen	4.25	309	*i*P	Pn	20 46 23.8	-0.3
RZN	Rozhen	4.25	309	*i*P	Pn	20 46 23.8	-0.3
PAIG	Paliouri	4.31	282	P	Pn	20 46 23.5	-1.3
PAIG	Paliouri	4.31	282	P	Pn	20 46 23.5	-1.3
PLD	Plovdiv	4.51	313	*i*P	Pn	20 46 27.0	-0.5
PLD	Plovdiv	4.51	313	*i*P	Pn	20 46 27.0	-0.5
PLG	Polygyros	4.57	288	P	Pn	20 46 27.7	-0.8
PLG	Polygyros	4.57	288	P	Pn	20 46 27.7	-0.8
PSN	Preselentsi	4.62	351	*i*P	Pn	20 46 28.1	-0.9
PSN	Preselentsi	4.62	351	*i*P	Pn	20 46 28.1	-0.9
NVR	Nevrokopi	4.62	300	P	Pn	20 46 28.4	-0.7
NVR	Nevrokopi	4.62	300	P	Pn	20 46 28.4	-0.7
SRS	Serrai	4.71	297	P	Pn	20 46 29.3	-1.0
SRS	Serrai	4.71	297	P	Pn	20 46 29.3	-1.0
SRS	Serrai	4.71	297	P	Pn	20 46 28.9	-1.4
MANR	Mangalia	4.71	355	⇑*i*P	Pn	20 46 29.4	-0.9
MANR	Mangalia	4.71	355	⇑*i*P	Pn	20 46 29.4	-0.9
NPS	Neapolis	4.78	217	P	Pn	20 46 32.1	+0.9
NPS	Neapolis	4.78	217	P	Pn	20 46 32.1	+0.9
SZH	Strazhica	4.80	331	*i*P	Pn	20 46 28.4	-3.1
SZH	Strazhica	4.80	331	*i*P	Pn	20 46 28.4	-3.1
MMB	Musomiste	4.82	302	*i*P	Pn	20 46 31.3	-0.6
MMB	Musomiste	4.82	302	P	Pn	20 46 31.2	-0.6
MMB	Musomiste	4.82	302	P	Pn	20 46 31.2	-0.6
EFOR	EFORIE	4.97	356	⇑*i*P	Pn	20 46 33.2	-0.6
EFOR	EFORIE	4.97	356	⇑*i*P	Pn	20 46 33.2	-0.6
PVL	Pavlikeni	5.00	326	*i*P	Pn	20 46 34.3	0.0
PVL	Pavlikeni	5.00	326	*i*P	Pn	20 46 34.3	0.0
PGB	Panagyurishte	5.10	314	*i*P	Pn	20 46 35.2	-0.5
PGB	Panagyurishte	5.10	314	*i*P	Pn	20 46 35.2	-0.5
IDI	Anoyia	5.12	223	Pn	Pn	20 46 35.1	-0.9
	1.5nm,0.3s,baz=17,slow=19,SNR=4.2						
IDI	Anoyia	5.12	223	*e*Pn	Pn	20 46 34.3	-1.7
IDI	Anoyia	5.12	223	*e*Pn	Pn	20 46 34.3	-1.7
KNT	Kendrikon	5.21	295	P	Pn	20 46 36.6	-0.6
	21nm,0.9s						
KNT	Kendrikon	5.21	295	P	Pn	20 46 36.6	-0.6
KNT				pmax	pmax		
	comp=Z,21nm,0.9s						
AGG	Agios Georgios	5.31	271	*e*Pn	Pn	20 46 38.2	-0.4
AGG	Agios Georgios	5.31	271	*e*P	Pn	20 46 38.2	-0.4
AGG	Agios Georgios	5.31	271	*e*P	Pn	20 46 38.2	-0.4
CSS	Mathiatis	5.33	140	*e*Pn	Pn	20 46 38.0	-0.8
CSS	Mathiatis	5.33	140	*e*Pn	Pn	20 46 38.0	-0.8
TIRR	Tirgusor	5.36	354	⇓*i*P	Pn	20 46 38.8	-0.4
TIRR	Tirgusor	5.36	354	S	Sn	20 47 34.7	-6.7
TIRR	Tirgusor	5.36	354	*e*Pn	Pn	20 46 38.1	-1.0
TIRR				*e*Sn	Sn	20 47 37.6	-3.8
TIRR	Tirgusor	5.36	354	*e*P	Pn	20 46 38.2	-1.0
TIRR				*e*S	Sn	20 47 37.6	-3.8
TIRR	Tirgusor	5.36	354	*e*P	Pn	20 46 38.2	-1.0
TIRR				*e*		20 47 37.6	
KKB	Krupnik	5.38	303	*i*P	Pn	20 46 39.9	+0.4
KKB	Krupnik	5.38	303	*i*P	Pn	20 46 39.9	+0.4
GRG	Griva	5.50	292	P	Pn	20 46 40.4	-0.7
	comp=Z,10.0nm,0.5s						
GRG	Griva	5.50	292	P	Pn	20 46 40.4	-0.7
GRG				pmax	pmax		
	comp=Z,10.0nm,0.5s						
SGRR	Singureni	5.62	336	⇑*i*P	Pn	20 46 45.6	+2.8
HARR	Harsova	5.64	351	⇑*i*P	Pn	20 46 43.0	-0.1
HARR	Harsova	5.64	351	P	Pn	20 46 42.9	-0.1
HARR	Harsova	5.64	351	P	Pn	20 46 42.9	-0.1
AMRR	Amara	5.65	347	⇓*i*P	Pn	20 46 42.9	-0.3
AMRR	Amara	5.65	347	⇓*i*P	Pn	20 46 42.9	-0.3
VTS	Vitosha	5.69	309	⇑*i*P	Pn	20 46 43.9	+0.1
VTS	Vitosha	5.69	309	*e*Pn	Pn	20 46 43.7	-0.1
VTS				eLg	Lg	20 48 17.8	
VTS	Vitosha	5.69	309	*i*P	Pn	20 46 43.9	+0.1
VTS	Vitosha	5.69	309	*e*P	Pn	20 46 43.7	-0.1
VTS				S	Sn	20 47 46.7	-2.9
VTS	Vitosha	5.69	309	*e*P	Pn	20 46 43.7	-0.1
MPEP	Malo Peshtene	5.88	318	*i*P	Pn	20 46 45.8	-0.5
PGOR	Pogoanele	6.00	345	⇓*i*P	Pn	20 46 49.4	+1.4
PGOR	Pogoanele	6.00	345	⇓*i*P	Pn	20 46 49.4	+1.4
ITM	Ithomi	6.01	253	*e*Pn	Pn	20 46 48.9	+0.6
ITM	Ithomi	6.01	253	*e*Pn	Pn	20 46 48.9	+0.6
TLCR		6.07	358	⇑*i*P	Pn	20 46 48.8	-0.1
TLCR		6.07	358	S	Sn	20 47 52.0	-6.7
TLCR		6.07	358	⇑*i*P	Pn	20 46 48.8	-0.1
CFR	Carcaliu	6.10	353	⇑*i*P	Pn	20 46 48.4	-0.9
CFR	Carcaliu	6.10	353	⇑*i*P	Pn	20 46 48.4	-0.9
FNA	Florina	6.20	288	*e*Pn	Pn	20 46 51.3	+0.5
FNA	Florina	6.20	288	*e*P	Pn	20 46 51.3	+0.5
FNA	Florina	6.20	288	*e*P	Pn	20 46 51.3	+0.5
HUMR	Humele	6.24	331	⇓*i*P	Pn	20 46 50.6	-0.6
HUMR	Humele	6.24	331	S	Sn	20 47 58.8	-4.2
HUMR	Humele	6.24	331	⇓*i*P	Pn	20 46 50.6	-0.6
ISR	Istrita	6.30	343	⇓*i*P	Pn	20 46 52.5	+0.3
ISR	Istrita	6.30	343	P	Pn	20 46 53.2	+1.0
	comp=Z,38nm,0.9s						
ISR	Istrita	6.30	343	P	Pn	20 46 53.2	+1.0
ISR				pmax	pmax		
	comp=Z,38nm,0.9s						
SEV	Sevastopol'	6.38	30	*i*P	Pn	20 46 51.1	-2.1
SEV	Sevastopol'	6.38	30	⇓*i*P	Pn	20 46 51.1	-2.1
SEV				*e*S	Sn	20 48 01.1	-5.4
KRUS	Krusevo	6.45	293	*i*Pn	Pn	20 46 54.6	+0.3
GRER		6.46	346	⇓*i*P	Pn	20 46 55.2	+0.9
GRER		6.46	346	S	Sn	20 48 11.7	+3.2
GRER		6.46	346	⇓*i*P	Pn	20 46 55.2	+0.9
YAL	Yalta	6.54	33	*e*P	Pn	20 46 53.5	-1.8
YAL	Yalta	6.54	33	*e*P	Pn	20 46 53.5	-1.8
YAL				*e*S	Sn	20 48 05.4	-4.9
BARS	Barje	6.67	306	*e*Pn	Pn	20 46 57.5	+0.3
MLR	Muntele Rosu	6.79	341	Pn	Pn	20 46 58.5	-0.5
	baz=180,slow=1.0						
MLR	Muntele Rosu	6.79	341	⇑*i*P	Pn	20 46 59.3	+0.3
ALU	Alushta	6.80	33	*i*P	Pn	20 46 57.1	-1.8
ALU	Alushta	6.80	33	⇓*i*P	Pn	20 46 57.1	-1.8
ALU				*e*S	Sn	20 48 11.8	-4.9
MTUR	Matau	6.81	335	⇑*i*P	Pn	20 46 58.8	-0.5
MTUR	Matau	6.81	335	⇑*i*P	Pn	20 46 58.8	-0.5
ODBI	Odobesti	6.82	348	⇓*i*P	Pn	20 47 00.1	+0.9
ODBI	Odobesti	6.82	348	⇓*i*P	Pn	20 47 00.1	+0.9
SIM	Simferopol'	6.89	31	*e*P	Pn	20 47 00.1	-0.2
	comp=Z,118nm,0.2s						
SIM	Simferopol'	6.89	31	*e*P	Pn	20 47 00.1	-0.2
SIM				*e*S	Sn	20 48 15.0	-4.2
SIM				pmax	pmax		
	comp=Z,118nm,0.2s						
SIM				smax	smax		
	comp=N,38nm,0.3s						
SIM				smax	smax		
	comp=E,46nm,0.3s						
VRI	Vrincioaia	6.97	346	⇓*i*P	Pn	20 47 01.2	-0.1
VRI	Vrincioaia	6.97	346	P	Pn	20 47 01.3	-0.1
	comp=E,419nm,1.2s						
VRI	Vrincioaia	6.97	346	P	Pn	20 47 01.3	-0.1
VRI				pmax	pmax		
	comp=Z,419nm,1.2s						
PLOR	Plostina	6.97	345	⇑*i*P	Pn	20 47 01.4	0.0
PLOR	Plostina	6.97	345	P	Pn	20 47 01.3	-0.1
PLOR	Plostina	6.97	345	P	Pn	20 47 01.3	-0.1
ZAGS	Zajecar	7.00	314	*e*Pn	Pn	20 46 59.8	-1.9
VOIR		7.00	336	⇑*i*P	Pn	20 47 01.7	-0.2
VOIR		7.00	336	P	Pn	20 47 01.2	-0.7
	comp=Z,25nm,0.6s						
VOIR		7.00	336	P	Pn	20 47 01.2	-0.7
VOIR				pmax	pmax		
	comp=Z,25nm,0.6s						
ARR	Arges	7.08	333	⇓*i*P	Pn	20 47 03.2	+0.2
ARR	Arges	7.08	333	S	Sn	20 48 19.6	-4.4
ARR	Arges	7.08	333	⇓*i*P	Pn	20 47 03.2	+0.2
BOVS	Bovan	7.19	311	*e*Pn	Pn	20 47 04.6	+0.3
SUDU	Sudak	7.22	35	*e*P	Pn	20 47 03.1	-1.7
SUDU	Sudak	7.22	35	*e*P	Pn	20 47 03.1	-1.7
SUDU				*e*S	Sn	20 48 23.4	-3.8
LEOM	Leova	7.38	355	⇑*i*P	Pn	20 47 05.3	-1.6
LEOM	Leova	7.38	355	⇑*i*P	Pn	20 47 05.3	-1.6
DOPR	Dopca	7.38	339	⇓*i*P	Pn	20 47 07.3	+0.3
DOPR	Dopca	7.38	339	⇓*i*P	Pn	20 47 07.3	+0.3
DOPR				S	Sn	20 48 31.0	-0.3
TESR	Tescani	7.61	347	⇓*i*P	Pn	20 47 08.7	-1.4
TESR	Tescani	7.61	347	⇓*i*P	Pn	20 47 08.7	-1.4
KUBS	Kucevo	7.69	316	⇑*i*Pn	Pn	20 47 08.6	-2.6
MILM	Milestii Mici	7.80	358	⇑*i*P	Pn	20 47 12.3	-0.4
MILM	Milestii Mici	7.80	358	⇑*i*P	Pn	20 47 12.3	-0.4
MDB	Medias	7.85	335	⇓*i*P	Pn	20 47 14.2	+0.8
MDB	Medias	7.85	335	⇓*i*P	Pn	20 47 14.2	+0.8
KIS	Kishinev	7.88	358	*e*	Pb	20 47 30.0	-5.5
KIS	Kishinev	7.88	358	*e*P	Pb	20 47 30.0	-5.5
KIS				*e*		20 48 40.0	
MMAI	Mount Meron Ar	7.92	138	Pn	Pn	20 47 13.6	-0.8
	comp=Z,2.4nm,0.3s,baz=316,slow=13,SNR=11						
MMAI				Sn	Sn	20 48 39.1	-5.5
	baz=239,slow=45,SNR=2.0						
GRUS	Gruza	7.92	310	*e*Pn	Pn	20 47 14.1	-0.3
GIRR	Girov	8.07	347	⇑*i*P	Pn	20 47 15.5	-0.9
GIRR	Girov	8.07	347	⇑*i*P	Pn	20 47 15.5	-0.9
IVAS	Ivanjica	8.10	306	⇑*i*Pn	Pn	20 47 17.0	+0.1
DEV	Deva	8.18	328	P	Pn	20 47 17.3	-0.6
	comp=Z,34nm,1.1s						
DEV	Deva	8.18	328	P	Pn	20 47 17.3	-0.6
DEV				pmax	pmax		
	comp=Z,34nm,1.1s						
PDG	Podgorica	8.20	297	⇓*i*P	Pn	20 47 20.9	+2.7
TTG	Podgorica	8.20	297	*e*Pn	Pn	20 47 14.2	-4.1
TTG	Podgorica	8.20	297	*e*P	Pn	20 47 14.2	-4.1
TRUS	Trudelj	8.29	311	*e*Pn	Pn	20 47 17.8	-1.7
ANN	Anapa	8.38	45	*e*P	Pn	20 47 16.5	-4.1
ANN				pmax	pmax		
	comp=Z,51nm,1.6s						
DIVS	Divibare	8.47	309	*e*Pn	Pn	20 47 21.3	-0.7
DIVS	Divibare	8.47	309	*e*Pn	Pn	20 47 21.3	-0.7
BZS	Buzias	8.55	322	⇓*i*P	Pn	20 47 22.9	-0.2
BZS	Buzias	8.55	322	⇓*i*P	Pn	20 47 22.9	-0.2
BZS				S	Sn	20 48 57.4	-2.6
CJR	Cluj-Napoca	8.61	334	⇑*i*P	Pn	20 47 24.4	+0.5
CJR	Cluj-Napoca	8.61	334	P	Pn	20 47 24.3	+0.4
CJR	Cluj-Napoca	8.61	334	P	Pn	20 47 24.3	+0.4
ARCR	ARCALIA	8.70	338	⇓*i*P	Pn	20 47 25.3	+0.3
ARCR	ARCALIA	8.70	338	⇓*i*P	Pn	20 47 25.3	+0.3
BURAR	Bucovina Array	8.96	343	⇓*i*P	Pn	20 47 28.1	-0.6
BURAR	Bucovina Array	8.96	343	⇓*i*P	Pn	20 47 28.1	-0.6
BURAR	Bucovina Array	8.96	343	P	Pn	20 47 28.1	-0.6
BUR04	Bucovina Ar. S	8.96	343	*e*Pn	Pn	20 47 27.9	-0.8
BUR04	Bucovina Ar. S	8.96	343	*e*Pn	Pn	20 47 27.9	-0.8
BUR08	Bucovina Ar. S	8.99	343	*e*Pn	Pn	20 47 28.6	-0.6
BUR08	Bucovina Ar. S	8.99	343	*e*Pn	Pn	20 47 28.6	-0.6
TEKS	Tekeris	9.00	310	*e*Pn	Pn	20 47 27.7	-1.5
DRGR		9.00	330	⇓*i*P	Pn	20 47 28.4	-0.8
DRGR		9.00	330	P	Pn	20 47 28.0	-1.2
DRGR				S	Sn	20 49 08.7	-2.4
DRGR		9.00	330	P	Pn	20 47 28.0	-1.2
SORM	Soroca	9.03	357	⇓*i*P	Pn	20 47 28.5	-1.1
SORM	Soroca	9.03	357	S	Sn	20 49 03.3	-8.3
SORM	Soroca	9.03	357	P	Pn	20 47 28.4	-1.1
SORM	Soroca	9.03	357	P	Pn	20 47 28.4	-1.1
ASF	Jabal al Asfar	9.37	135	LR	LR	20 52 30.3	
	comp=Z,361nm,20.7s,baz=22,slow=46						
BMR	Baia Mare	9.48	336	⇓*i*P	Pn	20 47 35.7	-0.1
BMR	Baia Mare	9.48	336	⇓*i*P	Pn	20 47 35.7	-0.1
TIP	Timpagrande	9.63	274	*e*Pn	Pn	20 47 38.6	+0.7
TIP	Timpagrande	9.63	274	*e*Pn	Pn	20 47 38.6	+0.7
TRPA	Tarpa	10.20	334	⇓*i*P	Pn	20 47 44.3	-1.2
TRPA	Tarpa	10.20	334	⇓*i*P	Pn	20 47 44.3	-1.2
CUC	Castrocucco	10.34	279	*e*Pn	Pn	20 47 49.5	+2.0
EIL	Elat	10.57	151	Pn	Pn	20 47 50.8	+0.1
	comp=Z,0.2nm,0.3s,baz=318,slow=12,SNR=3.8						
EIL				Sn	Sn	20 49 45.5	-4.1
	comp=Z,0.5nm,0.3s,baz=115,slow=19,SNR=4.0						
UZH	Uzhgorod	10.71	335	*e*P	Pn	20 47 53.0	+0.4
UZH	Uzhgorod	10.71	335	*e*P	Pn	20 47 53.0	+0.4
KIV	Kislovodsk	11.23	60	*e*P	Pn	20 48 03.8	+4.0
KIV				pmax	pmax		
	comp=Z,4.0nm,1.1s						
KIEV	Kiev	11.57	0	*i*P	Pn	20 48 05.4	+1.1
KIEV	Kiev	11.57	0	*i*P	Pn	20 48 05.4	+1.1
AKASG	Malin Array Be	11.58	0	Pn	Pn	20 48 01.5	-2.9
	comp=Z,0.7nm,0.3s,baz=179,slow=12,SNR=4.1						
AKBB	Malin Array Si	11.58	0	*e*Pn	Pn	20 48 06.1	+1.7
AKBB	Malin Array Si	11.58	0	*e*P	Pn	20 48 06.1	+1.7
STHS	Stebnicka Huta	11.74	334	*e*PN	Pn	20 48 09.8	+3.1
STHS	Stebnicka Huta	11.74	334	*e*P	Pn	20 48 09.9	+3.2
VYHS	Vyhne	11.96	325	*e*PN	Pn	20 48 12.6	+2.9
VYHS	Vyhne	11.96	325	*e*P	Pn	20 48 12.6	+2.9
GNI	Garni	12.07	80	*e*Pn	Pn	20 48 11.3	0.0
GNI	Garni	12.07	80	*e*Pn	Pn	20 48 11.3	0.0
GNI	Garni	12.07	80	*i*P	Pn	20 48 14.0	+2.7
GNI	Garni	12.07	80	*i*P	Pn	20 48 14.0	+2.7
VSR	Storozhevoye	13.99	27	*e*P	Pn	20 48 38.9	+1.6
	comp=Z,5.0nm,0.8s						
VSR	Storozhevoye	13.99	27	*e*P	Pn	20 48 38.9	+1.6
VSR				pmax	pmax		
	comp=Z,5.0nm,0.8s						
GEA0	GERES

MKAR	**Makanchi Array**	**38.99**	**61**	*e*P		**P**	**20 52 46.7**	**+0.8**
	comp=Z,5.5nm,0.8s							
MKAR	**Makanchi Array**	**38.99**	**61**	*e*P		**P**	**20 52 47.8**	**+1.9**
MKAR					pmax	pmax		
	comp=Z,1.0nm,0.8s							
MK01	**Makanchi Array**	**39.00**	**61**	*e*P		**P**	**20 52 47.3**	**+1.4**
ZAA0	**Zalesovo Array**	**39.98**	**49**	*e*P		**P**	**20 52 54.4**	**+0.5**
	comp=Z,11nm,1.8s							
ZAA1	**Zalesovo Array**	**39.98**	**49**	*e*P		**P**	**20 52 55.0**	**+1.0**
ZALV	**Zalesovo Beam**	**39.98**	**49**	*e*P		**P**	**20 52 55.0**	**+1.0**
	comp=Z,0.6nm,0.4s,baz=281,slow=8.6,SNR=4.4							
ZALV	**Zalesovo Beam**	**39.98**	**49**	*e*P		**P**	**20 52 54.4**	**+0.5**
ZALV	**Zalesovo Beam**	**39.98**	**49**	*e*P		**P**	**20 52 54.4**	**+0.5**
KBS	**Kingsbay**	**40.52**	**355**	*e*P		**P**	**20 52 58.7**	**+0.6**
	comp=Z,28nm,1.0s							
KBS	**Kingsbay**	**40.52**	**355**	*e*P		**P**	**20 52 58.7**	**+0.6**
KBS					pmax	pmax		
	comp=Z,28nm,1.0s							
SONA0	**Songino Array**	**54.54**	**54**	*e*P		**P**	**20 54 48.5**	**+0.8**
SONM	**Songino Array**	**54.54**	**54**	P		**P**	**20 54 48.5**	**+0.8**
	comp=Z,0.6nm,0.6s,baz=281,slow=7.5,SNR=6.7							
SONM	**Songino Array**	**54.54**	**54**	*e*P		**P**	**20 54 49.7**	**+2.0**
SONM					pmax	pmax		
	comp=Z,1.0nm,0.6s							
SONA1	**Songino Array**	**54.54**	**54**	*e*P		**P**	**20 54 48.5**	**+0.8**
RES	**Resolute Bay**	**60.66**	**345**	*e*P		**P**	**20 55 31.3**	**+1.2**
	comp=Z,9.0nm,1.8s							
RES	**Resolute Bay**	**60.66**	**345**	*e*P		**P**	**20 55 31.3**	**+1.2**
RES					pmax	pmax		
	comp=Z,9.0nm,1.8s							
BILL	**Bilibino**	**68.42**	**16**	⇓*i*P		**P**	**20 56 23.8**	**+2.8**
BILL				*e*			20 58 55.3	
BILL				*e*S		**S**	**21 05 26.2**	**+3.5**
BILL					pmax	pmax		
	comp=Z,1.0nm,1.1s							
BILL					MLR	MLR		
	comp=Z,207nm,18.0s							
KS01	**Wonju Array Si**	**73.34**	**55**	*e*P		**P**	**20 56 51.7**	**+0.3**
KSAR	**Wonju Array Be**	**73.36**	**55**	P		**P**	**20 56 52.8**	**+1.3**
KSAR	**Wonju Array Be**	**73.36**	**55**	P		**P**	**20 56 52.8**	**+1.3**
KSRS	**Korea Array**	**73.37**	**55**	P		**P**	**20 56 52.8**	**+1.2**
	comp=Z,4.9nm,1.2s,baz=302,slow=7.5,SNR=6.0							
KSRS	**Korea Array**	**73.37**	**55**	P		**P**	**20 56 52.8**	**+1.2**
KSRS					pmax	pmax		
	comp=Z,2.0nm,0.9s							

SJA ***17*** *20:46:03.8±0.7, 33.08S×72.28W, h12km±22km, ML3.6, MW3.1*
GUC ***17*** *20:46:16.0±0.3, 32.43S×71.54W, h35km±6km, ML3.3*
ISC 17 20:46:13.3±2.3, 32.61S±0.04×71.74W±0.09, h1km±12km, n17, σ2.510/28, 2C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PEL	**Peldehue**	**1.03**	**121**	⇓*i*P	**Pn**	**20 46 35.1**	**0.0**
PEL				*i*S	**Sn**	**20 46 49.5**	**-0.7**
ANTU	**Antumapu**	**1.33**	**136**	IAML		20 47 03.2	
	comp=N,1μm,0.4s						
FCH	**Farellones**	**1.41**	**121**	⇓*i*P	**Pg**	**20 46 40.9**	**+0.4**
FCH				*i*S	**Sn**	**20 47 00.2**	**+0.3**
FCH				IAML		20 47 02.4	
	comp=N,455nm,0.2s						
LMEL	**Las Melosas**	**1.79**	**134**	⇑*i*P	**Pg**	**20 46 47.2**	**-0.4**
LMEL				*i*S	**Sg**	**20 47 11.0**	**+0.3**
LMEL				IAML		20 47 15.5	
	comp=N,569nm,0.3s						
AUSP	**Uspallata**	**2.02**	**80**	*e*P	**Pb**	**20 46 50.7**	**-0.4**
GO04	**Tololo Observa**	**2.56**	**19**	⇑*i*P	**Pn**	**20 46 55.6**	**-0.5**
GO04				*i*S	**Sn**	**20 47 26.6**	**-1.4**
GO04				IAML		20 47 34.0	
	comp=N,389nm,0.5s						
TLL	**Tololo Astrono**	**2.56**	**18**	*e*P	**Pn**	**20 46 55.6**	**-0.6**
TLL				IAML		20 47 39.5	
	comp=E,196nm,0.4s						
ZON	**Zonda**	**2.80**	**69**	*e*P	**Pn**	**20 47 01.1**	**+1.8**
ZON				*e*S	**Sg**	**20 47 43.5**	**0.0**
RTCV	**Cerro Valdivia**	**2.81**	**76**	*e*P	**Pn**	**20 47 00.8**	**+1.4**
RTCV				*e*S	**Sg**	**20 47 42.8**	**-0.8**
RTLL	**Cerro Villicun**	**3.05**	**66**	*e*P	**Pn**	**20 47 05.0**	**+2.2**
RTLL				*e*S	**Sg**	**20 47 49.9**	**-1.5**
RTLL				IAML		20 47 54.3	
	comp=Z,82nm,0.3s						
RTLL	**Cerro Villicun**	**3.05**	**66**	IAML		20 47 54.8	
	comp=E,183nm,0.4s						
AROD	**Rodeo**	**3.11**	**39**	*e*P	**Pn**	**20 47 06.3**	**+2.5**
AROD				*e*S	**Sg**	**20 47 53.6**	**+0.3**
AMOG	**MOGNA**	**3.23**	**60**	*e*P	**Pn**	**20 47 07.6**	**+2.4**
AMOG				*e*S	**Sb**	**20 47 54.8**	**+3.6**
ACAN	**Cantantal**	**3.86**	**86**	*e*P	**Pn**	**20 47 16.1**	**+2.2**
ACAN				*e*S	**Sb**	**20 48 07.0**	**-2.6**
AGUA	**GUANDACOL**	**4.17**	**43**	*e*P	**Pn**	**20 47 21.2**	**+2.9**
AGUA				*e*S	**Sb**	**20 48 19.1**	**+0.5**
VCA	**Vinchina**	**4.91**	**39**	*e*P	**Pn**	**20 47 31.9**	**+3.4**
VCA				*e*S	**Sb**	**20 48 36.9**	**-3.0**
VCA				IAML		20 48 45.0	
	comp=Z,45nm,0.4s						
APLL	**PUNTA DE LOS L**	**4.97**	**65**	*e*P	**Pn**	**20 47 31.3**	**+2.2**
APLL				*e*S	**Sb**	**20 48 37.1**	**-4.3**
APLL				IAML		20 48 38.4	
	comp=Z,16nm,0.7s						

ISCJB ***17*** *20:50:18.5±0.5, 11.88N±0.08×141.68E±0.07, h51km, mb4.1/16, Error ellipse: s-maj=11.9km s-min=8.8km az=145.0*
NEIC ***17*** *20:50:21.1±1.8, 11.90N×141.81E, h60km±18km, mb4.5/5, Error ellipse: s-maj=17.1km s-min=9.0km az=93.0*
IDC ***17*** *20:50:21.8±3.2, 11.93N×141.79E, h65km±31km, mb3.6/12, mb1 3.8/13, mb1mx3.5/63, mbtmp3.9/13, ML4.1/1, Error ellipse: s-maj=25.4km s-min=17.7km az=110.0*
ISC 17 20:50:20.3±0.8, 11.9N±0.1×141.72E±0.10, h51km, n26, σ0.883/28, mb4.0/16, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**3.50**	**61**	P	**Pn**	**20 51 11.8**	**-0.5**
	20nm,0.3s,baz=211,slow=5.0,SNR=7.4						
GUMO				S	**Sn**	**20 51 53.2**	**+0.7**
	11nm,0.3s,baz=156,slow=20,SNR=2.5						
GUMO	**Guam**	**3.50**	**61**	*e*Pn	**Pn**	**20 51 11.8**	**-0.5**
GUMO				*e*Sn	**Sn**	**20 51 53.2**	**+0.7**
GUMO				*e*Sn	Sn	20 51 56.0	+3.5
WR1	**Warramunga Arr**	**32.46**	**193**	*e*P	**P**	**20 56 45.8**	**-0.2**
	45nm,0.8s						
WRA	**Warramunga Arr**	**32.46**	**193**	P	**P**	**20 56 45.8**	**-0.2**
	0.3nm,0.5s,baz=15,slow=9.8,SNR=4.9						
AS31	**Alice Springs**	**36.16**	**192**	*e*P	**P**	**20 57 17.6**	**-0.4**
	0.8nm,0.4s						
ASAR	**Alice Springs**	**36.16**	**192**	P	**P**	**20 57 19.2**	**+1.2**
	0.3nm,0.7s,baz=24,slow=12,SNR=5.0						
SONA0	**Songino Array**	**46.42**	**327**	*e*P	**P**	**20 58 43.2**	**+1.1**
SONM	**Songino Array**	**46.42**	**327**	P	**P**	**20 58 43.2**	**+1.1**
	0.2nm,0.4s,baz=130,slow=5.4,SNR=4.4						
MK01	**Makanchi Array**	**60.60**	**317**	*e*P	**P**	**21 00 26.0**	**+0.1**
MK31	**Makanchi Array**	**60.61**	**317**	*e*P	**P**	**21 00 26.6**	**+0.7**
MK32	**Makanchi Array**	**60.61**	**317**	*e*P	**P**	**21 00 26.9**	**+1.0**
MKAR	**Makanchi Array**	**60.61**	**317**	P	**P**	**21 00 26.9**	**+1.0**
	1.3nm,1.0s,baz=90,slow=9.7,SNR=8.4						
MKAR	**Makanchi Array**	**60.61**	**317**	*e*P	**P**	**21 00 26.2**	**+0.3**
	4.3nm,0.9s						
ZALV	**Zalesovo Beam**	**61.24**	**326**	P	**P**	**21 00 29.4**	**-0.6**
	0.4nm,0.4s,baz=111,slow=6.3,SNR=2.8						
ZAA1	**Zalesovo Array**	**61.25**	**326**	*e*P	**P**	**21 00 29.4**	**-0.6**
KURK	**Kurchatov**	**63.92**	**321**	*e*P	**P**	**21 00 47.8**	**-0.2**
	3.0nm,0.8s						
KURBB	**Kurchatov Arra**	**63.96**	**321**	P	**P**	**21 00 48.6**	**+0.4**
	2.2nm,0.7s,baz=104,slow=6.9,SNR=20						
NIL	**Nilore**	**65.64**	**302**	*e*P	**P**	**21 00 59.8**	**+0.3**
	4.3nm,0.6s						
BVAR	**Borovoye Array**	**69.37**	**322**	P	**P**	**21 01 22.5**	**-0.2**
	1.2nm,0.7s,baz=97,slow=7.6,SNR=7.4						
ILAR	**Eielson Array**	**71.41**	**25**	P	**P**	**21 01 33.2**	**-1.7**
	0.6nm,0.6s,baz=246,slow=5.9,SNR=9.7						
YKA	**Yellowknife Ar**	**85.76**	**27**	P	**P**	**21 02 54.0**	**+0.2**
	0.3nm,0.3s,baz=290,slow=5.0,SNR=4.7						
ARA0	**ARCESS Array S**	**87.73**	**342**	*e*P	**P**	**21 03 02.7**	**-0.7**
ARCES	**ARCESS Array B**	**87.73**	**342**	P	**P**	**21 03 02.7**	**-0.7**
	0.9nm,0.8s,baz=64,slow=8.2,SNR=7.5						
NVAR	**Mina Array Bea**	**90.37**	**51**	P	**P**	**21 03 17.9**	**+1.2**
	1.2nm,0.6s,baz=270,slow=5.2,SNR=7.6						
FIA0	**FINESS Array S**	**91.38**	**334**	*e*P	**P**	**21 03 19.3**	**-1.2**
FINES	**FINESS Array B**	**91.38**	**334**	P	**P**	**21 03 19.3**	**-1.2**
	1.3nm,0.4s,baz=60,slow=5.2,SNR=20						

ISCJB ***17*** *20:55:52.0±1.3, 39.49N±0.07×71.76E±0.05, h10km, Error ellipse: s-maj=10.8km s-min=6.0km az=180.0*
KRNET ***17*** *20:55:51.8±0.1, 39.56N×71.76E, mb2.8*
NNC ***17*** *20:55:54.6±2.2, 39.68N×71.92E, h0km, mb2.9, mpv2.7, Error ellipse: s-maj=20.3km s-min=8.0km az=14.0*
ISC 17 20:55:51.9±2.0, 39.5N±0.1×71.77E±0.05, h10km, n14, σ1.954/25, 19C-9D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BTK	**Batken**	**0.92**	**307**	⇑*i*P	**Pg**	**20 56 08.4**	**-1.3**
	baz=5.0						
BTK				⇑*i*S	**Sg**	**20 56 20.8**	**-0.9**
	baz=5.0						
SFK	**Sufi-Kurgan**	**1.43**	**69**	⇑P	**Pn**	**20 56 18.1**	**0.0**
	2.5nm,0.3s						
SFK				⇑S	**Sb**	**20 56 36.3**	**-0.8**
	20nm,0.3s						
ARSB	**Arslanbob**	**2.04**	**27**	⇓*e*P	**Pb**	**20 56 28.4**	**-0.7**
	baz=27						
ARSB				⇓*i*S	**Sg**	**20 56 55.1**	**-2.3**
	baz=27						
ARK	**Arkit**	**2.30**	**4**	⇑*e*P	**Pb**	**20 56 32.1**	**-1.4**
	baz=4.0						
ARK				⇑*i*S	**Sb**	**20 57 00.6**	**-1.4**
	baz=4.0						
AML	**Almayashu**	**3.00**	**28**	⇑*i*P	**Pn**	**20 56 41.3**	**+1.4**
	baz=29						
AML				⇑*i*S	**Sn**	**20 57 17.6**	**+1.5**
	baz=29						
MNAS	**Manas**	**3.03**	**10**	⇑Pn	**Pn**	**20 56 42.4**	**+2.3**
	0.7nm,0.3s						
MNAS				⇓Lg	Lg	20 57 25.3	
	6.0nm,0.6s						
MNAS	**Manas**	**3.03**	**10**	⇓*i*P	**Pn**	**20 56 41.4**	**+1.3**
	baz=11						
MNAS				⇓*i*S	**Sn**	**20 57 18.1**	**+1.6**
	baz=11						
UCH	**Uchtor**	**3.42**	**36**	⇑*i*P	**Pn**	**20 56 47.1**	**+1.4**
	baz=37						
UCH				⇑*i*S	**Sn**	**20 57 28.1**	**+1.5**
	baz=37						
EKS2	**Erkin-Say**	**3.50**	**25**	⇓*i*P	**Pn**	**20 56 48.0**	**+1.5**
	baz=26						
EKS2				⇓*i*S	**Sn**	**20 57 29.5**	**+1.5**
	baz=26						
KZA	**Kyzart**	**3.68**	**45**	⇑*i*P	**Pn**	**20 56 50.9**	**+1.6**
	baz=45						
KZA				⇑*i*S	**Sn**	**20 57 34.2**	**+1.2**
	baz=45						
KK31	**Karatay Array**	**3.72**	**346**	⇓Pg	**Pb**	**20 56 58.3**	**+0.6**
	2.5nm,0.7s,baz=168,slow=18,SNR=17						
KK31				⇑Lg	Lg	20 57 46.7	
	4.4nm,0.6s,baz=160,slow=28,SNR=5.5						
AAK	**Ala-Archa**	**3.75**	**32**	⇓Pn	**Pn**	**20 56 51.8**	**+1.9**
	0.8nm,0.3s						
AAK				⇑Lg	Lg	20 57 46.6	
	4.2nm,0.7s						
AAK	**Ala-Archa**	**3.75**	**32**	⇑*i*P	**Pn**	**20 56 51.6**	**+1.7**
	baz=33						
AAK				⇑*i*S	**Sn**	**20 57 35.3**	**+1.2**
	baz=33						
KBK	**Karagaybulak**	**3.96**	**36**	⇑*i*P	**Pn**	**20 56 54.6**	**+1.8**
	baz=37						
KBK				⇑*i*S	**Sn**	**20 57 40.5**	**+1.1**
	baz=37						

ISCJB ***17*** *20:56:13.0±0.5, 39.05N±0.04×29.16E±0.03, h9km±5km, Error ellipse: s-maj=6.6km s-min=4.1km az=162.9*
CSEM ***17*** *20:56:12.9±0.1, 39.09N×29.17E, h5km, ML2.4, Error ellipse: s-maj=3.0km s-min=1.8km az=139.0*
DDA ***17*** *20:56:12.6, 39.08N×29.16E, h7km, Ml2.6*
ISK ***17*** *20:56:12.3, 39.09N×29.16E, h5km, ML2.4/10*
ISC 17 20:56:13.0±0.9, 39.09N±0.03×29.16E±0.02, h9km±7km, n30, σ0.941/46, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIMA	**Simav-Kutahya**	**0.14**	**266**	PG	**Pg**	**20 56 16.3**	**+0.2**
SIMA				SG	**Sg**	**20 56 18.2**	**-0.1**
SIMA	**Simav-Kutahya**	**0.14**	**266**	*e*Pg	**Pg**	**20 56 16.3**	**+0.2**
SIMA				*e*Sg	**Sg**	**20 56 18.2**	**-0.1**
GDZ	**Gediz**	**0.25**	**91**	*i*P	**Pg**	**20 56 18.0**	**-0.1**
GDZ				*i*S	**Sg**	**20 56 22.0**	**+0.5**
GDZ	**Gediz**	**0.25**	**91**	P	**Pg**	**20 56 18.0**	**-0.1**
GDZ				S	**Sg**	**20 56 22.0**	**+0.5**
DEMI	**Demirci**	**0.35**	**262**	*i*P	**Pg**	**20 56 20.0**	**+0.1**
DEMI				*i*S	**Sg**	**20 56 24.6**	**0.0**
DEMI	**Demirci**	**0.35**	**262**	P	**Pg**	**20 56 20.0**	**+0.1**
DEMI				S	**Sg**	**20 56 24.6**	**0.0**
TVSB	**Tavsanli**	**0.42**	**33**	PG	**Pg**	**20 56 20.3**	**-1.0**
TVSB	**Tavsanli**	**0.42**	**33**	*e*Pg	**Pg**	**20 56 20.3**	**-1.0**
KULA	**Kula-Manisa**	**0.70**	**214**	PG	**Pb**	**20 56 26.7**	**-0.7**
KULA				SG	**Sg**	**20 56 35.5**	**-0.1**
KULA	**Kula-Manisa**	**0.70**	**214**	*e*Pg	**Pb**	**20 56 26.7**	**-0.7**
KULA				*e*Sg	**Sg**	**20 56 35.5**	**-0.1**
DURS	**Dursunbey**	**0.73**	**314**	*i*P	**Pg**	**20 56 27.3**	**+0.1**
DURS				*i*S	**Sn**	**20 56 40.6**	**-0.4**
DURS	**Dursunbey**	**0.73**	**314**	P	**Pg**	**20 56 27.3**	**+0.1**
DURS				S	**Sn**	**20 56 40.6**	**-0.4**
MANT	**Manisa**	**0.77**	**218**	*i*P	**Pg**	**20 56 27.8**	**+0.1**
MANT				*i*S	**Sg**	**20 56 37.5**	**-0.2**
MANT	**Manisa**	**0.77**	**218**	P	**Pg**	**20 56 27.8**	**+0.1**
MANT				S	**Sg**	**20 56 37.5**	**-0.2**
BALB	**Balikesir**	**1.13**	**299**	PN	**Pn**	**20 56 35.1**	**+0.1**
BALB				SN	**Sn**	**20 56 50.7**	**0.0**
BALB	**Balikesir**	**1.13**	**299**	*e*Pn	**Pn**	**20 56 35.1**	**+0.1**
BALB				*e*Sn	**Sn**	**20 56 50.7**	**0.0**
BORA	**Eskisehir**	**1.27**	**51**	*i*P	**Pb**	**20 56 37.1**	**0.0**
BORA				*i*S	**Sn**	**20 56 55.0**	**+0.7**
BORA	**Eskisehir**	**1.27**	**51**	P	**Pb**	**20 56 37.1**	**0.0**
BORA				S	**Sn**	**20 56 55.0**	**+0.7**
MDNY	**Mudanya-Bursa**	**1.29**	**351**	PN	**Pg**	**20 56 37.8**	**0.0**
MDNY	**Mudanya-Bursa**	**1.29**	**351**	*e*Pn	**Pg**	**20 56 37.8**	**0.0**
KCTX	**Karacabey (Bur**	**1.32**	**332**	PN	**Pg**	**20 56 38.2**	**-0.2**
KCTX	**Karacabey (Bur**	**1.32**	**332**	*e*Pn	**Pg**	**20 56 38.2**	**-0.2**
YLV	**Yalova**	**1.48**	**6**	PN	**Pb**	**20 56 40.6**	**-0.1**
YLV	**Yalova**	**1.48**	**6**	*e*Pn	**Pb**	**20 56 40.6**	**-0.1**
ARMT	**Armutlu**	**1.49**	**351**	PN	**Pb**	**20 56 40.8**	**0.0**
ARMT	**Armutlu**	**1.49**	**351**	*e*Pn	**Pb**	**20 56 40.8**	**0.0**
EDC	**Edincik**	**1.60**	**322**	PN	**Pn**	**20 56 42.1**	**+0.6**
EDC	**Edincik**	**1.60**	**322**	*e*Pn	**Pn**	**20 56 42.1**	**+0.6**
GULT	**Gulveren**	**1.70**	**38**	PN	**Pb**	**20 56 43.7**	**-0.7**
GULT	**Gulveren**	**1.70**	**38**	*e*Pn	**Pb**	**20 56 43.7**	**-0.7**

DDA ***17*** *21:02:23.6, 39.08N×29.13E, h4km, Ml3.5*
ISK ***17*** *21:02:23.1, 39.08N×29.16E, h5km, ML3.5/23*
CSEM ***17*** *21:02:24.2±0.1, 39.09N×29.15E, h2km, ML3.5, Error ellipse: s-maj=2.6km s-min=2.4km az=94.0*
ISC 17 21:02:24.0±0.9, 39.10N±0.02×29.14E±0.02, h6km±7km, n127, σ0.999/150, 19C-3D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIMA	**Simav-Kutahya**	**0.12**	**261**	PG	**Pg**	**21 02 26.6**	**0.0**
SIMA				SG	**Sg**	**21 02 28.9**	**+0.5**
SIMA	**Simav-Kutahya**	**0.12**	**261**	*e*Pg	**Pg**	**21 02 26.6**	**0.0**
SIMA				*e*Sg	**Sg**	**21 02 28.9**	**+0.5**
GDZ	**Gediz**	**0.27**	**93**	*i*P	**Pg**	**21 02 28.8**	**-0.5**
GDZ				*i*S	**Sg**	**21 02 32.9**	**0.0**
GDZ	**Gediz**	**0.27**	**93**	P	**Pg**	**21 02 28.8**	**-0.5**
GDZ				S	**Sg**	**21 02 32.9**	**0.0**
DEMI	**Demirci**	**0.33**	**260**	*i*P	**Pg**	**21 02 30.7**	**+0.2**
DEMI				*i*S	**Sg**	**21 02 35.2**	**+0.3**
DEMI	**Demirci**	**0.33**	**260**	P	**Pg**	**21 02 30.7**	**+0.2**
DEMI				S	**Sg**	**21 02 35.2**	**+0.3**
TVSB	**Tavsanli**	**0.43**	**36**	PG	**Pg**	**21 02 31.4**	**-1.0**
TVSB	**Tavsanli**	**0.43**	**36**	*i*Pg	**Pg**	**21 02 31.4**	**-1.0**
KULA	**Kula-Manisa**	**0.69**	**212**	PG	**Pg**	**21 02 37.3**	**0.0**
KULA	**Kula-Manisa**	**0.69**	**212**	*e*Pg	**Pg**	**21 02 37.3**	**0.0**
DURS	**Dursunbey**	**0.71**	**314**	*i*P	**Pg**	**21 02 37.5**	**-0.2**
DURS	**Dursunbey**	**0.71**	**314**	P	**Pg**	**21 02 37.5**	**-0.2**
MANT	**Manisa**	**0.76**	**217**	*i*P	**Pg**	**21 02 38.4**	**-0.2**
MANT				*i*S	**Sg**	**21 02 48.3**	**-0.1**
MANT	**Manisa**	**0.76**	**217**	P	**Pg**	**21 02 38.4**	**-0.2**
MANT				S	**Sg**	**21 02 48.3**	**-0.1**
KHAL	**Karahalli**	**0.78**	**159**	*i*P	**Pb**	**21 02 39.4**	**-0.6**
KHAL				*i*S	**Sb**	**21 02 49.2**	**-1.7**
KHAL	**Karahalli**	**0.78**	**159**	P	**Pb**	**21 02 39.4**	**-0.6**
KHAL				S	**Sb**	**21 02 49.2**	**-1.7**
KHL	**Karahalli**	**0.83**	**159**	PG	**Pb**	**21 02 39.9**	**-1.0**
KHL				SG	**Sb**	**21 02 51.5**	**-0.9**
KHL	**Karahalli**	**0.83**	**159**	*e*Pg	**Pb**	**21 02 39.9**	**-1.0**
KHL				*e*Sg	**Sb**	**21 02 51.5**	**-0.9**
ORLT	**Orhaneli**	**0.96**	**349**	PG	**Pb**	**21 02 43.3**	**+0.2**
ORLT				SG	**Sn**	**21 02 57.8**	**-0.3**
ORLT	**Orhaneli**	**0.96**	**349**	*e*Pg	**Pb**	**21 02 43.3**	**+0.2**
ORLT				*e*Sg	**Sn**	**21 02 57.8**	**-0.3**
AKHS	**Akhisar**	**1.05**	**258**	*i*P	**Pb**	**21 02 44.4**	**-0.2**
AKHS				*i*S	**Sb**	**21 02 58.4**	**-0.3**
AKHS	**Akhisar**	**1.05**	**258**	P	**Pb**	**21 02 44.4**	**-0.2**
AKHS				S	**Sb**	**21 02 58.4**	**-0.3**
AKS	**Akhisar**	**1.05**	**258**	PG	**Pb**	**21 02 44.6**	**0.0**
AKS	**Akhisar**	**1.05**	**258**	*e*Pg	**Pb**	**21 02 44.6**	**0.0**
BALB	**Balikesir**	**1.11**	**299**	PN	**Pn**	**21 02 46.2**	**+0.2**
BALB	**Balikesir**	**1.11**	**299**	*e*Pn	**Pn**	**21 02 46.2**	**+0.2**
STEP	**BALIKESIR_Sava**	**1.13**	**284**	*i*P	**Pb**	**21 02 46.1**	**+0.1**
STEP				*i*S	**Sb**	**21 03 01.9**	**+0.9**
STEP	**BALIKESIR_Sava**	**1.13**	**284**	P	**Pb**	**21 02 46.1**	**+0.1**
STEP				S	**Sb**	**21 03 01.9**	**+0.9**
KZIL	**AFYON_Kizioren**	**1.15**	**137**	*i*P	**Pn**	**21 02 46.5**	**-0.3**
KZIL	**AFYON_Kizioren**	**1.15**	**137**	P	**Pn**	**21 02 46.5**	**-0.3**
CAVI	**Cavuskoy**	**1.23**	**26**	PN	**Pn**	**21 02 47.8**	**+0.1**
CAVI	**Cavuskoy**	**1.23**	**26**	*e*Pn	**Pn**	**21 02 47.8**	**+0.1**
SHUT	**Suhut-Afyon**	**1.23**	**116**	PN	**Pn**	**21 02 47.5**	**-0.4**
SHUT	**Suhut-Afyon**	**1.23**	**116**	*e*Pn	**Pn**	**21 02 47.5**	**-0.4**
IZI	**Iznik**	**1.26**	**12**	PN	**Pn**	**21 02 48.8**	**+0.6**
IZI	**Iznik**	**1.26**	**12**	*e*Pn	**Pn**	**21 02 48.8**	**+0.6**
MDNY	**Mudanya-Bursa**	**1.28**	**351**	PN	**Pb**	**21 02 49.1**	**+0.6**
MDNY	**Mudanya-Bursa**	**1.28**	**351**	*e*Pn	**Pb**	**21 02 49.1**	**+0.6**
KCTX	**Karacabey (Bur**	**1.31**	**333**	PN	**Pn**	**21 02 48.9**	**+0.1**
KCTX	**Karacabey (Bur**	**1.31**	**333**	*e*Pn	**Pn**	**21 02 48.9**	**+0.1**
GEMT	**Gemlik**	**1.33**	**2**	PN	**Pg**	**21 02 50.2**	**+0.7**
GEMT	**Gemlik**	**1.33**	**2**	*e*Pn	**Pg**	**21 02 50.2**	**+0.7**
BALY	**Balya**	**1.34**	**299**	*i*P	**Pn**	**21 02 48.5**	**-0.7**
BALY				*i*S	**Sg**	**21 03 06.2**	**-0.7**
BALY	**Balya**	**1.34**	**299**	P	**Pn**	**21 02 48.5**	**-0.7**
BALY				S	**Sg**	**21 03 06.2**	**-0.7**
DENT	**Denizli**	**1.35**	**183**	PN	**Pb**	**21 02 49.7**	**+0.1**
DENT	**Denizli**	**1.35**	**183**	*e*Pn	**Pb**	**21 02 49.7**	**+0.1**
ESKT	**Eskisehir**	**1.39**	**72**	PN	**Pg**	**21 02 50.7**	**0.0**
ESKT	**Eskisehir**	**1.39**	**72**	*e*Pn	**Pg**	**21 02 50.7**	**0.0**
ADVT	**Abdulvahap**	**1.41**	**19**	PN	**Pg**	**21 02 51.2**	**+0.2**
ADVT	**Abdulvahap**	**1.41**	**19**	*e*Pn	**Pg**	**21 02 51.2**	**+0.2**
GONE	**Gonen-Balikesi**	**1.47**	**311**	PN	**Pg**	**21 02 52.2**	**+0.1**
GONE	**Gonen-Balikesi**	**1.47**	**311**	*e*Pn	**Pg**	**21 02 52.2**	**+0.1**
YLV	**Yalova**	**1.48**	**7**	PN	**Pg**	**21 02 52.2**	**-0.1**
YLV	**Yalova**	**1.48**	**7**	*e*Pn	**Pg**	**21 02 52.2**	**-0.1**
ARMT	**Armutlu**	**1.48**	**352**	PN	**Pg**	**21 02 52.5**	**+0.2**
ARMT	**Armutlu**	**1.48**	**352**	*e*Pn	**Pg**	**21 02 52.5**	**+0.2**
GPA	**Golpazari**	**1.49**	**37**	PN	**Pb**	**21 02 52.2**	**+0.1**
GPA	**Golpazari**	**1.49**	**37**	*e*Pn	**Pb**	**21 02 52.2**	**+0.1**
AYDB	**Zeytinkoy-Aydi**	**1.51**	**221**	PN	**Pg**	**21 02 52.5**	**-0.5**
AYDB	**Zeytinkoy-Aydi**	**1.51**	**221**	*e*Pn	**Pg**	**21 02 52.5**	**-0.5**
BRDR	**BURDUR-Merkez**	**1.58**	**152**	*i*P	**Pg**	**21 02 55.0**	**+0.7**
BRDR				*i*S	**Sg**	**21 03 19.3**	**+4.5**
BRDR	**BURDUR-Merkez**	**1.58**	**152**	P	**Pg**	**21 02 55.0**	**+0.7**
EDC	**Edincik**	**1.58**	**322**	PN	**Pb**	**21 02 53.8**	**+0.2**
EDC	**Edincik**	**1.58**	**322**	*e*Pn

ISK	Istanbul-Kandi	1.96	358	*e*Pn	Pb	21 02 59.3	-0.8
SBT3	Marmara-Eregli	1.99	334	PN	Pb	21 02 59.8	-0.7
SBT3	Marmara-Eregli	1.99	334	*e*Pn	Pb	21 02 59.8	-0.7
SILT	Sile	2.09	11	PN	Pn	21 03 00.9	+1.5
SILT	Sile	2.09	11	*e*Pn	Pn	21 03 00.9	+1.5
BGKT	Bogazkoy	2.10	353	PN	Pn	21 03 01.1	+1.5
BGKT	Bogazkoy	2.10	353	*e*Pn	Pn	21 03 01.1	+1.5
MDUB	Mudurnu	2.10	49	PN	Pn	21 03 00.7	+1.0
MDUB	Mudurnu	2.10	49	*e*Pn	Pn	21 03 00.7	+1.0
KLYT	Kilyos	2.15	358	PN	Pb	21 03 02.2	-1.1
KLYT	Kilyos	2.15	358	*e*Pn	Pb	21 03 02.2	-1.1
CTKS	Kestanelik-??a	2.19	347	PN	Pn	21 03 02.5	+1.7
CTKS	Kestanelik-??a	2.19	347	*e*Pn	Pn	21 03 02.5	+1.7
ZEY	˙zmir	2.23	248	*i* P	Pg	21 03 06.1	-0.7
ZEY				*i* S	Sg	21 03 34.9	-0.8
SLVT	Silivri	2.24	342	PN	Pn	21 03 03.2	+1.6
SLVT	Silivri	2.24	342	*e*Pn	Pn	21 03 03.2	+1.6
TKR	Tekirdag	2.25	327	PN	Pn	21 03 02.9	+1.2
TKR	Tekirdag	2.25	327	*e*Pn	Pn	21 03 02.9	+1.2
CRLT	Corlu	2.29	333	PN	Pn	21 03 03.9	+1.6
CRLT	Corlu	2.29	333	*e*Pn	Pn	21 03 03.9	+1.6
KIYI	Yal˙–koy-Catal	2.46	345	PN	Pn	21 03 06.7	+2.1
KIYI	Yal˙–koy-Catal	2.46	345	*e*Pn	Pn	21 03 06.7	+2.1
ANTO	Ankara	2.93	74	⇑*i*P	Pg	21 03 22.2	+2.0
VTS	Vitosha	5.69	310	⇑*i*P	Pb	21 04 00.6	-3.1
CFR	Carcaliu	6.12	353	⇑*i*P	Pn	21 03 53.8	-1.0
CFR	Carcaliu	6.12	353	⇑*i*P	Pn	21 03 53.8	-1.0
MLR	Muntele Rosu	6.81	341	⇑*i*P	Pn	21 04 05.7	+1.2
MLR	Muntele Rosu	6.81	341	⇑*i*P	Pn	21 04 05.7	+1.2
ODBI	Odobesti	6.83	348	⇑*i*P	Pn	21 04 04.7	+0.1
ODBI	Odobesti	6.83	348	⇑*i*P	Pn	21 04 04.7	+0.1
VRI	Vrincioaia	6.99	346	⇑*i*P	Pn	21 04 07.3	+0.5
VRI	Vrincioaia	6.99	346	⇑*i*P	Pn	21 04 07.3	+0.5
PLOR	Plostina	6.99	346	⇑*i*P	Pn	21 04 06.5	-0.4
PLOR	Plostina	6.99	346	⇑*i*P	Pn	21 04 06.5	-0.4
VOIR		7.02	336	⇑*i*P	Pn	21 04 09.2	+1.9
VOIR		7.02	336	⇑*i*P	Pn	21 04 09.2	+1.9
ARR	Arges	7.09	333	⇑*i*P	Pn	21 04 10.9	+2.6
ARR	Arges	7.09	333	⇑*i*P	Pn	21 04 10.9	+2.6
DOPR	Dopca	7.40	339	⇓*i*P	Pn	21 04 13.6	+1.2
DOPR	Dopca	7.40	339	⇓*i*P	Pn	21 04 13.6	+1.2
BZS	Buzias	8.56	322	⇓*i*P	Pn	21 04 33.8	+5.4
BURAR	Bucovina Array	8.97	343	⇑*i*P	Pn	21 04 34.2	+0.1
BURAR	Bucovina Array	8.97	343	⇑*i*P	Pn	21 04 34.2	+0.1
SORM	Soroca	9.05	357	⇑*i*P	Pn	21 04 32.6	-2.4

NDI **17** *21:06:07.7±2.6,24.6ᵐ68N×94.5ᵐ59E,h30ᵏᵐ,ML2.9*
ISC 17 21:06:06.6±2.3,24.72N±0.07×94.6E±0.1,h86ᵏᵐ±16ᵏᵐ,n8, σ0.97/13,Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMP	**Imphal**	**0.64**	**280**	*e*P	**Pn**	**21 06 22.8**	**+0.5**
IMP				*e*S	**Sn**	**21 06 34.0**	**+0.1**
KOHI	**KOHIMA**	**1.11**	**334**	*e*P	**Pn**	**21 06 27.9**	**+0.5**
KOHI				*e*S	**Sn**	**21 06 42.0**	**-1.0**
KOHI	comp=N,2μm,0.3s			IAML		21 06 47.8	
MOKO	**MOKOCHONG**	**1.60**	**356**	*e*P	**Pn**	**21 06 33.2**	**-0.4**
MOKO				*e*S	**Sn**	**21 06 54.4**	**+0.5**
MOKO	comp=E,109nm,0.2s			IAML		21 06 56.2	
MOKO	comp=N,52nm,0.2s			IAML		21 06 56.9	
AZL	**Aizawl**	**2.03**	**242**	*e*P	**Pn**	**21 06 38.8**	**-0.4**
AZL				*e*S	**Sn**	**21 07 02.9**	**-1.1**
AZL	comp=N,16nm,0.3s			IAML		21 07 06.0	
AZL	comp=E,31nm,0.1s			IAML		21 07 06.4	
TEZP	**TEZPUR**	**2.52**	**319**	*e*S	**Sn**	**21 07 14.5**	**-0.9**
TEZP	comp=N,93nm,0.1s			IAML		21 07 16.7	
TEZP	comp=E,146nm,0.1s			IAML		21 07 16.7	
SHL	**Shillong**	**2.64**	**289**	*e*P	**Pn**	**21 06 49.0**	**+1.7**
SHL				*e*PN		21 06 50.0	
SHL				*e*SN	**Sn**	**21 07 18.0**	**-0.6**
SAIH	**SAIHA**	**2.69**	**215**	*e*P	**Pn**	**21 06 48.8**	**+0.8**
TURI	**Tura**	**3.99**	**283**	*e*S	**Sn**	**21 07 50.4**	**-0.7**
TURI	comp=E,99nm,0.2s			IAML		21 07 53.1	
TURI	comp=N,85nm,0.1s			IAML		21 07 54.1	

ISCJB **17** *21:19:24.7±1.1,1.7ᵐN±0.2×89.3ᵐE±0.1,h10ᵏᵐ,mb3.5/5, Error ellipse: s-maj=27.1km s-min=15.6km az=40.5*
IDC **17** *21:19:25.4±1.8,1.6ᵐN×89.3ᵐ31E,h0ᵏᵐ,mb3.5/5,mb1 3.6/7, mb1mx3.3/67,mbtmp3.5/7,ML3.1/2,Error ellipse: s-maj=52.8km s-min=21.3km az=55.0*
ISC 17 21:19:27.0±1.4,1.7N±0.2×89.3E±0.2,h10ᵏᵐ,n10,σ0.55/7, mb3.4/5,North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**10.24**	**303**	Pn	**Pn**	**21 21 54.2**	**0.0**
	0.2nm,0.3s,baz=115,slow=13,SNR=2.9						
PALK				Sn	Sn	21 23 39.0	-10
	0.6nm,0.3s,baz=104,slow=4.4,SNR=4.6						
CMAR	**Chiang Mai Arr**	**19.16**	**29**	P	**Pn**	**21 23 51.5**	**-0.1**
	0.0nm,0.3s,baz=226,slow=13,SNR=4.4						
H08S2	**Diego Garcia H**	**19.18**	**241**	T	T	21 42 47.2	
	baz=64,slow=75,SNR=73						
H08S3	**Diego Garcia H**	**19.18**	**241**	T	T	21 42 47.3	
	baz=64,slow=75,SNR=69						
H08S1	**Diego Carcia H**	**19.20**	**241**	T	T	21 42 49.2	
	baz=64,slow=75,SNR=86						
MKAR	**Makanchi Array**	**45.35**	**353**	P	**P**	**21 27 45.5**	**+0.1**
	0.2nm,0.7s,baz=177,slow=8.5,SNR=3.1						
SONM	**Songino Array**	**48.29**	**15**	P	**P**	**21 28 09.0**	**+0.4**
	1.1nm,0.6s,baz=194,slow=8.5,SNR=12						
WRA	**Warramunga Arr**	**49.08**	**118**	P	**P**	**21 28 14.4**	**-0.5**
	0.3nm,0.8s,baz=292,slow=8.7,SNR=2.6						
KURBB	**Kurchatov Arra**	**49.62**	**351**	P	**P**	**21 28 17.8**	**-0.7**
	0.8nm,0.3s,baz=173,slow=8.6,SNR=4.6						
ASAR	**Alice Springs**	**50.11**	**123**	P	**P**	**21 28 23.3**	**+0.5**
	0.1nm,0.6s,baz=301,slow=7.4,SNR=3.2						

IDC 17 21:22:02.9±3.9,22.31S×69.03E,h0ᵏᵐ,mb3.7/6, mb1 3.8/6,mb1mx3.4/64,mbtmp3.7/6,Error ellipse: s-maj=115.1km s-min=28.9km az=54.0,Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**14.95**	**13**	T	T	21 40 36.1	
	baz=186						
H08S2	**Diego Garcia H**	**14.96**	**13**	T	T	21 40 35.8	
	baz=186,slow=74						
H08S3	**Diego Garcia H**	**14.97**	**13**	T	T	21 40 38.3	
	baz=186,slow=74						
CMAR	**Chiang Mai Arr**	**49.98**	**38**	P	P	21 30 59.0	-0.1
	0.7nm,0.9s,baz=224,slow=7.6,SNR=8.1						
ASAR	**Alice Springs**	**59.26**	**105**	P	P	21 32 06.5	-0.1
	0.4nm,0.7s,baz=259,slow=6.6,SNR=7.0						
WRA	**Warramunga Arr**	**60.53**	**101**	P	P	21 32 15.4	0.0
	0.4nm,0.7s,baz=262,slow=9.3,SNR=4.3						
MKAR	**Makanchi Array**	**69.82**	**10**	P	P	21 33 14.8	-0.3
	1.2nm,0.8s,baz=200,slow=5.9,SNR=8.8						
KURBB	**Kurchatov Arra**	**73.09**	**6**	P	P	21 33 35.3	+0.6
	5.5nm,0.2s,baz=207,slow=6.9,SNR=3.1						
ZALV	**Zalesovo Beam**	**77.16**	**9**	P	P	21 33 57.8	-0.3
	1.6nm,0.7s,baz=187,slow=3.9,SNR=6.9						
SONM	**Songino Array**	**77.47**	**25**	P	P	21 34 00.3	+0.1
	0.3nm,0.7s,baz=204,slow=3.2,SNR=2.5						

SKO **17** *21:24:56.6,41.24Nˇ×20.28E,h15ᵏᵐ,M1.5,ML1.9*
CSEM **17** *21:24:56.5,41.19Nˇ×20.28E,h9ᵏᵐ,ML2.6*
TIR **17** *21:24:56.5,41.19Nˇ×20.28E,h9ᵏᵐ,Md2.6/5*
ISCJB **17** *21:24:57.4±1.4,41.20Nˇ±0.05×20.23E±0.06,h24ᵏᵐ±21ᵏᵐ, Error ellipse: s-maj=9.4km s-min=5.6km az=42.8*
ISC 17 21:24:56.4±1.4,41.17N±0.04×20.26E±0.03,h13ᵏᵐ±11ᵏᵐ, n11,σ0.32/23,Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.35**	**300**	*i* Pg	**Pg**	**21 25 03.3**	**-0.1**
TIR				*i* Sg	**Sb**	**21 25 10.0**	**+0.1**
TIR	**Tirane**	**0.35**	**300**	*i* PG	**Pg**	**21 25 03.4**	**-0.1**
TIR				*i* SG	**Sb**	**21 25 10.0**	**+0.1**
OHR	**Ohrid**	**0.41**	**98**	*i* Pg	**Pb**	**21 25 05.3**	**-0.3**
OHR				*i* Sg	**Sb**	**21 25 12.2**	**+0.4**
OHR	comp=N,49nm,0.3s			*e*Lg	Lg	21 25 12.5	
OHR	comp=E,89nm,0.5s			*e*Lg	Lg	21 25 13.1	
PHP	**Peshkopia**	**0.53**	**15**	*i* Pg	**Pg**	**21 25 06.8**	**-0.1**
PHP				*i* Sg	**Sb**	**21 25 14.7**	**-0.5**
PHP	**Peshkopia**	**0.53**	**15**	*i* PG	**Pg**	**21 25 06.9**	**-0.1**
PHP				*i* SG	**Sb**	**21 25 14.7**	**-0.5**
KBN	**Korca**	**0.68**	**144**	*i* Pg	**Pb**	**21 25 10.3**	**+0.1**
KBN				*i* Sg	**Sn**	**21 25 21.9**	**-0.4**
KBN	**Korca**	**0.68**	**144**	*i* PG	**Pb**	**21 25 10.3**	**+0.1**
KBN				*i* SG	**Sn**	**21 25 21.9**	**-0.4**
KRUS	**Krusevo**	**0.77**	**75**	*i* Pg	**Pg**	**21 25 11.2**	**-0.1**
KRUS				*i* Pg	**Pg**	**21 25 11.2**	**-0.1**
KRUS				*i* Sg	**Sb**	**21 25 22.7**	**+0.6**
BIA	**Bitola**	**0.82**	**100**	*i* Pg	**Pb**	**21 25 13.2**	**+0.6**
BIA				*i* Sg	**Sn**	**21 25 25.6**	**-0.1**
PUK	**Puka**	**0.91**	**342**	*i* Pg	**Pg**	**21 25 14.2**	**+0.1**
PUK				*i* Sg	**Sn**	**21 25 28.2**	**+0.1**
PUK	**Puka**	**0.91**	**342**	*i* PG	**Pg**	**21 25 14.2**	**+0.1**
PUK				*i* SG	**Sn**	**21 25 28.2**	**+0.1**

ISCJB **17** *21:26:16.6±0.5,39.16ᵐN±0.02×29.12E±0.02,h1km±4km, Error ellipse: s-maj=2.9km s-min=2.5km az=24.5*
DDA **17** *21:26:16.8,39.12N×29.12E,h7ᵏᵐ,Ml3.6*
ISK **17** *21:26:16.9,39.14N×29.11E,h6ᵏᵐ,ML3.6/42*
CSEM **17** *21:26:17.2±0.1,39.14N×29.12E,h2ᵏᵐ,ML3.6,Error ellipse: s-maj=1.7km s-min=1.6km az=87.0*
ISC 17 21:26:17.1±0.8,39.13N±0.02×29.13E±0.01,h9km±6km, n197,σ1.01/227,27C-14D,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIMA	**Simav-Kutahya**	**0.12**	**246**	PG	**Pg**	**21 26 19.8**	**-0.1**
SIMA				SG	**Sg**	**21 26 22.0**	**+0.1**
SIMA	**Simav-Kutahya**	**0.12**	**246**	*e*Pg	**Pg**	**21 26 19.8**	**-0.1**
SIMA				*e*Sg	**Sg**	**21 26 22.0**	**+0.1**
GDZ	**Gediz**	**0.28**	**99**	*i* P	**Pg**	**21 26 22.0**	**-0.8**
GDZ				*i* S	**Sg**	**21 26 26.3**	**-0.2**
GDZ	**Gediz**	**0.28**	**99**	P	**Pg**	**21 26 22.0**	**-0.8**
GDZ				S	**Sg**	**21 26 26.3**	**-0.2**
DEMI	**Demirci**	**0.33**	**254**	*i* P	**Pg**	**21 26 23.6**	**0.0**
DEMI				*i* S	**Sg**	**21 26 28.1**	**0.0**
DEMI	**Demirci**	**0.33**	**254**	P	**Pg**	**21 26 23.6**	**0.0**
DEMI				S	**Sg**	**21 26 28.1**	**0.0**
TVSB	**Tavsanli**	**0.41**	**39**	PG	**Pg**	**21 26 24.5**	**-0.7**
TVSB	**Tavsanli**	**0.41**	**39**	*e*Pg	**Pg**	**21 26 24.5**	**-0.7**
DURS	**Dursunbey**	**0.69**	**313**	*i* P	**Pg**	**21 26 30.4**	**0.0**
DURS				*i* S	**Sg**	**21 26 40.0**	**+0.6**
DURS	**Dursunbey**	**0.69**	**313**	S	**Sg**	**21 26 40.0**	**+0.6**
KULA	**Kula-Manisa**	**0.72**	**211**	PG	**Pg**	**21 26 30.4**	**-0.5**
KULA	**Kula-Manisa**	**0.72**	**211**	*e*Pg	**Pg**	**21 26 30.4**	**-0.5**
MANT	**Manisa**	**0.78**	**215**	*i* P	**Pg**	**21 26 31.5**	**-0.6**
MANT				*i* S	**Sg**	**21 26 41.5**	**-0.8**
MANT	**Manisa**	**0.78**	**215**	P	**Pg**	**21 26 31.5**	**-0.6**
MANT				S	**Sg**	**21 26 41.5**	**-0.8**
KHAL	**Karahalli**	**0.81**	**159**	*i* P	**Pg**	**21 26 32.5**	**-0.3**
KHAL				*i* S	**Sg**	**21 26 43.4**	**0.0**
KHAL	**Karahalli**	**0.81**	**159**	P	**Pg**	**21 26 32.5**	**-0.3**
KHAL				S	**Sg**	**21 26 43.4**	**0.0**
KHL	**Karahalli**	**0.87**	**159**	PG	**Pb**	**21 26 34.5**	**+0.1**
KHL	**Karahalli**	**0.87**	**159**	*e*Pg	**Pb**	**21 26 34.5**	**+0.1**
ORLT	**Orhaneli**	**0.93**	**349**	PG	**Pb**	**21 26 35.2**	**-0.3**
ORLT	**Orhaneli**	**0.93**	**349**	*e*Pg	**Pb**	**21 26 35.2**	**-0.3**
AKHS	**Akhisar**	**1.05**	**256**	*i* P	**Pg**	**21 26 37.2**	**-0.1**
AKHS				*i* S	**Sb**	**21 26 51.5**	**0.0**
AKHS	**Akhisar**	**1.05**	**256**	P	**Pg**	**21 26 37.2**	**-0.1**
AKHS				S	**Sb**	**21 26 51.5**	**0.0**
AKS	**Akhisar**	**1.05**	**256**	PG	**Pg**	**21 26 37.3**	**0.0**
AKS				SG	**Sb**	**21 26 51.9**	**+0.4**
AKS	**Akhisar**	**1.05**	**256**	*e*Pg	**Pg**	**21 26 37.3**	**0.0**
AKS				*e*Sg	**Sb**	**21 26 51.9**	**+0.4**
BALB	**Balikesir**	**1.09**	**298**	PN	**Pb**	**21 26 38.2**	**0.0**
BALB				SN	**Sn**	**21 26 53.8**	**0.0**
BALB	**Balikesir**	**1.09**	**298**	*e*Pn	**Pb**	**21 26 38.2**	**0.0**
BALB				*e*Sn	**Sn**	**21 26 53.8**	**0.0**
STEP	**BALIKESIR_Sava**	**1.12**	**283**	*i* P	**Pn**	**21 26 39.0**	**0.0**
STEP				*i* S	**Sn**	**21 26 54.9**	**+0.3**
STEP	**BALIKESIR_Sava**	**1.12**	**283**	P	**Pn**	**21 26 39.0**	**0.0**
STEP				S	**Sn**	**21 26 54.9**	**+0.3**
KZIL	**AFYON_Kizioren**	**1.18**	**137**	*i* P	**Pg**	**21 26 39.6**	**-0.2**
KZIL				*i* S	**Sb**	**21 26 55.7**	**+0.4**
KZIL	**AFYON_Kizioren**	**1.18**	**137**	P	**Pg**	**21 26 39.6**	**-0.2**
KZIL				S	**Sb**	**21 26 55.7**	**+0.4**
CAVI	**Cavuskoy**	**1.20**	**27**	PN	**Pg**	**21 26 40.2**	**0.0**
CAVI	**Cavuskoy**	**1.20**	**27**	*e*Pn	**Pg**	**21 26 40.2**	**0.0**
IZI	**Iznik**	**1.23**	**12**	PN	**Pn**	**21 26 40.8**	**+0.1**
IZI	**Iznik**	**1.23**	**12**	*e*Pn	**Pn**	**21 26 40.8**	**+0.1**
MDNY	**Mudanya-Bursa**	**1.25**	**352**	PN	**Pg**	**21 26 41.3**	**+0.2**
MDNY	**Mudanya-Bursa**	**1.25**	**352**	*e*Pn	**Pg**	**21 26 41.3**	**+0.2**
SHUT	**Suhut-Afyon**	**1.25**	**117**	PN	**Pg**	**21 26 41.5**	**+0.3**
SHUT	**Suhut-Afyon**	**1.25**	**117**	*e*Pn	**Pg**	**21 26 41.5**	**+0.3**
KCTX	**Karacabey (Bur**	**1.28**	**333**	PN	**Pb**	**21 26 41.4**	**0.0**
KCTX	**Karacabey (Bur**	**1.28**	**333**	*e*Pn	**Pb**	**21 26 41.4**	**0.0**
GEMT	**Gemlik**	**1.30**	**2**	PN	**Pg**	**21 26 42.1**	**0.0**
GEMT	**Gemlik**	**1.30**	**2**	*e*Pn	**Pg**	**21 26 42.1**	**0.0**
BALY	**Balya**	**1.31**	**298**	*i* P	**Pn**	**21 26 41.1**	**-0.6**
BALY				*i* S	**Sb**	**21 26 59.0**	**0.0**
BALY	**Balya**	**1.31**	**298**	P	**Pn**	**21 26 41.1**	**-0.6**
BALY				S	**Sb**	**21 26 59.0**	**0.0**
ADVT	**Abdulvahap**	**1.38**	**20**	PN	**Pg**	**21 26 43.6**	**0.0**
ADVT	**Abdulvahap**	**1.38**	**20**	*e*Pn	**Pg**	**21 26 43.6**	**0.0**
ESKT	**Eskisehir**	**1.39**	**73**	PN	**Pg**	**21 26 43.7**	**-0.1**
ESKT	**Eskisehir**	**1.39**	**73**	*e*Pn	**Pg**	**21 26 43.7**	**-0.1**
GONE	**Gonen-Balikesi**	**1.44**	**310**	PN	**Pb**	**21 26 44.2**	**+0.1**
GONE	**Gonen-Balikesi**	**1.44**	**310**	*e*Pn	**Pb**	**21 26 44.2**	**+0.1**
YLV	**Yalova**	**1.44**	**8**	PN	**Pb**	**21 26 44.2**	**-0.1**
YLV	**Yalova**	**1.44**	**8**	*e*Pn	**Pb**	**21 26 44.2**	**-0.1**
ARMT	**Armutlu**	**1.45**	**352**	PN	**Pn**	**21 26 43.9**	**+0.4**
ARMT	**Armutlu**	**1.45**	**352**	*e*Pn	**Pn**	**21 26 43.9**	**+0.4**
GPA	**Golpazari**	**1.47**	**38**	PN	**Pb**	**21 26 44.7**	**0.0**
GPA	**Golpazari**	**1.47**	**38**	*e*Pn	**Pb**	**21 26 44.7**	**0.0**
BOLV	**Bolvadin**	**1.48**	**106**	*i* P	**Pb**	**21 26 44.7**	**-0.3**
BOLV				*i* S	**Sg**	**21 27 04.8**	**0.0**
BOLV	**Bolvadin**	**1.48**	**106**	P	**Pb**	**21 26 44.7**	**-0.3**
BOLV				S	**Sg**	**21 27 04.8**	**0.0**
AYDB	**Zeytinkoy-Aydi**	**1.53**	**220**	PN	**Pn**	**21 26 45.3**	**+0.5**
AYDB	**Zeytinkoy-Aydi**	**1.53**	**220**	*e*Pn	**Pn**	**21 26 45.3**	**+0.5**
EDC	**Edincik**	**1.55**	**322**	PN	**Pn**	**21 26 45.3**	**+0.3**
EDC	**Edincik**	**1.55**	**322**	*e*Pn	**Pn**	**21 26 45.3**	**+0.3**
BRDR	**BURDUR-Merkez**	**1.61**	**153**	*i* P	**Pg**	**21 26 48.0**	**0.0**
BRDR				*i* S	**Sb**	**21 27 08.4**	**+0.8**
BRDR	**BURDUR-Merkez**	**1.61**	**153**	P	**Pg**	**21 26 48.0**	**0.0**
BRDR				S	**Sb**	**21 27 08.4**	**+0.8**
GEYV	**SAKARYA_Geyve**	**1.62**	**33**	*i* P	**Pg**	**21 26 48.0**	**-0.3**
GEYV				*i* S	**Sg**	**21 27 11.0**	**+1.7**
GEYV	**SAKARYA_Geyve**	**1.62**	**33**	S	**Sg**	**21 27 11.0**	**+1.7**
TAVA	**DENIZLI_Tavas**	**1.67**	**186**	*i* P	**Pn**	**21 26 47.5**	**+0.7**
GULT	**Gulveren**	**1.68**	**39**	PN	**Pn**	**21 26 47.4**	**+0.5**
GULT	**Gulveren**	**1.68**	**39**	*e*Pn	**Pn**	**21 26 47.4**	**+0.5**
BUY	**Buyukada**	**1.72**	**360**	PN	**Pb**	**21 26 48.2**	**-0.7**
BUY	**Buyukada**	**1.72**	**360**	P	**Pb**	**21 26 48.2**	**-0.7**
BUY	**Buyukada**	**1.72**	**360**	P	**Pn**	**21 26 47.2**	**0.0**
BUY	**Buyukada**	**1.72**	**360**	*e*Pn	**Pb**	**21 26 48.2**	**-0.7**
DKL	**Dikili**	**1.73**	**269**	PN	**Pn**	**21 26 47.9**	**+0.5**
DKL	**Dikili**	**1.73**	**269**	*e*Pn	**Pn**	**21 26 47.9**	**+0.5**
HRT	**Hereke**	**1.74**	**14**	PN	**Pn**	**21 26 47.9**	**+0.3**
HRT	**Hereke**	**1.74**	**14**	*e*Pn	**Pn**	**21 26 47.9**	**+0.3**
SPNC	**Sapanca-Adapaz**	**1.80**	**30**	PN	**Pn**	**21 26 49.3**	**+0.9**
SPNC	**Sapanca-Adapaz**	**1.80**	**30**	*e*Pn	**Pn**	**21 26 49.3**	**+0.9**
SAUV	**Serdivan-Sakar**	**1.85**	**30**	PN	**Pn**	**21 26 49.5**	**+0.4**
SAUV	**Serdivan-Sakar**	**1.85**	**30**	*e*Pn	**Pn**	**21 26 49.5**	**+0.4**
SVRH	**Sivrihisar-ESK**	**1.89**	**80**	PN	**Pb**	**21 26 51.2**	**-0.6**
SVRH	**Sivrihisar-ESK**	**1.89**	**80**	*e*Pn	**Pb**	**21 26 51.2**	**-0.6**
KRBG	**Karabiga-Canak**	**1.89**	**312**	PN	**Pn**	**21 26 49.8**	**+0.2**
KRBG	**Karabiga-Canak**	**1.89**	**312**	*e*Pn	**Pn**	**21 26 49.8**	**+0.2**
FOCM	**Fo˘ša**	**1.91**	**258**	PN	**Pb**	**21 26 51.2**	**-1.0**
FOCM	**Fo˘ša**	**1.91**	**258**	*e*Pn	**Pb**	**21 26 51.2**	**-1.0**
ISK	**Istanbul-Kandi**	**1.93**	**359**	PN	**Pn**	**21 26 50.3**	**+0.1**
ISK	**Istanbul-Kandi**	**1.93**	**359**	*e*Pn	**Pn**	**21 26 50.3**	**+0.1**
SBT3	**Marmara-Eregli**	**1.96**	**334**	PN	**Pb**	**21 26 51.7**	**-1.2**
SBT3	**Marmara-Eregli**	**1.96**	**334**	*e*Pn	**Pb**	**21 26 51.7**	**-1.2**
GMLD	**Gumuldur**	**2.03**	**239**	PN	**Pn**	**21 26 52.4**	**+0.9**
GMLD	**Gumuldur**	**2.03**	**239**	*e*Pn	**Pn**	**21 26 52.4**	**+0.9**
SILT	**Sile**	**2.06**	**11**	PN	**Pn**	**21 26 52.7**	**+0.8**
SILT	**Sile**	**2.06**	**11**	*e*Pn	**Pn**	**21 26 52.7**	**+0.8**
BGKT	**Bogazkoy**	**2.06**	**353**	PN	**Pn**	**21 26 53.4**	**+1.4**
BGKT	**Bogazkoy**	**2.06**	**353**	*e*Pn	**Pn**	**21 26 53.4**	**+1.4**
GCAM	**G?zelcaml?**	**2.06**	**227**	PN	**Pn**	**21 26 53.2**	**+1.2**
GCAM	**G?zelcaml?**	**2.06**	**227**	*e*Pn	**Pn**	**21 26 53.2**	**+1.2**
KRBN	**Karaburun**	**2.08**	**256**	PN	**Pn**	**21 26 52.7**	**+0.5**
KRBN	**Karaburun**	**2.08**	**256**	*e*Pn	**Pn**	**21 26 52.7**	**+0.5**
MDUB	**Mudurnu**	**2.08**	**49**	PN	**Pb**	**21 26 53.9**	**-1.3**
MDUB	**Mudurnu**	**2.08**	**49**	*e*Pn	**Pb**	**21 26 53.9**	**-1.3**
YER	**Yerkesik**	**2.10**	**199**	PN	**Pn**	**21 26 54.1**	**+1.5**
YER	**Yerkesik**	**2.10**	**199**	*e*Pn	**Pn**	**21 26 54.1**	**+1.5**
KLYT	**Kilyos**	**2.12**	**358**	PN	**Pn**	**21 26 53.2**	**+0.5**
KLYT	**Kilyos**	**2.12**	**358**	*e*Pn	**Pn**	**21 26 53.2**	**+0.5**
MLSB	**Milas**	**2.12**	**210**	PN	**Pn**	**21 26 54.1**	**+1.3**
MLSB	**Milas**	**2.12**	**210**	*e*Pn	**Pn**	**21 26 54.1**	**+1.3**
URLA	**Izmir**	**2.12**	**249**	PN	**Pn**	**21 26 53.9**	**+1.0**
URLA	**Izmir**	**2.12**	**249**	*e*Pn	**Pn**	**21 26 53.9**	**+1.0**
CTKS	**Kestanelik-??a**	**2.15**	**347**	PN	**Pn**	**21 26 54.6**	**+1.4**
CTKS	**Kestanelik-??a**	**2.15**	**347**	*e*Pn	**Pn**	**21 26 54.6**	**+1.4**
RKY	**Sarkoy-Tekirda**	**2.16**	**317**	PN	**Pn**	**21 26 53.9**	**+0.6**
RKY	**Sarkoy-Tekirda**	**2.16**	**317**	*e*Pn	**Pn**	**21 26 53.9**	**+0.6**
LPK	**Lapseki**	**2.20**	**305**	PN	**Pn**	**21 26 54.9**	**+1.0**
LPK	**Lapseki**	**2.20**	**305**	*e*Pn	**Pn**	**21 26 54.9**	**+1.0**
SLVT	**Silivri**	**2.21**	**342**	PN	**Pn**	**21 26 54.8**	**+0.8**
SLVT	**Silivri**	**2.21**	**342**	*e*Pn	**Pn**	**21 26 54.8**	**+0.8**
SUTC	**Sutluce-Ispart**	**2.22**	**138**	PN	**Pn**	**21 26 55.4**	**+1.2**
SUTC	**Sutluce-Ispart**	**2.22**	**138**	*e*Pn	**Pn**	**21 26 55.4**	**+1.2**
PRK	**Paraskevi**	**2.22**	**274**	P	**Pn**	**21 26 54.2**	**+0.1**
PRK	**Paraskevi**	**2.22**	**274**	P	**Pn**	**21 26 54.2**	**+0.1**
CRLT	**Corlu**	**2.26**	**332**	PN	**Pn**	**21 26 55.4**	**+0.7**
CRLT	**Corlu**	**2.26**	**332**	*e*Pn	**Pn**	**21 26 55.4**	**+0.7**
EZN	**Ezine**	**2.27**	**289**	PN	**Pn**	**21 26 55.8**	**+0.9**
EZN	**Ezine**	**2.27**	**289**	*e*Pn	**Pn**	**21 26 55.8**	**+0.9**
SMG	**Samos**	**2.29**	**232**	P	**Pb**	**21 26 59.0**	**+0.3**
SMG	**Samos**	**2.29**	**232**	P	**Pb**	**21 26 59.0**	**+0.3**
KORT	**Korkueli**	**2.34**	**155**	PN	**

3.2nm,0.8s

LCO	Las Campanas	13.52	165	Pn	Pn	21 31 33.0	+3.2
SOTA	Rioblanco	18.07	354	*eP*	Pn	21 32 26.6	-1.8
PCON	Cinco Dias	18.25	355	*eP*	Pn	21 32 33.1	+2.5
CPUP	Villa Florida	19.25	125	P	Pn	21 32 42.6	+0.5
	0.1nm,0.3s,baz=182,slow=14,SNR=3.2						
RREF	El Recreo	20.74	358	*eP*	P	21 32 58.0	+0.3
GUYC	Guyana, Colomb	21.06	358	*eP*	P	21 33 00.3	-0.7
PAMC	Pamplona, Colo	23.25	5	*eP*	P	21 33 27.8	+3.7
OCAC	Ocana	24.09	4	*eP*	P	21 33 37.7	+6.1
PLCA	Paso Flores	24.95	172	P	P	21 33 43.4	+4.2
	0.9nm,0.8s,baz=4.1,slow=14,SNR=3.0						
SDV	Santo Domingo	25.03	10	P	P	21 33 38.8	-1.4
	8.1nm,0.9s,baz=212,slow=7.6,SNR=6.6						
SDV	Santo Domingo	25.03	10	*eP*	P	21 33 38.8	-1.4
	7.1nm,0.9s						
SNAA	Sanae	69.29	161	P	P	21 39 24.5	+2.4
	1.1nm,0.5s,baz=285,slow=12,SNR=12						
DBIC	Dimbokro	72.76	78	P	P	21 39 42.4	-1.7
	1.3nm,0.6s,baz=236,slow=7.8,SNR=3.3						
KOWA	Kowa	76.18	70	P	P	21 40 02.5	-1.4
	1.7nm,0.6s,baz=244,slow=7.4,SNR=6.4						
YKA	Yellowknife Ar	84.21	343	P	P	21 40 45.3	-0.7
	0.1nm,0.4s,baz=142,slow=5.5,SNR=3.1						
WRA	Warramunga Arr	134.25	220	PKP	PKPdf	21 47 33.5	0.0
	0.7nm,0.8s,baz=130,slow=2.2,SNR=3.2						

IDC 17 21:39:12.9±8.5, 23°.50N×108°.87W, h0km, mb2.8/1, mb1 3.3/4, mb1mx3.2/48, mbtmp2.9/4, ML3.8/3, Error ellipse: s-maj=130.6km s-min=32.8km az=167.0, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPIG	La Paz	1.45	295	Pn	Pn	21 39 40.1	-0.2
	17nm,0.3s,baz=97,slow=9.4,SNR=4.6						
LPIG				Sn	Sg	21 39 56.0	-3.4
	50nm,0.3s,baz=96,slow=9.2,SNR=14						
TXAR	Lajitas Array	7.45	38	Pn	Pn	21 41 03.9	+0.9
	0.2nm,0.3s,baz=218,slow=15,SNR=5.6						
NVAR	Mina Array Bea	16.92	334	Pn	P	21 43 14.7	+1.3
	baz=153,slow=11,SNR=2.3						
PDAR	Pinedale Array	19.22	358	P	P	21 43 38.7	-0.1
	0.1nm,0.3s,baz=163,slow=9.4,SNR=2.7						
YKA	Yellowknife Ar	39.17	356	P	P	21 46 42.0	-0.2
	0.1nm,0.6s,baz=176,slow=8.6,SNR=3.0						

IDC 17 21:46:16.7±1.6, 11°.06S×115°.55E, h0km, mb3.5/6, mb1 3.7/8, mb1mx3.5/59, mbtmp3.6/8, ML3.7/2, Error ellipse: s-maj=66.8km s-min=17.4km az=47.0
ISCJB 17 21:46:19.7±1.1, 11°.0S±0°.2×115°.7E±0°.2, h33km, mb3.6/5, Error ellipse: s-maj=33.8km s-min=13.1km az=42.9
ISC 17 21:46:21.5±1.2, 11°.1S±0°.2×115°.8E±0°.2, h35km, n8, σ3s65/8, mb3.8/5, South of Bali

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	Baumata	7.80	84	Pn	Pn	21 48 14.2	+1.5
	1.2nm,0.3s,baz=0.0,slow=8.1,SNR=3.2						
BATI				Sn	Sn	21 49 53.1	+13
	0.8nm,0.3s,baz=330,slow=16,SNR=2.3						
FITZ	Fitzroy Crossi	11.79	127	Pn	Pn	21 49 07.1	-0.1
	0.3nm,0.3s,baz=300,slow=12,SNR=6.7						
FITZ				Sn	Sn	21 51 11.9	-5.8
	0.1nm,0.3s,baz=342,slow=17,SNR=5.6						
WRA	Warramunga Arr	19.90	118	P	Pn	21 50 53.3	+1.3
	0.3nm,0.4s,baz=299,slow=11,SNR=4.8						
WRA				S	S	21 54 25.4	-7.1
	0.6nm,1.0s,baz=291,slow=25,SNR=3.0						
ASAR	Alice Springs	21.29	128	P	P	21 51 07.7	+2.4
	0.4nm,0.6s,baz=304,slow=9.3,SNR=6.8						
STKA	Stephens Creek	31.52	135	P	P	21 52 42.9	+2.4
	1.3nm,0.6s,baz=297,slow=11,SNR=4.0						
CMAR	Chiang Mai Arr	33.77	330	P	P	21 52 59.1	-1.1
	0.2nm,0.3s,baz=161,slow=5.7,SNR=4.3						
SONM	Songino Array	59.30	353	P	P	21 56 20.0	+0.1
	0.4nm,0.5s,baz=165,slow=6.0,SNR=3.6						
MKAR	Makanchi Array	64.98	335	P	P	21 56 56.8	-1.1
	0.6nm,0.5s,baz=147,slow=7.7,SNR=16						

ISN 17 21:48:58.1±1.1, 36°.29N×41°.92E, h0km±999km
CSEM 17 21:49:04.0±0.2, 36°.20N×41°.95E, h30km, ML3.1, Error ellipse: s-maj=6.4km s-min=5.3km az=40.0
ISK 17 21:49:03.1, 36°.25N×41°.88E, h24km, ML3.1/5, Iraq

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIRT	Sirnak	1.33	19	PN	Pn	21 49 26.2	0.0
SIRT				SN	Sb	21 49 43.9	-0.1
SIRT	Sirnak	1.33	19	*e*Pn	Pn	21 49 26.2	0.0
SIRT				*e*Sn	Sb	21 49 43.9	-0.1
MAZI	Mazidag	1.67	317	PN	Pn	21 49 31.5	+0.6
MAZI				SN	Sn	21 49 52.2	+0.6
MAZI	Mazidag	1.67	317	*e*Pn	Pn	21 49 31.5	+0.6
MAZI				*e*Sn	Sn	21 49 52.2	+0.6
DIY	Diyarbakir	2.11	322	*e*Pn	Pb	21 49 39.4	-1.3
DYBB	Diyarbakir	2.20	321	PN	Pn	21 49 39.4	+1.2
GURO	Guroymak-BITLI	2.30	3	PN	Pn	21 49 40.7	+1.1
GURO	Guroymak-BITLI	2.30	3	*e*Pn	Pn	21 49 40.7	+1.1
URFA	Urfa	2.73	297	PN	Pn	21 49 46.8	+1.3
URFA	Urfa	2.73	297	*e*Pn	Pn	21 49 46.8	+1.3
BINT	Bingol	2.85	338	*e*Pn	Pn	21 49 49.3	+2.2
BNGB	Bing¶ll	2.90	341	PN	Pn	21 49 49.3	+1.5
AGRB	Hanur-Agry	3.43	14	PN	Pn	21 49 56.9	+1.6
AGRB	Hanur-Agry	3.43	14	*e*Pn	Pn	21 49 56.9	+1.6
MALT	Malatya	3.44	308	PN	Pn	21 49 56.9	+1.6
MALT	Malatya	3.44	308	*e*Pn	Pn	21 49 56.9	+1.6
RTB	Rutbah	3.46	202	*e*Pn	Pn	21 49 55.0	-0.5
	SNR=3.0						
RTB				*i* Sn	Sn	21 50 36.0	+0.2
	SNR=3.0						

IDC 17 21:55:53.8±1.5, 59°.03S×16°.25W, h0km, mb3.7/2, mb1 4.0/3, mb1mx3.6/41, mbtmp3.9/3, ML3.9/1, Error ellipse: s-maj=79.4km s-min=33.5km az=37.0
ISC 17 21:55:54.4±1.6, 58°.9S±0°.2×15°.8W±0°.4, h10km, n9, σ0s20/9, East of South Sandwich Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	Neumayer--Stat	12.21	168	P	Pn	21 58 47.8	-0.3
VNA2	Neumayer--Watz	12.57	167	P	Pn	21 58 53.2	+0.2
	baz=339,slow=12						
VNA2				S	Sn	22 01 01.7	-11
VNA3	Neumayer Olymp	12.65	171	P	Pn	21 58 54.2	+0.1
VNA3				S	Sn	22 01 01.8	-13
SNAA	Sanae	13.86	163	P	Pn	21 59 10.5	-0.2
SNAA	Sanae	13.86	163	Pn	Pn	21 59 10.7	0.0
	0.6nm,0.3s,baz=325,slow=14,SNR=26						
SNAA				Sn	Sn	22 01 35.1	-9.4
	0.1nm,0.3s,baz=345,slow=20,SNR=2.2						
SIV	San Ignacio	54.16	303	P	P	22 05 19.7	0.0
	0.9nm,0.9s,baz=166,slow=12,SNR=3.5						
LPAZ	La Paz	57.11	295	P	P	22 05 41.6	0.0
	0.6nm,0.5s,baz=166,slow=8.3,SNR=2.6						
YKA	Yellowknife Ar	142.54	311	PKP	PKPdf	22 15 25.7	-0.2
	0.1nm,0.6s,baz=117,slow=3.0,SNR=4.5						
SONM	Songino Array	144.90	82	PKPbc	PKPdf	22 15 30.9	+0.2
	2.3nm,1.1s,baz=215,slow=4.9,SNR=12						

NIED 17 22:13:00, 36°.10N×139°.90E, h71km, Mw3.6 Best double couple: M₀3.15000×10¹⁴ NP1:φs155.00000°, δ48.00000°, λ-33.00000°. NP2:φs269.00000°, δ66.00000°, λ-133.00000°.
ISCJB 17 22:13:36.5±0.6, 36°.01N±0°.04×139°.99E±0°.06, h57km±5km, mb3.6/5, Error ellipse: s-maj=8.5km s-min=7.3km az=11.6
IDC 17 22:13:37.6±1.7, 35°.94N×139°.84E, h47km±17km, mb3.4/5, mb1 3.6/7, mb1mx3.1/88, mbtmp3.7/7, ML3.6/2, Error ellipse: s-maj=22.3km s-min=7.5km az=59.0
JMA 17 22:13:38.5±0.1, 36°.06N×139°.91E, h44km±1km, M3.6 Broadband fault plane solution: P waves. NP1: φs43.00000°, δ74.00000°, λ89.00000°. NP2:φs228.00000°, δ16.00000°, λ.95.00000°. Principal axes: T Plg61.0000°, Azm311.0000°; N Plg1.0000°, Azm43.0000°; P Plg29.0000°, Azm134.0000°;
JMA Felt II J1.
ISC 17 22:13:37.6±0.9, 36°.01N±0°.05×139°.96E±0°.06, h51km±9km, n20, σ1s07/21, mb3.7/5, 1C-3D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYT	Yasato	0.29	42	⇑P	Pn	22 13 46.9	+0.2
JYT				S	Sn	22 13 52.9	-0.2
JAG	Ashikaga	0.58	315	⇓P	Pn	22 13 49.8	-0.1
JAG				S	Sn	22 13 57.7	-1.0
JRY	Ryogami san	0.86	271	⇓P	Pn	22 13 53.5	+0.1
JRY				S	Sn	22 14 04.3	-0.8
JKT	Katashina	0.95	323	⇓P	Pn	22 13 54.4	-0.3
JOD2	Odawara 2	1.03	224	P	Pn	22 13 56.7	+0.9
JOD2				S	Sn	22 14 10.1	+1.0
MJAR	Matsushiro Arr	1.51	291	P	Pn	22 14 02.4	+0.2
	18nm,0.3s,baz=106,slow=8.2,SNR=122						
MJAR				S	Sn	22 14 18.1	-2.7
	15nm,0.3s,baz=130,slow=11,SNR=16						
MAT	Matsushiro	1.51	291	P	Pn	22 14 03.0	+0.7
MAT				S	Sn	22 14 22.4	+1.6
JHJ	Hachijo jima 2	2.89	183	P	Pn	22 14 21.9	+0.8
	38nm,0.3s,baz=72,slow=18,SNR=32						
JHJ				S	Sn	22 14 52.8	-1.9
	19nm,0.3s,baz=77,slow=14,SNR=4.8						
ASAJ	Asahikawa	8.34	13	P	Pn	22 15 37.0	+1.2
	0.5nm,0.3s,baz=234,slow=8.7,SNR=6.0						
H11N2	WAKE ISLAND Hy	28.68	117	T	T	22 49 18.9	
	baz=308,slow=75,SNR=11						
H11N1	WAKE ISLAND Hy	28.69	117	T	T	22 49 16.1	
	baz=308,slow=75						
H11N3	WAKE ISLAND Hy	28.70	117	T	T	22 49 15.7	
	baz=308,slow=75,SNR=3.8						
H11S1	WAKE ISLAND Hy	29.34	119	T	T	22 50 30.7	
	baz=310,slow=74,SNR=8.6						
H11S3	WAKE ISLAND Hy	29.34	119	T	T	22 50 30.9	
	baz=310,slow=74,SNR=4.0						
H11S2	WAKE ISLAND Hy	29.35	119	T	T	22 50 28.6	
	baz=310						
ZALV	Zalesovo Beam	41.75	313	P	P	22 21 21.7	+0.2
	1.6nm,0.6s,baz=92,slow=7.2,SNR=5.9						
MKAR	Makanchi Array	43.68	303	P	P	22 21 37.5	+0.1
	0.3nm,0.6s,baz=86,slow=10.0,SNR=6.3						
KURBB	Kurchatov Arra	45.71	309	P	P	22 21 53.4	0.0
	1.0nm,0.5s,baz=90,slow=7.7,SNR=15						
ILAR	Eielson Array	50.98	32	P	P	22 22 33.8	0.0
	0.4nm,0.8s,baz=261,slow=5.6,SNR=4.8						
WRA	Warramunga Arr	55.90	186	P	P	22 23 10.3	0.0
	0.3nm,0.4s,baz=1.8,slow=7.5,SNR=8.1						

ISCJB 17 22:16:04.9±0.5, 39°.08N±0°.03×29°.14E±0°.03, h3km±6km, Error ellipse: s-maj=5.0km s-min=4.2km az=150.9
ISK 17 22:16:04.5, 39°.07N×29°.16E, h5km, ML2.5/15
DDA 17 22:16:04.6, 39°.09N×29°.14E, h7km, Ml2.8
CSEM 17 22:16:05.0±0.1, 39°.07N×29°.16E, h5km, ML2.5, Error ellipse: s-maj=3.2km s-min=2.4km az=141.0
ISC 17 22:16:05.1±1.0, 39°.08N±0°.02×29°.16E±0°.02, h6km±9km, n46, σ0s40/60, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIMA	Simav-Kutahya	0.14	272	PG	Pg	22 16 08.1	+0.1
SIMA	Simav-Kutahya	0.14	272	*e*Pg	Pg	22 16 08.1	+0.1
GDZ	Gediz	0.25	88	*i* P	Pg	22 16 09.9	-0.2
GDZ				*i* S	Sg	22 16 14.0	+0.6
GDZ	Gediz	0.25	88	P	Pg	22 16 09.9	-0.2
GDZ				S	Sg	22 16 14.0	+0.6
DEMI	Demirci	0.35	264	*i* P	Pg	22 16 11.9	+0.1
DEMI				*i* S	Sg	22 16 16.0	-0.4
DEMI	Demirci	0.35	264	P	Pg	22 16 11.9	+0.1
DEMI				S	Sg	22 16 16.0	-0.4
TVSB	Tavsanli	0.44	32	PG	Pg	22 16 12.8	-0.8
TVSB	Tavsanli	0.44	32	*e*Pg	Pg	22 16 12.8	-0.8
KULA	Kula-Manisa	0.69	215	PG	Pg	22 16 18.4	+0.1
KULA				SG	Sg	22 16 27.6	+0.4
KULA	Kula-Manisa	0.69	215	*e*Pg	Pg	22 16 18.4	+0.1
KULA				*e*Sg	Sg	22 16 27.6	+0.4
DURS	Dursunbey	0.74	315	*i* P	Pg	22 16 19.2	-0.2
DURS				*i* S	Sg	22 16 29.3	+0.2
DURS	Dursunbey	0.74	315	P	Pg	22 16 19.2	-0.2
DURS				S	Sg	22 16 29.3	+0.2
MANT	Manisa	0.75	219	*i* P	Pb	22 16 19.9	-0.8
MANT				*i* S	Sg	22 16 29.6	+0.2
MANT	Manisa	0.75	219	P	Pb	22 16 20.0	-0.8
MANT				S	Sg	22 16 29.6	+0.2
ORLT	Orhaneli	0.99	348	PG	Pg	22 16 24.2	+0.2
ORLT				SG	Sb	22 16 38.2	+0.3
ORLT	Orhaneli	0.99	348	*e*Pg	Pg	22 16 24.2	+0.2
ORLT				*e*Sg	Sb	22 16 38.2	+0.3
BALB	Balikesir	1.14	300	PN	Pb	22 16 26.5	-0.7
BALB	Balikesir	1.14	300	*e*Pn	Pb	22 16 26.5	-0.7
SHUT	Suhut-Afyon	1.21	115	PN	Pb	22 16 27.9	-0.5
SHUT	Suhut-Afyon	1.21	115	*e*Pn	Pb	22 16 27.9	-0.5
CAVI	Cavuskoy	1.24	25	PN	Pg	22 16 28.9	0.0
CAVI	Cavuskoy	1.24	25	*e*Pn	Pg	22 16 28.9	0.0
BORA	Eskisehir	1.28	51	*i* P	Pg	22 16 29.7	0.0
BORA				*i* S	Sn	22 16 47.2	0.0
BORA	Eskisehir	1.28	51	P	Pg	22 16 29.7	0.0
BORA				S	Sn	22 16 47.2	0.0
MDNY	Mudanya-Bursa	1.30	351	PN	Pg	22 16 30.1	0.0
MDNY	Mudanya-Bursa	1.30	351	*e*Pn	Pg	22 16 30.1	0.0
KCTX	Karacabey (Bur	1.34	333	PN	Pg	22 16 30.8	+0.1
KCTX	Karacabey (Bur	1.34	333	*e*Pn	Pg	22 16 30.8	+0.1
GONE	Gonen-Balikesi	1.49	311	PN	Pb	22 16 32.9	-0.3
GONE	Gonen-Balikesi	1.49	311	*e*Pn	Pb	22 16 32.9	-0.3
YLV	Yalova	1.49	6	PN	Pb	22 16 32.9	-0.4
YLV	Yalova	1.49	6	*e*Pn	Pb	22 16 32.9	-0.4
ARMT	Armutlu	1.50	351	PN	Pb	22 16 32.9	-0.5
ARMT	Armutlu	1.50	351	*e*Pn	Pb	22 16 32.9	-0.5
EDC	Edincik	1.61	322	PN	Pn	22 16 34.4	+0.3
EDC	Edincik	1.61	322	*e*Pn	Pn	22 16 34.4	+0.3
GEYV	SAKARYA_Geyve	1.65	32	*i* P	Pb	22 16 36.3	+0.3
GEYV	SAKARYA_Geyve	1.65	32	P	Pb	22 16 36.3	+0.3
GULT	Gulveren	1.71	37	PN	Pb	22 16 36.1	-0.8
GULT	Gulveren	1.71	37	*e*Pn	Pb	22 16 36.1	-0.8
HRT	Hereke	1.78	13	PN	Pn	22 16 36.9	+0.4
HRT	Hereke	1.78	13	*e*Pn	Pn	22 16 36.9	+0.4
SVRH	Sivrihisar-ESK	1.87	78	PN	Pn	22 16 37.9	+0.2
SVRH	Sivrihisar-ESK	1.87	78	*e*Pn	Pn	22 16 37.9	+0.2
SILT	Sile	2.10	10	PN	Pn	22 16 40.8	0.0
SILT	Sile	2.10	10	*e*Pn	Pn	22 16 40.8	0.0

ISCJB 17 22:18:49.4±0.5, 39°.06N±0°.04×29°.14E±0°.03, h8km±5km, Error ellipse: s-maj=6.7km s-min=4.2km az=162.5
CSEM 17 22:18:49.3±0.1, 39°.08N×29°.16E, h5km, ML2.4, Error ellipse: s-maj=3.5km s-min=2.6km az=141.0
DDA 17 22:18:49.1, 39°.09N×29°.15E, h7km, Ml2.6
ISK 17 22:18:49.3, 39°.11N×29°.16E, h5km, ML2.4/10
ISC 17 22:18:49.6±0.9, 39°.08N±0°.03×29°.16E±0°.02, h10km±7km, n38, σ0s51/54, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIMA	Simav-Kutahya	0.14	273	PG	Pg	22 18 52.9	0.0
SIMA	Simav-Kutahya	0.14	273	*e*Pg	Pg	22 18 52.9	0.0
GDZ	Gediz	0.25	87	*i* P	Pg	22 18 54.3	-0.5
GDZ				*i* S	Sg	22 18 58.6	+0.3
GDZ	Gediz	0.25	87	P	Pg	22 18 54.3	-0.5
GDZ				S	Sg	22 18 58.6	+0.3
DEMI	Demirci	0.35	265	*i* P	Pg	22 18 56.3	-0.3
DEMI				*i* S	Sg	22 19 01.0	-0.2
DEMI	Demirci	0.35	265	P	Pg	22 18 56.3	-0.3
DEMI				S	Sg	22 19 01.0	-0.2
TVSB	Tavsanli	0.44	32	PG	Pg	22 18 57.3	-1.0
TVSB	Tavsanli	0.44	32	*e*Pg	Pg	22 18 57.3	-1.0
KULA	Kula-Manisa	0.68	215	PG	Pb	22 19 03.3	-0.4
KULA	Kula-Manisa	0.68	215	*e*Pg	Pb	22 19 03.3	-0.4
DURS	Dursunbey	0.75	315	*i* P	Pg	22 19 03.5	-0.6
DURS				*i* S	Sn	22 19 17.5	-0.3
DURS	Dursunbey	0.75	315	P	Pg	22 19 03.5	-0.6
DURS				S	Sn	22 19 17.5	-0.3
MANT	Manisa	0.75	219	*i* P	Pg	22 19 03.2	-0.9
MANT				*i* S	Sg	22 19 13.9	0.0
MANT	Manisa	0.75	219	P	Pg	22 19 03.2	-0.9
MANT				S	Sg	22 19 13.9	0.0
ORLT	Orhaneli	0.99	348	PG	Pg	22 19 08.3	-0.4
ORLT	Orhaneli	0.99	348	*e*Pg	Pg	22 19 08.3	-0.4
BALB	Balikesir	1.14	300	PN	Pg	22 19 11.0	-0.5
BALB				SN	Sb	22 19 26.9	+0.6
BALB	Balikesir	1.14	300	*e*Pn	Pg	22 19 11.0	-0.5
BALB				*e*Sn	Sb	22 19 26.9	+0.6
SHUT	Suhut-Afyon	1.21	115	PN	Pb	22 19 12.7	+0.1
SHUT	Suhut-Afyon	1.21	115	*e*Pn	Pb	22 19 12.7	+0.1
CAVI	Cavuskoy	1.24	25	PN	Pg	22 19 13.0	-0.5
CAVI	Cavuskoy	1.24	25	*e*Pn	Pg	22 19 13.0	-0.5
BORA	Eskisehir	1.28	51	*i* P	Pb	22 19 13.9	0.0
BORA				*i* S	Sn	22 19 31.7	+0.7
BORA	Eskisehir	1.28	51	P	Pb	22 19 13.9	0.0
BORA				S	Sn	22 19 31.7	+0.7
MDNY	Mudanya-Bursa	1.31	351	PN	Pn	22 19 13.9	-0.1
MDNY				SN	Sn	22 19 32.1	+0.6
MDNY	Mudanya-Bursa	1.31	351	*e*Pn	Pn	22 19 13.9	-0.1
MDNY				*e*Sn	Sn	22 19 32.1	+0.6
KCTX	Karacabey (Bur	1.34	333	PN	Pg	22 19 14.9	-0.5
KCTX	Karacabey (Bur	1.34	333	*e*Pn	Pg	22 19 14.9	-0.5
GONE	Gonen-Balikesi	1.50	311	PN	Pb	22 19 17.2	-0.3
GONE	Gonen-Balikesi	1.50	311	*e*Pn	Pb	22 19 17.2	-0.3
YLV	Yalova	1.50	6	PN	Pn	22 19 16.9	+0.3
YLV				SN	Sn	22 19 36.4	+0.1
YLV	Yalova	1.50	6	*e*Pn	Pn	22 19 16.9	+0.3
YLV				*e*Sn	Sn	22 19 36.4	+0.1
ARMT	Armutlu	1.50	351	PN	Pg	22 19 17.8	-0.7
ARMT	Armutlu	1.50	351	*e*Pn	Pg	22 19 17.8	-0.7
EDC	Edincik	1.61	322	PN	Pn	22 19 18.8	+0.6
EDC	Edincik	1.61	322	*e*Pn	Pn	22 19 18.8	+0.6
GULT	Gulveren	1.71	37	PN	Pb	22 19 20.6	-0.6
GULT	Gulveren	1.71	37	*e*Pn	Pb	22 19 20.6	-0.6

IDC 17 22:46:54.0±1.2, 39°.56N×54°.43E, h0km, mb3.2/3, mb1 3.5/8, mb1mx3.3/59, mbtmp3.4/8, ML3.1/5, Error ellipse: s-maj=17.8km s-min=11.5km az=13.0
ISCJB 17 22:46:55.8±0.9, 39°.77N±0°.10×54°.50E±0°.09, h31km, mb3.1/2, Error ellipse: s-maj=14.2km s-min=9.7km az=13.1
ISC 17 22:46:56.7±1.0, 39°.70N±0°.09×54°.49E±0°.07, h31km, n11, σ2s87/17, 1C-2D, Turkmenistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GEYT	Alibeck	3.34	121	Pn	Pn	22 47 46.3	-0.6
	1.6nm,0.3s,baz=300,slow=15,SNR=22						
GEYT				Sn	Sn	22 48 21.5	-4.0
	1.4nm,0.3s,baz=309,slow=17,SNR=5.9						
GEYT				Lg	Lg	22 48 37.0	
	2.7nm,0.3s,baz=304,slow=15,SNR=5.1						
KBZ	Khabaz	9.55	299	Pn	Pn	22 49 13.0	+1.0
	0.1nm,0.3s,baz=130,slow=19,SNR=2.2						
KBZ				Sn	Sn	22 50 53.4	-4.8
	0.1nm,0.3s,baz=86,slow=14,SNR=2.0						
KVAR	Kislovodsk Arr	9.77	300	Pn	Pn	22 49 16.6	+1.5
	baz=131,slow=9.3,SNR=3.0						
KVAR				Sn	Sn	22 50 58.6	-5.1
	baz=24,slow=20,SNR=3.0						
AB31	Akbulak array	10.31	20	⇓Pn	Pn	22 49 24.4	+2.0
	1.5nm,0.2s,baz=202,slow=13,SNR=155						
AB31				Sn	Sn	22 51 13.4	-3.5
	1.2nm,0.3s,baz=194,slow=24,SNR=14						
AKTO	Aktyubinsk	11.02	12	Pn	Pn	22 49 32.8	+0.8
	0.3nm,0.3s,baz=200,slow=12,SNR=6.0						
AKTO				Sn	Sn	22 51 31.4	-2.7
	0.2nm,0.3s,baz=192,slow=19,SNR=3.6						
AKTO	Aktyubinsk	11.02	12	⇓Pn	Pn	22 49 34.4	+2.3
	0.7nm,0.5s						
AKTO				⇑Sn	Sn	22 51 33.4	-0.7
	1.7nm,0.5s						
AAK	Ala-Archa	15.35	73	Pn	Pn	22 50 31.3	+0.1
	0.1nm,0.3s,baz=243,slow=11,SNR=3.2						
BVAR	Borovoye Array	17.21	34	P	Pn	22 50 54.5	0.0
	0.2nm,0.3s,baz=231,slow=9.1,SNR=5.7						
AKASG	Malin Array Be	20.82	310	P	P	22 51 37.2	+1.8
	0.6nm,0.4s,baz=104,slow=9.3,SNR=3.5						
MKAR	Makanchi Array	21.39	62	P	P	22 51 44.4	+2.8
	0.2nm,0.5s,baz=254,slow=10,SNR=3.8						
EKA	Eskdalemuir Ar	40.71	312	P	P	22 54 36.2	+2.1
	0.5nm,0.5s,baz=95,slow=8.6,SNR=4.0						

MAN 17 23:03:45.9, 42°.42N×125°.49E, h5km, mb3.7, ML2.4, MS1.9, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	Surigao	0.36	1	⇓*eP*	Pb	23 03 53.1	-0.8
SCPH				*e*S	Sb	23 04 03.9	+4.1
BUTP	Butuan	0.47	163	*eP*	Pg	23 03 54.1	0.0
BUTP				*e*S	Sb	23 04 07.5	+4.5
BUKP	Musuan	1.59	195	*eP*	Pn	23 04 13.5	-0.4

JMA 17 23:09:53.2, 36°.58N×138°.24E, h6km±1km, M0.2, 1D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAT	Matsushiro	0.05	216	⇓P	Pg	23 09 54.8	+0.2
MAT				S	Sg	23 09 55.8	+0.2
MAT	Matsushiro	0.05	216	P	Pg	23 09 54.8	+0.2
MAT				S	Sg	23 09 55.7	+0.1
JNG	Nsakai	0.21	213	P	Pg	23 09 57.6

MLSB	Milas	1.80	358	PN	Pn	23 19 08.8	-0.1
MLSB	Milas	1.80	358	*e*Pn	Pn	23 19 08.8	-0.1
NPS	Neapolis	1.85	264	P	Pb	23 19 11.0	-0.4
NPS	Neapolis	1.85	264	P	Pb	23 19 10.4	-1.0
ELL	Elmali	2.08	52	PN	Pn	23 19 12.7	-0.1
ELL	Elmali	2.08	52	*e*Pn	Pn	23 19 12.7	-0.1
TAVA	DENIZLI_Tavas	2.15	23	*i* P	Pn	23 19 14.2	+0.5
TAVA	DENIZLI_Tavas	2.15	23	P	Pn	23 19 14.1	+0.5
GOLH	Golhisar	2.22	38	*i* P	Pn	23 19 14.3	-0.4
GOLH	Golhisar	2.22	38	P	Pn	23 19 14.3	-0.4
GCAM	G?zelcaml?	2.26	347	PN	Pn	23 19 15.4	+0.3
GCAM	G?zelcaml?	2.26	347	*e*Pn	Pn	23 19 15.4	+0.3
SMG	Samos	2.36	340	P	Pn	23 19 15.4	-1.1
SMG	Samos	2.36	340	P	Pn	23 19 16.5	0.0
AYDB	Zeytinkoy-Aydi	2.45	1	PN	Pn	23 19 17.9	0.0
AYDB	Zeytinkoy-Aydi	2.45	1	*e*Pn	Pn	23 19 17.9	0.0
APE	Apeiranthos	2.45	311	PN	Pn	23 19 16.8	-1.0
APE	Apeiranthos	2.45	311	P	Pn	23 19 17.6	-0.2
APE	Apeiranthos	2.45	311	*e*Pn	Pn	23 19 16.8	-1.0
APE	Apeiranthos	2.45	311	P	Pn	23 19 18.3	+0.5
KORT	Korkueli	2.52	52	PN	Pn	23 19 18.8	0.0
KORT	Korkueli	2.52	52	*e*Pn	Pn	23 19 18.8	0.0
SIVA	Sivas	2.54	260	P	Pn	23 19 18.8	-0.1
SIVA	Sivas	2.54	260	P	Pn	23 19 19.2	+0.3
ANTB	Antalya	2.66	57	PN	Pn	23 19 21.1	+0.5
ANTB	Antalya	2.66	57	*e*Pn	Pn	23 19 21.1	+0.5
URLA	Izmir	3.04	341	PN	Pn	23 19 26.1	+0.3
URLA	Izmir	3.04	341	*e*Pn	Pn	23 19 26.1	+0.3
KULA	Kula-Manisa	3.09	12	PN	Pn	23 19 27.4	+0.8
KULA	Kula-Manisa	3.09	12	*e*Pn	Pn	23 19 27.4	+0.8
SUTC	Sutluce-Ispart	3.22	51	PN	Pn	23 19 29.3	+0.9
SUTC	Sutluce-Ispart	3.22	51	*e*Pn	Pn	23 19 29.3	+0.9
KEPZ	Antalya-Kepez	3.34	64	*i* S	Sn	23 20 10.6	+0.5
KEPZ	Antalya-Kepez	3.34	64	S	Sn	23 20 10.6	+0.5
DKL	Dikili	3.65	348	PN	Pn	23 19 35.1	+0.8
DKL	Dikili	3.65	348	*e*Pn	Pn	23 19 35.1	+0.8
SHUT	Suhut-Afyon	3.74	34	PN	Pn	23 19 36.9	+1.3
SHUT	Suhut-Afyon	3.74	34	*e*Pn	Pn	23 19 36.9	+1.3

MAN 17 23:19:16,9.91N×123.05E,h19km,mb4.5,ML3.3,MS3.1, 1C,Negros

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SNPH	**Sibulan**	**0.60**	**162**	*e*P	Pg	23 19 28.0	0.0
SNPH				*i* S	Sb	23 19 35.9	+0.1
GUIM	**Jordan**	**0.84**	**327**	*e*P	Pg	23 19 32.6	+0.1
GUIM				*e*S	Sn	23 19 45.5	+0.8
DCPH	**Dipolog City**	**1.36**	**167**⇑	*e*P	Pb	23 19 40.6	-0.2
DCPH				*e*S	Sb	23 19 58.5	+0.7

*IDC **17** 23:23:09.5±1.1, 1.06N×92.12E, h0km, mb3.8/11, mb1 3.9/13, mb1mx3.7/64, mbtmp3.8/13, ML3.8/2, Error ellipse: s-maj=39.3km s-min=18.4km az=47.0*
*NEIC **17** 23:23:10.6±0.6, 1.05N×92.08E, h10km, mb4.0/3, Error ellipse: s-maj=15.8km s-min=8.4km az=213.0*
*ISCJB **17** 23:23:12.3±0.8, 1.1N±0.1×92.11E±0.1, h33km, mb3.9/13, Error ellipse: s-maj=18.9km s-min=10.5km az=36.2*

ISC 17 23:23:14.4±1.0, 1.1N±0.2×92.1E±0.1, h35km, n20, σ1s10/20, mb3.9/13, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PALK	**Pallekele**	**12.92**	**299**		**Pn**	**23 26 13.1**	**-2.6**
	0.5nm,0.3s,baz=114,slow=12,SNR=4.6						
PALK				Sn	Sn	23 28 22.5	-16
	0.6nm,0.3s,baz=114,slow=4.8,SNR=4.1						
KSM	**Kuching**	**18.21**	**89**	*e*P	**Pn**	**23 27 23.9**	**-0.8**
	4.3nm,0.5s						
CMAR	**Chiang Mai Arr**	**18.54**	**21**	P	**Pn**	**23 27 28.2**	**-0.4**
	0.1nm,0.3s,baz=215,slow=12,SNR=10.0						
CHTO	**Chiang Mai**	**18.87**	**20**	*e*P	**P**	**23 27 30.8**	**-1.0**
	1.9nm,0.7s						
KKM	**Kota Kinabalu**	**24.57**	**78**	*e*P	**P**	**23 28 30.9**	**-0.6**
	4.6nm,0.8s						
MKAR	**Makanchi Array**	**46.34**	**351**	P	**P**	**23 31 36.2**	**-0.8**
	0.5nm,0.6s,baz=172,slow=8.6,SNR=6.4						
WRA	**Warramunga Arr**	**46.37**	**119**	P	**P**	**23 31 37.5**	**-0.2**
	2.7nm,0.6s,baz=296,slow=8.6,SNR=20						
WRAB	**Tennant Creek**	**46.38**	**119**	*e*P	**P**	**23 31 37.4**	**-0.3**
ASAR	**Alice Springs**	**47.48**	**124**	P	**P**	**23 31 46.0**	**-0.4**
	0.5nm,0.8s,baz=306,slow=7.5,SNR=4.9						
GEYT	**Alibeck**	**48.16**	**324**	P	**P**	**23 31 53.0**	**+1.6**
	0.6nm,0.5s,baz=142,slow=5.6,SNR=3.3						
SONM	**Songino Array**	**48.20**	**13**	P	**P**	**23 31 53.3**	**+1.6**
	0.6nm,0.5s,baz=187,slow=8.4,SNR=3.2						
KURBB	**Kurchatov Arra**	**50.70**	**349**	P	**P**	**23 32 10.2**	**-0.2**
	0.8nm,0.7s,baz=175,slow=8.1,SNR=6.5						
KURK	**Kurchatov**	**50.77**	**349**	*e*P	**P**	**23 32 11.0**	**0.0**
ZALV	**Zalesovo Beam**	**53.04**	**355**	P	**P**	**23 32 27.9**	**0.0**
	1.0nm,0.4s,baz=72,slow=7.3,SNR=6.1						
BVAR	**Borovoye Array**	**54.84**	**344**	P	**P**	**23 32 40.3**	**-0.7**
	0.6nm,0.8s,baz=144,slow=8.0,SNR=3.8						
ABKAR	**Akbulak array**	**55.34**	**335**	*e*P	**P**	**23 32 44.5**	**-0.3**
	1.2nm,0.8s						
BRTR	**Keskin Array B**	**65.47**	**314**	P	**P**	**23 33 55.4**	**+1.0**
	0.4nm,0.6s,baz=120,slow=7.3,SNR=3.6						
FINES	**FINESS Array B**	**77.79**	**333**	P	**P**	**23 35 08.0**	**+0.1**
	2.2nm,0.8s,baz=131,slow=6.5,SNR=2.6						
GERES	**GERESS Array B**	**81.56**	**319**	P	**P**	**23 35 30.7**	**+1.9**
	0.6nm,0.7s,baz=122,slow=5.0,SNR=6.5						
TXAR	**Lajitas Array**	**146.22**	**25**	PKPbc	**PKPab**	**23 42 52.4**	**-0.4**
	0.3nm,0.7s,baz=349,slow=0.9,SNR=3.4						

*HEL **17** 23:25:10.7±0.0, 67.85N×20.21E, h0km, ML1.7, ML1.8(UPP), Explosion*
*CSEM **17** 23:25:14.0±0.5, 67.64N×21.09E, h1km, ML2.0, Error ellipse: s-maj=35.1km s-min=10.2km az=29.0, Mining explosion.*

UPP 17 23:25:10.1±0.0, 67.85N×20.21E, h0km, ML1.8, Sweden

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUA	**Kurravaara**	**0.12**	**24**	P	Pg	23 25 12.7	+0.3
KUA				S	Sg	23 25 14.3	+0.4
KUA	**Kurravaara**	**0.12**	**24**	P	Pg	23 25 12.7	+0.3
KUA				S	Sg	23 25 14.3	+0.4
KUA	**Kurravaara**	**0.12**	**24**	*i* P	Pg	23 25 12.7	+0.3
KUA				*i* S	Sg	23 25 14.3	+0.4
RATU	**Laukkuluspa**	**0.23**	**265**	P	Pg	23 25 14.8	+0.3
RATU	**Laukkuluspa**	**0.23**	**265**	P	Pg	23 25 14.9	+0.3
RATU	**Laukkuluspa**	**0.23**	**265**	*i* P	Pg	23 25 14.8	+0.3
NIKU	**Nikkaluokta**	**0.45**	**273**	P	Pg	23 25 18.7	+0.1
NIKU	**Nikkaluokta**	**0.45**	**273**	P	Pg	23 25 18.7	+0.1
NIKU	**Nikkaluokta**	**0.45**	**273**	*i* P	Pg	23 25 18.7	+0.1
LANU	**Lannavaara**	**0.70**	**72**	P	Pg	23 25 23.4	-0.1
LANU	**Lannavaara**	**0.70**	**72**	P	Pg	23 25 23.4	-0.1
LANU				*e*S	Sg	23 25 32.7	+0.1
LANU	**Lannavaara**	**0.70**	**72**	*e*P	Pg	23 25 23.4	-0.2
	baz=251						
LANU				*e*S	Sg	23 25 32.7	+0.1
DUNU	**Dundret**	**0.74**	**169**	P	Pg	23 25 24.0	-0.2
DUNU	**Dundret**	**0.74**	**169**	P	Pg	23 25 24.0	-0.2
DUNU	**Dundret**	**0.74**	**169**	*i* P	Pg	23 25 24.0	-0.2
MASU	**Masugnsbyn**	**0.79**	**119**	P	Pg	23 25 25.0	-0.2
MASU	**Masugnsbyn**	**0.79**	**119**	P	Pg	23 25 25.0	-0.2
MASU	**Masugnsbyn**	**0.79**	**119**	*i* P	Pg	23 25 25.0	-0.2
SALU	**Saltoluokta**	**0.80**	**235**	P	Pg	23 25 25.2	-0.2
SALU	**Saltoluokta**	**0.80**	**235**	P	Pg	23 25 25.2	-0.2
SALU	**Saltoluokta**	**0.80**	**235**	*i* P	Pg	23 25 25.2	-0.2
KIF	**Kilpisjarvi**	**1.19**	**10**	*e*Pb	Pg	23 25 32.8	0.0
KIF				*e*S	Sg	23 25 48.6	+0.5
KIF	**Kilpisjarvi**	**1.19**	**10**	*e*PB	Pg	23 25 32.8	0.0
KIF				MSG		23 25 48.3	
	comp=Z,8.1nm,0.2s						
KIF				*e*S	Sg	23 25 48.6	+0.5
KIF	**Kilpisjarvi**	**1.19**	**10**	*e*P	Pg	23 25 32.7	-0.1
PAJU	**Pajala**	**1.39**	**125**	P	Pg	23 25 35.6	-1.1
PAJU	**Pajala**	**1.39**	**125**	P	Pg	23 25 35.6	-1.1
PAJU	**Pajala**	**1.39**	**125**	*e*P	Pg	23 25 35.6	-1.1
HEF	**Hetta**	**1.41**	**65**	*e*Pg	Pn	23 25 36.1	-0.9
HEF				*e*S	Sg	23 25 53.5	-1.9
HEF	**Hetta**	**1.41**	**65**	*e*PG	Pn	23 25 36.1	-0.9
	baz=248						
HEF				*e*S	Sg	23 25 53.5	-1.9
HEF				MSG		23 25 53.7	
	comp=Z,5.2nm,0.2s						
HEF	**Hetta**	**1.41**	**65**	*e*P	Pn	23 25 36.0	-1.0
ERTU	**Ertsjaerv**	**1.51**	**148**	P	Pn	23 25 37.7	-0.6
ERTU	**Ertsjaerv**	**1.51**	**148**	P	Pn	23 25 37.7	-0.6
ERTU				*e*Sn	Sg	23 25 58.3	-0.2
ERTU	**Ertsjaerv**	**1.51**	**148**	*e*P	Pn	23 25 37.7	-0.7
ERTU				*e*SN	Sg	23 25 58.3	-0.2
KALU	**Kalix**	**2.35**	**147**	*e*P	Pn	23 25 51.0	+1.1
KALU				*e*Sg	Sb	23 26 23.1	+0.4
KALU	**Kalix**	**2.35**	**147**	*e*P	Pn	23 25 51.0	+1.1
KALU				*e*SG	Sb	23 26 23.1	+0.4
TOF	**Tornio**	**2.40**	**136**	*e*Pb	Pn	23 25 52.0	+1.4
TOF	**Tornio**	**2.40**	**136**	*e*Sg	Sb	23 26 24.7	+0.5
	comp=Z,2.7nm,0.2s						
TOF	**Tornio**	**2.40**	**136**	*e*PB	Pn	23 25 52.0	+1.5
TOF				MSG		23 26 20.9	
	comp=Z,2.7nm,0.2s						
TOF				*e*SG	Sb	23 26 24.7	+0.5
SGF	**Sodankyl**	**2.45**	**97**	*e*Pb	Pb	23 25 53.3	-1.6
SGF	**Sodankyl**	**2.45**	**97**	*e*Sg	Sb	23 26 26.5	+0.9
SGF	**Sodankyl**	**2.45**	**97**	*e*PB	Pb	23 25 53.3	-1.6
SGF				*e*SG	Sb	23 26 26.6	+1.0
RNF	**Rovaniemi**	**2.58**	**116**	*e*Pb	Pb	23 25 55.1	-2.0
RNF	**Rovaniemi**	**2.58**	**116**	*e*Sg	Sb	23 26 28.9	-0.4
RNF	**Rovaniemi**	**2.58**	**116**	*e*PB	Pb	23 25 55.1	-2.0
RNF				*e*SG	Sb	23 26 28.9	-0.4
KU6	**Riekki**	**4.22**	**111**	*e*Pg	Pb	23 26 25.9	+0.7
KU6	**Riekki**	**4.22**	**111**	*e*Sg	Sg	23 27 22.7	-2.9
KU6	**Riekki**	**4.22**	**111**	*e*PG	Pb	23 26 25.9	+0.7
	baz=300						
KU6				*e*SG	Sg	23 27 22.7	-2.9

*CSEM **17** 23:25:09.9±0.2, 67.84N×20.28E, h2km, ML1.8, Error ellipse: s-maj=4.2km s-min=3.7km az=6.0, Mining explosion.*

UPP 17 23:25:20.2±0.2, 67.85N×20.24E, h0km, ML2.0, Sweden

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUA	**Kurravaara**	**0.11**	**18**	P	Pg	23 25 22.6	+0.3
KUA				S	Sg	23 25 24.1	+0.3
KUA	**Kurravaara**	**0.11**	**18**	P	Pg	23 25 22.6	+0.3
RATU	**Laukkuluspa**	**0.25**	**265**	P	Pg	23 25 25.2	+0.2
RATU	**Laukkuluspa**	**0.25**	**265**	P	Pg	23 25 25.2	+0.3
PAJU	**Pajala**	**1.38**	**125**	P	Pg	23 25 45.7	-0.9

*IDC **17** 23:37:31.4±1.6, 32.66S×72.07W, h0km, mb3.8/1, mb1 3.8/4, mb1mx3.7/29, mbtmp3.7/4, ML4.1/3, MS3.3/1, Ms1 3.3/1, ms1mx2.7/27, Error ellipse: s-maj=75.9km s-min=27.1km az=92.0*
*SJA **17** 23:37:33.7±1.3, 32.77S×71.91W, h10km, ML3.9, MW3.3*
*GUC **17** 23:37:36.6±0.5, 32.62S×71.59W, h25km±17km, ML3.8*
*NEIC **17** 23:37:36.0±0.0, 32.62S×71.59W, h25km, mb3.5/1, ML3.8(GUC), After GUC.*
NEIC Felt [III] at Concon, Quintero and Villa Alemana; [II] at Quillota, Valparaiso and Vina del Mar.

ISC 17 23:37:33.7±1.5, 32.67S±0.03×71.76W±0.05, h13km±9km, n40, σ2s11/51, 1C-5D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PEL	**Peldehue**	**1.02**	**118**⇓	*i* P	**Pn**	**23 37 54.3**	**+0.5**
PEL				*i* S	**Sn**	**23 38 07.3**	**-0.7**
RCDM	**Rinconada Maip**	**1.14**	**136**⇑	*i* P	**Pg**	**23 37 55.9**	**+0.2**
RCDM				*i* S	**Sn**	**23 38 10.3**	**-0.7**
ANTU	**Antumapu**	**1.30**	**134**⇓	*i* P	**Pg**	**23 37 59.2**	**+0.5**
ANTU				*i* S	**Sg**	**23 38 15.6**	**-0.1**
ANTU				IAML		23 38 19.7	
	comp=N,4μm,0.3s						
FCH	**Farellones**	**1.40**	**118**⇓	*i* P	**Pg**	**23 38 00.1**	**-0.5**
FCH				*i* S	**Sg**	**23 38 17.7**	**-1.1**
FCH				IAML		23 38 18.8	
	comp=E,3μm,0.2s						
LMEL	**Las Melosas**	**1.75**	**132**⇓	*i* P	**Pb**	**23 38 05.8**	**0.0**
LMEL				*e*S	**Sg**	**23 38 28.4**	**-1.8**
LMEL				IAML		23 38 33.1	
	comp=N,2μm,0.2s						
AUSP	**Uspallata**	**2.06**	**78**	*e*P	**Pg**	**23 38 12.1**	**-1.1**
AUSP				*e*S	**Sg**	**23 38 42.6**	**+2.7**
RTLS	**Leoncito**	**2.26**	**68**	*e*P	**Pg**	**23 38 15.6**	**-1.5**
RTLS				IAML		23 38 25.6	
	comp=Z,383nm,0.5s						
RTLS				*e*S	**Sg**	**23 38 47.5**	**+1.0**
GO05	**HualaæØ**	**2.34**	**183**	*e*P	**Pn**	**23 38 12.5**	**+0.6**
GO05				*e*S	**Sb**	**23 38 43.6**	**-0.9**
GO05	**HualaæØ**	**2.34**	**183**	IAML		23 39 00.3	
	comp=N,381nm,0.6s						
GO04	**Tololo Observa**	**2.62**	**19**⇓	*i* P	**Pn**	**23 38 18.2**	**+2.2**
GO04				*i* S	**Sb**	**23 38 52.2**	**-0.8**
RTCV	**Cerro Valdivia**	**2.85**	**74**	*e*P	**Pb**	**23 38 23.5**	**-1.0**
RTCV				*e*S	**Sb**	**23 39 00.9**	**+1.6**
ZON	**Zonda**	**2.85**	**68**	*e*P	**Pb**	**23 38 23.5**	**-0.9**
ZON				*e*S	**Sb**	**23 39 01.2**	**+2.0**
SJA	**San Juan**	**2.95**	**68**	*e*P	**Pb**	**23 38 25.0**	**-1.1**
SJA				*e*S	**Sb**	**23 39 03.8**	**+1.7**
RTLL	**Cerro Villicun**	**3.10**	**65**	*e*P	**Pb**	**23 38 27.3**	**-1.4**
RTLL				*e*S	**Sb**	**23 39 07.7**	**+1.3**
RTLL				IAML		23 39 15.0	
	comp=Z,285nm,0.4s						
AROD	**Rodeo**	**3.17**	**39**	*e*P	**Pb**	**23 38 29.4**	**-0.7**
AROD				*e*S	**Sb**	**23 39 11.3**	**+2.5**
AMOG	**MOGNA**	**3.28**	**59**	*e*P	**Pn**	**23 38 28.0**	**+3.1**
AMOG				*e*S	**Sb**	**23 39 12.1**	**+0.5**
ACDV	**Cuesta del Vie**	**3.37**	**43**	*e*S	**Sb**	**23 39 15.4**	**+1.1**
LCO	**Las Campanas**	**3.76**	**14**	*e*Pn	**Pn**	**23 38 33.2**	**+1.5**
LCO				*e*Sn	**Sn**	**23 39 16.7**	**+0.7**
ACAN	**Cantantal**	**3.89**	**85**	*e*P	**Pb**	**23 38 36.5**	**+3.3**
ACAN				*e*S	**Sb**	**23 39 26.6**	**-2.5**
AGUA	**GUANDACOL**	**4.24**	**42**	*e*P	**Pb**	**23 38 43.6**	**-4.5**
VCA	**Vinchina**	**4.98**	**39**	*e*P	Pb	23 38 54.8	-6.1
VCA				*e*S	**Sb**	**23 39 54.9**	**-5.7**
VCA				IAML		23 40 07.5	
	comp=Z,144nm,0.4s						
APLL	**PUNTA DE LOS L**	**5.01**	**64**	*e*P	**Pn**	**23 38 52.0**	**+3.2**
APLL				*e*S	**Sb**	**23 39 55.1**	**-6.5**
APLL				IAML		23 40 14.6	
	comp=Z,50nm,0.7s						
PLCA	**Paso Flores**	**8.10**	**173**	Pn	**Pn**	**23 39 33.0**	**+1.8**
	comp=Z,1.0nm,0.3s,baz=359,slow=13,SNR=33						
TRQA	**Tornquist**	**9.62**	**127**	*e*Pn	**Pn**	**23 39 52.6**	**+0.7**
	comp=Z,22nm,1.5s						
CPUP	**Villa Florida**	**14.06**	**67**	Pn	**Pn**	**23 40 55.3**	**+2.6**
	comp=Z,0.3nm,0.3s,baz=232,slow=13,SNR=4.7						
CPUP				Sn	**Sn**	**23 43 25.4**	**-3.3**
	comp=Z,0.1nm,0.3s,baz=286,slow=5.7,SNR=2.2						
LPAZ	**La Paz**	**16.64**	**12**	Pn	**Pn**	**23 41 28.3**	**+1.0**
	comp=Z,0.1nm,0.3s,baz=161,slow=10,SNR=1.9						
SAML	**Samuel**	**24.91**	**20**	*e*P	**P**	**23 42 56.2**	**-0.3**
	comp=Z,0.7nm,0.5s						
SDV	**Santo Domingo**	**41.34**	**2**	LR	LR	00 04 41.0	
	comp=Z,38nm,18.1s,baz=216,slow=39						
SNAA	**Sanae**	**52.73**	**158**	P	**P**	**23 46 47.6**	**-0.2**
	comp=Z,0.9nm,0.8s,baz=270,slow=9.1,SNR=4.4						
H11S2	**WAKE ISLAND Hyl**	**26.01**	**270**	T	T	02 15 32.7	
	baz=117						
H11S1	**WAKE ISLAND Hyl**	**26.03**	**270**	T	T	02 15 33.7	
	baz=117						
H11S3	**WAKE ISLAND Hyl**	**26.03**	**270**	T	T	02 15 34.0	
	baz=117						
H11N3	**WAKE ISLAND Hyl**	**26.39**	**271**	T	T	02 16 05.2	
	baz=123						
H11N1	**WAKE ISLAND Hyl**	**26.41**	**271**	T	T	02 16 05.1	
	baz=123						
H11N2	**WAKE ISLAND Hyl**	**26.41**	**271**	T	T	02 16 03.6	
	baz=123						
BVAR	**Borovoye Array**	**146.15**	**42**	PKPbc	**PKPab**	**23 57 13.9**	**0.0**
	comp=Z,0.4nm,0.4s,baz=320,slow=4.3,SNR=5.6						
KURBB	**Kurchatov Arra**	**151.74**	**42**	PKPbc	**PKPbc**	**23 57 27.8**	**+0.2**
	comp=Z,0.9nm,0.5s,baz=308,slow=3.0,SNR=9.0						
KURK	**Kurchatov**	**151.75**	**42**	PKPbc	**PKPbc**	**23 57 27.8**	**+0.2**
ZALV	**Zalesovo Beam**	**152.98**	**31**	PKPbc	**PKPbc**	**23 57 29.4**	**-0.9**
	comp=Z,1.2nm,0.6s,baz=309,slow=2.2,SNR=6.5						
MKAR	**Makanchi Array**	**155.71**	**47**	PKPab	**PKPab**	**23 57 53.2**	**-0.3**
	comp=Z,0.3nm,0.7s,baz=286,slow=2.7,SNR=4.1						

*IDC **17** 23:44:52.3±5.1, 24.25S×70.27W, h0km, mb3.4/2, mb1 3.6/4, mb1mx3.5/33, mbtmp3.3/4, ML3.2/2, Error ellipse: s-maj=115.8km s-min=38.0km az=152.0*
*ISCJB **17** 23:44:58.8±0.8, 23.94S±0.04×70.7W±0.1, h36km, mb3.4/2, Error ellipse: s-maj=14.5km s-min=5.0km az=174.8*

*GUC **17** 23:44:59.8±0.7, 23.95S×70.35W, h38km±5km, ML4.0*

ISC 17 23:44:59.7±1.0, 23.95S±0.04×70.51W±0.10, h36km, n14, σ1s01/18, 6C-1D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PB10	**IPOC Station P**	**0.43**	**355**⇑	*i* P	**Pn**	**23 45 09.9**	**+0.7**
PB10				*i* S	**Sn**	**23 45 17.5**	**+1.4**
PB10				IAML		23 45 19.3	
	comp=E,40μm,0.4s						
PB14	**IPOC Station P**	**0.68**	**172**⇑	*i* P	**Pn**	**23 45 13.1**	**-0.2**
PB14				*i* S	**Sn**	**23 45 22.9**	**+0.1**
PB14				IAML		23 45 23.1	
	comp=E,5μm,0.2s						
GO02	**Mina Guanaco**	**1.47**	**146**⇑	*i* P	**Pn**	**23 45 24.9**	**+0.9**
GO02				*i* S	**Sn**	**23 45 43.5**	**+1.4**
GO02				IAML		23 45 48.4	
	comp=N,4μm,0.3s						
PB06	**IPOC Station P**	**1.51**	**35**	*e*P	**Pn**	**23 45 24.6**	**+0.4**
PB06				*e*S	**Sn**	**23 45 43.9**	**+1.1**
PB06				IAML		23 45 47.1	
	comp=E,2μm,0.3s						
PB04	**IPOC Station P**	**1.64**	**12**⇑	*i* P	**Pn**	**23 45 26.3**	**+0.1**
PB04				IAML		23 45 51.9	
	comp=N,2μm,0.5s						
PB07	**IPOC Station P**	**2.28**	**15**⇑	*i* P	**Pn**	**23 45 35.1**	**+0.1**
PB07				IAML		23 46 14.1	
	comp=E,814nm,0.2s						
PB09	**IPOC Station P**	**2.44**	**29**⇓	*i* P	**Pn**	**23 45 38.4**	**+1.3**
PB09				IAML		23 46 21.2	
	comp=E,2μm,0.5s						
PB02	**IPOC Station P**	**2.67**	**12**	*e*P	**Pn**	**23 45 40.1**	**-0.2**
PB02				IAML		23 46 27.9	
	comp=E,962nm,0.3s						
PB01	**IPOC Station P**	**3.04**	**18**⇑	*i* P	**Pn**	**23 45 45.7**	**+0.4**
PB01				IAML		23 46 35.0	
	comp=E,379nm,0.7s						
GO03	**Copiap**	**3.64**	**176**	IAML		23 46 53.6	
	comp=E,213nm,0.3s						
LPAZ	**La Paz**	**7.94**	**17**	Pn	**Pn**	**23 46 52.4**	**-0.8**
	comp=E,0.1nm,0.3s,baz=184,slow=17,SNR=3.1						
SIV	**San Ignacio**	**11.88**	**50**	Pn	**Pn**	**23 47 44.4**	**-2.3**
	comp=E,0.3nm,0.3s,baz=226,slow=7.9,SNR=4.3						
SIV				Sn	**Sn**	**23 49 57.7**	**-0.4**
	comp=E,0.1nm,0.3s,baz=168,slow=19,SNR=1.7						
TXAR	**Lajitas Array**	**61.83**	**327**	P	**P**	**23 55 16.1**	**+0.8**
	comp=E,0.1nm,0.5s,baz=153,slow=8.1,SNR=2.5						
YKA	**Yellowknife Ar**	**93.00**	**341**	P	**P**	**23 58 08.2**	**-0.5**
	comp=E,0.2nm,0.7s,baz=140,slow=4.2,SNR=6.0						

*TIR **18** 00:08:29.3, 41.19N×20.28E, h14km, Md3.2/5*
*ATH **18** 00:08:30.4, 38.84N×21.90E, h18km±2km, ML2.7/12, Error ellipse: s-maj=2.7km s-min=0.8km az=292.0*
*CSEM **18** 00:08:30.9±0.1, 38.81N×21.90E, h10km, ML2.7, Error ellipse: s-maj=2.9km s-min=2.2km az=68.0*

THE 18 00:08:31.2, 38.80N×21.88E, h9km±1km, ML2.6/14, Error ellipse: s-maj=1.0km s-min=0.4km az=170.0, Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EVR	**Evrytania**	**0.13**	**335**	P	Pg	00 08 34.0	-0.3
EVR				S	Sg	00 08 36.0	-0.5
EVR				AML	AML	00 08 36.7	
	comp=E,19815μm,0.4s						
EVR				AML	AML	00 08 36.9	
	comp=N,11709μm,0.3s						
EVR	**Evrytania**	**0.13**	**335**	P	Pg	00 08 34.0	-0.3
EVR				S	Sg	00 08 36.6	+0.1
EVR	**Evrytania**	**0.13**	**335**	P	Pg	00 08 34.0	-0.3
EVR				S	Sg	00 08 36.4	-0.1
PVO	**Paravola**	**0.33**	**237**	P	Pg	00 08 37.1	-0.6
PVO				S	Sg	00 08 43.3	+1.2
PVO				AML	AML	00 08 46.6	
	comp=E,2092μm,0.3s						
PVO				AML	AML	00 08 46.8	
	comp=N,1162μm,0.4s						
PVO	**Paravola**	**0.33**	**237**	P	Pg	00 08 37.6	-0.1
PVO				S	Sg	00 08 42.6	+0.5
PVO	**Paravola**	**0.33**	**237**	P	Pg	00 08 37.7	0.0
PVO				S	Sg	00 08 42.6	+0.5
EFP	**Efpalio**	**0.37**	**177**	P	Pg	00 08 38.5	+0

KLV	**Kalavryta, Ach**	**0.78**	**164**	P	Pg	00 08 45.8	-0.4
KLV				S	Sb	00 08 57.2	-0.4
KLV	**Kalavryta, Ach**	**0.78**	**164**	P	Pg	00 08 45.8	-0.4
KLV				S	Sb	00 08 57.2	-0.4
RLS	**Riolos of Patr**	**0.80**	**204**	P	Pb	00 08 47.4	+0.1
RLS				S	Sb	00 08 59.3	+1.1
RLS				AML	AML	00 09 01.6	
	comp=N,1026µm,0.4s						
RLS				AML	AML	00 09 01.8	
	comp=E,624µm,0.6s						
RLS	**Riolos of Patr**	**0.80**	**204**	P	Pb	00 08 47.1	-0.2
RLS				S	Sb	00 08 59.0	+0.8
DRO	**Drossia**	**0.85**	**189**	P	Pg	00 08 47.0	-0.6
DRO				S	Sn	00 09 01.4	-0.6
DRO				AML	AML	00 09 02.1	
	comp=N,1123µm,0.5s						
DRO				AML	AML	00 09 04.2	
	comp=E,1072µm,0.2s						
DRO	**Drossia**	**0.85**	**189**	P	Pg	00 08 47.6	0.0
DRO				S	Sb	00 08 59.2	-0.4
DRO	**Drossia**	**0.85**	**189**	P	Pg	00 08 47.6	0.0
DRO				S	Sb	00 08 59.2	-0.4
LKR	**Lokris**	**0.89**	**99**	P	Pg	00 08 46.9	-1.4
LKR				S	Sb	00 09 00.9	+0.3
LKR	**Lokris**	**0.89**	**99**	P	Pg	00 08 47.3	-1.0
LKR				S	Sb	00 09 00.5	-0.1
LKR	**Lokris**	**0.89**	**99**	P	Pg	00 08 47.3	-1.0
LKR				S	Sg	00 09 00.2	+0.4
GUR	**Goura**	**0.93**	**157**	P	Pg	00 08 47.9	-1.2
GUR				S	Sn	00 09 03.3	-0.7
GUR				AML	AML	00 09 05.8	
	comp=N,1392µm,0.3s						
GUR				AML	AML	00 09 06.9	
	comp=E,852µm,0.3s						
GUR	**Goura**	**0.93**	**157**	P	Pg	00 08 48.5	-0.6
GUR	**Goura**	**0.93**	**157**	P	Pg	00 08 48.5	-0.6
GUR				S	Sb	00 09 02.8	+0.8
LKD2	**Lefkada island**	**0.96**	**270**	P	Pg	00 08 49.0	-0.6
LKD2	**Lefkada island**	**0.96**	**270**	P	Pg	00 08 49.1	-0.5
LKD2	**Lefkada island**	**0.96**	**270**	P	Pg	00 08 49.1	-0.5
PROD	**Prodromos**	**0.96**	**123**	P	Pg	00 08 48.2	-1.5
PROD	**Prodromos**	**0.96**	**123**	P	Pg	00 08 48.6	-1.1
THAL	**Thalero**	**0.97**	**141**	P	Pg	00 08 49.7	-0.2
THAL	**Thalero**	**0.97**	**141**	P	Pg	00 08 49.7	-0.2
FYTO	**Fytoko, Volos**	**1.03**	**53**	P	Pg	00 08 50.7	-0.2
FYTO	**Fytoko, Volos**	**1.03**	**53**	P	Pg	00 08 50.7	-0.2
JAN	**Janina**	**1.18**	**317**	P	Pb	00 08 53.6	-0.1
JAN	**Janina**	**1.18**	**317**	P	Pb	00 08 53.0	-0.7
JAN				S	Sg	00 09 09.4	+0.4
JAN	**Janina**	**1.18**	**317**	P	Pb	00 08 53.0	-0.7
JAN				S	Sg	00 09 09.4	+0.4
VLS	**Valsamata**	**1.19**	**239**	P	Pb	00 08 52.3	-1.6
VLS	**Valsamata**	**1.19**	**239**	P	Pb	00 08 52.9	-0.9
KPRO	**Kipourio**	**1.23**	**341**	P	Pn	00 08 53.3	-1.3
KPRO				S	Sn	00 09 11.4	+0.1
KPRO	**Kipourio**	**1.23**	**341**	P	Pn	00 08 53.3	-1.3
KPRO				S	Sn	00 09 11.4	+0.1
LIT	**Litokhoron**	**1.39**	**20**	P	Pn	00 08 56.1	-0.6
LIT	**Litokhoron**	**1.39**	**20**	P	Pn	00 08 56.1	-0.6
KZN	**Kozani**	**1.51**	**357**	P	Pn	00 08 58.4	-0.1
KZN	**Kozani**	**1.51**	**357**	P	Pn	00 08 58.4	-0.1
SRN	**Sarande**	**1.82**	**307**	*i* Pn	Pb	00 09 04.4	-0.2
SRN				*i* Sn	Sg	00 09 30.4	+0.8
	baz=304						
SRN	**Sarande**	**1.82**	**307**	*i* PN	Pb	00 09 04.4	-0.2
SRN				*i* SN	Sg	00 09 30.4	+0.8
KBN	**Korca**	**2.01**	**336**	*i* PN	Pb	00 09 06.8	-1.1
KBN				*i* SN	Sb	00 09 33.2	+0.1
KRUS	**Krusevo**	**2.62**	**350**	*e*Pn	Pn	00 09 14.4	+0.7
STON	**Ston**	**5.16**	**323**	*e*Pn	Pn	00 09 47.0	-1.5
STON				Sn	Sn	00 10 44.6	-3.5
UDBI	**Udbina**	**7.33**	**323**	*e*Pn	Pn	00 10 19.6	+1.1

*ISK **18** 00:28:40.9,39˚.07N×25˚.99E,h3km,ML3.1/22*
*ATH **18** 00:28:40.9,39˚.11N×25˚.99E,h24km±1km,ML2.6/5, Error ellipse: s-maj=2.0km s-min=1.2km az=87.0*
*DDA **18** 00:28:42.0,39˚.10N×26˚.02E,h7km,Ml2.9*
*ISCJB **18** 00:28:41.7±0.4,39˚.08N±0˚.02×25˚.97E±0˚.03,h6km±3km, Error ellipse: s-maj=3.7km s-min=2.5km az=166.6*
*CSEM **18** 00:28:42.1±0.1,39˚.08N×25˚.97E,h5km,ML2.6, Error ellipse: s-maj=3.3km s-min=2.4km az=78.0*
*THE **18** 00:28:42.2,39˚.11N×25˚.99E,h0km±1km,ML2.3/7, Error ellipse: s-maj=1.4km s-min=0.5km az=221.0*

ISC 18 00:28:42.3±0.8,39˚09N±0˚.02×25˚.98E±0˚.02,h11km±6km, n99,σ0ˢ89/144,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIGR	**SIGRI**	**0.16**	**321**	PG	**Pg**	**00 28 46.2**	**+0.3**
SIGR				SG	**Sg**	**00 28 48.4**	**0.0**
SIGR	**SIGRI**	**0.16**	**321**	P	**Pg**	**00 28 45.8**	**0.0**
SIGR				S	**Sg**	**00 28 47.3**	**-1.1**
SIGR				AML	AML	00 28 48.9	
	comp=N,5348µm,0.2s						
SIGR				AML	AML	00 28 49.1	
	comp=E,3209µm,0.3s						
SIGR	**SIGRI**	**0.16**	**321**	P	**Pg**	**00 28 45.9**	**0.0**
SIGR				S	**Sg**	**00 28 48.4**	**0.0**
SIGR	**SIGRI**	**0.16**	**321**	P	**Pg**	**00 28 45.9**	**0.0**
SIGR	**SIGRI**	**0.16**	**321**	*e*Pg	**Pg**	**00 28 46.2**	**+0.3**
SIGR				S	**Sg**	**00 28 48.4**	**0.0**
PRK	**Paraskevi**	**0.27**	**55**	P	**Pb**	**00 28 48.2**	**-1.1**
PRK				S	**Sg**	**00 28 51.5**	**-0.1**
PRK				AML	AML	00 28 53.5	
	comp=N,2876µm,0.2s						
PRK				AML	AML	00 28 54.6	
	comp=E,1820µm,0.4s						
PRK	**Paraskevi**	**0.27**	**55**	P	**Pg**	**00 28 47.7**	**-0.2**
PRK				S	**Sg**	**00 28 51.8**	**+0.1**
PRK	**Paraskevi**	**0.27**	**55**	P	**Pg**	**00 28 47.7**	**-0.2**
PRK				S	**Sg**	**00 28 51.7**	**+0.1**
GPNR	**Gulpinar-Canak**	**0.39**	**18**	PG	**Pg**	**00 28 49.6**	**-0.4**
GPNR	**Gulpinar-Canak**	**0.39**	**18**	*e*Pg	**Pg**	**00 28 49.6**	**-0.4**
AYVA	**Ayvalik**	**0.59**	**68**	*i* P	**Pg**	**00 28 53.6**	**-0.2**
AYVA				*i* S	**Sb**	**00 29 02.2**	**-0.8**
AYVA	**Ayvalik**	**0.59**	**68**	P	**Pg**	**00 28 53.6**	**-0.2**
AYVA				S	**Sb**	**00 29 02.2**	**-0.8**
PSRA	**Psara**	**0.64**	**211**	P	**Pg**	**00 28 54.2**	**-0.5**
PSRA				S	**Sg**	**00 29 03.3**	**+0.3**
PSRA				AML	AML	00 29 06.2	
	comp=E,3558µm,0.3s						
PSRA				AML	AML	00 29 07.0	
	comp=N,2504µm,0.2s						
PSRA	**Psara**	**0.64**	**211**	P	**Pg**	**00 28 54.1**	**-0.6**
PSRA				S	**Sg**	**00 29 03.4**	**+0.4**
KRBN	**Karaburun**	**0.67**	**138**	PG	**Pg**	**00 28 54.2**	**-1.0**
KRBN				SG	**Sg**	**00 29 04.1**	**+0.1**
KRBN	**Karaburun**	**0.67**	**138**	*e*Pg	**Pg**	**00 28 54.2**	**-1.0**
KRBN				*e*Sg	**Sg**	**00 29 04.1**	**+0.1**
FOCM	**Foˆşa**	**0.69**	**123**	PG	**Pg**	**00 28 54.9**	**-0.8**
FOCM				SG	**Sg**	**00 29 05.1**	**+0.3**
FOCM	**Foˆşa**	**0.69**	**123**	*e*Pg	**Pg**	**00 28 54.9**	**-0.8**
FOCM				*e*Sg	**Sg**	**00 29 05.1**	**+0.3**
CHOS	**Chios island**	**0.70**	**175**	PG	**Pg**	**00 28 55.0**	**-0.9**
CHOS				SG	**Sg**	**00 29 05.2**	**0.0**
CHOS	**Chios island**	**0.70**	**175**	P	**Pg**	**00 28 55.5**	**-0.4**
CHOS				S	**Sg**	**00 29 05.5**	**+0.3**
CHOS				AML	AML	00 29 07.3	
	comp=E,654µm,0.3s						
CHOS				AML	AML	00 29 09.6	
	comp=N,374µm,0.3s						
CHOS	**Chios island**	**0.70**	**175**	P	**Pg**	**00 28 55.4**	**-0.5**
CHOS				S	**Sb**	**00 29 07.1**	**+0.8**
CHOS	**Chios island**	**0.70**	**175**	P	**Pg**	**00 28 55.4**	**-0.5**
CHOS				*e*Sg	**Sg**	**00 29 05.2**	**0.0**
DKL	**Dikili**	**0.72**	**91**	PG	**Pg**	**00 28 55.8**	**-0.4**
DKL	**Dikili**	**0.72**	**91**	*e*Pg	**Pg**	**00 28 55.8**	**-0.4**
BOZC	**Bozcaada**	**0.75**	**4**	PG	**Pg**	**00 28 56.2**	**-0.7**
BOZC	**Bozcaada**	**0.75**	**4**	*i* P	**Pg**	**00 28 56.4**	**-0.5**
BOZC				*i* S	**Sb**	**00 29 07.1**	**-0.6**
EZN	**Ezine**	**0.78**	**20**	PG	**Pg**	**00 28 56.6**	**-0.8**
EZN	**Ezine**	**0.78**	**20**	P	**Pg**	**00 28 56.9**	**-0.5**
EZN				S	**Sb**	**00 29 08.7**	**+0.2**
BAYC	**CANAKKALE_Bayr**	**0.78**	**34**	*i* P	**Pg**	**00 28 56.8**	**-0.7**
BAYC				*i* S	**Sb**	**00 29 08.5**	**-0.1**
BAYC	**CANAKKALE_Bayr**	**0.78**	**34**	P	**Pg**	**00 28 56.8**	**-0.7**
BAYC				S	**Sb**	**00 29 08.5**	**-0.1**
URLA	**Izmir**	**0.87**	**146**	PG	**Pg**	**00 28 57.5**	**-1.6**
URLA	**Izmir**	**0.87**	**146**	*i* P	**Pg**	**00 28 57.2**	**-1.9**
URLA				*i* S	**Sg**	**00 29 09.8**	**-0.6**
URLA	**Izmir**	**0.87**	**146**	P	**Pg**	**00 28 57.2**	**-1.9**
URLA	**Izmir**	**0.87**	**146**	*e*Pg	**Pg**	**00 28 57.5**	**-1.6**
URLA				S	**Sg**	**00 29 09.9**	**-0.6**
ZEY	**¨zmir**	**0.94**	**154**	*i* P	**Pg**	**00 28 59.8**	**-0.7**
ZEY				*i* S	**Sg**	**00 29 12.1**	**-0.6**
LIA	**Limnos Island**	**1.02**	**323**	P	**Pb**	**00 29 02.1**	**+0.2**
LIA				S	**Sg**	**00 29 15.0**	**-0.2**
LIA				AML	AML	00 29 16.1	
	comp=E,1049µm,0.3s						
LIA				AML	AML	00 29 16.5	
	comp=N,779µm,0.3s						
LIA	**Limnos Island**	**1.02**	**323**	P	**Pg**	**00 29 01.4**	**-0.5**
LIA				S	**Sb**	**00 29 15.8**	**+0.5**
LIA	**Limnos Island**	**1.02**	**323**	P	**Pg**	**00 29 01.4**	**-0.5**
LIA				S	**Sg**	**00 29 14.6**	**-0.6**
GADA	**Gvkgeada**	**1.10**	**357**	PN	**Pg**	**00 29 02.1**	**-1.4**
GADA	**Gvkgeada**	**1.10**	**357**	P	**Pg**	**00 29 02.5**	**-1.0**
GADA				S	**Sb**	**00 29 18.1**	**+0.4**
GELI	**Tayfur-Gelibol**	**1.36**	**16**	PN	**Pb**	**00 29 07.7**	**-0.1**
GELI	**Tayfur-Gelibol**	**1.36**	**16**	*e*Pn	**Pb**	**00 29 07.7**	**-0.1**
STEP	**BALIKESIR_Sava**	**1.38**	**77**	*i* P	**Pn**	**00 29 07.4**	**-0.1**
STEP				*i* S	**Sn**	**00 29 27.6**	**+1.9**
STEP	**BALIKESIR_Sava**	**1.38**	**77**	P	**Pn**	**00 29 07.4**	**-0.1**
STEP				S	**Sn**	**00 29 27.6**	**+1.9**
LPK	**Lapseki**	**1.42**	**25**	PN	**Pn**	**00 29 06.8**	**-1.2**
LPK	**Lapseki**	**1.42**	**25**	*e*Pn	**Pn**	**00 29 06.8**	**-1.2**
SMTH	**Samothraki Isl**	**1.42**	**346**	P	**Pn**	**00 29 07.5**	**-0.6**
SMTH				S	**Sb**	**00 29 24.6**	**-2.4**
SMTH	**Samothraki Isl**	**1.42**	**346**	P	**Pn**	**00 29 07.9**	**-0.2**
SMTH				S	**Sg**	**00 29 28.5**	**+0.3**
SMTH	**Samothraki Isl**	**1.42**	**346**	P	**Pn**	**00 29 07.3**	**-0.8**
SMTH				S	**Sg**	**00 29 28.5**	**+0.3**
BALY	**Balya**	**1.43**	**62**	*i* P	**Pn**	**00 29 07.6**	**-0.6**
BALY				*i* S	**Sb**	**00 29 27.2**	**+0.1**
BALY	**Balya**	**1.43**	**62**	P	**Pn**	**00 29 07.6**	**-0.6**
BALY				S	**Sb**	**00 29 27.2**	**+0.1**
AKHS	**Akhisar**	**1.44**	**98**	*i* P	**Pg**	**00 29 10.3**	**+0.3**
AKHS				*i* S	**Sn**	**00 29 28.1**	**+0.8**
AKHS	**Akhisar**	**1.44**	**98**	P	**Pg**	**00 29 10.3**	**+0.3**
AKHS				S	**Sn**	**00 29 28.1**	**+0.8**
SMG	**Samos**	**1.53**	**154**	P	**Pn**	**00 29 08.4**	**-1.2**
SMG	**Samos**	**1.53**	**154**	P	**Pn**	**00 29 10.4**	**+0.8**
SMG				S	**Sg**	**00 29 32.0**	**+0.4**
SMG	**Samos**	**1.53**	**154**	P	**Pn**	**00 29 10.4**	**+0.8**
SMG				S	**Sg**	**00 29 32.0**	**+0.4**
BALB	**Balikesir**	**1.57**	**69**	PN	**Pn**	**00 29 10.8**	**+0.7**
BALB	**Balikesir**	**1.57**	**69**	*e*Pn	**Pn**	**00 29 10.8**	**+0.7**
KARY	**Karystos**	**1.61**	**229**	P	**Pn**	**00 29 11.7**	**+1.1**
KARY	**Karystos**	**1.61**	**229**	P	**Pn**	**00 29 11.7**	**+1.1**
GONE	**Gonen-Balikesi**	**1.63**	**53**	PN	**Pn**	**00 29 11.5**	**+0.6**
GONE	**Gonen-Balikesi**	**1.63**	**53**	*e*Pn	**Pn**	**00 29 11.5**	**+0.6**
ERIK	**Erikli-Kesan**	**1.63**	**14**	PN	**Pn**	**00 29 11.5**	**+0.6**
ERIK	**Erikli-Kesan**	**1.63**	**14**	*e*Pn	**Pn**	**00 29 11.5**	**+0.6**
ENEZ	**Enez**	**1.65**	**4**	PN	**Pn**	**00 29 11.9**	**+0.7**
ENEZ	**Enez**	**1.65**	**4**	*e*Pn	**Pn**	**00 29 11.9**	**+0.7**
KRBG	**Karabiga-Canak**	**1.65**	**37**	PN	**Pn**	**00 29 11.5**	**+0.3**
KRBG	**Karabiga-Canak**	**1.65**	**37**	*e*Pn	**Pn**	**00 29 11.5**	**+0.3**
ALN	**Alexandroupoli**	**1.81**	**1**	PN	**Pn**	**00 29 13.7**	**+0.4**
ALN	**Alexandroupoli**	**1.81**	**1**	P	**Pn**	**00 29 12.8**	**-0.5**
ALN				S	**Sn**	**00 29 37.0**	**+0.8**
ALN	**Alexandroupoli**	**1.81**	**1**	P	**Pn**	**00 29 12.8**	**-0.5**
ALN	**Alexandroupoli**	**1.81**	**1**	*e*Pn	**Pn**	**00 29 13.7**	**+0.4**
ALN				S	**Sn**	**00 29 37.0**	**+0.8**
RKY	**Sarkoy-Tekirda**	**1.84**	**30**	PN	**Pn**	**00 29 14.8**	**+0.9**
RKY	**Sarkoy-Tekirda**	**1.84**	**30**	*e*Pn	**Pn**	**00 29 14.8**	**+0.9**
EDC	**Edincik**	**1.92**	**48**	PN	**Pn**	**00 29 15.8**	**+0.9**
EDC	**Edincik**	**1.92**	**48**	*e*Pn	**Pn**	**00 29 15.8**	**+0.9**
DURS	**Dursunbey**	**2.00**	**74**	*i* P	**Pn**	**00 29 17.3**	**+1.2**
DURS				*i* S	**Sn**	**00 29 39.3**	**-1.8**
DURS	**Dursunbey**	**2.00**	**74**	P	**Pn**	**00 29 17.3**	**+1.2**
DURS				S	**Sn**	**00 29 39.3**	**-1.8**
RDO	**Rodhopi**	**2.08**	**351**	P	**Pn**	**00 29 17.0**	**-0.1**
RDO	**Rodhopi**	**2.08**	**351**	P	**Pn**	**00 29 17.0**	**-0.1**
KCTX	**Karacabey (Bur**	**2.18**	**57**	PN	**Pn**	**00 29 19.1**	**+0.6**
KCTX	**Karacabey (Bur**	**2.18**	**57**	*e*Pn	**Pn**	**00 29 19.1**	**+0.6**
KAVA	**Kavala**	**2.21**	**330**	P	**Pn**	**00 29 18.4**	**-0.6**
SBT3	**Marmara-Eregli**	**2.36**	**40**	PN	**Pn**	**00 29 22.1**	**+1.3**
SBT3	**Marmara-Eregli**	**2.36**	**40**	*e*Pn	**Pn**	**00 29 22.1**	**+1.3**
MDNY	**Mudanya-Bursa**	**2.58**	**59**	PN	**Pn**	**00 29 25.1**	**+1.2**
MDNY	**Mudanya-Bursa**	**2.58**	**59**	*e*Pn	**Pn**	**00 29 25.1**	**+1.2**
ARMT	**Armutlu**	**2.66**	**55**	PN	**Pn**	**00 29 26.3**	**+1.2**
ARMT	**Armutlu**	**2.66**	**55**	*e*Pn	**Pn**	**00 29 26.3**	**+1.2**
SLVT	**Silivri**	**2.74**	**38**	PN	**Pn**	**00 29 27.6**	**+1.5**
SLVT	**Silivri**	**2.74**	**38**	*e*Pn	**Pn**	**00 29 27.6**	**+1.5**
EDRB	**Edirne**	**2.81**	**12**	PN	**Pn**	**00 29 28.5**	**+1.3**
EDRB	**Edirne**	**2.81**	**12**	*e*Pn	**Pn**	**00 29 28.5**	**+1.3**
CTYL	**Yalikoy Yolu**	**2.96**	**36**	PN	**Pn**	**00 29 30.5**	**+1.2**
CTYL	**Yalikoy Yolu**	**2.96**	**36**	*e*Pn	**Pn**	**00 29 30.5**	**+1.2**
BUY	**Buyukada**	**2.98**	**53**	PN	**Pn**	**00 29 31.3**	**+1.8**
BUY	**Buyukada**	**2.98**	**53**	*e*Pn	**Pn**	**00 29 31.3**	**+1.8**
BGKT	**Bogazkoy**	**2.99**	**45**	PN	**Pn**	**00 29 31.6**	**+2.0**
BGKT	**Bogazkoy**	**2.99**	**45**	*e*Pn	**Pn**	**00 29 31.6**	**+2.0**

*IDC **18** 00:37:13.2±2.0,0˚.83N×95˚.48E,h0km,mb3.7/7,mb1 3.8/8, mb1mx3.5/63,mbtmp3.7/8,ML3.8/1, Error ellipse: s-maj=82.7km s-min=19.5km az=58.0*
*ISCJB **18** 00:37:16.0±1.5,0˚.8N±0˚.2×95˚.5E±0˚.3,h33km,mb3.7/7, Error ellipse: s-maj=51.5km s-min=16.0km az=151.8*

ISC 18 00:37:18.5±2.0,0˚9N±0˚.2×95˚.6E±0˚.4,h35km,n12,σ0ˢ33/9, mb3.8/7,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**17.79**	**11**	P	**Pn**	**00 41 23.6**	**+0.1**
	0.1nm,0.3s,baz=194,slow=10,SNR=14						
H08S2	**Diego Garcia H**	**24.51**	**249**	T	T	01 07 29.3	
	baz=65,slow=75						
H08S3	**Diego Garcia H**	**24.51**	**249**	T	T	01 07 28.1	
	baz=65,slow=75						
H08S1	**Diego Garcia H**	**24.52**	**249**	T	T	01 07 28.6	
	baz=65,slow=75						
WRA	**Warramunga Arr**	**43.27**	**121**	P	**P**	**00 45 17.2**	**+0.1**
	0.4nm,0.8s,baz=298,slow=9.0,SNR=4.0						
ASAR	**Alice Springs**	**44.53**	**126**	P	**P**	**00 45 27.1**	**0.0**
	0.4nm,0.7s,baz=291,slow=7.9,SNR=3.4						
MKAR	**Makanchi Array**	**47.18**	**348**	P	**P**	**00 45 48.1**	**+0.3**
	0.9nm,0.6s,baz=162,slow=8.4,SNR=16						
SONM	**Songino Array**	**47.72**	**10**	P	**P**	**00 45 51.6**	**-0.3**
	0.5nm,0.6s,baz=184,slow=3.9,SNR=2.5						
KURBB	**Kurchatov Arra**	**51.64**	**346**	P	**P**	**00 46 21.9**	**+0.3**
	0.5nm,0.3s,baz=152,slow=6.1,SNR=1.9						
ZALV	**Zalesovo Beam**	**53.64**	**352**	P	**P**	**00 46 36.6**	**+0.3**
	1.3nm,0.5s,baz=185,slow=6.3,SNR=8.6						
BVAR	**Borovoye Array**	**56.03**	**342**	P	**P**	**00 46 53.3**	**-0.5**
	0.5nm,0.5s,baz=147,slow=8.2,SNR=6.1						
TXAR	**Lajitas Array**	**144.79**	**30**	PKP	**PKPdf**	**00 56 52.7**	**0.0**
	0.1nm,0.4s,baz=53,slow=0.5,SNR=3.9						

*IDC **18** 00:39:11.9±2.0,3˚.85N×92˚.96E,h0km,mb3.5/4,mb1 3.8/6, mb1mx3.4/65,mbtmp3.6/6,ML3.8/2,MS3.6/3,Ms1 3.6/3, ms1mx2.9/48, Error ellipse: s-maj=56.8km s-min=29.5km az=49.0*
*ISCJB **18** 00:39:12.5±1.3,3˚.9N±0˚.2×92˚.9E±0˚.1,h19km,mb3.5/4, MS3.7/3, Error ellipse: s-maj=24.7km s-min=19.2km az=14.9*

ISC 18 00:39:14.5±1.4,3˚9N±0˚.2×92˚9E±0˚.1,h19km,n8,σ1ˢ62/6, mb3.6/4,MS3.6/3,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**12.61**	**286**	Pn	**Pn**	**00 42 12.4**	**-0.7**
	0.3nm,0.3s,baz=115,slow=15,SNR=1.1						
CMAR	**Chiang Mai Arr**	**15.60**	**22**	Pn	**Pn**	**00 42 52.2**	**-1.4**
	0.2nm,0.3s,baz=215,slow=16,SNR=1.5						
MKAR	**Makanchi Array**	**43.70**	**349**	P	**P**	**00 47 18.7**	**+0.4**
	0.1nm,0.5s,baz=170,slow=9.4,SNR=1.6						
WRA	**Warramunga Arr**	**47.09**	**122**	P	**P**	**00 47 45.4**	**-0.2**
	0.5nm,0.8s,baz=298,slow=9.4,SNR=4.1						
WRA				LR	LR	01 10 18.6	
	comp=Z,55nm,18.5s,baz=215,slow=40						
KURBB	**Kurchatov Arra**	**48.10**	**348**	P	**P**	**00 47 54.9**	**+2.0**
	0.6nm,0.3s,baz=173,slow=7.3,SNR=1.0						
ZALV	**Zalesovo Beam**	**50.31**	**354**	P	**P**	**00 48 10.9**	**+1.1**
	0.3nm,0.4s,baz=183,slow=8.4,SNR=1.8						
BOSA	**Boshof**	**72.49**	**239**	LR	LR	01 17 57.5	
	comp=Z,37nm,21.4s,baz=148,slow=32						
SPITS	**Spitsbergen Ar**	**83.44**	**348**	LR	LR	01 39 49.2	
	comp=Z,39nm,18.4s,baz=210,slow=44						

*IDC **18** 00:40:31.3±1.1,4˚.03N×92˚.97E,h0km,mb3.8/10, mb1 4.0/12,mb1mx3.7/65,mbtmp3.8/12,ML4.0/2,MS3.4/5, Ms1 3.4/5,ms1mx3.0/60,Error ellipse: s-maj=37.0km s-min=18.7km az=47.0*
*ISCJB **18** 00:40:32.2±0.5,4˚.05N±0˚.07×93˚.01E±0˚.05,h19km, mb4.0/18,MS3.4/4, Error ellipse: s-maj=10.7km s-min=4.9km az=28.8*
*NEIC **18** 00:40:32.3±0.4,3˚.99N×92˚.90E,h10km,mb4.3/9, Error ellipse: s-maj=9.4km s-min=5.5km az=204.0*
*DJA **18** 00:40:38.3±1.3,4˚N±4˚×93˚2E±˚, h20km±13km,M4.6/10, mb4.6/9,mB5.3/4,MLv4.6/10,Mw(mB)4.7/4*

ISC 18 00:40:34.1±0.6,4˚06N±0˚.07×92˚98E±0˚.06,h19km,n55, σ1ˢ67/47,mb4.0/18,MS3.5/4,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSI	**Banda Aceh**	**2.71**	**58**	P	**Pn**	**00 41 16.6**	**-0.1**
BSI				S	**Sn**	**00 41 44.5**	**-4.5**
MLSI	**Meulaboh, Aceh**	**3.42**	**86**	P	**Pn**	**00 41 25.6**	**-0.9**
MLSI				S	Sn	00 41 55.9	-11
LHMI	**Lhok Sumawe**	**4.12**	**74**	P	**Pn**	**00 41 35.3**	**-0.8**
LHMI	**Lhok Sumawe**	**4.12**	**74**	*e*Pn	**Pn**	**00 41 37.4**	**+1.3**
TPTI		**4.26**	**101**	P	**Pn**	**00 41 37.9**	**-0.2**
KCSI	**Kotacane, Aceh**	**4.81**	**96**	P	**Pn**	**00 41 44.5**	**-1.1**
KCSI				S	Sn	00 42 28.6	-12
GSI	**Gunungsitoli**	**5.34**	**121**	P	**Pn**	**00 41 53.9**	**+0.9**
GSI				S	Sn	00 42 43.2	-11
GSI	**Gunungsitoli**	**5.34**	**121**	*e*Pn	**Pn**	**00 41 51.8**	**-1.1**
GSI				*e*Sn	**Sn**	**00 42 54.2**	**+0.2**
PKDT	**Phuket**	**6.54**	**54**	P	**Pn**	**00 42 08.6**	**-0.8**
MNSI	**Mandailing Nat**	**7.35**	**116**	P	**Pn**	**00 42 21.0**	**+0.5**
	58nm,0.8s,3µm						
MNSI				S	**Sn**	**00 43 38.8**	**-4.6**
	58nm,0.8s,3µm						
TRTT	**Trang**	**7.65**	**60**	P	**Pn**	**00 42 23.9**	**-0.8**
IPM	**Ipoh**	**8.03**	**87**	*e*Pn	**Pn**	**00 42 30.4**	**+0.4**
	11nm,0.4s						
SISI	**Saibi**	**8.12**	**131**	P	**Pn**	**00 42 32.1**	**+1.0**
	34nm,1.0s						
SKLT	**Songkhla**	**8.20**	**68**	P	Pn	00 42 41.4	+9.2
PALK	**Pallekele**	**12.63**	**285**	Pn	**Pn**	**00 43 32.5**	**-0.4**
	1.2nm,0.3s,baz=116,slow=14,SNR=2.4						
PALK				Sn	Sn	00 45 40.1	-13
	6.7nm,0.3s,baz=116,slow=1.6,SNR=9.1						
PALK				LR	LR	00 47 44.3	
	comp=Z,97nm,19.6s,baz=116,slow=34						
PALK	**Pallekele**	**12.63**	**285**	*e*Pn	**Pn**	**00 43 30.6**	**-2.4**
PALK				Sn	Sn	00 45 40.1	-13
PBKT	**Sadao Pong**	**14.70**	**32**	P	**P**	**00 44 10.0**	**+2.8**
	10nm,1.1s,928nm						
CHAI	**Chaiyaphum**	**14.72**	**36**	P	P	00 44 18.2	+11
PHIT	**Phitsanulok**	**14.95**	**29**	P	**P**	**00 44 14.1**	**+4.1**
	10nm,1.0s						
CMAR	**Chiang Mai Arr**	**15.45**	**22**	Pn	**Pn**	**00 44 10.5**	**-0.7**
	0.2nm,0.3s,baz=216,slow=13,SNR=6.8						
CHTO	**Chiang Mai**	**15.78**	**21**	P	**P**	**00 44 23.3**	**+4.1**
	47nm,1.4s						
CHTO	**Chiang Mai**	**15.78**	**21**	*e*Pn	**Pn**	**00 44 16.6**	**+1.1**
	15nm,1.2s						
CMMT	**Chiang Mai**	**15.78**	**21**	P	**P**	**00 44 22.2**	**+2.9**
	10nm,1.4s

PBA	**Port Blair**	**9.64**	**18**	*e*Pn		Pn		01 17 39.3	+5.9
MNSI	**Mandailing Nat**	**9.97**	**99**	P		**Pn**		**01 17 39.5**	**+1.4**
	77nm,0.5s,3μm0.6nm								
SISI	**Saibi**	**10.07**	**112**	P		Pn		01 17 47.2	+7.8
PALK	**Pallekele**	**10.20**	**298**	Pn		**Pn**		**01 17 40.7**	**-0.6**
	2.6nm,0.3s,baz=116,slow=14,SNR=13								
PALK				Sn		Sn		01 19 24.1	-12
	9.0nm,0.3s,baz=117,slow=9.0,SNR=6.6								
PALK				LR		LR		01 21 16.8	
	comp=Z,171nm,19.3s,baz=116,slow=35								
PALK	**Pallekele**	**10.20**	**298**	*e*Pn		**Pn**		**01 17 41.4**	**+0.1**
PALK				*e*Sn		Sn		01 19 24.1	-12
SURT	**Suratani**	**11.10**	**54**	P		Pn		01 18 02.3	+8.8
DGPR	**DIGLIPUR**	**11.13**	**16**	*e*P		**Pn**		**01 17 55.2**	**+1.2**
PDSI	**Padang**	**11.23**	**107**	P		Pn		01 18 00.3	+5.0
TRTT	**Trang**	**11.27**	**61**	P		**Pn**		**01 17 54.4**	**-1.5**
	22nm,0.9s,211nm								
IPM	**Ipoh**	**11.45**	**79**	*e*Pn		**Pn**		**01 17 57.5**	**-0.8**
SKLT	**Songkhla**	**11.82**	**66**	P		**Pn**		**01 18 03.7**	**+0.3**
	48nm,0.6s,729nm								
MDRS	**Chennai**	**14.13**	**319**	*e*P		**Pn**		**01 18 34.0**	**-1.0**
PHET	**Kaeng Krachan**	**14.29**	**43**	P		**P**		**01 18 48.5**	**+4.1**
SRDT	**SRDT**	**15.04**	**38**	P		**Pn**		**01 18 48.4**	**+1.1**
	24nm,1.4s								
VIS	**Vishakhapatnam**	**16.44**	**338**	*e*P		**Pn**		**01 19 03.4**	**-2.1**
PBKT	**Sadao Pong**	**17.87**	**37**	P		**P**		**01 19 24.8**	**+0.6**
	27nm,1.3s,3μm								
PBKT	**Sadao Pong**	**17.87**	**37**	*e*Pn		**P**		**01 19 25.2**	**+1.1**
	39nm,1.3s								
CHAI	**Chaiyaphum**	**18.02**	**41**	P		**P**		**01 19 27.2**	**+1.4**
	10nm,0.9s,91nm								
PHIT	**Phitsanulok**	**18.03**	**35**	P		**P**		**01 19 28.8**	**+2.9**
	39nm,0.9s,308nm								
CM01	**Chiang Mai Arr**	**18.28**	**29**	*e*Pn		**Pn**		**01 19 28.1**	**-0.5**
CM31	**Chiang Mai Arr**	**18.30**	**29**	*e*Pn		**Pn**		**01 19 28.7**	**-0.1**
CMAR	**Chiang Mai Arr**	**18.30**	**29**	P		**Pn**		**01 19 28.7**	**-0.1**
	0.6nm,0.3s,baz=220,slow=10,SNR=32								
HYB	**Hyderabad**	**18.50**	**324**	*i* P		**Pn**		**01 19 32.0**	**+0.7**
HYB				*e*S		**Sn**		**01 22 49.5**	**-8.8**
HYB	**Hyderabad**	**18.50**	**324**	*e*P		**P**		**01 19 30.3**	**-0.9**
HYB				IAmb		IAmb		01 19 33.9	
	comp=Z,9.5nm,0.6s								
CHTO	**Chiang Mai**	**18.61**	**28**	P		**Pn**		**01 19 34.5**	**+1.9**
	comp=Z,64nm,1.2s								
CHTO	**Chiang Mai**	**18.61**	**28**	*e*P		**Pn**		**01 19 34.5**	**+1.9**
	comp=Z,8.1nm,0.8s								
CMMT	**Chiang Mai**	**18.61**	**28**	P		**Pn**		**01 19 33.4**	**+0.8**
	comp=Z,16nm,1.1s								
KHON	**Khomkaen**	**18.89**	**42**	P		**Pn**		**01 19 37.7**	**+1.7**
	comp=Z,22nm,0.8s,comp=Z,4μm								
CMAI	**Chiengmai2**	**19.63**	**27**	P		**Pn**		**01 19 51.8**	**+6.8**
	comp=Z,68nm,1.1s								
H08S3	**Diego Garcia H**	**19.90**	**240**	T		T		01 39 58.1	
	baz=60,slow=75								
H08S2	**Diego Garcia H**	**19.90**	**240**	T		T		01 39 58.1	
	baz=60,slow=75								
H08S1	**Diego Carcia H**	**19.92**	**240**	T		T		01 40 07.4	
	baz=60,slow=75								
SKNT	**Sakolnakorn**	**20.12**	**43**	P		**P**		**01 19 48.8**	**-0.1**
	comp=Z,9.6nm,1.1s								
GOA	**Goa**	**20.35**	**311**	*e*P		**P**		**01 19 51.6**	**+0.2**
KSM	**Kuching**	**20.58**	**92**	*e*P		**P**		**01 19 52.5**	**-1.4**
	comp=Z,38nm,1.4s								
NGP	**Nagpur**	**21.32**	**332**	*e*P		**P**		**01 19 58.5**	**-3.3**
NGP				IAmb		IAmb		01 20 07.9	
	comp=Z,28nm,1.3s								
BOK	**Bokaro**	**21.56**	**350**	*ex*		**P**		**01 20 00.9**	**-3.5**
POO	**Poona**	**22.32**	**317**	*e*P		**P**		**01 20 14.0**	**+1.3**
SBUM	**Sibu**	**22.46**	**89**	*e*P		**P**		**01 20 16.3**	**+2.1**
	comp=Z,9.7nm,0.8s								
SHL	**Shillong**	**23.09**	**5**	*e*P		**P**		**01 20 22.7**	**+1.8**
SHL				IAmb		IAmb		01 20 31.7	
	comp=Z,15nm,0.7s								
SHL	**Shillong**	**23.09**	**5**	*e*P		**P**		**01 20 21.3**	**+0.5**
	comp=Z,22nm,0.8s								
BHPL	**Bhopal**	**23.88**	**331**	*e*P		**P**		**01 20 29.5**	**+1.0**
BHPL				IAmb		IAmb		01 20 41.7	
	comp=Z,12nm,0.3s								
ODAN	**Odare**	**24.39**	**355**	*e*P		**P**		**01 20 36.2**	**+2.7**
RAMN	**Ramite**	**24.56**	**353**	*e*P		**P**		**01 20 38.3**	**+3.2**
JIRN	**Jiri**	**25.31**	**353**	*e*P		**P**		**01 20 44.4**	**+2.4**
DMN	**Daman**	**25.42**	**350**	*e*P		**P**		**01 20 46.1**	**+3.2**
GUN	**Gumba**	**25.60**	**352**	*e*P		**P**		**01 20 46.7**	**+2.1**
KMI	**Kunming**	**25.81**	**28**	P		**P**		**01 20 48.1**	**+1.7**
KMI				pmax		pmax			
	comp=Z,13nm,1.2s								
KMI				LR		LR			
	comp=Z,210nm,22.3s								
KMI				LR		LR			
	comp=Z,210nm,21.5s								
KOLN	**Koldanda**	**25.87**	**347**	*e*P		**P**		**01 20 49.1**	**+2.3**
GKN	**Gorkha**	**25.89**	**350**	*e*P		**P**		**01 20 49.1**	**+2.1**
PYUN	**Piuthan**	**26.32**	**346**	*e*P		**P**		**01 20 53.1**	**+2.1**
LSA	**Lhasa**	**27.15**	**3**	*e*P		**P**		**01 20 59.0**	**+0.2**
	comp=Z,17nm,0.8s								
DDI	**Dehra Dun**	**29.86**	**339**	*e*P		**P**		**01 21 21.9**	**-0.6**
SMLA	**Simla**	**30.91**	**339**	*e*P		**P**		**01 21 33.8**	**+2.2**
SMLA				IAmb		IAmb		01 21 34.5	
	comp=Z,8.9nm,1.0s								
DHRM	**DHARAMSHALA**	**32.24**	**338**	*e*P		**P**		**01 21 44.3**	**+0.8**
DHRM				IAmb		IAmb		01 21 46.2	
	comp=Z,8.8nm,0.9s								
ENH	**Enshi**	**33.42**	**32**	*e*P		**P**		**01 21 54.1**	**+0.4**
	comp=Z,60nm,1.6s								
NIL	**Nilore**	**34.67**	**335**	*e*P		**P**		**01 22 06.4**	**+1.8**
	comp=Z,16nm,0.6s								
LZH	**Lanzhou**	**35.94**	**20**	*e*P		**P**		**01 22 16.6**	**+1.0**
LZH				pP		sP		01 22 20.8	+0.9
LZH				sP		pP		01 22 22.8	+4.1
LZH				pmax		pmax			
	comp=Z,19nm,1.1s								
LZH				pmax		pmax			
	comp=Z,89nm,5.4s								
LZH				LR		LR			
	comp=Z,470nm,32.7s								
LZH				LR		LR			
	comp=Z,280nm,18.9s								
LZH				LR		LR			
	comp=Z,1μm,24.2s								
YULB	**Yu-li**	**36.98**	**53**	*e*P		**P**		**01 22 26.7**	**+2.2**
	comp=Z,21nm,1.0s								
KBL	**Kabul**	**37.31**	**331**	*e*P		**P**		**01 22 25.7**	**-1.7**
	comp=Z,3.9nm,0.9s								
GTA	**Gaotai**	**37.93**	**13**	*e*P		**P**		**01 22 33.0**	**+0.6**
GTA				pP		sP		01 22 37.8	+1.0
GTA				sP		pP		01 22 40.8	+5.3
GTA				pmax		pmax			
	comp=Z,8.0nm,0.9s								
KSH	**Kashi**	**38.98**	**343**	P		**P**		**01 22 39.9**	**-1.3**
KSH				pmax		pmax			
	comp=Z,14nm,0.9s								
NJ2	**Nanjing**	**40.23**	**40**	*e*P		**P**		**01 22 52.8**	**+1.2**
NJ2				pmax		pmax			
	comp=Z,15nm,0.5s								
FITZ	**Fitzroy Crossi**	**40.83**	**121**	P		**P**		**01 22 55.6**	**-1.1**
	comp=Z,1.9nm,0.8s,baz=253,slow=7.8,SNR=3.7								
WMQ	**Urumqi**	**41.25**	**358**	P		**P**		**01 23 00.4**	**+0.4**
WMQ				pP		sP		01 23 05.3	+1.0
WMQ				LR		LR			
	comp=Z,210nm,22.1s								
WMQ				LR		LR			
	comp=Z,210nm,23.5s								
WMQ				LR		LR			
	comp=Z,160nm,19.1s								
HHC	**Hu-ho-hao-te**	**43.02**	**24**	*e*P		**P**		**01 23 17.1**	**+2.5**
HHC				PP		**PcP**		**01 25 02.3**	**-2.5**
HHC				S		**S**		**01 29 41.3**	**+1.0**
HHC				sS		sS		01 29 51.1	+5.6
HHC				pmax		pmax			
	comp=Z,43nm,1.1s								
HHC				pmax		pmax			
	comp=Z,97nm,6.7s								
HHC				LR		LR			
	comp=Z,1μm,15.1s								
HHC				LR		LR			
	comp=Z,1μm,14.3s								
HHC				LR		LR			
	comp=Z,1μm,14.5s								
H01W3	**Cape Leeuwin H**	**43.61**	**151**	T		T		02 09 37.0	
	baz=324,slow=74								
H01W2	**Cape Leeuwin H**	**43.62**	**151**	T		T		02 10 10.0	
	baz=324								
H01W1	**Cape Leeuwin H**	**43.63**	**150**	T		T		02 09 49.9	
	baz=324,slow=74								
NWAO	**Narrogin (SRO)**	**43.74**	**146**	P		**P**		**01 23 19.6**	**-0.7**
	comp=Z,5.3nm,0.8s,baz=278,slow=7.1,SNR=2.0								
KK31	**Karatay Array**	**43.97**	**340**	*e*P		**P**		**01 23 21.2**	**-0.9**
KKAR	**Karatay Array**	**43.97**	**340**	*e*P		**P**		**01 23 21.6**	**-0.4**
MK01	**Makanchi Array**	**44.63**	**353**	*e*P		**P**		**01 23 27.6**	**+0.2**
MK31	**Makanchi Array**	**44.66**	**353**	*e*P		**P**		**01 23 28.0**	**+0.5**
MK32	**Makanchi Array**	**44.66**	**353**	*e*P		**P**		**01 23 28.0**	**+0.5**
MKAR	**Makanchi Array**	**44.66**	**353**	P		**P**		**01 23 28.0**	**+0.5**
	comp=Z,2.0nm,0.6s,baz=169,slow=8.8,SNR=23								
MKAR	**Makanchi Array**	**44.66**	**353**	*e*P		**P**		**01 23 28.0**	**+0.5**
	comp=Z,22nm,0.8s								
MAKZ	**Makanchi**	**44.71**	**352**	*e*P		**P**		**01 23 29.8**	**+1.9**
	comp=Z,2.4nm,0.9s								
GEYT	**Alibeck**	**45.69**	**325**	P		**P**		**01 23 37.1**	**+1.3**
	comp=Z,2.6nm,0.6s,baz=161,slow=9.4,SNR=6.6								
GYA0B	**ALIBECK ARRAY**	**45.69**	**325**	*e*P		**P**		**01 23 33.0**	**-2.8**
	comp=Z,4.9nm,0.7s								
SONA0	**Songino Array**	**47.46**	**15**	*e*P		**P**		**01 23 50.8**	**+1.1**
SONM	**Songino Array**	**47.46**	**15**	P		**P**		**01 23 50.8**	**+1.1**
	comp=Z,10nm,0.6s,baz=195,slow=9.6,SNR=41								
SONA1	**Songino Array**	**47.48**	**15**	*e*P		**P**		**01 23 50.9**	**+1.0**
RAYN	**Ar Rayn**	**47.64**	**300**	*e*P		**P**		**01 23 52.3**	**+0.9**
	comp=Z,3.2nm,0.9s								
ULN	**Ulaanbaatar**	**47.67**	**16**	*e*P		**P**		**01 23 52.1**	**+0.8**
	comp=Z,9.5nm,1.4s								
KURBB	**Kurchatov Arra**	**48.95**	**351**	P		**P**		**01 24 00.6**	**-0.3**
	comp=Z,0.9nm,0.6s,baz=177,slow=7.3,SNR=9.2								
KURK	**Kurchatov**	**49.02**	**351**	*e*P		**P**		**01 23 59.6**	**-1.9**
	comp=Z,4.4nm,0.9s								
WRA	**Warramunga Arr**	**49.09**	**119**	P		**P**		**01 24 01.5**	**-1.1**
	comp=Z,1.4nm,0.7s,baz=298,slow=8.6,SNR=19								
WR1	**Warramunga Arr**	**49.09**	**119**	*e*P		**P**		**01 24 01.5**	**-1.1**
	comp=Z,9.8nm,0.8s								
WRAB	**Tennant Creek**	**49.09**	**119**	*e*P		**P**		**01 24 01.3**	**-1.3**
	comp=Z,5.0nm,0.7s								
WB2	**Warramunga Arr**	**49.10**	**119**	*e*P		**P**		**01 24 01.9**	**-0.8**
JNU	**Nakatsue**	**49.13**	**47**	LR		LR		01 46 29.7	
	comp=Z,52nm,18.4s,baz=294,slow=38								
KSAR	**Wonju Array Be**	**49.39**	**40**	P		**P**		**01 24 04.6**	**0.0**
KSRS	**Korea Array**	**49.42**	**40**	P		**P**		**01 24 04.6**	**-0.2**
	comp=Z,2.0nm,0.8s,baz=228,slow=9.7,SNR=8.0								
KSRS				LR		LR		01 45 53.2	
	comp=Z,56nm,18.5s,baz=178,slow=37								
ASAR	**Alice Springs**	**50.19**	**124**	P		**P**		**01 24 10.2**	**-0.7**
	comp=Z,0.4nm,0.5s,baz=300,slow=8.0,SNR=4.3								
AS31	**Alice Springs**	**50.19**	**124**	*e*P		**P**		**01 24 10.2**	**-0.7**
	comp=Z,0.7nm,0.8s								
TLY	**Talaya**	**50.45**	**11**	LR		LR		01 48 02.3	
	comp=Z,64nm,19.6s,baz=203,slow=39								
ZAA0	**Zalesovo Array**	**51.51**	**356**	*e*P		**P**		**01 24 19.2**	**-1.1**
	comp=Z,2.9nm,0.7s								
ZALV	**Zalesovo Bam**	**51.51**	**356**	P		**P**		**01 24 20.2**	**-0.1**
	comp=Z,1.6nm,0.5s,baz=175,slow=8.0,SNR=8.0								
ZALV				LR		LR		01 47 27.7	
	comp=Z,59nm,20.0s,baz=252,slow=38								
ZAA1	**Zalesovo Array**	**51.51**	**356**	*e*P		**P**		**01 24 20.2**	**-0.1**
CN2	**Changchun**	**51.94**	**32**	*e*P		**P**		**01 24 23.8**	**0.0**
CN2				pmax		pmax			
	comp=Z,10.0nm,0.8s								
CN2				pmax		pmax			
	comp=Z,200nm,5.0s								
BVAR	**Borovoye Array**	**52.91**	**345**	P		**P**		**01 24 30.1**	**-0.7**
	comp=Z,0.8nm,0.6s,baz=150,slow=6.1,SNR=4.7								
ABKAR	**Akbulak array**	**53.13**	**336**	*e*P		**P**		**01 24 33.2**	**+0.8**
USRK	**Ussuriysk Ar.**	**55.86**	**36**	P		**P**		**01 24 51.8**	**-0.6**
	comp=Z,3.2nm,0.9s,baz=224,slow=6.0,SNR=5.3								
MAJO	**Matsushiro**	**56.05**	**47**	*e*P		**P**		**01 24 54.1**	**+0.2**
MJAR	**Matsushiro Arr**	**56.05**	**47**	P		**P**		**01 24 54.2**	**+0.2**
	comp=Z,0.8nm,0.3s,baz=242,slow=8.0,SNR=5.8								
KBZ	**Khabaz**	**58.36**	**322**	P		**P**		**01 25 11.1**	**+0.9**
	comp=Z,1.5nm,0.8s,baz=128,slow=6.4,SNR=5.2								
EIL	**Elat**	**58.52**	**304**	LR		LR		01 49 00.4	
	comp=Z,74nm,20.0s,baz=71,slow=35								
KLR	**Kul'dur**	**58.77**	**31**	P		**P**		**01 25 12.2**	**-0.7**
	comp=Z,0.6nm,1.0s,baz=273,slow=7.4,SNR=16								
CTA	**Charters Tower**	**59.76**	**115**	P		**P**		**01 25 19.5**	**-0.8**
	comp=Z,1.3nm,0.3s,baz=293,slow=7.7,SNR=1.8								
BR101	**Keskin Array S**	**62.83**	**314**	*e*P		**P**		**01 25 41.0**	**+0.1**
BR131	**Keskin Array S**	**62.83**	**314**	*e*P		**P**		**01 25 41.1**	**+0.1**
BRTR	**Keskin Array B**	**62.83**	**314**	P		**P**		**01 25 41.0**	**+0.1**
	comp=Z,1.3nm,0.6s,baz=134,slow=7.6,SNR=12								
LBTB	**Lobtse**	**67.81**	**242**	P		**P**		**01 26 14.4**	**+1.0**
	comp=Z,2.4nm,0.8s,baz=63,slow=9.0,SNR=3.7								
LBTB	**Lobatse**	**67.81**	**242**	*e*P		**P**		**01 26 14.4**	**+1.0**
	comp=Z,31nm,1.8s								
IDI	**Anoyia**	**68.18**	**307**	P		**P**		**01 26 16.3**	**+0.8**
	comp=Z,12nm,0.8s,baz=68,slow=5.4,SNR=2.8								
IDI	**Anoyia**	**68.18**	**307**	*e*P		**P**		**01 26 16.3**	**+0.8**
	comp=Z,107nm,1.5s								
BOSA	**Boshof**	**69.00**	**238**	P		**P**		**01 26 20.6**	**-0.3**
	comp=Z,1.2nm,0.8s,baz=81,slow=7.0,SNR=3.0								
BOSA				LR		LR		01 53 58.9	
	comp=Z,24nm,18.0s,baz=45,slow=34								
AKASG	**Malin Array Be**	**69.80**	**324**	P		**P**		**01 26 24.8**	**-0.4**
	comp=Z,0.1nm,0.2s,baz=93,slow=4.6,SNR=3.4								
AKBB	**Malin Array Si**	**69.80**	**324**	*e*P		**P**		**01 26 24.8**	**-0.4**
	comp=Z,6.9nm,1.4s								
MLR	**Muntele Rosu**	**70.10**	**318**	P		**P**		**01 26 27.6**	**+0.3**
	comp=Z,0.8nm,0.6s,baz=83,slow=8.1,SNR=16								
MLR				LR		LR		02 00 10.5	
	comp=Z,9.6nm,19.9s,baz=292,slow=38								
BUR04	**Bucovina Ar. S**	**71.23**	**320**	*e*P		**P**		**01 26 34.9**	**+0.7**
TIXI	**Tiksi**	**73.41**	**12**	*e*P		**P**		**01 26 44.8**	**-1.8**
	comp=Z,8.7nm,0.6s								
PETK	**Petropavlovsk-**	**74.95**	**35**	P		**P**		**01 26 54.0**	**-2.0**
	comp=Z,1.0nm,0.5s,baz=261,slow=7.2,SNR=2.4								
PEA1	**Petropavlovsk-**	**74.95**	**35**	*e*P		**P**		**01 26 54.0**	**-2.0**
FIA0	**FINESS Array S**	**75.52**	**334**	*e*P		**P**		**01 26 57.7**	**-1.3**
FINES	**FINESS Array B**	**75.52**	**334**	P		**P**		**01 26 57.7**	**-1.3**
	comp=Z,1.0nm,0.5s,baz=100,slow=4.5,SNR=8.2								
VAE	**Valguarnera**	**76.88**	**308**	P		**P**		**01 27 07.8**	**+0.4**
	comp=Z,7.3nm,0.4s,baz=127,slow=5.1,SNR=6.9								
DPC	**Dobruska-Polom**	**77.58**	**321**	*e*P		P		01 27 22.3	+11
DPC				*ex*		x		01 27 30.6	
ARA0	**ARCESS Array S**	**78.92**	**341**	*e*P		**P**		**01 27 18.6**	**+0.6**
ARCES	**ARCESS Array B**	**78.92**	**341**	P		**P**		**01 27 18.6**	**+0.6**
	comp=Z,1.3nm,0.6s,baz=107,slow=4.9,SNR=7.2								
GEA0	**GERESS Array S**	**78.99**	**319**	*e*P		**P**		**01 27 19.2**	**+0.4**
GEC2	**GERESS Array S**	**78.99**	**319**	*e*P		**P**		**01 27 19.6**	**+0.7**
	comp=Z,5.5nm,1.2s								
GERES	**GERESS Array B**	**78.99**	**319**	P		**P**		**01 27 19.6**	**+0.7**
	comp=Z,0.6nm,0.6s,baz=109,slow=7.2,SNR=7.1								
KHC	**Kasperske Hory**	**79.12**	**320**	*e*P		P		01 27 29.9	+10
KHC	**Kasperske Hory**	**79.12**	**320**	*e*P		P		01 27 12.5	-7.1
	comp=Z,5.8nm,1.8s								
HFS	**Hagfors**	**80.96**	**331**	P		**P**		**01 27 28.3**	**-0.8**
	comp=Z,2.6nm,1.0s,baz=102,slow=6.1,SNR=6.0								
C09A	**Chrisman Ranch**	**124.30**	**23**	*e*PKPpre		PKPpre		01 34 03.9	
NV01	**Mina Array Sit**	**131.80**	**30**	*e*PKPdf		**PKPdf**		**01 34 29.0**	**+0.1**
NVAR	**Mina Array Bea**	**131.80**	**30**	PKP		**PKPdf**		**01 34 29.0**	**+0.1**
	comp=Z,0.3nm,0.6s,baz=272,slow=3.2,SNR=3.2								
NVAR	**Mina Array Bea**	**131.80**	**30**	PKP		**PKPdf**		**01 34 29.0**	**+0.1**
LTX	**Lajitas**	**145.90**	**21**	*e*PKPdf		**PKPdf**		**01 34 54.8**	**+0.2**
TXAR	**Lajitas Array**	**145.90**	**21**	PKPbc		**PKPdf**		**01 34 54.8**	**+0.2**
	comp=Z,1.3nm,0.7s,baz=343,slow=1.7,SNR=21								
SIV	**San Ignacio**	**148.26**	**243**	PKPbc		**PKPbc**		**01 35 02.6**	**+0.4**
	baz=127,slow=5.1								

ISCJB ***18*** *01:17:49.3±0.5,25°.46N±0'.06×141°.3E±0'.1,h10km, mb4.1/11, Error ellipse: s-maj=15.0km s-min=6.7km az=24.7*

IDC ***18*** *01:17:49.9±1.1,25°.57N×141°.19E,h0km,mb3.8/8, mb1 4.1/8,mb1mx3.6/63,mbtmp3.8/8,MS2.8/1,Ms1 2.8/1, ms1mx2.3/62,Error ellipse: s-maj=32.5km s-min=21.2km az=125.0*

NEIC ***18*** *01:17:51.0±0.4,25°.49N×141°.27E,h10km,mb4.8/4, Error ellipse: s-maj=14.8km s-min=9.4km az=99.0*

ISC 18 01:17:51.1±0.9, 25°.5N±0'.1×141°.3E±0'.1, h10km, n30, σ0s92/25, mb4.0/11, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time			Res
					Op	ISC	h	m	s	ISC
CBIJ	**Chichi jima**	**1.77**	**26**	*e*Pn		**Pn**		**01 18 21.6**		**-0.3**
CBIJ				*e*Sn		**Sn**		**01 18 43.7**		**-0.7**
JCJ	**Chichijima**	**1.77**	**26**	Pn		**Pn**		**01 18 22.0**		**+0.2**
	100nm,0.3s,baz=266,slow=22,SNR=67									
JCJ				Sn		**Sn**		**01 18 44.1**		**-0.3**
	96nm,0.3s,baz=304,slow=23,SNR=32									
MJAR	**Matsushiro Arr**	**11.32**	**347**	LR		LR		01 24 23.2		
	comp=Z,41nm,18.2s,baz=25,slow=35									
KSRS	**Korea Array**	**16.49**	**319**	Pn		**P**		**01 21 46.4**		**+1.2**
	0.1nm,0.3s,baz=132,slow=11,SNR=17									
KSAR	**Wonju Array Be**	**16.50**	**319**	Pn		**P**		**01 21 46.4**		**+1.0**
KS01	**Wonju Array Si**	**16.52**	**319**	*e*Pn		**Pn**		**01 21 43.1**		**+0.1**
H11N1	**WAKE ISLAND Hy**	**24.28**	**99**	T		T		01 48 29.1		
	baz=290,slow=75									
H11N2	**WAKE ISLAND Hy**	**24.28**	**98**	T		T		01 48 21.1		
	baz=290,slow=75									
H11N3	**WAKE ISLAND Hy**	**24.30**	**98**	T		T		01 48 26.9		
	baz=290,slow=75									
H11S3	**WAKE ISLAND Hy**	**24.51**	**101**	T		T		01 48 42.3		
	baz=291,slow=75									
H11S1	**WAKE ISLAND Hy**	**24.51**	**101**	T		T		01 48 42.0		
	baz=291,slow=75									
H11S2	**WAKE ISLAND Hy**	**24.52**	**101**	T		T		01 48 43.7		
	baz=291,slow=75									
WRAB	**Tennant Creek**	**45.67**	**189**	*e*P		**P**		**01 26 11.4**		**-0.8**
	8.2nm,0.6s									
WB2	**Warramunga Arr**	**45.67**	**189**	*e*P		**P**		**01 26 11.1**		**-1.2**
	8.1nm,0.8s									
WR1	**Warramunga Arr**	**45.68**	**189**	*e*P		**P**		**01 26 12.5**		**+0.2**
	12nm,0.8s									
WRA	**Warramunga Arr**	**45.68**	**189**	P		**P**		**01 26 12.5**		**+0.2**
	4.6nm,0.7s,baz=8.1,slow=8.5,SNR=5.2									
MK32	**Makanchi Array**	**50.90**	**311**	*e*P		**P**		**01 26 52.9**		**+0.4**
MKAR	**Makanchi Array**	**50.90**	**311**	P		**P**		**01 26 52.9**		**+0.4**
	0.8nm,0.8s,baz=97,slow=9.9,SNR=4.2									
KURK	**Kurchatov**	**53.56**	**315**	*e*P		**P**		**01 27 12.0**		**-0.1**
KURBB	**Kurchatov Arra**	**53.61**	**315**	P		**P**		**01 27 12.0**		**-0.4**
	0.9nm,0.8s,baz=95,slow=7.0,SNR=6.0									
IL1	**Eielson Array**	**59.48**	**28**	*e*P		**P**		**01 27 53.0**		**-1.0**
ILAR	**Eielson Array**	**59.48**	**28**	P		**P**		**01 27 54.5**		**+0.4**
	0.8nm,0.9s,baz=266,slow=5.5,SNR=6.3									
ILB	**Eielson Array**	**59.48**	**28**	*e*P		**P**		**01 27 54.5**		**+0.4**
INK	**Inuvik**	**64.80**	**24**	P		**P**		**01 28 29.3**		**-0.3**
	0.5nm,0.6s,baz=279,slow=4.1,SNR=3.6									
INK	**Inuvik**	**64.80**	**24**	*e*P		**P**		**01 28 29.3**		**-0.3**
	5.6nm,1.8s									
YKA	**Yellowknife Ar**	**73.91**	**28**	P		**P**		**01 29 26.8**		**+0.7**
	0.6nm,0.8s,baz=294,slow=5.9,SNR=12									
YKB5	**Yellowknife Ar**	**73.91**	**28**	*e*P		**P**		**01 29 26.8**		**+0.7**
FIA0	**FINESS Array S**	**79.03**	**334**	*e*P		**P**		**01 29 53.2**		**-1.9**
FINES	**FINESS Array B**	**79.03**	**334**	P		**P**		**01 29 53.2**		**-1.9**
	1.1nm,0.7s,baz=53,slow=5.4,SNR=4.1									
NVAR	**Mina Array Bea**	**82.12**	**51**	P		**P**		**01 30 14.1**		**+1.6**
	0.3nm,0.6s,baz=298,slow=3.8,SNR=2.5									

BJI ***18*** *01:18:37.1,12°.88S×167°.09E,h197km,mb4.8/47, mB4.8/30*

NEIC ***18*** *01:18:38.0±0.6,13°.29S×167°.05E,h205km±6km,mb5.0/94, Error ellipse: s-maj=4.1km s-min=3.6km az=74.0*

MOS ***

comp=Z,19nm,0.6s
LTZ Lake Taylor 29.71 172 *e*P **P** **01 24 25.5 +0.8**
comp=Z,44nm,0.6s
STKA Stephens Creek 29.83 227 P **P** **01 24 26.0 +0.2**
comp=Z,99nm,0.5s,baz=48,slow=8.9,SNR=262
STKA PcP **PcP** **01 27 24.4 +0.3**
comp=Z,13nm,0.6s,baz=87,slow=3.5,SNR=8.6
STKA ScP **ScP** **01 30 49.6 +2.2**
comp=Z,10nm,1.1s,baz=37,slow=6.4,SNR=8.3
STKA LR LR 01 36 50.2
comp=Z,137nm,18.4s,baz=41,slow=37
STKA Stephens Creek 29.83 227 P **P** **01 24 25.9 +0.2**
baz=30,SNR=160
STKA Stephens Creek 29.83 227 *e*P **P** **01 24 25.9 +0.1**
comp=Z,22nm,0.6s
STKA *e*PcP **PcP** **01 27 24.4 +0.3**
STKA *e*ScP **ScP** **01 30 49.9 +2.5**
FOZ Fox Glacier 30.22 176 *e*P **P** **01 24 29.7 +0.7**
comp=Z,14nm,0.8s
OXZ Oxford 30.22 173 *e*P **P** **01 24 29.7 +0.6**
comp=Z,48nm,0.5s
RPZ Rata Peaks 30.50 174 P **P** **01 24 32.3 +0.8**
comp=Z,31nm,0.7s,baz=277,slow=3.7,SNR=18
MQZ McQueen's Vall 30.67 172 *e*P **P** **01 24 34.0 +1.0**
comp=Z,35nm,0.7s
TOO Toolangi 30.93 215 P **P** **01 24 35.7 +0.3**
baz=31,SNR=34
TOO Toolangi 30.93 215 P **P** **01 24 36.0 +0.6**
TOO pmax pmax
comp=Z,103nm,0.7s
LBZ Lake Benmore 31.09 176 *e*P **P** **01 24 36.6 -0.1**
comp=Z,11nm,0.6s
WKZ Wanaka 31.46 177 *e*P **P** **01 24 40.2 +0.2**
comp=Z,94nm,1.6s
ODZ Otahua Downs 31.78 175 *e*P **P** **01 24 43.2 +0.5**
comp=Z,64nm,1.8s
WB2 Warramunga Arr 32.05 254 *e*P **P** **01 24 43.8 -1.6**
comp=Z,61nm,1.0s
WRAB Tennant Creek 32.05 254 *e*P **P** **01 24 44.2 -1.2**
comp=Z,65nm,1.1s
WRAB Tennant Creek 32.05 254 *de*P **P** **01 24 43.9 -1.5**
WRAB pmax pmax
comp=Z,63nm,1.1s
DCZ Deep Cove 32.06 180 *e*P **P** **01 24 46.4 +1.3**
comp=Z,30nm,1.0s
WR1 Warramunga Arr 32.06 254 *e*P **P** **01 24 44.5 -1.0**
comp=Z,67nm,1.0s
WR1 *e*PcP **PcP** **01 27 30.1 -0.2**
WR1 *e*ScP **ScP** **01 30 57.0 +1.9**
WRA Warramunga Arr 32.06 254 P **P** **01 24 44.5 -1.0**
comp=Z,33nm,0.6s,baz=85,slow=9.2,SNR=90
WRA PcP **PcP** **01 27 30.0 -0.2**
comp=Z,1.5nm,0.6s,baz=77,slow=4.0,SNR=3.6
WRA ScP **ScP** **01 30 57.0 +1.9**
comp=Z,11nm,0.9s,baz=84,slow=3.5,SNR=28
WRA LR LR 01 37 47.8
comp=Z,199nm,18.1s,baz=105,slow=36
RAR Rarotonga 32.53 109 LR LR 01 37 01.2
comp=Z,37nm,19.6s,baz=264,slow=34
ARPS Mount Arapiles 32.54 220 P **P** **01 24 49.6 +0.2**
baz=33,SNR=12
HTT Hallett 32.56 227 P **P** **01 24 49.7 -0.1**
baz=33,SNR=54
BAKI Biak 32.98 289 P **P** **01 24 54.3 +0.8**
AS01 Alice Springs 33.03 247 *e*P **P** **01 24 52.1 -1.9**
AS31 Alice Springs 33.07 247 *e*P **P** **01 24 52.9 -1.4**
comp=Z,27nm,0.5s
AS31 *e*PcP **PcP** **01 27 32.8 -0.3**
AS31 *e*ScP **ScP** **01 31 01.0 +2.4**
ASAR Alice Springs 33.07 247 P **P** **01 24 53.1 -1.2**
comp=Z,55nm,0.5s,baz=76,slow=9.0,SNR=567
ASAR PcP **PcP** **01 27 32.8 -0.3**
comp=Z,3.6nm,0.6s,baz=91,slow=2.4,SNR=6.9
ASAR S **S** **01 29 57.2 -1.4**
comp=Z,0.8nm,0.7s,baz=69,slow=17,SNR=3.0
ASAR ScP **ScP** **01 31 00.6 +2.0**
comp=Z,14nm,0.8s,baz=86,slow=3.3,SNR=39
ASAR LR LR 01 37 56.0
comp=Z,129nm,21.0s,baz=81,slow=35
MOO Moorlands 33.79 207 P **P** **01 25 01.0 +0.8**
baz=34,SNR=6.3
TAU Tasmania Unive 34.11 206 *e*P **P** **01 25 01.8 -1.1**
comp=Z,144nm,1.9s
TAU *e*PcP **PcP** **01 27 35.8 +0.3**
TAU Tasmania Unive 34.11 206 *e*P **P** **01 25 01.8 -1.1**
TAU *e* 01 27 35.8
TAU pmax pmax
comp=Z,144nm,1.9s
BBOO Buckleboo 34.36 230 P **P** **01 25 04.7 -0.5**
baz=34,SNR=98
BBOO Buckleboo 34.36 230 *e*P **P** **01 25 04.8 -0.5**
comp=Z,58nm,0.6s
MTN Manton Dam 35.04 267 P **P** **01 25 11.9 +0.6**
baz=35,SNR=8.3
MTN Manton Dam 35.04 267 *e*P **P** **01 25 11.4 +0.1**
comp=Z,100nm,1.1s
FAKI Fak Fak 35.98 284 *e*P **P** **01 25 18.0 -1.3**
comp=Z,86nm,1.5s
KNRA Kununurra 37.19 262 P **P** **01 25 28.8 -0.7**
baz=37,SNR=43
SIJI Sorong 37.59 286 P **P** **01 25 32.0 -0.9**
comp=Z,62nm,0.9s,baz=73,slow=6.8,SNR=19
JOHN Johnston Islan 37.72 38 *e*P **P** **01 25 34.5 +0.7**
comp=Z,218nm,1.0s
WRKA Warakurna 38.36 246 P **P** **01 25 38.3 -1.0**
baz=38,SNR=146
MSAI Masohi 39.01 281 P **P** **01 25 44.5 -0.2**
AAI Ambon 39.61 280 P **P** **01 25 50.7 +1.0**
comp=Z,57nm,0.8s
FORT Forrest 39.92 238 P **P** **01 25 51.6 -0.5**
baz=40,SNR=128
FORT Forrest 39.92 238 *e*P **P** **01 25 51.3 -0.8**
comp=Z,258nm,0.6s
FITZ Fitzroy Crossi 40.16 258 P **P** **01 25 53.8 -0.4**
comp=Z,21nm,0.7s,baz=72,slow=7.0,SNR=51
FITZ LR LR 01 41 50.9
comp=Z,126nm,18.3s,baz=90,slow=35
FITZ Fitzroy Crossi 40.16 258 P **P** **01 25 53.7 -0.4**
baz=40,SNR=39
NLAI Namlea 40.79 281 P **P** **01 25 59.7 +0.3**
comp=Z,214nm,1.1s,comp=Z,3μm
LBMI Labuha 41.21 285 P **P** **01 26 04.0 +1.2**
comp=Z,142nm,0.9s,comp=Z,1μm
SOEI Soe 42.10 270 P **P** **01 26 10.5 +0.3**
comp=Z,66nm,0.8s
SOEI Soe 42.10 270 *e*P **P** **01 26 09.8 -0.4**
comp=Z,76nm,1.1s
SANI Sanana 42.19 282 P **P** **01 26 10.8 0.0**
comp=Z,105nm,1.0s,comp=Z,1μm
BATI Baumata 42.62 269 P **P** **01 26 15.2 +1.0**
comp=Z,137nm,0.6s,baz=139,slow=9.3,SNR=32
BATI Baumata 42.62 269 P **P** **01 26 15.6 +1.3**
comp=Z,126nm,0.8s,comp=Z,954nmcomp=Z,16μm
MMRI Maumere 44.26 271 P **P** **01 26 27.5 +0.1**
comp=Z,140nm,0.6s
MMRI Maumere 44.26 271 *e*P **P** **01 26 26.6 -0.7**
comp=Z,107nm,0.5s
KMSI Cibinong 44.93 284 P **P** **01 26 34.1 +1.5**
comp=Z,122nm,0.5s
KMBL Kambalda 45.19 239 P **P** **01 26 33.7 -0.8**
baz=45,SNR=19
LUWI Luwuk 45.56 282 P **P** **01 26 38.3 +0.7**
comp=Z,93nm,1.2s,comp=Z,3μm
LUWI Luwuk 45.56 282 *e*P **P** **01 26 38.0 +0.4**
comp=Z,181nm,1.4s
MBWA Marble Bar 45.80 253 *e*P **P** **01 26 39.3 -0.1**
comp=Z,129nm,0.8s
BSSI Bau Bau, Buton 46.45 274 P **P** **01 26 46.5 +2.0**
comp=Z,84nm,0.8s,comp=Z,3μm
APSI Ampana 46.67 281 P **P** **01 26 46.9 +0.6**
comp=Z,119nm,1.3s,comp=Z,1μm
MRSI Marisa 46.82 283 P **P** **01 26 46.2 -1.2**
comp=Z,28nm,0.7s,comp=Z,556nm
WBSI Waikabubak, Su 46.87 269 P **P** **01 26 47.6 -0.2**
comp=Z,121nm,1.2s,comp=Z,1μm
BNSI Bone 47.22 276 P **P** **01 26 50.9 +0.4**
comp=Z,142nm,1.0s,comp=Z,2μm
MEEK Meekatharra 47.22 246 P **P** **01 26 50.0 -0.4**
baz=47,SNR=125
KAPI Kappang 47.42 275 *e*P **P** **01 26 52.0 0.0**
comp=Z,55nm,0.9s
TTSI Tana Toraja 47.83 278 P **P** **01 26 55.5 +0.3**
comp=Z,26nm,1.2s,comp=Z,845nm
PCI Palu 48.40 281 P **P** **01 27 01.1 +1.5**
comp=Z,184nm,1.2s,comp=Z,2μm
PCI Palu 48.40 281 P **P** **01 27 01.2 +1.6**
PCI pmax pmax
comp=Z,184nm,1.2s
PLAI Plampang 48.57 270 P **P** **01 27 00.5 -0.4**
comp=Z,233nm,0.9s,comp=Z,2μm
KLBR Kellerberrin 48.69 240 P **P** **01 27 00.5 -1.0**
baz=49,SNR=21
MPSI Mapaga 48.72 282 P **P** **01 27 01.1 -0.9**
comp=Z,109nm,0.8s,comp=Z,1μm
NWAO Narrogin (SRO) 49.37 238 P **P** **01 27 05.7 -0.9**
comp=Z,30nm,0.5s,baz=98,slow=7.1,SNR=30
NWAO Narrogin (SRO) 49.37 238 P **P** **01 27 05.8 -0.9**
baz=49,SNR=23
NWAO P **P** **01 27 05.8 -0.9**
baz=49,SNR=23
NWAO Narrogin (SRO) 49.37 238 *e*P **P** **01 27 06.0 -0.7**
NWAO Narrogin (SRO) 49.37 238 *e*P **P** **01 27 06.0 -0.7**
BLDU Ballidu 49.41 241 P **P** **01 27 05.8 -1.3**
baz=50,SNR=6.4
MORW Morawa 49.77 243 P **P** **01 27 09.3 -0.5**
baz=50,SNR=25
MUN Mundaring 50.05 239 P **P** **01 27 11.9 0.0**
baz=50,SNR=5.1
IGBI Denpasar 51.14 269 P **P** **01 27 20.5 +0.3**
comp=Z,581nm,1.0s,comp=Z,8μm
SRBI Singaraja 51.20 270 P **P** **01 27 20.7 0.0**
comp=Z,55nm,1.1s
KBKI Kotabaru 51.30 276 P **P** **01 27 21.7 +0.3**
comp=Z,75nm,0.9s
MYLDM Lahad Datu 51.65 288 *e*P **P** **01 27 25.5 +1.5**
comp=Z,52nm,1.1s
JAGI Jajag, Banyuwa 52.16 270 P **P** **01 27 26.7 -1.1**
comp=Z,81nm,1.0s
JAGI Jajag, Banyuwa 52.16 270 *e*P **P** **01 27 26.4 -1.4**
comp=Z,53nm,0.7s
KKM Kota Kinabalu 54.09 288 *e*P **P** **01 27 41.3 -0.7**
comp=Z,186nm,1.4s
PWJI Pagerwojo 54.53 270 P **P** **01 27 44.7 -0.3**
comp=Z,40nm,0.9s
JOW Kunigami 54.91 317 P **P** **01 27 48.3 +0.8**
comp=Z,23nm,0.6s,baz=111,slow=8.6,SNR=5.7
JOW Kunigami 54.91 317 *e*P **P** **01 27 47.9 +0.4**
comp=Z,30nm,0.7s
PCJI Pacitan 55.11 269 P **P** **01 27 49.7 +0.5**
comp=Z,225nm,1.2s
WOJI Wonogiri, Jawa 55.42 270 P **P** **01 27 52.0 +0.6**
comp=Z,78nm,1.3s
UGM Wanagama 55.80 269 *e*P **P** **01 27 53.6 -0.6**
comp=Z,204nm,1.2s
SMRI Semarang 56.04 270 P **P** **01 27 56.8 +0.9**
comp=Z,117nm,0.8s
MJAR Matsushiro Arr 56.58 332 P **P** **01 27 58.3 -0.9**
comp=Z,5.7nm,0.6s,baz=172,slow=8.4,SNR=19
MAJO Matsushiro 56.58 332 *e*P **P** **01 27 58.4 -0.8**
comp=Z,13nm,0.6s
MAJO Matsushiro 56.58 332 *e*P **P** **01 27 58.4 -0.8**
MAJO pmax pmax
comp=Z,13nm,0.6s
MAT Matsushiro 56.58 332 P **P** **01 27 58.5 -0.7**
MJB9 Matsu-Tunnel 56.59 332 *e*P **P** **01 27 59.1 -0.1**
comp=Z,13nm,0.6s
SBUM Sibu 56.67 282 *e*P **P** **01 28 00.6 +0.3**
comp=Z,23nm,1.1s
STKI Sintang 56.70 279 P **P** **01 28 01.3 +0.8**
KPJI Karang Pucung 57.46 270 P **P** **01 28 05.8 0.0**
comp=Z,130nm,0.7s
JNU Nakatsue 57.68 324 P **P** **01 28 06.4 -0.7**
comp=Z,17nm,0.7s,baz=117,slow=6.8,SNR=10
JNU Nakatsue 57.68 324 *e*P **P** **01 28 07.2 +0.2**
comp=Z,24nm,0.9s
KSM Kuching 58.21 280 *e*P **P** **01 28 10.9 -0.1**
comp=Z,48nm,1.3s
CISI Cisompet, Garu 58.50 269 P **P** **01 28 11.9 -1.2**
comp=Z,153nm,1.1s,comp=Z,2μm
CISI Cisompet, Garu 58.50 269 *e*P **P** **01 28 12.3 -0.8**
comp=Z,408nm,1.6s
LEM Lembang 58.83 270 P **P** **01 28 15.8 +0.2**
comp=Z,12nm,0.7s,baz=111,slow=14,SNR=10
SKJI Sukabumi 59.83 270 P **P** **01 28 22.0 -0.2**
comp=Z,112nm,1.0s
ASAJ Asahikawa 61.35 340 P **P** **01 28 32.5 +0.6**
comp=Z,7.6nm,0.5s,baz=232,slow=6.6,SNR=11
ASAJ Asahikawa 61.35 340 *e*P **P** **01 28 32.4 +0.6**
comp=Z,7.4nm,0.6s
KASI Kota Agung 62.13 271 P **P** **01 28 36.6 -1.1**
comp=Z,111nm,1.0s,comp=Z,1μm
KSRS Kore Array 62.48 325 P **P** **01 28 39.5 +0.1**
comp=Z,4.4nm,0.8s,baz=138,slow=6.9,SNR=15
KS01 Wonju Array Si 62.52 325 *e*P **P** **01 28 39.7 0.0**
MDSI Maura Dua 62.66 272 P **P** **01 28 39.8 -1.4**
comp=Z,26nm,1.6s
YSS Yuzh-Sakhalins 63.83 342 *e*P **P** **01 28 49.9 +1.8**
YSS pmax pmax
comp=Z,10.0nm,0.5s
VNDA Vanda 64.28 181 P **P** **01 28 50.9 +0.2**
comp=Z,3.0nm,0.5s,baz=354,slow=7.3,SNR=36
VNDA Vanda 64.28 181 *e*P **P** **01 28 51.5 +0.8**
comp=Z,23nm,1.9s
VNDA Vanda 64.28 181 *e*P **P** **01 28 51.5 +0.8**
VNDA pmax pmax
comp=Z,23nm,1.9s
SBA Scott Base 64.56 180 *e*P **P** **01 28 54.7 +2.2**
comp=Z,15nm,1.0s
SBA Scott Base 64.56 180 *e*P **P** **01 28 54.7 +2.2**
SBA pmax pmax
comp=Z,15nm,1.0s
NJ2 Nanjing 64.56 315 *e*P **P** **01 28 52.9 -0.3**
NJ2 pmax pmax
comp=Z,18nm,0.5s
USRK Ussuriysk Ar. 65.55 333 P **P** **01 29 00.7 +1.3**
comp=Z,6.0nm,0.7s,baz=140,slow=5.7,SNR=13
PETK Petropavlovsk- 66.63 354 P **P** **01 29 06.7 +0.7**
comp=Z,10nm,0.8s,baz=146,slow=7.4,SNR=17
PETK Petropavlovsk- 66.63 354 *e*P **P** **01 29 06.2 +0.2**
PEA1 Petropavlovsk- 66.64 354 *e*P **P** **01 29 06.7 +0.7**
BKNI Bangkinang 66.84 276 P **P** **01 29 08.6 +0.5**
comp=Z,174nm,0.8s,comp=Z,3μm
BKNI Bangkinang 66.84 276 *e*P **P** **01 29 08.7 +0.5**
comp=Z,206nm,1.1s
IPM Ipoh 67.94 280 *e*P **P** **01 29 15.0 -0.1**
comp=Z,61nm,1.0s
CN2 Changchun 68.36 329 *e*P **P** **01 29 17.3 +0.3**
CN2 pmax pmax
comp=Z,10.0nm,0.9s
CN2 pmax pmax
comp=Z,200nm,3.0s
MNSI Mandailing Nat 68.37 276 P **P** **01 29 17.1 -0.6**
comp=Z,31nm,1.3s,comp=Z,3μm
SKLT Songkhla 69.10 283 P **P** **01 29 22.1 -0.1**
comp=Z,33nm,1.1s
SKNT Sakolnakorn 69.23 294 P **P** **01 29 21.9 -1.1**
comp=Z,16nm,1.0s
PSI Prapat 69.51 278 *e*P **P** **01 29 24.3 -0.7**
comp=Z,39nm,0.8s
PSI Prapat 69.51 278 *e*P **P** **01 29 24.3 -0.7**
PSI pmax pmax
comp=Z,39nm,0.8s
KLR Kul'dur 69.65 336 P **P** **01 29 25.6 +0.7**
comp=Z,0.3nm,0.6s,baz=141,slow=6.5,SNR=12
KLR Kul'dur 69.65 336 *d i*P **P** **01 29 25.4 +0.5**
NKL Nikolayevsk 69.97 343 *e*P **P** **01 29 27.0 +0.3**
TRTT Trang 70.17 283 P **P** **01 29 28.2 -0.6**
comp=Z,15nm,1.0s
ENH Enshi 70.36 309 *e*P **P** **01 29 29.6 -0.1**
comp=Z,36nm,1.2s
GSI Gunungsitoli 70.43 276 P **P** **01 29 30.5 +0.1**
comp=Z,105nm,0.9s
GSI Gunungsitoli 70.43 276 *e*P **P** **01 29 30.8 +0.3**
comp=Z,77nm,0.8s
CHAI Chaiyaphum 70.63 292 P **P** **01 29 31.6 +0.1**
comp=Z,6.1nm,0.7s
GYA Guiyang 70.79 304 *e*P **P** **01 29 34.0 +1.5**
GYA pP pP 01 30 21.3 +1.9
GYA sP sP 01 30 44.0 +3.3
GYA PP **PP** **01 32 15.4 +3.1**
GYA S **S** **01 38 30.8 -0.6**
GYA SKS **SKSac** **01 39 11.6 -4.5**
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,130nm,6.2s
SURT Suratani 71.35 284 P **P** **01 29 35.6 -0.3**
comp=Z,20nm,1.0s
PKDT Phuket 71.47 283 P **P** **01 29 37.2 +0.6**
comp=Z,9.3nm,1.3s
PBKT Sadao Pong 71.78 293 P **P** **01 29 37.9 -0.5**
comp=Z,19nm,1.1s
PBKT Sadao Pong 71.78 293 *e*P **P** **01 29 38.4 +0.1**
comp=Z,12nm,0.9s
PHET Kaeng Krachan 71.78 289 P **P** **01 29 40.1 +1.6**
comp=Z,7.2nm,0.9s
MLSI Meulaboh, Aceh 72.32 279 P **P** **01 29 41.6 -0.1**
comp=Z,184nm,0.9s,comp=Z,2μm
PHIT Phitsanulok 72.49 293 P **P** **01 29 43.2 +0.6**
comp=Z,21nm,0.9s
SRDT SRDT 72.72 290 P **P** **01 29 44.1 +0.1**
comp=Z,29nm,1.1s
KMI Kunming 73.44 301 P **P** **01 29 49.9 +1.6**
KMI pmax pmax
comp=Z,38nm,1.0s
BSI Banda Aceh 73.71 280 P **P** **01 29 50.5 +0.6**
comp=Z,49nm,1.4s
MA2 Magadan 73.82 351 *e*P **P** **01 29 49.2 -0.3**
MA2 pmax pmax
comp=Z,5.0nm,0.9s
CM01 Chiang Mai Arr 74.22 294 *e*P **P** **01 29 53.1 +0.4**
CM31 Chiang Mai Arr 74.25 294 *e*P **P** **01 29 54.0 +1.2**
CMAR Chiang Mai Arr 74.25 294 P **P** **01 29 54.0 +1.2**
comp=Z,16nm,0.8s,baz=125,slow=4.4,SNR=78
CMMT Chiang Mai 74.36 294 P **P** **01 29 52.9 -0.6**
comp=Z,26nm,1.2s
CHTO Chiang Mai 74.37 294 P **P** **01 29 54.0 +0.5**
comp=Z,114nm,1.1s
CHTO Chiang Mai 74.37 294 *e*P **P** **01 29 54.1 +0.5**
comp=Z,34nm,1.3s
CHTO Chiang Mai 74.37 294 *e*P **P** **01 29 54.1 +0.5**
CHTO pmax pmax
comp=Z,34nm,1.3s
HHC Hu-ho-hao-te 74.41 319 *e*P **P** **01 29 54.6 +1.1**
HHC sP sP 01 31 03.4 +1.3
HHC S **S** **01 39 07.3 -4.5**
HHC sS sS 01 40 37.1 +2.7
HHC pmax pmax
comp=Z,17nm,1.3s
HHC pmax pmax
comp=Z,130nm,7.7s
CMAI Chiengmai2 74.66 295 P **P** **01 29 56.2 +0.8**
comp=Z,186nm,1.0s
HIA Hailar 74.98 330 *d i*P **P** **01 29 57.0 +0.5**
HIA pmax pmax
comp=Z,16nm,1.3s
CD2 Chengdu 75.03 307 *e*P **P** **01 29 58.0 +0.8**
QSPA South Pole Qui 76.72 180 P **P** **01 30 06.4 +0.1**
comp=Z,15nm,0.5s,baz=356,slow=3.0,SNR=54
SEY Seymchan 76.85 353 *ce*P **P** **01 30 07.3 +0.6**
LZH Lanzhou 77.26 312 *e*P **P** **01 30 11.3 +1.5**
LZH PcP **PcP** **01 30 20.8 +1.2**
LZH pmax pmax
comp=Z,21nm,1.0s
LZH pmax pmax
comp=Z,110nm,5.0s
KDAK Kodiak Island 78.18 21 P **P** **01 30 14.7 +0.6**
comp=Z,3.0nm,0.4s,baz=96,slow=8.4,SNR=7.2
KDAK Kodiak Island 78.18 21 *e*P **P** **01 30 14.7 +0.6**
comp=Z,88nm,1.9s
KDAK Kodiak Island 78.18 21 *ce*P **P** **01 30 15.0 +0.9**
GAMB Gambell 78.55 9 *e*P **P** **01 30 16.8 +0.8**
comp=Z,6.9nm,0.8s
ULN Ulaanbaatar 80.90 324 *e*P **P** **01 30 29.9 +0.6**
comp=Z,14nm,1.2s
ULN Ulaanbaatar 80.90 324 *de*P **P** **01 30 29.7 +0.4**
ULN pmax pmax
comp=Z,12nm,1.1s
BILL Bilibino 81.12 360 *d i*P **P** **01 30 30.1 +0.3**
BILL *e**PP **pP** **01 31 15.4 -2.6**
BILL *e* 01 33 38.0
BILL pmax pmax
comp=Z,14nm,1.0s
SONA0 Songino Array 81.27 324 *e*P **P** **01 30 30.7 -0.4**
SONM Songino Array 81.27 324 P **P** **01 30 30.7 -0.4**
comp=Z,3.9nm,1.0s,baz=147,slow=5.4,SNR=10.0
SONA1 Songino Array 81.27 324 *e*P **P** **01 30 31.3 +0.1**
GTA Gaotai 81.58 314 *e*P **P** **01 30 33.9 +0.9**
GTA pmax pmax
comp=Z,14nm,1.1s
SUA Susitna One 81.59 19 *e*P **P** **01 30 32.8 +0.2**
comp=Z,20nm,1.3s
PMR Palmer 82.21 19 *e*P **P** **01 30 35.8 +0.2**
comp=Z,26nm,1.6s
PMR Palmer 82.21 19 *e*P **P** **01 30 35.8 +0.2**
PMR pmax pmax
comp=Z,26nm,1.6s
GHO Glory Hole Cre 82.41 19 *e*P **P** **01 30 37.1 +0.4**
comp=Z,29nm,1.4s
CAST Castle Rocks 82.68 17 *e*P **P** **01 30 37.4 -0.6**
comp=Z,12nm,0.7s
SCM Sheep Creek Mo 82.97 20 *e*P **P** **01 30 40.2 +0.6**
comp=Z,13nm,0.7s
SCM Sheep Creek Mo 82.97 20 *e*P **P** **01 30 40.2 +0.6**
SCM pmax pmax
comp=Z,13nm,0.7s
DIV Divide 83.01 21 *e*P **P** **01 30 40.5 +0.7**
comp=Z,9.2nm,0.7s
KTH Kantishna Hill 83.12 18 *e*P **P** **01 30 40.0 -0.3**
comp=Z,6.1nm,0.9s
MAW Mawson 83.15 202 P **P** **01 30 40.2 -0.3**
comp=Z,12nm,0.6s,baz=109,slow=5.4,SNR=15
MAW Mawson 83.15 202 P **P** **01 30 41.0 +0.5**
baz=83,SNR=11
MAW Mawson 83.15 202 *e*P **P** **01 30 40.2 -0.3**
comp=Z,7.8nm,1.4s
MAW Mawson 83.15 202 *e*P **P** **01 30 40.2 -0.3**
MAW pmax pmax
comp=Z,8.0nm,1.4s
TRF Thorofare Moun 83.23 18 *e*P **P** **01 30 40.5 -0.6**
comp=Z,15nm,1.4s
BPAW Bear Paw Mtn. 83.52 17 *e*P **P** **01 30 42.0 -0.3**
comp=Z,8.7nm,1.4s
RND Reindeer 83.63 18 *e*P **P** **01 30 42.9 -0.1**
comp=Z,15nm,0.7s
RND Reindeer 83.63 18 *e*P **P** **01 30 42.9 -0.1**
RND pmax pmax
comp=Z,15nm,0.7s
MCK McKinley 83.84 18 *e*P **P** **01 30 43.8 -0.2**
comp=Z,39nm,1.4s
MCK *epP **pP** **01 31 30.1 -2.3**
MCK McKinley 83.84 18 *e*P **P** **01 30 43.8 -0.2**
MCK *e**PP **pP** **01 31 30.2 -2.3**
MCK pmax pmax
comp=Z,39nm,1.4s
DHY Denali Highway 83.85 19 *e*P **P** **01 30 44.5 +0.3**
comp=Z,30nm,1.7s
DHY *epP **pP** **01 31 31.6 -1.1**
BALM Baldy 84.17 22 *e*P **P** **01 30 46.2 +0.4**
comp=Z,6.3nm,0.6s
BALM Baldy 84.17 22 *e*P **P** **01 30 46.2 +0.4**
BALM pmax pmax
comp=Z,6.0nm,0.6s
IM3 Indian Mountai 84.23 15 *e*P **P** **01 30 45.7 -0.1**
IM3 *epP **pP** **01 31 32.0 -2.4**
MLY Manley 84.29 17 *e*P **P** **01 30 45.8 -0.4**
comp=Z,20nm,1.5s
ZAK Zakamensk 84.31 325 *e*P **P** **01 30 45.9 -0.8**
ZAK pmax pmax
comp=Z,10.0nm,1.3s
WRH Wood River Hil 84.64 18 *e*P **P** **01 30 47.6 -0.3**
comp=Z,8.9nm,0.7s
WRH *epP **pP** **01 31 34.1 -2.4**
LSA Lhasa 84.69 302 P **P** **01 30 50.5 +0.9**
LSA pmax pmax
comp=Z,22nm,0.8s
TLY Talaya 84.73 326 PKiKP **PKiKP** **01 35 57.0 -3.2**
comp=Z,1.9nm,0.5s,baz=270,slow=1.0,SNR=3.3
TLY Talaya 84.73 326 *e*P **P** **01 30 49.1 +0.4**
comp=Z,8.6nm,0.8s
TLY *ePKiKP **PKiKP** **01 35 57.0 -3.2**
TLY Talaya 84.73 326 *e*P **P** **01 30 48.9 +0.2**
TLY pmax pmax
comp=Z,7.0nm,0.7s
CCB Clear Creek Bu 84.85 18 *e*P **P** **01 30 48.6 -0.3**
comp=Z,7.4nm,0.7s
HDA Harding Lake 84.94 18 *e*P **P** **01 30 48.3 -1.1**
comp=Z,15nm,0.6s
HDA *epP **pP** **01 31 35.6 -2.4**
MDM Murphy Dome 84.95 17 *e*P **P** **01 30 49.3 -0.2**
comp=Z,9.2nm,0.8s
MDM *epP **pP** **01 31 34.7 -3.5**
COLA College 85.00 18 *e*P **P** **01 30 49.6 -0.1**
comp=Z,12nm,0.8s
COLA College 85.00 18 *e*P **P** **01 30 49.6 -0.1**
COLA pmax pmax
comp=Z,12nm,0.8s
RIDG Independ'e Rid 85.13 19 *e*P **P** **01 30 50.7 +0.2**
comp=Z,6.0nm,0.7s
RIDG *epP **pP** **01 31 40.1 +1.0**
ILAR Eielson Array 85.22 18 P **P** **01 30 50.6 -0.2**

comp=Z,9.1nm,0.6s,baz=237,slow=6.3,SNR=129
ILB Eielson Array 85.22 18 *e*P **P** **01 30 47.0 -3.8**
DOT Dot Lake 85.32 20 *e*P **P** **01 30 51.8 +0.5**
comp=Z,13nm,0.6s
DOT *e*pP **pP** **01 31 41.0 +0.9**
BFSC Mount Baldy Ra 85.54 53 *e*P **P** **01 30 57.4 +4.1**
SCRK Sand Creek 85.57 19 *e*P **P** **01 30 53.0 +0.3**
comp=Z,6.0nm,0.7s
SCRK *e*pP **pP** **01 31 40.4 -1.0**
COLD Coldfoot 86.09 15 *e*P **P** **01 30 56.5 +1.5**
comp=Z,5.1nm,0.8s
DNR Dunn Ranch,Anz 86.13 54 *e*P **P** **01 31 00.3 +4.2**
PFO Pinyon Flats O 86.28 54 LR LR 02 02 41.3
comp=Z,205nm,20.8s,baz=207,slow=31
NV01 Mina Array Sit 86.45 49 *e*P **P** **01 30 59.2 +1.4**
NVAR Mina Array Bea 86.45 49 P **P** **01 30 59.2 +1.4**
comp=Z,0.9nm,0.9s,baz=245,slow=5.9,SNR=3.5
NVAR PKKPbc **PKKPbc** **01 48 54.4 -0.5**
comp=Z,0.5nm,0.6s,baz=90,slow=2.7,SNR=5.4
NVAR Mina Array Bea 86.45 49 P **P** **01 30 59.2 +1.4**
ODAN Odare 87.00 298 *e*P **P** **01 31 00.6 -0.1**
comp=Z,52nm,0.8s
EGAK Eagle 87.02 20 *e*P **P** **01 30 59.0 -0.6**
comp=Z,4.9nm,0.6s
EGAK *e*pP **pP** **01 31 48.9 +0.4**
TOLK Toolik Lake Re 87.31 15 *e*P **P** **01 31 02.4 +1.4**
comp=Z,6.5nm,0.8s
RAMN Ramite 87.71 298 *e*P **P** **01 31 03.8 -0.3**
comp=Z,18nm,0.6s
JIRN Jiri 88.25 299 *e*P **P** **01 31 06.6 -0.2**
comp=Z,23nm,0.6s
TIXI Tiksi 88.55 349 *ce*P **P** **01 31 07.1 +0.4**
TIXI pmax pmax
comp=Z,2.0nm,0.9s
GUN Gumba 88.58 299 *e*P **P** **01 31 08.0 -0.3**
comp=Z,29nm,0.8s
PKIN Phulchoki 88.91 299 *e*P **P** **01 31 09.7 0.0**
comp=Z,20nm,0.6s
KKN Kakani 89.06 299 *e*P **P** **01 31 10.1 -0.3**
DMN Daman 89.16 298 *e*P **P** **01 31 10.7 -0.2**
comp=Z,58nm,0.9s
GKN Gorkha 89.67 299 *e*P **P** **01 31 12.2 -0.9**
comp=Z,49nm,0.9s
KOLN Koldanda 90.50 298 *e*P **P** **01 31 15.7 -1.4**
NEW Newport 90.57 40 LR LR 02 04 13.2
comp=Z,50nm,22.0s,baz=351,slow=30
PYUN Piuthan 91.10 298 *e*P **P** **01 31 18.4 -1.5**
INK Inuvik 91.59 19 P **P** **01 31 21.8 +1.0**
comp=Z,0.3nm,0.5s,baz=276,slow=5.0,SNR=4.6
INK Inuvik 91.59 19 *e*P **P** **01 31 21.8 +1.0**
comp=Z,0.9nm,1.0s
INK Inuvik 91.59 19 *e*P **P** **01 31 21.8 +1.0**
INK pmax pmax
comp=Z,1.0nm,1.0s
WMQ Urumqi 91.63 315 P **P** **01 31 21.9 +0.1**
WMQ pmax pmax
comp=Z,12nm,1.5s
WMQ pmax pmax
comp=Z,400nm,4.5s
HYB Hyderabad 92.57 287 *i* P **P** **01 31 26.0 -0.6**
DGZ Jazzator, Alta 93.48 320 *i* P **P** **01 31 30.0 -0.3**
DGZ pmax pmax
comp=Z,3.0nm,0.7s
PD31 Pinedale Array 94.08 47 *e*PKKPdf PKKPdf 01 48 33.7 -1.3
PDAR Pinedale Array 94.08 47 PKKPbc PKKPbc 01 48 33.7 -2.2
comp=Z,0.5nm,0.6s,baz=98,slow=3.8,SNR=4.7
SNAA Sanae 94.96 183 P **P** **01 31 37.0 +0.3**
SNAA Sanae 94.96 183 P **P** **01 31 35.6 -1.0**
comp=Z,3.4nm,0.9s,baz=169,slow=3.8,SNR=8.1
SNAA Sanae 94.96 183 *e*P **P** **01 31 36.5 -0.1**
comp=Z,22nm,2.0s
SNAA Sanae 94.96 183 *e*P **P** **01 31 36.5 -0.1**
SNAA pmax pmax
comp=Z,22nm,2.0s
VNA3 Neumayer Olymp 95.64 181 P **P** **01 31 38.6 -1.0**
LTX Lajitas 95.72 61 *e*PKKPbc PKKPbc 01 48 30.5 -0.3
TXAR Lajitas Array 95.72 61 PKKPbc PKKPbc 01 48 30.5 -0.3
comp=Z,0.2nm,0.5s,baz=88,slow=4.9,SNR=8.3
VNA2 Neumayer--Watz 95.90 182 P **P** **01 31 40.3 -0.5**
baz=176,slow=4.7
MK01 Makanchi Array 96.06 316 *e*P **P** **01 31 41.4 -0.6**
MK31 Makanchi Array 96.08 317 *e*P **P** **01 31 42.2 +0.2**
MK31 Makanchi Array 96.08 317 *e*P **P** **01 31 42.3 +0.2**
MK32 Makanchi Array 96.08 317 *e*P **P** **01 31 42.2 +0.2**
MKAR Makanchi Array 96.08 317 P **P** **01 31 42.2 +0.2**
comp=Z,5.6nm,0.5s,baz=90,slow=6.4,SNR=72
MKAR PKiKP **PKiKP** **01 36 17.7 -1.9**
comp=Z,0.3nm,0.5s,baz=105,slow=2.4,SNR=6.3
MKAR Makanchi Array 96.08 317 *e*P **P** **01 31 42.2 +0.2**
comp=Z,39nm,0.6s
MKAR Makanchi Array 96.08 317 *e*P **P** **01 31 42.3 +0.2**
MKAR pmax pmax
comp=Z,39nm,0.6s
ZAA0 Zalesovo Array 96.16 324 *e*P **P** **01 31 40.8 -1.4**
comp=Z,3.9nm,0.7s
ZALV Zalesovo Beam 96.16 324 P **P** **01 31 40.7 -1.5**
comp=Z,3.3nm,0.6s,baz=116,slow=3.9,SNR=15
ZAA1 Zalesovo Array 96.16 324 *e*P **P** **01 31 40.7 -1.5**
MAKZ Makanchi 96.29 316 *e*P **P** **01 31 43.0 0.0**
comp=Z,8.0nm,1.3s
MAKZ Makanchi 96.29 316 *e*P **P** **01 31 43.0 0.0**
MAKZ pmax pmax
comp=Z,8.0nm,1.3s
YKA Yellowknife Ar 96.35 27 P **P** **01 31 41.9 -0.9**
comp=Z,0.4nm,0.6s,baz=257,slow=4.6,SNR=13
YKA PKKPbc PKKPbc 01 48 22.4 -7.9
comp=Z,0.1nm,0.6s,baz=45,slow=2.7,SNR=3.5
YKB5 Yellowknife Ar 96.35 27 *e*P **P** **01 31 41.9 -0.9**
KSH Kashi 99.21 308 P **Pdif** **01 31 57.1 +0.7**
KURK Kurchatov 99.22 320 *e*Pdif **Pdif** **01 31 55.0 -0.9**
KURK *e*PKiKP **PKiKP** **01 36 25.1 +0.1**
KURK Kurchatov 99.22 320 *i* P **Pdif** **01 31 54.0 -2.0**
KURK pmax pmax
comp=Z,1.0nm,1.1s
KURBB Kurchatov Arra 99.26 320 P **Pdif** **01 31 55.1 -1.1**
comp=Z,0.6nm,0.6s,baz=97,slow=4.6,SNR=9.5
KURBB PKiKP **PKiKP** **01 36 25.1 +0.1**
comp=Z,0.2nm,0.4s,baz=103,slow=1.6,SNR=4.0
AAK Ala-Archa 100.79 311 *i* P **Pdif** **01 32 03.1 -0.3**
AKTO Aktyubinsk 112.30 319 PKiKP **PKiKP** **01 36 49.0 -0.2**
comp=Z,1.0nm,0.5s,baz=75,slow=6.0,SNR=5.2
ARA0 ARCESS Array S 118.84 346 *e*PKPdf **PKPdf** **01 37 00.7 -0.5**
ARA0 *e*PKKPbc **PKKPab** **01 47 15.7 -3.7**
ARCES ARCESS Array B 118.84 346 PKP **PKPdf** **01 37 00.7 -0.5**
comp=Z,3.9nm,0.4s,baz=80,slow=2.1,SNR=97
ARCES SKP 01 40 20.0
comp=Z,0.8nm,0.6s,baz=48,slow=1.8,SNR=4.8
ARCES PKKPbc **PKKPab** **01 47 15.7 -3.7**
comp=Z,0.6nm,0.6s,baz=219,slow=1.2,SNR=7.9
KLMR Klimovskoe 119.35 334 *e*PKPdf **PKPdf** **01 37 01.0 -1.4**
KLMR AMP 01 37 02.2
comp=Z,3.0nm,0.7s
KLMR Klimovskoe 119.35 334 *e*PKiKP **PKPdf** **01 37 00.9 -1.4**
KLMR pmax pmax
comp=Z,3.0nm,0.7s
CPUP Villa Florida 121.52 132 PKP **PKPdf** **01 37 07.5 -0.1**
comp=Z,0.6nm,0.4s,baz=273,slow=3.8,SNR=3.0
GNI Garni 123.12 309 PKP **PKPdf** **01 37 10.9 +0.4**
comp=Z,3.4nm,0.6s,baz=46,slow=2.4,SNR=5.9
GNI Garni 123.12 309 *c i*PKiKP **PKPdf** **01 37 10.4 -0.1**
GNI pmax pmax
comp=Z,32nm,2.5s
OBN Obninsk 123.42 328⇑ *e*PKiKP **PKPdf** **01 37 09.5 -0.8**
OBN *e* 01 37 58.3
OBN *e* 01 38 55.5
OBN pmax pmax
comp=Z,5.0nm,1.0s
KBZ Khabaz 123.67 314 PKP **PKPdf** **01 37 11.7 +0.5**
comp=Z,1.7nm,0.8s,baz=109,slow=2.6,SNR=5.5
KIV Kislovodsk 123.76 314 *e*PKiKP **PKPdf** **01 37 11.0 -0.5**
KIV pmax pmax
comp=Z,5.0nm,1.1s
NEY Neytrino 123.91 313 *i* PKiKP **PKPdf** **01 37 12.1 +0.1**
RAYN Ar Rayn 124.00 289 *e*PKPdf **PKPdf** **01 37 12.9 +0.4**
SIV San Ignacio 124.16 120 PKP **PKPdf** **01 37 12.4 -0.6**
comp=Z,0.8nm,0.4s,baz=250,slow=4.0,SNR=7.4
SIV SKP 01 40 30.1
comp=Z,1.6nm,0.9s,baz=17,slow=1.2,SNR=6.3
FIA0 FINESS Array S 124.35 339 *e*PKPdf **PKPdf** **01 37 11.9 -0.1**
FIA0 FINESS Array S 124.35 339 *e*PKiKP **PKPdf** **01 37 11.9 -0.1**
FINES FINESS Array B 124.35 339 PKP **PKPdf** **01 37 11.9 -0.1**
comp=Z,2.4nm,0.4s,baz=50,slow=1.7,SNR=39
BOSA Boshof 124.36 221 PKP **PKPdf** **01 37 12.5 -0.7**
comp=Z,9.9nm,0.9s,baz=137,slow=1.4,SNR=12
KMBO Kilima Mbogo 128.28 258 PKP **PKPdf** **01 37 21.4 +0.2**
comp=Z,0.3nm,0.3s,baz=270,slow=5.1,SNR=3.6

NB2 NORSAR Subarra 129.21 345 PKPdf **PKPdf** **01 37 21.2 -0.2**
comp=Z,0.8nm,0.4s,baz=31,slow=1.9
NB200 NORSAR Array S 129.21 345 *e*PKPdf **PKPdf** **01 37 21.5 +0.1**
NOA NORSAR Array B 129.21 345 PKP **PKPdf** **01 37 21.5 +0.1**
comp=Z,0.8nm,0.4s,baz=30,slow=2.0,SNR=6.4
NOA SKP 01 40 26.6
comp=Z,2.1nm,0.8s,baz=32,slow=2.8,SNR=4.3
HFS Hagfors 129.32 343 PKP **PKPdf** **01 37 21.3 -0.3**
comp=Z,1.0nm,0.4s,baz=60,slow=3.8,SNR=11
AKASG Malin Array Be 129.47 326 PKP **PKPdf** **01 37 21.2 -0.9**
comp=Z,0.6nm,0.4s,baz=46,slow=2.0,SNR=7.5
AKASG SKPab SKPbc 01 40 27.6 +2.5
comp=Z,0.8nm,0.7s,baz=54,slow=3.9,SNR=4.6
AKBB Malin Array Si 129.47 326 *e*PKPdf **PKPdf** **01 37 21.1 -0.9**
AKBB *e*SKPdf SKPbc 01 40 27.6 +2.5
AKBB Malin Array Si 129.47 326 *e*PKiKP **PKPdf** **01 37 21.2 -0.9**
KIEV Kiev 129.49 326 *i* PKiKP **PKPdf** **01 37 20.4 -1.7**
AK11 Malin Array Si 129.52 326 *e*PKPdf **PKPdf** **01 37 22.4 +0.2**
LSZ Lusaka 130.43 236 PKP **PKPdf** **01 37 25.0 -0.1**
comp=Z,3.0nm,0.6s,baz=158,slow=0.4,SNR=13
LSZ Lusaka 130.43 236 *e*PKPdf **PKPdf** **01 37 26.0 +0.9**
ASF Jabal al Asfar 130.87 301 SKPab **SKPab** **01 40 32.2 +0.7**
comp=Z,8.6nm,1.3s,baz=332,slow=0.3,SNR=7.7
PTGA Pitinga 131.29 103 SKPab **SKPbc** **01 40 31.0 -2.1**
comp=Z,2.7nm,0.9s,baz=253,slow=7.0,SNR=3.4
PTGA Pitinga 131.29 103 *e*SKPbc **SKPab** **01 40 34.0 +0.3**
BR101 Keskin Array S 131.47 312 *e*PKPdf **PKPdf** **01 37 26.9 +0.5**
BR101 *e*SKPbc **SKPab** **01 40 35.0 +1.2**
BRTR Keskin Array B 131.47 312 PKP **PKPdf** **01 37 26.9 +0.5**
comp=Z,0.6nm,0.5s,baz=141,slow=4.9,SNR=6.6
BRTR SKPab **SKPab** **01 40 35.0 +1.2**
comp=Z,1.4nm,0.6s,baz=89,slow=2.6,SNR=10.0
MMAI Mount Meron Ar 131.94 303 PKP **PKPdf** **01 37 27.6 +0.2**
comp=Z,0.5nm,0.4s,baz=88,slow=7.6,SNR=4.4
MMAI SKPab **SKPab** **01 40 36.0 0.0**
comp=Z,6.1nm,0.8s,baz=64,slow=3.4,SNR=7.6
EIL Elat 132.95 298 SKP **SKPdf** **01 40 44.2 -1.5**
comp=Z,3.4nm,0.8s,baz=127,slow=5.1,SNR=3.7
BUR04 Bucovina Ar. S 133.37 325 *e*PKPdf **PKPdf** **01 37 31.4 +1.7**
MLR Muntele Rosu 134.10 322 PKP **PKPdf** **01 37 30.5 -0.7**
comp=Z,0.3nm,0.7s,baz=11,slow=5.5,SNR=5.3
MLR SKP 01 40 44.9
comp=Z,0.9nm,1.1s,baz=76,slow=4.2,SNR=3.3
MLR Muntele Rosu 134.10 322 *e*PKPdf **PKPdf** **01 37 30.5 -0.7**
MLR *e*PKPdf **PKPdf** **01 37 30.5 -0.7**
STHS Stebnicka Huta 134.38 329 *e*PKP **PKPdf** **01 37 34.1 +2.7**
STHS Stebnicka Huta 134.38 329 *e*PKiKP **PKPdf** **01 37 34.1 +2.7**
DPC Dobruska-Polom 136.05 333 *e*SKP **SKPdf** **01 40 51.6 +0.8**
CLL Collm 136.70 336 *i* SKPdf **SKPdf** **01 40 53.2 +1.3**
comp=Z,10.0nm,1.4s
PRU Pruhonice 137.09 334 *e*PKPdf **PKPdf** **01 37 38.3 +1.9**
PRU *e*SKP 01 40 55.7
PRU Pruhonice 137.09 334 *e*PKiKP **PKPdf** **01 37 38.3 +1.9**
EKA Eskdalemuir Ar 137.38 352 PKP **PKPdf** **01 37 35.9 -0.9**
comp=Z,0.2nm,0.3s,baz=3.8,slow=2.1,SNR=4.3
CONA Conrad Observa 138.01 331 *e*PKiKP **PKPdf** **01 37 38.8 +0.5**
comp=Z,1.6nm,0.5s
KHC Kasperske Hory 138.15 334 *e*PKPdf **PKPdf** **01 37 39.9 +1.4**
KHC *e*SKP 01 40 58.1
KHC Kasperske Hory 138.15 334 *e*PKIKP **PKPdf** **01 37 39.9 +1.4**
GEC2 GERESS Array S 138.31 334 *e*PKPdf **PKPdf** **01 37 39.5 +0.6**
GEC2 GERESS Array S 138.31 334 *e*PKIKP **PKPdf** **01 37 39.5 +0.6**
GERES GERESS Array B 138.31 334 PKP **PKPdf** **01 37 39.5 +0.6**
comp=Z,0.5nm,0.5s,baz=75,slow=1.5,SNR=5.7
GERES SKPab **SKiKP** **01 40 57.6 -0.7**
comp=Z,2.1nm,0.7s,baz=31,slow=3.4,SNR=13
OBKA Obir 139.65 331 *e*PKPdf **PKPdf** **01 37 40.7 -0.7**
comp=Z,6.5nm,1.2s
KBA Koelnbreinsper 139.79 332 *e*PKPdf **PKPdf** **01 37 41.7 0.0**
comp=Z,2.5nm,0.8s
ABTA Abfaltersbach 140.42 332 PKPdf **PKPdf** **01 37 42.6 -0.1**
comp=Z,4.2nm,1.1s
MOTA Moosalm 140.58 334 *e*PKPdf **PKPdf** **01 37 40.5 -2.6**
comp=Z,9.8nm,1.6s
FETA Feichten 140.99 334 *e*PKPdf **PKPdf** **01 37 42.5 -1.4**
comp=Z,5.6nm,1.1s
SSB Saint Sauveur 144.85 338 *e*PKPbc **PKPdf** **01 37 50.7 +0.1**
SSB Saint Sauveur 144.85 338 *e*PKIKP **PKPdf** **01 37 50.7 +0.1**
KEST Kesra 150.01 322 PKPbc **PKPbc** **01 38 04.5 -0.1**
comp=Z,13nm,0.6s,baz=346,slow=1.8,SNR=16
KEST Kesra 150.01 322 *e*PKPbc **PKPbc** **01 38 05.4 +0.8**
PBRG Braganca 151.10 350 *e*PKPbc **PKPbc** **01 38 06.9 0.0**
PGAV Gavieira, Arco 151.16 353 *e*PKPbc **PKPbc** **01 38 07.8 +0.7**
PCAB Cabril 151.38 352 *e*PKPbc **PKPbc** **01 38 08.2 +0.6**
POLO Lamas de Olo 151.68 352 *e*PKPbc **PKPbc** **01 38 09.1 +0.8**
PVRL Vila Real 151.76 352 *e*PKPbc **PKPbc** **01 38 09.2 +0.7**
MVO Moncorvo 151.77 351 *e*PKPbc **PKPbc** **01 38 09.5 +1.0**
ES19 SONSECA Array 152.53 345 *e*PKPbc **PKPbc** **01 38 08.5 -1.8**
ESDC Sonseca Array 152.58 345 PKPbc **PKPbc** **01 38 10.6 +0.3**
comp=Z,1.1nm,0.4s,baz=17,slow=2.5,SNR=14
MTE Manteigas 152.60 351 *e*PKPbc **PKPbc** **01 38 11.1 +0.7**
PCBR Castelo Branco 153.14 351 *e*PKPbc **PKPbc** **01 38 12.4 +0.9**
PTOM Tomar 153.49 352 *e*PKPbc **PKPbc** **01 38 13.3 +1.1**
PMRV Marv??o 153.53 350 *e*PKPbc **PKPbc** **01 38 13.0 +0.6**
DBIC Dimbokro 169.72 231 PKPab **PKPab** **01 39 36.4 -0.5**
comp=Z,0.9nm,0.4s,baz=124,slow=4.7,SNR=6.3
KOWA Kowa 171.32 279 PKPab **PKPab** **01 39 44.1 0.0**
comp=Z,4.0nm,0.8s,baz=131,slow=4.9,SNR=8.4

*IDC **18** 01:30:40.3±0.8, 7°.28N×126°.31E, h0km, mb3.8/9, mb1 4.0/9, mb1mx3.7/64, mbtmp3.8/9, MS3.3/1, Ms1 3.3/1, ms1mx2.5/55, Error ellipse: s-maj=16.0km s-min=10.1km az=166.0*
*NEIC **18** 01:30:43.7±3.6, 7°.22N×126°.11E, h23km±25km, mb4.0/2, Error ellipse: s-maj=33.6km s-min=7.2km az=67.0*
*ISCJB **18** 01:30:46.7±0.5, 7°.13N±0°.05×125°.90E±0°.06, h64km±5km, mb3.9/11, Error ellipse: s-maj=10.3km s-min=8.4km az=10.4*
*MAN **18** 01:30:48, 7°.23N×125°.83E, h48km, mb4.4, ML3.2, MS3.0*
ISC 18 01:30:47.6±0.9, 7°.15N±0°.07×125°.89E±0°.07, h54km±8km, n21, σ1°18/25, mb3.7/11, 3C, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**0.32**	**256**	Pg	**Pn**	**01 30 55.5**	**-1.7**
	376nm,0.3s,baz=334,slow=2.6,SNR=22						
DAV				Lg	Lg	01 31 05.0	
	997nm,0.3s,baz=90,slow=20,SNR=50						
DAV	**Davao City (W)**	**0.32**	**256**	*e*Pg	**Pn**	**01 30 54.8**	**-2.5**
DAV				*e*Sg	**Sn**	**01 31 04.6**	**+0.4**
DMPH	**Davao City--Mi**	**0.39**	**260**⇑	*e*P	**Pn**	**01 30 59.6**	**+1.7**
DMPH				*e*S	**Sn**	**01 31 07.8**	**+2.5**
BUKP	**Musuan**	**1.09**	**311**	*e*P	**Pn**	**01 31 05.3**	**-1.4**
BUKP				*e*S	**Sn**	**01 31 20.1**	**-0.9**
BIPH	**Bislig**	**1.13**	**24**⇑	*i*P	**Pn**	**01 31 07.9**	**+0.8**
BIPH				*i* S	**Sn**	**01 31 22.4**	**+0.8**
CTBH	**Cotabato--PC H**	**1.63**	**273**⇑	*i*P	**Pn**	**01 31 14.2**	**+0.3**
CTBH				*i* S	**Sn**	**01 31 35.4**	**+1.5**
FITZ	**Fitzroy Crossi**	**25.09**	**181**	P	**P**	**01 36 07.6**	**+0.3**
	1.0nm,0.4s,baz=358,slow=8.0,SNR=13						
WR1	**Warramunga Arr**	**28.18**	**163**	*e*P	**P**	**01 36 34.3**	**-0.8**
	19nm,0.8s						
WRA	**Warramunga Arr**	**28.18**	**163**	P	**P**	**01 36 34.3**	**-0.8**
	0.6nm,0.5s,baz=343,slow=9.4,SNR=13						
WB2	**Warramunga Arr**	**28.18**	**163**	*e*P	**P**	**01 36 34.6**	**-0.5**
	29nm,1.8s						
ASAR	**Alice Springs**	**31.61**	**166**	P	**P**	**01 37 05.6**	**0.0**
	1.4nm,0.5s,baz=339,slow=7.0,SNR=20						
AS01	**Alice Springs**	**31.62**	**166**	*e*P	**P**	**01 37 06.3**	**+0.7**
STKA	**Stephens Creek**	**41.60**	**160**	P	**P**	**01 38 29.9**	**-0.6**
	1.0nm,0.4s,baz=357,slow=7.8,SNR=4.4						
MK32	**Makanchi Array**	**54.30**	**324**	*e*P	**P**	**01 40 08.7**	**+0.2**
MKAR	**Makanchi Array**	**54.30**	**324**	P	**P**	**01 40 08.7**	**+0.2**
	0.4nm,0.6s,baz=129,slow=7.6,SNR=4.5						
MA2	**Magadan**	**55.63**	**15**	LR	LR	02 02 42.3	
	comp=Z,27nm,18.7s,baz=292,slow=35						
KURK	**Kurchatov**	**58.43**	**327**	*e*P	**P**	**01 40 38.1**	**+0.3**
KURBB	**Kurchatov Arra**	**58.43**	**327**	P	**P**	**01 40 38.1**	**+0.3**
	0.4nm,0.7s,baz=123,slow=6.6,SNR=4.7						
BVAR	**Borovoye Array**	**64.02**	**326**	P	**P**	**01 41 16.4**	**+0.9**
	0.3nm,0.4s,baz=125,slow=4.0,SNR=3.2						
ILAR	**Eielson Array**	**82.40**	**26**	P	**P**	**01 43 03.4**	**-0.3**
	0.3nm,0.6s,baz=256,slow=5.1,SNR=5.7						
YKA	**Yellowknife Ar**	**96.74**	**24**	P	**P**	**01 44 11.4**	**-0.7**
	0.2nm,0.6s,baz=302,slow=4.5,SNR=6.9						

*ISCJB **18** 01:43:18.3±0.8, 7°.54N±0°.03×80°.80W±0°.02, h9km±5km, mb4.4/58, MS3.9/17, Error ellipse: s-maj=5.0km s-min=2.7km az=15.3*
*IDC **18** 01:43:18.2±0.8, 7°.69N×80°.72W, h0km, mb4.1/15, mb1 4.4/19, mb1mx4.2/51, mbtmp4.2/19, ML4.1/4, MS3.8/20, Ms1 3.8/20, ms1mx3.6/44, Error ellipse: s-maj=27.7km s-min=13.7km az=39.0*
*UCR **18** 01:43:19.1±2.9, 7°.65N×80°.83W, h1km±10km, MD4.5*
*GCMT **18** 01:43:21.9±0.4, 7°.67N×80°.79W, h18km±1km, MW4.8/70, Moment Tensor Solution. s7,c9; s70,c98; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr=0.21±.09; Mθθ=0.85±.09; Mϕϕ=-0.64±.09; Mrθ=-0.23±.20; Mrϕ=1.54±.07; Mθϕ=0.08±.17; Best double couple: M₀1.73000×10¹⁶ NP1:ϕs103.00000°, δ88.00000°, λ-8.00000°. NP2: ϕs193.00000°, δ82.00000°, λ-178.00000°. Principal axes: T 1.8310, Plg4.0000°, Azm148.0000°; N -0.2020, Plg81.0000°, Azm268.0000°; P -1.6290, Plg8.0000°, Azm58.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **18** 01:43:22.0±1.8, 7°.59N×80°.75W, h22km±13km, mb4.6/52 Error ellipse: s-maj=9.2km s-min=5.6km az=214.0*
NEIC Felt [III] at Los Santos and [II] at Rio Hato. Also felt at Alto de la Estancia, Balboa, Chitre, David, Las Tablas, Montijo, Paraiso and Santiago.
ISC 18 01:43:20.1±0.9, 7°.60N±0°.04×80°.84W±0°.03, h11km±5km, n180, σ2°12/187, mb4.5/58, MS3.9/17, 2C-7D, Panama

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AZU	**Azuero**	**0.59**	**71**⇓	*i*P	**Pg**	**01 43 30.2**	**-1.5**
AZU				*e*S	**Sb**	**01 43 41.2**	**+0.3**
PNME	**Penonome**	**1.02**	**30**⇓	*i*P	**Pb**	**01 43 37.4**	**-2.4**
PNME				*e*S	**Sg**	**01 43 50.9**	**-2.1**
ZANG	**Zanguenga, Cho**	**1.66**	**36**⇓	*e*P	**Pn**	**01 43 47.9**	**-1.2**
ZANG				*e*S	**Sn**	**01 44 10.4**	**0.0**
FLAM	**Flamenco Islan**	**1.83**	**45**⇓	*e*P	**Pn**	**01 43 50.7**	**-0.8**
FLAM				*e*S	**Sb**	**01 44 15.4**	**-1.2**
BCIP	**Isla Barro Col**	**1.85**	**32**	*e*Pn	**Pn**	**01 43 51.4**	**-0.3**
BCIP				*e*Sn	**Sn**	**01 44 15.6**	**+0.5**
BCIP	**Isla Barro Col**	**1.85**	**32**⇓	*e*P	**Pn**	**01 43 50.6**	**-1.1**
BCIP				*e*S	**Sn**	**01 44 15.2**	**+0.1**
BCIP	**Isla Barro Col**	**1.85**	**32**	*e*P	**Pn**	**01 43 49.9**	**-1.8**
UPA	**Univ. de Panam**	**1.89**	**43**⇑	*e*P	**Pn**	**01 43 50.9**	**-1.4**
UPA				*e*S	**Sn**	**01 44 16.3**	**+0.3**
BRU2	**Volcan**	**2.18**	**303**⇓	*e*P	**Pn**	**01 43 53.1**	**-3.4**
BRU2				*e*S	**Sn**	**01 44 25.1**	**+1.5**
EDSV	**San Vito**	**2.43**	**300**	*e*P	**Pn**	**01 43 58.8**	**-1.1**
EDSV				*e*S	**Sn**	**01 44 30.1**	**+0.3**
ACR	**Cerro Adams**	**2.53**	**295**	*e*P	**Pn**	**01 44 00.5**	**-0.7**
EDBA	**Buenos Aires**	**2.87**	**303**	*e*P	**Pn**	**01 44 06.0**	**+0.2**
DRK0	**Durika**	**2.90**	**305**⇑	*e*P	**Pn**	**01 44 04.6**	**-1.7**
DRK0				*e*S	**Sn**	**01 44 42.7**	**+1.4**
EDPN	**Palmar Norte**	**2.92**	**298**	*e*P	**Pn**	**01 44 04.9**	**-1.6**
EDPN				*e*S	**Sn**	**01 44 41.4**	**-0.2**
UPD2	**Meteti**	**2.95**	**71**	*e*P	**Pn**	**01 44 07.2**	**+0.3**
EDLM	**Las Mercedes**	**3.19**	**302**	*e*P	**Pn**	**01 44 13.0**	**+2.7**
EDDO	**Dominical**	**3.41**	**299**	*e*P	**Pn**	**01 44 13.3**	**0.0**
EDDO				*e*S	**Sn**	**01 44 56.6**	**+2.8**
BUS	**Buena Vista**	**3.48**	**304**	*e*P	**Pn**	**01 44 13.0**	**-1.6**
CAPC	**Capurgana**	**3.60**	**73**	*e*P	**Pb**	**01 44 21.8**	**-2.1**
URSC	**Urasca**	**3.66**	**308**	*e*P	**Pn**	**01 44 16.8**	**0.0**
VTR0	**Volcan Turrial**	**3.75**	**310**	*e*P	**Pn**	**01 44 18.5**	**+0.2**
CVTR	**Volcan Turrial**	**3.75**	**310**	*e*P	**Pn**	**01 44 17.8**	**-0.5**
QCR1	**Quepos**	**3.76**	**299**	*e*P	**Pn**	**01 44 18.2**	**+0.1**
LCR2	**La Lucha 2**	**3.78**	**304**⇓	*e*P	**Pn**	**01 44 18.6**	**+0.1**
HDC	**Heredia**	**4.02**	**307**	*e*Pn	**Pn**	**01 44 22.8**	**+1.0**
HDC				*e*Sn	**Sn**	**01 45 07.0**	**-2.0**
TRT1	**Tortuguero**	**4.10**	**317**	*e*P	**Pn**	**01 44 20.7**	**-2.1**
CGA2	**Cerro Gallo 2**	**4.31**	**304**	*e*P	**Pn**	**01 44 27.2**	**+1.4**
SRA1	**San Ram‡n**	**4.36**	**305**	*e*P	**Pn**	**01 44 29.2**	**+2.8**
DBBC	**Dabeiba**	**4.63**	**97**	*e*P	**Pn**	**01 44 30.5**	**+0.3**
CASO	**Castillo**	**4.76**	**306**	*e*P	**Pn**	**01 44 32.5**	**+0.5**
CEDE	**Laguna Cede˜–o**	**4.77**	**307**	*e*P	**Pn**	**01 44 35.3**	**+3.2**
JTS	**JuntasAbangare**	**4.86**	**304**	Pn	**Pn**	**01 44 34.2**	**+0.9**
	8.2nm,0.3s,baz=153,slow=16,SNR=33						
JTS				Sn	**Sb**	**01 45 41.8**	**-2.2**
	6.8nm,0.3s,baz=17,slow=19,SNR=2.4						
MALC	**Bahia Malaga**	**4.99**	**135**	*e*P	**Pn**	**01 44 32.5**	**-2.5**
AMAS	**Alto Masis**	**5.08**	**306**	*e*P	**Pn**	**01 44 38.7**	**+2.5**
ACAL	**Aguas Claras**	**5.12**	**306**	*e*P	**Pn**	**01 44 37.9**	**+1.0**
PTEN	**Parque Tenorio**	**5.13**	**307**	*e*P	**Pn**	**01 44 39.1**	**+2.1**
PLVR	**Palo Verde**	**5.22**	**302**	*e*P	**Pn**	**01 44 38.2**	**-0.2**
CUI	**Cuipilapa**	**5.24**	**306**	*e*P	**Pn**	**01 44 39.1**	**+0.7**
COLC	**Colonia**	**5.28**	**306**	*e*P	**Pn**	**01 44 39.5**	**+0.5**
HORNC	**Hornillas**	**5.28**	**306**	*e*P	**Pn**	**01 44 39.5**	**+0.4**
MESS	**Mesas**	**5.31**	**306**	*e*P	**Pn**	**01 44 40.0**	**+0.5**
GUAB	**Guayabo de Bag**	**5.32**	**306**	*e*P	**Pn**	**01 44 41.8**	**+2.2**
LIM1	**Limonal**	**5.33**	**306**	*e*P	**Pn**	**01 44 43.1**	**+3.4**
GPS2	**Hotel Rinc˜‡n**	**5.44**	**305**	*e*P	**Pn**	**01 44 44.9**	**+3.6**
HELC	**Santa Helena**	**5.46**	**105**	*e*Pn	**Pn**	**01 44 41.3**	**-0.4**
HELC				*e*Sn	**Sn**	**01 45 44.9**	**+0.1**
GB1A	**Borinquen Arri**	**5.52**	**306**	*e*P	**Pn**	**01 44 45.0**	**+2.6**
NY14	**Universidad de**	**5.54**	**304**	*e*P	**Pn**	**01 44 45.0**	**+2.5**
GUYC	**Guyana, Colombi**	**5.91**	**113**	*e*P	**Pn**	**01 44 49.1**	**+1.0**
ROSC	**El Rosal**	**7.04**	**113**	Pn	**Pn**	**01 45 05.8**	**+2

TXAR				LR	LR	02 03 09.7			
	comp=Z,83nm,19.9s,baz=0.0,slow=39								
LTX	**Lajitas**	**30.47**	**318**	*eP*	**P**	**01 49 34.3 +1.0**			
TX31	**Lajitas Ar. Si**	**30.47**	**318**	*eP*	**P**	**01 49 35.5 +2.2**			
WMOK	**Wichita Mounta**	**31.65**	**331**	*eP*	P	01 49 49.7 +6.2			
	4.1nm,1.2s								
CCM	**Cathedral Cave**	**31.75**	**344**	*eP*	**P**	**01 49 44.2 -0.1**			
	12nm,1.5s								
MNTX	**Comudas Mount**	**33.14**	**320**	*eP*	**P**	**01 49 56.2 -0.3**			
	6.7nm,1.1s								
ANMO	**Albuquerque**	**35.98**	**323**	P	**P**	**01 50 21.2 -0.1**			
	3.1nm,1.0s,baz=194,slow=12,SNR=6.2								
ANMO	**Albuquerque**	**35.98**	**323**	*eP*	**P**	**01 50 23.2 +1.9**			
	4.6nm,1.1s								
T25A	**Trinidad**	**36.38**	**327**	*eP*	**P**	**01 50 29.0 +4.2**			
	5.5nm,1.2s								
MHTCO	**State Highway**	**36.52**	**327**	*eP*	**P**	**01 50 28.7 +2.7**			
	13nm,1.6s								
SADO	**Sadowa**	**37.06**	**2**	LR	LR	02 05 16.7			
	comp=Z,200nm,22.0s,baz=256,slow=36								
SDCO	**Great Sand Dun**	**37.41**	**327**	*eP*	**P**	**01 50 37.3 +3.7**			
	7.2nm,1.5s								
S22A	**4UR Ranch, Cre**	**38.14**	**326**	*eP*	**P**	**01 50 42.9 +3.0**			
	16nm,1.9s								
MVCO	**Mesa Verde**	**38.73**	**324**	*eP*	**P**	**01 50 48.0 +3.3**			
	11nm,1.2s								
SMCO	**Snowmass**	**39.25**	**327**	*eP*	P	01 50 54.8 +5.6			
	3.3nm,1.0s								
WUAZ	**Wupatki**	**39.41**	**319**	*eP*	**P**	**01 50 50.4 0.0**			
	3.8nm,0.8s								
PV10	**Paradox Valley**	**39.83**	**325**	*eP*	**P**	**01 50 58.1 +4.1**			
U15A	**North Rim**	**40.56**	**320**	*eP*	**P**	**01 51 04.3 +4.3**			
	11nm,1.6s								
SRU	**San Rafael Swe**	**41.18**	**324**	*eP*	**P**	**01 51 04.3 -0.7**			
	4.7nm,1.1s								
TMUT	**Trail Mountain**	**41.70**	**324**	*eP*	**P**	**01 51 10.7 +1.3**			
	11nm,0.5s								
DPP	**Dos Picos Cty**	**41.90**	**312**	*eP*	**P**	**01 51 14.4 +3.6**			
PLM	**Palomar**	**42.01**	**313**	*eP*	**P**	**01 51 08.5 -3.4**			
DGR	**Domenigoni Val**	**42.27**	**313**	*eP*	**P**	**01 51 12.9 -0.9**			
TCUT	**Toone Canyon**	**43.03**	**326**	*eP*	**P**	**01 51 23.9 +3.7**			
	34nm,1.7s								
PD31	**Pinedale Array**	**43.19**	**329**	*eP*	**P**	**01 51 22.4 +1.1**			
PDAR	**Pinedale Array**	**43.19**	**329**	P	**P**	**01 51 22.4 +1.1**			
	0.5nm,0.7s,baz=122,slow=8.6,SNR=4.6								
PDAR				LR	LR	02 12 36.5			
	comp=Z,94nm,18.3s,baz=112,slow=41								
PDAR	**Pinedale Array**	**43.19**	**329**	*eP*	**P**	**01 51 21.8 +0.4**			
HWUT	**Hardware Ranch**	**43.45**	**326**	*eP*	**P**	**01 51 23.2 -0.2**			
	12nm,1.5s								
RPN	**Rapa Nui**	**44.20**	**218**	LR	LR	02 06 36.1			
	comp=Z,110nm,18.4s,baz=32,slow=32								
REDW	**Red Top Meadow**	**44.28**	**328**	*eP*	**P**	**01 51 33.9 +3.8**			
	8.9nm,1.1s								
ULM	**Lac du Bonnet**	**44.33**	**346**	P	**P**	**01 51 27.9 -2.1**			
	1.9nm,0.6s,baz=168,slow=13,SNR=8.1								
MOOW	**Moose Ponds**	**44.49**	**329**	*eP*	**P**	**01 51 33.6 +1.7**			
	2.2nm,0.9s								
FXWY	**Fox Creek**	**44.56**	**329**	*eP*	**P**	**01 51 33.7 +1.3**			
	7.7nm,1.6s								
IMW	**Indian Meadow**	**44.70**	**329**	*eP*	**P**	**01 51 36.6 +3.1**			
	6.8nm,1.4s								
RLMT	**Red Lodge**	**44.76**	**331**	*eP*	**P**	**01 51 35.6 +1.6**			
	4.9nm,1.0s								
RLMT				*es*P	**sP**	**01 51 41.0 +2.1**			
TIN	**Tinemaha, Big**	**44.85**	**316**	*eP*	**P**	**01 51 32.1 -2.6**			
BCH	**Branch Mountai**	**45.23**	**313**	*eP*	**P**	**01 51 37.7 -0.1**			
GATR	**Grnd/Air Tx Cnt**	**45.24**	**312**	*eP*	**P**	**01 51 34.5 -3.2**			
NV11	**Mina Array Sit**	**45.53**	**318**	*eP*	**P**	**01 51 44.5 +4.4**			
	1.0nm,1.8s								
NV01	**Mina Array Sit**	**45.63**	**318**	*eP*	**P**	**01 51 41.4 +0.4**			
NVAR	**Mina Array Bea**	**45.63**	**318**	P	**P**	**01 51 40.9 -0.1**			
	0.5nm,0.6s,baz=133,slow=7.7,SNR=5.7								
NVAR				LR	LR	02 14 38.2			
	comp=Z,100nm,19.1s,baz=262,slow=41								
BMN	**Battle Mountai**	**46.04**	**321**	*eP*	**P**	**01 51 44.2 +0.1**			
	6.0nm,0.9s								
BOZ	**Bozeman (W)**	**46.25**	**330**	*eP*	**P**	**01 51 47.0 +1.3**			
	12nm,1.5s								
WVOR	**Wild Horse Val**	**48.07**	**322**	*eP*	**P**	**01 52 03.1 +3.2**			
	5.7nm,1.0s								
ORV	**Oroville**	**48.34**	**318**	*eP*	**P**	**01 52 02.8 +1.0**			
	25nm,1.8s								
SCHQ	**Schefferville**	**48.42**	**11**	*eP*	**P**	**01 52 06.4 +4.2**			
	14nm,1.1s								
PLCA	**Paso Flores**	**49.02**	**170**	LR	LR	02 11 19.2			
	comp=Z,66nm,18.3s,baz=16,slow=34								
YBH	**Yreka Blue Hor**	**50.23**	**319**	LR	LR	02 15 30.3			
	comp=Z,140nm,20.8s,baz=145,slow=38								
EDM	**Edmonton**	**52.58**	**336**	*eP*	**P**	**01 52 33.2 -0.5**			
	12nm,1.3s								
YKA	**Yellowknife Ar**	**60.06**	**343**	P	**P**	**01 53 26.1 -0.8**			
	1.2nm,0.9s,baz=135,slow=7.1,SNR=12								
RES	**Resolute Bay**	**67.53**	**356**	P	**P**	**01 54 14.7 -1.2**			
	2.2nm,1.0s,baz=180,slow=19,SNR=6.4								
RES	**Resolute Bay**	**67.53**	**356**	*eP*	**P**	**01 54 14.5 -1.4**			
	3.0nm,1.0s								
INK	**Inuvik**	**69.79**	**342**	*eP*	**P**	**01 54 30.8 +0.7**			
	4.4nm,1.0s								
DOT	**Dot Lake**	**71.52**	**335**	*eP*	**P**	**01 54 41.3 +0.4**			
	16nm,1.0s								
RIDG	**Independ'e Rid**	**71.88**	**335**	*eP*	P	01 54 47.9 +4.8			
	5.2nm,1.0s								
PESTR	**Estremoz**	**72.23**	**52**	*eP*	**P**	**01 54 49.6 +4.0**			
	21nm,1.3s								
PPT	**Papeete**	**72.33**	**249**	LR	LR	02 17 51.9			
	comp=Z,84nm,19.1s,baz=21,slow=29								
IL1	**Eielson Array**	**73.07**	**336**	*eP*	**P**	**01 54 51.8 +1.8**			
ILAR	**Eielson Array**	**73.07**	**336**	P	**P**	**01 54 49.6 -0.5**			
	1.1nm,0.8s,baz=109,slow=4.4,SNR=5.8								
ILAR				LR	LR	02 28 54.5			
	comp=Z,65nm,21.3s,baz=112,slow=38								
ILB	**Eielson Array**	**73.07**	**336**	*eP*	**P**	**01 54 49.6 -0.5**			
RND	**Reindeer**	**73.48**	**334**	*eP*	**P**	**01 54 52.3 -0.3**			
	10.0nm,1.1s								
BPAW	**Bear Paw Mtn.**	**74.58**	**335**	*eP*	**P**	**01 55 00.8 +1.9**			
	5.5nm,1.1s								
MLY	**Manley**	**74.72**	**336**	*eP*	**P**	**01 55 01.8 +2.1**			
	5.5nm,1.2s								
CAST	**Castle Rocks**	**74.88**	**334**	*eP*	**P**	**01 55 01.8 +1.1**			
	6.5nm,1.3s								
ESDC	**Sonseca Array**	**75.09**	**51**	P	**P**	**01 55 02.5 0.0**			
	6.0nm,0.9s,baz=276,slow=5.7,SNR=15								
ESLA	**Sonseca Array**	**75.09**	**51**	*eP*	**P**	**01 55 05.7 +3.2**			
	20nm,1.3s								
ES19	**SONSECA Array**	**75.14**	**51**	*eP*	**P**	**01 55 02.4 -0.3**			
TIC	**Toumodi**	**75.15**	**85**	*eP*	**P**	**01 55 03.4 +0.2**			
LIC	**Lamto**	**75.19**	**86**	*eP*	**P**	**01 55 02.0 -1.4**			
	36nm,1.0s								
DBIC	**Dimbokro**	**75.31**	**85**	P	**P**	**01 55 03.7 -0.3**			
	6.4nm,0.9s,baz=264,slow=5.6,SNR=7.2								
DBIC				LR	LR	02 25 52.6			
	comp=Z,48nm,20.8s,baz=262,slow=34								
DBIC	**Dimbokro**	**75.31**	**85**	*eP*	**P**	**01 55 03.5 -0.6**			
	8.0nm,0.9s								
KOWA	**Kowa**	**75.43**	**77**	P	**P**	**01 55 04.4 -0.3**			
	3.9nm,0.7s,baz=256,slow=5.5,SNR=14								
KOWA				LR	LR	02 29 11.3			
	comp=Z,70nm,18.5s,baz=248,slow=37								
KOWA	**Kowa**	**75.43**	**77**	*eP*	**P**	**01 55 04.6 -0.2**			
KIC	**Kosan Boka**	**75.45**	**85**	*eP*	**P**	**01 55 03.7 -1.2**			
	35nm,1.1s								
IM3	**Indian Mountai**	**76.16**	**336**	*eP*	**P**	**01 55 06.3 -1.7**			
RAR	**Rarotonga**	**82.51**	**247**	LR	LR	02 24 09.0			
	comp=Z,61nm,18.2s,baz=89,slow=30								
TAM	**Tamanrasset**	**83.76**	**68**	*eP*	**P**	**01 55 50.4 +0.2**			
	7.5nm,1.0s								
SPITS	**Spitsbergen Ar**	**84.09**	**12**	LR	LR	02 35 30.5			
	comp=Z,49nm,19.5s,baz=210,slow=37								
NB200	**NORSAR Array S**	**84.41**	**29**	*eP*	**P**	**01 55 50.4 -2.2**			
NOA	**NORSAR Array B**	**84.41**	**29**	P	**P**	**01 55 50.4 -2.2**			
	1.5nm,0.9s,baz=274,slow=5.3,SNR=2.9								
CLL	**Collm**	**86.53**	**39**	*eP*	**P**	**01 56 04.0 +0.8**			
GERES	**GERESS Array B**	**87.32**	**41**	P	**P**	**01 56 07.2 -0.1**			
	0.9nm,0.9s,baz=292,slow=2.9,SNR=7.4								
GERES				LR	LR	02 34 09.5			
	comp=Z,47nm,19.4s,baz=288,slow=35								
GEA0	**GERESS Array S**	**87.32**	**41**	*eP*	**P**	**01 56 09.5 +2.2**			
FINES	**FINESS Array B**	**91.34**	**27**	LR	LR	02 30 27.7			
	comp=Z,54nm,21.9s,baz=244,slow=31								
KURK	**Kurchatov**	**119.26**	**15**	*e*PKPdf	**PKPdf**	**02 02 09.8 +0.3**			
KURBB	**Kurchatov Arra**	**119.32**	**15**	PKP	**PKPdf**	**02 02 09.8 +0.2**			
	0.2nm,0.7s,baz=306,slow=1.6,SNR=3.9								
MK32	**Makanchi Array**	**123.80**	**14**	*e*PKPdf	**PKPdf**	**02 02 17.0 -1.5**			
MKAR	**Makanchi Array**	**123.80**	**14**	PKP	**PKPdf**	**02 02 17.0 -1.4**			
	0.5nm,0.8s,baz=325,slow=1.8,SNR=4.2								
HHC	**Hu-ho-hao-te**	**130.46**	**348**	*eP*	**PKPdf**	**02 02 33.8 +2.4**			
NJ2	**Nanjing**	**136.32**	**336**	*eP*	**PKPdf**	**02 02 44.4 +1.9**			
NJ2				pmax	pmax				
	comp=Z,20nm,0.5s								
LZH	**Lanzhou**	**136.32**	**355**	*e*PKP	**PKPdf**	**02 02 39.1 -3.6**			
LZH				sPKP		02 02 47.3			
LZH				SKKS		02 12 18.3			
LZH				LR	LR				
	comp=N,230nm,19.0s								
LZH				LR	LR				
	comp=E,220nm,19.2s								
LZH				LR	LR				
	comp=Z,250nm,20.0s								
AS31	**Alice Springs**	**143.06**	**240**	*e*PKPpre	PKPpre	02 02 49.2			
AS31				*e*PKPdf	**PKPdf**	**02 02 54.4 -0.7**			
ASAR	**Alice Springs**	**143.06**	**240**	PKhKP	PKPpre	02 02 49.2			
	comp=Z,0.5nm,0.8s,baz=115,slow=3.3,SNR=3.7								
ASAR				PKP	**PKPdf**	**02 02 54.4 -0.7**			
	comp=Z,0.4nm,0.5s,baz=111,slow=3.2,SNR=4.2								
WB2	**Warramunga Arr**	**143.78**	**247**	*e*PKPpre	PKPpre	02 02 51.9			
WRA	**Warramunga Arr**	**143.79**	**247**	PKhKP	PKPpre	02 02 52.0			
	comp=Z,3.3nm,0.8s,baz=101,slow=3.9,SNR=13								
H01W1	**Cape Leeuwin H**	**149.54**	**205**	T	T	04 50 56.5			
	baz=149								
H01W2	**Cape Leeuwin H**	**149.54**	**205**	T	T	04 50 55.0			
	baz=149								
H01W3	**Cape Leeuwin H**	**149.55**	**205**	T	T	04 50 59.7			
	baz=149								
CM31	**Chiang Mai Arr**	**154.11**	**0**	*e*PKPdf	**PKPdf**	**02 03 12.7 -0.2**			
CM31				*e*PKPbc	**PKPbc**	**02 03 19.7 -1.3**			
CMAR	**Chiang Mai Arr**	**154.11**	**0**	PKP	**PKPdf**	**02 03 12.7 -0.2**			
	comp=Z,1.2nm,0.3s,baz=328,slow=3.2,SNR=2.9								
CMAR				PKPbc	**PKPbc**	**02 03 19.7 -1.3**			
	comp=Z,1.0nm,0.3s,baz=333,slow=2.8,SNR=3.6								

ISCJB ***18*** *01:43:33.7±0.5,24.′95N±0.′03×122.′23E±0.′02, h128km±3km, mb3.3/5, Error ellipse: s-maj=5.2km s-min=3.2km az=169.5*

TAP ***18*** *01:43:33.9,24.′95N×122.′27E, h128km, ML4.0, D*

JMA ***18*** *01:43:35.0±0.2,25.′01N×122.′32E, h121km±3km, M2.9*

IDC ***18*** *01:43:45.9±18.0,25.′06N×122.′47E, h282km±225km, mb2.9/5, mb1 2.9/6, mb1mx2.7/69, mbtmp3.6/6, Error ellipse: s-maj=168.7km s-min=22.8km az=61.0*

ISC 18 01:43:33.0±0.8, 24.′96N±0.′05×122.′23E±0.′03, h133km±5km, n67, σ0.975/117, mb3.4/5, 1C-4D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.22**	**281**	⇓*i*P		**Pn**		**01 43 51.7**	**+0.5**
	baz=281								
TWB1				S		**Sn**		**01 44 04.7**	**-0.3**
	baz=281								
EGS		**0.29**	**246**	P		**Pn**		**01 43 52.1**	**+0.6**
	baz=249								
NTC	**Toucheng**	**0.38**	**253**	P		**Pn**		**01 43 52.1**	**+0.3**
	baz=256								
NTC				S		**Sn**		**01 44 05.5**	**-0.5**
	baz=256								
NWF	**Wu-fen Shan**	**0.42**	**285**	P		**Pn**		**01 43 52.7**	**+0.6**
	baz=284								
NWF				S		**Sn**		**01 44 06.5**	**0.0**
	baz=284								
WFSB	**Wu-fen Shan**	**0.42**	**285**	⇓*i*P		**Pn**		**01 43 52.7**	**+0.7**
	baz=284								
WFSB				S		**Sn**		**01 44 06.5**	**+0.2**
	baz=284								
EOS1	**EOS1**	**0.42**	**193**	⇓P		**Pn**		**01 43 52.8**	**+0.8**
	baz=197								
EOS1				S		**Sn**		**01 44 06.1**	**-0.2**
	baz=197								
ILA	**Ilan**	**0.48**	**246**	*e*S		**Sn**		**01 44 07.2**	**+0.3**
	baz=247								
TWC	**Suao**	**0.49**	**224**	⇓P		**Pn**		**01 43 52.7**	**+0.3**
	baz=227								
TWC				*e*S		**Sn**		**01 44 06.5**	**-0.5**
	baz=227								
TWE	**Neicheng**	**0.57**	**245**	P		**Pn**		**01 43 53.5**	**+0.8**
	baz=246								
TWE				S		**Sn**		**01 44 08.1**	**+0.4**
	baz=246								
YM07	**YM07**	**0.59**	**291**	*e*P		**Pn**		**01 43 52.8**	**-0.2**
	baz=290								
YM07				*e*S		**Sn**		**01 44 07.2**	**-0.9**
	baz=290								
YM05	**YM05**	**0.63**	**288**	*e*P		**Pn**		**01 43 53.7**	**+0.4**
	baz=288								
YM05				*e*S		**Sn**		**01 44 08.3**	**-0.3**
	baz=288								
YM10	**YM10**	**0.64**	**288**	*e*P		**Pn**		**01 43 53.8**	**+0.5**
	baz=287								
YM10				*e*S		**Sn**		**01 44 08.9**	**+0.2**
	baz=287								
TWY	**Chenhua**	**0.65**	**299**	*e*P		**Pn**		**01 43 54.2**	**+0.9**
	baz=297								
TWY				*e*S		**Sn**		**01 44 09.0**	**+0.3**
	baz=297								
ENTT	**Nioudou**	**0.68**	**242**	P		**Pn**		**01 43 54.5**	**+0.9**
	baz=243								
ENTT				*e*S		**Sn**		**01 44 09.1**	**-0.1**
	baz=243								
NANB	**Nanao**	**0.69**	**219**	P		**Pn**		**01 43 54.5**	**+0.8**
	baz=222								
NANB				S		**Sn**		**01 44 09.5**	**+0.2**
	baz=222								
ENA	**Nanau**	**0.69**	**220**	P		**Pn**		**01 43 54.2**	**+0.5**
	baz=222								
ENA				*e*S		**Sn**		**01 44 09.1**	**-0.2**
	baz=222								
TWS1	**Kuangyinshan**	**0.75**	**281**	*e*P		**Pn**		**01 43 55.2**	**+1.2**
	baz=280								
TWS1				*e*S		**Sn**		**01 44 10.4**	**+0.5**
	baz=280								
JYNG	**Yonagunijimaku**	**0.83**	**128**	P		**Pn**		**01 43 55.2**	**+0.5**
JYNG				S		**Sn**		**01 44 11.3**	**+0.2**
YHNB	**Yeheng**	**0.83**	**249**	⇑P		**Pn**		**01 43 55.4**	**+0.6**
	baz=250								
YHNB				S		**Sn**		**01 44 10.9**	**-0.4**
	baz=250								
NSK	**Sanguang**	**0.84**	**250**	*e*P		**Pn**		**01 43 54.5**	**-0.4**
	baz=251								
NSK				*e*S		**Sn**		**01 44 10.1**	**-1.4**
	baz=251								
YOJ	**Yonaguni jima**	**0.87**	**125**	*e*P		**Pn**		**01 43 55.0**	**0.0**
	baz=126								
YOJ				*e*S		**Sn**		**01 44 10.9**	**-0.8**
	baz=126								
YOJ	**Yonaguni jima**	**0.87**	**125**	P		**Pn**		**01 43 55.6**	**+0.6**
YOJ				S		**Sn**		**01 44 11.6**	**-0.1**
WLTB	**Daxi**	**0.90**	**263**	*e*P		**Pn**		**01 43 56.2**	**+0.9**
	baz=263								
WLTB				*e*S		**Sn**		**01 44 13.0**	**+1.0**
	baz=263								
NNSB	**Datong**	**0.94**	**235**	*e*P		**Pn**		**01 43 56.7**	**+1.0**
	baz=237								
NNSB				*e*S		**Sn**		**01 44 13.5**	**+0.5**
	baz=237								
NNS	**Nan Shan**	**0.94**	**236**	*e*P		**Pn**		**01 43 57.0**	**+1.2**
	baz=237								
NNS				*e*S		**Sn**		**01 44 13.6**	**+0.6**
	baz=237								
NCU	**National Centr**	**0.95**	**271**	*e*S		**Sn**		**01 44 13.4**	**+0.6**
	baz=270								
NCUH	**Zhongli**	**0.95**	**270**	*e*S		**Sn**		**01 44 13.3**	**+0.4**
	baz=270								
NACB	**Ninganchiao**	**0.98**	**216**	P		**Pn**		**01 43 56.3**	**+0.3**
	baz=218								
NACB				*e*S		**Sn**		**01 44 12.8**	**-0.6**
	baz=218								
TWD	**Chiawan**	**1.05**	**213**	*e*P		**Pn**		**01 43 56.9**	**+0.2**
	baz=214								
TWD				*e*S		**Sn**		**01 44 14.1**	**-0.6**
	baz=214								
SBCB	**Hsinchu**	**1.14**	**262**	*e*P		**Pn**		**01 43 57.7**	**+0.1**
	baz=262								
SBCB				*e*S		**Sn**		**01 44 16.0**	**-0.1**
	baz=262								
LIOB	**Emei**	**1.15**	**254**	*e*P		**Pn**		**01 43 58.3**	**+0.7**
	baz=254								
LIOB				*e*S		**Sn**		**01 44 16.2**	**-0.1**
	baz=254								
NSTT	**Nanjuang**	**1.17**	**254**	*e*P		**Pn**		**01 43 58.5**	**+0.7**
	baz=254								
NSTT				*e*S		**Sn**		**01 44 16.2**	**-0.4**
	baz=254								
TWT	**Tachien**	**1.19**	**234**	*e*P		**Pn**		**01 43 59.9**	**+1.6**
	baz=235								
TWT				*e*S		**Sn**		**01 44 17.8**	**+0.4**
	baz=235								
WHF	**Hehuan Shan**	**1.20**	**227**	*e*P		**Pn**		**01 43 59.8**	**+1.1**
	baz=228								
WHF				*e*S		**Sn**		**01 44 17.4**	**-0.5**
	baz=228								
ENLB	**Shoufeng**	**1.20**	**209**	*e*P		**Pn**		**01 43 59.2**	**+1.1**
	baz=210								
ENLB				*e*S		**Sn**		**01 44 17.2**	**-0.1**
	baz=210								
TDCB	**Techi**	**1.21**	**234**	*e*P		**Pn**		**01 43 59.3**	**+1.0**
	baz=235								
TDCB				*e*S		**Sn**		**01 44 17.9**	**+0.3**
	baz=235								
CHGB	**Renai**	**1.32**	**227**	P		**Pn**		**01 44 00.9**	**+1.2**
	baz=228								
CHGB				S		**Sn**		**01 44 20.0**	**+0.2**
	baz=228								
NMLH	**Miaoli**	**1.38**	**252**	*e*S		**Sn**		**01 44 20.5**	**+0.1**
	baz=252								
NSY	**Sanyi**	**1.44**	**248**	*e*S		**Sn**		**01 44 22.6**	**+0.8**
	baz=248								
TWQ1	**Liyutan**	**1.46**	**245**	*e*S		**Sn**		**01 44 21.9**	**-0.3**
	baz=246								
IRIF	**Iriomote-Funau**	**1.50**	**114**	P		**Pn**		**01 44 02.2**	**+0.9**
IRIF				S		**Sn**		**01 44 23.2**	**+0.3**
SMLT	**Sun Moon Lake**	**1.62**	**229**	*e*P		**Pn**		**01 44 04.4**	**+1.6**
	baz=229								
SMLT				*e*S		**Sn**		**01 44 26.0**	**+0.4**
	baz=229								
TYC	**Yuchr**	**1.64**	**230**	*e*P		**Pn**		**01 44 04.1**	**+1.2**
	baz=230								
TYC				*e*S		**Sn**		**01 44 26.6**	**+1.0**
	baz=230								
SSLB	**Suanglung**	**1.65**	**225**	*e*P		**Pn**		**01 44 04.4**	**+1.3**
	baz=225								
SSLB				*e*S		**Sn**		**01 44 26.0**	**0.0**
	baz=225								
HATJ	**Hateruma jima**	**1.70**	**122**	P		**Pn**		**01 44 04.9**	**+1.4**
HATJ				S		**Sn**		**01 44 27.7**	**+0.9**
JKRS	**Kuro-shima**	**1.77**	**114**	P		**Pn**		**01 44 05.5**	**+1.0**
JKRS				S		**Sn**		**01 44 28.7**	**+0.3**
WJS	**Zhushan**	**1.78**	**231**	*e*S		**Sn**		**01 44 29.4**	**+0.8**
	baz=231								
YULB	**Yu-li**	**1.78**	**209**	*e*P		**Pn**		**01 44 04.2**	**-0.5**
	baz=209								
YULB				*e*S		**Sn**		**01 44 27.2**	**-1.5**
	baz=209								
TWF1	**Yuli**	**1.82**	**208**	*e*P		**Pn**		**01 44 04.8**	**-0.2**
	baz=208								
JIJ	**Ishigaki jima**	**1.84**	**109**	P		**Pn**		**01 44 05.9**	**+0.7**
JIJ				S		**Sn**		**01 44 29.3**	**-0.6**
YUS	**Yu-Shan**	**1.88**	**219**	*e*P		**Pn**		**01 44 07.8**	**+1.6**
	baz=219								
YUS				*e*S		**Sn**		**01 44 31.3**	**-0.1**
	baz=219								
JISG	**Ishigakijimahi**	**1.93**	**101**	P		**Pn**		**01 44 07.1**	**+0.8**
JISG				S		**Sn**		**01 44 32.0**	**+0.3**
ALS	**Alishan**	**1.95**	**222**	*e*P		**Pn**		**01 44 07.8**	**+0.9**
	baz=222								
ALS				*e*S		**Sn**		**01 44 32.5**	**-0.2**
	baz=222								
FULB	**Fuli**	**1.96**	**206**	*e*P		**Pn**		**01 44 07.3**	**+0.6**
	baz=207								
FULB				*e*S		**Sn**		**01 44 33.3**	**+0.9**
	baz=207								
CHN5	**Tsauling**	**1.96**	**226**	*e*P		**Pn**		**01 44 08.3**	**+1.5**
	baz=227								
CHN5				*e*S		**Sn**		**01 44 33.3**	**+0.6**
	baz=227								
WDLH	**Douliu**	**2.00**	**231**	*e*S		**Sn**		**01 44 34.2**	**+1.0**
	baz=231								
CHN4	**Tsaushan**	**2.19**	**223**	*e*P		**Pn**		**01 44 10.7**	**+1.1**
	baz=223								
CHN4				*e*S		**Sn**		**01 44 37.9**	**+0.3**
	baz=223								
JTJ	**Tarama**	**2.27**	**98**	P		**Pn**		**01 44 11.7**	**+1.2**
JTJ				S		**Sn**		**01 44 39.4**	**+0.2**
TWK	**Hsinying**	**2.32**	**224**	*e*P		**Pn**		**01 44 11.9**	**+0.7**
	baz=223								
TWK				*e*S		**Sn**		**01 44 40.1**	**-0.3**
	baz=223								
CHN1	**Nanshi**	**2.36**	**222**	*e*P		**Pn**		**01 44 12.1**	**+0.5**
	baz=222								
CHN1				*e*S		**Sn**		**01 44 40.6**	**-0.6**
	baz=222								
SGST	**Jiashian**	**2.40**	**219**	*e*S		**Sn**		**01 44 42.4**	**+0.1**
	baz=219								
KSRS	**Korea Array**	**13.37**	**20**	P		**P**		**01 46 43.1**	**+0.9**
	0.4nm,0

	5.5nm,1.0s								
ABKAR	**Akbulak array**	**53.57**	**334**	*e*P		**P**		**01 53 17.9**	**+0.2**

DDA ***18*** *01:44:60.0, 39°.11N × 29°.12E, h7km, Ml2.6*
ISK ***18*** *01:44:59.6, 39°.09N × 29°.17E, h5km, ML2.6/3*
CSEM ***18*** *01:45:00.4±0.1, 39°.10N × 29°.16E, h5km, ML2.6, Error ellipse: s-maj=3.0km s-min=2.5km az=138.0*

ISC 18 01:45:00.3±0.9, 39°.11N±0°.02 × 29°.17E±0°.02, h8km±7km, n48, σ0°81/63, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIMA	**Simav-Kutahya**	**0.15**	**260**	PG	**Pg**	**01 45 03.2**	**-0.3**
SIMA				SG	**Sg**	**01 45 05.4**	**-0.3**
SIMA	**Simav-Kutahya**	**0.15**	**260**	*e*Pg	**Pg**	**01 45 03.2**	**-0.3**
SIMA				*e*Sg	**Sg**	**01 45 05.4**	**-0.3**
GDZ	**Gediz**	**0.24**	**95**	*i* P	**Pg**	**01 45 05.4**	**+0.2**
GDZ				*i* S	**Sg**	**01 45 09.8**	**+1.3**
GDZ	**Gediz**	**0.24**	**95**	P	**Pg**	**01 45 05.4**	**+0.2**
GDZ				S	**Sg**	**01 45 09.8**	**+1.3**
DEMI	**Demirci**	**0.36**	**259**	*i* P	**Pg**	**01 45 07.1**	**-0.3**
DEMI				*i* S	**Sg**	**01 45 11.9**	**-0.3**
DEMI	**Demirci**	**0.36**	**259**	P	**Pg**	**01 45 07.1**	**-0.3**
TVSB	**Tavsanli**	**0.41**	**33**	PG	**Pg**	**01 45 07.9**	**-0.4**
TVSB				SG	**Sg**	**01 45 13.4**	**-0.2**
TVSB	**Tavsanli**	**0.41**	**33**	*e*Pg	**Pg**	**01 45 07.9**	**-0.4**
TVSB				*e*Sg	**Sg**	**01 45 13.4**	**-0.2**
KULA	**Kula-Manisa**	**0.72**	**214**	PG	**Pg**	**01 45 13.7**	**-0.4**
KULA				SG	**Sg**	**01 45 22.9**	**-0.5**
KULA	**Kula-Manisa**	**0.72**	**214**	*e*Pg	**Pg**	**01 45 13.7**	**-0.4**
KULA				*e*Sg	**Sg**	**01 45 22.9**	**-0.5**
DURS	**Dursunbey**	**0.73**	**312**	*i* P	**Pg**	**01 45 13.9**	**-0.4**
DURS	**Dursunbey**	**0.73**	**312**	P	**Pg**	**01 45 13.9**	**-0.4**
MANT	**Manisa**	**0.78**	**218**	*i* P	**Pg**	**01 45 14.9**	**-0.5**
MANT				*i* S	**Sg**	**01 45 24.8**	**-0.8**
MANT	**Manisa**	**0.78**	**218**	P	**Pg**	**01 45 14.9**	**-0.5**
MANT				S	**Sg**	**01 45 24.8**	**-0.8**
ORLT	**Orhaneli**	**0.96**	**347**	PG	**Pg**	**01 45 18.8**	**+0.1**
ORLT	**Orhaneli**	**0.96**	**347**	*e*Pg	**Pg**	**01 45 18.8**	**+0.1**
AUKUT	**KUTAHYA**	**1.07**	**38**	*i* P	**Pg**	**01 45 17.2**	**-3.6**
AUKUT				*i* S	Sg	01 45 25.3	-9.4
AUKUT	**KUTAHYA**	**1.07**	**38**	P	**Pg**	**01 45 17.2**	**-3.6**
AKHS	**Akhisar**	**1.08**	**258**	*i* P	**Pn**	**01 45 21.6**	**-0.2**
AKHS	**Akhisar**	**1.08**	**258**	P	**Pn**	**01 45 21.6**	**-0.2**
BALB	**Balikesir**	**1.13**	**298**	PN	**Pb**	**01 45 22.2**	**+0.1**
BALB	**Balikesir**	**1.13**	**298**	*e*Pn	**Pb**	**01 45 22.2**	**+0.1**
KZIL	**AFYON_Kizioren**	**1.14**	**138**	*i* P	**Pn**	**01 45 23.3**	**+0.7**
KZIL				*i* S	**Sn**	**01 45 38.9**	**+0.3**
KZIL	**AFYON_Kizioren**	**1.14**	**138**	P	**Pn**	**01 45 23.3**	**+0.7**
KZIL				S	**Sn**	**01 45 38.9**	**+0.3**
STEP	**BALIKESIR_Sava**	**1.16**	**284**	*i* P	**Pn**	**01 45 23.4**	**+0.6**
STEP				*i* S	**Sn**	**01 45 39.4**	**+0.5**
STEP	**BALIKESIR_Sava**	**1.16**	**284**	P	**Pn**	**01 45 23.4**	**+0.6**
STEP				S	**Sn**	**01 45 39.4**	**+0.5**
CAVI	**Cavuskoy**	**1.21**	**25**	PN	**Pn**	**01 45 23.8**	**+0.3**
CAVI	**Cavuskoy**	**1.21**	**25**	*e*Pn	**Pn**	**01 45 23.8**	**+0.3**
SHUT	**Suhut-Afyon**	**1.21**	**117**	PN	**Pb**	**01 45 23.4**	**-0.1**
SHUT	**Suhut-Afyon**	**1.21**	**117**	*e*Pn	**Pb**	**01 45 23.4**	**-0.1**
MDNY	**Mudanya-Bursa**	**1.28**	**350**	PN	**Pg**	**01 45 25.4**	**+0.6**
MDNY	**Mudanya-Bursa**	**1.28**	**350**	*e*Pn	**Pg**	**01 45 25.4**	**+0.6**
KCTX	**Karacabey (Bur**	**1.31**	**332**	PN	**Pg**	**01 45 25.5**	**0.0**
KCTX	**Karacabey (Bur**	**1.31**	**332**	*e*Pn	**Pg**	**01 45 25.5**	**0.0**
ADVT	**Abdulvahap**	**1.39**	**18**	PN	**Pb**	**01 45 26.3**	**-0.2**
ADVT	**Abdulvahap**	**1.39**	**18**	*e*Pn	**Pb**	**01 45 26.3**	**-0.2**
YLV	**Yalova**	**1.46**	**6**	PN	**Pb**	**01 45 27.9**	**+0.1**
YLV	**Yalova**	**1.46**	**6**	*e*Pn	**Pb**	**01 45 27.9**	**+0.1**
ARMT	**Armutlu**	**1.47**	**351**	PN	**Pg**	**01 45 28.4**	**-0.1**
ARMT	**Armutlu**	**1.47**	**351**	*e*Pn	**Pg**	**01 45 28.4**	**-0.1**
GONE	**Gonen-Balikesi**	**1.48**	**310**	PN	**Pn**	**01 45 27.6**	**+0.4**
GONE	**Gonen-Balikesi**	**1.48**	**310**	*e*Pn	**Pn**	**01 45 27.6**	**+0.4**
EDC	**Edincik**	**1.59**	**321**	PN	**Pb**	**01 45 29.9**	**-0.1**
EDC	**Edincik**	**1.59**	**321**	*e*Pn	**Pb**	**01 45 29.9**	**-0.1**
GULT	**Gulveren**	**1.68**	**38**	PN	**Pb**	**01 45 31.3**	**-0.2**
GULT	**Gulveren**	**1.68**	**38**	*e*Pn	**Pb**	**01 45 31.3**	**-0.2**
HRT	**Hereke**	**1.75**	**12**	PN	**Pn**	**01 45 31.8**	**+0.8**
HRT	**Hereke**	**1.75**	**12**	*e*Pn	**Pn**	**01 45 31.8**	**+0.8**

IDC 18 01:50:06.0±2.8, 0°.64N × 91°.05E, h0km, mb3.5/4, mb1 3.7/5, mb1mx3.4/62, mbtmp3.5/5, Error ellipse: s-maj=92.4km s-min=28.1km az=57.0, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**19.33**	**23**	P	Pn	01 54 33.6	-0.4
	baz=214,slow=12,SNR=4.7						
MKAR	**Makanchi Array**	**46.60**	**352**	P	P	01 58 37.0	+1.2
	0.4nm,0.6s,baz=174,slow=9.6,SNR=5.9						
WRA	**Warramunga Arr**	**47.08**	**118**	P	P	01 58 39.9	-0.2
	0.4nm,0.7s,baz=297,slow=8.8,SNR=4.2						
KURBB	**Kurchatov Arra**	**50.92**	**350**	P	P	01 59 07.1	-1.9
	0.2nm,0.6s,baz=176,slow=7.4,SNR=2.9						
ZALV	**Zalesovo Beam**	**53.38**	**355**	P	P	01 59 27.7	+0.5
	0.5nm,0.3s,baz=181,slow=6.4,SNR=2.6						

ISCJB ***18*** *01:53:17.7±0.6, 38°.64N±0°.02 × 43°.57E±0°.05, h9km±4km, Error ellipse: s-maj=6.6km s-min=3.7km az=17.4*
ATA ***18*** *01:53:17.8±1.5, 38°.67N × 43°.44E, h15km±22km, ML2.8, MW2.9*
DDA ***18*** *01:53:17.4, 38°.62N × 43°.61E, h7km, Ml2.7*
CSEM ***18*** *01:53:17.1±0.2, 38°.63N × 43°.58E, h10km, ML2.7, Error ellipse: s-maj=5.1km s-min=3.4km az=103.0*
ISK ***18*** *01:53:17.3, 38°.66N × 43°.49E, h6km, ML2.7/4*

ISC 18 01:53:17.9±0.9, 38°.65N±0°.02 × 43°.55E±0°.03, h11km±6km, n43, σ0°97/67, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.14**	**247**	PG	**Pg**	**01 53 21.1**	**-0.2**
VANB				SG	**Sg**	**01 53 24.0**	**+0.4**
VANB	**Van**	**0.14**	**247**	*e*Pg	**Pg**	**01 53 21.1**	**-0.2**
VANB				*e*Sg	**Sg**	**01 53 24.0**	**+0.4**
TVAN	**Van**	**0.17**	**224**	*i* P	**Pg**	**01 53 21.4**	**-0.3**
TVAN				*i* S	**Sg**	**01 53 25.7**	**+1.3**
TVAN	**Van**	**0.17**	**224**	P	**Pg**	**01 53 21.4**	**-0.3**
TVAN				S	**Sg**	**01 53 25.7**	**+1.3**
VMUR	**Van-Muradiye**	**0.34**	**3**	*i* P	**Pg**	**01 53 24.1**	**-0.8**
VMUR				*i* S	**Sb**	**01 53 31.4**	**-0.3**
VMUR	**Van-Muradiye**	**0.34**	**3**	P	**Pg**	**01 53 24.0**	**-0.8**
VMUR				S	**Sb**	**01 53 31.4**	**-0.3**
ERCV	**ERCIS-VAN**	**0.41**	**336**	PG	**Pg**	**01 53 25.2**	**-0.8**
ERCV				SG	**Sg**	**01 53 31.3**	**-0.2**
ERCV	**ERCIS-VAN**	**0.41**	**336**	*e*Pg	**Pg**	**01 53 25.2**	**-0.8**
ERCV				*e*Sg	**Sg**	**01 53 31.3**	**-0.2**
GEVA	**Gevas**	**0.51**	**229**	*e*P	**Pg**	**01 53 27.0**	**-0.9**
GEVA				*e*S	**Sb**	**01 53 35.9**	**-0.7**
GEVA				IAML		01 53 47.9	
	comp=Z,38nm,0.6s						
GEVA	**Gevas**	**0.51**	**229**	*i* P	**Pg**	**01 53 27.3**	**-0.7**
GEVA				*i* S	**Sb**	**01 53 36.6**	**-0.1**
GEVA	**Gevas**	**0.51**	**229**	P	**Pg**	**01 53 27.3**	**-0.7**
GEVA				S	**Sb**	**01 53 36.6**	**-0.1**
CLDR	**Caldiran**	**0.57**	**30**	PG	**Pg**	**01 53 29.1**	**0.0**
CLDR				SG	**Sb**	**01 53 37.9**	**-0.5**
CLDR	**Caldiran**	**0.57**	**30**	*i* P	**Pg**	**01 53 27.9**	**-1.2**
CLDR				*i* S	**Sb**	**01 53 38.3**	**-0.1**
CLDR	**Caldiran**	**0.57**	**30**	P	**Pg**	**01 53 27.9**	**-1.2**
CLDR	**Caldiran**	**0.57**	**30**	*e*Pg	**Pg**	**01 53 29.1**	**0.0**
CLDR				*e*Sg	**Sb**	**01 53 37.9**	**-0.5**
CLDR				S	**Sb**	**01 53 38.3**	**-0.1**
ADCV	**BITLIS_Adilcev**	**0.67**	**284**	*i* P	**Pg**	**01 53 30.5**	**-0.4**
ADCV	**BITLIS_Adilcev**	**0.67**	**284**	P	**Pg**	**01 53 30.5**	**-0.4**
DYDN	**Diyadin**	**0.90**	**7**	*e*P	**Pg**	**01 53 34.8**	**-0.5**
DYDN				*e*S	**Sn**	**01 53 49.4**	**-0.6**
DYDN				IAML		01 53 50.6	
	comp=Z,15nm,0.3s						
TUTA	**Tutak**	**0.95**	**323**	*e*P	**Pg**	**01 53 35.4**	**-0.8**
TUTA				*e*S	**Sg**	**01 53 48.2**	**-0.4**
TUTA				IAML		01 53 51.4	
	comp=Z,46nm,0.2s						
TUTA	**Tutak**	**0.95**	**323**	*i* P	**Pg**	**01 53 35.4**	**-0.8**
TUTA	**Tutak**	**0.95**	**323**	P	**Pg**	**01 53 35.4**	**-0.8**
AGRB	**Hanur-Agry**	**1.02**	**335**	PG	**Pg**	**01 53 36.9**	**-0.7**
AGRB				SG	**Sb**	**01 53 51.1**	**-0.3**
AGRB	**Hanur-Agry**	**1.02**	**335**	*e*Pg	**Pg**	**01 53 36.9**	**-0.7**
AGRB				*e*Sg	**Sb**	**01 53 51.1**	**-0.3**
HAKT	**HAKKARI**	**1.10**	**174**	*i* P	**Pg**	**01 53 37.8**	**-1.2**
HAKT	**HAKKARI**	**1.10**	**174**	P	**Pg**	**01 53 37.8**	**-1.2**
GURO	**Guroymak-BITLI**	**1.20**	**266**	PN	**Pb**	**01 53 39.4**	**-1.3**
GURO	**Guroymak-BITLI**	**1.20**	**266**	*e*Pn	**Pb**	**01 53 39.4**	**-1.3**
YOVA	**Hakkari_Y˙...kse**	**1.21**	**151**	*i* P	**Pb**	**01 53 39.6**	**-1.4**
YOVA				*i* S	**Sn**	**01 54 01.2**	**+3.6**
YOVA	**Hakkari_Y˙...kse**	**1.21**	**151**	P	**Pb**	**01 53 39.6**	**-1.4**
IGDI	**IGDIR**	**1.28**	**18**	*e*P	**Pb**	**01 53 42.1**	**-0.1**
IGDI				*e*S	**Sn**	**01 54 02.8**	**+3.6**
IGDI				IAML		01 54 08.4	
	comp=Z,4.7nm,0.6s						
IGDI	**IGDIR**	**1.28**	**18**	*i* P	**Pg**	**01 53 42.5**	**-0.2**
EKAR	**Karacoban**	**1.31**	**298**	*e*P	**Pn**	**01 53 41.5**	**-0.9**
EKAR				IAML		01 54 16.0	
	comp=Z,8.2nm,0.6s						
EKAR	**Karacoban**	**1.31**	**298**	*i* P	**Pg**	**01 53 43.0**	**-0.1**
EKAR	**Karacoban**	**1.31**	**298**	P	**Pg**	**01 53 43.0**	**-0.1**
SIRT	**Sirnak**	**1.44**	**218**	PN	**Pn**	**01 53 44.2**	**0.0**
SIRT	**Sirnak**	**1.44**	**218**	*e*Pn	**Pn**	**01 53 44.2**	**0.0**
EATA	**Eleskirt**	**1.47**	**326**	*e*P	**Pn**	**01 53 44.3**	**-0.3**
EATA				*e*S	**Sg**	**01 54 06.7**	**+1.6**
EATA				IAML		01 54 09.1	
	comp=Z,2.7nm,0.3s						
EATA	**Eleskirt**	**1.47**	**326**	*i* P	**Pn**	**01 53 44.0**	**-0.6**
EATA				*i* S	**Sg**	**01 54 05.6**	**+0.5**
EATA	**Eleskirt**	**1.47**	**326**	P	**Pn**	**01 53 44.0**	**-0.6**
EATA				S	**Sg**	**01 54 05.6**	**+0.5**
HOMI	**Horasan**	**1.89**	**318**	*e*P	**Pn**	**01 53 51.5**	**+1.0**
HOMI				IAML		01 53 54.0	
	comp=Z,5.8nm,0.4s						
ERZM	**Erzurum**	**2.11**	**307**	*e*P	**Pb**	**01 53 56.1**	**-0.3**
SENK	**Senkaya-Erzuru**	**2.12**	**334**	PN	**Pn**	**01 53 54.0**	**+0.4**
SENK	**Senkaya-Erzuru**	**2.12**	**334**	*e*Pn	**Pn**	**01 53 54.0**	**+0.4**

DDA ***18*** *02:03:60.0, 39°.08N × 29°.14E, h7km, Ml2.5*
ISK ***18*** *02:03:59.5, 39°.11N × 29°.16E, h6km, ML2.4/7*
ISCJB ***18*** *02:04:00.1±0.5, 39°.09N±0°.04 × 29°.14E±0°.04, h10km±4km, Error ellipse: s-maj=7.8km s-min=4.6km az=160.4*
CSEM ***18*** *02:04:00.1±0.1, 39°.10N × 29°.15E, h8km, ML2.4, Error ellipse: s-maj=3.5km s-min=2.2km az=138.0*

ISC 18 02:04:00.3±0.9, 39°.11N±0°.04 × 29°.15E±0°.02, h8km±8km, n28, σ0°32/38, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIMA	**Simav-Kutahya**	**0.13**	**260**	PG	**Pg**	**02 04 03.3**	**0.0**
SIMA				SG	**Sg**	**02 04 05.4**	**0.0**
SIMA	**Simav-Kutahya**	**0.13**	**260**	*e*Pg	**Pg**	**02 04 03.3**	**0.0**
SIMA				*e*Sg	**Sg**	**02 04 05.4**	**0.0**
GDZ	**Gediz**	**0.26**	**94**	*i* P	**Pg**	**02 04 05.4**	**-0.1**
GDZ				*i* S	**Sg**	**02 04 09.5**	**+0.5**
GDZ	**Gediz**	**0.26**	**94**	P	**Pg**	**02 04 05.4**	**-0.1**
GDZ				S	**Sg**	**02 04 09.5**	**+0.5**
DEMI	**Demirci**	**0.34**	**259**	*i* P	**Pg**	**02 04 07.2**	**+0.1**
DEMI				*i* S	**Sg**	**02 04 11.6**	**-0.1**
DEMI	**Demirci**	**0.34**	**259**	P	**Pg**	**02 04 07.2**	**+0.1**
DEMI				S	**Sg**	**02 04 11.6**	**-0.1**
TVSB	**Tavsanli**	**0.42**	**35**	PG	**Pg**	**02 04 07.8**	**-0.7**
TVSB	**Tavsanli**	**0.42**	**35**	*e*Pg	**Pg**	**02 04 07.8**	**-0.7**
KULA	**Kula-Manisa**	**0.70**	**213**	PG	**Pg**	**02 04 13.6**	**-0.3**
KULA	**Kula-Manisa**	**0.70**	**213**	*e*Pg	**Pg**	**02 04 13.6**	**-0.3**
DURS	**Dursunbey**	**0.72**	**314**	*i* P	**Pg**	**02 04 14.2**	**0.0**
DURS	**Dursunbey**	**0.72**	**314**	P	**Pg**	**02 04 14.2**	**0.0**
MANT	**Manisa**	**0.77**	**217**	*i* P	**Pg**	**02 04 15.1**	**-0.1**
MANT				*i* S	**Sg**	**02 04 24.7**	**-0.5**
MANT	**Manisa**	**0.77**	**217**	P	**Pg**	**02 04 15.1**	**-0.1**
MANT				S	**Sg**	**02 04 24.7**	**-0.5**
BALB	**Balikesir**	**1.12**	**299**	PN	**Pb**	**02 04 21.9**	**+0.1**
BALB				SN	**Sb**	**02 04 36.8**	**+0.3**
BALB	**Balikesir**	**1.12**	**299**	*e*Pn	**Pb**	**02 04 21.9**	**+0.1**
BALB				*e*Sn	**Sb**	**02 04 36.8**	**+0.3**
CAVI	**Cavuskoy**	**1.22**	**26**	PN	**Pb**	**02 04 23.1**	**-0.5**
CAVI	**Cavuskoy**	**1.22**	**26**	*e*Pn	**Pb**	**02 04 23.1**	**-0.5**
BORA	**Eskisehir**	**1.27**	**52**	*i* P	**Pg**	**02 04 25.2**	**+0.5**
BORA	**Eskisehir**	**1.27**	**52**	P	**Pg**	**02 04 25.2**	**+0.5**
MDNY	**Mudanya-Bursa**	**1.28**	**351**	PN	**Pn**	**02 04 24.4**	**0.0**
MDNY	**Mudanya-Bursa**	**1.28**	**351**	*e*Pn	**Pn**	**02 04 24.4**	**0.0**
KCTX	**Karacabey (Bur**	**1.31**	**332**	PN	**Pg**	**02 04 25.2**	**-0.2**
KCTX	**Karacabey (Bur**	**1.31**	**332**	*e*Pn	**Pg**	**02 04 25.2**	**-0.2**
YLV	**Yalova**	**1.47**	**7**	PN	**Pn**	**02 04 27.3**	**+0.2**
YLV	**Yalova**	**1.47**	**7**	*e*Pn	**Pn**	**02 04 27.3**	**+0.2**
ARMT	**Armutlu**	**1.47**	**351**	PN	**Pn**	**02 04 27.3**	**+0.2**
ARMT	**Armutlu**	**1.47**	**351**	*e*Pn	**Pn**	**02 04 27.3**	**+0.2**

IDC 18 02:07:39.9±1.9, 6°.70S × 129°.90E, h0km, mb3.9/2, mb1 4.0/4, mb1mx3.6/45, mbtmp3.9/4, ML4.0/2, Error ellipse: s-maj=142.1km s-min=29.2km az=69.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.85**	**162**	Pn	Pn	02 10 56.7	-1.1
	0.7nm,0.3s,baz=344,slow=13,SNR=36						
WRA				Sn	Sn	02 13 22.2	-10
	0.8nm,0.3s,baz=351,slow=24,SNR=7.2						
ASAR	**Alice Springs**	**17.30**	**168**	P	P	02 11 44.1	-0.6
	0.6nm,0.3s,baz=344,slow=8.6,SNR=22						
ASAR				S	Sn	02 14 48.9	-7.5
	0.1nm,0.3s,baz=359,slow=27,SNR=4.6						
MKAR	**Makanchi Array**	**67.92**	**327**	P	P	02 18 40.9	+0.4
	0.1nm,0.3s,baz=131,slow=6.6,SNR=22						
KURBB	**Kurchatov Arra**	**72.20**	**328**	P	P	02 19 06.3	-0.4
	0.3nm,0.4s,baz=124,slow=4.5,SNR=3.3						

ISK ***18*** *02:09:13.9, 39°.10N × 29°.17E, h5km, ML2.5/6*
DDA ***18*** *02:09:14.5, 39°.07N × 29°.16E, h7km, Ml2.5*
CSEM ***18*** *02:09:14.9±0.1, 39°.10N × 29°.15E, h5km, ML2.5, Error ellipse: s-maj=3.7km s-min=2.6km az=142.0*

ISC 18 02:09:14.8±0.9, 39°.11N±0°.03 × 29°.16E±0°.02, h7km±10km, n36, σ0°39/46, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIMA	**Simav-Kutahya**	**0.14**	**259**	PG	**Pg**	**02 09 17.7**	**0.0**
SIMA				SG	**Sg**	**02 09 19.9**	**+0.2**
SIMA	**Simav-Kutahya**	**0.14**	**259**	*e*Pg	**Pg**	**02 09 17.7**	**0.0**
SIMA				*e*Sg	**Sg**	**02 09 19.9**	**+0.2**
GDZ	**Gediz**	**0.25**	**94**	*i* P	**Pg**	**02 09 19.8**	**0.0**
GDZ				*i* S	**Sg**	**02 09 23.7**	**+0.5**
GDZ	**Gediz**	**0.25**	**94**	P	**Pg**	**02 09 19.8**	**0.0**
GDZ				S	**Sg**	**02 09 23.7**	**+0.5**
DEMI	**Demirci**	**0.35**	**259**	*i* P	**Pg**	**02 09 21.7**	**+0.1**
DEMI				*i* S	**Sg**	**02 09 26.3**	**0.0**
DEMI	**Demirci**	**0.35**	**259**	P	**Pg**	**02 09 21.7**	**+0.1**
DEMI				S	**Sg**	**02 09 26.3**	**0.0**
TVSB	**Tavsanli**	**0.41**	**35**	PG	**Pg**	**02 09 22.4**	**-0.5**
TVSB				SG	**Sg**	**02 09 27.9**	**-0.4**
TVSB	**Tavsanli**	**0.41**	**35**	*e*Pg	**Pg**	**02 09 22.4**	**-0.5**
TVSB				*e*Sg	**Sg**	**02 09 27.9**	**-0.4**
KULA	**Kula-Manisa**	**0.71**	**213**	PG	**Pg**	**02 09 27.7**	**-0.7**
KULA	**Kula-Manisa**	**0.71**	**213**	*e*Pg	**Pg**	**02 09 27.7**	**-0.7**
DURS	**Dursunbey**	**0.72**	**313**	*i* P	**Pb**	**02 09 29.4**	**-0.4**
DURS	**Dursunbey**	**0.72**	**313**	P	**Pb**	**02 09 29.4**	**-0.4**
MANT	**Manisa**	**0.78**	**217**	*i* P	**Pg**	**02 09 29.7**	**0.0**
MANT				*i* S	**Sg**	**02 09 39.4**	**-0.4**
MANT	**Manisa**	**0.78**	**217**	P	**Pg**	**02 09 29.7**	**0.0**
MANT				S	**Sg**	**02 09 39.4**	**-0.4**
BALB	**Balikesir**	**1.12**	**299**	PN	**Pb**	**02 09 36.4**	**-0.2**
BALB	**Balikesir**	**1.12**	**299**	*e*Pn	**Pb**	**02 09 36.4**	**-0.2**
KZIL	**AFYON_Kizioren**	**1.15**	**138**	*i* P	**Pn**	**02 09 38.3**	**+0.9**
KZIL	**AFYON_Kizioren**	**1.15**	**138**	P	**Pn**	**02 09 38.3**	**+0.9**
STEP	**BALIKESIR_Sava**	**1.15**	**284**	*i* P	**Pn**	**02 09 37.6**	**+0.2**
STEP	**BALIKESIR_Sava**	**1.15**	**284**	P	**Pn**	**02 09 37.6**	**+0.2**
CAVI	**Cavuskoy**	**1.21**	**26**	PN	**Pb**	**02 09 38.1**	**0.0**
CAVI	**Cavuskoy**	**1.21**	**26**	*e*Pn	**Pb**	**02 09 38.1**	**0.0**
BORA	**Eskisehir**	**1.26**	**52**	*i* P	**Pn**	**02 09 39.1**	**+0.1**
BORA	**Eskisehir**	**1.26**	**52**	P	**Pn**	**02 09 39.1**	**+0.1**
MDNY	**Mudanya-Bursa**	**1.28**	**351**	PN	**Pb**	**02 09 39.3**	**+0.1**
MDNY	**Mudanya-Bursa**	**1.28**	**351**	*e*Pn	**Pb**	**02 09 39.3**	**+0.1**
KCTX	**Karacabey (Bur**	**1.31**	**332**	PN	**Pg**	**02 09 40.3**	**+0.4**
KCTX	**Karacabey (Bur**	**1.31**	**332**	*e*Pn	**Pg**	**02 09 40.3**	**+0.4**
ADVT	**Abdulvahap**	**1.40**	**18**	PN	**Pg**	**02 09 41.6**	**0.0**
ADVT	**Abdulvahap**	**1.40**	**18**	*e*Pn	**Pg**	**02 09 41.6**	**0.0**
YLV	**Yalova**	**1.47**	**6**	PN	**Pb**	**02 09 42.2**	**-0.3**
YLV	**Yalova**	**1.47**	**6**	*e*Pn	**Pb**	**02 09 42.2**	**-0.3**
ARMT	**Armutlu**	**1.47**	**351**	PN	**Pb**	**02 09 42.6**	**0.0**
ARMT	**Armutlu**	**1.47**	**351**	*e*Pn	**Pb**	**02 09 42.6**	**0.0**
GULT	**Gulveren**	**1.69**	**38**	PN	**Pb**	**02 09 45.5**	**-0.7**
GULT	**Gulveren**	**1.69**	**38**	*e*Pn	**Pb**	**02 09 45.5**	**-0.7**

ISCJB ***18*** *02:14:17.5±0.5, 39°.10N±0°.03 × 29°.14E±0°.03, h0km±6km, Error ellipse: s-maj=5.9km s-min=3.7km az=163.1*
DDA ***18*** *02:14:17.5, 39°.08N × 29°.15E, h7km, Ml2.6*
ISK ***18*** *02:14:17.5, 39°.08N × 29°.12E, h6km, ML2.7/12*
CSEM ***18*** *02:14:17.7±0.1, 39°.10N × 29°.14E, h2km, ML2.7, Error ellipse: s-maj=2.5km s-min=1.9km az=143.0*

ISC 18 02:14:17.8±1.0, 39°.10N±0°.03 × 29°.14E±0°.02, h5km±8km, n52, σ0°40/68, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIMA	**Simav-Kutahya**	**0.12**	**263**	PG	**Pg**	**02 14 20.3**	**-0.1**
SIMA				SG	**Sg**	**02 14 22.5**	**+0.4**
SIMA	**Simav-Kutahya**	**0.12**	**263**	*e*Pg	**Pg**	**02 14 20.3**	**-0.1**
SIMA				*e*Sg	**Sg**	**02 14 22.5**	**+0.4**
GDZ	**Gediz**	**0.27**	**92**	*i* P	**Pg**	**02 14 22.8**	**-0.2**
GDZ				*i* S	**Sg**	**02 14 26.8**	**+0.3**
GDZ	**Gediz**	**0.27**	**92**	P	**Pg**	**02 14 22.8**	**-0.2**
GDZ				S	**Sg**	**02 14 26.8**	**+0.3**
DEMI	**Demirci**	**0.34**	**261**	*i* P	**Pg**	**02 14 24.4**	**+0.1**
DEMI				*i* S	**Sg**	**02 14 28.8**	**0.0**
DEMI	**Demirci**	**0.34**	**261**	P	**Pg**	**02 14 24.4**	**+0.1**
DEMI				S	**Sg**	**02 14 28.8**	**0.0**
TVSB	**Tavsanli**	**0.43**	**35**	PG	**Pg**	**02 14 25.4**	**-0.7**
TVSB	**Tavsanli**	**0.43**	**35**	*e*Pg	**Pg**	**02 14 25.4**	**-0.7**
KULA	**Kula-Manisa**	**0.69**	**213**	PG	**Pg**	**02 14 30.8**	**-0.3**
KULA				SG	**Sg**	**02 14 40.3**	**+0.2**
KULA	**Kula-Manisa**	**0.69**	**213**	*e*Pg	**Pg**	**02 14 30.8**	**-0.3**
KULA				*e*Sg	**Sg**	**02 14 40.3**	**+0.2**
DURS	**Dursunbey**	**0.72**	**314**	*i* P	**Pg**	**02 14 31.4**	**-0.3**
DURS	**Dursunbey**	**0.72**	**314**	P	**Pg**	**02 14 31.4**	**-0.3**
MANT	**Manisa**	**0.76**	**217**	*i* P	**Pg**	**02 14 32.4**	**+0.1**
MANT				*i* S	**Sg**	**02 14 42.0**	**-0.2**
MANT	**Manisa**	**0.76**	**217**	P	**Pg**	**02 14 32.4**	**+0.1**
MANT				S	**Sg**	**02 14 42.0**	**-0.2**
ORLT	**Orhaneli**	**0.97**	**349**	PG	**Pb**	**02 14 36.7**	**-0.3**
ORLT	**Orhaneli**	**0.97**	**349**	*e*Pg	**Pb**	**02 14 36.7**	**-0.3**
AKHS	**Akhisar**	**1.06**	**258**	*i* P	**Pb**	**02 14 38.1**	**-0.3**
AKHS	**Akhisar**	**1.06**	**258**	P	**Pb**	**02 14 38.2**	**-0.3**
BALB	**Balikesir**	**1.12**	**299**	PN	**Pb**	**02 14 39.3**	**-0.2**
BALB				SN	**Sn**	**02 14 55.3**	**-0.5**
BALB	**Balikesir**	**1.12**	**299**	*e*Pn	**Pb**	**02 14 39.3**	**-0.2**
BALB				*e*Sn	**Sn**	**02 14 55.3**	**-0.5**
STEP	**BALIKESIR_Sava**

	comp=Z,7.0nm,0.3s							
TREC	**Trest**	**2.19**	**192**	Sg		**Sg**	**02 19 25.0**	**+0.9**
	comp=Z,7.0nm,0.3s							
NKC	**Novy Kostel**	**2.65**	**245**	*e*PN		**Pn**	**02 18 58.3**	**+0.4**
NKC				*e*PG		**Pg**	**02 19 05.4**	**+0.7**
NKC				*e*SG		**Sg**	**02 19 38.9**	**-0.2**
	comp=Z,16nm,0.3s							
NKC	**Novy Kostel**	**2.65**	**245**	Pn		**Pn**	**02 18 58.3**	**+0.4**
KHC	**Kasperske Hory**	**2.85**	**217**	*e*PG		**Pb**	**02 19 06.5**	**+0.9**
KHC				*e*SN		**Sn**	**02 19 34.7**	**-0.9**
KHC				*e*SG		**Sg**	**02 19 44.9**	**-0.4**
KHC	**Kasperske Hory**	**2.85**	**217**	Pg		**Pb**	**02 19 06.5**	**+0.9**
KHC				Sn		**Sn**	**02 19 34.7**	**-0.9**
KHC				Sg		**Sg**	**02 19 44.9**	**-0.4**
LANS	**Liptovska Anna**	**3.11**	**136**	*e*Pg		**Pg**	**02 19 13.1**	**-0.3**
LANS				*e*SG		**Sg**	**02 19 53.6**	**-0.1**
LANS	**Liptovska Anna**	**3.11**	**136**	*e*PG		**Pg**	**02 19 13.1**	**-0.3**
LANS				*e*SG		**Sg**	**02 19 53.6**	**-0.1**
CONA	**Conrad Observa**	**3.51**	**184**	Pg		**Pg**	**02 19 19.6**	**-1.6**
	comp=Z,0.4nm,0.2s							
CONA				Sg		**Sg**	**02 20 06.5**	**-0.2**
	comp=Z,1.0nm,0.2s							
CONA	**Conrad Observa**	**3.51**	**184**	Pg		**Pg**	**02 19 19.6**	**-1.6**
	comp=Z,0.4nm,0.2s							
CONA				Sg		**Sg**	**02 20 06.5**	**-0.2**
	comp=Z,1.0nm,0.2s							
MOA	**Molln**	**3.80**	**200**	Sg		**Sg**	**02 20 15.4**	**-0.4**
	comp=Z,1.3nm,0.2s							
MOA	**Molln**	**3.80**	**200**	Sg		**Sg**	**02 20 15.4**	**-0.4**
	comp=Z,1.3nm,0.2s							
ARSA	**Arzberg**	**4.21**	**186**	Sg		**Sg**	**02 20 28.6**	**-0.4**
	comp=Z,0.5nm,0.3s							
ARSA	**Arzberg**	**4.21**	**186**	Sg		**Sg**	**02 20 28.6**	**-0.4**
	comp=Z,0.5nm,0.3s							
KBA	**Koelnbreinsper**	**4.74**	**204**	Sg		**Sg**	**02 20 45.6**	**-0.4**
	comp=Z,0.7nm,0.5s							
KBA	**Koelnbreinsper**	**4.74**	**204**	Sg		**Sg**	**02 20 45.6**	**-0.4**
	comp=Z,0.7nm,0.5s							

ISCJB ***18*** *02:19:04.5±0.7,27.09N±0.05×103.1E±0.2,h10km, mb3.3/4,Error ellipse: s-maj=23.0km s-min=6.3km az=5.6*
IDC ***18*** *02:19:05.6±1.4,26.62N×102.26E,h0km,mb3.4/5, mb1 3.6/5,mb1mx3.3/65,mbtmp3.4/5,Error ellipse: s-maj=83.9km s-min=22.5km az=63.0*
BJI ***18*** *02:19:08.9,27.02N×102.77E,h16km,ML3.4/10*

ISC 18 02:19:08.2±0.9,27.09N±0.05×103.0E±0.2,h10km,n8, σ2s21/11,mb3.5/4,Sichuan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KMI	**Kunming**	**1.97**	**187**	Pg	**Pn**	**02 19 42.5**	**+0.6**
KMI				Sg	**Sn**	**02 20 05.8**	**-1.0**
KMI				*s*max	*s*max		
	comp=N,140nm,0.8s						
KMI				*s*max	*s*max		
	comp=E,310nm,0.8s						
CD2	**Chengdu**	**3.87**	**10**	Pn	**Pn**	**02 20 06.9**	**-0.9**
CD2				Pg	**Pb**	**02 20 21.1**	**+4.6**
CD2				Sn	**Sn**	**02 20 50.3**	**-3.0**
CD2				Sg	**Sg**	**02 21 12.0**	**-0.4**
CD2				*s*max	*s*max		
	comp=N,180nm,0.7s						
CD2				*s*max	*s*max		
	comp=E,270nm,0.8s						
WMQ	**Urumqi**	**20.77**	**327**	*e*P	**P**	**02 23 48.0**	**-1.4**
SONM	**Songino Array**	**20.88**	**6**	P	Pn	02 23 55.5	+2.5
	1.4nm,0.7s,baz=190,slow=11,SNR=2.9						
MKAR	**Makanchi Array**	**25.56**	**326**	P	**P**	**02 24 35.7**	**-1.6**
	0.2nm,0.6s,baz=132,slow=9.9,SNR=3.2						
KURBB	**Kurchatov Arra**	**29.99**	**328**	P	**P**	**02 25 17.1**	**+0.3**
	0.3nm,0.4s,baz=139,slow=10,SNR=1.6						
WRA	**Warramunga Arr**	**55.76**	**144**	P	**P**	**02 28 44.5**	**-1.0**
	0.3nm,0.5s,baz=332,slow=8.1,SNR=5.6						
ASAR	**Alice Springs**	**58.64**	**147**	P	**P**	**02 29 04.5**	**-1.3**
	0.2nm,0.5s,baz=322,slow=7.0,SNR=1.9						

IDC 18 02:19:41.1±1.7,6.28S×154.66E,h0km,mb3.6/6, mb1 3.8/6,mb1mx3.6/47,mbtmp3.6/6,Error ellipse: s-maj=83.6km s-min=22.7km az=132.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.96**	**234**	P	P	02 24 57.6	+0.2
	1.2nm,0.9s,baz=58,slow=9.4,SNR=10.0						
ASAR	**Alice Springs**	**26.41**	**227**	P	P	02 25 19.4	-0.2
	0.3nm,0.3s,baz=59,slow=9.1,SNR=3.4						
FITZ	**Fitzroy Crossi**	**30.65**	**245**	P	P	02 25 57.2	-0.3
	0.8nm,0.7s,baz=70,slow=8.5,SNR=3.5						
MKAR	**Makanchi Array**	**82.65**	**319**	P	P	02 32 07.3	+0.6
	0.3nm,0.6s,baz=122,slow=5.2,SNR=4.0						
ILAR	**Eielson Array**	**82.83**	**22**	P	P	02 32 07.3	+0.1
	0.2nm,0.5s,baz=239,slow=5.1,SNR=3.5						
YKA	**Yellowknife Ar**	**95.86**	**28**	P	P	02 33 08.8	-0.6
	0.1nm,0.6s,baz=278,slow=4.2,SNR=3.4						

ISCJB ***18*** *02:28:01.0±1.0,1.4N±0.2×91.8E±0.2,h10km,mb3.7/8, Error ellipse: s-maj=32.8km s-min=14.6km az=37.2*
IDC ***18*** *02:28:01.5±1.2,1.41N×91.80E,h0km,mb3.7/8,mb1 3.9/9, mb1mx3.6/67,mbtmp3.7/9,ML3.7/1,MS3.0/1,Ms1 3.0/1, ms1mx2.4/65,Error ellipse: s-maj=47.4km s-min=18.6km az=45.0*

ISC 18 02:28:02.9±1.2,1.4N±0.3×91.8E±0.2,h10km,n13, σ0s55/10,mb3.6/8,North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PALK	**Pallekele**	**12.50**	**298**	Pn	**Pn**	**02 31 00.9**	**-0.1**
	0.4nm,0.3s,baz=115,slow=15,SNR=2.7						
PALK				LR	LR	02 35 15.5	
	comp=Z,64nm,18.4s,baz=116,slow=35						
H08S2	**Diego Garcia H**	**21.23**	**245**	T	T	02 54 34.0	
	baz=65,slow=75						
H08S3	**Diego Garcia H**	**21.23**	**245**	T	T	02 54 42.9	
	baz=65,slow=75						
H08S1	**Diego Carcia H**	**21.24**	**245**	T	T	02 54 40.1	
	baz=65,slow=75						
FITZ	**Fitzroy Crossi**	**38.53**	**122**	P	**P**	**02 35 25.7**	**-0.2**
	0.5nm,0.6s,baz=270,slow=20						
MKAR	**Makanchi Array**	**45.99**	**351**	P	**P**	**02 36 25.8**	**-0.5**
	0.2nm,0.4s,baz=170,slow=9.2,SNR=4.5						
WRA	**Warramunga Arr**	**46.79**	**119**	P	**P**	**02 36 33.2**	**+0.1**
	2.1nm,0.7s,baz=297,slow=8.6,SNR=18						
SONM	**Songino Array**	**47.98**	**13**	P	**P**	**02 36 42.7**	**+0.7**
	1.4nm,0.4s,baz=186,slow=10.0,SNR=5.6						
KURBB	**Kurchatov Arra**	**50.34**	**349**	P	**P**	**02 36 59.3**	**-0.5**
	0.2nm,0.4s,baz=169,slow=7.6,SNR=3.5						
ZALV	**Zalesovo Beam**	**52.71**	**355**	P	**P**	**02 37 16.9**	**-0.7**
	0.4nm,0.4s,baz=180,slow=5.7,SNR=3.0						
BRTR	**Keskin Array B**	**65.03**	**314**	P	**P**	**02 38 44.0**	**+0.3**
	0.2nm,0.6s,baz=98,slow=8.9,SNR=2.8						
GERES	**GERESS Array B**	**81.12**	**319**	P	**P**	**02 40 19.2**	**+0.4**
	0.8nm,0.9s,baz=93,slow=6.9,SNR=6.3						
TXAR	**Lajitas Array**	**146.07**	**25**	PKPbc	**PKPab**	**02 47 44.0**	**-0.5**
	0.4nm,0.7s,baz=309,slow=2.3,SNR=7.2						

ISK ***18*** *02:31:52.5,39.07N×29.12E,h6km,ML2.8/10*
DDA ***18*** *02:31:52.7,39.12N×29.14E,h7km,Ml2.8*
CSEM ***18*** *02:31:52.8±0.1,39.09N×29.14E,h2km,ML2.8,Error ellipse: s-maj=2.6km s-min=2.1km az=146.0*

ISC 18 02:31:52.7±1.0,39.10N±0.02×29.15E±0.02,h3km±10km, n58,σ0s52/74,Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIMA	**Simav-Kutahya**	**0.13**	**265**	PG	**Pg**	**02 31 55.3**	**0.0**
SIMA				SG	**Sg**	**02 31 57.4**	**+0.3**
SIMA	**Simav-Kutahya**	**0.13**	**265**	*e*Pg	**Pg**	**02 31 55.3**	**0.0**
SIMA				*e*Sg	**Sg**	**02 31 57.4**	**+0.3**
GDZ	**Gediz**	**0.26**	**91**	*i* P	**Pg**	**02 31 57.5**	**-0.2**
GDZ				*i* S	**Sg**	**02 32 01.3**	**+0.2**
GDZ	**Gediz**	**0.26**	**91**	P	**Pg**	**02 31 57.5**	**-0.2**
GDZ				S	**Sg**	**02 32 01.3**	**+0.2**
DEMI	**Demirci**	**0.34**	**261**	*i* P	**Pg**	**02 31 59.6**	**+0.3**
DEMI				*i* S	**Sg**	**02 32 04.2**	**+0.5**
DEMI	**Demirci**	**0.34**	**261**	P	**Pg**	**02 31 59.6**	**+0.3**
DEMI				S	**Sg**	**02 32 04.2**	**+0.5**
TVSB	**Tavsanli**	**0.43**	**34**	PG	**Pg**	**02 32 01.7**	**+0.7**
TVSB				SG	**Sg**	**02 32 05.2**	**-1.4**
TVSB	**Tavsanli**	**0.43**	**34**	*e*Pg	**Pg**	**02 32 01.7**	**+0.7**
TVSB				*e*Sg	**Sg**	**02 32 05.2**	**-1.4**
KULA	**Kula-Manisa**	**0.69**	**213**	PG	**Pg**	**02 32 05.9**	**-0.1**
KULA				SG	**Sg**	**02 32 14.9**	**-0.1**
KULA	**Kula-Manisa**	**0.69**	**213**	*e*Pg	**Pg**	**02 32 05.9**	**-0.1**
KULA				*e*Sg	**Sg**	**02 32 14.9**	**-0.1**
DURS	**Dursunbey**	**0.73**	**314**	*i* P	**Pg**	**02 32 05.6**	**-1.1**
DURS	**Dursunbey**	**0.73**	**314**	P	**Pg**	**02 32 05.6**	**-1.1**
MANT	**Manisa**	**0.76**	**218**	*i* P	**Pg**	**02 32 07.3**	**0.0**
MANT				*i* S	Sg	02 32 07.3	-10
MANT	**Manisa**	**0.76**	**218**	P	**Pg**	**02 32 07.3**	**0.0**
ORLT	**Orhaneli**	**0.97**	**348**	PG	**Pb**	**02 32 11.8**	**-0.4**
ORLT				SG	**Sb**	**02 32 26.0**	**+0.5**
ORLT	**Orhaneli**	**0.97**	**348**	*e*Pg	**Pb**	**02 32 11.8**	**-0.4**
ORLT				*e*Sg	**Sb**	**02 32 26.0**	**+0.5**
AKHS	**Akhisar**	**1.06**	**259**	*i* P	**Pb**	**02 32 13.4**	**-0.4**
AKHS	**Akhisar**	**1.06**	**259**	P	**Pb**	**02 32 13.4**	**-0.4**
BALB	**Balikesir**	**1.12**	**299**	PN	**Pb**	**02 32 14.5**	**-0.3**
BALB				SN	**Sn**	**02 32 30.5**	**-0.8**
BALB	**Balikesir**	**1.12**	**299**	*e*Pn	**Pb**	**02 32 14.5**	**-0.3**
BALB				*e*Sn	**Sn**	**02 32 30.5**	**-0.8**
KZIL	**AFYON_Kizioren**	**1.14**	**137**	*i* P	**Pn**	**02 32 15.8**	**+0.1**
KZIL	**AFYON_Kizioren**	**1.14**	**137**	P	**Pn**	**02 32 15.8**	**+0.1**
STEP	**BALIKESIR_Sava**	**1.15**	**285**	*i* P	**Pb**	**02 32 15.0**	**-0.2**
STEP	**BALIKESIR_Sava**	**1.15**	**285**	P	**Pb**	**02 32 15.0**	**-0.2**
SHUT	**Suhut-Afyon**	**1.22**	**116**	PN	**Pn**	**02 32 16.9**	**+0.1**
SHUT	**Suhut-Afyon**	**1.22**	**116**	*e*Pn	**Pn**	**02 32 16.9**	**+0.1**
CAVI	**Cavuskoy**	**1.23**	**26**	PN	**Pn**	**02 32 16.8**	**0.0**
CAVI				SN	**Sn**	**02 32 34.6**	**+0.6**
CAVI	**Cavuskoy**	**1.23**	**26**	*e*Pn	**Pn**	**02 32 16.8**	**0.0**
CAVI				*e*Sn	**Sn**	**02 32 34.6**	**+0.6**
BORA	**Eskisehir**	**1.28**	**52**	*i* P	**Pn**	**02 32 17.1**	**-0.5**
BORA	**Eskisehir**	**1.28**	**52**	P	**Pn**	**02 32 17.1**	**-0.5**
MDNY	**Mudanya-Bursa**	**1.29**	**351**	PN	**Pg**	**02 32 17.9**	**+0.5**
MDNY	**Mudanya-Bursa**	**1.29**	**351**	*e*Pn	**Pg**	**02 32 17.9**	**+0.5**
KCTX	**Karacabey (Bur**	**1.32**	**333**	PN	**Pg**	**02 32 18.3**	**+0.3**
KCTX	**Karacabey (Bur**	**1.32**	**333**	*e*Pn	**Pg**	**02 32 18.3**	**+0.3**
ADVT	**Abdulvahap**	**1.41**	**19**	PN	**Pb**	**02 32 19.8**	**+0.1**
ADVT	**Abdulvahap**	**1.41**	**19**	*e*Pn	**Pb**	**02 32 19.8**	**+0.1**
GONE	**Gonen-Balikesi**	**1.48**	**311**	PN	**Pn**	**02 32 20.2**	**0.0**
GONE	**Gonen-Balikesi**	**1.48**	**311**	*e*Pn	**Pn**	**02 32 20.2**	**0.0**
YLV	**Yalova**	**1.48**	**7**	PN	**Pb**	**02 32 20.6**	**-0.3**
YLV	**Yalova**	**1.48**	**7**	*e*Pn	**Pb**	**02 32 20.6**	**-0.3**
ARMT	**Armutlu**	**1.48**	**352**	PN	**Pb**	**02 32 20.7**	**-0.3**
ARMT	**Armutlu**	**1.48**	**352**	*e*Pn	**Pb**	**02 32 20.7**	**-0.3**
EDC	**Edincik**	**1.59**	**322**	PN	**Pb**	**02 32 22.7**	**-0.2**
EDC	**Edincik**	**1.59**	**322**	*e*Pn	**Pb**	**02 32 22.7**	**-0.2**
GULT	**Gulveren**	**1.70**	**38**	PN	**Pn**	**02 32 23.9**	**+0.5**
GULT	**Gulveren**	**1.70**	**38**	*e*Pn	**Pn**	**02 32 23.9**	**+0.5**
BUY	**Buyukada**	**1.75**	**359**	PN	**Pb**	**02 32 24.7**	**-0.9**
BUY	**Buyukada**	**1.75**	**359**	*e*Pn	**Pb**	**02 32 24.7**	**-0.9**
HRT	**Hereke**	**1.77**	**13**	PN	**Pb**	**02 32 25.2**	**-0.7**
HRT	**Hereke**	**1.77**	**13**	*e*Pn	**Pb**	**02 32 25.2**	**-0.7**
SPNC	**Sapanca-Adapaz**	**1.82**	**29**	PN	**Pn**	**02 32 25.2**	**+0.2**
SPNC	**Sapanca-Adapaz**	**1.82**	**29**	*e*Pn	**Pn**	**02 32 25.2**	**+0.2**
SVRH	**Sivrihisar-ESK**	**1.88**	**78**	PN	**Pn**	**02 32 26.4**	**+0.6**
SVRH	**Sivrihisar-ESK**	**1.88**	**78**	*e*Pn	**Pn**	**02 32 26.4**	**+0.6**
ISK	**Istanbul-Kandi**	**1.97**	**358**	PN	**Pn**	**02 32 27.6**	**+0.6**
ISK	**Istanbul-Kandi**	**1.97**	**358**	*e*Pn	**Pn**	**02 32 27.6**	**+0.6**
SILT	**Sile**	**2.09**	**10**	PN	**Pn**	**02 32 29.3**	**+0.7**
SILT	**Sile**	**2.09**	**10**	*e*Pn	**Pn**	**02 32 29.3**	**+0.7**

ISN ***18*** *02:41:30.5±4.6,32.82N×47.05E,h0km±38km,ML3.5*
IDC ***18*** *02:41:32.3±2.0,32.94N×46.89E,h0km,mb3.7/9, mb1 3.8/10,mb1mx3.5/54,mbtmp3.7/10,ML3.7/1,Error ellipse: s-maj=41.8km s-min=22.6km az=163.0*
ISCJB ***18*** *02:41:32.4±1.0,32.86N±0.03×46.84E±0.04,h6km±7km, mb3.6/9,Error ellipse: s-maj=6.7km s-min=4.9km az=142.0*
CSEM ***18*** *02:41:33.6±0.3,32.83N×46.83E,h2km,ML3.5,Error ellipse: s-maj=6.1km s-min=5.9km az=158.0*
TEH ***18*** *02:41:35.8,32.85N×46.92E,h5km,ML3.5*
THR ***18*** *02:41:36.2±0.3,32.82N×46.86E,h39km±2km,ML3.5*

ISC 18 02:41:33.9±1.4,32.78N±0.03×46.84E±0.04,h13km±11km, n40,σ1s41/49,mb3.6/9,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IKFM	**Kafar-mosalman**	**1.12**	**49**	*e*Pg	**Pb**	**02 41 53.4**	**-1.8**
IKFM				*e*AMB	AMB	02 42 09.4	
	comp=Z,99nm,0.2s						
IKFM	**Kafar-mosalman**	**1.12**	**49**	*e*Pg	**Pb**	**02 41 53.4**	**-1.8**
IKOM	**Komasi**	**1.50**	**22**	*e*Pg	**Pb**	**02 42 01.5**	**-0.2**
IKOM				*e*Sg	**Sn**	**02 42 19.2**	**-0.9**
IKOM				*e*AMB	AMB	02 42 24.9	
	comp=Z,16μm,0.2s						
IKOM	**Komasi**	**1.50**	**22**	*e*Pg	**Pb**	**02 42 01.5**	**-0.2**
IKOM				*e*Sg	**Sn**	**02 42 19.2**	**-0.9**
IGHG	**Ghaleghazi**	**1.56**	**352**	*e*AMB	AMB	02 42 34.6	
	comp=Z,23μm,0.3s						
IVIS	**Veis**	**1.74**	**0**	*e*Sg	**Sg**	**02 42 29.0**	**-0.9**
IVIS				*e*Pg	**Pb**	**02 42 05.1**	**-0.7**
IVIS				*e*AMB	AMB	02 42 32.2	
	comp=Z,7μm,0.2s						
SHGR	**Shooshtar-Gavs**	**1.79**	**112**	*e*Pg	**Pg**	**02 42 08.4**	**+0.1**
SHGR				*e*Sg	**Sg**	**02 42 32.0**	**+0.5**
SHGR	**Shooshtar-Gavs**	**1.79**	**112**	*e*Pg	**Pg**	**02 42 08.4**	**+0.1**
SHGR				*e*Sg	**Sg**	**02 42 32.0**	**+0.5**
SHGR				AML	AML	02 42 36.0	
	comp=N,494nm,0.5s						
SHGR				AML	AML	02 42 44.0	
	comp=E,495nm,0.6s						
NSR	**Nassriya**	**1.86**	**199**	*e*Pn	**Pn**	**02 42 06.0**	**+0.5**
	SNR=3.0						
NSR				*e*Sn	**Sb**	**02 42 32.0**	**+1.0**
	SNR=3.0						
BHD	**Baghdad**	**2.12**	**284**	*e*Pn	**Pn**	**02 42 08.0**	**-1.0**
	SNR=3.0						
BHD				*e*Sn	**Sn**	**02 42 36.0**	**+0.8**
	SNR=3.0						
ILIN	**Lien**	**2.13**	**3**	*e*Pn	**Pn**	**02 42 10.9**	**+1.4**
ILIN				*e*AMB	AMB	02 42 48.8	
	comp=Z,5μm,0.4s						
ILIN	**Lien**	**2.13**	**3**	*e*Pn	**Pn**	**02 42 10.9**	**+1.4**
SNGE	**Sanandaj**	**2.34**	**10**	*e*Pn	**Pn**	**02 42 13.6**	**+1.3**
SNGE				*e*Sg	**Sb**	**02 42 47.2**	**+2.2**
SNGE	**Sanandaj**	**2.34**	**10**	*e*Pn	**Pn**	**02 42 13.6**	**+1.3**
SNGE				*e*Sg	**Sb**	**02 42 47.2**	**+2.2**
SNGE				AML	AML	02 42 52.0	
	comp=N,251nm,0.5s						
SNGE				AML	AML	02 42 52.1	
	comp=E,292nm,0.6s						
KHMZ	**Khomeyn**	**2.78**	**69**	*e*Pn	**Pn**	**02 42 19.9**	**+1.5**
KHMZ	**Khomeyn**	**2.78**	**69**	*e*Pn	**Pn**	**02 42 19.9**	**+1.5**
HAGD	**Aghdareh**	**2.79**	**43**	*e*Pn	**Pn**	**02 42 19.8**	**+1.3**
HAGD				*e*AMB	AMB	02 42 57.6	
	comp=Z,99nm,0.1s						
HAGD	**Aghdareh**	**2.79**	**43**	*e*Pn	**Pn**	**02 42 19.8**	**+1.3**
HKZM	**Kohzaman**	**3.10**	**33**	*e*Pn	**Pn**	**02 42 24.9**	**+2.1**
HKZM				*e*AMB	AMB	02 43 15.6	
	comp=Z,99nm,0.3s						
HKZM	**Kohzaman**	**3.10**	**33**	*e*Pn	**Pn**	**02 42 24.9**	**+2.1**
ASAO	**Ashtian**	**3.19**	**56**	*e*Pn	**Pn**	**02 42 25.3**	**+1.3**
ASAO	**Ashtian**	**3.19**	**56**	*e*Pn	**Pn**	**02 42 25.3**	**+1.3**
QAM	**Ghamsar**	**3.98**	**75**	*e*Pn	**Pn**	**02 42 36.2**	**+1.4**
QAM				*e*AMB	AMB	02 43 29.4	
	comp=Z,2μm,0.2s						
IKLH	**Kolahrood**	**4.02**	**81**	*e*Pn	**Pn**	**02 42 36.6**	**+1.2**
IKLH				*e*AMB	AMB	02 43 48.9	
	comp=Z,546nm,0.3s						
IKLH	**Kolahrood**	**4.02**	**81**	*e*Pn	**Pn**	**02 42 36.6**	**+1.2**
IZEF	**Zefreh**	**4.62**	**87**	*e*Pn	**Pn**	**02 42 45.2**	**+1.5**
IZEF				*e*AMB	AMB	02 44 10.9	
	comp=Z,226nm,0.3s						
IZEF	**Zefreh**	**4.62**	**87**	*e*Pn	**Pn**	**02 42 45.2**	**+1.5**
IRAM	**Ramesheh**	**4.79**	**100**	*e*Pn	**Pn**	**02 42 47.2**	**+1.2**
IRAM				*e*AMB	AMB	02 43 48.1	
	comp=Z,224nm,0.2s						
IRAM	**Ramesheh**	**4.79**	**100**	*e*Pn	**Pn**	**02 42 47.2**	**+1.2**
RTB	**Rutbah**	**5.50**	**274**	*e*Pn	**Pn**	**02 42 58.0**	**+2.5**
	SNR=3.0						
RTB				*e*Sn	**Sn**	**02 44 01.8**	**+3.1**
	SNR=3.0						
AKTO	**Aktyubinsk**	**19.48**	**22**	P	**P**	**02 45 58.5**	**-1.9**
	comp=Z,0.2nm,0.3s,baz=209,slow=13,SNR=5.7						
AKASG	**Malin Array Be**	**22.11**	**329**	P	**P**	**02 46 28.3**	**-0.5**
	comp=Z,0.3nm,0.4s,baz=138,slow=9.8,SNR=3.4						
BVAR	**Borovoye Array**	**26.37**	**33**	P	**P**	**02 47 08.0**	**-1.7**
	comp=Z,0.4nm,0.4s,baz=237,slow=7.9,SNR=4.6						
KURBB	**Kurchatov Arra**	**29.31**	**43**	P	**P**	**02 47 35.7**	**-0.2**
	comp=Z,0.4nm,0.6s,baz=249,slow=9.1,SNR=2.9						
MKAR	**Makanchi Array**	**30.34**	**52**	P	**P**	**02 47 45.2**	**0.0**
	comp=Z,0.3nm,0.6s,baz=248,slow=7.7,SNR=5.4						
FINES	**FINESS Array B**	**31.67**	**341**	P	**P**	**02 47 56.1**	**-0.6**
	comp=Z,1.5nm,0.6s,baz=149,slow=11,SNR=8.9						
ZALV	**Zalesovo Beam**	**34.19**	**40**	P	**P**	**02 48 17.4**	**-1.5**
	comp=Z,0.6nm,0.3s,baz=234,slow=8.4,SNR=2.8						
HFS	**Hagfors**	**34.96**	**331**	P	**P**	**02 48 25.1**	**-0.2**
	comp=Z,2.2nm,0.4s,baz=141,slow=9.3,SNR=19						
ARCES	**ARCESS Array B**	**38.70**	**348**	P	**P**	**02 48 55.8**	**-1.3**
	comp=Z,1.0nm,0.8s,baz=168,slow=9.0,SNR=5.3						
KOWA	**Kowa**	**49.52**	**261**	P	**P**	**02 50 25.3**	**+0.7**
	comp=Z,1.0nm,0.7s,baz=57,slow=13,SNR=2.9						

MEX 18 02:47:18.5±0.4,16.21N×98.16W,h2km,MD3.5,Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.18**	**9**	*e*P	Pg	02 47 21.7	-0.3
PNIG				*e*S	Sg	02 47 24.5	+0.1
TLIG	**Tlapa**	**1.40**	**344**	*e*P	Pn	02 47 41.7	-3.5
TLIG				*e*S	Sg	02 48 00.0	-3.5
VHO	**Vista Hermosa**	**1.61**	**58**	*e*P	Pn	02 47 44.5	-3.7
VHO				*e*S	Sn	02 48 05.7	-3.9

NIED ***18*** *02:50:00,29.10N×142.20E,h5km,Mw4.6 Best double couple: M0 9.16000×10^15 NP1:φs171.00000°,δ32.00000°, λ104.00000°. NP2:φs335.00000°,δ59.00000°,λ82.00000°.*
ISCJB ***18*** *02:50:17.9±1.4,29.08N±0.02×142.44E±0.04,h4km±8km, mb4.6/109,MS3.9/18,Error ellipse: s-maj=5.6km s-min=4.1km az=2.9*
IDC ***18*** *02:50:18.5±0.4,29.03N×142.56E,h0km,mb4.4/30, mb1 4.5/34,mb1mx4.3/62,mbtmp4.3/34,ML3.9/4,MS3.8/14, Ms1 3.8/14,ms1mx3.4/63,Error ellipse: s-maj=14.1km s-min=11.0km az=92.0*
MOS ***18*** *02:50:19.6±1.0,29.05N×142.51E,h18km,mb4.9/45,Error ellipse: s-maj=9.2km s-min=4.6km az=113.9*
BJI ***18*** *02:50:21.8,29.08N×142.54E,h36km,mb4.6/39,mB4.8/20, Ms4.2/17,Ms7 4.0/16*
JMA ***18*** *02:50:21.2±0.1,29.09N×142.25E,h50km,M4.4*
NEIC ***18*** *02:50:24.5±0.2,29.01N×142.45E,h40km,mb4.7/53,Error ellipse: s-maj=5.2km s-min=4.7km az=156.0*

ISC 18 02:50:21.8±0.6,29.04N±0.04×142.49E±0.06,h19km±2km, n247,σ1s74/271,mb4.7/109,MS3.9/19,10C-3D,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**1.96**	**188**	P	**Pn**	**02 50 53.2**	**-0.8**
CBIJ				*e*S	**Sn**	**02 51 16.8**	**-1.2**
CBIJ	**Chichi jima**	**1.96**	**188**	*e*Pn	**Pn**	**02 50 52.8**	**-1.2**
CBIJ				*e*Sn	**Sn**	**02 51 18.8**	**+0.8**
JCJ	**Chichijima**	**1.96**	**188**	Pn	**Pn**	**02 50 53.4**	**-0.6**
	29nm,0.3s,baz=359,slow=20,SNR=12						
JCJ				Sn	**Sn**	**02 51 18.3**	**+0.3**
	206nm,0.3s,baz=300,slow=20,SNR=18						
JHHJ	**Haha-jima-NKT**	**2.42**	**187**	S	**Sn**	**02 51 28.4**	**-1.0**
JHJ	**Hachijo jima 2**	**4.68**	**331**	LR	LR	02 53 11.4	
	comp=Z,650nm,19.7s,baz=300,slow=37						
BSO1	**Boso 1**	**5.74**	**347**	P	**Pn**	**02 51 43.7**	**-1.7**
BSO3	**Boso 3**	**5.98**	**344**	P	**Pn**	**02 51 47.4**	**-1.6**
JOD2	**Odawara 2**	**6.84**	**336**	P	**Pn**	**02 51 59.9**	**-1.1**
JHH	**Hanno**	**7.31**	**339**	P	**Pn**	**02 52 07.0**	**-0.5**
JRY	**Ryogami san**	**7.58**	**337**	P	**Pn**	**02 52 11.0**	**-0.3**
JRY				*e*S	**Sn**	**02 53 34.7**	**-2.0**
JAG	**Ashikaga**	**7.79**	**342**	P	**Pn**	**02 52 12.4**

HHC pmax pmax
comp=Z,88nm,1.0s
HHC LR LR
comp=Z,820nm,4.0s
HHC LR LR
comp=Z,770nm,12.6s
HHC LR LR
comp=Z,1μm,12.7s
HHC LR LR
comp=Z,1μm,12.2s
MYLDM **Lahad Datu** 32.85 228 *e*P **P** 02 56 53.1 -1.4
comp=Z,13nm,1.0s
ULN **Ulaanbaatar** 33.12 314 *e*P **P** 02 56 56.7 -0.1
comp=Z,7.4nm,0.8s
ULN **Ulaanbaatar** 33.12 314 *e*P **P** 02 56 57.1 +0.3
ULN pmax pmax
comp=Z,10.0nm,1.0s
LZH **Lanzhou** 33.15 292 *e*P P 02 57 03.8 +6.6
LZH pP sP 02 57 14.0 +8.4
LZH sP pP 02 57 17.8 +15
LZH *e*S **S** **03 02 22.8 +7.0**
LZH sS sS 03 02 38.0 +12
LZH SS **SnSn** **03 04 25.1 +10**
LZH pmax pmax
comp=Z,24nm,1.2s
LZH pmax pmax
comp=Z,110nm,5.0s
LZH LR LR
comp=N,1μm,13.7s
LZH LR LR
comp=E,1μm,13.2s
LZH LR LR
comp=Z,2μm,15.2s
SONA1 **Songino Array** 33.52 314 *e*P **P** **02 57 01.0 +0.7**
SONA0 **Songino Array** 33.53 314 *e*P **P** **02 57 00.9 +0.7**
SONM **Songino Array** 33.53 314 P **P** **02 57 00.9 +0.7**
comp=Z,6.4nm,0.8s,baz=117,slow=8.2,SNR=18
SONM LR LR 03 11 20.1
comp=Z,135nm,19.1s,baz=60,slow=38
YAK **Yakutsk** 34.06 349 *i* P **P** **02 57 04.1 -0.4**
YAK pmax pmax
comp=Z,8.0nm,0.9s
SEY **Seymchan** 34.50 8 P **P** **02 57 07.4 -1.0**
comp=Z,4.6nm,0.7s,baz=205,slow=6.7,SNR=10
SEY **Seymchan** 34.50 8 *ce*P **P** **02 57 10.3 +1.9**
BOD **Bodaibo** 34.93 334 *e*P **P** **02 57 11.9 -0.2**
BOD pmax pmax
comp=Z,8.0nm,1.5s
KMI **Kunming** 35.49 273 P **P** **02 57 20.3 +2.7**
KMI pmax pmax
comp=Z,17nm,0.8s
ZAK **Zakamensk** 36.35 317 *e*P **P** **02 57 25.3 +0.8**
ZAK pmax pmax
comp=Z,16nm,1.4s
GTA **Gaotai** 36.47 298 *e*P **P** **02 57 24.6 -1.2**
GTA pP sP 02 57 33.8 -0.4
GTA sP pP 02 57 37.9 +6.1
GTA pmax pmax
comp=Z,6.0nm,1.0s
TLY **Talaya** 36.62 319 *e*P **P** **02 57 28.8 +2.0**
comp=Z,15nm,0.8s
TLY **Talaya** 36.62 319 *e*P **P** **02 57 28.6 +1.8**
TLY pmax pmax
comp=Z,32nm,1.5s
TLY MLR MLR
comp=Z,155nm,14.0s
SKNT **Sakolnakorn** 37.26 260 P **P** **02 57 32.2 -0.3**
comp=Z,8.2nm,1.0s
MOY **Mondy** 38.15 318 *e*P **P** **02 57 40.6 +0.8**
MOY pmax pmax
comp=Z,17nm,1.3s
CHAI **Chaiyaphum** 39.45 260 P **P** **02 57 51.0 0.0**
comp=Z,11nm,1.2s
SRAK **Srakaew** 40.27 257 P **P** **02 57 54.2 -3.6**
comp=Z,82nm,0.8s
CMMT **Chiang Mai** 40.88 266 P **P** **02 58 01.8 -1.0**
comp=Z,17nm,1.1s
CHTO **Chiang Mai** 40.88 266 P **P** **02 58 02.8 -0.1**
comp=Z,75nm,1.2s
CHTO **Chiang Mai** 40.88 266 *e*P **P** **02 58 03.0 +0.1**
comp=Z,22nm,1.2s
CHTO **Chiang Mai** 40.88 266 *e*P **P** **02 58 03.0 +0.1**
CHTO pmax pmax
comp=Z,22nm,1.2s
CM31 **Chiang Mai Arr** 41.02 265 *e*P **P** **02 58 04.2 +0.2**
CMAR **Chiang Mai Arr** 41.02 265 P **P** **02 58 04.2 +0.2**
comp=Z,3.0nm,0.6s,baz=54,slow=8.2,SNR=14
CMAR LR LR 03 14 36.6
comp=Z,92nm,21.8s,baz=50,slow=36
CM01 **Chiang Mai Arr** 41.02 265 *e*P **P** **02 58 03.6 -0.4**
BILL **Bilibino** 41.51 13 *j i*P **P** **02 58 06.8 -0.5**
BILL *e* 02 59 44.1
BILL *e*S **S** **03 04 30.5 +8.9**
BILL pmax pmax
comp=Z,1.0nm,0.8s
BILL MLR MLR
comp=Z,79nm,18.0s
HVS **Khovu-Aksy** 42.39 315 *i* P **P** **02 58 16.4 +1.5**
HVS pmax pmax
comp=Z,41nm,0.9s
PHET **Kaeng Krachan** 42.85 257 P **P** **02 58 23.2 +4.2**
TIXI **Tiksi** 43.31 354 *e*P **P** **02 58 21.2 -0.7**
comp=Z,11nm,1.4s
TIXI **Tiksi** 43.31 354 *ce*P **P** **02 58 21.5 -0.4**
TIXI pmax pmax
comp=Z,4.0nm,0.8s
WMQ **Urumqi** 45.68 304 P **P** **02 58 42.4 +1.0**
WMQ sP sP 02 58 59.1 +9.2
WMQ pmax pmax
comp=Z,28nm,0.7s
WMQ pmax pmax
comp=Z,220nm,3.6s
WMQ LR LR
comp=Z,190nm,15.7s
WMQ LR LR
comp=Z,230nm,21.5s
WMQ LR LR
comp=Z,190nm,22.9s
DGZ **Jazzator, Alta** 46.13 312 *i* P **P** **02 58 46.4 +1.4**
DGZ pmax pmax
comp=Z,23nm,1.3s
ZAA0 **Zalesovo Array** 48.21 318 *e*P **P** **02 59 01.0 +0.1**
comp=Z,5.0nm,0.8s
ZALV **Zalesovo Beam** 48.21 318 P **P** **02 59 00.8 -0.1**
comp=Z,2.6nm,0.4s,baz=102,slow=7.5,SNR=14
ZALV PcP **PcP** **03 00 27.9 0.0**
comp=Z,1.3nm,0.5s,baz=98,slow=4.4,SNR=3.0
ZALV LR LR 03 19 57.7
comp=Z,147nm,18.8s,baz=70,slow=37
ZAA1 **Zalesovo Array** 48.21 318 *e*P **P** **02 59 00.8 -0.1**
ZAA1 *e*PcP **PcP** **03 00 27.9 0.0**
ODAN **Odare** 48.34 281 *e*P **P** **02 59 02.1 -0.5**
PSI **Prapat** 48.91 246 P **P** **02 59 06.6 -0.4**
comp=Z,3.9nm,0.6s,baz=36,slow=6.3,SNR=4.0
PSI **Prapat** 48.91 246 *e*P **P** **02 59 06.6 -0.4**
comp=Z,4.0nm,0.6s
RAMN **Ramite** 49.00 282 *e*P **P** **02 59 07.1 -0.6**
JIRN **Jiri** 49.16 283 *e*P **P** **02 59 08.9 -0.1**
NVS **Novosibirsk** 49.24 319 *e*P **P** **02 59 09.9 +1.1**
WRAB **Tennant Creek** 49.32 190 *e*P **P** **02 59 08.6 -1.2**
WRAB **Tennant Creek** 49.32 190 *ce*P **P** **02 59 09.8 +0.1**
WRAB pmax pmax
comp=Z,18nm,1.2s
WB2 **Warramunga Arr** 49.33 190 *e*P **P** **02 59 09.6 -0.3**
comp=Z,14nm,0.8s
WR1 **Warramunga Arr** 49.33 190 *e*P **P** **02 59 09.2 -0.6**
comp=Z,46nm,0.8s
WR1 *e*PcP **PcP** **03 00 31.9 -0.5**
WR1 *e*ScP **ScP** **03 04 30.9 +4.3**
WRA **Warramunga Arr** 49.33 190 P **P** **02 59 09.2 -0.6**
comp=Z,9.7nm,0.7s,baz=12,slow=8.2,SNR=72
WRA PcP **PcP** **03 00 31.9 -0.5**
comp=Z,1.8nm,0.8s,baz=9.4,slow=4.0,SNR=6.0
WRA ScP **ScP** **03 04 30.9 +4.3**
comp=Z,0.7nm,0.8s,baz=359,slow=4.4,SNR=4.6
GUN **Gumba** 49.35 283 *e*P **P** **02 59 10.2 -0.3**
comp=Z,39nm,0.9s
MK01 **Makanchi Array** 49.45 308 *e*P **P** **02 59 10.6 -0.1**
MK31 **Makanchi Array** 49.46 308 *e*P **P** **02 59 10.8 +0.1**
MK31 **Makanchi Array** 49.46 308 *i* P **P** **02 59 10.8 +0.1**
MK31 pmax pmax
comp=Z,6.0nm,0.9s
MK32 **Makanchi Array** 49.46 308 *e*P **P** **02 59 10.8 +0.1**
MK32 *e*PcP **PcP** **03 00 31.6 -1.0**
MKAR **Makanchi Array** 49.46 308 P **P** **02 59 10.8 +0.1**
comp=Z,3.8nm,0.7s,baz=90,slow=9.7,SNR=32
MKAR PcP **PcP** **03 00 31.6 -1.0**
comp=Z,1.1nm,0.6s,baz=85,slow=3.5,SNR=4.4
MKAR **Makanchi Array** 49.46 308 *e*P **P** **02 59 10.8 +0.1**
comp=Z,26nm,0.8s
MKAR **Makanchi Array** 49.46 308 *e*P **P** **02 59 10.8 +0.1**
MKAR pmax pmax
comp=Z,27nm,0.8s
MAKZ **Makanchi** 49.68 308 *e*P **P** **02 59 12.5 +0.2**
comp=Z,19nm,1.8s
MAKZ **Makanchi** 49.68 308 *e*P **P** **02 59 12.5 +0.2**
MAKZ pmax pmax
comp=Z,19nm,1.8s
GKN **Gorkha** 50.39 284 *e*P **P** **02 59 17.6 -0.5**
DANN **Dangsing** 51.04 284 *e*P **P** **02 59 23.3 +0.1**
KOLN **Koldanda** 51.33 284 *e*P **P** **02 59 24.9 -0.4**
comp=Z,22nm,0.8s
PDGK **Podgornoye** 51.66 304 P **P** **02 59 26.4 -1.1**
PDGK pmax pmax
comp=Z,11nm,0.9s
PYUN **Piuthan** 51.76 284 *e*P **P** **02 59 28.2 -0.3**
comp=Z,68nm,0.9s
KURK **Kurchatov** 51.83 313 *e*P **P** **02 59 28.7 +0.3**
comp=Z,29nm,1.0s
KURK **Kurchatov** 51.83 313 *ce*P **P** **02 59 28.7 +0.3**
KURK pmax pmax
comp=Z,33nm,1.0s
KURBB **Kurchatov Arra** 51.89 313 P **P** **02 59 29.4 +0.5**
comp=Z,14nm,0.8s,baz=91,slow=7.6,SNR=106
KDAK **Kodiak Island** 52.66 38 P **P** **02 59 33.3 -1.2**
comp=Z,3.8nm,0.7s,baz=208,slow=3.5,SNR=5.9
KDAK **Kodiak Island** 52.66 38 *e*P **P** **02 59 33.3 -1.2**
comp=Z,45nm,1.6s
KDAK **Kodiak Island** 52.66 38 *ce*P **P** **02 59 33.9 -0.5**
AS01 **Alice Springs** 53.04 190 *e*P **P** **02 59 36.5 -1.2**
AS31 **Alice Springs** 53.05 190 *e*P **P** **02 59 37.0 -0.7**
comp=Z,1.0nm,0.8s
ASAR **Alice Springs** 53.05 190 P **P** **02 59 37.0 -0.7**
comp=Z,1.1nm,0.5s,baz=7.0,slow=5.8,SNR=13
TARG **Taragay, Kyrgy** 53.09 302 *e*P **P** **02 59 39.0 +0.6**
comp=Z,8.4nm,1.0s
CAST **Castle Rocks** 53.48 31 *e*P **P** **02 59 41.5 +1.0**
comp=Z,8.4nm,0.8s
ULHL **Ulahol** 54.17 303 P **P** **02 59 46.4 +0.3**
SNR=6.9
TKM2 **Tokmak 2** 54.54 304 P **P** **02 59 48.6 -0.2**
TKM2 pmax pmax
comp=Z,2.0nm,0.7s
KSH **Kashi** 54.83 300 P **P** **02 59 54.3 +3.5**
KSH pmax pmax
comp=Z,12nm,0.6s
KZA **Kyzart** 54.92 303 P **P** **02 59 52.9 +1.1**
SNR=8.0
KBK **Karagaybulak** 55.05 304 P **P** **02 59 52.9 +0.4**
SNR=6.7
TOLK **Toolik Lake Re** 55.26 24 *e*P **P** **02 59 53.0 -0.4**
comp=Z,8.1nm,1.1s
AAK **Ala-Archa** 55.38 304 *e*P **P** **02 59 55.3 +0.4**
comp=Z,3.2nm,0.6s
AAK **Ala-Archa** 55.38 304 *i* P **P** **02 59 54.7 -0.2**
AAK pmax pmax
comp=Z,3.0nm,0.7s
UCH **Uchtor** 55.44 303 P **P** **02 59 56.5 +0.9**
SNR=7.0
ILAR **Eielson Array** 55.88 29 P **P** **02 59 56.6 -1.3**
comp=Z,0.7nm,0.8s,baz=260,slow=6.0,SNR=11
ILAR LR LR 03 23 28.1
comp=Z,43nm,19.1s,baz=272,slow=36
ILB **Eielson Array** 55.88 29 *e*P **P** **02 59 56.6 -1.3**
IL1 **Eielson Array** 55.89 29 *e*P **P** **02 59 56.6 -1.3**
AML **Almayashu** 56.05 303 P **P** **03 00 00.5 +0.6**
SNR=16
OTUK **Ortayu** 56.08 311 P **P** **02 59 58.7 -0.9**
OTUK pmax pmax
comp=Z,23nm,1.0s
SFK **Sufi-Kurgan** 56.60 301 P **P** **03 00 04.0 +0.3**
SFK pmax pmax
comp=Z,10.0nm,1.2s
BVA0 **Borovoye Array** 56.80 317 *i* P **P** **03 00 04.7 +0.1**
BVA0 pmax pmax
comp=Z,9.0nm,0.8s
BVAR **Borovoye Array** 56.80 317 P **P** **03 00 05.3 +0.7**
comp=Z,5.9nm,0.6s,baz=103,slow=7.2,SNR=11
BVAR LR LR 03 25 25.8
comp=Z,108nm,20.2s,baz=63,slow=37
MNAS **Manas** 56.86 304 P **P** **03 00 06.4 +1.0**
MNAS pmax pmax
comp=Z,3.0nm,0.7s
BRVK **Borovoye** 56.86 317 *e*P **P** **03 00 05.4 +0.4**
comp=Z,8.8nm,0.7s
BRVK **Borovoye** 56.86 317 *ce*P **P** **03 00 05.7 +0.6**
BRVK pmax pmax
comp=Z,14nm,1.2s
DOT **Dot Lake** 57.08 31 *e*P **P** **03 00 04.2 -2.2**
comp=Z,10nm,1.0s
SCRK **Sand Creek** 57.11 30 *e*P **P** **03 00 06.9 +0.1**
comp=Z,5.0nm,1.1s
KK31 **Karatay Array** 58.18 305 *e*P **P** **03 00 14.9 +0.4**
KK31 **Karatay Array** 58.18 305 *i* P **P** **03 00 14.9 +0.4**
KK31 pmax pmax
comp=Z,8.0nm,0.7s
KKAR **Karatay Array** 58.18 305 *e*P **P** **03 00 14.9 +0.4**
KKAR **Karatay Array** 58.18 305 *e*P **P** **03 00 14.9 +0.4**
DAWY **Dawson** 59.13 30 *e*P **P** **03 00 22.4 +1.5**
comp=Z,7.4nm,1.4s
DAWY *e*pP **sP** **03 00 28.9 -0.6**
DZET **Dzherino** 60.40 300 P **P** **03 00 30.7 +0.6**
STKA **Stephens Creek** 60.59 181 P **P** **03 00 30.6 -0.5**
comp=Z,1.3nm,0.6s,baz=3.0,slow=6.4,SNR=7.0
INK **Inuvik** 61.16 25 P **P** **03 00 34.7 +0.2**
comp=Z,2.9nm,0.8s,baz=308,slow=5.9,SNR=16
INK **Inuvik** 61.16 25 *e*P **P** **03 00 35.0 +0.5**
comp=Z,5.0nm,1.0s
INK **Inuvik** 61.16 25 *e*P **P** **03 00 35.0 +0.5**
INK pmax pmax
comp=Z,5.0nm,1.0s
ARU **Arti** 63.06 322 *e*P **P** **03 00 47.6 +0.1**
comp=Z,19nm,1.3s
ARU **Arti** 63.06 322 *c i*P **P** **03 00 47.3 -0.2**
ARU S **S** **03 09 17.6 +0.6**
ARU SS **SS** **03 13 25.2 +2.9**
ARU pmax pmax
comp=Z,18nm,1.7s
AB31 **Akbulak array** 63.94 314 P **P** **03 00 53.3 -0.2**
AB31 pmax pmax
comp=Z,5.0nm,0.6s
ABKAR **Akbulak array** 63.94 314 *e*P **P** **03 00 53.6 +0.1**
AKTO **Aktyubinsk** 64.83 315 P **P** **03 00 59.0 -0.3**
comp=Z,3.3nm,0.7s,baz=76,slow=12,SNR=13
AKTO LR LR 03 29 48.5
comp=Z,114nm,18.0s,baz=85,slow=36
GEYT **Alibeck** 68.68 302 P **P** **03 01 24.9 +0.8**
comp=Z,1.2nm,0.3s,baz=76,slow=6.1,SNR=4.6
GEYT LR LR 03 34 01.5
comp=Z,85nm,18.5s,baz=10.0,slow=38
RES **Resolute Bay** 70.11 14 *e*P **P** **03 01 32.3 0.0**
comp=Z,2.9nm,0.8s
RES **Resolute Bay** 70.11 14 *e*P **P** **03 01 32.3 0.0**
RES pmax pmax
comp=Z,3.0nm,0.8s
YKA **Yellowknife Ar** 70.31 29 P **P** **03 01 33.3 -0.4**
comp=Z,1.2nm,0.5s,baz=295,slow=6.4,SNR=42
KLMR **Klimovskoe** 71.04 330 P **P** **03 01 34.1 -4.1**
KLMR AMP 03 01 46.7
comp=Z,5.0nm,1.2s
KLMR **Klimovskoe** 71.04 330 P **P** **03 01 34.0 -4.1**
KLMR pmax pmax
comp=Z,5.0nm,1.2s
ARA0 **ARCESS Array S** 71.80 341 *e*P **P** **03 01 43.2 +0.6**
ARCES **ARCESS Array B** 71.80 341 P **P** **03 01 43.2 +0.6**
comp=Z,2.7nm,0.8s,baz=39,slow=6.2,SNR=6.1
DAG **Danmarks Havn** 73.79 356 P **P** **03 01 55.5 +1.2**
YBH **Yreka Blue Hor** 74.61 51 P **P** **03 01 58.9 -0.9**
comp=Z,0.9nm,0.6s,baz=300,slow=14,SNR=4.3
AKT **Akhty** 74.68 309 *e*P **P** **03 02 00.6 +0.3**
AKT *e* 03 02 13.6
AKT pmax pmax
comp=Z,8.0nm,0.7s
RAR **Rarotonga** 74.79 125 LR LR 03 28 45.9
comp=Z,117nm,20.9s,baz=268,slow=31
LPSR **Galich'ya Gora** 75.08 322 *e*P **P** **03 02 01.1 -1.1**
LPSR pmax pmax
comp=Z,7.0nm,0.6s
OBN **Obninsk** 75.09 325 *j e*P **P** **03 02 02.2 0.0**
OBN *e* 03 02 17.3
OBN pmax pmax
comp=Z,3.0nm,0.8s
OBN MLR MLR
comp=Z,72nm,14.0s
VSR **Storozhevoye** 75.60 321 *e*P **P** **03 02 04.9 -0.3**
VSR pmax pmax
comp=Z,10.0nm,1.1s
FIA0 **FINESS Array S** 76.32 334 *e*P **P** **03 02 09.1 -0.1**
FIA0 **FINESS Array S** 76.32 334 *e*P **P** **03 02 09.1 -0.1**
FINES **FINESS Array B** 76.32 334 P **P** **03 02 09.1 -0.1**
comp=Z,1.3nm,0.6s,baz=45,slow=5.7,SNR=11
BMO **Blue Mountains** 76.76 46 *e*P **P** **03 02 10.2 -1.9**
comp=Z,6.5nm,1.2s
BMO **Blue Mountains** 76.76 46 *e*P **P** **03 02 10.2 -1.9**
BMO pmax pmax
comp=Z,7.0nm,1.2s
KBZ **Khabaz** 76.88 313 P **P** **03 02 13.6 +0.9**
comp=Z,7.4nm,0.8s,baz=86,slow=4.5,SNR=16
KIV **Kislovodsk** 76.91 313 *e*P **P** **03 02 13.7 +0.7**
KIV pmax pmax
comp=Z,11nm,1.1s
KIV MLR MLR
comp=Z,106nm,18.0s
JTMT **Jette** 77.22 42 *e*P **P** **03 02 15.9 +1.2**
comp=Z,8.7nm,1.2s
JTMT *e*PcP **PcP** **03 02 28.4 +3.0**
GNI **Garni** 77.31 309 *i* P **P** **03 02 18.1 +2.8**
GNI pmax pmax
comp=Z,14nm,1.1s
MFID **Camas Ranch** 78.38 47 *e*P **P** **03 02 20.4 -0.7**
comp=Z,6.3nm,1.0s
MDPB **Devils Postpil** 78.95 53 *e*P **P** **03 02 25.3 +0.7**
comp=Z,3.1nm,0.6s
KVN **Kaiserville** 78.96 52 *e*P **P** **03 02 25.1 +0.5**
comp=Z,6.0nm,1.2s
KVN **Kaiserville** 78.96 52 *e*P **P** **03 02 25.1 +0.5**
KVN pmax pmax
comp=Z,6.0nm,1.2s
NV01 **Mina Array Sit** 79.11 52 *e*P **P** **03 02 25.6 +0.2**
NVAR **Mina Array Bea** 79.11 52 P **P** **03 02 25.9 +0.4**
comp=Z,1.1nm,0.6s,baz=292,slow=5.7,SNR=14
LRM **Limekiln Ridge** 79.27 43 *e*P **P** **03 02 26.8 +0.6**
ANN **Anapa** 79.79 316 *e*P **P** **03 02 26.9 -1.8**
ANN pmax pmax
comp=Z,126nm,1.9s
BOZ **Bozeman (W)** 79.88 43 *e*P **P** **03 02 29.6 +0.2**
comp=Z,9.2nm,1.5s
BOZ **Bozeman (W)** 79.88 43 *e*P **P** **03 02 29.6 +0.2**
BOZ pmax pmax
comp=Z,9.0nm,1.5s
FFC **Flin Flon** 79.95 32 *e*P **P** **03 02 29.5 +0.1**
comp=Z,4.6nm,1.1s
FFC *ep*P **PcP** **03 02 37.3 +0.4**
FFC **Flin Flon** 79.95 32 *e*P **P** **03 02 29.5 +0.1**
FFC *e**PP **PcP** **03 02 37.3 +0.4**
FFC pmax pmax
comp=Z,5.0nm,1.1s
SBC **Santa Barbara** 80.00 56 *e*P **P** **03 02 32.4 +2.3**
FCC **Fort Churchill** 80.75 26 *e*P **P** **03 02 33.0 -0.6**
comp=Z,7.2nm,1.4s
FCC **Fort Churchill** 80.75 26 *e*P **P** **03 02 33.0 -0.6**
FCC pmax pmax
comp=Z,7.0nm,1.4s
R11A **Troy Canyon, C** 81.02 51 *e*P **P** **03 02 36.0 +0.3**
comp=Z,6.2nm,1.2s
H17A **Grant Village** 81.15 44 *e*P **P** **03 02 39.1 +2.7**
comp=Z,11nm,1.4s
AKASG **Malin Array Be** 81.21 324 P **P** **03 02 35.9 -0.3**
comp=Z,1.0nm,0.5s,baz=49,slow=5.8,SNR=10.0
KIEV **Kiev** 81.22 324 *i* P **P** **03 02 34.9 -1.4**
KIEV pmax pmax
comp=Z,2.0nm,0.9s
PASC **Pasadena Art C** 81.24 56 *e*P **P** **03 02 35.4 -1.3**
TPNV **Topopah Spring** 81.25 53 *e*P **P** **03 02 37.3 +0.3**
comp=Z,6.7nm,1.1s
TPNV **Topopah Spring** 81.25 53 *e*P **P** **03 02 37.3 +0.3**
TPNV pmax pmax
comp=Z,7.0nm,1.1s
FXWY **Fox Creek** 81.27 45 *e*P **P** **03 02 35.2 -1.8**
comp=Z,3.8nm,1.3s
RLMT **Red Lodge** 81.55 43 *e*P **P** **03 02 39.6 +1.1**
comp=Z,9.8nm,1.4s
CHNC **Chino** 81.69 56 *e*P **P** **03 02 38.1 -1.0**
HFS **Hagfors** 81.75 337 P **P** **03 02 38.2 -0.7**
comp=Z,1.8nm,0.6s,baz=52,slow=2.4,SNR=9.7
NB2 **NORSAR Subarra** 81.91 338 P **P** **03 02 38.7 -1.1**
comp=Z,1.3nm,0.6s,baz=41,slow=5.1
NB200 **NORSAR Array S** 81.91 338 *e*P **P** **03 02 39.1 -0.7**
NOA **NORSAR Array B** 81.91 338 P **P** **03 02 39.1 -0.7**
comp=Z,2.3nm,0.7s,baz=40,slow=5.1,SNR=6.2
DUG **Dugway, Tooele** 81.94 48 *e*P **P** **03 02 41.1 +0.6**
comp=Z,6.3nm,1.3s
DUG *ep*P **sP** **03 02 50.9 +1.6**
DUG **Dugway, Tooele** 81.94 48 *e*P **P** **03 02 41.1 +0.6**
DUG *e**PP **sP** **03 02 50.9 +1.6**
DUG pmax pmax
comp=Z,6.0nm,1.3s
DSCC **Desert Studies** 82.25 54 *e*P **P** **03 02 38.8 -3.2**
PD31 **Pinedale Array** 82.65 45 *e*P **P** **03 02 44.6 +0.4**
PDAR **Pinedale Array** 82.65 45 P **P** **03 02 44.6 +0.4**
comp=Z,0.5nm,0.6s,baz=251,slow=1.0,SNR=6.4
LCMT **Little Creek M** 83.30 51 *e*P **P** **03 02 48.7 +1.0**
comp=Z,2.7nm,1.0s
KNB **Kanab** 83.58 51 *e*P **P** **03 02 49.8 +0.7**
comp=Z,18nm,1.5s
KNB **Kanab** 83.58 51 *e*P **P** **03 02 49.8 +0.7**
KNB pmax pmax
comp=Z,18nm,1.5s
BTCC **Brunts Corner** 83.96 56 *e*P **P** **03 02 53.2 +2.4**
RAYN **Ar Rayn** 84.61 294 *e*P **P** **03 02 55.2 +0.8**
comp=Z,25nm,0.9s
RAYN **Ar Rayn** 84.61 294 P **P** **03 02 55.2 +0.8**
RAYN pmax pmax
comp=Z,25nm,0.9s
BR101 **Keskin Array S** 84.88 313 *e*P **P** **03 02 56.0 +0.4**
BR131 **Keskin Array S** 84.88 313 *e*P **P** **03 02 56.5 +0.8**
BRTR **Keskin Array B** 84.88 313 P **P** **03 02 56.0 +0.4**
comp=Z,2.8nm,0.8s,baz=118,slow=4.5,SNR=18
KWP **Kalwaria Pacla** 85.17 326 *e*P **P** **03 02 57.1 +0.4**
comp=Z,78nm,1.1s
KWP **Kalwaria Pacla** 85.17 326 *e*P **P** **03 02 57.1 +0.4**
KWP pmax pmax
comp=Z,78nm,1.1s
WUAZ **Wupatki** 85.37 52 *e*P **P** **03 02 58.8 +0.6**
comp=Z,5.5nm,1.1s
PV10 **Paradox Valley** 85.38 48 *e*P **P** **03 02 59.3 +0.9**
N23A **Red Feather La** 85.93 45 *e*P **P** **03 03 02.6 +1.6**
comp=Z,9.4nm,1.1s
SMCO **Snowmass** 86.27 47 *e*P **P** **03 03 02.2 -0.7**
comp=Z,11nm,1.7s
MMAI **Mount Meron Ar** 87.37 306 P **P** **03 03 08.1 +0.1**
comp=Z,5.9nm,0.9s,baz=48,slow=4.7,SNR=5.3
VYHS **Vyhne** 87.83 326 *e*P **P** **03 03 09.6 -0.2**
VYHS **Vyhne** 87.83 326 *e*P **P** **03 03 09.6 -0.2**
CLL **Collm** 88.48 331 *e*P **P** **03 03 12.0 -0.8**
CLL **Collm** 88.48 331 *e*P **P** **03 03 12.0 -0.8**
GEC2 **GERESS Array S** 89.98 329 *e*P **P** **03 03 19.4 -0.7**
comp=Z,9.9nm,1.8s
GEC2 **GERESS Array S** 89.98 329 *e*P **P** **03 03 19.4 -0.7**
GEC2 pmax pmax
comp=Z,10.0nm,1.8s
GERES **GERESS Array B** 89.98 329 P **P** **03 03 19.4 -0.7**
comp=Z,0.2nm,0.4s,baz=28,slow=4.4,SNR=2.6
TX31 **Lajitas Ar. Si** 94.23 53 *e*P **P** **03 03 40.9 +0.8**
TX31 *ep*P **sP** **03 03 50.0 +1.1**
LTX **Lajitas** 94.23 53 *e*P **P** **03 03 40.8 +0.7**
LTX **Lajitas** 94.23 53 *e*P **P** **03 03 40.8 +0.7**
TXAR **Lajitas Array** 94.23 53 P **P** **03 03 40.8 +0.7**
comp=Z,1.2nm,0.9s,baz=316,slow=0.6,SNR=10
SAML **Samuel** 148.69 55 *e*PKPdf **PKPdf** **03 10 04.4 -0.3**
LPAZ **La Paz** 149.13 72 PKPbc **PKPbc** **03 10 10.1 -0.2**
comp=Z,3.3nm,0.8s,baz=273,slow=2.5,SNR=7.6
PLCA **Paso Flores** 150.67 122 PKPbc **PKPbc** **03 10 12.2 -0.4**
comp=Z,1.4nm,0.8s,baz=260,slow=6.3,SNR=3.1

*IDC **18** 02:57:43.3± 1.5, 2°.29N× 91°.68E, h0km, mb3.9/9, mb1 4.1/12, mb1mx3.7/67, mbtmp3.9/12, ML4.0/3, MS3.0/2, Ms1 3.0/2, ms1mx2.6/61, Error ellipse: s-maj=39.8km s-min=20.8km az=28.0*

*NEIC **18** 02:57:44.9± 0.5, 2°.34N× 91°.72E, h10km, mb4.7/3, Error ellipse: s-maj=11.3km s-min=6.8km az=206.0*

*ISCJB **18** 02:57:45.8± 0.7, 2°.29N± 0.09× 91°.75E± 0.05, h33km, mb4.1/11, MS3.0/1, Error ellipse: s-maj=14.3km s-min=5.9km az=19.4*

*DJA **18** 02:57:53.2± 1.7, 3°N± 6°× 9°2E± 1°1, h10km, M4.4/3, mb4.8/1, MLv4.2/3*

ISC 18 02:57:48.3±0.8, 2°40N±0.10×91°78E±0.07, h35km, n34, σ1§42/34, mb4.1/11, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
BSI	**Banda Aceh**	4.66	49	P		Pn	02 58 56.3	0.0
BSI				S		Sn	02 59 46.2	-3.1
MLSI	**Meulaboh, Aceh**	4.97	68	P		Pn	02 59 01.2	+0.6
TPTI		5.46	81	P		Pn	02 59 07.0	-0.3
GSI	**Gunungsitoli**	5.90	101	P		Pn	02 59 12.9	-0.3
GSI				S		Sn	03 00 15.6	-4.1
GSI	**Gunungsitoli**	5.90	101	*e*Pn		Pn	02 59 13.0	-0.3
GSI				*e*Sn		Sn	03 00 18.2	-1.4
KCSI	**Kotacane, Aceh**	6.09	79	P		Pn	02 59 18.0	+2.1
PSI	**Prapat**	7.15	87	Pn		Pn	02 59 30.3	-0.3
	1.1nm,0.3s,baz=287,slow=11,SNR=4.5							
PSI				Sn		Sn	03 00 54.0	+3.3
	baz=276,slow=18,SNR=1.7							
PSI				LR		LR	03 02 37.9	
	comp=Z,140nm,19.2s,baz=190,slow=41							
PSI	**Prapat**	7.15	87	*e*Pn		Pn	02 59 30.3	-0.3
PALK	**Pallekele**	12.05	294	Pn		Pn	03 00 35.7	-2.0
	0.5nm,0.3s,baz=117,slow=16,SNR=3.5							
PALK				Sn		Sn	03 02 38.0	-13
	0.8nm,0.3s,baz=115,slow=0.9,SNR=3.9							
CM31	**Chiang Mai Arr**	17.43	23	*e*Pn		P	03 01 50.0	+0.1
CMAR	**Chiang Mai Arr**	17.43	23	Pn		P	03 01 50.0	+0.1
	0.6nm,0.3s,baz=220,slow=14,SNR=5.1							
CHTO	**Chiang Mai**	17.75	23	*e*Pn		Pn	03 01 51.0	-1.9
	1.9nm,0.7s							
H08S2	**Diego Garcia H**	21.68	242	T		T	03 24 49.7	
	baz=61,slow=75							
H08S3	**Diego Garcia H**	21.68	242	T		T	03 24 46.8	
	baz=61,slow=75							
H08S1	**Diego Carcia H**	21.69	242	T		T	03 24 47.4	
	baz=61,slow=75							
MK32	**Makanchi Array**	44.98	351	*e*P		P	03 06 01.0	+0.8
MKAR	**Makanchi Array**	44.98	351	P		P	03 06 01.0	+0.8
	0.5nm,0.6s,baz=174,slow=9.6,SNR=5.5							
GEYT	**Alibeck**	46.91	323	P		P	03 06 15.0	-0.6
	1.3nm,0.6s,baz=134,slow=6.2,SNR=3.3							
SONA0	**Songino Array**	46.99	13	*e*P		P	03 06 17.6	+1.5
SONM	**Songino Array**	46.99	13	P		P	03 06 17.6	+1.5
	1.2nm,0.6s,baz=198,slow=9.1,SNR=3.6							
WR1	**Warramunga Arr**	47.30	120	*e*P		P	03 06 19.0	+0.2
	11nm,0.8s							
WRA	**Warramunga Arr**	47.30	120	P		P	03 06 19.0	+0.2
	0.5nm,0.5s,baz=298,slow=8.5,SNR=5.4							
KSRS	**Korea Array**	48.14	39	LR		LR	03 28 18.8	
	comp=Z,13nm,18.2s,baz=190,slow=38							
KURBB	**Kurchatov Arra**	49.34	349	P		P	03 06 34.7	+0.7
	0.4nm,0.6s,baz=171,slow=7.5,SNR=5.2							
KURK	**Kurchatov**	49.41	349	*e*P		P	03 06 34.7	+0.2
ZALV	**Zalesovo Beam**	51.70	355	P		P	03 06 52.6	+0.9
	0.8nm,0.3s,baz=177,slow=9.0,SNR=3.4							
ZAA1	**Zalesovo Array**	51.70	355	*e*P		P	03 06 52.6	+0.8
BVAR	**Borovoye Array**	53.48	344	P		P	03 07 05.2	+0.2
	0.6nm,0.5s,baz=260,slow=41,SNR=1.5							
KVAR	**Kislovodsk Arr**	59.91	321	P		P	03 07 51.2	+0.2
	3.8nm,0.7s,baz=155,slow=8.4,SNR=3.0							
KIV	**Kislovodsk**	59.91	321	*e*P		P	03 07 51.2	+0.2
	6.2nm,1.0s							
GEC2	**GERESS Array S**	80.35	319	*e*P		P	03 09 57.2	+1.0
	2.6nm,0.9s							
GERES	**GERESS Array B**	80.35	319	P		P	03 09 57.2	+1.0
	1.1nm,0.7s,baz=116,slow=4.5,SNR=4.9							
LTX	**Lajitas**	145.15	24	*e*PKPbc		PKPdf	03 17 23.5	+0.4
TXAR	**Lajitas Array**	145.15	24	PKPbc		PKPdf	03 17 23.5	+0.4
	0.5nm,0.7s,baz=304,slow=2.9,SNR=6.8							

IDC ***18*** *02:59:42.3±2.3, 10°.94N×126°.28E, h0km, mb3.6/5, mb1 3.7/5, mb1mx3.4/59, mbtmp3.6/5, MS3.4/2, Ms1 3.4/2, ms1mx2.7/49, Error ellipse: s-maj=222.1km s-min=23.9km az=67.0*

ISCJB ***18*** *02:59:45.7±0.9, 10°.96N±0°.07×126°.46E±0°.07, h37km, mb3.7/5, MS3.4/2, Error ellipse: s-maj=11.4km s-min=9.2km az=36.1*

MAN ***18*** *02:59:46, 10°.95N×126°.40E, h41km, mb4.5, ML3.3, MS3.1*

ISC 18 02:59:47.7±1.1, 10°98N±0°.08×126°4E±0°.1, h37km, n12, σ0§90/14, mb3.6/5, 1C-1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
BESP	**Borongan**	1.11	304	*e*P		Pn	03 00 06.7	+0.1
BESP				*e*S		Sn	03 00 21.7	+1.0
PLP	**Palo**	1.38	278	↓P		Pn	03 00 09.8	-0.0
PLP				eS		Sn	03 00 25.4	-1.0
MSLP	**Maasin**	1.71	241	*e*P		Pn	03 00 15.2	+0.2
MSLP				*e*S		Sn	03 00 36.1	+0.6
CNP	**Catarman**	2.26	313	*e*P		Pn	03 00 22.6	0.0
RCP	**Roxas**	3.60	280	↑eP		Pn	03 00 42.5	+1.4
BATI	**Baumata**	21.22	187	LR		LR	03 14 38.6	
	comp=Z,81nm,19.2s,baz=33,slow=42							
WRA	**Warramunga Arr**	31.71	166	P		P	03 06 07.5	-0.7
	0.3nm,0.5s,baz=344,slow=9.1,SNR=2.4							
ASAR	**Alice Springs**	35.21	168	P		P	03 06 38.8	+0.2
	0.2nm,0.3s,baz=350,slow=7.7,SNR=2.1							
MKAR	**Makanchi Array**	51.53	322	P		P	03 08 49.6	-0.3
	0.5nm,0.7s,baz=120,slow=8.5,SNR=4.5							
MKAR				PcP		PcP	03 10 04.2	+0.5
	0.1nm,0.5s,baz=127,slow=3.8,SNR=1.2							
KURBB	**Kurchatov Arra**	55.55	325	P		P	03 09 19.6	+0.3
	0.3nm,0.4s,baz=128,slow=7.5,SNR=2.4							
RPZ	**Rata Peaks**	67.92	147	LR		LR	03 41 44.6	
	comp=Z,31nm,18.4s,baz=26,slow=37							
FINES	**FINESS Array B**	85.32	332	P		P	03 12 20.5	-0.2
	1.8nm,0.9s,baz=76,slow=7.3,SNR=4.8							

IDC ***18*** *03:05:36.9±1.1, 35°.35N×27°.93E, h0km, mb3.6/8, mb1 3.7/15, mb1mx3.6/64, mbtmp3.6/15, ML3.2/7, MS2.5/2, Ms1 2.5/2, ms1mx2.2/58, Error ellipse: s-maj=22.9km s-min=15.4km az=21.0*

DDA ***18*** *03:05:36.8, 35°.40N×27°.72E, h5km, Ml3.8*

ATH ***18*** *03:05:38.6, 35°.37N×27°.94E, h6km±1km, ML3.5/5, Error ellipse: s-maj=3.7km s-min=1.1km az=323.0*

ISCJB ***18*** *03:05:40.0±1.0, 35°.48N±0°.03×27°.92E±0°.03, h7km±6km, mb3.5/9, Error ellipse: s-maj=6.2km s-min=3.3km az=157.3*

CSEM ***18*** *03:05:40.7±0.2, 35°.56N×27°.84E, h2km, ML3.4, Error ellipse: s-maj=7.0km s-min=3.2km az=155.0*

ISK ***18*** *03:05:40.7, 35°.40N×27°.74E, h31km, ML3.9/13*

THE ***18*** *03:05:41.8, 35°.55N×27°.76E, h0km±1km, ML3.4/5, Error ellipse: s-maj=3.5km s-min=0.9km az=138.0*

ISC 18 03:05:41.4±1.2, 35°48N±0°.04×27°83E±0°.03, h16km±7km, n123, σ1§59/150, mb3.7/9, 10C-4D, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
KARP	**Karpathos**	0.55	277	PG		Pg	03 05 51.6	-0.8
KARP				SG		Sg	03 05 59.8	0.0
KARP	**Karpathos**	0.55	277	P		Pg	03 05 50.8	-1.6
KARP				S		Sg	03 05 59.6	-0.2
KARP				AML	AML		03 06 02.6	
	comp=N,8688μm,0.7s							
KARP				AML	AML		03 06 08.9	
	comp=E,6815μm,0.7s							
KARP	**Karpathos**	0.55	277	P		Pg	03 05 51.3	-1.1
KARP				S		Sg	03 05 59.9	+0.1
KARP	**Karpathos**	0.55	277	P		Pg	03 05 51.3	-1.1
KARP	**Karpathos**	0.55	277	*e*Pg		Pg	03 05 51.6	-0.8
KARP				*e*Sg		Sg	03 05 59.8	0.0
ARG	**Arkhangelos**	0.77	18	P		Pg	03 05 54.1	-2.4
ARG				S		Sg	03 06 07.3	+0.7
ARG				AML	AML		03 06 11.8	
	comp=N,4123μm,0.6s							
ARG				AML	AML		03 06 14.2	
	comp=E,6181μm,0.4s							
ARG	**Arkhangelos**	0.77	18	P		Pg	03 05 55.5	-0.9
ARG				S		Sb	03 06 08.2	+1.6
ARG	**Arkhangelos**	0.77	18	P		Pg	03 05 54.5	-1.9
ARG				S		Sg	03 06 07.0	+0.4
NISR	**Nisiros**	1.26	333	P		Pb	03 06 05.8	+0.9
NISR	**Nisiros**	1.26	333	P		Pn	03 06 03.7	-0.7
NISR				S		Sb	03 06 20.9	+0.1
NISR	**Nisiros**	1.26	333	P		Pn	03 06 03.7	-0.7
NISR				S		Sb	03 06 20.9	+0.1
ZKR	**Zakros**	1.37	255	P		Pn	03 06 05.4	-0.5
ZKR				S		Sg	03 06 25.7	0.0
ZKR				AML	AML		03 06 35.6	
	comp=E,4750μm,0.8s							
ZKR				AML	AML		03 06 37.0	
	comp=N,1891μm,0.6s							
ZKR	**Zakros**	1.37	255	P		Pn	03 06 05.6	-0.3
ZKR				S		Sb	03 06 24.6	+0.6
ZKR	**Zakros**	1.37	255	P		Pn	03 06 05.6	-0.3
ZKR				S		Sb	03 06 24.6	+0.6
TURN	**Turunc**	1.52	24	PN		Pn	03 06 04.9	-3.0
TURN				SN		Sn	03 06 22.6	-4.7
TURN	**Turunc**	1.52	24	*i* P		Pn	03 06 05.3	-2.6
TURN				*i* S		Sn	03 06 25.1	-2.3
TURN	**Turunc**	1.52	24	*e*Pn		Pn	03 06 04.9	-3.0
TURN	**Turunc**	1.52	24	P		Pn	03 06 05.3	-2.6
TURN				S		Sn	03 06 25.1	-2.3
FETY	**Fethiye**	1.53	41	PN		Pn	03 06 08.1	0.0
FETY	**Fethiye**	1.53	41	P		Pn	03 06 08.5	+0.4
FETY	**Fethiye**	1.53	41	*e*Pn		Pn	03 06 08.1	0.0
FETY	**Fethiye**	1.53	41	P		Pn	03 06 08.5	+0.4
BDRM	**Kayabasi**	1.61	349	*i* P		Pn	03 06 09.1	-0.1
BDRM				*i* S		Sb	03 06 32.6	+1.7
BDRM	**Kayabasi**	1.61	349	P		Pn	03 06 09.1	-0.1
BDRM				S		Sb	03 06 32.6	+1.7
AKAS	**Kas**	1.62	62	PN		Pn	03 06 08.7	-0.8
AKAS	**Kas**	1.62	62	*e*Pn		Pn	03 06 08.7	-0.8
BODT	**Bodrum**	1.63	345	PN		Pn	03 06 08.6	-0.9
BODT	**Bodrum**	1.63	345	*e*Pn		Pn	03 06 08.6	-0.9
YER	**Yerkesik**	1.69	12	PN		Pn	03 06 09.9	-0.4
YER	**Yerkesik**	1.69	12	P		Pn	03 06 11.0	+0.7
YER	**Yerkesik**	1.69	12	*e*Pn		Pn	03 06 09.9	-0.4
YER	**Yerkesik**	1.69	12	P		Pn	03 06 11.0	+0.7
MLSB	**Milas**	1.81	359	PN		Pn	03 06 11.6	-0.3
MLSB	**Milas**	1.81	359	*e*Pn		Pn	03 06 11.6	-0.3
NPS	**Neapolis**	1.83	264	P		Pn	03 06 13.2	+1.0
NPS				S		Sg	03 06 39.8	-0.5
NPS				AML	AML		03 06 46.5	
	comp=N,2380μm,0.8s							
NPS				AML	AML		03 06 48.6	
	comp=E,2527μm,0.7s							
NPS	**Neapolis**	1.83	264	P		Pn	03 06 12.8	+0.6
NPS				S		Sb	03 06 36.8	-0.3
NPS	**Neapolis**	1.83	264	P		Pn	03 06 13.5	+1.3
NPS				S		Sb	03 06 36.8	-0.3
LAST	**Lasithi**	1.95	261	P		Pb	03 06 15.7	-0.9
LAST				S		Sb	03 06 41.9	+1.1
LAST				AML	AML		03 06 54.0	
	comp=E,1216μm,0.8s							
LAST				AML	AML		03 07 03.1	
	comp=N,1083μm,1.0s							
LAST	**Lasithi**	1.95	261	P		Pn	03 06 15.2	+1.2
LAST	**Lasithi**	1.95	261	P		Pn	03 06 15.2	+1.2
LAST				S		Sb	03 06 42.1	+1.3
ELL	**Elmali**	2.10	52	PN		Pn	03 06 15.8	-0.2
ELL	**Elmali**	2.10	52	*e*Pn		Pn	03 06 15.8	-0.2
TAVA	**DENIZLI_Tavas**	2.16	23	*i* P		Pn	03 06 17.7	+0.9
TAVA				*i* S		Sg	03 06 51.7	+0.7
TAVA	**DENIZLI_Tavas**	2.16	23	P		Pn	03 06 17.7	+0.9
GOLH	**Golhisar**	2.24	38	*i* P		Pn	03 06 18.1	+0.2
GOLH				*i* S		Sb	03 06 48.5	-0.5
GOLH	**Golhisar**	2.24	38	P		Pn	03 06 18.1	+0.2
GOLH				S		Sb	03 06 48.5	-0.5
GCAM	**G?zelcaml?**	2.26	348	PN		Pn	03 06 17.9	-0.2
GCAM	**G?zelcaml?**	2.26	348	*i* P		Pn	03 06 18.7	+0.6
GCAM	**G?zelcaml?**	2.26	348	*e*Pn		Pn	03 06 17.9	-0.2
GCAM	**G?zelcaml?**	2.26	348	P		Pn	03 06 18.7	+0.6
SMG	**Samos**	2.36	340	P		Pn	03 06 19.9	+0.4
SMG	**Samos**	2.36	340	P		Pn	03 06 19.9	+0.4
IDI	**Anoyia**	2.41	266	Pn		Pn	03 06 20.7	+0.4
	comp=N,5.2nm,0.3s,baz=64,slow=12,SNR=26							
IDI				Sn		Sb	03 06 54.6	+0.5
	comp=N,11nm,0.3s,baz=26,slow=20,SNR=7.8							
IDI				LR		LR	03 07 40.4	
	comp=N,161nm,21.8s,baz=91,slow=50							
APE	**Apeiranthos**	2.44	311	PN		Pn	03 06 18.9	-1.8
APE	**Apeiranthos**	2.44	311	P		Pn	03 06 20.7	0.0
APE	**Apeiranthos**	2.44	311	*e*Pn		Pn	03 06 18.9	-1.8
APE	**Apeiranthos**	2.44	311	P		Pn	03 06 20.7	0.0
AYDB	**Zeytinkoy-Aydi**	2.46	1	PN		Pn	03 06 20.9	-0.1
AYDB	**Zeytinkoy-Aydi**	2.46	1	*e*Pn		Pn	03 06 20.9	-0.1
DENT	**Denizli**	2.46	23	PN		Pn	03 06 21.3	+0.3
DENT	**Denizli**	2.46	23	*e*Pn		Pn	03 06 21.3	+0.3
SIVA	**Sivas**	2.52	260	P		Pn	03 06 23.8	+2.2
SIVA	**Sivas**	2.52	260	P		Pn	03 06 23.6	+2.0
KORT	**Korkueli**	2.54	53	PN		Pn	03 06 22.9	+0.9
KORT	**Korkueli**	2.54	53	*e*Pn		Pn	03 06 22.9	+0.9
ANTB	**Antalya**	2.68	57	PN		Pn	03 06 24.7	+0.8
ANTB	**Antalya**	2.68	57	*e*Pn		Pn	03 06 24.7	+0.8
VAM	**Vamos**	2.97	270	P		Pn	03 06 30.2	+2.4
VAM	**Vamos**	2.97	270	P		Pn	03 06 30.1	+2.3
URLA	**Izmir**	3.04	341	PN		Pn	03 06 27.2	-1.6
URLA	**Izmir**	3.04	341	*e*Pn		Pn	03 06 27.2	-1.6
KULA	**Kula-Manisa**	3.10	12	PN		Pn	03 06 30.1	+0.4
KULA	**Kula-Manisa**	3.10	12	*e*Pn		Pn	03 06 30.1	+0.4
IMMV	**Iera Moni Meta**	3.14	271	P		Pn	03 06 32.3	+2.0
IMMV	**Iera Moni Meta**	3.14	271	P		Pn	03 06 32.4	+2.1
ISP	**Isparta**	3.18	42	PN		Pn	03 06 31.3	+0.4
ISP	**Isparta**	3.18	42	*e*Pn		Pn	03 06 31.3	+0.4
CHOS	**Chios island**	3.23	334	PN		Pn	03 06 31.6	+0.1
CHOS	**Chios island**	3.23	334	*e*Pn		Pn	03 06 31.6	+0.1
SUTC	**Sutluce-Ispart**	3.23	51	PN		Pn	03 06 32.7	+1.1
SUTC	**Sutluce-Ispart**	3.23	51	*e*Pn		Pn	03 06 32.7	+1.1
KEPZ	**Antalya-Kepez**	3.36	64	*i* P		Pn	03 06 33.4	+0.1
KEPZ				*i* S		Sn	03 07 12.2	-0.7
KEPZ	**Antalya-Kepez**	3.36	64	P		Pn	03 06 33.4	+0.1
KEPZ				S		Sn	03 07 12.2	-0.7
DKL	**Dikili**	3.66	349	PN		Pn	03 06 37.7	+0.4
DKL	**Dikili**	3.66	349	*e*Pn		Pn	03 06 37.7	+0.4
SIMA	**Simav-Kutahya**	3.71	14	PN		Pn	03 06 38.9	+0.8
SIMA	**Simav-Kutahya**	3.71	14	*e*Pn		Pn	03 06 38.9	+0.8
SHUT	**Suhut-Afyon**	3.76	35	PN		Pn	03 06 39.8	+1.0
SHUT	**Suhut-Afyon**	3.76	35	*e*Pn		Pn	03 06 39.8	+1.0
BRTR	**Keskin Array B**	6.26	46	Pn		Pn	03 07 13.9	+0.7
	comp=N,0.2nm,0.3s,baz=220,slow=14,SNR=7.4							
BRTR				Sn		Sn	03 08 24.2	-0.2
	comp=N,0.2nm,0.3s,baz=214,slow=25,SNR=5.5							
MMAI	**Mount Meron Ar**	6.73	109	Pn		Pn	03 07 16.4	-3.3
	comp=N,2.4nm,0.3s,baz=313,slow=12,SNR=11							
VTS	**Vitosha**	7.96	335	↓P		Pn	03 07 40.0	+3.5
ASF	**Jabal al Asfar**	8.23	111	Pn		Pn	03 07 36.9	-3.4
	comp=N,0.2nm,0.3s,baz=254,slow=15,SNR=2.2							
ASF				Sn		Sn	03 09 15.4	+2.5
	comp=N,0.3nm,0.3s,baz=217,slow=20,SNR=2.5							
EIL	**Elat**	8.35	132	Pn		Pn	03 07 36.2	-5.5
	comp=N,0.5nm,0.3s,baz=127,slow=20,SNR=2.9							
EIL				Sn		Sn	03 09 12.9	-2.8
	comp=N,0.6nm,0.3s,baz=336,slow=18,SNR=2.6							
TIR	**Tirane**	8.56	316	↓P		Pn	03 07 50.4	+5.7
TIRR	**Tirgusor**	8.97	3	↑P		Pn	03 07 52.2	+1.9
TIP	**Tirpagrande**	9.56	296	↑P		Pn	03 08 06.3	+7.9
PDG	**Podgorica**	9.63	319	↑P		Pn	03 08 03.9	+4.7
CFR	**Carcaliu**	9.69	1	↓P		Pn	03 08 01.0	+1.0
MLR	**Muntele Rosu**	10.10	352	Pn		Pn	03 08 08.5	+2.7
	comp=N,0.0nm,0.3s,baz=199,slow=8.8,SNR=9.7							
MLR				LR		LR	03 12 20.8	
	comp=N,16nm,20.6s,baz=216,slow=39							
MLR	**Muntele Rosu**	10.10	352	↑P		Pn	03 08 08.1	+2.3
VOIR		10.16	349	↓P		Pn	03 08 09.2	+2.5
PLOR	**Plostina**	10.40	355	↑P		Pn	03 08 12.1	+2.3
VRI	**Vrincioaia**	10.41	356	↑P		Pn	03 08 12.3	+2.4
TESR	**Tescani**	11.05	356	↑P		Pn	03 08 20.6	+1.8
BZS	**Buzias**	11.17	337	↑P		Pn	03 08 24.0	+3.2
BURAR	**Buzovina Array**	12.28	352	↑P		Pn	03 08 37.8	+2.2
VYHS	**Vyhne**	14.61	336	*e*P		P	03 09 17.2	+3.5
LANS	**Liptovska Anna**	14.98	338	*e*P		P	03 09 21.5	+3.7
LANS				*e*		x	03 09 32.3	
AKASG	**Malin Array Be**	15.24	3	Pn		Pn	03 09 17.7	+1.9
	comp=N,0.5nm,0.3s,baz=191,slow=10,SNR=5.7							
MORC	**Moravsky Berou**	16.14	335	↑P		P	03 09 31.5	+0.7
GERES	**GERESS Array B**	16.93	326	Pn		Pn	03 09 38.4	+0.7
	comp=N,0.1nm,0.3s,baz=144,slow=12,SNR=8.7							
DPC	**Dobruska-Polom**	17.05	334	*e*P		P	03 09 43.7	+2.9
KHC	**Kasperske Hory**	17.20	327	*e*P		P	03 09 43.0	+0.6
KHC				*ex*		x	03 09 46.2	
ESDC	**Sonseca Array**	25.47	289	P		P	03 11 07.4	-1.3
	comp=N,1.1nm,0.6s,baz=75,slow=9.2,SNR=6.7							
FINES	**FINESS Array B**	26.00	358	P		P	03 11 11.7	-1.5
	comp=N,3.9nm,1.1s,baz=174,slow=19,SNR=2.8							
HFS	**Hagfors**	26.31	344	P		P	03 11 16.7	+0.6
	comp=N,1.3nm,0.7s,baz=155,slow=14,SNR=4.3							
AKTO	**Aktyubinsk**	26.44	46	P		P	03 11 22.0	+4.7
	comp=N,1.3nm,0.8s,baz=230,slow=5.4,SNR=4.3							
ARCES	**ARCESS Array B**	34.13	359	P		P	03 12 22.6	-2.6
	comp=N,0.7nm,0.7s,baz=181,slow=7.3,SNR=4.2							
KURBB	**Kurchatov Arra**	39.22	51	P		P	03 13 08.0	-0.6
	comp=N,0.6nm,0.5s,baz=280,slow=9.0,SNR=3.6							
MKAR	**Makanchi Array**	41.77	57	P		P	03 13 27.0	-2.9
	comp=N,0.5nm,0.7s,baz=280,slow=7.6,SNR=3.5							
YKA	**Yellowknife Ar**	77.79	343	P		P	03 17 34.6	-2.8
	comp=N,0.1nm,0.5s,baz=34,slow=5.4,SNR=3.2							
ILAR	**Eielson Array**	79.99	358	P		P	03 17 48.8	-0.7
	comp=N,0.2nm,0.6s,baz=335,slow=3.7,SNR=2.8							

ISCJB ***18*** *03:09:24.6±1.1, 37°.43N±0°.07×143°.70E±0°.08, h33km, mb3.8/2, Error ellipse: s-maj=9.7km s-min=9.1km az=40.2*

JMA ***18*** *03:09:25.9±0.2, 37°.45N×143°.59E, h50km, MJ3.5*

IDC ***18*** *03:09:42.5±2.3, 34°.64N×141°.28E, h0km, mb3.8/3, mb1 3.9/4, mb1mx3.4/67, mbtmp3.7/4, ML3.1/1, Error ellipse: s-maj=96.4km s-min=26.2km az=71.0*

ISC 18 03:09:26.2±1.7, 37°49N±0°.08×143°7E±0°.1, h35km, n12, σ1§00/17, mb3.9/3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
JIO	**Ouri**	2.10	298	P		Pn	03 09 58.9	+0.1
JIO				S		Sn	03 10 22.9	-0.8
OFUJ	**Ofunato**	2.25	315	P		Pn	03 10 01.0	0.0
JFK	**Kawauchi**	2.26	268	P		Pn	03 10 00.3	-0.8
JFK				S		Sn	03 10 25.7	-2.1
JMK	**Ichinoseki**	2.44	307	P		Pn	03 10 03.8	+0.2
JFT	**Otama**	2.68	272	P		Pn	03 10 07.5	+0.6
JFT				*e*S		Sn	03 10 37.6	-0.6
JOM	**Ohasama**	2.74	317	P		Pn	03 10 08.2	+0.5
JOM				*e*S		Sn	03 10 40.0	+0.4
JYK	**Kaneyama**	3.00	299	P		Pn	03 10 12.0	+0.8
MJAR	**Matsushiro Arr**	4.50	259	Pn		Pn	03 10 31.9	0.0
	2.6nm,0.3s,baz=91,slow=14,SNR=25							
MJAR				Sn		Sn	03 11 24.5	+1.4
	0.6nm,0.3s,baz=98,slow=28,SNR=5.1							
MAT	**Matsushiro**	4.50	259	P		Pn	03 10 33.5	+1.5
MAT				S		Sn	03 11 24.3	+1.1
WRA	**Warramunga Arr**	57.81	190	P		P	03 19 13.3	-0.8
	0.8nm,0.7s,baz=9.8,slow=7.4,SNR=8.3							
ASAR	**Alice Springs**	61.53	190	P		P	03 19 39.9	+0.2
	0.3nm,0.4s,baz=20,slow=8.5,SNR=4.3							
FINES	**FINESS Array B**	69.25	333	P		P	03 21 01.3	+32
	1.8nm,0.8s,baz=60,slow=7.5,SNR=4.9							

ISCJB ***18*** *03:11:24.0±1.3, 1°.4N±0°.2×91°.8E±0°.2, h10km, mb3.9/6, MS3.4/1, Error ellipse: s-maj=31.1km s-min=22.1km az=146.2*

IDC ***18*** *03:11:24.2±1.6, 1°.43N×91°.78E, h0km, mb3.7/6, mb1 4.0/7, mb1mx3.6/66, mbtmp3.8/7, ML4.5/1, MS3.2/2, Ms1 3.2/2, ms1mx2.6/62, Error ellipse: s-maj=50.5km s-min=26.3km az=50.0*

ISC 18 03:11:25.7±1.5, 1°.4N±0°.2×91°.8E±0°.3, h10km, n16, σ0§34/8, mb3.9/6, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
PALK	**Pallekele**	12.49	298	LR		LR	03 18 37.6	
	comp=Z,61nm,19.2s,baz=296,slow=35							
CMAR	**Chiang Mai Arr**	18.31	22	P		P	03 15 40.4	+0.3
	0.6nm,0.3s,baz=225,slow=13,SNR=2.8							
H08S2	**Diego Garcia H**	21.27	245	T		T	03 37 57.6	
	baz=65,slow=75,SNR=19							
H08S3	**Diego Garcia H**	21.27	245	T		T	03 37 58.9	
	baz=65,slow=75,

comp=Z,139nm,21.6s,baz=250,slow=32
FRB Frobisher Bay 29.29 324 P **P** 03 32 48.2 +0.1
6.0nm,1.0s,baz=85,slow=8.7,SNR=8.9
FRB LR LR 03 42 10.4
comp=Z,191nm,18.2s,baz=62,slow=32
KEST Kesra 29.78 95 P **P** 03 32 53.2 +0.3
7.0nm,0.8s,baz=276,slow=7.3,SNR=4.1
KEST LR LR 03 43 09.7
comp=Z,372nm,21.7s,baz=246,slow=33
KEST Kesra 29.78 95 *eP* **P** 03 32 53.2 +0.3
50nm,1.5s
VAE Valguarnera 32.53 88 LR LR 03 45 33.6
comp=Z,148nm,18.8s,baz=319,slow=35
KWP Kalwaria Pacla 34.16 64 *eP* **P** 03 33 32.6 +1.6
383nm,2.0s
FINES FINESS Array B 35.06 43 LR LR 03 45 39.9
comp=Z,135nm,21.4s,baz=189,slow=32
BUR04 Bucovina Ar. S 36.27 67 *eP* **P** 03 33 51.2 +1.9
KOWA Kowa 36.70 139 P **P** 03 33 53.1 -0.1
2.0nm,0.8s,baz=331,slow=7.4,SNR=6.4
MLR Muntele Rosu 37.40 70 P **P** 03 33 60.0 +0.9
1.0nm,1.0s,baz=224,slow=1.4,SNR=4.2
MLR LR LR 03 48 54.9
comp=Z,56nm,19.3s,baz=286,slow=36
AKASG Malin Array Be 37.99 60 P **P** 03 34 02.8 -0.9
0.4nm,0.4s,baz=282,slow=8.3,SNR=4.0
AKBB Malin Array Si 37.99 60 *eP* **P** 03 34 02.9 -0.9
RES Resolute Bay 40.98 338 P **P** 03 34 27.8 -0.6
0.9nm,1.0s,baz=112,slow=6.5,SNR=3.4
RES Resolute Bay 40.98 338 *eP* **P** 03 34 27.8 -0.6
2.5nm,1.0s
FCC Fort Churchill 41.16 314 *eP* **P** 03 34 31.1 +1.0
11nm,1.0s
OBN Obninsk 41.23 52 LR LR 03 50 41.3
comp=Z,197nm,19.7s,baz=272,slow=35
TKL Tuckaleechee C 42.70 277 LR LR 03 51 54.7
comp=Z,114nm,18.0s,baz=102,slow=35
DBIC Dimbokro 43.31 145 P **P** 03 34 48.2 +0.2
2.8nm,1.0s,baz=320,slow=11,SNR=2.7
DBIC Dimbokro 43.31 145 *eP* **P** 03 34 48.2 +0.2
46nm,1.9s
ANTO Ankara 44.27 74 *eP* **P** 03 34 53.5 -2.2
14nm,0.9s
BR101 Keskin Array S 44.91 74 *eP* **P** 03 35 01.2 +0.2
BRTR Keskin Array B 44.92 74 P **P** 03 35 01.2 +0.2
1.4nm,0.9s,baz=297,slow=6.3,SNR=5.4
FFC Flin Flon 46.43 310 *eP* **P** 03 35 13.0 +0.5
2.5nm,0.8s
CCM Cathedral Cave 46.69 285 *eP* **P** 03 35 16.7 +1.9
7.0nm,0.9s
V40A Witts Springs 48.93 283 *eP* **P** 03 35 32.2 0.0
11nm,1.2s
KBZ Khabaz 49.18 65 LR LR 03 56 25.4
comp=Z,141nm,21.0s,baz=308,slow=36
MMAI Mount Meron Ar 49.58 81 LR LR 03 58 09.8
comp=Z,36nm,20.9s,baz=15,slow=38
YKA Yellowknife Ar 49.80 323 P **P** 03 35 38.4 0.0
0.3nm,0.9s,baz=81,slow=6.2,SNR=3.3
YKA PcP **PcP** 03 37 00.6 +1.6
0.3nm,0.8s,baz=67,slow=3.8,SNR=5.1
MIAR Mount Ida 50.12 282 *eP* **P** 03 35 42.9 +1.6
12nm,1.1s
GNI Garni 52.14 68 LR LR 04 00 55.7
comp=Z,60nm,18.2s,baz=310,slow=39
H10N2 ASCENSION HYDR 54.11 163 T T 04 34 18.9
baz=349
H10N3 ASCENSION HYDR 54.12 163 T T 04 34 24.1
baz=349,slow=74
H10N1 ASCENSION HYDR 54.13 163 T T 04 34 15.5
baz=349,slow=74
INK Inuvik 54.16 334 P **P** 03 36 09.8 -1.0
1.8nm,1.1s,baz=53,slow=11,SNR=4.0
INK Inuvik 54.16 334 *eP* **P** 03 36 10.0 -0.8
12nm,1.8s
K22A Casper 54.44 297 *eP* **P** 03 36 11.9 -1.6
4.3nm,1.0s
PHWY Pilot Hill 54.48 295 *eP* **P** 03 36 11.8 -2.1
8.9nm,0.9s
RLMT Red Lodge 54.85 301 *eP* **P** 03 36 16.4 -0.1
231nm,1.0s
AKTO Aktyubinsk 54.99 51 LR LR 03 58 39.2
comp=Z,92nm,21.3s,baz=290,slow=35
WALA Waterton Lakes 55.54 307 *eP* P 03 36 26.5 +5.2
6.0nm,1.0s
BOZ Bozeman (W) 56.02 303 *eP* **P** 03 36 25.6 +0.8
4.1nm,0.9s
PD31 Pinedale Array 56.28 299 *eP* **P** 03 36 26.4 -0.4
PDAR Pinedale Array 56.28 299 P **P** 03 36 25.7 -1.1
1.0nm,0.9s,baz=56,slow=3.7,SNR=6.1
PDAR Pinedale Array 56.28 299 *eP* **P** 03 36 26.1 -0.7
LOHW Long Hollow 56.47 300 *eP* **P** 03 36 28.9 +0.8
4.3nm,1.0s
MOOW Moose Ponds 56.48 300 *eP* **P** 03 36 28.8 +0.6
2.5nm,0.9s
IMW Indian Meadow 56.52 301 *eP* **P** 03 36 29.6 +1.0
3.7nm,0.9s
SNOW Snow King Moun 56.64 300 *eP* **P** 03 36 27.7 -1.7
6.6nm,1.0s
FXWY Fox Creek 56.71 300 *eP* **P** 03 36 30.6 +0.7
3.7nm,0.9s
TPAW Teton Pass 56.74 300 *eP* **P** 03 36 30.7 +0.5
8.3nm,1.4s
REDW Red Top Meadow 56.75 300 *eP* **P** 03 36 30.9 +0.7
5.4nm,0.9s
MSTX Muleshoe 56.75 287 *eP* **P** 03 36 31.2 +1.1
6.6nm,1.0s
ROSC El Rosal 56.82 239 LR LR 03 59 32.5
comp=Z,57nm,20.2s,baz=34,slow=35
PV09 Paradox Valley 58.38 294 *eP* **P** 03 36 40.6 -1.2
DAWY Dawson 58.59 331 *eP* **P** 03 36 43.1 +0.6
8.3nm,1.5s
HLID Hailey 58.80 302 *eP* **P** 03 36 46.1 +1.6
4.2nm,1.2s
GDL2 Guadalupe Moun 58.87 286 *eP* **P** 03 36 46.1 +1.0
WHY Whitehorse 59.07 327 *eP* **P** 03 36 47.8 +1.8
12nm,1.5s
MGAN Managua 59.14 255 *eP* **P** 03 36 47.2 +0.3
0.2nm,0.8s
TMUT Trail Mountain 59.25 296 *eP* **P** 03 36 49.5 +1.7
7.8nm,1.0s
NLU North Lily Min 59.42 297 *eP* **P** 03 36 47.5 -1.4
7.3nm,1.6s
JTS JuntasAbangare 59.59 253 LR LR 03 58 27.1
comp=Z,44nm,21.4s,baz=128,slow=32
DUG Dugway, Tooele 59.74 298 *eP* **P** 03 36 52.1 +1.1
7.2nm,1.0s
BVAR Borovoye Array 60.02 44 P **P** 03 36 52.9 +0.4
0.7nm,0.6s,baz=266,slow=4.3,SNR=4.3
BVAR LR LR 04 01 25.2
comp=Z,83nm,19.2s,baz=299,slow=35
APG El Apazote 60.07 261 LR LR 03 58 43.8
comp=Z,80nm,20.7s,baz=116,slow=32
LTX Lajitas 60.12 283 *eP* **P** 03 36 53.2 -0.5
TXAR Lajitas Array 60.12 283 P **P** 03 36 53.2 -0.4
0.6nm,0.9s,baz=61,slow=7.8,SNR=3.7
TXAR LR LR 04 02 25.0
comp=Z,320nm,20.8s,baz=0.0,slow=36
IL1 Eielson Array 60.53 334 *eP* **P** 03 36 55.8 -0.1
ILAR Eielson Array 60.53 334 P **P** 03 36 56.1 +0.2
1.2nm,1.1s,baz=48,slow=4.3,SNR=7.6
ILAR LR LR 04 02 04.0
comp=Z,61nm,18.7s,baz=42,slow=35
ILB Eielson Array 60.53 334 *eP* **P** 03 36 56.1 +0.2
J08A Circle Bar Ran 61.33 304 *eP* **P** 03 37 03.1 +1.3
7.8nm,1.1s
IM3 Indian Mountai 61.61 338 *eP* **P** 03 37 03.4 +0.3
CCUT Cedar City 61.64 296 *eP* **P** 03 37 06.1 +2.0
6.6nm,1.1s
GEYT Alibeck 62.01 63 LR LR 04 05 01.4
comp=Z,45nm,20.6s,baz=315,slow=37
KVN Kaiserville 63.70 300 *eP* **P** 03 37 18.6 +0.8
8.2nm,0.9s
SKT Skwentna 64.00 334 *eP* **P** 03 37 21.4 +2.2
6.0nm,1.0s
PAHR Pah Rah Range 64.08 301 *eP* **P** 03 37 22.0 +1.8
4.7nm,0.9s
NV01 Mina Array Sit 64.21 299 *eP* **P** 03 37 22.5 +1.3
NVAR Mina Array Bea 64.21 299 P **P** 03 37 21.3 +0.2
0.3nm,0.6s,baz=61,slow=7.3,SNR=4.6
NVAR LR LR 04 04 37.1
comp=Z,178nm,18.1s,baz=272,slow=36
RYN Ryan 64.22 300 *eP* **P** 03 37 22.5 +1.4
3.6nm,1.0s
YBH Yreka Blue Hor 64.81 304 LR LR 04 04 21.2
comp=Z,139nm,19.2s,baz=38,slow=35
KURK Kurchatov 65.44 42 *eP* **P** 03 37 28.1 -0.5
KURBB Kurchatov Arra 65.45 42 P **P** 03 37 28.1 -0.6
1.1nm,0.9s,baz=318,slow=6.5,SNR=6.9

BTCC Brunts Corner 65.62 293 *eP* **P** 03 37 31.3 +1.2
ZALV Zalesovo Beam 66.00 37 LR LR 04 05 56.9
comp=Z,88nm,19.9s,baz=250,slow=36
BFSC Mount Baldy Ra 66.42 295 *eP* **P** 03 37 32.6 -2.8
PLM Palomar 66.47 294 *eP* **P** 03 37 36.2 +0.4
ARVC Arvin 66.61 297 *eP* **P** 03 37 33.1 -3.4
ARVC *epP* **pP** 03 37 36.2 -4.8
EML El Monte Cty P 66.75 294 *eP* **P** 03 37 33.8 -3.7
EML *epP* **pP** 03 37 40.6 -1.4
PASC Pasadena Art C 66.80 296 *eP* **P** 03 37 37.6 -0.1
BGC Bolinger Road 66.90 301 *eP* **P** 03 37 38.1 -0.3
LPIG La Paz 68.01 285 LR LR 04 07 60.0
comp=Z,126nm,18.0s,baz=32,slow=36
ATD Arta Tunnel 68.48 95 LR LR 04 08 06.8
comp=Z,61nm,18.7s,baz=325,slow=36
MK32 Makanchi Array 69.90 43 *eP* **P** 03 37 56.1 -0.8
MKAR Makanchi Array 69.90 43 P **P** 03 37 56.1 -0.8
1.1nm,1.0s,baz=312,slow=6.4,SNR=5.5
MKAR LR LR 04 09 42.4
comp=Z,76nm,19.5s,baz=300,slow=37
MK01 Makanchi Array 69.92 43 *eP* **P** 03 37 56.7 -0.4
LPAZ La Paz 71.11 221 LR LR 04 06 28.6
comp=Z,66nm,18.6s,baz=3.5,slow=34
WSAR Wadi Sarin 71.68 75 LR LR 04 15 16.8
comp=Z,41nm,18.4s,baz=56,slow=41
KMBO Kilima Mbogo 73.65 109 LR LR 04 11 47.4
comp=Z,90nm,18.2s,baz=268,slow=37
MA2 Magadan 75.66 1 LR LR 04 07 01.4
comp=Z,20nm,21.5s,baz=297,slow=32
PETK Petropavlovsk- 82.02 356 LR LR 04 17 52.8
comp=Z,45nm,18.1s,baz=344,slow=37
BOSA Boshof 87.99 135 LR LR 04 16 17.8
comp=Z,124nm,21.1s,baz=328,slow=34
WR1 Warramunga Arr 150.98 36 *ep*PKPdf pPKPdf 03 46 37.8 -0.4
WRA Warramunga Arr 150.98 36 PKPbc **PKPbc** 03 46 37.8 -1.4
2.1nm,0.9s,baz=344,slow=2.9,SNR=9.5
AS31 Alice Springs 154.06 40 *e*PKPbc **PKPbc** 03 46 45.0 -0.9
ASAR Alice Springs 154.06 40 PKPbc **PKPbc** 03 46 45.0 -0.9
0.5nm,0.9s,baz=318,slow=1.2,SNR=3.9

*SJA **18** 03:42:50.5±0.6,23.°99S×66.°99W,h224km±10km,ML2.7, MW3.2*
*IDC **18** 03:42:52.7±5.2,23.°89S×66.°76W,h178km±49km,mb3.3/1, mb1 3.2/4,mb1mx3.0/38,mbtmp3.4/4, Error ellipse: s-maj=65.7km s-min=29.8km az=98.0*
ISC 18 03:42:53.0±1.2,23.°94S±0.°08×67.°0W±0.°1,h181km,n12, σ2s03/14,Jujuy Province

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
SLA	**San Lorenzo**	**1.56**	**120**	*i* P		**Pn**	**03 43 27.4**	**+1.6**
SLA				IAML			03 43 29.5	
	comp=Z,82nm,0.7s							
SLA				*i* S		**Sn**	**03 43 54.7**	**+3.4**
HJA	**Humahuaca**	**1.62**	**64**	*i* P		**Pn**	**03 43 28.8**	**+2.1**
HJA				IAML			03 43 32.8	
	comp=Z,56nm,0.4s							
AZAP	**Zapla**	**1.78**	**100**	*i* P		**Pn**	**03 43 29.6**	**+1.5**
YJA	**Yavi**	**2.21**	**38**	*i* P		**Pn**	**03 43 35.1**	**+2.1**
YJA				IAML			03 43 36.4	
	comp=Z,12nm,0.3s							
ASTB	**Santa Barbara**	**2.32**	**91**	*i* P		**Pn**	**03 43 34.6**	**+0.7**
FSA	**Cafayete**	**2.35**	**157**	*i* P		**Pn**	**03 43 34.4**	**+0.1**
FSA				IAML			03 43 34.8	
	comp=Z,8.0nm,0.5s							
FSA				*i* S		**Sn**	**03 44 07.3**	**+0.9**
AHML	**Horco Molle**	**3.21**	**153**	*i* P		**Pn**	**03 43 44.2**	**-0.1**
CPUP	**Villa Florida**	**9.07**	**107**	P		**Pn**	**03 44 57.2**	**-3.1**
	comp=Z,0.0nm,0.3s,baz=53,slow=17,SNR=3.5							
SIV	**San Ignacio**	**9.66**	**36**	P		**Pn**	**03 45 06.2**	**-2.0**
	comp=Z,0.2nm,0.3s,baz=247,slow=12,SNR=7.6							
PLCA	**Paso Flores**	**17.02**	**189**	P		**Pn**	**03 46 40.4**	**0.0**
	comp=Z,0.1nm,0.3s,baz=24,slow=9.1,SNR=4.1							
YKA	**Yellowknife Ar**	**94.07**	**340**	P		**P**	**03 55 49.9**	**-0.2**
	comp=Z,0.1nm,0.5s,baz=135,slow=4.7,SNR=8.5							
MKAR	**Makanchi Array**	**146.47**	**39**	PKPbc		**PKPab**	**04 02 11.9**	**-2.2**
	comp=Z,0.5nm,0.6s,baz=285,slow=2.8,SNR=4.3							

*ISCJB **18** 03:43:46.9±1.5, 1.°0N±0.°2×91.°7E±0.°2,h10km, mb3.7/5, Error ellipse: s-maj=38.1km s-min=23.7km az=153.9*
*IDC **18** 03:43:47.3±1.8, 0.°95N×91.°69E,h0km,mb3.6/5,mb1 3.9/6, mb1mx3.4/61,mbtmp3.7/6,ML4.6/1, Error ellipse: s-maj=58.3km s-min=27.9km az=56.0*
ISC 18 03:43:48.7±1.6, 0.°9N±0.°2×91.°7E±0.°3,h10km,n10,σ0s68/7, mb3.6/5,North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**18.80**	**22**	P		**Pn**	**03 48 09.0**	**+0.1**
	0.7nm,0.3s,baz=212,slow=12,SNR=5.2							
H08S2	**Diego Garcia H**	**20.99**	**246**	T		T	04 10 14.0	
	baz=65,slow=75,SNR=7.6							
H08S3	**Diego Garcia H**	**20.99**	**246**	T		T	04 10 14.2	
	baz=65,slow=75,SNR=7.8							
H08S1	**Diego Garcia H**	**21.01**	**246**	T		T	04 10 15.2	
	baz=65,slow=75,SNR=8.4							
MKAR	**Makanchi Array**	**46.41**	**351**	P		**P**	**03 52 14.5**	**-0.9**
	0.5nm,0.6s,baz=171,slow=8.7,SNR=6.2							
WRA	**Warramunga Arr**	**46.63**	**119**	P		**P**	**03 52 17.4**	**-0.2**
	0.4nm,0.7s,baz=297,slow=8.7,SNR=3.1							
SONM	**Songino Array**	**48.41**	**13**	P		**P**	**03 52 31.6**	**+0.4**
	1.6nm,0.4s,baz=191,slow=9.1,SNR=3.8							
KURBB	**Kurchatov Arra**	**50.75**	**349**	P		**P**	**03 52 48.2**	**-0.6**
	0.2nm,0.3s,baz=167,slow=6.9,SNR=3.0							
GERES	**GERESS Array B**	**81.41**	**319**	P		**P**	**03 56 06.5**	**+0.4**
	0.5nm,0.7s,baz=94,slow=4.1,SNR=4.0							
TXAR	**Lajitas Array**	**146.49**	**25**	PKPbc		**PKPab**	**04 03 32.5**	**+0.5**
	0.2nm,0.5s,baz=6.2,slow=2.8,SNR=4.8							

BJI 18 03:44:25.9,41.°19N×123.°55E,h6km,ML3.6/15,1C, Northeastern China

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
SNY	**Shenyang**	**0.64**	**2**	P	Pg	Pg	03 44 35.8	-2.4
SNY					Sg	Sg	03 44 44.3	-2.2
SNY					smax	smax		
	comp=N,950nm,0.3s							
SNY					smax	smax		
	comp=E,1μm,0.4s							
DL2	**Dalian**	**2.72**	**214**		Pg	Pb	03 45 13.4	-1.5
DL2					Sg	Sb	03 45 48.5	+0.1
DL2					smax	smax		
	comp=N,440nm,0.5s							
DL2					smax	smax		
	comp=E,380nm,0.6s							
CN2	**Changchun**	**2.96**	**28**	*e*Pg		Pb	03 45 18.0	-1.1
CN2				*e*Sg		Sb	03 45 56.5	+1.0
CN2					smax	smax		
	comp=N,260nm,0.5s							
CN2					smax	smax		
	comp=E,240nm,0.5s							
MDJ	**Mudanjiang**	**5.60**	**50**		Pg	Pb	03 46 04.6	+0.5
MDJ					Sg	Sb	03 47 16.4	+4.9
MDJ					smax	smax		
	comp=N,51nm,0.7s							
MDJ					smax	smax		
	comp=E,38nm,0.7s							
CD2	**Chengdu**	**18.97**	**244**	*eP*		P	03 48 45.8	-2.2
WMQ	**Urumqi**	**26.44**	**288**	*eP*		P	03 50 03.0	-0.5
WMQ					LR	LR		
	comp=N,130nm,18.5s							
WMQ					LR	LR		
	comp=E,38nm,19.3s							
WMQ					LR	LR		
	comp=Z,40nm,18.5s							

*ISCJB **18** 03:48:35.3±0.2, 13.°86N±0.°02×120.°78E±0.°03, h157km±2km,mb4.5/84, Error ellipse: s-maj=5.3km s-min=3.8km az=160.9*
*IDC **18** 03:48:35.2±0.4, 13.°86N×120.°82E,h148km±3km,mb4.0/29, mb1 4.1/29,mb1mx4.0/57,mbtmp4.5/29, Error ellipse: s-maj=15.4km s-min=8.6km az=70.0*
*MAN **18** 03:48:36, 13.°89N×120.°58E,h116km,mb5.0,ML4.0, MS4.0*
*NEIC **18** 03:48:36.2±0.5, 13.°84N×120.°76E,h155km±4km,mb4.6/50, Error ellipse: s-maj=4.7km s-min=3.3km az=72.0*
*DJA **18** 03:48:39.1±0.6,14.°N±6.°×12.°1E±1.°0,h202km±9km,M4.5/8, mb4.5/8,mB5.2/4,MLv4.4/1,Mw(mB)4.6/4*

ISC 18 03:48:36.0±0.5,13.°87N±0.°03×120.°66E±0.°05,h150km±4km, n181,σ1s46/206,mb4.5/84,3C-3D,Mindoro

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
TGY	**Tagaytay City**	**0.35**	**49**	P		**Pn**	**03 48 56.5**	**-0.4**
	4μm,0.3s,baz=266,slow=2.1,SNR=279							
TGY					S	**Sn**	**03 49 12.0**	**-0.7**
	2μm,0.3s,baz=211,slow=17,SNR=8.0							
TGY	**Tagaytay City**	**0.35**	**49**	↑*i* P		**Pn**	**03 48 56.2**	**-0.6**
TGY				*i* S		**Sn**	**03 49 12.2**	**-0.5**
LUBP	**Lubang**	**0.42**	**252**	*eP*		**Pn**	**03 48 55.6**	**-1.4**
LQP	**Lukban**	**0.89**	**74**	↑*eP*		**Pn**	**03 48 60.0**	**-0.1**
BOAC	**Boac**	**1.22**	**109**	*eP*		**Pn**	**03 49 02.8**	**+0.1**
BOAC				*eS*		**Sn**	**03 49 23.8**	**+0.6**
SJMP	**San Jose**	**1.47**	**162**	*eP*		**Pn**	**03 49 04.7**	**-0.6**
SJMP				*eS*		**Sn**	**03 49 25.3**	**-2.4**
PCPH	**Palayan**	**1.73**	**14**	*eP*		**Pn**	**03 49 06.8**	**-1.4**
PCPH				*eS*		**Sn**	**03 49 30.1**	**-2.8**
GQP	**Guinayangan**	**1.74**	**89**	↑*eP*		**Pn**	**03 49 08.8**	**+0.7**
BUSP	**Coron**	**1.91**	**194**	*eP*		**Pn**	**03 49 09.0**	**-1.2**
BUSP				*eS*		**Sn**	**03 49 34.1**	**-2.2**
OTRP	**Odiongan**	**2.00**	**138**	*eP*		**Pn**	**03 49 10.9**	**-0.3**
OTRP				*eS*		**Sn**	**03 49 37.0**	**-1.2**
SCZP	**Santa Cruz**	**2.03**	**339**	*eP*		**Pn**	**03 49 10.1**	**-1.4**
SCZP				*eS*		**Sn**	**03 49 35.3**	**-3.5**
AUQP	**San Andres**	**2.03**	**105**	*eP*		**Pn**	**03 49 13.6**	**+2.0**
BALP	**Baler**	**2.06**	**25**	*eP*		**Pn**	**03 49 11.9**	**+0.1**
BOLP	**Bolinao**	**2.60**	**344**	*eP*		**Pn**	**03 49 17.4**	**-1.0**
ENPP	**El Nido**	**2.91**	**205**	*eP*		**Pn**	**03 49 22.3**	**0.0**
RCP	**Roxas**	**3.07**	**138**	↑*eP*		**Pn**	**03 49 25.3**	**+1.0**
CAUP	**Cauayan**	**3.26**	**20**	*eP*		**Pn**	**03 49 27.0**	**+0.3**
JAP	**San Jose, Anti**	**3.35**	**158**	↑*eP*		**Pn**	**03 49 29.3**	**+1.4**
JAP				*eS*		Sn	03 50 20.1	+12
GUIM	**Jordan**	**3.73**	**149**	*eP*		**Pn**	**03 49 34.8**	**+2.0**
APYP	**Conner**	**4.01**	**8**	*eP*		**Pn**	**03 49 37.2**	**+0.8**
CNP	**Catarman**	**4.13**	**109**	*eP*		**Pn**	**03 49 39.5**	**+1.5**
PLP	**Palo**	**5.00**	**122**	↓*iP*		**Pn**	**03 49 51.6**	**+2.1**
MYLDM	**Lahad Datu**	**8.89**	**194**	*e*Pn		**Pn**	**03 50 43.3**	**+1.9**
MPSI	**Mapaga**	**13.47**	**183**	P		**P**	**03 51 47.4**	**+2.1**
SBUM	**Sibu**	**14.08**	**217**	*e*Pn		**Pn**	**03 51 50.6**	**+1.5**
LUWI	**Luwuk**	**14.96**	**172**	*e*Pn		Pn	03 51 53.9	-6.2
KSM	**Kuching**	**16.02**	**221**	*e*Pn		**Pn**	**03 52 12.9**	**-0.1**
	14nm,1.0s							
SKNT	**Sakolnakorn**	**16.37**	**283**	P		**Pn**	**03 52 19.4**	**+2.0**
	6.9nm,1.2s							
KHON	**Khomkaen**	**17.39**	**280**	P		**Pn**	**03 52 33.1**	**+3.4**
	16nm,1.0s,3μm							
KBKI	**Kotabaru**	**17.63**	**195**	P		**Pn**	**03 52 33.8**	**+1.3**
SRAK	**Srakaew**	**18.07**	**273**	P		**P**	**03 52 32.8**	**-3.4**
GYA	**Guiyang**	**18.13**	**316**	P		**Pn**	**03 52 41.1**	**+2.6**
GYA				PP		**pP**	**03 53 03.4**	**+0.6**
GYA				sP		sP	03 53 28.0	+6.2
GYA				S		**S**	**03 55 54.6**	**-2.3**
GYA				pmax		pmax		
	comp=Z,10.0nm,0.7s							
BNSI	**Bone**	**18.16**	**182**	P		**Pn**	**03 52 41.5**	**+2.7**
CHAI	**Chaiyaphum**	**18.16**	**279**	P		**P**	**03 52 39.4**	**+2.2**
	comp=Z,14nm,0.7s,comp=Z,299nm							
NJ2	**Nanjing**	**18.17**	**355**	*eP*		**Pn**	**03 52 39.4**	**+0.6**
NJ2				pmax		pmax		
	comp=Z,9.0nm,0.5s							
PBKT	**Sadao Pong**	**19.19**	**281**	P		**P**	**03 52 49.4**	**+1.1**
	comp=Z,12nm,1.1s							
PBKT	**Sadao Pong**	**19.19**	**281**	*eP*		**P**	**03 52 49.9**	**+1.5**
	comp=Z,13nm,1.1s							
NANT	**Nan**	**19.77**	**287**	P		**Pn**	**03 52 58.4**	**+0.7**
	comp=Z,6.1nm,0.7s							
PHIT	**Phitsanulok**	**19.78**	**282**	P		**P**	**03 52 57.0**	**+2.3**
	comp=Z,16nm,0.9s							
CM01	**Chiang Mai Arr**	**21.32**	**285**	*eP*		**P**	**03 53 12.6**	**+1.3**
CM31	**Chiang Mai Arr**	**21.34**	**285**	*eP*		**P**	**03 53 12.8**	**+1.2**
CMAR	**Chiang Mai Arr**	**21.34**	**285**	P		**P**	**03 53 12.8**	**+1.2**
	comp=Z,11nm,0.7s,baz=96,slow=7.9,SNR=52							
CMMT	**Chiang Mai**	**21.40**	**286**	P		**P**	**03 53 12.4**	**+0.3**
	comp=Z,12nm,0.8s							
CHTO	**Chiang Mai**	**21.40**	**286**	P		**P**	**03 53 13.5**	**+1.3**
	comp=Z,55nm,0.8s							
CHTO	**Chiang Mai**	**21.40**	**286**	*eP*		**P**	**03 53 13.3**	**+1.2**
	comp=Z,8.4nm,0.8s							
TRTT	**Trang**	**21.44**	**256**	P		**P**	**03 53 14.9**	**+2.4**
	comp=Z,4.6nm,1.0s,comp=Z,316nm							
CMAI	**Chiengmai2**	**21.53**	**289**	P		**P**	**03 53 15.7**	**+2.0**
	comp=Z,201nm,0.8s,comp=Z,6μm							
EDFI	**Ende, Flores**	**22.50**	**177**	P		**P**	**03 53 24.7**	**+1.4**
XAN	**Xi'an**	**22.73**	**334**	P		**P**	**03 53 25.3**	**0.0**
XAN				pP		pP	03 53 31.8	-21
XAN				pmax		pmax		
	comp=Z,18nm,0.6s							
PLAI	**Plampang**	**22.73**	**187**	P		**P**	**03 53 26.9**	**+1.5**
CD2	**Chengdu**	**23.01**	**320**	*eP*		**P**	**03 53 28.8**	**+0.9**
CD2				pmax		pmax		
	comp=Z,10.0nm,0.5s							
CD2				pmax		pmax		
	comp=Z,120nm,5.0s							
BATI	**Baumata**	**24.11**	**173**	P		**P**	**03 53 37.1**	**-0.9**
	comp=Z,36nm,0.5s,baz=84,slow=4.2,SNR=8.7							
PSI	**Prapat**	**24.12**	**245**	*eP*		**P**	**03 53 39.4**	**+1.1**
	comp=Z,13nm,1.0s							
PSI				*eP*		**pP**	**03 54 08.5**	**+0.1**
KS15	**Wonju Array Si**	**24.34**	**14**	*eP*		**P**	**03 53 39.6**	**-0.4**
KSAR	**Wonju Array Be**	**24.34**	**14**	P		**P**	**03 53 39.6**	**-0.4**
KSRS	**Korea Array**	**24.36**	**14**	P		**P**	**03 53 39.6**	**-0.5**
	comp=Z,1.1nm,0.4s,baz=195,slow=10,SNR=7.9							
LZH	**Lanzhou**	**26.78**	**329**	*eP*		**P**	**03 54 03.9**	**+1.7**
LZH				pP		pP	03 54 39.1	+5.5
LZH				sP		sP	03 54 56.4	+5.4
LZH				pmax		pmax		
	comp=Z,43nm,1.1s							
LZH				pmax		pmax		
	comp=Z,240nm,4.0s							
MAJO	**Matsushiro**	**27.51**	**32**	*eP*		**P**	**03 54 07.2**	**-1.3**
MJAR	**Matsushiro Arr**	**27.51**	**32**	P		**P**	**03 54 07.2**	**-1.3**
	comp=Z,0.6nm,0.5s,baz=202,slow=6.3,SNR=3.0							
HHC	**Hu-ho-hao-te**	**28.03**	**345**	*eP*		**P**	**03 54 15.9**	**+2.7**
HHC				pP		pP	03 54 45.1	+0.3
HHC				sP		sP	03 55 03.8	+1.6
HHC				S		**S**	**03 58 51.8**	**+5.1**
HHC				pmax		pmax		
	comp=Z,61nm,0.9s							
HHC				pmax		pmax		
	comp=Z,750nm,4.1s							
MTN	**Manton Dam**	**28.50**	**158**	*eP*		**P**	**03 54 16.6**	**-0.8**
	comp=Z,70nm,2.0s							
SHL	**Shillong**	**29.41**	**298**	*eP*		**P**	**03 54 26.4**	**+0.7**
	comp=Z,9.4nm,0.4s							
CN2	**Changchun**	**30.11**	**7**	*eP*		**P**	**03 54 33.5**	**+2.1**
GTA	**Gaotai**	**31.38**	**328**	*eP*		**P**	**03 54 42.3**	**-0.5**
GTA				pP		pP	03 55 16.8	+2.1
GTA				sP		sP	03 55 35.4	+3.4
GTA				pmax		pmax		
	comp=Z,5.0nm,0.7s							
USRK	**Ussuriysk Ar.**	**31.74**	**16**	P		**P**	**03 54 44.8**	**-0.9**
	comp=Z,1.9nm,0.6s,baz=188,slow=6.9,SNR=5.3							
ODAN	**Odare**	**33.65**	**298**	*eP*		**P**	**03 55 04.3**	**+1.4**
ERM	**Erimo**	**34.16**	**31**	*eP*		**P**	**03 55 06.5**	**-0.2**
	comp=Z,44nm,1.3s							
RAMN	**Ramite**	**34.35**	**298**	*eP*		**P**	**03 55 10.4**	**+1.4**
	comp=Z,23nm,0.

comp=Z,1.1nm,0.9s,baz=342,slow=15,SNR=4.1
WB2 Warramunga Arr 36.20 158 *e*P **P** 03 55 22.9 -1.6
comp=Z,9.6nm,0.4s
GKN Gorkha 36.31 299 *e*P **P** 03 55 26.6 +1.0
KLR Kul'dur 36.42 12 P **P** 03 55 25.9 -0.2
comp=Z,0.5nm,0.7s,baz=237,slow=6.7,SNR=22
DANN Dangsing 37.15 299 *e*P **P** 03 55 34.5 +1.6
PYUN Piuthan 37.74 298 *e*P **P** 03 55 38.8 +1.0
AS31 Alice Springs 39.49 161 *e*P **P** 03 55 51.3 -0.8
comp=Z,3.4nm,0.3s
AS31 *e*PcP **PcP** 03 57 55.6 -1.3
AS31 *e*S **S** 04 01 38.1 -5.1
ASAR Alice Springs 39.49 161 P **P** 03 55 50.9 -1.2
comp=Z,4.4nm,0.4s,baz=336,slow=6.6,SNR=80
ASAR PcP **PcP** 03 57 55.7 -1.3
comp=Z,0.3nm,0.3s,baz=347,slow=3.8,SNR=4.4
ASAR S **S** 04 01 38.1 -5.1
comp=Z,2.2nm,1.1s,baz=345,slow=14,SNR=7.2
AS01 Alice Springs 39.50 161 *e*P **P** 03 55 50.9 -1.3
AS01 *e*PcP **PcP** 03 57 56.1 -0.8
WMQ Urumqi 41.05 323 P **P** 03 56 06.8 +2.0
WMQ LR LR
comp=N,150nm,18.9s
WMQ LR LR
comp=E,350nm,18.9s
WMQ LR LR
comp=Z,100nm,21.9s
CTAO Charters Tower 42.10 143 *e*P **P** 03 56 13.9 +0.4
comp=Z,35nm,1.7s
FORT Forrest 44.96 171 *e*P **P** 03 56 35.6 -0.6
comp=Z,34nm,0.6s
FORT *e*PcP **PcP** 03 58 14.2 -0.7
MK01 Makanchi Array 45.85 324 *e*P **P** 03 56 43.9 +0.8
MK01 *e*PcP **PcP** 03 58 17.2 -0.7
MK31 Makanchi Array 45.87 324 *e*P **P** 03 56 44.2 +0.9
MK32 Makanchi Array 45.87 324 *e*P **P** 03 56 44.2 +0.9
MK32 *e*PcP **PcP** 03 58 17.2 -0.7
MKAR Makanchi Array 45.87 324 P **P** 03 56 44.2 +0.9
comp=Z,5.8nm,0.5s,baz=130,slow=8.9,SNR=64
MKAR PcP **PcP** 03 58 17.2 -0.7
comp=Z,0.8nm,0.7s,baz=92,slow=5.1,SNR=3.0
MKAR Makanchi Array 45.87 324 *e*P **P** 03 56 44.2 +0.9
comp=Z,45nm,0.7s
MKAR PcP **PcP** 03 58 17.2 -0.7
MAKZ Makanchi 46.06 323 *e*P **P** 03 56 45.7 +0.9
comp=Z,5.5nm,0.7s
NWAO Narrogin (SRO) 46.65 184 *e*P **P** 03 56 48.3 -1.1
comp=Z,117nm,1.6s
KSH Kashi 46.76 312 P **P** 03 56 53.8 +3.3
KDJ Kajisay 46.89 315 *e*P **P** 03 56 53.3 +1.8
comp=Z,7.4nm,0.8s
ULHL Ulahol 47.57 315 P **P** 03 56 58.4 +1.5
SNR=22
KZA Kyzart 48.19 315 P **P** 03 57 03.4 +1.5
SNR=16
TKM2 Tokmak 2 48.28 316 P **P** 03 57 03.7 +1.5
SNR=7.6
KBK Karagaybulak 48.62 315 P **P** 03 57 06.5 +1.7
SNR=7.0
BBOO Buckleboo 48.70 163 *e*P **P** 03 57 04.1 -1.1
comp=Z,14nm,0.4s
BBOO *e*PcP **PcP** 03 58 26.3 -1.9
UCH Uchtor 48.76 315 P **P** 03 57 08.0 +1.8
SNR=17
ZAA0 Zalesovo Array 48.89 333 *e*P **P** 03 57 06.2 -0.2
comp=Z,11nm,1.1s
ZALV Zalesovo Beam 48.89 333 P **P** 03 57 06.2 -0.3
comp=Z,8.1nm,0.3s,baz=126,slow=5.9,SNR=24
ZAA1 Zalesovo Array 48.89 333 *e*P **P** 03 57 06.2 -0.3
PETK Petropavlovsk- 48.90 29 P **P** 03 57 06.3 -0.3
comp=Z,1.3nm,0.7s,baz=232,slow=6.6,SNR=3.6
PEA1 Petropavlovsk- 48.90 29 *e*P **P** 03 57 06.2 -0.3
AAK Ala-Archa 48.92 315 *e*P **P** 03 57 08.6 +1.5
comp=Z,3.0nm,0.6s
AML Almayashu 49.29 314 P **P** 03 57 11.4 +1.2
SNR=14
EKS2 Erkin-Say 49.42 315 P **P** 03 57 12.3 +1.5
SNR=5.5
STKA Stephens Creek 49.72 157 P **P** 03 57 11.9 -1.1
comp=Z,1.4nm,0.3s,baz=329,slow=8.4,SNR=10
STKA Stephens Creek 49.72 157 *e*P **P** 03 57 11.9 -1.1
comp=Z,6.3nm,1.9s
KURBB Kurchatov Arra 50.03 326 P **P** 03 57 16.0 +0.9
comp=Z,22nm,0.6s,baz=131,slow=7.7,SNR=129
KURK Kurchatov 50.03 326 *e*P **P** 03 57 16.0 +0.9
KK31 Karatay Array 51.83 314 *e*P **P** 03 57 29.6 +0.8
KKAR Karatay Array 51.83 314 *e*P **P** 03 57 29.6 +0.8
BVAR Borovoye Array 55.61 326 P **P** 03 57 56.4 +0.3
comp=Z,5.1nm,0.5s,baz=114,slow=8.8,SNR=46
BRVK Borovoye 55.68 326 *e*P **P** 03 57 57.2 +0.6
comp=Z,18nm,0.9s
DZM Mont Dzumac 57.37 128 *e*P **P** 03 58 09.2 +0.2
comp=Z,31nm,1.2s
TIXI Tiksi 57.97 3 *e*P **P** 03 58 11.2 -1.1
comp=Z,10.0nm,0.8s
GEYT Alibeck 60.01 306 P **P** 03 58 28.0 +0.9
comp=Z,7.2nm,0.8s,baz=134,slow=4.3,SNR=9.9
ABKAR Akbulak array 60.58 319 *e*P **P** 03 58 30.8 +0.1
AKTO Aktyubinsk 62.06 320 P **P** 03 58 40.8 +0.2
comp=Z,6.5nm,0.6s,baz=93,slow=10,SNR=20
ARU Arti 63.22 327 *e*P **P** 03 58 47.6 -0.5
comp=Z,13nm,0.6s
GAMB Gambell 67.82 26 *e*P **P** 03 59 17.4 -0.1
comp=Z,6.6nm,0.9s
RAYN Ar Rayn 71.16 290 *e*P **P** 03 59 38.7 -0.2
comp=Z,11nm,0.9s
KBZ Khabaz 71.74 312 P **P** 03 59 42.1 +0.1
comp=Z,4.1nm,0.9s,baz=105,slow=2.9,SNR=8.2
KIV Kislovodsk 71.89 312 *e*P **P** 03 59 43.0 +0.1
comp=Z,13nm,0.7s
KLMR Klimovskoe 73.68 330 *e*P **P** 03 59 50.1 -3.0
KLMR AMP 03 59 52.4
comp=Z,5.0nm,0.7s
BKZ Black Stump Fm 74.09 138 *e*P **P** 03 59 56.2 +0.4
comp=Z,48nm,1.4s
IM3 Indian Mountai 75.65 25 *e*P **P** 04 00 04.5 +0.2
CAST Castle Rocks 76.49 28 *e*P **P** 04 00 10.0 +0.8
comp=Z,14nm,0.7s
BPAW Bear Paw Mtn. 76.92 27 *e*P **P** 04 00 12.4 +0.8
comp=Z,9.4nm,0.7s
MLY Manley 76.95 26 *e*P **P** 04 00 12.6 +0.9
comp=Z,6.6nm,0.8s
COLD Coldfoot 76.99 24 *e*P **P** 04 00 12.8 +0.9
comp=Z,2.6nm,0.8s
TOLK Toolik Lake Re 77.11 22 *e*P **P** 04 00 13.0 +0.4
comp=Z,3.8nm,0.9s
TRF Thorofare Moun 77.29 27 *e*P **P** 04 00 14.4 +0.6
comp=Z,6.7nm,1.0s
MCK McKinley 77.86 27 *e*P **P** 04 00 16.8 0.0
comp=Z,11nm,0.7s
RND Reindeer 77.94 27 *e*P **P** 04 00 17.0 -0.3
comp=Z,22nm,1.6s
MDM Murphy Dome 78.02 26 *e*P **P** 04 00 17.8 +0.1
comp=Z,4.7nm,0.9s
PMR Palmer 78.03 29 *e*P **P** 04 00 17.2 -0.4
comp=Z,16nm,1.4s
WRH Wood River Hil 78.14 26 *e*P **P** 04 00 18.5 +0.2
comp=Z,16nm,1.7s
ILAR Eielson Array 78.62 26 P **P** 04 00 19.0 -1.9
comp=Z,0.8nm,0.7s,baz=259,slow=3.9,SNR=9.7
ILB Eielson Array 78.62 26 *e*P **P** 04 00 19.0 -1.9
DHY Denali Highway 78.64 28 *e*P **P** 04 00 21.5 +0.2
comp=Z,3.9nm,0.8s
MMAI Mount Meron Ar 78.66 301 P **P** 04 00 22.9 +1.0
comp=Z,1.0nm,0.4s,baz=79,slow=8.7,SNR=3.6
ARA0 ARCESS Array S 78.91 339 *e*P **P** 04 00 22.1 -0.4
ARCES ARCESS Array B 78.91 339 P **P** 04 00 22.1 -0.4
comp=Z,3.5nm,0.4s,baz=77,slow=6.9,SNR=79
BR101 Keskin Array S 79.01 308 *e*P **P** 04 00 23.4 -0.4
BR131 Keskin Array S 79.01 308 *e*P **P** 04 00 23.9 +0.2
BRTR Keskin Array B 79.01 308 P **P** 04 00 23.4 -0.4
comp=Z,1.4nm,0.8s,baz=129,slow=4.5,SNR=10
SPA0 Spitsbergen Ar 79.42 348 *e*P **P** 04 00 24.9 -0.2
SPITS Spitsbergen Ar 79.42 348 P **P** 04 00 24.9 -0.2
comp=Z,1.8nm,0.3s,baz=60,slow=6.8,SNR=72
RIDG Independ'e Rid 79.66 27 *e*P **P** 04 00 26.6 -0.1
comp=Z,8.6nm,1.0s
FIA0 FINESS Array S 80.12 331 *e*P **P** 04 00 28.4 -0.7
FINES FINESS Array B 80.12 331 P **P** 04 00 28.4 -0.7
comp=Z,1.7nm,0.5s,baz=59,slow=6.2,SNR=19
AKASG Malin Array Be 80.31 320 P **P** 04 00 29.2 -1.1
comp=Z,0.6nm,0.5s,baz=61,slow=5.5,SNR=6.6
AKBB Malin Array Si 80.31 320 *e*P **P** 04 00 29.2 -1.1
comp=Z,24nm,2.0s
EGAK Eagle 81.03 25 *e*P **P** 04 00 34.2 +0.3
comp=Z,3.8nm,0.6s
INK Inuvik 82.95 21 *e*P **P** 04 00 43.9 0.0
comp=Z,6.0nm,0.9s
MLR Muntele Rosu 83.50 315 P **P** 04 00 47.3 0.0
comp=Z,0.8nm,0.7s,baz=192,slow=11,SNR=4.9
MLR Muntele Rosu 83.50 315 *e*P **P** 04 00 47.3 0.0
comp=Z,29nm,2.0s
BUR04 Bucovina Ar. S 83.51 317 *e*P **P** 04 00 46.9 -0.4
BUR08 Bucovina Ar. S 83.51 317 *e*P **P** 04 00 46.9 -0.4
KWP Kalwaria Pacla 84.63 320 *e*P **P** 04 00 52.5 -0.3
comp=Z,417nm,2.0s
CRVS Cervenica-Dubn 85.61 319 *e*P **P** 04 00 57.8 +0.1
HFS Hagfors 86.31 331 P **P** 04 00 59.5 -1.4
comp=Z,2.5nm,0.5s,baz=106,slow=4.7,SNR=20
NB2 NORSAR Subarra 87.09 333 P **P** 04 01 02.7 -2.0
comp=Z,2.2nm,0.7s,baz=68,slow=4.6
NB200 NORSAR Array S 87.09 333 *e*P **P** 04 01 02.7 -2.0
NOA NORSAR Array B 87.09 333 P **P** 04 01 02.7 -2.0
comp=Z,1.8nm,0.6s,baz=68,slow=4.6,SNR=9.2
RES Resolute Bay 88.87 9 *e*P **P** 04 01 12.7 -0.1
comp=Z,3.9nm,0.8s
YKA Yellowknife Ar 92.64 22 P **P** 04 01 30.3 -0.2
comp=Z,0.7nm,0.5s,baz=308,slow=4.5,SNR=28
VNDA Vanda 94.22 172 P **P** 04 01 36.8 -0.5
comp=Z,1.2nm,0.6s,baz=318,slow=7.4,SNR=6.3
LTX Lajitas 119.38 44 *e*PKPdf **PKPdf** 04 07 08.1 -0.3
TXAR Lajitas Array 119.38 44 PKP **PKPdf** 04 07 08.1 -0.3
comp=Z,0.2nm,0.4s,baz=187,slow=0.1,SNR=11
PLCA Paso Flores 151.50 162 PKPbc **PKPbc** 04 08 13.0 +0.3
comp=Z,2.2nm,0.5s,baz=278,slow=0.3,SNR=36

*ISN **18** 03:49:50.3±4.0, 32.°77N×46.°91E, h0km, ML3.1*
*CSEM **18** 03:49:57.4±0.5, 32.°71N×46.°72E, h10km, ML2.8, Error ellipse: s-maj=17.6km s-min=8.3km az=19.0*
TEH 18 03:49:58.7, 32.°75N×46.°99E, h13km, ML3.1, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IKFM	**Kafar-mosalman**	**1.05**	**43**	*e*Pg	Pb	03 50 17.6	-1.1
IKFM				*e*AMB	AMB	03 50 18.9	
	comp=Z,99nm,0.1s						
IKOM	**Komasi**	**1.48**	**17**	*e*Pn	Pn	03 50 25.0	-0.2
IKOM				*e*AMB	AMB	03 50 48.9	
	comp=Z,5μm,0.2s						
IGHG	**Ghaleghazi**	**1.61**	**347**	*e*Pn	Pn	03 50 26.7	-0.3
IGHG				*e*Sg	Sg	03 50 50.2	-0.4
IGHG				*e*AMB	AMB	03 50 58.5	
	comp=Z,5μm,0.2s						
SHGR	**Shooshtar-Gavs**	**1.66**	**112**	*e*Pg	Pg	03 50 34.2	+3.6
SHGR				*e*Sg	Sg	03 50 56.4	+4.2
IVIS	**Veis**	**1.77**	**356**	*e*Pn	Pn	03 50 28.9	-0.3
IVIS				*e*Sg	Sb	03 50 53.2	-0.1
IVIS				*e*AMB	AMB	03 50 56.2	
	comp=Z,2μm,0.2s						
ILIN	**Lien**	**2.16**	**359**	*e*Pn	Pn	03 50 34.4	-0.2
ILIN				*e*AMB	AMB	03 50 38.9	
	comp=Z,823nm,0.1s						
BHD	**Baghdad**	**2.25**	**284**	*e*Pn	Pn	03 50 31.5	-4.1
	SNR=3.0						
BHD				*e*Sn	Sn	03 50 53.0	-10
	SNR=3.0						
SNGE	**Sanandaj**	**2.35**	**7**	*e*Pn	Pn	03 50 38.2	+1.0
KHMZ	**Khomeyn**	**2.67**	**68**	*e*Pn	Pn	03 50 44.1	+2.4
KHMZ				*e*Sg	Sb	03 51 18.8	-0.6
HAGD	**Aghdareh**	**2.73**	**40**	*e*Pn	Pn	03 50 43.1	+0.6
HAGD				*e*AMB	AMB	03 50 46.2	
	comp=Z,99nm,0.1s						
ASAO	**Ashtian**	**3.10**	**54**	*e*Pn	Pn	03 50 49.5	+2.0
GHVR	**GHOM**	**3.98**	**63**	*e*Pn	Pn	03 51 01.1	+1.6

*MAN **18** 03:56:10, 5.°49N×126.°11E, h105km, mb4.4, ML3.2, MS3.0*
*ISCJB **18** 03:56:11.7±0.8, 5.°41N±0.°08×125.°8E±0.°2, h100km, mb3.6/4, Error ellipse: s-maj=23.6km s-min=7.9km az=160.5*
*IDC **18** 03:56:23.6±1.4, 5.°61N×125.°89E, h229km±19km, mb3.1/4, mb1 3.3/4, mb1mx2.9/59, mbtmp3.7/4, Error ellipse: s-maj=92.9km s-min=19.1km az=68.0*
ISC 18 03:56:12.3±1.1, 5.°41N±0.°09×125.°7E±0.°2, h100km, n8, σ1s79/10, mb3.6/4, 2C, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GSPH	**General Santos**	**0.98**	**313**	*i*P	**Pn**	**03 56 32.7**	**+0.1**
GSPH				*i* S	**Sn**	**03 56 49.3**	**+1.3**
DAV	**Davao City (W)**	**1.65**	**357**	P	Pn	03 56 59.7	+19
	79nm,0.3s,baz=76,slow=20,SNR=4.0						
DMPH	**Davao City--Mi**	**1.67**	**355**	*e*P	**Pn**	**03 56 39.6**	**-1.1**
DMPH				*e*S	**Sn**	**03 57 05.4**	**+3.1**
BUKP	**Musuan**	**2.53**	**346**	*e*P	**Pn**	**03 56 51.7**	**-0.1**
BUKP				*e*S	**Sn**	**03 57 22.7**	**+0.5**
FITZ	**Fitzroy Crossi**	**23.36**	**180**	P	**P**	**04 01 12.9**	**+0.9**
	1.1nm,0.4s,baz=4.6,slow=10,SNR=7.7						
WRA	**Warramunga Arr**	**26.60**	**162**	P	**P**	**04 01 43.3**	**+1.9**
	0.3nm,0.4s,baz=347,slow=10.0,SNR=6.3						
STKA	**Stephens Creek**	**40.06**	**159**	P	**P**	**04 03 37.5**	**-0.3**
	1.8nm,0.6s,baz=340,slow=8.9,SNR=7.0						
MKAR	**Makanchi Array**	**55.58**	**325**	P	**P**	**04 05 35.3**	**-2.3**
	0.3nm,0.5s,baz=113,slow=7.6,SNR=4.4						

MEX 18 03:57:15.3±0.6, 16.°22N×98.°28W, h2km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.22**	**41**	*e*P	Pg	03 57 19.0	-0.6
PNIG				*e*S	Sg	03 57 22.9	+0.4
TLIG	**Tlapa**	**1.36**	**348**	*e*P	Pg	03 57 37.6	-3.8
TLIG				*e*S	Sg	03 57 55.1	-4.0
VHO	**Vista Hermosa**	**1.70**	**60**	*e*P	Pn	03 57 43.1	-3.2
VHO				*e*S	Sn	03 58 08.0	-0.8

*ISCJB **18** 03:57:34.3±0.6, 18.°59N±0.°06×145.°4E±0.°2, h200km, mb3.6/13, Error ellipse: s-maj=26.7km s-min=8.5km az=1.9*
*IDC **18** 03:57:35.8±3.3, 18.°62N×145.°47E, h200km±32km, mb3.5/13, mb1 3.6/14, mb1mx3.4/60, mbtmp4.0/14, Error ellipse: s-maj=26.5km s-min=14.8km az=91.0*
ISC 18 03:57:35.5±0.7, 18.°57N±0.°08×145.°4E±0.°2, h200km, n14, σ1s13/17, mb3.7/13, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**4.98**	**186**	P	**Pn**	**03 58 50.7**	**+1.0**
	5.3nm,0.3s,baz=353,slow=21,SNR=1.4						
GUMO				S	**Sn**	**03 59 45.9**	**-2.4**
	15nm,0.3s,baz=33,slow=23,SNR=2.4						
WRA	**Warramunga Arr**	**39.78**	**196**	P	**P**	**04 04 49.7**	**+0.5**
	1.1nm,0.3s,baz=13,slow=8.6,SNR=28						
FITZ	**Fitzroy Crossi**	**41.29**	**209**	P	**P**	**04 05 02.6**	**+1.0**
	1.5nm,0.3s,baz=24,slow=8.1						
SONM	**Songino Array**	**43.06**	**322**	P	**P**	**04 05 14.0**	**-1.7**
	0.5nm,0.4s,baz=120,slow=8.5,SNR=2.8						
ASAR	**Alice Springs**	**43.45**	**195**	P	**P**	**04 05 19.4**	**+0.4**
	0.2nm,0.4s,baz=14,slow=8.6,SNR=4.8						
MKAR	**Makanchi Array**	**58.34**	**314**	P	**P**	**04 07 11.1**	**+1.4**
	0.3nm,0.4s,baz=91,slow=8.1,SNR=7.3						
MKAR				PcP	**PcP**	**04 07 58.6**	**+0.1**
	0.3nm,0.5s,baz=123,slow=5.3,SNR=2.8						
KURBB	**Kurchatov Arra**	**61.22**	**318**	P	**P**	**04 07 29.6**	**+0.4**
	0.5nm,0.3s,baz=95,slow=7.3,SNR=7.9						
BVAR	**Borovoye Array**	**66.39**	**320**	P	**P**	**04 08 03.1**	**+0.2**
	1.0nm,0.4s,baz=105,slow=6.9,SNR=7.7						
INK	**Inuvik**	**69.61**	**23**	P	**P**	**04 08 22.7**	**+0.1**
	0.7nm,0.5s,baz=221,slow=6.9,SNR=1.6						
YKA	**Yellowknife Ar**	**78.24**	**28**	P	**P**	**04 09 12.4**	**-0.4**
	0.2nm,0.5s,baz=290,slow=5.5,SNR=5.8						
SPITS	**Spitsbergen Ar**	**79.24**	**351**	P	**P**	**04 09 18.6**	**+0.5**
	10nm,1.1s,baz=116,slow=1.9,SNR=3.5						
ARCES	**ARCESS Array B**	**82.52**	**342**	P	**P**	**04 09 36.4**	**+0.9**
	1.3nm,0.9s,baz=55,slow=7.9,SNR=4.0						
NVAR	**Mina Array Bea**	**83.45**	**52**	P	**P**	**04 09 41.1**	**-0.1**
	0.4nm,0.5s,baz=270,slow=6.3,SNR=5.1						
NVAR				pP	**pP**	**04 10 29.9**	**-0.1**
	0.7nm,0.6s,baz=263,slow=6.2,SNR=5.3						
FINES	**FINESS Array B**	**86.88**	**335**	P	**P**	**04 09 55.5**	**-1.9**
	2.2nm,0.8s,baz=65,slow=3.7,SNR=7.4						

*MAN **18** 04:09:47, 20.°34N×122.°44E, h4km, mb4.4, ML3.2, MS3.0*
JMA 18 04:09:49.6±0.8, 20.°64N×122.°12E, h34km, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HATJ	**Hateruma jima**	**3.74**	**24**	S	Sn	04 11 29.9	+2.1
JYNG	**Yonagunijimaku**	**3.87**	**11**	S	Sn	04 11 33.5	+2.5
YOJ	**Yonaguni jima**	**3.89**	**12**	P	Pn	04 10 50.4	+3.4
YOJ				*e*S	Sn	04 11 34.9	+3.4
JIJ	**Ishigaki jima**	**4.15**	**26**	S	Sn	04 11 39.3	+1.4
JISG	**Ishigakijimahi**	**4.42**	**27**	S	Sn	04 11 46.1	+1.6
JTJ	**Tarama**	**4.64**	**30**	S	Sn	04 11 51.5	+1.5

*MAN **18** 04:26:58, 8.°88N×126.°44E, h23km, mb4.6, ML3.5, MS3.4*
*IDC **18** 04:27:05.5±2.2, 8.°74N×126.°35E, h118km±20km, mb3.5/11, mb1 3.6/11, mb1mx3.4/54, mbtmp3.8/11, MS2.8/1, Ms1 2.8/1, ms1mx2.4/30, Error ellipse: s-maj=36.3km s-min=13.5km az=74.0*
ISC 18 04:26:51.5±1.6, 9.°00N±0.°03×126.°61E±0.°06, h3km±10km, n28, σ1s82/38, mb3.9/11, 4C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BIPH	**Bislig**	**0.85**	**197**	*e*P	**Pg**	**04 27 08.7**	**+1.0**
BIPH				*e*S	**Sg**	**04 27 16.2**	**-2.5**
BUTP	**Butuan**	**0.98**	**268**	*e*P	**Pn**	**04 27 13.6**	**+1.5**
BUTP				*e*S	**Sb**	**04 27 25.9**	**+1.4**
BUKP	**Musuan**	**1.89**	**234**	*e*P	**Pn**	**04 27 25.1**	**+0.3**
BUKP				*e*S	**Sn**	**04 27 49.0**	**-0.3**
MSLP	**Maasin**	**2.06**	**303**	*e*P	**Pg**	**04 27 32.2**	**+1.1**
DAV	**Davao City (W)**	**2.17**	**208**	P	**Pg**	**04 27 35.1**	**+2.0**
	83nm,0.3s,baz=268,slow=19,SNR=8.8						
DAV				S	**Sg**	**04 28 01.3**	**0.0**
	142nm,0.3s,baz=15,slow=23,SNR=7.2						
DAV				LR	LR	04 28 31.7	
	comp=Z,444nm,18.3s,baz=142,slow=47						
DMPH	**Davao City--Mi**	**2.19**	**210**	*e*P	**Pg**	**04 27 34.0**	**+0.4**
DMPH				*i* S	**Sb**	**04 27 58.9**	**-0.6**
PLP	**Palo**	**2.69**	**323**	*e*P	**Pg**	**04 27 42.2**	**-0.8**
PLP				*e*S	**Sb**	**04 28 13.9**	**+0.2**
TBP	**Tagbilaran**	**2.80**	**284**	*e*P	**Pb**	**04 27 40.7**	**-1.5**
OCLP	**Ormoc**	**2.84**	**316**	*e*P	**Pb**	**04 27 44.4**	**+1.5**
LLP	**Lapu-Lapu**	**2.92**	**297**	*e*P	**Pb**	**04 27 43.7**	**-0.6**
LLP				*e*S	**Sb**	**04 28 18.9**	**-1.5**
CTBH	**Cotabato--PC H**	**2.93**	**233**	*i*P	**Pn**	**04 27 40.1**	**+1.0**
DCPH	**Dipolog City**	**3.25**	**263**	*e*P	**Pn**	**04 27 45.4**	**+2.0**
DCPH				*e*S	**Sn**	**04 28 21.0**	**-1.6**
SNPH	**Sibulan**	**3.35**	**276**	*e*P	**Pn**	**04 27 47.4**	**+2.5**
SNPH				*e*S	**Sn**	**04 28 23.6**	**-1.7**
CNP	**Catarman**	**3.98**	**331**	*e*P	**Pb**	**04 27 59.9**	**-2.5**
CNP				*e*S	**Sb**	**04 28 46.0**	**-5.0**
GUIM	**Jordan**	**4.28**	**293**	*e*P	**Pn**	**04 28 00.5**	**+2.8**
RCP	**Roxas**	**4.58**	**304**	*e*P	Pb	04 28 07.7	-4.9
MJAR	**Matsushiro Arr**	**29.38**	**19**	LR	LR	04 46 06.0	
	comp=Z,18nm,19.1s,baz=330,slow=38						
WRA	**Warramunga Arr**	**29.75**	**165**	P	**P**	**04 32 57.4**	**-2.1**
	0.3nm,0.4s,baz=350,slow=9.4,SNR=7.8						
WRA				PcP	**PcP**	**04 36 02.5**	**-1.1**
	0.4nm,0.7s,baz=341,slow=2.9,SNR=4.4						
ASAR	**Alice Springs**	**33.24**	**168**	P	**P**	**04 33 28.6**	**-1.6**
	0.3nm,0.3s,baz=345,slow=7.1,SNR=5.4						
ASAR				PcP	**PcP**	**04 36 12.1**	**-0.9**
	0.6nm,0.6s,baz=348,slow=2.9,SNR=5.8						
USRK	**Ussuriysk Ar.**	**35.38**	**7**	P	**P**	**04 33 51.8**	**+3.4**
	2.9nm,0.7s,baz=199,slow=7.6,SNR=7.6						
STKA	**Stephens Creek**	**43.10**	**161**	P	**P**	**04 34 52.0**	**-1.1**
	1.2nm,0.5s,baz=339,slow=7.5,SNR=4.7						
MKAR	**Makanchi Array**	**53.24**	**323**	P	**P**	**04 36 11.5**	**0.0**
	0.4nm,0.6s,baz=116,slow=6.9,SNR=6.9						
KURBB	**Kurchatov Arra**	**57.30**	**326**	P	**P**	**04 36 40.6**	**-0.1**
	0.2nm,0.3s,baz=127,slow=7.4,SNR=3.0						
BVAR	**Borovoye Array**	**62.90**	**326**	P	**P**	**04 37 19.9**	**+0.9**
	0.4nm,0.5s,baz=236,slow=39,SNR=3.4						
ILAR	**Eielson Array**	**80.43**	**26**	P	**P**	**04 39 06.7**	**+2.3**
	0.3nm,0.6s,baz=250,slow=4.4,SNR=9.3						
FINES	**FINESS Array B**	**87.16**	**332**	P	**P**	**04 39 37.7**	**-1.3**
	0.8nm,0.6s,baz=180,slow=34,SNR=3.8						
VNDA	**Vanda**	**88.63**	**173**	P	**P**	**04 39 44.7**	**-0.9**
	1.1nm,0.7s,baz=330,slow=5.4,SNR=5.3						
YKA	**Yellowknife Ar**	**94.77**	**24**	P	**P**	**04 40 16.1**	**+1.7**
	0.4nm,0.6s,baz=299,slow=4.2,SNR=11						

*ISCJB **18** 04:39:52.5±0.7, 39.°10N±0.°05×29.°18E±0.°06, h2km±7km, Error ellipse: s-maj=10.5km s-min=4.8km az=144.3*
*CSEM **18** 04:39:52.7±0.2, 39.°09N×29.°18E, h5km, ML2.3, Error ellipse: s-maj=5.7km s-min=2.9km az=141.0*
*DDA **18** 04:39:52.5, 39.°10N×29.°13E, h7km, Ml2.5*
*ISK **18** 04:39:52.2, 39.°11N×29.°17E, h5km, ML2.3/3*
ISC 18 04:39:53.0±1.1, 39.°12N±0.°03×29.°15E±0.°03, h3km±11km, n34, σ0s45/42, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIMA	**Simav-Kutahya**	**0.14**	**253**	PG	**Pg**	**04 39 55.9**	**+0.2**
SIMA				SG	**Sg**	**04 39 57.9**	**+0.4**
SIMA	**Simav-Kutahya**	**0.14**	**253**	*e*Pg	**Pg**	**04 39 55.9**	**+0.2**
SIMA				*e*Sg	**Sg**	**04 39 57.9**	**+0.4**
GDZ	**Gediz**	**0.26**	**97**	*i* P	**Pg**	**04 39 58.0**	**0.0**
GDZ	**Gediz**	**0.26**	**97**	P	**Pg**	**04 39 58.0**	**0.0**
DEMI	**Demirci**	**0.35**	**257**	*i* P	**Pg**	**04 39 59.5**	**-0.1**
DEMI	**Demirci**	**0.35**	**257**	P	**Pg**	**04 39 59.5**	**-0.1**
TVSB	**Tavsanli**	**0.41**	**36**	PG	**Pg**	**04 40 00.6**	**-0.2**
TVSB				SG	**Sg**	**04 40 06.1**	**0.0**
TVSB	**Tavsanli**	**0.41**	**36**	*e*Pg	**Pg**	**04 40 00.6**	**-0.2**
TVSB				*e*Sg	**Sg**	**04 40 06.1**	**0.0**
MANT	**Manisa**	**0.78**	**216**	*i* P	**Pg**	**04 40 07.7**	**-0.3**
MANT				*i* S	**Sg**	**04 40 17.8**	**-0.3**
MANT	**Manisa**	**0.78**	**216**	P	**Pg**	**04 40 07.7**	**-0.3**
MANT				S	**Sg**	**04 40 17.8**	**-0.3**
AKHS	**Akhisar**	**1.07**	**257**	*i* P	**Pb**	**04 40 13.9**	**-0.2**
AKHS	**Akhisar**	**1.07**	**257**	P	**Pb**	**04 40 13.9**	**-0.2**
STEP	**BALIKESIR_Sava**	**1.14**	**283**	*i* P	**Pn**	**04 40 16.6**	**+0.8**
STEP	**BALIKESIR_Sava**	**1.14**	**283**	P	**Pn**	**04 40 16.6**	**+0.8**
CAVI	**Cavuskoy**	**1.20**	**26**	PN	**Pg**	**04 40 15.8**	**-0.2**
CAVI	**Cavuskoy**	**1.20**	**26**	*e*Pn	**Pg**	**04 40 15.8**	**-0.2**
MDNY	**Mudanya-Bursa**	**1.26**	**351**	PN	**Pg**	**04 40 17.0**	**-0.1**
MDNY				SN	**Sn**	**04 40 35.4**	**+0.5**
MDNY	**Mudanya-Bursa

MANT	**Manisa**	**0.79**	**216**	*i* P	**Pg**	04 52 23.8	-0.5
MANT	**Manisa**	**0.79**	**216**	P	**Pg**	04 52 23.8	-0.5
BORA	**Eskisehir**	**1.26**	**53**	*i* P	**Pb**	04 52 34.0	+0.3
BORA	**Eskisehir**	**1.26**	**53**	P	**Pb**	04 52 34.0	+0.3
MDNY	**Mudanya-Bursa**	**1.26**	**351**	PN	**Pn**	04 52 33.4	-0.3
MDNY				SN	**Sn**	04 52 51.9	+0.7
MDNY	**Mudanya-Bursa**	**1.26**	**351**	*e*Pn	**Pn**	04 52 33.4	-0.3
MDNY				*e*Sn	**Sn**	04 52 51.9	+0.7
KCTX	**Karacabey (Bur**	**1.29**	**332**	PN	**Pn**	04 52 33.9	-0.3
KCTX	**Karacabey (Bur**	**1.29**	**332**	*e*Pn	**Pn**	04 52 33.9	-0.3
YLV	**Yalova**	**1.45**	**7**	PN	**Pn**	04 52 35.8	-0.6
YLV	**Yalova**	**1.45**	**7**	*e*Pn	**Pn**	04 52 35.8	-0.6
ARMT	**Armutlu**	**1.45**	**351**	PN	**Pn**	04 52 36.3	-0.2
ARMT	**Armutlu**	**1.45**	**351**	*e*Pn	**Pn**	04 52 36.3	-0.2

ISCJB ***18*** *04:53:08.7±0.7, 39.08N±0.03×29.15E±0.05, h6km±4km, Error ellipse: s-maj=7.5km s-min=3.9km az=38.7*
ISK ***18*** *04:53:08.2, 39.07N×29.17E, h5km, ML2.7/7*
CSEM ***18*** *04:53:08.7±0.2, 39.08N×29.17E, h5km, ML2.7, Error ellipse: s-maj=4.2km s-min=2.1km az=129.0*
DDA ***18*** *04:53:10.2, 39.11N×28.99E, h7km, Ml2.7*

ISC 18 04:53:08.7±1.0, **39.08N**±0.03×**29.16E**±0.03, **h10**km±7km, **n38**, σ0**66**/54, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIMA	**Simav-Kutahya**	**0.14**	**271**	PG	**Pg**	**04 53 11.9**	**0.0**
SIMA				SG	**Sg**	04 53 14.0	-0.1
SIMA	**Simav-Kutahya**	**0.14**	**271**	*e*Pg	**Pg**	**04 53 11.9**	**0.0**
SIMA				*e*Sg	**Sg**	04 53 14.0	-0.1
DEMI	**Demirci**	**0.35**	**264**	*i* P	**Pg**	04 53 16.1	+0.5
DEMI				*i* S	**Sg**	04 53 20.1	-0.2
DEMI	**Demirci**	**0.35**	**264**	P	**Pg**	04 53 16.1	+0.5
DEMI				S	**Sg**	04 53 20.0	-0.2
TVSB	**Tavsanli**	**0.44**	**33**	PG	**Pg**	04 53 17.1	-0.2
TVSB				SG	**Sg**	04 53 22.4	-0.7
TVSB	**Tavsanli**	**0.44**	**33**	*e*Pg	**Pg**	04 53 17.1	-0.2
TVSB				*e*Sg	**Sg**	04 53 22.4	-0.7
KULA	**Kula-Manisa**	**0.69**	**215**	PG	**Pg**	04 53 21.8	-0.2
KULA				SG	**Sg**	04 53 31.9	+0.9
KULA	**Kula-Manisa**	**0.69**	**215**	*e*Pg	**Pg**	04 53 21.8	-0.2
KULA				*e*Sg	**Sg**	04 53 31.9	+0.9
DURS	**Dursunbey**	**0.74**	**315**	*i* P	**Pb**	04 53 23.8	0.0
DURS	**Dursunbey**	**0.74**	**315**	P	**Pb**	04 53 23.8	0.0
MANT	**Manisa**	**0.75**	**219**	*i* P	**Pb**	04 53 23.9	-0.2
MANT				*i* S	**Sg**	04 53 33.0	-0.2
MANT	**Manisa**	**0.75**	**219**	P	**Pb**	04 53 23.9	-0.2
MANT				S	**Sg**	04 53 33.0	-0.2
ORLT	**Orhaneli**	**0.98**	**348**	PG	**Pg**	04 53 27.8	+0.1
ORLT				SG	**Sb**	04 53 41.8	+0.8
ORLT	**Orhaneli**	**0.98**	**348**	*e*Pg	**Pg**	04 53 27.8	+0.1
ORLT				*e*Sg	**Sb**	04 53 41.8	+0.8
AKHS	**Akhisar**	**1.07**	**259**	*i* P	**Pb**	04 53 29.6	+0.3
AKHS				*i* S	**Sg**	04 53 42.2	-0.9
AKHS	**Akhisar**	**1.07**	**259**	P	**Pb**	04 53 29.6	+0.3
AKHS				S	**Sg**	04 53 42.2	-0.9
BALB	**Balikesir**	**1.14**	**300**	PN	**Pb**	04 53 30.9	+0.4
BALB	**Balikesir**	**1.14**	**300**	*e*Pn	**Pb**	04 53 30.9	+0.4
CAVI	**Cavuskoy**	**1.24**	**25**	PN	**Pg**	04 53 32.1	-0.4
CAVI	**Cavuskoy**	**1.24**	**25**	*e*Pn	**Pg**	04 53 32.1	-0.4
MDNY	**Mudanya-Bursa**	**1.30**	**351**	PN	**Pb**	04 53 33.7	+0.4
MDNY	**Mudanya-Bursa**	**1.30**	**351**	*e*Pn	**Pb**	04 53 33.7	+0.4
KCTX	**Karacabey (Bur**	**1.33**	**333**	PN	**Pg**	04 53 34.4	+0.1
KCTX	**Karacabey (Bur**	**1.33**	**333**	*e*Pn	**Pg**	04 53 34.4	+0.1
GEMT	**Gemlik**	**1.35**	**1**	PN	**Pb**	04 53 34.4	+0.2
GEMT	**Gemlik**	**1.35**	**1**	*e*Pn	**Pb**	04 53 34.4	+0.2
BALY	**Balya**	**1.36**	**299**	*i* P	**Pn**	04 53 33.6	-0.3
BALY				*i* S	**Sb**	04 53 49.7	-2.2
BALY	**Balya**	**1.36**	**299**	P	**Pn**	04 53 33.6	-0.3
BALY				S	**Sb**	04 53 49.7	-2.2
GONE	**Gonen-Balikesi**	**1.49**	**311**	PN	**Pn**	04 53 36.4	+0.8
GONE	**Gonen-Balikesi**	**1.49**	**311**	*e*Pn	**Pn**	04 53 36.4	+0.8
YLV	**Yalova**	**1.49**	**6**	PN	**Pn**	04 53 36.4	+0.7
YLV	**Yalova**	**1.49**	**6**	*e*Pn	**Pn**	04 53 36.4	+0.7
ARMT	**Armutlu**	**1.50**	**351**	PN	**Pb**	04 53 36.8	+0.1
ARMT	**Armutlu**	**1.50**	**351**	*e*Pn	**Pb**	04 53 36.8	+0.1
EDC	**Edincik**	**1.61**	**322**	PN	**Pn**	04 53 38.3	+1.0
EDC	**Edincik**	**1.61**	**322**	*e*Pn	**Pn**	04 53 38.3	+1.0
GULT	**Gulveren**	**1.71**	**37**	PN	**Pn**	04 53 39.1	+0.4
GULT	**Gulveren**	**1.71**	**37**	*e*Pn	**Pn**	04 53 39.1	+0.4

ISCJB ***18*** *04:58:56.9±0.5, 16.73N±0.04×119.57E±0.05, h35km, mb4.0/16, MS2.7/2, Error ellipse: s-maj=6.9km s-min=4.7km az=156.9*
MAN ***18*** *04:59:00, 16.60N×119.96E, h25km, mb4.6, ML3.5, MS3.3*
IDC ***18*** *04:59:05.8±1.4, 16.45N×120.09E, h129km±15km, mb3.6/15, mb1 3.7/17, mb1mx3.5/60, mbtmp4.0/17, MS2.9/5, Ms1 3.0/5, ms1mx2.7/49, Error ellipse: s-maj=28.3km s-min=11.8km az=64.0*

ISC 18 04:58:58.4±0.6, **16.70N**±0.04×**119.70E**±0.07, **h35**km, **n30, σ1876/30, mb4.0**/16, **Luzon**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOLP	**Bolinao**	**0.38**	**148**	*e*P	**Pn**	**04 59 08.6**	**+1.3**
BOLP				*e*S	**Sn**	04 59 14.9	+1.4
SCZP	**Santa Cruz**	**0.94**	**168**	*e*P	**Pn**	04 59 15.1	0.0
SCZP				*e*S	**Sn**	04 59 26.0	-1.3
ABRA	**Dolores**	**1.35**	**46**	*e*P	**Pn**	04 59 22.4	+1.7
ABRA				*e*S	**Sn**	04 59 39.8	+2.4
PCPH	**Palayan**	**1.75**	**130**	*e*P	**Pn**	04 59 24.8	-1.5
APYP	**Conner**	**1.87**	**52**	*e*P	**Pn**	04 59 29.2	+1.3
APYP				*e*S	**Sn**	04 59 51.1	+0.8
BALP	**Baler**	**2.04**	**118**	*e*P	**Pn**	04 59 30.3	+0.1
BALP				*e*S	**Sn**	04 59 54.3	-0.1
CAUP	**Cauayan**	**2.04**	**83**	*e*P	**Pn**	04 59 32.2	+1.9
TGY	**Tagaytay City** 75nm,0.3s,baz=296,slow=11,SNR=6.0	**2.84**	**155**	P	**Pn**	**04 59 44.4**	**+3.0**
TGY				S	**Sn**	**05 00 17.9**	**+3.4**
	158nm,0.3s,baz=190,slow=1.4,SNR=5.4						
LUBP	**Lubang**	**3.00**	**170**	*e*P	**Pn**	**04 59 46.8**	**+3.3**
DAV	**Davao City (W)** comp=Z,120nm,19.3s,baz=355,slow=45	**11.16**	**148**	LR	LR	05 07 10.4	
JNU	**Nakatsue** 0.5nm,0.3s,baz=164,slow=7.0,SNR=4.5	**19.21**	**30**	P	**P**	**05 03 19.6**	**+0.1**
JNU				LR	LR	05 11 13.7	
	comp=Z,26nm,18.6s,baz=302,slow=38						
CMAR	**Chiang Mai Arr** 2.6nm,0.8s,baz=92,slow=8.5,SNR=14	**19.87**	**278**	P	**Pn**	**05 03 31.2**	**+2.7**
CMAR				LR	LR	05 11 02.2	
	comp=Z,41nm,18.9s,baz=150,slow=35						
GUMO	**Guam** comp=Z,14nm,18.2s,baz=111,slow=35	**24.48**	**94**	LR	LR	05 13 10.5	
PSI	**Prapat** comp=Z,32nm,19.1s,baz=86,slow=36	**24.66**	**238**	LR	LR	05 13 50.3	
SONM	**Songino Array** 1.2nm,0.5s,baz=153,slow=9.7,SNR=3.3	**32.92**	**343**	P	**P**	**05 05 30.7**	**+1.2**
WRA	**Warramunga Arr** 1.4nm,0.5s,baz=329,slow=11,SNR=35	**39.15**	**158**	P	P	05 06 17.4	-5.5
ASAR	**Alice Springs** 1.0nm,0.4s,baz=339,slow=7.0,SNR=16	**42.45**	**161**	P	P	05 06 45.1	-5.0
MKAR	**Makanchi Array** 1.6nm,0.8s,baz=127,slow=9.4,SNR=14	**43.07**	**322**	P	**P**	**05 06 56.5**	**+1.5**
MKAR				PcP	**PcP**	**05 08 43.0**	**-1.5**
	0.6nm,0.7s,baz=114,slow=3.6,SNR=3.7						
ZALV	**Zalesovo Beam** 0.7nm,0.5s,baz=134,slow=6.2,SNR=2.8	**45.97**	**332**	P	**P**	**05 07 18.3**	**+0.4**
KURBB	**Kurchatov Arra** 2.2nm,0.6s,baz=119,slow=8.2,SNR=9.8	**47.18**	**325**	P	**P**	**05 07 28.3**	**+0.8**
STKA	**Stephens Creek** 1.0nm,0.5s,baz=329,slow=9.3,SNR=4.7	**52.67**	**156**	P	P	05 08 04.0	-5.4
BVAR	**Borovoye Array** 0.6nm,0.5s,baz=134,slow=8.3,SNR=4.1	**52.77**	**325**	P	**P**	**05 08 07.8**	**-2.1**
AKTO	**Aktyubinsk** 0.5nm,0.4s,baz=121,slow=12,SNR=3.3	**59.32**	**319**	P	**P**	**05 08 57.3**	**+0.5**
ARCES	**ARCESS Array B** 1.0nm,0.6s,baz=72,slow=7.8,SNR=6.0	**75.95**	**339**	P	**P**	**05 10 40.8**	**-0.5**
SPITS	**Spitsbergen Ar** 6.3nm,1.0s,baz=56,slow=6.4,SNR=3.7	**76.47**	**348**	P	**P**	**05 10 42.4**	**-1.8**
FINES	**FINESS Array B** 2.2nm,0.7s,baz=46,slow=5.5,SNR=8.8	**77.21**	**331**	P	**P**	**05 10 47.5**	**-1.1**
AKASG	**Malin Array Be** 1.4nm,0.5s,baz=67,slow=4.8,SNR=12	**77.56**	**319**	P	P	05 10 46.2	-4.6
MLR	**Muntele Rosu** 0.6nm,0.7s,baz=198,slow=12,SNR=5.0	**80.86**	**315**	P	**P**	**05 11 07.9**	**-1.2**
NOA	**NORSAR Array B** 0.7nm,0.7s,baz=62,slow=6.6,SNR=3.0	**84.17**	**332**	P	**P**	**05 11 24.4**	**-1.5**
YKA	**Yellowknife Ar** 0.1nm,0.8s,baz=310,slow=4.5,SNR=3.2	**90.38**	**22**	P	**P**	**05 11 54.3**	**-1.5**

MEX 18 05:29:00.9±0.4, **14.03N×91.88W, h10**km, **MD3.8, Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**2.11**	**322**	*e*P	Pn	05 29 33.1	-3.3
PCIG				*e*S	Sn	05 29 58.4	-4.2
CCIG	**Comitan**	**2.25**	**354**	*e*P	Pn	05 29 34.6	-3.8
CCIG				*e*S	Sn	05 30 06.0	-0.4

NIED ***18*** *05:37:00, 28.60N×139.10E, h620km, Mw5.5 Best double couple: M0 1.86000×10^17 NP1:φs81.00000°, δ44.00000°, λ-166.00000°. NP2:φs340.00000°, δ80.00000°, λ-47.00000°.*
JMA ***18*** *05:37:53.6±0.2, 28.60N×139.13E, h520km±5km, M5.4*
BJI ***18*** *05:37:54.2, 28.61N×138.92E, h501km, mb5.6/86, mB5.5/46*
IDC ***18*** *05:37:55.8±0.4, 28.70N×138.86E, h497km±4km, mb4.4/45, mb1 4.4/54, mb1mx4.3/75, mbtmp5.3/54, Error ellipse: s-maj=7.3km s-min=5.3km az=93.0*
MOS ***18*** *05:37:55.2±0.9, 28.73N×138.74E, h497km, mb5.2/116, Error ellipse: s-maj=6.4km s-min=3.9km az=103.2*
GCMT ***18*** *05:37:55.9±0.2, 28.75N×138.66E, h494km±1km, MW5.5/95, Moment Tensor Solution. s95,c143; Duration: 1s3 Moment tensor: Scale 10^17Nm; Mrr-0.32±.03; Mθθ 0.73±.05; Mφφ-0.41±.05; Mrθ 0.47±.05; Mθφ-0.79±.04; Mφr-1.45±.04; Best double couple: M0 1.83000×10^17 NP1:φs338.00000°, δ84.00000°, λ-58.00000°. NP2:φs77.00000°, δ32.00000°, λ-169.00000°. Principal axes: T 1.8200, Plg32.0000°, Azm42.0000°; N 0.0210, Plg32.0000°, Azm154.0000°; P -1.8410, Plg42.0000°, Azm278.0000°; nsta1 refers to body waves, cutoff=40s.*
ISCJB ***18*** *05:37:55.4±0.2, 28.67N±0.02×138.82E±0.02, h499km±1km, mb5.0/397 Error ellipse: s-maj=2.7km s-min=2.0km az=148.0*
NEIC ***18*** *05:37:55.9±0.2, 28.69N×138.77E, h494km±2km, mb5.1/277, MW5.5, Error ellipse: s-maj=3.0km s-min=2.1km az=144.0, Moment Tensor Solution. s16 Moment tensor: Scale 10^17Nm; Mrr-0.31; Mθθ 0.42; Mφφ-0.11; Mrθ 0.59; Mθφ-0.96; Mφr-1.89; Best double couple: M0 2.20000×10^17 NP1:φs343.00000°, δ85.00000°, λ-65.00000°. NP2:φs84.00000°, δ26.00000°, λ-168.00000°. Principal axes: T 2.3200, Plg35.0000°, Azm52.0000°; N -0.2000, Plg25.0000°, Azm161.0000°; P -2.1200, Plg45.0000°, Azm278.0000°;*

ISC 18 05:37:56.1±0.3, **28.71N**±0.03×**138.90E**±0.03, **h503**km±2km, **h503**km:**pP-P, n1031**, σ1**45**/1305, **mb5.0**/400, **34C-28D, Bonin Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**3.33**	**118**	P	**P**	**05 39 07.0**	**-2.6**
CBIJ				S	**S**	05 40 04.9	-4.5
CBIJ	**Chichi jima**	**3.33**	**118**	*e*P	**P**	05 39 07.5	-2.2
CBIJ				*e*S	**S**	05 40 04.2	-5.1
JCJ	**Chichijima** 1μm,0.3s,baz=53,slow=1.8,SNR=386	**3.33**	**118**	P	**P**	05 39 07.5	-2.1
JCJ				S	**S**	**05 40 04.2**	**-5.1**
	2μm,0.3s,baz=288,slow=20,SNR=21						
JHHJ	**Haha-jima-NKT**	**3.57**	**125**	P	**P**	05 39 09.3	-2.2
JHHJ				S	**S**	05 40 08.8	-3.9
JHJ2	**Mitsune**	**4.46**	**10**	P	**P**	05 39 19.1	+0.8
JHJ2				*e*S	**S**	05 40 24.1	-1.5
JHJ2	**Mitsune**	**4.46**	**10**	*e*P	**P**	05 39 18.4	+0.1
JHJ	**Hachijo jima 2** 151nm,0.3s,baz=332,slow=22,SNR=52	**4.46**	**10**	P	**P**	05 39 18.5	+0.1
JHJ				S	**S**	**05 40 24.0**	**-1.6**
	510nm,0.3s,baz=75,slow=20,SNR=14						
TTO1	**TONANKAI O.B.S**	**5.22**	**340**	P	**P**	**05 39 26.6**	**+1.9**
TK02	**Tokai 2**	**5.31**	**350**	P	**P**	05 39 27.8	+2.2
JKO	**Kozu shima**	**5.46**	**2**	P	**P**	05 39 27.3	-0.0
JWZ	**Kozaga**	**5.52**	**331**	P	**P**	05 39 29.2	+1.3
JWZ				S	**S**	05 40 43.2	+0.1
JKN2	**Miekihoku**	**5.95**	**339**	P	**P**	05 39 33.4	+1.5
JKN2				S	**S**	05 40 52.9	+2.6
JIE	**Ise**	**5.96**	**342**	P	**P**	05 39 33.7	+1.7
JIE				S	**S**	05 40 51.5	+0.9
JIZS	**Izushimoda**	**5.99**	**360**	P	**P**	05 39 32.2	-0.1
JIZS				S	**S**	05 40 49.0	-2.0
JIM2	**Oshima 3**	**6.00**	**4**	P	**P**	05 39 32.2	-0.3
JIM2				S	**S**	05 40 48.3	-3.1
JAA	**Atsumi**	**6.09**	**346**	P	**P**	05 39 34.9	+1.7
JAA				S	**S**	05 40 52.0	-0.8
BSO1	**Boso 1**	**6.18**	**16**	P	**P**	05 39 33.2	-0.3
BSO1				*e*S	**S**	05 40 48.4	-5.1
HMMJ	**Hamamatsu 2**	**6.21**	**351**	P	**P**	05 39 35.4	+1.0
HMMJ				S	**S**	05 40 53.5	-1.4
BSO3	**Boso 3**	**6.22**	**12**	P	**P**	05 39 33.5	-0.8
BSO3				S	**S**	05 40 53.3	-1.4
AJI	**Ajiro2**	**6.32**	**1**	S	**S**	05 40 54.1	-2.7
TSUJ	**Tsu 2**	**6.34**	**341**	P	**P**	05 39 38.5	+2.8
TSUJ				S	**S**	05 40 58.5	+1.2
JYZW	**Yoshizawa**	**6.34**	**351**	P	**P**	05 39 36.4	+0.7
SHZ3	**Shizuoka 3**	**6.36**	**355**	P	**P**	05 39 36.4	+0.4
SHZ3				S	**S**	05 40 57.7	-0.1
BSO4	**Boso 4**	**6.38**	**11**	P	**P**	05 39 35.1	-0.8
BSO4				S	**S**	05 40 55.1	-2.7
JOD2	**Odawara 2**	**6.53**	**1**	P	**P**	05 39 36.7	-0.9
JOD2				*e*S	**S**	05 40 57.3	-3.5
JMN	**Monobe**	**6.59**	**321**	P	**P**	05 39 40.1	+1.8
JMN				S	**S**	05 41 03.8	+1.8
JAJ2	**Tsuna**	**6.64**	**330**	P	**P**	05 39 40.2	+1.6
JTO	**Tosashimizu**	**6.68**	**310**	P	**P**	05 39 40.6	+1.5
JTO				S	**S**	05 41 03.7	+0.3
JAO	**Obara**	**6.68**	**348**	P	**P**	05 39 40.2	+1.1
JAO				S	**S**	05 41 03.9	+0.3
JNY	**Yasuok**	**6.69**	**353**	P	**P**	05 39 40.6	+1.4
JNY				S	**S**	05 41 05.4	+1.7
JYN	**Shimob**	**6.77**	**358**	P	**P**	05 39 39.9	-0.1
JYN				S	**S**	05 41 10.4	+5.2
INU	**Inuyama**	**6.81**	**347**	*e*P	**P**	05 39 41.4	+1.1
JGF	**Kuroka**	**6.99**	**350**	P	**P**	05 39 42.7	+0.5
JGF				S	**S**	05 41 09.1	-0.1
TOK	**Tokyo**	**6.99**	**6**	P	**P**	05 39 39.5	-2.6
TOK				S	**S**	05 41 05.1	-3.9
JWT	**Wachi**	**7.19**	**337**	P	**P**	05 39 45.9	+1.7
JWT				S	**S**	05 41 12.3	-0.5
JRY	**Ryogami san**	**7.28**	**0**	P	**P**	05 39 44.3	-0.8
JRY				S	**S**	05 41 10.0	-4.6
JAD	**Aida**	**7.40**	**328**	P	**P**	05 39 47.9	+1.6
JAD				S	**S**	05 41 17.2	+0.5
JMZ	**Minamidaito 2**	**7.41**	**249**	P	**P**	05 39 46.8	+0.2
JMZ				S	**S**	05 41 16.0	-1.1
JYT	**Yasato**	**7.57**	**8**	S	**S**	05 41 13.7	-6.2
JGN	**Niukaw**	**7.61**	**350**	P	**P**	05 39 48.7	+0.2
JGN				S	**S**	05 41 19.1	-1.6
JHM	**Kurahashi**	**7.67**	**316**	P	**P**	05 39 50.9	+1.8
JSU	**Suzuyama**	**7.83**	**293**	P	**P**	05 39 52.2	+1.5
JSU				S	**S**	05 41 26.8	+2.0
MJAR	**Matsushiro Arr** 17nm,0.3s,baz=187,slow=12,SNR=171	**7.83**	**356**	P	**P**	05 39 49.6	-1.1
MJAR				S	**S**	05 41 21.4	-3.3
	11nm,0.3s,baz=180,slow=16,SNR=6.6						
MAJO	**Matsushiro**	**7.83**	**356**	*e*P	**P**	05 39 49.9	-0.8
MAJO				*e*S	**S**	05 41 21.4	-3.3
MAJO	**Matsushiro**	**7.83**	**356**	*c i*P	**P**	05 39 49.6	-1.1
MAJO				pmax	pmax		
	comp=Z,213nm,0.9s						
MAT	**Matsushiro**	**7.83**	**356**	P	**P**	05 39 49.7	-1.0
MAT				S	**S**	05 41 20.6	-4.2
MAT	**Matsushiro**	**7.83**	**356**	P	**P**	05 39 49.7	-1.0
MAT				S	**S**	05 41 21.6	-3.2
MJB9	**Matsu-Tunnel**	**7.83**	**356**	*e*P	**P**	05 39 50.0	-0.7
JHS	**Saijyo**	**7.96**	**323**	P	**P**	05 39 53.5	+1.4
JHS				S	**S**	05 41 27.7	+0.4
JNU	**Nakatsue** comp=Z,12nm,0.3s,baz=107,slow=5.4,SNR=288	**8.17**	**305**	P	**P**	05 39 55.5	+1.2
JNU				S	**S**	**05 41 32.2**	**+0.9**
	comp=Z,1.4nm,0.3s,baz=246,slow=20,SNR=7.9						
JNU	**Nakatsue**	**8.17**	**305**	P	**P**	05 39 55.5	+1.2
JNU				S	**S**	05 41 32.5	+1.2
JAM	**Amami Oshima**	**8.18**	**270**	P	**P**	05 39 55.6	+1.2
JAM				S	**S**	05 41 32.9	+1.5
JSJ	**Shimokoshiki**	**8.48**	**293**	P	**P**	05 39 57.9	+0.4
JSJ				S	**S**	05 41 37.2	+0.1
JAMN	**Amaminishikomi**	**8.57**	**269**	P	**P**	05 39 59.8	+1.3
JAMN				S	**S**	05 41 40.4	+1.5
JTK	**Tokunoshima**	**8.82**	**266**	S	**S**	05 41 45.0	+1.2
JOI	**OKI**	**8.93**	**329**	P	**P**	05 40 03.2	+1.1
JOI				*e*S	**S**	05 41 45.5	-0.2
JMM	**Marumori**	**9.27**	**9**	P	**P**	05 40 05.8	+0.2
JMM				S	**S**	05 41 48.4	-3.6
JSD	**Sado**	**9.31**	**357**	P	**P**	05 40 04.9	-1.2
JSD				S	**S**	05 41 47.8	-5.2
JFU	**Fukue jima 2**	**9.58**	**297**	P	**P**	05 40 10.0	+1.0
JFU				S	**S**	05 41 59.0	+0.8
JOW	**Kunigami** comp=Z,17nm,0.3s,baz=87,slow=5.2,SNR=24	**9.59**	**261**	P	**P**	05 40 10.2	+1.0
JOW				S	**S**	**05 42 00.2**	**+1.5**
	comp=Z,2.1nm,0.3s,baz=287,slow=19,SNR=9.7						
JOW	**Kunigami**	**9.59**	**261**	P	**P**	05 40 10.8	+1.6
JOW	**Kunigami**	**9.59**	**261**	*e*P	**P**	05 40 09.8	+0.5
JOW				*e*S	**S**	05 41 59.4	+0.7
JYA	**Atsumi**	**9.88**	**4**	P	**P**	05 40 12.8	+0.8
JYA				S	**S**	05 42 04.8	+0.9
JTU	**Tsushima**	**9.95**	**308**	P	**P**	05 40 13.5	+0.6
JTU				S	**S**	05 42 04.3	-1.1
JMK	**Ichinoseki**	**10.39**	**10**	P	**P**	05 40 17.9	+0.5
JMK				*e*S	**S**	05 42 11.5	-2.3
JRG	**Rokugo**	**10.75**	**7**	P	**P**	05 40 22.2	+0.9
JOM	**Ohasama**	**10.91**	**10**	P	**P**	05 40 23.5	+0.5
JOM				S	**S**	05 42 22.6	-1.3
JKE	**Kume jima 2**	**11.01**	**260**	P	**P**	05 40 24.4	+0.2
JKE				*e*S	**S**	05 42 24.8	-1.3
JKZ	**Kuzumaki**	**11.42**	**9**	P	**P**	05 40 29.3	+0.9
JAH	**Hinai**	**11.54**	**7**	P	**P**	05 40 30.7	+1.2
JTM	**Tenmabayashi**	**12.18**	**8**	P	**P**	05 40 37.3	+1.0
JTM				S	**S**	05 42 47.7	-0.7
TJN	**Taejon**	**12.37**	**311**	*de*P	**P**	05 40 37.5	-0.9
KSRS	**Korea Array** comp=Z,7.9nm,0.3s,baz=130,slow=10,SNR=315	**12.67**	**316**	P	**P**	05 40 41.2	-0.3
KSRS				S	**S**	**05 42 58.5**	**+0.6**
	baz=129,slow=16,SNR=8.2						
KSRS				ScP	**ScP**	**05 48 21.6**	**+0.7**
	comp=Z,0.4nm,0.3s,baz=153,slow=1.6,SNR=6.4						
KS15	**Wonju Array Si**	**12.68**	**316**	*e*P	**P**	05 40 41.3	-0.4
KS15				*e*S	**S**	05 42 58.5	+0.3
KSAR	**Wonju Array Be**	**12.68**	**316**	P	**P**	05 40 41.2	-0.5
KSAR				S	**S**	05 42 58.5	+0.3
KSAR	**Wonju Array Be**	**12.68**	**316**	P	**P**	05 40 41.2	-0.5
KSAR				S	**S**	05 42 58.6	+0.3
KS01	**Wonju Array Si**	**12.70**	**316**	*e*P	**P**	05 40 40.7	-1.2
JOT	**Ohata**	**12.76**	**7**	P	**P**	05 40 43.1	+0.6
JOT				*e*S	**S**	05 43 00.0	+0.3
JKB	**Kayabe**	**13.26**	**7**	P	**P**	05 40 47.9	+0.2
JKB				*e*S	**S**	05 43 08.8	-0.5
JOSM	**Okushiri--Mats**	**13.35**	**2**	P	**P**	05 40 49.2	+0.5
JOSM				*e*S	**S**	05 43 08.8	-2.2
INCN	**Inchon**	**13.49**	**314**	*e*P	**P**	05 40 49.4	-0.8
INCN	**Inchon** SNR=16	**13.49**	**314**	P	**P**	05 40 49.1	-1.1
ERM	**Erimo**	**13.72**	**13**	*e*P	**P**	**05 40 53.2**	**+0.7**
ERM	**Erimo**	**13.72**	**13**	*de*P	**P**	**05 40 53.2**	**+0.7**
ERM				pmax	pmax		
	comp=Z,252nm,1.2s						
JEM	**Erimo**	**13.72**	**13**	P	**P**	05 40 53.9	+1.3
JEM				S	**S**	05 43 18.9	+0.8
JSH	**Shimam**	**13.93**	**4**	P	**P**	05 40 56.1	+1.3
JSH				S	**S**	05 43 26.3	+4.1
JEW	**Eniwo**	**14.25**	**8**	P	**P**	05 40 58.9	+0.8
JEW				S	**S**	05 43 29.0	+0.7
IRIF	**Iriomote-Funau**	**14.26**	**256**	P	**P**	05 40 57.3	-1.2
JCH	**Churui**	**14.34**	**13**	P	**P**	05 40 59.9	+0.8
JCH				*e*S	**S**	05 43 31.3	+1.4
YOJ	**Yonaguni jima**	**14.83**	**257**	P	**P**	05 41 01.1	-3.4
YOJ				S	**S**	05 43 34.6	-5.3
YOJ	**Yonaguni jima**	**14.83**	**257**	*e*P	**P**	05 41 03.0	-1.5
YOJ	**Yonaguni jima**	**14.83**	**257**	*e*P	**P**	05 41 03.0	-1.5
MSHR	**Mys Shultsa**	**15.19**	**338**	*de*P	**P**	05 41 08.2	+0.2
VLA	**Vladivostok**	**15.45**	**340**	*c i*P	**P**	05 41 11.3	+0.6
SSE	**Sheshan**	**15.54**	**283**	P	**P**	05 41 09.3	-2.6
SSE

KUR pmax pmax
comp=E,46nm,0.5s
KUR pmax pmax
comp=N,61nm,1.2s
SNY Shenyang 18.07 320 ⇓P **P 05 41 36.8 +0.1**
SNY S **S 05 44 34.8 -1.9**
SNY pmax pmax
comp=N,610nm,1.0s
YSS Yuzh-Sakhalins 18.46 8 *e*P **P 05 41 41.0 +0.8**
comp=N,354nm,1.1s
YSS Yuzh-Sakhalins 18.46 8 *ce*P **P 05 41 41.0 +0.8**
YSS *i* S **S 05 44 41.4 -1.5**
YSS pmax pmax
comp=Z,260nm,1.1s
YSS pmax pmax
comp=N,140nm,1.0s
YSS pmax pmax
comp=Z,870nm,2.6s
YSS pmax pmax
comp=N,830nm,3.1s
YSS pmax pmax
comp=E,410nm,2.9s
YSS smax smax
comp=N,2μm,4.8s
YSS MLR MLR
comp=Z,440nm,9.0s
YSS MLR MLR
comp=N,480nm,11.0s
QZH Quanzhou 18.50 263 ⇓ *i*P **P 05 41 39.8 -1.2**
QZH S **S 05 44 39.9 -4.4**
QZH pmax pmax
comp=N,90nm,0.8s
QZH pmax pmax
comp=N,910nm,5.8s
CN2 Changchun 18.52 328 *e*P **P 05 41 41.0 +0.1**
CN2 *es*P sP 05 43 47.0 -2.9
CN2 *e*S **S 05 44 42.8 -1.2**
CN2 pmax pmax
comp=N,30nm,1.0s
CN2 pmax pmax
comp=N,200nm,3.0s
TIA Tai'an 19.81 298 P **P 05 41 52.6 -0.2**
TIA S **S 05 45 09.3 +4.0**
TIA pmax pmax
comp=N,1μm,1.1s
KLR Kul'dur 21.21 347 P **P 05 42 06.2 +1.0**
comp=N,1.2nm,0.5s,baz=169,slow=7.6,SNR=69
KLR Kul'dur 21.21 347 *c i*P **P 05 42 06.0 +0.7**
WHN Wuhan 21.41 281 ⇓P **P 05 42 07.8 +0.5**
WHN pmax pmax
comp=N,1μm,1.3s
BJT Baijiatuau 21.83 307 *e*P **P 05 42 10.6 -0.4**
comp=N,164nm,0.9s
BJT Baijiatuau 21.83 307 *e*P **P 05 42 10.6 -0.4**
BJT pmax pmax
comp=Z,164nm,0.9s
BJI Beijing 21.83 307 P **P 05 42 09.9 -1.1**
BJI S **S 05 45 39.0 +1.8**
BJI pmax pmax
comp=Z,250nm,0.8s
GRNR Gornyy 22.11 356 *e*P **P 05 42 13.8 +0.4**
GRNR *i* 05 45 41.7
GRNR pmax pmax
comp=N,88nm,1.0s
GRNR pmax pmax
comp=Z,92nm,1.0s
TGY Tagaytay City 22.11 233 P **P 05 42 14.1 +0.2**
comp=Z,270nm,0.7s,baz=206,slow=0.3,SNR=10
TYV Tymovskoe 22.31 6 *e*P **P 05 42 16.3 +1.2**
TYV *e*S **S 05 45 49.5 +5.1**
TYV pmax pmax
comp=Z,800nm,2.0s
TYV pmax pmax
comp=Z,139nm,1.3s
TYV smax smax
comp=N,200nm,4.0s
TIY Taiyuan 23.83 299 *e*P **P 05 42 29.3 +0.3**
TIY sP **sP 05 44 50.8 +2.6**
TIY S **S 05 46 09.6 +0.6**
TIY ScS **ScS 05 52 35.1 +1.8**
TIY pmax pmax
comp=N,370nm,1.8s
NKL Nikolayevsk 24.45 3 *i*P **P 05 42 35.2 +1.0**
NKL *i*S **S 05 46 19.0 +0.9**
NKL pmax pmax
comp=N,170nm,1.3s
NKL pmax pmax
comp=E,43nm,1.3s
NKL pmax pmax
comp=Z,430nm,1.3s
NKL pmax pmax
comp=N,400nm,4.0s
NKL pmax pmax
comp=Z,500nm,5.0s
NKL smax smax
comp=E,1μm,12.0s
HIA Hailar 25.22 330 *e*P **P 05 42 41.9 +0.7**
comp=E,81nm,0.8s
HIA Hailar 25.22 330 *d i*P **P 05 42 41.2 0.0**
HIA pmax pmax
comp=Z,89nm,0.8s
HHC Hu-ho-hao-te 25.40 306 *e*P **P 05 42 43.0 0.0**
HHC sP sP 05 45 08.8 +3.8
HHC S **S 05 46 32.6 -1.1**
HHC pmax pmax
comp=Z,240nm,0.9s
HHC pmax pmax
comp=Z,1μm,4.2s
SKR Severo-Kuril's 25.51 26 *e*P **P 05 42 44.3 +0.7**
SKR *e*S **S 05 46 40.6 +5.8**
SKR pmax pmax
comp=Z,900nm,3.3s
SKR pmax pmax
comp=Z,198nm,1.3s
SKR MLR MLR
comp=Z,200nm,16.0s
SKR MLR MLR
comp=Z,300nm,15.0s
ENH Enshi 25.62 281 *e*P **P 05 42 44.6 -0.3**
comp=Z,379nm,0.8s
ENH *e*S **S 05 46 37.4 +0.2**
XAN Xi'an 26.09 289 P **P 05 42 49.1 0.0**
XAN S **S 05 46 43.8 -0.7**
XAN pmax pmax
comp=Z,180nm,0.8s
ZEA Zeya 26.42 344 *e*P **P 05 42 52.4 +0.7**
ZEA *e* 05 46 05.2
ZEA *e* 05 46 53.0
ZEA pmax pmax
comp=Z,72nm,0.8s
BTO Baotou 26.43 304 *e*P **P 05 42 51.1 -1.0**
PEA0B Petropavlovsk- 28.04 24 *e*P **P 05 43 07.5 +1.6**
comp=Z,131nm,1.3s
PETK Petropavlovsk- 28.04 24 P **P 05 43 06.8 +0.9**
comp=Z,44nm,0.9s,baz=195,slow=4.6,SNR=33
PETK pP **pP 05 44 25.7 -4.8**
comp=Z,1.4nm,0.4s,baz=203,slow=5.9,SNR=2.7
PETK ScP **ScP 05 48 56.8 -0.8**
comp=Z,7.5nm,0.5s,baz=222,slow=0.2,SNR=12
PEA1 Petropavlovsk- 28.04 24 *e*P **P 05 43 06.8 +0.8**
PEA1 *ep*P **pP 05 44 25.7 -4.8**
QIZ Qiongzhong 28.20 256 P **P 05 43 07.8 0.0**
QIZ S **S 05 47 17.6 -0.2**
PET Petropavlovsk 28.33 25 *e*P **P 05 43 09.3 +0.9**
comp=Z,242nm,1.3s
PET Petropavlovsk 28.33 25 ⇑ *i*P **P 05 43 09.4 +1.0**
PET *e**SP **sP 05 45 30.4 -1.6**
PET *i*S **S 05 47 18.8 0.0**
PET *e* 05 52 50.8
PET pmax pmax
comp=Z,800nm,2.3s
PET pmax pmax
comp=Z,162nm,1.3s
PET pmax pmax
comp=Z,100nm,12.3s
PET MLR MLR
comp=Z,300nm,17.0s
PET MLR MLR
comp=Z,300nm,15.0s
GYA Guiyang 28.61 273 ⇓ *i*P **P 05 43 11.3 -0.2**
GYA PP **pP 05 44 32.8 -3.5**
GYA PcP **PcP 05 46 08.3 +1.6**
GYA S **S 05 47 24.4 +0.1**
GYA ScP **ScP 05 49 02.0 +1.9**
GYA PcS **PcS 05 49 50.0 -0.1**
GYA ScS **ScS 05 52 54.4 -0.5**
GYA pmax pmax
comp=Z,310nm,1.2s
GYA pmax pmax
comp=Z,390nm,5.8s
TNTI Ternate 29.89 204 *e*P **P 05 43 21.9 -0.6**
comp=Z,100nm,1.3s
SIJI Sorong 30.31 195 P **P 05 43 26.1 -0.1**
comp=Z,24nm,0.4s,baz=4.7,slow=12,SNR=11
SIJI pP **pP 05 44 51.3 -0.5**
comp=Z,3.9nm,0.3s,baz=355,slow=11,SNR=1.8
MYLDM Lahad Datu 30.36 223 *e*P **P 05 43 28.9 +2.3**
comp=Z,194nm,1.2s
LZH Lanzhou 30.38 293 *e*P **P 05 43 27.1 +0.4**
LZH pP pP 05 44 56.3 +4.0
LZH sP sP 05 45 53.4 +2.6
LZH PcP **PcP 05 46 09.8 -1.4**
LZH *e*S **S 05 47 53.4 +1.9**
LZH SS SS 05 50 30.8 -28
LZH ScS **ScS 05 53 03.1 -0.1**
LZH pmax pmax
comp=Z,180nm,1.1s
LZH pmax pmax
comp=Z,650nm,4.3s
CD2 Chengdu 30.50 283 ⇓ *i*P **P 05 43 27.6 0.0**
CD2 pP pP 05 44 55.8 +2.5
CD2 sP sP 05 45 50.3 -1.5
CD2 S **S 05 47 53.3 +0.1**
CD2 pmax pmax
comp=Z,770nm,0.6s
CD2 pmax pmax
comp=Z,1μm,3.0s
KKM Kota Kinabalu 31.13 228 *e*P **P 05 43 34.1 +0.8**
comp=Z,95nm,1.2s
ULN Ulaanbaatar 31.15 317 *e*P **P 05 43 33.9 +0.7**
comp=Z,228nm,0.9s
ULN Ulaanbaatar 31.15 317 P **P 05 43 33.9 +0.7**
SNR=145
ULN Ulaanbaatar 31.15 317 P **P 05 43 33.9 +0.7**
SNR=145
ULN Ulaanbaatar 31.15 317 *de*P **P 05 43 33.4 +0.2**
ULN pmax pmax
comp=Z,300nm,1.0s
SONA0 Songino Array 31.54 316 *e*P **P 05 43 36.8 +0.3**
SONA0 *ep*P **pP 05 44 58.0 -4.6**
SONA0 *e*PcP **PcP 05 46 14.8 +0.8**
SONA0 *e*S **S 05 48 08.9 0.0**
SONA1 Songino Array 31.54 316 *e*P **P 05 43 36.4 0.0**
SONM Songino Array 31.54 316 P **P 05 43 36.8 +0.3**
comp=Z,228nm,1.2s,baz=128,slow=8.4,SNR=158
SONM pP **pP 05 44 58.0 -4.6**
comp=Z,7.8nm,1.2s,baz=116,slow=7.1,SNR=2.4
SONM PcP **PcP 05 46 14.8 +0.8**
comp=Z,2.4nm,0.5s,baz=108,slow=2.9,SNR=4.6
SONM S **S 05 48 08.9 0.0**
comp=Z,7.2nm,0.6s,baz=89,slow=20,SNR=3.8
MANU Manus Island 31.64 164 *e*P **P 05 43 37.5 -0.1**
comp=Z,170nm,0.1s
MA2 Magadan 31.91 11 P **P 05 43 40.1 +0.9**
comp=Z,153nm,0.9s,baz=196,slow=7.0,SNR=63
MA2 pP **pP 05 45 08.4 +2.8**
comp=Z,7.5nm,0.6s,baz=198,slow=13,SNR=2.1
MA2 S **S 05 48 14.4 +0.4**
comp=Z,6.9nm,0.9s,baz=120,slow=20,SNR=8.3
MA2 ScP **ScP 05 49 10.4 +0.2**
comp=Z,11nm,0.8s,baz=136,slow=1.0,SNR=4.0
MA2 Magadan 31.91 11 *e*P **P 05 43 40.0 +0.7**
MA2 pmax pmax
comp=Z,158nm,1.0s
KMI Kunming 32.36 272 P **P 05 43 44.5 +0.6**
KMI pP pP 05 45 12.3 +1.8
KMI sP sP 05 46 03.9 -4.7
KMI S **S 05 48 22.3 0.0**
KMI sS sS 05 51 01.8 -0.9
KMI pmax pmax
comp=Z,250nm,1.4s
KMI pmax pmax
comp=Z,870nm,3.4s
MRSI Marisa 32.42 213 P **P 05 43 44.9 +0.7**
comp=Z,78nm,1.4s,comp=Z,1μm
SANI Sanana 33.00 204 P **P 05 43 48.0 -1.1**
comp=Z,116nm,0.5s,comp=Z,2μm
MSAI Masohi 33.28 198 P **P 05 43 52.4 +0.9**
comp=Z,8.8nm,0.4s,comp=Z,743nm
MPSI Mapaga 33.56 216 P **P 05 43 54.4 +0.5**
APSI Ampana 33.77 212 P **P 05 43 55.4 -0.3**
comp=Z,228nm,0.7s,comp=Z,2μm
GTA Gaotai 33.86 299 ⇓P **P 05 43 55.9 -0.4**
GTA pP pP 05 45 24.3 +0.8
GTA sP sP 05 46 22.8 +1.2
GTA S **S 05 48 42.8 -1.7**
GTA ScP **ScP 05 49 18.6 +1.0**
GTA sS sS 05 51 23.8 -1.9
GTA SS **SS 05 51 36.5 -7.6**
GTA ScS **ScS 05 53 19.1 -1.9**
GTA pmax pmax
comp=Z,170nm,1.2s
GTA pmax pmax
comp=Z,800nm,5.2s
YAK Yakutsk 33.88 352 P **P 05 43 56.2 +0.3**
comp=Z,18nm,0.3s,baz=16,slow=2.3,SNR=12
YAK S **S 05 48 40.9 -2.9**
comp=Z,26nm,0.5s,baz=311,slow=19,SNR=24
YAK Yakutsk 33.88 352 *e*P **P 05 43 55.9 0.0**
comp=Z,84nm,0.9s
YAK *e*S **S 05 48 44.1 +0.3**
YAK Yakutsk 33.88 352 *e*P **P 05 43 55.3 -0.6**
YAK *e* 05 45 33.1
YAK *e* 05 46 19.6
YAK *e*S **S 05 48 40.9 -2.9**
YAK *e**SS **sS 05 51 21.3 -3.6**
YAK *e* 05 53 15.7
YAK pmax pmax
comp=Z,91nm,1.0s
YAK pmax pmax
comp=N,29nm,1.0s
YAK pmax pmax
comp=E,8.0nm,1.0s
YAK pmax pmax
comp=Z,64nm,1.6s
YAK pmax pmax
comp=N,55nm,1.6s
YAK pmax pmax
comp=E,22nm,1.8s
YAK smax smax
comp=N,243nm,1.3s
YAK smax smax
comp=E,779nm,2.0s
BOD Bodaibo 33.89 336 *e*P **P 05 43 56.4 +0.3**
BOD pmax pmax
comp=Z,53nm,1.2s
SKNT Sakolnakorn 34.11 258 P **P 05 43 57.9 -0.7**
comp=Z,55nm,1.3s
ZAK Zakamensk 34.48 319 *e*P **P 05 44 01.7 +0.3**
ZAK pmax pmax
comp=Z,143nm,1.2s
PCI Palu 34.65 215 P **P 05 44 03.8 +0.7**
comp=Z,97nm,1.3s,comp=Z,2μm
PCI Palu 34.65 215 P **P 05 44 04.7 +1.6**
PCI pmax pmax
comp=Z,98nm,1.3s
IRK Irkutsk 34.78 322 *e*P **P 05 44 03.4 -0.3**
IRK *e*S **S 05 48 59.1 +1.2**
IRK pmax pmax
comp=Z,183nm,1.6s
TLY Talaya 34.86 321 P **P 05 44 04.8 +0.5**
comp=Z,42nm,0.7s,baz=145,slow=6.6,SNR=28
TLY Talaya 34.86 321 *e*P **P 05 44 03.4 -1.0**
comp=Z,76nm,0.9s
TLY *e*P P 05 44 04.8 +0.5
TLY Talaya 34.86 321 *e*P **P 05 44 04.2 -0.2**
TLY pmax pmax
comp=Z,91nm,1.0s
TLY MLR MLR
comp=Z,120nm,11.0s
SMY Shemya 35.32 37 *e*P **P 05 44 10.2 +2.0**
comp=Z,112nm,0.6s
SMY Shemya 35.32 37 *e*P **P 05 44 10.2 +2.0**
SMY pmax pmax
comp=Z,112nm,0.6s
SEY Seymchan 35.34 11 *ce*P **P 05 44 09.3 +1.1**
KHON Khomkaen 35.39 258 P **P 05 44 10.1 +0.9**
comp=Z,35nm,1.3s,comp=Z,919nm
CHAI Chaiyaphum 36.30 257 P **P 05 44 16.6 -0.2**
comp=Z,86nm,0.9s,comp=Z,761nm
MOY Mondy 36.33 320 *e*P **P 05 44 17.4 +0.6**
MOY pmax pmax
comp=Z,16nm,1.7s
SBUM Sibu 36.44 229 *e*P **P 05 44 18.3 +0.3**
comp=Z,74nm,1.3s
PBKT Sadao Pong 36.88 259 P **P 05 44 20.7 -0.9**
comp=Z,103nm,1.8s,comp=Z,2μm
PBKT Sadao Pong 36.88 259 *e*P **P 05 44 21.0 -0.6**
comp=Z,297nm,1.8s
PBKT *e*S **S 05 49 29.6 -0.4**
PHIT Phitsanulok 37.09 260 P **P 05 44 24.0 +0.7**
comp=Z,39nm,1.2s,comp=Z,570nm
CMAI Chiengmai2 37.21 265 P **P 05 44 25.1 +0.6**
comp=Z,464nm,1.7s,comp=Z,8μm
BNSI Bone 37.56 212 P **P 05 44 28.0 +0.8**
comp=Z,48nm,1.3s,comp=Z,871nm
CMMT Chiang Mai 37.72 264 P **P 05 44 27.2 -1.3**
comp=Z,104nm,1.6s,comp=Z,1μm
CHTO Chiang Mai 37.72 264 P **P 05 44 28.3 -0.2**
comp=Z,466nm,1.1s,comp=Z,5μm
CHTO Chiang Mai 37.72 264 *e*P **P 05 44 28.5 0.0**
comp=Z,103nm,1.0s
CHTO Chiang Mai 37.72 264 P **P 05 44 28.7 +0.2**
SNR=42
CHTO Chiang Mai 37.72 264 P **P 05 44 28.7 +0.2**
SNR=42
CHTO Chiang Mai 37.72 264 *e*P **P 05 44 28.5 0.0**
CHTO pmax pmax
comp=Z,103nm,1.0s
CM31 Chiang Mai Arr 37.86 263 *e*P **P 05 44 30.3 +0.6**
CMAR Chiang Mai Arr 37.86 263 P **P 05 44 29.6 -0.1**
comp=Z,21nm,0.9s,baz=50,slow=8.9,SNR=137
CMAR ScP **ScP 05 49 33.5 +0.9**
comp=Z,0.9nm,0.3s,baz=86,slow=1.7,SNR=5.5
CMAR Chiang Mai Arr 37.86 263 P **P 05 44 29.6 -0.1**
CMAR pmax pmax
comp=Z,20nm,0.8s
CMAR pmax pmax
comp=N,1.0nm,0.3s
CM01 Chiang Mai Arr 37.86 263 *e*P **P 05 44 29.1 -0.6**
KAPI Kappang 38.26 212 P **P 05 44 33.9 +1.0**
SNR=6.0
KSM Kuching 38.44 230 *e*P **P 05 44 35.4 +0.9**
comp=N,94nm,1.1s
STKI Sintang 38.72 227 P **P 05 44 38.3 +1.7**
SRDT SRDT 39.47 257 P **P 05 44 42.2 -0.5**
comp=N,88nm,1.6s,comp=N,1μm
HVS Khovu-Aksy 40.44 316 *d i*P **P 05 44 51.4 +1.3**
HVS pmax pmax
comp=Z,115nm,0.8s
SOEI Soe 40.77 202 P **P 05 44 54.0 +0.7**
comp=Z,53nm,1.6s
SOEI Soe 40.77 202 *e*P **P 05 44 52.5 -0.8**
comp=Z,90nm,1.4s
BATI Baumata 41.40 203 P **P 05 44 59.0 +0.9**
comp=Z,28nm,1.1s,comp=Z,553nm
LSA Lhasa 41.45 283 P **P 05 44 59.8 +0.7**
LSA pmax pmax
comp=Z,77nm,1.7s
LSA Lhasa 41.45 283 *e*P **P 05 45 00.1 +1.0**
comp=Z,186nm,1.6s
LSA Lhasa 41.45 283 P **P 05 44 60.0 +0.9**
LSA Lhasa 41.45 283 *e*P **P 05 45 00.1 +1.0**
LSA pmax pmax
comp=Z,186nm,1.6s
SHL Shillong 41.75 277 *e*P **P 05 45 00.0 -1.1**
SHL *e*S **S 05 50 44.0 +2.2**
SHL Shillong 41.75 277 *e*P **P 05 45 01.2 +0.1**
comp=Z,234nm,1.1s
SHL Shillong 41.75 277 *e*P **P 05 45 01.2 +0.1**
SHL pmax pmax
comp=Z,234nm,1.1s
SKLT Songkhla 41.97 247 P **P 05 45 02.4 -0.3**
comp=Z,107nm,1.4s,comp=Z,1μm
MTN Manton Dam 41.99 191 *e*P **P 05 45 02.5 -0.2**
MTN *ep*P **pP 05 46 32.8 -1.7**
TRTT Trang 42.34 248 P **P 05 45 05.5 -0.2**
comp=Z,37nm,1.6s,comp=Z,450nm
SURT Suratani 42.46 251 P **P 05 45 06.3 -0.3**
comp=Z,38nm,1.3s,comp=Z,486nm
PLAI Plampang 42.53 212 P **P 05 45 06.2 -0.9**
comp=Z,74nm,1.1s,comp=Z,869nm
BILL Bilibino 42.59 15 *c i*P **P 05 45 07.6 +0.8**
BILL *e**PP **pP 05 46 39.7 +0.9**
BILL *e* 05 47 00.8
BILL *e*S **S 05 50 47.1 -5.2**
BILL pmax pmax
comp=Z,198nm,1.1s
MYKOM Kota Tinggi 42.81 238 *e*P **P 05 45 10.1 +0.8**
comp=Z,162nm,1.6s
TWSI Taliwang, Sumb 42.87 213 P **P 05 45 07.9 -1.9**
TPRI Tanjung Pinang 42.90 236 P **P 05 45 12.3 +2.3**
KULM Kulim 43.05 245 *e*P **P 05 45 11.9 +0.6**
comp=Z,90nm,0.9s
SRBI Singaraja 43.13 216 P **P 05 45 12.7 +0.9**
comp=Z,48nm,1.5s,comp=Z,863nm
IPM Ipoh 43.25 243 *e*P **P 05 45 12.7 -0.2**
comp=Z,79nm,1.0s
WMQ Urumqi 43.27 305 P **P 05 45 13.1 +0.4**
WMQ PP **PP 05 47 07.3 +3.1**
WMQ S **S 05 51 02.1 -0.8**
WMQ sS sS 05 53 46.6 -4.2
WMQ ScS **ScS 05 54 11.5 -4.7**
WMQ pmax pmax
comp=Z,490nm,1.5s
WMQ pmax pmax
comp=Z,1μm,3.8s
TIXI Tiksi 43.34 355 *e*P **P 05 45 12.7 0.0**
comp=Z,38nm,1.0s
TIXI Tiksi 43.34 355 *de*P **P 05 45 12.5 -0.1**
TIXI *e* 05 47 06.7
TIXI pmax pmax
comp=Z,43nm,1.0s
PKDT Phuket 43.42 250 P **P 05 45 13.9 -0.3**
comp=Z,60nm,1.1s,comp=Z,1μm
DGZ Jazzator, Alta 44.05 313 *i*P **P 05 45 19.0 +0.3**
DGZ pmax pmax
comp=Z,117nm,1.3s
ODAN Odare 45.32 280 *e*P **P 05 45 29.1 +0.1**
comp=Z,157nm,0.5s
UGM Wanagama 45.55 221 *e*P **P 05 45 30.3 -0.3**
comp=Z,363nm,1.5s
PSI Prapat 45.93 243 P **P 05 45 33.6 -0.1**
comp=Z,48nm,0.9s,baz=23,slow=4.0,SNR=49
PSI PcP **PcP 05 47 00.7 +0.3**
comp=Z,6.7nm,0.6s,baz=283,slow=3.2,SNR=4.9
PSI Prapat 45.93 243 *e*P **P 05 45 33.7 +0.1**
comp=Z,78nm,1.0s
PSI *e*PcP **PcP 05 47 01.1 +0.7**
PSI Prapat 45.93 243 *e*P **P 05 45 33.7 +0.1**
PSI *e* 05 47 01.1
PSI pmax pmax
comp=Z,78nm,1.0s
RAMN Ramite 45.98 281 *e*P **P 05 45 34.4 +0.4**
comp=Z,878nm,1.2s
KPJI Karang Pucung 46.03 224 P **P 05 45 34.4 +0.2**
comp=Z,116nm,1.4s,comp=Z,2μm
LHMI Lhok Sumawe 46.06 248 P **P 05 45 36.9 +2.4**
comp=Z,166nm,1.2s,comp=Z,2μm
LHMI Lhok Sumawe 46.06 248 *e*P **P 05 45 35.2 +0.7**
comp=Z,104nm,0.8s
JIRN Jiri 46.15 282 *e*P **P 05 45 36.2 +0.7**
comp=Z,927nm,0.8s
PBA Port Blair 46.21 258 *e*P P 05 45 34.5 -1.1
comp=Z,49nm,0.7s
GUN Gumba 46.36 282 *e*P **P 05 45 37.6 +0.6**
comp=Z,793nm,0.8s
ZAA0 Zalesovo Array 46.36 319 *e*P **P 05 45 35.5 -0.6**
comp=Z,61nm,1.1s
ZALV Zalesovo Beam 46.36 319 P **P 05 45 35.6 -0.6**
comp=Z,18nm,0.6s,baz=103,slow=6.7,SNR=96
ZALV PcP **PcP 05 47 00.8 -0.3**
comp=Z,2.9nm,0.4s,baz=104,slow=4.0,SNR=4.4
ZAA1 Zalesovo Array 46.36 319 *e*P **P 05 45 35.6 -0.6**
ZAA1 *e*PcP **PcP 05 47 00.8 -0.3**
LEM Lembang 46.45 225 P **P 05 45 37.7 +0.1**
comp=Z,97nm,0.7s,baz=64,slow=4.5,SNR=28
UNV Unalaska Valle 46.65 42 *e*P **P 05 45 38.8 +0.5**
comp=Z,153nm,1.4s
MNSI Mandailing Nat 46.68 241 P **P 05 45 39.1 -0.1**
comp=Z,98nm,1.1s
PKIN Phulchoki 46.85 282 *e*P **P 05 45 41.4 +0.7**
comp=Z,136nm,0.7s
KKN Kakani 46.90 282 *e*P **P 05 45 41.4 +0.4**
MDSI Maura Dua 46.95 231 P **P 05 45 40.8 -0.4**
comp=Z,139nm,1.3s,comp=Z,2μm

GAMB **Gambell** 46.99 27 *e*P P 05 45 42.4 +1.6
comp=Z,166nm,1.8s
TPTI 47.03 245 P P 05 45 40.7 -1.1
comp=Z,52nm,1.3s
MLSI **Meulaboh, Aceh** 47.06 247 P P 05 45 41.5 -0.6
comp=Z,100nm,0.7s,comp=Z,3µm
DMN **Daman** 47.09 282 *e*P P 05 45 42.9 +0.4
comp=Z,357nm,1.0s
PDSI **Padang** 47.12 238 P P 05 45 43.0 +0.4
MK01 **Makanchi Array** 47.19 309 *e*P P 05 45 42.1 -0.6
MK31 **Makanchi Array** 47.20 309 *e*P P 05 45 42.6 -0.2
MK31 **Makanchi Array** 47.20 309 *i* P P 05 45 42.4 -0.3
MK31 pmax pmax
comp=Z,109nm,1.1s
MK32 **Makanchi Array** 47.20 309 *e*P P 05 45 42.5 -0.2
MK32 *e*PcP PcP 05 47 03.9 -0.4
MKAR **Makanchi Array** 47.20 309 P P 05 45 42.5 -0.2
comp=Z,38nm,0.7s,baz=92,slow=9.7,SNR=248
MKAR PcP PcP 05 47 03.9 -0.4
comp=Z,10.0nm,0.9s,baz=64,slow=2.8,SNR=4.6
MKAR ScP ScP 05 50 09.4 -0.6
comp=Z,12nm,0.7s,baz=76,slow=5.4,SNR=17
MKAR **Makanchi Array** 47.20 309 *e*P P 05 45 42.6 -0.2
comp=Z,345nm,1.0s
MKAR PcP PcP 05 47 03.9 -0.4
MASI **Maura Aman, Be** 47.34 234 P P 05 45 45.1 +0.9
comp=Z,240nm,0.9s,comp=Z,3µm
GKN **Gorkha** 47.40 283 *e*P P 05 45 45.1 +0.4
LWLI **Liwa** 47.41 231 P P 05 45 45.9 +1.1
comp=Z,52nm,0.6s,comp=Z,17µm
MAKZ **Makanchi** 47.42 309 *e*P P 05 45 44.3 -0.1
comp=Z,217nm,1.5s
MAKZ **Makanchi** 47.42 309 *e*P P 05 45 44.3 -0.1
MAKZ pmax pmax
comp=Z,217nm,1.5s
NVS **Novosibirsk** 47.43 320 ⇓ *i*P P 05 45 45.0 +0.7
NVS *i* *PP PcP 05 47 03.7 -1.2
NVS *i* 05 47 42.7
NVS *i* S S 05 51 59.5 -1.4
NVS *i* *SS ScS 05 54 40.7 -2.1
NVS pmax pmax
comp=Z,93nm,1.5s
NVS pmax pmax
comp=N,15nm,0.7s
NVS pmax pmax
comp=E,75nm,1.6s
NVS smax smax
comp=N,7.0nm,1.0s
NVS smax smax
comp=E,13nm,1.6s
KASI **Kota Agung** 47.49 230 P P 05 45 44.5 -0.8
comp=E,51nm,1.5s
GSI **Gunungsitoli** 47.91 243 P P 05 45 48.8 +0.3
comp=E,293nm,1.5s,comp=E,4µm
GSI **Gunungsitoli** 47.91 243 *e*P P 05 45 48.0 -0.4
comp=E,453nm,1.3s
DANN **Dangsing** 48.06 284 *e*P P 05 45 50.8 +1.0
FITZ **Fitzroy Crossi** 48.27 197 P P 05 45 51.0 0.0
comp=E,17nm,0.5s,baz=4.3,slow=18,SNR=163
SISI **Saibi** 48.42 239 P P 05 45 52.6 +0.3
comp=E,70nm,1.2s
WRAB **Tennant Creek** 48.56 186 *e*P P 05 45 52.7 -0.5
WRAB *e*pP pP 05 47 27.7 -0.9
WRAB **Tennant Creek** 48.56 186 *ce*P P 05 45 52.8 -0.4
WRAB pmax pmax
comp=Z,11nm,1.0s
WB2 **Warramunga Arr** 48.57 186 *e*P P 05 45 51.2 -2.0
WB2 *e*P P 05 45 52.8 -0.5
WB2 *e*pP pP 05 47 27.8 -0.9
WR1 **Warramunga Arr** 48.57 186 *e*P P 05 45 52.5 -0.7
WR1 *e*PcP PcP 05 47 10.2 +0.7
WR1 *e*pP pP 05 47 27.1 -1.5
WR1 *e*S S 05 52 12.5 -4.9
WRA **Warramunga Arr** 48.57 186 P P 05 45 52.5 -0.7
comp=Z,18nm,0.4s,baz=1.7,slow=7.7,SNR=178
WRA PcP PcP 05 47 10.2 +0.7
comp=Z,2.2nm,0.4s,baz=0.8,slow=4.2,SNR=3.7
WRA pP pP 05 47 27.1 -1.5
comp=Z,15nm,1.1s,baz=4.9,slow=8.4,SNR=6.5
WRA ScP ScP 05 50 16.3 +0.2
comp=Z,1.2nm,0.4s,baz=1.3,slow=5.2,SNR=5.9
WRA S S 05 52 12.5 -4.9
comp=Z,1.2nm,0.6s,baz=358,slow=13,SNR=6.8
WRA **Warramunga Arr** 48.57 186 P P 05 45 52.5 -0.7
WRA 05 47 10.2
WRA *PP pP 05 47 27.2 -1.5
WRA S S 05 52 12.5 -4.9
WRA pmax pmax
comp=Z,17nm,0.4s
WRA pmax pmax
comp=Z,15nm,1.1s
WRA pmax pmax
comp=N,1.0nm,0.4s
WRA smax smax
comp=N,1.0nm,0.6s
PYUN **Piuthan** 48.78 283 *e*P P 05 45 55.4 +0.3
PDGK **Podgornoye** 49.23 304 P P 05 45 58.2 +0.1
PDGK pmax pmax
comp=Z,265nm,1.1s
KURK **Kurchatov** 49.77 314 *e*P P 05 46 01.4 -0.4
comp=Z,170nm,1.0s
KURK *e*P P 05 46 01.7 -0.1
KURK *e*S S 05 52 30.8 -2.4
KURK *e*S S 05 52 31.1 -2.1
KURK **Kurchatov** 49.77 314 P P 05 46 02.4 +0.6
SNR=107
KURK **Kurchatov** 49.77 314 P P 05 46 02.4 +0.6
SNR=107
KURK **Kurchatov** 49.77 314 *de*P P 05 46 01.4 -0.4
KURK pmax pmax
comp=Z,237nm,1.2s
KURBB **Kurchatov Arra** 49.83 314 P P 05 46 01.7 -0.5
comp=Z,66nm,0.5s,baz=93,slow=7.4,SNR=501
KURBB ScP ScP 05 50 20.4 -0.6
comp=Z,1.1nm,0.5s,baz=86,slow=4.7,SNR=5.3
KURBB S S 05 52 31.1 -2.8
comp=Z,4.9nm,1.1s,baz=85,slow=12,SNR=11
SDPT **Sand Point** 50.33 40 *e*P P 05 46 06.0 +0.3
comp=Z,109nm,0.6s
TARG **Taragay, Kyrgy** 50.60 302 *e*P P 05 46 09.5 +1.0
comp=Z,147nm,1.1s
KDJ **Kajisay** 51.02 303 *e*P P 05 46 12.1 +0.7
comp=Z,89nm,1.1s
CHGN **Chignik** 51.58 39 *e*P P 05 46 15.1 +0.3
comp=Z,43nm,0.6s
ULHL **Ulahol** 51.70 303 P P 05 46 17.7 +1.3
SNR=8.0
TKM2 **Tokmak 2** 52.11 304 P P 05 46 19.8 +0.6
SNR=57
TKM2 **Tokmak 2** 52.11 304 P P 05 46 19.0 -0.2
TKM2 pmax pmax
comp=Z,80nm,1.2s
KSH **Kashi** 52.25 299 P P 05 46 24.0 +3.8
KSH PP PP 05 48 31.5 +6.1
KSH ScP ScP 05 50 34.5 +2.5
KSH S S 05 53 10.5 +3.2
KSH ScS ScS 05 55 15.8 -1.2
KSH pmax pmax
comp=Z,260nm,1.0s
AS01 **Alice Springs** 52.29 186 *e*P P 05 46 19.5 -0.9
AS01 *e*pP pP 05 47 54.7 -3.1
AS31 **Alice Springs** 52.30 186 *e*P P 05 46 20.2 -0.2
comp=Z,6.9nm,0.4s
ASAR **Alice Springs** 52.30 186 P P 05 46 20.1 -0.4
comp=Z,5.4nm,0.5s,baz=16,slow=12,SNR=95
ASAR PcP PcP 05 47 24.2 +0.8
comp=Z,1.5nm,0.5s,baz=2.3,slow=5.4,SNR=3.5
ASAR pP pP 05 47 55.0 -2.9
comp=Z,5.2nm,1.2s,baz=2.7,slow=5.8,SNR=2.3
ASAR ScP ScP 05 50 32.9 +0.8
comp=Z,0.9nm,0.7s,baz=17,slow=4.4,SNR=2.6
ASAR S S 05 53 08.0 +0.2
comp=Z,0.4nm,0.6s,baz=12,slow=15,SNR=3.9
KZA **Kyzart** 52.46 303 P P 05 46 23.3 +1.4
SNR=48
KBK **Karagaybulak** 52.61 303 P P 05 46 23.6 +0.9
SNR=36
CHMS **Chumysh** 52.71 304 P P 05 46 24.4 +1.1
SNR=22
FRU **Bishkek** 52.83 304 *i* P P 05 46 24.0 -0.2
FRU pmax pmax
comp=Z,280nm,1.8s
USP **Ospenovka** 52.87 304 P P 05 46 25.5 +1.0
SNR=6.5
MBWA **Marble Bar** 52.92 203 *e*P P 05 46 24.9 -0.1
comp=Z,35nm,0.6s

AAK **Ala-Archa** 52.95 303 P P 05 46 25.6 +0.4
comp=Z,20nm,0.6s,baz=102,slow=4.9,SNR=68
AAK PcP PcP 05 47 26.2 +0.2
comp=Z,5.8nm,0.5s,baz=139,slow=3.6,SNR=4.1
AAK ScP ScP 05 50 35.1 +0.1
comp=Z,4.8nm,0.8s,baz=119,slow=7.0,SNR=4.3
AAK **Ala-Archa** 52.95 303 P P 05 46 25.7 +0.6
SNR=6.2
AAK **Ala-Archa** 52.95 303 *e*P P 05 46 25.5 +0.4
comp=Z,102nm,1.4s
AAK *e*PcP PcP 05 47 26.2 +0.2
AAK **Ala-Archa** 52.95 303 P P 05 46 25.8 +0.6
SNR=32
AAK **Ala-Archa** 52.95 303 P P 05 46 25.8 +0.6
SNR=32
AAK **Ala-Archa** 52.95 303 *i* P P 05 46 25.5 +0.4
SNR=40
AAK **Ala-Archa** 52.95 303 *e*P P 05 46 25.5 +0.4
AAK *e* 05 47 26.2
AAK pmax pmax
comp=Z,102nm,1.4s
UCH **Uchtor** 52.98 303 P P 05 46 26.8 +1.0
SNR=129
EKS2 **Erkin-Say** 53.47 304 P P 05 46 29.1 +0.3
SNR=29
SVW2 **Sparrevohn** 53.52 33 *e*P P 05 46 30.5 +1.7
comp=Z,45nm,0.6s
AML **Almayashu** 53.60 303 P P 05 46 30.9 +0.8
SNR=134
OTUK **Ortayu** 53.91 311 P P 05 46 31.3 -0.5
OTUK pmax pmax
comp=Z,136nm,1.0s
MNAS **Manas** 54.42 304 P P 05 46 36.3 +0.7
MNAS pmax pmax
comp=Z,38nm,1.0s
OHAK **Old Harbor** 54.45 38 *e*P P 05 46 35.7 +0.4
comp=Z,289nm,1.9s
KDAK **Kodiak Island** 54.84 38 P P 05 46 38.6 +0.6
comp=Z,66nm,0.6s,baz=258,slow=3.3,SNR=96
KDAK **Kodiak Island** 54.84 38 *e*P P 05 46 38.6 +0.6
comp=Z,238nm,1.4s
KDAK **Kodiak Island** 54.84 38 *ce*P P 05 46 38.5 +0.5
BVA0 **Borovoye Array** 54.88 317 P P 05 46 38.0 -0.5
BVA0 pmax pmax
comp=Z,206nm,1.2s
BVAR **Borovoye Array** 54.88 317 P P 05 46 38.7 +0.2
comp=Z,68nm,0.7s,baz=92,slow=7.1,SNR=282
BVAR ScP ScP 05 50 42.4 -0.7
comp=Z,1.8nm,0.5s,baz=100,slow=3.3,SNR=5.0
BVAR S S 05 53 38.7 -2.6
comp=Z,12nm,1.0s,baz=104,slow=11,SNR=16
IM3 **Indian Mountai** 54.94 27 *e*P P 05 46 39.4 +0.8
BRVK **Borovoye** 54.94 317 *e*P P 05 46 39.0 +0.1
comp=Z,153nm,0.9s
BRVK *e*S S 05 53 40.9 -1.2
BRVK **Borovoye** 54.94 317 P P 05 46 39.3 +0.4
SNR=80
BRVK **Borovoye** 54.94 317 P P 05 46 39.3 +0.4
SNR=80
BRVK **Borovoye** 54.94 317 *e*P P 05 46 39.0 +0.1
BRVK *e*S S 05 53 40.9 -1.2
BRVK pmax pmax
comp=Z,153nm,0.9s
PPLA **Purkeypile** 55.28 31 *e*P P 05 46 42.8 +1.5
comp=Z,329nm,1.7s
CAST **Castle Rocks** 55.37 31 *e*P P 05 46 43.3 +1.6
comp=Z,427nm,1.8s
HOM **Homer** 55.37 35 *e*P P 05 46 42.6 +0.8
comp=Z,94nm,1.0s
SKT **Skwentna** 55.52 32 *e*P P 05 46 43.8 +1.0
comp=Z,81nm,1.2s
NIL **Nilore** 55.55 293 *e*P P 05 46 44.3 +0.8
comp=Z,160nm,0.7s
NIL **Nilore** 55.55 293 *e*P P 05 46 44.3 +0.8
NIL pmax pmax
comp=Z,160nm,0.7s
BRLK **Bradley Lake** 55.76 35 *e*P P 05 46 44.5 0.0
comp=Z,56nm,0.7s
KK31 **Karatay Array** 55.78 305 *e*P P 05 46 45.1 +0.2
KK31 **Karatay Array** 55.78 305 *i* P P 05 46 44.7 -0.3
KK31 pmax pmax
comp=Z,183nm,1.1s
KKAR **Karatay Array** 55.78 305 *e*P P 05 46 45.1 +0.2
KKAR **Karatay Array** 55.78 305 *e*P P 05 46 45.1 +0.2
SUA **Susitna One** 55.88 33 *e*P P 05 46 46.3 +0.9
comp=Z,36nm,0.8s
KTH **Kantishna Hill** 55.90 31 *e*P P 05 46 47.0 +1.6
comp=Z,267nm,2.0s
BPAW **Bear Paw Mtn.** 55.91 30 *e*P P 05 46 46.7 +1.3
comp=Z,196nm,1.6s
MLY **Manley** 56.08 29 *e*P P 05 46 48.2 +1.5
comp=Z,113nm,1.3s
HYB **Hyderabad** 56.14 272 *i* P P 05 46 47.5 -0.4
comp=Z,121nm,1.2s
HYB *e*pP pP 05 48 33.0 +5.9
TRF **Thorofare Moun** 56.17 31 *e*P P 05 46 48.2 +0.7
comp=Z,200nm,1.7s
RC01 **Rabbit Creek A** 56.35 34 *e*P P 05 46 49.2 +0.7
comp=Z,175nm,1.4s
COLD **Coldfoot** 56.49 26 *e*P P 05 46 50.5 +1.1
comp=Z,121nm,1.6s
PMR **Palmer** 56.65 33 *e*P P 05 46 50.7 +0.1
comp=Z,147nm,1.3s
PMR *e*pP pP 05 48 32.2 +2.2
PMR **Palmer** 56.65 33 *e*P P 05 46 50.7 +0.1
PMR *e**PP pP 05 48 32.2 +2.2
PMR pmax pmax
comp=Z,147nm,1.3s
GHO **Glory Hole Cre** 56.75 33 *e*P P 05 46 51.9 +0.5
comp=Z,42nm,0.7s
MCK **McKinley** 56.79 30 *e*P P 05 46 52.1 +0.5
comp=Z,127nm,1.0s
MCK **McKinley** 56.79 30 *e*P P 05 46 52.1 +0.5
MCK pmax pmax
comp=Z,127nm,1.0s
RND **Reindeer** 56.82 31 *e*P P 05 46 51.8 0.0
comp=Z,446nm,2.0s
RND **Reindeer** 56.82 31 *e*P P 05 46 51.8 0.0
RND pmax pmax
comp=Z,446nm,2.0s
TOLK **Toolik Lake Re** 56.86 25 P P 05 46 53.4 +1.4
baz=264
TOLK **Toolik Lake Re** 56.86 25 *e*P P 05 46 53.4 +1.4
comp=Z,90nm,1.2s
SML **Sawmill** 57.03 33 *e*P P 05 46 54.0 +0.7
comp=Z,98nm,0.8s
SML **Sawmill** 57.03 33 *e*P P 05 46 54.0 +0.7
SML pmax pmax
comp=Z,98nm,0.8s
MDM **Murphy Dome** 57.14 29 *e*P P 05 46 54.8 +0.9
comp=Z,254nm,1.5s
WRH **Wood River Hil** 57.18 30 *e*P P 05 46 54.6 +0.4
comp=Z,66nm,1.4s
COLA **College** 57.30 29 *e*P P 05 46 55.8 +0.9
comp=Z,39nm,0.8s
COLA **College** 57.30 29 *e*P P 05 46 55.8 +0.9
COLA pmax pmax
comp=Z,39nm,0.8s
CCB **Clear Creek Bu** 57.31 29 *e*P P 05 46 55.4 +0.3
comp=Z,108nm,1.5s
DHY **Denali Highway** 57.48 31 *e*P P 05 46 57.4 +0.9
comp=Z,80nm,1.7s
SCM **Sheep Creek Mo** 57.51 33 *e*P P 05 46 56.9 +0.3
comp=Z,109nm,0.8s
SCM **Sheep Creek Mo** 57.51 33 *e*P P 05 46 56.9 +0.3
SCM pmax pmax
comp=Z,109nm,0.8s
HDA **Harding Lake** 57.68 30 *e*P P 05 46 57.4 -0.2
comp=Z,68nm,1.4s
ILAR **Eielson Array** 57.71 29 P P 05 46 57.5 -0.4
comp=Z,15nm,0.5s,baz=251,slow=5.3,SNR=245
ILAR pP pP 05 48 35.9 -1.9
comp=Z,2.5nm,1.0s,baz=252,slow=5.3,SNR=3.2
ILAR ScP ScP 05 50 54.0 -1.3
comp=Z,0.4nm,0.5s,baz=244,slow=4.9,SNR=4.0
ILB **Eielson Array** 57.71 29 *e*P P 05 46 57.6 -0.3
IL1 **Eielson Array** 57.71 29 *e*P P 05 46 56.6 -1.2
IL1 *e*pP pP 05 48 35.2 -2.5
KLU **Klutina** 58.19 33 *e*P P 05 47 02.0 +0.8
comp=Z,55nm,0.9s
DIV **Divide** 58.28 34 *e*P P 05 47 03.0 +1.1
comp=Z,133nm,1.3s
EYAK **Cordova Ski Ar** 58.31 34 *e*P P 05 47 03.3 +1.4
comp=Z,144nm,1.5s
PAX **Paxson** 58.35 31 *e*P P 05 47 03.2 +0.9
comp=Z,167nm,1.5s
PAX **Paxson** 58.35 31 *e*P P 05 47 03.2 +0.9
PAX pmax pmax
comp=Z,167nm,1.5s
FYU **Fort Yukon** 58.41 27 *e*P P 05 47 04.3 +1.8
comp=Z,373nm,1.6s
HARP **HAARP** 58.52 32 *e*P P 05 47 04.8 +1.5
comp=Z,244nm,1.3s
RIDG **Independ'e Rid** 58.61 30 *e*P P 05 47 04.1 +0.1
comp=Z,47nm,0.7s
KBL **Kabul** 58.70 295 *e*P P 05 47 05.9 +0.5
comp=Z,138nm,1.1s
KBL **Kabul** 58.70 295 *e*P P 05 47 05.9 +0.5
KBL pmax pmax
comp=Z,138nm,1.1s
PALK **Pallekele** 58.71 261 P P 05 47 04.6 -0.8
BMRM **Bremner River** 58.85 34 *e*P P 05 47 06.8 +1.1
comp=Z,304nm,1.3s
RAGM **Ragged Mountai** 58.85 34 *e*P P 05 47 07.1 +1.4
comp=Z,180nm,1.5s
DOT **Dot Lake** 58.96 31 *e*P P 05 47 06.8 +0.4
comp=Z,671nm,1.6s
SCRK **Sand Creek** 58.98 30 *e*P P 05 47 07.0 +0.4
comp=Z,183nm,1.5s
MENT **Mentasta** 59.15 31 *e*P P 05 47 09.0 +1.4
comp=Z,150nm,1.4s
POO **Poona** 59.83 276 ⇑ *i*P P 05 47 11.0 -1.9
comp=Z,27nm,1.0s
BALM **Baldy** 59.94 33 *e*P P 05 47 13.9 +0.8
comp=Z,127nm,1.4s
BALM **Baldy** 59.94 33 *e*P P 05 47 13.9 +0.8
BALM pmax pmax
comp=Z,127nm,1.4s
FORT **Forrest** 60.06 191 *e*P P 05 47 14.4 +0.4
comp=Z,179nm,1.8s
EGAK **Eagle** 60.16 29 *e*P P 05 47 14.6 +0.3
comp=Z,86nm,1.7s
SVE **Sverdlovsk** 60.17 322 *e*P P 05 47 15.5 +1.0
SVE *e*S S 05 54 44.2 -4.5
SVE pmax pmax
comp=Z,134nm,1.0s
STKA **Stephens Creek** 60.31 177 P P 05 47 15.6 -0.1
comp=Z,4.0nm,0.5s,baz=355,slow=8.5,SNR=23
STKA **Stephens Creek** 60.31 177 *e*P P 05 47 15.6 -0.1
comp=Z,1.0nm,0.6s
DAWY **Dawson** 60.99 30 *e*P P 05 47 20.9 +1.1
comp=Z,80nm,1.5s
ARU **Arti** 61.36 321 P P 05 47 22.3 -0.1
comp=Z,33nm,0.5s,baz=82,slow=4.0,SNR=117
ARU **Arti** 61.36 321 *e*P P 05 47 22.0 -0.4
comp=Z,136nm,1.0s
ARU *e*S S 05 55 01.8 -1.7
ARU **Arti** 61.36 321 *d i*P P 05 47 22.1 -0.2
ARU 05 47 58.0
ARU 05 49 45.1
ARU *e*S S 05 55 02.5 -1.0
ARU 05 56 18.3
ARU pmax pmax
comp=Z,195nm,1.7s
AB31 **Akbulak array** 61.88 313 *e*P P 05 47 25.5 -0.4
AB31 pmax pmax
comp=Z,39nm,0.5s
ABKAR **Akbulak array** 61.88 313 *e*P P 05 47 25.4 -0.4
ABKAR *e*S S 05 55 10.4 +0.2
HYT **Haines Junctio** 62.31 33 *e*P P 05 47 29.3 +0.6
comp=Z,101nm,1.3s
INK **Inuvik** 62.78 25 P P 05 47 32.1 +0.7
comp=Z,15nm,0.4s,baz=297,slow=5.2,SNR=261
INK S S 05 55 21.0 +0.5
comp=Z,2.2nm,1.0s,baz=149,slow=18,SNR=8.1
INK **Inuvik** 62.78 25 *e*P P 05 47 31.7 +0.4
comp=Z,99nm,1.5s
INK S S 05 55 21.0 +0.5
AKTO **Aktyubinsk** 62.84 315 P P 05 47 32.2 0.0
comp=Z,35nm,0.8s,baz=88,slow=7.8,SNR=90
AKTO S S 05 55 20.8 -1.1
comp=Z,4.7nm,1.2s,baz=221,slow=19,SNR=8.5
WHY **Whitehorse** 63.61 33 *e*P P 05 47 38.5 +1.5
comp=Z,202nm,1.6s
SKAG **Skagway** 63.64 35 *e*P P 05 47 38.6 +1.6
comp=Z,90nm,1.4s
BESE **Bessie Mountai** 64.07 36 *e*P P 05 47 42.0 +2.0
comp=Z,146nm,1.6s
MNCI **Minicoy** 64.90 266 *e*P P 05 47 46.0 +0.1
comp=Z,251nm,1.2s
GEYT **Alibeck** 66.18 301 P P 05 47 54.2 +0.6
comp=Z,33nm,0.9s,baz=46,slow=4.3,SNR=49
GEYT S S 05 56 04.0 +1.3
comp=Z,2.6nm,0.2s,baz=307,slow=22,SNR=5.1
GYA0B **ALIBECK ARRAY** 66.18 301 *e*P P 05 47 54.8 +1.1
comp=Z,67nm,1.1s
DLBC **Dease Lake** 66.56 35 *e*P P 05 47 57.2 +1.6
comp=Z,99nm,1.5s
DIB **Dawson Inlet,** 66.77 41 *e*P P 05 47 58.4 +1.6
comp=Z,224nm,1.6s
SPA0 **Spitsbergen Ar** 68.27 349 *e*P P 05 48 06.2 +0.5
SPITS **Spitsbergen Ar** 68.27 349 P P 05 48 06.2 +0.5
comp=Z,1.9nm,0.4s,baz=62,slow=4.1,SNR=33
TMCR **Tamitsa** 69.08 333 *e*P P 05 48 09.6 -1.1
TMCR pmax pmax
comp=Z,63nm,1.0s
APA **Apatity** 69.43 337 ⇓ *i*P P 05 48 10.6 -2.2
APA pmax pmax
comp=Z,16nm,0.9s
KLMR **Klimovskoe** 69.72 329 *e*P P 05 48 12.8 -1.9
KLMR AMP 05 48 15.3
comp=Z,51nm,1.1s
KLMR *e*PcP PcP 05 48 31.8 -1.7
KLMR *e*PP PP 05 50 56.3 -0.6
KLMR **Klimovskoe** 69.72 329 *e*P P 05 48 12.7 -1.9
KLMR *e* 05 48 31.7
KLMR *e* 05 50 56.3
KLMR pmax pmax
comp=Z,51nm,1.1s
KEV **Kevo** 70.49 340 *e*P P 05 48 19.9 +0.8
comp=Z,16nm,0.9s
KEV **Kevo** 70.49 340 *e*P P 05 48 19.9 +0.8
KEV pmax pmax
comp=Z,16nm,0.9s
ARA0 **ARCESS Array S** 71.05 340 *e*P P 05 48 22.9 +0.4
ARCES **ARCESS Array B** 71.05 340 P P 05 48 22.9 +0.4
comp=Z,7.1nm,0.5s,baz=67,slow=8.5,SNR=93
ARCES **ARCESS Array B** 71.05 340 *e*P P 05 48 23.2 +0.8
ARCES **ARCESS Array B** 71.05 340 *e*P P 05 48 23.2 +0.8
ARE0 **ARCESS Array S** 71.05 340 *e*P P 05 48 23.2 +0.8
comp=Z,14nm,0.8s
WSAR **Wadi Sarin** 71.09 287 P P 05 48 23.6 0.0
comp=Z,22nm,0.9s,baz=84,slow=6.0,SNR=11
RES **Resolute Bay** 71.16 13 P P 05 48 23.7 +0.7
comp=Z,19nm,0.7s,baz=294,slow=7.3,SNR=107
RES **Resolute Bay** 71.16 13 *e*P P 05 48 23.7 +0.7
comp=Z,20nm,0.8s
BIDO **Bidbid** 71.40 287 P P 05 48 27.0 +1.6
SNR=12
BIDO **Bidbid** 71.40 287 P P 05 48 27.0 +1.6
SNR=12
BANOM **Banah** 71.96 290 P P 05 48 29.1 +0.5
SHME **Shamm** 72.04 290 *i* P P 05 48 29.9 +0.8
SNR=13
HOQ **Hoqain** 72.06 287 P P 05 48 31.0 +1.8
SNR=8.7
HOQ **Hoqain** 72.06 287 P P 05 48 31.0 +1.8
SNR=8.7
YKA **Yellowknife Ar** 72.09 28 P P 05 48 28.8 +0.2
comp=Z,10.0nm,0.5s,baz=299,slow=6.1,SNR=294
YKA pP pP 05 50 15.3 +0.7
comp=Z,1.5nm,0.9s,baz=295,slow=5.9,SNR=3.0
MSFE **Esma-Masafi** 72.30 290 *i* P P 05 48 31.1 +0.5
SNR=7.3
JOF **Joensuu** 72.33 333 P P 05 48 30.4 +0.4
JOF pmax pmax
comp=Z,50nm,0.6s
VRH **Novokhopyorsk** 72.39 319 *e*P P 05 48 30.1 -0.5
VRH *e*S SKiKP 05 57 10.0 -1.9
VRH pmax pmax
comp=Z,40nm,0.6s
VRH smax smax
comp=N,390nm,1.4s
AKT **Akhty** 72.43 308 *e*P P 05 48 31.1 -0.1
AKT *e**PP pP 05 50 22.3 +5.0
AKT *e*S SKiKP 05 57 12.0 -0.4
AKT pmax pmax
comp=Z,201nm,1.2s
UOSS **Minazif** 72.43 289 *e*P P 05 48 31.6 +0.3
comp=Z,113nm,1.4s
UOSS **Minazif** 72.43 289 *i* P P 05 48 31.3 -0.1
SNR=12
SOHO **SOHO** 72.48 288 *i* P P 05 48 31.6 0.0

SNR=37
HATD Hatta, Dubai 72.54 289 P P 05 48 34.0 +2.0
SNR=7.4
HATD Hatta, Dubai 72.54 289 P P 05 48 34.0 +2.0
SNR=7.4
HATD Hatta, Dubai 72.54 289 *i* P P 05 48 32.3 +0.3
SNR=20
ASHO Ashiyiah 72.66 289 P P 05 48 34.7 +2.0
SNR=8.6
ASHO Ashiyiah 72.66 289 P P 05 48 34.7 +2.0
SNR=8.6
ASHO Ashiyiah 72.66 289 *i* P P 05 48 32.8 +0.1
SNR=18
MOS Moscow 72.72 324 *e*P P 05 48 31.3 -1.1
ARQ Araqi 72.82 288 P P 05 48 36.0 +2.4
SNR=13
ARQ Araqi 72.82 288 P P 05 48 36.0 +2.4
SNR=13
NAZ Nazwa, Dubai 72.86 289 P P 05 48 35.0 +1.2
SNR=6.5
NAZ Nazwa, Dubai 72.86 289 P P 05 48 35.0 +1.2
SNR=6.5
NAZ Nazwa, Dubai 72.86 289 *i* P P 05 48 35.1 +1.3
SNR=8.6
GROC Groznyy 73.07 310 *e*P P 05 48 34.7 +0.1
GROC *e* 05 48 48.3
GROC *e*S S 05 57 19.3 -1.9
GROC pmax pmax
comp=Z,163nm,1.3s
ALNE Al Ain 73.17 289 *i* P P 05 48 36.1 +0.5
SNR=6.7
LPSR Galich'ya Gora 73.38 321 *e*P P 05 48 36.7 +0.5
LPSR *e*S S 05 57 21.9 -2.4
LPSR pmax pmax
comp=Z,40nm,0.8s
LPSR smax smax
comp=E,70nm,0.8s
OBN Obninsk 73.54 324 P P 05 48 37.3 +0.2
comp=E,19nm,0.3s,baz=59,slow=5.9,SNR=18
OBN Obninsk 73.54 324 *e*P P 05 48 37.3 +0.2
comp=E,81nm,1.0s
OBN Obninsk 73.54 324 *d i*P P 05 48 37.1 +0.1
OBN pmax pmax
comp=Z,98nm,1.1s
TULEG Thule 73.59 7 *e*P P 05 48 37.5 +0.5
comp=Z,76nm,1.4s
AJN Ajban 73.60 289 *i* P P 05 48 38.2 +0.2
SNR=5.1
LLLB Lillooet 73.82 41 *e*P P 05 48 40.8 +1.9
comp=Z,143nm,1.8s
VSR Storozhevoye 73.85 320 *e*P P 05 48 38.6 -0.3
VSR *e*S S 05 57 26.3 -3.2
VSR pmax pmax
comp=Z,120nm,1.3s
VSR smax smax
comp=N,520nm,1.3s
NLWA Neilton Lookou 74.01 45 *e*P P 05 48 41.8 +1.8
comp=N,189nm,1.8s
GOF Gofitskoye 74.12 313⇑ *e*P P 05 48 40.4 -0.2
GOF pmax pmax
comp=Z,110nm,1.3s
A04D Lummi Island 74.15 43 P P 05 48 42.2 +1.6
baz=296
NCK Nalchik 74.41 311 *i* P P 05 48 42.8 +0.5
NCK pmax pmax
comp=Z,33nm,0.8s
ZEI Tsey 74.50 310 *e*P P 05 48 39.6 -3.5
ZEI pmax pmax
comp=Z,42nm,0.8s
B05A Bryant 74.71 43 P P 05 48 45.4 +1.6
baz=296,SNR=9.1
KBZ Khabaz 74.77 312 P P 05 48 44.9 +0.6
comp=Z,79nm,0.9s,baz=85,slow=3.7,SNR=159
KBZ S S 05 57 39.5 -0.4
comp=Z,1.6nm,0.8s,baz=29,slow=19,SNR=12
KIV Kislovodsk 74.81 312 *e*P P 05 48 45.4 +0.7
comp=Z,98nm,1.0s
KIV Kislovodsk 74.81 312 P P 05 48 45.8 +1.1
SNR=35
KIV Kislovodsk 74.81 312 P P 05 48 45.8 +1.1
SNR=35
KIV Kislovodsk 74.81 312 *i* P P 05 48 45.4 +0.7
SNR=20
KIV Kislovodsk 74.81 312 *e*P P 05 48 45.1 +0.4
KIV *e**PP pP 05 50 32.1 +0.4
KIV *e*S S 05 57 40.9 +0.3
KIV pmax pmax
comp=Z,113nm,1.1s
B06A Marblemount 74.97 43 *e*P P 05 48 46.4 +1.1
comp=Z,31nm,0.9s
GNI Garni 75.04 308 P P 05 48 47.2 +1.1
comp=Z,12nm,0.4s,baz=166,slow=6.0,SNR=26
GNI Garni 75.04 308 *e*P P 05 48 47.0 +0.9
comp=Z,105nm,1.3s
GNI *e*P P 05 48 47.2 +1.1
GNI Garni 75.04 308 P P 05 48 48.1 +2.0
SNR=18
GNI Garni 75.04 308 P P 05 48 48.1 +2.0
SNR=18
GNI Garni 75.04 308 *i* P P 05 48 47.3 +1.1
SNR=9.8
GNI Garni 75.04 308 *ce*P P 05 48 47.1 +0.9
GNI pmax pmax
comp=Z,404nm,1.7s
NEY Neytrino 75.09 311 *i* P P 05 48 46.9 +0.5
NEY pmax pmax
comp=Z,12nm,1.2s
F04D Rainier, OR 75.10 45 P P 05 48 47.9 +1.8
baz=296
FIA1 FINESS Array S 75.20 333 *e*P P 05 48 46.2 -0.2
FIA0 FINESS Array S 75.20 333 *e*P P 05 48 45.9 -0.4
FIA0 *e*pP pP 05 50 37.4 +3.9
FIA0 *e*S S 05 57 40.7 -3.2
FIA0 FINESS Array S 75.20 333 *e*P P 05 48 45.9 -0.4
FIA0 *e**PP pP 05 50 37.4 +3.9
FIA0 *e*S S 05 57 40.7 -3.2
FINES FINESS Array B 75.20 333 P P 05 48 45.9 -0.4
comp=Z,19nm,0.4s,baz=75,slow=5.0,SNR=205
FINES pP pP 05 50 37.4 +3.9
comp=Z,14nm,1.1s,baz=64,slow=6.3,SNR=5.9
FINES S S 05 57 40.7 -3.2
comp=Z,3.5nm,0.9s,baz=72,slow=14,SNR=7.2
D05A Enumclaw 75.25 44 *e*P P 05 48 46.7 -0.2
comp=Z,226nm,1.8s
G03D McMinnville, O 75.32 46 P P 05 48 49.1 +1.7
baz=296
AKH Akhalkalaki 75.36 309 *e*P P 05 48 48.8 +0.9
comp=Z,76nm,1.2s
AKH Akhalkalaki 75.36 309 *e*P P 05 48 48.8 +0.9
AKH pmax pmax
comp=Z,76nm,1.2s
LON Longmire 75.55 44 *e*P P 05 48 49.8 +1.1
comp=Z,16nm,1.0s
LON Longmire 75.55 44 *e*P P 05 48 49.8 +1.1
LON pmax pmax
comp=Z,16nm,1.0s
COR Corvallis 75.57 47 *e*P P 05 48 50.5 +1.7
comp=Z,212nm,1.3s
COR Corvallis 75.57 47 *e*P P 05 48 50.5 +1.7
COR pmax pmax
comp=Z,212nm,1.3s
C06D Leavenworth 75.58 43 P P 05 48 50.0 +1.2
baz=297
VAF Ylistaro 75.61 335 *e*P P 05 48 49.8 +1.2
VAF pmax pmax
comp=Z,39nm,1.0s
KEBM Edson Butte 75.65 49 *e*P P 05 48 51.4 +2.1
comp=Z,222nm,1.6s
SHAO Shalim 75.83 283 P P 05 48 50.2 -0.4
I03D Drain, OR 75.93 48 P P 05 48 52.5 +1.7
baz=296,SNR=6.2
LTY Liberty 76.02 44 *e*P P 05 48 52.3 +1.0
comp=Z,94nm,1.6s
H04A Detroit Lake 76.24 47 *e*P P 05 48 54.1 +1.6
comp=Z,209nm,1.8s
B08A Colville Reser 76.31 42 *e*P P 05 48 53.9 +1.0
comp=Z,163nm,1.7s
L02D Cave Junction, 76.45 49 P P 05 48 55.6 +1.9
baz=296,SNR=5.4
I04A Tendick Farm, 76.50 47 P P 05 48 55.4 +1.4
baz=297,SNR=9.6
G05D Wamic, OR 76.54 46 P P 05 48 55.8 +1.6
baz=297
VSU Vasula 76.56 330 *ce*P P 05 48 54.7 +0.8
VSU pmax pmax
comp=Z,170nm,1.1s
HUMO Hull Mountain 76.67 49 *e*P P 05 48 55.8 +0.8
comp=Z,16nm,1.0s
E07A Sunnyside 76.84 44 *e*P P 05 48 57.0 +1.2
comp=Z,164nm,1.8s
SOC Sochi 76.91 313 *e*P P 05 48 56.0 -0.2
SOC *e**PP pP 05 50 40.7 -3.2
SOC *e*PPP PPP 05 53 47.0
SOC *e*S S 05 57 55.9 -7.0
SOC pmax pmax
comp=Z,60nm,0.8s
KHMM Horse Mountain 76.93 51 *e*P P 05 48 57.9 +1.3
comp=Z,105nm,1.6s
I05D Terrebonne, OR 76.94 47 P P 05 48 57.9 +1.4
baz=297,SNR=8.1
J04D Umpqua Nationa 76.94 48 P P 05 48 58.2 +1.5
baz=297,SNR=7.4
G06A Carlson Farm, 76.97 45 *e*P P 05 48 58.5 +2.0
comp=Z,149nm,1.8s
F07A Phinny Hill Vi 77.10 45 *e*P P 05 48 58.7 +1.5
comp=Z,140nm,1.7s
HAWA Hanford 77.11 44 *e*P P 05 48 59.1 +1.9
comp=Z,17nm,0.6s
D08A Wollman Farm, 77.17 43 *e*P P 05 48 59.3 +1.7
comp=Z,168nm,1.8s
C09A Chrisman Ranch 77.20 42 *e*P P 05 48 58.8 +1.1
comp=Z,30nm,0.6s
YBH Yreka Blue Hor 77.23 49 *e*P P 05 48 59.8 +1.6
comp=Z,153nm,1.9s
YBH Yreka Blue Hor 77.23 49 *e*P P 05 48 59.8 +1.6
YBH pmax pmax
comp=Z,153nm,1.9s
KMRM Mail Ridge 77.24 51 *e*P P 05 49 00.0 +1.8
comp=Z,154nm,2.0s
EDM Edmonton 77.24 36 *e*P P 05 48 58.7 +0.8
comp=Z,76nm,1.0s
EDM Edmonton 77.24 36 *e*P P 05 48 58.7 +0.8
EDM pmax pmax
comp=Z,76nm,1.0s
M02C Callahan 77.29 50 P P 05 49 00.1 +1.7
baz=297,SNR=16
E08A Dider Farm, El 77.36 44 *e*P P 05 48 59.9 +1.3
comp=Z,21nm,0.8s
PINE Pine Mountain 77.45 47 *e*P P 05 49 01.4 +2.0
comp=Z,79nm,0.8s
K04D Chiloquin, OR 77.46 48 P P 05 49 00.7 +1.3
baz=298
J05D Fort Rock, OR 77.49 47 P P 05 49 01.3 +1.8
baz=298,SNR=22
KCPM Cahto Peak 77.57 52 *e*P P 05 49 01.8 +1.8
comp=Z,284nm,1.9s
N02D Trinity Center 77.58 50 P P 05 49 01.7 +1.7
baz=297,SNR=14
NEW Newport 77.66 42 P P 05 49 01.3 +1.1
baz=299
NEW Newport 77.66 42 *e*P P 05 49 01.8 +1.5
comp=Z,23nm,0.8s
NEW Newport 77.66 42 *e*P P 05 49 01.8 +1.5
NEW pmax pmax
comp=Z,23nm,0.8s
KFPM Farley Peak 77.70 52 *e*P P 05 49 04.5 +3.8
M04C Macdoel 77.79 49 P P 05 49 02.8 +1.6
baz=298,SNR=16
ANN Anapa 77.80 314 *e*P P 05 48 59.9 -1.1
ANN *e**PP pP 05 50 47.0 -2.0
ANN *e*S S 05 58 09.6 -2.6
ANN pmax pmax
comp=Z,252nm,1.6s
E09A Wood Farm, Sta 77.90 43 *e*P P 05 49 03.1 +1.6
comp=Z,137nm,1.7s
K05A Summer Lake 77.97 48 *e*P P 05 49 03.9 +1.6
comp=Z,77nm,1.3s
G08A Pilot Rock 77.99 45 *e*P P 05 49 03.9 +1.7
comp=Z,37nm,1.4s
I07A Izee 78.22 46 *e*P P 05 49 05.0 +1.5
comp=Z,11nm,1.0s
IZAR Zarasai 78.29 328 *e*P P 05 49 04.3 +0.9
IZAR IAmb IAmb 05 49 05.2
comp=Z,13nm,0.7s
IDID Didziasalis 78.30 327 *e*P P 05 49 04.4 +1.0
IDID IAmb IAmb 05 49 06.1
comp=Z,21nm,1.1s
O03D Paynes Creek 78.50 50 P P 05 49 05.7 +0.7
baz=298,SNR=20
GDXM Geysers 78.51 52 *e*P P 05 49 07.5 +2.4
comp=Z,115nm,1.8s
IIGN Ignalina 78.53 327 *e*P P 05 49 05.6 +0.9
IIGN IAmb IAmb 05 49 07.5
comp=Z,18nm,1.2s
F10A Beach Ranch, E 78.72 44 *e*P P 05 49 07.7 +1.6
comp=Z,15nm,1.3s
MOD Modoc Plateau 78.75 48 *e*P P 05 49 08.0 +1.6
comp=Z,100nm,1.8s
SUMG Summit 78.97 359 *e*P P 05 49 08.8 +1.5
comp=Z,20nm,1.1s
SUMG Summit 78.97 359 *e*P P 05 49 08.8 +1.5
SUMG pmax pmax
comp=Z,20nm,1.1s
ORV Oroville 79.06 51 *e*P P 05 49 08.6 +0.7
comp=Z,111nm,1.5s
ORV Oroville 79.06 51 *e*P P 05 49 08.6 +0.7
ORV pmax pmax
comp=Z,111nm,1.5s
WALA Waterton Lakes 79.09 40 *e*P P 05 49 09.2 +1.2
comp=Z,106nm,1.8s
BMO Blue Mountains 79.23 45 *e*P P 05 49 10.3 +1.5
comp=Z,102nm,1.7s
BMO Blue Mountains 79.23 45 *e*P P 05 49 10.3 +1.5
BMO pmax pmax
comp=Z,102nm,1.7s
J08A Circle Bar Ran 79.23 46 *e*P P 05 49 10.5 +1.6
comp=Z,96nm,1.3s
JTMT Jette 79.56 41 *e*P P 05 49 11.8 +1.2
comp=Z,115nm,1.5s
WVOR Wild Horse Val 79.58 47 *e*P P 05 49 12.0 +1.3
comp=Z,19nm,0.8s
WVOR Wild Horse Val 79.58 47 *e*P P 05 49 12.0 +1.3
WVOR pmax pmax
comp=Z,19nm,0.8s
AKASG Malin Array Be 79.58 322 P P 05 49 09.8 -0.6
comp=Z,3.2nm,0.4s,baz=48,slow=6.1,SNR=52
AKASG pP pP 05 51 01.8 +2.7
comp=Z,2.0nm,0.7s,baz=50,slow=6.1,SNR=4.9
AKBB Malin Array Si 79.58 322 *e*P P 05 49 09.8 -0.6
comp=Z,34nm,1.1s
AKBB *e*pP pP 05 51 01.8 +2.7
AKBB Malin Array Si 79.58 322 *e*P P 05 49 09.8 -0.6
AKBB *e**PP pP 05 51 01.8 +2.7
AKBB pmax pmax
comp=Z,34nm,1.1s
KIEV Kiev 79.60 322 *e*P P 05 49 09.8 -0.7
comp=Z,28nm,1.0s
KIEV Kiev 79.60 322 *i* P P 05 49 10.4 -0.1
SNR=16
KIEV Kiev 79.60 322 *d i*P P 05 49 10.2 -0.3
KIEV pmax pmax
comp=Z,34nm,1.1s
JFP Foothills Park 79.61 53 *e*P P 05 49 12.3 +1.5
AK11 Malin Array Si 79.63 322 *e*P P 05 49 10.4 -0.2
BEKR Beckworth 79.68 50 *e*P P 05 49 12.9 +1.5
comp=Z,38nm,0.8s
AFDM Forest Hills D 79.70 51 *e*P P 05 49 12.9 +1.6
comp=Z,49nm,1.4s
SIM Simferopol' 79.78 316 *e*P P 05 49 12.3 +0.7
SIM pmax pmax
comp=Z,45nm,0.8s
RDG13 Poverty Ridge 79.89 53 *e*P P 05 49 14.1 +1.6
comp=Z,96nm,1.7s
SCO Scoresbysund 80.14 354 *e*P P 05 49 14.0 +1.1
comp=Z,28nm,1.2s
SCO Scoresbysund 80.14 354 *e*P P 05 49 14.0 +1.1
SCO pmax pmax
comp=Z,29nm,1.2s
MSO Missoula 80.24 42 P P 05 49 14.8 +0.6
baz=302
MSO Missoula 80.24 42 *e*P P 05 49 15.0 +0.9
comp=Z,86nm,1.9s
PAHR Pah Rah Range 80.42 50 *e*P P 05 49 16.4 +1.2
comp=Z,26nm,1.0s
VCNR Virginia City 80.44 50 *e*P P 05 49 15.9 +0.5
comp=Z,19nm,1.0s
CMB Columbia Colle 80.55 52 *e*P P 05 49 17.5 +1.7
comp=Z,38nm,1.1s
CMB Columbia Colle 80.55 52 *e*P P 05 49 17.5 +1.7
CMB pmax pmax
comp=Z,38nm,1.1s
SUW Suwalki 80.74 327 *e*P P 05 49 16.7 +0.4
SUW Suwalki 80.74 327 *e*P P 05 49 16.8 +0.4
SUW pmax pmax
comp=Z,89nm,1.0s
HFS Hagfors 80.77 336 P P 05 49 16.0 -0.5
comp=Z,3.6nm,0.3s,baz=64,slow=3.4,SNR=48
HFS Hagfors 80.77 336 P P 05 49 16.0 -0.5
HFS pmax pmax
comp=Z,4.0nm,0.3s
NC405 NORSAR Array S 80.79 337 *e*P P 05 49 15.3 -1.2
NC303 NORSAR Array S 80.83 337 *e*P P 05 49 16.7 0.0
YERR Yerington 80.87 51 *e*P P 05 49 19.0 +1.4
comp=Z,41nm,1.3s
MFID Camas Ranch 80.87 45 *e*P P 05 49 18.8 +1.3
comp=Z,24nm,0.7s
WAKR Walker 80.97 51 *e*P P 05 49 19.7 +1.5
comp=Z,18nm,0.8s
NB201 NORSAR Array S 80.98 337 *e*P P 05 49 16.2 -1.4
NC204 NORSAR Array S 81.00 337 *e*P P 05 49 17.9 +0.2
NB2 NORSAR Subarra 81.02 337 P P 05 49 17.1 -0.7
baz=44,slow=5.3
comp=Z,10nm,0.6s,baz=44,slow=5.3
NB2 NORSAR Subarra 81.02 337 P P 05 49 17.1 -0.7
baz=44,slow=5.3
NB200 NORSAR Array S 81.02 337 *e*P P 05 49 17.1 -0.7
NB200 *e*PP PP 05 52 29.2 -1.6
NOA NORSAR Array B 81.02 337 P P 05 49 17.1 -0.7
comp=Z,3.9nm,0.5s,baz=47,slow=4.8,SNR=33
NOA PP PP 05 52 29.2 -1.6
comp=Z,4.2nm,1.0s,baz=45,slow=7.7,SNR=3.7
SORM Soroca 81.47 321⇑ *i*P P 05 49 19.9 -0.4
SORM Soroca 81.47 321⇑ P P 05 49 19.9 -0.4
BMN Battle Mountai 81.50 49 *e*P P 05 49 22.8 +2.0
comp=Z,60nm,1.5s
BMN Battle Mountai 81.50 49 *e*P P 05 49 22.8 +2.0
BMN pmax pmax
comp=Z,60nm,1.5s
HRY Holter Researc 81.53 41 *e*P P 05 49 22.1 +1.3
RYN Ryan 81.53 51 *e*P P 05 49 22.4 +1.3
comp=Z,23nm,0.9s
KVN Kaiserville 81.61 50 *e*P P 05 49 22.6 +1.2
comp=Z,148nm,1.7s
KVN Kaiserville 81.61 50 *e*P P 05 49 22.6 +1.2
KVN pmax pmax
comp=Z,148nm,1.7s
MDPB Devils Postpil 81.64 52 *e*P P 05 49 23.1 +1.3
comp=Z,45nm,1.4s
LRM Limekiln Ridge 81.65 42 *e*P P 05 49 22.7 +1.1
HLID Hailey 81.67 45 P P 05 49 22.9 +1.3
baz=302,SNR=33
HLID Hailey 81.67 45 *e*P P 05 49 23.2 +1.5
comp=Z,143nm,1.9s
OMMB Old Mammoth Mi 81.71 52 *e*P P 05 49 23.9 +1.8
comp=Z,50nm,1.4s
PAGB Antelope Grade 81.76 54 *e*P P 05 49 23.7 +1.6
comp=Z,180nm,1.8s
NV01 Mina Array Sit 81.78 51 *e*P P 05 49 22.8 +0.4
NVAR Mina Array Bea 81.78 51 P P 05 49 23.4 +1.0
comp=Z,12nm,0.6s,baz=294,slow=6.0,SNR=142
MLAC Mammoth, Mammo 81.81 52 P P 05 49 23.8 +1.3
baz=300,SNR=7.6
DLMT Dillon 81.81 42 *e*P P 05 49 23.4 +1.1
comp=Z,79nm,1.4s
KIS Kishinev 81.84 320⇓ *i*P P 05 49 21.0 -1.2
comp=Z,200nm,1.0s
KIS *e*pP PP 05 52 54.0 +16
KIS Kishinev 81.84 320⇓ *i*P P 05 49 21.0 -1.2
KIS *i* 05 58 50.0
KIS pmax pmax
comp=Z,200nm,1.0s
RAYN Ar Rayn 81.84 292 *e*P P 05 49 23.0 +0.3
comp=Z,213nm,1.3s
FFC Flin Flon 81.88 31 *e*P P 05 49 22.5 +0.2
comp=Z,55nm,1.5s
FFC Flin Flon 81.88 31 *e*P P 05 49 22.5 +0.2
FFC pmax pmax
comp=Z,55nm,1.5s
NV11 Mina Array Sit 81.88 51 *e*P P 05 49 24.0 +1.2
comp=Z,1.4nm,0.9s
MCMT McKenzie Canyo 81.95 43 *e*P P 05 49 23.9 +0.7
EGMT Eagleton 81.98 39 P P 05 49 23.7 +0.7
baz=304,SNR=29
EGMT Eagleton 81.98 39 *e*P P 05 49 24.0 +0.9
comp=Z,44nm,0.9s
SMMC Simmler 82.15 54 P P 05 49 25.8 +1.7
baz=300
RCTC Rector, Farmer 82.19 53 P P 05 49 24.9 +0.8
baz=300
BOZ Bozeman (W) 82.26 42 P P 05 49 25.5 +1.0
baz=303,SNR=32
BOZ Bozeman (W) 82.26 42 *e*P P 05 49 25.6 +1.0
comp=Z,86nm,1.7s
BOZ Bozeman (W) 82.26 42 *e*P P 05 49 25.6 +1.0
BOZ pmax pmax
comp=Z,86nm,1.7s
FCC Fort Churchill 82.40 25 *e*P P 05 49 24.5 -0.2
comp=Z,59nm,1.7s
FCC *e*pP pP 05 51 13.6 -0.8
FCC Fort Churchill 82.40 25 *e*P P 05 49 24.5 -0.2
FCC *e**PP pP 05 51 13.6 -0.8
FCC pmax pmax
comp=Z,59nm,1.7s
PKM Mcpherson Peak 82.48 54 P P 05 49 27.1 +1.1
baz=300
TIN Tinemaha, Big 82.52 52 P P 05 49 27.2 +1.2
baz=300
VES Vestal, Richgr 82.53 53 P P 05 49 26.4 +0.4
baz=300,SNR=16
BR101 Keskin Array S 82.76 311 *e*P P 05 49 27.4 +0.1
BR101 *e*pP pP 05 51 15.6 -1.5
BR131 Keskin Array S 82.76 311 *e*P P 05 49 27.9 +0.6
BRTR Keskin Array B 82.77 311 P P 05 49 27.4 +0.1
comp=Z,19nm,0.9s,baz=103,slow=3.9,SNR=79
BRTR pP pP 05 51 15.6 -1.5
comp=Z,1.8nm,0.9s,baz=140,slow=4.7,SNR=2.4
QLMT Earthquake Lak 82.80 42 *e*P P 05 49 29.0 +1.6
TLCR 82.84 318⇓ *i*P P 05 49 28.3 +1.0
TLCR 82.84 318⇓ P P 05 49 28.3 +1.0
CWC Cottonwood Cre 82.93 52 P P 05 49 28.9 +0.7
baz=301
YHB Horse Butte 82.98 42 *e*P P 05 49 29.7 +1.4
comp=Z,44nm,0.9s
ISA Isabella, Lake 83.05 53 P P 05 49 29.0 +0.3
baz=300,SNR=9.2
ISA Isabella, Lake 83.05 53 *e*P P 05 49 29.2 +0.5
comp=Z,84nm,2.0s
ISA Isabella, Lake 83.05 53 *e*P P 05 49 29.2 +0.5
ISA pmax pmax
comp=Z,84nm,2.0s
ARVC Arvin 83.07 54 P P 05 49 29.4 +0.8
baz=300,SNR=6.4
PRAR RASCA 83.09 321⇑ *i*P P 05 49 29.5 +0.9
GRAC Grapevine Rang 83.14 52 P P 05 49 30.2 +1.1
baz=301,SNR=8.7
YMR Madison River 83.16 42 *e*P P 05 49 31.7 +2.4
comp=Z,42nm,0.8s
YHH Holmes Hill 83.16 42 *e*P P 05 49 30.8 +1.4
comp=Z,57nm,1.5s
CFR Carcaliu 83.24 318⇓ *i*P P 05 49 29.9 +0.6
CFR Carcaliu 83.24 318⇓ P P 05 49 29.9 +0.6
GCMT Greycliff 83.29 41 *e*P P 05 49 31.0 +1.2
TESR Tescani 83.34 320⇓ *i*P P 05 49 29.6 -0.2
DAC Darwin (Calif) 83.35 52 *e*P P 05 49 31.1 +0.8
comp=Z,36nm,1.3s
DAC Darwin (Calif) 83.35 52 *e*P P 05 49 31.1 +0.8
DAC pmax pmax
comp=Z,36nm,1.3s
YFT Old Faithful 83.36 43 *e*P P 05 49 33.1 +2.8
comp=Z,51nm,1.1s
OSI Osito Audit: C 83.40 54 P P 05 49 31.6 +1.1
baz=300
OSI Osito Audit: C 83.40 54 *e*P P 05 49 31.6 +1.1
comp=Z,22nm,0.8s
BLG Laguna Peak, P 83.41 55 P P 05 49 31.4 +1.0
baz=300
YPP Pitchstone Pla 83.48 43 *e*P P 05 49 34.0 +3.1
comp=Z,79nm,1.8s
BUR08 Bucovina Ar. S 83.49 321 *e*P P 05 49 31.2 +0.6
BURAR Bucovina Array 83.50 321⇑ *i*P P 05 49 31.5 +0.8
BURAR Bucovina Array 83.50 321⇑ P P 05 49 31.5 +0.8
BUR04 Bucovina Ar. S 83.50 321 *e*P P 05 49 30.8 +0.1
MPMC Manual Prospec 83.54 52 P P 05 49 32.2 +1.0
baz=301,SNR=27
H17A Grant Village 83.55 43 P P 05 49 34.3 +3.1
baz=304,SNR=40
H17A Grant Village 83.55 43 *e*P P 05 49 34.4 +3.2
comp=Z,116nm,1.4s
H17A *e*pP pP 05 51 22.6 +1.4

IMW **Indian Meadow** 83.61 43 *e*P P 05 49 33.4 +1.8
comp=Z,26nm,0.8s
HVU **Hansel Valley** 83.65 46 *e*P P 05 49 33.5 +1.8
comp=Z,38nm,0.6s
HVU **Hansel Valley** 83.65 46 *e*P P 05 49 33.5 +1.8
HVU pmax pmax
comp=Z,38nm,0.6s
R11A **Troy Canyon, C** 83.65 50 P P 05 49 32.9 +1.1
baz=302,SNR=32
R11A **Troy Canyon, C** 83.65 50 *e*P P 05 49 32.8 +1.0
comp=Z,77nm,1.6s
VRI **Vrincioaia** 83.67 319⇑ *i*P P 05 49 34.0 +2.5
VRI **Vrincioaia** 83.67 319 ⇑P P 05 49 34.0 +2.5
LRMC **Laurel Mtn Rad** 83.70 53 P P 05 49 32.9 +0.9
baz=301,SNR=12
FXWY **Fox Creek** 83.70 43 *e*P P 05 49 33.6 +1.6
comp=Z,54nm,1.5s
PLOR **Plostina** 83.72 319⇑ *i*P P 05 49 34.0 +2.2
PLOR **Plostina** 83.72 319 ⇑P P 05 49 34.0 +2.2
FURC **Furnace Creek,** 83.76 52 P P 05 49 33.1 +1.1
baz=301,SNR=24
EDW2 **Edwards Air Fo** 83.78 54 P P 05 49 33.4 +1.1
baz=301,SNR=16
MOOW **Moose Ponds** 83.81 43 *e*P P 05 49 34.1 +1.6
comp=Z,64nm,1.8s
TPAW **Teton Pass** 83.83 43 *e*P P 05 49 34.4 +1.7
comp=Z,20nm,0.8s
DECC **Green Verdugo** 83.86 54 P P 05 49 33.6 +0.9
baz=301
RLMT **Red Lodge** 83.90 41 P P 05 49 34.4 +1.4
baz=305,SNR=48
RLMT **Red Lodge** 83.90 41 *e*P P 05 49 34.5 +1.5
comp=Z,145nm,1.7s
TPNV **Topopah Spring** 83.93 51 P P 05 49 34.1 +1.0
baz=302,SNR=39
TPNV **Topopah Spring** 83.93 51 *e*P P 05 49 34.2 +1.0
comp=Z,187nm,1.8s
TPNV **Topopah Spring** 83.93 51 *e*P P 05 49 34.2 +1.0
TPNV pmax pmax
comp=Z,187nm,1.8s
BGU **Big Grassy Mou** 83.95 46 *e*P P 05 49 34.5 +1.3
comp=Z,76nm,1.9s
REDW **Red Top Meadow** 83.96 43 *e*P P 05 49 35.0 +1.7
comp=Z,44nm,1.5s
SNOW **Snow King Moun** 83.96 43 *e*P P 05 49 34.4 +1.1
comp=Z,20nm,1.0s
LOHW **Long Hollow** 83.97 43 *e*P P 05 49 34.8 +1.5
comp=Z,48nm,1.7s
PASC **Pasadena Art C** 84.01 54 *e*P P 05 49 34.6 +1.2
comp=Z,128nm,1.8s
MWC **Mount Wilson** 84.07 54 *e*P P 05 49 35.2 +1.3
comp=Z,141nm,1.7s
MWC **Mount Wilson** 84.07 54 *e*P P 05 49 35.2 +1.3
MWC pmax pmax
comp=Z,141nm,1.7s
AHID **Auburn Hatcher** 84.14 44 *e*P P 05 49 35.3 +1.2
comp=Z,30nm,1.1s
FMP **Fort Macarthur** 84.16 55 P P 05 49 34.9 +0.8
baz=301
CIS **Catalina Islan** 84.23 55 P P 05 49 35.3 +0.7
baz=301
SFJD **Kangerlussuaq** 84.32 4 *e*P P 05 49 34.9 +0.7
comp=Z,29nm,1.0s
SFJD **Kangerlussuaq** 84.32 4 *e*P P 05 49 34.9 +0.7
SFJD pmax pmax
comp=Z,29nm,1.0s
MLR **Muntele Rosu** 84.33 319⇑ *i*P P 05 49 36.5 +1.6
MLR **Muntele Rosu** 84.33 319 ⇑P P 05 49 36.5 +1.6
BFSC **Mount Baldy Ra** 84.35 54 P P 05 49 35.8 +0.5
baz=301,SNR=6.1
SCI2 **San Clemente I** 84.35 56 P P 05 49 36.3 +1.2
baz=301
GSC **Goldstone, Bar** 84.40 53 P P 05 49 36.3 +0.9
baz=301,SNR=21
GSC **Goldstone, Bar** 84.40 53 *e*P P 05 49 36.5 +1.1
comp=Z,37nm,1.0s
GSC **Goldstone, Bar** 84.40 53 *e*P P 05 49 36.5 +1.1
GSC pmax pmax
comp=Z,37nm,1.0s
UZH **Uzhgorod** 84.45 323 *e*P P 05 49 33.4 -1.9
SHOC **Shoshone, Teco** 84.46 52 P P 05 49 36.5 +0.8
baz=302,SNR=6.5
DUG **Dugway, Tooele** 84.49 47 P P 05 49 36.9 +1.1
baz=303,SNR=30
DUG **Dugway, Tooele** 84.49 47 *e*P P 05 49 37.1 +1.3
comp=Z,116nm,1.7s
DUG **Dugway, Tooele** 84.49 47 *e*P P 05 49 37.1 +1.3
DUG pmax pmax
comp=Z,117nm,1.7s
RRX **Edison Barstow** 84.49 53 P P 05 49 37.0 +1.2
baz=301
HWUT **Hardware Ranch** 84.50 45 *e*P P 05 49 37.2 +1.3
comp=Z,41nm,0.8s
STHS **Stebnicka Huta** 84.51 324 *e*P P 05 49 35.8 +0.2
STHS **Stebnicka Huta** 84.51 324 *e*P P 05 49 35.8 +0.2
STHS pmax pmax
comp=Z,6.0nm,1.2s
TRPA **Tarpa** 84.63 323⇑ *i*P P 05 49 36.7 +0.6
LAO **LASA Array** 84.71 39 P P 05 49 37.7 +1.1
baz=307
LAO **LASA Array** 84.71 39 *e*P P 05 49 38.2 +1.6
comp=Z,68nm,1.4s
DGMT **Dagmar** 84.71 37 P P 05 49 37.1 +0.5
baz=308
DGMT **Dagmar** 84.71 37 *e*P P 05 49 37.5 +0.9
comp=Z,62nm,1.4s
CRVS **Cervenica-Dubn** 84.72 324 *e*P P 05 49 36.9 +0.3
CRVS **Cervenica-Dubn** 84.72 324 *e*P P 05 49 37.0 +0.3
CRVS pmax pmax
comp=Z,18nm,1.4s
OJC **Ojcow** 84.73 326 *e*P P 05 49 35.7 -0.9
OJC **Ojcow** 84.73 326 *e*P P 05 49 36.6 0.0
comp=Z,17nm,1.2s
OJC **Ojcow** 84.73 326 *e*P P 05 49 36.6 0.0
OJC pmax pmax
comp=Z,17nm,1.2s
BBRC **Big Bear Solar** 84.86 54 P P 05 49 38.5 +0.6
baz=301,SNR=6.9
TCUT **Toone Canyon** 84.87 46 *e*P P 05 49 39.0 +1.2
comp=Z,63nm,1.5s
CTU **Camp Tracy** 84.89 46 *e*P P 05 49 39.0 +1.2
comp=Z,31nm,1.2s
SHPR **Sheep Range** 84.91 51 *e*P P 05 49 39.0 +1.0
comp=Z,21nm,1.1s
SHPR *e*pP pP 05 51 28.5 0.0
TUQ **Turquoise Moun** 84.95 52 P P 05 49 39.1 +1.0
baz=302,SNR=5.5
HEC **Hector Ludlow** 84.98 53 P P 05 49 39.2 +0.9
baz=302,SNR=8.4
NIE **Niedzica** 84.99 325 *e*P P 05 49 38.6 +0.7
NIE **Niedzica** 84.99 325 *e*P P 05 49 38.7 +0.7
MURC **Murrieta** 85.01 54 P P 05 49 39.1 +0.8
baz=301,SNR=7.0
MMAI **Mount Meron Ar** 85.01 305 P P 05 49 39.0 +0.6
comp=Z,26nm,1.0s,baz=45,slow=8.4,SNR=7.5
BW06 **Boulder Array** 85.08 43 P P 05 49 39.4 +0.7
baz=305,SNR=9.7
BW06 **Boulder Array** 85.08 43 *e*P P 05 49 39.8 +1.0
comp=Z,21nm,1.2s
PD31 **Pinedale Array** 85.08 43 *e*P P 05 49 39.3 +0.5
PD31 *e*PP PP 05 53 03.9 -0.4
PDAR **Pinedale Array** 85.08 43 P P 05 49 39.5 +0.7
comp=Z,9.5nm,1.0s,baz=287,slow=2.5,SNR=50
PDAR PP PP 05 53 03.9 -0.4
comp=Z,2.3nm,0.9s,baz=298,slow=3.2,SNR=5.6
PDAR **Pinedale Array** 85.08 43 *e*P P 05 49 38.7 -0.1
PDAR *e*pP pP 05 51 27.2 -2.0
PDAR PP PP 05 53 03.9 -0.4
NLU **North Lily Min** 85.09 47 *e*P P 05 49 40.0 +1.1
comp=Z,72nm,1.9s
NLU *e*pP pP 05 51 29.0 -0.4
JLU **Jordanelle** 85.13 46 *e*P P 05 49 39.9 +0.8
comp=Z,105nm,1.9s
JLU *e*pP pP 05 51 29.6 0.0
ARR **Arges** 85.15 320⇑ *i*P P 05 49 39.6 +0.7
MPU **Maple Canyon** 85.34 47 *e*P P 05 49 41.3 +1.2
comp=Z,75nm,1.8s
MPU *e*pP pP 05 51 30.9 +0.2
109C **Camp Elliot, M** 85.44 55 P P 05 49 41.2 +0.8
baz=301
CPE **Camp Elliot** 85.44 55 *e*P P 05 49 41.5 +1.1
comp=Z,50nm,1.4s
CSS **Mathiatis** 85.47 307 *e*P P 05 49 40.5 0.0
comp=Z,9.5nm,1.1s
GMRC **Granite Mounta** 85.47 53 P P 05 49 41.8 +1.1
baz=302,SNR=12
PFO **Pinyon Flats O** 85.53 54 P P 05 49 41.9 +0.9
baz=302,SNR=14
PFO **Pinyon Flats O** 85.53 54 *e*P P 05 49 42.4 +1.4
comp=Z,34nm,0.9s
PFO **Pinyon Flats O** 85.53 54 *e*P P 05 49 42.4 +1.4
PFO pmax pmax
comp=Z,34nm,0.9s
XPFO **Pizon Flat** 85.53 54 *e*P P 05 49 42.4 +1.4
comp=Z,36nm,0.9s
CCUT **Cedar City** 85.56 49 *e*P P 05 49 42.5 +1.3
comp=Z,27nm,1.6s
CCUT *e*pP pP 05 51 32.2 +0.3
BELC **Belle Mtn. Jos** 85.65 54 P P 05 49 42.2 +0.6
baz=302,SNR=13
LDFC **Landfair** 85.70 52 *e*P P 05 49 43.3 +1.5
comp=Z,67nm,1.4s
SZCU **Shurtz Canyon** 85.72 49 *e*P P 05 49 42.9 +0.9
comp=Z,18nm,1.4s
MSU **Marysvale** 85.82 48 *e*P P 05 49 44.0 +1.6
MSU *e*pP pP 05 51 33.5 +0.3
MSU **Marysvale** 85.82 48 *e*P P 05 49 44.0 +1.6
MSU *e**PP pP 05 51 33.5 +0.3
BAR **Barrett** 85.86 55 *e*P P 05 49 43.4 +0.9
comp=Z,50nm,1.4s
MONP2 **Monument Peak** 85.93 55 P P 05 49 44.0 +1.0
baz=302,SNR=9.4
LCMT **Little Creek M** 85.94 50 *e*P P 05 49 44.2 +1.3
comp=Z,62nm,1.9s
LCMT *e*pP pP 05 51 33.4 -0.4
TMUT **Trail Mountain** 86.01 47 *e*P P 05 49 44.3 +0.8
comp=Z,38nm,1.4s
KSP **Ksiaz** 86.01 328 *e*P P 05 49 43.1 +0.3
KSP **Ksiaz** 86.01 328 *e*P P 05 49 43.1 +0.3
MTPU **Mount Pierson** 86.08 48 *e*P P 05 49 44.7 +0.9
comp=Z,38nm,1.6s
PSZ **Piszkesteto** 86.15 324 *e*P P 05 49 44.4 +0.8
comp=Z,25nm,1.4s
PSZ **Piszkesteto** 86.15 324 *e*P P 05 49 44.4 +0.8
PSZ pmax pmax
comp=Z,25nm,1.4s
IRM **Iron Mountain** 86.17 53 P P 05 49 45.0 +1.1
baz=302,SNR=15
NEE2 **Needles Airpor** 86.21 52 P P 05 49 45.0 +0.9
baz=303
P17A **Butcher Ranch,** 86.21 47 *e*P P 05 49 45.2 +1.0
comp=Z,26nm,1.4s
P17A *e*pP pP 05 51 35.5 +0.4
BC3 **Big Chuckawall** 86.22 54 P P 05 49 45.3 +1.0
baz=302,SNR=13
KNB **Kanab** 86.22 50 *e*P P 05 49 46.3 +2.0
comp=Z,33nm,1.3s
KNB *e*pP pP 05 51 35.2 0.0
KNB **Kanab** 86.22 50 *e*P P 05 49 46.3 +2.0
KNB *e**PP pP 05 51 35.2 0.0
KNB pmax pmax
comp=Z,33nm,1.3s
Q16A **Castle Valley** 86.25 47 *e*P P 05 49 46.3 +1.8
comp=Z,85nm,1.9s
Q16A *e*pP pP 05 51 35.9 +0.6
IKP **In-Ko-Pah, Jac** 86.28 55 P P 05 49 45.3 +0.7
baz=302
VYHS **Vyhne** 86.32 325 *e*P P 05 49 44.0 -0.3
VYHS *e*PP PP 05 53 12.4 -1.3
VYHS **Vyhne** 86.32 325 *e*P P 05 49 44.0 -0.3
VYHS pmax pmax
comp=Z,13nm,1.4s
PKCU **Pink Cliffs** 86.32 49 *e*P P 05 49 46.9 +1.9
comp=Z,21nm,1.6s
DPC **Dobruska-Polom** 86.33 327 *e*P P 05 49 45.0 +0.6
DPC *e*PP PP 05 53 18.2 +4.4
DPC **Dobruska-Polom** 86.33 327 *e*P P 05 49 45.0 +0.6
DPC *e* 05 53 18.2
SWSC **Sam W. Stewart** 86.34 54 P P 05 49 45.7 +1.0
baz=302,SNR=5.7
P18A **Preston Nutter** 86.44 46 *e*P P 05 49 47.1 +1.6
comp=Z,72nm,2.0s
W13A **Hualapai Mount** 86.54 52 *e*P P 05 49 47.0 +1.1
comp=Z,19nm,1.6s
W13A *e*pP pP 05 51 36.2 -0.7
SRU **San Rafael Swe** 86.56 47 *e*P P 05 49 47.0 +1.1
comp=Z,8.7nm,1.0s
SRU **San Rafael Swe** 86.56 47 *e*P P 05 49 47.0 +1.1
SRU pmax pmax
comp=Z,9.0nm,1.0s
PDMCI **Parker Dam,Lak** 86.79 52 P P 05 49 48.0 +1.2
baz=303,SNR=6.0
Y12C **Blythe** 86.82 53 P P 05 49 48.1 +1.2
baz=303
Y12C **Blythe** 86.82 53 *e*P P 05 49 48.8 +1.9
comp=Z,24nm,1.2s
U15A **North Rim** 86.90 50 *e*P P 05 49 49.1 +1.5
comp=Z,40nm,1.9s
U15A *e*pP pP 05 51 39.2 +0.4
K22A **Casper** 86.96 42 P P 05 49 48.4 +0.8
baz=307
K22A **Casper** 86.96 42 *e*P P 05 49 48.3 +0.6
comp=Z,12nm,0.7s
DAMY **Dhamar** 86.98 285 *e*P P 05 49 49.7 +1.3
comp=Z,45nm,1.2s
GLA **Glamis** 86.98 54 P P 05 49 49.0 +1.2
baz=303,SNR=9.8
GLA **Glamis** 86.98 54 *e*P P 05 49 49.5 +1.7
comp=Z,45nm,1.4s
GLA **Glamis** 86.98 54 *e*P P 05 49 49.5 +1.7
GLA pmax pmax
comp=Z,45nm,1.4s
BRG **Berggiesshubel** 87.08 329 *e*P P 05 49 47.8 0.0
comp=Z,12nm,1.3s
BRG **Berggiesshubel** 87.08 329 *e*P P 05 49 47.8 0.0
BRG pmax pmax
comp=Z,12nm,1.3s
RWWY **Rawlins** 87.12 43 *e*P P 05 49 50.0 +1.4
comp=Z,109nm,1.9s
MODS **Modra-Piesok** 87.18 325 *e*P P 05 49 48.6 +0.2
MODS **Modra-Piesok** 87.18 325 *e*P P 05 49 48.6 +0.2
MODS pmax pmax
comp=Z,16nm,1.2s
CLL **Collm** 87.20 329⇑ *i*P P 05 49 48.3 -0.1
comp=Z,17nm,1.3s
CLL *e*S S 05 59 41.0 -4.5
CLL *e*(SS) 06 05 30.0
CLL *e*sSS 06 08 30.0
CLL *e*SSSS 06 12 36.0
CLL *e* 06 21 12.0
CLL **Collm** 87.20 329⇑ *i*P P 05 49 48.3 -0.1
CLL *e*S S 05 59 41.0 -4.5
CLL pmax pmax
comp=Z,17nm,1.3s
O20A **White River Ci** 87.41 45 P P 05 49 50.5 +0.6
baz=306
O20A **White River Ci** 87.41 45 *e*P P 05 49 51.3 +1.4
comp=Z,55nm,1.7s
MDND **Maddock** 87.47 35 P P 05 49 50.6 +0.9
baz=312
MDND **Maddock** 87.47 35 *e*P P 05 49 50.4 +0.6
comp=Z,43nm,0.9s
RSSD **Black Hills** 87.50 40 P P 05 49 50.8 +0.5
baz=309
RSSD **Black Hills** 87.50 40 *e*P P 05 49 50.1 -0.1
comp=Z,107nm,2.0s
RSSD **Black Hills** 87.50 40 *e*P P 05 49 50.1 -0.1
RSSD pmax pmax
comp=Z,107nm,2.0s
ULM **Lac du Bonnet** 87.64 32 P P 05 49 50.7 +0.2
comp=Z,6.0nm,0.7s,baz=280,slow=4.5,SNR=13
ULM **Lac du Bonnet** 87.64 32 *e*P P 05 49 51.1 +0.7
comp=Z,12nm,1.0s
ULM **Lac du Bonnet** 87.64 32 *e*P P 05 49 51.2 +0.7
ULM pmax pmax
comp=Z,12nm,1.0s
VTS **Vitosha** 87.65 318⇓ *i*P P 05 49 51.2 +0.3
VTS **Vitosha** 87.65 318 *e*P P 05 49 51.3 +0.5
comp=Z,18nm,1.1s
VTS **Vitosha** 87.65 318 ⇓P P 05 49 51.2 +0.3
Y14A **Wickenburg** 87.78 52 *e*P P 05 49 53.2 +1.6
comp=Z,18nm,1.1s
Y14A *e*pP pP 05 51 42.4 -0.6
PV09 **Paradox Valley** 87.80 47 *e*P P 05 49 53.5 +1.7
PV09 *e*pP pP 05 51 42.9 -0.4
113A **Mohawk Valley,** 87.88 54 *e*P P 05 49 53.3 +1.3
comp=Z,40nm,1.8s
WUAZ **Wupatki** 88.02 50 P P 05 49 53.7 +0.9
baz=304,SNR=5.0
WUAZ **Wupatki** 88.02 50 *e*P P 05 49 54.4 +1.6
comp=Z,11nm,1.1s
WUAZ *e*pP pP 05 51 43.5 -0.8
B31A **Greenbush Farm** 88.06 34 P P 05 49 53.1 +0.6
baz=313,SNR=7.5
A32A **Rocking H Ranc** 88.28 33 P P 05 49 53.6 +0.1
baz=314,SNR=7.0
N23A **Red Feather La** 88.36 43 P P 05 49 55.7 +1.3
baz=308
N23A **Red Feather La** 88.36 43 *e*P P 05 49 56.0 +1.5
comp=Z,95nm,1.6s
N23A *e*pP pP 05 51 46.8 +0.8
PHWY **Pilot Hill** 88.41 43 *e*P P 05 49 55.5 +0.8
comp=Z,54nm,1.6s
C31A **Landman Farms,** 88.44 34 P P 05 49 54.7 +0.4
baz=313,SNR=17
KHC **Kasperske Hory** 88.46 328 *e*P P 05 49 54.6 +0.2
KHC *e*PP PP 05 53 31.2 +0.6
KHC **Kasperske Hory** 88.46 328 *e*P P 05 49 54.7 +0.3
comp=Z,2.4nm,1.0s
KHC **Kasperske Hory** 88.46 328 *e*P P 05 49 54.7 +0.3
KHC pmax pmax
comp=Z,2.0nm,1.0s
DIVS **Divibare** 88.54 321 *e*P P 05 49 55.3 +0.4
comp=Z,9.5nm,1.1s
X16A **Lo Mia Camp, P** 88.59 51 *e*P P 05 49 56.8 +1.2
comp=Z,11nm,1.4s
X16A *e*pP pP 05 51 46.8 -0.3
GERES **GERESS Array B** 88.61 327 P P 05 49 54.4 -0.8
comp=Z,0.9nm,0.4s,baz=72,slow=4.3,SNR=11
GEA0 **GERESS Array S** 88.61 327 *e*P P 05 49 54.3 -0.8
B32A **Ashes, Strandq** 88.62 33 P P 05 49 55.3 +0.3
baz=314,SNR=7.5
SMCO **Snowmass** 88.76 45 *e*P P 05 49 58.0 +1.5
comp=Z,24nm,1.3s
SMCO *e*pP pP 05 51 48.1 -0.1
A33A **Warroad** 88.78 32 P P 05 49 55.9 +0.1
baz=315
MVCO **Mesa Verde** 88.95 47 P P 05 49 58.1 +0.9
baz=306,SNR=6.0
MVCO **Mesa Verde** 88.95 47 *e*P P 05 49 58.6 +1.4
comp=Z,28nm,1.6s
D31A **Mcclaflin, Tow** 88.95 35 P P 05 49 56.9 +0.2
baz=313
214A **Organ Pipe Nat** 89.00 54 P P 05 49 58.6 +1.3
baz=304
AGMN **Agassiz Nation** 89.01 33 P P 05 49 57.0 +0.1
baz=314,SNR=7.1
AGMN **Agassiz Nation** 89.01 33 *e*P P 05 49 57.4 +0.5
comp=Z,34nm,1.5s
C32A **Crookston** 89.01 34 P P 05 49 57.3 +0.3
baz=314
B33A **Robert and Kas** 89.16 33 P P 05 49 57.7 +0.1
baz=314
E31A **Nome** 89.20 35 P P 05 49 58.2 +0.3
baz=313
ISCO **Idaho Springs** 89.23 44 P P 05 49 59.7 +1.2
baz=308,SNR=13
ISCO **Idaho Springs** 89.23 44 *e*P P 05 50 00.2 +1.8
comp=Z,38nm,1.8s
ISCO **Idaho Springs** 89.23 44 *e*P P 05 50 00.3 +1.8
ISCO pmax pmax
comp=Z,38nm,1.8s
D32A **Dogwood Acres,** 89.25 34 P P 05 49 58.1 +0.1
baz=314
W18A **Petrified Fore** 89.35 50 P P 05 50 00.3 +1.3
baz=305
W18A **Petrified Fore** 89.35 50 *e*P P 05 50 00.0 +1.0
comp=Z,5.8nm,0.8s
C33A **Trail** 89.43 33 P P 05 49 58.8 -0.1
baz=314
B34A **Aery, Baudette** 89.45 32 P P 05 49 59.0 0.0
baz=315,SNR=7.2
F31A **Hecla** 89.49 36 P P 05 49 59.5 +0.3
baz=313
X18A **Snowflake** 89.54 50 *e*P P 05 50 01.7 +1.8
comp=Z,41nm,1.7s
E32A **Braaten, Kindr** 89.59 35 P P 05 49 60.0 +0.3
baz=313
S22A **4UR Ranch, Cre** 89.71 46 P P 05 50 01.9 +1.1
baz=307,SNR=20
S22A **4UR Ranch, Cre** 89.71 46 *e*P P 05 50 02.2 +1.4
comp=Z,43nm,1.6s
S22A *e*pP pP 05 51 53.2 +0.6
D33A **AnnSam, Waubun** 89.82 34 P P 05 50 01.0 +0.2
baz=314
C34A **RKJ Ranch, Bem** 89.92 33 P P 05 50 01.3 +0.2
baz=315
G31A **Conde** 89.94 36 P P 05 50 01.6 +0.2
baz=313
B35A **Bob, Littlefor** 89.97 32 P P 05 50 01.6 +0.3
baz=316,SNR=7.5
Q24A **Divide** 90.02 45 P P 05 50 03.1 +0.8
baz=308
Q24A **Divide** 90.02 45 *e*P P 05 50 03.8 +1.6
comp=Z,17nm,1.4s
F32A **Veblen** 90.06 35 P P 05 50 02.1 +0.2
baz=313
SUSD **Miller** 90.07 37 P P 05 50 02.3 +0.3
baz=312
BOJS **Bojanci** 90.14 324 *i*P P 05 50 03.0 +0.7
VISS **Visnje** 90.15 325 *e*P P 05 50 02.5 +0.2
D34A **Park Rapids** 90.18 34 P P 05 50 02.7 +0.3
baz=315
E33A **Westby DABS, E** 90.19 34 P P 05 50 02.9 +0.5
baz=314
EKA **Eskdalemuir Ar** 90.21 339 P P 05 50 01.6 -0.7
comp=Z,1.0nm,0.5s,baz=43,slow=5.6,SNR=6.4
TUC **Tucson** 90.23 53 P P 05 50 04.5 +1.5
baz=305
TUC **Tucson** 90.23 53 *e*P P 05 50 05.0 +2.0
comp=Z,24nm,1.4s
TUC **Tucson** 90.23 53 *e*P P 05 50 05.0 +2.0
TUC pmax pmax
comp=Z,24nm,1.4s
H31A **Wolsey** 90.30 37 P P 05 50 03.3 +0.3
baz=312
C35A **Jirik Farms, M** 90.33 33 P P 05 50 02.8 -0.2
baz=316
JAVS **Javornik** 90.48 325 *e*P P 05 50 03.0 -0.9
F33A **5 Mile Ranch,** 90.50 35 P P 05 50 04.5 +0.6
baz=314,SNR=5.4
SDCO **Great Sand Dun** 90.55 46 P P 05 50 05.6 +0.9
baz=308,SNR=27
SDCO **Great Sand Dun** 90.55 46 *e*P P 05 50 06.0 +1.4
comp=Z,13nm,0.9s
SDCO *e*pP pP 05 51 57.1 +0.5
I31A **Royce, Wessing** 90.58 37 P P 05 50 04.7 +0.4
baz=312
OGNE **Ogallala** 90.65 41 P P 05 50 05.1 +0.3
baz=310,SNR=6.0
OGNE **Ogallala** 90.65 41 *e*P P 05 50 05.8 +1.0
comp=Z,69nm,1.4s
D35A **Remer** 90.73 33 P P 05 50 04.7 -0.2
baz=316
C36A **Pine Crest Far** 90.82 32 P P 05 50 05.5 +0.2
baz=317
H32A **Carlson Farm,** 90.83 37 P P 05 50 05.5 0.0
baz=313
G33A **Ortonville** 90.88 36 P P 05 50 06.0 +0.3
baz=314,SNR=8.5
E35A **Pequot Lakes** 90.94 34 P P 05 50 05.8 -0.1
baz=315
J31A **Geddes** 90.96 38 P P 05 50 06.1 +0.1
baz=312
F34A **Alexandria** 91.05 35 P P 05 50 06.8 +0.3
baz=315
H33A **Prehn Over Nor** 91.07 36 P P 05 50 07.0 +0.4
baz=314,SNR=9.5
D36A **Goodland** 91.09 33 P P 05 50 06.6 0.0
baz=316
C37A **Embarrass** 91.14 32 P P 05 50 06.9 0.0
baz=317
I32A **Karley and Nic** 91.14 37 P P 05 50 07.0 +0.1
baz=313
G34A **Benson** 91.25 35 P P 05 50 07.7 +0.3
baz=314
EYMN **Ely** 91.30 31 P P 05 50 07.4 -0.1
baz=318
F35A **Swanville** 91.35 34 P P 05 50 08.2 +0.4
baz=315
J32A **Parkston** 91.39 38 P P 05 50 08.2 +0.2
baz=313
K31A **O'Neill** 91.40 39 P P 05 50 08.4 +0.3
baz=312
MHTCO **State Highway** 91.43 46 *e*P P 05 50 10.9 +2.3
comp=Z,12nm,0.8s
MHTCO *e*pP pP 05 52 01.9 +1.2
D37A **Cotton** 91.45 32 P P 05 50 08.1 -0.1
baz=317
I33A **Coleman** 91.48 37 P P 05 50 08.8 +0.3
baz=314

LAZ	Ladron	91.50	49	*e*P		P	05 50 10.9	+1.9
E36A	McGregor baz=316	91.52	33	P		P	05 50 08.6	0.0
KSCO	Kaye Shedlock' baz=310	91.53	43	P		P	05 50 09.1	+0.2
KSCO	Kaye Shedlock' comp=Z,31nm,1.4s	91.53	43	*e*P		P	05 50 10.2	+1.2
C38A	Sawbill Land. baz=318	91.57	31	P		P	05 50 08.9	+0.1
T25A	Trinidad baz=308,SNR=11	91.60	46	P		P	05 50 10.6	+1.2
T25A	Trinidad comp=Z,71nm,1.9s	91.60	46	*e*P		P	05 50 11.2	+1.8
ANMO	Albuquerque baz=307	91.63	48	P		P	05 50 10.8	+1.2
ANMO	Albuquerque comp=Z,19nm,0.9s	91.63	48	*e*		P	05 50 10.7	+1.2
ANMO	Albuquerque comp=Z,22nm,0.9s	91.63	48	*c*e	P pmax	P pmax	05 50 10.7	+1.2
ECSD	EROS Data Cent baz=314,SNR=8.2	91.79	37	P		P	05 50 10.2	+0.3
ECSD	EROS Data Cent comp=Z,14nm,1.1s	91.79	37	*e*P		P	05 50 10.7	+0.8
K32A	Verdigre baz=313	91.80	38	P		P	05 50 10.1	+0.2
319A	Douglas comp=Z,20nm,0.7s	91.81	53	*e*P		P	05 50 11.9	+1.5
FUORN	Ofenpass-Fuorn comp=Z,35nm,1.4s	91.82	327	*e*P		P	05 50 10.6	+0.3
G35A	Watkins baz=315	91.84	35	P		P	05 50 10.7	+0.6
F36A	Milaca baz=316	91.86	34	P		P	05 50 10.4	+0.3
LPM	Los Pinos Moun	91.89	49	*e*P		P	05 50 12.5	+1.7
BNM	Barren Site	91.99	49	*e*P		P	05 50 13.0	+1.7
C39A	Grand Marais baz=319	92.01	31	P		P	05 50 10.9	+0.1
H35A	Sunnyside Ranc baz=315,SNR=5.1	92.04	35	P		P	05 50 11.5	+0.5
121A	Cookes Peak, D baz=306	92.17	51	P		P	05 50 13.5	+1.4
G36A	St. Michael baz=316	92.20	34	P		P	05 50 12.1	+0.4
E38A	The Farm, Brul baz=318	92.26	32	P		P	05 50 12.1	+0.1
C40A	Isle Royale Na baz=319	92.37	30	P		P	05 50 12.5	0.0
J34A	George baz=314	92.45	37	P		P	05 50 13.1	+0.1
H36A	Jessenland, He baz=316	92.58	35	P		P	05 50 14.3	+0.8
F38A	Pierce - Schro baz=317	92.58	33	P		P	05 50 14.1	+0.6
SPMN	Marine on St. baz=316	92.67	34	P		P	05 50 14.3	+0.4
SPMN	Marine on St. comp=Z,8.9nm,0.8s	92.67	34	*e*P		P	05 50 14.1	+0.2
E39A	Mellen baz=318	92.89	32	P		P	05 50 15.0	+0.1
F39A	Loretta baz=318	93.07	32	P		P	05 50 16.1	+0.4
L34A	Svendsen Farm, baz=314	93.14	38	P		P	05 50 16.6	+0.5
E40A	Wakefield baz=319	93.14	31	P		P	05 50 16.6	+0.5
G38A	Ridgeland baz=317	93.17	33	P		P	05 50 16.4	+0.2
I37A	Lemond, Waseca baz=316	93.25	35	P		P	05 50 16.9	+0.4
H38A	Maiden Rock baz=317	93.32	34	P		P	05 50 17.2	+0.3
CBKS	Cedar Bluff baz=312	93.37	42	P		P	05 50 17.2	-0.1
G39A	Holcombe baz=318	93.41	33	P		P	05 50 17.3	0.0
F40A	Park Falls baz=318	93.44	32	P		P	05 50 17.4	0.0
E41A	Kenton baz=319	93.56	31	P		P	05 50 18.4	+0.5
J37A	Redenius Farm, baz=316	93.67	35	P		P	05 50 18.8	+0.2
K36A	Gilmore City baz=315	93.69	36	P		P	05 50 19.0	+0.4
I38A	Scanlan Farm, baz=317	93.76	34	P		P	05 50 19.3	+0.4
H39A	Augusta baz=318	93.81	33	P		P	05 50 19.4	+0.4
N34A	Lincoln baz=314	93.85	39	P		P	05 50 19.3	-0.1
G40A	Rib Lake baz=318	93.89	32	P		P	05 50 20.0	+0.6
K37A	Belmond baz=316	94.02	36	P		P	05 50 20.6	+0.5
F41A	Three Lakes baz=319	94.04	31	P		P	05 50 20.5	+0.4
O34A	Beatrice baz=314	94.19	39	P		P	05 50 21.1	+0.2
H40A	Chili baz=318	94.28	33	P		P	05 50 21.3	+0.1
MNTX	Cornudas Mount baz=308	94.30	50	P		P	05 50 22.5	+0.9
MNTX	Cornudas Mount comp=Z,32nm,1.8s	94.30	50	*e*P		P	05 50 22.8	+1.2
MNTX					*e*pP	pP	05 52 13.5	-0.4
N35A	Tabor baz=314	94.30	38	P		P	05 50 21.5	0.0
L37A	Phoenix Point, baz=316	94.42	36	P		P	05 50 21.9	0.0
E43A	Lone Tree Farm baz=321	94.50	30	P		P	05 50 22.2	0.0
J39A	Decorah baz=317	94.59	34	P		P	05 50 22.9	+0.3
H41A	Junction City baz=319	94.63	32	P		P	05 50 23.1	+0.2
N36A	Muff Farm, Cla baz=315	94.70	38	P		P	05 50 23.5	+0.3
G42A	Mountain baz=320	94.73	31	P		P	05 50 23.4	+0.2
AMTX	Amarillo baz=310	94.74	46	P		P	05 50 24.4	+0.8
M37A	Trindle Farm, baz=316	94.77	37	P		P	05 50 24.3	+0.8
F43A	Flat Rock, Esc baz=321	94.84	30	P		P	05 50 24.3	+0.6
SCIA	State Center baz=316	94.86	36	P		P	05 50 24.6	+0.6
I41A	Arkdale baz=319	94.95	33	P		P	05 50 24.4	+0.1
K39A	Oelwein baz=317	94.96	35	P		P	05 50 23.9	-0.4
J40A	Soldiers Grove baz=318	95.02	34	P		P	05 50 24.3	-0.4
G43A	Wallace baz=320	95.05	31	P		P	05 50 25.0	+0.2
F44A	Big Bay de Noc baz=321	95.06	30	P		P	05 50 25.2	+0.4
N37A	Lee Faris, Mou baz=315	95.15	38	P		P	05 50 25.6	+0.3
M38A	Pleasantville baz=316	95.22	37	P		P	05 50 25.9	+0.3
H42A	Shiocton baz=320	95.24	32	P		P	05 50 25.6	0.0
E45A	Wooded Hills, baz=322	95.30	29	P		P	05 50 25.9	+0.1
L39A	Vinton baz=317	95.32	35	P		P	05 50 26.1	+0.1
K40A	Colesburg baz=318	95.33	35	P		P	05 50 26.1	0.0
J41A	Loganville baz=318	95.39	34	P		P	05 50 26.1	-0.2
I42A	Draeger Farm, baz=319	95.53	33	P		P	05 50 26.9	-0.1
H43A	Windswept, Lux baz=320	95.62	32	P		P	05 50 27.2	-0.1
M39A	Webster baz=317	95.70	36	P		P	05 50 27.8	+0.1
L40A	Anamosa baz=318	95.76	35	P		P	05 50 28.0	0.0
I43A	Langenfeld Bro baz=320	95.89	32	P		P	05 50 28.6	+0.1
P37A	Lathrop baz=315	95.90	38	P		P	05 50 28.6	-0.1
N39A	Derby Farms, D baz=316	95.97	37	P		P	05 50 29.0	+0.1
O38A	Galt baz=316	96.00	38	P		P	05 50 29.2	+0.1
M40A	Post Highland baz=317	96.10	36	P		P	05 50 29.7	+0.1
K42A	Prairie Point, baz=319	96.16	34	P		P	05 50 29.6	-0.1
P38A	Dawn baz=316	96.32	38	P		P	05 50 30.7	+0.1
N40A	Mertquake, Sal baz=317	96.44	36	P		P	05 50 31.1	0.0
L42A	Oliver, Polo baz=319	96.58	34	P		P	05 50 31.5	-0.2
M41A	Milan baz=318	96.61	35	P		P	05 50 31.7	-0.1
P39B	Salisbury baz=316	96.84	38	P		P	05 50 32.7	-0.1
TX31	Lajitas Ar. Si	96.92	51	*e*P		P	05 50 33.7	+0.1
TX31				*e*P		P	05 50 34.9	+1.3
TX31				*e*pP		pP	05 52 25.4	-0.7
TX31				*e*pP		pP	05 52 25.9	-0.1
LTX	Lajitas	96.92	51	*e*P		P	05 50 34.9	+1.3
LTX				*e*PP		PP	05 54 35.0	-1.6
LTX	Lajitas	96.92	51	*e*P		P	05 50 34.9	+1.3
LTX				*e*			05 54 35.0	
TXAR	Lajitas Array comp=Z,2.9nm,0.6s,baz=301,slow=2.8,SNR=35	96.92	51	P		P	05 50 34.9	+1.3
TXAR				PP		PP	05 54 35.0	-1.6
Q39A	comp=Z,1.0nm,0.9s,baz=302,slow=5.2,SNR=3.6 Willow Grove F baz=316	97.03	38	P		Pdif	05 50 33.9	+0.1
R38A	Fenwick Farm, baz=315	97.14	39	P		Pdif	05 50 34.4	+0.1
P40A	Paris baz=317	97.18	37	P		Pdif	05 50 34.5	+0.1
O41A	Passleys Farm, baz=318	97.37	36	P		P	05 50 35.3	+0.1
S39A	Bolivar baz=316	97.81	39	P		Pdif	05 50 37.0	-0.3
R40A	Maddies Statio baz=316	97.96	38	P		Pdif	05 50 37.8	-0.1
Q41A	Truxton baz=317	98.04	37	P		P	05 50 38.4	+0.1
R41A	Rosebud baz=317	98.44	38	P		P	05 50 40.3	+0.2
CCM	Cathedral Cave baz=317	98.69	38	P		P	05 50 41.4	+0.2
QSPA	South Pole Qui comp=Z,1.9nm,0.5s,baz=165,slow=0.3,SNR=9.4	118.48	180	PKP		PKPdf	05 55 44.9	-0.6
SYO	Syowa Base	119.80	204	*e*Pdiff		Pdif	05 52 16.4	+2.3
KOWA	Kowa	124.04	315	*e*PKPdf		PKPdf	05 55 57.9	+0.2
DBIC	Dimbokro comp=Z,1.0nm,0.3s,baz=44,slow=0.7,SNR=6.4	130.43	310	PKP		PKPdf	05 56 10.1	+0.1
DBIC				SKPbc		SKPbc	05 58 46.1	-0.2
SNAA	comp=Z,24nm,0.8s,baz=24,slow=5.5,SNR=27 Sanae	132.19	195	PKP		PKPdf	05 56 11.5	-0.1
SNAA	Sanae comp=Z,1.7nm,0.5s,baz=165,slow=5.2,SNR=14	132.19	195	SKPbc		SKPbc	05 58 50.4	-0.5
VNA2	Neumayer--Watz baz=99,slow=1.1	133.76	195	PKP		PKPdf	05 56 12.8	-1.6
VNA3	Neumayer Olymp	134.00	194	PKP		PKPdf	05 56 12.6	-2.3
PTGA	Pitinga	146.85	36	*e*PKPbc		PKPbc	05 56 42.9	+0.5
SAML	Samuel	151.41	51	*e*PKPdf		PKPdf	05 56 47.5	+0.7
SAML				*e*PKPbc		PKPbc	05 56 53.2	-0.2
SAML				*e*PKPab		PKPab	05 57 03.1	-0.8
LPAZ	La Paz comp=Z,3.3nm,0.5s,baz=356,slow=2.1,SNR=16	152.21	69	PKPbc		PKPbc	05 56 57.2	+1.3
LPAZ				PKPab		PKPab	05 57 08.2	+0.1
LPAZ	comp=Z,2.8nm,0.3s,baz=334,slow=2.6,SNR=8.4			pPKPbc		pPKPbc	05 58 53.2	-1.2
LPAZ	comp=Z,4.4nm,0.9s,baz=354,slow=4.1,SNR=4.9	152.21	69	*e*PKPdf		PKPdf	05 56 48.2	-0.5
LPAZ	La Paz			*e*			05 56 49.7	
LPAZ				*e*PKPbc		PKiKP	05 56 56.2	+0.1
LPAZ				*e*			05 56 57.2	
LPAZ				*e*PKiKP		PKPab	05 57 07.5	-0.6
LPAZ				*e*PKPab		PKPab	05 57 08.2	+0.1
LPAZ	La Paz	152.21	69	*e*PKIKP		PKPdf	05 56 48.2	-0.5
LPAZ				*i*			05 57 07.5	
MNMC	Minye Minye	152.32	76	*e*PKPbc		PKPbc	05 56 56.3	+0.6
PLCA	Paso Flores comp=Z,1.9nm,0.7s,baz=244,slow=2.6,SNR=12	153.12	124	PKPbc		PKPbc	05 56 57.4	+0.9
PLCA				PKPab		PKPab	05 57 12.6	+1.8
PLCA	comp=Z,2.3nm,0.9s,baz=248,slow=4.1,SNR=6.8			pPKPbc		pPKPbc	05 58 54.2	-1.0
	comp=Z,6.7nm,1.2s,baz=335,slow=2.2,SNR=4.2							

BJI ***18*** *05:43:21.0,48.˚18N×121.˚98E,h5km,mb4.4/1,mB4.4/1, ML4.6/9,Ms4.0/3*

BYKL ***18*** *05:43:23.1±1.6,48.˚21N×121.˚95E*

ISC 18 05:43:20.3±0.7, 48.˚38N±0.˚04×121.˚85E±0.˚04, h10km, n43, σ3s14/37, 1C, Northeastern China

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
HIA	**Hailar**	**1.65**	**303**	*i*	*e*Pg		**Pg**	**05 43 53.9**	**+2.0**
HIA					*e*Sg		**Sg**	**05 44 18.0**	**+4.7**
HIA					*e*			05 44 22.1	
CN2	**Changchun**	**5.22**	**150**		*e*Pg		Pg	05 44 54.0	-6.2
CN2					*e*Sg		**Sb**	**05 45 55.8**	**+1.5**
CN2	comp=N,480nm,0.6s				smax		smax		
CN2	comp=E,570nm,0.6s				smax		smax		
TUP	**Tupik**	**6.17**	**350**		*e*		**Pn**	**05 44 52.6**	**+1.3**
TUP					max			05 45 01.7	
TUP	8.0nm,0.4s				*e*			05 46 32.2	
TUP					*e*Sg		**Sg**	**05 46 39.6**	**+1.5**
TUP					Smax			05 46 54.0	
KPC	797nm,1.4s **Khapcheranga**	**6.37**	**286**		*e*Pn		**Pn**	**05 44 57.4**	**+3.3**
KPC					*e*Pg		**Pg**	**05 45 18.5**	**-3.6**
KPC					Pmax			05 45 29.5	
KPC	35nm,1.5s				*e*			05 46 06.9	
KPC					*e*			05 46 22.5	
KPC					*e*Sg		**Sg**	**05 46 42.4**	**-2.1**
KPC					Smax			05 46 52.6	
CIT	549nm,1.4s **Chita**	**6.45**	**307**		*e*		Pn	05 44 48.8	-6.5
CIT					Pg		**Pg**	**05 45 21.5**	**-2.2**
CIT					Pmax			05 45 26.6	
CIT	67nm,0.1s				*e*Sn		**Sn**	**05 46 13.3**	**+4.3**
CIT					*e*Sg		**Sg**	**05 46 46.0**	**-1.2**
CIT					Smax			05 46 51.4	
MDJ	1μm,1.0s **Mudanjiang**	**6.54**	**122**		Pg		**Pb**	**05 45 14.6**	**+0.6**
MDJ					Sg		**Sb**	**05 46 34.6**	**+2.5**
MDJ					smax		smax		
MDJ	comp=N,490nm,0.6s				smax		smax		
TNDR	comp=E,640nm,0.7s **Tynda**	**7.00**	**14**		*e*		**Sn**	**05 46 24.1**	**+1.6**
TNDR					*e*			05 46 52.1	
TNDR					*e*Sg		**Sg**	**05 47 04.5**	**-0.4**
IENR	**Iengra**	**8.07**	**12**		*e*Pn		Pn	05 45 26.0	+8.6
IENR					*e*			05 45 38.0	
IENR					*e*Pg		**Pg**	**05 45 52.6**	**-2.0**
IENR					*e*			05 47 27.1	
IENR					*e*Sg		**Sg**	**05 47 39.3**	**+0.4**
KHNR	**Khani**	**8.63**	**353**		*e*			05 47 30.2	
KHNR					*e*Sg		**Sg**	**05 47 55.5**	**-1.4**
KHNR					*e*			05 47 59.3	
CLNS	**Chul'man**	**8.67**	**11**		*e*			05 47 43.3	
CLNS					*e*Sg		**Sg**	**05 47 56.5**	**-1.7**
UKT	**Uakit**	**8.74**	**328**		*e*		**Pn**	**05 45 27.8**	**+1.1**
UKT					*e*			05 45 38.9	
UKT					Pg		Pg	05 46 02.8	-4.6
UKT					Pmax			05 46 24.4	
UKT	9.0nm,0.7s				*e*			05 47 04.2	
UKT					*e*Sg		**Sg**	**05 47 58.3**	**-2.2**
UKT					Smax			05 48 16.5	
CRS	311nm,1.3s **Chara**	**8.80**	**347**		*e*		Pn	05 45 36.8	+9.3
CRS					*e*			05 46 02.6	
CRS					max			05 46 31.0	
CRS	46nm,1.6s				*e*			05 47 32.2	
CRS					*e*Sg		**Sg**	**05 48 00.1**	**-2.4**
CRS					Smax			05 48 15.1	
NLYR	417nm,1.0s **Nelyaty**	**8.94**	**338**		*e*		**Pn**	**05 45 30.9**	**+1.5**
NLYR					*e*Pg		Pg	05 46 07.4	-3.9
NLYR					Pmax			05 46 17.1	
NLYR	26nm,0.4s				*e*			05 47 29.4	
NLYR					*e*Sg		Sn	05 48 05.9	+56
NLYR					Smax			05 48 22.5	
SYVR	790nm,1.4s **Suvo**	**9.14**	**310**		*e*		**Pn**	**05 45 33.9**	**+1.8**
SYVR					*e*			05 46 03.5	
SYVR					*e*			05 47 17.8	
SYVR					*e*Sg		Sn	05 48 11.8	+57
SYVR					Smax			05 48 19.5	
SVKR	449nm,1.1s **Severomuysk**	**9.26**	**330**		Pg		Pn	05 46 14.6	+41
SVKR					Pmax			05 46 18.8	
SVKR	34nm,0.1s				*e*			05 46 27.3	
SVKR					*e*			05 46 42.3	
SVKR					*e*			05 47 00.0	
SVKR					*e*Sg		Sn	05 48 18.3	+60
SVKR					Smax			05 48 27.0	
YLYR	889nm,0.7s **Ulyunkhan**	**9.29**	**318**		*e*		**Pn**	**05 45 34.8**	**+0.6**
YLYR					max			05 46 31.8	
YLYR	5.0nm,0.5s				*e*Sn		**Sn**	**05 47 22.7**	**+4.0**
YLYR					*e*Sg			05 48 15.3	
YLYR					Smax			05 48 25.1	
UUDB	455nm,1.2s **Ulan-Yde**	**9.76**	**296**		*e*Pn		**Pn**	**05 45 43.4**	**+2.8**
UUDB					*e*			05 46 23.1	
UUDB					max			05 47 00.2	
UUDB	42nm,1.3s				*e*			05 47 26.0	
UUDB					*e*Sg		Sn	05 48 29.1	+59
UUDB					Smax			05 48 49.1	
ULN	842nm,1.4s **Ulaanbaatar**	**9.91**	**273**		*e*		**Sn**	**05 47 30.3**	**-3.9**
ULN					*e*			05 48 02.5	
ULN					*e*Sg			05 48 29.0	
ULN					*e*			05 48 50.9	
YOA	**Uoyan**	**9.93**	**325**		*e*			05 48 23.2	
YOA					*e*Sg			05 48 37.2	
YOA					Smax			05 48 52.7	
KMO	2μm,1.3s **Kumora**	**9.96**	**323**		*e*		Pn	05 46 28.2	+45
KMO					*e*			05 47 33.7	
KMO					*e*Sg		Sn	05 48 36.7	+62
KMO					Smax			05 48 46.9	
KMO	804nm,1.4s				*e*			05 48 52.3	
ZRHB	**Zarechye**	**10.26**	**300**		*e*			05 48 00.5	
ZRHB					Sg			05 48 45.2	
FFNB	**Fofonovo**	**10.34**	**296**		*e*Sg			05 48 45.8	
FFNB					*e*			05 48 51.0	
FFNB					max			05 49 09.6	
OGRR	390nm,1.9s **Ongureny**	**10.41**	**306**		*e*		**Pn**	**05 45 50.2**	**+0.8**
OGRR					*e*Pg			05 46 34.8	
OGRR					Pmax			05 46 49.8	
OGRR	28nm,1.7s				*e*Sg			05 48 50.8	
OGRR					Smax			05 48 58.9	
KAB	301nm,1.8s **Kabansk**	**10.41**	**296**		*e*			05 48 40.2	
KAB					Sg			05 48 51.0	
KAB					Smax			05 49 18.0	
HHC	2μm,1.8s **Hu-ho-hao-te**	**10.50**	**228**		*e*P		**Pn**	**05 45 50.1**	**-0.8**
HHC					LR		LR		
HHC	comp=N,380nm,7.9s				LR		LR		
BOD	comp=E,320nm,7.2s **Bodaibo**	**10.56**	**336**		*e*		**Pn**	**05 45 53.5**	**+2.1**
BOD					*e*			05 46 39.9	
BOD					max			05 47 03.7	
BOD	27nm,1.4s				*e*			05 48 18.5	
BOD					*e*Sg			05 48 53.3	
BOD					Smax			05 49 05.3	
NIZ	312nm,1.3s **Nizh Angarsk**	**10.58**	**319**		*e*		**Pn**	**05 45 55.8**	**+4.0**
NIZ					max			05 46 04.3	
NIZ	4.0nm,0.3s				*e*			05 47 57.5	
NIZ					*e*			05 48 34.2	
NIZ					*e*Sg			05 48 58.3	
NIZ					Smax			05 49 20.3	
STDB	176nm,1.8s **Stepnoy Dvoret**	**10.61**	**297**		*e*Pn		Pn	05 45 58.7	+6.5
STDB					max			05 46 21.5	
STDB	221nm,1.7s				*e*			05 46 40.8	
STDB					*e*			05 48 31.7	
STDB					*e*Sg			05 48 55.4	
STDB					Smax			05 49 33.0	
TRG	2μm,1.4s **Tyrgan**	**10.79**	**300**		*e*Pn		Sn	05 47 41.0	-14
TRG					max			05 47 56.9	
TRG	2.0nm,0.2s				*e*Sg			05 49 01.4	
TRG					Smax			05 49 13.6	
BGT	232nm,1.7s **Bolshoye Golou**	**11.15**	**295**		*e*			05 48 38.1	
BGT					*e*			05 48 47.5	
BGT					*e*Sg			05 49 11.7	
BGT					Smax			05 49 27.7	
LSTR	204nm,1.3s **Listvyanka**	**11.47**	**294**		*e*Sn		Sn	05 48 23.7	+12
LSTR					*e*Sg			05 49 21.0	
LSTR					Smax			05 49 49.6	
IVK	189nm,1.8s **Ivanovka**	**11.71**	**294**		*e*			05 48 50.2	
IVK					*e*Sg			05 49 30.5	
IVK					Smax			05 49 47.9	
IRK	217nm,1.6s **Irkutsk**	**11.88**	**296**		*e*			05 49 00.1	
IRK					Sg			05 49 35.6	
IRK					Smax			05 49 45.0	
TLY	242nm,1.1s **Talaya**	**12.16**	**293**		*e*Sg			05 49 43.5	
TLY					*e*			05 50 01.0	
TLY					max			05 50 06.7	
ZAK	199nm,1.4s **Zakamensk**	**12.27**	**286**		*e*			05 48 54.5	
ZAK					*e*Sg			05 49 44.2	
ZAK					Smax			05 49 59.6	
ARS	209nm,1.6s **Arshan**	**12.95**	**293**		*e*			05 49 10.8	
ARS					*e*Sg			05 50 09.9	
ARS					Smax			05 50 40.5	
MOY	166nm,1.0s **Mondy**	**13.80**	**292**		*e*			05 49 33.4	
MOY					*e*Sg			05 50 33.8	
MOY					*e*			05 51 06.4	
MOY					max			05 51 08.7	
ORL	194nm,1.3s **Orlik**	**14.62**	**295**		*e*		Pn	05 45 51.7	-55
ORL					*e*			05 49 42.9	
ORL					*e*Sg			05 51 01.1	
ORL					Smax			05 51 19.8	
KNGR	77nm,1.5s **Kungurtug, Tuv**	**15.95**	**287**		*e*			05 51 18.9	
KNGR					Sg			05 51 39.6	
ERNS	**Erzin**	**17.47**	**286**		Sg			05 52 28.0	
LZH	**Lanzhou**	**18.08**	**234**		*e*P		**P**	**05 47 30.9**	**-1.1**
LZH					pP		sP	05 47 34.3	-1.8
LZH					*e*S		**Sn**	**05 50 43.3**	**-10**
LZH					SS		**SnSn**	**05 51 13.6**	**+6.9**
LZH					pmax		pmax		
LZH	comp=Z,19nm,1.1s				pmax		pmax		
LZH	comp=Z,120nm,6.1s				LR		LR		
LZH	comp=N,820nm,14.9s				LR		LR		
LZH	comp=E,1μm,16.4s				LR		LR		
CD2	**Chengdu**	**22.23**	**225**	*e*	P		**P**	**05 48 16.8**	**-0.3**
WMQ	**Urumqi**	**23.99**	**272**		P		**P**	**05 48 37.4**	**+2.5**
WMQ					LR		LR		
WMQ	comp=N,240nm,30.5s				LR		LR		
	comp=E,370nm,22.9s								

*ISCJB **18** 05:49:31.2±1.0, 1.4N±0.1×91.5E±0.1, h10km, mb3.8/5, Error ellipse: s-maj=22.7km s-min=13.2km az=29.4*
*IDC **18** 05:49:31.9±1.5, 1.36N×91.45E, h0km, mb3.6/5, mb1 3.9/8, mb1mx3.6/64, mbtmp3.8/8, ML4.2/3, Error ellipse: s-maj=43.9km s-min=20.6km az=51.0*
ISC 18 05:49:33.7±1.3, 1.5N±0.2×91.60E±0.09, h10km, n15, σ1§55/10, mb3.8/5, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**7.44**	**80**	Pn	**Pn**	**05 51 23.0**	**+0.5**
	0.8nm,0.3s,baz=232,slow=12,SNR=3.1						
PSI				Sn	**Sn**	05 52 44.1	-3.0
	baz=331,slow=19,SNR=1.4						
PALK	**Pallekele**	**12.30**	**298**	Pn	**Pn**	**05 52 27.4**	**-1.8**
	2.0nm,0.3s,baz=116,slow=12,SNR=7.2						
PALK				Sn	Sn	05 54 32.3	-14
	3.7nm,0.3s,baz=297,slow=4.2,SNR=5.7						
CMAR	**Chiang Mai Arr**	**18.36**	**23**	P	**P**	**05 53 50.1**	**+1.4**
	0.6nm,0.3s,baz=217,slow=13,SNR=3.9						
H08S2	**Diego Garcia H**	**21.10**	**244**	T	T	06 16 06.0	
	baz=64,slow=75,SNR=6.8						
H08S3	**Diego Garcia H**	**21.10**	**244**	T	T	06 16 09.1	
	baz=64,slow=75,SNR=7.4						
H08S1	**Diego Carcia H**	**21.11**	**244**	T	T	06 16 07.5	
	baz=64,slow=75,SNR=6.6						
H01W3	**Cape Leeuwin H**	**41.87**	**152**	T	T	06 41 44.9	
	baz=327,slow=74,SNR=6.3						
H01W2	**Cape Leeuwin H**	**41.88**	**152**	T	T	06 41 45.5	
	baz=327,slow=74,SNR=7.1						
H01W1	**Cape Leeuwin H**	**41.88**	**152**	T	T	06 41 46.5	
	baz=327,slow=74,SNR=6.0						
MKAR	**Makanchi Array**	**45.88**	**351**	P	**P**	**05 57 55.9**	**-0.4**
	0.5nm,0.5s,baz=173,slow=9.2,SNR=5.2						
WRA	**Warramunga Arr**	**46.99**	**119**	P	**P**	**05 58 05.8**	**+0.3**
	1.3nm,0.8s,baz=297,slow=8.7,SNR=7.8						
SONM	**Songino Array**	**47.94**	**13**	P	**P**	**05 58 14.0**	**+1.5**
	1.0nm,0.4s,baz=188,slow=9.0,SNR=2.7						
ASAR	**Alice Springs**	**48.10**	**124**	P	**P**	**05 58 14.5**	**+0.4**
	0.5nm,1.0s,baz=317,slow=7.6,SNR=3.5						
KURBB	**Kurchatov Arra**	**50.23**	**349**	P	**P**	**05 58 29.9**	**+0.1**
	0.4nm,0.7s,baz=177,slow=7.1,SNR=3.9						
TXAR	**Lajitas Array**	**146.07**	**24**	PKPbc	**PKPdf**	**06 09 14.3**	**+0.2**
	0.2nm,0.5s,baz=24,slow=1.8,SNR=4.2						

*NIED **18** 06:01:00, 29.10N×142.90E, h5km, Mw4.4 Best double couple: M0=4.10000×10^15 NP1:φ=174.00000°, δ=19.00000°, λ=108.00000°. NP2:φ=335.00000°, δ=72.00000°, λ=84.00000°.*
*ISCJB **18** 06:01:09.7±1.5, 29.07N±0.03×142.35E±0.06, h10km±9km, mb4.3/40, MS3.4/4, Error ellipse: s-maj=8.9km s-min=4.2km az=174.8*
*JMA **18** 06:01:09.7±0.2, 29.11N×142.93E, h60km, M4.4*
*IDC **18** 06:01:15.3±0.4, 28.97N×142.47E, h42km±4km, mb3.9/21, mb1 4.0/24, mb1mx3.9/61, mbtmp4.1/24, ML3.7/3, MS3.4/8, Ms1 3.4/8, ms1mx3.0/59, Error ellipse: s-maj=14.4km s-min=5.6km az=96.0*
*NEIC **18** 06:01:15.6±0.2, 29.00N×142.38E, mb4.5/23, Error ellipse: s-maj=5.8km s-min=5.1km az=77.0*
ISC 18 06:01:15.4±0.5, 29.05N±0.04×142.44E±0.08, h40km±4km, h40km:pP-P, n104, σ1§28/126, mb4.4/41, MS3.5/4, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.96**	**187**	P	**Pn**	**06 01 43.6**	**-2.6**
CBIJ				eS	Sn	06 02 08.8	-0.7
CBIJ	**Chichi jima**	**1.96**	**187**	ePn	**Pn**	**06 01 44.0**	**-2.2**
CBIJ				eSn	**Sn**	**06 02 07.8**	**-1.7**
JCJ	**Chichijima**	**1.96**	**187**	P	**Pn**	**06 01 44.0**	**-2.2**
	15nm,0.3s,baz=282,slow=22,SNR=9.2						
JCJ				S	**Sn**	**06 02 07.8**	**-1.7**
	271nm,0.3s,baz=327,slow=22,SNR=29						
JHHJ	**Haha-jima-NKT**	**2.42**	**185**	eS	**Sn**	**06 02 19.4**	**-1.5**
JHJ	**Hachijo jima 2**	**4.65**	**331**	LR	LR	06 04 20.9	
	comp=Z,255nm,20.4s,baz=145,slow=39						
BSO1	**Boso 1**	**5.72**	**348**	P	**Pn**	**06 02 34.6**	**-2.8**
BSO1				eS	**Sn**	**06 03 37.5**	**-4.1**
BSO3	**Boso 3**	**5.96**	**345**	P	**Pn**	**06 02 38.7**	**-2.3**
BSO3				eS	**Sn**	**06 03 45.5**	**-2.4**
BSO4	**Boso 4**	**6.19**	**344**	P	**Pn**	**06 02 42.4**	**-1.7**
BSO4				eS	**Sn**	**06 03 52.1**	**-1.4**
JOD2	**Odawara 2**	**6.81**	**336**	P	**Pn**	**06 02 50.7**	**-2.2**
JRY	**Ryogami san**	**7.56**	**338**	P	**Pn**	**06 03 01.6**	**-1.6**
JRY				eS	**Sn**	**06 04 24.2**	**-3.4**
JAG	**Ashikaga**	**7.77**	**342**	P	**Pn**	**06 03 03.3**	**-2.7**
MJAR	**Matsushiro Arr**	**8.28**	**336**	P	**Pn**	**06 03 11.5**	**-1.4**
	3.7nm,0.3s,baz=155,slow=10,SNR=18						
MAJO	**Matsushiro**	**8.28**	**336**	ePn	**Pn**	**06 03 11.8**	**-1.1**
MAT	**Matsushiro**	**8.28**	**336**	P	**Pn**	**06 03 11.5**	**-1.4**
MAT				eS	**Sn**	**06 04 42.3**	**-2.8**
MJB9	**Matsu-Tunnel**	**8.28**	**336**	ePn	**Pn**	**06 03 12.0**	**-1.0**
JNU	**Nakatsue**	**10.71**	**295**	LR	LR	06 07 29.9	
	comp=Z,179nm,19.9s,baz=116,slow=35						
JOW	**Kunigami**	**12.71**	**263**	LR	LR	06 08 36.8	
	comp=Z,129nm,21.8s,baz=100,slow=35						
KSRS	**Korea Array**	**14.74**	**308**	P	**Pn**	**06 04 44.0**	**+2.9**
	0.5nm,0.3s,baz=115,slow=12,SNR=14						
KSRS				LR	LR	06 10 05.4	
	comp=Z,108nm,19.1s,baz=147,slow=36						
KSAR	**Wonju Array Be**	**14.76**	**308**	P	**Pn**	**06 04 44.0**	**+2.6**
ASAJ	**Asahikawa**	**15.04**	**0**	ePn	**Pn**	**06 04 45.3**	**+0.2**
	4.2nm,0.5s						
USRK	**Uesurisyk Ar.**	**17.27**	**334**	P	**P**	**06 05 15.4**	**+0.8**
	0.5nm,0.3s,baz=160,slow=12,SNR=6.5						
MDJ	**Mudanjiang**	**18.59**	**330**	eP	**P**	**06 05 28.9**	**-0.3**
	8.6nm,0.6s						
YULB	**Yu-li**	**19.77**	**258**	eP	**P**	**06 05 42.7**	**+0.5**
	45nm,1.4s						
SSLB	**Suanglung**	**19.93**	**260**	eP	**P**	**06 05 43.9**	**-0.1**
	20nm,0.7s						
KLR	**Kul'dur**	**21.75**	**341**	P	**P**	**06 06 03.6**	**+0.2**
	0.3nm,0.8s,baz=132,slow=9.5,SNR=12						
PETK	**Petropavlovsk-**	**26.54**	**21**	LR	LR	06 17 36.3	
	comp=Z,55nm,20.7s,baz=219,slow=37						
HIA	**Hailar**	**26.60**	**326**	eP	**P**	**06 06 49.4**	**-0.5**
	10nm,0.9s						
ULN	**Ulaanbaatar**	**33.09**	**314**	eP	**P**	**06 07 47.9**	**+0.3**
	4.9nm,0.8s						
SONA1	**Songino Array**	**33.49**	**314**	eP	**P**	**06 07 51.1**	**+0.1**
SONA0	**Songino Array**	**33.49**	**314**	eP	**P**	**06 07 51.5**	**+0.5**
SONA0				epP	**pP**	**06 08 03.9**	**+1.8**
SONM	**Songino Array**	**33.49**	**314**	P	**P**	**06 07 51.5**	**+0.5**
	5.0nm,0.8s,baz=112,slow=9.3,SNR=7.8						
SONM				pP	**pP**	**06 08 03.9**	**+1.8**
	2.3nm,0.6s,baz=109,slow=8.4,SNR=3.3						
SEY	**Seymchan**	**34.51**	**8**	P	**P**	**06 07 59.1**	**-0.3**
	1.1nm,0.5s,baz=207,slow=8.1,SNR=4.5						
SEY				pP	**pP**	**06 08 11.6**	**+1.1**
	2.9nm,0.6s,baz=212,slow=9.5,SNR=4.0						
PBKT	**Sadao Pong**	**39.99**	**261**	eP	**P**	**06 08 46.0**	**-0.5**
	12nm,1.3s						
CHTO	**Chiang Mai**	**40.84**	**266**	eP	**P**	**06 08 53.0**	**-0.5**
	6.3nm,0.8s						
CMAR	**Chiang Mai Arr**	**40.98**	**265**	P	**P**	**06 08 54.2**	**-0.4**
	0.9nm,0.3s,baz=53,slow=8.3,SNR=8.3						
ZAA0	**Zalesovo Array**	**48.18**	**318**	eP	**P**	**06 09 51.5**	**-0.1**
	17nm,0.3s						
ZAA0				eS	**S**	**06 16 50.6**	**+2.8**
ZALV	**Zalesovo Beam**	**48.18**	**318**	LR	LR	06 30 13.7	
	comp=Z,53nm,19.6s,baz=66,slow=36						
ZALV	**Zalesovo Beam**	**48.18**	**318**	eP	**P**	**06 09 51.4**	**-0.2**
ZALV				eS	**S**	**06 16 48.6**	**+0.8**
LEM	**Lembang**	**48.95**	**229**	LR	LR	06 33 24.4	
	comp=Z,39nm,18.6s,baz=176,slow=39						
RAMN	**Ramite**	**48.95**	**282**	eP	**P**	**06 09 57.6**	**-0.7**
	6.6nm,0.3s						
JIRN	**Jiri**	**49.11**	**283**	eP	**P**	**06 09 59.4**	**-0.2**
	13nm,0.4s						
GUN	**Gumba**	**49.31**	**283**	eP	**P**	**06 10 00.6**	**-0.5**
WRAB	**Tennant Creek**	**49.32**	**190**	eP	**P**	**06 09 60.0**	**-0.7**
	15nm,0.8s						
WB2	**Warramunga Arr**	**49.33**	**190**	eP	**P**	**06 09 58.5**	**-2.2**
WR1	**Warramunga Arr**	**49.33**	**190**	eP	**P**	**06 09 59.7**	**-1.1**
	14nm,0.8s						
WR1				epP	**pP**	**06 10 11.7**	**-0.6**
WRA	**Warramunga Arr**	**49.33**	**190**	P	**P**	**06 09 59.7**	**-1.1**
	10nm,0.7s,baz=12,slow=8.3,SNR=43						
WRA				pP	**pP**	**06 10 11.7**	**-0.6**
	7.4nm,0.7s,baz=12,slow=8.5,SNR=11						
MK01	**Makanchi Array**	**49.42**	**308**	eP	**P**	**06 09 58.9**	**-2.4**
MK31	**Makanchi Array**	**49.42**	**308**	eP	**P**	**06 10 00.9**	**-0.5**
MK32	**Makanchi Array**	**49.42**	**308**	eP	**P**	**06 10 01.4**	**+0.1**
MK32				epP	**pP**	**06 10 14.7**	**+1.8**
MKAR	**Makanchi Array**	**49.42**	**308**	P	**P**	**06 10 01.4**	**+0.1**
	1.8nm,0.6s,baz=81,slow=9.1,SNR=10						
MKAR				pP	**pP**	**06 10 14.7**	**+1.8**
	1.7nm,0.6s,baz=89,slow=9.6,SNR=7.1						
MKAR	**Makanchi Array**	**49.42**	**308**	eP	**P**	**06 10 01.2**	**-0.2**
	18nm,0.8s						
MKAR				pP	**pP**	**06 10 14.7**	**+1.8**
MAKZ	**Makanchi**	**49.64**	**308**	eP	**P**	**06 10 03.4**	**+0.5**
	12nm,1.7s						
DMN	**Daman**	**50.05**	**283**	eP	**P**	**06 10 05.9**	**-0.8**
DANN	**Dangsing**	**50.99**	**284**	eP	**P**	**06 10 14.0**	**+0.2**
PYUN	**Piuthan**	**51.72**	**284**	eP	**P**	**06 10 18.9**	**-0.2**
	18nm,0.5s						
KURK	**Kurchatov**	**51.79**	**313**	eP	**P**	**06 10 19.4**	**+0.3**
	14nm,0.9s						
KURBB	**Kurchatov Arra**	**51.85**	**313**	P	**P**	**06 10 20.0**	**+0.5**
	6.2nm,0.8s,baz=92,slow=9.4,SNR=50						
KDAK	**Kodiak Island**	**52.68**	**38**	pP	pP	06 10 37.8	+0.7
	7.0nm,1.0s,baz=256,slow=4.2,SNR=2.3						
AS31	**Alice Springs**	**53.05**	**190**	eP	**P**	**06 10 27.6**	**-1.1**
	0.9nm,0.9s						
AS31				epP	**pP**	**06 10 39.0**	**-1.3**
ASAR	**Alice Springs**	**53.05**	**190**	P	**P**	**06 10 27.6**	**-1.1**
	0.5nm,0.5s,baz=2.0,slow=5.2,SNR=9.1						
ASAR				pP	**pP**	**06 10 39.0**	**-1.3**
	0.5nm,0.6s,baz=11,slow=7.1,SNR=3.3						
KDJ	**Kajisay**	**53.45**	**303**	eP	**P**	**06 10 31.4**	**-0.4**
CAST	**Castle Rocks**	**53.50**	**31**	eP	**P**	**06 10 32.0**	**+0.5**
	4.4nm,1.0s						
AAK	**Ala-Archa**	**55.34**	**304**	LR	LR	06 34 53.2	
	comp=Z,56nm,18.4s,baz=346,slow=36						
AAK	**Ala-Archa**	**55.34**	**304**	eP	**P**	**06 10 45.3**	**-0.2**
	2.2nm,0.6s						
ILAR	**Eielson Array**	**55.90**	**29**	P	**P**	**06 10 48.5**	**-0.4**
	0.7nm,0.8s,baz=257,slow=6.0,SNR=11						
ILAR				pP	**pP**	**06 11 00.7**	**0.0**
	1.3nm,0.8s,baz=258,slow=6.1,SNR=8.9						
ILB	**Eielson Array**	**55.90**	**29**	eP	**P**	**06 10 48.5**	**-0.4**
ILB				epP	**pP**	**06 11 00.7**	**0.0**
BVAR	**Borovoye Array**	**56.77**	**317**	P	**P**	**06 10 55.6**	**+0.4**
	4.2nm,0.7s,baz=93,slow=7.5,SNR=22						
BRVK	**Borovoye**	**56.83**	**317**	eP	**P**	**06 10 55.7**	**0.0**
	5.6nm,0.9s						
SCRK	**Sand Creek**	**57.13**	**30**	eP	**P**	**06 10 59.0**	**+1.2**
	3.7nm,1.0s						
KK31	**Karatay Array**	**58.14**	**305**	eP	**P**	**06 11 05.7**	**+0.5**
KKAR	**Karatay Array**	**58.14**	**305**	eP	**P**	**06 11 05.7**	**+0.5**
INK	**Inuvik**	**61.17**	**25**	P	**P**	**06 11 25.2**	**-0.3**
	1.6nm,0.8s,baz=269,slow=6.0,SNR=8.2						
INK				pP	**pP**	**06 11 38.5**	**+1.2**
	2.1nm,0.6s,baz=256,slow=4.1,SNR=8.7						
INK	**Inuvik**	**61.17**	**25**	eP	**P**	**06 11 25.8**	**+0.3**
INK				epP	**pP**	**06 11 37.8**	**+0.5**
ABKAR	**Akbulak array**	**63.90**	**314**	eP	**P**	**06 11 44.3**	**+0.2**
AKTO	**Aktyubinsk**	**64.80**	**315**	P	**P**	**06 11 49.7**	**-0.2**
	1.3nm,0.4s,baz=99,slow=9.1,SNR=6.6						
YKA	**Yellowknife Ar**	**70.33**	**29**	P	**P**	**06 12 23.7**	**-0.9**
	0.9nm,0.7s,baz=295,slow=6.3,SNR=18						
YKA				pP	**pP**	**06 12 36.7**	**+0.1**
	2.2nm,0.6s,baz=295,slow=6.4,SNR=26						
FIA0	**FINESS Array S**	**76.30**	**334**	eP	**P**	**06 12 59.2**	**-0.6**
FINES	**FINESS Array B**	**76.30**	**334**	P	**P**	**06 12 59.2**	**-0.6**
	2.2nm,0.8s,baz=64,slow=4.4,SNR=4.9						
NLHM	**Lake Herman**	**76.60**	**54**	eP	**P**	**06 13 01.7**	**-0.3**
KBZ	**Khabaz**	**76.85**	**313**	P	**P**	**06 13 03.9**	**+0.7**
	3.7nm,0.8s,baz=77,slow=4.0,SNR=8.8						
MFID	**Camas Ranch**	**78.40**	**47**	eP	**P**	**06 13 12.7**	**+0.6**
MFID				epP	**pP**	**06 13 25.3**	**+1.0**
KVN	**Kaiserville**	**78.99**	**51**	epP	pP	06 13 28.7	+1.0
NV01	**Mina Array Sit**	**79.14**	**52**	eP	**P**	**06 13 17.2**	**+0.8**
NV01				epP	**pP**	**06 13 29.0**	**+0.4**
NVAR	**Mina Array Bea**	**79.14**	**52**	P	**P**	**06 13 17.5**	**+1.1**
	0.6nm,0.7s,baz=294,slow=5.7,SNR=5.4						
NVAR				pP	**pP**	**06 13 28.6**	**+0.1**
	1.2nm,0.6s,baz=299,slow=5.6,SNR=8.7						
AKASG	**Malin Array Be**	**81.18**	**324**	P	**P**	**06 13 26.2**	**-0.6**
	0.8nm,0.5s,baz=53,slow=6.0,SNR=4.4						
AKBB	**Malin Array Si**	**81.18**	**324**	eP	**P**	**06 13 26.2**	**-0.6**
	3.5nm,0.9s						
HFS	**Hagfors**	**81.72**	**337**	P	**P**	**06 13 28.8**	**-0.7**
	0.6nm,0.5s,baz=87,slow=3.2,SNR=2.7						
NB2	**NORSAR Subarra**	**81.89**	**338**	P	**P**	**06 13 29.8**	**-0.6**
	comp=Z,1.1nm,0.8s,baz=43,slow=5.3						
NB200	**NORSAR Array S**	**81.89**	**338**	eP	**P**	**06 13 29.7**	**-0.7**
NB200				epP	**pP**	**06 13 42.4**	**-0.2**
NOA	**NORSAR Array B**	**81.89**	**338**	P	**P**	**06 13 29.7**	**-0.7**
	comp=Z,1.5nm,0.8s,baz=42,slow=5.3,SNR=3.8						
NOA				pP	**pP**	**06 13 42.4**	**-0.2**
	comp=Z,1.2nm,0.6s,baz=44,slow=5.1,SNR=2.9						
HDB	**Hidalgo Marine**	**82.53**	**55**	eP	**P**	**06 13 36.1**	**+1.7**
PD31	**Pinedale Array**	**82.67**	**45**	eP	**P**	**06 13 35.6**	**+0.5**
PD31				epP	**pP**	**06 13 47.5**	**0.0**
PDAR	**Pinedale Array**	**82.67**	**45**	P	**P**	**06 13 35.6**	**+0.5**
	comp=Z,0.2nm,0.6s,baz=277,slow=7.2,SNR=2.8						
PDAR				pP	**pP**	**06 13 47.5**	**0.0**
	comp=Z,0.5nm,0.5s,baz=298,slow=4.0,SNR=4.9						
LCMT	**Little Creek M**	**83.33**	**51**	epP	pP	06 13 51.9	+1.1
TMUT	**Trail Mountain**	**83.49**	**49**	eP	**P**	**06 13 41.9**	**+2.4**
	comp=Z,11nm,1.1s						
KNB	**Kanab**	**83.61**	**51**	eP	**P**	**06 13 40.4**	**+0.3**
	comp=Z,4.1nm,1.1s						
RAYN	**Ar Rayn**	**84.57**	**294**	eP	**P**	**06 13 46.0**	**+1.0**
	comp=Z,13nm,0.9s						
BR101	**Keskin Array S**	**84.84**	**313**	eP	**P**	**06 13 46.5**	**+0.4**
BRTR	**Keskin Array B**	**84.84**	**313**	P	**P**	**06 13 46.5**	**+0.4**
	comp=Z,1.4nm,0.7s,baz=102,slow=5.2,SNR=6.9						
LTX	**Lajitas**	**94.26**	**53**	eP	**P**	**06 14 31.5**	**+0.6**
TXAR	**Lajitas Array**	**94.26**	**53**	P	**P**	**06 14 31.5**	**+0.6**
	comp=Z,0.1nm,0.4s,baz=305,slow=4.4,SNR=4.1						
LPAZ	**La Paz**	**149.17**	**72**	PKPbc	**PKPbc**	**06 21 01.8**	**+0.9**
	comp=Z,2.1nm,0.9s,baz=233,slow=4.7,SNR=5.0						
LPAZ	**La Paz**	**149.17**	**72**	ePKPbc	**PKPbc**	**06 21 00.1**	**-0.9**
PLCA	**Paso Flores**	**150.71**	**122**	PKPbc	**PKPbc**	**06 21 05.0**	**+1.7**
	comp=Z,2.2nm,0.9s,baz=3.5,slow=2.0,SNR=4.6						

IDC 18 06:14:56.6±4.3, 30.61S×138.13E, h0km, mb1 3.1/3, mb1mx3.1/40, mbtmp2.9/3, ML2.6/3, Error ellipse: s-maj=95.5km s-min=16.5km az=39.0, South Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**3.23**	**114**	Pn	Pn	06 15 48.6	-0.1
	0.2nm,0.3s,baz=293,slow=16,SNR=2.0						
STKA				Pg	Pb	06 15 56.5	+1.6
	0.8nm,0.3s,baz=293,slow=16,SNR=7.3						
STKA				Sn	Sn	06 16 27.4	-0.4
	1.9nm,0.3s,baz=357,slow=19,SNR=5.2						
STKA				Lg	Lg	06 16 38.9	
	2.5nm,0.3s,baz=207,slow=21,SNR=8.0						
ASAR	**Alice Springs**	**7.87**	**330**	Pn	Pn	06 16 52.9	+0.5
	0.1nm,0.3s,baz=148,slow=12,SNR=5.3						
ASAR				Sn	Sn	06 18 22.5	+0.3
	0.1nm,0.3s,baz=156,slow=21,SNR=5.4						
WRA	**Warramunga Arr**	**11.15**	**341**	Pn	Pn	06 17 37.1	-0.4
	0.1nm,0.3s,baz=162,slow=12,SNR=5.2						
WRA				Sn	Sn	06 19 37.8	-5.1
	0.1nm,0.3s,baz=163,slow=23,SNR=3.6						

*IDC **18** 06:28:07.1±2.0, 1.23N×92.45E, h0km, mb3.8/4, mb1 4.0/6, mb1mx3.6/64, mbtmp3.8/6, ML4.4/2, MS3.1/1, Ms1 3.1/1, ms1mx2.5/65, Error ellipse: s-maj=57.4km s-min=22.4km az=54.0*
*ISCJB **18** 06:28:10.3±1.5, 1.3N±0.2×92.6E±0.2, h33km, mb3.8/4, Error ellipse: s-maj=29.7km s-min=17.6km az=143.6*
ISC 18 06:28:12.3±2.0, 1.3N±0.2×92.5E±0.2, h35km, n6, σ0§24/6, mb3.9/4, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**6.58**	**76**	Pn	**Pn**	**06 29 46.7**	**0.0**
	7.0nm,0.3s,baz=308,slow=9.2,SNR=37						
PSI				Sn	Sn	06 30 53.0	-7.6
	0.9nm,0.3s,baz=120,slow=20,SNR=1.9						
PSI				LR	LR	06 32 37.3	
	comp=Z,168nm,20.0s,baz=196,slow=41						
CMAR	**Chiang Mai Arr**	**18.22**	**20**	P	**P**	**06 32 22.5**	**0.0**
	0.5nm,0.3s,baz=210,slow=13,SNR=7.3						
FITZ	**Fitzroy Crossi**	**37.84**	**122**	P	**P**	**06 35 25.8**	**-0.2**
	1.7nm,0.8s,baz=323,slow=10,SNR=3.7						
WRA	**Warramunga Arr**	**46.08**	**119**	P	**P**	**06 36 33.6**	**+0.2**
	2.3nm,1.3s,baz=303,slow=8.5,SNR=5.7						
MKAR	**Makanchi Array**	**46.23**	**350**	P	**P**	**06 36 34.3**	**+0.2**
	0.7nm,0.6s,baz=163,slow=8.5,SNR=8.0						
KURBB	**Kurchatov Arra**	**50.60**	**349**	P	**P**	**06 37 07.4**	**-0.2**
	0.7nm,0.7s,baz=167,slow=8.6,SNR=7.0						

*JMA **18** 06:29:25.5±0.1, 24.07N×121.66E, h29km±1km, M3.2*
*ISCJB **18** 06:29:26.6±0.2, 24.11N±0.01×121.73E±0.02, h26km±2km, Error ellipse: s-maj=2.8km s-min=1.8km az=41.5*
*TAP **18** 06:29:26.5, 24.13N×121.67E, h29km, ML4.0, C*
ISC 18 06:29:26.6±0.9, 24.10N±0.02×121.69E±0.02, h29km±4km, n96, σ0§98/148, 14C-14D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWD	**Chiawan**	**0.09**	**255**	⇑iP	**Pb**	**06 29 31.7**	**+0.1**
	baz=241						
TWD				*i*S	**Sb**	**06 29 35.5**	**+0.3**
	baz=241						
NACB	**Ninganchiao**	**0.11**	**311**	⇓P	**Pb**	**06 29 31.6**	**-0.3**
	baz=289						
NACB				S	**Sb**	**06 29 35.2**	**-0.2**
	baz=289						
HWA	**Hwalien**	**0.14**	**211**	⇑*i*P	**Pn**	**06 29 32.7**	**-0.2**
	baz=206						
HWA				*e*S	**Sb**	**06 29 37.5**	**+1.7**
	baz=206						
ENLB	**Shoufeng**	**0.21**	**202**	P	**Pn**	**06 29 33.5**	**-0.3**
	baz=203						
ENLB				S	**Sb**	**06 29 38.9**	**+1.9**
	baz=203						
ENA	**Nanau**	**0.33**	**9**	⇑*i*P	**Pb**	**06 29 33.9**	**-0.5**
	baz=8.0						
ENA				S	**Sb**	**06 29 39.3**	**-0.4**
	baz=8.0						
NANB	**Nanao**	**0.33**	**10**	⇑P	**Pb**	**06 29 33.9**	**-0.5**
	baz=8.0						
NANB				S	**Sb**	**06 29 39.3**	**-0.3**
	baz=8.0						
ENAH	**Nanao**	**0.36**	**18**	⇑P	**Pb**	**06 29 34.5**	**-0.4**
	baz=16						
ENAH				*e*S	**Sb**	**06 29 40.0**	**-0.5**
	baz=16						
ESL	**Shilin**	**0.37**	**219**	*e*P	**Pb**	**06 29 34.4**	**-0.5**
	baz=224						
ESL				*e*S	**Sn**	**06 29 40.9**	**-1.3**
	baz=224						
WHF	**Hehuan Shan**	**0.39**	**276**	⇓*i*P	**Pb**	**06 29 35.1**	**-0.4**
	baz=272						
WHF				*e*S	**Sb**	**06 29 40.9**	**-0.8**
	baz=272						
NNSB	**Datong**	**0.43**	**320**	⇓P	**Pb**	**06 29 35.5**	**-0.5**
	baz=317						
NNSB				S	**Sb**	**06 29 41.5**	**-0.8**
	baz=317						
NNS	**Nan Shan**	**0.44**	**320**	⇓*i*P	**Pb**	**06 29 35.6**	**-0.6**
	baz=318						
NNS				S	**Sb**	**06 29 42.2**	**-0.5**
	baz=318						
CHGB	**Renai**	**0.47**	**265**	⇓P	**Pn**	**06 29 36.5**	**-1.1**
	baz=256						
CHGB				S	**Sb**	**06 29 43.0**	**-0.5**
	baz=256						
OWD	**Renai**	**0.49**	**253**	⇓*i*P	**Pn**	**06 29 36.8**	**-1.0**
	baz=250						
OWD				S	**Sb**	**06 29 43.4**	**-0.6**
	baz=250						
TWT	**Tachien**	**0.49**	**288**	⇓*i*P	**Pb**	**06 29 37.0**	**-0.8**
	baz=283						
TWT				*e*S	**Sn**	**06 29 43.9**	**-1.5**
	baz=283						
TDCB	**Techi**	**0.51**	**287**	⇓P	**Pb**	**06 29 37.0**	**-1.0**
	baz=281						
TDCB				*e*S	**Sb**	**06 29 43.7**	**-0.7**
	baz=281						
TWC	**Suao**	**0.53**	**16**	⇑*i*P	**Pb**	**06 29 37.1**	**-0.3**
	baz=14						
TWC				*e*S	**Sb**	**06 29 44.1**	**-0.6**
	baz=14						
ENTT	**Nioudou**	**0.55**	**348**	*e*P	**Pb**	**06 29 37.1**	**-0.7**
	baz=347						
ENTT				*e*S	**Sb**	**06 29 45.1**	**-0.3**
	baz=347						
EOS1	**EOS1**	**0.60**	**42**	⇑P	**Pn**	**06 29 39.1**	**0.0**
	baz=45						
EOS1				*e*S	**Sn**	**06 29 49.5**	**+1.6**
	baz=45						
TWE	**Neicheng**	**0.62**	**358**	⇓P	**Pb**	**06 29 38.2**	**-0.7**
	baz=355						
TWE				*e*S	**

PTSB				*e*S		**Sb**	**06 29 58.5**	**+1.5**	
	baz=289								
FULB	**Fuli**	**0.97**	**202**	*e*P		**Pb**	**06 29 43.5**	**-0.7**	
	baz=213								
NWF	**Wu-fen Shan**	**0.97**	**5**	*e*P		**Pb**	**06 29 44.1**	**-0.8**	
	baz=352								
WFSB	**Wu-fen Shan**	**0.97**	**5**	*e*P		**Pb**	**06 29 44.2**	**-0.6**	
	baz=350								
WFSB				S		**Sb**	**06 29 57.6**	**+0.3**	
	baz=350								
NCUH	**Zhongli**	**0.98**	**332**	*e*P		**Pb**	**06 29 44.8**	**-0.2**	
	baz=331								
NCU	**National Centr**	**0.98**	**332**	*e*P		**Pb**	**06 29 44.8**	**-0.1**	
	baz=340								
NCU				S		**Sb**	**06 29 58.7**	**+1.2**	
	baz=340								
ALS	**Alishan**	**1.00**	**234**	⇑*i*P		**Pb**	**06 29 45.3**	**-0.2**	
	baz=225								
ALS				*e*S		**Sb**	**06 30 00.1**	**+1.7**	
	baz=225								
TWS1	**Kuangyinshan**	**1.02**	**346**	*e*P		**Pb**	**06 29 45.4**	**-0.3**	
	baz=354								
TWS1				S		**Sb**	**06 29 59.2**	**+0.4**	
	baz=354								
WCHH	**Zhanghua**	**1.03**	**269**	*e*P		**Pb**	**06 29 46.4**	**+0.6**	
	baz=267								
CHKT	**Chengkung**	**1.04**	**197**	*e*P		**Pb**	**06 29 45.8**	**-0.2**	
	baz=208								
CHN5	**Tsauling**	**1.05**	**242**	*e*P		**Pb**	**06 29 46.2**	**0.0**	
	baz=230								
CHN5				*e*S		**Sb**	**06 30 01.9**	**+2.2**	
	baz=230								
NTST	**Danshui**	**1.08**	**349**	*e*P		**Pb**	**06 29 45.9**	**-0.7**	
	baz=347								
ELDTW	**Lidau**	**1.10**	**214**	*e*P		**Pn**	**06 29 45.3**	**-0.8**	
	baz=203								
WGK	**Gukeng**	**1.11**	**248**	*e*P		**Pb**	**06 29 47.8**	**+0.7**	
	baz=234								
WDLH	**Douliu**	**1.13**	**249**	*e*P		**Pb**	**06 29 47.6**	**+0.1**	
	baz=235								
TWY	**Chenhua**	**1.17**	**356**	*e*P		**Pb**	**06 29 47.8**	**-0.4**	
	baz=355								
JYNG	**Yonaguni jima**	**1.20**	**73**	P		**Pn**	**06 29 47.5**	**+0.1**	
JYNG				S		**Sn**	**06 30 02.9**	**+0.2**	
RLNB	**Erlin**	**1.23**	**260**	*e*P		**Pb**	**06 29 49.2**	**0.0**	
	baz=260								
RLNB				S		**Sb**	**06 30 06.7**	**+1.9**	
	baz=260								
CHN2	**Minshiung**	**1.25**	**243**	*e*P		**Pb**	**06 29 50.3**	**+0.8**	
	baz=231								
TPUB	**Ta-pu**	**1.25**	**231**	⇑P		**Pb**	**06 29 49.7**	**0.0**	
	baz=230								
YOJ	**Yonaguni jima**	**1.26**	**73**	P		**Pn**	**06 29 48.3**	**+0.1**	
YOJ				S		**Sn**	**06 30 04.5**	**+0.3**	
STYT	**Tauyuan**	**1.27**	**223**	*e*P		**Pb**	**06 29 49.1**	**-0.7**	
	baz=222								
WTP	**Ta-pu**	**1.30**	**229**	⇓P		**Pb**	**06 29 50.3**	**-0.1**	
	baz=231								
WTP				*e*S		**Sb**	**06 30 08.9**	**+2.1**	
	baz=231								
CHY	**Chiayi**	**1.30**	**243**	*e*P		**Pb**	**06 29 50.3**	**-0.2**	
	baz=242								
WTCT	**Ta-ch'eng**	**1.31**	**260**	*e*P		**Pb**	**06 29 50.0**	**-0.4**	
	baz=259								
WTCT				*e*S		**Sb**	**06 30 08.3**	**+1.4**	
	baz=259								
TWK	**Hsinying**	**1.38**	**233**	*e*P		**Pb**	**06 29 51.3**	**-0.5**	
	baz=233								
TWG	**Pinlang**	**1.39**	**204**	*e*P		**Pn**	**06 29 49.6**	**-0.4**	
	baz=191								
TWGBT	**Beinan**	**1.39**	**204**	*e*P		**Pn**	**06 29 48.9**	**-1.2**	
	baz=190								
TWH	**Lutao**	**1.40**	**188**	*e*P		**Pn**	**06 29 49.3**	**-0.8**	
	baz=188								
CHN1	**Nanshi**	**1.40**	**230**	*e*P		**Pb**	**06 29 51.8**	**-0.3**	
	baz=230								
WLGB	**Puzi**	**1.41**	**244**	*e*P		**Pb**	**06 29 52.1**	**-0.2**	
	baz=235								
WSF	**Szhu**	**1.42**	**251**	*e*P		**Pb**	**06 29 51.6**	**-0.8**	
	baz=250								
SGST	**Jiashian**	**1.43**	**225**	*e*P		**Pb**	**06 29 52.3**	**-0.4**	
	baz=220								
SGST				*e*S		**Sb**	**06 30 11.0**	**+0.5**	
	baz=220								
SLGT	**Liugui**	**1.46**	**221**	*e*P		**Pb**	**06 29 52.3**	**-0.8**	
	baz=222								
CHN8	**Yiju**	**1.55**	**241**	*e*P		**Pb**	**06 29 53.3**	**-1.3**	
	baz=242								
SSD	**Sandimen**	**1.66**	**216**	*e*P		**Pb**	**06 29 55.9**	**-0.7**	
	baz=226								
TWM1	**Shoushan**	**1.72**	**223**	*e*P		**Pb**	**06 29 57.3**	**-0.3**	
	baz=225								
MASBT	**Mahibuluo**	**1.77**	**213**	*e*P		**Pb**	**06 29 57.0**	**-1.4**	
	baz=220								
MASBT				S		**Sb**	**06 30 20.4**	**+0.2**	
	baz=220								
EAST	**Anshuo**	**1.88**	**204**	*e*P		**Pb**	**06 29 58.0**	**-2.2**	
	baz=198								
SSPT	**Xinbi**	**1.91**	**213**	*e*P		**Pb**	**06 29 59.1**	**-1.7**	
	baz=201								
HATJ	**Hateruma jima**	**1.94**	**91**	P		**Pn**	**06 29 58.1**	**+0.6**	
HATJ				S		**Sn**	**06 30 21.4**	**+0.5**	
SCZT	**Fangliau**	**1.98**	**210**	*e*P		**Pb**	**06 29 59.8**	**-2.2**	
	baz=199								
PHUB	**P'eng-hu**	**2.02**	**254**	⇓P		**Pb**	**06 29 59.2**	**+0.5**	
	baz=254								
PHUB				*e*S		**Sb**	**06 30 24.6**	**-2.9**	
	baz=254								
WDGT	**Dungji**	**2.04**	**246**	*e*P		**Pn**	**06 29 59.8**	**+0.8**	
	baz=247								
LAY	**Lan-yu**	**2.06**	**184**	*e*P		**Pn**	**06 29 58.2**	**-1.0**	
	baz=182								
JKRS	**Kuro-shima**	**2.13**	**86**	S		**Sn**	**06 30 26.8**	**+1.2**	
JIJ	**Ishigaki jima**	**2.26**	**83**	P		**Pn**	**06 30 02.1**	**+0.2**	
JIJ				S		**Sn**	**06 30 28.1**	**-0.7**	
TWK1	**Hengchun**	**2.30**	**201**	*e*P		**Pn**	**06 30 04.0**	**+1.5**	
	baz=195								
TWKBT	**Hengchun**	**2.30**	**201**	*e*P		**Pn**	**06 30 03.5**	**+1.1**	
	baz=194								
JISG	**Ishigakijimahi**	**2.44**	**78**	S		**Sn**	**06 30 32.8**	**-0.6**	
MATB	**Ma-tsu**	**2.58**	**323**	*e*P		**Pn**	**06 30 05.9**	**-0.5**	
	baz=320								
JTJ	**Tarama**	**2.80**	**78**	P		**Pn**	**06 30 10.5**	**+1.1**	
JTJ				S		**Sn**	**06 30 43.5**	**+1.3**	
KNMB	**Chin-men Tao**	**3.03**	**278**	*e*P		**Pn**	**06 30 12.2**	**-0.4**	
	baz=276								
JIRB	**Irabujima**	**3.26**	**76**	S		**Sn**	**06 30 54.7**	**+1.2**	

IDC ***18*** *06:43:23.5±0.6,53.˙92N×164.˙08W,h0km,mb4.4/36, mb1 4.4/38,mb1mx4.3/78,mbtmp4.3/38,ML3.5/2,MS3.5/20, Ms1 3.5/20,ms1mx3.2/76,Error ellipse: s-maj=16.3km s-min=9.6km az=176.0*

MOS ***18*** *06:43:25.0±1.0,53.˙99N×164.˙04W,h20km,mb4.8/29, Error ellipse: s-maj=9.4km s-min=5.6km az=83.8*

NEIC ***18*** *06:43:27.4±0.0,53.˙77N×163.˙91W,h25km,mb4.5/52, MW4.1,ML4.3(AEIC),Moment Tensor Solution. s8 Moment tensor: Scale 10^15Nm; Mrr 1.32; Mθθ-0.82; Mφφ-0.49; Mrθ 1.19; Mθφ-0.30; Mφr 1.32; Best double couple: M0 2.10000×10^15 NP1:φ242.00000°,δ17.00000°, λ106.00000°. NP2:φ45.00000°,δ74.00000°,λ85.00000°. Principal axes: T 2.3000, Plg61.0000°, Azm308.0000°; N -0.3600, Plg5.0000°, Azm47.0000°; P -1.9400, Plg28.0000°, Azm139.0000°; After AEIC.*

ISCJB ***18*** *06:43:28.8±0.4,53.˙93N±0.˙03×163.˙99W±0.˙03,h51km±3km, mb4.5/93,MS3.5/21 Error ellipse: s-maj=5.7km s-min=2.5km az=165.0*

ISC 18 06:43:28.9±0.4,53.˙84N±0.˙06×163.˙99W±0.˙03,h39km±3km, n300,σ1s14/314,mb4.5/93,MS3.5/21,15C-6D,Unimak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WESE	**West Dahl East**	**0.72**	**331**	*e*Pn	**Pn**	**06 43 42.6**	**0.0**
WESP	**Westdahl Peak**	**0.78**	**327**	*e*Pn	**Pn**	**06 43 43.6**	**+0.2**
WESN	**West Dahl Nort**	**0.80**	**335**	*e*Pn	**Pn**	**06 43 44.1**	**+0.4**
BRPK	**Brown Peak**	**0.82**	**10**	P	**Pn**	**06 43 43.8**	**-0.1**
SSLS	**Shishaldin Sou**	**0.87**	**360**	P	**Pn**	**06 43 44.6**	**-0.1**
SSLS				S	**Sn**	**06 43 57.0**	**+0.8**
ISLZ	**Isanotski Laza**	**0.90**	**11**	P	**Pn**	**06 43 44.5**	**-0.5**
SSLW	**Shishaldin Wes**	**0.93**	**355**	P	**Pn**	**06 43 45.5**	**0.0**
AKSA	**Akutan Strait**	**1.05**	**287**	*e*Pn	**Pn**	**06 43 46.8**	**-0.2**
AKSA				*e*Sn	**Sn**	**06 44 00.1**	**-0.3**
FALS	**False Pass**	**1.07**	**18**	*e*Pn	**Pn**	**06 43 47.0**	**-0.3**
FALS				*e*Sn	**Sn**	**06 44 01.8**	**+0.8**
AKA	**Akutan**	**1.09**	**286**	P	**Pn**	**06 43 47.9**	**+0.3**
AKA				S	**Sn**	**06 44 03.0**	**+1.6**
AKUT	**Akutan**	**1.09**	**286**	*e*Pn	**Pn**	**06 43 47.5**	**-0.1**
AKUT				*e*Sn	**Sn**	**06 44 02.0**	**+0.6**
AHB	**Akutan Harbor**	**1.11**	**285**	P	**Pn**	**06 43 47.9**	**0.0**
ZRO	**Akutan Zero**	**1.20**	**283**	*e*Pn	**Pn**	**06 43 49.1**	**0.0**
AKRB	**Akutan Reef Bi**	**1.26**	**284**	*e*Pn	**Pn**	**06 43 50.0**	**+0.1**
UNV	**Unalaska Valle**	**1.49**	**271**	*e*Pn	**Pn**	**06 43 52.7**	**-0.3**
UNV				*e*Sn	**Sn**	**06 44 11.2**	**0.0**
DRIA	**Deer Island**	**1.51**	**41**	P	**Pn**	**06 43 52.7**	**-0.7**
DT1	**Dutton Round H**	**1.61**	**38**	*e*Pn	**Pn**	**06 43 54.3**	**-0.5**
MGOD	**Makushin Gods**	**1.71**	**269**	*e*Pn	**Pn**	**06 43 56.1**	**0.0**
MCIR	**Makushin Cirqu**	**1.72**	**275**	*e*Pn	**Pn**	**06 43 56.9**	**+0.6**
DOL	**Dolgoi Island**	**1.80**	**43**	P	**Pn**	**06 43 57.3**	**-0.1**
PS4A	**Pavlof South-4**	**1.95**	**39**	P	**Pn**	**06 44 00.3**	**+0.8**
OKTU	**Okmok Mt. Tuli**	**2.46**	**261**	*e*Pn	**Pn**	**06 44 07.5**	**+1.2**
SDPT	**Sand Point**	**2.54**	**52**	*e*Pn	**Pn**	**06 44 08.2**	**+0.7**
SDPT				*e*Sn	**Sn**	**06 44 38.4**	**+1.2**
OKAK	**Okmok**	**2.61**	**266**	*e*Pn	**Pn**	**06 44 10.7**	**+2.3**
NIKH	**Nikolski High**	**3.04**	**255**	*e*Pn	**Pn**	**06 44 14.7**	**+0.4**
VNWF	**Veniaminof 8**	**3.44**	**46**	P	**Pn**	**06 44 22.1**	**+2.1**
VNHG	**Veniaminof 1**	**3.66**	**47**	P	**Pn**	**06 44 23.9**	**+0.9**
CHGN	**Chignik**	**4.04**	**50**	*e*Pn	**Pn**	**06 44 29.3**	**+1.2**
SPIA	**Saint Paul Isl**	**4.88**	**316**	*e*Pn	**Pn**	**06 44 41.3**	**+1.8**
OHAK	**Old Harbor**	**6.95**	**57**	*e*Pn	**Pn**	**06 45 07.4**	**-0.6**
KDAK	**Kodiak Island**	**7.54**	**54**	Pn	**Pn**	**06 45 14.8**	**-1.3**
	2.0nm,0.3s,baz=169,slow=4.5,SNR=18						
KDAK				Sn	**Sn**	**06 46 35.9**	**-4.3**
	2.7nm,0.3s,baz=139,slow=20,SNR=3.0						
KDAK	**Kodiak Island**	**7.54**	**54**	*e*Pn	**Pn**	**06 45 16.1**	**0.0**
KDAK				*e*Sn	**Sn**	**06 46 35.9**	**-4.3**
SVW2	**Sparrevohn**	**8.56**	**29**	*e*Pn	**Pn**	**06 45 31.5**	**+1.4**
HOM	**Homer**	**8.94**	**44**	*e*Pn	**Pn**	**06 45 36.2**	**+1.0**
BRLK	**Bradley Lake**	**9.31**	**45**	*e*Pn	**Pn**	**06 45 41.3**	**+0.9**
SPCP	**Crater Peak Br**	**9.78**	**36**	P	**Pn**	**06 45 49.5**	**+2.6**
TT01	**Tatalina**	**10.00**	**21**	*e*Pn	**Pn**	**06 45 51.1**	**+1.3**
SUA	**Susitna One**	**10.41**	**38**	*e*Pn	**Pn**	**06 45 56.1**	**+0.6**
SKT	**Skwentna**	**10.49**	**34**	*e*Pn	**Pn**	**06 45 58.1**	**+1.6**
RC01	**Rabbit Creek A**	**10.55**	**41**	*e*Pn	**Pn**	**06 45 57.7**	**+0.4**
GAMB	**Gambell**	**10.72**	**341**	*e*Pn	**Pn**	**06 46 01.4**	**+1.8**
PPLA	**Purkeypile**	**10.97**	**30**	*e*Pn	**Pn**	**06 46 05.6**	**+2.4**
PMR	**Palmer**	**11.09**	**40**	*e*Pn	**Pn**	**06 46 05.3**	**+0.7**
PMR	**Palmer**	**11.09**	**40**	*e*P	**Pn**	**06 46 05.3**	**+0.7**
GHO	**Glory Hole Cre**	**11.28**	**39**	*e*Pn	**Pn**	**06 46 05.9**	**-1.4**
CAST	**Castle Rocks**	**11.41**	**28**	*e*Pn	**Pn**	**06 46 10.3**	**+1.3**
KTH	**Kantishna Hill**	**11.84**	**30**	*e*Pn	**Pn**	**06 46 15.5**	**+0.5**
SCM	**Sheep Creek Mo**	**11.92**	**41**	*e*Pn	**Pn**	**06 46 15.5**	**-0.6**
SCM	**Sheep Creek Mo**	**11.92**	**41**	*e*P	**Pn**	**06 46 15.5**	**-0.6**
TRF	**Thorofare Moun**	**11.96**	**31**	*e*Pn	**Pn**	**06 46 19.2**	**+2.6**
DIV	**Divide**	**12.19**	**46**	*e*Pn	**Pn**	**06 46 20.3**	**+0.6**
BPAW	**Bear Paw Mtn.**	**12.25**	**28**	*e*Pn	**Pn**	**06 46 20.8**	**+0.3**
KLU	**Klutina**	**12.30**	**44**	*e*Pn	**Pn**	**06 46 20.0**	**-1.4**
KLU				*e*Sn	**Sn**	**06 48 42.2**	**+5.2**
RAGM	**Ragged Mountai**	**12.34**	**50**	*e*Pn	**Pn**	**06 46 22.3**	**+0.5**
RND	**Reindeer**	**12.38**	**33**	*e*Pn	**Pn**	**06 46 22.8**	**+0.5**
RND	**Reindeer**	**12.38**	**33**	*e*P	**Pn**	**06 46 22.8**	**+0.5**
MCK	**McKinley**	**12.58**	**32**	*e*Pn	**Pn**	**06 46 25.9**	**+0.9**
MCK	**McKinley**	**12.58**	**32**	*e*P	**Pn**	**06 46 25.9**	**+0.9**
BMRM	**Bremner River**	**12.62**	**48**	*e*Pn	**Pn**	**06 46 26.8**	**+1.1**
BMRM				*e*Sn	**Sn**	**06 48 44.6**	**-0.1**
DHY	**Denali Highway**	**12.66**	**36**	*e*Pn	**Pn**	**06 46 25.9**	**-0.3**
MLY	**Manley**	**13.05**	**26**	*e*Pn	**Pn**	**06 46 33.4**	**+1.9**
HARP	**HAARP**	**13.09**	**42**	*e*Pn	**Pn**	**06 46 31.4**	**-0.7**
IM3	**Indian Mountai**	**13.19**	**19**	*e*Pn	**Pn**	**06 46 35.3**	**+2.0**
PAX	**Paxson**	**13.29**	**39**	*e*Pn	**Pn**	**06 46 33.5**	**-1.2**
PAX	**Paxson**	**13.29**	**39**	*e*P	**Pn**	**06 46 33.5**	**-1.2**
WRH	**Wood River Hil**	**13.37**	**31**	*e*Pn	**Pn**	**06 46 35.4**	**-0.3**
CCB	**Clear Creek Bu**	**13.58**	**31**	*e*Pn	**Pn**	**06 46 37.4**	**-1.2**
BALM	**Baldy**	**13.65**	**50**	*e*Pn	**Pn**	**06 46 38.6**	**-1.2**
BALM	**Baldy**	**13.65**	**50**	*e*P	**Pn**	**06 46 38.6**	**-1.2**
MDM	**Murphy Dome**	**13.68**	**29**	*e*Pn	**Pn**	**06 46 39.4**	**-0.6**
HDA	**Harding Lake**	**13.68**	**33**	*e*Pn	**Pn**	**06 46 40.9**	**+0.9**
COLA	**College**	**13.73**	**30**	*e*Pn	**Pn**	**06 46 40.8**	**+0.2**
COLA	**College**	**13.73**	**30**	*e*P	**Pn**	**06 46 40.8**	**+0.2**
MENT	**Mentasta**	**13.94**	**41**	*e*Pn	**Pn**	**06 46 42.0**	**-1.5**
ILAR	**Eielson Array**	**13.95**	**32**	Pn	**Pn**	**06 46 40.9**	**-2.8**
	0.1nm,0.3s,baz=228,slow=12,SNR=12						
ILAR				Sn	**Sn**	**06 49 17.6**	**+0.7**
	0.0nm,0.3s,baz=215,slow=25,SNR=2.4						
ILAR				LR	LR	06 52 31.7	
	comp=Z,188nm,19.9s,baz=252,slow=39						
ILB	**Eielson Array**	**13.95**	**32**	*e*Pn	**Pn**	**06 46 43.9**	**+0.2**
IL1	**Eielson Array**	**13.95**	**32**	*e*Pn	**Pn**	**06 46 43.8**	**+0.1**
IL1				*e*P	**P**	**06 46 51.4**	**+0.4**
RIDG	**Independ'e Rid**	**13.97**	**37**	*e*Pn	**Pn**	**06 46 44.1**	**+0.1**
DOT	**Dot Lake**	**14.20**	**38**	*e*Pn	**Pn**	**06 46 47.7**	**+0.6**
SCRK	**Sand Creek**	**14.41**	**37**	*e*Pn	**Pn**	**06 46 50.7**	**+0.7**
COLD	**Coldfoot**	**14.98**	**21**	*e*Pn	**Pn**	**06 46 58.5**	**+1.0**
FYU	**Fort Yukon**	**15.70**	**28**	*e*Pn	**Pn**	**06 47 07.2**	**+0.3**
	46nm,2.0s						
HYT	**Haines Junctio**	**15.83**	**53**	*e*Pn	**Pn**	**06 47 10.1**	**+1.3**
	11nm,0.6s						
EGAK	**Eagle**	**15.88**	**37**	*e*Pn	**Pn**	**06 47 10.5**	**+1.3**
	6.6nm,0.8s						
DAWY	**Dawson**	**16.18**	**41**	*e*Pn	**Pn**	**06 47 14.3**	**+1.2**
	10nm,0.6s						
TOLK	**Toolik Lake Re**	**16.31**	**19**	*e*Pn	**Pn**	**06 47 15.8**	**+1.1**
	15nm,1.1s						
SKAG	**Skagway**	**16.65**	**59**	*e*Pn	**P**	**06 47 20.2**	**-0.8**
	14nm,1.0s						
BESE	**Bessie Mountai**	**16.81**	**62**	*e*Pn	**Pn**	**06 47 21.4**	**+0.4**
	11nm,0.8s						
WHY	**Whitehorse**	**17.05**	**55**	*e*P	**P**	**06 47 26.2**	**+0.6**
	9.3nm,0.8s						
DLBC	**Dease Lake**	**19.34**	**63**	*e*P	**P**	**06 47 50.6**	**-0.1**
DLBC				*e*Pn	**Pn**	**06 47 53.3**	**+1.3**
BILL	**Bilibino**	**19.96**	**327**	⇑*e*P	**P**	**06 47 56.2**	**-1.1**
BILL				*e*S	**S**	**06 51 37.7**	**-1.7**
BILL				pmax	pmax		
	comp=Z,1.0nm,0.8s						
BILL				MLR	MLR		
	comp=Z,169nm,17.0s						
INK	**Inuvik**	**20.34**	**33**	P	**P**	**06 47 59.4**	**-2.0**
	comp=Z,3.1nm,0.7s,baz=241,slow=10,SNR=17						
INK	**Inuvik**	**20.34**	**33**	*e*P	**P**	**06 47 59.3**	**-2.0**
	comp=Z,9.7nm,0.6s						
INK	**Inuvik**	**20.34**	**33**	*e*P	**P**	**06 47 59.3**	**-2.0**
INK				pmax	pmax		
	comp=Z,10.0nm,0.6s						
BBB	**Bella Bella**	**21.51**	**80**	LR	LR	06 54 26.4	
	comp=Z,148nm,21.5s,baz=288,slow=31						
PET	**Petropavlovsk**	**22.11**	**283**	*e*P	**P**	**06 48 21.0**	**+0.5**
	comp=Z,45nm,1.7s						
PET	**Petropavlovsk**	**22.11**	**283**	*e*P	**P**	**06 48 21.0**	**+0.5**
PET				pmax	pmax		
	comp=Z,45nm,1.7s						
PEA1	**Petropavlovsk-**	**22.63**	**284**	*e*P	**P**	**06 48 25.4**	**-0.7**
PETK	**Petropavlovsk-**	**22.63**	**284**	P	**P**	**06 48 25.4**	**-0.7**
	comp=Z,4.8nm,0.6s,baz=82,slow=13,SNR=9.7						
PETK				LR	LR	06 56 51.8	
	comp=Z,96nm,19.4s,baz=88,slow=36						
SEY	**Seymchan**	**24.14**	**310**	P	**P**	**06 48 40.0**	**-0.7**
	comp=Z,0.8nm,0.5s,baz=92,slow=12,SNR=4.2						
SEY				PcP	**PcP**	**06 52 21.2**	**+0.7**
	comp=Z,0.7nm,0.4s,baz=64,slow=23,SNR=4.8						
SEY	**Seymchan**	**24.14**	**310**	⇓*e*P	**P**	**06 48 40.3**	**-0.5**
SKR	**Severo-Kuril's**	**24.39**	**279**	⇓*e*P	**P**	**06 48 43.8**	**+0.7**
B927	**Port Alberni**	**24.58**	**85**	*e*pP	pP	06 48 53.9	-1.7
YKA	**Yellowknife Ar**	**26.81**	**51**	P	**P**	**06 49 05.3**	**+0.4**
	comp=Z,1.2nm,0.6s,baz=275,slow=9.2,SNR=31						
NEW	**Newport**	**29.54**	**81**	P	**P**	**06 49 29.6**	**+0.1**
	comp=Z,1.7nm,0.8s,baz=319,slow=3.9,SNR=4.6						
EDM	**Edmonton**	**29.59**	**70**	*e*P	**P**	**06 49 30.9**	**+1.0**
	comp=Z,7.4nm,0.8s						
EDM	**Edmonton**	**29.59**	**70**	*e*P	**P**	**06 49 30.9**	**+1.0**
EDM				pmax	pmax		
	comp=Z,7.0nm,0.8s						
YBH	**Yreka Blue Hor**	**29.83**	**97**	P	**P**	**06 49 34.5**	**+2.3**
	comp=Z,1.4nm,0.8s,baz=264,slow=6.7,SNR=4.3						
YBH				LR	LR	06 58 45.8	
	comp=Z,109nm,20.8s,baz=306,slow=31						
J08A	**Circle Bar Ran**	**31.36**	**91**	*e*P	**P**	**06 49 46.9**	**+1.2**
	comp=Z,6.3nm,0.6s						
WVOR	**Wild Horse Val**	**31.81**	**92**	*e*P	**P**	**06 49 51.1**	**+1.4**
	comp=Z,7.0nm,0.8s						
WVOR	**Wild Horse Val**	**31.81**	**92**	*e*P	**P**	**06 49 51.1**	**+1.4**
WVOR				pmax	pmax		
	comp=Z,7.0nm,0.8s						
TYV	**Tymovskoe**	**32.08**	**287**	*e*P	P	06 49 43.8	-8.0
TYV				pmax	pmax		
	comp=Z,5.0nm,0.5s						
JSFB	**Stanford Teles**	**32.98**	**103**	*e*P	**P**	**06 49 56.6**	**-3.1**
PAHR	**Pah Rah Range**	**33.07**	**97**	*e*P	**P**	**06 50 01.9**	**+1.2**
	comp=Z,13nm,1.6s						
TIXI	**Tiksi**	**33.18**	**328**	P	**P**	**06 50 00.2**	**-1.0**
	comp=Z,2.7nm,0.4s,baz=99,slow=13,SNR=8.4						
TIXI	**Tiksi**	**33.18**	**328**	*e*P	**P**	**06 50 00.0**	**-1.1**
	comp=Z,3.9nm,0.8s						
TIXI	**Tiksi**	**33.18**	**328**	*de*P	**P**	**06 50 00.6**	**-0.5**
TIXI				pmax	pmax		
	comp=Z,2.0nm,0.5s						
JBNB	**Ben Lomond Mou**	**33.18**	**103**	*e*P	**P**	**06 49 60.0**	**-1.6**
JBNB				*e*pP	**pP**	**06 50 10.7**	**-1.8**
RES	**Resolute Bay**	**33.62**	**27**	*e*P	**P**	**06 50 04.3**	**-0.6**
	comp=Z,10nm,1.7s						
RES	**Resolute Bay**	**33.62**	**27**	*e*P	**P**	**06 50 04.3**	**-0.6**
RES				pmax	pmax		
	comp=Z,11nm,1.7s						
YSS	**Yuzh-Sakhalins**	**33.93**	**280**	⇑*e*P	**P**	**06 50 08.0**	**+0.1**
YSS				pmax	pmax		
	comp=Z,3.0nm,1.0s						
KVN	**Kaiserville**	**34.25**	**97**	*e*pP	pP	06 50 23.6	+1.6
NV01	**Mina Array Sit**	**34.54**	**98**	*e*P	**P**	**06 50 14.4**	**+0.8**
NV01				*e*pP	**pP**	**06 50 25.7**	**+1.2**
NV01				*e*PcP	**PcP**	**06 52 47.7**	**0.0**
NVAR	**Mina Array Bea**	**34.54**	**98**	P	**P**	**06 50 15.1**	**+1.5**
	comp=Z,1.7nm,0.7s,baz=303,slow=8.5,SNR=14						
NVAR				PcP	**PcP**	**06 52 47.7**	**0.0**
	comp=Z,1.0nm,0.7s,baz=314,slow=3.3,SNR=6.5						
YAK	**Yakutsk**	**34.66**	**311**	LR	LR	07 06 30.7	
	comp=Z,112nm,18.1s,baz=86,slow=40						
YHH	**Holmes Hill**	**35.05**	**83**	*e*P	**P**	**06 50 18.7**	**+0.7**
	comp=Z,2.5nm,0.9s						
ASAJ	**Asahikawa**	**35.59**	**276**	P	**P**	**06 50 22.0**	**-0.3**
	comp=Z,3.3nm,0.7s,baz=29,slow=7.4,SNR=5.2						
ASAJ	**Asahikawa**	**35.59**	**276**	*e*P	**P**	**06 50 22.0**	**-0.3**
	comp=Z,4.7nm,0.9s						
R11A	**Troy Canyon, C**	**36.20**	**95**	*e*P	**P**	**06 50 28.7**	**+0.9**
	comp=Z,3.9nm,0.9s						
ARVC	**Arvin**	**36.50**	**102**	*e*pP	pP	06 50 47.5	+6.3
TPNV	**Topopah Spring**	**36.74**	**98**	*e*P	**P**	**06 50 34.3**	**+1.9**
	comp=Z,3.8nm,0.8s						
TPNV	**Topopah Spring**	**36.74**	**98**	*e*P	**P**	**06 50 34.3**	**+1.9**
TPNV				pmax	pmax		
	comp=Z,4.0nm,0.8s						
TCUT	**Toone Canyon**	**36.90**	**88**	*e*P	**P**	**06 50 36.4**	**+2.5**
	comp=Z,26nm,0.9s						
PD31	**Pinedale Array**	**36.99**	**85**	*e*P	**P**	**06 50 34.4**	**-0.1**
PDAR	**Pinedale Array**	**36.99**	**85**	P	**P**	**06 50 34.4**	**-0.1**
	comp=Z,0.2nm,0.6s,baz=270,slow=5.8,SNR=3.6						
PDAR				LR	LR	07 03 32.3	
	comp=Z,63nm,18.5s,baz=342,slow=33						
FCC	**Fort Churchill**	**37.48**	**54**	*e*P	**P**	**06 50 39.1**	**+0.9**
	comp=Z,8.4nm,0.8s						
FCC	**Fort Churchill**	**37.48**	**54**	*e*P	**P**	**06 50 39.1**	**+0.9**
FCC				pmax	pmax		
	comp=Z,8.0nm,0.8s						
PASC	**Pasadena Art C**	**37.55**	**103**	*e*P	**P**	**06 50 37.3

JNU	**Nakatsue**	**49.67**	**273**	*eP*		**P**	**06 52 16.6**	**0.0**
	comp=Z,48nm,1.7s								
HDIL	**Hopedale**	**50.15**	**73**	*eP*		**P**	**06 52 19.3**	**-0.8**
	comp=Z,18nm,0.7s								
JCT	**Junction City**	**51.00**	**90**	*eP*		**P**	**06 52 26.4**	**-0.3**
JCT				*ep*	P	**pP**	**06 52 37.0**	**-1.1**
JCT	**Junction City**	**51.00**	**90**	*eP*		**P**	**06 52 26.4**	**-0.3**
JCT				*e*	*PP*	**pP**	**06 52 37.0**	**-1.1**
V40A	**Witts Springs**	**51.34**	**80**	*eP*		**P**	**06 52 27.9**	**-1.4**
	comp=Z,9.3nm,0.6s								
TLY	**Talaya**	**52.04**	**308**	*eP*		**P**	**06 52 34.0**	**-0.2**
	comp=Z,4.3nm,0.8s								
TLY	**Talaya**	**52.04**	**308**	*eP*		**P**	**06 52 34.6**	**+0.4**
TLY					pmax	pmax			
	comp=Z,5.0nm,0.9s								
SCHQ	**Schefferville**	**52.10**	**47**	P		**P**	**06 52 34.0**	**-0.5**
	comp=Z,4.7nm,0.7s,baz=288,slow=10,SNR=4.6								
SCHQ	**Schefferville**	**52.10**	**47**	*eP*		**P**	**06 52 34.0**	**-0.5**
	comp=Z,20nm,1.4s								
ULN	**Ulaanbaatar**	**52.93**	**302**	*ce*	P	**P**	**06 52 41.1**	**+0.1**
ULN					pmax	pmax			
	comp=Z,4.0nm,1.0s								
SONA1	**Songino Array**	**53.26**	**303**	*eP*		**P**	**06 52 42.4**	**-1.1**
SONA0	**Songino Array**	**53.28**	**303**	*eP*		**P**	**06 52 42.9**	**-0.6**
SONA0				*e*	*PcP*	**PcP**	**06 53 50.8**	**+0.1**
SONM	**Songino Array**	**53.28**	**303**	P		**P**	**06 52 42.9**	**-0.6**
	comp=Z,1.8nm,0.8s,baz=12,slow=8.0,SNR=4.7								
SONM					PcP	**PcP**	**06 53 50.8**	**+0.1**
	comp=Z,1.7nm,0.7s,baz=48,slow=2.1,SNR=3.8								
WVT	**Waverly**	**54.01**	**76**	*eP*		**P**	**06 52 48.4**	**-0.5**
	comp=Z,8.0nm,0.7s								
WVT	**Waverly**	**54.01**	**76**	*eP*		**P**	**06 52 48.4**	**-0.5**
WVT					pmax	pmax			
	comp=Z,8.0nm,0.7s								
OXF	**Oxford**	**54.24**	**79**	*eP*		**P**	**06 52 49.6**	**-0.9**
	comp=Z,17nm,0.8s								
OXF	**Oxford**	**54.24**	**79**	*eP*		**P**	**06 52 49.6**	**-0.9**
OXF					pmax	pmax			
	comp=Z,17nm,0.8s								
PLAL	**Pickwick Lake**	**54.68**	**77**	*eP*		**P**	**06 52 52.5**	**-1.3**
	comp=Z,4.1nm,0.8s								
HHC	**Hu-ho-hao-te**	**55.36**	**293**	*eP*		**P**	**06 53 00.6**	**+1.9**
HHC					pmax	pmax			
	comp=Z,13nm,1.2s								
HHC					pmax	pmax			
	comp=Z,39nm,6.8s								
GUMO	**Guam**	**56.66**	**245**	LR		LR	07 12 04.4		
	comp=Z,26nm,21.0s,baz=115,slow=30								
TKL	**Tuckaleechee C**	**56.67**	**74**	LR		LR	07 16 30.2		
	comp=Z,86nm,19.3s,baz=346,slow=35								
ARA0	**ARCESS Array S**	**56.73**	**356**	*eP*		**P**	**06 53 06.2**	**-1.8**
ARCES	**ARCESS Array B**	**56.73**	**356**	P		**P**	**06 53 06.2**	**-1.8**
	comp=Z,2.3nm,0.7s,baz=14,slow=7.2,SNR=8.2								
HVS	**Khovu-Aksy**	**56.91**	**313**↑	*eP*		**P**	**06 53 10.6**	**+1.0**
HVS					pmax	pmax			
	comp=Z,12nm,1.0s								
ZAA1	**Zalesovo Array**	**58.45**	**320**	*eP*		**P**	**06 53 20.7**	**+0.5**
ZAA1				*e*	*PcP*	**PcP**	**06 54 10.7**	**+0.1**
ZALV	**Zalesovo Beam**	**58.46**	**320**	P		**P**	**06 53 20.7**	**+0.4**
	comp=Z,1.0nm,0.5s,baz=28,slow=6.5,SNR=3.0								
ZALV					PcP	**PcP**	**06 54 10.7**	**+0.1**
	comp=Z,1.3nm,0.6s,baz=46,slow=4.2,SNR=3.9								
DGZ	**Jazzator, Alta**	**60.66**	**315**↑	*eP*		**P**	**06 53 36.5**	**+0.8**
DGZ					pmax	pmax			
	comp=Z,1.0nm,1.0s								
TMCR	**Tamitsa**	**61.09**	**349**	*eP*		**P**	**06 53 36.5**	**-1.7**
KURK	**Kurchatov**	**63.35**	**321**	*eP*		**P**	**06 53 53.3**	**-0.3**
	comp=Z,8.6nm,1.2s								
KURK	**Kurchatov**	**63.35**	**321**	*c iP*		**P**	**06 53 53.2**	**-0.4**
KURK					pmax	pmax			
	comp=Z,5.0nm,0.8s								
KURBB	**Kurchatov Arra**	**63.46**	**321**	P		**P**	**06 53 54.1**	**-0.2**
	comp=Z,3.0nm,0.8s,baz=35,slow=6.9,SNR=17								
KLMR	**Klimovskoe**	**64.12**	**347**	*eP*		**P**	**06 53 56.2**	**-2.3**
KLMR					AMP		06 53 58.1		
	comp=Z,4.0nm,0.8s								
KLMR	**Klimovskoe**	**64.12**	**347**	*eP*		**P**	**06 53 56.1**	**-2.4**
KLMR					pmax	pmax			
	comp=Z,4.0nm,0.8s								
BVAR	**Borovoye Array**	**64.31**	**327**	P		**P**	**06 53 59.9**	**0.0**
	comp=Z,6.2nm,0.7s,baz=46,slow=8.3,SNR=34								
BRVK	**Borovoye**	**64.32**	**327**	*eP*		**P**	**06 54 00.0**	**+0.1**
	comp=Z,6.3nm,0.8s								
BRVK	**Borovoye**	**64.32**	**327**	*c iP*		**P**	**06 53 59.5**	**-0.4**
BRVK					pmax	pmax			
	comp=Z,9.0nm,1.0s								
ARU	**Arti**	**64.70**	**335**	*eP*		**P**	**06 54 02.2**	**-0.1**
	comp=Z,12nm,0.6s								
ARU	**Arti**	**64.70**	**335**	*d iP*		**P**	**06 54 02.2**	**-0.1**
ARU							06 54 33.6		
ARU							06 56 23.2		
ARU					S	**S**	**07 02 41.1**	**+1.7**
ARU					SS	**SS**	**07 06 49.2**	**-0.4**
ARU					pmax	pmax			
	comp=Z,17nm,1.0s								
FIA0	**FINESS Array S**	**64.78**	**355**	*eP*		**P**	**06 54 01.8**	**-0.9**
FIA0	**FINESS Array S**	**64.78**	**355**	*eP*		**P**	**06 54 01.8**	**-0.9**
FINES	**FINESS Array B**	**64.78**	**355**	P		**P**	**06 54 01.8**	**-0.9**
	comp=Z,5.1nm,0.5s,baz=20,slow=8.0,SNR=50								
MK31	**Makanchi Array**	**65.07**	**316**	*eP*		**P**	**06 54 04.3**	**-0.6**
MK31	**Makanchi Array**	**65.07**	**316**	*eP*		**P**	**06 54 04.4**	**-0.6**
MK32	**Makanchi Array**	**65.07**	**316**	*eP*		**P**	**06 54 03.9**	**-1.1**
MKAR	**Makanchi Array**	**65.07**	**316**	P		**P**	**06 54 03.8**	**-1.1**
	comp=Z,1.2nm,0.6s,baz=46,slow=6.0,SNR=16								
MKAR	**Makanchi Array**	**65.07**	**316**	*eP*		**P**	**06 54 04.0**	**-1.0**
	comp=Z,7.3nm,0.7s								
MKAR	**Makanchi Array**	**65.07**	**316**	*eP*		**P**	**06 54 04.0**	**-1.0**
MKAR					pmax	pmax			
	comp=Z,7.0nm,0.7s								
MK01	**Makanchi Array**	**65.08**	**316**	*eP*		**P**	**06 54 03.8**	**-1.3**
WMQ	**Urumqi**	**65.10**	**311**	P		**P**	**06 54 09.3**	**+4.0**
WMQ					sP	sP	06 54 24.9	+3.5	
NC204	**NORSAR Array S**	**65.15**	**3**	*eP*		**P**	**06 54 05.0**	**-0.3**
MAKZ	**Makanchi**	**65.19**	**316**	*eP*		**P**	**06 54 04.7**	**-1.0**
	comp=Z,1.9nm,0.6s								
MAKZ	**Makanchi**	**65.19**	**316**	*eP*		**P**	**06 54 04.7**	**-1.0**
MAKZ					pmax	pmax			
	comp=Z,2.0nm,0.6s								
NB2	**NORSAR Subarra**	**65.40**	**3**	P		**P**	**06 54 06.5**	**-0.4**
	comp=Z,5.5nm,0.8s,baz=358,slow=6.9								
NB200	**NORSAR Array S**	**65.40**	**3**	*eP*		**P**	**06 54 06.5**	**-0.4**
NOA	**NORSAR Array B**	**65.40**	**3**	P		**P**	**06 54 06.5**	**-0.4**
	comp=Z,3.7nm,0.8s,baz=358,slow=6.6,SNR=11								
HFS	**Hagfors**	**66.36**	**1**	P		**P**	**06 54 12.1**	**-0.9**
	comp=Z,6.6nm,0.6s,baz=29,slow=3.4,SNR=19								
HFS					LR	LR	07 24 24.6		
	comp=Z,31nm,19.3s,baz=244,slow=37								
VSU	**Vasula**	**67.71**	**354**↓	*eP*		**P**	**06 54 22.6**	**+1.0**
VSU					pmax	pmax			
	comp=Z,105nm,2.5s								
EKA	**Eskdalemuir Ar**	**70.05**	**12**	P		**P**	**06 54 36.1**	**-0.1**
	comp=Z,2.2nm,0.6s,baz=345,slow=4.8,SNR=14								
OBN	**Obninsk**	**70.09**	**348**↑	*eP*		**P**	**06 54 35.7**	**-0.7**
OBN				*i*			06 54 59.5		
OBN				*e*			06 57 12.0		
OBN				*eS*		**S**	**07 03 42.9**	**-1.1**
OBN					pmax	pmax			
	comp=Z,9.0nm,0.4s								
OBN					MLR	MLR			
	comp=Z,79nm,15.0s								
AKTO	**Aktyubinsk**	**70.26**	**333**	P		**P**	**06 54 38.1**	**+0.6**
	comp=Z,15nm,0.7s,baz=33,slow=7.2,SNR=42								
ABKAR	**Akbulak array**	**70.80**	**331**	*eP*		**P**	**06 54 41.0**	**+0.2**
TKM2	**Tokmak 2**	**70.96**	**318**	P		**P**	**06 54 42.6**	**+0.4**
	SNR=8.4								
TARG	**Taragay, Kyrgy**	**71.06**	**316**	*eP*		**P**	**06 54 43.1**	**0.0**
	comp=Z,5.5nm,0.6s								
AAK	**Ala-Archa**	**71.63**	**318**	P		**P**	**06 54 47.0**	**+0.7**
	SNR=9.4								
AAK	**Ala-Archa**	**71.63**	**318**	*eP*		**P**	**06 54 46.8**	**+0.6**
	comp=Z,11nm,0.6s								
AAK	**Ala-Archa**	**71.63**	**318**	*c iP*		**P**	**06 54 46.5**	**+0.3**
AAK					pmax	pmax			
	comp=Z,8.0nm,0.9s								
KZA	**Kyzart**	**71.81**	**318**	P		**P**	**06 54 48.5**	**+0.9**
	SNR=6.1								
EKS2	**Erkin-Say**	**71.89**	**319**	P		**P**	**06 54 48.5**	**+0.7**
	SNR=12								
AML	**Almayashu**	**72.38**	**319**	P		**P**	**06 54 51.6**	**+0.7**
	SNR=16								
KK31	**Karatay Array**	**72.75**	**321**	*eP*		**P**	**06 54 52.6**	**-0.2**
KK31	**Karatay Array**	**72.75**	**321**	*eP*		**P**	**06 54 52.6**	**-0.2**
KKAR	**Karatay Array**	**72.75**	**321**	*eP*		**P**	**06 54 52.6**	**-0.2**
KSH	**Kashi**	**73.67**	**316**	P		**P**	**06 55 01.3**	**+2.9**
KSH					pmax	pmax			
	comp=Z,20nm,0.5s								
AKASG	**Malin Array Be**	**75.24**	**351**	P		**P**	**06 55 05.7**	**-1.3**
	comp=Z,4.5nm,0.5s,baz=11,slow=5.8,SNR=11								
AKBB	**Malin Array Si**	**75.24**	**351**	*eP*		**P**	**06 55 05.7**	**-1.3**
	comp=Z,6.4nm,0.8s								
AKBB	**Malin Array Si**	**75.24**	**351**	*eP*		**P**	**06 55 05.7**	**-1.3**
AKBB					pmax	pmax			
	comp=Z,6.0nm,0.8s								
KIEV	**Kiev**	**75.24**	**351**↓	*iP*		**P**	**06 55 06.1**	**-1.0**
KIEV					pmax	pmax			
	comp=Z,5.0nm,0.8s								
GEC2	**GERESS Array S**	**77.67**	**2**	*eP*		**P**	**06 55 20.5**	**-0.5**
	comp=Z,8.7nm,0.6s								
GEC2	**GERESS Array S**	**77.67**	**2**	*eP*		**P**	**06 55 20.5**	**-0.5**
GEC2					pmax	pmax			
	comp=Z,9.0nm,0.6s								
GERES	**GERESS Array B**	**77.67**	**2**	P		**P**	**06 55 20.5**	**-0.5**
	comp=Z,0.6nm,0.5s,baz=14,slow=4.4,SNR=4.8								
BUR04	**Bucovina Ar. S**	**78.61**	**354**	*eP*		**P**	**06 55 26.2**	**0.0**
GUN	**Gumba**	**78.78**	**302**	*eP*		**P**	**06 55 28.1**	**+0.3**
	comp=Z,20nm,0.6s								
GOF	**Gofitskoye**	**78.80**	**341**↑	*eP*		**P**	**06 55 27.8**	**+0.6**
GOF					pmax	pmax			
	comp=Z,47nm,0.7s								
JIRN	**Jiri**	**78.83**	**302**	*eP*		**P**	**06 55 28.5**	**+0.4**
	comp=Z,69nm,0.6s								
KKN	**Kakani**	**79.18**	**302**	*eP*		**P**	**06 55 30.2**	**+0.4**
RAMN	**Ramite**	**79.20**	**301**	*eP*		**P**	**06 55 30.1**	**+0.1**
	comp=Z,38nm,0.7s								
GKN	**Gorkha**	**79.32**	**303**	*eP*		**P**	**06 55 30.6**	**+0.1**
CM31	**Chiang Mai Arr**	**79.38**	**287**	*eP*		**P**	**06 55 30.0**	**-0.8**
CMAR	**Chiang Mai Arr**	**79.38**	**287**	P		**P**	**06 55 31.0**	**+0.2**
	comp=Z,3.7nm,0.7s,baz=18,slow=5.6,SNR=18								
CMAR					LR	LR	07 34 11.1		
	comp=Z,12nm,18.1s,baz=30,slow=38								
CM01	**Chiang Mai Arr**	**79.40**	**287**	*eP*		**P**	**06 55 30.9**	**+0.1**
DMN	**Daman**	**79.41**	**303**	*eP*		**P**	**06 55 31.3**	**+0.1**
DANN	**Dangsing**	**79.47**	**304**	*eP*		**P**	**06 55 32.2**	**+0.7**
	comp=Z,6.4nm,0.8s								
PBKT	**Sadao Pong**	**79.72**	**284**	*eP*		**P**	**06 55 32.1**	**-0.5**
	comp=Z,4.6nm,0.7s								
KIV	**Kislovodsk**	**79.94**	**341**	*eP*		**P**	**06 55 34.5**	**+1.0**
KIV					pmax	pmax			
	comp=Z,14nm,1.0s								
KIV					MLR	MLR			
	comp=Z,58nm,18.0s								
KOLN	**Koldanda**	**80.03**	**304**	*eP*		**P**	**06 55 34.5**	**+0.1**
	comp=Z,17nm,0.7s								
PYUN	**Piuthan**	**80.05**	**304**	*eP*		**P**	**06 55 34.7**	**+0.1**
	comp=Z,30nm,0.7s								
KBZ	**Khabaz**	**80.11**	**341**	P		**P**	**06 55 36.0**	**+1.7**
	comp=Z,6.7nm,0.9s,baz=328,slow=2.2,SNR=14								
NCK	**Nalchik**	**80.20**	**340**↑	*eP*		**P**	**06 55 36.7**	**+1.8**
NCK					pmax	pmax			
	comp=Z,20nm,0.8s								
ZEI	**Tsey**	**80.81**	**340**	*eP*		**P**	**06 55 38.4**	**0.0**
ZEI					pmax	pmax			
	comp=Z,6.0nm,0.6s								
GEYT	**Alibeck**	**81.64**	**328**	P		**P**	**06 55 43.2**	**+0.6**
	comp=Z,6.9nm,0.8s,baz=298,slow=6.2,SNR=11								
GNI	**Garni**	**83.16**	**338**	LR		LR	07 39 02.2		
	comp=Z,28nm,19.2s,baz=347,slow=48								
BR101	**Keskin Array S**	**85.57**	**346**	*eP*		**P**	**06 56 03.6**	**+0.7**
BR131	**Keskin Array S**	**85.57**	**346**	*eP*		**P**	**06 56 03.6**	**+0.7**
BRTR	**Keskin Array B**	**85.57**	**346**	P		**P**	**06 56 03.6**	**+0.7**
	comp=Z,7.2nm,0.8s,baz=43,slow=2.7,SNR=28								
PCRV	**Puerto La Cruz**	**87.33**	**77**	LR		LR	07 33 54.9		
	comp=Z,118nm,20.6s,baz=204,slow=35								
WR1	**Warramunga Arr**	**90.49**	**236**	*eP*		**P**	**06 56 25.4**	**-0.9**
	comp=Z,37nm,1.9s								
WRA	**Warramunga Arr**	**90.49**	**236**	P		**P**	**06 56 25.4**	**-0.9**
	comp=Z,1.3nm,1.0s,baz=35,slow=5.7,SNR=5.8								
MMAI	**Mount Meron Ar**	**91.88**	**344**	LR		LR	07 43 31.6		
	comp=Z,25nm,18.2s,baz=120,slow=39								
ASAR	**Alice Springs**	**93.86**	**234**	P		**P**	**06 56 41.9**	**0.0**
	comp=Z,1.2nm,1.0s,baz=28,slow=4.9,SNR=6.3								
JYA	**Atsumi**	**0.90**	**346**	⇑P		**Pg**	**07 06 34.5**	**-0.5**
JYA				S		**Sb**	**07 06 47.1**	**-0.5**
JHK	**Hiroka**	**0.91**	**239**	⇓P		**Pg**	**07 06 34.6**	**-0.5**
JHK				S		**Sg**	**07 06 46.6**	**-0.3**
JAW	**Awa shima**	**0.94**	**322**	P		**Pg**	**07 06 35.5**	**-0.3**
JAW				S		**Sb**	**07 06 48.3**	**-0.4**
MJAR	**Matsushiro Arr**	**1.85**	**231**	Pn		**Pn**	**07 06 50.3**	**+0.9**
	17nm,0.3s,baz=49,slow=11,SNR=23								
MJAR					Sn	**Sb**	**07 07 14.3**	**-0.5**	
	15nm,0.3s,baz=23,slow=16,SNR=5.2								
MAT	**Matsushiro**	**1.85**	**231**	P		**Pn**	**07 06 50.3**	**+0.8**
MAT				S		**Sg**	**07 07 15.8**	**-1.2**
KSRS	**Korea Array**	**9.59**	**272**	Pn		**Pn**	**07 08 38.8**	**+3.0**
	0.7nm,0.3s,baz=80,slow=14,SNR=4.5								
ZALV	**Zalesovo Beam**	**40.62**	**312**	P		**P**	**07 13 55.2**	**-2.3**
	1.0nm,0.7s,baz=93,slow=7.2,SNR=3.5								
MKAR	**Makanchi Array**	**42.80**	**301**	P		**P**	**07 14 15.1**	**-0.5**
	0.2nm,0.6s,baz=81,slow=8.9,SNR=3.0								
KURBB	**Kurchatov Arra**	**44.69**	**307**	P		**P**	**07 14 30.1**	**-0.5**
	2.6nm,0.8s,baz=82,slow=8.2,SNR=17								
BVAR	**Borovoye Array**	**49.28**	**312**	P		**P**	**07 15 06.1**	**-0.4**
	0.6nm,0.4s,baz=69,slow=8.2,SNR=3.3								
ILAR	**Eielson Array**	**49.53**	**33**	P		**P**	**07 15 08.2**	**+0.1**
	0.3nm,0.8s,baz=272,slow=7.5,SNR=4.3								
INK	**Inuvik**	**54.30**	**27**	P		**P**	**07 15 44.1**	**+0.5**
	0.3nm,0.6s,baz=274,slow=5.4,SNR=2.6								
WRA	**Warramunga Arr**	**57.60**	**186**	P		**P**	**07 16 07.3**	**-0.5**
	0.7nm,0.8s,baz=2.3,slow=7.5,SNR=6.4								
ASAR	**Alice Springs**	**61.32**	**186**	P		**P**	**07 16 33.5**	**0.0**
	0.3nm,0.6s,baz=23,slow=6.8,SNR=4.2								
YKA	**Yellowknife Ar**	**63.78**	**30**	P		**P**	**07 16 49.7**	**+0.2**
	0.1nm,0.7s,baz=305,slow=6.7,SNR=4.0								
FINES	**FINESS Array B**	**67.68**	**332**	P		**P**	**07 17 14.3**	**-0.4**
	1.7nm,0.8s,baz=84,slow=14,SNR=3.6								
AKASG	**Malin Array Be**	**73.06**	**322**	P		**P**	**07 17 47.2**	**-0.6**
	0.2nm,0.3s,baz=50,slow=7.2,SNR=3.7								
NOA	**NORSAR Array B**	**73.12**	**337**	P		**P**	**07 17 47.9**	**-0.1**
	0.8nm,0.6s,baz=38,slow=5.8,SNR=3.8								
NVAR	**Mina Array Bea**	**75.48**	**53**	P		**P**	**07 18 03.4**	**+1.0**
	0.3nm,0.8s,baz=291,slow=5.4,SNR=3.1								
TXAR	**Lajitas Array**	**90.59**	**51**	P		**P**	**07 19 20.6**	**0.0**
	0.6nm,0.9s,baz=311,slow=6.1,SNR=4.2								

IDC ***18*** *07:11:39.7±2.5,25°.10N×141°.60E,h81km±21km,mb3.4/7, mb1 3.6/8,mb1mx3.2/65,mbtmp3.7/8,Error ellipse: s-maj=32.8km s-min=19.9km az=101.0*

ISC 18 07:11:32.8±1.5,**24°.7N**±0°.2×**141°.6E**±0°.3,**h35**km,**n8, σ0s96/8,mb3.6/7,Volcano Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**2.45**	**12**	P			**Pn**	**07 12 11.7**	**+1.4**
	16nm,0.3s,baz=279,slow=16,SNR=9.5								
JCJ						S	**Sn**	**07 12 38.0**	**-1.0**
	25nm,0.3s,baz=279,slow=22,SNR=7.7								
WRA	**Warramunga Arr**	**44.93**	**190**	P			P	07 19 49.9	+5.5
	0.8nm,0.5s,baz=9.0,slow=8.6,SNR=25								
KURBB	**Kurchatov Arra**	**54.37**	**316**	P			**P**	**07 20 56.0**	**0.0**
	0.3nm,0.4s,baz=93,slow=8.1,SNR=4.1								
BVAR	**Borovoye Array**	**59.47**	**318**	P			**P**	**07 21 32.0**	**-0.1**
	0.6nm,0.5s,baz=71,slow=6.2,SNR=4.2								
ILAR	**Eielson Array**	**60.06**	**28**	P			**P**	**07 21 35.0**	**-1.0**
	0.3nm,0.7s,baz=264,slow=6.5,SNR=5.5								
YKA	**Yellowknife Ar**	**74.50**	**28**	P			**P**	**07 23 07.1**	**-0.3**
	0.2nm,0.7s,baz=290,slow=5.5,SNR=4.2								
FINES	**FINESS Array B**	**79.87**	**334**	P			**P**	**07 23 37.3**	**-0.2**
	2.1nm,0.8s,baz=56,slow=3.5,SNR=3.9								
PDAR	**Pinedale Array**	**86.28**	**44**	P			**P**	**07 24 12.0**	**+0.6**
	0.2nm,0.6s,baz=343,slow=2.8,SNR=2.5								

ISCJB ***18*** *07:16:16.9±0.9,37°.80N±0°.06×140°.00E±0°.05,h9km±6km, mb3.3/5,Error ellipse: s-maj=10.5km s-min=5.6km az=153.7*

IDC ***18*** *07:16:16.8±1.1,37°.76N×139°.97E,h0km,mb3.3/5, mb1 3.5/5,mb1mx3.3/64,mbtmp3.3/5,Error ellipse: s-maj=32.9km s-min=19.1km az=129.0*

JMA ***18*** *07:16:18.0,37°.73N×139°.99E,h8km±1km,M3.3 Broadband fault plane solution: P waves. NP1: φs20.00000°,δ64.00000°,λ.96.00000°. NP2:φs185.00000°, δ26.00000°,λ.77.00000°. Principal axes: T Plg70.0000°, Azm303.0000°; N Plg6.0000°, Azm197.0000°; P Plg19.0000°, Azm105.0000°;*

ISC 18 07:16:18.0±1.3,**37.74N**±0°.06×**139.99E**±0°.04,**h9**km±9km, **n11,σ0s42/16,mb3.4/5,4D,Eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JFT	**Otama**	**0.35**	**129**	⇓P			**Pg**	**07 16 24.9**	**0.0**
JFT				*eS*			**Sg**	**07 16 29.6**	**0.0**
JFY	**Yanaizu**	**0.40**	**214**	⇓P			**Pg**	**07 16 25.9**	**0.0**
JFY				S			**Sg**	**07 16 31.1**	**-0.1**
JNS	**Sasagawa**	**0.54**	**279**	⇓P			**Pg**	**07 16 28.4**	**0.0**
JMM	**Marumori**	**0.65**	**79**	⇓P			**Pg**	**07 16 30.4**	**-0.1**
JMM				S			**Sg**	**07 16 39.0**	**0.0**
MJAR	**Matsushiro Arr**	**1.86**	**231**	Pn			**Pn**	**07 16 50.6**	**+0.6**
	7.3nm,0.3s,baz=33,slow=15,SNR=30								
MJAR						Sn	**Sb**	**07 17 15.3**	**-0.2**
	2.7nm,0.3s,baz=274,slow=29,SNR=5.6								
MJAR						LR	LR	07 17 49.1	
	comp=Z,43nm,20.3s,baz=30,slow=50								
MAT	**Matsushiro**	**1.86**	**231**	P			**Pn**	**07 16 50.6**	**+0.5**
MAT				S			**Sb**	**07 17 15.2**	**-0.3**
MKAR	**Makanchi Array**	**42.78**	**301**	P			**P**	**07 24 15.7**	**-0.1**
	0.1nm,0.4s,baz=64,slow=9.8,SNR=2.2								
KURBB	**Kurchatov Arra**	**44.67**	**307**	P			**P**	**07 24 30.3**	**-0.7**
	1.0nm,0.7s,baz=83,slow=8.6,SNR=5.4								
ILAR	**Eielson Array**	**49.51**	**33**	P			**P**	**07 25 08.3**	**-0.2**
	0.3nm,0.7s,baz=254,slow=6.5,SNR=3.4								
WRA	**Warramunga Arr**	**57.62**	**186**	P			**P**	**07 26 08.0**	**-0.4**
	0.4nm,0.9s,baz=2.5,slow=7.5,SNR=4.7								
YKA	**Yellowknife Ar**	**63.77**	**30**	P			**P**	**07 26 50.6**	**+0.8**
	0.1nm,0.7s,baz=302,slow=6.5,SNR=3.0								

SOME ***18*** *07:18:13.1,44°.60N×82°.13E,h15km*

NNC ***18*** *07:18:14.7±2.0,44°.76N×81°.81E,h0km,mb3.3,mpv2.8, Error ellipse: s-maj=38.9km s-min=7.3km az=118.0*

ISC 18 07:18:11.2±3.6,**44°.64N**±0°.07×**82°.27E**±0°.09,**h3**km±28km, **n12,σ0s86/21,4C-2D,Northern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DJR	**Jarkent**	**1.80**	**261**	*eP*			**Pb**	**07 18 45.0**	**+0.1**
	10nm,0.3s								
DJR				*eS*			**Sb**	**07 19 08.2**	**+0.4**
	14nm,0.2s								
KTMS	**Ketmen**	**1.82**	**230**	*eP*			**Pb**	**07 18 45.0**	**-0.3**
	4.4nm,0.1s								
KTMS				*eS*			**Sn**	**07 19 07.8**	**+0.5**
	21nm,0.4s								
MK31	**Makanchi Array**	**2.16**	**0**	⇑Pn			**Pb**	**07 18 50.9**	**0.0**
	3.7nm,0.2s,baz=181,slow=14,SNR=401								
MK31				⇑Lg			Lg	07 19 19.0	
	2.1nm,0.2s,baz=187,slow=28,SNR=28								
KAPS	**Kapalarasan**	**2.17**	**288**	*eP*			**Pb**	**07 18 50.7**	**-0.3**
	4.0nm,0.1s								
KAPS				*eS*			**Sb**	**07 19 17.6**	**-0.7**
	8.2nm,0.2s								
MAKZ	**Makanchi**	**2.18**	**355**	⇑Pn			**Pb**	**07 18 50.9**	**-0.4**
	4.3nm,0.5s								
MAKZ				⇑Lg			Lg	07 19 19.3	
	17nm,0.5s								
PDGK	**Podgornoye**	**2.39**	**238**	⇓Pg			**Pb**	**07 18 54.2**	**-0.8**
	1.8nm,0.5s								
PDGK				⇓Lg			Lg	07 19 26.0	
	14nm,0.6s								
SHLS	**Shalkode**	**2.51**	**235**	*eP*			**Pn**	**07 18 53.6**	**+0.6**
	5

	1.9nm,0.4s							
ARXS				*e*S		**Sb**	07 19 48.9	**+0.6**
	14nm,0.4s							
CHKK	**Chushkaly**	**3.87**	**260**	*e*P		**Pb**	07 19 20.7	**+0.6**
	0.9nm,0.1s							
CHKK				*e*S		**Sb**	07 20 09.0	**+1.6**
	7.2nm,0.3s							

*IDC **18** 07:27:43.2±2.8, 11°.50N×84°.67W, h165km±55km, mb2.8/2, mb1 3.2/2, mb1mx2.9/41, mbtmp3.2/2, MS3.1/1, Ms1 3.1/1, ms1mx2.4/10, Error ellipse: s-maj=104.0km s-min=74.2km az=35.0*

*ISCJB **18** 07:27:45.7±0.9, 11°.2N±0°.2×85°.6W±0°.2, h165km±7km, mb3.1/2, Error ellipse: s-maj=42.0km s-min=4.9km az=44.9*

*UCR **18** 07:27:47.4±3.0, 11°.96N×84°.78W, h30km±19km, MD4.1, ML3.4*

ISC 18 07:27:45.0±1.0, **11°.2N**±0°.2×**85°.7W**±0°.2, **h171**km±7km, **n38,** σ0§**84**/45, **15C-1D, Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRZ1	**La Cruz**	**0.09**	**149**	*i*P	**Pn**	**07 28 07.9**	**0.0**
CRZ1				*e*S	**Sn**	**07 28 25.6**	**+0.3**
GBS3	**Finca Las Im˜¡**	**0.43**	**148**	*e*P	**Pn**	**07 28 08.7**	**0.0**
GB1A	**Borinquen Arri**	**0.43**	**140**	*e*P	**Pn**	**07 28 08.9**	**+0.1**
GB1A				*e*S	**Sn**	**07 28 27.7**	**+0.9**
BUAI	**Buenos Aires**	**0.44**	**128**	*i*P	**Pn**	**07 28 09.2**	**+0.5**
LAPC	**Finca la Perla**	**0.45**	**147**	*e*P	**Pn**	**07 28 08.6**	**-0.1**
GPS1	**Guardaparques**	**0.50**	**139**	*e*P	**Pn**	**07 28 09.3**	**+0.3**
GPS3	**Bodega del ICE**	**0.50**	**141**	*e*P	**Pn**	**07 28 09.0**	**+0.1**
GP52	**Hotel Rinc˜‡n**	**0.51**	**140**	*e*P	**Pn**	**07 28 09.2**	**+0.1**
NY14	**Universidad de**	**0.52**	**164**	*e*P	**Pn**	**07 28 09.5**	**+0.5**
LIM1	**Limonal**	**0.62**	**137**	*i*P	**Pn**	**07 28 09.7**	**+0.2**
GUAB	**Guayabo de Bag**	**0.63**	**135**	*e*P	**Pn**	**07 28 10.0**	**+0.5**
MESS	**Mesas**	**0.63**	**130**	*i*P	**Pn**	**07 28 09.8**	**+0.3**
COLC	**Colonia**	**0.67**	**136**	*e*P	**Pn**	**07 28 10.1**	**+0.3**
CUI	**Cuipilapa**	**0.71**	**134**	*i*P	**Pn**	**07 28 10.5**	**+0.5**
CUI				*e*S	**Sn**	**07 28 29.3**	**+0.1**
PTEN	**Parque Tenorio**	**0.81**	**122**	*i*P	**Pn**	**07 28 11.0**	**+0.3**
ACAL	**Aguas Claras**	**0.82**	**129**	*i*P	**Pn**	**07 28 11.4**	**+0.7**
AMAS	**Alto Masis**	**0.86**	**128**	*e*P	**Pn**	**07 28 11.4**	**+0.3**
JTS	**JuntasAbangare**	**1.11**	**140**	P	**Pn**	**07 28 13.0**	**+0.1**
	68nm,0.3s,baz=25,slow=14,SNR=283							
JTS				S	**Sn**	**07 28 33.1**	**-1.2**
	259nm,0.3s,baz=228,slow=21,SNR=68							
JTS	**JuntasAbangare**	**1.11**	**140**	*e*P	**Pn**	**07 28 13.0**	**+0.1**
MGAN	**Managua**	**1.14**	**331**	*e*P	**Pn**	**07 28 13.1**	**+0.1**
CEDE	**Laguna Cede˜–o**	**1.17**	**124**	*i*P	**Pn**	**07 28 14.0**	**+0.6**
CASO	**Castillo**	**1.17**	**127**	*i*P	**Pn**	**07 28 13.9**	**+0.5**
XAVN	**Gruta Xavier**	**1.18**	**328**	*e*P	**Pn**	**07 28 13.6**	**+0.3**
FORC	**Fortuna**	**1.21**	**124**	*e*P	**Pn**	**07 28 14.3**	**+0.7**
COPN	**Copaltepe**	**1.36**	**319**	*e*P	**Pn**	**07 28 15.2**	**+0.2**
MOMN	**Momotombo**	**1.51**	**326**	*e*P	**Pn**	**07 28 16.6**	**+0.1**
SRA1	**San Ram˜‡n**	**1.59**	**132**	*e*S	**Sn**	**07 28 41.6**	**-0.6**
CGA2	**Cerro Gallo 2**	**1.64**	**133**	*e*P	**Pn**	**07 28 18.3**	**+0.3**
CGA2				*e*S	**Sn**	**07 28 42.1**	**-1.2**
CNGN	**Cerro Negro**	**1.67**	**324**	*e*P	**Pn**	**07 28 18.5**	**+0.4**
CNGN				*e*S	**Sn**	**07 28 44.3**	**+0.6**
SJS	**Escuela Geolog**	**2.00**	**127**	*e*S	**Sn**	**07 28 49.2**	**-0.9**
CRIN	**San Cristobal**	**2.04**	**319**	*e*P	**Pn**	**07 28 21.7**	**-0.4**
CRIN				*e*S	**Sn**	**07 28 50.5**	**-0.3**
CRIN				AML	AML	07 28 52.5	
	comp=N,295nm,0.3s						
LCR2	**La Lucha 2**	**2.17**	**130**	*e*S	**Sn**	**07 28 52.7**	**-0.8**
BUS	**Buena Vista**	**2.47**	**130**	*e*S	**Sn**	**07 29 00.1**	**0.0**
DRK0	**Durika**	**3.04**	**128**	*e*P	**Pn**	**07 28 36.3**	**+2.3**
DRK0				*e*S	**Sn**	**07 29 10.8**	**-1.4**
ATAH	**Atahualpa**	**19.56**	**158**	LR	LR	07 39 34.1	
	comp=N,54nm,20.1s,baz=70,slow=36						
TXAR	**Lajitas Array**	**24.68**	**320**	P	**P**	**07 32 53.0**	**+2.7**
	comp=N,0.6nm,0.8s,baz=136,slow=9.6,SNR=4.9						
YKA	**Yellowknife Ar**	**55.32**	**344**	P	**P**	**07 36 58.4**	**-2.2**
	comp=N,0.1nm,0.3s,baz=140,slow=7.3,SNR=5.4						
WRA	**Warramunga Arr**	**140.55**	**252**	PKP	**PKPdf**	**07 46 54.9**	**0.0**
	comp=N,0.2nm,0.7s,baz=106,slow=2.9,SNR=3.0						

*NEIC **18** 07:46:04.4±0.0, 37°.04S×176°.68E, h225km, ML4.0(WEL), After WEL.*

WEL 18 07:46:03.7, 37°S±.5°×**17°7E**±.°, **h251**km±6km, **North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMRZ	**Kaimai**	**0.93**	**227**	P	Pn	07 46 39.0	+0.5
HAZ	**Te Kaha**	**0.95**	**125**	P	Pn	07 46 37.8	-0.7
HAZ	**Te Kaha**	**0.95**	**125**	S	S	07 47 04.2	-1.7
OMRZ	**Omania**	**0.96**	**201**	P	Pn	07 46 38.8	+0.2
KUZ	**Kuaotunu**	**0.98**	**298**	P	Pn	07 46 38.5	-0.3
RUGZ	**Raukumara Rang**	**1.03**	**137**	P	Pn	07 46 38.0	-1.1
RUGZ	**Raukumara Rang**	**1.03**	**137**	S	S	07 47 04.0	-3.0
URZ	**Urewera**	**1.08**	**167**	Pn	Pn	07 46 38.5	-0.7
URZ				Sn	S	07 47 05.0	-2.3
URZ	**Urewera**	**1.08**	**167**	P	Pn	07 46 38.5	-0.7
URZ	**Urewera**	**1.08**	**167**	S	S	07 47 05.1	-2.1
RRRZ	**Republican Roa**	**1.15**	**191**	P	Pn	07 46 39.8	+0.1
TOZ	**Tahuroa Road**	**1.15**	**243**	P	Pn	07 46 40.4	+0.7
PKGZ	**Pakihiroa**	**1.22**	**124**	P	Pn	07 46 40.3	+0.1
PKGZ	**Pakihiroa**	**1.22**	**124**	S	S	07 47 07.1	-1.8
HRRZ	**Handcock Road**	**1.25**	**199**	P	Pn	07 46 41.2	+0.8
MXZ	**Matakaoa Point**	**1.25**	**107**	P	Pn	07 46 39.8	-0.5
MXZ	**Matakaoa Point**	**1.25**	**107**	S	S	07 47 07.5	-1.7
MWZ	**Matawai**	**1.26**	**153**	Pn	Pn	07 46 40.0	-0.5
MWZ	**Matawai**	**1.26**	**153**	P	Pn	07 46 40.0	-0.5
MWZ	**Matawai**	**1.26**	**153**	S	S	07 47 07.5	-2.0
MUGZ	**Murupara**	**1.27**	**181**	P	Pn	07 46 40.3	-0.1
MUGZ	**Murupara**	**1.27**	**181**	S	S	07 47 07.1	-2.3
MKAZ	**Moumakai**	**1.31**	**274**	P	Pn	07 46 41.1	+0.4
PRRZ	**Plateau Road**	**1.33**	**194**	Pn	Pn	07 46 41.1	+0.3
PRRZ	**Plateau Road**	**1.33**	**194**	P	Pn	07 46 41.0	+0.2
TWGZ	**Tauwhareparae**	**1.35**	**136**	Pn	Pn	07 46 41.0	0.0
TWGZ				Sn	S	07 47 10.2	-0.3
TWGZ	**Tauwhareparae**	**1.35**	**136**	P	Pn	07 46 41.2	+0.2
TWGZ	**Tauwhareparae**	**1.35**	**136**	S	S	07 47 10.4	-0.1
WIAZ	**Waiheke Island**	**1.40**	**287**	P	Pn	07 46 41.5	+0.1
ALRZ	**Allen Road**	**1.40**	**195**	Pn	Pn	07 46 41.3	0.0
ALRZ	**Allen Road**	**1.40**	**195**	P	Pn	07 46 41.3	0.0
WPRZ	**Whakapapatarin**	**1.40**	**201**	P	Pn	07 46 41.8	+0.4
RTZ	**Ruatahuna**	**1.41**	**174**	P	Pn	07 46 41.0	-0.5
RTZ	**Ruatahuna**	**1.41**	**174**	S	S	07 47 09.7	-1.7
WMGZ	**Waiomatatini S**	**1.42**	**116**	Pn	Pn	07 46 41.6	+0.1
WMGZ	**Waiomatatini S**	**1.42**	**116**	P	Pn	07 46 41.6	+0.1
WMGZ	**Waiomatatini S**	**1.42**	**116**	S	S	07 47 10.3	-1.0
GRZ	**Great Barrier**	**1.44**	**311**	P	Pn	07 46 41.3	-0.4
PUZ	**Puketiti**	**1.44**	**127**	Pn	Pn	07 46 41.4	-0.3
PUZ				Sn	S	07 47 09.5	-2.1
PUZ	**Puketiti**	**1.44**	**127**	P	Pn	07 46 41.5	-0.2
PUZ	**Puketiti**	**1.44**	**127**	S	S	07 47 09.1	-2.5
TKGZ	**Te Karaka**	**1.48**	**146**	Pn	Pn	07 46 41.9	0.0
TKGZ	**Te Karaka**	**1.48**	**146**	P	Pn	07 46 41.9	0.0
KUTZ	**Kaahu Road**	**1.49**	**211**	P	Pn	07 46 42.6	+0.6
TLZ	**Tolley Road**	**1.50**	**221**	P	Pn	07 46 42.9	+0.8
ETAZ	**East Tamaki Re**	**1.52**	**279**	P	Pn	07 46 42.7	+0.5
SNGZ	**Shannon Statio**	**1.63**	**165**	Pn	Pn	07 46 43.0	-0.1
SNGZ	**Shannon Statio**	**1.63**	**165**	P	Pn	07 46 43.3	+0.2
MTHZ	**Maungataniwha**	**1.64**	**179**	P	Pn	07 46 43.0	-0.2
MRHZ	**Matea Rd**	**1.65**	**190**	P	Pn	07 46 43.2	-0.1
RIGZ	**Rimuhau**	**1.68**	**153**	P	Pn	07 46 43.8	+0.3
ABAZ	**Army Bay**	**1.69**	**291**	P	Pn	07 46 44.0	+0.4
CNGZ	**Carnagh Statio**	**1.69**	**139**	Pn	Pn	07 46 44.1	+0.5
CNGZ	**Carnagh Statio**	**1.69**	**139**	P	Pn	07 46 44.1	+0.5
WATZ	**Wairara**	**1.72**	**209**	P	Pn	07 46 44.2	+0.4
RAHZ	**Arahi**	**1.72**	**172**	P	Pn	07 46 44.1	+0.3
AWAZ	**Awhitu Peninsu**	**1.73**	**274**	P	Pn	07 46 44.3	+0.4
HATZ	**Hinemaiaia**	**1.77**	**198**	P	Pn	07 46 43.9	-0.4
RATZ	**Rangitukua**	**1.84**	**206**	P	Pn	07 46 45.2	+0.3
NMHZ	**Naumai**	**1.88**	**180**	Pn	Pn	07 46 45.7	+0.5
NMHZ	**Naumai**	**1.88**	**180**	P	Pn	07 46 45.8	+0.5
WHHZ	**Waihua**	**1.90**	**170**	P	Pn	07 46 45.4	+0.2
PRGZ	**Paritu Road**	**1.91**	**154**	Pn	Pn	07 46 45.8	+0.3
PRGZ	**Paritu Road**	**1.91**	**154**	P	Pn	07 46 46.1	+0.7
RITZ	**Rihia Road**	**1.91**	**202**	Pn	Pn	07 46 45.9	+0.4
RITZ	**Rihia Road**	**1.91**	**202**	P	Pn	07 46 45.9	+0.4
KNZ	**Kokohu**	**1.94**	**159**	P	Pn	07 46 45.4	-0.2
BKZ	**Black Stump Fm**	**1.97**	**187**	P	Pn	07 46 45.5	-0.5
HIZ	**Hauiti**	**2.01**	**229**	P	Pn	07 46 47.2	+0.9
ARHZ	**Aropaoanui**	**2.06**	**176**	Pn	Pn	07 46 46.8	+0.1
ARHZ	**Aropaoanui**	**2.06**	**176**	P	Pn	07 46 46.9	+0.2
KRVZ	**Karewarewa**	**2.09**	**205**	Pn	Pn	07 46 47.2	+0.1
KRVZ	**Karewarewa**	**2.09**	**205**	P	Pn	07 46 47.4	+0.2
MHGZ	**Mahia Peninsul**	**2.13**	**156**	Pn	Pn	07 46 47.7	+0.4
MHGZ	**Mahia Peninsul**	**2.13**	**156**	P	Pn	07 46 47.7	+0.4
WTVZ	**West Tongariro**	**2.13**	**206**	Pn	Pn	07 46 47.4	-0.1
WTVZ	**West Tongariro**	**2.13**	**206**	P	Pn	07 46 47.5	0.0
OTVZ	**Oturere**	**2.14**	**204**	Pn	Pn	07 46 47.6	-0.1
TWVZ	**Taurewa**	**2.15**	**210**	Pn	Pn	07 46 47.5	-0.2
TWVZ	**Taurewa**	**2.15**	**210**	P	Pn	07 46 47.6	-0.1
NGZ	**Ngauruhoe**	**2.18**	**205**	P	Pn	07 46 48.6	+0.6
COVZ	**Chateau Observ**	**2.22**	**206**	P	Pn	07 46 48.2	-0.1
KWHZ	**Kaweka Forest**	**2.23**	**187**	P	Pn	07 46 48.1	-0.3
MCHZ	**McNeill Hill**	**2.23**	**182**	Pn	Pn	07 46 48.5	+0.2
MCHZ	**McNeill Hill**	**2.23**	**182**	P	Pn	07 46 48.5	+0.2
TUVZ	**Tukino**	**2.24**	**203**	Pn	Pn	07 46 48.4	-0.2
TUVZ	**Tukino**	**2.24**	**203**	P	Pn	07 46 48.6	-0.1
FWVZ	**Far West T-bar**	**2.27**	**205**	Pn	Pn	07 46 48.9	-0.1
FWVZ	**Far West T-bar**	**2.27**	**205**	P	Pn	07 46 48.9	0.0
WHVZ	**Whangaehu Hut**	**2.28**	**204**	Pn	Pn	07 46 48.9	-0.1
WHVZ	**Whangaehu Hut**	**2.28**	**204**	P	Pn	07 46 48.9	-0.1
WNVZ	**Wahianoa**	**2.31**	**204**	Pn	Pn	07 46 48.9	-0.4
MOVZ	**Moawhango**	**2.34**	**200**	Pn	Pn	07 46 48.7	-0.8
MOVZ	**Moawhango**	**2.34**	**200**	P	Pn	07 46 48.8	-0.7
WCZ	**Waipu Caves**	**2.35**	**302**	P	Pn	07 46 49.5	0.0
BHHZ	**Black Hill Sta**	**2.35**	**194**	Pn	Pn	07 46 48.9	-0.6
BHHZ	**Black Hill Sta**	**2.35**	**194**	P	Pn	07 46 48.9	-0.6
PKVZ	**Pokaka**	**2.37**	**208**	P	Pn	07 46 49.5	-0.3
MTVZ	**Mangateitei**	**2.41**	**205**	Pn	Pn	07 46 50.0	-0.2
MTVZ	**Mangateitei**	**2.41**	**205**	P	Pn	07 46 50.0	-0.1
KRHZ	**Kereru**	**2.45**	**188**	P	Pn	07 46 49.9	-0.6
CKHZ	**Cape Kidnapper**	**2.45**	**175**	Pn	Pn	07 46 50.3	-0.2
CKHZ	**Cape Kidnapper**	**2.45**	**175**	P	Pn	07 46 50.5	0.0
VRZ	**Vera Road**	**2.50**	**219**	Pn	Pn	07 46 51.6	+0.5
VRZ	**Vera Road**	**2.50**	**219**	P	Pn	07 46 51.6	+0.7
KAHZ	**Kahuranaki**	**2.58**	**179**	Pn	Pn	07 46 51.5	-0.3
KAHZ	**Kahuranaki**	**2.58**	**179**	P	Pn	07 46 51.5	-0.3
MHEZ	**Mangahewa**	**2.70**	**226**	P	Pn	07 46 54.5	+1.5
PNHZ	**Pukenui**	**2.74**	**190**	Pn	Pn	07 46 52.4	-1.1
PNHZ	**Pukenui**	**2.74**	**190**	P	Pn	07 46 52.4	-1.0
PXZ	**Pawanui**	**2.82**	**179**	Pn	Pn	07 46 53.4	-0.8
PXZ	**Pawanui**	**2.82**	**179**	P	Pn	07 46 53.4	-0.8
DREZ	**Durham Road**	**2.84**	**225**	P	Pn	07 46 55.6	+1.1
WPHZ	**Waipukurau**	**2.86**	**185**	Pn	Pn	07 46 54.2	-0.5
WPHZ	**Waipukurau**	**2.86**	**185**	P	Pn	07 46 54.4	-0.3
WAZ	**Wanganui**	**2.91**	**209**	Pn	Pn	07 46 54.6	-0.6
WAZ	**Wanganui**	**2.91**	**209**	P	Pn	07 46 54.9	-0.3
TSZ	**Takapari Road**	**2.92**	**193**	Pn	Pn	07 46 54.3	-1.0
TSZ	**Takapari Road**	**2.92**	**193**	P	Pn	07 46 54.2	-1.1
PKE	**Pukeiti**	**2.97**	**227**	P	Pn	07 46 57.2	+1.3
PREZ	**Palmer Road**	**2.97**	**223**	P	Pn	07 46 57.0	+1.1
PRHZ	**Porangahau**	**3.05**	**182**	Pn	Pn	07 46 56.0	-0.7
PRHZ	**Porangahau**	**3.05**	**182**	P	Pn	07 46 56.1	-0.7
DVHZ	**Dannevirke**	**3.12**	**189**	Pn	Pn	07 46 56.3	-1.2
DVHZ	**Dannevirke**	**3.12**	**189**	P	Pn	07 46 56.4	-1.1
ANWZ	**Angora Road**	**3.25**	**184**	P	Pn	07 46 57.9	-1.1
OUZ	**Omahuta**	**3.26**	**307**	P	Pn	07 46 58.9	-0.2
POWZ	**Post Office Ro**	**3.28**	**194**	Pn	Pn	07 46 58.0	-1.2
POWZ	**Post Office Ro**	**3.28**	**194**	P	Pn	07 46 58.2	-1.0
PRWZ	**Pori Road**	**3.40**	**191**	Pn	Pn	07 46 59.8	-0.8
PRWZ	**Pori Road**	**3.40**	**191**	P	Pn	07 46 59.8	-0.8
BFZ	**Birch Farm**	**3.49**	**187**	P	Pn	07 47 00.1	-1.5
MRZ	**Mangatainoka R**	**3.57**	**195**	Pn	Pn	07 47 00.5	-2.0
MRZ	**Mangatainoka R**	**3.57**	**195**	P	Pn	07 47 00.6	-1.9
TIWZ	**Tintock**	**3.63**	**191**	Pn	Pn	07 47 01.9	-1.4
TIWZ	**Tintock**	**3.63**	**191**	P	Pn	07 47 02.0	-1.2
CPWZ	**Castlepoint**	**3.72**	**187**	Pn	Pn	07 47 03.9	-0.3
CPWZ	**Castlepoint**	**3.72**	**187**	P	Pn	07 47 03.9	-0.3
HOWZ	**Holdsworth Sta**	**3.81**	**195**	Pn	Pn	07 47 03.2	-2.1
HOWZ	**Holdsworth Sta**	**3.81**	**195**	P	Pn	07 47 03.2	-2.1
OGWZ	**Otaki Gorge**	**3.82**	**199**	Pn	Pn	07 47 03.3	-2.0
OGWZ	**Otaki Gorge**	**3.82**	**199**	P	Pn	07 47 03.4	-1.9
KIW	**Kapiti Island**	**3.93**	**201**	Pn	Pn	07 47 04.5	-2.2
KIW	**Kapiti Island**	**3.93**	**201**	P	Pn	07 47 04.5	-2.2
TMWZ	**Te Maipa**	**3.96**	**190**	Pn	Pn	07 47 05.9	-1.1
TMWZ	**Te Maipa**	**3.96**	**190**	P	Pn	07 47 05.9	-1.1
MTW	**Mount Morrison**	**4.07**	**194**	Pn	Pn	07 47 05.8	-2.5
MTW	**Mount Morrison**	**4.07**	**194**	P	Pn	07 47 05.8	-2.5
CAW	**Cannon Point**	**4.12**	**199**	Pn	Pn	07 47 06.5	-2.4
CAW	**Cannon Point**	**4.12**	**199**	P	Pn	07 47 06.5	-2.3
DUWZ	**D'Urville Isla**	**4.23**	**211**	Pn	Pn	07 47 07.5	-2.7
DUWZ	**D'Urville Isla**	**4.23**	**211**	P	Pn	07 47 07.7	-2.5
TRWZ	**Traveller**	**4.27**	**191**	Pn	Pn	07 47 09.0	-1.7
TRWZ	**Traveller**	**4.27**	**191**	P	Pn	07 47 09.0	-1.6
PAWZ	**Paruwai Farm**	**4.30**	**194**	Pn	Pn	07 47 09.0	-2.0
PAWZ	**Paruwai Farm**	**4.30**	**194**	P	Pn	07 47 09.0	-2.0
WEL	**Wellington**	**4.36**	**201**	Pn	Pn	07 47 09.7	-2.7
MSWZ	**Moikau Station**	**4.37**	**195**	Pn	Pn	07 47 09.1	-2.7
MSWZ	**Moikau Station**	**4.37**	**195**	P	Pn	07 47 09.1	-2.7
TCW	**Tory Channel**	**4.45**	**205**	Pn	Pn	07 47 10.6	-2.2
TCW	**Tory Channel**	**4.45**	**205**	P	Pn	07 47 10.4	-2.3
BHW	**Baring Head**	**4.45**	**199**	Pn	Pn	07 47 10.4	-2.3
BHW	**Baring Head**	**4.45**	**199**	P	Pn	07 47 10.4	-2.3
PLWZ	**Palliser**	**4.51**	**195**	Pn	Pn	07 47 11.3	-2.3
PLWZ	**Palliser**	**4.51**	**195**	P	Pn	07 47 10.8	-2.8
TUWZ	**Tuamarina**	**4.76**	**207**	Pn	Pn	07 47 14.0	-2.5
TUWZ	**Tuamarina**	**4.76**	**207**	P	Pn	07 47 13.8	-2.7
NNZ	**Nelson**	**4.80**	**213**	P	Pn	07 47 14.3	-2.7
QRZ	**Quartz Range**	**4.91**	**221**	Pn	Pn	07 47 15.0	-3.4
QRZ	**Quartz Range**	**4.91**	**221**	P	Pn	07 47 15.0	-3.3
BSWZ	**Blackbirch Sta**	**5.04**	**206**	Pn	Pn	07 47 17.4	-2.4
BSWZ	**Blackbirch Sta**	**5.04**	**206**	P	Pn	07 47 17.5	-2.4
THZ	**Tophouse**	**5.45**	**212**	Pn	Pn	07 47 22.0	-3.1
THZ	**Tophouse**	**5.45**	**212**	P	Pn	07 47 21.9	-3.2
KHZ	**Kahutara**	**5.77**	**205**	Pn	Pn	07 47 26.2	-2.3
KHZ	**Kahutara**	**5.77**	**205**	P	Pn	07 47 26.6	-2.3
DSZ	**Denniston Nort**	**5.95**	**219**	Pn	Pn	07 47 27.2	-4.0
DSZ	**Denniston Nort**	**5.95**	**219**	P	Pn	07 47 27.3	-3.9
LTZ	**Lake Taylor**	**6.56**	**211**	Pn	Pn	07 47 35.7	-3.1
LTZ	**Lake Taylor**	**6.56**	**211**	P	Pn	07 47 35.7	-3.1
INZ	**Inchbonnie**	**6.87**	**215**	P	Pn	07 47 39.4	-3.3
EYCZ	**Eyrewell**	**7.07**	**207**	P	Pn	07 47 42.1	-3.1
OKCZ	**Okains Bay**	**7.10**	**202**	P	Pn	07 47 42.8	-2.8
OXZ	**Oxford**	**7.11**	**209**	Pn	Pn	07 47 41.8	-3.9
OXZ	**Oxford**	**7.11**	**209**	P	Pn	07 47 41.8	-3.8
MQZ	**McQueen's Vall**	**7.22**	**205**	Pn	Pn	07 47 43.2	-3.7
MQZ	**McQueen's Vall**	**7.22**	**205**	P	Pn	07 47 43.2	-3.7
AKCZ	**Akaroa Harbour**	**7.28**	**203**	P	Pn	07 47 44.6	-3.3
WVZ	**Waitaha Valley**	**7.47**	**217**	Pn	Pn	07 47 46.4	-3.8
WVZ	**Waitaha Valley**	**7.47**	**217**	P	Pn	07 47 46.4	-3.8
RPZ	**Rata Peaks**	**7.83**	**212**	Pn	Pn	07 47 51.1	-3.7
RPZ	**Rata Peaks**	**7.83**	**212**	P	Pn	07 47 51.2	-3.4
FOZ	**Fox Glacier**	**8.26**	**218**	Pn	Pn	07 47 55.7	-4.5
FOZ	**Fox Glacier**	**8.26**	**218**	P	Pn	07 47 55.6	-4.5
ODZ	**Otahua Downs**	**9.10**	**209**	Pn	Pn	07 48 07.9	-2.8
ODZ	**Otahua Downs**	**9.10**	**209**	P	Pn	07 48 07.9	-2.8
JCZ	**Jackson Bay**	**9.17**	**219**	P	Pn	07 48 07.7	-4.0
WKZ	**Wanaka**	**9.61**	**215**	Pn	Pn	07 48 08.9	-4.3
WHZ	**Wether Hill Ro**	**10.91**	**215**	P	Pn	07 48 29.6	-4.0
SRN	**Sarande**	**0.23**	**316**	P	Pg	08 11 50.7	-0.7
SRN				*i* Sg	Sg	08 11 53.7	-0.8
	baz=321						
SRN				S	Sg	08 11 54.5	0.0
SRN	**Sarande**	**0.23**	**316**	*i* PG	Pg	08 11 50.7	-0.7
SRN				*i* SG	Sg	08 11 53.7	-0.7
KEK	**Kerkira**	**0.32**	**271**	P	Pg	08 11 52.9	-0.1
KEK				S	Sg	08 11 58.0	+0.9
KEK				AML	AML	08 12 00.3	
	comp=N,2142μm,0.6s						
KEK				AML	AML	08 12 02.9	
	comp=E,1600μm,0.4s						
KEK	**Kerkira**	**0.32**	**271**	P	Pg	08 11 52.9	-0.1
KEK				S	Sg	08 11 58.0	+0.9
KEK	**Kerkira**	**0.32**	**271**	P	Pg	08 11 53.0	0.0
KEK				S	Sg	08 11 57.9	+0.8
JAN	**Janina**	**0.50**	**96**	P	Pg	08 11 56.1	-0.3
JAN				S	Sg	08 12 03.6	+0.8
JAN				AML	AML	08 12 06.5	
	comp=N,1163μm,0.4s						
JAN				AML	AML	08 12 06.9	
	comp=E,1535μm,0.3s						
JAN	**Janina**	**0.50**	**96**	P	Pg	08 11 56.1	-0.3
JAN				S	Sg	08 12 03.8	+0.9
JAN	**Janina**	**0.50**	**96**	P	Pg	08 11 56.3	-0.1
JAN				S	Sg	08 12 03.6	+0.7
KPRO	**Kipourio**	**0.92**	**74**	P	Pg	08 12 04.3	-0.2
KPRO				S	Sg	08 12 17.2	+0.7
KPRO				AML	AML	08 12 22.3	
	comp=E,418μm,0.3s						
KPRO				AML	AML	08 12 23.3	
	comp=N,424μm,0.9s						
KPRO	**Kipourio**	**0.92**	**74**	P	Pg	08 12 04.0	-0.5
KPRO				S	Sb	08 12 17.6	-0.6
KPRO	**Kipourio**	**0.92**	**74**	P	Pg	08 12 04.3	-0.2
KPRO				S	Sg	08 12 17.2	+0.7
NEST	**Nestorio**	**0.95**	**42**	P	Pg	08 12 05.3	+0.2
NEST	**Nestorio**	**0.95**	**42**	P	Pg	08 12 04.9	-0.3
NEST	**Nestorio**	**0.95**	**42**	P	Pg	08 12 05.1	-0.1
LKD2	**Lefkada island**	**0.98**	**159**	P	Pg	08 12 05.4	-0.3
LKD2				S	Sg	08 12 18.9	+0.5
LKD2	**Lefkada island**	**0.98**	**159**	P	Pb	08 12 06.2	-0.3
LKD2				S	Sn	08 12 21.4	-0.6
LKD2	**Lefkada island**	**0.98**	**159**	P	Pb	08 12 06.2	-0.3
LKD2				S	Sg	08 12 19.0	+0.6
KBN	**Korca**	**1.01**	**26**	*i* Pn	Pg	08 12 05.9	-0.4
	baz=27						
KBN				*i* Sn	Sn	08 12 24.9	+2.0
	baz=27						
KBN	**Korca**	**1.01**	**26**	*i* PN	Pg	08 12 05.9	-0.4
KBN				*i* SN	Sn	08 12 24.9	+2.0
KZN	**Kozani**	**1.34**	**63**	P	Pg	08 12 12.0	-0.5
KZN	**Kozani**	**1.34**	**63**	P	Pb	08 12 12.6	-0.1
KZN	**Kozani**	**1.34**	**63**	P	Pg	08 12 12.1	-0.4
PDO	**Prodromos**	**1.34**	**145**	P	Pg	08 12 12.6	0.0
PDO				S	Sn	08 12 30.9	0.0
PDO	**Prodromos**	**1.34**	**145**	P

ANTO				SG	**Sb**	**08 29 18.8**	**-0.3**
ANTO	**Ankara**	**0.65**	**179**	*e*Pg	**Pg**	**08 29 08.7**	**-1.0**
ANTO				eSg	**Sb**	**08 29 18.8**	**-0.3**
CANT	**Cankiri**	**0.65**	**82**	PG	**Pb**	**08 29 09.3**	**-0.9**
BBAL	**Bala**	**1.01**	**164**	*i* P	**Pn**	**08 29 18.4**	**+1.5**
BBAL	**Bala**	**1.01**	**164**	P	**Pn**	**08 29 18.4**	**+1.5**
AFSR	**Af ar-Bala (A**	**1.09**	**168**	PN	**Pb**	**08 29 17.4**	**-0.4**
AFSR	**Af ar-Bala (A**	**1.09**	**168**	*e*Pn	**Pb**	**08 29 17.4**	**-0.4**
MDUB	**Mudurnu**	**1.20**	**268**	PN	**Pb**	**08 29 16.5**	**-3.1**
MDUB	**Mudurnu**	**1.20**	**268**	*e*Pn	**Pb**	**08 29 16.5**	**-3.1**
KKUL	**Konya-Kulu**	**1.35**	**175**	*i* P	**Pg**	**08 29 23.0**	**0.0**
KKUL				*i* S	**Sn**	**08 29 42.0**	**+2.6**
KKUL	**Konya-Kulu**	**1.35**	**175**	P	**Pg**	**08 29 23.0**	**0.0**
KKUL				S	**Sn**	**08 29 42.0**	**+2.6**
SVRH	**Sivrihisar-ESK**	**1.44**	**222**	PN	**Pn**	**08 29 21.2**	**-1.5**
SVRH	**Sivrihisar-ESK**	**1.44**	**222**	*e*Pn	**Pn**	**08 29 21.2**	**-1.5**
CORM	**Corum**	**1.46**	**103**	PN	**Pb**	**08 29 23.5**	**-0.6**
CORM	**Corum**	**1.46**	**103**	*e*Pn	**Pb**	**08 29 23.5**	**-0.6**
SAHE	**Sakarya_HENDEK**	**1.50**	**284**	*i* P	**Pg**	**08 29 25.4**	**-0.4**
SAHE				*i* S	**Sg**	**08 29 46.1**	**+0.9**
SAHE	**Sakarya_HENDEK**	**1.50**	**284**	P	**Pg**	**08 29 25.4**	**-0.4**
SAHE				S	**Sg**	**08 29 46.1**	**+0.9**
CDAG	**Cicekdag**	**1.52**	**125**	*i* P	**Pb**	**08 29 24.3**	**-0.7**
CDAG				*i* S	**Sb**	**08 29 43.9**	**-0.3**
CDAG	**Cicekdag**	**1.52**	**125**	P	**Pb**	**08 29 24.3**	**-0.7**
CDAG				S	**Sb**	**08 29 43.9**	**-0.3**
SERE	**Sereflikochisa**	**1.68**	**158**	PN	**Pn**	**08 29 26.3**	**+0.1**
SERE	**Sereflikochisa**	**1.68**	**158**	*e*Pn	**Pn**	**08 29 26.3**	**+0.1**

*IDC **18** 08:33:08.5±1.1,5°.51N×126°.30E, h0km, mb4.1/9, mb1 4.1/9, mb1mx3.7/65, mbtmp4.1/9, MS3.0/1, Ms1 3.0/1, ms1mx2.4/55, Error ellipse: s-maj=101.2km s-min=16.4km az=72.0*

*MAN **18** 08:33:13, 5°.30N×126°.30E, h101km, mb4.6, ML3.5, MS3.3*

*ISCJB **18** 08:33:15.6±0.6, 5°.33N±0°.05×126°.11E±0°.09, h66km, mb3.9/9, Error ellipse: s-maj=12.3km s-min=6.6km az=170.7*

ISC 18 08:33:17.1±0.9,**5°.36N**±0°.08×**126°.2E**±0°.1, **h66**km,**n16**, σ1°**56**/**18**, **mb4.2**/**9**, **2C-1D**, **Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSPH	**General Santos**	**1.45**	**300**	⇓*i* P	Pn	08 33 38.8	-2.7
GSPH				*i* S	**Sn**	**08 33 57.0**	**-2.8**
MATI	**Mati**	**1.58**	**2**	*e*P	**Pn**	**08 33 41.6**	**-1.4**
MATI				*e*S	**Sn**	**08 34 03.5**	**+0.9**
DMPH	**Davao City--Mi**	**1.85**	**338**	⇑*e*P	**Pn**	**08 33 51.4**	**+4.7**
DMPH				*i* S	Sn	08 34 24.6	+15
BUKP	**Musuan**	**2.75**	**335**	*e*P	**Pn**	**08 33 58.3**	**-0.7**
BUKP				eS	**Sn**	**08 34 31.6**	**+0.4**
BIPH	**Bislig**	**2.81**	**3**	⇑*i* P	**Pn**	**08 33 58.4**	**-1.4**
BIPH				*i* S	**Sn**	**08 34 32.8**	**+0.4**
FITZ	**Fitzroy Crossi**	**23.32**	**181**	P	**P**	**08 38 19.7**	**0.0**
	0.8nm,0.5s,baz=0,slow=9.1,SNR=3.8						
WRA	**Warramunga Arr**	**26.38**	**163**	P	**P**	**08 38 47.9**	**+0.4**
	1.4nm,0.9s,baz=343,slow=10.0,SNR=24						
ASAR	**Alice Springs**	**29.81**	**166**	P	**P**	**08 39 19.0**	**+0.9**
	0.3nm,0.5s,baz=348,slow=7.1,SNR=7.8						
TLY	**Talaya**	**49.83**	**342**	LR	LR	09 04 23.5	
	comp=Z,17nm,18.8s,baz=328,slow=38						
MKAR	**Makanchi Array**	**55.93**	**325**	P	**P**	**08 42 48.5**	**0.0**
	1.4nm,0.4s,baz=117,slow=7.5,SNR=19						
KURBB	**Kurchatov Arra**	**60.10**	**327**	P	**P**	**08 43 16.8**	**-0.7**
	0.9nm,0.5s,baz=127,slow=6.9,SNR=10						
BVAR	**Borovoye Array**	**65.68**	**327**	P	**P**	**08 43 54.3**	**-0.3**
	0.4nm,0.4s,baz=132,slow=4.3,SNR=3.1						
ARCES	**ARCESS Array B**	**88.75**	**340**	P	**P**	**08 46 03.3**	**0.0**
	1.0nm,0.6s,baz=94,slow=5.2,SNR=9.3						
SPITS	**Spitsbergen Ar**	**88.79**	**349**	P	**P**	**08 46 03.3**	**0.0**
	6.3nm,0.8s,baz=64,slow=5.7,SNR=6.8						
FINES	**FINESS Array B**	**90.16**	**332**	P	**P**	**08 46 09.5**	**-0.5**
	1.6nm,0.8s,baz=59,slow=11,SNR=4.5						
TORD	**Torodi Ar. Bea**	**121.92**	**289**	PKP	**PKPdf**	**08 52 04.9**	**-0.1**
	0.3nm,0.8s,baz=66,slow=2.2,SNR=2.8						

*ISCJB **18** 08:34:40.8±1.1, 30°.54S±0°.04×71°.28W±0°.10, h66km±11km, Error ellipse: s-maj=13.8km s-min=6.7km az=2.7*

*GUC **18** 08:34:40.3±0.7, 30°.55S×71°.08W, h66km±6km, ML3.3*

*SJA **18** 08:34:40.6±0.5, 30°.53S×71°.17W, h40km±999km, ML3.3, MW3.8*

ISC 18 08:34:42.1±1.6,**30°.54S**±0°.05×**71°.25W**±0°.09, **h55**km±16km, **n15**, σ0°**52**/**23**, **Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO04	**Tololo Observa**	**0.53**	**47**	*e*P	**Pn**	**08 34 53.9**	**-0.5**
GO04				eS	**Sn**	**08 35 03.6**	**+0.4**
TLL	**Tololo Astrono**	**0.53**	**46**	*e*P	**Pn**	**08 34 54.0**	**-0.3**
TLL				eS	**Sn**	**08 35 03.6**	**+0.4**
TLL				IAML		08 35 05.4	
	comp=N,3μm,0.3s						
AROD	**Rodeo**	**1.58**	**77**	*i* P	**Pn**	**08 35 07.4**	**-0.6**
AROD				*i* S	**Sn**	**08 35 27.2**	**-0.3**
LCO	**Las Campanas**	**1.59**	**17**	*i* P	**Pn**	**08 35 07.7**	**-0.5**
LCO	**Las Campanas**	**1.59**	**17**	*e*P	**Pn**	**08 35 07.8**	**-0.5**
LCO				eS	**Sn**	**08 35 29.0**	**+1.1**
LCO				IAML		08 35 31.8	
	comp=N,284nm,0.4s						
ACDV	**Cuesta del Vie**	**1.87**	**79**	*i* P	**Pn**	**08 35 11.3**	**-0.6**
RTLS	**Leoncito**	**2.09**	**127**	*i* P	**Pn**	**08 35 15.2**	**+0.3**
RTLS				IAML		08 35 40.5	
	comp=Z,113nm,0.2s						
RTLS				*i* S	**Sn**	**08 35 40.5**	**+0.5**
AUSP	**Uspallata**	**2.31**	**137**	*i* P	**Pn**	**08 35 18.0**	**0.0**
AUSP				*i* S	**Sn**	**08 35 45.9**	**+0.4**
AMOG	**MOGNA**	**2.40**	**100**	*i* P	**Pn**	**08 35 18.6**	**-0.4**
RTLL	**Cerro Villicun**	**2.51**	**109**	*i* P	**Pn**	**08 35 20.1**	**-0.3**
AGUA	**GUANDACOL**	**2.61**	**67**	*i* P	**Pn**	**08 35 21.7**	**-0.2**
RTCV	**Cerro Valdivia**	**2.67**	**120**	*i* P	**Pn**	**08 35 22.2**	**-0.5**
FCH	**Farellones**	**2.90**	**164**	*e*P	**Pn**	**08 35 26.1**	**+0.1**
FCH				eS	**Sn**	**08 36 00.5**	**+0.6**
FCH				IAML		08 36 11.6	
	comp=E,158nm,0.2s						
RCDM	**Rinconada Maip**	**2.96**	**173**	*e*P	**Pn**	**08 35 26.1**	**-0.6**
RCDM				eS	**Sn**	**08 36 00.7**	**-0.4**
VCA	**Vinchina**	**3.20**	**57**	*i* P	**Pn**	**08 35 30.1**	**+0.1**
VCA				IAML		08 36 18.8	
	comp=Z,149nm,0.3s						

*ISCJB **18** 08:39:34.2±0.8, 37°.00N±0°.07×141°.47E±0°.06, h10km, mb3.5/6, MS4.0/1, Error ellipse: s-maj=9.7km s-min=6.2km az=20.3*

*IDC **18** 08:39:34.5±1.0, 36°.95N×141°.37E, h0km, mb3.4/6, mb1 3.6/7, mb1mx3.4/70, mbtmp3.3/7, ML3.0/1, MS3.3/2, Ms1 3.3/2, ms1mx2.5/38, Error ellipse: s-maj=24.6km s-min=22.7km az=139.0*

*JMA **18** 08:39:36.3±0.1, 37°.02N×141°.38E, h23km±2km, M3.4*

ISC 18 08:39:36.0±1.0,**37°.01N**±0°.07×**141°.41E**±0°.07, **h10**km,**n19**, σ0°**69**/**16**, **mb3.4**/**6**, **Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.49**	**281**	P	**Pg**	**08 39 45.8**	**+0.1**
ONAJ				eS	**Sg**	**08 39 52.5**	**+0.3**
JFK	**Kawauchi**	**0.55**	**310**	P	**Pg**	**08 39 46.2**	**-0.6**
JFK				S	**Sg**	**08 39 54.0**	**-0.1**
JHO	**Hitachi**	**0.78**	**239**	P	**Pg**	**08 39 50.6**	**-0.5**
JFT	**Otama**	**0.99**	**301**	S	**Sg**	**08 40 07.5**	**-0.5**
MJAR	**Matsushiro Arr**	**2.61**	**261**	Pn	**Pn**	**08 40 18.2**	**-0.1**
	2.8nm,0.3s,baz=88,slow=14,SNR=16						
MJAR				Sn	**Sn**	**08 40 49.7**	**-0.3**
	3.1nm,0.3s,baz=81,slow=27,SNR=4.8						
MAT	**Matsushiro**	**2.61**	**261**	P	**Pn**	**08 40 18.7**	**+0.4**
MAT				eS	**Sn**	**08 40 51.6**	**+1.5**
KSRS	**Korea Array**	**10.76**	**276**	LR	LR	08 46 38.2	
	comp=Z,36nm,18.1s,baz=190,slow=39						
H11N2	**WAKE ISLAND Hy**	**28.14**	**121**	T	T	09 14 54.7	
	baz=313,slow=75,SNR=84						
H11N1	**WAKE ISLAND Hy**	**28.15**	**121**	T	T	09 14 54.5	
	baz=313,slow=75,SNR=96						
H11N3	**WAKE ISLAND Hy**	**28.16**	**121**	T	T	09 14 56.9	
	baz=313,slow=75,SNR=71						
H11S1	**WAKE ISLAND Hy**	**28.85**	**123**	T	T	09 15 47.4	
	baz=315,slow=76,SNR=26						
H11S3	**WAKE ISLAND Hy**	**28.85**	**123**	T	T	09 15 47.0	
	baz=315,slow=76,SNR=42						
H11S2	**WAKE ISLAND Hy**	**28.87**	**123**	T	T	09 15 48.2	
	baz=315,slow=76,SNR=25						

MKAR	**Makanchi Array**	**44.12**	**302**	P	**P**	**08 47 44.1**	**-0.5**
	0.3nm,0.6s,baz=89,slow=9.7,SNR=4.1						
KURBB	**Kurchatov Arra**	**46.01**	**308**	P	**P**	**08 47 59.1**	**-0.3**
	0.3nm,0.4s,baz=83,slow=8.6,SNR=4.0						
ILAR	**Eielson Array**	**49.52**	**32**	P	**P**	**08 48 26.6**	**+0.1**
	0.3nm,0.6s,baz=259,slow=6.5,SNR=6.0						
WRA	**Warramunga Arr**	**57.04**	**188**	P	**P**	**08 49 21.3**	**-0.8**
	0.4nm,0.6s,baz=4.6,slow=7.2,SNR=8.7						
ASAR	**Alice Springs**	**60.77**	**188**	P	**P**	**08 49 47.5**	**-0.5**
	0.2nm,0.6s,baz=17,slow=11,SNR=3.2						
ASAR				LR	LR	09 14 59.8	
	comp=Z,95nm,19.5s,baz=270,slow=35						
TXAR	**Lajitas Array**	**90.14**	**52**	P	**P**	**08 52 37.9**	**+1.1**
	0.1nm,0.5s,baz=282,slow=4.5,SNR=2.8						

*IDC **18** 08:41:46.3±0.7, 23°.12N×143°.84E, h0km, mb3.7/10, mb1 3.8/12, mb1mx3.6/70, mbtmp3.7/12, ML3.4/2, Error ellipse: s-maj=26.8km s-min=16.9km az=86.0*

*ISCJB **18** 08:41:49.3±0.6, 23°.14N±0°.07×143°.7E±0°.2, h34km, mb3.7/12, Error ellipse: s-maj=21.1km s-min=9.1km az=165.5*

ISC 18 08:41:51.2±0.8,**23°.14N**±0°.10×**143°.8E**±0°.2, **h34**km,**n15**, σ0°**57**/**16**, **mb3.8**/**12**, **2C-2D**, **Volcano Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**4.19**	**340**	Pn	**Pn**	**08 42 51.9**	**-0.9**
	4.2nm,0.3s,baz=270,slow=20,SNR=2.7						
JCJ				Sn	**Sn**	**08 43 40.1**	**-0.4**
	13nm,0.3s,baz=274,slow=22,SNR=7.4						
KSRS	**Korea Array**	**19.73**	**320**	P	**P**	**08 46 18.8**	**+0.9**
	0.1nm,0.3s,baz=153,slow=11,SNR=5.9						
WRA	**Warramunga Arr**	**43.80**	**193**	P	**P**	**08 49 53.6**	**-0.4**
	0.4nm,0.6s,baz=10.0,slow=8.3,SNR=6.5						
ASAR	**Alice Springs**	**47.51**	**192**	P	**P**	**08 50 23.2**	**0.0**
	0.3nm,0.7s,baz=17,slow=9.1,SNR=4.6						
MK31	**Makanchi Array**	**54.14**	**312**	⇑Pg	**P**	**08 51 13.1**	**0.0**
	1.3nm,0.7s,baz=17,slow=17,SNR=8.4						
MK31				⇑Lg	Lg	08 52 00.3	
	1.4nm,0.8s,baz=20,slow=28,SNR=3.7						
MKAR	**Makanchi Array**	**54.14**	**312**	P	**P**	**08 51 13.7**	**+0.7**
	1.0nm,0.6s,baz=92,slow=8.4,SNR=10						
MAKZ	**Makanchi**	**54.35**	**312**	⇓Pg	**P**	**08 51 14.8**	**+0.2**
	1.4nm,0.8s						
MAKZ				⇓Lg	Lg	08 51 58.5	
	1.6nm,0.6s						
STKA	**Stephens Creek**	**54.75**	**182**	P	**P**	**08 51 17.0**	**-0.4**
	1.1nm,0.7s,baz=343,slow=9.4,SNR=5.0						
KURBB	**Kurchatov Arra**	**56.86**	**316**	P	**P**	**08 51 32.7**	**+0.2**
	0.6nm,0.5s,baz=95,slow=8.3,SNR=4.3						
ILAR	**Eielson Array**	**60.51**	**27**	P	**P**	**08 51 56.9**	**-0.7**
	0.5nm,0.9s,baz=259,slow=4.6,SNR=5.5						
BVAR	**Borovoye Array**	**61.94**	**319**	P	**P**	**08 52 08.0**	**+0.4**
	1.4nm,0.6s,baz=98,slow=8.9,SNR=6.5						
INK	**Inuvik**	**66.03**	**24**	P	**P**	**08 52 34.6**	**+0.6**
	0.3nm,0.4s,baz=290,slow=5.9,SNR=4.5						
YKA	**Yellowknife Ar**	**74.92**	**28**	P	**P**	**08 53 29.2**	**+0.7**
	0.4nm,0.6s,baz=292,slow=5.8,SNR=8.2						
NVAR	**Mina Array Bea**	**81.82**	**52**	P	**P**	**08 54 07.4**	**+0.1**
	0.3nm,0.6s,baz=271,slow=3.4,SNR=3.9						
PLCA	**Paso Flores**	**146.27**	**129**	PKPbc	**PKPab**	**09 01 29.0**	**-0.3**
	4.1nm,1.1s,baz=261,slow=3.0,SNR=6.6						

IDC 18 08:42:44.2±3.3,**0°.31N×96°.09E**, **h0**km, **mb3.3**/**2**, **mb1 3.5**/**3**, **mb1mx3.1**/**69**, **mbtmp3.3**/**3**, **ML2.9**/**1**, **MS3.1**/**2**, **Ms1 3.1**/**2**, **ms1mx2.6**/**32**, **Error ellipse: s-maj=73.7km s-min=43.3km az=86.0**, **Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**3.76**	**49**	Pn	Pn	08 43 42.9	-0.8
	0.9nm,0.3s,baz=232,slow=14,SNR=2.6						
PSI				Sn	Sn	08 44 15.3	-13
	0.9nm,0.3s,baz=238,slow=9.5,SNR=2.4						
PSI				LR	LR	08 45 25.0	
	comp=Z,127nm,21.3s,baz=104,slow=44						
WRA	**Warramunga Arr**	**42.52**	**120**	P	P	08 50 41.6	-0.3
	0.3nm,0.6s,baz=303,slow=8.7,SNR=5.0						
ASAR	**Alice Springs**	**43.76**	**126**	P	P	08 50 51.7	-0.2
	0.3nm,0.6s,baz=297,slow=8.1,SNR=6.3						
OPO	**Ambohidratompo**	**51.55**	**246**	LR	LR	09 08 54.7	
	comp=Z,47nm,20.2s,baz=120,slow=30						
TXAR	**Lajitas Array**	**145.00**	**31**	PKPbc	PKPab	09 02 23.2	-0.5
	0.1nm,0.4s,baz=46,slow=3.9,SNR=4.1						

*ISCJB **18** 08:51:56.5±1.2, 36°.63N±0°.07×70°.8E±0°.2, h200km, mb3.0/3, Error ellipse: s-maj=24.5km s-min=9.9km az=7.1*

*NNC **18** 08:52:00.3±5.9, 37°.13N×70°.39E, h0km, mb3.6, mpv3.2, Error ellipse: s-maj=45.1km s-min=39.1km az=164.0*

*IDC **18** 08:52:02.1±9.9, 36°.65N×71°.87E, h223km±71km, mb2.9/3, mb1 3.1/4, mb1mx2.7/66, mbtmp3.4/4, Error ellipse: s-maj=133.4km s-min=36.0km az=68.0*

ISC 18 08:51:58.0±1.7,**36°.6N**±0°.1×**71°.0E**±0°.3, **h200**km,**n8**, σ1°**36**/**11**, **mb3.1**/**3**, **7C-1D**, **Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**3.92**	**29**	⇑Pn	**Pn**	**08 53 00.4**	**+1.5**
	1.4nm,0.3s						
SFK				⇓Sn	**Sn**	**08 53 46.4**	**-0.4**
	18nm,0.6s						
MNAS	**Manas**	**5.97**	**11**	⇑Pn	**Pn**	**08 53 25.3**	**+0.4**
	1.3nm,0.4s						
MNAS				⇑Sn	**Sn**	**08 54 31.4**	**-2.4**
	9.7nm,0.6s						
KK31	**Karatay Array**	**6.48**	**357**	⇑Pn	Pn	08 53 31.3	-0.1
	0.7nm,0.2s,baz=189,slow=13,SNR=41						
KK31				⇑Sn	Sn	08 54 41.5	-4.0
	2.3nm,0.5s,baz=188,slow=22,SNR=12						
AAK	**Ala-Archa**	**6.58**	**23**	P	**Pn**	**08 53 33.8**	**+0.9**
	0.6nm,0.3s,baz=198,slow=13,SNR=5.3						
AAK				S	**Sn**	**08 54 47.5**	**-0.5**
	0.5nm,0.3s,baz=152,slow=23,SNR=13						
AAK	**Ala-Archa**	**6.58**	**23**	⇑Pn	**Pn**	**08 53 33.5**	**+0.6**
	2.3nm,0.9s						
AAK				⇑Sn	**Sn**	**08 54 47.6**	**-0.5**
	2.1nm,0.4s						
YKA	**Yellowknife Ar**	**81.12**	**3**	P	**P**	**09 03 51.9**	**+1.4**
	0.2nm,0.5s,baz=352,slow=5.6,SNR=5.6						
WRA	**Warramunga Arr**	**82.06**	**122**	P	**P**	**09 03 54.8**	**-1.2**
	0.7nm,1.2s,baz=326,slow=5.3,SNR=4.7						
ASAR	**Alice Springs**	**84.32**	**125**	P	**P**	**09 04 06.4**	**-1.2**
	0.1nm,0.4s,baz=316,slow=5.2,SNR=3.4						

*UPP **18** 09:00:25.2±3.2, 64°.38N×31°.45E, h0km, ML1.6*

*ISCJB **18** 09:00:28.2±0.7, 64°.73N±0°.03×30°.8E±0°.1, h0km, Error ellipse: s-maj=7.7km s-min=3.7km az=3.3*

*CSEM **18** 09:00:29.8±0.5, 64°.75N×30°.81E, h2km, ML2.0, Error ellipse: s-maj=10.9km s-min=5.1km az=98.0, Mining explosion.*

*HEL **18** 09:00:29.8±0.3, 64°.73N×30°.84E, h0km, ML2.0, Explosion*

*IDC **18** 09:00:29.0±3.3, 64°.78N×32°.27E, h0km, mb1 3.1/4, mb1mx2.8/69, mbtmp3.0/4, ML2.5/4, Error ellipse: s-maj=44.0km s-min=10.2km az=100.0*

ISC 18 09:00:29.1±1.1,**64°.75N**±0°.03×**30°.85E**±0°.06, **h0**km, **n46**, σ1°**21**/**64**, **Finland-Karelia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KU6	**Riekki**	**1.34**	**343**	*e*P	**Pg**	**09 00 54.6**	**-0.2**
KU6				*e*S	**Sg**	**09 01 11.6**	**-0.6**
KU6	**Riekki**	**1.34**	**343**	*e*P	**Pg**	**09 00 54.6**	**-0.2**
KU6				*e*S	**Sg**	**09 01 11.6**	**-0.6**
MSF	**Maaselka**	**1.39**	**328**	*e*P	**Pg**	**09 00 54.9**	**-0.8**
MSF				*e*S	**Sb**	**09 01 14.0**	**-0.3**
MSF	**Maaselka**	**1.39**	**328**	*e*P	**Pg**	**09 00 54.9**	**-0.8**
MSF				*e*S	**Sb**	**09 01 14.0**	**-0.3**
JOF	**Joensuu**	**1.85**	**173**	*e*S	**Sn**	**09 01 26.1**	**+0.1**
JOF	**Joensuu**	**1.85**	**173**	*e*S	**Sn**	**09 01 26.1**	**+0.1**
JOF				MSG		09 01 33.5	
	comp=Z,14nm,0.1s						
OUL	**Oulu**	**2.14**	**281**	*e*P	**Pn**	**09 01 06.3**	**+0.4**
OUL				*e*S	**Sn**	**09 01 32.2**	**-0.9**
OUL	**Oulu**	**2.14**	**281**	*e*P	**Pn**	**09 01 06.3**	**+0.4**
OUL				*e*S	**Sn**	**09 01 32.2**	**-0.9**
RNF	**Rovaniemi**	**2.74**	**315**	*e*P	**Pn**	**09 01 15.7**	**+1.5**
RNF				*e*S	**Sn**	**09 01 49.6**	**+1.7**
RNF	**Rovaniemi**	**2.74**	**315**	*e*P	**Pn**	**09 01 15.7**	**+1.5**
RNF				*e*S	**Sn**	**09 01 49.6**	**+1.7**
TOF	**Tornio**	**3.04**	**299**	*e*S	**Sn**	**09 01 56.1**	**+0.8**
VRF	**Varrio**	**3.06**	**351**	*e*P	**Pn**	**09 01 19.4**	**+0.9**
VRF	**Varrio**	**3.06**	**351**	*e*P	**Pn**	**09 01 19.4**	**+0.9**
VRF				*e*S	**Sn**	**09 01 57.1**	**+1.3**
SGF	**Sodankyl**	**3.23**	**329**	*e*P	**Pn**	**09 01 23.2**	**+2.3**
SGF				*e*S	**Sn**	**09 02 00.0**	**0.0**
SGF	**Sodankyl**	**3.23**	**329**	*e*P	**Pn**	**09 01 23.2**	**+2.3**
SGF				*e*S	**Sn**	**09 02 00.0**	**0.0**
KALU	**Kalix**	**3.34**	**293**	P	**Pn**	**09 01 23.7**	**+1.3**
KAF	**Kangasniemi**	**3.34**	**220**	*e*Sb	**Sb**	**09 02 08.0**	**-2.2**
KAF	**Kangasniemi**	**3.34**	**220**	*e*SB	**Sb**	**09 02 08.0**	**-2.2**
KEF	**Keuruu**	**3.73**	**229**	*e*P	**Pn**	**09 01 29.0**	**+1.2**
KEF	**Keuruu**	**3.73**	**229**	*e*P	**Pn**	**09 01 29.0**	**+1.2**
PAJU	**Pajala**	**3.91**	**309**	P	**Pn**	**09 01 31.9**	**+1.6**
PAJU	**Pajala**	**3.91**	**309**	P	**Pn**	**09 01 31.9**	**+1.6**
FIA0	**FINESS Array S**	**3.96**	**215**	*e*P	**Pn**	**09 01 31.8**	**+0.8**
FIA0	**FINESS Array S**	**3.96**	**215**	*e*P	**Pn**	**09 01 31.8**	**+0.8**
FINES	**FINESS Array B**	**3.96**	**215**	Pn	Pn	09 01 36.1	+5.1
	comp=Z,0.1nm,0.3s,baz=36,slow=13,SNR=2.9						
FINES				Pg	**Pg**	**09 01 45.5**	**+0.6**
	comp=Z,0.5nm,0.3s,baz=33,slow=15,SNR=6.4						
FINES				Sn	**Sb**	**09 02 27.3**	**-0.7**
	comp=Z,0.4nm,0.3s,baz=41,slow=26,SNR=3.4						
FINES				Lg	Lg	09 02 35.6	
	comp=Z,1.6nm,0.3s,baz=43,slow=25,SNR=7.7						
SJUU	**Sjulsmark**	**3.98**	**285**	P	**Pn**	**09 01 31.9**	**+0.7**
ERTU	**Ertsjaerv**	**4.02**	**301**	P	**Pn**	**09 01 33.0**	**+1.2**
BURU	**Burvik**	**4.08**	**272**	P	**Pn**	**09 01 31.5**	**-1.0**
BURU				S	**Sn**	**09 02 22.4**	**+1.5**
BURU	**Burvik**	**4.08**	**272**	P	**Pn**	**09 01 31.5**	**-1.0**
BURU				S	**Sn**	**09 02 22.4**	**+1.5**
HEF	**Hetta**	**4.66**	**325**	*e*P	**Pn**	**09 01 40.5**	**-0.1**
HEF	**Hetta**	**4.66**	**325**	*e*P	**Pn**	**09 01 40.5**	**-0.1**
LILU	**Lilltraesk**	**4.70**	**282**	P	**Pn**	**09 01 41.0**	**-0.1**
LILU	**Lilltraesk**	**4.70**	**282**	P	**Pn**	**09 01 41.0**	**-0.1**
DUNU	**Dundret**	**4.83**	**304**	P	**Pn**	**09 01 44.1**	**+1.1**
SVAU	**Svanoeiden**	**4.86**	**272**	P	**Pn**	**09 01 43.1**	**-0.1**
LANU	**Lannavaara**	**4.86**	**317**	P	**Pn**	**09 01 44.1**	**+0.7**
LANU	**Lannavaara**	**4.86**	**317**	*e*P	**Pn**	**09 01 43.8**	**+0.4**
LANU	**Lannavaara**	**4.86**	**317**	*e*P	**Pn**	**09 01 43.8**	**+0.4**
ARCES	**ARCESS Array B**	**5.24**	**339**	Pn	**Pn**	**09 01 49.1**	**+0.5**
	comp=Z,0.3nm,0.3s,baz=159,slow=16,SNR=14						
ARCES				Sn	**Sn**	**09 02 51.2**	**+1.7**
	comp=Z,0.5nm,0.3s,baz=160,slow=26,SNR=5.2						
ARCES				Lg	Lg	09 03 14.4	
	comp=Z,0.3nm,0.3s,baz=156,slow=32,SNR=3.1						
ARE0	**ARCESS Array S**	**5.24**	**339**	*e*P	**Pn**	**09 01 48.9**	**+0.4**
ARE0				*e*S	**Sn**	**09 02 48.8**	**-0.7**
KEV	**Kevo**	**5.25**	**345**	*e*P	**Pn**	**09 01 48.8**	**+0.2**
KEV				eS	**Sn**	**09 02 47.6**	**-2.0**
KEV	**Kevo**	**5.25**	**345**	*e*P	**Pn**	**09 01 48.8**	**+0.2**
KEV				eS	**Sn**	**09 02 47.6**	**-2.0**
SALU	**Saltoluokta**	**5.67**	**303**	P	**Pn**	**09 01 55.6**	**+1.1**
SALU	**Saltoluokta**	**5.67**	**303**	P	**Pn**	**09 01 55.6**	**+1.1**
HFS	**Hagfors**	**9.18**	**248**	Pn	**Pn**	**09 02 45.2**	**+2.6**
	comp=Z,0.2nm,0.3s,baz=60,slow=14,SNR=6.0						
NOA	**NORSAR Array B**	**9.68**	**256**	Pn	**Pn**	**09 02 52.0**	**+2.5**
	comp=Z,0.1nm,0.3s,baz=42,slow=20,SNR=2.6						

*ISCJB **18** 09:01:47.5±1.3, 1°.4N±0°.2×91°.8E±0°.2, h10km, mb3.7/6, Error ellipse: s-maj=36.5km s-min=17.8km az=153.8*

*IDC **18** 09:01:47.7±1.7, 1°.40N×91°.70E, h0km, mb3.7/6, mb1 3.9/7, mb1mx3.5/69, mbtmp3.7/7, Error ellipse: s-maj=64.1km s-min=23.0km az=56.0*

ISC 18 09:01:49.0±1.5,**1°.4N**±0°.2×

NWLT					*e*S		**Sg**	09 05 00.5	-0.7
	baz=309								
YHNB	**Yeheng**	**0.73**	**297**	*e*P			**Pb**	09 04 53.0	+0.1
	baz=298								
YHNB					*e*S		**Sg**	09 05 02.0	-0.5
	baz=298								
JYNG	**Yonagunijimaku**	**0.78**	**82**	P			**Pg**	09 04 53.9	+0.3
JYNG				S			**Sg**	09 05 04.2	+0.2
NWF	**Wu-fen Shan**	**0.78**	**339**	*e*P			**Pn**	09 04 54.5	-0.4
	baz=333								
NWF				S			**Sb**	09 05 04.0	-0.1
	baz=333								
WFSB	**Wu-fen Shan**	**0.78**	**339**	*e*P			**Pn**	09 04 54.4	-0.4
	baz=333								
WFSB					*e*S		**Sb**	09 05 04.0	-0.1
	baz=333								
WHF	**Hehuan Shan**	**0.78**	**256**	P			**Pb**	09 04 54.1	+0.1
	baz=259								
WHF					*e*S		**Sb**	09 05 04.9	+0.3
	baz=259								
ESL	**Shilin**	**0.80**	**229**	*e*P			**Pn**	09 04 55.0	-0.1
	baz=232								
YOJ	**Yonaguni jima**	**0.84**	**82**	P			**Pb**	09 04 54.9	+0.2
YOJ				S			**Sg**	09 05 05.9	0.0
TWT	**Tachien**	**0.84**	**264**	*e*P			**Pn**	09 04 55.4	-0.5
	baz=264								
TWT					*e*S		**Sn**	09 05 07.3	-0.8
	baz=264								
TDCB	**Techi**	**0.86**	**264**	*e*P			**Pn**	09 04 55.8	-0.3
	baz=264								
CHGB	**Renai**	**0.89**	**252**	*e*P			**Pn**	09 04 56.4	-0.2
	baz=236								
CHGB					*e*S		**Sn**	09 05 10.5	+1.3
	baz=236								
EGFH	**Guangfu**	**0.91**	**223**	*e*P			**Pn**	09 04 57.9	+1.3
	baz=202								
OWD	**Renai**	**0.93**	**246**	P			**Pn**	09 04 56.9	-0.1
	baz=241								
TWS1	**Kuangyinshan**	**0.98**	**321**	*e*P			**Pn**	09 04 58.6	+1.1
	baz=322								
LIOB	**Emei**	**1.03**	**287**	*e*P			**Pn**	09 04 59.4	+1.2
	baz=285								
TWY	**Chenhua**	**1.03**	**334**	*e*P			**Pn**	09 04 59.4	+1.1
	baz=337								
TWY					*e*S		**Sn**	09 05 12.2	-0.3
	baz=337								
NSTT	**Nanjuang**	**1.04**	**286**	*e*P			**Pn**	09 04 59.4	+1.0
	baz=285								
NSTT					*e*S		**Sn**	09 05 12.3	-0.3
	baz=285								
HGSD	**Ruisui**	**1.05**	**216**	*e*P			**Pb**	09 04 58.1	0.0
	baz=198								
EHY	**Hungye**	**1.09**	**221**	*e*P			**Pb**	09 04 59.2	+0.2
	baz=214								
DPDB	**Guoxing**	**1.11**	**254**	*e*P			**Pg**	09 05 00.5	+0.5
	baz=240								
SSLB	**Suanglung**	**1.18**	**242**	*e*P			**Pg**	09 05 01.2	0.0
	baz=238								
SMLT	**Sun Moon Lake**	**1.19**	**248**	*e*P			**Pg**	09 05 01.8	+0.5
	baz=244								
YULB	**Yu-li**	**1.20**	**218**	*e*P			**Pn**	09 04 59.9	-0.7
	baz=211								
NMLH	**Miaoli**	**1.21**	**280**	*e*P			**Pg**	09 05 02.8	+1.1
	baz=277								
TWQ1	**Liyutan**	**1.21**	**271**	*e*P			**Pg**	09 05 03.1	+1.4
	baz=255								
TYC	**Yuchr**	**1.21**	**249**	*e*P			**Pg**	09 05 02.0	+0.1
	baz=245								
WJS	**Zhushan**	**1.35**	**248**	*e*P			**Pg**	09 05 04.9	+0.4
	baz=229								
WJS					*e*S		**Sg**	09 05 22.6	+0.4
	baz=229								
FULB	**Fuli**	**1.35**	**213**	*e*P			**Pb**	09 05 03.6	+0.1
	baz=191								
ALS	**Alishan**	**1.44**	**235**	*e*P			**Pb**	09 05 05.6	+0.5
	baz=231								
IRIF	**Iriomote-Funau**	**1.49**	**90**	P			**Pn**	09 05 04.3	-0.3
IRIF				S			**Sn**	09 05 23.7	0.0
CHN5	**Tsauling**	**1.49**	**241**	*e*P			**Pg**	09 05 06.7	-0.5
	baz=219								
ELDTW	**Lidau**	**1.52**	**221**	*e*P			**Pb**	09 05 06.0	-0.3
	baz=202								
CHN4	**Tsaushan**	**1.69**	**235**	*e*P			**Pg**	09 05 10.2	-0.8
	baz=213								
STYT	**Tauyuan**	**1.70**	**227**	*e*P			**Pb**	09 05 09.7	+0.4
	baz=207								
TWH	**Lutao**	**1.72**	**199**	*e*P			**Pn**	09 05 07.0	-0.8
	baz=192								
WTP	**Ta-pu**	**1.74**	**232**	*e*P			**Pb**	09 05 10.7	+0.6
	baz=226								
JKRS	**Kuro-shima**	**1.75**	**93**	P			**Pn**	09 05 08.6	+0.5
JKRS					*e*S		**Sn**	09 05 30.2	+0.1
TWG	**Pinlang**	**1.78**	**212**	*e*P			**Pn**	09 05 08.7	+0.1
	baz=205								
TWK	**Hsinying**	**1.82**	**234**	*e*P			**Pb**	09 05 11.3	-0.1
	baz=228								
CHN1	**Nanshi**	**1.84**	**232**	*e*P			**Pb**	09 05 12.0	+0.2
	baz=226								
JIJ	**Ishigaki jima**	**1.87**	**89**	P			**Pn**	09 05 10.2	+0.4
JIJ				S			**Sn**	09 05 31.9	-1.1
SGST	**Jiashian**	**1.87**	**228**	*e*P			**Pb**	09 05 12.9	+0.6
	baz=206								
SLGT	**Liugui**	**1.89**	**225**	*e*P			**Pb**	09 05 12.4	-0.2
	baz=219								
JISG	**Ishigakijimahi**	**2.03**	**83**	P			**Pn**	09 05 11.9	-0.1
JISG					*e*S		**Sn**	09 05 35.4	-1.7
MASBT	**Mashibuluo**	**2.18**	**218**	*e*P			**Pn**	09 05 15.6	+1.5
	baz=211								
JTJ	**Tarama**	**2.39**	**82**	S			**Sn**	09 05 45.8	-0.2
VWUC	**VWUC**	**2.49**	**286**	*e*P			**Pn**	09 05 18.7	+0.3
	baz=284								
VWUC					*e*S		**Sn**	09 05 48.2	-0.3
	baz=284								

GII 18 09:08:33.2±0.4,**27°04N×34°12E,h10**km,**MD3.5**/3,**Red Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EIL	**Elat**	**2.72**	**15**	Pn	Pn	09 09 15.8	-1.2
EIL				Sn	Sn	09 09 48.8	-1.2
MBRI	**Mt Berech**	**2.83**	**14**	Pn	Pn	09 09 17.3	-1.3
MBRI				Sn	Sn	09 09 52.8	-0.1
HRFI	**Mount Harif**	**3.10**	**15**	Pn	Pn	09 09 22.0	-0.2
HRFI				Sn	Sn	09 09 59.3	+0.1
KRMI	**Paran Flat**	**3.11**	**10**	Pn	Pn	09 09 21.6	-0.8
KRMI				Sn	Sn	09 09 58.9	-0.8
PRNI	**Paran**	**3.39**	**13**	Pn	Pn	09 09 26.8	+0.6
PRNI				Sn	Sn	09 10 07.2	+0.6
ZFRI	**Zfri**	**3.62**	**15**	Pn	Pn	09 09 29.6	+0.2
ZFRI				Sn	Sn	09 10 12.6	+0.4
DSI	**Dead Sea**	**4.65**	**13**	Pn	Pn	09 09 43.5	0.0

*ATA **18** 09:09:21.7±2.3,38°.78N×43°.62E,h7km±483km,ML2.7, MW2.9*
*CSEM **18** 09:09:22.4±0.4,38°.72N×43°.63E,h20km,ML2.4,Error ellipse: s-maj=9.0km s-min=5.1km az=121.0*
*ISK **18** 09:09:22.4,38°.74N×43°.56E,h22km,ML2.4/3*
*ISCJB **18** 09:09:23.3±0.8,38°.74N±0°.03×43°.64E±0°.06,h17km±10km, Error ellipse: s-maj=8.4km s-min=4.5km az=21.3*
*DDA **18** 09:09:23.8,38°.77N×43°.52E,h7km,Ml2.8*

ISC 18 09:09:21.0±1.2,**38°68N**±0°.04×**43°70E**±0°.05,**h24**km±8km, **n27**,σ0**°76**/52,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.26**	**251**	PG	**Pn**	**09 09 29.0**	**-0.4**
VANB				SG	**Sn**	**09 09 33.8**	**-0.9**
VANB	**Van**	**0.26**	**251**	*e*Pg	**Pn**	**09 09 29.0**	**-0.4**
VANB				*e*Sg	**Sn**	**09 09 33.8**	**-0.9**
TVAN	**Van**	**0.27**	**237**	*i* P	**Pb**	**09 09 28.4**	**+0.7**
TVAN				*i* S	**Sn**	**09 09 34.6**	**-0.7**
TVAN	**Van**	**0.27**	**237**	P	**Pb**	**09 09 28.5**	**+0.7**
TVAN				S	**Sn**	**09 09 34.6**	**-0.7**
VMUR	**Van-Muradiye**	**0.32**	**342**	*i* P	**Pb**	**09 09 28.6**	**+0.1**
VMUR				*i* S	**Sb**	**09 09 34.0**	**+0.3**
VMUR	**Van-Muradiye**	**0.32**	**342**	P	**Pb**	**09 09 28.6**	**+0.1**
VMUR				S	**Sb**	**09 09 34.0**	**+0.3**
ERCV	**ERCIS-VAN**	**0.44**	**320**	PG	**Pb**	**09 09 30.1**	**-0.3**
ERCV				SG	**Sb**	**09 09 35.6**	**-1.1**
ERCV	**ERCIS-VAN**	**0.44**	**320**	*e*Pg	**Pb**	**09 09 30.1**	**-0.3**
ERCV				*e*Sg	**Sb**	**09 09 35.6**	**-1.1**
CLDR	**Caldiran**	**0.49**	**20**	PG	**Pn**	**09 09 32.6**	**-0.2**
CLDR				SG	**Sn**	**09 09 40.5**	**-0.2**
CLDR	**Caldiran**	**0.49**	**20**	*i* P	**Pn**	**09 09 32.3**	**-0.5**
CLDR				*i* S	**Sn**	**09 09 41.4**	**+0.7**
CLDR	**Caldiran**	**0.49**	**20**	P	**Pn**	**09 09 32.3**	**-0.5**
CLDR	**Caldiran**	**0.49**	**20**	*e*Pg	**Pn**	**09 09 32.6**	**-0.2**
CLDR				*e*Sg	**Sn**	**09 09 40.5**	**-0.2**
CLDR				S	**Sn**	**09 09 41.4**	**+0.7**
GEVA	**Gevas**	**0.62**	**234**	*e*P	**Pn**	**09 09 34.1**	**-0.3**
GEVA				*e*S	**Sn**	**09 09 44.2**	**+0.5**
GEVA				IAML		09 09 50.5	
	comp=Z,31nm,0.4s						
GEVA	**Gevas**	**0.62**	**234**	*i* P	**Pb**	**09 09 33.5**	**+0.1**
GEVA				*i* S	**Sn**	**09 09 44.5**	**+0.7**
GEVA	**Gevas**	**0.62**	**234**	P	**Pb**	**09 09 33.5**	**+0.1**
GEVA				S	**Sn**	**09 09 44.5**	**+0.7**
ADCV	**BITLIS_Adilcev**	**0.77**	**280**	*i* P	**Pb**	**09 09 35.9**	**0.0**
ADCV				*i* S	**Sb**	**09 09 46.1**	**0.0**
ADCV	**BITLIS_Adilcev**	**0.77**	**280**	P	**Pb**	**09 09 35.9**	**0.0**
ADCV				S	**Sb**	**09 09 46.1**	**0.0**
TUTA	**Tutak**	**1.00**	**317**	*e*P	**Pn**	**09 09 39.6**	**-0.1**
TUTA				*e*S	**Sb**	**09 09 51.5**	**-1.0**
TUTA				IAML		09 09 53.1	
	comp=Z,32nm,0.3s						
TUTA	**Tutak**	**1.00**	**317**	*i* P	**Pn**	**09 09 39.3**	**-0.4**
TUTA				*i* S	**Sb**	**09 09 51.1**	**-1.5**
TUTA	**Tutak**	**1.00**	**317**	P	**Pn**	**09 09 39.3**	**-0.4**
TUTA				S	**Sb**	**09 09 51.1**	**-1.5**
AGRB	**Hanur-Agry**	**1.05**	**329**	PG	**Pb**	**09 09 40.8**	**+0.2**
AGRB				SG	**Sn**	**09 09 54.3**	**-0.1**
AGRB	**Hanur-Agry**	**1.05**	**329**	*e*Pg	**Pb**	**09 09 40.8**	**+0.2**
AGRB				*e*Sg	**Sn**	**09 09 54.3**	**-0.1**
IGDI	**IGDIR**	**1.22**	**14**	*e*P	**Pb**	**09 09 43.1**	**-0.4**
IGDI				IAML		09 10 07.2	
	comp=Z,5.8nm,0.6s						
EKAR	**Karacoban**	**1.40**	**295**	*e*P	**Pb**	**09 09 48.5**	**+2.0**
EKAR				IAML		09 10 14.5	
	comp=Z,8.9nm,0.5s						
EATA	**Eleskirt**	**1.51**	**322**	*e*P	**Pb**	**09 09 49.5**	**+1.0**
EATA				*e*S	**Sb**	**09 10 09.0**	**+1.7**
EATA				IAML		09 10 15.4	
	comp=Z,2.4nm,0.4s						
EATA	**Eleskirt**	**1.51**	**322**	*i* P	**Pb**	**09 09 49.7**	**+1.2**
EATA				*i* S	**Sb**	**09 10 08.3**	**+1.0**
EATA	**Eleskirt**	**1.51**	**322**	P	**Pb**	**09 09 49.7**	**+1.2**
EATA				S	**Sb**	**09 10 08.3**	**+1.0**

*DJA **18** 09:11:43.3±2.6,0°.5±20°×13°.1E±1°.1,h67km±21km,M4.5/3, MLv4.5/3*
*IDC **18** 09:11:45.1±1.0,0°.51S×131°.77E,h0km,mb3.8/6, mb1 3.9/7,mb1mx3.6/51,mbtmp3.8/7,ML3.7/1,Error ellipse: s-maj=20.4km s-min=9.6km az=133.0*

ISC 18 09:11:50.5±0.9,**0°91S**±0°.09×**131°3E**±0°.1,**h35**km,**n10**, σ2**°91**/11,**mb3.9**/6,**Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**0.07**	**305**	Pg	**Pn**	**09 11 57.5**	**+1.1**
	194nm,0.3s,baz=219,slow=23,SNR=667						
SIJI				Lg	Lg	09 12 05.0	
	338nm,0.3s,baz=143,slow=20,SNR=128						
FAKI	**Fak Fak**	**2.20**	**155**	P	**Pn**	**09 12 24.9**	**+0.3**
RKPI	**Ransiki, Papua**	**2.92**	**102**	P	**Pn**	**09 12 35.0**	**+0.6**
WRA	**Warramunga Arr**	**19.15**	**171**	P	**Pn**	**09 16 12.9**	**+1.0**
	0.2nm,0.3s,baz=353,slow=11,SNR=12						
WRA				S	**Sn**	**09 19 39.1**	**-6.5**
	0.1nm,0.3s,baz=349,slow=18,SNR=3.8						
ASAR	**Alice Springs**	**22.76**	**174**	P	**P**	**09 16 52.3**	**+2.4**
	0.7nm,0.4s,baz=358,slow=11,SNR=14						
STKA	**Stephens Creek**	**32.30**	**164**	P	**P**	**09 18 19.1**	**+3.0**
	0.7nm,0.6s,baz=322,slow=7.4,SNR=3.9						
MKAR	**Makanchi Array**	**63.96**	**325**	P	**P**	**09 22 20.1**	**-0.2**
	1.2nm,0.8s,baz=117,slow=7.1,SNR=7.6						
KURBB	**Kurchatov Arra**	**68.10**	**327**	P	**P**	**09 22 46.2**	**-0.5**
	1.4nm,0.7s,baz=125,slow=5.6,SNR=12						
TIXI	**Tiksi**	**72.45**	**359**	P	**P**	**09 23 10.2**	**-2.8**
	0.8nm,0.5s,baz=135,slow=1.4,SNR=4.0						
BVAR	**Borovoye Array**	**73.69**	**327**	P	**P**	**09 23 19.9**	**-0.7**
	0.5nm,0.5s,baz=121,slow=5.6,SNR=4.9						

DJA 18 09:17:31.8±2.1,**5°S**±13°×**10°2E**±°,**h23**km±16km,**M3.6**/5, **MLv3.6**/5,**Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNAI	**Manna**	**0.72**	**65**	P	Pn	09 17 46.2	-0.4
MASI	**Maura Aman, Be**	**1.52**	**358**	P	Pn	09 17 57.5	-0.1
MDSI	**Maura Dua**	**1.88**	**85**	P	Pn	09 18 02.6	0.0
KASI	**Kota Agung**	**2.35**	**111**	P	Pn	09 18 08.9	-0.1
PPSI	**Pulau Pagai**	**2.97**	**310**	P	Pn	09 18 17.6	+0.1

*CSEM **18** 09:18:28.2±0.2,38°.76N×43°.55E,h15km,ML2.8,Error ellipse: s-maj=7.0km s-min=3.9km az=115.0*
*ISK **18** 09:18:28.1,38°.79N×43°.52E,h9km,ML2.8/5*
*DDA **18** 09:18:28.6,38°.76N×43°.54E,h7km,Ml3.0*
*ATA **18** 09:18:28.4±1.0,38°.76N×43°.47E,h7km±19km,ML3.1, MW3.1*
*ISCJB **18** 09:18:29.1±0.5,38°.77N±0°.02×43°.55E±0°.04,h8km±4km, Error ellipse: s-maj=5.7km s-min=3.4km az=20.7*

ISC 18 09:18:29.2±0.8,**38°76N**±0°.02×**43°55E**±0°.03,**h17**km±5km, **n41**,σ1**°33**/74,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.21**	**217**	PG	**Pg**	**09 18 34.4**	**+0.1**
VANB				SG	**Sg**	**09 18 38.9**	**+1.1**
VANB	**Van**	**0.21**	**217**	*e*Pg	**Pg**	**09 18 34.4**	**+0.1**
VANB				*e*Sg	**Sg**	**09 18 38.9**	**+1.1**
VMUR	**Van-Muradiye**	**0.23**	**5**	*i* P	**Pg**	**09 18 33.7**	**-1.0**
VMUR				*i* S	**Sg**	**09 18 39.3**	**+0.9**
VMUR	**Van-Muradiye**	**0.23**	**5**	P	**Pg**	**09 18 33.7**	**-1.0**
VMUR				S	**Sg**	**09 18 39.3**	**+0.9**
TVAN	**Van**	**0.26**	**206**	*i* P	**Pg**	**09 18 33.8**	**-1.4**
TVAN				*i* S	**Sb**	**09 18 39.6**	**-0.2**
TVAN	**Van**	**0.26**	**206**	P	**Pg**	**09 18 33.8**	**-1.4**
TVAN				S	**Sb**	**09 18 39.6**	**-0.2**
CLDR	**Caldiran**	**0.48**	**37**	PG	**Pg**	**09 18 37.7**	**-1.3**
CLDR				SG	**Sg**	**09 18 44.9**	**-0.6**
CLDR	**Caldiran**	**0.48**	**37**	*i* P	**Pg**	**09 18 37.4**	**-1.5**
CLDR				*i* S	**Sb**	**09 18 46.6**	**+0.5**
CLDR	**Caldiran**	**0.48**	**37**	P	**Pg**	**09 18 37.4**	**-1.5**
CLDR	**Caldiran**	**0.48**	**37**	*e*Pg	**Pg**	**09 18 37.7**	**-1.3**
CLDR				*e*Sg	**Sg**	**09 18 44.9**	**-0.6**
CLDR				S	**Sb**	**09 18 46.6**	**+0.5**
GEVA	**Gevas**	**0.59**	**221**	*i* P	**Pg**	**09 18 39.2**	**-1.8**
GEVA				*e*S	**Sg**	**09 18 48.4**	**-0.5**
GEVA				IAML		09 18 58.1	
	comp=Z,94nm,0.5s						
GEVA	**Gevas**	**0.59**	**221**	*i* P	**Pg**	**09 18 38.5**	**-2.5**
GEVA				*i* S	**Sb**	**09 18 49.4**	**+0.1**
GEVA	**Gevas**	**0.59**	**221**	P	**Pg**	**09 18 38.5**	**-2.5**
GEVA				S	**Sb**	**09 18 49.4**	**+0.1**
ADCV	**BITLIS_Adilcev**	**0.65**	**274**	*i* P	**Pg**	**09 18 41.0**	**-1.0**
ADCV				*i* S	**Sb**	**09 18 51.8**	**+0.8**
ADCV	**BITLIS_Adilcev**	**0.65**	**274**	P	**Pg**	**09 18 41.0**	**-1.0**
DYDN	**Diyadin**	**0.79**	**8**	*e*P	**Pg**	**09 18 43.8**	**-0.9**
DYDN				*e*S	**Sn**	**09 18 56.9**	**-0.4**
DYDN				IAML		09 19 07.8	
	comp=Z,49nm,0.3s						
DYDN	**Diyadin**	**0.79**	**8**	*i* P	**Pg**	**09 18 43.6**	**-1.1**
DYDN				*i* S	**Sb**	**09 18 56.2**	**+1.1**
DYDN	**Diyadin**	**0.79**	**8**	P	**Pg**	**09 18 43.6**	**-1.1**
DYDN				S	**Sb**	**09 18 56.2**	**+1.1**
TUTA	**Tutak**	**0.86**	**318**	*e*P	**Pg**	**09 18 44.5**	**-1.6**
TUTA				*e*S	**Sb**	**09 18 56.9**	**-0.3**
TUTA				IAML		09 18 58.7	
	comp=Z,106nm,0.2s						
TUTA	**Tutak**	**0.86**	**318**	*i* P	**Pg**	**09 18 44.4**	**-1.6**
TUTA				*i* S	**Sg**	**09 18 56.5**	**-0.9**
TUTA	**Tutak**	**0.86**	**318**	P	**Pg**	**09 18 44.4**	**-1.6**
TUTA				S	**Sg**	**09 18 56.5**	**-0.9**
AGRB	**Hanur-Agry**	**0.92**	**332**	PG	**Pg**	**09 18 45.6**	**-1.6**
AGRB				SG	**Sg**	**09 18 58.4**	**-1.0**
AGRB	**Hanur-Agry**	**0.92**	**332**	*e*Pg	**Pg**	**09 18 45.6**	**-1.6**
AGRB				*e*Sg	**Sg**	**09 18 58.4**	**-1.0**
IGDI	**IGDIR**	**1.18**	**20**	*e*P	**Pn**	**09 18 51.5**	**+0.5**
IGDI				*e*S	**Sn**	**09 19 09.6**	**+2.9**
IGDI				IAML		09 19 12.4	
	comp=Z,12nm,0.6s						
IGDI	**IGDIR**	**1.18**	**20**	*i* P	**Pn**	**09 18 51.2**	**+0.2**
GURO	**Guroymak-BITLI**	**1.21**	**260**	PN	**Pb**	**09 18 50.1**	**-1.6**
GURO	**Guroymak-BITLI**	**1.21**	**260**	*e*Pn	**Pb**	**09 18 50.1**	**-1.6**
HAKT	**HAKKARI**	**1.21**	**174**	*i* P	**Pb**	**09 18 50.5**	**-1.2**
HAKT				*i* S	**Sn**	**09 19 10.5**	**+2.9**
HAKT	**HAKKARI**	**1.21**	**174**	P	**Pb**	**09 18 50.5**	**-1.2**
HAKT				S	**Sn**	**09 19 10.5**	**+2.9**
EKAR	**Karacoban**	**1.26**	**294**	*e*P	**Pn**	**09 18 52.3**	**+0.1**
EKAR				*e*S	**Sn**	**09 19 10.1**	**+1.3**
EKAR				IAML		09 19 19.7	
	comp=Z,24nm,0.5s						
EKAR	**Karacoban**	**1.26**	**294**	*i* P	**Pn**	**09 18 52.1**	**-0.1**
EKAR				*i* S	**Sn**	**09 19 12.3**	**+3.4**
EKAR	**Karacoban**	**1.26**	**294**	P	**Pn**	**09 18 52.1**	**-0.1**
EKAR				S	**Sn**	**09 19 12.3**	**+3.4**
TASB	**TASBURUN-IGDIR**	**1.33**	**23**	PN	**Pn**	**09 18 53.2**	**+0.1**
TASB				SN	**Sg**	**09 19 11.7**	**-0.7**
TASB	**TASBURUN-IGDIR**	**1.33**	**23**	*e*Pn	**Pn**	**09 18 53.2**	**+0.1**
TASB				*e*Sn	**Sg**	**09 19 11.7**	**-0.7**
EATA	**Eleskirt**	**1.37**	**324**	*e*P	**Pg**	**09 18 55.0**	**-0.8**
EATA				*e*S	**Sg**	**09 19 14.2**	**+0.6**
EATA				IAML		09 19 20.5	
	comp=Z,6.4nm,0.4s						
EATA	**Eleskirt**	**1.37**	**324**	*i* P	**Pb**	**09 18 54.3**	**-0.3**
EATA				*i* S	**Sg**	**09 19 13.7**	**0.0**
EATA	**Eleskirt**	**1.37**	**324**	P	**Pb**	**09 18 54.3**	**-0.3**
EATA				S	**Sg**	**09 19 13.7**	**0.0**
SIRT	**Sirnak**	**1.53**	**215**	PN	**Pn**	**09 18 56.2**	**+0.4**
SIRT	**Sirnak**	**1.53**	**215**	*e*Pn	**Pn**	**09 18 56.2**	**+0.4**
HOMI	**Horasan**	**1.81**	**316**	*e*P	**Pg**	**09 19 02.8**	**-1.2**
HOMI				IAML		09 19 25.2	
	comp=Z,8.4nm,0.5s						
ERZM	**Erzurum**	**2.04**	**305**	*e*P	**Pb**	**09 19 05.6**	**-0.4**

*IDC **18** 09:20:52.5±2.9,31°.56S×68°.84W,h94km±26km,mb3.7/4, mb1 3.6/8,mb1mx3.4/38,mbtmp3.8/8,Error ellipse: s-maj=33.0km s-min=26.1km az=103.0*
*ISCJB **18** 09:20:53.5±0.5,31°.60S±0°.04×68°.84W±0°.10,h124km±3km, mb3.8/4,Error ellipse: s-maj=13.8km s-min=7.3km az=3.2*
*SJA **18** 09:20:55.3±0.5,31°.55S×69°.04W,h102km±3km,ML3.7, MW3.8*

ISC 18 09:20:54.2±0.8,**31°60S**±0°.05×**68°86W**±0°.10,**h116**km±6km, **n20**,σ0**°86**/27,**mb3.9**/4,**San Juan Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZON	**Zonda**	**0.17**	**71**	*i* P	**Pn**	**09 21 10.8**	**+0.5**
ZON				*e*S	**Sn**	**09 21 22.3**	**-0.2**
RTCV	**Cerro Valdivia**	**0.38**	**134**	*i* P	**Pn**	**09 21 12.1**	**+0.9**
RTCV				*e*S	**Sn**	**09 21 24.7**	**+0.9**
RTLS	**Leoncito**	**0.42**	**242**	*e*P	**Pn**	**09 21 12.0**	**+0.3**
RTLS				IAML		09 21 12.6	
	comp=Z,1μm,0.2s						
RTLL	**Cerro Villicun**	**0.43**	**51**	*i* P	**Pn**	**09 21 12.7**	**+1.3**
RTLL				*i* S	**Sn**	**09 21 24.8**	**+0.5**
RTLL				IAML		09 21 26.9	
	comp=Z,1μm,0.4s						
AMOG	**MOGNA**	**0.73**	**26**	*i* P	**Pn**	**09 21 14.2**	**+0.7**
AUSP	**Uspallata**	**0.77**	**216**	*i* P	**Pn**	**09 21 14.8**	**+0.8**
AUSP				*i* S	**Sn**	**09 21 28.8**	**-0.3**
ACDV	**Cuesta del Vie**	**1.44**	**351**	*i* P	**Pn**	**09 21 21.5**	**+0.6**
ACDV				*i* S	**Sn**	**09 21 40.8**	**-0.3**
AROD	**Rodeo**	**1.52**	**340**	*i* P	**Pn**	**09 21 22.7**	**+0.7**
AROD				*i* S	**Sn**	**09 21 42.7**	**-0.4**
AGUA	**GUANDACOL**	**2.13**	**9**	*e*P	**Pn**	**09 21 30.4**	**+1.1**
AGUA				*e*S	**Sn**	**09 21 56.7**	**+0.7**
VCA	**Vinchina**	**2.91**	**11**	*e*P	**Pn**	**09 21 40.2**	**+0.9**
VCA				IAML		09 22 18.4	
	comp=Z,314nm,0.3s						
PLCA	**Paso Flores**	**9.21**	**188**	P	**Pn**	**09 23 03.1**	**-1.0**
	comp=Z,0.2nm,0.3s,baz=25,slow=12,SNR=9.1						
CPUP	**Villa Florida**	**11.38**	**65**	P	**Pn**	**09 23 31.4**	**-1.8**
	comp=Z,0.1nm,0.3s,baz=220,slow=7.8,SNR=2.8						
LPAZ	**La Paz**	**15.26**	**3**	P	**Pn**	**09 24 23.0**	**-1.1**
	comp=Z,0.1nm,0.3s,baz=184,slow=10,SNR=5.1						
SIV	**San Ignacio**	**17.08**	**26**	P	**P**	**09 24 45.3**	**-0.6**
	comp=Z,0.1nm,0.3s,baz=193,slow=18,SNR=4.6						
PTGA	**Pitinga**	**31.84**	**17**	P	**P**	**09 27 07.7**	**-0.4**
	comp=Z,1.6nm,0.3s,baz=127,slow=4.9,SNR=4.9						
TXAR	**Lajitas Array**	**69.05**	**328**	P	**P**	**09 31 48.3**	**+0.8**
	comp=Z,0.3nm,0.6s,baz=154,slow=8.7,SNR=6.0						
KOWA	**Kowa**	**77.20**	**64**	P	**P**	**09 32 36.2**	**+0.6**
	comp=Z,0.9nm,0.3s,baz=259,slow=5.2,SNR=4.4						
TORD	**Torodi Ar. Bea**	**80.86**	**68**	P	**P**	**09 32 56.5**	**+0.9**
	comp=Z,1.0nm,0.6s,baz=281,slow=6.2,SNR=8.9						
ZALV	**

2.5nm,0.6s,baz=329,slow=6.7,SNR=23
MKAR Makanchi Array 77.29 320 P **P** **09 35 39.2 -1.2**
0.7nm,0.4s,baz=98,slow=7.7,SNR=8.9
ZALV Zalesovo Beam 78.74 328 P **P** **09 35 46.0 -2.1**
1.5nm,0.5s,baz=114,slow=7.4,SNR=4.2
KURK Kurchatov 80.98 323 P **P** **09 35 58.4 -1.8**
KURBB Kurchatov Arra 81.00 323 P **P** **09 35 58.4 -2.0**
0.5nm,0.7s,baz=116,slow=4.8,SNR=4.4
ILAR Eielson Array 84.92 23 P **P** **09 36 18.9 -1.3**
2.9nm,0.6s,baz=251,slow=5.0,SNR=49
ILAR pP **pP** **09 37 08.5 +6.0**
0.8nm,0.7s,baz=251,slow=5.0,SNR=6.1
BVAR Borovoye Array 86.53 324 P **P** **09 36 26.0 -2.4**
0.7nm,0.4s,baz=77,slow=6.2,SNR=4.2
NVAR Mina Array Bea 96.85 52 P **P** **09 37 17.5 +0.5**
0.8nm,0.8s,baz=254,slow=6.1,SNR=5.9
YKA Yellowknife Ar 98.61 28 P **P** **09 37 23.5 -0.4**
0.3nm,0.8s,baz=274,slow=4.8,SNR=6.6
PLCA Paso Flores 122.39 147 PKP **PKPdf** **09 42 39.7 -0.5**
1.2nm,0.6s,baz=261,slow=1.4,SNR=5.8
SIV San Ignacio 144.74 128 PKP **PKPab** **09 43 20.3 -1.3**
5.3nm,0.5s,baz=231,slow=3.7,SNR=39
TORD Torodi Ar. Bea 145.23 285 PKPbc **PKPdf** **09 43 20.7 -2.4**
1.8nm,0.5s,baz=65,slow=3.5,SNR=29
KOWA Kowa 150.38 290 PKPbc **PKPbc** **09 43 35.4 -1.6**
1.4nm,0.5s,baz=40,slow=4.2,SNR=5.8

IDC 18 09:29:28.2±6.1, 43°.54N×132°.06E, h0km, Error ellipse: s-maj=32.4km s-min=14.0km az=175.0, Primorye

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
USRK	**Ussuriysk Ar. 0.66 356**			Pg	Pg	09 29 40.8	-0.1
	0.2nm,0.3s,baz=178,slow=16,SNR=4.1						
USRK				Lg	Lg	09 29 50.3	
	0.6nm,0.3s,baz=167,slow=28,SNR=7.6						
USRK				*i*		09 32 32.3	
	1.1nm,0.3s,baz=243,slow=9.4,SNR=12						
I45RU	**USSURIYSK INFR 0.66 355**			*i*		09 32 31.8	
	baz=175,slow=314,SNR=3.0						
I30JP	**ISUMI INFRASON 10.40 139**			*i*		10 32 20.0	
	baz=327,slow=328,SNR=0.4						

*ISCJB **18** 09:32:59.6±0.5, 21°.20S±0°.03×68°.61W±0°.07, h138km±7km, mb3.6/3, Error ellipse: s-maj=10.1km s-min=5.6km az=171.9*
*GUC **18** 09:33:00.3±0.7, 21°.16S×68°.74W, h136km±4km, ML4.0*
*IDC **18** 09:33:04.5±6.1, 20°.98S×68°.24W, h157km±47km, mb3.3/3, mb1 3.4/4, mb1mx3.1/36, mbtmp3.8/4, Error ellipse: s-maj=52.9km s-min=47.7km az=170.0*
*SJA **18** 09:33:21.8±0.6, 21°.99S×66°.78W, h129km±27km, ML2.2, MW2.7*

ISC 18 09:33:00.2±0.9, 21°.19S±0°.04×68°.60W±0°.07, h134km±9km, n19, σ0s72/29, mb3.5/3, 4C-5D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB01	**IPOC Station P 0.84 280**			⇓*i*	P	**Pn**	**09 33 22.0 -0.2**
PB01				*e*	S	**Sn**	**09 33 38.5 -0.3**
PB01				IAML		09 33 40.3	
	comp=E,2μm,0.2s						
PB09	**IPOC Station P 0.85 225**			⇑*i*	P	**Pn**	**09 33 22.9 +0.5**
PB09				*e*	S	**Sn**	**09 33 39.6 +0.4**
PB09				IAML		09 33 40.7	
	comp=N,5μm,0.6s						
PB08	**IPOC Station P 1.16 334**			⇓*i*	P	**Pn**	**09 33 25.8 +0.3**
PB08				*e*	S	**Sn**	**09 33 44.7 +0.1**
PB02	**IPOC Station P 1.22 264**			⇑*i*	P	**Pn**	**09 33 26.1 +0.4**
PB02				*e*	S	**Sn**	**09 33 45.0 +0.1**
PB02				IAML		09 33 47.5	
	comp=E,4μm,0.5s						
PB07	**IPOC Station P 1.31 246**			⇑*i*	P	**Pn**	**09 33 27.1 +0.4**
PB07				*i*	S	**Sn**	**09 33 46.3 -0.5**
PB07				IAML		09 33 48.1	
	comp=E,3μm,0.3s						
PB11	**IPOC Station P 1.73 325**			⇓*i*	P	**Pn**	**09 33 31.2 -0.2**
PB11				*e*	S	**Sn**	**09 33 54.8 -0.4**
PB06	**IPOC Station P 1.76 211**			⇑*i*	P	**Pn**	**09 33 32.1 +0.5**
PB06				*i*	S	**Sn**	**09 33 56.2 +0.5**
PB04	**IPOC Station P 1.83 231**			*e*	P	**Pn**	**09 33 32.9 +0.3**
PB04				*e*	S	**Sn**	**09 33 57.2 -0.1**
PB04				IAML		09 33 58.0	
	comp=E,646nm,0.3s						
PSGC	**Pisagua 2.13 318**			⇓*e*	P	**Pn**	**09 33 35.4 -0.7**
PSGC				*i*	S	**Sn**	**09 34 03.0 -0.6**
MNMC	**Minye Minye 2.25 335**			⇓*e*	P	**Pn**	**09 33 38.0 +0.2**
MNMC				*e*	S	**Sn**	**09 34 06.8 +0.3**
MNMC				IAML		09 34 08.1	
	comp=E,2μm,0.3s						
YJA	**Yavi 3.03 109**			*i*	P	**Pn**	**09 33 48.3 +0.5**
YJA				IAML		09 33 49.4	
	comp=Z,6.3nm,0.5s						
YJA				*i*	S	Sn	09 34 07.9 -17
HJA	**Humahuaca 3.58 125**			*i*	P	**Pn**	**09 33 55.0 +0.2**
HJA				IAML		09 33 56.6	
	comp=Z,35nm,0.5s						
AZAP	**Zapla 4.45 133**			*i*	P	**Pn**	**09 34 06.2 0.0**
AZAP				IAML		09 34 07.1	
	comp=Z,17nm,0.4s						
ASTB	**Santa Barbara 4.71 126**			*i*	P	**Pn**	**09 34 08.6 -1.1**
LPAZ	**La Paz 4.90 5**			P		**Pn**	**09 34 13.9 +1.3**
	comp=Z,2.5nm,0.3s,baz=183,slow=14,SNR=42						
LPAZ				S		**Sn**	**09 35 09.7 +0.9**
	comp=Z,0.5nm,0.3s,baz=74,slow=18,SNR=4.1						
PTGA	**Pitinga 22.01 24**			P		**P**	**09 37 42.0 -1.9**
	comp=Z,2.1nm,0.3s,baz=183,slow=18,SNR=5.1						
TORD	**Torodi Ar. Bea 76.98 70**			P		**P**	**09 44 38.5 -0.1**
	comp=Z,0.6nm,0.6s,baz=252,slow=5.0,SNR=6.5						
YKA	**Yellowknife Ar 90.99 340**			P		P	09 45 49.9 +1.3
	comp=Z,0.1nm,0.3s,baz=137,slow=4.9,SNR=3.5						
ASAR	**Alice Springs 130.32 207**			PKP		**PKPdf**	**09 51 57.0 +1.5**
	comp=Z,0.6nm,1.0s,baz=116,slow=2.2,SNR=2.9						

*IDC **18** 09:36:55.9±0.7, 12°.13N×143°.64E, h0km, mb4.0/13, mb1 4.2/13, mb1mx3.9/63, mbtmp4.0/13, MS3.7/1, Ms1 3.7/1, ms1mx2.5/60, Error ellipse: s-maj=26.6km s-min=16.1km az=106.0*
*ISCJB **18** 09:36:58.0±0.5, 12°.11N±0°.08×143°.6E±0°.1, h25km, mb4.0/15, MS3.8/1, Error ellipse: s-maj=18.7km s-min=8.2km az=31.3*
*NEIC **18** 09:36:57.5±0.4, 12°.12N×143°.63E, h10km, mb4.0/3, Error ellipse: s-maj=18.0km s-min=8.8km az=109.0*

ISC 18 09:36:59.7±0.7, 12°.1N±0°.1×143°.7E±0°.2, h25km, n27, σ0s73/23, mb4.2/15, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam 1.85 37**			Pn		**Pn**	**09 37 29.5 -0.3**
	90nm,0.3s,baz=191,slow=10,SNR=62						
GUMO				Sn		**Sn**	**09 37 52.1 -0.3**
	198nm,0.3s,baz=180,slow=20,SNR=38						
GUMO				LR		LR	09 38 24.9
	comp=Z,186nm,19.3s,baz=204,slow=47						
GUMO	**Guam 1.85 37**			*e*Pn		**Pn**	**09 37 29.7 -0.2**
GUMO				*e*Sn		**Sn**	**09 37 51.5 -0.9**
GUMO				Sn		**Sn**	**09 37 52.1 -0.3**
H11S3	**WAKE ISLAND Hy 23.03 71**			T		T	10 06 08.1
	baz=260,slow=71,SNR=5.4						
H11S1	**WAKE ISLAND Hy 23.05 71**			T		T	10 06 04.9
	baz=260,slow=71,SNR=4.5						
H11S2	**WAKE ISLAND Hy 23.05 71**			T		T	10 06 05.1
	baz=260,slow=71,SNR=6.1						
H11N1	**WAKE ISLAND Hy 23.51 68**			T		T	10 06 40.6
	baz=255,slow=75,SNR=4.8						
H11N2	**WAKE ISLAND Hy 23.52 68**			T		T	10 06 39.5
	baz=255,slow=75,SNR=5.8						
H11N3	**WAKE ISLAND Hy 23.53 68**			T		T	10 06 41.0
	baz=255,slow=75,SNR=5.2						
WRAB	**Tennant Creek 33.16 196**			*e*P		**P**	**09 43 34.5 +0.1**
	0.7nm,0.4s						
WRA	**Warramunga Arr 33.17 196**			P		**P**	**09 43 34.2 -0.3**
	1.1nm,0.7s,baz=20,slow=9.7,SNR=12						
ASAR	**Alice Springs 36.84 195**			P		**P**	**09 44 06.0 -0.1**
	0.2nm,0.8s,baz=17,slow=9.9,SNR=3.1						
ASAR	**Alice Springs 36.84 195**			P		**P**	**09 44 06.0 -0.1**
STKA	**Stephens Creek 43.79 183**			P		**P**	**09 45 02.8 -0.7**
	0.6nm,0.5s,baz=342,slow=8.1,SNR=4.5						
MKAR	**Makanchi Array 61.77 317**			P		**P**	**09 47 16.1 -0.4**
	0.3nm,0.2s,baz=163,slow=17,SNR=9.9						
KURK	**Kurchatov 64.99 320**			P		**P**	**09 47 38.0 +0.5**
KURBB	**Kurchatov Arra 65.03 320**			P		**P**	**09 47 38.0 +0.2**
	1.1nm,0.7s,baz=106,slow=6.6,SNR=12						
COLD	**Coldfoot 69.73 22**			*e*P		**P**	**09 48 07.8 +0.6**
	0.4nm,0.5s						
ILAR	**Eielson Array 70.37 25**			P		**P**	**09 48 10.1 -1.2**
	1.1nm,0.5s,baz=251,slow=5.7,SNR=22						
BVAR	**Borovoye Array 70.39 322**			P		**P**	**09 48 12.0 +0.5**
	1.5nm,0.4s,baz=101,slow=7.7,SNR=9.8						
INK	**Inuvik 76.15 22**			P		**P**	**09 48 45.4 +0.1**
	3.2nm,0.8s,baz=287,slow=5.6,SNR=20						
INK	**Inuvik 76.15 22**			P		**P**	**09 48 45.4 +0.1**
	1.3nm,1.0s						
YKA	**Yellowknife Ar 84.68 27**			P		**P**	**09 49 31.7 +0.5**
	0.6nm,0.4s,baz=286,slow=5.1,SNR=16						
YBH	**Yreka Blue Hor 84.68 49**			P		**P**	**09 49 33.8 +2.0**
	1.3nm,0.8s,baz=90,slow=9.1,SNR=5.3						
ARCES	**ARCESS Array B 89.13 342**			P		**P**	**09 49 47.6 -0.5**
	0.7nm,0.5s,baz=77,slow=6.2,SNR=12						
NVAR	**Mina Array Bea 88.71 51**			P		**P**	**09 49 52.7 +1.0**
	1.0nm,0.6s,baz=270,slow=5.5,SNR=14						
OBN	**Obninsk 89.71 327**			LR		LR	10 32 19.1
	comp=Z,37nm,19.4s,baz=276,slow=37						
FINES	**FINESS Array B 92.01 335**			P		**P**	**09 50 05.2 -1.1**
	0.9nm,0.5s,baz=64,slow=4.2,SNR=8.8						

*NIED **18** 09:40:00, 37°.50N×143°.60E, h5km, Mw3.7 Best double couple: M0 3.52000×10^14 NP1:φs45.00000°, δ14.00000°, λ-100.00000°. NP2:φs236.00000°, δ76.00000°, λ-88.00000°.*
*IDC **18** 09:40:37.2±1.1, 37°.32N×143°.88E, h0km, mb3.6/5, mb1 3.7/9, mb1mx3.5/67, mbtmp3.6/9, ML3.8/3, MS3.9/2, Ms1 3.9/2, ms1mx2.5/66, Error ellipse: s-maj=29.7km s-min=19.1km az=91.0*
*ISCJB **18** 09:40:40.1±0.6, 37°.41N±0°.03×143°.69E±0°.05, h33km, mb3.7/5, MS3.9/2, Error ellipse: s-maj=5.8km s-min=4.3km az=19.0*
*JMA **18** 09:40:42.0±0.2, 37°.46N×143°.59E, h59km, M3.5*

ISC 18 09:40:42.3±1.1, 37°.44N±0°.05×143°.67E±0°.08, h35km, n30, σ1s82/48, mb3.8/5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIO	**Ouri 2.10 300**			P		**Pn**	**09 41 14.8 0.0**
JIO				S		**Sn**	**09 41 39.1 -0.6**
JFK	**Kawauchi 2.23 269**			P		**Pn**	**09 41 16.4 -0.3**
JFK				S		**Sn**	**09 41 41.7 -1.4**
OFUJ	**Ofunato 2.27 317**			P		**Pn**	**09 41 16.9 -0.4**
OFUJ				*e*S		**Sn**	**09 41 43.0 -1.0**
ONAJ	**Iwakimizuishiy 2.32 262**			P		**Pn**	**09 41 18.0 0.0**
ONAJ				*e*S		**Sn**	**09 41 44.1 -1.2**
JMK	**Ichinoseki 2.45 309**			P		**Pn**	**09 41 19.7 0.0**
JMK				*e*S		**Sn**	**09 41 48.2 -0.2**
JFT	**Otama 2.66 273**			P		**Pn**	**09 41 23.2 +0.6**
JFT				S		**Sn**	**09 41 53.5 0.0**
JOM	**Ohasama 2.76 318**			P		**Pn**	**09 41 24.0 +0.1**
JOM				S		**Sn**	**09 41 55.7 -0.3**
JYK	**Kaneyama 3.00 300**			P		**Pn**	**09 41 28.0 +0.7**
JYK				*e*S		**Sn**	**09 42 01.3 -0.7**
JANG	**Nango 3.38 331**			P		**Pn**	**09 41 32.6 +0.1**
JANG				*e*S		**Sn**	**09 42 11.4 +0.1**
JAG	**Ashikaga 3.53 255**			P		**Pn**	**09 41 34.6 0.0**
JAG				*e*S		**Sn**	**09 42 13.9 -1.2**
BSO1	**Boso 1 3.54 219**			P		**Pn**	**09 41 32.9 -1.3**
BSO1				S		**Sn**	**09 42 14.2 -0.3**
JRY	**Ryogami san 4.09 251**			P		**Pn**	**09 41 42.2 -0.1**
JRY				*e*S		**Sn**	**09 42 26.0 -2.9**
JOD2	**Odawara 2 4.29 241**			P		**Pn**	**09 41 44.1 -1.0**
JOD2				*e*S		**Sn**	**09 42 30.7 -3.2**
JOT	**Ohata 4.43 333**			P		**Pn**	**09 41 48.0 +1.1**
MJAR	**Matsushiro Arr 4.46 260**			Pn		**Pn**	**09 41 48.6 +1.1**
	2.8nm,0.3s,baz=91,slow=15,SNR=45						
MJAR				Sn		**Sn**	**09 42 39.6 +1.4**
	baz=88,slow=16,SNR=5.8						
MAT	**Matsushiro 4.47 260**			P		**Pn**	**09 41 49.3 +1.8**
MAT				S		**Sn**	**09 42 39.2 +1.0**
JKB	**Kayabe 4.88 336**			P		**Pn**	**09 41 53.5 +0.3**
JCH	**Churui 5.17 357**			P		**Pn**	**09 41 56.1 -1.0**
JCH				*e*S		**Sn**	**09 42 51.9 -3.6**
JHJ	**Hachijo jima 2 5.36 218**			Pn		**Pn**	**09 41 56.6 -3.1**
	9.9nm,0.3s,baz=50,slow=16,SNR=3.2						
JHJ				Sn		**Sn**	**09 42 54.9 -5.4**
	9.8nm,0.3s,baz=1.2,slow=16,SNR=3.6						
JOSM	**Okushiri--Mats 5.65 326**			P		**Pn**	**09 42 04.8 +1.1**
JOSM				*e*S		**Sn**	**09 43 09.1 +1.8**
NEM2	**Nemuro 2 6.12 14**			P		**Pn**	**09 42 07.6 -2.6**
NEM2				*e*S		**Sn**	**09 43 13.1 -5.8**
ASAJ	**Asahikawa 6.72 353**			Pn		**Pn**	**09 42 18.6 +0.2**
	2.3nm,0.3s,baz=205,slow=9.6,SNR=28						
ASAJ				Sn		**Sn**	**09 43 31.6 -2.0**
	0.4nm,0.3s,baz=111,slow=14,SNR=1.5						
KLR	**Kul'dur 14.61 328**			Pn		**Pn**	**09 44 05.7 -0.5**
	0.0nm,0.3s,baz=134,slow=13,SNR=9.6						
MKAR	**Makanchi Array 45.43 302**			P		**P**	**09 48 59.3 +1.7**
	0.5nm,0.8s,baz=72,slow=9.4,SNR=2.1						
KDAK	**Kodiak Island 45.59 42**			LR		LR	10 05 59.7
	comp=Z,231nm,21.5s,baz=250,slow=33						
KURBB	**Kurchatov Arra 47.17 308**			P		**P**	**09 49 13.5 +2.4**
	0.3nm,0.2s,baz=81,slow=7.8,SNR=4.6						
ILAR	**Eielson Array 48.18 33**			P		**P**	**09 49 18.7 0.0**
	0.5nm,1.0s,baz=268,slow=6.0,SNR=3.2						
INK	**Inuvik 53.20 27**			LR		LR	10 15 10.8
	comp=Z,67nm,19.2s,baz=176,slow=39						
WRA	**Warramunga Arr 57.75 190**			P		**P**	**09 50 29.4 -0.4**
	0.9nm,0.6s,baz=11,slow=7.4,SNR=16						
ASAR	**Alice Springs 61.48 190**			P		**P**	**09 50 55.2 -0.2**
	0.5nm,0.7s,baz=13,slow=8.4,SNR=8.3						

*IDC **18** 09:47:23.8±0.8, 36°.47N×2°.85W, h0km, mb3.8/14, mb1 4.0/17, mb1mx3.7/71, mbtmp3.8/17, ML3.9/3, MS3.4/13, Ms1 3.4/13, ms1mx3.1/65, Error ellipse: s-maj=17.3km s-min=14.8km az=65.0*
*CSEM **18** 09:47:24.7±0.1, 36°.52N×2°.67W, h5km, mb4.9/4, ML4.4/29, Mw4.2, Error ellipse: s-maj=2.4km s-min=2.0km az=11.0*
*CRAAG **18** 09:47:24.0, 36°.46N×2°.71W, Mw4.2*
*LDG **18** 09:47:24.7±0.2, 36°.46N×2°.61W, h2km, Ml4.4/4, Error ellipse: s-maj=5.8km s-min=4.6km az=135.0*
*IGIL **18** 09:47:25.1, 36°.48N×2°.64W, h0km, ML3.6*
*INMG **18** 09:47:25.8±1.8, 36°.47N×2°.64W, h12km±4km, MD3.9, ML3.9, Error ellipse: s-maj=3.4km s-min=2.2km az=118.0*
*MDD **18** 09:47:25.6±0.3, 36°.49N×2°.62W, h6km±2km, mbLg4.2/51, Error ellipse: s-maj=2.7km s-min=2.1km az=130.0, PRXIMO*
MDD EMS: III INTENSIDAD MAXIMA.
*NEIC **18** 09:47:25.5±0.0, 36°.46N×2°.63W, h3km, mb4.3/8, MW4.2(MDD), After MDD.*
NEIC Felt at Adra and Roquetas de Mar, Spain.
*CNRM **18** 09:47:26.5, 36°.58N×2°.52W, h30km, MD4.1*

ISC 18 09:47:25.1±1.1, 36°.51N±0°.02×2°.64W±0°.02, h6km±7km, n313, σ1s92/400, mb4.1/20, MS3.3/10, 4C-5D, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EXAM	**Almeria 0.38 23**			Pg		**Pg**	**09 47 33.0 +0.6**
	SNR=7.9						
EXAM				Lg		Lg	09 47 37.8
	SNR=7.9						
EXAM	**Almeria 0.38 23**			Pg		**Pg**	**09 47 33.0 +0.6**
	SNR=7.9						
EXAM				Lg		Lg	09 47 37.8
	SNR=7.9						
EBER	**Berja 0.44 333**			⇓Pg		**Pg**	**09 47 34.2 +0.6**
	7μm,0.6s,SNR=18						
EBER				Lg		Lg	09 47 40.4
	12μm,0.3s,SNR=7.9						
EBER	**Berja 0.44 333**			Pg		**Pg**	**09 47 34.2 +0.6**
EBER				Lg		Lg	09 47 40.8
EBER	**Berja 0.44 333**			Pg		**Pg**	**09 47 34.2 +0.6**
	7μm,0.6s,SNR=18						
EBER				Lg		Lg	09 47 40.4
	12μm,0.3s,SNR=7.9						
EXAL	**Albunol 0.54 302**			Pg		**Pg**	**09 47 36.1 +0.7**
	SNR=7.9						
EXAL				Lg		Lg	09 47 42.7
	SNR=7.9						
EXAL	**Albunol 0.54 302**			Pg		**Pg**	**09 47 36.1 +0.7**
	SNR=7.9						
EXAL				Lg		Lg	09 47 42.7
	SNR=7.9						
ENIJ	**Nijar 0.58 37**			⇑Pg		**Pg**	**09 47 36.4 +0.1**
	2μm,0.3s,SNR=18						
ENIJ				Lg		Lg	09 47 43.8
	16μm,0.3s,SNR=7.9						
ENIJ	**Nijar 0.58 37**			Pg		**Pg**	**09 47 36.4 +0.1**
ENIJ	**Nijar 0.58 37**			Pg		**Pg**	**09 47 36.4 +0.1**
	2μm,0.3s,SNR=18						
ENIJ				Lg		Lg	09 47 43.8
	16μm,0.3s,SNR=7.9						
EALB	**Alboran 0.65 210**			⇑Pg		**Pg**	**09 47 38.0 +0.5**
	3μm,0.5s,SNR=18						
EALB				Lg		Lg	09 47 46.8
	17μm,0.5s,SNR=7.9						
EALB	**Alboran 0.65 210**			Pg		**Pg**	**09 47 38.0 +0.5**
EALB				Lg		Lg	09 47 47.8
EALB	**Alboran 0.65 210**			Pg		**Pg**	**09 47 38.0 +0.5**
	3μm,0.5s,SNR=18						
EALB				Lg		Lg	09 47 46.8
	17μm,0.5s,SNR=7.9						
ELGU	**Los Guajares, 0.87 295**			Pg		**Pb**	**09 47 41.5 -1.2**
	494nm,0.2s,SNR=7.9						
ELGU				Lg		Lg	09 47 54.8
	21μm,0.4s,SNR=7.9						
ELGU	**Los Guajares, 0.87 295**			Pg		**Pb**	**09 47 41.5 -1.2**
	494nm,0.2s,SNR=7.9						
ELGU				Lg		Lg	09 47 54.8
	21μm,0.4s,SNR=7.9						
EQUE	**Quentar 0.95 318**			⇓Pg		**Pb**	**09 47 43.7 -0.4**
	2μm,0.4s,SNR=18						
EQUE				Lg		Lg	09 47 55.9
	5μm,0.5s,SNR=22						
EQUE	**Quentar 0.95 318**			Pg		**Pb**	**09 47 43.7 -0.4**
	2μm,0.4s,SNR=18						
EQUE				Lg		Lg	09 47 55.9
	5μm,0.5s,SNR=22						
GORA	**Gorafe 1.02 342**			⇓Pg		**Pb**	**09 47 45.1 -0.2**
	615nm,0.2s,SNR=18						
GORA				Lg		Lg	09 47 59.6
	6μm,0.6s,SNR=7.9						
GORA	**Gorafe 1.02 342**			Pg		**Pb**	**09 47 45.1 -0.2**
	615nm,0.2s,SNR=18						
GORA				Lg		Lg	09 47 59.6
	6μm,0.6s,SNR=7.9						
EMLI	**Melilla 1.23 192**			Pg		**Pn**	**09 47 46.7 -2.1**
	152nm,0.1s,SNR=7.9						
EMLI				Lg		Lg	09 48 03.6
	6μm,0.4s,SNR=7.9						
EMEL	**Melilla 1.23 192**			Pg		**Pn**	**09 47 46.7 -2.1**
	152nm,0.1s,SNR=7.9						
EMEL				Lg		Lg	09 48 03.6
	6μm,0.4s,SNR=7.9						
MELI	**Melilla 1.23 191**			Pg		**Pn**	**09 47 47.3 -1.6**
	37nm,0.2s,SNR=7.9						
MELI				Lg		Lg	09 48 05.2
	7μm,0.9s,SNR=7.9						
MELI	**Melilla 1.23 191**			Pg		**Pn**	**09 47 47.3 -1.6**
	37nm,0.2s,SNR=7.9						
MELI				Lg		Lg	09 48 05.2
	7μm,0.9s,SNR=7.9						
EGOR	**Sierra Gorda, 1.33 298**			⇓Pg		**Pb**	**09 47 50.2 -0.3**
	55nm,0.2s,SNR=18						
EGOR				Lg		Lg	09 48 08.2
	2μm,0.6s,SNR=7.9						
EGOR	**Sierra Gorda, 1.33 298**			Pg		**Pb**	**09 47 50.2 -0.3**
	55nm,0.2s,SNR=18						
EGOR				Lg		Lg	09 48 08.2
	2μm,0.6s,SNR=7.9						
EQES	**Quesada 1.34 345**			⇓Pg		**Pn**	**09 47 50.1 -0.4**
	810nm,0.8s,SNR=18						
EQES				Lg		Lg	09 48 09.2
	1μm,0.6s,SNR=6.5						
EQES	**Quesada 1.34 345**			Pg		**Pn**	**09 47 50.1 -0.4**
	810nm,0.8s,SNR=18						
EQES				Lg		Lg	09 48 09.2
	1μm,0.6s,SNR=6.5						
OLHC	**Oulhaca 1.60 141**			P		**Pn**	**09 47 51.4 -2.5**
OLHC	**Oulhaca 1.60 141**			P		**Pn**	**09 47 51.4 -2.5**
SESP	**Santiago Espad 1.61 3**			⇑Pg		**Pb**	**09 47 54.9 -0.5**
	18nm,0.1s,SNR=18						
SESP				Sn		**Sn**	**09 48 14.4 -1.2**
	1μm,0.6s,SNR=7.9						
SESP				Lg		Lg	09 48 18.4
	5μm,0.8s,SNR=7.9						
SESP	**Santiago Espad 1.61 3**			Pg		**Pb**	**09 47 54.9 -0.5**
	18nm,0.1s,SNR=18						
SESP				Sn		**Sn**	**09 48 14.4 -1.2**
	1μm,0.6s,SNR=7.9						
SESP				Lg		Lg	09 48 18.4
	5μm,0.8s,SNR=7.9						
CART	**Cartagena 1.70 50**			*e*Pn		**Pn**	**09 47 52.0 -3.3**
CART	**Cartagena 1.70 50**			*e*Pn		**Pn**	**09 47 52.0 -3.3**
EMIJ	**Mijas 1.72 273**			Pg		**Pb**	**09 47 56.9 -0.2**
	181nm,2.0s,SNR=7.9						
EMIJ	**Mijas 1.72 273**			Pg		**Pb**	**09 47 56.9 -0.2**
	181nm,2.0s,SNR=7.9						
EMUR	**La Murta 1.74 40**			⇑Pn		**Pn**	**09 47 54.5 -1.5**
	241nm,0.3s,SNR=18						
EMUR				Pg		**Pb**	**09 47 57.3 -0.2**
	128nm,2.7s,SNR=7.9						
EMUR				Sn		**Sn**	**09 48 15.7 -2.8**
	1μm,0.5s,SNR=7.9						
EMUR				Lg		Lg	09 48 21.6
	2μm,0.5s,SNR=7.9						
EMUR	**La Murta 1.74 40**			Pn		**Pn**	**09 47 54.5 -1.5**
	241nm,0.3s,SNR=18						
USTO	**Oran 1.86 114**			P		**Pn**	**09 47 58.0 +0.5**
USTO	**Oran 1.86 114**			Pn		**Pn**	**09 47 58.0 +0.5**
USTO	**Oran 1.86 114**			P		**Pn**	**09 47 58.0 +0.5**
OTSS	**Djebel Tessala 1.93 129**			P		**Pn**	**09 47 57.1 -1.5**
OTSS	**Djebel Tessala 1.93 129**			Pn		**Pn**	**09 47 57.1 -1.5**
OTSS	**Djebel Tessala 1.93 129**			P		**Pn**	**09 47 57.1 -1.5**
REAL	**Reales 2.07 270**			Pn		**Pn**	**09 48 01.0 +0.4**
REAL				Lg		Lg	09 48 33.0
REAL	**Reales 2.07 270**			Pn		**Pn**	**09 48 01.0 +0.4**
REAL				Lg		Lg	09 48 33.0
EADA

OJBR Djebel Berber 2.59 110 P **Pn** **09 48 09.0 +1.4**
ESPR Espera 2.61 279 Pn **Pn** **09 48 07.2 -0.7**
20nm,0.3s,SNR=17
ESPR Espera 2.61 279 Pn **Pn** **09 48 07.2 -0.7**
20nm,0.3s,SNR=17
OKGL Djebel Kef Gue 2.69 99 P **Pn** **09 48 10.3 +1.3**
OKGL Djebel Kef Gue 2.69 99 P **Pn** **09 48 10.3 +1.3**
ECAB El Cabril 2.71 306 Pn **Pn** **09 48 08.3 -1.0**
14nm,0.4s,SNR=25
ECAB Pg **Pb** **09 48 15.4 +1.3**
134nm,0.5s,SNR=7.9
ECAB Sn **Sn** **09 48 41.7 -0.9**
359nm,1.8s,SNR=7.9
ECAB Lg Lg 09 48 52.7
564nm,0.6s,SNR=14
ECAB El Cabril 2.71 306 Pn **Pn** **09 48 08.3 -1.0**
14nm,0.4s,SNR=25
AFON Font Roja 2.73 37 Pn **Pn** **09 48 08.4 -1.1**
4.7nm,0.2s,SNR=7.9
AFON Pg **Pb** **09 48 15.7 +1.4**
10nm,0.1s,SNR=7.9
AFON Sn **Sn** **09 48 40.8 -2.1**
158nm,0.3s,SNR=7.9
AFON Lg Lg 09 48 52.6
845nm,0.9s,SNR=7.9
AFON Font Roja 2.73 37 Pn **Pn** **09 48 08.4 -1.1**
4.7nm,0.2s,SNR=7.9
CNIL Conil 2.76 268 Pn **Pn** **09 48 11.0 +1.1**
CNIL Lg Lg 09 48 55.5
CNIL Conil 2.76 268 Pn **Pn** **09 48 11.0 +1.1**
CNIL Lg Lg 09 48 55.5
OJGS Djebel Guires 2.92 109 P **Pn** **09 48 12.0 -0.2**
OJGS Djebel Guires 2.92 109 Pn **Pn** **09 48 12.0 -0.2**
OJGS Djebel Guires 2.92 109 P **Pn** **09 48 12.0 -0.2**
EANR 'Ain N'Sour 3.07 99 P **Pn** **09 48 13.0 -1.3**
EANR 'Ain N'Sour 3.07 99 Pn **Pn** **09 48 13.0 -1.3**
EANR 'Ain N'Sour 3.07 99 P **Pn** **09 48 13.0 -1.3**
ECHA Ech Chlef 3.25 95 P **Pg** **09 48 27.6 +0.2**
PAB San Pablo 3.32 337 Pn **Pn** **09 48 17.4 -0.3**
2.2nm,0.2s,SNR=7.9
PAB Pg **Pb** **09 48 26.8 +2.3**
67nm,0.5s,SNR=7.9
PAB Sn **Sn** **09 48 56.0 -1.6**
21nm,1.2s,SNR=7.9
PAB Lg Lg 09 49 12.5
392nm,0.6s,SNR=7.9
PAB San Pablo 3.32 337 *e*Pn **Pn** **09 48 18.4 +0.6**
PAB San Pablo 3.32 337 Pn **Pn** **09 48 17.4 -0.3**
2.2nm,0.2s,SNR=7.9
PAB San Pablo 3.32 337 Pg **Pb** **09 48 26.8 +2.3**
67nm,0.5s,SNR=7.9
PAB Sn **Sn** **09 48 56.0 -1.6**
21nm,1.2s,SNR=7.9
PAB Lg Lg 09 49 12.5
392nm,0.6s,SNR=7.9
ESDC Sonseca Array 3.33 342 Pn **Pn** **09 48 17.9 +0.1**
6.9nm,0.3s,baz=166,slow=12,SNR=17
ESDC Lg Lg 09 49 08.9
54nm,0.3s,baz=158,slow=29,SNR=8.6
ESDC Sonseca Array 3.33 342 Pn **Pn** **09 48 17.2 -0.6**
3.4nm,0.3s,baz=161,slow=12,SNR=24
ESDC Pg **Pb** **09 48 26.8 +2.2**
baz=164,slow=18,SNR=7.9
ESDC Lg Lg 09 49 13.0
baz=167,slow=27,SNR=7.9
ESDC Sonseca Array 3.33 342 Pn **Pn** **09 48 17.2 -0.6**
3.4nm,0.3s,SNR=24
ESDC Sonseca Array 3.33 342 Pg **Pb** **09 48 26.8 +2.2**
SNR=7.9
ESDC Lg Lg 09 49 13.0
SNR=7.9
ESLA Sonseca Array 3.33 342 *e*Pn **Pn** **09 48 19.2 +1.4**
ESLA Sonseca Array 3.33 342 *e*Pn **Pn** **09 48 19.2 +1.4**
ES19 SONSECA Array 3.34 343 *e*Pn **Pn** **09 48 19.5 +1.5**
ES19 SONSECA Array 3.34 343 *e*Pn **Pn** **09 48 19.5 +1.5**
EBNR Beni Rached 3.37 92 P **Pn** **09 48 19.6 +1.3**
EBNR Beni Rached 3.37 92 P **Pn** **09 48 19.6 +1.3**
ETRT Tiaret 3.38 108 P **Pn** **09 48 20.3 +1.7**
ETRT Tiaret 3.38 108 P **Pn** **09 48 20.3 +1.7**
EMIN Mina Concepcio 3.46 293 Pn **Pn** **09 48 20.0 +0.5**
14nm,0.4s,SNR=11
EMIN Sn **Sn** **09 48 59.0 -1.9**
32nm,0.4s,SNR=7.9
EMIN Lg Lg 09 49 16.9
191nm,0.7s,SNR=7.9
EMIN Mina Concepcio 3.46 293 Pn **Pn** **09 48 20.0 +0.5**
14nm,0.4s,SNR=11
EMIN Sn **Sn** **09 48 59.0 -1.9**
32nm,0.4s,SNR=7.9
EMIN Lg Lg 09 49 16.9
191nm,0.7s,SNR=7.9
PBAR Barrancos 3.88 297 *e*Pn **Pn** **09 48 24.7 -0.6**
PBAR *e*Sg **Sg** **09 49 30.1 +0.3**
PBAR A A 09 49 44.8
341nm,0.6s
PBAR Barrancos 3.88 297 Pn **Pn** **09 48 24.7 -0.6**
PBAR Lg Lg 09 49 30.1
341nm,0.6s
PBAR Barrancos 3.88 297 Pn **Pn** **09 48 24.7 -0.6**
PBAR *e*Sg **Sg** **09 49 30.1 +0.3**
341nm,0.6s
EGRO El Granado 4.01 286 Pn **Pn** **09 48 26.3 -0.8**
19nm,0.3s,SNR=11
EGRO Sn **Sn** **09 49 11.2 -3.2**
72nm,0.4s,SNR=7.9
EGRO Lg Lg 09 49 33.8
202nm,0.6s,SNR=7.9
EGRO El Granado 4.01 286 Pn **Pn** **09 48 26.3 -0.8**
19nm,0.3s,SNR=11
EGRO Lg Lg 09 49 33.8
202nm,0.6s,SNR=7.9
EIBI Ibiza 4.04 50 Pn **Pn** **09 48 25.9 -1.6**
39nm,0.3s,SNR=17
EIBI Sn **Sn** **09 49 11.5 -3.6**
164nm,0.5s,SNR=7.9
EIBI Ibiza 4.04 50 Pn **Pn** **09 48 25.9 -1.6**
39nm,0.3s,SNR=17
EBAD Badajoz 4.14 304 Pn **Pn** **09 48 27.4 -1.4**
17nm,0.4s,SNR=22
EBAD Sn **Sn** **09 49 14.5 -3.0**
51nm,0.2s,SNR=7.9
EBAD Lg Lg 09 49 38.4
537nm,1.0s,SNR=7.9
EBAD Badajoz 4.14 304 Pn **Pn** **09 48 27.4 -1.4**
17nm,0.4s,SNR=22
EBAD Sn **Sn** **09 49 14.5 -3.0**
51nm,0.2s,SNR=7.9
EBAD Lg Lg 09 49 38.4
537nm,1.0s,SNR=7.9
PVAQ Vaqueiros 4.17 284 *e*Pn **Pn** **09 48 27.7 -1.5**
PVAQ *e*Sn **Sn** **09 49 14.8 -3.5**
PVAQ A A 09 50 03.6
89nm,0.6s
PVAQ Vaqueiros 4.17 284 Pn **Pn** **09 48 27.7 -1.5**
PVAQ Sn **Sn** **09 49 14.8 -3.5**
89nm,0.6s
PVAQ Vaqueiros 4.17 284 Pn **Pn** **09 48 27.7 -1.5**
PVAQ *e*Sn **Sn** **09 49 14.8 -3.5**
89nm,0.6s
EMOS Mosqueruela 4.21 23 Pn **Pn** **09 48 29.6 -0.4**
9.4nm,0.4s,SNR=9.4
EMOS Pg **Pb** **09 48 42.3 +2.6**
79nm,0.7s,SNR=7.9
EMOS Lg Lg 09 49 40.9
237nm,0.8s,SNR=7.9
EMOS Mosqueruela 4.21 23 Pn **Pn** **09 48 29.6 -0.4**
9.4nm,0.4s,SNR=9.4
EMOS Lg Lg 09 49 40.9
237nm,0.8s,SNR=7.9
RTC Rabat Centre 4.27 235 *e*P **Pn** **09 48 31.0 +0.4**
RTC *i* S **Sn** **09 49 16.0 -4.8**
GUD Guadarrama 4.30 344 Pn **Pn** **09 48 31.1 -0.1**
9.6nm,0.6s,SNR=8.2
GUD Pg **Pb** **09 48 44.8 +3.6**
90nm,0.6s,SNR=19
GUD Lg Lg 09 49 44.3
255nm,0.8s,SNR=7.9
GUD Guadarrama 4.30 344 Pn **Pn** **09 48 31.1 -0.1**
9.6nm,0.6s,SNR=8.2
PBDV Barranco-do-Ve 4.31 281 *e*Pn **Pn** **09 48 30.3 -0.9**
PBDV *e*Sn **Sn** **09 49 19.0 -2.8**
PBDV A A 09 50 12.1
96nm,0.6s
PBDV Barranco-do-Ve 4.31 281 Pn **Pn** **09 48 30.3 -0.9**
PBDV Sn **Sn** **09 49 19.0 -2.8**
96nm,0.6s
PBDV Barranco-do-Ve 4.31 281 Pn **Pn** **09 48 30.3 -0.9**
PBDV *e*Sn **Sn** **09 49 19.0 -2.8**
96nm,0.6s
ETOR Torete 4.33 6 Pn **Pn** **09 48 31.2 -0.4**
23nm,0.4s,SNR=26
ETOR Pg **Pb** **09 48 45.5 +3.8**
110nm,0.4s,SNR=7.9
ETOR Sn **Sn** **09 49 19.9 -2.6**
49nm,2.9s,SNR=7.9
ETOR Lg Lg 09 49 44.7
501nm,0.7s,SNR=7.9
ETOR Torete 4.33 6 Pn **Pn** **09 48 31.2 -0.4**
23nm,0.4s,SNR=26
PBEJ Beja 4.44 292 *e*Pn **Pn** **09 48 32.2 -0.8**
PBEJ *e*Sn **Sn** **09 49 20.3 -4.7**
PBEJ A A 09 49 52.5
74nm,0.7s
PBEJ Beja 4.44 292 Pn **Pn** **09 48 32.2 -0.8**
PBEJ Sn **Sn** **09 49 20.3 -4.7**
37nm,0.7s
PBEJ Beja 4.44 292 Pn **Pn** **09 48 32.2 -0.8**
PBEJ *e*Sn **Sn** **09 49 20.3 -4.7**
74nm,0.7s
PCVE Castro Verde 4.46 286 *e*Pn **Pn** **09 48 32.6 -0.7**
PCVE A A 09 50 09.4
95nm,0.7s
PCVE Castro Verde 4.46 286 Pn **Pn** **09 48 32.6 -0.7**
PCVE Castro Verde 4.46 286 *e*Pn **Pn** **09 48 32.6 -0.7**
95nm,0.7s
EPLA Plasencia 4.47 324 Pn **Pn** **09 48 33.4 0.0**
30nm,0.3s,SNR=15
EPLA Pg **Pb** **09 48 47.4 +3.4**
28nm,0.3s,SNR=7.9
EPLA Sn **Sn** **09 49 23.3 -2.4**
166nm,5.3s,SNR=7.9
EPLA Lg Lg 09 49 49.8
465nm,0.7s,SNR=7.9
EPLA Plasencia 4.47 324 Pn **Pn** **09 48 33.4 0.0**
30nm,0.3s,SNR=15
EMHD Djebel Mahouad 4.52 92 P **Pn** **09 48 37.0 +2.7**
EMHD Djebel Mahouad 4.52 92 P **Pn** **09 48 37.0 +2.7**
PESTR Estremoz 4.58 302 *e*Pn **Pn** **09 48 34.3 -0.7**
PESTR *e*Sg **Sg** **09 49 50.2 -2.0**
PESTR A A 09 49 56.7
143nm,0.6s
PESTR Estremoz 4.58 302 *e*Pn **Pn** **09 48 34.1 -0.9**
PESTR Estremoz 4.58 302 *e*Pn **Pn** **09 48 34.3 -0.7**
PESTR *e*Sg **Sg** **09 49 50.2 -2.0**
143nm,0.6s
EVO Evora 4.73 297 *e*Pn **Pn** **09 48 36.5 -0.4**
EVO *e*Sg **Sg** **09 49 56.0 -0.9**
EVO A A 09 50 07.5
108nm,0.8s
EVO Evora 4.73 297 Pn **Pn** **09 48 36.5 -0.4**
EVO Sn **Sn** **09 49 27.3 -4.8**
EVO Lg Lg 09 49 56.0
108nm,0.8s
EVO Evora 4.73 297 Pn **Pn** **09 48 36.5 -0.4**
EVO *e*Sg **Sg** **09 49 56.0 -0.9**
108nm,0.8s
PMRV Marv??o 4.76 309 *e*Pn **Pn** **09 48 37.4 0.0**
PMRV *e*Sg **Sg** **09 49 54.5 -3.3**
PMRV A A 09 50 10.7
148nm,0.7s
PMRV Marv??o 4.76 309 Pn **Pn** **09 48 37.4 0.0**
PMRV Marv??o 4.76 309 Pn **Pn** **09 48 37.4 0.0**
PMRV *e*Sg **Sg** **09 49 54.5 -3.3**
148nm,0.7s
KIB El Ksiba 4.82 217 *i* P **Pn** **09 48 38.0 -0.3**
KIB *i* S **Sn** **09 49 30.0 -4.5**
MORF Marmelete 4.88 281 *e*P **Pn** **09 48 37.7 -1.5**
MORF *e*S **Sn** **09 49 30.8 -5.2**
MORF AML AML 09 49 34.8
comp=N,79nm,0.5s
MORF Marmelete 4.88 281 *e*Pn **Pn** **09 48 38.4 -0.8**
MORF A A 09 50 16.8
comp=N,56nm,0.8s
MORF Marmelete 4.88 281 Pn **Pn** **09 48 38.4 -0.8**
MORF Marmelete 4.88 281 *e*Pn **Pn** **09 48 38.4 -0.8**
comp=N,56nm,0.8s
EBR Ebro Roquetas 4.96 29 Sn **Sn** **09 49 34.5 -3.3**
comp=N,32nm,1.8s,SNR=7.9
PNCL Nicolau / Gran 4.96 291 *e*Pn **Pn** **09 48 39.4 -0.8**
PNCL A A 09 50 07.7
comp=N,52nm,0.6s
PNCL Nicolau / Gran 4.96 291 *e*Pn **Pn** **09 48 39.4 -0.8**
comp=N,52nm,0.6s
PTEO Sao Teotonio 4.98 284 *e*Pn **Pn** **09 48 39.6 -0.8**
PTEO *e*Sn **Sn** **09 49 34.0 -4.3**
PTEO A A 09 50 19.3
comp=N,102nm,0.6s
PTEO Sao Teotonio 4.98 284 Pn **Pn** **09 48 39.6 -0.8**
PTEO Sn **Sn** **09 49 34.0 -4.3**
comp=N,51nm,0.6s
PTEO Sao Teotonio 4.98 284 Pn **Pn** **09 48 39.6 -0.8**
PTEO *e*Sn **Sn** **09 49 34.0 -4.3**
comp=N,102nm,0.6s
PFVI Vila Bisbo 5.00 279 *e*Pn **Pn** **09 48 40.1 -0.6**
PFVI *e*Sn **Sn** **09 49 34.7 -4.2**
PFVI A A 09 50 21.8
comp=N,64nm,0.6s
PFVI Vila Bisbo 5.00 279 Pn **Pn** **09 48 40.2 -0.6**
comp=N,30nm,0.3s,SNR=10
PFVI Sn **Sn** **09 49 36.0 -2.9**
comp=N,22nm,0.2s,SNR=7.9
PFVI Lg Lg 09 50 06.0
comp=N,204nm,1.0s,SNR=4.0
PFVI Vila Bisbo 5.00 279 *e*Pn **Pn** **09 48 40.0 -0.8**
PFVI Vila Bisbo 5.00 279 *e*Pn **Pn** **09 48 40.1 -0.6**
PFVI Sn **Sn** **09 49 36.0 -2.9**
comp=N,22nm,0.2s,SNR=7.9
PFVI Lg Lg 09 50 06.0
comp=N,204nm,1.0s,SNR=4.0
ERTA Horta de San J 5.02 27 Pn **Pn** **09 48 40.3 -0.6**
comp=N,1.5nm,0.2s,SNR=7.9
ERTA Sn **Sn** **09 49 35.4 -3.9**
comp=N,75nm,0.8s,SNR=7.9
ERTA Lg Lg 09 50 06.4
comp=N,194nm,1.1s,SNR=7.9
ERTA Horta de San J 5.02 27 Pn **Pn** **09 48 40.3 -0.6**
comp=N,1.5nm,0.2s,SNR=7.9
ERTA Lg Lg 09 50 06.4
comp=N,194nm,1.1s,SNR=7.9
PCBR Castelo Branco 5.06 313 *e*Pn **Pn** **09 48 41.8 +0.3**
PCBR *e*Sn **Sn** **09 49 37.8 -2.5**
PCBR *e*Sg **Sg** **09 50 05.2 -2.4**
PCBR A A 09 50 21.7
comp=N,147nm,0.8s
PCBR Castelo Branco 5.06 313 Pn **Pn** **09 48 41.8 +0.3**
PCBR Sn **Sn** **09 49 37.8 -2.5**
PCBR Castelo Branco 5.06 313 Pn **Pn** **09 48 41.8 +0.3**
PCBR Sn **Sn** **09 49 37.8 -2.5**
PCBR *e*Sg **Sg** **09 50 05.2 -2.4**
comp=N,147nm,0.8s
PMTG Montargil 5.11 302 *e*Pn **Pn** **09 48 41.4 -0.8**
PMTG *e*Sg **Sg** **09 50 08.2 -1.0**
PMTG A A 09 50 20.5
comp=N,165nm,0.8s
PMTG Montargil 5.11 302 *e*Pn **Pn** **09 48 41.4 -0.8**
PMTG *e*Sg **Sg** **09 50 08.2 -1.0**
comp=N,165nm,0.8s
TZC Tazercounte 5.39 217 *i* S **Sn** **09 49 45.0 -3.7**
ETOS Mallorca 5.39 51 Pn **Pn** **09 48 45.0 -1.1**
comp=N,27nm,0.4s,SNR=27
ETOS Sn **Sn** **09 49 44.0 -4.5**
comp=N,12nm,0.3s,SNR=7.9
ETOS Mallorca 5.39 51 Pn **Pn** **09 48 45.0 -1.1**
comp=N,27nm,0.4s,SNR=27
ALMR Almeirim 5.39 301 *e*S **Sn** **09 49 43.0 -5.6**
ALMR AML AML 09 49 53.3
comp=N,112nm,0.4s
ALMR Almeirim 5.39 301 *e*Pn **Pn** **09 48 49.2 +3.1**
ALMR *e*Sg **Sg** **09 50 19.4 +1.1**
ALMR A A 09 50 42.3
comp=N,373nm,0.7s
ALMR Almeirim 5.39 301 Lg Lg 09 50 19.4
comp=N,187nm,0.7s
ALMR Almeirim 5.39 301 *e*Pn **Pn** **09 48 49.2 +3.1**
ALMR *e*Sg **Sg** **09 50 19.4 +1.1**
comp=N,373nm,0.7s
MTE Manteigas 5.47 317 *e*Pn **Pn** **09 48 47.8 +0.6**
MTE *e*Sg **Sg** **09 50 18.8 -2.0**
MTE A A 09 50 37.8
comp=N,292nm,0.7s
MTE Manteigas 5.47 317 Pn **Pn** **09 48 47.8 +0.6**
MTE Manteigas 5.47 317 *e*Pn **Pn** **09 48 47.4 +0.2**
MTE Manteigas 5.47 317 *e*Pn **Pn** **09 48 47.4 +0.2**
MTE *e*Sg **Sg** **09 50 18.8 -2.0**
comp=N,292nm,0.7s
ESAC San Caprasio 5.48 17 Pn **Pn** **09 48 47.2 -0.1**
comp=N,17nm,0.3s,SNR=7.9
ESAC Pg **Pb** **09 49 05.4 +4.2**
comp=N,99nm,0.4s,SNR=7.9
ESAC Lg Lg 09 50 20.7
comp=N,928nm,1.4s,SNR=7.9
ESAC San Caprasio 5.48 17 Pn **Pn** **09 48 47.2 -0.1**
comp=N,17nm,0.3s,SNR=7.9
ESAC Lg Lg 09 50 20.7
comp=N,928nm,1.4s,SNR=7.9
PTOM Tomar 5.51 306 *e*Pn **Pn** **09 48 47.5 -0.2**
PTOM *e*Sg **Sg** **09 50 18.6 -3.5**
PTOM A A 09 50 29.3
comp=N,197nm,0.8s
PTOM Tomar 5.51 306 Pn **Pn** **09 48 47.5 -0.2**
PTOM Tomar 5.51 306 Pn **Pn** **09 48 47.5 -0.2**
PTOM *e*Sg **Sg** **09 50 18.6 -3.5**
comp=N,197nm,0.8s
EPOB Poblet 5.64 30 Pn **Pn** **09 48 49.6 0.0**
comp=N,0.4nm,0.1s,SNR=7.9
EPOB Poblet 5.64 30 Pn **Pn** **09 48 49.6 0.0**
comp=N,0.4nm,0.1s,SNR=7.9
PMST Lisbon--Monsan 5.65 295 *e*Sg **Sg** **09 50 28.0 +1.4**
PMST A A 09 51 01.9
comp=N,129nm,0.7s
MVO Moncorvo 5.78 325 *e*Pn **Pn** **09 48 51.8 +0.4**
MVO *e*Sn **Sn** **09 49 57.0 -1.1**
MVO *e*Sg **Sg** **09 50 28.7 -1.9**
MVO A A 09 50 34.7
comp=N,213nm,0.7s
MVO Moncorvo 5.78 325 Pn **Pn** **09 48 51.4 0.0**
comp=N,26nm,0.3s,SNR=7.9
MVO Sn **Sn** **09 49 54.0 -4.1**
comp=N,41nm,3.7s,SNR=7.9
MVO Lg Lg 09 50 31.2
comp=N,782nm,1.0s,SNR=7.9
MVO Moncorvo 5.78 325 Pn **Pn** **09 48 51.4 0.0**
comp=N,26nm,0.3s,SNR=7.9
MVO *e*Sn **Sn** **09 49 57.0 -1.1**
MVO *e*Sg **Sg** **09 50 28.7 -1.9**
comp=N,213nm,0.7s
MVO Lg Lg 09 50 31.2
comp=N,782nm,1.0s,SNR=7.9
PMAFR Mafra 5.81 297 *e*Pn **Pn** **09 48 51.5 -0.4**
PMAFR *e*Sg **Sg** **09 50 35.3 +3.8**
PMAFR A A 09 50 52.4
comp=N,160nm,0.7s
PMAFR Mafra 5.81 297 Pn **Pn** **09 48 51.4 -0.4**
comp=N,12nm,0.2s,SNR=5.5
PMAFR Sn **Sn** **09 49 55.4 -3.3**
comp=N,74nm,0.5s,SNR=7.9
PMAFR Lg Lg 09 50 32.0
comp=N,1µm,0.8s,SNR=7.9
PMAFR Mafra 5.81 297 Pn **Pn** **09 48 51.4 -0.4**
comp=N,12nm,0.2s,SNR=5.5
PMAFR Lg Lg 09 50 32.0
comp=N,1µm,0.8s,SNR=7.9
PCAS Casmilo, Conde 5.81 309 *e*Pn **Pn** **09 48 52.7 +0.8**
PCAS *e*Sg **Sg** **09 50 28.4 -3.3**
PCAS A A 09 50 44.0
comp=N,152nm,0.7s
PCAS Casmilo, Conde 5.81 309 *e*Pn **Pn** **09 48 52.7 +0.8**
PCAS *e*Sg **Sg** **09 50 28.4 -3.3**
comp=N,152nm,0.7s
COI Coimbra 5.85 311 Pn **Pn** **09 48 52.3 -0.1**
COI Lg Lg 09 50 33.5
comp=N,129nm,0.7s
COI Coimbra 5.85 311 Pn **Pn** **09 48 52.3 -0.1**
COI *e*Sg **Sg** **09 50 33.5 +0.5**
comp=N,257nm,0.7s
PVIS Viseu 5.88 317 *e*Pn **Pn** **09 48 53.8 +0.9**
PVIS *e*Sg **Sg** **09 50 33.2 -0.7**
PVIS A A 09 50 53.6
comp=N,120nm,0.6s
PVIS Viseu 5.88 317 Pn **Pn** **09 48 53.8 +0.9**
PVIS Lg Lg 09 50 33.2
comp=N,60nm,0.6s
PVIS Viseu 5.88 317 Pn **Pn** **09 48 53.8 +0.9**
PVIS *e*Sg **Sg** **09 50 33.2 -0.7**
comp=N,120nm,0.6s
PBRG Braganca 6.18 330 *e*Pn **Pn** **09 48 57.3 +0.4**
PBRG *e*Sg **Sg** **09 50 41.9 -1.5**
PBRG A A 09 50 56.9
comp=N,110nm,0.7s
PBRG Braganca 6.18 330 Pn **Pn** **09 48 57.3 +0.4**
PBRG Braganca 6.18 330 Pn **Pn** **09 48 57.3 +0.4**
PBRG *e*Sg **Sg** **09 50 41.9 -1.5**
comp=N,110nm,0.7s
PVRL Vila Real 6.19 322 *e*Pn **Pn** **09 48 57.4 +0.3**
PVRL *e*Sg **Sg** **09 50 41.8 -2.1**
PVRL A A 09 50 58.8
comp=N,82nm,0.6s
PVRL Vila Real 6.19 322 Pn **Pn** **09 48 57.4 +0.3**
PVRL Vila Real 6.19 322 Pn **Pn** **09 48 57.4 +0.3**
PVRL *e*Sg **Sg** **09 50 41.8 -2.1**
comp=N,82nm,0.6s
ECAL Calabor 6.29 331 Pn **Pn** **09 48 58.8 +0.3**
comp=N,1.3nm,0.2s,SNR=7.9
ECAL Lg Lg 09 50 47.3
comp=N,1µm,1.9s,SNR=7.9
ECAL Calabor 6.29 331 Pn **Pn** **09 48 58.8 +0.3**
comp=N,1.3nm,0.2s,SNR=7.9
ECAL Lg Lg 09 50 47.3
comp=N,1µm,1.9s,SNR=7.9
POLO Lamas de Olo 6.31 322 *e*Pn **Pn** **09 48 59.0 +0.3**
POLO *e*Sg **Sg** **09 50 47.1 -0.4**
POLO A A 09 50 52.3
comp=N,50nm,0.7s
POLO Lamas de Olo 6.31 322 *e*Pn **Pn** **09 48 59.0 +0.3**
POLO *e*Sg **Sg** **09 50 47.1 -0.4**
comp=N,50nm,0.7s
EARA Aranguren 6.31 7 Pg Pb 09 49 20.9 +5.5
comp=N,9.2nm,0.3s,SNR=7.9
EARA Lg Lg 09 50 47.4
comp=N,876nm,1.8s,SNR=7.9
IPRE Itoiz 6.37 9 Lg Lg 09 50 49.7
comp=N,275nm,1.5s,SNR=7.9
IPRE Itoiz 6.37 9 Lg Lg 09 50 49.7
comp=N,275nm,1.5s,SNR=7.9
IELO Elcoad 6.42 9 Pn **Pn** **09 49 00.2 -0.1**
comp=N,0.3nm,0.1s,SNR=7.9
IELO Pg Pb 09 49 23.1 +5.8
comp=N,47nm,0.7s,SNR=7.9
IELO Lg Lg 09 50 51.3
comp=N,973nm,3.0s,SNR=7.9
IELO Elcoad 6.42 9 Pn **Pn** **09 49 00.2 -0.1**
comp=N,0.3nm,0.1s,SNR=7.9
IELO Lg Lg 09 50 51.3
comp=N,973nm,3.0s,SNR=7.9
EORO Oroz-Betelu 6.46 9 Pn **Pn** **09 49 00.8 0.0**
comp=N,15nm,0.5s,SNR=9.6
EORO Pg Pb 09 49 23.6 +5.7
comp=N,48nm,0.4s,SNR=7.9
EORO Lg Lg 09 50 52.2
comp=N,1µm,1.7s,SNR=7.9
EORO Oroz-Betelu 6.46 9 Pn **Pn** **09 49 00.8 0.0**
comp=N,15nm,0.5s,SNR=9.6
EORO Lg Lg 09 50 52.2
comp=N,1µm,1.7s,SNR=7.9
ECHI Chisagues Biel 6.53 19 Pn **Pn** **09 49 01.9 +0.1**
comp=N,5.1nm,0.3s,SNR=7.9
ECHI Pg Pb 09 49 25.1 +5.9
comp=N,15nm,3.7s,SNR=7.9
ECHI Lg Lg 09 50 55.0
comp=N,114nm,1.2s,SNR=7.9
ECHI Chisagues Biel 6.53 19 Pn **Pn** **09 49 01.9 +0.1**
comp=N,5.1nm,0.3s,SNR=7.9
ECHI Lg Lg 09 50 55.0
comp=N,114nm,1.2s,SNR=7.9
CSOR Sort 6.55 25 Pn **Pn** **09 49 01.8 -0.3**
comp=N,0.7nm,0.2s,SNR=7.9
CSOR Lg Lg 09 50 54.9
comp=N,600nm,2.5s,SNR=7.9
CSOR Sort 6.55 25 Pn **Pn** **09 49 01.8 -0.3**
comp=N,0.7nm,0.2s,SNR=7.9
CSOR Lg Lg 09 50 54.9
comp=N,600nm,2.5s,SNR=7.9
PTO Porto 6.56 317 *e*Pn **Pn** **09 49 02.8 +0.7**
PTO *e*Sg **Sg** **09 50 52.3 -3.4**
PTO Porto 6.56 317 Pn **Pn** **09 49 02.8 +0.7**
PTO Porto 6.56 317 Pn **Pn** **09 49 02.8 +0.7**
PTO *e*Sg **Sg** **09 50 52.3 -3.4**

CFON	**Fontmartina**	**6.56**	**35**	Pn		**Pn**	**09 49 02.3**	**0.0**
	comp=N,2.3nm,0.2s,SNR=7.9							
CFON	**Fontmartina**	**6.56**	**35**	Pn		**Pn**	**09 49 02.3**	**0.0**
	comp=N,2.3nm,0.2s,SNR=7.9							
ETSF	**Etsaut**	**6.58**	**13**	*e*P		**Pn**	**09 49 05.6**	**+3.1**
ETSF	**Etsaut**	**6.58**	**13**	*e*Pg		Pg	09 49 26.9	-4.2
ETSF				*e*Sg		**Sg**	**09 50 51.1**	**-5.3**
	comp=N,125nm,0.9s							
ETSF	**Etsaut**	**6.58**	**13**	Pg		Pg	09 49 26.9	-4.2
ETSF	**Etsaut**	**6.58**	**13**	*e*P		**Pn**	**09 49 05.6**	**+3.1**
ETSF				*e*Pg		Pg	09 49 26.9	-4.2
ETSF				*e*Sg		**Sg**	**09 50 51.1**	**-5.3**
PCAB	**Cabril**	**6.67**	**323**	*e*Sg		**Sg**	**09 50 57.7**	**-1.6**
PCAB				A		A	09 51 04.1	
	comp=N,148nm,0.6s							
PCAB	**Cabril**	**6.67**	**323**	*e*Sg		**Sg**	**09 50 57.7**	**-1.6**
	comp=N,148nm,0.6s							
SJPF	**Ste Jean**	**6.69**	**9**	*e*Pn		**Pn**	**09 49 02.9**	**-1.0**
SJPF	**Ste Jean**	**6.69**	**9**	*e*Pg		Pg	09 49 28.6	-4.6
SJPF				*e*Sg		**Sg**	**09 50 55.0**	**-4.8**
	comp=N,287nm,1.0s							
SJPF	**Ste Jean**	**6.69**	**9**	Pn		**Pn**	**09 49 02.9**	**-1.0**
SJPF				Pg		Pg	09 49 28.6	-4.6
SJPF	**Ste Jean**	**6.69**	**9**	*e*Pn		**Pn**	**09 49 02.9**	**-1.0**
SJPF				*e*Pg		Pg	09 49 28.6	-4.6
SJPF				*e*Sg		**Sg**	**09 50 55.0**	**-4.8**
SJPF	**Ste Jean**	**6.69**	**9**	Pn		**Pn**	**09 49 02.9**	**-1.0**
ATE	**Arette**	**6.74**	**12**	Pn		**Pn**	**09 49 04.0**	**-0.6**
	comp=N,1.3nm,0.3s,SNR=7.9							
ATE				Sn		**Sn**	**09 50 17.0**	**-4.7**
	comp=N,37nm,0.9s,SNR=7.9							
ATE				Lg		Lg	09 51 01.6	
	comp=N,118nm,1.1s,SNR=7.9							
ATE	**Arette**	**6.74**	**12**	Pn		**Pn**	**09 49 04.0**	**-0.6**
	comp=N,1.3nm,0.3s,SNR=7.9							
ATE				Lg		Lg	09 51 01.6	
	comp=N,118nm,1.1s,SNR=7.9							
ELAN	**Lanestosa**	**6.75**	**355**	Pn		**Pn**	**09 49 04.5**	**-0.2**
	comp=N,9.6nm,0.6s,SNR=7.9							
ELAN				Pg		Pb	09 49 28.5	+5.7
	comp=N,54nm,0.8s,SNR=7.9							
ELAN				Sn		**Sn**	**09 50 17.2**	**-4.7**
	comp=N,13nm,1.8s,SNR=7.9							
ELAN				Lg		Lg	09 51 02.2	
	comp=N,1µm,3.4s,SNR=7.9							
ELAN	**Lanestosa**	**6.75**	**355**	Pn		**Pn**	**09 49 04.5**	**-0.2**
	comp=N,9.6nm,0.6s,SNR=7.9							
ELAN				Lg		Lg	09 51 02.2	
	comp=N,1µm,3.4s,SNR=7.9							
EALK	**Alkurruntz**	**6.76**	**7**	Pn		**Pn**	**09 49 05.1**	**+0.1**
	comp=N,2.4nm,0.3s,SNR=7.9							
EALK				Pg		Pb	09 49 29.6	+6.5
	comp=N,34nm,0.5s,SNR=7.9							
EALK				Sn		**Sn**	**09 50 17.1**	**-5.3**
	comp=N,1.3nm,1.7s,SNR=7.9							
EALK				Lg		Lg	09 51 02.2	
	comp=N,915nm,1.4s,SNR=7.9							
EALK	**Alkurruntz**	**6.76**	**7**	Pn		**Pn**	**09 49 05.1**	**+0.1**
	comp=N,2.4nm,0.3s,SNR=7.9							
EALK				Lg		Lg	09 51 02.2	
	comp=N,915nm,1.4s,SNR=7.9							
ELOB	**Lobios**	**6.81**	**323**	Pn		**Pn**	**09 49 05.9**	**+0.3**
	comp=N,0.8nm,0.1s,SNR=7.9							
ELOB				Sn		**Sn**	**09 50 18.6**	**-4.9**
	comp=N,11nm,0.3s,SNR=7.9							
ELOB				Lg		Lg	09 51 03.7	
	comp=N,509nm,1.2s,SNR=7.9							
ELOB	**Lobios**	**6.81**	**323**	Pn		**Pn**	**09 49 05.9**	**+0.3**
	comp=N,0.8nm,0.1s,SNR=7.9							
ELOB				Lg		Lg	09 51 03.7	
	comp=N,509nm,1.2s,SNR=7.9							
OUK	**Oukaimeden**	**6.84**	**221**	*i* P		**Pn**	**09 49 06.0**	**-0.3**
EPF	**Esparros**	**6.91**	**18**	*e*Pn		**Pn**	**09 49 05.9**	**-1.1**
EPF	**Esparros**	**6.91**	**18**	*e*Pg		Pg	09 49 33.0	-4.4
EPF				*e*Sg		**Sg**	**09 51 02.9**	**-3.9**
	comp=N,214nm,1.2s							
EPF	**Esparros**	**6.91**	**18**	Pn		**Pn**	**09 49 05.9**	**-1.1**
EPF				Pg		Pg	09 49 33.0	-4.4
EPF	**Esparros**	**6.91**	**18**	*e*Pn		**Pn**	**09 49 05.9**	**-1.1**
EPF				*e*Pg		Pg	09 49 33.0	-4.4
EPF				*e*Sg		**Sg**	**09 51 02.9**	**-3.9**
EPF	**Esparros**	**6.91**	**18**	Pn		**Pn**	**09 49 05.9**	**-1.1**
CLLI	**Llivia**	**6.95**	**29**	Pn		**Pn**	**09 49 07.3**	**-0.3**
	comp=N,20nm,1.2s,SNR=7.9							
CLLI	**Llivia**	**6.95**	**29**	Pn		**Pn**	**09 49 07.3**	**-0.3**
	comp=N,20nm,1.2s,SNR=7.9							
PGAV	**Gavieira, Arco**	**6.99**	**323**	*e*Pn		**Pn**	**09 49 08.9**	**+0.8**
PGAV				*e*Sg		**Sg**	**09 51 09.4**	**+0.1**
PGAV				A		A	09 51 20.8	
	comp=N,81nm,0.6s							
PGAV	**Gavieira, Arco**	**6.99**	**323**	*e*Pn		**Pn**	**09 49 08.9**	**+0.8**
PGAV				*e*Sg		**Sg**	**09 51 09.4**	**+0.1**
	comp=N,81nm,0.6s							
EARI	**Arriondas**	**7.07**	**345**	Pn		**Pn**	**09 49 09.4**	**+0.3**
	comp=N,19nm,0.9s,SNR=7.9							
EARI				Pg		Pg	09 49 35.4	-5.1
	comp=N,35nm,0.6s,SNR=7.9							
EARI				Lg		Lg	09 51 12.3	
	comp=N,544nm,1.1s,SNR=7.9							
EARI	**Arriondas**	**7.07**	**345**	Pn		**Pn**	**09 49 09.4**	**+0.3**
	comp=N,19nm,0.9s,SNR=7.9							
EARI				Lg		Lg	09 51 12.3	
	comp=N,544nm,1.1s,SNR=7.9							
CIA	**Chichaoua**	**7.08**	**228**	*e*P		**Pn**	**09 49 09.0**	**-0.3**
CIA				*i* S		**Sn**	**09 50 27.0**	**-3.1**
EAGO	**Agolada(Pontev**	**7.56**	**328**	Pn		**Pn**	**09 49 16.0**	**+0.1**
	comp=N,0.4nm,0.1s,SNR=7.9							
EAGO				Lg		Lg	09 51 27.9	
	comp=N,213nm,0.8s,SNR=7.9							
EAGO	**Agolada(Pontev**	**7.56**	**328**	Pn		**Pn**	**09 49 16.0**	**+0.1**
	comp=N,0.4nm,0.1s,SNR=7.9							
EAGO				Lg		Lg	09 51 27.9	
	comp=N,213nm,0.8s,SNR=7.9							
EPON	**Pontenova**	**7.64**	**334**	Lg		Lg	09 51 29.9	
	comp=N,298nm,1.6s,SNR=7.9							
EPON	**Pontenova**	**7.64**	**334**	Lg		Lg	09 51 29.9	
	comp=N,298nm,1.6s,SNR=7.9							
MTLF	**Montolieu**	**7.78**	**27**	*e*P		**Pn**	**09 49 21.5**	**+2.6**
MTLF	**Montolieu**	**7.78**	**27**	*e*Pg		Pb	09 49 48.3	+8.0
MTLF				*e*Sg		Sb	09 51 30.0	+17
	comp=N,58nm,1.1s							
MTLF	**Montolieu**	**7.78**	**27**	Pg		Pb	09 49 48.3	+8.0
MTLF	**Montolieu**	**7.78**	**27**	*e*P		**Pn**	**09 49 21.5**	**+2.6**
MTLF				*e*Pg		Pb	09 49 48.3	+8.0
MTLF				*e*Sg		Sb	09 51 30.0	+17
EMAZ	**Mazaricos**	**8.08**	**325**	Lg		Lg	09 51 44.1	
	comp=N,788nm,2.2s,SNR=7.9							
EMAZ	**Mazaricos**	**8.08**	**325**	Lg		Lg	09 51 44.1	
	comp=N,788nm,2.2s,SNR=7.9							
LASF	**Ste Croix**	**9.04**	**31**	*e*P		**Pn**	**09 49 39.8**	**+3.6**
LASF	**Ste Croix**	**9.04**	**31**	*e*P		**Pn**	**09 49 39.8**	**+3.6**
KEST	**Kesra**	**9.73**	**91**	Pn		**Pn**	**09 49 48.0**	**+2.3**
	comp=N,1.1nm,0.3s,baz=225,slow=4.0,SNR=8.2							
KEST				Sn		**Sn**	**09 51 39.0**	**+3.7**
	comp=N,0.4nm,0.3s,baz=0.0,slow=20,SNR=3.0							
KEST				LR		LR	09 53 06.3	
	comp=N,178nm,21.8s,baz=305,slow=35							
KEST	**Kesra**	**9.73**	**91**	*e*Pn		**Pn**	**09 49 49.7**	**+4.0**
KEST				Sn		**Sn**	**09 51 39.0**	**+3.7**
VSL	**Villasalto**	**9.94**	**69**	*e*Pn		**Pn**	**09 49 49.8**	**+1.3**
VSL	**Villasalto**	**9.94**	**69**	*e*Pn		**Pn**	**09 49 49.8**	**+1.3**
GERES	**GERESS Array B**	**17.17**	**39**	P		**P**	**09 51 27.6**	**+0.3**
	comp=N,0.2nm,0.3s,baz=231,slow=12,SNR=3.5							
GERES				LR		LR	09 58 14.7	
	comp=N,185nm,18.7s,baz=264,slow=38							
KHC	**Kasperske Hory**	**17.30**	**38**	*e*Pn		**Pn**	**09 51 26.1**	**-1.0**
	comp=N,6.5nm,1.7s							
KHC	**Kasperske Hory**	**17.30**	**38**	*e*Pn		**Pn**	**09 51 26.1**	**-1.0**
	comp=N,6.5nm,1.7s							
CLL	**Collm**	**18.54**	**32**	*e*P		**P**	**09 51 41.0**	**-1.3**
DIVS	**Divibare**	**18.82**	**59**	*e*P		**Pn**	**09 51 49.2**	**+3.3**
	comp=N,4.4nm,1.0s							
VRAC	**Vranov**	**18.96**	**42**	LR		LR	09 58 49.6	
	comp=N,100nm,21.4s,baz=260,slow=36							
VYHS	**Vyhne**	**19.78**	**46**	*e*P		**P**	**09 51 56.1**	**+0.2**
VYHS	**Vyhne**	**19.78**	**46**	*e*P		**P**	**09 51 56.1**	**+0.2**
VTS	**Vitosha**	**20.80**	**65**	*e*P		Pn	09 52 10.0	+0.5
	comp=N,12nm,1.4s							
CRVS	**Cervenica-Dubn**	**21.51**	**47**	*e*P		**P**	**09 52 13.7**	**-1.0**
CRVS	**Cervenica-Dubn**	**21.51**	**47**	*e*P		**P**	**09 52 13.7**	**-1.0**
KOWA	**Kowa**	**21.95**	**184**	P		**P**	**09 52 18.9**	**-0.7**
	comp=N,2.1nm,0.6s,baz=5.7,slow=11,SNR=2.6							
KOWA				LR		LR	10 01 59.9	
	comp=N,46nm,18.8s,baz=32,slow=40							
IDI	**Anoyia**	**22.31**	**85**	P		**P**	**09 52 24.5**	**+1.1**
	comp=N,20nm,0.9s,baz=276,slow=10,SNR=2.2							
SANT	**Santorini**	**22.58**	**82**	*e*P		**P**	**09 52 30.1**	**+3.8**
MLR	**Muntele Rosu**	**23.27**	**58**	P		**P**	**09 52 35.2**	**+1.7**
	comp=N,1.6nm,1.0s,baz=268,slow=9.9,SNR=5.6							
MLR				LR		LR	10 03 24.9	
	comp=N,23nm,18.3s,baz=258,slow=41							
MLR	**Muntele Rosu**	**23.27**	**58**	*e*P		**P**	**09 52 36.8**	**+3.3**
	comp=N,18nm,1.2s							
BUR04	**Bucovina Ar. S**	**23.34**	**53**	*e*P		**P**	**09 52 33.9**	**-0.3**
BUR04	**Bucovina Ar. S**	**23.34**	**53**	*e*P		**P**	**09 52 33.9**	**-0.3**
BUR08	**Bucovina Ar. S**	**23.35**	**53**	*e*P		**P**	**09 52 36.8**	**+2.6**
BUR08	**Bucovina Ar. S**	**23.35**	**53**	*e*P		**P**	**09 52 36.8**	**+2.6**
TOA0	**Torodi Ar. Sit**	**23.58**	**169**	*e*P		**P**	**09 52 39.3**	**+2.7**
	comp=N,13nm,1.3s							
TORD	**Torodi Ar. Bea**	**23.58**	**169**	P		**P**	**09 52 36.3**	**-0.3**
	comp=N,4.3nm,0.9s,baz=347,slow=9.8,SNR=18							
TORD				LR		LR	10 02 28.8	
	comp=N,87nm,18.5s,baz=345,slow=38							
HFS	**Hagfors**	**25.87**	**19**	LR		LR	10 05 19.0	
	comp=N,94nm,19.4s,baz=220,slow=41							
NOA	**NORSAR Array B**	**26.08**	**15**	LR		LR	10 05 14.9	
	comp=N,80nm,19.2s,baz=200,slow=41							
AKASG	**Malin Array Be**	**26.84**	**48**	P		**P**	**09 53 07.4**	**+1.2**
	comp=N,1.0nm,0.6s,baz=246,slow=10,SNR=3.7							
AKBB	**Malin Array Si**	**26.84**	**48**	*e*P		**P**	**09 53 06.9**	**+0.7**
	comp=N,7.1nm,1.3s							
ANTO	**Ankara**	**27.94**	**72**	*e*P		**P**	**09 53 16.6**	**+0.3**
	comp=N,141nm,1.1s							
ANTO	**Ankara**	**27.94**	**72**	*e*P		**P**	**09 53 16.6**	**+0.3**
	comp=N,141nm,1.1s							
DBIC	**Dimbokro**	**29.76**	**184**	LR		LR	10 06 13.3	
	comp=N,52nm,18.6s,baz=353,slow=38							
ARCES	**ARCESS Array B**	**36.45**	**16**	P		**P**	**09 54 30.3**	**-0.1**
	comp=N,2.2nm,1.0s,baz=207,slow=5.7,SNR=4.7							
SFJD	**Kangerlussuaq**	**40.83**	**333**	LR		LR	10 09 12.1	
	comp=N,48nm,19.0s,baz=107,slow=32							
BVAR	**Borovoye Array**	**52.11**	**47**	P		**P**	**09 56 36.6**	**+0.6**
	comp=N,0.8nm,0.6s,baz=282,slow=6.9,SNR=2.2							
BVAR				LR		LR	10 19 30.7	
	comp=N,61nm,18.6s,baz=280,slow=37							
KURBB	**Kurchatov Arra**	**57.63**	**48**	P		**P**	**09 57 16.7**	**+0.8**
	comp=N,2.0nm,0.8s,baz=294,slow=7.9,SNR=7.3							
KURK	**Kurchatov**	**57.65**	**48**	P		**P**	**09 57 16.7**	**+0.7**
AAK	**Ala-Archa**	**57.85**	**58**	LR		LR	10 24 46.1	
	comp=N,41nm,18.2s,baz=332,slow=39							
ZALV	**Zalesovo Beam**	**60.07**	**43**	P		**P**	**09 57 34.1**	**+1.3**
	comp=N,1.9nm,0.6s,baz=285,slow=6.3,SNR=4.9							
ZALV				LR		LR	10 24 39.8	
	comp=N,39nm,19.6s,baz=53,slow=37							
MKAR	**Makanchi Array**	**61.36**	**51**	P		**P**	**09 57 40.9**	**-0.9**
	comp=N,0.5nm,0.8s,baz=284,slow=5.5,SNR=6.0							
WMQ	**Urumqi**	**66.09**	**52**	P		P	09 58 17.1	+4.0
PLAL	**Pickwick Lake**	**67.00**	**297**	*e*P		**P**	**09 58 21.3**	**+2.3**
YKA	**Yellowknife Ar**	**67.38**	**332**	P		**P**	**09 58 20.1**	**-0.8**
	comp=N,0.3nm,0.5s,baz=56,slow=6.5,SNR=7.1							
INK	**Inuvik**	**69.28**	**343**	P		**P**	**09 58 31.8**	**-0.9**
	comp=N,0.5nm,0.7s,baz=32,slow=8.2,SNR=3.4							
BGNE	**Belgrade**	**70.61**	**307**	*e*P		**P**	**09 58 41.9**	**+0.5**
	comp=N,6.9nm,0.7s							
AMTX	**Amarillo**	**76.52**	**303**	*e*P		**P**	**09 59 16.8**	**+0.5**
	comp=N,4.5nm,0.6s							
PDAR	**Pinedale Array**	**76.82**	**314**	P		**P**	**09 59 17.0**	**-1.0**
	comp=N,1.9nm,0.8s,baz=72,slow=5.8,SNR=15							
TXAR	**Lajitas Array**	**81.14**	**300**	P		**P**	**09 59 41.1**	**-0.7**
	comp=N,0.2nm,0.9s,baz=72,slow=4.2,SNR=2.0							
HHC	**Hu-ho-hao-te**	**82.22**	**44**	*e*P		**P**	**09 59 48.0**	**+0.6**
HHC				pmax		pmax		
	comp=Z,11nm,1.4s							
HHC				pmax		pmax		
	comp=Z,27nm,8.4s							

IDC 18 09:55:32.1±5.5, 43.64N×132.10E, h0km, Error ellipse: s-maj=30.8km s-min=8.7km az=172.0, Primorye

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
USRK	**Ussuriysk Ar.**	**0.56**	**352**	Pg	Pg	09 55 42.9	0.0
	0.3nm,0.3s,baz=170,slow=16,SNR=7.4						
USRK				Lg	Lg	09 55 50.7	
	0.5nm,0.3s,baz=169,slow=28,SNR=4.6						
USRK				*i*		09 58 40.8	
	0.2nm,0.3s,baz=225,slow=13,SNR=5.0						
I45RU	**USSURIYSK INFR**	**0.56**	**351**	*i*		09 58 35.0	
	baz=175,slow=319,SNR=8.8						
I30JP	**ISUMI INFRASON**	**10.46**	**140**	*i*		10 59 10.0	
	baz=328,slow=327,SNR=0.7						

*IDC **18** 09:56:49.5±0.7, 52.10N×171.89W, h0km, mb4.1/22, mb1 4.2/23, mb1mx4.0/81, mbtmp4.1/23, ML3.7/1, MS3.3/7, Ms1 3.3/7, ms1mx2.9/72, Error ellipse: s-maj=21.6km s-min=13.0km az=165.0*

*ISCJB **18** 09:56:54.2±0.4, 51.87N±0.07×171.77W±0.05, h50km, mb4.3/31, MS3.3/5, Error ellipse: s-maj=10.6km s-min=2.9km az=164.2*

*NEIC **18** 09:56:54.5±0.0, 51.92N×171.78W, h41km, mb4.0/28, ML4.2(AEIC), After AEIC.*

ISC 18 09:56:55.8±0.7, 51.9N±0.1×171.75W±0.04, h50km, n113, σ1°34/108, mb4.2/31, MS3.2/5, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KOFP	**Korovin Flat P**	**1.50**	**286**	P	**Pn**	**09 57 19.4**	**-0.8**
ATKA	**Atka Island**	**1.54**	**282**	P	**Pn**	**09 57 19.1**	**-1.7**
ATKA				S	**Sn**	**09 57 38.1**	**-1.5**
KOKL	**Mount Kliuchef**	**1.57**	**287**	P	**Pn**	**09 57 20.4**	**-0.8**
KOWE	**Korovin West**	**1.61**	**288**	P	**Pn**	**09 57 21.5**	**-0.3**
NIKH	**Nikolski High**	**2.07**	**58**	P	**Pn**	**09 57 26.1**	**-2.0**
NIKH				S	**Sn**	**09 57 53.1**	**+0.4**
OKWE	**Okmok W'ng Wal**	**2.66**	**52**	P	**Pn**	**09 57 36.5**	**+0.4**
OKAK	**Okmok**	**2.66**	**49**	P	**Pn**	**09 57 34.9**	**-1.2**
OKTU	**Okmok Mt. Tuli**	**2.71**	**55**	P	**Pn**	**09 57 36.8**	**0.0**
GSTD	**Great Sitkin T**	**2.72**	**275**	P	**Pn**	**09 57 36.0**	**-1.1**
GSTD				S	**Sn**	**09 58 08.9**	**+0.1**
ETKA	**Kagalaska Isla**	**2.89**	**271**	P	**Pn**	**09 57 37.8**	**-1.4**
ADAG	**Mount Adagdak**	**3.00**	**273**	P	**Pn**	**09 57 40.9**	**0.0**
KIRH	**Kanaga Island**	**3.31**	**272**	P	**Pn**	**09 57 45.6**	**+0.6**
KIKV	**Kanaga Island**	**3.36**	**272**	P	**Pn**	**09 57 45.6**	**-0.1**
MREP	**Makushin Rep't**	**3.59**	**56**	P	**Pn**	**09 57 49.4**	**+0.5**
MSW	**Makushin Switc**	**3.62**	**54**	P	**Pn**	**09 57 48.7**	**-0.6**
UNV	**Unalaska Valle**	**3.73**	**56**	P	**Pn**	**09 57 51.1**	**+0.3**
UNV				S	**Sn**	**09 58 33.7**	**+0.3**
ZRO	**Akutan Zero**	**4.12**	**56**	P	**Pn**	**09 57 57.2**	**+1.0**
AKUT	**Akutan**	**4.25**	**56**	*e*Pn	**Pn**	**09 57 59.3**	**+1.5**
AKUT				*e*Sg	Sn	09 59 09.5	+23
GALAA	**Gareloi Lava P**	**4.36**	**271**	P	**Pn**	**09 58 00.1**	**+0.7**
SPIA	**Saint Paul Isl**	**5.36**	**9**	P	**Pn**	**09 58 13.9**	**+0.8**
FALS	**False Pass**	**5.80**	**56**	*e*Pn	**Pn**	**09 58 15.6**	**-3.6**
SDPT	**Sand Point**	**7.54**	**58**	P	**Pn**	**09 58 42.6**	**-0.4**
CHGN	**Chignik**	**8.99**	**55**	*e*Pn	**Pn**	**09 59 03.0**	**+0.2**
GAMB	**Gambell**	**11.91**	**0**	*e*Pn	**Pn**	**09 59 46.6**	**+4.0**
OHAK	**Old Harbor**	**11.95**	**56**	*e*Pn	**Pn**	**09 59 40.7**	**-2.6**
KDAK	**Kodiak Island**	**12.50**	**54**	Pn	**Pn**	**09 59 48.2**	**-2.4**
	0.7nm,0.3s,baz=258,slow=8.1,SNR=9.6						
KDAK				Sn	**Sn**	**10 02 02.4**	**-5.7**
	0.2nm,0.3s,baz=221,slow=20,SNR=2.4						
SVW2	**Sparrevohn**	**12.80**	**38**	*e*Pn	**Pn**	**09 59 58.7**	**+3.9**
RC01	**Rabbit Creek A**	**15.17**	**44**	*e*Pn	**Pn**	**10 00 27.2**	**+0.6**
CAST	**Castle Rocks**	**15.53**	**34**	*e*Pn	**P**	**10 00 36.4**	**+1.6**
	6.3nm,1.2s						
PMR	**Palmer**	**15.66**	**43**	*e*Pn	**P**	**10 00 34.6**	**-1.6**
	7.9nm,1.4s						
KTH	**Kantishna Hill**	**16.03**	**35**	*e*Pn	**P**	**10 00 41.6**	**+1.3**
	29nm,2.0s						
SML	**Sawmill**	**16.10**	**43**	*e*Pn	**Pn**	**10 00 39.2**	**+0.7**
	9.2nm,1.0s						
TRF	**Thorofare Moun**	**16.20**	**36**	*e*Pn	**P**	**10 00 43.4**	**+1.2**
	4.3nm,1.0s						
BPAW	**Bear Paw Mtn.**	**16.34**	**34**	*e*Pn	**P**	**10 00 43.8**	**0.0**
	5.4nm,1.0s						
SCM	**Sheep Creek Mo**	**16.54**	**44**	*e*Pn	**Pn**	**10 00 44.0**	**-0.1**
	14nm,1.2s						
RND	**Reindeer**	**16.70**	**38**	*e*Pn	**P**	**10 00 48.7**	**+0.9**
	13nm,1.6s						
EYAK	**Cordova Ski Ar**	**16.75**	**49**	*e*Pn	**Pn**	**10 00 46.5**	**-0.1**
	38nm,1.6s						
MLY	**Manley**	**17.02**	**31**	*e*Pn	**P**	**10 00 53.5**	**+2.2**
	4.1nm,1.1s						
DHY	**Denali Highway**	**17.10**	**40**	*e*Pn	**P**	**10 00 54.0**	**+1.7**
	2.8nm,1.0s						
RAGM	**Ragged Mountai**	**17.20**	**50**	*e*Pn	**P**	**10 00 53.3**	**0.0**
	42nm,1.6s						
BMRM	**Bremner River**	**17.42**	**48**	*e*P	**Pn**	**10 00 54.9**	**-0.1**
	14nm,1.4s						
HARP	**HAARP**	**17.71**	**43**	*e*P	**P**	**10 00 58.8**	**0.0**
	41nm,1.8s						
CCB	**Clear Creek Bu**	**17.78**	**35**	*e*P	**P**	**10 01 01.5**	**+2.0**
	4.9nm,1.3s						
IL1	**Eielson Array**	**18.18**	**35**	*e*P	**Pn**	**10 01 03.9**	**-0.3**
ILAR	**Eielson Array**	**18.18**	**35**	P	**P**	**10 01 02.2**	**-1.7**
	0.3nm,0.3s,baz=220,slow=9.3,SNR=14						
ILAR				LR	LR	10 08 50.8	
	comp=Z,93nm,18.3s,baz=236,slow=40						
ILB	**Eielson Array**	**18.18**	**35**	*e*P	**Pn**	**10 01 04.1**	**-0.1**
RIDG	**Independ'e Rid**	**18.42**	**40**	*e*P	**Pn**	**10 01 07.2**	**0.0**
	15nm,1.4s						
BALM	**Baldy**	**18.49**	**49**	*e*P	**Pn**	**10 01 09.6**	**+1.5**
	15nm,1.4s						
MENT	**Mentasta**	**18.53**	**43**	*e*P	**Pn**	**10 01 10.5**	**+2.0**
	12nm,1.7s						
PETK	**Petropavlovsk-**	**18.57**	**286**	P	**Pn**	**10 01 08.9**	**-0.1**
	1.2nm,0.3s,baz=88,slow=14,SNR=20						
PETK				LR	LR	10 07 24.0	
	comp=Z,46nm,19.3s,baz=80,slow=34						
SCRK	**Sand Creek**	**18.87**	**39**	*e*P	**Pn**	**10 01 13.0**	**+0.4**
	19nm,1.9s						
TOLK	**Toolik Lake Re**	**19.86**	**24**	*e*P	**Pn**	**10 01 24.8**	**+0.6**
	10nm,1.3s						
EGAK	**Eagle**	**20.32**	**39**	*e*P	**P**	**10 01 26.9**	**-0.5**
	4.1nm,0.7s						
HYT	**Haines Junctio**	**20.74**	**51**	*e*P	**P**	**10 01 31.4**	**-0.6**
	6.9nm,0.8s						
DAWY	**Dawson**	**20.76**	**42**	*e*P	**P**	**10 01 31.2**	**-0.9**
	7.8nm,1.5s						
SKAG	**Skagway**	**21.65**	**55**	*e*P	**P**	**10 01 42.6**	**+1.0**
	7.1nm,0.7s						
SEY	**Seymchan**	**21.93**	**314**	P	**P**	**10 01 45.5**	**+1.0**
	4.1nm,0.7s,baz=78,slow=6.1,SNR=12						
DLBC	**Dease Lake**	**24.38**	**58**	*e*P	**P**	**10 02 11.9**	**+2.9**
	15nm,1.4s						
INK	**Inuvik**	**24.55**	**34**	P	**P**	**10 02 09.9**	**-0.4**
	0.9nm,0.4s,baz=248,slow=9.0,SNR=18						
INK				PcP	**PcP**	**10 05 47.6**	**+0.7**
	0.4nm,0.5s,baz=165,slow=1.8,SNR=3.2						
INK	**Inuvik**	**24.55**	**34**	*e*P	**P**	**10 02 09.6**	**-0.8**
	2.3nm,0.9s						
INK				PcP	**PcP**	**10 05 47.6**	**+0.7**
ASAJ	**Asahikawa**	**31.08**	**274**	P	**P**	**10 03 09.5**	**+0.6**
	3.0nm,0.5s,baz=85,slow=13,SNR=10.0						
ASAJ	**Asahikawa**	**31.08**	**274**	*e*P	**P**	**10 03 09.3**	**+0.3**
	2.6nm,0.9s						
YKA	**Yellowknife Ar**	**31.65**	**48**	P	**P**	**10 03 13.9**	**+0.1**
	0.3nm,0.4s,baz=272,slow=8.0,SNR=16						
YKA				PcP	**PcP**	**10 06 05.3**	**+0.9**
	0.2nm,0.7s,baz=286,slow=3.3,SNR=3.9						
YKA				ScP	**ScP**	**10 09 45.9**	**+2.6**
	0.2nm,0.7s,baz=279,slow=3.6,SNR=3.7						
TIXI	**Tiksi**	**32.39**	**329**	PcP	**PcP**	**10 06 06.9**	**+0.5**
	1.5nm,0.3s,baz=112,slow=3.9,SNR=5.9						
NEW	**Newport**	**34.55**	**74**	P	**P**	**10 03 39

SOEI	**Soe**	**1.83**	**127**	P	Pn	09 59 05.2 +0.8
WSI	**Waingapu**	**2.65**	**247**	P	Pn	09 59 15.3 +0.6
BASI	**Baing, Sumba**	**2.67**	**234**	P	Pn	09 59 13.9 -1.1
WBSI	**Waikabubak, Su**	**3.49**	**253**	P	Pn	09 59 25.1 -0.7

*ISCJB **18** 10:03:05.4±0.7,26°.92N±0°.06×111°.34W±0°.06,h10km, mb3.9/11,MS3.5/5,Error ellipse: s-maj=10.1km s-min=6.1km az=34.9*
*NEIC **18** 10:03:06.3±0.8,26°.88N×111°.45W,h10km,mb4.5/4,Error ellipse: s-maj=11.9km s-min=7.4km az=224.0*
*IDC **18** 10:03:06.2±1.3,26°.88N×111°.21W,h0km,mb3.6/7, mb1 3.9/12,mb1mx3.7/57,mbtmp3.7/12,ML3.6/5,MS3.4/9, Ms1 3.4/9,ms1mx3.1/47,Error ellipse: s-maj=29.4km s-min=15.5km az=49.0*

ISC 18 10:03:07.1±0.7,26°.91N±0°.05×111°.37W±0°.05,h10km,n35, σ1§97/38,mb3.9/11,MS3.5/5,Gulf of California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SRIG	**Santa Rosalia**	**0.88**	**298**	*e*Pg	**Pg**	**10 03 20.6**	**-3.4**
SRIG				*e*Sg	**Sg**	**10 03 34.3**	**-1.2**
HSIG		**2.13**	**10**	*e*Pn	**Pn**	**10 03 40.4**	**-2.4**
HSIG				*e*Sn	**Sb**	**10 04 12.2**	**-0.2**
LPIG	**La Paz**	**2.96**	**161**	Pn	**Pn**	**10 03 51.7**	**-2.5**
	31nm,0.3s,baz=333,slow=2.0,SNR=17						
LPIG				Sn	**Sb**	**10 04 35.9**	**-0.2**
	4.4nm,0.3s,baz=348,slow=19,SNR=3.3						
LPIG				LR	LR	10 05 09.9	
	comp=Z,556nm,18.9s,baz=338,slow=43						
214A	**Organ Pipe Nat**	**5.18**	**346**	*e*Pn	**Pn**	**10 04 23.1**	**-1.7**
	72nm,0.5s						
TUC	**Tucson**	**5.41**	**5**	*e*Pn	**Pn**	**10 04 26.5**	**-1.4**
	12nm,0.6s						
121A	**Cookes Peak, D**	**6.41**	**28**	*e*Pn	**Pn**	**10 04 41.3**	**-0.5**
	14nm,0.7s						
121A				*e*Sg	**Sg**	**10 06 31.4**	**-1.6**
GLA	**Glamis**	**6.81**	**335**	*e*Pn	**Pn**	**10 04 45.8**	**-1.4**
	5.9nm,0.4s						
MNTX	**Cornudas Mount**	**7.08**	**46**	*e*Pn	**Pn**	**10 04 50.1**	**-0.7**
	6.1nm,0.6s						
MNTX				*e*Sg	**Sg**	**10 06 49.7**	**-4.6**
TXAR	**Lajitas Array**	**7.22**	**69**	Pn	**Pn**	**10 04 52.1**	**-0.7**
	0.9nm,0.3s,baz=243,slow=14,SNR=57						
TXAR				Pg	Pb	10 05 16.8	+4.2
	0.4nm,0.3s,baz=237,slow=16,SNR=4.8						
TXAR				Lg	Lg	10 06 42.1	
	0.5nm,0.3s,baz=242,slow=27,SNR=2.7						
TXAR				LR	LR	10 07 51.2	
	comp=Z,420nm,20.2s,baz=0.0,slow=40						
WUAZ	**Wupatki**	**8.58**	**360**	*e*Pn	**Pn**	**10 05 10.4**	**-1.1**
	3.0nm,0.6s						
MSTX	**Muleshoe**	**10.22**	**44**	*e*Pn	**Pn**	**10 05 34.5**	**+0.5**
	21nm,1.3s						
MVCO	**Mesa Verde**	**10.55**	**13**	*e*Pn	**Pn**	**10 05 41.3**	**+2.7**
	5.0nm,0.9s						
CCUT	**Cedar City**	**10.74**	**351**	*e*Pn	**Pn**	**10 05 44.7**	**+3.4**
	4.1nm,0.8s						
JCT	**Junction City**	**10.76**	**68**	*e*Pn	**Pn**	**10 05 42.7**	**+1.4**
	5.7nm,0.8s						
R11A	**Troy Canyon, C**	**11.94**	**344**	*e*Pn	**Pn**	**10 05 59.2**	**+1.6**
	4.1nm,1.1s						
NVAR	**Mina Array Bea**	**12.88**	**335**	Pn	**Pn**	**10 06 14.4**	**+4.0**
	baz=158,slow=15,SNR=3.6						
NVAR				LR	LR	10 10 07.1	
	comp=Z,83nm,19.1s,baz=273,slow=33						
DUG	**Dugway, Tooele**	**13.30**	**355**	*e*Pn	**Pn**	**10 06 20.7**	**+4.5**
	7.7nm,1.6s						
WMOK	**Wichita Mounta**	**13.33**	**51**	*e*Pn	**Pn**	**10 06 16.0**	**-0.4**
	4.7nm,0.8s						
HWUT	**Hardware Ranch**	**14.66**	**359**	*e*Pn	**Pn**	**10 06 34.7**	**-0.1**
	4.8nm,1.0s						
PDAR	**Pinedale Array**	**15.89**	**5**	Pn	**P**	**10 06 53.6**	**-1.2**
	0.0nm,0.3s,baz=187,slow=11,SNR=4.2						
PDAR				LR	LR	10 13 23.8	
	comp=Z,103nm,18.6s,baz=180,slow=39						
K22A	**Casper**	**16.19**	**13**	*e*Pn	**P**	**10 07 00.3**	**+2.2**
	13nm,0.4s						
CMIG	**Matias Romero**	**18.12**	**119**	P	**Pn**	**10 07 18.0**	**-1.1**
	0.0nm,0.3s,baz=349,slow=10,SNR=2.7						
SIUC	**Southern Illin**	**21.55**	**55**	*e*P	**P**	**10 07 55.9**	**-0.7**
	20nm,0.9s						
NEW	**Newport**	**21.79**	**350**	P	**P**	**10 07 59.7**	**+0.6**
	1.9nm,0.8s,baz=170,slow=12,SNR=4.0						
APG	**El Apazote**	**22.80**	**117**	P	**P**	**10 08 11.9**	**+1.6**
	2.1nm,0.9s,baz=305,slow=16,SNR=2.2						
SFIN	**Lafayette**	**24.17**	**50**	*e*P	**P**	**10 08 24.3**	**+0.7**
	9.4nm,0.8s						
TKL	**Tuckaleechee C**	**25.08**	**63**	P	**P**	**10 08 31.6**	**-0.3**
	2.4nm,0.8s,baz=221,slow=11,SNR=3.3						
TKL				LR	LR	10 19 15.1	
	comp=Z,133nm,19.3s,baz=254,slow=39						
YKA	**Yellowknife Ar**	**35.65**	**357**	P	**P**	**10 10 04.6**	**-0.3**
	0.5nm,0.7s,baz=180,slow=8.9,SNR=18						
SDV	**Santo Domingo**	**42.47**	**107**	P	**P**	**10 11 02.4**	**-0.5**
	2.2nm,0.7s,baz=328,slow=4.3,SNR=2.7						
SDV				LR	LR	10 33 14.2	
	comp=Z,49nm,18.0s,baz=40,slow=43						
SCHQ	**Schefferville**	**42.66**	**37**	P	**P**	**10 11 04.1**	**+0.4**
	1.8nm,0.7s,baz=232,slow=18,SNR=2.6						
INK	**Inuvik**	**43.50**	**348**	P	**P**	**10 11 11.5**	**+1.2**
	0.2nm,0.4s,baz=147,slow=7.6,SNR=2.2						
ILAR	**Eielson Array**	**44.09**	**339**	P	**P**	**10 11 16.5**	**+1.3**
	0.3nm,0.8s,baz=144,slow=7.0,SNR=4.1						
ILAR				PcP	**PcP**	**10 13 01.9**	**+1.7**
	0.1nm,0.4s,baz=148,slow=5.2,SNR=3.4						
ILAR				LR	LR	10 29 48.7	
	comp=Z,48nm,18.9s,baz=103,slow=36						
RPN	**Rapa Nui**	**53.76**	**178**	LR	LR	10 30 07.9	
	comp=Z,39nm,18.6s,baz=42,slow=30						
AFI	**Afiamalu**	**71.30**	**243**	LR	LR	10 38 14.9	
	comp=Z,33nm,20.2s,baz=128,slow=30						
KHC	**Kasperske Hory**	**89.80**	**33**	*e*P	P	10 16 00.8	-5.2
	8.8nm,1.1s						

*ISCJB **18** 10:10:38.9±0.4,39°.12N±0°.02×16°.33E±0°.03,h85km±4km, Error ellipse: s-maj=4.8km s-min=3.3km az=28.0*
*TIR **18** 10:10:40.9,39°.25N×16°.61E,h51km,Md4.1/7*
*ROM **18** 10:10:41.3±0.1,39°.08N×16°.05E,h53km±4km,Ml3.4/36, Error ellipse: s-maj=2.2km s-min=1.1km az=88.0*
*CSEM **18** 10:10:41.0±0.1,39°.12N×16°.23E,h50km,ML4.2/8,Error ellipse: s-maj=6.0km s-min=3.2km az=115.0*
*PDG **18** 10:10:42.5±0.3,39°.51N×16°.66E,h2km±1km,ML3.5/10, Error ellipse: s-maj=6.7km s-min=5.5km az=90.0*

ISC 18 10:10:39.4±1.2,39°.09N±0°.03×16°.22E±0°.03,h80km±6km, n121,σ1§47/181,8C-12D,Southern Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GRI	**Girifalco**	**0.31**	**150**	Pg	**Pn**	**10 10 51.7**	**-0.1**
GRI				Sg	**Sn**	**10 10 59.6**	**-1.3**
	2μm,0.4s						
GRI	**Girifalco**	**0.31**	**150**	Pg	**Pn**	**10 10 51.7**	**-0.1**
GRI				Sg	**Sn**	**10 10 59.6**	**-1.3**
	2μm,0.4s						
SERS	**Sersale**	**0.37**	**98**	Pg	**Pn**	**10 10 53.0**	**+0.7**
SERS				Sg	**Sn**	**10 11 02.1**	**+0.3**
	3μm,0.7s						
SERS	**Sersale**	**0.37**	**98**	Pg	**Pn**	**10 10 53.0**	**+0.7**
SERS				Sg	**Sn**	**10 11 02.1**	**+0.3**
	3μm,0.7s						
TIP	**Timpagrande**	**0.43**	**78**	Pg	**Pn**	**10 10 53.5**	**+0.9**
TIP				Sg	**Sn**	**10 11 02.8**	**+0.4**
	1μm,0.6s						
TIP	**Timpagrande**	**0.43**	**78**	Pg	**Pn**	**10 10 53.5**	**+0.9**
TIP				Sg	**Sn**	**10 11 02.8**	**+0.4**
	1μm,0.6s						
CET2	**Cetraro**	**0.49**	**335**	Pg	**Pn**	**10 10 52.5**	**-0.6**
	4μm,0.5s						
CET2	**Cetraro**	**0.49**	**335**	Pg	**Pn**	**10 10 52.5**	**-0.6**
	4μm,0.5s						
JOPP	**Joppolo**	**0.55**	**209**	Pg	**Pn**	**10 10 53.1**	**-0.5**
JOPP	**Joppolo**	**0.55**	**209**	Pg	**Pn**	**10 10 53.1**	**-0.5**
JOPP				Sg	**Sn**	**10 11 01.7**	**-2.4**
	322nm,0.1s						
PIPA	**Pietrapaola**	**0.61**	**49**	Pg	**Pn**	**10 10 55.8**	**+1.6**
	1μm,0.5s						
PIPA	**Pietrapaola**	**0.61**	**49**	Pg	**Pn**	**10 10 55.8**	**+1.6**
	1μm,0.5s						
LADO	**San Nicola del**	**0.62**	**71**	Pg	**Pn**	**10 10 55.4**	**+1.1**
	225nm,0.5s						
LADO	**San Nicola del**	**0.62**	**71**	Pg	**Pn**	**10 10 55.4**	**+1.1**
	225nm,0.5s						
PLAC	**Placanica**	**0.66**	**165**	Pg	**Pn**	**10 10 55.7**	**+1.0**
PLAC				Sg	**Sn**	**10 11 06.7**	**+0.7**
	2μm,0.7s						
PLAC	**Placanica**	**0.66**	**165**	Pg	**Pn**	**10 10 55.7**	**+1.0**
PLAC				Sg	**Sn**	**10 11 06.7**	**+0.7**
	2μm,0.7s						
T0715	**Campotenese**	**0.76**	**351**	Pg	**Pn**	**10 10 56.9**	**+1.1**
	2μm,0.4s						
T0712	**Santa Domenica**	**0.79**	**339**	Pg	**Pn**	**10 10 56.0**	**0.0**
T0712				Sg	**Sn**	**10 11 06.8**	**-1.5**
	658nm,0.4s						
SALB	**San Lorenzo Be**	**0.79**	**7**	Pg	**Pn**	**10 10 57.8**	**+1.6**
	578nm,0.5s						
SALB	**San Lorenzo Be**	**0.79**	**7**	Pg	**Pn**	**10 10 57.8**	**+1.6**
	578nm,0.5s						
MMN	**Mormanno**	**0.82**	**347**	Pg	**Pn**	**10 10 56.9**	**+0.6**
	319nm,0.3s						
MMN	**Mormanno**	**0.82**	**347**	Pg	**Pn**	**10 10 56.9**	**+0.6**
	319nm,0.3s						
CEL	**Celeste**	**0.87**	**197**	Pg	**Pn**	**10 10 57.2**	**+0.2**
	475nm,0.5s						
CEL	**Celeste**	**0.87**	**197**	Pg	**Pn**	**10 10 57.2**	**+0.2**
	475nm,0.5s						
MSCL	**Scilla**	**0.92**	**202**	Pg	**Pn**	**10 10 57.6**	**0.0**
MSCL				Sg	**Sn**	**10 11 10.0**	**-1.1**
	2μm,0.6s						
MSCL	**Scilla**	**0.92**	**202**	Pg	**Pn**	**10 10 57.6**	**0.0**
MSCL				Sg	**Sn**	**10 11 10.0**	**-1.1**
	2μm,0.6s						
CUC	**Castrocucco**	**0.96**	**341**	Pg	**Pn**	**10 10 57.8**	**-0.2**
	304nm,0.5s						
CUC	**Castrocucco**	**0.96**	**341**	Pg	**Pn**	**10 10 57.8**	**-0.2**
	304nm,0.5s						
GMB	**Gambarie**	**0.97**	**199**	Pg	**Pn**	**10 10 58.6**	**+0.4**
	3μm,0.4s						
GMB	**Gambarie**	**0.97**	**199**	Pg	**Pn**	**10 10 58.6**	**+0.4**
	3μm,0.4s						
MSRU	**Castanea**	**0.99**	**214**	Pg	**Pn**	**10 10 58.4**	**0.0**
MSRU				Sg	**Sn**	**10 11 10.8**	**-1.8**
	913nm,0.5s						
MSRU	**Castanea**	**0.99**	**214**	Pg	**Pn**	**10 10 58.4**	**0.0**
MSRU				Sg	**Sn**	**10 11 10.8**	**-1.8**
	913nm,0.5s						
SOI	**Samo**	**1.02**	**187**	Pg	**Pn**	**10 10 59.8**	**+1.1**
SOI				Sg	**Sn**	**10 11 14.1**	**+0.9**
	455nm,0.7s						
SOI	**Samo**	**1.02**	**187**	Pg	**Pn**	**10 10 59.8**	**+1.1**
SOI				Sg	**Sn**	**10 11 14.1**	**+0.9**
	455nm,0.7s						
SCHR	**S. Chirico Rap**	**1.11**	**354**	Pg	**Pn**	**10 11 02.0**	**+2.1**
	269nm,0.5s						
MPAZ	**Palizzi**	**1.15**	**189**	Pg	**Pn**	**10 11 01.8**	**+1.5**
	456nm,0.6s						
MPAZ	**Palizzi**	**1.15**	**189**	Pg	**Pn**	**10 11 01.8**	**+1.5**
	456nm,0.6s						
MPNC	**Port Mandanici**	**1.16**	**216**	Pg	**Pn**	**10 11 00.2**	**-0.2**
	729nm,0.3s						
MPNC	**Port Mandanici**	**1.16**	**216**	Pg	**Pn**	**10 11 00.2**	**-0.2**
	729nm,0.3s						
MGR	**Morigerati**	**1.17**	**334**	Pg	**Pn**	**10 11 00.9**	**+0.4**
MGR				Sg	**Sn**	**10 11 16.0**	**-0.3**
	787nm,0.5s						
MGR	**Morigerati**	**1.17**	**334**	Pg	**Pn**	**10 11 00.9**	**+0.4**
MGR				Sg	**Sn**	**10 11 16.0**	**-0.3**
	787nm,0.5s						
BULG	**Bulgheria - Ca**	**1.19**	**327**	Pg	**Pn**	**10 11 01.4**	**+0.6**
BULG				Sg	**Sn**	**10 11 16.6**	**-0.2**
	1μm,0.7s						
BULG	**Bulgheria - Ca**	**1.19**	**327**	Pg	**Pn**	**10 11 01.4**	**+0.6**
BULG				Sg	**Sn**	**10 11 16.6**	**-0.2**
	1μm,0.7s						
LLI	**Lipari**	**1.19**	**238**	Pg	**Pn**	**10 11 01.2**	**+0.5**
	4μm,0.6s						
LLI	**Lipari**	**1.19**	**238**	Pg	**Pn**	**10 11 01.2**	**+0.5**
	4μm,0.6s						
MTSN	**Montesano sull**	**1.23**	**343**	Pg	**Pn**	**10 11 01.7**	**+0.3**
MTSN				Sg	**Sn**	**10 11 17.8**	**-0.1**
	504nm,0.5s						
MTSN	**Montesano sull**	**1.23**	**343**	Pg	**Pn**	**10 11 01.7**	**+0.3**
MTSN				Sg	**Sn**	**10 11 17.8**	**-0.1**
	504nm,0.5s						
MCSR	**Castroreale**	**1.27**	**217**	Pg	**Pn**	**10 11 01.8**	**-0.1**
	1μm,0.3s						
MCSR	**Castroreale**	**1.27**	**217**	Pg	**Pn**	**10 11 01.8**	**-0.1**
	1μm,0.3s						
MCEL	**Monticello**	**1.28**	**345**	Pg	**Pn**	**10 11 02.9**	**+1.0**
	295nm,0.4s						
MCEL	**Monticello**	**1.28**	**345**	Pg	**Pn**	**10 11 02.9**	**+1.0**
	295nm,0.4s						
NOV	**Novara**	**1.36**	**219**	Pg	**Pn**	**10 11 03.3**	**+0.3**
	345nm,0.4s						
NOV	**Novara**	**1.36**	**219**	Pg	**Pn**	**10 11 03.3**	**+0.3**
	345nm,0.4s						
SLCN	**Sala Consilina**	**1.38**	**341**	Pg	**Pn**	**10 11 03.7**	**+0.5**
	710nm,0.7s						
SLCN	**Sala Consilina**	**1.38**	**341**	Pg	**Pn**	**10 11 03.7**	**+0.5**
	710nm,0.7s						
MMME	**Mongiuffi-Meli**	**1.38**	**214**	Pg	**Pn**	**10 11 04.0**	**+0.8**
	333nm,0.7s						
MMME	**Mongiuffi-Meli**	**1.38**	**214**	Pg	**Pn**	**10 11 04.0**	**+0.8**
	333nm,0.7s						
CMPR	**Campora**	**1.42**	**330**	Pg	**Pn**	**10 11 04.5**	**+0.8**
	165nm,0.4s						
CMPR	**Campora**	**1.42**	**330**	Pg	**Pn**	**10 11 04.5**	**+0.8**
	165nm,0.4s						
PTRP	**Pietrapertosa**	**1.44**	**355**	Pg	**Pn**	**10 11 07.2**	**+3.2**
	4860μm,45.0s						
MUCR	**Ucria**	**1.49**	**226**	Pg	**Pn**	**10 11 04.9**	**+0.3**
	441nm,0.4s						
MUCR	**Ucria**	**1.49**	**226**	Pg	**Pn**	**10 11 04.9**	**+0.3**
	441nm,0.4s						
CDRU	**Civita di Ruta**	**1.57**	**333**	Pg	**Pn**	**10 11 06.5**	**+0.8**
	181nm,0.4s						
CDRU	**Civita di Ruta**	**1.57**	**333**	Pg	**Pn**	**10 11 06.5**	**+0.8**
	181nm,0.4s						
TAR1	**Taranto**	**1.65**	**29**	*e*P	**Pn**	**10 11 06.0**	**-0.7**
MSFR	**San Fratello**	**1.66**	**231**	Pg	**Pn**	**10 11 07.4**	**+0.6**
MSFR	**San Fratello**	**1.66**	**231**	Pg	**Pn**	**10 11 07.4**	**+0.6**
MASS	**Massafra**	**1.70**	**24**	*e*P	**Pn**	**10 11 07.6**	**+0.3**
MRLC	**Muro Lucano**	**1.76**	**342**	Pg	**Pn**	**10 11 10.5**	**+2.4**
	183nm,0.4s						
MRLC	**Muro Lucano**	**1.76**	**342**	Pg	**Pn**	**10 11 10.5**	**+2.4**
	183nm,0.4s						
SG1	**Sgolgore (BA)**	**1.79**	**11**	*e*P	**Pn**	**10 11 11.1**	**+2.6**
CGL1	**Ceglie Messapi**	**1.84**	**31**	*e*P	**Pn**	**10 11 10.1**	**+1.0**
MCRV	**Calabrutti - M**	**1.88**	**335**	Pg	**Pn**	**10 11 11.5**	**+1.8**
	153nm,0.4s						
MCRV	**Calabrutti - M**	**1.88**	**335**	Pg	**Pn**	**10 11 11.5**	**+1.8**
	153nm,0.4s						
FASA	**Fasano**	**1.93**	**26**	*e*P	**Pn**	**10 11 11.6**	**+1.2**
BAI	**Bari**	**2.08**	**14**	*e*P	**Pn**	**10 11 13.8**	**+1.5**
SRN	**Sarande**	**3.03**	**74**	*i* Pn	**Pn**	**10 11 28.0**	**+2.9**
SRN				*i* Sn	**Sn**	**10 11 57.5**	**-2.8**
SRN	**Sarande**	**3.03**	**74**	*i* PN	**Pn**	**10 11 27.9**	**+2.9**
SRN				*i* SN	**Sn**	**10 11 57.5**	**-2.8**
TIR	**Tirane**	**3.59**	**50**	*i* Pn	**Pn**	**10 11 32.5**	**-0.2**
TIR				*i* Sn	**Sn**	**10 12 14.6**	**+0.7**
TIR	**Tirane**	**3.59**	**50**	*i* PN	**Pn**	**10 11 32.5**	**-0.2**
TIR				*i* SN	**Sn**	**10 12 14.6**	**+0.7**
ULC	**Ulcinj**	**3.68**	**38**	⇑*i* Pn	**Pn**	**10 11 33.9**	**-0.1**
ULC				*e*Sn	**Sn**	**10 12 14.1**	**-2.1**
ULC	**Ulcinj**	**3.68**	**38**	⇑*i* Pn	**Pn**	**10 11 33.9**	**-0.1**
ULC				*e*Sn	**Sn**	**10 12 14.1**	**-2.1**
HCY	**Herceg Novi**	**3.77**	**26**	⇓*i* Pn	**Pn**	**10 11 35.4**	**+0.2**
HCY				*e*Sn	**Sn**	**10 12 16.1**	**-2.3**
HCY	**Herceg Novi**	**3.77**	**26**	⇓*i* Pn	**Pn**	**10 11 35.4**	**+0.2**
HCY				*e*Sn	**Sn**	**10 12 16.1**	**-2.3**
BUM	**Brajici-Budva**	**3.80**	**31**	⇓*i* Pn	**Pn**	**10 11 35.6**	**0.0**
BUM				*e*Sn	**Sn**	**10 12 16.8**	**-2.3**
BUM	**Brajici-Budva**	**3.80**	**31**	⇓*i* Pn	**Pn**	**10 11 35.6**	**0.0**
BUM				*e*Sn	**Sn**	**10 12 16.8**	**-2.3**
DRME	**Dracevica, Mon**	**3.83**	**35**	⇑*i* Pn	**Pn**	**10 11 36.6**	**+0.7**
DRME				*e*Sn	**Sn**	**10 12 17.6**	**-2.2**
DRME	**Dracevica, Mon**	**3.83**	**35**	⇑*i* Pn	**Pn**	**10 11 36.6**	**+0.7**
DRME				*e*Sn	**Sn**	**10 12 17.6**	**-2.2**
STON	**Ston**	**3.94**	**16**	*e*Pn	**Pn**	**10 11 37.0**	**-0.5**
STON				Sn	**Sn**	**10 12 19.1**	**-3.4**
STON	**Ston**	**3.94**	**16**	*e*Pn	**Pn**	**10 11 36.9**	**-0.5**
STON				Sn	**Sn**	**10 12 19.1**	**-3.4**
CEME	**Cevo**	**4.01**	**30**	⇑*i* Pn	**Pn**	**10 11 38.4**	**-0.1**
CEME				*e*Sn	**Sn**	**10 12 21.9**	**-2.5**
CEME	**Cevo**	**4.01**	**30**	⇑*i* Pn	**Pn**	**10 11 38.4**	**-0.1**
CEME				*e*Sn	**Sn**	**10 12 21.9**	**-2.5**
OHR	**Ohrid**	**4.05**	**59**	*i* Pn	**Pn**	**10 11 35.6**	**-3.4**
PDG	**Podgorica**	**4.06**	**34**	*e*Pn	**Pn**	**10 11 39.6**	**+0.6**
PDG				*e*Sn	**Sn**	**10 12 23.1**	**-2.2**
TTG	**Podgorica**	**4.06**	**34**	*e*Pn	**Pn**	**10 11 39.6**	**+0.6**
TTG				*e*Sn	**Sn**	**10 12 23.1**	**-2.2**
PUK	**Puka**	**4.07**	**42**	*i* Pn	**Pn**	**10 11 40.5**	**+1.2**
PUK				*i* Sn	**Sn**	**10 12 25.5**	**-0.1**
PUK	**Puka**	**4.07**	**42**	*i* PN	**Pn**	**10 11 40.5**	**+1.2**
PUK				*i* SN	**Sn**	**10 12 25.6**	**-0.1**
PHP	**Peshkopia**	**4.13**	**50**	*i* Pn	**Pn**	**10 11 39.5**	**-0.7**
PHP				*i* Sn	**Sn**	**10 12 26.5**	**-0.8**
PHP	**Peshkopia**	**4.13**	**50**	*i* PN	**Pn**	**10 11 39.5**	**-0.7**
PHP				*i* SN	**Sn**	**10 12 26.5**	**-0.8**
BRY	**Bratogost**	**4.19**	**24**	*e*Pn	**Pn**	**10 11 41.1**	**+0.1**
BRY				*e*Sn	**Sn**	**10 12 26.9**	**-2.0**
BRY	**Bratogost**	**4.19**	**24**	*e*Pn	**Pn**	**10 11 41.1**	**+0.1**
BRY				*e*Sn	**Sn**	**10 12 26.9**	**-2.0**
NKME	**Niksic**	**4.22**	**28**	⇓*i* Pn	**Pn**	**10 11 41.5**	**+0.2**
NKME				*e*Sn	**Sn**	**10 12 27.0**	**-2.3**
NKME	**Niksic**	**4.22**	**28**	⇓*i* Pn	**Pn**	**10 11 41.5**	**+0.2**
NKME				*e*Sn	**Sn**	**10 12 27.0**	**-2.3**
NKY	**Niksic**	**4.27**	**29**	⇓*i* Pn	**Pn**	**10 11 42.9**	**+0.8**
NKY				*e*Sn	**Sn**	**10 12 28.2**	**-2.5**
NKY	**Niksic**	**4.27**	**29**	⇓*i* Pn	**Pn**	**10 11 42.9**	**+0.8**
NKY				*e*Sn	**Sn**	**10 12 28.2**	**-2.5**
BCI	**Bajram Curri**	**4.39**	**41**	*i* Pn	Pn	10 11 48.5	+4.9
BCI				*i* Sn	**Sn**	**10 12 33.6**	**+0.1**
BCI	**Bajram Curri**	**4.39**	**41**	*i* PN	Pn	10 11 48.5	+4.9
BCI				*i* SN	**Sn**	**10 12 33.6**	**+0.1**
KRUS	**Krusevo**	**4.47**	**58**	*i* Pn	**Pn**	**10 11 46.7**	**+2.0**
KRUS				*i* Sg	**Sn**	**10 12 34.4**	**-1.2**
PVY	**Plav**	**4.50**	**38**	⇓*i* Pn	**Pn**	**10 11 45.9**	**+0.6**
PVY				*e*Sn	**Sn**	**10 12 33.6**	**-2.9**
PVY	**Plav**	**4.50**	**38**	⇓*i* Pn	**Pn**	**10 11 45.9**	**+0.6**
PVY				*e*Sn	**Sn**	**10 12 33.6**	**-2.9**
KOME	**Kolasin**	**4.51**	**32**	*e*Pn	**Pn**	**10 11 46.4**	**+1.1**
KOME				*e*Sn	**Sn**	**10 12 33.9**	**-2.6**
KOME	**Kolasin**	**4.51**	**32**	*e*Pn	**Pn**	**10 11 46.4**	**+1.1**
KOME				*e*Sn	**Sn**	**10 12 33.9**	**-2.6**
BEY	**Berane**	**4.69**	**35**	⇑*i* Pn	**Pn**	**10 11 48.0**	**+0.2**
BEY				*e*Sn	**Sn**	**10 12 38.5**	**-2.4**
IVA	**Berane**	**4.69**	**35**	⇑*i* Pn	**Pn**	**10 11 48.0**	**+0.2**
IVA				*e*Sn	**Sn**	**10 12 38.5**	**-2.4**
PLE	**Pljevlja**	**4.86**	**28**	⇓*i* Pn	**Pn**	**10 11 50.4**	**+0.3**
PLE				*e*Sn	**Sn**	**10 12 42.8**	**-2.4**
PLE	**Pljevlja**	**4.86**	**28**	⇓*i* Pn	**Pn**	**10 11 50.4**	**+0.3**
PLE				*e*Sn	**Sn**	**10 12 42.8**	**-2.4**
SJES	**Sjenica**	**5.04**	**33**	*e*Pn	**Pn**	**10 11 55.9**	**+3.4**
IVAS	**Ivanjica**	**5.37**	**32**	*e*Pn	**Pn**	**10 11 57.0**	**0.0**
ZAPS	**Zavoj**	**6.39**	**47**	*e*Pn	**Pn**	**10 12 11.7**	**+0.8**
BOJS	**Bojanci**	**6.45**	**354**	*i* Pn	**Pn**	**10 12 16.4**	**+4.7**
BOJS				*e*Sn	**Sn**	**10 13 26.7**	**+2.9**
ZAGS	**Zajecar**	**6.53**	**42**	*e*Pn	**Pn**	**10 12 14.7**	**+1.9**

SJA 18 10:14:05.1±0.6,33°.05S×68°.87W,h11km±2km,ML2.8, MW3.5,1D,Mendoza Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AUSP	**Uspallata**	**0.93**	**332**	*e*P	Pb	10 14 23.5	+0.1
AUSP				*e*S	Sn	10 14 37.5	-0.4
RTCV	**Cerro Valdivia**	**1.22**	**13**	*e*P	Pg	10 14 28.4	-0.1
RTCV				*e*S	Sn	10 14 45.4	+0.8
RTLS	**Leoncito**	**1.30**	**344**	*e*P	Pg	10 14 30.4	+0.3
RTLS				IAML		10 14 31.6	
	comp=Z,158nm,0.2s						
RTLS				*e*S	Sg	10 14 48.6	+1.5
ZON	**Zonda**	**1.51**	**6**	*e*P	Pb	10 14 33.3	+0.2
ZON				*e*S	Sg	10 14 54.7	+1.0
ACAN	**Cantantal**	**1.62**	**62**	*e*P	Pb	10 14 35.5	+0.5
ACAN				*e*S	Sg	10 14 57.6	+0.4
RTLL	**Cerro Villicun**	**1.75**	**11**	*e*P	Pb	10 14 37.6	+0.4
AMOG

ISC 18 10:33:06.0±1.0, 39°13'N±0.02 × 42°94'E±0.03, h13km±8km, n25, σ0°87/37, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TUTA	**Tutak**	**0.29**	**340**	*i* P	**Pg**	**10 33 12.2**	**-0.1**
TUTA				*e*S	**Sg**	**10 33 16.8**	**+0.3**
TUTA				IAML		10 33 19.1	
	comp=Z,171nm,0.2s						
TUTA	**Tutak**	**0.29**	**340**	*i* P	**Pg**	**10 33 12.2**	**-0.1**
TUTA				*i* S	**Sb**	**10 33 17.3**	**-0.9**
TUTA	**Tutak**	**0.29**	**340**	P	**Pg**	**10 33 12.2**	**-0.1**
TUTA				S	**Sb**	**10 33 17.3**	**-0.9**
ADCV	**BITLIS_Adilcev**	**0.36**	**208**	*i* P	**Pg**	**10 33 13.2**	**-0.2**
ADCV	**BITLIS_Adilcev**	**0.36**	**208**	P	**Pg**	**10 33 13.2**	**-0.2**
AGRB	**Hanur-Agry**	**0.45**	**5**	PG	**Pg**	**10 33 15.2**	**+0.1**
AGRB				SG	**Sg**	**10 33 21.8**	**+0.6**
AGRB	**Hanur-Agry**	**0.45**	**5**	*e*Pg	**Pg**	**10 33 15.2**	**+0.1**
VANB	**Van**	**0.63**	**146**	PG	**Pn**	**10 33 20.8**	**0.0**
VANB				SG	**Sn**	**10 33 31.2**	**+0.4**
VANB	**Van**	**0.63**	**146**	*e*Pg	**Pn**	**10 33 20.8**	**0.0**
EKAR	**Karacoban**	**0.69**	**281**	*e*P	**Pg**	**10 33 19.5**	**-0.2**
EKAR				*e*S	**Sb**	**10 33 29.4**	**-0.3**
EKAR				IAML		10 33 35.0	
	comp=Z,18nm,0.5s						
EKAR	**Karacoban**	**0.69**	**281**	*i* P	**Pg**	**10 33 19.0**	**-0.7**
EKAR	**Karacoban**	**0.69**	**281**	P	**Pg**	**10 33 19.0**	**-0.7**
CLDR	**Caldiran**	**0.76**	**88**	PG	**Pb**	**10 33 21.5**	**+0.3**
CLDR				SG	**Sb**	**10 33 32.4**	**+0.9**
CLDR	**Caldiran**	**0.76**	**88**	*e*Pg	**Pb**	**10 33 21.5**	**+0.3**
EATA	**Eleskirt**	**0.81**	**335**	*e*P	**Pg**	**10 33 21.9**	**0.0**
EATA				*e*S	**Sn**	**10 33 35.2**	**-0.4**
EATA				IAML		10 33 36.2	
	comp=Z,4.6nm,0.4s						
EATA	**Eleskirt**	**0.81**	**335**	*i* P	**Pg**	**10 33 21.7**	**-0.2**
EATA				*i* S	**Sn**	**10 33 35.1**	**-0.5**
EATA	**Eleskirt**	**0.81**	**335**	P	**Pg**	**10 33 21.7**	**-0.2**
GEVA	**Gevas**	**0.82**	**174**	*e*P	**Pg**	**10 33 18.7**	**-3.2**
GEVA				*e*S	**Sg**	**10 33 31.4**	**-1.2**
GEVA				IAML		10 33 39.9	
	comp=Z,20nm,0.3s						
GEVA	**Gevas**	**0.82**	**174**	*i* P	**Pg**	**10 33 22.1**	**+0.2**
GEVA	**Gevas**	**0.82**	**174**	P	**Pg**	**10 33 22.1**	**+0.2**
GURO	**Guroymak-BITLI**	**0.91**	**231**	PG	**Pb**	**10 33 24.4**	**+0.6**
GURO				SG	**Sb**	**10 33 37.4**	**+1.5**
GURO	**Guroymak-BITLI**	**0.91**	**231**	*e*Pg	**Pb**	**10 33 24.4**	**+0.6**
GURO				*e*Sg	**Sb**	**10 33 37.4**	**+1.5**
HOMI	**Horasan**	**1.22**	**319**	*e*P	**Pb**	**10 33 28.5**	**-0.6**
HOMI				IAML		10 33 32.7	
	comp=Z,8.7nm,0.5s						
BNGB	**Bingöl**	**1.77**	**266**	PN	**Pn**	**10 33 37.8**	**+1.4**
BINT	**Bingol**	**1.93**	**263**	*e*Pn	**Pn**	**10 33 37.8**	**-0.8**

*ISCJB **18** 10:40:04.6±0.5, 63°09N±0°02 × 27°85E±0°08, h0km, Error ellipse: s-maj=5.3km s-min=3.1km az=15.3*
*CSEM **18** 10:40:06.8±0.2, 63°01N × 27°83E, h1km, ML1.9, Error ellipse: s-maj=6.3km s-min=4.4km az=95.0, Mining explosion.*
*HEL **18** 10:40:07.2±0.1, 63°13N × 27°73E, h0km, ML1.9, Explosion*
*UPP **18** 10:40:08.3±2.7, 62°98N × 27°48E, h0km, ML1.6*
*IDC **18** 10:40:08.4±1.4, 63°10N × 27°63E, h0km, mb1 2.9/3, mb1mx2.8/71, mbtmp2.9/3, ML2.5/3, Error ellipse: s-maj=17.8km s-min=6.0km az=100.0*

ISC 18 10:40:07.4±0.8, 63°07N±0°03 × 27°64E±0°04, h0km, n52, σ1°37/78, Finland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KAF	**Kangasniemi**	**1.14**	**213**	Pg	**Pg**	**10 40 29.0**	**-0.3**
KAF				Sg	**Sb**	**10 40 45.5**	**+0.2**
	4.4nm,0.2s						
KAF	**Kangasniemi**	**1.14**	**213**	PG	**Pg**	**10 40 29.0**	**-0.3**
KAF				MSG		10 40 44.0	
	comp=Z,4.4nm,0.2s						
KAF				SG	**Sb**	**10 40 45.5**	**+0.2**
KEF	**Keuruu**	**1.57**	**236**	Pg	**Pn**	**10 40 36.6**	**+0.1**
KEF				Sn	**Sg**	**10 40 58.5**	**+0.7**
KEF	**Keuruu**	**1.57**	**236**	PG	**Pn**	**10 40 36.6**	**+0.1**
	baz=56						
KEF				MSG		10 40 56.2	
	comp=Z,8.4nm,0.2s						
KEF				SN	**Sg**	**10 40 58.5**	**+0.7**
JOF	**Joensuu**	**1.68**	**93**	Pg	**Pn**	**10 40 37.0**	**-1.1**
JOF				Sn	**Sn**	**10 40 58.8**	**-1.5**
JOF	**Joensuu**	**1.68**	**93**	PG	**Pn**	**10 40 37.0**	**-1.1**
	baz=277						
JOF				SN	**Sn**	**10 40 58.8**	**-1.5**
FIA0	**FINESS Array S**	**1.79**	**205**	Pg	**Pb**	**10 40 40.4**	**-0.6**
FIA0				Sg	**Sg**	**10 41 04.7**	**-0.1**
FIA0	**FINESS Array S**	**1.79**	**205**	PG	**Pb**	**10 40 40.4**	**-0.6**
FIA0				SG	**Sg**	**10 41 04.7**	**-0.1**
FINES	**FINESS Array B**	**1.79**	**205**	Pg	**Pb**	**10 40 40.8**	**-0.2**
	comp=Z,0.9nm,0.3s,baz=24,slow=17,SNR=31						
FINES				Lg	Lg	10 41 05.5	
	comp=Z,1.5nm,0.3s,baz=22,slow=26,SNR=16						
OUF	**Merijarvi**	**1.84**	**316**	Pg	**Pn**	**10 40 39.9**	**-0.3**
OUF				Sn	**Sn**	**10 41 04.9**	**+0.8**
OUF	**Merijarvi**	**1.84**	**316**	PG	**Pn**	**10 40 39.9**	**-0.3**
	baz=130						
OUF				MSG		10 41 01.4	
	comp=Z,14nm,0.2s						
OUF				SN	**Sn**	**10 41 04.9**	**+0.8**
OUL	**Oulu**	**2.17**	**340**	Pg	**Pn**	**10 40 45.1**	**+0.4**
OUL				Sg	**Sn**	**10 41 12.8**	**+0.6**
OUL	**Oulu**	**2.17**	**340**	PG	**Pn**	**10 40 45.1**	**+0.4**
	baz=153						
OUL				SG	**Sn**	**10 41 12.8**	**+0.6**
VAF	**Ylistaro**	**2.26**	**272**	Pg	**Pn**	**10 40 47.8**	**+1.8**
VAF				Sg	**Sb**	**10 41 18.6**	**+1.0**
	comp=Z,8.0nm,0.2s						
VAF	**Ylistaro**	**2.26**	**272**	PG	**Pn**	**10 40 47.8**	**+1.8**
	baz=89						
VAF				MSG		10 41 15.3	
	comp=Z,8.0nm,0.2s						
VAF				SG	**Sb**	**10 41 18.6**	**+1.0**
VJF	**Virojoki**	**2.54**	**181**	Pg	**Pb**	**10 40 52.7**	**-1.1**
VJF	**Virojoki**	**2.54**	**181**	PG	**Pb**	**10 40 52.7**	**-1.1**
VJF				MSG		10 41 24.2	
	comp=Z,4.9nm,0.2s						
VJF				SG	**Sb**	**10 41 25.6**	**+0.1**
PVF	**Pernaja**	**2.67**	**199**	MSG		10 41 28.1	
	comp=Z,3.5nm,0.2s						
PVF				SG	**Sb**	**10 41 30.1**	**+0.9**
MSF	**Maaselka**	**2.92**	**11**	Sb	**Sn**	**10 41 30.3**	**-0.5**
MSF	**Maaselka**	**2.92**	**11**	SB	**Sn**	**10 41 30.3**	**-0.5**
KU6	**Riekki**	**3.12**	**17**	Pb	**Pn**	**10 40 58.0**	**+0.1**
KU6				Sb	**Sn**	**10 41 37.1**	**+1.2**
KU6	**Riekki**	**3.12**	**17**	PB	**Pn**	**10 40 58.0**	**+0.1**
KU6				MSG		10 41 36.9	
	comp=Z,2.6nm,0.2s						
KU6				SB	**Sn**	**10 41 37.1**	**+1.2**
BURU	**Burvik**	**3.17**	**302**	P	**Pn**	**10 40 59.4**	**+1.0**
BURU				S	**Sn**	**10 41 37.9**	**+1.1**
BURU	**Burvik**	**3.17**	**302**	P	**Pn**	**10 40 59.4**	**+1.0**
BURU				S	**Sn**	**10 41 37.9**	**+1.1**
TOF	**Tornio**	**3.35**	**336**	Pb	**Pn**	**10 41 02.3**	**+1.4**
TOF				Sn	**Sn**	**10 41 41.5**	**+0.3**
TOF	**Tornio**	**3.35**	**336**	PB	**Pn**	**10 41 02.3**	**+1.4**
TOF				SN	**Sn**	**10 41 41.5**	**+0.3**
KALU	**Kalix**	**3.36**	**328**	P	**Pn**	**10 41 02.1**	**+1.0**
KALU	**Kalix**	**3.36**	**328**	P	**Pn**	**10 41 02.1**	**+1.0**
RAF	**Rauma**	**3.44**	**236**	Pn	**Pn**	**10 41 04.1**	**+1.9**
RAF	**Rauma**	**3.44**	**236**	PN	**Pn**	**10 41 04.1**	**+1.9**
SJUU	**Sjulsmark**	**3.59**	**316**	P	**Pn**	**10 41 05.4**	**+1.1**
SJUU				S	**Sn**	**10 41 47.5**	**+0.1**
SJUU	**Sjulsmark**	**3.59**	**316**	P	**Pn**	**10 41 05.4**	**+1.1**
SJUU				S	**Sn**	**10 41 47.5**	**+0.1**
RNF	**Rovaniemi**	**3.62**	**350**	Pb	**Pn**	**10 41 07.6**	**+2.9**
RNF	**Rovaniemi**	**3.62**	**350**	PB	**Pn**	**10 41 07.6**	**+2.9**
RNF				SB	**Sb**	**10 41 53.8**	**-2.9**
SVAU	**Svanoeiden**	**3.86**	**295**	P	**Pn**	**10 41 08.1**	**+0.2**
SVAU	**Svanoeiden**	**3.86**	**295**	P	**Pn**	**10 41 08.1**	**+0.2**
LILU	**Lilltraesk**	**4.07**	**307**	P	**Pn**	**10 41 10.8**	**-0.1**
LILU	**Lilltraesk**	**4.07**	**307**	P	**Pn**	**10 41 10.8**	**-0.1**
ERTU	**Ertsjaerv**	**4.21**	**329**	P	**Pn**	**10 41 13.7**	**+1.0**
ERTU	**Ertsjaerv**	**4.21**	**329**	P	**Pn**	**10 41 13.7**	**+1.0**
PAJU	**Pajala**	**4.41**	**336**	P	**Pn**	**10 41 16.4**	**+0.9**
PAJU	**Pajala**	**4.41**	**336**	P	**Pn**	**10 41 16.4**	**+0.9**
SGF	**Sodankyl**	**4.42**	**354**	Pn	**Pn**	**10 41 16.7**	**+1.1**
SGF	**Sodankyl**	**4.42**	**354**	PN	**Pn**	**10 41 16.7**	**+1.1**
	baz=175						
VRF	**Varrio**	**4.77**	**9**	SG	**Sb**	**10 42 31.3**	**+1.6**
MASU	**Masugnsbyn**	**5.00**	**334**	P	**Pn**	**10 41 24.8**	**+1.1**
MASU	**Masugnsbyn**	**5.00**	**334**	P	**Pn**	**10 41 24.8**	**+1.1**
LANU	**Lannavaara**	**5.52**	**337**	P	**Pn**	**10 41 31.4**	**+0.6**
LANU	**Lannavaara**	**5.52**	**337**	P	**Pn**	**10 41 31.4**	**+0.6**
ARCES	**ARCESS Array B**	**6.55**	**353**	Pn	**Pn**	**10 41 44.2**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=168,slow=15,SNR=7.0						
ARCES				Sn	**Sn**	**10 42 55.4**	**-4.8**
	comp=Z,0.2nm,0.3s,baz=170,slow=24,SNR=4.6						
ARCES				Lg	Lg	10 43 25.9	
	comp=Z,0.4nm,0.3s,baz=168,slow=26,SNR=4.8						
HFS	**Hagfors**	**7.27**	**252**	Pn	**Pn**	**10 41 55.0**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=67,slow=16,SNR=3.0						
HFS				Lg	Lg	10 43 54.2	
	comp=Z,0.2nm,0.3s,baz=64,slow=31,SNR=2.7						
NOA	**NORSAR Array B**	**7.98**	**263**	Pn	**Pn**	**10 42 02.9**	**-1.6**
	comp=Z,0.1nm,0.3s,baz=54,slow=9.7,SNR=2.0						
NOA				Sn	**Sn**	**10 43 29.8**	**-5.6**
	comp=Z,0.1nm,0.3s,baz=11,slow=17,SNR=1.4						

*ISK **18** 10:44:28.0, 37°18N × 38°93E, h8km, ML2.5/4*
*ISCJB **18** 10:44:29.8±0.5, 37°22N±0°04 × 38°96E±0°05, h8km±4km, Error ellipse: s-maj=6.9km s-min=6.0km az=34.3*
*CSEM **18** 10:44:29.4±0.3, 37°21N × 38°98E, h8km, ML2.6, Error ellipse: s-maj=8.8km s-min=7.4km az=133.0*
*DDA **18** 10:44:29.7, 37°18N × 39°03E, h8km, Ml2.6*

ISC 18 10:44:29.3±0.8, 37°19N±0°03 × 38°96E±0°03, h10km±5km, n19, σ0°67/31, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SANL	**SANLIURFA_Merk**	**0.03**	**125**	*i* P	**Pg**	**10 44 31.2**	**0.0**
SANL				*i* S	**Sg**	**10 44 33.0**	**+0.5**
SANL	**SANLIURFA_Merk**	**0.03**	**125**	P	**Pg**	**10 44 31.2**	**0.0**
SANL				S	**Sg**	**10 44 33.0**	**+0.5**
URFA	**Urfa**	**0.27**	**337**	PG	**Pg**	**10 44 34.0**	**-0.9**
URFA				SG	**Sg**	**10 44 38.5**	**-0.1**
URFA	**Urfa**	**0.27**	**337**	*e*Pg	**Pg**	**10 44 34.0**	**-0.9**
URFA				*e*Sg	**Sg**	**10 44 38.5**	**-0.1**
SURC	**SANLIURFA_SURC**	**0.41**	**222**	*i* P	**Pb**	**10 44 38.8**	**0.0**
SURC				*i* S	**Sb**	**10 44 45.4**	**+0.2**
SURC	**SANLIURFA_SURC**	**0.41**	**222**	P	**Pb**	**10 44 38.8**	**0.0**
SURC				S	**Sb**	**10 44 45.4**	**+0.2**
MALT	**Malatya**	**1.20**	**340**	PN	**Pb**	**10 44 51.5**	**-0.7**
MALT				SN	**Sb**	**10 45 08.6**	**+0.8**
MALT	**Malatya**	**1.20**	**340**	*e*Pn	**Pb**	**10 44 51.5**	**-0.7**
MALT				*e*Sn	**Sb**	**10 45 08.6**	**+0.8**
DYBB	**Diyarbakir**	**1.21**	**51**	PN	**Pb**	**10 44 52.2**	**-0.2**
DYBB				SN	**Sn**	**10 45 09.7**	**+0.7**
MAZI	**Mazidag**	**1.22**	**77**	PN	**Pg**	**10 44 52.3**	**-0.4**
MAZI				SN	**Sn**	**10 45 09.9**	**+0.7**
MAZI	**Mazidag**	**1.22**	**77**	*e*Pn	**Pg**	**10 44 52.3**	**-0.4**
MAZI				*e*Sn	**Sn**	**10 45 09.9**	**+0.7**
DIV	**Diyarbakir**	**1.23**	**55**	*e*Pn	**Pb**	**10 44 52.2**	**-0.6**
DIV				*e*Sn	**Sn**	**10 45 09.7**	**+0.2**
ELZG	**Elazig**	**1.31**	**1**	*i* P	**Pg**	**10 44 55.6**	**+1.2**
ELZG	**Elazig**	**1.31**	**1**	P	**Pg**	**10 44 55.6**	**+1.2**
AKCD	**Akcadag**	**1.38**	**324**	*i* P	**Pg**	**10 44 56.4**	**+0.7**
AKCD	**Akcadag**	**1.38**	**324**	P	**Pg**	**10 44 56.4**	**+0.7**
GAZ	**Gaziantep**	**1.39**	**270**	PN	**Pn**	**10 44 54.1**	**-0.9**
GAZ	**Gaziantep**	**1.39**	**270**	*e*Pn	**Pn**	**10 44 54.1**	**-0.9**
MARD	**Mardin**	**1.46**	**85**	*i* P	**Pb**	**10 44 56.2**	**-0.4**

*IDC **18** 10:44:38.6±0.5, 0°53N × 125°91E, h0km, mb4.4/19, mb1 4.4/21, mb1mx4.2/56, mbtmp4.3/21, ML3.4/2, MS3.2/5, Ms1 3.2/5, ms1mx2.8/58, Error ellipse: s-maj=27.4km s-min=11.7km az=75.0*
*ISCJB **18** 10:44:43.6±0.3, 0°56N±0°04 × 126°01E±0°04, h44km, mb4.3/28, MS3.3/5, Error ellipse: s-maj=5.8km s-min=4.9km az=152.6*
*DJA **18** 10:44:43.6±0.4, 1°N±6° × 12°6E±°, h10km, M4.2/9, mb4.3/1, MLv4.2/9*
*NEIC **18** 10:44:46.2±0.7, 0°53N × 126°07E, h54km±6km, mb4.3/11, Error ellipse: s-maj=7.4km s-min=4.9km az=62.0*

ISC 18 10:44:45.3±0.5, 0°55N±0°06 × 126°04E±0°06, h44km, n67, σ1°31/67, mb4.4/28, MS3.1/5, 1C, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.35**	**80**	*e*Pn	**Pn**	**10 45 08.0**	**+0.4**
LBMI	**Labuha**	**1.88**	**129**	P	**Pn**	**10 45 15.3**	**+0.4**
KMSI	**Cibinong**	**2.06**	**271**	P	**Pn**	**10 45 15.2**	**-2.2**
SANI	**Sanana**	**2.58**	**181**	P	**Pn**	**10 45 23.7**	**-0.9**
LUWI	**Luwuk**	**3.63**	**244**	P	**Pn**	**10 45 40.0**	**+1.1**
LUWI	**Luwuk**	**3.63**	**244**	*e*Pn	**Pn**	**10 45 40.2**	**+1.2**
MRSI	**Marisa**	**4.10**	**269**	P	**Pn**	**10 45 43.6**	**-1.8**
APSI	**Ampana**	**4.62**	**252**	P	**Pn**	**10 45 53.5**	**+0.9**
MSAI	**Masohi**	**4.83**	**143**	P	**Pn**	**10 45 58.7**	**+3.2**
SIJI	**Sorong**	**5.41**	**105**	Pn	**Pn**	**10 46 03.6**	**+0.1**
	0.2nm,0.3s,baz=232,slow=20,SNR=2.6						
SIJI				LR	LR	10 48 53.5	
	comp=Z,205nm,18.7s,baz=208,slow=46						
MPSI	**Mapaga**	**6.14**	**268**	P	**Pn**	**10 46 14.1**	**+0.6**
CTBH	**Cotabato--PC H**	**6.87**	**345**	*i* P	**Pn**	**10 46 23.8**	**+0.3**
BNSI	**Bone**	**7.70**	**230**	P	**Pn**	**10 46 37.2**	**+2.3**
KAPI	**Kappang**	**8.36**	**229**	*e*Pn	**Pn**	**10 46 45.0**	**+1.0**
	15nm,0.6s						
KAPI				*e*Sn	**Sn**	**10 48 15.5**	**-1.7**
MYLDM	**Lahad Datu**	**8.82**	**302**	*e*Pn	**Pn**	**10 46 53.0**	**+2.7**
SOEI	**Soe**	**10.38**	**190**	*e*Pn	**Pn**	**10 47 12.6**	**+0.8**
KKM	**Kota Kinabalu**	**11.22**	**299**	*e*Pn	**Pn**	**10 47 23.6**	**+0.3**
SBUM	**Sibu**	**13.94**	**278**	*e*Pn	**Pn**	**10 47 57.1**	**-3.2**
KSM	**Kuching**	**15.75**	**273**	*e*Pn	**Pn**	**10 48 25.9**	**+1.6**
	33nm,1.0s						
FITZ	**Fitzroy Crossi**	**18.53**	**181**	P	**P**	**10 48 57.4**	**-0.9**
	0.4nm,0.3s,baz=3.2,slow=11,SNR=12						
WRAB	**Tennant Creek**	**21.92**	**159**	*e*P	**P**	**10 49 34.5**	**-0.6**
	14nm,0.7s						
WRA	**Warramunga Arr**	**21.93**	**159**	P	**P**	**10 49 34.3**	**-0.8**
	30nm,1.2s,baz=339,slow=11,SNR=118						
WRA				PcP	**PcP**	**10 53 32.5**	**-0.6**
	0.5nm,0.8s,baz=317,slow=2.4,SNR=3.7						
WB2	**Warramunga Arr**	**21.93**	**159**	*e*P	**P**	**10 49 34.6**	**-0.6**
	20nm,1.0s						
GUMO	**Guam**	**22.71**	**54**	LR	LR	10 57 48.8	
	comp=Z,79nm,21.1s,baz=226,slow=35						
AS31	**Alice Springs**	**25.25**	**163**	*e*P	**P**	**10 50 08.7**	**+1.2**
	3.2nm,0.9s						
ASAR	**Alice Springs**	**25.25**	**163**	P	**P**	**10 50 07.5**	**0.0**
	5.1nm,0.5s,baz=343,slow=8.2,SNR=83						
ASAR				PcP	**PcP**	**10 53 40.5**	**+0.3**
	0.4nm,0.4s,baz=344,slow=1.7,SNR=4.9						
AS01	**Alice Springs**	**25.27**	**163**	*e*P	**P**	**10 50 07.1**	**-0.5**
IPM	**Ipoh**	**25.29**	**279**	*e*P	**P**	**10 50 06.8**	**-1.0**
	6.1nm,0.8s						
JHJ	**Hachijo jima 2**	**34.89**	**20**	LR	LR	11 05 40.7	
	comp=Z,22nm,18.7s,baz=303,slow=36						
STKA	**Stephens Creek**	**35.45**	**157**	P	**P**	**10 51 35.7**	**-1.8**
	4.1nm,0.5s,baz=329,slow=9.3,SNR=17						
STKA	**Stephens Creek**	**35.45**	**157**	*e*P	**P**	**10 51 37.9**	**+0.4**
	1.8nm,1.0s						
KSAR	**Wonju Array Be**	**36.75**	**2**	P	**P**	**10 51 47.7**	**-0.8**
KSRS	**Korea Array**	**36.77**	**3**	P	**P**	**10 51 47.7**	**-0.9**
	0.9nm,0.6s,baz=181,slow=9.7,SNR=3.2						
MJAR	**Matsushiro Arr**	**37.55**	**16**	P	**P**	**10 51 55.1**	**-0.3**
	1.2nm,0.5s,baz=191,slow=10,SNR=6.0						
MJAR				LR	LR	11 07 18.5	
	comp=Z,30nm,21.7s,baz=200,slow=36						
HHC	**Hu-ho-hao-te**	**42.21**	**344**	*e*P	**P**	**10 52 36.1**	**+2.0**
HHC				pmax	pmax		
	comp=Z,10.0nm,1.1s						
HHC				pmax	pmax		
	comp=Z,26nm,5.8s						
USRK	**Ussuriysk Ar.**	**43.79**	**6**	P	**P**	**10 52 47.7**	**+1.1**
	comp=Z,2.9nm,0.6s,baz=190,slow=7.4,SNR=6.1						
ASAJ	**Asahikawa**	**45.82**	**17**	P	**P**	**10 53 02.1**	**-0.7**
	comp=Z,1.0nm,0.3s,baz=225,slow=12,SNR=6.5						
ASAJ	**Asahikawa**	**45.82**	**17**	*e*P	**P**	**10 53 04.6**	**+1.7**
	comp=Z,2.2nm,0.6s						
SONM	**Songino Array**	**50.09**	**343**	P	**P**	**10 53 35.6**	**-0.5**
	comp=Z,1.7nm,0.7s,baz=168,slow=8.8,SNR=2.5						
WMQ	**Urumqi**	**54.95**	**327**	P	**P**	**10 54 15.0**	**+3.0**
WMQ				LR	LR		
	comp=N,130nm,17.7s						
WMQ				LR	LR		
	comp=E,300nm,27.3s						
WMQ				LR	LR		
	comp=Z,68nm,19.5s						
PETK	**Petropavlovsk-**	**58.62**	**22**	P	**P**	**10 54 38.2**	**+0.5**
	comp=Z,2.6nm,0.7s,baz=212,slow=9.6,SNR=2.6						
MK01	**Makanchi Array**	**59.77**	**327**	*e*P	**P**	**10 54 45.0**	**-0.9**
MK31	**Makanchi Array**	**59.79**	**327**	*e*P	**P**	**10 54 45.3**	**-0.7**
MKAR	**Makanchi Array**	**59.79**	**327**	P	**P**	**10 54 45.1**	**-0.9**
	comp=Z,2.7nm,0.3s,baz=124,slow=7.9,SNR=29						
MKAR	**Makanchi Array**	**59.79**	**327**	*e*P	**P**	**10 54 45.3**	**-0.7**
MAKZ	**Makanchi**	**59.97**	**327**	*e*P	**P**	**10 54 48.1**	**+0.8**
KDJ	**Kajisay**	**60.28**	**320**	*e*P	**P**	**10 54 51.1**	**+1.4**
AAK	**Ala-Archa**	**62.27**	**319**	*e*P	**P**	**10 55 06.6**	**+3.5**
ZALV	**Zalesovo Beam**	**63.11**	**334**	P	**P**	**10 55 08.7**	**+0.5**
	comp=Z,2.0nm,0.3s,baz=140,slow=7.4,SNR=6.1						
KURBB	**Kurchatov Arra**	**64.05**	**329**	P	**P**	**10 55 13.9**	**-0.6**
	comp=Z,4.1nm,0.7s,baz=131,slow=6.2,SNR=16						
KURK	**Kurchatov**	**64.06**	**329**	*e*P	**P**	**10 55 14.0**	**-0.6**
KKAR	**Karatay Array**	**65.10**	**318**	*e*P	**P**	**10 55 22.4**	**+0.8**
	comp=Z,2.3nm,0.6s						
BVAR	**Borovoye Array**	**69.61**	**328**	P	**P**	**10 55 49.0**	**-0.9**
	comp=Z,0.9nm,0.3s,baz=118,slow=5.2,SNR=6.6						
BRVK	**Borovoye**	**69.68**	**328**	*e*P	**P**	**10 55 52.2**	**+1.8**
TIXI	**Tiksi**	**71.01**	**1**	P	**P**	**10 55 56.6**	**-1.5**
	comp=Z,2.3nm,0.3s,baz=160,slow=4.9,SNR=10						
TIXI	**Tiksi**	**71.01**	**1**	*e*P	**P**	**10 55 57.4**	**-0.6**
ABKAR	**Akbulak array**	**74.18**	**321**	*e*P	**P**	**10 56 17.0**	**-0.4**
	comp=Z,1.4nm,0.4s						
AKTO	**Aktyubinsk**	**75.72**	**322**	P	**P**	**10 56 25.8**	**-0.5**
	comp=Z,4.5nm,0.5s,baz=114,slow=20,SNR=7.0						
ARU	**Arti**	**77.25**	**328**	*e*P	**P**	**10 56 34.5**	**-0.3**
	comp=Z,11nm,1.1s						
VNDA	**Vanda**	**80.38**	**173**	P	**P**	**10 56 52.1**	**+0.6**
	comp=Z,1.3nm,0.9s,baz=315,slow=8.3,SNR=11						
RAYN	**Ar Rayn**	**81.10**	**294**	*e*P	**P**	**10 56 56.9**	**+0.3**
	comp=Z,7.5nm,0.5s						
GNI	**Garni**	**82.99**	**310**	LR	LR	11 39 13.9	
	comp=Z,20nm,19.0s,baz=305,slow=40						
ILAR	**Eielson Array**	**88.26**	**25**	P	**P**	**10 57 31.5**	**-0.2**
	comp=Z,0.2nm,0.5s,baz=252,slow=4.8,SNR=5.9						
ARCES	**ARCESS Array B**	**93.18**	**340**	P	**P**	**10 57 55.2**	**+0.7**
	comp=Z,5.8nm,1.2s,baz=78,slow=7.8,SNR=4.1						
FINES	**FINESS Array B**	**94.29**	**332**	P	**P**	**10 57 59.7**	**-0.1**
	comp=Z,2.1nm,1.0s,baz=72,slow=14,SNR=2.9						
TORD	**Torodi Ar. Bea**	**123.19**	**286**	PKP	**PKPdf**	**11 03 37.5**	**-0.8**
	comp=Z,0.3nm,0.4s,baz=114,slow=2.1,SNR=4.3						
TXAR	**Lajitas Array**	**124.06**	**54**	PKP	**PKPdf**	**11 03 39.6**	**-0.2**
	comp=Z,0.3nm,0.8s,baz=311,slow=4.7,SNR=3.1						

IDC 18 10:48:30.4±1.8, 2°91N × 89°42E, h0km, mb3.8/3, mb1 3.9/4, mb1mx3.4/60, mbtmp3.8/4, ML3.1/1, MS3.4/2, Ms1 3.4/2, ms1mx2.7/66, Error ellipse: s-maj=61.8km s-min=28.2km az=37.0, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PALK	**Pallekele**	**9.71**	**297**	Pn	Pn	10 50 51.3	-0.1
	0.2nm,0.3s,baz=117,slow=12,SNR=2.3						
PALK				Sn	Sn	10 52 36.5	-4.8
	4.4nm,0.3s,baz=115,slow=0.6,SNR=19						
PALK				LR	LR	10 54 30.7	
	comp=Z,52nm,18.4s,baz=116,slow=37						
H08S3	**Diego Garcia H**	**19.88**	**238**	T	T	11 13 23.9	
	baz=58,slow=75,SNR=14						
H08S2	**Diego Garcia H**	**19.88**	**238**	T	T	11 13 24.0	
	baz=59,slow=75,SNR=14						
H08S1	**Diego Garcia H**	**19.90**	**238**	T	T	11 13 25.1	
	baz=59,slow=75,SNR=11						
FITZ	**Fitzroy Crossi**	**41.34**	**122**	LR	LR	11 14 42.7	
	comp=Z,209nm,18.4s,slow=38

247A Quitman 17.21 10 P Pn 10 54 51.1 +0.5
baz=192
453A Whigham 17.27 23 P Pn 10 54 51.4 0.0
baz=207
HPIG 17.27 315 eP Pn 10 54 52.5 +0.8
12nm,0.8s
657A Interlachen 17.27 32 P Pn 10 54 51.3 -0.2
baz=216
MOTC Monteria, Cord 17.28 109 eP P 10 54 50.4 -0.8
556A Lake Butler 17.35 29 P P 10 54 51.9 +0.1
baz=214,SNR=7.3
142A Monroe 17.40 1 P Pn 10 54 53.0 0.0
baz=181
248A Dixon Mills 17.41 13 P P 10 54 52.4 0.0
baz=195
454A Quitman 17.42 25 P P 10 54 52.1 -0.4
baz=209
249A Camden 17.44 14 P Pn 10 54 53.2 -0.2
baz=197,SNR=9.0
WHTX Lake Whitney, 17.53 345 P Pn 10 54 55.2 +0.6
baz=163
WHTX Lake Whitney, 17.53 345 eP Pn 10 54 55.1 +0.6
16nm,0.6s
143A Socs Landing, 17.56 2 P Pn 10 54 54.8 -0.2
baz=183
352A Blakely 17.61 21 P P 10 54 55.0 +0.3
baz=204
557A Orange Park 17.69 31 P P 10 54 55.3 -0.3
baz=215
TXAR Lajitas Array 17.74 325 P Pn 10 54 58.0 +0.8
0.4nm,0.3s,baz=153,slow=10,SNR=75
TXAR ScP ScP 11 02 54.0 +2.8
0.0nm,0.3s,baz=152,slow=5.7,SNR=11
TX31 Lajitas Ar. Si 17.74 325 eP Pn 10 54 58.0 +0.8
353A Camilla 17.75 23 P Pn 10 54 56.7 -0.5
baz=206,SNR=5.2
147A Livingston 17.87 11 P Pn 10 54 58.3 -0.4
baz=193
251A Midway 18.02 19 P Pn 10 55 00.0 -0.4
baz=202
TIGA Tifton 18.07 24 P P 10 55 00.2 +0.5
baz=208
TIGA Tifton 18.07 24 eP Pn 10 55 01.6 +0.6
55nm,1.1s
149A Jones 18.11 15 P Pn 10 55 00.9 -0.6
baz=197
Z41A Richland Creek 18.11 358 P Pn 10 55 01.4 -0.1
baz=178
252A Lumpkin 18.15 21 P Pn 10 55 01.3 -0.6
baz=204
457A Yulee 18.27 30 P P 10 55 02.0 +0.2
baz=215
Z46A Louisville 18.27 9 P Pn 10 55 02.9 -0.4
baz=190
150A Eclectic 18.32 17 P Pn 10 55 03.5 -0.5
baz=200,SNR=9.8
Z47A Carrollton 18.42 11 P Pn 10 55 04.3 -0.8
baz=193,SNR=6.0
151A Opelika 18.45 18 P Pn 10 55 05.4 -0.1
baz=202,SNR=29
LRAL Lakeview Retre 18.48 14 P Pn 10 55 05.8 -0.1
baz=196,SNR=8.8
LRAL Lakeview Retre 18.48 14 eP Pn 10 55 06.0 +0.1
33nm,1.3s
ZARC Zaragoza, Cauc 18.53 112 eP P 10 55 02.4 -2.6
HELC Santa Helena 18.54 117 eP P 10 55 05.8 +0.4
36nm,0.8s
WLAR White Oak Lake 18.55 357 eP Pn 10 55 06.2 -0.6
28nm,0.7s
254A Abbeville 18.64 24 P P 10 55 06.3 +0.5
baz=208
TUMC Tumaco 18.67 134 eP Pn 10 55 08.8 +0.6
103nm,0.7s
Y42A Garnett, Star 18.68 1 P Pn 10 55 07.4 -0.8
baz=182
Z48A Northport 18.69 12 P P 10 55 07.0 +0.6
baz=194
Z49A Columbiana 18.74 15 P Pn 10 55 08.4 -0.6
baz=197,SNR=9.2
ABTX Abilene, Hawle 18.76 340 P Pn 10 55 08.4 -0.8
baz=157
ABTX Abilene, Hawle 18.76 340 eP P 10 55 08.1 +0.8
24nm,1.3s
CCAR Cane Creek 18.77 1 eP Pn 10 55 08.8 -0.4
29nm,1.0s
SLBS Sierra La Lagu 18.84 300 eP Pn 10 55 11.1 +0.8
17nm,1.0s
Y45A Yeager Farm, C 18.86 7 P P 10 55 08.7 +0.5
baz=188
Y40A Okolona 18.89 357 P P 10 55 09.5 +0.9
baz=177
Y44A Strider, Charl 18.89 5 P P 10 55 09.1 +0.5
baz=186
Z50A Ashland 18.96 16 P Pn 10 55 10.7 -0.8
baz=199,SNR=14
Y46A Houston 18.96 8 P P 10 55 10.0 +0.6
baz=190
YOTC Yotoco, Valle 19.06 124 eP P 10 55 11.7 +0.9
Y47A UCPARC, Winfie 19.14 11 P P 10 55 12.2 +0.8
baz=193,SNR=5.7
GUYC Guyana, Colomb 19.15 119 eP P 10 55 12.3 +0.2
256A Glennville 19.25 27 P P 10 55 12.8 +0.2
baz=212
Y48A Jasper 19.29 13 P P 10 55 13.6 +0.7
baz=195,SNR=5.7
154A Montrose 19.30 24 P P 10 55 13.3 +0.3
baz=208
LPIG La Paz 19.32 301 P Pn 10 55 16.1 +0.4
6.7nm,0.3s,baz=31,slow=7.2,SNR=4.2
RREF El Recreo 19.36 120 eP P 10 55 15.7 +1.1
Y49A Blount Mountai 19.41 14 P P 10 55 15.1 +0.8
baz=197,SNR=5.1
X45A UM Field Stati 19.43 7 P P 10 55 14.7 +0.3
baz=188
MIAR Mount Ida 19.43 356 P P 10 55 15.1 +0.6
baz=176
MIAR Mount Ida 19.43 356 eP P 10 55 14.4 -0.1
18nm,0.9s
X39A Fountain Ranch 19.44 355 P P 10 55 15.4 +0.9
baz=175
OXF Oxford 19.51 7 P P 10 55 15.9 +0.6
baz=188
OXF Oxford 19.51 7 eP P 10 55 15.2 -0.2
25nm,0.9s
ANIL Santa Ana 19.54 121 eP Pn 10 55 18.3 -0.4
TOLC Tolima 19.55 121 eP P 10 55 17.6 +1.3
155A Kite 19.56 25 P P 10 55 16.1 +0.2
baz=209
Y50A Piedmont 19.61 16 P P 10 55 17.0 +0.6
baz=199
UALR University of 19.62 359 eP P 10 55 17.3 +0.8
UALR epP pP 10 55 45.0 +5.3
X46A Booneville 19.66 9 P P 10 55 17.6 +0.6
baz=191
X47A Russelville 19.74 11 P P 10 55 18.3 +0.4
baz=193
X48A Hartselle 19.83 12 P P 10 55 18.9 +0.1
baz=195,SNR=7.7
GOGA Godfrey 19.88 22 P P 10 55 19.9 +0.6
baz=206,SNR=9.8
GOGA Godfrey 19.88 22 eP P 10 55 19.9 +0.6
18nm,0.8s
SOTA Rioblanco 20.00 129 eP Pn 10 55 23.6 -0.7
OTAV Otavalo 20.00 136 eP Pn 10 55 24.6 +0.3
8.4nm,0.7s
OTAV Otavalo 20.00 136 eP P 10 55 21.0 -0.4
W41B Gary Mavity, V 20.02 360 P P 10 55 21.1 +0.4
baz=180
PCON Cinco Dias 20.04 128 eP P 10 55 23.0 +1.1
W40A Ferguson Farm, 20.05 358 P P 10 55 21.6 +0.4
baz=178
X49A Woodville 20.05 14 P P 10 55 21.2 0.0
baz=197
MARP Paez Belalcaza 20.05 126 eP Pn 10 55 24.3 -0.4
GCUF Volcan Galeras 20.07 132 eP Pn 10 55 24.3 -0.8
W39A Magazine 20.09 356 P P 10 55 22.2 +0.6
baz=176
CRUC La Cruz 20.12 130 eP Pn 10 55 24.3 -1.3
WHAR Wooly Hollow 20.13 360 eP Pn 10 55 23.7 -1.5
16nm,0.9s
PLAL Pickwick Lake 20.16 10 eP P 10 55 22.6 +0.3
5.5nm,0.8s
W45A Hickory Valley 20.17 7 P P 10 55 22.8 +0.3
baz=189
W46A Michie 20.26 9 P P 10 55 23.4 0.0
baz=191
SDDR Presa de Saban 20.31 76 eP Pn 10 55 26.0 -1.5
30nm,0.6s

GDL2 Guadalupe Moun 20.37 329 eP P 10 55 26.3 +1.5
PRAC Prado 20.40 122 eP Pn 10 55 27.3 -1.2
47nm,0.3s
PRAC Prado 20.40 122 eP P 10 55 25.0 -0.2
WMOK Wichita Mounta 20.48 344 P P 10 55 25.3 -0.5
baz=162,SNR=8.9
WMOK Wichita Mounta 20.48 344 eP P 10 55 24.8 -1.0
11nm,0.8s
MNTX Cornudas Mount 20.50 326 P P 10 55 26.4 +0.3
baz=141,SNR=36
MNTX Cornudas Mount 20.50 326 eP P 10 55 26.5 +0.3
16nm,0.7s
W47A Westpoint 20.50 11 P P 10 55 25.6 -0.4
baz=193
W48A Pulaski 20.52 12 P P 10 55 25.7 -0.5
baz=195
PAMC Pamplona, Colo 20.54 110 eP P 10 55 24.3 -2.9
V41A Mountainview 20.63 360 P P 10 55 27.5 +0.2
baz=180
V42A Cord 20.66 2 P P 10 55 27.5 -0.2
baz=182
V39A Pettigrew 20.72 357 P P 10 55 28.6 +0.1
baz=176
SWET Sewanee 20.82 14 eP P 10 55 29.4 -0.1
3.8nm,0.6s
RUSC La Rusia 20.82 114 eP P 10 55 29.7 -0.4
3.2nm,0.7s
RUSC La Rusia 20.82 114 eP P 10 55 27.6 -2.5
CHIC Chingaza 20.87 118 eP P 10 55 29.6 -1.0
V46A Holladay 20.95 9 P P 10 55 30.1 -0.8
baz=191,SNR=6.2
NHSC New Hope 20.98 29 P P 10 55 32.7 +1.5
167nm,1.1s
TUL1 Leonard 21.01 352 P P 10 55 31.5 +0.1
baz=171
HODGE Hodges 21.06 23 eP P 10 55 33.1 +1.2
26nm,1.6s
V47A Nunnelly 21.08 10 P P 10 55 31.7 -0.5
baz=193
V48A Smith Brothers 21.12 12 P P 10 55 32.0 -0.7
baz=195
MSTX Muleshoe 21.13 335 P P 10 55 32.2 -0.7
baz=151,SNR=5.7
MSTX Muleshoe 21.13 335 eP P 10 55 32.1 -0.8
26nm,1.0s
HHAR Hobbs 21.18 356 eP P 10 55 33.8 +0.4
7.7nm,0.8s
U40A Yellville 21.21 358 P P 10 55 33.4 -0.2
baz=178
U42A Revenden 21.21 2 P P 10 55 32.8 -0.8
baz=183,SNR=9.7
U39A Green Forest 21.26 357 P P 10 55 34.1 0.0
baz=177
U43A Rector 21.27 4 P P 10 55 34.0 -0.1
baz=185
WVT Waverly 21.32 10 P P 10 55 34.5 -0.3
baz=192
WVT Waverly 21.32 10 eP P 10 55 35.1 +0.3
9.2nm,0.8s
CPCT Cooper Cave 21.41 17 eP P 10 55 36.6 +0.8
U46A Springville 21.49 9 P P 10 55 36.2 -0.4
baz=191,SNR=8.9
BG3 Lake Jocassee 21.49 21 eP P 10 55 38.1 +1.4
13nm,0.7s
JSC Jenkinsville 21.50 25 eP P 10 55 38.0 +1.3
9.3nm,0.9s
AMTX Amarillo 21.52 338 P P 10 55 36.6 -0.4
baz=155
AMTX Amarillo 21.52 338 eP P 10 55 36.3 -0.7
19nm,0.8s
SDD Santo Domingo 21.54 78 eP P 10 55 35.3 -2.0
68nm,0.5s
PBMO Poplar Bluff 21.67 4 eP P 10 55 38.7 +0.2
13nm,0.8s
U47A Clarksville 21.72 11 P P 10 55 38.0 -1.0
baz=193
TKL Tuckaleechee C 21.83 19 P P 10 55 40.4 +0.1
7.9nm,0.8s,baz=199,slow=16,SNR=11
TKL LR LR 11 04 32.9
comp=Z,48nm,18.9s,baz=189,slow=38
TKL Tuckaleechee C 21.83 19 eP P 10 55 40.3 +0.1
22nm,0.8s
T41A Mountain View 21.88 1 P P 10 55 40.5 -0.3
baz=181,SNR=6.5
T42A Van Buren 21.89 2 P P 10 55 39.9 -0.8
baz=183
T39A Clever 21.89 357 P P 10 55 40.3 -0.6
baz=177
SDV Santo Domingo 21.90 104 P P 10 55 39.8 -1.6
12nm,0.6s,baz=282,slow=5.1,SNR=12
SDV Santo Domingo 21.90 104 eP P 10 55 39.6 -1.8
17nm,0.8s
SDV Santo Domingo 21.90 104 eP P 10 55 36.9 -4.5
U48A Cassie Pea, Po 21.93 12 P P 10 55 40.2 -1.0
baz=195,SNR=7.6
T38A Diamond 21.96 355 P P 10 55 41.0 -0.5
baz=175
T43A Greenville 21.98 4 P P 10 55 40.9 -0.9
baz=185,SNR=7.4
T40A Mansfield 21.99 359 P P 10 55 41.4 -0.5
baz=179
T44A Benton 22.04 5 P P 10 55 41.9 -0.5
baz=187
T45A Paducah 22.08 7 P P 10 55 42.4 -0.3
baz=189
T46A Princeton 22.20 9 P P 10 55 43.5 -0.5
baz=191
KMSC Kings Mountain 22.22 24 P P 10 55 44.8 +0.6
baz=209
KMSC Kings Mountain 22.22 24 eP P 10 55 45.1 +0.9
19nm,0.9s
KMSC epP pP 10 56 06.4 -1.8
HSIG 22.24 312 eP P 10 55 45.3 +0.7
T47A Sharon Grove 22.28 11 P P 10 55 44.0 -0.8
baz=193,SNR=15
SRIG Santa Rosalia 22.32 306 eP P 10 55 46.6 +1.4
S41A Jillco Farms, 22.43 1 P P 10 55 45.4 -0.9
baz=181
S40A Lebanon 22.44 359 P P 10 55 45.7 -0.7
baz=180
121A Cookes Peak, D 22.47 323 P P 10 55 48.2 +1.2
baz=138,SNR=14
121A Cookes Peak, D 22.47 323 eP P 10 55 48.3 +1.4
27nm,0.9s
S43A Fulton Ridge, 22.48 4 P P 10 55 46.0 -0.8
baz=186
S38A Stockton 22.52 356 P P 10 55 46.1 -1.1
baz=176,SNR=6.6
T48A Bowling Green 22.53 12 P P 10 55 46.7 -0.7
baz=195
S39A Bolivar 22.55 358 P P 10 55 46.4 -1.1
baz=177
319A Douglas 22.57 319 eP P 10 55 49.5 +1.7
30nm,1.0s
S42A Caledonia 22.64 3 P P 10 55 47.1 -1.3
baz=184
S44A Carbondale 22.68 6 P P 10 55 48.3 -0.4
baz=188,SNR=11
SIUC Southern Illin 22.70 6 eP P 10 55 48.8 -0.1
24nm,0.9s
TZTN Tazewell 22.71 18 P P 10 55 47.8 -1.3
baz=202
TZTN Tazewell 22.71 18 eP P 10 55 49.8 +0.7
39nm,0.8s
S45A Carrier Mills 22.73 7 P P 10 55 47.6 -1.6
baz=189
S46A Don Dixon Farm 22.86 9 P P 10 55 49.3 -1.1
baz=191
CCM Cathedral Cave 22.91 2 P P 10 55 49.7 -1.2
baz=183
CCM Cathedral Cave 22.91 2 eP P 10 55 51.2 +0.3
11nm,0.8s
BNM Barren Site 23.07 328 eP P 10 55 54.2 +1.4
R38A Fenwick Farm, 23.08 356 P P 10 55 52.2 -0.3
baz=176,SNR=6.5
R40A Maddies Statio 23.13 360 P P 10 55 51.9 -1.1
baz=180,SNR=5.6
S48A Wiedeman Farm, 23.13 12 P P 10 55 51.6 -1.4
baz=195
R41A Rosebud 23.14 2 P P 10 55 52.9 -0.2
baz=182,SNR=8.9
USIN University of 23.14 9 eP P 10 55 53.0 -0.1
29nm,0.7s
R42A Luebbering 23.15 3 P P 10 55 52.1 -1.0
baz=184
R39A Chumby, Stover 23.16 358 P P 10 55 52.5 -0.8
baz=178
R43A Red Bud 23.19 4 P P 10 55 53.1 -0.5
baz=186
LPM Los Pinos Moun 23.20 328 eP P 10 55 55.0 +1.1
R44A Waltonville 23.24 6 P P 10 55 53.5 -0.5
baz=188
R45A Skylar, Fairfi 23.38 8 P P 10 55 54.4 -0.8
baz=190
LAZ Ladron 23.52 328 eP P 10 55 58.0 +1.1
ANMO Albuquerque 23.61 330 P P 10 55 57.8 +0.2
baz=144
ANMO Albuquerque 23.61 330 eP P 10 55 59.1 +1.4
3.0nm,0.7s
WCI Wyandotte Cave 23.64 12 P P 10 55 57.0 -0.6
baz=194
WCI Wyandotte Cave 23.64 12 eP P 10 55 57.0 -0.6
48nm,0.8s
R47A Wooly Knot Far 23.66 11 P P 10 55 57.2 -0.5
baz=194,SNR=5.9
Q42A Golden Eagle 23.79 3 P P 10 55 58.6 -0.3
baz=184
Q41A Truxton 23.80 2 P P 10 55 58.8 -0.3
baz=182,SNR=5.7
OLIL Olney 23.84 8 eP P 10 56 00.1 +0.7
32nm,0.8s
Q43A New Douglas 23.87 5 P P 10 55 59.6 -0.1
baz=186
Q44A Meyer Farm, Va 23.90 6 P P 10 55 60.0 0.0
baz=188
Q45A Warren Harvey, 23.99 8 P P 10 56 00.4 -0.3
baz=190
TUC Tucson 24.14 319 P P 10 56 03.7 +1.4
baz=131
TUC Tucson 24.14 319 eP P 10 56 03.5 +1.1
13nm,0.8s
P40A Paris 24.36 0 P P 10 56 03.7 -0.5
baz=181
BLA Blacksburg 24.39 23 P P 10 56 03.2 -1.2
baz=209
P42A Winchester 24.47 3 P P 10 56 04.7 -0.4
baz=184
P38A Dawn 24.49 357 P P 10 56 05.1 -0.2
baz=177
P44A Sand Creek, Wi 24.50 7 P P 10 56 04.9 -0.4
baz=188
P37A Lathrop 24.50 356 P P 10 56 05.2 -0.2
baz=175
P41A Barry, Barry 24.53 2 P P 10 56 05.4 -0.3
baz=183
T25A Trinidad 24.54 336 eP P 10 56 08.2 +2.2
12nm,0.9s
VWCC Virginia Weste 24.59 24 eP P 10 56 06.6 +0.3
MHTCO State Highway 24.64 335 eP P 10 56 05.9 -1.1
6.8nm,1.0s
P45A Graceland, Par 24.66 8 P P 10 56 06.4 -0.5
baz=190
P46A Rosedale 24.83 9 P P 10 56 08.1 -0.3
baz=192,SNR=8.3
P47A Martinsville 24.86 11 P P 10 56 08.1 -0.6
baz=194
O40A La Belle 24.96 0 P P 10 56 09.1 -0.5
baz=181
O41A Passleys Farm, 24.97 2 P P 10 56 09.3 -0.4
baz=183
O43A Sugar Creek Fa 25.24 5 P P 10 56 11.4 -0.7
baz=187
214A Organ Pipe Nat 25.26 315 P P 10 56 13.9 +1.5
baz=127,SNR=20
214A Organ Pipe Nat 25.26 315 eP P 10 56 13.5 +1.1
76nm,0.9s
214A epP pP 10 56 42.1 +2.2
O34A Beatrice 25.33 352 P P 10 56 12.4 -0.6
baz=170
O45A Potomac 25.38 8 P P 10 56 12.6 -0.8
baz=190
W18A Petrified Fore 25.46 325 eP P 10 56 16.3 +1.9
13nm,1.2s
HDIL Hopedale 25.51 5 P P 10 56 14.3 -0.2
baz=187
KSCO Kaye Shedlock' 25.57 341 eP P 10 56 16.1 +0.8
5.0nm,0.3s
SFIN Lafayette 25.59 9 P P 10 56 13.9 -1.4
baz=192
SFIN Lafayette 25.59 9 eP P 10 56 14.6 -0.7
11nm,0.7s
O47A Sheridan 25.61 11 P P 10 56 14.4 -1.0
baz=194
JSRW J. Sargeant Re 25.83 27 eP P 10 56 17.4 -0.1
X16A Lo Mia Camp, P 25.96 321 eP P 10 56 20.9 +1.9
5.7nm,0.8s
IP06 Yanceyville 25.99 26 eP P 10 56 18.7 -0.2
11nm,1.1s
IP01 Cuckoo 26.04 26 eP P 10 56 19.6 +0.3
20nm,1.2s
IP03 Louisa 26.05 26 eP P 10 56 19.5 +0.1
7.3nm,0.7s
IP04 Greensprings 26.08 26 eP P 10 56 19.9 +0.2
9.4nm,0.7s
M40A Post Highland 26.24 1 P P 10 56 21.1 -0.1
baz=182
M38A Pleasantville 26.27 358 P P 10 56 21.3 0.0
baz=178
ACSO Alum Creek Sta 26.31 16 P P 10 56 21.6 -0.2
baz=200
113A Mohawk Valley, 26.39 316 eP P 10 56 24.0 +1.4
12nm,0.8s
MVCO Mesa Verde 26.41 330 P P 10 56 24.4 +1.4
baz=143
MVCO Mesa Verde 26.41 330 eP P 10 56 24.8 +1.8
30nm,1.8s
M44A Midewin, Midew 26.46 7 P P 10 56 22.8 -0.3
baz=189
Y14A Wickenburg 26.61 319 eP P 10 56 26.1 +1.4
6.0nm,0.8s
WUAZ Wupatki 26.68 323 P P 10 56 26.8 +1.4
baz=135,SNR=6.9
WUAZ Wupatki 26.68 323 eP P 10 56 26.9 +1.6
8.1nm,1.1s
L40A Anamosa 26.91 2 P P 10 56 27.5 +0.4
baz=182
GLA Glamis 27.28 315 P P 10 56 32.2 +1.7
baz=126,SNR=8.4
GLA Glamis 27.28 315 eP P 10 56 32.3 +1.7
18nm,0.8s
ISCO Idaho Springs 27.32 337 eP P 10 56 31.6 +0.5
7.7nm,1.8s
Y12C Blythe 27.49 317 P P 10 56 33.4 +1.1
baz=128
Y12C Blythe 27.49 317 eP P 10 56 34.0 +1.6
9.3nm,0.9s
PDMCI Parker Dam,Lak 27.57 318 P P 10 56 34.7 +1.6
baz=129,SNR=8.3
U15A North Rim 27.85 323 eP P 10 56 37.9 +2.0
7.9nm,1.3s
N54A Moraine State 27.87 20 P P 10 56 35.4 -0.3
baz=206
SWSC Sam W. Stewart 27.89 314 P P 10 56 37.6 +1.6
baz=124,SNR=5.6
W13A Hualapai Mount 27.91 320 eP P 10 56 38.6 +2.2
6.9nm,0.9s
IKP In-Ko-Pah, Jac 27.94 313 P P 10 56 37.8 +1.2
baz=124
BC3 Big Chuckawall 28.05 315 P P 10 56 39.3 +1.7
baz=126,SNR=30
IRM Iron Mountain 28.14 317 P P 10 56 39.9 +1.6
baz=127,SNR=12
MONP2 Monument Peak 28.30 313 P P 10 56 41.4 +1.5
baz=123,SNR=6.3
SSPA Standing Stone 28.33 23 P P 10 56 39.7 -0.1
baz=210
KNB Kanab 28.56 324 eP P 10 56 43.3 +1.1
7.6nm,0.8s
BELC Belle Mtn. Jos 28.62 315 P P 10 56 44.4 +1.7
baz=126,SNR=9.0
LDFC Landfair 28.68 318 eP P 10 56 46.2 +3.0
30nm,0.8s
I39A Houston 28.69 1 P P 10 56 43.1 +0.1
baz=182
XPFO Pigeon Flat 28.71 314 eP P 10 56 45.3 +1.8
7.4nm,0.9s
PFO Pinyon Flats O 28.72 314 P P 10 56 44.6 +1.1
baz=124,SNR=5.0
PFO Pinyon Flats O 28.72 314 eP P 10 56 45.3 +1.8
7.1nm,0.9s
LCMT Little Creek M 28.80 323 eP P 10 56 46.3 +2.0
5.7nm,1.1s
GMRC Granite Mounta 28.86 317 P P 10 56 46.5 +1.8
baz=127,SNR=11
MTPU Mount Pierson 28.94 326 eP P 10 56 48.5 +2.8
8.5nm,1.3s

SZCU	Shurtz Canyon	29.12	324	eP	P	10 56 49.5 +2.4
	5.4nm,0.9s					
MURC	Murrieta	29.22	314	P	P	10 56 49.5 +1.6
	baz=123					
CCUT	Cedar City	29.25	324	eP	P	10 56 50.9 +2.6
	8.3nm,1.0s					
MSU	Marysvale	29.28	327	eP	P	10 56 50.7 +2.1
HEC	Hector,Ludlow	29.33	316	P	P	10 56 50.8 +1.9
	baz=126,SNR=7.2					
BBRC	Big Bear Solar	29.40	315	P	P	10 56 51.1 +1.4
	baz=125					
TUQ	Turquoise Moun	29.42	318	P	P	10 56 51.4 +1.7
	baz=128,SNR=5.2					
SHPR	Sheep Range	29.61	320	eP	P	10 56 53.6 +2.1
	6.6nm,1.0s					
BFSC	Mount Baldy Ra	29.89	314	P	P	10 56 55.3 +1.3
	baz=124					
GSC	Goldstone, Bar	29.92	317	P	P	10 56 55.6 +1.5
	baz=126					
SHOC	Shoshone, Teco	29.93	318	P	P	10 56 55.7 +1.6
	baz=128					
SPMN	Marine on St.	30.06	359	eP	P	10 56 55.1 0.0
SPMN				epP	pP	10 57 25.1 +2.2
MPU	Maple Canyon	30.13	329	epP	pP	10 57 27.0 +3.1
EDW2	Edwards Air Fo	30.48	315	P	P	10 57 00.6 +1.6
	baz=124					
TPNV	Topopah Spring	30.57	320	P	P	10 57 01.5 +1.7
	baz=129					
TPNV	Topopah Spring	30.57	320	eP	P	10 57 02.1 +2.3
	5.5nm,0.9s					
LRMC	Laurel Mtn Rad	30.61	316	P	P	10 57 02.0 +1.8
	baz=125					
FURC	Furnace Creek,	30.66	319	P	P	10 57 02.4 +2.0
	baz=128,SNR=8.1					
MPMC	Manual Prospec	30.82	317	P	P	10 57 03.7 +1.6
	baz=126,SNR=20					
DAC	Darwin (Calif)	31.01	318	eP	P	10 56 59.9 -4.0
	8.4nm,0.9s					
R11A	Troy Canyon, C	31.07	323	P	P	10 57 06.3 +2.0
	baz=132,SNR=9.7					
R11A	Troy Canyon, C	31.07	323	eP	P	10 57 06.3 +2.0
	4.1nm,0.9s					
ARVC	Arvin	31.19	315	P	P	10 57 07.0 +1.9
	baz=123					
ISA	Isabella, Lake	31.24	316	P	P	10 57 07.5 +1.8
	baz=125,SNR=5.5					
ISA	Isabella, Lake	31.24	316	eP	P	10 57 08.0 +2.3
	11nm,1.2s					
GRAC	Grapevine Rang	31.30	319	P	P	10 57 08.4 +2.3
	baz=128,SNR=5.5					
E40A	Wakefield	31.33	3	P	P	10 57 07.9 +1.6
	baz=184					
PDAR	Pinedale Array	31.40	335	P	P	10 57 08.1 +0.9
	0.3nm,0.5s,baz=130,slow=9.1,SNR=5.0					
PDAR				PcP	PcP	10 59 57.1 -0.7
	0.5nm,0.6s,baz=134,slow=4.3,SNR=3.6					
PDAR				ScP	ScP	11 03 26.9 -2.1
	0.8nm,0.9s,baz=132,slow=4.4,SNR=5.7					
CWC	Cottonwood Cre	31.43	317	P	P	10 57 09.0 +1.6
	baz=126					
SADO	Sadowa	31.58	18	P	P	10 57 06.6 -1.9
	2.9nm,0.4s,baz=221,slow=8.3,SNR=4.9					
PKM	Mcpherson Peak	31.74	313	P	P	10 57 12.1 +1.8
	baz=122					
VES	Vestal, Richgr	31.75	316	P	P	10 57 12.2 +2.1
	baz=124,SNR=12					
SMMC	Simmler	32.09	314	P	P	10 57 15.0 +1.9
	baz=122					
RCTC	Rector, Farmer	32.12	316	P	P	10 57 15.3 +2.1
	baz=124,SNR=14					
REDW	Red Top Meadow	32.42	334	eP	P	10 57 16.6 +0.5
	11nm,1.4s					
SNOW	Snow King Moun	32.47	334	eP	P	10 57 17.5 +1.0
SNOW				epP	pP	10 57 47.5 +2.9
NV11	Mina Array Sit	32.67	320	eP	P	10 57 20.6 +2.3
	1.6nm,0.9s					
NV01	Mina Array Sit	32.76	320	eP	P	10 57 20.6 +1.5
NVAR	Mina Array Bea	32.76	320	P	P	10 57 21.8 +2.6
	26nm,0.6s,baz=133,slow=8.6,SNR=345					
NVAR				PcP	PcP	11 00 02.4 +0.8
	0.8nm,0.7s,baz=129,slow=3.1,SNR=3.8					
NVAR				ScP	ScP	11 03 33.5 -0.2
	0.3nm,0.6s,baz=154,slow=3.5,SNR=4.5					
MDPB	Devils Postpil	32.77	318	eP	P	10 57 21.6 +2.3
	13nm,0.9s					
LONY	Lake Ozonia	33.00	23	eP	P	10 57 20.4 -0.5
	7.7nm,0.8s					
RYN	Ryan	33.02	320	eP	P	10 57 23.5 +2.2
	9.1nm,0.9s					
MDND	Maddock	33.26	351	eP	P	10 57 23.6 +0.6
	29nm,0.8s					
FFD	Franklin Falls	33.28	28	eP	P	10 57 22.9 -0.4
	119nm,0.3s					
BMN	Battle Mountai	33.41	324	eP	P	10 57 26.5 +1.8
	9.2nm,0.9s					
WAKR	Walker	33.52	319	eP	P	10 57 28.3 +2.7
	35nm,1.6s					
YERR	Yerington	33.68	320	eP	P	10 57 29.2 +2.1
	13nm,0.7s					
CMB	Columbia Colle	33.85	318	eP	P	10 57 30.1 +1.7
	7.0nm,0.9s					
VCNR	Virginia City	34.12	320	eP	P	10 57 33.4 +2.4
	7.4nm,0.9s					
HLID	Hailey	34.18	331	P	P	10 57 32.5 +1.1
	baz=140					
HLID	Hailey	34.18	331	eP	P	10 57 33.5 +2.1
	12nm,1.8s					
HLID				epP	pP	10 58 04.8 +5.3
PAHR	Pah Rah Range	34.21	321	eP	P	10 57 33.9 +2.2
	9.4nm,0.8s					
MCMT	McKenzie Canyo	34.46	334	eP	P	10 57 33.0 -0.8
	1.0nm,0.7s					
MCMT				epP	pP	10 58 05.8 +3.8
ORV	Oroville	35.43	319	eP	P	10 57 43.7 +1.8
	8.1nm,1.3s					
WVOR	Wild Horse Val	35.54	325	eP	P	10 57 44.8 +1.8
	9.2nm,1.1s					
EGMT	Eagleton	35.94	340	P	P	10 57 46.2 0.0
	baz=150					
O03D	Paynes Creek	36.05	320	P	P	10 57 48.1 +0.8
	baz=126					
J08A	Circle Bar Ran	36.08	327	eP	P	10 57 48.8 +1.3
	43nm,1.4s					
MOD	Modoc Plateau	36.13	323	eP	P	10 57 49.1 +1.1
	11nm,1.4s					
M04C	Macdoel	36.95	322	P	P	10 57 56.2 +1.2
	baz=128					
F10A	Beach Ranch, E	37.31	331	eP	P	10 57 58.7 +0.8
	4.9nm,0.7s					
SAML	Samuel	37.33	128	eP	P	10 57 57.2 -1.0
	11nm,1.1s					
SAML				epP	pP	10 58 27.1 +0.4
YBH	Yreka Blue Hor	37.45	321	P	P	10 57 58.6 -0.5
	2.5nm,0.8s,baz=174,slow=9.1,SNR=14					
YBH				LR	LR	11 17 30.0
	comp=Z,38nm,19.1s,baz=183,slow=42					
J04D	Umpqua Nationa	38.01	324	P	P	10 58 05.1 +1.1
	baz=129					
I04A	Tendick Farm,	38.52	324	P	P	10 58 09.0 +0.9
	baz=129					
LPAZ	La Paz	39.15	142	P	P	10 58 15.3 +1.1
	3.2nm,0.7s,baz=338,slow=7.2,SNR=11					
LPAZ				PcP	PcP	11 00 20.9 -0.5
	1.1nm,0.5s,baz=0.0,slow=2.0,SNR=4.1					
LPAZ	La Paz	39.15	142	eP	P	10 58 15.9 +1.6
	4.4nm,0.8s					
LPAZ				PcP	PcP	11 00 20.9 -0.5
EDM	Edmonton	41.58	341	eP	P	10 58 31.6 -1.6
	12nm,1.3s					
SIV	San Ignacio	43.52	134	P	P	10 58 49.8 +0.5
	19nm,0.7s,baz=319,slow=8.3,SNR=110					
SIV				PcP	PcP	11 00 36.2 +1.2
	4.3nm,0.8s,baz=312,slow=1.8,SNR=6.6					
YKA	Yellowknife Ar	49.96	347	P	P	10 59 38.0 -0.7
	1.7nm,0.7s,baz=149,slow=7.5,SNR=35					
YKA				ScP	ScP	11 04 39.0 -1.7
	0.9nm,0.9s,baz=141,slow=4.2,SNR=11					
CPUP	Villa Florida	53.29	140	P	P	11 00 03.9 0.0
	1.7nm,0.7s,baz=313,slow=8.3,SNR=4.4					
PAX	Paxson	60.43	335	eP	P	11 00 54.7 +0.8
	16nm,1.8s					
IL1	Eielson Array	61.81	337	eP	P	11 01 02.7 -0.3
ILAR	Eielson Array	61.81	337	P	P	11 01 03.3 +0.2
	1.5nm,0.7s,baz=136,slow=5.3,SNR=22					
ILB	Eielson Array	61.81	337	eP	P	11 01 04.0 +0.9
RND	Reindeer	62.01	335	eP	P	11 01 05.5 +1.0
	7.4nm,0.8s					
TRF	Thorofare Moun	62.62	335	eP	P	11 01 09.3 +0.6
	5.0nm,0.6s					
KTH	Kantishna Hill	62.92	335	eP	P	11 01 10.7 +0.1
	7.4nm,1.1s					
BPAW	Bear Paw Mtn.	63.15	335	eP	P	11 01 12.4 +0.3
	14nm,1.7s					
CAST	Castle Rocks	63.36	334	eP	P	11 01 13.4 -0.1
	3.3nm,0.7s					
TOLK	Toolik Lake Re	64.47	340	P	P	11 01 20.5 -0.1
	baz=116					
EKA	Eskdalemuir Ar	77.18	36	P	P	11 02 35.4 -2.2
	2.0nm,0.4s,baz=284,slow=2.9,SNR=2.7					
ESDC	Sonseca Array	79.16	52	P	P	11 02 46.6 -2.4
	0.2nm,0.3s,baz=282,slow=6.4,SNR=3.2					
ARCES	ARCESS Array B	85.17	18	P	P	11 03 17.8 -1.8
	1.6nm,0.9s,baz=258,slow=6.1,SNR=4.9					
HHC	Hu-ho-hao-te	120.17	339	eP	PKPdf	11 09 31.1 -3.3
HHC				pmax	pmax	
	comp=Z,20nm,1.0s					
HHC				pmax	pmax	
	comp=Z,71nm,4.4s					
BOSA	Boshof	120.92	114	PKP	PKPdf	11 09 34.8 -1.3
	comp=Z,2.0nm,0.6s,baz=325,slow=1.6,SNR=4.2					
WMQ	Urumqi	121.39	0	eP	PKPdf	11 09 37.9 +1.3
WMQ				LR	LR	
	comp=N,140nm,20.1s					
WMQ				LR	LR	
	comp=E,180nm,27.7s					
WMQ				LR	LR	
	comp=Z,120nm,20.1s					
LZH	Lanzhou	126.92	344	ePKP	PKPdf	11 09 48.1 +0.6
LZH				sPKP		11 10 36.8
LZH				LR	LR	
	comp=N,150nm,19.0s					
LZH				LR	LR	
	comp=E,130nm,19.2s					
LZH				LR	LR	
	comp=Z,190nm,20.1s					
WRA	Warramunga Arr	135.52	257	PKP	PKPdf	11 10 04.1 +0.2
	comp=Z,0.5nm,0.6s,baz=89,slow=2.9,SNR=8.2					
ASAR	Alice Springs	135.89	251	PKP	PKPdf	11 10 03.5 -1.1
	comp=Z,0.5nm,0.6s,baz=84,slow=2.2,SNR=5.1					
CMAR	Chiang Mai Arr	144.94	341	PKP	PKPbc	11 10 20.5 +0.1
	comp=Z,1.6nm,0.7s,baz=349,slow=3.6,SNR=11					

ISK ***18*** *10:51:32.8,39.10N×29.19E,h5km,ML2.7/7*
ISCJB ***18*** *10:51:33.5±0.5,39.11N±0.03×29.15E±0.04,h7km±4km, Error ellipse: s-maj=5.9km s-min=4.0km az=38.7*
CSEM ***18*** *10:51:33.6±0.1,39.12N×29.16E,h8km,ML2.7, Error ellipse: s-maj=3.2km s-min=2.1km az=116.0*
DDA ***18*** *10:51:34.1,39.13N×29.19E,h7km,Ml2.5*

ISC 18 10:51:33.8±0.9,39.11N±0.02×29.16E±0.03,h9km±7km, n26,σ9̊38/40,Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SIMA	Simav-Kutahya	0.14	258	PG		Pg	10 51 36.8	-0.2
SIMA				SG		Sg	10 51 39.3	0.0
SIMA	Simav-Kutahya	0.14	258	*i* Pg		Pg	10 51 36.8	-0.2
SIMA				*i* Sg		Sg	10 51 39.3	0.0
GDZ	Gediz	0.25	95	*i* P		Pg	10 51 39.0	+0.1
GDZ				*i* S		Sg	10 51 42.9	+0.6
GDZ	Gediz	0.25	95	P		Pg	10 51 39.0	+0.1
GDZ				S		Sg	10 51 42.9	+0.6
TVSB	Tavsanli	0.41	35	PG		Pg	10 51 41.3	-0.6
TVSB				SG		Sg	10 51 46.9	-0.4
TVSB	Tavsanli	0.41	35	*i* Pg		Pg	10 51 41.3	-0.6
TVSB				*i* Sg		Sg	10 51 46.9	-0.4
KULA	Kula-Manisa	0.71	213	PG		Pg	10 51 47.1	-0.5
KULA				SG		Sg	10 51 56.5	-0.4
KULA	Kula-Manisa	0.71	213	*e*Pg		Pg	10 51 47.1	-0.5
KULA				*e*Sg		Sg	10 51 56.5	-0.4
MANT	Manisa	0.78	217	*i* P		Pg	10 51 48.6	-0.2
MANT				*i* S		Sg	10 51 58.6	-0.5
MANT	Manisa	0.78	217	P		Pg	10 51 48.6	-0.2
MANT				S		Sg	10 51 58.6	-0.5
KHAL	Karahalli	0.79	161	*i* P		Pb	10 51 49.7	+0.1
KHAL				*i* S		Sb	10 52 00.1	-0.3
KHAL	Karahalli	0.79	161	P		Pb	10 51 49.7	+0.1
KHAL				S		Sb	10 52 00.1	-0.3
ORLT	Orhaneli	0.95	348	PG		Pg	10 51 51.9	-0.3
ORLT	Orhaneli	0.95	348	*e*Pg		Pg	10 51 51.9	-0.3
BALB	Balikesir	1.12	298	PN		Pg	10 51 55.5	+0.1
BALB	Balikesir	1.12	298	*e*Pn		Pg	10 51 55.5	+0.1
STEP	BALIKESIR_Sava	1.15	284	*i* P		Pn	10 51 56.7	+0.6
STEP	BALIKESIR_Sava	1.15	284	P		Pn	10 51 56.7	+0.6
CAVI	Cavuskoy	1.21	26	PN		Pg	10 51 56.4	-0.6
CAVI				SN		Sn	10 52 13.7	+0.3
CAVI	Cavuskoy	1.21	26	*e*Pn		Pg	10 51 56.4	-0.6
CAVI				*e*Sn		Sn	10 52 13.7	+0.3
KCTX	Karacabey (Bur	1.31	332	PN		Pb	10 51 58.7	+0.2
KCTX	Karacabey (Bur	1.31	332	*e*Pn		Pb	10 51 58.7	+0.2
ADVT	Abdulvahap	1.39	18	PN		Pn	10 51 59.5	+0.2
ADVT	Abdulvahap	1.39	18	*e*Pn		Pn	10 51 59.5	+0.2
YLV	Yalova	1.46	6	PN		Pn	10 52 00.4	0.0
YLV	Yalova	1.46	6	*e*Pn		Pn	10 52 00.4	0.0

IDC 18 11:04:16.6±21.0,6.23S×146.25E,h0km,mb3.3/2, mb1 3.5/3,mb1mx3.2/52,mbtmp3.4/3,ML3.5/1,Error ellipse: s-maj=349.9km s-min=99.4km az=176.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	3.28	164	Sn		Sg	11 06 02.6	+0.6
	0.5nm,0.3s,baz=285,slow=16,SNR=3.1							
WRA	Warramunga Arr	17.88	219	P		P	11 08 27.9	+0.3
	0.2nm,0.3s,baz=46,slow=12,SNR=18							
ASAR	Alice Springs	21.01	213	P		P	11 09 00.8	-1.2
	0.3nm,0.6s,baz=47,slow=7.2,SNR=4.1							
STKA	Stephens Creek	25.88	189	P		P	11 09 50.6	+0.4
	1.6nm,0.7s,baz=331,slow=10,SNR=4.3							

IDC 18 11:05:11.3±2.3,53.47N×87.62E,h0km,mb1 3.2/3, mb1mx2.9/73,mbtmp3.2/3,ML3.0/3,3C-1D,Error ellipse: s-maj=20.2km s-min=12.7km az=66.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.73	287	*i*			11 17 22.4	
	baz=104,slow=352,SNR=4.6							
ZAA0	Zalesovo Array	1.73	287	⇑Pg		Pn	11 05 40.5	-2.1
	6.2nm,0.5s							
ZAA0				⇓Lg		Lg	11 06 06.7	
	10nm,0.5s							
ZALV	Zalesovo Beam	1.73	287	Pn		Pn	11 05 40.9	-1.8
	3.3nm,0.3s,baz=105,slow=11,SNR=14							
ZALV				Lg		Lg	11 06 06.2	
	6.7nm,0.3s,baz=104,slow=25,SNR=16							
KURBB	Kurchatov Arra	6.29	247	Pn		Pn	11 06 45.5	+0.3
	0.2nm,0.3s,baz=62,slow=14,SNR=7.3							
KURBB				Sn		Sn	11 07 56.9	-0.7
	0.1nm,0.3s,baz=61,slow=24,SNR=3.2							
KURBB				Lg		Lg	11 08 31.4	
	0.2nm,0.3s,baz=63,slow=34,SNR=6.4							
MK31	Makanchi Array	7.50	209	⇑Pn		Pn	11 07 01.1	-0.8
	0.5nm,0.6s,baz=27,slow=13,SNR=4.0							
MK31				⇑Lg		Lg	11 09 11.7	
	2.1nm,0.7s,baz=37,slow=30,SNR=3.7							
MKAR	Makanchi Array	7.50	209	Pn		Pn	11 07 02.6	+0.7
	0.3nm,0.3s,baz=27,slow=13,SNR=9.5							
MKAR				Sn		Sn	11 08 28.1	+0.4
	0.2nm,0.3s,baz=50,slow=27,SNR=3.8							
MKAR				Lg		Lg	11 09 10.0	
	0.2nm,0.3s,baz=26,slow=32,SNR=5.9							
BVAR	Borovoye Array	10.34	274	Pn		Pn	11 07 41.1	+0.4
	0.2nm,0.3s,baz=76,slow=15,SNR=4.0							
BVAR				Sn		Sn	11 09 30.7	-6.5
	0.3nm,0.3s,baz=83,slow=25,SNR=3.0							

NIED ***18*** *11:09:00,44.20N×148.00E,h86km,Mw4.1 Best double couple: M0 1.43000×10^15 NP1:φ=148.00000°,δ=28.00000°, λ=8.00000°. NP2:φ=51.00000°,δ=86.00000°,λ=118.00000°.*
IDC ***18*** *11:09:30.8±2.8,44.53N×147.84E,h76km±24km,mb3.9/31, mb1 4.0/34,mb1mx3.9/72,mbtmp4.2/34,MS2.5/1, Ms1 2.5/1,ms1mx2.1/55,Error ellipse: s-maj=15.1km s-min=11.3km az=163.0*
MOS ***18*** *11:09:31.5±1.1,44.43N×148.02E,h104km,mb4.3/30, Error ellipse: s-maj=8.3km s-min=6.3km az=83.2*

ISCJB ***18*** *11:09:31.9±0.4,44.39N±0.04×147.96E±0.05, h103km±3km,mb4.2/65,Error ellipse: s-maj=7.1km s-min=4.1km az=138.3*
SKHL ***18*** *11:09:32.7±0.4,44.34N×148.04E,h103km±4km,mb5.5/8, msh6.1/8*
JMA ***18*** *11:09:33.8±0.3,44.18N×147.98E,h83km,M4.3*
NEIC ***18*** *11:09:33.5±0.8,44.50N×147.88E,h100km±7km,mb4.5/28, Error ellipse: s-maj=9.9km s-min=5.5km az=155.0*

ISC 18 11:09:31.5±0.6,44.40N±0.04×148.00E±0.05,h90km±3km, n161,σ1̊81/197,mb4.3/65,10C-5D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
KUR	Kuril'sk	0.84	353	eP		Pn	11 09 51.0	+1.6
KUR				AMB		AMB	11 09 51.4	
	1μm,0.1s							
KUR				eS		Sn	11 10 04.6	+1.8
KUR				A		A	11 10 05.1	
	8μm,0.2s							
KUR				A		A	11 10 05.1	
	7μm,0.2s							
KUR	Kuril'sk	0.84	353	ePN		Pn	11 09 50.9	+1.6
KUR				eS		Sn	11 10 04.6	+1.8
KUR				pmax		pmax		
	comp=Z,2μm,0.4s							
KUR				pmax		pmax		
	comp=E,498nm,0.1s							
KUR				pmax		pmax		
	comp=N,480nm,0.2s							
KUR				smax		smax		
	comp=N,7μm,0.3s							
KUR				smax		smax		
	comp=E,6μm,0.5s							
SHO	Shikotan	0.99	239	eP		Pn	11 09 51.5	+0.5
SHO				AMB		AMB	11 09 52.5	
	comp=E,510nm,0.4s							
SHO				eS		Sn	11 10 05.5	-0.2
SHO				A		A	11 10 06.1	
	comp=E,8μm,0.3s							
SHO				A		A	11 10 06.1	
	comp=E,5μm,0.3s							
SHO	Shikotan	0.99	239	ePN		Pn	11 09 51.3	+0.3
SHO				eS		Sn	11 10 05.2	-0.5
SHO				pmax		pmax		
	comp=N,156nm,0.3s							
SHO				pmax		pmax		
	comp=E,207nm,0.3s							
SHO				pmax		pmax		
	comp=Z,517nm,0.3s							
SHO				smax		smax		
	comp=E,6μm,0.4s							
SHO				smax		smax		
	comp=N,2μm,0.2s							
YUK	Yuzh-Kuril'sk	1.58	258	eP		Pn	11 09 59.9	+1.8
YUK				AMB		AMB	11 10 00.9	
	comp=N,530nm,0.2s							
YUK				eS		Sn	11 10 20.2	+1.8
YUK				A		A	11 10 21.5	
	comp=N,2μm,0.3s							
YUK				A		A	11 10 21.5	
	comp=N,4μm,0.3s							
YUK	Yuzh-Kuril'sk	1.58	258	*c* iPN		Pn	11 10 00.0	+1.8
YUK				*i* S		Sn	11 10 20.3	+1.8
YUK				pmax		pmax		
	comp=Z,4563μm,0.2s							
YUK				pmax		pmax		
	comp=N,576nm,0.2s							
YUK				pmax		pmax		
	comp=E,673nm,0.2s							
YUK				smax		smax		
	comp=N,1μm,0.1s							
YUK				smax		smax		
	comp=E,3μm,0.3s							
LAGR	Lagunnoye	1.63	259	eP		Pn	11 10 00.6	+1.8
LAGR				AMB		AMB	11 10 01.5	
	comp=E,2μm,0.1s							
LAGR				eS		Sn	11 10 21.5	+2.0
LAGR				A		A	11 10 26.6	
	comp=E,3μm,0.3s							
LAGR				A		A	11 10 26.6	
	comp=E,4μm,0.3s							
LAGR	Lagunnoye	1.63	259	ePN		Pn	11 10 00.2	+1.4
LAGR				eS		Sn	11 10 21.8	+2.3
LAGR				pmax		pmax		
	comp=N,578nm,0.1s							
LAGR				pmax		pmax		
	comp=E,82nm,0.1s							
LAGR				pmax		pmax		
	comp=Z,2μm,0.1s							
LAGR				smax		smax		
	comp=N,4μm,0.3s							
LAGR				smax		smax		
	comp=E,3μm,0.3s							
GRPR	Tuman	1.65	257	eP		Pn	11 10 00.9	+1.8
GRPR				AMB		AMB	11 10 03.9	
	comp=E,1μm,0.2s							
GRPR				eS		Sn	11 10 21.8	+1.7
GRPR				A		A	11 10 23.0	
	comp=E,3μm,0.4s							
GRPR				A		A	11 10 23.0	
	comp=E,1μm,0.4s							
GRPR	Tuman	1.65	257	ePN		Pn	11 10 00.9	+1.8
GRPR				eS		Sn	11 10 20.8	+0.7
GRPR				pmax		pmax		
	comp=Z,1μm,0.2s							
GRPR				pmax		pmax		
	comp=N,842nm,0.1s							
GRPR				pmax		pmax		
	comp=E,333nm,0.1s							
GRPR				smax		smax		
	comp=N,3μm,0.4s							
GRPR				smax		smax		
	comp=E,1μm,0.2s							
GLVR	Golovnino	1.91	251	eP		Pn	11 10 04.3	+1.9
GLVR				AMB		AMB	11 10 05.9	
	comp=E,353nm,0.1s							
GLVR				eS		Sn	11 10 28.5	+2.6
GLVR				A		A	11 10 32.8	
	comp=E,3μm,0.3s							
GLVR				A		A	11 10 32.8	
	comp=E,1μm,0.3s							
GLVR	Golovnino	1.91	251	ePN		Pn	11 10 04.3	+1.9
GLVR				eS		Sn	11 10 28.5	+2.6
GLVR				pmax		pmax		
	comp=Z,353nm,0.1s							
GLVR				smax		smax		
	comp=N,3μm,0.3s							
GLVR				smax		smax		
	comp=E,1μm,0.2s							
NEM2	Nemuro 2	1.93	239	P		Pn	11 10 03.7	+1.0
NEM2				eS		Sn	11 10 25.9	-0.6
JRA	Rausu	2.12	259	P		Pn	11 10 07.5	+2.3
JNK	Nakash	2.50	252	P		Pn	11 10 12.2	+1.9
JNK				eS		Sn	11 10 41.0	+0.9
JAK	Akkeshi	2.77	241	P		Pn	11 10 14.9	+1.0
JAK				eS		Sn	11 10 46.4	-0.1
JTKR	Abashiri--Toko	2.98	263	P		Pn	11 10 19.0	+2.4
JAR	Ashorobuto	3.25	252	P		Pn	11 10 23.0	+2.7
JAR				eS		Sn	11 11 00.6	+2.5
JCH	Churui	3.81	244	P		Pn	11 10 29.3	+1.4
JCH				eS		Sn	11 11 10.9	-0.8
JKK2	Kamakawa 2	3.82	264	P		Pn	11 10 30.8	+2.8
ASAJ	Asahikawa	3.89	268	P		Pn	11 10 32.0	+3.0
	comp=E,11nm,0.3s,baz=75,slow=20,SNR=145							
ASAJ	Asahikawa	3.89	268	ePn		Pn	11 10 31.9	+3.0
JSE	Soyaes	3.91	280	P		Pn	11 10 31.7	+2.6
JFR	Furan	4.11	254	P		Pn	11 10 34.5	+2.6
ERM	Erimo	4.27	238	eP		Pn	11 10 36.8	+2.8
ERM	Erimo	4.27	238	ePn		Pn	11 10 36.9	+2.9
ERM	Erimo	4.27	238	*d* iPN		Pn	11 10 36.8	+2.8
JNBK	Urakawa-nobuka	4.37	243	P		Pn	11 10 36.3	+0.8
JNBK				eS		Sn	11 11 25.4	+0.1
JWK2	Keihoku	4.44	284	P		Pn	11 10 40.2	+

comp=Z,20nm,0.4s
YSS smax smax
comp=N,80nm,0.9s
YSS smax smax
comp=E,60nm,0.9s
JEW Eniwo 5.00 254 P **Pn 11 10 46.9 +2.8**
JEW *e*S **Sn 11 11 42.9 +2.3**
JKB Kayabe 5.68 246 P **Pn 11 10 54.3 +1.0**
JKB *e*S **Sn 11 11 54.3 -2.8**
JOT Ohata 5.93 242 P **Pn 11 10 56.8 +0.1**
JOT *e*S **Sn 11 11 58.9 -4.2**
UGL Uglegorsk 6.21 321 *e*P **Pn 11 11 04.1 +3.7**
JANG Nango 6.26 232 P **Pn 11 11 00.7 -0.5**
JANG *e*S **Sn 11 12 05.7 -5.6**
TYV Tymovskoe 7.41 333 *e*P **Pn 11 11 20.2 +3.4**
TYV *e*S **Sn 11 12 39.8 +0.7**
SKR Severo-Kuril's 8.35 38 *e*P **Pn 11 11 31.1 +1.5**
SKR Severo-Kuril's 8.35 38 *e*PN **Pn 11 11 31.0 +1.5**
SKR *e* 11 13 05.0
PETK Petropavlovsk- 10.81 33 P **Pn 11 12 02.9 -0.1**
comp=E,0.5nm,0.3s,baz=194,slow=10,SNR=4.2
MAJO Matsushiro 10.82 227 *e*P **Pn 11 12 04.3 +1.0**
MAJO Matsushiro 10.82 227⇑*e*PN **Pn 11 12 05.5 +2.2**
MJAR Matsushiro Arr 10.82 227 P **Pn 11 12 02.8 -0.5**
comp=E,0.1nm,0.3s,baz=25,slow=13,SNR=4.6
KLR Kul'dur 12.13 299⇓*e*PN **Pn 11 12 23.7 +2.7**
MA2 Magadan 15.30 5 P **Pn 11 13 00.8 -1.4**
baz=195,slow=16,SNR=2.8
KSRS Korea Array 16.66 252 LR LR 11 19 07.7
comp=E,15nm,20.1s,baz=165,slow=35
SEY Seymchan 18.75 6⇑*e*P **Pn 11 13 45.2 +0.9**
YAK Yakutsk 20.66 335 P **P 11 14 00.6 -3.0**
comp=E,22nm,0.3s,baz=42,slow=2.0,SNR=8.9
YAK Yakutsk 20.66 335 *e*P **P 11 14 01.0 -2.6**
comp=E,41nm,0.7s
YAK Yakutsk 20.66 335 *e*P **P 11 14 00.5 -3.1**
YAK *e*S **S 11 17 47.5 -1.7**
YAK *e**SS **sS 11 18 12.9 -5.3**
YAK *e* 11 25 16.7
YAK pmax pmax
comp=Z,13nm,0.7s
YAK smax smax
comp=N,34nm,2.5s
YAK smax smax
comp=E,15nm,2.0s
BILL Bilibino 25.57 16⇓*i*P **P 11 14 49.8 -1.8**
BILL *e**PP **sP 11 15 20.8 -1.5**
BILL *e* 11 15 35.8
BILL *e*S **S 11 19 05.5 -7.1**
BILL pmax pmax
comp=Z,2.0nm,0.9s
NJ2 Nanjing 25.86 251 *e*P **P 11 14 55.3 +0.7**
NJ2 pmax pmax
comp=Z,11nm,0.6s
YOJ Yonaguni jima 28.45 234 *e*P **P 11 15 17.6 -0.3**
comp=Z,128nm,1.8s
YOJ Yonaguni jima 28.45 234 *e*P **P 11 15 17.6 -0.3**
YOJ pmax pmax
comp=Z,128nm,1.8s
SONM Songino Array 28.80 292 P **P 11 15 21.8 +0.9**
comp=Z,0.8nm,0.4s,baz=92,slow=6.9,SNR=2.5
TIXI Tiksi 28.86 348⇓*e*P **P 11 15 19.1 -1.9**
TIXI pmax pmax
comp=Z,2.0nm,1.0s
H11N2 WAKE ISLAND Hy 29.20 141 T T 11 46 22.0
baz=332,slow=76,SNR=158
H11N1 WAKE ISLAND Hy 29.22 141 T T 11 46 26.4
baz=332,slow=76,SNR=163
H11N3 WAKE ISLAND Hy 29.22 141 T T 11 46 27.6
baz=332,slow=76,SNR=159
H11S1 WAKE ISLAND Hy 30.19 143 T T 11 47 37.7
baz=333,slow=76,SNR=285
H11S3 WAKE ISLAND Hy 30.20 143 T T 11 47 32.8
baz=333,slow=76,SNR=196
H11S2 WAKE ISLAND Hy 30.21 143 T T 11 47 38.8
baz=333,slow=76,SNR=224
LZH Lanzhou 34.37 272 *e*P **P 11 16 11.8 +1.9**
LZH pP pP 11 16 33.6 +3.1
LZH sP sP 11 16 47.6 +6.7
LZH pmax pmax
comp=Z,25nm,1.0s
GTA Gaotai 35.80 279 *e*P **P 11 16 22.8 +0.7**
GTA pP pP 11 16 48.4 +5.6
GTA sP sP 11 17 00.6 +7.5
GTA pmax pmax
comp=Z,5.0nm,0.8s
CAST Castle Rocks 38.34 39 *e*P **P 11 16 45.3 +2.1**
comp=Z,3.3nm,0.7s
KDAK Kodiak Island 38.36 48 P **P 11 16 44.1 +0.7**
comp=Z,6.6nm,1.0s,baz=249,slow=8.6,SNR=2.5
KTH Kantishna Hill 38.86 39 *e*P **P 11 16 49.9 +2.2**
comp=Z,4.5nm,0.8s
COLD Coldfoot 39.28 33 *e*P **P 11 16 52.6 +1.6**
comp=Z,3.4nm,1.1s
TOLK Toolik Lake Re 39.62 31 *e*P **P 11 16 55.2 +1.4**
comp=Z,16nm,1.8s
MDM Murphy Dome 40.03 36 *e*P **P 11 16 58.9 +1.6**
comp=Z,3.0nm,0.7s
WRH Wood River Hil 40.10 37 *e*P **P 11 16 59.4 +1.6**
comp=Z,4.7nm,1.2s
COLA College 40.19 37 *e*P **P 11 16 59.0 +0.5**
comp=Z,8.0nm,1.0s
COLA College 40.19 37 *e*P **P 11 16 59.0 +0.5**
COLA pmax pmax
comp=Z,8.0nm,1.0s
DHY Denali Highway 40.48 39 *e*P **P 11 17 02.2 +1.1**
comp=Z,11nm,1.6s
HDA Harding Lake 40.59 37 *e*P **P 11 17 02.8 +0.9**
comp=Z,4.9nm,0.7s
ILAR Eielson Array 40.60 37 P **P 11 17 02.9 +0.9**
comp=Z,2.3nm,0.7s,baz=271,slow=7.7,SNR=19
ILB Eielson Array 40.60 37 *e*P **P 11 17 03.1 +1.2**
IL1 Eielson Array 40.60 37 *e*P **P 11 17 03.5 +1.5**
DGZ Jazzator, Alta 40.63 300⇑*e*P **P 11 17 03.8 +1.3**
ZALV Zalesovo Beam 41.10 307 P **P 11 17 06.2 0.0**
comp=Z,0.6nm,0.3s,baz=88,slow=7.4,SNR=2.8
ZALV PcP **PcP 11 19 04.0 0.0**
comp=Z,1.0nm,0.5s,baz=134,slow=4.2,SNR=2.9
FYU Fort Yukon 41.23 34 *e*P **P 11 17 09.3 +2.3**
comp=Z,22nm,1.7s
NVS Novosibirsk 41.80 308 *e*P **P 11 17 15.1 +3.3**
DOT Dot Lake 41.92 38 *e*P **P 11 17 13.6 +0.9**
comp=Z,5.9nm,0.7s
SCRK Sand Creek 41.92 38 *e*P **P 11 17 13.7 +0.8**
comp=Z,8.9nm,1.6s
MENT Mentasta 42.15 39 *e*P **P 11 17 16.8 +2.1**
comp=Z,14nm,1.7s
WMQ Urumqi 42.43 291 P **P 11 17 19.1 +1.9**
WMQ pmax pmax
comp=Z,23nm,0.9s
WMQ pmax pmax
comp=Z,290nm,4.3s
WMQ LR LR
comp=N,100nm,15.3s
WMQ LR LR
comp=E,230nm,33.1s
WMQ LR LR
comp=Z,73nm,17.9s
EGAK Eagle 43.05 36 *e*P **P 11 17 22.6 +0.8**
comp=Z,9.9nm,1.5s
MK31 Makanchi Array 44.83 297 *e*P **P 11 17 37.2 +0.8**
MK31 Makanchi Array 44.83 297 *e*P **P 11 17 37.2 +0.8**
MKAR Makanchi Array 44.83 297 P **P 11 17 37.1 +0.7**
comp=Z,3.0nm,0.7s,baz=77,slow=8.6,SNR=31
MKAR PcP **PcP 11 19 16.0 -0.7**
comp=Z,0.5nm,0.6s,baz=78,slow=3.8,SNR=3.9
MKAR Makanchi Array 44.83 297 *e*P **P 11 17 37.2 +0.7**
comp=Z,26nm,0.6s
MKAR PcP **PcP 11 19 16.0 -0.7**
MK01 Makanchi Array 44.84 297 *e*P **P 11 17 36.9 +0.4**
MAKZ Makanchi 45.03 297 *e*P **P 11 17 39.2 +1.3**
comp=Z,3.3nm,0.6s
MAKZ Makanchi 45.03 297 *e*P **P 11 17 39.2 +1.3**
MAKZ pmax pmax
comp=Z,3.0nm,0.6s
HYT Haines Junctio 45.44 42 *e*P **P 11 17 43.3 +2.2**
comp=Z,7.7nm,0.9s
INK Inuvik 45.54 31 P **P 11 17 42.9 +1.3**
comp=Z,1.9nm,0.4s,baz=296,slow=8.1,SNR=39
INK PcP **PcP 11 19 19.9 +1.2**
comp=Z,0.4nm,0.7s,baz=211,slow=12,SNR=2.1
INK Inuvik 45.54 31 *e*P **P 11 17 42.5 +0.9**
INK Inuvik 45.54 31 *e*P **P 11 17 42.5 +0.9**
comp=Z,5.4nm,1.3s
INK PcP **PcP 11 19 19.9 +1.2**
KURK Kurchatov 45.68 304 *e*P **P 11 17 43.3 +0.3**
KURK Kurchatov 45.68 304 P **P 11 17 43.2 +0.3**
KURK PcP **PcP 11 19 20.5 +1.0**
KURK Kurchatov 45.68 304*d i*P **P 11 17 43.3 +0.3**
KURK *i* *PP **sP 11 18 11.4 -3.2**
KURK pmax pmax
comp=Z,3.0nm,0.6s
KURBB Kurchatov Arra 45.77 304 P **P 11 17 43.2 -0.5**
comp=Z,2.2nm,0.4s,baz=71,slow=9.0,SNR=6.6
KURBB PcP **PcP 11 19 20.5 +0.7**
comp=Z,0.6nm,0.2s,baz=74,slow=3.5,SNR=3.7
BVAR Borovoye Array 49.57 309 P **P 11 18 12.1 -0.9**
comp=Z,0.6nm,0.4s,baz=69,slow=8.1,SNR=4.7
BVAR PcP **PcP 11 19 34.4 +1.0**
comp=Z,0.3nm,0.3s,baz=51,slow=5.7,SNR=3.3
BRVK Borovoye 49.62 309 *e*P **P 11 18 13.8 +0.4**
BRVK Borovoye 49.62 309⇑*e*P **P 11 18 13.8 +0.4**
BRVK pmax pmax
comp=Z,1.0nm,1.0s
KDJ Kajisay 50.12 294 *e*P **P 11 18 18.9 +1.2**
comp=Z,6.8nm,1.0s
AAK Ala-Archa 51.63 296 P **P 11 18 28.9 -0.1**
comp=Z,2.2nm,0.4s,baz=152,slow=6.5,SNR=6.7
AAK Ala-Archa 51.63 296 *e*P **P 11 18 29.5 +0.6**
AAK Ala-Archa 51.63 296 *e*P **P 11 18 29.9 +1.0**
comp=Z,6.6nm,1.3s
AAK Ala-Archa 51.63 296*ce*P **P 11 18 29.5 +0.6**
AAK pmax pmax
comp=Z,5.0nm,1.2s
KK31 Karatay Array 53.95 298 *e*P **P 11 18 46.5 +0.7**
KK31 Karatay Array 53.95 298 *e*P **P 11 18 46.5 +0.7**
KKAR Karatay Array 53.95 298 *e*P **P 11 18 46.6 +0.7**
KKAR Karatay Array 53.95 298 *e*P **P 11 18 46.6 +0.7**
RES Resolute Bay 54.17 17 *e*P **P 11 18 46.4 -0.5**
comp=Z,5.5nm,0.6s
RES Resolute Bay 54.17 17 *e*P **P 11 18 46.4 -0.5**
RES pmax pmax
comp=Z,5.0nm,0.6s
SPITS Spitsbergen Ar 54.27 349 P **P 11 18 45.6 -1.9**
comp=Z,5.0nm,0.9s,baz=17,slow=9.0,SNR=5.4
ARU Arti 54.30 317 P **P 11 18 46.0 -2.1**
comp=Z,4.6nm,0.3s,baz=53,slow=3.0,SNR=3.9
ARU Arti 54.30 317*c i*P **P 11 18 46.9 -1.2**
ARU *PP **pP 11 19 09.1 -1.0**
ARU 11 19 49.7
ARU 11 20 47.1
ARU S **S 11 26 17.4 -1.3**
ARU SS **SS 11 29 56.2 -4.9**
ARU pmax pmax
comp=Z,3.0nm,0.6s
YKA Yellowknife Ar 54.92 34 P **P 11 18 53.6 +1.2**
comp=Z,0.5nm,0.3s,baz=301,slow=7.0,SNR=16
ABKAR Akbulak array 57.14 309 *e*P **P 11 19 08.2 -0.3**
comp=Z,47nm,0.4s
AKTO Aktyubinsk 57.58 311 P **P 11 19 11.9 +0.3**
comp=Z,0.9nm,0.4s,baz=78,slow=8.4,SNR=5.4
ARCES ARCESS Array B 58.86 340 P **P 11 19 18.7 -1.5**
comp=Z,0.6nm,0.4s,baz=48,slow=8.0,SNR=8.0
FIA1 FINESS Array S 64.58 333 *e*P **P 11 19 57.3 -1.4**
FINES FINESS Array B 64.58 333 P **P 11 19 57.4 -1.3**
comp=Z,5.9nm,0.5s,baz=39,slow=7.3,SNR=40
GEYT Alibeck 64.67 299 P **P 11 19 57.9 -1.8**
comp=Z,3.6nm,0.8s,baz=0.0,slow=3.0,SNR=5.1
OBN Obninsk 65.16 324 *e*P **P 11 20 02.4 -0.1**
OBN Obninsk 65.16 324⇑*e*P **P 11 20 02.4 -0.1**
OBN *e**PP **pP 11 20 29.7 +4.5**
OBN *e*S S 11 28 58.1 +20
OBN pmax pmax
comp=Z,17nm,1.3s
WRA Warramunga Arr 65.23 194 P **P 11 20 04.1 +0.8**
comp=Z,0.3nm,0.7s,baz=16,slow=7.0,SNR=3.5
NVAR Mina Array Bea 66.72 59 P **P 11 20 14.3 +1.1**
comp=Z,0.3nm,0.7s,baz=300,slow=7.2,SNR=2.9
ASAR Alice Springs 68.95 194 P **P 11 20 28.1 +1.3**
comp=Z,0.2nm,0.8s,baz=1.1,slow=4.9,SNR=3.5
PDAR Pinedale Array 69.03 50 P **P 11 20 27.1 -0.5**
comp=Z,0.2nm,0.5s,baz=259,slow=1.8,SNR=2.7
NB2 NORSAR Subarra 69.22 339 P **P 11 20 27.1 -1.1**
comp=Z,1.7nm,0.5s,baz=30,slow=6.5
NOA NORSAR Array B 69.22 339 P **P 11 20 27.4 -0.8**
comp=Z,1.6nm,0.4s,baz=32,slow=6.6,SNR=18
HFS Hagfors 69.33 337 P **P 11 20 27.7 -1.2**
comp=Z,2.4nm,0.5s,baz=52,slow=5.8,SNR=14
JLU Jordanelle 69.39 53 *e*P **P 11 20 30.3 +0.5**
KIV Kislovodsk 69.79 312 *e*P **P 11 20 34.1 +2.0**
comp=Z,15nm,0.8s
KIV Kislovodsk 69.79 312 *e*P **P 11 20 33.9 +1.8**
KIV pmax pmax
comp=Z,18nm,1.1s
KBZ Khabaz 69.83 312 P **P 11 20 31.9 -0.3**
comp=Z,7.3nm,0.8s,baz=60,slow=4.4,SNR=18
ZEI Tsey 69.92 311 *e*P **P 11 20 32.6 -0.4**
ZEI pmax pmax
comp=Z,4.0nm,0.7s
ULM Lac du Bonnet 70.61 38 P **P 11 20 37.1 +0.2**
comp=Z,0.8nm,0.4s,baz=270,slow=5.1,SNR=3.6
AKASG Malin Array Be 71.42 324 P **P 11 20 41.7 0.0**
comp=Z,1.5nm,0.4s,baz=38,slow=6.2,SNR=10
AKBB Malin Array Si 71.42 324 *e*P **P 11 20 42.2 +0.5**
comp=Z,13nm,1.3s
AKBB Malin Array Si 71.42 324 *e*P **P 11 20 42.2 +0.5**
AKBB pmax pmax
comp=Z,13nm,1.3s
KIEV Kiev 71.43 324 *e*P **P 11 20 41.8 0.0**
KIEV Kiev 71.43 324 *e*P **P 11 20 42.2 +0.4**
comp=Z,13nm,1.3s
KIEV Kiev 71.43 324*c i*P **P 11 20 41.8 0.0**
KIEV pmax pmax
comp=Z,7.0nm,1.1s
S22A 4UR Ranch, Cre 73.96 53 *e*P **P 11 20 58.3 +0.9**
comp=Z,2.7nm,0.8s
BUR08 Bucovina Ar. S 75.46 324 *e*P **P 11 21 06.4 +0.8**
BUR04 Bucovina Ar. S 75.48 324 *e*P **P 11 21 06.1 +0.3**
MLR Muntele Rosu 76.83 322 P **P 11 21 14.3 +0.9**
comp=Z,0.7nm,0.3s,baz=317,slow=3.3,SNR=6.2
CLL Collm 77.02 333 *e*P **P 11 21 14.5 +0.3**
CLL Collm 77.02 333 *i* P **P 11 21 14.3 +0.1**
comp=Z,9.0nm,0.9s
CLL *e*pP **pP 11 21 40.0 +2.5**
CLL Collm 77.02 333 *e*P **P 11 21 14.5 +0.3**
comp=Z,8.1nm,0.8s
CLL Collm 77.02 333 *e*P **P 11 21 14.5 +0.3**
CLL pmax pmax
comp=Z,8.0nm,0.8s
BRTR Keskin Array B 77.54 314 P **P 11 21 18.1 +0.5**
comp=Z,0.7nm,0.5s,baz=67,slow=3.2,SNR=3.6
EKA Eskdalemuir Ar 77.68 344 P **P 11 21 18.2 +0.3**
comp=Z,1.8nm,0.6s,baz=21,slow=4.8,SNR=5.3
GERES GERESS Array B 78.89 331 P **P 11 21 24.7 -0.1**
comp=Z,1.8nm,0.4s,baz=35,slow=6.1,SNR=11
GEA0 GERESS Array S 78.90 331 *e*P **P 11 21 25.2 +0.4**
TXAR Lajitas Array 81.78 57 P **P 11 21 42.2 +1.6**
comp=Z,0.3nm,0.5s,baz=294,slow=3.7,SNR=8.0

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*CRAAG **18** 11:10:36.0, 36°.48N×2°.63W, Ml3.5*
*MDD **18** 11:10:37.7±0.3, 36°.50N×2°.61W, h8km±1km, mbLg3.3/45, Error ellipse: s-maj=3.2km s-min=2.2km az=129.0, PRXIMO*
MDD EMS: III INTENSIDAD MAXIMA.
*CSEM **18** 11:10:37.0±0.2, 36°.52N×2°.66W, h10km, ML3.8/24, Error ellipse: s-maj=4.0km s-min=2.7km az=150.0*
*LDG **18** 11:10:37.7±0.2, 36°.46N×2°.63W, h2km, Ml3.7/2, Error ellipse: s-maj=4.1km s-min=3.0km az=134.0*
*IGIL **18** 11:10:37.3, 36°.50N×2°.63W, h9km, ML2.9*
*INMG **18** 11:10:38.1±2.1, 36°.49N×2°.64W, h14km±5km, ML3.2, Error ellipse: s-maj=4.0km s-min=3.0km az=127.0*
ISC 18 11:10:35.3±1.1**, 36°.48N**±0°.02×**2°.63W**±0°.02**, h17**km±9km**,**
n186, σ**2.11**/263**, 1C-3D, Strait of Gibraltar**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
EXAM Almeria 0.40 21 Pg **Pb 11 10 45.0 +1.1**
SNR=7.9
EXAM Lg Lg 11 10 49.5
SNR=7.9
EXAM Almeria 0.40 21 Pg **Pb 11 10 45.0 +1.1**
SNR=7.9
EXAM Lg Lg 11 10 49.5
SNR=7.9
EBER Berja 0.47 334 ⇓Pg **Pb 11 10 46.4 +1.2**
1μm,0.1s,SNR=18
EBER Lg Lg 11 10 52.8
2μm,0.2s,SNR=7.9
EBER Berja 0.47 334 Pg **Pb 11 10 46.4 +1.2**
1μm,0.1s,SNR=18
EBER Lg Lg 11 10 52.8
2μm,0.2s,SNR=7.9
ENIJ Nijar 0.60 35 ⇑Pg **Pb 11 10 48.5 +1.1**
521nm,0.2s,SNR=18
ENIJ Lg Lg 11 10 55.5
4μm,0.2s,SNR=7.9
ENIJ Nijar 0.60 35 Pg **Pb 11 10 48.5 +1.1**
521nm,0.2s,SNR=18
ENIJ Lg Lg 11 10 55.5
4μm,0.2s,SNR=7.9
EALB Alboran 0.63 211 Pg **Pn 11 10 49.8 +0.3**
642nm,0.3s,SNR=40
EALB Lg Lg 11 10 59.6
5μm,0.4s,SNR=23
EALB Alboran 0.63 211 Pg **Pn 11 10 49.8 +0.3**
642nm,0.3s,SNR=40
EALB Lg Lg 11 10 59.6
5μm,0.4s,SNR=23
ELGU Los Guajares, 0.89 296 Pg **Pn 11 10 53.7 +0.6**
503nm,0.1s,SNR=7.9
ELGU Lg Lg 11 11 06.0
9μm,0.2s,SNR=7.9
ELGU Los Guajares, 0.89 296 Pg **Pn 11 10 53.7 +0.6**
503nm,0.1s,SNR=7.9
ELGU Lg Lg 11 11 06.0
9μm,0.2s,SNR=7.9
EQUE Quentar 0.97 318 ⇓Pg **Pn 11 10 55.8 +1.5**
261nm,0.1s,SNR=18
EQUE Lg Lg 11 11 08.2
610nm,0.2s,SNR=19
EQUE Quentar 0.97 318 Pg **Pn 11 10 55.8 +1.5**
261nm,0.1s,SNR=18
EQUE Lg Lg 11 11 08.2
610nm,0.2s,SNR=19
GORA Gorafe 1.05 342 ⇓Pg **Pg 11 10 57.2 +1.5**
472nm,0.2s,SNR=18
GORA Lg Lg 11 11 12.0
398nm,0.2s,SNR=7.9
GORA Gorafe 1.05 342 Pg **Pg 11 10 57.2 +1.5**
472nm,0.2s,SNR=18
GORA Lg Lg 11 11 12.0
398nm,0.2s,SNR=7.9
EMLI Melilla 1.21 192 Pg **Pg 11 11 00.5 +1.9**
60nm,0.1s,SNR=7.9
EMLI Lg Lg 11 11 17.2
860nm,0.2s,SNR=7.9
EMEL Melilla 1.21 193 Pg **Pg 11 11 00.5 +1.8**
60nm,0.1s,SNR=7.9
EMEL Lg Lg 11 11 17.2
860nm,0.2s,SNR=7.9
MELI Melilla 1.21 192 Pg **Pg 11 10 59.5 +0.8**
MELI Lg Lg 11 11 17.3
191nm,0.2s,SNR=7.9
MELI Melilla 1.21 192 Pg **Pg 11 10 59.5 +0.8**
MELI Lg Lg 11 11 17.3
191nm,0.2s,SNR=7.9
EGOR Sierra Gorda, 1.34 298 Pg **Pg 11 11 02.1 +0.8**
14nm,0.2s,SNR=7.9
EGOR Lg Lg 11 11 20.1
670nm,0.3s,SNR=7.9
EGOR Sierra Gorda, 1.34 298 Pg **Pg 11 11 02.1 +0.8**
14nm,0.2s,SNR=7.9
EGOR Lg Lg 11 11 20.1
670nm,0.3s,SNR=7.9
EQES Quesada 1.36 345 Pg **Pg 11 11 03.0 +1.3**
71nm,0.3s,SNR=94
EQES Lg Lg 11 11 21.4
158nm,0.3s,SNR=8.7
EQES Quesada 1.36 345 Pg **Pg 11 11 03.0 +1.3**
71nm,0.3s,SNR=94
EQES Lg Lg 11 11 21.4
158nm,0.3s,SNR=8.7
SESP Santiago Espad 1.64 2 Pg **Pg 11 11 06.7 -0.2**
10nm,0.2s,SNR=7.9
SESP Lg Lg 11 11 29.8
316nm,0.2s,SNR=7.9
SESP Santiago Espad 1.64 2 Pg **Pg 11 11 06.7 -0.2**
10nm,0.2s,SNR=7.9
SESP Lg Lg 11 11 29.8
316nm,0.2s,SNR=7.9
CART Cartagena 1.71 49 Pn **Pn 11 11 04.7 +0.3**
CART Cartagena 1.71 49 Pn **Pn 11 11 04.7 +0.3**
EMIJ Mijas 1.73 273 Pn **Pn 11 11 04.2 -0.4**
41nm,0.3s,SNR=76
EMIJ Pg **Pg 11 11 09.4 +0.8**
19nm,0.1s,SNR=7.9
EMIJ Sn **Sn 11 11 26.6 +0.3**
91nm,0.2s,SNR=7.9
EMUR La Murta 1.76 39 Pn **Pn 11 11 06.3 +1.3**
7.7nm,0.2s,SNR=18
EMUR Pg **Pg 11 11 09.8 +0.7**
65nm,0.3s,SNR=7.9
EMUR Sn **Sb 11 11 29.0 +0.1**
347nm,0.4s,SNR=7.9
EMUR Lg Lg 11 11 33.4
267nm,0.4s,SNR=7.9
EMUR La Murta 1.76 39 Pn **Pn 11 11 06.3 +1.3**
7.7nm,0.2s,SNR=18
USTO Oran 1.84 113 P **Sn 11 11 27.0 -2.1**
EJIF Jimena Fronter 2.29 270 Pn **Pn 11 11 13.8 +1.5**
3.1nm,0.1s,SNR=7.9
EJIF Sn **Sn 11 11 42.3 +2.2**
75nm,1.3s,SNR=7.9
EJIF Lg Lg 11 11 51.9
107nm,1.1s,SNR=7.9
EJIF Jimena Fronter 2.29 270 Pn **Pn 11 11 13.8 +1.5**
3.1nm,0.1s,SNR=7.9
EJIF Sn **Sn 11 11 42.3 +2.2**
75nm,1.3s,SNR=7.9
EJIF Lg Lg 11 11 51.9
107nm,1.1s,SNR=7.9
EADA Adamuz 2.29 318 Pn **Pb 11 11 14.9 -1.3**
0.9nm,0.1s,SNR=7.9
EADA Pg **Pg 11 11 18.9 -0.4**
21nm,0.2s,SNR=115
EADA Sn **Sn 11 11 41.7 +1.5**
31nm,0.3s,SNR=7.9
EADA Lg Lg 11 11 50.6
259nm,0.4s,SNR=7.9
EADA Adamuz 2.29 318 Pn **Pb 11 11 14.9 -1.3**
0.9nm,0.1s,SNR=7.9
CEU Ceuta 2.29 256 Pn **Pn 11 11 12.8 +0.5**
CEU Ceuta 2.29 256 Pn **Pn 11 11 12.8 +0.5**
ECEU Ceuta 2.29 256 Pn **Pn 11 11 14.3 +1.8**
4.4nm,0.1s,SNR=20
ECEU Sn **Sb 11 11 42.9 -1.5**
24nm,0.3s,SNR=7.9
ECEU Lg Lg 11 11 51.4
30nm,1.3s,SNR=7.9
ECEU Ceuta 2.29 256 Pn **Pn 11 11 14.3 +1.8**
4.4nm,0.1s,SNR=20
ECEU Sn **Sb 11 11 42.9 -1.5**
24nm,0.3s,SNR=7.9
ECEU Lg Lg 11 11 51.4
30nm,1.3s,SNR=7.9
ETOB Tobarra 2.33 21 Pn **Pn 11 11 15.1 +2.2**
33nm,0.4s,SNR=45
ETOB Pg **Pg 11 11 19.7 -0.3**
32nm,0.4s,SNR=7.9
ETOB Sn **Sn 11 11 43.4 +2.2**
89nm,0.5s,SNR=6.1
ETOB Lg Lg 11 11 51.3
184nm,0.5s,SNR=7.9
ETOB Tobarra 2.33 21 Pn **Pn 11 11 15.1 +2.2**
33nm,0.4s,SNR=45
ALJ Aljibe 2.43 272 Pn **Pb 11 11 18.0 -0.6**
ALJ Aljibe 2.43 272 Pn **Pb 11 11 18.0 -0.6**
ESPR Espera 2.62 279 Pn **Pb 11 11 21.1 -0.7**
3.6nm,0.1s,SNR=9.2
ESPR Lg Lg 11 12 01.1
92nm,0.4s,SNR=7.9
ESPR Espera 2.62 279 Pn **Pb 11 11 21.1 -0.7**
3.6nm,0.1s,SNR=9.2
ESPR Lg Lg 11 12 01.1
92nm,0.4s,SNR=7.9
ECAB El Cabril 2.73 306 Pn **Pn 11 11 20.7 +2.2**
6.6nm,0.3s,SNR=12
ECAB Pg **Pg 11 11 27.9 +0.1**
55nm,0.4s,SNR=7.9
ECAB Sn **Sn 11 11 52.6 +1.5**
15nm,0.3s,SNR=7.9
ECAB Lg Lg 11 12 05.0
119nm,0.4s,SNR=7.6
ECAB El Cabril 2.73 306 Pn **Pn 11 11 20.7 +2.2**
6.6nm,0.3s,SNR=12
ECAB El Cabril 2.73 306 Pg **Pg 11 11 27.9 +0.1**
55nm,0.4s,SNR=7.9

ECAB					Sn	**Sn**	**11 11 52.6**	**+1.5**
	15nm,0.3s,SNR=7.9							
ECAB					Lg	Lg	11 12 05.0	
	119nm,0.4s,SNR=7.6							
AFON	**Font Roja**	**2.74**	**37**	Pg	**Pg**	**11 11 27.9**	**0.0**	
	3.2nm,0.9s,SNR=7.9							
AFON					Sn	**Sn**	**11 11 52.9**	**+1.4**
	16nm,1.9s,SNR=7.9							
AFON	**Font Roja**	**2.74**	**37**	Pg	**Pg**	**11 11 27.9**	**0.0**	
	3.2nm,0.9s,SNR=7.9							
AFON					Sn	**Sn**	**11 11 52.8**	**+1.4**
	16nm,1.9s,SNR=7.9							
PAB	**San Pablo**	**3.35**	**337**	Pn	**Pn**	**11 11 29.2**	**+2.2**	
	3.4nm,0.2s,SNR=7.9							
PAB					Pg	**Pg**	**11 11 39.2**	**-0.3**
	34nm,0.4s,SNR=7.9							
PAB					Sn	**Sn**	**11 12 07.4**	**+1.1**
	6.7nm,0.2s,SNR=4.0							
PAB					Lg	Lg	11 12 24.3	
	60nm,0.5s,SNR=7.9							
PAB	**San Pablo**	**3.35**	**337**	Pn	**Pn**	**11 11 29.2**	**+2.2**	
	3.4nm,0.2s,SNR=7.9							
ESDC	**Sonseca Array**	**3.36**	**342**	Pg	**Pg**	**11 11 39.0**	**-0.7**	
	baz=163,slow=18,SNR=7.9							
ESDC					Lg	Lg	11 12 24.3	
	baz=156,slow=34,SNR=7.9							
ESDC	**Sonseca Array**	**3.36**	**342**	Pg	**Pg**	**11 11 39.0**	**-0.7**	
	SNR=7.9							
ESDC					Lg	Lg	11 12 24.3	
	SNR=7.9							
EMIN	**Mina Concepcio**	**3.48**	**293**	Pn	**Pn**	**11 11 29.9**	**+1.2**	
	5.7nm,0.5s,SNR=13							
EMIN					Pg	**Pg**	**11 11 40.8**	**-1.1**
	0.1nm,1.4s,SNR=7.9							
EMIN					Sn	**Sn**	**11 12 10.6**	**+1.3**
	7.4nm,0.2s,SNR=7.9							
EMIN					Lg	Lg	11 12 29.4	
	4.3nm,3.4s,SNR=7.9							
EMIN	**Mina Concepcio**	**3.48**	**293**	Pn	**Pn**	**11 11 29.9**	**+1.2**	
	5.7nm,0.5s,SNR=13							
PBAR	**Barrancos**	**3.90**	**297**	*e*Pn	**Pn**	**11 11 36.8**	**+2.3**	
PBAR				*e*Sn	**Sn**	**11 12 20.5**	**+0.7**	
PBAR				A	A	11 12 51.6		
	70nm,0.5s							
PBAR	**Barrancos**	**3.90**	**297**	Pn	**Pn**	**11 11 36.8**	**+2.3**	
PBAR				Sn	**Sn**	**11 12 20.5**	**+0.7**	
	70nm,0.5s							
PBAR	**Barrancos**	**3.90**	**297**	Pn	**Pn**	**11 11 36.8**	**+2.3**	
PBAR				*e*Sn	**Sn**	**11 12 20.5**	**+0.7**	
	70nm,0.5s							
EGRO	**El Granado**	**4.02**	**287**	Pn	**Pn**	**11 11 37.9**	**+1.7**	
	6.3nm,0.3s,SNR=8.8							
EGRO					Sn	**Sn**	**11 12 22.9**	**0.0**
	10nm,0.3s,SNR=7.9							
EGRO					Lg	Lg	11 12 47.0	
	26nm,0.4s,SNR=7.9							
EGRO	**El Granado**	**4.02**	**287**	Pn	**Pn**	**11 11 37.9**	**+1.7**	
	6.3nm,0.3s,SNR=8.8							
EGRO					Sn	**Sn**	**11 12 22.9**	**0.0**
	10nm,0.3s,SNR=7.9							
EGRO					Lg	Lg	11 12 47.0	
	26nm,0.4s,SNR=7.9							
EIBI	**Ibiza**	**4.05**	**50**	Pn	**Pn**	**11 11 38.2**	**+1.7**	
	12nm,0.3s,SNR=8.9							
EIBI					Sn	**Sn**	**11 12 22.6**	**-0.9**
	15nm,0.3s,SNR=7.9							
EIBI	**Ibiza**	**4.05**	**50**	Pn	**Pn**	**11 11 38.2**	**+1.7**	
	12nm,0.3s,SNR=8.9							
EBAD	**Badajoz**	**4.15**	**304**	Pn	**Pn**	**11 11 39.5**	**+1.5**	
	5.5nm,0.3s,SNR=9.4							
EBAD					Pg	**Pg**	**11 11 53.0**	**-1.9**
	7.7nm,0.3s,SNR=7.9							
EBAD					Sn	**Sn**	**11 12 26.2**	**+0.1**
	6.6nm,0.1s,SNR=7.9							
EBAD					Lg	Lg	11 12 49.3	
	37nm,0.3s,SNR=7.9							
EBAD	**Badajoz**	**4.15**	**304**	Pn	**Pn**	**11 11 39.5**	**+1.5**	
	5.5nm,0.3s,SNR=9.4							
PVAQ	**Vaqueiros**	**4.18**	**284**	*e*Pn	**Pn**	**11 11 39.6**	**+1.3**	
PVAQ				*e*Sn	**Sn**	**11 12 26.4**	**-0.3**	
PVAQ				A	A	11 12 28.2		
	20nm,0.2s							
PVAQ	**Vaqueiros**	**4.18**	**284**	Pn	**Pn**	**11 11 39.6**	**+1.3**	
PVAQ				Sn	**Sn**	**11 12 26.4**	**-0.3**	
	20nm,0.2s							
PVAQ	**Vaqueiros**	**4.18**	**284**	Pn	**Pn**	**11 11 39.6**	**+1.3**	
PVAQ				Sn	**Sn**	**11 12 26.4**	**-0.3**	
	20nm,0.2s							
EMOS	**Mosqueruela**	**4.23**	**23**	Pn	**Pn**	**11 11 40.9**	**+1.7**	
	6.5nm,8.4s,SNR=7.9							
EMOS					Pg	**Pg**	**11 11 55.2**	**-1.2**
	3.1nm,3.1s,SNR=7.9							
EMOS					Sn	**Sn**	**11 12 28.1**	**-0.3**
	1.0nm,4.7s,SNR=7.9							
EMOS					Lg	Lg	11 12 53.0	
	20nm,0.6s,SNR=7.9							
EMOS	**Mosqueruela**	**4.23**	**23**	Pn	**Pn**	**11 11 40.9**	**+1.7**	
	6.5nm,8.4s,SNR=7.9							
EMOS					Lg	Lg	11 12 53.0	
	20nm,0.6s,SNR=7.9							
PBDV	**Barranco-do-Ve**	**4.32**	**282**	*e*Pn	**Pn**	**11 11 43.1**	**+2.9**	
PBDV				*e*Sn	**Sn**	**11 12 29.1**	**-1.1**	
PBDV				A	A	11 13 07.1		
	18nm,0.6s							
PBDV	**Barranco-do-Ve**	**4.32**	**282**	Pn	**Pn**	**11 11 43.1**	**+2.9**	
PBDV				Sn	**Sn**	**11 12 29.1**	**-1.1**	
	18nm,0.6s							
PBDV	**Barranco-do-Ve**	**4.32**	**282**	Pn	**Pn**	**11 11 43.1**	**+2.9**	
PBDV				*e*Sn	**Sn**	**11 12 29.1**	**-1.1**	
	18nm,0.6s							
GUD	**Guadarrama**	**4.32**	**344**	Pn	**Pn**	**11 11 42.3**	**+1.9**	
	0.5nm,0.1s,SNR=7.9							
GUD					Pg	**Pg**	**11 11 56.6**	**-1.5**
	24nm,0.6s,SNR=12							
GUD					Lg	Lg	11 12 56.4	
	37nm,0.5s,SNR=7.9							
GUD	**Guadarrama**	**4.32**	**344**	Pn	**Pn**	**11 11 42.3**	**+1.9**	
	0.5nm,0.1s,SNR=7.9							
ETOR	**Torete**	**4.36**	**6**	Pn	**Pn**	**11 11 43.4**	**+2.6**	
	3.9nm,0.3s,SNR=11							
ETOR					Pg	**Pg**	**11 11 56.8**	**-2.0**
	15nm,0.3s,SNR=7.9							
ETOR					Sn	**Sn**	**11 12 30.6**	**-0.6**
	1.4nm,1.0s,SNR=7.9							
ETOR					Lg	Lg	11 12 56.6	
	36nm,0.3s,SNR=7.9							
ETOR	**Torete**	**4.36**	**6**	Pn	**Pn**	**11 11 43.4**	**+2.6**	
	3.9nm,0.3s,SNR=11							
ETOR					Lg	Lg	11 12 56.7	
	36nm,0.3s,SNR=7.9							
PBEJ	**Beja**	**4.45**	**292**	*e*Pn	**Pn**	**11 11 44.0**	**+1.9**	
PBEJ				*e*Sn	**Sn**	**11 12 34.1**	**+0.6**	
PBEJ				A	A	11 13 04.5		
	20nm,0.4s							
PBEJ	**Beja**	**4.45**	**292**	Pn	**Pn**	**11 11 44.0**	**+1.9**	
PBEJ				Sn	**Sn**	**11 12 34.1**	**+0.6**	
	9.8nm,0.4s							
PBEJ	**Beja**	**4.45**	**292**	Pn	**Pn**	**11 11 44.0**	**+1.9**	
PBEJ				*e*Sn	**Sn**	**11 12 34.1**	**+0.6**	
	20nm,0.4s							
PCVE	**Castro Verde**	**4.47**	**286**	*e*Pn	**Pn**	**11 11 44.4**	**+2.0**	
PCVE	**Castro Verde**	**4.47**	**286**	Pn	**Pn**	**11 11 44.4**	**+2.0**	
PCVE	**Castro Verde**	**4.47**	**286**	Pn	**Pn**	**11 11 44.4**	**+2.0**	
EPLA	**Plasencia**	**4.49**	**324**	Lg	Lg	11 13 01.2		
	46nm,0.5s,SNR=7.9							
EPLA	**Plasencia**	**4.49**	**324**	Lg	Lg	11 13 01.2		
	46nm,0.5s,SNR=7.9							
PESTR	**Estremoz**	**4.60**	**303**	*e*Pn	**Pn**	**11 11 47.0**	**+2.9**	
PESTR				*e*Sn	**Sn**	**11 12 37.6**	**+0.5**	
PESTR				A	A	11 13 07.5		
	42nm,0.6s							
PESTR	**Estremoz**	**4.60**	**303**	*e*Pn	**Pn**	**11 11 47.0**	**+2.9**	
PESTR				*e*Sn	**Sn**	**11 12 37.6**	**+0.5**	
	42nm,0.6s							
EVO	**Evora**	**4.74**	**297**	*e*Pn	**Pn**	**11 11 48.5**	**+2.4**	
EVO				*e*Sn	**Sn**	**11 12 39.0**	**-1.7**	
EVO				A	A	11 13 15.5		
	34nm,0.4s							
EVO	**Evora**	**4.74**	**297**	Pn	**Pn**	**11 11 48.5**	**+2.4**	
EVO				Sn	**Sn**	**11 12 39.0**	**-1.7**	
	34nm,0.4s							
EVO	**Evora**	**4.74**	**297**	Pn	**Pn**	**11 11 48.5**	**+2.4**	
EVO				*e*Sn	**Sn**	**11 12 39.0**	**-1.7**	
	34nm,0.4s							
PMRV	**Marv??o**	**4.78**	**309**	*e*Pn	**Pn**	**11 11 49.6**	**+3.1**	
PMRV				*e*Sg	**Sg**	**11 13 04.5**	**-4.1**	
PMRV				A	A	11 13 11.9		
	34nm,0.4s							
PMRV	**Marv??o**	**4.78**	**309**	Pn	**Pn**	**11 11 49.6**	**+3.1**	
PMRV	**Marv??o**	**4.78**	**309**	Pn	**Pn**	**11 11 49.6**	**+3.1**	
PMRV				*e*Sg	**Sg**	**11 13 04.5**	**-4.1**	
	34nm,0.4s							
MORF	**Marmelete**	**4.89**	**281**	*e*P	**Pn**	**11 11 49.0**	**+0.8**	
MORF				*e*S	**Sn**	**11 12 41.6**	**-2.9**	
MORF				AML	AML	11 12 46.1		
	comp=N,20nm,0.3s							
MORF	**Marmelete**	**4.89**	**281**	*e*Pn	**Pn**	**11 11 50.6**	**+2.4**	
MORF				*e*Sn	**Sn**	**11 12 43.5**	**-1.0**	
MORF				A	A	11 12 58.0		
	comp=N,12nm,0.3s							
MORF	**Marmelete**	**4.89**	**281**	Pn	**Pn**	**11 11 50.6**	**+2.4**	
MORF				Sn	**Sn**	**11 12 43.5**	**-1.0**	
	comp=N,12nm,0.3s							
MORF	**Marmelete**	**4.89**	**281**	Pn	**Pn**	**11 11 50.6**	**+2.4**	
PNCL	**Nicolau / Gran**	**4.97**	**291**	*e*Pn	**Pn**	**11 11 51.3**	**+2.0**	
PNCL				*e*Sn	**Sn**	**11 12 45.1**	**-1.3**	
PNCL				A	A	11 13 19.6		
	comp=N,16nm,0.6s							
PNCL	**Nicolau / Gran**	**4.97**	**291**	*e*Pn	**Pn**	**11 11 51.3**	**+2.0**	
PNCL				*e*Sn	**Sn**	**11 12 45.1**	**-1.3**	
	comp=N,16nm,0.6s							
EBR	**Ebro Roquetas**	**4.98**	**28**	Sn	**Sn**	**11 12 44.4**	**-2.0**	
	comp=N,41nm,0.5s,SNR=7.9							
PTEO	**Sao Teotonio**	**4.99**	**284**	*e*Pn	**Pn**	**11 11 51.3**	**+1.8**	
PTEO				*e*Sn	**Sn**	**11 12 45.5**	**-1.2**	
PTEO				A	A	11 13 27.8		
	comp=N,24nm,0.7s							
PTEO	**Sao Teotonio**	**4.99**	**284**	Pn	**Pn**	**11 11 51.3**	**+1.8**	
PTEO				Sn	**Sn**	**11 12 45.5**	**-1.2**	
	comp=N,12nm,0.7s							
PTEO	**Sao Teotonio**	**4.99**	**284**	Pn	**Pn**	**11 11 51.3**	**+1.8**	
PTEO				*e*Sn	**Sn**	**11 12 45.5**	**-1.2**	
	comp=N,24nm,0.7s							
PFVI	**Vila Bisbo**	**5.01**	**279**	*e*Pn	**Pn**	**11 11 51.9**	**+2.1**	
PFVI				*e*Sn	**Sn**	**11 12 47.1**	**-0.3**	
PFVI				A	A	11 12 53.3		
	comp=N,20nm,0.4s							
PFVI	**Vila Bisbo**	**5.01**	**279**	Pn	**Pn**	**11 11 51.8**	**+2.0**	
	comp=N,18nm,0.5s,SNR=6.6							
PFVI				Sn	**Sn**	**11 12 47.0**	**-0.3**	
	comp=N,8.2nm,0.1s,SNR=7.9							
PFVI	**Vila Bisbo**	**5.01**	**279**	*e*Pn	**Pn**	**11 11 51.9**	**+2.1**	
PFVI				Sn	**Sn**	**11 12 47.0**	**-0.3**	
	comp=N,8.2nm,0.1s,SNR=7.9							
ERTA	**Horta de San J**	**5.03**	**27**	Pn	**Pn**	**11 11 52.6**	**+2.5**	
	comp=N,1.3nm,0.2s,SNR=7.9							
ERTA				Sn	**Sn**	**11 12 47.2**	**-0.7**	
	comp=N,1.2nm,4.3s,SNR=7.9							
ERTA	**Horta de San J**	**5.03**	**27**	Pn	**Pn**	**11 11 52.6**	**+2.5**	
	comp=N,1.3nm,0.2s,SNR=7.9							
PCBR	**Castelo Branco**	**5.08**	**313**	*e*Pn	**Pn**	**11 11 54.9**	**+4.2**	
PCBR				*e*Sn	**Sn**	**11 12 49.7**	**+0.7**	
PCBR				A	A	11 13 30.3		
	comp=N,35nm,0.5s							
PCBR	**Castelo Branco**	**5.08**	**313**	Pn	**Pn**	**11 11 54.9**	**+4.2**	
PCBR				Sn	**Sn**	**11 12 49.7**	**+0.7**	
	comp=N,18nm,0.5s							
PCBR	**Castelo Branco**	**5.08**	**313**	Pn	**Pn**	**11 11 54.9**	**+4.2**	
PCBR				*e*Sn	**Sn**	**11 12 49.7**	**+0.7**	
	comp=N,35nm,0.5s							
PMTG	**Montargil**	**5.13**	**302**	*e*Pn	**Pn**	**11 11 53.4**	**+2.0**	
PMTG				*e*Sn	**Sn**	**11 12 50.1**	**-0.1**	
PMTG				*e*Sg	**Sg**	**11 13 19.3**	**-0.6**	
PMTG				A	A	11 13 36.6		
	comp=N,41nm,0.5s							
PMTG	**Montargil**	**5.13**	**302**	*e*Pn	**Pn**	**11 11 53.4**	**+2.0**	
PMTG				*e*Sn	**Sn**	**11 12 50.1**	**-0.1**	
PMTG				*e*Sg	**Sg**	**11 13 19.3**	**-0.6**	
	comp=N,41nm,0.5s							
ETOS	**Mallorca**	**5.40**	**51**	Pn	**Pn**	**11 11 57.0**	**+1.8**	
	comp=N,0.8nm,0.2s,SNR=8.3							
ETOS				Sn	**Sn**	**11 12 55.3**	**-1.7**	
	comp=N,11nm,0.6s,SNR=7.9							
ETOS	**Mallorca**	**5.40**	**51**	Pn	**Pn**	**11 11 57.0**	**+1.8**	
	comp=N,0.8nm,0.2s,SNR=8.3							
ALMR	**Almeirim**	**5.41**	**301**	*e*Pn	**Pn**	**11 11 59.4**	**+4.2**	
ALMR				*e*Sg	**Sg**	**11 13 23.6**	**-5.4**	
ALMR				A	A	11 13 54.3		
	comp=N,71nm,0.8s							
ALMR	**Almeirim**	**5.41**	**301**	Pn	**Pn**	**11 11 59.4**	**+4.2**	
ALMR	**Almeirim**	**5.41**	**301**	Pn	**Pn**	**11 11 59.4**	**+4.2**	
MTE	**Manteigas**	**5.49**	**317**	*e*Pn	**Pn**	**11 11 59.3**	**+2.9**	
MTE				*e*Sg	**Sg**	**11 13 32.5**	**+0.9**	
MTE				A	A	11 13 49.4		
	comp=N,48nm,0.6s							
MTE	**Manteigas**	**5.49**	**317**	Pn	**Pn**	**11 11 59.3**	**+2.9**	
MTE				Lg	Lg	11 13 32.5		
	comp=N,24nm,0.6s							
MTE	**Manteigas**	**5.49**	**317**	Pn	**Pn**	**11 11 59.3**	**+2.9**	
MTE				*e*Sg	**Sg**	**11 13 32.5**	**+0.9**	
	comp=N,48nm,0.6s							
ESAC	**San Caprasio**	**5.50**	**17**	Pg	**Pg**	**11 12 18.0**	**-2.6**	
	comp=N,15nm,2.1s,SNR=7.9							
ESAC				Lg	Lg	11 13 32.9		
	comp=N,92nm,0.5s,SNR=7.9							
PTOM	**Tomar**	**5.53**	**306**	*e*Pn	**Pn**	**11 11 59.7**	**+2.8**	
PTOM				*e*Sg	**Sg**	**11 13 30.5**	**-2.4**	
PTOM				A	A	11 13 43.9		
	comp=N,32nm,0.6s							
PTOM	**Tomar**	**5.53**	**306**	Pn	**Pn**	**11 11 59.7**	**+2.8**	
PTOM	**Tomar**	**5.53**	**306**	Pn	**Pn**	**11 11 59.7**	**+2.8**	
PTOM				*e*Sg	**Sg**	**11 13 30.5**	**-2.4**	
	comp=N,32nm,0.6s							
EPOB	**Poblet**	**5.66**	**30**	Pn	**Pn**	**11 11 59.9**	**+1.2**	
	comp=N,1.3nm,1.1s,SNR=7.9							
EPOB	**Poblet**	**5.66**	**30**	Pn	**Pn**	**11 11 59.9**	**+1.2**	
	comp=N,1.3nm,1.1s,SNR=7.9							
MVO	**Moncorvo**	**5.80**	**325**	*e*Pn	**Pn**	**11 12 03.9**	**+3.2**	
MVO				*e*Sn	**Sn**	**11 13 05.5**	**-1.3**	
MVO				A	A	11 13 46.8		
	comp=N,36nm,0.7s							
MVO	**Moncorvo**	**5.80**	**325**	Pn	**Pn**	**11 12 03.2**	**+2.5**	
	comp=N,9.1nm,0.3s,SNR=11							
MVO				Sn	**Sn**	**11 13 05.6**	**-1.3**	
	comp=N,24nm,0.7s,SNR=7.9							
MVO				Lg	Lg	11 13 42.9		
	comp=N,58nm,0.5s,SNR=7.9							
MVO	**Moncorvo**	**5.80**	**325**	Pn	**Pn**	**11 12 03.2**	**+2.5**	
	comp=N,9.1nm,0.3s,SNR=11							
MVO				Lg	Lg	11 13 42.9		
	comp=N,58nm,0.5s,SNR=7.9							
PMAFR	**Mafra**	**5.82**	**297**	*e*Pn	**Pn**	**11 12 03.7**	**+2.8**	
PMAFR	**Mafra**	**5.82**	**297**	Pn	**Pn**	**11 12 03.4**	**+2.5**	
	comp=N,7.0nm,0.3s,SNR=7.9							
PMAFR				Sn	**Sn**	**11 13 06.1**	**-1.1**	
	comp=N,7.5nm,1.4s,SNR=7.9							
PMAFR				Lg	Lg	11 13 44.5		
	comp=N,23nm,1.0s,SNR=7.9							
PMAFR	**Mafra**	**5.82**	**297**	Pn	**Pn**	**11 12 03.4**	**+2.5**	
	comp=N,7.0nm,0.3s,SNR=7.9							
PMAFR				Lg	Lg	11 13 44.5		
	comp=N,23nm,1.0s,SNR=7.9							
PCAS	**Casmilo, Conde**	**5.83**	**309**	*e*Pn	**Pn**	**11 12 04.4**	**+3.4**	
PCAS				*e*Sn	**Sn**	**11 13 05.6**	**-1.9**	
PCAS				*e*Sg	**Sg**	**11 13 41.4**	**-1.1**	
PCAS				A	A	11 13 52.4		
	comp=N,32nm,0.8s							
PCAS	**Casmilo, Conde**	**5.83**	**309**	*e*Pn	**Pn**	**11 12 04.4**	**+3.4**	
PCAS				*e*Sg	**Sg**	**11 13 41.4**	**-1.1**	
	comp=N,32nm,0.8s							
PVIS	**Viseu**	**5.90**	**317**	*e*Pn	**Pn**	**11 12 05.8**	**+3.7**	
PVIS				*e*Sn	**Sn**	**11 13 09.4**	**+0.1**	
PVIS				A	A	11 13 50.6		
	comp=N,20nm,0.7s							
PVIS	**Viseu**	**5.90**	**317**	Pn	**Pn**	**11 12 05.8**	**+3.7**	
PVIS				Sn	**Sn**	**11 13 09.4**	**+0.1**	
	comp=N,9.9nm,0.7s							
PVIS	**Viseu**	**5.90**	**317**	Pn	**Pn**	**11 12 05.8**	**+3.7**	
PVIS				*e*Sn	**Sn**	**11 13 09.4**	**+0.1**	
	comp=N,20nm,0.7s							
PBRG	**Braganca**	**6.20**	**330**	*e*Pn	**Pn**	**11 12 10.6**	**+4.5**	
PBRG				*e*Sg	**Sg**	**11 13 50.8**	**-3.5**	
PBRG				A	A	11 14 08.7		
	comp=N,14nm,0.7s							
PBRG	**Braganca**	**6.20**	**330**	*e*Pn	**Pn**	**11 12 10.6**	**+4.5**	
PVRL	**Vila Real**	**6.22**	**322**	*e*Pn	**Pn**	**11 12 09.5**	**+3.2**	
PVRL				*e*Sg	**Sg**	**11 13 56.0**	**+1.2**	
PVRL	**Vila Real**	**6.22**	**322**	Pn	**Pn**	**11 12 09.5**	**+3.2**	
PVRL				Lg	Lg	11 13 56.0		
PVRL	**Vila Real**	**6.22**	**322**	Pn	**Pn**	**11 12 09.5**	**+3.2**	
PVRL				*e*Sg	**Sg**	**11 13 56.0**	**+1.2**	
EMIR	**Miracle**	**6.31**	**29**	Lg	Lg	11 13 58.6		
	comp=N,15nm,2.9s,SNR=7.9							
EMIR	**Miracle**	**6.31**	**29**	Lg	Lg	11 13 58.7		
	comp=N,15nm,2.9s,SNR=7.9							
ECAL	**Calabor**	**6.32**	**331**	Lg	Lg	11 13 59.2		
	comp=N,73nm,0.7s,SNR=7.9							
ECAL	**Calabor**	**6.32**	**331**	Lg	Lg	11 13 59.2		
	comp=N,73nm,0.7s,SNR=7.9							
POLO	**Lamas de Olo**	**6.33**	**322**	*e*Pn	**Pn**	**11 12 12.3**	**+4.4**	
POLO				*e*Sg	**Sg**	**11 13 59.8**	**+1.4**	
POLO				A	A	11 14 04.6		
	comp=N,9.8nm,0.6s							
POLO	**Lamas de Olo**	**6.33**	**322**	*e*Pn	**Pn**	**11 12 12.3**	**+4.4**	
EARA	**Aranguren**	**6.34**	**7**	Lg	Lg	11 13 59.2		
	comp=N,60nm,0.9s,SNR=7.9							
EARA	**Aranguren**	**6.34**	**7**	Lg	Lg	11 13 59.2		
	comp=N,60nm,0.9s,SNR=7.9							
IPRE	**Itoiz**	**6.39**	**8**	Lg	Lg	11 14 02.0		
	comp=N,24nm,1.6s,SNR=7.9							
IPRE	**Itoiz**	**6.39**	**8**	Lg	Lg	11 14 02.0		
	comp=N,24nm,1.6s,SNR=7.9							
IELO	**Elcoad**	**6.44**	**9**	Pn	**Pn**	**11 12 11.7**	**+2.2**	
	comp=N,0.2nm,0.2s,SNR=7.9							
IELO				Pg	**Pg**	**11 12 35.2**	**-3.5**	
	comp=N,4.7nm,2.0s,SNR=7.9							
IELO				Lg	Lg	11 14 03.1		
	comp=N,21nm,0.7s,SNR=7.9							
IELO	**Elcoad**	**6.44**	**9**	Pn	**Pn**	**11 12 11.7**	**+2.2**	
	comp=N,0.2nm,0.2s,SNR=7.9							
IELO				Lg	Lg	11 14 03.2		
	comp=N,21nm,0.7s,SNR=7.9							
EORO	**Oroz-Betelu**	**6.48**	**9**	Lg	Lg	11 14 04.5		
	comp=N,38nm,0.6s,SNR=7.9							
EORO	**Oroz-Betelu**	**6.48**	**9**	Lg	Lg	11 14 04.5		
	comp=N,38nm,0.6s,SNR=7.9							
ECHI	**Chisagues Biel**	**6.55**	**19**	Lg	Lg	11 14 06.2		
	comp=N,3.0nm,2.0s,SNR=7.9							
ECHI	**Chisagues Biel**	**6.55**	**19**	Lg	Lg	11 14 06.2		
	comp=N,3.0nm,2.0s,SNR=7.9							
CSOR	**Sort**	**6.57**	**25**	Pn	**Pn**	**11 12 13.9**	**+2.6**	
	comp=N,1.7nm,0.2s,SNR=7.9							
CSOR				Lg	Lg	11 14 06.4		
	comp=N,4.1nm,2.9s,SNR=7.9							
CSOR	**Sort**	**6.57**	**25**	Pn	**Pn**	**11 12 13.9**	**+2.6**	
	comp=N,1.7nm,0.2s,SNR=7.9							
CSOR				Lg	Lg	11 14 06.4		
	comp=N,4.1nm,2.9s,SNR=7.9							
ETSF	**Etsaut**	**6.61**	**13**	*e*Pn	**Pn**	**11 12 15.2**	**+3.5**	
ETSF				*e*Sg	**Sg**	**11 14 05.8**	**-1.5**	
	comp=N,29nm,0.8s							
ETSF	**Etsaut**	**6.61**	**13**	Pn	**Pn**	**11 12 15.2**	**+3.5**	
ETSF	**Etsaut**	**6.61**	**13**	Pn	**Pn**	**11 12 15.2**	**+3.5**	
ETSF				*e*Sg	**Sg**	**11 14 05.8**	**-1.5**	
	comp=N,15nm,0.8s							
SJPF	**Ste Jean**	**6.71**	**9**	*e*Pn	**Pn**	**11 12 16.7**	**+3.6**	
SJPF				*e*Sg	**Sg**	**11 14 10.1**	**-0.6**	
	comp=N,13nm,0.5s							
SJPF	**Ste Jean**	**6.71**	**9**	Pn	**Pn**	**11 12 16.7**	**+3.6**	
SJPF				Lg	Lg	11 14 10.1		
	comp=N,6.7nm,0.5s							
SJPF	**Ste Jean**	**6.71**	**9**	Pn	**Pn**	**11 12 16.7**	**+3.6**	
SJPF				*e*Sg	**Sg**	**11 14 10.1**	**-0.6**	
	comp=N,6.7nm,0.5s							
ATE	**Arette**	**6.76**	**12**	Pn	**Pn**	**11 12 15.8**	**+2.0**	
	comp=N,1.2nm,3.6s,SNR=7.9							
ATE				Lg	Lg	11 14 13.5		
	comp=N,16nm,3.2s,SNR=7.9							
ATE	**Arette**	**6.76**	**12**	Pn	**Pn**	**11 12 15.8**	**+2.0**	
	comp=N,1.2nm,3.6s,SNR=7.9							
ATE				Lg	Lg	11 14 13.5		
	comp=N,16nm,3.2s,SNR=7.9							
ELAN	**Lanestosa**	**6.77**	**355**	Pn	**Pn**	**11 12 16.1**	**+2.2**	
	comp=N,0.3nm,1.1s,SNR=7.9							
ELAN				Lg	Lg	11 14 14.1		
	comp=N,114nm,1.5s,SNR=7.9							
ELAN	**Lanestosa**	**6.77**	**355**	Pn	**Pn**	**11 12 16.1**	**+2.2**	
	comp=N,0.3nm,1.1s,SNR=7.9							
ELAN				Lg	Lg	11 14 14.1		
	comp=N,114nm,1.5s,SNR=7.9							
EALK	**Alkurruntz**	**6.79**	**7**	Pn	**Pn**	**11 12 16.8**	**+2.6**

MGNA					AML	AML	11 20 28.4
	comp=E,667μm,0.6s						
MGNA	**Meganis_„**	**1.47**	**45**	P		**Pb**	**11 20 05.1 +1.4**
LKD2	**Lefkada island**	**1.50**	**38**	P		**Pn**	**11 20 04.6 +1.6**
LKD2				S		**Sg**	**11 20 24.1 -0.9**
LKD2				AML	AML		11 20 33.0
	comp=N,831μm,0.4s						
LKD2				AML	AML		11 20 33.6
	comp=E,881μm,0.5s						
LKD2	**Lefkada island**	**1.50**	**38**	P		**Pn**	**11 20 05.1 +2.1**
LKD2				S		**Sg**	**11 20 24.4 -0.6**
RLS	**Riolos of Patr**	**1.64**	**74**	P		**Pn**	**11 20 06.3 +1.5**
RLS	**Riolos of Patr**	**1.64**	**74**	P		**Pn**	**11 20 06.4 +1.5**
PDO	**Prodromos**	**1.67**	**54**	P		**Pg**	**11 20 08.6 -0.2**
PDO				AML	AML		11 20 33.8
	comp=E,1102μm,0.5s						
PDO				AML	AML		11 20 38.0
	comp=N,885μm,0.3s						
PDO	**Prodromos**	**1.67**	**54**	P		**Pb**	**11 20 08.0 +0.9**
AMT	**Artemida-Makis**	**1.78**	**92**	P		**Pn**	**11 20 07.1 +0.2**
AMT	**Artemida-Makis**	**1.78**	**92**	P		**Pn**	**11 20 07.7 +0.8**
DRO	**Drossia**	**1.81**	**79**	P		**Pb**	**11 20 09.7 +0.3**
DRO				AML	AML		11 20 45.2
	comp=E,684μm,0.5s						
DRO				AML	AML		11 20 47.0
	comp=N,528μm,0.5s						
DRO	**Drossia**	**1.81**	**79**	P		**Pb**	**11 20 09.3 -0.1**
PVO	**Paravola**	**1.90**	**58**	P		**Pn**	**11 20 10.4 +1.9**
PVO				AML	AML		11 20 47.6
	comp=E,530μm,0.7s						
PVO				AML	AML		11 20 48.9
	comp=N,445μm,0.5s						
PVO	**Paravola**	**1.90**	**58**	P		**Pn**	**11 20 10.5 +1.9**
EFP	**Efpalio**	**2.08**	**66**	P		**Pn**	**11 20 12.5 +1.4**
EFP				AML	AML		11 20 44.8
	comp=E,331μm,0.1s						
EFP				AML	AML		11 20 48.1
	comp=N,238μm,0.6s						
EFP	**Efpalio**	**2.08**	**66**	P		**Pn**	**11 20 12.7 +1.6**
KLV	**Kalavryta, Ach**	**2.16**	**78**	P		**Pn**	**11 20 13.5 +1.3**
KLV	**Kalavryta, Ach**	**2.16**	**78**	P		**Pn**	**11 20 13.7 +1.5**
ANX	**Ano Chora**	**2.16**	**62**	P		**Pn**	**11 20 14.5 +2.3**
ANX				AML	AML		11 20 53.7
	comp=E,334μm,0.5s						
ANX				AML	AML		11 20 54.9
	comp=N,486μm,0.4s						
ANX	**Ano Chora**	**2.16**	**62**	P		**Pn**	**11 20 14.3 +2.1**
STON	**Ston**	**5.42**	**346**	*e*Pn		**Pn**	**11 20 57.5 +0.7**
STON				Sn		**Sn**	**11 21 56.2 -2.7**

*ISCJB **18** 11:24:09.7±0.4,51°.95N±0°.06×171°.78W±0°.04,h50km, mb4.1/28,MS3.4/15,Error ellipse: s-maj=8.8km s-min=3.4km az=165.9*
*NEIC **18** 11:24:09.1±0.0,51°.86N×171°.75W,h42km,mb3.9/16, ML4.1(AEIC),After AEIC.*
*IDC **18** 11:24:10.8±2.2,52°.01N×171°.78W,h43km±19km,mb3.7/21, mb1 3.9/24,mb1mx3.7/76,mbtmp3.9/24,ML3.7/3,MS3.4/16, Ms1 3.4/16,ms1mx3.1/60,Error ellipse: s-maj=20.3km s-min=10.7km az=177.0*
ISC 18 11:24:11.2±0.6,**51°.95N**±0°.09×**171°.81W**±0°.04,**h50**km,**n76,** σ1§**73**/71,**mb4.0**/28,**MS3.4**/15,**Fox Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KOFP	**Korovin Flat P**	**1.45**	**284**	P	**Pn**	**11 24 34.3**	**-0.7**
ATKA	**Atka Island**	**1.49**	**281**	P	**Pn**	**11 24 34.1**	**-1.5**
ATKA				S	**Sn**	**11 24 53.5**	**-0.3**
KOKL	**Mount Kliuchef**	**1.52**	**285**	P	**Pn**	**11 24 41.5**	**-2.1**
KOWE	**Korovin West**	**1.56**	**286**	P	**Pn**	**11 24 36.4**	**-0.1**
NIKH	**Nikolski High**	**2.08**	**59**	P	**Pn**	**11 24 41.5**	**-2.1**
OKAK	**Okmok**	**2.66**	**51**	P	**Pn**	**11 24 50.3**	**-1.2**
GSTD	**Great Sitkin T**	**2.68**	**274**	P	**Pn**	**11 24 51.2**	**-0.7**
GSTD				S	**Sn**	**11 25 24.4**	**+1.3**
OKTU	**Okmok Mt. Tuli**	**2.71**	**56**	P	**Pn**	**11 24 52.2**	**0.0**
ETKA	**Kagalaska Isla**	**2.85**	**270**	P	**Pn**	**11 24 54.0**	**-0.1**
ADAG	**Mount Adagdak**	**2.96**	**272**	P	**Pn**	**11 24 56.1**	**+0.4**
MGOD	**Makushin Gods**	**3.52**	**56**	P	**Pn**	**11 25 03.4**	**+0.1**
MSW	**Makushin Switc**	**3.62**	**55**	P	**Pn**	**11 25 03.9**	**-0.9**
UNV	**Unalaska Valle**	**3.73**	**57**	P	**Pn**	**11 25 06.2**	**-0.1**
UNV				S	**Sn**	**11 25 49.5**	**+0.7**
AKUT	**Akutan**	**4.25**	**57**	*e*Pn	**Pn**	**11 25 15.2**	**+1.9**
SPIA	**Saint Paul Isl**	**5.32**	**9**	P	**Pn**	**11 25 29.4**	**+1.4**
SPIA				S	**Sn**	**11 26 29.6**	**+1.8**
ISLZ	**Isanotski Laza**	**5.59**	**57**	P	**Pn**	**11 25 32.0**	**+0.3**
FALS	**False Pass** 106nm,0.5s	**5.80**	**57**	*e*Pn	**Pn**	**11 25 39.2**	**+4.6**
FALS				*e*Sn	**Sn**	**11 26 44.2**	**+4.5**
KDAK	**Kodiak Island** 0.7nm,0.3s,baz=221,slow=5.5,SNR=9.1	**12.50**	**55**	P	**Pn**	**11 27 03.0**	**-3.1**
KTH	**Kantishna Hill** 20nm,1.3s	**16.01**	**35**	*e*Pn	**P**	**11 27 54.3**	**-1.1**
SML	**Sawmill**	**16.09**	**43**	*e*Pn	**Pn**	**11 27 53.7**	**-0.1**
SML				Sn	**Sn**	**11 30 42.3**	**-8.8**
TRF	**Thorofare Moun** 9.6nm,1.2s	**16.18**	**36**	*e*Pn	**P**	**11 27 57.4**	**-0.1**
BPAW	**Bear Paw Mtn.** 1.3nm,0.9s	**16.32**	**34**	*e*Pn	**P**	**11 27 59.6**	**+0.7**
PAX	**Paxson** 3.3nm,0.9s	**17.81**	**42**	*e*P	**Pn**	**11 28 12.5**	**-2.7**
COLA	**College** 4.0nm,1.0s	**17.87**	**34**	*e*P	**Pn**	**11 28 14.3**	**-1.5**
ILAR	**Eielson Array** 0.3nm,0.3s,baz=228,slow=9.2,SNR=19	**18.16**	**35**	P	**P**	**11 28 17.2**	**-1.9**
ILAR	baz=210,slow=5.2,SNR=1.9			PcP	**PcP**	**11 32 51.1**	**+1.0**
PETK	**Petropavlovsk-** 0.8nm,0.3s,baz=88,slow=14,SNR=15	**18.52**	**286**	P	**Pn**	**11 28 24.7**	**+0.8**
PETK				LR	LR	11 34 41.7	
	comp=Z,60nm,20.2s,baz=87,slow=34						
COLD	**Coldfoot** 6.4nm,1.2s	**18.65**	**27**	P	**Pn**	**11 28 27.0**	**+1.8**
DOT	**Dot Lake** 9.4nm,0.9s	**18.68**	**40**	*e*P	**P**	**11 28 22.6**	**-2.3**
EGAK	**Eagle** 3.2nm,0.6s	**20.31**	**39**	*e*P	**P**	**11 28 41.7**	**-0.9**
DAWY	**Dawson** 7.1nm,1.3s	**20.74**	**42**	*e*P	**P**	**11 28 47.5**	**+0.1**
SKAG	**Skagway** 9.7nm,0.7s	**21.65**	**55**	P	**P**	**11 28 56.6**	**-0.4**
SEY	**Seymchan** 1.1nm,0.5s,baz=100,slow=12,SNR=9.7	**21.86**	**314**	P	**P**	**11 29 00.4**	**+1.1**
DLBC	**Dease Lake** 16nm,1.1s	**24.39**	**58**	*e*P	**P**	**11 29 26.7**	**+2.2**
INK	**Inuvik** 1.5nm,0.5s,baz=241,slow=8.8,SNR=28	**24.53**	**34**	P	**P**	**11 29 25.0**	**-0.6**
ASAJ	**Asahikawa** 1.6nm,0.5s,baz=74,slow=9.8,SNR=6.5	**31.04**	**274**	P	**P**	**11 30 24.4**	**+0.4**
YKA	**Yellowknife Ar** 0.3nm,0.4s,baz=272,slow=7.8,SNR=20	**31.65**	**48**	P	**P**	**11 30 29.2**	**+0.1**
YKA	0.1nm,0.4s,baz=279,slow=3.2,SNR=2.8			PcP	**PcP**	**11 33 20.0**	**+0.1**
YKA	0.2nm,1.0s,baz=278,slow=4.3,SNR=3.1			ScP	**ScP**	**11 37 00.6**	**+1.9**
EDM	**Edmonton** 9.9nm,0.8s	**34.69**	**64**	*e*P	**P**	**11 30 55.2**	**-0.6**
H11N2	**WAKE ISLAND Hy** baz=22,slow=76,SNR=31	**36.21**	**215**	T	T	12 09 36.4	
H11N3	**WAKE ISLAND Hy** baz=22,slow=76,SNR=22	**36.22**	**215**	T	T	12 09 36.2	
H11N1	**WAKE ISLAND Hy** baz=22,slow=76,SNR=26	**36.23**	**215**	T	T	12 09 37.6	
H11S1	**WAKE ISLAND Hy** baz=22,slow=76,SNR=13	**37.41**	**215**	T	T	12 11 09.7	
H11S2	**WAKE ISLAND Hy** baz=22,slow=76,SNR=16	**37.42**	**215**	T	T	12 11 09.1	
H11S3	**WAKE ISLAND Hy** baz=22,slow=76,SNR=17	**37.43**	**215**	T	T	12 11 10.9	
USRK	**Ussuriysk Ar.** comp=Z,72nm,21.3s,baz=59,slow=34	**37.50**	**281**	LR	LR	11 45 23.8	
MJAR	**Matsushiro Arr** 0.7nm,0.5s,baz=30,slow=4.6,SNR=5.1	**38.17**	**266**	P	**P**	**11 31 27.4**	**+1.7**
MJAR	comp=Z,56nm,21.7s,baz=60,slow=33			LR	LR	11 45 07.6	
NVAR	**Mina Array Bea** 1.3nm,0.8s,baz=292,slow=7.8,SNR=9.3	**39.17**	**89**	P	**P**	**11 31 35.4**	**+1.1**
NVAR	0.3nm,0.5s,baz=298,slow=1.9,SNR=2.8			PcP	**PcP**	**11 33 40.8**	**-1.9**
NVAR	0.2nm,0.7s,baz=251,slow=2.8,SNR=3.7			ScP	**ScP**	**11 37 27.3**	**+0.6**
NVAR	comp=Z,43nm,20.4s,baz=90,slow=32			LR	LR	11 45 08.8	
JHJ	**Hachijo jima 2** comp=Z,18nm,19.6s,baz=34,slow=34	**39.47**	**261**	LR	LR	11 46 20.7	

PDAR	**Pinedale Array** 0.5nm,0.3s,baz=303,slow=3.5,SNR=12	**41.96**	**77**	P	**P**	**11 31 57.6**	**+0.4**
PDAR	comp=Z,62nm,20.5s,baz=318,slow=32			LR	LR	11 46 36.5	
FCC	**Fort Churchill** 2.7nm,0.9s	**42.36**	**49**	*e*P	**P**	**11 32 00.0**	**+0.1**
SRU	**San Rafael Swe** 1.8nm,0.6s	**43.55**	**82**	*e*P	**P**	**11 32 10.2**	**+0.2**
KSRS	**Korea Array** 1.5nm,0.5s,baz=54,slow=7.7,SNR=6.8	**43.95**	**275**	P	**P**	**11 32 14.1**	**+1.1**
KSRS	comp=Z,22nm,20.1s,baz=61,slow=35			LR	LR	11 49 52.7	
JNU	**Nakatsue** comp=Z,61nm,21.7s,baz=80,slow=34	**44.95**	**268**	LR	LR	11 49 36.5	
PV01	**Paradox Valley** 209nm,0.6s	**45.35**	**82**	*e*P	**P**	**11 32 25.2**	**+0.7**
ULM	**Lac du Bonnet** 1.1nm,0.5s,baz=315,slow=14,SNR=2.7	**45.67**	**61**	P	**P**	**11 32 27.1**	**+0.5**
TUC	**Tucson**	**47.80**	**89**	*e*P	**P**	**11 32 42.2**	**-1.3**
GUMO	**Guam** comp=Z,16nm,18.1s,baz=95,slow=36	**51.59**	**238**	LR	LR	11 55 33.1	
SFJD	**Kangerlussuaq** comp=Z,26nm,19.4s,baz=82,slow=38	**53.40**	**25**	LR	LR	11 58 25.9	
TXAR	**Lajitas Array** 0.9nm,0.5s,baz=305,slow=6.1,SNR=19	**54.27**	**87**	P	**P**	**11 33 32.4**	**+0.2**
TXAR	0.2nm,0.6s,baz=278,slow=1.2,SNR=3.9			PcP	**PcP**	**11 34 34.2**	**-1.6**
ZALV	**Zalesovo Beam** comp=Z,30nm,20.3s,baz=70,slow=37	**56.70**	**317**	LR	LR	11 59 16.7	
SCHQ	**Schefferville** comp=Z,50nm,18.7s,baz=302,slow=36	**56.76**	**42**	LR	LR	11 58 42.6	
H06E1	**SOCORRO T-PHAS** SNR=3.0	**57.54**	**101**	T	T	12 36 16.4	
ARCES	**ARCESS Array B** 1.9nm,0.9s,baz=8.5,slow=13,SNR=2.6	**58.16**	**353**	P	**P**	**11 33 58.9**	**-0.4**
TKL	**Tuckaleechee C** 1.1nm,0.3s,baz=355,slow=11,SNR=3.0	**61.76**	**67**	P	**P**	**11 34 24.9**	**+0.5**
KURBB	**Kurchatov Arra** 0.6nm,0.5s,baz=45,slow=7.4,SNR=5.0	**61.78**	**317**	P	**P**	**11 34 23.8**	**-0.5**
MKAR	**Makanchi Array** 0.2nm,0.3s,baz=43,slow=5.9,SNR=6.3	**62.98**	**312**	P	**P**	**11 34 31.6**	**-0.8**
BVAR	**Borovoye Array** 1.6nm,0.6s,baz=46,slow=6.0,SNR=11	**63.15**	**323**	P	**P**	**11 34 33.6**	**+0.2**
NOA	**NORSAR Array B** 0.4nm,0.5s,baz=358,slow=10,SNR=2.8	**67.33**	**358**	P	**P**	**11 35 00.5**	**0.0**
DAV	**Davao City (W)** comp=Z,45nm,20.6s,baz=70,slow=33	**67.75**	**252**	LR	LR	12 01 00.8	
HFS	**Hagfors** 1.0nm,0.5s,baz=346,slow=3.0,SNR=5.6	**68.18**	**357**	P	**P**	**11 35 05.2**	**-0.5**
HFS	comp=Z,39nm,18.3s,baz=304,slow=39			LR	LR	12 08 33.8	
AKTO	**Aktyubinsk** 2.8nm,0.5s,baz=58,slow=6.6,SNR=14	**69.60**	**329**	P	**P**	**11 35 14.7**	**0.0**
ABKAR	**Akbulak array** 1.1nm,0.4s	**69.98**	**327**	*e*P	**P**	**11 35 16.9**	**-0.2**
APG	**El Apazote** comp=Z,34nm,18.1s,baz=116,slow=38	**73.02**	**87**	LR	LR	12 10 06.3	
CMAR	**Chiang Mai Arr** 0.8nm,0.6s,baz=28,slow=6.2,SNR=4.8	**75.23**	**281**	P	**P**	**11 35 49.2**	**+0.5**
WRA	**Warramunga Arr** 0.3nm,0.6s,baz=36,slow=5.9,SNR=5.5	**85.58**	**230**	P	**P**	**11 36 43.1**	**-0.8**
ASAR	**Alice Springs** 1.2nm,0.6s,baz=24,slow=4.7,SNR=26	**88.98**	**228**	P	**P**	**11 37 00.7**	**+0.3**
SDV	**Santo Domingo** comp=Z,26nm,20.1s,baz=236,slow=36	**89.89**	**76**	LR	LR	12 17 56.9	

*ISCJB **18** 11:37:15.1±1.0,1°.1N×0°.1×89°.6E±0°.1,h10km,mb3.5/7, Error ellipse: s-maj=17.5km s-min=13.8km az=28.3*
*IDC **18** 11:37:16.4±1.5,1°.26N×89°.76E,h0km,mb3.4/7, mb1 3.7/10,mb1mx3.5/60,mbtmp3.6/10,ML4.0/3,Error ellipse: s-maj=43.1km s-min=19.6km az=47.0*
ISC 18 11:37:17.6±1.3,**1°.3N**±0°.2×**89°.8E**±0°.1,**h10**km,**n25,** σ1§**51**/17,**mb3.5/7,North Indian Ocean**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat** 0.5nm,0.3s,baz=261,slow=4.2,SNR=3.7	**9.27**	**80**	Pn	**Pn**	**11 39 30.9**	**-0.6**
PKDT	**Phuket** 12nm,0.8s,480nm	**10.77**	**52**	P	Pn	11 40 01.8	+10
PALK	**Pallekele** 1.8nm,0.3s,baz=116,slow=14,SNR=9.3	**10.83**	**304**	Pn	**Pn**	**11 39 53.1**	**+0.2**
PALK	6.4nm,0.3s,baz=116,slow=8.6,SNR=8.9			Sn	Sn	11 41 42.6	-12
TRTT	**Trang** 4.1nm,0.5s	**11.84**	**56**	P	Pn	11 40 15.0	+8.4
PBKT	**Sakao Pong** 7.8nm,1.0s	**18.78**	**35**	P	**Pn**	**11 41 39.2**	**+1.6**
PHIT	**Phitsanulok** 10nm,0.9s	**18.97**	**33**	P	**Pn**	**11 41 42.8**	**+2.9**
CMAR	**Chiang Mai Arr** 0.3nm,0.3s,baz=221,slow=12,SNR=16	**19.30**	**27**	P	**Pn**	**11 41 44.6**	**+0.6**
H08S2	**Diego Garcia H** baz=63,slow=75,SNR=30	**19.38**	**243**	T	T	12 01 35.8	
H08S3	**Diego Garcia H** baz=63,slow=75,SNR=23	**19.38**	**243**	T	T	12 01 34.8	
H08S1	**Diego Garcia H** baz=63,slow=75,SNR=29	**19.40**	**243**	T	T	12 01 35.3	
CHTO	**Chiang Mai** 31nm,1.2s	**19.62**	**27**	P	**Pn**	**11 41 49.6**	**+1.9**
CMMT	**Chiang Mai** 7.1nm,1.2s	**19.62**	**27**	P	**Pn**	**11 41 48.5**	**+0.7**
KHON	**Khomkaen** 12nm,0.9s	**19.73**	**40**	P	**Pn**	**11 41 50.9**	**+1.8**
CMAI	**Chiengmai2** 17.9nm,0.3s	**20.64**	**25**	P	**P**	**11 41 54.5**	**-3.3**
H01W3	**Cape Leeuwin H** baz=324,slow=75,SNR=21	**42.59**	**150**	T	T	12 30 23.6	
H01W2	**Cape Leeuwin H** baz=324,slow=75,SNR=17	**42.60**	**150**	T	T	12 30 21.9	
H01W1	**Cape Leeuwin H** baz=324,slow=75,SNR=21	**42.61**	**150**	T	T	12 30 20.7	
MKAR	**Makanchi Array** 0.3nm,0.5s,baz=155,slow=7.9,SNR=3.3	**45.81**	**353**	P	**P**	**11 45 40.5**	**+0.8**
WRA	**Warramunga Arr** 0.1nm,0.3s,baz=292,slow=8.0,SNR=5.2	**48.50**	**118**	P	**P**	**11 46 00.8**	**-0.3**
ASAR	**Alice Springs** 0.2nm,0.8s,baz=291,slow=7.9,SNR=3.4	**49.52**	**123**	P	**P**	**11 46 09.6**	**+0.7**
KURBB	**Kurchatov Arra** 0.1nm,0.3s,baz=171,slow=5.4,SNR=4.0	**50.09**	**351**	P	**P**	**11 46 11.7**	**-1.0**
ZALV	**Zalesovo Beam** 0.4nm,0.3s,baz=140,slow=7.0,SNR=1.5	**52.66**	**356**	P	**P**	**11 46 32.0**	**+0.1**
BVAR	**Borovoye Array** 0.2nm,0.3s,baz=182,slow=15,SNR=2.1	**54.04**	**346**	P	**P**	**11 46 42.5**	**+0.3**
MJAR	**Matsushiro Arr** 0.3nm,0.4s,baz=178,slow=8.1,SNR=4.1	**56.82**	**46**	P	**P**	**11 47 02.9**	**+0.4**
TXAR	**Lajitas Array** 0.1nm,0.5s,baz=276,slow=0.8,SNR=2.9	**146.96**	**22**	PKPbc	**PKPab**	**11 57 02.3**	**-0.4**

*ISCJB **18** 11:39:44.5±0.6,40°.25N±0°.02×25°.18E±0°.04,h3km±6km, Error ellipse: s-maj=5.3km s-min=3.8km az=174.9*
*CSEM **18** 11:39:44.8±0.2,40°.24N×25°.18E,h10km,ML1.7, Error ellipse: s-maj=3.7km s-min=2.9km az=82.0*
*ATH **18** 11:39:44.2,40°.23N×25°.20E,h27km±2km,ML1.7/4,Error ellipse: s-maj=2.2km s-min=1.0km az=303.0*
*DDA **18** 11:39:45.4,40°.23N×25°.23E,h7km,Ml2.8*
*ISK **18** 11:39:48.1,40°.30N×25°.46E,h11km,ML2.9/6*
ISC 18 11:39:45.2±1.0,**40°.25N**±0°.02×**25°.22E**±0°.02,**h8**km±9km, **n40,** σ1§**03**/61,**Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SMTH	**Samothraki Isl**	**0.32**	**47**	P	**Pg**	**11 39 51.8**	**+0.3**
SMTH				S	**Sg**	**11 39 56.6**	**+0.8**
SMTH	comp=N,184μm,0.1s			AML	AML	11 40 01.7	
SMTH	comp=E,234μm,0.2s			AML	AML	11 40 01.7	
SMTH	**Samothraki Isl**	**0.32**	**47**	P	**Pg**	**11 39 52.0**	**+0.5**
SMTH				S	**Sg**	**11 39 57.3**	**+1.5**
LIA	**Limnos Island**	**0.36**	**185**	P	**Pg**	**11 39 52.5**	**+0.3**
LIA				S	**Sg**	**11 39 57.0**	**+0.1**
LIA	comp=E,593μm,0.4s			AML	AML	11 39 57.5	
LIA	comp=N,640μm,0.4s			AML	AML	11 39 57.7	
LIA	**Limnos Island**	**0.36**	**185**	P	**Pg**	**11 39 52.2**	**0.0**
LIA				S	**Sg**	**11 39 57.3**	**+0.4**
GADA	**Gvkgeada**	**0.52**	**97**	PG	**Pg**	**11 39 55.7**	**+0.4**
GADA	**Gvkgeada**	**0.52**	**97**	*e*Pg	**Pg**	**11 39 55.7**	**+0.4**
EFSA	**Agios Efstrati**	**0.73**	**194**	P	**Pg**	**11 39 57.6**	**-1.8**
EFSA	**Agios Efstrati**	**0.73**	**194**	P	**Pg**	**11 39 57.9**	**-1.5**
BOZC	**Bozcaada**	**0.76**	**123**	PG	**Pg**	**11 40 00.1**	**+0.3**
BOZC				SG	**Sb**	**11 40 10.4**	**-0.7**
BOZC	**Bozcaada**	**0.76**	**123**	*i* P	**Pb**	**11 40 00.3**	**-0.4**
BOZC				*i* S	**Sb**	**11 40 11.1**	**0.0**
BOZC	**Bozcaada**	**0.76**	**123**	*e*Pg	**Pg**	**11 40 00.1**	**+0.3**
BOZC				*e*Sg	**Sb**	**11 40 10.4**	**-0.7**
ENEZ	**Enez**	**0.86**	**56**	PG	**Pg**	**11 40 01.7**	**0.0**
ENEZ				SG	**Sg**	**11 40 11.6**	**-1.3**
ENEZ	**Enez**	**0.86**	**56**	*e*Pg	**Pg**	**11 40 01.7**	**0.0**
ENEZ				*e*Sg	**Sg**	**11 40 11.6**	**-1.3**
ALN	**Alexandroupoli**	**0.90**	**44**	PG	**Pg**	**11 40 02.9**	**+0.4**
ALN	**Alexandroupoli**	**0.90**	**44**	P	**Pg**	**11 40 02.8**	**+0.3**
ALN				S	**Sb**	**11 40 15.8**	**+0.6**
ALN	comp=E,96μm,0.4s			AML	AML	11 40 18.5	
ALN	comp=N,113μm,0.4s			AML	AML	11 40 18.6	
ALN	**Alexandroupoli**	**0.90**	**44**	P	**Pg**	**11 40 02.5**	**0.0**
ALN	**Alexandroupoli**	**0.90**	**44**	*e*Pg	**Pg**	**11 40 02.9**	**+0.4**
ALN				S	**Sb**	**11 40 15.5**	**+0.4**
KAVA	**Kavala**	**0.92**	**324**	P	**Pg**	**11 40 02.5**	**-0.3**
KAVA				S	**Sg**	**11 40 14.4**	**-0.4**
KAVA	**Kavala**	**0.92**	**324**	P	**Pg**	**11 40 02.4**	**-0.4**
KAVA				S	**Sg**	**11 40 14.9**	**+0.1**
RDO	**Rodhopi**	**0.92**	**15**	P	**Pg**	**11 40 02.9**	**0.0**
RDO				S	**Sb**	**11 40 16.5**	**+0.6**
RDO	comp=E,57μm,0.2s			AML	AML	11 40 20.4	
RDO	comp=N,66μm,0.5s			AML	AML	11 40 21.2	
RDO	**Rodhopi**	**0.92**	**15**	P	**Pg**	**11 40 02.8**	**-0.2**
RDO				S	**Sb**	**11 40 16.3**	**+0.4**
EZN	**Ezine**	**0.95**	**116**	PG	**Pn**	**11 40 04.5**	**-0.3**
EZN	**Ezine**	**0.95**	**116**	*e*Pg	**Pn**	**11 40 04.5**	**-0.3**
GELI	**Tayfur-Gelibol**	**0.97**	**81**	PG	**Pg**	**11 40 03.5**	**-0.3**
GELI	**Tayfur-Gelibol**	**0.97**	**81**	*e*Pg	**Pg**	**11 40 03.5**	**-0.3**
ERIK	**Erikli-Kesan**	**1.07**	**67**	PG	**Pb**	**11 40 05.7**	**-0.2**
ERIK	**Erikli-Kesan**	**1.07**	**67**	*e*Pg	**Pb**	**11 40 05.7**	**-0.2**
BAYC	**CANAKKALE_Bayr**	**1.14**	**116**	*i* P	**Pb**	**11 40 07.0**	**-0.1**
BAYC				*i* S	**Sg**	**11 40 22.2**	**+0.4**
BAYC	**CANAKKALE_Bayr**	**1.14**	**116**	P	**Pb**	**11 40 07.0**	**-0.1**
BAYC				S	**Sg**	**11 40 22.2**	**+0.4**
SIGR	**SIGRI**	**1.15**	**155**	PN	**Pn**	**11 40 10.4**	**+2.8**
SIGR	**SIGRI**	**1.15**	**155**	*e*Pn	**Pn**	**11 40 10.4**	**+2.8**
KESN	**Edirne-Kesan**	**1.25**	**62**	*i* P	**Pn**	**11 40 08.7**	**-0.6**
KESN				*i* S	**Sn**	**11 40 27.7**	**+1.2**
KESN	**Edirne-Kesan**	**1.25**	**62**	P	**Pn**	**11 40 08.7**	**-0.6**
KESN				S	**Sn**	**11 40 27.7**	**+1.2**
PRK	**Paraskevi**	**1.29**	**141**	P	**Pn**	**11 40 09.0**	**-0.5**
PRK				S	**Sb**	**11 40 24.6**	**-1.8**
PRK	**Paraskevi**	**1.29**	**141**	P	**Pn**	**11 40 08.6**	**-0.9**
PRK				S	**Sb**	**11 40 25.2**	**-1.2**
NVR	**Nevrokopi**	**1.50**	**317**	P	**Pn**	**11 40 10.8**	**-1.8**
NVR	**Nevrokopi**	**1.50**	**317**	P	**Pn**	**11 40 11.2**	**-1.3**
HORT	**Hortiatis**	**1.66**	**283**	PN	**Pg**	**11 40 20.3**	**+3.3**
EDRB	**Edirne**	**1.96**	**35**	PN	**Pb**	**11 40 20.2**	**-1.0**
EDRB	**Edirne**	**1.96**	**35**	*e*Pn	**Pb**	**11 40 20.2**	**-1.0**

*NIED **18** 11:45:00,45°.80N×151°.60E,h38km,Mw3.6 Best double couple: M0 3.00000×10^14 NP1:φ=265.00000°,δ34.00000°, λ160.00000°. NP2:φ=11.00000°,δ79.00000°,λ57.00000°.*
*SKHL **18** 11:45:31.8±0.2,45°.27N×151°.76E,h59km±5km,mb4.4/2*
*JMA **18** 11:45:31.4±0.4,45°.84N×151°.58E,h30km,M4.0*
ISC 18 11:45:31.7±2.3,**45°.2N**±0°.1×**151°.8E**±0°.1,**h32**km,**n20,** σ1§**98**/29,**Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**2.75**	**272**	*e*P	**Pn**	**11 46 12.8**	**-0.7**
KUR	60nm,0.2s			AMB	AMB	11 46 15.0	
KUR	96nm,0.3s			*e*S	**Sn**	**11 46 43.6**	**-2.0**
KUR	220nm,0.3s			A	A	11 46 47.7	
KUR				A	A	11 46 47.7	
SHO	**Shikotan**	**3.76**	**251**	*e*P	**Pn**	**11 46 28.2**	**+0.8**
SHO	17nm,0.3s			AMB	AMB	11 46 30.4	
SHO				*e*S	**Sn**	**11 47 10.3**	**-0.3**
SHO	113nm,0.5s			A	A	11 47 27.0	
SHO	46nm,0.5s			A	A	11 47 27.0	
YUK	**Yuzh-Kuril'sk**	**4.36**	**257**	*e*P	**Pn**	**11 46 36.8**	**+1.1**
YUK				*e*S	**Sn**	**11 47 25.7**	**+0.3**
YUK	110nm,0.3s			A	A	11 47 37.6	
YUK	122nm,0.3s			A	A	11 47 37.6	
NEM2	**Nemuro 2**	**4.69**	**249**	P	**Pn**	**11 46 41.5**	**+1.4**
NEM2				*e*S	**Sn**	**11 47 33.5**	**+0.1**
JRA	**Rausu**	**4.90**	**258**	P	**Pn**	**11 46 46.0**	**+2.9**
JNK	**Nakash**	**5.29**	**255**	P	**Pn**	**11 46 51.1**	**+2.6**
JNK				*e*S	**Sn**	**11 47 49.8**	**+1.5**
JAK	**Akkeshi**	**5.54**	**249**	P	**Pn**	**11 46 53.0**	**+1.2**
JAK				*e*S	**Sn**	**11 47 52.6**	**-1.7**
JTKR	**Abashiri--Toko**	**5.74**	**260**	P	**Pn**	**11 46 56.9**	**+2.3**
JAR	**Ashorobuto**	**6.04**	**255**	P	**Pn**	**11 47 01.3**	**+2.5**
JAR				*e*S	**Sn**	**11 48 07.3**	**+0.5**
JMP	**Maruseppu**	**6.11**	**262**	P	**Pn**	**11 47 02.8**	**+3.1**
JOB	**Onbets**	**6.15**	**251**	*e*S	**Sn**	**11 48 09.8**	**+0.4**
SKR	**Severo-Kuril's**	**6.23**	**26**	*e*P	**Pn**	**11 47 01.4**	**+0.1**
YSS	**Yuzh-

NAYO **Nakonayok** 16.95 42 P P 12 03 17.0 +2.4
comp=Z,8.1nm,0.9s,comp=Z,726nm
VIS **Vishakhapatnam** 16.95 339 eP Pn 12 03 12.6 0.0
VIS IAmb IAmb 12 03 21.9
VIS i x x 12 06 19.8
PBKT **Sadao Pong** 18.41 37 P Pn 12 03 31.2 +0.4
comp=Z,23nm,1.2s,comp=Z,461nm
CHAI **Chaiyaphum** 18.54 40 P Pn 12 03 33.7 +1.4
comp=Z,4.7nm,1.0s
PHIT **Phitsanulok** 18.58 34 P Pn 12 03 34.7 +1.9
comp=Z,16nm,0.8s,comp=Z,308nm
CM01 **Chiang Mai Arr** 18.85 28 eP Pn 12 03 36.3 +0.2
CMAR **Chiang Mai Arr** 18.88 28 P Pn 12 03 36.5 +0.1
comp=Z,0.2nm,0.3s,baz=220,slow=12,SNR=30
HYB **Hyderabad** 18.92 326 i P Pn 12 03 46.0 +9.0
HYB eS Sn 12 06 54.0 -15
HYB **Hyderabad** 18.92 326 ex P 12 03 34.8 -1.6
HYB IAmb IAmb 12 03 46.7
comp=Z,20nm,1.2s
CHTO **Chiang Mai** 19.18 28 P Pn 12 03 41.6 +1.5
comp=Z,64nm,1.1s
CHTO **Chiang Mai** 19.18 28 eP Pn 12 03 41.1 +1.0
comp=Z,10nm,0.8s
CMMT **Chiang Mai** 19.18 28 P Pn 12 03 40.6 +0.4
comp=Z,14nm,1.0s,comp=Z,272nm
KHON **Khomkaen** 19.40 41 P Pn 12 03 44.1 +1.3
comp=Z,26nm,0.9s
H08S2 **Diego Garcia H** 19.52 241 T T 12 23 36.7
baz=61,slow=75,SNR=411
H08S3 **Diego Garcia H** 19.52 241 T T 12 23 36.0
baz=61,slow=75,SNR=384
H08S1 **Diego Garcia H** 19.53 241 T T 12 23 36.2
baz=61,slow=75,SNR=354
LEM **Lembang** 19.91 116 LR LR 12 10 44.5
comp=Z,48nm,19.0s,baz=154,slow=35
CMAI **Chiengmai2** 20.20 26 P Pn 12 03 52.9 +0.4
comp=Z,71nm,1.1s
SKNT **Sakolnakorn** 20.63 42 P P 12 03 55.2 +0.2
comp=Z,11nm,0.7s
NGP **Nagpur** 21.79 333 eP P 12 04 08.8 +1.3
NGP IAmb IAmb 12 04 10.5
comp=Z,4.4nm,0.8s
BOK **Bokaro** 22.13 351 eP P 12 04 13.4 +2.3
BOK IAmb IAmb 12 04 16.6
comp=Z,29nm,0.8s
POO **Poona** 22.68 318 eP P 12 04 18.3 +1.2
POO IAmb IAmb 12 04 28.2
comp=Z,46nm,1.5s
TURI **Tura** 23.58 2 eP P 12 04 27.2 +1.0
SHL **Shillong** 23.69 5 eP P 12 04 28.0 +0.5
SHL IAmb IAmb 12 04 31.1
comp=Z,24nm,1.3s
KOHI **KOHIMA** 24.13 10 eP P 12 04 31.1 -0.6
BHPL **Bhopal** 24.34 332 eP P 12 04 34.5 +1.0
BHPL IAmb IAmb 12 04 36.6
comp=Z,2.7nm,0.6s
MOKO **MOKOCHONG** 24.79 11 eP P 12 04 37.9 +0.2
ODAN **Odare** 24.97 355 eP P 12 04 41.3 +1.9
RAMN **Ramite** 25.14 354 eP P 12 04 43.5 +2.6
comp=Z,100nm,0.7s
GTK **Tadong** 25.36 358 eP P 12 04 43.9 +1.1
JIRN **Jiri** 25.89 353 eP P 12 04 50.0 +2.2
comp=Z,70nm,0.8s
DMN **Daman** 25.99 351 eP P 12 04 50.6 +2.0
comp=Z,45nm,0.9s
KKN **Kakani** 26.14 351 eP P 12 04 51.9 +2.0
comp=Z,60nm,0.9s
GUN **Gumba** 26.17 352 eP P 12 04 52.5 +2.1
comp=Z,76nm,0.7s
KMI **Kunming** 26.38 28 P P 12 04 54.5 +2.3
KMI pP sP 12 04 58.3 +1.8
KMI pmax pmax
comp=Z,18nm,0.7s
KMI LR LR
comp=Z,160nm,16.6s
KMI LR LR
comp=Z,150nm,16.9s
KOLN **Koldanda** 26.42 348 eP P 12 04 54.7 +2.2
comp=Z,25nm,0.7s
GKN **Gorkha** 26.45 350 eP P 12 04 54.7 +2.0
PYUN **Piuthan** 26.87 347 eP P 12 04 58.6 +2.0
comp=Z,31nm,0.8s
LSA **Lhasa** 27.75 3 eP P 12 05 07.1 +2.5
comp=Z,12nm,0.7s
SMLA **Simla** 31.43 339 eP P 12 05 38.7 +1.9
SMLA IAmb IAmb 12 05 39.1
comp=Z,14nm,1.0s
CD2 **Chengdu** 31.86 23 eP P 12 05 42.0 +1.3
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,120nm,5.0s
DHRM **DHARAMSHALA** 32.75 339 eP P 12 05 47.4 -1.3
DHRM IAmb IAmb 12 05 50.5
comp=Z,32nm,1.2s
ENH **Enshi** 33.98 32 eP P 12 05 59.5 +0.3
comp=Z,20nm,0.8s
MMRI **Maumere** 34.13 108 eP P 12 06 00.3 -0.4
comp=Z,34nm,1.1s
NIL **Nilore** 35.17 336 eP P 12 06 10.9 +1.5
comp=Z,24nm,0.6s
LZH **Lanzhou** 36.54 20 eP P 12 06 22.4 +1.1
LZH pP sP 12 06 26.0 +0.4
LZH sP pP 12 06 28.3 +3.9
LZH pmax pmax
comp=Z,23nm,1.2s
LZH pmax pmax
comp=Z,110nm,5.1s
LZH LR LR
comp=Z,300nm,13.5s
LZH LR LR
comp=Z,140nm,12.1s
LZH LR LR
comp=Z,620nm,12.1s
WSAR **Wadi Sarin** 36.81 308 LR LR 12 19 55.7
comp=Z,123nm,20.1s,baz=155,slow=34
MBWA **Marble Bar** 37.28 129 eP P 12 06 28.1 +0.4
comp=Z,19nm,1.0s
GTA **Gaotai** 38.53 13 P P 12 06 39.6 +1.5
GTA pP sP 12 06 44.0 +1.5
GTA sP pP 12 06 47.3 +6.1
GTA pmax pmax
comp=Z,27nm,1.0s
KSH **Kashi** 39.51 343 P P 12 06 46.1 -0.2
KSH sP sP 12 06 54.1 +3.4
KSH S **S** 12 12 47.8 -1.0
KSH SS **SS** 12 15 30.5 -13
KSH ScS **ScS** 12 16 46.3 -8.9
KSH pmax pmax
comp=Z,35nm,0.9s
KSH pmax pmax
comp=Z,220nm,3.1s
KSH LR LR
comp=Z,460nm,6.2s
KSH LR LR
comp=Z,340nm,6.2s
NJ2 **Nanjing** 40.76 39 eP P 12 06 56.3 -0.3
NJ2 pmax pmax
comp=Z,19nm,0.6s
TARG **Taragay, Kyrgy** 41.11 347 eP P 12 07 01.8 +1.9
comp=Z,10nm,0.8s
KDJ **Kajisay** 41.64 346 eP P 12 07 05.4 +1.4
comp=Z,19nm,1.4s
WMQ **Urumqi** 41.84 358 P P 12 07 07.1 +1.7
WMQ sP sP 12 07 14.8 +5.0
WMQ pmax pmax
comp=Z,38nm,0.9s
WMQ pmax pmax
comp=Z,220nm,3.7s
WMQ LR LR
comp=Z,200nm,18.1s
WMQ LR LR
comp=Z,140nm,24.9s
WMQ LR LR
comp=Z,130nm,22.1s
AAK **Ala-Archa** 42.82 344 P P 12 07 14.8 +1.2
comp=Z,3.3nm,0.7s,baz=165,slow=7.3,SNR=9.0
AAK **Ala-Archa** 42.82 344 eP P 12 07 16.1 +2.5
comp=Z,4.7nm,0.8s
H01W3 **Cape Leeuwin H** 43.16 150 T T 12 52 48.9
baz=324,slow=75,SNR=12
H01W2 **Cape Leeuwin H** 43.17 150 T T 12 52 52.3
baz=324,slow=75,SNR=36
H01W1 **Cape Leeuwin H** 43.17 150 T T 12 52 52.9
baz=324,slow=75,SNR=37
NWAO **Narrogin (SRO)** 43.31 145 P P 12 07 16.7 -0.8
comp=Z,15nm,1.1s,baz=31,slow=12,SNR=3.5
HHC **Hu-ho-hao-te** 43.61 24 eP P 12 07 21.3 +1.4
HHC PP PP 12 09 03.8 +2.4
HHC S S 12 13 42.5 -7.0
HHC SS SS 12 16 53.6 -11
HHC pmax pmax
comp=Z,36nm,1.0s
HHC pmax pmax
comp=Z,85nm,6.2s
HHC LR LR
comp=Z,840nm,14.8s
HHC LR LR
comp=Z,730nm,16.0s
HHC LR LR
comp=Z,910nm,15.3s
KK31 **Karatay Array** 44.49 340 eP P 12 07 28.3 +1.4
KKAR **Karatay Array** 44.49 340 eP P 12 07 28.3 +1.4
MK01 **Makanchi Array** 45.21 353 eP P 12 07 32.7 +0.2
MK31 **Makanchi Array** 45.23 353 eP P 12 07 33.1 +0.4
MKAR **Makanchi Array** 45.23 353 P P 12 07 33.1 +0.5
comp=Z,5.4nm,0.7s,baz=169,slow=6,SNR=68
MKAR **Makanchi Array** 45.23 353 eP P 12 07 33.4 +0.7
comp=Z,34nm,0.8s
MAKZ **Makanchi** 45.28 353 eP P 12 07 33.7 +0.6
comp=Z,4.4nm,0.8s
GEYT **Alibeck** 46.10 325 P P 12 07 41.1 +1.4
comp=Z,4.2nm,0.5s,baz=169,slow=8.6,SNR=7.9
GEYT LR LR 12 29 12.4
comp=Z,35nm,18.4s,baz=55,slow=39
SONM **Songino Array** 48.06 15 P P 12 07 55.8 +0.8
comp=Z,20nm,0.8s,baz=196,slow=9.1,SNR=34
SONA1 **Songino Array** 48.08 15 eP P 12 07 55.4 +0.3
ULN **Ulaanbaatar** 48.27 16 eP P 12 07 57.3 +0.7
comp=Z,8.4nm,1.0s
WRA **Warramunga Arr** 48.90 119 P P 12 08 01.8 0.0
comp=Z,3.6nm,0.6s,baz=296,slow=8.6,SNR=46
WRAB **Tennant Creek** 48.91 119 eP P 12 08 01.9 +0.1
comp=Z,6.5nm,0.8s
WB2 **Warramunga Arr** 48.91 119 eP P 12 08 02.0 +0.1
KURBB **Kurchatov Arra** 49.51 351 P P 12 08 06.4 +0.5
comp=Z,9.6nm,0.7s,baz=177,slow=7.3,SNR=93
KURK **Kurchatov** 49.59 351 eP P 12 08 07.0 +0.6
comp=Z,15nm,1.0s
JNU **Nakatsue** 49.62 47 P P 12 08 06.9 -0.2
comp=Z,5.7nm,0.8s,baz=141,slow=19,SNR=2.9
JNU LR LR 12 30 58.2
comp=Z,53nm,18.4s,baz=264,slow=38
KSAR **Wonju Array Be** 49.91 40 P P 12 08 09.3 +0.1
KS01 **Wonju Array Si** 49.94 40 eP P 12 08 09.8 +0.4
KSRS **Korea Array** 49.94 40 P P 12 08 09.4 -0.1
comp=Z,1.6nm,0.9s,baz=228,slow=9.4,SNR=4.8
KSRS LR LR 12 30 28.2
comp=Z,35nm,18.8s,baz=206,slow=38
ASAR **Alice Springs** 49.95 123 P P 12 08 09.9 +0.1
comp=Z,1.9nm,0.5s,baz=296,slow=7.6,SNR=48
TLY **Talaya** 51.05 11 LR LR 12 32 34.7
comp=Z,48nm,18.9s,baz=202,slow=39
ZAA0 **Zalesovo Array** 52.09 356 eP P 12 08 25.5 +0.2
comp=Z,20nm,1.4s
ZALV **Zalesovo Beam** 52.09 356 P P 12 08 25.4 +0.1
comp=Z,6.0nm,0.4s,baz=180,slow=7.8,SNR=25
ZALV LR LR 12 31 51.1
comp=Z,45nm,19.7s,baz=68,slow=38
ZALV **Zalesovo Beam** 52.09 356 eP P 12 08 25.3 0.0
CN2 **Changchun** 52.50 32 eP P 12 08 27.0 -1.5
BVAR **Borovoye Array** 53.46 346 P P 12 08 34.9 -0.5
comp=Z,3.1nm,0.8s,baz=148,slow=8.5,SNR=13
ABKAR **Akbulak array** 53.63 336 eP P 12 08 37.7 +1.0
comp=Z,44nm,0.6s
AKTO **Aktubinsk** 55.33 336 P P 12 08 49.0 -0.1
comp=Z,1.1nm,0.4s,baz=104,slow=12,SNR=4.2
USRK **Ussuriysk Ar.** 56.41 36 P P 12 08 57.2 +0.3
comp=Z,2.7nm,0.8s,baz=298,slow=4.1,SNR=5.2
MJAR **Matsushiro Arr** 56.54 46 P P 12 08 58.4 +0.3
comp=Z,2.4nm,0.8s,baz=228,slow=6.6,SNR=7.1
MJAR LR LR 12 33 48.8
comp=Z,32nm,20.6s,baz=170,slow=37
KBZ **Khabaz** 56.76 322 P P 12 09 14.7 +1.1
comp=Z,3.8nm,0.8s,baz=135,slow=7.2,SNR=12
MMAI **Mount Meron Ar** 59.45 308 LR LR 12 35 14.6
comp=Z,37nm,20.0s,baz=25,slow=36
STKA **Stephens Creek** 59.53 129 P P 12 09 18.4 -0.7
comp=Z,1.6nm,0.5s,baz=303,slow=8.4,SNR=8.5
STKA LR LR 12 33 59.4
comp=Z,82nm,18.9s,baz=208,slow=35
CTA **Charters Tower** 59.61 115 P P 12 09 20.2 +0.3
comp=Z,5.0nm,0.9s,baz=288,slow=11,SNR=4.3
ARU **Arti** 59.86 341 eP P 12 09 21.0 +0.1
comp=Z,6.3nm,0.6s
ASAJ **Asahikawa** 62.89 40 P P 12 09 41.9 +0.2
comp=Z,1.6nm,0.3s,baz=299,slow=13,SNR=9.9
ASAJ **Asahikawa** 62.89 40 eP P 12 09 41.8 +0.1
comp=Z,2.7nm,0.8s
BR131 **Keskin Array S** 63.16 314 eP P 12 09 44.0 +0.2
BRTR **Keskin Array B** 63.16 314 P P 12 09 43.9 +0.2
comp=Z,2.9nm,0.6s,baz=128,slow=6.7,SNR=13
ANTO **Ankara** 63.82 314 eP P 12 09 48.9 +0.9
comp=Z,103nm,0.8s
SORM **Soroca** 69.79 321 P P 12 10 26.0 +0.2
VRI **Vrincioaia** 70.06 319 P P 12 10 28.8 +1.2
PLOR **Plostina** 70.11 319 P P 12 10 29.1 +1.2
AKASG **Malin Array Be** 70.21 324 P P 12 10 28.1 -0.2
comp=Z,0.5nm,0.4s,baz=93,slow=5.3,SNR=8.9
AKASG LR LR 12 42 16.0
comp=Z,28nm,22.0s,baz=270,slow=37
SECR 70.24 318 P P 12 10 30.4 +1.7
TESR **Tescani** 70.33 319 P P 12 10 29.4 +0.2
MLR **Muntele Rosu** 70.47 318 P P 12 10 30.4 +0.1
comp=Z,3.1nm,0.6s,baz=188,slow=7.1,SNR=14
MLR **Muntele Rosu** 70.47 318 P P 12 10 30.3 +0.1
MLR **Muntele Rosu** 70.47 318 eP P 12 10 31.6 +1.4
comp=Z,17nm,0.8s
DOPR **Dopca** 70.98 318 P P 12 10 33.9 +0.7
VTS **Vitosha** 71.53 314 P P 12 10 36.7 -0.1
BURAR **Bucovina Array** 71.61 320 P P 12 10 37.1 0.0
BUR04 **Bucovina Ar. S** 71.61 320 eP P 12 10 38.0 +0.9
BUR08 **Bucovina Ar. S** 71.62 320 eP P 12 10 38.5 +1.3
DRGR 73.00 319 P P 12 10 46.4 +1.0
TIXI **Tiksi** 74.01 12 eP P 12 10 49.4 -1.3
comp=Z,8.4nm,0.7s
FINES **FINES Array B** 76.00 334 P P 12 11 02.4 0.0
comp=Z,2.6nm,0.7s,baz=85,slow=8.2,SNR=6.7
DPC **Dobruska-Polom** 77.97 321 eP P 12 11 15.5 +1.7
DPC ePCP PcP 12 11 22.9 -0.7
PRU **Pruhonice** 79.02 321 eP P 12 11 21.2 +1.6
GEA0 **GERESS Array S** 79.37 319 eP P 12 11 22.1 +0.6
GEC2 **GERESS Array S** 79.37 319 eP P 12 11 22.8 +1.1
comp=Z,5.8nm,0.9s
GERES **GERESS Array B** 79.37 319 P P 12 11 22.3 +0.7
comp=Z,2.7nm,0.7s,baz=103,slow=5.8,SNR=16
ARCES **ARCESS Array B** 79.44 341 P P 12 11 22.0 +0.5
comp=Z,2.8nm,0.8s,baz=99,slow=6.3,SNR=9.8
KHC **Kasperske Hory** 79.50 320 eP P 12 11 23.2 +1.0
BRG **Berggiesshubel** 79.56 321 eP P 12 11 20.1 -2.3
comp=Z,2.3nm,0.5s
BRG **Berggiesshubel** 79.56 321 eP P 12 11 20.1 -2.3
comp=Z,2.3nm,0.5s
HFS **Hagfors** 81.42 331 P P 12 11 32.5 +0.3
comp=Z,1.1nm,0.7s,baz=180,slow=16,SNR=3.6
HFS LR LR 12 48 50.8
comp=Z,29nm,19.4s,baz=218,slow=36
NOA **NORSAR Array B** 82.79 331 LR LR 12 51 12.4
comp=Z,17nm,19.8s,baz=220,slow=38
SPITS **Spitsbergen Ar** 84.80 349 P P 12 11 50.3 +0.8
comp=Z,9.9nm,1.1s,baz=199,slow=2.6,SNR=2.8
SPITS LR LR 12 53 32.5
comp=Z,48nm,19.6s,baz=285,slow=38
SNAA **Sanae** 92.51 198 P P 12 12 24.2 -2.2
comp=Z,0.8nm,1.0s,baz=36,slow=19,SNR=2.4
KOWA **Kowa** 93.07 285 P P 12 12 29.2 -0.9
comp=Z,1.1nm,0.5s,baz=118,slow=1.8,SNR=4.9
PDAR **Pinedale Array** 132.34 19 PKP PKPdf 12 18 30.9 +0.5
comp=Z,0.2nm,0.3s,baz=333,slow=3.1,SNR=2.7
NVAR **Mina Array Bea** 132.37 30 PKP PKPdf 12 18 31.2 +0.7
comp=Z,0.3nm,0.8s,baz=222,slow=6.1,SNR=2.5
TX31 **Lajitas Ar. Si** 146.49 21 ePKPdf PKPbc 12 18 57.6 0.0
TX31 ePKPdf PKPab 12 18 57.8 -0.7
TXAR **Lajitas Array** 146.49 21 PKPbc PKPbc 12 18 57.5 -0.1
comp=Z,1.8nm,0.8s,baz=281,slow=1.3,SNR=21

*TIR **18** 12:03:46.2,42.˚54N×18.˚77E,h22km,Md3.5/4*
*BEO **18** 12:03:48.9±0.4,42.˚22N×18.˚97E,h1km×2km*
*CSEM **18** 12:03:49.8±0.2,42.˚36N×18.˚92E,h2km,ML2.5, Error ellipse: s-maj=4.0km s-min=3.3km az=48.0*

*PDG **18** 12:03:49.6±0.3,42.˚34N×18.˚91E,h3km×1km,MD2.6/1, ML2.5/9, Error ellipse: s-maj=0.3km s-min=0.6km az=0.0*
ISC 18 12:03:50.2±0.8, **42.˚36N**±0.˚01×**18.˚92E**±0.˚02, **h3km**×7km, **n87,σ1967/151, 29C-6D, Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op	ISC	h m s ISC
BUM	**Brajici-Budva**	**0.06**	**199**	**⇑iPg**		**Pg**	**12 03 50.4 -1.0**
BUM				eSg		**Sg**	**12 03 51.2 -1.1**
BUM	**Brajici-Budva**	**0.06**	**199**	**⇑iPg**		**Pg**	**12 03 50.4 -1.0**
BUM				eSg		**Sg**	**12 03 51.2 -1.1**
CEME	**Cevo**	**0.19**	**360**	**⇑iPg**		**Pg**	**12 03 53.5 -0.4**
CEME				eSg		**Sg**	**12 03 56.8 +0.4**
CEME	**Cevo**	**0.19**	**360**	**⇑iPg**		**Pg**	**12 03 53.5 -0.4**
CEME				eSg		**Sg**	**12 03 56.8 +0.4**
DRME	**Dracevica, Mon**	**0.26**	**131**	**⇓iPg**		**Pg**	**12 03 54.1 -1.1**
DRME				eSg		**Sg**	**12 03 58.2 -0.3**
DRME	**Dracevica, Mon**	**0.26**	**131**	**⇓iPg**		**Pg**	**12 03 54.1 -1.1**
DRME				eSg		**Sg**	**12 03 58.1 -0.4**
PDG	**Podgorica**	**0.26**	**73**	**ePg**		**Pg**	**12 03 54.3 -0.9**
PDG				eSg		**Sg**	**12 03 58.6 +0.1**
PDG	**Podgorica**	**0.26**	**73**	**⇑iP**		**Pg**	**12 03 54.4 -0.8**
PDG				S		**Sg**	**12 03 58.3 -0.2**
PDG	**Podgorica**	**0.26**	**73**	**⇑iPg**		**Pg**	**12 03 54.3 -0.9**
PDG				S		**Sg**	**12 03 58.3 -0.2**
TTG	**Podgorica**	**0.26**	**73**	**⇑iPg**		**Pg**	**12 03 54.3 -0.9**
TTG				eSg		**Sg**	**12 03 58.6 +0.1**
HCY	**Herceg Novi**	**0.33**	**286**	**⇓iPg**		**Pg**	**12 03 55.9 -0.6**
HCY				eSg		**Sg**	**12 04 01.1 +0.3**
HCY	**Herceg Novi**	**0.33**	**286**	**⇓iPg**		**Pg**	**12 03 55.9 -0.6**
HCY				eSg		**Sg**	**12 04 01.1 +0.3**
NKME	**Niksic**	**0.41**	**3**	**⇑iPg**		**Pg**	**12 03 57.2 -0.9**
NKME				eSg		**Sg**	**12 04 04.0 +0.5**
NKME	**Niksic**	**0.41**	**3**	**⇑iPg**		**Pg**	**12 03 57.2 -0.9**
NKME				eSg		**Sg**	**12 04 04.0 +0.5**
NKY	**Niksic**	**0.46**	**7**	**⇑iPg**		**Pg**	**12 03 58.1 -0.9**
NKY				eSg		**Sg**	**12 04 05.7 +0.7**
NKY	**Niksic**	**0.46**	**7**	**⇑iPg**		**Pg**	**12 03 58.1 -0.9**
NKY				eSg		**Sg**	**12 04 05.7 +0.7**
ULC	**Ulcinj**	**0.46**	**148**	**⇑iPg**		**Pg**	**12 03 58.0 -1.0**
ULC				eSg		**Sg**	**12 04 04.9 -0.1**
ULC	**Ulcinj**	**0.46**	**148**	**⇑iPg**		**Pg**	**12 03 58.0 -1.0**
ULC	**Ulcinj**	**0.46**	**148**	**P**		**Pb**	**12 03 59.6 -1.4**
ULC				eSg		**Sg**	**12 04 04.9 -0.1**
TREB	**Trebinje**	**0.55**	**311**	**⇑iPg**		**Pg**	**12 03 59.9 -0.9**
TREB				eSg		**Sb**	**12 04 09.0 -1.9**
BRY	**Bratogost**	**0.61**	**333**	**⇑iPg**		**Pg**	**12 04 01.1 -0.8**
BRY				eSg		**Sb**	**12 04 11.1 -1.6**
BRY	**Bratogost**	**0.61**	**333**	**⇑iPg**		**Pg**	**12 04 01.1 -0.8**
BRY				eSg		**Sb**	**12 04 11.1 -1.6**
KOME	**Kolasin**	**0.66**	**42**	**⇑iPg**		**Pg**	**12 04 01.8 -1.1**
KOME				eSg		**Sb**	**12 04 12.6 -1.5**
KOME	**Kolasin**	**0.66**	**42**	**⇑iPg**		**Pg**	**12 04 01.8 -1.1**
KOME				eSg		**Sb**	**12 04 12.6 -1.5**
PVY	**Plav**	**0.81**	**72**	**⇑iPg**		**Pg**	**12 04 04.6 -1.0**
PVY				eSg		**Sb**	**12 04 17.3 -0.9**
PVY	**Plav**	**0.81**	**72**	**⇑iPg**		**Pg**	**12 04 04.6 -1.0**
PVY				eSg		**Sb**	**12 04 17.3 -0.9**
BEY	**Berane**	**0.88**	**54**	**⇑iPg**		**Pg**	**12 04 06.1 -1.0**
BEY	**Berane**	**0.88**	**54**	**P**		**Pn**	**12 04 10.6 +1.0**
BEY				eSg		**Sb**	**12 04 20.0 -0.5**
IVA	**Berane**	**0.88**	**54**	**⇑iPg**		**Pg**	**12 04 06.1 -1.0**
IVA				eSg		**Sb**	**12 04 20.0 -0.5**
PLE	**Pljevlja**	**1.03**	**19**	**⇓iPg**		**Pg**	**12 04 09.1 -0.9**
PLE				eSg		**Sn**	**12 04 25.5 -1.3**
PLE	**Pljevlja**	**1.03**	**19**	**⇓iPg**		**Pg**	**12 04 09.1 -0.9**
PLE				eSg		**Sn**	**12 04 25.5 -1.3**
STON	**Ston**	**1.04**	**300**	**ePg**		**Pg**	**12 04 07.4 -2.7**
STON				Sg		**Sn**	**12 04 24.6 -2.1**
STON	**Ston**	**1.04**	**300**	**ePg**		**Pg**	**12 04 08.1 -1.9**
STON				eSg		**Sb**	**12 04 23.9 -0.9**
PEJK	**Peje**	**1.04**	**74**	**P**		**Pb**	**12 04 10.0 -1.0**
PEJK				S		**Sn**	**12 04 24.6 -2.4**
SJES	**Sjenica**	**1.19**	**40**	**ePg**		**Pb**	**12 04 12.0 -1.5**
SJES				eSg		**Sn**	**12 04 30.0 -0.7**
SJES	**Sjenica**	**1.19**	**40**	**ePg**		**Pb**	**12 04 12.0 -1.5**
SJES				eSg		**Sn**	**12 04 30.0 -0.7**
TIR	**Tirane**	**1.23**	**145**	**ePg**		Pn	12 04 08.8 -5.5
TIR				eSg		**Sb**	**12 04 23.4 -6.9**
TIR	**Tirane**	**1.23**	**145**	**⇑iP**		**Pg**	**12 04 15.5 +1.8**
TIR				S		**Sn**	**12 04 33.0 +1.6**
TIR	**Tirane**	**1.23**	**145**	**ePg**		Pn	12 04 08.8 -5.5
TIR	**Tirane**	**1.23**	**145**	**⇑iP**		**Pg**	**12 04 15.5 +1.8**
TIR				S		**Sn**	**12 04 33.0 +1.6**
TIR	**Tirane**	**1.23**	**145**	*i* Pg		**Sn**	**12 04 33.6 +2.2**
TIR	**Tirane**	**1.23**	**145**	*i* PG		**Sn**	**12 04 33.6 +2.2**
PHP	**Peshkopia**	**1.32**	**120**	*i* Pg		**Sn**	**12 04 33.6 0.0**
PHP				*i* Sg		**Sg**	**12 04 38.6 +6.1**
PHP	**Peshkopia**	**1.32**	**120**	*i* PG		**Sn**	**12 04 33.6 0.0**
PHP				*i* SG		**Sg**	**12 04 38.6 +6.1**
PRZK	**Prizren**	**1.37**	**95**	**P**		**Pb**	**12 04 15.8 -0.7**
PRZK				S		**Sn**	**12 04 33.3 -1.7**
IVAS	**Ivanjica**	**1.52**	**36**	**ePg**		**Pb**	**12 04 18.1 -0.9**
IVAS				eSg		**Sg**	**12 04 40.7 +1.7**
IVAS	**Ivanjica**	**1.52**	**36**	**ePg**		**Pb**	**12 04 18.1 -0.9**
IVAS				eSg		**Sg**	**12 04 40.7 +1.7**
BBLS	**Lazići**	**1.55**	**13**	**ePg**		**Pg**	**12 04 19.7 -0.2**
BBLS				eSg		**Sg**	**12 04 41.3 +1.3**
BBLS	**Lazići**	**1.55**	**13**	**ePn**		**Pb**	**12 04 18.8 -0.8**
BBLS	**Lazići**	**1.55**	**13**	**ePg**		**Pg**	**12 04 19.7 -0.2**
BBLS				eSn		**Sg**	**12 04 40.1 +0.1**
BBLS				eSg		**Sg**	**12 04 41.3 +1.3**
HAPS	**Han Pijesak,Bl**	**1.73**	**1**	**ePn**		**Pb**	**12 04 21.3 -1.4**
HAPS				eSn		**Sg**	**12 04 44.7 -1.0**
SELS	**Selova**	**1.83**	**61**	**ePg**		**Pb**	**12 04 23.0 -1.4**
OHR	**Ohrid**	**1.88**	**131**	**ePn**		**Pg**	**12 04 25.6 -0.6**
OHR				*i* Sg		**Sg**	**12 04 55.2 +4.7**
DIVS	**Divibare**	**1.91**	**24**	**ePg**		**Pb**	**12 04 25.5 -0.2**
DIVS				eSg		**Sg**	**12 04 52.3 +0.8**
DIVS	**Divibare**	**1.91**	**24**	**ePn**		**Pb**	**12 04 23.6 -2.1**
DIVS	**Divibare**	**1.91**	**24**	**ePg**		**Pb**	**12 04 25.5 -0.2**
DIVS				eSn		**Sb**	**12 04 48.1 -1.9**
DIVS				eSg		**Sg**	**12 04 52.3 +0.8**
SKO	**Skopje**	**1.91**	**101**	**ePn**		**Pg**	**12 04 26.2 -0.7**
KRUS	**Krusevo**	**2.00**	**119**	*i* Pn		**Pb**	**12 04 26.2 -1.1**
KRUS				*i* Sg		**Sg**	**12 04 56.0 +1.6**
GRUS	**Gruza**	**2.02**	**40**	**ePg**		**Pb**	**12 04 25.3 -2.2**
GRUS	**Gruza**	**2.02**	**40**	**ePg**		**Pb**	**12 04 25.3 -2.2**
TRUS	**Trudelj**	**2.16**	**30**	**ePg**		**Pb**	**12 04 29.3 -0.6**
TRUS	**Trudelj**	**2.16**	**30**	**ePg**		**Pb**	**12 04 29.3 -0.6**
BARS	**Barje**	**2.19**	**77**	**ePg**		**Pn**	**12 04 27.6 +0.1**
BARS				eSg		**Sg**	**12 04 58.3 -2.1**
BARS	**Barje**	**2.19**	**77**	**ePg**		**Pn**	**12 04 27.6 +0.1**
BARS				eSg		**Sg**	**12 04 58.3 -2.1**
TEKS	**Tekeris**	**2.24**	**11**	**ePg**		**Pb**	**12 04 30.4 -0.8**
TEKS				eSg		**Sg**	**12 05 05.0 +3.0**
TEKS	**Tekeris**	**2.24**	**11**	**ePn**		**Pn**	**12 04 27.8 -0.4**
TEKS	**Tekeris**	**2.24**	**11**	**ePg**		**Pb**	**12 04 30.4 -0.8**
TEKS				eSn		**Sn**	**12 04 56.2 -0.1**
TEKS				eSg		**Sg**	**12 05 05.0 +3.0**
BLY	**Banja Luka**	**2.70**	**333**	**S**		**Sb**	**12 05 12.7 -0.1**
ZAGS	**Zajecar**	**2.83**	**58**	**ePg**		**Pb**	**12 04 39.0 -2.3**
ZAGS				eSg		**Sg**	**12 05 20.6 -0.5**
ZAGS	**Zajecar**	**2.83**	**58**	**ePg**		**Pb**	**12 04 39.0 -2.3**
ZAGS				eSg		**Sg**	**12 05 20.6 -0.5**
FGSL	**Fruska Gora**	**2.87**	**13**	**ePn**		**Pn**	**12 04 37.8 +0.9**
FGSL				eSn		**Sn**	**12 05 13.1 +1.1**
FRGS	**Fruska Gora**	**2.87**	**13**	**ePn**		**Pn**	**12 04 37.8 +0.9**
FRGS				eSn		**Sn**	**12 05 13.1 +1.1**
KUBS	**Kucevo**	**2.87**	**43**	**ePg**		**Pb**	**12 04 42.3 +0.2**
KUBS	**Kucevo**	**2.87**	**43**	**ePg**		**Pb**	**12 04 42.3 +0.2**
ZAPS	**Zavoj**	**2.88**	**70**	**ePn**		**Pn**	**12 04 36.8 -0.2**
ZAPS				eSn		**Sn**	**12 05 11.8 -0.5**
ZAPS	**Zavoj**	**2.88**	**70**	**ePn**		**Pn**	**12 04 36.8 -0.2**
ZAPS				eSn		**Sn**	**12 05 11.8 -0.5**
VTS	**Vitosha**	**3.18**	**84**	**⇑iP**		**Pn**	**12 04 43.0 +1.7**
VTS	**Vitosha**	**3.18**	**84**	**⇑iP**		**Pn**	**12 04 43.0 +1.7**
VTS				S		**Sb**	**12 05 22.0 -4.7**
NVLJ	**Novalja**	**3.68**	**308**	**ePn**		**Pn**	**12 04 49.6 +1.6**
NVLJ				Sn		**Sn**	**12 05 33.4 +1.6**
NVLJ	**Novalja**	**3.68**	**308**	**ePn**		**Pn**	**12 04 49.5 +1.6**
NVLJ				Sn		**Sn**	**12 05 33.4 +1.6**
BZS	**Buzias**	**3.80**	**30**	**⇑iP**		**Pn**	**12 04 51.5 +1.9**
BZS	**Buzias**	**3.80**	**30**	**⇑iP**		**Pn**	**12 04 51.5 +1.9**
BZS				S		**Sn**	**12 05 36.5 +1.8**
SIRR	**Siria**	**4.38**	**26**	**S**		**Sn**	**12

MEX 18 12:12:29.6±0.4, 16°04'N×98°47'W, h1km, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.48**	**43**	*e*P	Pg	12 12 38.4	-0.5
PNIG				*e*S	Sg	12 12 45.6	+0.6
TLIG	**Tlapa**	**1.52**	**356**	*e*P	Pn	12 12 54.4	-3.7
TLIG				*e*S	Sg	12 13 13.1	-5.3
VHO	**Vista Hermosa**	**1.96**	**58**	*e*P	Pn	12 13 01.0	-3.1
VHO				*i* S	Sn	12 13 24.5	-5.0

*ISCJB **18** 12:13:02.3±0.4, 54°.43N±0°.03×160°.17E±0°.09, h135km±4km, mb3.5/7, Error ellipse: s-maj=9.7km s-min=3.0km az=23.1*
*KRSC **18** 12:13:02.1±0.9, 54°.43N×160°.20E, h130km±11km, ML3.6*
*IDC **18** 12:13:04.0±1.2, 54°.54N×159°.63E, h148km±15km, mb2.9/6, mb1 3.3/7, mb1mx3.0/68, mbtmp3.4/7, Error ellipse: s-maj=23.4km s-min=17.9km az=141.0*
ISC 18 12:13:02.8±0.8, 54°.45N±0°.03×160°.07E±0°.06, h133km±6km, n50, σ1§00/68, mb3.2/7, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KII	**Karymskiy**	**0.55**	**222**	*e*P	Pn	12 13 22.6	+0.1
KZV	**Kizimen**	**0.68**	**11**	*e*P	Pn	12 13 23.2	-0.2
KZV				*e*S	Sn	12 13 38.4	-0.7
TUMD	**Tumrok D**	**0.78**	**14**	*e*P	Pn	12 13 23.6	-0.4
TUMD				*e*S	Sn	12 13 39.7	-0.5
TUMR	**Tumrok**	**0.84**	**3**	*e*P	Pn	12 13 24.7	+0.1
TUMR				*e*S	Sn	12 13 41.5	+0.3
KMNR	**Kamenistaya**	**1.31**	**4**	*e*P	Pn	12 13 29.5	+0.4
KMNR				*e*S	Sn	12 13 50.0	+0.8
NLC	**Nalytchevo**	**1.35**	**199**	*e*P	Pn	12 13 29.6	+0.2
NLC				*e*S	Sn	12 13 50.1	+0.5
SPN	**Mys Shipunski**	**1.35**	**181**	*e*P	Pn	12 13 29.1	-0.3
SPN				*e*S	Sn	12 13 48.8	-0.9
SDLR	**Sedlovina**	**1.37**	**211**	*e*P	Pn	12 13 30.2	+0.5
SDLR				*e*S	Sn	12 13 51.2	+1.0
KRX	**Arik**	**1.38**	**218**	*e*P	Pn	12 13 30.9	+1.0
KRER	**Koryakskii**	**1.39**	**215**	*e*P	Pn	12 13 30.8	+0.8
SMAR	**Somma**	**1.41**	**213**	*e*P	Pn	12 13 30.8	+0.6
SMAR				*e*S	Sn	12 13 52.1	+1.0
AVH	**Avacha**	**1.43**	**214**	*e*P	Pn	12 13 31.2	+0.9
AVH				*e*S	Sn	12 13 53.0	+1.8
KOK	**Koryaka**	**1.44**	**217**	*e*P	Pn	12 13 31.6	+1.2
UGLR	**Uglovaya**	**1.45**	**211**	*e*P	Pn	12 13 31.2	+0.7
GNL	**Ganaly**	**1.47**	**240**	*e*P	Pn	12 13 30.7	-0.1
BZMR	**Bezymyannaya**	**1.51**	**9**	*e*P	Pn	12 13 31.7	+0.4
KPT	**Kopyto**	**1.52**	**3**	*e*P	Pn	12 13 31.3	-0.1
BZGR	**Bezymyannyi-Gr**	**1.54**	**13**	*e*P	Pn	12 13 32.0	+0.5
BZWR	**Bezymyannyi-We**	**1.54**	**9**	*e*P	Pn	12 13 31.8	+0.2
KOZ	**Kozyrevsk**	**1.62**	**356**	*e*P	Pn	12 13 32.3	0.0
DALK	**Dalny**	**1.62**	**209**	*e*P	Pn	12 13 32.8	+0.4
DALK				*e*S	Sn	12 13 55.6	+0.7
ZLN	**Zelenaya**	**1.63**	**15**	*e*P	Pn	12 13 33.7	+1.2
PET	**Petropavlovsk**	**1.66**	**211**	*e*P	Pn	12 13 33.3	+0.5
PET				*e*S	Sn	12 13 56.4	+0.7
LGNR	**Loginova**	**1.68**	**12**	*e*P	Pn	12 13 34.1	+0.8
ESO	**Esso**	**1.68**	**333**	*e*P	Pn	12 13 32.4	-0.6
ESO				*e*S	Sn	12 13 55.0	-1.2
CIRR	**Tsirk**	**1.72**	**13**	*e*P	Pn	12 13 34.4	+0.8
KRSR	**Krestovskiy**	**1.80**	**9**	*e*P	Pn	12 13 34.6	+0.1
KRSR				*e*S	Sn	12 13 58.8	0.0
KLY	**Klyuchi**	**1.90**	**10**	*e*P	Pn	12 13 36.4	+0.8
KLY				*e*S	Sn	12 14 01.8	+1.1
PETK	**Petropavlovsk-** 3.5nm,0.3s,baz=60,slow=16,SNR=55	**1.95**	**227**	P	Pn	12 13 36.6	+0.4
PETK				S	Sn	12 14 02.9	+1.1
KRMR	**Karymshinskiy** 1.6nm,0.3s,baz=90,slow=21,SNR=5.1	**1.99**	**216**	*e*P	Pn	12 13 37.2	+0.5
BDR	**Baidarnaya**	**2.22**	**16**	*e*P	Pn	12 13 40.8	+1.2
BDR				*e*S	Sn	12 14 09.4	+1.5
RUS	**Russkaya**	**2.22**	**205**	*e*P	Pn	12 13 39.6	0.0
RUS				*e*S	Sn	12 14 07.6	-0.2
MTVR	**Mutnovka**	**2.27**	**211**	*e*P	Pn	12 13 41.5	+1.2
SMKR	**Semkarok**	**2.28**	**20**	*e*P	Pn	12 13 41.5	+1.2
SMKR				*e*S	Sn	12 14 10.9	+1.7
SRKR	**Sorokina**	**2.30**	**15**	*e*P	Pn	12 13 41.6	+1.1
SRKR				*e*S	Sn	12 14 11.0	+1.4
KBTR	**Krutoberegovo**	**2.36**	**41**	*e*P	Pn	12 13 41.9	+0.7
KBTR				*e*S	Sn	12 14 11.6	+0.8
ASAK	**Asacha**	**2.44**	**213**	*e*P	Pn	12 13 43.5	+1.1
KDTR	**Khodutka, Kamc**	**2.90**	**205**	*e*P	Pn	12 13 47.8	-0.4
BKI	**Bering**	**3.50**	**75**	*e*P	Pn	12 13 55.0	-0.8
BKI				*e*S	Sn	12 14 34.1	-2.8
MA2	**Magadan** 0.4nm,0.3s,baz=120,slow=7.1,SNR=4.3	**7.22**	**319**	P	Pn	12 14 44.8	-0.8
ILAR	**Eielson Array** 0.2nm,0.6s,baz=258,slow=6.9,SNR=4.1	**27.88**	**47**	P	**P**	**12 18 38.5**	**-1.1**
JCJ	**Chichijima** 60nm,0.7s,baz=9.9,slow=19,SNR=2.1	**30.32**	**213**	P	**P**	**12 19 00.2**	**-1.3**
H11N2	**WAKE ISLAND Hy** baz=355	**35.05**	**169**	T	T	12 57 19.9	
H11N3	**WAKE ISLAND Hy** baz=355	**35.06**	**169**	T	T	12 57 19.9	
H11N1	**WAKE ISLAND Hy** baz=355	**35.06**	**169**	T	T	12 57 21.2	
YKA	**Yellowknife Ar** 0.2nm,0.6s,baz=304,slow=8.8,SNR=4.0	**42.18**	**44**	P	**P**	**12 20 41.6**	**-0.1**
KURBB	**Kurchatov Arra** 0.2nm,0.4s,baz=58,slow=7.4,SNR=3.4	**47.12**	**301**	P	**P**	**12 21 18.5**	**-2.6**
NVAR	**Mina Array Bea** 0.1nm,0.3s,baz=295,slow=6.5,SNR=2.1	**55.30**	**71**	P	**P**	**12 22 24.5**	**+2.0**
PDAR	**Pinedale Array** 0.4nm,0.5s,baz=317,slow=7.7,SNR=2.8	**56.88**	**62**	P	**P**	**12 22 34.0**	**+0.4**
TXAR	**Lajitas Array** 0.2nm,0.5s,baz=285,slow=4.5,SNR=4.7	**70.12**	**67**	P	**P**	**12 24 02.7**	**+2.0**

*ISK **18** 12:16:10.2, 37°.68N×38°.11E, h12km, ML2.2/5*
*CSEM **18** 12:16:11.7±0.3, 37°.73N×38°.05E, h8km, ML2.7, Error ellipse: s-maj=5.9km s-min=5.2km az=146.0*
*DDA **18** 12:16:12.9, 37°.69N×38°.06E, h7km, Ml2.7*
ISC 18 12:16:11.2±1.2, 37°.67N±0°.03×38°.11E±0°.02, h1km±11km, n22, σ1§10/35, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATAB	**Bozova**	**0.25**	**144**	*i* P	Pg	12 16 12.6	-3.4
URFA	**Urfa**	**0.61**	**112**	PG	Pg	12 16 22.5	-0.4
URFA				SG	Sg	12 16 23.2	+0.7
MALT	**Malatya**	**0.69**	**21**	PG	Pg	12 16 23.8	-0.6
MALT				SG	Sg	12 16 33.7	+0.4
MALT	**Malatya**	**0.69**	**21**	*e*Pg	Pg	12 16 23.8	-0.6
MALT				*e*Sg	Sg	12 16 33.7	+0.4
SANL	**SANLIURFA_Merk**	**0.86**	**125**	*i* P	Pg	12 16 29.1	+1.4
SANL				*i* S	Sn	12 16 44.3	+0.6
SANL	**SANLIURFA_Merk**	**0.86**	**125**	P	Pg	12 16 29.1	+1.4
SANL				S	Sn	12 16 44.3	+0.6
GAZ	**Gaziantep**	**0.87**	**235**	PG	Pg	12 16 27.6	-0.4
GAZ				SG	Sb	12 16 40.3	-1.1
GAZ	**Gaziantep**	**0.87**	**235**	*e*Pg	Pg	12 16 27.6	-0.4
GAZ				*e*Sg	Sb	12 16 40.3	-1.1
SURC	**SANLIURFA_SURC**	**0.89**	**153**	*i* P	Pb	12 16 29.9	+0.4
SURC				*i* S	Sn	12 16 43.8	-0.6
SURC	**SANLIURFA_SURC**	**0.89**	**153**	P	Pb	12 16 29.9	+0.4
SURC				S	Sn	12 16 43.8	-0.6
KMRS	**Kahramanmaras**	**0.98**	**260**	PG	Pg	12 16 29.2	-0.7
KMRS	**Kahramanmaras**	**0.98**	**260**	*e*Pg	Pg	12 16 29.2	-0.7
DARE	**Darende-Malaty**	**1.02**	**331**	PG	Pg	12 16 30.1	-0.8
DARE	**Darende-Malaty**	**1.02**	**331**	*e*Pg	Pg	12 16 30.1	-0.8
ELZG	**Elazig**	**1.07**	**40**	*i* P	Pn	12 16 33.2	-0.4
ELZG				*i* S	Sn	12 16 50.3	+1.1
ELZG	**Elazig**	**1.07**	**40**	P	Pn	12 16 33.2	-0.4
KUZU	**Kuzuini**	**1.22**	**223**	*i* P	Pn	12 16 35.7	+0.2
KUZU				*i* S	Sn	12 16 53.9	+1.3
KUZU	**Kuzuini**	**1.22**	**223**	P	Pn	12 16 35.7	+0.2
KUZU				S	Sn	12 16 53.9	+1.3
ANDN	**Andirin**	**1.41**	**267**	*i* P	Pg	12 16 38.3	+0.2
ANDN				*i* S	Sg	12 16 58.6	+2.2
ANDN	**Andirin**	**1.41**	**267**	P	Pg	12 16 38.3	+0.2
KOZT	**Kozan**	**1.82**	**265**	PN	Pn	12 16 42.3	-1.4
KOZT	**Kozan**	**1.82**	**265**	*e*Pn	Pn	12 16 42.3	-1.4

*MDD **18** 12:29:53.7±2.3, 37°.58N×15°.49W, h0km, mb4.4/8, Error ellipse: s-maj=23.5km s-min=18.8km az=20.0, PRXIMO*

*INMG **18** 12:29:55.0±1.1, 37°.26N×15°.87W, h10km, ML2.7, Error ellipse: s-maj=10.2km s-min=7.3km az=172.0*
*CSEM **18** 12:29:57.7±0.5, 37°.60N×15°.11W, h10km, ML3.3/5, Error ellipse: s-maj=11.5km s-min=7.2km az=21.0*
ISC 18 12:29:54.9±3.8, 37°.61N±0°.09×15°.3W±0°.2, h10km, n75, σ1§48/117, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMAFR	**Mafra**	**4.90**	**72**	*e*Pn	Pn	12 31 10.5	+1.9
PMAFR				*e*Sn	Sn	12 32 07.8	+2.4
PMAFR				A	A	12 32 12.4	
	22nm,0.5s						
PMAFR	**Mafra**	**4.90**	**72**	P	Pn	12 31 10.2	+1.6
	7.0nm,0.1s,SNR=7.9						
PMAFR				S	Sn	12 32 05.0	-0.4
	14nm,0.2s,SNR=7.9						
PMAFR	**Mafra**	**4.90**	**72**	P	Pn	12 31 10.2	+1.6
	7.0nm,0.1s,SNR=7.9						
PMAFR	**Mafra**	**4.90**	**72**	*e*Pn	Pn	12 31 10.5	+1.9
PMAFR				S	Sn	12 32 05.0	-0.4
	14nm,0.2s,SNR=7.9						
PMAFR				*e*Sn	Sn	12 32 07.8	+2.4
	22nm,0.5s						
PFVI	**Vila Bisbo**	**5.16**	**93**	*e*Pn	Pn	12 31 12.7	+0.6
PFVI				*e*Sn	Sn	12 32 10.4	-1.3
PFVI				A	A	12 32 18.0	
	8.7nm,0.5s						
PFVI	**Vila Bisbo**	**5.16**	**93**	P	Pn	12 31 12.6	+0.4
	1.6nm,0.1s,SNR=7.9						
PFVI				S	Sn	12 32 11.6	-0.1
	5.9nm,0.1s,SNR=7.9						
PFVI	**Vila Bisbo**	**5.16**	**93**	*e*Pn	Pn	12 31 12.7	+0.6
PFVI				*e*Sn	Sn	12 32 10.4	-1.3
	8.7nm,0.5s						
PFVI				S	Sn	12 32 11.6	-0.1
	5.9nm,0.1s,SNR=7.9						
PTEO	**Sao Teotonio**	**5.20**	**89**	*e*Pn	Pn	12 31 13.3	+0.5
PTEO				*e*Sn	Sn	12 32 11.9	-0.9
PTEO				A	A	12 32 16.2	
	3.6nm,0.2s						
PTEO	**Sao Teotonio**	**5.20**	**89**	P	Pn	12 31 13.3	+0.5
PTEO				S	Sn	12 32 11.9	-0.9
	1.8nm,0.2s						
PTEO	**Sao Teotonio**	**5.20**	**89**	P	Pn	12 31 13.3	+0.5
PTEO				S	Sn	12 32 11.9	-0.9
	1.8nm,0.2s						
MORF	**Marmelete**	**5.28**	**91**	*e*Pn	Pn	12 31 14.7	+0.9
MORF				*e*Sn	Sn	12 32 14.0	-0.7
MORF				A	A	12 32 17.8	
	5.1nm,0.2s						
MORF	**Marmelete**	**5.28**	**91**	P	Pn	12 31 14.7	+0.9
MORF				S	Sn	12 32 14.0	-0.7
	5.1nm,0.2s						
MORF	**Marmelete**	**5.28**	**91**	P	Pn	12 31 14.7	+0.9
MORF				S	Sn	12 32 14.0	-0.7
	5.1nm,0.2s						
PNCL	**Nicolau / Gran**	**5.36**	**83**	*e*Pn	Pn	12 31 15.9	+1.0
PNCL				*e*Sn	Sn	12 32 16.0	-0.7
PNCL				A	A	12 32 24.5	
	2.7nm,0.3s						
PNCL	**Nicolau / Gran**	**5.36**	**83**	*e*Pn	Pn	12 31 15.9	+1.0
PNCL				*e*Sn	Sn	12 32 16.0	-0.7
	2.7nm,0.3s						
ALMR	**Almeirim**	**5.48**	**72**	*e*Sn	Sn	12 32 21.3	+1.6
ALMR	**Almeirim**	**5.48**	**72**	S	Sn	12 32 21.3	+1.6
ALMR	**Almeirim**	**5.48**	**72**	S	Sn	12 32 21.3	+1.6
PMTG	**Montargil**	**5.73**	**73**	*e*Pn	Pn	12 31 22.1	+2.1
PMTG				*e*Sn	Sn	12 32 26.5	+0.7
PMTG				A	A	12 32 35.4	
	2.1nm,0.3s						
PMTG	**Montargil**	**5.73**	**73**	*e*Pn	Pn	12 31 22.1	+2.1
PMTG				*e*Sn	Sn	12 32 26.5	+0.7
	2.1nm,0.3s						
PTOM	**Tomar**	**5.74**	**67**	*e*Pn	Pn	12 31 22.2	+2.1
PTOM	**Tomar**	**5.74**	**67**	P	Pn	12 31 22.2	+2.1
PTOM	**Tomar**	**5.74**	**67**	P	Pn	12 31 22.2	+2.1
PCVE	**Castro Verde**	**5.74**	**88**	*e*Sn	Sn	12 32 26.5	+0.4
PCVE				A	A	12 32 30.8	
	2.4nm,0.3s						
PCVE	**Castro Verde**	**5.74**	**88**	S	Sn	12 32 26.5	+0.4
	2.4nm,0.3s						
PCVE	**Castro Verde**	**5.74**	**88**	S	Sn	12 32 26.5	+0.4
	2.4nm,0.3s						
PCAS	**Casmilo, Conde**	**5.83**	**63**	*e*Pn	Pn	12 31 22.9	+1.6
PCAS				*e*Sn	Sn	12 32 29.6	+1.4
PCAS	**Casmilo, Conde**	**5.83**	**63**	*e*Pn	Pn	12 31 22.9	+1.6
PCAS				*e*Sn	Sn	12 32 29.6	+1.4
PVAQ	**Vaqueiros**	**6.01**	**90**	*e*Sn	Sn	12 32 32.9	+0.2
PVAQ				A	A	12 32 38.2	
	4.0nm,0.2s						
PVAQ	**Vaqueiros**	**6.01**	**90**	S	Sn	12 32 32.9	+0.2
	4.0nm,0.2s						
PVAQ	**Vaqueiros**	**6.01**	**90**	S	Sn	12 32 32.9	+0.2
	4.0nm,0.2s						
PESTR	**Estremoz**	**6.18**	**76**	*e*Sn	Sn	12 32 36.8	-0.1
PESTR				A	A	12 32 47.9	
	3.1nm,0.4s						
PESTR	**Estremoz**	**6.18**	**76**	*e*Sn	Sn	12 32 36.8	-0.1
	3.1nm,0.4s						
EGRO	**El Granado**	**6.19**	**88**	P	Pn	12 31 27.1	+0.8
	0.7nm,0.1s,SNR=7.9						
EGRO				S	Sn	12 32 35.5	-1.6
	1.8nm,0.1s,SNR=7.9						
EGRO	**El Granado**	**6.19**	**88**	P	Pn	12 31 27.1	+0.8
	0.7nm,0.1s,SNR=7.9						
EGRO				S	Sn	12 32 35.5	-1.6
	1.8nm,0.1s,SNR=7.9						
PMRV	**Marv??o**	**6.44**	**71**	*e*Pn	Pn	12 31 31.2	+1.4
PMRV				*e*Sn	Sn	12 32 44.0	+0.6
PMRV				A	A	12 32 47.3	
	3.2nm,0.3s						
PMRV	**Marv??o**	**6.44**	**71**	P	Pn	12 31 31.2	+1.4
PMRV				S	Sn	12 32 44.0	+0.6
	3.2nm,0.3s						
PMRV	**Marv??o**	**6.44**	**71**	P	Pn	12 31 31.2	+1.4
PMRV				S	Sn	12 32 44.0	+0.6
	3.2nm,0.3s						
PCBR	**Castelo Branco**	**6.49**	**67**	*e*Pn	Pn	12 31 32.1	+1.7
PCBR	**Castelo Branco**	**6.49**	**67**	P	Pn	12 31 32.1	+1.7
PCBR	**Castelo Branco**	**6.49**	**67**	P	Pn	12 31 32.1	+1.7
PBAR	**Barrancos**	**6.54**	**82**	*e*Pn	Pn	12 31 33.5	+2.4
PBAR				*e*Sn	Sn	12 32 44.6	-1.1
PBAR				A	A	12 32 51.6	
	4.2nm,0.3s						
PBAR	**Barrancos**	**6.54**	**82**	P	Pn	12 31 33.5	+2.4
PBAR				S	Sn	12 32 44.6	-1.1
	4.2nm,0.3s						
PBAR	**Barrancos**	**6.54**	**82**	P	Pn	12 31 33.5	+2.4
PBAR				S	Sn	12 32 44.6	-1.1
	4.2nm,0.3s						
EBAD	**Badajoz**	**6.61**	**77**	P	Pn	12 31 33.3	+1.2
	0.6nm,0.1s,SNR=7.9						
EBAD				S	Sn	12 32 45.8	-1.6
	1.6nm,0.1s,SNR=7.9						
EBAD	**Badajoz**	**6.61**	**77**	P	Pn	12 31 33.3	+1.2
	0.6nm,0.1s,SNR=7.9						
EBAD				S	Sn	12 32 45.8	-1.6
	1.6nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**6.82**	**86**	P	Pn	12 31 36.1	+1.1
	0.4nm,0.1s,SNR=7.9						
EMIN				S	Sn	12 32 51.0	-1.7
	0.8nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**6.82**	**86**	P	Pn	12 31 36.1	+1.1
	0.4nm,0.1s,SNR=7.9						
EMIN				S	Sn	12 32 51.0	-1.7
	0.8nm,0.1s,SNR=7.9						
POLO	**Lamas de Olo**	**6.90**	**55**	*e*Pn	Pn	12 31 37.9	+1.7
POLO				A	A	12 32 58.4	
	1.8nm,0.5s						
POLO	**Lamas de Olo**	**6.90**	**55**	*e*Pn	Pn	12 31 37.9	+1.7
	1.8nm,0.5s						
ELOB	**Lobios**	**7.00**	**50**	P	Pn	12 31 37.8	+0.3
	1.6nm,0.2s,SNR=7.9						
ELOB				S	Sn	12 32 54.7	-2.5
	3.9nm,0.2s,SNR=7.9						
ELOB	**Lobios**	**7.00**	**50**	P	Pn	12 31 37.8	+0.3
	1.6nm,0.2s,SNR=7.9						
MVO	**Moncorvo**	**7.31**	**58**	*e*Pn	Pn	12 31 42.8	+1.1
MVO	**Moncorvo**	**7.31**	**58**	P	Pn	12 31 42.4	+0.7
	1.6nm,0.2s,SNR=7.9						
MVO				S	Sn	12 33 02.4	-2.4
	1.2nm,0.1s,SNR=7.9						
MVO	**Moncorvo**	**7.31**	**58**	P	Pn	12 31 42.4	+0.7
	1.6nm,0.2s,SNR=7.9						
MVO	**Moncorvo**	**7.31**	**58**	*e*Pn	Pn	12 31 42.8	+1.1
ESPR	**Espera**	**7.55**	**93**	S	Sn	12 33 08.5	-2.1
	5.4nm,0.3s,SNR=7.9						
ESPR	**Espera**	**7.55**	**93**	S	Sn	12 33 08.5	-2.1
	5.4nm,0.3s,SNR=7.9						
EAGO	**Agolada(Pontev**	**7.56**	**44**	P	Pn	12 31 45.4	+0.3
	1.5nm,0.1s,SNR=7.9						
EAGO				S	Sn	12 33 07.2	-3.7
	3.1nm,0.2s,SNR=7.9						
EAGO	**Agolada(Pontev**	**7.56**	**44**	P	Pn	12 31 45.4	+0.3
	1.5nm,0.1s,SNR=7.9						
EPLA	**Plasencia**	**7.58**	**68**	P	Pn	12 31 46.3	+0.8
	2.0nm,0.3s,SNR=7.9						
EPLA				S	Sn	12 33 09.2	-2.3
	1.4nm,0.2s,SNR=7.9						
EPLA	**Plasencia**	**7.58**	**68**	P	Pn	12 31 46.3	+0.8
	2.0nm,0.3s,SNR=7.9						
PBRG	**Braganca**	**7.80**	**55**	*e*Pn	Pn	12 31 50.3	+1.8
PBRG	**Braganca**	**7.80**	**55**	P	Pn	12 31 50.3	+1.8
PBRG	**Braganca**	**7.80**	**55**	P	Pn	12 31 50.3	+1.8
ECAB	**El Cabril**	**7.81**	**84**	P	Pn	12 31 49.9	+1.2
	0.3nm,0.1s,SNR=7.9						
ECAB				S	Sn	12 33 14.6	-2.5
	1.6nm,0.4s,SNR=7.9						
ECAB	**El Cabril**	**7.81**	**84**	P	Pn	12 31 49.9	+1.2
	0.3nm,0.1s,SNR=7.9						
ECAB				S	Sn	12 33 14.6	-2.5
	1.6nm,0.4s,SNR=7.9						
ECAL	**Calabor**	**7.87**	**54**	P	Pn	12 31 50.3	+0.9
	3.0nm,0.2s,SNR=7.9						
ECAL				S	Sn	12 33 15.6	-3.0
	4.1nm,0.3s,SNR=7.9						
ECAL	**Calabor**	**7.87**	**54**	P	Pn	12 31 50.3	+0.9
	3.0nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**8.48**	**83**	P	Pn	12 31 58.9	+1.2
	0.4nm,0.1s,SNR=7.9						
EADA				S	Sn	12 33 30.6	-2.9
	0.7nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**8.48**	**83**	P	Pn	12 31 58.9	+1.2
	0.4nm,0.1s,SNR=7.9						
EADA				S	Sn	12 33 30.6	-2.9
	0.7nm,0.1s,SNR=7.9						
PAB	**San Pablo**	**8.77**	**74**	P	Pn	12 32 02.3	+0.4
	0.6nm,0.2s,SNR=7.9						
PAB				S	Sn	12 33 37.9	-3.0
	0.9nm,0.3s,SNR=7.9						
PAB	**San Pablo**	**8.77**	**74**	P	Pn	12 32 02.3	+0.4
	0.6nm,0.2s,SNR=7.9						
ESDC	**Sonseca Array**	**9.09**	**73**	P	Pn	12 32 06.5	+0.3
	1.2nm,0.3s,baz=264,slow=13,SNR=7.9						
ESDC	**Sonseca Array**	**9.09**	**73**	P	Pn	12 32 06.5	+0.3
	1.2nm,0.3s,baz=264,slow=13,SNR=7.9						

IDC 18 12:41:41.8±1.9, 4°.74S×148°.96E, h0km, mb3.0/3, mb1 3.4/3, mb1mx3.2/45, mbtmp3.1/3, Error ellipse: s-maj=150.7km s-min=28.7km az=124.0, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby** 0.3nm,0.3s,baz=76,slow=12,SNR=2.4	**4.97**	**201**	Sn	Sn	12 43 58.0	+1.9
WRA	**Warramunga Arr** 0.4nm,0.5s,baz=47,slow=12,SNR=11	**20.77**	**222**	P	P	12 46 24.4	-0.2
ASAR	**Alice Springs** 0.4nm,0.9s,baz=47,slow=8.4,SNR=5.2	**23.77**	**216**	P	P	12 46 56.5	+0.2
ILAR	**Eielson Array** 0.1nm,0.8s,baz=238,slow=6.2,SNR=2.8	**83.56**	**23**	P	P	12 54 11.5	0.0

*GUC **18** 12:43:48.4±0.6, 23°.59S×69°.28W, h93km±6km, ML3.7*
*ISCJB **18** 12:43:49.4±0.8, 23°.57S±0°.04×69°.4W±0°.1, h95km±10km, mb3.8/1, Error ellipse: s-maj=18.2km s-min=6.5km az=9.0*
*IDC **18** 12:44:10.3±8.1, 17°.79S×73°.83W, h0km, mb3.7/1, mb1 3.7/2, mb1mx3.4/36, mbtmp3.4/2, ML2.7/1, Error ellipse: s-maj=289.9km s-min=49.8km az=5.0*
ISC 18 12:43:50.0±1.3, 23°.59S±0°.05×69°.3W±0°.1, h88km±13km, n12, σ0§43/15, 6C-2D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB06	**IPOC Station P**	**0.91**	**346**	⇓*i*P	Pn	12 44 08.4	-0.3
PB06				*i* S	Sn	12 44 22.9	+0.3
PB06				IAML		12 44 23.7	
	comp=E,4μm,0.2s						
PB10	**IPOC Station P**	**1.12**	**274**	⇑*i*P	Pn	12 44 11.0	0.0
PB10				*i* S	Sn	12 44 27.3	+0.5
PB10				IAML		12 44 31.5	
	comp=N,3μm,0.4s						
PB14	**IPOC Station P**	**1.42**	**223**	⇑*i*P	Pn	12 44 14.6	-0.4
PB14				*i* S	Sn	12 44 33.8	0.0
PB14				IAML		12 44 35.0	
	comp=E,2μm,0.2s						
PB04	**IPOC Station P**	**1.46**	**329**	⇑*i*P	Pn	12 44 14.9	-0.4
PB04				IAML		12 44 34.4	
	comp=N,1μm,0.4s						
GO02	**Mina Guanaco**	**1.58**	**188**	⇓*i*P	Pn	12 44 16.7	-0.3
GO02				*i* S	Sn	12 44 37.8	+0.4
GO02				IAML		12 44 40.3	
	comp=N,1μm,0.1s						
PB09	**IPOC Station P**	**1.79**	**3**	IAML		12 44 50.9

AKS	**Akhisar**	**1.07 258**	PG	**Pb**	**12 46 56.3**	**-0.3**
AKS	**Akhisar**	**1.07 258**	*e*Pg	**Pb**	**12 46 56.3**	**-0.3**
AUKUT	**KUTAHYA**	**1.08 38**	*i* P	Pg	12 46 49.9	-6.3
AUKUT			*i* S	Sg	12 47 00.6	-10
BALB	**Balikesir**	**1.12 299**	PN	**Pb**	**12 46 57.5**	**+0.1**
BALB	**Balikesir**	**1.12 299**	*e*Pn	**Pb**	**12 46 57.5**	**+0.1**
STEP	**BALIKESIR_Sava**	**1.15 284**	*i* P	**Pg**	**12 46 57.4**	**0.0**
STEP			*i* S	**Sb**	**12 47 12.9**	**-0.2**
STEP	**BALIKESIR_Sava**	**1.15 284**	P	**Pg**	**12 46 57.4**	**0.0**
STEP			S	**Sb**	**12 47 12.9**	**-0.2**
KZIL	**AFYON_Kizioren**	**1.15 137**	*i* P	**Pn**	**12 46 58.8**	**+0.3**
KZIL	**AFYON_Kizioren**	**1.15 137**	P	**Pn**	**12 46 58.8**	**+0.3**
CAVI	**Cavuskoy**	**1.21 26**	PN	**Pn**	**12 46 59.4**	**+0.1**
CAVI	**Cavuskoy**	**1.21 26**	*e*Pn	**Pn**	**12 46 59.4**	**+0.1**
SHUT	**Suhut-Afyon**	**1.23 117**	PN	**Pn**	**12 46 59.5**	**-0.1**
SHUT	**Suhut-Afyon**	**1.23 117**	*e*Pn	**Pn**	**12 46 59.5**	**-0.1**
IZI	**Iznik**	**1.25 11**	PN	**Pn**	**12 47 00.1**	**+0.2**
IZI	**Iznik**	**1.25 11**	*e*Pn	**Pn**	**12 47 00.1**	**+0.2**
MDNY	**Mudanya-Bursa**	**1.27 351**	PN	**Pb**	**12 47 00.4**	**+0.3**
MDNY	**Mudanya-Bursa**	**1.27 351**	*e*Pn	**Pb**	**12 47 00.4**	**+0.3**
KCTX	**Karacabey (Bur**	**1.31 332**	PN	**Pg**	**12 47 01.0**	**+0.5**
KCTX	**Karacabey (Bur**	**1.31 332**	*e*Pn	**Pg**	**12 47 01.0**	**+0.5**
GEMT	**Gemlik**	**1.32 1**	PN	**Pb**	**12 47 00.9**	**0.0**
GEMT	**Gemlik**	**1.32 1**	*e*Pn	**Pb**	**12 47 00.9**	**0.0**
ESKT	**Eskisehir**	**1.38 72**	PN	**Pg**	**12 47 02.2**	**+0.3**
ESKT	**Eskisehir**	**1.38 72**	*i* P	**Pn**	**12 47 00.8**	**-0.9**
ESKT	**Eskisehir**	**1.38 72**	*e*Pn	**Pg**	**12 47 02.2**	**+0.3**
SEYT	**Eskypehyr**	**1.38 72**	P	**Pn**	**12 47 00.8**	**-0.9**
ADVT	**Abdulvahap**	**1.40 19**	PN	**Pg**	**12 47 02.6**	**+0.3**
ADVT	**Abdulvahap**	**1.40 19**	*e*Pn	**Pg**	**12 47 02.6**	**+0.3**
BOLV	**Bolvadin**	**1.46 105**	*i* P	**Pg**	**12 47 04.5**	**+1.1**
BOLV	**Bolvadin**	**1.46 105**	P	**Pg**	**12 47 04.5**	**+1.1**
YLV	**Yalova**	**1.47 7**	PN	**Pg**	**12 47 03.7**	**+0.1**
YLV	**Yalova**	**1.47 7**	*e*Pn	**Pg**	**12 47 03.7**	**+0.1**
GONE	**Gonen-Balikesi**	**1.47 310**	PN	**Pb**	**12 47 03.2**	**-0.2**
GONE	**Gonen-Balikesi**	**1.47 310**	*e*Pn	**Pb**	**12 47 03.2**	**-0.2**
ARMT	**Armutlu**	**1.47 351**	PN	**Pb**	**12 47 03.6**	**+0.2**
ARMT	**Armutlu**	**1.47 351**	*e*Pn	**Pb**	**12 47 03.6**	**+0.2**
GPA	**Golpazari**	**1.48 37**	PN	**Pb**	**12 47 03.8**	**+0.2**
GPA	**Golpazari**	**1.48 37**	*e*Pn	**Pb**	**12 47 03.8**	**+0.2**
AYDB	**Zeytinkoy-Aydi**	**1.53 221**	PN	**Pb**	**12 47 04.3**	**-0.1**
AYDB	**Zeytinkoy-Aydi**	**1.53 221**	*e*Pn	**Pb**	**12 47 04.3**	**-0.1**
BRDR	**BURDUR-Merkez**	**1.58 153**	*i* P	**Pg**	**12 47 06.9**	**+1.1**
BRDR	**BURDUR-Merkez**	**1.58 153**	P	**Pg**	**12 47 06.9**	**+1.1**
EDC	**Edincik**	**1.59 322**	PN	**Pb**	**12 47 05.5**	**+0.1**
EDC	**Edincik**	**1.59 322**	*e*Pn	**Pb**	**12 47 05.5**	**+0.1**
GEYV	**SAKARYA_Geyve**	**1.63 32**	*i* P	**Pg**	**12 47 06.6**	**-0.1**
GEYV	**SAKARYA_Geyve**	**1.63 32**	P	**Pg**	**12 47 06.6**	**-0.1**
ISP	**Isparta**	**1.68 140**	PN	**Pb**	**12 47 06.3**	**-0.7**
ISP	**Isparta**	**1.68 140**	*e*Pn	**Pb**	**12 47 06.3**	**-0.7**
GULT	**Gulveren**	**1.69 38**	PN	**Pb**	**12 47 06.7**	**-0.5**
GULT	**Gulveren**	**1.69 38**	*e*Pn	**Pb**	**12 47 06.7**	**-0.5**
DKL	**Dikili**	**1.75 269**	PN	**Pb**	**12 47 07.8**	**-0.3**
DKL	**Dikili**	**1.75 269**	*e*Pn	**Pb**	**12 47 07.8**	**-0.3**
HRT	**Hereke**	**1.75 13**	PN	**Pn**	**12 47 07.4**	**+0.6**
HRT	**Hereke**	**1.75 13**	*e*Pn	**Pn**	**12 47 07.4**	**+0.6**
BLCB	**Balcova**	**1.80 247**	PN	**Pb**	**12 47 08.6**	**-0.4**
BLCB	**Balcova**	**1.80 247**	*e*Pn	**Pb**	**12 47 08.6**	**-0.4**
SPNC	**Sapanca-Adapaz**	**1.81 29**	PN	**Pb**	**12 47 08.6**	**-0.6**
SPNC	**Sapanca-Adapaz**	**1.81 29**	*e*Pn	**Pb**	**12 47 08.6**	**-0.6**
SAUV	**Serdivan-Sakar**	**1.86 29**	PN	**Pb**	**12 47 09.3**	**-0.8**
SAUV	**Serdivan-Sakar**	**1.86 29**	*e*Pn	**Pb**	**12 47 09.3**	**-0.8**
KRBG	**Karabiga-Canak**	**1.92 312**	PN	**Pb**	**12 47 10.1**	**-1.0**
KRBG	**Karabiga-Canak**	**1.92 312**	*e*Pn	**Pb**	**12 47 10.1**	**-1.0**
ISK	**Istanbul-Kandi**	**1.96 358**	PN	**Pb**	**12 47 10.9**	**-0.8**
ISK	**Istanbul-Kandi**	**1.96 358**	*e*Pn	**Pb**	**12 47 10.9**	**-0.8**
SBT3	**Marmara-Eregli**	**1.99 333**	PN	**Pb**	**12 47 11.1**	**-1.1**
SBT3	**Marmara-Eregli**	**1.99 333**	*e*Pn	**Pb**	**12 47 11.1**	**-1.1**
GCAM	**G?zelcaml?**	**2.06 228**	PN	**Pn**	**12 47 11.9**	**+1.0**
GCAM	**G?zelcaml?**	**2.06 228**	*e*Pn	**Pn**	**12 47 11.9**	**+1.0**
SILT	**Sile**	**2.08 10**	PN	**Pn**	**12 47 12.4**	**+1.3**
SILT	**Sile**	**2.08 10**	*e*Pn	**Pn**	**12 47 12.4**	**+1.3**
MDUB	**Mudurnu**	**2.08 49**	PN	**Pn**	**12 47 12.4**	**+1.1**
MDUB	**Mudurnu**	**2.08 49**	*e*Pn	**Pn**	**12 47 12.4**	**+1.1**
BGKT	**Bogazkoy**	**2.09 352**	PN	**Pb**	**12 47 12.8**	**-1.2**
BGKT	**Bogazkoy**	**2.09 352**	*e*Pn	**Pb**	**12 47 12.8**	**-1.2**
MLSB	**Milas**	**2.11 211**	PN	**Pb**	**12 47 12.9**	**-1.4**
MLSB	**Milas**	**2.11 211**	*e*Pn	**Pb**	**12 47 12.9**	**-1.4**
URLA	**Izmir**	**2.13 250**	PN	**Pb**	**12 47 13.3**	**-1.5**
URLA	**Izmir**	**2.13 250**	*e*Pn	**Pb**	**12 47 13.3**	**-1.5**
KLYT	**Kilyos**	**2.14 358**	PN	**Pn**	**12 47 12.9**	**+0.9**
KLYT	**Kilyos**	**2.14 358**	*e*Pn	**Pn**	**12 47 12.9**	**+0.9**
CTKS	**Kestanelik-??a**	**2.18 347**	PN	**Pb**	**12 47 14.3**	**-1.2**
CTKS	**Kestanelik-??a**	**2.18 347**	*e*Pn	**Pb**	**12 47 14.3**	**-1.2**
SUTC	**Sutluce-Ispart**	**2.18 138**	PN	**Pn**	**12 47 13.8**	**+1.0**
SUTC	**Sutluce-Ispart**	**2.18 138**	*e*Pn	**Pn**	**12 47 13.8**	**+1.0**
RKY	**Sarkoy-Tekirda**	**2.19 317**	PN	**Pb**	**12 47 14.3**	**-1.4**
RKY	**Sarkoy-Tekirda**	**2.19 317**	*e*Pn	**Pb**	**12 47 14.3**	**-1.4**
LPK	**Lapseki**	**2.23 305**	PN	**Pb**	**12 47 14.8**	**-1.6**
LPK	**Lapseki**	**2.23 305**	*e*Pn	**Pb**	**12 47 14.8**	**-1.6**
SLVT	**Silivri**	**2.24 341**	PN	**Pn**	**12 47 14.7**	**+1.3**
SLVT	**Silivri**	**2.24 341**	*e*Pn	**Pn**	**12 47 14.7**	**+1.3**
EZN	**Ezine**	**2.30 289**	PN	**Pn**	**12 47 15.6**	**+1.4**
EZN	**Ezine**	**2.30 289**	*e*Pn	**Pn**	**12 47 15.6**	**+1.4**
KORT	**Korkueli**	**2.31 155**	PN	**Pn**	**12 47 15.6**	**+1.1**
KORT	**Korkueli**	**2.31 155**	*e*Pn	**Pn**	**12 47 15.6**	**+1.1**
GELI	**Tayfur-Gelibol**	**2.43 303**	PN	**Pn**	**12 47 17.6**	**+1.6**
GELI	**Tayfur-Gelibol**	**2.43 303**	*e*Pn	**Pn**	**12 47 17.6**	**+1.6**
CTYL	**Yalikoy Yolu**	**2.45 345**	PN	**Pn**	**12 47 18.1**	**+1.8**
CTYL	**Yalikoy Yolu**	**2.45 345**	*e*Pn	**Pn**	**12 47 18.1**	**+1.8**
BOZC	**Bozcaada**	**2.51 288**	PN	**Pn**	**12 47 18.5**	**+1.4**
BOZC	**Bozcaada**	**2.51 288**	*e*Pn	**Pn**	**12 47 18.5**	**+1.4**
ERIK	**Erikli-Kesan**	**2.56 308**	PN	**Pn**	**12 47 19.3**	**+1.5**
ERIK	**Erikli-Kesan**	**2.56 308**	*e*Pn	**Pn**	**12 47 19.3**	**+1.5**

*ATA **18** 12:52:00.8±1.1, 38.70N×43.50E, h7km±38km, ML2.9, MW3.1*
*ISK **18** 12:52:00.2, 38.72N×43.50E, h17km, ML2.6/3*
*CSEM **18** 12:52:00.7±0.3, 38.69N±0.4×43.57E, h10km, ML2.6, Error ellipse: s-maj=7.8km s-min=4.7km az=112.0*
*ISCJB **18** 12:52:01.2±0.6, 38.69N±0.02×43.60E±0.04, h9km±4km, Error ellipse: s-maj=6.1km s-min=3.6km az=19.6*
*DDA **18** 12:52:01.1, 38.69N×43.51E, h7km, Ml2.6*
ISC 18 12:52:00.8±0.9, **38.70N**±0.02×**43.56E**±0.03, **h13**km±7km, **n35**, σ0°**66**/59, **1D, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.17**	**231**	PG	**Pb**	**12 52 05.6**	**-0.2**
VANB				SG	**Sb**	**12 52 09.7**	**+0.6**
VANB	**Van**	**0.17**	**231**	*e*Pg	**Pb**	**12 52 05.6**	**-0.2**
VANB				*e*Sg	**Sb**	**12 52 09.7**	**+0.6**
TVAN	**Van**	**0.21**	**214**	*i* P	**Pg**	**12 52 05.1**	**-0.4**
TVAN				*i* S	**Sg**	**12 52 09.7**	**+0.9**
TVAN	**Van**	**0.21**	**214**	P	**Pg**	**12 52 05.1**	**-0.4**
TVAN				S	**Sg**	**12 52 09.7**	**+0.9**
VMUR	**Van-Muradiye**	**0.29**	**2**	*i* P	**Pg**	**12 52 06.3**	**-0.6**
VMUR				*i* S	**Sb**	**12 52 12.9**	**+0.1**
VMUR	**Van-Muradiye**	**0.29**	**2**	P	**Pg**	**12 52 06.3**	**-0.6**
VMUR				S	**Sb**	**12 52 12.9**	**+0.1**
CLDR	**Caldiran**	**0.53**	**32**	PG	**Pg**	**12 52 11.3**	**+0.1**
CLDR				SG	**Sb**	**12 52 19.4**	**-0.2**
CLDR	**Caldiran**	**0.53**	**32**	*i* P	**Pg**	**12 52 10.9**	**-0.3**
CLDR				*i* S	**Sb**	**12 52 20.8**	**+1.2**
CLDR	**Caldiran**	**0.53**	**32**	P	**Pg**	**12 52 10.9**	**-0.3**
CLDR	**Caldiran**	**0.53**	**32**	*e*Pg	**Pg**	**12 52 11.3**	**+0.1**
CLDR				*e*Sg	**Sb**	**12 52 19.4**	**-0.2**
CLDR				S	**Sb**	**12 52 20.8**	**+1.2**
GEVA	**Gevas**	**0.55**	**225**	*e*P	**Pg**	**12 52 11.3**	**-0.3**
GEVA				*e*S	**Sg**	**12 52 19.6**	**+0.7**
GEVA				IAML		12 52 26.8	
	comp=Z,98nm,0.5s						
GEVA	**Gevas**	**0.55**	**225**	*i* P	**Pg**	**12 52 11.4**	**-0.2**
GEVA	**Gevas**	**0.55**	**225**	P	**Pg**	**12 52 11.4**	**-0.2**
ADCV	**BITLIS_Adilcev**	**0.66**	**280**	*i* P	**Pg**	**12 52 13.6**	**-0.1**
ADCV				*i* S	**Sn**	**12 52 26.7**	**+0.4**
ADCV	**BITLIS_Adilcev**	**0.66**	**280**	P	**Pg**	**12 52 13.6**	**-0.1**
ADCV				S	**Sn**	**12 52 26.7**	**+0.4**
DYDN	**Diyadin**	**0.85**	**7**	*e*P	**Pg**	**12 52 17.4**	**+0.1**
DYDN				IAML		12 52 32.6	
	comp=Z,18nm,0.3s						
TUTA	**Tutak**	**0.91**	**321**	*e*P	**Pg**	**12 52 18.2**	**-0.2**
TUTA				*e*S	**Sn**	**12 52 32.1**	**-0.4**
TUTA				IAML		12 52 35.0	
	comp=Z,50nm,0.3s						
TUTA	**Tutak**	**0.91**	**321**	*i* P	**Pg**	**12 52 18.2**	**-0.2**
TUTA	**Tutak**	**0.91**	**321**	P	**Pg**	**12 52 18.2**	**-0.2**
AGRB	**Hanur-Agry**	**0.98**	**334**	PG	**Pb**	**12 52 18.9**	**-0.8**
AGRB				SG	**Sb**	**12 52 32.5**	**-0.1**
AGRB	**Hanur-Agry**	**0.98**	**334**	*e*Pg	**Pb**	**12 52 18.9**	**-0.8**
AGRB				*e*Sg	**Sb**	**12 52 32.5**	**-0.1**
HAKT	**HAKKARI**	**1.15**	**174**	*i* P	**Pb**	**12 52 22.2**	**-0.3**
HAKT				*i* S	**Sn**	**12 52 39.1**	**+0.7**
HAKT	**HAKKARI**	**1.15**	**174**	P	**Pb**	**12 52 22.2**	**-0.3**
HAKT				S	**Sn**	**12 52 39.1**	**+0.7**
GURO	**Guroymak-BITLI**	**1.20**	**263**	PN	**Pn**	**12 52 21.9**	**-1.5**
GURO	**Guroymak-BITLI**	**1.20**	**263**	*e*Pn	**Pn**	**12 52 21.9**	**-1.5**
IGDI	**IGDIR**	**1.23**	**19**	*e*P	**Pg**	**12 52 24.9**	**+0.4**
IGDI				IAML		12 52 52.6	
	comp=Z,6.2nm,0.5s						
IGDI	**IGDIR**	**1.23**	**19**	*i* P	**Pg**	**12 52 25.1**	**+0.5**
EKAR	**Karacoban**	**1.29**	**296**	*e*P	**Pg**	**12 52 26.1**	**+0.5**
EKAR				*e*S	**Sg**	**12 52 43.4**	**+1.0**
EKAR				IAML		12 52 59.8	
	comp=Z,15nm,0.5s						
EKAR	**Karacoban**	**1.29**	**296**	*i* P	**Pg**	**12 52 25.8**	**+0.2**
EKAR	**Karacoban**	**1.29**	**296**	P	**Pg**	**12 52 25.8**	**+0.2**
EATA	**Eleskirt**	**1.43**	**325**	*e*P	**Pg**	**12 52 28.1**	**-0.2**
EATA				⇓*e*S	**Sg**	**12 52 48.9**	**+2.1**
EATA				IAML		12 52 51.3	
	comp=Z,4.4nm,0.5s						
EATA	**Eleskirt**	**1.43**	**325**	*i* P	**Pg**	**12 52 28.5**	**+0.3**
EATA				*i* S	**Sg**	**12 52 47.6**	**+0.8**
EATA	**Eleskirt**	**1.43**	**325**	P	**Pg**	**12 52 28.5**	**+0.3**
EATA				S	**Sg**	**12 52 47.6**	**+0.8**
SRTM	**Siirt_Merkez**	**1.47**	**242**	*i* P	**Pb**	**12 52 28.4**	**+0.5**
SRTM				*i* S	**Sb**	**12 52 46.4**	**-0.1**
SRTM	**Siirt_Merkez**	**1.47**	**242**	P	**Pb**	**12 52 28.5**	**+0.5**
SRTM				S	**Sb**	**12 52 46.4**	**-0.1**

IDC 18 12:53:25.1±6.3, **2.19N×95.83E, h0km, mb3.5/3, mb1 3.5/5, mb1mx3.2/70, mbtmp3.4/5, ML3.3/2, Error ellipse: s-maj=128.7km s-min=38.9km az=19.0, Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**3.15**	**79**	Pn	Pn	12 54 16.1	-0.1
	0.8nm,0.3s,baz=285,slow=16,SNR=4.6						
CMAR	**Chiang Mai Arr**	**16.45**	**10**	Pn	Pn	12 57 17.5	-0.1
	0.1nm,0.3s,baz=194,slow=11,SNR=2.5						
H08S2	**Diego Garcia H**	**25.25**	**247**	T	T	13 25 33.0	
	baz=71						
H08S3	**Diego Garcia H**	**25.25**	**247**	T	T	13 25 33.0	
	baz=71						
H08S1	**Diego Garcia H**	**25.27**	**247**	T	T	13 25 32.4	
	baz=71						
MKAR	**Makanchi Array**	**45.97**	**347**	P	P	13 01 50.9	+0.8
	0.4nm,0.6s,baz=167,slow=7.7,SNR=4.9						
KURBB	**Kurchatov Arra**	**50.43**	**346**	P	P	13 02 24.1	-0.3
	0.3nm,0.6s,baz=165,slow=7.7,SNR=3.2						
ZALV	**Zalesovo Beam**	**52.38**	**352**	P	P	13 02 38.3	-0.7
	0.4nm,0.4s,baz=176,slow=8.4,SNR=2.5						

*NNC **18** 12:53:54.8±1.5, 43.73N×81.68E, h0km, mb2.5, mpv2.3, Error ellipse: s-maj=16.5km s-min=3.6km az=136.0*
*SOME **18** 12:53:54.3, 43.42N×81.82E, h0km*
ISC 18 12:53:49.8±3.3, **43.4N**±0.1×**82.1E**±0.1, **h5**km±20km, **n7**, σ0°**90**/12, **4C-2D, Northern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDGK	**Podgornoye**	**1.87**	**270**	⇓P	**Pb**	**12 54 24.8**	**+0.3**
	2.7nm,0.4s						
PDGK				⇑S	**Sb**	**12 54 47.2**	**-1.0**
	6.6nm,0.6s						
DJR	**Jarkent**	**1.90**	**301**	*e*P	**Pg**	**12 54 27.0**	**+0.8**
	2.5nm,0.3s						
DJR				*e*S	**Sg**	**12 54 50.7**	**-0.1**
	3.7nm,0.3s						
KPKS	**Kokpek**	**2.46**	**273**	*e*P	**Pg**	**12 54 36.9**	**0.0**
	3.6nm,0.2s						
KPKS				*e*S	**Sg**	**12 55 07.3**	**-1.4**
	7.6nm,0.2s						
KAPS	**Kapalarasan**	**2.72**	**316**	*e*P	**Pg**	**12 54 42.2**	**+0.3**
	0.5nm,0.1s						
KAPS				*e*S	**Sg**	**12 55 16.6**	**-0.6**
	2.3nm,0.3s						
MNBS	**Baschi**	**2.74**	**286**	*e*P	**Pb**	**12 54 40.3**	**+1.0**
	0.9nm,0.1s						
MNBS				*e*S	**Sb**	**12 55 13.6**	**+0.4**
	3.7nm,0.2s						
MK31	**Makanchi Array**	**3.43**	**3**	⇑Pg	**Pb**	**12 54 51.7**	**+0.7**
	0.1nm,0.3s,baz=191,slow=13,SNR=5.1						
MK31				⇓Lg	Lg	12 55 33.5	
	0.5nm,0.6s,baz=184,slow=25,SNR=3.5						
MAKZ	**Makanchi**	**3.44**	**359**	⇑Pg	**Pb**	**12 54 50.3**	**-0.9**
	2.3nm,1.4s						
MAKZ				⇑Lg	Lg	12 55 32.8	
	0.6nm,0.8s						

*ISCJB **18** 12:54:04.0±0.6, 0.65N±0.05×100.14E±0.09, h150km, mb3.5/7, Error ellipse: s-maj=13.1km s-min=6.4km az=161.1*
*IDC **18** 12:54:04.9±1.5, 0.76N×100.45E, h159km±16km, mb3.2/7, mb1 3.3/8, mb1mx3.0/69, mbtmp3.7/8, Error ellipse: s-maj=73.6km s-min=13.8km az=55.0*
*DJA **18** 12:54:05.5±0.6, 1.1N±3.1×10.0E±0.1°, h162km±6km, M3.8/9, mB4.7/1, mb4.0/1, MLv3.6/9, Mw(mB)3.9/1*
ISC 18 12:54:04.0±0.8, **0.57N**±0.06×**100.06E**±0.07, **h150**km, **n17**, σ2°**41**/23, **mb3.5/7, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNSI	**Mandailing Nat**	**0.53**	**295**	P	**Pn**	**12 54 29.2**	**+3.7**
MNSI				S	**Sn**	**12 54 46.8**	**+5.0**
BKNI	**Bangkinang**	**1.01**	**104**	P	**Pn**	**12 54 32.7**	**+3.9**
PDSI	**Padang**	**1.52**	**165**	P	**Pn**	**12 54 36.7**	**+2.9**
PDSI				S	**Sn**	**12 55 00.3**	**+3.6**
PBSI	**Pulau Batu**	**1.89**	**251**	P	**Pn**	**12 54 39.6**	**+1.8**
SDSI	**Sungai Dareh**	**2.02**	**137**	P	**Pn**	**12 54 42.3**	**+2.9**
SISI	**Saibi**	**2.12**	**207**	P	**Pn**	**12 54 42.6**	**+2.1**
SISI				S	**Sn**	**12 55 09.0**	**+0.4**
PSI	**Prapat**	**2.49**	**333**	P	**Pn**	**12 54 46.5**	**+1.3**
	4.4nm,0.3s,baz=149,slow=11,SNR=20						
PSI				S	**Sn**	**12 55 18.2**	**+1.3**
	0.7nm,0.3s,baz=160,slow=8.2,SNR=4.0						
PPSI	**Pulau Pagai**	**3.31**	**181**	P	**Pn**	**12 54 56.1**	**+0.8**
MASI	**Maura Aman, Be**	**4.28**	**149**	P	**Pn**	**12 55 09.6**	**+1.6**
MDSI	**Maura Dua**	**6.49**	**141**	P	**Pn**	**12 55 37.9**	**+0.6**
WRA	**Warramunga Arr**	**39.29**	**123**	P	**P**	**13 01 16.7**	**-1.8**
	0.7nm,0.6s,baz=309,slow=8.7,SNR=16						
WRA				PcP	**PcP**	**13 03 23.6**	**-0.9**
	0.1nm,0.4s,baz=317,slow=2.5,SNR=8.7						
ASAR	**Alice Springs**	**40.75**	**129**	P	**P**	**13 01 28.2**	**-2.3**
	0.1nm,0.3s,baz=295,slow=7.4,SNR=5.2						
ASAR				PcP	**PcP**	**13 03 28.6**	**-0.5**
	0.3nm,0.6s,baz=310,slow=2.2,SNR=6.8						
MKAR	**Makanchi Array**	**48.59**	**344**	P	**P**	**13 02 32.5**	**+0.3**
	0.3nm,0.3s,baz=156,slow=8.4,SNR=8.3						
KURBB	**Kurchatov Arra**	**53.12**	**343**	P	**P**	**13 03 05.7**	**-0.3**
	0.2nm,0.3s,baz=160,slow=5.7,SNR=3.5						
ZALV	**Zalesovo Beam**	**54.67**	**349**	P	**P**	**13 03 15.4**	**-1.9**
	0.4nm,0.3s,baz=156,slow=6.9,SNR=2.4						
BVAR	**Borovoye Array**	**57.81**	**339**	P	**P**	**13 03 38.9**	**-0.6**
	1.0nm,0.5s,baz=141,slow=8.9,SNR=5.9						
TIXI	**Tiksi**	**73.33**	**9**	P	**P**	**13 05 16.7**	**-2.0**
	0.6nm,0.3s,baz=216,slow=4.4,SNR=5.5						

*DDA **18** 12:54:34.9, 42.60N×43.02E, h3km, Ml3.5*
*TIF **18** 12:54:35.6, 42.65N×43.02E, h11km±3km*
*ISK **18** 12:54:35.5, 42.56N×43.03E, h5km, ML2.8/2*
*CSEM **18** 12:54:36.7±0.3, 42.59N×43.03E, h2km, ML2.6, Error ellipse: s-maj=7.5km s-min=4.1km az=174.0*
ISC 18 12:54:37.0±1.1, **42.56N**±0.04×**43.03E**±0.02, **h6**km±10km, **n32**, σ0°**77**/57, **Western Caucasus**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONI	**Oni**	**0.31**	**84**	P	**Pg**	**12 54 42.5**	**-0.6**
ONI				S	**Sg**	**12 54 48.0**	**+0.8**
ONI	**Oni**	**0.31**	**84**	P	**Pg**	**12 54 42.5**	**-0.6**
ONI				S	**Sg**	**12 54 48.0**	**+0.8**
CHVG	**Ch'k'valeri**	**0.72**	**283**	P	**Pg**	**12 54 50.5**	**-0.3**
CHVG				S	**Sg**	**12 55 01.0**	**+0.9**
GUDG	**Gudauri**	**1.07**	**95**	P	**Pg**	**12 54 57.4**	**-0.2**
GUDG				S	**Sb**	**12 55 12.1**	**-0.4**
EPOS	**Posof**	**1.08**	**192**	*i* P	**Pg**	**12 54 56.6**	**-1.1**
EPOS				*i* S	**Sn**	**12 55 14.1**	**-0.1**
EPOS	**Posof**	**1.08**	**192**	P	**Pg**	**12 54 56.6**	**-1.1**
EPOS				S	**Sn**	**12 55 14.1**	**-0.1**
AKH	**Akhalkalaki**	**1.20**	**163**	PN	**Pb**	**12 54 59.6**	**-0.6**
AKH				SN	**Sn**	**12 55 17.3**	**+0.1**
AKH	**Akhalkalaki**	**1.20**	**163**	P	**Pb**	**12 54 60.0**	**-0.3**
AKH				S	**Sn**	**12 55 17.8**	**+0.6**
AKH	**Akhalkalaki**	**1.20**	**163**	*e*Pn	**Pb**	**12 54 59.6**	**-0.6**
AKH	**Akhalkalaki**	**1.20**	**163**	P	**Pb**	**12 55 00.0**	**-0.3**
AKH				*e*Sn	**Sn**	**12 55 17.3**	**+0.1**
DUS	**Dusheti**	**1.32**	**110**	P	**Pg**	**12 55 03.3**	**+0.9**
DUS				S	**Sn**	**12 55 22.2**	**+2.0**
DUS	**Dusheti**	**1.32**	**110**	P	**Pg**	**12 55 03.3**	**+0.9**
TBLG	**Delisi**	**1.51**	**123**	PN	**Pb**	**12 55 04.9**	**-0.6**
TBLG				SN	**Sg**	**12 55 26.3**	**+0.7**
TBLG	**Delisi**	**1.51**	**123**	P	**Pn**	**12 55 04.1**	**-0.6**
TBLG				S	**Sg**	**12 55 25.9**	**+0.3**
TBLG	**Delisi**	**1.51**	**123**	P	**Pn**	**12 55 04.1**	**-0.6**
TBLG	**Delisi**	**1.51**	**123**	*e*Pn	**Pb**	**12 55 04.9**	**-0.6**
TBLG				S	**Sg**	**12 55 26.0**	**+0.3**
BCA	**Borcka**	**1.53**	**224**	PN	**Pn**	**12 55 05.3**	**+0.4**
BCA	**Borcka**	**1.53**	**224**	*e*Pn	**Pn**	**12 55 05.3**	**+0.4**
BTNK	**Botanikuri**	**1.58**	**123**	P	**Pb**	**12 55 05.8**	**-0.9**
BTNK				S	**Sg**	**12 55 28.4**	**+0.7**
BTNK	**Botanikuri**	**1.58**	**123**	P	**Pb**	**12 55 05.8**	**-0.9**
BTNK				S	**Sg**	**12 55 28.2**	**+0.5**
DBOC	**Borcka**	**1.58**	**220**	*i* P	**Pn**	**12 55 05.8**	**+0.1**
DBOC				*i* S	**Sg**	**12 55 29.1**	**+1.2**
DBOC	**Borcka**	**1.58**	**220**	P	**Pn**	**12 55 05.8**	**+0.1**
DBOC				S	**Sg**	**12 55 29.1**	**+1.2**
ARTV	**Artvin**	**1.60**	**211**	*i* P	**Pn**	**12 55 05.3**	**-0.8**
ARTV				*i* S	**Sb**	**12 55 28.2**	**+0.5**
ARTV	**Artvin**	**1.60**	**211**	P	**Pn**	**12 55 05.3**	**-0.8**
ARTV				S	**Sb**	**12 55 28.2**	**+0.5**
DBAD	**Bademkaya**	**1.84**	**213**	*i* P	**Pb**	**12 55 10.3**	**-0.8**
DBAD				*i* S	**Sg**	**12 55 36.6**	**+0.7**
DBAD	**Bademkaya**	**1.84**	**213**	P	**Pb**	**12 55 10.3**	**-0.8**
DBAD				S	**Sg**	**12 55 36.7**	**+0.7**
DDEM	**Demirkent**	**1.92**	**210**	*i* P	**Pb**	**12 55 12.2**	**-0.3**
DDEM				*i* S	**Sg**	**12 55 39.2**	**+0.4**
DDEM	**Demirkent**	**1.92**	**210**	P	**Pb**	**12 55 12.2**	**-0.3**
DDEM				S	**Sg**	**12 55 39.2**	**+0.4**
DGRG	**David-gareji**	**2.07**	**122**	P	**Pb**	**12 55 13.4**	**-1.5**
DGRG				S	**Sg**	**12 55 44.8**	**+1.5**
DGRG	**David-gare

MEX 18 13:02:40.9±0.5, 15°29N×94°20W, h65km±19km, MD3.9, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.96**	**101**	*eP*	Pn	13 02 57.2	-1.5
PCIG				*eS*	Sn	13 03 10.2	-1.7
TGIG		**1.36**	**49**	*i* P	Pn	13 03 02.7	-1.3
TGIG				*eS*	Sn	13 03 19.3	-1.9
CCIG	**Comitan**	**2.02**	**79**	*eP*	Pn	13 03 11.3	-1.6
CCIG				*eS*	Sn	13 03 35.3	-2.0

*IDC **18** 13:04:02.3±0.9, 56°27N×161°33E, h0km, mb3.5/10, mb1 3.7/13, mb1mx3.5/70, mbtmp3.5/13, ML3.5/3, MS2.7/3, Ms1 2.7/3, ms1mx2.4/57, Error ellipse: s-maj=19.1km s-min=13.9km az=171.0*

*KRSC **18** 13:04:04.4±0.6, 56°26N×161°37E, h41km±8km, ML4.4, FELT [II-III] at Kluchi.*

*ISCJB **18** 13:04:05.3±0.4, 56°32N±0°03×161°36E±0°05, h29km±3km, mb3.5/10, MS3.6/1, Error ellipse: s-maj=4.9km s-min=3.5km az=135.8*

*MOS **18** 13:04:05.6±0.8, 56°35N×161°26E, h33km, mb4.0/5, Error ellipse: s-maj=12.1km s-min=3.9km az=73.1*

MOS Felt (II-III) at Klyuchi.

ISC 18 13:04:05.3±1.0, 56°25N±0°02×161°39E±0°03, h17km±6km, n105, σ1°26/135, mb3.4/10, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BDR	**Baidarnaya**	**0.34**	**342**	*eP*	**Pb**	**13 04 13.8**	**+0.9**
BDR				*eS*	**Sb**	**13 04 20.5**	**+2.4**
BDR	**Baidarnaya**	**0.34**	**342**	PN	**Pb**	**13 04 13.8**	**+0.9**
BDR				S	**Sb**	**13 04 20.5**	**+2.4**
SMKR	**Semkarok**	**0.34**	**7**	*i* P	**Pb**	**13 04 13.9**	**+1.0**
SMKR	**Semkarok**	**0.34**	**7**	PN	**Pb**	**13 04 13.9**	**+1.0**
CIRR	**Tsirk**	**0.38**	**250**	*eP*	**Pb**	**13 04 13.9**	**+0.2**
CIRR	**Tsirk**	**0.38**	**250**	PN	**Pb**	**13 04 13.9**	**+0.2**
ZLN	**Zelenaya**	**0.40**	**236**	*i* P	**Pb**	**13 04 14.4**	**+0.4**
ZLN	**Zelenaya**	**0.40**	**236**	PN	**Pb**	**13 04 14.4**	**+0.4**
KLY	**Klyuchi**	**0.42**	**280**	*i* P	**Pg**	**13 04 12.6**	**-1.2**
KLY				*eS*	**Sg**	**13 04 18.4**	**-1.2**
KLY	**Klyuchi**	**0.42**	**280**	PN	**Pg**	**13 04 12.6**	**-1.2**
KLY				S	**Sg**	**13 04 18.4**	**-1.2**
LGNR	**Loginova**	**0.43**	**248**	*i* P	**Pb**	**13 04 14.8**	**+0.3**
LGNR				*eS*	**Sb**	**13 04 22.3**	**+1.6**
LGNR	**Loginova**	**0.43**	**248**	PN	**Pb**	**13 04 14.8**	**+0.3**
LGNR				S	**Sb**	**13 04 22.3**	**+1.6**
SRKR	**Sorokina**	**0.43**	**343**	*i* P	**Pb**	**13 04 15.0**	**+0.6**
SRKR	**Sorokina**	**0.43**	**343**	PN	**Pb**	**13 04 15.0**	**+0.6**
KRSR	**Krestovskiy**	**0.46**	**267**	*i* P	**Pg**	**13 04 14.4**	**-0.3**
KRSR				*eS*	**Sg**	**13 04 21.4**	**+0.4**
KRSR	**Krestovskiy**	**0.46**	**267**	PN	**Pg**	**13 04 14.4**	**-0.3**
KRSR				S	**Sg**	**13 04 21.4**	**+0.4**
BZGR	**Bezymyannyi-Gr**	**0.50**	**232**	*i* P	**Pg**	**13 04 15.6**	**+0.3**
BZGR				*eS*	**Sb**	**13 04 23.8**	**+1.2**
BZGR	**Bezymyannyi-Gr**	**0.50**	**232**	PN	**Pg**	**13 04 15.6**	**+0.3**
BZGR				S	**Sb**	**13 04 23.8**	**+1.2**
BZWR	**Bezymyannyi-We**	**0.58**	**241**	*eP*	**Pg**	**13 04 16.7**	**-0.1**
BZWR				*eS*	**Sb**	**13 04 25.9**	**+1.0**
BZWR	**Bezymyannyi-We**	**0.58**	**241**	PN	**Pg**	**13 04 16.7**	**-0.1**
BZWR				S	**Sb**	**13 04 25.9**	**+1.0**
BZMR	**Bezymyannaya**	**0.59**	**239**	*eP*	**Pg**	**13 04 17.0**	**-0.1**
BZMR				*eS*	**Sb**	**13 04 26.4**	**+1.0**
BZMR	**Bezymyannaya**	**0.59**	**239**	PN	**Pg**	**13 04 17.0**	**-0.1**
BZMR				S	**Sb**	**13 04 26.4**	**+1.0**
KIRR	**Kirishev**	**0.66**	**244**	*i* P	**Pg**	**13 04 17.9**	**-0.4**
KIRR				*eS*	**Sg**	**13 04 27.6**	**+0.5**
KIRR	**Kirishev**	**0.66**	**244**	PN	**Pg**	**13 04 17.9**	**-0.4**
KIRR				S	**Sg**	**13 04 27.6**	**+0.5**
KPT	**Kopyto**	**0.71**	**247**	*eP*	**Pg**	**13 04 18.6**	**-0.7**
KPT				*eS*	**Sg**	**13 04 28.8**	**0.0**
KPT	**Kopyto**	**0.71**	**247**	PN	**Pg**	**13 04 18.6**	**-0.7**
KPT				S	**Sg**	**13 04 28.8**	**0.0**
KBTR	**Krutoberegovo**	**0.80**	**92**	*eP*	**Pb**	**13 04 20.4**	**-0.2**
KBTR				*eS*	**Sn**	**13 04 32.5**	**-0.6**
KBTR	**Krutoberegovo**	**0.80**	**92**	PN	**Pb**	**13 04 20.4**	**-0.2**
KBTR				S	**Sn**	**13 04 32.5**	**-0.6**
KMNR	**Kamenistaya**	**0.81**	**233**	*eP*	**Pg**	**13 04 20.3**	**-0.9**
KMNR				*eS*	**Sg**	**13 04 31.9**	**0.0**
KMNR	**Kamenistaya**	**0.81**	**233**	PN	**Pg**	**13 04 20.3**	**-0.9**
KMNR				S	**Sg**	**13 04 31.9**	**0.0**
KOZ	**Kozyrevsk**	**0.87**	**258**	*i* P	**Pg**	**13 04 21.6**	**-0.6**
KOZ				*eS*	**Sg**	**13 04 34.5**	**+0.8**
KOZ	**Kozyrevsk**	**0.87**	**258**	PN	**Pg**	**13 04 21.6**	**-0.6**
KOZ				S	**Sg**	**13 04 34.5**	**+0.8**
SRDR	**Sredinnyy**	**0.94**	**275**	*i* P	**Pg**	**13 04 22.0**	**-1.5**
SRDR	**Sredinnyy**	**0.94**	**275**	PN	**Pg**	**13 04 22.0**	**-1.5**
TUMD	**Tumrok D**	**1.19**	**209**	*i* P	**Pn**	**13 04 26.6**	**-0.5**
TUMD				*i* S	**Sb**	**13 04 42.8**	**+0.5**
TUMR	**Tumrok**	**1.20**	**217**	*i* P	**Pn**	**13 04 27.2**	**-0.1**
TUMR				*eS*	**Sb**	**13 04 43.8**	**+1.1**
TUMR	**Tumrok**	**1.20**	**217**	PN	**Pn**	**13 04 26.6**	**-0.7**
TUMR				S	**Sb**	**13 04 42.8**	**+0.1**
KZV	**Kizimen**	**1.29**	**209**	*i* P	**Pn**	**13 04 28.5**	**-0.2**
KZV	**Kizimen**	**1.29**	**209**	PN	**Pn**	**13 04 28.5**	**-0.2**
ESO	**Esso**	**1.54**	**259**	*eP*	**Pn**	**13 04 31.2**	**-0.8**
ESO				*eS*	**Sn**	**13 04 50.5**	**-1.1**
ESO	**Esso**	**1.54**	**259**	PN	**Pn**	**13 04 31.2**	**-0.8**
ESO				S	**Sn**	**13 04 50.5**	**-1.1**
BKI	**Bering**	**2.79**	**110**	*eP*	**Pn**	**13 04 49.6**	**+0.5**
BKI				*eS*	**Sn**	**13 05 22.6**	**+0.3**
BKI	**Bering**	**2.79**	**110**	PN	**Pn**	**13 04 49.6**	**+0.5**
BKI				S	**Sn**	**13 05 22.6**	**+0.3**
OSSR	**Ossora**	**3.14**	**16**	*eP*	**Pn**	**13 04 55.0**	**+1.1**
OSSR	**Ossora**	**3.14**	**16**	PN	**Pn**	**13 04 55.0**	**+1.1**
GNL	**Ganaly**	**3.24**	**219**	*i* P	**Pn**	**13 04 56.1**	**+0.7**
GNL	**Ganaly**	**3.24**	**219**	PN	**Pn**	**13 04 56.1**	**+0.7**
SPN	**Mys Shipunski**	**3.25**	**195**	*eP*	**Pn**	**13 04 54.7**	**-0.7**
SPN				*eS*	**Sn**	**13 05 31.8**	**-1.9**
SPN	**Mys Shipunski**	**3.25**	**195**	PN	**Pn**	**13 04 54.7**	**-0.7**
KRX	**Arik**	**3.30**	**210**	*eP*	**Pn**	**13 04 58.2**	**+2.0**
KRX	**Arik**	**3.30**	**210**	PN	**Pn**	**13 04 58.2**	**+2.0**
NLC	**Nalytchevo**	**3.30**	**202**	*eP*	**Pn**	**13 04 57.2**	**+1.1**
NLC				*eS*	**Sn**	**13 05 35.7**	**+0.8**
NLC	**Nalytchevo**	**3.30**	**202**	PN	**Pn**	**13 04 57.2**	**+1.1**
NLC				S	**Sn**	**13 05 35.7**	**+0.8**
SDLR	**Sedlovina**	**3.31**	**207**	*i* P	**Pn**	**13 04 58.2**	**+1.9**
SDLR	**Sedlovina**	**3.31**	**207**	PN	**Pn**	**13 04 58.2**	**+1.9**
KRER	**Koryakskii**	**3.32**	**209**	*eP*	**Pn**	**13 04 56.7**	**+0.1**
KRER	**Koryakskii**	**3.32**	**209**	PN	**Pn**	**13 04 56.7**	**+0.1**
SMAR	**Somma**	**3.34**	**208**	*eP*	**Pn**	**13 04 58.5**	**+1.6**
SMAR	**Somma**	**3.34**	**208**	PN	**Pn**	**13 04 58.5**	**+1.6**
AVH	**Avacha**	**3.36**	**208**	*i* P	**Pn**	**13 04 58.9**	**+1.9**
AVH	**Avacha**	**3.36**	**208**	PN	**Pn**	**13 04 58.9**	**+1.9**
KOK	**Koryaka**	**3.36**	**209**	*eP*	**Pn**	**13 04 59.9**	**+2.8**
KOK	**Koryaka**	**3.36**	**209**	PN	**Pn**	**13 04 59.9**	**+2.8**
UGLR	**Uglovaya**	**3.39**	**207**	*i* P	**Pn**	**13 04 59.4**	**+2.0**
UGLR	**Uglovaya**	**3.39**	**207**	PN	**Pn**	**13 04 59.4**	**+2.0**
DALK	**Dalny**	**3.57**	**207**	*eP*	**Pn**	**13 05 01.7**	**+2.0**
DALK	**Dalny**	**3.57**	**207**	PN	**Pn**	**13 05 01.7**	**+2.0**
PET	**Petropavlovsk**	**3.60**	**207**	*i* P	**Pn**	**13 05 02.3**	**+2.1**
PET	**Petropavlovsk**	**3.60**	**207**	*ePN*	**Pn**	**13 05 02.2**	**+2.1**
PET				*eS*	**Sn**	**13 05 47.0**	**+4.8**
PET				MLR	MLR		
	comp=Z,300nm,12.0s						
PET				MLR	MLR		
	comp=Z,400nm,12.0s						
PETK	**Petropavlovsk-**	**3.81**	**216**	Pn	**Pn**	**13 05 03.7**	**+0.6**
	comp=Z,2.9nm,0.3s,baz=56,slow=17,SNR=75						
PETK				Lg	Lg	13 06 02.3	
	baz=62,slow=25,SNR=2.5						
KRMR	**Karymshinskiy**	**3.91**	**210**	*eP*	**Pn**	**13 05 05.8**	**+1.3**
KRMR	**Karymshinskiy**	**3.91**	**210**	PN	**Pn**	**13 05 05.8**	**+1.3**
APC	**Apacha**	**4.14**	**218**	*eP*	**Pn**	**13 05 08.9**	**+1.3**
APC	**Apacha**	**4.14**	**218**	PN	**Pn**	**13 05 08.9**	**+1.3**
RUS	**Russkaya**	**4.17**	**205**	*eP*	**Pn**	**13 05 09.0**	**+0.9**
RUS	**Russkaya**	**4.17**	**205**	PN	**Pn**	**13 05 09.0**	**+0.9**
MTVR	**Mutnovka**	**4.21**	**208**	*eP*	**Pn**	**13 05 11.0**	**+2.2**
MTVR	**Mutnovka**	**4.21**	**208**	PN	**Pn**	**13 05 11.0**	**+2.2**
ASAK	**Asacha**	**4.38**	**209**	*eP*	**Pn**	**13 05 14.1**	**+3.1**
ASAK	**Asacha**	**4.38**	**209**	PN	**Pn**	**13 05 14.1**	**+3.1**
MIPR	**Malaya Ipel'ka**	**4.82**	**216**	*eP*	**Pn**	**13 05 18.2**	**+1.3**
MIPR	**Malaya Ipel'ka**	**4.82**	**216**	PN	**Pn**	**13 05 18.2**	**+1.3**
KDTR	**Khodutka, Kamc**	**4.86**	**205**	*eP*	**Pn**	**13 05 18.3**	**+0.9**
TILK	**Tilichiki**	**4.90**	**29**	*eP*	**Pn**	**13 05 19.3**	**+1.3**
TILK	**Tilichiki**	**4.90**	**29**	PN	**Pn**	**13 05 19.3**	**+1.3**
MA2	**Magadan**	**6.57**	**305**	Pn	**Pn**	**13 05 41.6**	**+0.6**
	comp=Z,0.7nm,0.3s,baz=131,slow=19,SNR=3.3						
MA2				LR	LR	13 08 24.9	
	comp=Z,37nm,18.4s,baz=110,slow=40						
YSS	**Yuzh-Sakhalins**	**14.81**	**239**	*eP*	**P**	**13 07 38.9**	**-0.6**
ASAJ	**Asahikawa**	**17.02**	**232**	P	**Pn**	**13 08 02.8**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=76,slow=4.2,SNR=2.6						
KLR	**Kul'dur**	**19.16**	**261**	LR	LR	13 16 55.7	
	comp=Z,4.4nm,18.8s,baz=50,slow=40						
TIXI	**Tiksi**	**20.60**	**331**	P	**P**	**13 08 43.9**	**+0.9**
	comp=Z,2.9nm,0.7s,baz=118,slow=12,SNR=13						
BOD	**Bodaibo**	**25.43**	**293**	*eP*	**P**	**13 09 32.0**	**+0.4**
BOD				pmax	pmax		
	comp=Z,7.0nm,1.6s						
ILAR	**Eielson Array**	**26.12**	**50**	P	**P**	**13 09 37.4**	**-0.5**
	comp=Z,0.2nm,0.5s,baz=274,slow=10,SNR=6.6						
H11N2	**WAKE ISLAND Hy**	**36.69**	**171**	T	T	13 49 48.2	
	baz=356,slow=76,SNR=15						
H11N3	**WAKE ISLAND Hy**	**36.70**	**171**	T	T	13 49 46.6	
	baz=356,slow=76,SNR=13						
H11N1	**WAKE ISLAND Hy**	**36.71**	**171**	T	T	13 49 50.5	
	baz=356,slow=76,SNR=15						
YKA	**Yellowknife Ar**	**40.37**	**45**	P	**P**	**13 11 41.5**	**0.0**
	comp=Z,0.3nm,0.5s,baz=302,slow=8.0,SNR=5.4						
MKAR	**Makanchi Array**	**47.52**	**294**	P	**P**	**13 12 37.2**	**-2.0**
	comp=Z,0.3nm,0.8s,baz=54,slow=6.1,SNR=2.1						
NVAR	**Mina Array Bea**	**54.03**	**73**	P	**P**	**13 13 28.4**	**-0.2**
	comp=Z,0.3nm,0.8s,baz=316,slow=7.6,SNR=2.6						
PDAR	**Pinedale Array**	**55.38**	**63**	P	**P**	**13 13 38.6**	**+0.3**
	comp=Z,0.1nm,0.4s,baz=357,slow=11,SNR=2.8						
FINES	**FINESS Array B**	**57.52**	**336**	P	**P**	**13 13 52.0**	**-1.0**
	comp=Z,0.8nm,0.7s,baz=30,slow=12,SNR=2.7						
NOA	**NORSAR Array B**	**60.72**	**344**	P	**P**	**13 14 14.8**	**-0.4**
	comp=Z,0.9nm,0.7s,baz=19,slow=7.0,SNR=3.3						
HFS	**Hagfors**	**61.17**	**342**	P	**P**	**13 14 17.1**	**-1.1**
	comp=Z,1.6nm,0.8s,baz=79,slow=7.5,SNR=2.7						
TXAR	**Lajitas Array**	**68.75**	**69**	P	**P**	**13 15 08.0**	**-0.1**
	comp=Z,0.1nm,0.5s,baz=292,slow=5.6,SNR=2.5						
TXAR	**Lajitas Array**	**68.75**	**69**	P	**P**	**13 15 08.0**	**-0.1**
LPIG	**La Paz**	**69.39**	**77**	LR	LR	13 43 06.4	
	comp=Z,36nm,18.5s,baz=50,slow=34						

*ISCJB **18** 13:20:20.7±1.7, 6°94N±0°03×76°26W±0°04, h3km±11km, mb3.8/3, MS3.0/2, Error ellipse: s-maj=6.8km s-min=4.9km az=171.2*

*RSNC **18** 13:20:22.8±0.9, 6°93N×76°25W, h3km±5km, ML3.5, Mw4.0*

*IDC **18** 13:20:27.3±3.8, 7°00N×76°15W, h58km±33km, mb3.6/3, mb1 3.7/6, mb1mx3.3/41, mbtmp3.9/6, ML2.8/3, MS3.1/5, Ms1 3.1/5, ms1mx2.8/35, Error ellipse: s-maj=29.9km s-min=22.9km az=105.0*

ISC 18 13:20:20.8±1.7, 6°93N±0°03×76°26W±0°05, h4km±11km, n20, σ0°99/29, mb3.8/3, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HELC	**Santa Helena**	**1.03**	**135**	*eP*	**Pg**	**13 20 40.4**	**-0.2**
HELC				*eS*	**Sb**	**13 20 54.9**	**-0.6**
HELC				*i*		13 21 02.3	
	comp=Z,973nm,0.6s						
ZARC	**Zaragoza, Cauc**	**1.50**	**68**	*eP*	**Pb**	**13 20 49.1**	**-0.1**
ZARC				*eS*	**Sb**	**13 21 08.8**	**+0.2**
ZARC				*i*		13 21 12.9	
	comp=Z,615nm,0.4s						
GUYC	**Guyana, Colomb**	**1.90**	**153**	*eP*	**Pb**	**13 20 55.9**	**-0.5**
GUYC				*eS*	**Sg**	**13 21 21.3**	**-0.7**
GUYC				*i*		13 21 27.5	
	comp=Z,850nm,0.6s						
MOTC	**Monteria, Cord**	**1.93**	**18**	*eP*	**Pn**	**13 20 55.1**	**+0.8**
MOTC				*eS*	**Sn**	**13 21 19.8**	**+0.8**
MOTC				*i*		13 21 34.7	
	comp=Z,145nm,0.7s						
NORC	**Norcasia**	**1.94**	**134**	*eS*	**Sb**	**13 21 20.5**	**-0.7**
CAPC	**Capurgana**	**2.01**	**328**	*eP*	**Pn**	**13 20 56.3**	**+0.8**
CAPC				*i*		13 21 00.8	
	comp=Z,266nm,0.3s						
CAPC				*eS*	**Sb**	**13 21 23.0**	**-0.3**
PLMC	**San Jos˜ del**	**2.01**	**181**	*eP*	**Pn**	**13 20 56.7**	**+1.2**
PLMC				*eS*	**Sn**	**13 21 22.0**	**+0.8**
BRRC	**Barranca, Sant**	**2.54**	**86**	*eP*	**Pn**	**13 21 03.2**	**+0.5**
BRRC				*eS*	**Sn**	**13 21 35.4**	**+1.3**
BRRC				*i*		13 21 47.1	
	comp=Z,438nm,1.0s						
ROSC	**El Rosal**	**2.83**	**137**	P	**Pn**	**13 21 11.5**	**-0.7**
	comp=Z,14nm,0.3s,baz=360,slow=7.1,SNR=22						
ROSC				S	**Sg**	**13 21 53.3**	**+1.3**
	comp=Z,41nm,0.3s,baz=253,slow=23,SNR=8.8						
YOTC	**Yotoco, Valle**	**2.93**	**182**	*eP*	**Pn**	**13 21 08.7**	**+0.4**
YOTC				*eS*	**Sn**	**13 21 45.2**	**+1.2**
YOTC				*i*		13 22 02.6	
	comp=Z,150nm,0.6s						
RUSC	**La Rusia**	**3.32**	**108**	*eP*	**Pn**	**13 21 15.3**	**+1.4**
RUSC				*eS*	**Sn**	**13 21 54.8**	**+0.6**
SDV	**Santo Domingo**	**5.90**	**70**	P	**Pn**	**13 21 50.9**	**+1.7**
	comp=Z,1.5nm,0.3s,baz=268,slow=11,SNR=12						
SDV				S	**Sn**	**13 22 54.8**	**-2.7**
	comp=Z,1.4nm,0.3s,baz=298,slow=8.9,SNR=3.7						
SDV				LR	LR	13 24 00.8	
	comp=Z,34nm,21.1s,baz=202,slow=37						
JTS	**JuntasAbangare**	**9.22**	**292**	LR	LR	13 26 31.2	
	comp=Z,158nm,18.5s,baz=184,slow=39						
PTGA	**Pitinga**	**17.95**	**114**	P	**P**	**13 24 32.1**	**0.0**
	comp=Z,0.2nm,0.3s,baz=315,slow=19,SNR=3.3						
PTGA				LR	LR	13 31 50.4	
	comp=Z,101nm,20.7s,baz=348,slow=38						
CMIG	**Matias Romero**	**20.81**	**301**	LR	LR	13 34 22.6	
	comp=Z,50nm,18.4s,baz=118,slow=40						
SIV	**San Ignacio**	**27.29**	**147**	P	**P**	**13 26 06.3**	**-0.3**
	comp=Z,1.5nm,0.7s,baz=318,slow=14,SNR=3.3						
SIV				LR	LR	13 36 45.3	
	comp=Z,68nm,21.4s,baz=146,slow=36						
YKA	**Yellowknife Ar**	**62.12**	**341**	P	**P**	**13 30 42.3**	**-0.3**
	comp=Z,0.2nm,0.6s,baz=130,slow=6.6,SNR=7.6						
KOWA	**Kowa**	**71.15**	**77**	P	**P**	**13 31 41.0**	**-0.3**
	comp=Z,2.0nm,0.6s,baz=255,slow=6.0,SNR=5.5						
ASAR	**Alice Springs**	**146.60**	**237**	PKPbc	**PKPdf**	**13 40 02.7**	**-0.3**
	comp=Z,0.4nm,0.6s,baz=116,slow=4.2,SNR=3.4						
WRA	**Warramunga Arr**	**147.62**	**243**	PKPbc	**PKPdf**	**13 40 04.3**	**-0.4**
	comp=Z,0.6nm,0.8s,baz=104,slow=2.7,SNR=5.2						

*ISCJB **18** 13:25:09.1±1.2, 1°1N±0°2×91°1E±0°1, h10km, mb3.5/5, MS3.3/1, Error ellipse: s-maj=26.9km s-min=13.7km az=17.5*

*IDC **18** 13:25:09.6±1.5, 1°09N×91°09E, h0km, mb3.5/5, mb1 3.8/8, mb1mx3.5/61, mbtmp3.6/8, ML3.9/3, MS3.3/1, Ms1 3.3/1, ms1mx2.5/53, Error ellipse: s-maj=42.8km s-min=23.6km az=37.0*

ISC 18 13:25:10.9±1.4, 1°1N±0°2×91°0E±0°1, h10km, n16, σ1°55/10, mb3.7/5, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**8.11**	**78**	Pn	**Pn**	**13 27 09.3**	**+0.3**
	1.0nm,0.3s,baz=301,slow=7.4,SNR=3.0						
PALK	**Pallekele**	**11.94**	**301**	Pn	**Pn**	**13 28 03.4**	**+1.9**
	0.5nm,0.3s,baz=116,slow=4.8,SNR=2.7						
PALK				Sn	**Sn**	**13 30 11.9**	**-3.0**
	1.7nm,0.3s,baz=112,slow=1.1,SNR=6.4						
CMAR	**Chiang Mai Arr**	**18.94**	**24**	P	**P**	**13 29 31.8**	**-0.5**
	0.2nm,0.3s,baz=212,slow=12,SNR=4.2						
H08S2	**Diego Garcia H**	**20.39**	**244**	T	T	13 51 34.6	
	baz=65,slow=75,SNR=14						
H08S3	**Diego Garcia H**	**20.39**	**245**	T	T	13 51 34.8	
	baz=65,slow=75,SNR=17						
H08S1	**Diego Carcia H**	**20.40**	**245**	T	T	13 51 34.6	
	baz=65,slow=75,SNR=16						
H01W3	**Cape Leeuwin H**	**41.85**	**151**	T	T	14 17 22.0	
	baz=326,slow=75,SNR=9.5						
H01W2	**Cape Leeuwin H**	**41.86**	**151**	T	T	14 17 22.7	
	baz=326,slow=75,SNR=11						
H01W1	**Cape Leeuwin H**	**41.87**	**151**	T	T	14 17 23.2	
	baz=326,slow=75,SNR=6.9						
MKAR	**Makanchi Array**	**46.14**	**352**	P	**P**	**13 33 35.5**	**-0.1**
	0.3nm,0.6s,baz=182,slow=8.5,SNR=4.9						
WRA	**Warramunga Arr**	**47.36**	**119**	P	**P**	**13 33 44.2**	**-1.4**
	0.5nm,0.7s,baz=298,slow=8.6,SNR=4.3						
JNU	**Nakatsue**	**49.15**	**45**	LR	LR	13 55 33.7	
	comp=Z,29nm,18.7s,baz=184,slow=37						
KURBB	**Kurchatov Arra**	**50.46**	**350**	P	**P**	**13 34 08.8**	**0.0**
	0.3nm,0.6s,baz=173,slow=8.3,SNR=3.9						
ZALV	**Zalesovo Beam**	**52.92**	**355**	P	**P**	**13 34 27.0**	**-0.2**
	0.4nm,0.4s,baz=181,slow=8.9,SNR=2.2						
GERES	**GERESS Array B**	**80.81**	**319**	P	**P**	**13 37 26.4**	**+1.3**
	0.3nm,0.4s,baz=101,slow=5.1,SNR=3.0						
TXAR	**Lajitas Array**	**146.65**	**24**	PKPbc	**PKPbc**	**13 44 53.9**	**0.0**
	0.2nm,0.7s,baz=270,slow=1.8,SNR=2.2						

*IDC **18** 13:30:27.7±2.1, 1°62N×95°25E, h0km, mb3.5/4, mb1 3.7/6, mb1mx3.4/60, mbtmp3.6/6, ML3.3/2, MS3.2/2, Ms1 3.2/2, ms1mx2.6/50, Error ellipse: s-maj=59.9km s-min=25.2km az=49.0*

*ISCJB **18** 13:30:31.2±1.4, 1°7N±0°2×95°44E±0°08, h33km, mb3.6/4, MS3.2/2, Error ellipse: s-maj=23.7km s-min=11.9km az=5.9*

ISC 18 13:30:33.6±1.8, 1°8N±0°2×95°5E±0°1, h35km, n14, σ0°50/7, mb3.7/4, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**3.62**	**73**	Pn	**Pn**	**13 31 26.9**	**-0.4**
	1.4nm,0.3s,baz=303,slow=11,SNR=6.9						
PSI				Sn	**Sn**	**13 32 08.9**	**+0.1**
	1.1nm,0.3s,baz=193,slow=9.2,SNR=4.2						
CMAR	**Chiang Mai Arr**	**16.95**	**11**	P	**P**	**13 34 30.4**	**+0.6**
	0.1nm,0.3s,baz=208,slow=13,SNR=5.0						
H08S2	**Diego Garcia H**	**24.74**	**248**	T	T	14 02 38.4	
	baz=70,slow=74,SNR=3.6						
H08S3	**Diego Garcia H**	**24.74**	**248**	T	T	14 02 36.7	
	baz=70						
H08S1	**Diego Carcia H**	**24.74**	**248**	T	T	14 02 38.9	
	baz=70,slow=74,SNR=3.2						
DAV	**Davao City (W)**	**30.48**	**79**	LR	LR	13 49 39.6	
	comp=Z,48nm,21.6s,baz=1.0,slow=38						
H01W3	**Cape Leeuwin H**	**40.43**	**156**	T	T	14 22 19.6	
	baz=329						
H01W2	**Cape Leeuwin H**	**40.44**	**156**	T	T	14 22 17.9	
	baz=329						
H01W1	**Cape Leeuwin H**	**40.45**	**156**	T	T	14 22 18.4	
	baz=329						
WRA	**Warramunga Arr**	**43.80**	**121**	P	**P**	**13 38 36.7**	**+0.2**
	0.6nm,1.0s,baz=298,slow=8.9,SNR=3.4						
MKAR	**Makanchi Array**	**46.31**	**347**	P	**P**	**13 38 56.1**	**+0.1**
	0.5nm,0.6s,baz=165,slow=8.3,SNR=6.5						
KURBB	**Kurchatov Arra**	**50.77**	**346**	P	**P**	**13 39 29.5**	**-0.7**
	0.4nm,0.4s,baz=163,slow=6.8,SNR=3.7						
JHJ	**Hachijo jima 2**	**51.93**	**48**	LR	LR	14 01 48.4	
	comp=Z,26nm,18.6s,baz=317,slow=36						
ZALV	**Zalesovo Beam**	**52.76**	**352**	P	**P**	**13 39 45.0**	**0.0**
	0.5nm,0.4s,baz=177,slow=7.9,SNR=3.2						

*IDC **18** 13:37:53.3±1.5, 4°20N×94°40E, h0km, mb3.9/8, mb1 4.0/10, mb1mx3.7/59, mbtmp3.8/10, ML3.7/2, Error ellipse: s-maj=66.9km s-min=17.5km az=51.0*

*NEIC **18** 13:38:01.5±5.0, 4°38N×94°80E, h54km±40km, mb4.0/2, Error ellipse: s-maj=62.0km s-min=11.5km az=61.0*

ISC 18 13:38:00.4±1.2, 4°6N±0°1×94°9E±0°1, h35km, n18, σ0°87/16, mb3.9/10, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LHMI	**Lhok Sumawe**	**2.17**	**74**	*ePn*	**Pn**	**13 38 34.7**	**+0.7**
PSI	**Prapat**	**4.46**	**114**	Pn	**Pn**	**13 39 06.8**	**+1.2**
	0.9nm,0.3s,baz=327,slow=7.8,SNR=6.2						
PSI				Sn	**Sn**	**13 39 56.5**	**+0.2**
	1.6nm,0.3s,baz=1.4,slow=12,SNR=4.5						
CMAR	**Chiang Mai Arr**	**14.31**	**16**	Pn	**P**	**13 41 26.9**	**-0.3**
	0.2nm,0.3s,baz=209,slow=11,SNR=16						
CHTO	**Chiang Mai**	**14.65**	**16**	*eP*	**P**	**13 41 30.1**	**-1.0**
H08S2	**Diego Garcia H**	**25.42**	**241**	T	T	14 09

mb1 3.5/3, mb1mx3.3/58, mbtmp3.3/3, Error ellipse: s-maj=230.2km s-min=28.9km az=48.0, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**25.32**	**119**	P	P	14 19 10.8	-0.5
	0.6nm,0.7s,baz=293,slow=11,SNR=4.2						
ASAR	**Alice Springs**	**26.64**	**127**	P	P	14 19 23.9	+0.6
	0.4nm,0.9s,baz=297,slow=8.6,SNR=4.2						
MKAR	**Makanchi Array**	**60.71**	**338**	P	P	14 23 55.9	0.0
	0.2nm,0.4s,baz=148,slow=5.3,SNR=4.2						

*ISK **18** 14:26:19.9, 39.°10N×29.°16E, h5km, ML2.7/8*
*DDA **18** 14:26:19.8, 39.°09N×29.°13E, h7km, Ml2.4*
*ISCJB **18** 14:26:20.4±0.5, 39.°08N±0.°04×29.°14E±0.°04, h5km±5km, Error ellipse: s-maj=5.9km s-min=4.7km az=173.9*
*CSEM **18** 14:26:20.4±0.1, 39.°10N×29.°14E, h5km, ML2.7, Error ellipse: s-maj=3.0km s-min=2.5km az=115.0*

ISC 18 14:26:20.4±0.9, 39.°09N±0.°03×29.°14E±0.°03, h11km±6km, n29, σ0°52/39, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIMA	**Simav-Kutahya**	**0.12**	**265**	PG	**Pg**	**14 26 23.7**	**+0.2**
SIMA				SG	**Sg**	**14 26 25.6**	**-0.1**
SIMA	**Simav-Kutahya**	**0.12**	**265**	*e*Pg	**Pg**	**14 26 23.7**	**+0.2**
SIMA				*e*Sg	**Sg**	**14 26 25.6**	**-0.1**
GDZ	**Gediz**	**0.27**	**91**	*i* P	**Pg**	**14 26 25.7**	**-0.3**
GDZ				*i* S	**Sg**	**14 26 29.9**	**+0.3**
GDZ	**Gediz**	**0.27**	**91**	P	**Pg**	**14 26 25.7**	**-0.3**
GDZ				S	**Sg**	**14 26 30.0**	**+0.3**
TVSB	**Tavsanli**	**0.44**	**35**	PG	**Pg**	**14 26 28.3**	**-0.7**
TVSB	**Tavsanli**	**0.44**	**35**	*e*Pg	**Pg**	**14 26 28.3**	**-0.7**
KULA	**Kula-Manisa**	**0.69**	**213**	PG	**Pb**	**14 26 33.9**	**-0.6**
KULA	**Kula-Manisa**	**0.69**	**213**	*e*Pg	**Pb**	**14 26 33.9**	**-0.6**
DURS	**Dursunbey**	**0.72**	**315**	*i* P	**Pb**	**14 26 34.5**	**-0.6**
DURS	**Dursunbey**	**0.72**	**315**	P	**Pb**	**14 26 34.5**	**-0.6**
MANT	**Manisa**	**0.75**	**217**	*i* P	**Pg**	**14 26 34.4**	**-0.6**
MANT				*i* S	**Sg**	**14 26 44.6**	**-0.3**
MANT	**Manisa**	**0.75**	**217**	P	**Pg**	**14 26 34.4**	**-0.6**
MANT				S	**Sg**	**14 26 44.6**	**-0.3**
KHAL	**Karahalli**	**0.77**	**159**	*i* P	**Pb**	**14 26 36.4**	**+0.5**
KHAL				*i* S	**Sb**	**14 26 45.9**	**-0.6**
KHAL	**Karahalli**	**0.77**	**159**	P	**Pb**	**14 26 36.4**	**+0.5**
KHAL				S	**Sb**	**14 26 45.9**	**-0.6**
BALB	**Balikesir**	**1.12**	**300**	PN	**Pn**	**14 26 42.4**	**+0.4**
BALB				SN	**Sn**	**14 26 58.6**	**+1.2**
BALB	**Balikesir**	**1.12**	**300**	*e*Pn	**Pn**	**14 26 42.4**	**+0.4**
BALB				*e*Sn	**Sn**	**14 26 58.6**	**+1.2**
STEP	**BALIKESIR_Sava**	**1.14**	**285**	*i* P	Pg	14 26 30.0	-6.3
STEP				*i* S	**Sn**	**14 26 58.0**	**+0.1**
CAVI	**Cavuskoy**	**1.23**	**26**	PN	**Pn**	**14 26 44.1**	**+0.5**
CAVI	**Cavuskoy**	**1.23**	**26**	*e*PN	**Pn**	**14 26 44.1**	**+0.5**
MDNY	**Mudanya-Bursa**	**1.29**	**351**	PN	**Pg**	**14 26 45.0**	**-0.2**
MDNY	**Mudanya-Bursa**	**1.29**	**351**	*e*Pn	**Pg**	**14 26 45.0**	**-0.2**
KCTX	**Karacabey (Bur**	**1.32**	**333**	PN	**Pg**	**14 26 45.6**	**-0.1**
KCTX	**Karacabey (Bur**	**1.32**	**333**	*e*Pn	**Pg**	**14 26 45.6**	**-0.1**
YLV	**Yalova**	**1.48**	**7**	PN	**Pb**	**14 26 47.7**	**-0.3**
YLV	**Yalova**	**1.48**	**7**	*e*Pn	**Pb**	**14 26 47.7**	**-0.3**
ARMT	**Armutlu**	**1.49**	**352**	PN	**Pb**	**14 26 47.9**	**-0.2**
ARMT	**Armutlu**	**1.49**	**352**	*e*Pn	**Pb**	**14 26 47.9**	**-0.2**
GULT	**Gulveren**	**1.71**	**38**	PN	**Pb**	**14 26 51.4**	**-0.5**
GULT	**Gulveren**	**1.71**	**38**	*e*Pn	**Pb**	**14 26 51.4**	**-0.5**

*IDC **18** 14:45:19.6±1.9, 23.°51S×179.°79W, h493km±19km, mb4.0/10, mb1 4.0/11, mb1mx3.5/45, mbtmp4.8/11, Error ellipse: s-maj=19.0km s-min=14.4km az=59.0*
*ISCJB **18** 14:45:21.4±0.5, 23.°47S±0.°04×179.°72W±0.°09, h536km, mb4.6/14, Error ellipse: s-maj=11.0km s-min=5.1km az=169.7*
*WEL **18** 14:45:22.0, 23.°54S×179.°85W, h530km*
*NEIC **18** 14:45:22.9±1.3, 23.°54S×179.°85W, h530km±13km, mb4.7/6, Error ellipse: s-maj=17.5km s-min=14.4km az=95.0*

ISC 18 14:45:21.8±0.5, 23.°54S±0.°06×179.°54W±0.°08, h536km, n77, σ2°42/82, mb4.7/14, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**5.88**	**166**	P	**P**	**14 46 59.5**	**+1.0**
GLKZ	**Green Lake**	**5.88**	**166**	S	**S**	**14 48 18.5**	**+0.8**
MSVF	**Nonsavu**	**6.20**	**338**	*e*P	**P**	**14 47 01.9**	**+0.1**
	32nm,0.6s						
AFI	**Afiamalu**	**12.07**	**39**	P	**P**	**14 47 59.8**	**-1.4**
	3.6nm,0.3s,baz=246,slow=20,SNR=8.4						
AFI				S	**S**	**14 50 07.5**	**-5.0**
	5.1nm,0.3s,baz=299,slow=19,SNR=6.4						
AFI	**Afiamalu**	**12.07**	**39**	*e*P	**P**	**14 47 59.7**	**-1.6**
	42nm,0.8s						
AFI				S	**S**	**14 50 07.5**	**-5.0**
OUZ	**Omahuta**	**13.08**	**206**	P	**P**	**14 48 11.8**	**+0.4**
WCZ	**Waipu Caves**	**13.45**	**202**	P	**P**	**14 48 15.6**	**+0.4**
KUZ	**Kuaotunu**	**13.78**	**196**	P	**P**	**14 48 18.0**	**-0.6**
MXZ	**Matakaoa Point**	**14.10**	**187**	P	**P**	**14 48 22.8**	**+0.9**
MXZ	**Matakaoa Point**	**14.10**	**187**	S	**S**	**14 50 46.9**	**-3.5**
WMGZ	**Waiomatatini S**	**14.34**	**187**	P	**P**	**14 48 25.9**	**+1.5**
HAZ	**Te Kaha**	**14.36**	**189**	P	**P**	**14 48 22.4**	**-2.1**
HAZ	**Te Kaha**	**14.36**	**189**	S	**S**	**14 50 52.3**	**-3.0**
PKGZ	**Pakihiroa**	**14.45**	**188**	P	**P**	**14 48 25.7**	**+0.1**
PKGZ	**Pakihiroa**	**14.45**	**188**	S	**S**	**14 50 53.3**	**-3.9**
RUGZ	**Raukumara Rang**	**14.57**	**189**	P	**P**	**14 48 27.6**	**+0.6**
TGRZ	**Tauranga**	**14.60**	**193**	P	**P**	**14 48 28.2**	**+3.1**
PUZ	**Puketiti**	**14.61**	**187**	P	**P**	**14 48 29.8**	**+1.2**
PUZ	**Puketiti**	**14.61**	**187**	S	**S**	**14 50 55.4**	**-4.8**
OPRZ	**Ohinepanea**	**14.65**	**192**	P	**P**	**14 48 29.5**	**+1.9**
TWGZ	**Tauwhareparae**	**14.74**	**188**	P	**P**	**14 48 29.4**	**+0.7**
TWGZ	**Tauwhareparae**	**14.74**	**188**	S	**S**	**14 51 00.4**	**-2.4**
KARZ	**Kaharoa**	**14.88**	**193**	P	**P**	**14 48 32.4**	**+2.3**
OMRZ	**Omania**	**14.94**	**193**	P	**P**	**14 48 32.8**	**+2.1**
URZ	**Urewera**	**14.95**	**190**	P	**P**	**14 48 26.3**	**-4.5**
	7.3nm,0.3s,baz=314,slow=8.5,SNR=27						
URZ				S	**S**	**14 50 59.8**	**-6.7**
	1.8nm,0.3s,baz=3.3,slow=16,SNR=11						
URZ	**Urewera**	**14.95**	**190**	P	**P**	**14 48 26.7**	**-4.0**
URZ	**Urewera**	**14.95**	**190**	S	**S**	**14 51 00.6**	**-5.9**
MWZ	**Matawai**	**14.96**	**189**	P	**P**	**14 48 28.5**	**-2.4**
MWZ	**Matawai**	**14.96**	**189**	S	**S**	**14 51 02.9**	**-3.9**
TKGZ	**Te Karaka**	**15.02**	**188**	P	**P**	**14 48 31.6**	**+0.1**
UTU	**Utuhina**	**15.04**	**193**	P	**P**	**14 48 34.1**	**+2.4**
HLRZ	**Highlands Stat**	**15.08**	**193**	P	**P**	**14 48 31.9**	**-0.3**
RRRZ	**Republican Roa**	**15.13**	**192**	P	**P**	**14 48 33.3**	**+0.6**
HSRZ	**Hossack Road**	**15.16**	**193**	P	**P**	**14 48 34.7**	**+1.7**
GRRZ	**Galatos Road**	**15.22**	**193**	P	**P**	**14 48 35.2**	**+1.6**
HRRZ	**Handcock Road**	**15.23**	**193**	P	**P**	**14 48 34.6**	**+0.9**
RIGZ	**Rimuhau**	**15.29**	**188**	P	**P**	**14 48 33.1**	**-1.3**
RIGZ	**Rimuhau**	**15.29**	**188**	S	**S**	**14 51 09.0**	**-3.9**
PRRZ	**Plateau Road**	**15.31**	**192**	P	**P**	**14 48 34.6**	**0.0**
ALRZ	**Allen Road**	**15.38**	**192**	P	**P**	**14 48 35.2**	**-0.1**
KUTZ	**Kaahu Road**	**15.42**	**194**	P	**P**	**14 48 37.0**	**+1.3**
SNGZ	**Shannon Statio**	**15.43**	**189**	P	**P**	**14 48 35.3**	**-0.4**
RATZ	**Rangitukua**	**15.79**	**194**	P	**P**	**14 48 38.1**	**-1.4**
RITZ	**Rihia Road**	**15.88**	**193**	P	**P**	**14 48 40.2**	**-0.2**
BKZ	**Black Stump Fm**	**15.94**	**191**	P	**P**	**14 48 37.2**	**-3.8**
ARHZ	**Aropaoamui**	**15.95**	**190**	P	**P**	**14 48 40.7**	**-0.3**
COVZ	**Chateau Observ**	**16.16**	**194**	P	**P**	**14 48 41.7**	**-1.5**
MCHZ	**McNeill Hill**	**16.17**	**191**	P	**P**	**14 48 40.5**	**-2.7**
WHVZ	**Whangaehu Hut**	**16.23**	**194**	P	**P**	**14 48 42.7**	**-1.4**
RPZ	**Rata Peaks**	**21.57**	**199**	P	**P**	**14 49 30.6**	**-1.9**
	18nm,0.5s,baz=346,slow=3.7,SNR=21						
ARMA	**Armidale**	**26.55**	**249**	*e*P	**P**	**14 50 17.3**	**+0.2**
	5.3nm,0.5s						
EIDS	**Eidsvold**	**26.79**	**260**	*e*P	**P**	**14 50 18.1**	**-1.1**
CTAO	**Charters Tower**	**31.90**	**269**	*e*P	**P**	**14 51 02.8**	**-0.7**
	336nm,0.4s						
PMG	**Port Moresby**	**34.78**	**288**	P	**P**	**14 51 27.2**	**-0.6**
	32nm,0.7s,baz=101,slow=6.0,SNR=13						
STKA	**Stephens Creek**	**35.25**	**248**	P	**P**	**14 51 30.4**	**-1.1**
	4.1nm,0.5s,baz=90,slow=9.8,SNR=18						
ASAR	**Alice Springs**	**42.51**	**260**	P	**P**	**14 52 29.4**	**-1.0**
	17nm,0.7s,baz=96,slow=7.3,SNR=315						
ASAR				ScP	**ScP**	**14 57 14.4**	**+3.7**
	1.3nm,0.8s,baz=99,slow=4.6,SNR=7.5						
ASAR				S	**S**	**14 58 09.9**	**-4.2**
	0.3nm,0.7s,baz=97,slow=14,SNR=3.3						
WRAB	**Tennant Creek**	**42.85**	**266**	*e*P	**P**	**14 52 31.4**	**-1.7**
	26nm,0.7s						
WRA	**Warramunga Arr**	**42.86**	**266**	P	**P**	**14 52 31.4**	**-1.8**
	22nm,0.5s,baz=91,slow=8.4,SNR=106						
WRA				ScP	**ScP**	**14 57 15.7**	**+3.6**
	0.8nm,0.8s,baz=100,slow=3.5,SNR=4.9						
SIJI	**Sorong**	**52.73**	**288**	P	**P**	**14 53 46.1**	**-0.9**
	40nm,0.7s,baz=106,slow=4.3,SNR=30						
SBA	**Scott Base**	**54.76**	**184**	*e*P	**P**	**14 54 03.7**	**+3.3**
VNDA	**Vanda**	**54.77**	**185**	P	**P**	**14 54 02.7**	**+2.3**
	1.1nm,0.6s,baz=2.2,slow=5.9,SNR=11						
SOEI	**Soe**	**55.24**	**274**	*e*P	**P**	**14 54 05.5**	**+0.6**
	39nm,1.0s						
QSPA	**South Pole Qui**	**66.54**	**180**	P	**P**	**14 55 20.6**	**+2.2**
	2.8nm,0.6s,baz=9.3,slow=5.5,SNR=7.3						
QSPA	**South Pole Qui**	**66.54**	**180**	*e*P	**P**	**14 55 20.3**	**+2.0**
	21nm,1.0s						
LEM	**Lembang**	**71.60**	**270**	P	**P**	**14 55 49.7**	**0.0**
	19nm,0.7s,baz=126,slow=16,SNR=6.1						
CMAR	**Chiang Mai Arr**	**89.80**	**290**	P	**P**	**14 57 26.1**	**+2.4**
	1.8nm,0.8s,baz=136,slow=3.0,SNR=6.0						
MKAR	**Makanchi Array**	**112.22**	**313**	PKiKP	**PKiKP**	**15 02 56.8**	**+0.3**
	0.3nm,0.5s,baz=112,slow=2.1,SNR=3.3						
BVAR	**Borovoye Array**	**120.45**	**319**	PKP	**PKPdf**	**15 03 12.6**	**+0.5**
	0.9nm,0.5s,baz=132,slow=1.5,SNR=5.5						
AKTO	**Aktyubinsk**	**128.33**	**317**	PKP	**PKPdf**	**15 03 28.9**	**+1.6**
	1.0nm,0.6s,baz=108,slow=6.4,SNR=3.0						
ARCES	**ARCESS Array B**	**131.62**	**349**	PKP	**PKPdf**	**15 03 33.9**	**+1.0**
	0.9nm,0.7s,baz=29,slow=2.8,SNR=8.0						
FINES	**FINESS Array B**	**138.24**	**342**	PKhKP	PKPpre	15 03 37.6	
	1.7nm,1.0s,baz=28,slow=3.3,SNR=2.4						
FINES				SKPbc	**SKPbc**	**15 06 31.9**	**+2.6**
	3.3nm,1.0s,baz=180,slow=3.8,SNR=3.9						
HFS	**Hagfors**	**142.28**	**349**	PKhKP	PKPpre	15 03 50.2	
	2.3nm,0.4s,baz=62,slow=2.9,SNR=28						
AKASG	**Malin Array Be**	**144.90**	**328**	PKP	**PKPdf**	**15 03 58.7**	**+1.1**
	3.3nm,0.6s,baz=43,slow=4.3,SNR=20						
BRTR	**Keskin Array B**	**147.70**	**308**	PKPbc	**PKPbc**	**15 04 07.2**	**+0.7**
	1.3nm,0.6s,baz=113,slow=4.6,SNR=4.2						
MMAI	**Mount Meron Ar**	**147.94**	**295**	PKPbc	**PKPbc**	**15 04 09.0**	**+1.7**
	4.8nm,0.5s,baz=58,slow=5.4,SNR=11						
EKA	**Eskdalemuir Ar**	**148.13**	**4**	PKPbc	**PKPbc**	**15 04 08.2**	**+1.3**
	0.5nm,0.3s,baz=318,slow=2.8,SNR=4.5						
CLL	**Collm**	**150.63**	**344**	*e*PKPbc	**PKPbc**	**15 04 15.0**	**+2.0**

*IDC **18** 14:47:56.0±0.8, 39.°76N×77.°11E, h0km, mb4.1/25, mb1 4.3/31, mb1mx4.1/69, mbtmp4.2/31, ML3.5/6, MS3.5/6, Ms1 3.5/6, ms1mx3.2/44, Error ellipse: s-maj=17.2km s-min=10.6km az=169.0*
*SOME **18** 14:47:57.1, 39.°92N×77.°08E, h10km, MS4.4*
*BJI **18** 14:47:58.7, 39.°94N×77.°16E, h7km, mb4.6/36, mB4.6/27, ML4.7/9, Ms4.2/25, Ms7 4.0/21*
*ISCJB **18** 14:47:59.2±0.2, 39.°69N±0.°02×77.°21E±0.°02, h33km, mb4.4/68, MS3.8/12, Error ellipse: s-maj=3.0km s-min=2.2km az=139.1*
*KRNET **18** 14:47:59.5±0.1, 39.°97N×77.°10E, mb5.0*
*MOS **18** 14:48:00.0±1.3, 39.°97N×77.°15E, h30km, mb4.6/36, Error ellipse: s-maj=6.9km s-min=4.9km az=97.7*
*NNC **18** 14:48:00.8±1.1, 39.°98N×77.°05E, h0km, mb4.9, mpv4.6, Error ellipse: s-maj=11.1km s-min=6.3km az=150.0*
*NEIC **18** 14:48:02.6±0.6, 39.°97N×77.°10E, h43km±5km, mb4.6/25, Error ellipse: s-maj=6.7km s-min=4.9km az=157.0*

ISC 18 14:47:58.6±0.8, 39.°92N±0.°03×77.°09E±0.°02, h12km±4km, n238, σ2°57/305, mb4.5/68, MS3.9/12, 58C-30D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**0.95**	**246**	Pg	Pn	14 48 25.5	+7.6
KSH				Sg	Sn	14 48 44.8	+13
KSH				smax	smax		
	comp=N,14μm,0.8s						
KSH				smax	smax		
	comp=E,14μm,0.8s						
KSH	**Kashi**	**0.95**	**246**	Pg	Pn	14 48 25.5	+7.6
KSH				Sg	Sn	14 48 44.8	+13
NRN	**Naryn**	**1.73**	**332**	⇑*i*P	**Pb**	**14 48 30.5**	**0.0**
	baz=30						
NRN				⇑*i*S	**Sb**	**14 48 53.5**	**+1.2**
	baz=30						
TARG	**Taragay, Kyrgy**	**1.89**	**16**	*e*Pn	**Pb**	**14 48 33.2**	**-0.1**
TARG	**Taragay, Kyrgy**	**1.89**	**16**	⇓*i*P	**Pb**	**14 48 33.4**	**+0.1**
	baz=17						
TARG				⇓*i*S	**Sg**	**14 48 58.8**	**-0.7**
	baz=17						
KDJ	**Kajisay**	**2.21**	**2**	*e*Pn	**Pb**	**14 48 38.9**	**+0.3**
KDJ	**Kajisay**	**2.21**	**2**	⇓*i*P	**Pb**	**14 48 38.8**	**+0.1**
	baz=2.0						
KDJ				⇓*i*S	**Sb**	**14 49 06.9**	**+0.8**
	baz=2.0						
ULHL	**Ulahol**	**2.42**	**345**	P	**Pb**	**14 48 42.9**	**+0.7**
	SNR=116						
ULHL	**Ulahol**	**2.42**	**345**	⇑*i*P	**Pb**	**14 48 41.6**	**-0.5**
	baz=44						
ULHL				⇑*i*S	**Sb**	**14 49 11.9**	**0.0**
	baz=44						
KZA	**Kyzart**	**2.57**	**328**	P	**Pb**	**14 48 44.4**	**-0.5**
	SNR=118						
KZA	**Kyzart**	**2.57**	**328**	⇑*i*P	**Pb**	**14 48 43.8**	**-1.1**
	baz=27						
KZA				⇑*i*S	**Sb**	**14 49 16.8**	**+0.2**
	baz=27						
PRZ	**Przheval'sk**	**2.75**	**21**	⇑*e*P	**Pb**	**14 48 46.3**	**-1.5**
	baz=21						
PRZ				⇑*i*S	**Sb**	**14 49 20.2**	**-1.3**
	baz=21						
SFK	**Sufi-Kurgan**	**2.76**	**273**	⇓Pn	**Pn**	**14 48 45.1**	**+2.2**
	506nm,0.4s						
SFK				⇓Lg	Lg	14 49 26.7	
	1μm,0.6s						
SFK	**Sufi-Kurgan**	**2.76**	**273**	⇓*i*P	**Pb**	**14 48 46.9**	**-1.1**
	baz=72						
SFK				⇓*i*S	**Sb**	**14 49 21.8**	**-0.1**
	baz=72						
UCH	**Uchtor**	**3.02**	**321**	P	**Pb**	**14 48 50.6**	**-2.0**
	SNR=467						
UCH	**Uchtor**	**3.02**	**321**	⇑*i*P	**Pb**	**14 48 50.6**	**-2.0**
	baz=20						
UCH				⇑*i*S	**Sn**	**14 49 27.1**	**+4.1**
	baz=20						
TNSS	**Tian-Shan**	**3.12**	**358**	⇓*i*P	**Pb**	**14 48 55.2**	**+0.9**
	458nm,0.7s						
TNSS				⇑*i*S	**Sg**	**14 49 36.1**	**-2.9**
	1μm,0.6s						
IZV	**Izvestkoviy**	**3.14**	**354**	*e*P	**Pb**	**14 48 54.6**	**+0.2**
	355nm,0.4s						
IZV				*e*S	**Sg**	**14 49 36.1**	**-3.3**
	2μm,0.9s						
KBK	**Karagaybulak**	**3.18**	**330**	P	**Pb**	**14 48 53.3**	**-1.9**
	SNR=136						
KBK	**Karagaybulak**	**3.18**	**330**	⇓*e*P	**Pn**	**14 48 51.8**	**+3.2**
	baz=30						
KBK				⇓*i*S	**Sn**	**14 49 31.0**	**+4.5**
	baz=30						
TKM2	**Tokmak 2**	**3.21**	**340**	⇑Pn	**Pb**	**14 48 53.3**	**-2.4**
	345nm,0.8s						
TKM2				⇑Lg	Lg	14 49 39.7	
	1μm,0.8s						
TKM2	**Tokmak 2**	**3.21**	**340**	P	**Pb**	**14 48 53.5**	**-2.2**
	SNR=330						
TKM2	**Tokmak 2**	**3.21**	**340**	⇑*i*P	**Pb**	**14 48 53.1**	**-2.5**
	baz=40						
TKM2				⇑*i*S	**Sn**	**14 49 31.0**	**+3.8**
	baz=40						
KST	**Kastek**	**3.24**	**345**	*e*P	**Pb**	**14 48 56.6**	**+0.5**
	30nm,0.6s						
KST				*e*S	**Sg**	**14 49 39.7**	**-2.9**
	972nm,0.8s						
MDOK	**Medeo**	**3.25**	**359**	⇑Pn	**Pn**	**14 48 52.9**	**+3.4**
	557nm,1.1s						
MDOK				⇓Lg	Lg	14 49 40.8	
	2μm,0.7s						
MDOK	**Medeo**	**3.25**	**359**	*e*P	**Pb**	**14 48 57.5**	**+1.2**
	164nm,0.5s						
MDOK				*e*S	**Sg**	**14 49 41.0**	**-1.9**
	1μm,0.8s						
MTBS	**Maitube**	**3.25**	**351**	*e*P	**Pb**	**14 48 57.3**	**+1.0**
	221nm,0.7s						
MTBS				⇓*i*S	**Sg**	**14 49 40.8**	**-2.2**
	1μm,0.5s						
SATY	**Saty**	**3.29**	**17**	*e*P	**Pb**	**14 48 57.9**	**+0.9**
	787nm,1.2s						
SATY				*e*S	**Sg**	**14 49 41.4**	**-3.0**
	2μm,0.8s						
AAA	**Alma-Ata**	**3.29**	**358**	*e*P	**Pb**	**14 48 59.0**	**+2.0**
	271nm,0.5s						
AAA				*e*S	**Sg**	**14 49 43.0**	**-1.4**
	3μm,0.8s						
AAA	**Alma-Ata**	**3.29**	**358**	*e*PN	**Pb**	**14 48 59.2**	**+2.2**
AAA				*e*S	**Sg**	**14 49 43.2**	**-1.2**
AAA				pmax	pmax		
	comp=Z,271nm,0.7s						
AAA				smax	smax		
	comp=N,3μm,0.8s						
KNDC	**Almaty**	**3.30**	**358**	⇑Pn	**Pn**	**14 48 53.2**	**+3.1**
	comp=N,601nm,0.8s						
KNDC				⇓Lg	Lg	14 49 43.0	
	comp=N,7μm,0.9s						
KOTS	**Kotyrbulak**	**3.32**	**0**	*e*P	**Pb**	**14 48 58.8**	**+1.3**
	comp=N,129nm,0.4s						
KOTS				*e*S	**Sg**	**14 49 42.9**	**-2.3**
	comp=N,2μm,0.9s						
AAK	**Ala-Archa**	**3.35**	**325**	Pn	**Pb**	**14 48 55.5**	**-2.6**
	comp=N,16nm,0.3s,baz=136,slow=8.8,SNR=272						
AAK				Lg	Lg	14 49 44.2	
	comp=N,42nm,0.3s,baz=32,slow=11,SNR=18						
AAK	**Ala-Archa**	**3.35**	**325**	⇑Pn	**Pn**	**14 48 55.0**	**+4.1**
	comp=N,499nm,0.9s						
AAK				⇑Lg	Lg	14 49 43.8	
	comp=N,3μm,1.1s						
AAK	**Ala-Archa**	**3.35**	**325**	P	**Pb**	**14 48 55.5**	**-2.6**
	SNR=189						
AAK	**Ala-Archa**	**3.35**	**325**	*e*Pn	**Pn**	**14 48 55.0**	**+4.1**
AAK				Lg	Lg	14 49 44.2	
AAK	**Ala-Archa**	**3.35**	**325**	⇑*i*P	**Pn**	**14 48 54.9**	**+4.0**
	baz=24						
AAK				⇑*i*S	**Sn**	**14 49 35.0**	**+4.3**
	baz=24						
AAK	**Ala-Archa**	**3.35**	**325**	*c* iPN	**Pn**	**14 48 55.2**	**+4.3**
AML	**Almayashu**	**3.39**	**312**	P	**Pn**	**14 48 55.9**	**+4.2**
	SNR=341						
AML	**Almayashu**	**3.39**	**312**	⇑*i*P	**Pn**	**14 48 55.9**	**+4.2**
	baz=11						
AML				⇑*i*S	**Sn**	**14 49 35.9**	**+3.8**
	baz=11						
ZHN	**Zhinishke**	**3.40**	**17**	*e*P	**Pb**	**14 49 00.1**	**+1.2**
	comp=N,38nm,0.2s						
ZHN				*e*S	**Sg**	**14 49 45.3**	**-2.6**
	comp=N,792nm,0.7s						
ARSB	**Arslanbob**	**3.43**	**296**	⇑*i*P	**Pn**	**14 48 55.4**	**+3.4**
	baz=95						
ARSB				⇑*i*S	**Sn**	**14 49 37.4**	**+4.8**
	baz=95						
FRU1	**Bishkek**	**3.43**	**328**	⇑*i*P	**Pn**	**14 48 55.4**	**+3.4**
	baz=28						
FRU1				⇑*i*S	**Sn**	**14 49 36.3**	**+3.7**
	baz=28						
FRU	**Bishkek**	**3.46**	**328**	⇑iPN	**Pb**	**14 48 57.0**	**-2.8**
FRU				*i* S	**Sg**	**14 49 48.0**	**-1.7**
FRU				pmax	pmax		
	comp=Z,2μm,1.6s						
FRU				smax	smax		
	comp=E,4μm,2.0s						
FRU				smax	smax		
	comp=N,3μm,1.6s						
FRU				MLR	MLR		
	comp=E,5μm,6.0s						
DGS	**Degeres**	**3.47**	**344**	*e*P	**Pb**	**14 49 01.2**	**+1.2**
	comp=E,690nm,0.9s						
DGS				*e*S	**Sg**	**14 49 47.1**	**-2.9**
	comp=E,705nm,0.6s						
CHMS	**Chumysh**	**3.55**	**331**	P	**Pn**	**14 48 58.1**	**+4.5**
	SNR=198						
CHMS	**Chumysh**	**3.55**	**331**	⇓*i*P	**Pn**	**14 48 57.6**	**+4.1**
	baz=31						
CHMS				⇓*i*S	**Sn**	**14 49 39.4**	**+4.0**
	baz=31						
KURS	**Kuram**	**3.66**	**12**	*e*P	**Pb**	**14 49 05.1**	**+1.8**
	comp=E,30nm,1.4s						
KURS				*e*S	**Sg**	**14 49 53.7**	**-2.5**
	comp=E,725nm,0.9s						
SHLS	**Shalkode**	**3.69**	**28**	*e*P	**Pg**	**14 49 07.8**	**-1.6**
	comp=E,300nm,0.8s						
SHLS				*e*S	**Sg**	**14 49 58.9**	**+1.6**
	comp=E,1μm,0.6s						
EKS2	**Erkin-Say**	**3.71**	**319**	P	**Pn**	**14 49 00.4**	**+4.5**
	SNR=341						
EKS2	**Erkin-Say**	**3.71**	**319**	⇓*i*P	**Pn**	**14 49 00.1**	**+4.3**
	baz=18						
EKS2				⇓*i*S	**Sn**	**14 49 43.4**	**+3.9**
	baz=18						
KPKS	**Kokpek**	**3.74**	**18**	*e*P	**Pb**	**14 49 06.4**	**+1.7**
	comp=E,234nm,0.4s						
KPKS				*e*S	**Sg**	**14 49 55.8**	**-3.1**
	comp=E,1μm,0.9s						
TOKL	**Toktogul**	**3.78**	**304**	⇓*i*P	**Pn**	**14 49 00.4**	**+3.6**
	baz=3.0						
TOKL				⇓*i*S	**Sn**	**14 49 45.4**	**+4.1**
	baz=

KKAR	Karatay Array	5.88	305	ePn		Pn		14 49 26.9	+1.5
KKAR	Karatay Array	5.88	305	ePN		Pn		14 49 27.0	+1.5
CHCP	Chirah Chowk	6.96	207	⇑P		Pn		14 49 44.0	+3.6
NIL	Nilore	6.97	207	ePn		Pn		14 49 43.8	+3.2
NIL	Nilore	6.97	207	ePN		Pn		14 49 43.8	+3.2
CEP	Cherat	7.36	216	⇑P		Pn		14 49 48.6	+2.6
MAKZ	Makanchi	7.75	26	⇑Pn		Pn		14 49 52.9	+1.7
	comp=E,11nm,1.0s									
MAKZ				⇑Pg		Pg		14 50 20.1	-6.9
	comp=E,23nm,0.9s									
MAKZ				Lg		Lg		14 52 05.5		
MAKZ	Makanchi	7.75	26	ePn		Pn		14 49 53.1	+1.8
MAKZ	Makanchi	7.75	26	eP		Pn		14 49 53.1	+1.8
MK01	Makanchi Array	7.83	27	ePn		Pn		14 49 53.6	+1.2
MK31	Makanchi Array	7.85	27	⇓Pn		Pn		14 49 54.1	+1.5
	comp=E,1.8nm,0.5s,baz=201,slow=14,SNR=41									
MK31				⇑Pg		Pg		14 50 22.0	-6.8
	comp=E,8.5nm,0.7s,baz=208,slow=14,SNR=8.6									
MK31				⇓Lg		Lg		14 52 07.3		
	comp=E,68nm,0.8s									
MK31	Makanchi Array	7.85	27	ePn		Pn		14 49 54.0	+1.4
MK31	Makanchi Array	7.85	27	eP		Pn		14 49 54.0	+1.4
MKAR	Makanchi Array	7.85	27	Pn		Pn		14 49 54.2	+1.7
	comp=E,0.6nm,0.3s,baz=191,slow=15,SNR=17									
MKAR				Lg		Lg		14 52 02.5		
	comp=E,2.8nm,0.3s,baz=216,slow=26,SNR=4.1									
MKAR	Makanchi Array	7.85	27	ePn		Pn		14 49 53.9	+1.3
MKAR				Lg		Lg		14 52 02.5		
THW	Thamme Wali	8.31	213	P		Pn		14 50 00.3	+1.3
KBL	Kabul	8.36	233	ePn		Pn		14 50 01.1	+1.2
KBL	Kabul	8.36	233	eP		Pn		14 50 01.1	+1.2
SARP	Sargodha	8.74	206	P		Pn		14 50 05.9	+1.0
WMQ	Urumqi	8.82	60	P		Pn		14 50 08.0	+2.1
WMQ				S		Sn		14 51 40.3	-5.0
WMQ				smax		smax				
	comp=E,170nm,1.3s									
WMQ				smax		smax				
	comp=E,260nm,1.3s									
WMQ				LR		LR				
	comp=E,1μm,18.7s									
WMQ				LR		LR				
	comp=E,490nm,19.3s									
KURBB	Kurchatov Arra	10.76	5	Pn		Pn		14 50 32.9	+0.6
	comp=E,0.1nm,0.3s,baz=193,slow=12,SNR=16									
KURBB				Lg		Lg		14 53 29.9		
	comp=E,0.2nm,0.3s,baz=191,slow=31,SNR=5.8									
KURK	Kurchatov	10.85	5	ePn		Pn		14 50 32.5	-1.2
KURK				Lg		Lg		14 53 29.9		
KURK	Kurchatov	10.85	5⇑	eP		Pn		14 50 33.9	+0.2
KURK				pmax		pmax				
	comp=Z,5.0nm,1.0s									
DGZ	Jazzator, Alta	12.22	33	eP		Pn		14 50 53.6	+1.1
PYUN	Piuthan	12.76	156	eP		Pn		14 50 57.0	-3.0
	comp=Z,35nm,0.5s									
KOLN	Koldanda	13.26	154	eP		Pn		14 51 03.3	-3.6
	comp=Z,27nm,0.5s									
GKN	Gorkha	13.42	150	eP		Pn		14 51 06.7	-2.4
	comp=Z,21nm,0.4s									
KKN	Kakani	13.87	148	eP		Pn		14 51 12.2	-3.0
	comp=Z,33nm,0.5s									
BVAR	Borovoye Array	13.89	343	Pn		Pn		14 51 15.1	-0.1
	comp=Z,0.3nm,0.3s,baz=150,slow=12,SNR=48									
BVAR				Lg		Lg		14 55 13.1		
	comp=Z,0.7nm,0.3s,baz=153,slow=25,SNR=12									
BRVK	Borovoye	13.95	343	ePn		Pn		14 51 15.1	-0.8
BRVK	Borovoye	13.95	343	ceP		Pn		14 51 15.7	-0.2
BRVK				pmax		pmax				
	comp=Z,71nm,1.2s									
DMN	Daman	13.96	149	eP		Pn		14 51 13.4	-3.1
	comp=Z,26nm,0.6s									
GUN	Gumba	14.01	146	eP		Pn		14 51 14.0	-3.3
	comp=Z,28nm,0.5s									
PKIN	Phulchoki	14.10	148	eP		Pn		14 51 14.6	-3.9
	comp=Z,33nm,0.6s									
JIRN	Jiri	14.36	146	eP		Pn		14 51 18.7	-3.4
	comp=Z,38nm,0.4s									
ZAA0	Zalesovo Array	14.98	18	ePn		Pn		14 51 28.0	-2.0
	comp=Z,15nm,0.7s									
ZALV	Zalesovo Beam	14.98	18	Pn		Pn		14 51 29.1	-0.9
	comp=Z,0.2nm,0.3s,baz=202,slow=11,SNR=14									
ZALV				Lg		Lg		14 55 56.5		
	comp=Z,0.2nm,0.3s,baz=210,slow=30,SNR=3.4									
ZALV	Zalesovo Beam	14.98	18	ePn		Pn		14 51 28.1	-1.9
ZALV				Lg		Lg		14 55 56.5		
RAMN	Ramite	15.16	146	eP		Pn		14 51 27.8	-5.0
	comp=Z,66nm,0.8s									
ABKAR	Akbulak array	15.35	313	ePn		Pn		14 51 33.7	-1.1
	comp=Z,97nm,0.7s									
LSA	Lhasa	15.38	127	ePn		Pn		14 51 35.2	-0.7
	comp=Z,9.9nm,0.4s									
LSA	Lhasa	15.38	127	eP		Pn		14 51 35.2	-0.7
LSA				pmax		pmax				
	comp=Z,10.0nm,0.4s									
NVS	Novosibirsk	15.49	13	eP		Pn		14 51 37.4	+0.7
NVS				e				14 54 30.1		
ODAN	Odare	15.59	144	eP		Pn		14 51 33.9	-4.5
	comp=Z,17nm,0.5s									
AKTO	Aktyubinsk	17.02	314	P		Pn		14 51 56.7	+0.4
	comp=Z,0.3nm,0.3s,baz=115,slow=12,SNR=38									
AKTO				Lg		Lg		14 56 55.3		
	comp=Z,0.1nm,0.3s,baz=217,slow=20,SNR=2.8									
AKTO				LR		LR		14 59 27.5		
	comp=Z,96nm,21.6s,baz=128,slow=40									
GTA	Gaotai	17.50	84	eP		P		14 52 03.3	-0.4
GTA				pP		sP		14 52 12.6	+3.8
GTA				S		Sn		14 55 14.5	-2.8
GTA				sS		sS		14 55 30.4	-0.5
GTA				SS		SnSn		14 55 38.0	+7.5
GTA				pmax		pmax				
	comp=Z,5.0nm,1.1s									
GTA				pmax		pmax				
	comp=Z,96nm,6.9s									
GTA				LR		LR				
	comp=Z,370nm,10.7s									
GTA				LR		LR				
	comp=Z,320nm,10.2s									
GTA				LR		LR				
	comp=Z,320nm,11.4s									
NGP	Nagpur	18.78	174	eP		P		14 52 15.1	-2.7
NGP				eS		Sn		14 55 28.6	-20
SHL	Shillong	18.92	135	eP		P		14 52 17.0	-2.5
SVE	Sverdlovsk	20.05	333⇑	eP		P		14 52 32.9	+1.5
SVE				pmax		pmax				
	comp=Z,24nm,1.3s									
MOY	Mondy	20.29	47	eP		Pn		14 52 37.0	+0.8
MOY				pmax		pmax				
	comp=Z,19nm,1.8s									
ARU	Arti	20.52	330	P		P		14 52 36.5	0.0
	comp=Z,5.1nm,0.8s,baz=123,slow=10,SNR=12									
ARU				Lg		Lg		14 58 45.6		
	comp=Z,1.5nm,0.3s,baz=107,slow=19,SNR=5.0									
ARU	Arti	20.52	330	eP		P		14 52 35.8	-0.6
	comp=Z,42nm,1.3s									
ARU				Lg		Lg		14 58 45.6		
ARU	Arti	20.52	330	c iP		Pn		14 52 38.5	-0.2
ARU								14 52 56.4		
ARU				S		S		14 56 27.6	+1.9
ARU				SS		SnSn		14 56 48.3	+4.0
ARU				pmax		pmax				
	comp=Z,37nm,1.2s									
ZAK	Zakamensk	21.12	52	eP		P		14 52 44.4	+1.2
ZAK				pmax		pmax				
	comp=Z,24nm,0.9s									
LZH	Lanzhou	21.39	92	eP		P		14 52 49.1	+2.8
LZH				pP		sP		14 52 58.5	+7.1
LZH				sP		pP		14 53 01.9	+12
LZH				PP		PnPn		14 53 08.8	+2.7
LZH				eS		S		14 56 38.8	-4.8
LZH				SS		SnSn		14 57 12.4	+6.1
LZH				pmax		pmax				
	comp=Z,40nm,1.0s									
LZH				pmax		pmax				
	comp=Z,110nm,4.0s									
LZH				LR		LR				
	comp=Z,600nm,11.3s									
LZH				LR		LR				
	comp=Z,610nm,10.3s									
LZH				LR		LR				
	comp=Z,760nm,13.4s									
POO	Poona	21.50	188	eP		P		14 52 44.0	-3.3
	comp=Z,2.0nm,1.0s									
POO				eS		S		14 56 35.0	-11
TLY	Talaya	21.80	49	LR		LR		15 01 40.9		
	comp=Z,117nm,18.9s,baz=266,slow=38									
TLY	Talaya	21.80	49	eP		P		14 52 57.5	+7.1
TLY				pmax		pmax				
	comp=Z,8.0nm,0.8s									
MAK	Makhachkala	22.34	287	eP		P		14 52 56.4	+0.3
MAK				e*PP		sP		14 53 08.0	+6.8
MAK				eS		S		14 56 59.3	-2.0
MAK				pmax		pmax				
	comp=Z,19nm,0.3s									
MAK				MLR		MLR				
	comp=Z,294nm,15.0s									
HYB	Hyderabad	22.45	176	i P		P		14 53 01.0	+3.4
SONM	Songino Array	22.46	60	P		P		14 52 58.5	+0.9
	comp=Z,2.8nm,0.8s,baz=248,slow=10,SNR=5.5									
SONM				LR		LR		15 02 10.4		
	comp=Z,64nm,19.3s,baz=252,slow=38									
SONA1	Songino Array	22.47	60	eP		P		14 52 57.5	-0.2
WSAR	Wadi Sarin	22.81	229	P		P		14 53 00.8	-0.6
	comp=Z,6.3nm,0.8s,baz=68,slow=15,SNR=3.4									
ULN	Ulaanbaatar	22.90	60	eP		P		14 53 03.6	+1.3
	comp=Z,25nm,0.9s									
ULN	Ulaanbaatar	22.90	60	d iP		P		14 53 04.2	+1.9
ULN				pmax		pmax				
	comp=Z,13nm,1.1s									
CD2	Chengdu	23.45	104	P		P		14 53 07.8	-0.1
CD2				pP		pP		14 53 10.3	-1.2
CD2				S		S		14 57 21.6	+0.5
CD2				sS		sS		14 57 25.9	-1.4
CD2				pmax		pmax				
	comp=Z,50nm,0.5s									
CD2				pmax		pmax				
	comp=Z,150nm,4.8s									
CD2				LR		LR				
	comp=Z,300nm,7.4s									
CD2				LR		LR				
	comp=Z,640nm,8.7s									
CD2				LR		LR				
	comp=Z,420nm,7.8s									
GROC	Groznyy	23.58	288	eP		P		14 53 10.2	+1.2
GROC				e				14 53 38.9		
GROC				e				14 56 50.5		
GROC				pmax		pmax				
	comp=Z,44nm,1.0s									
GNI	Garni	24.70	281	P		P		14 53 22.0	+2.3
	comp=Z,13nm,0.4s,baz=81,slow=13,SNR=3.8									
GNI	Garni	24.70	281	de P		P		14 53 22.6	+2.9
GNI				pmax		pmax				
	comp=Z,102nm,1.2s									
ZEI	Tsey	24.99	287	eP		P		14 53 23.3	+1.0
ZEI				pmax		pmax				
	comp=Z,6.0nm,0.8s									
NCK	Nalchik	25.16	289	i P		P		14 53 27.2	+3.5
AKH	Akhalkalaki	25.44	284	eP		P		14 53 27.8	+1.4
	comp=Z,30nm,1.0s									
AKH	Akhalkalaki	25.44	284	eP		P		14 53 27.8	+1.4
AKH				pmax		pmax				
	comp=Z,30nm,1.0s									
KBZ	Khabaz	25.66	290	P		P		14 53 28.4	+0.3
	comp=Z,1.8nm,0.8s,baz=106,slow=9.0,SNR=3.5									
KVAR	Kislovodsk Arr	25.79	290	P		P		14 53 28.5	-1.0
	comp=Z,5.3nm,0.6s,baz=134,slow=8.9,SNR=3.0									
KVAR				LR		LR		15 04 50.3		
	comp=Z,116nm,18.3s,baz=72,slow=39									
KIV	Kislovodsk	25.80	290	P		P		14 53 28.9	-0.6
	comp=Z,11nm,0.7s									
KIV	Kislovodsk	25.80	290	eP		P		14 53 32.1	+2.6
KIV				pmax		pmax				
	comp=Z,15nm,0.9s									
KIV				MLR		MLR				
	comp=Z,101nm,14.0s									
NEY	Neytrino	25.82	289⇑	eP		P		14 53 33.4	+3.6
NEY				pmax		pmax				
	comp=Z,1.0nm,0.8s									
XAN	Xi'an	26.01	93	P		P		14 53 34.8	+3.3
XAN				pmax		pmax				
	comp=Z,15nm,1.1s									
KMI	Kunming	26.06	117	P		P		14 53 34.3	+2.1
KMI				pP		sP		14 53 44.4	+7.0
KMI				S		S		14 58 08.6	+5.4
KMI				pmax		pmax				
	comp=Z,14nm,0.9s									
KMI				pmax		pmax				
	comp=Z,53nm,3.3s									
KMI				LR		LR				
	comp=Z,190nm,13.6s									
KMI				LR		LR				
	comp=Z,190nm,10.9s									
KMI				LR		LR				
	comp=Z,200nm,12.1s									
HHC	Hu-ho-hao-te	26.18	77	eP		P		14 53 33.6	+0.6
HHC				PP		PnPn		14 54 17.8	+6.3
HHC				S		S		14 57 59.8	-4.9
HHC				pmax		pmax				
	comp=Z,48nm,0.8s									
HHC				pmax		pmax				
	comp=Z,100nm,4.0s									
HHC				LR		LR				
	comp=Z,380nm,12.4s									
HHC				LR		LR				
	comp=Z,500nm,11.2s									
HHC				LR		LR				
	comp=Z,490nm,11.9s									
CMAR	Chiang Mai Arr	28.51	132	P		P		14 53 56.5	+2.5
	comp=Z,0.8nm,0.7s,baz=311,slow=11,SNR=4.0									
BOD	Bodaibo	29.66	41	eP		P		14 54 02.2	-1.6
BOD				pmax		pmax				
	comp=Z,5.0nm,1.6s									
OBN	Obninsk	30.80	313⇓	eP		P		14 54 14.0	+0.2
OBN				e				14 55 17.3		
OBN				eS		S		14 59 19.9	+3.2
OBN				pmax		pmax				
	comp=Z,5.0nm,0.8s									
OBN				MLR		MLR				
	comp=Z,215nm,14.0s									
KLMR	Klimovskoe	31.16	325	eP		P		14 54 15.5	-1.5
KLMR				AMP				14 54 17.8		
	comp=Z,8.0nm,1.2s									
KLMR				ePP		PnPn		14 55 18.4	-0.1
KLMR				ePcP		PcP		14 57 11.0	-0.7
KLMR				eS		S		14 59 16.7	-5.7
KLMR				eS		S		14 59 16.7	-5.7
KLMR	Klimovskoe	31.16	325	eP		P		14 54 15.5	-1.5
KLMR				e				14 55 18.4		
KLMR				e				14 57 10.9		
KLMR				eS		S		14 59 16.7	-5.7
KLMR				pmax		pmax				
	comp=Z,8.0nm,1.2s									
RAYN	Ar Rayn	31.24	248	eP		P		14 54 17.0	-1.1
	comp=Z,16nm,1.1s									
BR131	Keskin Array S	33.13	284	eP		P		14 54 34.8	+0.1
BRTR	Keskin Array B	33.13	284	P		P		14 54 35.1	+0.4
	comp=Z,4.7nm,0.8s,baz=86,slow=8.1,SNR=16									
NJ2	Nanjing	34.44	90	eP		P		14 54 44.0	-2.0
NJ2				pmax		pmax				
	comp=Z,9.0nm,0.5s									
AKASG	Malin Array Be	34.78	304	P		P		14 54 47.0	-1.7
	comp=Z,0.2nm,0.4s,baz=78,slow=7.9,SNR=5.1									
KIEV	Kiev	34.79	304⇑	eP		P		14 54 50.7	+1.9
KIEV				pmax		pmax				
	comp=Z,5.0nm,1.6s									
ZEA	Zeya	36.21	51	eP		P		14 55 05.4	+4.4
ZEA				pmax		pmax				
	comp=Z,17nm,1.0s									
MLR	Muntele Rosu	37.47	296	P		P		14 55 13.5	+1.5
	comp=Z,1.8nm,0.8s,baz=150,slow=10.0,SNR=7.7									
MLR	Muntele Rosu	37.47	296	eP		P		14 55 13.1	+1.1
	comp=Z,9.1nm,0.9s									
MLR	Muntele Rosu	37.47	296	eP		P		14 55 13.1	+1.1
MLR				pmax		pmax				
	comp=Z,9.0nm,0.9s									
FINES	FINESS Array B	37.53	322	P		P		14 55 12.1	-0.1
	comp=Z,2.9nm,0.6s,baz=107,slow=9.9,SNR=13									
YAK	Yakutsk	38.38	37	P		P		14 55 19.1	-0.2
	comp=Z,4.6nm,0.4s,baz=245,slow=3.1,SNR=3.4									
YAK	Yakutsk	38.38	37	eP		P		14 55 18.9	-0.4
YAK				e*PP		sP		14 55 28.7	+4.1
YAK				e				14 56 48.4		
YAK				ePPP		PPP		14 57 06.7		
YAK				e				14 57 30.2		
YAK				eS		S		15 01 10.6	-2.8
YAK				e*SS		ScP		15 01 29.8	+10
YAK				eSS		SnSn		15 03 58.5	-0.2
YAK				eSSS		SSS		15 04 17.4	
YAK				e				15 05 24.5	
YAK				pmax		pmax				
	comp=Z,14nm,1.1s									
YAK				pmax		pmax				
	comp=N,2.0nm,1.1s									
YAK				pmax		pmax				
	comp=E,5.0nm,1.3s									
YAK				pmax		pmax				
	comp=Z,31nm,2.3s									
YAK				pmax		pmax				
	comp=N,13nm,2.0s									
YAK				pmax		pmax				
	comp=E,19nm,2.0s									
YAK				smax		smax				
	comp=N,22nm,3.2s									
YAK				smax		smax				
	comp=E,20nm,3.6s									
MDJ	Mudanjiang	38.58	65	P		P		14 55 17.1	-4.1
MDJ				pmax		pmax				
	comp=Z,3.0nm,0.6s									
MDJ				pmax		pmax				
	comp=Z,6.0nm,3.5s									
KLR	Kul'dur	39.26	58	P		P		14 55 27.5	+0.6
	comp=Z,0.5nm,0.7s,baz=274,slow=8.2,SNR=20									
KSAR	Wonju Array Be	39.30	77	P		P		14 55 27.2	-0.1
KSAR	Wonju Array Be	39.30	77	P		P		14 55 27.2	-0.1
KSRS	Korea Array	39.32	77	P		P		14 55 27.2	-0.3
	comp=Z,1.1nm,0.8s,baz=288,slow=8.9,SNR=2.8									
ARCES	ARCESS Array B	39.97	335	P		P		14 55 32.6	+0.1
	comp=Z,4.9nm,0.9s,baz=100,slow=7.7,SNR=11									
TIXI	Tiksi	40.80	22	P		P		14 55 39.7	+0.3
	comp=Z,27nm,0.7s,baz=262,slow=5.0,SNR=80									
TIXI	Tiksi	40.80	22	eP		P		14 55 39.1	-0.2
	comp=Z,25nm,0.7s									
GRNR	Gornyy	42.03	55	i P		P		14 55 48.8	-0.9
DPC	Dobruska-Polom	43.00	305	eP		P		14 55 58.4	+0.7
HFS	Hagfors	43.47	319	P		P		14 56 01.5	+0.2
	comp=Z,5.6nm,1.0s,baz=110,slow=6.4,SNR=4.9									
NB2	NORSAR Subarra	44.66	321	P		P		14 56 10.6	-0.2
	comp=Z,3.4nm,0.7s,baz=88,slow=7.9									
NOA	NORSAR Array B	44.66	321	P		P		14 56 10.7	-0.2
	comp=Z,2.8nm,0.8s,baz=93,slow=7.6,SNR=4.5									
CLL	Collm	44.89	307	eP		P		14 56 12.0	-0.7
CLL				e				14 56 18.0		
CLL	Collm	44.89	307	eP		P		14 56 12.0	-0.7
CLL				e				14 56 18.0		
GEC2	GERESS Array S	44.98	303	eP		P		14 56 13.4	-0.2
GEC2				pmax		pmax				
	comp=Z,6.0nm,0.9s									
GERES	GERESS Array B	44.98	303	P		P		14 56 13.8	+0.2
	comp=Z,3.9nm,0.7s,baz=72,slow=8.6,SNR=22									
GEA0	GERESS Array S	44.98	303	eP		P		14 56 13.2	-0.4
KHC	Kasperske Hory	44.99	304	eP		P		14 56 14.1	+0.4
YSS	Yuzh-Sakhalins	46.94	59	eP		P		14 56 27.8	-1.2
YSS				e				14 56 32.2		
MAJO	Matsushiro	47.31	74	i P		P		14 56 33.9	+1.9
MJAR	Matsushiro Arr	47.31	74	P		P		14 56 31.6	-0.5
	comp=Z,3.1nm,1.0s,baz=288,slow=9.8,SNR=7.6									
ASAJ	Asahikawa	47.70	62	P		P		14 56 34.6	-0.3
	comp=Z,2.6nm,0.8s,baz=333,slow=4.5,SNR=2.6									
ASAJ	Asahikawa	47.70	62	eP		P		14 56 33.9	-1.0
	comp=Z,4.2nm,0.8s									
DAG	Danmarks Havn	52.83	343	i P		P		14 57 13.4	+0.1
	comp=Z,9.0nm,0.9s									
DAG	Danmarks Havn	52.83	343	i P		P		14 57 13.4	+0.1
DAG				pmax		pmax				
	comp=Z,9.0nm,0.9s									
EKA	Eskdalemuir Ar	53.21	315	P		P		14 57 16.0	-0.4
	comp=Z,2.3nm,0.8s,baz=78,slow=8.2,SNR=4.4									
EKA	Eskdalemuir Ar	53.21	315	P		P		14 57 16.0	-0.4
EKA	Eskdalemuir Ar	53.21	315	P		P		14 57 16.0	-0.4
EKA				pmax		pmax				
	comp=Z,1.0nm,0.6s									
BILL	Bilibino	53.39	28⇑	i P		P		14 57 17.6	0.0
BILL				e				14 59 17.4		
BILL				pmax		pmax				
	comp=Z,5.0nm,0.9s									
BILL				MLR		MLR				
	comp=Z,84nm,16.0s									
ESDC	Sonseca Array	60.09	298	P		P		14 58 04.7	-1.0
	comp=Z,0.4nm,0.3s,baz=58,slow=8.6,SNR=3.5									
TOLK	Toolik Lake Re	66.34	17	eP		P		14 58 46.4	-0.2
	comp=Z,4.7nm,0.8s									
COLD	Coldfoot	67.32	18	eP		P		14 58 52.5	-0.3
	comp=Z,4.9nm,0.9s									
IM3	Indian Mountai	67.40	20	eP		P		14 58 52.7	-0.7
BPAW	Bear Paw Mtn.	69.60	20	eP		P		14 59 06.5	-0.7
	comp=Z,3.2nm,0.8s									
INK	Inuvik	69.68	12	P		P		14 59 07.3	-0.2
	comp=Z,3.4nm,0.9s,baz=352,slow=9.0,SNR=14									
INK	Inuvik	69.68	12	eP		P		14 59 07.2	-0.4
	comp=Z,6.3nm,1.1s									
COLA	College	69.79	19⇑	eP		P		14 59 08.0	-0.2
COLA				pmax		pmax				
	comp=Z,3.0nm,0.7s									
CAST	Castle Rocks	69.84	21	eP		P		14 59 08.1	-0.6
	comp=Z,4.4nm,0.9s									
KTH	Kantishna Hill	70.06	21	eP		P		14 59 09.2	-0.8
	comp=Z,7.6nm,1.0s									
IL1	Eielson Array	70.11	18	eP		P		14 59 09.1	-1.2
ILAR	Eielson Array	70.11	18	P		P		14 59 09.3	-1.0
	comp=Z,1.8nm,0.9s,baz=312,slow=5.1,SNR=22									
ILAR				PP		PP		15 01 48.9	+4.1
	comp=Z,0.6nm,0.9s,baz=321,slow=7.7,SNR=4.2									
ILAR				LR		LR		15 33 16.6		
	comp=Z,43nm,20.7s,baz=258,slow=39									
ILB	Eielson Array	70.11	18	eP		P		14 59 08.7	-1.6
RIDG	Independ'e Rid	71.46	18	eP		P		14 59 17.4	-1.2
	comp=Z,5.7nm,0.9s									
SCRK	Sand Creek	71.47	18	eP		P		14 59 17.9	-0.9
	comp=Z,2.8nm,0.8s									
PAX	Paxson	71.96	19	eP		P		14 59 20.8	-0.9
	comp=Z,6.3nm,1.2s									
PAX	Paxson	71.96	19	eP		P		14 59 20.8	-0.9
PAX				pmax		pmax				
	comp=Z,6.0nm,1.2s									
SML	Sawmill	72.17	21	eP		P		14 59 22.1	-0.7
	comp=Z,8.6nm,0.8s									
SML	Sawmill	72.17	21	eP		P		14 59 22.2	-0.

n53,σ1⁹64/63,mb4.0/16,MS3.8/7,16C-12D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**0.92**	**241**	Pg	Pn	14 49 59.8	+7.2
KSH				Sg	Sn	14 50 20.3	+14
KSH	comp=N,10μm,0.4s			smax	smax		
KSH	comp=E,9μm,0.4s			smax	smax		
TARG	**Taragay, Kyrgy** baz=13	**1.86**	**19**⇓	*i*P	**Pg**	**14 50 08.1**	**-1.0**
TARG	baz=13			⇓*i*S	**Sg**	**14 50 33.6**	**+0.4**
KDJ	**Kajisay** baz=59	**2.16**	**3**⇑	*e*P	**Pg**	**14 50 13.9**	**-1.0**
KDJ	baz=59			⇑*i*S	**Sg**	**14 50 42.8**	**-0.2**
ULHL	**Ulahol** baz=42	**2.35**	**346**⇓	*i*P	**Pg**	**14 50 17.5**	**-1.0**
ULHL	baz=42			⇓*i*S	**Sg**	**14 50 48.7**	**-0.2**
KZA	**Kyzart** baz=25	**2.49**	**328**⇑	*i*P	**Pg**	**14 50 20.6**	**-0.7**
KZA	baz=25			⇑*i*S	**Sg**	**14 50 53.4**	**-0.2**
SFK	**Sufi-Kurgan** baz=73	**2.70**	**272**⇑	*i*P	**Pg**	**14 50 24.1**	**-1.1**
SFK	baz=73			⇑*i*S	**Sg**	**14 50 59.8**	**-0.3**
PRZ	**Przheval'sk** baz=19	**2.72**	**22**⇑	*e*P	**Pb**	**14 50 21.2**	**-1.1**
PRZ	baz=19			⇑*i*S	**Sb**	**14 50 54.9**	**-0.9**
UCH	**Uchtor** baz=19	**2.94**	**321**⇓	*e*P	**Pb**	**14 50 26.8**	**+0.5**
UCH	baz=19			⇓*i*S	**Sb**	**14 51 04.5**	**+2.0**
KBK	**Karagaybulak** baz=28	**3.10**	**331**⇓	*i*P	**Pb**	**14 50 28.7**	**-0.1**
KBK	baz=28			⇓*i*S	**Sb**	**14 51 08.0**	**+1.2**
TKM2	**Tokmak 2** baz=38	**3.14**	**341**⇑	*e*P	**Pb**	**14 50 28.9**	**-0.5**
TKM2	baz=38			⇑*i*S	**Sb**	**14 51 08.3**	**+0.5**
AAK	**Ala-Archa** 9.9nm,0.3s,baz=165,slow=19,SNR=1.8	**3.27**	**325**	Pn	**Pb**	**14 50 30.4**	**-1.4**
AAK	49nm,0.3s,baz=236,slow=18,SNR=5.6			Lg	Lg	14 51 19.0	
AAK	**Ala-Archa** baz=23	**3.27**	**325**	Pn	**Pn**	**14 50 25.6**	**+0.7**
AAK				Lg	Lg	14 51 19.0	
AAK	**Ala-Archa** baz=23	**3.27**	**325**⇑	*e*P	**Pb**	**14 50 31.0**	**-0.7**
AAK	baz=23			⇑*e*S	**Sb**	**14 51 12.2**	**+0.5**
AML	**Almayashu** baz=10.0	**3.31**	**312**⇑	*i*P	**Pb**	**14 50 32.1**	**-0.4**
AML	baz=10.0			⇑*i*S	**Sb**	**14 51 14.1**	**+1.1**
ARSB	**Arslanbob** baz=94	**3.35**	**295**⇑	*i*P	**Pb**	**14 50 32.6**	**-0.5**
ARSB	baz=94			⇑*i*S	**Sb**	**14 51 14.3**	**+0.3**
FRU1	**Bishkek** baz=26	**3.36**	**328**⇓	*i*P	**Pb**	**14 50 32.3**	**-0.8**
FRU1	baz=26			⇓*i*S	**Sb**	**14 51 13.5**	**-0.5**
PDGK	**Podgornoye** baz=26	**3.83**	**28**⇓	*e*P	Pb	14 50 36.1	-5.2
PDGK	baz=26			⇓*i*S	**Sn**	**14 51 21.3**	**+3.4**
KKAR	**Karatay Array**	**5.80**	**305**	*e*Pn	**Pn**	**14 51 02.0**	**+2.5**
NIL	**Nilore**	**6.99**	**207**	*e*Pn	Pn	14 51 01.3	-15
MKAR	**Makanchi Array** 1.9nm,0.3s,baz=205,slow=24,SNR=3.2	**7.83**	**28**	Lg	Lg	14 53 37.7	
WMQ	**Urumqi**	**8.85**	**61**	P	**Pn**	**14 51 42.3**	**+0.9**
WMQ	comp=N,1μm,18.3s			LR	LR		
WMQ	comp=E,490nm,19.5s			LR	LR		
WMQ	comp=Z,510nm,14.1s			LR	LR		
KURBB	**Kurchatov Arra** 0.3nm,0.3s,baz=192,slow=31,SNR=3.0	**10.71**	**5**	Lg	Lg	14 55 09.2	
KURK	**Kurchatov**	**10.81**	**5**	*e*Pn	**Pn**	**14 52 08.2**	**+0.1**
KURK				Lg	Lg	14 55 09.2	
BVAR	**Borovoye Array** 0.5nm,0.3s,baz=153,slow=14,SNR=3.1	**13.82**	**343**	Pn	**Pn**	**14 52 50.1**	**+0.7**
BVAR	0.9nm,0.3s,baz=148,slow=27,SNR=4.7			Lg	Lg	14 56 49.5	
ZALV	**Zalesovo Beam** 0.3nm,0.3s,baz=213,slow=10,SNR=3.0	**14.95**	**18**	Pn	**Pn**	**14 53 06.2**	**+1.5**
ZALV	comp=Z,81nm,18.2s,baz=239,slow=39			LR	LR	14 59 23.7	
ABKAR	**Akbulak array**	**15.27**	**313**	*e*P	**P**	**14 53 12.8**	**-1.1**
AKTO	**Aktyubinsk** 0.5nm,0.3s,baz=112,slow=13,SNR=4.1	**16.94**	**314**	P	**P**	**14 53 32.8**	**+0.3**
LZH	**Lanzhou**	**21.45**	**92**	*e*P	**P**	**14 54 24.5**	**+2.4**
LZH				pP	sP	14 54 33.6	+7.4
LZH				sP	pP	14 54 36.6	+12
LZH				PP	**PnPn**	**14 54 48.6**	**+6.5**
LZH	comp=N,600nm,13.3s			LR	LR		
LZH	comp=E,610nm,11.3s			LR	LR		
TLY	**Talaya**	**21.81**	**49**	*e*P	**P**	**14 54 22.8**	**-2.8**
SONM	**Songino Array** 3.3nm,0.8s,baz=242,slow=9.3,SNR=3.6	**22.48**	**60**	P	**P**	**14 54 31.5**	**-1.4**
HYB	**Hyderabad**	**22.51**	**176**	*i*P	**P**	**14 54 38.0**	**+4.6**
CD2	**Chengdu**	**23.52**	**104**	P	**P**	**14 54 42.0**	**-1.7**
CD2				S	**S**	**14 58 56.0**	**-1.7**
CD2	comp=N,300nm,8.5s			LR	LR		
CD2	comp=E,350nm,10.4s			LR	LR		
CD2	comp=Z,330nm,9.4s			LR	LR		
XAN	**Xi'an**	**26.07**	**93**	P	**P**	**14 55 10.0**	**+2.8**
XAN				pP	sP	14 55 18.3	+6.9
XAN	comp=Z,14nm,1.0s			pmax	pmax		
XAN	comp=N,340nm,16.3s			LR	LR		
RAYN	**Ar Rayn** 9.1nm,1.3s	**31.21**	**248**	P	**P**	**14 55 50.9**	**-2.2**
BRTR	**Keskin Array B** 1.7nm,0.9s,baz=91,slow=6.1,SNR=3.0	**33.06**	**284**	P	**P**	**14 56 09.8**	**+0.5**
MLR	**Muntele Rosu** comp=Z,61nm,18.7s,baz=44,slow=38	**37.40**	**296**	LR	LR	15 13 28.4	
FINES	**FINESS Array B** 1.3nm,0.5s,baz=109,slow=9.8,SNR=6.0	**37.45**	**322**	P	**P**	**14 56 46.6**	**0.0**
YAK	**Yakutsk**	**38.37**	**37**	P	**P**	**14 56 53.5**	**-0.9**
KLR	**Kul'dur** 0.3nm,0.8s,baz=274,slow=9.8,SNR=3.7	**39.28**	**58**	P	**P**	**14 57 01.1**	**-1.1**
ARCES	**ARCESS Array B** 3.3nm,1.0s,baz=99,slow=8.0,SNR=6.1	**39.90**	**335**	P	**P**	**14 57 07.2**	**+0.1**
TIXI	**Tiksi**	**40.78**	**22**	*e*P	**P**	**14 57 13.8**	**-0.5**
ATD	**Arta Tunnel** comp=Z,42nm,21.1s,baz=74,slow=38	**41.39**	**236**	LR	LR	15 16 01.3	
HFS	**Hagfors** 2.1nm,0.7s,baz=83,slow=12,SNR=2.8	**43.40**	**319**	P	**P**	**14 57 36.0**	**+0.2**
NB2	**NORSAR Subarra** comp=Z,0.6nm,0.5s,baz=90,slow=8.6	**44.58**	**321**	P	**P**	**14 57 45.2**	**-0.2**
NOA	**NORSAR Array B** comp=Z,0.7nm,0.5s,baz=88,slow=7.8,SNR=3.2	**44.58**	**321**	P	**P**	**14 57 45.3**	**-0.2**
GERES	**GERESS Array B** comp=Z,0.7nm,0.5s,baz=64,slow=9.1,SNR=4.9	**44.90**	**303**	P	**P**	**14 57 48.5**	**+0.3**
GERES	comp=Z,85nm,21.4s,baz=76,slow=40			LR	LR	15 19 57.6	
MJAR	**Matsushiro Arr** comp=Z,2.8nm,1.0s,baz=288,slow=9.8,SNR=5.4	**47.35**	**74**	P	**P**	**14 58 05.5**	**-2.0**
SUMG	**Summit**	**59.30**	**342**	*e*P	**P**	**14 59 35.6**	**+0.3**
COLD	**Coldfoot** comp=Z,2.6nm,0.9s	**67.28**	**18**	*e*P	**P**	**15 00 27.0**	**-0.9**
ILAR	**Eielson Array** comp=Z,1.2nm,0.9s,baz=336,slow=4.6,SNR=4.3	**70.08**	**18**	P	**P**	**15 00 44.2**	**-1.1**
ILAR	comp=Z,0.8nm,1.0s,baz=309,slow=6.7,SNR=4.2			PP	**PP**	**15 03 22.0**	**+2.3**
KOWA	**Kowa** comp=Z,1.8nm,0.4s,baz=39,slow=6.5,SNR=5.4	**74.03**	**276**	P	**P**	**15 01 08.4**	**-1.3**
KOWA	comp=Z,47nm,18.0s,baz=27,slow=41			LR	LR	15 40 37.8	
YKA	**Yellowknife Ar** comp=Z,0.4nm,0.4s,baz=345,slow=5.7,SNR=5.3	**77.46**	**5**	P	**P**	**15 01 27.4**	**-1.2**
DBIC	**Dimbokro** comp=Z,1.6nm,0.5s,baz=16,slow=4.7,SNR=4.5	**79.53**	**270**	P	**P**	**15 01 39.4**	**-1.4**

ISN ***18*** *14:49:50.3±0.3,38˚.44N×43˚.57E,h0km,ML3.3*
ISK ***18*** *14:49:52.4,38˚.91N×43˚.59E,h5km,ML3.2/10*
DDA ***18*** *14:49:53.4,38˚.88N×43˚.59E,h7km,Ml3.3*
ATA ***18*** *14:49:53.4±1.1,38˚.90N×43˚.51E,h11km±11km,ML3.6, MW3.6*
CSEM ***18*** *14:49:54.4±0.4,38˚.91N×43˚.62E,h20km,ML3.2, Error ellipse: s-maj=9.4km s-min=5.9km az=99.0*

ISC 18 14:49:54.3±1.1,38˚.90N±0˚.02×43˚.55E±0˚.02,h3km±10km, n60,σ1⁹12/90,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERCV	**ERCIS-VAN**	**0.20**	**306**	PG	**Pg**	**14 49 57.9**	**-0.3**
ERCV				SG	**Sg**	**14 50 01.8**	**+1.0**
VANB	**Van**	**0.33**	**202**	PG	**Pb**	**14 50 01.9**	**-1.0**
VANB				SG	**Sb**	**14 50 08.8**	**+0.1**
VANB	**Van**	**0.33**	**202**	*e*Pg	**Pb**	**14 50 01.9**	**-1.0**
VANB				*e*Sg	**Sb**	**14 50 08.8**	**+0.1**
CLDR	**Caldiran**	**0.38**	**50**	PG	**Pg**	**14 50 00.3**	**-1.3**
CLDR	**Caldiran**	**0.38**	**50**	*i*P	**Pg**	**14 50 00.1**	**-1.5**
CLDR	**Caldiran**	**0.38**	**50**	P	**Pg**	**14 50 00.1**	**-1.5**
TVAN	**Van**	**0.39**	**196**	*i*P	**Pg**	**14 50 01.6**	**-0.2**
TVAN				*i*S	**Sb**	**14 50 09.9**	**-0.6**
TVAN	**Van**	**0.39**	**196**	P	**Pg**	**14 50 01.6**	**-0.2**
TVAN				S	**Sb**	**14 50 09.9**	**-0.6**
ADCV	**BITLIS_Adilcev**	**0.65**	**262**	*i*P	**Pg**	**14 50 06.5**	**-0.2**
ADCV				*i*S	**Sg**	**14 50 16.3**	**+1.2**
ADCV	**BITLIS_Adilcev**	**0.65**	**262**	P	**Pg**	**14 50 06.5**	**-0.2**
ADCV				S	**Sg**	**14 50 16.3**	**+1.2**
DYDN	**Diyadin**	**0.65**	**10**	*e*P	**Pg**	**14 50 06.3**	**-0.5**
DYDN				*e*S	**Sb**	**14 50 17.2**	**-0.8**
DYDN	comp=Z,134nm,0.3s			IAML		14 50 19.1	
DYDN	**Diyadin**	**0.65**	**10**	*i*P	**Pg**	**14 50 06.4**	**-0.4**
DYDN				*i*S	**Sb**	**14 50 16.8**	**-1.2**
DYDN	**Diyadin**	**0.65**	**10**	P	**Pg**	**14 50 06.4**	**-0.4**
DYDN				S	**Sb**	**14 50 16.8**	**-1.2**
GEVA	**Gevas**	**0.70**	**213**	*e*P	**Pg**	**14 50 06.6**	**-1.2**
GEVA				*e*S	**Sg**	**14 50 18.1**	**+1.2**
GEVA	comp=Z,253nm,0.5s			IAML		14 50 28.9	
GEVA	**Gevas**	**0.70**	**213**	*i*P	**Pg**	**14 50 06.6**	**-1.2**
GEVA	**Gevas**	**0.70**	**213**	P	**Pg**	**14 50 06.6**	**-1.2**
TUTA	**Tutak**	**0.76**	**311**	*e*P	**Pg**	**14 50 07.7**	**-1.1**
TUTA				*e*S	**Sg**	**14 50 19.8**	**+1.2**
TUTA	comp=Z,552nm,0.2s			IAML		14 50 22.6	
TUTA	**Tutak**	**0.76**	**311**	*i*P	**Pg**	**14 50 08.1**	**-0.7**
TUTA	**Tutak**	**0.76**	**311**	P	**Pg**	**14 50 08.1**	**-0.7**
AGRB	**Hanur-Agry**	**0.80**	**328**	PG	**Pg**	**14 50 09.0**	**-0.6**
AGRB				SG	**Sb**	**14 50 21.5**	**-0.7**
AGRB	**Hanur-Agry**	**0.80**	**328**	*e*Pg	**Pg**	**14 50 09.0**	**-0.6**
AGRB				*e*Sg	**Sb**	**14 50 21.5**	**-0.7**
IGDI	**IGDIR**	**1.05**	**23**	*e*P	**Pg**	**14 50 13.6**	**-0.8**
IGDI				*e*S	**Sn**	**14 50 30.5**	**-0.7**
IGDI	comp=Z,45nm,0.5s			IAML		14 50 38.7	
IGDI	**IGDIR**	**1.05**	**23**	*i*P	**Pg**	**14 50 13.9**	**-0.5**
IGDI				*i*S	**Sn**	**14 50 34.0**	**+2.7**
EKAR	**Karacoban**	**1.21**	**287**	*e*P	**Pg**	**14 50 16.6**	**-0.8**
EKAR				*e*S	**Sn**	**14 50 34.6**	**-0.7**
EKAR	comp=Z,112nm,0.5s			IAML		14 50 43.4	
EKAR	**Karacoban**	**1.21**	**287**	*i*P	**Pn**	**14 50 18.0**	**-0.3**
EKAR				*i*S	**Sn**	**14 50 35.8**	**+0.5**
EKAR	**Karacoban**	**1.21**	**287**	P	**Pn**	**14 50 18.0**	**-0.3**
EKAR				S	**Sn**	**14 50 35.8**	**+0.5**
TASB	**TASBURUN-IGDIR**	**1.21**	**26**	PN	**Pg**	**14 50 16.4**	**-1.0**
TASB				SN	**Sb**	**14 50 33.8**	**-0.1**
TASB	**TASBURUN-IGDIR**	**1.21**	**26**	*e*Pn	**Pg**	**14 50 16.4**	**-1.0**
TASB				*e*Sn	**Sb**	**14 50 33.8**	**-0.1**
GURO	**Guroymak-BITLI**	**1.23**	**254**	PN	**Pg**	**14 50 16.2**	**-1.8**
GURO	**Guroymak-BITLI**	**1.23**	**254**	*e*Pn	**Pg**	**14 50 16.2**	**-1.8**
EATA	**Eleskirt**	**1.26**	**320**	*e*P	**Pg**	**14 50 17.6**	**-0.9**
EATA				*e*S	**Sn**	**14 50 36.0**	**-0.8**
EATA	comp=Z,30nm,0.4s			IAML		14 50 38.2	
EATA	**Eleskirt**	**1.26**	**320**	*i*P	**Pg**	**14 50 17.5**	**-0.9**
EATA				*i*S	**Sn**	**14 50 36.1**	**-0.6**
EATA	**Eleskirt**	**1.26**	**320**	P	**Pg**	**14 50 17.5**	**-0.9**
EATA				S	**Sn**	**14 50 36.2**	**-0.6**
HAKT	**HAKKARI**	**1.35**	**175**	*i*P	**Pn**	**14 50 18.7**	**-1.6**
HAKT				*i*S	**Sn**	**14 50 41.5**	**+2.6**
HAKT	**HAKKARI**	**1.35**	**175**	P	**Pn**	**14 50 18.7**	**-1.6**
HAKT				S	**Sn**	**14 50 41.5**	**+2.6**
YOVA	**Hakkari_Y˙...kse**	**1.44**	**156**	*i*P	**Pn**	**14 50 20.5**	**-1.0**
YOVA				*i*S	**Sn**	**14 50 43.6**	**+2.6**
YOVA	**Hakkari_Y˙...kse**	**1.44**	**156**	P	**Pn**	**14 50 20.5**	**-1.0**
DIGO	**Kars**	**1.52**	**355**	*e*P	**Pn**	**14 50 22.3**	**-0.3**
DIGO				*e*S	**Sg**	**14 50 45.8**	**+2.8**
DIGO	comp=Z,15nm,0.7s			IAML		14 50 59.6	
SRTM	**Siirt_Merkez**	**1.57**	**235**	*i*P	**Pn**	**14 50 23.0**	**-0.2**
SRTM	**Siirt_Merkez**	**1.57**	**235**	P	**Pn**	**14 50 23.0**	**-0.2**
VRTB	**Varto-Mus**	**1.65**	**280**	PN	**Pn**	**14 50 23.9**	**-0.4**
VRTB	**Varto-Mus**	**1.65**	**280**	*i*P	**Pb**	**14 50 25.3**	**-0.1**
VRTB	**Varto-Mus**	**1.65**	**280**	*e*Pn	**Pn**	**14 50 23.9**	**-0.4**
VRTB	**Varto-Mus**	**1.65**	**280**	P	**Pb**	**14 50 25.3**	**-0.1**
SIRT	**Sirnak**	**1.65**	**212**	PN	**Pn**	**14 50 23.8**	**-0.5**
SIRT	**Sirnak**	**1.65**	**212**	*e*Pn	**Pn**	**14 50 23.8**	**-0.5**
SIRN	**S¨–rnak**	**1.66**	**213**	*i*P	**Pn**	**14 50 24.6**	**+0.1**
SIRN	**S¨–rnak**	**1.66**	**213**	P	**Pn**	**14 50 24.6**	**+0.1**
HOMI	**Horasan**	**1.71**	**312**	*e*P	**Pb**	**14 50 26.2**	**-0.3**
HOMI				*e*S	**Sg**	**14 50 49.7**	**+0.6**
HOMI	comp=Z,26nm,0.6s			IAML		14 51 05.6	
KARS	**Kars**	**1.76**	**348**	PN	**Pn**	**14 50 25.2**	**-0.7**
KARS	**Kars**	**1.76**	**348**	*e*Pn	**Pn**	**14 50 25.2**	**-0.7**
EAK	**Akyaka**	**1.78**	**2**	*e*P	**Pg**	**14 50 28.4**	**-0.1**
EAK				*e*S	**Sg**	**14 50 55.3**	**+3.7**
EAK	comp=Z,20nm,0.5s			IAML		14 51 03.1	
SENK	**Senkaya-Erzuru**	**1.90**	**331**	PN	**Pn**	**14 50 27.2**	**-0.6**
SENK	**Senkaya-Erzuru**	**1.90**	**331**	*e*Pn	**Pn**	**14 50 27.2**	**-0.6**
ERZM	**Erzurum**	**1.96**	**301**	*e*P	**Pn**	**14 50 29.2**	**+0.4**
BNGB	**Bing¨l**	**2.24**	**273**	PN	**Pn**	**14 50 32.6**	**+0.2**
BINT	**Bingol**	**2.38**	**270**	*e*Pn	**Pn**	**14 50 32.6**	**-1.8**
KOPT	**Kop Dagi**	**2.61**	**296**	*e*P	**Pb**	**14 50 42.5**	**+0.7**
MAZI	**Mazidag**	**2.83**	**240**	PN	**Pn**	**14 50 41.2**	**+0.6**
MAZI	**Mazidag**	**2.83**	**240**	*e*Pn	**Pn**	**14 50 41.2**	**+0.6**

IDC ***18*** *14:54:42.5±0.4,2˚.86S×141˚.48E,h0km,mb4.4/23, mb1 4.4/27,mb1mx4.3/54,mbtmp4.4/27,ML2.6/2,MS3.5/7, Ms1 3.5/7,ms1mx3.1/38,Error ellipse: s-maj=17.5km s-min=10.7km az=79.0*
ISCJB ***18*** *14:54:45.9±0.2,2˚.92S±0˚.03×141˚.49E±0˚.03,h35km, mb4.6/55,MS3.9/6,Error ellipse: s-maj=4.5km s-min=4.1km az=35.4*
BJI ***18*** *14:54:45.9,2˚.97S×141˚.56E,h36km,mb4.7/28,mB5.0/13, Ms4.8/5,Ms7 4.6/4*
NEIC ***18*** *14:54:47.6±0.6,2˚.89S×141˚.44E,h36km±6km,mb4.7/28, Error ellipse: s-maj=4.8km s-min=4.4km az=119.0*
DJA ***18*** *14:54:48.6±0.6,3˚.5S±5˚×14˚1E±˚,h10km,M4.7/12, mb4.7/12,mB5.3/6,MLv4.7/3,Mw(mB)4.7/6*

ISC 18 14:54:47.7±0.3,2˚.93S±0˚.05×141˚.44E±0˚.05,h35km,n133, σ1⁹10/126,mb4.7/54,MS3.8/6,1D,Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**0.84**	**299**	P	**Pn**	**14 55 00.7**	**-2.4**
JAY				S	**Sn**	**14 55 13.1**	**-1.2**
GENI	**Genyem**	**1.31**	**284**	P	**Pn**	**14 55 09.6**	**0.0**
GENI				S	**Sn**	**14 55 25.0**	**-0.9**
MANU	**Manus Island**	**5.98**	**82**	*e*Pn	**Pn**	**14 56 13.9**	**0.0**
PMG	**Port Moresby** 0.5nm,0.3s,baz=343,slow=14,SNR=2.4	**8.59**	**139**	Pn	**Pn**	**14 56 49.5**	**-0.1**
FAKI	**Fak Fak**	**9.18**	**270**	*e*Pn	**Pn**	**14 56 57.7**	**0.0**
SIJI	**Sorong** 1.1nm,0.3s,baz=52,slow=11,SNR=6.2	**10.37**	**281**	Pn	**Pn**	**14 57 17.5**	**+3.4**
SIJI	comp=Z,231nm,18.7s,baz=86,slow=42			LR	LR	15 01 57.4	
RABL	**Rabaul**	**10.78**	**97**	*e*Pn	**Pn**	**14 57 20.6**	**+1.0**
COEN	**Coen**	**11.10**	**171**	*e*Pn	**Pn**	**14 57 25.0**	**+1.0**
LBMI	**Labuha**	**14.12**	**279**	P	**Pn**	**14 58 07.5**	**+2.2**
MTN	**Manton Dam**	**14.18**	**225**	*e*Pn	**Pn**	**14 58 05.2**	**-1.0**
NLAI	**Namlea**	**14.32**	**268**	P	**Pn**	**14 58 10.1**	**+2.0**
SANI	**Sanana**	**15.46**	**273**	P	**Pn**	**14 58 24.6**	**+1.2**
GUMO	**Guam** comp=Z,96nm,18.1s,baz=189,slow=34	**16.75**	**12**	LR	LR	15 04 18.7	
CTA	**Charters Tower** 0.1nm,0.3s,baz=349,slow=15,SNR=1.8	**17.69**	**165**	P	**Pn**	**14 58 51.0**	**-0.5**
CTAO	**Charters Tower** 8.3nm,1.1s	**17.69**	**165**	*e*Pn	**Pn**	**14 58 51.0**	**-0.5**
WRAB	**Tennant Creek** 28nm,1.0s	**18.27**	**202**	*e*P	**Pn**	**14 58 59.0**	**+0.5**
WB2	**Warramunga Arr**	**18.28**	**202**	*e*P	**Pn**	**14 58 58.8**	**+0.1**
WRA	**Warramunga Arr** 1.6nm,0.3s,baz=21,slow=12,SNR=42	**18.28**	**202**	P	**P**	**14 58 57.6**	**-1.0**
WRA	0.1nm,0.3s,baz=12,slow=22,SNR=3.4			S	**Sn**	**15 02 17.8**	**-4.2**
SOEI	**Soe** 107nm,0.9s,866nm	**18.36**	**248**	P	**Pn**	**14 59 00.6**	**+0.8**
SOEI	**Soe** 84nm,0.9s	**18.36**	**248**	*e*P	**Pn**	**14 58 59.8**	**-0.1**
DAV	**Davao City (W)** comp=Z,77nm,18.0s,baz=165,slow=41	**18.69**	**302**	LR	LR	15 07 33.8	
BATI	**Baumata** 4.3nm,0.3s,baz=75,slow=3.3,SNR=4.5	**19.07**	**247**	P	**Pn**	**14 59 09.2**	**+0.8**
HNR	**Honiara**	**19.49**	**110**	*e*P	**P**	**14 59 11.0**	**-1.0**
APSI	**Ampana**	**19.88**	**275**	P	**Pn**	**14 59 18.5**	**+0.5**
BSSI	**Bau Bau, Buton** 63nm,1.6s,6μm	**21.13**	**261**	P	**P**	**14 59 32.9**	**+3.2**
FITZ	**Fitzroy Crossi** 11nm,0.7s,baz=43,slow=12,SNR=39	**21.62**	**225**	P	**P**	**14 59 34.8**	**-0.1**
PCI	**Palu**	**21.68**	**275**	P	**P**	**14 59 39.0**	**+3.3**
AS01	**Alice Springs**	**21.85**	**199**	*e*P	**P**	**14 59 37.8**	**+0.3**
AS31	**Alice Springs** 4.4nm,0.5s	**21.87**	**199**	*e*P	**P**	**14 59 37.2**	**-0.4**
ASAR	**Alice Springs** 3.5nm,0.8s,baz=28,slow=9.8,SNR=35	**21.87**	**199**	P	**P**	**14 59 37.5**	**-0.2**
ASAR	comp=Z,157nm,21.8s,baz=22,slow=34			LR	LR	15 07 08.7	
WSI	**Waingapu**	**22.05**	**251**	P	**P**	**14 59 39.6**	**0.0**
EIDS	**Eidsvold** 14nm,0.8s	**24.17**	**158**	*e*P	**P**	**15 00 02.5**	**+1.6**
STKA	**Stephens Creek** 1.1nm,0.6s,baz=334,slow=14,SNR=5.5	**28.80**	**180**	P	**P**	**15 00 41.9**	**-0.6**
STKA	comp=Z,80nm,21.5s,baz=229,slow=39			LR	LR	15 13 26.1	
DZM	**Mont Dzumac** 14nm,0.9s,baz=339,slow=14,SNR=3.2	**30.85**	**130**	P	**P**	**15 01 01.6**	**+0.7**
H11S3	**WAKE ISLAND Hy** baz=232,slow=75,SNR=1493	**32.73**	**48**	T	T	15 35 34.4	
H11S2	**WAKE ISLAND Hy** baz=232,slow=75,SNR=855	**32.74**	**49**	T	T	15 35 35.3	
H11S1	**WAKE ISLAND Hy** baz=232,slow=75,SNR=919	**32.74**	**48**	T	T	15 35 40.7	
H11N1	**WAKE ISLAND Hy** baz=230,slow=76,SNR=340	**33.63**	**47**	T	T	15 36 40.9	
H11N2	**WAKE ISLAND Hy** baz=230,slow=76,SNR=419	**33.65**	**47**	T	T	15 36 38.9	
H11N3	**WAKE ISLAND Hy** baz=230,slow=76,SNR=281	**33.65**	**47**	T	T	15 36 43.2	
JHJ	**Hachijo jima 2** comp=Z,131nm,19.9s,baz=252,slow=30	**35.88**	**358**	LR	LR	15 12 53.2	
MJAR	**Matsushiro Arr** 1.2nm,0.8s,baz=165,slow=6.9,SNR=3.3	**39.38**	**356**	P	**P**	**15 02 12.5**	**-1.6**
NJ2	**Nanjing** comp=Z,16nm,0.6s	**40.86**	**330**	*e*P	**P**	**15 02 25.0**	**-1.4**
NJ2				pmax	pmax		
KSAR	**Wonju Array Be**	**42.09**	**344**	P	**P**	**15 02 35.2**	**-1.1**
KSRS	**Korea Array** 0.9nm,0.6s,baz=168,slow=8.5,SNR=3.4	**42.09**	**344**	P	**P**	**15 02 35.2**	**-1.1**
PSI	**Prapat** 9.9nm,0.6s,baz=26,slow=0.8,SNR=6.0	**42.88**	**277**	P	**P**	**15 02 42.9**	**-0.5**
PSI	**Prapat** 15nm,0.9s	**42.88**	**277**	*e*P	**P**	**15 02 42.5**	**-0.9**
KMI	**Kunming** comp=Z,8.0nm,1.4s	**46.75**	**309**	P	**P**	**15 03 13.8**	**-0.4**
KMI				pmax	pmax		
ASAJ	**Asahikawa** 1.4nm,0.6s,baz=209,slow=13,SNR=3.4	**46.84**	**1**	P	**P**	**15 03 13.9**	**-0.3**
ASAJ	**Asahikawa** 3.0nm,0.8s	**46.84**	**1**	*e*P	**P**	**15 03 13.7**	**-0.5**
CM01	**Chiang Mai Arr**	**46.89**	**299**	*e*P	**P**	**15 03 14.0**	**-1.1**
CMAR	**Chiang Mai Arr** 1.0nm,0.8s,baz=119,slow=6.8,SNR=8.3	**46.92**	**299**	P	**P**	**15 03 14.8**	**-0.5**
CMAR	1.3nm,0.8s,baz=146,slow=2.1,SNR=6.6			PcP	**PcP**	**15 04 48.6**	**+0.9**
USRK	**Ussuriysk Ar.** 3.1nm,0.8s,baz=184,slow=10,SNR=2.9	**47.67**	**351**	P	**P**	**15 03 20.1**	**-0.6**
URZ	**Urewera** 3.1nm,0.4s,baz=274,slow=3.1,SNR=5.5	**47.94**	**142**	P	**P**	**15 03 23.4**	**+0.6**
RPZ	**Rata Peaks** 4.9nm,0.7s,baz=45,slow=1.4,SNR=4.0	**48.36**	**151**	P	**P**	**15 03 26.1**	**0.0**
BJT	**Baijiatuau** 8.8nm,0.4s	**48.62**	**334**	*e*P	**P**	**15 03 27.6**	**-0.5**
CD2	**Chengdu** comp=Z,10.0nm,0.5s	**49.20**	**316**	*e*P	**P**	**15 03 32.8**	**0.0**
CD2				pmax	pmax		
HHC	**Hu-ho-hao-te** comp=Z,34nm,1.2s	**51.40**	**331**	*e*P	**P**	**15 03 51.1**	**+1.8**
HHC				pmax	pmax		
HHC	comp=Z,80nm,6.7s			pmax	pmax		
HHC	comp=N,520nm,15.8s			LR	LR		
HHC	comp=E,630nm,16.0s			LR	LR		
HHC	comp=Z,660nm,16.3s			LR	LR		
LZH	**Lanzhou**	**52.32**	**321**	*e*P	**P**	**15 03 58.4**	**+2.0**
LZH				pP	pP	15 04 08.8	+1.9
LZH				sP	sP	15 04 13.0	+2.0
LZH	comp=Z,28nm,1.1s			pmax	pmax		
GTA	**Gaotai**	**56.89**	**322**	*e*P	**P**	**15 04 30.6**	**+1.2**
GTA				pP	pP	15 04 41.3	+1.3
GTA				sP	sP	15 04 45.1	+0.9
GTA	comp=Z,5.0nm,1.1s

KKAR	Karatay Array	78.20	315	*e*P		P	15 06 44.4	+0.6
SVW2	Sparrevohn 11nm,1.4s	79.86	26	*e*P		P	15 06 53.4	+0.8
KDAK	Kodiak Island 13nm,1.0s,baz=285,slow=5.5,SNR=5.4	79.92	30	P		P	15 06 52.9	+0.1
BVAR	Borovoye Array 4.8nm,0.6s,baz=110,slow=7.2,SNR=41	81.06	325	P		P	15 06 60.0	+0.9
BRVK	Borovoye 5.9nm,0.7s	81.12	325	*e*P		P	15 06 59.7	+0.2
CAST	Castle Rocks 4.9nm,0.8s	82.30	25	*e*P		P	15 07 04.9	-0.6
RC01	Rabbit Creek A	82.47	27	P		P	15 07 05.5	-0.9
IM3	Indian Mountai	82.66	22	*e*P		P	15 07 07.0	-0.3
KTH	Kantishna Hill 12nm,1.0s	82.83	25	*e*P		P	15 07 07.2	-1.2
TRF	Thorofare Moun 4.7nm,0.9s	83.06	25	*e*P		P	15 07 08.4	-1.2
MLY	Manley 4.1nm,0.9s	83.44	23	*e*P		P	15 07 10.5	-0.9
RND	Reindeer 12nm,0.9s	83.65	25	*e*P		P	15 07 11.4	-1.1
MCK	McKinley 7.9nm,1.0s	83.72	25	*e*P		P	15 07 11.9	-0.9
DHY	Denali Highway 11nm,0.9s	84.17	26	*e*P		P	15 07 14.8	-0.5
WRH	Wood River Hil 7.1nm,1.0s	84.32	24	*e*P		P	15 07 14.9	-0.9
COLD	Coldfoot 5.4nm,1.0s	84.45	21	*e*P		P	15 07 16.2	-0.2
CCB	Clear Creek Bu 8.9nm,1.0s	84.49	24	*e*P		P	15 07 15.5	-1.1
ILAR	Eielson Array 3.7nm,0.7s,baz=260,slow=4.6,SNR=58	84.91	24	P		P	15 07 17.4	-1.4
ILB	Eielson Array	84.91	24	*e*P		P	15 07 17.0	-1.8
IL1	Eielson Array	84.91	24	*e*P		P	15 07 17.0	-1.8
TOLK	Toolik Lake Re 4.4nm,0.8s	85.18	20	*e*P		P	15 07 20.6	+0.4
RIDG	Independ'e Rid 14nm,1.1s	85.46	25	*e*P		P	15 07 21.1	-0.6
DOT	Dot Lake 26nm,1.0s	85.77	26	*e*P		P	15 07 23.0	-0.2
FYU	Fort Yukon 16nm,1.3s	86.09	23	*e*P		P	15 07 25.1	+0.4
ABKAR	Akbulak array 9.3nm,0.8s	86.65	320	*e*P		P	15 07 27.3	-0.5
QSPA	South Pole Qui 4.5nm,0.5s,baz=18,slow=2.7,SNR=18	87.02	180	P		P	15 07 29.6	+0.1
QSPA	South Pole Qui 21nm,1.3s	87.02	180	*e*P		P	15 07 30.1	+0.6
INK	Inuvik	90.86	22	*e*P		P	15 07 46.7	-0.5
SYO	Syowa Base	91.53	201‖	*e*P		P	15 07 51.2	+0.8
YBH	Yreka Blue Hor comp=Z,43nm,21.9s,baz=302,slow=29	96.30	49	LR		LR	15 41 14.3	
YKA	Yellowknife Ar 0.9nm,0.9s,baz=280,slow=4.8,SNR=8.6	99.02	27	P		Pdif	15 08 23.8	-0.8
YKA				PP		PP	15 12 26.8	+0.1
YKA	0.1nm,0.6s,baz=278,slow=6.2,SNR=5.0			PKKPbc		PKKPbc	15 24 50.2	-3.1
	0.1nm,0.5s,baz=111,slow=3.1,SNR=5.7							
KOWA	Kowa 4.5nm,0.5s,baz=63,slow=4.1,SNR=17	144.04	291	PKP	PKPbc		15 14 19.6	+1.0
KOWA	Kowa	144.04	291	*e*PKPdf	PKPbc		15 14 19.3	+0.6
ROSC	El Rosal 4.6nm,0.4s,baz=196,slow=19,SNR=3.9	144.27	86	PKP	PKPbc		15 14 20.4	+0.4
LPAZ	La Paz 6.8nm,0.7s,baz=269,slow=2.0,SNR=23	145.09	124	PKPbc	PKPdf		15 14 23.4	+0.1
LPAZ	La Paz	145.09	124	*e*PKPbc	PKPbc		15 14 22.3	-0.5
RUSC	La Rusia	145.46	84	*e*PKPdf	PKPdf		15 14 23.2	-0.6
CPUP	Villa Florida 3.9nm,0.9s,baz=212,slow=6.6,SNR=6.4	145.72	149	PKPbc	PKPab		15 14 23.9	-0.1
CPUP	Villa Florida	145.72	149	*e*PKPdf	PKPab		15 14 24.0	0.0
KIC	Kosan Boka 28nm,1.2s	146.13	277	*e*PKP1	PKPab		15 14 25.9	-0.1
DBIC	Dimbokro 7.3nm,0.8s,baz=51,slow=3.7,SNR=11	146.22	278	PKPbc	PKPab		15 14 26.3	-0.1
DBIC	Dimbokro	146.22	278	*e*PKPdf	PKPbc		15 14 25.9	+0.2
TIC	Toumodi	146.38	278	*e*PKP1	PKPbc		15 14 26.5	+0.4
LIC	Lamto 39nm,0.9s	146.42	277	*e*PKP1	PKPab		15 14 26.7	-0.4
SDV	Santo Domingo 8.0nm,0.8s,baz=259,slow=7.3,SNR=8.9	147.57	78	PKPbc	PKPbc		15 14 29.0	-0.7
SDV	Santo Domingo	147.57	78	*e*PKPbc	PKPbc		15 14 29.1	-0.6

IDC 18 14:57:10.0±3.9, 6.57S×149.28E, h112km±37km, mb3.4/3, mb1 3.6/5, mb1mx3.2/50, mbtmp3.8/5, Error ellipse: s-maj=102.4km s-min=28.0km az=121.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby 15nm,0.3s,baz=20,slow=8.0,SNR=27	3.51	217	P	Pn	14 58 02.8	0.0
PMG				S	Sn	14 58 44.4	+0.6
WRA	13nm,0.3s,baz=336,slow=20,SNR=12 Warramunga Arr 0.2nm,0.3s,baz=52,slow=11,SNR=2.8	19.67	226	P	P	15 01 31.1	+0.6
ASAR	Alice Springs 0.7nm,0.4s,baz=52,slow=9.2,SNR=3.8	22.52	219	P	P	15 02 00.3	-0.4
PETK	Petropavlovsk- 2.6nm,0.9s,baz=160,slow=6.2,SNR=4.9	59.88	6	P	P	15 07 03.9	+0.1
ILAR	Eielson Array 0.2nm,0.6s,baz=256,slow=4.3,SNR=4.6	85.12	23	P	P	15 09 33.1	-0.2

IDC 18 15:06:21.1±2.3, 1.08N×92.20E, h0km, mb3.3/3, mb1 3.5/5, mb1mx3.2/62, mbtmp3.3/5, ML3.3/2, Error ellipse: s-maj=59.3km s-min=26.7km az=60.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	Prapat 0.6nm,0.3s,baz=266,slow=14,SNR=2.7	6.94	76	Pn	Pn	15 08 04.8	+0.6
CMAR	Chiang Mai Arr 0.0nm,0.3s,baz=216,slow=12,SNR=3.1	18.50	21	P	P	15 10 38.4	-0.6
WRA	Warramunga Arr 0.3nm,0.8s,baz=297,slow=8.5,SNR=6.5	46.28	119	P	P	15 14 48.6	-0.3
MKAR	Makanchi Array 0.2nm,0.7s,baz=160,slow=9.0,SNR=2.7	46.35	351	P	P	15 14 49.0	0.0
ASAR	Alice Springs 0.3nm,0.9s,baz=297,slow=8.0,SNR=4.7	47.40	124	P	P	15 14 57.3	-0.3

IDC 18 15:09:31.7±3.4, 3.56N×93.00E, h0km, mb3.4/2, mb1 3.6/3, mb1mx3.2/59, mbtmp3.3/3, ML3.7/1, Error ellipse: s-maj=116.0km s-min=32.1km az=61.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr 0.1nm,0.3s,baz=215,slow=12,SNR=4.0	15.91	21	Pn	Pn	15 13 16.7	-0.4
MKAR	Makanchi Array 0.4nm,0.5s,baz=170,slow=8.7,SNR=5.8	44.05	349	P	P	15 17 41.3	-0.1
WRA	Warramunga Arr 0.2nm,0.7s,baz=297,slow=9.3,SNR=3.3	46.84	122	P	P	15 18 03.7	-0.1

*IDC **18** 15:11:24.2±1.6, 22.58S×179.47W, h539km±18km, mb3.4/10, mb1 3.6/12, mb1mx3.3/43, mbtmp4.3/12, Error ellipse: s-maj=20.5km s-min=14.6km az=147.0*

ISC 18 15:11:23.9±0.7, 22.7S±0.1×179.2W±0.1, h550km, n13, σ2°55/18, mb4.1/10, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu 1.9nm,0.3s,baz=173,slow=16,SNR=3.7	11.20	40	P	P	15 13 55.6	+1.2
AFI				S	S	15 15 51.4	-6.7
URZ	1.0nm,0.3s,baz=217,slow=20,SNR=2.4 Urewera 1.7nm,0.3s,baz=327,slow=18,SNR=12	15.87	191	P	P	15 14 40.9	-1.1
URZ				S	S	15 17 18.5	-5.4
RPZ	0.3nm,0.3s,baz=0.0,slow=20,SNR=4.4 Rata Peaks 9.5nm,1.0s,baz=8.1,slow=7.1,SNR=3.4	22.50	199	P	P	15 15 42.3	0.0
STKA	Stephens Creek 7.5nm,0.4s,baz=95,slow=11,SNR=37	35.87	247	P	P	15 17 37.8	-0.2
ASAR	Alice Springs 9.7nm,0.7s,baz=99,slow=7.2,SNR=126	42.37	259	P	P	15 18 33.9	-1.3
ASAR				PcP	PcP	15 20 12.7	-0.4
ASAR	0.3nm,0.4s,baz=106,slow=4.9,SNR=3.0			ScP	ScP	15 23 11.9	-0.2
WRA	0.4nm,0.9s,baz=103,slow=4.0,SNR=3.5 Warramunga Arr 5.1nm,0.2s,baz=96,slow=8.4,SNR=454	43.23	265	P	P	15 18 35.3	-2.0
WRA	1.2nm,0.9s,baz=100,slow=4.3,SNR=5.9			ScP	ScP	15 23 13.4	+0.2
VNDA	Vanda 0.6nm,0.6s,baz=357,slow=8.6,SNR=6.2	55.68	185	P	P	15 20 10.2	+2.4
BATI	Baumata 8.7nm,0.5s,baz=140,slow=7.9,SNR=3.3	55.88	273	P	P	15 20 10.4	+0.2
NVAR	Mina Array Bea 0.3nm,0.3s,baz=238,slow=8.4,SNR=4.6	83.36	44	P	P	15 22 55.0	+1.2
TXAR	Lajitas Array 0.4nm,0.6s,baz=212,slow=5.9,SNR=5.3	89.16	58	P	P	15 23 23.9	+2.4
CMAR	Chiang Mai Arr 0.6nm,0.3s,baz=122,slow=3.3,SNR=7.0	89.78	290	P	P	15 23 25.3	+0.8
PDAR	Pinedale Array 0.5nm,0.9s,baz=208,slow=3.6,SNR=3.0	91.29	44	P	P	15 23 32.6	+1.4
MMAI	Mount Meron Ar 0.6nm,0.3s,baz=50,slow=7.7,SNR=3.8	147.83	296	PKPbc	PKPbc	15 30 08.0	+0.3

MEX 18 15:13:26.0±0.4, 14.72N×93.13W, h16km±999km, MD3.6, Near coast of Chiapas

MAN 18 15:22:20.9±0.86N×122.91E, h1km, mb4.4, ML3.2, MS3.0, 3C-1D, Negros

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNPH	Sibulan	0.61	148	*e*P	Pb	15 22 33.8	+0.3
SNPH				*e*S	Sb	15 22 42.1	-0.4
GUIM	Jordan	0.82	338	*e*P	Pb	15 22 36.6	-0.5
GUIM				*e*S	Sb	15 22 48.1	-0.6
TBP	Tagbilaran	0.95	100	*e*P	Pb	15 22 39.0	-0.4
LLP	Lapu-Lapu	1.14	66‖	*e*P	Pg	15 22 41.9	+0.1
LLP				*e*S	Sg	15 22 57.1	+0.6
JAP	San Jose, Anti	1.29	313⇑	*e*P	Pn	15 22 46.5	+1.3
DCPH	Dipolog City	1.34	161⇑	*e*P	Pb	15 22 46.1	+0.1
DCPH				*e*S	Sn	15 23 04.9	+0.6
RCP	Roxas	1.70	355⇑	*e*P	Pb	15 22 51.6	-0.4
RCP				*e*S	Sg	15 23 14.8	+0.1
MSLP	Maasin	1.94	82	*e*P	Pb	15 22 56.0	-0.2
MSLP				*e*S	Sg	15 23 22.9	+0.5
IPIL	Ipil	2.09	189	*e*P	Pn	15 22 57.1	+1.0

*ISCJB **18** 15:28:05.3±0.5, 41.48N±0.03×142.03E±0.06, h70km±5km, mb3.5/6, Error ellipse: s-maj=8.0km s-min=4.3km az=31.9*
*JMA **18** 15:28:05.8±0.1, 41.49N×142.03E, h63km±2km, MS3.1*
*IDC **18** 15:28:06.6±2.5, 41.47N×142.26E, h76km±21km, mb3.3/6, mb1 3.3/9, mb1mx3.1/58, mbtmp3.5/9, MS2.7/1, Ms1 2.7/1, ms1mx2.1/25, Error ellipse: s-maj=38.8km s-min=19.9km az=82.0*

ISC 18 15:28:06.1±1.0, 41.48N±0.04×142.03E±0.05, h63km±10km, n31, σ0.94/35, mb3.6/6, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOT	Ohata	0.75	263	P	Pn	15 28 21.0	0.0
JOT				S	Sn	15 28 32.0	+0.1
JKB	Kayabe	0.85	299	P	Pn	15 28 21.7	-0.6
JNBK	Urakawa-nobuka	0.96	34	P	Pn	15 28 23.0	-0.7
JNBK				S	Sn	15 28 36.6	-0.2
JEM	Erimo	1.00	57	P	Pn	15 28 24.0	-0.1
JTM	Tenmabayashi	1.01	227	P	Pn	15 28 24.5	+0.2
JTM				S	Sn	15 28 37.4	-0.3
JANG	Nango	1.17	200	P	Pn	15 28 26.3	-0.2
JANG				S	Sn	15 28 40.6	-1.1
JSR	Shiriuchi	1.21	273	P	Pn	15 28 27.1	+0.2
JSR				S	Sn	15 28 43.6	+1.1
JNB	Noboribetsu	1.23	323	P	Pn	15 28 26.7	-0.5
JNB				S	Sn	15 28 42.3	-0.7
JBT2	Biratori 2	1.32	11	P	Pn	15 28 28.7	+0.3
JBT2				S	Sn	15 28 46.6	+1.5
JYM2	Yakumo 2	1.39	298	P	Pn	15 28 29.7	+0.3
JEW	Eniwo	1.42	343	P	Pn	15 28 29.9	+0.1
JEW				S	Sn	15 28 47.7	+0.1
JCH	Churui	1.50	41	P	Pn	15 28 31.6	+0.8
JCH				S	Sn	15 28 51.1	+1.6
JAH	Hinai	1.67	220	P	Pn	15 28 34.0	+0.9
JAH				S	Sn	15 28 55.2	+1.7
JFR	Furan	1.73	14	P	Pn	15 28 34.0	+0.1
JOSM	Okushiri--Mats	2.00	288	P	Pn	15 28 37.3	-0.3
ASAJ	Asahikawa 4.1nm,0.3s,baz=217,slow=11,SNR=57	2.67	9	P	Pn	15 28 47.4	+0.8
ASAJ				S	Sn	15 29 16.6	-1.1
MJAR	3.2nm,0.3s,baz=218,slow=19,SNR=6.2 Matsushiro Arr 0.2nm,0.3s,baz=26,slow=13,SNR=2.8	5.78	212	P	Pn	15 29 30.4	+1.4
USRK	Ussuriysk Ar. 0.2nm,0.3s,baz=115,slow=12,SNR=2.7	7.86	294	P	Pn	15 30 00.6	+3.0
PETK	Petropavlovsk- comp=Z,29nm,21.5s,baz=182,slow=34	15.71	37	LR	LR	15 36 58.4	
H11N2	WAKE ISLAND Hy baz=321,slow=75,SNR=6.5	30.27	128	T	T	16 06 22.1	
H11N1	WAKE ISLAND Hy baz=321,slow=75,SNR=8.4	30.28	128	T	T	16 06 40.3	
H11N3	WAKE ISLAND Hy baz=321,slow=75,SNR=7.8	30.29	128	T	T	16 06 39.9	
H11S1	WAKE ISLAND Hy baz=324	31.12	130	T	T	16 07 41.0	
H11S3	WAKE ISLAND Hy baz=324	31.12	130	T	T	16 07 27.6	
H11S2	WAKE ISLAND Hy baz=324	31.13	130	T	T	16 07 42.4	
ZALV	Zalesovo Beam 0.3nm,0.4s,baz=78,slow=7.8,SNR=3.0	39.40	308	P	P	15 35 29.7	+0.3
MKAR	Makanchi Array 0.5nm,0.6s,baz=87,slow=8.8,SNR=4.7	42.30	298	P	P	15 35 53.8	+0.4
KURBB	Kurchatov Arra 1.0nm,0.5s,baz=79,slow=9.1,SNR=9.8	43.76	304	P	P	15 36 05.0	-0.1
BVAR	Borovoye Array 0.4nm,0.4s,baz=69,slow=9.1,SNR=7.1	48.02	310	P	P	15 36 38.9	+0.2
WRA	Warramunga Arr 0.1nm,0.4s,baz=6.0,slow=7.5,SNR=3.2	61.53	188	P	P	15 38 15.6	-0.9
FINES	FINESS Array B 0.9nm,0.8s,baz=42,slow=3.1,SNR=3.7	65.12	332	P	P	15 38 39.2	-0.5

IDC 18 15:59:08.7±2.1, 2.02N×127.15E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.2/57, mbtmp3.2/3, Error ellipse: s-maj=171.3km s-min=24.9km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr 0.5nm,0.4s,baz=342,slow=11,SNR=11	22.93	162	P	P	16 04 14.8	+0.1
ASAR	Alice Springs 0.2nm,0.7s,baz=343,slow=7.5,SNR=5.9	26.36	166	P	P	16 04 46.6	-0.2
MKAR	Makanchi Array 0.1nm,0.3s,baz=115,slow=8.7,SNR=3.2	59.20	326	P	P	16 09 11.7	0.0

*IDC **18** 16:04:57.6±1.4, 0.80N×92.75E, h0km, mb3.5/6, mb1 3.7/9, mb1mx3.4/74, mbtmp3.6/9, ML3.7/3, MS3.9/1, Ms1 3.8/1, ms1mx2.7/49, Error ellipse: s-maj=44.4km s-min=19.3km az=53.0*
*ISCJB **18** 16:05:00.5±1.0, 0.9N±0.1×92.8E±0.1, h33km, mb3.5/6, MS3.9/1, Error ellipse: s-maj=22.2km s-min=13.3km az=28.3*

ISC 18 16:05:03.2±1.1, 1.0N±0.2×92.93E±0.09, h35km, n11, σ1.61/12, mb3.6/6, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	Prapat 0.8nm,0.3s,baz=268,slow=13,SNR=3.8	6.27	73	Pn	Pn	16 06 35.0	+1.6
PSI				Sn	Sn	16 07 40.2	-3.7
PALK	1.6nm,0.3s,baz=170,slow=12,SNR=2.5 Pallekele 0.5nm,0.3s,baz=115,slow=14,SNR=3.4	13.70	298	Pn	Pn	16 08 13.4	-1.9
PALK				Sn	Sn	16 10 33.1	-13
CMAR	1.7nm,0.3s,baz=118,slow=14,SNR=7.8 Chiang Mai Arr 0.1nm,0.3s,baz=218,slow=13,SNR=12	18.36	18	P	Pn	16 09 16.6	+1.4
WRA	Warramunga Arr 0.3nm,0.7s,baz=299,slow=8.5,SNR=2.8	45.59	119	P	P	16 13 20.7	+0.4
MKAR	Makanchi Array 0.1nm,0.5s,baz=151,slow=7.5,SNR=2.2	46.58	350	P	P	16 13 28.6	+0.9
ASAR	Alice Springs 0.2nm,0.8s,baz=302,slow=8.2,SNR=2.8	46.73	124	P	P	16 13 28.9	-0.4
ASAR				PcP	PcP	16 15 02.7	+0.2
KURBB	0.2nm,0.9s,baz=292,slow=2.8,SNR=4.6 Kurchatov Arra	50.97	348	P	P	16 14 01.9	+0.6
ZALV	0.3nm,0.2s,baz=162,slow=6.4,SNR=3.3 Zalesovo Beam 0.4nm,0.3s,baz=158,slow=9.0,SNR=2.7	53.23	354	P	P	16 14 18.2	+0.1
STKA	Stephens Creek comp=Z,98nm,19.0s,baz=215,slow=36	56.43	130	LR	LR	16 39 10.2	
TIXI	Tiksi 1.3nm,0.5s,baz=272,slow=3.5,SNR=7.5	74.20	11	P	P	16 16 36.2	+0.2
TXAR	Lajitas Array 0.4nm,0.6s,baz=312,slow=3.3,SNR=5.4	145.95	26	PKPbc	PKPbc	16 24 40.3	+0.3

*ISK **18** 16:05:17.3, 39.06N×29.16E, h5km, ML2.6/7*
*DDA **18** 16:05:18.0, 39.09N×29.13E, h7km, Ml2.6*
*ISCJB **18** 16:05:18.2±0.5, 39.09N±0.03×29.13E±0.04, h5km±6km, Error ellipse: s-maj=5.9km s-min=4.6km az=160.4*
*CSEM **18** 16:05:18.2±0.1, 39.09N×29.13E, h5km, ML2.6, Error ellipse: s-maj=2.9km s-min=2.2km az=120.0*

ISC 18 16:05:18.4±0.9, 39.09N±0.03×29.13E±0.02, h7km±8km, n30, σ0.34/42, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIMA	Simav-Kutahya	0.12	268	PG	Pg	16 05 20.8	-0.2
SIMA				SG	Sg	16 05 23.2	+0.4
SIMA	Simav-Kutahya	0.12	268	*e*Pg	Pg	16 05 20.0	-0.2
SIMA				*e*Sg	Sg	16 05 23.2	+0.4
GDZ	Gediz	0.27	90	*i* P	Pg	16 05 23.5	-0.2
GDZ				*i* S	Sg	16 05 27.9	+0.5
GDZ	Gediz	0.27	90	P	Pg	16 05 23.5	-0.2
GDZ				S	Sg	16 05 27.9	+0.5
TVSB	Tavsanli	0.44	35	PG	Pg	16 05 26.2	-0.8
TVSB	Tavsanli	0.44	35	*e*Pg	Pg	16 05 26.2	-0.8
KULA	Kula-Manisa	0.68	213	PG	Pg	16 05 31.3	-0.2
KULA				SG	Sg	16 05 40.1	-0.3
KULA	Kula-Manisa	0.68	213	*e*Pg	Pg	16 05 31.3	-0.2
KULA				*e*Sg	Sg	16 05 40.1	-0.3
DURS	Dursunbey	0.72	315	*i* P	Pg	16 05 32.2	-0.1
DURS	Dursunbey	0.72	315	P	Pg	16 05 32.2	-0.1
MANT	Manisa	0.75	217	*i* P	Pg	16 05 32.6	-0.2
MANT				*i* S	Sg	16 05 42.9	+0.4
MANT	Manisa	0.75	217	P	Pg	16 05 32.6	-0.2
MANT				S	Sg	16 05 42.9	+0.4
KHAL	Karahalli	0.77	159	*i* P	Pg	16 05 33.0	-0.1
KHAL				*i* S	Sb	16 05 44.9	-0.1
KHAL	Karahalli	0.77	159	P	Pg	16 05 33.0	-0.1
KHAL				S	Sb	16 05 44.8	-0.1
BALB	Balikesir	1.12	300	PN	Pb	16 05 40.1	0.0
BALB				SN	Sn	16 05 56.5	+0.3
BALB	Balikesir	1.12	300	*e*Pn	Pb	16 05 40.1	0.0
BALB				*e*Sn	Sn	16 05 56.5	+0.3
CAVI	Cavuskoy	1.24	26	PN	Pb	16 05 41.8	-0.4
CAVI	Cavuskoy	1.24	26	*e*Pn	Pb	16 05 41.8	-0.4
BORA	Eskisehir	1.29	52	*i* P	Pg	16 05 43.7	+0.5
BORA	Eskisehir	1.29	52	P	Pg	16 05 43.7	+0.5
MDNY	Mudanya-Bursa	1.29	352	PN	Pb	16 05 43.0	-0.1
MDNY	Mudanya-Bursa	1.29	352	*e*Pn	Pb	16 05 43.0	-0.1
GEMT	Gemlik	1.35	2	PN	Pn	16 05 43.5	-0.2
GEMT	Gemlik	1.35	2	*e*Pn	Pn	16 05 43.5	-0.2
YLV	Yalova	1.49	7	PN	Pn	16 05 45.6	-0.1
YLV	Yalova	1.49	7	*e*Pn	Pn	16 05 45.6	-0.1
ARMT	Armutlu	1.49	352	PN	Pb	16 05 46.2	-0.3
ARMT	Armutlu	1.49	352	*e*Pn	Pb	16 05 46.2	-0.3
GULT	Gulveren	1.71	38	PN	Pn	16 05 48.9	+0.1
GULT	Gulveren	1.71	38	*e*Pn	Pn	16 05 48.9	+0.1

*BJI **18** 16:08:19.3, 0.75N×92.82E, h6km, mb4.5/19, mB4.8/8, Ms4.1/6, Ms7 3.9/3*
*IDC **18** 16:08:22.5±1.0, 1.07N×92.86E, h0km, mb4.1/11, mb1 4.3/15, mb1mx3.9/73, mbtmp4.1/15, ML3.8/3, MS3.5/26, Ms1 3.6/26, ms1mx3.4/66, Error ellipse: s-maj=33.5km s-min=14.5km az=51.0*
*NEIC **18** 16:08:24.0±0.4, 1.17N×92.90E, h10km, mb4.7/5, Error ellipse: s-maj=9.7km s-min=6.3km az=225.0*
*ISCJB **18** 16:08:26.6±0.5, 1.25N±0.05×93.07E±0.04, h33km, mb4.3/21, MS3.6/25, Error ellipse: s-maj=6.6km s-min=5.7km az=13.9*
*DJA **18** 16:08:31.1±1.0, 2.5N±5×9.3E±, h10km, M4.9/7, mb5.1/4, mB5.2/5, MLv4.9/7, Mw(mB)4.6/5*

ISC 18 16:08:28.6±0.6, 1.28N±0.07×92.98E±0.07, h35km, n81, σ1.52/66, mb4.3/21, MS3.6/25, 1D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLSI	Meulaboh, Aceh	4.53	49	P	Pn	16 09 34.5	-0.1
MLSI				S	Sn	16 10 23.1	-3.0
GSI	Gunungsitoli	4.60	90	P	Pn	16 09 35.3	-0.3
GSI				S	Sn	16 10 25.8	-2.0
TPTI		4.63	65	P	Pn	16 09 35.7	-0.4
TPTI				S	Sn	16 10 27.7	-1.1
BSI	Banda Aceh	4.78	29	P	Pn	16 09 37.5	-0.7
BSI				S	Sn	16 10 29.0	-3.4
LHMI	Lhok Sumawe 164nm,0.8s,2µm0.9nm	5.57	45	P	Pn	16 09 49.1	+0.1
TSI	Tuntungan 193nm,0.7s,3µm0.9nm	6.00	68	P	Pn	16 09 55.9	+1.0
PSI	Prapat 3.0nm,0.3s,baz=283,slow=9.6,SNR=13	6.13	76	Pn	Pn	16 09 56.7	-0.1
PSI				Sn	Sn	16 11 02.2	-3.6
PSI	2.7nm,0.3s,baz=184,slow=17,SNR=6.4			LR	LR	16 12 51.5	
MNSI	comp=Z,836nm,18.2s,baz=258,slow=43 Mandailing Nat	6.62	94	P	Pn	16 10 04.6	+1.2
PKDT	Phuket 24nm,1.0s,0.1nm	8.46	39	P	Pn	16 10 28.4	-0.3
KULM	Kulim	8.63	62	*e*Pn	Pn	16 10 30.7	-0.3
IPM	Ipoh	8.64	68	*e*Pn	Pn	16 10 31.1	-0.1
TRTT	Trang 16nm,1.1s,174nm0.1nm	9.33	46	P	Pn	16 10 40.7	0.0
SKLT	Songkhla 59nm,1.0s,2µm0.2nm	9.60	52	P	Pn	16 10 44.1	-0.3
PHET	Kaeng Krachan 7.4nm,0.8s	13.30	29	P	Pn	16 11 35.9	+0.9
PALK	Pallekele 0.3nm,0.3s,baz=115,slow=16,SNR=2.9	13.61	296	Pn	Pn	16 11 35.6	-3.7
PALK				Sn	Sn	16 13 53.6	-16
CHBT	4.9nm,0.3s,baz=116,slow=12,SNR=16 CHBT	14.69	39	P	P	16 12 03.8	+4.2
NAYO	Nakonayok 17nm,1.2s	15.35	32	P	P	16 12 05.2	-1.8
LEM	Lembang baz=236,slow=5.1,SNR=7.7	16.68	119	Pn	Pn	16 12 20.0	0.0
LEM				LR	LR	16 18 32.5	
CHAI	comp=Z,159nm,18.6s,baz=307,slow=36 Chaiyaphum 5.3nm,0.9s,71nm	17.03	31	P	P	16 12 25.1	-0.5
PBKT	Sadao Pong 24nm,1.1s,574nm	17.11	27	P	Pn	16 12 24.7	-0.4
CM01	Chiang Mai Arr	18.01	19	*e*Pn	Pn	16 12 34.5	-1.8
CM31	Chiang Mai Arr	18.04	19	*e*Pn	Pn	16 12 36.3	-0.4
CMAR	Chiang Mai Arr 0.1nm,0.3s,baz=215,slow=14,SNR=19	18.04	19	P	Pn	16 12 36.6	-0.1
CMAR				LR	LR	16 20 05.9	
CHTO	comp=Z,97nm,18.9s,baz=208,slow=38 Chiang Mai 63nm,1.2s	18.38

XAN	**Xi'an**	**35.84**	**23**	P	P	16 15 35.6	+11	
XAN				pP	sP	16 15 52.8	+13	
XAN				pmax	pmax			
	comp=Z,11nm,1.0s							
LZH	**Lanzhou**	**36.07**	**15**	*e*P	**P**	**16 15 30.5**	**+3.4**	
LZH				pP	pP	16 15 33.6	-3.7	
LZH				sP	sP	16 15 35.6	-5.9	
LZH				pmax	pmax			
	comp=Z,18nm,1.1s							
FITZ	**Fitzroy Crossi**	**37.47**	**122**	P	P	**16 15 38.0**	**-1.1**	
	comp=Z,4.8nm,1.0s,baz=287,slow=11,SNR=6.2							
NJ2	**Nanjing**	**39.14**	**36**	*e*P	**P**	**16 15 52.8**	**-0.2**	
NJ2				pmax	pmax			
	comp=Z,12nm,0.6s							
WMQ	**Urumqi**	**42.61**	**354**	P	**P**	**16 16 22.8**	**+1.3**	
WMQ				sP	pP	16 16 28.5	-3.3	
WMQ				LR	LR			
	comp=Z,130nm,25.9s							
WMQ				LR	LR			
	comp=Z,190nm,25.9s							
HHC	**Hu-ho-hao-te**	**42.83**	**21**	*e*P	**P**	**16 16 24.1**	**+0.7**	
HHC				pmax	pmax			
	comp=Z,34nm,1.1s							
HHC				pmax	pmax			
	comp=Z,66nm,6.2s							
WRA	**Warramunga Arr**	**45.70**	**120**	P	**P**	**16 16 45.5**	**-1.1**	
	comp=Z,5.7nm,0.9s,baz=297,slow=8.6,SNR=22							
WRA				LR	LR	16 37 58.3		
	comp=Z,111nm,18.2s,baz=325,slow=39							
WRAB	**Tennant Creek**	**45.71**	**120**	*e*P	**P**	**16 16 45.8**	**-0.9**	
	comp=Z,11nm,1.0s							
WB2	**Warramunga Arr**	**45.71**	**120**	*e*P	**P**	**16 16 44.2**	**-2.5**	
MK01	**Makanchi Array**	**46.25**	**350**	*e*P	**P**	**16 16 50.5**	**0.0**	
MK31	**Makanchi Array**	**46.28**	**350**	*e*P	**P**	**16 16 50.7**	**0.0**	
MKAR	**Makanchi Array**	**46.28**	**350**	P	**P**	**16 16 51.3**	**+0.6**	
	comp=Z,1.3nm,0.8s,baz=163,slow=8.9,SNR=10							
MKAR				LR	LR	16 39 54.6		
	comp=Z,29nm,18.7s,baz=138,slow=41							
MKAR	**Makanchi Array**	**46.28**	**350**	*e*P	**P**	**16 16 50.9**	**+0.1**	
	comp=Z,10nm,0.9s							
ASAR	**Alice Springs**	**46.87**	**125**	P	**P**	**16 16 54.8**	**-1.0**	
	comp=Z,2.0nm,0.9s,baz=306,slow=7.1,SNR=14							
ASAR				LR	LR	16 38 05.5		
	comp=Z,124nm,19.1s,baz=304,slow=38							
AS01	**Alice Springs**	**46.90**	**125**	*e*P	**P**	**16 16 54.1**	**-1.9**	
JNU	**Nakatsue**	**47.61**	**44**	LR	LR	16 39 14.7		
	comp=Z,55nm,18.2s,baz=256,slow=39							
SONM	**Songino Array**	**47.81**	**12**	P	**P**	**16 17 03.5**	**+0.8**	
	comp=Z,0.5nm,0.3s,baz=194,slow=7.2,SNR=2.3							
KSRS	**Korea Array**	**48.27**	**38**	LR	LR	16 39 56.2		
	comp=Z,54nm,19.1s,baz=256,slow=39							
KURBB	**Kurchatov Arra**	**50.67**	**348**	P	**P**	**16 17 24.7**	**+0.3**	
	comp=Z,0.8nm,0.9s,baz=170,slow=7.3,SNR=3.6							
KURK	**Kurchatov**	**50.74**	**348**	P	**P**	**16 17 24.7**	**-0.2**	
ATD	**Arta Tunnel**	**50.76**	**284**	LR	LR	16 35 57.3		
	comp=Z,40nm,18.8s,baz=146,slow=33							
ZALV	**Zalesovo Beam**	**52.92**	**354**	P	**P**	**16 17 41.5**	**+0.4**	
	comp=Z,0.6nm,0.3s,baz=188,slow=9.0,SNR=4.1							
ZALV				LR	LR	16 45 29.8		
	comp=Z,28nm,18.2s,baz=250,slow=42							
ZALV	**Zalesovo Beam**	**52.92**	**354**	*e*P	**P**	**16 17 41.3**	**+0.1**	
JHJ	**Hachijo jima 2**	**54.10**	**49**	LR	LR	16 40 05.8		
	comp=Z,27nm,19.6s,baz=90,slow=35							
MJAR	**Matsushiro Arr**	**54.53**	**45**	LR	LR	16 41 53.8		
	comp=Z,62nm,21.5s,baz=265,slow=37							
ABKAR	**Akbulak array**	**55.53**	**334**	*e*P	**P**	**16 17 59.7**	**-0.5**	
	comp=Z,29nm,0.3s							
STKA	**Stephens Creek**	**56.59**	**130**	P	**P**	**16 18 06.0**	**-2.2**	
	comp=Z,1.2nm,0.8s,baz=298,slow=12,SNR=3.5							
AKTO	**Aktyubinsk**	**57.24**	**334**	LR	LR	16 44 44.7		
	comp=Z,20nm,19.0s,baz=185,slow=38							
KLR	**Kul'dur**	**58.15**	**29**	P	**P**	**16 18 20.6**	**+1.8**	
	comp=Z,0.1nm,0.5s,baz=251,slow=7.4,SNR=3.9							
GNI	**Garni**	**58.35**	**318**	LR	LR	16 44 38.5		
	comp=Z,28nm,22.0s,baz=108,slow=37							
KBZ	**Khabaz**	**61.29**	**321**	P	**P**	**16 18 41.0**	**+0.4**	
	comp=Z,0.3nm,0.4s,baz=203,slow=1.2,SNR=3.7							
EIL	**Elat**	**61.86**	**303**	LR	LR	16 44 48.6		
	comp=Z,86nm,19.4s,baz=63,slow=35							
MMAI	**Mount Meron Ar**	**62.45**	**307**	LR	LR	16 46 51.9		
	comp=Z,71nm,18.2s,baz=110,slow=37							
LSZ	**Lusaka**	**66.10**	**253**	LR	LR	16 42 16.9		
	comp=Z,60nm,20.0s,baz=102,slow=31							
YAK	**Yakutsk**	**66.58**	**18**	P	**P**	**16 19 18.3**	**+3.3**	
	comp=Z,4.3nm,0.6s,baz=292,slow=5.1,SNR=5.4							
YAK	**Yakutsk**	**66.58**	**18**	P	**P**	**16 19 15.2**	**+0.3**	
	comp=Z,3.3nm,0.6s							
LBTB	**Lobatse**	**70.15**	**243**	LR	LR	16 46 27.8		
	comp=Z,66nm,19.3s,baz=66,slow=33							
AKASG	**Malin Array Be**	**72.64**	**323**	LR	LR	16 52 51.2		
	comp=Z,22nm,21.8s,baz=295,slow=37							
MLR	**Muntele Rosu**	**73.13**	**317**	LR	LR	16 53 58.9		
	comp=Z,17nm,21.1s,baz=24,slow=37							
TIXI	**Tiksi**	**73.88**	**11**	P	**P**	**16 19 59.2**	**-0.3**	
	comp=Z,0.8nm,0.5s,baz=228,slow=2.6,SNR=5.5							
TIXI	**Tiksi**	**73.88**	**11**	*e*P	**P**	**16 19 59.3**	**-0.1**	
	comp=Z,4.5nm,0.7s							
PETK	**Petropavlovsk-**	**74.03**	**35**	LR	LR	16 55 14.8		
	comp=Z,42nm,18.4s,baz=199,slow=38							
SYO	**Syowa Base**	**78.81**	**197‖**	*e*P	**P**	**16 20 28.9**	**+1.5**	
GERES	**GERESS Array B**	**81.97**	**319**	P	**P**	**16 20 45.6**	**+0.5**	
	comp=Z,0.3nm,0.3s,baz=56,slow=7.2,SNR=4.8							
NOA	**NORSAR Array B**	**84.89**	**331**	LR	LR	17 00 39.7		
	comp=Z,19nm,20.0s,baz=305,slow=37							
SPITS	**Spitsbergen Ar**	**86.01**	**348**	LR	LR	17 02 58.6		
	comp=Z,30nm,22.0s,baz=145,slow=38							
KOWA	**Kowa**	**96.45**	**285**	LR	LR	17 05 30.3		
	comp=Z,60nm,18.0s,baz=34,slow=36							
TX31	**Lajitas Ar. Si**	**145.64**	**26**	*e*PKPdf	**PKPab**	**16 28 04.6**	**-0.1**	
TXAR	**Lajitas Array**	**145.64**	**26**	PKPbc	**PKPab**	**16 28 05.0**	**+0.3**	
	comp=Z,0.3nm,0.6s,baz=256,slow=2.6,SNR=4.1							

UPP ***18*** *16:11:54.8±1.7,57.64N×22.25E,h0km,ML2.2*
ISCJB ***18*** *16:11:55.9±0.4,57.81N±0.03×21.99E±0.04,h0km, Error ellipse: s-maj=4.8km s-min=3.4km az=167.4*
NAO ***18*** *16:11:57.7±1.9,57.86N×21.99E,ML2.4*
CSEM ***18*** *16:11:57.2±0.3,57.73N×21.90E,h2km,ML2.6, Error ellipse: s-maj=7.6km s-min=4.0km az=165.0,Mining explosion.*
BER ***18*** *16:11:57.5±4.2,57.69N×22.05E,h0km,ML2.4(NAO), Suspected explosion*
IDC ***18*** *16:11:58.0±2.3,57.87N×22.02E,h0km,mb1 3.2/4, mb1mx2.9/71,mbtmp3.1/4,ML2.7/4, Error ellipse: s-maj=23.7km s-min=9.1km az=165.0*

ISC 18 16:11:55.9±0.8, 57.76N±0.04×21.91E±0.03, h0km, n85, σ1s61/115, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLIT	**Slitere, Latvi**	**0.24**	**123**	*e*P	**Pg**	**16 12 00.6**	**+0.1**
	SNR=90						
SLIT				*e*S	**Sg**	**16 12 03.9**	**+0.3**
	8µm,0.5s,SNR=90						
MTSE	**Matsula**	**1.39**	**46**	*e*P	**Pg**	**16 12 22.0**	**-0.5**
	SNR=68						
MTSE				*e*S	**Sn**	**16 12 42.5**	**+1.0**
	SNR=68						
MTSE	**Matsula**	**1.39**	**46**	*e*P	**Pg**	**16 12 21.8**	**-0.7**
MTSE				*e*S	**Sg**	**16 12 40.3**	**-0.1**
GOTU	**Gotland**	**1.79**	**269**	P	**Pn**	**16 12 29.0**	**+1.0**
GOTU				S	**Sb**	**16 12 54.4**	**+1.8**
GOTU	**Gotland**	**1.79**	**269**	P	**Pn**	**16 12 29.0**	**+1.0**
GOTU				S	**Sb**	**16 12 54.4**	**+1.8**
NYNU	**Nynaeshamn**	**2.41**	**303**	P	**Pn**	**16 12 38.1**	**+1.6**
NYNU				S	**Sb**	**16 13 13.1**	**+2.9**
NYNU	**Nynaeshamn**	**2.41**	**303**	P	**Pn**	**16 12 38.1**	**+1.6**
NYNU				S	**Sb**	**16 13 13.1**	**+2.9**
NRTU	**Norrtaelje**	**2.58**	**320**	P	**Pn**	**16 12 40.5**	**+1.7**
NRTU				S	**Sb**	**16 13 17.2**	**+2.2**
NRTU	**Norrtaelje**	**2.58**	**320**	P	**Pn**	**16 12 40.5**	**+1.7**
NRTU				S	**Sb**	**16 13 17.2**	**+2.2**
VSU	**Vasula**	**2.65**	**73**	Pn	**Pn**	**16 12 41.0**	**+1.1**
VSU				Lg	Lg	16 13 17.2	
VSU	**Vasula**	**2.65**	**73**	*e*Pb	**Pn**	**16 12 40.9**	**+1.1**
VSU	**Vasula**	**2.65**	**73**	Pn	**Pn**	**16 12 41.0**	**+1.1**
VSU	**Vasula**	**2.65**	**73**	*e*P	**Pb**	**16 12 42.8**	**-1.4**
	SNR=50						
VSU				Lg	Lg	16 13 17.2	
VSU	**Vasula**	**2.65**	**73**	*e*PB	**Pn**	**16 12 40.9**	**+1.1**
VSU				*e*SG	**Sb**	**16 13 17.7**	**+0.4**
VSU	**Vasula**	**2.65**	**73**	Pn	**Pn**	**16 12 41.0**	**+1.1**
VSU				Lg	Lg	16 13 17.2	
ARBE	**Arbavere**	**2.71**	**50**	*e*Pb	**Pb**	**16 12 43.8**	**-1.5**
ARBE				*e*Sg	**Sb**	**16 13 20.8**	**+1.7**
ARBE	**Arbavere**	**2.71**	**50**	*e*PB	**Pb**	**16 12 43.8**	**-1.5**
ARBE				*e*SG	**Sb**	**16 13 20.8**	**+1.7**
MEF	**Metsahovi**	**2.78**	**26**	*e*P	**Pb**	**16 12 45.2**	**-1.2**
	SNR=50						
MEF				*e*S	**Sn**	**16 13 18.5**	**+2.7**
	16nm,0.2s,SNR=50						
MEF				*e*Sb	**Sb**	**16 13 22.0**	**+1.0**
MEF	**Metsahovi**	**2.78**	**26**	*e*PB	**Pb**	**16 12 45.1**	**-1.3**
MEF				*e*SB	**Sb**	**16 13 21.9**	**+1.0**
MEF				MSG		16 13 23.7	
	comp=Z,14nm,0.2s						
VIKU	**Vikbolandet**	**2.86**	**287**	P	**Pn**	**16 12 44.6**	**+1.9**
VIKU	**Vikbolandet**	**2.86**	**287**	P	**Pn**	**16 12 44.6**	**+1.9**
ASPU	**Aespoe**	**2.88**	**265**	P	**Pn**	**16 12 45.1**	**+2.2**
ASPU	**Aespoe**	**2.88**	**265**	P	**Pn**	**16 12 45.1**	**+2.2**
VSTU	**Vaestervik**	**2.89**	**270**	P	**Pn**	**16 12 45.1**	**+2.1**
VSTU	**Vaestervik**	**2.89**	**270**	P	**Pn**	**16 12 45.1**	**+2.1**
GRAU	**Graesoe**	**3.12**	**327**	P	**Pn**	**16 12 47.5**	**+1.3**
GRAU	**Graesoe**	**3.12**	**327**	P	**Pn**	**16 12 47.5**	**+1.3**
FLYU	**Flymyra**	**3.16**	**320**	P	**Pn**	**16 12 48.5**	**+1.7**
FLYU	**Flymyra**	**3.16**	**320**	P	**Pn**	**16 12 48.5**	**+1.7**
OSKU	**Oskarshamn**	**3.19**	**262**	P	**Pn**	**16 12 48.4**	**+1.2**
OSKU	**Oskarshamn**	**3.19**	**262**	P	**Pn**	**16 12 48.4**	**+1.2**
FIBU	**Brunna**	**3.20**	**314**	P	**Pn**	**16 12 49.3**	**+2.0**
FIBU	**Brunna**	**3.20**	**314**	P	**Pn**	**16 12 49.3**	**+2.0**
ESKU	**Eskilstuna**	**3.25**	**299**	P	**Pn**	**16 12 49.9**	**+1.9**
ESKU	**Eskilstuna**	**3.25**	**299**	P	**Pn**	**16 12 49.9**	**+1.9**
BACU	**Backbrunna**	**3.27**	**312**	P	**Pn**	**16 12 50.0**	**+1.7**
BACU	**Backbrunna**	**3.27**	**312**	P	**Pn**	**16 12 50.0**	**+1.7**
RAF	**Rauma**	**3.28**	**359**	*e*P	**Pn**	**16 12 50.4**	**+2.0**
RAF	**Rauma**	**3.28**	**359**	*e*P	**Pn**	**16 12 50.4**	**+2.0**
LNKU	**Linkoeping**	**3.44**	**280**	P	**Pn**	**16 12 52.2**	**+1.5**
LNKU	**Linkoeping**	**3.44**	**280**	P	**Pn**	**16 12 52.2**	**+1.5**
PVF	**Pernaja**	**3.46**	**34**	*e*P	**Pn**	**16 12 53.0**	**+2.2**
PVF				*e*Sg	**Sg**	**16 13 45.5**	**-1.3**
	comp=Z,4.2nm,0.2s						
PVF	**Pernaja**	**3.46**	**34**	*e*P	**Pn**	**16 12 53.0**	**+2.2**
PVF				*e*SG	**Sg**	**16 13 45.5**	**-1.3**
PVF				MSG		16 13 50.0	
	comp=Z,4.2nm,0.2s						
OSTU	**Oestervaala**	**3.50**	**317**	P	**Pn**	**16 12 53.0**	**+1.5**
OSTU	**Oestervaala**	**3.50**	**317**	P	**Pn**	**16 12 53.0**	**+1.5**
VXJU	**Vaexsjoe**	**3.87**	**260**	P	**Pn**	**16 12 57.4**	**+0.8**
VXJU	**Vaexsjoe**	**3.87**	**260**	P	**Pn**	**16 12 57.4**	**+0.8**
IGGU	**Iggoen**	**3.91**	**325**	P	**Pn**	**16 12 59.2**	**+2.1**
IGGU	**Iggoen**	**3.91**	**325**	P	**Pn**	**16 12 59.2**	**+2.1**
NRAU	**Nora**	**4.02**	**300**	P	**Pn**	**16 13 00.5**	**+1.8**
NRAU	**Nora**	**4.02**	**300**	P	**Pn**	**16 13 00.4**	**+1.8**
VJF	**Virojoki**	**4.03**	**44**	*e*P	**Pn**	**16 13 00.1**	**+1.4**
VJF	**Virojoki**	**4.03**	**44**	*e*P	**Pn**	**16 13 00.1**	**+1.4**
VJF				*e*SG	**Sb**	**16 14 01.5**	**+4.7**
VJF				MSG		16 14 05.2	
	comp=Z,2.2nm,0.2s						
FALU	**Falun**	**4.16**	**314**	P	**Pn**	**16 13 02.1**	**+1.5**
FALU	**Falun**	**4.16**	**314**	P	**Pn**	**16 13 02.1**	**+1.5**
FIA0	**FINESS Array S**	**4.26**	**28**	Pn	**Pn**	**16 13 02.6**	**+0.8**
	baz=205,slow=12						
FIA0				Sn	**Sn**	**16 13 52.7**	**+0.5**
	baz=223,slow=28						
FIA0				Lg	Lg	16 14 08.0	
	baz=212,slow=22						
FIA0	**FINESS Array S**	**4.26**	**28**	Pn	**Pn**	**16 13 02.7**	**+0.8**
	SNR=3.3						
FIA0	**FINESS Array S**	**4.26**	**28**	*e*P	**Pn**	**16 13 03.5**	**+1.6**
FIA0				Sn	**Sn**	**16 13 52.7**	**+0.5**
FIA0				Lg	Lg	16 14 08.0	
	SNR=7.2						
FIA0				*e*Sg	**Sg**	**16 14 11.0**	**-1.6**
	comp=Z,3.6nm,0.2s						
FIA0	**FINESS Array S**	**4.26**	**28**	*e*P	**Pn**	**16 13 03.5**	**+1.6**
FIA0				*e*SG	**Sg**	**16 14 11.0**	**-1.6**
FIA0				MSG		16 14 12.5	
	comp=Z,3.6nm,0.2s						
FIA0	**FINESS Array S**	**4.26**	**28**	Pn	**Pn**	**16 13 02.6**	**+0.8**
	baz=205,slow=12						
FIA0				Sn	**Sn**	**16 13 52.7**	**+0.5**
	baz=223,slow=28						
FIA0				Lg	Lg	16 14 08.0	
	baz=212,slow=22						
FINES	**FINESS Array B**	**4.26**	**28**	Pn	**Pn**	**16 13 02.5**	**+0.6**
	comp=Z,0.3nm,0.3s,baz=208,slow=11,SNR=21						
FINES				Sn	**Sn**	**16 13 52.6**	**+0.5**
	comp=Z,0.4nm,0.3s,baz=211,slow=23,SNR=3.9						
FINES				Lg	Lg	16 14 07.7	
	comp=Z,1.1nm,0.3s,baz=205,slow=30,SNR=6.9						
FIA1	**FINESS Array S**	**4.26**	**28**	*e*Sg	**Sg**	**16 14 10.8**	**-1.8**
	comp=Z,4.5nm,0.2s						
FIA1	**FINESS Array S**	**4.26**	**28**	*e*SG	**Sg**	**16 14 10.8**	**-1.8**
FIA1				MSG		16 14 12.5	
	comp=Z,4.5nm,0.2s						
HUDU	**Hudiksvall**	**4.67**	**331**	P	**Pn**	**16 13 08.4**	**+0.9**
HUDU	**Hudiksvall**	**4.67**	**331**	P	**Pn**	**16 13 08.4**	**+0.9**
NASU	**Vaermlandsnaes**	**4.75**	**288**	P	**Pn**	**16 13 10.2**	**+1.6**
NASU	**Vaermlandsnaes**	**4.75**	**288**	P	**Pn**	**16 13 10.1**	**+1.6**
ROTU	**Roteberg**	**4.80**	**322**	P	**Pn**	**16 13 10.2**	**+0.8**
ROTU	**Roteberg**	**4.80**	**322**	P	**Pn**	**16 13 10.2**	**+0.8**
HFS	**Hagfors**	**4.88**	**303**	Pn	**Pn**	**16 13 11.7**	**+1.3**
	baz=133,slow=14						
HFS				Sn	**Sn**	**16 14 06.3**	**-1.2**
	baz=120,slow=28						
HFS				Lg	Lg	16 14 29.3	
	baz=117,slow=37						
HFS	**Hagfors**	**4.88**	**303**	Pn	**Pn**	**16 13 11.6**	**+1.2**
	comp=Z,0.8nm,0.3s,baz=118,slow=13,SNR=26						
HFS				Sn	**Sn**	**16 14 08.1**	**+0.6**
	comp=Z,0.6nm,0.3s,baz=116,slow=26,SNR=5.2						
HFS				Lg	Lg	16 14 29.1	
	comp=Z,1.8nm,0.3s,baz=116,slow=31,SNR=10						
HFS	**Hagfors**	**4.88**	**303**	Pn	**Pn**	**16 13 11.7**	**+1.3**
	baz=133,slow=14						
HFS				Sn	**Sn**	**16 14 06.3**	**-1.2**
	baz=120,slow=28						
HFS				Lg	Lg	16 14 29.3	
	baz=117,slow=37						
BJUU	**Bjuv**	**5.16**	**255**	P	**Pn**	**16 13 14.3**	**+0.1**
BJUU	**Bjuv**	**5.16**	**255**	P	**Pn**	**16 13 14.3**	**+0.1**
NRA0	**NORESS Array S**	**6.10**	**304**	Pn	**Pn**	**16 13 26.4**	**-0.8**
	baz=107,slow=12						
NRA0				Sn	**Sn**	**16 14 38.7**	**+1.1**
	baz=111,slow=22						
NRA0				Lg	Lg	16 15 10.6	
	baz=105,slow=28						
NRA0	**NORESS Array S**	**6.10**	**304**	Pn	**Pn**	**16 13 26.4**	**-0.8**
	SNR=2.6						
NRA0				Sn	**Sn**	**16 14 38.7**	**+1.1**
	SNR=7.1						
NRA0				Lg	Lg	16 15 10.6	
	SNR=8.4						
NRA0	**NORESS Array S**	**6.10**	**304**	Pn	**Pn**	**16 13 26.4**	**-0.8**
	baz=107,slow=12						
NRA0				Sn	**Sn**	**16 14 38.7**	**+1.1**
	baz=111,slow=22						
NRA0				Lg	Lg	16 15 10.6	
	baz=105,slow=28						
NB2	**NORSAR Subarra**	**6.38**	**306**	Pn	**Pn**	**16 13 31.1**	**+0.1**
	baz=124,slow=14						
NB2	**NORSAR Subarra**	**6.38**	**306**	Pn	**Pn**	**16 13 31.1**	**+0.1**
	baz=124,slow=14						
NOA	**NORSAR Array B**	**6.38**	**306**	Pn	**Pn**	**16 13 31.1**	**+0.1**
	comp=Z,0.3nm,0.3s,baz=121,slow=11,SNR=8.9						
NOA				Sn	**Sn**	**16 14 40.5**	**-4.0**
	comp=Z,0.2nm,0.3s,baz=83,slow=15,SNR=2.2						
NOA				Lg	Lg	16 15 14.7	
	comp=Z,0.8nm,0.3s,baz=110,slow=16,SNR=4.8						
HOMB	**Homborsund**	**7.14**	**280**	*i* P	**Pn**	**16 13 41.0**	**-0.5**
ARA0	**ARCESS Array S**	**11.93**	**6**	Pn	**Pn**	**16 14 44.2**	**-2.7**
	baz=186,slow=14						
ARA0	**ARCESS Array S**	**11.93**	**6**	Pn	**Pn**	**16 14 44.2**	**-2.7**
	baz=186,slow=14						
ARCES	**ARCESS Array B**	**11.93**	**6**	Pn	**Pn**	**16 14 44.2**	**-2.7**
	comp=Z,0.1nm,0.3s,baz=184,slow=13,SNR=13						
ARCES				Sn	Sn	16 16 42.3	-18
	comp=Z,0.0nm,0.3s,baz=196,slow=22,SNR=3.1						
NVLJ	**Novalja**	**13.92**	**201**	Sg	S	16 18 24.9	+13

IDC 18 16:12:59.1±613.0, 60.89N×20.57E, h0km, Error ellipse: s-maj=238.3km s-min=168.1km az=132.0, Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I43RU	**DUBNA INFRASON**	**9.59**	**108**	*i*		17 12 00.0	
	baz=305,slow=323,SNR=2.3						
I26DE	**FREYUNG INFRAS**	**12.68**	**201**	*i*		17 28 17.9	
	baz=17,slow=332,SNR=0.4						
I31KZ	**AKTYUBINSK INF**	**23.26**	**100**	*i*		18 37 00.0	
	baz=310,slow=334,SNR=0.2						

NIED ***18*** *16:19:00,40.30N×142.60E,h38km,Mw3.8 Best double couple: M0 6.19000×10^14 NP1:φ8 176.00000°,δ19.00000°, λ56.00000°. NP2:φ8 32.00000°,δ74.00000°,λ101.00000°.*
ISCJB ***18*** *16:19:10.1±0.8,40.29N±0.03×142.55E±0.08,h48km±7km, mb3.9/16, Error ellipse: s-maj=10.4km s-min=5.4km az=11.1*
JMA ***18*** *16:19:10.3±0.1,40.25N×142.51E,h35km±1km,M3.9*
JMA Felt I J1.
IDC ***18*** *16:19:13.0±2.6,40.47N×142.40E,h48km±23km,mb3.7/16, mb1 3.8/18,mb1mx3.6/71,mbtmp3.9/18,ML3.5/2,MS2.5/5, Ms1 2.5/5,ms1mx2.4/61,Error ellipse: s-maj=32.5km s-min=16.7km az=143.0*

ISC 18 16:19:10.1±1.5, 40.29N±0.04×142.47E±0.07, h31km±10km, n40, σ1s36/43, mb4.0/16, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**0.58**	**233**	P	**Pb**	**16 19 22.1**	**+0.2**
JTH				S	**Sn**	**16 19 30.9**	**+0.2**
JANG	**Nango**	**0.73**	**277**	P	**Pn**	**16 19 24.7**	**+0.3**
JANG				S	**Sn**	**16 19 34.9**	**+0.3**
MIYJ	**Miyakonagasawa**	**0.87**	**215**	P	**Pn**	**16 19 25.8**	**-0.4**
MIYJ				*e*S	**Sb**	**16 19 37.3**	**-0.6**
JKZ	**Kuzumaki**	**0.92**	**251**	P	**Pb**	**16 19 27.6**	**0.0**
JKZ				S	**Sn**	**16 19 39.9**	**+0.6**
JTM	**Tenmabayashi**	**1.18**	**296**	P	**Pb**	**16 19 31.5**	**-0.4**
JTM				S	**Sb**	**16 19 47.0**	**+0.2**
JOM	**Ohasama**	**1.22**	**228**	P	**Pn**	**16 19 31.8**	**+0.8**
JOM				S	**Sn**	**16 19 47.3**	**+0.9**
JAH	**Hinai**	**1.41**	**267**	P	**Pb**	**16 19 35.3**	**-0.4**
JAH				*e*S	**Sb**	**16 19 53.7**	**+0.4**
JOT	**Ohata**	**1.54**	**316**	P	**Pn**	**16 19 36.2**	**+0.8**
JOT				*e*S	**Sb**	**16 19 55.9**	**-1.1**
JMK	**Ichinoseki**	**1.65**	**216**	P	**Pn**	**16 19 38.0**	**+1.1**
JMK				S	**Sb**	**16 19 59.3**	**-0.8**
JRG	**Rokugo**	**1.67**	**238**	P	**Pb**	**16 19 39.5**	**-0.7**
JRG				*e*S	**Sb**	**16 20 00.3**	**-0.5**
ASAJ	**Asahikawa**	**3.83**	**1**	P	**Pn**	**16 20 08.2**	**+1.3**
	2.6nm,0.3s,baz=204,slow=14,SNR=43						
ASAJ				S	**Sn**	**16 20 52.8**	**+1.9**
	3.2nm,0.3s,baz=343,slow=19,SNR=2.6						
MAT	**Matsushiro**	**5.02**	**223**	P	**Pn**	**16 20 26.9**	**+3.6**
MAT				*e*S	**Sn**	**16 21 22.8**	**+2.5**
MJAR	**Matsushiro Arr**	**5.02**	**223**	P	**Pn**	**16 20 26.6**	**+3.3**
	1.8nm,0.3s,baz=28,slow=14,SNR=23						
MJAR				LR	LR	16 22 37.3	
	comp=Z,56nm,21.0s,baz=35,slow=40						
JHJ	**Hachijo jima 2**	**7.47**	**198**	LR	LR	16 24 21.5	
	comp=Z,57nm,18.8s,baz=98,slow=40						
USRK	**Ussuriysk Ar.**	**8.70**	**300**	P	**Pn**	**16 21 18.0**	**+4.2**
	0.4nm,0.3s,baz=28,slow=8.6,SNR=4.3						
USRK				LR	LR	16 24 35.0	
	comp=Z,45nm,19.3s,baz=69,slow=38						
KSRS	**Korea Array**	**11.69**	**261**	LR	LR	16 26 03.5	
	comp=Z,44nm,19.7s,baz=46,slow=35						
KLR	**Kul'dur**	**11.74**	**323**	LR	LR	16 26 52.4	
	comp=Z,5.2nm,19.0s,baz=181,slow=40						
YAK	**Yakutsk**	**23.12**	**345**	P	**P**	**16 24 10.7**	**-2.6**
	3.1nm,0.4s,baz=199,slow=5.3,SNR=3.5						
SEY	**Seymchan**	**23.44**	**11**	P	**P**	**16 24 15.4**	**-1.1**
	0.6nm,0.6s,baz=197,slow=19,SNR=4.4						
H11N2	**WAKE ISLAND Hy**	**29.28**	**127**	T	T	16 55 51.2	
	baz=319,slow=75,SNR=53						
H11N1	**WAKE ISLAND Hy**	**29.29**	**127**	T	T	16 55 57.9	
	baz=319,slow=75,SNR=68						
H11N3	**WAKE ISLAND Hy**	**29.30**	**127**	T	T	16 55 53.5	
	baz=319,slow=75,SNR=58						
H11S1	**WAKE ISLAND Hy**	**30.10**	**129**	T	T	16 57 08.8	
	baz=322						
H11S3	**WAKE ISLAND Hy**	**30.10**

PATS	**Pohnpei**	**14.29**	**6**	*eP*		**P**		**16 24 45.2**	**+0.5**
COEN	**Coen**	**14.91**	**243**	*eP*		**P**		**16 24 53.5**	**+2.1**
CTA	**Charters Tower**	**16.22**	**218**	P		**P**		**16 25 07.1**	**+1.7**
	51nm,0.3s,baz=44,slow=12,SNR=486								
CTA				S		**S**		**16 27 57.9**	**+2.4**
	baz=252,slow=19,SNR=13								
CTAO	**Charters Tower**	**16.22**	**218**	*eP*		**P**		**16 25 06.7**	**+1.3**
	240nm,0.6s								
CTAO	**Charters Tower**	**16.22**	**218**	*eP*		**P**		**16 25 06.7**	**+1.3**
CTAO				pmax		pmax			
	comp=Z,239nm,0.6s								
JAY	**Jayapura**	**16.83**	**286**	P		**P**		**16 25 10.5**	**-1.6**
	comp=Z,1μm,0.9s,comp=Z,10μm								
JAY				S		**S**		**16 28 09.0**	**+1.5**
	comp=Z,1μm,0.9s,comp=Z,10μm								
DZM	**Mont Dzumac**	**17.20**	**149**	P		**P**		**16 25 16.5**	**+0.5**
	comp=Z,7.9nm,0.3s,baz=258,slow=7.9,SNR=65								
DZM				PcP		**PcP**		**16 29 37.9**	**+1.4**
	comp=Z,0.5nm,0.3s,baz=240,slow=2.7,SNR=5.0								
DZM	**Mont Dzumac**	**17.20**	**149**	*eP*		**P**		**16 25 16.7**	**+0.7**
	comp=Z,38nm,0.6s								
DZM				PcP		**PcP**		**16 29 37.9**	**+1.4**
GENI	**Genyem**	**17.32**	**285**	P		**P**		**16 25 15.4**	**-1.8**
GENI				S		**S**		**16 28 18.8**	**+1.8**
EIDS	**Eidsvold**	**18.63**	**197**	*eP*		**P**		**16 25 31.2**	**+0.3**
	comp=Z,48nm,0.9s								
BAKI	**Biak**	**21.61**	**286**	P		**P**		**16 25 57.7**	**-1.1**
MSVF	**Nonsavu**	**23.03**	**118**‖	*eP*		**P**		**16 26 07.9**	**-3.8**
MSVF				pmax		pmax			
	comp=Z,9.0nm,1.2s								
ARMA	**Armidale**	**23.35**	**191**	*eP*		**P**		**16 26 15.8**	**+1.3**
	comp=Z,32nm,0.6s								
KMPI	**Kaimana, Papua**	**23.36**	**278**	P		**P**		**16 26 07.6**	**-7.0**
GUMO	**Guam**	**24.08**	**330**	P		**P**		**16 26 20.7**	**-0.3**
	comp=Z,55nm,0.6s,baz=190,slow=15,SNR=3.9								
GUMO	**Guam**	**24.08**	**330**	*eP*		**P**		**16 26 20.8**	**-0.3**
	comp=Z,153nm,1.2s								
GUMO	**Guam**	**24.08**	**330**	*eP*		**P**		**16 26 20.8**	**-0.3**
GUMO				pmax		pmax			
	comp=Z,153nm,1.2s								
FAKI	**Fak Fak**	**24.92**	**279**	P		**P**		**16 26 27.8**	**-0.9**
WRAB	**Tennant Creek**	**25.09**	**238**	*eP*		**P**		**16 26 29.8**	**-0.3**
	comp=Z,18nm,0.6s								
WRAB	**Tennant Creek**	**25.09**	**238**	*c iP*		**P**		**16 26 29.9**	**-0.3**
WRAB				pmax		pmax			
	comp=Z,8.0nm,0.4s								
WB2	**Warramunga Arr**	**25.10**	**238**	*eP*		**P**		**16 26 29.9**	**-0.3**
WRA	**Warramunga Arr**	**25.11**	**238**	P		**P**		**16 26 30.2**	**-0.1**
	comp=Z,6.3nm,0.4s,baz=60,slow=9.1,SNR=189								
WRA				PcP		**PcP**		**16 29 52.6**	**+0.6**
	comp=Z,15nm,0.6s,baz=68,slow=2.7,SNR=15								
WRA				S		**S**		**16 30 23.3**	**-1.5**
	comp=Z,14nm,0.8s,baz=62,slow=14,SNR=8.9								
WRA				ScP		**ScP**		**16 32 53.8**	**+1.9**
	comp=Z,1.8nm,0.8s,baz=54,slow=2.3,SNR=4.7								
WRA				PKiKP		**PKiKP**		**16 37 31.3**	**-1.4**
	comp=Z,0.6nm,0.5s,baz=30,slow=1.7,SNR=11								
SAUI	**Saumlaki**	**25.34**	**267**	P		**P**		**16 26 31.2**	**-1.2**
MTN	**Manton Dam**	**25.87**	**256**	*eP*		**P**		**16 26 36.8**	**-0.3**
	comp=Z,33nm,1.0s								
SIJI	**Sorong**	**26.35**	**283**	P		**P**		**16 26 41.1**	**-0.2**
	comp=Z,8.6nm,0.4s,baz=140,slow=9.9,SNR=12								
AS01	**Alice Springs**	**27.25**	**231**	*eP*		**P**		**16 26 48.3**	**-1.0**
AS31	**Alice Springs**	**27.28**	**231**	*eP*		**P**		**16 26 48.9**	**-0.7**
	comp=Z,3.0nm,0.4s								
ASAR	**Alice Springs**	**27.29**	**231**	P		**P**		**16 26 49.0**	**-0.5**
	comp=Z,3.6nm,0.5s,baz=57,slow=10,SNR=166								
ASAR				PcP		**PcP**		**16 29 57.5**	**+0.4**
	comp=Z,8.1nm,0.5s,baz=72,slow=2.5,SNR=13								
ASAR				S		**S**		**16 30 57.2**	**-1.7**
	comp=Z,4.7nm,0.7s,baz=64,slow=14,SNR=7.6								
ASAR				ScP		**ScP**		**16 33 00.1**	**+1.8**
	comp=Z,1.6nm,0.6s,baz=51,slow=2.8,SNR=4.4								
ASAR				PKiKP		**PKiKP**		**16 37 32.2**	**-1.7**
	comp=Z,0.6nm,0.8s,baz=67,slow=1.6,SNR=5.6								
ASAR				P3KPbc				16 59 14.1	
	comp=Z,0.7nm,0.7s,baz=236,slow=4.1,SNR=13								
STKA	**Stephens Creek**	**28.15**	**208**	P		**P**		**16 26 57.1**	**+0.1**
	comp=Z,3.3nm,0.3s,baz=42,slow=12,SNR=25								
STKA				pP		**pP**		**16 28 09.8**	**-0.6**
	comp=Z,3.2nm,0.5s,baz=17,slow=7.1,SNR=2.8								
STKA				PcP		**PcP**		**16 29 59.2**	**+0.2**
	comp=Z,8.6nm,0.7s,baz=326,slow=2.7,SNR=7.4								
STKA				S		**S**		**16 31 12.2**	**+0.1**
	comp=Z,4.9nm,1.0s,baz=213,slow=14,SNR=3.1								
AAI	**Ambon**	**28.77**	**276**	P		**P**		**16 27 01.9**	**-0.9**
LBMI	**Labuha**	**30.05**	**282**	P		**P**		**16 27 15.0**	**+1.1**
	comp=Z,47nm,1.0s								
SANI	**Sanana**	**31.23**	**278**	P		**P**		**16 27 23.4**	**-0.8**
	comp=Z,20nm,0.9s								
OUZ	**Omahuta**	**31.60**	**153**	P		**P**		**16 27 27.3**	**+0.2**
BBOO	**Buckleboo**	**31.76**	**215**	*eP*		**P**		**16 27 28.4**	**-0.1**
	comp=Z,14nm,0.3s								
FITZ	**Fitzroy Crossi**	**32.17**	**248**	P		**P**		**16 27 31.2**	**-1.1**
	comp=Z,2.1nm,0.3s,baz=71,slow=8.2,SNR=31								
SOEI	**Soe**	**32.30**	**264**	P		**P**		**16 27 33.2**	**-0.4**
	comp=Z,18nm,0.8s								
BATI	**Baumata**	**32.91**	**263**	P		**P**		**16 27 39.3**	**+0.6**
	comp=Z,7.5nm,0.6s,baz=122,slow=9.6,SNR=4.0								
KMSI	**Cibinong**	**33.76**	**282**	P		**P**		**16 27 45.1**	**-0.8**
KMSI	**Cibinong**	**33.76**	**282**	P		**P**		**16 27 44.9**	**-1.0**
MMRI	**Maumere**	**34.30**	**266**	P		**P**		**16 27 49.5**	**-1.0**
LUWI	**Luwuk**	**34.58**	**279**	P		**P**		**16 27 53.4**	**+0.6**
	comp=Z,68nm,1.2s,comp=Z,804nm								
OPRZ	**Ohinepanea**	**35.11**	**152**	P		**P**		**16 27 58.6**	**+1.7**
KARZ	**Kaharoa**	**35.11**	**153**	P		**P**		**16 27 59.0**	**+2.0**
OMRZ	**Omania**	**35.24**	**153**	P		**P**		**16 28 00.1**	**+2.0**
FORT	**Forrest**	**35.55**	**226**	*eP*		**P**		**16 28 01.1**	**+0.3**
	comp=Z,652nm,0.6s								
HAZ	**Te Kaha**	**35.62**	**151**	P		**P**		**16 28 02.4**	**+1.2**
TWVZ	**Taurewa**	**35.63**	**155**	P		**P**		**16 28 03.4**	**+1.9**
APSI	**Ampana**	**35.70**	**279**	P		**P**		**16 28 01.9**	**-0.4**
APSI	**Ampana**	**35.70**	**279**	P		**P**		**16 28 02.8**	**+0.5**
URZ	**Urewera**	**35.70**	**152**	P		**P**		**16 28 02.9**	**+1.0**
	comp=Z,16nm,0.5s,baz=344,slow=1.6,SNR=19								
URZ	**Urewera**	**35.70**	**152**	*eP*		**P**		**16 28 03.0**	**+1.0**
	comp=Z,87nm,1.5s								
URZ	**Urewera**	**35.70**	**152**	P		**P**		**16 28 03.2**	**+1.2**
MRSI	**Marisa**	**35.71**	**281**	P		**P**		**16 28 01.9**	**-0.5**
MRSI	**Marisa**	**35.71**	**281**	S		**P**		**16 28 02.3**	**-0.1**
MXZ	**Matakaoa Point**	**35.72**	**150**	P		**P**		**16 28 03.5**	**+1.4**
WTVZ	**West Tongariro**	**35.73**	**155**	P		**P**		**16 28 04.9**	**+2.5**
KRVZ	**Karewarewa**	**35.73**	**155**	P		**P**		**16 28 06.2**	**+3.8**
PKGZ	**Pakihiroa**	**35.86**	**151**	P		**P**		**16 28 05.0**	**+1.6**
RTZ	**Ruatahuna**	**35.93**	**153**	P		**P**		**16 28 01.2**	**-2.8**
MWZ	**Matawai**	**35.96**	**152**	P		**P**		**16 28 05.3**	**+1.1**
BSSI	**Bau Bau, Buton**	**36.14**	**270**	P		**P**		**16 28 04.9**	**-1.1**
BKZ	**Black Stump Fm**	**36.16**	**154**	*eP*		**P**		**16 28 06.6**	**+0.7**
	comp=Z,33nm,1.0s								
TAU	**Tasmania Unive**	**36.28**	**192**	*eP*		**P**		**16 28 08.6**	**+1.9**
	comp=Z,45nm,0.7s								
TAU	**Tasmania Unive**	**36.28**	**192**	*eP*		**P**		**16 28 08.6**	**+1.9**
TAU				pmax		pmax			
	comp=Z,45nm,0.7s								
BNSI	**Bone**	**36.68**	**273**	P		**P**		**16 28 10.9**	**+0.4**
THZ	**Tophouse**	**36.99**	**160**	*eP*		**P**		**16 28 13.4**	**+0.7**
	comp=Z,68nm,0.7s								
WBSI	**Waikabubak, Su**	**37.11**	**264**	P		**P**		**16 28 13.7**	**-0.4**
CBIJ	**Chichi jima**	**37.19**	**338**	P		**P**		**16 28 12.8**	**-1.7**
JCJ	**Chichijima**	**37.19**	**338**	P		**P**		**16 28 12.8**	**-1.7**
	comp=Z,46nm,0.5s,baz=190,slow=14,SNR=3.8								
PCI	**Palu**	**37.48**	**278**	P		**P**		**16 28 19.2**	**+2.0**
FOZ	**Fox Glacier**	**37.67**	**165**	*eP*		**P**		**16 28 19.2**	**+1.0**
	comp=Z,26nm,0.9s								
MPSI	**Mapaga**	**37.67**	**280**	P		**P**		**16 28 15.5**	**-3.2**
MPSI	**Mapaga**	**37.67**	**280**	P		**P**		**16 28 18.0**	**-0.7**
LTZ	**Lake Taylor**	**37.70**	**161**	*eP*		**P**		**16 28 19.2**	**+0.7**
	comp=Z,42nm,1.0s								
KHZ	**Kahutara**	**37.79**	**160**	*eP*		**P**		**16 28 19.0**	**-0.2**
	comp=Z,53nm,0.5s								
OXZ	**Oxford**	**38.12**	**162**	*eP*		**P**		**16 28 22.2**	**+0.3**
	comp=Z,56nm,0.6s								
RPZ	**Rata Peaks**	**38.18**	**163**	P		**P**		**16 28 23.0**	**+0.5**
	comp=Z,54nm,0.6s,baz=328,slow=2.5,SNR=39								
RPZ	**Rata Peaks**	**38.18**	**163**	*eP*		**P**		**16 28 23.3**	**+0.8**
	comp=Z,61nm,0.8s								
PLAI	**Plampang**	**38.71**	**265**	P		**P**		**16 28 26.6**	**-0.6**
DCZ	**Deep Cove**	**38.88**	**168**	*eP*		**P**		**16 28 28.6**	**+0.4**
	comp=Z,23nm,1.0s								
MLZ	**Mavora Lakes**	**38.99**	**167**	*eP*		**P**		**16 28 29.9**	**+0.8**
	comp=Z,55nm,1.1s								
WHZ	**Wether Hill Ro**	**39.46**	**168**	*eP*		**P**		**16 28 32.9**	**0.0**
	comp=Z,17nm,0.6s								
MYLDM	**Lahad Datu**	**40.29**	**287**	*eP*		**P**		**16 28 40.4**	**+0.3**
	comp=Z,30nm,1.4s								
IGBI	**Denpasar**	**41.30**	**265**	P		**P**		**16 28 47.5**	**-0.8**
TGY	**Tagaytay City**	**41.60**	**301**	P		**P**		**16 28 51.3**	**+0.6**
	comp=Z,336nm,0.4s,baz=181,slow=12,SNR=5.2								
MTKI	**Muara Teweh, K**	**42.33**	**277**	P		**P**		**16 28 56.7**	**+0.2**
KKM	**Kota Kinabalu**	**42.72**	**287**	*eP*		**P**		**16 28 59.6**	**-0.1**
	comp=Z,30nm,0.9s								
JHJ	**Hachijo jima 2**	**43.51**	**339**	P		**P**		**16 29 06.0**	**+0.5**
	comp=Z,175nm,0.7s,baz=114,slow=14,SNR=5.5								
JOW	**Kunigami**	**43.94**	**322**	P		**P**		**16 29 10.2**	**+1.2**
	comp=Z,23nm,0.8s,baz=300,slow=18,SNR=5.6								
RAR	**Rarotonga**	**44.02**	**113**	P		**P**		**16 29 10.8**	**+1.1**
	comp=Z,15nm,0.5s,baz=288,slow=3.2,SNR=4.4								
NWAO	**Narrogin (SRO)**	**44.59**	**230**	P		**P**		**16 29 13.9**	**0.0**
	comp=Z,14nm,0.5s,baz=152,slow=6.8,SNR=23								
NWAO	**Narrogin (SRO)**	**44.59**	**230**	P		**P**		**16 29 14.0**	**0.0**
PWJI	**Pagerwojo**	**44.64**	**266**	P		**P**		**16 29 14.7**	**+0.1**
PCJI	**Pacitan**	**45.25**	**266**	P		**P**		**16 29 19.0**	**-0.4**
STKI	**Sintang**	**45.87**	**277**	P		**P**		**16 29 24.9**	**+0.7**
YULB	**Yu-li**	**46.36**	**312**	*eP*		**P**		**16 29 27.9**	**0.0**
	comp=Z,33nm,0.6s								
INU	**Inuyama**	**46.52**	**338**	*eP*		**P**		**16 29 29.1**	**+0.3**
	comp=Z,53nm,0.8s								
NACB	**Ninganchiao**	**46.62**	**313**	*eP*		**P**		**16 29 30.2**	**+0.5**
	comp=Z,69nm,1.0s								
TPUB	**Ta-pu**	**46.80**	**312**	*eP*		**P**		**16 29 31.0**	**-0.2**
	comp=Z,190nm,2.0s								
SSLB	**Suanglung**	**46.85**	**313**	*eP*		**P**		**16 29 31.7**	**+0.1**
	comp=Z,35nm,0.7s								
YHNB	**Yeheng**	**47.08**	**314**	*eP*		**P**		**16 29 34.0**	**+0.6**
	comp=Z,81nm,0.9s								
MJAR	**Matsushiro Arr**	**47.15**	**339**	P		**P**		**16 29 33.0**	**-0.7**
	comp=Z,23nm,0.6s,baz=172,slow=8.5,SNR=100								
MJAR				PcP		**PcP**		**16 30 58.0**	**+0.3**
	comp=Z,7.8nm,0.7s,baz=167,slow=4.1,SNR=6.0								
MAJO	**Matsushiro**	**47.16**	**339**	*eP*		**P**		**16 29 33.0**	**-0.6**
	comp=Z,59nm,0.5s								
MAJO	**Matsushiro**	**47.16**	**339**	*d iP*		**P**		**16 29 33.1**	**-0.6**
MAJO				pmax		pmax			
	comp=Z,22nm,0.7s								
MAT	**Matsushiro**	**47.16**	**339**	P		**P**		**16 29 33.1**	**-0.6**
MAT				*e*S		S		16 35 43.8	-11
MJB9	**Matsu-Tunnel**	**47.16**	**339**	*eP*		**P**		**16 29 33.2**	**-0.5**
	comp=Z,60nm,0.5s								
KSM	**Kuching**	**47.28**	**279**	*eP*		**P**		**16 29 34.4**	**-0.6**
	comp=Z,20nm,0.6s								
JNU	**Nakatsue**	**47.33**	**330**	P		**P**		**16 29 35.3**	**+0.2**
	comp=Z,40nm,0.8s,baz=84,slow=1.7,SNR=23								
JNU	**Nakatsue**	**47.33**	**330**	*eP*		**P**		**16 29 35.5**	**+0.4**
	comp=Z,39nm,0.8s								
KPJI	**Karang Pucung**	**47.52**	**267**	P		**P**		**16 29 36.9**	**+0.1**
LEM	**Lembang**	**48.85**	**267**	P		**P**		**16 29 46.6**	**-0.4**
	comp=Z,10nm,0.5s,baz=192,slow=18,SNR=4.2								
LEM	**Lembang**	**48.85**	**267**	P		**P**		**16 29 46.8**	**-0.2**
TJN	**Taejon**	**51.67**	**330**	*d iP*		**P**		**16 30 07.7**	**+0.5**
KSRS	**Korea Array**	**52.24**	**331**	P		**P**		**16 30 11.8**	**+0.5**
	comp=Z,29nm,0.9s,baz=147,slow=7.6,SNR=79								
KSRS				PcP		**PcP**		**16 31 17.6**	**+1.2**
	comp=Z,5.8nm,0.7s,baz=163,slow=2.9,SNR=13								
KS15	**Wonju Array Si**	**52.25**	**331**	*eP*		**P**		**16 30 12.0**	**+0.5**
KSAR	**Wonju Array Be**	**52.25**	**331**	P		**P**		**16 30 11.8**	**+0.4**
KSAR				PcP		**PcP**		**16 31 17.6**	**+1.1**
KSAR	**Wonju Array Be**	**52.25**	**331**	P		**P**		**16 30 11.9**	**+0.4**
KSAR								16 31 17.6	
KS01	**Wonju Array Si**	**52.27**	**331**	*eP*		**P**		**16 30 11.7**	**+0.1**
KS01				*e*PcP		**PcP**		**16 31 17.4**	**+0.8**
INCN	**Inchon**	**52.90**	**330**	*eP*		**P**		**16 30 16.8**	**+0.6**
	comp=Z,71nm,0.8s								
INCN	**Inchon**	**52.90**	**330**	P		**P**		**16 30 17.3**	**+1.1**
	SNR=5.1								
INCN	**Inchon**	**52.90**	**330**	P		**P**		**16 30 17.3**	**+1.1**
	SNR=5.1								
INCN	**Inchon**	**52.90**	**330**	*eP*		**P**		**16 30 16.8**	**+0.6**
INCN				pmax		pmax			
	comp=Z,71nm,0.8s								
ASAJ	**Asahikawa**	**52.95**	**347**	P		**P**		**16 30 17.5**	**+1.2**
	comp=Z,20nm,0.7s,baz=210,slow=7.8,SNR=73								
ASAJ	**Asahikawa**	**52.95**	**347**	*eP*		**P**		**16 30 17.2**	**+0.8**
	comp=Z,17nm,0.6s								
PPT	**Papeete**	**53.08**	**106**	P		**P**		**16 30 19.9**	**+1.9**
	comp=Z,27nm,1.0s,baz=218,slow=8.4,SNR=3.1								
NJ2	**Nanjing**	**53.47**	**319**	*eP*		**P**		**16 30 21.1**	**+0.7**
NJ2				pmax		pmax			
	comp=Z,52nm,0.8s								
TEY	**Ternei**	**55.36**	**343**	*eP*		**P**		**16 30 31.2**	**-2.3**
TEY				pmax		pmax			
	comp=N,6.0nm,0.7s								
TEY				pmax		pmax			
	comp=Z,11nm,0.7s								
YSS	**Yuzh-Sakhalins**	**55.62**	**348**	*keP*		**P**		**16 30 36.2**	**+0.9**
YSS				*e*				16 31 30.7	
YSS				*e**PP		**pP**		**16 31 58.2**	**-1.2**
YSS				*e*				16 32 44.5	
YSS				*e*S		**S**		**16 37 45.8**	**-3.1**
YSS				*e*				16 39 45.4	
YSS				*e*SS		**SS**		**16 41 45.0**	**+3.2**
YSS				pmax		pmax			
	comp=Z,30nm,0.8s								
YSS				pmax		pmax			
	comp=N,10.0nm,0.7s								
YSS				pmax		pmax			
	comp=E,20nm,1.0s								
USRK	**Ussuriysk Ar.**	**56.13**	**339**	P		**P**		**16 30 39.5**	**+0.5**
	comp=E,18nm,0.6s,baz=156,slow=7.2,SNR=34								
USRK				PcP		**PcP**		**16 31 32.3**	**+1.0**
	comp=E,4.0nm,0.6s,baz=142,slow=5.0,SNR=4.6								
IPM	**Ipoh**	**56.97**	**280**	*eP*		**P**		**16 30 44.5**	**-0.9**
IPM				*e*PcP		**PcP**		**16 31 36.1**	**+0.8**
TIA	**Tai'an**	**57.27**	**322**	P		**P**		**16 30 44.4**	**-2.7**
TIA				pmax		pmax			
	comp=E,24nm,1.0s								
MDJ	**Mudanjiang**	**57.38**	**337**	P		**P**		**16 30 46.3**	**-1.3**
MDJ				pmax		pmax			
	comp=E,32nm,1.1s								
MDJ				pmax		pmax			
	comp=E,100nm,5.5s								
MDJ	**Mudanjiang**	**57.38**	**337**	*eP*		**P**		**16 30 47.4**	**-0.2**
	comp=E,35nm,1.1s								
KULM	**Kulim**	**57.50**	**281**	*eP*		**P**		**16 30 48.2**	**-0.9**
	comp=E,17nm,0.6s								
SKNT	**Sakolnakorn**	**57.65**	**295**	P		**P**		**16 30 49.5**	**-0.5**
	comp=E,25nm,0.8s								
CHBT	**CHBT**	**57.79**	**290**	P		P		16 30 58.3	+7.3
	comp=E,343nm,1.2s,comp=E,41μm								
SKR	**Severo-Kuril's**	**57.92**	**359**	*eP*		**P**		**16 30 51.1**	**-0.1**
SKR				pmax		pmax			
	comp=Z,57nm,0.8s								
CN2	**Changchun**	**58.42**	**334**	*eP*		**P**		**16 30 54.5**	**-0.3**
CN2				PcP		**PcP**		**16 31 39.8**	**-0.6**
CN2				*e*S		**S**		**16 38 25.3**	**-0.1**
CN2				pmax		pmax			
	comp=Z,20nm,0.9s								
CN2				pmax		pmax			
	comp=Z,200nm,4.0s								
PSI	**Prapat**	**58.70**	**278**	P		**P**		**16 30 55.8**	**-1.6**
	comp=Z,4.0nm,0.5s,baz=51,slow=13,SNR=3.8								
PSI				PcP		**PcP**		**16 31 41.4**	**-1.0**
	comp=Z,6.5nm,0.6s,baz=161,slow=5.2,SNR=4.9								
ENH	**Enshi**	**58.93**	**312**	*eP*		**P**		**16 30 58.2**	**-0.4**
	comp=Z,41nm,1.0s								
CHAI	**Chaiyaphum**	**59.09**	**293**	P		**P**		**16 30 59.7**	**-0.1**
	comp=Z,10nm,0.8s,comp=Z,112nm								
NAYO	**Nakonayok**	**59.20**	**291**	P		**P**		**16 31 01.5**	**+0.9**
	comp=Z,16nm,0.9s								
GYA	**Guiyang**	**59.22**	**307**	*eP*		**P**		**16 31 01.8**	**+1.1**
GYA				pmax		pmax			
	comp=Z,10.0nm,0.9s								
PBKT	**Sadao Pong**	**60.23**	**294**	P		**P**		**16 31 07.2**	**-0.3**
	comp=Z,34nm,0.7s								
PET	**Petropavlovsk**	**60.28**	**1**	*eP*		**P**		**16 31 07.1**	**0.0**
	comp=Z,43nm,0.7s								
PET	**Petropavlovsk**	**60.28**	**1**	‖*iP*		**P**		**16 31 07.4**	**+0.3**
PET				*e*				16 31 47.7	
PET				*e**SP		**sP**		**16 33 19.2**	**+2.1**
PET				*e*S		**S**		**16 38 48.4**	**-0.1**
PET				pmax		pmax			
	comp=Z,67nm,0.8s								
PET				MLR		MLR			
	comp=Z,100nm,17.0s								
PEA0B	**Petropavlovsk-**	**60.35**	**1**	*eP*		**P**		**16 31 08.1**	**+0.5**
	comp=Z,90nm,1.0s								
PETK	**Petropavlovsk-**	**60.35**	**1**	P		**P**		**16 31 08.3**	**+0.7**
	comp=Z,79nm,0.8s,baz=144,slow=6.5,SNR=180								
PETK	**Petropavlovsk-**	**60.35**	**1**	*eP*		**P**		**16 31 08.2**	**+0.6**
KLR	**Kul'dur**	**60.59**	**341**	P		**P**		**16 31 09.9**	**+0.6**
	comp=Z,0.7nm,0.5s,baz=157,slow=3.2,SNR=40								
KLR				PcP		**PcP**		**16 31 49.1**	**+0.1**
	comp=Z,0.4nm,0.5s,baz=126,slow=2.9,SNR=5.0								
KLR	**Kul'dur**	**60.59**	**341**	*d iP*		**P**		**16 31 09.8**	**+0.5**
GRNR	**Gornyy**	**60.65**	**345**	*eP*		**P**		**16 31 09.8**	**+0.2**
GRNR				*i*				16 32 35.5	
GRNR				pmax		pmax			
	comp=Z,29nm,0.6s								
PHIT	**Phitsanulok**	**60.93**	**294**	P		**P**		**16 31 13.1**	**+1.0**
	comp=Z,22nm,0.8s								
NANT	**Nan**	**61.21**	**296**	P		**P**		**16 31 14.5**	**+0.5**
	comp=Z,22nm,0.8s,comp=Z,219nm								
SRDT	**SRDT**	**61.24**	**291**	P		**P**		**16 31 14.3**	**0.0**
	comp=Z,40nm,1.0s								
XAN	**Xi'an**	**61.34**	**315**	P		**P**		**16 31 14.8**	**+0.1**
XAN				pmax		pmax			
	comp=Z,58nm,0.7s								
KMI	**Kunming**	**61.82**	**304**	P		**P**		**16 31 19.5**	**+1.3**
KMI				pmax		pmax			
	comp=Z,33nm,1.1s								
NKL	**Nikolayevsk**	**61.94**	**349**	*i P*		**P**		**16 31 19.5**	**+1.4**
NKL				*e*				16 31 54.0	
NKL				pmax		pmax			
	comp=E,10.0nm,0.9s								
NKL				pmax		pmax			
	comp=Z,40nm,0.9s								
CM01	**Chiang Mai Arr**	**62.64**	**295**	*eP*		**P**		**16 31 24.3**	**+0.8**
CM31	**Chiang Mai Arr**	**62.66**	**295**	*eP*		**P**		**16 31 23.6**	**0.0**
CMAR	**Chiang Mai Arr**	**62.66**	**295**	P		**P**		**16 31 24.7**	**+1.1**
	comp=Z,16nm,0.8s,baz=117,slow=4.9,SNR=127								
CMAR				PcP		**PcP**		**16 31 59.3**	**+1.1**
	comp=Z,4.6nm,0.7s,baz=93,slow=2.5,SNR=8.3								
CMAR				pP		**pP**		**16 32 48.5**	**-1.6**
	comp=Z,2.8nm,1.0s,baz=118,slow=5.8,SNR=2.1								
CMAR				PKP2bc				17 00 26.2	
	comp=Z,1.0nm,0.8s,baz=277,slow=4.5,SNR=7.1								
CMMT	**Chiang Mai**	**62.77**	**296**	P		**P**		**16 31 23.9**	**-0.4**
	comp=Z,22nm,1.0s								
CHTO	**Chiang Mai**	**62.78**	**296**	P		**P**		**16 31 24.9**	**+0.6**
	comp=Z,101nm,1.1s,comp=Z,1μm								
CHTO	**Chiang Mai**	**62.78**	**296**	*eP*		**P**		**16 31 24.1**	**-0.2**
	comp=Z,28nm,1.1s								
CHTO	**Chiang Mai**	**62.78**	**296**	*eP*		**P**		**16 31 24.1**	**-0.2**
CHTO				pmax		pmax			
	comp=Z,28nm,1.1s								
CMAI	**Chiengmai2**	**63.06**	**297**	P		**P**		**16 31 27.2**	**+0.9**
	comp=Z,228nm,0.8s								
CD2	**Chengdu**	**63.54**	**310**	*eP*		**P**		**16 31 29.0**	**-0.1**
HHC	**Hu-ho-hao-te**	**63.58**	**323**	*eP*		**P**		**16 31 30.3**	**+1.1**
HHC				pP		pP		16 32 53.9	-2.2
HH

comp=Z,34nm,2.4s
GAMB Gambell 74.92 14 *e*P **P 16 32 37.8 +0.6**
comp=Z,33nm,0.9s
ODAN Odare 75.37 300 *e*P **P 16 32 41.6 +0.6**
comp=Z,77nm,0.6s
BILL Bilibino 75.62 4*d i*P **P 16 32 41.6 +0.4**
BILL *e**PP **pP 16 34 12.7 +1.1**
BILL *e*S **S 16 41 55.1 +7.3**
BILL pmax pmax
comp=Z,74nm,0.9s
MOY Mondy 75.79 328 *e*P **P 16 32 43.4 +0.8**
MOY pmax pmax
comp=Z,32nm,1.5s
RAMN Ramite 76.08 300 *e*P **P 16 32 45.3 +0.4**
comp=Z,32nm,0.5s
OHAK Old Harbor 76.15 25 *e*P **P 16 32 44.5 +0.3**
comp=Z,53nm,0.7s
JIRN Jiri 76.62 301 *e*P **P 16 32 48.5 +0.4**
comp=Z,100nm,0.5s
KDAK Kodiak Island 76.80 25 *e*P **P 16 32 48.2 +0.4**
comp=Z,46nm,0.7s
KDAK Kodiak Island 76.80 25 *e*P **P 16 32 48.2 +0.4**
KDAK pmax pmax
comp=Z,46nm,0.7s
GUN Gumba 76.95 301 *e*P **P 16 32 50.4 +0.5**
comp=Z,61nm,0.4s
PKIN Phulchoki 77.28 300 *e*P **P 16 32 52.0 +0.4**
comp=Z,54nm,0.6s
PALK Pallekele 77.35 279 P **P 16 32 53.1 +1.2**
comp=Z,25nm,0.6s,baz=116,slow=4.6,SNR=25
KKN Kakani 77.43 301 *e*P **P 16 32 52.8 +0.5**
comp=Z,68nm,0.4s
DMN Daman 77.53 300 *e*P **P 16 32 53.6 +0.7**
comp=Z,74nm,0.5s
SVW2 Sparrevohn 77.75 22 *e*P **P 16 32 54.1 +1.0**
comp=Z,122nm,1.3s
GKN Gorkha 78.04 301 *e*P **P 16 32 55.9 +0.3**
comp=Z,120nm,0.5s
HOM Homer 78.34 24 *e*P **P 16 32 56.9 +0.7**
comp=Z,269nm,0.7s
BRLK Bradley Lake 78.71 24 *e*P **P 16 32 58.6 +0.3**
comp=Z,55nm,1.1s
KOLN Koldanda 78.86 300 *e*P **P 16 33 00.0 -0.1**
comp=Z,79nm,0.7s
DANN Dangsing 78.87 301 *e*P **P 16 33 00.3 +0.1**
comp=Z,3.1nm,0.7s
PYUN Piuthan 79.47 300 *e*P **P 16 33 03.0 -0.3**
comp=Z,47nm,0.7s
HVS Khovu-Aksy 79.53 325*de*P **P 16 33 02.4 -0.6**
HVS pmax pmax
comp=Z,13nm,0.9s
SUA Susitna One 79.79 23 *e*P **P 16 33 03.6 -0.5**
comp=Z,33nm,0.7s
RC01 Rabbit Creek A 79.96 23 *e*P **P 16 33 05.1 +0.2**
comp=Z,64nm,1.1s
PPLA Purkeypile 80.14 21 *e*P **P 16 33 05.5 -0.5**
comp=Z,42nm,1.4s
WMQ Urumqi 80.44 317 P **P 16 33 08.8 +0.9**
WMQ pmax pmax
comp=Z,69nm,1.3s
WMQ pmax pmax
comp=Z,140nm,3.6s
PMR Palmer 80.49 23 *e*P **P 16 33 07.3 -0.3**
comp=Z,44nm,1.0s
PMR Palmer 80.49 23 *e*P **P 16 33 07.3 -0.3**
PMR pmax pmax
comp=Z,44nm,1.0s
CAST Castle Rocks 80.50 21 *e*P **P 16 33 07.4 -0.4**
comp=Z,48nm,0.6s
SML Sawmill 80.92 23 *e*P **P 16 33 10.3 +0.3**
comp=Z,74nm,1.0s
KTH Kantishna Hill 80.99 21 *e*P **P 16 33 09.5 -0.9**
comp=Z,35nm,0.9s
TIXI Tiksi 81.09 351 P **P 16 33 10.4 -0.2**
baz=158,slow=3.5
TIXI Tiksi 81.09 351 *e*P **P 16 33 10.1 -0.6**
comp=Z,8.0nm,0.8s
TIXI Tiksi 81.09 351 *e*P **P 16 33 10.1 -0.6**
TIXI pmax pmax
comp=Z,8.0nm,0.8s
TRF Thorofare Moun 81.16 21 *e*P **P 16 33 10.6 -0.8**
comp=Z,23nm,0.7s
HYB Hyderabad 81.18 289 *i* P **P 16 33 12.5 +0.2**
EYAK Cordova Ski Ar 81.27 25 *e*P **P 16 33 12.1 +0.4**
comp=Z,29nm,1.0s
BPAW Bear Paw Mtn. 81.31 21 *e*P **P 16 33 11.3 -0.7**
comp=Z,11nm,0.7s
SCM Sheep Creek Mo 81.33 23 *e*P **P 16 33 12.5 +0.3**
comp=Z,78nm,1.2s
SCM Sheep Creek Mo 81.33 23 *e*P **P 16 33 12.5 +0.3**
SCM pmax pmax
comp=Z,78nm,1.2s
DIV Divide 81.57 24 *e*P **P 16 33 13.9 +0.5**
comp=Z,40nm,1.0s
IM3 Indian Mountai 81.59 18 *e*P **P 16 33 13.6 +0.3**
IM3 *ep*P **pP 16 34 46.8 +1.5**
RAGM Ragged Mountai 81.64 25 *e*P **P 16 33 14.2 +0.4**
comp=Z,39nm,1.2s
KLU Klutina 81.71 24 *e*P **P 16 33 14.9 +0.8**
comp=Z,64nm,1.1s
MCK McKinley 81.81 21 *e*P **P 16 33 14.1 -0.5**
comp=Z,77nm,0.8s
MCK McKinley 81.81 21 *e*P **P 16 33 14.1 -0.5**
MCK pmax pmax
comp=Z,77nm,0.8s
MLY Manley 81.96 20 *e*P **P 16 33 15.3 -0.1**
comp=Z,53nm,1.3s
BMRM Bremner River 81.97 25 *e*P **P 16 33 15.8 +0.4**
comp=Z,60nm,1.4s
DHY Denali Highway 82.01 22 *e*P **P 16 33 15.8 +0.1**
comp=Z,60nm,1.6s
HARP HAARP 82.50 23 *e*P **P 16 33 18.5 +0.4**
comp=Z,40nm,1.2s
QSPA South Pole Qui 82.51 180 P **P 16 33 19.1 +0.9**
comp=Z,60nm,0.6s,baz=334,slow=0.5,SNR=180
QSPA South Pole Qui 82.51 180 *e*P **P 16 33 19.0 +0.7**
comp=Z,62nm,0.6s
WRH Wood River Hil 82.55 21 *e*P **P 16 33 17.5 -0.8**
comp=Z,24nm,0.9s
WRH *ep*P **pP 16 34 51.1 +0.6**
DGZ Jazzator, Alta 82.65 322 *i* P **P 16 33 19.6 +0.3**
DGZ pmax pmax
comp=Z,15nm,0.8s
PAX Paxson 82.68 23 *e*P **P 16 33 19.3 +0.2**
comp=Z,27nm,1.6s
CCB Clear Creek Bu 82.75 21 *e*P **P 16 33 18.4 -0.8**
comp=Z,33nm,1.0s
CCB *ep*P **pP 16 34 52.0 +0.5**
MDM Murphy Dome 82.78 21 *e*P **P 16 33 18.8 -0.7**
comp=Z,30nm,1.0s
MDM *ep*P **pP 16 34 52.0 +0.3**
COLA College 82.86 21 *e*P **P 16 33 19.2 -0.6**
comp=Z,65nm,0.8s
COLA College 82.86 21 *e*P **P 16 33 19.2 -0.6**
COLA pmax pmax
comp=Z,65nm,0.8s
HDA Harding Lake 82.92 21 *e*P **P 16 33 19.6 -0.6**
comp=Z,47nm,1.5s
BALM Baldy 82.95 25 *e*P **P 16 33 21.1 +0.5**
comp=Z,22nm,0.8s
IL1 Eielson Array 83.14 21 *e*P **P 16 33 20.3 -1.0**
IL1 *ep*P **pP 16 34 54.0 +0.4**
ILAR Eielson Array 83.14 21 P **P 16 33 20.5 -0.8**
comp=Z,11nm,0.4s,baz=257,slow=5.4,SNR=238
ILAR pP **pP 16 34 51.6 -2.0**
comp=Z,4.6nm,1.1s,baz=245,slow=4.7,SNR=6.5
ILAR PKiKP **PKiKP 16 38 35.4 -0.9**
comp=Z,0.3nm,0.7s,baz=238,slow=3.2,SNR=4.1
ILAR PKKPbc **PKKPbc 16 51 39.0 -4.1**
comp=Z,1.0nm,0.6s,baz=345,slow=1.3,SNR=9.9
ILB Eielson Array 83.14 21 *e*P **P 16 33 20.4 -0.9**
RIDG Independ'e Rid 83.33 22 *e*P **P 16 33 22.4 +0.1**
comp=Z,63nm,1.6s
MENT Mentasta 83.35 23 *e*P **P 16 33 23.1 +0.7**
comp=Z,13nm,0.6s
COLD Coldfoot 83.47 18 *e*P **P 16 33 23.6 +0.7**
comp=Z,43nm,1.8s
DOT Dot Lake 83.58 23 *e*P **P 16 33 23.9 +0.3**
comp=Z,55nm,0.7s
DOT *ep*P **pP 16 34 57.2 +1.2**
SCRK Sand Creek 83.78 22 *e*P **P 16 33 25.0 +0.3**
comp=Z,12nm,0.8s
TOLK Toolik Lake Re 84.52 17 P **P 16 33 29.2 +1.0**
baz=233
TOLK Toolik Lake Re 84.52 17 *e*P **P 16 33 29.0 +0.8**
comp=Z,24nm,0.8s
MAW Mawson 84.67 203 P **P 16 33 29.5 +0.5**
comp=Z,11nm,0.6s,baz=105,slow=7.3,SNR=24
MAW Mawson 84.67 203 *e*P **P 16 33 29.4 +0.5**
comp=Z,3.0nm,0.8s
FYU Fort Yukon 84.70 20 *e*P **P 16 33 29.9 +0.9**
comp=Z,12nm,0.8s
MK01 Makanchi Array 84.98 318 *e*P **P 16 33 31.1 +0.2**
MK31 Makanchi Array 84.99 318 *e*P **P 16 33 31.2 +0.2**
MK31 Makanchi Array 84.99 318 *e*P **P 16 33 31.2 +0.2**
MKAR Makanchi Array 84.99 318 P **P 16 33 31.3 +0.3**
comp=Z,30nm,0.5s,baz=98,slow=5.9,SNR=378
MKAR pP **pP 16 35 02.8 -1.0**
comp=Z,7.1nm,0.6s,baz=103,slow=5.9,SNR=11
MKAR PKKPbc **PKKPbc 16 51 36.0 -1.9**
comp=Z,0.2nm,0.6s,baz=278,slow=3.7,SNR=4.0
MKAR PKPPKP **P'P'df 16 59 42.8 -0.3**
comp=Z,0.6nm,0.8s,baz=297,slow=1.1,SNR=5.7
MKAR Makanchi Array 84.99 318 *e*P **P 16 33 31.2 +0.2**
comp=Z,229nm,0.6s
MKAR pP **pP 16 35 02.8 -1.0**
MKAR PKKPbc **PKKPbc 16 51 36.0 -1.9**
MKAR P'P' 16 59 42.8
MAKZ Makanchi 85.20 318 *e*P **P 16 33 32.0 0.0**
comp=Z,27nm,0.7s
MAKZ Makanchi 85.20 318 *e*P **P 16 33 32.0 0.0**
MAKZ pmax pmax
comp=Z,27nm,0.7s
EGAK Eagle 85.25 22 *e*P **P 16 33 32.4 +0.7**
comp=Z,33nm,1.0s
EGAK *ep*P **pP 16 35 06.3 +1.7**
BESE Bessie Mountai 85.29 29 *e*P **P 16 33 32.9 +0.7**
comp=Z,40nm,0.9s
SKAG Skagway 85.40 28 *e*P **P 16 33 33.2 +0.7**
comp=Z,53nm,1.0s
DAWY Dawson 85.59 23 *e*P **P 16 33 34.3 +0.8**
comp=Z,19nm,0.8s
ZAA0 Zalesovo Array 85.61 326 *e*P **P 16 33 32.8 -1.0**
comp=Z,19nm,0.6s
ZALV Zalesovo Beam 85.61 326 P **P 16 33 33.0 -0.7**
comp=Z,21nm,0.4s,baz=118,slow=5.5,SNR=88
ZALV pP **pP 16 35 04.5 -2.3**
comp=Z,3.2nm,0.5s,baz=125,slow=6.0,SNR=3.2
ZALV PKPPKP **P'P'df 16 59 42.5 +0.7**
comp=Z,0.6nm,0.5s,baz=285,slow=2.9,SNR=4.3
ZALV Zalesovo Beam 85.61 326 *e*P **P 16 33 32.7 -1.0**
ZALV *ep*P **pP 16 35 08.2 +1.5**
ZALV P'P' 16 59 42.5
ZALV Zalesovo Beam 85.61 326 P **P 16 33 33.1 -0.7**
ZALV *PP **pP 16 35 04.5 -2.3**
ZALV pmax pmax
comp=Z,22nm,0.4s
ZALV pmax pmax
comp=Z,3.0nm,0.5s
ZALV pmax pmax
comp=Z,1.0nm,0.5s
WHY Whitehorse 86.07 27 *e*P **P 16 33 36.4 +0.4**
comp=Z,19nm,0.8s
NVS Novosibirsk 86.77 326 *e*P **P 16 33 38.3 -1.0**
L02D Cave Junction, 87.27 47 P **P 16 33 43.0 +1.0**
baz=258
KDJ Kajisay 87.38 313 *e*P **P 16 33 43.2 +0.5**
comp=Z,34nm,0.8s
KDJ Kajisay 87.38 313 *e*P **P 16 33 43.2 +0.5**
KDJ pmax pmax
comp=Z,34nm,0.8s
DLBC Dease Lake 87.61 30 *e*P **P 16 33 45.1 +1.8**
comp=Z,20nm,1.3s
M02C Callahan 87.66 48 P **P 16 33 45.5 +1.5**
baz=258,SNR=6.4
N02D Trinity Center 87.68 48 P **P 16 33 45.3 +1.3**
baz=258
WDC Whiskeytown Da 87.72 49 *e*P **P 16 33 45.2 +1.1**
comp=Z,30nm,1.8s
WDC Whiskeytown Da 87.72 49 *e*P **P 16 33 45.2 +1.1**
WDC pmax pmax
comp=Z,30nm,1.8s
KSH Kashi 87.73 310 P **P 16 33 46.5 +2.1**
KSH pmax pmax
comp=Z,24nm,0.8s
YBH Yreka Blue Hor 87.83 48 P **P 16 33 45.0 +0.3**
comp=Z,6.6nm,0.8s,baz=273,slow=4.2,SNR=12
YBH Yreka Blue Hor 87.83 48 *e*P **P 16 33 45.6 +0.8**
comp=Z,8.6nm,0.9s
ULHL Ulahol 88.08 313 P **P 16 33 46.8 +0.7**
SNR=20
O03D Paynes Creek 88.22 49 P **P 16 33 47.3 +0.7**
baz=259
KURK Kurchatov 88.36 321 *e*P **P 16 33 45.8 -1.1**
comp=Z,36nm,1.4s
KURK Kurchatov 88.36 321 P **P 16 33 46.6 -0.2**
SNR=8.2
KURK Kurchatov 88.36 321 P **P 16 33 46.6 -0.2**
SNR=8.2
KURK Kurchatov 88.36 321*d i*P **P 16 33 46.1 -0.7**
KURK pmax pmax
comp=Z,24nm,1.4s
KURBB Kurchatov Arra 88.39 321 P **P 16 33 46.6 -0.4**
comp=Z,6.1nm,0.7s,baz=99,slow=4.8,SNR=50
M04C Macdoel 88.48 48 P **P 16 33 48.7 +0.8**
baz=259
TKM2 Tokmak 2 88.69 313 P **P 16 33 49.2 +0.3**
SNR=20
KZA Kyzart 88.77 313 P **P 16 33 50.6 +1.1**
SNR=20
NIL Nilore 88.81 304 *e*P **P 16 33 48.9 -0.5**
comp=Z,16nm,1.1s
NIL Nilore 88.81 304 *e*P **P 16 33 48.9 -0.5**
NIL pmax pmax
comp=Z,16nm,1.1s
KBK Karagaybulak 89.10 313 P **P 16 33 51.1 +0.3**
SNR=7.4
J05D Fort Rock, OR 89.21 46 P **P 16 33 52.3 +1.0**
baz=259
CHMS Chumysh 89.31 313 P **P 16 33 51.8 +0.2**
SNR=10.0
UCH Uchtor 89.34 313 P **P 16 33 53.0 +0.8**
SNR=11
K05A Summer Lake 89.35 47 *e*P **P 16 33 52.3 +0.3**
comp=Z,29nm,1.3s
AAK Ala-Archa 89.43 313 P **P 16 33 52.7 +0.5**
SNR=11
AAK Ala-Archa 89.43 313 *e*P **P 16 33 52.0 -0.3**
comp=Z,9.8nm,0.8s
AAK Ala-Archa 89.43 313 PcP **PcP 16 33 52.9 -0.4**
SNR=6.3
AAK Ala-Archa 89.43 313 P **PcP 16 33 52.9 -0.4**
SNR=6.3
AAK Ala-Archa 89.43 313*d i*P **P 16 33 52.5 +0.2**
AAK pmax pmax
comp=Z,9.0nm,0.9s
INK Inuvik 89.51 20 P **P 16 33 51.9 0.0**
comp=Z,9.3nm,0.8s,baz=268,slow=3.6,SNR=42
INK Inuvik 89.51 20 *e*P **P 16 33 51.8 0.0**
comp=Z,36nm,1.4s
G05D Wamic, OR 89.53 44 P **P 16 33 53.6 +1.1**
baz=259
VES Vestal, Richgr 89.53 54 P **P 16 33 53.5 +0.8**
baz=260
B05A Bryant 89.59 41 P **P 16 33 53.6 +0.9**
baz=258
CIS Catalina Islan 89.68 56 P **P 16 33 54.7 +1.2**
baz=261
WAKR Walker 89.70 51 *e*P **P 16 33 55.6 +2.0**
comp=Z,8.9nm,1.4s
MDPB Devils Postpil 89.83 52 *e*P **P 16 33 54.1 -0.2**
comp=Z,8.1nm,0.9s
AML Almayashu 89.92 312 P **P 16 33 55.6 +0.8**
SNR=24
YERR Yerington 89.93 51 *e*P **P 16 33 54.3 -0.4**
comp=Z,4.9nm,0.8s
PAHR Pah Rah Range 89.94 50 *e*P **P 16 33 54.9 +0.2**
comp=Z,5.0nm,0.9s
EKS2 Erkin-Say 89.95 313 P **P 16 33 55.1 +0.4**
SNR=8.1
ISA Isabella, Lake 89.99 54 P **P 16 33 56.0 +1.1**
baz=261
ISA Isabella, Lake 89.99 54 *e*P **P 16 33 55.3 +0.4**
comp=Z,8.7nm,0.9s
ISA Isabella, Lake 89.99 54 *e*P **P 16 33 55.3 +0.4**
ISA pmax pmax
comp=Z,9.0nm,0.9s
MWC Mount Wilson 90.10 56 *e*P **P 16 33 56.7 +1.1**
comp=Z,44nm,1.3s
MWC Mount Wilson 90.10 56 *e*P **P 16 33 56.7 +1.1**
MWC pmax pmax
comp=Z,44nm,1.3s
EDW2 Edwards Air Fo 90.26 55 P **P 16 33 57.5 +1.3**
baz=261,SNR=7.3
TIN Tinemaha, Big 90.41 53 P **P 16 33 58.1 +1.2**
baz=261
RYN Ryan 90.42 51 *e*P **P 16 33 57.9 +0.9**
comp=Z,10nm,0.9s
CWC Cottonwood Cre 90.43 53 P **P 16 33 58.1 +1.1**
baz=261
BFSC Mount Baldy Ra 90.43 56 P **P 16 33 58.1 +1.0**
baz=261
NV01 Mina Array Sit 90.56 51 *e*P **P 16 33 58.6 +0.9**
NV01 *ep*P **pP 16 35 33.4 +1.7**
NVAR Mina Array Bea 90.56 51 P **P 16 33 59.1 +1.4**
comp=Z,12nm,0.9s,baz=243,slow=6.6,SNR=59
LRMC Laurel Mtn Rad 90.60 54 P **P 16 33 59.3 +1.5**
baz=261,SNR=12
NV11 Mina Array Sit 90.68 51 *e*P **P 16 33 59.1 +1.0**
comp=Z,1.0nm,0.9s
DAC Darwin (Calif) 90.79 54 *e*P **P 16 33 59.7 +0.9**
comp=Z,20nm,0.9s
DAC Darwin (Calif) 90.79 54 *e*P **P 16 33 59.7 +0.9**
DAC pmax pmax
comp=Z,20nm,0.9s
MPMC Manual Prospec 90.84 54 P **P 16 34 00.5 +1.4**
baz=262,SNR=16
WVOR Wild Horse Val 90.94 47 *e*P **P 16 33 60.0 +0.7**
comp=Z,12nm,0.8s
WVOR *ep*P **pP 16 35 35.1 +1.8**
WVOR Wild Horse Val 90.94 47 *e*P **P 16 34 00.0 +0.7**
WVOR *e**PP **pP 16 35 35.1 +1.8**
WVOR pmax pmax
comp=Z,12nm,0.8s
HAWA Hanford 90.96 43 *e*P **P 16 33 59.4 +0.3**
comp=Z,12nm,0.9s
GRAC Grapevine Rang 91.08 53 P **P 16 34 01.4 +1.4**
baz=262,SNR=11
G08A Pilot Rock 91.17 45 *e*P **P 16 34 00.4 +0.1**
comp=Z,5.5nm,0.8s
J08A Circle Bar Ran 91.21 47 *e*P **P 16 34 00.7 +0.3**
comp=Z,19nm,1.3s
J08A *ep*P **pP 16 35 36.3 +1.9**
GSC Goldstone, Bar 91.28 55 P **P 16 34 02.3 +1.4**
baz=262
GSC Goldstone, Bar 91.28 55 *e*P **P 16 34 02.2 +1.2**
comp=Z,8.5nm,0.8s
GSC Goldstone, Bar 91.28 55 *e*P **P 16 34 02.2 +1.2**
GSC pmax pmax
comp=Z,8.0nm,0.8s
FURC Furnace Creek, 91.40 54 P **P 16 34 02.7 +1.4**
baz=262,SNR=6.1
B08A Colville Reser 91.42 42 *e*P **P 16 34 00.8 -0.4**
comp=Z,7.1nm,0.8s
B08A *ep*P **pP 16 35 36.9 +1.6**
HEC Hector,Ludlow 91.60 55 P **P 16 34 03.7 +1.3**
baz=262
BELC Belle Mtn. Jos 91.76 56 P **P 16 34 04.7 +1.5**
baz=262
SHOC Shoshone, Teco 91.80 54 P **P 16 34 04.5 +1.3**
baz=262
E09A Wood Farm, Sta 91.93 44 *e*P **P 16 34 03.9 +0.3**
comp=Z,10nm,0.9s
TPNV Topopah Spring 91.96 53 P **P 16 34 05.4 +1.3**
baz=262,SNR=18
TPNV Topopah Spring 91.96 53 *e*P **P 16 34 04.9 +0.8**
comp=Z,15nm,0.8s
TUQ Turquoise Moun 92.02 55 P **P 16 34 05.4 +1.0**
baz=262,SNR=6.3
GMRC Granite Mounta 92.14 55 P **P 16 34 06.1 +1.1**
baz=262,SNR=7.0
BC3 Big Chuckawall 92.17 57 P **P 16 34 06.5 +1.4**
baz=263
BMO Blue Mountains 92.26 45 *e*P **P 16 34 05.4 +0.2**
comp=Z,5.3nm,0.8s
KK31 Karatay Array 92.39 313 *e*P **P 16 34 05.3 -0.5**
KK31 Karatay Array 92.39 313 *e*P **P 16 34 05.3 -0.5**
KKAR Karatay Array 92.39 313 *e*P **P 16 34 05.2 -0.6**
KKAR Karatay Array 92.39 313 *e*P **P 16 34 05.2 -0.6**
KBL Kabul 92.40 304 *e*P **P 16 34 04.9 -1.4**
comp=Z,9.1nm,0.6s
KBL Kabul 92.40 304 *e*P **P 16 34 04.9 -1.4**
KBL pmax pmax
comp=Z,9.0nm,0.6s
F10A Beach Ranch, E 92.48 44 *e*P **P 16 34 06.0 -0.2**
comp=Z,7.7nm,0.8s
F10A *ep*P **pP 16 35 42.6 +2.4**
IRM Iron Mountain 92.48 56 P **P 16 34 07.8 +1.4**
baz=263
R11A Troy Canyon, C 92.67 52 P **P 16 34 08.5 +1.2**
baz=263
R11A Troy Canyon, C 92.67 52 *e*P **P 16 34 07.9 +0.5**
comp=Z,6.3nm,0.9s
SHPR Sheep Range 92.77 54 *e*P **P 16 34 09.0 +1.1**
comp=Z,8.9nm,0.8s
NEW Newport 92.87 42 *e*P **P 16 34 07.1 -0.8**
comp=Z,7.2nm,1.1s
NEW Newport 92.87 42 *e*P **P 16 34 07.1 -0.8**
NEW pmax pmax
comp=Z,7.0nm,1.1s
W13A Hualapai Mount 93.63 55 *ep*P pP 16 35 45.1 -0.9
BVAR Borovoye Array 93.79 323 P **P 16 34 11.2 -0.7**
comp=Z,13nm,0.6s,baz=112,slow=5.8,SNR=64
BVAR PKiKP **PKiKP 16 38 54.2 -0.2**
comp=Z,0.5nm,0.4s,baz=122,slow=1.9,SNR=3.7
BRVK Borovoye 93.86 323 *e*P **P 16 34 11.0 -1.2**
comp=Z,23nm,1.2s
BRVK Borovoye 93.86 323 P **P 16 34 11.7 -0.6**
SNR=6.2
BRVK Borovoye 93.86 323 P **P 16 34 11.7 -0.6**
SNR=6.2
BRVK Borovoye 93.86 323*d i*P **P 16 34 11.2 -1.0**
BRVK pmax pmax
comp=Z,21nm,1.2s
HLID Hailey 94.17 47 P **P 16 34 15.3 +1.2**
baz=264
HLID Hailey 94.17 47 *e*P **P 16 34 14.7 +0.6**
comp=Z,4.4nm,1.0s
CCUT Cedar City 94.32 53 *e*P **P 16 34 15.6 +0.5**
comp=Z,5.2nm,1.0s
LCMT Little Creek M 94.36 53 *e*P **P 16 34 16.5 +1.4**
U15A North Rim 95.06 54 *e*P **P 16 34 20.0 +1.5**
comp=Z,9.9nm,0.9s
WALA Waterton Lakes 95.08 41 *e*P **P 16 34 18.5 +0.4**
comp=Z,6.6nm,0.9s
HVU Hansel Valley 95.19 49 *e*P **P 16 34 19.2 +0.4**
comp=Z,12nm,1.0s
HVU Hansel Valley 95.19 49 *e*P **P 16 34 19.2 +0.4**
HVU pmax pmax
comp=Z,12nm,1.0s
MTPU Mount Pierson 95.29 52 *e*P **P 16 34 20.7 +1.1**
comp=Z,5.5nm,0.9s
MCMT McKenzie Canyo 95.41 46 *e*P **P 16 34 20.0 +0.2**
EDM Edmonton 95.80 37 *e*P **P 16 34 20.7 -0.4**
comp=Z,18nm,0.8s
EDM Edmonton 95.80 37 *e*P **P 16 34 20.7 -0.4**
EDM pmax pmax
comp=Z,18nm,0.8s
YKA Yellowknife Ar 95.89 28 P **P 16 34 21.4 +0.2**
comp=Z,12nm,0.6s,baz=264,slow=4.8,SNR=226
YKA pP **pP 16 35 53.3 -2.2**
comp=Z,2.7nm,0.8s,baz=266,slow=4.4,SNR=8.1
YKA PKiKP **PKiKP 16 38 57.4 -0.3**
comp=Z,0.4nm,0.5s,baz=263,slow=1.3,SNR=6.3
YKA PKKPbc **PKKPdf 16 51 07.4 -3.3**
comp=Z,0.4nm,0.6s,baz=72,slow=3.0,SNR=7.2
TMUT Trail Mountain 96.16 51 *e*P **P 16 34 24.0 +0.5**
comp=Z,4.7nm,0.9s
BOZ Bozeman (W) 96.33 45 P **P 16 34 24.1 +0.3**
baz=266
BOZ Bozeman (W) 96.33 45 *e*P **P 16 34 24.0 +0.1**
comp=Z,3.6nm,0.9s
BOZ Bozeman (W) 96.33 45 *e*P **P 16 34 24.0 +0.1**
BOZ pmax pmax
comp=Z,4.0nm,0.9s
FXWY Fox Creek 96.62 47 *e*P **P 16 34 25.5 +0.2**
comp=Z,3.2nm,0.8s
FXWY *ep*P **pP 16 36 02.4 +2.7**
IMW Indian Meadow 96.70 47 *e*P **P 16 34 25.9 +0.2**
IMW *ep*P **pP 16 36 03.2 +3.2**
MOOW Moose Ponds 96.83 47 *e*P **P 16 34 26.7 +0.4**
comp=Z,2.4nm,0.9s
BW06 Boulder Array 97.64 48 *e*P **P 16 34 28.6 -1.3**
comp=Z,5.9nm,0.9s
PD31 Pinedale Array 97.64 48 *e*P **P 16 34 29.5 -0.4**
PD31 *ep*P **pP 16 36 05.7 +1.4**
PDAR Pinedale Array 97.64 48 P **P 16 34 29.6 -0.2**
comp=Z,1.7nm,0.7s,baz=222,slow=2.2,SNR=21
PDAR pP **pP 16 36 02.2 -2.1**
comp=Z,4.2nm,0.8s,baz=176,slow=2.2,SNR=5.5
PDAR Pinedale Array 97.64 48 *e*P **P 16 34 29.7 -0.2**

PDAR ePP pP 16 36 05.8 +1.5
RLMT Red Lodge 97.97 46 P Pdif 16 34 31.9 +0.6
baz=268
SNAA Sanae 99.89 186 PKiKP **PKiKP 16 39 04.7 -0.1**
SNAA Sanae 99.89 186 Pdiff **Pdif 16 34 39.6 +0.5**
SNAA Sanae 99.89 186 P **Pdif 16 34 38.5 -0.6**
comp=Z,1.4nm,0.8s,baz=230,slow=5.9,SNR=5.6
SNAA PKKPbc **PKKPbc 16 50 57.6 -2.7**
comp=Z,0.6nm,0.5s,baz=306,slow=5.3,SNR=7.3
LAO LASA Array 100.13 44 P **Pdif 16 34 41.6 +0.9**
baz=270
LAO LASA Array 100.13 44 *e*Pdif **Pdif 16 34 41.2 +0.5**
ABKAR Akbulak array 100.13 319 *e*Pdif **Pdif 16 34 38.8 -1.7**
N23A Red Feather La 100.27 50 P **Pdif 16 34 42.5 +0.7**
baz=269
WSAR Wadi Sarin 100.45 292 PKKPbc PKKPbc 16 50 56.9 -0.1
comp=Z,3.1nm,0.5s,baz=269,slow=10,SNR=7.2
ARU Arti 100.78 326 *e*Pdif **Pdif 16 34 41.6 -1.6**
ARU Arti 100.78 326 *d* /P **Pdif 16 34 41.5 -1.6**
ARU 16 38 55.4
ARU S **SKSac 16 44 39.9 -2.0**
ARU SP **SP 16 47 12.6 -4.9**
ARU SS **SS 16 52 47.0 -5.5**
ARU pmax pmax
comp=Z,6.0nm,0.7s
VNA3 Neumayer Olymp 100.94 184 PKiKP **PKiKP 16 39 06.5 -0.1**
VNA3 Neumayer Olymp 100.94 184 Pdiff **Pdif 16 34 43.2 -0.5**
VNA2 Neumayer--Watz 101.06 185 PKiKP **PKiKP 16 39 07.0 +0.2**
baz=198,slow=1.3
VNA2 Neumayer--Watz 101.06 185 Pdiff **Pdif 16 34 43.7 -0.5**
AKTO Aktyubinsk 101.35 320 P **Pdif 16 34 44.2 -1.8**
comp=Z,2.1nm,0.6s,baz=106,slow=8.2,SNR=9.6
TXAR Lajitas Array 101.85 62 P **Pdif 16 34 50.9 +2.1**
comp=Z,0.1nm,0.4s,baz=260,slow=3.3,SNR=2.7
TXAR PKiKP **PKiKP 16 39 09.9 +0.3**
comp=Z,0.2nm,0.7s,baz=300,slow=1.8,SNR=3.5
TXAR PKKPbc **PKKPbc 16 50 52.5 -0.7**
comp=Z,0.6nm,0.7s,baz=118,slow=4.7,SNR=6.5
SPITS Spitsbergen Ar 106.51 352 PKiKP **PKiKP 16 39 16.6 -0.1**
comp=Z,6.6nm,0.9s,baz=126,slow=2.0,SNR=4.2
ULM Lac du Bonnet 106.73 40 PKiKP **PKiKP 16 39 17.1 -0.6**
comp=Z,1.5nm,0.5s,baz=240,slow=4.6,SNR=2.9
H35A Sunnyside Ranc 108.22 45 P **PKiKP 16 39 20.1 -0.6**
baz=278
G36A St. Michael 108.90 45 P **PKiKP 16 39 21.6 -0.3**
baz=279
F36A Milaca 108.97 44 P **PKiKP 16 39 21.7 -0.3**
baz=279
O37A Wolven Farm, M 109.28 50 P **PKiKP 16 39 22.4 -0.5**
baz=277
K37A Belmond 109.34 47 P **PKiKP 16 39 22.4 -0.4**
baz=278
T38A Diamond 109.50 53 P **PKiKP 16 39 22.8 -0.6**
baz=276
S38A Stockton 109.74 53 P **PKiKP 16 39 23.3 -0.5**
baz=276
P38A Dawn 109.82 51 P **PKiKP 16 39 23.5 -0.4**
baz=277
X39A Fountain Ranch 109.86 56 P **PKiKP 16 39 24.2 +0.1**
baz=275
W39A Magazine 110.07 55 P **PKiKP 16 39 24.0 -0.5**
baz=275
F38A Pierce - Schro 110.08 44 P **PKiKP 16 39 23.6 -0.6**
baz=280
S39A Bolivar 110.20 53 P **PKiKP 16 39 24.0 -0.6**
baz=276
U39A Green Forest 110.21 54 P **PKiKP 16 39 23.9 -0.8**
baz=276
T39A Clever 110.23 53 P **PKiKP 16 39 24.3 -0.4**
baz=276
MIAR Mount Ida 110.30 56 P **PKiKP 16 39 24.7 -0.2**
baz=275
Q39A Willow Grove F 110.31 51 P **PKiKP 16 39 24.3 -0.5**
baz=277
R39A Chumby, Stover 110.35 52 P **PKiKP 16 39 24.4 -0.5**
baz=277
P39B Salisbury 110.43 51 P **PKiKP 16 39 24.6 -0.4**
baz=271
ARCES ARCESS Array B 110.57 344 Pdiff **Pdif 16 35 25.4 -1.2**
comp=Z,0.7nm,0.8s,baz=60,slow=7.4,SNR=3.7
ARCES PKiKP **PKiKP 16 39 24.2 -0.2**
comp=Z,1.5nm,0.5s,baz=57,slow=1.3,SNR=33
ARCES PKKPbc **PKKPbc 16 50 22.7 -5.3**
comp=Z,1.0nm,0.6s,baz=249,slow=2.5,SNR=8.0
I39A Houston 110.70 46 P **PKiKP 16 39 24.5 -0.9**
baz=280
U40A Yellville 110.72 54 P **PKiKP 16 39 24.9 -0.8**
baz=276
F39A Loretta 110.75 44 P **PKiKP 16 39 24.9 -0.5**
baz=281
S40A Lebanon 110.86 53 P **PKiKP 16 39 25.0 -0.9**
baz=277
T40A Mansfield 110.89 53 P **PKiKP 16 39 25.1 -0.9**
baz=277
541A Lake Charles 110.96 61 P **PKiKP 16 39 25.5 -0.7**
baz=274
P40A Paris 110.97 51 P **PKiKP 16 39 25.4 -0.6**
baz=278
Q40A Laux Farm, Aux 111.02 51 P **PKiKP 16 39 25.6 -0.5**
baz=278
K40A Colesburg 111.17 47 P **PKiKP 16 39 25.4 -0.9**
baz=280
W41B Gary Mavity, V 111.33 55 P **PKiKP 16 39 26.1 -0.7**
baz=276
E40A Wakefield 111.34 43 P **PKiKP 16 39 26.2 -0.3**
baz=282
V41A Mountainview 111.34 55 P **PKiKP 16 39 25.9 -1.0**
baz=276
G40A Rib Lake 111.37 44 P **PKiKP 16 39 26.3 -0.4**
baz=281
S41A Jillco Farms, 111.45 53 P **PKiKP 16 39 26.1 -1.0**
baz=277
U41A Viola 111.47 54 P **PKiKP 16 39 26.4 -0.7**
baz=277
T41A Mountain View 111.51 53 P **PKiKP 16 39 26.3 -0.9**
baz=277
R41A Rosebud 111.65 52 P **PKiKP 16 39 26.7 -0.6**
baz=278
GNI Garni 111.67 310 ⇑ /PKiKP **PKiKP 16 39 28.1 +0.5**
Q41A Truxton 111.67 51 P **PKiKP 16 39 27.0 -0.3**
baz=278
O41A Passleys Farm, 111.77 50 P **PKiKP 16 39 27.0 -0.5**
baz=279
J41A Loganville 111.86 46 P **PKiKP 16 39 26.8 -0.8**
baz=281
H41A Junction City 111.88 45 P **PKiKP 16 39 27.0 -0.6**
baz=282
V42A Cord 111.95 54 P **PKiKP 16 39 27.5 -0.5**
baz=277
U42A Revenden 112.01 54 P **PKiKP 16 39 27.4 -0.7**
baz=277
F41A Three Lakes 112.03 44 P **PKiKP 16 39 27.7 -0.2**
baz=282
T42A Van Buren 112.04 53 P **PKiKP 16 39 27.8 -0.3**
baz=278
R42A Luebbering 112.11 52 P **PKiKP 16 39 27.8 -0.5**
baz=278
P42A Winchester 112.26 50 P **PKiKP 16 39 28.1 -0.4**
baz=279
N42A Yates City 112.30 49 P **PKiKP 16 39 27.9 -0.6**
baz=280
KIV Kislovodsk 112.50 315 *e*PKIKP **PKiKP 16 39 25.5 -3.5**
KIV pmax pmax
comp=Z,6.0nm,1.1s
I42A Draeger Farm, 112.54 46 P **PKiKP 16 39 28.1 -0.8**
baz=282
T43A Greenville 112.67 53 P **PKiKP 16 39 28.7 -0.7**
baz=278
P43A Skaggs, Pawnee 112.88 50 P **PKiKP 16 39 29.2 -0.5**
baz=280
P44A Sand Creek, Wi 113.60 50 P **PKiKP 16 39 30.5 -0.5**
baz=280
346A Big Creek Wild 114.04 59 P PKPdf 16 39 31.4 -0.7
baz=276
Q45A Warren Harvey, 114.05 51 P PKPdf 16 39 31.4 -0.5
baz=280
R45A Skylar, Fairfi 114.06 51 P PKPdf 16 39 31.3 -0.7
baz=280
P45A Graceland, Par 114.25 50 P PKPdf 16 39 31.8 -0.5
baz=281
Y46A Houston 114.26 56 P PKPdf 16 39 31.5 -1.0
baz=278
T46A Princeton 114.57 53 P PKPdf 16 39 32.5 -0.5
baz=280
SFIN Lafayette 114.58 49 P PKPdf 16 39 32.5 -0.4
baz=282
V46A Holladay 114.59 54 P PKPdf 16 39 31.9 -1.2
baz=279
WVT Waverly 114.77 54 P PKPdf 16 39 32.2 -1.2
baz=279
447A Lucedale 114.80 60 P PKPdf 16 39 32.8 -0.8
baz=276
V47A Nunnelly 115.07 54 P **PKPdf 16 39 32.8 -1.2**
baz=279
W47A Westpoint 115.10 55 P **PKPdf 16 39 33.1 -0.9**
baz=279
FIA1 FINESS Array S 115.12 336 *e*PKPdf **PKPdf 16 39 32.9 -0.3**
FINES FINESS Array B 115.12 336 Pdiff **Pdif 16 35 46.2 -0.7**
comp=Z,2.3nm,0.9s,baz=66,slow=4.7,SNR=4.8
FINES PKP **PKPdf 16 39 33.2 -0.1**
comp=Z,2.9nm,0.4s,baz=102,slow=2.7,SNR=38
FINES PKKPbc **PKKPbc 16 50 10.0 -2.6**
comp=Z,0.6nm,0.3s,baz=189,slow=3.7,SNR=8.0
U47A Clarksville 115.15 53 P **PKPdf 16 39 33.2 -0.9**
baz=280
T47A Sharon Grove 115.20 53 P **PKPdf 16 39 33.6 -0.6**
baz=280
PLCA Paso Flores 115.21 142 PKP **PKPdf 16 39 34.8 +0.5**
comp=Z,2.6nm,0.6s,baz=313,slow=2.2,SNR=8.5
PLCA PKKPbc **PKKPbc 16 50 10.7 -1.2**
comp=Z,2.9nm,0.9s,baz=59,slow=4.7,SNR=4.4
Z48A Northport 115.40 57 P **PKPdf 16 39 33.6 -1.1**
baz=278
R47A Wooly Knot Far 115.42 51 P **PKPdf 16 39 33.9 -0.7**
baz=281
WCI Wyandotte Cave 115.61 51 P **PKPdf 16 39 34.2 -0.7**
baz=281
V48A Smith Brothers 115.64 54 P **PKPdf 16 39 34.3 -0.8**
baz=280
X48A Hartselle 115.67 55 P **PKPdf 16 39 34.2 -1.0**
baz=279
U48A Cassie Pea, Po 115.73 53 P **PKPdf 16 39 34.4 -0.9**
baz=280
T48A Bowling Green 115.74 52 P **PKPdf 16 39 34.4 -0.8**
baz=281
S48A Wiedeman Farm, 115.90 52 P **PKPdf 16 39 34.9 -0.7**
baz=281
LRAL Lakeview Retre 115.92 57 P **PKPdf 16 39 35.0 -0.7**
baz=278
249A Camden 115.96 58 P **PKPdf 16 39 35.5 -0.3**
baz=278
149A Jones 116.15 57 P **PKPdf 16 39 35.6 -0.6**
baz=278
X49A Woodville 116.24 55 P **PKPdf 16 39 35.2 -1.0**
baz=279
Y49A Blount Mountai 116.28 56 P **PKPdf 16 39 35.6 -0.8**
baz=279
Z49A Columbiana 116.28 57 P **PKPdf 16 39 35.8 -0.6**
baz=279
Z50A Ashland 116.77 57 P **PKPdf 16 39 36.7 -0.7**
baz=279
150A Eclectic 116.79 57 P **PKPdf 16 39 36.8 -0.6**
baz=279
251A Midway 117.38 58 P **PKPdf 16 39 38.3 -0.2**
baz=279
151A Opelika 117.38 57 P **PKPdf 16 39 38.1 -0.4**
baz=279
SFJD Kangerlussuaq 117.68 12 PKP **PKPdf 16 39 37.6 -0.4**
comp=Z,6.7nm,0.7s,baz=312,slow=4.1,SNR=4.2
252A Lumpkin 117.96 58 P **PKPdf 16 39 39.4 -0.3**
baz=279
TZTN Tazewell 118.09 53 P **PKPdf 16 39 39.5 -0.3**
baz=282
GOGA Godfrey 118.77 56 P **PKPdf 16 39 40.7 -0.5**
baz=281
BG3 Lake Jocassee 118.90 54 *e*PKPdf **PKPdf 16 39 41.4 0.0**
JTS JuntasAbangare 118.94 82 PKP **PKPdf 16 39 42.0 -0.1**
comp=Z,3.4nm,0.4s,baz=335,slow=19,SNR=3.0
JTS JuntasAbangare 118.94 82 PKIKP **PKPdf 16 39 42.0 -0.1**
AKASG Malin Array Be 119.00 325 PKP **PKPdf 16 39 40.8 -0.3**
comp=Z,11nm,0.5s,baz=47,slow=2.7,SNR=58
AKASG PKKPbc **PKKPbc 16 49 56.3 -2.3**
comp=Z,0.6nm,0.4s,baz=265,slow=3.5,SNR=8.3
AKASG Malin Array Be 119.00 325 PKIKP **PKPdf 16 39 40.8 -0.3**
AKASG pmax pmax
comp=Z,6.0nm,0.4s
AKASG pmax pmax
comp=Z,1.0nm,0.4s
AKBB Malin Array Si 119.00 325 *e*PKPdf **PKPdf 16 39 40.7 -0.4**
AKBB Malin Array Si 119.00 325 *e*PKIKP **PKPdf 16 39 40.7 -0.4**
KIEV Kiev 119.01 325 *e*PKPdf **PKPdf 16 39 40.8 -0.3**
KIEV Kiev 119.01 325 *e*PKIKP **PKPdf 16 39 40.8 -0.3**
TIGA Tifton 119.01 58 P **PKPdf 16 39 41.2 -0.5**
baz=280
AK11 Malin Array Si 119.04 325 *e*PKPdf **PKPdf 16 39 40.5 -0.6**
KMBO Kilima Mbogo 119.17 265 PKP **PKPdf 16 39 42.8 -0.1**
comp=Z,2.3nm,0.8s,baz=59,slow=9.8,SNR=5.4
254A Abbeville 119.18 58 P **PKPdf 16 39 41.6 -0.4**
baz=280
ASF Jabal al Asfar 119.24 303 PKP **PKPdf 16 39 43.0 +0.7**
comp=Z,4.2nm,0.5s,baz=0.0,slow=3.0,SNR=6.4
ERPA Erie 119.32 46 P **PKPdf 16 39 41.8 -0.2**
baz=288
HODGE Hodges 119.60 55 *e*PKPdf **PKPdf 16 39 42.3 -0.5**
N54A Moraine State 119.67 47 P **PKPdf 16 39 42.3 -0.4**
baz=287
M54A Oil Creek Stat 119.74 46 P **PKPdf 16 39 42.4 -0.5**
baz=288
155A Kite 119.75 57 P **PKPdf 16 39 42.8 -0.2**
baz=281
555A McAlpin 119.75 60 P **PKPdf 16 39 43.1 0.0**
baz=279
BR131 Keskin Array S 120.08 312 *e*PKPdf **PKPdf 16 39 43.3 -0.5**
BRTR Keskin Array B 120.08 312 PKP **PKPdf 16 39 43.5 -0.2**
comp=Z,4.9nm,0.7s,baz=131,slow=2.8,SNR=14
BRTR PKKPbc **PKKPbc 16 49 54.4 -0.1**
comp=Z,1.5nm,0.7s,baz=207,slow=5.2,SNR=5.3
KMSC Kings Mountain 120.15 54 P **PKPdf 16 39 43.7 -0.1**
baz=283
KMSC Kings Mountain 120.15 54 *e*PKPdf **PKPdf 16 39 43.4 -0.4**
MMAI Mount Meron Ar 120.33 304 PKP **PKPdf 16 39 44.9 +0.5**
comp=Z,4.5nm,0.5s,baz=78,slow=8.7,SNR=8.8
BLA Blacksburg 120.38 51 P **PKPdf 16 39 43.7 -0.5**
baz=285
SUW Suwalki 120.56 330 *e*PKP **PKPdf 16 39 45.1 +1.1**
SUW Suwalki 120.56 330 *e*PKIKP **PKPdf 16 39 45.1 +1.1**
HFS Hagfors 120.60 340 PKP **PKPdf 16 39 43.1 -0.8**
comp=Z,3.6nm,0.6s,baz=124,slow=4.3,SNR=14
HFS PKKPbc **PKKPab 16 49 51.5 -1.5**
comp=Z,1.5nm,0.8s,baz=192,slow=5.6,SNR=5.7
SORM Soroca 120.63 322 ⇑ /P **PKPdf 16 39 44.2 -0.1**
ANTO Ankara 120.67 312 ⇓ /P **PKPdf 16 39 45.2 +0.4**
ANTO Ankara 120.67 312 *e*PKPdf **PKPdf 16 39 44.8 0.0**
NB2 NORSAR Subarra 120.75 341 PKPdf **PKPdf 16 39 43.3 -0.9**
comp=Z,2.2nm,0.7s,baz=39,slow=1.9
NOA NORSAR Array B 120.75 341 PKP **PKPdf 16 39 44.0 -0.3**
comp=Z,4.7nm,0.7s,baz=46,slow=1.9,SNR=21
NOA PKKPbc **PKKPab 16 49 50.7 -1.7**
comp=Z,1.0nm,0.7s,baz=221,slow=3.5,SNR=4.8
NOA NORSAR Array B 120.75 341 PKIKP **PKPdf 16 39 44.0 -0.3**
NBO02 NORSAR Array S 120.86 342 *e*PKPdf **PKPdf 16 39 44.5 +0.1**
NBO00 NORSAR Array S 120.90 342 *e*PKPdf **PKPdf 16 39 44.5 +0.1**
O56A Blue Knob Stat 120.91 47 P **PKPdf 16 39 44.8 -0.4**
baz=288
O56A Blue Knob Stat 120.91 47 *e*PKPdf **PKPdf 16 39 44.9 -0.2**
BOSA Boshof 121.16 230 PKP **PKPdf 16 39 46.5 +0.3**
comp=Z,5.2nm,0.6s,baz=97,slow=1.6,SNR=14
958A Wauchula 121.19 62 P **PKPdf 16 39 45.2 -0.7**
baz=278
SSPA Standing Stone 121.29 47 P **PKPdf 16 39 45.4 -0.4**
baz=289
SSPA Standing Stone 121.29 47 *e*PKPdf **PKPdf 16 39 45.5 -0.3**
EIL Elat 121.32 300 PKP **PKPdf 16 39 51.9 +5.7**
comp=Z,14nm,0.8s,baz=36,slow=1.5,SNR=8.5
658A Bunnell 121.33 60 P **PKPdf 16 39 45.7 -0.5**
baz=280
SCHQ Schefferville 121.34 28 PKP **PKPdf 16 39 45.3 -0.2**
comp=Z,3.2nm,0.5s,baz=254,slow=7.4,SNR=3.1
TLCR 121.57 319 ⇓ /P **PKPdf 16 39 45.9 -0.3**
LCO Las Campanas 121.58 131 *e*PKPdf **PKPdf 16 39 47.6 +0.5**
LCO Las Campanas 121.58 131 *e*PKIKP **PKPdf 16 39 47.6 +0.5**
CFR Carcaliu 122.01 319 ⇓ /P **PKPdf 16 39 47.5 +0.5**
LONY Lake Ozonia 122.13 41 P **PKPdf 16 39 46.9 -0.4**
baz=294
SUR Sutherland 122.36 224 PKP **PKPdf 16 39 48.9 +0.5**
comp=Z,0.2nm,0.5s,baz=204,slow=2.8,SNR=9.1
LBTB Lobatse 122.62 234 PKP **PKPdf 16 39 49.1 +0.1**
comp=Z,6.2nm,0.8s,baz=174,slow=4.9,SNR=5.0
N59A State Game Lan 122.71 46 P **PKPdf 16 39 48.6 0.0**
baz=291
BUR08 Bucovina Ar. S 122.75 323 *e*PKPdf **PKPdf 16 39 49.3 +0.7**
BURAR Bucovina Array 122.75 323 ⇓ /P **PKPdf 16 39 50.1 +1.5**
BUR04 Bucovina Ar. S 122.75 323 *e*PKPdf **PKPdf 16 39 49.1 +0.6**
ATAH Atahualpa 123.01 103 PKP **PKPdf 16 39 52.0 +1.6**
comp=Z,12nm,0.7s,baz=356,slow=3.5,SNR=5.5
KWP Kalwaria Pacla 123.18 326 *e*PKP **PKPdf 16 39 49.8 +0.6**
KWP Kalwaria Pacla 123.18 326 *e*PKIKP **PKPdf 16 39 49.8 +0.6**
MLR Muntele Rosu 123.28 321 PKP **PKPdf 16 39 49.3 -0.4**
comp=Z,1.4nm,0.6s,baz=302,slow=6.1,SNR=7.1
MLR Muntele Rosu 123.28 321 *e*PKPdf **PKPdf 16 39 49.4 -0.3**
MLR Muntele Rosu 123.28 321 *e*PKIKP **PKPdf 16 39 49.4 -0.3**
PSUB Penn St. - Bra 123.28 47 *e*PKPdf **PKPdf 16 39 49.4 -0.3**
SECR 123.40 320 ⇓ /P **PKPdf 16 39 50.5 +0.7**
DOPR Dopca 123.41 321 ⇑ /P **PKPdf 16 39 50.7 +0.9**
PAL Palisades 123.99 45 P **PKPdf 16 39 51.2 +0.3**
baz=292
LBNH Lisbon 124.01 41 P **PKPdf 16 39 51.2 +0.3**
baz=296
TRPA Tarpa 124.06 325 ⇑ /P **PKPdf 16 39 51.3 +0.4**
STHS Stebnicka Huta 124.10 327 *e*PKP **PKPdf 16 39 52.3 +1.3**
STHS Stebnicka Huta 124.10 327 *e*PKIKP **PKPdf 16 39 52.3 +1.3**
ARR Arges 124.16 321 ⇓ /P **PKPdf 16 39 52.2 +0.9**
CRVS Cervenica-Dubn 124.26 326 *e*PKP **PKPdf 16 39 52.1 +0.8**
CRVS Cervenica-Dubn 124.26 326 *e*PKIKP **PKPdf 16 39 52.1 +0.8**
HUMR Humele 124.32 320 ⇑ /P **PKPdf 16 39 51.8 +0.3**
LSZ Lusaka 124.35 246 PKP **PKPdf 16 39 52.5 0.0**
comp=Z,3.5nm,0.6s,baz=130,slow=2.5,SNR=7.8
OJC Ojcow 124.43 328 *e*PKP **PKPdf 16 39 52.2 +0.6**
OJC Ojcow 124.43 328 *e*PKIKP **PKPdf 16 39 52.2 +0.6**
NIE Niedzica 124.62 327 *e*PKP **PKPdf 16 39 53.4 +1.4**
NIE Niedzica 124.62 327 *e*PKIKP **PKPdf 16 39 53.4 +1.4**
PKME Peaks-Kenny Pk 125.21 39 P **PKPdf 16 39 53.5 +0.3**
baz=299
PQI Presque Isle 125.28 37 *e*PKPdf **PKPdf 16 39 52.8 -0.5**
SIRR Siria 125.53 323 ⇓ /P **PKPdf 16 39 54.4 +0.6**
KSP Ksiaz 125.84 330 *e*PKP **PKPdf 16 39 55.5 +1.2**
KSP Ksiaz 125.84 330 *e*PKIKP **PKPdf 16 39 55.4 +1.2**
MORC Moravsky Berou 125.87 329 ⇑ /P **PKPdf 16 39 55.6 +1.2**
MORC Moravsky Berou 125.87 329 *e*PKPdf **PKPdf 16 39 54.9 +0.5**
MORC Moravsky Berou 125.87 329 *e*PKIKP **PKPdf 16 39 54.9 +0.5**
BZS Buzias 125.89 322 ⇑ /P **PKPdf 16 39 55.1 +0.6**
VYHS Vyhne 125.94 327 *e*PKP **PKPdf 16 39 55.0 +0.5**
VYHS Vyhne 125.94 327 *e*PKIKP **PKPdf 16 39 55.0 +0.5**
DPC Dobruska-Polom 126.14 330 *e*PKPdf **PKPdf 16 39 56.1 +1.2**
DPC Dobruska-Polom 126.14 330 *e*PKIKP **PKPdf 16 39 56.1 +1.2**
UPC Upice 126.19 330 *e*PKPdf **PKPdf 16 39 55.9 +1.0**
UPC Upice 126.19 330 *e*PKIKP **PKPdf 16 39 55.9 +1.0**
VTS Vitosha 126.34 318 ⇑ /P **PKPdf 16 39 55.8 +0.1**
VTS Vitosha 126.34 318 *e*PKPdf **PKPdf 16 39 54.9 -0.8**
VTS Vitosha 126.34 318 *e*PKIKP **PKPdf 16 39 54.9 -0.8**
VRAC Vranov 126.64 329 PKP **PKPdf 16 39 56.4 +0.6**
comp=Z,4.9nm,0.7s,baz=103,slow=1.6,SNR=4.0
VRAC Vranov 126.64 329 ⇑ /P **PKPdf 16 39 56.4 +0.6**
PB11 IPOC Station P 126.81 121 *e*PKPpre PKPpre 16 39 50.3
MODS Modra-Piesok 126.85 327 *e*PKP **PKPdf 16 39 56.7 +0.4**
MODS Modra-Piesok 126.85 327 *e*PKIKP **PKPdf 16 39 56.7 +0.4**
PVCC Panska Ves 126.88 331 *e*PKPdf **PKPdf 16 39 57.2 +1.0**
PVCC Panska Ves 126.88 331 *e*PKIKP **PKPdf 16 39 57.2 +1.0**
BRG Berggiesshubel 126.96 331 *i* PKP **PKPdf 16 39 56.9 +0.5**
comp=Z,11nm,0.7s
BRG Berggiesshubel 126.96 331 *i* PKIKP **PKPdf 16 39 56.9 +0.5**
BRG pmax pmax
comp=Z,11nm,0.7s
CLL Collm 127.10 332 *i* PKIKP **PKPdf 16 39 56.9 +0.3**
CLL pmax pmax
comp=Z,14nm,0.8s
MNMC Minye Minye 127.14 121 *e*PKPdf **PKPdf 16 39 57.8 -0.2**
GOPC GO Pecny, Ondr 127.17 330 *e*PKPdf **PKPdf 16 39 57.6 +0.7**
GOPC GO Pecny, Ondr 127.17 330 *e*PKIKP **PKPdf 16 39 57.6 +0.7**
TREC Trest 127.22 329 *e*PKPdf **PKPdf 16 39 57.8 +0.8**
TREC Trest 127.22 329 *e*PKIKP **PKPdf 16 39 57.8 +0.8**
PRU Pruhonice 127.25 330 *e*PKPdf **PKPdf 16 39 57.6 +0.7**
PRU Pruhonice 127.25 330 *e*PKIKP **PKPdf 16 39 57.6 +0.7**
DIVS Divibare 127.66 322 *e*PKPdf **PKPdf 16 39 58.7 +0.6**
CONA Conrad Observa 127.87 328 *i* PKiKP **PKPdf 16 39 58.0 -0.3**
comp=Z,4.5nm,0.5s,SNR=6.2
HELC Santa Helena 127.99 88 *e*PKPdf **PKPdf 16 39 59.8 -0.1**
IDI Anoyia 128.09 309 PKP **PKPdf 16 39 59.2 +0.1**
comp=Z,8.4nm,0.3s,baz=46,slow=5.7,SNR=10
NKC Novy Kostel 128.09 332 *e*PKPdf **PKPdf 16 39 59.9 +1.3**
NKC Novy Kostel 128.09 332 *e*PKIKP **PKPdf 16 39 59.9 +1.3**
KHC Kasperske Hory 128.28 330 *e*PKPdf **PKPdf 16 40 00.0 +1.0**
KHC Kasperske Hory 128.28 330 *e*PKP **PKPdf 16 39 59.2 +0.1**
KHC Kasperske Hory 128.28 330 *e*PKIKP **PKPdf 16 40 00.0 +1.0**
PRAC Prado 128.38 91 *e*PKPdf **PKPdf 16 40 00.1 -0.2**
GEC2 GERESS Array S 128.41 330 *e*PKPdf **PKPdf 16 39 59.4 0.0**
GERES GERESS Array B 128.41 330 PKP **PKPdf 16 40 00.0 +0.7**
comp=Z,4.7nm,0.6s,baz=69,slow=1.7,SNR=33
GEA0 GERESS Array S 128.41 330 *e*PKPdf **PKPdf 16 39 59.4 0.0**
ARSA Arzberg 128.47 327 *e*PKIKP **PKPdf 16 39 59.9 -0.2**
comp=Z,2.5nm,0.6s
MOA Molln 128.76 328 *i* PKiKP **PKiKP 16 40 00.7 +0.1**
comp=Z,2.0nm,0.5s
ROSC El Rosal 129.06 90 PKP **PKPdf 16 40 02.6 +0.6**
comp=Z,9.9nm,0.3s,baz=178,slow=2.5,SNR=5.1
SOKA Soboth 129.09 327 *i* PKiKP **PKPdf 16 40 00.9 +0.2**
comp=Z,9.6nm,1.2s
LPAZ La Paz 129.60 118 PKhKP PKPpre 16 39 55.5
comp=Z,0.8nm,0.5s,baz=256,slow=4.2,SNR=4.2
LPAZ PKP **PKiKP 16 40 03.7 -0.3**
comp=Z,8.7nm,0.6s,baz=248,slow=1.8,SNR=28
LPAZ SKPab SKPbc 16 42 49.2 +2.8
comp=Z,7.1nm,0.9s,baz=270,slow=1.7,SNR=12
EKA Eskdalemuir Ar 129.68 345 PKP **PKPdf 16 40 01.6 +0.2**
comp=Z,2.3nm,0.5s,baz=20,slow=2.7,SNR=18
MYKA Terra Mystica 129.87 327 PKiKP **PKPdf 16 40 02.6 +0.4**
comp=Z,2.3nm,0.5s
ABTA Abfaltersbach 130.38 328 *i* PKiKP **PKPdf 16 40 03.2 0.0**
comp=Z,6.7nm,0.6s
RUSC La Rusia 130.39 89 *e*PKPdf **PKPdf 16 40 04.0 -0.6**
WATA Walderalm 130.48 329 *i* PKiKP **PKiKP 16 40 04.3 0.0**
comp=Z,5.7nm,0.4s
WTTA Wattenberg 130.49 329 *i* PKiKP **PKiKP 16 40 04.0 -0.3**
comp=Z,6.1nm,0.7s
MOTA Moosalm 130.71 330 *i* PKiKP **PKPdf 16 40 04.1 +0.3**
comp=Z,8.1nm,0.6s
FETA Feichten 131.12 330 *i* PKiKP **PKiKP 16 40 05.3 -0.3**
comp=Z,4.6nm,0.7s
DAVA Damuels 131.35 330 *i* PKiKP **PKPdf 16 40 04.4 -0.7**
comp=Z,8.2nm,0.6s
FUORN Ofenpass-Fuorn 131.62 329 *e*PKPdf **PKPdf 16 40 06.0 +0.3**
TSUM Tsumeb 131.91 236 PKP **PKPdf 16 40 07.2 +0.4**
comp=Z,3.0nm,0.8s,baz=164,slow=5.6,SNR=3.9
TUE Stuetta 132.18 330 *e*PKPdf **PKPdf 16 40 06.8 +0.1**
CPUP Villa Florida 132.77 137 PKP **PKPdf 16 40 08.6 +0.4**
comp=Z,3.4nm,0.7s,baz=270,slow=1.0,SNR=9.0
CPUP Villa Florida 132.77 137 *e*PKPdf **PKPdf 16 40 08.4 +0.3**
SDV Santo Domingo 132.99 85 PKP **PKPdf 16 40 09.4 +0.3**
comp=Z,31nm,0.6s,baz=275,slow=5.5,SNR=32
SDV SKPab **SKPab 16 43 00.1 -0.3**
comp=Z,3.6nm,0.8s,baz=312,slow=9.4,SNR=4.3
SDV Santo Domingo 132.99 85 *e*PKPdf **PKPdf 16 40 08.8 -0.3**
SDV SKPab **SKPab 16 43 00.1 -0.3**
MON Monaco 135.07 329 *e*PKPpre PKPpre 16 39 59.5
SIV San Ignacio 135.79 122 PKhKP PKPpre 16 40 02.7
comp=Z,2.2nm,0.7s,baz=276,slow=4.2,SNR=5.2
SIV PKP **PKPdf 16 40 12.7 -1.4**
comp=Z,3.8nm,0.5s,baz=275,slow=2.1,SNR=9.0
SIV SKP 16 43 09.2
comp=Z,1.4nm,0.7s,baz=266,slow=6.6,SNR=3.9
SAML Samuel 136.89 112 *e*PKPdf **PKPdf 16 40 15.1 -1.1**
SAML Samuel 136.89 112 *e*PKIKP **PKPdf 16 40 15.1 -1.1**
HUMP Col San Antoni 137.12 71 *e*PKPdf **PKPdf 16 40 16.2 -0.2**
CDVI St. Croix 138.20 72 *e*PKPdf **PKPdf 16 40 18.1 -0.2**
KEST Kesra 139.09 318 PKhKP PKPpre 16 40 10.8
comp=Z,4.1nm,0.6s,baz=201,slow=4.8,SNR=5.3
KEST PKP **PKPdf 16 40 19.1 -0.7**
comp=Z,5.5nm,0.7s,baz=91,slow=1.6,SNR=4.7
SMRT St. Maarten 139.74 71 *e*PKPdf **PKPdf 16 40 20.8 -0.5**
PTGA Pitinga 142.37 101 PKhKP PKPpre 16 40 22.8
comp=Z,19nm,0.7s,baz=254,slow=3.4,SNR=40
PBRG Braganca 142.85 340 *e*PKP **PKPdf 16 40 24.1 -2.1**
MVO Moncorvo 143.51 339 *e*PKP PKPab 16 40 25.4 +0.1
ES19 SONSECA Array 143.56 335 *e*PKPdf PKPbc 16 40 26.1 +0.3
POLO Lamas de Olo 143.59 340 *e*PKP PKPbc 16 40 26.6 +0.8
ESDC Sonseca Array 143.61 335 PKP PKPbc 16 40 26.3 +0.4
comp=Z,10nm,0.8s,baz=27,slow=3.2,SNR=38
ESLA Sonseca Array 143.61 335 *e*PKPdf PKPbc 16 40 26.3 +0.4
PVRL Vila Real 143.65 340 *e*PKP PKPbc 16 40 26.8 +0.9
PAB San Pablo 143.88 335 *e*PKPdf PKPbc 16 40 27.3 +0.5
PAB San Pablo 143.88 335 *e*PKIKP PKPbc 16 40 27.3 +0.5
PTO Porto 144.06 341 *e*PKP **PKPdf 16 40 28.3 0.0**
PVIS Viseu 144.21 340 *e*PKP **PKPdf 16 40 28.9 +0.3**
MTE Manteigas 144.37 339 *e*PKP **PKPdf 16 40 29.2 +0.2**
MTE Manteigas 144.37 339 *e*PKPbc **PKPdf 16 40 29.4 +0.4**
PCBR Castelo Branco 144.84 339 *e*PKP **PKPab 16 40 30.6 +0.5**
PCAS Casmilo, Conde 145.01 340 *e*PKP **PKPab 16 40 31.0 +0.2**
PMRV Marv??o 145.18 338 *e*PKP **PKPab 16 40 31.6 +0.1**

PTOM	**Tomar**	**145.37**	**340**	*e*PKP	**PKPab**	**16 40 32.4**	**+0.2**
PESTR	**Estremoz**	**145.75**	**338**	*e*PKP	**PKPab**	**16 40 33.2**	**-0.5**
PESTR	**Estremoz**	**145.75**	**338**	*e*PKPdf	**PKPab**	**16 40 33.5**	**-0.1**
PMTG	**Montargil**	**145.79**	**339**	*e*PKP	**PKPab**	**16 40 33.4**	**-0.4**
ALMR	**Almeirim**	**145.84**	**340**	*e*PKP	**PKPab**	**16 40 33.8**	**-0.2**
PBAR	**Barrancos**	**146.14**	**337**	*e*PKP	**PKPab**	**16 40 34.7**	**-0.5**
EVO	**Evora**	**146.19**	**338**	*e*PKP	**PKPab**	**16 40 34.7**	**-0.7**
PMAFR	**Mafra**	**146.26**	**340**	*e*PKP	**PKPab**	**16 40 35.3**	**-0.4**
PBEJ	**Beja**	**146.59**	**338**	*e*PKP	**PKPbc**	**16 40 34.4**	**-0.5**
PNCL	**Nicolau / Gran**	**146.75**	**339**	*e*PKP	**PKPbc**	**16 40 36.2**	**+0.8**
PCVE	**Castro Verde**	**147.00**	**338**	*e*PKP	**PKPbc**	**16 40 35.3**	**-0.8**
PVAQ	**Vaqueiros**	**147.08**	**337**	*e*PKP	**PKPbc**	**16 40 37.6**	**+1.3**
PBDV	**Barranco-do-Ve**	**147.30**	**337**	*e*PKP	**PKPbc**	**16 40 36.6**	**-0.3**
PTEO	**Sao Teotonio**	**147.33**	**339**	*e*PKP	**PKPbc**	**16 40 38.2**	**+1.3**
MORF	**Marmelete**	**147.51**	**338**	*e*PKP	**PKPbc**	**16 40 38.6**	**+1.1**
PFVI	**Vila Bisbo**	**147.73**	**338**	*e*PKP	**PKPbc**	**16 40 39.3**	**+1.3**
TAM	**Tamanrasset**	**148.51**	**302**	*e*PKPbc	**PKPbc**	**16 40 42.2**	**+1.6**
TAM	**Tamanrasset**	**148.51**	**302**	*e*PKP2	**PKPbc**	**16 40 42.3**	**+1.6**
KOWA	**Kowa**	**159.99**	**292**	PKP	**PKPdf**	**16 40 52.4**	**+0.1**
	comp=Z,1.7nm,0.5s,baz=158,slow=0.8,SNR=7.2						
KOWA				PKPab	**PKPab**	**16 41 34.4**	**0.0**
	comp=Z,11nm,0.6s,baz=65,slow=4.0,SNR=17						
KOWA	**Kowa**	**159.99**	**292**	*e*PKPdf	**PKPdf**	**16 40 52.7**	**+0.4**
KOWA				*e*PKPab	**PKPab**	**16 41 33.7**	**-0.7**
KIC	**Kosan Boka**	**161.71**	**268**	*e*P	**PKPab**	**16 41 42.2**	**+0.1**
	comp=Z,43nm,1.0s						
DBIC	**Dimbokro**	**161.84**	**269**	PKP	**PKPdf**	**16 40 54.4**	**0.0**
	comp=Z,6.0nm,1.1s,baz=109,slow=6.4,SNR=4.0						
DBIC				PKPab	**PKPab**	**16 41 43.0**	**+0.3**
	comp=Z,5.2nm,0.6s,baz=85,slow=5.3,SNR=6.3						
DBIC	**Dimbokro**	**161.84**	**269**	*e*PKPdf	**PKPdf**	**16 40 54.1**	**-0.2**
DBIC				*e*PKPab	**PKPab**	**16 41 42.6**	**0.0**
DBIC	**Dimbokro**	**161.84**	**269**	*e*PKIKP	**PKPdf**	**16 40 54.1**	**-0.2**
DBIC				*e*		16 41 42.7	
LIC	**Lamto**	**161.98**	**267**	*e*P	**PKPab**	**16 41 43.8**	**+0.5**
	comp=Z,29nm,0.8s						
TIC	**Toumodi**	**162.00**	**269**	*e*P	**PKPab**	**16 41 43.5**	**+0.1**

NNC 18 16:47:43.0±2.6, 37°80N×71°42E, h0km, mb3.6, mpv3.2, 3C-5D, Error ellipse: s-maj=19.7km s-min=16.4km az=169.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**2.74**	**36**	⇑Pn	Pn	16 48 28.5	0.0
SFK	3.6nm,0.3s			⇓Sn	Sn	16 49 04.2	+1.7
	6.9nm,0.2s						
MNAS	**Manas**	**4.75**	**10**	⇑Pn	Pn	16 48 56.3	+0.2
MNAS	2.1nm,0.4s			⇓Sn	Sn	16 49 53.2	+1.2
	8.5nm,0.6s						
KK31	**Karatay Array**	**5.34**	**353**	⇓Pn	Pn	16 49 04.9	+0.9
KK31	1.0nm,0.5s,baz=174,slow=12,SNR=5.1			⇑Sn	Sn	16 50 07.7	+1.4
	1.8nm,0.3s,baz=180,slow=23,SNR=12						
AAK	**Ala-Archa**	**5.37**	**25**	⇓Pn	Pn	16 49 03.3	-1.3
AAK	1.6nm,0.4s			⇓Sn	Sn	16 50 06.6	-0.7
	2.1nm,0.5s						

KRSC 18 17:04:38.8±1.7, 54°05N×164°12E, h45km±39km, ML3.5, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**1.58**	**42**	*e*P	Pn	17 05 05.7	+1.4
BKI				*e*S	Sn	17 05 23.8	+0.3
KBTR	**Krutoberegovo**	**2.29**	**341**	*e*P	Pn	17 05 15.7	+1.6
KBTR				*e*S	Sn	17 05 42.2	+1.2
KBG	**Krutoberegovo**	**2.36**	**340**	*e*P	Pn	17 05 16.7	+1.8
KBG				*e*S	Sn	17 05 44.0	+1.4
TUMD	**Tumrok D**	**2.46**	**300**	*e*P	Pn	17 05 20.4	+4.1
TUMD				*e*S	Sn	17 05 48.2	+3.1
KZV	**Kizimen**	**2.47**	**297**	*e*P	Pn	17 05 20.7	+4.0
KZV				*e*S	Sn	17 05 47.3	+1.6
TUMR	**Tumrok**	**2.62**	**300**	*e*P	Pn	17 05 23.1	+4.4
SPN	**Mys Shipunski**	**2.62**	**250**	*e*P	Pn	17 05 22.3	+3.7
SPN				*e*S	Sn	17 05 51.2	+2.0
BZGR	**Bezymyannyi-Gr**	**2.74**	**315**	*e*P	Pn	17 05 24.9	+4.6
ZLN	**Zelenaya**	**2.75**	**317**	*e*P	Pn	17 05 25.2	+4.8
KII	**Karymskiy**	**2.76**	**272**	*e*S	Sn	17 05 56.0	+3.4
KMNR	**Kamenistaya**	**2.82**	**309**	*e*P	Pn	17 05 25.7	+4.2
SMKR	**Semkarok**	**2.96**	**330**	*e*S	Sn	17 06 02.8	+5.2
NLC	**Nalytchevo**	**2.98**	**255**	*e*P	Pn	17 05 27.3	+3.8
NLC				*e*S	Sn	17 06 01.0	+3.1
KLY	**Klyuchi**	**3.02**	**320**	*e*S	Sn	17 06 02.8	+3.9
BDR	**Baidarnaya**	**3.03**	**328**	*e*P	Pn	17 05 27.8	+3.6
SDLR	**Sedlovina**	**3.21**	**258**	*e*P	Pn	17 05 31.1	+4.3
SDLR				*e*S	Sn	17 06 08.1	+4.2
SMAR	**Somma**	**3.26**	**258**	*e*P	Pn	17 05 31.9	+4.3
SMAR				*e*S	Sn	17 06 09.8	+4.5
UGLR	**Uglovaya**	**3.27**	**257**	*e*P	Pn	17 05 32.0	+4.5
UGLR				*e*S	Sn	17 06 09.8	+4.6
KRER	**Koryakskii**	**3.28**	**259**	*e*P	Pn	17 05 32.5	+4.6
KRER				*e*S	Sn	17 06 09.4	+3.7
AVH	**Avacha**	**3.30**	**258**	*e*P	Pn	17 05 32.7	+4.7
AVH				*e*S	Sn	17 06 11.2	+5.2
KRX	**Arik**	**3.33**	**260**	*e*P	Pn	17 05 32.1	+3.7
KRX				*e*S	Sn	17 06 10.6	+3.9
KOK	**Koryaka**	**3.35**	**259**	*e*S	Sn	17 06 10.8	+3.5
DALK	**Dalny**	**3.36**	**255**	*e*P	Pn	17 05 32.9	+4.2
DALK				*e*S	Sn	17 06 10.3	+2.9
GNL	**Ganaly**	**3.68**	**267**	*e*P	Pn	17 05 38.2	+5.0
RUS	**Russkaya**	**3.74**	**247**	*e*P	Pn	17 05 37.8	+3.9
RUS				*e*S	Sn	17 06 19.6	+3.0
KRMR	**Karymshinskiy**	**3.79**	**254**	*e*P	Pn	17 05 39.8	+5.2
KRMR				*e*S	Sn	17 06 21.7	+3.9
ASAK	**Asacha**	**4.10**	**248**	*e*P	Pn	17 05 44.1	+5.2
KDTR	**Khodutka, Kamc**	**4.29**	**241**	*e*P	Pn	17 05 45.1	+3.6
KDTR				*e*S	Sn	17 06 31.2	+1.0

IDC ***18*** *17:04:42.1±1.3, 3°.66N×92°.67E, h0km, mb3.6/7, mb1 3.8/10, mb1mx3.6/60, mbtmp3.7/10, ML4.0/3, MS3.3/5, Ms1 3.3/5, ms1mx2.9/57, Error ellipse: s-maj=44.1km s-min=18.3km az=47.0*

ISC 18 17:04:45.7±1.1, 3°.6N±0°.2×92°.69E±0°.10, h24km, n27, σ2°16/19, mb3.6/7, MS3.3/3, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**6.27**	**97**	Pn	**Pn**	**17 06 18.1**	**+1.1**
PSI	3.0nm,0.3s,baz=238,slow=8.5,SNR=5.7			Sn	**Sn**	**17 07 26.1**	**-1.8**
	5.6nm,0.3s,baz=258,slow=16,SNR=12						
PALK	**Pallekele**	**12.48**	**288**	Pn	**Pn**	**17 07 40.3**	**-1.7**
	0.7nm,0.3s,baz=115,slow=14,SNR=6.6						
PALK				Sn	Sn	17 09 45.4	-15
	2.5nm,0.3s,baz=115,slow=8.5,SNR=7.4						
CMAR	**Chiang Mai Arr**	**15.99**	**22**	Pn	**Pn**	**17 08 27.1**	**-2.3**
	0.3nm,0.3s,baz=214,slow=14,SNR=14						
CMAR				LR	LR	17 15 48.2	
	comp=Z,67nm,18.6s,baz=216,slow=42						
LEM	**Lembang**	**18.14**	**125**	LR	LR	17 15 40.5	
	comp=Z,67nm,21.1s,baz=285,slow=36						
H08S2	**Diego Garcia H**	**23.04**	**241**	T	T	17 35 14.9	
	baz=61,slow=76,SNR=31						
H08S3	**Diego Garcia H**	**23.04**	**241**	T	T	17 35 21.7	
	baz=61,slow=76,SNR=34						
H08S1	**Diego Carcia H**	**23.05**	**241**	T	T	17 35 14.9	
	baz=61,slow=76,SNR=33						
RAMN	**Ramite**	**23.95**	**347**	*e*P	**P**	**17 10 03.9**	**+5.4**
JIRN	**Jiri**	**24.73**	**346**	*e*P	**P**	**17 10 07.7**	**+1.9**
	20nm,0.8s						
PKIN	**Phulchoki**	**24.85**	**344**	*e*P	**P**	**17 10 09.8**	**+3.0**
DMN	**Daman**	**24.96**	**344**	*e*P	**P**	**17 10 10.7**	**+2.9**
	20nm,1.1s						
GUN	**Gumba**	**25.04**	**346**	*e*P	**P**	**17 10 09.6**	**+1.0**
KKN	**Kakani**	**25.08**	**344**	*e*P	**P**	**17 10 10.3**	**+1.5**
	19nm,1.3s						
GKN	**Gorkha**	**25.46**	**343**	*e*P	**P**	**17 10 13.6**	**+1.4**
	18nm,1.0s						
KOLN	**Koldanda**	**25.56**	**341**	*e*P	**P**	**17 10 15.0**	**+1.8**
	9.4nm,0.7s						
H01W3	**Cape Leeuwin H**	**43.26**	**154**	T	T	17 59 20.9	
	baz=327,slow=74						
H01W2	**Cape Leeuwin H**	**43.27**	**154**	T	T	17 59 32.3	
	baz=327						
H01W1	**Cape Leeuwin H**	**43.27**	**154**	T	T	17 59 22.5	
	baz=327,slow=74						

MKAR	**Makanchi Array**	**43.97**	**350**	P	**P**	**17 12 50.5**	**-0.5**
	0.4nm,0.4s,baz=169,slow=8.0,SNR=8.1						
JNU	**Nakatsue**	**46.20**	**46**	LR	LR	17 36 08.8	
	comp=Z,34nm,18.5s,baz=289,slow=41						
KSRS	**Korea Array**	**46.65**	**39**	LR	LR	17 33 13.2	
	comp=Z,26nm,19.8s,baz=208,slow=37						
WRA	**Warramunga Arr**	**47.12**	**121**	P	**P**	**17 13 16.5**	**+0.1**
	0.6nm,0.8s,baz=304,slow=8.5,SNR=7.0						
KURBB	**Kurchatov Arra**	**48.37**	**348**	P	**P**	**17 13 24.2**	**-1.3**
	0.2nm,0.3s,baz=166,slow=7.5,SNR=5.2						
ASAR	**Alice Springs**	**48.43**	**126**	P	**P**	**17 13 26.6**	**+0.1**
	0.2nm,0.6s,baz=296,slow=7.5,SNR=8.0						
ASAR				LR	LR	17 35 21.1	
	comp=Z,72nm,18.8s,baz=212,slow=38						
ZALV	**Zalesovo Beam**	**50.61**	**354**	P	**P**	**17 13 42.6**	**0.0**
	1.0nm,0.4s,baz=180,slow=7.6,SNR=7.6						
BVAR	**Borovoye Array**	**52.60**	**343**	P	**P**	**17 13 56.4**	**-1.1**
	0.3nm,0.6s,baz=142,slow=7.3,SNR=2.7						
GERES	**GERESS Array B**	**80.06**	**319**	P	**P**	**17 16 54.3**	**+0.7**
	0.7nm,0.7s,baz=108,slow=4.5,SNR=4.1						

JMA 18 17:07:48.1, 37°24N×139°06E, h2km±1km, M2.5, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHK	**Hiroka**	**0.04**	**284**	P	Pg	17 07 49.1	+0.2
JHK				S	Sg	17 07 49.7	+0.3
JKT	**Katashina**	**0.50**	**162**	P	Pg	17 07 57.8	+0.2
JKT				S	Sg	17 08 04.6	+0.6
JFY	**Yanaizu**	**0.54**	**72**	P	Pg	17 07 58.7	+0.2
MAT	**Matsushiro**	**0.98**	**225**	P	Pg	17 08 06.4	-0.4
MAT				S	Sg	17 08 18.9	-0.5

MEX 18 17:13:42.2±0.3, 16°38N×98°21W, h26km±2km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.08**	**78**	*i* P	Pb	17 13 45.7	-1.2
PNIG				*i* S	Sb	17 13 48.6	-1.4
TLIG	**Tlapa**	**1.23**	**344**	*e*P	Pn	17 14 02.3	-1.6
TLIG				*e*S	Sn	17 14 16.0	-3.7
VHO	**Vista Hermosa**	**1.58**	**64**	*e*P	Pn	17 14 06.2	-2.5
VHO				*e*S	Sn	17 14 25.2	-3.3
CAIG	**El Cayaco**	**2.08**	**289**	*e*P	Pn	17 14 13.3	-2.1
CAIG				*e*S	Sn	17 14 38.1	-2.5
PLIG	**Platanillo**	**2.35**	**329**	*e*P	Pb	17 14 22.8	-1.2
PLIG				*e*S	Sn	17 14 44.5	-3.0

MEX 18 17:26:19.6±0.3, 16°70N×98°38W, h16km±5km, MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.39**	**142**	*i* P	Pg	17 26 26.4	-1.2
PNIG				*e*S	Sg	17 26 31.5	-1.5
TLIG	**Tlapa**	**0.88**	**348**	*e*P	Pb	17 26 36.0	-0.6
TLIG				*e*S	Sb	17 26 44.5	-3.7
VHO	**Vista Hermosa**	**1.62**	**76**	*e*P	Pn	17 26 44.1	-3.5
VHO				*e*S	Sn	17 27 03.2	-5.1
CAIG	**El Cayaco**	**1.84**	**281**	*e*P	Pn	17 26 47.1	-3.5
CAIG				*e*S	Sn	17 27 09.0	-4.6
PLIG	**Platanillo**	**2.00**	**328**	*e*P	Pb	17 26 54.4	-1.3
PLIG				*e*S	Sn	17 27 12.5	-5.1

ISCJB ***18*** *17:27:43.4±0.8, 6°.83N±0°.04×73°.10W±0°.05, h147km±7km, Error ellipse: s-maj=8.8km s-min=5.3km az=34.6*

IDC ***18*** *17:27:43.6±3.6, 6°.84N×72°.93W, h163km±49km, mb1 2.9/2, mb1mx2.7/44, mbtmp3.4/2, Error ellipse: s-maj=524.9km s-min=15.8km az=133.0*

RSNC ***18*** *17:27:44.6±0.8, 6°.80N×73°.12W, h143km±5km, ML2.8*

ISC 18 17:27:42.8±1.2, 6°.83N±0°.05×73°.08W±0°.05, h152km±7km, n18, σ0°79/32, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.25**	**203**	*e*P	**Pn**	**17 28 04.1**	**+0.3**
BARC				*e*S	**Sn**	**17 28 18.6**	**-1.1**
BARC				*i*		17 28 19.8	
	comp=Z,178nm,0.3s						
PAMC	**Pamplona, Colo**	**0.64**	**37**	*e*P	**Pn**	**17 28 06.8**	**+1.1**
PAMC				*e*S	**Sn**	**17 28 23.5**	**+0.3**
PAMC				*i*		17 28 26.2	
	comp=Z,134nm,0.5s						
BRRC	**Barranca, Sant**	**0.68**	**294**	*e*P	**Pn**	**17 28 05.9**	**+0.4**
BRRC				*i*		17 28 07.0	
	comp=Z,266nm,0.1s						
BRRC				*e*S	**Sn**	**17 28 22.5**	**-0.2**
RUSC	**La Rusia**	**0.93**	**180**	*e*P	**Pn**	**17 28 08.1**	**+0.3**
RUSC				*e*S	**Sn**	**17 28 26.1**	**-0.8**
RUSC				*i*		17 28 28.1	
	comp=Z,46nm,0.3s						
OCAC	**Ocana**	**1.42**	**351**	*e*P	**Pn**	**17 28 12.7**	**+0.7**
OCAC				*e*S	**Sn**	**17 28 34.1**	**-0.1**
ZARC	**Zaragoza, Cauc**	**1.88**	**291**	*e*P	**Pn**	**17 28 17.1**	**+0.3**
ZARC				*e*S	**Sn**	**17 28 42.3**	**-0.5**
ZARC				*i*		17 28 47.9	
	comp=Z,104nm,0.2s						
NORC	**Norcasia**	**2.17**	**235**	*e*P	**Pn**	**17 28 20.7**	**+0.5**
NORC				*e*S	**Sn**	**17 28 47.7**	**-1.3**
CHIC	**Chingaza**	**2.28**	**197**	*e*P	**Pn**	**17 28 21.9**	**+0.1**
CHIC				*e*S	**Sn**	**17 28 51.7**	**0.0**
CHIC				*i*		17 28 59.6	
	comp=Z,20nm,0.3s						
ROSC	**El Rosal**	**2.33**	**212**	P	**Pn**	**17 28 24.7**	**+2.4**
	comp=Z,3.1nm,0.3s,baz=78,slow=20,SNR=3.6						
ROSC				S	**Sn**	**17 28 52.7**	**-0.1**
	comp=Z,4.3nm,0.3s,baz=315,slow=20,SNR=3.7						
HELC	**Santa Helena**	**2.51**	**256**	*e*P	**Pn**	**17 28 24.6**	**+0.1**
HELC				*e*S	**Sn**	**17 28 57.2**	**+0.5**
HELC				*i*		17 29 02.5	
	comp=Z,39nm,0.6s						
GUYC	**Guyana, Colomb**	**2.79**	**235**	*e*P	**Pn**	**17 28 28.3**	**+0.1**
GUYC				*e*S	**Sn**	**17 29 02.8**	**-0.2**
GUYC				*i*		17 29 11.3	
	comp=Z,48nm,0.3s						
RREF	**El Recreo**	**2.96**	**230**	*e*P	**Pn**	**17 28 30.7**	**+0.4**
RREF				*e*S	**Sn**	**17 29 07.6**	**+0.6**
RREF				*i*		17 29 13.6	
	comp=Z,35nm,0.4s						
DBBC	**Dabeiba**	**3.11**	**274**	*e*P	**Pn**	**17 28 32.4**	**+0.6**
TOLC	**Tolima**	**3.15**	**225**	*e*P	**Pn**	**17 28 33.4**	**+0.9**
SDV	**Santo Domingo**	**3.17**	**50**	P	**Pn**	**17 28 33.6**	**+0.9**
	comp=Z,6.3nm,0.3s,baz=237,slow=8.4,SNR=24						
SDV				S	**Sn**	**17 29 10.2**	**-1.1**
	comp=Z,4.3nm,0.3s,baz=270,slow=20,SNR=12						
PRAC	**Prado**	**3.58**	**210**	*e*P	**Pn**	**17 28 38.4**	**+0.7**
PRAC				*e*S	**Sn**	**17 29 19.6**	**-0.7**
ASAR	**Alice Springs**	**149.14**	**234**	PKPbc	**PKPbc**	**17 47 13.6**	**-0.6**
	comp=Z,0.1nm,0.5s,baz=117,slow=3.8,SNR=3.8						
WRA	**Warramunga Arr**	**150.37**	**241**	PKPbc	**PKPbc**	**17 47 16.6**	**-0.6**
	comp=Z,0.1nm,0.6s,baz=110,slow=2.3,SNR=5.9						

IDC ***18*** *17:28:25.3±2.5, 41°.45N×110°.88W, h0km, mb2.2/1, mb1 2.7/1, mb1mx2.7/66, mbtmp2.4/1, Error ellipse: s-maj=39.9km s-min=12.4km az=139.0*

ISCJB ***18*** *17:28:31.4±0.6, 41°.83N±0°.04×110°.69W±0°.09, h0km, Error ellipse: s-maj=11.0km s-min=4.8km az=25.3*

NEIC ***18*** *17:28:31.2±0.4, 41°.73N×110°.53W, h0km, ML2.2, Error ellipse: s-maj=7.2km s-min=4.5km az=111.0, Suspected Mining explosion.*

NEIC 7 km [4 miles] S of Kemmerer.

ISC 18 17:28:32.3±0.9, 41°.78N±0°.03×110°.72W±0°.04, h0km, n25, σ1°19/25, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HWUT	**Hardware Ranch**	**0.66**	**255**	*e*P	**Pg**	**17 28 45.7**	**+0.8**
TCUT	**Toone Canyon**	**0.84**	**218**	*e*P	**Pg**	**17 28 48.3**	**-0.1**
AHID	**Auburn Hatcher**	**1.02**	**344**	*e*Pn	**Pb**	**17 28 53.5**	**+0.6**
JLU	**Jordanelle**	**1.30**	**205**	*e*P	**Pg**	**17 28 56.0**	**-1.2**
BW06	**Boulder Array**	**1.31**	**41**	*e*Pn	**Pg**	**17 28 57.1**	**-0.2**
PDAR	**Pinedale Array**	**1.31**	**41**	Pg	**Pg**	**17 28 57.3**	**0.0**
	4.8nm,0.3s,baz=212,slow=17,SNR=109						
PDAR				Lg	Lg	17 29 16.6	
	4.3nm,0.3s,baz=211,slow=30,SNR=7.8						
CTU	**Camp Tracy**	**1.34**	**216**	*e*P	**Pb**	**17 28 58.0**	**-0.4**

SPUT	**South Promonto**	**1.38**	**251**	*e*P	**Pb**	**17 28 59.1**	**0.0**
HVU	**Hansel Valley**	**1.54**	**271**	*e*P	**Pb**	**17 29 01.8**	**+0.1**
MPU	**Maple Canyon**	**1.90**	**202**	*e*P	**Pn**	**17 29 05.7**	**-0.4**
BGU	**Big Grassy Mou**	**1.94**	**245**	*e*P	**Pn**	**17 29 06.4**	**-0.2**
NLU	**North Lily Min**	**2.10**	**210**	*e*P	**Pn**	**17 29 09.7**	**+0.9**
DUG	**Dugway, Tooele**	**2.24**	**226**	*e*P	**Pn**	**17 29 10.9**	**+0.1**
O20A	**White River Ci**	**2.50**	**130**	*e*Pg	**Pn**	**17 29 14.9**	**+0.6**
TMUT	**Trail Mountain**	**2.51**	**189**	*e*Pg	**Pn**	**17 29 14.9**	**+0.3**
H17A	**Grant Village**	**2.61**	**2**	*e*Pg	**Pb**	**17 29 21.2**	**+1.1**
YFT	**Old Faithful**	**2.67**	**358**	*e*Pg	**Pg**	**17 29 23.9**	**+0.5**
SRU	**San Rafael Swe**	**2.67**	**177**	*e*P	**Pn**	**17 29 18.0**	**+1.2**
QLMT	**Earthquake Lak**	**3.09**	**351**	*e*Pg	**Pb**	**17 29 28.5**	**+0.3**
HLID	**Hailey**	**3.25**	**304**	*e*Pg	**Pb**	**17 29 30.2**	**-0.8**
MSU	**Marysvale**	**3.45**	**199**	*e*P	**Pn**	**17 29 28.1**	**+0.6**
PV04	**Paradox Valley**	**3.66**	**157**	*e*Pg	**Pb**	**17 29 38.3**	**+0.3**
GCMT	**Greycliff**	**4.08**	**10**	*e*Pn	**Pn**	**17 29 34.9**	**-1.1**
NVAR	**Mina Array Bea**	**6.71**	**243**	Pg	**Pn**	**17 30 16.4**	**+4.2**
	baz=64,slow=13,SNR=6.9						
YKA	**Yellowknife Ar**	**20.87**	**355**	P	**P**	**17 33 13.7**	**-1.9**
	0.1nm,0.4s,baz=168,slow=12,SNR=2.7						

MOS ***18*** *17:40:33.3±1.1, 27°.87N×58°.09E, h33km, mb5.1/74, Error ellipse: s-maj=5.4km s-min=3.4km az=110.7*

BJI ***18*** *17:40:36.5, 28°.00N×58°.10E, h62km, mb5.0/56, mB5.0/41, Ms4.5/37, Ms7 4.2/35*

THR ***18*** *17:40:36.1±1.7, 27°.70N×58°.00E, h15km, ML5.1*

ISCJB ***18*** *17:40:38.5±0.2, 27°.84N±0°.01×58°.05E±0°.01, h83km±2km, mb5.0/198, Error ellipse: s-maj=2.5km s-min=2.2km az=10.7*

IDC ***18*** *17:40:39.9±0.5, 27°.95N×58°.14E, h75km±4km, mb4.5/48, mb1 4.6/52, mb1mx4.5/70, mbtmp4.8/52, MS3.9/37, Ms1 3.9/37, ms1mx3.8/65, Error ellipse: s-maj=8.6km s-min=7.5km az=11.0*

CSEM ***18*** *17:40:39.5±0.1, 27°.90N×58°.06E, h74km, mb5.1/99, Error ellipse: s-maj=3.0km s-min=2.8km az=77.0*

NEIC ***18*** *17:40:39.6±0.2, 27°.94N×58°.06E, mb5.1/81, ML5.1(THR), MN5.1(TEH), Error ellipse: s-maj=4.3km s-min=3.1km az=187.0*

NEIC Felt at Jiroft.

OMAN ***18*** *17:40:39.0±0.0, 27°.83N×58°.09E, h60km, Error ellipse: s-maj=1.5km s-min=0.7km az=294.0*

GCMT ***18*** *17:40:39.7±0.2, 27°.76N×57°.96E, h88km±1km, MW5.2/95, Moment Tensor Solution. s63,c88; s95,c164; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-1.82±.14; Mθθ3.97±.14; Mθϕ-2.16±.15; Mrθ0.55±.10; Mϕϕ-4.22±.14; Mϕr-3.46±.09; Best double couple: M◎6.46700×10^16 NP1:ϕ◎337.00000°, δ77.00000°, λ-37.00000°. NP2: ϕ◎76.00000°, δ54.00000°, λ-164.00000°. Principal axes: T 6.6660, Plg15.0000°, Azm31.0000°; N -0.4080, Plg52.0000°, Azm140.0000°; P -6.2680, Plg34.0000°, Azm290.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

DSN ***18*** *17:40:40.4±1.6, 27°.49N×58°.36E, h30km, ML5.4/11 Error ellipse: s-maj=28.2km s-min=10.6km az=159.0*

TEH ***18*** *17:40:42.1, 27°.89N×58°.01E, h60km, ML5.1*

ISC 18 17:40:39.1±0.3, 27°.86N±0°.03×58°.11E±0°.03, h71km±2km, h71km:pP-P, n926, σ1°35/1019, mb5.0/213, 58C-33D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIAN	**Nian**	**1.17**	**255**	*e*Sg	**Sn**	**17 41 16.0**	**+0.8**
NIAN				*e*Pn	**Pn**	**17 41 02.0**	**+2.3**
NIAN				*e*AMB	AMB	17 41 20.7	
	comp=Z,1588μm,0.1s						
KHSK	**Kohestak**	**1.45**	**221**	*e*AMB	AMB	17 41 28.8	
	comp=Z,31μm,0.1s						
GENO	**Geno**	**1.78**	**255**	*e*AMB	AMB	17 41 32.6	
	comp=Z,6μm,0.1s						
GENO				*e*Pn	**Pn**	**17 41 09.0**	**+1.1**
CHMN	**Cheshme madani**	**2.05**	**346**	*e*Pn	**Pn**	**17 41 13.7**	**+1.9**
CHMN				*e*Sg	**Sn**	**17 41 40.5**	**+3.8**
CHMN				*e*AMB	AMB	17 41 43.7	
	comp=Z,99nm,0.2s						
CHMN	**Cheshme madani**	**2.05**	**346**	*e*Pn	**Pn**	**17 41 13.7**	**+1.9**
KRBR	**Kerman**	**2.42**	**331**	*e*Pn	**Pn**	**17 41 19.8**	**+3.1**
KRBR	**Kerman**	**2.42**	**331**	*e*Pn	**Pn**	**17 41 19.8**	**+3.1**
KRBR	**Kerman**	**2.42**	**331**	*e*Pn	**Pn**	**17 41 19.6**	**+2.9**
BANOM	**Banah**	**2.52**	**220**	P	**Pn**	**17 41 17.8**	**+0.1**
BANOM				S	**Sn**	**17 41 48.0**	**+0.6**
BANOM	**Banah**	**2.52**	**220**	P	**Pn**	**17 41 17.8**	**+0.1**
BANOM				S	**Sn**	**17 41

Sta	Name	Dist	Az	Phase	ISC phase	Time	Res
ALNE	Al Ain	4.34	210	i P	Pn	17 41 43.1	+0.4
	SNR=636						
GHIR	Ghir-Karzin	4.54	277	ePn	Pn	17 41 45.9	+0.5
GHIR	Ghir-Karzin	4.54	277	ePn	Pn	17 41 45.9	+0.5
GHIR	Ghir-Karzin	4.54	277	ePn	Pn	17 41 45.8	+0.3
GHIR				AML	AML	17 42 39.8	
	comp=E,1μm,0.3s						
GHIR				AML	AML	17 42 43.3	
	comp=N,2μm,0.5s						
IKOO	Kooshah	4.61	9	ePn	Pn	17 41 47.8	+1.2
IKOO				eAMB	AMB	17 41 49.0	
	comp=Z,38μm,0.2s						
IKOO	Kooshah	4.61	9	ePn	Pn	17 41 47.8	+1.2
WSAR	Wadi Sarin	4.63	174	P	Pn	17 41 47.0	+0.5
	comp=Z,341nm,0.3s,baz=339,slow=5.9						
WSAR				S	Sn	17 42 34.5	-4.5
	comp=Z,1μm,0.3s,baz=302,slow=19,SNR=29						
WSAR				LR	LR	17 43 31.9	
	comp=Z,602nm,21.4s,baz=17,slow=36						
WSAR	Wadi Sarin	4.63	174	P	Pn	17 41 46.6	+0.1
ISRV	Sarvestan	4.64	290	ePn	Pn	17 41 48.4	+1.4
ISRV				eAMB	AMB	17 42 43.3	
	comp=Z,34μm,0.1s						
ISRV	Sarvestan	4.64	290	Pn	Pn	17 41 48.3	+1.3
ISRV	Sarvestan	4.64	290	Pn	Pn	17 41 48.3	+1.3
IMEH	Mehriz	4.65	320	ePn	Pn	17 41 48.4	+1.4
IMEH				eAMB	AMB	17 42 28.1	
	comp=Z,9μm,0.2s						
IMEH	Mehriz	4.65	320	ePn	Pn	17 41 48.4	+1.4
ARQ	Araqi	4.73	198	P	Pn	17 41 49.5	+1.6
	SNR=109						
ARQ				S	Sn	17 42 42.1	+0.6
	SNR=9.3						
ARQ	Araqi	4.73	198	P	Pn	17 41 49.5	+1.6
	SNR=109						
ARQ				S	Sn	17 42 42.1	+0.6
	SNR=9.3						
SMDO	Samad	4.78	181	P	Pn	17 41 48.5	-0.2
	SNR=272						
SMDO				S	Sn	17 42 43.0	+0.1
	SNR=6.5						
SMDO	Samad	4.78	181	P	Pn	17 41 48.5	-0.2
	SNR=272						
SMDO				S	Sn	17 42 43.0	+0.1
	SNR=6.5						
IPAR	Pars	4.86	295	ePn	Pn	17 41 50.8	+0.9
IPAR				eAMB	AMB	17 42 47.5	
	comp=Z,13μm,0.3s						
IPAR	Pars	4.86	295	Pn	Pn	17 41 50.8	+0.9
IPAR	Pars	4.86	295	ePn	Pn	17 41 50.8	+0.9
ITEG	Tejag	5.05	6	ePn	Pn	17 41 54.2	+1.8
ITEG				eAMB	AMB	17 42 03.9	
	comp=Z,38μm,0.1s						
ITEG	Tejag	5.05	6	ePn	Pn	17 41 54.2	+1.8
IDAH	Dahanechah	5.09	17	ePn	Pn	17 41 55.1	+2.0
IDAH				eAMB	AMB	17 42 16.9	
	comp=Z,10μm,0.2s						
IDAH	Dahanechah	5.09	17	ePn	Pn	17 41 55.1	+2.0
BSY	Bisya	5.16	189	P	Pn	17 41 56.0	+2.1
	SNR=151						
BSY				S	Sn	17 42 51.6	-0.5
	SNR=7.0						
BSYO	Bisya	5.17	189	P	Pn	17 41 56.0	+2.1
	SNR=151						
BSYO				S	Sn	17 42 51.6	-0.7
	SNR=7.0						
WBK	Wadi Bani Khal	5.29	171	P	Pn	17 41 56.0	+0.4
	SNR=193						
WBK				S	Sn	17 42 50.6	-4.6
	SNR=8.3						
WBK	Wadi Bani Khal	5.29	171	P	Pn	17 41 56.0	+0.4
	SNR=193						
ICHK	Chekchek	5.42	325	ePn	Pn	17 41 59.0	+1.5
ICHK				eAMB	AMB	17 42 02.6	
	comp=Z,5μm,0.2s						
ICHK	Chekchek	5.42	325	ePn	Pn	17 41 59.0	+1.5
JMDO	Jabal Madar	5.47	180	P	Pn	17 41 59.1	+1.1
	SNR=102						
IMON	Monand	5.48	14	ePn	Pn	17 42 00.9	+2.5
IMON				eAMB	AMB	17 42 25.4	
	comp=Z,12μm,0.2s						
IMON	Monand	5.48	14	ePn	Pn	17 42 00.9	+2.5
ISAD	Sadrabad	5.57	318	ePn	Pn	17 42 00.8	+1.1
ISAD				eAMB	AMB	17 43 16.1	
	comp=Z,6μm,0.3s						
ISAD	Sadrabad	5.57	318	ePn	Pn	17 42 00.8	+1.1
IKAZ	Kazeroun	5.82	291	ePn	Pn	17 42 03.1	0.0
IKAZ				eAMB	AMB	17 43 11.6	
	comp=Z,53μm,0.1s						
IKAZ	Kazeroun	5.82	291	ePn	Pn	17 42 03.1	0.0
TABS	Tabas	5.83	352	ePn	Pn	17 42 05.2	+2.1
TABS				AML	AML	17 42 49.2	
	comp=E,105nm,0.4s						
IRAM	Ramesheh	6.34	310	ePn	Pn	17 42 10.2	+0.1
IRAM				eAMB	AMB	17 43 21.9	
	comp=Z,7μm,0.2s						
IRAM	Ramesheh	6.34	310	ePn	Pn	17 42 10.2	+0.1
MZR	Muzera	6.39	222	P	Pn	17 42 09.9	-0.8
ANAR	Anarak	6.52	326	eAMB	AMB	17 44 08.6	
	comp=Z,99nm,0.6s						
IGAR	Gharneh	6.93	312	ePn	Pn	17 42 18.8	+0.6
IGAR				eAMB	AMB	17 42 22.6	
	comp=Z,4μm,0.1s						
IZEF	Zefreh	7.08	317	ePn	Pn	17 42 20.6	+0.4
IZEF				eAMB	AMB	17 42 25.0	
	comp=Z,2μm,0.3s						
IZEF	Zefreh	7.08	317	ePn	Pn	17 42 20.6	+0.4
SLWS		7.36	247	P	Pn	17 42 22.9	-0.9
BTHS		7.56	241	P	Pn	17 42 25.0	-1.5
IKLH	Kolahrood	7.82	316	ePn	Pn	17 42 30.7	+0.3
IKLH				eAMB	AMB	17 42 48.3	
	comp=Z,1μm,0.2s						
IKLH	Kolahrood	7.82	316	ePn	Pn	17 42 30.7	+0.3
IANJ	Anjilo	8.38	336	ePn	Pn	17 42 39.9	+1.9
IANJ				eAMB	AMB	17 42 43.3	
	comp=Z,1μm,0.3s						
IANJ	Anjilo	8.38	336	ePn	Pn	17 42 39.9	+1.9
IVRN	Varamin	8.96	324	eAMB	AMB	17 43 03.0	
	comp=Z,597nm,0.3s						
IFIR	Firoozkooh	8.99	331	ePn	Pn	17 42 47.9	+1.5
IFIR				eAMB	AMB	17 42 51.1	
	comp=Z,438nm,0.2s						
IFIR	Firoozkooh	8.99	331	ePn	Pn	17 42 47.9	+1.5
IDMV	Damavand	9.27	328	ePn	Pn	17 42 51.7	+1.5
IDMV				eAMB	AMB	17 46 08.4	
	comp=E,1μm,0.4s						
IDMV	Damavand	9.27	328	ePn	Pn	17 42 51.7	+1.5
SHAO	Shalim	10.05	194	P	Pn	17 42 59.7	-1.1
	SNR=29						
SHAO	Shalim	10.05	194	i P	Pn	17 42 59.4	-1.4
	SNR=29						
WHFO	Wadi Hawf	10.67	203	P	Pn	17 43 07.2	-2.0
	SNR=31						
RBK	Rabkut	10.92	200	P	Pn	17 43 11.0	-1.6
	SNR=7.8						
ABTO	Aybut	11.36	204	P	Pn	17 43 16.2	-2.4
	SNR=8.3						
BHJ	Bhuj	11.39	111	eP	Pn	17 43 18.6	-0.3
BHJ				IAmb	IAmb	17 43 20.3	
	comp=Z,80nm,0.9s						
KBL	Kabul	11.48	52	ePn	Pn	17 43 23.2	+2.9
KBL	Kabul	11.48	52	ePn	Pn	17 43 23.2	+2.9
KBL	Kabul	11.48	52	eP	Pn	17 43 23.2	+2.9
RAYN	Ar Rayn	12.16	252	ePn	Pn	17 43 23.9	-5.5
RAYN	Ar Rayn	12.16	252	ePn	Pn	17 43 23.9	-5.5
THW	Thamme Wali	12.76	64	P	Pn	17 43 37.3	-0.3
CEP	Cherat	13.26	60	P	Pn	17 43 44.5	+0.1
SARP	Sargodha	13.27	69	P	Pn	17 43 42.8	-1.6
NIL	Nilore	14.24	62	ePn	Pn	17 43 57.3	+0.1
NIL	Nilore	14.24	62	ePn	Pn	17 43 57.3	+0.1
NIL	Nilore	14.24	62	eP	Pn	17 43 57.3	+0.1
CHCP	Chirah Chowk	14.25	62	P	Pn	17 43 57.1	-0.3
AKT	Akhty	16.03	331	⇓iP	Pn	17 44 19.8	-0.3
AKT				pmax	pmax		
	comp=Z,89nm,0.5s						
VANB	Van	16.29	315	eP	Pn	17 44 24.4	+0.9
SIRT	Sirnak	16.30	310	eP	Pn	17 44 20.7	-2.9
CLDR	Caldiran	16.31	317	eP	Pn	17 44 23.4	-0.4
DHRM	DHARAMSHALA	16.35	70	eP	Pn	17 44 24.1	-0.2
DHRM				IAmb	IAmb	17 44 28.7	
	comp=Z,402nm,0.6s						
GNI	Garni	16.50	321	P	P	17 44 27.2	-0.4
	comp=Z,9.1nm,0.3s,baz=326,slow=1.5,SNR=37						
GNI				LR	LR	17 50 18.6	
	comp=Z,170nm,19.9s,baz=118,slow=35						
GNI	Garni	16.50	321	ePn	P	17 44 27.2	-0.4
	comp=Z,71nm,0.9s						
GNI	Garni	16.50	321	P	P	17 44 27.6	0.0
	SNR=30						
GNI	Garni	16.50	321	ePn	P	17 44 27.2	-0.4
	comp=Z,71nm,0.9s						
GNI	Garni	16.50	321	d iP	Pn	17 44 26.8	+0.7
GNI				pmax	pmax		
	comp=Z,193nm,0.8s						
DDFL	Dedoflistskaro	16.74	327	P	P	17 44 30.6	+0.5
SMLA	Simla	16.91	74	eP	P	17 44 32.5	+0.4
SMLA				IAmb	IAmb	17 44 36.1	
	comp=Z,935nm,0.1s						
DGRG	David-gareji	17.11	326	P	Pn	17 44 33.2	-0.3
DGRG	David-gareji	17.11	326	eP	Pn	17 44 33.2	-0.3
AGRB	Hanur-Agry	17.14	317	eP	P	17 44 35.1	+0.4
GURO	Guroymak-BITLI	17.14	313	eP	Pn	17 44 33.9	-0.1
POO	Poona	17.18	119	eP	P	17 44 36.0	+0.8
IUG	Iuzhnay	17.25	31	⇑iP	Pn	17 44 34.4	-1.0
	comp=Z,2μm,0.8s						
IUG				eS	Sn	17 47 44.9	-1.8
IUG				LR	LR	17 52 17.2	
	comp=Z,114nm,12.1s						
MAK	Makhachkala	17.34	333	eP	Pn	17 44 33.5	-2.8
MAK				eS	Sn	17 47 45.9	-2.8
MAK				pmax	pmax		
	comp=Z,199nm,1.8s						
MAK				MLR	MLR		
	comp=Z,146nm,15.0s						
SFK	Sufi-Kurgan	17.58	42	P	P	17 44 40.1	+0.4
SFK				pmax	pmax		
	comp=Z,41nm,0.7s						
DDI	Dehra Dun	17.61	77	eP	P	17 44 41.2	+1.4
DDI				IAmb	IAmb	17 44 44.0	
	comp=Z,91nm,0.8s						
SEAG	Tbilisi Sea	17.62	325	P	P	17 44 41.4	+1.5
TBLG	Delisi	17.63	325	P	P	17 44 40.1	+0.1
TBLG	Delisi	17.63	325	ePn	Pn	17 44 39.1	-0.8
	comp=Z,29nm,1.1s						
TBLG	Delisi	17.63	325	ePn	Pn	17 44 39.1	-0.8
	comp=Z,29nm,1.1s						
TBLG	Delisi	17.63	325	eP	P	17 44 40.1	+0.1
MAZI	Mazidag	17.66	307	eP	Pn	17 44 38.9	-1.5
SANA	San'a	17.90	229	eP	P	17 44 40.4	-2.9
BHPL	Bhopal	18.02	100	eP	Pn	17 44 45.8	+0.9
BHPL				IAmb	IAmb	17 45 03.5	
	comp=Z,2μm,3.1s						
AKH	Akhalkalaki	18.05	322	⇑iP	Pn	17 44 46.3	+1.1
AKH	Akhalkalaki	18.05	322	eP	Pn	17 44 46.0	+0.8
	comp=Z,26nm,0.8s						
AKH	Akhalkalaki	18.05	322	eP	Pn	17 44 46.0	+0.8
	comp=Z,26nm,0.8s						
AKH	Akhalkalaki	18.05	322	eP	Pn	17 44 46.0	+0.8
AKH				pmax	pmax		
	comp=Z,26nm,0.8s						
BDHA	Al Bayda'	18.09	223	eP	P	17 44 44.2	-1.3
DYBB	Diyarbakir	18.11	308	eP	Pn	17 44 46.4	+0.6
SENK	Senkaya-Erzuru	18.14	318	eP	Pn	17 44 47.3	+1.0
KK31	Karatay Array	18.23	30	eP	P	17 44 46.4	-0.1
KK31	Karatay Array	18.23	30	eP	P	17 44 46.4	-0.1
KK31	Karatay Array	18.23	30	eP	P	17 44 46.4	-0.1
KKAR	Karatay Array	18.23	30	eP	P	17 44 46.7	+0.2
KKAR	Karatay Array	18.23	30	eP	P	17 44 46.7	+0.2
KKAR	Karatay Array	18.23	30	eP	P	17 44 46.7	+0.2
GROC	Groznyy	18.26	330	eP	Pn	17 44 47.8	+0.3
GROC				eS	S	17 48 12.3	+1.1
GROC				pmax	pmax		
	comp=Z,97nm,0.5s						
BNGB	Bingˆ¶l	18.27	312	eP	Pn	17 44 48.6	+0.9
GUDG	Gudauri	18.31	326	P	P	17 44 47.1	-0.5
BINT	Bingol	18.33	311	P	Pn	17 44 48.5	0.0
DAMY	Dhamar	18.37	227	eP	P	17 44 47.4	-1.2
	comp=Z,124nm,1.2s						
DZA	Taraz	18.44	32	eP	Pn	17 44 49.4	-0.2
	comp=Z,1μm,0.8s						
MNAS	Manas	18.71	35	P	P	17 44 52.0	+0.1
MNAS				pmax	pmax		
	comp=Z,142nm,0.7s						
URFA	Urfa	18.81	305	eP	P	17 44 52.9	-0.1
ZEI	Tsey	18.83	326	eP	P	17 44 51.3	-2.0
ZEI				pmax	pmax		
	comp=Z,16nm,0.6s						
KSH	Kashi	18.84	47	P	P	17 44 47.8	-5.5
KSH				PP	pP	17 45 05.8	-2.1
KSH				sP	sP	17 45 08.3	-8.6
KSH				S	S	17 48 06.3	-17
KSH				ScS	ScS	17 56 25.3	-3.2
KSH				pmax	pmax		
	comp=Z,130nm,0.6s						
KSH				LR	LR		
	comp=Z,470nm,7.3s						
KSH				LR	LR		
	comp=Z,410nm,7.6s						
KSH				LR	LR		
	comp=Z,440nm,7.1s						
ASF	Jabal al Asfar	18.86	288	P	P	17 44 53.3	-0.3
	comp=Z,9.1nm,0.3s,baz=24,slow=4.2,SNR=57						
ASF				S	S	17 48 02.9	-21
	comp=Z,1.1nm,0.3s,baz=61,slow=18,SNR=2.7						
ASF				LR	LR	17 54 02.8	
	comp=Z,796nm,18.6s,baz=58,slow=43						
ONI	Oni	18.91	325	P	P	17 44 54.6	+0.6
ONI	Oni	18.91	325	eP	P	17 44 54.6	+0.6
PTK	Pertek	19.07	310	eP	P	17 44 56.1	+0.1
GOA	Goa	19.08	127	eP	Pn	17 44 58.6	+1.1
GOA				IAmb	IAmb	17 45 14.8	
	comp=Z,59nm,1.1s						
AML	Almayashu	19.08	38	P	P	17 44 56.7	+0.4
	SNR=40						
BCA	Borcka	19.13	319	eP	Pn	17 44 57.4	-0.5
ERZN	Erzincan	19.21	312	eP	P	17 44 56.6	-0.8
BAYT	Ayd˜–ntepe-Bay	19.38	315	eP	P	17 45 00.1	+0.7
MALT	Malatya	19.47	307	eP	Pn	17 45 01.7	-0.4
EKS2	Erkin-Say	19.49	37	P	Pn	17 45 01.7	-0.6
	SNR=20						
NCK	Nalchik	19.51	327	⇑eP	P	17 45 00.7	+0.2
NCK				pmax	pmax		
	comp=Z,10.0nm,0.7s						
UCH	Uchtor	19.59	39	P	P	17 45 02.3	+0.3
	SNR=16						
NEY	Neytrino	19.76	325	⇑eP	Pn	17 45 05.0	-0.5
NEY				pmax	pmax		
	comp=Z,7.0nm,0.8s						
AAK	Ala-Archa	19.86	38	P	P	17 45 05.4	+0.8
	comp=Z,10nm,0.3s,baz=202,slow=6.2,SNR=313						
AAK				LR	LR	17 53 58.3	
	comp=Z,462nm,20.5s,baz=220,slow=40						
AAK	Ala-Archa	19.86	38	P	P	17 45 05.6	+1.1
	SNR=25						
AAK	Ala-Archa	19.86	38	eP	P	17 45 05.3	+0.8
	comp=Z,128nm,0.9s						
AAK	Ala-Archa	19.86	38	P	P	17 45 05.5	+1.0
	SNR=255						
AAK	Ala-Archa	19.86	38	eP	P	17 45 05.3	+0.8
	comp=Z,128nm,0.9s						
GAZ	Gaziantep	19.88	303	eP	Pn	17 45 06.0	-0.9
KZA	Kyzart	19.91	40	P	P	17 45 06.0	+0.7
	SNR=187						
HWQ	Hawqa	20.01	294	eP	Pn	17 45 08.5	0.0
KBZ	Khabaz	20.02	326	P	Pn	17 45 07.2	-1.2
	comp=Z,1.2nm,0.3s,baz=140,slow=1.3,SNR=17						
FRU	Bishkek	20.06	38	eP	P	17 45 06.0	-0.5
FRU				i		17 45 34.0	
FRU				e		17 48 50.0	
FRU				pmax	pmax		
	comp=Z,280nm,2.0s						
KBK	Karagaybulak	20.12	38	P	P	17 45 08.4	+1.0
	SNR=82						
BHL	Bhannes	20.17	293	eP	P	17 45 09.1	+1.2
NGP	Nagpur	20.18	105	eP	P	17 45 07.2	-0.8
NGP				ex	x	17 45 30.5	
	comp=Z,74nm,3.1s						
NGP				eS	Sn	17 48 55.5	-1.9
MMAI	Mount Meron Ar	20.22	290	P	P	17 45 09.6	+1.1
	comp=Z,18nm,0.5s,baz=97,slow=12,SNR=69						
MMAI				S	S	17 48 43.8	-7.7
	comp=Z,5.1nm,0.5s,baz=110,slow=20,SNR=4.6						
MMAI				LR	LR	17 54 58.3	
	comp=Z,793nm,20.5s,baz=55,slow=42						
KMRS	Kahramanmaras	20.24	304	eP	P	17 45 09.2	+0.7
CHMS	Chumysh	20.24	37	P	P	17 45 09.5	+1.0
	SNR=32						
DARE	Darende-Malaty	20.25	307	eP	Pn	17 45 11.1	-0.1
KVAR	Kislovodsk Arr	20.29	326	P	P	17 45 09.1	+0.1
	comp=Z,64nm,0.7s,baz=158,slow=3.6,SNR=13						
KIV	Kislovodsk	20.29	326	eP	P	17 45 08.9	-0.2
	comp=Z,79nm,0.5s						
KIV	Kislovodsk	20.29	326	P	P	17 45 10.1	+1.0
	SNR=23						
KIV	Kislovodsk	20.29	326	eP	P	17 45 08.9	-0.2
	comp=Z,79nm,0.5s						
KIV	Kislovodsk	20.29	326	eP	P	17 45 09.3	+0.2
KIV				eS	S	17 48 53.4	+0.7
KIV				pmax	pmax		
	comp=Z,64nm,0.9s						
KIV				MLR	MLR		
	comp=Z,80nm,14.0s						
USP	Ospenovka	20.29	36	P	P	17 45 03.8	-5.3
	SNR=19						
YAYL	Yayladag	20.34	299	eP	P	17 45 10.3	+0.6
EIL	Elat	20.38	281	P	P	17 45 11.2	+1.2
	comp=Z,216nm,0.8s,baz=114,slow=7.6,SNR=112						
EIL				S	S	17 48 50.0	-4.4
	comp=Z,14nm,0.7s,baz=140,slow=16,SNR=3.0						
EIL				LR	LR	17 55 08.3	
	comp=Z,891nm,18.5s,baz=74,slow=43						
ULHL	Ulahol	20.59	41	P	P	17 45 13.2	+0.8
	SNR=161						
TKM2	Tokmak 2	20.65	39	P	P	17 45 14.0	+0.8
	SNR=30						
TKM2	Tokmak 2	20.65	39	P	P	17 45 13.4	+0.3
TKM2				pmax	pmax		
	comp=Z,116nm,1.0s						
BMNS	Besmoynak	20.82	38	eP	P	17 45 14.4	-0.5
	comp=Z,847nm,1.2s						
BMNS				eS	S	17 49 03.2	0.0
BMNS				LR	LR	17 53 47.0	
	comp=Z,116nm,10.5s						
CEYT	Ceyhan	20.92	301	eP	Pn	17 45 19.9	+0.9
GOF	Gofitskoye	20.95	329	⇑eP	P	17 45 16.8	+0.8
GOF				pmax	pmax		
	comp=Z,77nm,0.6s						
KOZT	Kozan	21.02	303	eP	P	17 45 18.3	+1.3
KDJ	Kajisay	21.07	43	eP	P	17 45 18.3	+0.7
	comp=Z,138nm,0.8s						
KDJ	Kajisay	21.07	43	eP	P	17 45 18.3	+0.7
	comp=Z,138nm,0.8s						
SVSK	Karacayir	21.19	310	eP	P	17 45 19.4	+0.7
RSDY	Resadiye-TOKAT	21.20	311	eP	P	17 45 17.0	-1.9
BTLS	Baital	21.34	32	⇑iP	P	17 45 20.2	-0.1
	comp=Z,594nm,0.8s						
BTLS				eS	S	17 49 13.9	+0.6
AB31	Akbulak array	21.41	3	P	P	17 45 20.6	-0.3
AB31				pmax	pmax		
	comp=Z,24nm,0.5s						
ABKAR	Akbulak array	21.41	3	eP	P	17 45 20.9	0.0
	comp=Z,583nm,0.9s						
ABKAR	Akbulak array	21.41	3	eP	P	17 45 20.9	0.0
	comp=Z,583nm,0.9s						
HYB	Hyderabad	21.51	115	i P	P	17 45 25.0	+2.7
HYB	Hyderabad	21.51	115	eP	P	17 45 25.1	+2.7
HYB				IAmb	IAmb	17 45 40.5	
	comp=Z,46nm,1.2s						
KARA	Karaisali	21.53	302	eP	P	17 45 23.7	+1.4
BNN	Bunyan	21.53	306	eP	P	17 45 23.7	+1.2
AAA	Alma-Ata	21.58	40	eP	P	17 45 24.1	+1.2
	comp=Z,870nm,1.2s						
SOC	Sochi	21.58	321	eP	P	17 45 23.3	+0.5
SOC				i		17 45 52.2	
SOC				eS	S	17 49 11.3	-6.8
SOC				eSS	SnSn	17 49 52.1	+5.0
SOC				pmax	pmax		
	comp=Z,22nm,0.7s						
MDOK	Medeo	21.62	40	i P	P	17 45 24.2	+0.7
	comp=Z,2μm,1.3s						
MDOK				esP	sP	17 45 45.2	-2.1
MDOK				i S	S	17 49 20.4	+1.2
ATD	Arta Tunnel	21.65	224	P	P	17 45 25.6	+1.8
	comp=Z,17nm,0.8s,baz=27,slow=4.4,SNR=8.2						
ATD				LR	LR	17 54 57.0	
	comp=Z,587nm,18.4s,baz=12,slow=39						
KUU	Kurty	21.70	38	⇑iP	P	17 45 24.2	+0.1
	comp=Z,1μm,0.9s						
KUU				eS	S	17 49 20.7	+0.3
KUU				LR	LR	17 53 55.1	
	comp=Z,79nm,9.7s						
PYUN	Piuthan	21.97	84	eP	P	17 45 29.1	+1.7
	comp=Z,127nm,0.7s						
KIZK	Mersin	21.99	299	eP	P	17 45 24.8	-2.4
CSS	Mathiatis	22.27	295	eP	P	17 45 30.6	+0.3
CSS	Mathiatis	22.27	295	eP	P	17 45 30.4	+0.1
	comp=Z,21nm,1.0s						
CSS	Mathiatis	22.27	295	eP	P	17 45 30.4	+0.1
	comp=Z,21nm,1.0s						
SATY	Saty	22.35	42	⇑iP	P	17 45 30.7	-0.5
	comp=Z,894nm,1.2s						
SATY				esP	sP	17 45 51.8	-3.2
SATY				eS	S	17 49 33.0	+0.6
KVT	Kavak	22.39	312	eP	P	17 45 31.7	+0.1
ZHN	Zhinishke	22.43	42	⇑eP	P	17 45 31.5	-0.6
	comp=Z,330nm,1.2s						
ZHN				i sP	sP	17 45 52.7	-3.2
KOLN	Koldanda	22.54	84	eP	P	17 45 34.7	+1.2
	comp=Z,28nm,0.4s						
AKTO	Aktyubinsk	22.54	360	P	P	17 45 32.8	-0.3
	comp=Z,14nm,0.4s,baz=167,slow=11,SNR=41						
AKTO				S	S	17 49 33.0	-2.3
	comp=Z,14nm,0.9s,baz=42,slow=19,SNR=15						
AKTO				LR	LR	17 55 46.8	
	comp=Z,452nm,21.6s,baz=183,slow=40						
TEKE	Tekeli-Mersin	22.70	298	eP	P	17 45 35.5	+0.6
KPKS	Kokpek	22.75	41	eP	P	17 45 35.1	-0.5
	comp=Z,1μm,0.9s						
KPKS				esP	sP	17 45 56.2	-3.1
KPKS				eS	S	17 49 39.7	+0.6
SHLS	Shalkode	23.04	43	eP	P	17 45 40.4	+2.0
	comp=Z,994nm,0.8s						
SHLS				eS	S	17 49 48.1	+4.5
PDGK	Podgornoye	23.15	43	P	P	17 45 38.4	-1.1
PDGK				pmax	pmax		
	comp=Z,201nm,1.3s						
OTUK	Ortayu	23.16	25	P	P	17 45 39.6	+0.2
OTUK				pmax	pmax		
	comp=Z,106nm,0.8s						
GKN	Gorkha	23.43	83	eP	P	17 45 43.3	+1.0
	comp=Z,33nm,0.3s						
BR131	Keskin Array S	23.45	307	eP	P	17 45 41.7	-0.5
BR131	Keskin Array S	23.45	307	P	P	17 45 42.8	+0.5
	SNR=16						
BR131	Keskin Array S	23.45	307	eP	P	17 45 41.7	-0.6
BRTR	Keskin Array B	23.45	307	P	P	17 45 41.8	-0.5
	comp=Z,45nm,1.0s,baz=126,slow=12,SNR=89						
BRTR				PcP	PcP	17 49 26.9	+0.5
	comp=Z,2.3nm,0.7s,baz=157,slow=4.6,SNR=5.5						
BRTR				ScP	ScP	17 52 57.9	-0.4
	comp=Z,0.9nm,0.7s,baz=72,slow=4.7,SNR=3.3						
BRTR	Keskin Array B	23.45	307	P	P	17 45 41.8	-0.6
BRTR						17 49 26.9	
BRTR				pmax	pmax		
	comp=Z,44nm,1.0s						
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
BRTR				pmax	pmax		
	comp=N,1.0nm,0.7s						
TDK	Taldyqorghan	23.55	38	i P	P	17 45 43.0	0.0
	comp=N,2μm,0.7s						
ANN	Anapa	23.62	321	eP	P	17 45 42.5	-1.2
ANN				e*PP	pP	17 45 57.7	-1.9
ANN				eS	S	17 49 52.0	-0.8
ANN				pmax	pmax		
	comp=Z,35nm,0.7s						
LADK	Ladik-KONYA	23.85	302	eP	P	17 45 45.9	0.0
DMN	Daman	23.89	84	eP	P	17 45 47.8	+1.3
	comp=Z,31nm,0.4s						
KKN	Kakani	24.02	84	eP	P	17 45 49.1	+1.4
	comp=Z,94nm,0.6s						
BR231	Keskin MP Arra	24.11	306	eP	P	17 45 47.6	-0.6
BR231	Keskin MP Arra	24.11	306	eP	P	17 45 47.6	-0.6
LOD	Lodumlu	24.13	306	eP	P	17 45 46.5	-1.9
PKIN	Phulchoki	24.14	84	eP	P	17 45 50.2	+1.3
	comp=Z,78nm,0.8s						
GUN	Gumba	24.53	83	eP	P	17 45 54.0	+1.5
	comp=Z,83nm,0.4s						
SUTC	Sutluce-Ispart	24.68	300	eP	P	17 45 54.8	+1.3
BRZS	Berezniki	24.74	23	eP	P	17 45 54.2	+0.4
	comp=Z,30nm,0.9s						
BRZS				esP	sP	17 46 16.3	-2.6
JIRN	Jiri	24.83	84	eP	P	17 45 56.5	+1.2
SVRH	Sivrihisar-ESK	24.87	305	eP	P	17 45 55.3	+0.1
ISP	Isparta	25.14	300	eP	P	17 45 59.5	+1.9

ISP	Isparta	25.14	300	⇑iP	P	17 45 58.8	+1.2
ISP	Isparta	25.14	300	eP	P	17 45 58.0	+0.4
	comp=Z,170nm,1.0s						
ISP	Isparta	25.14	300	eP	P	17 45 58.0	+0.4
	comp=Z,170nm,1.0s						
ISP	Isparta	25.14	300	deP	P	17 45 58.8	+1.2
ISP				i *PP	pP	17 46 14.4	+0.1
ISP				pmax	pmax		
	comp=Z,151nm,1.0s						
RAMN	Ramite	25.29	85	eP	P	17 46 00.0	+0.7
	comp=Z,88nm,0.7s						
BOK	Bokaro	25.31	93	eP	P	17 46 00.8	+1.7
BOK				IAmb	IAmb	17 46 03.1	
	comp=Z,17nm,0.6s						
SHUT	Suhut-Afyon	25.31	302	eP	P	17 46 00.2	+1.0
MDRS	Chennai	25.37	121	eP	P	17 45 59.2	-0.6
MDRS				IAmb	IAmb	17 46 01.5	
	comp=Z,16nm,0.3s						
MDUB	Mudurnu	25.46	307	eP	P	17 45 59.9	-0.6
SIM	Simferopol’	25.61	318	eP	P	17 46 01.9	+0.2
SIM				S	S	17 50 27.0	+2.3
SIM				pmax	pmax		
	comp=Z,65nm,0.8s						
SIM				MLR	MLR		
	comp=Z,380nm,18.1s						
GULT	Gulveren	25.93	306	eP	P	17 46 04.4	-0.4
ODAN	Odare	26.00	85	eP	P	17 46 06.4	+0.7
	comp=Z,28nm,0.4s						
VRH	Novokhopyorsk	26.40	336	eP	P	17 46 08.0	-0.7
VRH				pmax	pmax		
	comp=Z,40nm,0.8s						
MAKZ	Makanchi	26.62	38	eP	P	17 46 10.5	-0.4
	comp=Z,48nm,1.0s						
MAKZ	Makanchi	26.62	38	eP	P	17 46 10.5	-0.4
	comp=Z,48nm,1.0s						
MAKZ	Makanchi	26.62	38	eP	P	17 46 10.5	-0.4
MAKZ				pmax	pmax		
	comp=Z,48nm,1.0s						
BVAR	Borovoye Array	26.74	17	P	P	17 46 11.8	0.0
	comp=Z,17nm,0.4s,baz=209,slow=7.4,SNR=107						
BRVK	Borovoye	26.75	16	eP	P	17 46 11.7	-0.1
	comp=Z,30nm,0.4s						
BRVK	Borovoye	26.75	16	P	P	17 46 12.1	+0.3
	SNR=22						
BRVK	Borovoye	26.75	16	eP	P	17 46 11.7	-0.1
	comp=Z,30nm,0.4s						
BRVK	Borovoye	26.75	16	eP	P	17 46 11.7	-0.1
BRVK				pmax	pmax		
	comp=Z,30nm,0.4s						
MK01	Makanchi Array	26.78	39	eP	P	17 46 11.9	-0.4
MK01	Makanchi Array	26.78	39	eP	P	17 46 11.9	-0.4
MK31	Makanchi Array	26.79	39	eP	P	17 46 12.1	-0.2
MK31	Makanchi Array	26.79	39	eP	P	17 46 12.1	-0.2
MK31	Makanchi Array	26.79	39	eP	P	17 46 12.1	-0.2
MKAR	Makanchi Array	26.79	39	P	P	17 46 12.2	-0.2
	comp=Z,15nm,0.3s,baz=233,slow=8.2,SNR=357						
MKAR				LR	LR	17 57 55.5	
	comp=Z,192nm,21.4s,baz=225,slow=39						
MKAR	Makanchi Array	26.79	39	eP	P	17 46 12.1	-0.2
	comp=Z,210nm,0.4s						
MKAR	Makanchi Array	26.79	39	eP	P	17 46 12.1	-0.2
	comp=Z,210nm,0.4s						
MANT	Manisa	26.80	301	eP	P	17 46 13.1	+0.3
	comp=Z,283nm,1.2s						
MANT	Manisa	26.80	301	eP	P	17 46 13.1	+0.3
	comp=Z,283nm,1.2s						
GTK	Tadong	27.00	84	ex	P	17 46 20.4	+5.8
VSR	Storozhevoye	27.36	334	eP	P	17 46 16.1	-1.3
VSR				eS	S	17 50 49.8	-2.3
VSR				pmax	pmax		
	comp=Z,10.0nm,0.7s						
KURBB	Kurchatov Arra	27.52	29	P	P	17 46 19.1	+0.3
	comp=Z,11nm,0.3s,baz=227,slow=8.2,SNR=198						
KURK	Kurchatov	27.62	29	eP	P	17 46 19.6	-0.1
	comp=Z,22nm,0.9s						
KURK	Kurchatov	27.62	29	P	P	17 46 21.1	+1.4
	SNR=10						
KURK	Kurchatov	27.62	29	eP	P	17 46 19.6	-0.1
	comp=Z,22nm,0.9s						
KURK	Kurchatov	27.62	29	c iP	P	17 46 19.9	+0.2
KURK				pmax	pmax		
	comp=Z,46nm,1.7s						
SEM	Semipalatinsk	28.12	31	⇑eP	P	17 46 24.7	+0.3
	comp=Z,319nm,0.8s						
LPSR	Galich’ya Gora	28.55	335	eP	P	17 46 27.3	-0.6
LPSR				pmax	pmax		
	comp=Z,5.0nm,0.3s						
ARU	Arti	28.55	1	P	P	17 46 29.2	+1.3
	comp=Z,1.9nm,0.3s,baz=160,slow=3.1,SNR=5.9						
ARU				LR	LR	17 59 11.9	
	comp=Z,164nm,21.7s,baz=192,slow=39						
ARU	Arti	28.55	1	eP	P	17 46 28.2	+0.3
	comp=Z,17nm,1.2s						
ARU	Arti	28.55	1	eP	P	17 46 28.2	+0.3
	comp=Z,17nm,1.2s						
ARU	Arti	28.55	1	c iP	P	17 46 29.3	+1.4
ARU				S	S	17 51 15.8	+5.1
ARU				SS	SnSn	17 52 39.1	+2.3
ARU				pmax	pmax		
	comp=Z,7.0nm,1.2s						
WMQ	Urumqi	28.59	48	P	P	17 46 29.3	+0.7
WMQ				sP	sP	17 46 49.9	-3.9
WMQ				pmax	pmax		
	comp=Z,170nm,0.9s						
WMQ				LR	LR		
	comp=Z,580nm,19.1s						
WMQ				LR	LR		
	comp=Z,890nm,23.1s						
WMQ				LR	LR		
	comp=Z,1µm,28.1s						
ZSN	Zaisan	28.60	40	eP	P	17 46 28.1	-0.5
	comp=Z,36nm,1.1s						
TURI	Tura	28.84	87	eP	P	17 46 30.4	-0.5
SVE	Sverdlovsk	29.00	3	eP	P	17 46 32.5	+0.6
SVE				pmax	pmax		
	comp=Z,10.0nm,0.9s						
IDI	Anoyia	29.15	293	P	P	17 46 34.3	+0.7
	comp=Z,72nm,0.8s,baz=67,slow=11,SNR=22						
IDI				LR	LR	18 03 28.1	
	comp=Z,145nm,19.3s,baz=86,slow=47						
SHL	Shillong	30.21	86	eP	P	17 46 42.8	-0.4
SHL				IAmb	IAmb	17 46 44.4	
	comp=Z,17nm,1.2s						
SHL	Shillong	30.21	86	eP	P	17 46 43.0	-0.2
VRI	Vrincioaia	30.60	314	⇓iP	P	17 46 46.3	+0.1
VRI	Vrincioaia	30.60	314	⇓iP	P	17 46 46.3	+0.1
PLOR	Plostina	30.64	314	⇑iP	P	17 46 47.0	+0.4
PLOR	Plostina	30.64	314	⇑iP	P	17 46 47.0	+0.4
SORM	Soroca	30.68	319	⇓iP	P	17 46 45.4	-1.4
SORM	Soroca	30.68	319	⇓iP	P	17 46 45.4	-1.4
PAIG	Paliouri	30.82	302	P	P	17 46 48.8	+0.6
PAIG	Paliouri	30.82	302	P	P	17 46 48.8	+0.6
PAIG	Paliouri	30.82	302	P	P	17 46 48.8	+0.6
PAIG	Paliouri	30.82	302	P	P	17 46 48.8	+0.6
TESR	Tescani	30.93	315	⇑iP	P	17 46 48.2	-0.9
TESR	Tescani	30.93	315	⇑iP	P	17 46 48.2	-0.9
MLR	Muntele Rosu	30.95	313	P	P	17 46 51.0	+1.6
	comp=Z,2.1nm,0.7s,baz=80,slow=12,SNR=7.9						
MLR				LR	LR	18 02 32.0	
	comp=Z,60nm,21.7s,baz=92,slow=42						
MLR	Muntele Rosu	30.95	313	⇑iP	P	17 46 48.9	-0.5
MLR	Muntele Rosu	30.95	313	eP	P	17 46 48.8	-0.6
	comp=Z,16nm,1.0s						
MLR	Muntele Rosu	30.95	313	⇑iP	P	17 46 48.9	-0.5
MLR	Muntele Rosu	30.95	313	eP	P	17 46 48.8	-0.6
MLR				pmax	pmax		
	comp=Z,16nm,1.0s						
NVR	Nevrokopi	31.02	305	P	P	17 46 50.0	0.0
NVR	Nevrokopi	31.02	305	P	P	17 46 50.0	0.0
NVR	Nevrokopi	31.02	305	P	P	17 46 50.0	0.0
DGZ	Jazzator, Alta	31.27	38	i P	P	17 46 52.5	+0.3
DGZ				pmax	pmax		
	comp=Z,12nm,0.7s						
FYTO	Fytoko, Volos	31.28	301	P	P	17 46 52.6	+0.4
FYTO	Fytoko, Volos	31.28	301	P	P	17 46 52.6	+0.4
FYTO	Fytoko, Volos	31.28	301	P	P	17 46 52.6	+0.4
AXAR	Agios Charalam	31.38	299	P	P	17 46 54.8	+1.6
AXAR	Agios Charalam	31.38	299	P	P	17 46 54.8	+1.6
AXAR	Agios Charalam	31.38	299	P	P	17 46 54.8	+1.6
OBN	Obninsk	31.39	336	LR	LR	18 01 20.0	
	comp=Z,130nm,18.5s,baz=224,slow=40						
OBN	Obninsk	31.39	336	eP	P	17 46 52.8	-0.1
	comp=Z,30nm,0.6s						
OBN	Obninsk	31.39	336	d iP	P	17 46 52.4	-0.6
OBN				i *PP	pP	17 47 05.9	-4.0
OBN				e		17 47 54.2	
OBN				pmax	pmax		
	comp=Z,52nm,1.2s						
OBN				MLR	MLR		
	comp=Z,183nm,23.0s						
DSF	Desfina	31.42	299	P	P	17 46 53.1	-0.5
DSF	Desfina	31.42	299	P	P	17 46 53.1	-0.5
DSF	Desfina	31.42	299	P	P	17 46 53.1	-0.5
DOPR	Dopca	31.49	314	⇑iP	P	17 46 54.0	-0.1
DOPR	Dopca	31.49	314	⇑iP	P	17 46 54.0	-0.1
GUR	Goura	31.50	298	P	P	17 46 53.6	-0.7
GUR	Goura	31.50	298	P	P	17 46 53.6	-0.7
GUR	Goura	31.50	298	P	P	17 46 53.6	-0.7
VOIR		31.50	313	⇓iP	P	17 46 54.6	+0.3
VOIR		31.50	313	⇓iP	P	17 46 54.6	+0.3
MOS	Moscow	31.52	338	eP	P	17 46 52.4	-1.7
MOS				eS	S	17 51 54.2	-3.0
MOS				MLR	MLR		
	comp=Z,600nm,11.0s						
PRAR	RASCA	31.57	317	⇓iP	P	17 46 54.0	-0.7
PRAR	RASCA	31.57	317	⇓iP	P	17 46 54.0	-0.7
AKASG	Malin Array Be	31.60	324	P	P	17 46 53.6	-1.3
	comp=Z,3.7nm,0.3s,baz=127,slow=8.2,SNR=36						
AKASG				PcP	PcP	17 49 45.6	-0.1
	comp=Z,1.6nm,0.6s,baz=86,slow=2.2,SNR=7.3						
AKASG				pPcP		17 50 05.6	
	comp=Z,0.7nm,0.4s,baz=88,slow=2.4,SNR=7.3						
AKASG				ScP	ScP	17 53 21.1	-1.6
	comp=Z,1.6nm,0.6s,baz=91,slow=2.8,SNR=8.1						
AKASG	Malin Array Be	31.60	324	P	P	17 46 53.6	-1.3
AKASG						17 49 45.6	
AKASG				pmax	pmax		
	comp=Z,4.0nm,0.4s						
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.6s						
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AKASG				pmax	pmax		
	comp=N,2.0nm,0.6s						
AKBB	Malin Array Si	31.60	324	eP	P	17 46 53.7	-1.2
	comp=N,21nm,0.7s						
AKBB	Malin Array Si	31.60	324	eP	P	17 46 53.7	-1.2
	comp=N,21nm,0.7s						
AKBB	Malin Array Si	31.60	324	eP	P	17 46 53.7	-1.2
AKBB				pmax	pmax		
	comp=Z,21nm,0.7s						
KIEV	Kiev	31.60	324	eP	P	17 46 53.6	-1.3
	comp=Z,20nm,0.7s						
KIEV	Kiev	31.60	324	eP	P	17 46 53.6	-1.3
	comp=Z,20nm,0.7s						
KIEV	Kiev	31.60	324	deP	P	17 46 53.7	-1.2
KIEV				i *PP	pP	17 47 07.8	-4.1
KIEV				pmax	pmax		
	comp=Z,18nm,0.9s						
AK11	Malin Array Si	31.61	324	eP	P	17 46 53.2	-1.9
KLV	Kalavryta, Ach	31.66	298	P	P	17 46 55.9	+0.2
KLV	Kalavryta, Ach	31.66	298	P	P	17 46 55.9	+0.2
KLV	Kalavryta, Ach	31.66	298	P	P	17 46 55.9	+0.2
KALE	Kalithea	31.72	299	P	P	17 46 55.7	-0.5
KALE	Kalithea	31.72	299	P	P	17 46 55.7	-0.5
KALE	Kalithea	31.72	299	P	P	17 46 55.7	-0.5
ITM	Ithomi	31.73	296	P	P	17 46 56.0	-0.3
ITM	Ithomi	31.73	296	P	P	17 46 56.0	-0.3
ITM	Ithomi	31.73	296	P	P	17 46 56.0	-0.3
ARR	Arges	31.75	312	⇓iP	P	17 46 56.4	0.0
ARR	Arges	31.75	312	⇓iP	P	17 46 56.4	0.0
SERG	Sergoula	31.79	299	P	P	17 46 56.5	-0.3
SERG	Sergoula	31.79	299	P	P	17 46 56.5	-0.3
VTS	Vitosha	31.82	307	⇓iP	P	17 46 57.6	+0.4
VTS	Vitosha	31.82	307	eP	P	17 46 57.1	-0.1
	comp=Z,23nm,1.0s						
VTS	Vitosha	31.82	307	eP	P	17 46 57.1	-0.1
	comp=Z,23nm,1.0s						
VTS	Vitosha	31.82	307	eP	P	17 46 57.1	-0.1
VTS				pmax	pmax		
	comp=Z,23nm,1.0s						
LAKA	Lakka	31.82	298	P	P	17 46 57.0	-0.1
LAKA	Lakka	31.82	298	P	P	17 46 57.0	-0.1
LAKA	Lakka	31.82	298	P	P	17 46 57.0	-0.1
EFP	Efpalio	31.91	299	P	P	17 46 57.7	-0.1
EFP	Efpalio	31.91	299	P	P	17 46 57.7	-0.1
ANX	Ano Chora	31.92	299	P	P	17 46 57.4	-0.6
ANX	Ano Chora	31.92	299	P	P	17 46 57.4	-0.6
VAY	Valandovo	31.96	304	i P	P	17 46 58.8	+0.6
DRO	Drossia	32.00	298	P	P	17 46 59.3	+0.7
DRO	Drossia	32.00	298	P	P	17 46 59.3	+0.7
KOHI	KOHIMA	32.14	85	eP	P	17 47 01.0	+0.9
IMP	Imphal	32.19	87	eP	P	17 47 01.5	+1.0
PVO	Paravola	32.23	299	P	P	17 47 00.7	+0.1
PVO	Paravola	32.23	299	P	P	17 47 00.7	+0.1
BURAR	Bucovina Array	32.29	317	⇑iP	P	17 47 01.2	0.0
BURAR	Bucovina Array	32.29	317	⇑iP	P	17 47 01.2	0.0
BUR04	Bucovina Ar. S	32.30	317	eP	P	17 47 00.4	-0.8
BUR04	Bucovina Ar. S	32.30	317	eP	P	17 47 00.4	-0.8
BUR08	Bucovina Ar. S	32.31	317	eP	P	17 47 00.7	-0.7
BUR08	Bucovina Ar. S	32.31	317	eP	P	17 47 00.7	-0.7
MOKO	MOKOCHONG	32.38	84	eP	P	17 47 00.2	-2.0
PDO	Prodromos	32.49	299	P	P	17 47 02.4	-0.5
PDO	Prodromos	32.49	299	P	P	17 47 02.4	-0.5
NVS	Novosibirsk	32.55	27	⇑iP	P	17 47 03.9	+0.7
NVS				pmax	pmax		
	comp=Z,70nm,0.9s						
ZAA0	Zalesovo Array	32.60	30	eP	P	17 47 03.2	-0.4
	comp=Z,52nm,0.7s						
ZALV	Zalesovo Beam	32.60	30	P	P	17 47 03.0	-0.6
	comp=Z,27nm,0.3s,baz=231,slow=9.6,SNR=186						
ZALV				pPcP		17 50 07.8	
	comp=Z,1.6nm,0.3s,baz=234,slow=3.5,SNR=4.5						
ZALV				S	S	17 52 12.7	-1.5
	comp=Z,4.4nm,0.6s,baz=230,slow=17,SNR=9.1						
ZALV				LR	LR	18 02 21.5	
	comp=Z,225nm,18.5s,baz=250,slow=40						
ZALV	Zalesovo Beam	32.60	30	eP	P	17 47 02.4	-1.3
ZALV				pPcP		17 50 07.8	
ZALV				eS	S	17 52 12.6	-1.5
ARCR	ARCALIA	32.60	315	⇑iP	P	17 47 04.0	+0.2
ARCR	ARCALIA	32.60	315	⇑iP	P	17 47 04.0	+0.2
DSL	Palaion Diasel	32.64	300	P	P	17 47 03.4	-0.8
DSL	Palaion Diasel	32.64	300	P	P	17 47 03.4	-0.8
DSL	Palaion Diasel	32.64	300	P	P	17 47 03.4	-0.8
KFL	Anninata	32.74	298	P	P	17 47 04.4	-0.7
KFL	Anninata	32.74	298	P	P	17 47 04.4	-0.7
BIA	Bitola	32.81	303	i P	P	17 47 07.0	+1.2
ZAGS	Zajecar	32.85	309	⇓iP	P	17 47 05.1	-0.9
BARS	Barje	32.87	307	eP	P	17 47 06.0	-0.2
NEST	Nestorio	32.89	302	P	P	17 47 06.7	+0.2
NEST	Nestorio	32.89	302	P	P	17 47 06.7	+0.2
VLS	Valsamata	32.90	298	P	P	17 47 05.2	-1.3
VLS	Valsamata	32.90	298	P	P	17 47 05.2	-1.3
VLS	Valsamata	32.90	298	P	P	17 47 05.2	-1.3
VLS	Valsamata	32.90	298	P	P	17 47 05.2	-1.3
LKD2	Lefkada island	32.93	299	P	P	17 47 05.9	-0.9
LKD2	Lefkada island	32.93	299	P	P	17 47 05.9	-0.9
LKD2	Lefkada island	32.93	299	P	P	17 47 05.9	-0.9
SKO	Skopje	32.93	305	i P	P	17 47 06.4	-0.3
KRUS	Krusevo	32.94	304	i P	P	17 47 07.3	+0.5
HERR	Herculane	33.05	310	⇓iP	P	17 47 07.6	-0.1
KBN	Korca	33.13	302	P	P	17 47 08.8	+0.3
KBN	Korca	33.13	302	P	P	17 47 08.8	+0.3
KBN	Korca	33.13	302	P	P	17 47 08.8	+0.3
KBN	Korca	33.13	302	P	P	17 47 08.8	+0.3
BOVS	Bovan	33.17	308	⇑iP	P	17 47 09.8	+1.1
OHR	Ohrid	33.21	303	i P	P	17 47 09.6	+0.3
IGT	Igoumenitsa	33.29	300	P	P	17 47 09.1	-0.7
IGT	Igoumenitsa	33.29	300	P	P	17 47 09.1	-0.7
IGT	Igoumenitsa	33.29	300	P	P	17 47 09.1	-0.7
IGT	Igoumenitsa	33.29	300	P	P	17 47 09.1	-0.7
SGD	Sagiada	33.37	300	P	P	17 47 09.9	-0.7
SGD	Sagiada	33.37	300	P	P	17 47 09.9	-0.7
KUBS	Kucevo	33.41	309	eP	P	17 47 09.0	-1.9
SELS	Selova	33.47	307	eP	P	17 47 10.2	-1.2
SRN	Sarande	33.59	301	P	P	17 47 10.3	-2.2
SRN	Sarande	33.59	301	P	P	17 47 10.3	-2.2
SRN	Sarande	33.59	301	P	P	17 47 10.3	-2.2
SVIS	Svilajnac	33.69	309	eP	P	17 47 10.7	-2.5
KEK	Kerkira	33.72	301	P	P	17 47 12.6	-1.0
KEK	Kerkira	33.72	301	P	P	17 47 12.6	-1.0
KEK	Kerkira	33.72	301	P	P	17 47 12.6	-1.0
BZS	Buzias	33.83	311	⇓iP	P	17 47 14.2	-0.2
BZS	Buzias	33.83	311	⇓iP	P	17 47 14.2	-0.2
GRUS	Gruza	33.93	308	eP	P	17 47 14.9	-0.4
TIR	Tirane	33.95	303	⇑iP	P	17 47 15.8	+0.2
TIR	Tirane	33.95	303	⇑iP	P	17 47 15.8	+0.2
LVV	L’vov	33.98	320	eP	P	17 47 14.9	-0.9
SIRR	Siria	34.01	313	⇑iP	P	17 47 16.3	+0.2
SIRR	Siria	34.01	313	⇑iP	P	17 47 16.3	+0.2
TRPA	Tarpa	34.15	316	⇓iP	P	17 47 16.9	-0.3
TRPA	Tarpa	34.15	316	⇓eP	P	17 47 16.7	-0.5
TRPA	Tarpa	34.15	316	⇓eP	P	17 47 16.7	-0.5
TRUS	Trudelj	34.23	309	⇑iP	P	17 47 17.4	-0.6
IVAS	Ivanjica	34.24	307	eP	P	17 47 16.9	-1.2
DIVS	Divibare	34.49	308	eP	P	17 47 20.3	0.0
	comp=Z,12nm,1.1s						
DIVS	Divibare	34.49	308	eP	P	17 47 20.3	0.0
	comp=Z,12nm,1.1s						
UZH	Uzhgorod	34.50	317	c iP	P	17 47 19.0	-1.2
UZH				i		17 47 26.2	
MICGM	Minsk	34.53	329	⇑eP	P	17 47 19.0	-1.4
MICGM				PM		17 47 20.0	
	comp=Z,0.2nm,1.0s						
MNK	Minsk	34.53	329	⇑eP	P	17 47 19.0	-1.4
MNK				pmax	pmax		
	comp=Z,160nm,1.0s						
PDG	Podgorica	34.62	305	eP	P	17 47 20.5	-0.8
DRME	Dracevica, Mon	34.62	305	eP	P	17 47 20.0	-1.3
KWP	Kalwaria Pacla	34.67	319	eP	P	17 47 21.3	-0.4
KWP	Kalwaria Pacla	34.67	319	eP	P	17 47 21.3	-0.4
KWP	Kalwaria Pacla	34.67	319	eP	P	17 47 21.3	-0.4
FGSL	Fruska Gora	34.90	310	eP	P	17 47 23.0	-0.8
TEKS	Tekeris	34.92	309	eP	P	17 47 23.1	-0.9
KMBO	Kilima Mbogo	35.10	218	P	P	17 47 28.1	+2.1
	comp=Z,12nm,1.0s,baz=28,slow=12,SNR=15						
KMBO				LR	LR	18 03 04.9	
	comp=Z,134nm,21.7s,baz=74,slow=38						
KMBO	Kilima Mbogo	35.10	218	eP	P	17 47 28.3	+2.3
	comp=Z,23nm,1.2s						
KMBO	Kilima Mbogo	35.10	218	P	P	17 47 28.1	+2.1
	SNR=12						
KMBO	Kilima Mbogo	35.10	218	eP	P	17 47 28.3	+2.3
KMBO				pmax	pmax		
	comp=Z,23nm,1.2s						
CRVS	Cervenica-Dubn	35.11	317	eP	P	17 47 25.3	-0.2
	comp=Z,20nm,1.3s						
CRVS	Cervenica-Dubn	35.11	317	eP	P	17 47 25.3	-0.2
CRVS	Cervenica-Dubn	35.11	317	eP	P	17 47 25.3	-0.2
CRVS				pmax	pmax		
	comp=Z,20nm,1.3s						
HAPS	Han Pijesak,Bl	35.21	308	eP	P	17 47 25.3	-1.2
BRY	Bratogost	35.23	306	eP	P	17 47 25.7	-1.1
NACGM	Naroch	35.28	329	e	P	17 47 26.0	-0.9
KLMR	Klimovskoe	35.30	344	eP	P	17 47 24.5	-2.4
KLMR				AMP		17 47 36.5	
	comp=Z,22nm,1.5s						
KLMR				LQ	LQ	17 59 48.0	
KLMR				LQ	LQ	17 59 48.0	
KLMR	Klimovskoe	35.30	344	eP	P	17 47 24.5	-2.4
KLMR				pmax	pmax		
	comp=Z,22nm,1.5s						
TREB	Trebinje	35.33	305	eP	P	17 47 26.3	-1.2
STHS	Stebnicka Huta	35.45	318	eP	P	17 47 27.8	-0.6
	comp=Z,2.5nm,0.5s						
STHS	Stebnicka Huta	35.45	318	eP	P	17 47 27.8	-0.6
STHS	Stebnicka Huta	35.45	318	eP	P	17 47 27.8	-0.6
STHS				pmax	pmax		
	comp=Z,3.0nm,0.5s						
HVS	Khovu-Aksy	35.45	39	⇓eP	P	17 47 29.1	+0.6
HVS				pmax	pmax		
	comp=Z,12nm,0.3s						
IDID	Didziasalis	35.55	329	eP	P	17 47 29.2	0.0
IDID				IAmb	IAmb	17 47 31.7	
	comp=Z,28nm,0.9s						
DGPR	DIGLIPUR	35.59	107	eP	P	17 47 31.8	+1.9
DGPR				IAmb	IAmb	17 47 53.0	
	comp=Z,84nm,1.4s						
PSZ	Piszkesteto	35.71	315	⇓iP	P	17 47 30.3	-0.6
PSZ	Piszkesteto	35.71	315	⇓eP	P	17 47 30.2	-0.6
PSZ	Piszkesteto	35.71	315	eP	P	17 47 30.1	-0.6
	comp=Z,16nm,0.9s						
PSZ	Piszkesteto	35.71	315	⇓eP	P	17 47 30.2	-0.6
PSZ	Piszkesteto	35.71	315	eP	P	17 47 30.1	-0.6
PSZ				pmax	pmax		
	comp=Z,16nm,0.9s						
IIGN	Ignalina	35.81	329	eP	P	17 47 31.4	0.0
IIGN				IAmb	IAmb	17 47 34.0	
	comp=Z,34nm,0.8s						
IIGN	Ignalina	35.81	329	eP	P	17 47 31.4	0.0
	SNR=27						
STON	Ston	35.83	306	eP	P	17 47 29.0	-2.7
MORH	Mˆ‡rˆ¡gy, Hung	35.98	311	⇑eP	P	17 47 33.5	+0.5
MORH	Mˆ‡rˆ¡gy, Hung	35.98	311	⇑eP	P	17 47 33.5	+0.5
TIP	Timpagrande	35.99	299	⇓iP	P	17 47 33.6	+0.3
TIP	Timpagrande	35.99	299	eP	P	17 47 34.0	+0.7
	comp=Z,267nm,1.4s						
TIP	Timpagrande	35.99	299	P	P	17 47 32.9	-0.4
TIP	Timpagrande	35.99	299	P	P	17 47 32.9	-0.4
NIE	Niedzica	36.01	317	eP	P	17 47 33.9	+0.6
NIE	Niedzica	36.01	317	eP	P	17 47 33.9	+0.6
IZAR	Zarasai	36.04	330	eP	P	17 47 33.4	+0.1
IZAR				IAmb	IAmb	17 47 35.9	
	comp=Z,43nm,1.1s						
BUD	Budapest	36.12	314	⇑eP	P	17 47 34.3	+0.1
BUD	Budapest	36.12	314	⇑eP	P	17 47 34.3	+0.1
PBA	Port Blair	36.20	109	eP	P	17 47 34.8	-0.4
PBA				IAmb	IAmb	17 47 39.2	
	comp=Z,101nm,1.4s						
GTA	Gaotai	36.29	61	eP	P	17 47 36.8	+0.9
GTA				pP	pP	17 47 52.3	-0.8
GTA				sP	sP	17 47 59.0	-2.3
GTA				S	S	17 53 11.3	-0.4
GTA				sS	ScP	17 53 36.4	-3.3
GTA				SS	SnSn	17 55 35.4	-10
GTA				pmax	pmax		
	comp=Z,14nm,0.7s						
GTA				pmax	pmax		
	comp=Z,1µm,6.2s						
GTA				LR	LR		
	comp=Z,230nm,18.1s						
GTA				LR	LR		
	comp=Z,170nm,11.9s						
GTA				LR	LR		
	comp=Z,240nm,12.8s						
LANS	Liptovska Anna	36.42	316	eP	P	17 47 36.8	+0.1
LANS	Liptovska Anna	36.42	316	eP	P	17 47 36.8	+0.1
LANS	Liptovska Anna	36.42	316	eP	P	17 47 36.8	+0.1
SUW	Suwalki	36.51	325	eP	P	17 47 37.3	-0.1
SUW	Suwalki	36.51	325	eP	P	17 47 36.4	-1.0
	comp=Z,84nm,1.2s						
SUW	Suwalki	36.51	325	eP	P	17 47 37.3	-0.1
VYHS	Vyhne	36.58	315	eP	P	17 47 37.7	-0.4
	comp=Z,24nm,1.7s						
VYHS	Vyhne	36.58	315	eP	P	17 47 37.7	-0.4
VYHS	Vyhne	36.58	315	eP	P	17 47 37.7	-0.4
VYHS				pmax	pmax		
	comp=Z,24nm,1.7s						
CSKK	Csˆ‡kako	36.58	313	⇑eP	P	17 47 38.1	0.0
CSKK	Csˆ‡kako	36.58	313	⇑eP	P	17 47 38.1	0.0
BLY	Banja Luka	36.60	308	eP	P	17 47 39.2	+0.9
OJC	Ojcow	36.62	318	eP	P	17 47 37.9	-0.5
OJC	Ojcow	36.62	318	eP	P	17 47 37.5	-0.9
	comp=Z,163nm,1.6s						
OJC	Ojcow	36.62	318	eP	P	17 47 37.9	-0.5
CUC	Castrocucco	36.80	300	eP	P	17 47 40.6	+0.5
	comp=Z,137nm,1.0s						
CUC	Castrocucco	36.80	300	eP	P	17 47 40.6	+0.5
	comp=Z,137nm,1.0s						
BEHE	Becsehely	37.30	311	⇑eP	P	17 47 45.0	+0.8
BEHE	Becsehely	37.30	311	⇑eP	P	17 47 45.0	+0.8
OKC	Ostrava-Krasne	37.47	317	eP	P	17 47 44.9	-0.7
OKC				epP	pP	17 48 03.2	+0.4
OKC	Ostrava-Krasne	37.47	317	P	P	17 47 44.9	-0.7
OKC	Ostrava-Krasne	37.47	317	eP	P	17 47 44.9	-0.7
OKC				e		17 48 03.2	
VSU	Vasula	37.55	333	ceP	P	17 47 45.6	-0.5
VSU				i *PP	pP	17 48 02.9	-0.4
VSU				pmax	pmax		
	comp=Z,78nm,0.9s						
VAE	Valguarnera	37.73	296	P	P	17 47 49.5	+1.5
	comp=Z,52nm,0.9s,baz=51,slow=7.5,SNR=9.4						
SOP	Sopron	37.77	313	⇑eP	P	17 47 48.1	-0.1
SOP	Sopron	37.77	313	⇑eP	P	17 47 48.1	-0.1
MORC	Moravsky Berou	37.81	317	⇑iP	P	17 47 47.9	-0.7
MORC	Moravsky Berou	37.81	317	eP	P	17 47 47.5	-1.1
	comp=Z,118nm,1.4s						
MORC	Moravsky Berou	37.81	317	eP	P	17 47 47.5	-1.1
MORC				pmax	pmax		
	comp=Z,118nm,1.4s						

CRES Cresnjev 38.03 310 *e*P **P** **17 47 50.1 -0.3**
BOJS Bojanci 38.10 309 *e*P **P** **17 47 50.7 -0.3**
BOJS Bojanci 38.10 309 *e*P **P** **17 47 50.7 -0.3**
NVLJ Novalja 38.17 308 P **P** **17 47 50.5 -1.1**
NVLJ Novalja 38.17 308 *i*P **P** **17 47 50.4 -1.1**
CONA Conrad Observa 38.29 313 P **P** **17 47 52.3 -0.4**
comp=Z,19nm,1.3s,SNR=12
CONA Conrad Observa 38.29 313 *i*P **P** **17 47 52.3 -0.4**
comp=Z,19nm,1.3s,SNR=12
ARSA Arzberg 38.33 312 *i*P **P** **17 47 53.1 +0.2**
comp=Z,18nm,1.1s,SNR=7.8
KRLC Kraliky 38.38 317 *e*P **P** **17 47 52.3 -1.0**
KRLC Kraliky 38.38 317 P **P** **17 47 52.3 -1.0**
KRLC Kraliky 38.38 317 *e*P **P** **17 47 52.3 -1.0**
CHTO Chiang Mai 38.42 95 P **P** **17 47 55.7 +1.7**
comp=Z,44nm,0.9s
CHTO Chiang Mai 38.42 95 *e*P **P** **17 47 54.1 +0.1**
comp=Z,12nm,1.1s
CHTO Chiang Mai 38.42 95 P **P** **17 47 55.1 +1.2**
SNR=7.5
CHTO Chiang Mai 38.42 95 *e*P **P** **17 47 54.1 +0.1**
CHTO pmax pmax
comp=Z,12nm,1.1s
CMMT Chiang Mai 38.42 95 P **P** **17 47 54.7 +0.7**
comp=Z,12nm,1.2s
VISS Visnje 38.45 310 *i*P **P** **17 47 53.9 0.0**
VISS Visnje 38.45 310 *i*P **P** **17 47 53.9 0.0**
PERS Pernice 38.45 311 *i*P **P** **17 47 53.6 -0.4**
PERS Pernice 38.45 311 *i*P **P** **17 47 53.6 -0.4**
SOKA Soboth 38.52 311 P **P** **17 47 52.2 -2.4**
comp=Z,7.0nm,0.9s,SNR=5.7
SOKA Soboth 38.52 311 *i*P **P** **17 47 52.2 -2.4**
comp=Z,7.0nm,0.9s,SNR=5.7
CMAR Chiang Mai Arr 38.55 95 P **P** **17 47 55.8 +0.7**
comp=Z,2.3nm,0.7s,baz=284,slow=10,SNR=20
CMAR PcP **PcP** **17 50 07.2 +0.7**
comp=Z,1.4nm,0.5s,baz=280,slow=4.6,SNR=5.8
CMAR ScP **ScP** **17 53 49.0 +0.6**
comp=Z,2.6nm,1.1s,baz=287,slow=5.3,SNR=7.9
CMAR LR LR 18 05 41.5
comp=Z,325nm,18.8s,baz=294,slow=39
CEY Cerknica 38.71 309 *e*P **P** **17 47 55.9 -0.3**
DPC Dobruska-Polom 38.75 317 *e*P **P** **17 47 55.7 -0.7**
DPC *ep*P **pP** **17 48 16.6 +2.9**
DPC *eS* **S** **17 53 48.9 +0.5**
DPC Dobruska-Polom 38.75 317 P **P** **17 47 55.7 -0.7**
DPC Dobruska-Polom 38.75 317 *e*P **P** **17 47 55.7 -0.7**
DPC *e* 17 53 48.9
OBKA Obir 38.80 311 P **P** **17 47 57.4 +0.5**
comp=Z,17nm,1.2s,SNR=5.8
OBKA Obir 38.80 311 *i*P **P** **17 47 57.4 +0.5**
comp=Z,17nm,1.2s,SNR=5.8
TREC Trest 38.93 315 *e*P **P** **17 47 57.4 -0.5**
TREC *ep*P **pP** **17 48 17.6 +2.4**
TREC Trest 38.93 315 P **P** **17 47 57.4 -0.5**
TREC Trest 38.93 315 *e*P **P** **17 47 57.4 -0.5**
KSP Ksiaz 38.93 318 *e*P **P** **17 47 57.6 -0.3**
KSP Ksiaz 38.93 318 *e*P **P** **17 47 57.6 -0.3**
UPC Upice 38.99 317 *e*P **P** **17 47 57.9 -0.5**
UPC Upice 38.99 317 P **P** **17 47 57.9 -0.5**
UPC Upice 38.99 317 *e*P **P** **17 47 57.9 -0.5**
JAVS Javornik 38.99 310 *i*P **P** **17 47 57.7 -0.9**
JAVS Javornik 38.99 310 *i*P **P** **17 47 57.7 -0.9**
TRI Trieste 39.16 309 *e*P **P** **17 47 58.5 -1.3**
comp=Z,22nm,0.9s
TRI Trieste 39.16 309 *e*P **P** **17 47 58.5 -1.3**
comp=Z,22nm,0.9s
TRI Trieste 39.16 309 *e*P **P** **17 47 58.5 -1.3**
TRI pmax pmax
comp=Z,22nm,0.9s
GKP Gorka Klasztor 39.30 322 *e*P **P** **17 48 01.6 +0.8**
GKP Gorka Klasztor 39.30 322 *e*P **P** **17 48 01.7 +0.8**
MOA Molln 39.31 313 P **P** **17 48 00.1 -1.0**
comp=Z,5.0nm,0.4s,SNR=10.0
MOA Molln 39.31 313 *i*P **P** **17 48 00.1 -1.0**
comp=Z,5.0nm,0.4s,SNR=10.0
LZH Lanzhou 39.36 66 *e*P **P** **17 48 03.9 +2.0**
LZH pP pP 17 48 20.9 +1.7
LZH sP sP 17 48 28.8 +1.4
LZH PP **PP** **17 49 32.9 -0.4**
LZH *eS* **S** **17 54 00.6 +2.3**
LZH SS **SS** **17 56 48.9 -5.5**
LZH pmax pmax
comp=Z,21nm,1.1s
LZH pmax pmax
comp=Z,160nm,5.7s
LZH LR LR
comp=Z,1μm,13.9s
LZH LR LR
comp=Z,1μm,15.0s
LZH LR LR
comp=Z,2μm,15.2s
GOPC GO Pecny, Ondr 39.55 316 *e*P **P** **17 48 02.1 -0.9**
GOPC GO Pecny, Ondr 39.55 316 P **P** **17 48 02.1 -0.9**
GOPC GO Pecny, Ondr 39.55 316 *e*P **P** **17 48 02.1 -0.9**
CD2 Chengdu 39.69 74 *e*P **P** **17 48 03.8 -0.7**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
PRU Pruhonice 39.72 316 *e*P **P** **17 48 03.4 -1.0**
PRU Pruhonice 39.72 316 P **P** **17 48 03.4 -1.0**
PRU Pruhonice 39.72 316 *e*P **P** **17 48 03.4 -1.0**
KBA Koelnbreinsper 39.73 311 P **P** **17 48 04.3 -0.5**
comp=Z,15nm,0.9s,SNR=6.2
KBA Koelnbreinsper 39.73 311 *i*P **P** **17 48 04.3 -0.5**
comp=Z,15nm,0.9s,SNR=6.2
FIA1 FINESS Array S 39.79 337 *e*P **P** **17 48 04.2 -0.6**
FINES FINESS Array B 39.79 337 P **P** **17 48 04.4 -0.5**
comp=Z,15nm,0.4s,baz=134,slow=8.2,SNR=120
FINES ScP **ScP** **17 53 50.2 -2.2**
comp=Z,2.0nm,0.8s,baz=147,slow=5.9,SNR=4.1
MOY Mondy 39.85 41 *e*P **P** **17 48 06.5 +0.9**
MOY pmax pmax
comp=Z,33nm,1.9s
PVCC Panska Ves 39.87 317 *e*P **P** **17 48 04.9 -0.8**
PVCC Panska Ves 39.87 317 P **P** **17 48 04.9 -0.8**
PVCC Panska Ves 39.87 317 *e*P **P** **17 48 04.9 -0.8**
KMI Kunming 39.88 83 P **P** **17 48 07.8 +1.4**
KMI pP pP 17 48 25.6 +1.9
KMI sP sP 17 48 32.5 +0.6
KMI PP **PP** **17 49 39.8 +0.7**
KMI S **S** **17 54 08.3 +2.0**
KMI sS sS 17 54 36.3 +0.4
KMI SS **SS** **17 56 59.0 -6.1**
KMI pmax pmax
comp=Z,160nm,5.0s
KMI LR LR
comp=Z,190nm,20.1s
KMI LR LR
comp=Z,260nm,18.4s
KMI LR LR
comp=Z,190nm,19.9s
GEA0 GERESS Array S 39.93 314 *e*P **P** **17 48 03.6 -2.7**
GEA0 *e*PcP **PcP** **17 50 10.0 -0.5**
GEA0 GERESS Array S 39.93 314 *e*P **P** **17 48 03.6 -2.7**
GEA0 GERESS Array S 39.93 314 *e*PcP **PcP** **17 50 10.0 -0.5**
GEC2 GERESS Array S 39.93 314 *e*P **P** **17 48 05.3 -1.0**
comp=Z,73nm,1.5s
GEC2 GERESS Array S 39.93 314 *e*P **P** **17 48 05.3 -1.0**
comp=Z,73nm,1.5s
GEC2 GERESS Array S 39.93 314 *e*P **P** **17 48 05.3 -1.0**
GEC2 pmax pmax
comp=Z,73nm,1.5s
GERES GERESS Array B 39.93 314 P **P** **17 48 05.3 -1.0**
comp=Z,3.4nm,0.4s,baz=108,slow=8.7,SNR=50
GERES PcP **PcP** **17 50 10.3 -0.2**
comp=Z,2.0nm,0.6s,baz=111,slow=3.3,SNR=4.8
GERES pPcP 17 50 30.5
comp=Z,2.1nm,0.7s,baz=120,slow=2.2,SNR=5.2
GERES ScP **ScP** **17 53 52.1 -1.2**
comp=Z,2.9nm,0.9s,baz=123,slow=3.7,SNR=9.2
GERES LR LR 18 07 13.4
comp=Z,113nm,21.3s,baz=104,slow=40
NANT Nan 39.97 94 P **P** **17 48 09.5 +2.6**
comp=Z,3.4nm,0.8s
KHC Kasperske Hory 40.08 314 *e*P **P** **17 48 06.6 -0.9**
KHC *ep*P **pP** **17 48 26.1 +1.2**
KHC *es*P **sP** **17 48 35.7 +2.6**
KHC *e*SCP **ScP** **17 53 53.4 -0.4**
KHC Kasperske Hory 40.08 314 *e*P **P** **17 48 06.3 -1.2**
comp=Z,32nm,1.4s
KHC Kasperske Hory 40.08 314 P **P** **17 48 06.6 -0.9**
KHC Kasperske Hory 40.08 314 *e*P **P** **17 48 06.3 -1.2**
KHC pmax pmax
comp=Z,32nm,1.4s

ABTA Abfaltersbach 40.22 310 *i*P **P** **17 48 07.7 -1.0**
comp=Z,12nm,0.5s,SNR=9.3
PHIT Phitsanulok 40.32 96 P **P** **17 48 12.7 +2.9**
comp=Z,14nm,1.0s
BRG Berggiesshubel 40.35 317 *e*P **P** **17 48 09.1 -0.6**
comp=Z,20nm,1.5s
BRG *e* 17 48 30.2
comp=Z,6.1nm,1.1s
BRG Berggiesshubel 40.35 317 *e*P **P** **17 48 09.1 -0.6**
BRG pmax pmax
comp=Z,20nm,1.5s
BRG pmax pmax
comp=Z,6.0nm,1.1s
SRDT SRDT 40.36 101 P **P** **17 48 14.5 +4.3**
comp=Z,22nm,1.5s,comp=Z,425nm
ZAK Zakamensk 40.83 44 *e*P **P** **17 48 13.7 0.0**
ZAK *e* 17 49 47.6
ZAK pmax pmax
comp=Z,6.0nm,1.7s
ZAK pmax pmax
comp=Z,5.0nm,1.4s
WTTA Wattenberg 40.91 311 *i*P **P** **17 48 13.9 -0.6**
comp=Z,7.3nm,0.4s,SNR=11
WATA Walderalm 40.97 311 P **P** **17 48 14.5 -0.5**
comp=Z,8.0nm,0.4s
WATA Walderalm 40.97 311 *i*P **P** **17 48 14.5 -0.5**
comp=Z,8.0nm,0.4s
CLL Collm 41.05 317 ⇓*i*P **P** **17 48 14.8 -0.6**
comp=Z,60nm,1.3s
CLL *ep*P **pP** **17 48 35.0 +2.2**
CLL *e*ScP **ScP** **17 53 57.0 -0.5**
CLL *e*SS **SS** **17 57 30.0 +2.8**
CLL Collm 41.05 317 *e*P **P** **17 48 14.8 -0.6**
comp=Z,57nm,1.2s
CLL Collm 41.05 317 *e*P **P** **17 48 14.8 -0.6**
comp=Z,57nm,1.2s
CLL Collm 41.05 317 ⇓*i*P **P** **17 48 14.8 -0.6**
CLL pmax pmax
comp=Z,60nm,1.3s
PBKT Sadao Pong 41.05 97 P **P** **17 48 16.7 +0.9**
comp=Z,20nm,1.1s,comp=Z,1μm
MOTA Moosalm 41.28 311 *i*P **P** **17 48 16.9 -0.7**
comp=Z,11nm,0.4s,SNR=22
TLY Talaya 41.42 42 *e*P P 17 48 12.8 -5.7
TLY pmax pmax
comp=Z,8.0nm,1.0s
TLY MLR MLR
comp=Z,103nm,14.0s
PHET Kang Krachan 41.45 102 P P 17 48 24.8 +5.7
comp=Z,37nm,0.9s,comp=Z,288nm
FETA Feichten 41.48 311 P **P** **17 48 18.2 -0.9**
comp=Z,17nm,0.5s,SNR=10
FETA Feichten 41.48 311 *i*P **P** **17 48 18.2 -0.9**
comp=Z,17nm,0.5s,SNR=10
RETA Reutte 41.54 311 P **P** **17 48 18.1 -1.5**
comp=Z,6.3nm,0.5s
RETA Reutte 41.54 311 *i*P **P** **17 48 18.1 -1.5**
comp=Z,6.3nm,0.5s
GRFO Grafenberg 41.71 315 *e*P **P** **17 48 20.4 -0.5**
comp=Z,66nm,1.4s
GRFO Grafenberg 41.71 315 *e*P **P** **17 48 20.4 -0.5**
GRFO pmax pmax
comp=Z,66nm,1.4s
FUORN Ofenpass-Fuorn 41.72 310 *e*P **P** **17 48 20.9 -0.4**
comp=Z,84nm,1.9s
FUORN Ofenpass-Fuorn 41.72 310 *e*P **P** **17 48 20.9 -0.4**
comp=Z,84nm,1.9s
VSL Villasalto 41.72 299 *e*P **P** **17 48 21.9 +0.9**
comp=Z,108nm,1.0s
VSL Villasalto 41.72 299 *e*P **P** **17 48 22.0 +0.9**
comp=Z,108nm,1.0s
KEST Kesra 41.83 293 P **P** **17 48 23.4 +1.4**
comp=Z,17nm,0.8s,baz=216,slow=1.5,SNR=16
KEST LR LR 18 10 45.6
comp=Z,99nm,18.9s,baz=320,slow=43
KEST Kesra 41.83 293 *e*P **P** **17 48 22.9 +0.9**
comp=Z,57nm,1.1s
KEST Kesra 41.83 293 *e*P **P** **17 48 23.0 +0.9**
comp=Z,57nm,1.1s
IRK Irkutsk 41.96 42 *e*P **P** **17 48 21.5 -1.3**
IRK pmax pmax
comp=Z,18nm,2.0s
DAVA Damuels 42.09 311 *i*P **P** **17 48 22.8 -1.4**
comp=Z,54nm,1.2s,SNR=9.1
CHAI Chaiyaphum 42.21 97 P P 17 48 30.4 +5.1
comp=Z,5.4nm,0.9s,comp=Z,56nm
SONM Songino Array 42.23 48 P **P** **17 48 25.5 +0.2**
comp=Z,5.6nm,0.7s,baz=250,slow=7.7,SNR=11
SONM pP **pP** **17 48 44.1 +1.3**
comp=Z,5.6nm,0.8s,baz=257,slow=8.8,SNR=5.4
SONM LR LR 18 08 05.4
comp=Z,597nm,20.9s,baz=260,slow=39
SONM Songino Array 42.23 48 P **P** **17 48 25.5 +0.2**
SONM *PP **pP** **17 48 44.1 +1.3**
SONM pmax pmax
comp=Z,7.0nm,0.9s
SONM pmax pmax
comp=Z,6.0nm,0.8s
SONM MLR MLR
comp=Z,597nm,20.9s
SONA1 Songino Array 42.24 48 *e*P **P** **17 48 25.6 +0.3**
SONA1 *ep*P **pP** **17 48 44.9 +2.1**
SONA1 Songino Array 42.24 48 *e*P **P** **17 48 25.6 +0.3**
SONA1 *ep*P **pP** **17 48 44.9 +2.1**
TUE Stuetta 42.32 309 *e*P **P** **17 48 24.9 -1.2**
comp=Z,64nm,1.6s
APA Apatity 42.44 346 ⇓*i*P P 17 48 31.7 +5.2
APA pmax pmax
comp=Z,16nm,0.8s
APA MLR MLR
comp=Z,500nm,13.0s
ULN Ulaanbaatar 42.67 49 *e*P **P** **17 48 27.8 -1.1**
comp=Z,16nm,1.1s
ULN Ulaanbaatar 42.67 49 P **P** **17 48 29.0 +0.1**
SNR=9.1
ULN Ulaanbaatar 42.67 49*c i*P **P** **17 48 28.8 -0.1**
ULN pmax pmax
comp=Z,20nm,1.7s
GYA Guiyang 43.00 80 ⇑*i*P **P** **17 48 32.1 +0.3**
GYA pP pP 17 48 49.6 +0.3
GYA sP sP 17 48 56.3 -1.2
GYA PP **PP** **17 50 16.0 +3.2**
GYA S **S** **17 54 53.3 +0.9**
GYA sS sS 17 55 21.8 -0.4
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,120nm,5.9s
SRAK Srakaew 43.06 99 P P 17 48 41.8 +10
SKNT Sakolnakorn 43.55 94 P **P** **17 48 37.4 +1.3**
comp=Z,7.1nm,1.1s
XAN Xi'an 43.65 69 P **P** **17 48 36.9 0.0**
XAN pP pP 17 48 55.3 +0.9
XAN pmax pmax
comp=Z,12nm,0.6s
SENIN Lac Senin/Sane 43.71 309 *e*P **P** **17 48 36.4 -0.9**
comp=Z,8.4nm,0.6s
SENIN Lac Senin/Sane 43.71 309 *e*P **P** **17 48 36.4 -0.9**
comp=Z,8.4nm,0.6s
BNI Bardonecchia 44.01 307 *e*P **P** **17 48 38.2 -1.5**
comp=Z,47nm,1.0s
BNI *ep*P **pP** **17 48 58.8 +1.5**
BNI Bardonecchia 44.01 307 *e*P **P** **17 48 38.2 -1.5**
comp=Z,47nm,1.0s
BNI *ep*P **pP** **17 48 58.8 +1.5**
BNI Bardonecchia 44.01 307 *e*P **P** **17 48 38.2 -1.5**
BNI pmax pmax
comp=Z,47nm,1.0s
HFS Hagfors 44.03 330 P **P** **17 48 38.9 -0.5**
comp=Z,34nm,0.4s,baz=128,slow=9.3,SNR=304
HFS LR LR 18 09 49.6
comp=Z,225nm,19.5s,baz=124,slow=40
ECH Echery 44.05 312 *e*P **P** **17 48 37.9 -1.9**
comp=Z,56nm,1.7s
ECH Echery 44.05 312 *e*P **P** **17 48 37.9 -1.9**
ECH pmax pmax
comp=Z,56nm,1.7s
ENH Enshi 44.66 74 *e*P **P** **17 48 45.8 +0.8**
comp=Z,20nm,0.6s
WLF Walferdange 44.93 314 ⇓P **P** **17 48 46.1 -0.7**
MEM Membach 45.18 315 ⇑P **P** **17 48 48.3 -0.4**
NC602 NORSAR Array S 45.25 330 *e*P **P** **17 48 48.2 -0.9**
NC602 NORSAR Array S 45.25 330 *e*P **P** **17 48 48.3 -0.9**
OSL Oslo 45.29 329 *e*P **P** **17 48 48.7 -0.7**
NC405 NORSAR Array S 45.34 330 *e*P **P** **17 48 48.0 -1.8**
HHC Hu-ho-hao-te 45.35 59 *e*P **P** **17 48 51.6 +1.2**

HHC pP pP 17 49 05.9 -2.1
HHC PP **PcP** **17 50 32.3 +3.5**
HHC S **S** **17 55 22.0 -4.1**
HHC sS sS 17 55 51.6 -4.5
HHC SS **ScS** **17 58 36.8 -3.6**
HHC pmax pmax
comp=Z,35nm,1.0s
HHC pmax pmax
comp=Z,87nm,6.0s
HHC LR LR
comp=Z,1μm,15.3s
HHC LR LR
comp=Z,1μm,15.0s
HHC LR LR
comp=Z,1μm,14.3s
NB201 NORSAR Array S 45.50 330 *e*P **P** **17 48 49.1 -2.0**
NB2 NORSAR Subarra 45.53 330 P **P** **17 48 50.1 -1.2**
comp=Z,16nm,0.6s,baz=116,slow=7.9
NB2 NORSAR Subarra 45.53 330 P **P** **17 48 50.1 -1.2**
baz=116,slow=7.9
NOA NORSAR Array B 45.53 330 P **P** **17 48 50.1 -1.2**
comp=Z,16nm,0.6s,baz=116,slow=7.8,SNR=84
NOA pP **pP** **17 49 09.2 +0.1**
comp=Z,0.7nm,0.3s,baz=117,slow=6.1,SNR=1.3
NOA LR LR 18 12 15.4
comp=Z,48nm,20.2s,baz=120,slow=42
SSB Saint Sauveur 45.53 307 *e*P **P** **17 48 50.0 -1.7**
comp=Z,22nm,0.8s
SSB Saint Sauveur 45.53 307 *e*P **P** **17 48 50.0 -1.7**
comp=Z,22nm,0.8s
SSB pmax pmax
comp=Z,22nm,0.8s
NC303 NORSAR Array S 45.54 330 *e*P **P** **17 48 50.6 -0.8**
NAO01 NORSAR Array S 45.59 330 *e*P **P** **17 48 51.0 -0.9**
BCLA Clavier 45.59 314 ⇑P **P** **17 48 52.1 +0.1**
KEV Kevo 45.60 345 *e*P **P** **17 48 50.5 -1.2**
comp=Z,44nm,1.5s
KEV Kevo 45.60 345 *e*P **P** **17 48 50.5 -1.2**
KEV pmax pmax
comp=Z,44nm,1.5s
NBO02 NORSAR Array S 45.69 330 *e*P **P** **17 48 51.6 -1.0**
KONO Kongsberg 45.70 328 *e*P **P** **17 48 51.6 -1.1**
KONO Kongsberg 45.70 328⇓*e*P **P** **17 48 53.0 +0.3**
KONO pmax pmax
comp=Z,65nm,2.5s
NBO00 NORSAR Array S 45.72 330 *e*P **P** **17 48 51.8 -1.0**
HOMB Homborsund 45.74 326 *e*P **P** **17 48 52.0 -1.0**
ARCES ARCESS Array B 45.77 345 P **P** **17 48 52.6 -0.6**
comp=Z,3.4nm,0.4s,baz=139,slow=8.9,SNR=29
ARCES PcP **PcP** **17 50 29.6 0.0**
comp=Z,2.4nm,0.6s,baz=210,slow=1.0,SNR=3.7
ARCES ScP **ScP** **17 54 15.1 -1.2**
comp=Z,2.1nm,0.8s,baz=195,slow=2.4,SNR=4.0
ARCES ARCESS Array B 45.77 345 *e*P **P** **17 48 54.4 +1.2**
ARCES PcP **PcP** **17 50 29.6 0.0**
ARCES ScP **ScP** **17 54 15.1 -1.2**
ARCES ARCESS Array B 45.77 345 *e*P **P** **17 48 54.4 +1.2**
ARCES 17 50 29.6
NC204 NORSAR Array S 45.83 330 *e*P **P** **17 48 53.0 -0.8**
KTK1 Kautokeino 45.94 343 *e*P **P** **17 48 54.1 -0.3**
DOU Dourbes 45.99 314 ⇑P **P** **17 48 55.1 -0.1**
PSI Prapat 46.23 115 *ep*P pP 17 49 17.8 +2.5
SNART Snartemo 46.41 326 *e*P **P** **17 48 57.9 -0.4**
MOR8 Moi Rana 46.77 337 *e*P **P** **17 49 00.2 -0.8**
NSS Namsos 46.81 335 *e*P **P** **17 49 01.6 +0.3**
DOMB Dombas 46.88 331 *e*P **P** **17 49 01.6 -0.4**
IPM Ipoh 46.96 112 *ep*P pP 17 49 22.0 +1.0
BLS5 Blasjo 47.13 327 *e*P **P** **17 49 03.8 -0.1**
ODD1 Odda 47.20 328 *e*P **P** **17 49 04.8 +0.3**
STOK Stokkvaagen 47.34 337 *e*P **P** **17 49 05.2 -0.2**
STAV Stavanger 47.34 326 *e*P **P** **17 49 05.2 -0.4**
OPO Ambohidratompo 47.35 194 P **P** **17 49 07.0 +0.8**
comp=Z,7.6nm,1.1s,baz=354,slow=4.6,SNR=4.9
OPO LR LR 18 06 48.7
comp=Z,171nm,21.2s,baz=30,slow=33
KONS Konsvik 47.39 337 *e*P **P** **17 49 05.3 -0.5**
TRO Tromso 47.49 343 *e*P **P** **17 49 06.0 -0.5**
STEI Steigen 47.49 340 *e*P **P** **17 49 06.8 +0.2**
TAM Tamanrasset 47.51 276 *e*P **P** **17 49 08.3 +0.8**
comp=Z,50nm,1.0s
TAM Tamanrasset 47.51 276 *e*P **P** **17 49 08.3 +0.8**
TAM pmax pmax
comp=Z,51nm,1.0s
AKN Aaknes 47.83 330 *e*P **P** **17 49 09.2 -0.1**
HYA Hoyanger 47.83 329 *e*P **P** **17 49 09.5 +0.3**
BER Bergen 47.97 328 *e*P **P** **17 49 10.5 +0.1**
ASK Askoy 48.07 328 *e*P **P** **17 49 10.9 -0.2**
WOL Wolverton 49.81 315 *e*P **P** **17 49 24.9 +0.3**
SSW Stow on the Wo 50.25 316 *e*P **P** **17 49 27.9 0.0**
HPK Haverah Park 50.30 318 *e*P **P** **17 49 27.9 -0.3**
HPK IAmb IAmb 17 49 28.5
comp=Z,95nm,1.3s
STRD Stroud 50.43 316 *e*P **P** **17 49 28.1 -1.1**
STRD IAmb IAmb 17 49 30.8
comp=Z,52nm,0.9s
EDMD Edmundbyers 50.60 320 *e*P **P** **17 49 29.7 -0.8**
EDMD IAmb IAmb 17 49 30.9
comp=Z,43nm,0.6s
HGH Gray Hill 50.82 315 *e*P **P** **17 49 31.3 -0.9**
MONM Monmouth 50.83 316 *e*P **P** **17 49 31.1 -1.1**
MONM IAmb IAmb 17 49 33.1
comp=Z,120nm,1.4s
HLM1 Long Mynd 50.92 316 *e*P **P** **17 49 31.7 -1.3**
MCH1 Michaelchurch 50.96 316 *e*P **P** **17 49 32.0 -1.2**
LRW Lerwick 51.04 326 *e*P **P** **17 49 33.0 -0.7**
SAN1 Sandwick 51.04 326 *e*P **P** **17 49 33.2 -0.5**
ESY Stoneypath 51.10 321 *e*P **P** **17 49 33.4 -0.8**
FOEL Foel Wylfa 51.14 317 *e*P **P** **17 49 33.7 -1.0**
FOEL IAmb IAmb 17 49 34.7
comp=Z,67nm,1.0s
DRUM Mains of Drumt 51.16 322 *e*P **P** **17 49 34.0 -0.7**
ECK Cauldkaine Hil 51.30 320 *e*P **P** **17 49 34.8 -1.0**
EKA Eskdalemuir Ar 51.34 320 P **P** **17 49 34.8 -1.2**
comp=Z,5.1nm,0.4s,baz=105,slow=7.6,SNR=34
LLW Llanuwychllyn 51.42 317 *e*P **P** **17 49 36.8 +0.1**
DYA Yadsworthy 51.47 314 *e*P **P** **17 49 35.3 -1.8**
MME1 Meikle Cairn 51.47 323 *e*P **P** **17 49 36.3 -0.7**
MCD Coleburn Disti 51.66 323 *e*P **P** **17 49 37.8 -0.6**
LSZ Lusaka 51.76 218 *e*P **P** **17 49 41.2 +1.4**
comp=Z,27nm,1.2s
LSZ Lusaka 51.76 218 P **P** **17 49 41.6 +1.8**
SNR=9.8
LSZ Lusaka 51.76 218 *e*P **P** **17 49 41.2 +1.4**
LSZ pmax pmax
comp=Z,27nm,1.2s
MLA1 Latheron 51.82 324 *e*P **P** **17 49 39.0 -0.7**
ES19 SONSECA Array 51.95 300 *e*P **P** **17 49 41.3 +0.4**
ES19 *e*PcP **PcP** **17 50 52.5 -0.1**
ES19 SONSECA Array 51.95 300 *e*P **P** **17 49 41.3 +0.4**
ESDC Sonseca Array 52.00 300 P **P** **17 49 41.1 -0.2**
comp=Z,6.6nm,0.4s,baz=70,slow=7.2,SNR=61
ESDC PcP **PcP** **17 50 52.9 0.0**
comp=Z,1.4nm,0.5s,baz=65,slow=3.2,SNR=5.4
ESDC LR LR 18 14 09.3
comp=Z,162nm,18.0s,baz=285,slow=39
ESLA Sonseca Array 52.00 300 *e*P **P** **17 49 41.7 +0.4**
comp=Z,74nm,1.5s
ESLA Sonseca Array 52.00 300 *e*P **P** **17 49 41.7 +0.4**
comp=Z,74nm,1.5s
NJ2 Nanjing 52.20 70 *e*P **P** **17 49 43.5 +0.7**
NJ2 pmax pmax
comp=Z,16nm,0.5s
PAB San Pablo 52.31 300 *e*P **P** **17 49 44.1 +0.4**
comp=Z,32nm,0.8s
PAB San Pablo 52.31 300 *e*P **P** **17 49 44.1 +0.4**
comp=Z,32nm,0.8s
PAB San Pablo 52.31 300 *e*P **P** **17 49 44.1 +0.4**
PAB pmax pmax
comp=Z,32nm,0.8s
KAC Achnashellach 52.75 323 *e*P **P** **17 49 45.8 -0.7**
KPL Plockton 52.92 322 *e*P **P** **17 49 47.0 -0.8**
KPL IAmb IAmb 17 49 48.6
comp=Z,43nm,0.9s
SPA0 Spitsbergen Ar 53.76 350 *e*P **P** **17 49 54.7 +1.0**
SPITS Spitsbergen Ar 53.76 350 P **P** **17 49 53.4 -0.3**
comp=Z,1.7nm,0.3s,baz=109,slow=7.8,SNR=22
SPITS LR LR 18 16 33.5
comp=Z,111nm,20.7s,baz=165,slow=40
PBRG Braganca 53.84 303 *e*P **P** **17 49 54.9 +0.1**
PBRG Braganca 53.84 303 *e*P **P** **17 49 54.9 +0.1**
MVO Moncorvo 54.13 302 *e*P **P** **17 49 57.4 +0.4**
comp=Z,83nm,1.5s
MVO Moncorvo 54.13 302 *e*P **P** **17 49 57.4 +0.4**

	comp=Z,83nm,1.5s								
PBAR	**Barrancos**	**54.59**	**299**	*e*P		**P**	17 50 00.3	**0.0**	
	comp=Z,237nm,1.6s								
PBAR	**Barrancos**	**54.59**	**299**	*e*P		**P**	17 50 00.3	**0.0**	
	comp=Z,237nm,1.6s								
MTE	**Manteigas**	**54.63**	**301**	*e*P		**P**	17 50 01.8	**+1.2**	
	comp=Z,98nm,2.0s								
MTE	**Manteigas**	**54.63**	**301**	*e*P		**P**	17 50 01.4	**+0.8**	
	comp=Z,52nm,0.8s								
MTE	**Manteigas**	**54.63**	**301**	*e*P		**P**	17 50 01.4	**+0.8**	
	comp=Z,52nm,0.8s								
PVRL	**Vila Real**	**54.63**	**303**	*e*P		**P**	17 50 01.1	**+0.5**	
	comp=Z,88nm,1.8s								
PMRV	**Marv??o**	**54.66**	**300**	*e*P		**P**	17 50 00.7	**-0.1**	
	comp=Z,64nm,1.0s								
PMRV	**Marv??o**	**54.66**	**300**	*e*P		**P**	17 50 00.7	**-0.1**	
	comp=Z,64nm,1.0s								
PCBR	**Castelo Branco**	**54.66**	**301**	*e*P		**P**	17 50 01.6	**+0.9**	
	comp=Z,140nm,1.5s								
PCBR	**Castelo Branco**	**54.66**	**301**	*e*P		**P**	17 50 01.6	**+0.9**	
	comp=Z,140nm,1.5s								
POLO	**Lamas de Olo**	**54.68**	**303**	*e*P		**P**	17 50 01.4	**+0.4**	
POLO	**Lamas de Olo**	**54.68**	**303**	*e*P		**P**	17 50 01.4	**+0.4**	
PVIS	**Viseu**	**54.84**	**302**	*e*P		**P**	17 50 02.9	**+0.8**	
PVIS	**Viseu**	**54.84**	**302**	*e*P		**P**	17 50 02.9	**+0.8**	
KIB	**El Ksiba**	**54.89**	**292**	*i* P		**P**	17 50 04.0	**+1.3**	
PESTR	**Estremoz**	**54.90**	**300**	*e*P		**P**	17 50 02.5	**0.0**	
PESTR	**Estremoz**	**54.90**	**300**	*e*P		**P**	17 50 02.9	**+0.4**	
	comp=Z,14nm,0.7s								
PESTR	**Estremoz**	**54.90**	**300**	*e*P		**P**	17 50 02.5	**0.0**	
PGAV	**Gavieira, Arco**	**54.95**	**303**	*e*P		**P**	17 50 04.5	**+1.6**	
	comp=Z,129nm,1.5s								
PGAV	**Gavieira, Arco**	**54.95**	**303**	*e*P		**P**	17 50 04.5	**+1.6**	
	comp=Z,129nm,1.5s								
PVAQ	**Vaqueiros**	**55.25**	**298**	*e*P		**P**	17 50 05.2	**+0.1**	
	comp=Z,63nm,1.4s								
PVAQ	**Vaqueiros**	**55.25**	**298**	*e*P		**P**	17 50 05.2	**+0.1**	
	comp=Z,63nm,1.4s								
PBEJ	**Beja**	**55.26**	**299**	*e*P		**P**	17 50 05.4	**+0.3**	
	comp=Z,60nm,1.8s								
PBEJ	**Beja**	**55.26**	**299**	*e*P		**P**	17 50 05.4	**+0.3**	
	comp=Z,60nm,1.8s								
EVO	**Evora**	**55.28**	**299**	*e*P		**P**	17 50 05.7	**+0.4**	
	comp=Z,92nm,1.1s								
EVO	**Evora**	**55.28**	**299**	*e*P		**P**	17 50 05.7	**+0.4**	
	comp=Z,92nm,1.1s								
COI	**Coimbra**	**55.31**	**301**	*e*P		**P**	17 50 06.4	**+1.0**	
PMTG	**Montargil**	**55.35**	**300**	*e*P		**P**	17 50 06.0	**+0.2**	
PMTG	**Montargil**	**55.35**	**300**	*e*P		**P**	17 50 06.0	**+0.2**	
PCAS	**Casmilo, Conde**	**55.40**	**301**	*e*P		**P**	17 50 06.7	**+0.6**	
PCAS	**Casmilo, Conde**	**55.40**	**301**	*e*P		**P**	17 50 06.7	**+0.6**	
PTOM	**Tomar**	**55.41**	**301**	*e*P		**P**	17 50 07.1	**+1.0**	
	comp=Z,179nm,1.4s								
PTOM	**Tomar**	**55.41**	**301**	*e*P		**P**	17 50 07.1	**+1.0**	
	comp=Z,179nm,1.4s								
CN2	**Changchun**	**55.42**	**54**	*e*P		**P**	17 50 04.9	**-1.2**	
CN2					pmax	pmax			
	comp=Z,10.0nm,0.6s								
CN2					LR	LR			
	comp=Z,400nm,17.0s								
CN2					LR	LR			
	comp=Z,100nm,17.0s								
CN2					LR	LR			
	comp=Z,200nm,18.0s								
PCVE	**Castro Verde**	**55.46**	**298**	*e*P		**P**	17 50 06.6	**0.0**	
	comp=Z,57nm,1.6s								
PCVE	**Castro Verde**	**55.46**	**298**	*e*P		**P**	17 50 06.6	**0.0**	
	comp=Z,57nm,1.6s								
ALMR	**Almeirim**	**55.61**	**300**	*e*P		**P**	17 50 08.0	**+0.3**	
ALMR					AMb	AMB	17 50 10.1		
	comp=Z,60nm,1.1s								
ALMR	**Almeirim**	**55.61**	**300**	*e*P		**P**	17 50 08.4	**+0.8**	
	comp=Z,115nm,1.4s								
ALMR	**Almeirim**	**55.61**	**300**	*e*P		**P**	17 50 08.4	**+0.8**	
	comp=Z,115nm,1.4s								
ALMR	**Almeirim**	**55.61**	**300**	*e*P		**P**	17 50 07.9	**+0.3**	
ALMR					pmax	pmax			
	comp=Z,60nm,1.1s								
PNCL	**Nicolau / Gran**	**55.76**	**299**	*e*P		**P**	17 50 09.3	**+0.6**	
	comp=Z,86nm,1.3s								
PNCL	**Nicolau / Gran**	**55.76**	**299**	*e*P		**P**	17 50 09.3	**+0.6**	
	comp=Z,86nm,1.3s								
ZEA	**Zeya**	**55.86**	**42**	*e*P		**P**	17 50 09.6	**+0.5**	
ZEA					pmax	pmax			
	comp=Z,29nm,1.0s								
PFVI	**Vila Bisbo**	**56.17**	**298**	*e*P		**P**	17 50 11.9	**+0.2**	
PFVI	**Vila Bisbo**	**56.17**	**298**	*e*P		**P**	17 50 11.9	**+0.2**	
SSLB	**Suanglung**	**56.18**	**79**	*e*P		**P**	17 50 14.1	**+2.1**	
	comp=Z,14nm,0.6s								
PMAFR	**Mafra**	**56.19**	**300**	*e*P		**P**	17 50 12.7	**+1.0**	
PMAFR	**Mafra**	**56.19**	**300**	*e*P		**P**	17 50 12.7	**+1.0**	
YHNB	**Yeheng**	**56.27**	**78**	*e*P		**P**	17 50 15.1	**+2.4**	
	comp=Z,26nm,0.8s								
KSM	**Kuching**	**56.34**	**108**	*e*P		**P**	17 50 15.8	**+2.7**	
KSM				*e*pP		**pP**	17 50 33.2	**+1.9**	
YAK	**Yakutsk**	**57.19**	**32**	*e*P		**P**	17 50 17.3	**-1.2**	
	comp=Z,20nm,0.9s								
YAK	**Yakutsk**	**57.19**	**32**	*e*P		**P**	17 50 17.2	**-1.2**	
YAK				*e**PP		**pP**	17 50 34.6	**-2.1**	
YAK				*e*			17 51 12.7		
YAK				*e*			17 52 23.9		
YAK				*e*PPP		PPP	17 53 43.9		
YAK				*e*S		**S**	17 58 07.2	**-1.1**	
YAK				*e**SS		**sS**	17 58 35.8	**-3.6**	
YAK				*e*SS		**SS**	18 02 00.7	**+2.9**	
YAK					pmax	pmax			
	comp=Z,12nm,1.0s								
YAK					pmax	pmax			
	comp=E,3.0nm,1.1s								
YAK					pmax	pmax			
	comp=Z,57nm,2.8s								
YAK					pmax	pmax			
	comp=N,7.0nm,1.8s								
YAK					pmax	pmax			
	comp=E,8.0nm,2.6s								
YAK					smax	smax			
	comp=N,43nm,1.6s								
YAK					smax	smax			
	comp=E,72nm,1.6s								
SBUM	**Sibu**	**57.44**	**106**	*e*pP		pP	17 50 41.0	**+1.8**	
TIXI	**Tiksi**	**57.77**	**21**	ScP		**ScP**	17 55 06.7	**-1.4**	
	comp=E,0.9nm,0.6s,baz=308,slow=0.8,SNR=3.2								
TIXI				S		**S**	17 58 12.4	**-3.3**	
	comp=E,0.9nm,0.8s,baz=14,slow=20,SNR=9.4								
TIXI	**Tiksi**	**57.77**	**21**	*e*P		**P**	17 50 20.9	**-1.4**	
	comp=E,13nm,1.2s								
TIXI				ScP		**ScP**	17 55 06.7	**-1.4**	
TIXI				S		**S**	17 58 12.4	**-3.3**	
TIXI	**Tiksi**	**57.77**	**21**⇑	*e*P		**P**	17 50 20.8	**-1.5**	
TIXI					pmax	pmax			
	comp=Z,4.0nm,0.7s								
MDJ	**Mudanjiang**	**58.25**	**53**	P		**P**	17 50 23.1	**-3.1**	
MDJ					pmax	pmax			
	comp=Z,7.0nm,1.0s								
MDJ					pmax	pmax			
	comp=Z,110nm,5.4s								
KS01	**Wonju Array Si**	**58.33**	**61**	*e*P		**P**	17 50 25.8	**-1.0**	
KS01	**Wonju Array Si**	**58.33**	**61**	*e*P		**P**	17 50 25.8	**-1.0**	
KS15	**Wonju Array Si**	**58.33**	**61**	*e*P		**P**	17 50 26.5	**-0.4**	
KS15	**Wonju Array Si**	**58.33**	**61**	*e*P		**P**	17 50 26.5	**-0.4**	
KSAR	**Wonju Array Be**	**58.33**	**61**	P		**P**	17 50 26.2	**-0.6**	
KSAR				pP		**pP**	17 50 45.2	**0.0**	
KSAR	**Wonju Array Be**	**58.33**	**61**	P		**P**	17 50 26.2	**-0.6**	
KSAR				pP		**pP**	17 50 45.2	**0.0**	
KSAR	**Wonju Array Be**	**58.33**	**61**	P		**P**	17 50 26.2	**-0.6**	
KSRS	**Korea Array**	**58.36**	**61**	P		**P**	17 50 26.2	**-0.8**	
	comp=Z,8.1nm,0.6s,baz=277,slow=6.8,SNR=46								
KSRS				pP		**pP**	17 50 45.2	**-0.2**	
	comp=Z,5.3nm,0.7s,baz=280,slow=7.3,SNR=6.1								
KOWA	**Kowa**	**58.90**	**271**	P		**P**	17 50 31.1	**0.0**	
	comp=Z,39nm,0.4s,baz=62,slow=11,SNR=148								
KOWA					LR	LR	18 16 31.3		
	comp=Z,214nm,18.4s,baz=52,slow=36								
KOWA	**Kowa**	**58.90**	**271**	*e*P		**P**	17 50 31.5	**+0.4**	
	comp=Z,80nm,0.8s								
LEM	**Lembang**	**58.94**	**118**	LR		LR	18 16 08.3		
	comp=Z,77nm,19.9s,baz=336,slow=36								
KLR	**Kul'dur**	**59.04**	**47***c*	*i* P		**P**	17 50 30.3	**-1.3**	
TGY	**Tagaytay City**	**59.68**	**89**	LR		LR	18 19 07.1		
	comp=Z,101nm,20.4s,baz=263,slow=39								
USRK	**Ussuriysk Ar.**	**60.02**	**53**	P		**P**	17 50 36.8	**-1.6**	
USRK					LR	LR	18 19 41.8		
	comp=Z,242nm,19.8s,baz=276,slow=39								
DAG	**Danmarks Havn**	**60.06**	**345**	*i* P		**P**	17 50 38.1	**-0.1**	
	comp=Z,4.0nm,0.8s								
DAG	**Danmarks Havn**	**60.06**	**345**	*i* P		**P**	17 50 38.1	**-0.1**	
DAG					pmax	pmax			
	comp=Z,4.0nm,0.8s								
TSUM	**Tsumeb**	**61.05**	**225**	*e*P		**P**	17 50 47.5	**+1.7**	
	comp=Z,33nm,1.1s								
LBTB	**Lobatse**	**61.19**	**214**	LR		LR	18 17 56.0		
	comp=Z,93nm,18.9s,baz=47,slow=36								
LBTB	**Lobatse**	**61.19**	**214**	*e*P		**P**	17 50 48.0	**+1.4**	
	comp=Z,39nm,0.9s								
LBTB	**Lobatse**	**61.19**	**214**	*e*P		**P**	17 50 48.0	**+1.4**	
LBTB					pmax	pmax			
	comp=Z,39nm,0.9s								
MYLDM	**Lahad Datu**	**61.49**	**100**	*e*pP		pP	17 51 09.2	+1.9	
JOW	**Kunigami**	**61.50**	**73**	LR		LR	18 20 27.7		
	comp=Z,105nm,18.7s,baz=116,slow=39								
GRNR	**Gornyy**	**61.77**	**45**	*e*P		**P**	17 50 48.8	**-1.4**	
GRNR					pmax	pmax			
	comp=Z,15nm,0.2s								
JNU	**Nakatsue**	**61.78**	**65**	P		**P**	17 50 50.7	**+0.1**	
	comp=Z,2.3nm,0.5s,baz=318,slow=12,SNR=4.1								
DBIC	**Dimbokro**	**63.04**	**263**	P		**P**	17 50 59.0	**-0.2**	
	comp=Z,27nm,0.9s,baz=46,slow=7.4,SNR=30								
DBIC					LR	LR	18 22 21.7		
	comp=Z,120nm,18.2s,baz=40,slow=40								
DBIC	**Dimbokro**	**63.04**	**263**	*e*P		**P**	17 50 59.4	**+0.2**	
	comp=Z,50nm,1.0s								
DBIC	**Dimbokro**	**63.04**	**263**	*e*P		**P**	17 50 59.4	**+0.2**	
DBIC					pmax	pmax			
	comp=Z,50nm,1.0s								
KIC	**Kosan Boka**	**63.08**	**263**	*e*P		**P**	17 50 59.1	**-0.4**	
	comp=Z,106nm,1.1s								
TIC	**Toumodi**	**63.19**	**263**	*e*P		**P**	17 50 59.7	**-0.5**	
LIC	**Lamto**	**63.39**	**263**	*e*P		**P**	17 51 00.9	**-0.6**	
	comp=Z,148nm,1.2s								
NKL	**Nikolayevsk**	**63.90**	**42**	*e*P		**P**	17 51 02.5	**-1.7**	
BOSA	**Boshof**	**64.38**	**212**	P		**P**	17 51 08.0	**+0.2**	
	comp=Z,6.0nm,0.6s,baz=20,slow=7.8,SNR=16								
BOSA	**Boshof**	**64.38**	**212**	*e*P		**P**	17 51 08.7	**+0.9**	
	comp=Z,36nm,1.3s								
BOSA	**Boshof**	**64.38**	**212**	*e*P		**P**	17 51 08.7	**+0.9**	
BOSA					pmax	pmax			
	comp=Z,36nm,1.3s								
SUMG	**Summit**	**65.62**	**341**	*i* P		**P**	17 51 16.1	**+0.5**	
SUMG	**Summit**	**65.62**	**341**	*e*P		**P**	17 51 16.1	**+0.5**	
MJAR	**Matsushiro Arr**	**66.54**	**60**	P		**P**	17 51 20.4	**-1.3**	
	comp=Z,0.8nm,0.5s,baz=242,slow=2.2,SNR=4.6								
YSS	**Yuzh-Sakhalins**	**66.72**	**48**⇑	*i* P		**P**	17 51 21.6	**-1.0**	
YSS					pmax	pmax			
	comp=Z,40nm,0.6s								
YSS					MLR	MLR			
	comp=Z,120nm,19.0s								
YSS					MLR	MLR			
	comp=N,100nm,15.0s								
YSS					MLR	MLR			
	comp=E,100nm,16.0s								
ASAJ	**Asahikawa**	**67.44**	**51**	P		**P**	17 51 25.6	**-1.6**	
	comp=E,2.4nm,0.7s,baz=252,slow=3.2,SNR=8.7								
ASAJ	**Asahikawa**	**67.44**	**51**	*e*P		**P**	17 51 26.2	**-1.0**	
	comp=E,2.9nm,0.9s								
SEY	**Seymchan**	**67.47**	**30**⇑	*e*P		**P**	17 51 25.7	**-1.4**	
BBTS	**Babate**	**69.88**	**276**	P		**P**	17 51 44.1	**+1.3**	
	comp=E,52nm,0.8s,baz=48,slow=4.7,SNR=6.5								
TULEG	**Thule**	**70.89**	**349**	*e*P		**P**	17 51 47.1	**-0.9**	
	comp=E,12nm,1.0s								
BILL	**Bilibino**	**70.92**	**22**⇑	*i* P		**P**	17 51 47.3	**-1.0**	
BILL				*e*			17 54 22.2		
BILL				*e*SS		SS	18 05 31.7	**+0.6**	
BILL					pmax	pmax			
	comp=Z,5.0nm,1.9s								
BILL					MLR	MLR			
	comp=Z,109nm,17.0s								
SFJD	**Kangerlussuaq**	**71.59**	**337**	LR		LR	18 25 27.8		
	comp=Z,56nm,19.2s,baz=72,slow=38								
PETK	**Petropavlovsk-**	**73.62**	**38**	LR		LR	18 26 56.1		
	comp=Z,79nm,18.6s,baz=300,slow=38								
BATI	**Baumata**	**73.81**	**111**	P		**P**	17 52 07.6	**+1.2**	
	comp=Z,10nm,0.7s,baz=314,slow=3.0,SNR=4.1								
RES	**Resolute Bay**	**76.20**	**353**	P		**P**	17 52 19.9	**+0.7**	
	comp=Z,1.2nm,0.8s,baz=29,slow=12								
FRB	**Frobisher Bay**	**79.55**	**339**	P		**P**	17 52 38.5	**+0.6**	
FITZ	**Fitzroy Crossi**	**79.73**	**117**	P		**P**	17 52 40.6	**+1.0**	
	comp=Z,1.3nm,0.7s,baz=277,slow=5.3								
FITZ					pP	**pP**	17 53 00.5	**+1.6**	
	comp=Z,4.8nm,0.8s,baz=297,slow=2.1,SNR=7.6								
TOLK	**Toolik Lake Re**	**81.64**	**10**	*e*P		**P**	17 52 49.2	**+0.1**	
	comp=Z,8.5nm,0.4s								
NWAO	**Narrogin (SRO)**	**82.50**	**133**	P		**P**	17 52 54.1	**+0.1**	
	comp=Z,9.0nm,0.8s,baz=355,slow=19,SNR=3.2								
COLD	**Coldfoot**	**82.83**	**11**	*e*P		**P**	17 52 56.2	**+0.9**	
	comp=Z,8.1nm,1.3s								
IM3	**Indian Mountai**	**83.32**	**13**	*e*P		**P**	17 52 56.6	**-1.2**	
INK	**Inuvik**	**83.73**	**4**	P		**P**	17 52 59.4	**-0.5**	
	comp=Z,0.9nm,0.4s,baz=5.6,slow=11,SNR=5.5								
INK	**Inuvik**	**83.73**	**4**	*e*P		**P**	17 53 00.2	**+0.3**	
	comp=Z,4.9nm,1.1s								
INK	**Inuvik**	**83.73**	**4**	*e*P		**P**	17 53 00.2	**+0.3**	
INK					pmax	pmax			
	comp=Z,5.0nm,1.1s								
MLY	**Manley**	**84.74**	**12**	*e*P		**P**	17 53 05.2	**0.0**	
	comp=Z,20nm,1.9s								
SCHQ	**Schefferville**	**85.08**	**332**	P		**P**	17 53 06.7	**-0.3**	
	comp=Z,5.5nm,0.5s,baz=58,slow=13,SNR=2.9								
SCHQ					LR	LR	18 33 30.7		
	comp=Z,36nm,18.0s,baz=90,slow=37								
MDM	**Murphy Dome**	**85.24**	**11**	*e*P		**P**	17 53 07.7	**+0.1**	
	comp=Z,13nm,1.4s								
BPAW	**Bear Paw Mtn.**	**85.53**	**12**	*e*P		**P**	17 53 08.5	**-0.6**	
	comp=Z,11nm,1.1s								
IL1	**Eielson Array**	**85.64**	**10**	*e*P		**P**	17 53 08.1	**-1.4**	
IL1				*e*pP		**pP**	17 53 26.9	**-2.1**	
ILAR	**Eielson Array**	**85.64**	**10**	P		**P**	17 53 07.9	**-1.6**	
	comp=Z,1.0nm,0.9s,baz=323,slow=5.2,SNR=8.4								
ILAR					PKKPbc	**PKKPbc**	18 11 11.2	**-1.6**	
	comp=Z,0.1nm,0.5s,baz=185,slow=2.5,SNR=4.2								
ILAR					LR	LR	18 37 14.1		
	comp=Z,74nm,18.1s,baz=318,slow=40								
CAST	**Castle Rocks**	**85.93**	**13**	*e*P		**P**	17 53 10.7	**-0.4**	
	comp=Z,12nm,0.9s								
KTH	**Kanishna Hill**	**86.04**	**13**	*e*P		**P**	17 53 12.6	**+0.9**	
	comp=Z,9.2nm,1.1s								
TRF	**Thorofare Moun**	**86.26**	**12**	*e*P		**P**	17 53 12.8	**-0.1**	
	comp=Z,9.3nm,1.2s								
EGAK	**Eagle**	**86.45**	**8**	*e*P		**P**	17 53 13.1	**-0.4**	
	comp=Z,11nm,1.3s								
RND	**Reindeer**	**86.56**	**12**	*e*P		**P**	17 53 13.1	**-1.1**	
	comp=Z,6.5nm,1.2s								
RND	**Reindeer**	**86.56**	**12**	*e*P		**P**	17 53 13.1	**-1.1**	
RND					pmax	pmax			
	comp=Z,7.0nm,1.2s								
SCRK	**Sand Creek**	**86.83**	**10**	*e*P		**P**	17 53 15.4	**-0.2**	
	comp=Z,9.4nm,1.1s								
DOT	**Dot Lake**	**87.13**	**10**	*e*P		**P**	17 53 16.3	**-0.6**	
	comp=Z,16nm,1.2s								
DAWY	**Dawson**	**87.35**	**8**	*e*P		**P**	17 53 17.6	**-0.4**	
	comp=Z,9.5nm,1.1s								
WRA	**Warramunga Arr**	**87.67**	**114**	P		**P**	17 53 21.0	**+0.8**	
	comp=Z,4.3nm,0.9s,baz=312,slow=4.2,SNR=31								
WRA					pP	**pP**	17 53 40.8	**+1.1**	
	comp=Z,15nm,1.0s,baz=310,slow=4.2,SNR=16								
WRA					PKKPbc	**PKKPbc**	18 11 07.5	**0.0**	
	comp=Z,0.2nm,0.4s,baz=111,slow=3.0,SNR=6.9								
WRAB	**Tennant Creek**	**87.68**	**114**	*e*P		**P**	17 53 21.7	**+1.4**	
	comp=Z,25nm,1.2s								
WRAB					*e*pP	**pP**	17 53 41.0	**+1.2**	
WRAB	**Tennant Creek**	**87.68**	**114**	*ce*P		**P**	17 53 22.1	**+1.9**	
WRAB					pmax	pmax			
	comp=Z,14nm,1.7s								
WB2	**Warramunga Arr**	**87.68**	**114**	*e*P		**P**	17 53 21.4	**+1.1**	
MENT	**Mentasta**	**87.85**	**10**	*e*P		**P**	17 53 24.5	**+4.1**	
	comp=Z,27nm,0.2s								
SUA	**Susitna One**	**87.97**	**13**	*e*P		**P**	17 53 20.4	**-0.7**	
	comp=Z,16nm,1.1s								
ASAR	**Alice Springs**	**89.22**	**117**	P		**P**	17 53 28.3	**+0.8**	
	comp=Z,2.3nm,0.9s,baz=315,slow=8.9,SNR=6.8								
ASAR					pP	**pP**	17 53 48.1	**+1.1**	
	comp=Z,4.2nm,0.8s,baz=301,slow=4.5,SNR=12								
AS31	**Alice Springs**	**89.22**	**117**	*e*P		**P**	17 53 29.5	**+2.0**	
AS31				*e*pP		**pP**	17 53 49.0	**+2.0**	
AS01	**Alice Springs**	**89.26**	**117**	*e*P		**P**	17 53 28.7	**+1.0**	
YKA	**Yellowknife Ar**	**89.77**	**357**	P		**P**	17 53 29.2	**-0.2**	
	comp=Z,1.9nm,0.8s,baz=358,slow=4.9,SNR=52								
KDAK	**Kodiak Island**	**90.88**	**16**	P		**P**	17 53 33.9	**-0.7**	
	comp=Z,11nm,0.9s,baz=83,slow=2.2,SNR=4.1								
KDAK					LR	LR	18 39 33.8		
	comp=Z,62nm,20.6s,baz=334,slow=39								
KDAK	**Kodiak Island**	**90.88**	**16**	*e*P		**P**	17 53 34.8	**+0.2**	
	comp=Z,156nm,1.9s								
KDAK	**Kodiak Island**	**90.88**	**16**	*i* P		**P**	17 53 35.1	**+0.5**	
ULM	**Lac du Bonnet**	**98.88**	**343**	LR		LR	18 42 30.8		
	comp=Z,25nm,19.1s,baz=46,slow=38								
NVAR	**Mina Array Bea**	**113.97**	**357**	PKiKP		**PKiKP**	17 59 11.5	**+1.0**	
	comp=Z,0.8nm,0.8s,baz=312,slow=0.5,SNR=4.2								
TXAR	**Lajitas Array**	**120.51**	**342**	PKP		**PKPdf**	17 59 22.8	**-0.3**	
	comp=Z,1.1nm,0.7s,baz=195,slow=1.1,SNR=12								
CPUP	**Villa Florida**	**123.12**	**255**	PKP		**PKPdf**	17 59 26.7	**-1.2**	
	comp=Z,2.9nm,0.8s,baz=40,slow=2.6,SNR=7.0								
LPAZ	**La Paz**	**129.21**	**271**	PKP		**PKPdf**	17 59 40.9	**+0.2**	
	comp=Z,1.0nm,0.5s,baz=355,slow=4.0,SNR=6.8								
TRQA	**Tornquist**	**129.47**	**242**	PKIKP		**PKPdf**	17 59 39.8	**0.0**	
PLCA	**Paso Flores**	**136.26**	**239**	PKP		**PKPdf**	17 59 52.7	**+0.1**	
	comp=Z,2.3nm,0.9s,baz=166,slow=6.4,SNR=3.3								

MEX 18 17:45:52.6±0.4, 16.69N×98.43W, h16km±7km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.42**	**136**	*i* P		Pg	17 45 59.8	-1.3
PNIG				*e*S		Sg	17 46 05.2	-1.7
TLIG	**Tlapa**	**0.87**	**352**	*e*P		Pb	17 46 09.2	-0.4
TLIG				*i* S		Sb	17 46 17.3	-3.8
CAIG	**El Cayaco**	**1.79**	**282**	*e*P		Pn	17 46 19.5	-3.3
CAIG				*e*S		Sn	17 46 40.1	-5.2
PLIG	**Platanillo**	**1.97**	**329**	*e*P		Pn	17 46 25.8	+0.3
PLIG				*e*S		Sn	17 46 44.6	-5.4

IDC ***18*** *17:47:18.5±2.5, 3.82N×92.70E, h0km, mb4.0/6, mb1 4.1/9, mb1mx3.7/75, mbtmp4.0/9, ML3.9/3, MS3.5/1, Ms1 3.5/1, ms1mx2.7/65, Error ellipse: s-maj=54.2km s-min=31.4km az=10.0*

ISCJB ***18*** *17:47:20.3±1.3, 3.7N±0.2×92.73E±0.08, h33km, mb4.0/7, MS3.6/1, Error ellipse: s-maj=27.5km s-min=9.0km az=18.4*

NEIC ***18*** *17:47:20.1±0.9, 3.84N×92.69E, h10km, mb4.5/1, Error ellipse: s-maj=20.2km s-min=10.7km az=191.0*

ISC 18 17:47:22.9±1.4, 3.8N±0.2×92.7E±0.1, h35km, n11, σ0§98/11, mb4.0/7, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
PSI	**Prapat**	**6.28**	**99**	Pn		**Pn**	17 48 53.5	**+0.3**
	2.1nm,0.3s,baz=214,slow=2.5,SNR=4.9							
PSI					Sn	**Sn**	17 50 02.8	**-1.0**
	0.8nm,0.3s,baz=180,slow=18,SNR=3.0							
PALK	**Pallekele**	**12.45**	**287**	Pn		**Pn**	17 50 16.5	**-1.3**
	0.3nm,0.3s,baz=115,slow=17,SNR=6.3							
PALK					Sn	Sn	17 52 20.0	-15
	0.4nm,0.3s,baz=117,slow=9.6,SNR=2.8							
CMAR	**Chiang Mai Arr**	**15.81**	**22**	Pn		**Pn**	17 51 01.8	**-1.3**
	0.3nm,0.3s,baz=217,slow=14,SNR=6.2							
MKAR	**Makanchi Array**	**43.80**	**350**	P		**P**	17 55 26.0	**+0.7**
	1.1nm,0.7s,baz=165,slow=8.5,SNR=10							
SONM	**Songino Array**	**45.45**	**13**	P		**P**	17 55 38.7	**+0.1**
	1.5nm,0.7s,baz=192,slow=8.7,SNR=3.1							
KURBB	**Kurbatov Arra**	**48.19**	**348**	P	

	SNR=7.4							
TKM2	**Tokmak 2**	**42.23**	**344**	P		**P**	**17 58 20.6**	**+0.3**
	SNR=8.4							
AAK	**Ala-Archa**	**42.28**	**343**	P		**P**	**17 58 20.8**	**+0.1**
	3.6nm,0.9s,baz=177,slow=9.4,SNR=13							
AAK	**Ala-Archa**	**42.28**	**343**	P		**P**	**17 58 22.4**	**+1.6**
	SNR=5.5							
AAK	**Ala-Archa**	**42.28**	**343**	*e*P		**P**	**17 58 21.3**	**+0.6**
EKS2	**Erkin-Say**	**42.53**	**342**	P		**P**	**17 58 23.6**	**+1.0**
	SNR=10							
H01W3	**Cape Leeuwin H**	**43.48**	**151**	T		T	18 44 48.9	
	baz=326,slow=74,SNR=20							
H01W2	**Cape Leeuwin H**	**43.49**	**151**	T		T	18 44 43.0	
	baz=326,slow=74,SNR=12							
H01W1	**Cape Leeuwin H**	**43.49**	**151**	T		T	18 44 40.2	
	baz=326,slow=74,SNR=21							
KKAR	**Karatay Array**	**44.01**	**339**	*e*P		**P**	**17 58 34.4**	**-0.1**
	5.2nm,0.8s							
MKAR	**Makanchi Array**	**44.55**	**352**	P		**P**	**17 58 38.4**	**-0.4**
	5.9nm,0.7s,baz=171,slow=9.2,SNR=59							
SONM	**Songino Array**	**47.11**	**15**	P		**P**	**17 58 60.0**	**+0.9**
	4.9nm,0.4s,baz=194,slow=9.6,SNR=10							
WRA	**Warramunga Arr**	**48.63**	**120**	P		**P**	**17 59 11.1**	**-0.1**
	1.8nm,1.0s,baz=296,slow=8.6,SNR=9.9							
WRAB	**Tennant Creek**	**48.64**	**119**	*e*P		**P**	**17 59 11.5**	**+0.3**
	8.3nm,0.8s							
KURBB	**Kurchatov Arra**	**48.86**	**350**	P		**P**	**17 59 11.9**	**-0.5**
	5.7nm,0.7s,baz=173,slow=7.2,SNR=57							
KURK	**Kurchatov**	**48.93**	**350**	*e*P		**P**	**17 59 12.2**	**-0.8**
ASAR	**Alice Springs**	**49.78**	**124**	P		**P**	**17 59 19.8**	**-0.1**
	1.0nm,1.1s,baz=293,slow=7.5,SNR=9.7							
ZALV	**Zalesovo Beam**	**51.36**	**356**	P		**P**	**17 59 30.8**	**-0.4**
	7.3nm,0.5s,baz=180,slow=7.4,SNR=36							
BRVK	**Borovoye**	**52.94**	**345**	*e*P		**P**	**17 59 41.9**	**-1.2**
ABKAR	**Akbulak array**	**53.21**	**336**	*e*P		**P**	**17 59 44.5**	**-0.7**
	7.8nm,0.8s							
AKTO	**Aktyubinsk**	**54.92**	**335**	P		**P**	**17 59 56.8**	**-0.8**
	1.9nm,0.7s,baz=135,slow=8.2,SNR=8.6							
GNI	**Garni**	**55.61**	**318**	LR		LR	18 27 06.7	
	comp=Z,19nm,18.3s,baz=90,slow=40							
KLR	**Kul'dur**	**58.28**	**31**	LR		LR	18 29 06.0	
	comp=Z,7.3nm,18.7s,slow=40							
KBZ	**Khabaz**	**58.60**	**321**	P		**P**	**18 00 23.4**	**-0.5**
	3.2nm,0.9s,baz=105,slow=9.3,SNR=5.5							
CTA	**Charters Tower**	**59.27**	**115**	P		**P**	**18 00 29.1**	**+0.1**
	4.1nm,0.9s,baz=259,slow=5.2,SNR=3.7							
ARU	**Arti**	**59.37**	**340**	P		**P**	**18 00 27.7**	**-1.2**
	4.5nm,0.9s,baz=184,slow=3.5,SNR=5.0							
STKA	**Stephens Creek**	**59.45**	**130**	P		**P**	**18 00 30.0**	**0.0**
	0.9nm,0.4s,baz=309,slow=10,SNR=3.8							
BRTR	**Keskin Array B**	**63.15**	**314**	P		**P**	**18 00 53.9**	**-1.2**
	1.6nm,0.6s,baz=123,slow=5.8,SNR=7.5							
YAK	**Yakutsk**	**66.14**	**19**	P		**P**	**18 01 13.2**	**-0.7**
	4.9nm,0.6s,baz=174,slow=3.0,SNR=3.7							
AKASG	**Malin Array Be**	**70.01**	**324**	P		**P**	**18 01 37.1**	**-1.4**
	0.6nm,0.5s,baz=91,slow=4.8,SNR=7.7							
MLR	**Muntele Rosu**	**70.38**	**318**	P		**P**	**18 01 41.0**	**0.0**
	1.6nm,0.8s,baz=140,slow=16,SNR=5.7							
TIXI	**Tiksi**	**73.09**	**12**	P		**P**	**18 01 55.1**	**-1.5**
	3.9nm,0.4s,baz=231,slow=4.4,SNR=29							
FINES	**FINESS Array B**	**75.63**	**333**	P		**P**	**18 02 11.1**	**-0.4**
	3.0nm,0.6s,baz=110,slow=8.3,SNR=10							
ARCES	**ARCESS Array B**	**78.93**	**341**	P		**P**	**18 02 29.5**	**-0.4**
	3.5nm,0.8s,baz=92,slow=5.7,SNR=9.3							
GERES	**GERESS Array B**	**79.25**	**319**	P		**P**	**18 02 31.9**	**-0.3**
	2.9nm,0.8s,baz=98,slow=5.5,SNR=15							
SYO	**Syowa Base**	**79.33**	**197**	*i*eX		**P**	**18 02 35.2**	**+3.1**
CLL	**Collm**	**80.06**	**322**	*i* P		**P**	**18 02 36.7**	**+0.3**
HFS	**Hagfors**	**81.10**	**330**	P		**P**	**18 02 41.0**	**-0.8**
	1.2nm,0.5s,baz=103,slow=6.5,SNR=10							
EKA	**Eskdalemuir Ar**	**89.87**	**325**	P		**P**	**18 03 25.4**	**-0.2**
	0.6nm,0.5s,baz=86,slow=5.2,SNR=3.3							
SNAA	**Sanae**	**93.49**	**198**	LR		LR	18 37 50.9	
	comp=Z,48nm,20.0s,baz=48,slow=30							
SML	**Sawmill**	**101.91**	**24**	*e*Pdif		**Pdif**	**18 04 21.9**	**+1.7**
	5.4nm,1.0s							
TXAR	**Lajitas Array**	**145.49**	**22**	PKPbc		**PKPbc**	**18 10 05.6**	**-0.1**
	2.9nm,0.9s,baz=290,slow=1.1,SNR=17							

MEX 18 17:58:39.1±0.3, 16.38N×98.67W, h16km±8km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.52**	**88**	*e*P	Pg	17 58 47.8	-1.7
PNIG				*e*S	Sg	17 58 54.5	-1.9
TLIG	**Tlapa**	**1.18**	**5**	*e*P	Pn	17 59 00.4	-0.7
TLIG				*e*S	Sb	17 59 11.6	-4.8
CAIG	**El Cayaco**	**1.67**	**294**	*e*P	Pn	17 59 04.4	-3.3
CAIG				*e*S	Sn	17 59 23.8	-5.0
VHO	**Vista Hermosa**	**1.98**	**69**	*e*P	Pn	17 59 09.1	-3.1
VHO				*e*S	Sn	17 59 32.7	-4.0
PLIG	**Platanillo**	**2.15**	**338**	*e*P	Pn	17 59 14.3	-0.1
PLIG				*e*S	Sn	17 59 36.3	-4.6

*ISCJB **18** 18:03:00.1±0.5, 43.87N±0.04×105.29W±0.07, h0km, mb3.8/1, Error ellipse: s-maj=7.5km s-min=5.6km az=36.2*
*NEIC **18** 18:03:01.9±0.5, 43.85N×105.29W, h0km, ML3.2, Error ellipse: s-maj=8.5km s-min=6.2km az=123.0, Suspected Mining explosion.*
NEIC 53 km [33 miles] SSE of Gillette.
*IDC **18** 18:03:02.2±1.8, 43.90N×105.55W, h0km, mb3.7/1, mb1 3.6/4, mb1mx3.3/67, mbtmp3.4/4, ML3.2/3, Error ellipse: s-maj=50.5km s-min=8.0km az=148.0*
ISC 18 18:03:01.3±0.9, 43.79N±0.05×105.34W±0.05, h0km, n24, σ1§53/25, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**1.00**	**70**	*e*Pg	**Pg**	**18 03 20.5**	**+0.1**
K22A	**Casper**	**1.43**	**218**	*e*Pn	**Pg**	**18 03 27.3**	**-1.5**
LAO	**LASA Array**	**2.96**	**348**	*e*Pg	**Pb**	**18 03 55.8**	**+0.8**
RLMT	**Red Lodge**	**3.11**	**297**	*e*Pn	**Pn**	**18 03 53.5**	**+1.7**
PDAR	**Pinedale Array**	**3.25**	**253**	Pn	**Pn**	**18 03 55.6**	**+1.9**
	3.3nm,0.3s,baz=76,slow=16,SNR=44						
PDAR				Pg	**Pg**	**18 04 03.6**	**0.0**
	9.1nm,0.3s,baz=76,slow=20,SNR=42						
PDAR				Lg	Lg	18 04 39.3	
	12nm,0.3s,baz=80,slow=16,SNR=13						
BW06	**Boulder Array**	**3.25**	**253**	*e*Pn	**Pn**	**18 03 55.9**	**+2.2**
GCMT	**Greycliff**	**3.67**	**304**	*e*Pn	**Pn**	**18 04 01.1**	**+1.6**
OGNE	**Ogallala**	**3.76**	**138**	*e*Pn	**Pn**	**18 04 01.9**	**+1.3**
H17A	**Grant Village**	**3.82**	**281**	*e*Pn	**Pn**	**18 04 01.4**	**-0.3**
ISCO	**Idaho Springs**	**4.00**	**183**	*e*Pn	**Pn**	**18 04 04.6**	**+0.5**
O20A	**White River Ci**	**4.25**	**212**	*e*Pn	**Pn**	**18 04 08.9**	**+1.5**
AHID	**Auburn Hatcher**	**4.33**	**258**	*e*Pn	**Pn**	**18 04 11.6**	**+3.0**
DGMT	**Dagmar**	**4.75**	**9**	*e*Pn	**Pn**	**18 04 15.8**	**+1.6**
BOZ	**Bozeman (W)**	**4.83**	**294**	*e*Pn	**Pn**	**18 04 14.4**	**-1.0**
HWUT	**Hardware Ranch**	**5.08**	**247**	*e*Pn	**Pn**	**18 04 21.0**	**+2.1**
	6.3nm,0.4s						
TCUT	**Toone Canyon**	**5.22**	**241**	Pn	**Pn**	**18 04 20.7**	**-0.2**
	24nm,0.4s						
EGMT	**Eagleton**	**5.23**	**325**	*e*Pn	**Pn**	**18 04 21.9**	**+1.0**
	12μm,1.0s						
SRU	**San Rafael Swe**	**6.09**	**222**	*e*Pn	**Pn**	**18 04 33.2**	**+0.5**
	6.6nm,0.4s						
TMUT	**Trail Mountain**	**6.29**	**226**	*e*Pn	**Pn**	**18 04 37.7**	**+2.1**
	14nm,0.4s						
MSU	**Marysvale**	**7.38**	**227**	*e*Pn	**Pn**	**18 04 52.4**	**+1.9**
	0.2nm,0.4s						
ULM	**Lac du Bonnet**	**9.13**	**42**	Pn	**Pn**	**18 05 13.9**	**-0.4**
	1.0nm,0.3s,baz=236,slow=11,SNR=8.7						
ULM				Pg		18 05 49.0	
	1.2nm,0.3s,baz=218,slow=15,SNR=5.7						
ULM				Lg	Lg	18 07 44.6	
	0.6nm,0.3s,baz=181,slow=3.5,SNR=3.2						
FFC	**Flin Flon**	**11.16**	**10**	*e*Pn	**Pn**	**18 05 40.5**	**-1.5**
	1.9nm,0.5s						
YKA	**Yellowknife Ar**	**19.50**	**347**	P	**P**	**18 07 29.2**	**-0.5**
	0.1nm,0.3s,baz=163,slow=13,SNR=4.6						
ARCES	**ARCESS Array B**	**61.38**	**18**	P	**P**	**18 13 17.4**	**-1.2**
	0.5nm,0.6s,baz=330,slow=8.4,SNR=4.2						

IDC 18 18:08:47.5±3.2, 30.02S×177.55W, h0km, mb3.5/2, mb1 3.8/2, mb1mx3.4/44, mbtmp3.5/2, Error ellipse: s-maj=63.8km s-min=23.0km az=90.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.82**	**337**	Pn	Pn	18 09 07.3	+0.9
	156nm,0.3s,baz=72,slow=20,SNR=9.6						
RAO				Sn	Sn	18 09 18.5	-0.7
	395nm,0.3s,baz=72,slow=20,SNR=14						
ASAR	**Alice Springs**	**43.52**	**266**	P	P	18 16 52.9	-0.1
	0.1nm,0.4s,baz=107,slow=7.5,SNR=7.9						
WRA	**Warramunga Arr**	**44.47**	**272**	P	P	18 17 00.6	-0.2
	0.6nm,0.3s,baz=109,slow=8.0,SNR=32						
FINES	**FINESS Array B**	**144.92**	**340**	PKP	PKPab	18 28 24.5	-0.5
	0.9nm,0.5s,baz=67,slow=4.7,SNR=7.5						

IDC 18 18:11:36.4±2.5, 1.67N×93.60E, h0km, mb3.5/5, mb1 3.6/6, mb1mx3.3/70, mbtmp3.5/6, ML3.8/1, Error ellipse: s-maj=94.2km s-min=27.5km az=56.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**17.49**	**17**	P	Pn	18 15 40.9	-1.0
	0.1nm,0.3s,baz=216,slow=14,SNR=5.1						
WRA	**Warramunga Arr**	**45.36**	**120**	P	P	18 19 56.6	-0.3
	0.5nm,0.8s,baz=296,slow=8.5,SNR=5.9						
MKAR	**Makanchi Array**	**46.01**	**349**	P	P	18 20 02.2	+0.6
	0.4nm,0.7s,baz=172,slow=8.5,SNR=5.3						
KURBB	**Kurchatov Arra**	**50.42**	**348**	P	P	18 20 35.6	0.0
	0.2nm,0.3s,baz=176,slow=7.7,SNR=5.0						
ZALV	**Zalesovo Beam**	**52.60**	**353**	P	P	18 20 53.1	+1.2
	0.6nm,0.6s,baz=163,slow=7.7,SNR=3.6						
BVAR	**Borovoye Array**	**54.69**	**343**	P	P	18 21 05.9	-1.3
	0.4nm,0.6s,baz=153,slow=9.7,SNR=3.9						

IDC 18 18:26:51.7±4.6, 5.67S×147.51E, h206km±49km, mb3.0/2, mb1 3.3/4, mb1mx2.8/56, mbtmp3.7/4, Error ellipse: s-maj=90.3km s-min=25.4km az=131.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.72**	**185**	P	Pn	18 27 51.7	+1.4
	1.8nm,0.3s,baz=326,slow=8.0,SNR=12						
PMG				S	S	18 28 36.4	+0.5
	5.7nm,0.3s,baz=210,slow=20,SNR=12						
WRA	**Warramunga Arr**	**19.11**	**221**	P	P	18 30 59.1	-0.2
	1.3nm,0.3s,baz=46,slow=12,SNR=101						
ASAR	**Alice Springs**	**22.17**	**215**	P	P	18 31 31.6	+0.4
	1.3nm,0.5s,baz=46,slow=9.4,SNR=24						
ILAR	**Eielson Array**	**84.98**	**23**	P	P	18 39 03.1	-0.4
	0.3nm,0.7s,baz=264,slow=4.4,SNR=2.6						

*THE **18** 18:27:37.6, 34.77N×24.01E, h28km±1km, ML2.5/3, Error ellipse: s-maj=3.3km s-min=0.9km az=217.0*
*ATH **18** 18:27:37.3, 34.83N×24.02E, h30km±1km, ML2.7/4, Error ellipse: s-maj=3.5km s-min=1.9km az=236.0*
*CSEM **18** 18:27:40.5±0.6, 34.91N×24.22E, h2km, ML2.7, Error ellipse: s-maj=15.3km s-min=10.9km az=35.0*
ISC 18 18:27:38.3±2.5, 34.8N±0.1×24.03E±0.09, h27km±11km, n14, σ0§37/26, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**0.05**	**95**	P	**Pb**	**18 27 42.9**	**+0.1**
GVD				S	**Sb**	**18 27 45.7**	**-0.3**
GVD				AML	AML	18 27 46.7	
	comp=E,14627μm,0.1s						
GVD				AML	AML	18 27 47.4	
	comp=N,11871μm,0.2s						
GVD	**Gavdhos**	**0.05**	**95**	P	**Pb**	**18 27 42.6**	**-0.3**
GVD				S	**Sb**	**18 27 46.2**	**+0.2**
GVD	**Gavdhos**	**0.05**	**95**	P	**Pb**	**18 27 42.7**	**-0.2**
GVD				S	**Sb**	**18 27 46.0**	**0.0**
VAM	**Vamos**	**0.58**	**14**	P	**Pb**	**18 27 49.0**	**-0.9**
VAM				S	**Sb**	**18 27 57.9**	**+0.1**
VAM				AML	AML	18 28 02.8	
	comp=E,378μm,0.4s						
VAM				AML	AML	18 28 05.9	
	comp=N,586μm,0.2s						
VAM	**Vamos**	**0.58**	**14**	P	**Pb**	**18 27 49.6**	**-0.3**
VAM				S	**Sn**	**18 28 00.0**	**+0.6**
VAM	**Vamos**	**0.58**	**14**	P	**Pb**	**18 27 49.6**	**-0.3**
VAM				S	**Sb**	**18 27 58.3**	**+0.5**
IMMV	**Iera Moni Meta**	**0.62**	**356**	P	**Pb**	**18 27 50.4**	**-0.2**
IMMV				S	**Sn**	**18 28 00.8**	**+0.5**
IMMV				AML	AML	18 28 01.0	
	comp=E,1268μm,0.3s						
IMMV				AML	AML	18 28 01.5	
	comp=N,974μm,0.3s						
IMMV	**Iera Moni Meta**	**0.62**	**356**	P	**Pb**	**18 27 50.2**	**-0.3**
IMMV				S	**Sn**	**18 28 00.2**	**-0.1**
IMMV	**Iera Moni Meta**	**0.62**	**356**	P	**Pb**	**18 27 50.3**	**-0.2**
IMMV				S	**Sn**	**18 28 00.2**	**-0.1**
SIVA	**Sivas**	**0.66**	**75**	P	**Pb**	**18 27 50.8**	**-0.4**
SIVA				S	**Sn**	**18 28 01.8**	**+0.3**
SIVA				AML	AML	18 28 05.1	
	comp=E,1531μm,0.4s						
SIVA				AML	AML	18 28 06.3	
	comp=N,1218μm,0.5s						
SIVA	**Sivas**	**0.66**	**75**	P	**Pb**	**18 27 51.0**	**-0.3**
SIVA				S	**Sb**	**18 28 00.4**	**+0.3**
SIVA	**Sivas**	**0.66**	**75**	P	**Pb**	**18 27 50.9**	**-0.4**
SIVA				S	**Sb**	**18 28 00.4**	**+0.3**
LAST	**Lasithi**	**1.23**	**75**	P	**Pb**	**18 28 00.6**	**-0.3**
LAST	**Lasithi**	**1.23**	**75**	P	**Pb**	**18 28 00.6**	**-0.3**

*ISCJB **18** 18:28:26.5±0.4, 39.66N±0.04×20.35E±0.04, h12km±5km, Error ellipse: s-maj=6.9km s-min=4.4km az=28.5*
*CSEM **18** 18:28:26.3±0.1, 39.65N×20.37E, h10km, ML2.2, Error ellipse: s-maj=3.6km s-min=2.2km az=10.0*
*THE **18** 18:28:26.8, 39.67N×20.37E, h7km±2km, ML2.1/6, Error ellipse: s-maj=2.6km s-min=0.6km az=221.0*
*ATH **18** 18:28:26.3, 39.66N×20.35E, h15km±3km, ML2.2/7, Error ellipse: s-maj=4.1km s-min=1.0km az=208.0*
ISC 18 18:28:26.4±0.8, 39.66N±0.03×20.36E±0.02, h12km±6km, n33, σ0§65/53, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGD	**Sagiada**	**0.11**	**246**	P	**Pg**	**18 28 28.9**	**-0.5**
SGD	**Sagiada**	**0.11**	**246**	P	**Pg**	**18 28 29.1**	**-0.3**
SGD	**Sagiada**	**0.11**	**246**	P	**Pg**	**18 28 29.2**	**-0.2**
IGT	**Igoumenitsa**	**0.13**	**191**	P	**Pg**	**18 28 29.1**	**-0.5**
IGT				S	**Sg**	**18 28 32.2**	**+0.3**
IGT				AML	AML	18 28 33.7	
	comp=N,2725μm,0.3s						
IGT				AML	AML	18 28 34.6	
	comp=E,2802μm,0.3s						
IGT	**Igoumenitsa**	**0.13**	**191**	P	**Pg**	**18 28 29.4**	**-0.2**
IGT				S	**Sg**	**18 28 32.3**	**+0.4**
IGT	**Igoumenitsa**	**0.13**	**191**	P	**Pg**	**18 28 29.4**	**-0.2**
IGT				S	**Sg**	**18 28 32.2**	**+0.3**
KASA	**Kassiopi**	**0.34**	**285**	P	**Pg**	**18 28 33.8**	**+0.5**
KASA				S	**Sb**	**18 28 40.1**	**+0.3**
KASA				AML	AML	18 28 40.2	
	comp=E,1588μm,0.3s						
KASA				AML	AML	18 28 40.3	
	comp=N,1605μm,0.6s						
KASA	**Kassiopi**	**0.34**	**285**	P	**Pg**	**18 28 33.5**	**+0.2**
KASA				S	**Sb**	**18 28 39.1**	**-0.7**
SRN	**Sarande**	**0.36**	**309**	P	**Pg**	**18 28 33.4**	**-0.2**
SRN				S	**Sg**	**18 28 39.4**	**+1.0**
SRN	**Sarande**	**0.36**	**309**	P	**Pg**	**18 28 33.4**	**-0.2**
SRN				S	**Sg**	**18 28 39.4**	**+1.0**
JAN	**Janina**	**0.38**	**90**	P	**Pg**	**18 28 33.9**	**0.0**
JAN				AML	AML	18 28 41.3	
	comp=E,4510μm,0.3s						
JAN				AML	AML	18 28 41.6	
	comp=N,3507μm,0.3s						
JAN				S	**Sb**	**18 28 41.7**	**+0.9**
JAN	**Janina**	**0.38**	**90**	P	**Pg**	**18 28 33.7**	**-0.2**
JAN				S	**Sb**	**18 28 39.9**	**-1.0**
JAN	**Janina**	**0.38**	**90**	P	**Pg**	**18 28 33.7**	**-0.2**
JAN				S	**Sb**	**18 28 39.9**	**-1.0**
KEK	**Kerkira**	**0.44**	**277**	P	**Pg**	**18 28 35.0**	**-0.2**
KEK				S	**Sb**	**18 28 42.3**	**-0.4**
KEK				AML	AML	18 28 43.6	
	comp=N,941μm,0.3s						
KEK				AML	AML	18 28 47.8	
	comp=E,989μm,0.6s						
KEK	**Kerkira**	**0.44**	**277**	P	**Pg**	**18 28 34.9**	**-0.2**
KEK				S	**Sb**	**18 28 41.9**	**-0.8**
KEK	**Kerkira**	**0.44**	**277**	P	**Pg**	**18 28 34.9**	**-0.2**
KEK				S	**Sg**	**18 28 41.7**	**+0.7**
DSL	**Palaion Diesel**	**0.77**	**132**	P	**Pg**	**18 28 40.6**	**-0.7**
DSL				S	**Sb**	**18 28 52.5**	**+0.3**
DSL				AML	AML	18 28 58.2	
	comp=N,264μm,0.8s						
DSL				AML	AML	18 28 58.6	
	comp=E,259μm,0.4s						
DSL	**Palaion Diesel**	**0.77**	**132**	P	**Pg**	**18 28 40.8**	**-0.5**
DSL				S	**Sb**	**18 28 52.8**	**+0.6**
DSL	**Palaion Diesel**	**0.77**	**132**	P	**Pg**	**18 28 40.9**	**-0.4**
DSL				S	**Sb**	**18 28 52.3**	**+0.1**
KPRO	**Kipourio**	**0.82**	**69**	P	**Pg**	**18 28 41.2**	**-1.1**
KPRO				S	**Sb**	**18 28 54.0**	**+0.1**
KPRO				AML	AML	18 29 01.3	
	comp=N,182μm,0.7s						
KPRO				AML	AML	18 29 03.8	
	comp=E,232μm,0.5s						
KPRO	**Kipourio**	**0.82**	**69**	P	**Pg**	**18 28 41.4**	**-1.0**
KPRO				S	**Sb**	**18 28 54.1**	**+0.3**
KPRO	**Kipourio**	**0.82**	**69**	P	**Pg**	**18 28 41.7**	**-0.7**
KPRO				S	**Sb**	**18 28 53.9**	**+0.1**
LKD2	**Lefkada island**	**0.90**	**165**	P	**Pg**	**18 28 43.7**	**0.0**
LKD2	**Lefkada island**	**0.90**	**165**	P	**Pg**	**18 28 43.5**	**-0.2**
NEST	**Nestorio**	**0.92**	**35**	P	**Pb**	**18 28 44.4**	**0.0**
NEST	**Nestorio**	**0.92**	**35**	P	**Pb**	**18 28 44.4**	**0.0**
PDO	**Prodromos**	**1.23**	**149**	P	**Pg**	**18 28 50.0**	**-0.1**
PDO	**Prodromos**	**1.23**	**149**	P	**Pg**	**18 28 50.0**	**-0.1**
KZN	**Kozani**	**1.26**	**59**	P	**Pn**	**18 28 49.0**	**-1.0**
KZN	**Kozani**	**1.26**	**59**	P	**Pn**	**18 28 49.7**	**-0.2**
THL	**Klokotos Trika**	**1.28**	**94**	P	**Pg**	**18 28 50.9**	**-0.1**
THL				S	**Sg**	**18 29 10.3**	**+2.7**
THL				AML	AML	18 29 12.2	
	comp=N,74μm,0.8s						
THL				AML	AML	18 29 16.1	
	comp=E,51μm,0.5s						
THL	**Klokotos Trika**	**1.28**	**94**	P	**Pg**	**18 28 50.7**	**-0.3**
NVLJ	**Novalja**	**6.38**	**322**	*e*Pn	**Pn**	**18 29 59.9**	**-0.2**

*IDC **18** 18:30:00.9±2.2, 39.80N×143.93E, h0km, mb3.5/4, mb1 3.5/6, mb1mx3.3/77, mbtmp3.4/6, ML3.1/2, Error ellipse: s-maj=59.3km s-min=24.3km az=78.0*
*ISCJB **18** 18:30:01.3±0.8, 39.90N±0.04×143.87E±0.10, h16km, mb3.4/4, Error ellipse: s-maj=11.5km s-min=4.3km az=24.6*
*JMA **18** 18:30:04.7±0.4, 39.94N×143.67E, h38km, M3.3*
ISC 18 18:30:02.6±1.2, 39.85N±0.06×143.85E±0.09, h16km, n19, σ1§38/26, mb3.5/4, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**1.53**	**274**	P	**Pn**	**18 30 28.2**	**-1.1**
MIYJ	**Miyakonagasawa**	**1.59**	**261**	P	**Pn**	**18 30 29.8**	**-0.3**
JANG	**Nango**	**1.87**	**287**	P	**Pn**	**18 30 33.1**	**-0.8**
JOM	**Ohasama**	**2.01**	**260**	P	**Pn**	**18 30 36.3**	**+0.4**
JMK	**Ichinoseki**	**2.23**	**247**	P	**Pn**	**18 30 39.0**	**+0.1**
JMK				*e*S	**Sn**	**18 31 03.9**	**-2.2**
JNBK	**Urakawa-nobuka**	**2.56**	**341**	P	**Pn**	**18 30 44.0**	**+0.5**
JNBK				*e*S	**Sn**	**18 31 13.0**	**-1.3**
JCH	**Churui**	**2.78**	**353**	P	**Pn**	**18 30 47.0**	**+0.5**
JCH				*e*S	**Sn**	**18 31 18.0**	**-1.8**
JYK	**Kaneyama**	**2.86**	**252**	P	**Pn**	**18 30 48.3**	**+0.7**
JAK	**Akkeshi**	**3.21**	**11**	P	**Pn**	**18 30 52.5**	**+0.2**
JAK				*e*S	**Sn**	**18 31 28.4**	**-1.7**
JFR	**Furan**	**3.44**	**344**	*e*S	**Sn**	**18 31 35.1**	**-0.9**
JAR	**Ashorobuto**	**3.44**	**359**	P	**Pn**	**18 30 55.3**	**-0.3**
JAR				*e*S	**Sn**	**18 31 33.1**	**-2.9**
JFT	**Otama**	**3.60**	**231**	P	**Pn**	**18 30 56.7**	**-1.1**
NEM2	**Nemuro 2**	**3.79**	**21**	P	**Pn**	**18 31 00.0**	**-0.2**
NEM2				*e*S	**Sn**	**18 31 41.5**	**-2.9**
ASAJ	**Asahikawa**	**4.36**	**348**	Pn	**Pn**	**18 31 10.0**	**+1.8**
	0.7nm,0.3s,baz=175,slow=12,SNR=8.8						
ASAJ				Sn	**Sn**	**18 31 59.0**	**+0.4**
	0.7nm,0.3s,baz=120,slow=20,SNR=4.8						
MJAR	**Matsushiro Arr**	**5.54**	**235**	Pn	**Pn**	**18 31 25.3**	**+0.9**
	0.5nm,0.3s,baz=45,slow=11,SNR=6.1						
ZALV	**Zalesovo Beam**	**41.50**	**310**	P	**P**	**18 37 50.4**	**+1.7**
	0.2nm,0.3s,baz=101,slow=7.8,SNR=2.3						
MKAR	**Makanchi Array**	**44.30**	**300**	P	**P**	**18 38 12.8**	**+1.2**
	0.5nm,1.1s,baz=86,slow=7.1,SNR=2.6						
KURBB	**Kurchatov Arra**	**45.83**	**306**	P	**P**	**18 38 24.0**	**+0.4**
	0.7nm,0.7s,baz=78,slow=7.7,SNR=5.9						
WRA	**Warramunga Arr**	**60.14**	**190**	P	**P**	**18 40 09.8**	**+0.4**
	0.3nm,0.5s,baz=7.7,slow=7.1,SNR=11						

MEX 18 18:34:00.8±0.4, 16.75N×98.38W, h23km±46km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.43**	**145**	*i* P	Pb	18 34 08.3	-1.4
PNIG				*e*S	Sb	18 34 14.1	-1.7
TLIG	**Tlapa**	**0.83**	**348**	*e*P	Pb	18 34 16.5	-0.2
TLIG				*e*

LUWI Luwuk 9.17 267 P **Pn** **18 40 21.3 -0.7**
144nm,1.6s,2µm
DAV Davao City (W) 9.89 320 Pn **Pn** **18 40 32.0 +0.2**
19nm,0.3s,baz=107,slow=2.5,SNR=6.3
DAV LR LR 18 44 53.0
comp=Z,2µm,18.2s,baz=156,slow=41
APSI Ampana 10.29 268 P **Pn** **18 40 36.9 -0.4**
349nm,1.1s,3µm
BUKP Musuan 10.84 321 *e*P **Pn** **18 40 45.2 +0.3**
CTBH Cotabato--PC H 10.90 315‖ *i*P **Pn** **18 40 46.0 +0.4**
BUTP Butuan 11.38 327 *e*P **Pn** **18 40 54.0 +1.8**
SOEI Soe 11.89 220 P **Pn** **18 41 02.7 +3.4**
95nm,1.2s,1µm
MPSI Mapaga 12.07 274 P **Pn** **18 41 02.1 +0.4**
32nm,1.6s,746nm
PCI Palu 12.10 268 P **Pn** **18 41 02.5 +0.4**
91nm,1.0s,864nm
MTN Manton Dam 12.21 184 P **Pn** **18 41 00.9 -2.7**
baz=12,SNR=52
MTN Manton Dam 12.21 184 *e*Pn **Pn** **18 41 00.8 -2.8**
BNSI Bone 12.41 252 P **Pn** **18 41 06.6 +0.3**
44nm,1.9s,883nm
MMRI Maumere 12.54 230 P **Pn** **18 41 10.3 +2.2**
116nm,1.0s,1µm
BATI Baumata 12.61 220 Pn **Pn** **18 41 10.4 +1.2**
5.8nm,0.3s,baz=68,slow=19,SNR=20
BATI LR LR 18 47 20.6
comp=Z,545nm,18.1s,baz=50,slow=43
KAPI Kappang 12.94 250 *e*P **Pn** **18 41 17.1 +3.5**
154nm,1.5s
MYLDM Lahad Datu 14.58 293 *e*Pn **Pn** **18 41 36.1 +0.1**
SMKI Samarinda 14.72 270 P **Pn** **18 41 38.5 +0.6**
103nm,0.4s
RCP Roxas 15.12 323‖ *e*P **Pn** **18 41 43.2 -0.1**
KNRA Kununurra 15.33 192 P **Pn** **18 41 42.2 -3.7**
baz=15,SNR=68
MANU Manus Island 15.50 96 *e*Pn **Pn** **18 41 49.3 +1.0**
42nm,1.1s
KBKI Kotabaru 15.98 260 P **Pn** **18 41 55.3 +0.8**
64nm,1.2s,799nm
PLAI Plampang 16.30 239 P **P** **18 42 00.6 -0.7**
37nm,0.8s,978nm
SJMP San Jose 16.82 321 *e*P **Pn** **18 42 03.4 -1.6**
KKM Kota Kinabalu 17.01 293 *e*Pn **Pn** **18 42 03.3 -4.3**
72nm,1.1s
MTKI Muara Teweh, K 17.04 269 P **Pn** **18 42 07.6 -0.2**
32nm,0.8s,2µm
TWSI Taliwang, Sumb 17.04 241 P **P** **18 42 08.7 -0.7**
ENPP El Nido 17.08 314 *e*P **Pn** **18 42 05.3 -3.0**
BOAC Boac 17.16 325 *e*P **P** **18 42 13.4 +2.7**
COEN Coen 17.34 141 P **Pn** **18 42 10.4 -1.2**
baz=17,SNR=18
COEN Coen 17.34 141 *e*Pn **Pn** **18 42 10.4 -1.2**
73nm,1.0s
PMG Port Moresby 17.51 121 P **Pn** **18 42 13.2 -0.5**
0.4nm,0.3s,baz=328,slow=11,SNR=8.0
PMG LR LR 18 51 41.1
comp=Z,994nm,20.1s,baz=301,slow=47
PMG Port Moresby 17.51 121 *e*Pn **P** **18 42 15.1 +0.5**
55nm,1.0s
PMG Port Moresby 17.51 121 *ce*P **P** **18 42 15.5 +0.9**
PMG pmax pmax
comp=Z,156nm,1.2s
LQP Lukban 17.86 325‖ *e*P **P** **18 42 21.6 +3.0**
TGY Tagaytay City 18.20 324 P **Pn** **18 42 20.9 -1.3**
baz=116,slow=6.1,SNR=5.0
TGY LR LR 18 49 27.0
comp=Z,383nm,21.1s,baz=130,slow=37
SRBI Singaraja 18.25 245 P **Pn** **18 42 24.9 +2.1**
comp=Z,66nm,1.0s,comp=Z,2µm
LUBP Lubang 18.34 321 *e*P **P** **18 42 22.5 -1.2**
FITZ Fitzroy Crossi 18.48 199 P **P** **18 42 23.8 -1.4**
comp=Z,1.3nm,0.3s,baz=28,slow=14,SNR=24
GUMO Guam 19.04 42 LR LR 18 49 10.7
comp=Z,161nm,18.6s,baz=229,slow=35
ABJI Asem Bagus 19.04 247 P **Pn** **18 42 31.5 -0.9**
comp=Z,121nm,1.6s,comp=Z,2µm
JAGI Jajag, Banyuwa 19.37 246 P **Pn** **18 42 35.4 -0.9**
comp=Z,164nm,1.1s,comp=Z,2µm
WRAB Tennant Creek 19.38 173 *e*P **Pn** **18 42 35.8 -0.7**
comp=Z,218nm,1.8s
WRAB Tennant Creek 19.38 173 *c i*P **Pn** **18 42 35.7 -0.7**
WRAB pmax pmax
comp=Z,31nm,1.8s
WRA Warramunga Arr 19.39 173 P **P** **18 42 35.3 0.0**
comp=Z,2.8nm,0.3s,baz=353,slow=11,SNR=115
WRA S S 18 46 02.1 -11
comp=Z,1.0nm,0.3s,baz=354,slow=22,SNR=5.5
WRA LR LR 18 51 05.5
comp=Z,657nm,19.6s,baz=355,slow=40
WB2 Warramunga Arr 19.39 173 *e*P **P** **18 42 34.5 -0.7**
comp=Z,260nm,1.9s
SBUM Sibu 19.93 279 *e*P **P** **18 42 41.3 0.0**
comp=Z,56nm,1.4s
GMJI Gumukmas 19.94 247 P **Pn** **18 42 42.5 -0.6**
comp=Z,81nm,1.2s,comp=Z,2µm
CAUP Cauayan 20.06 331 *e*P Pn 18 42 44.3 -0.2
SCZP Santa Cruz 20.12 324 *e*P Pn 18 42 43.4 -1.9
STKI Sintang 20.46 272 P **P** **18 42 47.2 +0.2**
comp=Z,48nm,0.9s
RABL Rabaul 20.53 100 *e*P Pn 18 42 49.4 -0.7
comp=Z,186nm,1.3s
BOLP Bolinao 20.61 325 *e*P **P** **18 42 47.0 -1.5**
APYP Conner 21.13 331 *e*P **P** **18 42 54.3 +0.2**
ABRA Dolores 21.21 329 *e*P **P** **18 42 55.9 +0.9**
QIS Mount Isa 21.23 160 P **P** **18 42 55.2 0.0**
baz=21,SNR=21
MTSU Mount Surprise 21.27 146 P **P** **18 42 56.7 +1.0**
baz=21,SNR=16
PWJI Pagerwojo 21.38 249 P **P** **18 42 56.9 0.0**
comp=Z,42nm,1.5s
KSM Kuching 21.72 275 *e*P **P** **18 43 01.5 +1.0**
comp=Z,47nm,1.1s
AS31 Alice Springs 23.03 175 *e*P **P** **18 43 14.0 -0.4**
comp=Z,123nm,1.9s
ASAR Alice Springs 23.03 175 P **P** **18 43 15.0 +0.6**
comp=Z,61nm,0.9s,baz=356,slow=10,SNR=306
ASAR S **S** **18 47 18.2 -5.1**
comp=Z,1.3nm,0.7s,baz=345,slow=14,SNR=2.5
ASAR LR LR 18 53 12.4
comp=Z,641nm,19.6s,baz=349,slow=39
AS01 Alice Springs 23.03 175 *e*P **P** **18 43 14.3 -0.2**
MBWA Marble Bar 23.67 209 *e*P **P** **18 43 20.6 -0.1**
comp=Z,47nm,1.0s
KPJI Karang Pucung 23.89 253 P **P** **18 43 22.2 -0.7**
CTA Charters Tower 23.93 145 P **P** **18 43 23.8 +0.6**
comp=Z,45nm,1.0s,baz=326,slow=14,SNR=21
CTAO Charters Tower 23.93 145 *e*P **P** **18 43 23.0 -0.2**
comp=Z,100nm,1.2s
CTAO Charters Tower 23.93 145 *e*P **P** **18 43 23.0 -0.2**
CTAO pmax pmax
comp=Z,100nm,1.2s
WRKA Warakurna 24.57 188 P **P** **18 43 30.3 +1.2**
baz=25,SNR=61
LEM Lembang 25.03 255 P **P** **18 43 34.4 +0.9**
comp=Z,16nm,0.6s,baz=97,slow=16,SNR=4.7
LEM LR LR 18 56 46.3
comp=Z,307nm,18.6s,baz=81,slow=44
LEM Lembang 25.03 255 P **P** **18 43 34.4 +0.9**
LEM pmax pmax
comp=Z,25nm,0.9s
LEM MLR MLR
comp=Z,307nm,18.6s
SSLB Suanglung 26.46 337 *e*P **P** **18 43 45.7 -0.5**
comp=Z,49nm,1.7s
JOW Kunigami 27.48 353 LR LR 18 53 54.7
comp=Z,712nm,19.5s,baz=142,slow=35
MYKOM Kota Tinggi 28.18 275 *e*P **P** **18 44 01.4 -0.3**
comp=Z,38nm,0.9s
QLP Quilpie 28.44 156 P **P** **18 44 04.5 +0.6**
baz=28,SNR=20
MEEK Meekatharra 28.91 205 P **P** **18 44 07.7 -0.4**
baz=29,SNR=3.9
FORT Forrest 30.26 187 P **P** **18 44 20.2 +0.3**
baz=30,SNR=13
FORT Forrest 30.26 187 *e*P **P** **18 44 21.0 +1.0**
comp=Z,974nm,0.8s
EIDS Eidsvold 30.81 145 P **P** **18 44 25.1 +0.1**
baz=31,SNR=8.8
EIDS Eidsvold 30.81 145 *e*P **P** **18 44 25.0 +0.1**
comp=Z,30nm,0.9s
IPM Ipoh 31.28 280 *e*P **P** **18 44 27.7 -1.6**
comp=Z,50nm,1.1s
KULM Kulim 31.78 281 *e*P **P** **18 44 33.4 -0.2**
comp=Z,47nm,1.2s
KMBL Kambalda 32.07 196 P **P** **18 44 36.8 +0.9**
baz=32,SNR=7.5

SKLT Songkhla 32.17 284 P **P** **18 44 37.2 +0.2**
comp=Z,55nm,1.3s,comp=Z,2µm
BBOO Buckleboo 32.30 173 P **P** **18 44 38.7 +0.8**
baz=32,SNR=12
BBOO Buckleboo 32.30 173 *e*P **P** **18 44 38.6 +0.7**
comp=Z,69nm,1.3s
STKA Stephens Creek 32.44 165 P **P** **18 44 39.1 0.0**
comp=Z,11nm,0.8s,baz=344,slow=9.3,SNR=22
STKA LR LR 18 58 26.9
comp=Z,765nm,20.9s,baz=342,slow=38
STKA Stephens Creek 32.44 165 P **P** **18 44 38.9 -0.4**
baz=33,SNR=12
STKA Stephens Creek 32.44 165 *e*P **P** **18 44 38.2 -1.0**
comp=Z,3.2nm,0.9s
STKA Stephens Creek 32.44 165 P **P** **18 44 39.2 0.0**
STKA pmax pmax
comp=Z,13nm,1.0s
STKA MLR MLR
comp=Z,765nm,20.9s
SKNT Sakolnakorn 32.60 304 P **P** **18 44 40.5 -0.3**
comp=Z,11nm,0.8s
PSI Prapat 33.17 276 P **P** **18 44 44.9 -1.0**
comp=Z,28nm,0.7s,baz=126,slow=4.5,SNR=12
PSI LR LR 18 58 55.0
comp=Z,316nm,19.0s,baz=118,slow=38
PSI Prapat 33.17 276 *e*P **P** **18 44 44.1 -1.8**
comp=Z,50nm,1.0s
BLDU Ballidu 33.19 204 P **P** **18 44 45.7 -0.1**
baz=33,SNR=6.7
TRTT Trang 33.21 285 P **P** **18 44 46.0 -0.2**
comp=Z,27nm,1.6s,comp=Z,298nm
KHON Khomkaen 33.28 302 P P 18 44 59.0 +12
HTT Hallett 33.33 169 P **P** **18 44 47.2 +0.1**
baz=34,SNR=6.1
CMSA Cobar Meteorol 33.43 158 P **P** **18 44 48.8 +1.0**
baz=34,SNR=9.2
JNU Nakatsue 33.53 358 P **P** **18 44 48.3 -0.5**
comp=Z,19nm,1.2s,baz=146,slow=6.5,SNR=4.1
JNU LR LR 18 57 51.5
comp=Z,376nm,19.1s,baz=174,slow=35
JNU Nakatsue 33.53 358 *e*P **P** **18 44 47.9 -0.9**
comp=Z,33nm,1.3s
NAYO Nakonayok 33.72 297 P **P** **18 44 51.5 +0.9**
comp=Z,19nm,1.6s
CHAI Chaiyaphum 33.80 300 P **P** **18 44 51.7 +0.5**
comp=Z,6.8nm,0.8s,comp=Z,66nm
JHJ Hachijo jima 2 34.33 12 LR LR 18 56 23.2
comp=Z,662nm,18.7s,baz=177,slow=32
PKDT Phuket 34.54 285 P **P** **18 44 58.0 +0.3**
comp=Z,21nm,1.2s,comp=Z,317nm
PHET Kaeng Krachan 34.73 294 P **P** **18 45 00.8 +1.5**
comp=Z,9.3nm,0.9s
NJ2 Nanjing 34.73 340 *e*P **P** **18 44 58.4 -0.7**
NJ2 pmax pmax
comp=Z,15nm,0.5s
PBKT Sadao Pong 34.97 301 P **P** **18 45 01.1 -0.2**
comp=Z,13nm,2.0s
NWAO Narrogin (SRO) 35.03 202 P **P** **18 45 02.9 +1.3**
comp=Z,11nm,0.8s,baz=33,slow=16,SNR=3.9
NWAO LR LR 19 01 56.7
comp=Z,259nm,19.0s,baz=251,slow=41
ARMA Armidale 35.09 150 P **P** **18 45 02.1 -0.2**
baz=35,SNR=24
ARMA Armidale 35.09 150 *e*P **P** **18 45 02.4 0.0**
comp=Z,43nm,0.8s
WHN Wuhan 35.18 333 P P 18 45 16.8 +14
WHN S **S** **18 50 41.6 +7.2**
WHN LR LR
comp=Z,700nm,26.3s
SRDT SRDT 35.70 296 P **P** **18 45 07.8 +0.1**
comp=Z,33nm,1.9s,comp=Z,717nm
PHIT Phitsanulok 35.72 301 P **P** **18 45 09.2 +1.4**
comp=Z,9.0nm,0.9s
NANT Nan 36.22 304 P P 18 45 22.4 +10
GYA Guiyang 36.27 320 *e*P **P** **18 45 14.3 +1.7**
GYA pmax pmax
comp=Z,10.0nm,1.0s
TJN Taejon 37.01 354‖ *e*P **P** **18 45 17.8 -0.8**
ARPS Mount Arapiles 37.16 167 P **P** **18 45 20.4 +0.5**
baz=37,SNR=9.0
MJAR Matsushiro Arr 37.39 8 P **P** **18 45 19.4 -2.4**
comp=Z,1.1nm,0.8s,baz=187,slow=8.6,SNR=3.7
MJAR LR LR 18 57 37.7
comp=Z,284nm,21.7s,baz=185,slow=31
CM01 Chiang Mai Arr 37.51 302 *e*P **P** **18 45 21.6 -1.5**
CM31 Chiang Mai Arr 37.54 302 *e*P **P** **18 45 21.7 -1.7**
CMAR Chiang Mai Arr 37.54 302 P **P** **18 45 23.9 +0.6**
comp=Z,3.5nm,1.0s,baz=121,slow=8.4,SNR=16
CMMT Chiang Mai 37.69 302 P **P** **18 45 24.2 -0.5**
comp=Z,9.1nm,2.0s
CHTO Chiang Mai 37.70 302 P **P** **18 45 25.2 +0.5**
comp=Z,41nm,2.1s
CHTO Chiang Mai 37.70 302 *e*P **P** **18 45 24.8 +0.1**
comp=Z,12nm,1.3s
CHTO Chiang Mai 37.70 302 *e*P **P** **18 45 24.8 +0.1**
CHTO pmax pmax
comp=Z,12nm,1.3s
KSAR Wonju Array Be 38.02 355 P **P** **18 45 27.2 +0.2**
KSAR Wonju Array Be 38.02 355 P **P** **18 45 27.3 +0.2**
KSRS Korea Array 38.02 355 P **P** **18 45 27.2 +0.1**
comp=Z,1.2nm,0.8s,baz=181,slow=8.4,SNR=3.5
KSRS LR LR 18 59 53.3
comp=Z,393nm,19.9s,baz=177,slow=34
KMI Kunming 38.09 314 P **P** **18 45 28.9 +0.8**
KMI pP pP 18 45 37.5 +0.2
KMI sP sP 18 45 42.0 +1.0
KMI PP **PnPn** **18 46 56.9 -0.2**
KMI S **S** **18 51 22.8 +3.4**
KMI sS sS 18 51 39.0 +4.6
KMI pmax pmax
comp=Z,16nm,1.3s
KMI pmax pmax
comp=Z,140nm,5.7s
KMI LR LR
comp=Z,190nm,21.7s
KMI LR LR
comp=Z,330nm,16.8s
KMI LR LR
comp=Z,420nm,22.2s
DZM Mont Dzumac 39.82 125 P **P** **18 45 43.6 +1.0**
comp=Z,18nm,0.9s,baz=311,slow=20,SNR=5.9
DZM LR LR 19 01 50.8
comp=Z,195nm,21.7s,baz=22,slow=36
DZM Mont Dzumac 39.82 125 *e*LR LR 18 56 45.9
comp=Z,342nm,25.1s
DL2 Dalian 40.42 348 P **P** **18 45 46.8 -0.3**
DL2 S **S** **18 51 56.1 +2.6**
DL2 pmax pmax
comp=Z,210nm,3.5s
DL2 LR LR
comp=Z,400nm,16.7s
DL2 LR LR
comp=Z,260nm,16.7s
DL2 LR LR
comp=Z,440nm,19.4s
CD2 Chengdu 41.19 322 *e*P **P** **18 45 53.6 -0.1**
CD2 pP sP 18 46 04.1 -2.6
CD2 sP pP 18 46 08.8 +5.9
CD2 S **S** **18 52 05.5 0.0**
CD2 sS sS 18 52 23.4 +2.8
CD2 SS **SS** **18 55 10.8 +1.5**
CD2 pmax pmax
comp=Z,20nm,0.5s
CD2 pmax pmax
comp=Z,160nm,5.0s
CD2 LR LR
comp=Z,820nm,19.9s
CD2 LR LR
comp=Z,820nm,17.4s
CD2 LR LR
comp=Z,450nm,18.9s
BJI Beijing 42.91 342 P **P** **18 46 06.8 -0.7**
BJI pmax pmax
comp=Z,20nm,0.6s
BJI pmax pmax
comp=Z,130nm,5.5s
BJI LR LR
comp=Z,580nm,19.9s
BJI LR LR
comp=Z,630nm,28.4s
CN2 Changchun 44.56 353 *e*P **P** **18 46 20.3 -0.5**
CN2 *e*pP pP 18 46 30.0 0.0
CN2 *e*S **S** **18 52 53.8 -0.7**
CN2 LR LR
comp=Z,200nm,17.0s
CN2 LR LR
comp=Z,210nm,17.0s
CN2 LR LR
comp=Z,260nm,18.0s
USRK Ussuriysk Ar. 44.58 0 P **P** **18 46 20.9 0.0**
comp=Z,4.4nm,0.6s,baz=183,slow=8.4,SNR=12
LZH Lanzhou 44.87 327 *e*P **P** **18 46 24.8 +1.2**
LZH pP pP 18 46 33.1 +0.2
LZH sP sP 18 46 36.6 0.0
LZH PP **PP** **18 48 07.8 -1.0**
LZH *e*S **S** **18 52 58.0 -1.6**
LZH sS sS 18 53 15.0 +0.2
LZH pmax pmax
comp=Z,25nm,1.2s
LZH pmax pmax
comp=Z,98nm,4.3s
LZH LR LR
comp=Z,1µm,14.4s
LZH LR LR
comp=Z,690nm,14.5s
LZH LR LR
comp=Z,2µm,16.8s
MDJ Mudanjiang 45.05 358 P **P** **18 46 22.8 -1.8**
MDJ pP pP 18 46 30.0 -3.9
MDJ sP sP 18 46 37.8 +0.2
MDJ PP **PP** **18 48 13.5 +3.2**
MDJ S S 18 53 12.0 +11
MDJ ScS **ScS** **18 56 14.3 -5.2**
MDJ pmax pmax
comp=Z,14nm,1.0s
MDJ pmax pmax
comp=Z,39nm,3.8s
MDJ LR LR
comp=Z,340nm,13.5s
MDJ LR LR
comp=Z,110nm,5.7s
MDJ LR LR
comp=Z,360nm,15.3s
MDJ Mudanjiang 45.05 358 *e*P **P** **18 46 24.5 -0.1**
comp=Z,9.8nm,0.9s
HHC Hu-ho-hao-te 45.20 338 *e*P **P** **18 46 26.4 +0.3**
HHC PP **PP** **18 48 13.6 +1.4**
HHC S **S** **18 53 02.3 -1.8**
HHC sS sS 18 53 24.4 +5.0
HHC pmax pmax
comp=Z,32nm,1.0s
HHC pmax pmax
comp=Z,87nm,6.1s
HHC LR LR
comp=Z,1µm,14.8s
HHC LR LR
comp=Z,1µm,15.0s
HHC LR LR
comp=Z,1µm,15.2s
ASAJ Asahikawa 45.51 11 P **P** **18 46 28.1 -0.1**
comp=Z,1.4nm,0.5s,baz=195,slow=12,SNR=3.6
YSS Yuzh-Sakhalins 48.28 10‖ *e*P **P** **18 46 49.6 -0.3**
YSS *e* 18 46 59.2
YSS pmax pmax
comp=Z,10.0nm,0.9s
MSVF Nonsavu 48.42 113‖ *e*P **P** **18 46 52.8 +1.2**
MSVF pmax pmax
comp=Z,13nm,1.1s
LSA Lhasa 49.17 311 *e*P **P** **18 46 57.8 +0.2**
comp=Z,23nm,1.4s
LSA Lhasa 49.17 311 *e*P **P** **18 46 57.8 +0.2**
LSA pmax pmax
comp=Z,23nm,1.4s
GTA Gaotai 49.48 327 *e*P **P** **18 46 59.4 0.0**
GTA pP pP 18 47 08.6 -0.2
GTA sP sP 18 47 12.6 +0.1
GTA S **S** **18 54 01.5 -3.5**
GTA pmax pmax
comp=Z,9.0nm,1.1s
GTA pmax pmax
comp=Z,180nm,7.6s
GTA LR LR
comp=Z,590nm,17.6s
GTA LR LR
comp=Z,290nm,17.3s
GTA LR LR
comp=Z,250nm,12.4s
KLR Kul'dur 49.61 360 P **P** **18 46 59.8 -0.3**
comp=Z,0.3nm,0.6s,baz=209,slow=6.0,SNR=17
KLR Kul'dur 49.61 360 *c i*P **P** **18 46 59.3 -0.8**
GRNR Gornyy 51.30 4 *e*P **P** **18 47 11.2 -1.6**
GRNR pmax pmax
comp=Z,26nm,1.0s
ULN Ulaanbaatar 52.88 339 *e*P **P** **18 47 24.0 -0.9**
comp=Z,22nm,1.0s
ULN Ulaanbaatar 52.88 339 *c i*P **P** **18 47 24.5 -0.4**
ULN pmax pmax
comp=Z,18nm,1.0s
SONM Songino Array 53.09 339 P **P** **18 47 26.3 0.0**
comp=Z,5.7nm,0.8s,baz=156,slow=7.9,SNR=13
SONA1 Songino Array 53.10 339 *e*P **P** **18 47 25.6 -0.9**
NKL Nikolayevsk 54.04 6 *e*P **P** **18 47 32.5 -0.5**
NKL pmax pmax
comp=N,13nm,1.0s
NKL pmax pmax
comp=Z,43nm,1.0s
ZEA Zeya 54.27 357 *e*P **P** **18 47 33.4 -1.3**
ZEA pmax pmax
comp=Z,28nm,1.2s
ZEA MLR MLR
comp=Z,600nm,15.0s
HYB Hyderabad 55.49 292 *i* P **P** **18 47 43.5 -0.8**
ZAK Zakamensk 56.35 338 *e*P **P** **18 47 49.4 -0.5**
ZAK pmax pmax
comp=Z,6.0nm,1.2s
AFI Afiamalu 57.23 106 LR LR 19 11 41.0
comp=Z,147nm,18.2s,baz=272,slow=35
TLY Talaya 57.29 339 *e*P **P** **18 47 57.8 +1.4**
TLY *e*S **S** **18 55 53.5 +2.9**
TLY pmax pmax
comp=Z,4.0nm,0.7s
TLY MLR MLR
comp=Z,208nm,17.0s
IRK Irkutsk 57.54 340 *e*P **P** **18 47 57.6 -0.6**
IRK pmax pmax
comp=Z,29nm,2.5s
PEA0B Petropavlovsk- 57.66 18 *e*P **P** **18 47 58.4 -0.6**
comp=Z,24nm,1.0s
PETK Petropavlovsk- 57.66 18 P **P** **18 47 58.9 -0.1**
comp=Z,12nm,0.9s,baz=239,slow=2.7,SNR=10
PETK Petropavlovsk- 57.66 18 *e*P **P** **18 47 58.5 -0.5**
PETK Petropavlovsk- 57.66 18 *e*P **P** **18 47 58.5 -0.5**
PET Petropavlovsk 57.89 19 *e*P **P** **18 48 00.7 +0.1**
comp=Z,47nm,1.5s
PET Petropavlovsk 57.89 19 *e*P **P** **18 48 00.7 +0.1**
PET *e*S **S** **18 55 55.5 -2.8**
PET *e*SS **SS** **18 59 49.7 +0.1**
PET pmax pmax
comp=Z,21nm,1.1s
PET MLR MLR
comp=Z,200nm,18.0s
MOY Mondy 58.24 338 *e*P **P** **18 48 04.0 +0.7**
MOY pmax pmax
comp=Z,6.0nm,1.7s
WMQ Urumqi 59.23 324 P **P** **18 48 10.5 +0.3**
WMQ pmax pmax
comp=Z,12nm,1.3s
WMQ pmax pmax
comp=Z,440nm,3.7s
WMQ LR LR
comp=Z,490nm,22.1s
WMQ LR LR
comp=Z,220nm,22.1s
WMQ LR LR
comp=Z,380nm,19.5s
BOD Bodaibo 59.95 349 *e*P **P** **18 48 13.9 -0.9**
BOD pmax pmax
comp=Z,12nm,1.4s
HVS Khovu-Aksy 60.85 333 *c i*P **P** **18 48 21.6 +0.4**
HVS pmax pmax
comp=Z,30nm,1.2s
MA2 Magadan 61.77 11 *e*P **P** **18 48 26.8 -0.3**
MA2 pmax pmax
comp=Z,10.0nm,1.1s
YAK Yakutsk 62.47 359 *e*P **P** **18 48 32.1 +0.4**
comp=Z,50nm,0.6s
YAK Yakutsk 62.47 359 *c i*P **P** **18 48 31.7 -0.1**
YAK *e*PP **pP** **18 48 40.0 -1.3**
YAK *e* 18 49 07.5
YAK *e* 18 50 48.8
YAK *e*S **S** **18 56 56.0 -0.7**
YAK *e*SS **sS** **18 57 11.4 -1.1**

YAK *e* 18 58 20.9
YAK *eSS* **SS** **19 01 02.7 +1.6**
YAK pmax pmax
comp=Z,30nm,0.9s
YAK pmax pmax
comp=N,10.0nm,1.2s
YAK pmax pmax
comp=E,2.0nm,1.0s
YAK pmax pmax
comp=Z,33nm,2.8s
YAK pmax pmax
comp=N,27nm,3.1s
YAK pmax pmax
comp=E,16nm,2.5s
YAK smax smax
comp=N,17nm,2.5s
YAK smax smax
comp=E,30nm,3.7s
DGZ **Jazzator, Alta** **62.90 329** *i* P **P** **18 48 35.0 -0.2**
DGZ pmax pmax
comp=Z,11nm,1.3s
PDGK **Podgornoye** **64.03 320** P **P** **18 48 41.8 -0.9**
PDGK pmax pmax
comp=Z,32nm,1.3s
MK01 **Makanchi Array** **64.03 324** *eP* **P** **18 48 41.8 -0.7**
MK31 **Makanchi Array** **64.05 324** *eP* **P** **18 48 42.0 -0.6**
MK31 **Makanchi Array** **64.05 324** *eP* **P** **18 48 42.0 -0.6**
MKAR **Makanchi Array** **64.05 324** P **P** **18 48 42.0 -0.6**
comp=Z,10nm,0.7s,baz=117,slow=7.8,SNR=127
MKAR **Makanchi Array** **64.05 324** *eP* **P** **18 48 42.0 -0.6**
comp=Z,100nm,0.8s
MKAR **Makanchi Array** **64.05 324** P **P** **18 48 42.0 -0.6**
MKAR pmax pmax
comp=Z,10.0nm,0.7s
MAKZ **Makanchi** **64.24 324** *eP* **P** **18 48 43.3 -0.6**
comp=Z,38nm,1.1s
MAKZ **Makanchi** **64.24 324** *eP* **P** **18 48 43.3 -0.6**
MAKZ pmax pmax
comp=Z,38nm,1.1s
KRAR **Krasnoyarsk** **64.67 337** *ieP* **P** **18 48 46.4 0.0**
SEY **Seymchan** **65.18 10** *ieP* **P** **18 48 50.5 +0.9**
ZAA0 **Zalesovo Array** **66.78 332** *eP* **P** **18 48 59.7 -0.4**
comp=Z,17nm,0.8s
ZALV **Zalesovo Beam** **66.78 332** P **P** **18 48 59.2 -0.9**
comp=Z,5.4nm,0.6s,baz=120,slow=6.0,SNR=28
ZALV **Zalesovo Beam** **66.78 332** *eP* **P** **18 48 58.5 -1.6**
NVS **Novosibirsk** **68.06 332** *eP* **P** **18 49 07.1 -1.1**
NVS *e* 18 49 40.8
NVS pmax pmax
comp=Z,29nm,1.5s
NVS pmax pmax
comp=N,10.0nm,1.2s
NVS pmax pmax
comp=E,10.0nm,1.3s
KURK **Kurchatov** **68.16 327** P **P** **18 49 08.4 -0.4**
KURBB **Kurchatov Arra** **68.16 327** P **P** **18 49 08.4 -0.4**
comp=E,21nm,0.8s,baz=122,slow=5.8,SNR=62
RAR **Rarotonga** **69.59 112** LR LR 19 17 17.1
comp=E,62nm,20.3s,baz=282,slow=34
TIXI **Tiksi** **72.14 359** *eP* **P** **18 49 31.4 -1.4**
comp=E,10.0nm,1.1s
TIXI **Tiksi** **72.14 359** *deP* **P** **18 49 32.0 -0.8**
TIXI pmax pmax
comp=Z,6.0nm,1.0s
BVAR **Borovoye Array** **73.75 326** P **P** **18 49 42.7 -0.1**
comp=Z,16nm,0.9s,baz=126,slow=7.3,SNR=4.6
BVAR **Borovoye Array** **73.75 326** P **P** **18 49 42.7 -0.1**
BVAR pmax pmax
comp=Z,17nm,0.9s
BRVK **Borovoye** **73.82 326** *ceP* **P** **18 49 43.1 -0.1**
BRVK pmax pmax
comp=Z,27nm,1.0s
VNDA **Vanda** **78.56 174** P **P** **18 50 10.5 +0.8**
comp=Z,4.4nm,1.0s,baz=313,slow=6.2,SNR=13
VNDA LR LR 19 24 31.5
comp=Z,262nm,19.7s,baz=349,slow=35
PPT **Papeete** **78.85 108** LR LR 19 22 10.5
comp=Z,59nm,20.8s,baz=274,slow=34
PPT2 **Papeete2** **78.86 108** *e*LR LR 19 14 45.5
comp=Z,172nm,24.8s
SBA **Scott Base** **79.42 173** *eP* **P** **18 50 16.7 +2.3**
comp=Z,42nm,1.9s
SBA **Scott Base** **79.42 173** *eP* **P** **18 50 16.7 +2.3**
SBA pmax pmax
comp=Z,42nm,1.9s
AKTO **Aktyubinsk** **80.24 321** P **P** **18 50 19.3 -0.1**
comp=Z,9.6nm,0.9s,baz=124,slow=3.6,SNR=3.0
AKTO LR LR 19 27 33.6
comp=Z,48nm,21.7s,baz=114,slow=37
ARU **Arti** **81.33 327** P **P** **18 50 24.8 -0.3**
comp=Z,13nm,0.8s,baz=172,slow=4.7,SNR=3.6
ARU **Arti** **81.33 327** *d iP* **P** **18 50 24.8 -0.3**
ARU 18 53 33.9
ARU S **S** **19 00 36.2 +2.4**
ARU SS **SS** **19 05 52.2 +2.2**
ARU pmax pmax
comp=Z,35nm,1.2s
MAW **Mawson** **81.59 201** LR LR 19 26 05.0
comp=Z,207nm,18.5s,baz=56,slow=35
PPLA **Purkeypile** **84.10 27** *eP* **P** **18 50 40.5 +1.0**
comp=Z,24nm,1.6s
IM3 **Indian Mountai** **84.18 23** *eP* **P** **18 50 39.2 -0.4**
IM3 *epP* **sP** **18 50 53.7 +0.5**
CAST **Castle Rocks** **84.26 26** *eP* **P** **18 50 40.7 +0.5**
comp=Z,20nm,1.8s
SUA **Susitna One** **84.46 28** *eP* **P** **18 50 41.2 -0.2**
comp=Z,8.2nm,1.1s
KTH **Kantishna Hill** **84.80 26** *eP* **P** **18 50 43.0 +0.1**
comp=Z,13nm,1.4s
BPAW **Bear Paw Mtn.** **84.89 25** *eP* **P** **18 50 44.0 +0.6**
comp=Z,27nm,2.0s
MLY **Manley** **85.18 25** *eP* **P** **18 50 45.0 +0.2**
comp=Z,3.7nm,0.9s
SML **Sawmill** **85.65 28** *eP* **P** **18 50 47.8 +0.5**
comp=Z,12nm,1.0s
SML **Sawmill** **85.65 28** *eP* **P** **18 50 47.8 +0.5**
SML pmax pmax
comp=Z,12nm,1.0s
RND **Reindeer** **85.68 26** *eP* **P** **18 50 46.5 -0.9**
comp=Z,8.8nm,1.0s
RND **Reindeer** **85.68 26** *eP* **P** **18 50 46.5 -0.9**
RND pmax pmax
comp=Z,9.0nm,1.0s
MCK **McKinley** **85.70 26** *eP* **P** **18 50 47.4 -0.1**
comp=Z,46nm,1.9s
MCK **McKinley** **85.70 26** *eP* **P** **18 50 47.4 -0.1**
MCK pmax pmax
comp=Z,46nm,1.9s
SCM **Sheep Creek Mo** **86.13 28** *eP* **P** **18 50 50.2 +0.5**
comp=Z,18nm,1.1s
SCM **Sheep Creek Mo** **86.13 28** *eP* **P** **18 50 50.2 +0.5**
SCM pmax pmax
comp=Z,18nm,1.1s
WRH **Wood River Hil** **86.19 25** *eP* **P** **18 50 49.6 -0.1**
comp=Z,11nm,1.3s
DHY **Denali Highway** **86.29 27** *eP* **P** **18 50 51.1 +0.6**
comp=Z,30nm,1.8s
CCB **Clear Creek Bu** **86.34 25** *eP* **P** **18 50 49.9 -0.6**
comp=Z,24nm,2.0s
IL1 **Eielson Array** **86.75 25** *eP* **P** **18 50 52.6 +0.1**
ILAR **Eielson Array** **86.75 25** P **P** **18 50 51.0 -1.6**
comp=Z,1.1nm,0.8s,baz=249,slow=5.5,SNR=11
ILAR **Eielson Array** **86.75 25** P **P** **18 50 51.0 -1.6**
ILAR pmax pmax
comp=Z,1.0nm,0.8s
PAX **Paxson** **87.14 27** *eP* **P** **18 50 55.6 +1.0**
comp=Z,20nm,1.8s
PAX **Paxson** **87.14 27** *eP* **P** **18 50 55.6 +1.0**
PAX pmax pmax
comp=Z,20nm,1.8s
TAOE **Nuku Hiva Isla** **87.86 99** *e*LR LR 19 19 04.2
comp=Z,282nm,25.3s
QSPA **South Pole Qui** **89.36 180** P **P** **18 51 05.5 +0.4**
comp=Z,10nm,0.8s,baz=281,slow=1.5,SNR=16
KBZ **Khabaz** **89.69 314** LR LR 19 35 55.3
comp=Z,68nm,18.1s,baz=93,slow=39
KLMR **Klimovskoe** **91.68 331** *eP* **P** **18 51 11.3 -4.5**
KLMR AMP 18 51 13.8
comp=Z,17nm,1.2s
KLMR **Klimovskoe** **91.68 331** *eP* **P** **18 51 11.3 -4.5**
KLMR pmax pmax
comp=Z,17nm,1.2s
ARCES **ARCESS Array B** **96.25 340** P **P** **18 51 34.9 -1.8**
comp=Z,2.2nm,0.7s,baz=87,slow=4.8,SNR=3.0
FINES **FINESS Array B** **98.05 332** LR LR 19 40 07.9
comp=Z,64nm,18.5s,baz=137,slow=38

YKA **Yellowknife Ar** **101.17 26** P **Pdif** **18 51 58.4 -0.4**
comp=Z,0.3nm,0.9s,baz=287,slow=4.4,SNR=2.8
TXAR **Lajitas Array** **119.88 56** PKP **PKPdf** **18 57 00.4 +0.5**
comp=Z,0.1nm,0.5s,baz=201,slow=0.8,SNR=2.6
MNMC **Minye Minye** **151.19 134** *e*PKPbc **PKPbc** **18 58 04.4 +1.1**
CPUP **Villa Florida** **151.80 162** PKPbc **PKPbc** **18 58 04.3 +0.2**
comp=Z,0.7nm,0.4s,baz=171,slow=4.7,SNR=3.3
CPUP **Villa Florida** **151.80 162** PKPbc **PKPbc** **18 58 04.3 +0.2**
CPUP *e*PKPab **PKPab** **18 58 13.1 +0.1**
LPAZ **La Paz** **154.06 131** PKPbc **PKPbc** **18 58 09.6 -0.6**
comp=Z,0.9nm,0.7s,baz=284,slow=3.6,SNR=2.7

*ISCJB **18** 18:40:27.8±1.0, 43.52N±0.09×105.2W±0.1, h0km, Error ellipse: s-maj=15.5km s-min=8.5km az=143.2*
*IDC **18** 18:40:27.1±2.8, 43.14N×105.22W, h0km, mb2.3/1, mb1 3.2/3, mb1mx3.1/68, mbtmp2.9/3, ML2.9/2, Error ellipse: s-maj=57.6km s-min=10.8km az=158.0*
*NEIC **18** 18:40:28.9±1.0, 43.44N×105.16W, h0km, ML3.0, Error ellipse: s-maj=16.5km s-min=8.5km az=143.0, Suspected Mining explosion.*
NEIC 79 km [49 miles] NNE of Douglas.
ISC 18 18:40:29.3±1.1, 43.49N±0.09×105.24W±0.08, h0km, n14, σ1§14, Wyoming

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
RSSD	**Black Hills**	**1.08**	**54**	*e*Pn		**Pb**	**18 40 50.9**	**-0.1**
K22A	**Casper**	**1.26**	**229**	*e*Pn		**Pg**	**18 40 53.0**	**-0.4**
PDAR	**Pinedale Array**	**3.24**	**259**	Pn		**Pn**	**18 41 22.5**	**+0.9**
PDAR	1.3nm,0.3s,baz=91,slow=14,SNR=23			Pg		**Pb**	**18 41 27.8**	**0.0**
PDAR	4.6nm,0.3s,baz=78,slow=17,SNR=47			Lg		Lg	18 42 07.5	
BW06	16nm,0.3s,baz=163,slow=4.5,SNR=16 **Boulder Array**	**3.24**	**259**	*e*Pn		**Pn**	**18 41 22.4**	**+0.8**
RLMT	**Red Lodge**	**3.32**	**301**	*e*Pn		**Pn**	**18 41 23.2**	**+0.5**
GCMT	**Greycliff**	**3.91**	**308**	*e*Pn		**Pn**	**18 41 31.3**	**+0.6**
H17A	**Grant Village**	**3.96**	**285**	*e*Pn		**Pn**	**18 41 29.7**	**-1.7**
BOZ	**Bozeman (W)**	**5.03**	**297**	*e*Pn		**Pn**	**18 41 46.1**	**+0.1**
HWUT	3.5nm,0.6s **Hardware Ranch**	**5.03**	**250**	*e*Pn		**Pn**	**18 41 44.9**	**-1.3**
TCUT	5.4nm,0.5s **Toone Canyon**	**5.15**	**245**	*e*Pn		**Pn**	**18 41 50.0**	**+2.2**
EGMT	14nm,0.5s **Eagleton**	**5.53**	**327**	*e*Pn		**Pn**	**18 41 54.1**	**+1.2**
ULM	5.8nm,0.6s **Lac du Bonnet**	**9.32**	**40**	Pn		**Pn**	**18 42 44.0**	**-0.7**
I56US	0.2nm,0.3s,baz=217,slow=18,SNR=2.4 **NEWPORT INFRAS**	**9.56**	**304**	*i*			19 39 10.0	
YKA	baz=116,slow=324,SNR=1.4 **Yellowknife Ar**	**19.82**	**347**	P		**P**	**18 45 01.7**	**+0.6**
	0.1nm,0.5s,baz=154,slow=12,SNR=5.9							

*NEIC **18** 18:42:58.0±0.2, 32.51N×47.00E, h10km, mb5.1/110, ML4.9(THR), MN4.9(TEH), Error ellipse: s-maj=4.4km s-min=2.9km az=197.0*
*ISCJB **18** 18:42:58.3±0.5, 32.49N±0.02×46.98E±0.01, h25km±3km, mb4.9/205, MS4.3/45, Error ellipse: s-maj=3.0km s-min=1.9km az=15.1*
*GCMT **18** 18:42:58.1±0.2, 32.54N×46.85E, h12km, MW5.0/95, Moment Tensor Solution. s41,c48; s95,c165; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr3.95±.08; Mθθ-2.69±.08; Mϕϕ-1.26±.08; Mrθ0.11±.27; Mθϕ2.02±.06; Mϕr-0.39±.29; Best double couple: M₀4.05500×10¹⁶ NP1:ϕs301.00000°,δ43.00000°,λ84.00000°. Principal axes: T 3.9800, Plg86.0000°, Azm95.0000°; N 0.1510, Plg4.0000°, Azm306.0000°; P -4.1300, Plg2.0000°, Azm215.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*ISN **18** 18:42:58.3±1.4, 32.46N×46.90E, h0km±4km, ML4.9*
*CSEM **18** 18:42:58.2±0.1, 32.53N×46.97E, h10km, mb4.9/79, Error ellipse: s-maj=3.9km s-min=2.6km az=8.0*
*MOS **18** 18:42:59.5±1.1, 32.60N×47.01E, h31km, mb5.1/83, MS4.2/22, Error ellipse: s-maj=5.2km s-min=2.9km az=103.5*
*IDC **18** 18:42:60.0±1.6, 32.60N×47.06E, h22km±9km, mb4.6/45, mb1 4.6/54, mb1mx4.6/71, mbtmp4.7/54, ML4.0/6, MS4.2/44, Ms1 4.2/44, ms1mx4.1/71, Error ellipse: s-maj=9.5km s-min=8.1km az=4.0*
*DSN **18** 18:43:00.2±0.6, 32.39N×46.92E, h30km, mb6.1/15, Error ellipse: s-maj=15.6km s-min=4.3km az=60.0*
*GII **18** 18:43:00.4±0.0, 32.56N×47.03E, h30km*
*BJI **18** 18:43:00.0, 32.60N×47.10E, h37km, mb4.9/53, mB5.1/37, Ms4.8/36, Ms7 4.4/35*
*THR **18** 18:43:02.1±0.8, 32.71N×47.21E, h14km±12km, ML4.9*
*TEH **18** 18:43:02.0, 32.48N×46.96E, h30km, ML4.9*
*OMAN **18** 18:43:07.3±1.2, 32.40N×47.77E, h35km, Error ellipse: s-maj=2.5km s-min=1.2km az=274.0*
ISC 18 18:43:01.4±0.4, 32.64N±0.03×47.11E±0.03, h32km±2km, h32km:pP-P, n889, σ1§59/964, mb5.0/206, MS4.4/47, 49C-71D, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
IKFM	**Kafar-mosalman**	**1.08**	**35**	*e*AMB		AMB	18 43 43.3	
SHGR	comp=Z,99nm,0.6s **Shooshtar-Gavs**	**1.52**	**110**	Pg		**Pb**	**18 43 29.0**	**-0.1**
SHGR	**Shooshtar-Gavs**	**1.52**	**110**	*e*Pg		**Pb**	**18 43 29.0**	**-0.1**
SHGR	**Shooshtar-Gavs**	**1.52**	**110**	*e*Pg		**Pb**	**18 43 29.0**	**-0.1**
SHGR	comp=N,20μm,0.5s			AML		AML	18 43 55.8	
SHGR	comp=E,20μm,0.5s			AML		AML	18 43 59.5	
IKOM	**Komasi**	**1.57**	**12**	*e*Pn		**Pb**	**18 43 30.0**	**+0.1**
IKOM	**Komasi**	**1.57**	**12**	Pn		**Pb**	**18 43 30.0**	**+0.1**
IKOM	**Komasi**	**1.57**	**12**	*e*Pn		**Pb**	**18 43 30.0**	**+0.1**
IGHG	**Ghaleghazi**	**1.74**	**345**	Pn		**Pb**	**18 43 31.9**	**-1.1**
IGHG	**Ghaleghazi**	**1.74**	**345**	Pn		**Pb**	**18 43 31.9**	**-1.1**
NSR	**Nassriya** SNR=3.0	**1.82**	**207**	*e*Pn		**Pn**	**18 43 28.0**	**-2.6**
IVIS	**Veis**	**1.89**	**353**	*e*Pn		**Pb**	**18 43 33.9**	**-1.5**
IVIS	**Veis**	**1.89**	**353**	Pn		**Pb**	**18 43 33.8**	**-1.6**
IVIS	**Veis**	**1.89**	**353**	Pn		**Pb**	**18 43 33.8**	**-1.6**
ILIN	**Lien**	**2.28**	**357**	*e*Pn		**Pb**	**18 43 40.5**	**-1.5**
ILIN	**Lien**	**2.28**	**357**	Pn		**Pb**	**18 43 40.5**	**-1.5**
ILIN	**Lien**	**2.28**	**357**	*e*Pn		**Pb**	**18 43 40.5**	**-1.5**
BHD	**Baghdad** SNR=3.0	**2.38**	**286**	*e*Pn		**Pn**	**18 43 38.0**	**-0.3**
BHD	SNR=3.0			*i* Sn		**Sn**	**18 44 06.0**	**-0.4**
SNGE	**Sanandaj**	**2.45**	**5**	*e*Pn		**Pb**	**18 43 42.6**	**-2.3**
SNGE	**Sanandaj**	**2.45**	**5**	*e*Pn		**Pb**	**18 43 42.7**	**-2.3**
SNGE	**Sanandaj**	**2.45**	**5**	*e*Pn		**Pb**	**18 43 42.6**	**-2.3**
SNGE	comp=E,5μm,0.6s			AML		AML	18 44 26.6	
SNGE	comp=N,5μm,0.6s			AML		AML	18 44 30.2	
KHMZ	**Khomeyn**	**2.63**	**65**	*e*Pn		**Pb**	**18 43 44.7**	**-3.3**
KHMZ				*e*Sg		**Sb**	**18 44 21.3**	**+1.4**
KHMZ	**Khomeyn**	**2.63**	**65**	*e*Pn		**Pb**	**18 43 44.7**	**-3.3**
KHMZ	**Khomeyn**	**2.63**	**65**	*e*Pn		**Pb**	**18 43 44.9**	**-3.1**
KHMZ				*e*Sg		**Sb**	**18 44 21.3**	**+1.4**
HAGD	**Aghdareh**	**2.75**	**37**	*e*Pn		**Pb**	**18 43 46.7**	**-3.5**
HAGD	comp=Z,99nm,0.3s			*e*AMB		AMB	18 44 35.5	
HAGD	**Aghdareh**	**2.75**	**37**	*e*Pn		**Pb**	**18 43 46.7**	**-3.5**
ASAO	**Ashtian**	**3.09**	**51**	Pn		**Pb**	**18 43 51.7**	**-4.1**
ASAO	**Ashtian**	**3.09**	**51**	*e*Pn		**Pb**	**18 43 51.7**	**-4.1**
ASAO	**Ashtian**	**3.09**	**51**	*e*Pn		**Pb**	**18 43 51.7**	**-4.1**
HKZM	**Kohzaman**	**3.11**	**28**	*e*Pn		**Pn**	**18 43 51.7**	**+3.1**
HKZM	comp=Z,99nm,0.5s			*e*AMB		AMB	18 44 34.0	
HKZM	**Kohzaman**	**3.11**	**28**	*e*Pn		**Pn**	**18 43 51.7**	**+3.1**
IRAZ	**Razeghan**	**3.62**	**40**	*e*Pn		**Pn**	**18 43 59.2**	**+3.7**
IRAZ	comp=Z,49μm,0.5s			*e*AMB		AMB	18 45 15.1	
IRAZ	**Razeghan**	**3.62**	**40**	Pn		**Pn**	**18 43 59.1**	**+3.6**
IRAZ	**Razeghan**	**3.62**	**40**	Pn		**Pn**	**18 43 59.1**	**+3.6**
QAM	**Ghamsar**	**3.80**	**72**	*e*Pn		**Pn**	**18 44 01.7**	**+3.8**
QAM	comp=Z,13μm,0.2s			*e*AMB		AMB	18 44 55.4	
IKLH	**Kolahrood**	**3.81**	**79**	*e*Pn		**Pn**	**18 44 00.8**	**+2.6**
IKLH	comp=Z,29μm,0.5s			*e*AMB		AMB	18 45 14.3	
IKLH	**Kolahrood**	**3.81**	**79**	Pn		**Pn**	**18 44 00.8**	**+2.6**
IKLH	**Kolahrood**	**3.81**	**79**	*e*Pn		**Pn**	**18 44 00.8**	**+2.6**
GHVR	**GHOM**	**3.94**	**61**	*e*Pn		**Pn**	**18 44 02.3**	**+2.4**
GHVR	**GHOM**	**3.94**	**61**	*e*Pn		**Pn**	**18 44 02.3**	**+2.4**
IMHD	**Mahdasht**	**4.23**	**43**	*e*Pn		**Pn**	**18 44 07.2**	**+3.4**
IMHD	comp=Z,11μm,0.6s			*e*AMB		AMB	18 45 25.8	
IMHD	**Mahdasht**	**4.23**	**43**	*e*Pn		**Pn**	**18 44 07.2**	**+3.4**
IZEF	**Zefreh**	**4.40**	**85**	*e*Pn		**Pn**	**18 44 08.4**	**+2.1**
IZEF	comp=Z,13μm,0.6s			*e*AMB		AMB	18 45 42.4	
IZEF	**Zefreh**	**4.40**	**85**	*e*Pn		**Pn**	**18 44 08.4**	**+2.1**
IVRN	**Varamin**	**4.50**	**57**	*e*Pn		**Pn**	**18 44 10.5**	**+3.0**
IVRN	comp=Z,17μm,0.5s			*e*AMB		AMB	18 45 54.1	
IVRN	**Varamin**	**4.50**	**57**	*e*Pn		**Pn**	**18 44 10.5**	**+3.0**
IGZV	**Ghazvin**	**4.53**	**34**	*e*Pn		**Pn**	**18 44 10.2**	**+2.1**
IGZV	comp=Z,8μm,0.4s			*e*AMB		AMB	18 45 42.3	
IGZV	**Ghazvin**	**4.53**	**34**	*e*Pn		**Pn**	**18 44 10.2**	**+2.1**
IRAM	**Ramesheh**	**4.54**	**99**	*e*Pn		**Pn**	**18 44 09.8**	**+1.6**
IRAM	comp=Z,6μm,0.3s			*e*AMB		AMB	18 45 39.7	
IRAM	**Ramesheh**	**4.54**	**99**	*e*Pn		**Pn**	**18 44 09.8**	**+1.6**
CHTH	**Charan**	**4.66**	**44**	*e*Pn		**Pn**	**18 44 12.9**	**+3.1**
CHTH	**Charan**	**4.66**	**44**	*e*Pn		**Pn**	**18 44 12.9**	**+3.1**
IKAZ	**Kazeroun**	**4.95**	**124**	*e*Pn		**Pn**	**18 44 14.2**	**+0.2**
IKAZ	comp=Z,22μm,0.4s			*e*AMB		AMB	18 46 04.7	
IKAZ	**Kazeroun**	**4.95**	**124**	Pn		**Pn**	**18 44 14.1**	**+0.1**
IKAZ	**Kazeroun**	**4.95**	**124**	Pn		**Pn**	**18 44 14.1**	**+0.1**
IDMV	**Damavand**	**5.02**	**53**	*e*Pn		**Pn**	**18 44 17.2**	**+2.3**
IDMV	comp=Z,36μm,1.2s			*e*AMB		AMB	18 45 59.0	
IDMV	**Damavand**	**5.02**	**53**	*e*Pn		**Pn**	**18 44 17.2**	**+2.3**
IBST	**Bostanabad**	**5.05**	**358**	*e*Pn		**Pn**	**18 44 17.4**	**+2.2**
IBST	comp=Z,4μm,0.5s			*e*AMB		AMB	18 44 36.5	
IBST	**Bostanabad**	**5.05**	**358**	*e*Pn		**Pn**	**18 44 17.4**	**+2.2**
IFIR	**Firoozkooh**	**5.55**	**56**	*e*Pn		**Pn**	**18 44 24.3**	**+2.2**
ISAD	**Sadrabad**	**5.62**	**96**	*e*Pn		**Pn**	**18 44 23.9**	**+0.9**
ISAD	comp=Z,7μm,0.5s			*e*AMB		AMB	18 46 28.5	
ITBZ	**Tabriz**	**5.64**	**352**	*e*Pn		**Pn**	**18 44 24.9**	**+1.7**
ITBZ	comp=Z,3μm,0.4s			*e*AMB		AMB	18 46 30.1	
IHRS	**Heris**	**5.67**	**359**	*e*Pn		**Pn**	**18 44 26.3**	**+2.7**
IHRS	comp=Z,6μm,0.5s			*e*AMB		AMB	18 46 31.5	
RTB	**Rutbah** SNR=3.0	**5.74**	**276**	*e*Pn		**Pn**	**18 44 25.0**	**+0.5**
RTB	SNR=3.0			*i* Sn		**Sn**	**18 45 26.0**	**-3.3**
ISHB	**Shabestar**	**5.76**	**348**	*e*Pn		**Pn**	**18 44 26.4**	**+1.4**
ISRV	**Sarvestan**	**6.09**	**121**	*e*Pn		**Pn**	**18 44 29.9**	**+0.3**
ISRV	**Sarvestan**	**6.09**	**121**	*e*Pn		**Pn**	**18 44 29.9**	**+0.3**
IMRD	**Marand**	**6.17**	**350**	*e*Pn		**Pn**	**18 44 32.4**	**+1.9**
IMRD	comp=Z,5μm,0.3s			*e*AMB		AMB	18 46 29.9	
IMRD	**Marand**	**6.17**	**350**	*e*Pn		**Pn**	**18 44 32.4**	**+1.9**
SIRT	**Sirnak**	**6.18**	**323**	*e*P		**Pn**	**18 44 30.0**	**-0.6**
ICHK	**Chekchek**	**6.18**	**92**	*e*Pn		**Pn**	**18 44 32.0**	**+1.3**
ICHK	comp=Z,5μm,0.4s			*e*AMB		AMB	18 46 42.6	
ICHK	**Chekchek**	**6.18**	**92**	*e*Pn		**Pn**	**18 44 32.0**	**+1.3**
LKRN	**Lenkeran, Azer**	**6.21**	**12**	P		**Pn**	**18 44 31.4**	**+0.6**
LKRN	**Lenkeran, Azer**	**6.21**	**12**	P		**Pn**	**18 44 31.4**	**+0.6**
NAX	**Nakhchivan**	**6.65**	**349**	P		**Pn**	**18 44 37.3**	**+0.3**
NAX	**Nakhchivan**	**6.65**	**349**	P		**Pn**	**18 44 37.3**	**+0.3**
VANB	**Van**	**6.67**	**334**	*e*P		**Pn**	**18 44 36.7**	**-0.6**
VANB	**Van**	**6.67**	**334**	P		**Pn**	**18 44 36.7**	**-0.6**
VANB	**Van**	**6.67**	**334**	P		**Pn**	**18 44 36.7**	**-0.6**
CLDR	**Caldiran**	**6.99**	**339**	*e*P		**Pn**	**18 44 44.2**	**+2.4**
CLDR	**Caldiran**	**6.99**	**339**	P		**Pn**	**18 44 44.2**	**+2.4**
CLDR	**Caldiran**	**6.99**	**339**	P		**Pn**	**18 44 44.2**	**+2.4**
GURO	**Guroymak-BITLI**	**7.20**	**326**	*e*P		**Pn**	**18 44 43.7**	**-1.0**
IBAF	**Bafgh**	**7.25**	**96**	*e*Pn		**Pn**	**18 44 46.2**	**+0.9**
IBAF	comp=Z,3μm,0.7s			*e*AMB		AMB	18 47 23.4	
IBAF	**Bafgh**	**7.25**	**96**	*e*Pn		**Pn**	**18 44 46.2**	**+0.9**
MAZI	**Mazidag**	**7.28**	**313**	*e*P		**Pn**	**18 44 43.7**	**-2.0**
AGRB	**Hanur-Agry**	**7.68**	**335**	*e*P		**Pn**	**18 44 52.3**	**+1.0**
GNI	**Garni**	**7.73**	**346**	Pn		**Pn**	**18 44 53.8**	**+1.8**
GNI	comp=Z,0.5nm,0.3s,baz=228,slow=6.3,SNR=7.7			Pg		Pb	18 45 22.3	+7.5
GNI	comp=Z,2.4nm,0.3s,baz=184,slow=13,SNR=7.4			Lg		Lg	18 47 13.4	
GNI	comp=Z,0.5nm,0.3s,baz=190,slow=23,SNR=2.2			LR		LR	18 47 55.4	
GNI	comp=Z,778nm,19.4s,baz=164,slow=38 **Garni**	**7.73**	**346**	*e*Pn		**Pn**	**18 44 55.1**	**+3.1**
GNI				Pg		Pb	18 45 22.3	+7.5
GNI				Lg		Lg	18 47 13.4	
GNI	**Garni** SNR=9.0	**7.73**	**346**	PnPn		**Pb**	**18 45 15.5**	**+0.7**
GNI	**Garni** SNR=6.6	**7.73**	**346**	P		**Pn**	**18 44 53.3**	**+1.3**
GNI	**Garni** SNR=6.6	**7.73**	**346**	*i* P		**Pn**	**18 44 53.3**	**+1.3**
GNI	**Garni**	**7.73**	**346**	*de*P		**Pn**	**18 44 54.5**	**+2.5**
DYBB	**Diyarbakir**	**7.78**	**315**	*e*P		**Pn**	**18 44 50.4**	**-2.1**
VRTB	**Varto-Mus**	**7.96**	**326**	*e*P		Pn	18 45 01.8	+6.7
GANJ	**Ganja**	**8.02**	**356**	P		**Pn**	**18 44 56.2**	**+0.5**
GANJ	**Ganja**	**8.02**	**356**	P		**Pn**	**18 44 56.2**	**+0.5**
MNGR	**Mingechevir, A**	**8.12**	**360**	P		**Pn**	**18 44 57.6**	**+0.6**
MNGR	**Mingechevir, A**	**8.12**	**360**	P		**Pn**	**18 44 57.6**	**+0.6**
BNGB	**Bing¶l**	**8.21**	**322**	*e*P		**Pn**	**18 44 57.2**	**-1.3**
BINT	**Bingol**	**8.22**	**321**	P		**Pn**	**18 44 57.1**	**-1.6**
BINT	**Bingol**	**8.22**	**321**	P		**Pn**	**18 44 57.1**	**-1.6**
SEKA	**Sheki**	**8.55**	**0**	P		**Pn**	**18 45 03.6**	**+0.5**
SEKA	**Sheki**	**8.55**	**0**	P		**Pn**	**18 45 03.6**	**+0.5**
ASF	**Jabal al Asfar**	**8.65**	**270**	Pn		**Pn**	**18 45 01.4**	**-3.1**
ASF	comp=Z,3.1nm,0.3s,baz=352,slow=1.5,SNR=10			Pg			18 45 44.7	
ASF	comp=Z,7.2nm,0.3s,baz=27,slow=19,SNR=8.8			Lg		Lg	18 47 38.2	
ASF	comp=Z,7.2nm,0.3s,baz=237,slow=22,SNR=7.3			LR		LR	18 49 22.3	
SENK	comp=Z,1μm,19.9s,baz=44,slow=44 **Senkaya-Erzuru**	**8.78**	**336**	*e*P		**Pn**	**18 45 07.9**	**+1.5**
AKT	**Akhty** comp=Z,18nm,0.8s	**8.84**	**3**	*e*S		**Sn**	**18 46 44.5**	**-1.1**
AKT	**Akhty**	**8.84**	**3**	*e*P		**Pn**	**18 45 10.3**	**+3.3**
AKT				*e*S		**Sn**	**18 46 44.5**	**-1.1**
AKT	comp=Z,25nm,1.0s			pmax	pmax			
AKT	comp=N,18nm,0.8s			smax	smax			
AKT	comp=E,9.0nm,0.6s			smax	smax			
PTK	**Pertek**	**8.84**	**317**	*e*P		**Pn**	**18 45 05.0**	**-2.2**
DGRG	**David-gareji**	**8.90**	**352**	P		**Pn**	**18 45 09.3**	**+1.3**
DGRG	**David-gareji**	**8.90**	**352**	*e*P		**Pn**	**18 45 09.2**	**+1.3**
DGRG	**David-gareji**	**8.90**	**352**	*e*P		**Pn**	**18 45 09.2**	**+1.3**
ZKTA	**Zakatala**	**8.

SHME	Shamm	10.25	128	*i*	P		Pn	18 45 24.6	-1.8	
	SNR=15									
MAK	Makhachkala	10.31	2	*e*	S		Sn	18 47 22.5	+1.1	
	comp=E,2µm,15.0s									
MAK	Makhachkala	10.31	2	*e*	P		Pn	18 45 27.9	+0.8	
MAK				*e*	S		Sn	18 47 22.5	+1.1	
MAK					pmax	pmax				
	comp=Z,33nm,0.6s									
MAK					MLR	MLR				
	comp=Z,2µm,15.0s									
ONI	Oni	10.35	345		P		Pn	18 45 30.1	+2.4	
ONI					S		Pn	18 45 30.4	+2.8	
ONI	Oni	10.35	345	*e*	P		Pn	18 45 30.0	+2.4	
ZFRI	Zfri	10.39	262		Pn		Pn	18 45 26.0	-2.2	
GEYT	Alibeck	10.43	57		LR		LR	18 50 18.7		
	comp=Z,4µm,18.2s,baz=235,slow=42									
KOZT	Kozan	10.43	301	*e*	P		Pn	18 45 30.4	+1.6	
BANOM	Banah	10.44	128		P		Pn	18 45 26.9	-2.1	
ZEI	Tsey	10.44	347	*e*	P		Pn	18 45 32.6	+3.5	
ZEI					pmax	pmax				
	comp=Z,26nm,1.5s									
PRNI	Paran	10.58	261		Pn		Pn	18 45 28.6	-2.4	
GROC	Groznyy	10.60	355	*e*	S		Sn	18 47 29.7	+1.2	
GROC	Groznyy	10.60	355	*e*	P		Pn	18 45 34.5	+3.5	
GROC				*e*	S		Sn	18 47 29.7	+1.2	
GROC					pmax	pmax				
	comp=Z,53nm,1.2s									
AJN	Ajban	10.61	137	*i*	P		Pn	18 45 30.4	-0.9	
	SNR=10									
HRFI	Mount Harif	10.65	259		Pn		Pn	18 45 29.5	-2.3	
NAZ	Nazwa, Dubai	10.69	133		P		Pn	18 45 32.0	-0.4	
	SNR=7.2									
NAZ	Nazwa, Dubai	10.69	133	*i*	P		Pn	18 45 31.1	-1.3	
	SNR=11									
MSFE	Esma-Masafi	10.74	130	*i*	P		Pn	18 45 31.0	-2.1	
	SNR=15									
MBRI	Mt Berech	10.82	258		Pn		Pn	18 45 32.7	-1.6	
EIL	Elat	10.83	257		Pn		Pn	18 45 34.9	+0.6	
	comp=Z,3.6nm,0.3s,baz=50,slow=11,SNR=15									
EIL					Pg			18 46 30.3		
	comp=Z,2.8nm,0.3s,baz=37,slow=7.2,SNR=8.1									
EIL					Lg		Lg	18 48 41.4		
	comp=Z,3.8nm,0.3s,baz=97,slow=7.6,SNR=4.2									
EIL					LR		LR	18 50 35.7		
	comp=Z,2µm,21.1s,baz=76,slow=42									
EIL	Elat	10.83	257		Pn		Pn	18 45 31.3	-3.0	
SVSK	Karacayir	10.92	315	*e*	P		Pn	18 45 32.5	-2.9	
UOSS	Minazif	11.06	132	*e*	Pn		Pn	18 45 35.3	-2.1	
UOSS	Minazif	11.06	132	*i*	P		Pn	18 45 35.8	-1.6	
	SNR=17									
HATD	Hatta, Dubai	11.10	132		P		Pn	18 45 37.0	-1.0	
	SNR=6.7									
HATD	Hatta, Dubai	11.10	132	*i*	P		Pn	18 45 36.3	-1.7	
	SNR=11									
MZR	Muzera	11.13	148		P		Pn	18 45 36.5	-1.9	
NEY	Neytrino	11.14	343⇓	*e*	P		Pn	18 45 42.3	+3.7	
ASHO	Ashiyiah	11.16	133		P		Pn	18 45 37.7	-1.1	
	SNR=18									
ASHO	Ashiyiah	11.16	133	*i*	P		Pn	18 45 36.7	-2.1	
	SNR=18									
NCK	Nalchik	11.18	347⇑	*e*	P		Pn	18 45 42.6	+3.5	
ALNE	Al Ain	11.44	136	*i*	P		Pn	18 45 40.9	-1.8	
	SNR=16									
KBZ	Khabaz	11.55	345		Pn		Pn	18 45 47.7	+3.6	
	comp=Z,0.0nm,0.3s,baz=157,slow=9.0,SNR=9.3									
CSS	Mathiatis	11.70	285	*e*	P		Pn	18 45 47.7	+1.6	
CSS	Mathiatis	11.70	285	*e*	P		Pn	18 45 48.0	+1.8	
	comp=Z,14nm,1.1s									
KVAR	Kislovodsk Arr	11.81	344		Pn		Pn	18 45 51.5	+3.7	
	baz=153,slow=18,SNR=17									
KVAR					LR		LR	18 50 06.9		
	comp=Z,541nm,19.2s,baz=140,slow=36									
KIV	Kislovodsk	11.82	344	*e*	Pn		Pn	18 45 51.4	+3.6	
KIV	Kislovodsk	11.82	344	*e*	S		Sn	18 48 01.3	+2.7	
	comp=Z,266nm,10.0s									
KIV	Kislovodsk	11.82	344	*i*	P		Pn	18 45 50.8	+3.0	
	SNR=7.3									
KIV	Kislovodsk	11.82	344	*e*	P		Pn	18 45 50.8	+3.0	
KIV				*e*	S		Sn	18 48 01.3	+2.7	
KIV					pmax	pmax				
	comp=Z,38nm,1.1s									
KIV					MLR	MLR				
	comp=Z,266nm,10.0s									
SOHO	SOHO	11.85	133	*i*	P		Pn	18 45 45.4	-2.9	
	SNR=12									
SOC	Sochi	12.37	334	*e*	P		Pn	18 45 54.8	-0.5	
SOC				*e*				18 48 08.9		
SOC					pmax	pmax				
	comp=Z,82nm,1.6s									
SOC					MLR	MLR				
	comp=Z,770nm,14.0s									
ARQ	Araqi	12.44	136		Pn		Pn	18 45 59.0	+2.5	
	SNR=10.0									
ARQ	Araqi	12.44	136		P		Pn	18 45 59.0	+2.5	
	SNR=10.0									
GOF	Gofitskoye	12.79	347⇑	*e*	P		P	18 46 12.5	+0.8	
GOF					pmax	pmax				
	comp=Z,95nm,1.7s									
BR131	Keskin Array S	12.97	307	*e*	Pn		Pn	18 46 05.2	+1.6	
BRTR	Keskin Array B	12.97	307		Pn		Pn	18 46 04.9	+1.3	
	comp=Z,0.2nm,0.3s,baz=128,slow=13,SNR=17									
WSAR	Wadi Sarin	13.82	130		Pn		Pn	18 46 11.5	-3.8	
	comp=Z,7.1nm,0.3s,baz=307,slow=23,SNR=37									
WSAR					Sn		Sn	18 48 40.0	-7.7	
	comp=Z,1.8nm,0.3s,baz=162,slow=20,SNR=5.9									
WSAR					LR		LR	18 52 29.9		
	comp=Z,723nm,18.2s,baz=330,slow=41									
SUTC	Sutluce-Ispart	14.05	295	*e*	P		Pn	18 46 19.3	+0.9	
ANN	Anapa	14.29	331	*e*	P		Pn	18 46 23.9	+2.5	
ANN				*e*	S		Sn	18 49 00.9	+2.3	
ANN					pmax	pmax				
	comp=Z,37nm,1.0s									
ANN					MLR	MLR				
	comp=Z,1µm,17.0s									
ANN					MLR	MLR				
	comp=E,1µm,17.0s									
ANN					MLR	MLR				
	comp=N,1µm,17.0s									
SVRH	Sivrihisar-ESK	14.31	303	*e*	P		P	18 46 28.2	-0.5	
ISP	Isparta	14.51	295	*e*	Pn		Pn	18 46 25.5	+0.9	
ISP	Isparta	14.51	295⇑	*e*	P		Pn	18 46 26.7	+2.1	
ISP					pmax	pmax				
	comp=Z,20nm,0.8s									
WHFO	Wadi Hawf	15.84	156		P		Pn	18 46 39.0	-3.3	
	SNR=10									
MANT	Manisa	16.18	296	*e*	Pn		Pn	18 46 45.8	-0.8	
	comp=Z,746nm,1.1s									
MANT	Manisa	16.18	296	*e*	Pn		Pn	18 46 45.8	-0.8	
	comp=Z,746nm,1.1s									
ABTO	Aybut	16.21	158		P		Pn	18 46 48.0	+1.0	
	SNR=5.5									
ABTO	Aybut	16.21	158		P		Pn	18 46 48.0	+1.0	
	SNR=5.5									
DAMY	Dhamar	18.16	188	*e*	Pn		Pn	18 47 09.8	-1.7	
	comp=Z,35nm,0.9s									
APE	Apeiranthos	18.25	290⇓	*i*	P		Pn	18 47 11.1	-1.1	
APE	Apeiranthos	18.25	290		P		Pn	18 47 10.9	-1.3	
APE	Apeiranthos	18.25	290		P		Pn	18 47 10.9	-1.3	
APE	Apeiranthos	18.25	290		P		Pn	18 47 10.9	-1.3	
APE	Apeiranthos	18.25	290		P		Pn	18 47 10.9	-1.3	
KBL	Kabul	18.37	78	*e*	P		Pn	18 47 14.4	+0.5	
	comp=Z,144nm,1.5s									
KBL	Kabul	18.37	78	*e*	P		Pn	18 47 14.4	+0.5	
	comp=Z,144nm,1.5s									
KBL	Kabul	18.37	78	*e*	P		Pn	18 47 14.4	+0.5	
KBL					pmax	pmax				
	comp=Z,144nm,1.5s									
PSN	Preselentsi	18.48	312		P		Pn	18 47 15.8	+0.9	
IDI	Anoyia	18.62	284		P		P	18 47 15.7	-0.6	
	comp=Z,5.1nm,0.3s,baz=64,slow=12,SNR=27									
IDI					LR		LR	18 57 41.3		
	comp=Z,336nm,20.8s,baz=94,slow=47									
IDI	Anoyia	18.62	284⇓	*i*	P		P	18 47 15.8	-0.6	
IDI	Anoyia	18.62	284	*e*	P		P	18 47 15.2	-1.1	
	comp=Z,150nm,1.0s									
IDI	Anoyia	18.62	284	*e*	P		P	18 47 15.2	-1.1	
	comp=Z,150nm,1.0s									
TIRR	Tirgusor	18.74	314⇓	*i*	P		P	18 47 17.5	0.0	
ALN	Alexandroupoli	18.75	302		P		P	18 47 17.6	-0.1	
ALN	Alexandroupoli	18.75	302		P		P	18 47 17.6	-0.1	
ALN	Alexandroupoli	18.75	302		P		P	18 47 17.6	-0.1	
ALN	Alexandroupoli	18.75	302		P		P	18 47 17.6	-0.1	
TLCR		18.91	317⇓	*i*	P		P	18 47 19.1	-0.3	
VRH	Novokhopyorsk	18.97	350	*e*	P		P	18 47 19.0	-0.9	
	comp=Z,40nm,0.7s									
VRH	Novokhopyorsk	18.97	350	*e*	P		P	18 47 19.0	-0.9	
	comp=Z,40nm,0.7s									
VRH					pmax	pmax				
	comp=Z,0.2nm,0.2s,baz=92,slow=2.3,SNR=3.0									
HARR	Harsova	19.16	314⇓	*i*	P		P	18 47 22.0	-0.1	
AB31	Akbulak array	19.18	26	*i*	P		Pn	18 47 23.1	-0.2	
	comp=Z,26nm,0.9s									
AB31	Akbulak array	19.18	26	*i*	P		Pn	18 47 23.1	-0.2	
AB31					pmax	pmax				
	comp=Z,26nm,0.9s									
ABKAR	Akbulak array	19.18	26	*e*	P		Pn	18 47 23.1	-0.2	
	comp=Z,176nm,0.8s									
ABKAR	Akbulak array	19.18	26	*e*	P		Pn	18 47 23.1	-0.2	
	comp=Z,176nm,0.8s									
RDO	Rodhopi	19.20	302		P		P	18 47 22.7	+0.2	
RDO	Rodhopi	19.20	302		P		P	18 47 22.7	+0.2	
RDO	Rodhopi	19.20	302		P		P	18 47 22.7	+0.2	
CFR	Carcaliu	19.30	316⇓	*i*	P		P	18 47 23.3	-0.4	
KDZ	Kurdzhali	19.45	304		P		Pn	18 47 26.2	-0.5	
VSR	Storozhevoye	19.46	345	*e*	P		P	18 47 24.3	-1.0	
	comp=Z,100nm,1.1s									
VSR	Storozhevoye	19.46	345	*e*	P		P	18 47 24.3	-1.0	
VSR				*e*	S		S	18 50 58.8	-4.6	
VSR					pmax	pmax				
	comp=Z,100nm,1.1s									
VSR					smax	smax				
	comp=E,320nm,3.5s									
AKTK	Aktyubinsk	19.52	21		P		Pn	18 47 26.9	-0.6	
	comp=E,1µm,18.5s									
AKTO	Aktyubinsk	19.52	21		P		Pn	18 47 26.9	-0.7	
	comp=E,1.3nm,0.3s,baz=208,slow=11,SNR=18									
AKTO					LR		LR	18 57 26.4		
	comp=E,1µm,18.5s,baz=213,slow=44									
SZH	Strazhica	19.73	309		P		P	18 47 28.8	+0.4	
ATHU	Athens Univers	19.75	292		P		P	18 47 28.6	0.0	
ATHU	Athens Univers	19.75	292		P		P	18 47 28.6	0.0	
ATHU	Athens Univers	19.75	292		P		P	18 47 28.6	0.0	
VORR	Voronezh	19.88	345	*e*	P		Pn	18 47 31.0	-0.6	
	comp=E,500nm,1.0s									
VORR	Voronezh	19.88	345	*e*	P		Pn	18 47 31.0	-0.6	
VORR				*e*	S		S	18 51 08.0	-3.8	
VORR					pmax	pmax				
	comp=Z,350nm,2.2s									
VORR					pmax	pmax				
	comp=Z,250nm,1.6s									
VORR					smax	smax				
	comp=Z,500nm,1.0s									
LEOM	Leova	19.99	319⇑	*i*	P		P	18 47 31.3	+0.1	
PVL	Pavlikeni	20.11	308		P		P	18 47 31.3	-1.2	
PLD	Plovdiv	20.11	304		P		P	18 47 32.9	+0.4	
ZIMR		20.27	309	*i*	P		P	18 47 34.9	+0.6	
VLI	Veliai	20.28	288		P		P	18 47 32.8	-1.6	
VLI	Veliai	20.28	288		P		P	18 47 32.8	-1.6	
VLI	Veliai	20.28	288		P		P	18 47 32.8	-1.6	
NVR	Nevrokopi	20.46	302		P		P	18 47 36.1	-0.3	
NVR	Nevrokopi	20.46	302		P		P	18 47 36.1	-0.3	
NVR	Nevrokopi	20.46	302		P		P	18 47 36.1	-0.3	
IUG	Iuzhnay	20.48	56⇑	*i*	P		P	18 47 37.7	+1.0	
IUG				*e*	S		S	18 47 24.2	-0.2	
IUG					LR		LR	18 56 59.0		
	comp=Z,177nm,11.4s									
VRI	Vrincioaia	20.51	316⇑	*i*	P		P	18 47 37.2	+0.4	
PLOR	Plostina	20.54	316⇓	*i*	P		P	18 47 37.3	0.0	
MMB	Musomiste	20.63	302		P		P	18 47 37.7	-0.5	
PGB	Panagyurishte	20.64	305		P		P	18 47 38.4	0.0	
AXAR	Agios Charalam	20.75	294		P		Pn	18 47 40.6	-1.4	
AXAR	Agios Charalam	20.75	294		P		Pn	18 47 40.6	-1.4	
AXAR	Agios Charalam	20.75	294		P		Pn	18 47 40.6	-1.4	
MLR	Muntele Rosu	20.77	314		P		Pn	18 47 41.0	-1.4	
	comp=Z,12nm,1.1s,baz=104,slow=2.0,SNR=10									
MLR	Muntele Rosu	20.77	314⇑	*i*	P		P	18 47 40.6	+0.7	
MLR	Muntele Rosu	20.77	314	*e*	P		P	18 47 39.9	+0.1	
	comp=Z,115nm,1.4s									
MLR	Muntele Rosu	20.77	314	*e*	P		P	18 47 39.9	+0.1	
	comp=Z,115nm,1.4s									
MLR	Muntele Rosu	20.77	314	*e*	P		P	18 47 39.9	+0.1	
MLR					pmax	pmax				
	comp=Z,115nm,1.4s									
DSF	Desfina	20.79	293		P		P	18 47 39.0	-1.0	
DSF	Desfina	20.79	293		P		P	18 47 39.0	-1.0	
DSF	Desfina	20.79	293		P		P	18 47 39.0	-1.0	
HORT	Hortiatis	20.80	299		P		P	18 47 40.1	-0.1	
HORT	Hortiatis	20.80	299		P		P	18 47 40.1	-0.1	
HORT	Hortiatis	20.80	299		P		P	18 47 40.1	-0.1	
LPSR	Galich'ya Gora	20.81	346	*e*	P		P	18 47 38.7	-1.3	
	comp=Z,430nm,0.8s									
LPSR	Galich'ya Gora	20.81	346	*e*	P		P	18 47 38.7	-1.3	
LPSR				*e*	S		S	18 51 26.5	-3.9	
LPSR					pmax	pmax				
	comp=Z,430nm,0.8s									
LPSR					smax	smax				
	comp=E,250nm,1.2s									
GUR	Goura	20.87	292		P		P	18 47 39.1	-1.9	
GUR	Goura	20.87	292		P		P	18 47 39.1	-1.9	
GUR	Goura	20.87	292		P		P	18 47 39.1	-1.9	
HUMR	Humele	20.91	311⇓	*i*	P		P	18 47 41.5	+0.3	
TESR	Tescani	20.91	317⇓	*i*	P		P	18 47 41.0	-0.2	
THE	Thessaloniki	20.91	299		P		P	18 47 40.9	-0.3	
THE	Thessaloniki	20.91	299		P		P	18 47 40.9	-0.3	
THE	Thessaloniki	20.91	299		P		P	18 47 40.9	-0.3	
THE	Thessaloniki	20.91	299		P		P	18 47 40.9	-0.3	
SORM	Soroca	20.98	323⇑	*i*	P		P	18 47 40.6	-1.3	
ITM	Ithomi	21.12	289		P		P	18 47 42.1	-1.5	
ITM	Ithomi	21.12	289		P		P	18 47 42.1	-1.5	
ITM	Ithomi	21.12	289		P		P	18 47 42.1	-1.5	
KK31	Karatay Array	21.16	54	*e*	P		P	18 47 44.6	+0.7	
KK31	Karatay Array	21.16	54	*e*	P		P	18 47 44.6	+0.7	
KK31	Karatay Array	21.16	54	*e*	P		P	18 47 44.6	+0.7	
KKAR	Karatay Array	21.16	54	*e*	P		P	18 47 44.2	+0.3	
KKAR	Karatay Array	21.16	54	*e*	P		P	18 47 44.2	+0.3	
KKAR	Karatay Array	21.16	54	*e*	P		P	18 47 44.2	+0.3	
KKB	Krupnik	21.17	303		P		P	18 47 42.9	-1.2	
MPEP	Malo Peshtene	21.23	307		P		P	18 47 45.2	+0.5	
ANX	Ano Chora	21.29	293		P		P	18 47 44.7	-0.7	
VOIR		21.29	313⇑	*i*	P		P	18 47 46.4	+1.0	
VTS	Vitosha	21.32	305⇑	*i*	P		P	18 47 45.4	-0.4	
VTS	Vitosha	21.32	305	*e*	P		P	18 47 44.1	-1.7	
	comp=E,20nm,1.1s									
VTS	Vitosha	21.32	305		P		P	18 47 46.2	+0.4	
VTS	Vitosha	21.32	305	*e*	P		P	18 47 44.1	-1.7	
	comp=E,20nm,1.1s									
VTS	Vitosha	21.32	305	*e*	P		P	18 47 44.1	-1.7	
VTS					pmax	pmax				
	comp=Z,20nm,1.1s									
AMT	Artemida-Makis	21.33	290		P		P	18 47 44.5	-1.3	
DOPR	Dopca	21.35	315⇓	*i*	P		P	18 47 46.3	+0.3	
DRO	Drossia	21.37	291		P		P	18 47 45.6	-0.6	
ATD	Arta Tunnel	21.37	192		P		P	18 47 46.4	0.0	
	comp=Z,11nm,0.7s,baz=11,slow=6.0,SNR=3.3									
ATD					LR		LR	18 56 35.4		
	comp=Z,886nm,19.4s,baz=6.0,slow=38									
VAY	Valandovo	21.38	301	*i*	P		P	18 47 43.1	-3.1	
GRG	Griva	21.41	300		P		P	18 47 45.8	-0.8	
GRG	Griva	21.41	300		P		P	18 47 45.8	-0.8	
GRG	Griva	21.41	300		P		P	18 47 45.8	-0.8	
GRG	Griva	21.41	300		P		P	18 47 45.8	-0.8	
ARR	Arges	21.52	313⇓	*i*	P		P	18 47 48.3	+0.5	
PRAR	RASCA	21.63	319⇓	*i*	P		P	18 47 48.3	-0.6	
DZA	Taraz	21.64	55	*e*	P		P	18 47 50.0	+0.9	
NIL	Nilore	21.90	80	*e*	P		P	18 47 52.0	+0.1	
	comp=Z,100nm,1.1s									
NIL	Nilore	21.90	80	*e*	P		P	18 47 52.0	+0.1	
	comp=Z,100nm,1.1s									
NIL	Nilore	21.90	80	*e*	P		P	18 47 52.0	+0.1	
NIL					pmax	pmax				
	comp=Z,100nm,1.1s									
DSL	Palaion Diasel	22.01	294		P		P	18 47 50.2	-2.9	
DSL	Palaion Diasel	22.01	294		P		P	18 47 50.2	-2.9	
DSL	Palaion Diasel	22.01	294		P		P	18 47 50.2	-2.9	
LOT	Lotru	22.09	312⇑	*i*	P		P	18 47 53.7	-0.3	
SRE	Strehaia	22.11	310⇑	*i*	P		P	18 47 54.9	+0.9	
BIA	Bitola	22.21	299	*i*	P		P	18 47 55.2	0.0	
MNAS	Manas	22.33	57		P		P	18 47 57.0	+0.4	
	comp=Z,49nm,1.2s									
MNAS	Manas	22.33	57		P		P	18 47 57.0	+0.4	
MNAS					pmax	pmax				
	comp=Z,49nm,1.2s									
BURAR	Bucovina Array	22.34	318⇓	*i*	P		P	18 47 56.1	-0.5	
BUR04	Bucovina Ar. S	22.34	318	*e*	P		P	18 47 55.7	-1.0	
BUR04	Bucovina Ar. S	22.34	318	*e*	P		P	18 47 55.7	-1.0	
AKASG	Malin Array Be	22.35	329		P		P	18 47 54.9	-1.7	
	comp=Z,28nm,0.9s,baz=134,slow=9.2,SNR=23									
AKASG					PcP		PcP	18 51 51.4	+0.5	
	comp=Z,1.5nm,0.6s,baz=107,slow=2.6,SNR=5.4									
AKASG					ScP		ScP	18 55 26.5	+0.4	
	comp=Z,0.2nm,0.2s,baz=92,slow=2.3,SNR=3.0									
AKBB	Malin Array Si	22.35	329	*e*	P		P	18 47 55.0	-1.6	
	comp=Z,59nm,0.9s									
AKBB	Malin Array Si	22.35	329	*e*	P		P	18 47 55.0	-1.6	
	comp=Z,59nm,0.9s									
AKBB	Malin Array Si	22.35	329	*e*	P		P	18 47 55.0	-1.6	
AKBB					pmax	pmax				
	comp=Z,59nm,0.9s									
KIEV	Kiev	22.35	329	*e*	P		P	18 47 55.0	-1.6	
	comp=Z,53nm,0.9s									
KIEV	Kiev	22.35	329		P		P	18 47 55.9	-0.7	
	SNR=30									
KIEV	Kiev	22.35	329	*i*	P		P	18 47 55.9	-0.7	
	SNR=30									
KIEV	Kiev	22.35	329	*de*	P		P	18 47 55.0	-1.6	
KIEV					pmax	pmax				
	comp=Z,26nm,0.9s									
KRUS	Krusevo	22.35	300	*i*	P		P	18 47 58.5	+1.7	
AK11	Malin Array Si	22.36	329	*e*	P		P	18 47 55.0	-1.6	
AK11	Malin Array Si	22.36	329	*e*	P		P	18 47 55.0	-1.6	
BARS	Barje	22.36	304⇑	*i*	P		P	18 47 57.3	+0.5	
BUR08	Bucovina Ar. S	22.37	318	*e*	P		P	18 47 54.9	-2.0	
BUR08	Bucovina Ar. S	22.37	318	*e*	P		P	18 47 54.9	-2.0	
SKO	Skopje	22.38	302	*i*	P		P	18 47 58.0	+1.0	
ZAGS	Zajecar	22.42	307⇑	*i*	P		P	18 47 55.5	-1.9	
KBN	Korca	22.52	298		P		P	18 47 57.6	-1.0	
KBN	Korca	22.52	298		P		P	18 47 57.6	-1.0	
KBN	Korca	22.52	298		P		P	18 47 57.6	-1.0	
KBN	Korca	22.52	298		P		P	18 47 57.6	-1.0	
ARCR	ARCALIA	22.55	316⇓	*i*	P		P	18 47 58.5	-0.2	
OHR	Ohrid	22.62	299	*i*	P		P	18 47 59.1	-0.6	
HERR	Herculane	22.71	310⇑	*i*	P		P	18 47 59.9	-0.6	
BOVS	Bovan	22.71	306⇓	*i*	P		P	18 48 02.3	+1.8	
CJR	Cluj-Napoca	22.80	315⇓	*i*	P		P	18 48 01.9	+0.4	
KUBS	Kucevo	23.01	308⇓	*i*	P		P	18 48 00.9	-2.7	
AML	Almayashu	23.07	58		P		P	18 48 06.1	+1.4	
	SNR=35									
SVIS	Svilajnac	23.27	307⇑	*i*	P		P	18 48 03.9	-2.3	
EKS2	Erkin-Say	23.28	57		P		P	18 48 08.3	+1.8	
	SNR=25									
BMR	Baia Mare	23.35	317⇓	*i*	P		P	18 48 06.7	-0.3	
TIR	Tirane	23.36	300⇓	*i*	P		P	18 48 06.0	-1.1	
TIR	Tirane	23.36	300	*e*	P		P	18 48 05.2	-1.9	
	comp=Z,105nm,0.8s									
TIR	Tirane	23.36	300	*e*	P		P	18 48 05.2	-1.9	
	comp=Z,105nm,0.8s									
TIR	Tirane	23.36	300	*e*	P		P	18 48 05.2	-1.9	
TIR					pmax	pmax				
	comp=Z,105nm,0.8s									
DRGR		23.37	314⇑	*i*	P		P	18 48 07.1	-0.2	
GRUS	Gruza	23.47	306⇑	*i*	P		P	18 48 06.8	-1.4	
BZS	Buzias	23.53	311⇑	*i*	P		P	18 48 06.2	-2.5	
PVY	Plav	23.60	303⇓	*i*	P		P	18 48 08.3	-1.3	
OBN	Obninsk	23.66	345		P		P	18 48 09.1	-0.8	
	comp=Z,60nm,0.8s,baz=163,slow=4.0,SNR=27									
OBN					S		S	18 52 20.3	-2.1	
	comp=Z,21nm,0.7s,baz=36,slow=23,SNR=12									
OBN					LR		LR	18 59 07.0		
	comp=Z,468nm,18.9s,baz=154,slow=41									
OBN	Obninsk	23.66	345	*e*	P		P	18 48 08.7	-1.2	
	comp=Z,91nm,0.9s									
OBN				*e*	S		S	18 52 20.3	-2.1	
OBN	Obninsk	23.66	345	*d*	P		P	18 48 09.0	-0.8	
OBN				*e*				18 48 43.7		
OBN				*i*	S		S	18 52 14.9	-7.5	
O

CEME	Cevo	24.33	302	⇓iP	P	18 48 15.5	-0.9
NKY	Niksic	24.35	303	⇓iP	P	18 48 15.6	-1.0
NKY	Niksic	24.35	303	⇓iP	P	18 48 15.6	-1.0
NKME	Niksic	24.36	303	⇓iP	P	18 48 15.7	-0.9
NKME	Niksic	24.36	303	⇓iP	P	18 48 15.7	-0.9
TEKS	Tekeris	24.50	307	⇓iP	P	18 48 17.2	-0.6
FGSL	Fruska Gora	24.52	309	⇑iP	P	18 48 17.9	-0.1
UZH	Uzhgorod	24.54	318	d iP	P	18 48 17.6	-0.5
UZH				i		18 48 21.2	
UZH				i		18 48 30.4	
OTUK	Ortayu	24.57	43	P	P	18 48 19.6	+1.1
	comp=Z,34nm,1.1s						
OTUK	Ortayu	24.57	43	P	P	18 48 19.6	+1.1
OTUK				pmax	pmax		
	comp=Z,34nm,1.1s						
HCY	Herceg Novi	24.61	302	⇓iP	P	18 48 18.1	-0.7
HCY	Herceg Novi	24.61	302	⇓iP	P	18 48 18.1	-0.7
TKM2	Tokmak 2	24.64	57	P	P	18 48 21.3	+2.0
	SNR=54						
TKM2	Tokmak 2	24.64	57	P	P	18 48 20.1	+0.8
	comp=Z,62nm,1.2s						
TKM2	Tokmak 2	24.64	57	P	P	18 48 20.1	+0.8
TKM2				pmax	pmax		
	comp=Z,62nm,1.2s						
BRY	Bratogost	24.69	303	⇓iP	P	18 48 18.5	-1.2
BRY	Bratogost	24.69	303	⇓iP	P	18 48 18.5	-1.2
AAE	Adis Abeba	24.73	200	eP	P	18 48 09.2	-11
AAE				eS	S	18 52 49.7	+8.9
AAE	Adis Abeba	24.73	200	eP	P	18 48 09.2	-11
AAE				eS	S	18 52 49.7	+8.9
AAE	Adis Abeba	24.73	200	eP	P	18 48 09.2	-11
AAE				eS	S	18 52 49.7	+8.9
BMNS	Besmoynak	24.74	57	⇑iP	P	18 48 22.4	+2.2
BMNS				eS	S	18 52 40.9	+0.6
KWP	Kalwaria Pacla	24.85	320	eP	P	18 48 21.5	+0.6
KWP	Kalwaria Pacla	24.85	320	eP	P	18 48 21.5	+0.6
ULHL	Ulahol	24.93	59	P	P	18 48 24.4	+2.4
	SNR=38						
ARU	Arti	25.08	15	P	P	18 48 23.0	+0.1
	comp=Z,22nm,0.8s,baz=205,slow=4.1,SNR=33						
ARU				ScP	ScP	18 55 35.1	+1.7
	comp=Z,4.6nm,0.8s,baz=155,slow=2.6,SNR=4.2						
ARU				LR	LR	19 00 48.1	
	comp=Z,465nm,20.4s,baz=154,slow=42						
ARU	Arti	25.08	15	eP	P	18 48 23.0	+0.1
	comp=Z,43nm,1.0s						
ARU				ScP	ScP	18 55 35.1	+1.7
ARU	Arti	25.08	15	c iP	P	18 48 23.5	+0.6
ARU				*PP	sP	18 48 38.9	+3.1
ARU						18 49 01.6	
ARU				S	S	18 52 45.4	+0.3
ARU				SS	SnSn	18 53 42.4	+6.5
ARU				pmax	pmax		
	comp=Z,85nm,1.7s						
CRVS	Cervenica-Dubn	25.15	318	eP	P	18 48 24.5	+0.9
CRVS	Cervenica-Dubn	25.15	318	eP	P	18 48 24.5	+0.9
CRVS				pmax	pmax		
	comp=Z,28nm,1.2s						
STON	Ston	25.28	302	P	P	18 48 22.4	-2.5
STON	Ston	25.28	302	i P	P	18 48 22.3	-2.5
TIP	Timpagrande	25.36	294	⇑iP	P	18 48 25.3	-0.4
TIP	Timpagrande	25.36	294	eP	P	18 48 25.1	-0.6
	comp=Z,84nm,1.0s						
TIP	Timpagrande	25.36	294	P	P	18 48 25.1	-0.6
TIP	Timpagrande	25.36	294	P	P	18 48 25.1	-0.6
KUU	Kurty	25.42	55	⇑iP	P	18 48 27.6	+1.5
STHS	Stebnicka Huta	25.54	319	eP	P	18 48 28.8	+1.6
STHS	Stebnicka Huta	25.54	319	eP	P	18 48 28.8	+1.6
STHS				pmax	pmax		
	comp=Z,236nm,3.0s						
MATE	Matera	25.58	297	⇓iP	P	18 48 26.5	-1.1
MATE	Matera	25.58	297	⇓iP	P	18 48 26.5	-1.1
KDJ	Kajisay	25.59	60	eP	P	18 48 29.7	+1.8
	comp=Z,67nm,1.3s						
PSZ	Piszkesteto	25.59	315	⇓iP	P	18 48 28.5	+0.8
PSZ	Piszkesteto	25.59	315	⇑eP	P	18 48 29.2	+1.5
PSZ	Piszkesteto	25.59	315	eP	P	18 48 28.3	+0.6
	comp=Z,32nm,0.9s						
PSZ	Piszkesteto	25.59	315	⇓iP	P	18 48 28.5	+0.8
PSZ	Piszkesteto	25.59	315	eP	P	18 48 28.3	+0.6
PSZ				pmax	pmax		
	comp=Z,32nm,0.9s						
AAA	Alma-Ata	25.64	57	eP	P	18 48 30.5	+2.3
AAA				LR	LR	18 58 57.4	
	comp=Z,123nm,16.0s						
AAA	Alma-Ata	25.64	57	eP	P	18 48 33.0	+4.7
AAA				pmax	pmax		
	comp=Z,100nm,4.4s						
AAA				MLR	MLR		
	comp=Z,500nm,23.0s						
BRZS	Berezniki	25.67	40	⇑iP	P	18 48 30.8	+2.4
MORH	Mˆ‡rˆ¡gy, Hung	25.67	310	⇑eP	P	18 48 28.5	+0.1
MORH	Mˆ‡rˆ¡gy, Hung	25.67	310	⇑eP	P	18 48 28.5	+0.1
MDOK	Medeo	25.73	57	i P	P	18 48 30.9	+1.8
MDOK				eS	S	18 52 56.4	+0.3
MICGM	Minsk	25.75	334	e	P	18 48 28.0	-1.0
MNK	Minsk	25.75	334	eP	P	18 48 28.0	-1.0
SVE	Sverdlovsk	25.93	17	d eP	P	18 48 31.7	+1.1
SVE				pmax	pmax		
	comp=Z,56nm,1.5s						
BUD	Budapest	25.93	313	⇓eP	P	18 48 31.1	+0.4
BUD	Budapest	25.93	313	⇓eP	P	18 48 31.1	+0.4
CEL	Celeste	25.97	291	eP	P	18 48 31.0	-0.2
	comp=Z,110nm,1.0s						
NIE	Niedzica	26.07	318	eP	P	18 48 32.7	+0.7
NIE	Niedzica	26.07	318	eP	P	18 48 32.7	+0.7
BLY	Banja Luka	26.15	306	⇓iP	P	18 48 32.3	-0.4
BLY	Banja Luka	26.15	306	eP	P	18 48 31.5	-1.3
	comp=Z,87nm,1.7s						
BLY	Banja Luka	26.15	306	eP	P	18 48 31.4	-1.3
CUC	Castrocucco	26.17	295	eP	P	18 48 33.6	+0.5
	comp=Z,42nm,1.0s						
BRVK	Borovoye	26.34	32	eP	P	18 48 35.4	+1.0
	comp=Z,20nm,0.8s						
BRVK	Borovoye	26.34	32	P	P	18 48 35.2	+0.8
	SNR=13						
BRVK	Borovoye	26.34	32	⇑iP	P	18 48 35.2	+0.8
BRVK				pmax	pmax		
	comp=Z,31nm,1.7s						
CSKK	Csˆ‡kako	26.36	312	⇓eP	P	18 48 35.5	+0.9
CSKK	Csˆ‡kako	26.36	312	⇓eP	P	18 48 35.5	+0.9
BVA0	Borovoye Array	26.37	33	P	P	18 48 35.4	+0.8
BVA0				pmax	pmax		
	comp=Z,25nm,0.7s						
BVAR	Borovoye Array	26.37	33	P	P	18 48 35.7	+1.1
	comp=Z,11nm,0.8s,baz=213,slow=10.0,SNR=72						
BVAR				PcP	PcP	18 51 59.9	+0.2
	comp=Z,3.3nm,0.9s,baz=209,slow=3.4,SNR=4.9						
BVAR				ScP	ScP	18 55 37.9	+0.6
	comp=Z,2.2nm,0.8s,baz=198,slow=3.5,SNR=9.6						
BVAR				LR	LR	19 01 34.3	
	comp=Z,1µm,20.2s,baz=236,slow=42						
LANS	Liptovska Anna	26.41	317	eP	P	18 48 36.1	+1.0
LANS	Liptovska Anna	26.41	317	eP	P	18 48 36.1	+1.0
LANS	Liptovska Anna	26.41	317	eP	P	18 48 36.1	+1.0
NACGM	Naroch	26.47	333	e	P	18 48 35.0	-0.5
VYHS	Vyhne	26.48	315	eP	P	18 48 35.9	+0.2
	comp=Z,7.1nm,1.1s						
VYHS	Vyhne	26.48	315	eP	P	18 48 35.8	+0.1
VYHS	Vyhne	26.48	315	eP	P	18 48 35.9	+0.2
VYHS				pmax	pmax		
	comp=Z,7.0nm,1.1s						
SATY	Saty	26.67	58	⇑iP	P	18 48 39.7	+2.0
SATY				i S	S	18 53 11.4	+0.5
ZHN	Zhinishke	26.71	58	⇑iP	P	18 48 40.0	+2.0
ZHN				eS	S	18 53 12.3	+0.7
OJC	Ojcow	26.75	319	eP	P	18 48 38.3	+0.2
OJC	Ojcow	26.75	319	eP	P	18 48 38.4	+0.3
	comp=Z,76nm,1.4s						
OJC	Ojcow	26.75	319	eP	P	18 48 38.3	+0.2
IDID	Didziasalis	26.80	334	eP	P	18 48 38.7	+0.2
IDID				IAmb	IAmb	18 48 44.0	
	comp=Z,29nm,0.9s						
IDID	Didziasalis	26.80	334	eP	P	18 48 38.7	+0.2
	SNR=28						
KPKS	Kokpek	26.96	57	⇑iP	P	18 48 41.8	+1.7
KPKS				eS	S	18 53 15.6	+0.2
BEHE	Becsehely	26.97	310	⇓eP	P	18 48 41.1	+1.0
IIGN	Ignalina	27.02	333	eP	P	18 48 40.7	+0.2
IIGN				IAmb	IAmb	18 48 48.0	
	comp=Z,28nm,0.8s						
IIGN	Ignalina	27.02	333	eP	P	18 48 40.7	+0.2
	SNR=28						
BEL	Belsk	27.10	323	eP	P	18 48 41.9	+0.7
BEL	Belsk	27.10	323	eP	P	18 48 41.9	+0.7
VAE	Valguarnera	27.12	289	P	P	18 48 43.0	+1.3
	comp=Z,32nm,1.0s,baz=358,slow=11,SNR=4.2						
TDK	Taldyqorghan	27.15	54	i P	P	18 48 43.0	+1.1
IZAR	Zarasai	27.31	334	eP	P	18 48 43.3	+0.2
IZAR				IAmb	IAmb	18 48 48.8	
	comp=Z,34nm,1.0s						
SUW	Suwalki	27.32	329	eP	P	18 48 43.4	+0.3
SUW	Suwalki	27.32	329	eP	P	18 48 42.4	-0.8
	comp=Z,75nm,0.9s						
SUW	Suwalki	27.32	329	eP	P	18 48 43.4	+0.3
MODS	Modra-Piesok	27.37	314	eP	P	18 48 43.4	-0.3
MODS	Modra-Piesok	27.37	314	eP	P	18 48 43.4	-0.3
MODS				pmax	pmax		
	comp=Z,24nm,1.3s						
OKC	Ostrava-Krasne	27.50	317	eP	P	18 48 44.8	0.0
OKC				epP	sP	18 48 55.1	-2.7
OKC	Ostrava-Krasne	27.50	317	P	P	18 48 44.8	0.0
OKC	Ostrava-Krasne	27.50	317	eP	P	18 48 44.8	0.0
OKC				e		18 48 55.1	
SOP	Sopron	27.54	312	⇑eP	P	18 48 42.9	-2.4
OZLJ	Ozalj	27.56	307	P	P	18 48 45.2	-0.3
OZLJ	Ozalj	27.56	307	i P	P	18 48 45.1	-0.3
CRES	Cresnjev	27.63	308	eP	P	18 48 45.6	-0.5
BOJS	Bojanci	27.68	307	ePn	P	18 48 46.5	+0.1
BOJS	Bojanci	27.68	307	i P	PcP	18 52 03.9	+0.9
BOJS	Bojanci	27.68	307	Pn	P	18 48 46.5	+0.1
NVLJ	Novalja	27.69	305	P	P	18 48 45.0	-1.5
NVLJ	Novalja	27.69	305	i P	P	18 48 45.0	-1.5
MORC	Moravsky Berou	27.82	317	⇑iP	P	18 48 47.2	-0.5
MORC	Moravsky Berou	27.82	317	eP	P	18 48 46.0	-1.7
	comp=Z,49nm,1.0s						
MORC	Moravsky Berou	27.82	317	⇑iP	P	18 48 47.2	-0.5
MORC	Moravsky Berou	27.82	317	eP	P	18 48 46.0	-1.7
MORC				pmax	pmax		
	comp=Z,49nm,1.0s						
VISS	Visnje	28.04	307	eP	PcP	18 52 04.5	+0.7
ARSA	Arzberg	28.05	311	P	P	18 48 50.9	+1.1
	comp=Z,7.3nm,1.1s						
ARSA	Arzberg	28.05	311	PcP	PcP	18 52 04.4	+0.6
	comp=Z,4.1nm,0.8s						
ARSA	Arzberg	28.05	311	i pP	P	18 48 50.9	+1.1
	comp=Z,7.3nm,1.1s						
ARSA				i PcP	PcP	18 52 04.4	+0.6
	comp=Z,4.1nm,0.8s						
CONA	Conrad Observa	28.07	312	P	P	18 48 50.8	+0.7
	comp=Z,13nm,1.2s						
CONA	Conrad Observa	28.07	312	P	P	18 48 50.8	+0.7
	comp=Z,13nm,1.2s						
PERS	Pernice	28.11	309	ePn	P	18 48 50.2	-0.2
PERS	Pernice	28.11	309	i P	PcP	18 52 04.8	+0.7
PERS	Pernice	28.11	309	ePn	P	18 48 50.2	-0.2
VRAC	Vranov	28.17	315	P	P	18 48 50.9	+0.1
	comp=Z,5.0nm,0.9s,baz=122,slow=9.5,SNR=6.2						
SOKA	Soboth	28.17	309	P	P	18 48 51.4	+0.4
	comp=Z,5.7nm,1.0s						
SOKA	Soboth	28.17	309	PcP	PcP	18 52 05.0	+0.8
	comp=Z,7.8nm,0.9s						
SOKA	Soboth	28.17	309	i P	P	18 48 51.4	+0.4
	comp=Z,5.7nm,1.0s						
SOKA				i PcP	PcP	18 52 05.0	+0.8
	comp=Z,7.8nm,0.9s						
KRLC	Kraliky	28.39	317	eP	P	18 48 52.7	-0.1
KRLC				esP	sP	18 49 10.6	+4.8
KRLC	Kraliky	28.39	317	eP	P	18 48 52.7	-0.1
OBKA	Obir	28.44	309	P	P	18 48 54.3	+0.9
	comp=Z,16nm,0.9s						
OBKA	Obir	28.44	309	i pP	P	18 48 54.3	+0.9
	comp=Z,16nm,0.9s						
JAVS	Javornik	28.59	307	ePn	P	18 48 54.1	-0.5
JAVS	Javornik	28.59	307	i P	PcP	18 52 06.0	+0.7
JAVS	Javornik	28.59	307	ePn	P	18 48 54.2	-0.5
KLMR	Klimovskoe	28.66	352	eP	P	18 48 53.3	-1.8
KLMR				AMP		18 48 59.1	
	comp=Z,25nm,1.0s						
KLMR				eS	S	18 53 40.0	-1.5
KLMR				eS	S	18 53 40.0	-1.5
KLMR				LQ	LQ	18 58 35.8	
KLMR				LQ	LQ	18 58 35.8	
KLMR				LR	LR	18 59 52.8	
KLMR	Klimovskoe	28.66	352	eP	P	18 48 53.2	-1.8
KLMR				eS	S	18 53 40.0	-1.5
KLMR				pmax	pmax		
	comp=Z,25nm,1.0s						
DPC	Dobruska-Polom	28.78	317	eP	P	18 48 56.2	-0.1
DPC				ex	x	18 49 01.3	
DPC				ex	x	18 49 15.4	
DPC	Dobruska-Polom	28.78	317	P	P	18 48 56.2	-0.1
DPC	Dobruska-Polom	28.78	317	eP	P	18 48 56.2	-0.1
DPC				e		18 49 01.3	
UPC	Upice	29.02	317	eP	P	18 48 58.2	-0.2
UPC	Upice	29.02	317	P	P	18 48 58.2	-0.2
UPC	Upice	29.02	317	eP	P	18 48 58.2	-0.2
MOA	Molln	29.05	311	P	P	18 48 59.0	+0.3
	comp=Z,12nm,0.7s						
MOA	Molln	29.05	311	i P	P	18 48 59.0	+0.3
	comp=Z,12nm,0.7s						
MYKA	Terra Mystica	29.07	309	P	P	18 49 00.1	+1.1
	comp=Z,16nm,1.5s						
MYKA	Terra Mystica	29.07	309	i pP	P	18 49 00.1	+1.1
	comp=Z,16nm,1.5s						
KURBB	Kurchatov Arra	29.26	43	P	P	18 49 02.4	+1.9
	comp=Z,9.6nm,0.9s,baz=249,slow=9.4,SNR=31						
KURBB				PcP	PcP	18 52 07.3	+0.5
	comp=Z,3.8nm,1.0s,baz=249,slow=3.4,SNR=5.0						
KURBB				ScP	ScP	18 55 47.5	+1.3
	comp=Z,1.9nm,0.8s,baz=250,slow=4.1,SNR=8.4						
VSU	Vasula	29.26	338	c eP	P	18 49 00.4	0.0
VSU				pmax	pmax		
	comp=Z,173nm,1.7s						
KURK	Kurchatov	29.35	43	eP	P	18 49 01.7	+0.5
	comp=Z,42nm,1.0s						
KURK				PcP	PcP	18 52 07.2	+0.3
KURK				ScP	ScP	18 55 47.5	+1.1
KURK	Kurchatov	29.35	43	P	P	18 49 02.7	+1.4
	SNR=26						
KURK	Kurchatov	29.35	43	c iP	P	18 49 02.8	+1.5
KURK				pmax	pmax		
	comp=Z,26nm,1.7s						
KBA	Koelnbreinsper	29.40	309	P	P	18 49 02.0	0.0
	comp=Z,12nm,1.1s,SNR=6.2						
KBA	Koelnbreinsper	29.40	309	i P	P	18 49 02.0	0.0
	comp=Z,12nm,1.1s,SNR=6.2						
GEA0	GERESS Array S	29.74	313	eP	P	18 49 03.6	-1.3
GEA0				ePcP	PcP	18 52 08.7	+0.5
GERES	GERESS Array B	29.74	313	P	P	18 49 04.2	-0.8
	comp=Z,1.1nm,0.6s,baz=109,slow=7.3,SNR=11						
GERES				PcP	PcP	18 52 08.7	+0.5
	comp=Z,2.8nm,0.8s,baz=132,slow=2.0,SNR=9.7						
GERES				ScP	ScP	18 55 49.5	+1.6
	comp=Z,0.4nm,0.8s,baz=116,slow=4.5,SNR=2.8						
GERES				LR	LR	19 02 51.0	
	comp=Z,169nm,18.1s,baz=106,slow=40						
ABTA	Abfaltersbach	29.85	308	P	P	18 49 05.7	-0.2
	comp=Z,7.9nm,0.8s						
ABTA	Abfaltersbach	29.85	308	PcP	PcP	18 52 07.5	-1.0
	comp=Z,9.2nm,1.0s						
ABTA	Abfaltersbach	29.85	308	i P	P	18 49 05.7	-0.2
	comp=Z,7.9nm,0.8s						
ABTA				i PcP	PcP	18 52 07.5	-1.0
	comp=Z,9.2nm,1.0s						
PVCC	Panska Ves	29.87	316	eP	P	18 49 06.2	+0.3
PVCC	Panska Ves	29.87	316	P	P	18 49 06.2	+0.3
PVCC	Panska Ves	29.87	316	eP	P	18 49 06.2	+0.3
KHC	Kasperske Hory	29.92	313	eP	P	18 49 06.7	+0.3
KHC				esP	sP	18 49 22.1	+2.7
KHC	Kasperske Hory	29.92	313	eP	P	18 49 06.7	+0.3
KHC				e		18 49 22.1	
SEM	Semipalatinsk	30.17	44	i P	P	18 49 12.1	+3.3
SEM				eS	S	18 54 07.5	+1.6
SEM				LR	LR	19 01 07.7	
	comp=Z,119nm,10.3s						
MKAR	Makanchi Array	30.25	52	P	P	18 49 11.0	+1.7
	comp=Z,12nm,0.8s,baz=249,slow=7.8,SNR=25						
MKAR				PcP	PcP	18 52 09.7	+0.2
	comp=Z,1.6nm,0.8s,baz=246,slow=4.9,SNR=2.9						
MKAR				ScP	ScP	18 55 48.9	-0.6
	comp=Z,0.7nm,0.9s,baz=298,slow=3.1,SNR=2.9						
MKAR				LR	LR	19 03 19.0	
	comp=Z,901nm,18.2s,baz=254,slow=40						
BRG	Berggiesshubel	30.37	317	eP	P	18 49 10.3	0.0
	comp=Z,7.7nm,1.3s						
BRG				e		18 52 10.2	
	comp=Z,6.7nm,1.0s						
BRG	Berggiesshubel	30.37	317	eP	P	18 49 10.3	0.0
BRG				e		18 52 10.2	
BRG				pmax	pmax		
	comp=Z,8.0nm,1.3s						
BRG				pmax	pmax		
	comp=Z,7.0nm,1.0s						
WTTA	Wattenberg	30.57	309	P	P	18 49 11.8	-0.5
	comp=Z,24nm,1.3s						
WTTA	Wattenberg	30.57	309	i P	P	18 49 11.8	-0.5
	comp=Z,24nm,1.3s						
WATA	Walderalm	30.63	309	P	P	18 49 12.1	-0.7
	comp=Z,32nm,1.3s,SNR=5.7						
WATA	Walderalm	30.63	309	PcP	PcP	18 52 11.3	+0.7
	comp=Z,11nm,0.9s						
WATA	Walderalm	30.63	309	i P	P	18 49 12.1	-0.7
	comp=Z,32nm,1.3s,SNR=5.7						
WATA				i PcP	PcP	18 52 11.3	+0.7
	comp=Z,11nm,0.9s						
MOTA	Moosalm	30.94	309	P	P	18 49 14.7	-0.9
	comp=Z,15nm,0.6s,SNR=14						
MOTA	Moosalm	30.94	309	PcP	PcP	18 52 12.3	+0.9
	comp=Z,10.0nm,0.9s						
MOTA	Moosalm	30.94	309	i P	P	18 49 14.7	-0.9
	comp=Z,15nm,0.6s,SNR=14						
MOTA				i PcP	PcP	18 52 12.3	+0.9
	comp=Z,10.0nm,0.9s						
NKC	Novy Kostel	31.00	315	eP	P	18 49 16.1	+0.1
NKC				epP	pP	18 49 23.7	-1.4
NKC	Novy Kostel	31.00	315	P	P	18 49 16.1	+0.1
NKC	Novy Kostel	31.00	315	eP	P	18 49 16.1	+0.1
NKC				e		18 49 23.7	
CLL	Collm	31.09	317	i P	P	18 49 16.0	-0.6
	comp=Z,21nm,1.5s						
CLL				ePcP	PcP	18 52 12.0	+0.5
CLL				eS	S	18 54 36.0	+16
CLL	Collm	31.09	317	eP	P	18 49 15.2	-1.5
	comp=Z,11nm,1.1s						
CLL	Collm	31.09	317	eP	P	18 49 15.2	-1.5
CLL				pmax	pmax		
	comp=Z,11nm,1.1s						
VSL	Villasalto	31.09	294	eP	P	18 49 16.7	-0.1
	comp=Z,77nm,1.4s						
FETA	Feichten	31.11	308	i P	P	18 49 16.3	-0.7
	comp=Z,15nm,0.9s						
FETA				i PcP	PcP	18 52 12.3	+0.4
	comp=Z,13nm,0.9s						
PYUN	Piuthan	31.19	89	eP	P	18 49 18.8	+0.7
	comp=Z,141nm,1.3s						
RETA	Reutte	31.20	309	P	P	18 49 16.4	-1.4
	comp=Z,7.9nm,0.7s						
RETA	Reutte	31.20	309	i P	P	18 49 16.4	-1.4
	comp=Z,7.9nm,0.7s						
KEST	Kesra	31.27	286	P	P	18 49 19.9	+1.3
	comp=Z,22nm,0.9s,baz=13,slow=2.4,SNR=15						
KEST				LR	LR	19 05 43.6	
	comp=Z,49nm,20.7s,baz=287,slow=44						
KEST	Kesra	31.27	286	eP	P	18 49 18.9	+0.3
	comp=Z,25nm,0.9s						
GRFO	Grafenberg	31.56	313	eP	P	18 49 19.3	-1.6
	comp=Z,29nm,1.1s						
GRFO	Grafenberg	31.56	313	eP	P	18 49 19.3	-1.6
GRFO				pmax	pmax		
	comp=Z,29nm,1.1s						
DAVA	Damuels	31.73	308	P	P	18 49 21.5	-1.1
	comp=Z,18nm,0.6s						
DAVA	Damuels	31.73	308	PcP	PcP	18 52 14.0	+0.4
	comp=Z,16nm,1.0s						
DAVA	Damuels	31.73	308	i P	P	18 49 21.5	-1.1
	comp=Z,18nm,0.6s						
DAVA				i PcP	PcP	18 52 14.0	+0.4
	comp=Z,16nm,1.0s						
DANN	Dangsing	31.77	88	eP	P	18 49 24.5	+1.3
KOLN	Koldanda	31.80	89	eP	P	18 49 24.2	+0.7
	comp=Z,26nm,0.8s						
BSD	Bornholm Skovb	31.84	325	i P	P	18 49 20.8	-2.4
	comp=Z,65nm,0.9s						
BSD	Bornholm Skovb	31.84	325	i P	P	18 49 20.8	-2.4
BSD				pmax	pmax		
	comp=Z,65nm,0.9s						
FIA1	FINESS Array S	31.88	341	eP	P	18 49 22.7	-0.7
FINES	FINESS Array B	31.88	341	P	P	18 49 23.4	-0.1
	comp=Z,24nm,0.9s,baz=144,slow=9.4,SNR=66						
FINES				LR	LR	19 03 33.1	
	comp=Z,408nm,19.6s,baz=141,slow=39						
FINES	FINESS Array B	31.88	341	P	P	18 49 23.4	-0.1
FINES				pmax	pmax		
	comp=Z,23nm,0.9s						
FINES				MLR	MLR		
	comp=Z,408nm,19.6s						
TUE	Stuetta	31.90	307	eP	P	18 49 22.6	-1.5
	comp=Z,17nm,1.1s						
TMCR	Tamitsa	32.05	353	eP	P	18 49 24.1	-0.8
TMCR				pmax	pmax		
	comp=Z,34nm,1.5s						
HYB	Hyderabad	32.12	111	i P	P	18 49 27.0	+0.9
	comp=Z,112nm,1.4s						
GKN	Gorkha	32.61	88	eP	P	18 49 31.1	+0.6
	comp=Z,91nm,0.8s						
BFO	Black Forest	33.00	310	i P	P	18 49 34.7	+1.2
DMN	Daman	33.12	89	eP	P	18 49 35.9	+0.8
	comp=Z,120nm,0.9s						
KKN	Kakani	33.21	88	eP	P	18 49 36.6	+0.8
	comp=Z,77nm,0.7s						
SENIN	Lac Senin/Sane	33.27	306	eP	P	18 49 34.9	-1.3
	comp=Z,14nm,0.8s						
PKIN	Phulchoki	33.38	88	eP	P	18 49 38.0	+0.7
WMQ	Urumqi	33.47	59	P	P	18 49 39.8	+2.1
WMQ				pP	sP	18 49 50.1	-0.6
WMQ				sP	pP	18 49 56.3	+9.4
WMQ				pmax	pmax		
	comp=Z,36nm,0.9s						
WMQ				pmax	pmax		
	comp=Z,130nm,3.7s						
WMQ				LR	LR		
	comp=Z,1µm,20.5s						
WMQ				LR	LR		
	comp=Z,720nm,26.7s						
WMQ				LR	LR		
	comp=Z,910nm,31.5s						
BNI	Bardonecchia	33.50	304	eP	P	18 49 36.9	-1.2
	comp=Z,40nm,0.9s						
BNI	Bardonecchia	33.50	304	eP	P	18 49 36.9	-1.2
BNI				pmax	pmax		
	comp=Z,40nm,0.9s						
GUN	Gumba	33.68	88	eP	P	18 49 41.0	+0.9
	comp=Z,214nm,1.0s						
ECH	Echery	33.73	309	eP	P	18 49 38.6	-1.2
	comp=Z,24nm,1.2s						
ECH	Echery	33.73	309	eP	P	18 49 38.7	-1.2
ECH				pmax	pmax		
	comp=Z,24nm,1.2s						
JIRN	Jiri	34.02	88	eP	P	18 49 44.0	+1.0
ZALV	Zalesovo Beam	34.15	40	P	P	18 49 44.7	+1.3
	comp=Z,14nm,0.8s,baz=256,slow=9.2,SNR=28						
ZALV				ScP	ScP	18 56 02.2	-0.4
	comp=Z,0.6nm,0.4s,baz=258,slow=4.3,SNR=2.3						
ZALV				LR	LR	19 07 08.0	
	comp=Z,298nm,19.2s,baz=248,slow=42						
RAMN	Ramite	34.59	89	eP	P	18 49 48.1	+0.2
	comp=Z,52nm,0.7s						
WLF	Walferdange	34.71	312	⇓P	P	18 49 47.0	-1.3
WLF	Walferdange	34.71	312	eP	P	18 49 46.6	-1.7
	comp=Z,103nm,2.0s						
WLF	Walferdange	34.71	312	eP	P	18 49 46.6	-1.7
WLF				pmax	pmax		
	comp=Z,103nm,2.0s						
KMBO	Kilima Mbogo	34.85	197	P	P	18 49 50.5	+0.4
	comp=Z,1.4nm,0.4s,baz=349,slow=10,SNR=6.9						
KMBO				LR	LR	19 03 51.9	
	comp=Z,713nm,18.1s,baz=70,slow=36						
KMBO	Kilima Mbogo	34.85	197	eP	P	18 49 49.3	-0.8
	comp=Z,16nm,1.4s						
KMBO	Kilima Mbogo	34.85	197	P	P	18 49 56.0	+5.9
	SNR=5.1						
HFS	Hagfors	35.20	331	P	P	18 49 52.3	0.0
	comp=Z,20nm,0.7s,baz=128,slow=9.6,SNR=72						
HFS				LR	LR	19 05 23.5	
	comp=Z,235nm,20.0s,baz=122,slow=38						
MUD	Monsted U'grnd	35.32	324	i P	P	18 49 54.4	+0.9
	comp=Z,59nm,0.8s						
MUD	Monsted U'grnd	35.32	324	i P	P	18 49 54.4	+0.9
MUD				pmax	pmax		
	comp=Z,59nm,0.8s						
APA	Apatity	35.88	351	⇓iP	P	18 49 47.8	-10
APA				pmax	pmax		
	comp=Z,9.0nm,0.9s						
APA				MLR	MLR		

	comp=Z,500nm,15.0s										
NB2	**NORSAR Subarra**	**36.72**	**331**		P		**P**		**18 50 04.4**	**-1.0**
	comp=Z,4.4nm,0.7s,baz=124,slow=8.6										
NOA	**NORSAR Array B**	**36.72**	**331**		P		**P**		**18 50 04.7**	**-0.7**
	comp=Z,3.0nm,0.7s,baz=125,slow=8.5,SNR=13										
NOA					PP		**PnPn**		**18 51 26.3**	**-3.0**
	comp=Z,3.3nm,0.8s,baz=133,slow=11,SNR=3.1										
NOA					PcP		**PcP**		**18 52 27.1**	**-0.3**
	comp=Z,3.4nm,0.8s,baz=104,slow=3.8,SNR=3.4										
NOA					LR		LR		19 06 32.8		
	comp=Z,235nm,20.6s,baz=125,slow=38										
LSA	**Lhasa**	**37.60**	**82**	*eP*			**P**		**18 50 15.3**	**+1.5**
	comp=Z,46nm,1.6s										
LSA	**Lhasa**	**37.60**	**82**		P		**P**		**18 50 14.5**	**+0.7**
LSA	**Lhasa**	**37.60**	**82**		P		**P**		**18 50 14.5**	**+0.7**
LSA	**Lhasa**	**37.60**	**82**	*eP*			**P**		**18 50 15.3**	**+1.5**
LSA					pmax		pmax				
	comp=Z,46nm,1.6s										
TAM	**Tamanrasset**	**37.90**	**266**	*eP*			**P**		**18 50 15.9**	**-0.1**
	comp=Z,77nm,1.5s										
TAM	**Tamanrasset**	**37.90**	**266**	*eP*			**P**		**18 50 15.9**	**-0.1**
TAM					pmax		pmax				
	comp=Z,77nm,1.5s										
HVS	**Khovu-Aksy**	**38.54**	**47**‖	*eP*			**P**		**18 50 23.8**	**+2.8**
HVS					pmax		pmax				
	comp=Z,13nm,0.8s										
ARCES	**ARCESS Array B**	**38.89**	**348**		P		**P**		**18 50 23.8**	**+0.2**
	comp=Z,9.5nm,1.0s,baz=164,slow=8.9,SNR=18										
ARCES					ScP		**ScP**		**18 56 21.8**	**+1.9**
	comp=Z,4.3nm,0.8s,baz=162,slow=5.0,SNR=8.2										
ARCES	**ARCESS Array B**	**38.89**	**348**	*eP*			**P**		**18 50 24.3**	**+0.7**
ARCES					ScP		**ScP**		**18 56 21.8**	**+1.9**
ARCES	**ARCESS Array B**	**38.89**	**348**	*eP*			**P**		**18 50 24.3**	**+0.7**
ARCES									18 56 21.8		
KRAR	**Krasnoyarsk**	**39.22**	**40**‖	*eP*			**P**		**18 50 28.5**	**+2.0**
SHL	**Shillong**	**39.52**	**88**	*eP*			**P**		**18 50 30.0**	**+0.3**
PALK	**Pallekele**	**40.12**	**122**		P		**P**		**18 50 35.3**	**+0.8**
	comp=Z,11nm,0.9s,baz=295,slow=8.0,SNR=3.9										
ES19	**SONSECA Array**	**41.32**	**295**	*eP*			**P**		**18 50 43.0**	**-1.2**
ES19					ePcP		**PcP**		**18 52 43.0**	**+0.7**
ES19	**SONSECA Array**	**41.32**	**295**	*eP*			**P**		**18 50 43.0**	**-1.2**
ESDC	**Sonseca Array**	**41.37**	**295**		P		**P**		**18 50 44.0**	**-0.7**
	comp=Z,6.4nm,0.7s,baz=74,slow=8.4,SNR=23										
ESDC					PcP		**PcP**		**18 52 41.9**	**-0.6**
	comp=Z,2.8nm,0.8s,baz=37,slow=3.8,SNR=4.6										
ESDC					LR		LR		19 08 21.6		
	comp=Z,96nm,20.2s,baz=320,slow=37										
ESDC	**Sonseca Array**	**41.37**	**295**		P		**P**		**18 50 44.0**	**-0.7**
EKA	**Eskdalemuir Ar**	**41.52**	**318**		P		**P**		**18 50 45.2**	**-0.4**
	comp=Z,12nm,0.8s,baz=101,slow=8.4,SNR=25										
EKA					PcP		**PcP**		**18 52 43.0**	**+0.4**
	comp=Z,5.0nm,0.8s,baz=113,slow=5.5,SNR=5.6										
PAB	**San Pablo**	**41.68**	**295**	*eP*			**P**		**18 50 46.3**	**-0.9**
	comp=Z,13nm,0.9s										
PAB	**San Pablo**	**41.68**	**295**	*eP*			**P**		**18 50 46.3**	**-0.9**
	comp=Z,13nm,0.9s										
PAB	**San Pablo**	**41.68**	**295**	*eP*			**P**		**18 50 46.3**	**-0.9**
PAB					pmax		pmax				
	comp=Z,13nm,0.9s										
GTA	**Gaotai**	**42.65**	**65**	*eP*			**P**		**18 50 56.3**	**+1.1**
GTA					pP		sP		18 51 05.5	-2.9
GTA					sP		pP		18 51 10.1	+5.5
GTA					S		**S**		**18 57 18.3**	**+1.9**
GTA					sS		sS		18 57 32.0	+0.2
GTA					SS		**SS**		**19 00 20.3**	**-6.8**
GTA					pmax		pmax				
	comp=Z,13nm,1.0s										
GTA					pmax		pmax				
	comp=Z,160nm,6.9s										
GTA					LR		LR				
	comp=Z,620nm,17.1s										
GTA					LR		LR				
	comp=Z,290nm,17.8s										
GTA					LR		LR				
	comp=Z,310nm,14.7s										
PBRG	**Braganca**	**43.23**	**298**	*eP*			**P**		**18 50 59.6**	**-0.2**
MVO	**Moncorvo**	**43.52**	**297**	*eP*			**P**		**18 51 02.3**	**+0.2**
MVO	**Moncorvo**	**43.52**	**297**	*eP*			**P**		**18 51 02.3**	**+0.2**
PBAR	**Barrancos**	**43.96**	**293**	*eP*			**P**		**18 51 05.2**	**-0.4**
PBAR	**Barrancos**	**43.96**	**293**	*eP*			**P**		**18 51 05.2**	**-0.4**
PVRL	**Vila Real**	**44.02**	**298**	*eP*			**P**		**18 51 06.3**	**+0.2**
PVRL	**Vila Real**	**44.02**	**298**	*eP*			**P**		**18 51 06.3**	**+0.2**
PMRV	**Marv??o**	**44.03**	**295**	*eP*			**P**		**18 51 05.9**	**-0.3**
PMRV	**Marv??o**	**44.03**	**295**	*eP*			**P**		**18 51 05.9**	**-0.3**
PCBR	**Castelo Branco**	**44.03**	**295**	*eP*			**P**		**18 51 06.3**	**+0.1**
PCBR	**Castelo Branco**	**44.03**	**295**	*eP*			**P**		**18 51 06.3**	**+0.1**
POLO	**Lamas de Olo**	**44.07**	**298**	*eP*			**P**		**18 51 05.3**	**-1.3**
PESTR	**Estremoz**	**44.27**	**294**	*eP*			**P**		**18 51 07.8**	**-0.3**
PESTR	**Estremoz**	**44.27**	**294**	*eP*			**P**		**18 51 07.8**	**-0.3**
PGAV	**Gavieira, Arco**	**44.35**	**299**	*eP*			**P**		**18 51 09.4**	**+0.6**
PGAV	**Gavieira, Arco**	**44.35**	**299**	*eP*			**P**		**18 51 09.4**	**+0.6**
ZAK	**Zakamensk**	**44.51**	**49**	*eP*			**P**		**18 51 10.2**	**+0.2**
ZAK				*e*					18 52 51.8		
ZAK					pmax		pmax				
	comp=Z,7.0nm,1.8s										
ZAK					pmax		pmax				
	comp=Z,5.0nm,1.4s										
PVAQ	**Vaqueiros**	**44.63**	**292**	*eP*			**P**		**18 51 10.5**	**-0.5**
PVAQ	**Vaqueiros**	**44.63**	**292**	*eP*			**P**		**18 51 10.5**	**-0.5**
PBEJ	**Beja**	**44.63**	**293**	*eP*			**P**		**18 51 10.8**	**-0.2**
PBEJ	**Beja**	**44.63**	**293**	*eP*			**P**		**18 51 10.8**	**-0.2**
PMTG	**Montargil**	**44.73**	**295**	*eP*			**P**		**18 51 11.9**	**+0.2**
PMTG	**Montargil**	**44.73**	**295**	*eP*			**P**		**18 51 11.9**	**+0.2**
PTOM	**Tomar**	**44.78**	**295**	*eP*			**P**		**18 51 12.4**	**+0.3**
PTOM	**Tomar**	**44.78**	**295**	*eP*			**P**		**18 51 12.4**	**+0.3**
TLY	**Talaya**	**44.78**	**48**		P		**P**		**18 51 15.0**	**+2.9**
	SNR=5.2										
TLY	**Talaya**	**44.78**	**48**	*eP*			**P**		**18 51 14.0**	**+1.9**
TLY					pmax		pmax				
	comp=Z,14nm,1.9s										
PCVE	**Castro Verde**	**44.84**	**292**	*eP*			**P**		**18 51 12.1**	**-0.5**
PCVE	**Castro Verde**	**44.84**	**292**	*eP*			**P**		**18 51 12.1**	**-0.5**
PNCL	**Nicolau / Gran**	**45.13**	**293**	*eP*			**P**		**18 51 14.8**	**-0.1**
PNCL	**Nicolau / Gran**	**45.13**	**293**	*eP*			**P**		**18 51 14.8**	**-0.1**
IRK	**Irkutsk**	**45.20**	**47**	*eP*			**P**		**18 51 16.6**	**+1.3**
IRK					pmax		pmax				
	comp=Z,37nm,2.0s										
PMAFR	**Mafra**	**45.56**	**295**	*eP*			**P**		**18 51 18.5**	**+0.2**
PMAFR	**Mafra**	**45.56**	**295**	*eP*			**P**		**18 51 18.5**	**+0.2**
LZH	**Lanzhou**	**46.40**	**69**	*eP*			**P**		**18 51 26.6**	**+1.4**
LZH					pP		sP		18 51 36.3	-2.1
LZH					sP		pP		18 51 40.6	+6.0
LZH					pmax		pmax				
	comp=Z,39nm,1.1s										
LZH					pmax		pmax				
	comp=Z,170nm,5.3s										
LZH					LR		LR				
	comp=Z,1μm,15.4s										
LZH					LR		LR				
	comp=Z,690nm,12.5s										
LZH					LR		LR				
	comp=Z,2μm,15.8s										
SONM	**Songino Array**	**46.60**	**53**		P		**P**		**18 51 27.3**	**+0.7**
	comp=Z,1.4nm,0.5s,baz=284,slow=5.8,SNR=7.7										
SONM					PcP		**PcP**		**18 53 00.6**	**+0.3**
	comp=Z,0.8nm,0.4s,baz=267,slow=5.3,SNR=3.3										
SONM					LR		LR		19 14 53.2		
	comp=Z,478nm,18.2s,baz=258,slow=41										
SONA1	**Songino Array**	**46.61**	**53**	*eP*			**P**		**18 51 27.4**	**+0.7**
ULN	**Ulaanbaatar**	**47.04**	**53**	*eP*			**P**		**18 51 31.3**	**+1.2**
	comp=Z,19nm,1.1s										
ULN	**Ulaanbaatar**	**47.04**	**53**		P		**P**		**18 51 31.6**	**+1.5**
	SNR=13										
ULN	**Ulaanbaatar**	**47.04**	**53**	*c iP*			**P**		**18 51 31.1**	**+1.0**
ULN					pmax		pmax				
	comp=Z,33nm,1.7s										
SPITS	**Spitsbergen Ar**	**47.56**	**352**		P		**P**		**18 51 33.9**	**+0.3**
	comp=Z,8.4nm,0.7s,baz=138,slow=6.7,SNR=13										
CD2	**Chengdu**	**47.69**	**76**	*eP*			**P**		**18 51 33.8**	**-1.5**
CD2					pP		pP		18 51 44.6	-0.1
CD2					sP		sP		18 51 49.3	+0.8
CD2					PP		**PP**		**18 53 25.5**	**-1.5**
CD2					S		**S**		**18 58 27.8**	**-1.6**
CD2					pmax		pmax				
	comp=Z,10.0nm,0.5s										
CD2					pmax		pmax				
	comp=Z,160nm,5.0s										
CD2					LR		LR				
	comp=Z,650nm,15.9s										
CD2					LR		LR				
	comp=Z,560nm,16.4s										
CD2					LR		LR				
	comp=Z,380nm,13.4s										
CHTO	**Chiang Mai**	**48.24**	**93**		P		**P**		**18 51 39.5**	**-0.1**
	comp=Z,80nm,1.2s										
CHTO	**Chiang Mai**	**48.24**	**93**	*eP*			**P**		**18 51 39.0**	**-0.6**
	comp=Z,16nm,1.0s										
CHTO	**Chiang Mai**	**48.24**	**93**		P		**P**		**18 51 39.8**	**+0.2**
	SNR=13										
CHTO	**Chiang Mai**	**48.24**	**93**	*eP*			**P**		**18 51 39.0**	**-0.6**
CHTO					pmax		pmax				
	comp=Z,16nm,1.0s										
CM31	**Chiang Mai Arr**	**48.41**	**94**	*eP*			**P**		**18 51 40.5**	**-0.4**
CMAR	**Chiang Mai Arr**	**48.41**	**94**		P		**P**		**18 51 40.6**	**-0.2**
	comp=Z,4.5nm,0.7s,baz=292,slow=8.2,SNR=43										
CMAR					PcP		**PcP**		**18 53 06.5**	**-0.4**
	comp=Z,3.6nm,0.8s,baz=288,slow=4.9,SNR=8.6										
CMAR					PP		**PP**		**18 53 34.4**	**+0.8**
	comp=Z,2.0nm,0.9s,baz=300,slow=10.0,SNR=4.3										
CM01	**Chiang Mai Arr**	**48.44**	**94**	*eP*			**P**		**18 51 40.0**	**-1.0**
CM01				*e*	PcP		**PcP**		**18 53 05.7**	**-1.4**
KMI	**Kunming**	**48.82**	**84**		P		**P**		**18 51 44.1**	**-0.1**
KMI					pP		sP		18 51 55.3	-2.2
KMI					sP		pP		18 51 58.8	+5.1
KMI					pmax		pmax				
	comp=Z,17nm,1.2s										
KMI					pmax		pmax				
	comp=Z,99nm,3.3s										
KMI					LR		LR				
	comp=Z,490nm,21.1s										
KMI					LR		LR				
	comp=Z,180nm,19.8s										
KMI					LR		LR				
	comp=Z,320nm,17.4s										
KOWA	**Kowa**	**49.73**	**261**		P		**P**		**18 51 49.9**	**-1.1**
	comp=Z,23nm,0.7s,baz=56,slow=7.6,SNR=64										
KOWA					LR		LR		19 15 46.4		
	comp=Z,416nm,21.5s,baz=52,slow=40										
KOWA	**Kowa**	**49.73**	**261**	*eP*			**P**		**18 51 49.5**	**-1.5**
	comp=Z,24nm,0.8s										
NANT	**Nan**	**49.73**	**92**		P		**P**		**18 51 51.3**	**+0.3**
	comp=Z,8.2nm,1.0s,comp=Z,71nm										
PHIT	**Phitsanulok**	**50.24**	**94**		P		**P**		**18 51 55.4**	**+0.6**
	comp=Z,16nm,1.0s										
BOD	**Bodaibo**	**50.90**	**39**	*eP*			**P**		**18 51 59.0**	**-0.3**
BOD					pmax		pmax				
	comp=Z,27nm,1.9s										
OPO	**Ambohidratompo**	**50.92**	**180**		P		**P**		**18 52 00.9**	**+0.9**
	comp=Z,6.0nm,0.9s,baz=25,slow=5.4,SNR=4.1										
OPO					LR		LR		19 13 08.2		
	comp=Z,667nm,20.9s,baz=5.0,slow=36										
XAN	**Xi'an**	**50.95**	**70**		P		**P**		**18 52 00.5**	**+0.5**
XAN					pP		pP		18 52 07.4	-2.2
XAN					pmax		pmax				
	comp=Z,14nm,1.1s										
XAN					LR		LR				
	comp=Z,510nm,18.2s										
XAN					LR		LR				
	comp=Z,450nm,19.2s										
XAN					LR		LR				
	comp=Z,350nm,17.3s										
LSZ	**Lusaka**	**50.97**	**204**		LR		LR		19 13 45.1		
	comp=Z,373nm,21.2s,baz=38,slow=36										
LSZ	**Lusaka**	**50.97**	**204**	*eP*			**P**		**18 52 00.2**	**-0.2**
	comp=Z,109nm,2.0s										
LSZ	**Lusaka**	**50.97**	**204**	*eP*			**P**		**18 52 00.2**	**-0.2**
LSZ					pmax		pmax				
	comp=Z,109nm,2.0s										
PBKT	**Sadao Pong**	**51.00**	**95**		P		**P**		**18 51 59.6**	**-0.9**
	comp=Z,26nm,1.0s										
HHC	**Hu-ho-hao-te**	**51.26**	**61**	*eP*			**P**		**18 52 03.1**	**+0.7**
HHC					sP		sP		18 52 17.8	+2.1
HHC					PcP		**PcP**		**18 53 19.4**	**+2.2**
HHC					S		**S**		**18 59 18.1**	**-1.1**
HHC					sS		sS		18 59 34.3	-0.6
HHC					pmax		pmax				
	comp=Z,36nm,1.0s										
HHC					pmax		pmax				
	comp=Z,91nm,6.2s										
HHC					LR		LR				
	comp=Z,1μm,14.8s										
HHC					LR		LR				
	comp=Z,1μm,14.8s										
HHC					LR		LR				
	comp=Z,1μm,15.4s										
ABPO	**Ambohimpanom**	**51.37**	**180**	*eP*			**P**		**18 52 03.2**	**-0.1**
	comp=Z,20nm,1.2s										
ABPO	**Ambohimpanom**	**51.37**	**180**	*eP*			**P**		**18 52 03.2**	**-0.1**
ABPO					pmax		pmax				
	comp=Z,20nm,1.2s										
GYA	**Guiyang**	**51.60**	**80**	*eP*			**P**		**18 52 06.0**	**+0.9**
GYA					pmax		pmax				
	comp=Z,10.0nm,1.0s										
PHET	**Kaeng Krachan**	**51.70**	**100**		P		**P**		**18 52 06.2**	**+0.4**
	comp=Z,16nm,0.8s										
BORG	**Borgarnes**	**51.84**	**330**		LR		LR		19 15 49.2		
	comp=Z,138nm,18.2s,baz=30,slow=38										
CHAI	**Chaiyaphum**	**52.17**	**95**		P		**P**		**18 52 09.5**	**+0.1**
	comp=Z,4.3nm,0.8s										
NAYO	**Nakonayok**	**52.40**	**97**		P		**P**		**18 52 11.0**	**0.0**
	comp=Z,89nm,0.9s										
ENH	**Enshi**	**52.58**	**75**	*eP*			**P**		**18 52 12.6**	**+0.3**
	comp=Z,14nm,1.0s										
ENH	**Enshi**	**52.58**	**75**	*eP*			**P**		**18 52 12.6**	**+0.3**
	comp=Z,14nm,1.0s										
SCO	**Scoresbysund**	**52.63**	**337**	*eP*			**P**		**18 52 12.6**	**+0.6**
	comp=Z,26nm,1.7s										
SCO	**Scoresbysund**	**52.63**	**337**	*eP*			**P**		**18 52 12.6**	**+0.6**
SCO					pmax		pmax				
	comp=Z,27nm,1.7s										
DAG	**Danmarks Havn**	**52.98**	**345**	*i* P			**P**		**18 52 13.0**	**-1.5**
	comp=Z,14nm,1.4s										
DAG	**Danmarks Havn**	**52.98**	**345**	*i* P			**P**		**18 52 13.0**	**-1.5**
DAG					pmax		pmax				
	comp=Z,14nm,1.4s										
SKNT	**Sakolnakorn**	**53.34**	**93**		P		**P**		**18 52 16.9**	**-1.1**
	comp=Z,15nm,1.7s										
TRTT	**Trang**	**54.50**	**105**		P		**P**		**18 52 25.6**	**-0.9**
	comp=Z,8.5nm,1.3s										
DBIC	**Dimbokro**	**54.67**	**254**		P		**P**		**18 52 26.4**	**-1.3**
	comp=Z,12nm,0.8s,baz=43,slow=11,SNR=15										
DBIC					LR		LR		19 17 01.3		
	comp=Z,500nm,19.3s,baz=32,slow=37										
DBIC	**Dimbokro**	**54.67**	**254**	*eP*			**P**		**18 52 26.1**	**-1.6**
	comp=Z,16nm,0.9s										
DBIC	**Dimbokro**	**54.67**	**254**	*eP*			**P**		**18 52 26.1**	**-1.6**
DBIC					pmax		pmax				
	comp=Z,16nm,0.9s										
KIC	**Kosan Boka**	**54.76**	**253**	*eP*			**P**		**18 52 26.5**	**-1.8**
	comp=Z,76nm,1.1s										
TIC	**Toumodi**	**54.82**	**254**	*eP*			**P**		**18 52 27.1**	**-1.7**
LIC	**Lamto**	**55.07**	**253**	*eP*			**P**		**18 52 28.8**	**-1.8**
	comp=Z,88nm,0.9s										
KULM	**Kulim**	**56.74**	**107**	*eP*			**P**		**18 52 40.9**	**-1.7**
	comp=Z,22nm,0.9s										
TIXI	**Tiksi**	**56.80**	**22**	*eP*			**P**		**18 52 41.4**	**-0.8**
	comp=Z,7.5nm,0.9s										
TIXI	**Tiksi**	**56.80**	**22**	*ceP*			**P**		**18 52 41.9**	**-0.3**
TIXI					pmax		pmax				
	comp=Z,5.0nm,0.7s										
PSI	**Prapat**	**56.84**	**110**		P		**P**		**18 52 42.8**	**-0.6**
	comp=Z,4.5nm,0.3s,baz=297,slow=5.3,SNR=9.3										
PSI	**Prapat**	**56.84**	**110**	*eP*			**P**		**18 52 43.0**	**-0.4**
	comp=Z,30nm,1.2s										
IPM	**Ipoh**	**57.51**	**107**	*eP*			**P**		**18 52 46.7**	**-1.4**
	comp=Z,27nm,1.0s										
SUMG	**Summit**	**57.89**	**339**	*i* P			**P**		**18 52 50.8**	**+0.4**
	comp=Z,23nm,1.1s										
SUMG	**Summit**	**57.89**	**339**	*eP*			**P**		**18 52 51.1**	**+0.7**
	comp=Z,18nm,1.0s										
SUMG	**Summit**	**57.89**	**339**	*i* P			**P**		**18 52 50.8**	**+0.4**
SUMG					pmax		pmax				
	comp=Z,23nm,1.1s										
YAK	**Yakutsk**	**58.34**	**33**		LR		LR		19 22 18.7		
	comp=Z,353nm,19.2s,baz=268,slow=40										
YAK	**Yakutsk**	**58.34**	**33**	*eP*			**P**		**18 52 51.5**	**-1.6**
YAK				*e**PP			**pP**		**18 53 01.8**	**-1.0**
YAK				*e*					18 53 43.1		
YAK				*e*					18 55 01.1		
YAK				*eS			**S**		**19 00 49.8**	**-3.5**
YAK				*e**SS			sS		19 01 16.5	+7.3
YAK				*e*					19 02 34.3		
YAK				*eSS			**SS**		**19 04 42.6**	**-2.4**
YAK					pmax		pmax				
	comp=Z,10.0nm,1.2s										
YAK					pmax		pmax				
	comp=N,2.0nm,1.5s										
YAK					pmax		pmax				
	comp=Z,23nm,2.2s										
YAK					pmax		pmax				
	comp=N,14nm,2.3s										
YAK					pmax		pmax				
	comp=E,47nm,2.5s										
YAK					smax		smax				
	comp=N,41nm,2.8s										
YAK					smax		smax				
	comp=E,22nm,2.9s										
ZEA	**Zeya**	**58.83**	**43**	*eP*			**P**		**18 52 57.6**	**+0.9**
ZEA					pmax		pmax				
	comp=Z,64nm,1.8s										
NJ2	**Nanjing**	**59.47**	**69**	*eP*			**P**		**18 53 02.6**	**+1.1**
NJ2					pmax		pmax				
	comp=Z,20nm,0.5s										
CN2	**Changchun**	**60.41**	**55**	*eP*			**P**		**18 53 06.8**	**-1.0**
CN2				*es*	P		sP		18 53 21.0	-0.2
CN2				*eS			**S**		**19 01 16.8**	**-3.9**
CN2					pmax		pmax				
	comp=Z,10.0nm,0.9s										
CN2					pmax		pmax				
	comp=Z,200nm,4.0s										
CN2					LR		LR				
	comp=Z,480nm,18.0s										
CN2					LR		LR				
	comp=Z,250nm,18.0s										
CN2					LR		LR				
	comp=Z,310nm,19.0s										
LBTB	**Lobatse**	**60.90**	**202**	*eP*			**P**		**18 53 11.9**	**+0.6**
	comp=Z,21nm,0.9s										
LBTB	**Lobatse**	**60.90**	**202**	*eP*			**P**		**18 53 11.9**	**+0.6**
LBTB					pmax		pmax				
	comp=Z,21nm,0.9s										
MYKOM	**Kota Tinggi**	**61.37**	**108**	*eP*			**P**		**18 53 13.7**	**-0.9**
	comp=Z,23nm,1.3s										
KLR	**Kul'dur**	**62.80**	**47**		LR		LR		19 21 15.7		
	comp=Z,19nm,20.5s,slow=36										
KLR	**Kul'dur**	**62.80**	**47**	*d iP*			**P**		**18 53 23.9**	**+0.1**
MDJ	**Mudanjiang**	**62.96**	**53**		P		**P**		**18 53 25.6**	**+0.7**
MDJ					pmax		pmax				
	comp=Z,8.0nm,1.7s										
MDJ					pmax		pmax				
	comp=Z,120nm,4.5s										
SFJD	**Kangerlussuaq**	**63.32**	**334**		P		**P**		**18 53 26.6**	**-0.3**
	comp=Z,5.4nm,0.5s,baz=105,slow=18,SNR=6.1										
SFJD					LR		LR		19 21 04.1		
	comp=Z,198nm,20.6s,baz=58,slow=36										
TULEG	**Thule**	**64.19**	**346**	*eP*			**P**		**18 53 32.3**	**-0.2**
	comp=Z,15nm,1.2s										
BOSA	**Boshof**	**64.36**	**201**		P		**P**		**18 53 33.5**	**-0.8**
	comp=Z,17nm,0.8s,baz=22,slow=7.5,SNR=16										
BOSA					LR		LR		19 22 48.5		
	comp=Z,332nm,18.9s,baz=34,slow=37										
BOSA	**Boshof**	**64.36**	**201**	*eP*			**P**		**18 53 34.2**	**-0.1**
	comp=Z,27nm,1.0s										
KS01	**Wonju Array Si**	**64.36**	**61**	*eP*			**P**		**18 53 33.5**	**-0.7**
KS15	**Wonju Array Si**	**64.36**	**61**	*eP*			**P**		**18 53 34.4**	**+0.1**
KSAR	**Wonju Array Be**	**64.36**	**61**		P		**P**		**18 53 34.0**	**-0.3**
KSAR	**Wonju Array Be**	**64.36**	**61**		P		**P**		**18 53 34.0**	**-0.3**
KSRS	**Korea Array**	**64.39**	**61**		P		**P**		**18 53 34.0**	**-0.5**
	comp=Z,5.7nm,0.7s,baz=282,slow=7.0,SNR=24										
KSRS					LR		LR		19 26 12.5		
	comp=Z,238nm,18.4s,baz=281,slow=40										
KSRS	**Korea Array**	**64.39**	**61**		P		**P**		**18 53 34.0**	**-0.5**
KSRS					pmax		pmax				
	comp=Z,6.0nm,0.7s										
KSRS					MLR		MLR				
	comp=Z,239nm,18.4s										
YHNB	**Yeheng**	**64.47**	**76**	*eP*			**P**		**18 53 34.6**	**-0.6**
	comp=Z,51nm,0.9s										
SSLB	**Suanglung**	**64.51**	**77**	*eP*			**P**		**18 53 37.0**	**+1.5**
	comp=Z,24nm,1.1s										
USRK	**Ussuriysk Ar.**	**64.72**	**52**		P		**P**		**18 53 35.8**	**-0.7**
	comp=Z,11nm,0.7s,baz=273,slow=5.9,SNR=22										
USRK					LR		LR		19 24 54.9		
	comp=Z,354nm,19.5s,baz=270,slow=39										
MSHR	**Mys Shultsa**	**64.75**	**54**‖	*eP*

COLA	**College**	**82.10**	**6**	*eP*	**P**		**18 55 18.5**	**+0.1**	
COLA				pmax	pmax				
	comp=Z,7.0nm,0.8s								
IL1	**Eielson Array**	**82.29**	**6**	*eP*	**P**		**18 55 18.7**	**-0.8**	
ILAR	**Eielson Array**	**82.29**	**6**	P	**P**		**18 55 19.2**	**-0.3**	
	comp=Z,3.4nm,1.0s,baz=330,slow=3.6,SNR=24								
ILAR				LR	LR		19 37 09.4		
	comp=Z,90nm,19.6s,baz=327,slow=40								
ILB	**Eielson Array**	**82.29**	**6**	*eP*	**P**		**18 55 19.0**	**-0.5**	
CCB	**Clear Creek Bu**	**82.33**	**6**	*eP*	**P**		**18 55 19.7**	**+0.1**	
	comp=Z,16nm,1.8s								
WRH	**Wood River Hil**	**82.47**	**7**	*eP*	**P**		**18 55 20.4**	**-0.1**	
	comp=Z,5.0nm,1.0s								
BPAW	**Bear Paw Mtn.**	**82.53**	**8**	*eP*	**P**		**18 55 21.1**	**+0.4**	
	comp=Z,15nm,1.1s								
EGAK	**Eagle**	**82.69**	**4**	*eP*	**P**		**18 55 22.2**	**+0.7**	
	comp=Z,15nm,1.0s								
CAST	**Castle Rocks**	**83.05**	**9**	*eP*	**P**		**18 55 24.1**	**+0.6**	
	comp=Z,160nm,0.4s								
KTH	**Kantishna Hill**	**83.06**	**8**	*eP*	**P**		**18 55 23.7**	**+0.1**	
	comp=Z,15nm,0.5s								
MCK	**McKinley**	**83.11**	**7**	*eP*	**P**		**18 55 23.9**	**+0.1**	
	comp=Z,14nm,1.2s								
MCK	**McKinley**	**83.11**	**7**	*eP*	**P**		**18 55 23.9**	**+0.1**	
MCK				pmax	pmax				
	comp=Z,14nm,1.2s								
SCRK	**Sand Creek**	**83.31**	**5**	*eP*	**P**		**18 55 25.6**	**+0.6**	
	comp=Z,20nm,1.0s								
FCC	**Fort Churchill**	**83.37**	**341**	*eP*	**P**		**18 55 26.0**	**+0.9**	
	comp=Z,17nm,1.0s								
FCC	**Fort Churchill**	**83.37**	**341**	*eP*	**P**		**18 55 26.0**	**+0.9**	
FCC				pmax	pmax				
	comp=Z,17nm,1.0s								
RND	**Reindeer**	**83.44**	**7**	*eP*	**P**		**18 55 25.1**	**-0.4**	
	comp=Z,6.9nm,0.6s								
RND	**Reindeer**	**83.44**	**7**	*eP*	**P**		**18 55 25.1**	**-0.4**	
RND				pmax	pmax				
	comp=Z,7.0nm,0.6s								
RIDG	**Independ'e Rid**	**83.48**	**5**	*eP*	**P**		**18 55 26.4**	**+0.7**	
	comp=Z,20nm,1.3s								
DAWY	**Dawson**	**83.48**	**3**	*eP*	**P**		**18 55 26.4**	**+0.6**	
	comp=Z,9.1nm,1.1s								
DOT	**Dot Lake**	**83.63**	**5**	*eP*	**P**		**18 55 27.1**	**+0.7**	
	comp=Z,30nm,1.0s								
DOT				*e*pP	**sP**		**18 55 37.3**	**-2.8**	
YKA	**Yellowknife Ar**	**84.06**	**352**	P	**P**		**18 55 28.5**	**-0.1**	
	comp=Z,6.8nm,0.9s,baz=15,slow=5.2,SNR=81								
MENT	**Mentasta**	**84.36**	**5**	*eP*	**P**		**18 55 31.4**	**+1.2**	
	comp=Z,22nm,1.4s								
HARP	**HAARP**	**84.77**	**6**	*eP*	**P**		**18 55 33.6**	**+1.4**	
	comp=Z,23nm,1.1s								
SVW2	**Sparrevohn**	**84.78**	**11**	*eP*	**P**		**18 55 33.2**	**+0.9**	
	comp=Z,17nm,1.5s								
SML	**Sawmill**	**85.06**	**7**	*eP*	**P**		**18 55 30.1**	**-3.6**	
	comp=Z,15nm,1.0s								
SML	**Sawmill**	**85.06**	**7**	*eP*	**P**		**18 55 30.1**	**-3.6**	
SML				pmax	pmax				
	comp=Z,15nm,1.0s								
SUA	**Susitna One**	**85.11**	**8**	*eP*	**P**		**18 55 34.4**	**+0.3**	
	comp=Z,42nm,1.7s								
PMR	**Palmer**	**85.18**	**8**	*eP*	**P**		**18 55 34.8**	**+0.5**	
	comp=Z,18nm,1.3s								
PMR	**Palmer**	**85.18**	**8**	*eP*	**P**		**18 55 34.8**	**+0.5**	
PMR				pmax	pmax				
	comp=Z,18nm,1.3s								
LBNH	**Lisbon**	**85.48**	**321**	P	**P**		**18 55 37.3**	**+1.1**	
	baz=48								
LBNH	**Lisbon**	**85.48**	**321**	*eP*	**P**		**18 55 37.6**	**+1.4**	
	comp=Z,22nm,1.0s								
LBNH	**Lisbon**	**85.48**	**321**	*eP*	**P**		**18 55 37.6**	**+1.4**	
LBNH				pmax	pmax				
	comp=Z,23nm,1.0s								
TRQ	**Mont Tremblant**	**85.48**	**324**	*eP*	**P**		**18 55 37.4**	**+1.2**	
RC01	**Rabbit Creek A**	**85.60**	**8**	*eP*	**P**		**18 55 36.9**	**+0.5**	
	comp=Z,11nm,1.0s								
FRNY	**Flat Rock**	**85.94**	**322**	*eP*	**P**		**18 55 39.0**	**+0.5**	
	comp=Z,20nm,1.2s								
DIV	**Divide**	**85.98**	**6**	*eP*	**P**		**18 55 39.7**	**+1.3**	
	comp=Z,17nm,1.1s								
HNH	**Hanover**	**86.03**	**321**	*eP*	**P**		**18 55 40.2**	**+1.4**	
	comp=Z,18nm,0.9s								
BALM	**Baldy**	**86.34**	**5**	*eP*	**P**		**18 55 41.6**	**+1.4**	
	comp=Z,23nm,1.1s								
BALM	**Baldy**	**86.34**	**5**	*eP*	**P**		**18 55 41.6**	**+1.4**	
BALM				pmax	pmax				
	comp=Z,23nm,1.1s								
LONY	**Lake Ozonia**	**86.61**	**323**	P	**P**		**18 55 42.2**	**+0.5**	
	baz=46								
LONY	**Lake Ozonia**	**86.61**	**323**	*eP*	**P**		**18 55 41.9**	**+0.2**	
	comp=Z,23nm,1.0s								
HYT	**Haines Junctio**	**86.80**	**2**	*eP*	**P**		**18 55 43.0**	**+0.5**	
	comp=Z,23nm,1.2s								
RAGM	**Ragged Mountai**	**86.81**	**6**	*eP*	**P**		**18 55 44.0**	**+1.6**	
	comp=Z,31nm,1.2s								
MBWA	**Marble Bar**	**87.56**	**117**	*eP*	**P**		**18 55 46.3**	**-0.2**	
	comp=Z,26nm,1.5s								
PLVO	**Plevna**	**87.57**	**324**	*eP*	**P**		**18 55 47.0**	**+0.7**	
	comp=Z,12nm,0.8s								
SKAG	**Skagway**	**88.22**	**1**	*eP*	**P**		**18 55 50.7**	**+1.5**	
	comp=Z,11nm,1.0s								
KDAK	**Kodiak Island**	**88.41**	**10**	LR	LR		19 44 24.9		
	comp=Z,83nm,18.0s,baz=349,slow=42								
SADO	**Sadowa**	**88.78**	**325**	*eP*	**P**		**18 55 51.5**	**-0.6**	
	comp=Z,16nm,0.9s								
SADO				*e*			18 56 07.7		
FFC	**Flin Flon**	**89.01**	**343**	*eP*	**P**		**18 55 53.0**	**0.0**	
	comp=Z,14nm,0.9s								
FFC	**Flin Flon**	**89.01**	**343**	*eP*	**P**		**18 55 53.0**	**0.0**	
FFC				pmax	pmax				
	comp=Z,14nm,0.9s								
DLBC	**Dease Lake**	**89.24**	**358**	*eP*	**P**		**18 55 56.0**	**+1.9**	
	comp=Z,25nm,1.3s								
ULM	**Lac du Bonnet**	**91.20**	**337**	P	**P**		**18 56 02.5**	**-0.8**	
	comp=Z,8.1nm,0.8s,baz=53,slow=3.8,SNR=10								
ULM	**Lac du Bonnet**	**91.20**	**337**	*eP*	**P**		**18 56 03.1**	**-0.1**	
ULM	**Lac du Bonnet**	**91.20**	**337**	*eP*	**P**		**18 56 03.2**	**-0.1**	
M54A	**Oil Creek Stat**	**91.43**	**323**	P	**P**		**18 56 04.5**	**-0.1**	
	baz=42								
M54A	**Oil Creek Stat**	**91.43**	**323**	*eP*	**P**		**18 56 05.0**	**+0.4**	
	comp=Z,17nm,0.9s								
E40A	**Wakefield**	**92.23**	**332**	P	**P**		**18 56 08.5**	**+0.3**	
	baz=35								
E39A	**Mellen**	**92.55**	**332**	P	**P**		**18 56 09.4**	**-0.2**	
	baz=35								
A32A	**Rocking H Ranc**	**92.55**	**337**	P	**P**		**18 56 09.2**	**-0.4**	
	baz=30								
EDM	**Edmonton**	**92.82**	**348**	*eP*	**P**		**18 56 11.6**	**+0.8**	
	comp=Z,15nm,1.3s								
EDM	**Edmonton**	**92.82**	**348**	*eP*	**P**		**18 56 11.6**	**+0.8**	
EDM				pmax	pmax				
	comp=Z,15nm,1.3s								
AGMN	**Agassiz Nation**	**92.88**	**336**	P	**P**		**18 56 11.0**	**-0.1**	
	baz=31								
B32A	**Ashes, Strandq**	**93.02**	**337**	P	**P**		**18 56 11.8**	**0.0**	
	baz=30								
G40A	**Rib Lake**	**93.32**	**331**	P	**P**		**18 56 12.8**	**-0.4**	
	baz=35								
F33A	**5 Mile Ranch,**	**95.15**	**335**	P	**P**		**18 56 21.5**	**0.0**	
	baz=30								
PAULI	**Pauline**	**97.53**	**320**	*eP*	Pdif		18 56 33.2	+0.6	
	comp=Z,7.7nm,0.8s								
BG3	**Lake Jocassee**	**98.00**	**321**	*eP*	Pdif		18 56 35.8	+1.0	
	comp=Z,7.4nm,1.0s								
WRA	**Warramunga Arr**	**98.26**	**108**	P	**P**		**18 56 34.9**	**-1.2**	
	comp=Z,1.2nm,0.9s,baz=314,slow=3.9,SNR=5.4								
WRA				PP	**PP**		**19 00 36.2**	**0.0**	
	comp=Z,1.3nm,1.0s,baz=313,slow=7.3,SNR=4.7								
WRA				PKKP	**PKKPbc**		**19 13 07.9**	**+1.0**	
	comp=Z,0.5nm,1.0s,baz=196,slow=0.8,SNR=4.6								
GCMT	**Greycliff**	**99.15**	**344**	*eP*	**Pdif**		**18 56 36.8**	**-3.0**	
ASAR	**Alice Springs**	**99.84**	**112**	P	**Pdif**		**18 56 42.2**	**-0.9**	
	comp=Z,0.7nm,0.8s,baz=313,slow=4.7,SNR=6.0								
ASAR				PP	**PP**		**19 00 47.5**	**-0.8**	
	comp=Z,0.8nm,0.9s,baz=298,slow=6.7,SNR=5.4								
AS01	**Alice Springs**	**99.88**	**112**	*e*Pdif	**Pdif**		**18 56 41.4**	**-1.8**	
LPAZ	**La Paz**	**119.68**	**269**	PKP	**PKPdf**		**19 01 47.8**	**-1.7**	
	comp=Z,1.4nm,0.8s,baz=21,slow=8.0,SNR=3.8								
QSPA	**South Pole Qui**	**122.48**	**180**	PKP	**PKPdf**		**19 01 52.0**	**-0.8**	
	comp=Z,11nm,0.8s,baz=264,slow=1.5,SNR=21								
QSPA	**South Pole Qui**	**122.48**	**180**	*e*PKPdf	**PKPdf**		**19 01 52.4**	**-0.4**	
TRQA	**Tornquist**	**123.19**	**243**	PKIKP	**PKPdf**		**19 01 54.9**	**0.0**	
VNDA	**Vanda**	**126.92**	**166**	PKP	**PKPdf**		**19 02 00.9**	**+0.1**	
	comp=Z,0.8nm,0.8s,baz=282,slow=5.8,SNR=3.9								
VNDA	**Vanda**	**126.92**	**166**	PKIKP	**PKPdf**		**19 02 01.0**	**+0.1**	
VNDA				pmax	pmax				
	comp=Z,1.0nm,0.8s								
LCO	**Las Campanas**	**127.14**	**256**	PKIKP	**PKPdf**		**19 02 03.7**	**+0.6**	
PLCA	**Paso Flores**	**130.28**	**242**	PKP	**PKPdf**		**19 02 07.6**	**-0.9**	
	comp=Z,4.2nm,0.9s,baz=187,slow=5.8,SNR=5.1								

IDC 18 18:46:44.1±1.2, 0.46S×132.06E, h0km, mb3.8/4, mb1 3.8/5, mb1mx3.5/53, mbtmpg3.7/5, ML3.3/1, Error ellipse: s-maj=24.3km s-min=12.3km az=142.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
SIJI	**Sorong**	**0.89**	**243**	Pg	Pg		18 47 01.6	+0.4
	77nm,0.3s,baz=48,slow=13,SNR=25							
SIJI				Lg	Lg		18 47 13.3	
	177nm,0.3s,baz=143,slow=20,SNR=79							
WRA	**Warramunga Arr**	**19.49**	**174**	P	P		18 51 13.3	+0.4
	0.1nm,0.3s,baz=355,slow=12,SNR=4.6							
WRA				S	Sn		18 54 42.1	-11
	0.1nm,0.3s,baz=354,slow=23,SNR=4.6							
ASAR	**Alice Springs**	**23.14**	**176**	P	P		18 51 52.0	-0.1
	1.7nm,0.9s,baz=357,slow=9.4,SNR=5.8							
MKAR	**Makanchi Array**	**64.03**	**324**	P	P		18 57 19.9	+0.1
	0.8nm,0.8s,baz=123,slow=6.7,SNR=4.3							
KURBB	**Kurchatov Arra**	**68.14**	**326**	P	P		18 57 46.0	+0.1
	1.2nm,1.0s,baz=124,slow=6.2,SNR=5.7							
BVAR	**Borovoye Array**	**73.73**	**326**	P	P		18 58 19.7	-0.2
	0.5nm,0.5s,baz=122,slow=7.3,SNR=4.5							

MEX 18 18:58:15.0±0.4, 13.85N×93.09W, h20km±118km, MD3.9, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
CCIG	**Comitan**	**2.59**	**21**	*eP*	Pn		18 58 54.8	-1.1
CCIG				*e*S	Sn		18 59 25.2	-1.7
TGIG		**2.91**	**359**	*eP*	Pn		18 58 57.9	-2.4
TGIG				*e*S	Sn		18 59 31.0	-3.8

ISN 18 18:59:57.6±0.9, 32.45N×47.01E, h0km±3km, ML3.3
CSEM 18 19:00:00.9±0.7, 32.25N×46.89E, h10km, ML3.3, Error ellipse: s-maj=23.6km s-min=9.7km az=12.0
TEH 18 19:00:00.3, 32.49N×47.03E, h7km, ML3.3, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
IKFM	**Kafar-mosalman**	**1.24**	**33**	*e*Pg	Pg		19 00 25.0	+0.9
IKFM				*e*AMB	AMB		19 00 54.4	
	comp=Z,99nm,0.4s							
SHGR	**Shooshtar-Gavs**	**1.54**	**104**	*e*Pg	Pg		19 00 31.7	+1.8
IKOM	**Komasi**	**1.73**	**13**	*e*Pn	Pg		19 00 33.5	0.0
IGHG	**Ghaleghazi**	**1.88**	**348**	*e*Pn	Pg		19 00 36.2	-0.2
IVIS	**Veis**	**2.04**	**356**	*e*Pn	Pb		19 00 37.9	+0.1
ILIN	**Lien**	**2.43**	**359**	*e*Pn	Pb		19 00 43.4	-1.0
SNGE	**Sanandaj**	**2.61**	**6**	*e*Pn	Pb		19 00 48.9	+1.3
KHMZ	**Khomeyn**	**2.76**	**62**	*e*Pn	Pb		19 00 48.6	-1.4
KHMZ				*e*Sg	Sb		19 01 24.0	-0.1
HAGD	**Aghdareh**	**2.92**	**36**	*e*Pn	Pb		19 00 50.4	-2.4
HAGD				*e*AMB	AMB		19 00 57.0	
	comp=Z,99nm,0.1s							
ASAQ	**Ashtian**	**3.24**	**50**	*e*Pn	Pb		19 00 55.4	-2.8
HKZM	**Kohzaman**	**3.28**	**28**	*e*Pn	Pn		19 00 55.5	+3.2
HKZM				*e*AMB	AMB		19 01 49.5	
	comp=Z,99nm,0.4s							
QAM	**Ghamsar**	**3.91**	**70**	*e*Pn	Pn		19 01 04.4	+3.5
QAM				*e*AMB	AMB		19 01 54.8	
	comp=Z,565nm,0.2s							
IKLH	**Kolahrood**	**3.91**	**77**	*e*Pn	Pn		19 01 04.1	+3.1
IKLH				*e*AMB	AMB		19 02 19.8	
	comp=Z,448nm,0.4s							
IGAR	**Gharneh**	**4.24**	**90**	*e*Pn	Pn		19 01 08.0	+2.6
IGAR				*e*AMB	AMB		19 02 01.4	
	comp=Z,413nm,0.1s							
IZEF	**Zefreh**	**4.48**	**83**	*e*Pn	Pn		19 01 11.9	+3.0
IZEF				*e*AMB	AMB		19 02 38.1	
	comp=Z,188nm,0.5s							
IRAM	**Ramesheh**	**4.59**	**97**	*e*Pn	Pn		19 01 13.1	+2.8
IRAM				*e*AMB	AMB		19 02 12.9	
	comp=Z,181nm,0.2s							
IBST	**Bostanabad**	**5.20**	**359**	*e*AMB	AMB		19 03 04.4	
	comp=Z,96nm,0.2s							
RTB	**Rutbah**	**5.69**	**277**	*e*Pn	Pn		19 01 25.0	-0.3
	SNR=4.0							
RTB				*i* Sn	Sn		19 02 30.0	-0.9
	SNR=4.0							
IHRS	**Heris**	**5.82**	**0**	*e*AMB	AMB		19 01 53.9	
	comp=Z,132nm,0.3s							

IDC 18 19:01:03.1±1.2, 1.41N×94.91E, h0km, mb3.9/9, mb1 4.0/11, mb1mx3.7/65, mbtmpg3.8/11, ML3.7/2, Error ellipse: s-maj=45.0km s-min=16.9km az=55.0
NEIC 18 19:01:05.3±0.7, 1.49N×95.12E, h10km, mb4.1/2, Error ellipse: s-maj=15.4km s-min=10.9km az=47.0
ISCJB 18 19:01:06.9±0.5, 1.55N±0.04×95.23E±0.04, h33km, mb3.9/11, Error ellipse: s-maj=6.4km s-min=4.9km az=150.3
DJA 18 19:01:07.6±0.6, 2.2N±2.2×95E±0.8, h10km, M4.6/10, mB6.2/1, mb4.9/6, MLv4.4/10, Mw(mB)5.9/1
ISC 18 19:01:09.3±0.9, 1.56N±0.06×95.23E±0.09, h35km, n33, σ0.99/37, mb3.9/11, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
GSI	**Gunungsitoli**	**2.36**	**96**	P	**Pn**		**19 01 45.0**	**-0.6**
GSI				S	**Sn**		**19 02 13.1**	**-0.2**
TPTI		**2.57**	**49**	P	**Pn**		**19 01 47.3**	**-1.2**
TPTI				S	**Sn**		**19 02 16.6**	**-2.0**
MLSI	**Meulaboh, Aceh**	**2.93**	**24**	P	**Pn**		**19 01 50.9**	**-2.5**
MLSI				S	**Sn**		**19 02 26.1**	**-1.3**
TSI	**Tuntungan**	**3.84**	**60**	P	**Pn**		**19 02 06.2**	**+0.2**
TSI				S	**Sn**		**19 02 50.8**	**+0.8**
PSI	**Prapat**	**3.89**	**72**	Pn	**Pn**		**19 02 07.1**	**+0.3**
	2.5nm,0.3s,baz=274,slow=9.2,SNR=10							
PSI				Sn	**Sn**		**19 02 51.9**	**+0.6**
	4.7nm,0.3s,baz=315,slow=14,SNR=8.3							
LHMI	**Lhok Sumawe**	**4.02**	**25**	P	**Pn**		**19 02 07.8**	**-0.7**
MNSI	**Mandailing Nat**	**4.41**	**100**	P	**Pn**		**19 02 14.0**	**+0.2**
MNSI				S	**Sn**		**19 03 03.2**	**-0.9**
SISI	**Saibi**	**4.81**	**127**	P	**Pn**		**19 02 18.6**	**-0.7**
SISI				S	**Sn**		**19 03 12.1**	**-1.7**
PDSI	**Padang**	**5.78**	**115**	P	**Pn**		**19 02 33.3**	**+0.6**
PPSI	**Pulau Pagai**	**6.43**	**132**	P	**Pn**		**19 02 42.1**	**+0.6**
IPM	**Ipoh**	**6.47**	**63**	*e*Pn	**Pn**		**19 02 42.2**	**+0.1**
	8.0nm,0.4s							
KULM	**Kulim**	**6.55**	**55**	*e*Pn	**Pn**		**19 02 42.9**	**-0.3**
	15nm,0.8s							
KRJI	**Kerinci**	**7.21**	**120**	P	**Pn**		**19 02 51.5**	**-0.9**
MASI	**Maura Aman, Be**	**8.42**	**124**	P	**Pn**		**19 03 09.3**	**+0.3**
MNAI	**Manna**	**9.71**	**127**	P	**Pn**		**19 03 26.7**	**+0.1**
MDSI	**Maura Dua**	**10.77**	**124**	P	**Pn**		**19 03 40.7**	**-0.5**
LWLI	**Liwa**	**10.98**	**127**	P	**Pn**		**19 03 44.2**	**+0.1**
CMAR	**Chiang Mai Arr**	**17.18**	**12**	P	**P**		**19 05 07.9**	**-0.2**
	0.2nm,0.3s,baz=202,slow=11,SNR=15							
H08S2	**Diego Garcia H**	**24.46**	**248**	T	T		19 32 56.8	
	baz=67,slow=75,SNR=16							
H08S3	**Diego Garcia H**	**24.46**	**248**	T	T		19 32 56.8	
	baz=67,slow=75,SNR=15							
H08S1	**Diego Garcia H**	**24.48**	**248**	T	T		19 32 56.8	
	baz=67,slow=75,SNR=24							
LSA	**Lhasa**	**28.25**	**352**	*eP*	**P**		**19 07 02.2**	**+2.4**
	3.8nm,0.6s							
WRA	**Warramunga Arr**	**43.90**	**121**	P	**P**		**19 09 13.5**	**+0.5**
	1.5nm,0.9s,baz=300,slow=8.5,SNR=19							
WRAB	**Tennant Creek**	**43.91**	**121**	*eP*	**P**		**19 09 13.4**	**+0.4**
	2.0nm,1.0s							
ASAR	**Alice Springs**	**45.19**	**126**	P	**P**		**19 09 23.8**	**+0.5**
	0.7nm,0.5s,baz=294,slow=7.7,SNR=15							
MKAR	**Makanchi Array**	**46.44**	**348**	P	**P**		**19 09 32.9**	**+0.2**
	0.7nm,0.6s,baz=163,slow=8.3,SNR=8.3							
SONM	**Songino Array**	**47.09**	**10**	P	**P**		**19 09 38.7**	**+0.8**
	0.5nm,0.3s,baz=196,slow=10.0,SNR=3.3							
KURBB	**Kurchatov Arra**	**50.89**	**346**	P	**P**		**19 10 06.6**	**-0.2**
	0.6nm,0.6s,baz=163,slow=7.6,SNR=3.8							
KURK	**Kurchatov**	**50.96**	**346**	P	**P**		**19 10 06.6**	**-0.7**
ZALV	**Zalesovo Beam**	**52.91**	**352**	P	**P**		**19 10 21.4**	**-0.4**
	1.2nm,0.6s,baz=189,slow=8.8,SNR=5.1							
STKA	**Stephens Creek**	**55.07**	**131**	P	**P**		**19 10 37.9**	**-0.1**
	1.4nm,0.7s,baz=305,slow=7.1,SNR=3.4							
FINES	**FINESS Array B**	**78.77**	**333**	P	**P**		**19 13 06.5**	**-1.7**
	0.6nm,0.7s,baz=100,slow=5.9,SNR=2.4							
ARCES	**ARCESS Array B**	**81.53**	**341**	P	**P**		**19 13 22.1**	**-0.8**
	1.7nm,0.9s,baz=90,slow=6.1,SNR=3.6							

SOME 18 19:04:59.5, 43.55N×82.35E, h20km
NNC 18 19:05:02.1±5.2, 43.73N×82.10E, h0km, mb2.7, mpv2.3, Error ellipse: s-maj=51.4km s-min=11.9km az=128.0
ISC 18 19:04:57.9±2.6, 43.6N±0.1×82.5E±0.1, h2km±18km, n12, σ1.78/22, 3C-6D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
KTMS	**Ketmen**	**1.53**	**267**	*eP*	**Pn**		**19 05 26.9**	**+0.6**
	2.6nm,0.1s							
KTMS				*e*S	**Sn**		**19 05 46.7**	**-0.3**
	12nm,0.1s							
DJR	**Jarkent**	**2.07**	**293**	*eP*	**Pb**		**19 05 35.7**	**-0.5**
	6.9nm,0.3s							
DJR				*e*S	**Sb**		**19 06 02.1**	**-0.4**
	19nm,0.3s							
PDGK	**Podgornoye**	**2.17**	**265**	⇓Pg	**Pn**		**19 05 37.2**	**+2.1**
	1.1nm,0.3s							
PDGK				⇓Lg	Lg		19 06 04.2	
	15nm,0.6s							
SHLS	**Shalkode**	**2.22**	**261**	⇑*i*P	**Pn**		**19 05 34.0**	**-1.7**
	13nm,0.3s							
SHLS				⇓*i*S	**Sn**		**19 05 59.3**	**-4.5**
	78nm,0.4s							
KPKS	**Kokpek**	**2.74**	**269**	*eP*	**Pn**		**19 05 45.0**	**+2.1**
	1.4nm,0.1s							
KPKS				*e*S	**Sn**		**19 06 17.8**	**+1.1**
	14nm,0.4s							
MNBS	**Baschi**	**2.98**	**281**	*eP*	**Pb**		**19 05 50.9**	**-0.8**
	0.6nm,0.1s							
MNBS				*e*S	**Sb**		**19 06 27.9**	**-0.7**
	6.0nm,0.3s							
SATY	**Saty**	**2.99**	**262**	*eP*	**Pb**		**19 05 51.0**	**-1.0**
	1.1nm,0.3s							
SATY				*e*S	**Sb**		**19 06 28.2**	**-0.9**
	9.3nm,0.1s							
MK31	**Makanchi Array**	**3.24**	**358**	⇓Pg	**Pg**		**19 06 00.1**	**+0.2**
	0.3nm,0.3s,baz=179,slow=15,SNR=19							
MK31				⇑Lg	Lg		19 06 38.7	
	5.4nm,0.6s,baz=171,slow=27,SNR=5.7							
MAKZ	**Makanchi**	**3.27**	**354**	⇓Pg	**Pg**		**19 05 59.7**	**-0.8**
	1.9nm,1.1s							
MAKZ				⇑Sn	**Sn**		**19 06 29.5**	**-0.1**
	1.1nm,0.6s							
MAKZ				⇓Lg	Lg		19 06 41.5	
	1.7nm,0.5s							
ARXS	**Arharly**	**3.41**	**283**	*eP*	**Pb**		**19 05 58.4**	**-0.6**
	1.5nm,0.6s							
ARXS				*e*S	**Sb**		**19 06 40.6**	**-0.3**
	5.3nm,0.4s							
KOTS	**Kotyrbulak**	**3.90**	**267**	*eP*	**Pb**		**19 06 07.5**	**-0.1**
	1.0nm,0.3s							
KOTS				*e*S	**Sb**		**19 06 56.5**	**+1.2**
	2.6nm,0.6s							
DGS	**Degeres**	**4.88**	**269**	*eP*	**Pb**		**19 06 25.5**	**+1.4**
	0.6nm,0.3s							
DGS				*e*S	**Sb**		**19 07 27.2**	**+4.0**
	2.1nm,0.4s							

IDC 18 19:07:55.8±0.6, 3.48N×92.70E, h0km, mb4.5/34, mb1 4.5/37, mb1mx4.4/72, mbtmp4.5/37, ML4.5/3, MS3.8/10, Ms1 3.8/10, ms1mx3.4/67, Error ellipse: s-maj=16.2km s-min=11.8km az=34.0
BJI 18 19:07:55.0, 3.06N×92.84E, h29km, mb5.0/66, mB5.0/45, Ms4.4/33, Ms7 4.2/31
ISCJB 18 19:07:55.8±1.1, 3.51N±0.03×92.80E±0.03, h10km±7km, mb4.8/107, MS4.0/18, Error ellipse: s-maj=5.6km s-min=4.1km az=19.4
NEIC 18 19:07:58.0±0.3, 3.59N×92.77E, h10km, mb5.0/32, Error ellipse: s-maj=6.9km s-min=4.4km az=200.0
DJA 18 19:07:59.6±0.4, 3°N±7'×93°E±', h74km±23km, M5.0/12, mb5.1/12, mB5.3/8, MLv5.1/8, Mw(mB)4.8/8
MOS 18 19:07:59.6±0.9, 3.55N×92.83E, h36km, mb5.0/56, Error ellipse: s-maj=8.9km s-min=5.1km az=101.4
ISC 18 19:08:00.3±0.6, 3.54N±0.05×92.80E±0.05, h29km±3km, n297, σ1.48/317, mb4.8/115, MS4.0/18, 10C-17D, Off west coast of northern Sumatera

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

VIS Vishakhapatnam 16.87 327 *e*P Pn 19 11 52.2 -2.4
VIS IAmb IAmb 19 11 57.2
comp=Z,103nm,1.5s
VIS *i* x x 19 14 54.0
SKNT Sakolnakorn 17.29 39 P **Pn 19 11 58.4 -1.4**
comp=Z,52nm,1.2s
CMAI Chiengmai2 17.40 20 P **P 19 12 04.2 +1.8**
comp=Z,348nm,1.2s,comp=Z,17µm
KSM Kuching 17.61 96 *e*Pn **P 19 12 06.1 +1.4**
comp=Z,37nm,1.0s
LEM Lembang 18.03 125 LR LR 19 18 40.0
comp=Z,225nm,21.5s,baz=282,slow=36
SBUM Sibu 19.43 93 *e*P **Pn 19 12 27.7 +1.8**
comp=Z,31nm,1.2s
HYB Hyderabad 19.63 316 *i* P **P 19 12 27.0 +0.2**
HYB *e*S **S 19 15 59.0 -7.9**
HYB Hyderabad 19.63 316 *e*P **P 19 12 24.6 -2.3**
HYB IAmb IAmb 19 12 28.0
comp=Z,9.9nm,0.8s
AGT Agartala 20.28 356 *e*P **P 19 12 32.9 -0.9**
IMP Imphal 21.20 3 *e*P **P 19 12 43.3 -0.5**
BOK Bokaro 21.21 342 *e*P **P 19 12 45.3 +1.3**
BOK IAmb IAmb 19 12 45.5
comp=Z,462nm,2.0s
SHL Shillong 21.92 358 *e*P **P 19 12 51.2 -0.4**
SHL IAmb IAmb 19 12 55.7
comp=Z,156nm,0.9s
TURI Tura 22.01 354 *e*P **P 19 12 51.5 -1.0**
NGP Nagpur 22.03 324 *e*P **P 19 12 52.9 +0.2**
NGP IAmb IAmb 19 12 55.6
comp=Z,6µm,6.7s
KOHI KOHIMA 22.09 3 *e*P **P 19 12 53.0 -0.5**
GOA Goa 22.13 304 *e*P **P 19 12 54.1 +0.3**
GUWA GUWAHATI 22.55 357 *e*P **P 19 12 56.7 -1.5**
MOKO MOKOCHONG 22.71 4 *e*P **P 19 12 59.5 -0.6**
TEZP TEZPUR 22.95 0 *e*P **P 19 13 01.7 -0.7**
JORH JORHAT 23.11 3 *e*P **P 19 13 01.9 -2.2**
KMI Kunming 23.50 23 P **P 19 13 09.5 +1.3**
KMI pP pP 19 13 16.0 -0.4
KMI sP sP 19 13 19.0 -1.0
KMI pmax pmax
comp=Z,41nm,1.6s
KMI pmax pmax
comp=Z,320nm,5.6s
KMI LR LR
comp=Z,410nm,13.9s
KMI LR LR
comp=Z,350nm,13.1s
KMI LR LR
comp=Z,260nm,13.9s
ODAN Odare 23.76 348 *e*P **P 19 13 11.4 +0.7**
comp=Z,277nm,1.4s
GTK Tadong 23.98 351 *e*P **P 19 13 13.2 +0.5**
RAMN Ramite 24.02 346 *e*P **P 19 13 14.3 +1.1**
comp=Z,128nm,1.0s
BHPL Bhopal 24.59 324 *e*P **P 19 13 15.7 -2.5**
BHPL IAmb IAmb 19 13 20.3
comp=Z,8.3nm,0.8s
JIRN Jiri 24.80 346 *e*P **P 19 13 21.2 +0.8**
PKIN Phulchoki 24.93 344 *e*P **P 19 13 21.7 +0.3**
comp=Z,110nm,1.3s
DMN Daman 25.04 344 *e*P **P 19 13 22.9 +0.5**
comp=Z,72nm,0.9s
GUN Gumba 25.12 345 *e*P **P 19 13 24.0 +0.7**
comp=Z,104nm,0.9s
KKN Kakani 25.16 344 *e*P **P 19 13 23.9 +0.4**
comp=Z,106nm,1.2s
GKN Gorkha 25.54 343 *e*P **P 19 13 27.4 +0.5**
comp=Z,169nm,1.1s
KOLN Koldanda 25.64 341 *e*P **P 19 13 28.8 +0.9**
comp=Z,41nm,0.8s
MYLDM Lahad Datu 25.68 85 *e*P **P 19 13 29.4 +1.2**
comp=Z,50nm,1.2s
LSA Lhasa 26.07 357 *e*P **P 19 13 33.2 +1.3**
comp=Z,60nm,0.7s
LSA Lhasa 26.07 357 *e*P **P 19 13 33.3 +1.3**
LSA pmax pmax
comp=Z,60nm,0.7s
PYUN Piuthan 26.15 340 *e*P **P 19 13 33.2 +0.7**
comp=Z,83nm,1.0s
GYA Guiyang 26.38 29⇑ *i*P **P 19 13 35.4 +0.9**
GYA pP sP 19 13 44.3 -2.2
GYA PP **PnPn 19 14 19.5 +4.8**
GYA PcP **PcP 19 17 02.6 +2.7**
GYA S **S 19 18 04.9 -1.3**
GYA sS sS 19 18 17.6 -2.6
GYA pmax pmax
comp=Z,20nm,0.8s
GYA pmax pmax
comp=Z,120nm,5.2s
GYA LR LR
comp=Z,540nm,17.0s
GYA LR LR
comp=Z,510nm,17.2s
GYA LR LR
comp=Z,520nm,17.4s
CD2 Chengdu 29.12 20⇓ P **P 19 13 59.1 +0.2**
CD2 pP pP 19 14 07.6 +0.2
CD2 sP sP 19 14 11.5 +0.6
CD2 S **S 19 18 49.3 +0.1**
CD2 sS sS 19 19 03.9 +0.7
CD2 pmax pmax
comp=Z,120nm,0.7s
CD2 pmax pmax
comp=Z,120nm,5.0s
CD2 LR LR
comp=Z,380nm,8.4s
CD2 LR LR
comp=Z,390nm,8.0s
CD2 LR LR
comp=Z,310nm,9.3s
ENH Enshi 30.92 29 *e*P **P 19 14 14.3 -0.5**
comp=Z,23nm,1.0s
SMLA Simla 31.15 333 *e*P **P 19 14 17.7 +1.0**
SMLA IAmb IAmb 19 14 19.0
comp=Z,39nm,0.2s
DHRM DHARAMSHALA 32.49 333 *e*P **P 19 14 26.6 -2.2**
DHRM IAmb IAmb 19 14 28.9
comp=Z,57nm,1.8s
WHN Wuhan 33.71 35⇑ P **P 19 14 40.4 +1.3**
XAN Xi'an 33.86 24 P **P 19 14 40.3 -0.2**
XAN pP pP 19 14 48.0 -1.1
XAN pmax pmax
comp=Z,76nm,0.9s
XAN LR LR
comp=Z,210nm,16.3s
XAN LR LR
comp=Z,280nm,11.5s
XAN LR LR
comp=Z,340nm,11.5s
LZH Lanzhou 33.96 16 *e*P **P 19 14 42.3 +0.8**
LZH pP pP 19 14 50.3 +0.3
LZH sP sP 19 14 53.4 -0.2
LZH SS SS 19 22 13.3 -19
LZH pmax pmax
comp=Z,49nm,1.2s
LZH pmax pmax
comp=Z,170nm,4.6s
LZH LR LR
comp=Z,350nm,12.5s
LZH LR LR
comp=Z,470nm,13.9s
LZH LR LR
comp=Z,570nm,19.2s
NIL Nilore 35.07 331 *e*P **P 19 14 51.2 +0.2**
comp=Z,33nm,0.8s
NIL Nilore 35.07 331 *e*P **P 19 14 51.2 +0.2**
NIL pmax pmax
comp=Z,33nm,0.8s
GTA Gaotai 36.27 9 *e*P **P 19 15 02.1 +0.8**
GTA pP pP 19 15 09.5 -0.4
GTA sP sP 19 15 12.4 -1.1
GTA S **S 19 20 40.1 -0.2**
GTA pmax pmax
comp=Z,26nm,0.8s
GTA pmax pmax
comp=Z,120nm,5.7s
GTA LR LR
comp=Z,140nm,17.6s
GTA LR LR
comp=Z,140nm,16.6s
GTA LR LR
comp=Z,170nm,14.5s
NJ2 Nanjing 37.46 38 *e*P **P 19 15 11.5 +0.1**
NJ2 pmax pmax
comp=Z,17nm,0.5s

WSAR Wadi Sarin 38.40 304 LR LR 19 30 31.3
comp=Z,136nm,18.8s,baz=128,slow=35
FITZ Fitzroy Crossi 38.86 125 P **P 19 15 23.1 -0.3**
comp=Z,1.5nm,0.8s,baz=347,slow=1.2,SNR=5.3
KSH Kashi 38.93 339 P **P 19 15 22.6 -1.2**
KSH sP sP 19 15 34.4 -1.6
KSH PP **PnPn 19 16 55.1 -0.8**
KSH PcP **PcP 19 17 34.4 +0.2**
KSH S **S 19 21 16.3 -4.4**
KSH pmax pmax
comp=Z,16nm,1.2s
KSH LR LR
comp=Z,240nm,6.2s
KSH LR LR
comp=Z,340nm,9.4s
KSH LR LR
comp=Z,430nm,6.1s
TIA Tai'an 39.50 32 P **P 19 15 29.3 +0.8**
TIA pmax pmax
comp=Z,13nm,1.7s
BTO Baotou 40.04 21 *e*P **P 19 15 32.6 -0.4**
WMQ Urumqi 40.37 354 P **P 19 15 36.9 +1.2**
WMQ pP sP 19 15 45.1 -2.7
WMQ sP pP 19 15 51.8 +7.5
WMQ pmax pmax
comp=Z,44nm,0.9s
WMQ pmax pmax
comp=Z,500nm,3.7s
WMQ LR LR
comp=Z,170nm,19.5s
WMQ LR LR
comp=Z,220nm,21.1s
WMQ LR LR
comp=Z,160nm,24.1s
HHC Hu-ho-hao-te 40.81 22 *e*P **P 19 15 40.8 +1.4**
HHC PP **PnPn 19 17 17.3 -0.8**
HHC S **S 19 21 47.3 -1.4**
HHC sS sS 19 22 09.6 +6.6
HHC pmax pmax
comp=Z,31nm,1.0s
HHC pmax pmax
comp=Z,80nm,5.8s
HHC LR LR
comp=Z,1µm,14.2s
HHC LR LR
comp=Z,1µm,14.0s
HHC LR LR
comp=Z,1µm,13.9s
KDJ Kajisay 40.88 342 *e*P **P 19 15 40.8 +0.7**
comp=Z,20nm,1.0s
JOW Kunigami 41.08 52 P **P 19 15 42.8 +1.1**
comp=Z,20nm,0.7s,baz=48,slow=6.1,SNR=3.7
ULHL Ulahol 41.28 341 P **P 19 15 43.9 +0.5**
SNR=18
PDGK Podgornoye 41.35 345 P **P 19 15 44.6 +0.8**
PDGK pmax pmax
comp=Z,16nm,0.9s
KZA Kyzart 41.46 340 P **P 19 15 46.2 +1.1**
SNR=12
UCH Uchtor 41.84 340 P **P 19 15 48.5 +0.2**
SNR=18
BJT Baijiatuau 42.02 27 *e*P **P 19 15 51.2 +2.0**
comp=Z,42nm,1.3s
BJT Baijiatuau 42.02 27 *e*P **P 19 15 51.2 +2.0**
BJT pmax pmax
comp=Z,42nm,1.3s
BJI Beijing 42.04 27 P **P 19 15 51.1 +1.7**
BJI pmax pmax
comp=Z,35nm,1.0s
BJI Beijing 42.04 27 P **P 19 15 50.6 +1.2**
BJI pmax pmax
comp=Z,50nm,0.8s
AML Almayashu 42.05 339 P **P 19 15 50.9 +0.9**
SNR=30
KBK Karagaybulak 42.07 340 P **P 19 15 51.1 +1.2**
SNR=22
TKM2 Tokmak 2 42.10 341 P **P 19 15 50.4 +0.3**
SNR=15
TKM2 Tokmak 2 42.10 341 P **P 19 15 50.5 +0.4**
TKM2 pmax pmax
comp=Z,10.0nm,1.2s
AAK Ala-Archa 42.21 340 P **P 19 15 52.0 +1.0**
SNR=7.8
AAK Ala-Archa 42.21 340 *e*P **P 19 15 51.9 +1.0**
comp=Z,9.2nm,1.0s
AAK Ala-Archa 42.21 340⇓ *e*P **P 19 15 50.7 -0.3**
AAK pmax pmax
comp=Z,6.0nm,1.2s
EKS2 Erkin-Say 42.48 339 P **P 19 15 54.1 +1.0**
SNR=19
USP Ospenovka 42.77 340 P **P 19 15 56.0 +0.7**
SNR=11
MK01 Makanchi Array 44.02 350 *e*P **P 19 16 05.7 +0.3**
MK31 Makanchi Array 44.04 350 *e*P **P 19 16 06.0 +0.4**
MK31 Makanchi Array 44.04 350 *e*P **P 19 16 06.0 +0.4**
MKAR Makanchi Array 44.04 350 P **P 19 16 06.0 +0.5**
comp=Z,28nm,0.8s,baz=168,slow=8.6,SNR=244
MKAR LR LR 19 36 55.7
comp=Z,105nm,21.9s,baz=174,slow=40
MKAR Makanchi Array 44.04 350 *e*P **P 19 16 06.0 +0.5**
comp=Z,135nm,0.8s
KK31 Karatay Array 44.09 336 *e*P **P 19 16 06.4 +0.4**
KK31 Karatay Array 44.09 336 *e*P **P 19 16 06.4 +0.4**
KKAR Karatay Array 44.09 336 *e*P **P 19 16 06.4 +0.4**
KKAR Karatay Array 44.09 336 *e*P **P 19 16 06.4 +0.4**
MAKZ Makanchi 44.11 349 *e*P **P 19 16 06.1 0.0**
comp=Z,17nm,0.8s
MAKZ Makanchi 44.11 349 *e*P **P 19 16 06.1 0.0**
MAKZ pmax pmax
comp=Z,17nm,0.8s
SONM Songino Array 45.66 13 P **P 19 16 19.3 +0.8**
comp=Z,9.6nm,0.8s,baz=199,slow=8.6,SNR=25
SONM PcP **PcP 19 17 56.9 +0.6**
comp=Z,3.3nm,0.8s,baz=180,slow=4.9,SNR=4.2
SONM LR LR 19 37 08.1
comp=Z,140nm,20.8s,baz=248,slow=38
SONA1 Songino Array 45.67 13 *e*P **P 19 16 18.4 -0.2**
ULN Ulaanbaatar 45.84 13 *e*P **P 19 16 20.5 +0.5**
comp=Z,6.3nm,0.9s
ULN Ulaanbaatar 45.84 13 *d i*P **P 19 16 20.2 +0.3**
ULN pmax pmax
comp=Z,20nm,2.5s
JNU Nakatsue 46.16 46 P **P 19 16 23.2 +0.6**
comp=Z,11nm,0.8s,baz=327,slow=2.1,SNR=6.9
DGZ Jazzator, Alta 46.22 355 *i* P **P 19 16 24.0 +1.1**
DGZ pmax pmax
comp=Z,10.0nm,1.1s
KSAR Wonju Array Be 46.59 39 P **P 19 16 26.4 +0.5**
KSAR Wonju Array Be 46.59 39 P **P 19 16 26.4 +0.5**
KS01 Wonju Array Si 46.62 39 *e*P **P 19 16 25.8 -0.3**
KSRS Korea Array 46.62 39 P **P 19 16 26.4 +0.2**
comp=Z,4.6nm,1.0s,baz=216,slow=9.7,SNR=9.4
WRA Warramunga Arr 47.00 121 P **P 19 16 28.9 -0.5**
comp=Z,1.4nm,0.6s,baz=298,slow=8.9,SNR=21
WRA Warramunga Arr 47.00 121 P **P 19 16 28.9 -0.5**
WRA pmax pmax
comp=Z,2.0nm,0.6s
WRAB Tennant Creek 47.01 121⇓ *e*P **P 19 16 29.1 -0.3**
WRAB pmax pmax
comp=Z,16nm,2.5s
HVS Khovu-Aksy 47.44 1⇓ *e*P **P 19 16 32.7 +0.3**
HVS pmax pmax
comp=Z,23nm,0.7s
ZAK Zakamensk 47.51 9 *e*P **P 19 16 33.1 +0.1**
ZAK pmax pmax
comp=Z,8.0nm,1.0s
OTUK Ortayu 47.88 342 P **P 19 16 35.5 -0.3**
OTUK pmax pmax
comp=Z,21nm,0.6s
ASAR Alice Springs 48.31 126 P **P 19 16 39.4 -0.2**
comp=Z,0.7nm,0.8s,baz=296,slow=8.0,SNR=9.7
KURBB Kurchatov Arra 48.44 348 P **P 19 16 40.5 +0.5**
comp=Z,16nm,0.9s,baz=171,slow=7.1,SNR=106
KURBB PcP **PcP 19 18 06.5 +0.6**
comp=Z,1.3nm,0.8s,baz=165,slow=4.7,SNR=4.2
KURK Kurchatov 48.51 348 *e*P **P 19 16 41.0 +0.5**
comp=Z,34nm,1.1s
KURK PcP **PcP 19 18 06.5 +0.3**
KURK Kurchatov 48.51 348 *d i*P **P 19 16 40.8 +0.3**
KURK pmax pmax
comp=Z,50nm,1.7s
TLY Talaya 48.83 9 P **P 19 16 44.4 +1.4**
comp=Z,7.0nm,0.8s,baz=191,slow=5.4,SNR=7.2
TLY Talaya 48.83 9 *e*P **P 19 16 42.0 -1.0**
comp=Z,8.6nm,0.8s
CN2 Changchun 49.40 31 *e*P **P 19 16 45.6 -1.9**

CN2 *e*PP **PP 19 18 39.8 -2.0**
CN2 *e*S **S 19 23 48.5 -4.2**
CN2 pmax pmax
comp=Z,10.0nm,1.1s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=Z,100nm,17.0s
CN2 LR LR
comp=Z,100nm,17.0s
CN2 LR LR
comp=Z,100nm,18.0s
IRK Irkutsk 49.47 9 *e*P **P 19 16 48.7 +0.8**
IRK pmax pmax
comp=Z,29nm,2.2s
RAYN Ar Rayn 49.78 298 *e*P **P 19 16 51.9 +1.1**
comp=Z,6.3nm,1.0s
OPO Ambohidratompo 49.99 242 LR LR 19 35 06.6
comp=Z,111nm,19.4s,baz=14,slow=33
ATD Arta Tunnel 50.09 282 LR LR 19 34 33.2
comp=Z,75nm,19.7s,baz=105,slow=32
ZAA0 Zalesovo Array 50.67 354 *e*P **P 19 16 57.7 +0.7**
comp=Z,55nm,1.4s
ZALV Zalesovo Beam 50.67 354 P **P 19 16 57.6 +0.7**
comp=Z,11nm,0.6s,baz=184,slow=7.5,SNR=66
ZALV LR LR 19 40 58.3
comp=Z,64nm,20.5s,baz=250,slow=39
ZALV Zalesovo Beam 50.67 354 P **P 19 16 57.6 +0.7**
ZALV pmax pmax
comp=Z,16nm,0.7s
ZALV MLR MLR
comp=Z,64nm,20.5s
HIA Hailar 51.01 22 *d i*P **P 19 17 00.3 +0.6**
HIA pmax pmax
comp=Z,20nm,1.0s
INU Inuyama 51.68 47 *e*P **P 19 17 05.1 +0.2**
comp=Z,26nm,1.0s
NVS Novosibirsk 51.73 353⇑ *i*P **P 19 17 05.4 +0.5**
NVS pmax pmax
comp=N,18nm,1.1s
NVS pmax pmax
comp=Z,27nm,1.1s
NVS pmax pmax
comp=E,6.0nm,1.0s
MDJ Mudanjiang 52.14 33 P **P 19 17 07.3 -0.8**
MDJ pmax pmax
comp=E,13nm,1.2s
MDJ pmax pmax
comp=E,110nm,7.1s
KRAR Krasnoyarsk 52.32 0⇓ *e*P **P 19 17 10.2 +1.0**
GUMO Guam 52.35 76 LR LR 19 39 18.7
comp=E,57nm,20.9s,baz=310,slow=36
VLA Vladivostok 52.48 36⇓ *e*P **P 19 17 08.9 -1.8**
VLA pmax pmax
comp=Z,20nm,1.0s
BVAR Borovoye Array 52.68 343 P **P 19 17 12.0 0.0**
comp=Z,11nm,0.8s,baz=152,slow=7.8,SNR=39
BVAR Borovoye Array 52.68 343 P **P 19 17 12.0 0.0**
BVAR pmax pmax
comp=Z,11nm,0.8s
BRVK Borovoye 52.74 343 *e*P **P 19 17 12.5 +0.1**
comp=Z,14nm,1.0s
BRVK Borovoye 52.74 343 *de*P **P 19 17 11.9 -0.5**
BRVK pmax pmax
comp=Z,19nm,1.2s
MAJO Matsushiro 53.09 46⇓ *e*P **P 19 17 15.8 +0.5**
MAJO pmax pmax
comp=Z,5.0nm,0.8s
MAT Matsushiro 53.09 46 P **P 19 17 15.6 +0.3**
MJAR Matsushiro Arr 53.09 46 P **P 19 17 16.4 +1.0**
comp=Z,1.8nm,0.7s,baz=236,slow=6.7,SNR=7.4
MJAR PcP **PcP 19 18 24.3 +0.7**
comp=Z,3.6nm,0.8s,baz=246,slow=4.9,SNR=8.0
USRK Ussuriysk Ar. 53.20 35 P **P 19 17 16.8 +0.8**
comp=Z,2.4nm,0.7s,baz=248,slow=10,SNR=5.0
AB31 Akbulak array 53.44 334 P **P 19 17 16.7 -0.9**
AB31 pmax pmax
comp=Z,8.0nm,0.8s
ABKAR Akbulak array 53.44 334 *e*P **P 19 17 17.4 -0.3**
comp=Z,9.1nm,0.8s
AKTO Aktyubinsk 55.15 334 P **P 19 17 29.8 -0.3**
comp=Z,4.5nm,0.9s,baz=132,slow=7.7,SNR=9.7
KLR Kul'dur 56.28 30 P **P 19 17 39.2 +1.0**
comp=Z,0.6nm,0.9s,baz=266,slow=8.4,SNR=17
KLR Kul'dur 56.28 30 *d i*P **P 19 17 38.8 +0.6**
GNI Garni 56.58 317 *ce*P **P 19 17 41.8 +1.0**
GNI pmax pmax
comp=Z,34nm,1.2s
BOD Bodaibo 56.65 13 *e*P **P 19 17 40.9 +0.2**
BOD pmax pmax
comp=Z,28nm,1.4s
ZEA Zeya 57.44 24 *e*P **P 19 17 47.0 +0.7**
ZEA pmax pmax
comp=Z,23nm,1.0s
STKA Stephens Creek 58.19 131 P **P 19 17 52.5 +0.4**
comp=Z,3.4nm,0.9s,baz=314,slow=10.0,SNR=6.4
ZEI Tsey 58.36 319 *e*P **P 19 17 51.7 -1.6**
ZEI pmax pmax
comp=Z,6.0nm,0.9s
NCK Nalchik 58.89 320⇓ *e*P **P 19 17 57.6 +0.8**
NCK pmax pmax
comp=Z,6.0nm,1.0s
SVE Sverdlovsk 58.95 340 *e*P **P 19 17 56.3 -0.6**
SVE pmax pmax
comp=Z,26nm,1.3s
NEY Neytrino 59.34 319⇓ *e*P **P 19 17 58.9 -1.2**
NEY pmax pmax
comp=Z,1.0nm,0.8s
ARU Arti 59.37 339 P **P 19 17 59.4 -0.4**
comp=Z,2.8nm,0.7s,baz=149,slow=3.1,SNR=10
ARU Arti 59.37 339 *e*P **P 19 17 58.9 -0.9**
comp=Z,12nm,1.1s
ARU Arti 59.37 339 *d i*P **P 19 17 58.8 -1.0**
ARU 19 18 45.8
ARU 19 20 11.6
ARU S **S 19 26 05.8 -0.8**
ARU 19 27 48.9
ARU SS **SS 19 30 09.0 +7.1**
ARU pmax pmax
comp=Z,20nm,1.7s
KBZ Khabaz 59.45 320 P **P 19 18 00.9 +0.4**
comp=Z,6.4nm,0.9s,baz=142,slow=6.0,SNR=15
KBZ Khabaz 59.45 320 P **P 19 18 01.0 +0.4**
KBZ pmax pmax
comp=Z,6.0nm,0.9s
ASAJ Asahikawa 59.57 40 P **P 19 18 02.4 +1.0**
comp=Z,4.6nm,0.8s,baz=263,slow=7.2,SNR=17
GRNR Gornyy 59.59 31 *e*P **P 19 18 01.2 -0.3**
GRNR pmax pmax
comp=Z,26nm,1.0s
KIV Kislovodsk 59.69 320 *e*P **P 19 18 02.7 +0.4**
comp=Z,14nm,1.0s
KIV Kislovodsk 59.69 320 *e*P **P 19 18 02.6 +0.2**
KIV pmax pmax
comp=Z,14nm,1.0s
YSS Yuzh-Sakhalins 61.02 37 *e*P **P 19 18 12.2 +0.9**
comp=Z,11nm,1.0s
YSS Yuzh-Sakhalins 61.02 37⇑ *e*P **P 19 18 12.3 +1.1**
YSS pmax pmax
comp=Z,10.0nm,1.1s
ANN Anapa 63.45 319 *e*P **P 19 18 25.5 -2.1**
ANN *e*S **S 19 26 55.3 -3.5**
ANN pmax pmax
comp=Z,47nm,1.5s
VRH Novokhopyorsk 63.76 327 *e*P **P 19 18 28.0 -1.5**
VRH pmax pmax
comp=Z,10.0nm,0.9s
BRTR Keskin Array B 64.30 313 P **P 19 18 32.6 -0.9**
comp=Z,1.9nm,0.8s,baz=150,slow=5.3,SNR=6.3
BRTR Keskin Array B 64.30 313 P **P 19 18 32.6 -0.9**
BRTR pmax pmax
comp=Z,1.0nm,0.7s
YAK Yakutsk 64.50 18 P **P 19 18 34.5 +0.3**
comp=Z,10nm,0.4s,baz=300,slow=2.0,SNR=15
YAK Yakutsk 64.50 18 *e*P **P 19 18 34.4 +0.3**
comp=Z,64nm,1.1s
YAK Yakutsk 64.50 18 *e*P **P 19 18 33.7 -0.5**
YAK *e**PP **sP 19 18 44.2 -2.5**
YAK *e* 19 19 12.2
YAK *e* 19 20 55.8
YAK *e*S **S 19 27 10.1 -1.1**
YAK *e**SS **sS 19 27 29.1 +2.9**
YAK *e* 19 28 22.4
YAK *e*SS **SS 19 31 27.0 +5.1**
YAK *e*SSS SSS 19 34 11.1
YAK pmax pmax

comp=Z,40nm,1.0s
YAK pmax pmax
comp=N,6.0nm,0.9s
YAK pmax pmax
comp=E,12nm,1.2s
YAK pmax pmax
comp=Z,61nm,4.1s
YAK pmax pmax
comp=N,25nm,3.3s
YAK pmax pmax
comp=E,32nm,3.9s
YAK smax smax
comp=N,31nm,3.2s
YAK smax smax
comp=E,21nm,3.3s
VSR Storozhevoye 65.17 326 *e*P **P 19 18 36.6 -2.1**
VSR pmax pmax
comp=Z,8.0nm,0.7s
OBN Obninsk 68.35 329⇑ *e*P **P 19 18 58.5 -0.4**
OBN *e* 19 19 26.5
OBN pmax pmax
comp=Z,22nm,1.7s
OBN MLR MLR
comp=Z,63nm,12.0s
KLMR Klimovskoe 69.78 335 *e*P **P 19 19 05.1 -2.6**
KLMR AMP 19 19 07.3
comp=Z,8.0nm,1.4s
KLMR Klimovskoe 69.78 335 *e*P **P 19 19 05.0 -2.6**
KLMR pmax pmax
comp=Z,8.0nm,1.4s
SKR Severo-Kuril's 70.58 37⇑ *e*P **P 19 19 13.9 +1.1**
AKASG Malin Array Be 70.74 323 P **P 19 19 12.9 -0.8**
comp=Z,3.5nm,0.7s,baz=87,slow=4.9,SNR=19
AKASG Malin Array Be 70.74 323 P **P 19 19 13.0 -0.8**
AKASG pmax pmax
comp=Z,4.0nm,0.7s
MLR Muntele Rosu 71.36 317 *e*P **P 19 19 18.9 +1.0**
comp=Z,17nm,0.9s
MLR Muntele Rosu 71.36 317 *e*P **P 19 19 18.9 +1.0**
MLR pmax pmax
comp=Z,17nm,0.9s
TIXI Tiksi 71.72 11 P **P 19 19 19.2 -0.1**
comp=Z,28nm,0.7s,baz=244,slow=4.2,SNR=135
TIXI Tiksi 71.72 11 *e*P **P 19 19 18.4 -0.8**
comp=Z,32nm,0.8s
TIXI Tiksi 71.72 11 *d i*P **P 19 19 18.7 -0.6**
TIXI pmax pmax
comp=Z,70nm,1.7s
BOSA Boshof 72.18 239 P **P 19 19 22.9 -0.2**
comp=Z,2.7nm,0.6s,baz=60,slow=3.7,SNR=7.7
BUR04 Bucovina Ar. S 72.38 319 *e*P **P 19 19 24.5 +0.6**
BUR08 Bucovina Ar. S 72.40 319 *e*P **P 19 19 25.0 +1.0**
SEY Seymchan 73.40 24 P **P 19 19 29.0 -0.5**
comp=Z,5.7nm,1.0s,baz=232,slow=6.6,SNR=9.5
SEY Seymchan 73.40 24⇑ *e*P **P 19 19 29.9 +0.4**
IDID Didziasalis 73.63 327 *e*P **P 19 19 30.9 0.0**
IDID IAmb IAmb 19 19 32.0
comp=Z,7.8nm,1.0s
IIGN Ignalina 73.92 327 *e*P **P 19 19 32.6 -0.1**
IIGN IAmb IAmb 19 19 33.7
comp=Z,9.4nm,1.0s
IZAR Zarasai 74.03 327 *e*P **P 19 19 33.3 0.0**
IZAR IAmb IAmb 19 19 35.1
comp=Z,5.4nm,0.8s
KWP Kalwaria Pacla 74.48 321 *e*P **P 19 19 36.9 +0.8**
KWP Kalwaria Pacla 74.48 321 *e*P **P 19 19 36.9 +0.8**
CRVS Cervenica-Dubn 75.12 320 *e*P **P 19 19 40.5 +0.7**
CRVS Cervenica-Dubn 75.12 320 *e*P **P 19 19 40.5 +0.7**
CRVS pmax pmax
comp=Z,24nm,2.1s
SUW Suwalki 75.24 325 *e*P **P 19 19 39.9 -0.5**
SUW Suwalki 75.24 325 *e*P **P 19 19 39.8 -0.5**
comp=Z,32nm,0.9s
SUW Suwalki 75.24 325 *e*P **P 19 19 39.9 -0.5**
STHS Stebnicka Huta 75.36 320 *e*P **P 19 19 42.8 +1.6**
STHS Stebnicka Huta 75.36 320 *e*P **P 19 19 42.8 +1.6**
STHS pmax pmax
comp=Z,3.0nm,0.9s
FINES FINESS Array B 75.92 333 P **P 19 19 43.5 -0.5**
comp=Z,3.2nm,0.7s,baz=106,slow=6.2,SNR=13
NIE Niedzica 75.97 320 *e*P **P 19 19 45.9 +1.2**
NIE Niedzica 75.97 320 *e*P **P 19 19 45.9 +1.2**
OJC Ojcow 76.44 321 *e*P **P 19 19 47.7 +0.4**
OJC Ojcow 76.44 321 *e*P **P 19 19 47.7 +0.4**
MODS Modra-Piesok 77.75 319 *e*P **P 19 19 54.7 -0.1**
MODS Modra-Piesok 77.75 319 *e*P **P 19 19 54.7 -0.1**
MODS pmax pmax
comp=Z,18nm,1.1s
KRLC Kraliky 78.33 320 *e*P **P 19 19 59.1 +1.1**
KRLC Kraliky 78.33 320 *e*P **P 19 19 59.1 +1.1**
CONA Conrad Observa 78.63 318 *i*P **P 19 20 00.2 +0.5**
comp=Z,4.8nm,1.0s
DPC Dobruska-Polom 78.66 321 *e*P **P 19 20 01.3 +1.5**
DPC *e*PCP **sP 19 20 11.7 -0.7**
DPC Dobruska-Polom 78.66 321 *e*P **P 19 20 01.3 +1.5**
DPC *e* 19 20 11.7
KSP Ksiaz 78.75 321 *e*P **P 19 20 02.1 +1.9**
KSP Ksiaz 78.75 321 *e*P **P 19 20 02.1 +1.9**
BOJS Bojanci 78.75 316 *e*P **P 19 20 01.0 +0.6**
ARSA Arzberg 78.77 317 *i*P **P 19 20 01.4 +1.0**
comp=Z,9.9nm,0.9s,SNR=6.2
ARCES ARCESS Array B 78.88 341 P **P 19 20 00.3 -0.2**
comp=Z,2.7nm,0.8s,baz=91,slow=7.4,SNR=7.2
PERS Pernice 78.98 317 *i*P **P 19 20 02.2 +0.6**
SOKA Soboth 79.04 317 *i*P **P 19 20 02.6 +0.6**
comp=Z,8.5nm,0.9s,SNR=8.4
VISS Visnje 79.08 316 *e*P **P 19 20 02.8 +0.7**
OBKA Obir 79.35 317 *i*P **P 19 20 04.7 +1.0**
comp=Z,7.5nm,1.1s
PRU Pruhonice 79.75 320 *e*P **P 19 20 06.8 +1.1**
PRU Pruhonice 79.75 320 *e*P **P 19 20 06.8 +1.1**
GEA0 GERESS Array S 80.17 319 *e*P **P 19 20 08.6 +0.5**
GEC2 GERESS Array S 80.17 319 *e*P **P 19 20 09.2 +1.0**
comp=Z,16nm,1.0s
GEC2 GERESS Array S 80.17 319 *e*P **P 19 20 09.2 +1.1**
GEC2 pmax pmax
comp=Z,16nm,1.0s
GERES GERESS Array B 80.17 319 P **P 19 20 09.1 +1.0**
comp=Z,8.4nm,0.9s,baz=97,slow=5.4,SNR=52
BRG Berggiesshubel 80.23 321 *e*P **P 19 20 09.0 +0.8**
comp=Z,11nm,1.1s
BRG Berggiesshubel 80.23 321 *e*P **P 19 20 09.0 +0.8**
BRG pmax pmax
comp=Z,11nm,1.1s
KHC Kasperske Hory 80.28 319 *e*P **P 19 20 09.1 +0.5**
KHC Kasperske Hory 80.28 319 *e*P **P 19 20 09.1 +0.5**
BILL Bilibino 80.58 21 *d i*P **P 19 20 09.9 +0.1**
BILL *e* 19 23 11.1
BILL *e*S **S 19 30 15.5 +0.8**
BILL pmax pmax
comp=Z,6.0nm,1.4s
BILL MLR MLR
comp=Z,114nm,17.0s
CLL Collm 80.86 321 *i*P **P 19 20 11.9 +0.3**
comp=Z,8.0nm,1.1s
CLL LmV 20 26 00.0
comp=Z,200nm,19.9s
CLL LmV 21 02 00.0
comp=Z,100nm,20.6s
CLL Collm 80.86 321 *e*P **P 19 20 12.2 +0.6**
comp=Z,8.2nm,1.1s
CLL Collm 80.86 321 *i*P **P 19 20 11.9 +0.3**
CLL pmax pmax
comp=Z,8.0nm,1.1s
SYO Syowa Base 80.90 197 *i*P **P 19 20 12.6 +1.2**
WTTA Wattenberg 81.41 317 *i*P **P 19 20 14.7 -0.2**
comp=Z,9.6nm,0.8s
HFS Hagfors 81.52 330 P **P 19 20 15.0 +0.1**
comp=Z,3.0nm,0.8s,baz=123,slow=5.3,SNR=6.7
MOTA Moosalm 81.78 317 *i*P **P 19 20 16.8 0.0**
comp=Z,18nm,1.2s,SNR=6.5
RETA Reutte 82.02 317 *i*P **P 19 20 18.1 +0.2**
comp=Z,9.0nm,0.9s,SNR=4.7
DAVA Damuels 82.60 317 *i*P **P 19 20 22.0 +0.8**
comp=Z,10nm,0.9s
KEST Kesra 82.63 305 P **P 19 20 21.8 +0.4**
comp=Z,5.2nm,0.9s,baz=337,slow=6.0,SNR=5.3
NB2 NORSAR Subarra 82.84 331 P **P 19 20 21.4 -0.5**
comp=Z,1.0nm,0.8s,baz=97,slow=5.3
NOA NORSAR Array B 82.84 331 P **P 19 20 21.3 -0.6**
comp=Z,2.2nm,0.9s,baz=97,slow=5.2,SNR=3.3
TAM Tamanrasset 86.13 292 *e*P **P 19 20 41.9 +2.4**
comp=Z,8.2nm,1.4s
TAM Tamanrasset 86.13 292 *e*P **P 19 20 41.9 +2.4**
TAM pmax pmax
comp=Z,8.0nm,1.4s
VNDA Vanda 88.98 168 LR LR 19 55 57.7
comp=Z,115nm,19.1s,baz=208,slow=32
GAMB Gambell 89.29 26 *e*P **P 19 20 54.5 +1.0**
comp=Z,6.8nm,1.0s
EKA Eskdalemuir Ar 90.51 325 P **P 19 20 59.2 -0.3**
comp=Z,2.2nm,0.8s,baz=82,slow=5.8,SNR=4.2
ESDC Sonseca Array 92.96 310 P **P 19 21 11.4 +0.1**
comp=Z,0.2nm,0.3s,baz=64,slow=3.8,SNR=4.2
IM3 Indian Mountai 96.12 22 *e*P **P 19 21 25.7 +0.6**
ILAR Eielson Array 99.24 22 PP PP 19 25 45.0 +3.3
comp=Z,0.3nm,0.6s,baz=295,slow=7.2,SNR=4.2
YKA Yellowknife Ar 110.92 13 PP PP 19 27 03.6 -4.3
comp=Z,0.7nm,0.8s,baz=332,slow=7.8,SNR=8.2
YKA PKKPbc **PKKPab 19 37 37.3 -2.4**
comp=Z,0.2nm,0.5s,baz=147,slow=3.2,SNR=5.6
BMO Blue Mountains 124.83 26 *e*PKPdf **PKPdf 19 27 00.0 +2.1**
BMO Blue Mountains 124.83 26 *e*PKIKP **PKPdf 19 27 00.0 +2.1**
NVAR Mina Array Bea 129.29 32 PKP **PKPdf 19 27 08.6 +1.8**
comp=Z,0.8nm,0.7s,baz=266,slow=1.8,SNR=5.5
PDAR Pinedale Array 129.66 21 PKP **PKPdf 19 27 08.3 +0.9**
comp=Z,0.7nm,0.7s,baz=90,slow=3.0,SNR=6.0
PDAR Pinedale Array 129.66 21 *e*PKPdf **PKPdf 19 27 07.9 +0.5**
R11A Troy Canyon, C 130.74 30 *e*PKPdf **PKPdf 19 27 11.8 +2.3**
MHTCO State Highway 136.39 20 *e*PKPpre PKPpre 19 27 11.8
ANMO Albuquerque 137.66 24 *c i*PKIKP **PKPdf 19 27 25.5 +2.9**
ANMO pmax pmax
comp=Z,2.0nm,1.2s
AMTX Amarillo 139.43 18 *e*PKPdf **PKPdf 19 27 25.5 -0.1**
TXAR Lajitas Array 143.70 25 PKP PKPbc 19 27 31.5 +0.6
comp=Z,1.0nm,1.0s,baz=285,slow=3.5,SNR=7.7
HPIG 144.84 29 *e*PKPdf **PKPdf 19 27 36.1 +0.5**
SLBS Sierra La Lagu 145.03 38 *e*PKPdf **PKPdf 19 27 37.0 +1.1**
HKT Hockley 145.69 13 *e*PKPbc **PKPab 19 27 38.1 +0.8**
HKT Hockley 145.69 13 *e*PKP2 **PKPab 19 27 38.1 +0.8**
LNIG Linares 149.32 22 *e*PKPbc **PKPbc 19 27 47.1 -0.2**

DDA ***18*** *19:11:13.8,39.1°11N×38.1°71E,h7km,Ml2.5*
ISK ***18*** *19:11:13.1,39.1°03N×38.1°71E,h5km,ML2.3/5*
CSEM ***18*** *19:11:14.4±0.2,39.1°06N×38.1°70E,h2km,ML2.5,Error ellipse: s-maj=5.3km s-min=4.2km az=145.0*
ISC 18 19:11:13.9±1.0,**39.1°08N**±0.1°03×**38.1°70E**±0.1°03,**h10**km±9km,
n20,σ0°**42/34,Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KEMA	**Kemaliye**	**0.25**	**320**	*i*	P		**Pg**	**19 11 18.6**	**-0.3**
KEMA				*i*	S		**Sg**	**19 11 22.6**	**+0.2**
KEMA	**Kemaliye**	**0.25**	**320**		P		**Pg**	**19 11 18.6**	**-0.3**
KEMA					S		**Sg**	**19 11 22.6**	**+0.2**
PTK	**Pertek**	**0.57**	**109**		PG		**Pg**	**19 11 24.8**	**-0.2**
PTK					SG		**Sb**	**19 11 33.5**	**-1.0**
PTK	**Pertek**	**0.57**	**109**	*e*	Pg		**Pg**	**19 11 24.8**	**-0.2**
PTK				*e*	Sg		**Sb**	**19 11 33.5**	**-1.0**
ELZG	**Elazig**	**0.62**	**159**	*i*	P		**Pg**	**19 11 26.0**	**0.0**
ELZG				*i*	S		**Sb**	**19 11 35.7**	**-0.2**
ELZG	**Elazig**	**0.62**	**159**		P		**Pg**	**19 11 26.0**	**0.0**
ELZG					S		**Sb**	**19 11 35.7**	**-0.2**
TNCL	**Tunceli-Merkez**	**0.66**	**87**	*i*	P		**Pg**	**19 11 26.9**	**+0.3**
TNCL				*i*	S		**Sg**	**19 11 36.2**	**-0.6**
TNCL	**Tunceli-Merkez**	**0.66**	**87**		P		**Pg**	**19 11 26.9**	**+0.3**
TNCL					S		**Sb**	**19 11 36.2**	**-0.6**
MALT	**Malatya**	**0.80**	**196**		PG		**Pg**	**19 11 28.6**	**-0.6**
MALT					SG		**Sb**	**19 11 40.2**	**-0.5**
MALT	**Malatya**	**0.80**	**196**	*e*	Pg		**Pg**	**19 11 28.6**	**-0.6**
MALT				*e*	Sg		**Sb**	**19 11 40.2**	**-0.5**
EZC	**Erzincan**	**0.84**	**37**	*e*	Pg		**Pn**	**19 11 32.6**	**+0.6**
ERZN	**Erzincan**	**0.94**	**57**		PG		**Pb**	**19 11 32.6**	**+0.2**
AKCD	**Akcadag**	**0.99**	**218**	*i*	P		**Pb**	**19 11 33.6**	**+0.4**
AKCD				*i*	S		**Sn**	**19 11 48.1**	**-0.1**
AKCD	**Akcadag**	**0.99**	**218**		P		**Pb**	**19 11 33.6**	**+0.4**
AKCD					S		**Sn**	**19 11 48.1**	**-0.1**
DARE	**Darende-Malaty**	**1.08**	**242**		PG		**Pg**	**19 11 34.6**	**0.0**
DARE					SG		**Sn**	**19 11 50.3**	**+0.1**
DARE	**Darende-Malaty**	**1.08**	**242**	*e*	Pg		**Pg**	**19 11 34.6**	**0.0**
DARE				*e*	Sg		**Sn**	**19 11 50.3**	**+0.1**
SVSK	**Karacayir**	**1.56**	**303**		PN		**Pg**	**19 11 43.5**	**-0.2**
SVSK	**Karacayir**	**1.56**	**303**	*e*	Pn		**Pg**	**19 11 43.5**	**-0.2**
BAYT	**Ayd¨–ntepe-Bay**	**1.72**	**40**		PN		**Pb**	**19 11 45.6**	**-0.1**
BAYT	**Ayd¨–ntepe-Bay**	**1.72**	**40**	*e*	Pn		**Pb**	**19 11 45.6**	**-0.1**

ISN ***18*** *19:18:08.0±0.8,32.1°13N×47.1°01E,h33km±10km*
CSEM ***18*** *19:18:13.7±0.7,32.1°37N×46.1°65E,h20km,ML3.0,Error ellipse: s-maj=27.9km s-min=10.0km az=3.0*
TEH 18 19:18:10.8,32.1°8N×46.1°86E,h10km,ML3.0,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SHGR	**Shooshtar-Gavs**	**1.65**	**92**	*e*	Pg		Pg	19 18 45.7	+3.2
IKOM	**Komasi**	**2.06**	**15**	*e*	Pn		Pb	19 18 48.0	-0.4
IGHG	**Ghaleghazi**	**2.15**	**354**	*e*	Pn		Pb	19 18 50.4	+0.3
IVIS	**Veis**	**2.34**	**360**	*e*	Pn		Pn	19 18 52.0	-1.1
BHD	**Baghdad**	**2.35**	**298**	*e*	Pn		Pn	19 18 48.0	-1.5
SNR=5.0									
ILIN	**Lien**	**2.73**	**2**	*e*	Pn		Pb	19 18 57.9	-2.0
SNGE	**Sanandaj**	**2.93**	**8**	*e*	Pn		Pn	19 18 59.2	+1.5
KHMZ	**Khomeyn**	**3.04**	**58**	*e*	Pn		Pn	19 19 01.2	+2.1
HAGD	**Aghdareh**	**3.25**	**35**	*e*	Pn		Pn	19 19 04.8	+2.7
HAGD				*e*	AMB		AMB	19 19 40.8	
comp=E,99nm,0.1s									
ASAO	**Ashtian**	**3.55**	**47**	*e*	Pn		Pn	19 19 07.5	+1.3
HKZM	**Kohzaman**	**3.62**	**28**	*e*	Pn		Pn	19 19 10.8	+3.7
HKZM				*e*	AMB		AMB	19 20 08.2	
comp=Z,99nm,0.4s									
IKLH	**Kolahrood**	**4.14**	**73**	*e*	Pn		Pn	19 19 17.4	+3.1
IKLH				*e*	AMB		AMB	19 20 35.8	
comp=Z,303nm,0.4s									
QAM	**Ghamsar**	**4.16**	**67**	*e*	Pn		Pn	19 19 17.6	+3.0
QAM				*e*	AMB		AMB	19 20 32.1	
comp=Z,360nm,0.3s									
GHVR	**GHOM**	**4.37**	**57**	*e*	Pn		Pn	19 19 18.9	+1.6
IZEF	**Zefreh**	**4.68**	**80**	*e*	Pn		Pn	19 19 24.5	+2.8
IZEF				*e*	AMB		AMB	19 20 48.0	
comp=Z,106nm,0.4s									
IRAM	**Rannesheh**	**4.71**	**93**	*e*	AMB		AMB	19 20 30.4	
comp=Z,122nm,0.2s									
RTB	**Rutbah**	**5.59**	**280**	*e*	Pn		Pn	19 19 33.0	-1.1
SNR=5.0									
RTB				*i*	Sn		Sn	19 20 35.5	-2.9
SNR=5.0									

IDC ***18*** *19:33:28.8±2.7,23.1°78S×179.1°55W,h470km±28km, mb3.6/12, mb1 3.7/14, mb1mx3.4/50, mbtmp4.5/14, Error ellipse: s-maj=22.3km s-min=19.0km az=138.0*
ISCJB ***18*** *19:33:30.8±1.1,23.1°9S±0.1°1×179.1°6W±0.1°2,h512km, mb4.0/12, Error ellipse: s-maj=23.7km s-min=15.6km az=7.4*
ISC 18 19:33:32.0±0.9,**24.1°0S**±0.1°1×**179.1°6W**±0.1°2,**h512**km,**n25,**
σ0°**93/24,mb4.0/12,South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**12.46**	**38**		P		P	19 36 10.3	-5.2
3.8nm,0.3s,baz=29,slow=17,SNR=3.8									
URZ	**Urewera**	**14.49**	**190**		P		**P**	**19 36 35.3**	**-1.1**
2.4nm,0.3s,baz=295,slow=3.6,SNR=9.0									
RPZ	**Rata Peaks**	**21.11**	**199**		P		**P**	**19 37 41.9**	**+2.1**
4.2nm,0.4s,baz=24,slow=2.3,SNR=4.5									
CTA	**Charters Tower**	**31.86**	**270**		P		**P**	**19 39 14.6**	**-0.1**
10.0nm,0.5s,baz=92,slow=12,SNR=26									
PMG	**Port Moresby**	**34.89**	**289**		P		**P**	**19 39 39.6**	**-0.8**
12nm,0.8s,baz=113,slow=6.6,SNR=4.2									
STKA	**Stephens Creek**	**35.04**	**248**		P		**P**	**19 39 41.0**	**-0.5**
0.8nm,0.5s,baz=79,slow=11,SNR=2.9									
ASAR	**Alice Springs**	**42.39**	**261**		P		**P**	**19 40 41.0**	**-0.3**
4.6nm,0.8s,baz=100,slow=6.7,SNR=4.2									
ASAR					PcP		**PcP**	**19 42 23.4**	**+0.5**
0.4nm,0.6s,baz=122,slow=2.1,SNR=4.2									
WRA	**Warramunga Arr**	**42.78**	**266**		P		**P**	**19 40 43.4**	**-1.0**
5.9nm,0.5s,baz=96,slow=8.5,SNR=73									
FITZ	**Fitzroy Crossi**	**51.20**	**266**		P		**P**	**19 41 48.3**	**+0.4**
3.3nm,0.6s,baz=125,slow=8.4,SNR=17									
BATI	**Baumata**	**55.61**	**274**		P		**P**	**19 42 20.6**	**+1.2**
4.7nm,0.5s,baz=76,slow=4.2,SNR=5.7									
MJAR	**Matsushiro Arr**	**72.20**	**325**		P		**P**	**19 44 03.6**	**-1.1**
0.4nm,0.5s,baz=188,slow=5.2,SNR=4.4									
PETK	**Petropavlovsk-**	**79.29**	**346**		P		**P**	**19 44 44.0**	**+0.3**
2.4nm,0.7s,baz=120,slow=6.9,SNR=5.4									
SEY	**Seymchan**	**89.45**	**348**		P		**P**	**19 45 32.9**	**-0.5**
0.4nm,0.3s,baz=142,slow=4.8,SNR=5.2									
CMAR	**Chiang Mai Arr**	**89.92**	**290**		P		**P**	**19 45 38.5**	**+1.9**
1.5nm,0.9s,baz=146,slow=2.9,SNR=11									
MKAR	**Makanchi Array**	**112.50**	**313**		PKiKP		**PKiKP**	**19 51 09.1**	**-0.6**
0.3nm,0.6s,baz=96,slow=1.2,SNR=5.2									
KURBB	**Kurchatov Arra**	**115.58**	**316**		PKP		**PKPdf**	**19 51 14.6**	**-0.7**
0.2nm,0.4s,baz=96,slow=1.5,SNR=3.9									
BVAR	**Borovoye Array**	**120.77**	**319**		PKP		**PKPdf**	**19 51 25.2**	**-0.1**
0.7nm,0.5s,baz=103,slow=3.1,SNR=4.8									
AKTO	**Aktyubinsk**	**128.64**	**316**		PKP		**PKPdf**	**19 51 41.4**	**+1.0**
1.3nm,0.7s,baz=108,slow=6.4,SNR=4.0									
ARCES	**ARCESS Array B**	**132.07**	**348**		PKP		**PKPdf**	**19 51 46.4**	**+0.1**
2.2nm,0.8s,baz=46,slow=3.5,SNR=6.0									
FINES	**FINESS Array B**	**138.67**	**342**		PKP		**PKPdf**	**19 51 59.1**	**+0.3**
1.2nm,0.9s,baz=108,slow=7.5,SNR=3.7									
HFS	**Hagfors**	**142.72**	**349**		PKhKP		PKPpre	19 52 03.2	
2.5nm,0.4s,baz=68,slow=3.9,SNR=20									
AKASG	**Malin Array Be**	**145.26**	**327**		PKPbc		**PKPbc**	**19 52 11.6**	**-0.2**
2.3nm,0.5s,baz=42,slow=4.5,SNR=12									
BRTR	**Keskin Array B**	**147.94**	**307**		PKPbc		**PKPbc**	**19 52 19.9**	**+0.2**
1.3nm,0.8s,baz=130,slow=5.6,SNR=4.2									
MMAI	**Mount Meron Ar**	**148.09**	**294**		PKPbc		**PKPbc**	**19 52 21.2**	**+1.0**
6.3nm,0.6s,baz=76,slow=7.1,SNR=15									
GERES	**GERESS Array B**	**153.08**	**340**		PKPbc		**PKPbc**	**19 52 30.6**	**-0.7**
0.3nm,0.6s,baz=306,slow=1.1,SNR=4.2									

IDC ***18*** *19:35:28.8±1.8,23.1°76S×179.1°70W,h486km±18km, mb3.6/15, mb1 3.7/17, mb1mx3.5/48, mbtmp4.4/17, Error ellipse: s-maj=16.7km s-min=13.5km az=74.0*
ISCJB ***18*** *19:35:29.6±0.5,23.1°76S±0.1°07×179.1°7W±0.1°1,h512km, mb3.9/15, Error ellipse: s-maj=13.5km s-min=7.8km az=24.7*
ISC 18 19:35:30.4±0.5,**23.1°81S**±0.1°08×**179.1°6W**±0.1°1,**h512**km,**n26,**
σ1°**49/29,mb4.0/15,South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**12.29**	**38**		P		**P**	**19 38 12.2**	**0.0**
3.0nm,0.3s,baz=253,slow=19,SNR=3.2									
AFI					S		**S**	**19 40 21.7**	**-3.8**
5.9nm,0.3s,baz=61,slow=19,SNR=6.2									
URZ	**Urewera**	**14.69**	**190**		P		**P**	**19 38 35.5**	**-1.4**
0.7nm,0.3s,baz=22,slow=19,SNR=3.5									
URZ					S		**S**	**19 41 08.2**	**-2.6**
0.6nm,0.3s,baz=274,slow=13,SNR=5.1									
RPZ	**Rata Peaks**	**21.31**	**199**		P		**P**	**19 39 40.0**	**-0.1**
6.8nm,0.7s,baz=310,slow=17,SNR=2.5									
PMG	**Port Moresby**	**34.84**	**289**		P		**P**	**19 41 37.8**	**-0.7**
14nm,0.8s,baz=118,slow=5.5,SNR=5.3									
STKA	**Stephens Creek**	**35.13**	**249**		P		**P**	**19 41 40.2**	**-0.5**
2.0nm,0.4s,baz=93,slow=9.6,SNR=8.1									
ASAR	**Alice Springs**	**42.44**	**260**		P		**P**	**19 42 39.0**	**-1.1**
9.4nm,0.7s,baz=95,slow=7.4,SNR=48									
ASAR					ScP		**ScP**	**19 47 26.4**	**+3.0**
1.1nm,0.7s,baz=112,slow=4.2,SNR=7.8									
WRA	**Warramunga Arr**	**42.81**	**266**		P		**P**	**19 42 41.4**	**-1.7**
11nm,0.5s,baz=96,slow=8.5,SNR=140									
WRA					ScP		**ScP**	**19 47 28.4**	**+3.5**
0.6nm,0.7s,baz=100,slow=3.9,SNR=4.5									
VNDA	**Vanda**	**54.51**	**185**		P		**P**	**19 44 10.2**	**+1.1**
0.9nm,0.7s,baz=3.3,slow=5.6,SNR=5.7									
BATI	**Baumata**	**55.62**	**274**		P		**P**	**19 44 18.1**	**+0.2**
9.8nm,0.5s,baz=193,slow=1.1,SNR=10									
QSPA	**South Pole Qui**	**66.28**	**180**		P		**P**	**19 45 28.3**	**+1.0**
4.0nm,0.7s,baz=41,slow=4.4,SNR=9.0									
LEM	**Lembang**	**71.58**	**271**		P		**P**	**19 45 59.8**	**-0.5**
11nm,0.7s,baz=126,slow=19,SNR=4.0									
MAW	**Mawson**	**77.98**	**200**		P		**P**	**19 46 35.8**	**+0.8**
2.5nm,0.5s,baz=126,slow=14,SNR=3.9									
KSRS	**Korea Array**	**78.43**	**320**		P		**P**	**19 46 37.7**	**-0.2**
1.0nm,0.7s,baz=148,slow=7.2,SNR=3.9									
PETK	**Petropavlovsk-**	**79.10**	**346**		P		**P**	**19 46 41.7**	**+0.6**
1.0nm,0.6s,baz=144,slow=10.0,SNR=3.2									
SNAA	**Sanae**	**84.75**	**179**		P		**P**	**19 47 09.6**	**-0.3**
0.9nm,0.6s,baz=196,slow=11,SNR=7.8									
CMAR	**Chiang Mai Arr**	**89.87**	**290**		P		**P**	**19 47 35.5**	**+0.6**
1.8nm,0.9s,baz=141,slow=3.5,SNR=11									
TXAR	**Lajitas Array**	**90.04**	**58**		P		**P**	**19 47 37.4**	**+1.8**
0.4nm,0.7s,baz=215,slow=7.3,SNR=5.1									
MKAR	**Makanchi Array**	**112.38**	**313**		PKiKP		**PKiKP**	**19 53 07.5**	**-0.4**
0.3nm,0.6s,baz=230,slow=1.1,SNR=3.8									
KURBB	**Kurchatov Arra**	**115.45**	**316**		PKP		**PKPdf**	**19 53 13.3**	**-0.2**
0.4nm,0.5s,baz=80,slow=2.2,SNR=4.5									
BVAR	**Borovoye Array**	**120.63**	**319**		PKP		**PKPdf**	**19 53 23.4**	**0.0**
0.6nm,0.4s,baz=146,slow=3.3,SNR=5.8									
ARCES	**ARCESS Array B**	**131.88**	**348**		PKP		**PKPdf**	**19 53 44.9**	**+0.5**
3.8nm,1.1s,baz=135,slow=0.3,SNR=7.2									
FINES	**FINESS Array B**	**138.48**	**342**		PKhKP		PKPpre	19 53 49.5	
1.3nm,0.9s,baz=88,slow=6.1,SNR=4.7									
FINES					PKP		**PKPdf**	**19 53 57.4**	**+0.5**
0.5nm,0.5s,baz=101,slow=4.4,SNR=4.2									
HFS	**Hagfors**	**142.53**	**349**		PKhKP		PKPpre	19 54 01.1	
1.9nm,0.3s,baz=90,slow=2.9,SNR=28									
AKASG	**Malin Array Be**	**145.11**	**328**		PKPbc		**PKPdf**	**19 54 09.4**	**+0.4**
1.0nm,0.3s,baz=41,slow=4.6,SNR=9.9									
BRTR	**Keskin Array B**	**147.84**	**307**		PKPbc		**PKPbc**	**19 54 17.1**	**-0.7**
2.1nm,0.7s,baz=126,slow=4.2,SNR=6.1									
MMAI	**Mount Meron Ar**	**148.03**	**295**		PKPbc		**PKPbc**	**19 54 19.2**	**+0.7**
5.9nm,0.5s,baz=76,slow=6.1,SNR=23									

NNC ***18*** *19:50:28.1±3.0,37.1°03N×69.1°51E,h0km, mb3.8, mpv3.5, Error ellipse: s-maj=23.7km s-min=18.2km az=171.0*
IDC ***18*** *19:50:32.5±6.6,36.1°9N×69.1°99E,h282km±119km, mb3.0/1, mb1 2.8/6, mb1mx2.6/63, mbtmp3.6/6, Error ellipse: s-maj=104.7km s-min=48.9km az=174.0*
ISC 18 19:50:25.7±3.2,**36.7N**±0.2×**69.4E**±0.1,**h35**km,**n17,**
σ2°**07/22,6C-6D,Hindu Kush region**

CAIG	**El Cayaco**	**0.54 123**	*e*P	Pb	19 52 00.1	-1.9
CAIG			*e*S	Sb	19 52 07.3	-2.2
ZIIG	**Zihuatanejo**	**0.74 291**	*e*P	Pb	19 52 02.8	-2.4
ZIIG			*e*S	Sb	19 52 12.3	-2.7
ACX	**Acapulco**	**0.97 119**	*e*P	Pn	19 52 07.2	-1.4
ACX			*i* S	Sn	19 52 18.6	-2.8
ARIG	**Puente Sto Nin**	**1.01 22**	*i* P	Pn	19 52 06.8	-2.3
ARIG			*e*S	Sn	19 52 18.8	-3.5
PLIG	**Platanillo**	**1.58 48**	*e*P	Pn	19 52 14.3	-2.7
EZ5V		**3.45 308**	*e*P	Pb	19 52 54.3	+2.9

BJI **18** *19:52:35.0,0.°78S×132.°19E,h35km,mb5.1/71,mB5.2/53, Ms4.7/61,Ms7 4.5/59*

ISCJB **18** *19:52:36.7±0.8,0.°48S±0.°02×131.°93E±0.°02,h25km±5km, mb5.2/125,MS4.4/50,Error ellipse: s-maj=4.3km s-min=3.2km az=152.2*

IDC **18** *19:52:36.6±2.7,0.°50S×131.°93E,h15km±16km,mb5.0/28, mb1 5.0/33,mb1mx4.8/56,mbtmp5.1/33,ML5.2/3,MS4.3/36, Ms1 4.3/36,ms1mx4.2/54,Error ellipse: s-maj=16.0km s-min=9.7km az=79.0*

MOS **18** *19:52:38.3±1.0,0.°48S×131.°86E,h37km,mb5.4/50, MS4.2/15,Error ellipse: s-maj=10.1km s-min=5.0km az=109.5*

NEIC **18** *19:52:39.0±1.7,0.°50S×131.°91E,h29km±12km,mb5.3/54, Error ellipse: s-maj=5.6km s-min=3.7km az=59.0*

NEIC Felt [IV] at Sorong.

GCMT **18** *19:52:39.0±0.2,0.°47S×131.°93E,h16km±1km,MW5.2/102, Moment Tensor Solution. s46,c64; s102,c152; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-0.63±.17; Mθθ-3.87±.13; Mϕϕ4.50±.16; Mrθ3.22±.53; Mθϕ2.63±.11; Mϕr5.11±.71; Best double couple: M₀7.38300×10¹⁶ NP1:ϕs232.00000°,δ88.00000°,λ-51.00000°. NP2: ϕs324.00000°,δ39.00000°,λ-177.00000°. Principal axes: T 8.8780, Plg32.0000°, Azm291.0000°; N -2.9890, Plg39.0000°, Azm51.0000°; P -5.8880, Plg35.0000°, Azm175.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

DJA **18** *19:52:39.4±0.6,1°S±3°×13°2E±°,h11km±4km,M5.0/34, mb5.2/34,mB5.5/29,MLv5.6/13,Mw(mB)4.9/29*

ISC 18 19:52:39.2±0.4,0.°53S±0.°03×131.°92E±0.°04,h32km±2km, h32km:pP-P,n414,σ1s72/445,mb5.3/125,MS4.4/50, 23C-10D,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**0.73 243**		Pg	**Pb**	**19 52 51.1**	**-2.4**
	3μm,0.3s,baz=45,slow=17,SNR=2070						
SIJI				Lg	Lg	19 53 04.0	
	19μm,0.3s,baz=166,slow=12,SNR=82						
FAKI	**Fak Fak**	**2.40 172**		P	**Pn**	**19 53 16.9**	**+0.6**
FAKI				S	**Sn**	**19 53 48.1**	**+3.5**
RKPI	**Ransiki, Papua**	**2.46 113**		P	**Pb**	**19 53 21.4**	**-1.5**
RKPI				S	**Sb**	**19 53 52.9**	**+0.1**
KMPI	**Kaimana, Papua**	**3.59 150**		P	**Pn**	**19 53 33.9**	**+1.2**
MSAI	**Masohi**	**4.09 227**		P	**Pn**	**19 53 42.1**	**+2.5**
LBMI	**Labuha**	**4.42 269**		P	**Pn**	**19 53 44.0**	**-0.1**
BNDI	**Bandanaira**	**4.45 207**		P	**Pn**	**19 53 44.6**	**+0.1**
AAI	**Ambon**	**4.86 230**		P	**Pn**	**19 53 51.3**	**+1.0**
NLAI	**Namlea**	**5.51 241**		P	**Pn**	**19 53 59.7**	**+0.5**
	217nm,0.5s,3μm3.6nm						
SANI	**Sanana**	**6.12 256**		P	**Pn**	**19 54 06.6**	**-0.9**
	119nm,0.8s,1μm0.4nm						
SAUI	**Saumlaki**	**7.43 185**		P	**Pn**	**19 54 26.0**	**+0.5**
	548nm,0.9s,5μm2.7nm						
KMSI	**Cibinong**	**8.01 278**		P	**Pn**	**19 54 35.1**	**+1.6**
	182nm,0.9s,3μm0.9nm						
PALU	**Palau**	**8.23 18**		P	**Pn**	**19 54 35.9**	**-0.6**
	baz=8.3,SNR=12						
GENI	**Genyem**	**8.50 104**		P	Pn	19 54 46.0	+5.8
	193nm,0.9s						
JAY	**Jayapura**	**9.00 103**		P	**Pn**	**19 54 50.4**	**+3.2**
	377nm,0.8s,5μm						
LUWI	**Luwuk**	**9.16 267**		P	**Pn**	**19 54 50.1**	**+0.8**
	295nm,1.2s,4μm						
DAV	**Davao City (W)**	**9.85 320**		Pn	**Pn**	**19 54 59.0**	**+0.3**
	33nm,0.3s,baz=175,slow=4.8,SNR=6.9						
DAV				LR	LR	19 59 20.7	
	comp=Z,3μm,18.1s,baz=151,slow=41						
DAV	**Davao City (W)**	**9.85 320**		Pn	**Pn**	**19 54 59.0**	**+0.3**
DAV	**Davao City (W)**	**9.85 320**		P	Pn	19 55 03.7	+5.0
	SNR=5.1						
DAV	**Davao City (W)**	**9.85 320**		pPn	Pn	19 55 03.7	+5.0
	SNR=5.1						
APSI	**Ampana**	**10.27 268**		P	**Pn**	**19 55 04.7**	**+0.1**
	453nm,1.2s,4μm						
CTBH	**Cotabato--PC H**	**10.86 315**		*i*P	**Pn**	**19 55 12.9**	**+0.4**
SOEI	**Soe**	**11.91 219**		P	**Pn**	**19 55 28.5**	**+1.4**
	202nm,0.9s,2μm						
MPSI	**Mapaga**	**12.05 274**		P	**Pn**	**19 55 28.5**	**-0.4**
	38nm,1.2s,684nm						
PCI	**Palu**	**12.08 268**		P	**Pn**	**19 55 29.0**	**-0.4**
	199nm,1.1s,1μm						
MTN	**Manton Dam**	**12.26 184**		P	**Pn**	**19 55 29.2**	**-2.5**
	baz=12,SNR=30						
MTN	**Manton Dam**	**12.26 184**		*e*Pn	**Pn**	**19 55 28.1**	**-3.6**
TTSI	**Tana Toraja**	**12.35 258**		P	**Pn**	**19 55 34.5**	**+1.6**
	74nm,1.4s,957nm						
BNSI	**Bone**	**12.41 252**		P	**Pn**	**19 55 36.7**	**+2.9**
	75nm,1.0s,1μm						
MMRI	**Maumere**	**12.56 230**		P	**Pn**	**19 55 38.6**	**+2.7**
	245nm,0.9s,2μm						
BATI	**Baumata**	**12.64 220**		Pn	**Pn**	**19 55 38.0**	**+1.0**
	8.6nm,0.3s,baz=224,slow=1.4,SNR=39						
BATI				LR	LR	20 01 09.5	
	comp=Z,1μm,18.8s,baz=44,slow=40						
BATI	**Baumata**	**12.64 220**		P	**Pn**	**19 55 38.0**	**+1.0**
	170nm,1.0s,1μm						
BSSI	**Bau Bau, Buton**	**12.69 244**		P	**Pn**	**19 55 38.5**	**+0.8**
	54nm,1.1s,4μm						
MSLP	**Maasin**	**12.71 327**		*e*P	**Pn**	**19 55 40.0**	**+2.1**
KAPI	**Kappang**	**12.94 250**		*e*Pn	**Pn**	**19 55 44.1**	**+3.0**
	86nm,0.9s						
KAPI	**Kappang**	**12.94 250**		P	**Pn**	**19 55 44.7**	**+3.6**
	SNR=17						
KAPI	**Kappang**	**12.94 250**		Pn	**Pn**	**19 55 44.7**	**+3.6**
	SNR=17						
GUIM	**Jordan**	**14.45 320**		*e*P	**Pn**	**19 55 57.5**	**-4.2**
MYLDM	**Lahad Datu**	**14.55 293**		*e*Pn	**Pn**	**19 56 04.2**	**+1.1**
WSI	**Waingapu**	**14.70 231**		P	**Pn**	**19 56 05.8**	**+0.7**
	326nm,0.9s,3μm						
SMKI	**Samarinda**	**14.71 270**		P	**Pn**	**19 56 05.8**	**+0.6**
	198nm,1.1s						
RCP	**Roxas**	**15.08 323**		*e*P	**Pn**	**19 56 11.2**	**+1.1**
WBSI	**Waikabubak, Su**	**15.40 234**		P	**Pn**	**19 56 14.1**	**-0.4**
	160nm,1.1s,1μm						
MANU	**Manus Island**	**15.52 96**		*e*Pn	**Pn**	**19 56 17.5**	**+1.5**
	111nm,1.3s						
KBKI	**Kotabaru**	**15.98 260**		P	**Pn**	**19 56 22.8**	**+0.9**
	100nm,1.2s,1μm						
PLAI	**Plampang**	**16.32 239**		P	**Pn**	**19 56 27.6**	**+1.4**
	113nm,1.2s,1μm						
SJMP	**San Jose**	**16.77 321**		*e*P	**Pn**	**19 56 32.2**	**+0.2**
KKM	**Kota Kinabalu**	**16.98 293**		*e*Pn	**Pn**	**19 56 35.2**	**+0.5**
	97nm,1.1s						
MTKI	**Muara Teweh, K**	**17.02 269**		P	**P**	**19 56 36.3**	**-0.4**
	52nm,0.9s,4μm						
ENPP	**El Nido**	**17.03 314**		*e*P	**Pn**	**19 56 34.7**	**-0.5**
TWSI	**Taliwang, Sumb**	**17.05 241**		P	**P**	**19 56 37.3**	**+0.3**
BOAC	**Boac**	**17.11 325**		*e*P	**P**	**19 56 38.4**	**+0.7**
COEN	**Coen**	**17.38 141**		P	**Pn**	**19 56 37.4**	**-2.1**
	baz=17,SNR=14						
COEN	**Coen**	**17.38 141**		*e*Pn	**Pn**	**19 56 37.5**	**-2.1**
	159nm,0.8s						
PMG	**Port Moresby**	**17.55 121**		P	**Pn**	**19 56 40.9**	**-0.7**
	0.9nm,0.3s,baz=300,slow=8.9,SNR=13						
PMG				LR	LR	20 06 08.1	
	comp=Z,1μm,18.9s,baz=302,slow=46						
PMG	**Port Moresby**	**17.55 121**		*e*Pn	**P**	**19 56 43.1**	**+0.7**
	200nm,1.4s						
PMG	**Port Moresby**	**17.55 121**		*c i*P	**P**	**19 56 43.2**	**+0.7**
PMG				pmax	pmax		
	comp=Z,666nm,1.7s						
LQP	**Lukban**	**17.81 325**		*e*P	**P**	**19 56 48.3**	**+2.7**
TGY	**Tagaytay City**	**18.15 324**		P	**P**	**19 56 49.7**	**+0.4**
	baz=314,slow=5.6,SNR=7.9						
TGY				LR	LR	20 03 54.9	
	comp=Z,688nm,21.0s,baz=136,slow=37						
SRBI	**Singaraja**	**18.26 245**		P	**Pn**	**19 56 53.0**	**+2.6**
	comp=Z,118nm,1.3s,comp=Z,2μm						
LUBP	**Lubang**	**18.29 321**		*e*P	**P**	**19 56 48.8**	**-1.9**
FITZ	**Fitzroy Crossi**	**18.52 199**		P	**P**	**19 56 49.5**	**-3.6**
	comp=Z,0.9nm,0.3s,baz=39,slow=10,SNR=39						
FITZ				S	Sn	20 00 06.1	-14
	comp=Z,1.6nm,0.3s,baz=217,slow=15,SNR=5.7						
FITZ				LR	LR	20 06 32.4	
	comp=Z,1μm,19.0s,baz=24,slow=45						
FITZ	**Fitzroy Crossi**	**18.52 199**		*e*P	**P**	**19 56 49.1**	**-4.1**
	comp=Z,36nm,0.8s						
FITZ				S	Sn	20 00 06.1	-14
BALP	**Baler**	**19.12 328**		*e*P	**Pn**	**19 57 01.8**	**+1.0**
JAGI	**Jajag, Banyuwa**	**19.37 245**		P	**Pn**	**19 57 04.7**	**+0.8**
	comp=Z,221nm,1.0s,comp=Z,2μm						
WRAB	**Tennant Creek**	**19.43 173**		*e*P	**P**	**19 57 02.2**	**-1.0**
	comp=Z,142nm,1.0s						
WRAB	**Tennant Creek**	**19.43 173**		*de*P	**P**	**19 57 02.2**	**-1.0**
WRAB				pmax	pmax		
	comp=Z,138nm,1.0s						
WRA	**Warramunga Arr**	**19.44 173**		P	**P**	**19 57 02.9**	**-0.4**
	comp=Z,6.8nm,0.3s,baz=353,slow=11,SNR=166						
WRA				S	**S**	**20 00 32.0**	**-9.5**
	comp=Z,2.6nm,0.3s,baz=350,slow=24,SNR=7.4						
WRA				LR	LR	20 05 32.7	
	comp=Z,1μm,20.3s,baz=0.0,slow=40						
WB2	**Warramunga Arr**	**19.44 173**		*e*P	**P**	**19 57 01.1**	**-2.2**
WB2				*e*P	**Pn**	**19 57 02.3**	**-2.4**
SBUM	**Sibu**	**19.91 279**		*e*P	**Pn**	**19 57 10.0**	**-0.3**
	comp=Z,49nm,1.0s						
GMJI	**Gumukmas**	**19.95 247**		P	**Pn**	**19 57 10.6**	**-0.1**
	comp=Z,132nm,2.1s,comp=Z,2μm						
CAUP	**Cauayan**	**20.01 331**		*e*P	**Pn**	**19 57 11.3**	**-0.1**
SCZP	**Santa Cruz**	**20.08 324**		*e*P	**P**	**19 57 10.0**	**-0.2**
PBKI	**Pangkalan Bun**	**20.35 264**		P	**P**	**19 57 14.5**	**+1.2**
	comp=Z,282nm,1.3s						
GRJI	**Gresik**	**20.40 251**		P	Pn	19 57 15.6	-0.4
	comp=Z,51nm,0.9s						
STKI	**Sintang**	**20.45 272**		P	Pn	19 57 15.6	-1.0
	comp=Z,105nm,0.9s						
RABL	**Rabaul**	**20.55 101**		*e*P	Pn	19 57 17.0	-0.8
	comp=Z,148nm,0.8s						
BOLP	**Bolinao**	**20.56 325**		*e*P	**P**	**19 57 15.9**	**+0.4**
ABRA	**Dolores**	**21.17 329**		*e*P	**P**	**19 57 22.6**	**+0.6**
QIS	**Mount Isa**	**21.28 160**		P	**P**	**19 57 22.3**	**-0.9**
	baz=21,SNR=71						
MTSU	**Mount Surprise**	**21.32 146**		P	**P**	**19 57 23.6**	**-0.1**
	baz=21,SNR=110						
PWJI	**Pagerwojo**	**21.38 249**		P	**P**	**19 57 25.1**	**+0.7**
	comp=Z,94nm,1.2s,comp=Z,1μm						
KSM	**Kuching**	**21.70 275**		*e*P	**P**	**19 57 28.4**	**+0.6**
	comp=Z,93nm,0.9s						
SMRI	**Semarang**	**22.37 253**		P	**P**	**19 57 38.7**	**+3.6**
	comp=Z,120nm,0.9s						
AS31	**Alice Springs**	**23.08 175**		*e*P	**P**	**19 57 41.8**	**-0.6**
	comp=Z,71nm,0.8s						
ASAR	**Alice Springs**	**23.08 175**		P	**P**	**19 57 41.4**	**-1.0**
ASAR				pmax	pmax		
	comp=Z,259nm,0.9s						
ASAR				MLR	MLR		
	comp=Z,3μm,18.5s						
AS01	**Alice Springs**	**23.08 175**		*e*P	**P**	**19 57 41.8**	**-0.6**
MBWA	**Marble Bar**	**23.70 209**		*e*P	**P**	**19 57 49.6**	**+1.1**
	comp=Z,95nm,1.0s						
MBWA	**Marble Bar**	**23.70 209**		P	**P**	**19 57 50.5**	**+2.0**
	SNR=10						
MBWA	**Marble Bar**	**23.70 209**		P	**P**	**19 57 50.5**	**+2.0**
	SNR=10						
KPJI	**Karang Pucung**	**23.89 253**		P	**P**	**19 57 51.9**	**+1.5**
CTA	**Charters Tower**	**23.97 145**		P	**P**	**19 57 50.8**	**-0.3**
	comp=Z,118nm,1.0s,baz=326,slow=12,SNR=58						
CTA				LR	LR	20 08 02.2	
	comp=Z,990nm,19.0s,baz=318,slow=39						
CTAO	**Charters Tower**	**23.97 145**		*e*P	**P**	**19 57 51.9**	**+0.8**
	comp=Z,211nm,1.1s						
CTAO	**Charters Tower**	**23.97 145**		*e*P	**P**	**19 57 51.9**	**+0.8**
CTAO				pmax	pmax		
	comp=Z,211nm,1.1s						
WRKA	**Warakurna**	**24.61 188**		P	**P**	**19 57 57.2**	**+0.2**
	baz=25,SNR=58						
LEM	**Lembang**	**25.03 255**		P	**P**	**19 58 00.7**	**-0.3**
	comp=Z,43nm,1.0s,baz=58,slow=8.8,SNR=6.2						
TWG	**Pinlang**	**25.50 336**		*e*P	**P**	**19 58 02.2**	**-2.7**
	comp=Z,62nm,0.8s						
SSLB	**Suanglung**	**26.41 337**		*e*P	**P**	**19 58 11.3**	**-1.9**
	comp=Z,21nm,0.9s						
YHNB	**Yeheng**	**27.05 339**		*e*P	**P**	**19 58 19.6**	**+0.6**
	comp=Z,65nm,1.3s						
JOW	**Kunigami**	**27.43 353**		P	**P**	**19 58 22.4**	**+0.1**
	comp=Z,45nm,1.0s,baz=197,slow=5.9,SNR=4.6						
JOW				LR	LR	20 08 22.1	
	comp=Z,1μm,19.4s,baz=112,slow=34						
JOW	**Kunigami**	**27.43 353**		*e*P	**P**	**19 58 22.8**	**+0.5**
	comp=Z,77nm,1.1s						
MYKOM	**Kota Tinggi**	**28.16 275**		*e*P	**P**	**19 58 29.5**	**+0.5**
	comp=Z,77nm,0.8s						
QZH	**Quanzhou**	**28.42 334**		*i*P	**P**	**19 58 31.0**	**-0.2**
QZH				S	**S**	**20 03 18.8**	**+2.4**
QZH				LR	LR		
	comp=Z,420nm,11.4s						
QZH				LR	LR		
	comp=Z,320nm,12.5s						
QZH				LR	LR		
	comp=Z,700nm,14.9s						
QLP	**Quilpie**	**28.49 156**		P	**P**	**19 58 31.4**	**-0.4**
	baz=29,SNR=60						
MEEK	**Meekatharra**	**28.94 205**		P	**P**	**19 58 36.3**	**+0.5**
	baz=29,SNR=4.7						
FORT	**Forrest**	**30.30 187**		P	**P**	**19 58 49.0**	**+1.1**
	baz=30,SNR=36						
FORT	**Forrest**	**30.30 187**		*e*P	**P**	**19 58 48.7**	**+0.9**
	comp=Z,3μm,0.8s						
RMQ	**Roma**	**30.48 149**		P	**P**	**19 58 49.4**	**-0.1**
	baz=30,SNR=15						
EIDS	**Eidsvold**	**30.86 145**		P	**P**	**19 58 53.4**	**+0.6**
	baz=31,SNR=11						
EIDS	**Eidsvold**	**30.86 145**		*e*P	**P**	**19 58 52.5**	**-0.3**
	comp=Z,81nm,0.9s						
IPM	**Ipoh**	**31.26 279**		*e*P	**P**	**19 58 54.8**	**-1.8**
	comp=Z,82nm,0.9s						
KULM	**Kulim**	**31.76 281**		*e*P	**P**	**19 59 01.0**	**+0.1**
	comp=Z,75nm,1.0s						
KMBL	**Kambalda**	**32.11 196**		P	**P**	**19 59 04.4**	**+0.7**
	baz=32,SNR=14						
SKLT	**Songkhla**	**32.14 284**		P	**P**	**19 59 04.5**	**+0.2**
	comp=Z,108nm,1.1s,comp=Z,1μm						
MORW	**Morawa**	**32.17 207**		P	**P**	**19 59 05.3**	**+0.9**
	baz=32,SNR=4.5						
CHBT	**CHBT**	**32.18 295**		P	**P**	**19 59 06.1**	**+1.6**
	comp=Z,429nm,1.1s,comp=Z,173μm						
BBOO	**Buckleboo**	**32.34 173**		P	**P**	**19 59 06.3**	**+0.6**
	baz=32,SNR=29						
BBOO	**Buckleboo**	**32.34 173**		*e*P	**P**	**19 59 06.4**	**+0.6**
	comp=Z,105nm,1.0s						
STKA	**Stephens Creek**	**32.49 165**		P	**P**	**19 59 06.5**	**-0.5**
	comp=Z,36nm,0.9s,baz=342,slow=8.5,SNR=62						
STKA				LR	LR	20 13 52.2	
	comp=Z,1μm,18.1s,baz=343,slow=39						
STKA	**Stephens Creek**	**32.49 165**		P	**P**	**19 59 06.6**	**-0.5**
	baz=33,SNR=22						
STKA	**Stephens Creek**	**32.49 165**		*e*P	**P**	**19 59 07.0**	**-0.1**
	comp=Z,9.8nm,0.9s						
STKA	**Stephens Creek**	**32.49 165**		*e*P	**P**	**19 59 07.0**	**-0.1**
STKA				pmax	pmax		
	comp=Z,10.0nm,0.9s						
SKNT	**Sakolnakorn**	**32.56 304**		P	**P**	**19 59 07.8**	**-0.1**
	comp=Z,18nm,1.3s						
SSE	**Sheshan**	**33.06 343**		P	**P**	**19 59 11.9**	**-0.2**
SSE				S	**S**	**20 04 30.6**	**+1.6**
SSE				pmax	pmax		
	comp=Z,28nm,0.7s						
SSE				pmax	pmax		
	comp=Z,95nm,3.8s						
SSE				LR	LR		
	comp=Z,250nm,15.4s						
SSE				LR	LR		
	comp=Z,260nm,16.9s						
PSI	**Prapat**	**33.15 276**		*e*P	**P**	**19 59 12.7**	**-0.5**
	comp=Z,101nm,0.9s						
PSI	**Prapat**	**33.15 276**		*e*P	**P**	**19 59 12.7**	**-0.5**
PSI				pmax	pmax		
	comp=Z,101nm,0.9s						
TRTT	**Trang**	**33.19 285**		P	**P**	**19 59 13.4**	**0.0**
	comp=Z,70nm,0.9s,comp=Z,615nm						
BLDU	**Ballidu**	**33.22 204**		P	**P**	**19 59 14.1**	**+0.5**
	baz=33,SNR=8.9						
KHON	**Khomkaen**	**33.24 302**		P	**P**	**19 59 15.1**	**+1.3**
	comp=Z,16nm,1.0s						
HTT	**Hallett**	**33.38 169**		P	**P**	**19 59 15.6**	**+0.7**
	baz=34,SNR=14						
CMSA	**Cobar Meteorol**	**33.48 158**		P	**P**	**19 59 15.5**	**-0.3**
	baz=34,SNR=21						
JNU	**Nakatsue**	**33.49 358**		LR	LR	20 12 18.7	
	comp=Z,694nm,19.1s,baz=174,slow=35						
JNU	**Nakatsue**	**33.49 358**		*e*P	**P**	**19 59 15.9**	**+0.1**
	comp=Z,67nm,1.2s						
KLBR	**Kellerberrin**	**33.67 202**		P	**P**	**19 59 18.2**	**+0.8**
	baz=34,SNR=9.3						
NAYO	**Nakonayok**	**33.68 297**		P	**P**	**19 59 18.9**	**+1.2**
	comp=Z,242nm,0.9s,comp=Z,8μm						
CHAI	**Chaiyaphum**	**33.76 300**		P	**P**	**19 59 18.8**	**+0.4**
	comp=Z,11nm,0.9s,comp=Z,106nm						
JHJ	**Hachijo jima 2**	**34.28 12**		LR	LR	20 10 59.8	
	comp=Z,1μm,18.6s,baz=186,slow=32						
PKDT	**Phuket**	**34.51 285**		P	**P**	**19 59 25.0**	**+0.1**
	comp=Z,56nm,1.0s,comp=Z,564nm						
NJ2	**Nanjing**	**34.68 340**		*e*P	**P**	**19 59 27.1**	**+1.0**
NJ2				pmax	pmax		
	comp=Z,24nm,0.5s						
PBKT	**Sadao Pong**	**34.93 301**		P	**P**	**19 59 28.5**	**0.0**
	comp=Z,21nm,1.5s,comp=Z,540nm						
NWAO	**Narrogin (SRO)**	**35.06 202**		P	**P**	**19 59 29.7**	**+0.2**
	comp=Z,18nm,0.8s,baz=262,slow=6.9,SNR=8.7						
NWAO	**Narrogin (SRO)**	**35.06 202**		P	**P**	**19 59 30.2**	**+0.8**
	baz=35,SNR=6.2						
NWAO				P	**P**	**19 59 30.2**	**+0.8**
	baz=35,SNR=6.2						
NWAO	**Narrogin (SRO)**	**35.06 202**		P	**P**	**19 59 29.7**	**+0.2**
NWAO				pmax	pmax		
	comp=Z,19nm,0.8s						
WHN	**Wuhan**	**35.13 333**		P	**P**	**19 59 31.4**	**+1.4**
WHN				LR	LR		
	comp=Z,1μm,22.1s						
ARMA	**Armidale**	**35.13 150**		P	**P**	**19 59 29.9**	**-0.3**
	baz=35,SNR=67						
ARMA	**Armidale**	**35.13 150**		*e*P	**P**	**19 59 30.6**	**+0.4**
	comp=Z,139nm,0.8s						
SRDT	**SRDT**	**35.67 296**		P	**P**	**19 59 35.5**	**+0.6**
	comp=Z,54nm,1.4s,comp=Z,689nm						
PHIT	**Phitsanulok**	**35.68 301**		P	**P**	**19 59 36.5**	**+1.6**
	comp=Z,19nm,1.0s,comp=Z,207nm						
NANT	**Nan**	**36.18 304**		P	**P**	**19 59 40.4**	**+1.2**
	comp=Z,4.7nm,1.0s,comp=Z,51nm						
RKGY	**Rocky Gully**	**36.67 201**		P	**P**	**19 59 45.6**	**+2.4**
	baz=37,SNR=6.6						
TJN	**Taejon**	**36.96 354**		*ce*P	**P**	**19 59 45.6**	**0.0**
YNG	**Young**	**36.97 157**		P	**P**	**19 59 46.7**	**+0.9**
	baz=37,SNR=13						
ARPS	**Mount Arapiles**	**37.21 167**		P	**P**	**19 59 48.6**	**+0.9**
	baz=37,SNR=17						
ENH	**Enshi**	**37.34 327**		*e*P	**P**	**19 59 48.6**	**-0.4**
	comp=Z,19nm,1.0s						
MJAR	**Matsushiro Arr**	**37.34 8**		P	**P**	**19 59 46.9**	**-2.0**
	comp=Z,3.2nm,0.8s,baz=200,slow=11,SNR=10						
MJAR				LR	LR	20 12 04.6	
	comp=Z,587nm,21.7s,baz=185,slow=31						
MAJO	**Matsushiro**	**37.35 8**		*e*P	**P**	**19 59 47.2**	**-1.7**
	comp=Z,8.2nm,0.8s						
MAJO	**Matsushiro**	**37.35 8**		*e*P	**P**	**19 59 49.4**	**+0.5**
MAJO				pmax	pmax		
	comp=Z,9.0nm,0.9s						
MAT	**Matsushiro**	**37.35 8**		P	**P**	**19 59 46.4**	**-2.5**
MJB9	**Matsu-Tunnel**	**37.35 8**		*e*P	**P**	**19 59 47.3**	**-1.7**
	comp=Z,8.6nm,0.9s						
CM01	**Chiang Mai Arr**	**37.47 302**		*e*P	**P**	**19 59 49.7**	**-0.5**
CM01				*e*PcP	**PcP**	**20 02 09.4**	**+0.9**
CM31	**Chiang Mai Arr**	**37.50 302**		*e*P	**P**	**19 59 50.6**	**+0.1**
CMAR	**Chiang Mai Arr**	**37.50 302**		P	**P**	**19 59 50.8**	**+0.3**
	comp=Z,8.7nm,0.9s,baz=123,slow=7.4,SNR=49						
CMAR				PcP	**PcP**	**20 02 09.9**	**+1.4**
	comp=Z,3.8nm,0.8s,baz=138,slow=2.0,SNR=8.4						
CMAR				ScP	**ScP**	**20 05 54.9**	**+1.1**
	comp=Z,1.9nm,1.1s,baz=130,slow=2.4,SNR=6.3						
CMAR				LR	LR	20 16 27.5	
	comp=Z,201nm,18.1s,baz=108,slow=38						
CHTO	**Chiang Mai**	**37.66 302**		P	**P**	**19 59 52.4**	**+0.6**
	comp=Z,79nm,1.8s						
CHTO	**Chiang Mai**	**37.66 302**		*e*P	**P**	**19 59 51.7**	**-0.1**
	comp=Z,15nm,1.0s						
CHTO	**Chiang Mai**	**37.66 302**		P	**P**	**19 59 52.9**	**+1.1**
	SNR=8.9						
CHTO	**Chiang Mai**	**37.66 302**		P	**P**	**19 59 52.9**	**+1.1**
	SNR=8.9						
CHTO	**Chiang Mai**	**37.66 302**		*e*P	**P**	**19 59 51.7**	**-0.1**
CHTO				pmax	pmax		
	comp=Z,15nm,1.0s						
KSAR	**Wonju Array Be**	**37.97 355**		P	**P**	**19 59 54.6**	**+0.6**
KSAR	**Wonju Array Be**	**37.97 355**		P	**P**	**19 59 54.7**	**+0.6**
KSRS	**Korea Array**	**37.98 355**		P	**P**	**19 59 54.6**	**+0.5**
	comp=Z,3.0nm,0.7s,baz=165,slow=9.7,SNR=9.0						
KSRS				LR	LR	20 14 20.7	
	comp=Z,700nm,19.9s,baz=174,slow=34						
KMI	**Kunming**	**38.04 314**		P	**P**	**19 59 56.0**	**+0.8**
KMI				pP	pP	20 00 05.0	+0.5
KMI				sP	sP	20 00 09.8	+1.4
KMI				PP	**PnPn**	**20 01 26.0**	**+1.9**
KMI	

CD2 LR LR
comp=Z,900nm,18.4s
CD2 LR LR
comp=Z,850nm,17.9s
CD2 LR LR
comp=Z,1µm,19.4s
SNY Shenyang 42.83 351 ⇑P **P 20 00 31.6 -2.7**
SNY S **S 20 06 54.8 -1.8**
SNY pmax pmax
comp=Z,180nm,10.2s
SNY LR LR
comp=Z,380nm,21.8s
SNY LR LR
comp=Z,490nm,16.5s
SNY LR LR
comp=Z,650nm,18.8s
BJT Baijiatuau 42.84 342 *e*P **P 20 00 34.4 -0.1**
comp=Z,53nm,1.1s
BJT Baijiatuau 42.84 342 *e*P **P 20 00 34.4 -0.1**
BJT pmax pmax
comp=Z,53nm,1.1s
BJI Beijing 42.86 342 P **P 20 00 34.6 0.0**
BJI pmax pmax
comp=Z,54nm,1.0s
BJI LR LR
comp=Z,510nm,20.6s
BJI LR LR
comp=Z,460nm,20.6s
BJI LR LR
comp=Z,220nm,16.7s
VLA Vladivostok 43.45 360 *de*P **P 20 00 40.6 +1.3**
VLA pmax pmax
comp=Z,19nm,1.2s
CN2 Changchun 44.51 353 *e*P **P 20 00 47.8 0.0**
CN2 *es*P sP 20 01 01.5 +0.5
CN2 *e*PP **PP 20 02 33.4 +1.3**
CN2 *e*S **S 20 07 20.1 -1.1**
CN2 *e*SS **SS 20 10 33.1 -8.5**
CN2 pmax pmax
comp=Z,10.0nm,1.2s
CN2 pmax pmax
comp=Z,200nm,6.0s
CN2 LR LR
comp=Z,340nm,20.0s
CN2 LR LR
comp=Z,320nm,20.0s
CN2 LR LR
comp=Z,350nm,22.0s
USRK Ussuriysk Ar. 44.53 0 P **P 20 00 47.8 -0.2**
comp=Z,18nm,0.9s,baz=177,slow=7.4,SNR=29
USRK LR LR 20 16 58.1
comp=Z,298nm,19.5s,baz=169,slow=33
LZH Lanzhou 44.82 327 *e*P **P 20 00 50.8 +0.1**
LZH pP pP 20 01 00.3 +0.2
LZH sP sP 20 01 04.8 +0.9
LZH PcP **PcP 20 02 31.8 -0.5**
LZH PP **PP 20 02 34.8 -1.0**
LZH *e*S **S 20 07 28.1 +1.8**
LZH sS sS 20 07 44.1 +2.3
LZH pmax pmax
comp=Z,75nm,1.1s
LZH pmax pmax
comp=Z,450nm,5.3s
LZH LR LR
comp=Z,2µm,16.0s
LZH LR LR
comp=Z,2µm,16.7s
LZH LR LR
comp=Z,2µm,19.6s
MDJ Mudanjiang 45.00 358 P **P 20 00 50.4 -1.3**
MDJ pP sP 20 01 04.8 -0.1
MDJ PcP **PcP 20 02 26.3 -6.2**
MDJ PP **PP 20 02 38.3 +1.0**
MDJ ScP **ScP 20 06 14.8 -8.0**
MDJ S **S 20 07 29.6 +1.4**
MDJ pmax pmax
comp=Z,39nm,0.8s
MDJ LR LR
comp=Z,510nm,16.6s
MDJ LR LR
comp=Z,82nm,7.2s
MDJ LR LR
comp=Z,590nm,15.7s
MDJ Mudanjiang 45.00 358 *e*P **P 20 00 51.7 0.0**
comp=Z,30nm,0.9s
HHC Hu-ho-hao-te 45.15 338 *e*P **P 20 00 53.4 +0.3**
HHC pP pP 20 01 01.5 -1.1
HHC S **S 20 07 30.3 -0.5**
HHC sS sS 20 07 46.3 0.0
HHC SS **ScS 20 10 42.5 -5.5**
HHC pmax pmax
comp=Z,43nm,1.1s
HHC pmax pmax
comp=Z,130nm,6.1s
HHC LR LR
comp=Z,2µm,14.3s
HHC LR LR
comp=Z,2µm,14.5s
HHC LR LR
comp=Z,2µm,15.7s
ASAJ Asahikawa 45.46 11 P **P 20 00 55.8 +0.4**
comp=Z,4.4nm,0.8s,baz=229,slow=11,SNR=11
ASAJ Asahikawa 45.46 11 *e*P **P 20 00 54.7 -0.7**
comp=Z,33nm,1.8s
TEY Ternei 45.56 5 *e*P **P 20 00 54.1 -2.0**
TEY pmax pmax
comp=N,13nm,0.8s
TEY pmax pmax
comp=Z,13nm,0.8s
SHL Shillong 46.56 307 *e*P **P 20 01 04.0 -0.6**
YSS Yuzh-Sakhalins 48.23 10 *e*P **P 20 01 16.8 -0.2**
comp=Z,20nm,0.8s
YSS Yuzh-Sakhalins 48.23 10 ⇑*i*P **P 20 01 17.0 0.0**
YSS *e**PP **pP 20 01 26.4 -0.1**
YSS *e**SP **sP 20 01 32.9 +2.6**
YSS *e*S **S 20 08 14.7 +0.3**
YSS pmax pmax
comp=Z,20nm,0.8s
YSS MLR MLR
comp=Z,200nm,18.0s
MSVF Nonsavu 48.45 113 *e*P **P 20 01 20.9 +1.7**
comp=Z,52nm,1.0s
MSVF Nonsavu 48.45 113⇓ *e*P **P 20 01 21.0 +1.7**
MSVF pmax pmax
comp=Z,28nm,1.1s
LSA Lhasa 49.12 311 *e*P **P 20 01 25.3 +0.5**
comp=Z,29nm,1.3s
LSA Lhasa 49.12 311 P **P 20 01 25.6 +0.9**
LSA Lhasa 49.12 311 *e*P **P 20 01 25.3 +0.5**
LSA pmax pmax
comp=Z,29nm,1.3s
GTA Gaotai 49.43 327 *e*P **P 20 01 26.8 +0.3**
GTA pP pP 20 01 36.3 +0.3
GTA sP sP 20 01 40.3 +0.5
GTA S **S 20 08 29.5 -2.3**
GTA SS **SS 20 11 57.1 -6.9**
GTA pmax pmax
comp=Z,24nm,1.0s
GTA pmax pmax
comp=Z,150nm,7.4s
GTA LR LR
comp=Z,280nm,15.7s
GTA LR LR
comp=Z,390nm,17.1s
GTA LR LR
comp=Z,450nm,17.6s
KLR Kul'dur 49.57 360 *ce*P **P 20 01 27.6 +0.4**
ODAN Odare 50.75 306 *e*P **P 20 01 35.7 -1.2**
comp=Z,69nm,1.0s
GRNR Gornyy 51.25 4 *e*P **P 20 01 39.3 -0.6**
GRNR pmax pmax
comp=Z,40nm,1.1s
RAMN Ramite 51.43 306 *e*P **P 20 01 41.0 -1.0**
comp=Z,118nm,1.0s
JIRN Jiri 52.05 306 *e*P **P 20 01 45.6 -1.2**
GUN Gumba 52.41 306 *e*P **P 20 01 48.1 -1.3**
comp=Z,108nm,1.1s
PKIN Phulchoki 52.66 306 *e*P **P 20 01 49.7 -1.5**
comp=Z,31nm,1.0s
ULN Ulaanbaatar 52.83 339 *e*P **P 20 01 51.9 -0.1**
comp=Z,59nm,0.9s
ULN Ulaanbaatar 52.83 339 P **P 20 01 52.1 +0.2**
SNR=31
ULN Ulaanbaatar 52.83 339 P **P 20 01 52.1 +0.2**
SNR=31
ULN Ulaanbaatar 52.83 339 *ce*P **P 20 01 51.7 -0.3**
ULN pmax pmax
comp=Z,72nm,1.0s
KKN Kakani 52.84 306 *e*P **P 20 01 51.1 -1.4**
comp=Z,69nm,1.1s
DMN Daman 52.91 306 *e*P **P 20 01 52.1 -0.9**
comp=Z,91nm,1.0s
SONM Songino Array 53.05 339 P **P 20 01 53.1 -0.4**
comp=Z,31nm,1.1s,baz=154,slow=7.9,SNR=55
SONA1 Songino Array 53.05 339 *e*P **P 20 01 52.8 -0.8**
GKN Gorkha 53.45 306 *e*P **P 20 01 56.0 -0.8**
comp=Z,97nm,1.0s
NKL Nikolayevsk 53.99 7 *e*P **P 20 02 00.5 +0.4**
NKL pmax pmax
comp=N,40nm,1.0s
NKL pmax pmax
comp=Z,110nm,1.0s
NKL MLR MLR
comp=N,400nm,15.0s
NKL MLR MLR
comp=E,250nm,15.0s
NKL MLR MLR
comp=Z,400nm,15.0s
KOLN Koldanda 54.20 305 *e*P **P 20 02 01.5 -0.9**
comp=Z,190nm,0.8s
ZEA Zeya 54.22 357 *e*P **P 20 02 00.5 -1.3**
ZEA pmax pmax
comp=N,35nm,1.0s
ZEA pmax pmax
comp=Z,43nm,1.2s
PYUN Piuthan 54.82 305 *e*P **P 20 02 06.0 -0.9**
comp=Z,390nm,1.0s
SKR Severo-Kuril's 55.03 19⇑ *e*P **P 20 02 07.5 -0.2**
RPZ Rata Peaks 55.34 146 LR LR 20 25 48.6
comp=Z,2µm,19.5s,baz=320,slow=36
RPZ Rata Peaks 55.34 146 *e*P **P 20 02 10.5 +0.4**
comp=Z,38nm,1.0s
LTZ Lake Taylor 55.44 145 *e*P **P 20 02 11.7 +0.8**
comp=Z,37nm,1.1s
HYB Hyderabad 55.46 292 *i*P **P 20 02 14.0 +2.5**
comp=Z,90nm,1.0s
URZ Urewera 55.92 138 *e*P **P 20 02 14.7 +0.4**
comp=Z,42nm,1.1s
BKZ Black Stump Fm 55.98 139 *e*P **P 20 02 15.0 +0.1**
comp=Z,43nm,1.0s
ZAK Zakamensk 56.30 338 *e*P **P 20 02 16.6 -0.4**
ZAK pmax pmax
comp=Z,12nm,1.0s
TLY Talaya 57.24 339 *e*P **P 20 02 24.4 +0.8**
TLY *e*S **S 20 10 24.3 +7.0**
TLY pmax pmax
comp=Z,11nm,0.9s
TLY MLR MLR
comp=Z,257nm,18.0s
AFI Afiamalu 57.26 106 LR LR 20 26 08.0
comp=Z,217nm,18.3s,baz=282,slow=35
IRK Irkutsk 57.49 340 *e*P **P 20 02 24.7 -0.6**
IRK pmax pmax
comp=Z,54nm,1.9s
PEA0B Petropavlovsk- 57.62 18 *e*P **P 20 02 26.5 +0.3**
comp=Z,70nm,1.1s
PETK Petropavlovsk- 57.62 18 P **P 20 02 26.9 +0.7**
comp=Z,36nm,0.9s,baz=189,slow=3.4,SNR=31
PETK LR LR 20 23 20.2
comp=Z,169nm,21.8s,baz=224,slow=32
PETK Petropavlovsk- 57.62 18 *e*P **P 20 02 25.9 -0.3**
PET Petropavlovsk 57.85 19 *e*P **P 20 02 28.0 +0.3**
comp=Z,49nm,1.0s
PET Petropavlovsk 57.85 19⇑ *i*P **P 20 02 27.9 +0.1**
PET *e*S **S 20 10 23.7 -1.5**
PET *e*SS **SS 20 14 16.7 +0.3**
PET pmax pmax
comp=Z,57nm,1.1s
PET MLR MLR
comp=Z,200nm,15.0s
WMQ Urumqi 59.18 324 P **P 20 02 38.3 +1.0**
WMQ pP pP 20 02 46.5 -0.5
WMQ sP sP 20 02 53.8 +3.0
WMQ pmax pmax
comp=Z,87nm,1.3s
WMQ pmax pmax
comp=Z,450nm,4.3s
WMQ LR LR
comp=Z,710nm,27.7s
WMQ LR LR
comp=Z,630nm,20.9s
WMQ LR LR
comp=Z,690nm,25.9s
BOD Bodaibo 59.91 349 *e*P **P 20 02 41.2 -0.8**
BOD pmax pmax
comp=Z,28nm,1.4s
POO Poona 60.07 292 *e*P P 20 02 39.0 -4.9
HVS Khovu-Aksy 60.80 333⇑ *e*P **P 20 02 48.5 +0.2**
HVS pmax pmax
comp=Z,60nm,0.9s
MA2 Magadan 61.73 11 *e*P **P 20 02 54.7 +0.4**
comp=Z,53nm,1.2s
MA2 Magadan 61.73 11 *e*P **P 20 02 54.7 +0.4**
MA2 pmax pmax
comp=Z,53nm,1.2s
YAK Yakutsk 62.42 359 *e*P **P 20 02 58.4 -0.5**
comp=Z,157nm,0.8s
YAK Yakutsk 62.42 359 *e*P **P 20 02 58.9 0.0**
YAK *e**PP **pP 20 03 07.9 -0.8**
YAK *e* 20 03 37.0
YAK *e* 20 05 15.2
YAK *e*S **S 20 11 23.6 +0.1**
YAK *e**SS **sS 20 11 41.6 +2.0**
YAK *e* 20 12 45.1
YAK *e*SS **SS 20 15 29.9 +2.1**
YAK pmax pmax
comp=Z,141nm,1.0s
YAK pmax pmax
comp=N,32nm,1.1s
YAK pmax pmax
comp=E,6.0nm,1.0s
YAK pmax pmax
comp=Z,97nm,3.1s
YAK pmax pmax
comp=N,62nm,3.2s
YAK pmax pmax
comp=E,41nm,4.3s
YAK smax smax
comp=N,31nm,2.7s
YAK smax smax
comp=E,23nm,3.4s
DGZ Jazzator, Alta 62.86 329 *i*P **P 20 03 01.9 -0.4**
DGZ pmax pmax
comp=Z,34nm,1.2s
MK01 Makanchi Array 63.98 324 *e*P **P 20 03 09.2 -0.5**
MK31 Makanchi Array 64.00 324 *e*P **P 20 03 09.3 -0.5**
MK31 Makanchi Array 64.00 324 *e*P **P 20 03 09.3 -0.5**
MKAR Makanchi Array 64.00 324 P **P 20 03 09.3 -0.4**
comp=Z,46nm,0.8s,baz=119,slow=7.1,SNR=240
MKAR Makanchi Array 64.00 324 *e*P **P 20 03 09.3 -0.4**
comp=Z,281nm,0.9s
MAKZ Makanchi 64.19 324 *e*P **P 20 03 10.6 -0.4**
MAKZ Makanchi 64.19 324 *e*P **P 20 03 10.6 -0.4**
NIL Nilore 64.61 308 *e*P **P 20 03 12.8 -1.3**
comp=Z,73nm,1.0s
NIL Nilore 64.61 308 *e*P **P 20 03 12.8 -1.3**
NIL pmax pmax
comp=Z,73nm,1.0s
KRAR Krasnoyarsk 64.62 337⇑ *e*P **P 20 03 13.9 +0.3**
KSH Kashi 64.70 315 P **P 20 03 16.5 +1.9**
KSH sP sP 20 03 30.3 +2.2
KSH PcP **PcP 20 03 50.4 +2.2**
KSH S **S 20 11 51.5 -1.6**
KSH ScS **SKSac 20 13 06.5 -0.7**
KSH SS **SS 20 16 05.4 +0.8**
KSH pmax pmax
comp=Z,92nm,1.0s
KSH pmax pmax
comp=Z,580nm,3.2s
KSH LR LR
comp=Z,910nm,9.4s
KSH LR LR
comp=Z,830nm,10.1s
KSH LR LR
comp=Z,1µm,12.1s
KDJ Kajisay 64.96 318 *e*P **P 20 03 15.2 -1.1**
SEY Seymchan 65.14 10 *ce*P **P 20 03 17.9 +1.1**
ULHL Ulahol 65.64 318 P **P 20 03 21.7 +0.9**
SNR=28
KZA Kyzart 66.24 317 P **P 20 03 25.3 +0.5**
SNR=89
TKM2 Tokmak 2 66.35 318 P **P 20 03 24.6 -0.7**
SNR=25
KBK Karagaybulak 66.68 318 P **P 20 03 27.4 0.0**
SNR=17
ZALV Zalesovo Beam 66.74 332 P **P 20 03 25.8 -1.5**
comp=Z,20nm,0.8s,baz=114,slow=5.3,SNR=66
UCH Uchtor 66.80 317 P **P 20 03 28.8 +0.3**
SNR=80
CHMS Chumysh 66.95 318 P **P 20 03 28.1 -0.9**
SNR=20
FRU Bishkek 66.97 318 *e*P **P 20 03 30.0 +0.9**
FRU *e* 20 03 54.0
AAK Ala-Archa 66.98 317 P **P 20 03 30.1 +0.8**
SNR=20
AAK Ala-Archa 66.98 317 *e*P **P 20 03 29.5 +0.3**
comp=Z,48nm,1.5s
AAK Ala-Archa 66.98 317 P **P 20 03 30.3 +1.0**
SNR=18
AAK Ala-Archa 66.98 317 P **P 20 03 30.3 +1.0**
SNR=18
AAK Ala-Archa 66.98 317 *i*P **P 20 03 29.6 +0.3**
SNR=29
AAK Ala-Archa 66.98 317 *di*P **P 20 03 29.6 +0.3**
AAK pmax pmax
comp=Z,19nm,1.1s
USP Ospenovka 67.23 318 P **P 20 03 31.6 +0.9**
SNR=34
AML Almayashu 67.32 317 P **P 20 03 31.9 +0.2**
SNR=96
CASY Casey 67.35 189 *e*P **P 20 03 33.1 +2.2**
comp=Z,24nm,1.0s
EKS2 Erkin-Say 67.47 317 P **P 20 03 33.7 +1.3**
SNR=46
NVS Novosibirsk 68.01 332⇑ *i*P **P 20 03 34.7 -0.6**
NVS pmax pmax
comp=Z,48nm,1.1s
NVS pmax pmax
comp=N,18nm,0.9s
NVS pmax pmax
comp=E,25nm,1.0s
KURK Kurchatov 68.11 327 *e*P **P 20 03 35.6 -0.4**
comp=E,104nm,0.9s
KURK Kurchatov 68.11 327 P **P 20 03 36.2 +0.1**
SNR=42
KURK Kurchatov 68.11 327 P **P 20 03 36.2 +0.1**
SNR=42
KURK Kurchatov 68.11 327 *de*P **P 20 03 36.0 0.0**
KURK pmax pmax
comp=Z,129nm,1.0s
KURBB Kurchatov Arra 68.11 327 P **P 20 03 35.8 -0.2**
comp=Z,80nm,0.9s,baz=122,slow=5.7,SNR=260
KBL Kabul 68.21 308 *e*P **P 20 03 36.5 -0.8**
comp=Z,25nm,0.8s
KBL Kabul 68.21 308 *e*P **P 20 03 36.5 -0.8**
KBL pmax pmax
comp=Z,25nm,0.8s
RAR Rarotonga 69.63 112 LR LR 20 35 06.3
comp=Z,95nm,18.0s,baz=292,slow=37
KK31 Karatay Array 69.86 317 *e*P **P 20 03 46.8 -0.3**
KK31 Karatay Array 69.86 317 *e*P **P 20 03 46.8 -0.3**
KKAR Karatay Array 69.86 317 *e*P **P 20 03 46.8 -0.4**
KKAR Karatay Array 69.86 317 *e*P **P 20 03 46.8 -0.4**
TIXI Tiksi 72.09 359 *e*P **P 20 03 58.5 -1.5**
comp=Z,22nm,1.0s
TIXI Tiksi 72.09 359 *ci*P **P 20 03 59.4 -0.6**
TIXI pmax pmax
comp=Z,24nm,1.0s
BILL Bilibino 72.42 13⇓ *i*P **P 20 04 01.9 -0.2**
BILL *e* 20 04 20.2
BILL *e* 20 06 50.9
BILL pmax pmax
comp=Z,8.0nm,0.9s
BVAR Borovoye Array 73.70 326 P **P 20 04 09.9 -0.1**
comp=Z,63nm,0.9s,baz=115,slow=6.8,SNR=181
BRVK Borovoye 73.77 326 *e*P **P 20 04 09.9 -0.5**
comp=Z,65nm,0.8s
BRVK Borovoye 73.77 326 P **P 20 04 10.3 -0.1**
SNR=30
BRVK Borovoye 73.77 326 P **P 20 04 10.3 -0.1**
SNR=30
BRVK Borovoye 73.77 326 *ci*P **P 20 04 09.6 -0.8**
BRVK pmax pmax
comp=Z,67nm,0.8s
WSAR Wadi Sarin 74.87 294 LR LR 20 38 10.4
comp=Z,83nm,21.8s,baz=128,slow=36
GAMB Gambell 76.25 22 *e*P **P 20 04 25.6 +1.2**
comp=Z,15nm,1.1s
SOHO SOHO 76.89 295 *i*P **P 20 04 30.0 +1.1**
SNR=5.9
MSFE Esma-Masafi 77.37 296 P **P 20 04 32.3 +0.7**
GEYT Alibeck 77.58 309 P **P 20 04 31.9 -0.7**
comp=Z,28nm,0.9s,baz=146,slow=3.9,SNR=76
GEYT LR LR 20 45 11.0
comp=Z,106nm,18.2s,baz=220,slow=41
ALNE Al Ain 77.59 295 *i*P **P 20 04 32.6 -0.3**
SNR=7.4
VNDA Vanda 78.61 174 P **P 20 04 37.9 +0.4**
comp=Z,11nm,0.8s,baz=314,slow=5.8,SNR=32
VNDA LR LR 20 39 08.5
comp=Z,469nm,19.0s,baz=356,slow=36
VNDA Vanda 78.61 174 *e*P **P 20 04 38.0 +0.6**
ABKAR Akbulak array 78.71 321 *e*P **P 20 04 37.4 -1.2**
comp=Z,34nm,0.8s
PPT Papeete 78.88 108 LR LR 20 36 57.8
comp=Z,118nm,20.0s,baz=235,slow=34
PPT2 Papeete2 78.89 108 *e*LR LR 20 29 11.4
comp=Z,232nm,23.8s
SBA Scott Base 79.47 173 *e*P **P 20 04 44.1 +2.0**
SBA Scott Base 79.47 173 *e*P **P 20 04 44.1 +2.0**
MZR Muzera 79.56 293 P **P 20 04 43.8 0.0**
AKTO Aktyubinsk 80.20 321 P **P 20 04 46.2 -0.4**
comp=Z,19nm,0.8s,baz=97,slow=7.0,SNR=56
AKTO LR LR 20 46 10.5
comp=Z,30nm,18.1s,baz=107,slow=40
SVE Sverdlovsk 80.28 328⇑ *e*P **P 20 04 46.4 -0.5**
SVE pmax pmax
comp=Z,91nm,1.1s
ARU Arti 81.29 327 P **P 20 04 51.3 -1.0**
comp=Z,43nm,0.8s,baz=90,slow=2.6,SNR=78
ARU Arti 81.29 327 *e*P **P 20 04 51.2 -1.1**
ARU Arti 81.29 327 *di*P **P 20 04 51.3 -1.0**
ARU 20 07 52.1
ARU S **S 20 15 00.7 0.0**
ARU SS **SS 20 20 21.2 +4.5**
ARU pmax pmax
comp=Z,105nm,1.2s
MAW Mawson 81.63 201 LR LR 20 40 13.9
comp=Z,219nm,20.3s,baz=60,slow=35
SVW2 Sparrevohn 82.07 28 *e*P **P 20 04 57.4 +1.0**
PPLA Purkeypile 84.06 27 *e*P **P 20 05 07.9 +1.1**
IM3 Indian Mountai 84.14 23 *e*P **P 20 05 05.5 -1.4**
CAST Castle Rocks 84.23 26 *e*P **P 20 05 08.0 +0.5**
SUA Susitna One 84.42 28 *e*P **P 20 05 08.4 -0.2**
KTH Kantishna Hill 84.76 26 *e*P **P 20 05 10.4 +0.1**
RC01 Rabbit Creek A 84.83 29 *e*P **P 20 05 12.0 +1.4**
BPAW Bear Paw Mtn. 84.85 25 *e*P **P 20 05 11.0 +0.4**
TRF Thorofare Moun 85.02 26 *e*P **P 20 05 11.5 -0.1**
MLY Manley 85.14 25 *e*P **P 20 05 12.6 +0.5**
PMR Palmer 85.21 28 *e*P **P 20 05 12.3 0.0**
PMR Palmer 85.21 28 *e*P **P 20 05 12.4 0.0**
SML Sawmill 85.62 28 *e*P **P 20 05 14.8 +0.3**
SML Sawmill 85.62 28 *e*P **P 20 05 14.8 +0.3**
RND Reindeer 85.65 26 *e*P **P 20 05 13.7 -1.0**
RND Reindeer 85.65 26 *e*P **P 20 05 13.7 -1.0**
MCK McKinley 85.67 26 *e*P **P 20 05 14.7 0.0**
MCK McKinley 85.67 26 *e*P **P 20 05 14.7 0.0**
COLD Coldfoot 85.80 22 *e*P **P 20 05 17.3 +2.0**
AKT Akhty 85.98 311 *e*P **P 20 05 17.6 +0.7**
AKT pmax pmax
comp=Z,14nm,0.9s
SCM Sheep Creek Mo 86.09 28 *e*P **P 20 05 17.6 +0.7**
SCM Sheep Creek Mo 86.09 28 *e*P **P 20 05 17.6 +0.7**
WRH Wood River Hil 86.16 25 *e*P **P 20 05 16.1 -1.0**
MDM Murphy Dome 86.18 25 *e*P **P 20 05 17.5 +0.2**
DHY Denali Highway 86.26 27 *e*P **P 20 05 18.4 +0.6**
CCB Clear Creek Bu 86.31 25 *e*P **P 20 05 16.6 -1.2**
COLA College 86.32 25⇑ *e*P **P 20 05 17.2 -0.6**
COLA pmax pmax
comp=Z,4.0nm,0.9s
HDA Harding Lake 86.64 25 *e*P **P 20 05 19.0 -0.4**
KLU Klutina 86.71 28 *e*P **P 20 05 20.8 +0.9**
IL1 Eielson Array 86.72 25 *e*P **P 20 05 17.9 -1.9**
ILAR Eielson Array 86.72 25 P **P 20 05 18.2 -1.6**
comp=Z,2.5nm,0.8s,baz=260,slow=4.5,SNR=26
ILB Eielson Array 86.72 25 *e*P **P 20 05 18.7 -1.1**
DIV Divide 86.74 29 *e*P **P 20 05 21.2 +1.1**
RAYN Ar Rayn 86.92 293 *e*P **P 20 05 21.0 -0.8**

PAX	**Paxson**	**87.10**	**27**	*e*P	**P**	**20 05 23.2**	**+1.3**
PAX	**Paxson**	**87.10**	**27**	*e*P	**P**	**20 05 23.2**	**+1.3**
DDFL	**Dedoflistskaro**	**87.19**	**311**	P	**P**	**20 05 25.2**	**+2.5**
BMRM	**Bremner River**	**87.29**	**29**	*e*P	**P**	**20 05 23.5**	**+0.7**
RIDG	**Independ'e Rid**	**87.47**	**26**	*e*P	**P**	**20 05 24.0**	**+0.4**
GROC	**Groznyy**	**87.52**	**313**	*e*P	**P**	**20 05 23.1**	**-1.1**
GROC				*e*S	S	20 15 48.6	-15
GROC				pmax	pmax		
	comp=Z,29nm,1.0s						
DAMY	**Dhamar**	**87.73**	**285**	*e*P	**P**	**20 05 28.4**	**+2.2**
DGRG	**David-gareji**	**87.75**	**311**	P	**P**	**20 05 25.6**	**+0.2**
DGRG	**David-gareji**	**87.75**	**311**	*e*P	**P**	**20 05 25.6**	**+0.2**
DOT	**Dot Lake**	**87.81**	**26**	*e*P	**P**	**20 05 24.7**	**-0.5**
SCRK	**Sand Creek**	**87.87**	**26**	*e*P	**P**	**20 05 28.7**	**+3.1**
TAOE	**Nuku Hiva Isla**	**87.88**	**99**	*e*LR	LR	20 33 27.8	
	comp=Z,214nm,23.8s						
MENT	**Mentasta**	**87.89**	**27**	*e*P	**P**	**20 05 29.5**	**+3.9**
GNI	**Garni**	**88.17**	**310**	P	**P**	**20 05 27.2**	**-0.4**
	comp=Z,4.1nm,0.9s,baz=113,slow=5.7,SNR=5.9						
GNI				LR	LR	20 49 43.4	
	comp=Z,66nm,21.3s,baz=75,slow=39						
GNI	**Garni**	**88.17**	**310**	*e*P	**P**	**20 05 29.3**	**+1.7**
GNI	**Garni**	**88.17**	**310**	*ce*P	**P**	**20 05 27.7**	**+0.1**
GNI				pmax	pmax		
	comp=Z,21nm,1.2s						
TBLG	**Delisi**	**88.24**	**312**	*e*P	**P**	**20 05 29.7**	**+2.0**
TBLG	**Delisi**	**88.24**	**312**	*e*P	**P**	**20 05 29.7**	**+2.0**
ZEI	**Tsey**	**88.89**	**313**	*e*P	**P**	**20 05 29.1**	**-1.9**
ZEI				pmax	pmax		
	comp=Z,15nm,1.0s						
NCK	**Nalchik**	**89.14**	**313**	*e*P	**P**	**20 05 33.1**	**+1.2**
NCK				pmax	pmax		
	comp=Z,7.0nm,0.9s						
AKH	**Akhalkalaki**	**89.16**	**311**	P	**P**	**20 05 35.2**	**+3.0**
AKH	**Akhalkalaki**	**89.16**	**311**	*e*P	**P**	**20 05 35.0**	**+2.8**
AKH	**Akhalkalaki**	**89.16**	**311**	*e*P	**P**	**20 05 35.1**	**+2.8**
ATD	**Arta Tunnel**	**89.19**	**281**	LR	LR	20 46 08.6	
	comp=Z,46nm,18.4s,baz=92,slow=36						
ONI	**Oni**	**89.22**	**312**	P	**P**	**20 05 34.4**	**+2.0**
ONI	**Oni**	**89.22**	**312**	*e*P	**P**	**20 05 34.3**	**+2.0**
QSPA	**South Pole Qui**	**89.40**	**180**	P	**P**	**20 05 33.1**	**+0.4**
	comp=Z,17nm,0.8s,baz=324,slow=19,SNR=23						
QSPA				LR	LR	20 46 48.0	
	comp=Z,736nm,19.8s,baz=358,slow=36						
KBZ	**Khabaz**	**89.65**	**314**	P	**P**	**20 05 34.1**	**-0.1**
	comp=Z,3.0nm,1.0s,baz=171,slow=2.4,SNR=4.2						
KBZ				LR	LR	20 51 36.6	
	comp=Z,99nm,18.1s,baz=74,slow=40						
KIV	**Kislovodsk**	**89.81**	**314**	*e*P	**P**	**20 05 36.0**	**+0.9**
KIV				pmax	pmax		
	comp=Z,5.0nm,1.1s						
DAWY	**Dawson**	**89.90**	**26**	*e*P	**P**	**20 05 35.5**	**+0.5**
SYO	**Syowa Base**	**90.35**	**201**	‖*e*X	P	20 05 43.1	+6.2
VRH	**Novokhopyorsk**	**90.53**	**321**	*e*P	**P**	**20 05 39.1**	**+1.0**
VRH				pmax	pmax		
	comp=Z,6.0nm,0.6s						
KLMR	**Klimovskoe**	**91.63**	**331**	*e*P	**P**	**20 05 40.5**	**-2.6**
KLMR				AMP		20 05 42.1	
	comp=Z,11nm,1.0s						
KLMR				*e*PP	**PP**	**20 09 17.7**	**-3.8**
KLMR	**Klimovskoe**	**91.63**	**331**	*e*P	**P**	**20 05 40.4**	**-2.6**
KLMR				*e*		20 09 17.7	
KLMR				pmax	pmax		
	comp=Z,11nm,1.0s						
VSR	**Storozhevoye**	**92.14**	**321**	*e*P	**P**	**20 05 43.7**	**-1.9**
VSR				pmax	pmax		
	comp=Z,7.0nm,1.3s						
TMCR	**Tamitsa**	**92.17**	**334**	*e*P	**P**	**20 05 41.0**	**-4.5**
TMCR				pmax	pmax		
	comp=Z,26nm,1.4s						
INK	**Inuvik**	**92.19**	**22**	*e*P	**P**	**20 05 45.3**	**-0.2**
INK				*e*pP	**sP**	**20 05 57.6**	**-1.6**
INK	**Inuvik**	**92.19**	**22**	*e*P	**P**	**20 05 45.3**	**-0.2**
INK				*e**PP	**sP**	**20 05 57.6**	**-1.6**
LPSR	**Galich'ya Gora**	**92.24**	**322**	*e*P	**P**	**20 05 45.0**	**-1.0**
LPSR				pmax	pmax		
	comp=Z,10.0nm,0.6s						
RKT	**Rikitea**	**92.66**	**113**	*e*LR	LR	20 35 36.4	
	comp=Z,285nm,25.5s						
OBN	**Obninsk**	**93.50**	**325**	*ce*P	**P**	**20 05 50.1**	**-1.7**
OBN				*e*		20 09 37.9	
OBN				*i* S	**S**	**20 16 54.0**	**-3.9**
OBN				pmax	pmax		
	comp=Z,24nm,1.3s						
KMBO	**Kilima Mbogo**	**94.65**	**269**	LR	LR	20 47 09.2	
	comp=Z,109nm,19.4s,baz=103,slow=35						
SPITS	**Spitsbergen Ar**	**95.62**	**349**	LR	LR	20 51 01.0	
	comp=Z,222nm,21.3s,baz=30,slow=37						
MMAI	**Mount Meron Ar**	**95.75**	**303**	LR	LR	20 56 30.1	
	comp=Z,42nm,19.1s,baz=230,slow=40						
ARCES	**ARCESS Array B**	**96.20**	**340**	P	**P**	**20 06 02.7**	**-1.2**
	comp=Z,11nm,0.8s,baz=76,slow=5.1,SNR=25						
ARCES				LR	LR	20 53 35.4	
	comp=Z,203nm,21.0s,baz=96,slow=38						
BRTR	**Keskin Array B**	**96.71**	**310**	P	**P**	**20 06 05.5**	**-1.6**
	comp=Z,1.3nm,0.9s,baz=54,slow=6.4,SNR=3.6						
BRTR				LR	LR	20 55 07.2	
	comp=Z,44nm,22.0s,baz=86,slow=39						
FINES	**FINESS Array B**	**98.00**	**332**	P	**P**	**20 06 11.1**	**-1.1**
	comp=Z,2.6nm,0.9s,baz=69,slow=10,SNR=6.9						
YKA	**Yellowknife Ar**	**101.14**	**26**	P	**Pdif**	**20 06 26.1**	**0.0**
	comp=Z,0.2nm,0.4s,baz=294,slow=4.8,SNR=4.9						
YKA				PKKPbc	**PKKPbc**	**20 22 38.1**	**-1.2**
	comp=Z,0.6nm,1.0s,baz=102,slow=2.9,SNR=5.9						
UZH	**Uzhgorod**	**103.28**	**320**	*e*P	**Pdif**	**20 06 34.8**	**-1.2**
NOA	**NORSAR Array B**	**104.86**	**334**	Pdiff	**Pdif**	**20 06 41.1**	**-1.7**
	comp=Z,0.7nm,0.7s,baz=62,slow=4.8,SNR=3.3						
TXAR	**Lajitas Array**	**119.87**	**56**	PKP	**PKPdf**	**20 11 26.5**	**-0.8**
	comp=Z,1.2nm,0.8s,baz=211,slow=1.5,SNR=10						
TXAR				PKKPbc	**PKKPab**	**20 21 38.9**	**+0.2**
	comp=Z,0.7nm,0.8s,baz=134,slow=5.4,SNR=4.8						
PLCA	**Paso Flores**	**134.13**	**156**	PKP	**PKPdf**	**20 11 54.6**	**+0.4**
	comp=Z,2.0nm,0.8s,baz=244,slow=2.6,SNR=4.2						
KOWA	**Kowa**	**134.28**	**290**	PKP	**PKPdf**	**20 11 55.7**	**+0.7**
	comp=Z,1.5nm,0.7s,baz=295,slow=3.9,SNR=3.5						
DBIC	**Dimbokro**	**136.45**	**279**	PKP	**PKPdf**	**20 11 60.0**	**+0.9**
	comp=Z,2.8nm,0.9s,baz=66,slow=3.5,SNR=4.4						
DBIC	**Dimbokro**	**136.45**	**279**	PKIKP	**PKPdf**	**20 12 00.0**	**+0.9**
DBIC				pmax	pmax		
	comp=Z,3.0nm,0.9s						
BBTS	**Babate**	**145.80**	**296**	PKPbc	**PKPab**	**20 12 17.0**	**+0.3**
	comp=Z,50nm,0.8s,baz=232,slow=1.7,SNR=8.3						
CPUP	**Villa Florida**	**151.85**	**162**	PKPbc	**PKPbc**	**20 12 31.4**	**-0.3**
	comp=Z,4.4nm,0.9s,baz=194,slow=1.7,SNR=7.7						
LPAZ	**La Paz**	**154.10**	**131**	PKPbc	**PKPbc**	**20 12 38.9**	**+1.2**
	comp=Z,3.5nm,0.9s,baz=117,slow=0.7,SNR=7.6						

ISCJB ***18*** *20:04:05.6±0.2, 32°.29N±0°.03×47°.03E±0°.03, h20km, mb4.1/28, MS4.1/31, Error ellipse: s-maj=4.8km s-min=3.0km az=22.7*

TEH ***18*** *20:04:05.8, 32°.42N×46°.83E, h10km, ML4.4*

IDC ***18*** *20:04:05.1±0.7, 32°.48N×47°.12E, h0km, mb4.1/22, mb1 4.1/29, mb1mx4.0/73, mbtmp4.1/29, ML3.9/6, MS4.0/39, Ms1 4.0/39, ms1mx3.8/71, Error ellipse: s-maj=17.5km s-min=12.2km az=178.0*

GCMT ***18*** *20:04:06.7±0.3, 32°.52N×46°.93E, h12km, MW4.9/71, Moment Tensor Solution. s30,c33; s71,c109; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr2.18±.08; Mθθ-1.72±.08; Mφφ-0.46±.08; Mrθ0.95±.28; Mrφ1.41±.07; Mθφ0.88±.32; Best double couple: M0 2.75500×10^16 NP1:φs98.00000°, δ55.00000°, λ56.00000°. NP2: φs328.00000°, δ47.00000°, λ129.00000°. Principal axes: T 2.8520, Plg62.0000°, Azm309.0000°; N -0.1950, Plg27.0000°, Azm119.0000°; P -2.6580, Plg4.0000°, Azm211.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

CSEM ***18*** *20:04:06.7±0.1, 32°.42N×47°.05E, h10km, mb4.4/4 Error ellipse: s-maj=5.7km s-min=3.8km az=22.0*

NEIC ***18*** *20:04:06.8±0.4, 32°.43N×47°.09E, h10km, mb4.4/5, ML4.2(THR), MN4.4(TEH), Error ellipse: s-maj=8.7km s-min=6.1km az=187.0*

ISN ***18*** *20:04:07.8±1.1, 32°.35N×46°.81E, h6km±4km, ML4.4*

THR ***18*** *20:04:09.5±1.1, 32°.61N×47°.13E, h18km±16km, ML4.3*

DSN ***18*** *20:04:26.0±2.5, 31°.63N×48°.29E, h30km, mb5.7/1, ML4.7/1, Error ellipse: s-maj=27.6km s-min=17.8km az=143.0*

ISC 18 20:04:08.5±0.4, 32°46N±0°.04×47°04E±0°.04, h20km, n183, σ1§26/161, mb4.1/28, MS4.1/31, 14C-12D, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKFM	**Kafar-mosalman**	**1.25**	**32**	*e*AMB	AMB	20 04 58.9	
	comp=Z,99nm,0.2s						
SHGR	**Shooshtar-Gavs**	**1.53**	**103**	*e*Pg	**Pb**	**20 04 37.1**	**+1.0**
SHGR	**Shooshtar-Gavs**	**1.53**	**103**	*e*Pg	**Pb**	**20 04 37.2**	**+1.0**
SHGR	**Shooshtar-Gavs**	**1.53**	**103**	*e*Pg	**Pb**	**20 04 37.1**	**+1.0**
SHGR				AML	AML	20 05 10.4	
	comp=N,10μm,0.7s						
SHGR				AML	AML	20 05 16.9	
	comp=E,8μm,0.6s						
NSR	**Nassriya**	**1.64**	**208**	*e*Pn	**Pn**	**20 04 36.0**	**-0.2**
	SNR=4.0						
NSR				*i* Sn	**Sn**	**20 04 56.0**	**-0.7**
	SNR=4.0						
IKOM	**Komasi**	**1.75**	**13**	*e*Pn	**Pn**	**20 04 37.4**	**-0.5**
IKOM	**Komasi**	**1.75**	**13**	Pn	**Pn**	**20 04 37.3**	**-0.6**
IKOM				Sg	**Sb**	**20 05 03.2**	**+1.6**
IKOM	**Komasi**	**1.75**	**13**	*e*Pn	**Pn**	**20 04 37.4**	**-0.5**
IKOM				Sg	**Sb**	**20 05 03.2**	**+1.6**
IGHG	**Ghaleghazi**	**1.90**	**348**	*e*Pn	**Pb**	**20 04 45.5**	**+2.8**
IGHG	**Ghaleghazi**	**1.90**	**348**	Pn	**Pb**	**20 04 45.4**	**+2.8**
IGHG	**Ghaleghazi**	**1.90**	**348**	Pn	**Pb**	**20 04 45.4**	**+2.8**
IVIS	**Veis**	**2.06**	**356**	*e*Pn	**Pn**	**20 04 41.5**	**-0.7**
IVIS	**Veis**	**2.06**	**356**	Pn	**Pn**	**20 04 41.4**	**-0.7**
IVIS	**Veis**	**2.06**	**356**	Pn	**Pn**	**20 04 41.5**	**-0.7**
BHD	**Baghdad**	**2.38**	**290**	*e*Pn	**Pn**	**20 04 47.0**	**+0.6**
	SNR=4.0						
BHD				*i* Sn	**Sn**	**20 05 16.0**	**+1.0**
	SNR=4.0						
ILIN	**Lien**	**2.45**	**358**	*e*Pn	**Pn**	**20 04 47.2**	**-0.4**
ILIN	**Lien**	**2.45**	**358**	Pn	**Pn**	**20 04 47.1**	**-0.5**
ILIN	**Lien**	**2.45**	**358**	*e*Pn	**Pn**	**20 04 47.2**	**-0.4**
SNGE	**Sanandaj**	**2.63**	**5**	*e*Pn	**Pb**	**20 04 53.4**	**-1.8**
SNGE	**Sanandaj**	**2.63**	**5**	*e*Pn	**Pb**	**20 04 53.4**	**-1.8**
SNGE	**Sanandaj**	**2.63**	**5**	*e*Pn	**Pn**	**20 04 51.3**	**+1.2**
KHMZ	**Khomeyn**	**2.76**	**62**	*e*Pn	**Pn**	**20 04 53.7**	**+1.0**
KHMZ	**Khomeyn**	**2.76**	**62**	*e*Pn	**Pn**	**20 04 52.7**	**+1.0**
KHMZ				*e*Sg	**Sb**	**20 05 32.1**	**+1.4**
KHMZ				AML	AML	20 05 40.7	
	comp=N,756nm,0.6s						
KHMZ				AML	AML	20 05 48.8	
	comp=E,541nm,0.7s						
HAGD	**Aghdareh**	**2.93**	**36**	*e*Pn	**Pn**	**20 04 54.0**	**-0.2**
HAGD				*e*AMB	AMB	20 05 48.1	
	comp=Z,99nm,0.4s						
HAGD	**Aghdareh**	**2.93**	**36**	*e*Pn	**Pn**	**20 04 54.0**	**-0.2**
ASAO	**Ashtian**	**3.24**	**49**	*e*Pn	**Pn**	**20 05 00.1**	**+1.6**
ASAO	**Ashtian**	**3.24**	**49**	*e*Pn	**Pn**	**20 05 00.1**	**+1.6**
HKZM	**Kohzaman**	**3.29**	**28**	*e*Pn	**Pn**	**20 04 59.3**	**+0.1**
HKZM				*e*AMB	AMB	20 05 47.5	
	comp=Z,99nm,0.3s						
HKZM	**Kohzaman**	**3.29**	**28**	*e*Pn	**Pn**	**20 04 59.3**	**+0.1**
IRAZ	**Razeghan**	**3.79**	**38**	*e*Pn	**Pn**	**20 05 06.7**	**+0.8**
IRAZ				*e*AMB	AMB	20 06 31.0	
	comp=Z,9μm,0.5s						
IRAZ	**Razeghan**	**3.79**	**38**	*e*Pn	**Pn**	**20 05 06.7**	**+0.8**
IKLH	**Kolahrood**	**3.91**	**76**	*e*Pn	**Pn**	**20 05 07.6**	**0.0**
IKLH	**Kolahrood**	**3.91**	**76**	*e*Pn	**Pn**	**20 05 07.6**	**0.0**
QAM	**Ghamsar**	**3.91**	**69**	*e*Pn	**Pn**	**20 05 08.7**	**+1.1**
QAM				*e*AMB	AMB	20 06 21.3	
	comp=Z,8μm,0.3s						
GHVR	**GHOM**	**4.08**	**59**	*e*Pn	**Pn**	**20 05 11.3**	**+1.5**
GHVR	**GHOM**	**4.08**	**59**	*e*Pn	**Pn**	**20 05 11.3**	**+1.5**
IGAR	**Gharneh**	**4.23**	**89**	*e*Pn	**Pn**	**20 05 12.7**	**+0.7**
IGAR				*e*AMB	AMB	20 06 41.5	
	comp=Z,12μm,0.6s						
IMHD	**Mahdasht**	**4.40**	**42**	*e*AMB	AMB	20 06 29.0	
	comp=Z,3μm,0.4s						
IZEF	**Zefreh**	**4.48**	**83**	*e*Pn	**Pn**	**20 05 15.7**	**+0.2**
IZEF				*e*AMB	AMB	20 06 49.6	
	comp=Z,9μm,0.7s						
IZEF	**Zefreh**	**4.48**	**83**	*e*Pn	**Pn**	**20 05 15.7**	**+0.2**
IRAM	**Ramesheh**	**4.58**	**97**	*e*Pn	**Pn**	**20 05 16.8**	**0.0**
IRAM				*e*AMB	AMB	20 06 59.0	
	comp=Z,5μm,0.4s						
IRAM	**Ramesheh**	**4.58**	**97**	*e*Pn	**Pn**	**20 05 16.8**	**0.0**
IVRN	**Varamin**	**4.65**	**56**	*e*Pn	**Pn**	**20 05 17.4**	**-0.2**
IVRN				*e*AMB	AMB	20 06 52.7	
	comp=Z,7μm,0.6s						
IVRN	**Varamin**	**4.65**	**56**	*e*Pn	**Pn**	**20 05 17.4**	**-0.2**
IGZV	**Ghazvin**	**4.71**	**33**	*e*Pn	**Pn**	**20 05 18.0**	**-0.6**
IGZV				*e*AMB	AMB	20 06 26.6	
	comp=Z,2μm,0.4s						
IGZV	**Ghazvin**	**4.71**	**33**	*e*Pn	**Pn**	**20 05 18.0**	**-0.6**
IKAZ	**Kazeroun**	**4.91**	**122**	*e*AMB	AMB	20 06 31.2	
	comp=Z,13μm,0.3s						
IDMV	**Damavand**	**5.18**	**52**	*e*Pn	**Pn**	**20 05 25.5**	**+0.4**
IDMV				*e*AMB	AMB	20 07 05.2	
	comp=Z,7μm,1.0s						
IDMV	**Damavand**	**5.18**	**52**	*e*Pn	**Pn**	**20 05 25.5**	**+0.4**
IBST	**Bostanabad**	**5.23**	**359**	*e*Pn	Pn	20 05 17.4	-8.3
IBST				*e*AMB	AMB	20 05 53.9	
	comp=Z,359nm,0.5s						
RTB	**Rutbah**	**5.70**	**277**	*e*Pn	**Pn**	**20 05 32.0**	**-0.1**
	SNR=4.0						
RTB				*i* Sn	**Sn**	**20 06 35.0**	**-2.0**
	SNR=4.0						
ITBZ	**Tabriz**	**5.80**	**353**	*e*Pn	Pn	20 05 22.4	-11
ITBZ				*e*AMB	AMB	20 07 33.8	
	comp=Z,496nm,0.5s						
IHRS	**Heris**	**5.84**	**360**	*e*AMB	AMB	20 07 37.5	
	comp=Z,1μm,0.5s						
ISHB	**Shabestar**	**5.92**	**349**	*e*Pn	Pn	20 05 23.8	-11
ISHB				*e*AMB	AMB	20 06 36.6	
	comp=Z,400nm,0.3s						
ISRV	**Sarvestan**	**6.05**	**119**	*e*Pn	**Pn**	**20 05 38.8**	**+1.7**
ISRV				*e*AMB	AMB	20 08 14.2	
	comp=Z,9μm,0.6s						
ISRV	**Sarvestan**	**6.05**	**119**	*e*Pn	**Pn**	**20 05 38.8**	**+1.7**
ICHK	**Chekchek**	**6.24**	**90**	*e*Pn	**Pn**	**20 05 39.7**	**+0.1**
ICHK				*e*AMB	AMB	20 07 50.0	
	comp=Z,5μm,0.7s						
ICHK	**Chekchek**	**6.24**	**90**	*e*Pn	**Pn**	**20 05 39.7**	**+0.1**
IMEH	**Mehriz**	**6.52**	**97**	*e*Pn	**Pn**	**20 05 43.6**	**+0.1**
IMEH				*e*AMB	AMB	20 08 23.3	
	comp=Z,4μm,0.7s						
IMEH	**Mehriz**	**6.52**	**97**	*e*Pn	**Pn**	**20 05 43.6**	**+0.1**
GNI	**Garni**	**7.89**	**347**	LR	LR	20 09 03.1	
	comp=Z,440nm,18.1s,baz=164,slow=38						
ASF	**Jabal al Asfar**	**8.59**	**271**	Pn	**Pn**	**20 06 12.2**	**+0.4**
	comp=Z,1.2nm,0.3s,baz=50,slow=6.4,SNR=6.8						
ASF				LR	LR	20 10 30.1	
	comp=Z,660nm,19.2s,baz=44,slow=44						
MMAI	**Mount Meron Ar**	**9.82**	**276**	Pn	**Pn**	**20 06 29.0**	**+0.4**
	comp=Z,0.4nm,0.3s,baz=72,slow=14,SNR=2.5						
MMAI				LR	LR	20 11 00.4	
	comp=Z,496nm,21.0s,baz=80,slow=42						
SHME	**Shamm**	**10.19**	**127**	P	**Pn**	**20 06 32.3**	**-1.4**
BANOM	**Banah**	**10.38**	**127**	P	**Pn**	**20 06 34.6**	**-1.7**
BANOM	**Banah**	**10.38**	**127**	P	**Pn**	**20 06 34.6**	**-1.7**
NAZ	**Nazwa, Dubai**	**10.61**	**132**	P	**Pn**	**20 06 39.1**	**-0.3**
NAZ	**Nazwa, Dubai**	**10.61**	**132**	P	**Pn**	**20 06 39.1**	**-0.3**
MSFE	**Esma-Masafi**	**10.67**	**129**	P	**Pn**	**20 06 38.5**	**-1.7**
EIL	**Elat**	**10.74**	**258**	Pn	**Pn**	**20 06 41.5**	**+0.4**
	comp=Z,0.4nm,0.3s,baz=60,slow=9.8,SNR=4.6						
EIL				LR	LR	20 11 39.7	
	comp=Z,1μm,21.2s,baz=66,slow=42						
MDH	**Madha**	**10.80**	**129**	P	**Pn**	**20 06 39.8**	**-2.2**
MDH	**Madha**	**10.80**	**129**	P	**Pn**	**20 06 39.8**	**-2.2**
UOSS	**Minazif**	**10.98**	**131**	P	**Pn**	**20 06 42.6**	**-1.9**
UOSS	**Minazif**	**10.98**	**131**	P	**Pn**	**20 06 42.6**	**-1.9**
MZR	**Muzera**	**11.01**	**147**	P	**Pn**	**20 06 44.5**	**-0.4**
HATD	**Hatta, Dubai**	**11.02**	**131**	P	**Pn**	**20 06 42.3**	**-2.8**
HATD	**Hatta, Dubai**	**11.02**	**131**	P	**Pn**	**20 06 42.3**	**-2.8**
ASHO	**Ashiyiah**	**11.08**	**132**	P	**Pn**	**20 06 44.1**	**-1.8**
ASHO	**Ashiyiah**	**11.08**	**132**	P	**Pn**	**20 06 44.1**	**-1.8**
SOHO	**SOHO**	**11.77**	**132**	P	**Pn**	**20 06 53.6**	**-1.7**
SOHO	**SOHO**	**11.77**	**132**	P	**Pn**	**20 06 53.6**	**-1.7**
KVAR	**Kislovodsk Arr**	**11.97**	**345**	LR	LR	20 11 15.1	
	comp=Z,323nm,19.8s,baz=141,slow=36						
BRTR	**Keskin Array B**	**13.03**	**308**	Pn	**Pn**	**20 07 14.2**	**+1.6**
	comp=Z,0.0nm,0.3s,baz=143,slow=15,SNR=3.2						
BRTR				LR	LR	20 12 27.9	
	comp=Z,134nm,19.3s,baz=111,slow=38						
WSAR	**Wadi Sarin**	**13.76**	**129**	Pn	**Pn**	**20 07 20.6**	**-1.8**
	comp=Z,3.6nm,0.3s,baz=324,slow=11,SNR=15						
WSAR				LR	LR	20 13 38.1	
	comp=Z,580nm,19.6s,baz=336,slow=42						
IDI	**Anoyia**	**18.61**	**285**	P	**P**	**20 08 24.9**	**+0.3**
	comp=Z,0.5nm,0.3s,baz=118,slow=12,SNR=3.7						
ABKAR	**Akbulak array**	**19.36**	**26**	*e*P	**P**	**20 08 32.8**	**+0.1**
ABKAR	**Akbulak array**	**19.36**	**26**	*e*P	**P**	**20 08 32.8**	**+0.1**
AKTO	**Aktyubinsk**	**19.71**	**21**	P	**P**	**20 08 36.5**	**0.0**
	comp=Z,0.3nm,0.3s,baz=211,slow=14,SNR=4.2						
AKTO				LR	LR	20 18 34.7	
	comp=Z,722nm,18.2s,baz=212,slow=44						
PLOR	**Plostina**	**20.63**	**316**	‖*e*P	**P**	**20 08 47.5**	**+0.9**
PLOR	**Plostina**	**20.63**	**316**	‖*e*P	**P**	**20 08 47.5**	**+0.9**
MLR	**Muntele Rosu**	**20.86**	**315**	‖*e*P	Pn	20 08 51.0	-0.7
MLR	**Muntele Rosu**	**20.86**	**315**	‖*e*P	Pn	20 08 51.0	-0.7
TESR	**Tescani**	**21.00**	**318**	‖*e*P	**P**	**20 08 51.0**	**+0.4**
TESR	**Tescani**	**21.00**	**318**	‖*e*P	**P**	**20 08 51.0**	**+0.4**
SORM	**Soroca**	**21.09**	**323**	‖*e*P	**P**	**20 08 50.3**	**-1.1**
SORM	**Soroca**	**21.09**	**323**	‖*e*P	**P**	**20 08 50.3**	**-1.1**
ATD	**Arta Tunnel**	**21.19**	**191**	LR	LR	20 17 42.7	
	comp=Z,685nm,18.7s,baz=6.0,slow=38						
KKAR	**Karatay Array**	**21.31**	**53**	*e*P	**P**	**20 08 55.2**	**+1.3**
KKAR	**Karatay Array**	**21.31**	**53**	*e*P	**P**	**20 08 55.2**	**+1.3**
VOIR		**21.37**	**314**	‖*e*P	**P**	**20 08 55.6**	**+0.9**
VOIR		**21.37**	**314**	‖*e*P	**P**	**20 08 55.6**	**+0.9**
DOPR	**Dopca**	**21.44**	**315**	‖*e*P	**P**	**20 08 55.5**	**+0.2**
DOPR	**Dopca**	**21.44**	**315**	‖*e*P	**P**	**20 08 55.5**	**+0.2**
ARR	**Arges**	**21.59**	**313**	‖*e*P	**P**	**20 08 57.7**	**+0.7**
ARR	**Arges**	**21.59**	**313**	‖*e*P	**P**	**20 08 57.7**	**+0.7**
PRAR	**RASCA**	**21.73**	**319**	‖*e*P	**P**	**20 08 58.1**	**-0.3**
PRAR	**RASCA**	**21.73**	**319**	‖*e*P	**P**	**20 08 58.1**	**-0.3**
NIL	**Nilore**	**21.98**	**80**	*e*P	**P**	**20 09 00.2**	**-1.1**
	comp=Z,46nm,0.9s						
LOT	**Lotru**	**22.17**	**313**	‖*e*P	**P**	**20 09 03.8**	**+0.5**
LOT	**Lotru**	**22.17**	**313**	‖*e*P	**P**	**20 09 03.8**	**+0.5**
BURAR	**Bucovina Array**	**22.43**	**319**	‖*e*P	**P**	**20 09 06.0**	**-0.1**
BURAR	**Bucovina Array**	**22.43**	**319**	‖*e*P	**P**	**20 09 06.0**	**-0.1**
AKASG	**Malin Array Be**	**22.47**	**329**	P	**P**	**20 09 05.3**	**-1.0**
	comp=Z,2.1nm,0.6s,baz=137,slow=9.5,SNR=10						
ARCR	**ARCALIA**	**22.63**	**317**	‖*e*P	**P**	**20 09 07.5**	**-0.6**
ARCR	**ARCALIA**	**22.63**	**317**	‖*e*P	**P**	**20 09 07.5**	**-0.6**
DRGR		**23.45**	**315**	‖*e*P	**P**	**20 09 14.7**	**-1.9**
DRGR		**23.45**	**315**	‖*e*P	**P**	**20 09 14.7**	**-1.9**
OBN	**Obninsk**	**23.82**	**345**	LR	LR	20 20 07.1	
	comp=Z,235nm,20.5s,baz=146,slow=40						
SIRR	**Siria**	**23.86**	**313**	‖*e*P	**P**	**20 09 19.5**	**-0.9**
SIRR	**Siria**	**23.86**	**313**	‖*e*P	**P**	**20 09 19.5**	**-0.9**
AAK	**Ala-Archa**	**23.92**	**57**	P	**P**	**20 09 21.6**	**+0.3**
	comp=Z,3.4nm,0.8s,baz=209,slow=7.5,SNR=5.8						
AAK				LR	LR	20 20 18.4	
	comp=Z,502nm,21.2s,baz=266,slow=41						
AAK	**Ala-Archa**	**23.92**	**57**	*e*P	**P**	**20 09 21.3**	**0.0**
AAK	**Ala-Archa**	**23.92**	**57**	*e*P	**P**	**20 09 21.3**	**0.0**
CRVS	**Cervenica-Dubn**	**25.24**	**318**	*e*P	**P**	**20 09 36.0**	**+3.0**
ARU	**Arti**	**25.26**	**15**	P	**P**	**20 09 33.8**	**+0.7**
	comp=Z,3.3nm,0.7s,baz=224,slow=5.7,SNR=4.3						
ARU				LR	LR	20 23 11.2	
	comp=Z,341nm,18.5s,baz=158,slow=45						
ARU	**Arti**	**25.26**	**15**	*e*P	**P**

FRB	**Frobisher Bay**	**71.58**	**335**	P		**P**	**20 15 27.6**	**-0.3**
	comp=Z,3.1nm,0.9s,baz=39,slow=6.3,SNR=4.7							
MJAR	**Matsushiro Arr**	**72.37**	**58**	LR		LR	20 49 38.0	
	comp=Z,117nm,19.1s,baz=280,slow=38							
JHJ	**Hachijo jima 2**	**75.13**	**60**	LR		LR	20 54 17.5	
	comp=Z,104nm,19.1s,baz=310,slow=40							
PETK	**Petropavlovsk-**	**75.73**	**36**	LR		LR	20 52 57.9	
	comp=Z,185nm,19.7s,baz=300,slow=39							
DAV	**Davao City (W)**	**76.58**	**90**	LR		LR	20 55 01.8	
	comp=Z,73nm,18.5s,baz=330,slow=40							
ILAR	**Eielson Array**	**82.47**	**6**	P		**P**	**20 16 27.3**	**-1.9**
	comp=Z,0.8nm,1.1s,baz=328,slow=3.2,SNR=3.7							
YKA	**Yellowknife Ar**	**84.23**	**352**	P		**P**	**20 16 36.3**	**-1.9**
	comp=Z,0.6nm,0.9s,baz=17,slow=5.5,SNR=6.6							
GUMO	**Guam**	**89.27**	**74**	LR		LR	21 00 19.4	
	comp=Z,37nm,19.4s,baz=86,slow=38							

IDC 18 20:08:39.1±2.7, 0°23S×132°83E, h0km, mb3.3/2, mb1 3.5/3, mb1mx3.2/53, mbtmp3.3/3, ML2.9/1, Error ellipse: s-maj=139.7km s-min=26.3km az=74.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.65**	**176**	P	P	20 13 09.6	0.0
	0.0nm,0.3s,baz=355,slow=11,SNR=6.3						
ASAR	**Alice Springs**	**23.32**	**178**	P	P	20 13 49.1	+0.1
	0.4nm,0.4s,baz=356,slow=11,SNR=9.6						
MKAR	**Makanchi Array**	**64.29**	**324**	P	P	20 19 16.4	0.0
	0.3nm,0.8s,baz=108,slow=7.9,SNR=2.6						

IDC 18 20:08:45.4±30.0, 22°47S×178°92W, h0km, mb3.9/4, mb1 4.0/4, mb1mx3.7/48, mbtmp3.9/4, Error ellipse: s-maj=567.0km s-min=145.2km az=90.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**36.19**	**246**	P	P	20 15 48.0	-1.8
	1.0nm,0.7s,baz=86,slow=14,SNR=3.6						
ASAR	**Alice Springs**	**43.26**	**259**	P	P	20 16 48.8	-0.2
	0.6nm,0.8s,baz=94,slow=8.1,SNR=8.0						
WRA	**Warramunga Arr**	**43.51**	**264**	P	P	20 16 51.9	+0.9
	1.1nm,0.4s,baz=98,slow=8.3,SNR=31						
FITZ	**Fitzroy Crossi**	**51.94**	**264**	P	P	20 17 56.4	0.0
	1.0nm,0.6s,baz=108,slow=9.6,SNR=3.6						

*IDC **18** 20:10:22.8±3.0, 23°.50N×100°.11W, h0km, mb3.2/5, mb1 3.6/6, mb1mx3.5/51, mbtmp3.2/6, ML3.4/1, MS2.5/1, Ms1 2.5/1, ms1mx2.3/22, Error ellipse: s-maj=109.4km s-min=35.6km az=56.0*

*MEX **18** 20:10:29.1±0.5, 23°.74N×100°.94W, h10km, MD4.4*

ISC 18 20:10:23.9±0.8, 23°32N±0°.04×100°25W±0°.10, h10km, n14, σ1°36/15, mb3.2/4, Central Mexico

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LNIG	**Linares**	**1.72**	**24**	*eP*	**Pb**	**20 10 56.4**	**+0.6**
LNIG				*eS*	**Sb**	**20 11 18.4**	**+0.9**
ZAIG	**Zacatecas**	**2.21**	**256**	*eP*	Pn	20 10 56.4	-4.6
ZAIG				*eS*	Sn	20 11 19.1	-9.4
JRQG	**Juriquilla Cam**	**2.61**	**184**	*eP*	**Pg**	**20 11 14.4**	**+0.3**
IGIG	**Irapuato, Guan**	**2.75**	**202**	*eP*	**Pb**	**20 11 13.0**	**-0.2**
DEIG	**Demacu**	**3.21**	**159**	*eP*	**Pg**	**20 11 26.2**	**+0.7**
EZ5V		**4.94**	**220**	*eP*	**Pn**	**20 11 40.4**	**+1.9**
CJM	**Chamela**	**5.87**	**230**	*eP*	**Pn**	**20 11 52.1**	**+1.1**
HPIG		**6.09**	**307**	*eP*	**Pn**	**20 11 53.4**	**-0.8**
TXAR	**Lajitas Array**	**6.73**	**334**	Pn	**Pn**	**20 12 00.5**	**-2.4**
	0.2nm,0.3s,baz=152,slow=12,SNR=3.9						
TXAR				Pg	**Pb**	**20 12 23.6**	**+2.6**
	0.4nm,0.3s,baz=158,slow=17,SNR=7.5						
TXAR				Lg	Lg	20 13 52.3	
	0.4nm,0.3s,baz=162,slow=30,SNR=8.4						
TXAR				LR	LR	20 14 16.4	
	comp=Z,38nm,20.5s,baz=0.0,slow=35						
PDAR	**Pinedale Array**	**20.88**	**340**	P	**P**	**20 15 06.0**	**-0.5**
	0.1nm,0.3s,baz=132,slow=10,SNR=4.0						
NVAR	**Mina Array Bea**	**21.55**	**318**	P	**P**	**20 15 13.5**	**-0.2**
	0.9nm,0.8s,baz=128,slow=11,SNR=5.0						
YKA	**Yellowknife Ar**	**40.35**	**350**	P	**P**	**20 18 00.2**	**-1.2**
	0.5nm,1.1s,baz=167,slow=7.5,SNR=2.9						
INK	**Inuvik**	**49.37**	**344**	P	**P**	**20 19 12.6**	**-0.6**
	1.7nm,1.0s,baz=138,slow=8.0,SNR=5.1						
ILAR	**Eielson Array**	**51.23**	**336**	P	**P**	**20 19 27.1**	**-0.4**
	0.2nm,0.5s,baz=103,slow=7.8,SNR=3.5						

MAN 18 20:12:17, 12°36N×123°68E, h23km, mb4.6, ML3.5, MS3.4, 4C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MMPH	**Masbate**	**0.06**	**273**	*iP*	Pb	20 12 22.4	+1.4
MMPH				*i* S	Sb	20 12 24.2	+0.3
CNP	**Catarman**	**0.97**	**81**	*eP*	Pb	20 12 35.0	-0.2
CNP				*eS*	Sn	20 12 49.4	+1.1
RCP	**Roxas**	**1.21**	**229**	*eP*	Pn	20 12 38.5	-0.1
RCP				*eS*	Sb	20 12 55.7	+1.2
PVCP	**Virac**	**1.32**	**20**	*eP*	Pn	20 12 39.9	-0.1
AUQP	**San Andres**	**1.38**	**314**	*eP*	Pb	20 12 41.9	-0.2
AUQP				*eS*	Sb	20 13 02.1	+2.9
OCLP	**Ormoc**	**1.58**	**145**	*eP*	Pn	20 12 44.4	+0.8
OTRP	**Odiongan**	**1.62**	**270**	*eP*	Pn	20 12 44.3	0.0
PLP	**Palo**	**1.73**	**133**	*eP*	Pn	20 12 46.8	+1.0
PLP				*eS*	Sb	20 13 10.3	+0.7
LLP	**Lapu-Lapu**	**2.04**	**172**	*eP*	Pn	20 12 49.7	-0.3
LLP				*eS*	Sb	20 13 18.6	+0.1
BOAC	**Boac**	**2.10**	**302**	*eP*	Pn	20 12 51.0	+0.2
BOAC				*eS*	Sb	20 13 22.3	+2.2
JAP	**San Jose, Anti**	**2.33**	**227**	*eP*	Pb	20 12 57.7	-0.7
MSLP	**Maasin**	**2.49**	**152**	*eP*	Pn	20 12 54.4	-1.8
SJMP	**San Jose**	**2.51**	**273**	*eP*	Pn	20 12 57.7	+1.3

*IDC **18** 20:17:08.2±1.8, 1°.49N×126°.42E, h0km, mb3.3/4, mb1 3.5/4, mb1mx3.2/63, mbtmp3.3/4, Error ellipse: s-maj=185.8km s-min=21.8km az=66.0*

*ISCJB **18** 20:17:12.4±1.0, 1°.52N±0°.09×126°.56E±0°.08, h47km, mb3.3/4, Error ellipse: s-maj=13.5km s-min=11.2km az=179.8*

*DJA **18** 20:17:16.3±1.4, 1°N±4°×12°6E±°, h23km±12km, M3.5/6, mb4.0/1, MLv3.3/6*

ISC 18 20:17:15.7±1.3, 1°5N±0°.1×126°37E±0°.08, h47km, n10, α2°40/13, mb3.3/4, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LBMI	**Labuha**	**2.39**	**152**	P	**Pn**	**20 17 54.8**	**+2.3**
LBMI				S	**Sn**	**20 18 24.4**	**+3.8**
KMSI	**Cibinong**	**2.55**	**249**	P	**Pn**	**20 17 54.1**	**-0.6**
KMSI				S	**Sn**	**20 18 26.8**	**+2.2**
SANI	**Sanana**	**3.53**	**186**	P	**Pn**	**20 18 06.8**	**-1.3**
SANI				S	**Sn**	**20 18 46.0**	**-2.6**
LUWI	**Luwuk**	**4.39**	**235**	P	**Pn**	**20 18 23.2**	**+3.3**
MRSI	**Marisa**	**4.54**	**257**	P	**Pn**	**20 18 23.1**	**+1.1**
APSI	**Ampana**	**5.29**	**243**	P	**Pn**	**20 18 33.9**	**+1.7**
WRA	**Warramunga Arr**	**22.68**	**160**	P	**P**	**20 22 11.3**	**-2.2**
	0.6nm,0.5s,baz=338,slow=10,SNR=8.8						
ASAR	**Alice Springs**	**26.05**	**164**	P	**P**	**20 22 43.3**	**-1.6**
	0.3nm,0.5s,baz=349,slow=14,SNR=5.8						
MKAR	**Makanchi Array**	**59.20**	**326**	P	**P**	**20 27 11.6**	**-0.5**
	0.1nm,0.5s,baz=121,slow=6.8,SNR=3.5						
KURBB	**Kurchatov Arra**	**63.43**	**328**	P	**P**	**20 27 39.5**	**-1.1**
	0.2nm,0.3s,baz=134,slow=5.5,SNR=4.5						

*ISCJB **18** 20:23:58.7±0.4, 8°.19S±0°.06×112°.30E±0°.05, h157km, mb3.7/7, Error ellipse: s-maj=9.5km s-min=5.2km az=26.4*

*DJA **18** 20:23:58.8±0.4, 8°S±4°×11°2E±°, h167km±3km, M3.6/17, MLv3.6/17*

*IDC **18** 20:24:00.1±4.2, 7°.79S×112°.23E, h205km±56km, mb3.4/7, mb1 3.6/9, mb1mx3.2/62, mbtmp4.0/9, Error ellipse: s-maj=101.4km s-min=10.8km az=48.0*

ISC 18 20:23:57.7±0.8, 8°06S±0°.07×112°29E±0°.05, h157km, n23, α2°85/26, mb3.7/7, Jawa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PWJI	**Pagerwojo**	**0.48**	**274**	P	**Pn**	**20 24 22.7**	**+3.0**
PWJI				S	**Sn**	**20 24 40.8**	**+4.3**
PCJI	**Pacitan**	**1.11**	**263**	P	**Pn**	**20 24 26.8**	**+2.7**
PCJI				S	**Sn**	**20 24 48.0**	**+3.8**
GRJI	**Gresik**	**1.15**	**9**	P	**Pn**	**20 24 26.9**	**+2.5**
GRJI				S	**Sn**	**20 24 48.6**	**+3.7**
GMJI	**Gumukmas**	**1.16**	**101**	P	**Pn**	**20 24 27.5**	**+3.0**
TBJI	**Tambak Boyo**	**1.31**	**340**	P	**Pn**	**20 24 27.8**	**+1.9**
TBJI				S	**Sn**	**20 24 50.6**	**+3.1**
WOJI	**Wonogiri, Jawa**	**1.37**	**279**	P	**Pn**	**20 24 28.7**	**+2.2**
JAGI	**Jajag, Banyuwa**	**1.89**	**103**	P	**Pn**	**20 24 34.3**	**+2.4**
KMMI	**Kalianget**	**1.94**	**59**	P	**Pn**	**20 24 35.1**	**+2.6**
SMRI	**Semarang**	**2.09**	**298**	P	**Pn**	**20 24 35.9**	**+1.6**
SRBI	**Singaraja**	**2.89**	**91**	P	**Pn**	**20 24 46.4**	**+2.4**
IGBI	**Denpasar**	**2.92**	**105**	P	**Pn**	**20 24 46.3**	**+2.0**
KPJI	**Karang Pucung**	**3.41**	**282**	P	**Pn**	**20 24 51.8**	**+1.3**
CISI	**Cisompet, Garu**	**4.46**	**276**	P	**Pn**	**20 25 03.9**	**-0.4**
TWSI	**Taliwang, Sumb**	**4.59**	**99**	P	**Pn**	**20 25 05.9**	**0.0**
LEM	**Lembang**	**4.79**	**284**	P	**Pn**	**20 25 10.0**	**+1.3**
	2.9nm,0.3s,baz=61,slow=12,SNR=7.6						
FITZ	**Fitzroy Crossi**	**16.38**	**129**	P	**Pn**	**20 27 40.7**	**+2.0**
	0.4nm,0.3s,baz=298,slow=6.2,SNR=22						
FITZ				S	**S**	**20 30 34.8**	**-5.7**
	0.3nm,0.3s,baz=232,slow=22,SNR=7.0						
WRA	**Warramunga Arr**	**24.40**	**121**	P	**P**	**20 29 01.3**	**-0.4**
	2.8nm,0.6s,baz=298,slow=11,SNR=65						
ASAR	**Alice Springs**	**25.88**	**129**	P	**P**	**20 29 14.9**	**-0.3**
	1.9nm,0.5s,baz=303,slow=8.2,SNR=40						
CMAR	**Chiang Mai Arr**	**29.45**	**334**	P	**P**	**20 29 44.5**	**-2.5**
	0.8nm,0.7s,baz=165,slow=8.5,SNR=6.7						
STKA	**Stephens Creek**	**36.11**	**135**	P	**P**	**20 30 45.2**	**+0.5**
	3.2nm,0.4s,baz=320,slow=6.6,SNR=18						
MKAR	**Makanchi Array**	**60.79**	**337**	P	**P**	**20 33 48.6**	**-4.4**
	0.4nm,0.4s,baz=143,slow=7.6,SNR=13						
KURBB	**Kurchatov Arra**	**65.35**	**337**	P	P	20 34 18.1	-4.8
	0.1nm,0.3s,baz=154,slow=6.4,SNR=4.3						
ZALV	**Zalesovo Beam**	**65.98**	**343**	P	P	20 34 21.7	-5.2
	0.5nm,0.6s,baz=155,slow=7.9,SNR=2.7						

IDC 18 20:28:21.6±3.6, 2°52S×139°90E, h0km, mb3.4/3, mb1 3.8/4, mb1mx3.3/50, mbtmp3.6/4, ML4.0/1, Error ellipse: s-maj=112.5km s-min=29.0km az=92.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.15**	**197**	P	Pn	20 32 34.6	-0.7
	0.5nm,0.3s,baz=17,slow=13,SNR=15						
FITZ	**Fitzroy Crossi**	**20.86**	**221**	P	Pn	20 33 06.7	-1.1
	1.7nm,1.0s,baz=63,slow=16,SNR=2.5						
ASAR	**Alice Springs**	**21.81**	**195**	P	P	20 33 15.4	-0.1
	1.2nm,0.6s,baz=23,slow=10,SNR=14						
MKAR	**Makanchi Array**	**70.37**	**322**	P	P	20 39 37.0	-0.5
	0.3nm,0.7s,baz=110,slow=6.1,SNR=3.6						

*GUC **18** 20:31:45.3±0.6, 32°.40S×71°.19W, h44km±4km, ML2.8*

*SJA **18** 20:31:53.0±0.5, 32°.49S×71°.10W, h72km±16km, ML2.2, MW3.4*

ISC 18 20:31:47.2±2.8, 32°71S±0°.04×71°4W±0°.1, h9km±17km, n12, σ0°83/18, 2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PEL	**Peldehue**	**0.72**	**127**	*eP*	**Pb**	**20 32 01.9**	**0.0**
PEL				*eS*	**Sn**	**20 32 14.8**	**0.0**
ANTU	**Antumapu**	**1.06**	**144**	*eP*	**Pb**	**20 32 06.9**	**-0.8**
ANTU				*i* S	**Sn**	**20 32 23.6**	**+0.6**
FCH	**Farellones**	**1.10**	**124**	*iP*	**Pb**	**20 32 07.9**	**-0.6**
FCH				*i* S	**Sn**	**20 32 25.0**	**+0.6**
FCH				IAML		20 32 25.8	
	comp=E,298nm,0.2s						
FCH				IAML		20 32 26.3	
	comp=E,293nm,0.2s						
LMEL	**Las Melosas**	**1.50**	**139**	*iP*	**Pn**	**20 32 14.0**	**-0.3**
LMEL				*i* S	**Sg**	**20 32 35.9**	**+0.5**
LMEL				IAML		20 32 40.1	
	comp=N,250nm,0.2s						
AUSP	**Uspallata**	**1.75**	**74**	*eP*	**Pb**	**20 32 19.4**	**-0.2**
RTLS	**Leoncito**	**1.98**	**63**	*eP*	**Pb**	**20 32 22.8**	**-0.8**
RTLS				*i* S	**Sn**	**20 32 44.4**	**-1.8**
RTLS				IAML		20 32 54.0	
	comp=Z,20nm,0.3s						
ARCO	**CERRO ARCO**	**2.06**	**94**	*eP*	**Pb**	**20 32 24.8**	**0.0**
ARCO				IAML		20 32 36.5	
	comp=Z,26nm,0.5s						
ASAL	**Salagasta**	**2.15**	**87**	*eP*	**Pb**	**20 32 25.3**	**-0.9**
AAGR	**Agrelo**	**2.17**	**101**	*eP*	**Pb**	**20 32 26.4**	**-0.3**
TLL	**Tololo Astrono**	**2.58**	**11**	*eP*	**Pn**	**20 32 29.1**	**-0.3**
TLL				*eS*	**Sn**	**20 33 01.8**	**+0.8**
TLL				IAML		20 33 12.6	
	comp=E,73nm,0.4s						
AMOG	**MOGNA**	**3.02**	**55**	*eP*	**Pn**	**20 32 36.4**	**+1.2**
AGUA	**GUANDACOL**	**4.06**	**38**	*eP*	**Pn**	**20 32 50.2**	**+0.8**

IDC 18 20:42:00.5±1.9, 5°41S×151°74E, h0km, mb3.5/5, mb1 3.8/5, mb1mx3.5/50, mbtmp3.5/5, MS3.4/1, Ms1 3.4/1, ms1mx2.6/30, Error ellipse: s-maj=76.0km s-min=24.2km az=123.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.25**	**228**	P	P	20 46 59.0	-0.2
	0.6nm,0.6s,baz=52,slow=10,SNR=14						
ASAR	**Alice Springs**	**24.99**	**222**	P	P	20 47 26.2	0.0
	0.5nm,0.5s,baz=59,slow=8.6,SNR=14						
FITZ	**Fitzroy Crossi**	**28.44**	**241**	P	P	20 47 57.1	-0.2
	1.7nm,0.6s,baz=60,slow=9.4,SNR=10						
RPZ	**Rata Peaks**	**41.77**	**159**	LR	LR	21 05 43.6	
	comp=Z,56nm,21.1s,baz=197,slow=34						
MKAR	**Makanchi Array**	**80.09**	**319**	P	P	20 54 13.2	+0.8
	0.1nm,0.5s,baz=100,slow=4.8,SNR=2.5						
ILAR	**Eielson Array**	**83.12**	**22**	P	P	20 54 27.5	-0.5
	0.2nm,0.5s,baz=258,slow=4.5,SNR=3.8						

*ISN **18** 20:42:10.1±1.4, 32°.57N×47°.13E, h32km±9km, ML3.1*

*CSEM **18** 20:42:13.7±0.2, 32°.49N×46°.95E, h30km, ML3.1, Error ellipse: s-maj=7.1km s-min=4.8km az=167.0*

TEH 18 20:42:12.8, 32°51N×46°92E, h16km, ML3.1, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IKFM	**Kafar-mosalman**	**1.28**	**37**	*e*Pg	Pn	20 42 34.0	-1.9
IKFM				*e*AMB	AMB	20 43 01.7	
	comp=Z,99nm,0.2s						
NSR	**Nassriya**	**1.64**	**204**	*e*Pn	Pn	20 42 40.0	-0.9
	SNR=5.0						
NSR				*i* Sn	Sn	20 43 01.0	-0.6
	SNR=5.0						
SHGR	**Shooshtar-Gavs**	**1.64**	**104**	*e*Pg	Pn	20 42 40.7	-0.3
IKOM	**Komasi**	**1.73**	**16**	*e*Pn	Pn	20 42 42.0	-0.4
IKOM				*e*Sg	Sb	20 43 07.1	+1.2
IVIS	**Veis**	**2.01**	**358**	*e*Pn	Pn	20 42 45.9	-0.3
BHD	**Baghdad**	**2.27**	**290**	*e*Pn	Pn	20 42 49.0	-0.6
	SNR=5.0						
BHD				*i* Sn	Sn	20 43 18.0	+0.8
	SNR=5.0						
ILIN	**Lien**	**2.40**	**1**	*e*Pn	Pn	20 42 52.2	+0.5
SNGE	**Sanandaj**	**2.60**	**8**	*e*Pn	Pn	20 42 54.6	+0.2
KHMZ	**Khomeyn**	**2.83**	**63**	*e*Pn	Pn	20 42 57.3	-0.2
KHMZ				*e*Sg	Sg	20 43 42.8	-0.9
HAGD	**Aghdareh**	**2.96**	**38**	*e*Pn	Pn	20 42 58.9	-0.4
HKZM	**Kohzaman**	**3.30**	**29**	*e*Pn	Pn	20 43 04.2	+0.1
IRAZ	**Razeghan**	**3.82**	**40**	*e*Pn	Pn	20 43 11.3	+0.2
IRAZ				*e*AMB	AMB	20 44 17.2	
	comp=Z,466nm,0.4s						
QAM	**Ghamsar**	**3.99**	**71**	*e*Pn	Pn	20 43 13.6	+0.1
QAM				*e*AMB	AMB	20 43 25.6	
	comp=Z,475nm,0.2s						
IKLH	**Kolahrood**	**4.00**	**77**	*e*Pn	Pn	20 43 13.2	-0.4
IKLH				*e*AMB	AMB	20 44 36.2	
	comp=Z,339nm,0.4s						
GHVR	**GHOM**	**4.15**	**61**	*e*Pn	Pn	20 43 14.2	-1.3
IZEF	**Zefreh**	**4.57**	**84**	*e*Pn	Pn	20 43 20.5	-1.1
IZEF				*e*AMB	AMB	20 43 38.5	
	comp=Z,72nm,0.1s						
IRAM	**Ramesheh**	**4.68**	**97**	*e*Pn	Pn	20 43 22.6	-0.4
IRAM				*e*AMB	AMB	20 44 22.5	
	comp=Z,101nm,0.3s						
IVRN	**Varamin**	**4.71**	**57**	*e*Pn	Pn	20 43 22.6	-0.6
IVRN				*e*AMB	AMB	20 43 31.0	
	comp=Z,158nm,0.1s						
IGZV	**Ghazvin**	**4.73**	**34**	*e*Pn	Pn	20 43 22.4	-1.3
IGZV				*e*AMB	AMB	20 43 45.9	
	comp=Z,179nm,0.3s						
RTB	**Rutbah**	**5.60**	**277**	*e*Pn	Pn	20 43 35.0	-0.4
	SNR=5.0						
RTB				*i* Sn	Sn	20 44 39.0	-0.4
	SNR=5.0						

*ISN **18** 20:45:53.8±1.5, 32°.53N×47°.21E, h29km±10km, ML3.1*

*CSEM **18** 20:45:58.3±0.3, 32°.37N×46°.90E, h20km, ML3.1, Error ellipse: s-maj=11.8km s-min=8.3km az=167.0*

TEH 18 20:45:56.1, 32°48N×47°01E, h10km, ML3.1, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IKFM	**Kafar-mosalman**	**1.26**	**34**	*e*Pg	Pg	20 46 21.1	+0.8
IKFM				*e*AMB	AMB	20 46 48.8	
	comp=Z,99nm,0.3s						
SHGR	**Shooshtar-Gavs**	**1.56**	**103**	*e*Pg	Pg	20 46 26.5	+0.4
NSR	**Nassriya**	**1.64**	**207**	*e*Pn	Pn	20 46 24.0	-1.0
	SNR=5.0						
NSR				*i* Sn	Sn	20 46 45.0	-1.1
	SNR=5.0						
IKOM	**Komasi**	**1.74**	**14**	*e*Pn	Pg	20 46 29.6	0.0
IVIS	**Veis**	**2.05**	**356**	*e*Pn	Pb	20 46 33.3	-0.2
BHD	**Baghdad**	**2.35**	**290**	*e*Pn	Pn	20 46 34.0	-0.7
	SNR=5.0						
BHD				*i* Sn	Sn	20 47 04.0	+0.4
	SNR=5.0						
ILIN	**Lien**	**2.44**	**359**	*e*Pn	Pb	20 46 39.5	-0.7
SNGE	**Sanandaj**	**2.62**	**6**	*e*Pn	Pn	20 46 42.6	-0.8
KHMZ	**Khomeyn**	**2.78**	**62**	*e*Pn	Pn	20 46 42.8	+1.9
KHMZ				*e*Sg	Sb	20 47 18.9	-1.3
HAGD	**Aghdareh**	**2.94**	**37**	*e*Pn	Pn	20 46 45.7	+2.6
HAGD				*e*AMB	AMB	20 47 28.8	
	comp=Z,99nm,0.1s						
QAM	**Ghamsar**	**3.93**	**70**	*e*Pn	Pn	20 47 00.5	+3.8
QAM				*e*AMB	AMB	20 47 51.7	
	comp=Z,366nm,0.2s						
IKLH	**Kolahrood**	**3.94**	**76**	*e*Pn	Pn	20 46 59.7	+2.9
IKLH				*e*AMB	AMB	20 48 13.9	
	comp=Z,256nm,0.3s						
IZEF	**Zefreh**	**4.51**	**83**	*e*AMB	AMB	20 47 24.7	
	comp=Z,124nm,0.3s						
IZEF				*e*Pn	Pn	20 47 07.3	+2.6
RTB	**Rutbah**	**5.67**	**277**	*e*Pn	Pn	20 47 20.0	-0.5
	SNR=5.0						
RTB				*i* Sn	Sn	20 48 25.0	-0.7
	SNR=5.0						

MEX 18 20:49:16.2±1.0, 16°30N×98°37W, h3km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.26**	**68**	*i* P	Pg	20 49 21.0	-0.2
PNIG				*e*S	Sg	20 49 24.5	0.0
TLIG	**Tlapa**	**1.27**	**352**	*e*P	Pg	20 49 36.0	-4.6
TLIG				*e*S	Sg	20 49 54.1	-3.0

IDC 18 20:54:37.8±4.3, 6°15S×128°16E, h271km±41km, mb2.7/2, mb1 3.1/5, mb1mx2.8/51, mbtmp3.7/5, Error ellipse: s-maj=50.8km s-min=13.5km az=65.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**6.01**	**228**	P	Pn	20 56 08.4	+1.9
	5.9nm,0.3s,baz=159,slow=2.7,SNR=17						
BATI				S	S	20 57 16.9	-1.0
	1.3nm,0.3s,baz=258,slow=20,SNR=3.5						
WRA	**Warramunga Arr**	**14.97**	**157**	P	P	20 57 55.8	-0.5
	0.5nm,0.3s,baz=330,slow=12,SNR=23						
ASAR	**Alice Springs**	**18.28**	**163**	P	P	20 58 31.7	-0.5
	0.3nm,0.3s,baz=340,slow=11,SNR=21						
ASAR				S	S	21 01 48.1	+1.3
	0.0nm,0.3s,baz=348,slow=26,SNR=4.1						
MKAR	**Makanchi Array**	**66.52**	**327**	P	P	21 04 58.9	+0.1
	0.2nm,0.5s,baz=126,slow=6.5,SNR=3.7						
KURBB	**Kurchatov Arra**	**70.84**	**329**	P	P	21 05 25.0	-0.1
	0.1nm,0.4s,baz=137,slow=4.5,SNR=5.1						

*ISCJB **18** 21:23:01.0±0.6, 37°.92N±0°.04×29°.26E±0°.04, h12km±8km, Error ellipse: s-maj=6.1km s-min=4.8km az=154.6*

*ISK **18** 21:23:00.9, 37°.92N×29°.25E, h11km, ML2.4/3*

*CSEM **18** 21:23:01.1±0.2, 37°.92N×29°.26E, h12km, ML2.4, Error ellipse: s-maj=3.8km s-min=2.9km az=167.0*

*DDA **18** 21:23:01.1, 37°.93N×29°.29E, h7km, Ml2.5*

ISC 18 21:23:00.7±1.0, 37°86N±0°.03×29°26E±0°.03, h18km±5km, n22, σ1°42/34, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DENT	**Denizli**	**0.21**	**240**	PG	**Pg**	**21 23 06.4**	**+0.6**
DENT				SG	**Sg**	**21 23 10.4**	**+1.1**
DENT	**Denizli**	**0.21**	**240**	*e*Pg	**Pg**	**21 23 06.4**	**+0.6**
DENT				*e*Sg	**Sg**	**21 23 10.4**	**+1.1**
TAVA	**DENIZLI_Tavas**	**0.48**	**215**	*i* P	**Pg**	**21 23 07.7**	**-2.8**
TAVA	**DENIZLI_Tavas**	**0.48**	**215**	P	**Pg**	**21 23 07.7**	**-2.8**
KHL	**Karahalli**	**0.51**	**24**	PG	**Pg**	**21 23 10.4**	**-0.5**
KHL				SG	**Sb**	**21 23 17.

GOLH	**Golhisar**	**0.73**	**164**	P	**Pg**	**21**	**28**	**11.0 -1.9**
GOLH				S	**Sb**	**21**	**28**	**25.7 +1.2**
KULA	**Kula-Manisa**	**0.77**	**319**	PG	**Pg**	**21**	**28**	**13.6 -0.1**
KULA				SG	**Sg**	**21**	**28**	**24.3 +0.6**
KULA	**Kula-Manisa**	**0.77**	**319**	*e*Pg	**Pg**	**21**	**28**	**13.6 -0.1**
KULA				*e*Sg	**Sg**	**21**	**28**	**24.3 +0.6**
ISP	**Isparta**	**0.97**	**97**	PG	**Pb**	**21**	**28**	**18.1 -0.2**
ISP	**Isparta**	**0.97**	**97**	*e*Pg	**Pb**	**21**	**28**	**18.1 -0.2**
AYDB	**Zeytinkoy-Aydi**	**1.12**	**271**	PN	**Pn**	**21**	**28**	**21.2 -0.3**
AYDB	**Zeytinkoy-Aydi**	**1.12**	**271**	*e*Pn	**Pn**	**21**	**28**	**21.2 -0.3**
SHUT	**Suhut-Afyon**	**1.15**	**58**	PN	**Pg**	**21**	**28**	**20.8 -0.2**
SHUT	**Suhut-Afyon**	**1.15**	**58**	*e*Pn	**Pg**	**21**	**28**	**20.8 -0.2**
GDZ	**Gediz**	**1.16**	**7**	*i* P	**Pn**	**21**	**28**	**21.7 -0.3**
GDZ	**Gediz**	**1.16**	**7**	P	**Pn**	**21**	**28**	**21.7 -0.3**
KORT	**Korkueli**	**1.25**	**138**	PN	**Pg**	**21**	**28**	**24.0 +1.1**
KORT	**Korkueli**	**1.25**	**138**	*e*Pn	**Pg**	**21**	**28**	**24.0 +1.1**

IDC ***18*** *21:38:14.8±1.1, 0°.46S×132°.02E, h0km, mb3.5/4, mb1 3.5/6, mb1mx3.3/54, mbtmp3.4/6, ML3.4/2, Error ellipse: s-maj=21.9km s-min=11.8km az=138.0*
ISCJB ***18*** *21:38:17.4±1.1, 0°.5S±0°.1×132°.0E±0°.2, h31km, mb3.4/4, Error ellipse: s-maj=27.0km s-min=14.9km az=173.7*
ISC 18 21:38:19.9±1.4, 0°.5S±0°.1×131°.8E±0°.2, h31km, n7, σ1§00/7, mb3.5/4, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**0.61**	**238**	Pg	**Pb**	**21 38 31.8**	**-0.4**
	119nm,0.3s,baz=193,slow=10,SNR=210						
SIJI				Lg	Lg	21 38 42.7	
	165nm,0.3s,baz=255,slow=20,SNR=62						
FITZ	**Fitzroy Crossi**	**18.46**	**199**	P	**Pn**	**21 42 35.1**	**+1.6**
	0.1nm,0.3s,baz=17,slow=17,SNR=2.7						
WRA	**Warramunga Arr**	**19.44**	**173**	P	**P**	**21 42 43.2**	**-0.8**
	0.1nm,0.3s,baz=353,slow=11,SNR=8.1						
ASAR	**Alice Springs**	**23.08**	**175**	P	**P**	**21 43 22.4**	**-0.7**
	0.6nm,0.8s,baz=0.0,slow=12,SNR=8.6						
MKAR	**Makanchi Array**	**63.93**	**324**	P	**P**	**21 48 50.4**	**+0.3**
	0.2nm,0.6s,baz=111,slow=8.9,SNR=3.3						
KURBB	**Kurchatov Arra**	**68.05**	**327**	P	**P**	**21 49 16.5**	**+0.1**
	0.6nm,0.9s,baz=127,slow=6.2,SNR=5.4						
BVAR	**Borovoye Array**	**73.64**	**326**	P	**P**	**21 49 50.3**	**-0.1**
	0.4nm,0.6s,baz=123,slow=5.3,SNR=3.1						

CSEM ***18*** *21:42:34.3, 37°.90N×29°.30E, h7km, ML2.6*
DDA 18 21:42:34.3, 37°.90N×29°.30E, h7km, Ml2.6, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KHAL	**Karahalli**	**0.49**	**18**	*i* P	Pg	21 42 43.5	-0.3
KHAL				*i* S	Sb	21 42 51.8	-1.0
KHAL	**Karahalli**	**0.49**	**18**	P	Pg	21 42 43.5	-0.3
KHAL				S	Sb	21 42 51.8	-1.0
TAVA	**DENIZLI_Tavas**	**0.53**	**215**	*i* P	Pg	21 42 44.7	+0.1
TAVA				*i* S	Sb	21 42 53.2	-0.8
TAVA	**DENIZLI_Tavas**	**0.53**	**215**	P	Pg	21 42 44.7	+0.1
TAVA				S	Sb	21 42 53.2	-0.8
BRDR	**BURDUR-Merkez**	**0.64**	**109**	*i* P	Pb	21 42 47.4	-0.5
BRDR				*i* S	Sn	21 42 59.0	-1.3
BRDR	**BURDUR-Merkez**	**0.64**	**109**	P	Pb	21 42 47.4	-0.4
BRDR				S	Sn	21 42 59.0	-1.3
GOLH	**Golhisar**	**0.70**	**163**	*i* P	Pg	21 42 47.2	-0.6
GOLH				*i* S	Sn	21 43 00.7	-1.1
GOLH	**Golhisar**	**0.70**	**163**	P	Pg	21 42 47.2	-0.5
GOLH				S	Sn	21 43 00.7	-1.1
KZIL	**AFYON_Kizioren**	**0.75**	**62**	*i* P	Pb	21 42 49.4	-0.4
KZIL				*i* S	Sn	21 43 05.9	+2.7
KZIL	**AFYON_Kizioren**	**0.75**	**62**	P	Pb	21 42 49.4	-0.4
KZIL				S	Sn	21 43 05.9	+2.7
GDZ	**Gediz**	**1.19**	**7**	*i* P	Pg	21 42 56.5	-0.7

ISCJB ***18*** *21:49:54.1±0.4, 49°.87N±0°.03×18°.36E±0°.03, h0km, Error ellipse: s-maj=4.6km s-min=2.3km az=17.0*
IPEC ***18*** *21:49:55.5±0.2, 49°.84N×18°.51E, h0km, ML1.8/3, Error ellipse: s-maj=2.1km s-min=1.1km az=161.0*
CSEM ***18*** *21:49:55.4±0.2, 49°.85N×18°.38E, h1km, ML2.5/9, Error ellipse: s-maj=6.6km s-min=3.4km az=13.0*
ISC 18 21:49:55.4±0.7, 49°.86N±0°.03×18°.43E±0°.02, h0km, n39, σ0§89/69, 6D, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OKC	**Ostrava-Krasne**	**0.18**	**262**	*i*PG	**Pg**	**21 50 00.4**	**+1.5**
OKC				*e*SG	**Sg**	**21 50 03.7**	**+2.4**
	comp=Z,158nm,0.5s						
OKC	**Ostrava-Krasne**	**0.18**	**262**	Pg	**Pg**	**21 50 00.4**	**+1.5**
OKC				Sg	**Sg**	**21 50 03.7**	**+2.4**
	158nm,0.5s						
MORC	**Moravsky Berou**	**0.58**	**262**	*e*Pg	**Pb**	**21 50 07.2**	**-1.3**
MORC				*e*Sg	**Sg**	**21 50 15.0**	**+0.9**
	18nm,0.3s						
OJC	**Ojcow**	**0.95**	**67**	*e*Pg	**Pg**	**21 50 13.4**	**-0.2**
OJC				*e*Sg	**Sg**	**21 50 26.2**	**+0.2**
OJC	**Ojcow**	**0.95**	**67**	*e*Pg	**Pg**	**21 50 13.4**	**-0.2**
OJC				*e*Sg	**Sg**	**21 50 26.2**	**+0.2**
LANS	**Liptovska Anna**	**0.98**	**136**	*e*Pg	**Pb**	**21 50 14.8**	**-0.5**
LANS				*e*Sg	**Sb**	**21 50 28.7**	**-0.2**
LANS	**Liptovska Anna**	**0.98**	**136**	*e*PG	**Pb**	**21 50 14.8**	**-0.5**
LANS				*e*SG	**Sb**	**21 50 28.6**	**-0.3**
KRLC	**Kraliky**	**1.08**	**282**	*e*PG	**Pg**	**21 50 15.9**	**-0.3**
KRLC				*e*SG	**Sb**	**21 50 31.3**	**-0.5**
	comp=Z,6.3nm,0.4s						
KRLC	**Kraliky**	**1.08**	**282**	Pg	**Pg**	**21 50 15.9**	**-0.3**
KRLC				Sg	**Sb**	**21 50 31.3**	**-0.5**
	6.3nm,0.4s						
NIE	**Niedzica**	**1.29**	**109**	*e*Pg	**Pn**	**21 50 20.7**	**-0.1**
NIE				*e*Sg	**Sn**	**21 50 39.3**	**+0.5**
NIE	**Niedzica**	**1.29**	**109**	*e*Pg	**Pn**	**21 50 20.7**	**-0.1**
NIE				*e*Sg	**Sn**	**21 50 39.3**	**+0.5**
VRAC	**Vranov**	**1.32**	**246**	*e*Pg	**Pn**	**21 50 20.8**	**-0.3**
VRAC				*e*Sg	**Sb**	**21 50 37.9**	**-0.6**
	24nm,0.6s						
VYHS	**Vyhne**	**1.40**	**169**	*e*Pg	**Pn**	**21 50 22.0**	**-0.2**
VYHS				*e*Sn	**Sb**	**21 50 40.6**	**-0.1**
VYHS	**Vyhne**	**1.40**	**169**	*e*PG	**Pn**	**21 50 22.0**	**-0.2**
VYHS				*e*SG	**Sb**	**21 50 40.6**	**-0.1**
VYHS				*e*LG	Lg	21 50 42.9	
DPC	**Dobruska-Polom**	**1.44**	**291**	*e*PG	**Pn**	**21 50 22.6**	**-0.2**
DPC				*e*SG	**Sn**	**21 50 42.3**	**-0.2**
	comp=Z,7.2nm,0.4s						
DPC	**Dobruska-Polom**	**1.44**	**291**	Pg	**Pn**	**21 50 22.6**	**-0.2**
DPC				Sg	**Sn**	**21 50 42.3**	**-0.2**
	7.2nm,0.4s						
KRUC	**Moravsky**	**1.55**	**240**	*e*Pg	**Pn**	**21 50 24.2**	**-0.1**
KRUC				*e*Sg	**Sg**	**21 50 45.2**	**0.0**
	5.4nm,0.3s						
MODS	**Modra-Piesok**	**1.67**	**207**	*e*Pg	**Pn**	**21 50 25.2**	**-0.8**
MODS	**Modra-Piesok**	**1.67**	**207**	*e*PG	**Pn**	**21 50 25.2**	**-0.8**
MODS				*e*LG	Lg	21 50 47.9	
UPC	**Upice**	**1.68**	**293**	*e*PG	**Pg**	**21 50 27.2**	**-0.4**
UPC				*e*SG	**Sg**	**21 50 49.0**	**-0.4**
	comp=Z,5.5nm,0.4s						
UPC	**Upice**	**1.68**	**293**	Pg	**Pg**	**21 50 27.2**	**-0.4**
UPC				Sg	**Sg**	**21 50 49.0**	**-0.4**
	5.5nm,0.4s						
KSP	**Ksiaz**	**1.68**	**306**	*e*Pg	**Pb**	**21 50 27.1**	**-0.1**
KSP				*e*Sg	**Sg**	**21 50 49.7**	**+0.2**
KSP	**Ksiaz**	**1.68**	**306**	*e*Pg	**Pb**	**21 50 27.1**	**-0.1**
KSP				*e*Sg	**Sg**	**21 50 49.7**	**+0.2**
STHS	**Stebnicka Huta**	**1.88**	**103**	*e*Pn	**Pg**	**21 50 31.4**	**-0.1**
STHS	**Stebnicka Huta**	**1.88**	**103**	*e*PN	**Pg**	**21 50 31.4**	**-0.1**
STHS				*e*SN	**Sg**	**21 50 58.5**	**+2.6**
STHS				*e*LG	Lg	21 51 10.4	
TREC	**Trest**	**2.00**	**255**	*e*PG	**Pb**	**21 50 32.0**	**-0.6**
TREC	**Trest**	**2.00**	**255**	Pg	**Pb**	**21 50 32.0**	**-0.6**
GOPC	**GO Pecny, Ondr**	**2.36**	**273**	*e*PG	**Pb**	**21 50 38.0**	**-0.7**
GOPC				*e*SG	**Sb**	**21 51 09.1**	**+0.7**
GOPC	**GO Pecny, Ondr**	**2.36**	**273**	Pg	**Pb**	**21 50 38.0**	**-0.7**
GOPC				Sg	**Sb**	**21 51 09.1**	**+0.7**
PRU	**Pruhonice**	**2.52**	**274**	*e*PG	**Pb**	**21 50 42.0**	**+0.6**
PRU				*e*SG	**Sb**	**21 51 14.0**	**+1.1**
	comp=Z,3.3nm,0.4s						
PRU	**Pruhonice**	**2.52**	**274**	Pg	**Pb**	**21 50 42.0**	**+0.6**
PRU				Sg	**Sb**	**21 51 14.0**	**+1.1**
	3.3nm,0.4s						
PVCC	**Panska Ves**	**2.57**	**286**	*e*SG	**Sg**	**21 51 18.0**	**+0.1**
	comp=Z,6.0nm,0.3s						
PVCC	**Panska Ves**	**2.57**	**286**	Sg	**Sg**	**21 51 18.0**	**+0.1**
	6.0nm,0.3s						
PRA	**Prague**	**2.59**	**276**	*e*SG	**Sg**	**21 51 19.5**	**+1.0**
PRA	**Prague**	**2.59**	**276**	Sg	**Sg**	**21 51 19.5**	**+1.0**
BRG	**Berggiesshubel**	**3.05**	**291**	PG	**Pg**	**21 50 51.9**	**-1.9**
BRG				SG	**Sg**	**21 51 32.9**	**-0.3**
	3.2nm,0.5s						
KHC	**Kasperske Hory**	**3.25**	**259**	*e*PN	**Pn**	**21 50 47.3**	**-0.3**
KHC				*e*PG	**Pg**	**21 50 56.1**	**-1.5**
KHC				*e*SG	**Sg**	**21 51 38.6**	**-1.1**
	comp=Z,5.3nm,0.7s						
KHC	**Kasperske Hory**	**3.25**	**259**	Pn	**Pn**	**21 50 47.3**	**-0.3**
CLL	**Collm**	**3.75**	**295**	*e*Pg	**Pb**	**21 51 04.0**	**+1.6**
CLL				*e*Sg	**Sg**	**21 51 58.0**	**+2.2**

NIED ***18*** *21:53:00, 39°.80N×142°.40E, h5km, Mw3.5 Best double couple: M0 1.99000×10^14 NP1:φs181.00000°, δ43.00000°, λ165.00000°. NP2:φs283.00000°, δ80.00000°, λ48.00000°.*
ISCJB ***18*** *21:53:37.4±1.6, 39°.77N±0°.04×142°.4E±0°.1, h20km±10km, mb3.5/7, Error ellipse: s-maj=14.7km s-min=6.5km az=2.8*
JMA ***18*** *21:53:37.8, 39°.78N×142°.37E, h20km±1km, M3.7*
IDC ***18*** *21:53:41.8±3.2, 39°.75N×142°.42E, h41km±30km, mb3.3/7, mb1 3.5/9, mb1mx3.2/72, mbtmp3.5/9, ML3.3/2, Error ellipse: s-maj=28.6km s-min=18.2km az=87.0*
ISC 18 21:53:37.3±1.9, 39°.78N±0°.04×142°.36E±0°.08, h7km±12km, n22, σ0§86/24, mb3.5/7, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTH	**Tanohata**	**0.41**	**293**	P	**Pb**	**21 53 46.6**	**-0.3**
JTH				S	**Sb**	**21 53 52.7**	**-0.6**
MIYJ	**Miyakonagasawa**	**0.46**	**244**	P	**Pb**	**21 53 47.3**	**-0.4**
MIYJ				S	**Sb**	**21 53 53.8**	**-0.9**
JKZ	**Kuzumaki**	**0.82**	**285**	P	**Pb**	**21 53 53.5**	**-0.3**
JKZ				S	**Sg**	**21 54 04.0**	**+0.4**
JANG	**Nango**	**0.88**	**313**	P	**Pg**	**21 53 53.7**	**-0.4**
JANG				S	**Sg**	**21 54 05.7**	**+0.2**
JOM	**Ohasama**	**0.88**	**250**	P	**Pg**	**21 53 54.3**	**+0.2**
JOM				S	**Sg**	**21 54 05.9**	**+0.4**
OFUJ	**Ofunato**	**0.88**	**218**	P	**Pg**	**21 53 54.0**	**-0.2**
OFUJ				S	**Sg**	**21 54 05.5**	**-0.1**
JMK	**Ichinoseki**	**1.21**	**227**	P	**Pn**	**21 53 59.8**	**-0.7**
JMK				S	**Sb**	**21 54 15.5**	**-0.7**
ASAJ	**Asahikawa**	**4.34**	**2**	P	**Pn**	**21 54 44.7**	**+1.2**
	1.2nm,0.3s,baz=284,slow=12,SNR=11						
ASAJ				S	**Sb**	**21 55 44.8**	**-1.5**
	0.3nm,0.3s,baz=24,slow=20,SNR=2.6						
MJAR	**Matsushiro Arr**	**4.60**	**227**	P	**Pn**	**21 54 49.6**	**+2.4**
	1.2nm,0.3s,baz=33,slow=11,SNR=8.2						
H11N2	**WAKE ISLAND Hy 29.05**	**126**		T	T	22 30 07.0	
	baz=319,slow=75,SNR=262						
H11N1	**WAKE ISLAND Hy 29.05**	**126**		T	T	22 30 14.6	
	baz=319,slow=75,SNR=257						
H11N3	**WAKE ISLAND Hy 29.06**	**126**		T	T	22 30 12.4	
	baz=319,slow=75,SNR=315						
H11S1	**WAKE ISLAND Hy 29.85**	**128**		T	T	22 31 08.1	
	baz=321,slow=76,SNR=21						
H11S3	**WAKE ISLAND Hy 29.85**	**128**		T	T	22 31 14.1	
	baz=321,slow=76,SNR=16						
H11S2	**WAKE ISLAND Hy 29.87**	**128**		T	T	22 31 10.4	
	baz=321,slow=76,SNR=18						
ZALV	**Zalesovo Beam**	**40.66**	**310**	P	**P**	**22 01 18.0**	**+0.2**
	0.4nm,0.4s,baz=95,slow=8.7,SNR=3.3						
MKAR	**Makanchi Array**	**43.34**	**300**	P	**P**	**22 01 40.4**	**+0.5**
	0.5nm,0.6s,baz=86,slow=11,SNR=7.8						
KURBB	**Kurchatov Arra**	**44.94**	**306**	P	**P**	**22 01 52.4**	**-0.1**
	0.5nm,0.4s,baz=80,slow=8.5,SNR=5.1						
ILAR	**Eielson Array**	**46.79**	**34**	P	**P**	**22 02 07.2**	**+0.2**
	0.2nm,0.6s,baz=269,slow=5.5,SNR=3.2						
BVAR	**Borovoye Array**	**49.31**	**311**	P	**P**	**22 02 26.9**	**+0.3**
	0.3nm,0.6s,baz=80,slow=10,SNR=2.8						
WRA	**Warramunga Arr**	**59.88**	**189**	P	**P**	**22 03 42.2**	**-1.4**
	0.3nm,0.5s,baz=6.6,slow=6.9,SNR=7.9						
ASAR	**Alice Springs**	**63.61**	**189**	P	**P**	**22 04 08.8**	**0.0**
	0.4nm,0.5s,baz=4.5,slow=5.7,SNR=3.3						

IDC ***18*** *22:00:02.9±12.0, 44°.66N×147°.33E, h0km, mb3.5/4, mb1 3.4/5, mb1mx3.2/71, mbtmp3.4/5, ML2.9/1, Error ellipse: s-maj=251.7km s-min=47.9km az=148.0*
MOS ***18*** *22:00:08.1±1.2, 43°.29N×146°.79E, h84km, mb4.3/1, Error ellipse: s-maj=26.9km s-min=14.1km az=126.3*
ISCJB ***18*** *22:00:11.5±0.8, 43°.66N±0°.07×146°.57E±0°.07, h82km±4km, mb3.3/4, Error ellipse: s-maj=13.8km s-min=5.6km az=146.1*
SKHL ***18*** *22:00:13.1±0.3, 43°.66N×146°.60E, h73km±1km, mb4.7/5*
JMA ***18*** *22:00:13.3±0.1, 43°.60N×146°.52E, h72km±2km, M3.5*
ISC 18 22:00:11.7±1.2, 43°.59N±0°.07×146°.65E±0°.06, h71km±7km, n25, σ1§66/43, mb3.3/4, 2D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHO	**Shikotan**	**0.31**	**25**	*e*P	**Pn**	**22 00 23.9**	**+0.9**
SHO				AMB	AMB	22 00 24.2	
	480nm,0.1s						
SHO				*i* S	**Sn**	**22 00 32.3**	**+1.0**
SHO				A	A	22 00 32.8	
	1μm,0.2s						
SHO				A	A	22 00 32.8	
	9μm,0.2s						
SHO	**Shikotan**	**0.31**	**25**	*d* iPN	**Pn**	**22 00 23.9**	**+0.9**
SHO				*i* S	**Sn**	**22 00 32.3**	**+1.0**
SHO				pmax	pmax		
	comp=N,87nm,0.1s						
SHO				pmax	pmax		
	comp=Z,475nm,0.1s						
SHO				pmax	pmax		
	comp=E,129nm,0.3s						
SHO				smax	smax		
	comp=N,13μm,0.2s						
SHO				smax	smax		
	comp=E,9μm,0.2s						
NEM2	**Nemuro 2**	**0.69**	**252**	P	**Pn**	**22 00 27.5**	**+1.0**
NEM2				*e*S	**Sn**	**22 00 38.0**	**+0.5**
YUK	**Yuzh-Kuril'sk**	**0.72**	**308**	*e*P	**Pn**	**22 00 27.1**	**+0.2**
YUK				AMB	AMB	22 00 27.4	
	comp=E,140nm,0.1s						
YUK				*e*S	**Sn**	**22 00 37.4**	**-0.7**
YUK				A	A	22 00 38.5	
	comp=E,2μm,0.2s						
YUK				A	A	22 00 38.5	
	comp=E,1μm,0.2s						
YUK	**Yuzh-Kuril'sk**	**0.72**	**308**	*e*PN	**Pn**	**22 00 27.1**	**+0.2**
YUK				*e*S	**Sn**	**22 00 37.4**	**-0.7**
YUK				pmax	pmax		
	comp=N,25nm,0.1s						
YUK				pmax	pmax		
	comp=E,79nm,0.1s						
YUK				pmax	pmax		
	comp=Z,139nm,0.1s						
YUK				smax	smax		
	comp=N,2μm,0.2s						
YUK				smax	smax		
	comp=E,1μm,0.2s						
GRPR	**Tuman**	**0.75**	**303**	*e*P	**Pn**	**22 00 27.0**	**-0.2**
GRPR				AMB	AMB	22 00 27.6	
	comp=E,134nm,0.1s						
GRPR				*e*S	**Sn**	**22 00 37.6**	**-1.1**
GRPR				A	A	22 00 37.7	
	comp=E,2μm,0.2s						
GRPR				A	A	22 00 37.7	
	comp=E,2μm,0.2s						
GRPR	**Tuman**	**0.75**	**303**	*e*PN	**Pn**	**22 00 27.0**	**-0.2**
GRPR				*e*S	**Sn**	**22 00 37.5**	**-1.1**
GRPR				pmax	pmax		
	comp=E,35nm,0.1s						
GRPR				pmax	pmax		
	comp=Z,134nm,0.1s						
GRPR				smax	smax		
	comp=N,2μm,0.2s						
GRPR				smax	smax		
	comp=E,2μm,0.2s						
GLVR	**Golovnino**	**0.83**	**281**	*e*P	**Pn**	**22 00 29.0**	**+0.9**
GLVR				AMB	AMB	22 00 29.5	
	comp=E,610nm,0.3s						
GLVR				*e*S	**Sn**	**22 00 40.8**	**+0.5**
GLVR				A	A	22 00 41.4	
	comp=E,2μm,0.3s						
GLVR				A	A	22 00 41.4	
	comp=E,950nm,0.3s						
GLVR	**Golovnino**	**0.83**	**281**	*e*PN	**Pn**	**22 00 29.0**	**+0.9**
GLVR				*e*S	**Sn**	**22 00 40.8**	**+0.5**
GLVR				pmax	pmax		
	comp=Z,606nm,0.1s						
GLVR				pmax	pmax		
	comp=N,110nm,0.2s						
GLVR				smax	smax		
	comp=N,2μm,0.3s						
GLVR				smax	smax		
	comp=E,950nm,0.3s						
JRA	**Rausu**	**1.16**	**288**	P	**Pn**	**22 00 32.8**	**+0.6**
JRA				*e*S	**Sn**	**22 00 47.9**	**+0.4**
JNK	**Nakash**	**1.40**	**271**	P	**Pn**	**22 00 35.7**	**+0.4**
JNK				*e*S	**Sn**	**22 00 52.0**	**-1.1**
JAK	**Akkeshi**	**1.54**	**248**	P	**Pn**	**22 00 37.9**	**+0.7**
JAK				*e*S	**Sn**	**22 00 56.5**	**+0.1**
KUR	**Kuril'sk**	**1.86**	**28**	*e*P	**Pn**	**22 00 42.0**	**+0.6**
KUR				AMB	AMB	22 00 43.5	
	comp=E,62nm,0.2s						
KUR				*e*S	**Sn**	**22 01 03.4**	**-0.7**
KUR				A	A	22 01 06.7	
	comp=E,223nm,0.2s						
KUR				A	A	22 01 06.7	
	comp=E,157nm,0.2s						
KUR	**Kuril'sk**	**1.86**	**28**	*d* iPN	**Pn**	**22 00 43.3**	**+1.9**
KUR				*e*S	**Sn**	**22 01 05.4**	**+1.4**
KUR				pmax	pmax		
	comp=Z,116nm,0.5s						
KUR				smax	smax		
	comp=N,224nm,0.2s						
KUR				smax	smax		
	comp=E,152nm,0.2s						
JTKR	**Abashiri--Toko**	**2.02**	**282**	P	**Pn**	**22 00 44.4**	**+0.8**
JAR	**Ashorobuto**	**2.12**	**263**	P	**Pn**	**22 00 46.2**	**+1.3**
JAR				*e*S	**Sn**	**22 01 10.2**	**0.0**
JOB	**Onbets**	**2.17**	**253**	P	**Pn**	**22 00 46.8**	**+1.3**
JOB				*e*S	**Sn**	**22 01 11.3**	**-0.1**
JMP	**Maruseppu**	**2.42**	**281**	P	**Pn**	**22 00 50.0**	**+1.0**
JCH	**Churui**	**2.59**	**249**	P	**Pn**	**22 00 52.1**	**+0.8**
JCH				*e*S	**Sn**	**22 01 21.0**	**-0.8**
ASAJ	**Asahikawa**	**2.98**	**282**	Pn	**Pn**	**22 00 58.4**	**+1.9**
	comp=E,0.8nm,0.3s,baz=96,slow=13,SNR=16						
ASAJ				Sn	**Sn**	**22 01 39.5**	**+8.4**
	comp=E,1.7nm,0.3s,baz=295,slow=15,SNR=5.7						
SONM	**Songino Array**	**28.20**	**293**	P	**P**	**22 05 57.1**	**-0.5**
	comp=E,0.5nm,0.7s,baz=94,slow=8.7,SNR=3.9						
ZALV	**Zalesovo Beam**	**40.80**	**307**	P	**P**	**22 07 44.1**	**-1.7**
	comp=E,0.4nm,0.4s,baz=93,slow=7.7,SNR=2.2						
MKAR	**Makanchi Array**	**44.34**	**298**	P	**P**	**22 08 13.5**	**-1.1**
	comp=E,0.3nm,0.6s,baz=64,slow=5.9,SNR=4.8						
KURK	**Kurchatov**	**45.32**	**304**	P	**P**	**22 08 21.3**	**-1.0**
KURBB	**Kurchatov Arra**	**45.40**	**304**	P	**P**	**22 08 21.3**	**-1.6**
	comp=E,0.2nm,0.5s,baz=74,slow=8.8,SNR=3.0						

IDC ***18*** *22:04:06.6±1.0, 0°.95S×130°.50E, h0km, mb3.6/4, mb1 3.7/6, mb1mx3.4/53, mbtmp3.6/6, ML3.2/2, MS3.0/1, Ms1 3.0/1, ms1mx2.3/48, Error ellipse: s-maj=20.6km s-min=10.0km az=179.0*
ISCJB ***18*** *22:04:07.6±0.8, 0°.76S±0°.10×131°.41E±0°.08, h33km, mb3.6/4, Error ellipse: s-maj=15.0km s-min=10.0km az=26.1*
DJA ***18*** *22:04:07.6±1.4, 1°.S±13°.×13°.1E±°, h73km±11km, M4.2/4, MLv4.2/4*
ISC 18 22:04:10.1±1.0, 0°.8S±0°.1×131°.6E±0°.07, h35km, n9, σ2§19/10, mb3.7/4, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**0.30**	**256**	Pg	**Pn**	**22 04 21.2**	**+3.2**
	104nm,0.3s,baz=73,slow=19,SNR=246						
SIJI				Lg	Lg	22 04 32.3	
	339nm,0.3s,baz=129,slow=20,SNR=80						
FAKI	**Fak Fak**	**2.22**	**162**	P	**Pn**	**22 04 45.9**	**+1.5**
FAKI				S	Sn	22 04 53.8	-17
RKPI	**Ransiki, Papua**	**2.71**	**105**	P	**Pn**	**22 04 52.7**	**+1.5**
RKPI				S	**Sn**	**22 05 24.8**	**+2.0**
FITZ	**Fitzroy Crossi**	**18.15**	**198**	P	**P**	**22 08 16.2**	**-3.4**
	0.0nm,0.3s,baz=336,slow=10.0,SNR=2.7						
FITZ				LR	LR	22 15 44.2	
	comp=Z,52nm,18.7s,baz=6.0,slow=39						
WRA	**Warramunga Arr**	**19.22**	**172**	P	**Pn**	**22 08 32.0**	**-0.5**
	0.1nm,0.3s,baz=351,slow=11,SNR=11						
ASAR	**Alice Springs**	**22.85**	**174**	P	**P**	**22 09 11.2**	**+0.7**
	0.8nm,0.7s,baz=355,slow=8.9,SNR=10						
MKAR	**Makanchi Array**	**64.01**	**325**	P	**P**	**22 14 38.9**	**-1.3**
	0.5nm,0.7s,baz=114,slow=5.3,SNR=4.7						
KURBB	**Kurchatov Arra**	**68.14**	**327**	P	**P**	**22 15 05.8**	**-0.7**
	1.1nm,0.8s,baz=126,slow=6.5,SNR=5.1						
BVAR	**Borovoye Array**	**73.72**	**327**	P	**P**	**22 15 39.8**	**-0.6**
	0.6nm,0.7s,baz=90,slow=7.2,SNR=3.0						

IDC ***18*** *22:04:13.2±1.3, 3°.62N×93°.41E, h0km, mb3.6/6, mb1 3.8/8, mb1mx3.5/64, mbtmp3.6/8, ML3.6/2, Error ellipse: s-maj=50.9km s-min=20.4km az=51.0*
ISCJB ***18*** *22:04:14.3±0.7, 3°.53N±0°.08×93°.28E±0°.05, h19km, mb3.6/6, Error ellipse: s-maj=11.2km s-min=7.0km az=4.7*
DJA ***18*** *22:04:19.0±1.1, 4°.N±5°.×9°.4E±°, h10km, M4.0/4, MLv4.0/4*
**ISC 18 22:04:16.2±0.9, 3°.55N±0°.09×93°.31E±0°.08, h19km, n16, σ1§04/16, mb3.6/6,

SFK	**Sufi-Kurgan**	**6.20**	**24**	⇑Pn		**Pn**	**22 34 20.6**	**+2.0**
	3.1nm,0.6s								
SFK				⇓Sn		**Sn**	**22 35 32.2**	**+3.9**
	4.9nm,0.4s								
MNAS	**Manas**	**8.29**	**12**	⇑Pn		**Pn**	**22 34 47.5**	**+0.3**
	3.3nm,0.8s								
MNAS				⇑Sn		**Sn**	**22 36 19.9**	**+0.2**
	1.2nm,0.3s								
KK31	**Karatay Array**	**8.71**	**1**	⇑Pn		**Pn**	**22 34 54.1**	**+1.1**
	0.7nm,0.3s,baz=188,slow=15,SNR=17								
KK31				⇓Sn		**Sn**	**22 36 31.5**	**+1.6**
	1.7nm,0.5s,baz=186,slow=22,SNR=4.4								
AAK	**Ala-Archa**	**8.89**	**21**	P		**Pn**	**22 34 54.8**	**-0.7**
	0.4nm,0.3s,baz=185,slow=7.5,SNR=12								
AAK				S		**Sn**	**22 36 29.1**	**-5.5**
	0.1nm,0.3s,baz=288,slow=20,SNR=1.6								
AAK				LR		LR	22 38 34.0		
	comp=Z,29nm,20.3s,baz=285,slow=40								
AAK	**Ala-Archa**	**8.89**	**21**	⇓Pn		**Pn**	**22 34 55.5**	**0.0**
	1.8nm,0.7s								
AAK				⇑Sn		**Sn**	**22 36 36.0**	**+1.4**
	1.5nm,0.6s								
MKAR	**Makanchi Array**	**15.39**	**33**	P		**Pn**	**22 36 23.6**	**-0.3**
	0.2nm,0.3s,baz=205,slow=11,SNR=11								
KURBB	**Kurchatov Arra**	**17.33**	**18**	P		**Pn**	**22 36 47.1**	**-1.3**
	0.0nm,0.3s,baz=206,slow=11,SNR=4.0								
BVAR	**Borovoye Array**	**18.64**	**0**	P		**P**	**22 37 03.5**	**-0.4**
	0.2nm,0.3s,baz=173,slow=13,SNR=4.0								
ZALV	**Zalesovo Beam**	**22.10**	**23**	P		**P**	**22 37 39.3**	**-2.1**
	1.1nm,0.4s,baz=214,slow=10,SNR=5.9								
YKA	**Yellowknife Ar**	**83.39**	**2**	P		**P**	**22 45 12.4**	**-0.2**
	0.1nm,0.5s,baz=350,slow=5.3,SNR=4.6								
ASAR	**Alice Springs**	**83.56**	**124**	P		**P**	**22 45 14.9**	**+0.8**
	0.3nm,0.5s,baz=316,slow=5.2,SNR=3.7								

IDC 18 22:37:36.7±1.4, 0.°43S×132.°05E, h0km, mb3.4/3, mb1 3.5/4, mb1mx3.2/58, mbtmp3.3/4, ML3.2/1, Error ellipse: s-maj=25.5km s-min=13.2km az=143.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**0.90**	**241**	Pg	Pb	22 37 54.6	-0.5
	28nm,0.3s,baz=24,slow=20,SNR=107						
SIJI				Lg	Lg	22 38 05.8	
	142nm,0.3s,baz=198,slow=20,SNR=95						
WRA	**Warramunga Arr**	**19.53**	**174**	P	P	22 42 05.8	0.0
	0.1nm,0.3s,baz=352,slow=11,SNR=6.0						
ASAR	**Alice Springs**	**23.17**	**176**	P	P	22 42 45.0	-0.2
	0.8nm,0.9s,baz=5.7,slow=14,SNR=6.8						
MKAR	**Makanchi Array**	**63.99**	**324**	P	P	22 48 12.4	+0.4
	0.4nm,0.8s,baz=133,slow=6.1,SNR=4.1						
KURBB	**Kurchatov Arra**	**58.10**	**326**	P	P	22 48 37.8	-0.5
	0.5nm,0.9s,baz=124,slow=6.2,SNR=4.9						

MAN 18 22:41:04, 12.°40N×123.°68E, h21km, mb4.0, ML2.8, MS2.4, 1C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMPH	**Masbate**	**0.07**	**233**	⇓*iP*	Pb	22 41 09.2	+1.3
MMPH				*i* S	Sb	22 41 10.8	+0.3
CNP	**Catarman**	**0.97**	**83**	*eP*	Pb	22 41 21.8	-0.3
CNP				*eS*	Sn	22 41 36.5	+1.0
RCP	**Roxas**	**1.24**	**228**	⇑*eP*	Pb	22 41 26.6	-0.1
RCP				*eS*	Sb	22 41 43.0	+0.8
AUQP	**San Andres**	**1.34**	**313**	*eP*	Sb	22 41 49.0	+3.8

NIED 18 22:44:00, 38.°00N×143.°80E, h5km, Mw3.9 Best double couple: M0=6.75000×10^14 NP1:φ=20.00000°, δ=25.00000°, λ=-109.00000°. NP2:φ=221.00000°, δ=66.00000°, λ=-81.00000°.
IDC 18 22:44:12.4±0.9, 37.°83N×144.°05E, h0km, mb3.7/8, mb1 3.8/11, mb1mx3.6/70, mbtmp3.7/11, ML3.2/4, MS2.7/3, Ms1 2.7/3, ms1mx2.3/65, Error ellipse: s-maj=22.7km s-min=17.1km az=94.0
ISCJB 18 22:44:15.3±0.6, 37.°92N±0.°04×143.°90E±0.°05, h33km, mb3.8/9, Error ellipse: s-maj=5.7km s-min=5.3km az=31.3
JMA 18 22:44:16.2±0.2, 37.°97N×143.°82E, h40km, M4.0
ISC 18 22:44:17.5±0.9, 37.°99N±0.°05×143.°91E±0.°07, h35km, n29, σ1§96/44, mb3.8/9, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**2.07**	**303**	P	**Pn**	**22 44 48.8**	**-1.0**
OFUJ				S	**Sn**	**22 45 13.5**	**-0.8**
JIO	**Ouri**	**2.07**	**284**	P	**Pn**	**22 44 48.8**	**-1.0**
JIO				S	**Sn**	**22 45 12.7**	**-1.6**
JMK	**Ichinoseki**	**2.32**	**295**	P	**Pn**	**22 44 52.6**	**-0.6**
JMK				S	**Sn**	**22 45 19.7**	**-0.8**
JOM	**Ohasama**	**2.53**	**307**	P	**Pn**	**22 44 56.0**	**-0.1**
JOM				S	**Sn**	**22 45 25.4**	**-0.3**
JFT	**Otama**	**2.87**	**262**	P	**Pn**	**22 45 00.5**	**-0.3**
JFT				S	**Sn**	**22 45 32.6**	**-1.5**
JYK	**Kaneyama**	**2.94**	**290**	P	**Pn**	**22 45 01.6**	**-0.1**
JYK				S	**Sn**	**22 45 35.6**	**-0.2**
JANG	**Nango**	**3.02**	**323**	P	**Pn**	**22 45 02.6**	**-0.3**
JANG				S	**Sn**	**22 45 36.7**	**-1.2**
JAW	**Awa shima**	**3.70**	**279**	P	**Pn**	**22 45 12.3**	**+0.1**
JAW				S	**Sn**	**22 45 53.0**	**-1.5**
JOT	**Ohata**	**4.05**	**328**	P	**Pn**	**22 45 18.3**	**+1.4**
BSO1	**Boso 1**	**4.08**	**216**	P	**Pn**	**22 45 14.3**	**-2.6**
BSO1				S	**Sn**	**22 46 00.2**	**-3.0**
JRY	**Ryogami san**	**4.46**	**245**	P	**Pn**	**22 45 21.4**	**-1.3**
JRY				S	**Sn**	**22 46 09.1**	**-4.4**
JCH	**Churui**	**4.64**	**355**	P	**Pn**	**22 45 23.8**	**-1.3**
JCH				S	**Sn**	**22 46 15.4**	**-2.3**
JOD2	**Odawara 2**	**4.74**	**236**	P	**Pn**	**22 45 24.3**	**-2.1**
JOD2				S	**Sn**	**22 46 14.6**	**-5.5**
MJAR	**Matsushiro Arr**	**4.77**	**254**	Pn	**Pn**	**22 45 26.5**	**-0.5**
	4.2nm,0.3s,baz=88,slow=15,SNR=36						
MJAR				Sn	**Sn**	**22 46 22.4**	**+1.4**
	2.0nm,0.3s,baz=56,slow=47,SNR=4.3						
MJAR				LR	LR	22 47 25.1	
	comp=Z,61nm,19.6s,baz=85,slow=40						
MAT	**Matsushiro**	**4.77**	**254**	P	**Pn**	**22 45 27.3**	**+0.4**
MAT				S	**Sn**	**22 46 22.7**	**+1.7**
NEM2	**Nemuro 2**	**5.55**	**14**	P	**Pn**	**22 45 34.1**	**-3.5**
NEM2				S	**Sn**	**22 46 34.8**	**-5.3**
ASAJ	**Asahikawa**	**6.20**	**351**	Pn	**Pn**	**22 45 47.0**	**+0.4**
	1.7nm,0.3s,baz=204,slow=14,SNR=13						
ASAJ				Sn	**Sn**	**22 46 55.0**	**-1.2**
	0.4nm,0.3s,baz=36,slow=19,SNR=3.6						
USRK	**Ussuriysk Ar.**	**10.92**	**308**	Pn	**Pn**	**22 46 53.4**	**+2.2**
	0.2nm,0.3s,baz=114,slow=14,SNR=3.3						
USRK				LR	LR	22 50 53.3	
	comp=Z,43nm,18.7s,baz=104,slow=36						
KSRS	**Korea Array**	**12.67**	**273**	LR	LR	22 51 45.4	
	comp=Z,31nm,20.0s,baz=36,slow=35						
KLR	**Kul'dur**	**14.26**	**326**	Pn	**Pn**	**22 47 36.4**	**-0.3**
	0.0nm,0.3s,baz=127,slow=14,SNR=6.0						
ZALV	**Zalesovo Beam**	**42.75**	**312**	P	**P**	**22 52 13.1**	**+1.9**
	0.2nm,0.3s,baz=92,slow=8.6,SNR=2.0						
CMAR	**Chiang Mai Arr**	**43.65**	**256**	P	**P**	**22 52 18.9**	**-0.1**
	0.3nm,0.3s,baz=50,slow=6.0,SNR=3.7						
MKAR	**Makanchi Array**	**45.30**	**302**	P	**P**	**22 52 33.7**	**+1.9**
	1.4nm,0.9s,baz=88,slow=9.3,SNR=8.4						
KURBB	**Kurchatov Arra**	**46.99**	**308**	P	**P**	**22 52 46.6**	**+1.6**
	0.4nm,0.4s,baz=83,slow=8.2,SNR=6.3						
ILAR	**Eielson Array**	**47.62**	**33**	P	**P**	**22 52 50.5**	**+0.8**
	0.7nm,0.7s,baz=265,slow=5.8,SNR=10						
WRA	**Warramunga Arr**	**58.32**	**191**	P	**P**	**22 54 08.1**	**-0.9**
	5.4nm,0.7s,baz=12,slow=7.1,SNR=44						
YKA	**Yellowknife Ar**	**61.98**	**31**	P	**P**	**22 54 34.4**	**+0.9**
	0.3nm,0.7s,baz=301,slow=6.6,SNR=7.4						
ASAR	**Alice Springs**	**62.04**	**190**	P	**P**	**22 54 33.8**	**-0.7**
	1.1nm,0.5s,baz=13,slow=7.0,SNR=14						
FINES	**FINESS Array B**	**68.88**	**333**	P	**P**	**22 55 19.2**	**+0.9**
	0.8nm,0.7s,baz=23,slow=7.5,SNR=3.1						

ISK 18 22:44:48.4, 38.°78N×43.°83E, h5km, ML2.3/5
ISCJB 18 22:44:50.9±0.9, 38.°84N±0.°04×43.°78E±0.°08, h8km, Error ellipse: s-maj=9.4km s-min=4.6km az=26.4
CSEM 18 22:44:50.9±0.4, 38.°86N×43.°76E, h5km, ML2.5, Error ellipse: s-maj=10.1km s-min=4.8km az=121.0
DDA 18 22:44:51.9, 38.°86N×43.°72E, h7km, Ml2.5
ISC 18 22:44:50.0±1.1, 38.°84N±0.°04×43.°82E±0.°06, h8km, n26, σ0§64/32, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VMUR	**Van-Muradiye**	**0.25**	**308**	*i* P	**Pg**	**22 44 55.9**	**+0.8**
VMUR				*i* S	**Sg**	**22 44 59.2**	**+0.7**
VMUR	**Van-Muradiye**	**0.25**	**308**	P	**Pg**	**22 44 55.9**	**+0.8**
VMUR				S	**Sg**	**22 44 59.2**	**+0.7**
CLDR	**Caldiran**	**0.32**	**13**	PG	**Pb**	**22 44 56.6**	**-1.5**
CLDR				SG	**Sb**	**22 45 03.3**	**-0.2**
CLDR	**Caldiran**	**0.32**	**13**	*i* P	**Pb**	**22 44 58.6**	**+0.5**
CLDR	**Caldiran**	**0.32**	**13**	*e*Pg	**Pb**	**22 44 56.6**	**-1.5**
CLDR	**Caldiran**	**0.32**	**13**	P	**Pb**	**22 44 58.6**	**+0.5**
CLDR				*e*Sg	**Sb**	**22 45 03.3**	**-0.2**
VANB	**Van**	**0.41**	**235**	PG	**Pg**	**22 44 57.9**	**-0.2**
VANB				SG	**Sb**	**22 45 05.2**	**-1.0**
VANB	**Van**	**0.41**	**235**	*e*Pg	**Pg**	**22 44 57.9**	**-0.2**
VANB				*e*Sg	**Sb**	**22 45 05.2**	**-1.0**
ERCV	**ERCIS-VAN**	**0.42**	**296**	PG	**Pg**	**22 44 58.2**	**-0.1**
ERCV	**ERCIS-VAN**	**0.42**	**296**	*e*Pg	**Pg**	**22 44 58.2**	**-0.1**
TVAN	**Van**	**0.45**	**227**	*i* P	**Pb**	**22 45 00.8**	**+0.5**
TVAN	**Van**	**0.45**	**227**	P	**Pb**	**22 45 00.8**	**+0.5**
GEVA	**Gevas**	**0.79**	**229**	*i* P	**Pb**	**22 45 06.3**	**+0.2**
GEVA	**Gevas**	**0.79**	**229**	P	**Pb**	**22 45 06.3**	**+0.2**
ADCV	**BITLIS_Adilcev**	**0.86**	**269**	*i* P	**Pb**	**22 45 06.8**	**-0.4**
ADCV	**BITLIS_Adilcev**	**0.86**	**269**	P	**Pb**	**22 45 06.8**	**-0.4**
TUTA	**Tutak**	**0.97**	**306**	*i* P	**Pb**	**22 45 08.6**	**-0.6**
TUTA	**Tutak**	**0.97**	**306**	P	**Pb**	**22 45 08.6**	**-0.6**
AGRB	**Hanur-Agry**	**0.98**	**319**	PG	**Pb**	**22 45 09.2**	**-0.2**
AGRB	**Hanur-Agry**	**0.98**	**319**	*e*Pg	**Pb**	**22 45 09.2**	**-0.2**
TASB	**TASBURUN-IGDIR**	**1.19**	**16**	PN	**Pn**	**22 45 13.2**	**+0.1**
TASB	**TASBURUN-IGDIR**	**1.19**	**16**	*e*Pn	**Pn**	**22 45 13.2**	**+0.1**
GURO	**Guroymak-BITLI**	**1.43**	**259**	PN	**Pb**	**22 45 16.4**	**-0.6**
GURO	**Guroymak-BITLI**	**1.43**	**259**	*e*Pn	**Pb**	**22 45 16.4**	**-0.6**
SIRT	**Sirnak**	**1.72**	**220**	PN	**Pn**	**22 45 20.5**	**+0.2**
SIRT	**Sirnak**	**1.72**	**220**	*e*Pn	**Pn**	**22 45 20.5**	**+0.2**

BJI 18 22:53:27.9, 0.°63N×91.°50E, h10km, mb4.6/38, mB4.9/20, Ms4.3/10, Ms7 4.1/7
ISCJB 18 22:53:32.5±0.4, 1.°21N±0.°06×91.°64E±0.°04, h10km, mb4.6/53, MS3.7/13, Error ellipse: s-maj=8.4km s-min=5.3km az=174.5
IDC 18 22:53:32.5±0.7, 1.°19N×91.°62E, h0km, mb4.4/21, mb1 4.5/24, mb1mx4.2/63, mbtmp4.4/24, ML4.1/3, MS3.4/14, Ms1 3.5/14, ms1mx3.2/61, Error ellipse: s-maj=19.6km s-min=15.1km az=33.0
NEIC 18 22:53:34.2±0.3, 1.°26N×91.°64E, h10km, mb4.7/21, Error ellipse: s-maj=8.1km s-min=4.9km az=5.0
ISC 18 22:53:33.9±0.6, 1.°15N±0.°09×91.°57E±0.°07, h10km, n143, σ1§18/129, mb4.7/57, MS3.6/13, 4C-6D, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSI	**Gunungsitoli**	**6.01**	**89**	*e*Pn	**Pn**	**22 55 00.8**	**-2.1**
GSI				*e*S	Sn	22 55 59.3	-13
PSI	**Prapat**	**7.53**	**77**	Pn	**Pn**	**22 55 24.0**	**+0.1**
	1.2nm,0.3s,baz=234,slow=16,SNR=2.3						
PSI				LR	LR	22 58 46.2	
	comp=Z,127nm,18.7s,baz=218,slow=42						
PSI	**Prapat**	**7.53**	**77**	*e*Pn	**Pn**	**22 55 23.3**	**-0.7**
PKDT	**Phuket**	**9.50**	**45**	P	**Pn**	**22 55 53.6**	**+2.7**
	22nm,0.8s,1μm						
KULM	**Kulim**	**9.95**	**65**	*e*Pn	**Pn**	**22 55 55.9**	**-1.2**
IPM	**Ipoh**	**10.01**	**71**	*e*Pn	**Pn**	**22 55 56.4**	**-1.5**
TRTT	**Trang**	**10.47**	**50**	P	**Pn**	**22 56 06.2**	**+2.1**
	7.7nm,1.1s						
PBA	**Port Blair**	**10.50**	**6**	*e*P	Pn	22 56 01.1	-3.5
DGPR	**DIGLIPUR**	**12.02**	**6**	*e*P	**Pn**	**22 56 25.1**	**-0.4**
PALK	**Pallekele**	**12.42**	**300**	Pn	**Pn**	**22 56 30.0**	**-0.9**
	0.9nm,0.3s,baz=115,slow=12,SNR=11						
PALK				Sn	Sn	22 58 38.3	-11
	2.1nm,0.3s,baz=300,slow=1.8,SNR=6.5						
PALK				LR	LR	23 00 36.3	
	comp=Z,91nm,18.8s,baz=116,slow=34						
SRDT	**SRDT**	**15.09**	**29**	P	P	22 57 16.0	+3.4
NAYO	**Nakonayok**	**16.25**	**36**	P	**P**	**22 57 28.9**	**+3.4**
	112nm,0.9s,6μm						
MDRS	**Chennai**	**16.31**	**317**	*e*P	**P**	**22 57 24.7**	**-1.5**
MDRS				IAmb	IAmb	22 57 31.5	
	comp=Z,107nm,0.2s						
LEM	**Lembang**	**17.87**	**117**	LR	LR	23 03 58.5	
	comp=Z,82nm,18.2s,baz=206,slow=35						
CHAI	**Chaiyaphum**	**17.90**	**34**	P	**P**	**22 57 44.1**	**+0.4**
	comp=Z,5.8nm,1.0s,comp=Z,112nm						
PBKT	**Sadao Pong**	**17.90**	**31**	P	**P**	**22 57 43.8**	**0.0**
	comp=Z,13nm,0.8s,comp=Z,5μm						
PHIT	**Phitsanulok**	**18.16**	**28**	P	**P**	**22 57 47.5**	**+0.9**
	comp=Z,9.6nm,0.9s						
VIS	**Vishakhapatnam**	**18.35**	**334**	*e*P	**P**	**22 57 48.4**	**-0.3**
VIS				IAmb	IAmb	22 57 55.6	
	comp=Z,60nm,1.2s						
CM01	**Chiang Mai Arr**	**18.63**	**22**	*e*P	**P**	**22 57 49.4**	**-2.4**
CM31	**Chiang Mai Arr**	**18.66**	**22**	*e*P	**Pn**	**22 57 51.1**	**-1.3**
CMAR	**Chiang Mai Arr**	**18.66**	**22**	P	**P**	**22 57 50.6**	**-1.5**
	comp=Z,0.6nm,0.3s,baz=210,slow=12,SNR=16						
CMAR				LR	LR	23 04 53.3	
	comp=Z,46nm,18.8s,baz=212,slow=37						
KHON	**Khomkaen**	**18.73**	**36**	P	**Pn**	**22 57 56.7**	**+3.4**
	comp=Z,10.0nm,0.7s						
KSM	**Kuching**	**18.74**	**89**	*e*P	**Pn**	**22 57 53.5**	**+0.1**
	comp=Z,17nm,1.3s						
CHTO	**Chiang Mai**	**18.98**	**22**	P	**Pn**	**22 57 55.9**	**-0.5**
	comp=Z,50nm,1.1s						
CHTO	**Chiang Mai**	**18.98**	**22**	*e*P	**P**	**22 57 54.5**	**-1.2**
	comp=Z,11nm,1.1s						
SKNT	**Sakolnakorn**	**19.91**	**37**	P	**Pn**	**22 58 07.8**	**+0.3**
	comp=Z,7.8nm,1.9s						
CMAI	**Chiengmai2**	**20.05**	**21**	P	**Pn**	**22 58 12.7**	**+3.4**
	comp=Z,81nm,1.2s						
HYB	**Hyderabad**	**20.62**	**322**	*e*P	**P**	**22 58 11.3**	**-2.3**
H08S2	**Diego Garcia H**	**20.94**	**245**	T	T	23 20 00.1	
	baz=65,slow=75,SNR=35						
H08S3	**Diego Garcia H**	**20.95**	**245**	T	T	23 19 58.5	
	baz=65,slow=75,SNR=38						
H08S1	**Diego Carcia H**	**20.95**	**245**	T	T	23 19 58.1	
	baz=65,slow=75,SNR=49						
GOA	**Goa**	**22.57**	**310**	*e*P	**P**	**22 58 32.2**	**-2.4**
BOK	**Bokaro**	**23.17**	**347**	*e*P	**P**	**22 58 41.6**	**+0.8**
BOK				IAmb	IAmb	22 58 43.8	
	comp=Z,28nm,1.3s						
NGP	**Nagpur**	**23.33**	**329**	*e*P	**P**	**22 58 40.9**	**-1.6**
SHL	**Shillong**	**24.27**	**1**	*e*P	**P**	**22 58 47.9**	**-3.7**
SHL				IAmb	IAmb	22 58 52.2	
	comp=Z,3.5nm,0.8s						
POO	**Poona**	**24.51**	**316**	*e*P	**P**	**22 58 53.4**	**-0.3**
ODAN	**Odare**	**25.87**	**351**	*e*P	**P**	**22 59 07.0**	**+0.8**
	comp=Z,61nm,0.9s						
RAMN	**Ramite**	**26.09**	**350**	*e*P	**P**	**22 59 09.5**	**+1.3**
	comp=Z,53nm,0.9s						
KMI	**Kunming**	**26.16**	**23**	P	**P**	**22 59 10.5**	**+1.7**
KMI				pP	sP	22 59 14.9	+1.8
KMI				sP	pP	22 59 17.4	+5.5
KMI				pmax	pmax		
	comp=Z,16nm,1.0s						
KMI				pmax	pmax		
	comp=Z,38nm,3.1s						
KMI				LR	LR		
	comp=Z,100nm,13.3s						
KMI				LR	LR		
	comp=Z,120nm,15.6s						
KMI				LR	LR		
	comp=Z,100nm,12.4s						
JIRN	**Jiri**	**26.86**	**349**	*e*P	**P**	**22 59 16.1**	**+0.8**
	comp=Z,75nm,1.0s						
DMN	**Daman**	**27.03**	**347**	*e*P	**P**	**22 59 17.7**	**+1.0**
	comp=Z,8.8nm,0.8s						
GUN	**Gumba**	**27.16**	**349**	*e*P	**P**	**22 59 18.4**	**+0.4**
	comp=Z,38nm,1.0s						
KKN	**Kakani**	**27.16**	**348**	*e*P	**P**	**22 59 18.4**	**+0.6**
	comp=Z,17nm,0.9s						
GKN	**Gorkha**	**27.51**	**347**	*e*P	**P**	**22 59 21.2**	**+0.3**
	comp=Z,11nm,0.8s						
KOLN	**Koldanda**	**27.55**	**345**	*e*P	**P**	**22 59 22.0**	**+0.7**
	comp=Z,10nm,0.8s						
PYUN	**Piuthan**	**28.03**	**344**	*e*P	**P**	**22 59 26.6**	**+1.0**
LSA	**Lhasa**	**28.39**	**359**	*e*P	**P**	**22 59 29.3**	**+0.2**
	comp=Z,9.3nm,0.8s						
DDI	**Dehra Dun**	**31.72**	**337**	*e*P	**P**	**22 59 56.9**	**-1.2**
CD2	**Chengdu**	**31.77**	**20**	*e*P	**P**	**22 59 58.4**	**-0.1**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,120nm,5.0s						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMLA	**Simla**	**32.78**	**337**	*e*P	**P**	**23 00 06.3**	**-1.0**
SMLA				IAmb	IAmb	23 00 18.7	
	comp=Z,26nm,1.5s						
ENH	**Enshi**	**33.59**	**29**	*e*P	**P**	**23 00 14.1**	**-0.4**
	comp=Z,13nm,0.8s						
DHRM	**DHARAMSHALA**	**34.12**	**337**	*e*P	**P**	**23 00 18.7**	**-0.6**
DHRM				IAmb	IAmb	23 00 20.7	
	comp=Z,8.3nm,0.5s						
XAN	**Xi'an**	**36.53**	**25**	P	**P**	**23 00 38.8**	**-1.0**
XAN				pP	sP	23 00 48.3	+4.2
XAN				pmax	pmax		
	comp=Z,18nm,0.9s						
LZH	**Lanzhou**	**36.58**	**17**	*e*P	P	23 00 44.0	+3.7
LZH				pP	sP	23 00 48.9	+4.2
LZH				sP	pP	23 00 51.3	+7.9
LZH				pmax	pmax		
	comp=Z,18nm,1.1s						
LZH				pmax	pmax		
	comp=Z,78nm,4.6s						
LZH				LR	LR		
	comp=Z,160nm,12.5s						
LZH				LR	LR		
	comp=Z,240nm,16.7s						
NIL	**Nilore**	**36.61**	**334**	*e*P	**P**	**23 00 40.8**	**+0.3**
	comp=Z,10nm,0.8s						
WSAR	**Wadi Sarin**	**38.77**	**307**	LR	LR	23 17 15.2	
	comp=Z,52nm,18.3s,baz=166,slow=37						
GTA	**Gaotai**	**38.81**	**10**	*e*P	**P**	**23 00 59.1**	**-0.1**
GTA				pP	sP	23 01 03.4	-0.1
GTA				sP	pP	23 01 06.8	+4.5
GTA				pmax	pmax		
	comp=Z,9.0nm,1.0s						
NJ2	**Nanjing**	**40.09**	**37**	*e*P	**P**	**23 01 10.3**	**+0.6**
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.5s						
KSH	**Kashi**	**40.75**	**341**	P	**P**	**23 01 15.1**	**-0.2**
H01W3	**Cape Leeuwin H**	**41.61**	**152**	T	T	23 45 42.0	
	baz=326,slow=75,SNR=31						
H01W2	**Cape Leeuwin H**	**41.62**	**152**	T	T	23 45 42.9	
	baz=326,slow=75,SNR=34						
H01W1	**Cape Leeuwin H**	**41.63**	**152**	T	T	23 45 38.8	
	baz=326,slow=75,SNR=33						
WMQ	**Urumqi**	**42.62**	**356**	P	**P**	**23 01 31.4**	**+0.9**
WMQ				pmax	pmax		
	comp=Z,16nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,100nm,5.1s						
WMQ				LR	LR		
	comp=Z,150nm,18.1s						
WMQ				LR	LR		
	comp=Z,95nm,19.5s						
WMQ				LR	LR		
	comp=Z,130nm,24.1s						
KDJ	**Kajisay**	**42.80**	**344**	*e*P	**P**	**23 01 32.5**	**+0.4**
	comp=Z,4.3nm,0.9s						
HHC	**Hu-ho-hao-te**	**43.47**	**22**	*e*P	**P**	**23 01 37.8**	**+0.4**
HHC				pmax	pmax		
	comp=Z,24nm,1.1s						
HHC				pmax	pmax		
	comp=Z,68nm,4.7s						
AAK	**Ala-Archa**	**44.05**	**342**	*e*P	**P**	**23 01 41.5**	**-0.7**
	comp=Z,4.7nm,1.1s						
BJT	**Baijiatuan**	**44.69**	**27**	*e*P	**P**	**23 01 48.1**	**+1.0**
	comp=Z,25nm,1.0s						
KK31	**Karatay Array**	**45.82**	**338**	*e*P	**P**	**23 01 55.1**	**-1.0**
KKAR	**Karatay Array**	**45.82**	**338**	*e*P	**P**	**23 01 54.8**	**-1.3**
MK01	**Makanchi Array**	**46.15**	**351**	*e*P	**P**	**23 01 57.8**	**-0.8**
MK31	**Makanchi Array**	**46.17**	**351**	*e*P	**P**	**23 01 57.7**	**-1.1**
MKAR	**Makanchi Array**	**46.17**	**351**	P	**P**	**23 01 58.5**	**-0.3**
	comp=Z,3.9nm,0.7s,baz=167,slow=9.0,SNR=43						
MKAR				LR	LR	23 23 28.3	
	comp=Z,38nm,18.8s,baz=176,slow=39						
MKAR	**Makanchi Array**	**46.17**	**351**	*e*P	**P**	**23 01 57.9**	**-0.9**
	comp=Z,24nm,0.8s						
MAKZ	**Makanchi**	**46.24**	**351**	*e*P	**P**	**23 01 57.6**	**-1.7**
	comp=Z,2.7nm,0.8s						
WRA	**Warramunga Arr**	**46.87**	**119**	P	**P**	**23 02 04.3**	**-0.4**
	comp=Z,3.0nm,0.7s,baz=296,slow=8.6,SNR=22						
GEYT	**Alibeck**	**47.79**	**324**	P	**P**	**23 02 12.7**	**+1.1**
	comp=Z,6.9nm,0.8s,baz=148,slow=8.7,SNR=19						
ASAR	**Alice Springs**	**47.96**	**124**	P	**P**	**23 02 12.3**	**-0.8**
	comp=Z,0.8nm,0.9s,baz=290,slow=6.5,SNR=5.7						
ASAR				PcP	**PcP**	**23 03 42.0**	**+0.5**
	comp=Z,0.4nm,0.7s,baz=311,slow=3.6,SNR=3.3						
SONM	**Songino Array**	**48.24**	**13**	P	**P**	**23 02 15.3**	**+0.3**
	comp=Z,12nm,0.7s,baz=193,slow=9.3,SNR=69						
SONM				LR	LR	23 24 21.0	
	comp=Z,78nm,18.9s,baz=254,slow=38						
SONA1	**Songino Array**	**48.26**	**13**	*e*P	**P**	**23 02 15.3**	**+0.1**
ULN	**Ulaanba

GEA0	GERESS Array S	81.15	319	*e*P		P		23 05 50.8	+1.0
GEC2	GERESS Array S	81.15	319	*e*P		P		23 05 51.0	+1.1
	comp=Z,16nm,0.9s								
GERES	GERESS Array B	81.15	319	P		P		23 05 51.0	+1.1
	comp=Z,9.6nm,0.8s,baz=101,slow=5.6,SNR=77								
GERES				LR		LR		23 47 31.5	
	comp=Z,152nm,18.5s,baz=118,slow=40								
KHC	Kasperske Hory	81.27	319	*e*P		P		23 05 51.4	+0.9
BRG	Berggiesshubel	81.30	321	*e*(P)		P		23 05 51.6	+1.1
	comp=Z,2.3nm,0.7s								
CLL	Collm	81.95	322	*i* P		P		23 05 54.6	+0.7
WATA	Walderalm	82.37	317	*i* P		P		23 05 57.0	+0.6
	comp=Z,4.3nm,0.7s								
MOTA	Moosalm	82.69	317	*i* P		P		23 05 58.8	+0.8
	comp=Z,4.1nm,0.7s								
FETA	Feichten	82.91	317	*i* P		P		23 06 00.7	+1.4
	comp=Z,8.1nm,1.2s								
RETA	Reutte	82.93	318	*i* P		P		23 06 00.2	+1.0
	comp=Z,13nm,1.4s								
KEST	Kesra	83.01	306	P		P		23 06 00.8	+0.9
	comp=Z,4.8nm,0.8s,baz=47,slow=6.7,SNR=3.8								
DAVA	Damuels	83.51	317	*i* P		P		23 06 03.5	+1.1
	comp=Z,17nm,0.9s								
SPITS	Spitsbergen Ar	85.86	348	P		P		23 06 12.8	-0.6
	comp=Z,7.2nm,0.9s,baz=161,slow=14,SNR=2.9								
TAM	Tamanrasset	85.91	293	*e*P		P		23 06 16.8	+1.9
	comp=Z,5.4nm,1.0s								
VNDA	Vanda	86.91	168	LR		LR		23 39 10.1	
	comp=Z,52nm,18.4s,baz=303,slow=32								
WLAR	White Oak Lake	145.07	7	*e*PKPdf		PKPdf		23 13 11.8	-0.5
TX31	Lajitas Ar. Si	146.37	24	*e*PKPdf		PKPbc		23 13 15.4	-0.5
TXAR	Lajitas Array	146.37	24	PKPbc		PKPab		23 13 15.8	-0.8
	comp=Z,1.2nm,0.8s,baz=241,slow=1.6,SNR=13								

IDC 18 22:59:14.2±1.6, 7.49S×75.69W, h0km, mb3.5/3, mb1 3.9/6, mb1mx3.6/46, mbtmp3.6/6, ML3.4/3, MS2.9/1, Ms1 3.0/1, ms1mx2.4/33, Error ellipse: s-maj=43.5km s-min=17.2km az=4.0, Northern Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATAH	Atahualpa	2.71	277	Pn		Pn	23 00 00.6	+1.2
	2.3nm,0.3s,baz=95,slow=12,SNR=9.5							
ATAH				Pg		Pb	23 00 03.9	0.0
	4.1nm,0.3s,baz=110,slow=15,SNR=20							
ATAH				Lg		Lg	23 00 39.6	
	18nm,0.3s,baz=281,slow=19,SNR=9.7							
LPAZ	La Paz	11.44	140	Pn		Pn	23 01 59.5	-0.2
	0.1nm,0.3s,baz=310,slow=11,SNR=3.6							
LPAZ				Lg		Lg	23 05 06.2	
	0.3nm,0.3s,baz=3.2,slow=14,SNR=4.7							
LPAZ				LR		LR	23 06 51.6	
	comp=Z,59nm,21.8s,baz=292,slow=40							
SIV	San Ignacio	16.60	122	Pn		Pn	23 03 01.9	-6.7
	0.1nm,0.3s,baz=318,slow=12,SNR=4.7							
SIV				Lg		Lg	23 07 50.8	
	0.4nm,0.3s,baz=64,slow=22,SNR=4.2							
PTGA	Pitinga	17.05	68	Pn		Pn	23 03 13.9	-0.3
	0.3nm,0.3s,baz=263,slow=17,SNR=4.0							
TXAR	Lajitas Array	45.46	325	P		P	23 07 35.7	+0.3
	0.4nm,0.6s,baz=154,slow=9.0,SNR=6.5							
YKA	Yellowknife Ar	75.91	342	P		P	23 11 02.1	-0.3
	0.2nm,0.5s,baz=140,slow=6.0,SNR=8.3							
ILAR	Eielson Array	88.86	336	P		P	23 12 10.0	0.0
	0.3nm,0.9s,baz=131,slow=4.9,SNR=3.5							

ISK 18 23:00:31.5, 39.21N×29.15E, h5km, ML2.6/5
ISCJB 18 23:00:32.2±0.5, 39.11N±0.03×29.13E±0.03, h0km±7km, Error ellipse: s-maj=5.8km s-min=4.1km az=152.0
CSEM 18 23:00:32.5±0.2, 39.10N×29.15E, h8km, ML2.6, Error ellipse: s-maj=4.6km s-min=3.4km az=127.0
DDA 18 23:00:33.0, 39.08N×29.17E, h7km, Ml2.6
ISC 18 23:00:32.3±1.0, 39.11N±0.03×29.14E±0.02, h4km±9km, n36, σ0s50/49, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIMA	Simav-Kutahya	0.12	259	PG		Pg	23 00 34.9	0.0
SIMA				SG		Sg	23 00 36.7	+0.1
SIMA	Simav-Kutahya	0.12	259	*e*Pg		Pg	23 00 34.9	0.0
SIMA				*e*Sg		Sg	23 00 36.7	+0.1
GDZ	Gediz	0.27	94	*i* P		Pg	23 00 37.7	+0.2
GDZ				*i* S		Sg	23 00 41.9	+0.8
GDZ	Gediz	0.27	94	P		Pg	23 00 37.7	+0.2
GDZ				S		Sg	23 00 41.9	+0.8
TVSB	Tavsanli	0.42	36	PG		Pg	23 00 40.2	-0.4
TVSB				SG		Sg	23 00 45.6	-0.5
TVSB	Tavsanli	0.42	36	*e*Pg		Pg	23 00 40.2	-0.4
TVSB				*e*Sg		Sg	23 00 45.6	-0.5
KULA	Kula-Manisa	0.70	212	PG		Pg	23 00 45.4	-0.4
KULA	Kula-Manisa	0.70	212	*e*Pg		Pg	23 00 45.4	-0.4
DURS	Dursunbey	0.71	314	*i* P		Pb	23 00 47.8	+0.4
DURS				*i* S		Sn	23 01 00.9	+0.2
DURS	Dursunbey	0.71	314	P		Pb	23 00 47.8	+0.4
MANT	Manisa	0.77	217	*i* P		Pg	23 00 47.2	+0.2
MANT				*i* S		Sg	23 00 56.7	-0.3
MANT	Manisa	0.77	217	P		Pg	23 00 47.2	+0.2
MANT				S		Sg	23 00 56.7	-0.3
KHAL	Karahalli	0.79	159	*i* P		Pb	23 00 48.2	-0.4
KHAL				*i* S		Sb	23 00 58.7	-0.9
KHAL	Karahalli	0.79	159	P		Pb	23 00 48.2	-0.4
KHAL				S		Sb	23 00 58.7	-0.9
ORLT	Orhaneli	0.96	349	PG		Pg	23 00 50.4	-0.3
ORLT	Orhaneli	0.96	349	*e*Pg		Pg	23 00 50.4	-0.3
AKHS	Akhisar	1.06	258	*i* P		Pb	23 00 53.4	+0.2
AKHS	Akhisar	1.06	258	P		Pb	23 00 53.4	+0.2
BALB	Balikesir	1.11	299	PN		Pg	23 00 53.8	+0.1
BALB	Balikesir	1.11	299	*e*Pn		Pg	23 00 53.8	+0.1
STEP	BALIKESIR_Sava	1.14	284	*i* P		Pn	23 00 55.8	+0.8
STEP	BALIKESIR_Sava	1.14	284	P		Pn	23 00 55.8	+0.8
CAVI	Cavuskoy	1.22	26	PN		Pg	23 00 55.1	-0.7
CAVI	Cavuskoy	1.22	26	*e*Pn		Pg	23 00 55.1	-0.7
BORA	Eskisehir	1.28	52	*i* P		Pg	23 00 57.5	+0.7
BORA				*i* S		Sn	23 01 15.4	+0.8
BORA	Eskisehir	1.28	52	P		Pg	23 00 57.5	+0.7
BORA				S		Sn	23 01 15.4	+0.8
MDNY	Mudanya-Bursa	1.28	351	PN		Pn	23 00 56.2	-0.7
MDNY	Mudanya-Bursa	1.28	351	*e*Pn		Pn	23 00 56.2	-0.7
KCTX	Karacabey (Bur	1.31	333	PN		Pn	23 00 56.9	-0.4
KCTX	Karacabey (Bur	1.31	333	*e*Pn		Pn	23 00 56.9	-0.4
YLV	Yalova	1.47	7	PN		Pn	23 00 59.8	+0.2
YLV	Yalova	1.47	7	*e*Pn		Pn	23 00 59.8	+0.2
ARMT	Armutlu	1.47	352	PN		Pn	23 00 59.8	+0.2
ARMT	Armutlu	1.47	352	*e*Pn		Pn	23 00 59.8	+0.2
GULT	Gulveren	1.70	38	PN		Pn	23 01 02.7	-0.1
GULT	Gulveren	1.70	38	*e*Pn		Pn	23 01 02.7	-0.1

IDC 18 23:25:43.3±10.0, 0.71S×90.27E, h0km, mb3.6/4, mb1 3.9/5, mb1mx3.4/68, mbtmp3.8/5, ML3.6/1, MS3.7/3, Ms1 3.7/3, ms1mx2.8/62, Error ellipse: s-maj=199.0km s-min=54.6km az=177.0, South Indian Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PALK	Pallekele	12.41	310	Pn		Pn	23 28 43.3	+1.8
	0.3nm,0.3s,baz=116,slow=9.8,SNR=3.4							
CMAR	Chiang Mai Arr	20.87	24	P		P	23 30 27.3	+0.1
	0.3nm,0.3s,baz=225,slow=11,SNR=3.3							
FITZ	Fitzroy Crossi	38.80	119	LR		LR	23 45 25.6	
	comp=Z,14nm,21.9s,baz=257,slow=30							
MKAR	Makanchi Array	47.83	353	P		P	23 34 21.1	-1.6
	0.4nm,0.5s,baz=177,slow=8.7,SNR=6.5							
SONM	Songino Array	50.35	14	P		P	23 34 43.1	+0.9
	0.7nm,0.4s,baz=200,slow=9.1,SNR=6.5							
KMBO	Kilima Mbogo	53.01	269	LR		LR	23 55 43.7	
	comp=Z,261nm,18.7s,baz=310,slow=34							
ZALV	Zalesovo Beam	54.66	356	P		P	23 35 13.9	0.0
	0.6nm,0.4s,baz=193,slow=9.2,SNR=3.5							
CTA	Charters Tower	57.99	113	LR		LR	00 02 07.6	
	comp=Z,150nm,18.9s,baz=228,slow=38							

TEH 18 23:30:51.9, 39.21N×43.62E, h10km, ML4.1
ATA 18 23:30:51.2±0.8, 38.89N×43.50E, h0km±3km, ML4.6, MW4.9
ISK 18 23:30:52.2, 38.89N×43.60E, h5km, ML4.5/19
DDA 18 23:30:53.1, 38.90N×43.53E, h13km, Ml4.2
CSEM 18 23:30:54.8±0.1, 38.88N×43.61E, h2km, mb4.3/17, Ms3.5, Error ellipse: s-maj=3.8km s-min=3.0km az=163.0

IDC 18 23:30:54.2±0.6, 38.80N×43.66E, h0km, mb4.0/21, mb1 4.0/30, mb1mx3.9/63, mbtmp3.9/30, ML3.5/6, MS3.7/26, Ms1 3.7/26, ms1mx3.5/64, Error ellipse: s-maj=12.0km s-min=8.7km az=152.0
MOS 18 23:30:55.0±1.7, 38.74N×43.66E, h13km, mb4.5/31, Error ellipse: s-maj=5.4km s-min=3.7km az=88.5
NEIC 18 23:30:58.2±0.0, 38.84N×43.58E, h5km, mb4.5/25, ML4.5(ISK), After ISK.
ISC 18 23:30:55.7±0.7, 38.88N±0.01×43.60E±0.01, h5km±4km, n440, σ2s05/496, mb4.4/60, MS3.7/22, 43C-39D, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VMUR	Van-Muradiye	0.11	350	⇑*i*P		Pg	23 30 56.0	-2.1
VMUR				*i* S		Sg	23 30 58.5	-1.2
VMUR	Van-Muradiye	0.11	350	P		Pg	23 30 56.0	-2.1
VMUR				S		Sg	23 30 58.5	-1.2
ERCV	ERCIS-VAN	0.24	305	PG		Pg	23 30 57.5	-3.0
ERCV	ERCIS-VAN	0.24	305	*i* Pg		Pg	23 30 57.5	-3.0
VANB	Van	0.33	210	PG		Pg	23 31 01.8	-0.3
VANB				SG		Sg	23 31 07.9	+1.5
VANB	Van	0.33	210	Pg		Pg	23 31 01.5	-0.6
VANB				Sg		Sg	23 31 06.5	+0.1
VANB	Van	0.33	210	*e*Pg		Pg	23 31 01.8	-0.3
VANB				Sg		Sg	23 31 06.5	+0.1
CLDR	Caldiran	0.36	44	PG		Pg	23 30 59.8	-3.0
CLDR				SG		Sg	23 31 06.8	-0.8
CLDR	Caldiran	0.36	44	*i* P		Pg	23 31 00.1	-2.7
CLDR				*i* S		Sg	23 31 06.5	-1.1
CLDR	Caldiran	0.36	44	*i* Pg		Pg	23 30 59.8	-3.0
CLDR	Caldiran	0.36	44	P		Pg	23 31 00.1	-2.7
CLDR				S		Sg	23 31 06.5	-1.1
TVAN	Van	0.38	203	*i* P		Pg	23 31 01.4	-1.7
TVAN				*i* S		Sg	23 31 07.0	-0.3
TVAN	Van	0.38	203	P		Pg	23 31 01.5	-1.7
TVAN				S		Sg	23 31 07.9	-0.3
DYDN	Diyadin	0.67	6	⇑*i*P		Pg	23 31 05.8	-2.7
DYDN				IAML			23 31 25.2	
	comp=Z,2μm,0.8s							
DYDN	Diyadin	0.67	6	*i* P		Pg	23 31 05.9	-2.7
DYDN	Diyadin	0.67	6	P		Pg	23 31 05.9	-2.7
ADCV	BITLIS_Adilcev	0.68	264	*i* P		Pg	23 31 05.9	-2.9
ADCV				*i* S		Sg	23 31 16.7	-1.1
GEVA	Gevas	0.71	217	⇑*i*P		Pg	23 31 06.0	-3.3
GEVA				*e*S		Sg	23 31 17.8	-0.7
GEVA				IAML			23 31 22.1	
	comp=Z,3μm,0.7s							
GEVA	Gevas	0.71	217	⇑*i*P		Pg	23 31 06.4	-2.9
GEVA				*i* S		Sg	23 31 18.7	+0.2
TUTA	Tutak	0.80	311	⇓*i*P		Pg	23 31 07.5	-3.6
TUTA				IAML			23 31 26.5	
	comp=Z,5μm,0.3s							
TUTA	Tutak	0.80	311	⇓*i*P		Pg	23 31 07.4	-3.7
AGRB	Hanur-Agry	0.84	326	PG		Pg	23 31 08.9	-2.9
AGRB				SG		Sg	23 31 22.2	-0.5
AGRB	Hanur-Agry	0.84	326	Pg		Pg	23 31 08.8	-2.9
AGRB	Hanur-Agry	0.84	326	*e*Pg		Pg	23 31 08.9	-2.9
AGRB				*e*Sg		Sg	23 31 22.2	-0.5
IGDI	IGDIR	1.05	21	⇑*i*P		Pg	23 31 13.5	-2.5
IGDI				*e*S		Sg	23 31 29.8	+0.2
IGDI				IAML			23 31 42.8	
	comp=Z,643nm,0.7s							
IGDI	IGDIR	1.05	21	⇑*i*P		Pg	23 31 13.4	-2.5
IGDI				*i* S		Sn	23 31 31.6	-0.9
TASB	TASBURUN-IGDIR	1.21	24	PN		Pg	23 31 16.8	-2.1
TASB	TASBURUN-IGDIR	1.21	24	*e*Pn		Pg	23 31 16.8	-2.1
EKAR	Karacoban	1.25	288	*e*P		Pg	23 31 15.4	-4.3
EKAR				IAML			23 31 43.5	
	comp=Z,1μm,0.4s							
EKAR	Karacoban	1.25	288	⇓*i*P		Pg	23 31 15.1	-4.6
EKAR				*i* S		Sn	23 31 38.8	+1.3
GURO	Guroymak-BITLI	1.27	255	PN		Pg	23 31 16.2	-3.8
GURO	Guroymak-BITLI	1.27	255	*e*Pn		Pg	23 31 16.2	-3.8
HYR	Heyderabad	1.28	49	⇑P		Pg	23 31 18.8	-1.6
	SNR=1000							
EATA	Eleskirt	1.30	319	⇓*i*P		Pg	23 31 16.5	-4.2
EATA				IAML			23 31 49.5	
	comp=Z,282nm,0.6s							
EATA	Eleskirt	1.30	319	⇓*i*P		Pg	23 31 16.7	-4.0
HAKT	HAKKARI	1.32	176	⇓*i*P		Pg	23 31 17.7	-3.4
HAKT				*i* S		Sg	23 31 38.4	+0.1
HAKT	HAKKARI	1.32	176	P		Pg	23 31 17.7	-3.4
HAKT				S		Sg	23 31 38.4	+0.1
YOVA	Hakkari_Y¨...kse	1.40	157	⇓*i*P		Pn	23 31 19.5	-2.7
YOVA				*i* S		Sn	23 31 41.5	+0.3
YOVA	Hakkari_Y¨...kse	1.40	157	P		Pn	23 31 19.5	-2.7
YOVA				S		Sn	23 31 41.5	+0.3
NAX	Nakhchivan	1.51	78	P		Pn	23 31 22.2	-1.4
	SNR=1000							
NAX	Nakhchivan	1.51	78	P		Pn	23 31 22.1	-1.5
DIGO	Kars	1.54	354	⇓*i*P		Pn	23 31 21.7	-2.5
DIGO				IAML			23 31 44.5	
	comp=Z,221nm,0.5s							
DIGO				*e*S		Sg	23 31 46.3	+1.0
DIGO	Kars	1.54	354	⇓*i*P		Pn	23 31 21.4	-2.7
DIGO	Kars	1.54	354	P		Pn	23 31 21.5	-2.7
GNI	Garni	1.55	35	Pg		Pn	23 31 23.0	-1.1
	comp=Z,128nm,0.3s,baz=238,slow=3.4,SNR=218							
GNI				Lg		Lg	23 31 48.3	
	comp=Z,88nm,0.3s,baz=95,slow=23,SNR=7.6							
GNI	Garni	1.55	35	*i* P		Pn	23 31 22.6	-1.6
	comp=Z,9μm,1.0s							
GNI	Garni	1.55	35	*c i*P		Pn	23 31 22.6	-1.6
GNI				pmax		pmax		
	comp=Z,9μm,1.0s							
SRTM	Siirt_Merkez	1.59	236	⇑*i*P		Pn	23 31 22.0	-2.6
SRTM				*i* S		Sn	23 31 44.0	-1.6
SRTM	Siirt_Merkez	1.59	236	S		Sn	23 31 44.0	-1.6
SBZ	Shahbuz	1.61	71	⇑P		Pn	23 31 24.5	-0.4
	SNR=1000							
SIRT	Sirnak	1.65	214	PN		Pn	23 31 23.6	-1.9
SIRT	Sirnak	1.65	214	*e*Pn		Pn	23 31 23.6	-1.9
IMRD	Marand	1.66	95	*e*Pn		Pn	23 31 24.4	-1.3
IMRD				*e*Sg		Sg	23 31 49.7	+0.8
IMRD				*e*AMB		AMB	23 32 03.8	
	comp=Z,61μm,0.5s							
IMRD	Marand	1.66	95	*e*Pn		Pn	23 31 24.4	-1.3
IMRD				*e*Sg		Sg	23 31 49.7	+0.8
SIRN	S¨–rnak	1.67	214	⇑*i*P		Pn	23 31 23.3	-2.4
SIRN	S¨–rnak	1.67	214	P		Pn	23 31 23.3	-2.4
VRTB	Varto-Mus	1.69	280	PN		Pn	23 31 24.3	-1.8
VRTB	Varto-Mus	1.69	280	⇓*i*P		Pn	23 31 23.5	-2.6
VRTB	Varto-Mus	1.69	280	Pn		Pn	23 31 24.3	-1.8
VRTB	Varto-Mus	1.69	280	P		Pn	23 31 23.5	-2.6
VRTB	Varto-Mus	1.69	280	*e*Pn		Pn	23 31 24.3	-1.8
ISHB	Shabestar	1.69	110	*e*Pn		Pn	23 31 25.7	-0.5
ISHB				*e*AMB		AMB	23 31 31.4	
	comp=Z,34μm,0.4s							
HOMI	Horasan	1.75	312	*e*P		Pn	23 31 24.0	-3.0
HOMI				IAML			23 32 06.1	
	comp=Z,564nm,0.6s							
HOMI	Horasan	1.75	312	⇓*i*P		Pn	23 31 24.1	-3.0
HOMI				*i* S		Sg	23 31 51.6	-0.4
KARS	Kars	1.79	347	PN		Pn	23 31 25.6	-1.9
KARS	Kars	1.79	347	Pn		Pn	23 31 26.9	-0.6
KARS	Kars	1.79	347	P		Pn	23 31 26.9	-0.6
KARS	Kars	1.79	347	P		Pn	23 31 26.9	-0.6
EAK	Akyaka	1.80	0	⇑*e*P		Pn	23 31 27.7	0.0
EAK				*e*S		Sg	23 31 55.4	+1.7
EAK				IAML			23 32 08.7	
	comp=Z,413nm,0.6s							
EAK	Akyaka	1.80	0	*i* P		Pn	23 31 27.5	-0.2
EAK				*i* S		Sb	23 31 52.6	+0.2
EAK	Akyaka	1.80	0	P		Pn	23 31 27.5	-0.2
EAK				S		Sb	23 31 52.6	+0.2
ORD	Ordubad	1.87	88	P		Pn	23 31 28.3	-0.3
	SNR=1000							
SENK	Senkaya-Erzuru	1.93	331	PN		Pn	23 31 27.7	-1.8
SENK	Senkaya-Erzuru	1.93	331	*e*Pn		Pn	23 31 27.7	-1.8
ERZM	Erzurum	2.01	301	*e*P		Pn	23 31 28.5	-2.1
ERZM	Erzurum	2.01	301	⇓*i*P		Pn	23 31 28.0	-2.6
ERZM	Erzurum	2.01	301	P		Pn	23 31 28.0	-2.6
SVAN	Silvan-Diyarba	2.02	250	PN		Pn	23 31 29.1	-1.4
SVAN	Silvan-Diyarba	2.02	250	*i* P		Pn	23 31 28.1	-2.4
SVAN				*i* S		Sn	23 31 56.0	-0.2
SVAN	Silvan-Diyarba	2.02	250	Pn		Pn	23 31 29.3	-1.2
SVAN	Silvan-Diyarba	2.02	250	P		Pn	23 31 28.1	-2.4
SVAN	Silvan-Diyarba	2.02	250	Pn		Pn	23 31 29.3	-1.2
SVAN				S		Sn	23 31 56.0	-0.2
BTMN	Batman	2.08	242	⇑*i*P		Pn	23 31 29.1	-2.3
BTMN				*i* S		Sn	23 31 58.8	+1.1
BTMN	Batman	2.08	242	P		Pn	23 31 29.1	-2.3
BTMN				S		Sn	23 31 58.8	+1.1
ITBZ	Tabriz	2.10	107	*e*Pn		Pn	23 31 31.6	-0.2
ITBZ				*e*AMB		AMB	23 31 37.8	
	comp=Z,11μm,0.4s							
ITBZ	Tabriz	2.10	107	*e*Pn		Pn	23 31 31.6	-0.2
ECAT	Cat-ERZURUM	2.16	290	*e*P		Pn	23 31 31.9	-0.7
ECAT				*e*S		Sb	23 32 02.1	-0.5
ECAT				IAML			23 32 03.6	
	comp=Z,152nm,0.5s							
ECAT				*e*S		Sg	23 32 05.7	+0.6
ECAT	Cat-ERZURUM	2.16	290	⇑*i*P		Pn	23 31 32.1	-0.6
ECAT	Cat-ERZURUM	2.16	290	P		Pn	23 31 32.1	-0.6
BNGB	Bing¨‖l	2.28	274	PN		Pn	23 31 32.4	-1.7
BNGB	Bing¨‖l	2.28	274	Pn		Pn	23 31 33.5	-0.7
BGOL	Bingol	2.28	274	*i* P		Pn	23 31 34.7	+0.5
BGOL				*i* S		Sb	23 32 04.9	-1.2
BGOL	Bingol	2.28	274	P		Pn	23 31 34.7	+0.5
BGOL				S		Sb	23 32 04.9	-1.2
BINT	Bingol	2.42	271	P		Pn	23 31 33.4	-2.8
DDEM	Demirkent	2.46	325	*i* P		Pn	23 31 35.1	-1.6
DDEM	Demirkent	2.46	325	P		Pn	23 31 35.1	-1.6
GDB	GEDABAY	2.48	41	⇑P		Pn	23 31 35.3	-1.7
	SNR=637							
AKH	Akhalkalaki	2.53	358	PN		Pn	23 31 36.0	-1.7
AKH	Akhalkalaki	2.53	358	P		Pg	23 31 43.3	-0.9
AKH				S		Sg	23 32 19.7	+2.7
AKH	Akhalkalaki	2.53	358	*e*Pn		Pn	23 31 38.9	+1.2
AKH	Akhalkalaki	2.53	358	*e*Pn		Pn	23 31 36.0	-1.7
AKH	Akhalkalaki	2.53	358	*e*P		Pg	23 31 43.3	-0.9
AKH				*e*S		Sg	23 32 19.7	+2.7
HANI	Diyarbakir_Han	2.54	260	*i* P		Pn	23 31 35.7	-2.1
HANI	Diyarbakir_Han	2.54	260	P		Pn	23 31 35.7	-2.1
QZX	Qazax, Azerbai	2.57	32	⇑P		Pn	23 31 35.5	-2.6
	SNR=16							
QZX				⇓S		Sb	23 32 12.8	-1.4
DBAD	Bademkaya	2.59	326	⇓*i*P		Pn	23 31 39.6	+1.2
DBAD	Bademkaya	2.59	326	P		Pn	23 31 39.6	+1.2
ARTV	Artvin	2.63	331	⇓*e*P		Pn	23 31 39.0	-0.2
ARTV				IAML			23 32 22.5	
	comp=Z,24nm,0.5s							
ARTV				*e*S		Sg	23 32 22.8	+2.4
ARTV	Artvin	2.63	331	⇓*i*P		Pn	23 31 39.4	+0.2
ARTV	Artvin	2.63	331	P		Pn	23 31 39.4	+0.2
KOPT	Kop Dagi	2.65	296	*e*P		Pn	23 31 39.1	-0.4
KOPT				*e*S		Sg	23 32 19.6	-1.4
KOPT				IAML			23 32 34.7	
	comp=Z,185nm,0.7s							
KOPT	Kop Dagi	2.65	296	*i* P		Pn	23 31 38.9	-0.6
KOPT	Kop Dagi	2.65	296	P		Pn	23 31 38.9	-0.6
EPOS	Posof	2.70	346	*e*P		Pn	23 31 40.8	+0.8
EPOS				IAML			23 32 20.6	
	comp=Z,29nm,0.6s							
EPOS	Posof	2.70	346	*i* P		Pb	23 31 42.9	-1.8
EPOS				*i* S		Sg	23 32 26.3	+3.8
MARD	Mardin	2.72	236	*i* P		Pn	23 31 36.5	-3.7
MARD				*i* S		Sb	23 32 16.5	-2.1
GANJ	Ganja	2.74	49	⇑P		Pn	23 31 39.3	-1.2
	SNR=113							
GANJ	Ganja	2.74	49	P		Pn	23 31 39.2	-1.2
IHRS	Heris	2.76	101	*e*Pn		Pn	23 31 40.8	-0.1
IHRS				*e*AMB		AMB	23 31 52.0	
	comp=Z,16μm,0.4s							
IHRS	Heris	2.76	101	*e*Pn		Pn	23 31 40.8	-0.1
DIY	Diyarbakir	2.82	251	*e*Pn		Pn	23 31 41.2	-0.4
IBST	Bostanabad	2.85	113	*e*Pn		Pn	23 31 42.2	+0.1
IBST				*e*AMB		AMB	23 31 56.8	
	comp=Z,3μm,0.3s							
IBST	Bostanabad	2.85	113	*e*Pn		Pn	23 31 42.2	+0.1
MAZI	Mazidag	2.86	241	PN		Pn	23 31 40.9	-1.2
MAZI	Mazidag	2.86	241	Pn		Pn	23 31 41.5	-0.7
MAZI	Mazidag	2.86	241	Pn		Pn	23 31 41.5

ZEI **Tsey** 3.91 3 *e*P Pb 23 32 01.5 -3.8
ZEI pmax pmax
comp=Z,74nm,0.8s
KEMA Kemaliye 3.99 277 *e*P Pn 23 31 57.6 -0.1
KEMA IAML 23 33 12.1
comp=Z,6.3nm,0.6s
KEMA Kemaliye 3.99 277 *i* P Pb 23 32 04.1 -2.5
KEMA *i* S Sb 23 32 57.8 +2.6
SANL SANLIURFA_Merk 4.02 246 *i* P Pn 23 31 57.0 -1.0
SANL *i* S Sb 23 33 00.1 +4.1
SANL SANLIURFA_Merk 4.02 246 P Pn 23 31 57.0 -1.0
LKRN Lenkeran, Azer 4.05 91 ⇓P Pn 23 31 57.5 -0.9
SNR=8.7
LKRN Lenkeran, Azer 4.05 91 P Pn 23 31 57.5 -0.9
ASTR Astara 4.08 93 ⇓P Pn 23 31 57.8 -1.0
SNR=45
AKT Akhty 4.09 49 *e*P Pn 23 32 01.1 +2.0
comp=Z,56nm,0.7s
AKT Akhty 4.09 49 *e*P Pn 23 32 01.1 +2.0
AKT *e*S Sn 23 32 51.4 +3.9
AKT pmax pmax
comp=Z,56nm,0.7s
AKT smax smax
comp=E,55nm,1.1s
AKT smax smax
comp=N,154nm,1.3s
AKT smax smax
comp=N,62nm,1.3s
XNQ Khinaliq 4.17 55 ⇓P Pn 23 31 59.1 -1.2
SNR=23
PQL Pirkuli 4.29 62 ⇓P Pn 23 32 00.9 -1.0
SNR=12
SUSE Susehri 4.38 289 *i* P Pb 23 32 10.0 -3.2
ATAB Bozova 4.41 253 *i* P Pb 23 32 14.6 +0.9
NEY Neytrino 4.41 352 *e*P Pn 23 32 05.0 +1.4
NEY Neytrino 4.41 352⇑ *e*P Pn 23 32 05.0 +1.4
SURC SANLIURFA_SURC 4.42 245 *i* P Pb 23 32 16.0 +2.2
SURC *i* S Sb 23 33 09.9 +2.4
QSAR Qusar 4.44 52 ⇓P Pn 23 32 02.5 -1.3
SNR=15
GBS Qobustan 4.44 66 ⇑P Pn 23 32 03.0 -0.9
SNR=5.8
AKCD Akcadag 4.48 264 *i* P Pn 23 32 04.6 +0.1
AKCD Akcadag 4.48 264 P Pn 23 32 04.6 +0.1
QUBA Quba, Azerbaij 4.50 55 ⇓P Pn 23 32 03.1 -1.5
SNR=5.7
ATGJ Altiaghaj 4.56 63 ⇑P Pn 23 32 04.3 -1.2
SNR=4.7
NCK Nalchik 4.61 0⇑ *e*P Pn 23 32 05.5 -0.6
SIZA Siyzn 4.63 60 ⇑P Pn 23 32 05.1 -1.3
SNR=5.5
GROC Groznyy 4.63 20 *e*S Sn 23 33 03.7 +3.2
GROC Groznyy 4.63 20 *e*P Pn 23 32 10.9 +4.6
GROC *e*S Sn 23 33 03.7 +3.2
GROC pmax pmax
comp=Z,154nm,1.5s
GROC smax smax
comp=E,265nm,1.6s
GROC smax smax
comp=E,86nm,1.7s
CUKAN kangal_SIVAS 4.79 277 ⇓ *i* P Pb 23 32 18.4 -1.8
CUKAN *i* S Sg 23 33 36.0 +6.6
KBZ Khabaz 4.87 354 Pn Pn 23 32 11.4 +1.7
comp=E,0.1nm,0.3s,baz=175,slow=11,SNR=2.6
KBZ LR LR 23 33 57.7
comp=E,235nm,20.4s,baz=172,slow=37
ORDU Ordu-Boztepe 4.89 297 *i* P Pb 23 32 21.5 -0.4
MAK Makhachkala 5.04 35 *e*P Pn 23 32 10.4 -1.6
comp=E,44nm,0.8s
MAK *e*S Sn 23 33 08.7 -1.9
comp=E,2μm,15.0s
MAK Makhachkala 5.04 35 *e*P Pn 23 32 10.4 -1.6
MAK *e*S Sn 23 33 08.7 -1.9
MAK pmax pmax
comp=Z,44nm,0.8s
MAK MLR MLR
comp=Z,2μm,15.0s
KIV Kislovodsk 5.12 353 *e*Pn Pn 23 32 15.8 +2.7
KIV Kislovodsk 5.12 353 *e*P Pn 23 32 15.8 +2.7
KIV Kislovodsk 5.12 353 *e*P Pn 23 32 15.8 +2.7
KVAR Kislovodsk Arr 5.12 353 Pn Pn 23 32 15.9 +2.8
baz=307,slow=20,SNR=2.4
KVAR LR LR 23 34 38.8
comp=Z,183nm,21.4s,baz=145,slow=43
HKZM Kohzaman 5.50 128 *e*Pn Pn 23 32 20.2 +1.6
HKZM *e*AMB AMB 23 34 13.2
comp=Z,99nm,0.9s
HKZM Kohzaman 5.50 128 *e*Pn Pn 23 32 20.2 +1.6
SOC Sochi 5.53 329 *e*P Pn 23 32 15.5 -3.3
SOC *e* 23 33 18.7
SOC MLR MLR
comp=Z,759nm,12.0s
KUZU Kuzuini 5.57 250 *i* P Pb 23 32 34.1 +0.6
IGZV Ghazvin 5.82 113 *e*Pn Pn 23 32 22.8 -0.1
IGZV *e*AMB AMB 23 32 56.5
comp=Z,1μm,0.5s
IGZV Ghazvin 5.82 113 *e*Pn Pn 23 32 22.8 -0.1
ANDN Andirin 5.85 259 *i* P Pb 23 32 42.8 +4.4
HAGD Aghdareh 6.01 131 *e*Pn Pn 23 32 27.5 +1.9
HAGD *e*AMB AMB 23 34 32.7
comp=Z,99nm,0.2s
IKFM Kafar-mosalman 6.35 146 *e*Pn Pn 23 32 30.8 +0.7
IKFM Kafar-mosalman 6.35 146 *e*Pn Pn 23 32 30.8 +0.7
ANN Anapa 7.49 324 *e*P Pn 23 32 41.1 -4.5
ANN pmax pmax
comp=Z,70nm,1.5s
ANN MLR MLR
comp=E,948nm,12.0s
ANN MLR MLR
comp=Z,863nm,12.0s
ANN MLR MLR
comp=N,515nm,12.0s
IDMV Damavand 7.49 113 *e*AMB AMB 23 33 21.5
comp=Z,1μm,0.8s
BRTR Keskin Array B 7.77 279 Pn Pn 23 32 52.3 +2.7
comp=Z,0.0nm,0.3s,baz=102,slow=12,SNR=5.8
BRTR LR LR 23 35 56.3
comp=Z,390nm,20.9s,baz=93,slow=39
ASF Jabal al Asfar 8.63 221 Pn Pn 23 33 01.2 -0.3
comp=Z,0.3nm,0.3s,baz=347,slow=17,SNR=3.6
MMAI Mount Meron Ar 8.85 231 Pn Pn 23 33 03.9 -0.6
comp=Z,0.9nm,0.3s,baz=68,slow=15,SNR=7.5
MMAI LR LR 23 36 58.2
comp=Z,856nm,21.2s,baz=40,slow=41
GEYT Alibeck 11.44 90 Pn Pn 23 33 38.1 -1.6
comp=Z,0.3nm,0.3s,baz=327,slow=10,SNR=4.0
GEYT LR LR 23 38 51.9
comp=Z,203nm,19.4s,baz=285,slow=42
EIL Elat 11.63 220 LR LR 23 38 40.3
comp=Z,574nm,21.1s,baz=67,slow=40
VRH Novokhopyorsk 12.39 354 *e*P Pn 23 33 52.6 -0.1
comp=Z,9.0nm,0.8s
VRH Novokhopyorsk 12.39 354 *e*P Pn 23 33 52.6 -0.1
VRH pmax pmax
comp=Z,9.0nm,0.8s
VSR Storozhevoye 12.72 347 *e*P Pn 23 33 59.3 +2.1
VSR pmax pmax
comp=Z,7.0nm,1.5s
VORR Voronezh 13.15 348 P Pn 23 34 04.0 +0.9
comp=Z,250nm,1.2s
VORR Voronezh 13.15 348 P Pn 23 34 04.0 +0.9
VORR pmax pmax
comp=Z,8μm,1.4s
VORR pmax pmax
comp=Z,350nm,1.0s
VORR pmax pmax
comp=Z,250nm,1.2s
LPSR Galich'ya Gora 14.10 348 *e*P Pn 23 34 15.9 -0.1
comp=Z,10.0nm,1.4s
LPSR Galich'ya Gora 14.10 348 *e*P Pn 23 34 15.9 -0.1
LPSR pmax pmax
comp=Z,10.0nm,1.4s
SORM Soroca 14.40 315⇑ *i*P P 23 34 28.0 +0.8
HUMR Humele 14.99 298⇑ *i*P Pn 23 34 26.9 -1.4
DOPR Dopca 15.18 304⇑ *i*P P 23 34 36.1 +0.1
DOPR Dopca 15.18 304⇑ *i*P P 23 34 36.1 +0.1
VOIR 15.22 301⇑ *i*P P 23 34 35.7 -0.8
VOIR 15.22 301⇑ *i*P P 23 34 35.7 -0.8
IDI Anoyia 15.35 262 LR LR 23 40 29.8
comp=Z,280nm,21.4s,baz=84,slow=37
RAYN Ar Rayn 15.40 173 *e*Pn Pn 23 34 27.4 -6.4
comp=Z,17nm,0.8s
AKTO Aktyubinsk 15.42 37 Pn Pn 23 34 32.8 -1.1
comp=Z,0.1nm,0.3s,baz=223,slow=14,SNR=12
AKTO LR LR 23 42 10.2
comp=Z,482nm,18.1s,baz=214,slow=44
ARR Arges 15.47 301⇓ *i*P Pn 23 34 35.9 +1.2
AKASG Malin Array Be 15.58 324 Pn Pn 23 34 36.0 +0.1
baz=133,slow=11,SNR=9.7
AKASG LR LR 23 41 51.8
comp=Z,289nm,18.7s,baz=115,slow=42
KIEV Kiev 15.58 324 *e*Pn Pn 23 34 35.6 -0.4
comp=Z,17nm,1.2s
KIEV Kiev 15.58 324 *e*Pn Pn 23 34 35.6 -0.4
comp=Z,17nm,1.2s
KIEV Kiev 15.58 324⇑ *e*P Pn 23 34 36.3 +0.3
ABKAR Akbulak array 15.64 43 *e*Pn Pn 23 34 31.7 -5.1
comp=Z,33nm,0.8s
VTS Vitosha 15.89 290⇓ *i*P P 23 34 42.3 -1.7
VTS Vitosha 15.89 290 *e*Pn Pn 23 34 40.1 -0.1
comp=Z,11nm,1.1s
VTS Vitosha 15.89 290 *e*Pn Pn 23 34 40.1 -0.1
comp=Z,11nm,1.1s
VTS Vitosha 15.89 290⇓ *i*P P 23 34 42.3 -1.7
VTS Vitosha 15.89 290 *e*P Pn 23 34 40.1 -0.1
VTS pmax pmax
comp=Z,11nm,1.1s
BURAR Bucovina Array 15.96 309⇓ *i*P P 23 34 46.0 +1.3
BURAR Bucovina Array 15.96 309⇓ *i*P P 23 34 46.0 +1.3
BUR04 Bucovina Ar. S 15.96 309 *e*Pn P 23 34 43.4 -1.3
BUR08 Bucovina Ar. S 15.98 309 *e*Pn Pn 23 34 43.1 +1.8
BUR08 Bucovina Ar. S 15.98 309 *e*Pn Pn 23 34 43.1 +1.8
ARCR ARCALIA 16.27 306⇓ *i*P P 23 34 50.5 +2.5
OBN Obninsk 16.92 346 P P 23 34 54.8 -0.3
comp=Z,1.1nm,0.3s,baz=341,slow=23,SNR=5.1
OBN Obninsk 16.92 346 *e*Pn Pn 23 34 53.2 +0.2
comp=Z,20nm,1.1s
OBN Obninsk 16.92 346 *e*Pn Pn 23 34 53.2 +0.2
comp=Z,20nm,1.1s
OBN Obninsk 16.92 346 *e*P P 23 34 54.7 -0.4
comp=Z,175nm,17.0s
OBN Obninsk 16.92 346 *de*P P 23 34 54.7 -0.4
OBN pmax pmax
comp=Z,18nm,1.2s
OBN MLR MLR
comp=Z,175nm,17.0s
MOS Moscow 17.33 349 *e*P P 23 35 06.9 +7.2
MOS pmax pmax
comp=Z,54nm,1.1s
UOSS Minazif 17.51 139 *e*Pn Pn 23 35 00.1 -0.6
comp=Z,93nm,1.6s
UOSS Minazif 17.51 139 *e*Pn Pn 23 35 00.1 -0.6
comp=Z,93nm,1.6s
LVV L'vov 17.70 314 *e*P P 23 35 05.8 +1.9
LVV L'vov 17.70 314 *e*P P 23 35 05.8 +1.9
TRPA Tarpa 17.81 308⇑ *i*P P 23 35 07.0 +2.0
UZH Uzhgorod 18.16 309⇑ *i*P P 23 35 11.8 +2.9
KWP Kalwaria Pacla 18.36 313 *e*P P 23 35 11.7 +0.6
KWP Kalwaria Pacla 18.36 313 *e*Pn Pn 23 35 10.9 -0.1
comp=Z,242nm,1.3s
KWP Kalwaria Pacla 18.36 313 *e*P Pn 23 35 11.0 -0.1
KWP pmax pmax
comp=Z,242nm,1.3s
CRVS Cervenica-Dubn 18.77 309 *e*P Pn 23 35 19.0 +2.9
CRVS Cervenica-Dubn 18.77 309 *e*P Pn 23 35 19.0 +2.9
CRVS pmax pmax
comp=Z,13nm,1.3s
STHS Stebnicka Huta 19.12 311 *e*P Pn 23 35 23.7 +3.4
STHS Stebnicka Huta 19.12 311 *e*P Pn 23 35 23.7 +3.4
STHS pmax pmax
comp=Z,4.0nm,1.4s
PSZ Piszkesteto 19.39 305⇑ *i*P Pn 23 35 25.2 +1.7
PSZ Piszkesteto 19.39 305 *e*P P 23 35 19.9 -2.6
comp=Z,32nm,1.5s
PSZ Piszkesteto 19.39 305 *e*P P 23 35 19.9 -2.6
comp=Z,32nm,1.5s
PSZ Piszkesteto 19.39 305 *e*P P 23 35 19.9 -2.6
PSZ pmax pmax
comp=Z,32nm,1.5s
NIE Niedzica 19.68 310 *e*P Pn 23 35 27.6 +0.6
NIE Niedzica 19.68 310 *e*P Pn 23 35 27.6 +0.6
ARU Arti 20.17 25 P Pn 23 35 31.9 -0.8
comp=Z,15nm,0.9s,baz=235,slow=8.2,SNR=18
ARU Arti 20.17 25 *e*P P 23 35 30.6 -0.2
comp=Z,26nm,1.0s
ARU Arti 20.17 25 *d i*P P 23 35 31.4 +0.6
ARU 23 35 48.8
ARU S Sn 23 39 19.0 -0.8
ARU pmax pmax
comp=Z,36nm,1.7s
VYHS Vyhne 20.24 306 *e*P Pn 23 35 33.5 -0.2
comp=Z,27nm,1.8s
VYHS Vyhne 20.24 306 *e*P Pn 23 35 33.5 -0.2
VYHS Vyhne 20.24 306 *e*P Pn 23 35 33.5 -0.2
VYHS pmax pmax
comp=Z,27nm,1.8s
BEL Belsk 20.50 317 *e*P Pn 23 35 38.9 +2.3
BEL Belsk 20.50 317 *e*P Pn 23 35 38.9 +2.3
SUW Suwalki 20.55 324 *e*P Pn 23 35 36.5 -0.6
SUW Suwalki 20.55 324 *e*P P 23 35 34.8 -0.2
comp=Z,42nm,1.0s
SUW Suwalki 20.55 324 *e*P Pn 23 35 36.6 -0.6
KK31 Karatay Array 20.71 70 *e*P P 23 35 36.6 -0.3
KK31 Karatay Array 20.71 70 *e*P P 23 35 36.6 -0.3
KK31 Karatay Array 20.71 70 *e*P P 23 35 36.6 -0.3
KKAR Karatay Array 20.71 70 *e*P P 23 35 36.6 -0.3
KKAR Karatay Array 20.71 70 *e*P P 23 35 36.6 -0.3
KKAR Karatay Array 20.71 70 *e*P P 23 35 36.6 -0.3
KBL Kabul 20.83 94 *e*P P 23 35 38.9 +0.4
comp=Z,9.5nm,1.0s
KBL Kabul 20.83 94 *e*P P 23 35 38.9 +0.4
comp=Z,9.5nm,1.0s
KBL Kabul 20.83 94 *e*P P 23 35 38.9 +0.4
KBL pmax pmax
comp=Z,10.0nm,1.0s
SVE Sverdlovsk 21.18 26⇓ *e*P P 23 35 42.9 +1.1
SVE *e*S S 23 39 39.7 +2.1
SVE pmax pmax
comp=Z,29nm,1.4s
SVE MLR MLR
comp=Z,614nm,18.0s
MODS Modra-Piesok 21.19 305 *e*P P 23 35 45.6 +3.5
MODS Modra-Piesok 21.19 305 *e*P P 23 35 45.6 +3.5
MODS pmax pmax
comp=Z,12nm,1.1s
VRAC Vranov 21.91 307 P P 23 35 51.2 +1.5
comp=Z,8.7nm,0.9s,baz=96,slow=7.0,SNR=6.4
VRAC Vranov 21.91 307⇑ *i*P P 23 35 53.4 +3.7
CONA Conrad Observa 21.99 303 *i* pP P 23 35 53.3 +2.6
comp=Z,11nm,1.1s
ARSA Arzberg 22.06 301 *i* pP P 23 35 54.6 +3.2
comp=Z,8.0nm,1.4s
KLMR Klimovskoe 22.14 355 *e*P P 23 35 51.1 -1.0
KLMR 23 35 56.9
comp=Z,35nm,1.1s
KLMR *e*PP PnPn 23 36 13.5 -0.6
KLMR *e*S S 23 39 55.2 -1.1
KLMR *e*S S 23 39 55.2 -1.1
KLMR LQ LQ 23 42 38.7
KLMR LQ LQ 23 42 38.7
KLMR Klimovskoe 22.14 355 *e*P P 23 35 51.1 -1.0
KLMR *e* 23 36 13.5
KLMR *e*S S 23 39 55.1 -1.2
KLMR pmax pmax
comp=Z,35nm,1.1s
DPC Dobruska-Polom 22.41 310 *e*P P 23 35 58.1 +2.9
DPC *ex* x 23 36 09.3
DPC Dobruska-Polom 22.41 310 *e*P P 23 35 58.1 +2.9
VSU Vasula 22.42 336⇓ *e*P P 23 35 56.3 +1.3
VSU pmax pmax
comp=Z,97nm,2.5s
KSP Ksiaz 22.61 311 *e*P P 23 36 00.3 +3.1
KSP Ksiaz 22.61 311 *e*P P 23 36 00.3 +3.1
OTUK Ortayu 22.72 56 P P 23 35 59.9 +1.5
AML Almayashu 23.06 72 P P 23 36 03.2 +0.7
SNR=11
EKS2 Erkin-Say 23.11 71 P P 23 36 03.0 +0.3
SNR=17
BRVK Borovoye 23.17 44 *e*P P 23 36 04.4 +1.4
comp=Z,8.9nm,1.0s
BRVK Borovoye 23.17 44 *de*P P 23 36 03.8 +0.8
BRVK pmax pmax
comp=Z,9.0nm,1.4s
BVAR Borovoye Array 23.21 44 P P 23 36 04.7 +1.2
comp=Z,2.1nm,0.8s,baz=270,slow=7.0,SNR=13
BVAR LR LR 23 46 45.7
comp=Z,196nm,19.8s,baz=254,slow=41
PRU Pruhonice 23.38 308 *e*P P 23 36 08.5 +3.3
PRU Pruhonice 23.38 308 *e*P P 23 36 08.5 +3.3
KBA Koelnbreinsper 23.49 300 *i* pP P 23 36 08.1 +1.6
comp=Z,17nm,1.4s
GEA0 GERESS Array S 23.60 305 *e*P P 23 36 08.0 +0.5
GEA0 GERESS Array S 23.60 305 *e*P P 23 36 08.0 +0.5
GEC2 GERESS Array S 23.61 305 *e*P P 23 36 08.8 +1.2
comp=Z,12nm,1.3s
GEC2 GERESS Array S 23.61 305 *e*P P 23 36 08.8 +1.2
GEC2 pmax pmax
comp=Z,12nm,1.3s
GERES GERESS Array B 23.61 305 P P 23 36 09.2 +1.6
comp=Z,1.2nm,0.8s,baz=96,slow=8.3,SNR=7.9
AAK Ala-Archa 23.64 71 P P 23 36 08.7 +0.7
comp=Z,2.4nm,0.8s,baz=247,slow=13,SNR=8.8
AAK LR LR 23 46 51.1
comp=Z,137nm,21.8s,baz=280,slow=40
AAK Ala-Archa 23.64 71 P P 23 36 11.6 +3.6
SNR=5.5
AAK Ala-Archa 23.64 71 *e*P P 23 36 09.3 +1.3
comp=Z,32nm,1.5s
AAK Ala-Archa 23.64 71 *e*P P 23 36 09.2 +1.2
comp=Z,21nm,1.4s
AAK Ala-Archa 23.64 71 *de*P P 23 36 09.2 +1.2
AAK pmax pmax
comp=Z,21nm,1.4s
FRU Bishkek 23.72 70 *e*P P 23 36 10.0 +1.3
FRU pmax pmax
comp=Z,80nm,2.0s
KHC Kasperske Hory 23.75 305 *e*P P 23 36 09.4 +0.4
KHC *ex* x 23 36 23.9
KHC Kasperske Hory 23.75 305 *e*P P 23 36 07.4 -1.6
comp=Z,20nm,2.0s
KHC Kasperske Hory 23.75 305 *e*P P 23 36 07.4 -1.6
comp=Z,20nm,2.0s
KHC Kasperske Hory 23.75 305 *e*P P 23 36 07.4 -1.6
KHC pmax pmax
comp=Z,20nm,2.0s
CHMS Chumysh 23.82 70 P P 23 36 10.4 +0.8
SNR=6.1
KBK Karagaybulak 23.97 71 P P 23 36 12.5 +1.2
SNR=16
ABTA Abfaltersbach 24.00 299 P P 23 36 13.5 +2.1
comp=Z,8.6nm,1.5s
ABTA Abfaltersbach 24.00 299 *i* pP P 23 36 13.5 +2.1
comp=Z,8.6nm,1.5s
BRG Berggiesshubel 24.02 310 *e*P P 23 36 14.3 +2.9
comp=Z,22nm,1.8s
BRG Berggiesshubel 24.02 310 *e*P P 23 36 14.3 +2.9
comp=Z,22nm,1.8s
BRG Berggiesshubel 24.02 310 *e*P P 23 36 14.3 +2.9
BRG pmax pmax
comp=Z,22nm,1.8s
KZA Kyzart 24.22 72 P P 23 36 17.6 +3.8
SNR=23
DAMY Dhamar 24.22 178 *e*P P 23 36 18.1 +4.2
comp=Z,39nm,1.4s
NIL Nilore 24.42 93 *e*P P 23 36 19.5 +4.2
comp=Z,6.0nm,0.8s
NIL Nilore 24.42 93 *e*P P 23 36 19.5 +4.2
NIL pmax pmax
comp=Z,6.0nm,0.8s
TKM2 Tokmak 2 24.44 70 P P 23 36 19.9 +4.2
SNR=12
WATA Walderalm 24.72 300 *i* P P 23 36 18.2 +0.2
comp=Z,5.5nm,0.9s
CLL Collm 24.72 310 *e*(P) P 23 36 22.0 +4.2
CLL *i* sP sP 23 36 23.7 +4.0
comp=Z,7.0nm,0.9s
CLL *e*PPP PPP 23 36 58.0
CLL *e*S S 23 40 45.0 +4.9
CLL Lm MLR 23 47 00.0
comp=Z,100nm,21.8s
CLL Collm 24.72 310 *e*P P 23 36 18.0 +0.2
CLL *i* 23 36 23.7
CLL *e*S S 23 40 45.0 +4.9
NKC Novy Kostel 24.75 307 *e*P P 23 36 21.9 +3.8
NKC *ex* x 23 36 32.0
NKC Novy Kostel 24.75 307 *e*P P 23 36 21.9 +3.8
ULHL Ulahol 24.94 72 P P 23 36 21.9 +1.7
SNR=42
KSH Kashi 25.03 78 P P 23 36 21.3 +0.4
KSH sP sP 23 36 27.1 +4.2
KSH PP PnPn 23 36 56.0 +2.1
KSH S S 23 40 38.3 -7.3
KSH SS SnSn 23 41 32.1 -1.7
KSH Kashi 25.03 78 ScS ScS 23 47 21.9 -1.9
KSH pmax pmax
comp=Z,30nm,1.2s
KSH pmax pmax
comp=Z,220nm,4.0s
KSH LR LR
comp=N,470nm,13.6s
KSH LR LR
comp=E,330nm,6.7s
KSH LR LR
comp=Z,480nm,8.2s
MOTA Moosalm 25.04 300 *i* P P 23 36 19.2 -1.8
comp=Z,7.2nm,1.0s
FINES FINESS Array B 25.06 340 P P 23 36 21.5 +0.8
comp=Z,4.6nm,1.1s,baz=141,slow=12,SNR=6.2
FINES LR LR 23 46 49.8
comp=Z,123nm,19.2s,baz=144,slow=38
FINES FINESS Array B 25.06 340 P P 23 36 21.5 +0.8
FINES pmax pmax
comp=Z,1.0nm,0.6s
FINES MLR MLR
comp=Z,123nm,19.2s
FETA Feichten 25.25 299 *i* pP P 23 36 23.5 +0.7
comp=Z,8.4nm,1.5s
TMCR Tamitsa 25.54 354 *e*P P 23 36 20.5 -4.5
TMCR pmax pmax
comp=Z,32nm,0.9s
KDJ Kajisay 25.65 72 *e*P P 23 36 27.6 +1.0
comp=Z,25nm,1.4s
TARG Taragay, Kyrgy 26.14 73 *e*P P 23 36 35.9 +4.6
comp=Z,12nm,1.2s
KURBB Kurchatov Arra 27.19 53 P P 23 36 40.7 +0.5
comp=Z,2.9nm,0.7s,baz=263,slow=9.0,SNR=20
ATD Arta Tunnel 27.25 182 LR LR 23 48 05.8
comp=Z,225nm,19.2s,baz=1.0,slow=38
KURK Kurchatov 27.27 53⇓ *e*P P 23 36 41.0 +0.2
KURK pmax pmax
comp=Z,10.0nm,1.1s
HFS Hagfors 28.38 328 P P 23 36 51.9 +1.2
comp=Z,8.0nm,0.9s,baz=134,slow=13,SNR=5.9
HFS LR LR 23 49 13.2
comp=Z,199nm,20.0s,baz=128,slow=39
MAKZ Makanchi 29.00 62 *e*P P 23 36 58.3 +1.9
comp=Z,5.7nm,1.2s
MAKZ Makanchi 29.00 62 *e*P P 23 36 58.3 +1.9
MAKZ pmax pmax
comp=Z,6.0nm,1.2s
MK31 Makanchi Array 29.22 62 *e*P P 23 36 58.7 +0.3
MK31 Makanchi Array 29.22 62 *e*P P 23 36 58.7 +0.3
MKAR Makanchi Array 29.22 62 P P 23 36 58.6 +0.3
comp=Z,1.6nm,0.7s,baz=269,slow=5.9,SNR=12
MKAR LR LR 23 49 38.5
comp=Z,84nm,20.1s,baz=263,slow=38
MKAR Makanchi Array 29.22 62 *e*P P 23 36 58.7 +0.3
comp=Z,15nm,0.9s
MKAR Makanchi Array 29.22 62 *e*P P 23 36 58.7 +0.3
MKAR pmax pmax
comp=Z,15nm,0.9s
MK01 Makanchi Array 29.22 62 *e*P P 23 36 58.4 -0.1
NOA NORSAR Array B 29.90 328 P P 23 37 03.6 -0.6
comp=Z,1.0nm,1.0s,baz=125,slow=8.7,SNR=2.7
NOA LR LR 23 50 20.9
comp=Z,176nm,19.6s,baz=135,slow=39
NVS Novosibirsk 30.95 46 *e*P P 23 37 13.2 -0.3
ZALV Zalesovo Beam 31.65 48 P P 23 37 20.0 +0.3
comp=Z,1.2nm,0.6s,baz=262,slow=9.4,SNR=5.9
ZALV LR LR 23 52 26.7
comp=Z,228nm,18.1s,baz=250,slow=41
ZALV Zalesovo Beam 31.65 48 *e*P P 23 37 20.6 +0.9
ZALV Zalesovo Beam 31.65 48 *e*P P 23 37 20.6 +0.9
ARCES ARCESS Array B 32.21 348 P P 23 37 24.6 +0.2
comp=Z,1.1nm,0.8s,baz=163,slow=8.9,SNR=4.3
WMQ Urumqi 33.17 67 P P 23 37 35.8 +2.6
WMQ sP sP 23 37 42.5 +7.3
WMQ pmax pmax
comp=Z,19nm,1.1s
WMQ pmax pmax
comp=Z,9.0nm,3.8s
WMQ LR LR
comp=N,260nm,30.1s
WMQ LR LR
comp=E,220nm,22.5s
WMQ LR LR

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,230nm,24.5s						
EKA	Eskdalemuir Ar	35.06	314	P	P	23 37 48.9	-0.5
	comp=Z,2.2nm,0.7s,baz=106,slow=8.5,SNR=5.6						
TAM	Tamanrasset	36.12	255	eP	P	23 37 57.3	-1.7
	comp=Z,10nm,1.3s						
TAM	Tamanrasset	36.12	255	eP	P	23 37 57.3	-1.7
TAM				pmax	pmax		
	comp=Z,10.0nm,1.3s						
ESDC	Sonseca Array	36.48	287	P	P	23 38 00.9	-0.9
	comp=Z,1.2nm,0.6s,baz=67,slow=8.5,SNR=9.3						
HVS	Khovu-Aksy	36.79	54	⇑eP	P	23 38 05.4	+1.0
HVS				pmax	pmax		
	comp=Z,9.0nm,1.1s						
LSA	Lhasa	39.96	88	eP	P	23 38 32.3	+0.5
	comp=Z,6.4nm,0.8s						
LSA	Lhasa	39.96	88	eP	P	23 38 32.3	+0.5
LSA				pmax	pmax		
	comp=Z,6.0nm,0.8s						
ZAK	Zakamensk	42.91	54	eP	P	23 38 56.7	+1.4
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.3s						
GTA	Gaotai	42.99	71	eP	P	23 38 58.8	+2.7
GTA				pP	sP	23 39 03.1	+5.0
GTA				sP	pP	23 39 06.3	+8.8
GTA				pmax	pmax		
	comp=Z,5.0nm,1.1s						
SONM	Songino Array	45.39	57	LR	LR	00 00 46.6	
	comp=Z,156nm,18.5s,baz=256,slow=40						
ULN	Ulaanbaatar	45.81	57	eP	P	23 39 19.2	+0.6
	comp=Z,9.1nm,1.2s						
ULN	Ulaanbaatar	45.81	57	ceP	P	23 39 21.0	+2.4
ULN				pmax	pmax		
	comp=Z,10.0nm,1.7s						
LZH	Lanzhou	47.13	74	eP	P	23 39 31.6	+2.4
LZH				pP	sP	23 39 34.8	+3.6
LZH				sP	pP	23 39 36.6	+6.0
LZH				pmax	pmax		
	comp=Z,22nm,1.1s						
BOD	Bodaibo	48.08	43	eP	P	23 39 34.8	-1.2
KOWA	Kowa	48.31	253	P	P	23 39 36.5	-1.8
	comp=Z,2.5nm,0.6s,baz=64,slow=8.4,SNR=16						
KOWA				LR	LR	00 03 02.2	
	comp=Z,57nm,18.5s,baz=34,slow=40						
KOWA	Kowa	48.31	253	eP	P	23 39 37.3	-1.0
	comp=Z,36nm,1.9s						
HHC	Hu-ho-hao-te	50.99	65	eP	P	23 39 59.5	+0.9
HHC				pmax	pmax		
	comp=Z,24nm,1.1s						
HHC				pmax	pmax		
	comp=Z,64nm,6.8s						
KMI	Kunming	51.18	87	P	P	23 40 04.0	+3.6
KMI				pmax	pmax		
	comp=Z,9.0nm,0.9s						
XAN	Xi'an	51.77	74	P	P	23 40 06.1	+1.7
XAN				pP	sP	23 40 25.8	+19
XAN				pmax	pmax		
	comp=Z,18nm,1.1s						
CMAR	Chiang Mai Arr	51.83	97	P	P	23 40 02.3	-2.8
	comp=Z,0.9nm,0.2s,baz=302,slow=8.1,SNR=12						
CMAR				LR	LR	00 06 54.9	
	comp=Z,78nm,19.4s,baz=292,slow=42						
CM01	Chiang Mai Arr	51.87	97	eP	P	23 40 06.1	+0.8
TIXI	Tiksi	52.17	24	LR	LR	00 06 52.5	
	comp=Z,79nm,18.1s,baz=272,slow=41						
TIXI	Tiksi	52.17	24	⇑eP	P	23 40 07.6	+0.8
TIXI				pmax	pmax		
	comp=Z,4.0nm,1.5s						
DBIC	Dimbokro	54.10	247	P	P	23 40 19.1	-2.7
	comp=Z,2.4nm,0.7s,baz=23,slow=11,SNR=6.0						
DBIC				LR	LR	00 05 51.9	
	comp=Z,69nm,19.2s,baz=46,slow=39						
KIC	Kosan Boka	54.23	246	eP	P	23 40 18.1	-4.7
	comp=Z,30nm,1.2s						
TIC	Toumodi	54.24	247	eP	P	23 40 18.5	-4.3
LIC	Lamto	54.53	246	eP	P	23 40 21.0	-3.9
	comp=Z,83nm,2.1s						
SFJD	Kangerlussuaq	56.48	332	LR	LR	00 04 26.2	
	comp=Z,60nm,20.9s,baz=70,slow=36						
NJ2	Nanjing	60.08	71	eP	P	23 41 05.4	+1.4
NJ2				pmax	pmax		
	comp=Z,14nm,0.5s						
RES	Resolute Bay	63.43	349	LR	LR	00 08 01.2	
	comp=Z,45nm,21.8s,baz=241,slow=35						
KS01	Wonju Array Si	63.87	62	eP	P	23 41 29.9	+0.5
KSAR	Wonju Array Be	63.88	62	P	P	23 41 28.2	-1.2
KSAR	Wonju Array Be	63.88	62	P	P	23 41 28.3	-1.2
KSRS	Korea Array	63.90	62	P	P	23 41 28.2	-1.3
	comp=Z,2.8nm,0.9s,baz=297,slow=5.3,SNR=7.9						
BILL	Bilibino	65.12	20	⇑eP	P	23 41 40.0	+2.9
BILL				e		23 43 59.6	
BILL				pmax	pmax		
	comp=Z,3.0nm,1.0s						
BILL				MLR	MLR		
	comp=Z,168nm,23.0s						
BOSA	Boshof	69.30	197	P	P	23 42 03.1	-1.0
	comp=Z,2.5nm,0.7s,baz=70,slow=1.8,SNR=4.5						
BOSA				LR	LR	00 12 44.0	
	comp=Z,85nm,18.7s,baz=14,slow=36						
MJAR	Matsushiro Arr	71.33	58	P	P	23 42 15.3	-1.3
	comp=Z,1.1nm,0.6s,baz=312,slow=5.5,SNR=4.7						
YKA	Yellowknife Ar	77.45	350	P	P	23 42 50.8	-0.9
	comp=Z,0.3nm,0.6s,baz=9.4,slow=5.1,SNR=12						
ULM	Lac du Bonnet	84.35	335	LR	LR	00 22 59.4	
	comp=Z,45nm,19.0s,baz=342,slow=37						

*ISK **18** 23:32:18.5, 38°.92N×43°.53E, h16km, ML3.6/3*
*ISCJB **18** 23:32:19.7±0.7, 38°.94N±0°.04×43°.57E±0°.06, h16km±7km, Error ellipse: s-maj=9.4km s-min=6.2km az=36.6*
*CSEM **18** 23:32:19.3±0.3, 38°.94N×43°.55E, h12km, ML3.6, Error ellipse: s-maj=8.2km s-min=6.1km az=109.0*
*DDA **18** 23:32:19.3, 38°.90N×43°.59E, h7km, Ml3.6*
ISC 18 23:32:19.3±0.9, **38°.93N**±0°.03×**43°.57E**±0°.03, **h15**km±5km, **n23**, σ**0s.69**/31, **Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VMUR	Van-Muradiye	0.06	1	iP	Pg	23 32 21.7	-0.7
VMUR				iS	Sg	23 32 25.5	+1.1
VMUR	Van-Muradiye	0.06	1	P	Pg	23 32 21.7	-0.7
VMUR				S	Sg	23 32 25.5	+1.1
ERCV	ERCIS-VAN	0.20	296	PG	Pg	23 32 23.4	-0.7
ERCV	ERCIS-VAN	0.20	296	ePg	Pg	23 32 23.4	-0.7
CLDR	Caldiran	0.34	52	PG	Pg	23 32 26.2	-0.2
CLDR				SG	Sb	23 32 32.7	+0.1
CLDR	Caldiran	0.34	52	iP	Pg	23 32 26.4	0.0
CLDR	Caldiran	0.34	52	P	Pg	23 32 26.4	0.0
CLDR				eSg	Sb	23 32 32.7	+0.1
VANB	Van	0.36	203	PG	Pb	23 32 27.5	0.0
VANB				SG	Sb	23 32 34.0	+0.9
VANB	Van	0.36	203	ePg	Pb	23 32 27.5	0.0
VANB				eSg	Sb	23 32 34.0	+0.9
TVAN	Van	0.42	198	iP	Pg	23 32 28.0	+0.2
TVAN	Van	0.42	198	P	Pg	23 32 28.0	+0.2
ADCV	BITLIS_Adilcev	0.67	260	iP	Pg	23 32 32.4	-0.1
ADCV				iS	Sb	23 32 42.4	+0.4
ADCV	BITLIS_Adilcev	0.67	260	P	Pg	23 32 32.4	-0.1
ADCV				S	Sb	23 32 42.4	+0.4
GEVA	Gevas	0.74	213	iP	Pg	23 32 32.8	-0.9
GEVA	Gevas	0.74	213	P	Pg	23 32 32.8	-0.9
TUTA	Tutak	0.75	309	iP	Pb	23 32 34.2	0.0
TUTA	Tutak	0.75	309	P	Pb	23 32 34.2	0.0
AGRB	Hanur-Agry	0.79	325	PG	Pg	23 32 33.8	-0.8
AGRB	Hanur-Agry	0.79	325	ePg	Pg	23 32 33.8	-0.8
EATA	Eleskirt	1.25	318	iP	Pg	23 32 44.5	+1.1
EATA	Eleskirt	1.25	318	P	Pg	23 32 44.5	+1.1
GURO	Guroymak-BITLI	1.26	253	PN	Pn	23 32 41.6	-0.9
GURO	Guroymak-BITLI	1.26	253	ePn	Pn	23 32 41.6	-0.9

*ISK **18** 23:33:18.7, 38°.88N×43°.56E, h5km, ML3.4/7*
*ISCJB **18** 23:33:20.7±0.6, 38°.92N±0°.03×43°.55E±0°.05, h13km±4km, Error ellipse: s-maj=6.8km s-min=4.4km az=16.6*
*CSEM **18** 23:33:20.3±0.3, 38°.91N×43°.55E, h10km, ML3.6, Error ellipse: s-maj=6.9km s-min=4.6km az=110.0*
*DDA **18** 23:33:20.1, 38°.86N×43°.57E, h7km, Ml3.6*
ISC 18 23:33:20.5±0.9, **38°.89N**±0°.03×**43°.55E**±0°.03, **h10**km±6km, **n27**, σ**0s.76**/43, **Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VMUR	Van-Muradiye	0.10	10	iP	Pg	23 33 22.7	-0.6
VMUR				iS	Sg	23 33 26.1	+0.9
VMUR	Van-Muradiye	0.10	10	P	Pg	23 33 22.7	-0.6
VMUR				S	Sg	23 33 26.1	+0.9
ERCV	ERCIS-VAN	0.21	307	PG	Pg	23 33 23.9	-1.1
ERCV				SG	Sg	23 33 28.2	+0.2
ERCV	ERCIS-VAN	0.21	307	ePg	Pg	23 33 23.9	-1.1
ERCV				eSg	Sg	23 33 28.2	+0.2
VANB	Van	0.32	203	PG	Pb	23 33 27.9	-0.6
VANB				SG	Sb	23 33 33.9	+0.1
VANB	Van	0.32	203	ePg	Pb	23 33 27.9	-0.6
VANB				eSg	Sb	23 33 33.9	+0.1
CLDR	Caldiran	0.38	49	PG	Pg	23 33 27.0	-1.1
CLDR				SG	Sg	23 33 33.9	+0.7
CLDR	Caldiran	0.38	49	iP	Pg	23 33 27.0	-1.1
CLDR				iS	Sb	23 33 34.6	-1.0
CLDR	Caldiran	0.38	49	P	Pg	23 33 27.0	-1.1
CLDR				eSg	Sg	23 33 33.9	+0.7
CLDR				S	Sb	23 33 34.6	-1.0
TVAN	Van	0.38	197	iP	Pg	23 33 28.0	-0.1
TVAN				iS	Sb	23 33 36.0	+0.4
TVAN	Van	0.38	197	P	Pg	23 33 28.0	-0.1
TVAN				S	Sb	23 33 36.0	+0.4
ADCV	BITLIS_Adilcev	0.65	263	iP	Pg	23 33 32.6	-0.6
ADCV				iS	Sb	23 33 43.5	+0.2
ADCV	BITLIS_Adilcev	0.65	263	P	Pg	23 33 32.6	-0.6
ADCV				S	Sb	23 33 43.5	+0.2
DYDN	Diyadin	0.66	9	iP	Pg	23 33 33.5	+0.2
DYDN	Diyadin	0.66	9	P	Pg	23 33 33.5	+0.2
GEVA	Gevas	0.70	214	iP	Pg	23 33 33.4	-0.6
GEVA	Gevas	0.70	214	P	Pg	23 33 33.4	-0.6
TUTA	Tutak	0.77	312	iP	Pg	23 33 34.5	-0.8
TUTA	Tutak	0.77	312	P	Pg	23 33 34.5	-0.8
AGRB	Hanur-Agry	0.81	328	PG	Pg	23 33 35.9	-0.2
AGRB				SG	Sb	23 33 47.9	+0.1
AGRB	Hanur-Agry	0.81	328	ePg	Pg	23 33 35.9	-0.2
AGRB				eSg	Sb	23 33 47.9	+0.1
GURO	Guroymak-BITLI	1.23	254	PN	Pg	23 33 42.9	-1.4
GURO	Guroymak-BITLI	1.23	254	ePn	Pg	23 33 42.9	-1.4
KARS	Kars	1.77	348	PN	Pn	23 33 52.1	+0.7
KARS	Kars	1.77	348	ePn	Pn	23 33 52.1	+0.7
SENK	Senkaya-Erzuru	1.91	331	PN	Pn	23 33 54.3	+1.0
SENK	Senkaya-Erzuru	1.91	331	ePn	Pn	23 33 54.3	+1.0

*ISK **18** 23:34:33.6, 38°.91N×43°.58E, h5km, ML3.4/10*
*DDA **18** 23:34:35.0, 38°.89N×43°.48E, h1km, Ml3.5*
*IASPEI **18** 23:34:35.9±0.9, 38°.92N±0°.03×43°.56E±0°.03, h9km±6km, Error ellipse: s-maj=4.3km s-min=3.1km az=138.9, GT5 selection from ISC bulletin GT5 identified by Bondˆ¡r and McLaughlin (2009) selection criteria Bondˆ¡r and McLaughlin, A new ground truth data set for seismic studies, <i>Seism. Res. Let.</i>, 80, 465-472, 2009*
*ISCJB **18** 23:34:35.9±0.5, 38°.93N±0°.02×43°.51E±0°.03, h5km±4km, Error ellipse: s-maj=4.5km s-min=3.4km az=137.2*
*CSEM **18** 23:34:35.6±0.2, 38°.94N×43°.53E, h5km, ML3.5, Error ellipse: s-maj=5.3km s-min=4.1km az=137.0*
ISC 18 23:34:35.8±0.8, **38°.92N**±0°.02×**43°.53E**±0°.02, **h9**km±5km, **n71**, σ**1s.10**/89, **5C-8D**, **Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VMUR	Van-Muradiye	0.08	27	iP	Pg	23 34 37.3	-0.9
VMUR				iS	Sg	23 34 41.5	+1.5
VMUR	Van-Muradiye	0.08	27	P	Pg	23 34 37.3	-0.9
VMUR				S	Sg	23 34 41.5	+1.5
ERCV	ERCIS-VAN	0.18	304	PG	Pg	23 34 38.8	-0.9
ERCV				SG	Sg	23 34 42.9	+0.6
ERCV	ERCIS-VAN	0.18	304	ePg	Pg	23 34 38.8	-0.9
ERCV				eSg	Sg	23 34 42.9	+0.6
VANB	Van	0.34	198	PG	Pb	23 34 43.1	-1.1
VANB				SG	Sb	23 34 49.9	+0.1
VANB	Van	0.34	198	ePg	Pb	23 34 43.1	-1.1
VANB				eSg	Sb	23 34 49.9	+0.1
CLDR	Caldiran	0.38	54	PG	Pg	23 34 41.5	-1.9
CLDR				SG	Sg	23 34 48.0	-0.4
CLDR	Caldiran	0.38	54	iP	Pg	23 34 41.8	-1.6
CLDR				iS	Sb	23 34 50.0	-0.9
CLDR	Caldiran	0.38	54	ePg	Pg	23 34 41.5	-1.9
CLDR	Caldiran	0.38	54	P	Pg	23 34 41.8	-1.6
CLDR				eSg	Sg	23 34 48.0	-0.4
CLDR				S	Sb	23 34 50.0	-0.9
TVAN	Van	0.40	194	iP	Pg	23 34 43.0	-0.8
TVAN	Van	0.40	194	P	Pg	23 34 43.0	-0.8
DYDN	Diyadin	0.64	11	iP	Pg	23 34 48.0	-0.2
DYDN	Diyadin	0.64	11	P	Pg	23 34 48.0	-0.2
ADCV	BITLIS_Adilcev	0.64	260	iP	Pg	23 34 47.8	-0.4
ADCV	BITLIS_Adilcev	0.64	260	P	Pg	23 34 47.8	-0.4
GEVA	Gevas	0.71	211	iP	Pg	23 34 48.1	-1.5
GEVA	Gevas	0.71	211	P	Pg	23 34 48.1	-1.5
TUTA	Tutak	0.73	311	iP	Pg	23 34 49.2	-0.8
TUTA	Tutak	0.73	311	P	Pg	23 34 49.2	-0.8
AGRB	Hanur-Agry	0.77	328	PG	Pg	23 34 50.4	-0.4
AGRB				SG	Sb	23 35 02.6	+0.3
AGRB	Hanur-Agry	0.77	328	ePg	Pg	23 34 50.4	-0.4
AGRB				eSg	Sb	23 35 02.6	+0.3
IGDI	IGDIR	1.04	24	iP	Pg	23 34 55.2	-0.6
EKAR	Karacoban	1.19	287	iP	Pn	23 35 00.5	+1.6
EKAR	Karacoban	1.19	287	P	Pn	23 35 00.5	+1.6
TASB	TASBURUN-IGDIR	1.20	27	PN	Pg	23 34 57.4	-1.4
TASB	TASBURUN-IGDIR	1.20	27	ePn	Pg	23 34 57.4	-1.4
GURO	Guroymak-BITLI	1.23	253	PN	Pg	23 34 57.3	-2.1
GURO	Guroymak-BITLI	1.23	253	ePn	Pg	23 34 57.3	-2.1
EATA	Eleskirt	1.23	320	iP	Pn	23 34 59.4	-0.2
EATA	Eleskirt	1.23	320	P	Pn	23 34 59.4	-0.2
HYR	Heyderabad	1.30	52	⇓P	Pg	23 35 00.1	-0.7
HYR				⇓S	Sn	23 35 20.5	+2.7
HAKT	HAKKARI	1.37	174	iP	Pb	23 35 03.6	+1.9
HAKT	HAKKARI	1.37	174	P	Pb	23 35 03.7	+1.9
YOVA	Hakkari_Yˆ…kse	1.46	155	iP	Pg	23 35 03.5	-0.4
YOVA	Hakkari_Yˆ…kse	1.46	155	P	Pg	23 35 03.5	-0.4
DIGO	Kars	1.50	356	iP	Pg	23 35 04.1	-0.5
DIGO	Kars	1.50	356	P	Pg	23 35 04.1	-0.5
NAX	Nakhchivan	1.55	80	⇓P	Pg	23 35 05.1	-0.6
NAX				⇑S	Sg	23 35 28.6	+2.8
SRTM	Siirt_Merkez	1.56	234	iP	Pn	23 35 03.5	-0.4
SRTM	Siirt_Merkez	1.56	234	P	Pn	23 35 03.5	-0.4
VRTB	Varto-Mus	1.63	279	PN	Pb	23 35 05.4	-0.8
VRTB	Varto-Mus	1.63	279	iP	Pg	23 35 06.0	-1.0
VRTB	Varto-Mus	1.63	279	ePn	Pb	23 35 05.4	-0.8
VRTB	Varto-Mus	1.63	279	P	Pg	23 35 06.1	-1.0
SBZ	Shahbuz	1.65	73	⇓P	Pb	23 35 05.8	-0.6
SIRT	Sirnak	1.66	211	PN	Pb	23 35 05.4	-1.2
SIRT	Sirnak	1.66	211	ePn	Pb	23 35 05.4	-1.2
SIRN	S˜–rnak	1.67	212	iP	Pb	23 35 06.0	-0.7
SIRN	S˜–rnak	1.67	212	P	Pb	23 35 06.1	-0.7
HOMI	Horasan	1.68	312	iP	Pn	23 35 06.0	+0.4
KARS	Kars	1.74	349	PN	Pn	23 35 06.3	-0.1
KARS	Kars	1.74	349	ePn	Pn	23 35 06.3	-0.1
EAK	Akyaka	1.76	2	iP	Pg	23 35 09.9	+0.2
SENK	Senkaya-Erzuru	1.87	331	PN	Pn	23 35 08.4	+0.1
SENK	Senkaya-Erzuru	1.87	331	ePn	Pn	23 35 08.4	+0.1
ORD	Ordubad	1.93	89	⇓P	Pg	23 35 11.6	-1.2
ORD				⇑S	Sg	23 35 38.7	+1.0
ERZM	Erzurum	1.94	301	iP	Pb	23 35 11.2	-0.3
ERZM	Erzurum	1.94	301	P	Pb	23 35 11.2	-0.3
BTMN	Batman	2.05	241	iP	Pb	23 35 12.5	-0.7
BTMN	Batman	2.05	241	P	Pb	23 35 12.5	-0.7
ECAT	Cat-ERZURUM	2.10	290	iP	Pg	23 35 15.1	-0.9
BNGB	Bingˆ¶l	2.22	273	PN	Pn	23 35 13.6	+0.6
BINT	Bingol	2.37	270	ePn	Pn	23 35 13.6	-1.4
DDEM	Demirkent	2.40	326	iP	Pg	23 35 21.6	-0.2
GDB	GEDABAY	2.48	43	⇑P	Pn	23 35 16.4	-0.2
GDB				⇓S	Sn	23 35 49.4	+2.2
DBAD	Bademkaya	2.52	327	iP	Pg	23 35 22.9	-1.3
QZX	Qazax, Azerbai	2.56	33	⇓P	Pn	23 35 15.8	-1.8
QZX				⇓S	Sn	23 35 48.6	-0.3
GANJ	Ganja	2.76	50	⇑P	Pn	23 35 20.0	-0.3
GANJ				⇑S	Sn	23 35 53.3	-0.4
MAZI	Mazidag	2.83	240	PN	Pn	23 35 22.3	+0.9
MAZI	Mazidag	2.83	240	ePn	Pn	23 35 22.3	+0.9

*DDA **18** 23:45:10.6, 38°.77N×29°.44E, h7km, Ml2.6*
*ISK **18** 23:45:10.2, 39°.08N×29°.19E, h5km, ML2.8/6*
*ISCJB **18** 23:45:11.4±0.5, 39°.09N±0°.04×29°.14E±0°.04, h6km±5km, Error ellipse: s-maj=7.6km s-min=4.2km az=145.2*
*CSEM **18** 23:45:11.4±0.2, 39°.09N×29°.15E, h8km, ML2.8, Error ellipse: s-maj=6.3km s-min=3.6km az=135.0*
ISC 18 23:45:11.6±0.9, **39°.10N**±0°.03×**29°.13E**±0°.03, **h8**km±7km, **n26**, σ**0s.68**/36, **Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SIMA	Simav-Kutahya	0.12	261	PG	Pg	23 45 14.2	0.0
SIMA				SG	Sg	23 45 16.5	+0.5
SIMA	Simav-Kutahya	0.12	261	ePg	Pg	23 45 14.2	0.0
SIMA				eSg	Sg	23 45 16.5	+0.5
GDZ	Gediz	0.28	93	iP	Pg	23 45 17.1	+0.1
GDZ				iS	Sg	23 45 21.4	+0.7
GDZ	Gediz	0.28	93	P	Pg	23 45 17.1	+0.1
GDZ				S	Sg	23 45 21.4	+0.7
TVSB	Tavsanli	0.43	37	PG	Pg	23 45 19.1	-0.9
TVSB				SG	Sg	23 45 25.1	-0.6
TVSB	Tavsanli	0.43	37	ePg	Pg	23 45 19.1	-0.9
TVSB				eSg	Sg	23 45 25.1	-0.6
KULA	Kula-Manisa	0.69	212	PG	Pg	23 45 24.2	-0.7
KULA				SG	Sg	23 45 33.9	0.0
KULA	Kula-Manisa	0.69	212	ePg	Pg	23 45 24.2	-0.7
KULA				eSg	Sg	23 45 33.9	0.0
MANT	Manisa	0.76	216	iP	Pb	23 45 26.4	-0.7
MANT				iS	Sg	23 45 36.0	0.0
MANT	Manisa	0.76	216	P	Pb	23 45 26.4	-0.7
MANT				S	Sg	23 45 36.0	0.0
KHAL	Karahalli	0.78	159	iP	Pg	23 45 18.2	-8.5
KHAL	Karahalli	0.78	159	P	Pg	23 45 18.2	-8.4
BALB	Balikesir	1.11	299	PN	Pn	23 45 33.1	-0.3
BALB				SN	Sn	23 45 49.7	+0.8
BALB	Balikesir	1.11	299	ePn	Pn	23 45 33.1	-0.3
BALB				eSn	Sn	23 45 49.7	+0.8
STEP	BALIKESIR_Sava	1.13	285	iP	Pn	23 45 34.6	+0.8
STEP	BALIKESIR_Sava	1.13	285	P	Pn	23 45 34.6	+0.8
CAVI	Cavuskoy	1.23	26	PN	Pb	23 45 34.1	-1.0
CAVI	Cavuskoy	1.23	26	ePn	Pb	23 45 34.1	-1.0
BORA	Eskisehir	1.29	52	iP	Pg	23 45 37.3	+1.1
BORA	Eskisehir	1.29	52	P	Pg	23 45 37.3	+1.1
KCTX	Karacabey (Bur	1.31	333	PN	Pb	23 45 36.2	-0.2
KCTX	Karacabey (Bur	1.31	333	ePn	Pb	23 45 36.2	-0.2
YLV	Yalova	1.48	7	PN	Pb	23 45 38.5	-0.8
YLV	Yalova	1.48	7	ePn	Pb	23 45 38.5	-0.8
ARMT	Armutlu	1.48	352	PN	Pb	23 45 38.8	-0.5
ARMT	Armutlu	1.48	352	ePn	Pb	23 45 38.8	-0.5

WEL 18 23:48:35.3, 39°.3S±0°.7×**17°4E**±°, **h19**km, **ML3.6**/9, **Off west coast of North Island**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PKE	Pukeiti	0.09	51	P	Pg	23 48 39.5	+0.5
PKE	Pukeiti	0.09	51	S	Sg	23 48 42.4	+1.0
NMEZ	Namu Road	0.17	187	P	Pg	23 48 40.3	+0.5
NMEZ	Namu Road	0.17	187	S	Sg	23 48 44.3	+1.4
PREZ	Palmer Road	0.22	115	P	Pg	23 48 41.1	+0.5
PREZ	Palmer Road	0.22	115	S	Sg	23 48 45.4	+1.1
DREZ	Durham Road	0.24	76	P	Pg	23 48 41.4	+0.5
DREZ	Durham Road	0.24	76	S	Sg	23 48 46.0	+1.2
MHEZ	Mangahewa	0.37	62	P	Pb	23 48 43.8	+0.4
MHEZ	Mangahewa	0.37	62	S	Sb	23 48 49.8	+1.1
LREZ	Lake Rotokare	0.44	119	P	Pb	23 48 44.7	+0.1
LREZ	Lake Rotokare	0.44	119	S	Sb	23 48 52.4	+1.5
VRZ	Vera Road	0.68	80	P	Pb	23 48 48.5	+0.1
VRZ	Vera Road	0.68	80	S	Sn	23 48 59.1	-0.9
WAZ	Wanganui	0.98	121	P	Pb	23 48 53.8	+0.1
HIZ	Hauiti	1.04	46	P	Pb	23 48 54.2	-0.6
HIZ	Hauiti	1.04	46	S	Sn	23 49 09.1	+0.1
PKVZ	Pokaka	1.12	93	P	Pn	23 48 55.7	-0.3
TWVZ	Taurewa	1.21	82	P	Pn	23 48 56.7	-0.5
COVZ	Chateau Observ	1.27	88	P	Pn	23 48 58.4	+0.2
TRVZ	Turoa	1.28	93	P	Pn	23 48 58.5	+0.1
FWVZ	Far West T-bar	1.28	91	P	Pn	23 48 58.4	0.0
DRZ	Dome Shelter	1.29	92	P	Pb	23 48 59.0	-0.2
WHVZ	Whangaehu Hut	1.31	92	P	Pn	23 48 58.9	+0.1
WTVZ	West Tongariro	1.32	85	P	Pn	23 48 58.8	0.0
NGZ	Ngauruhoe	1.32	87	P	Pn	23 48 59.1	+0.2
TUVZ	Tukino	1.36	91	P	Pb	23 48 59.9	-0.4
KRVZ	Karewarewa	1.36	84	P	Pn	23 48 59.5	+0.1
KATZ	Kakaramea	1.42	80	P	Pn	23 49 00.4	+0.2
MOVZ	Moawhango	1.44	97	P	Pn	23 49 00.8	+0.3
OHWZ	Ohakea	1.45	132	P	Pb	23 49 02.3	+0.6
RATZ	Rangitukua	1.50	76	P	Pn	23 49 01.6	+0.3
WATZ	Wairara	1.53	70	P	Pb	23 49 02.7	-0.3
RITZ	Rihia Road	1.55	81	P	Pb	23 49 03.5	+0.2
DUWZ	D'Urville Isla	1.55	179	P	Pn	23 49 02.4	+0.4
TLZ	Tolley Road	1.57	55	P	Pn	23 49 02.0	-0.2
KUTZ	Kaahu Road	1.68	64	P	Pb	23 49 05.5	-0.1
BHHZ	Black Hill Sta	1.69	99	P	Pn	23 49 04.8	+0.9
WHTZ	Whakaora	1.71	71	P	Pb	23 49 06.3	+0.2
TSZ	Takapari Road	1.78	118	P	Pb	23 49 06.7	-0.7
KIW	Kapiti Island	1.79	155	P	Pb	23 49 06.6	-0.8
POWZ	Post Office Ro	1.84	129	P	Pb	23 49 08.3	0.0
OGWZ	Otaki Gorge	1.84	149	P	Pb	23 49 08.0	-0.4
PNHZ	Pukenui	1.90	111	P	Pb	23 49 08.7	-0.6
QRZ	Quartz Range	1.90	213	P	Pn	23 49 06.3	-0.3
MRZ	Mangatainoka R	1.91	138	P	Pb	23 49 09.5	-0.1
KRHZ	Kereru	1.95	102	P	Pb	23 49 09.6	-0.7
KWHZ	Kaweka Forest	1.96	96	P	Pb	23 49 09.8	-0.6
TOZ	Tahuroa Road	1.97	40	P	Pn	23 49 07.7	+0.1
TCW	Tory Channel	1.98	172	P	Pn	23 49 09.0	+1.2
NNZ	Nelson	2.01	191	P	Pn	23 49 08.8	+0.6
BKZ	Black Stump Fm	2.01	88	P	Pb	23 49 10.0	-1.3
DVHZ	Dannevirke	2.04	122	P	Pb	23 49 11.1	-0.5
HSRZ	Hossack Road	2.06	64	P	Pb	23 49 12.4	+0.4
PRWZ	Pori Road	2.06	130	P	Pb	23 49 12.2	+0.2
CAW	Cannon Point	2.06	155	P	Pb	23 49 11.7	-0.4
HOWZ	Holdsworth Sta	2.06	144	P	Pb	23 49 12.0	-0.1
WPHZ	Waipukurau	2.12	113	P	Pb	23 49 13.2	+0.1
TIWZ	Tintock	2.16	136	P	Pb	23 49 13.7	0.0
MCHZ	McNeill Hill	2.18	96	P	Pb	23 49 14.4	+0.4
TUWZ	Tuamarina	2.18	179	P	Pn	23 49 11.3	+0.8
AWAZ	Awhitu Peninsu	2.26	15	P	Pn	23 49 11.8	+0.2
MTW	Mount Morrison	2.27	148	P	Pb	23 49 15.4	-0.2
BHW	Baring Head	2.28	161	P	Pb	23 49 16.1	+0.3
BFZ	Birch Farm	2.30	129	P	Pb	23 49 16.7	+0.5
MTHZ	Maungataniwha	2.32	81	P	Pb	23 49 15.5	-1.1
MKAZ	Moumakai	2.36	25	P	Pn	23 49 13.2	+0.3
WTAZ	Waiatarua	2.37	13	P	Pn	23 49 13.6	+0.4
MSWZ	Moikau Station	2.40	155	P	Pb	23 49 17.4	-0.4
THZ	Tophouse	2.62	197	P	Pn	23 49 17.6	+0.9
KUZ	Kuaotunu	2.88	30	P	Pn	23 49 19.8	-0.3

*ISCJB **18** 23:52:51.9±0.8, 18°.16S±0°.07×67°.06W±0°.08, h250km, mb3.4/3, Error ellipse: s-maj=12.5km s-min=7.0km az=37.7*
*GUC **18** 23:52:53.5±0.6, 18°.25S×67°.41W, h268km±34km, ML4.1*
*IDC **18** 23:52:54.0±2.7, 17°.73S×67°.05W, h269km±11km, mb3.2/3, mb1 3.6/4, mb1mx3.1/43, mbtmp3.9/4, Error ellipse: s-maj=53.7km s-min=24.4km az=9.0*
ISC 18 23:52:51.0±0.9, **18°.11S**±0°.07×**67°.1W**±0°.1, **h250**km, **n15**, σ**1s.70**/23, **mb3.4**/3, **1C**, **Central Bolivia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LPAZ	La Paz	2.07	331	P	Pn	23 53 37.6	+2.7
	26nm,0.3s,baz=121,slow=5.4,SNR=539						
LPAZ				S	S	23 54 11.2	+1.7
	8.2nm,0.3s,baz=214,slow=24,SNR=16						
MNMC	Minye Minye	2.59	247	eP	Pn	23 53 41.7	+2.2
MNMC				iS	S	23 54 20.1	+2.3
MNMC				IAML		23 54 23.4	
	comp=N,228nm,0.5s						
PB08	IPOC Station P	2.81	224	eP	Pn	23 53 44.5	+2.6
PB08				eS	S	23 54 24.9	+2.8
PB08				IAML		23 54 26.1	
	comp=N,71nm,0.3s						
PB11	IPOC Station P	2.94	236	eP	Pn	23 53 44.4	+1.4
PB11				iS	S	23 54 24.7	+0.6
PB11				IAML		23 54 25.4	
	comp=N,1μm,0.8s						
PB12	IPOC Station P	3.12	260	⇑iP	Pn	23 53 46.0	+1.1
PB12				eS	S	23 54 26.6	-1.1
PSGC	Pisagua	3.24	242	eP	Pn	23 53 47.6	+1.4
PSGC				iS	S	23 54 28.4	-1.5
PB01	IPOC Station P	3.69	217	eP	Pn	23 53 52.8	+1.5
PB01				iS	S	23 54 38.6	-0.7
PB02	IPOC Station P	4.15	219	eP	Pn	23 53 58.5	+1.8
PB02				iS	S	23 54 47.3	-1.6
SIV	San Ignacio	6.12	71	P	Pn	23 54 21.9	+1.1

comp=N,0.4nm,0.3s,baz=276,slow=11,SNR=3.8
PTGA Pitinga 18.63 23 P **P 23 56 49.2 -1.4**
comp=N,0.4nm,0.3s,baz=24,slow=22,SNR=5.8
TXAR Lajitas Array 58.92 323 P **P 00 02 23.3 -1.1**
comp=N,0.2nm,0.5s,baz=141,slow=8.5,SNR=5.0
PDAR Pinedale Array 72.09 328 P **P 00 03 47.9 -0.6**
comp=N,0.3nm,0.4s,baz=120,slow=8.7,SNR=4.1
YKA Yellowknife Ar 88.59 340 P **P 00 05 14.4 -0.8**
comp=N,1.1nm,0.5s,baz=128,slow=4.7,SNR=39
KLR Kul'dur 145.43 338 PKPbc **PKPdf 00 11 58.5 -0.5**
comp=N,0.1nm,0.6s,baz=236,slow=2.2,SNR=4.0
SONM Songino Array 149.88 9 PKPbc **PKPbc 00 12 11.2 -0.5**
comp=N,1.0nm,0.5s,baz=327,slow=1.1,SNR=5.0

NNC 18 23:53:31.0±4.2, 37.05N×70.18E, h0km, mb3.7, mpv3.3, 4C-4D, Error ellipse: s-maj=32.6km s-min=29.3km az=157.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
SFK	**Sufi-Kurgan**	**3.94**	**40**	⇑Pn		Pn	23 54 32.7	-0.2
	3.1nm,0.3s							
SFK				⇑Sn		Sn	23 55 21.4	+1.3
	5.3nm,0.3s							
MNAS	**Manas**	**5.72**	**17**	⇓Pn		Pn	23 54 57.8	+0.5
	2.6nm,0.7s							
MNAS				⇑Sn		Sn	23 56 04.9	+1.2
	3.0nm,0.5s							
KK31	**Karatay Array**	**6.05**	**2**	⇓Pn		Pn	23 55 02.9	+1.1
	0.4nm,0.3s,baz=191,slow=14,SNR=7.8							
KK31				⇓Sn		Sn	23 56 13.4	+1.6
	2.6nm,0.6s,baz=194,slow=22,SNR=11							
AAK	**Ala-Archa**	**6.49**	**29**	⇓Pn		Pn	23 55 07.2	-0.7
	0.9nm,0.3s							
AAK				⇑Sn		Sn	23 56 23.1	+0.3
	2.8nm,1.2s							

IDC ***19*** *00:00:13.6±1.2, 12.39N×144.55E, h0km, mb3.6/5, mb1 3.8/5, mb1mx3.4/62, mbtmp3.6/5, Error ellipse: s-maj=55.5km s-min=20.0km az=107.0*
ISCJB ***19*** *00:00:16.5±1.0, 12.4N±0.1×144.3E±0.3, h30km, mb3.6/5, Error ellipse: s-maj=49.6km s-min=11.7km az=23.3*
ISC 19 00:00:18.3±1.0, 12.4N±0.1×144.5E±0.3, h30km, n6, σ1§28/7, mb3.5/5, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
GUMO	**Guam**	**1.22**	**17**	Pn		Pn	**00 00 39.2**	**-0.1**
	54nm,0.3s,baz=197,slow=4.5,SNR=15							
GUMO				Sn		Sn	**00 00 56.2**	**+0.1**
	205nm,0.3s,baz=348,slow=20,SNR=10.0							
WRA	**Warramunga Arr**	**33.67**	**197**	P		**P**	**00 06 56.5**	**-0.3**
	0.8nm,0.8s,baz=22,slow=9.8,SNR=5.8							
KURBB	**Kurchatov Arra**	**65.29**	**320**	P		**P**	**00 10 57.9**	**+0.6**
	0.2nm,0.4s,baz=105,slow=5.6,SNR=2.4							
ILAR	**Eielson Array**	**69.78**	**25**	P		**P**	**00 11 23.8**	**-1.6**
	0.3nm,0.7s,baz=258,slow=6.5,SNR=3.9							
YBH	**Yreka Blue Hor**	**83.91**	**49**	P		**P**	**00 12 47.5**	**+1.8**
	0.6nm,0.3s,baz=315,slow=4.3,SNR=6.1							
YKA	**Yellowknife Ar**	**84.06**	**27**	P		**P**	**00 12 45.4**	**-0.4**
	0.1nm,0.5s,baz=282,slow=5.0,SNR=2.0							

DJA 19 00:03:08.0±1.2, 2.7N±5.9×96.6E±, h10km, M3.6/4, MLv3.6/4, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
GSI	**Gunungsitoli**	**2.12**	**105**	P		Pn	00 03 43.5	-0.1
GSI				S		Sn	00 04 10.0	-0.1
TPTI		**2.17**	**50**	P		Pn	00 03 44.6	+0.4
TPTI				S		Sn	00 04 12.7	+1.5
MLSI	**Meulaboh, Aceh**	**2.56**	**20**	P		Pn	00 03 48.8	-0.8
MLSI				S		Sn	00 04 21.4	+0.6
MNSI	**Mandailing Nat**	**4.19**	**104**	P		Pn	00 04 12.9	+0.9
MNSI				S		Sn	00 04 59.3	-1.8

IDC 19 00:06:56.4±5.6, 20.33S×178.03E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.5/48, mbtmp3.6/3, Error ellipse: s-maj=285.2km s-min=43.2km az=151.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
ASAR	**Alice Springs**	**40.93**	**257**	P		P	00 14 40.8	-0.2
	0.8nm,0.5s,baz=95,slow=8.4,SNR=9.3							
WRA	**Warramunga Arr**	**40.93**	**263**	P		P	00 14 40.8	-0.1
	0.4nm,0.7s,baz=97,slow=7.8,SNR=7.6							
YKA	**Yellowknife Ar**	**97.95**	**26**	P		P	00 20 33.7	-0.2
	0.2nm,0.9s,baz=238,slow=5.8,SNR=3.6							

IDC ***19*** *00:24:01.1±1.8, 2.96N×92.77E, h0km, mb3.5/4, mb1 3.8/6, mb1mx3.5/69, mbtmp3.7/6, ML3.9/2, Error ellipse: s-maj=58.9km s-min=25.0km az=35.0*
ISCJB ***19*** *00:24:03.5±1.2, 3.0N±0.2×92.82E±0.0, h33km, mb3.5/4, Error ellipse: s-maj=36.2km s-min=10.0km az=14.2*
ISC 19 00:24:05.8±1.3, 2.9N±0.3×92.8E±0.1, h35km, n6, σ1§18/7, mb3.5/4, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
PSI	**Prapat**	**6.13**	**91**	Pn		**Pn**	**00 25 34.7**	**+0.6**
	2.0nm,0.3s,baz=321,slow=10,SNR=5.2							
PSI				Sn		**Sn**	**00 26 41.9**	**-1.3**
	0.9nm,0.3s,baz=84,slow=10,SNR=2.9							
PALK	**Pallekele**	**12.78**	**290**	Pn		**Pn**	**00 27 04.1**	**-1.1**
	0.9nm,0.3s,baz=118,slow=11,SNR=5.1							
PALK				Sn		Sn	00 29 14.2	-12
	0.5nm,0.3s,baz=115,slow=19,SNR=2.9							
MKAR	**Makanchi Array**	**44.63**	**350**	P		**P**	**00 32 15.2**	**+0.3**
	0.6nm,0.6s,baz=163,slow=8.6,SNR=7.2							
WRA	**Warramunga Arr**	**46.70**	**121**	P		**P**	**00 32 31.6**	**0.0**
	0.4nm,0.7s,baz=303,slow=8.4,SNR=3.7							
KURBB	**Kurchatov Arra**	**49.03**	**348**	P		**P**	**00 32 48.7**	**-0.5**
	0.4nm,0.7s,baz=165,slow=6.7,SNR=5.1							
GERES	**GERESS Array B**	**80.61**	**319**	P		**P**	**00 36 16.5**	**+1.4**
	0.4nm,0.8s,baz=96,slow=9.3,SNR=3.9							

NIED ***19*** *00:24:00, 47.20N×153.90E, h38km, Mw4.4 Best double couple: M0=4.32000×10^15 NP1:φs=351.00000°, δ=63.00000°, λ=26.00000°. NP2:φs=249.00000°, δ=67.00000°, λ=151.00000°.*
BJI ***19*** *00:24:35.9, 47.42N×153.30E, h69km, mb4.6/32, mB4.8/21, Ms4.0/13, Ms7 3.8/12*
ISCJB ***19*** *00:24:36.3±0.4, 47.34N±0.03×153.21E±0.03, h64km±4km, mb4.6/160, Error ellipse: s-maj=5.5km s-min=2.6km az=150.1*
IDC ***19*** *00:24:37.7±0.4, 47.36N×153.09E, h61km±3km, mb4.0/33, mb1 4.2/38, mb1mx4.1/73, mbtmp4.3/38, MS3.6/28, Ms1 3.6/28, ms1mx3.4/61, Error ellipse: s-maj=12.1km s-min=8.6km az=132.0*
MOS ***19*** *00:24:37.9±1.1, 47.35N×153.25E, h79km, mb4.7/50, Error ellipse: s-maj=7.4km s-min=4.8km az=70.0*
NEIC ***19*** *00:24:37.4±0.6, 47.34N×153.11E, h59km±5km, mb4.8/107, Error ellipse: s-maj=6.2km s-min=3.1km az=146.0*
SKHL ***19*** *00:24:38.0±0.6, 47.29N×153.35E, h69km±6km, mb5.3/3, msh5.2/2*
ISC 19 00:24:37.9±0.4, 47.27N±0.04×153.20E±0.04, h67km±3km, h66km:pP-P, n618, σ1§26/659, mb4.7/160, 18C-11D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
SKR	**Severo-Kuril's**	**3.92**	**28**	*i* P		**Pn**	**00 25 34.3**	**-1.2**
SKR				AMB		AMB	00 25 40.9	
	300nm,1.5s							
SKR				AMB		AMB	00 25 42.5	
	320nm,0.5s							
SKR				*i* S		**Sn**	**00 26 17.0**	**-3.1**
SKR				A		A	00 26 25.5	
	1µm,0.6s							
SKR				A		A	00 26 25.5	
	954nm,0.6s							
SKR				A		A	00 26 45.7	
	1µm,14.0s							
SKR	**Severo-Kuril's**	**3.92**	**28**	⇑*i*PN		**Pn**	**00 25 34.2**	**-1.2**
SKR				*i* S		**Sn**	**00 26 16.2**	**-3.9**
SKR				pmax		pmax		
	comp=Z,300nm,1.2s							
SKR				pmax		pmax		
	comp=Z,316nm,0.5s							
SKR				smax		smax		
	comp=E,1µm,0.6s							
SKR				smax		smax		
	comp=N,954nm,0.7s							
SKR				MLR		MLR		
	comp=Z,1µm,14.0s							
SKR				MLR		MLR		
	comp=Z,400nm,12.0s							
KUR	**Kuril'sk**	**4.22**	**243**	*i* P		**Pn**	**00 25 42.0**	**+2.2**
KUR				AMB		AMB	00 25 43.7	
	comp=Z,87nm,0.2s							
KUR				*e*S		**Sn**	**00 26 29.7**	**+2.0**
KUR				A		A	00 26 39.8	
	comp=Z,1µm,0.8s							
KUR				A		A	00 26 39.8	
	comp=Z,550nm,0.8s							
KUR	**Kuril'sk**	**4.22**	**243**	*d* iPN		**Pn**	**00 25 41.9**	**+2.2**
KUR				*i* S		**Sn**	**00 26 32.0**	**+4.3**
KUR				pmax		pmax		
	comp=Z,282nm,0.7s							
KUR				pmax		pmax		
	comp=N,26nm,0.2s							
KUR				pmax		pmax		
	comp=E,75nm,0.9s							
KUR				smax		smax		
	comp=N,337nm,0.7s							
KUR				smax		smax		
	comp=E,202nm,0.4s							
KUR				smax		smax		
	comp=N,2µm,1.5s							
KUR				smax		smax		
	comp=E,2µm,1.3s							
PAU	**Pauzhetka**	**4.81**	**28**	*e*P		**Pn**	**00 25 47.9**	**+0.2**
PAU				AMB		AMB	00 25 49.0	
	comp=E,119nm,0.8s							
PAU				AMB		AMB	00 26 10.1	
	comp=E,3µm,11.0s							
PAU				*e*S		**Sn**	**00 26 40.1**	**-2.0**
PAU				A		A	00 26 50.6	
	comp=E,680nm,0.4s							
PAU				A		A	00 26 53.8	
	comp=E,8µm,6.5s							
SHO	**Shikotan**	**5.62**	**235**	*e*P		**Pn**	**00 26 00.1**	**+1.3**
SHO				AMB		AMB	00 26 06.6	
	comp=E,58nm,0.4s							
SHO				*e*S		**Sn**	**00 27 02.3**	**+0.4**
SHO				A		A	00 27 12.5	
	comp=E,130nm,0.4s							
SHO				A		A	00 27 12.5	
	comp=E,94nm,0.4s							
SHO	**Shikotan**	**5.62**	**235**	PN		**Pn**	**00 26 00.1**	**+1.3**
SHO				*e*S		**Sn**	**00 27 02.3**	**+0.4**
SHO				pmax		pmax		
	comp=Z,58nm,0.4s							
SHO				pmax		pmax		
	comp=E,22nm,0.3s							
SHO				pmax		pmax		
	comp=N,29nm,0.2s							
SHO				smax		smax		
	comp=N,128nm,0.4s							
SHO				smax		smax		
	comp=E,94nm,0.6s							
YUK	**Yuzh-Kuril'sk**	**6.08**	**240**	*e*P		**Pn**	**00 26 07.7**	**+2.6**
YUK				AMB		AMB	00 26 09.2	
	comp=E,160nm,0.4s							
YUK				*e*S		**Sn**	**00 27 14.6**	**+1.4**
YUK				A		A	00 27 20.4	
	comp=E,140nm,0.6s							
YUK				A		A	00 27 20.4	
	comp=E,94nm,0.6s							
YUK	**Yuzh-Kuril'sk**	**6.08**	**240**	*e*PN		**Pn**	**00 26 06.9**	**+1.8**
YUK				S		**Sn**	**00 27 14.6**	**+1.4**
YUK				pmax		pmax		
	comp=Z,160nm,0.4s							
YUK				pmax		pmax		
	comp=N,40nm,0.1s							
YUK				pmax		pmax		
	comp=E,34nm,0.1s							
YUK				smax		smax		
	comp=N,94nm,0.6s							
YUK				smax		smax		
	comp=E,140nm,0.6s							
LAGR	**Lagunnoye**	**6.11**	**241**	*e*rx		rx	00 26 12.1	
LAGR	**Lagunnoye**	**6.11**	**241**	PN		Pn	00 26 12.1	+6.6
LAGR				*e*S		Sn	00 27 23.8	+10
LAGR				pmax		pmax		
	comp=Z,272nm,0.4s							
LAGR				pmax		pmax		
	comp=N,128nm,0.2s							
LAGR				pmax		pmax		
	comp=E,180nm,0.3s							
GRPR	**Tuman**	**6.16**	**241**	*e*P		**Pn**	**00 26 08.4**	**+2.3**
GRPR				AMB		AMB	00 26 13.4	
	comp=E,123nm,0.4s							
GRPR				*e*S		**Sn**	**00 27 17.3**	**+2.2**
GRPR	**Tuman**	**6.16**	**241**	*e*PN		**Pn**	**00 26 08.4**	**+2.3**
GRPR				*e*S		**Sn**	**00 27 17.3**	**+2.2**
GRPR				pmax		pmax		
	comp=Z,123nm,0.4s							
GLVR	**Golovnino**	**6.45**	**240**	*e*P		**Pn**	**00 26 12.7**	**+2.5**
GLVR				AMB		AMB	00 26 16.7	
	comp=Z,93nm,0.2s							
GLVR				*e*S		**Sn**	**00 27 24.9**	**+2.6**
GLVR	**Golovnino**	**6.45**	**240**	PN		**Pn**	**00 26 12.7**	**+2.5**
GLVR				*e*S		**Sn**	**00 27 24.9**	**+2.6**
GLVR				pmax		pmax		
	comp=Z,93nm,0.2s							
PEA0B	**Petropavlovsk-**	**6.51**	**25**	*e*Pn		**Pn**	**00 26 09.8**	**-1.3**
PETK	**Petropavlovsk-**	**6.51**	**25**	P		**Pn**	**00 26 10.8**	**-0.2**
	comp=Z,1.7nm,0.3s,baz=186,slow=10,SNR=19							
PETK				S		**Sn**	**00 27 30.9**	**+7.1**
	comp=Z,2.3nm,0.3s,baz=171,slow=19,SNR=2.2							
PETK				LR		LR	00 28 40.3	
	comp=Z,318nm,21.8s,baz=199,slow=38							
PETK	**Petropavlovsk-**	**6.51**	**25**	*e*Pn		**Pn**	**00 26 10.2**	**-0.8**
PETK				S		**Sn**	**00 27 30.9**	**+7.1**
NEM2	**Nemuro 2**	**6.55**	**236**	P		**Pn**	**00 26 10.4**	**-1.1**
NEM2				*e*S		**Sn**	**00 27 22.5**	**-2.2**
JRA	**Rausu**	**6.58**	**242**	P		**Pn**	**00 26 13.8**	**+2.0**
PET	**Petropavlovsk**	**6.74**	**29**	*e*P		**Pn**	**00 26 14.7**	**+0.7**
PET				AMB		AMB	00 26 19.0	
	comp=Z,19nm,0.5s							
PET				AMB		AMB	00 26 20.3	
	comp=Z,122nm,3.0s							
PET				*e*S		**Sn**	**00 27 24.6**	**-4.6**
PET				A		A	00 27 41.0	
	comp=Z,400nm,2.0s							
PET				A		A	00 27 49.7	
	comp=Z,253nm,0.6s							
PET	**Petropavlovsk**	**6.74**	**29**	*e*Pn		**Pn**	**00 26 14.1**	**+0.1**
PET	**Petropavlovsk**	**6.74**	**29**	*e*PN		**Pn**	**00 26 16.3**	**+2.3**
PET				pmax		pmax		
	comp=Z,42nm,1.0s							
PET				MLR		MLR		
	comp=Z,200nm,18.0s							
JNK	**Nakash**	**7.01**	**241**	P		**Pn**	**00 26 19.0**	**+1.1**
JNK				*e*S		**Sn**	**00 27 37.9**	**+1.8**
YSS	**Yuzh-Sakhalins**	**7.14**	**271**	*e*P		**Pn**	**00 26 22.6**	**+3.1**
YSS				AMB		AMB	00 26 24.4	
	comp=Z,147nm,0.8s							
YSS				*e*S		**Sn**	**00 27 39.6**	**+0.5**
YSS	**Yuzh-Sakhalins**	**7.14**	**271**	*e*Pn		**Pn**	**00 26 23.2**	**+3.8**
YSS	**Yuzh-Sakhalins**	**7.14**	**271**	*e*PN		**Pn**	**00 26 23.3**	**+3.8**
YSS				*e*S		**Sn**	**00 27 45.6**	**+6.5**
YSS				pmax		pmax		
	comp=Z,130nm,0.8s							
YSS				MLR		MLR		
	comp=Z,500nm,14.0s							
YSS				MLR		MLR		
	comp=N,400nm,16.0s							
YSS				MLR		MLR		
	comp=E,400nm,16.0s							
JTKR	**Abashiri--Toko**	**7.30**	**247**	P		**Pn**	**00 26 24.0**	**+2.2**
JAK	**Akkeshi**	**7.38**	**238**	P		**Pn**	**00 26 21.9**	**-0.9**
JAK				*e*S		**Sn**	**00 27 43.1**	**-1.9**
JMP	**Maruseppu**	**7.63**	**248**	P		**Pn**	**00 26 29.0**	**+2.7**
JAR	**Ashorobuto**	**7.75**	**243**	P		**Pn**	**00 26 29.1**	**+1.2**
TYV	**Tymovskoe**	**7.80**	**301**	*e*P		**Pn**	**00 26 30.4**	**+1.8**
TYV				AMB		AMB	00 26 34.4	
	comp=E,270nm,3.0s							
TYV				*e*S		**Sn**	**00 27 53.7**	**-1.6**
TYV	**Tymovskoe**	**7.80**	**301**	*e*PN		**Pn**	**00 26 30.8**	**+2.2**
TYV				pmax		pmax		
	comp=Z,84nm,1.0s							
TYV				pmax		pmax		
	comp=Z,300nm,2.9s							
TYV				MLR		MLR		
	comp=E,700nm,18.0s							
TYV				MLR		MLR		
	comp=Z,200nm,15.0s							
JOB	**Onbets**	**7.94**	**240**	*e*S		**Sn**	**00 27 57.6**	**-1.1**
ASAJ	**Asahikawa**	**8.07**	**251**	P		**Pn**	**00 26 36.2**	**+4.0**
	comp=Z,0.7nm,0.3s,baz=88,slow=14,SNR=23							
ASAJ	**Asahikawa**	**8.07**	**251**	P		**Pn**	**00 26 36.1**	**+3.8**
ASAJ	**Asahikawa**	**8.07**	**251**	*e*Pn		**Pn**	**00 26 35.5**	**+3.2**
JWK2	**Keihoku**	**8.07**	**260**	P		Pn	00 26 37.6	+5.3
JCH	**Churui**	**8.39**	**240**	P		**Pn**	**00 26 36.0**	**-0.6**
JCH				*e*S		**Sn**	**00 28 08.2**	**-1.6**
MYR	**Moyori**	**8.63**	**238**	*e*S		**Sn**	**00 28 12.7**	**-3.0**
ERM	**Erimo**	**8.88**	**237**	*e*Pn		**Pn**	**00 26 41.4**	**-1.9**
ERM	**Erimo**	**8.88**	**237**	⇑*e*PN		**Pn**	**00 26 44.5**	**+1.1**
JNBK	**Urakawa-nobuka**	**8.95**	**240**	P		**Pn**	**00 26 43.1**	**-1.2**
NKL	**Nikolayevsk**	**9.94**	**311**	*e*PN		**Pn**	**00 27 00.5**	**+2.7**
NKL				pmax		pmax		
	comp=Z,140nm,1.2s							
NKL				MLR		MLR		
	comp=E,500nm,15.0s							
NKL				MLR		MLR		
	comp=Z,500nm,15.0s							
JKB	**Kayabe**	**10.21**	**243**	P		**Pn**	**00 27 00.2**	**-1.3**
JKB				*e*S		**Sn**	**00 28 50.9**	**-3.4**
JYM2	**Yakumo 2**	**10.48**	**245**	P		**Pn**	**00 27 05.2**	**-0.1**
GRNR	**Gornyy**	**11.56**	**294**	*e*PN		**Pn**	**00 27 22.8**	**+2.9**
GRNR				pmax		pmax		
	comp=Z,50nm,1.0s							
MA2	**Magadan**	**12.41**	**354**	P		**Pn**	**00 27 31.8**	**+0.4**
	comp=Z,1.9nm,0.3s,baz=166,slow=9.1,SNR=20							
MA2				LR		LR	00 31 59.3	
	comp=Z,177nm,20.6s,baz=161,slow=36							
MA2	**Magadan**	**12.41**	**354**	*e*P		**Pn**	**00 27 31.4**	**0.0**
MA2	**Magadan**	**12.41**	**354**	*e*Pn		**Pn**	**00 27 31.7**	**+0.3**
MA2	**Magadan**	**12.41**	**354**	*e*PN		**Pn**	**00 27 31.7**	**+0.3**
KLR	**Kul'dur**	**14.42**	**286**	P		**P**	**00 28 02.5**	**-0.9**
	comp=Z,0.0nm,0.3s,baz=90,slow=14,SNR=9.0							
KLR	**Kul'dur**	**14.42**	**286**	⇓*e*P		**P**	**00 28 01.4**	**-2.0**
SMY	**Shemya**	**14.48**	**60**	*e*Pn		**Pn**	**00 27 56.9**	**-2.2**
SMY	**Shemya**	**14.48**	**60**	*e*P		**Pn**	**00 27 56.9**	**-2.2**
USRK	**Ussuriysk Ar.**	**15.12**	**266**	P		**Pn**	**00 28 08.1**	**+0.7**
	comp=Z,0.4nm,0.3s,baz=75,slow=11,SNR=14							
USRK				LR		LR	00 33 48.6	
	comp=Z,204nm,18.3s,baz=65,slow=37							
MJB9	**Matsu-Tunnel**	**15.45**	**231**	*e*Pn		**Pn**	**00 28 10.1**	**-1.7**
	comp=Z,31nm,1.0s							
MAJO	**Matsushiro**	**15.45**	**231**	*e*P		**Pn**	**00 28 12.6**	**+0.9**
MAJO	**Matsushiro**	**15.45**	**231**	*e*Pn		**Pn**	**00 28 09.7**	**-2.0**
	comp=Z,29nm,0.9s							
MAJO	**Matsushiro**	**15.45**	**231**	*ce*P		**P**	**00 28 16.1**	**+1.2**
MAT	**Matsushiro**	**15.45**	**231**	P		**P**	**00 28 16.8**	**+1.9**
MJAR	**Matsushiro Arr**	**15.45**	**231**	P		**Pn**	**00 28 09.9**	**-1.8**
	comp=Z,0.7nm,0.3s,baz=29,slow=12,SNR=9.2							
MJAR				LR		LR	00 34 49.3	
	comp=Z,87nm,18.4s,baz=50,slow=40							
SEY	**Seymchan**	**15.70**	**359**	P		**P**	**00 28 16.0**	**-1.5**
	comp=Z,0.5nm,0.3s,baz=167,slow=11,SNR=8.2							
SEY	**Seymchan**	**15.70**	**359**	⇑*e*P		**P**	**00 28 16.6**	**-0.9**
MDJ	**Mudanjiang**	**16.62**	**269**	P		**Pn**	**00 28 25.9**	**-0.5**
MDJ				pP		pP	00 28 37.4	-4.2
MDJ				sP		sP	00 28 48.0	-2.0
MDJ				S		**Sn**	**00 31 29.8**	**-0.3**
MDJ				PcS		**PcS**	**00 36 48.9**	**+0.5**
MDJ				ScS		**ScS**	**00 40 20.3**	**-0.2**
MDJ				pmax		pmax		
	comp=Z,27nm,0.9s							
MDJ				LR		LR		
	comp=Z,140nm,13.5s							
MDJ				LR		LR		
	comp=Z,240nm,15.1s							
MDJ				LR		LR		
	comp=Z,310nm,16.7s							
MDJ	**Mudanjiang**	**16.62**	**269**	*e*Pn		**Pn**	**00 28 26.0**	**-0.4**
	comp=Z,19nm,0.9s							
INU	**Inuyama**	**16.98**	**231**	*e*Pn		**Pn**	**00 28 31.5**	**+0.6**
	comp=Z,23nm,1.0s							
ZEA	**Zeya**	**17.67**	**301**	*e*P		**P**	**00 28 46.4**	**+7.1**
ZEA				pmax		pmax		
	comp=Z,23nm,1.0s							
CN2	**Changchun**	**19.70**	**270**	*e*P		**Pn**	**00 29 03.4**	**-0.3**
CN2				*es*P		sP	00 29 26.3	+2.3
CN2				*e*S		**S**	**00 32 35.1**	**-5.1**
CN2				pmax		pmax		
	comp=Z,10.0nm,0.6s							
CN2				pmax		pmax		
	comp=Z,200nm,5.0s							
CN2				LR		LR		
	comp=Z,200nm,17.0s							
CN2				LR		LR		
	comp=Z,200nm,17.0s							
CN2				LR		LR		
	comp=Z,200nm,18.0s							
YAK	**Yakutsk**	**19.92**	**326**	P		**P**	**00 29 04.1**	**+0.3**
	comp=Z,0.0nm,0.3s,baz=156,slow=2.1,SNR=3.4							
YAK	**Yakutsk**	**19.92**	**326**	*e*P		**Pn**	**00 29 06.9**	**+0.9**
YAK	**Yakutsk**	**19.92**	**326**	*e*P		**P**	**00 29 02.3**	**-1.5**
	comp=Z,59nm,1.0s							
YAK	**Yakutsk**	**19.92**	**326**	*e*P		**P**	**00 29 04.0**	**+0.3**
YAK				*e*S		**S**	**00 32 44.9**	**+0.9**
YAK				pmax		pmax		
	comp=Z,23nm,1.0s							
YAK				pmax		pmax		
	comp=N,2.0nm,1.1s							
YAK				pmax		pmax		
	comp=E,8.0nm,1.1s							
YAK				smax		smax		
	comp=N,39nm,2.4s							
YAK				smax		smax		
	comp=E,23nm,2.5s							
YAK				MLR		MLR		
	comp=Z,62nm,13.0s							
KSRS	**Korea Array**	**21.02**	**251**	P		**P**	**00 29 17.3**	**+1.5**
	comp=Z,10nm,0.9s,baz=56,slow=10,SNR=16							
KSRS				LR		LR	00 36 16.4	
	comp=Z,119nm,20.6s,baz=56,slow=33							
KS01	**Wonju Array Si**	**21.02**	**251**	*e*P		**P**	**00 29 15.7**	**-0.3**
KSAR	**Wonju Array Be**	**21.05**	**251**	P		**P**	**00 29 17.3**	**+1.1**
KSAR	**Wonju Array Be**	**21.05**	**251**	P		**P**	**00 29 17.3**	**+1.1**
BILL	**Bilibino**	**21.87**	**13**	⇑*e*P		**P**	**00 29 24.3**	**-0.4**
BILL				*e*S		**S**	**00 33 23.9**	**+1.5**
BILL				pmax		pmax		
	comp=Z,2.0nm,1.0s							
BILL				MLR		MLR		
	comp=Z,139nm,18.0s							
TJN	**Taejon**	**22.02**	**250**	⇑*e*P		**P**	**00 29 27.8**	**+1.2**
JNU	**Nakatsue**	**22.04**	**238**	P		**P**	**00 29 28.9**	**+1.9**
	comp=Z,9.1nm,0.9s,baz=32,slow=8.6,SNR=4.2							
JNU				LR		LR	00 38 26.3	
	comp=Z,71nm,19.3s,baz=68,slow=38							
GAMB	**Gambell**	**25.36**	**37**	*e*P		**P**	**00 29 60.0**	**+1.7**
	comp=Z,6.2nm,0.8s							
BOD	**Bodaibo**	**25.70**	**309**	*e*P		**P**	**00 29 59.0**	**-2.5**
BOD				pmax		pmax		
	comp=Z,5.0nm,2.1s							
TIXI	**Tiksi**	**26.98**	**343**	*e*P		**P**	**00 30 14.8**	**+1.9**
TIXI	**Tiksi**	**26.98**	**343**

HHC LR LR
comp=Z,1µm,12.9s
H11S1 WAKE ISLAND Hy 30.75 154 T T 01 03 52.9
baz=342
H11S3 WAKE ISLAND Hy 30.76 154 T T 01 03 17.6
baz=342,slow=74
H11S2 WAKE ISLAND Hy 30.77 154 T T 01 03 18.4
baz=342,slow=74
ULN Ulaanbaatar 30.79 288ĥ *eP* **P 00 30 46.6 -0.5**
ULN pmax pmax
comp=Z,3.0nm,1.1s
SONM Songino Array 31.22 289 LR LR 00 44 28.9
comp=Z,173nm,18.4s,baz=61,slow=38
IM3 Indian Mountai 33.31 37 *eP* **P 00 31 08.6 -0.2**
IM3 *e*PcP **PcP 00 33 49.8 +0.6**
KDAK Kodiak Island 33.73 52 *eP* **P 00 31 11.1 -1.4**
comp=Z,61nm,1.5s
KDAK Kodiak Island 33.73 52 *eP* **P 00 31 11.1 -1.4**
KDAK pmax pmax
comp=Z,61nm,1.5s
PPLA Purkeypile 33.73 42 *eP* **P 00 31 12.1 -0.6**
comp=Z,29nm,1.7s
CAST Castle Rocks 33.80 41 *eP* **P 00 31 14.1 +0.9**
comp=Z,13nm,1.7s
GUMO Guam 34.30 194 LR LR 00 44 33.5
comp=Z,33nm,19.1s,baz=110,slow=35
BPAW Bear Paw Mtn. 34.31 40 *eP* **P 00 31 18.4 +0.9**
comp=Z,10nm,1.5s
KTH Kantishna Hill 34.33 41 *eP* **P 00 31 18.9 +1.1**
comp=Z,11nm,1.1s
SUA Susitna One 34.42 45 *eP* **P 00 31 19.2 +0.6**
comp=Z,16nm,1.5s
MLY Manley 34.47 38 *eP* **P 00 31 20.0 +1.1**
comp=Z,10nm,1.5s
TRF Thorofare Moun 34.61 41 *eP* **P 00 31 20.8 +0.5**
comp=Z,4.1nm,0.7s
MCK McKinley 35.21 41 *eP* **P 00 31 24.6 -0.7**
comp=Z,8.6nm,1.1s
MCK McKinley 35.21 41 *eP* **P 00 31 24.6 -0.7**
MCK pmax pmax
comp=Z,9.0nm,1.1s
RND Reindeer 35.25 41 *eP* **P 00 31 25.2 -0.5**
comp=Z,6.6nm,1.1s
RND Reindeer 35.25 41 *eP* **P 00 31 25.2 -0.5**
RND pmax pmax
comp=Z,7.0nm,1.1s
TOLK Toolik Lake Re 35.27 32 P **P 00 31 26.3 +0.5**
baz=263
TOLK Toolik Lake Re 35.27 32 *eP* **P 00 31 26.0 +0.2**
comp=Z,46nm,1.5s
MDM Murphy Dome 35.53 39 *eP* **P 00 31 28.3 +0.3**
comp=Z,4.9nm,0.8s
SML Sawmill 35.55 44 *eP* **P 00 31 27.5 -0.8**
comp=Z,55nm,1.5s
SML Sawmill 35.55 44 *eP* **P 00 31 27.5 -0.8**
SML pmax pmax
comp=Z,55nm,1.5s
WRH Wood River Hil 35.59 40 *eP* **P 00 31 27.3 -1.2**
comp=Z,25nm,1.8s
COLA College 35.69 39 *eP* **P 00 31 29.6 +0.3**
COLA College 35.69 39 *eP* **P 00 31 29.6 +0.3**
COLA pmax pmax
comp=Z,8.0nm,1.1s
CCB Clear Creek Bu 35.71 39 *eP* **P 00 31 29.2 -0.3**
comp=Z,20nm,2.0s
DHY Denali Highway 35.93 42 *eP* **P 00 31 30.8 -0.8**
comp=Z,11nm,1.4s
SCM Sheep Creek Mo 36.02 44 *eP* **P 00 31 32.0 -0.4**
comp=Z,11nm,1.0s
SCM Sheep Creek Mo 36.02 44 *eP* **P 00 31 32.0 -0.4**
SCM pmax pmax
comp=Z,11nm,1.0s
ILAR Eielson Array 36.10 39 P **P 00 31 33.0 +0.1**
comp=Z,2.1nm,1.0s,baz=259,slow=8.0,SNR=17
ILAR pP **pP 00 31 48.4 -0.8**
comp=Z,2.8nm,0.6s,baz=258,slow=5.2,SNR=11
ILAR LR LR 00 46 53.6
comp=Z,54nm,20.4s,baz=318,slow=37
ILAR Eielson Array 36.10 39 P **P 00 31 33.0 +0.1**
ILAR *PP **pP 00 31 48.4 -0.8**
ILAR pmax pmax
comp=Z,3.0nm,1.1s
ILAR pmax pmax
comp=Z,3.0nm,0.6s
ILAR MLR MLR
comp=Z,54nm,20.4s
ILB Eielson Array 36.10 39 *eP* **P 00 31 33.0 +0.1**
IL1 Eielson Array 36.10 39 *eP* **P 00 31 32.4 -0.5**
KLU Klutina 36.72 44 *eP* **P 00 31 37.3 -1.0**
comp=Z,12nm,1.2s
FYU Fort Yukon 36.79 36 *eP* **P 00 31 40.4 +1.8**
comp=Z,17nm,0.6s
RIDG Independ'e Rid 37.03 41 *eP* **P 00 31 39.6 -1.3**
comp=Z,15nm,1.4s
DOT Dot Lake 37.39 41 *eP* **P 00 31 42.2 -1.6**
comp=Z,9.4nm,0.7s
SCRK Sand Creek 37.40 40 *eP* **P 00 31 44.3 +0.3**
comp=Z,3.0nm,0.8s
BMRM Bremner River 37.42 45 *eP* **P 00 31 45.6 +1.4**
comp=Z,9.1nm,1.0s
RAGM Ragged Mountai 37.46 46 *eP* **P 00 31 45.3 +0.8**
comp=Z,16nm,1.2s
MENT Mentasta 37.60 42 *eP* **P 00 31 45.4 -0.3**
comp=Z,3.3nm,0.5s
LZH Lanzhou 37.93 271 *eP* **P 00 31 51.1 +2.2**
LZH pP pP 00 32 08.4 +3.1
LZH sP sP 00 32 13.3 +0.3
LZH PP **PP 00 33 17.4 +0.8**
LZH *e*S **S 00 37 32.6 -3.4**
LZH sS sS 00 38 07.3 +3.5
LZH SS **SnSn 00 40 20.8 -2.3**
LZH pmax pmax
comp=Z,18nm,1.1s
LZH pmax pmax
comp=Z,160nm,5.3s
EGAK Eagle 38.55 39 *eP* **P 00 31 53.4 -0.2**
comp=Z,7.1nm,0.6s
GTA Gaotai 38.95 278 *eP* **P 00 31 59.1 +1.7**
GTA pP sP 00 32 18.5 -3.0
GTA sP pP 00 32 28.9 +15
GTA PcP **PcP 00 34 08.0 +1.3**
GTA S **S 00 37 52.3 +1.2**
GTA sS sS 00 38 23.6 +4.5
GTA SS **SS 00 40 39.4 -5.4**
GTA pmax pmax
comp=Z,3.0nm,1.1s
GTA pmax pmax
comp=Z,46nm,4.5s
GTA LR LR
comp=Z,130nm,17.5s
GTA LR LR
comp=Z,100nm,17.1s
GTA LR LR
comp=Z,99nm,17.1s
HYT Haines Junctio 40.86 44 *eP* **P 00 32 13.0 +0.1**
comp=Z,7.6nm,1.1s
CD2 Chengdu 40.99 265 *eP* **P 00 32 13.4 -0.8**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
INK Inuvik 41.18 33 P **P 00 32 15.9 +0.7**
comp=Z,6.6nm,0.8s,baz=284,slow=7.3,SNR=37
INK pP **pP 00 32 30.2 -1.6**
comp=Z,4.8nm,0.5s,baz=305,slow=6.6,SNR=10
INK Inuvik 41.18 33 *eP* **P 00 32 15.2 -0.1**
comp=Z,7.4nm,0.8s
INK pP **pP 00 32 30.2 -1.6**
INK Inuvik 41.18 33 *eP* **P 00 32 15.2 -0.1**
INK *PP **pP 00 32 30.2 -1.6**
INK pmax pmax
comp=Z,7.0nm,0.8s
ZALV Zalesovo Beam 42.35 305 P **P 00 32 23.6 -1.4**
comp=Z,0.5nm,0.4s,baz=75,slow=6.1,SNR=4.7
ZALV PcP **PcP 00 34 16.8 -0.5**
comp=Z,1.8nm,0.8s,baz=90,slow=1.5,SNR=5.8
ZALV pPcP 00 34 31.3
comp=Z,0.9nm,0.5s,baz=58,slow=3.7,SNR=4.3
ZALV LR LR 00 51 21.6
comp=Z,131nm,18.9s,baz=70,slow=38
WMQ Urumqi 44.79 291 P **P 00 32 46.0 +1.1**
WMQ pmax pmax
comp=Z,16nm,0.7s
WMQ pmax pmax
comp=Z,240nm,4.1s
WMQ LR LR
comp=Z,200nm,21.9s
WMQ LR LR
comp=Z,210nm,29.9s
WMQ LR LR
comp=Z,180nm,25.3s
KMI Kunming 45.40 259 P **P 00 32 51.5 +1.4**
KMI pmax pmax
comp=Z,15nm,1.0s
MKAR Makanchi Array 46.76 297 P **P 00 32 59.5 -0.8**
comp=Z,1.0nm,0.7s,baz=64,slow=8.4,SNR=8.0
MKAR PcP **PcP 00 34 31.7 -0.8**
comp=Z,1.1nm,0.7s,baz=64,slow=5.5,SNR=3.9
MK01 Makanchi Array 46.76 297 *eP* **P 00 32 59.0 -1.3**
KURK Kurchatov 47.13 303 *eP* **P 00 33 01.1 -2.0**
comp=Z,4.3nm,0.9s
KURK Kurchatov 47.13 303 *de*P **P 00 33 01.4 -1.6**
KURK pmax pmax
comp=Z,3.0nm,0.8s
KURBB Kurchatov Arra 47.22 303 P **P 00 33 02.4 -1.3**
comp=Z,4.0nm,0.9s,baz=65,slow=8.1,SNR=15
RES Resolute Bay 50.32 19 *eP* **P 00 33 26.5 -0.7**
comp=Z,5.5nm,1.1s
RES Resolute Bay 50.32 19 *eP* **P 00 33 26.5 -0.7**
RES pmax pmax
comp=Z,6.0nm,1.1s
YKA Yellowknife Ar 50.47 37 P **P 00 33 29.0 +0.6**
comp=Z,8.5nm,0.8s,baz=298,slow=7.2,SNR=135
YKA pP **pP 00 33 44.1 -1.4**
comp=Z,2.0nm,0.6s,baz=299,slow=7.2,SNR=5.9
YKA PcP **PcP 00 34 45.9 +0.3**
comp=Z,1.5nm,0.9s,baz=299,slow=3.7,SNR=5.6
YKA pPcP 00 35 03.1
comp=Z,1.2nm,0.8s,baz=303,slow=3.8,SNR=4.2
BVAR Borovoye Array 50.57 309 PcP **PcP 00 34 46.4 +0.2**
comp=Z,1.9nm,0.7s,baz=64,slow=3.4,SNR=4.2
BRVK Borovoye 50.61 309ĥ *eP* **P 00 33 29.4 -0.3**
BRVK pmax pmax
comp=Z,3.0nm,0.8s
SIJI Sorong 51.64 208 P **P 00 33 39.2 +1.4**
comp=Z,2.5nm,0.3s,baz=354,slow=7.4,SNR=5.1
SPITS Spitsbergen Ar 52.11 350 LR LR 00 55 23.2
comp=Z,33nm,20.5s,baz=160,slow=36
CHTO Chiang Mai 52.30 256 *eP* **P 00 33 44.5 +1.8**
comp=Z,12nm,0.9s
CHTO Chiang Mai 52.30 256 *eP* **P 00 33 44.5 +1.8**
CHTO pmax pmax
comp=Z,12nm,0.9s
CM31 Chiang Mai Arr 52.55 256 *eP* **P 00 33 46.3 +1.7**
CMAR Chiang Mai Arr 52.55 256 P **P 00 33 46.1 +1.5**
comp=Z,4.9nm,0.8s,baz=34,slow=7.5,SNR=30
CMAR LR LR 00 58 01.7
comp=Z,51nm,18.9s,baz=161,slow=38
CM01 Chiang Mai Arr 52.57 256 *eP* **P 00 33 46.2 +1.5**
AAK Ala-Archa 53.66 296 *eP* **P 00 33 52.8 +0.2**
AAK Ala-Archa 53.66 296ĥ *eP* **P 00 33 52.8 +0.2**
AAK pmax pmax
comp=Z,1.0nm,1.0s
KSH Kashi 54.51 292 P P 00 34 05.3 +6.4
ARU Arti 54.67 317 *d* P **P 00 33 58.1 -1.5**
ARU 00 35 01.0
ARU S **S 00 41 32.7 -1.6**
ARU SS **SS 00 45 17.6 +0.4**
ARU pmax pmax
comp=Z,6.0nm,1.2s
EDM Edmonton 55.91 46 *eP* **P 00 34 09.0 +0.4**
comp=Z,19nm,0.8s
EDM Edmonton 55.91 46 *eP* **P 00 34 09.0 +0.4**
EDM pmax pmax
comp=Z,19nm,0.8s
I04A Tendick Farm, 56.41 60 P **P 00 34 13.3 +1.0**
baz=306
PMG Port Moresby 56.68 187 LR LR 00 56 40.5
comp=Z,41nm,19.4s,baz=118,slow=34
NEW Newport 56.81 53 P **P 00 34 15.6 +0.5**
baz=306
PINE Pine Mountain 57.27 59 *eP* **P 00 34 18.3 -0.3**
comp=Z,14nm,0.9s
ARCES ARCESS Array B 57.38 341 P **P 00 34 18.8 0.0**
comp=Z,1.4nm,0.8s,baz=22,slow=8.0,SNR=3.8
J05D Fort Rock, OR 57.40 60 P **P 00 34 20.9 +1.4**
baz=306
YBH Yreka Blue Hor 57.44 62 P **P 00 34 20.9 +1.2**
comp=Z,0.7nm,0.5s,baz=252,slow=3.2,SNR=2.3
YBH pP **pP 00 34 36.8 -0.2**
comp=Z,3.6nm,1.0s,baz=346,slow=3.5,SNR=3.8
YBH LR LR 00 54 20.6
comp=Z,23nm,21.4s,baz=305,slow=31
AKTO Aktyubinsk 58.42 312 LR LR 01 02 04.1
comp=Z,109nm,19.5s,baz=54,slow=38
MSO Missoula 59.40 53 P **P 00 34 34.0 +0.8**
baz=308
MSO Missoula 59.40 53 *eP* **P 00 34 32.8 -0.4**
comp=Z,11nm,1.1s
WVOR Wild Horse Val 59.44 59 *eP* **P 00 34 34.7 +1.1**
comp=Z,8.4nm,0.8s
WVOR Wild Horse Val 59.44 59 *eP* **P 00 34 34.7 +1.1**
WVOR pmax pmax
comp=Z,8.0nm,0.8s
SUMG Summit 60.17 4 *i* P **P 00 34 38.9 +0.4**
comp=Z,10.0nm,1.0s
SUMG Summit 60.17 4 *i* P **P 00 34 38.9 +0.4**
SUMG pmax pmax
comp=Z,10.0nm,1.0s
FFC Flin Flon 60.30 40 *eP* **P 00 34 40.2 +1.0**
FFC Flin Flon 60.30 40 *eP* **P 00 34 38.9 -0.3**
comp=Z,8.2nm,0.8s
FFC Flin Flon 60.30 40 *eP* **P 00 34 38.9 -0.3**
FFC pmax pmax
comp=Z,8.0nm,0.8s
MFID Camas Ranch 60.45 57 *eP* **P 00 34 41.4 +0.8**
comp=Z,5.8nm,0.9s
HRY Holter Researc 60.61 52 *eP* **P 00 34 43.5 +2.0**
FCC Fort Churchill 60.79 33 *eP* **P 00 34 42.6 +0.2**
comp=Z,10nm,0.8s
FCC Fort Churchill 60.79 33 *eP* **P 00 34 42.6 +0.2**
FCC pmax pmax
comp=Z,10.0nm,0.8s
LRM Limekiln Ridge 60.83 53 *eP* **P 00 34 44.5 +1.2**
EGMT Eagleton 60.87 50 P **P 00 34 44.0 +0.7**
baz=310
EGMT Eagleton 60.87 50 *eP* **P 00 34 44.4 +1.1**
comp=Z,12nm,1.0s
HLID Hailey 61.16 56 P **P 00 34 46.3 +0.8**
baz=309
HLID Hailey 61.16 56 *eP* **P 00 34 45.7 +0.2**
comp=Z,5.3nm,0.9s
BOZ Bozeman (W) 61.42 53 P **P 00 34 48.1 +1.0**
baz=310
BOZ Bozeman (W) 61.42 53 *eP* **P 00 34 48.6 +1.5**
comp=Z,9.3nm,0.8s
BOZ Bozeman (W) 61.42 53 *eP* **P 00 34 48.6 +1.5**
BOZ pmax pmax
comp=Z,9.0nm,0.8s
COEN Coen 61.61 191 *eP* **P 00 34 49.2 +0.8**
comp=Z,67nm,2.0s
KVN Kaiserville 61.87 62 *eP* **P 00 34 49.9 -0.4**
comp=Z,7.6nm,0.8s
KVN Kaiserville 61.87 62 *eP* **P 00 34 49.9 -0.4**
KVN pmax pmax
comp=Z,8.0nm,0.8s
QLMT Earthquake Lak 62.02 53 *eP* **P 00 34 52.9 +1.6**
NV01 Mina Array Sit 62.14 63 *eP* **P 00 34 53.0 +0.8**
NVAR Mina Array Bea 62.14 63 P **P 00 34 52.8 +0.6**
comp=Z,1.1nm,0.8s,baz=290,slow=6.9,SNR=4.8
NVAR pP **pP 00 35 09.4 -0.2**
comp=Z,3.7nm,0.6s,baz=295,slow=7.1,SNR=14
YHB Horse Butte 62.20 53 *eP* **P 00 34 52.8 +0.4**
comp=Z,16nm,1.1s
GCMT Greycliff 62.35 52 *eP* **P 00 34 55.1 +1.7**
YHH Holmes Hill 62.36 53 *eP* **P 00 34 55.1 +1.4**
comp=Z,11nm,1.0s
ILULI Ilulissat 62.45 10 *eP* **P 00 34 52.2 -1.2**
comp=Z,18nm,0.9s
ILULI Ilulissat 62.45 10 *eP* **P 00 34 52.2 -1.2**
ILULI pmax pmax
comp=Z,18nm,0.9s
SCO Scoresbysund 62.50 358 *i* P **P 00 34 54.5 +0.7**
SCO Scoresbysund 62.50 358 *eP* **P 00 34 54.5 +0.7**
H17A Grant Village 62.76 53 P **P 00 34 58.7 +2.4**
baz=311
H17A Grant Village 62.76 53 *eP* **P 00 34 58.1 +1.8**
comp=Z,10nm,0.9s
IMW Indian Meadow 62.89 54 *eP* **P 00 34 58.4 +1.2**
comp=Z,6.0nm,0.9s
RLMT Red Lodge 63.00 52 P **P 00 34 59.1 +1.3**
baz=311
RLMT Red Lodge 63.00 52 *eP* **P 00 34 59.5 +1.7**
comp=Z,10nm,1.0s
FXWY Fox Creek 63.01 54 *eP* **P 00 34 58.6 +0.8**
comp=Z,3.4nm,0.8s
MOOW Moose Ponds 63.09 54 *eP* **P 00 34 59.8 +1.3**
comp=Z,4.3nm,0.9s
TPAW Teton Pass 63.15 54 *eP* **P 00 34 59.3 +0.4**
comp=Z,28nm,1.4s
HVU Hansel Valley 63.23 57 *eP* **P 00 34 57.4 -1.9**
comp=Z,6.0nm,0.9s
HVU Hansel Valley 63.23 57 *eP* **P 00 34 57.4 -1.9**
HVU pmax pmax
comp=Z,6.0nm,0.9s
LOHW Long Hollow 63.26 54 *eP* **P 00 34 58.9 -0.6**
comp=Z,8.2nm,1.1s
SNOW Snow King Moun 63.27 54 *eP* **P 00 35 00.4 +0.8**
comp=Z,23nm,1.4s
REDW Red Top Meadow 63.28 54 *eP* **P 00 35 00.5 +0.8**
comp=Z,14nm,0.9s
VES Vestal, Richgr 63.32 65 P **P 00 35 00.5 +0.8**
baz=311
DGMT Dagmar 63.40 47 P **P 00 35 00.7 +0.5**
baz=312
DGMT Dagmar 63.40 47 *eP* **P 00 35 01.3 +1.2**
comp=Z,18nm,0.8s
CWC Cottonwood Cre 63.55 64 P **P 00 35 02.2 +0.7**
baz=311
LAO LASA Array 63.57 49 P **P 00 35 01.5 +0.2**
baz=312
LAO LASA Array 63.57 49 *eP* **P 00 35 02.6 +1.3**
comp=Z,16nm,1.0s
FIA1 FINESS Array S 63.59 335 *eP* **P 00 35 01.7 +0.6**
FINES FINESS Array B 63.59 335 P **P 00 35 00.3 -0.8**
comp=Z,1.5nm,0.3s,baz=40,slow=7.0,SNR=25
FINES pP **pP 00 35 17.9 -0.8**
comp=Z,1.8nm,0.4s,baz=39,slow=7.4,SNR=4.0
FINES LR LR 01 04 43.7
comp=Z,97nm,19.1s,baz=26,slow=38
R11A Troy Canyon, C 63.82 61 P **P 00 35 03.9 +0.6**
baz=311
R11A Troy Canyon, C 63.82 61 *eP* **P 00 35 02.5 -0.8**
comp=Z,5.9nm,0.9s
DAC Darwin (Calif) 63.96 64 *eP* **P 00 35 00.1 -4.1**
comp=Z,12nm,1.8s
DAC Darwin (Calif) 63.96 64 *eP* **P 00 35 00.1 -4.1**
DAC pmax pmax
comp=Z,13nm,1.8s
HWUT Hardware Ranch 64.03 56 *eP* **P 00 35 05.2 +0.6**
comp=Z,17nm,1.4s
MPMC Manual Prospec 64.16 64 P **P 00 35 05.9 +0.3**
baz=311
DUG Dugway, Tooele 64.25 58 P **P 00 35 06.6 +0.6**
baz=311
DUG Dugway, Tooele 64.25 58 *eP* **P 00 35 07.9 +1.9**
DUG Dugway, Tooele 64.25 58 *eP* **P 00 35 06.0 0.0**
comp=Z,12nm,0.9s
DUG Dugway, Tooele 64.25 58 *eP* **P 00 35 06.0 0.0**
DUG pmax pmax
comp=Z,12nm,0.9s
FURC Furnace Creek, 64.28 63 P **P 00 35 06.7 +0.7**
baz=311
TPNV Topopah Spring 64.34 63 P **P 00 35 07.0 +0.4**
baz=311
TPNV Topopah Spring 64.34 63 *eP* **P 00 35 06.4 -0.2**
comp=Z,5.2nm,0.8s
TPNV Topopah Spring 64.34 63 *eP* **P 00 35 06.4 -0.2**
TPNV pmax pmax
comp=Z,5.0nm,0.8s
BW06 Boulder Array 64.39 54 P **P 00 35 07.0 0.0**
baz=312
BW06 Boulder Array 64.39 54 *eP* **P 00 35 07.5 +0.5**
comp=Z,10nm,0.9s
PD31 Pinedale Array 64.39 54 *eP* **P 00 35 08.0 +1.0**
PDAR Pinedale Array 64.39 54 P **P 00 35 08.0 +1.0**
comp=Z,3.4nm,0.9s,baz=291,slow=2.1,SNR=22
PDAR pP **pP 00 35 23.9 -0.6**
comp=Z,8.3nm,0.8s,baz=284,slow=2.5,SNR=24
PDAR Pinedale Array 64.39 54 *eP* **P 00 35 07.4 +0.4**
PDAR pP **pP 00 35 23.9 -0.6**
BLG Laguna Peak, P 64.46 67 P **P 00 35 07.0 -0.4**
baz=311
FRB Frobisher Bay 64.53 19 P **P 00 35 06.8 -0.4**
comp=Z,12nm,0.8s,baz=337,slow=7.5,SNR=40
EDW2 Edwards Air Fo 64.62 65 P **P 00 35 08.4 0.0**
baz=311
NLU North Lily Min 64.83 58 *eP* **P 00 35 11.0 +1.1**
comp=Z,9.3nm,0.9s
OBN Obninsk 64.91 325 *i* P **P 00 35 09.2 -0.6**
OBN *i* 00 35 42.2
OBN *i* 00 37 33.4
OBN pmax pmax
comp=Z,4.0nm,0.9s
OBN MLR MLR
comp=Z,90nm,23.0s
SHPR Sheep Range 65.29 62 *eP* **P 00 35 13.4 +0.6**
comp=Z,6.0nm,1.1s
CIS Catalina Islan 65.33 67 P **P 00 35 13.0 0.0**
baz=312
CCUT Cedar City 65.67 61 *eP* **P 00 35 17.0 +1.6**
comp=Z,6.8nm,0.8s
HEC Hector Ludlow 65.68 65 P **P 00 35 15.7 +0.4**
baz=312
MSU Marysvale 65.73 59 *eP* **P 00 35 16.5 +0.8**
MSU Marysvale 65.73 59 *eP* **P 00 35 16.5 +0.8**
TMUT Trail Mountain 65.77 58 *eP* **P 00 35 16.6 +0.5**
comp=Z,8.6nm,0.8s
P17A Butcher Ranch, 65.92 57 *eP* **P 00 35 17.4 +0.6**
comp=Z,11nm,0.9s
MTPU Mount Pierson 66.04 59 *eP* **P 00 35 18.8 +0.9**
comp=Z,6.7nm,0.8s
MDND Maddock 66.07 45 P **P 00 35 17.8 +0.3**
baz=315
ULM Lac du Bonnet 66.09 41 P **P 00 35 17.8 +0.3**
comp=Z,2.2nm,0.8s,baz=311,slow=11,SNR=3.5
LCMT Little Creek M 66.10 61 *eP* **P 00 35 18.6 +0.6**
comp=Z,11nm,0.8s
GMRC Granite Mounta 66.12 64 P **P 00 35 18.6 +0.4**
baz=312
SRU San Rafael Swe 66.28 58 *eP* **P 00 35 19.2 0.0**
comp=Z,19nm,0.8s
SRU San Rafael Swe 66.28 58 *eP* **P 00 35 19.2 0.0**
SRU pmax pmax
comp=Z,19nm,0.8s
KNB Kanab 66.35 61 *eP* **P 00 35 21.3 +1.6**
comp=Z,13nm,0.9s
KNB Kanab 66.35 61 *eP* **P 00 35 21.3 +1.6**
KNB pmax pmax
comp=Z,13nm,0.9s
GEYT Alibeck 66.39 301 LR LR 01 05 43.6
comp=Z,76nm,20.3s,baz=355,slow=37
BELC Belle Mtn. Jos 66.44 65 P **P 00 35 20.3 +0.1**
baz=312
RSSD Black Hills 66.44 50 P **P 00 35 20.5 +0.3**
baz=314
RSSD Black Hills 66.44 50 *eP* **P 00 35 21.0 +0.8**
comp=Z,16nm,0.9s
RSSD Black Hills 66.44 50 *eP* **P 00 35 21.0 +0.8**
RSSD pmax pmax
comp=Z,16nm,0.9s
A32A Rocking H Ranc 66.77 42 P **P 00 35 21.6 -0.3**
baz=316
IRM Iron Mountain 66.86 64 P **P 00 35 23.2 +0.4**
baz=312
O20A White River Ci 66.89 56 P **P 00 35 23.0 -0.1**
baz=313
C31A Landman Farms, 67.00 44 P **P 00 35 23.2 -0.1**
baz=316
A33A Warroad 67.25 42 P **P 00 35 24.7 -0.3**
baz=317
IKP In-Ko-Pah, Jac 67.28 66 P **P 00 35 26.2 +0.7**
baz=313
AGMN Agassiz Nation 67.50 42 P **P 00 35 26.4 -0.2**
baz=317
D31A Mcclaflin, Tow 67.53 44 P **P 00 35 26.8 0.0**
baz=316,SNR=14
NC405 NORSAR Array S 67.58 341 *eP* **P 00 35 26.6 -0.2**
NC204 NORSAR Array S 67.64 341 *eP* **P 00 35 27.5 +0.3**
N23A Red Feather La 67.64 54 P **P 00 35 28.5 +0.6**
baz=314
N23A Red Feather La 67.64 54 *eP* **P 00 35 28.9 +1.0**
comp=Z,11nm,1.1s
NB201 NORSAR Array S 67.72 341 *eP* **P 00 35 26.4 -1.4**
NB2 NORSAR Subarra 67.75 341 P **P 00 35 27.5 -0.5**
comp=Z,8.0nm,1.0s,baz=26,slow=6.5
NOA NORSAR Array B 67.75 341 P **P 00 35 27.8 -0.2**
comp=Z,5.0nm,0.9s,baz=26,slow=6.3,SNR=11
NOA LR LR 01 09 20.6
comp=Z,46nm,18.5s,baz=20,slow=40
PV05 Paradox Valley 67.80 58 *eP* **P 00 35 29.7 +0.8**
D32A Dogwood Acres, 67.81 44 P **P 00 35 28.5 0.0**
baz=316

B34A Aery, Baudette 67.92 42 P P 00 35 28.7 -0.4
baz=317
C33A Trail 67.94 43 P P 00 35 28.9 -0.4
baz=317
HFS Hagfors 67.99 339 P P 00 35 28.9 -0.5
comp=Z,2.4nm,0.4s,baz=56,slow=5.6,SNR=25
HFS LR LR 01 08 22.7
comp=Z,104nm,18.3s,baz=26,slow=39
F31A Hecla 68.13 46 P P 00 35 30.3 -0.3
baz=316
SMCO Snowmass 68.26 56 *e*P P 00 35 32.0 0.0
comp=Z,9.5nm,0.8s
D33A AnnSam, Waubun 68.35 43 P P 00 35 31.3 -0.6
baz=317
C34A RKJ Ranch, Bem 68.41 42 P P 00 35 32.2 -0.1
baz=317
AFI Afiamalu 68.50 143 LR LR 01 05 43.1
comp=Z,17nm,18.1s,baz=273,slow=36
ISCO Idaho Springs 68.58 54 P P 00 35 34.7 +0.8
baz=314
ISCO Idaho Springs 68.58 54 *e*P P 00 35 33.1 -0.8
comp=Z,7.9nm,0.8s
ISCO Idaho Springs 68.58 54 *e*P P 00 35 33.1 -0.8
ISCO pmax pmax
comp=Z,8.0nm,0.8s
D34A Park Rapids 68.70 43 P P 00 35 33.8 -0.3
baz=317
E33A Westby DABS, E 68.74 44 P P 00 35 34.4 0.0
baz=317,SNR=7.3
MVCO Mesa Verde 68.75 58 P P 00 35 35.3 +0.4
baz=314
MVCO Mesa Verde 68.75 58 *e*P P 00 35 34.5 -0.4
comp=Z,10nm,0.8s
MAK Makhachkala 68.77 311 *e*P P 00 35 33.8 -0.8
MAK *e**PP **pP** 00 35 53.7 +1.3
MAK *e**SP **sP** 00 36 02.1 +2.4
MAK *e*S **S** 00 44 32.8 0.0
MAK *e**SS **sS** 00 45 02.2 -0.7
MAK pmax pmax
comp=Z,100nm,1.7s
MAK MLR MLR
comp=Z,107nm,15.0s
C35A Jirik Farms, M 68.80 42 P P 00 35 34.4 -0.3
baz=318
X16A Lo Mia Camp, P 68.93 62 *e*P P 00 35 36.5 +0.5
comp=Z,6.6nm,0.9s
G32A Webster 68.94 46 P P 00 35 35.6 0.0
baz=317
WRAB Tennant Creek 69.02 199⇓ *e*P P 00 35 38.2 +2.0
WRAB pmax pmax
comp=Z,4.0nm,1.2s
WB2 Warramunga Arr 69.03 199 *e*P P 00 35 37.1 +0.9
comp=Z,11nm,1.3s
WRA Warramunga Arr 69.03 199 P P 00 35 36.3 0.0
comp=Z,1.9nm,0.7s,baz=18,slow=6.7,SNR=11
WRA pP **pP** 00 35 52.5 -1.6
comp=Z,2.6nm,0.9s,baz=15,slow=6.5,SNR=7.7
F33A 5 Mile Ranch, 69.09 45 P P 00 35 36.4 -0.2
baz=317,SNR=7.0
D35A Remer 69.23 42 P P 00 35 36.9 -0.4
baz=318
C36A Pine Crest Far 69.27 41 P P 00 35 37.4 -0.2
baz=318
S22A 4UR Ranch, Cre 69.33 57 P P 00 35 39.0 +0.5
baz=314
G33A Ortonville 69.49 45 P P 00 35 39.1 0.0
baz=317
H32A Carlson Farm, 69.51 46 P P 00 35 38.9 -0.3
baz=317
OGNE Ogallala 69.72 51 P P 00 35 41.1 +0.4
baz=316
H33A Prehn Over Nor 69.72 46 P P 00 35 40.5 0.0
baz=317
J31A Geddes 69.74 48 P P 00 35 40.3 -0.3
baz=317
G34A Benson 69.84 45 P P 00 35 41.1 0.0
baz=318
E36A McGregor 70.01 42 P P 00 35 42.0 -0.2
baz=319
F36A Milaca 70.38 43 P P 00 35 43.9 -0.5
baz=319
KIV Kislovodsk 70.48 314 *e*P P 00 35 47.1 +1.9
KIV Kislovodsk 70.48 314 *e*P P 00 35 47.1 +1.9
KIV pmax pmax
comp=Z,5.0nm,1.0s
KIV MLR MLR
comp=Z,78nm,18.0s
ECSD EROS Data Cent 70.48 46 P P 00 35 44.9 -0.2
baz=318
ECSD EROS Data Cent 70.48 46 *e*P P 00 35 45.2 +0.1
comp=Z,13nm,0.8s
KBZ Khabaz 70.54 314 P P 00 35 45.9 +0.5
comp=Z,2.1nm,0.8s,baz=185,slow=6.1,SNR=4.7
KBZ LR LR 01 10 09.1
comp=Z,53nm,19.6s,baz=44,slow=39
H35A Sunnyside Ranc 70.63 45 P P 00 35 46.4 +0.4
baz=318
E38A The Farm, Brul 70.72 41 P P 00 35 46.4 -0.1
baz=319
TUC Tucson 70.78 63 P P 00 35 47.9 +0.6
baz=314
L32A Elgin 71.05 48 P P 00 35 48.3 -0.3
baz=317
F38A Pierce - Schro 71.06 42 P P 00 35 48.5 -0.1
baz=319
T25A Trinidad 71.12 56 P P 00 35 49.6 +0.2
baz=316
AKASG Malin Array Be 71.14 326 P P 00 35 47.5 -1.5
comp=Z,0.9nm,0.4s,baz=34,slow=6.5,SNR=7.5
KIEV Kiev 71.16 326⇑ *e*P P 00 35 48.2 -0.8
KIEV pmax pmax
comp=Z,4.0nm,1.1s
I35A Creekview Farm 71.18 45 P P 00 35 49.1 -0.2
baz=318
SPMN Marine on St. 71.19 43 P P 00 35 49.2 -0.2
baz=319
E39A Mellen 71.34 41 P P 00 35 49.8 -0.4
baz=320
LAZ Ladron 71.50 59 *e*P P 00 35 54.1 +2.5
ANMO Albuquerque 71.51 58 P P 00 35 52.1 +0.4
baz=315
ANMO Albuquerque 71.51 58 *e*P P 00 35 52.5 +0.8
comp=Z,5.9nm,0.8s
ANMO Albuquerque 71.51 58⇓ *e*P P 00 35 52.6 +0.8
ANMO pmax pmax
comp=Z,3.0nm,1.1s
I36A Fitzsimmons Fa 71.53 45 P P 00 35 51.5 +0.1
baz=319
E40A Wakefield 71.58 41 P P 00 35 51.6 -0.1
baz=320
H37A Dierke Farm, C 71.62 44 P P 00 35 51.9 -0.1
baz=319
G38A Ridgeland 71.67 43 P P 00 35 51.8 -0.5
baz=320
I37A Lemond, Waseca 71.82 44 P P 00 35 52.8 -0.5
baz=319,SNR=7.5
H38A Maiden Rock 71.85 43 P P 00 35 53.1 -0.3
baz=320
F40A Park Falls 71.88 41 P P 00 35 53.1 -0.5
baz=320
J36A Seneca 1, Swea 71.89 45 P P 00 35 53.0 -0.6
baz=319
G39A Holcombe 71.89 42 P P 00 35 53.3 -0.3
baz=320
K35A Storm Lake 71.91 46 P P 00 35 53.1 -0.6
baz=318,SNR=5.1
AKH Akhalkalaki 71.95 312⇑ *i*P P 00 35 54.9 +0.6
E41A Kenton 71.98 40 P P 00 35 53.9 -0.2
baz=321
M34A Aspy Farms, Fr 72.14 48 P P 00 35 54.8 -0.3
baz=318
L35A Bielow Farm, R 72.21 47 P P 00 35 55.2 -0.4
baz=318
GNI Garni 72.24 310 LR LR 01 11 25.2
comp=Z,79nm,19.3s,baz=47,slow=39
J37A Redenius Farm, 72.28 45 P P 00 35 55.8 -0.2
baz=319
I38A Scanlan Farm, 72.31 44 P P 00 35 55.7 -0.4
baz=320
G40A Rib Lake 72.35 42 P P 00 35 55.8 -0.6
baz=320
K36A Gilmore City 72.35 46 P P 00 35 56.0 -0.4
baz=319
F41A Three Lakes 72.48 41 P P 00 35 57.0 -0.1
baz=321
CBKS Cedar Bluff 72.48 52 P P 00 35 56.8 -0.5
baz=317
K37A Belmond 72.65 45 P P 00 35 57.6 -0.6
baz=319,SNR=5.2
AS01 Alice Springs 72.71 198 *e*P P 00 36 00.0 +1.4
AS31 Alice Springs 72.72 198 *e*P P 00 35 59.8 +1.1
comp=Z,1.5nm,0.9s
ASAR Alice Springs 72.72 199 P P 00 36 00.2 +1.5
comp=Z,4.6nm,0.8s,baz=13,slow=5.9,SNR=41
ASAR pP PcP 00 36 16.1 +0.5
comp=Z,4.0nm,0.8s,baz=12,slow=5.3,SNR=9.6
H40A Chili 72.76 42 P P 00 35 58.5 -0.3
baz=320
J38A Wedel Dairy, R 72.79 44 P P 00 35 58.6 -0.4
baz=320
SCHQ Schefferville 72.80 23 P P 00 35 59.1 +0.2
comp=Z,4.7nm,0.7s,baz=326,slow=7.7,SNR=6.3
I39A Houston 72.83 43 P P 00 35 58.6 -0.6
baz=320
M36A Felix, Anita 73.07 47 P P 00 36 00.3 -0.3
baz=319
L37A Phoenix Point, 73.08 46 P P 00 36 00.2 -0.5
baz=319,SNR=5.9
H41A Junction City 73.10 42 P P 00 36 00.4 -0.4
baz=321
J39A Decorah 73.14 44 P P 00 36 00.3 -0.8
baz=320
K38A Parkersburg 73.16 45 P P 00 36 00.6 -0.6
baz=320
I40A Norwalk 73.22 43 P P 00 36 00.9 -0.6
baz=320
I41A Arkdale 73.43 42 P P 00 36 02.4 -0.3
baz=321
L38A Oak Wood Farm, 73.45 45 P P 00 36 02.6 -0.3
baz=320
G43A Wallace 73.48 40 P P 00 36 03.0 0.0
baz=322
SCIA State Center 73.50 46 P P 00 36 03.3 +0.1
baz=320
K39A Oelwein 73.53 44 P P 00 36 02.8 -0.6
baz=320
SORM Soroca 73.56 325⇓ *i*P P 00 36 03.1 -0.3
M38A Pleasantville 73.89 46 P P 00 36 05.1 -0.4
baz=320
K40A Colesburg 73.89 44 P P 00 36 04.8 -0.7
baz=320
J41A Loganville 73.90 43 P P 00 36 04.9 -0.6
baz=321
L39A Vinton 73.92 45 P P 00 36 05.3 -0.3
baz=320
I42A Draeger Farm, 74.00 42 P P 00 36 05.5 -0.6
baz=321
H43A Windswept, Lux 74.06 41 P P 00 36 05.9 -0.5
baz=322
AMTX Amarillo 74.28 56 P P 00 36 08.3 +0.3
baz=317
AMTX Amarillo 74.28 56 *e*P P 00 36 08.9 +0.9
comp=Z,17nm,0.8s
MSTX Muleshoe 74.33 57 P P 00 36 08.5 +0.2
baz=317
MSTX Muleshoe 74.33 57 *e*P P 00 36 07.8 -0.5
comp=Z,8.9nm,0.8s
M39A Webster 74.34 45 P P 00 36 07.8 -0.3
baz=320,SNR=8.5
N38A Joes South For 74.34 46 P P 00 36 08.0 -0.1
baz=320
L40A Anamosa 74.34 44 P P 00 36 07.8 -0.3
baz=321
I43A Langenfeld Bro 74.35 41 P P 00 36 07.6 -0.5
baz=322
J42A Columbus 74.35 42 P P 00 36 07.5 -0.7
baz=321
K41A Shullsburg 74.36 43 P P 00 36 07.7 -0.5
baz=321
MNTX Cornudas Mount 74.45 60 P P 00 36 09.5 +0.5
baz=316
N39A Derby Farms, D 74.64 46 P P 00 36 09.7 -0.2
baz=320
K42A Prairie Point, 74.67 43 P P 00 36 09.4 -0.6
baz=321
L41A Preston 74.68 44 P P 00 36 09.5 -0.6
baz=321
M40A Post Highland 74.71 45 P P 00 36 09.9 -0.3
baz=320
O38A Galt 74.73 47 P P 00 36 10.3 -0.1
baz=320
N40A Mertquake, Sal 75.08 45 P P 00 36 12.0 -0.4
baz=321
P38A Dawn 75.08 47 P P 00 36 12.4 0.0
baz=320
STHS Stebnicka Huta 75.09 330 *e*P P 00 36 13.3 +1.0
STHS Stebnicka Huta 75.09 330 *e*P P 00 36 13.3 +1.0
STHS pmax pmax
comp=Z,3.0nm,0.9s
L42A Oliver, Polo 75.12 43 P P 00 36 11.8 -0.8
baz=321
BUR08 Bucovina Ar. S 75.17 327 *e*P P 00 36 12.8 -0.1
BUR04 Bucovina Ar. S 75.18 327 *e*P P 00 36 13.0 0.0
BURAR Bucovina Array 75.18 327⇓ *i*P P 00 36 12.9 -0.1
K43A Burlington 75.19 42 P P 00 36 12.3 -0.7
baz=322
M41A Milan 75.20 44 P P 00 36 12.6 -0.5
baz=321
O40A La Belle 75.52 46 P P 00 36 14.7 -0.3
baz=321,SNR=5.1
Q38A Cooks Store, C 75.54 48 P P 00 36 14.5 -0.5
baz=320
N41A Harden Midland 75.56 45 P P 00 36 15.1 -0.1
baz=321
P39B Salisbury 75.58 47 P P 00 36 15.3 +0.1
baz=320
TRPA Tarpa 75.73 328⇑ *i*P P 00 36 16.0 0.0
Q39A Willow Grove F 75.80 47 P P 00 36 16.4 -0.1
baz=320
EKA Eskdalemuir Ar 75.84 346 P P 00 36 16.5 0.0
comp=Z,1.5nm,0.8s,baz=35,slow=5.4,SNR=2.9
N42A Yates City 75.86 44 P P 00 36 16.3 -0.5
baz=321
DPC Dobruska-Polom 75.88 333 *e*P P 00 36 16.9 0.0
DPC Dobruska-Polom 75.88 333 *e*P P 00 36 16.9 0.0
P40A Paris 75.89 46 P P 00 36 16.6 -0.5
baz=321
M43A Waltham Townsh 75.89 43 P P 00 36 16.6 -0.4
baz=322
LANS Liptovska Anna 75.92 331 *e*P P 00 36 17.7 +0.6
LANS Liptovska Anna 75.92 331 *e*P P 00 36 17.7 +0.6
R38A Fenwick Farm, 75.99 48 P P 00 36 16.8 -0.8
baz=320
WMOK Wichita Mounta 76.00 54 P P 00 36 17.7 -0.1
baz=318
MORC Moravsky Berou 76.00 332⇓ *i*P P 00 36 18.3 +0.7
MORC Moravsky Berou 76.00 332 *e*P P 00 36 17.8 +0.2
comp=Z,20nm,1.0s
MORC Moravsky Berou 76.00 332 *e*P P 00 36 17.8 +0.2
MORC pmax pmax
comp=Z,20nm,1.0s
O41A Passleys Farm, 76.01 45 P P 00 36 17.6 -0.2
baz=321
CLL Collm 76.01 336 *e*P P 00 36 18.8 +1.3
CLL Collm 76.01 336 *i*P P 00 36 16.9 -0.6
comp=Z,9.0nm,1.0s
CLL Collm 76.01 336 *e*P P 00 36 17.0 -0.6
comp=Z,11nm,1.2s
CLL Collm 76.01 336 *e*P P 00 36 17.0 -0.6
CLL pmax pmax
comp=Z,11nm,1.2s
N43A Stutzman Famil 76.18 44 P P 00 36 18.4 -0.3
baz=322
P41A Barry, Barry 76.26 46 P P 00 36 19.2 +0.1
baz=321
Q40A Laux Farm, Aux 76.29 47 P P 00 36 19.0 -0.3
baz=321
R39A Chumby, Stover 76.33 48 P P 00 36 19.3 -0.2
baz=320
S38A Stockton 76.41 49 P P 00 36 19.8 -0.2
baz=320
HDIL Hopedale 76.43 44 P P 00 36 19.6 -0.5
baz=322
O43A Sugar Creek Fa 76.63 44 P P 00 36 21.0 -0.2
baz=322
S39A Bolivar 76.66 48 P P 00 36 21.2 -0.2
baz=320
T38A Diamond 76.67 49 P P 00 36 21.1 -0.4
baz=320,SNR=9.4
MLR Muntele Rosu 76.67 325 P P 00 36 19.9 -1.6
comp=Z,1.0nm,0.7s,baz=315,slow=2.9,SNR=4.7
MLR LR LR 01 15 38.2
comp=Z,13nm,18.6s,baz=36,slow=40
MLR Muntele Rosu 76.67 325⇓ *i*P P 00 36 22.7 +1.2
P42A Winchester 76.68 45 P P 00 36 21.5 0.0
baz=321
VYHS Vyhne 76.70 331 *e*P P 00 36 21.5 0.0
VYHS Vyhne 76.70 331 *e*P P 00 36 21.5 0.0
VYHS pmax pmax
comp=Z,3.0nm,1.2s
VRAC Vranov 76.71 332⇓ *i*P P 00 36 21.6 0.0
TUL1 Leonard 76.73 51 P P 00 36 21.7 -0.2
baz=319
R40A Maddies Statio 76.74 47 P P 00 36 21.4 -0.5
baz=321
Q41A Truxton 76.74 46 P P 00 36 21.5 -0.3
baz=321,SNR=5.4
PRU Pruhonice 76.74 334 *e*P P 00 36 21.9 +0.2
PRU Pruhonice 76.74 334 *e*P P 00 36 21.9 +0.2
VOIR 77.06 325⇑ *i*P P 00 36 24.3 +0.6
ABTX Abilene, Hawle 77.09 56 P P 00 36 24.1 +0.1
baz=318
Q42A Golden Eagle 77.11 46 P P 00 36 24.0 +0.1
baz=321
T39A Clever 77.15 49 P P 00 36 23.9 -0.3
baz=320
S40A Lebanon 77.15 48 P P 00 36 23.5 -0.7
baz=321
R41A Rosebud 77.17 47 P P 00 36 24.2 -0.1
baz=321
TX31 Lajitas Ar. Si 77.18 61 *e*P P 00 36 24.5 -0.2
TXAR Lajitas Array 77.18 61 P P 00 36 25.1 +0.5
comp=Z,3.8nm,0.9s,baz=298,slow=4.4,SNR=26
TXAR pP pP 00 36 41.8 -1.0
comp=Z,15nm,0.6s,baz=298,slow=4.3,SNR=48
ARR Arges 77.28 326⇑ *i*P P 00 36 26.4 +1.5
O45A Potomac 77.41 43 P P 00 36 25.2 -0.3
baz=323
HHAR Hobbs 77.42 50 *e*P P 00 36 25.7 -0.1
comp=Z,9.8nm,0.8s
CCM Cathedral Cave 77.43 47 P P 00 36 25.6 -0.2
baz=321
R42A Luebbering 77.48 46 P P 00 36 25.6 -0.4
baz=321
T40A Mansfield 77.49 48 P P 00 36 25.9 -0.2
baz=321
S41A Jillco Farms, 77.54 47 P P 00 36 25.8 -0.6
baz=321
U39A Green Forest 77.59 49 P P 00 36 26.2 -0.5
baz=320,SNR=12
SFIN Lafayette 77.59 43 P P 00 36 26.1 -0.5
baz=323
P44A Sand Creek, Wi 77.60 44 P P 00 36 26.2 -0.5
baz=322
KHC Kasperske Hory 77.79 334 *e*P P 00 36 27.9 +0.3
KHC *e*pP **pP** 00 36 45.7 0.0
KHC Kasperske Hory 77.79 334 *e*P P 00 36 27.1 -0.6
comp=Z,3.6nm,1.2s
KHC Kasperske Hory 77.79 334 *e*P P 00 36 27.9 +0.3
KHC *e* 00 36 45.7
S42A Caledonia 77.87 47 P P 00 36 27.9 -0.4
baz=321,SNR=6.2
V39A Pettigrew 77.92 50 P P 00 36 28.0 -0.6
baz=320,SNR=6.0
TRQ Mont Tremblant 77.92 32 *e*P P 00 36 26.7 -1.7
U40A Yellville 77.93 49 P P 00 36 28.1 -0.5
baz=321,SNR=11
T41A Mountain View 77.95 48 P P 00 36 28.1 -0.6
baz=321
GERES GERESS Array B 78.01 334 P P 00 36 28.3 -0.7
comp=Z,0.8nm,0.7s,baz=36,slow=5.0,SNR=7.9
GEA0 GERESS Array S 78.02 334 *e*P P 00 36 28.4 -0.6
BRTR Keskin Array B 78.05 317 P P 00 36 29.9 +0.6
comp=Z,1.6nm,0.9s,baz=70,slow=4.4,SNR=4.7
BRTR LR LR 01 15 01.7
comp=Z,22nm,18.4s,baz=41,slow=39
BRTR Keskin Array B 78.05 317 P P 00 36 30.0 +0.6
BRTR pmax pmax
comp=Z,2.0nm,1.0s
BRTR MLR MLR
comp=Z,22nm,18.4s
CONA Conrad Observa 78.16 332 *i*P P 00 36 30.1 +0.4
comp=Z,6.7nm,1.0s
BZS Buzias 78.20 328⇑ *i*P P 00 36 29.2 -0.7
Q45A Warren Harvey, 78.27 44 P P 00 36 30.1 -0.3
baz=323
T42A Van Buren 78.30 47 P P 00 36 30.0 -0.6
baz=321
W39A Magazine 78.34 50 P P 00 36 30.6 -0.2
baz=320
R44A Waltonville 78.34 45 P P 00 36 30.4 -0.4
baz=322
V40A Witts Springs 78.37 49 P P 00 36 30.8 -0.3
baz=321
S43A Fulton Ridge, 78.39 46 P P 00 36 30.7 -0.3
baz=322
U41A Viola 78.42 48 P P 00 36 30.7 -0.5
baz=321
JCT Junction City 78.59 57 P P 00 36 32.3 -0.1
baz=319
JCT Junction City 78.59 57 *e*P P 00 36 32.8 +0.4
comp=Z,14nm,0.6s
JCT Junction City 78.59 57 *e*P P 00 36 32.8 +0.4
JCT pmax pmax
comp=Z,14nm,0.6s
T43A Greenville 78.66 47 P P 00 36 32.3 -0.3
baz=322
P47A Martinsville 78.69 43 P P 00 36 32.7 0.0
baz=324
X39A Fountain Ranch 78.69 51 P P 00 36 32.8 0.0
baz=320
S44A Carbondale 78.69 46 P P 00 36 32.6 -0.1
baz=322
W40A Ferguson Farm, 78.71 50 P P 00 36 32.7 -0.2
baz=321
V41A Mountainview 78.73 49 P P 00 36 32.7 -0.4
baz=321
U42A Revenden 78.76 48 P P 00 36 32.9 -0.2
baz=321
WHTX Lake Whitney, 78.79 55 P P 00 36 33.7 +0.3
baz=319
PBMO Poplar Bluff 78.83 47 *e*P P 00 36 33.8 +0.3
comp=Z,26nm,1.6s
MIAR Mount Ida 78.94 51 P P 00 36 34.2 0.0
baz=321
MIAR Mount Ida 78.94 51 *e*P P 00 36 34.5 +0.3
comp=Z,6.3nm,0.6s
MIAR Mount Ida 78.94 51 *e*P P 00 36 34.5 +0.3
MIAR pmax pmax
comp=Z,6.0nm,0.6s
Q47A Bedord North L 79.06 43 P P 00 36 34.8 +0.1
baz=323
W41B Gary Mavity, V 79.15 49 P P 00 36 35.1 -0.2
baz=321
U43A Rector 79.16 47 P P 00 36 35.2 -0.1
baz=322
X40A Basin Creek Fa 79.38 50 P P 00 36 36.2 -0.4
baz=321
STKA Stephens Creek 79.48 190 P P 00 36 37.4 +0.6
comp=Z,0.8nm,1.0s,baz=162,slow=6.4,SNR=4.0
STKA Stephens Creek 79.48 190 *e*P P 00 36 36.8 0.0
comp=Z,3.0nm,1.4s
STKA Stephens Creek 79.48 190 P P 00 36 37.4 +0.6
STKA pmax pmax
comp=Z,3.0nm,1.1s
R47A Wooly Knot Far 79.52 44 P P 00 36 36.9 -0.4
baz=324
ACSO Alum Creek Sta 79.57 40 P P 00 36 37.2 -0.3
baz=325
WCI Wyandotte Cave 79.69 44 P P 00 36 38.0 -0.2
baz=324
WCI Wyandotte Cave 79.69 44 *e*P P 00 36 38.6 +0.5
comp=Z,18nm,1.1s
WCI Wyandotte Cave 79.69 44 *e*P P 00 36 38.6 +0.5
WCI pmax pmax
comp=Z,18nm,1.1s
KBA Koelnbreinsper 79.70 333 *i*P P 00 36 38.7 +0.4
comp=Z,16nm,1.1s
R48A Northridge Ran 79.75 43 P P 00 36 38.4 -0.1
baz=324
T46A Princeton 79.87 45 P P 00 36 38.7 -0.4
baz=323
M54A Oil Creek Stat 79.94 37 P P 00 36 39.6 +0.1
baz=327
BFO Black Forest 79.99 337 *i*P P 00 36 40.4 +0.7
RETA Reutte 80.09 335 *i*P P 00 36 41.2 +0.9
comp=Z,8.5nm,1.3s
MOTA Moosalm 80.12 335 *i*P P 00 36 40.5 -0.1
comp=Z,9.4nm,1.0s
VTS Vitosha 80.18 325⇑ *i*P P 00 36 41.0 +0.1
VTS Vitosha 80.18 325 *e*P P 00 36 41.0 +0.1
comp=Z,7.7nm,0.8s
VTS Vitosha 80.18 325 *e*P P 00 36 41.0 +0.1

VTS pmax pmax
comp=Z,8.0nm,0.8s
S48A Wiedeman Farm, 80.25 44 P **P** **00 36 40.9 -0.3**
baz=324
N54A Moraine State 80.26 38 P **P** **00 36 41.0 -0.2**
baz=327
T47A Sharon Grove 80.29 45 P **P** **00 36 41.3 -0.1**
baz=323
WVT Waverly 80.62 46 P **P** **00 36 43.3 +0.1**
baz=323
WVT Waverly 80.62 46 *e*P **P** **00 36 43.3 +0.1**
comp=Z,7.1nm,0.9s
WVT Waverly 80.62 46 *e*P **P** **00 36 43.3 +0.1**
WVT pmax pmax
comp=Z,7.0nm,0.9s
U47A Clarksville 80.64 45 P **P** **00 36 43.2 -0.1**
baz=323
V46A Holladay 80.75 46 P **P** **00 36 43.6 -0.3**
baz=323
Z42A Norrel Spur, H 80.78 50 P **P** **00 36 44.2 +0.1**
baz=322
BINY Binghamton 80.83 35 P **P** **00 36 44.0 -0.2**
baz=329
U48A Cassie Pea, Po 80.95 45 P **P** **00 36 45.2 +0.2**
baz=324
V47A Nunnelly 81.02 46 P **P** **00 36 45.3 -0.1**
baz=324
TAOE Nuku Hiva Isla 81.10 113 *e*LR LR 01 01 59.3
comp=Z,137nm,26.7s
OXF Oxford 81.12 48 P **P** **00 36 45.6 -0.3**
baz=322
Y44A Strider, Charl 81.15 49 P **P** **00 36 46.0 0.0**
baz=322
X45A UM Field Stati 81.20 48 P **P** **00 36 46.4 +0.1**
baz=322
PMOR Pomariorio Ree 81.29 123 *e*T T 02 05 53.4
comp=Z,9.7nm,0.2s
SSPA Standing Stone 81.40 37 P **P** **00 36 47.2 -0.1**
baz=328
PLAL Pickwick Lake 81.42 47 *e*P **P** **00 36 47.4 -0.1**
comp=Z,16nm,1.4s
O56A Blue Knob Stat 81.43 37 P **P** **00 36 47.1 -0.4**
baz=327
O56A Blue Knob Stat 81.43 37 *e*P **P** **00 36 47.6 +0.1**
comp=Z,9.6nm,0.9s
W47A Westpoint 81.44 46 P **P** **00 36 47.5 -0.1**
baz=323
Y45A Yeager Farm, C 81.56 48 P **P** **00 36 48.3 +0.1**
baz=322
W48A Pulaski 81.86 46 P **P** **00 36 49.5 -0.3**
baz=324
X47A Russelville 81.89 47 P **P** **00 36 49.4 -0.6**
baz=323
Y46A Houston 81.90 48 P **P** **00 36 50.0 -0.1**
baz=323
N59A State Game Lan 82.01 35 P **P** **00 36 50.2 -0.4**
baz=329
TZTN Tazewell 82.33 43 P **P** **00 36 51.9 -0.3**
baz=325
X48A Hartselle 82.35 46 P **P** **00 36 52.0 -0.4**
baz=324
Y47A UCPARC, Winfie 82.39 47 P **P** **00 36 52.2 -0.4**
baz=323
ASF Jabal al Asfar 82.41 310 P **P** **00 36 51.6 -1.2**
comp=Z,6.5nm,1.0s,baz=0.0,slow=3.0,SNR=5.2
PPT Papeete 82.42 126 LR LR 01 07 35.7
comp=Z,34nm,19.2s,baz=11,slow=31
PPT2 Papeete2 82.43 126 *e*LR LR 01 02 42.0
comp=Z,83nm,22.2s
MMAI Mount Meron Ar 82.51 311 P **P** **00 36 54.0 +0.6**
comp=Z,4.6nm,0.7s,baz=32,slow=8.8,SNR=6.1
MMAI LR LR 01 18 25.0
comp=Z,60nm,18.7s,baz=35,slow=39
PAL Palisades 82.65 34 P **P** **00 36 53.4 -0.4**
baz=330
X49A Woodville 82.65 46 P **P** **00 36 53.8 -0.1**
baz=324
Y48A Jasper 82.72 47 P **P** **00 36 53.9 -0.4**
baz=324
245A Little AP, Sta 82.83 50 P **P** **00 36 55.2 +0.3**
baz=322
Z47A Carrollton 82.84 48 P **P** **00 36 54.8 -0.1**
baz=324
TKL Tuckaleechee C 82.95 43 P **P** **00 36 55.1 -0.4**
comp=Z,4.7nm,0.8s,baz=207,slow=1.6,SNR=6.3
Z48A Northport 82.96 47 P **P** **00 36 54.8 -0.8**
baz=323
Y49A Blount Mountai 83.14 46 P **P** **00 36 56.2 -0.3**
baz=324
147A Livingston 83.16 48 P **P** **00 36 56.6 0.0**
baz=323
BLA Blacksburg 83.19 40 P **P** **00 36 56.5 -0.3**
baz=327
Y50A Piedmont 83.44 46 P **P** **00 36 57.8 -0.3**
baz=324
LRAL Lakeview Retre 83.51 47 P **P** **00 36 58.5 +0.1**
baz=324
148A Greensboro 83.53 48 P **P** **00 36 58.3 -0.2**
baz=324
Z49A Columbiana 83.61 47 P **P** **00 36 58.8 -0.1**
baz=324
Z50A Ashland 83.86 46 P **P** **00 37 00.2 -0.1**
baz=324
BG3 Lake Jocassee 83.89 43 *e*P **P** **00 37 00.9 +0.6**
comp=Z,30nm,1.5s
149A Jones 83.96 47 P **P** **00 37 00.7 0.0**
baz=324
347A Saraland 84.03 49 P **P** **00 37 01.0 -0.1**
baz=323
RAYN Ar Rayn 84.22 298 *e*P **P** **00 37 02.4 +0.1**
comp=Z,5.5nm,0.8s
249A Camden 84.30 48 P **P** **00 37 02.9 +0.5**
baz=324
150A Eclectic 84.34 47 P **P** **00 37 02.4 -0.3**
baz=324
KMSC Kings Mountain 84.50 42 P **P** **00 37 03.3 -0.1**
baz=326
251A Midway 85.06 47 P **P** **00 37 06.6 +0.4**
baz=324
EIL Elat 85.40 310 LR LR 01 19 18.0
comp=Z,39nm,18.0s,baz=121,slow=38
252A Lumpkin 85.47 46 P **P** **00 37 08.3 -0.1**
baz=325
352A Blakely 85.79 47 P **P** **00 37 10.0 0.0**
baz=325
155A Kite 86.05 44 P **P** **00 37 11.2 0.0**
baz=326
254A Abbeville 86.22 45 P **P** **00 37 12.4 +0.4**
baz=326
TlGA Tifton 86.48 46 P **P** **00 37 13.8 +0.4**
baz=325
556A Lake Butler 88.24 46 P **P** **00 37 21.8 0.0**
baz=326
757A Oxford 89.28 46 P **P** **00 37 26.5 -0.2**
baz=326
060A Indiantown 91.70 46 P **P** **00 37 38.0 +0.1**
baz=327
ATD Arta Tunnel 94.97 293 LR LR 01 26 07.9
comp=Z,54nm,18.2s,baz=88,slow=39
LPAZ La Paz 134.04 62 PKP **PKPdf** **00 43 49.2 +0.7**
comp=Z,0.6nm,0.7s,baz=240,slow=14,SNR=3.3
SIV San Ignacio 137.88 54 PKP **PKPdf** **00 43 55.3 +0.4**
comp=Z,0.8nm,0.5s,baz=94,slow=3.4,SNR=6.5
SIV pPKP **pPKPdf** **00 44 12.7 -1.4**
comp=Z,0.5nm,0.3s,baz=236,slow=3.6,SNR=2.0
CPUP Villa Florida 148.15 60 PKPbc **PKPbc** **00 44 16.0 0.0**
comp=Z,3.4nm,0.7s,baz=297,slow=2.3,SNR=2.6
CPUP Villa Florida 148.15 60 PKP2 **PKPbc** **00 44 16.0 0.0**
CPUP pmax pmax
comp=Z,3.0nm,0.7s
PLCA Paso Flores 148.19 94 PKPbc **PKPbc** **00 44 15.6 -0.2**
comp=Z,0.7nm,0.5s,baz=9.5,slow=8.1,SNR=2.7
PLCA pPKPbc **pPKPdf** **00 44 32.3 +0.6**
comp=Z,2.9nm,0.9s,baz=328,slow=7.0,SNR=3.2
SNAA Sanae 153.07 196 P **PKPbc** **00 44 26.1 -0.3**
SNAA Sanae 153.07 196 PKPbc **PKPbc** **00 44 25.7 -0.7**
comp=Z,1.4nm,0.7s,baz=194,slow=6.8,SNR=7.3
SNAA PKPab **PKPab** **00 44 38.9 +0.7**
comp=Z,2.2nm,0.6s,baz=258,slow=7.0,SNR=9.2
VNA2 Neumayer--Watz 154.53 195 P **PKPbc** **00 44 26.6 -2.9**
baz=297,slow=4.3
VNA3 Neumayer Olymp 154.62 193 P **PKPbc** **00 44 29.2 -0.4**
VNA1 Neumayer--Stat 154.91 194 P **PKPbc** **00 44 27.9 -2.3**

*ISCJB **19** 00:35:21.7±0.6,32.°62S±0.°03×72.°18W±0.°05,h10km, mb3.9/3,Error ellipse: s-maj=6.4km s-min=3.8km az=176.4*
*IDC **19** 00:35:22.1±1.2,32.°55S×71.°72W,h0km,mb4.0/3, mb1 3.9/7,mb1mx3.8/36,mbtmp3.8/7,ML3.8/4,Error ellipse: s-maj=40.7km s-min=23.3km az=91.0*
*GUC **19** 00:35:25.0±0.4,32.°45S×71.°77W,h30km±4km,ML4.1*
*NEIC **19** 00:35:25.0±0.0,32.°45S×71.°77W,h30km,ML4.1(GUC), After GUC.*
NEIC Felt [III] at Puchuncavi and [II] at El Quisco, Quillota and Vina del Mar.
*SJA **19** 00:35:28.0±0.5,32.°37S×71.°84W,h24km±42km,ML3.7, MW4.1*

ISC 19 00:35:21.6±0.7,32.°51S±0.°03×72.°05W±0.°05,h10km,n33, σ2°22/42,mb4.3/3,2C-1D,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PEL	**Peldehue**	**1.31**	**119**	*e*P	**Pg**		**00 35 46.4**	**-0.4**
PEL				*e*S	**Sg**		**00 36 02.6**	**-1.2**
RCDM	**Rinconada Maip**	**1.43**	**133**	*e*P	**Pg**		**00 35 48.4**	**-0.7**
RCDM				*e*S	**Sb**		**00 36 05.5**	**-1.2**
ANTU	**Antumapu**	**1.59**	**132**	*e*P	**Pg**		**00 35 51.1**	**-1.0**
ANTU				*e*S	**Sg**		**00 36 11.4**	**-1.4**
ANTU				IAML			00 36 16.9	
	comp=E,3μm,0.4s							
FCH	**Farellones**	**1.69**	**119**	*i*P	**Pg**		**00 35 52.8**	**-1.3**
FCH				*e*S	**Sb**		**00 36 13.9**	**-0.6**
FCH				IAML			00 36 15.5	
	comp=N,4μm,0.2s							
CHPI	**Pichilemu**	**1.87**	**179**	*e*P		**Pb**	**00 35 53.4**	**-2.5**
CHPI				*e*S		**Sn**	**00 36 14.8**	**-2.6**
LMEL	**Las Melosas**	**2.04**	**131**	*e*P		**Pb**	**00 35 58.4**	**-0.5**
LMEL				*e*S		**Sb**	**00 36 23.6**	**-0.9**
LMEL				IAML			00 36 29.9	
	comp=N,4μm,0.1s							
AUSP	**Uspallata**	**2.27**	**83**	*i*P	**Pg**		**00 36 04.0**	**-1.2**
RTLS	**Leoncito**	**2.44**	**74**	*i*P	**Pg**		**00 36 06.8**	**-1.7**
RTLS				*i*S	**Sb**		**00 36 35.1**	**-0.9**
RTLS				IAML			00 36 47.2	
	comp=Z,423nm,0.7s							
GO05	**HualaæØ**	**2.49**	**178**	*e*P		**Pn**	**00 36 02.2**	**-0.1**
GO05				*e*S		**Sn**	**00 36 29.7**	**-3.1**
GO04	**Tololo Observa**	**2.56**	**25**	*i*P		**Pb**	**00 36 06.0**	**-1.8**
TLL	**Tololo Astrono**	**2.57**	**25**	*e*P		**Pb**	**00 36 05.8**	**-2.1**
TLL				*e*S		**Sb**	**00 36 37.0**	**-2.6**
ARCO	**CERRO ARCO**	**2.65**	**98**	*i*P		**Pg**	**00 36 09.8**	**-2.6**
ARCO				IAML			00 36 15.2	
	comp=Z,456nm,0.4s							
ASAL	**Salagasta**	**2.72**	**93**	*i*P		**Pb**	**00 36 10.7**	**+0.4**
RTCV	**Cerro Valdivia**	**3.05**	**79**	*i*P		**Pb**	**00 36 14.7**	**-1.2**
AROD	**Rodeo**	**3.21**	**44**	*i*P		**Pb**	**00 36 17.4**	**-1.6**
AMOG	**MOGNA**	**3.41**	**64**	*i*P		**Pb**	**00 36 19.6**	**-2.6**
LCO	**Las Campanas**	**3.68**	**19**	*e*Pn		**Pn**	**00 36 21.1**	**+2.3**
LCO				*e*S		**Sb**	**00 37 06.4**	**-5.2**
PLCA	**Paso Flores**	**8.29**	**172**	Pn		**Pn**	**00 37 23.9**	**+1.9**
	comp=Z,0.4nm,0.3s,baz=11,slow=9.4,SNR=7.2							
PLCA				Lg		Lg	00 39 40.3	
	comp=Z,0.1nm,0.3s,baz=131,slow=20,SNR=2.7							
TRQA	**Tornquist**	**9.91**	**127**	*e*Pn		**Pn**	**00 37 45.5**	**+1.3**
	comp=Z,1.1nm,0.4s							
CPUP	**Villa Florida**	**14.22**	**68**	Pn		**Pn**	**00 38 39.7**	**-3.4**
	comp=Z,0.1nm,0.3s,baz=346,slow=14,SNR=1.6							
CPUP				Sn		**Sn**	**00 41 27.7**	**+6.7**
	comp=Z,0.1nm,0.3s,baz=162,slow=20,SNR=2.4							
CPUP				Lg		Lg	00 42 34.3	
	comp=Z,0.2nm,0.3s,baz=345,slow=19,SNR=2.8							
LPAZ	**La Paz**	**16.54**	**13**	Pn		**P**	**00 39 17.3**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=193,slow=5.1,SNR=7.2							
SIV	**San Ignacio**	**19.23**	**34**	P		**P**	**00 39 45.1**	**-1.0**
	comp=Z,0.2nm,0.3s,baz=209,slow=13,SNR=7.7							
SIV				S		**Sn**	**00 43 19.9**	**-2.8**
	comp=Z,0.2nm,0.3s,baz=141,slow=17,SNR=3.3							
TXAR	**Lajitas Array**	**68.44**	**331**	P		**P**	**00 46 26.1**	**+2.3**
	comp=Z,0.2nm,0.8s,baz=146,slow=9.8,SNR=2.8							
DBIC	**Dimbokro**	**74.72**	**72**	P		**P**	**00 47 01.9**	**0.0**
	comp=Z,2.6nm,0.7s,baz=225,slow=7.2,SNR=4.8							
KOWA	**Kowa**	**80.03**	**66**	P		**P**	**00 47 33.4**	**+1.7**
	comp=Z,2.1nm,0.6s,baz=224,slow=6.4,SNR=9.4							
H11S2	**WAKE ISLAND Hyd**	**25.77**	**270**	T		T	03 13 34.7	
	baz=118,slow=75,SNR=7.7							
H11S1	**WAKE ISLAND Hyd**	**25.78**	**270**	T		T	03 13 25.6	
	baz=118,slow=75,SNR=7.1							
H11S3	**WAKE ISLAND Hyd**	**25.79**	**270**	T		T	03 13 26.3	
	baz=118,slow=75,SNR=4.3							
BVAR	**Borovoye Array**	**146.19**	**41**	PKPbc		**PKPab**	**00 55 04.1**	**+1.7**
	comp=Z,0.9nm,0.6s,baz=323,slow=3.1,SNR=9.8							
KURBB	**Kurchatov Arra**	**151.78**	**41**	PKPbc		**PKPbc**	**00 55 17.9**	**+1.8**
	comp=Z,1.0nm,0.5s,baz=310,slow=2.9,SNR=6.7							
KURK	**Kurchatov**	**151.78**	**41**	PKPbc		**PKPbc**	**00 55 17.9**	**+1.8**
ZALV	**Zalesovo Beam**	**152.97**	**31**	PKPbc		**PKPbc**	**00 55 19.4**	**+0.8**
	comp=Z,0.8nm,0.5s,baz=321,slow=2.7,SNR=4.9							
MKAR	**Makanchi Array**	**155.77**	**46**	PKPab		**PKPab**	**00 55 43.9**	**+1.7**
	comp=Z,0.8nm,0.8s,baz=302,slow=3.0,SNR=4.4							

*CSEM **19** 00:46:47.4±0.7,27.°13N×54.°78E,h30km,ML2.9,Error ellipse: s-maj=20.5km s-min=12.7km az=18.0*
*OMAN **19** 00:46:47.6±3.0,27.°06N×54.°73E,h28km,Error ellipse: s-maj=48.3km s-min=26.5km az=44.0*
*ISCJB **19** 00:46:49.8±0.9,26.°74N±0.°06×54.°76E±0.°09,h17km,Error ellipse: s-maj=13.2km s-min=6.5km az=150.6*
*DSN **19** 00:46:49.4±1.1,27.°01N×54.°89E,h30km,ML2.9/7,Error ellipse: s-maj=16.0km s-min=4.7km az=17.0*
*TEH **19** 00:47:05.1,27.°63N×55.°64E,h28km,ML2.7*

ISC 19 00:46:50.8±1.1,26.°75N±0.°05×54.°82E±0.°08,h17km,n22, σ0°98/28,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
GENO	**Geno**	**1.37**	**61**	*e*Pg		**Pn**	**00 47 15.4**	**+0.1**
GENO				*e*AMB		AMB	00 47 45.6	
	comp=Z,3μm,0.1s							
SHME	**Shamm**	**1.38**	**120**	P		**Pn**	**00 47 14.2**	**-1.1**
	SNR=13							
SHME				S		**Sb**	**00 47 34.5**	**+1.1**
SHME	**Shamm**	**1.38**	**120**	*e*P		**Pn**	**00 47 14.1**	**-1.1**
	SNR=13							
SHME				S		**Sn**	**00 47 32.8**	**-0.3**
BANOM	**Banah**	**1.56**	**121**	P		**Pn**	**00 47 17.0**	**-0.8**
	SNR=38							
BANOM	**Banah**	**1.56**	**121**	P		**Pn**	**00 47 16.9**	**-0.9**
	SNR=38							
BANOM				S		**Sn**	**00 47 37.6**	**-0.1**
BANOM	**Banah**	**1.56**	**121**	*e*P		**Pn**	**00 47 16.9**	**-0.9**
	SNR=38							
BANOM				S		**Sn**	**00 47 37.6**	**-0.1**
MSFE	**Esma-Masafi**	**1.83**	**139**	P		**Pn**	**00 47 20.9**	**-0.7**
MSFE				S		**Sb**	**00 47 47.5**	**+0.9**
MSFE	**Esma-Masafi**	**1.83**	**139**	P		**Pn**	**00 47 21.3**	**-0.2**
NAZ	**Nazwa, Dubai**	**1.91**	**156**	P		**Pn**	**00 47 23.2**	**+0.7**
NAZ	**Nazwa, Dubai**	**1.91**	**156**	P		**Pn**	**00 47 23.2**	**+0.7**
MDH	**Madha**	**1.96**	**137**	P		**Pn**	**00 47 22.3**	**-1.0**
NIAN	**Nian**	**1.97**	**65**	*e*Pn		**Pn**	**00 47 24.3**	**+0.9**
NIAN				*e*AMB		AMB	00 47 57.1	
	comp=N,4μm,0.2s							
UOSS	**Minazif**	**2.19**	**145**	P		**Pn**	**00 47 25.8**	**-0.6**
UOSS	**Minazif**	**2.19**	**145**	P		**Pn**	**00 47 25.8**	**-0.6**
HATD	**Hatta, Dubai**	**2.25**	**148**	P		**Pn**	**00 47 27.6**	**+0.3**
HATD	**Hatta, Dubai**	**2.25**	**148**	P		**Pn**	**00 47 27.6**	**+0.3**
ASHO	**Ashiyiah**	**2.34**	**151**	P		**Pn**	**00 47 28.8**	**+0.2**
	SNR=16							
ASHO	**Ashiyiah**	**2.34**	**151**	P		**Pn**	**00 47 28.7**	**+0.2**
	SNR=16							
ASHO	**Ashiyiah**	**2.34**	**151**	*e*P		**Pn**	**00 47 28.7**	**+0.2**
	SNR=16							
ISRV	**Sarvestan**	**3.02**	**331**	*e*Pn		**Pg**	**00 47 48.9**	**+0.1**
ISRV				*e*AMB		AMB	00 48 44.9	
	comp=N,835nm,0.3s							
IBAF	**Bafgh**	**4.87**	**8**	*e*AMB		AMB	00 48 05.1	
	comp=Z,117nm,0.1s							
IBAF				*e*Pn		**Pn**	**00 48 04.2**	**+0.8**
IRAM	**Rameshe h**	**5.47**	**338**	*e*Pn		**Pn**	**00 48 12.9**	**+1.1**
IRAM				*e*Sn		**Sn**	**00 49 11.1**	**-3.4**
IRAM				*e*AMB		AMB	00 49 17.5	
	comp=Z,63nm,0.1s							

*ISCJB **19** 00:47:59.2±0.4, 13.°55N±0.°03×89.°99W±0.°04, h95km±2km, mb4.2/47, Error ellipse: s-maj=7.5km s-min=3.0km az=138.6*
*UCR **19** 00:47:59.2±1.1,13.°60N×90.°06W,h81km±8km,MD4.7, ML4.3,mb4.4(NEIC)*
*NEIC **19** 00:47:59.6±0.0,13.°60N×90.°07W,h72km,mb4.4/40, MD4.4(MEX),MD4.5(SNET),After SNET.*
NEIC Felt [III] at San Salvador. Felt at Guatemala, Guatemala.
*IDC **19** 00:47:59.5±2.6,13.°76N±89.°50W,h79km±17km,mb3.7/17, mb1 3.9/17,mb1mx3.7/42,mbtmp4.1/17,MS3.1/3, Ms1 3.1/3,ms1mx2.7/40, Error ellipse: s-maj=31.4km s-min=18.6km az=26.0*
*MEX **19** 00:48:05.9±0.4,13.°42N×90.°59W,h20km,MD4.4*

ISC 19 00:47:59.7±0.8,13.°60N±0.°07×90.°00W±0.°05,h87km±5km, n322,σ1°33/330,mb4.3/47,2C-2D,Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
SBLS	**San Blas**	**0.44**	**57**	*i*P		**Pn**	**00 48 13.2**	**-0.8**
SNJE	**San Jose**	**0.47**	**55**	*e*P		**Pn**	**00 48 13.5**	**-0.6**
SNJE	**San Jose**	**0.47**	**55**	*e*P		**Pn**	**00 48 13.5**	**-0.6**
COLS	**Colinas**	**0.69**	**85**	*e*P		**Pn**	**00 48 15.7**	**-0.3**
COLS				*e*S		**Sn**	**00 48 27.9**	**-0.2**
COLS	**Colinas**	**0.69**	**85**	*e*P		**Pn**	**00 48 15.7**	**-0.3**
COLS				*e*S		**Sn**	**00 48 27.9**	**-0.2**
BOQS	**Boqueron**	**0.72**	**79**	*e*P		**Pn**	**00 48 15.8**	**-0.5**
BOQS				*e*S		**Sn**	**00 48 29.0**	**+0.3**
BOQS	**Boqueron**	**0.72**	**79**	*e*P		**Pn**	**00 48 15.8**	**-0.5**
BOQS				*e*S		**Sn**	**00 48 29.0**	**+0.3**
IXG	**Ixpaco**	**0.72**	**323**	*i*P		**Pn**	**00 48 15.1**	**-1.2**
IXG	**Ixpaco**	**0.72**	**323**	*i*P		**Pn**	**00 48 15.1**	**-1.2**
SNET	**Serv Nac Est T**	**0.76**	**83**	*e*Pn		**Pn**	**00 48 16.4**	**-0.1**
SNET				*e*Sn		**Sn**	**00 48 28.9**	**-0.3**
SNET	**Serv Nac Est T**	**0.76**	**83**	*e*P		**Pn**	**00 48 16.2**	**-0.4**
SNET				IAML			00 48 31.9	
	comp=Z,19μm,0.3s							
UTEC	**San Salvador**	**0.79**	**83**	*e*P		**Pn**	**00 48 17.1**	**+0.2**
UTEC				IAML			00 48 34.8	
	comp=Z,12μm,0.4s							
UESS	**San Salvador**	**0.79**	**82**	*e*P		**Pn**	**00 48 17.3**	**+0.4**
UESS				*e*S		**Sn**	**00 48 30.9**	**+1.2**
OPAM	**San Salvador**	**0.79**	**81**	*e*P		**Pn**	**00 48 17.2**	**+0.2**
SANM	**San Marcos**	**0.80**	**85**	*e*P		**Pn**	**00 48 16.8**	**-0.3**
UDBS	**Soyapango**	**0.83**	**81**	*e*P		**Pn**	**00 48 17.5**	**+0.2**
UDBS				IAML			00 48 33.2	
	comp=Z,12μm,0.3s							
LFU	**La Fuente**	**0.88**	**80**	*e*P		**Pn**	**00 48 17.2**	**-0.7**
LFU	**La Fuente**	**0.88**	**80**	*e*P		**Pn**	**00 48 17.2**	**-0.7**
LFRS	**El Faro**	**0.92**	**88**	*e*P		**Pn**	**00 48 18.4**	**0.0**
LFRS	**El Faro**	**0.92**	**88**	*e*P		**Pn**	**00 48 18.4**	**0.0**
LBRS	**Las Brisas**	**0.94**	**82**	*e*P		**Pn**	**00 48 18.7**	**+0.1**
LBRS	**Las Brisas**	**0.94**	**82**	*e*P		**Pn**	**00 48 18.7**	**+0.1**
MTO3	**Monteristo**	**1.01**	**38**	*i*P		**Pn**	**00 48 19.8**	**+0.3**
SNVI	**San Vicente**	**1.13**	**89**	*e*P		**Pn**	**00 48 21.0**	**+0.1**
SNVI	**San Vicente**	**1.13**	**89**	*e*P		**Pn**	**00 48 21.0**	**+0.1**
LLGN	**La Laguna**	**1.17**	**61**	*e*P		**Pn**	**00 48 21.2**	**-0.1**
LLGN				*e*S		**Sn**	**00 48 38.3**	**+0.8**
UESV	**Ojushtada**	**1.20**	**100**	*e*P		**Pn**	**00 48 21.6**	**0.0**
UESV				*e*S		**Sn**	**00 48 38.5**	**+0.4**
UESV				IAML			00 48 44.0	
	comp=Z,5μm,0.6s							
APG	**El Apazote**	**1.47**	**342**	P		**Pn**	**00 48 25.8**	**+0.7**
	comp=Z,84nm,0.3s,baz=160,slow=9.1,SNR=341							
APG				S		**Sn**	**00 48 45.2**	**+1.0**
	comp=Z,177nm,0.3s,baz=51,slow=13,SNR=21							
VSM	**San Miguel**	**1.69**	**96**	*e*P		**Pn**	**00 48 28.5**	**+0.5**
CAHU	**Cacaucatique**	**1.75**	**84**	*e*P		**Pn**	**00 48 29.2**	**+0.4**
CNCH	**Conchagua**	**2.14**	**98**	*e*P		**Pn**	**00 48 34.3**	**+0.6**
CRIN	**San Cristobal**	**3.01**	**107**	*e*P		**Pn**	**00 48 46.3**	**+0.9**
CCIG	**Comitan**	**3.37**	**323**	*i*P		**Pn**	**00 48 52.6**	**+2.3**
CCIG	**Comitan**	**3.37**	**323**	*e*Pn		**Pn**	**00 48 52.6**	**+2.3**
CCIG				*e*S		Sn	00 49 46.2	+17
CNGN	**Cerro Negro**	**3.40**	**108**	*e*P		**Pn**	**00 48 50.2**	**-0.4**
CNGN				*e*S		**Sn**	**00 49 28.4**	**-1.7**
MOMN	**Momotombo**	**3.58**	**109**	*e*P		**Pn**	**00 48 53.0**	**0.0**
COPN	**Copaltepe**	**3.61**	**113**	*e*P		**Pn**	**00 48 53.1**	**-0.3**
PCIG		**3.75**	**304**	*i*P		**Pn**	**00 48 56.2**	**+0.9**
PCIG				*e*S		**Sn**	**00 49 31.6**	**-6.7**
PCIG		**3.75**	**304**	*i*P		**Pn**	**00 48 56.2**	**+0.9**
PCIG				*e*S		**Sn**	**00 49 31.6**	**-6.7**
MGAN	**Managua**	**3.94**	**111**	*e*P		**Pn**	**00 48 58.7**	**+0.8**
MGAN				*e*S		**Sn**	**00 49 40.2**	**-2.8**
MGAN				AML		AML	00 49 41.7	
	comp=N,156nm,0.3s							
MATN	**Matagalpa**	**4.03**	**99**	*e*P		**Pn**	**00 48 59.6**	**+0.5**
TGIG		**4.36**	**317**	*e*P		**Pn**	**00 49 03.8**	**+0.1**
TGIG		**4.36**	**317**	*e*P		**Pn**	**00 49 03.8**	**+0.1**
CRZ1	**La Cruz**	**4.95**	**120**	*e*P		**Pn**	**00 49 11.7**	**0.0**
GB1A	**Borinquen Arri**	**5.28**	**121**	*e*P		**Pn**	**00 49 17.3**	**+1.0**
GPS2	**Hotel Rinc˜‡n**	**5.36**	**121**	*e*P		**Pn**	**00 49 18.5**	**+1.2**
LIM1	**Limonal**	**5.47**	**121**	*e*P		**Pn**	**00 49 19.6**	**+0.9**
MESS	**Mesas**	**5.49**	**121**	*e*P		**Pn**	**00 49 19.6**	**+0.5**
COLC	**Colonia**	**5.53**	**121**	*e*P		**Pn**	**00 49 21.1**	**+1.5**
CUI	**Cuipilapa**	**5.56**	**121**	*e*P		**Pn**	**00 49 20.1**	**+0.1**
PLVR	**Palo Verde**	**5.58**	**125**	*e*P		**Pn**	**00 49 20.4**	**-0.1**
PTEN	**Parque Tenorio**	**5.68**	**120**	*e*P		**Pn**	**00 49 22.2**	**+0.6**
ACAL	**Aguas Claras**	**5.68**	**121**	*e*P		**Pn**	**00 49 22.5**	**+0.8**
AMAS	**Alto Masis**	**5.73**	**121**	*e*P		**Pn**	**00 49 23.6**	**+1.3**
CMIG	**Matias Romero**	**5.85**	**307**	P		**Pn**	**00 49 24.7**	**+0.8**
	comp=N,7.7nm,0.3s,baz=138,slow=14,SNR=25							
CMIG				S		**Sn**	**00 50 31.1**	**+1.5**
	comp=N,16nm,0.3s,baz=55,slow=17,SNR=6.1							
JTS	**JuntasAbangare**	**5.94**	**123**	P		**Pn**	**00 49 26.5**	**+1.3**
	comp=N,8.5nm,0.3s,baz=13,slow=20,SNR=34							
JTS				S		**Sn**	**00 50 27.4**	**-4.4**
	baz=225,slow=20,SNR=1.7							
JTS	**JuntasAbangare**	**5.94**	**123**	*e*Pn		**Pn**	**00 49 26.2**	**+1.1**
JTS				*e*S		**Sn**	**00 50 31.1**	**-0.7**
CEDE	**Laguna Cede˜–o**	**6.04**	**120**	*e*P		**Pn**	**00 49 28.5**	**+1.9**
FORC	**Fortuna**	**6.08**	**120**	*e*P		**Pn**	**00 49 28.6**	**+1.6**
CGA2	**Cerro Gallo 2**	**6.49**	**123**	*e*P		**Pn**	**00 49 34.7**	**+2.0**
HDC	**Heredia**	**6.79**	**121**	*e*Pn		**Pn**	**00 49 40.1**	**+3.3**
HDC				*e*Sn		Sn	00 51 08.0	+15
LCR2	**La Lucha 2**	**7.02**	**122**	*e*P		**Pn**	**00 49 41.5**	**+1.4**
QCR1	**Quepos**	**7.07**	**125**	*e*P		**Pn**	**00 49 41.8**	**+1.3**
URSC	**Urasca**	**7.15**	**121**	*e*P		**Pn**	**00 49 43.4**	**+1.5**
BUS	**Buena Vista**	**7.32**	**123**	*e*P		**Pn**	**00 49 46.4**	**+2.0**
MYIG	**MÖrida**	**7.32**	**2**	*e*Pn		**Pn**	**00 49 46.9**	**+2.9**
DRK0	**Durika**	**7.90**	**122**	*e*P		**Pn**	**00 49 53.4**	**+1.3**
BCIP	**Isla Barro Col**	**10.90**	**113**	*e*Pn		**Pn**	**00 50 33.7**	**+1.0**
LNIG	**Linares**	**14.35**	**323**	*e*Pn		**P**	**00 51 22.8**	**-0.4**
ZARC	**Zaragoza, Cauc**	**16.07**	**111**	*e*P		**Pn**	**00 51 40.0**	**-0.7**
DWPF	**Disney Wildern**	**16.50**

LRAL	Lakeview Retre	19.54	8	P	Pn	00 52 23.2	+0.7
	baz=189						
SDV	Santo Domingo	19.56	102	P	P	00 52 20.6	-0.4
	comp=N,1.3nm,0.3s,baz=286,slow=5.9,SNR=18						
SDV				LR	LR	00 59 52.5	
	comp=N,44nm,18.0s,baz=212,slow=37						
Z47A	Carrollton	19.59	5	P	Pn	00 52 24.1	+1.1
	baz=186,SNR=12						
Z41A	Richland Creek	19.73	353	P	Pn	00 52 25.6	+0.9
	baz=172						
256A	Glennville	19.75	21	P	Pn	00 52 24.5	-0.4
	baz=204						
Z49A	Columbiana	19.76	9	P	Pn	00 52 25.8	+0.8
	baz=190,SNR=6.1						
Z48A	Northport	19.81	6	P	Pn	00 52 25.5	-0.1
	baz=187						
Z50A	Ashland	19.92	10	P	Pn	00 52 26.3	-0.6
	baz=192						
TXAR	Lajitas Array	20.14	323	P	Pn	00 52 30.7	+1.1
	comp=N,1.5nm,0.5s,baz=146,slow=10.0,SNR=23						
TXAR				PcP	PcP	00 56 40.9	+2.2
	comp=N,0.7nm,0.6s,baz=150,slow=3.0,SNR=13						
TXAR				ScP	ScP	01 00 07.9	+0.4
	comp=N,0.5nm,0.8s,baz=150,slow=5.9,SNR=5.8						
TX31	Lajitas Ar. Si	20.14	323	eP	Pn	00 52 31.0	+1.4
TX31				ePcP	PcP	00 56 41.2	+2.4
155A	Kite	20.15	19	P	Pn	00 52 29.1	-0.4
	baz=202						
Y45A	Yeager Farm, C	20.18	1	P	Pn	00 52 30.4	+0.5
	baz=182						
WLAR	White Oak Lake	20.20	352	eP	Pn	00 52 32.9	+2.8
	comp=N,18nm,0.8s						
Y46A	Houston	20.22	3	P	Pn	00 52 30.8	+0.4
	baz=183,SNR=14						
Y44A	Strider, Charl	20.27	360	P	Pn	00 52 30.8	-0.2
	baz=180						
Y47A	UCPARC, Winfie	20.31	5	P	Pn	00 52 31.7	+0.3
	baz=186,SNR=10						
Y48A	Jasper	20.39	7	P	Pn	00 52 31.9	-0.4
	baz=188						
Y49A	Blount Mountai	20.43	9	P	Pn	00 52 32.2	-0.7
	baz=190						
Y50A	Piedmont	20.57	10	P	P	00 52 33.6	+2.1
	baz=192						
GOGA	Godfrey	20.60	16	P	P	00 52 33.4	+1.6
	baz=198						
GOGA	Godfrey	20.60	16	eP	P	00 52 32.6	+0.8
	comp=N,2.0nm,0.7s						
OXF	Oxford	20.83	1	P	P	00 52 36.3	+2.1
	baz=182						
OXF	Oxford	20.83	1	eP	P	00 52 36.0	+1.7
	comp=N,27nm,0.9s						
ABTX	Abilene, Hawle	20.89	337	P	P	00 52 36.6	+1.6
	baz=153						
ABTX	Abilene, Hawle	20.89	337	eP	P	00 52 36.8	+1.8
	comp=N,7.8nm,0.9s						
X46A	Booneville	20.90	3	P	Pn	00 52 38.1	-0.2
	baz=184,SNR=9.5						
X47A	Russelville	20.92	5	P	Pn	00 52 38.1	-0.4
	baz=186,SNR=14						
X48A	Hartselle	20.93	7	P	Pn	00 52 37.7	-1.0
	baz=188						
X49A	Woodville	21.09	8	P	P	00 52 39.2	+2.2
	baz=190,SNR=5.6						
MIAR	Mount Ida	21.10	352	P	P	00 52 38.5	+1.3
	baz=170						
MIAR	Mount Ida	21.10	352	eP	P	00 52 38.1	+0.9
	comp=N,6.4nm,0.9s						
X39A	Fountain Ranch	21.15	351	P	P	00 52 39.6	+1.9
	baz=169						
UALR	University of	21.19	355	eP	P	00 52 42.7	+4.6
	comp=N,8.7nm,0.8s						
PLAL	Pickwick Lake	21.36	4	eP	P	00 52 43.1	+3.1
	comp=N,7.8nm,0.8s						
W46A	Michie	21.49	4	P	P	00 52 42.4	+1.1
	baz=184						
W41B	Gary Mavity, V	21.58	355	P	P	00 52 44.1	+1.8
	baz=174						
W48A	Pulaski	21.62	7	P	P	00 52 44.9	+2.2
	baz=188						
W47A	Westpoint	21.67	5	P	P	00 52 45.1	+1.9
	baz=186,SNR=6.7						
W40A	Fergusson Farm,	21.68	353	P	P	00 52 45.0	+1.7
	baz=172						
WHAR	Wooly Hollow	21.70	355	eP	P	00 52 47.1	+3.6
	comp=N,19nm,1.2s						
W39A	Magazine	21.77	352	P	P	00 52 45.9	+1.6
	baz=170						
SWET	Sewanee	21.84	9	eP	P	00 52 46.6	+1.5
	comp=N,3.5nm,0.7s						
V42A	Cord	22.15	357	P	P	00 52 49.2	+0.9
	baz=177						
V46A	Holladay	22.17	4	P	P	00 52 49.4	+0.8
	baz=185,SNR=6.5						
V41A	Mountainview	22.18	355	P	P	00 52 49.8	+1.2
	baz=175						
V47A	Nunnelly	22.25	5	P	P	00 52 50.6	+1.2
	baz=186,SNR=8.6						
V40A	Witts Springs	22.25	354	P	P	00 52 50.8	+1.3
	baz=173						
CPCT	Cooper Cave	22.31	12	eP	P	00 52 50.8	+0.7
WMOK	Wichita Mounta	22.49	341	eP	P	00 52 51.7	-0.4
	comp=N,21nm,1.6s						
WVT	Waverly	22.52	5	P	P	00 52 53.6	+1.4
	baz=186						
WVT	Waverly	22.52	5	eP	P	00 52 53.7	+1.4
	comp=N,10nm,0.8s						
TKL	Tuckaleechee C	22.67	13	P	P	00 52 55.2	+1.3
	comp=N,3.4nm,0.5s,baz=189,slow=11,SNR=12						
TKL				LR	LR	01 01 56.8	
	comp=N,92nm,20.9s,baz=192,slow=37						
TKL	Tuckaleechee C	22.67	13	eP	P	00 52 55.2	+1.3
	comp=N,23nm,1.1s						
U43A	Rector	22.68	359	P	P	00 52 55.1	+1.2
	baz=179						
U46A	Springville	22.72	4	P	P	00 52 55.5	+1.2
	baz=185,SNR=7.9						
U40A	Yellville	22.80	354	P	P	00 52 56.1	+0.9
	baz=173						
KMSC	Kings Mountain	22.83	19	P	P	00 52 56.1	+0.5
	baz=202						
U47A	Clarksville	22.88	6	P	P	00 52 56.6	+0.7
	baz=187,SNR=5.7						
MNTX	Cornudas Mount	22.88	324	P	P	00 52 57.3	+1.2
	baz=139						
MNTX	Cornudas Mount	22.88	324	eP	P	00 52 57.6	+1.5
	comp=N,5.1nm,1.4s						
U39A	Green Forest	22.90	353	P	P	00 52 56.6	+0.4
	baz=172						
U48A	Cassie Pea, Po	23.02	7	P	P	00 52 57.8	+0.4
	baz=189						
T42A	Van Buren	23.35	358	P	P	00 53 01.6	+1.1
	baz=178,SNR=7.5						
MSTX	Muleshoe	23.36	332	P	P	00 53 01.7	+1.0
	baz=147						
SJG	San Juan	23.37	76	LR	LR	01 02 39.3	
	comp=N,32nm,18.9s,baz=280,slow=38						
T43A	Greenville	23.39	359	P	P	00 53 01.7	+0.9
	baz=180						
T41A	Mountain View	23.40	356	P	P	00 53 01.5	+0.6
	baz=176						
T46A	Princeton	23.42	4	P	P	00 53 02.0	+0.9
	baz=185,SNR=10						
T47A	Sharon Grove	23.43	6	P	P	00 53 02.0	+0.7
	baz=187,SNR=8.8						
T39A	Clever	23.52	353	P	P	00 53 03.2	+1.2
	baz=172						
T40A	Mansfield	23.56	355	P	P	00 53 03.3	+0.9
	baz=174						
TZTN	Tazewell	23.57	13	P	P	00 53 02.9	+0.4
	baz=196						
TZTN	Tazewell	23.57	13	eP	P	00 53 03.0	+0.6
	comp=N,10nm,1.0s						
T48A	Bowling Green	23.63	7	P	P	00 53 03.6	+0.5
	baz=189						
HUMP	Col San Antoni	23.66	76	eP	P	00 53 01.5	-2.0
	comp=N,20nm,1.2s						
AMTX	Amarillo	23.68	336	P	P	00 53 04.8	+1.2
	baz=151						
AMTX	Amarillo	23.68	336	eP	P	00 53 05.2	+1.6
	comp=N,6.7nm,0.9s						
S43A	Fulton Ridge,	23.87	360	P	P	00 53 05.8	+0.6
	baz=180						
MTP	Monte Pirata	23.93	76	eP	P	00 53 04.0	-1.9
	comp=N,43nm,1.3s						
S41A	Jilco Farms,	23.94	357	P	P	00 53 06.5	+0.8
	baz=176						
S40A	Lebanon	24.00	355	P	P	00 53 07.1	+0.8
	baz=174						
S44A	Carbondale	24.00	1	P	P	00 53 07.3	+1.0
	baz=182,SNR=5.6						
S45A	Carrier Mills	24.01	3	P	P	00 53 07.0	+0.6
	baz=184						
SIUC	Southern Illin	24.03	2	eP	P	00 53 07.6	+1.1
	comp=N,50nm,1.5s						
S46A	Dan Dixon Farm	24.07	4	P	P	00 53 07.0	+0.1
	baz=186						
S42A	Caledonia	24.08	358	P	P	00 53 07.3	+0.3
	baz=178						
S39A	Bolivar	24.17	354	P	P	00 53 08.7	+0.8
	baz=172						
S38A	Stockton	24.18	352	P	P	00 53 08.8	+0.9
	baz=171						
USIN	University of	24.36	4	eP	P	00 53 10.5	+1.0
	comp=N,25nm,0.8s						
CCM	Cathedral Cave	24.38	358	P	P	00 53 10.5	+0.8
	baz=177						
CCM	Cathedral Cave	24.38	358	eP	P	00 53 10.3	+0.6
	comp=N,11nm,0.9s						
R44A	Waltonville	24.56	2	P	P	00 53 11.4	0.0
	baz=182						
R43A	Red Bud	24.58	0	P	P	00 53 12.0	+0.5
	baz=180						
R46A	Gibon Southern	24.61	5	P	P	00 53 12.4	+0.5
	baz=186						
R41A	Rosebud	24.63	357	P	P	00 53 12.5	+0.5
	baz=177						
R45A	Skylar, Fairfi	24.64	3	P	P	00 53 12.4	+0.4
	baz=184						
R40A	Maddies Statio	24.67	356	P	P	00 53 12.6	+0.2
	baz=175						
R38A	Fenwick Farm,	24.73	353	P	P	00 53 13.8	+0.9
	baz=171						
WCI	Wyandotte Cave	24.75	7	P	P	00 53 13.7	+0.6
	baz=189						
WCI	Wyandotte Cave	24.75	7	eP	P	00 53 14.3	+1.2
	comp=N,17nm,0.8s						
R39A	Chumby, Stover	24.76	354	P	P	00 53 13.6	+0.4
	baz=173,SNR=6.0						
R47A	Wooly Knot Far	24.79	7	P	P	00 53 14.1	+0.7
	baz=188						
Q42A	Golden Eagle	25.22	359	P	P	00 53 17.8	+0.5
	baz=179						
Q44A	Meyer Farm, Va	25.22	2	P	P	00 53 18.5	+1.2
	baz=182						
Q43A	New Douglas	25.24	1	P	P	00 53 19.1	+1.5
	baz=181						
Q45A	Warren Harvey,	25.25	3	P	P	00 53 18.6	+1.0
	baz=184						
Q41A	Truxton	25.28	358	P	P	00 53 18.4	+0.5
	baz=177						
Q40A	Laux Farm, Aux	25.36	356	P	P	00 53 19.2	+0.6
	baz=176						
Q47A	Bedord North L	25.43	7	P	P	00 53 20.0	+0.7
	baz=188						
Q38A	Cooks Store, C	25.46	353	P	P	00 53 20.2	+0.6
	baz=172						
Q39A	Willow Grove F	25.48	355	P	P	00 53 19.9	+0.2
	baz=173,SNR=6.9						
P42A	Winchester	25.89	359	P	P	00 53 23.4	+0.1
	baz=179						
P40A	Paris	25.89	356	P	P	00 53 24.0	+0.6
	baz=176						
P39B	Salisbury	25.90	355	P	P	00 53 23.7	+0.2
	baz=174						
P45A	Graceland, Par	25.90	4	P	P	00 53 23.2	-0.3
	baz=185						
P38A	Dawn	26.11	354	P	P	00 53 25.5	+0.1
	baz=172						
P37A	Lathrop	26.17	352	P	P	00 53 26.3	+0.4
	baz=171						
O40A	La Belle	26.47	357	P	P	00 53 29.1	+0.5
	baz=176						
O45A	Potomac	26.62	4	P	P	00 53 30.2	+0.2
	baz=185						
T25A	Trinidad	26.74	334	P	P	00 53 32.7	+1.3
	baz=148						
SFIN	Lafayette	26.80	5	P	P	00 53 31.7	+0.1
	baz=186						
MHTCO	State Highway	26.86	333	eP	P	00 53 32.1	-0.3
	comp=N,4.2nm,0.8s						
M43A	Waltham Townsh	27.75	2	P	P	00 53 40.7	+0.7
	baz=182						
M39A	Webster	27.84	357	P	P	00 53 40.8	-0.1
	baz=176						
M38A	Pleasantville	27.85	355	P	P	00 53 41.2	+0.2
	baz=174						
S22A	4UR Ranch, Cre	28.33	331	P	P	00 53 46.9	+1.2
	baz=144						
L41A	Preston	28.38	359	P	P	00 53 45.5	-0.2
	baz=179						
L40A	Anamosa	28.38	358	P	P	00 53 45.8	+0.2
	baz=178						
L39A	Vinton	28.47	357	P	P	00 53 46.7	+0.2
	baz=176						
L38A	Oak Wood Farm,	28.55	355	P	P	00 53 47.3	+0.1
	baz=174,SNR=8.9						
L35A	Bison Farm, R	28.81	351	P	P	00 53 50.3	+0.7
	baz=169						
K41A	Shullsburg	28.90	360	P	P	00 53 50.2	-0.1
	baz=180						
K39A	Oelwein	29.05	357	P	P	00 53 51.5	-0.1
	baz=176						
AAM	Ann Arbor	29.12	10	P	P	00 53 52.1	-0.2
	baz=193						
K37A	Belmond	29.23	355	P	P	00 53 53.7	+0.4
	baz=173						
K35A	Storm Lake	29.37	352	P	P	00 53 54.9	+0.5
	baz=170						
J42A	Columbus	29.62	1	P	P	00 53 57.2	+0.5
	baz=182						
J41A	Loganville	29.66	360	P	P	00 53 57.1	+0.1
	baz=180						
J43A	Natural Harves	29.71	2	P	P	00 53 58.5	+1.1
	baz=183						
J37A	Renius Farm,	29.76	355	P	P	00 53 58.4	+0.4
	baz=173						
GLA	Glamis	29.77	315	P	P	00 54 00.7	+2.4
	baz=125						
J36A	Seneca 1, Swea	29.86	354	P	P	00 53 58.6	-0.2
	baz=172						
N59A	State Game Lan	29.93	22	P	P	00 54 00.2	+0.7
	baz=209						
J34A	George	30.02	351	P	P	00 54 01.0	+0.7
	baz=168						
I38A	Scanlan Farm,	30.40	357	P	P	00 54 03.7	+0.2
	baz=176						
J32A	Parkston	30.43	349	P	P	00 54 04.4	+0.6
	baz=165						
I37A	Lemond, Waseca	30.45	355	P	P	00 54 04.6	+0.6
	baz=174						
ECSD	EROS Data Cent	30.56	351	P	P	00 54 04.9	-0.1
	baz=167						
ECSD	EROS Data Cent	30.56	351	eP	P	00 54 04.5	-0.5
	comp=N,5.0nm,1.2s						
H39A	Augusta	30.99	358	P	P	00 54 09.3	+0.5
	baz=178						
H38A	Maiden Rock	31.03	357	P	P	00 54 09.3	+0.2
	baz=176						
H36A	Jessenland, He	31.05	355	P	P	00 54 09.7	+0.4
	baz=173,SNR=6.1						
H35A	Sunnyside Ranc	31.27	353	P	P	00 54 11.0	-0.2
	baz=171						
H32A	Carlson Farm,	31.45	350	P	P	00 54 12.9	+0.1
	baz=166						
G38A	Ridgeland	31.50	357	P	P	00 54 12.8	-0.5
	baz=177						
G39A	Holcombe	31.60	358	P	P	00 54 13.6	-0.5
	baz=178						
SPMN	Marine on St.	31.61	356	P	P	00 54 14.0	-0.2
	baz=175,SNR=7.8						
SPMN	Marine on St.	31.61	356	eP	P	00 54 14.5	+0.3
	comp=N,21nm,0.3s						
G34A	Benson	31.90	352	P	P	00 54 16.6	-0.2
	baz=170						
G33A	Ortonville	31.96	351	P	P	00 54 16.9	-0.4
	baz=168,SNR=7.0						
F38A	Pierce - Schro	32.29	358	P	P	00 54 19.9	-0.3
	baz=177						
F36A	Milaca	32.30	355	P	P	00 54 20.8	+0.6
	baz=174						
F35A	Swanville	32.38	354	P	P	00 54 20.8	-0.2
	baz=172						
F34A	Alexandria	32.40	353	P	P	00 54 21.1	0.0
	baz=171						
F33A	5 Mile Ranch,	32.57	352	P	P	00 54 21.9	-0.7
	baz=169,SNR=5.1						
E40A	Wakefield	32.74	0	P	P	00 54 24.3	+0.2
	baz=180						
PTGA	Pitinga	33.00	113	eP	P	00 54 25.6	-1.1
	comp=N,3.9nm,0.8s						
E34A	Wadena	33.10	353	P	P	00 54 27.3	+0.1
	baz=171,SNR=14						
E33A	Westby DABS, E	33.19	352	P	P	00 54 27.4	-0.6
	baz=169,SNR=6.9						
MPMC	Manual Prospec	33.29	317	P	P	00 54 30.7	+1.4
	baz=125						
D37A	Cotton	33.52	357	P	P	00 54 30.9	+0.1
	baz=176						
E31A	Nome	33.52	350	P	P	00 54 30.1	-0.8
	baz=166						
D35A	Remer	33.55	355	P	P	00 54 30.4	-0.7
	baz=173						
LONY	Lake Ozonia	33.60	20	P	P	00 54 30.9	-0.7
	baz=208						
PDAR	Pinedale Array	33.61	334	P	P	00 54 34.1	+2.1
	comp=N,0.2nm,0.6s,baz=142,slow=10,SNR=2.6						
PDAR				PcP	PcP	00 57 10.6	+0.1
	comp=N,0.2nm,0.5s,baz=131,slow=4.5,SNR=3.8						
D34A	Park Rapids	33.66	354	P	P	00 54 31.7	-0.5
	baz=171,SNR=5.3						
D33A	AnnSam, Waubun	33.79	353	P	P	00 54 33.1	-0.2
	baz=170,SNR=7.9						
D32A	Dogwood Acres,	33.94	351	P	P	00 54 34.0	-0.5
	baz=168,SNR=6.8						
D31A	Mcclaflin, Tow	33.97	351	P	P	00 54 34.2	-0.6
	baz=167,SNR=5.9						
C36A	Pine Crest Far	34.14	357	P	P	00 54 36.3	+0.1
	baz=175						
C35A	Jirik Farms, M	34.16	355	P	P	00 54 35.9	-0.5
	baz=173,SNR=6.9						
C34A	RKJ Ranch, Bem	34.19	354	P	P	00 54 36.2	-0.5
	baz=172						
EYMN	Ely	34.27	358	eP	P	00 54 36.8	-0.5
	comp=N,3.7nm,0.5s						
REDW	Red Top Meadow	34.66	333	eP	P	00 54 42.9	+1.8
	comp=N,3.0nm,0.8s						
C31A	Landman Farms,	34.69	351	P	P	00 54 41.2	+0.2
	baz=167						
B35A	Bob, Littlefor	34.79	356	P	P	00 54 41.9	0.0
	baz=174						
SAML	Samuel	34.80	129	eP	P	00 54 42.4	+0.1
	comp=N,6.9nm,0.8s						
AGMN	Agassiz Nation	34.94	353	P	P	00 54 42.8	-0.2
	baz=170						
AGMN	Agassiz Nation	34.94	353	eP	P	00 54 43.1	0.0
	comp=N,14nm,0.7s						
B34A	Aery, Baudette	35.00	355	P	P	00 54 43.5	-0.1
	baz=172						
MDND	Maddock	35.07	349	P	P	00 54 44.9	+0.7
	baz=164						
MDND	Maddock	35.07	349	eP	P	00 54 45.2	+1.0
	comp=N,26nm,0.9s						
B32A	Ashes, Strandq	35.11	352	P	P	00 54 44.7	+0.1
	baz=169,SNR=6.1						
NV01	Mina Array Sit	35.21	320	eP	P	00 54 49.2	+3.4
NVAR	Mina Array Bea	35.21	320	P	P	00 54 48.7	+2.8
	comp=N,3.2nm,0.7s,baz=136,slow=8.4,SNR=18						
NVAR				PcP	PcP	00 57 17.4	+2.3
	comp=N,0.9nm,0.4s,baz=119,slow=5.5,SNR=8.7						
B31A	Greenbush Farm	35.30	351	P	P	00 54 46.0	-0.2
	baz=167						
A33A	Warroad	35.51	354	P	P	00 54 48.0	0.0
	baz=171,SNR=14						
A32A	Rocking H Ranc	35.62	353	P	P	00 54 48.9	0.0
	baz=169						
A31A	Linda, St. Vin	35.73	352	P	P	00 54 52.0	+2.1
	baz=168						
YERR	Yerington	36.13	320	eP	P	00 54 59.0	+5.3
	comp=N,6.2nm,0.6s						
MCMT	McKenzie Canyo	36.70	332	eP	P	00 55 01.5	+2.9
DGMT	Dagmar	36.70	344	P	P	00 55 00.2	+2.0
	baz=157						
BOZ	Bozeman (W)	36.77	334	P	P	00 55 00.5	+1.4
	baz=144						
ULM	Lac du Bonnet	36.86	354	P	P	00 54 58.5	-1.1
	comp=N,5.4nm,0.5s,baz=171,slow=8.8,SNR=17						
EGMT	Eagleton	38.05	338	eP	P	00 55 11.2	+1.6
	comp=N,1.0nm,0.4s						
O03D	Paynes Creek	38.50	320	P	P	00 55 15.7	+2.0
	baz=125						
EDM	Edmonton	43.66	340	eP	P	00 55 56.8	+1.1
	comp=N,7.2nm,1.0s						
SCHQ	Schefferville	44.95	19	P	P	00 56 05.4	-0.5
	comp=N,8.1nm,0.4s,baz=221,slow=6.0,SNR=12						
FCC	Fort Churchill	45.18	357	eP	P	00 56 06.8	-0.8
	comp=N,21nm,1.8s						
YKA	Yellowknife Ar	51.87	346	P	P	00 56 58.8	-0.1
	comp=N,0.9nm,0.4s,baz=134,slow=7.4,SNR=51						
YKA				pP	pP	00 57 19.5	-0.8
	comp=N,0.3nm,0.6s,baz=143,slow=7.8,SNR=2.9						
YKA				PcP	PcP	00 58 09.2	-1.4
	comp=N,0.2nm,0.6s,baz=155,slow=4.1,SNR=3.2						
RES	Resolute Bay	61.14	359	eP	P	00 58 03.6	-0.8
	comp=N,18nm,2.0s						
ILAR	Eielson Array	63.97	336	P	P	00 58 23.9	+0.4
	comp=N,0.2nm,0.3s,baz=126,slow=5.9,SNR=5.3						
EKA	Eskdalemuir Ar	77.15	36	P	P	00 59 41.4	-2.4
	comp=N,0.8nm,0.5s,baz=274,slow=5.5,SNR=7.7						
ESDC	Sonseca Array	78.44	52	P	P	00 59 49.2	-2.1
	comp=N,0.6nm,0.5s,baz=288,slow=4.5,SNR=3.9						
SPITS	Spitsbergen Ar	80.09	12	P	P	00 59 59.5	-0.1
	comp=N,3.5nm,0.8s,baz=288,slow=5.9,SNR=3.5						
KOWA	Kowa	82.88	77	P	P	01 00 13.0	-2.4
	comp=N,0.8nm,0.4s,baz=295,slow=11,SNR=7.3						
NOA	NORSAR Array B	83.57	29	P	P	01 00 17.9	-0.2
	comp=N,0.3nm,0.5s,baz=283,slow=3.7,SNR=2.7						
DBIC	Dimbokro	83.76	85	P	P	01 00 18.4	-1.6
	comp=N,0.7nm,0.4s,baz=284,slow=3.9,SNR=3.2						
HFS	Hagfors	85.01	29	P	P	01 00 24.2	-1.1
	comp=N,0.5nm,0.4s,baz=291,slow=6.0,SNR=4.7						
ARCES	ARCESS Array B	85.90	19	P	P	01 00 28.7	-1.0
	comp=N,2.2nm,1.0s,baz=308,slow=4.5,SNR=4.8						
KEST	Kesra	89.58	53	P	P	01 00 45.8	-2.2
	comp=N,1.7nm,0.8s,baz=225,slow=4.3,SNR=2.9						
FINES	FINESS Array B	90.03	26	P	P	01 00 49.7	+0.2
	comp=N,0.5nm,0.7s,baz=294,slow=4.4,SNR=5.5						
KURBB	Kurchatov Arra	115.27	8	PKP	PKPdf	01 06 30.8	-0.3
	comp=N,0.3nm,0.3s,baz=0.5,slow=1.8,SNR=3.3						
BOSA	Boshof	118.43	115	PKP	PKPdf	01 06 38.7	+0.7
	comp=N,1.2nm,0.3s,baz=303,slow=2.3,SNR=9.9						
MKAR	Makanchi Array	119.49	6	PKP	PKPdf	01 06 37.6	-1.8
	comp=N,0.2nm,0.5s,baz=266,slow=2.1,SNR=3.3						
WRA	Warramunga Arr	137.17	255	PKhKP	PKPpre	01 07 05.4	
	comp=N,0.2nm,0.5s,baz=87,slow=2.8,SNR=3.8						
WRA				PKP	PKPdf	01 07 14.1	+0.4
	comp=N,1.5nm,0.8s,baz=88,slow=2.4,SNR=15						
ASAR	Alice Springs	137.35	250	PKhKP	PKPpre	01 07 04.6	
	comp=N,0.3nm,0.4s,baz=98,slow=4.8,SNR=4.0						
ASAR				PKP	PKPdf	01 07 14.5	+0.5
	comp=N,0.6nm,0.5s,baz=93,slow=2.4,SNR=5.9						
CMAR	Chiang Mai Arr	146.95	344	PKPbc	PKPbc	01 07 33.2	+0.1
	comp=N,1.9nm,0.6s,baz=353,slow=3.1,SNR=5.0						

IDC ***19*** *00:49:22.6±0.8,28°.99S×178°.31W,h161km±8km,mb3.4/3, mb1 3.5/3,mb1mx3.2/40,mbtmp3.8/3, Error ellipse: s-maj=38.3km s-min=27.5km az=1.0*

ISC 19 00:49:22.4±0.8,29°.1S±0°.3×178°.6W±0°.2,h150km,n15,
σ1s05/15,mb3.6/3,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	Raoul Island	0.61	103	P	Pn	00 49 45.4	+1.1
	662nm,0.3s,baz=101,slow=8.1,SNR=63						
RAO				S	Sn	00 50 01.1	0.0
	341nm,0.3s,baz

HFS	**Hagfors**	**147.89 348**	PKPbc	**PKPdf**	**01 08 47.1**	**+1.1**
	comp=Z,1.1nm,0.5s,baz=52,slow=5.9,SNR=7.8					
AKASG	**Malin Array Be**	**149.97 324**	PKPbc	**PKPbc**	**01 08 53.4**	**-1.3**
	comp=Z,1.1nm,0.3s,baz=45,slow=3.4,SNR=7.0					
MMAI	**Mount Meron Ar**	**150.69 286**	PKPbc	**PKPbc**	**01 08 57.3**	**+0.2**
	comp=Z,1.4nm,0.4s,baz=98,slow=5.1,SNR=4.2					
BRTR	**Keskin Array B**	**151.52 300**	PKPbc	**PKPbc**	**01 08 57.8**	**-1.1**
	comp=Z,0.6nm,0.7s,baz=145,slow=6.0,SNR=4.3					

IDC 19 00:51:35.7±6.1, 21°35S×178°18W, h0km, mb4.4/3, mb1 4.6/3, mb1mx3.8/42, mbtmp4.4/3, Error ellipse: s-maj=165.1km s-min=96.5km az=141.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**37.28**	**245**	P	P	00 58 48.7	-0.8
	3.0nm,0.6s,baz=86,slow=10,SNR=11						
ASAR	**Alice Springs**	**44.17**	**258**	P	P	00 59 46.5	-0.1
	4.7nm,0.8s,baz=96,slow=8.1,SNR=37						
WRA	**Warramunga Arr**	**44.33**	**263**	P	P	00 59 48.5	+0.6
	2.6nm,0.4s,baz=96,slow=7.9,SNR=60						
HFS	**Hagfors**	**140.34**	**351**	PKP	PKPdf	01 11 05.6	-0.7
	0.7nm,0.3s,baz=48,slow=2.1,SNR=9.6						

*IDC **19** 01:06:15.4±1.5, 37°93N×16°90E, h0km, mb3.5/2, mb1 3.4/7, mb1mx3.2/65, mbtmp3.4/7, ML3.2/4, Error ellipse: s-maj=32.5km s-min=20.6km az=171.0*
*CSEM **19** 01:06:16.6±0.3, 37°62N×17°07E, h40km, ML4.7/11, Error ellipse: s-maj=7.7km s-min=2.6km az=140.0*
*ROM **19** 01:06:18.5±0.2, 37°68N×16°83E, h48km±5km, Ml3.5/31, Error ellipse: s-maj=4.6km s-min=2.3km az=120.0*
*BEO **19** 01:06:23.6±0.8, 38°28N×17°55E, h0km*

ISC 19 01:06:17.6±1.5, 37°70N±0°04×16°91E±0°03, h24km±13km, n137,σ1s49/156, 2D, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MPAZ	**Palizzi**	**0.76**	**289**	Pg	**Pn**	**01 06 32.9**	**+0.1**
MPAZ				Sg	**Sn**	**01 06 43.0**	**-0.5**
	2μm,0.3s						
MPAZ	**Palizzi**	**0.76**	**289**	Pg	**Pn**	**01 06 32.9**	**+0.1**
MPAZ				Sg	**Sn**	**01 06 43.0**	**-0.5**
	2μm,0.3s						
SOI	**Samo**	**0.77**	**299**	Pg	**Pn**	**01 06 33.1**	**+0.1**
	532nm,0.3s						
SOI	**Samo**	**0.77**	**299**	Pg	**Pn**	**01 06 33.1**	**+0.1**
	532nm,0.3s						
PLAC	**Placanica**	**0.83**	**334**	↓*i*Pg	**Pn**	**01 06 34.1**	**+0.2**
PLAC				Sg	**Sn**	**01 06 44.9**	**-0.5**
	669nm,0.4s						
PLAC	**Placanica**	**0.83**	**334**	↓*i*Pg	**Pn**	**01 06 34.1**	**+0.2**
PLAC				Sg	**Sn**	**01 06 44.9**	**-0.5**
	669nm,0.4s						
GMB	**Gambarie**	**0.97**	**299**	Pg	**Pb**	**01 06 35.7**	**-0.2**
	6μm,0.2s						
GMB	**Gambarie**	**0.97**	**299**	Pg	**Pb**	**01 06 35.7**	**-0.2**
	6μm,0.2s						
CEL	**Celeste**	**0.98**	**305**	Pg	**Pb**	**01 06 35.9**	**0.0**
CEL				Sg	**Sb**	**01 06 47.7**	**-0.7**
	1μm,0.6s						
CEL	**Celeste**	**0.98**	**305**	Pg	**Pb**	**01 06 35.9**	**0.0**
CEL				Sg	**Sb**	**01 06 47.7**	**-0.7**
	1μm,0.6s						
MSCL	**Scilla**	**1.03**	**301**	Pg	**Pn**	**01 06 36.6**	**0.0**
	2μm,0.6s						
MSCL	**Scilla**	**1.03**	**301**	Pg	**Pn**	**01 06 36.6**	**0.0**
	2μm,0.6s						
GRI	**Girifalco**	**1.18**	**341**	Pg	**Pn**	**01 06 38.7**	**0.0**
	189nm,0.4s						
GRI	**Girifalco**	**1.18**	**341**	Pg	**Pn**	**01 06 38.7**	**0.0**
	189nm,0.4s						
JOPP	**Joppolo**	**1.21**	**318**	Pg	**Pn**	**01 06 39.0**	**-0.1**
	290nm,0.5s						
JOPP	**Joppolo**	**1.21**	**318**	Pg	**Pn**	**01 06 39.0**	**-0.1**
	290nm,0.5s						
ATN	**Antennamare**	**1.23**	**292**	Pg	**Pb**	**01 06 40.1**	**-0.2**
ATN				Sg	**Sn**	**01 06 54.1**	**-1.2**
	762nm,0.4s						
ATN	**Antennamare**	**1.23**	**292**	Pg	**Pb**	**01 06 40.1**	**-0.2**
ATN				Sg	**Sn**	**01 06 54.1**	**-1.2**
	762nm,0.4s						
MPNC	**Port Mandanici**	**1.31**	**290**	Pg	**Pn**	**01 06 40.7**	**+0.3**
	2μm,0.5s						
MPNC	**Port Mandanici**	**1.31**	**290**	Pg	**Pn**	**01 06 40.7**	**+0.3**
	2μm,0.5s						
MMME	**Mongiuffi-Meli**	**1.33**	**280**	Pg	**Pn**	**01 06 40.8**	**0.0**
MMME	**Mongiuffi-Meli**	**1.33**	**280**	Pg	**Pn**	**01 06 40.8**	**0.0**
SERS	**Sersale**	**1.34**	**353**	Pg	**Pn**	**01 06 41.1**	**+0.1**
SERS				Sg	**Sn**	**01 06 57.1**	**-1.0**
	115nm,0.4s						
SERS	**Sersale**	**1.34**	**353**	Pg	**Pn**	**01 06 41.1**	**+0.1**
SERS				Sg	**Sn**	**01 06 57.1**	**-1.0**
	115nm,0.4s						
MCSR	**Castroreale**	**1.36**	**286**	Pg	**Pn**	**01 06 41.9**	**+0.7**
	2μm,0.3s						
MCSR	**Castroreale**	**1.36**	**286**	Pg	**Pn**	**01 06 41.9**	**+0.7**
	2μm,0.3s						
AGST	**Augusta-Monte**	**1.41**	**252**	Pg	**Pn**	**01 06 40.8**	**-1.0**
AGST	**Augusta-Monte**	**1.41**	**252**	Pg	**Pn**	**01 06 40.8**	**-1.0**
NOV	**Novara**	**1.44**	**284**	Pg	**Pn**	**01 06 43.1**	**+0.8**
NOV	**Novara**	**1.44**	**284**	Pg	**Pn**	**01 06 43.1**	**+0.8**
MILZ	**Milazzo**	**1.44**	**294**	Pg	**Pn**	**01 06 42.5**	**+0.3**
MILZ	**Milazzo**	**1.44**	**294**	Pg	**Pn**	**01 06 42.5**	**+0.3**
MILZ				Sg	**Sn**	**01 06 58.3**	**-2.1**
	703nm,0.3s						
HAGA	**Augusta**	**1.46**	**254**	Pg	**Pn**	**01 06 41.4**	**-1.0**
HAGA				Sg	**Sn**	**01 06 58.5**	**-2.2**
	1μm,0.3s						
HAGA	**Augusta**	**1.46**	**254**	Pg	**Pn**	**01 06 41.4**	**-1.0**
HAGA				Sg	**Sn**	**01 06 58.5**	**-2.2**
	1μm,0.3s						
TIP	**Timpagrande**	**1.48**	**355**	Pg	**Pn**	**01 06 42.8**	**0.0**
	140nm,0.4s						
TIP	**Timpagrande**	**1.48**	**355**	Pg	**Pn**	**01 06 42.8**	**0.0**
	140nm,0.4s						
HCRL	**Carlentini**	**1.55**	**255**	Pg	**Pn**	**01 06 43.0**	**-0.7**
	4μm,0.3s						
HCRL	**Carlentini**	**1.55**	**255**	Pg	**Pn**	**01 06 43.0**	**-0.7**
	4μm,0.3s						
SSY	**Sortino**	**1.56**	**250**	Pg	**Pn**	**01 06 42.8**	**-1.1**
SSY	**Sortino**	**1.56**	**250**	Pg	**Pn**	**01 06 42.8**	**-1.1**
SSY				Sg	**Sn**	**01 07 00.3**	**-3.1**
	799nm,0.2s						
LADO	**San Nicola del**	**1.58**	**2**	Pg	**Pn**	**01 06 44.6**	**+0.5**
	51nm,0.4s						
LADO	**San Nicola del**	**1.58**	**2**	Pg	**Pn**	**01 06 44.6**	**+0.5**
	51nm,0.4s						
HAVL	**Avola**	**1.61**	**243**	Pg	**Pn**	**01 06 43.9**	**-0.6**
HAVL				Sg	**Sn**	**01 07 01.8**	**-2.6**
	1μm,0.3s						
HAVL	**Avola**	**1.61**	**243**	Pg	**Pn**	**01 06 43.9**	**-0.6**
HAVL				Sg	**Sn**	**01 07 01.8**	**-2.6**
	1μm,0.3s						
MUCR	**Ucria**	**1.65**	**282**	Pg	**Pn**	**01 06 45.5**	**+0.4**
	541nm,0.4s						
MUCR	**Ucria**	**1.65**	**282**	Pg	**Pn**	**01 06 45.5**	**+0.4**
	541nm,0.4s						
HLNI	**Lentini**	**1.66**	**258**	Pg	**Pn**	**01 06 44.1**	**-1.1**
HLNI				Sg	**Sn**	**01 07 03.2**	**-2.5**
	566nm,0.2s						
HLNI	**Lentini**	**1.66**	**258**	Pg	**Pn**	**01 06 44.1**	**-1.1**
HLNI				Sg	**Sn**	**01 07 03.2**	**-2.5**
	566nm,0.2s						
MEU	**Monte Lauro**	**1.69**	**250**	Pg	**Pn**	**01 06 45.7**	**0.0**
MEU				Sg	**Sn**	**01 07 05.4**	**-1.2**
	1μm,0.2s						
MEU	**Monte Lauro**	**1.69**	**250**	Pg	**Pn**	**01 06 45.7**	**0.0**
MEU				Sg	**Sn**	**01 07 05.4**	**-1.2**
	1μm,0.2s						
CELI	**Celico**	**1.73**	**350**	Pg	**Pn**	**01 06 46.7**	**+0.5**
CELI	**Celico**	**1.73**	**350**	Pg	**Pn**	**01 06 46.7**	**+0.5**
ECNV	**Catenanuova**	**1.75**	**267**	Pg	**Pn**	**01 06 46.8**	**+0.4**
	767nm,0.5s						
ECNV	**Catenanuova**	**1.75**	**267**	Pg	**Pn**	**01 06 46.8**	**+0.4**
	767nm,0.5s						
PIPA	**Pietrapaola**	**1.78**	**358**	Pg	**Pn**	**01 06 47.6**	**+0.7**
	166nm,0.4s						
PIPA	**Pietrapaola**	**1.78**	**358**	Pg	**Pn**	**01 06 47.6**	**+0.7**
	166nm,0.4s						
HVZN	**Vizzini**	**1.82**	**254**	Pg	**Pn**	**01 06 46.8**	**-0.7**
HVZN				Sg	**Sn**	**01 07 07.6**	**-2.3**
	856nm,0.4s						
HMDC	**Modica**	**1.85**	**247**	Pg	**Pn**	**01 06 47.3**	**-0.6**
HMDC				Sg	**Sn**	**01 07 08.0**	**-2.6**
	514nm,0.2s						
HMDC	**Modica**	**1.85**	**247**	Pg	**Pn**	**01 06 47.3**	**-0.6**
HMDC				Sg	**Sn**	**01 07 08.0**	**-2.6**
	514nm,0.2s						
GALF	**Gagliano Caste**	**1.86**	**271**	Pg	**Pn**	**01 06 48.5**	**+0.5**
	296nm,0.6s						
GALF	**Gagliano Caste**	**1.86**	**271**	Pg	**Pn**	**01 06 48.5**	**+0.5**
	296nm,0.6s						
MSFR	**San Fratello**	**1.87**	**281**	Pg	**Pn**	**01 06 48.8**	**+0.7**
	131nm,0.5s						
MSFR	**San Fratello**	**1.87**	**281**	Pg	**Pn**	**01 06 48.8**	**+0.7**
	131nm,0.5s						
CAGR	**Agira**	**1.92**	**268**	Pg	**Pn**	**01 06 49.7**	**+1.0**
	427nm,0.6s						
CAGR	**Agira**	**1.92**	**268**	Pg	**Pn**	**01 06 49.7**	**+1.0**
	427nm,0.6s						
VAE	**Valguarnera**	**2.00**	**264**	Pn	**Pn**	**01 06 51.8**	**+1.9**
	2.3nm,0.3s,baz=170,slow=12,SNR=5.1						
VAE				Sn	**Sn**	**01 07 13.1**	**-1.1**
	8.2nm,0.3s,baz=195,slow=14,SNR=5.7						
RAFF	**Raffo Rosso**	**2.08**	**257**	Pg	**Pn**	**01 06 50.9**	**-0.1**
RAFF	**Raffo Rosso**	**2.08**	**257**	Pg	**Pn**	**01 06 50.9**	**-0.1**
IACL	**Alicudi**	**2.18**	**293**	Pg	**Pn**	**01 06 52.3**	**0.0**
IACL	**Alicudi**	**2.18**	**293**	Pg	**Pn**	**01 06 52.3**	**0.0**
PLLN	**Pollina**	**2.21**	**278**	Pg	**Pn**	**01 06 53.8**	**+1.0**
PLLN	**Pollina**	**2.21**	**278**	Pg	**Pn**	**01 06 53.8**	**+1.0**
SALB	**San Lorenzo Be**	**2.21**	**349**	Pg	**Pn**	**01 06 53.4**	**+0.4**
	57nm,0.3s						
SALB	**San Lorenzo Be**	**2.21**	**349**	Pg	**Pn**	**01 06 53.4**	**+0.4**
	57nm,0.3s						
ORI	**Oriolo Calabro**	**2.38**	**351**	Pg	**Pn**	**01 06 55.9**	**+0.7**
	253nm,0.4s						
ORI	**Oriolo Calabro**	**2.38**	**351**	Pg	**Pn**	**01 06 55.9**	**+0.7**
	253nm,0.4s						
MGR	**Morigerati**	**2.65**	**337**	Pg	**Pn**	**01 06 58.4**	**-0.4**
	101nm,1.1s						
MGR	**Morigerati**	**2.65**	**337**	Pg	**Pn**	**01 06 58.4**	**-0.4**
	101nm,1.1s						
TAR1	**Taranto**	**2.83**	**6**	*e*Pn	Pn	01 06 59.2	-2.1
MASS	**Massafra**	**2.93**	**3**	*e*Pn	**Pn**	**01 07 01.4**	**-1.3**
MASS					Sn	**01 07 33.1**	**-4.0**
CGL1	**Ceglie Messapi**	**2.98**	**8**	*e*Pn	**Pn**	**01 07 02.5**	**-0.9**
CGL1					Sn	**01 07 34.5**	**-3.8**
FASA	**Fasano**	**3.13**	**6**	*e*Pn	**Pn**	**01 07 04.4**	**-1.0**
FASA					Sn	**01 07 37.5**	**-4.4**
SG1	**Sgolgore (BA)**	**3.14**	**357**	*e*Pn	**Pn**	**01 07 04.7**	**-0.8**
SG1					Sn	**01 07 37.4**	**-4.8**
BAI	**Bari**	**3.40**	**360**	*e*Pn	**Pn**	**01 07 08.0**	**-1.1**
BAI					Sn	**01 07 43.5**	**-5.1**
MS1	**Monte Sant'Ang**	**4.07**	**350**	*e*Pn	**Pn**	**01 07 17.8**	**-0.5**
KBN	**Korca**	**4.19**	**45**	*i* Pg	**Sn**	**01 08 06.9**	**-1.4**
KBN	**Korca**	**4.19**	**45**	*i* PG	**Sn**	**01 08 06.9**	**-1.4**
TIR	**Tirane**	**4.30**	**31**	*e*Pn	**Pn**	**01 07 20.5**	**-0.9**
TIR				*e*Sn	Sn	01 08 01.1	-10
TIR	**Tirane**	**4.30**	**31**	*e*Pn	**Pn**	**01 07 20.5**	**-0.9**
TIR	**Tirane**	**4.30**	**31**	*i* Pg	Sn	01 08 00.9	-10
TIR	**Tirane**	**4.30**	**31**	*i* SG	**Sn**	**01 08 08.8**	**-1.9**
BIA	**Bitola**	**4.76**	**45**	*i* Pn	**Pn**	**01 07 26.4**	**-1.5**
BIA				*i* Sg	**Sn**	**01 08 21.8**	**-0.5**
PHP	**Peshkopia**	**4.82**	**33**	*i* Sg	**Sn**	**01 08 20.4**	**-3.3**
PHP	**Peshkopia**	**4.82**	**33**	*i* SG	**Sn**	**01 08 20.4**	**-3.3**
PUK	**Puka**	**4.90**	**27**	*i* Sg	**Sn**	**01 08 24.3**	**-1.5**
PUK	**Puka**	**4.90**	**27**	*i* SG	**Sn**	**01 08 24.3**	**-1.5**
KRUS	**Krusevo**	**4.96**	**41**	*i* Pn	**Pn**	**01 07 31.9**	**+1.2**
KRUS				*i* Sg	**Sn**	**01 08 24.0**	**-3.3**
PDG	**Podgorica**	**5.05**	**20**	*e*Pn	**Pn**	**01 07 30.6**	**-1.2**
PDG				*e*Sn	Sn	01 08 21.3	-8.0
PDG	**Podgorica**	**5.05**	**20**	*e*Pn	**Pn**	**01 07 30.6**	**-1.2**
STON	**Ston**	**5.20**	**6**	*e*Pn	Pn	01 07 31.0	-2.8
STON					Sn	01 08 24.3	-8.6
STON	**Ston**	**5.20**	**6**	*e*Pn	Pn	01 07 31.0	-2.8
VAY	**Valandovo**	**5.67**	**49**	*e*Pn	**Pn**	**01 07 41.8**	**+1.5**
SJES	**Sjenica**	**6.02**	**22**	*e*Pn	**Pn**	**01 07 44.2**	**-1.0**
SJES				*e*Sn	Sn	01 08 43.3	-10
SJES	**Sjenica**	**6.02**	**22**	*e*Pn	**Pn**	**01 07 44.2**	**-1.0**
IVAS	**Ivanjica**	**6.36**	**22**	*e*Pn	Pn	01 07 47.7	-2.2
IVAS				*e*Sn	Sn	01 08 52.6	-9.2
IVAS	**Ivanjica**	**6.36**	**22**	*e*Pn	Pn	01 07 47.7	-2.2
SELS	**Selova**	**6.38**	**29**	*e*Pn	Pn	01 07 47.4	-2.6
SELS				*e*Sn	Sn	01 08 51.2	-11
KEST	**Kesra**	**6.39**	**254**	Pn	**Pn**	**01 07 51.0**	**+0.7**
	0.4nm,0.3s,baz=48,slow=15,SNR=8.7						
KEST				Sn	**Sn**	**01 09 00.9**	**-1.5**
	0.2nm,0.3s,baz=24,slow=20,SNR=4.2						
DIVS	**Divibare**	**6.80**	**19**	*e*Pn	**Pn**	**01 07 54.9**	**-1.0**
DIVS				*e*Sn	Sn	01 09 01.7	-11
DIVS	**Divibare**	**6.80**	**19**	*e*Pn	**Pn**	**01 07 54.9**	**-1.0**
GRUS	**Gruza**	**6.82**	**24**	*e*Pn	Pn	01 07 54.2	-1.9
GRUS				*e*Sn	Sn	01 09 01.9	-11
GRUS	**Gruza**	**6.82**	**24**	*e*Pn	Pn	01 07 54.2	-1.9
IDI	**Anoyia**	**6.86**	**108**	Pn	**Pn**	**01 07 59.1**	**+2.3**
	0.6nm,0.3s,baz=312,slow=16,SNR=13						
IDI				Sn	**Sn**	**01 09 11.6**	**-2.5**
	6.0nm,0.3s,baz=317,slow=22,SNR=14						
NVLJ	**Novalja**	**7.02**	**348**	*i* Pn	**Pn**	**01 07 57.6**	**-1.3**
NVLJ					Sn	01 09 09.4	-8.4
NVLJ	**Novalja**	**7.02**	**348**	*i* Pn	**Pn**	**01 07 57.6**	**-1.3**
ZAPS	**Zavoj**	**7.07**	**36**	*e*Pn	Pn	01 07 56.8	-2.7
ZAPS				*e*Sn	Sn	01 09 07.7	-11
ZAPS	**Zavoj**	**7.07**	**36**	*e*Pn	Pn	01 07 56.8	-2.7
ZAGS	**Zajecar**	**7.32**	**32**	*e*Pn	Pn	01 08 00.0	-2.9
ZAGS				*e*Sn	Sn	01 09 14.1	-11
ZAGS	**Zajecar**	**7.32**	**32**	*e*Pn	Pn	01 08 00.0	-2.9
KUBS	**Kucevo**	**7.61**	**27**	*e*Pn	Pn	01 08 03.9	-3.0
KUBS				*e*Sn	Sn	01 09 20.7	-12
KUBS	**Kucevo**	**7.61**	**27**	*e*Pn	Pn	01 08 03.9	-3.0
BOJS	**Bojanci**	**7.89**	**351**	*i* Pn	**Pn**	**01 08 10.4**	**-0.4**
BOJS				*i* Sn	Sn	01 09 31.5	-7.8
BOJS	**Bojanci**	**7.89**	**351**	*i* Pn	**Pn**	**01 08 10.4**	**-0.4**
OZLJ	**Ozalj**	**7.98**	**353**	*i* Pn	**Pn**	**01 08 11.8**	**-0.1**
OZLJ	**Ozalj**	**7.98**	**353**	*i* Pn	**Pn**	**01 08 11.8**	**-0.1**
CRES	**Cresnjev**	**8.19**	**353**	*e*Pn	**Pn**	**01 08 14.0**	**-0.9**
CRES	**Cresnjev**	**8.19**	**353**	*e*Pn	**Pn**	**01 08 14.0**	**-0.9**
VISS	**Visnje**	**8.24**	**350**	*i* Pn	**Pn**	**01 08 14.9**	**-0.7**
VISS				*i* Sn	Sn	01 09 39.8	-8.1
VISS	**Visnje**	**8.24**	**350**	*i* Pn	**Pn**	**01 08 14.9**	**-0.7**
GERES	**GERESS Array B**	**11.38**	**349**	Pn	**Pn**	**01 08 57.7**	**-0.9**
	0.1nm,0.3s,baz=164,slow=14,SNR=3.2						
BRTR	**Keskin Array B**	**13.22**	**76**	Pn	**Pn**	**01 09 26.8**	**+2.9**
	0.1nm,0.3s,baz=260,slow=11,SNR=4.1						
AKASG	**Malin Array Be**	**15.68**	**30**	Pn	**Pn**	**01 09 59.0**	**+2.2**
	0.4nm,0.3s,baz=224,slow=10,SNR=8.2						
MMAI	**Mount Meron Ar**	**15.79**	**102**	Pn	**Pn**	**01 09 56.7**	**-1.7**
	0.8nm,0.3s,baz=303,slow=13,SNR=4.8						
EIL	**Elat**	**17.00**	**113**	P	**P**	**01 10 19.9**	**+4.4**
	0.2nm,0.3s,baz=315,slow=3.1,SNR=6.2						
KURBB	**Kurchatov Arra**	**44.80**	**53**	P	**P**	**01 14 29.8**	**+0.6**
	0.2nm,0.4s,baz=282,slow=9.1,SNR=2.3						
MKAR	**Makanchi Array**	**47.97**	**57**	P	**P**	**01 14 54.5**	**+0.3**
	0.4nm,0.5s,baz=281,slow=6.5,SNR=9.4						

IDC 19 01:06:26.3±927.0, 41°88N×115°14W, h0km, Error ellipse: s-maj=356.0km s-min=133.3km az=176.0, Nevada

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I56US	**NEWPORT INFRAS**	**6.54**	**348**	*i*		01 48 40.0	
	baz=167,slow=331,SNR=1.8						
I10CA	**LAC DU BONNET**	**15.63**	**51**	*i*		02 45 10.0	
	baz=245,slow=333,SNR=1.6						
I18DK	**QAANAAQ INFRAS**	**30.31**	**14**	*i*		05 11 40.0	
	baz=236,slow=329,SNR=0.7						

*SJA **19** 01:14:03.8±0.8, 30°85S×71°31W, h18km±13km, ML5.0, MW4.9*
*ISCJB **19** 01:14:06.5±0.5, 30°86S±0°02×71°27W±0°07, h79km±4km, mb4.5/33, Error ellipse: s-maj=10.0km s-min=3.6km az=174.0*
*GUC **19** 01:14:06.2±0.7, 30°87S×71°19W, h65km±6km, ML5.0*
*IDC **19** 01:14:06.5±0.4, 30°91S×71°06W, h64km±3km, mb4.1/13, mb1 4.3/17, mb1mx4.1/35, mbtmp4.4/17, MS3.7/5, Ms1 3.7/5, ms1mx3.2/30, Error ellipse: s-maj=20.1km s-min=11.4km az=82.0*
*NEIC **19** 01:14:06.0±0.0, 30°87S×71°19W, h65km, mb4.7/24, ML5.0(GUC), After GUC.*
NEIC Felt [IV] at Canela, La Higuera, Monte Patria, Ovalle, Punitaqui, Rio Hurtado and Salamanca; [III] at Combarbala, Coquimbo, Illapel, La Serena and Zapallar; [II] at Algarrobo, El Tabo, Limache, Los Vilos, Nogales, Quillota, Quintero, Rancagua, San Antonio, San Bernardo, San Felipe, San Jose de Maipo, Santiago, Talagante, Tiltil, Valparaiso, Vicuna, Villa Alemana and Vina del Mar.

ISC 19 01:14:06.2±0.4, 30°94S±0°03×71°23W±0°05, h65km±3km, h66km:pP-P, n146,σ1s84/175, mb4.6/34, 6C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GO04	**Tololo Observa**	**0.85**	**26**	↑*i*P	**Pn**	**01 14 22.8**	**0.0**
GO04				*e*S	**Sn**	**01 14 35.1**	**+0.1**
TLL	**Tololo Astrono**	**0.85**	**25**	↑*i*P	**Pn**	**01 14 22.9**	**0.0**
TLL				*e*S	**Sn**	**01 14 35.2**	**0.0**
TLL				IAML		01 14 35.9	
	comp=N,142μm,0.3s						
AROD	**Rodeo**	**1.70**	**64**	↓*i*P	**Pn**	**01 14 36.0**	**+2.0**
RTLS	**Leoncito**	**1.86**	**118**	*i* P	**Pn**	**01 14 39.0**	**+2.8**
RTLS				IAML		01 15 04.1	
	comp=Z,8μm,0.5s						
ACDV	**Cuesta del Vie**	**1.97**	**68**	*i* P	**Pn**	**01 14 39.3**	**+1.8**
LCO	**Las Campanas**	**1.97**	**14**	*e*Pn	**Pn**	**01 14 37.8**	**+0.1**
LCO				*e*Sn	**Sn**	**01 15 00.0**	**-1.5**
LCO	**Las Campanas**	**1.97**	**14**	↑*i*P	**Pn**	**01 14 37.8**	**+0.1**
LCO	**Las Campanas**	**1.97**	**14**	↑*i*P	**Pn**	**01 14 37.9**	**+0.2**
LCO				*e*S	**Sn**	**01 15 02.4**	**+0.9**
LCO				IAML		01 15 05.4	
	comp=E,14μm,0.1s						
AUSP	**Uspallata**	**2.03**	**130**	*i* P	**Pn**	**01 14 41.2**	**+2.8**
PEL	**Peldehue**	**2.25**	**168**	*e*Pn	**Pn**	**01 14 42.6**	**+1.4**
PEL				*e*Sn	**Sn**	**01 15 02.1**	**-5.7**
PEL	**Peldehue**	**2.25**	**168**	↑*e*P	**Pn**	**01 14 42.8**	**+1.7**
PEL				*e*S	**Sn**	**01 15 10.8**	**+3.0**
PEL				IAML		01 15 17.4	
	comp=E,5μm,0.3s						
ZON	**Zonda**	**2.27**	**106**	*i* P	**Pn**	**01 14 44.0**	**+2.7**
AMOG	**MOGNA**	**2.35**	**91**	*i* P	**Pn**	**01 14 44.9**	**+2.4**
RTLL	**Cerro Villicun**	**2.39**	**100**	*i* P	**Pn**	**01 14 46.0**	**+2.9**
RTCV	**Cerro Valdivia**	**2.48**	**113**	*i* P	**Pn**	**01 14 46.9**	**+2.6**
FCH	**Farellones**	**2.51**	**162**	*e*P	**Pn**	**01 14 47.2**	**+2.3**
FCH				*e*S	**Sn**	**01 15 19.2**	**+4.6**
FCH				IAML		01 15 25.4	
	comp=N,12μm,0.0s						
ASAL	**Salagasta**	**2.62**	**130**	*i* P	**Pn**	**01 14 49.6**	**+3.4**
ANTU	**Antumapu**	**2.67**	**169**	*e*P	**Pn**	**01 14 49.0**	**+2.1**
ANTU				*e*S	**Sn**	**01 15 21.2**	**+3.0**
ARCO	**CERRO ARCO**	**2.72**	**135**	*i* P	**Pn**	**01 14 51.9**	**+4.1**
ARCO				*i* S	**Sn**	**01 15 26.1**	**+6.5**
ARCO				IAML		01 15 34.9	
	comp=Z,8μm,0.4s						
AGUA	**GUANDACOL**	**2.77**	**59**	*i* P	**Pn**	**01 14 50.5**	**+2.1**
AAGR	**Agrelo**	**2.96**	**137**	↓*i*P	**Pn**	**01 14 54.4**	**+3.5**
GO03	**Copiap**	**3.44**	**15**	↑*i*P	**Pn**	**01 14 57.7**	**+0.2**
CPCH	**Copiapo**	**3.65**	**12**	*e*P	**Pn**	**01 14 60.0**	**-0.3**
GO05	**HualaæØ**	**4.10**	**188**	*e*Pn	**Pn**	**01 15 06.0**	**-0.5**
GO05				*e*Sn	**Sn**	**01 15 51.1**	**-2.1**
PB10	**IPOC Station P**	**7.42**	**5**	*e*Pn	**Pn**	**01 15 51.3**	**-0.5**
PB10				*e*Sn	**Sn**	**01 17 20.2**	**+5.6**
PB04	**IPOC Station P**	**8.62**	**7**	*e*Pn	**Pn**	**01 16 06.2**	**-2.3**
PLCA	**Paso Flores**	**9.79**	**177**	P	**Pn**	**01 16 24.5**	**+0.3**
	comp=Z,1.3nm,0.3s,baz=8.5,slow=10,SNR=26						
PLCA				S	**Sn**	**01 18 12.4**	**-0.2**
	baz=345,slow=15,SNR=1.7						
PLCA				LR	LR	01 20 06.8	
	comp=Z,315nm,21.4s,baz=9.5,slow=37						
PLCA	**Paso Flores**	**9.79**	**177**	*e*Pn	**Pn**	**01 16 24.5**	**+0.3**
PLCA				*e*Sn	**Sn**	**01 18 09.4**	**-3.1**
PB01	**IPOC Station P**	**9.98**	**9**	*e*Pn	Pn	01 16 21.0	-5.3
PB01				*e*Sn	**Sn**	**01 18 17.8**	**+0.4**
TRQA	**Tornquist**	**10.42**	**135**	*e*Pn	**Pn**	**01

HHAR	**Hobbs**	**70.18**	**341**	*e*P		**P**	**01 25 12.5**	**+0.6**
	comp=Z,8.2nm,1.0s							
MNTX	**Cornudas Mount**	**70.21**	**329**	P		**P**	**01 25 12.5**	**+0.4**
	baz=149							
MNTX	**Cornudas Mount**	**70.21**	**329**	*e*P		P	01 25 20.0	+7.9
	comp=Z,6.6nm,1.0s							
T41A	**Mountain View**	**70.31**	**343**	P		**P**	**01 25 13.1**	**+0.5**
	baz=161							
S43A	**Fulton Ridge,**	**70.40**	**344**	P		**P**	**01 25 13.4**	**+0.3**
	baz=163							
T39A	**Clever**	**70.72**	**341**	P		**P**	**01 25 15.5**	**+0.4**
	baz=160							
T38A	**Diamond**	**70.99**	**341**	P		**P**	**01 25 17.5**	**+0.8**
	baz=159							
S40A	**Lebanon**	**71.03**	**342**	P		**P**	**01 25 17.6**	**+0.7**
	baz=161							
CCM	**Cathedral Cave**	**71.14**	**343**	P		**P**	**01 25 17.7**	**+0.1**
	baz=162							
CCM	**Cathedral Cave**	**71.14**	**343**	P		P	01 25 24.2	+6.6
	comp=Z,62nm,0.8s							
R41A	**Rosebud**	**71.40**	**343**	P		**P**	**01 25 19.5**	**+0.3**
	baz=162							
S38A	**Stockton**	**71.43**	**341**	P		**P**	**01 25 19.7**	**+0.4**
	baz=160							
R40A	**Maddies Statio**	**71.62**	**343**	P		**P**	**01 25 21.0**	**+0.6**
	baz=161							
R39A	**Chumby, Stover**	**71.84**	**342**	P		**P**	**01 25 22.2**	**+0.4**
	baz=160							
R38A	**Fenwick Farm,**	**71.95**	**341**	P		**P**	**01 25 22.7**	**+0.2**
	baz=160							
P40A	**Paris**	**72.73**	**343**	P		**P**	**01 25 27.8**	**+0.7**
	baz=161							
LIC	**Lamto**	**73.16**	**72**	*e*P		**P**	**01 25 29.4**	**-0.9**
	comp=Z,30nm,0.8s							
TIC	**Toumodi**	**73.41**	**72**	*e*P		**P**	**01 25 30.9**	**-0.8**
ANMO	**Albuquerque**	**73.45**	**330**	*e*pP		pP	01 25 51.6	+2.1
KIC	**Kosan Boka**	**73.47**	**72**	*e*P		**P**	**01 25 31.7**	**-0.4**
	comp=Z,28nm,0.8s							
DBIC	**Dimbokro**	**73.56**	**72**	P		**P**	**01 25 32.3**	**-0.3**
	comp=Z,11nm,0.7s,baz=208,slow=6.7,SNR=22							
DBIC				LR		LR	01 54 08.4	
	comp=Z,45nm,21.6s,baz=216,slow=33							
DBIC	**Dimbokro**	**73.56**	**72**	*e*P		**P**	**01 25 32.3**	**-0.3**
	comp=Z,12nm,0.6s							
T25A	**Trinidad**	**74.51**	**333**	*e*P		**P**	**01 25 39.8**	**+2.0**
	comp=Z,5.3nm,1.2s							
MHTCO	**State Highway**	**74.61**	**333**	*e*P		**P**	**01 25 39.0**	**+0.6**
	comp=Z,2.9nm,0.9s							
MAW	**Mawson**	**75.91**	**164**	P		**P**	**01 25 45.9**	**+0.6**
	comp=Z,4.4nm,0.7s,baz=194,slow=5.2,SNR=6.8							
MAW				pP		**pP**	**01 26 04.6**	**+1.5**
	comp=Z,2.5nm,0.6s,baz=297,slow=4.5,SNR=2.6							
MAW				LR		LR	01 59 03.3	
	comp=Z,69nm,18.6s,baz=246,slow=36							
MAW	**Mawson**	**75.91**	**164**	*e*P		**P**	**01 25 45.9**	**+0.6**
	comp=Z,1.2nm,0.9s							
MAW				pP		**pP**	**01 26 04.6**	**+1.5**
J39A	**Decorah**	**76.26**	**345**	P		**P**	**01 25 47.7**	**+0.2**
	baz=162							
SMCO	**Snowmass**	**77.28**	**332**	*e*P		**P**	**01 25 53.9**	**0.0**
	comp=Z,2.1nm,0.7s							
I37A	**Lemond, Waseca**	**77.30**	**344**	P		**P**	**01 25 53.6**	**+0.2**
	baz=161							
ECSD	**EROS Data Cent**	**77.86**	**341**	P		**P**	**01 25 56.6**	**+0.1**
	baz=158							
ECSD	**EROS Data Cent**	**77.86**	**341**	*e*P		**P**	**01 25 56.9**	**+0.4**
	comp=Z,7.7nm,0.8s							
H35A	**Sunnyside Ranc**	**78.29**	**343**	P		**P**	**01 25 58.8**	**0.0**
	baz=159							
KOWA	**Kowa**	**78.75**	**66**	P		**P**	**01 26 01.9**	**-0.1**
	comp=Z,14nm,0.6s,baz=228,slow=6.6,SNR=52							
KOWA	**Kowa**	**78.75**	**66**	*e*P		**P**	**01 26 01.9**	**-0.1**
	comp=Z,15nm,0.7s							
GATR	**Gnd/Air Tx Cnt**	**79.99**	**321**	*e*P		**P**	**01 26 09.1**	**+0.7**
BOSA	**Boshof**	**80.88**	**118**	P		**P**	**01 26 13.4**	**-0.2**
	comp=Z,2.6nm,0.4s,baz=244,slow=5.5,SNR=9.9							
HWUT	**Hardware Ranch**	**81.21**	**331**	*e*P		**P**	**01 26 16.3**	**+1.3**
	comp=Z,6.1nm,0.6s							
PD31	**Pinedale Array**	**81.36**	**332**	*e*P		**P**	**01 26 17.6**	**+1.8**
PDAR	**Pinedale Array**	**81.36**	**332**	P		**P**	**01 26 17.6**	**+1.8**
	comp=Z,0.3nm,0.5s,baz=121,slow=11,SNR=3.6							
PDAR				pP		**pP**	**01 26 34.7**	**+0.9**
	comp=Z,0.7nm,0.5s,baz=128,slow=6.0,SNR=6.4							
NV01	**Mina Array Sit**	**81.78**	**324**	*e*P		**P**	**01 26 18.4**	**+0.3**
NV01				*e*pP		**pP**	**01 26 38.0**	**+1.9**
NVAR	**Mina Array Bea**	**81.78**	**324**	P		**P**	**01 26 18.4**	**+0.3**
	comp=Z,0.2nm,0.3s,baz=142,slow=3.4,SNR=2.7							
YERR	**Yerington**	**82.68**	**324**	*e*P		**P**	**01 26 22.9**	**+0.1**
	comp=Z,6.9nm,1.0s							
LBTB	**Lobatse**	**82.96**	**115**	*e*P		**P**	**01 26 24.7**	**+0.1**
	comp=Z,11nm,0.8s							
ULM	**Lac du Bonnet**	**83.74**	**344**	P		**P**	**01 26 27.5**	**-0.1**
	comp=Z,2.6nm,0.7s,baz=190,slow=7.7,SNR=3.6							
ULM				pP		**pP**	**01 26 45.4**	**-0.3**
	comp=Z,7.7nm,1.0s,baz=163,slow=5.7,SNR=5.1							
PINE	**Pine Mountain**	**87.16**	**326**	*e*P		**P**	**01 26 45.2**	**+0.1**
	comp=Z,24nm,1.9s							
LSZ	**Lusaka**	**90.10**	**108**	P		**P**	**01 26 59.4**	**-0.2**
	comp=Z,4.5nm,0.8s,baz=188,slow=2.5,SNR=11							
LSZ	**Lusaka**	**90.10**	**108**	*e*P		**P**	**01 26 56.0**	**-3.6**
	comp=Z,5.7nm,0.9s							
FCC	**Fort Churchill**	**91.38**	**348**	*e*P		**P**	**01 27 04.6**	**+0.4**
	comp=Z,1.9nm,0.8s							
FCC				*e*pP		**pP**	**01 27 22.9**	**+0.4**
YKA	**Yellowknife Ar**	**99.39**	**341**	P		**Pdif**	**01 27 39.6**	**-1.0**
	comp=Z,0.2nm,0.6s,baz=142,slow=4.7,SNR=7.0							
YKA				pP		**pP**	**01 27 59.1**	**+0.1**
	comp=Z,0.4nm,0.7s,baz=144,slow=4.7,SNR=7.5							
ASAR	**Alice Springs**	**120.60**	**207**	PKP		**PKPdf**	**01 32 50.1**	**-1.0**
	comp=Z,0.2nm,0.4s,baz=132,slow=2.2,SNR=3.2							
ASAR				pPKP		**pPKPdf**	**01 33 09.0**	**-1.0**
	comp=Z,0.9nm,0.8s,baz=120,slow=1.8,SNR=5.4							
AS31	**Alice Springs**	**120.60**	**207**	*e*PKPdf		**PKPdf**	**01 32 50.1**	**-1.0**
AS31				*e*pPKPdf		**pPKPdf**	**01 33 09.0**	**-1.0**
WR1	**Warramunga Arr**	**123.76**	**209**	*e*PKPdf		**PKPdf**	**01 32 56.3**	**-0.9**
WR1				*e*pPKPdf		**pPKPdf**	**01 33 15.5**	**-0.6**
WRA	**Warramunga Arr**	**123.76**	**209**	PKP		**PKPdf**	**01 32 56.3**	**-0.9**
	comp=Z,0.7nm,0.5s,baz=155,slow=1.8,SNR=18							
WRA				pPKP		**pPKPdf**	**01 33 15.5**	**-0.6**
	comp=Z,1.7nm,0.6s,baz=161,slow=1.7,SNR=9.3							
H11S2	**WAKE ISLAND Hyl**	**126.45**	**271**	T		T	03 52 02.4	
	baz=116,slow=74,SNR=232							
H11S1	**WAKE ISLAND Hyl**	**126.47**	**271**	T		T	03 52 08.3	
	baz=116,slow=74,SNR=164							
H11S3	**WAKE ISLAND Hyl**	**126.47**	**271**	T		T	03 52 05.0	
	baz=116,slow=74,SNR=273							
H11N3	**WAKE ISLAND Hyl**	**126.79**	**272**	T		T	03 52 33.3	
	baz=117,slow=75,SNR=33							
H11N1	**WAKE ISLAND Hyl**	**126.80**	**272**	T		T	03 52 38.2	
	baz=117,slow=75,SNR=10							
H11N2	**WAKE ISLAND Hyl**	**126.81**	**272**	T		T	03 52 38.5	
	baz=117,slow=75,SNR=88							
BVAR	**Borovoye Array**	**144.54**	**40**	PKP		**PKPdf**	**01 33 34.5**	**-0.2**
	comp=Z,2.1nm,0.5s,baz=297,slow=2.9,SNR=13							
BVAR				pPKP		**pPKPdf**	**01 33 53.2**	**-0.5**
	comp=Z,1.8nm,0.4s,baz=286,slow=2.9,SNR=5.2							
KKAR	**Karatay Array**	**147.40**	**57**	*e*PKPdf		**PKPbc**	**01 33 42.0**	**-0.5**
HYB	**Hyderabad**	**149.43**	**109**	*i* PKP		**PKPdf**	**01 33 44.5**	**+0.5**
HYB				*e*			01 33 48.5	
HYB				*e*			01 34 07.0	
KURBB	**Kurchatov Arra**	**150.13**	**40**	PKPbc		**PKPbc**	**01 33 49.5**	**+0.4**
	comp=Z,1.0nm,0.6s,baz=303,slow=3.2,SNR=9.0							
KURBB				pPKPbc		**pPKPbc**	**01 34 06.9**	**-1.1**
	comp=Z,4.5nm,0.9s,baz=303,slow=3.1,SNR=5.8							
KURK	**Kurchatov**	**150.14**	**40**	*e*PKPbc		**PKPbc**	**01 33 49.5**	**+0.4**
KURK				*e*pPKPab		**pPKPbc**	**01 34 06.9**	**-1.1**
PSI	**Prapat**	**150.51**	**160**	PKPbc		**PKPbc**	**01 33 51.2**	**-0.1**
	comp=Z,2.7nm,0.5s,baz=292,slow=5.4,SNR=3.9							
PSI				pPKPbc		**pPKPbc**	**01 34 09.3**	**-0.9**
	comp=Z,16nm,0.9s,baz=190,slow=9.4,SNR=5.3							
ZAA1	**Zalesovo Array**	**151.25**	**30**	*e*PKPbc		**PKPbc**	**01 33 51.6**	**-0.1**
ZAA1				*e*PKPab		**PKPab**	**01 33 59.5**	**-0.4**
ZAA1				*e*pPKPab		**pPKPbc**	**01 34 09.9**	**-0.6**
ZALV	**Zalesovo Beam**	**151.26**	**30**	PKPbc		**PKPbc**	**01 33 51.6**	**-0.1**
	comp=Z,3.7nm,0.3s,baz=312,slow=2.7,SNR=19							
ZALV				PKPab		**PKPab**	**01 33 59.5**	**-0.4**
	comp=Z,5.4nm,0.6s,baz=300,slow=3.4,SNR=13							
ZALV				pPKPbc		**pPKPbc**	**01 34 09.9**	**-0.6**
	comp=Z,8.2nm,0.4s,baz=295,slow=3.5,SNR=14							
KSH	**Kashi**	**151.99**	**63**	PKPbc		**PKPbc**	**01 33 53.8**	**-0.2**
MK32	**Makanchi Array**	**154.17**	**45**	*e*PKPbc		**PKPbc**	**01 33 58.7**	**+0.2**
MK32				*e*PKPab		**PKPab**	**01 34 12.7**	**+0.2**
MKAR	**Makanchi Array**	**154.17**	**45**	PKPbc		**PKPbc**	**01 33 58.7**	**+0.2**
	comp=Z,0.9nm,0.8s,baz=307,slow=2.5,SNR=5.4							
MKAR				PKPab		**PKPab**	**01 34 12.7**	**+0.2**
	comp=Z,2.6nm,0.8s,baz=289,slow=3.7,SNR=10							
GTA	**Gaotai**	**168.82**	**38**	*e*PKP		**PKPdf**	**01 34 09.4**	**+3.6**
GTA				pPKP		pPKPdf	01 34 23.0	-1.9
GTA				sPKP			01 34 27.8	
LZH	**Lanzhou**	**173.42**	**37**	*e*PKP		**PKPdf**	**01 34 11.5**	**+3.2**
LZH				pPKP		pPKPdf	01 34 19.8	-7.6
LZH				sPKP			01 34 22.8	
LZH				PKP		**PKPab**	**01 35 41.5**	**+4.3**
LZH				PP		PP	01 39 40.0	+11
LZH				AMB		AMB		
	comp=Z,220nm,5.3s							
LZH				LR		LR		
	comp=N,230nm,19.0s							
LZH				LR		LR		
	comp=E,220nm,19.2s							
LZH				LR		LR		
	comp=Z,150nm,20.8s							

*ISCJB **19** 01:20:06.3±0.6, 0.°54N±0.°07×92.°43E±0.°06, h10km, mb4.2/13, MS3.3/4, Error ellipse: s-maj=11.0km s-min=6.3km az=38.1*
*IDC **19** 01:20:06.7±1.2, 0.°54N×92.°39E, h0km, mb3.9/9, mb1 4.1/11, mb1mx3.7/68, mbtmp3.9/11, ML4.3/2, MS3.4/8, Ms1 3.4/8, ms1mx3.0/71, Error ellipse: s-maj=39.8km s-min=18.7km az=50.0*
*NEIC **19** 01:20:07.6±0.6, 0.°48N×92.°29E, h10km, mb4.2/8, Error ellipse: s-maj=12.4km s-min=7.3km az=32.0*
*DJA **19** 01:20:17.5±0.8, 1.°1N±4.°×9.°3E±.°, h10km, M4.9/7, mb4.9/6, mB6.2/3, MLv4.8/7, Mw(mB)5.9/3*
ISC 19 01:20:09.1±0.9, 0.°61N±0.°08×92.°53E±0.°08, h10km, n50, σ1°48/44, mb4.2/13, MS3.4/4, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GSI	**Gunungsitoli**	**5.10**	**82**	P	**Pn**	**01 21 26.5**	**+0.9**
GSI				S	Sn	01 22 16.0	-8.6
GSI	**Gunungsitoli**	**5.10**	**82**	*e*Pn	**Pn**	**01 21 27.2**	**+1.6**
GSI				*e*Sn	**Sn**	**01 22 23.4**	**-1.2**
MLSI	**Meulaboh, Aceh**	**5.31**	**47**	P	**Pn**	**01 21 30.5**	**+1.9**
TPTI		**5.34**	**60**	P	**Pn**	**01 21 29.3**	**+0.2**
TPTI				S	Sn	01 22 22.4	-8.3
BSI	**Banda Aceh**	**5.59**	**30**	P	**Pn**	**01 21 33.5**	**+1.1**
BSI				S	**Sn**	**01 22 33.0**	**-3.7**
PSI	**Prapat**	**6.76**	**71**	Pn	**Pn**	**01 21 50.0**	**+1.5**
	1.1nm,0.3s,baz=180,slow=20,SNR=2.9						
PSI				Sn	Sn	01 22 57.5	-8.2
	0.9nm,0.3s,baz=176,slow=18,SNR=2.6						
PSI				LR	LR	01 25 00.2	
	comp=Z,443nm,19.0s,baz=286,slow=43						
PSI	**Prapat**	**6.76**	**71**	*e*Pn	**Pn**	**01 21 50.0**	**+1.5**
PSI				*e*Pg	Pb	01 21 57.5	-9.4
PSI				*e*Sn	Sn	01 22 57.5	-8.2
SISI	**Saibi**	**6.84**	**106**	P	**Pn**	**01 21 49.7**	**+0.1**
	55nm,0.7s						
MNSI	**Mandailing Nat**	**7.06**	**88**	P	**Pn**	**01 21 54.1**	**+1.5**
	312nm,0.7s,4μm						
MNSI				S	**Sn**	**01 23 08.9**	**-4.0**
	312nm,0.7s,4μm						
PDSI	**Padang**	**8.08**	**101**	P	**Pn**	**01 22 06.7**	**0.0**
PPSI	**Pulau Pagai**	**8.20**	**114**	P	**Pn**	**01 22 08.5**	**+0.2**
BKNI	**Bangkinang**	**8.52**	**92**	*e*Pn	**Pn**	**01 22 16.3**	**+3.6**
IPM	**Ipoh**	**9.32**	**65**	*e*Pn	**Pn**	**01 22 23.7**	**0.0**
PALK	**Pallekele**	**13.52**	**300**	Pn	Pn	01 23 15.8	-5.4
	1.3nm,0.3s,baz=115,slow=13,SNR=6.2						
PALK				Sn	Sn	01 25 30.0	-22
	0.5nm,0.3s,baz=296,slow=17,SNR=2.2						
PALK				LR	LR	01 27 47.9	
	comp=Z,211nm,18.7s,baz=116,slow=34						
LEM	**Lembang**	**16.77**	**116**	LR	LR	01 30 01.8	
	comp=Z,85nm,20.8s,baz=230,slow=35						
KSM	**Kuching**	**17.80**	**87**	*e*Pn	**Pn**	**01 24 19.3**	**+2.0**
	8.6nm,0.6s						
PBKT	**Sadao Pong**	**17.91**	**27**	*e*Pn	**Pn**	**01 24 21.2**	**+2.6**
	12nm,1.4s						
CM01	**Chiang Mai Arr**	**18.80**	**19**	*e*P	**P**	**01 24 28.8**	**-0.1**
CM31	**Chiang Mai Arr**	**18.82**	**19**	*e*P	**P**	**01 24 28.6**	**-0.7**
CMAR	**Chiang Mai Arr**	**18.82**	**19**	P	**P**	**01 24 29.9**	**+0.7**
	1.1nm,0.3s,baz=214,slow=12,SNR=14						
CMAR				LR	LR	01 32 28.1	
	comp=Z,69nm,20.3s,baz=191,slow=39						
CHTO	**Chiang Mai**	**19.16**	**19**	*e*P	**P**	**01 24 34.5**	**+1.6**
	3.2nm,0.6s						
SBUM	**Sibu**	**19.77**	**84**	*e*P	**P**	**01 24 40.6**	**+1.0**
	6.0nm,0.7s						
SHL	**Shillong**	**24.82**	**359**	*e*P	**P**	**01 25 31.5**	**-0.4**
	11nm,0.9s						
BATI	**Baumata**	**32.79**	**110**	LR	LR	01 41 32.8	
	comp=Z,83nm,18.5s,baz=268,slow=39						
DAV	**Davao City (W)**	**33.58**	**78**	LR	LR	01 42 00.8	
	comp=Z,32nm,18.2s,baz=347,slow=39						
WR1	**Warramunga Arr**	**45.77**	**119**	*e*P	**P**	**01 28 31.0**	**-0.3**
	36nm,0.8s						
WRA	**Warramunga Arr**	**45.77**	**119**	P	**P**	**01 28 31.0**	**-0.3**
	3.0nm,0.8s,baz=296,slow=8.6,SNR=19						
WB2	**Warramunga Arr**	**45.78**	**119**	*e*P	P	01 28 29.4	-2.0
	20nm,1.6s						
MK01	**Makanchi Array**	**46.84**	**350**	*e*P	**P**	**01 28 38.2**	**-1.1**
MK31	**Makanchi Array**	**46.86**	**350**	*e*P	**P**	**01 28 38.8**	**-0.7**
MK32	**Makanchi Array**	**46.86**	**350**	*e*P	**P**	**01 28 38.6**	**-0.9**
MKAR	**Makanchi Array**	**46.86**	**350**	P	**P**	**01 28 38.6**	**-0.9**
	1.6nm,0.7s,baz=169,slow=8.8,SNR=15						
MKAR	**Makanchi Array**	**46.86**	**350**	*e*P	**P**	**01 28 38.8**	**-0.7**
	11nm,0.8s						
ASAR	**Alice Springs**	**46.86**	**124**	P	**P**	**01 28 39.3**	**-0.6**
	0.8nm,0.8s,baz=300,slow=7.7,SNR=7.8						
AS31	**Alice Springs**	**46.86**	**124**	*e*P	**P**	**01 28 39.3**	**-0.6**
	1.8nm,1.4s						
SONA0	**Songino Array**	**48.56**	**12**	*e*P	**P**	**01 28 53.3**	**+0.5**
SONM	**Songino Array**	**48.56**	**12**	P	**P**	**01 28 53.3**	**+0.5**
	1.9nm,0.7s,baz=195,slow=8.1,SNR=5.1						
SONA1	**Songino Array**	**48.57**	**12**	*e*P	**P**	**01 28 53.0**	**+0.1**
ATD	**Arta Tunnel**	**50.49**	**284**	LR	LR	01 47 39.9	
	comp=Z,29nm,18.5s,baz=95,slow=33						
KURBB	**Kurchatov Arra**	**51.23**	**349**	P	**P**	**01 29 11.5**	**-1.3**
	0.4nm,0.3s,baz=166,slow=7.5,SNR=6.7						
KURK	**Kurchatov**	**51.30**	**349**	*e*P	P	01 29 11.5	-1.9
ZALV	**Zalesovo Beam**	**53.54**	**354**	P	**P**	**01 29 28.7**	**-1.2**
	1.9nm,0.7s,baz=186,slow=8.3,SNR=7.7						
ZAA1	**Zalesovo Array**	**53.55**	**354**	*e*P	**P**	**01 29 28.7**	**-1.3**
BVAR	**Borovoye Array**	**55.40**	**344**	P	P	01 29 42.0	-1.5
	0.4nm,0.5s,baz=152,slow=6.5,SNR=3.6						
BOSA	**Boshof**	**70.45**	**229**	LR	LR	01 58 25.2	
	comp=Z,23nm,18.3s,baz=210,slow=33						
GERES	**GERESS Array B**	**82.19**	**319**	P	**P**	**01 32 30.2**	**-0.4**
	1.0nm,0.8s,baz=104,slow=5.6,SNR=8.8						
NB200	**NORSAR Array S**	**85.25**	**331**	*e*P	**P**	**01 32 46.6**	**+0.6**
NOA	**NORSAR Array B**	**85.25**	**331**	P	**P**	**01 32 46.6**	**+0.6**
	0.7nm,0.8s,baz=113,slow=4.8,SNR=2.5						
LTX	**Lajitas**	**146.44**	**26**	*e*PKPdf	**PKPdf**	**01 39 48.9**	**-1.3**
TXAR	**Lajitas Array**	**146.44**	**26**	PKPbc	**PKPdf**	**01 39 48.9**	**-1.3**
	0.6nm,1.0s,baz=259,slow=1.3,SNR=4.8						

*ISK **19** 01:38:51.9, 38.°69N×43.°25E, h5km, ML2.7/1*
*DDA **19** 01:38:52.9, 38.°68N×43.°32E, h7km, Ml2.6*
*ISCJB **19** 01:38:53.3±0.7, 38.°66N±0.°04×43.°28E±0.°06, h5km±8km, Error ellipse: s-maj=7.4km s-min=7.1km az=165.4*
*CSEM **19** 01:38:53.1±0.3, 38.°67N×43.°26E, h8km, ML2.7, Error ellipse: s-maj=6.3km s-min=5.8km az=97.0*
ISC 19 01:38:53.2±1.2, 38.°70N±0.°03×43.°29E±0.°04, h12km±13km, n22, σ1°22/29, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VANB	**Van**	**0.13**	**142**	PG	**Pb**	**01 38 57.5**	**-0.2**
VANB	**Van**	**0.13**	**142**	*e*Pg	**Pb**	**01 38 57.5**	**-0.2**
TVAN	**Van**	**0.19**	**151**	*i* P	**Pb**	**01 38 57.3**	**-1.5**
TVAN	**Van**	**0.19**	**151**	P	**Pb**	**01 38 57.3**	**-1.5**
ERCV	**ERCIS-VAN**	**0.33**	**7**	PG	**Pg**	**01 38 59.7**	**-0.2**
ERCV				SG	**Sb**	**01 39 06.0**	**-0.4**
ERCV	**ERCIS-VAN**	**0.33**	**7**	*e*Pg	**Pg**	**01 38 59.7**	**-0.2**
ERCV				*e*Sg	**Sb**	**01 39 06.0**	**-0.4**
GEVA	**Gevas**	**0.42**	**205**	*i* P	**Pg**	**01 39 00.6**	**-1.0**
GEVA				*i* S	**Sb**	**01 39 13.1**	**+4.0**
GEVA	**Gevas**	**0.42**	**205**	P	**Pg**	**01 39 00.6**	**-1.0**
ADCV	**BITLIS_Adilcev**	**0.46**	**284**	*i* P	**Pg**	**01 39 01.9**	**-0.3**
ADCV				*i* S	**Sb**	**01 39 10.5**	**+0.4**
ADCV	**BITLIS_Adilcev**	**0.46**	**284**	P	**Pg**	**01 39 01.9**	**-0.3**
ADCV				S	**Sb**	**01 39 10.5**	**+0.4**
CLDR	**Caldiran**	**0.66**	**47**	PG	**Pb**	**01 39 06.3**	**-0.6**
CLDR	**Caldiran**	**0.66**	**47**	*e*Pg	**Pb**	**01 39 06.3**	**-0.6**
AGRB	**Hanur-Agry**	**0.91**	**345**	PG	**Pb**	**01 39 10.5**	**-0.5**
AGRB	**Hanur-Agry**	**0.91**	**345**	*e*Pg	**Pb**	**01 39 10.5**	**-0.5**
GURO	**Guroymak-BITLI**	**0.99**	**262**	PG	**Pg**	**01 39 11.5**	**-0.9**
GURO	**Guroymak-BITLI**	**0.99**	**262**	*e*Pg	**Pg**	**01 39 11.5**	**-0.9**
EATA	**Eleskirt**	**1.32**	**332**	*i* P	**Pg**	**01 39 18.6**	**-0.1**
EATA				*i* S	**Sg**	**01 39 37.4**	**+1.7**
EATA	**Eleskirt**	**1.32**	**332**	P	**Pg**	**01 39 18.5**	**-0.1**
EATA				S	**Sg**	**01 39 37.4**	**+1.7**
TASB	**TASBURUN-IGDIR**	**1.48**	**30**	PN	**Pg**	**01 39 21.3**	**-0.4**
TASB	**TASBURUN-IGDIR**	**1.48**	**30**	*e*Pn	**Pg**	**01 39 21.3**	**-0.4**
SENK	**Senkaya-Erzuru**	**2.00**	**339**	PN	**Pb**	**01 39 28.0**	**-1.6**
SENK	**Senkaya-Erzuru**	**2.00**	**339**	*e*Pn	**Pb**	**01 39 28.0**	**-1.6**

*IDC **19** 01:39:00.3±2.7, 33.°19N×47.°06E, h0km, mb3.8/7, mb1 3.9/8, mb1mx3.5/64, mbtmp3.9/8, ML4.0/1, MS2.3/2, Ms1 2.3/2, ms1mx2.2/65, Error ellipse: s-maj=56.9km s-min=25.6km az=17.0*
*TEH **19** 01:39:01.4, 33.°33N×47.°19E, h10km, ML3.6*
*CSEM **19** 01:39:03.0±0.9, 33.°31N×47.°13E, h10km, ML3.6, Error ellipse: s-maj=25.2km s-min=11.4km az=47.0*
*THR **19** 01:39:04.4±0.5, 33.°34N×47.°29E, h14km±4km, ML3.5*
ISC 19 01:39:03.5±0.9, 33.°28N±0.°05×47.°18E±0.°05, h17km, n35, σ1°43/37, mb3.7/7, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IKFM	**Kafar-mosalman**	**0.60**	**67**	*e*Pg	**Pg**	**01 39 13.8**	**-1.7**
IKFM				*e*Sg	**Sg**	**01 39 23.3**	**-0.3**
IKFM				*e*AMB	AMB	01 39 25.4	
	comp=Z,99nm,0.1s						
IKFM	**Kafar-mosalman**	**0.60**	**67**	*e*Pg	**Pg**	**01 39 13.8**	**-1.7**
IKFM				*e*Sg	**Sg**	**01 39 23.3**	**-0.3**
IKOM	**Komasi**	**0.93**	**17**	*e*Pn	**Pg**	**01 39 21.2**	**-0.4**
IKOM	**Komasi**	**0.93**	**17**	*e*Pn	**Pg**	**01 39 21.2**	**-0.4**
IGHG	**Ghaleghazi**	**1.16**	**334**	*e*Pn	**Pb**	**01 39 24.4**	**-0.9**
IGHG	**Ghaleghazi**	**1.16**	**334**	*e*Pn	**Pb**	**01 39 24.4**	**-0.9**
IVIS	**Veis**	**1.27**	**348**	*e*Pn	**Pb**	**01 39 26.6**	**-0.5**
IVIS	**Veis**	**1.27**	**348**	*e*Pn	**Pb**	**01 39 26.6**	**-0.5**
ILIN	**Lien**	**1.64**	**354**	*e*Pn	**Pb**	**01 39 33.2**	**-0.3**
ILIN	**Lien**	**1.64**	**354**	*e*Pn	**Pb**	**01 39 33.2**	**-0.3**
SHGR	**Shooshtar-Gavs**	**1.80**	**130**	*e*Pg	**Pb**	**01 39 36.7**	**+0.7**
SHGR	**Shooshtar-Gavs**	**1.80**	**130**	*e*Pg	**Pb**	**01 39 36.7**	**+0.7**
SHGR				AML	AML	01 40 18.9	
	comp=E,675nm,0.6s						
SHGR				AML	AML	01 40 20.4	
	comp=N,660nm,0.8s						
SNGE	**Sanandaj**	**1.81**	**4**	*e*Pg	**Pb**	**01 39 36.3**	**0.0**
SNGE	**Sanandaj**	**1.81**	**4**	*e*Pg	**Pb**	**01 39 36.3**	**0.0**
KHMZ	**Khomeyn**	**2.36**	**78**	*e*Pn	**Pb**	**01 39 43.8**	**-2.0**
KHMZ	**Khomeyn**	**2.36**	**78**	*e*Pn	**Pb**	**01 39 43.8**	**-2.0**
KHMZ				AML	AML	01 40 28.2	
	comp=E,128nm,0.7s						
ASAO	**Ashtian**	**2.68**	**61**	*e*Pn	**Pn**	**01 39 48.0**	**+1.9**
ASAO				*e*Sg

HSPB Hornsund (broa 7.41 150 *e*P **Pn 01 43 20.6 -0.4**
HSPB *e*S **Sn 01 44 39.3 -5.6**
HSPB IAML 01 44 44.9
comp=Z,12nm,0.5s
DAG Danmarks Havn 7.70 211⇑*i*P **Pn 01 43 25.2 +0.4**
comp=Z,47nm,0.8s
HOPEN Hopen 8.50 136 *e*P **Pn 01 43 34.2 -1.6**
HOPEN *e*S Sn 01 45 00.6 -11
HOPEN IAML 01 45 09.1
comp=Z,8.1nm,0.4s
TULEG Thule 12.56 274 *e*Pn Pn 01 44 25.8 -5.5
TULEG *e*Sn Sn 01 46 41.1 -10
JMIC Jan Mayen 13.08 191 Pn **Pn 01 44 39.5 +1.1**
comp=Z,9.3nm,0.3s,baz=192,slow=6.2,SNR=4.3
SUMG Summit 13.19 233 *i* P **Pn 01 44 37.9 -2.3**
comp=Z,41nm,0.8s
SUMG Summit 13.19 233 *e*Pn **Pn 01 44 37.5 -2.7**
SUMG *e*Sn Sn 01 46 56.8 -10
SCO Scoresbysund 14.08 210 *i* P **Pn 01 44 52.5 +0.5**
comp=Z,70nm,1.2s
SCO Scoresbysund 14.08 210 *e*Pn **Pn 01 44 52.4 +0.5**
KEV Kevo 15.22 141 *e*Pn **Pn 01 45 05.3 -2.2**
comp=Z,85nm,1.7s
ARA0 ARCESS Array S 15.34 144 Pn **Pn 01 45 08.0 -1.2**
baz=356,slow=14
ARA0 ARCESS Array S 15.34 144 *e*Pn **Pn 01 45 07.0 -2.2**
ARA0 *e*Sn Sn 01 47 47.1 -12
ARA0 ARCESS Array S 15.34 144 Pn **Pn 01 45 08.0 -1.2**
baz=356,slow=14
ARCES ARCESS Array B 15.34 144 Pn **Pn 01 45 07.0 -2.2**
comp=Z,0.4nm,0.3s,baz=358,slow=10,SNR=14
ARCES Sn Sn 01 47 47.1 -12
comp=Z,0.2nm,0.3s,baz=352,slow=17,SNR=3.6
ARCES LR LR 01 51 09.1
comp=Z,836nm,18.3s,baz=342,slow=37
ARCES ARCESS Array B 15.34 144 *e*Pn **Pn 01 45 08.5 -0.7**
ARE0 ARCESS Array S 15.34 144 *e*Pn **Pn 01 45 08.7 -0.5**
comp=Z,89nm,1.6s
RES Resolute Bay 16.94 294 Pn **Pn 01 45 23.6 -5.9**
comp=Z,0.1nm,0.3s,baz=31,slow=11,SNR=8.2
RES LR LR 01 52 19.4
comp=Z,1μm,19.0s,baz=16,slow=38
RES Resolute Bay 16.94 294 *e*Pn **Pn 01 45 23.6 -5.9**
comp=Z,52nm,1.5s
ILULI Ilulissat 17.59 245 *e*Pn **Pn 01 45 33.0 -4.6**
comp=Z,73nm,1.2s
LVZ Lovozero 17.61 133 *e*Pn **P 01 45 38.5 -0.5**
comp=Z,147nm,1.2s
SFJD Kangerlussuaq 19.70 243 P **P 01 45 59.8 -2.0**
comp=Z,0.7nm,0.3s,baz=14,slow=10,SNR=12
SFJD LR LR 01 52 56.5
comp=Z,370nm,21.1s,baz=14,slow=35
SFJD Kangerlussuaq 19.70 243 *i* P **P 01 45 59.9 -2.0**
comp=Z,47nm,0.9s
SFJD Kangerlussuaq 19.70 243 *e*P **P 01 46 00.1 -1.7**
comp=Z,335nm,1.8s
BORG Borgarnes 19.76 206 LR LR 01 53 37.0
comp=Z,103nm,19.1s,baz=24,slow=37
TIXI Tiksi 22.87 39 P **P 01 46 35.4 -0.5**
comp=Z,0.9nm,0.5s,baz=354,slow=10.0,SNR=4.5
TIXI LR LR 01 54 08.4
comp=Z,225nm,21.7s,baz=347,slow=33
TIXI Tiksi 22.87 39 *e*P **P 01 46 35.4 -0.5**
TIXI *e*Sn Sn 01 51 22.3 +22
NC204 NORSAR Array S 22.92 165 *e*P **P 01 46 38.6 +2.0**
NC303 NORSAR Array S 22.99 165 *e*P **P 01 46 37.8 +0.6**
NC405 NORSAR Array S 23.11 164 *e*P **P 01 46 39.1 +0.6**
NBO02 NORSAR Array S 23.15 165 *e*P **P 01 46 40.2 +1.3**
NB201 NORSAR Array S 23.16 165 *e*P **P 01 46 40.0 +1.0**
NBO00 NORSAR Array S 23.16 165 *e*P **P 01 46 40.6 +1.6**
NB2 NORSAR Subarra 23.17 165 P **P 01 46 39.6 +0.5**
baz=2.7,slow=10
NB2 NORSAR Subarra 23.17 165 P **P 01 46 39.7 +0.5**
comp=Z,77nm,1.4s,baz=356,slow=11
NB2 NORSAR Subarra 23.17 165 P **P 01 46 39.6 +0.5**
baz=2.7,slow=10
NB200 NORSAR Array S 23.17 165 *e*P **P 01 46 40.4 +1.3**
NOA NORSAR Array B 23.17 165 P **P 01 46 40.4 +1.3**
comp=Z,8.3nm,0.9s,baz=356,slow=8.8,SNR=13
NOA LR LR 01 54 20.5
comp=Z,263nm,21.2s,baz=5.0,slow=33
FIA1 FINESS Array S 23.41 147 *e*P **P 01 46 43.0 +1.4**
FIA0 FINESS Array S 23.42 147 P **P 01 46 42.8 +1.3**
baz=14,slow=5.9
FIA0 FINESS Array S 23.42 147 *e*P **P 01 46 42.6 +1.1**
FIA0 FINESS Array S 23.42 147 P **P 01 46 42.8 +1.3**
baz=14,slow=5.9
FINES FINESS Array B 23.42 147 P **P 01 46 42.6 +1.1**
comp=Z,2.1nm,0.8s,baz=1.4,slow=7.6,SNR=6.3
FINES LR LR 01 55 48.2
comp=Z,561nm,18.1s,baz=356,slow=36
NC602 NORSAR Array S 23.48 164 *e*P **P 01 46 43.3 +1.1**
NRA0 NORESS Array S 23.48 164 P **P 01 46 41.9 -0.3**
NRA0 NORESS Array S 23.48 164 P **P 01 46 41.9 -0.3**
HFS Hagfors 24.15 162 P **P 01 46 48.9 +0.3**
baz=346,slow=8.6
HFS Hagfors 24.15 162 P **P 01 46 49.3 +0.7**
comp=Z,3.3nm,0.9s,baz=319,slow=4.3,SNR=4.0
HFS LR LR 01 54 30.5
comp=Z,458nm,21.9s,baz=0.5,slow=32
HFS Hagfors 24.15 162 P **P 01 46 48.9 +0.3**
baz=346,slow=8.6
FRB Frobisher Bay 24.67 260 P **P 01 46 53.1 -0.2**
comp=Z,5.6nm,0.7s,baz=11,slow=10.0,SNR=14
FRB LR LR 01 56 28.2
comp=Z,453nm,19.9s,baz=10,slow=36
KLMR Klimovskoe 24.95 131 *e*P **P 01 46 54.5 -1.3**
KLMR AMP 01 47 04.4
comp=Z,36nm,1.2s
KLMR *e*S **S 01 51 15.8 -3.0**
KLMR *e*S **S 01 51 15.8 -3.0**
KLMR LQ LQ 01 54 18.5
KLMR LQ LQ 01 54 18.5
KLMR LR LR 01 55 37.9
INK Inuvik 26.34 322 P **P 01 47 06.5 -1.8**
comp=Z,19nm,1.3s,baz=3.9,slow=13,SNR=16
INK PcP **PcP 01 50 32.3 -1.2**
comp=Z,1.3nm,1.1s,baz=78,slow=2.3,SNR=2.4
INK LR LR 02 00 36.8
comp=Z,294nm,18.6s,baz=1.5,slow=44
INK Inuvik 26.34 322 *e*P **P 01 47 06.8 -1.5**
comp=Z,29nm,1.4s
INK *e*PcP **PcP 01 50 32.3 -1.2**
TOLK Toolik Lake Re 26.90 335 *e*P **P 01 47 13.4 -0.1**
comp=Z,13nm,1.2s
COLD Coldfoot 28.34 335 *e*P **P 01 47 25.3 -1.0**
comp=Z,14nm,1.5s
EKA Eskdalemuir Ar 28.72 183 P **P 01 47 30.6 +0.8**
comp=Z,1.5nm,0.8s,baz=359,slow=7.8,SNR=2.7
FYU Fort Yukon 28.76 331 *e*P **P 01 47 30.4 +0.4**
comp=Z,84nm,1.6s
IM3 Indian Mountai 29.73 338 *e*P **P 01 47 38.8 +0.1**
EGAK Eagle 30.31 327 *e*P **P 01 47 42.3 -1.5**
comp=Z,14nm,1.4s
OBN Obninsk 30.41 136 P **P 01 47 45.1 +0.3**
comp=Z,4.1nm,0.4s,baz=288,slow=20,SNR=2.4
OBN LR LR 02 00 20.1
comp=Z,387nm,18.4s,baz=24,slow=37
OBN Obninsk 30.41 136 *e*P **P 01 47 45.1 +0.3**
comp=Z,59nm,1.9s
MDM Murphy Dome 30.51 333 *e*P **P 01 47 46.2 +0.6**
comp=Z,11nm,1.3s
YKA Yellowknife Ar 30.59 303 P **P 01 47 44.6 -1.7**
comp=Z,1.1nm,0.9s,baz=5.8,slow=8.4,SNR=17
YKA PcP **PcP 01 50 44.5 +0.3**
comp=Z,0.6nm,0.8s,baz=1.5,slow=2.3,SNR=6.1
IL1 Eielson Array 30.63 332 *e*P **P 01 47 45.9 -0.7**
ILAR Eielson Array 30.63 332 P **P 01 47 46.0 -0.7**
comp=Z,3.0nm,1.1s,baz=6.1,slow=8.0,SNR=19
ILAR LR LR 01 59 23.1
comp=Z,245nm,21.0s,baz=2.5,slow=35
ILB Eielson Array 30.63 332 *e*P **P 01 47 47.1 +0.4**
CCB Clear Creek Bu 30.80 333 *e*P **P 01 47 48.0 -0.1**
comp=Z,12nm,1.4s
DAWY Dawson 30.92 325 *e*P **P 01 47 48.1 -1.1**
comp=Z,22nm,1.8s
WRH Wood River Hil 30.99 333 *e*P **P 01 47 50.2 +0.5**
comp=Z,16nm,1.4s
ARU Arti 31.05 112 P **P 01 47 50.6 +0.3**
comp=Z,1.7nm,0.3s,baz=298,slow=4.2,SNR=4.7
ARU LR LR 02 02 38.7
comp=Z,805nm,18.7s,baz=335,slow=41
ARU Arti 31.05 112 *e*P **P 01 47 50.6 +0.3**
comp=Z,5.8nm,1.0s
SCRK Sand Creek 31.27 329 *e*P **P 01 47 53.7 +1.2**
comp=Z,10nm,1.6s

BPAW Bear Paw Mtn. 31.50 335 *e*P **P 01 47 53.6 -0.7**
comp=Z,14nm,1.5s
DOT Dot Lake 31.60 329 *e*P **P 01 47 55.8 +0.6**
comp=Z,31nm,1.5s
MCK McKinley 31.77 333 *e*P **P 01 47 54.9 -1.8**
comp=Z,14nm,1.5s
KTH Kantishna Hill 32.04 335 *e*P **P 01 47 58.6 -0.5**
comp=Z,22nm,1.5s
TRF Thorofare Moun 32.11 334 *e*P **P 01 48 00.1 +0.2**
comp=Z,18nm,1.8s
MENT Mentasta 32.29 329 *e*P **P 01 48 01.6 +0.3**
comp=Z,20nm,1.5s
DHY Denali Highway 32.35 332 *e*P **P 01 48 02.0 +0.1**
comp=Z,9.3nm,1.2s
PAX Paxson 32.35 330 *e*P **P 01 48 02.0 +0.1**
comp=Z,11nm,1.4s
PPLA Purkeypile 32.75 336 *e*P **P 01 48 06.4 +0.9**
comp=Z,18nm,1.3s
CLL Collm 32.96 164 *e*P **P 01 48 08.0 +0.8**
comp=Z,18nm,1.4s
CLL *i* pP **pP 01 48 10.3 0.0**
comp=Z,16nm,1.3s
CLL *e*sP **sP 01 48 12.0 +0.5**
CLL *e*PP **PP 01 49 22.0 +0.5**
CLL *e*S **S 01 53 32.0 +7.2**
CLL *e*SSS SSS 01 55 36.0
CLL Lm MLR 02 01 00.0
comp=N,200nm,20.1s
CLL Lm MLR 02 01 00.0
comp=E,100nm,18.6s
CLL Lm MLR 02 01 00.0
comp=Z,200nm,21.6s
CLL Collm 32.96 164 *e*P **P 01 48 08.6 +1.3**
comp=Z,12nm,1.2s
BRG Berggiesshubel 33.43 163 *e*P **P 01 48 12.3 +1.1**
comp=Z,38nm,1.9s
KSP Ksiaz 33.54 160 *e*P **P 01 48 13.8 +1.5**
SKT Skwentna 33.64 335 *e*P **P 01 48 12.2 -0.8**
comp=Z,14nm,1.3s
SML Sawmill 33.66 332 *e*P **P 01 48 12.0 -1.2**
comp=Z,12nm,1.2s
NKC Novy Kostel 34.02 164 *e*P **P 01 48 18.4 +1.9**
NKC *e*pP **sP 01 48 25.9 +5.1**
HYT Haines Junctio 34.02 323 *e*P **P 01 48 16.4 -0.1**
comp=Z,23nm,1.5s
DPC Dobruska-Polom 34.03 160 *e*P **P 01 48 18.1 +1.5**
SUA Susitna One 34.12 334 *e*P **P 01 48 17.0 -0.3**
comp=Z,11nm,1.2s
OJC Ojcow 34.30 156 *e*P **P 01 48 19.8 +0.9**
OJC Ojcow 34.30 156 *e*P **P 01 48 19.5 +0.6**
comp=Z,33nm,1.1s
AKASG Malin Array Be 34.31 145 P **P 01 48 18.4 -0.5**
comp=Z,0.3nm,0.4s,baz=353,slow=9.1,SNR=10
AKASG LR LR 02 02 21.5
comp=Z,413nm,18.8s,baz=345,slow=36
AKBB Malin Array Si 34.31 145 *e*P **P 01 48 18.4 -0.5**
comp=Z,6.6nm,1.1s
KRLC Kraliky 34.32 160 *e*P **P 01 48 20.4 +1.3**
PRU Prunice 34.33 162 *e*P **P 01 48 20.4 +1.3**
GOPC GO Pecny, Ondr 34.41 162 *e*P **P 01 48 21.2 +1.3**
RC01 Rabbit Creek A 34.45 333 *e*P **P 01 48 21.4 +1.4**
comp=Z,20nm,1.6s
MORC Moravsky Berou 34.65 159⇓*i*P **P 01 48 23.5 +1.5**
MORC Moravsky Berou 34.65 159 *e*P **P 01 48 23.5 +1.5**
comp=Z,60nm,1.2s
KWP Kalwaria Pacla 35.02 153 *e*P **P 01 48 26.1 +1.0**
KWP Kalwaria Pacla 35.02 153 *e*P **P 01 48 25.5 +0.4**
comp=Z,792nm,1.8s
TREC Trest 35.05 161 *e*P **P 01 48 27.5 +2.1**
VRAC Vranov 35.08 160 P **P 01 48 25.8 +0.2**
comp=Z,13nm,1.0s,baz=1.5,slow=8.8,SNR=12
VRAC LR LR 02 02 53.3
comp=Z,184nm,19.4s,baz=352,slow=36
VRAC Vranov 35.08 160⇑*i*P **P 01 48 27.8 +2.2**
NIE Niedzica 35.12 156 *e*P **P 01 48 27.6 +1.5**
KHC Kasperske Hory 35.16 163 *e*P **P 01 48 28.7 +2.4**
KHC *e*pP **sP 01 48 35.7 +5.1**
KHC Kasperske Hory 35.16 163 *e*P **P 01 48 28.7 +2.4**
comp=Z,4.6nm,1.3s
STHS Stebnicka Huta 35.17 155 *e*P **P 01 48 28.3 +1.9**
LANS Liptovska Anna 35.35 157 *e*P **P 01 48 30.2 +2.2**
GEC2 GERESS Array S 35.45 163 *e*P **P 01 48 31.3 +2.4**
comp=Z,12nm,1.1s
GERES GERESS Array B 35.45 163 P **P 01 48 30.3 +1.5**
comp=Z,3.8nm,0.9s,baz=4.2,slow=7.4,SNR=23
GERES LR LR 02 01 49.0
comp=Z,174nm,21.8s,baz=350,slow=34
GEA0 GERESS Array S 35.45 163 *e*P **P 01 48 30.7 +1.8**
BRVK Borovoye 35.57 101 *e*P **P 01 48 30.8 +1.0**
comp=Z,30nm,1.8s
BVAR Borovoye Array 35.62 101 P **P 01 48 31.6 +1.4**
comp=Z,2.2nm,0.9s,baz=339,slow=7.7,SNR=14
BVAR LR LR 02 06 19.1
comp=Z,380nm,19.2s,baz=358,slow=42
CRVS Cervenica-Dubn 35.69 154 *e*P **P 01 48 30.3 -0.6**
BFO Black Forest 35.83 169 *e*P **P 01 48 34.0 +2.0**
comp=Z,19nm,1.2s
SMOL Smolenice 35.91 159 *e*P **P 01 48 35.0 +2.3**
VYHS Vyhne 35.98 157 *e*P **P 01 48 34.8 +1.4**
MODS Modra-Piesok 36.04 159 *e*P **P 01 48 35.1 +1.2**
MA2 Magadan 36.10 24 LR LR 02 03 04.9
comp=Z,120nm,19.2s,baz=27,slow=36
ZAA1 Zalesovo Array 36.24 86 *e*P **P 01 48 35.2 -0.2**
ZAA0 Zalesovo Array 36.24 86 *e*P **P 01 48 35.7 +0.2**
comp=Z,5.7nm,0.9s
ZALV Zalesovo Beam 36.24 86 P **P 01 48 35.2 -0.2**
comp=Z,2.8nm,0.7s,baz=344,slow=7.1,SNR=10
ZALV LR LR 02 06 26.1
comp=Z,486nm,19.5s,baz=272,slow=41
CONA Conrad Observa 36.43 161 *i* pP **P 01 48 39.6 +2.2**
SNR=5.3
TRPA Tarpa 36.51 153⇓*i*P **P 01 48 39.3 +1.5**
PSZ Piszkesteto 36.60 156⇓*i*P **P 01 48 40.7 +1.9**
PSZ Piszkesteto 36.60 156 *e*P **P 01 48 40.3 +1.6**
comp=Z,25nm,1.2s
AKTO Aktyubinsk 36.92 114 P **P 01 48 41.1 -0.2**
comp=Z,2.1nm,0.7s,baz=352,slow=9.2,SNR=8.1
AKTO LR LR 02 06 02.1
comp=Z,1μm,18.8s,baz=360,slow=40
BUR08 Bucovina Ar. S 37.13 150 *e*P **P 01 48 45.0 +1.7**
BUR04 Bucovina Ar. S 37.16 150 *e*P **P 01 48 44.1 +0.6**
BURAR Bucovina Array 37.16 150⇓*i*P **P 01 48 44.5 +1.0**
OBKA Obir 37.81 162 *i* pP **P 01 48 51.6 +2.6**
SNR=11
KDAK Kodiak Island 37.88 335 LR LR 02 03 35.7
comp=Z,253nm,21.9s,baz=357,slow=35
SIRR Siria 38.33 154⇑*i*P **P 01 48 55.5 +2.2**
TESR Tescani 38.34 149⇑*i*P **P 01 48 53.7 +0.3**
KURK Kurchatov 38.77 93 *e*P **P 01 48 57.3 +0.4**
comp=Z,13nm,1.3s
KURBB Kurchatov Arra 38.85 93 P **P 01 48 58.2 +0.6**
comp=Z,3.5nm,0.2s,baz=348,slow=7.7,SNR=24
BZS Buzias 38.98 155⇓*i*P **P 01 49 00.8 +2.1**
EDM Edmonton 39.64 299 *e*P **P 01 49 04.0 -0.3**
comp=Z,26nm,1.4s
BLY Banja Luka 39.66 160⇑*i*P **P 01 49 06.3 +1.9**
BLY Banja Luka 39.66 160 *e*P **P 01 49 05.4 +1.0**
comp=Z,13nm,1.0s
HERR Herculane 39.75 154⇑*i*P **P 01 49 06.7 +1.5**
DIVS Divibare 40.42 157 *e*P **P 01 49 12.0 +1.1**
comp=Z,16nm,1.2s
TLY Talaya 40.43 68 P **P 01 49 10.9 +0.1**
comp=Z,3.1nm,0.6s,baz=44,slow=23,SNR=3.0
ULM Lac du Bonnet 40.84 282 LR LR 02 06 26.3
comp=Z,784nm,19.1s,baz=2.5,slow=37
KVAR Kislovodsk Arr 41.97 132 LR LR 02 06 36.8
comp=Z,244nm,21.6s,baz=345,slow=36
KBZ Khabaz 42.22 132 P **P 01 49 27.0 +1.6**
comp=Z,7.2nm,1.0s,baz=350,slow=4.6,SNR=11
KBZ LR LR 02 07 30.6
comp=Z,227nm,19.4s,baz=0.0,slow=37
AGMN Agassiz Nation 42.77 281 *e*P **P 01 49 31.1 +1.2**
comp=Z,23nm,1.4s
MAKZ Makanchi 42.98 90 *e*P **P 01 49 31.6 -0.2**
comp=Z,14nm,1.1s
MK31 Makanchi Array 43.03 90 *e*P **P 01 49 32.1 -0.1**
MK32 Makanchi Array 43.03 90 *e*P **P 01 49 31.0 -1.2**
MKAR Makanchi Array 43.03 90 P **P 01 49 31.0 -1.2**
comp=Z,2.0nm,0.9s,baz=352,slow=7.4,SNR=13
MKAR Makanchi Array 43.03 90 *e*P **P 01 49 32.1 -0.1**
comp=Z,15nm,0.8s
MK01 Makanchi Array 43.06 90 *e*P **P 01 49 31.6 -0.7**
FNA Florina 43.79 155 *e*P **P 01 49 39.2 +0.9**
comp=Z,34nm,1.1s
WALA Waterton Lakes 43.81 299 *e*P **P 01 49 38.1 -0.5**
comp=Z,11nm,1.0s

TBLG Delisi 44.35 130 *e*P **P 01 49 44.9 +2.1**
comp=Z,21nm,1.5s
ESDC Sonseca Array 44.39 183 P **P 01 49 42.4 -0.8**
comp=Z,0.2nm,0.4s,baz=342,slow=7.6,SNR=3.2
SONA1 Songino Array 44.49 66 *e*P **P 01 49 43.8 -0.2**
SONA0 Songino Array 44.51 66 *e*P **P 01 49 43.8 -0.3**
SONM Songino Array 44.51 66 P **P 01 49 43.8 -0.3**
comp=Z,5.0nm,1.0s,baz=339,slow=7.9,SNR=9.5
ULN Ulaanbaatar 44.54 66 *e*P **P 01 49 44.1 -0.3**
comp=Z,18nm,1.1s
AKH Akhalkalaki 44.57 131 *e*P **P 01 49 48.1 +3.4**
comp=Z,10nm,1.0s
NEW Newport 44.90 302 *e*P **P 01 49 47.6 +0.5**
comp=Z,11nm,1.3s
B08A Colville Reser 45.00 304 *e*P **P 01 49 48.5 +0.5**
comp=Z,24nm,1.7s
JTMT Jette 45.15 299 *e*P **P 01 49 49.6 +0.4**
comp=Z,11nm,1.2s
KLR Kul'dur 45.31 43 P **P 01 49 48.9 -1.4**
comp=Z,0.2nm,0.6s,baz=334,slow=6.5,SNR=9.9
KK31 Karatay Array 45.43 103 *e*P **P 01 49 52.8 +1.4**
KKAR Karatay Array 45.43 103 *e*P **P 01 49 52.8 +1.4**
BR101 Keskin Array S 45.52 142 *e*P **P 01 49 54.0 +1.7**
BR131 Keskin Array S 45.52 142 *e*P **P 01 49 53.9 +1.6**
BRTR Keskin Array B 45.52 142 P **P 01 49 54.0 +1.6**
comp=Z,6.0nm,1.1s,baz=346,slow=4.5,SNR=13
BRTR LR LR 02 10 27.5
comp=Z,177nm,20.4s,baz=330,slow=38
GNI Garni 45.92 130 P **P 01 49 56.4 +1.0**
comp=Z,1.8nm,0.5s,baz=195,slow=6.3,SNR=3.8
GNI LR LR 02 10 00.7
comp=Z,234nm,21.5s,baz=344,slow=37
MSO Missoula 46.03 298 *e*P **P 01 49 55.9 -0.3**
comp=Z,15nm,1.3s
AAK Ala-Archa 46.31 99 P **P 01 50 00.3 +1.8**
comp=Z,4.5nm,0.8s,baz=315,slow=4.8,SNR=14
AAK LR LR 02 12 42.8
comp=Z,283nm,18.2s,baz=359,slow=40
AAK Ala-Archa 46.31 99 *e*P **P 01 49 58.8 +0.3**
comp=Z,19nm,1.3s
MANT Manisa 46.44 148 *e*P **P 01 50 01.5 +1.9**
comp=Z,72nm,1.2s
WMQ Urumqi 46.55 85 P **P 01 50 02.5 +2.3**
VAE Valguarnera 46.82 163 LR LR 02 10 24.6
comp=Z,249nm,18.5s,baz=356,slow=37
LRM Limekiln Ridge 46.88 297 *e*P **P 01 50 03.5 +0.5**
BOZ Bozeman (W) 47.03 296 *e*P **P 01 50 03.8 -0.3**
comp=Z,32nm,1.9s
KDJ Kajisay 47.10 96 *e*P **P 01 50 06.0 +1.3**
comp=Z,14nm,1.4s
DLMT Dillon 47.35 297 *e*P **P 01 50 10.4 +3.8**
comp=Z,5.9nm,0.6s
ECSD EROS Data Cent 47.36 281 *e*P **P 01 50 06.6 +0.1**
comp=Z,9.2nm,1.0s
TARG Taragay, Kyrgy 47.56 96 *e*P **P 01 50 10.4 +1.9**
comp=Z,41nm,2.0s
NRN Naryn 47.66 98 *e*P **P 01 50 11.9 +2.6**
comp=Z,18nm,1.6s
RSSD Black Hills 47.74 289 *e*P **P 01 50 09.7 0.0**
comp=Z,7.5nm,1.2s
MCMT McKenzie Canyo 47.91 297 *e*P **P 01 50 11.7 +0.7**
YPP Pitchstone Pla 48.26 295 *e*P **P 01 50 15.2 +1.4**
comp=Z,8.8nm,1.4s
BMO Blue Mountains 48.30 301 *e*P **P 01 50 13.9 0.0**
comp=Z,27nm,1.8s
IMW Indian Meadow 48.65 295 *e*P **P 01 50 18.1 +1.3**
comp=Z,6.0nm,1.1s
MOOW Moose Ponds 48.77 295 *e*P **P 01 50 17.9 +0.2**
comp=Z,6.9nm,1.4s
LOHW Long Hollow 48.90 295 *e*P **P 01 50 19.5 +0.9**
comp=Z,13nm,1.8s
FXWY Fox Creek 48.91 295 *e*P **P 01 50 19.2 +0.4**
comp=Z,22nm,1.9s
REDW Red Top Meadow 49.17 295 *e*P **P 01 50 20.9 +0.2**
comp=Z,13nm,1.5s
HLID Hailey 49.31 298 *e*P **P 01 50 22.0 +0.3**
comp=Z,11nm,1.9s
GEYT Alibeck 49.31 116 P **P 01 50 22.7 +1.0**
comp=Z,5.7nm,0.9s,baz=325,slow=7.2,SNR=17
GEYT LR LR 02 14 27.5
comp=Z,349nm,20.7s,baz=25,slow=40
IDI Anoyia 49.43 152 LR LR 02 11 46.6
comp=Z,212nm,21.9s,baz=340,slow=37
KSH Kashi 49.56 98 P **P 01 50 27.3 +3.7**
PD31 Pinedale Array 49.63 294 *e*P **P 01 50 23.6 -0.6**
PDAR Pinedale Array 49.63 294 P **P 01 50 23.6 -0.6**
comp=Z,1.1nm,0.9s,baz=42,slow=6.8,SNR=6.7
PDAR LR LR 02 11 53.9
comp=Z,887nm,18.5s,baz=5.5,slow=37
PDAR Pinedale Array 49.63 294 *e*P **P 01 50 22.9 -1.3**
CN2 Changchun 50.22 49 *e*P **P 01 50 29.5 +1.1**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
USRK Ussuriysk Ar. 50.33 43 P **P 01 50 27.6 -1.6**
comp=Z,3.6nm,0.8s,baz=347,slow=8.1,SNR=8.0
RWWY Rawlins 50.47 291 *e*P **P 01 50 30.8 +0.2**
comp=Z,2nm,1.3s
WVOR Wild Horse Val 50.82 302 *e*P **P 01 50 33.8 +0.7**
comp=Z,18nm,1.9s
HWUT Hardware Ranch 50.98 295 *e*P **P 01 50 34.0 -0.3**
comp=Z,13nm,1.5s
N23A Red Feather La 51.13 290 *e*P **P 01 50 35.6 -0.1**
comp=Z,33nm,1.8s
BGU Big Grassy Mou 51.79 297 *e*P **P 01 50 40.3 -0.1**
comp=Z,12nm,1.5s
YBH Yreka Blue Hor 51.87 306 LR LR 02 14 32.5
comp=Z,175nm,18.0s,baz=5.0,slow=38
HHC Hu-ho-hao-te 51.92 63 *e*P **P 01 50 40.3 -1.1**
HHC pmax pmax
comp=Z,29nm,1.1s
HHC pmax pmax
comp=Z,110nm,6.8s
O20A White River Ci 52.11 292 *e*P **P 01 50 43.6 +0.7**
comp=Z,22nm,1.5s
GTA Gaotai 52.18 74 P **P 01 50 43.8 +0.4**
GTA pP sP 01 50 48.1 +0.3
GTA sP pP 01 50 50.8 +4.3
GTA pmax pmax
comp=Z,9.0nm,1.0s
MMAI Mount Meron Ar 52.31 141 P **P 01 50 45.6 +1.3**
comp=Z,4.9nm,0.8s,baz=339,slow=14,SNR=3.4
MMAI LR LR 02 16 13.0
comp=Z,93nm,18.1s,baz=345,slow=40
SMCO Snowmass 52.93 290 *e*P **P 01 50 49.5 +0.3**
comp=Z,46nm,2.0s
BJI Beijing 53.16 59 P **P 01 50 52.0 +1.6**
BJI pmax pmax
comp=Z,15nm,1.2s
ASF Jabal al Asfar 53.25 139 P **P 01 50 53.1 +1.8**
comp=Z,4.0nm,1.0s,baz=284,slow=4.2,SNR=3.6
ASF LR LR 02 15 58.7
comp=Z,130nm,18.3s,baz=326,slow=39
Q16A Castle Valley 53.60 295 *e*P **P 01 50 55.0 +1.1**
comp=Z,32nm,1.6s
KBL Kabul 53.76 106 *e*P **P 01 50 56.2 +1.0**
comp=Z,24nm,1.4s
TKL Tuckaleechee C 53.98 267 LR LR 02 13 21.9
comp=Z,215nm,20.1s,baz=4.5,slow=35
TKL Tuckaleechee C 53.98 267 *e*P **P 01 50 56.0 -0.6**
comp=Z,11nm,1.3s
KVN Kaiserville 54.12 301 *e*P **P 01 50 58.0 +0.3**
comp=Z,18nm,1.9s
SDCO Great Sand Dun 54.20 289 *e*P **P 01 50 58.1 -0.3**
comp=Z,7.4nm,1.4s
KMSC Kings Mountain 54.23 265 *e*P **P 01 50 59.3 +1.0**
comp=Z,24nm,1.5s
S22A 4UR Ranch, Cre 54.33 290 *e*P **P 01 50 59.8 +0.4**
comp=Z,15nm,1.6s
HHAR Hobbs 54.45 277 *e*P **P 01 50 59.3 -0.6**
comp=Z,37nm,1.9s
MTPU Mount Pierson 54.57 295 *e*P **P 01 51 02.2 +1.0**
comp=Z,5.2nm,1.3s
R11A Troy Canyon, C 54.59 299 *e*P **P 01 51 01.6 +0.5**
comp=Z,10nm,1.7s
NV01 Mina Array Sit 54.76 301 *e*P **P 01 51 03.3 +0.9**
NVAR Mina Array Bea 54.76 301 P **P 01 51 02.3 -0.1**
comp=Z,0.2nm,0.4s,baz=30,slow=22,SNR=3.6
NVAR LR LR 02 15 17.5
comp=Z,198nm,18.9s,baz=273,slow=37
MVCO Mesa Verde 55.03 292 *e*P **P 01 51 05.7 +1.3**
comp=Z,29nm,1.8s
CCUT Cedar City 55.17 296 *e*P **P 01 51 06.2 +0.8**
comp=Z,4.6nm,1.3s
LCMT Little Creek M 55.69 296 *e*P **P 01 51 10.0 +1.0**
comp=Z,14nm,1.6s
LZH Lanzhou 55.88 71 *e*P **P 01 51 11.5 +1.0**
LZH pP sP 01 51 16.8 +1.9

LZH					sP	pP	01 51 19.8	+6.1
LZH					pmax	pmax		
	comp=Z,18nm,1.1s							
X40A	**Basin Creek Fa**	**56.11**	**276**	*eP*	**P**		**01 51 11.8**	**0.0**
	comp=Z,16nm,1.4s							
MIAR	**Mount Ida**	**56.13**	**277**	*eP*	**P**		**01 51 12.2**	**+0.1**
	comp=Z,13nm,1.3s							
U15A	**North Rim**	**56.18**	**295**	*eP*	**P**		**01 51 14.2**	**+1.5**
	comp=Z,5.1nm,1.4s							
KSRS	**Korea Array**	**56.73**	**48**	P	**P**		**01 51 15.4**	**-0.8**
	comp=Z,1.1nm,0.7s,baz=2.9,slow=4.9,SNR=3.8							
KS15	**Wonju Array Si**	**56.73**	**48**	*eP*	**P**		**01 51 15.4**	**-0.9**
KSAR	**Wonju Array Be**	**56.73**	**48**	P	**P**		**01 51 15.4**	**-0.9**
DAC	**Darwin (Calif)**	**56.83**	**300**	*eP*	**P**		**01 51 17.8**	**+0.6**
	comp=Z,18nm,1.8s							
WLAR	**White Oak Lake**	**56.93**	**276**	*eP*	**P**		**01 51 18.9**	**+1.3**
	comp=Z,30nm,1.2s							
ANMO	**Albuquerque**	**57.07**	**289**	*eP*	**P**		**01 51 18.8**	**-0.2**
	comp=Z,6.3nm,1.4s							
DSCC	**Desert Studies**	**57.81**	**299**	*eP*	**P**		**01 51 27.1**	**+3.2**
MAJO	**Matsushiro**	**58.38**	**38**	*eP*	**P**		**01 51 26.1**	**-1.8**
MJAR	**Matsushiro Arr**	**58.38**	**38**	P	**P**		**01 51 26.1**	**-1.8**
	comp=Z,5.8nm,1.0s,baz=331,slow=7.2,SNR=4.9							
Y14A	**Wickenburg**	**58.71**	**296**	*eP*	**P**		**01 51 31.0**	**+0.7**
	comp=Z,9.4nm,1.5s							
PASC	**Pasadena Art C**	**58.97**	**301**	*eP*	**P**		**01 51 29.9**	**-2.1**
BTCC	**Bruns Corner**	**59.84**	**298**	*eP*	**P**		**01 51 36.6**	**-1.4**
DREC	**Desert Rsrch C**	**60.07**	**298**	*eP*	**P**		**01 51 41.1**	**+1.5**
TUC	**Tucson**	**60.11**	**293**	*eP*	**P**		**01 51 41.0**	**+1.0**
	comp=Z,14nm,1.5s							
EML	**El Monte Cty P**	**60.12**	**299**	*eP*	**P**		**01 51 40.5**	**+0.6**
JCT	**Junction City**	**60.81**	**282**	*eP*	**P**		**01 51 44.8**	**0.0**
	comp=Z,21nm,1.3s							
HKT	**Hockley**	**60.91**	**278**	*eP*	**P**		**01 51 44.1**	**-1.2**
	comp=Z,5.9nm,1.1s							
NJ2	**Nanjing**	**61.32**	**57**	*eP*	**P**		**01 51 50.4**	**+2.3**
NJ2					pmax	pmax		
	comp=Z,19nm,0.7s							
DANN	**Dangsing**	**61.43**	**92**	*eP*	**P**		**01 51 49.4**	**+0.1**
PYUN	**Piuthan**	**61.60**	**93**	*eP*	**P**		**01 51 49.7**	**-0.6**
	comp=Z,67nm,1.0s							
GKN	**Gorkha**	**61.87**	**91**	*eP*	**P**		**01 51 51.3**	**-0.8**
KOLN	**Koldanda**	**61.99**	**92**	*eP*	**P**		**01 51 52.0**	**-1.0**
GUN	**Gumba**	**62.09**	**90**	*eP*	**P**		**01 51 53.3**	**-0.5**
	comp=Z,53nm,1.0s							
KKN	**Kakani**	**62.15**	**90**	*eP*	**P**		**01 51 53.6**	**-0.4**
	comp=Z,98nm,1.2s							
DMN	**Daman**	**62.31**	**91**	*eP*	**P**		**01 51 54.7**	**-0.5**
	comp=Z,91nm,1.4s							
LTX	**Lajitas**	**62.34**	**286**	*eP*	**P**		**01 51 54.4**	**-0.8**
TX31	**Lajitas Ar. Si**	**62.34**	**286**	*eP*	**P**		**01 51 55.0**	**-0.1**
TXAR	**Lajitas Array**	**62.34**	**286**	P	**P**		**01 51 54.4**	**-0.8**
	comp=Z,1.1nm,0.9s,baz=343,slow=3.9,SNR=9.9							
TXAR					LR	LR	02 19 46.0	
	comp=Z,644nm,18.6s,baz=0.0,slow=37							
JIRN	**Jiri**	**62.37**	**90**	*eP*	**P**		**01 51 55.3**	**-0.4**
	comp=Z,123nm,1.3s							
RAYN	**Ar Rayn**	**62.48**	**131**	*eP*	**P**		**01 51 57.1**	**+1.0**
	comp=Z,9.3nm,1.3s							
RAMN	**Ramite**	**63.12**	**89**	*eP*	**P**		**01 51 59.4**	**-1.2**
	comp=Z,67nm,1.3s							
ODAN	**Odare**	**63.29**	**88**	*eP*	**P**		**01 52 00.9**	**-0.8**
	comp=Z,130nm,1.5s							
GYA	**Guiyang**	**65.70**	**70**	*eP*	**P**		**01 52 18.3**	**+1.0**
GYA					pmax	pmax		
	comp=Z,10.0nm,1.0s							
KMI	**Kunming**	**66.62**	**74**	P	**P**		**01 52 24.8**	**+1.4**
KMI					pP	sP	01 52 28.4	+0.6
KMI					sP	pP	01 52 30.1	+3.5
KMI					pmax	pmax		
	comp=Z,14nm,0.8s							
LPIG	**La Paz**	**68.19**	**292**	LR	LR	LR	02 23 40.2	
	comp=Z,367nm,18.2s,baz=21,slow=37							
KOWA	**Kowa**	**69.48**	**183**	P	**P**		**01 52 42.0**	**+0.9**
	comp=Z,3.1nm,0.9s,baz=14,slow=7.2,SNR=5.0							
KOWA					LR	LR	02 22 20.9	
	comp=Z,46nm,19.4s,baz=28,slow=35							
CHTO	**Chiang Mai**	**72.47**	**78**	*eP*	**P**		**01 52 58.5**	**-0.8**
	comp=Z,16nm,1.2s							
CM31	**Chiang Mai Arr**	**72.82**	**78**	*eP*	**P**		**01 53 00.1**	**-1.3**
CMAR	**Chiang Mai Arr**	**72.82**	**78**	P	**P**		**01 53 00.1**	**-1.3**
	comp=Z,5.1nm,0.8s,baz=346,slow=7.1,SNR=23							
CM01	**Chiang Mai Arr**	**72.86**	**78**	*eP*	**P**		**01 52 59.7**	**-1.8**
PBKT	**Sadao Pong**	**74.90**	**76**	*eP*	**P**		**01 53 12.0**	**-1.5**
	comp=Z,17nm,1.3s							
APG	**El Apazote**	**75.12**	**271**	LR	LR		02 29 14.9	
	comp=Z,132nm,18.8s,baz=358,slow=38							
SDV	**Santo Domingo**	**79.08**	**251**	LR	LR		02 27 36.0	
	comp=Z,96nm,20.3s,baz=39,slow=35							
JTS	**JuntasAbangare**	**79.19**	**265**	LR	LR		02 29 32.1	
	comp=Z,110nm,19.9s,baz=48,slow=36							
RUSC	**La Rusia**	**82.29**	**253**	*eP*	**P**		**01 53 57.9**	**+3.1**
	comp=Z,15nm,1.3s							
ROSC	**El Rosal**	**83.46**	**254**	LR	LR		02 33 23.4	
	comp=Z,28nm,18.9s,baz=40,slow=37							
PRAC	**Prado**	**84.63**	**254**	*eP*	**P**		**01 54 10.6**	**+4.2**
	comp=Z,74nm,1.8s							
OTAV	**Otavalo**	**88.43**	**258**	*eP*	**P**		**01 54 29.2**	**+3.7**
	comp=Z,12nm,1.4s							

IDC 19 01:46:06.9±2.2, 6°68S×128°99E, h0km, mb3.6/1, mb1 3.7/3, mb1mx3.4/62, mbtmp3.5/3, ML3.4/2, MS3.5/1, Ms1 3.5/1, ms1mx2.8/40, Error ellipse: s-maj=146.6km s-min=32.2km az=67.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.17**	**159**	Pn	Pn	01 49 27.8	-1.3
	0.2nm,0.3s,baz=340,slow=13,SNR=3.2						
WRA				Sn	Sn	01 51 53.1	-14
	0.5nm,0.3s,baz=333,slow=22,SNR=7.1						
ASAR	**Alice Springs**	**17.53**	**165**	P	P	01 50 13.8	-0.4
	0.2nm,0.3s,baz=353,slow=12,SNR=9.9						
ASAR				S	Sn	01 53 22.7	-6.3
	0.1nm,0.3s,baz=0.4,slow=26,SNR=2.4						
PALK	**Pallekele**	**50.12**	**285**	LR	LR	02 17 01.9	
	comp=Z,56nm,20.4s,baz=295,slow=37						
MKAR	**Makanchi Array**	**67.42**	**327**	P	P	01 57 04.3	0.0
	0.2nm,0.3s,baz=114,slow=8.2,SNR=5.0						

*ISCJB **19** 01:52:39.5±1.0, 1°.2N±0°.1×91°.5E±0°.1, h10km, mb3.8/6, Error ellipse: s-maj=22.5km s-min=13.6km az=29.3*
*IDC **19** 01:52:40.5±1.4, 1°.20N×91°.49E, h0km, mb3.7/6, mb1 4.0/9, mb1mx3.6/82, mbtmp3.9/9, ML4.3/3, MS3.2/1, Ms1 3.2/1, ms1mx2.7/56, Error ellipse: s-maj=41.0km s-min=20.9km az=45.0*

ISC 19 01:52:41.5±1.2, 1°.2N±0°.2×91°.5E±0°.1, h10km, n16, σ1§34/10, mb3.8/6, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**7.58**	**78**	Pn	**Pn**	**01 54 30.4**	**-1.9**
	0.8nm,0.3s,baz=84,slow=1.7,SNR=4.7						
PSI				Sn	Sn	01 55 45.5	-13
	baz=312,slow=16,SNR=3.2						
PALK	**Pallekele**	**12.34**	**300**	Pn	**Pn**	**01 55 35.9**	**-1.6**
	3.7nm,0.3s,baz=115,slow=11,SNR=18						
PALK				Sn	Sn	01 57 41.0	-14
	1.6nm,0.3s,baz=116,slow=13,SNR=3.8						
PALK				LR	LR	01 59 42.6	
	comp=Z,115nm,19.4s,baz=116,slow=34						
CMAR	**Chiang Mai Arr**	**18.63**	**23**	P	**Pn**	**01 56 60.0**	**+0.2**
	0.8nm,0.3s,baz=214,slow=12,SNR=4.3						
H08S2	**Diego Garcia H**	**20.90**	**245**	T	T	02 19 09.4	
	baz=64,slow=74,SNR=33						
H08S3	**Diego Garcia H**	**20.90**	**245**	T	T	02 19 10.8	
	baz=64,slow=74,SNR=33						
H08S1	**Diego Carcia H**	**20.92**	**245**	T	T	02 19 04.1	
	baz=64,slow=74,SNR=35						
H01W3	**Cape Leeuwin H**	**41.69**	**152**	T	T	02 44 51.1	
	baz=326,slow=75,SNR=10						
H01W2	**Cape Leeuwin H**	**41.70**	**152**	T	T	02 44 48.5	
	baz=326,slow=75,SNR=9.7						
H01W1	**Cape Leeuwin H**	**41.71**	**152**	T	T	02 44 52.8	
	baz=326,slow=75,SNR=12						
MKAR	**Makanchi Array**	**46.11**	**351**	P	**P**	**02 01 05.2**	**-0.8**
	0.7nm,0.6s,baz=159,slow=9.6,SNR=6.9						
WRA	**Warramunga Arr**	**46.95**	**119**	P	**P**	**02 01 12.9**	**-0.1**
	1.5nm,0.7s,baz=296,slow=8.6,SNR=15						
ASAR	**Alice Springs**	**48.04**	**124**	P	**P**	**02 01 22.1**	**+0.6**
	0.2nm,0.4s,baz=308,slow=8.1,SNR=3.1						
SONM	**Songino Array**	**48.21**	**13**	P	**P**	**02 01 24.0**	**+1.6**
	2.4nm,0.7s,baz=165,slow=6.0,SNR=2.7						
ZALV	**Zalesovo Beam**	**52.85**	**355**	P	**P**	**02 01 58.2**	**+0.9**
	0.4nm,0.4s,baz=169,slow=7.0,SNR=2.1						
GERES	**GERESS Array B**	**81.07**	**319**	P	**P**	**02 04 57.5**	**+0.4**
	0.3nm,0.5s,baz=89,slow=6.1,SNR=3.8						
TXAR	**Lajitas Array**	**146.34**	**24**	PKPbc	**PKPab**	**02 12 25.7**	**+1.4**
	0.8nm,1.1s,baz=278,slow=1.9,SNR=4.2						

IDC 19 01:54:17.1±4.5, 30°.46N×67°.57E, h0km, mb3.4/4, mb1 3.6/6, mb1mx3.3/82, mbtmp3.5/6, ML3.8/2, Error ellipse: s-maj=132.3km s-min=60.0km az=127.0, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AAK	**Ala-Archa**	**13.36**	**23**	Pn	Pn	01 57 29.5	+1.4
	0.4nm,0.3s,baz=186,slow=9.2,SNR=4.3						
MKAR	**Makanchi Array**	**19.89**	**31**	P	P	01 58 49.6	-0.5
	0.3nm,0.3s,baz=213,slow=11,SNR=9.6						
KURBB	**Kurchatov Arra**	**21.75**	**19**	P	P	01 59 09.7	-0.3
	0.5nm,0.6s,baz=211,slow=9.8,SNR=2.5						
BVAR	**Borovoye Array**	**22.64**	**4**	P	P	01 59 19.8	+0.2
	0.4nm,0.4s,baz=186,slow=12,SNR=3.9						
ZALV	**Zalesovo Beam**	**26.58**	**23**	P	P	01 59 57.8	+1.0
	1.8nm,0.6s,baz=222,slow=11,SNR=4.6						
YKA	**Yellowknife Ar**	**87.35**	**1**	P	P	02 07 05.3	-0.4
	0.1nm,0.7s,baz=349,slow=6.0,SNR=5.7						

*IDC **19** 01:55:36.1±1.0, 3°.55N×92°.62E, h0km, mb4.0/11, mb1 4.1/14, mb1mx3.8/83, mbtmp4.0/14, ML4.2/3, Error ellipse: s-maj=35.3km s-min=17.0km az=42.0*
*ISCJB **19** 01:55:37.8±0.5, 3°.61N±0°.07×92°.79E±0°.05, h24km, mb4.3/17, Error ellipse: s-maj=10.4km s-min=5.5km az=24.4*
*NEIC **19** 01:55:37.5±2.8, 3°.57N×92°.67E, h10km±17km, mb4.8/9, Error ellipse: s-maj=9.7km s-min=5.1km az=223.0*

ISC 19 01:55:39.4±0.8, 3°.6N±0°.1×92°.74E±0°.07, h24km, n38, σ0§98/38, mb4.2/17, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LHMI	**Lhok Sumawe**	**4.50**	**69**	*e*Pn	**Pn**	**01 56 46.2**	**0.0**
LHMI				*e*Sn	**Sn**	**01 57 36.1**	**-1.7**
GSI	**Gunungsitoli**	**5.35**	**115**	*e*Pn	**Pn**	**01 56 58.1**	**+0.3**
GSI				*e*Sn	**Sn**	**01 57 56.1**	**-2.6**
PSI	**Prapat**	**6.23**	**97**	Pn	**Pn**	**01 57 12.8**	**+2.7**
	1.4nm,0.3s,baz=261,slow=13,SNR=5.1						
PSI				Sn	**Sn**	**01 58 19.4**	**-1.2**
	2.2nm,0.3s,baz=339,slow=23,SNR=6.0						
KULM	**Kulim**	**8.07**	**78**	*e*Pn	**Pn**	**01 57 35.6**	**+0.5**
PALK	**Pallekele**	**12.52**	**287**	Pn	**Pn**	**01 58 35.0**	**-1.3**
	1.8nm,0.3s,baz=116,slow=14,SNR=2.7						
PALK				Sn	Sn	02 00 43.5	-12
	3.4nm,0.3s,baz=307,slow=0.6,SNR=10						
CM31	**Chiang Mai Arr**	**15.97**	**22**	*e*Pn	**Pn**	**01 59 22.8**	**+0.1**
CMAR	**Chiang Mai Arr**	**15.97**	**22**	Pn	**Pn**	**01 59 22.8**	**+0.1**
	0.6nm,0.3s,baz=216,slow=12,SNR=3.8						
H01W3	**Cape Leeuwin H**	**43.24**	**154**	T	T	02 49 33.0	
	baz=334						
H01W2	**Cape Leeuwin H**	**43.26**	**154**	T	T	02 49 23.7	
	baz=334						
H01W1	**Cape Leeuwin H**	**43.26**	**154**	T	T	02 49 51.3	
	baz=334						
MK01	**Makanchi Array**	**43.95**	**350**	*eP*	**P**	**02 03 45.4**	**+0.9**
MK31	**Makanchi Array**	**43.97**	**350**	*eP*	**P**	**02 03 45.6**	**+0.9**
MK32	**Makanchi Array**	**43.97**	**350**	*eP*	**P**	**02 03 45.3**	**+0.6**
MKAR	**Makanchi Array**	**43.97**	**350**	P	**P**	**02 03 45.3**	**+0.6**
	2.2nm,0.8s,baz=172,slow=8.9,SNR=11						
MKAR	**Makanchi Array**	**43.97**	**350**	*eP*	**P**	**02 03 45.6**	**+0.9**
	13nm,0.9s						
GEYT	**Alibeck**	**46.55**	**322**	P	**P**	**02 04 04.7**	**-0.7**
	2.1nm,0.8s,baz=122,slow=7.0,SNR=3.6						
WRA	**Warramunga Arr**	**47.08**	**121**	P	**P**	**02 04 10.7**	**+0.9**
	0.6nm,0.7s,baz=295,slow=8.9,SNR=4.4						
WR1	**Warramunga Arr**	**47.08**	**121**	*eP*	**P**	**02 04 10.7**	**+0.9**
	26nm,0.8s						
WRAB	**Tennant Creek**	**47.09**	**121**	*eP*	**P**	**02 04 10.0**	**+0.2**
	8.0nm,1.2s						
WB2	**Warramunga Arr**	**47.09**	**121**	*eP*	**P**	**02 04 10.2**	**+0.3**
	17nm,1.7s						
KURBB	**Kurchatov Arra**	**48.37**	**348**	P	**P**	**02 04 19.8**	**+0.6**
	1.2nm,0.6s,baz=170,slow=7.2,SNR=6.0						
AS31	**Alice Springs**	**48.40**	**126**	*eP*	**P**	**02 04 20.0**	**+0.1**
	3.0nm,1.8s						
ASAR	**Alice Springs**	**48.40**	**126**	P	**P**	**02 04 20.0**	**+0.1**
	0.4nm,0.7s,baz=290,slow=8.5,SNR=2.8						
KURK	**Kurchatov**	**48.44**	**348**	*eP*	**P**	**02 04 19.8**	**+0.1**
TLY	**Talaya**	**48.78**		P	**P**	**02 04 22.6**	**+0.2**
	8.8nm,1.7s,baz=166,slow=17,SNR=10						
TLY	**Talaya**	**48.78**	**9**	*eP*	**P**	**02 04 22.1**	**-0.3**
	9.6nm,0.8s						
ZAA0	**Zalesovo Array**	**50.61**	**354**	*eP*	**P**	**02 04 37.4**	**+1.1**
	12nm,1.4s						
ZALV	**Zalesovo Beam**	**50.61**	**354**	P	**P**	**02 04 37.3**	**+1.1**
	2.5nm,0.5s,baz=185,slow=8.1,SNR=9.6						
ZALV	**Zalesovo Beam**	**50.61**	**354**	*eP*	**P**	**02 04 37.1**	**+0.9**
ZAA1	**Zalesovo Array**	**50.61**	**354**	*eP*	**P**	**02 04 37.3**	**+1.0**
BVAR	**Borovoye Array**	**52.61**	**343**	P	**P**	**02 04 51.3**	**+0.1**
	1.8nm,0.8s,baz=148,slow=8.4,SNR=8.0						
BR101	**Keskin Array S**	**64.21**	**313**	*eP*	**P**	**02 06 13.0**	**+0.3**
BRTR	**Keskin Array B**	**64.21**	**313**	P	**P**	**02 06 13.0**	**+0.3**
	0.9nm,0.6s,baz=126,slow=6.6,SNR=5.1						
AKASG	**Malin Array Be**	**70.66**	**323**	P	**P**	**02 06 52.5**	**-0.5**
	0.3nm,0.4s,baz=94,slow=5.1,SNR=4.4						
AKBB	**Malin Array Si**	**70.66**	**323**	*eP*	**P**	**02 06 52.5**	**-0.5**
	19nm,2.0s						
GEA0	**GERESS Array S**	**80.08**	**319**	*eP*	**P**	**02 07 48.3**	**+0.9**
GEC2	**GERESS Array S**	**80.08**	**319**	*eP*	**P**	**02 07 47.3**	**-0.1**
	4.1nm,1.3s						
GERES	**GERESS Array B**	**80.08**	**319**	P	**P**	**02 07 48.7**	**+1.3**
	2.0nm,0.8s,baz=95,slow=5.8,SNR=13						

*CSEM **19** 01:58:05.9±0.3, 38°.98N×43°.55E, h15km, ML2.7, Error ellipse: s-maj=7.6km s-min=5.9km az=93.0*
*DDA **19** 01:58:05.7, 38°.96N×43°.59E, h20km, Ml2.7*
*ISK **19** 01:58:05.5, 38°.92N×43°.56E, h9km, ML2.2/4*
*ISCJB **19** 01:58:07.0±0.7, 38°.96N±0°.04×43°.51E±0°.07, h12km±6km, Error ellipse: s-maj=9.7km s-min=5.4km az=19.3*

ISC 19 01:58:05.9±0.9, 38°.96N±0°.03×43°.57E±0°.03, h18km±4km, n19, σ0§80/29, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VMUR	**Van-Muradiye**	**0.03**	**6**	*i* P	**Pg**	**01 58 08.8**	**-0.5**
VMUR				*i* S	**Sg**	**01 58 12.1**	**+0.5**
VMUR	**Van-Muradiye**	**0.03**	**6**	P	**Pg**	**01 58 08.8**	**-0.5**
VMUR				S	**Sg**	**01 58 12.1**	**+0.5**
ERCV	**ERCIS-VAN**	**0.19**	**288**	PG	**Pg**	**01 58 10.2**	**-0.6**
ERCV	**ERCIS-VAN**	**0.19**	**288**	*e*Pg	**Pg**	**01 58 10.2**	**-0.6**
CLDR	**Caldiran**	**0.33**	**56**	PG	**Pg**	**01 58 13.0**	**0.0**
CLDR	**Caldiran**	**0.33**	**56**	*i* P	**Pb**	**01 58 13.2**	**-0.2**
CLDR				*i* S	**Sn**	**01 58 21.2**	**-1.3**
CLDR	**Caldiran**	**0.33**	**56**	P	**Pb**	**01 58 13.2**	**-0.2**
VANB	**Van**	**0.39**	**201**	PG	**Pb**	**01 58 14.6**	**+0.2**
VANB				SG	**Sb**	**01 58 20.8**	**+0.7**
VANB	**Van**	**0.39**	**201**	*e*Pg	**Pb**	**01 58 14.6**	**+0.2**
VANB				*e*Sg	**Sb**	**01 58 20.8**	**+0.7**
TVAN	**Van**	**0.45**	**196**	*i* P	**Pg**	**01 58 14.5**	**-0.6**
TVAN				*i* S	**Sb**	**01 58 23.4**	**+1.5**
TVAN	**Van**	**0.45**	**196**	P	**Pg**	**01 58 14.5**	**-0.6**
TVAN				S	**Sb**	**01 58 23.4**	**+1.5**
ADCV	**BITLIS_Adilcev**	**0.68**	**257**	*i* P	**Pg**	**01 58 17.9**	**-1.3**
ADCV				*i* S	**Sb**	**01 58 29.3**	**+0.9**
ADCV	**BITLIS_Adilcev**	**0.68**	**257**	P	**Pg**	**01 58 17.9**	**-1.3**
ADCV				S	**Sb**	**01 58 29.3**	**+0.9**
TUTA	**Tutak**	**0.73**	**307**	*i* P	**Pg**	**01 58 20.0**	**-0.3**
TUTA				*i* S	**Sn**	**01 58 32.3**	**-0.2**
TUTA	**Tutak**	**0.73**	**307**	P	**Pg**	**01 58 20.0**	**-0.3**
AGRB	**Hanur-Agry**	**0.76**	**324**	PG	**Pb**	**01 58 21.1**	**+0.4**
AGRB	**Hanur-Agry**	**0.76**	**324**	*e*Pg	**Pb**	**01 58 21.1**	**+0.4**
GURO	**Guroymak-BITLI**	**1.27**	**252**	PN	**Pg**	**01 58 29.8**	**-0.6**
GURO	**Guroymak-BITLI**	**1.27**	**252**	*e*Pn	**Pg**	**01 58 29.8**	**-0.6**

*NIED **19** 01:58:00, 24°.10N×121°.60E, h35km, Mw5.2 Best double couple: M0 7.99000×10^16 NP1:φs247.00000°, δ25.00000°, λ118.00000°. NP2:φs37.00000°, δ68.00000°, λ78.00000°.*
*BJI **19** 01:58:05.9, 24°.17N×121°.68E, h8km, mb4.7/61, mB5.0/48, ML4.7/8, Ms4.9/73, Ms7 4.8/67*
*MOS **19** 01:58:07.5±1.1, 24°.16N×121°.76E, h33km, mb5.1/80, MS4.5/21, Error ellipse: s-maj=6.3km s-min=4.3km az=104.5*
*GCMT **19** 01:58:08.0±0.2, 24°.07N×121°.68E, h33km±1km, MW5.1/90, Moment Tensor Solution. s41,c58; s90,c123; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr3.58±.26; Mθθ-1.27±.16; Mφφ-2.31±.16; Mrθ1.38±.17; Mrφ-2.66±.09; Mθφ3.99±.23; Best double couple: M0 5.87700×10^16 NP1:φs24.00000°, δ69.00000°, λ76.00000°. NP2: φs239.00000°, δ25.00000°, λ123.00000°. Principal axes: T 5.5940, Plg63.0000°, Azm271.0000°; N 0.5660, Plg13.0000°, Azm29.0000°; P -6.1600, Plg23.0000°, Azm124.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*JMA **19** 01:58:08.2, 24°.07N×121°.64E, h31km±1km, M5.0*
*TAP **19** 01:58:08.6, 24°.13N×121°.67E, h29km, ML5.5, B*
*IDC **19** 01:58:08.5±1.7, 24°.14N×121°.78E, h30km±11km, mb4.5/53, mb1 4.6/57, mb1mx4.5/79, mbtmp4.7/57, ML4.7/4, MS4.3/39, Ms1 4.3/39, ms1mx4.2/50, Error ellipse: s-maj=9.4km s-min=7.7km az=67.0*
*ISCJB **19** 01:58:08.7±0.1, 24°.131N±0°.009×121°.72E±0°.01, h41km±1km, mb4.9/211, MS4.4/49, Error ellipse: s-maj=1.9km s-min=1.4km az=39.6*
*NEIC **19** 01:58:08.6±0.0, 24°.13N×121°.67E, h29km, mb5.1/135, MW5.0, ML5.5(TAP), Moment Tensor Solution. s15 Moment tensor: Scale 10^16Nm; Mrr-0.49; Mθθ-0.60; Mφφ1.09; Mrθ0.96; Mrφ-1.91; Mθφ3.39; Best double couple: M0 4.10000×10^16 NP1:φs191.00000°, δ86.00000°, λ-59.00000°. NP2:φs287.00000°, δ31.00000°, λ-173.00000°. Principal axes: T 3.9800, Plg34.0000°, Azm255.0000°; N 0.2600, Plg31.0000°, Azm9.0000°; P -4.2400, Plg41.0000°, Azm129.0000°; After TAP.*
NEIC Felt [III] at Taipei, Xinfeng and Yonghe; [II] at Taichung and Xindian. Felt in much of Taiwan. Recorded [4 TAP] in Hualien and Yilan; [3 TAP] in Nantou; [2 TAP] in Changhua, Hsinchu, Miaoli, Taitung, Taoyuan and Yunlin; [1 TAP] in Chiayi.

ISC 19 01:58:09.2±0.4, 24°.10N±0°.01×121°.71E±0°.02, h33km±2km, h33km:pP-P, n614, σ1§58/755, mb5.0/213, MS4.5/49, 72C-40D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TWD	**Chiawan**	**0.11**	**259**	⇑*i*P	**Pb**	**01 58 13.8**	**-1.1**
	baz=241						
TWD				*i* S	**Sn**	**01 58 17.5**	**-0.3**
	baz=241						
NACB	**Ninganchiao**	**0.13**	**304**	⇓P	**Pb**	**01 58 13.7**	**-1.4**
	baz=289						
NACB				S	**Sn**	**01 58 17.2**	**-1.1**
	baz=289						
NACB	**Ninganchiao**	**0.13**	**304**	*e*Pg	**Pb**	**01 58 12.6**	**-2.5**
NACB				*e*Sg	**Sn**	**01 58 14.9**	**-3.5**
HWA	**Hwalien**	**0.16**	**218**	⇑P	**Pb**	**01 58 14.8**	**-0.5**
	baz=206						
HWA				S	**Sn**	**01 58 19.8**	**+0.8**
	baz=206						
ENLB	**Shoufeng**	**0.22**	**207**	⇑*i*P	**Pb**	**01 58 15.6**	**-0.4**
	baz=203						
ENLB				*e*S	**Sn**	**01 58 21.0**	**+0.3**
	baz=203						
ENA	**Nanau**	**0.33**	**5**	⇑*i*P	**Pb**	**01 58 15.9**	**-1.4**
	baz=8.0						
ENA				S	**Sb**	**01 58 21.5**	**-1.3**
	baz=8.0						
NANB	**Nanao**	**0.33**	**6**	⇑P	**Pb**	**01 58 16.0**	**-1.3**
	baz=8.0						
NANB				*e*S	**Sb**	**01 58 21.3**	**-1.4**
	baz=8.0						
ENAH	**Nanao**	**0.36**	**15**	⇑P	**Pb**	**01 58 16.5**	**-1.2**
	baz=16						
ENAH				*e*S	**Sb**	**01 58 22.0**	**-1.5**
	baz=16						
ESL	**Shilin**	**0.38**	**222**	⇑*e*P	**Pb**	**01 58 16.8**	**-1.2**
	baz=224						
ESL				*e*S	**Sb**	**01 58 22.9**	**-1.1**
	baz=224						
WHF	**Hehuan Shan**	**0.41**	**276**	⇓*i*P	**Pb**	**01 58 17.2**	**-1.5**
	baz=272						
WHF				S	**Sb**	**01 58 23.3**	**-2.0**
	baz=272						
NNSB	**Datong**	**0.44**	**318**	⇓P	**Pb**	**01 58 17.5**	**-1.5**
	baz=317						
NNSB				S	**Sb**	**01 58 23.5**	**-2.2**
	baz=317						
NNSH	**Datong**	**0.44**	**318**	⇓*i*P	**Pb**	**01 58 17.5**	**-1.5**
	baz=317						
NNSH				*e*S	**Sb**	**01 58 23.3**	**-2.4**
	baz=317						
NNS	**Nan Shan**	**

SMLT S Sb 01 58 33.1 -1.4
baz=247
YULB Yu-li 0.80 208⇑eP Pn 01 58 22.2 -2.1
baz=205
YULB Yu-li 0.80 208 ePg Pn 01 58 22.4 -1.9
YULB eSg Sn 01 58 35.2 +0.2
TYC Yuchr 0.80 256 P Pn 01 58 23.5 -0.7
baz=250
TYC S Sb 01 58 33.6 -1.7
baz=250
LIOB Emei 0.83 311⇓iP Pn 01 58 24.6 -0.1
baz=309
LIOB S Sn 01 58 35.3 -0.6
baz=309
NSTT Nanjuang 0.83 309⇓P Pn 01 58 24.3 -0.4
baz=308
NSTT S Sn 01 58 35.1 -0.8
baz=308
TWF1 Yuli 0.84 207⇑eP Pn 01 58 22.6 -2.1
baz=213
WLTB Daxi 0.86 331⇓P Pb 01 58 25.0 -0.7
baz=330
WLTB eS Sn 01 58 36.1 -0.3
baz=330
TIPB Shuangxi 0.87 7⇓iP Pn 01 58 23.7 -1.6
baz=357
TIPB eS Sn 01 58 34.4 -2.5
baz=357
TWA Mucha 0.88 353⇓P Pn 01 58 24.8 -0.5
baz=353
TWA eS Sn 01 58 35.8 -1.3
baz=353
TWQ1 Liyutan 0.89 286⇓iP Pb 01 58 25.9 -0.4
baz=284
TWQ1 S Sb 01 58 37.3 -0.5
baz=284
TATO Taipei 0.89 347⇓P Pn 01 58 25.0 -0.6
baz=346
TATO S Sn 01 58 35.9 -1.4
baz=346
TATO Taipei 0.89 347 ePn Pn 01 58 24.9 -0.6
TATO eSg Sn 01 58 36.5 -0.8
NSY Sanyi 0.92 290 P Pb 01 58 26.6 -0.1
baz=288
NSY S Sb 01 58 38.5 -0.2
baz=288
YUS Yu-Shan 0.92 229⇑iP Pn 01 58 25.8 -0.6
baz=219
YUS eS Sn 01 58 37.1 -1.6
baz=219
TWB1 Santiao Chiao 0.94 16 eP Pn 01 58 25.8 -0.3
baz=16
TWB1 eS Sn 01 58 37.8 -0.6
baz=16
WJS Zhushan 0.94 253⇑P Pb 01 58 26.6 -0.5
baz=252
WJS eS Sb 01 58 39.6 +0.4
baz=252
NMLH Miaoli 0.94 298 eP Pb 01 58 26.8 -0.3
baz=295
NMLH eS Sb 01 58 39.1 -0.2
baz=295
TCU Taichung 0.95 273 eP Pb 01 58 27.4 +0.2
baz=271
TCU eS Sb 01 58 40.2 +0.9
baz=271
SBCB Hsinchu 0.95 316⇓P Pb 01 58 26.9 -0.4
baz=315
SBCB eS Sb 01 58 39.3 -0.3
baz=315
WNT Mingjian 0.96 257⇑P Pb 01 58 27.1 -0.3
baz=256
WNT eS Sb 01 58 40.4 +0.5
baz=256
NWF Wu-fen Shan 0.97 4⇓eP Pn 01 58 26.5 -0.2
baz=353
WFSB Wu-fen Shan 0.97 4⇓eP Pn 01 58 26.3 -0.3
baz=350
WFSB eS Sb 01 58 39.4 -0.6
baz=350
HSN Hsinchu 0.97 316 P Pb 01 58 27.0 -0.5
baz=317
HSN S Sb 01 58 40.5 +0.4
baz=317
FULB Fuli 0.98 203 eP Pn 01 58 26.6 -0.1
baz=217
FULB eS Sb 01 58 41.6 +1.3
baz=217
PTSB Yuanli 0.98 291⇑P Pb 01 58 27.1 -0.6
baz=289
PTSB eS Sn 01 58 39.3 -0.2
baz=289
NCUH Zhongli 0.99 331⇑P Pb 01 58 27.2 -0.6
baz=329
NCUH eS Sb 01 58 40.8 +0.2
baz=329
NCU National Centr 0.99 331 P Pb 01 58 27.1 -0.7
baz=329
NCU S Sb 01 58 40.9 +0.3
baz=329
ALS Alishan 1.02 235⇑P Pn 01 58 27.3 -0.1
baz=223
TWS1 Kuangyinshan 1.03 345⇓eP Pn 01 58 27.1 -0.3
baz=354
TWS1 eS Sn 01 58 40.7 0.0
baz=354
CHKT Chengkung 1.05 198⇑P Pn 01 58 27.0 -0.6
baz=211
CHKT eS Sb 01 58 41.7 -0.5
baz=211
WCHH Zhanghua 1.05 269 eP Pb 01 58 28.4 -0.5
baz=268
WCHH eS Sb 01 58 43.0 +0.7
baz=268
YM04 YM04 1.06 351⇓eP Pn 01 58 27.1 -0.7
baz=351
YM05 YM05 1.07 353 eP Pn 01 58 27.1 -0.8
baz=353
YM07 YM07 1.07 356⇓eP Pn 01 58 26.2 -1.8
baz=344
YM07 eS Sn 01 58 41.4 -0.5
baz=344
YM03 YM03 1.08 352 eP Pn 01 58 28.1 -0.1
baz=352
NTST Danshui 1.08 347 eP Pn 01 58 27.7 -0.4
baz=347
YM08 YM08 1.09 354 eP Pn 01 58 27.5 -0.7
baz=354
ELDTW Lidau 1.11 215 eP Pn 01 58 26.9 -1.6
baz=216
ELDTW eS Sn 01 58 43.1 +0.3
baz=216
WGK Gukeng 1.13 249⇑P Pb 01 58 29.5 -0.7
baz=234
WDLH Douliu 1.15 249 eP Pb 01 58 29.6 -0.9
baz=235
TWY Chenhua 1.17 355 eP Pn 01 58 28.9 -0.5
baz=355
JYNG Yonagunijimaku 1.18 73 P Pb 01 58 30.4 -0.7
JYNG eS Sb 01 58 45.5 -0.5
YOJ Yonaguni jima 1.24 73⇓P Pn 01 58 30.6 +0.3
baz=87
YOJ eS Sn 01 58 45.7 -0.2
baz=87
YOJ Yonaguni jima 1.24 73 P Pn 01 58 30.4 +0.1
YOJ eS Sb 01 58 46.8 -0.9
YOJ Yonaguni jima 1.24 73 ePn Pn 01 58 30.5 +0.3
YOJ eSn Sb 01 58 48.4 +0.6
YOJ Yonaguni jima 1.24 73 eP Pn 01 58 30.5 +0.3
YOJ e 01 58 48.4
RLNB Erlin 1.25 261⇑P Pb 01 58 31.3 -1.0
baz=260
RLNB eS Sb 01 58 48.2 +0.1
baz=260
CHN2 Minshiung 1.27 244 eP Pb 01 58 32.3 -0.2
baz=244
CHN2 eS Sb 01 58 50.1 +1.7
baz=244
CHN4 Tsaushan 1.27 234⇑P Pb 01 58 31.7 -0.8
baz=235
CHN4 eS Sb 01 58 48.5 -0.1
baz=235
TPUB Ta-pu 1.27 231⇑P Pb 01 58 31.5 -1.1
baz=231
TPUB eS Sb 01 58 47.8 -0.9
baz=231
TPUB Ta-pu 1.27 231 ePn Pn 01 58 31.4 +0.6
TPUB eSn Sb 01 58 47.5 -1.1

STYT Tauyuan 1.28 223⇑P Pn 01 58 31.0 +0.1
baz=222
WTP Ta-pu 1.32 230⇑P Pb 01 58 32.2 -1.2
baz=231
WTP eS Sb 01 58 50.9 +0.9
baz=231
CHY Chiayi 1.32 243⇑eP Pb 01 58 32.9 -0.6
baz=244
CHY eS Sb 01 58 50.9 +0.8
baz=244
WTCT Ta-ch'eng 1.33 260⇑eP Pb 01 58 32.3 -1.3
baz=259
WTCT eS Sb 01 58 49.6 -0.7
baz=259
TWK Hsinying 1.40 234⇑P Pb 01 58 33.5 -1.2
baz=236
TWK eS Sb 01 58 51.6 -0.6
baz=236
TWH Lutao 1.40 189⇓eP Pn 01 58 31.3 -1.2
baz=188
TWG Pinlang 1.40 205 eP Pn 01 58 30.6 -1.9
baz=191
TWG Pinlang 1.40 205 ePn Pn 01 58 30.8 -1.7
TWG eSn Sn 01 58 48.6 -1.3
TWGBT Beinan 1.40 204⇑eP Pn 01 58 30.6 -1.9
baz=190
CHN1 Nanshi 1.42 230⇑eP Pb 01 58 33.7 -1.4
baz=233
CHN1 eS Sb 01 58 52.5 -0.3
baz=233
WLGB Puzi 1.43 245⇑P Pb 01 58 33.9 -1.4
baz=246
WLGB eS Sb 01 58 53.0 -0.2
baz=246
TTN Taitung 1.44 201 eP Pn 01 58 33.7 +0.7
baz=201
WSF Szhu 1.44 252⇑P Pb 01 58 34.0 -1.4
baz=252
WSF eS Sb 01 58 53.6 +0.3
baz=252
SGST Jiashian 1.45 226⇑iP Pb 01 58 34.5 -1.1
baz=217
SGST eS Sb 01 58 53.0 -0.7
baz=217
SLGT Liugui 1.47 222⇑eP Pn 01 58 34.5 +1.0
baz=225
SLGT eS Sb 01 58 54.1 -0.3
baz=225
CHN8 Yiju 1.57 242 eP Pn 01 58 35.8 +1.1
baz=232
CHN8 eS Sb 01 58 56.4 -0.7
baz=232
CHN3 Shinhua 1.60 231 eP Pb 01 58 37.0 -1.2
baz=232
ECL Taimali 1.65 205 eP Pn 01 58 36.1 +0.1
baz=196
SCLT Jiali 1.67 237 eP Pn 01 58 36.8 +0.7
baz=239
SCLT eS Sb 01 58 59.1 -0.9
baz=239
SSD Sandimen 1.67 216 eP Pn 01 58 37.1 +0.9
baz=229
SSD eS Sb 01 58 58.4 -1.8
baz=229
TAI1 Yung-k'ang 1.72 232 eP Pn 01 58 38.2 +1.3
baz=233
TWM1 Shoushan 1.74 223 eP Pb 01 58 39.3 -1.2
baz=224
SGLT Jiouru 1.77 220 eP Pb 01 58 39.3 -1.7
baz=221
MASBT Mashibuluo 1.78 214⇑eP Pn 01 58 37.8 +0.1
baz=220
MASBT eS Sb 01 59 01.3 -1.9
baz=220
IRIF Iriomote-Funau 1.86 82 P Pn 01 58 38.9 +0.1
IRIF S Sn 01 59 01.1 0.0
EAST Anshuo 1.89 205⇓eP Pn 01 58 37.8 -1.4
baz=198
HATJ Hateruma jima 1.92 91 P Pn 01 58 40.1 +0.5
HATJ eS Sn 01 59 03.8 +1.3
SSPT Xinbi 1.92 213 eP Pb 01 58 42.3 -1.3
baz=201
SCZT Fangliau 1.99 210 eP Pn 01 58 41.8 +1.2
baz=199
KAU Kaohsiung 2.00 220 eP Pn 01 58 42.0 +1.4
baz=238
PHUB P'eng-hu 2.04 254⇑P Pn 01 58 41.2 -0.1
baz=254
PHUB eS Sn 01 59 06.7 +1.0
baz=254
PNG Penghu 2.04 255⇑P Pn 01 58 41.2 -0.1
baz=256
PNG eS Sn 01 59 06.7 +1.0
baz=256
WDGT Dungji 2.06 246⇑iP Pn 01 58 42.1 +0.6
baz=249
WDGT eS Sn 01 59 06.3 +0.2
baz=249
LAY Lan-yu 2.06 184 eP Pn 01 58 39.9 -1.6
baz=183
JKRS Kuro-shima 2.10 86 P Pn 01 58 42.9 +0.7
JKRS eS Sn 01 59 09.5 +2.3
WLCH Liuqiu 2.13 215 eP Pb 01 58 44.8 -2.4
baz=233
TWP Hsiaoliuchiu 2.14 216⇑eP Pb 01 58 44.9 -2.5
baz=233
JIJ Ishigaki jima 2.24 83 P Pn 01 58 44.2 +0.2
JIJ S Sn 01 59 10.8 +0.3
VWUC VWUC 2.24 294⇑eP Pn 01 58 43.0 -1.0
baz=293
HEN Hengchun 2.27 203 eP Pb 01 58 46.8 -2.7
baz=196
TWK1 Hengchun 2.30 201 eP Pn 01 58 46.0 +1.1
baz=195
TWKBT Hengchun 2.30 201 eP Pn 01 58 45.3 +0.4
baz=192
TWKBT eS Sn 01 59 14.5 +2.4
baz=192
TSEB Hengchuen, Pin 2.31 199 eP Pn 01 58 46.1 +1.0
baz=191
TSEB eS Sn 01 59 15.1 +2.7
baz=191
JISG Ishigakijimahi 2.42 78 P Pn 01 58 46.6 +0.1
JISG eS Sn 01 59 15.3 +0.3
MATB Ma-tsu 2.59 322⇑eP Pn 01 58 47.7 -1.2
baz=320
JTJ Tarama 2.78 78 P Pn 01 58 52.6 +1.1
JTJ eS Sn 01 59 25.6 +1.7
QZH Quanzhou 2.96 287⇑iPn Pn 01 58 53.0 -0.9
QZH Sn Sn 01 59 26.3 -2.1
QZH smax smax
comp=N,3μm,0.7s
QZH smax smax
comp=E,2μm,0.8s
KNMB Chin-men Tao 3.05 277⇑eP Pn 01 58 54.3 -0.9
baz=276
JIRB Irabujima 3.24 76 P Pn 01 58 58.6 +0.9
JIRB eS Sn 01 59 37.2 +2.0
JIKM Ikemajima 3.33 75 P Pn 01 58 59.9 +1.0
JIKM S Sn 01 59 40.1 +2.8
JMJ Miyako jima 2 3.34 77 P Pn 01 59 00.1 +0.9
JMJ eS Sn 01 59 40.2 +2.4
JOGS Gusukube 3.43 78 P Pn 01 59 02.7 +2.3
VDOS Pratas Island 5.72 235 eP Pn 01 59 33.3 +1.5
baz=238
VDOS eS Sn 02 00 35.8 -0.6
baz=238
JOW Kunigami 6.53 64 Pn Pn 01 59 42.3 -0.6
49nm,0.3s,baz=2.5,slow=10,SNR=87
JOW Sn Sn 02 00 56.9 +0.6
3.1nm,0.3s,baz=306,slow=19,SNR=1.7
JOW Kunigami 6.53 64 eP Pn 01 59 42.5 -0.5
baz=73
SSE Sheshan 6.98 356 Pn Pn 01 59 46.8 -2.4
SSE Sn Sn 02 01 05.8 -1.7
SSE LR LR
comp=N,2μm,9.7s
SSE LR LR
comp=E,4μm,8.0s
GZH Guangzhou 7.74 264 Pn Pn 01 59 55.0 -4.6
MCO Taipa Grande 7.76 257 P Pn 02 00 00.0 +0.1
NJ2 Nanjing 8.31 343 eP Pn 02 00 06.4 -1.0
NJ2 pP Pb 02 00 08.9 -23
NJ2 sP 02 00 13.5
NJ2 S Sn 02 01 38.9 -1.3
NJ2 pmax pmax
comp=Z,58nm,0.5s
NJ2 LR LR
comp=N,4μm,6.1s
NJ2 LR LR
comp=E,6μm,7.6s
NJ2 LR LR
comp=Z,5μm,11.0s
WHN Wuhan 9.16 316 P Pn 02 00 18.1 -1.0
WHN S Sn 02 01 55.4 -5.7
WHN LR LR
comp=N,18μm,5.0s
WHN LR LR
comp=E,10μm,6.0s
WHN LR LR
comp=Z,18μm,14.3s
TGY Tagaytay City 9.97 184 Pn Pn 02 00 31.1 +0.8
baz=352,slow=5.6,SNR=3.5
TGY LR LR 02 04 44.3
comp=Z,1μm,21.2s,baz=43,slow=40
JNU Nakatsue 12.06 40 Pn Pn 02 01 00.7 +1.8
0.9nm,0.3s,baz=186,slow=4.9,SNR=9.3
JNU LR LR 02 06 42.9
comp=Z,3μm,18.9s,baz=224,slow=43
QIZ Qiongzhong 12.14 248 P Pn 02 00 59.0 -0.9
QIZ S Sn 02 03 15.3 +1.1
QIZ LR LR
comp=N,3μm,13.3s
QIZ LR LR
comp=E,2μm,11.8s
QIZ LR LR
comp=Z,2μm,15.5s
ENH Enshi 12.49 302 ePn Pn 02 01 03.1 -1.7
TIA Tai'an 12.70 343 P Pn 02 01 06.1 -1.5
TIA S Sn 02 03 35.8 +7.9
TIA LR LR
comp=N,3μm,14.7s
TIA LR LR
comp=E,3μm,16.7s
TIA LR LR
comp=Z,4μm,18.1s
TJN Taejon 13.17 20ceP Pn 02 01 14.3 +0.4
GYA Guiyang 13.81 283⇑iP Pn 02 01 23.3 +0.4
GYA PP P 02 01 32.8 +1.9
GYA S Sn 02 03 54.3 -1.0
GYA SS SnSn 02 04 11.4 +3.7
GYA pmax pmax
comp=Z,20nm,0.7s
GYA pmax pmax
comp=Z,120nm,4.2s
GYA LR LR
comp=N,3μm,10.2s
GYA LR LR
comp=E,3μm,10.8s
GYA LR LR
comp=Z,4μm,10.6s
INCN Inchon 13.99 16 ePn Pn 02 01 25.0 -0.2
KS15 Wonju Array Si 14.31 20 ePn Pn 02 01 28.9 -0.7
KSAR Wonju Array Be 14.31 20 Pn Pn 02 01 32.2 +2.8
KSAR Wonju Array Be 14.31 20 P Pn 02 01 32.3 +2.8
KSRS Korea Array 14.34 20 Pn Pn 02 01 32.3 +2.4
1.8nm,0.3s,baz=201,slow=13,SNR=35
KSRS LR LR 02 07 26.0
comp=Z,1μm,20.6s,baz=199,slow=39
KS01 Wonju Array Si 14.35 20 ePn Pn 02 01 32.8 +2.8
DL2 Dalian 14.76 360 P P 02 01 44.0 +2.8
DL2 S S 02 04 34.8 -1.0
DL2 pmax pmax
comp=Z,31nm,0.7s
DL2 pmax pmax
comp=Z,180nm,5.0s
DL2 LR LR
comp=E,3μm,16.1s
DL2 LR LR
comp=Z,2μm,14.7s
XAN Xi'an 14.92 314 P Pn 02 01 39.8 +1.9
XAN pmax pmax
comp=Z,16nm,1.2s
XAN pmax pmax
comp=Z,330nm,8.2s
XAN LR LR
comp=Z,4μm,4.8s
XAN LR LR
comp=Z,4μm,5.3s
XAN LR LR
comp=Z,5μm,16.3s
TIY Taiyuan 15.72 332 eP Pn 02 01 49.6 +1.3
TIY PP pP 02 02 01.8 +1.3
TIY S Sn 02 04 44.9 +3.5
TIY sS S 02 04 49.6 -6.0
TIY SS SnSn 02 05 02.5 +7.9
TIY pmax pmax
comp=Z,26nm,0.5s
TIY pmax pmax
comp=Z,260nm,5.2s
TIY LR LR
comp=Z,3μm,11.1s
TIY LR LR
comp=Z,3μm,15.4s
BJI Beijing 16.56 345⇓iP P 02 02 03.1 +1.9
BJI S Sn 02 04 57.4 -4.4
BJI pmax pmax
comp=Z,20nm,1.5s
BJI pmax pmax
comp=Z,620nm,8.8s
BJI LR LR
comp=Z,4μm,21.8s
BJI LR LR
comp=Z,1μm,24.5s
KMI Kunming 17.28 277 P P 02 02 08.8 -0.8
KMI sP pP 02 02 17.3 -0.8
KMI PP sP 02 02 24.4 +2.1
KMI S Sn 02 05 22.8 +3.0
KMI sS S 02 05 32.0 +4.0
KMI pmax pmax
comp=Z,31nm,1.5s
KMI pmax pmax
comp=Z,420nm,4.0s
KMI LR LR
comp=Z,1μm,10.3s
KMI LR LR
comp=Z,8μm,13.1s
KMI LR LR
comp=Z,10μm,13.3s
CD2 Chengdu 17.30 297 P Pn 02 02 07.0 -1.3
CD2 pP pP 02 02 13.8 -4.3
CD2 sP sP 02 02 16.4 -5.8
CD2 S Sn 02 05 19.3 -0.6
CD2 pmax pmax
comp=Z,60nm,0.6s
CD2 pmax pmax
comp=Z,620nm,5.2s
CD2 LR LR
comp=Z,4μm,8.9s
CD2 LR LR
comp=Z,8μm,11.3s
CD2 LR LR
comp=Z,7μm,11.1s
DAV Davao City (W) 17.34 167 LR LR 02 07 30.0
comp=Z,434nm,19.7s,baz=344,slow=32
INU Inuyama 17.36 46 ePn P 02 02 09.9 -0.2
comp=Z,15nm,0.7s
SKNT Sakolnakorn 18.04 250 P P 02 02 21.3 +3.5
comp=Z,36nm,1.7s
JHJ Hachijo jima 2 18.21 56 P Pn 02 02 18.6 -1.0
comp=Z,13nm,0.3s,baz=49,slow=14,SNR=2.4
JHJ LR LR 02 08 58.9
comp=Z,2μm,21.6s,baz=268,slow=36
CBIJ Chichi jima 18.70 76 eP Pn 02 02 25.3 -0.2
comp=Z,713nm,1.7s
JCJ Chichijima 18.70 76 P Pn 02 02 25.2 -0.3
comp=Z,6.4nm,0.3s,baz=270,slow=12,SNR=3.4
JCJ LR LR 02 08 58.6
comp=Z,2μm,20.9s,baz=274,slow=35
KKM Kota Kinabalu 18.71 197 eP Pn 02 02 27.8 +2.0
comp=Z,46nm,1.1s
HHC Hu-ho-hao-te 18.74 335 eP Pn 02 02 27.3 +1.3
HHC pP pP 02 02 32.4 -1.6
HHC sP sP 02 02 35.4 -2.8
HHC PP PnPn 02 02 43.6 +5.1
HHC S Sn 02 05 50.3 -4.4
HHC pmax pmax
comp=Z,31nm,0.8s
HHC pmax pmax
comp=Z,380nm,4.7s
HHC LR LR
comp=Z,2μm,11.9s
HHC LR LR

comp=Z,1µm,10.5s
HHC LR LR
comp=Z,2µm,11.4s
MAJO Matsushiro 18.85 45 *e*P **Pn 02 02 29.1 +1.9**
comp=Z,33nm,1.5s
MAJO Matsushiro 18.85 45⇑ *e*P **P 02 02 25.5 -1.0**
MAJO pmax pmax
comp=Z,6.0nm,0.9s
MAT Matsushiro 18.85 45 P **Pn 02 02 28.2 +1.0**
MAT S **Sn 02 05 54.6 -2.7**
MJAR Matsushiro Arr 18.85 45 P **P 02 02 24.1 -2.5**
comp=Z,0.7nm,0.3s,baz=243,slow=11,SNR=14
MJAR ScP **ScP 02 10 25.6 -0.2**
comp=Z,0.2nm,0.3s,baz=228,slow=4.9,SNR=6.3
MJAR LR LR 02 10 25.9
comp=Z,2µm,21.9s,baz=230,slow=39
MJB9 Matsu-Tunnel 18.85 45 *e*P **Pn 02 02 29.5 +2.3**
comp=Z,33nm,1.5s
MYLDM Lahad Datu 19.07 190 *e*P **P 02 02 26.7 -2.3**
comp=Z,56nm,1.1s
BTO Baotou 19.16 332 *e*P **Pn 02 02 33.1 +2.1**
LZH Lanzhou 19.50 312 *e*P **Pn 02 02 35.3 +0.1**
LZH pP pP 02 02 38.8 -3.6
LZH sP sP 02 02 40.3 -6.3
LZH PP **PnPn 02 02 55.1 +6.2**
LZH *e*S **S 02 06 03.6 -8.8**
LZH SS **SnSn 02 06 37.8 +10**
LZH pmax pmax
comp=Z,50nm,1.3s
LZH pmax pmax
comp=Z,350nm,5.0s
LZH LR LR
comp=Z,3µm,12.3s
LZH LR LR
comp=Z,7µm,13.5s
LZH LR LR
comp=Z,10µm,13.5s
MSHR Mys Shultsa 20.02 21 *de*P Pn 02 02 40.7 -0.4
CHAI Chaiyaphum 20.23 250 P Pn 02 02 43.9 +0.1
comp=Z,9.2nm,1.0s,comp=Z,112nm
PBKT Sadao Pong 20.82 253 P **P 02 02 49.0 +0.8**
comp=Z,66nm,1.0s,comp=Z,962nm
PBKT Sadao Pong 20.82 253 *e*P **P 02 02 49.1 +1.0**
comp=Z,32nm,1.1s
PHIT Phitsanulok 21.07 255 P **P 02 02 52.3 +1.5**
comp=Z,45nm,0.8s,comp=Z,570nm
CMAI Chiengmai2 21.41 263 P **P 02 02 56.7 +2.0**
comp=Z,225nm,1.9s,comp=Z,10µm
MDJ Mudanjiang 21.45 16 P **P 02 02 53.4 -1.3**
MDJ S **S 02 06 55.1 +4.2**
MDJ pmax pmax
comp=Z,25nm,0.9s
MDJ LR LR
comp=Z,1µm,14.3s
MDJ LR LR
comp=Z,4µm,17.9s
MDJ LR LR
comp=Z,1µm,20.7s
MDJ Mudanjiang 21.45 16 *e*P **P 02 02 55.5 +0.8**
comp=Z,25nm,0.9s
NAYO Nakonayok 21.55 247 P **P 02 02 57.6 +1.6**
comp=Z,24nm,0.9s,comp=Z,858nm
USRK Ussuriysk Ar. 21.74 20 P **P 02 02 56.9 -0.9**
comp=Z,5.2nm,0.6s,baz=198,slow=9.4,SNR=17
CHTO Chiang Mai 21.82 260 P **P 02 03 00.3 +1.4**
comp=Z,117nm,1.0s,comp=Z,2µm
CHTO Chiang Mai 21.82 260 *e*P **P 02 03 00.2 +1.3**
comp=Z,24nm,1.0s
CHTO Chiang Mai 21.82 260 *e*P **P 02 03 00.2 +1.3**
CHTO pmax pmax
comp=Z,24nm,1.0s
CM01 Chiang Mai Arr 21.93 259 *e*P **P 02 03 01.1 +1.1**
CM31 Chiang Mai Arr 21.93 260 *e*P **P 02 03 00.1 0.0**
CMAR Chiang Mai Arr 21.93 260 P **P 02 03 01.6 +1.6**
comp=Z,8.8nm,0.8s,baz=61,slow=8.7,SNR=40
CMAR PcP **PcP 02 06 58.9 +0.4**
comp=Z,2.3nm,0.6s,baz=36,slow=0.6,SNR=9.1
CMAR LR LR 02 12 03.9
comp=Z,2µm,20.3s,baz=76,slow=38
CMAR Chiang Mai Arr 21.93 260 P **P 02 03 01.7 +1.6**
CMAR 02 06 58.9
CMAR pmax pmax
comp=Z,9.0nm,0.8s
CMAR pmax pmax
comp=Z,2.0nm,0.6s
CMAR MLR MLR
comp=Z,2µm,20.3s
SBUM Sibu 23.40 205 *e*P **P 02 03 14.3 -1.1**
comp=Z,30nm,0.6s
SRDT SRDT 23.40 250 P **P 02 03 16.5 +1.1**
comp=Z,78nm,2.6s
MRSI Marisa 23.48 179 P **P 02 03 16.9 +0.7**
comp=Z,23nm,0.8s,comp=Z,1µm
PHET Kaeng Krachan 23.68 246 P **P 02 03 23.2 +5.1**
comp=Z,6.5nm,0.8s,comp=Z,152nm
MPSI Mapaga 23.69 185 P **P 02 03 17.3 -0.8**
comp=Z,36nm,1.1s,comp=Z,708nm
GTA Gaotai 23.98 315⇑P **P 02 03 20.5 -0.5**
GTA pP pP 02 03 24.8 -5.5
GTA sP sP 02 03 27.8 -6.5
GTA PP **PnPn 02 03 56.3 +6.1**
GTA PcP **PcP 02 07 03.3 +0.8**
GTA S **S 02 07 34.5 -1.3**
GTA sS pS 02 07 42.8 -2.8
GTA SS **SnSn 02 08 26.5 +9.1**
GTA ScP **ScP 02 10 39.8 +1.2**
GTA ScS **ScS 02 14 24.8 -1.0**
GTA pmax pmax
comp=Z,19nm,1.9s
GTA pmax pmax
comp=Z,370nm,6.2s
GTA LR LR
comp=Z,1µm,12.6s
GTA LR LR
comp=Z,3µm,15.2s
GTA LR LR
comp=Z,3µm,14.3s
GUMO Guam 24.25 111 P **P 02 03 24.0 +0.6**
comp=Z,332nm,1.2s,baz=321,slow=2.7,SNR=7.4
GUMO LR LR 02 13 24.8
comp=Z,550nm,18.8s,baz=288,slow=38
GUMO Guam 24.25 111 *e*P **P 02 03 24.5 +1.1**
comp=Z,520nm,1.3s
GUMO Guam 24.25 111 P **P 02 03 24.0 +0.6**
GUMO pmax pmax
comp=Z,332nm,1.2s
GUMO MLR MLR
comp=Z,550nm,18.8s
APSI Ampana 24.86 180 P **P 02 03 28.7 -0.3**
comp=Z,70nm,0.7s,comp=Z,720nm
PCI Palu 24.92 184 P **P 02 03 30.6 +1.1**
comp=Z,74nm,0.8s
LUWI Luwuk 25.01 177 P **P 02 03 28.8 -1.5**
comp=Z,111nm,1.1s
LUWI Luwuk 25.01 177 *e*P **P 02 03 29.4 -0.9**
comp=Z,66nm,0.9s
KSM Kuching 25.06 208 *e*P **P 02 03 29.6 -1.2**
comp=Z,39nm,0.9s
HIA Hailar 25.17 357 *ce*P **P 02 03 32.0 +0.5**
HIA pmax pmax
comp=Z,8.0nm,0.8s
LBMI Labuha 25.23 166 P **P 02 03 32.5 +0.2**
comp=Z,65nm,0.7s
BKB Balikpapan 25.64 191 P **P 02 03 34.3 -1.7**
comp=Z,82nm,1.0s
MTKI Muara Teweh, K 25.76 196 P **P 02 03 37.8 +0.7**
STKI Sintang 25.87 204 P **P 02 03 38.9 +0.8**
comp=Z,37nm,0.6s,comp=Z,25µm
ASAJ Asahikawa 26.28 35 P **P 02 03 39.6 -1.9**
comp=Z,3.7nm,0.4s,baz=194,slow=12,SNR=4.2
ASAJ LR LR 02 14 16.7
comp=Z,4.9nm,19.8s,baz=256,slow=37
ASAJ Asahikawa 26.28 35 *e*P **P 02 03 38.8 -2.8**
comp=Z,5.3nm,0.8s
KLR Kul'dur 26.29 15 P **P 02 03 41.2 -0.4**
comp=Z,2.8nm,1.1s,baz=227,slow=8.6,SNR=37
KLR PcP **PcP 02 07 06.9 -0.4**
comp=Z,0.2nm,0.5s,baz=200,slow=3.1,SNR=5.1
KLR LR LR 02 14 52.8
comp=Z,74nm,19.5s,baz=198,slow=38
KLR Kul'dur 26.29 15 *d*P **P 02 03 40.7 -1.0**
SANI Sanana 26.32 170 P **P 02 03 40.7 -1.5**
ULN Ulaanbaatar 26.42 337 *e*P **P 02 03 43.4 +0.4**
comp=Z,25nm,0.9s
ULN Ulaanbaatar 26.42 337 *c*P **P 02 03 42.7 -0.4**
ULN pmax pmax
comp=Z,53nm,1.7s
SIJI Sorong 26.50 158 P **P 02 03 43.4 -0.4**
comp=Z,13nm,0.6s,baz=323,slow=6.5,SNR=6.4
SONA0 Songino Array 26.63 337 *e*P **P 02 03 44.9 0.0**
SONM Songino Array 26.63 337 P **P 02 03 44.9 0.0**
comp=Z,10.0nm,0.8s,baz=154,slow=10,SNR=17
SONM LR LR 02 15 27.7
comp=Z,2µm,18.6s,baz=138,slow=39
SONA1 Songino Array 26.64 337 *e*P **P 02 03 44.5 -0.5**
SHL Shillong 27.08 279 *e*P **P 02 03 49.0 -0.3**
KULM Kulim 27.57 231 *e*P **P 02 03 54.0 +0.5**
comp=Z,23nm,1.0s
NLAI Namlea 27.68 168 P **P 02 03 54.5 +0.1**
comp=Z,74nm,0.8s
LSA Lhasa 27.77 288 P **P 02 03 57.0 +1.2**
LSA pmax pmax
comp=Z,18nm,0.7s
LSA Lhasa 27.77 288 *e*P **P 02 03 56.9 +1.1**
comp=Z,22nm,0.7s
LSA Lhasa 27.77 288 *e*P **P 02 03 56.9 +1.2**
LSA pmax pmax
comp=Z,22nm,0.7s
IPM Ipoh 27.89 229 *e*P **P 02 03 56.3 0.0**
comp=Z,38nm,0.9s
YUK Yuzh-Kuril'sk 28.03 39 *e*P **P 02 03 57.1 -0.2**
YUK *e*PPP PPP 02 04 56.1
YUK *e*S **S 02 08 41.4 +1.7**
YUK MLR MLR
comp=Z,979nm,22.0s
MSAI Masohi 28.17 165 P **P 02 03 58.2 -0.6**
comp=Z,12nm,0.9s,comp=Z,725nm
YSS Yuzh-Sakhalins 28.35 31 *e*P **P 02 04 00.5 +0.4**
YSS pmax pmax
comp=Z,30nm,0.8s
YSS MLR MLR
comp=Z,900nm,15.0s
YSS MLR MLR
comp=N,900nm,20.0s
YSS MLR MLR
comp=E,700nm,16.0s
FAKI Fak Fak 28.75 158 P **P 02 04 03.2 -0.8**
FAKI Fak Fak 28.75 158 *e*P **P 02 04 02.8 -1.2**
comp=E,130nm,1.8s
ZEA Zeya 29.89 7 *e*P **P 02 04 13.2 -0.5**
ZEA pmax pmax
comp=Z,29nm,1.0s
ZAK Zakamensk 29.89 336 *e*P **P 02 04 12.2 -1.7**
ZAK pmax pmax
comp=Z,4.0nm,1.2s
PSI Prapat 30.54 230 P **P 02 04 21.2 +1.1**
comp=Z,34nm,0.8s,baz=18,slow=6.7,SNR=28
PSI LR LR 02 16 18.3
comp=Z,845nm,21.7s,baz=82,slow=36
PSI Prapat 30.54 230 *e*P **P 02 04 20.3 +0.2**
comp=Z,41nm,0.9s
TLY Talaya 30.83 338 LR LR 02 17 54.6
comp=Z,1µm,18.4s,baz=138,slow=38
TLY Talaya 30.83 338 *e*P **P 02 04 21.6 -0.5**
TLY pmax pmax
comp=Z,10.0nm,0.8s
TLY MLR MLR
comp=Z,1µm,15.0s
ODAN Odare 31.05 282 *e*P **P 02 04 25.3 +0.7**
comp=Z,61nm,0.9s
IRK Irkutsk 31.09 339 *e*P **P 02 04 23.8 -0.6**
IRK pmax pmax
comp=Z,28nm,1.2s
RAMN Ramite 31.75 283 *e*P **P 02 04 31.6 +0.8**
MOY Mondy 31.78 335 *e*P **P 02 04 30.3 -0.3**
MOY pmax pmax
comp=Z,20nm,1.9s
JIRN Jiri 32.09 284 *e*P **P 02 04 34.5 +0.6**
comp=Z,44nm,0.7s
GUN Gumba 32.35 285 *e*P **P 02 04 36.7 +0.5**
comp=Z,36nm,0.7s
NKL Nikolayevsk 32.36 21 *e*P **P 02 04 34.0 -1.5**
GSI Gunungsitoli 32.55 229 *e*P **P 02 04 37.0 -0.6**
comp=Z,33nm,0.6s
KKN Kakani 32.89 284 *e*P **P 02 04 41.0 +0.3**
comp=Z,43nm,0.9s
DMN Daman 33.05 284 *e*P **P 02 04 42.4 +0.2**
comp=Z,39nm,0.9s
GKN Gorkha 33.45 285 *e*P **P 02 04 45.5 0.0**
comp=Z,18nm,0.5s
LEM Lembang 33.68 206 P **P 02 04 47.0 -0.5**
comp=Z,20nm,0.6s,baz=253,slow=20,SNR=1.9
LEM LR LR 02 20 20.0
comp=Z,299nm,18.4s,baz=54,slow=40
SOEI Soe 33.74 175 *e*P P 02 04 43.2 -4.8
comp=Z,34nm,0.7s
WMQ Urumqi 34.06 314 P **P 02 04 51.4 +0.9**
WMQ pP pP 02 04 56.5 -3.5
WMQ sP sP 02 04 58.4 -5.6
WMQ pmax pmax
comp=Z,23nm,1.1s
WMQ pmax pmax
comp=Z,190nm,3.6s
WMQ LR LR
comp=Z,3µm,12.5s
WMQ LR LR
comp=Z,3µm,13.5s
WMQ LR LR
comp=Z,2µm,15.3s
BOD Bodaibo 34.14 353 *e*P **P 02 04 49.1 -1.8**
BOD pmax pmax
comp=Z,4.0nm,0.9s
BATI Baumata 34.15 177 P **P 02 04 48.5 -2.9**
comp=Z,36nm,0.6s,baz=341,slow=2.7,SNR=8.2
BATI LR LR 02 21 03.7
comp=Z,191nm,20.7s,baz=350,slow=40
KOLN Koldanda 34.38 284 *e*P **P 02 04 53.9 +0.3**
comp=Z,31nm,0.7s
PYUN Piuthan 34.90 285 *e*P **P 02 04 58.5 +0.3**
comp=Z,47nm,0.8s
MANU Manus Island 36.02 133 *e*P **P 02 05 08.5 +0.9**
comp=Z,31nm,0.8s
DGZ Jazzator, Alta 36.95 323⇑ *e*P **P 02 05 14.7 -0.7**
DGZ pmax pmax
comp=Z,4.0nm,1.0s
SKR Severo-Kuril's 37.54 36⇑ *e*P **P 02 05 19.6 -0.5**
MTN Manton Dam 37.86 165 *e*P **P 02 05 21.1 -2.1**
comp=Z,33nm,0.6s
YAK Yakutsk 38.30 6 *e*P **P 02 05 25.3 -1.1**
YAK *e**PP **pP 02 05 34.9 -1.0**
YAK *e* 02 07 38.0
YAK *e*S **S 02 11 20.9 +2.6**
YAK *e**SS **sS 02 11 37.8 +3.8**
YAK *e* 02 15 29.7
YAK pmax pmax
comp=Z,14nm,0.9s
YAK pmax pmax
comp=N,10.0nm,1.0s
YAK pmax pmax
comp=E,4.0nm,1.0s
YAK smax smax
comp=E,93nm,6.0s
YAK smax smax
comp=N,50nm,5.5s
YAK MLR MLR
comp=Z,493nm,17.0s
YAK MLR MLR
comp=N,524nm,14.0s
YAK MLR MLR
comp=E,208nm,18.0s
MK01 Makanchi Array 38.72 316 *e*P **P 02 05 30.0 -0.2**
MK31 Makanchi Array 38.73 316 *e*P **P 02 05 29.8 -0.6**
MK31 *e*pP pP 02 05 30.3 -10
MK31 *e*S **S 02 11 28.3 +3.0**
MK31 Makanchi Array 38.73 316 *i* P **P 02 05 29.8 -0.6**
MK31 pmax pmax
comp=Z,11nm,0.7s
MK32 Makanchi Array 38.73 316 *e*P **P 02 05 30.3 0.0**
MK32 *e*PcP **PcP 02 07 41.1 -0.5**
MKAR Makanchi Array 38.73 316 P **P 02 05 30.3 0.0**
comp=Z,10nm,0.6s,baz=104,slow=10,SNR=82
MKAR PcP **PcP 02 07 41.1 -0.5**
comp=Z,2.3nm,0.7s,baz=102,slow=0.6,SNR=4.5
MKAR ScP **ScP 02 11 27.6 +0.1**
comp=Z,1.6nm,0.8s,baz=99,slow=5.4,SNR=8.3
MKAR Makanchi Array 38.73 316 *e*P **P 02 05 30.3 0.0**
comp=Z,70nm,0.7s
MAKZ Makanchi 38.94 316 *e*P **P 02 05 32.1 0.0**
comp=Z,14nm,0.8s
MAKZ Makanchi 38.94 316 *e*P **P 02 05 32.1 0.0**
MAKZ pmax pmax
comp=Z,14nm,0.8s
PETK Petropavlovsk- 39.67 34 P **P 02 05 36.0 -2.1**
comp=Z,2.0nm,0.7s,baz=230,slow=3.6,SNR=3.2
PETK PcP **PcP 02 07 43.7 -0.7**
comp=Z,2.0nm,0.7s,baz=165,slow=6.2,SNR=3.6
PETK LR LR 02 21 49.1
comp=Z,753nm,21.7s,baz=222,slow=36
PETK Petropavlovsk- 39.67 34 P **P 02 05 36.0 -2.1**
PETK 02 07 43.7
PETK pmax pmax
comp=Z,2.0nm,0.7s
PETK pmax pmax
comp=Z,2.0nm,0.7s
PETK MLR MLR
comp=Z,753nm,21.7s
PEA1 Petropavlovsk- 39.67 34 *e*P **P 02 05 36.0 -2.1**
PEA1 *e*PcP **PcP 02 07 43.7 -0.7**
ZAA0 Zalesovo Array 40.58 327 *e*P **P 02 05 44.7 -0.8**
comp=Z,22nm,0.7s
ZALV Zalesovo Beam 40.58 327 P **P 02 05 44.6 -0.9**
comp=Z,24nm,0.7s,baz=114,slow=7.8,SNR=71
ZALV PcP **PcP 02 07 45.7 -1.5**
comp=Z,2.1nm,0.6s,baz=124,slow=4.3,SNR=2.7
ZALV ScP **ScP 02 11 34.0 -0.3**
comp=Z,1.7nm,0.8s,baz=116,slow=3.4,SNR=5.3
ZALV Zalesovo Beam 40.58 327 *e*P **P 02 05 44.1 -1.4**
ZAA1 Zalesovo Array 40.58 327 *e*P **P 02 05 44.6 -0.9**
ZAA1 *e*PcP **PcP 02 07 45.7 -1.5**
ZAA1 *e*ScP **ScP 02 11 34.0 -0.3**
KDJ Kajisay 40.89 307 *e*P **P 02 05 49.5 +0.9**
comp=Z,6.9nm,0.8s
KSH Kashi 41.35 303 P **P 02 05 55.8 +3.5**
KSH sP sP 02 06 04.9 -0.9
KSH PcP **PcP 02 07 55.0 +4.7**
KSH S **S 02 12 11.1 +6.3**
KSH SS **SS 02 15 10.5 +1.3**
KSH pmax pmax
comp=Z,30nm,1.1s
KSH pmax pmax
comp=Z,510nm,5.2s
KSH LR LR
comp=Z,960nm,11.2s
KSH LR LR
comp=Z,1µm,10.7s
KSH LR LR
comp=Z,2µm,18.7s
PMG Port Moresby 41.56 140 P **P 02 05 53.6 -0.4**
comp=Z,52nm,0.9s,baz=332,slow=5.2,SNR=16
PMG Port Moresby 41.56 140 *e*P **P 02 05 54.4 +0.4**
comp=Z,67nm,1.0s
PMG Port Moresby 41.56 140 *c i*P **P 02 05 54.7 +0.7**
PMG pmax pmax
comp=Z,274nm,1.0s
ULHL Ulahol 41.59 307 P **P 02 05 55.2 +0.9**
SNR=9.9
NRN Naryn 41.62 306 *e*P **P 02 05 55.6 +0.9**
comp=Z,13nm,0.9s
NRN Naryn 41.62 306 *e*P **P 02 05 55.7 +0.9**
NRN pmax pmax
comp=Z,13nm,0.9s
NVS Novosibirsk 41.84 327 *e*P **P 02 05 54.3 -1.5**
H11N1 WAKE ISLAND Hy 42.01 87 T T 02 51 33.0
baz=278
H11N2 WAKE ISLAND Hy 42.01 87 T T 02 51 21.4
baz=278
H11N3 WAKE ISLAND Hy 42.03 87 T T 02 51 21.1
baz=278
H11S3 WAKE ISLAND Hy 42.14 89 T T 02 51 20.3
baz=284,slow=74,SNR=71
H11S1 WAKE ISLAND Hy 42.15 89 T T 02 51 15.9
baz=284,slow=74,SNR=37
H11S2 WAKE ISLAND Hy 42.16 89 T T 02 51 21.6
baz=284,slow=74,SNR=44
TKM2 Tokmak 2 42.19 308 P **P 02 06 00.5 +1.3**
SNR=7.9
KZA Kyzart 42.29 307 P **P 02 06 01.8 +1.5**
SNR=7.2
KURK Kurchatov 42.46 320 *e*P **P 02 06 00.6 -0.4**
comp=Z,15nm,1.1s
KURK Kurchatov 42.46 320 P **P 02 06 00.8 -0.2**
KURK pmax pmax
comp=Z,4.0nm,0.7s
KURK pmax pmax
comp=N,1.0nm,0.2s
KURBB Kurchatov Arra 42.48 320 P **P 02 06 00.8 -0.4**
comp=N,4.2nm,0.7s,baz=114,slow=7.5,SNR=26
KURBB ScP **ScP 02 11 41.9 -0.1**
comp=N,1.0nm,0.2s,baz=108,slow=4.1,SNR=5.7
PALK Pallekele 42.68 254 P **P 02 06 05.6 +2.3**
comp=N,11nm,1.1s,baz=118,slow=6.0,SNR=2.6
PALK Pallekele 42.68 254 *e*P **P 02 06 05.6 +2.3**
comp=N,23nm,1.2s
UCH Uchtor 42.85 307 P **P 02 06 06.8 +1.9**
SNR=15
FRU Bishkek 42.88 308 *e*P **P 02 06 04.0 -0.6**
AAK Ala-Archa 42.94 307 P **P 02 06 05.7 +0.5**
comp=N,2.7nm,0.6s,baz=113,slow=4.7,SNR=9.9
AAK PcP **PcP 02 07 55.0 -0.5**
comp=N,4.1nm,0.7s,baz=137,slow=3.6,SNR=6.3
AAK Ala-Archa 42.94 307 *ce*P **P 02 06 05.6 +0.4**
AAK pmax pmax
comp=Z,8.0nm,1.4s
NIL Nilore 43.16 294 *e*P **P 02 06 07.5 +0.5**
comp=Z,10.0nm,0.8s
NIL *e*PP **PP 02 07 49.7 +2.2**
NIL Nilore 43.16 294 *e*P **P 02 06 07.5 +0.5**
NIL *e* 02 07 49.7
NIL pmax pmax
comp=Z,10.0nm,0.8s
COEN Coen 43.25 149 *e*P **P 02 06 08.4 +0.6**
comp=Z,76nm,0.9s
AML Almayashu 43.44 306 P **P 02 06 10.7 +1.1**
SNR=11
EKS2 Erkin-Say 43.46 307 P **P 02 06 10.6 +1.1**
SNR=10.0
SEY Seymchan 43.89 20 P **P 02 06 12.0 -0.4**
comp=Z,0.8nm,0.3s,baz=252,slow=7.3,SNR=4.6
SEY PcP **PcP 02 07 57.4 -0.7**
comp=Z,2.6nm,0.5s,baz=210,slow=6.7,SNR=5.4
MBWA Marble Bar 45.03 183 *e*P **P 02 06 20.0 -1.9**
comp=Z,31nm,0.8s
WRAB Tennant Creek 45.47 163 *e*P **P 02 06 24.2 -1.2**
comp=Z,20nm,0.6s
WRAB Tennant Creek 45.47 163 *d i*P **P 02 06 23.8 -1.6**
WRAB pmax pmax
comp=Z,19nm,0.7s
WR1 Warramunga Arr 45.47 163 *e*P **P 02 06 24.2 -1.2**
comp=Z,13nm,0.8s
WR1 *e*PcP **PcP 02 08 03.1 -1.0**
WRA Warramunga Arr 45.47 163 P **P 02 06 24.2 -1.2**
comp=Z,22nm,0.6s,baz=345,slow=8.7,SNR=119
WRA PcP **PcP 02 08 03.1 -1.0**
comp=Z,1.3nm,0.7s,baz=338,slow=3.5,SNR=2.7
WRA Warramunga Arr 45.47 163 P **P 02 06 24.3 -1.2**
WRA 02 08 03.2
WRA pmax pmax
comp=Z,23nm,0.6s
WRA pmax pmax
comp=Z,1.0nm,0.7s
WB2 Warramunga Arr 45.48 163 *e*P **P 02 06 24.4 -1.1**
comp=Z,28nm,0.6s
KK31 Karatay Array 45.90 307 *e*P **P 02 06 29.5 +0.8**
KK31 Karatay Array 45.90 307 P **P 02 06 28.8 0.0**
KK31 pmax pmax
comp=Z,1.0nm,0.4s
KKAR Karatay Array 45.90 307 *e*P **P 02 06 29.5 +0.7**
KKAR *e*PcP **PcP 02 08 04.4 -1.1**
KKAR Karatay Array 45.90 307 *e*P **P 02 06 29.5 +0.7**
KKAR *e* 02 08 04.4
KBL Kabul 46.63 295 *e*P **P 02 06 35.9 +1.1**
comp=Z,23nm,0.9s
KBL Kabul 46.63 295 *e*P **P 02 06 35.9 +1.1**
KBL pmax pmax
comp=Z,23nm,0.9s
TIXI Tiksi 47.75 3 P **P 02 06 40.9 -1.8**
comp=Z,6.0nm,0.7s,baz=163,slow=3.9,SNR=15
TIXI Tiksi 47.75 3 *e*P **P 02 06 41.0 -1.7**
comp=Z,14nm,1.0s
TIXI Tiksi 47.75 3 *de*P **P 02 06 41.0 -1.7**
TIXI pmax pmax
comp=Z,9.0nm,0.8s
BVAR Borovoye Array 48.04 321 P **P 02 06 45.0 -0.3**
comp=Z,7.5nm,0.6s,baz=101,slow=8.2,SNR=41
BVAR PcP **PcP 02 08 11.7 -1.1**
comp=Z,3.9nm,0.7s,baz=117,slow=5.3,SNR=3.8
BVAR ScP **ScP 02 12 05.7 +0.7**
comp=Z,2.3nm,0.9s,baz=123,slow=5.5,SNR=8.0
BRVK Borovoye 48.11 321 *e*P **P 02 06 45.1 -0.7**
comp=Z,14nm,0.8s

BRVK Borovoye 48.11 321 *c iP* **P** 02 06 45.4 -0.4
BRVK pmax pmax
comp=Z,13nm,0.7s
AS31 Alice Springs 48.94 165 *e*P **P** 02 06 51.5 -0.9
comp=Z,3.8nm,0.9s
AS31 *e*PcP **PcP** 02 08 15.3 -1.2
AS31 *e*ScP **ScP** 02 12 07.0 -2.1
ASAR Alice Springs 48.94 165 P **P** 02 06 51.8 -0.7
comp=Z,6.3nm,0.5s,baz=343,slow=7.1,SNR=62
ASAR PcP **PcP** 02 08 15.3 -1.2
comp=Z,1.4nm,0.6s,baz=340,slow=3.5,SNR=2.9
ASAR ScP **ScP** 02 12 07.0 -2.1
comp=Z,0.8nm,0.8s,baz=348,slow=4.2,SNR=4.8
ASAR Alice Springs 48.94 165 P **P** 02 06 51.8 -0.7
ASAR 02 08 15.3
ASAR pmax pmax
comp=Z,7.0nm,0.5s
ASAR pmax pmax
comp=Z,1.0nm,0.6s
ASAR pmax pmax
comp=N,1.0nm,0.8s
AS01 Alice Springs 48.95 165 *e*P **P** 02 06 51.3 -1.2
CTA Charters Tower 50.01 149 P **P** 02 07 00.1 -0.5
comp=N,14nm,0.9s,baz=339,slow=9.9,SNR=12
CTAO Charters Tower 50.01 149 *e*P **P** 02 07 01.3 +0.6
comp=N,26nm,1.0s
CTAO Charters Tower 50.01 149 *e*P **P** 02 07 01.3 +0.6
CTAO pmax pmax
comp=Z,26nm,1.0s
BILL Bilibino 51.60 20 *c iP* **P** 02 07 10.9 -1.2
BILL *i* 02 08 25.0
BILL *e* 02 09 09.6
BILL pmax pmax
comp=Z,9.0nm,1.0s
BILL MLR MLR
comp=Z,859nm,20.0s
AB31 Akbulak array 53.84 314 P **P** 02 07 28.5 -0.4
AB31 pmax pmax
comp=Z,6.0nm,0.5s
ABKAR Akbulak array 53.84 314 *e*P **P** 02 07 28.6 -0.4
comp=Z,7.7nm,0.5s
SVE Sverdlovsk 54.39 324 *e*P **P** 02 07 32.2 -0.6
SVE pmax pmax
comp=Z,20nm,0.8s
SVE MLR MLR
comp=Z,745nm,15.0s
FORT Forrest 54.91 173 *e*P **P** 02 07 35.8 -0.9
comp=Z,500nm,0.8s
AKTO Aktyubinsk 55.17 316 P **P** 02 07 38.1 -0.5
comp=Z,3.5nm,0.6s,baz=96,slow=9.2,SNR=14
AKTO LR LR 02 32 55.5
comp=Z,781nm,19.9s,baz=99,slow=38
GEYT Alibeck 55.25 300 P **P** 02 07 40.1 +0.6
comp=Z,6.0nm,0.8s,baz=80,slow=3.3,SNR=17
ARU Arti 55.46 323 P **P** 02 07 40.0 -0.6
comp=Z,15nm,0.6s,baz=102,slow=1.2,SNR=26
ARU Arti 55.46 323 *e*P **P** 02 07 39.6 -0.9
comp=Z,20nm,0.8s
ARU Arti 55.46 323 *c iP* **P** 02 07 39.5 -1.1
ARU 02 08 38.7
ARU 02 09 40.4
ARU S **S** 02 15 25.3 +2.1
ARU SS **SS** 02 19 11.9 +4.0
ARU pmax pmax
comp=Z,19nm,0.7s
EIDS Eidsvold 56.81 148 *e*P **P** 02 07 51.1 +0.5
comp=Z,12nm,0.9s
NWAO Narrogin (SRO) 56.87 184 P **P** 02 07 49.8 -1.0
comp=Z,13nm,0.6s,baz=245,slow=7.0,SNR=11
NWAO Narrogin (SRO) 56.87 184 *e*P **P** 02 07 50.2 -0.6
comp=Z,79nm,1.4s
NWAO Narrogin (SRO) 56.87 184 *e*P **P** 02 07 50.2 -0.6
NWAO pmax pmax
comp=Z,79nm,1.4s
WSAR Wadi Sarin 57.32 283 P **P** 02 07 54.7 +0.3
comp=Z,17nm,1.1s,baz=166,slow=14,SNR=2.6
WSAR LR LR 02 37 51.9
comp=Z,330nm,18.3s,baz=97,slow=42
BBOO Buckleboo 58.23 166 *e*P **P** 02 07 59.4 -0.9
comp=Z,17nm,0.8s
GAMB Gambell 58.33 29 *e*P **P** 02 08 01.0 +0.3
comp=Z,13nm,1.1s
STKA Stephens Creek 58.82 160 P **P** 02 08 03.9 -0.7
comp=Z,12nm,0.6s,baz=338,slow=6.6,SNR=34
STKA LR LR 02 34 37.4
comp=Z,114nm,20.6s,baz=358,slow=37
STKA Stephens Creek 58.82 160 *e*P **P** 02 08 03.9 -0.7
comp=Z,2.7nm,0.6s
DZM Mont Dzumac 63.23 133 P **P** 02 08 35.2 +0.4
comp=Z,28nm,1.0s,baz=74,slow=23,SNR=3.5
DZM LR LR 02 32 04.6
comp=Z,203nm,20.9s,baz=270,slow=32
DZM Mont Dzumac 63.23 133 *e*P **P** 02 08 33.9 -0.9
comp=Z,94nm,1.4s
DZM *e*S **S** 02 17 04.7 +0.1
comp=Z,186nm,31.2s
DZM Mont Dzumac 63.23 133 *e*LR LR 02 27 23.3
comp=Z,741nm,24.1s
DZM Mont Dzumac 63.23 133 *e*P **P** 02 08 35.2 +0.4
comp=Z,68nm,1.4s
DDFL Dedoflistskaro 63.98 306 P **P** 02 08 41.1 +1.6
DUS Dusheti 64.91 307 P **P** 02 08 46.6 +0.9
DUS Dusheti 64.91 307 *e*P **P** 02 08 46.5 +0.9
GUDG Gudauri 65.00 307 P **P** 02 08 47.0 +0.6
ZEI Tsey 65.36 308 *e*P **P** 02 08 47.0 -1.7
ZEI pmax pmax
comp=Z,11nm,0.7s
VRH Novokhopyorsk 65.44 317 *e*P **P** 02 08 47.6 -1.2
VRH pmax pmax
comp=Z,10.0nm,0.6s
KLMR Klimovskoe 65.49 328 *e*P **P** 02 08 46.5 -2.4
KLMR AMP 02 08 48.1
comp=Z,16nm,1.0s
KLMR LQ LQ 02 32 51.9
KLMR LQ LQ 02 32 51.9
KLMR LR LR 02 38 28.6
KLMR Klimovskoe 65.49 328 *e*P **P** 02 08 46.5 -2.4
KLMR pmax pmax
comp=Z,16nm,1.0s
SVW2 Sparrevohn 65.72 32 *e*P **P** 02 08 50.8 +0.4
comp=Z,9.4nm,0.7s
ONI Oni 65.72 308 P **P** 02 08 52.2 +1.3
ONI Oni 65.72 308 *e*P **P** 02 08 52.2 +1.3
KBZ Khabaz 65.91 309 P **P** 02 08 51.9 0.0
comp=Z,6.2nm,0.9s,baz=84,slow=5.6,SNR=11
KBZ LR LR 02 41 41.5
comp=Z,366nm,18.8s,baz=69,slow=40
AKH Akhalkalaki 65.92 306 *e*P **P** 02 08 53.8 +1.4
comp=Z,63nm,1.9s
AKH Akhalkalaki 65.92 306 *e*P **P** 02 08 53.8 +1.4
AKH pmax pmax
comp=Z,63nm,1.9s
KVAR Kislovodsk Arr 66.01 309 P **P** 02 08 52.8 0.0
comp=Z,5.7nm,0.6s,baz=350,slow=3.0,SNR=6.6
KIV Kislovodsk 66.01 309 *e*P **P** 02 08 52.5 -0.3
comp=Z,30nm,1.3s
KIV Kislovodsk 66.01 309 *e*P **P** 02 08 52.7 -0.1
KIV pmax pmax
comp=Z,16nm,1.1s
KIV MLR MLR
comp=Z,329nm,17.0s
IM3 Indian Mountai 66.04 26 *e*P **P** 02 08 51.8 -0.6
NEY Neytrino 66.12 308 *e*P **P** 02 08 54.6 +1.0
NEY pmax pmax
comp=Z,1.0nm,0.8s
LPSR Galich'ya Gora 66.93 319 *e*P **P** 02 08 56.4 -1.9
LPSR pmax pmax
comp=Z,6.0nm,0.8s
VSR Storozhevoye 67.03 317 *e*P **P** 02 08 56.7 -2.3
VSR pmax pmax
comp=Z,10.0nm,1.2s
CAST Castle Rocks 67.06 29 *e*P **P** 02 08 58.8 -0.2
comp=Z,13nm,0.8s
PPLA Purkeypile 67.08 30 *e*P **P** 02 08 59.5 +0.2
comp=Z,21nm,1.1s
PPLA *e*PP **PP** 02 11 32.7 +5.7
MOS Moscow 67.16 322 *e*P P 02 09 09.8 +10
MOS *e* 02 09 27.7
COLD Coldfoot 67.30 25 *e*P **P** 02 09 00.7 +0.2
comp=Z,4.6nm,0.8s
TOLK Toolik Lake Re 67.34 23 P **P** 02 09 00.4 -0.3
baz=278
TOLK Toolik Lake Re 67.34 23 *e*P **P** 02 09 00.9 +0.2
comp=Z,14nm,0.6s
MLY Manley 67.40 27 *e*P **P** 02 09 01.6 +0.4
comp=Z,13nm,0.8s

BPAW Bear Paw Mtn. 67.44 28 *e*P **P** 02 09 01.6 +0.2
comp=Z,11nm,0.7s
SKT Skwentna 67.52 31 *e*P **P** 02 09 01.1 -0.8
comp=Z,8.5nm,0.8s
KTH Kantishna Hill 67.55 29 *e*P **P** 02 09 02.1 -0.1
comp=Z,9.6nm,0.8s
KDAK Kodiak Island 67.69 35 P **P** 02 09 02.3 -0.7
comp=Z,13nm,0.7s,baz=288,slow=1.9,SNR=15
KDAK Kodiak Island 67.69 35 *e*P **P** 02 09 02.3 -0.7
comp=Z,21nm,0.9s
TRF Thorofare Moun 67.85 29 *e*P **P** 02 09 03.5 -0.6
comp=Z,11nm,0.8s
OBN Obninsk 67.86 322 *i* P **P** 02 09 03.0 -1.1
OBN *i* 02 11 38.3
OBN pmax pmax
comp=Z,5.0nm,1.0s
OBN MLR MLR
comp=Z,403nm,17.0s
SUA Susitna One 67.98 31 *e*P **P** 02 09 04.0 -0.9
comp=Z,28nm,0.8s
BRLK Bradley Lake 68.21 33 *e*P **P** 02 09 05.0 -1.3
comp=Z,19nm,1.0s
MCK McKinley 68.39 29 *e*P **P** 02 09 06.8 -0.6
comp=Z,22nm,1.2s
MCK McKinley 68.39 29 *e*P **P** 02 09 06.8 -0.6
MCK pmax pmax
comp=Z,22nm,1.2s
MDM Murphy Dome 68.47 27 *e*P **P** 02 09 07.9 0.0
comp=Z,22nm,0.9s
RND Reindeer 68.49 29 *e*P **P** 02 09 07.3 -0.8
comp=Z,34nm,0.7s
RND Reindeer 68.49 29 *e*P **P** 02 09 07.3 -0.8
RND pmax pmax
comp=Z,34nm,0.7s
RC01 Rabbit Creek A 68.52 31 *e*P **P** 02 09 07.5 -0.7
comp=Z,10nm,1.0s
WRH Wood River Hil 68.62 28 *e*P **P** 02 09 08.2 -0.6
comp=Z,7.6nm,0.8s
COLA College 68.64 27 *e*P **P** 02 09 08.6 -0.3
comp=Z,9.9nm,0.8s
COLA College 68.64 27 *e*P **P** 02 09 08.6 -0.3
COLA pmax pmax
comp=Z,10.0nm,0.8s
CCB Clear Creek Bu 68.70 28 *e*P **P** 02 09 08.4 -0.9
comp=Z,4.4nm,1.0s
PMR Palmer 68.71 31 *e*P **P** 02 09 08.0 -1.4
comp=Z,22nm,1.3s
PMR Palmer 68.71 31 *e*P **P** 02 09 08.0 -1.4
PMR pmax pmax
comp=Z,22nm,1.3s
GHO Glory Hole Cre 68.77 31 *e*P **P** 02 09 09.3 -0.6
comp=Z,15nm,0.8s
RAYN Ar Rayn 68.83 287 *e*P **P** 02 09 10.5 -0.4
comp=Z,11nm,1.0s
MSVF Nonsavu 68.91 122 *e*P **P** 02 09 12.7 +1.4
comp=Z,35nm,1.0s
MSVF Nonsavu 68.91 122 *e*P **P** 02 09 12.2 +0.8
MSVF pmax pmax
comp=Z,35nm,1.0s
SML Sawmill 69.04 31 *e*P **P** 02 09 11.0 -0.5
comp=Z,21nm,0.8s
SML Sawmill 69.04 31 *e*P **P** 02 09 11.0 -0.5
SML pmax pmax
comp=Z,21nm,0.8s
ILAR Eielson Array 69.07 27 P **P** 02 09 09.9 -1.6
comp=Z,2.3nm,0.6s,baz=264,slow=7.6,SNR=34
ILAR LR LR 02 41 41.6
comp=Z,70nm,19.4s,baz=274,slow=38
ILAR Eielson Array 69.07 27 P **P** 02 09 10.0 -1.6
ILAR pmax pmax
comp=Z,2.0nm,0.6s
ILAR MLR MLR
comp=Z,70nm,19.4s
ILB Eielson Array 69.07 27 *e*P **P** 02 09 10.1 -1.6
HDA Harding Lake 69.12 28 *e*P **P** 02 09 10.0 -1.9
comp=Z,6.8nm,0.8s
DHY Denali Highway 69.21 29 *e*P **P** 02 09 12.0 -0.7
comp=Z,6.6nm,0.8s
FYU Fort Yukon 69.35 25 *e*P **P** 02 09 13.8 +0.6
comp=Z,7.4nm,0.6s
SCM Sheep Creek Mo 69.50 30 *e*P **P** 02 09 14.1 -0.3
comp=Z,29nm,0.6s
SCM Sheep Creek Mo 69.50 30 *e*P **P** 02 09 14.1 -0.3
SCM pmax pmax
comp=Z,29nm,0.6s
ANN Anapa 69.51 311 *e*P **P** 02 09 12.1 -2.5
ANN *e*S **S** 02 18 12.3 -7.8
ANN pmax pmax
comp=Z,53nm,1.7s
ANN MLR MLR
comp=Z,435nm,16.0s
SPA0 Spitsbergen Ar 69.67 348 *e*P **P** 02 09 15.7 +0.6
SPITS Spitsbergen Ar 69.67 348 P **P** 02 09 15.7 +0.6
comp=Z,5.3nm,0.8s,baz=26,slow=2.1,SNR=4.0
SPITS LR LR 02 43 51.0
comp=Z,379nm,18.1s,baz=15,slow=39
ARA0 ARCESS Array S 69.79 338 *e*P **P** 02 09 15.8 -0.2
ARCES ARCESS Array B 69.79 338 P **P** 02 09 15.8 -0.2
comp=Z,2.0nm,0.6s,baz=85,slow=5.2,SNR=7.8
PAX Paxson 70.08 29 *e*P **P** 02 09 17.6 -0.4
comp=Z,8.5nm,1.0s
PAX Paxson 70.08 29 *e*P **P** 02 09 17.6 -0.4
PAX pmax pmax
comp=Z,8.0nm,1.0s
RIDG Independ'e Rid 70.17 28 *e*P **P** 02 09 17.6 -0.9
comp=Z,15nm,1.1s
KLU Klutina 70.23 31 *e*P **P** 02 09 18.6 -0.3
comp=Z,12nm,0.7s
HARP HAARP 70.36 30 *e*P **P** 02 09 20.1 +0.5
comp=Z,14nm,0.7s
DIV Divide 70.39 31 *e*P **P** 02 09 20.1 +0.3
comp=Z,26nm,1.2s
SCRK Sand Creek 70.48 28 *e*P **P** 02 09 19.6 -0.8
comp=Z,8.8nm,0.9s
DOT Dot Lake 70.53 28 *e*P **P** 02 09 19.7 -0.9
comp=Z,20nm,0.8s
EYAK Cordova Ski Ar 70.55 32 *e*P **P** 02 09 20.7 0.0
comp=Z,34nm,1.4s
MENT Mentasta 70.86 29 *e*P **P** 02 09 22.8 +0.1
comp=Z,15nm,0.9s
BMRM Bremner River 70.98 31 *e*P **P** 02 09 23.3 -0.2
comp=Z,20nm,0.9s
RAGM Ragged Mountai 71.11 32 *e*P **P** 02 09 24.4 +0.2
comp=Z,18nm,0.8s
EGAK Eagle 71.44 27 *e*P **P** 02 09 25.6 -0.5
comp=Z,13nm,0.6s
FIA1 FINESS Array S 71.76 330 *e*P **P** 02 09 27.8 -0.3
FIA0 FINESS Array S 71.76 330 *e*P **P** 02 09 27.3 -0.7
FIA0 FINESS Array S 71.76 330 *e*P **P** 02 09 27.3 -0.7
FINES FINESS Array B 71.76 330 P **P** 02 09 27.3 -0.7
comp=Z,3.8nm,0.5s,baz=54,slow=6.1,SNR=24
BALM Baldy 72.02 31 *e*P **P** 02 09 29.5 -0.3
comp=Z,7.7nm,0.9s
BALM *e*PP PP 02 12 01.4 -8.2
BALM Baldy 72.02 31 *e*P **P** 02 09 29.5 -0.3
BALM pmax pmax
comp=Z,8.0nm,0.9s
DAWY Dawson 72.39 27 *e*P **P** 02 09 31.7 -0.1
comp=Z,16nm,0.8s
INK Inuvik 73.12 22 P **P** 02 09 35.4 -0.6
comp=Z,9.1nm,0.8s,baz=308,slow=6.4,SNR=46
INK Inuvik 73.12 22 *e*P **P** 02 09 35.0 -1.0
comp=Z,10nm,0.9s
AKASG Malin Array Be 73.25 318 P **P** 02 09 35.3 -1.8
comp=Z,0.4nm,0.3s,baz=61,slow=6.4,SNR=8.9
AKBB Malin Array Si 73.25 318 *e*P **P** 02 09 35.3 -1.8
comp=Z,13nm,1.1s
AKBB Malin Array Si 73.25 318 *e*P **P** 02 09 35.3 -1.8
AKBB pmax pmax
comp=Z,13nm,1.1s
IDID Didziasalis 73.27 324 *e*P **P** 02 09 37.1 0.0
IDID IAmb IAmb 02 09 50.1
comp=Z,7.8nm,1.1s
IZAR Zarasai 73.40 324 *e*P **P** 02 09 37.9 0.0
IZAR IAmb IAmb 02 09 50.7
comp=Z,8.8nm,1.1s
ASF Jabal al Asfar 73.43 298 P **P** 02 09 39.0 +0.3
comp=Z,2.9nm,0.8s,baz=23,slow=13,SNR=4.2
ASF Jabal al Asfar 73.43 298 P **P** 02 09 39.0 +0.3
ASF pmax pmax
comp=Z,3.0nm,0.8s
IIGN Ignalina 73.54 324 *e*P **P** 02 09 38.7 0.0
IIGN IAmb IAmb 02 09 51.6
comp=Z,3.4nm,0.9s
BR101 Keskin Array S 73.61 307 *e*P **P** 02 09 39.5 -0.2
BR131 Keskin Array S 73.61 307 *e*P **P** 02 09 39.5 -0.1
BRTR Keskin Array B 73.61 307 P **P** 02 09 39.5 -0.1
comp=Z,2.4nm,0.6s,baz=94,slow=5.6,SNR=11
BRTR LR LR 02 47 28.5
comp=Z,77nm,19.9s,baz=58,slow=40
ANTO Ankara 74.18 307 *e*P **P** 02 09 39.9 -3.0
comp=Z,68nm,1.9s
ANTO Ankara 74.18 307 *e*P **P** 02 09 39.9 -3.0
ANTO pmax pmax
comp=Z,68nm,1.9s
MMAI Mount Meron Ar 74.36 299 P **P** 02 09 45.0 +1.0
comp=Z,2.5nm,0.8s,baz=52,slow=9.3,SNR=2.7
SORM Soroca 74.59 316 ⇓ *iP* **P** 02 09 46.3 +1.3
SORM Soroca 74.59 316 ⇓P **P** 02 09 46.3 +1.3
AFI Afiamalu 75.13 113 LR LR 02 40 17.3
comp=Z,258nm,18.8s,baz=312,slow=34
ATD Arta Tunnel 75.31 276 LR LR 02 42 27.5
comp=Z,119nm,18.5s,baz=66,slow=35
WHY Whitehorse 75.58 30 *e*P **P** 02 09 51.2 +0.5
comp=Z,68nm,1.8s
SUW Suwalki 75.65 323 *e*P P 02 09 58.5 +7.5
SUW Suwalki 75.65 323 *e*P P 02 09 58.5 +7.5
SKAG Skagway 75.85 31 *e*P **P** 02 09 53.2 +1.2
TESR Tescani 76.23 315 ⇓ *iP* **P** 02 09 54.2 -0.3
VRI Vrincioaia 76.41 314 ⇑ *iP* **P** 02 09 57.8 +2.3
VRI Vrincioaia 76.41 314 ⇑P **P** 02 09 57.8 +2.3
BESE Bessie Mountai 76.43 32 *e*P **P** 02 09 56.5 +1.0
comp=Z,15nm,1.0s
PLOR Plostina 76.46 314 ⇓ *iP* P 02 10 04.0 +8.1
PLOR Plostina 76.46 314 ⇓P P 02 10 04.0 +8.1
BURAR Bucovina Array 76.76 316 ⇑ *iP* **P** 02 09 58.0 +0.4
BURAR Bucovina Array 76.76 316 ⇑P **P** 02 09 58.0 +0.4
BUR04 Bucovina Ar. S 76.76 316 *e*P **P** 02 09 57.5 -0.1
MLR Muntele Rosu 77.05 314 P **P** 02 09 59.9 +0.6
comp=Z,1.0nm,0.7s,baz=168,slow=19,SNR=5.0
MLR LR LR 02 47 54.7
comp=Z,111nm,20.4s,baz=58,slow=39
MLR Muntele Rosu 77.05 314 ⇑ *iP* **P** 02 10 01.3 +2.0
MLR Muntele Rosu 77.05 314 ⇑P **P** 02 10 01.3 +2.0
KWP Kalwaria Pacla 77.55 319 *e*P **P** 02 10 01.0 -0.9
KWP Kalwaria Pacla 77.55 319 *e*P **P** 02 10 01.7 -0.2
comp=Z,226nm,1.1s
KWP Kalwaria Pacla 77.55 319 *e*P **P** 02 10 01.7 -0.2
KWP pmax pmax
comp=Z,226nm,1.1s
HFS Hagfors 77.87 331 P **P** 02 10 02.1 -1.3
comp=Z,3.5nm,0.7s,baz=123,slow=5.5,SNR=14
ARR Arges 77.96 314 ⇑ *iP* **P** 02 10 04.8 +0.5
STHS Stebnicka Huta 78.52 319 *e*P **P** 02 10 07.7 +0.5
STHS Stebnicka Huta 78.52 319 *e*P **P** 02 10 07.7 +0.5
STHS pmax pmax
comp=Z,4.0nm,1.1s
NB2 NORSAR Subarra 78.52 332 P **P** 02 10 05.1 -2.0
comp=Z,1.4nm,0.6s,baz=59,slow=5.3
NB200 NORSAR Array S 78.52 332 *e*P **P** 02 10 04.9 -2.1
NOA NORSAR Array B 78.52 332 P **P** 02 10 04.9 -2.1
comp=Z,2.6nm,0.7s,baz=54,slow=6.0,SNR=10
RES Resolute Bay 78.67 9 *e*P **P** 02 10 06.7 -0.9
comp=Z,8.2nm,1.4s
RES Resolute Bay 78.67 9 *e*P **P** 02 10 06.7 -0.9
RES pmax pmax
comp=Z,8.0nm,1.4s
DLBC Dease Lake 78.77 31 *e*P **P** 02 10 09.9 +1.3
comp=Z,24nm,1.3s
OJC Ojcow 79.05 320 *e*P **P** 02 10 10.1 -0.1
OJC Ojcow 79.05 320 *e*P **P** 02 10 09.6 -0.5
comp=Z,16nm,1.0s
OJC Ojcow 79.05 320 *e*P **P** 02 10 10.0 -0.1
NIE Niedzica 79.08 319 *e*P **P** 02 10 10.9 +0.5
NIE Niedzica 79.08 319 *e*P **P** 02 10 10.9 +0.5
VTS Vitosha 79.98 312 ⇑ *iP* **P** 02 10 15.2 -0.3
VTS Vitosha 79.98 312 *e*P **P** 02 10 15.4 -0.1
comp=Z,10nm,1.0s
VTS Vitosha 79.98 312 *e*P **P** 02 10 15.4 -0.1
VTS pmax pmax
comp=Z,10.0nm,1.0s
VYHS Vyhne 80.34 319 *e*P **P** 02 10 17.2 0.0
VYHS *e*pP **pP** 02 10 27.6 +0.1
VYHS *e* 02 10 40.7
VYHS Vyhne 80.34 319 *e*P **P** 02 10 17.2 0.0
VYHS *e* 02 10 27.6
VYHS pmax pmax
comp=Z,8.0nm,1.0s
DPC Dobruska-Polom 81.00 321 *e*P **P** 02 10 20.2 -0.5
DPC *e*pP **sP** 02 10 32.8 -2.0
DPC AMS AMS 02 49 10.0
comp=Z,500nm,17.7s
DPC Dobruska-Polom 81.00 321 *e*P **P** 02 10 20.2 -0.5
DPC *e* 02 10 32.8
DPC MLR MLR
comp=Z,500nm,17.7s
UPC Upice 81.10 322 AMS AMS 02 50 40.0
comp=Z,600nm,20.5s
VRAC Vranov 81.31 320 P **P** 02 10 22.4 +0.1
comp=Z,1.5nm,0.5s,baz=63,slow=5.4,SNR=3.1
VRAC Vranov 81.31 320 ⇑ *iP* **P** 02 10 22.6 +0.2
VRAC Vranov 81.31 320 ⇑P **P** 02 10 22.6 +0.2
IDI Anoyia 81.68 305 P **P** 02 10 24.8 +0.1
comp=Z,14nm,0.8s,baz=63,slow=18,SNR=3.8
IDI LR LR 02 52 23.2
comp=Z,96nm,20.4s,baz=68,slow=40
IDI Anoyia 81.68 305 *e*P **P** 02 10 24.8 +0.1
comp=Z,193nm,1.8s
BRG Berggiesshubel 82.10 322 *e*P P 02 10 38.3 +12
comp=Z,6.9nm,1.3s
PRU Pruhonice 82.18 322 AMS AMS 02 51 20.0
comp=Z,600nm,24.3s
CLL Collm 82.41 323 *e*P **P** 02 10 28.0 -0.1
CLL *e* 02 10 31.0
CLL *e*sP **pP** 02 10 39.0 +0.6
CLL *e*S **S** 02 20 41.0 -1.0
CLL *e*SS SS 02 26 30.0 +28
CLL Lm MLR 02 51 00.0
comp=Z,800nm,19.1s
CLL Collm 82.41 323 *e*P **P** 02 10 28.0 -0.1
CLL *e*S **S** 02 20 41.0 -1.0
CLL MLR MLR
comp=Z,800nm,19.1s
YKA Yellowknife Ar 82.86 23 P **P** 02 10 29.8 -0.4
comp=Z,7.3nm,0.5s,baz=311,slow=5.0,SNR=343
YKB5 Yellowknife Ar 82.86 23 *e*P **P** 02 10 28.6 -1.5
KHC Kasperske Hory 83.14 321 *e*P **P** 02 10 31.1 -0.9
KHC *e*pP **pP** 02 10 40.6 -1.7
KHC Kasperske Hory 83.14 321 *e*P **P** 02 10 31.1 -0.9
KHC *e* 02 10 40.6
GEC2 GERESS Array S 83.21 321 *e*P **P** 02 10 33.2 +0.8
comp=Z,5.9nm,1.0s
GEC2 GERESS Array S 83.21 321 *e*P **P** 02 10 33.2 +0.8
GEC2 pmax pmax
comp=Z,6.0nm,1.0s
GERES GERESS Array B 83.21 321 P **P** 02 10 31.8 -0.6
comp=Z,1.5nm,0.7s,baz=54,slow=4.7,SNR=11
GERES LR LR 02 50 54.5
comp=Z,330nm,18.8s,baz=56,slow=38
GERES GERESS Array B 83.21 321 P **P** 02 10 31.8 -0.6
GERES pmax pmax
comp=Z,1.0nm,0.7s
GERES MLR MLR
comp=Z,330nm,18.8s
GEA0 GERESS Array S 83.21 321 *e*P **P** 02 10 31.8 -0.7
OPO Ambohidratompo 84.10 247 P **P** 02 10 37.4 -0.1
comp=Z,13nm,0.7s,baz=41,slow=2.5,SNR=18
OPO LR LR 02 46 45.3
comp=Z,150nm,19.5s,baz=68,slow=35
ABPO Ambohimpanom 84.27 246 *e*P **P** 02 10 38.7 +0.3
comp=Z,14nm,0.8s
ABPO Ambohimpanom 84.27 246 *e*P **P** 02 10 38.7 +0.3
ABPO pmax pmax
comp=Z,14nm,0.8s
KMBO Kilima Mbogo 85.39 267 P **P** 02 10 44.9 +0.6
comp=Z,8.1nm,0.8s,baz=46,slow=8.8,SNR=26
KMBO LR LR 02 48 13.3
comp=Z,128nm,21.4s,baz=46,slow=35
KMBO Kilima Mbogo 85.39 267 *e*P **P** 02 10 45.3 +1.0
comp=Z,9.2nm,0.8s
KMBO Kilima Mbogo 85.39 267 *e*P **P** 02 10 45.3 +1.0
KMBO pmax pmax
comp=Z,9.0nm,0.8s
LLLB Lillooet 86.90 35 *e*P **P** 02 10 52.0 +1.1
comp=Z,13nm,1.1s
EKA Eskdalemuir Ar 88.01 332 P **P** 02 10 55.7 -0.3
comp=Z,1.5nm,0.8s,baz=46,slow=5.1,SNR=3.1
EKA Eskdalemuir Ar 88.01 332 P **P** 02 10 55.7 -0.3
EKA pmax pmax
comp=Z,1.0nm,0.7s
RAR Rarotonga 88.64 114 LR LR 02 47 33.3
comp=Z,153nm,18.5s,baz=294,slow=34

D05A	**Enumclaw**	**88.81**	**38**	*eP*		**P**	**02 11 02.0**	**+2.1**
	comp=Z,151nm,1.8s							
SFJD	**Kangerlussuaq**	**89.00**	**357**	LR		LR	02 53 34.0	
	comp=Z,146nm,19.3s,baz=358,slow=37							
LON	**Longmire**	**89.16**	**38**	*eP*		**P**	**02 11 02.6**	**+0.9**
	comp=Z,16nm,1.3s							
LON	**Longmire**	**89.16**	**38**	*eP*		**P**	**02 11 02.6**	**+0.9**
LON					pmax	pmax		
	comp=Z,16nm,1.3s							
EDM	**Edmonton**	**89.44**	**30**	*eP*		**P**	**02 11 03.1**	**+0.2**
	comp=Z,16nm,0.8s							
EDM	**Edmonton**	**89.44**	**30**	*eP*		**P**	**02 11 03.1**	**+0.2**
EDM					pmax	pmax		
	comp=Z,16nm,0.8s							
LTY	**Liberty**	**89.50**	**37**	*eP*		**P**	**02 11 03.6**	**+0.3**
	comp=Z,5.5nm,0.9s							
B08A	**Colville Reser**	**89.57**	**36**	*eP*		**P**	**02 11 04.0**	**+0.4**
	comp=Z,11nm,0.9s							
I03D	**Drain, OR**	**90.00**	**41**	P		**P**	**02 11 06.0**	**+0.5**
	baz=304							
I04A	**Tendick Farm,**	**90.50**	**41**	P		**P**	**02 11 08.6**	**+0.5**
	baz=305							
D08A	**Wollman Farm,**	**90.58**	**37**	*eP*		**P**	**02 11 10.2**	**+2.0**
	comp=Z,9.7nm,0.8s							
G06A	**Carlson Farm,**	**90.71**	**39**	*eP*		**P**	**02 11 10.2**	**+1.3**
	comp=Z,16nm,1.1s							
NEW	**Newport**	**90.80**	**35**	P		**P**	**02 11 09.1**	**-0.2**
	baz=309							
NEW	**Newport**	**90.80**	**35**	*eP*		**P**	**02 11 09.5**	**+0.2**
	comp=Z,8.6nm,0.8s							
NEW	**Newport**	**90.80**	**35**	*eP*		**P**	**02 11 09.5**	**+0.2**
NEW					pmax	pmax		
	comp=Z,9.0nm,0.8s							
J04D	**Umpqua Nationa**	**91.00**	**41**	P		**P**	**02 11 10.2**	**-0.3**
	baz=305							
PINE	**Pine Mountain**	**91.38**	**40**	*eP*		**P**	**02 11 13.8**	**+1.6**
	comp=Z,39nm,1.4s							
YBH	**Yreka Blue Hor**	**91.49**	**42**	P		**P**	**02 11 13.2**	**+0.5**
	comp=Z,2.9nm,0.9s,baz=254,slow=7.4,SNR=3.6							
YBH					LR	LR	02 48 00.3	
	comp=Z,87nm,20.5s,baz=306,slow=33							
J05D	**Fort Rock, OR**	**91.50**	**41**	P		**P**	**02 11 13.4**	**+0.6**
	baz=306							
WALA	**Waterton Lakes**	**91.92**	**33**	*eP*		**P**	**02 11 15.7**	**+1.1**
	comp=Z,53nm,1.9s							
K05A	**Summer Lake**	**92.03**	**41**	*eP*		**P**	**02 11 16.4**	**+1.1**
	comp=Z,34nm,1.4s							
F10A	**Beach Ranch, E**	**92.17**	**37**	*eP*		**P**	**02 11 16.6**	**+0.9**
	comp=Z,6.0nm,0.8s							
FCC	**Fort Churchill**	**92.28**	**18**	*eP*		**P**	**02 11 14.7**	**-1.1**
	comp=Z,6.0nm,0.7s							
FCC	**Fort Churchill**	**92.28**	**18**	*eP*		**P**	**02 11 14.7**	**-1.1**
FCC					pmax	pmax		
	comp=Z,6.0nm,0.7s							
JTMT	**Jette**	**92.60**	**34**	*eP*		**P**	**02 11 18.4**	**+0.7**
	comp=Z,7.4nm,0.9s							
KEST	**Kesra**	**92.68**	**311**	LR		LR	02 58 56.6	
	comp=Z,82nm,18.5s,baz=312,slow=39							
BMO	**Blue Mountains**	**92.82**	**38**	*eP*		**P**	**02 11 19.9**	**+1.1**
	comp=Z,7.2nm,1.0s							
BMO	**Blue Mountains**	**92.82**	**38**	*eP*		**P**	**02 11 19.9**	**+1.1**
BMO					pmax	pmax		
	comp=Z,7.0nm,1.0s							
MOD	**Modoc Plateau**	**92.86**	**41**	*eP*		**P**	**02 11 19.7**	**+0.6**
	comp=Z,18nm,1.4s							
FFC	**Flin Flon**	**93.01**	**24**	*eP*		**P**	**02 11 18.9**	**-0.4**
	comp=Z,7.1nm,0.9s							
FFC	**Flin Flon**	**93.01**	**24**	*eP*		**P**	**02 11 18.9**	**-0.4**
FFC					pmax	pmax		
	comp=Z,7.0nm,0.9s							
J08A	**Circle Bar Ran**	**93.07**	**39**	*eP*		**P**	**02 11 21.3**	**+1.3**
	comp=Z,5.1nm,0.9s							
MSO	**Missoula**	**93.37**	**35**	P		**P**	**02 11 21.2**	**-0.2**
	baz=311							
MSO	**Missoula**	**93.37**	**35**	*eP*		**P**	**02 11 22.3**	**+1.0**
	comp=Z,7.6nm,1.2s							
ORV	**Oroville**	**93.49**	**44**	*eP*		**P**	**02 11 21.8**	**-0.1**
	comp=Z,3.7nm,0.8s							
ORV	**Oroville**	**93.49**	**44**	*eP*		**P**	**02 11 21.8**	**-0.1**
ORV					pmax	pmax		
	comp=Z,4.0nm,0.8s							
WVOR	**Wild Horse Val**	**93.54**	**40**	*eP*		**P**	**02 11 24.4**	**+2.2**
	comp=Z,20nm,1.8s							
WVOR	**Wild Horse Val**	**93.54**	**40**	*eP*		**P**	**02 11 24.4**	**+2.2**
WVOR					pmax	pmax		
	comp=Z,20nm,1.8s							
MFID	**Camas Ranch**	**94.55**	**38**	*eP*		**P**	**02 11 27.9**	**+1.1**
	comp=Z,14nm,1.7s							
EGMT	**Eagleton**	**94.66**	**32**	P		**P**	**02 11 27.1**	**-0.1**
	baz=314							
EGMT	**Eagleton**	**94.66**	**32**	*eP*		**P**	**02 11 27.4**	**+0.2**
	comp=Z,4.8nm,0.9s							
LRM	**Limekiln Ridge**	**94.81**	**35**	*eP*		**P**	**02 11 30.3**	**+2.2**
HLID	**Hailey**	**95.25**	**37**	P		**P**	**02 11 30.9**	**+0.8**
	baz=310							
HLID	**Hailey**	**95.25**	**37**	*eP*		**P**	**02 11 31.3**	**+1.2**
	comp=Z,6.6nm,1.3s							
WAKR	**Walker**	**95.41**	**44**	*eP*		**P**	**02 11 33.4**	**+2.4**
	comp=Z,3.0nm,1.0s							
PPT	**Papeete**	**95.87**	**107**	LR		LR	02 46 45.8	
	comp=Z,192nm,21.4s,baz=309,slow=30							
PPT2	**Papeete2**	**95.88**	**107**	*e*LR		LR	02 42 26.7	
	comp=Z,532nm,23.2s,baz=291							
NV01	**Mina Array Sit**	**96.16**	**43**	*eP*		**P**	**02 11 34.0**	**-0.5**
NVAR	**Mina Array Bea**	**96.16**	**43**	P		**P**	**02 11 34.9**	**+0.4**
	comp=Z,1.4nm,0.7s,baz=293,slow=5.2,SNR=7.1							
NVAR					LR	LR	02 54 16.7	
	comp=Z,74nm,18.7s,baz=89,slow=35							
PD31	**Pinedale Array**	**98.41**	**35**	*eP*		**P**	**02 11 44.1**	**-0.4**
PDAR	**Pinedale Array**	**98.41**	**35**	P		**P**	**02 11 44.1**	**-0.4**
	comp=Z,0.5nm,0.8s,baz=248,slow=2.4,SNR=3.3							
ESDC	**Sonseca Array**	**98.81**	**321**	LR		LR	03 02 25.6	
	comp=Z,142nm,19.1s,baz=325,slow=39							
ULM	**Lac du Bonnet**	**98.83**	**23**	P		Pdif	02 11 46.1	+0.2
	comp=Z,1.6nm,0.6s,baz=270,slow=4.3,SNR=3.1							
ULM					LR	LR	03 00 49.9	
	comp=Z,121nm,18.1s,baz=346,slow=38							
TAOE	**Nuku Hiva Isla**	**100.95**	**95**	*e*LR		LR	02 44 52.0	
	comp=Z,184nm,22.0s							
RKT	**Rikitea**	**110.63**	**107**	*e*LR		LR	02 49 19.7	
	comp=Z,321nm,24.5s							
LTX	**Lajitas**	**111.26**	**42**	*e*PKiKP		**PKiKP**	**02 16 40.0**	**-0.3**
LTX	**Lajitas**	**111.26**	**42**	*e*PKiKP		**PKiKP**	**02 16 40.1**	**-0.3**
TXAR	**Lajitas Array**	**111.26**	**42**	PKiKP		**PKiKP**	**02 16 40.0**	**-0.3**
	comp=Z,0.2nm,0.6s,baz=221,slow=0.4,SNR=3.9							
KOWA	**Kowa**	**114.57**	**300**	PKP		PKPdf	02 16 45.8	-1.1
	comp=Z,1.7nm,0.5s,baz=95,slow=2.1,SNR=15							
DBIC	**Dimbokro**	**119.60**	**293**	PKP		**PKPdf**	**02 16 55.6**	**-0.9**
	comp=Z,1.8nm,0.5s,baz=70,slow=4.6,SNR=7.1							
SNAA	**Sanae**	**123.31**	**198**	PKP		**PKPdf**	**02 17 00.8**	**-1.3**
	comp=Z,2.3nm,1.1s,baz=162,slow=3.2,SNR=6.9							
VNA2	**Neumayer--Watz**	**124.96**	**198**	PKP		**PKPdf**	**02 17 04.1**	**-1.0**
	baz=104,slow=2.0							
VNA3	**Neumayer Olymp**	**125.43**	**197**	PKP		**PKPdf**	**02 17 04.4**	**-1.7**
SDV	**Santo Domingo**	**145.07**	**22**	PKPbc		**PKPbc**	**02 17 42.7**	**-1.1**
	comp=Z,31nm,0.7s,baz=307,slow=4.7,SNR=48							
SDV	**Santo Domingo**	**145.07**	**22**	*e*PKPbc		**PKPbc**	**02 17 42.8**	**-0.9**
PCRV	**Puerto La Cruz**	**145.37**	**11**	PKPbc		**PKPbc**	**02 17 43.1**	**-1.5**
	comp=Z,10nm,0.5s,baz=346,slow=4.2,SNR=6.0							
HELC	**Santa Helena**	**145.51**	**31**	*e*PKPdf		**PKPdf**	**02 17 44.5**	**-0.9**
RUSC	**La Rusia**	**146.88**	**28**	*e*PKPdf		**PKPbc**	**02 17 49.0**	**-0.7**
PRAC	**Prado**	**147.98**	**33**	*e*PKPdf		**PKPbc**	**02 17 51.2**	**-1.0**
OTAV	**Otavalo**	**148.89**	**42**	*e*PKPbc		**PKPbc**	**02 17 55.7**	**+0.6**
PLCA	**Paso Flores**	**160.49**	**151**	PKPab		**PKPab**	**02 18 46.8**	**-0.2**
	comp=Z,1.6nm,0.7s,baz=334,slow=3.0,SNR=4.0							
LPAZ	**La Paz**	**167.93**	**52**	PKPab		**PKPab**	**02 19 20.1**	**-0.9**
	comp=Z,1.3nm,0.8s,baz=324,slow=3.6,SNR=2.7							

*MAN **19** 02:05:54, 8.˚11N×126.˚80E, h46km, mb4.5, ML3.3, MS3.1*
*IDC **19** 02:05:54.9±1.8, 7.˚44N×127.˚11E, h0km, mb3.7/4, mb1 3.8/4, mb1mx3.4/71, mbtmp3.7/4, Error ellipse: s-maj=36.9km s-min=22.8km az=29.0*
ISC 19 02:05:52.0±2.1, 8.˚28N±0.˚05×126.˚97E±0.˚10, h28km±14km, n13, σ1§91/18, mb3.6/4, 1C-3D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUTP	**Butuan**	**1.50**	**297**	*e*P	**Pb**	**02 06 18.7**	**-0.4**
BUTP				*e*S	**Sn**	**02 06 36.4**	**+0.9**
DAV	**Davao City (W)**	**1.82**	**229**	Pn	**Pb**	**02 06 23.5**	**-1.2**
	99nm,0.3s,baz=277,slow=13,SNR=9.1						
DAV				Sn	**Sb**	**02 06 46.4**	**-0.8**
	136nm,0.3s,baz=232,slow=23,SNR=18						
DMPH	**Davao City--Mi**	**1.87**	**231**	*e*P	**Pb**	**02 06 27.4**	**+1.9**
DMPH				*e*S	**Sb**	**02 06 48.9**	**+0.4**
BUKP	**Musuan**	**1.93**	**258**	*e*P	**Pn**	**02 06 23.8**	**+0.9**
BUKP				*e*S	**Sn**	**02 06 45.1**	**-1.1**
SCPH	**Surigao**	**2.09**	**316**	*e*P	**Pb**	**02 06 27.9**	**-1.3**
SCPH				*e*S	**Sb**	**02 06 53.9**	**-0.8**
MSLP	**Maasin**	**2.78**	**312**	*e*P	Pn	02 06 28.2	-6.4
CTBH	**Cotabato--PC H**	**2.89**	**249**	*i*P	**Pn**	**02 06 36.4**	**+0.2**
TBP	**Tagbilaran**	**3.37**	**295**	*e*P	**Pn**	**02 06 45.3**	**+2.5**
TBP				*e*S	**Sn**	**02 07 22.2**	**+0.4**
SNPH	**Sibulan**	**3.83**	**286**	*i*eP	**Pn**	**02 06 52.9**	**+3.7**
SNPH				*e*S	**Sn**	**02 07 29.4**	**-4.0**
WRA	**Warramunga Arr**	**28.97**	**166**	P	**P**	**02 11 48.0**	**-1.3**
	0.5nm,0.7s,baz=347,slow=9.7,SNR=2.3						
ASAR	**Alice Springs**	**32.47**	**168**	P	**P**	**02 12 21.4**	**+1.3**
	0.3nm,0.3s,baz=344,slow=7.1,SNR=6.6						
STKA	**Stephens Creek**	**42.31**	**161**	P	**P**	**02 13 42.5**	**-0.8**
	1.1nm,0.5s,baz=318,slow=9.6,SNR=2.3						
MKAR	**Makanchi Array**	**54.02**	**323**	P	P	02 15 26.6	+13
	0.4nm,0.7s,baz=109,slow=6.7,SNR=1.9						

*IDC **19** 02:13:50.9±4.6, 23.˚06S×177.˚97W, h0km, mb3.8/4, mb1 4.1/4, mb1mx3.7/43, mbtmp3.8/4, Error ellipse: s-maj=186.6km s-min=40.4km az=143.0*
*WEL **19** 02:14:46.5, 26.˚5S×37.˚×17.˚8W±99.˚9, h565km±80km*
ISC 19 02:14:45.6±3.9, 25.˚4S±0.˚2×178.˚2W±0.˚4, h550km, n26, σ1§07/25, mb3.5/4, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**12.48**	**193**	P	**P**	**02 17 30.2**	**+1.4**
MXZ	**Matakaoa Point**	**12.48**	**193**	S	**S**	**02 19 41.8**	**-1.5**
WIAZ	**Waiheke Island**	**12.70**	**205**	P	**P**	**02 17 31.7**	**+0.5**
HAZ	**Te Kaha**	**12.78**	**195**	P	**P**	**02 17 32.0**	**+0.1**
HAZ	**Te Kaha**	**12.78**	**195**	S	**S**	**02 19 48.2**	**-0.7**
PUZ	**Puketiti**	**12.98**	**193**	P	**P**	**02 17 35.9**	**+1.8**
PUZ	**Puketiti**	**12.98**	**193**	S	**S**	**02 19 50.9**	**-1.9**
RUGZ	**Raukumara Rang**	**13.00**	**195**	P	**P**	**02 17 34.4**	**0.0**
TWGZ	**Tauwhareparae**	**13.13**	**193**	P	**P**	**02 17 37.5**	**+1.7**
TWGZ	**Tauwhareparae**	**13.13**	**193**	S	**S**	**02 19 55.7**	**-0.1**
MWZ	**Matawai**	**13.38**	**195**	P	**P**	**02 17 38.1**	**-0.2**
MWZ	**Matawai**	**13.38**	**195**	S	**S**	**02 20 01.2**	**+0.7**
URZ	**Urewera**	**13.41**	**196**	P	**P**	**02 17 38.1**	**-0.5**
URZ	**Urewera**	**13.41**	**196**	S	**S**	**02 20 01.4**	**+0.5**
TKGZ	**Te Karaka**	**13.41**	**194**	P	**P**	**02 17 37.9**	**-0.7**
RIGZ	**Rimuhau**	**13.69**	**193**	P	**P**	**02 17 40.8**	**-0.6**
RIGZ	**Rimuhau**	**13.69**	**193**	S	**S**	**02 20 07.6**	**+1.4**
BKZ	**Black Stump Fm**	**14.43**	**197**	P	**P**	**02 17 48.0**	**-1.1**
FWVZ	**Far West T-bar**	**14.78**	**199**	P	**P**	**02 17 53.2**	**+0.4**
BHHZ	**Black Hill Sta**	**14.85**	**198**	P	**P**	**02 17 51.7**	**-1.7**
BHHZ	**Black Hill Sta**	**14.85**	**198**	S	**S**	**02 20 28.8**	**+0.8**
KAHZ	**Kahuranaki**	**14.93**	**195**	P	**P**	**02 17 53.4**	**-0.8**
STKA	**Stephens Creek**	**35.72**	**250**	P	**P**	**02 20 59.2**	**+0.7**
	1.3nm,0.4s,baz=103,slow=13,SNR=5.7						
ASAR	**Alice Springs**	**43.43**	**262**	P	**P**	**02 22 00.0**	**-0.4**
	0.4nm,0.4s,baz=2,slow=7.3,SNR=6.2						
WRA	**Warramunga Arr**	**43.96**	**267**	P	**P**	**02 22 04.0**	**-0.6**
	0.5nm,0.3s,baz=99,slow=7.0,SNR=16						
ILAR	**Eielson Array**	**93.12**	**13**	P	P	02 26 55.5	-5.0
	0.5nm,0.9s,baz=203,slow=5.9,SNR=2.9						

WEL 19 02:32:25.4, 43.˚5S±0.˚9×172.˚1E±1.˚0, h7km±1km, ML3.7/7, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OXZ	**Oxford**	**0.16**	**350**	P	Pg	02 32 30.1	+1.4
OXZ	**Oxford**	**0.16**	**350**	S	Sg	02 32 32.6	+1.8
EYCZ	**Eyrewell**	**0.21**	**74**	P	Pg	02 32 31.2	+1.5
EYCZ	**Eyrewell**	**0.21**	**74**	S	Sg	02 32 34.8	+2.3
CRLZ	**Canterbury Las**	**0.41**	**103**	P	Pb	02 32 35.3	+0.3
CRLZ	**Canterbury Las**	**0.41**	**103**	S	Sb	02 32 41.1	-0.4
MQZ	**McQueen's Vall**	**0.48**	**118**	P	Pb	02 32 35.7	-0.4
LTZ	**Lake Taylor**	**0.71**	**12**	P	Pb	02 32 40.7	+0.4
AKCZ	**Akaroa Harbour**	**0.72**	**123**	P	Pb	02 32 40.3	0.0
AKCZ	**Akaroa Harbour**	**0.72**	**123**	P	Pb	02 32 40.3	0.0
OKCZ	**Okains Bay**	**0.75**	**109**	P	Pb	02 32 41.1	+0.2
RPZ	**Rata Peaks**	**0.78**	**252**	P	Pb	02 32 41.9	+0.6
INZ	**Inchbonnie**	**0.89**	**328**	P	Pn	02 32 43.8	-0.5
WVZ	**Waitaha Valley**	**1.06**	**292**	P	Pn	02 32 46.8	+0.1
WVZ	**Waitaha Valley**	**1.06**	**292**	P	Pn	02 32 46.8	+0.1
KHZ	**Kahutara**	**1.51**	**46**	P	Pn	02 32 52.2	-0.8
LBZ	**Lake Benmore**	**1.64**	**236**	P	Pn	02 32 54.9	+0.2
FOZ	**Fox Glacier**	**1.65**	**267**	P	Pb	02 32 56.1	0.0
DSZ	**Denniston Nort**	**1.75**	**353**	P	Pn	02 32 56.0	-0.2
THZ	**Tophouse**	**1.82**	**20**	P	Pn	02 32 56.6	-0.7
ODZ	**Otahua Downs**	**1.87**	**213**	P	Pn	02 32 57.3	-0.6
BSWZ	**Blackbirch Sta**	**2.21**	**38**	P	Pn	02 33 02.2	-0.3
JCZ	**Jackson Bay**	**2.46**	**255**	P	Pn	02 33 06.3	+0.3
NNZ	**Nelson**	**2.46**	**24**	P	Pn	02 33 06.2	+0.2
TUWZ	**Tuamarina**	**2.47**	**35**	P	Pn	02 33 05.5	-0.7
WKZ	**Wanaka**	**2.58**	**238**	P	Pb	02 33 10.3	-1.8
EAZ	**Earnscleugh**	**2.65**	**228**	P	Pn	02 33 08.7	+0.1
EAZ	**Earnscleugh**	**2.65**	**228**	P	Pn	02 33 08.7	+0.1
QRZ	**Quartz Range**	**2.67**	**7**	P	Pn	02 33 08.5	-0.4
TCW	**Tory Channel**	**2.79**	**36**	P	Pn	02 33 09.6	-0.9
DUWZ	**D'Urville Isla**	**3.01**	**28**	P	Pn	02 33 13.7	+0.2
TUZ	**Tuapeka**	**3.02**	**214**	P	Pn	02 33 14.0	+0.3
PLWZ	**Palliser**	**3.03**	**52**	P	Pn	02 33 12.4	-1.4
CAW	**Cannon Point**	**3.25**	**44**	P	Pn	02 33 16.0	-0.8
KIW	**Kapiti Island**	**3.36**	**40**	P	Pn	02 33 17.6	-0.7
MLZ	**Mavora Lakes**	**3.41**	**235**	P	Pn	02 33 19.0	0.0
MTW	**Mount Morrison**	**3.44**	**49**	P	Pn	02 33 18.1	-1.3
OGWZ	**Otaki Gorge**	**3.52**	**42**	P	Pn	02 33 18.8	-1.7
APZ	**The Paps**	**4.42**	**219**	P	Pn	02 33 31.9	-1.1
PKE	**Pukeiti**	**4.52**	**19**	P	Pn	02 33 33.2	-1.1
TRVZ	**Turoa**	**4.93**	**33**	P	Pn	02 33 39.4	-0.7

IDC 19 02:38:59.7±9.8, 6.˚40S×145.˚32E, h0km, mb3.6/2, mb1 4.0/4, mb1mx3.5/44, mbtmp3.9/4, ML4.3/1, Error ellipse: s-maj=139.5km s-min=41.8km az=19.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.50**	**149**	Pn	Pn	02 39 55.1	-0.3
	15nm,0.3s,baz=330,slow=7.1,SNR=18						
PMG				Sn	Sn	02 40 40.1	+2.5
	5.4nm,0.3s,baz=214,slow=23,SNR=6.0						
WRA	**Warramunga Arr**	**17.18**	**217**	P	P	02 43 03.1	+0.1
	1.0nm,0.3s,baz=48,slow=12,SNR=43						
ASAR	**Alice Springs**	**20.38**	**211**	P	P	02 43 36.4	-1.9
	2.4nm,0.7s,baz=51,slow=9.4,SNR=12						
STKA	**Stephens Creek**	**25.59**	**187**	P	P	02 44 31.4	+0.7
	1.0nm,0.6s,baz=348,slow=13,SNR=3.4						

*NIED **19** 02:48:00, 25.˚40N×143.˚20E, h5km, Mw4.8 Best double couple: M0 1.68000×10^16 NP1:ϕs160.00000°, δ21.00000°, λ30.00000°. NP2:ϕs42.00000°, δ80.00000°, λ108.00000°.*
*BJI **19** 02:48:42.9, 25.˚28N×142.˚64E, h8km, mb4.8/54, mB4.9/30, Ms4.5/43, Ms7 4.4/42*
*JMA **19** 02:48:43.1±0.2, 25.˚43N×143.˚22E, h10km±4km, M5.1*
*ISCJB **19** 02:48:44.4±1.4, 25.˚51N±0.˚03×142.˚64E±0.˚02, h10km±8km, mb4.8/252, MS4.2/61, Error ellipse: s-maj=4.9km s-min=3.7km az=178.5*
*GCMT **19** 02:48:46.1±0.5, 25.˚47N×142.˚85E, h28km±1km, MW5.0/62, Moment Tensor Solution. s25,c27; s62,c83; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr3.35±.26; Mθθ0.03±.15; Mφφ-3.38±.17; Mrθ-0.56±.28; Mθφ0.14±.14; Mφr1.50±.24; Best double couple: M0 3.72900×10^16 NP1:ϕs350.00000°, δ58.00000°, λ82.00000°. NP2: ϕs185.00000°, δ33.00000°, λ103.00000°. Principal axes: T 3.7410, Plg76.0000°, Azm236.0000°; N -0.0240, Plg7.0000°, Azm354.0000°; P -3.7160, Plg12.0000°, Azm86.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **19** 02:48:46.1±0.7, 25.˚51N×142.˚66E, h11km±4km, mb4.9/174 Error ellipse: s-maj=4.1km s-min=3.4km az=157.0*
*MOS **19** 02:48:48.2±1.0, 25.˚50N×142.˚64E, h39km, mb5.1/99, MS4.2/20, Error ellipse: s-maj=7.4km s-min=4.0km az=106.3*
*IDC **19** 02:48:50.5±2.0, 25.˚49N×142.˚67E, h46km±18km, mb4.4/41, mb1 4.5/44, mb1mx4.4/69, mbtmp4.6/44, ML3.9/3, MS4.0/47, Ms1 4.0/47, ms1mx3.9/66, Error ellipse: s-maj=12.6km s-min=9.7km az=93.0*
ISC 19 02:48:48.9±0.8, 25.˚54N±0.˚04×142.˚71E±0.˚05, h30km±4km, n682, σ1§33/710, mb4.9/256, MS4.2/61, 22C-17D, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHHJ	**Haha-jima-NKT**	**1.18**	**336**	P	**Pb**	**02 49 10.4**	**-0.4**
JHHJ				*e*S	**Sb**	**02 49 30.5**	**+4.8**
CBIJ	**Chichi jima**	**1.62**	**343**	P	**Pn**	**02 49 16.2**	**+0.8**
CBIJ				S	**Sb**	**02 49 40.2**	**+2.0**
CBIJ	**Chichi jima**	**1.62**	**343**	*e*Pn	**Pn**	**02 49 16.3**	**+0.8**
CBIJ				*e*Sn	**Sb**	**02 49 40.8**	**+2.6**
JCJ	**Chichijima**	**1.62**	**343**	P	**Pb**	**02 49 16.4**	**-1.8**
	946nm,0.3s,baz=212,slow=6.5,SNR=290						
JCJ				S	**Sb**	**02 49 40.3**	**+2.1**
	2µm,0.3s,baz=74,slow=23,SNR=24						
JCJ				LR	LR	02 49 49.2	
	comp=Z,827nm,20.4s,baz=98,slow=36						
JHJ	**Hachijo jima 2**	**7.97**	**342**	LR	LR	02 53 36.0	
	comp=Z,712nm,21.2s,baz=182,slow=36						
BSO3	**Boso 3**	**9.42**	**349**	P	**Pn**	**02 51 03.7**	**+1.3**
BSO4	**Boso 4**	**9.64**	**348**	P	**Pn**	**02 51 06.6**	**+1.1**
BSO4				*e*S	**Sn**	**02 52 53.8**	**+1.1**
JOD2	**Odawara 2**	**10.18**	**343**	P	**Pn**	**02 51 13.3**	**+0.3**
JOD2				*e*S	**Sn**	**02 53 05.5**	**-0.7**
JRY	**Ryogami san**	**10.94**	**344**	P	**Pn**	**02 51 24.8**	**+1.3**
JAG	**Ashikaga**	**11.20**	**346**	P	**Pn**	**02 51 27.8**	**+0.8**
JAG				*e*S	**Sn**	**02 53 24.9**	**-6.3**
MJAR	**Matsushiro Arr**	**11.62**	**342**	P	**Pn**	**02 51 35.5**	**+2.8**
	1.6nm,0.3s,baz=149,slow=10,SNR=9.5						
MJAR				S	Sn	02 53 32.4	-9.1
	0.3nm,0.3s,baz=159,slow=12,SNR=2.5						
MJAR				LR	LR	02 56 09.6	
	comp=Z,837nm,18.3s,baz=180,slow=38						
MAJO	**Matsushiro**	**11.62**	**342**	*e*Pn	Pn	02 51 39.1	+6.3
MAJO				*e*Sn	Sn	02 53 32.4	-9.2
MAJO	**Matsushiro**	**11.62**	**342**	*i*eP	**Pn**	**02 51 33.5**	**+0.7**
MAT	**Matsushiro**	**11.62**	**342**	P	**Pn**	**02 51 33.8**	**+1.0**
MAT				S	**Sn**	**02 53 37.3**	**-4.3**
MJB9	**Matsu-Tunnel**	**11.63**	**342**	*e*Pn	Pn	02 51 39.1	+6.3
GUMO	**Guam**	**12.06**	**170**	LR	LR	02 55 34.5	
	comp=Z,531nm,19.9s,baz=355,slow=34						
JNU	**Nakatsue**	**12.78**	**309**	P	**P**	**02 51 55.4**	**-4.0**
	0.2nm,0.3s,baz=256,slow=7.7,SNR=3.8						
JNU				LR	LR	02 56 16.1	
	comp=Z,600nm,21.8s,baz=112,slow=35						
JNU	**Nakatsue**	**12.78**	**309**	*e*Pn	**P**	**02 51 57.4**	**-1.9**
JOW	**Kunigami**	**13.02**	**279**	LR	LR	02 56 06.2	
	comp=Z,842nm,21.8s,baz=128,slow=34						
ERM	**Erimo**	**16.44**	**1**	*e*Pn	**Pn**	**02 52 35.3**	**-2.0**
	56nm,1.3s						
ERM	**Erimo**	**16.44**	**1**	*i*eP	**Pn**	**02 52 37.4**	**+0.1**
TJN	**Taejon**	**17.00**	**313**	*i*eP	**P**	**02 52 45.2**	**-0.9**
KSRS	**Korea Array**	**17.29**	**317**	P	**P**	**02 52 50.2**	**+0.8**
	0.3nm,0.3s,baz=116,slow=11,SNR=13						
KSRS				S	**S**	**02 56 16.3**	**+8.5**
	0.5nm,0.3s,baz=143,slow=27,SNR=9.3						
KSRS				LR	LR	02 59 16.2	
	comp=Z,1µm,18.3s,baz=130,slow=36						
KS15	**Wonju Array Si**	**17.31**	**317**	*e*Pn	**Pn**	**02 52 45.5**	**-2.8**
KS15				*e*S	**S**	**02 56 16.3**	**+8.2**
KSAR	**Wonju Array Be**	**17.31**	**317**	P	**P**	**02 52 50.2**	**+0.7**
KSAR	**Wonju Array Be**	**17.31**	**317**	P	**P**	**02 52 50.2**	**+0.7**
KS01	**Wonju Array Si**	**17.33**	**317**	*e*Pn	**Pn**	**02 52 44.0**	**-4.6

GRNR Gornyy 25.65 351 *e*P P **02 54 16.8 +0.9**
GRNR pmax pmax
comp=Z,42nm,1.0s
BJI Beijing 26.45 310 P P **02 54 22.0 -1.3**
BJI pmax pmax
comp=Z,13nm,0.6s
BJI LR LR
comp=Z,540nm,17.1s
BJI LR LR
comp=Z,550nm,13.1s
SKR Severo-Kuril's 27.14 19⇑ *e*P P **02 54 30.0 +0.7**
NKL Nikolayevsk 27.62 357 *i* P P **02 54 35.0 +1.5**
NKL *e* 02 54 48.0
NKL *e* 02 59 16.0
NKL pmax pmax
comp=N,10.0nm,0.9s
NKL pmax pmax
comp=Z,17nm,0.9s
SIJI Sorong 28.49 205 LR LR 03 03 49.3
comp=Z,610nm,19.8s,baz=68,slow=32
HIA Hailar 29.67 329⇓ *e*P P **02 54 52.5 +0.5**
HIA pmax pmax
comp=Z,24nm,1.1s
PETK Petropavlovsk- 29.75 18 P P **02 54 53.5 +0.9**
comp=Z,4.0nm,0.8s,baz=184,slow=12,SNR=4.2
PETK LR LR 03 09 51.4
comp=Z,80nm,18.9s,baz=205,slow=42
PEA1 Petropavlovsk- 29.75 18 *e*P P **02 54 53.5 +0.9**
HHC Hu-ho-hao-te 30.01 308 *e*P P **02 54 55.6 +0.5**
HHC pP pP 02 55 00.0 -3.8
HHC sP sP 02 55 02.6 -4.9
HHC S S **02 59 51.8 +0.4**
HHC pmax pmax
comp=Z,54nm,0.9s
HHC pmax pmax
comp=Z,130nm,4.6s
HHC LR LR
comp=Z,2µm,12.6s
HHC LR LR
comp=Z,2µm,13.4s
HHC LR LR
comp=Z,2µm,12.3s
XAN Xi'an 30.41 294 P P **02 54 57.9 -0.8**
XAN pmax pmax
comp=Z,18nm,1.2s
ZEA Zeya 30.43 342 *e*P P **02 54 59.0 +0.4**
ZEA pmax pmax
comp=N,47nm,1.0s
ZEA pmax pmax
comp=Z,64nm,1.2s
ZEA MLR MLR
comp=Z,1µm,14.0s
ZEA MLR MLR
comp=E,1µm,18.0s
ZEA MLR MLR
comp=N,1µm,17.0s
GYA Guiyang 32.34 280 *e*P P **02 55 16.3 +0.4**
GYA pmax pmax
comp=N,10.0nm,1.0s
MA2 Magadan 34.48 7 LR LR 03 10 51.8
comp=N,99nm,18.8s,baz=194,slow=38
MA2 Magadan 34.48 7 *e*P P **02 55 33.7 -0.2**
MA2 pmax pmax
comp=Z,4.0nm,0.9s
CD2 Chengdu 34.61 288 P P **02 55 34.8 -0.7**
CD2 pP pP 02 55 40.4 -3.8
CD2 PP **PP** **02 56 53.3 -0.9**
CD2 S S **03 01 03.8 +0.7**
CD2 sS pS 03 01 13.4 +0.5
CD2 pmax pmax
comp=Z,60nm,0.6s
CD2 pmax pmax
comp=Z,120nm,5.0s
CD2 LR LR
comp=Z,910nm,15.5s
CD2 LR LR
comp=Z,620nm,15.5s
LZH Lanzhou 34.79 297 *e*P P **02 55 36.0 -1.1**
LZH pP pP 02 55 41.6 -4.3
LZH sP sP 02 55 44.4 -5.1
LZH PcP **PcP** **02 58 10.3 +0.1**
LZH pmax pmax
comp=Z,43nm,1.3s
LZH pmax pmax
comp=Z,210nm,4.6s
LZH LR LR
comp=Z,700nm,13.5s
LZH LR LR
comp=Z,700nm,14.6s
LZH LR LR
comp=Z,4µm,16.0s
PMG Port Moresby 35.01 172 P P **02 55 37.7 -1.2**
comp=Z,14nm,0.8s,baz=19,slow=2.8,SNR=7.3
PMG LR LR 03 09 43.0
comp=Z,149nm,18.3s,baz=358,slow=36
PMG Port Moresby 35.01 172 *e*P P **02 55 37.7 -1.2**
comp=Z,23nm,0.9s
PMG Port Moresby 35.01 172⇓ *e*P P **02 55 37.9 -1.0**
PMG pmax pmax
comp=Z,144nm,1.7s
ULN Ulaanbaatar 35.78 318 *e*P P **02 55 44.8 -0.7**
comp=Z,6.8nm,0.9s
ULN Ulaanbaatar 35.78 318 *ce*P P **02 55 44.9 -0.6**
ULN pmax pmax
comp=Z,15nm,1.7s
KMI Kunming 36.03 278 P P **02 55 49.8 +1.8**
KMI pP pP 02 55 53.8 -3.0
KMI sP sP 02 55 56.1 -4.3
KMI PP **PP** **02 57 09.8 -0.3**
KMI S S **03 01 28.3 +2.9**
KMI SS **SnSn** **03 03 47.8 -3.4**
KMI pmax pmax
comp=Z,21nm,0.5s
KMI pmax pmax
comp=Z,39nm,3.1s
KMI LR LR
comp=Z,140nm,20.3s
KMI LR LR
comp=Z,360nm,19.4s
KMI LR LR
comp=Z,350nm,17.3s
SONA0 Songino Array 36.16 317 *e*P P **02 55 48.1 -0.7**
SONA0 *e*PcP **PcP** **02 58 15.3 +1.4**
SONA1 Songino Array 36.16 317 *e*P P **02 55 49.9 +1.1**
SONA1 *e*PcP **PcP** **02 58 14.8 +0.9**
SONM Songino Array 36.16 317 P P **02 55 48.1 -0.7**
comp=Z,2.1nm,0.4s,baz=123,slow=7.8,SNR=6.6
SONM PcP **PcP** **02 58 15.3 +1.4**
comp=Z,3.7nm,1.0s,baz=90,slow=2.9,SNR=4.5
SONM LR LR 03 10 49.1
comp=Z,493nm,20.7s,baz=71,slow=36
YAK Yakutsk 37.52 350 LR LR 03 11 05.8
comp=Z,231nm,20.0s,baz=120,slow=36
YAK Yakutsk 37.52 350 *e*P P **02 55 59.0 -0.9**
YAK *e**PP **sP** **02 56 10.9 -1.4**
YAK *e*S S **03 01 42.8 -4.0**
YAK *e*SS **SnSn** **03 04 18.2 -7.7**
YAK *e* 03 06 09.5
YAK pmax pmax
comp=N,5.0nm,0.9s
YAK pmax pmax
comp=E,2.0nm,1.2s
YAK pmax pmax
comp=Z,20nm,1.0s
YAK pmax pmax
comp=Z,136nm,5.0s
YAK pmax pmax
comp=N,43nm,4.1s
YAK smax smax
comp=E,47nm,2.8s
YAK MLR MLR
comp=Z,182nm,17.0s
YAK MLR MLR
comp=N,242nm,17.0s
YAK MLR MLR
comp=E,69nm,15.0s
SEY Seymchan 37.94 7 P P **02 56 04.0 +0.6**
comp=E,9.5nm,0.8s,baz=185,slow=6.8,SNR=22
SEY Seymchan 37.94 7⇑ *e*P P **02 56 04.6 +1.2**
BOD Bodaibo 38.16 335 *e*P P **02 56 05.5 +0.1**
BOD pmax pmax
comp=Z,24nm,1.6s
GTA Gaotai 38.38 302 P P **02 56 08.8 +1.1**
GTA pP pP 02 56 15.0 -1.5
GTA sP sP 02 56 17.8 -2.3
GTA PcP **PcP** **02 58 21.8 +0.9**
GTA S S **03 02 06.5 +5.8**
GTA ScP **ScP** **03 02 09.3 +2.5**
GTA sS sS 03 02 15.3 +0.1
GTA pmax pmax
comp=Z,7.0nm,1.1s
GTA pmax pmax
comp=Z,84nm,5.2s
GTA LR LR
comp=Z,250nm,15.7s
GTA LR LR
comp=Z,310nm,14.3s
GTA LR LR
comp=Z,380nm,13.8s
ZAK Zakamensk 39.09 320 *e*P P **02 56 11.4 -2.0**
ZAK pmax pmax
comp=Z,9.0nm,1.2s
COEN Coen 39.26 179 *e*P P **02 56 14.4 -0.6**
comp=Z,40nm,1.4s
MMRI Maumere 39.38 213 *e*P P **02 56 18.9 +2.8**
comp=Z,150nm,1.3s
TLY Talaya 39.44 322 P P **02 56 15.6 -0.6**
comp=Z,2.2nm,0.6s,baz=138,slow=8.5,SNR=6.2
TLY LR LR 03 12 50.2
comp=Z,414nm,19.6s,baz=114,slow=36
TLY Talaya 39.44 322 *e*P P **02 56 18.3 +2.1**
TLY Talaya 39.44 322 *e*P P **02 56 16.2 0.0**
TLY *e* 02 58 11.8
TLY pmax pmax
comp=Z,6.0nm,1.1s
TLY MLR MLR
comp=Z,578nm,17.0s
MTN Manton Dam 39.78 198 *e*P P **02 56 18.9 -0.5**
comp=Z,78nm,1.8s
BATI Baumata 40.08 210 LR LR 03 11 47.3
comp=Z,107nm,18.3s,baz=312,slow=34
CM31 Chiang Mai Arr 41.04 269 *e*P P **02 56 30.4 +0.4**
CMAR Chiang Mai Arr 41.04 269 P P **02 56 30.4 +0.4**
comp=Z,0.9nm,0.4s,baz=63,slow=8.0,SNR=7.4
CMAR LR LR 03 13 09.7
comp=Z,174nm,20.1s,baz=58,slow=36
BILL Bilibino 44.86 12 *c i*P P **02 57 00.9 +0.7**
BILL *e* 02 58 48.2
BILL *e*S S **03 03 31.1 -4.6**
BILL pmax pmax
comp=Z,9.0nm,1.0s
BILL MLR MLR
comp=Z,119nm,17.0s
NIKH Nikolski High 45.26 40 *e*P P **02 57 05.0 +1.5**
comp=Z,82nm,0.8s
CTA Charters Tower 45.49 175 P P **02 57 04.5 -1.1**
comp=Z,4.5nm,0.6s,baz=346,slow=14,SNR=5.1
SHL Shillong 45.61 282 *e*P P **02 57 06.5 -0.5**
SHL Shillong 45.61 282 *e*P P **02 57 07.8 +0.8**
comp=Z,28nm,1.0s
SHL Shillong 45.61 282 *e*P P **02 57 07.8 +0.8**
SHL pmax pmax
comp=Z,29nm,1.0s
WRAB Tennant Creek 45.93 191 *e*P P **02 57 05.5 -3.6**
comp=Z,29nm,0.8s
WRAB Tennant Creek 45.93 191 *d i*P P **02 57 07.9 -1.2**
WRAB pmax pmax
comp=Z,54nm,1.7s
WB2 Warramunga Arr 45.94 191 *e*P P **02 57 08.3 -0.9**
comp=Z,40nm,0.8s
WR1 Warramunga Arr 45.94 191 *e*P P **02 57 08.2 -1.0**
comp=Z,28nm,1.1s
WRA Warramunga Arr 45.94 191 P P **02 57 08.2 -1.1**
comp=Z,8.1nm,0.5s,baz=11,slow=8.7,SNR=43
TIXI Tiksi 46.80 354 P P **02 57 15.6 +0.2**
comp=Z,5.7nm,0.7s,baz=277,slow=2.7,SNR=7.5
TIXI Tiksi 46.80 354 *e*P P **02 57 14.8 -0.5**
comp=Z,7.1nm,0.8s
TIXI Tiksi 46.80 354⇓ *e*P P **02 57 15.8 +0.4**
TIXI pmax pmax
comp=Z,8.0nm,1.7s
LEM Lembang 46.89 231 P P **02 57 17.1 +0.1**
comp=Z,8.3nm,0.3s,baz=343,slow=19,SNR=3.4
LEM LR LR 03 17 41.1
comp=Z,101nm,19.7s,baz=71,slow=37
PSI Prapat 47.76 249 P P **02 57 23.4 -0.4**
comp=Z,5.3nm,0.4s,baz=71,slow=8.4,SNR=5.4
PSI Prapat 47.76 249 *e*P P **02 57 23.4 -0.4**
comp=Z,13nm,1.1s
WMQ Urumqi 47.87 307 P P **02 57 25.3 +1.1**
WMQ pP pP 02 57 29.3 -3.9
WMQ sP sP 02 57 33.5 -3.3
WMQ pmax pmax
comp=Z,33nm,1.5s
WMQ pmax pmax
comp=Z,540nm,6.5s
WMQ LR LR
comp=Z,320nm,7.9s
WMQ LR LR
comp=Z,580nm,6.9s
WMQ LR LR
comp=Z,540nm,23.7s
GAMB Gambell 48.32 25 *e*P P **02 57 28.6 +1.3**
comp=Z,10nm,0.9s
DGZ Jazzator, Alta 48.68 315 *e*P P **02 57 30.5 0.0**
DGZ pmax pmax
comp=Z,7.0nm,1.0s
ODAN Odare 49.31 284 *e*P P **02 57 34.7 -1.1**
comp=Z,18nm,0.4s
AS01 Alice Springs 49.65 191 *e*P P **02 57 36.7 -1.2**
AS31 Alice Springs 49.65 191 *e*P P **02 57 38.5 +0.5**
comp=Z,1.9nm,0.6s
ASAR Alice Springs 49.65 191 P P **02 57 36.9 -1.2**
comp=Z,1.6nm,0.7s,baz=11,slow=8.7,SNR=18
RAMN Ramite 49.98 285 *e*P P **02 57 40.5 -0.4**
comp=Z,17nm,0.4s
JIRN Jiri 50.20 286 *e*P P **02 57 42.9 +0.2**
comp=Z,82nm,0.6s
GUN Gumba 50.42 286 *e*P P **02 57 44.3 -0.1**
comp=Z,25nm,0.4s
ZAA0 Zalesovo Array 50.97 320 *e*P P **02 57 48.4 +0.7**
comp=Z,4.1nm,0.8s
ZAA0 *e*PcP **PcP** **02 59 04.1 +0.5**
ZAA0 *e*S S **03 04 56.9 -5.6**
ZALV Zalesovo Beam 50.97 320 P P **02 57 46.2 -1.4**
comp=Z,1.5nm,0.4s,baz=116,slow=6.6,SNR=8.2
ZALV PcP **PcP** **02 59 03.3 -0.2**
comp=Z,6.3nm,0.8s,baz=111,slow=3.4,SNR=9.0
ZALV LR LR 03 20 10.6
comp=Z,229nm,18.3s,baz=68,slow=37
ZALV Zalesovo Beam 50.97 320 *e*P P **02 57 46.3 -1.4**
ZALV *e*PcP **PcP** **02 59 03.3 -0.2**
ZALV *e*S S **03 04 59.7 -2.8**
ZALV Zalesovo Beam 50.97 320 *e*P P **02 57 46.3 -1.4**
ZALV *e* 02 59 03.3
ZALV *e*S S **03 04 59.7 -2.8**
ZAA1 Zalesovo Array 50.97 320 *e*P P **02 57 46.2 -1.4**
ZAA1 *e*PcP **PcP** **02 59 03.3 -0.3**
DMN Daman 51.15 286 *e*P P **02 57 49.2 -0.6**
comp=Z,26nm,0.7s
MBWA Marble Bar 51.50 208 *e*P P **02 57 52.4 +0.4**
comp=Z,50nm,1.5s
MK01 Makanchi Array 51.82 311 *e*P P **02 57 53.6 -0.5**
MK01 *e*PcP **PcP** **02 59 08.1 +1.2**
MK31 Makanchi Array 51.83 311 *e*P P **02 57 53.8 -0.5**
MK31 *e*PcP **PcP** **02 59 00.1 -6.8**
MK31 Makanchi Array 51.83 311 *e*P P **02 57 53.8 -0.5**
MK31 *e* 02 59 00.2
MK32 Makanchi Array 51.83 311 *e*P P **02 57 53.7 -0.6**
MK32 *e*PcP **PcP** **02 59 05.9 -1.1**
MKAR Makanchi Array 51.83 311 P P **02 57 53.7 -0.5**
comp=Z,4.8nm,0.8s,baz=89,slow=7.4,SNR=25
MKAR PcP **PcP** **02 59 05.9 -1.1**
comp=Z,3.8nm,0.9s,baz=91,slow=5.8,SNR=4.9
MKAR LR LR 03 21 06.0
comp=Z,282nm,19.5s,baz=90,slow=37
MKAR Makanchi Array 51.83 311 *e*P P **02 57 53.8 -0.5**
comp=Z,48nm,1.2s
MKAR *e*PcP **PcP** **02 59 01.1 -5.9**
CHGN Chignik 51.96 37 *e*P P **02 57 53.8 -1.1**
comp=Z,88nm,1.9s
NVS Novosibirsk 52.03 321 *e*P P **02 57 56.5 +1.0**
MAKZ Makanchi 52.05 311 *e*P P **02 57 55.5 -0.3**
comp=Z,6.9nm,0.9s
MAKZ Makanchi 52.05 311 *e*P P **02 57 55.5 -0.3**
MAKZ pmax pmax
comp=Z,7.0nm,0.9s
DANN Dangsing 52.17 287 *e*P P **02 57 57.6 +0.2**
KOLN Koldanda 52.43 286 *e*P P **02 57 58.6 -0.6**
comp=Z,16nm,0.5s
DZM Mont Dzumac 52.63 152 LR LR 03 18 06.8
comp=Z,160nm,20.2s,baz=16,slow=33
DZM Mont Dzumac 52.63 152 *e*LR LR 03 13 07.5
comp=Z,274nm,23.4s
PYUN Piuthan 52.89 287 *e*P P **02 58 02.1 -0.5**
comp=Z,44nm,0.6s
PDGK Podgornoye 53.83 306 P P **02 58 08.7 -0.5**
PDGK pmax pmax
comp=Z,14nm,1.1s
SVW2 Sparrevohn 54.35 32 *e*P P **02 58 13.5 +0.9**
comp=Z,15nm,1.2s
KURK Kurchatov 54.41 315 *e*P P **02 58 12.1 -1.0**
KURK Kurchatov 54.41 315 *d i*P P **02 58 12.4 -0.7**
KURK pmax pmax
comp=Z,28nm,1.0s
KURBB Kurchatov Arra 54.46 315 P P **02 58 12.1 -1.4**
comp=Z,17nm,0.7s,baz=91,slow=8.0,SNR=58
TARG Taragay, Kyrgy 55.17 304 *e*P P **02 58 21.4 +2.1**
comp=Z,12nm,1.1s
KDAK Kodiak Island 55.33 36 P P **02 58 18.8 -0.8**
comp=Z,10.0nm,0.6s,baz=271,slow=4.8,SNR=9.5
KDAK Kodiak Island 55.33 36 *e*P P **02 58 18.8 -0.8**
comp=Z,37nm,1.1s
KDJ Kajisay 55.60 305 *e*P P **02 58 23.5 +1.3**
comp=Z,20nm,1.7s
IM3 Indian Mountai 56.22 26 *e*P P **02 58 26.4 +0.5**
PPLA Purkeypile 56.27 30 *e*P P **02 58 27.5 +1.0**
comp=Z,74nm,1.8s
CAST Castle Rocks 56.40 29 *e*P P **02 58 28.1 +0.7**
comp=Z,16nm,0.8s
SKT Skwentna 56.42 31 *e*P P **02 58 27.4 0.0**
comp=Z,11nm,1.0s
BRLK Bradley Lake 56.44 34 *e*P P **02 58 27.1 -0.5**
comp=Z,9.9nm,0.7s
NRN Naryn 56.54 304 *e*P P **02 58 30.1 +1.1**
comp=Z,8.2nm,1.3s
NRN Naryn 56.54 304 *e*P P **02 58 30.2 +1.1**
NRN pmax pmax
comp=Z,8.0nm,1.3s
SUA Susitna One 56.72 32 *e*P P **02 58 29.1 -0.6**
comp=Z,7.7nm,0.8s
KSH Kashi 56.78 302 P P **02 58 33.4 +2.8**
KTH Kantishna Hill 56.94 29 *e*P P **02 58 31.6 +0.4**
comp=Z,6.8nm,0.8s
BPAW Bear Paw Mtn. 57.00 29 *e*P P **02 58 32.4 +0.9**
comp=Z,6.5nm,0.9s
STKA Stephens Creek 57.11 181 P P **02 58 31.6 -0.9**
comp=Z,10nm,1.1s,baz=335,slow=6.6,SNR=9.3
STKA Stephens Creek 57.11 181 *e*P P **02 58 32.2 -0.3**
comp=Z,2.6nm,0.9s
RC01 Rabbit Creek A 57.16 32 *e*P P **02 58 32.6 0.0**
comp=Z,14nm,1.1s
TRF Thorofare Moun 57.20 29 *e*P P **02 58 33.4 +0.2**
comp=Z,20nm,0.8s
MLY Manley 57.26 28 *e*P P **02 58 34.4 +1.0**
comp=Z,12nm,1.3s
FRU Bishkek 57.42 306 *e*P P **02 58 35.0 +0.1**
FRU *e* 02 58 55.0
PMR Palmer 57.50 32 *e*P P **02 58 34.7 -0.3**
comp=Z,19nm,0.8s
PMR Palmer 57.50 32 *e*P P **02 58 34.7 -0.3**
PMR pmax pmax
comp=Z,19nm,0.8s
AAK Ala-Archa 57.53 306 *e*P P **02 58 37.3 +1.4**
comp=Z,3.1nm,0.9s
AAK Ala-Archa 57.53 306⇑ *e*P P **02 58 36.1 +0.3**
AAK pmax pmax
comp=Z,3.0nm,1.0s
GHO Glory Hole Cre 57.62 32 *e*P P **02 58 35.9 -0.1**
comp=Z,9.9nm,0.8s
FORT Forrest 57.73 195 *e*P P **02 58 37.1 +0.1**
comp=Z,42nm,0.7s
RND Reindeer 57.84 30 *e*P P **02 58 37.3 -0.2**
comp=Z,15nm,0.8s
RND Reindeer 57.84 30 *e*P P **02 58 37.3 -0.2**
RND pmax pmax
comp=Z,15nm,0.8s
MCK McKinley 57.84 29 *e*P P **02 58 37.5 0.0**
comp=Z,14nm,0.9s
MCK McKinley 57.84 29 *e*P P **02 58 37.5 0.0**
MCK pmax pmax
comp=Z,14nm,0.9s
COLD Coldfoot 57.87 25 *e*P P **02 58 38.8 +1.2**
comp=Z,7.4nm,0.8s
SML Sawmill 57.90 32 *e*P P **02 58 38.1 +0.1**
comp=Z,22nm,0.7s
SML Sawmill 57.90 32 *e*P P **02 58 38.1 +0.1**
SML pmax pmax
comp=Z,22nm,0.7s
WRH Wood River Hil 58.30 28 *e*P P **02 58 40.8 +0.1**
comp=Z,25nm,1.8s
MDM Murphy Dome 58.30 28 *e*P P **02 58 41.5 +0.8**
comp=Z,16nm,1.4s
TOLK Toolik Lake Re 58.37 23 P P **02 58 42.5 +1.4**
baz=259
TOLK Toolik Lake Re 58.37 23 *e*P P **02 58 42.6 +1.4**
comp=Z,8.7nm,0.9s
SCM Sheep Creek Mo 58.38 32 *e*P P **02 58 41.8 +0.5**
comp=Z,30nm,0.8s
SCM Sheep Creek Mo 58.38 32 *e*P P **02 58 41.8 +0.5**
SCM pmax pmax
comp=Z,30nm,0.8s
CCB Clear Creek Bu 58.45 28 *e*P P **02 58 42.8 +1.1**
comp=Z,6.6nm,1.4s
CCB *e*PcP **PcP** **02 59 32.7 +0.6**
COLA College 58.45 28⇑ *e*P P **02 58 41.9 +0.2**
COLA pmax pmax
comp=Z,4.0nm,0.8s
DHY Denali Highway 58.47 30 *e*P P **02 58 42.5 +0.5**
comp=Z,5.8nm,0.8s
OTUK Ortayu 58.55 312 P P **02 58 41.8 -0.9**
OTUK pmax pmax
comp=Z,14nm,1.0s
HDA Harding Lake 58.79 29 *e*P P **02 58 43.5 -0.5**
comp=Z,6.6nm,0.8s
IL1 Eielson Array 58.85 28 *e*P P **02 58 42.9 -1.6**
ILAR Eielson Array 58.85 28 P P **02 58 43.6 -0.9**
comp=Z,7.5nm,0.8s,baz=258,slow=5.9,SNR=96
ILB Eielson Array 58.85 28 *e*P P **02 58 43.8 -0.7**
MNAS Manas 59.01 306 P P **02 58 45.2 -1.0**
MNAS pmax pmax
comp=Z,4.0nm,0.9s
KLU Klutina 59.02 32 *e*P P **02 58 46.1 +0.2**
comp=Z,12nm,0.7s
EYAK Cordova Ski Ar 59.06 33 *e*P P **02 58 46.6 +0.7**
comp=Z,9.6nm,0.9s
AFI Afiamalu 59.19 126 LR LR 03 22 17.4
comp=Z,151nm,18.3s,baz=295,slow=34
PAX Paxson 59.32 30 *e*P P **02 58 48.3 +0.4**
comp=Z,5.7nm,0.8s
PAX Paxson 59.32 30 *e*P P **02 58 48.3 +0.4**
PAX pmax pmax
comp=Z,6.0nm,0.8s
HARP HAARP 59.44 31 *e*P P **02 58 49.3 +0.7**
comp=Z,26nm,0.8s
BVA0 Borovoye Array 59.50 318 *i* P P **02 58 48.0 -1.2**
BVA0 pmax pmax
comp=Z,22nm,1.0s
BVAR Borovoye Array 59.50 318 P P **02 58 48.2 -1.0**
comp=Z,11nm,0.5s,baz=92,slow=7.6,SNR=52
BVAR LR LR 03 25 30.1
comp=Z,310nm,18.8s,baz=85,slow=37
BRVK Borovoye 59.57 318 *e*P P **02 58 49.2 -0.4**
comp=Z,16nm,0.8s
BRVK Borovoye 59.57 318 *ce*P P **02 58 48.4 -1.2**
BRVK pmax pmax
comp=Z,31nm,1.2s
RAGM Ragged Mountai 59.59 33 *e*P P **02 58 50.3 +0.6**
comp=Z,13nm,0.8s
BMRM Bremner River 59.64 33 *e*P P **02 58 50.3 +0.3**
comp=Z,25nm,0.9s
RIDG Independ'e Rid 59.66 29 *e*P P **02 58 49.8 -0.3**
comp=Z,9.2nm,0.8s
FYU Fort Yukon 59.72 26 *e*P P **02 58 52.5 +2.1**
comp=Z,14nm,1.0s
NIL Nilore 59.94 296 *e*P P **02 58 53.4 +0.8**
comp=Z,54nm,1.4s
NIL Nilore 59.94 296 *e*P P **02 58 53.4 +0.8**
NIL pmax pmax
comp=Z,54nm,1.4s
DOT Dot Lake 60.00 30 *e*P P **02 58 52.3 -0.2**
comp=Z,19nm,0.8s
SCRK Sand Creek 60.05 29 *e*P P **02 58 51.0 -1.9**
comp=Z,12nm,0.8s
MENT Mentasta 60.12 30 *e*P P **02 58 54.1 +0.8**
comp=Z,5.6nm,0.7s
CRQM Cirque 60.35 33 *e*P P **02 58 55.7 +0.5**
comp=Z,18nm,0.9s
KK31 Karatay Array 60.38 307 *e*P P **02 58 54.5 -0.9**

KK31 Karatay Array 60.38 307 *i* P **P** **02 58 53.9 -1.5**
KK31 pmax pmax
comp=Z,3.0nm,0.6s
KKAR Karatay Array 60.38 307 *e*P **P** **02 58 54.5 -0.9**
KKAR Karatay Array 60.38 307 *e*P **P** **02 58 54.5 -0.9**
BALM Baldy 60.74 33 *e*P **P** **02 58 57.9 +0.2**
comp=Z,7.9nm,0.8s
BALM Baldy 60.74 33 *e*P **P** **02 58 57.9 +0.2**
BALM pmax pmax
comp=Z,8.0nm,0.8s
EGAK Eagle 61.30 28 *e*P **P** **02 59 01.3 0.0**
comp=Z,3.2nm,0.8s
DAWY Dawson 62.07 29 *e*P **P** **02 59 07.0 +0.5**
comp=Z,30nm,1.8s
HYT Haines Junctio 63.11 33 *e*P **P** **02 59 13.8 +0.2**
comp=Z,6.5nm,0.9s
KBL Kabul 63.14 297 *e*P **P** **02 59 15.4 +1.0**
comp=Z,15nm,0.8s
KBL Kabul 63.14 297 *e*P **P** **02 59 15.4 +1.0**
KBL pmax pmax
comp=Z,15nm,0.8s
POO Poona 63.60 279 *e*P **P** **02 59 14.0 -3.4**
INK Inuvik 64.25 24 P **P** **02 59 20.7 -0.1**
comp=Z,6.0nm,0.8s,baz=283,slow=6.8,SNR=32
INK Inuvik 64.25 24 *e*P **P** **02 59 20.9 +0.2**
comp=Z,14nm,1.2s
WHY Whitehorse 64.41 33 *e*P **P** **02 59 23.1 +0.9**
comp=Z,4.5nm,0.8s
SVE Sverdlovsk 64.74 323‖ *e*P **P** **02 59 24.2 0.0**
SVE pmax pmax
comp=Z,27nm,1.1s
ARU Arti 65.94 323 P **P** **02 59 31.6 -0.4**
comp=Z,14nm,0.6s,baz=83,slow=3.5,SNR=30
ARU Arti 65.94 323 *e*P **P** **02 59 31.0 -1.0**
comp=Z,68nm,1.4s
ARU Arti 65.94 323 *c i*P **P** **02 59 31.2 -0.8**
ARU 03 00 01.5
ARU PPP PPP 03 03 31.3
ARU S **S** **03 08 19.1 +1.8**
ARU SS **SS** **03 12 32.1 0.0**
ARU pmax pmax
comp=Z,49nm,1.2s
ARU MLR MLR
comp=Z,361nm,17.0s
AB31 Akbulak array 66.52 315 P **P** **02 59 34.3 -1.5**
AB31 pmax pmax
comp=Z,12nm,0.8s
ABKAR Akbulak array 66.52 315 *e*P **P** **02 59 35.0 -0.8**
AKTO Aktyubinsk 67.47 316 P **P** **02 59 40.8 -1.1**
comp=Z,8.0nm,1.0s,baz=84,slow=7.9,SNR=16
AKTO LR LR 03 29 36.3
comp=Z,169nm,20.8s,baz=75,slow=36
AKTO Aktyubinsk 67.47 316 P **P** **02 59 40.4 -1.5**
AKTO pmax pmax
comp=Z,11nm,1.0s
GEYT Alibeck 70.74 303 P **P** **03 00 02.2 -0.3**
comp=Z,2.9nm,0.7s,baz=46,slow=4.3,SNR=8.5
GEYT LR LR 03 34 12.5
comp=Z,98nm,18.2s,baz=355,slow=38
SPA0 Spitsbergen Ar 71.99 350 *e*P **P** **03 00 13.4 +4.2**
SPITS Spitsbergen Ar 71.99 350 P **P** **03 00 13.4 +4.2**
comp=Z,9.9nm,0.9s,baz=45,slow=8.4,SNR=4.7
SPITS LR LR 03 32 42.0
comp=Z,60nm,20.0s,baz=270,slow=36
RAR Rarotonga 72.64 124 LR LR 03 24 34.8
comp=Z,160nm,20.2s,baz=292,slow=30
LVZ Lovozero 73.08 338‖ *e*P **P** **03 00 16.5 +0.5**
LVZ pmax pmax
comp=Z,92nm,1.8s
YKA Yellowknife Ar 73.28 28 P **P** **03 00 16.8 -0.4**
comp=Z,5.4nm,0.7s,baz=293,slow=5.6,SNR=104
YKA LR LR 03 31 23.3
comp=Z,9.6nm,21.4s,baz=298,slow=35
YKB5 Yellowknife Ar 73.28 28 *e*P **P** **03 00 16.8 -0.4**
TMCR Tamitsa 73.43 334 *e*P **P** **03 00 18.8 +0.8**
TMCR pmax pmax
comp=Z,28nm,1.0s
RES Resolute Bay 73.45 14 *e*P **P** **03 00 18.4 +0.4**
comp=Z,10nm,1.3s
RES Resolute Bay 73.45 14 *e*P **P** **03 00 18.4 +0.4**
RES pmax pmax
comp=Z,10.0nm,1.3s
A04D Lummi Island 74.13 43 P **P** **03 00 23.3 +1.0**
baz=291
KLMR Klimovskoe 74.16 330 *e*P **P** **03 00 21.0 -1.4**
KLMR AMP 03 00 23.4
comp=Z,17nm,1.1s
KLMR Klimovskoe 74.16 330 *e*P **P** **03 00 20.9 -1.4**
KLMR pmax pmax
comp=Z,17nm,1.1s
B05A Bryant 74.67 44 P **P** **03 00 26.1 +0.5**
baz=291
ARA0 ARCESS Array S 75.16 341 *e*P **P** **03 00 28.5 +0.5**
ARCES ARCESS Array B 75.16 341 P **P** **03 00 28.5 +0.5**
comp=Z,8.5nm,0.9s,baz=54,slow=6.2,SNR=14
ARCES ARCESS Array B 75.16 341 *e*P **P** **03 00 29.0 +1.0**
WSAR Wadi Sarin 75.29 289 LR LR 03 35 16.8
comp=Z,61nm,21.9s,baz=114,slow=37
I03D Drain, OR 75.52 48 P **P** **03 00 31.2 +0.7**
baz=292
L02D Cave Junction, 75.91 50 P **P** **03 00 32.9 +0.1**
baz=292
LTY Liberty 75.94 44 *e*P **P** **03 00 33.1 +0.1**
comp=Z,16nm,1.4s
I04A Tendick Farm, 76.11 48 P **P** **03 00 34.0 0.0**
baz=292
G05D Wamic, OR 76.29 46 P **P** **03 00 35.5 +0.6**
baz=292
TULEG Thule 76.32 7 *e*P **P** **03 00 34.6 +0.1**
comp=Z,18nm,1.3s
B08A Colville Reser 76.35 43 *e*P **P** **03 00 35.2 0.0**
comp=Z,9.2nm,0.8s
J04D Umpqua Nationa 76.52 48 P **P** **03 00 36.9 +0.3**
baz=292
I05D Terrebonne, OR 76.62 47 P **P** **03 00 37.2 +0.4**
baz=293
MAK Makhachkala 76.64 311 *e*P **P** **03 00 35.0 -1.9**
MAK *e* 03 03 25.4
MAK *e*S **S** **03 10 21.7 +0.2**
MAK *e*SS **SS** **03 15 10.7 -6.0**
MAK pmax pmax
comp=Z,83nm,0.7s
MAK MLR MLR
comp=Z,232nm,15.0s
YBH Yreka Blue Hor 76.68 50 P **P** **03 00 37.6 +0.3**
comp=Z,4.3nm,0.8s,baz=297,slow=6.8,SNR=11
YBH LR LR 03 26 27.2
comp=Z,153nm,20.4s,baz=291,slow=29
YBH Yreka Blue Hor 76.68 50 *e*P **P** **03 00 38.2 +0.8**
comp=Z,37nm,1.9s
M02C Callahan 76.71 50 P **P** **03 00 38.0 +0.5**
baz=292
N02D Trinity Center 76.97 51 P **P** **03 00 38.8 -0.2**
baz=292
VRH Novokhopyorsk 77.00 321 *e*P **P** **03 00 37.2 -1.6**
VRH pmax pmax
comp=Z,10.0nm,1.0s
K04D Chiloquin, OR 77.00 49 P **P** **03 00 39.5 +0.4**
baz=293
AKT Akhty 77.05 310 *e*P **P** **03 00 39.3 -0.2**
AKT *e* 03 00 49.7
AKT *e* 03 03 32.4
AKT pmax pmax
comp=Z,26nm,0.9s
J05D Fort Rock, OR 77.10 48 P **P** **03 00 39.7 -0.1**
baz=293
PINE Pine Mountain 77.10 48 *e*P **P** **03 00 40.3 +0.5**
comp=Z,15nm,0.9s
D08A Wollman Farm, 77.12 44 P **P** **03 00 40.0 +0.4**
comp=Z,8.0nm,0.8s
C09A Chrisman Ranch 77.22 43 *e*P **P** **03 00 40.6 +0.4**
comp=Z,11nm,1.0s
MOS Moscow 77.25 326 *e*P **P** **03 00 39.3 -0.8**
MOS *e* 03 00 49.4
MOS *e* 03 03 31.8
MOS *e* 03 10 18.9
MOS pmax pmax
comp=Z,52nm,1.0s
MOS MLR MLR
comp=Z,1μm,20.0s
M04C Macdoel 77.27 50 P **P** **03 00 40.7 0.0**
baz=293
K05A Summer Lake 77.55 49 *e*P **P** **03 00 43.1 +0.8**
comp=Z,15nm,0.9s
GROC Groznyy 77.70 312 *e*P **P** **03 00 41.0 -1.9**
GROC *e* 03 03 35.3
GROC pmax pmax
comp=Z,45nm,1.8s
NEW Newport 77.73 42 P **P** **03 00 43.3 +0.2**
baz=295
NEW Newport 77.73 42 *e*P **P** **03 00 43.5 +0.4**
comp=Z,9.2nm,0.8s
NEW Newport 77.73 42 *e*P **P** **03 00 43.5 +0.4**
NEW pmax pmax
comp=Z,9.0nm,0.8s
EDM Edmonton 77.78 37 *e*P **P** **03 00 43.5 +0.3**
comp=Z,19nm,1.2s
EDM Edmonton 77.78 37 *e*P **P** **03 00 43.5 +0.3**
EDM pmax pmax
comp=Z,19nm,1.2s
O03D Paynes Creek 77.87 51 P **P** **03 00 43.8 -0.2**
baz=293
LPSR Galich'ya Gora 77.96 323 *e*P **P** **03 00 44.0 -0.1**
LPSR pmax pmax
comp=Z,10.0nm,1.3s
OBN Obninsk 78.07 326 P **P** **03 00 45.1 +0.5**
comp=Z,4.4nm,0.3s,baz=70,slow=6.9,SNR=6.9
OBN Obninsk 78.07 326 *e*P **P** **03 00 45.1 +0.5**
comp=Z,40nm,1.4s
OBN Obninsk 78.07 326 *i* P **P** **03 00 44.9 +0.2**
OBN *i* S **S** **03 10 35.1 -1.5**
OBN *i* SS **SS** **03 15 41.4 +3.9**
OBN pmax pmax
comp=Z,20nm,1.2s
OBN MLR MLR
comp=Z,696nm,17.0s
ORV Oroville 78.38 52 *e*P **P** **03 00 46.6 -0.1**
comp=Z,18nm,1.5s
ORV Oroville 78.38 52 *e*P **P** **03 00 46.6 -0.1**
ORV pmax pmax
comp=Z,18nm,1.5s
VSR Storozhevoye 78.44 321 *e*P **P** **03 00 46.3 -0.5**
VSR pmax pmax
comp=Z,40nm,1.5s
PPT Papeete 78.57 116 LR LR 03 31 13.0
comp=Z,194nm,18.3s,baz=275,slow=32
PPT2 Papeete2 78.58 116 *e*LR LR 03 25 19.9
comp=Z,177nm,27.2s
F10A Beach Ranch, E 78.63 44 *e*P **P** **03 00 50.4 +2.2**
comp=Z,5.8nm,1.0s
J08A Circle Bar Ran 78.91 47 *e*P **P** **03 00 50.4 +0.6**
comp=Z,6.0nm,0.9s
NCK Nalchik 79.05 313‖ *e*P **P** **03 00 50.6 +0.2**
NCK pmax pmax
comp=Z,10.0nm,1.3s
BMO Blue Mountains 79.05 46 *e*P **P** **03 00 50.1 -0.4**
comp=Z,7.5nm,0.9s
BMO Blue Mountains 79.05 46 *e*P **P** **03 00 50.1 -0.4**
BMO pmax pmax
comp=Z,8.0nm,0.9s
BEKR Beckworth 79.06 51 *e*P **P** **03 00 50.8 +0.1**
comp=Z,8.7nm,0.9s
ZEI Tsey 79.14 312 *e*P **P** **03 00 48.9 -2.2**
ZEI pmax pmax
comp=Z,17nm,1.5s
WVOR Wild Horse Val 79.19 48 *e*P **P** **03 00 51.6 +0.4**
comp=Z,24nm,1.7s
WVOR Wild Horse Val 79.19 48 *e*P **P** **03 00 51.7 +0.4**
WVOR pmax pmax
comp=Z,24nm,1.7s
WALA Waterton Lakes 79.31 41 *e*P **P** **03 00 52.7 +0.9**
comp=Z,10.0nm,0.8s
KBZ Khabaz 79.41 313 P **P** **03 00 52.4 +0.2**
comp=Z,17nm,0.9s,baz=62,slow=2.2,SNR=20
KBZ LR LR 03 38 41.2
comp=Z,272nm,20.5s,baz=67,slow=38
KVAR Kislovodsk Arr 79.44 314 P **P** **03 00 53.3 +0.7**
comp=Z,22nm,1.1s,baz=249,slow=8.4,SNR=9.8
KIV Kislovodsk 79.45 314 *e*P **P** **03 00 53.8 +1.2**
comp=Z,80nm,1.8s
KIV Kislovodsk 79.45 314 *e*P **P** **03 00 52.9 +0.2**
KIV pmax pmax
comp=Z,22nm,1.1s
KIV MLR MLR
comp=Z,283nm,19.0s
FIA1 FINESS Array S 79.54 334 *e*P **P** **03 00 52.9 +0.2**
FIA0 FINESS Array S 79.54 334 *e*PP PP 03 03 53.8 +1.0
FINES FINESS Array B 79.54 334 P **P** **03 00 52.4 -0.3**
comp=Z,7.0nm,0.4s,baz=66,slow=4.9,SNR=28
FINES PP **PP** **03 03 53.8 +1.0**
comp=Z,4.5nm,1.0s,baz=69,slow=7.9,SNR=5.1
GNI Garni 79.66 310 LR LR 03 40 02.7
comp=Z,82nm,18.9s,baz=57,slow=39
GNI Garni 79.66 310 *e*P **P** **03 00 55.5 +1.6**
comp=Z,40nm,1.4s
GNI Garni 79.66 310 *d i*P **P** **03 00 54.8 +0.8**
GNI pmax pmax
comp=Z,80nm,1.2s
JTMT Jette 79.68 42 *e*P **P** **03 00 54.5 +0.6**
comp=Z,9.6nm,0.9s
NEY Neytrino 79.73 313‖ *e*P **P** **03 00 56.8 +2.5**
NEY pmax pmax
comp=Z,4.0nm,1.1s
CMB Columbia Colle 79.79 53 *e*P **P** **03 00 54.7 +0.2**
comp=Z,7.7nm,0.9s
CMB Columbia Colle 79.79 53 *e*P **P** **03 00 54.7 +0.2**
CMB pmax pmax
comp=Z,8.0nm,0.9s
PAHR Pah Rah Range 79.81 51 *e*P **P** **03 00 54.8 0.0**
comp=Z,6.5nm,1.1s
AKH Akhalkalaki 79.99 311 *e*P **P** **03 00 58.1 +2.3**
comp=Z,22nm,1.2s
AKH Akhalkalaki 79.99 311 *e*P **P** **03 00 58.1 +2.3**
AKH pmax pmax
comp=Z,22nm,1.2s
WAKR Walker 80.27 52 *e*P **P** **03 00 58.0 +0.6**
comp=Z,4.3nm,0.9s
MFID Camas Ranch 80.63 46 *e*P **P** **03 00 59.2 +0.1**
comp=Z,6.8nm,0.9s
RYN Ryan 80.87 52 *e*P **P** **03 01 01.4 +0.9**
comp=Z,7.6nm,1.1s
VSU Vasula 80.98 331 *c e*P **P** **03 01 01.2 +0.8**
VSU pmax pmax
comp=Z,60nm,1.2s
KVN Kaiserville 80.99 51 *e*P **P** **03 01 01.4 +0.2**
comp=Z,5.4nm,0.9s
KVN Kaiserville 80.99 51 *e*P **P** **03 01 01.4 +0.2**
KVN pmax pmax
comp=Z,5.0nm,0.9s
NV01 Mina Array Sit 81.11 52 *e*P **P** **03 01 01.7 -0.2**
NVAR Mina Array Bea 81.11 52 P **P** **03 01 01.9 0.0**
comp=Z,3.7nm,0.8s,baz=272,slow=5.9,SNR=27
NVAR LR LR 03 29 39.2
comp=Z,160nm,20.6s,baz=90,slow=30
NV11 Mina Array Sit 81.21 52 *e*P **P** **03 01 06.7 +4.3**
comp=Z,0.5nm,1.1s
HLID Hailey 81.48 46 P **P** **03 01 03.6 -0.1**
baz=297
HLID Hailey 81.48 46 *e*P **P** **03 01 04.1 +0.4**
comp=Z,2.7nm,0.8s
PKM Mcpherson Peak 81.52 55 P **P** **03 01 04.0 -0.1**
baz=295
HRY Holter Researc 81.64 42 *e*P **P** **03 01 05.0 +0.6**
VES Vestal, Richgr 81.65 54 P **P** **03 01 04.1 -0.4**
baz=295
LRM Limekiln Ridge 81.68 43 *e*P **P** **03 01 05.1 +0.3**
SCZ2 Santa Cruz Isl 82.03 56 P **P** **03 01 06.8 +0.2**
baz=295
ISA Isabella, Lake 82.18 54 P **P** **03 01 07.7 +0.3**
baz=296
EGMT Eagleton 82.24 40 P **P** **03 01 07.7 +0.3**
baz=300
EGMT Eagleton 82.24 40 *e*P **P** **03 01 07.7 +0.3**
comp=Z,7.2nm,0.9s
WHFM Hanning Flat 82.25 54 *e*P **P** **03 01 10.4 +2.6**
BOZ Bozeman (W) 82.29 43 P **P** **03 01 07.7 -0.2**
baz=299
BOZ Bozeman (W) 82.29 43 *e*P **P** **03 01 08.0 +0.1**
comp=Z,3.2nm,0.8s
BOZ Bozeman (W) 82.29 43 *e*P **P** **03 01 08.0 +0.1**
BOZ pmax pmax
comp=Z,3.0nm,0.8s
TAOE Nuku Hiva Isla 82.35 104 *e*LR LR 03 26 58.8
comp=Z,185nm,21.6s
GRAC Grapevine Rang 82.40 53 P **P** **03 01 08.6 +0.1**
baz=296
ANN Anapa 82.43 316 *e*P **P** **03 01 05.9 -2.5**
ANN pmax pmax
comp=Z,63nm,1.3s
MPMC Manual Prospec 82.72 54 P **P** **03 01 10.1 -0.3**
baz=296
IZAR Zarasai 82.76 329 *e*P **P** **03 01 09.3 -0.5**
IZAR IAmb IAmb 03 01 11.6
comp=Z,8.8nm,1.0s
IDID Didziasalis 82.78 329 *e*P **P** **03 01 09.5 -0.5**
IDID IAmb IAmb 03 01 11.6
comp=Z,5.8nm,1.0s
IR2C Iron Canyon 82.79 55 *e*P **P** **03 01 13.1 +2.5**
FFC Flin Flon 82.81 32 *e*P **P** **03 01 10.3 +0.1**
comp=Z,13nm,0.8s
FFC Flin Flon 82.81 32 *e*P **P** **03 01 10.3 +0.1**
FFC pmax pmax
comp=Z,13nm,0.8s
EDW2 Edwards Air Fo 82.87 55 P **P** **03 01 11.4 +0.4**
baz=296
YHB Horse Butte 82.97 44 *e*P **P** **03 01 12.7 +1.2**
comp=Z,7.1nm,0.9s
NACGM Naroch 82.99 328 *e* **P** **03 01 11.0 -0.1**
FURC Furnace Creek, 83.00 53 P **P** **03 01 11.5 0.0**
baz=297
IIGN Ignalina 83.00 329 *e*P **P** **03 01 10.6 -0.5**
IIGN IAmb IAmb 03 01 15.6
comp=Z,8.0nm,1.2s
R11A Troy Canyon, C 83.06 51 P **P** **03 01 12.1 0.0**
baz=297
R11A Troy Canyon, C 83.06 51 *e*P **P** **03 01 12.3 +0.2**
comp=Z,11nm,1.5s
YMR Madison River 83.15 44 *e*P **P** **03 01 14.2 +1.7**
comp=Z,10nm,0.8s
YHH Holmes Hill 83.17 43 *e*P **P** **03 01 13.6 +0.9**
comp=Z,3.7nm,1.0s
TPNV Topopah Spring 83.22 52 P **P** **03 01 12.8 -0.1**
baz=297
TPNV Topopah Spring 83.22 52 *e*P **P** **03 01 13.0 +0.1**
comp=Z,5.8nm,0.8s
TPNV Topopah Spring 83.22 52 *e*P **P** **03 01 13.0 +0.1**
TPNV pmax pmax
comp=Z,6.0nm,0.8s
YFT Old Faithful 83.34 44 *e*P **P** **03 01 16.5 +3.0**
comp=Z,7.1nm,0.9s
GCMT Greycliff 83.40 42 *e*P **P** **03 01 14.7 +1.1**
YPP Pitchstone Pla 83.45 44 *e*P **P** **03 01 16.6 +2.5**
comp=Z,12nm,1.9s
H17A Grant Village 83.53 44 *e*P **P** **03 01 16.9 +2.5**
comp=Z,22nm,1.6s
IMW Indian Meadow 83.55 44 *e*P **P** **03 01 15.7 +1.1**
comp=Z,5.2nm,0.8s
GSC Goldstone, Bar 83.56 54 P **P** **03 01 14.8 +0.3**
baz=297
GSC Goldstone, Bar 83.56 54 *e*P **P** **03 01 17.1 +2.5**
comp=Z,13nm,1.4s
GSC Goldstone, Bar 83.56 54 *e*P **P** **03 01 17.1 +2.5**
GSC pmax pmax
comp=Z,13nm,1.4s
FXWY Fox Creek 83.62 45 *e*P **P** **03 01 15.4 +0.5**
comp=Z,11nm,1.7s
SHOC Shoshone, Teco 83.68 53 P **P** **03 01 15.0 -0.1**
baz=297
TPAW Teton Pass 83.74 45 *e*P **P** **03 01 16.2 +0.6**
comp=Z,3.3nm,0.8s
MOOW Moose Ponds 83.74 44 *e*P **P** **03 01 16.0 +0.5**
comp=Z,14nm,1.8s
FCC Fort Churchill 83.79 26 *e*P **P** **03 01 15.2 +0.1**
comp=Z,4.7nm,0.9s
FCC Fort Churchill 83.79 26 *e*P **P** **03 01 15.2 +0.1**
FCC pmax pmax
comp=Z,5.0nm,0.9s
REDW Red Top Meadow 83.86 45 *e*P **P** **03 01 16.8 +0.6**
comp=Z,15nm,1.6s
RLMT Red Lodge 83.98 43 P **P** **03 01 17.0 +0.3**
baz=300
RLMT Red Lodge 83.98 43 *e*P **P** **03 01 17.5 +0.8**
comp=Z,8.4nm,0.7s
BBSC Beaumont Base 84.05 55 *e*P **P** **03 01 19.8 +2.7**
DUG Dugway, Tooele 84.11 48 P **P** **03 01 16.9 -0.5**
baz=298
DUG Dugway, Tooele 84.11 48 *e*P **P** **03 01 17.8 +0.4**
comp=Z,7.2nm,1.1s
DUG Dugway, Tooele 84.11 48 *e*P **P** **03 01 17.8 +0.4**
DUG pmax pmax
comp=Z,7.0nm,1.1s
HEC Hector,Ludlow 84.12 54 P **P** **03 01 17.1 -0.3**
baz=297
TUQ Turquoise Moun 84.14 54 P **P** **03 01 17.1 -0.5**
baz=297
DSCC Desert Studies 84.14 54 *e*P **P** **03 01 17.9 +0.5**
AKASG Malin Array Be 84.14 324 P **P** **03 01 16.0 -1.1**
comp=Z,8.4nm,1.0s,baz=46,slow=5.7,SNR=30
AKASG LR LR 03 41 47.2
comp=Z,356nm,18.5s,baz=45,slow=38
AKASG Malin Array Be 84.14 324 P **P** **03 01 16.0 -1.1**
AKASG pmax pmax
comp=Z,8.0nm,1.0s
AKASG MLR MLR
comp=Z,356nm,18.5s
AKBB Malin Array Si 84.14 324 *e*P **P** **03 01 17.1 +0.1**
comp=Z,23nm,1.1s
AKBB Malin Array Si 84.14 324 *e*P **P** **03 01 17.2 +0.1**
AKBB pmax pmax
comp=Z,23nm,1.1s
KIEV Kiev 84.16 324 *e*P **P** **03 01 16.4 -0.8**
comp=Z,24nm,1.2s
KIEV Kiev 84.16 324 *c e*P **P** **03 01 17.2 0.0**
KIEV pmax pmax
comp=Z,15nm,1.1s
AK11 Malin Array Si 84.19 324 *e*P **P** **03 01 17.5 +0.2**
SHPR Sheep Range 84.20 52 *e*P **P** **03 01 18.8 +0.9**
comp=Z,6.6nm,1.5s
HWUT Hardware Ranch 84.26 47 *e*P **P** **03 01 18.6 +0.4**
comp=Z,10nm,1.3s
PFO Pinyon Flats O 84.57 55 P **P** **03 01 19.5 -0.3**
baz=297
GMRC Granite Mounta 84.63 54 P **P** **03 01 19.9 -0.1**
baz=297
NLU North Lily Min 84.72 48 *e*P **P** **03 01 20.8 +0.3**
comp=Z,4.4nm,1.2s
BELC Belle Mtn. Jos 84.74 55 P **P** **03 01 20.3 -0.4**
baz=297
JLU Jordanelle 84.83 47 *e*P **P** **03 01 21.5 +0.4**
comp=Z,16nm,1.5s
LDFC Landfair 84.90 54 *e*P **P** **03 01 22.1 +0.7**
comp=Z,17nm,1.1s
PD31 Pinedale Array 84.98 45 *e*P **P** **03 01 21.6 -0.2**
PDAR Pinedale Array 84.98 45 P **P** **03 01 21.3 -0.6**
comp=Z,1.7nm,0.8s,baz=266,slow=4.5,SNR=12
PDAR LR LR 03 34 02.5
comp=Z,141nm,20.7s,baz=301,slow=32
PDAR Pinedale Array 84.98 45 *e*P **P** **03 01 21.2 -0.7**
LAO LASA Array 84.98 40 P **P** **03 01 21.9 +0.3**
baz=302
LAO LASA Array 84.98 40 *e*P **P** **03 01 22.3 +0.8**
comp=Z,23nm,1.3s
CCUT Cedar City 84.99 51 *e*P **P** **03 01 22.4 +0.5**
comp=Z,14nm,1.8s
NC405 NORSAR Array S 85.00 338 *e*P **P** **03 01 20.0 -1.3**
NC405 *e*PP **PP** **03 04 36.2 -1.4**
HFS Hagfors 85.03 337 P **P** **03 01 20.6 -0.8**
comp=Z,7.1nm,0.6s,baz=88,slow=3.6,SNR=20
HFS LR LR 03 43 27.1
comp=Z,120nm,18.3s,baz=52,slow=38
NC303 NORSAR Array S 85.03 339 *e*P **P** **03 01 21.8 +0.4**
NC303 *e*PP **PP** **03 04 36.4 -1.5**
DGMT Dagmar 85.17 38 P **P** **03 01 22.6 +0.2**
baz=304
DGMT Dagmar 85.17 38 *e*P **P** **03 01 23.1 +0.7**
comp=Z,7.5nm,0.8s
NB201 NORSAR Array S 85.19 339 *e*P **P** **03 01 20.7 -1.5**
NC204 NORSAR Array S 85.20 339 *e*P **P** **03 01 21.7 -0.6**
SUW Suwalki 85.22 329 *e*P **P** **03 01 22.2 -0.2**
SUW Suwalki 85.22 329 *e*P **P** **03 01 22.0 -0.4**
comp=Z,51nm,0.9s
SUW Suwalki 85.22 329 *e*P **P** **03 01 22.0 -0.4**
SUW pmax pmax
comp=Z,51nm,0.9s
NB2 NORSAR Subarra 85.22 339 P **P** **03 01 21.5 -0.9**
comp=Z,17nm,1.0s,baz=45,slow=4.8
NB2 NORSAR Subarra 85.22 339 P **P** **03 01 21.5 -0.9**
baz=45,slow=4.8
NB200 NORSAR Array S 85.22 339 *e*P **P** **03 01 21.6 -0.9**
NB200 *e*PP **PP** **03 04 40.0 +0.6**
NOA NORSAR Array B 85.22 339 P **P** **03 01 21.6 -0.9**
comp=Z,6.9nm,0.7s,baz=45,slow=4.9,SNR=22
NOA PP **PP** **03 04 40.1 +0.6**
comp=Z,1.8nm,0.9s,baz=41,slow=7.9,SNR=3.2
IRM Iron Mountain 85.30 54 P **P** **03 01 23.5 +0.2**
baz=298
BC3 Big Chuckawall 85.30 55 P **P** **03 01 23.6 +0.1**
baz=298
LCMT Little Creek M 85.33 51 *e*P **P** **03 01 24.0 +0.5**
comp=Z,4.7nm,0.9s

NBO02	NORSAR Array S	85.33	339	*e*P		P	03 01 22.5	-0.4
MSU	Marysvale	85.35	49	*e*P		P	03 01 24.4	+0.7
MSU	Marysvale	85.35	49	*e*P		P	03 01 24.5	+0.7
NBO00	NORSAR Array S	85.37	339	*e*P		P	03 01 22.9	-0.2
MTPU	Mount Pierson	85.57	50	*e*P		P	03 01 25.8	+0.7
	comp=Z,4.1nm,1.0s							
KNB	Kanab	85.62	51	*e*P		P	03 01 25.6	+0.5
	comp=Z,10nm,0.8s							
KNB	Kanab	85.62	51	*e*P		P	03 01 25.6	+0.5
KNB					pmax	pmax		
	comp=Z,10.0nm,0.8s							
W13A	Hualapai Mount	85.78	53	*e*P		P	03 01 26.1	+0.1
	comp=Z,2.5nm,0.8s							
Q16A	Castle Valley	85.84	49	*e*P		P	03 01 26.9	+0.7
	comp=Z,6.6nm,0.8s							
P17A	Butcher Ranch,	85.86	48	*e*P		P	03 01 27.1	+0.9
	comp=Z,5.6nm,0.9s							
Y12C	Blythe	85.94	55	P		P	03 01 26.6	+0.1
	baz=298							
PDMCI	Parker Dam,Lak	85.96	54	P		P	03 01 26.3	-0.3
	baz=298							
P18A	Preston Nutter	86.11	48	*e*P		P	03 01 28.3	+0.7
	comp=Z,5.7nm,0.8s							
SRU	San Rafael Swe	86.18	48	*e*P		P	03 01 27.9	+0.1
	comp=Z,6.6nm,0.8s							
SRU	San Rafael Swe	86.18	48	*e*P		P	03 01 27.9	+0.1
SRU					pmax	pmax		
	comp=Z,7.0nm,0.8s							
RAYN	Ar Rayn	86.20	294	*e*P		P	03 01 28.6	+0.6
	comp=Z,9.9nm,0.8s							
U15A	North Rim	86.28	51	*e*P		P	03 01 28.9	+0.5
	comp=Z,5.2nm,0.8s							
113A	Mohawk Valley,	86.97	55	*e*P		P	03 01 31.7	+0.2
	comp=Z,3.8nm,0.8s							
Y14A	Wickenburg	86.97	54	*e*P		P	03 01 31.6	0.0
	comp=Z,9.2nm,0.8s							
O20A	White River Ci	87.18	47	P		P	03 01 32.4	-0.3
	baz=301							
O20A	White River Ci	87.18	47	*e*P		P	03 01 32.6	-0.1
	comp=Z,22nm,1.8s							
SFJD	Kangerlussuaq	87.20	5	LR		LR	03 45 22.4	
	comp=Z,28nm,18.1s,baz=358,slow=39							
WUAZ	Wupatki	87.37	52	P		P	03 01 33.3	-0.4
	baz=300							
WUAZ	Wupatki	87.37	52	*e*P		P	03 01 34.2	+0.6
	comp=Z,5.7nm,0.9s							
BR101	Keskin Array S	87.40	313	*e*P		P	03 01 31.8	-1.9
BR101				*e*PP		PP	03 04 58.5	+0.6
BRTR	Keskin Array B	87.40	313	P		P	03 01 31.8	-1.9
	comp=Z,1.7nm,0.9s,baz=73,slow=4.3,SNR=6.5							
BRTR					PP	PP	03 04 58.5	+0.6
	comp=Z,0.2nm,0.6s,baz=218,slow=37,SNR=3.4							
BRTR					LR	LR	03 44 41.7	
	comp=Z,77nm,18.5s,baz=44,slow=38							
PV09	Paradox Valley	87.43	48	*e*P		P	03 01 34.4	+0.4
PV10	Paradox Valley	87.55	48	*e*P		P	03 01 35.2	+0.6
RSSD	Black Hills	87.67	41	P		P	03 01 34.7	-0.3
	baz=304							
RSSD	Black Hills	87.67	41	*e*P		P	03 01 36.3	+1.3
	comp=Z,12nm,1.4s							
RSSD	Black Hills	87.67	41	*e*P		P	03 01 36.3	+1.3
RSSD					pmax	pmax		
	comp=Z,12nm,1.4s							
X16A	Lo Mia Camp, P	87.86	53	*e*P		P	03 01 36.0	-0.1
	comp=Z,3.2nm,0.9s							
PV01	Paradox Valley	87.99	48	*e*P		P	03 01 36.9	+0.2
MDND	Maddock	88.04	37	P		P	03 01 36.5	+0.1
	baz=307							
MDND	Maddock	88.04	37	*e*P		P	03 01 36.7	+0.3
	comp=Z,15nm,0.8s							
214A	Organ Pipe Nat	88.06	55	P		P	03 01 36.8	-0.1
	baz=299							
BUR08	Bucovina Ar. S	88.06	323	*e*P		P	03 01 37.0	+0.3
BURAR	Bucovina Array	88.07	323	⇑*i*P		P	03 01 37.2	+0.5
BURAR	Bucovina Array	88.07	323	⇑P		P	03 01 37.2	+0.5
BUR04	Bucovina Ar. S	88.07	323	*e*P		P	03 01 36.8	+0.1
KWP	Kalwaria Pacla	88.16	326	*e*P		P	03 01 37.2	+0.3
KWP	Kalwaria Pacla	88.16	326	*e*P		P	03 01 37.0	0.0
	comp=Z,275nm,1.1s							
KWP	Kalwaria Pacla	88.16	326	*e*P		P	03 01 37.0	0.0
KWP					pmax	pmax		
	comp=Z,275nm,1.1s							
N23A	Red Feather La	88.26	45	P		P	03 01 37.9	0.0
	baz=303							
N23A	Red Feather La	88.26	45	*e*P		P	03 01 38.9	+0.9
	comp=Z,18nm,1.4s							
VRI	Vrincioaia	88.27	321	⇓*i*P		P	03 01 39.3	+1.8
VRI	Vrincioaia	88.27	321	⇓P		P	03 01 39.3	+1.8
ULM	Lac du Bonnet	88.48	33	P		P	03 01 38.6	+0.2
	comp=Z,3.3nm,0.8s,baz=350,slow=2.5,SNR=5.6							
ULM					LR	LR	03 41 00.2	
	comp=Z,45nm,19.6s,baz=4.0,slow=35							
SMCO	Snowmass	88.51	47	*e*P		P	03 01 39.8	+0.4
	comp=Z,2.2nm,0.9s							
MVCO	Mesa Verde	88.52	49	P		P	03 01 38.9	-0.3
	baz=301							
B31A	Greenbush Farm	88.73	35	P		P	03 01 39.5	-0.1
	baz=308,SNR=6.3							
MLR	Muntele Rosu	88.93	321	LR		LR	03 43 43.9	
	comp=Z,32nm,19.4s,baz=66,slow=37							
UZH	Uzhgorod	89.00	325	*e*P		P	03 01 40.0	-0.9
UZH				*e*			03 01 47.8	
STHS	Stebnicka Huta	89.04	326	*e*P		P	03 01 41.8	+0.7
STHS	Stebnicka Huta	89.04	326	*e*P		P	03 01 41.8	+0.7
STHS					pmax	pmax		
	comp=Z,5.0nm,1.2s							
ISCO	Idaho Springs	89.07	46	P		P	03 01 41.1	-0.7
	baz=303							
C31A	Landman Farms,	89.08	36	P		P	03 01 41.3	0.0
	baz=308,SNR=12							
TRPA	Tarpa	89.19	325	⇑*i*P		P	03 01 41.3	-0.5
OJC	Ojcow	89.24	327	*e*P		P	03 01 42.0	0.0
OJC	Ojcow	89.24	327	*e*P		P	03 01 41.8	-0.2
	comp=Z,13nm,1.1s							
OJC	Ojcow	89.24	327	*e*P		P	03 01 41.8	-0.2
OJC					pmax	pmax		
	comp=Z,13nm,1.1s							
CRVS	Cervenica-Dubn	89.25	326	*e*P		P	03 01 43.0	+0.9
CRVS	Cervenica-Dubn	89.25	326	*e*P		P	03 01 43.0	+0.9
CRVS					pmax	pmax		
	comp=Z,17nm,1.4s							
B32A	Ashes, Strandq	89.33	35	P		P	03 01 42.7	+0.3
	baz=309,SNR=6.3							
S22A	4UR Ranch, Cre	89.37	48	P		P	03 01 42.9	-0.4
	baz=302							
TUC	Tucson	89.39	54	P		P	03 01 43.4	+0.2
	baz=300							
NIE	Niedzica	89.51	327	*e*P		P	03 01 43.5	+0.2
NIE	Niedzica	89.51	327	*e*P		P	03 01 43.5	+0.2
D31A	Mcclaflin, Tow	89.54	36	P		P	03 01 43.0	-0.4
	baz=308,SNR=6.0							
A33A	Warroad	89.57	34	P		P	03 01 43.7	+0.1
	baz=310							
C32A	Crookston	89.69	35	P		P	03 01 44.2	+0.1
	baz=309							
AGMN	Agassiz Nation	89.74	35	P		P	03 01 44.4	0.0
	baz=310							
AGMN	Agassiz Nation	89.74	35	*e*P		P	03 01 44.8	+0.4
	comp=Z,13nm,1.1s							
ARR	Arges	89.75	322	⇑*i*P		P	03 01 45.6	+1.0
E31A	Nome	89.75	37	P		P	03 01 44.6	+0.1
	baz=308							
Q24A	Divide	89.82	46	P		P	03 01 45.1	-0.3
	baz=303							
D32A	Dogwood Acres,	89.86	36	P		P	03 01 45.1	+0.1
	baz=309							
F31A	Hecla	89.98	38	P		P	03 01 45.4	-0.2
	baz=308,SNR=5.6							
LANS	Liptovska Anna	90.10	327	*e*P		P	03 01 47.0	+0.9
LANS	Liptovska Anna	90.10	327	*e*P		P	03 01 47.0	+0.9
C33A	Trail	90.13	35	P		P	03 01 46.1	-0.1
	baz=310							
B34A	Aery, Baudette	90.23	34	P		P	03 01 46.5	-0.2
	baz=311							
SDCO	Great Sand Dun	90.26	47	P		P	03 01 46.6	-0.8
	baz=303							
KSP	Ksiaz	90.48	329	*e*P		P	03 01 47.6	-0.2
KSP	Ksiaz	90.48	329	*e*P		P	03 01 47.6	-0.2
D33A	AnnSam, Waubun	90.48	36	P		P	03 01 47.4	-0.5
	baz=310,SNR=8.2							
MORC	Moravsky Berou	90.62	328	⇓*i*P		P	03 01 48.8	+0.3
MORC	Moravsky Berou	90.62	328	*e*P		P	03 01 48.5	0.0
	comp=Z,2.6nm,1.1s							
MORC	Moravsky Berou	90.62	328	⇓P		P	03 01 48.8	+0.3
C34A	RKJ Ranch, Bem	90.64	35	P		P	03 01 48.7	0.0
	baz=310							
PSZ	Piszkesteto	90.69	326	*e*P		P	03 01 49.6	+0.7
	comp=Z,21nm,1.2s							
PSZ	Piszkesteto	90.69	326	*e*P		P	03 01 49.6	+0.7
PSZ					pmax	pmax		
	comp=Z,21nm,1.2s							
OGNE	Ogallala	90.69	43	P		P	03 01 49.0	-0.1
	baz=305							
G32A	Webster	90.78	38	P		P	03 01 49.6	+0.2
	baz=308							
KRLC	Kraliky	90.78	329	*e*P		P	03 01 49.4	+0.1
KRLC	Kraliky	90.78	329	*e*P		P	03 01 49.4	+0.1
E33A	Westby DABS, E	90.80	36	P		P	03 01 49.0	-0.4
	baz=310,SNR=6.8							
DPC	Dobruska-Polom	90.81	329	*e*P		P	03 01 49.6	+0.2
DPC				*e*pP		PcP	03 01 53.1	+2.7
DPC	Dobruska-Polom	90.81	329	*e*P		P	03 01 49.6	+0.2
VYHS	Vyhne	90.84	326	*e*P		P	03 01 49.4	-0.2
VYHS	Vyhne	90.84	326	*e*P		P	03 01 49.4	-0.2
VYHS					pmax	pmax		
	comp=Z,8.0nm,1.0s							
D34A	Park Rapids	90.86	35	P		P	03 01 49.3	-0.4
	baz=310,SNR=9.7							
LAZ	Ladron	90.93	51	*e*P		P	03 01 51.1	+0.6
F33A	5 Mile Ranch,	91.07	37	P		P	03 01 50.7	0.0
	baz=309							
C35A	Jirik Farms, M	91.09	34	P		P	03 01 50.1	-0.6
	baz=311							
ANMO	Albuquerque	91.12	50	P		P	03 01 51.5	+0.2
	baz=302							
ANMO	Albuquerque	91.12	50	*e*P		P	03 01 52.0	+0.6
	comp=Z,4.1nm,0.9s							
ANMO	Albuquerque	91.12	50	*de*P		P	03 01 51.6	+0.3
ANMO					pmax	pmax		
	comp=Z,5.0nm,1.0s							
E34A	Wadena	91.24	36	P		P	03 01 51.8	+0.3
	baz=310							
Y22E	IRIS PASSCAL I	91.26	51	P		P	03 01 51.7	-0.2
	baz=302							
BZS	Buzias	91.26	323	⇓*i*P		P	03 01 50.9	-0.6
BZS	Buzias	91.26	323	⇓P		P	03 01 50.9	-0.6
H32A	Carlson Farm,	91.28	38	P		P	03 01 51.2	-0.4
	baz=308							
J31A	Geddes	91.28	40	P		P	03 01 51.2	-0.5
	baz=308							
T25A	Trinidad	91.31	47	P		P	03 01 51.9	-0.4
	baz=304							
T25A	Trinidad	91.31	47	*e*P		P	03 01 53.0	+0.7
	comp=Z,18nm,1.9s							
VRAC	Vranov	91.39	328	⇓*i*P		P	03 01 51.7	-0.4
VRAC	Vranov	91.39	328	⇓P		P	03 01 51.7	-0.4
G33A	Ortonville	91.40	37	P		P	03 01 51.9	-0.3
	baz=309,SNR=8.0							
121A	Cookes Peak, D	91.45	53	P		P	03 01 52.2	-0.8
	baz=302							
D35A	Remer	91.45	35	P		P	03 01 52.0	-0.4
	baz=311							
BRG	Berggiesshubel	91.53	330	*e*P		P	03 01 52.8	+0.2
	comp=Z,17nm,1.5s							
BRG				*e*			03 05 31.6	
	comp=Z,3.5nm,1.0s							
BRG	Berggiesshubel	91.53	330	*e*P		P	03 01 52.8	+0.2
BRG				*e*			03 05 31.5	
BRG					pmax	pmax		
	comp=Z,17nm,1.5s							
BRG					pmax	pmax		
	comp=Z,4.0nm,1.0s							
H33A	Prehn Over Nor	91.55	38	P		P	03 01 52.2	-0.7
	baz=309,SNR=12							
E35A	Pequot Lakes	91.61	35	P		P	03 01 53.2	0.0
	baz=311							
C36A	Pine Crest Far	91.63	34	P		P	03 01 53.1	-0.1
	baz=312							
CLL	Collm	91.63	331	*e*P		P	03 01 53.0	-0.1
	comp=Z,12nm,1.3s							
CLL	Collm	91.63	331	*e*P		P	03 01 53.0	-0.1
	comp=Z,13nm,1.3s							
CLL	Collm	91.63	331	*e*P		P	03 01 53.0	-0.1
CLL					pmax	pmax		
	comp=Z,12nm,1.3s							
K31A	O'Neill	91.68	40	P		P	03 01 53.2	-0.4
	baz=308							
MODS	Modra-Piesok	91.70	327	*e*P		P	03 01 53.5	0.0
MODS	Modra-Piesok	91.70	327	*e*P		P	03 01 53.5	0.0
MODS					pmax	pmax		
	comp=Z,26nm,1.7s							
J32A	Parkston	91.74	39	P		P	03 01 53.2	-0.6
	baz=308							
G34A	Benson	91.81	37	P		P	03 01 53.9	-0.1
	baz=310							
GOPC	GO Pecny, Ondr	91.82	329	*e*P		P	03 01 52.5	-1.6
GOPC	GO Pecny, Ondr	91.82	329	*e*P		P	03 01 52.5	-1.6
PRU	Pruhonice	91.88	329	*e*P		P	03 01 54.1	-0.2
PRU	Pruhonice	91.88	329	*e*P		P	03 01 54.1	-0.2
I33A	Coleman	91.92	38	P		P	03 01 54.7	+0.1
	baz=309							
C37A	Embarrass	91.97	34	P		P	03 01 55.0	+0.2
	baz=312							
F35A	Swanville	91.98	36	P		P	03 01 54.8	-0.1
	baz=311							
H34A	Spellman Lake,	92.09	37	P		P	03 01 55.5	+0.1
	baz=310							
ECSD	EROS Data Cent	92.22	39	P		P	03 01 55.6	-0.5
	baz=309,SNR=6.9							
ECSD	EROS Data Cent	92.22	39	*e*P		P	03 01 56.0	-0.1
	comp=Z,4.7nm,0.8s							
E36A	McGregor	92.24	35	P		P	03 01 56.1	+0.1
	baz=312							
VTS	Vitosha	92.25	320	*e*P		P	03 01 57.0	+0.6
	comp=Z,9.6nm,1.3s							
VTS	Vitosha	92.25	320	*e*P		P	03 01 57.0	+0.6
VTS					pmax	pmax		
	comp=Z,10.0nm,1.3s							
J33A	Davis	92.28	39	P		P	03 01 55.7	-0.6
	baz=309							
G35A	Watkins	92.44	36	P		P	03 01 57.1	+0.1
	baz=311							
H35A	Sunnyside Ranc	92.59	37	P		P	03 01 57.8	+0.1
	baz=310,SNR=5.2							
CONA	Conrad Observa	92.69	327	*i* PcP		PcP	03 01 58.7	-0.2
	comp=Z,9.1nm,1.3s							
K33A	Hardington	92.71	40	P		P	03 01 58.3	-0.1
	baz=309							
BGNE	Belgrade	92.77	41	P		P	03 01 57.8	-0.9
	baz=308							
J34A	George	92.87	39	P		P	03 01 58.8	-0.2
	baz=310							
KHC	Kasperske Hory	92.93	329	*e*P		P	03 01 59.0	-0.2
KHC				*e*pP		PcP	03 02 03.2	+3.3
KHC	Kasperske Hory	92.93	329	*e*P		P	03 01 58.6	-0.7
	comp=Z,4.4nm,1.3s							
KHC				*e*PP		PP	03 05 38.0	-3.2
KHC	Kasperske Hory	92.93	329	*e*P		P	03 01 59.0	-0.2
E38A	The Farm, Brul	93.05	34	P		P	03 01 59.7	-0.1
	baz=313							
I35A	Creekview Farm	93.05	38	P		P	03 01 59.7	-0.2
	baz=310							
GEC2	GERESS Array S	93.08	329	*e*P		P	03 01 58.4	-1.6
	comp=Z,17nm,1.8s							
GEC2	GERESS Array S	93.08	329	*e*P		P	03 01 58.4	-1.6
GEC2					pmax	pmax		
	comp=Z,17nm,1.8s							
GERES	GERESS Array B	93.08	329	P		P	03 01 58.4	-1.6
	comp=Z,1.1nm,0.7s,baz=46,slow=3.9,SNR=14							
GERES					LR	LR	03 46 05.5	
	comp=Z,44nm,19.0s,baz=52,slow=37							
GEA0	GERESS Array S	93.08	329	*e*P		P	03 01 59.4	-0.6
H36A	Jessenland, He	93.16	37	P		P	03 02 00.5	+0.1
	baz=311							
K34A	Le Mars	93.17	39	P		P	03 02 00.4	-0.1
	baz=309							
J35A	Milford	93.24	38	P		P	03 02 00.6	-0.1
	baz=310							
F38A	Pierce - Schro	93.32	35	P		P	03 02 00.2	-0.8
	baz=309							
SPMN	Marine on St.	93.33	36	P		P	03 02 00.6	-0.5
	baz=312							
SPMN	Marine on St.	93.33	36	*e*P		P	03 02 02.3	+1.2
	comp=Z,19nm,1.4s							
CBKS	Cedar Bluff	93.37	44	P		P	03 02 01.1	-0.4
	baz=307							
L34A	Svendsen Farm,	93.47	40	P		P	03 02 01.6	-0.2
	baz=309							
N33A	J Bar K, Exete	93.60	41	P		P	03 02 02.3	-0.2
	baz=308							
MNTX	Cornudas Mount	93.62	52	P		P	03 02 02.7	-0.1
	baz=303							
MNTX	Cornudas Mount	93.62	52	*e*P		P	03 02 03.2	+0.5
	comp=Z,3.7nm,1.0s							
M34A	Aspy Farms, Fr	93.64	40	P		P	03 02 02.3	-0.3
	baz=309							
K35A	Storm Lake	93.64	39	P		P	03 02 02.5	-0.2
	baz=310							
J36A	Seneca 1, Swea	93.75	38	P		P	03 02 03.0	-0.1
	baz=311							
I37A	Lemond, Waseca	93.82	37	P		P	03 02 03.4	0.0
	baz=311							
LPIG	La Paz	93.84	61	LR		LR	03 36 13.6	
	comp=Z,73nm,21.0s,baz=308,slow=30							
L35A	Bielow Farm, R	93.85	39	P		P	03 02 03.6	0.0
	baz=310							
E40A	Wakefield	93.99	33	P		P	03 02 03.9	-0.2
	baz=314							
N34A	Lincoln	94.11	41	P		P	03 02 04.3	-0.5
	baz=309							
K36A	Gilmore City	94.14	38	P		P	03 02 04.9	0.0
	baz=311							
EKA	Eskdalemuir Ar	94.32	341	LR		LR	03 48 02.6	
	comp=Z,58nm,20.2s,baz=105,slow=38							
AMTX	Amarillo	94.41	48	P		P	03 02 06.5	+0.1
	baz=305							
AMTX	Amarillo	94.41	48	*e*P		P	03 02 07.5	+1.1
	comp=Z,8.6nm,0.9s							
H39A	Augusta	94.50	35	P		P	03 02 06.5	0.0
	baz=313							
K37A	Belmond	94.51	38	P		P	03 02 06.7	+0.2
	baz=311							
N35A	Tabor	94.59	40	P		P	03 02 07.2	+0.1
	baz=310							
M36A	Felix, Anita	94.70	40	P		P	03 02 07.5	0.0
	baz=310							
J38A	Wedel Dairy, R	94.78	37	P		P	03 02 07.8	0.0
	baz=312							
O35A	Humboldt	94.81	41	P		P	03 02 07.9	-0.1
	baz=309							
L37A	Phoenix Point,	94.86	38	P		P	03 02 07.9	-0.3
	baz=311							
H40A	Chili	95.00	35	P		P	03 02 08.7	-0.1
	baz=314							
N36A	Muff Farm, Cla	95.02	40	P		P	03 02 09.0	0.0
	baz=310							
K38A	Parkersburg	95.07	38	P		P	03 02 09.2	+0.1
	baz=312							
KSU1	Kansas State U	95.13	42	P		P	03 02 09.2	-0.3
	baz=309							
ABTA	Abfaltersbach	95.14	328	*i* PcP		P	03 02 08.4	-1.1
	comp=Z,4.8nm,1.1s							
J39A	Decorah	95.19	37	P		P	03 02 09.6	0.0
	baz=313							
N37A	Lee Faris, Mou	95.49	40	P		P	03 02 10.6	-0.6
	baz=311,SNR=8.0							
K39A	Oelwein	95.51	37	P		P	03 02 10.9	-0.2
	baz=312							
IDI	Anoyia	95.64	313	LR		LR	03 50 04.0	
	comp=Z,46nm,18.2s,baz=58,slow=38							
M38A	Pleasantville	95.64	39	P		P	03 02 11.6	-0.1
	baz=311							
L39A	Vinton	95.84	38	P		P	03 02 12.8	+0.1
	baz=312							
K40A	Colesburg	95.92	37	P		P	03 02 13.0	-0.1
	baz=313							
G43A	Wallace	95.93	33	P		P	03 02 13.3	+0.3
	baz=316							
N38A	Joes South For	96.03	39	P		P	03 02 13.4	-0.1
	baz=311							
TX31	Lajitas Ar. Si	96.15	54	*e*P		P	03 02 15.2	+0.8
LTX	Lajitas	96.15	54	*e*P		P	03 02 14.7	+0.2
LTX	Lajitas	96.15	54	*e*P		P	03 02 14.7	+0.2
TXAR	Lajitas Array	96.15	54	P		P	03 02 14.7	+0.2
	comp=Z,1.3nm,0.9s,baz=306,slow=2.5,SNR=14							
TXAR					LR	LR	03 42 08.1	
	comp=Z,58nm,19.3s,baz=0.0,slow=33							
P37A	Lathrop	96.17	41	P		P	03 02 14.3	+0.1
	baz=310							
M39A	Webster	96.18	38	P		P	03 02 14.2	0.0
	baz=312							
M40A	Post Highland	96.59	38	P		P	03 02 16.3	+0.2
	baz=313							
P38A	Dawn	96.62	40	P		P	03 02 16.2	-0.1
	baz=311							
P39B	Salisbury	97.17	40	P		P	03 02 18.4	-0.4
	baz=312							
O40A	La Belle	97.25	39	P		P	03 02 19.0	-0.1
	baz=312							
Q39A	Willow Grove F	97.33	40	P		P	03 02 19.0	-0.4
	baz=311							
P40A	Paris	97.55	40	P		P	03 02 19.7	-0.8
	baz=312							
S38A	Stockton	97.70	42	P		P	03 02 20.1	-1.0
	baz=311							
R39A	Chumby, Stover	97.77	41	P		P	03 02 20.5	-1.0
	baz=311							
T38A	Diamond	97.85	43	P		P	03 02 20.9	-1.0
	baz=310							
Q40A	Laux Farm, Aux	97.89	40	P		P	03 02 21.8	-0.2
	baz=312							
L44A	Lake County Fo	98.00	35	P		P	03 02 22.1	-0.3
	baz=315							
S39A	Bolivar	98.01	42	P		P	03 02 21.8	-0.8
	baz=311							
R40A	Maddies Statio	98.24	41	P		P	03 02 22.7	-0.9
	baz=312							
JCT	Junction City	98.26	51	P		P	03 02 23.2	-0.7
	baz=306							
T39A	Clever	98.41	42	P		P	03 02 23.6	-0.8
	baz=311							
U39A	Green Forest	98.77	43	P		P	03 02 25.5	-0.6
	baz=311							
S42A	Caledonia	99.46	40	P		Pdif	03 02 28.4	-0.6
	baz=313							
MIAR	Mount Ida	99.90	44	P		Pdif	03 02 31.2	+0.1
	baz=310							
MIAR	Mount Ida	99.90	44	*e*Pdif		Pdif	03 02 32.2	+1.2
	comp=Z,2.8nm,0.8s							
MIAR	Mount Ida	99.90	44	*e*P		Pdif	03 02 32.3	+1.2
MIAR					pmax	pmax		
	comp=Z,3.0nm,0.8s							
W41B	Gary Mavity, V	100.32	43	P		Pdif	03 02 31.9	-1.0
	baz=311							
X44A	Crenshaw	102.05	42	P		Pdif	03 02 40.3	-0.3
	baz=313							
X46A	Booneville	102.95	41	P		Pdif	03 02 43.8	-0.9
	baz=314							
344A	Westbrook Farm	103.72	45	P		Pdif	03 02 46.7	-1.4
	baz=312							
KOWA	Kowa	128.67	317	PKP		PKPdf	03 07 54.6	+0.6
	comp=Z,1.4nm,0.7s,baz=14,slow=1.4,SNR=6.0							
SDV	Santo Domingo

*IDC **19** 03:04:25.5±2.4,5°.83S×128°.52E,h354km±30km,mb3.0/2, mb1 3.1/6,mb1mx2.8/59,mbtmp3.8/6,Error ellipse: s-maj=55.5km s-min=12.3km az=75.0*

ISC 19 03:04:23.4±1.1,5°.89S±0°.08×128°.4E±0°.2,h322km,n6, σ1♀41/9,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**5.75**	**30**	P			**Pn**	**03 05 52.1**	**+1.6**
	1.9nm,0.3s,baz=247,slow=23,SNR=10								
SIJI				S			**S**	**03 06 59.5**	**-1.2**
	1.3nm,0.3s,baz=163,slow=19,SNR=2.2								
FITZ	**Fitzroy Crossi**	**12.43**	**192**	P			**P**	**03 07 11.8**	**+0.8**
	baz=23,slow=11								
WRA	**Warramunga Arr**	**15.12**	**158**	P			**Pn**	**03 07 42.0**	**-0.5**
	0.8nm,0.3s,baz=340,slow=11,SNR=58								
WRA				S			**S**	**03 10 22.5**	**-1.9**
	0.2nm,0.3s,baz=321,slow=20,SNR=6.1								
ASAR	**Alice Springs**	**18.45**	**164**	P			**P**	**03 08 17.8**	**+1.1**
	0.5nm,0.3s,baz=344,slow=12,SNR=26								
ASAR				S			**S**	**03 11 30.1**	**-0.4**
	baz=348,slow=24,SNR=4.6								
MKAR	**Makanchi Array**	**66.43**	**327**	P			**P**	**03 14 37.7**	**-1.0**
	0.3nm,0.4s,baz=128,slow=7.5,SNR=5.5								
KURBB	**Kurchatov Arra**	**70.74**	**329**	P			**P**	**03 15 04.0**	**-1.0**
	0.3nm,0.5s,baz=128,slow=5.2,SNR=3.7								

IDC 19 03:13:08.2±10.0,5°.05S×129°.87E,h169km±101km, mb2.9/1,mb1 2.8/3,mb1mx2.7/47,mbtmp3.2/3,Error ellipse: s-maj=99.5km s-min=26.8km az=51.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BATI	**Baumata**	**8.01**	**230**	P			Pn	03 15 00.4	-1.3
	16nm,0.3s,baz=105,slow=20,SNR=8.1								
BATI				S			Sn	03 16 16.9	-14
	1.6nm,0.3s,baz=328,slow=19,SNR=3.1								
WRA	**Warramunga Arr**	**15.43**	**164**	P			P	03 16 38.5	+0.5
	0.2nm,0.3s,baz=341,slow=12,SNR=8.3								
WRA				S			S	03 19 30.4	-0.3
	0.1nm,0.3s,baz=357,slow=28,SNR=3.3								
ASAR	**Alice Springs**	**18.91**	**169**	P			P	03 17 15.7	-0.5
	0.1nm,0.3s,baz=342,slow=11,SNR=3.9								
MKAR	**Makanchi Array**	**66.53**	**326**	P			P	03 23 40.3	+0.3
	0.2nm,0.6s,baz=129,slow=4.6,SNR=2.2								

TAP 19 03:20:32.4,24°.12N×121°.69E,h6km,ML2.3,6D,C, Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TWD	**Chiawan**	**0.10**	**244**	⇓*i*	P		Pg	03 20 34.3	-0.3
	baz=242								
TWD				*i*	S		Sg	03 20 36.0	-0.1
	baz=242								
NACB	**Ninganchiao**	**0.10**	**300**	⇓	P		Pg	03 20 34.6	-0.1
	baz=299								
NACB					S		Sg	03 20 36.3	+0.1
	baz=299								
HWA	**Hwalien**	**0.17**	**209**	*e*	P		Pg	03 20 35.9	+0.2
	baz=206								
ENLB	**Shoufeng**	**0.23**	**201**	*e*	P		Pg	03 20 37.9	+0.9
	baz=200								
ENA	**Nanau**	**0.31**	**8**	P			Pg	03 20 38.4	0.0
	baz=9.0								
ENA					S		Sg	03 20 42.7	+0.1
	baz=9.0								
NANB	**Nanao**	**0.31**	**10**	⇓	P		Pg	03 20 38.3	-0.1
	baz=9.0								
NANB					*e*S		Sg	03 20 42.7	+0.1
	baz=9.0								
ENAH	**Nanao**	**0.34**	**18**	*e*	P		Pg	03 20 39.2	+0.1
	baz=18								
ESL	**Shilin**	**0.39**	**218**	*e*	P		Pg	03 20 39.0	-0.9
	baz=216								
WHF	**Hehuan Shan**	**0.39**	**273**	*e*	P		Pg	03 20 39.8	-0.4
	baz=273								
NNSB	**Datong**	**0.41**	**317**	⇓	P		Pg	03 20 40.6	+0.1
	baz=317								
NNSH	**Datong**	**0.41**	**317**	*e*	P		Pg	03 20 40.6	+0.1
	baz=317								
NNS	**Nan Shan**	**0.43**	**317**	*e*	P		Pg	03 20 40.9	+0.1
	baz=317								
NNS					S		Sg	03 20 46.9	+0.4
	baz=317								
CHGB	**Renai**	**0.48**	**263**	⇓	P		Pg	03 20 41.6	-0.1
	baz=262								
CHGB					S		Sg	03 20 48.4	+0.4
	baz=262								
TDCB	**Techi**	**0.50**	**285**	*e*	P		Pg	03 20 42.2	0.0
	baz=284								
TDCB					*e*S		Sg	03 20 49.0	+0.2
	baz=284								
TWC	**Suao**	**0.51**	**16**	*e*	P		Pg	03 20 42.4	+0.2
	baz=17								
TWC					*e*S		Sg	03 20 49.2	+0.4
	baz=17								
ENTT	**Nioudou**	**0.53**	**347**	*e*	P		Pg	03 20 43.0	+0.3
	baz=348								
ENTT					S		Sg	03 20 50.1	+0.6
	baz=348								
EOS1	**EOS1**	**0.58**	**43**	*e*	P		Pb	03 20 45.4	+0.4
	baz=43								
YHNB	**Yeheng**	**0.62**	**332**	⇓	P		Pg	03 20 44.6	+0.3
	baz=332								
YHNB					*e*S		Sg	03 20 52.8	+0.4
	baz=332								
HGSD	**Ruisui**	**0.67**	**201**	*e*	P		Pg	03 20 45.8	+0.4
	baz=201								
NWLT	**Wulai**	**0.67**	**345**	*e*	P		Pg	03 20 45.5	+0.1
	baz=345								
NWLT					*e*S		Sg	03 20 54.5	+0.3
	baz=345								
EHY	**Hungye**	**0.70**	**209**	*e*	P		Pg	03 20 45.5	-0.4
	baz=208								
DPDB	**Guoxing**	**0.70**	**263**	*e*	P		Pb	03 20 46.7	-0.5
	baz=262								
SSLB	**Suanglung**	**0.75**	**244**	P			Pg	03 20 46.6	-0.3
	baz=243								
SSLB					*e*S		Sg	03 20 57.0	+0.3
	baz=243								
SMLT	**Sun Moon Lake**	**0.76**	**252**	*e*	P		Pg	03 20 47.1	0.0
	baz=251								
TYC	**Yuchr**	**0.79**	**254**	*e*	P		Pg	03 20 47.6	-0.1
	baz=253								
LIOB	**Emei**	**0.81**	**310**	*e*	P		Pb	03 20 48.7	-0.2
	baz=310								
YULB	**Yu-li**	**0.81**	**207**	*e*	P		Pg	03 20 47.5	-0.6
	baz=206								
TWF1	**Yuli**	**0.85**	**205**	*e*	P		Pg	03 20 48.5	-0.3
	baz=204								
TIPB	**Shuangxi**	**0.85**	**8**	*e*	P		Pg	03 20 47.9	-1.0
	baz=8.0								
YUS	**Yu-Shan**	**0.93**	**227**	*e*	P		Pg	03 20 48.7	-1.5
	baz=226								
NCU	**National Centr**	**0.96**	**331**	*e*	P		Pg	03 20 49.8	-1.1
	baz=331								
FULB	**Fuli**	**0.99**	**202**	*e*	P		Pg	03 20 51.4	0.0
	baz=201								

TAP 19 03:20:37.2,24°.15N×121°.69E,h9km±1km,ML2.2,D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
NACB	**Ninganchiao**	**0.09**	**289**	P			Pg	03 20 40.6	+1.0
	baz=289								
NACB				S			Sg	03 20 42.5	+1.2
	baz=289								
TWD	**Chiawan**	**0.10**	**232**	*i*	P		Pg	03 20 40.4	+0.6
	baz=229								
TWD					S		Sg	03 20 42.0	+0.4
	baz=229								
ENA	**Nanau**	**0.29**	**10**	*e*	P		Pb	03 20 44.9	+0.3
	baz=11								
ENA					S		Sb	03 20 48.8	-0.7
	baz=11								
NANB	**Nanao**	**0.29**	**12**	*e*	P		Pb	03 20 44.4	-0.2
	baz=11								
NANB					*e*S		Sb	03 20 48.7	-0.8
	baz=11								
WHF	**Hehuan Shan**	**0.38**	**270**	*e*	P		Pb	03 20 46.0	-0.4
	baz=269								
NNSH	**Datong**	**0.39**	**316**	*e*	P		Pb	03 20 46.5	+0.1
	baz=315								
NNSH					S		Sb	03 20 52.4	-0.2
	baz=315								
NNSH	**Datong**	**0.39**	**316**	S			Pb	03 20 46.3	-0.1
	baz=317								
NNSB	**Datong**	**0.40**	**316**	*e*	P		Pb	03 20 46.3	-0.2
	baz=315								
NNSB					*e*S		Sb	03 20 52.1	-0.5
	baz=315								
NNSB	**Datong**	**0.40**	**316**	S			Pb	03 20 46.3	-0.2
	baz=317								
SSLB	**Suanglung**	**0.76**	**242**	*e*	P		Pb	03 20 53.0	+0.4
	baz=242								
SMLT	**Sun Moon Lake**	**0.76**	**250**	*e*	P		Pg	03 20 51.7	-0.3
	baz=249								
TYC	**Yuchr**	**0.79**	**253**	*e*	P		Pg	03 20 52.3	-0.3
	baz=252								

*ISN **19** 03:22:26.8±0.3,32°.56N×46°.76E,h0km,ML2.8*
*CSEM **19** 03:22:35.9±1.4,32°.54N×46°.60E,h10km,ML2.9,Error ellipse: s-maj=47.7km s-min=21.7km az=19.0*

TEH 19 03:22:38.2,32°.44N×46°.93E,h8km,ML2.8,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
IKFM	**Kafar-mosalman**	**1.33**	**35**	*e*	Sg		Sg	03 23 24.2	+3.2
IKFM				*e*	Pg		Pg	03 23 04.1	+0.4
IKFM				*e*	AMB		AMB	03 23 32.9	
	comp=Z,99nm,0.2s								
SHGR	**Shooshtar-Gavs**	**1.61**	**101**	*e*	Pg		Pg	03 23 12.1	+2.9
SHGR				*e*	Sg		Sg	03 23 35.2	+5.1
IKOM	**Komasi**	**1.80**	**15**	*e*	Pn		Pg	03 23 12.9	+0.1
IVIS	**Veis**	**2.09**	**358**	*e*	Pn		Pb	03 23 16.3	-0.1
BHD	**Baghdad**	**2.31**	**292**	*e*	Pg		Pn	03 23 14.0	-2.4
	baz=109,SNR=9.0								
BHD				*i*	Sg		Sb	03 23 47.0	-1.6
	SNR=9.0								
ILIN	**Lien**	**2.48**	**1**	*e*	Pn		Pb	03 23 22.0	-1.1
SNGE	**Sanandaj**	**2.67**	**7**	*e*	Pg		Pb	03 23 25.2	-1.2
KHMZ	**Khomeyn**	**2.85**	**62**	*e*	Pn		Pb	03 23 27.4	-2.1
HAGD	**Aghdareh**	**3.01**	**37**	*e*	Pn		Pn	03 23 29.1	+2.7
HAGD				*e*	AMB		AMB	03 23 36.4	
	comp=Z,99nm,0.1s								
HKZM	**Kohzaman**	**3.36**	**29**	*e*	Pn		Pn	03 23 34.4	+3.2
HKZM				*e*	AMB		AMB	03 24 15.4	
	comp=Z,99nm,0.3s								
IKLH	**Kolahrood**	**4.01**	**76**	*e*	Pn		Pn	03 23 43.2	+3.1
IKLH				*e*	AMB		AMB	03 23 45.7	
	comp=Z,182nm,0.1s								
IZEF	**Zefreh**	**4.57**	**83**	*e*	Pn		Pn	03 23 50.7	+2.8
IZEF				*e*	AMB		AMB	03 23 53.0	
	comp=Z,105nm,0.1s								
IRAM	**Ramesheh**	**4.66**	**96**	*e*	Pn		Pn	03 23 52.3	+3.2
IRAM				*e*	AMB		AMB	03 24 52.7	
	comp=Z,52nm,0.2s								

IDC 19 03:30:57.0±1.4,2°.02N×127°.03E,h0km,mb3.7/6, mb1 3.9/6,mb1mx3.6/64,mbtmp3.8/6,Error ellipse: s-maj=102.9km s-min=18.8km az=68.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**20.04**	**184**	P			Pn	03 35 33.0	-0.4
	1.0nm,0.5s,baz=5.7,slow=10								
WRA	**Warramunga Arr**	**22.97**	**162**	P			P	03 36 02.8	-0.6
	3.4nm,0.7s,baz=339,slow=11,SNR=26								
ASAR	**Alice Springs**	**26.39**	**166**	P			P	03 36 34.9	-0.4
	0.5nm,0.5s,baz=348,slow=12,SNR=7.6								
STKA	**Stephens Creek**	**36.44**	**159**	P			P	03 38 03.7	+0.1
	1.7nm,0.8s,baz=321,slow=14,SNR=4.2								
MKAR	**Makanchi Array**	**59.13**	**326**	P			P	03 40 60.0	+0.5
	0.4nm,0.4s,baz=120,slow=7.6,SNR=6.9								
KURBB	**Kurchatov Arra**	**63.33**	**328**	P			P	03 41 27.2	-0.7
	0.5nm,0.4s,baz=130,slow=6.6,SNR=4.5								

JMA 19 03:33:12.7,39°.26N×142°.35E,h35km±1km,M2.4,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MIYJ	**Miyakonagasawa**	**0.52**	**308**	P			Pn	03 33 23.2	-0.4
MIYJ				S			Sn	03 33 30.8	-0.4
OFUJ	**Ofunato**	**0.56**	**251**	P			Pn	03 33 23.8	-0.4
OFUJ				S			Sn	03 33 31.8	-0.4
JTH	**Tanohata**	**0.78**	**331**	P			Pn	03 33 27.0	-0.1
JTH				*e*S			Sn	03 33 37.7	+0.1
JOM	**Ohasama**	**0.85**	**285**	P			Pn	03 33 28.2	+0.1
JOM				S			Sn	03 33 40.0	+0.7
JMK	**Ichinoseki**	**0.93**	**251**	P			Pn	03 33 29.6	+0.3
JMK				S			Sn	03 33 41.7	+0.3
JKZ	**Kuzumaki**	**1.07**	**313**	P			Pn	03 33 31.9	+0.7

*NIED **19** 03:33:00,36°.90N×141°.40E,h8km,Mw4.9 Best double couple: M0 2.28000×10^16 NP1:ϕs 23.00000°,δ37.00000°, λ-85.00000°. NP2:ϕs 197.00000°,δ53.00000°, λ-94.00000°.*
*BJI **19** 03:33:21.3,36°.97N×141°.41E,h10km,mb4.8/64,mB5.0/41, Ms4.8/67,Ms7 4.6/63*
*JMA **19** 03:33:23.4±0.1,36°.94N×141°.39E,h34km±1km,M5.1*
JMA Felt IV J1.
*ISCJB **19** 03:33:25.4±0.5,36°.98N±0°.02×141°.24E±0°.02,h30km±3km, mb5.1/395,MS4.3/57,Error ellipse: s-maj=3.0km s-min=2.1km az=141.1*
*IDC **19** 03:33:26.6±4.0,36°.98N×141°.26E,h29km±28km,mb4.7/45, mb1 4.7/51,mb1mx4.7/71,mbtmp4.8/51,ML4.1/5,MS4.0/42, Ms1 4.0/42,ms1mx3.9/64,Error ellipse: s-maj=10.7km s-min=8.3km az=98.0*
*NEIC **19** 03:33:27.4±1.1,36°.98N×141°.18E,h32km±7km,mb5.2/275, Error ellipse: s-maj=3.2km s-min=2.2km az=141.0*
NEIC Felt [II] at Tokyo. Felt widely in east-central Honshu. Recorded [4 JMA] in Ibaraki.
*GCMT **19** 03:33:27.4±0.3,36°.94N×141°.29E,h14km±1km,MW4.9/88, Moment Tensor Solution. s31,c37; s88,c139; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-2.57±.16; Mθθ 0.18±.09; Mϕϕ 2.39±.11; Mrθ -0.77±.23; Mθϕ 0.97±.06; Mϕr 0.99±.20; Best double couple: M0 2.94000×10^16 NP1:ϕs 181.00000°,δ55.00000°,λ-114.00000°. NP2: ϕs 39.00000°,δ41.00000°,λ-59.00000°. Principal axes: T 2.8380, Plg7.0000°, Azm288.0000°; N 0.2010, Plg20.0000°, Azm195.0000°; P -3.0410, Plg69.0000°, Azm37.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*MOS **19** 03:33:28.0±0.8,37°.36N×141°.10E,h38km,mb5.3/119, MS4.3/23 Error ellipse: s-maj=5.9km s-min=3.8km az=100.2*

ISC 19 03:33:25.6±0.5,37°.00N±0°.03×141°.34E±0°.03,h23km±3km, n1143,σ1♀37/1189,mb5.2/402,MS4.2/57,34C-37D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.44**	**283**	⇑P			**Pb**	**03 33 33.6**	**-1.2**
ONAJ					S		**Sb**	**03 33 41.0**	**0.0**
JFK	**Kawauchi**	**0.52**	**315**	⇑P			**Pb**	**03 33 34.9**	**-1.1**
JFK					S		**Sb**	**03 33 43.0**	**-0.1**
JHO	**Hitachi**	**0.73**	**238**	⇓P			**Pb**	**03 33 37.3**	**-2.3**
JHO					S		**Sb**	**03 33 47.2**	**-2.0**
JFT	**Otama**	**0.95**	**303**	⇑P			**Pn**	**03 33 42.2**	**-1.3**
JFT					S		**Sb**	**03 33 55.7**	**+0.2**
JMM	**Marumori**	**0.96**	**334**	⇓P			**Pn**	**03 33 41.8**	**-1.9**
JMM					S		**Sb**	**03 33 55.3**	**-0.6**
JFY	**Yanaizu**	**1.36**	**288**	P			**Pn**	**03 33 48.7**	**-0.6**
JFY					S		**Sn**	**03 34 07.0**	**+0.4**
JIO	**Ouri**	**1.45**	**0**	⇓P			**Pn**	**03 33 49.3**	**-1.1**
JIO					S		**Sn**	**03 34 07.2**	**-1.5**
JOU	**Okura**	**1.46**	**339**	⇓P			**Pn**	**03 33 50.3**	**-0.3**
JOU					*e*S		**Sn**	**03 34 09.7**	**+0.7**
JAG	**Ashikaga**	**1.62**	**250**	⇓P			**Pn**	**03 33 51.0**	**-1.8**
JKT	**Katashina**	**1.69**	**263**	P			**Pn**	**03 33 53.2**	**-0.6**
JNS	**Sasagawa**	**1.80**	**297**	P			**Pn**	**03 33 55.6**	**+0.4**
JHK	**Hiroka**	**1.87**	**278**	P			**Pn**	**03 33 56.2**	**0.0**
OFUJ	**Ofunato**	**2.09**	**7**	⇓P			**Pn**	**03 33 58.1**	**-1.1**
JIZZ	**Izumozaki**	**2.16**	**285**	⇑P			**Pn**	**03 34 01.5**	**+1.3**
JRY	**Ryogami san**	**2.19**	**244**	⇓P			**Pn**	**03 33 59.1**	**-1.6**
JGK	**Kuni**	**2.21**	**259**	P			**Pn**	**03 34 01.3**	**+0.4**
MJAR	**Matsushiro Arr**	**2.55**	**261**	P			**Pn**	**03 34 05.7**	**+0.1**
	37nm,0.3s,baz=90,slow=14,SNR=412								
MJAR					Sn		**Sn**	**03 34 36.0**	**+0.1**
	139nm,0.3s,baz=84,slow=15,SNR=7.3								
MJAR					LR		LR	03 34 42.2	
	comp=Z,1μm,20.2s,baz=100,slow=31								
MAJO	**Matsushiro**	**2.55**	**261**	*e*	Pn		**Pn**	**03 34 05.8**	**+0.2**
MAJO				*e*	Sn		**Sn**	**03 34 36.4**	**+0.4**
MAJO	**Matsushiro**	**2.55**	**261**	*d*	*i* P		**Pn**	**03 34 05.7**	**+0.1**
MAT	**Matsushiro**	**2.55**	**261**	P			**Pn**	**03 34 06.1**	**+0.5**
MAT				S			**Sn**	**03 34 37.6**	**+1.6**
MJB9	**Matsu-Tunnel**	**2.56**	**261**	*e*	Pn		**Pn**	**03 34 06.2**	**+0.5**
MJB9				*e*	Sn		**Sn**	**03 34 38.1**	**+2.1**
JSD	**Sado**	**2.65**	**294**	P			**Pn**	**03 34 06.3**	**-0.7**
JNG	**Nsakai**	**2.67**	**258**	⇓P			**Pn**	**03 34 07.5**	**+0.2**
JNT	**Takato**	**2.81**	**247**	P			**Pn**	**03 34 09.5**	**+0.2**
JAH	**Hinai**	**3.23**	**350**	⇓P			**Pn**	**03 34 15.8**	**+1.0**
JGN	**Niukaw**	**3.33**	**258**	P			**Pn**	**03 34 18.1**	**+1.8**
JTM	**Tenmabayashi**	**3.78**	**357**	P			**Pn**	**03 34 22.9**	**+0.4**
INU	**Inuyama**	**3.86**	**246**	*e*	Pn		**Pn**	**03 34 24.2**	**+0.6**
INU				*e*	Sn		**Sn**	**03 35 12.1**	**+3.7**
JHJ2	**Mitsune**	**4.08**	**198**	*e*	Pn		**Pn**	**03 34 24.6**	**-2.0**
JHJ2				*e*	Sn		**Sn**	**03 35 13.8**	**+0.2**
JHJ	**Hachijo jima 2**	**4.08**	**199**	P			Pn	**03 34 25.2**	**-1.3**
	96nm,0.3s,baz=330,slow=23,SNR=14								
JHJ					Sn		**Sn**	**03 35 12.4**	**-1.3**
	209nm,0.3s,baz=76,slow=23,SNR=12								
JHJ					LR		LR	03 36 15.8	
	comp=Z,3μm,18.1s,baz=89,slow=42								
ERM	**Erimo**	**5.20**	**15**	*e*	Pn		**Pn**	**03 34 41.1**	**-0.8**
ERM				*e*	Sn		**Sn**	**03 35 43.1**	**+2.0**
ERM	**Erimo**	**5.20**	**15**	*d*	*i* P		**Pn**	**03 34 40.7**	**-1.2**
ERM					pmax		pmax		
	comp=Z,51nm,1.0s								
ASAJ	**Asahikawa**	**7.17**	**7**	P			**Pn**	**03 35 08.8**	**-0.2**
	comp=Z,4.6nm,0.3s,baz=216,slow=14,SNR=28								
ASAJ	**Asahikawa**	**7.17**	**7**	*e*	Pn		**Pn**	**03 35 07.3**	**-1.7**
YUK	**Yuzh-Kuril'sk**	**7.82**	**25**	*i*	P		**Pn**	**03 35 18.6**	**+0.7**
TEY	**Ternei**	**8.78**	**337**	*e*	P		**Pn**	**03 35 32.8**	**+1.7**
TEY					MLR		MLR		
	comp=E,2μm,13.0s								
TEY					MLR		MLR		
	comp=N,2μm,16.0s								
TEY					MLR		MLR		
	comp=Z,3μm,14.0s								
JNU	**Nakatsue**	**9.40**	**249**	P			**Pn**	**03 35 40.9**	**+1.2**
	comp=Z,0.4nm,0.3s,baz=33,slow=15,SNR=3.7								
JNU	**Nakatsue**	**9.40**	**249**	*e*	Pn		**Pn**	**03 35 39.9**	**+0.2**
KUR	**Kuril'sk**	**9.58**	**29**	P			**Pn**	**03 35 43.6**	**+1.6**
KUR					S		**Sn**	**03 37 26.0**	**-2.9**
KUR					pmax		pmax		
	comp=Z,45nm,0.9s								
KUR					smax		smax		
	comp=E,51nm,0.5s								
KUR					smax		smax		
	comp=N,31nm,0.3s								
KUR					smax		smax		
	comp=Z,1μm,13.0s								
KUR					smax		smax		
	comp=E,1μm,11.0s								
KUR					smax		smax		
	comp=N,1μm,13.0s								
MSHR	**Mys Shultsa**	**9.61**	**309**	⇑	*e*	P	**Pn**	**03 35 39.9**	**-2.5**
CBIJ	**Chichi jima**	**9.90**	**176**	*e*	Pn		**Pn**	**03 35 42.9**	**-3.7**
CBIJ				*e*	Sn		Sn	03 37 26.8	-10
JCJ	**Chichijima**	**9.90**	**176**	P	Pn		Pn	03 35 41.4	-5.2
	comp=N,21nm,0.3s,baz=90,slow=21,SNR=14								
JCJ					Sn		Sn	03 37 26.2	-11
	comp=N,47nm,0.3s,baz=255,slow=20,SNR=6.3								
YSS	**Yuzh-Sakhalins**	**10.00**	**6**	*e*	Pn		**Pn**	**03 35 46.8**	**-0.9**
YSS	**Yuzh-Sakhalins**	**10.00**	**6**	*e*	P		**Pn**	**03 35 47.1**	**-0.7**
YSS				*e*	S		**Sn**	**03 37 39.5**	**+0.3**
YSS					pmax		pmax		
	comp=Z,50nm,0.9s								
YSS					MLR		MLR		
	comp=Z,2μm,11.0s								
USRK	**Ussuriysk Ar.**	**10.10**	**318**	P			**Pn**	**03 35 53.4**	**+4.2**
	comp=Z,0.7nm,0.3s,baz=124,slow=16,SNR=26								
KSRS	**Korea Array**	**10.71**	**276**	P			**Pn**	**03 36 02.1**	**+4.6**
	comp=Z,0.3nm,0.3s,baz=91,slow=13,SNR=25								
KS01	**Wonju Array Si**	**10.73**	**277**	*e*	Pn		**Pn**	**03 36 01.5**	**+3.7**
KS15	**Wonju Array Si**	**10.74**	**276**	*e*	Pn		Pn	03 36 02.9	+4.9
KSAR	**Wonju Array Be**	**10.74**	**276**	Pn			**Pn**	**03 36 02.1**	**+4.2**
KSAR	**Wonju Array Be**	**10.74**	**276**	P			**Pn**	**03 36 02.1**	**+4.2**
MDJ	**Mudanjiang**	**11.70**	**314**	*e*	Pn		**Pn**	03 36 16.4	+5.4
CN2	**Changchun**	**13.87**	**304**	⇑	P		**Pn**	**03 36 42.0**	**+1.3**
CN2				*es*	P		S	03 36 50.0	+1.2
CN2				*e*	S		**Sn**	**03 39 16.0**	**+2.1**
CN2					pmax		pmax		
	comp=Z,10.0nm,0.6s								
CN2					pmax		pmax		
	comp=Z,200nm,5.0s								
CN2					LR		LR		
	comp=Z,2μm,12.0s								
CN2					LR		LR		
	comp=Z,2μm,12.0s								
CN2					LR		LR		
	comp=Z,2μm,14.0s								
TYV	**Tymovskoe**	**13.89**	**3**	*e*	P		**Pn**	**03 36 38.4**	**-2.5**
TYV				*e*	S		**Sn**	**03 39 07.0**	**-7.3**
TYV					pmax		pmax		
	comp=Z,200nm,4.7s								
TYV					pmax		pmax		
	comp=Z,31nm,0.9s								
TYV					smax		smax		
	comp=E,10.0nm,1.0s								
TYV					MLR		MLR		
	comp=N,2μm,13.0s								
TYV					MLR		MLR		
	comp=Z,3μm,14.0s								
KLR	**Kul'dur**	**14.07**	**333**		Pn		**Pn**	**03 36 43.6**	**+0.3**
	comp=Z,0.0nm,0.3s,baz=138,slow=11,SNR=3.5								
KLR					LR		LR	03 41 51.1	
	comp=Z,58nm,18.5s,baz=148,slow=36								
KLR	**Kul'dur**	**14.07**	**333**	⇓	*e*	P	**Pn**	**03 36 43.2**	**-0.2**
GRNR	**Gornyy**	**14.20**	**347**	*e*	P		**Pn**	**03 36 41.0**	**-4.3**
GRNR					pmax		pmax		
	comp=Z,42nm,1.0s								
SNY	**Shenyang**	**14.54**	**295**

NJ2 LR LR
comp=Z,2µm,11.0s
NJ2 LR LR
comp=Z,2µm,12.9s
NJ2 LR LR
comp=Z,2µm,12.9s
ZEA Zeya 19.38 334 *e*P **Pn 03 37 50.8 0.0**
ZEA pmax pmax
comp=N,47nm,1.0s
ZEA pmax pmax
comp=Z,58nm,1.0s
ZEA MLR MLR
comp=Z,2µm,14.0s
ZEA MLR MLR
comp=E,600nm,12.0s
ZEA MLR MLR
comp=N,1µm,14.0s
TIA Tai'an 19.45 275 P **Pn 03 37 54.9 +3.1**
TIA pmax pmax
comp=N,40nm,1.0s
PEA0B Petropavlovsk- 19.74 30 *e*P **P 03 37 54.5 +0.9**
comp=N,52nm,1.4s
PETK Petropavlovsk- 19.74 30 P **P 03 37 53.9 +0.3**
PETK LR LR 03 45 00.7
comp=N,303nm,21.6s,baz=216,slow=35
PEA1 Petropavlovsk- 19.75 30 *e*P **P 03 37 53.9 +0.3**
HIA Hailar 19.88 315⇑*e*P **P 03 37 52.7 -2.5**
HIA pmax pmax
comp=Z,6.0nm,0.5s
BJI Beijing 19.90 286⇓*i*P **Pn 03 38 00.3 +3.2**
BJI S **Sn 03 41 41.9 +1.7**
BJI pmax pmax
comp=Z,51nm,1.2s
BJI LR LR
comp=Z,930nm,11.0s
BJI LR LR
comp=Z,3µm,11.5s
BJT Baijiatuau 19.91 286 *e*P **Pn 03 38 01.1 +3.9**
comp=Z,40nm,1.0s
BJT Baijiatuau 19.91 286 *e*P **Pn 03 38 01.1 +3.9**
BJT pmax pmax
comp=Z,40nm,1.0s
PET Petropavlovsk 20.07 32 *e*P Pn 03 37 58.7 -0.3
comp=Z,54nm,1.2s
PET Petropavlovsk 20.07 32 *e*P Pn 03 37 58.7 -0.4
PET pmax pmax
comp=Z,54nm,1.2s
YHNB Yeheng 21.04 240 *e*P **P 03 38 11.2 +3.2**
comp=Z,26nm,0.8s
YULB Yu-li 21.94 237 *e*P **P 03 38 18.9 +1.3**
comp=Z,13nm,0.8s
TPUB Ta-pu 22.45 238 *e*P **P 03 38 24.6 +1.4**
comp=Z,46nm,1.1s
CLNS Chul'man 22.68 336 *e*P **P 03 38 23.0 -2.3**
CLNS *e**PP **pP 03 38 32.2 +0.5**
CLNS *e* 03 38 47.8
CLNS *e* 03 42 12.1
CLNS *e*S **S 03 42 30.8 -1.4**
CLNS *e*SS **SnSn 03 43 03.7 +1.1**
CLNS *e* 03 43 18.7
CLNS pmax pmax
comp=E,4.0nm,0.9s
CLNS pmax pmax
comp=N,19nm,1.6s
CLNS pmax pmax
comp=Z,14nm,1.1s
CLNS pmax pmax
comp=Z,14nm,1.1s
CLNS pmax pmax
comp=N,10.0nm,1.2s
CLNS pmax pmax
comp=E,16nm,1.3s
CLNS smax smax
comp=E,342nm,17.4s
CLNS smax smax
comp=N,218nm,11.1s
CLNS MLR MLR
comp=E,421nm,11.0s
CLNS MLR MLR
comp=N,1µm,13.0s
CLNS MLR MLR
comp=Z,1µm,14.0s
QZH Quanzhou 22.84 245⇑*i*P **P 03 38 26.9 -0.3**
QZH S **S 03 42 32.8 -2.6**
QZH LR LR
comp=Z,810nm,11.8s
QZH LR LR
comp=Z,930nm,13.7s
QZH LR LR
comp=Z,810nm,13.4s
TIY Taiyuan 22.95 281 *e*P **P 03 38 29.5 +1.2**
TIY S **S 03 42 34.5 -2.8**
TIY SS **SnSn 03 43 20.9 +11**
TIY LR LR
comp=Z,880nm,15.5s
TIY LR LR
comp=Z,1µm,11.4s
TIY LR LR
comp=Z,1µm,13.2s
WHN Wuhan 23.29 262 P **P 03 38 30.8 -1.0**
WHN S **S 03 42 38.0 -4.9**
WHN LR LR
comp=Z,2µm,6.4s
WHN LR LR
comp=Z,5µm,11.8s
WHN LR LR
comp=Z,6µm,11.5s
MA2 Magadan 23.40 12 P **P 03 38 32.0 -0.6**
comp=Z,19nm,0.6s,baz=190,slow=8.2,SNR=12
MA2 LR LR 03 48 21.1
comp=Z,300nm,19.2s,baz=199,slow=38
MA2 Magadan 23.40 12 *e*P **P 03 38 32.4 -0.1**
comp=Z,34nm,1.0s
MA2 Magadan 23.40 12 *e*P **P 03 38 32.4 -0.1**
MA2 pmax pmax
comp=Z,34nm,1.0s
HHC Hu-ho-hao-te 23.42 289 *e*P **P 03 38 31.8 -1.3**
HHC pP pP 03 38 40.9 +1.3
HHC sP sP 03 38 45.0 +2.5
HHC S **S 03 42 37.1 -8.1**
HHC sS pS 03 42 52.4 +0.2
HHC pmax pmax
comp=Z,68nm,0.8s
HHC pmax pmax
comp=Z,230nm,4.0s
HHC LR LR
comp=Z,3µm,11.8s
HHC LR LR
comp=Z,3µm,12.5s
HHC LR LR
comp=Z,3µm,11.1s
GUMO Guam 23.53 171 P **P 03 38 34.0 -0.2**
comp=Z,22nm,0.2s,baz=162,slow=20,SNR=2.1
GUMO Guam 23.53 171 P **P 03 38 34.0 -0.2**
GUMO pmax pmax
comp=Z,22nm,0.3s
BTO Baotou 24.60 288 *e*P **P 03 38 43.3 -0.8**
YAK Yakutsk 26.09 347 P **P 03 38 56.8 -0.4**
comp=Z,18nm,0.3s,baz=354,slow=1.5,SNR=7.4
YAK LR LR 03 49 33.1
comp=Z,546nm,19.1s,baz=138,slow=37
YAK Yakutsk 26.09 347 *e*P **P 03 38 56.8 -0.4**
comp=Z,53nm,0.9s
YAK Yakutsk 26.09 347 *e*P **P 03 38 54.3 -2.9**
YAK *e**PP **sP 03 39 08.6 +1.8**
YAK *e*S **S 03 43 25.7 -1.3**
YAK *e**SS **sS 03 43 39.3 +1.1**
YAK *e* 03 49 48.3
YAK pmax pmax
comp=Z,50nm,1.0s
YAK pmax pmax
comp=N,19nm,1.2s
YAK pmax pmax
comp=E,8.0nm,1.4s
YAK smax smax
comp=N,253nm,2.6s
YAK smax smax
comp=E,96nm,3.3s
YAK MLR MLR
comp=Z,1µm,15.0s
YAK MLR MLR
comp=N,737nm,12.0s
YAK MLR MLR
comp=E,265nm,12.0s

XAN Xi'an 26.48 273 P **P 03 38 58.4 -2.8**
XAN S **S 03 43 25.6 -8.3**
XAN pmax pmax
comp=E,6.0nm,0.5s
XAN LR LR
comp=E,430nm,11.5s
XAN LR LR
comp=E,720nm,10.6s
XAN LR LR
comp=E,920nm,11.5s
SEY Seymchan 26.83 11 P **P 03 39 04.5 +0.6**
comp=E,15nm,1.1s,baz=203,slow=7.8,SNR=17
SEY Seymchan 26.83 11⇓*e*P **P 03 39 04.4 +0.4**
ENH Enshi 27.27 265 *e*P **P 03 39 07.8 -0.5**
comp=E,51nm,0.8s
ULN Ulaanbaatar 27.32 304 *e*P **P 03 39 08.1 -0.6**
comp=E,16nm,1.0s
ULN Ulaanbaatar 27.32 304*c i*P **P 03 39 08.8 +0.1**
ULN pmax pmax
comp=Z,12nm,1.2s
BOD Bodaibo 27.52 328 *e*P **P 03 39 08.8 -1.4**
BOD pmax pmax
comp=Z,23nm,1.3s
SONA1 Songino Array 27.75 304 *e*P **P 03 39 12.4 -0.1**
SONA0 Songino Array 27.75 304 *e*P **P 03 39 12.1 -0.5**
SONM Songino Array 27.75 304 P **P 03 39 12.1 -0.5**
comp=Z,4.4nm,0.7s,baz=98,slow=11,SNR=6.9
SONM LR LR 03 50 48.0
comp=Z,468nm,18.7s,baz=69,slow=38
H11N2 WAKE ISLAND Hy 28.19 121 T T 04 08 43.6
baz=313,slow=75,SNR=2345
H11N1 WAKE ISLAND Hy 28.19 121 T T 04 08 46.7
baz=313,slow=75,SNR=3213
H11N3 WAKE ISLAND Hy 28.20 121 T T 04 08 47.4
baz=313,slow=75,SNR=3590
H11S1 WAKE ISLAND Hy 28.89 123 T T 04 09 35.2
baz=312,slow=74,SNR=2024
H11S3 WAKE ISLAND Hy 28.90 123 T T 04 09 35.6
baz=312,slow=74,SNR=2050
H11S2 WAKE ISLAND Hy 28.91 123 T T 04 10 12.3
baz=312,SNR=1528
LZH Lanzhou 30.01 280 *e*P **P 03 39 33.0 +0.2**
LZH pP pP 03 39 38.6 -1.0
LZH sP sP 03 39 40.8 -1.6
LZH PP **PnPn 03 40 34.5 +4.8**
LZH *e*S **S 03 44 30.0 +0.3**
LZH sS pS 03 44 39.3 +2.0
LZH SS **SnSn 03 46 06.8 +4.7**
LZH pmax pmax
comp=Z,26nm,1.2s
LZH pmax pmax
comp=Z,170nm,5.0s
LZH LR LR
comp=Z,1µm,13.9s
LZH LR LR
comp=Z,2µm,14.2s
LZH LR LR
comp=Z,2µm,17.1s
ZAK Zakamensk 30.24 308 *e*P **P 03 39 33.6 -1.0**
ZAK *e* 03 42 30.4
ZAK pmax pmax
comp=Z,7.0nm,1.1s
ZAK pmax pmax
comp=Z,3.0nm,0.9s
TLY Talaya 30.30 311 P **P 03 39 33.8 -1.3**
comp=Z,1.7nm,0.3s,baz=111,slow=6.6,SNR=8.4
TLY LR LR 03 52 31.7
comp=Z,387nm,19.3s,baz=104,slow=38
TLY Talaya 30.30 311 *e*P **P 03 39 35.3 +0.2**
TLY Talaya 30.30 311 *e*P **P 03 39 34.9 -0.2**
TLY *e* 03 40 48.6
TLY *e*SS SS 03 46 01.9 -41
TLY pmax pmax
comp=Z,12nm,0.9s
TLY MLR MLR
comp=Z,880nm,16.0s
GYA Guiyang 31.15 260⇑*i*P **P 03 39 40.5 -2.4**
GYA PP **PnPn 03 40 48.4 +3.6**
GYA PcP **PcP 03 42 40.6 +2.9**
GYA S **S 03 44 49.3 +1.6**
GYA ScP **ScP 03 46 21.0 +1.8**
GYA SS **SnSn 03 46 34.8 +4.7**
GYA ScS **ScS 03 50 17.0 +0.3**
GYA pmax pmax
comp=Z,20nm,0.8s
GYA pmax pmax
comp=Z,140nm,5.2s
GYA LR LR
comp=Z,790nm,17.2s
GYA LR LR
comp=Z,640nm,18.0s
GYA LR LR
comp=Z,680nm,17.6s
CD2 Chengdu 31.61 270 P **P 03 39 45.5 -1.3**
CD2 pP sP 03 39 56.3 -0.1
CD2 sP pP 03 40 01.3 +7.7
CD2 S **S 03 44 51.3 -3.3**
CD2 sS sS 03 45 09.8 +4.0
CD2 pmax pmax
comp=Z,30nm,0.5s
CD2 pmax pmax
comp=Z,220nm,5.0s
CD2 LR LR
comp=Z,1µm,13.1s
CD2 LR LR
comp=Z,2µm,12.5s
CD2 LR LR
comp=Z,1µm,13.7s
MOY Mondy 31.91 310 *e*P **P 03 39 49.0 -0.3**
GTA Gaotai 32.51 287 P **P 03 39 56.0 +1.2**
GTA pP pP 03 40 01.3 -0.3
GTA sP sP 03 40 04.3 -0.1
GTA PP **PP 03 41 05.6 -2.7**
GTA PcP **PcP 03 42 42.4 +1.2**
GTA S **S 03 45 09.3 +0.6**
GTA sS sS 03 45 19.8 -0.1
GTA pmax pmax
comp=Z,5.0nm,1.0s
GTA pmax pmax
comp=Z,71nm,6.9s
GTA LR LR
comp=Z,460nm,11.3s
GTA LR LR
comp=Z,590nm,10.8s
GTA LR LR
comp=Z,670nm,10.9s
QIZ Qiongzhong 32.86 246 P **P 03 39 57.5 -0.3**
QIZ S **S 03 45 18.6 +4.5**
QIZ pmax pmax
comp=Z,35nm,1.1s
QIZ LR LR
comp=Z,510nm,11.4s
QIZ LR LR
comp=Z,620nm,11.2s
QIZ LR LR
comp=Z,630nm,11.7s
DAV Davao City (W) 33.08 210 LR LR 03 54 28.6
comp=Z,243nm,18.6s,baz=340,slow=38
BILL Bilibino 34.07 16*c i*P **P 03 40 07.6 -0.3**
BILL *e* 03 41 24.6
BILL pmax pmax
comp=Z,6.0nm,1.1s
BILL MLR MLR
comp=Z,404nm,16.0s
KMI Kunming 34.90 261 P **P 03 40 16.0 +0.3**
KMI pP pP 03 40 21.3 -1.3
KMI sP sP 03 40 24.3 -1.1
KMI S **S 03 45 41.6 -4.4**
KMI pmax pmax
comp=Z,15nm,1.2s
KMI pmax pmax
comp=Z,84nm,3.8s
KMI LR LR
comp=Z,330nm,12.8s
KMI LR LR
comp=Z,830nm,14.8s
KMI LR LR
comp=Z,810nm,14.8s
TIXI Tiksi 35.31 353 P **P 03 40 17.7 -0.8**
comp=Z,12nm,1.1s,baz=147,slow=8.0,SNR=17
TIXI Tiksi 35.31 353 *e*P **P 03 40 17.0 -1.5**
comp=Z,13nm,1.0s
TIXI Tiksi 35.31 353*de*P **P 03 40 17.5 -1.0**
TIXI pmax pmax
comp=Z,26nm,1.7s
HVS Khovu-Aksy 36.36 308⇑*e*P **P 03 40 25.8 -2.1**

HVS pmax pmax
comp=Z,6.0nm,0.9s
MYLDM Lahad Datu 37.95 219 *e*P **P 03 40 44.1 +2.5**
comp=Z,45nm,1.2s
SKNT Sakolnakorn 38.48 249 P **P 03 40 45.0 -1.0**
comp=Z,23nm,1.3s
RKPI Ransiki, Papua 38.89 191 P **P 03 40 47.6 -1.9**
comp=Z,316nm,0.8s
MANU Manus Island 39.25 170 *e*P **P 03 40 51.8 -0.6**
comp=Z,20nm,1.0s
JAY Jayapura 39.32 181 P **P 03 40 51.6 -1.5**
comp=Z,190nm,1.6s,comp=Z,3µm
GENI Genyem 39.41 182 P **P 03 40 53.6 -0.2**
comp=Z,102nm,1.1s
LBMI Labuha 39.59 202 P **P 03 40 56.4 +1.1**
comp=Z,119nm,0.8s,comp=Z,1µm
KMSI Cibinong 39.65 208 P **P 03 40 54.5 -1.3**
comp=Z,115nm,0.8s
KHON Khomkaen 39.74 249 P **P 03 40 56.9 +0.3**
comp=Z,20nm,1.1s,comp=Z,985nm
DGZ Jazzator, Alta 40.36 306 *i* P **P 03 41 02.0 +0.4**
DGZ pmax pmax
comp=Z,33nm,1.0s
CMAI Chiengmai2 40.52 257 P **P 03 41 04.4 +1.2**
comp=Z,198nm,0.8s,comp=Z,5µm
MRSI Marisa 40.53 211 P **P 03 41 03.1 0.0**
comp=Z,34nm,1.2s,comp=Z,664nm
FAKI Fak Fak 40.61 194 P **P 03 41 03.5 -0.3**
comp=Z,39nm,0.8s
FAKI Fak Fak 40.61 194 *e*P **P 03 41 07.7 +3.9**
comp=Z,26nm,0.7s
CHAI Chaiyaphum 40.64 250 P **P 03 41 03.5 -0.6**
comp=Z,24nm,1.0s,comp=Z,238nm
WMQ Urumqi 40.80 297 P **P 03 41 06.8 +1.6**
WMQ sP sP 03 41 14.6 -0.3
WMQ PcS **PcS 03 46 55.3 -1.5**
WMQ S **S 03 47 14.8 0.0**
WMQ pmax pmax
comp=Z,78nm,1.5s
WMQ pmax pmax
comp=Z,320nm,3.7s
WMQ LR LR
comp=Z,2µm,12.9s
WMQ LR LR
comp=Z,1µm,14.3s
WMQ LR LR
comp=Z,760nm,28.5s
PBKT Sadao Pong 40.99 251 P **P 03 41 05.6 -1.4**
comp=Z,45nm,1.1s
PBKT Sadao Pong 40.99 251 *e*P **P 03 41 05.9 -1.1**
comp=Z,46nm,1.2s
PHIT Phitsanulok 41.04 252 P **P 03 41 08.2 +0.8**
comp=Z,10nm,1.2s,comp=Z,217nm
CHTO Chiang Mai 41.22 256 P **P 03 41 09.1 +0.2**
comp=Z,61nm,1.5s
CHTO Chiang Mai 41.22 256 *e*P **P 03 41 09.2 +0.3**
comp=Z,14nm,1.0s
CHTO Chiang Mai 41.22 256 *e*P **P 03 41 09.2 +0.3**
CHTO pmax pmax
comp=Z,14nm,1.0s
SANI Sanana 41.39 204 P **P 03 41 09.8 -0.4**
comp=Z,71nm,0.9s,comp=Z,850nm
CM31 Chiang Mai Arr 41.43 255 *e*P **P 03 41 10.7 +0.1**
CMAR Chiang Mai Arr 41.43 255 P **P 03 41 10.7 +0.1**
comp=Z,2.7nm,0.7s,baz=43,slow=5.9,SNR=16
CMAR LR LR 04 00 12.5
comp=Z,236nm,20.0s,baz=49,slow=39
CMAR Chiang Mai Arr 41.43 255 P **P 03 41 10.7 +0.1**
CMAR pmax pmax
comp=Z,2.0nm,0.6s
CMAR MLR MLR
comp=Z,236nm,20.0s
CM01 Chiang Mai Arr 41.44 255 *e*P **P 03 41 09.8 -0.9**
MPSI Mapaga 41.53 213 P **P 03 41 11.1 -0.2**
comp=Z,13nm,0.9s
LUWI Luwuk 41.59 209 P **P 03 41 12.0 +0.2**
comp=Z,81nm,1.0s,comp=Z,3µm
MSAI Masohi 41.77 199 P **P 03 41 12.5 -0.8**
ZAA0 Zalesovo Array 41.89 312 *e*P **P 03 41 13.6 -0.3**
comp=Z,22nm,0.8s
ZAA1 Zalesovo Array 41.89 312 *e*P **P 03 41 13.6 -0.3**
ZAA1 *e*PcP **PcP 03 43 09.1 -0.2**
ZALV Zalesovo Beam 41.89 312 P **P 03 41 13.6 -0.3**
comp=Z,23nm,1.0s,baz=96,slow=7.4,SNR=36
ZALV PcP **PcP 03 43 09.1 -0.2**
comp=Z,5.7nm,0.7s,baz=80,slow=3.6,SNR=4.1
ZALV LR LR 03 57 19.2
comp=Z,123nm,18.6s,baz=72,slow=34
ZALV Zalesovo Beam 41.89 312 *e*P **P 03 41 13.0 -0.9**
ZALV Zalesovo Beam 41.89 312 *e*P **P 03 41 13.0 -0.9**
APSI Ampana 41.91 210 P **P 03 41 14.2 -0.3**
comp=Z,126nm,1.2s,comp=Z,1µm
NAYO Nakonayok 42.13 248 P **P 03 41 16.5 +0.2**
comp=Z,26nm,1.2s,comp=Z,6µm
NLAI Namlea 42.18 201 P **P 03 41 17.5 +0.9**
comp=Z,33nm,1.0s
AAI Ambon 42.30 200 P **P 03 41 16.6 -1.0**
comp=Z,97nm,0.9s,comp=Z,5µm
PCI Palu 42.66 213 P **P 03 41 19.9 -0.7**
comp=Z,75nm,1.3s,comp=Z,1µm
NVS Novosibirsk 42.82 314 *e*P **P 03 41 21.2 -0.2**
NVS pmax pmax
comp=Z,75nm,1.8s
NVS pmax pmax
comp=E,48nm,1.6s
SGKI Sangatta, Kali 43.34 216 P **P 03 41 26.4 +0.3**
comp=E,86nm,0.8s
SHL Shillong 43.34 269 *e*P **P 03 41 27.5 +1.2**
SMKI Samarinda 43.45 216 P **P 03 41 29.6 +2.6**
comp=E,105nm,0.6s,comp=E,5µm
SBUM Sibu 43.60 225 *e*P **P 03 41 28.3 +0.1**
comp=E,69nm,1.4s
SRDT SRDT 43.76 250 P **P 03 41 28.6 -0.9**
comp=E,42nm,1.3s
MK01 Makanchi Array 44.08 302 *e*P **P 03 41 31.1 -0.7**
MK31 Makanchi Array 44.08 302 *e*P **P 03 41 31.3 -0.5**
MK31 Makanchi Array 44.08 302 *e*P **P 03 41 31.3 -0.5**
MK32 Makanchi Array 44.08 302 *e*P **P 03 41 31.6 -0.2**
MK32 *e*PP **PcP 03 43 16.0 -0.8**
MKAR Makanchi Array 44.08 302 P **P 03 41 31.6 -0.2**
comp=E,5.7nm,0.7s,baz=83,slow=9.9,SNR=45
MKAR PP **PcP 03 43 16.0 -0.8**
comp=E,5.5nm,0.9s,baz=71,slow=6.2,SNR=3.2
MKAR LR LR 04 00 00.3
comp=E,298nm,19.9s,baz=84,slow=36
MKAR Makanchi Array 44.08 302 *e*P **P 03 41 31.3 -0.5**
comp=E,85nm,0.8s
MKAR Makanchi Array 44.08 302 *e*P **P 03 41 31.3 -0.5**
MKAR pmax pmax
comp=Z,85nm,0.8s
MAKZ Makanchi 44.29 302 *e*P **P 03 41 33.2 -0.3**
comp=Z,17nm,0.9s
MAKZ Makanchi 44.29 302 *e*P **P 03 41 33.2 -0.3**
MAKZ pmax pmax
comp=Z,17nm,0.9s
PHET Kaeng Krachan 44.29 248 P **P 03 41 34.2 +0.4**
comp=Z,30nm,0.9s,comp=Z,257nm
BKB Balikpapan 44.31 216 P **P 03 41 33.0 -0.9**
comp=Z,63nm,0.9s,comp=Z,2µm
TTSI Tana Toraja 44.59 211 P **P 03 41 38.1 +2.0**
comp=Z,18nm,1.1s
MTKI Muara Teweh, K 45.02 219 P **P 03 41 41.3 +1.8**
KSM Kuching 45.49 226 *e*P **P 03 41 40.2 -3.1**
comp=Z,47nm,0.8s
SVW2 Sparrevohn 45.58 37 *e*P **P 03 41 44.6 +1.0**
comp=Z,40nm,1.1s
BNSI Bone 45.70 210 P **P 03 41 46.1 +1.2**
comp=Z,107nm,1.2s,comp=Z,1µm
KURK Kurchatov 45.90 308 *e*P **P 03 41 45.9 -0.3**
comp=Z,42nm,0.8s
KURK Kurchatov 45.90 308 P **P 03 41 46.5 +0.3**
KURK pmax pmax
comp=Z,16nm,0.7s
KURBB Kurchatov Arra 45.97 308 P **P 03 41 46.5 -0.3**
comp=Z,16nm,0.7s,baz=84,slow=8.4,SNR=93
ODAN Odare 46.35 274 *e*P **P 03 41 49.9 -0.5**
comp=Z,73nm,0.8s
PMG Port Moresby 46.49 172 P **P 03 41 51.3 +0.3**
comp=Z,3.8nm,0.4s,baz=76,slow=1.8,SNR=3.1
PMG Port Moresby 46.49 172⇑*e*P **P 03 41 50.6 -0.5**
PMG pmax pmax
comp=Z,63nm,1.1s
IM3 Indian Mountai 46.71 31 *e*P **P 03 41 52.4 +0.1**
IM3 *e*PcP **PcP 03 43 26.4 +0.9**
PDGK Podgornoye 46.73 298 P **P 03 41 52.1 -0.9**
PDGK pmax pmax
comp=Z,47nm,1.2s

RAMN **Ramite** 46.94 274 *e*P P 03 41 54.4 -0.6
comp=Z,157nm,0.9s
JIRN **Jiri** 46.96 275 *e*P P 03 41 55.0 -0.2
comp=Z,162nm,1.0s
GUN **Gumba** 47.10 276 *e*P P 03 41 55.9 -0.4
comp=Z,168nm,1.0s
KDAK **Kodiak Island** 47.16 42 *e*P P 03 41 56.6 +0.6
comp=Z,38nm,0.9s
KDAK **Kodiak Island** 47.16 42 *i* P P 03 41 56.5 +0.6
PPLA **Purkeypile** 47.23 35 *e*P P 03 41 58.5 +1.9
comp=Z,68nm,1.4s
CAST **Castle Rocks** 47.28 34 *e*P P 03 41 58.6 +1.7
comp=Z,16nm,1.0s
SKLT **Songkhla** 47.44 241 P P 03 41 58.1 -0.5
comp=Z,41nm,1.2s,comp=Z,604nm
SKT **Skwentna** 47.53 36 *e*P P 03 41 59.9 +1.1
comp=Z,21nm,1.2s
KKN **Kakani** 47.63 276 *e*P P 03 41 59.7 -0.6
comp=Z,92nm,0.8s
TRTT **Trang** 47.63 243 P P 03 41 59.5 -0.6
comp=Z,19nm,1.2s,comp=Z,200nm
BPAW **Bear Paw Mtn.** 47.78 33 *e*P P 03 42 02.1 +1.3
comp=Z,44nm,1.6s
KTH **Kantishna Hill** 47.81 34 *e*P P 03 42 02.8 +1.8
comp=Z,46nm,1.1s
DMN **Daman** 47.84 276 *e*P P 03 42 01.4 -0.6
comp=Z,44nm,1.0s
MLY **Manley** 47.91 32 *e*P P 03 42 03.2 +1.5
comp=Z,32nm,1.0s
MLY *e*PcP PcP 03 43 31.9 +2.0
SUA **Susitna One** 47.92 37 *e*P P 03 42 02.7 +0.7
comp=Z,20nm,1.0s
BRLK **Bradley Lake** 47.92 39 *e*P P 03 42 03.5 +1.6
comp=Z,26nm,1.0s
GKN **Gorkha** 48.05 276 *e*P P 03 42 03.1 -0.3
TRF **Thorofare Moun** 48.09 34 *e*P P 03 42 04.5 +1.2
comp=Z,16nm,0.9s
COLD **Coldfoot** 48.21 29 *e*P P 03 42 05.1 +1.1
comp=Z,31nm,1.8s
TARG **Taragay, Kyrgy** 48.36 296 *e*P P 03 42 06.8 +0.8
comp=Z,38nm,0.9s
RC01 **Rabbit Creek A** 48.42 37 *e*P P 03 42 06.5 +0.8
comp=Z,38nm,1.0s
TOLK **Toolik Lake Re** 48.52 27 P P 03 42 07.8 +1.4
baz=267
TOLK **Toolik Lake Re** 48.52 27 *e*P P 03 42 07.8 +1.4
comp=Z,41nm,1.1s
PKDT **Phuket** 48.57 244 P P 03 42 07.1 -0.3
comp=Z,55nm,1.0s,comp=Z,1µm
DANN **Dangsing** 48.59 277 *e*P P 03 42 08.1 +0.3
PMR **Palmer** 48.69 37 *e*P P 03 42 08.0 +0.3
comp=Z,32nm,1.0s
PMR **Palmer** 48.69 37 *e*P P 03 42 08.0 +0.3
PMR pmax pmax
comp=Z,32nm,1.0s
KDJ **Kajisay** 48.69 297 *e*P P 03 42 08.7 +0.4
comp=Z,17nm,0.9s
MCK **McKinley** 48.69 34 *e*P P 03 42 08.4 +0.6
comp=Z,21nm,1.0s
MCK **McKinley** 48.69 34 *e*P P 03 42 08.4 +0.6
MCK pmax pmax
comp=Z,21nm,1.0s
RND **Reindeer** 48.74 34 *e*P P 03 42 08.6 +0.4
comp=Z,31nm,1.0s
RND **Reindeer** 48.74 34 *e*P P 03 42 08.6 +0.4
RND pmax pmax
comp=Z,31nm,1.0s
KULM **Kulim** 48.75 240 *e*P P 03 42 08.5 -0.3
comp=Z,50nm,1.3s
GHO **Glory Hole Cre** 48.77 36 *e*P P 03 42 09.2 +0.7
comp=Z,43nm,1.0s
KOLN **Koldanda** 48.97 277 *e*P P 03 42 10.2 -0.4
comp=Z,68nm,0.9s
MDM **Murphy Dome** 48.97 32 *e*P P 03 42 11.3 +1.3
comp=Z,64nm,1.1s
WRH **Wood River Hil** 49.04 33 *e*P P 03 42 11.5 +1.1
comp=Z,9.0nm,0.8s
WRH *e*PcP PcP 03 43 34.0 0.0
SML **Sawmill** 49.05 36 *e*P P 03 42 11.8 +1.2
comp=Z,26nm,0.8s
SML **Sawmill** 49.05 36 *e*P P 03 42 11.8 +1.2
SML pmax pmax
comp=Z,26nm,0.8s
IPM **Ipoh** 49.07 239 *e*P P 03 42 10.5 -0.8
comp=Z,45nm,0.9s
COLA **College** 49.14 32 *e*P P 03 42 12.7 +1.6
comp=Z,36nm,1.3s
COLA **College** 49.14 32 *e*P P 03 42 12.7 +1.6
COLA pmax pmax
comp=Z,36nm,1.3s
CCB **Clear Creek Bu** 49.16 33 *e*P P 03 42 12.3 +0.9
comp=Z,14nm,1.5s
SOEI **Soe** 49.20 202 P P 03 42 12.8 +0.6
comp=Z,128nm,1.1s
SOEI **Soe** 49.20 202 *e*P P 03 42 11.4 -0.9
comp=Z,84nm,0.9s
PYUN **Piuthan** 49.31 277 *e*P P 03 42 12.9 -0.3
comp=Z,272nm,0.9s
HNR **Honiara** 49.38 155 LR LR 04 03 59.7
comp=Z,132nm,19.0s,baz=334,slow=37
DHY **Denali Highway** 49.42 35 *e*P P 03 42 14.4 +0.8
comp=Z,56nm,1.7s
TPRI **Tanjung Pinang** 49.43 232 P P 03 42 14.6 +0.7
SCM **Sheep Creek Mo** 49.53 36 *e*P P 03 42 15.2 +0.9
comp=Z,34nm,1.0s
SCM **Sheep Creek Mo** 49.53 36 *e*P P 03 42 15.2 +0.9
SCM pmax pmax
comp=Z,34nm,1.0s
IL1 **Eielson Array** 49.55 32 *e*P P 03 42 13.8 -0.5
ILAR **Eielson Array** 49.55 32 P P 03 42 14.6 +0.2
comp=Z,16nm,0.8s,baz=269,slow=6.3,SNR=161
ILB **Eielson Array** 49.55 32 *e*P P 03 42 14.7 +0.4
TKM2 **Tokmak 2** 49.59 298 P P 03 42 14.8 -0.4
TKM2 pmax pmax
comp=Z,43nm,1.5s
NRN **Naryn** 49.74 296 *e*P P 03 42 16.9 +0.4
comp=Z,13nm,1.1s
NRN **Naryn** 49.74 296 *e*P P 03 42 16.9 +0.4
NRN pmax pmax
comp=Z,13nm,1.1s
BATI **Baumata** 49.81 203 P P 03 42 16.1 -0.7
comp=Z,35nm,0.6s,baz=327,slow=1.1,SNR=6.7
BATI **Baumata** 49.81 203 P P 03 42 16.9 +0.1
PAX **Paxson** 50.30 35 *e*P P 03 42 21.4 +1.3
comp=Z,18nm,1.2s
PAX *e*PcP PcP 03 43 39.6 +0.9
PAX **Paxson** 50.30 35 *e*P P 03 42 21.4 +1.3
PAX *e* 03 43 39.6
PAX pmax pmax
comp=Z,18nm,1.2s
FRU **Bishkek** 50.30 299 *e*P P 03 42 18.0 -2.4
FRU *e* 03 44 22.0
FRU pmax pmax
comp=Z,70nm,2.0s
DIV **Divide** 50.34 37 *e*P P 03 42 21.5 +1.1
comp=Z,53nm,1.1s
KSH **Kashi** 50.36 294 P P 03 42 25.0 +4.0
KSH sP sP 03 42 33.4 +2.6
KSH PcP PcP 03 43 41.3 +1.9
KSH S S 03 49 36.8 +3.9
KSH ScS ScS 03 52 09.3 -1.6
KSH pmax pmax
comp=Z,45nm,1.2s
KSH pmax pmax
comp=Z,370nm,4.4s
KSH LR LR
comp=Z,790nm,9.9s
KSH LR LR
comp=Z,730nm,9.4s
KSH LR LR
comp=Z,1µm,9.8s
OTUK **Ortayu** 50.39 306 P P 03 42 20.1 -0.9
OTUK pmax pmax
comp=Z,33nm,1.3s
EYAK **Cordova Ski Ar** 50.41 38 *e*P P 03 42 22.6 +1.7
comp=Z,28nm,1.0s
AAK **Ala-Archa** 50.45 298 P P 03 42 21.4 -0.3
comp=Z,3.9nm,1.0s,baz=80,slow=8.9,SNR=11
AAK **Ala-Archa** 50.45 298 *e*P P 03 42 21.8 +0.2
AAK **Ala-Archa** 50.45 298 *e*eP P 03 42 21.9 +0.2
AAK pmax pmax
comp=Z,6.0nm,1.1s
HARP **HAARP** 50.49 35 *e*P P 03 42 23.3 +1.8
comp=Z,25nm,0.9s
MTN **Manton Dam** 50.50 193 *e*P P 03 42 21.1 -0.9
comp=Z,68nm,0.9s
RIDG **Independ'e Rid** 50.51 34 *e*P P 03 42 22.3 +0.7
comp=Z,12nm,1.0s
BVA0 **Borovoye Array** 50.55 312 *i* P P 03 42 20.9 -1.1
BVA0 pmax pmax
comp=Z,16nm,1.1s
BVAR **Borovoye Array** 50.55 312 P P 03 42 22.0 0.0
comp=Z,6.7nm,0.8s,baz=78,slow=7.7,SNR=27
BVAR PcP PcP 03 43 39.6 0.0
comp=Z,8.2nm,0.8s,baz=90,slow=4.4,SNR=7.1
BVAR LR LR 04 03 37.7
comp=Z,146nm,20.2s,baz=78,slow=36
BRVK **Borovoye** 50.60 312 *e*P P 03 42 22.6 +0.1
comp=Z,22nm,1.0s
BRVK **Borovoye** 50.60 312 *d i*P P 03 42 21.8 -0.6
BRVK pmax pmax
comp=Z,24nm,1.2s
PLAI **Plampang** 50.66 211 P P 03 42 22.7 -0.6
COEN **Coen** 50.72 178 *e*P P 03 42 23.8 +0.2
comp=Z,36nm,1.1s
KMMI **Kalianget** 50.76 216 P P 03 42 22.7 -1.3
PPBI **Pangkal Pinang** 50.86 228 P P 03 42 23.7 -1.1
DOT **Dot Lake** 50.86 34 *e*P P 03 42 24.7 +0.4
comp=Z,217nm,2.0s
SCRK **Sand Creek** 50.87 33 *e*P P 03 42 24.9 +0.5
comp=Z,43nm,1.1s
BMRM **Bremner River** 50.92 37 *e*P P 03 42 26.4 +1.6
comp=Z,28nm,1.0s
RAGM **Ragged Mountai** 50.96 38 *e*P P 03 42 27.1 +2.0
comp=Z,52nm,1.4s
MENT **Mentasta** 51.09 35 *e*P P 03 42 27.7 +1.7
comp=Z,28nm,1.0s
SRBI **Singaraja** 51.10 214 P P 03 42 27.4 +0.9
TSI **Tuntungan** 51.47 240 P P 03 42 30.0 +0.6
comp=Z,132nm,0.4s,comp=Z,7µm
TBJI **Tambak Boyo** 51.59 219 P P 03 42 29.7 -0.5
comp=Z,50nm,1.3s
PSI **Prapat** 51.73 239 P P 03 42 31.2 -0.2
comp=Z,12nm,0.9s,baz=8.3,slow=6.4,SNR=11
PSI LR LR 04 05 16.9
comp=Z,162nm,18.4s,baz=32,slow=37
PSI **Prapat** 51.73 239 *e*P P 03 42 30.7 -0.7
comp=Z,32nm,0.9s
PSI **Prapat** 51.73 239 *e*P P 03 42 30.7 -0.7
PSI pmax pmax
comp=Z,32nm,0.9s
RGRI **Rengat** 51.80 233 P P 03 42 31.1 -0.7
comp=Z,294nm,0.4s,comp=Z,31µm
EGAK **Eagle** 52.00 32 *e*P P 03 42 33.3 +0.6
comp=Z,25nm,1.3s
BALM **Baldy** 52.00 37 *e*P P 03 42 34.4 +1.4
comp=Z,16nm,0.9s
BALM **Baldy** 52.00 37 *e*P P 03 42 34.4 +1.4
BALM pmax pmax
comp=Z,16nm,0.9s
KCSI **Kotacane, Aceh** 52.01 241 P P 03 42 31.0 -2.4
comp=Z,356nm,0.6s,comp=Z,16µm
BKNI **Bangkinang** 52.12 235 P P 03 42 35.0 +0.7
comp=Z,196nm,1.0s
BKNI **Bangkinang** 52.12 235 *e*P P 03 42 34.9 +0.6
comp=Z,137nm,0.9s
MLSI **Meulaboh, Aceh** 52.45 243 P P 03 42 36.7 0.0
comp=Z,86nm,1.0s
MNSI **Mandailing Nat** 52.74 237 P P 03 42 38.4 -0.5
comp=Z,30nm,0.9s,comp=Z,6µm
DAWY **Dawson** 52.86 33 *e*P P 03 42 40.3 +1.1
comp=Z,25nm,1.6s
WOJI **Wonogiri, Jawa** 52.93 219 P P 03 42 39.6 -0.5
comp=Z,31nm,0.9s
KK31 **Karatay Array** 53.09 300 *e*P P 03 42 40.9 -0.2
KK31 **Karatay Array** 53.09 300 *e*P P 03 42 40.9 -0.2
KKAR **Karatay Array** 53.09 300 *e*P P 03 42 40.9 -0.2
KKAR **Karatay Array** 53.09 300 *e*P P 03 42 40.9 -0.2
GSI **Gunungsitoli** 53.73 239 P P 03 42 44.7 -1.5
comp=Z,246nm,1.2s,comp=Z,3µm
GSI **Gunungsitoli** 53.73 239 *e*P P 03 42 46.5 +0.3
comp=Z,210nm,1.0s
KLI **Kotabumi** 53.78 227 P P 03 42 46.3 -0.1
comp=Z,111nm,0.4s,comp=Z,6µm
LEM **Lembang** 53.81 223 P P 03 42 46.8 -0.1
comp=Z,19nm,0.3s,baz=84,slow=5.3,SNR=6.8
LEM **Lembang** 53.81 223 P P 03 42 46.4 -0.5
comp=Z,884nm,1.6s
MDSI **Maura Dua** 53.88 228 P P 03 42 45.9 -1.3
comp=Z,58nm,1.1s,comp=Z,957nm
MASI **Maura Aman, Be** 54.00 231 P P 03 42 50.3 +2.1
comp=Z,114nm,1.4s
HYT **Haines Junctio** 54.36 37 *e*P P 03 42 52.0 +1.6
comp=Z,80nm,1.3s
INK **Inuvik** 54.44 27 P P 03 42 51.5 +1.0
comp=Z,18nm,1.0s,baz=283,slow=7.3,SNR=61
INK **Inuvik** 54.44 27 *e*P P 03 42 51.6 +1.0
comp=Z,23nm,0.9s
NIL **Nilore** 54.57 288 *e*P P 03 42 52.7 +0.6
comp=Z,48nm,1.0s
NIL **Nilore** 54.57 288 *e*P P 03 42 52.7 +0.6
NIL pmax pmax
comp=Z,48nm,1.0s
SVE **Sverdlovsk** 55.13 319 *ce*P P 03 42 55.8 0.0
SVE pmax pmax
comp=Z,65nm,1.1s
SVE MLR MLR
comp=Z,575nm,15.0s
WHY **Whitehorse** 55.65 36 *e*P P 03 42 58.0 -1.6
comp=Z,23nm,1.0s
SKAG **Skagway** 55.76 38 *e*P P 03 43 02.6 +2.3
comp=Z,34nm,1.2s
BESE **Bessie Mountai** 56.24 39 *e*P P 03 43 06.1 +2.3
comp=Z,65nm,1.4s
ARU **Arti** 56.34 319 P P 03 43 04.2 -0.3
comp=Z,25nm,0.7s,baz=72,slow=3.8,SNR=54
ARU **Arti** 56.34 319 *e*P P 03 43 03.8 -0.7
comp=Z,52nm,0.9s
ARU **Arti** 56.34 319 *d i*P P 03 43 04.0 -0.5
ARU 03 43 58.0
ARU 03 45 09.0
ARU S S 03 50 56.3 +3.0
ARU SS SS 03 54 35.8 -4.0
ARU pmax pmax
comp=Z,112nm,1.7s
ARU MLR MLR
comp=Z,271nm,16.0s
WRAB **Tennant Creek** 57.01 188 *e*P P 03 43 07.2 -2.4
comp=Z,36nm,0.9s
WRAB **Tennant Creek** 57.01 188 *d i*P P 03 43 08.2 -1.4
WRAB pmax pmax
comp=Z,69nm,1.7s
WB2 **Warramunga Arr** 57.02 188 *e*P P 03 43 08.5 -1.1
comp=Z,36nm,0.9s
WR1 **Warramunga Arr** 57.02 188 *e*P P 03 43 08.3 -1.3
comp=Z,29nm,0.9s
WRA **Warramunga Arr** 57.02 188 P P 03 43 08.3 -1.3
comp=Z,26nm,0.9s,baz=4.8,slow=7.4,SNR=154
KBL **Kabul** 57.37 291 *e*P P 03 43 12.5 +0.1
comp=Z,29nm,1.0s
KBL **Kabul** 57.37 291 *e*P P 03 43 12.5 +0.1
KBL pmax pmax
comp=Z,29nm,1.0s
AB31 **Akbulak array** 57.91 310 *i* P P 03 43 14.3 -1.4
AB31 pmax pmax
comp=Z,15nm,0.9s
ABKAR **Akbulak array** 57.91 310 *e*P P 03 43 15.2 -0.6
HYB **Hyderabad** 58.14 268 *i* P P 03 43 19.0 +1.2
AKTO **Aktyubinsk** 58.65 312 LR LR 04 08 56.6
comp=Z,164nm,20.5s,baz=63,slow=36
AKTO **Aktyubinsk** 58.65 312 P P 03 43 19.9 -1.0
AKTO pmax pmax
comp=Z,19nm,0.9s
DLBC **Dease Lake** 58.69 38 *e*P P 03 43 23.3 +2.2
comp=Z,40nm,1.2s
SPA0 **Spitsbergen Ar** 60.54 349 *e*P P 03 43 33.8 +0.3
SPITS **Spitsbergen Ar** 60.54 349 P P 03 43 33.8 +0.3
comp=Z,5.1nm,0.8s,baz=243,slow=18,SNR=5.9
SPITS LR LR 04 11 14.4
comp=Z,99nm,18.6s,baz=340,slow=38
AS01 **Alice Springs** 60.74 188 *e*P P 03 43 33.9 -1.5
AS31 **Alice Springs** 60.75 188 *e*P P 03 43 34.6 -0.9
comp=Z,4.7nm,0.9s
ASAR **Alice Springs** 60.75 188 P P 03 43 34.6 -0.9
comp=Z,15nm,0.8s,baz=10,slow=6.1,SNR=133
ASAR LR LR 04 09 22.1
comp=Z,74nm,20.1s,baz=26,slow=36
POO **Poona** 61.31 272 *i*P P 03 43 35.0 -4.6
comp=Z,4.0nm,1.0s
MBWA **Marble Bar** 61.34 203 *e*P P 03 43 38.7 -0.8
comp=Z,20nm,0.8s
RES **Resolute Bay** 62.65 14 *e*P P 03 43 47.7 0.0
comp=Z,22nm,1.1s
RES **Resolute Bay** 62.65 14 *e*P P 03 43 47.7 0.0
RES pmax pmax
comp=Z,22nm,1.1s
TMCR **Tamitsa** 62.74 331 *e*P P 03 43 48.1 -0.4
TMCR pmax pmax
comp=Z,35nm,0.6s
DZM **Mont Dzumac** 63.35 154 P P 03 43 54.6 +1.5
comp=Z,27nm,1.0s,baz=92,slow=17,SNR=4.3
DZM **Mont Dzumac** 63.35 154 *e*P P 03 43 54.6 +1.5
comp=Z,55nm,1.2s
KLMR **Klimovskoe** 63.75 328 *e*P P 03 43 53.1 -2.1
KLMR AMP 03 44 01.3
comp=Z,29nm,1.0s
KLMR *e*PP PP 03 46 12.2 -2.8
KLMR **Klimovskoe** 63.75 328 *e*P P 03 43 53.0 -2.1
KLMR *e* 03 46 12.1
KLMR pmax pmax
comp=Z,29nm,1.0s
GEYT **Alibeck** 63.80 299 P P 03 43 56.3 +0.3
comp=Z,22nm,1.1s,baz=48,slow=2.4,SNR=25
GEYT LR LR 04 13 00.7
comp=Z,114nm,20.3s,baz=30,slow=37
YKA **Yellowknife Ar** 63.87 30 P P 03 43 56.2 +0.3
comp=Z,6.4nm,0.9s,baz=299,slow=6.6,SNR=97
ARA0 **ARCESS Array S** 64.00 339 *e*P P 03 43 57.0 +0.3
ARCES **ARCESS Array B** 64.00 339 P P 03 43 57.0 +0.2
comp=Z,2.2nm,0.6s,baz=57,slow=8.3,SNR=12
TULEG **Thule** 65.14 7 *e*P P 03 44 03.5 -0.6
comp=Z,28nm,1.4s
DAG **Danmarks Havn** 65.80 355 *i* P P 03 44 07.6 -0.7
comp=Z,24nm,1.3s
DAG **Danmarks Havn** 65.80 355 *i* P P 03 44 07.6 -0.7
DAG pmax pmax
comp=Z,24nm,1.3s
LLLB **Lillooet** 66.32 44 *e*P P 03 44 13.6 +1.4
comp=Z,21nm,1.2s
A04D **Lummi Island** 66.80 46 P P 03 44 17.2 +2.0
baz=300
AFI **Afiamalu** 67.16 130 LR LR 04 11 02.7
comp=Z,51nm,19.3s,baz=288,slow=34
MOS **Moscow** 67.24 323 *e*P P 03 44 16.6 -1.2
MOS *e* 03 46 44.7
MOS *e* 03 53 09.5
MOS pmax pmax
comp=Z,57nm,0.8s
B05A **Bryant** 67.38 46 P P 03 44 20.8 +1.9
baz=301
VRH **Novokhopyorsk** 67.56 318 *e*P P 03 44 18.5 -1.5
VRH *e*SP pP 03 44 24.9 -2.3
VRH pmax pmax
comp=Z,20nm,0.6s
D05A **Enumclaw** 67.99 47 *e*P P 03 44 25.3 +2.5
comp=Z,59nm,1.5s
OBN **Obninsk** 68.08 323 *i* P P 03 44 22.4 -0.8
OBN *i* 03 44 35.8
OBN *i* 03 46 54.4
OBN pmax pmax
comp=Z,38nm,1.2s
OBN MLR MLR
comp=Z,196nm,15.0s
G03D **McMinnville, O** 68.24 49 P P 03 44 26.3 +1.9
baz=301
LPSR **Galich'ya Gora** 68.28 320 *e*P P 03 44 24.3 -0.2
LPSR *e*SP pP 03 44 30.4 -1.3
LPSR pmax pmax
comp=Z,40nm,0.9s
STKA **Stephens Creek** 68.52 180 P P 03 44 25.2 -0.8
comp=Z,10nm,1.1s,baz=346,slow=9.2,SNR=11
STKA **Stephens Creek** 68.52 180 *e*P P 03 44 26.0 -0.1
comp=Z,3.2nm,1.1s
STKA **Stephens Creek** 68.52 180 *e*P P 03 44 26.0 -0.1
STKA pmax pmax
comp=Z,3.0nm,1.1s
FORT **Forrest** 68.57 192 *e*P P 03 44 26.4 +0.1
comp=Z,64nm,0.8s
LTY **Liberty** 68.72 46 *e*P P 03 44 28.7 +1.2
comp=Z,10nm,1.0s
FIA1 **FINESS Array S** 68.81 332 *e*P P 03 44 27.6 -0.1
FIA0 **FINESS Array S** 68.81 332 *e*P P 03 44 27.5 -0.1
FIA0 **FINESS Array S** 68.81 332 *e*P P 03 44 27.5 -0.1
FINES **FINESS Array B** 68.81 332 P P 03 44 27.5 -0.1
comp=Z,12nm,0.8s,baz=64,slow=8.7,SNR=42
FINES LR LR 04 19 42.3
comp=Z,167nm,18.6s,baz=36,slow=40
B08A **Colville Reser** 68.90 45 *e*P P 03 44 29.4 +0.9
comp=Z,13nm,1.1s
VSR **Storozhevoye** 68.91 319 *e*P P 03 44 27.3 -1.1
VSR *e*SP pP 03 44 33.5 -2.2
VSR pmax pmax
comp=Z,30nm,0.9s
I03D **Drain, OR** 68.97 51 P P 03 44 30.9 +1.9
baz=302
AKT **Akhty** 69.05 307 *e*P P 03 44 28.4 -1.2
AKT *e* 03 44 52.0
AKT pmax pmax
comp=Z,47nm,1.1s
H04A **Detroit Lake** 69.17 49 *e*P P 03 44 29.7 -0.5
comp=Z,35nm,1.1s
GROC **Groznyy** 69.37 309 *e*P P 03 44 25.6 -5.8
GROC *e*S S 03 53 31.5 -5.5
GROC pmax pmax
comp=Z,49nm,1.4s
G05D **Wamic, OR** 69.40 48 P P 03 44 33.3 +1.6
baz=302
EDM **Edmonton** 69.41 38 *e*P P 03 44 32.5 +0.9
comp=Z,48nm,1.3s
EDM **Edmonton** 69.41 38 *e*P P 03 44 32.5 +0.9
EDM pmax pmax
comp=Z,49nm,1.3s
I04A **Tendick Farm,** 69.50 50 P P 03 44 33.7 +1.4
baz=302,SNR=5.6
BBOO **Buckleboo** 69.63 185 *e*P P 03 44 32.9 0.0
comp=Z,26nm,1.1s
C09A **Chrisman Ranch** 69.80 45 *e*P P 03 44 35.4 +1.4
comp=Z,23nm,1.3s
G06A **Carlson Farm,** 69.81 48 *e*P P 03 44 35.9 +1.6
comp=Z,21nm,1.1s
D08A **Wollman Farm,** 69.84 46 *e*P P 03 44 35.6 +1.4
comp=Z,12nm,1.0s
I05D **Terrebonne, OR** 69.87 49 P P 03 44 35.7 +1.2
baz=302,SNR=5.4
F07A **Phinny Hill Vi** 69.88 47 *e*P P 03 44 36.5 +2.0
J04D **Umpqua Nationa** 69.98 51 P P 03 44 37.0 +1.5
baz=302,SNR=6.0
GOF **Gofitskoye** 70.07 312 *e*P P 03 44 35.5 -0.2
GOF pmax pmax
comp=Z,95nm,1.3s
NEW **Newport** 70.19 44 P P 03 44 37.4 +0.9
baz=304,SNR=8.9
NEW **Newport** 70.19 44 *e*P P 03 44 37.8 +1.3
comp=Z,13nm,1.0s
NEW **Newport** 70.19 44 *e*P P 03 44 37.8 +1.3
NEW pmax pmax
comp=Z,13nm,1.0s
PINE **Pine Mountain** 70.41 50 *e*P P 03 44 39.9 +1.9
comp=Z,48nm,0.9s
YBH **Yreka Blue Hor** 70.41 52 P P 03 44 39.2 +1.2
comp=Z,11nm,1.1s,baz=286,slow=3.8,SNR=10
YBH **Yreka Blue Hor** 70.41 52 *e*P P 03 44 40.1 +2.1
comp=Z,13nm,1.0s
VSU **Vasula** 70.45 330 *d i*P P 03 44 37.3 -0.4
VSU pmax pmax
comp=Z,59nm,1.0s
J05D **Fort Rock, OR** 70.50 50 P P 03 44 40.4 +1.8
baz=303,SNR=12
M02C **Callahan** 70.50 53 P P 03 44 40.5 +1.9
baz=302
K04D **Chiloquin, OR** 70.53 51 P P 03 44 40.3 +1.5
baz=303
NCK **Nalchik** 70.58 310 *e*P P 03 44 39.1 +0.2
NCK pmax pmax
comp=Z,18nm,1.2s
E09A **Wood Farm, Sta** 70.58 46 *e*P P 03 44 40.4 +1.6
comp=Z,22nm,1.0s
SUMG **Summit** 70.72 360 *i* P P 03 44 39.9 +0.2
comp=Z,37nm,1.4s
SUMG **Summit** 70.72 360 *e*P P 03 44 40.8 +1.1
comp=Z,29nm,1.3s
SUMG **Summit** 70.72 360 *i* P P 03 44 39.9 +0.2
SUMG pmax pmax
comp=Z,37nm,1.4s
ZEI **Tsey** 70.77 309 *e*P P 03 44 37.0 -3.3
ZEI pmax pmax
comp=Z,12nm,0.9s
G08A **Pilot Rock** 70.78 47 *e*P P 03 44 41.7 +1.5
comp=Z,9.7nm,1.1s
WSAR **Wadi Sarin** 70.81 285 LR LR 04 18 52.0

comp=Z,84nm,20.4s,baz=76,slow=38
TBLG Delisi 70.82 308 *e*P P 03 44 41.1 +0.7
comp=Z,34nm,1.1s
TBLG Delisi 70.82 308 *e*P P 03 44 41.1 +0.7
TBLG pmax pmax
comp=Z,35nm,1.1s
N02D Trinity Center 70.82 53 P P 03 44 42.2 +1.7
baz=303,SNR=5.2
KVAR Kislovodsk Arr 70.87 311 P P 03 44 40.7 -0.1
comp=Z,73nm,1.2s,baz=207,slow=3.4,SNR=15
KBZ Khabaz 70.87 311 P P 03 44 41.0 +0.4
comp=Z,19nm,1.0s,baz=60,slow=4.0,SNR=23
KBZ LR LR 04 16 22.9
comp=Z,179nm,19.5s,baz=50,slow=36
KIV Kislovodsk 70.88 311 *e*P P 03 44 41.0 +0.3
comp=Z,67nm,1.0s
KIV Kislovodsk 70.88 311 *e*P P 03 44 41.1 +0.3
KIV pmax pmax
comp=Z,67nm,1.0s
M04C Macdoel 70.93 52 P P 03 44 42.7 +1.5
baz=303,SNR=8.6
K05A Summer Lake 71.01 51 *e*P P 03 44 43.9 +2.1
comp=Z,56nm,1.1s
WDC Whiskeytown Da 71.14 53 *e*P P 03 44 44.0 +1.7
comp=Z,16nm,1.1s
WDC Whiskeytown Da 71.14 53 *e*P P 03 44 44.0 +1.7
WDC pmax pmax
comp=Z,16nm,1.1s
NEY Neytrino 71.24 310⇑ *e*P P 03 44 43.6 +0.5
NEY pmax pmax
comp=Z,2.0nm,0.9s
F10A Beach Ranch, E 71.41 46 *e*P P 03 44 45.3 +1.3
comp=Z,6.3nm,0.9s
WALA Waterton Lakes 71.50 42 *e*P P 03 44 45.9 +1.4
comp=Z,12nm,0.9s
GNI Garni 71.67 307 LR LR 04 20 12.3
comp=Z,71nm,18.1s,baz=63,slow=39
GNI Garni 71.67 307 *e*P P 03 44 46.6 +0.8
comp=Z,54nm,1.3s
GNI Garni 71.67 307 *de*P P 03 44 45.9 +0.1
GNI pmax pmax
comp=Z,83nm,1.2s
O03D Paynes Creek 71.77 53 P P 03 44 46.9 +0.6
baz=303,SNR=13
AKH Akhalkalaki 71.78 308⇑ *i*P P 03 44 47.2 +0.9
AKH Akhalkalaki 71.78 308 *e*P P 03 44 47.3 +0.9
comp=Z,14nm,1.0s
AKH Akhalkalaki 71.78 308 *e*P P 03 44 47.3 +0.9
AKH pmax pmax
comp=Z,14nm,1.0s
MOD Modoc Plateau 71.83 51 *e*P P 03 44 48.2 +1.6
comp=Z,19nm,1.1s
GDXM Geysers 71.94 55 *e*P P 03 44 49.4 +2.2
comp=Z,25nm,1.2s
BMO Blue Mountains 72.00 47 *e*P P 03 44 48.8 +1.2
comp=Z,13nm,0.9s
BMO Blue Mountains 72.00 47 *e*P P 03 44 48.8 +1.2
BMO pmax pmax
comp=Z,13nm,0.9s
JTMT Jette 72.06 43 *e*P P 03 44 49.5 +1.6
comp=Z,14nm,0.9s
SCO Scoresbysund 72.14 354 *i* P P 03 44 48.7 +0.9
comp=Z,24nm,1.5s
SCO Scoresbysund 72.14 354 *e*P P 03 44 48.8 +1.1
comp=Z,16nm,1.3s
SCO Scoresbysund 72.14 354 *i* P P 03 44 48.7 +0.9
SCO pmax pmax
comp=Z,24nm,1.5s
J08A Circle Bar Ran 72.14 49 *e*P P 03 44 50.4 +1.9
comp=Z,37nm,1.3s
ORV Oroville 72.37 54 *e*P P 03 44 50.4 +0.7
comp=Z,23nm,1.2s
ORV Oroville 72.37 54 *e*P P 03 44 50.4 +0.7
ORV pmax pmax
comp=Z,23nm,1.2s
IZAR Zarasai 72.40 328 *e*P P 03 44 49.7 +0.1
IZAR IAmb IAmb 03 44 57.2
comp=Z,8.4nm,0.8s
IDID Didziasalis 72.47 327 *e*P P 03 44 50.2 +0.2
IDID IAmb IAmb 03 44 57.5
comp=Z,10nm,0.8s
MICGM Minsk 72.48 326 *e* P 03 44 49.0 -1.1
WVOR Wild Horse Val 72.56 50 *e*P P 03 44 52.2 +1.3
comp=Z,38nm,1.5s
WVOR Wild Horse Val 72.56 50 *e*P P 03 44 52.3 +1.3
WVOR pmax pmax
comp=Z,38nm,1.5s
IIGN Ignalina 72.67 327 *e*P P 03 44 51.4 +0.2
IIGN IAmb IAmb 03 44 58.8
comp=Z,13nm,1.0s
NACGM Naroch 72.72 327 *e* P 03 44 51.0 -0.5
MSO Missoula 72.78 44 P P 03 44 52.8 +0.6
baz=306,SNR=10
MSO Missoula 72.78 44 *e*P P 03 44 53.2 +1.0
comp=Z,11nm,1.0s
BEKR Beckworth 72.92 53 *e*P P 03 44 54.6 +1.3
comp=Z,25nm,1.0s
AFDM Forest Hills D 73.04 54 *e*P P 03 44 55.3 +1.4
comp=Z,17nm,1.2s
RDG13 Poverty Ridge 73.39 56 *e*P P 03 44 57.4 +1.5
comp=Z,51nm,1.4s
ANN Anapa 73.51 314 *e*P P 03 44 55.5 -0.8
ANN *e*S S 03 54 23.7 -1.0
ANN pmax pmax
comp=Z,51nm,1.1s
PAHR Pah Rah Range 73.64 53 *e*P P 03 44 59.0 +1.5
comp=Z,26nm,1.1s
MFID Camas Ranch 73.69 48 *e*P P 03 44 58.7 +1.0
comp=Z,55nm,1.8s
VCNR Virginia City 73.70 53 *e*P P 03 44 59.7 +1.8
comp=Z,9.8nm,0.9s
FFC Flin Flon 73.76 33 *e*P P 03 44 58.2 +0.5
comp=Z,31nm,1.0s
FFC Flin Flon 73.76 33 *e*P P 03 44 58.2 +0.5
FFC pmax pmax
comp=Z,31nm,1.0s
CMB Columbia Colle 73.94 54 *e*P P 03 45 00.2 +1.1
comp=Z,36nm,1.1s
CMB Columbia Colle 73.94 54 *e*P P 03 45 00.2 +1.1
CMB pmax pmax
comp=Z,36nm,1.1s
NC405 NORSAR Array S 73.98 337 *e*P P 03 44 58.1 -0.8
HRY Holter Researc 74.02 43 *e*P P 03 45 01.0 +1.5
FCC Fort Churchill 74.06 27 *e*P P 03 44 59.4 +0.1
comp=Z,50nm,1.1s
FCC Fort Churchill 74.06 27 *e*P P 03 44 59.4 +0.1
FCC pmax pmax
comp=Z,50nm,1.1s
HFS Hagfors 74.09 336 P P 03 44 58.9 -0.6
comp=Z,7.1nm,0.7s,baz=57,slow=6.0,SNR=19
HFS LR LR 04 23 37.2
comp=Z,232nm,18.2s,baz=36,slow=41
YERR Yerington 74.14 53 *e*P P 03 45 02.8 +2.3
comp=Z,38nm,1.1s
NC204 NORSAR Array S 74.14 338 *e*P P 03 44 59.9 0.0
NB201 NORSAR Array S 74.16 337 *e*P P 03 44 59.1 -0.8
NB2 NORSAR Subarra 74.19 337 P P 03 44 59.6 -0.5
comp=Z,15nm,0.9s,baz=39,slow=6.2
NB2 NORSAR Subarra 74.19 337 P P 03 44 59.6 -0.5
baz=39,slow=6.2
NB200 NORSAR Array S 74.19 337 *e*P P 03 44 60.0 -0.2
NOA NORSAR Array B 74.19 337 P P 03 44 60.0 -0.2
comp=Z,9.2nm,0.8s,baz=39,slow=5.8,SNR=32
NOA LR LR 04 21 39.0
comp=Z,223nm,18.5s,baz=45,slow=39
NOA NORSAR Array B 74.19 337 P P 03 45 00.0 -0.2
NOA pmax pmax
comp=Z,9.0nm,0.8s
NOA MLR MLR
comp=Z,223nm,18.5s
LRM Limekiln Ridge 74.21 44 *e*P P 03 45 01.8 +1.0
AKASG Malin Array Be 74.28 322 P P 03 45 00.2 -0.6
comp=Z,4.5nm,0.5s,baz=46,slow=6.5,SNR=52
AKASG LR LR 04 19 22.9
comp=Z,110nm,18.0s,baz=25,slow=37
AKASG Malin Array Be 74.28 322 P P 03 45 00.2 -0.6
AKASG pmax pmax
comp=Z,8.0nm,0.6s
AKASG MLR MLR
comp=Z,110nm,18.0s
AKBB Malin Array Si 74.28 322 *e*P P 03 45 00.3 -0.5
comp=Z,26nm,0.8s
AKBB Malin Array Si 74.28 322 *e*P P 03 45 00.3 -0.5
AKBB pmax pmax
comp=Z,26nm,0.8s
WAKR Walker 74.28 54 *e*P P 03 45 03.2 +1.9
comp=Z,22nm,1.1s
NBO02 NORSAR Array S 74.29 337 *e*P P 03 45 00.6 -0.1
KIEV Kiev 74.30 322 *e*P P 03 44 59.8 -1.1
comp=Z,26nm,0.9s
KIEV Kiev 74.30 322 *d i*P P 03 44 59.9 -1.0
KIEV pmax pmax
comp=Z,21nm,1.0s
AK11 Malin Array Si 74.33 322 *e*P P 03 45 00.6 -0.4
NBO00 NORSAR Array S 74.33 337 *e*P P 03 45 01.2 +0.3
EGMT Eagleton 74.33 41 P P 03 45 02.1 +0.8
baz=308,SNR=14
EGMT Eagleton 74.33 41 *e*P P 03 45 02.2 +0.8
comp=Z,36nm,1.1s
DLMT Dillon 74.41 45 *e*P P 03 45 03.4 +1.5
comp=Z,24nm,0.8s
HLID Hailey 74.44 47 P P 03 45 03.4 +1.3
baz=306,SNR=15
HLID Hailey 74.44 47 *e*P P 03 45 02.7 +0.6
comp=Z,18nm,1.3s
BMN Battle Mountai 74.58 51 *e*P P 03 45 04.5 +1.5
comp=Z,29nm,1.3s
BMN Battle Mountai 74.58 51 *e*P P 03 45 04.5 +1.5
BMN pmax pmax
comp=Z,29nm,1.3s
MCMT McKenzie Canyo 74.58 45 *e*P P 03 45 04.0 +0.9
RYN Ryan 74.80 53 *e*P P 03 45 06.0 +1.7
comp=Z,20nm,1.1s
BOZ Bozeman (W) 74.81 44 P P 03 45 05.2 +1.0
baz=308,SNR=34
BOZ Bozeman (W) 74.81 44 *e*P P 03 45 05.0 +0.8
comp=Z,18nm,0.9s
BOZ Bozeman (W) 74.81 44 *e*P P 03 45 05.0 +0.8
BOZ pmax pmax
comp=Z,18nm,0.9s
KVN Kaiserville 74.83 52 *e*P P 03 45 05.9 +1.5
comp=Z,33nm,1.1s
KVN Kaiserville 74.83 52 *e*P P 03 45 05.9 +1.5
KVN pmax pmax
comp=Z,33nm,1.1s
SUW Suwalki 74.88 327 *e*P P 03 45 03.1 -1.1
SUW Suwalki 74.88 327 *e*P P 03 45 03.6 -0.6
comp=Z,44nm,1.1s
SUW Suwalki 74.88 327 *e*P P 03 45 03.6 -0.6
SUW pmax pmax
comp=Z,44nm,1.1s
MDPB Devils Postpil 75.02 54 *e*P P 03 45 07.3 +1.7
comp=Z,16nm,1.0s
NV01 Mina Array Sit 75.06 53 *e*P P 03 45 06.6 +0.8
NVAR Mina Array Bea 75.06 53 P P 03 45 07.2 +1.4
comp=Z,15nm,0.9s,baz=281,slow=6.2,SNR=48
NVAR LR LR 04 12 17.1
comp=Z,55nm,19.4s,baz=296,slow=31
OMMB Old Mammoth Mi 75.08 54 *e*P P 03 45 07.8 +1.8
comp=Z,20nm,1.2s
NV11 Mina Array Sit 75.15 53 *e*P P 03 45 07.5 +1.3
comp=Z,2.5nm,1.4s
MLAC Mammoth, Mammo 75.17 54 P P 03 45 07.9 +1.3
baz=306
SIM Simferopol' 75.31 315 *e*P P 03 44 56.5 -10
SIM *e*S S 03 54 39.1 -5.8
PAGB Antelope Grade 75.34 56 *e*P P 03 45 08.9 +1.7
comp=Z,53nm,1.1s
QLMT Earthquake Lak 75.39 45 *e*P P 03 45 09.1 +1.5
YHB Horse Butte 75.57 45 *e*P P 03 45 10.4 +1.8
comp=Z,16nm,0.8s
RCTC Rector, Farmer 75.67 55 P P 03 45 10.3 +1.2
baz=306
YHH Holmes Hill 75.74 44 *e*P P 03 45 11.0 +1.3
comp=Z,16nm,1.2s
SMMC Simmler 75.75 57 P P 03 45 11.1 +1.5
baz=306
YMR Madison River 75.75 45 *e*P P 03 45 11.6 +1.9
comp=Z,67nm,1.8s
GCMT Greycliff 75.77 43 *e*P P 03 45 11.3 +1.7
TIN Tinemaha, Big 75.90 54 P P 03 45 11.8 +1.2
baz=306
SFJD Kangerlussuaq 75.92 5 LR LR 04 23 01.5
comp=Z,90nm,18.3s,baz=344,slow=39
YFT Old Faithful 75.95 45 *e*P P 03 45 14.1 +3.2
comp=Z,13nm,0.9s
VES Veal, Richgr 76.05 56 P P 03 45 11.6 +0.4
baz=306,SNR=13
YPP Pitchstone Pla 76.08 45 *e*P P 03 45 14.2 +2.5
comp=Z,8.3nm,1.0s
PKM Mcpherson Peak 76.11 57 P P 03 45 13.1 +1.2
baz=306
H17A Grant Village 76.13 45 P P 03 45 14.8 +2.9
baz=309,SNR=26
H17A Grant Village 76.13 45 *e*P P 03 45 14.9 +2.9
comp=Z,30nm,0.9s
IMW Indian Meadow 76.24 45 *e*P P 03 45 14.3 +1.7
comp=Z,17nm,0.9s
FXWY Fox Creek 76.35 45 *e*P P 03 45 14.8 +1.7
comp=Z,17nm,1.1s
CWC Cottonwood Cre 76.36 55 P P 03 45 14.0 +0.8
baz=306
SORM Soroca 76.38 321⇑ *i*P P 03 45 12.4 -0.5
RLMT Red Lodge 76.41 43 P P 03 45 14.6 +1.1
baz=309,SNR=13
RLMT Red Lodge 76.41 43 *e*P P 03 45 14.8 +1.3
comp=Z,36nm,1.5s
MOOW Moose Ponds 76.44 45 *e*P P 03 45 15.3 +1.7
comp=Z,24nm,1.4s
HVU Hansel Valley 76.47 48 *e*P P 03 45 15.8 +2.0
comp=Z,12nm,1.0s
HVU Hansel Valley 76.47 48 *e*P P 03 45 15.8 +2.0
HVU pmax pmax
comp=Z,12nm,1.0s
TPAW Teton Pass 76.48 45 *e*P P 03 45 15.7 +1.7
comp=Z,78nm,1.9s
GRAC Grapevine Rang 76.50 54 P P 03 45 15.3 +1.5
baz=306,SNR=9.5
ISA Isabella, Lake 76.56 55 P P 03 45 14.6 +0.4
baz=306
ISA Isabella, Lake 76.56 55 *e*P P 03 45 14.9 +0.7
comp=Z,10nm,1.1s
ISA Isabella, Lake 76.56 55 *e*P P 03 45 14.9 +0.7
ISA pmax pmax
comp=Z,10.0nm,1.1s
LOHW Long Hollow 76.61 45 *e*P P 03 45 16.0 +1.4
comp=Z,8.3nm,1.0s
SNOW Snow King Moun 76.61 45 *e*P P 03 45 16.8 +2.1
comp=Z,13nm,0.9s
REDW Red Top Meadow 76.62 46 *e*P P 03 45 16.2 +1.5
comp=Z,23nm,1.2s
ARVC Arvin 76.63 56 P P 03 45 15.6 +1.1
baz=306
DAC Darwin (Calif) 76.77 55 *e*P P 03 45 16.4 +0.9
comp=Z,17nm,1.1s
DAC Darwin (Calif) 76.77 55 *e*P P 03 45 16.5 +0.9
DAC pmax pmax
comp=Z,17nm,1.1s
R11A Troy Canyon, C 76.83 52 P P 03 45 17.1 +1.2
baz=307,SNR=37
R11A Troy Canyon, C 76.83 52 *e*P P 03 45 17.1 +1.2
comp=Z,32nm,1.2s
BGU Big Grassy Mou 76.84 49 *e*P P 03 45 17.6 +1.7
comp=Z,19nm,1.0s
AHID Auburn Hatcher 76.85 46 *e*P P 03 45 17.5 +1.6
comp=Z,8.3nm,0.8s
DGMT Dagmar 76.90 38 P P 03 45 16.3 +0.4
baz=312,SNR=8.5
DGMT Dagmar 76.90 38 *e*P P 03 45 16.9 +1.0
comp=Z,51nm,1.3s
MPMC Manual Prospec 76.97 55 P P 03 45 17.6 +0.9
baz=306,SNR=14
LAO LASA Array 77.04 41 P P 03 45 17.6 +0.9
baz=311,SNR=6.6
LAO LASA Array 77.04 41 *e*P P 03 45 18.3 +1.5
comp=Z,39nm,1.1s
BLG Laguna Peak, P 77.07 57 P P 03 45 18.3 +1.2
baz=306
FURC Furnace Creek, 77.13 54 P P 03 45 18.5 +1.2
baz=307,SNR=14
LRMC Laurel Mtn Rad 77.18 55 P P 03 45 18.7 +0.9
baz=306
TPNV Topopah Spring 77.24 53 P P 03 45 19.2 +1.0
baz=307,SNR=21
TPNV Topopah Spring 77.24 53 *e*P P 03 45 19.4 +1.2
comp=Z,31nm,1.1s
TPNV Topopah Spring 77.24 53 *e*P P 03 45 19.4 +1.2
TPNV pmax pmax
comp=Z,31nm,1.1s
SNCC San Nicolas Is 77.26 58 P P 03 45 20.1 +1.9
baz=306
HWUT Hardware Ranch 77.30 47 *e*P P 03 45 19.6 +1.2
comp=Z,42nm,1.4s
EDW2 Edwards Air Fo 77.33 56 P P 03 45 19.7 +1.1
baz=306,SNR=7.5
LVV L'vov 77.37 324 *e*P P 03 45 18.8 +0.4
DUG Dugway, Tooele 77.42 49 P P 03 45 20.3 +1.2
baz=308,SNR=21
DUG Dugway, Tooele 77.42 49 *e*P P 03 45 20.6 +1.5
comp=Z,27nm,1.2s
DUG Dugway, Tooele 77.42 49 *e*P P 03 45 20.6 +1.5
DUG pmax pmax
comp=Z,27nm,1.2s
BEL Belsk 77.44 327 *e*P P 03 45 19.5 +0.7
BEL Belsk 77.44 327 *e*P P 03 45 19.5 +0.7
DECC Green Verdugo 77.47 57 P P 03 45 20.4 +1.0
baz=306
MWC Mount Wilson 77.68 56 *e*P P 03 45 21.9 +1.2
comp=Z,22nm,1.2s
MWC Mount Wilson 77.68 56 *e*P P 03 45 21.9 +1.2
MWC pmax pmax
comp=Z,22nm,1.2s
TCUT Toone Canyon 77.69 48 *e*P P 03 45 22.5 +1.8
comp=Z,132nm,1.9s
BW06 Boulder Array 77.73 45 P P 03 45 21.4 +0.5
baz=309,SNR=5.0
BW06 Boulder Array 77.73 45 *e*P P 03 45 21.9 +1.0
comp=Z,12nm,1.1s
PD31 Pinedale Array 77.73 45 *e*P P 03 45 21.3 +0.4
PDAR Pinedale Array 77.73 45 P P 03 45 21.5 +0.6
comp=Z,4.6nm,0.8s,baz=266,slow=2.5,SNR=41
PDAR Pinedale Array 77.73 45 *e*P P 03 45 21.3 +0.4
CTU Camp Tracy 77.75 48 *e*P P 03 45 22.6 +1.6
comp=Z,11nm,1.0s
SHOC Shoshone, Teco 77.85 54 P P 03 45 22.4 +0.9
baz=307,SNR=5.3
GSC Goldstone, Bar 77.86 55 P P 03 45 22.6 +0.9
baz=307,SNR=6.3
GSC Goldstone, Bar 77.86 55 *e*P P 03 45 23.0 +1.4
comp=Z,14nm,1.1s
GSC Goldstone, Bar 77.86 55 *e*P P 03 45 23.0 +1.4
GSC pmax pmax
comp=Z,14nm,1.1s
BFSC Mount Baldy Ra 77.93 56 P P 03 45 22.9 +0.9
baz=307
JLU Jordanelle 77.99 48 *e*P P 03 45 23.8 +1.3
comp=Z,18nm,1.2s
RRX Edison Barstow 77.99 55 P P 03 45 23.6 +1.3
baz=307
NLU North Lily Min 78.02 49 *e*P P 03 45 24.2 +1.7
comp=Z,14nm,1.1s
KWP Kalwaria Pacla 78.12 324 *e*P P 03 45 23.3 +0.6
KWP Kalwaria Pacla 78.12 324 *e*P P 03 45 23.2 +0.6
comp=Z,751nm,1.1s
KWP Kalwaria Pacla 78.12 324 *e*P P 03 45 23.3 +0.6
SHPR Sheep Range 78.21 53 *e*P P 03 45 25.1 +1.5
comp=Z,28nm,1.2s
MPU Maple Canyon 78.24 49 *e*P P 03 45 25.2 +1.4
comp=Z,36nm,1.4s
BUR08 Bucovina Ar. S 78.28 322 *e*P P 03 45 24.2 +0.5
BUR04 Bucovina Ar. S 78.30 322 *e*P P 03 45 23.8 0.0
BURAR Bucovina Array 78.30 322⇑ *i*P P 03 45 24.2 +0.4
TESR Tescani 78.32 320⇑ *i*P P 03 45 23.4 -0.4
TUQ Turquoise Moun 78.36 54 P P 03 45 25.2 +0.7
baz=307,SNR=5.6
BBRC Big Bear Solar 78.41 56 P P 03 45 25.4 +0.6
baz=307
CFR Carcaliu 78.43 318⇑ *i*P P 03 45 24.4 0.0
HEC Hector,Ludlow 78.46 55 P P 03 45 25.8 +0.9
baz=307
MURC Murrieta 78.62 57 P P 03 45 26.4 +0.6
baz=307,SNR=5.0
CCUT Cedar City 78.71 51 *e*P P 03 45 27.9 +1.4
comp=Z,21nm,1.2s
VRI Vrincioaia 78.71 320⇑ *i*P P 03 45 27.0 +1.0
PLOR Plostina 78.76 320⇓ *i*P P 03 45 26.9 +0.6
BR101 Keskin Array S 78.82 312 *e*P P 03 45 27.0 +0.1
BR131 Keskin Array S 78.83 312 *e*P P 03 45 27.4 +0.5
BRTR Keskin Array B 78.83 312 P P 03 45 27.0 +0.1
comp=Z,7.9nm,1.1s,baz=104,slow=5.2,SNR=18
BRTR LR LR 04 22 25.0
comp=Z,73nm,19.5s,baz=42,slow=37
MSU Marysvale 78.85 50 *e*P P 03 45 29.0 +1.8
MSU Marysvale 78.85 50 *e*P P 03 45 29.0 +1.8
SZCU Shurtz Canyon 78.85 51 *e*P P 03 45 28.9 +1.6
comp=Z,14nm,1.1s
GMRC Granite Mounta 78.93 55 P P 03 45 28.4 +0.8
baz=308,SNR=10
STHS Stebnicka Huta 78.95 325 *e*P P 03 45 27.6 +0.3
STHS Stebnicka Huta 78.95 325 *e*P P 03 45 27.6 +0.3
STHS pmax pmax
comp=Z,13nm,1.1s
TMUT Trail Mountain 78.95 49 *e*P P 03 45 29.4 +1.6
comp=Z,18nm,1.3s
UZH Uzhgorod 79.01 324 *e*P P 03 45 27.0 -0.6
UZH *e* 03 45 38.8
UZH *e* 03 45 40.8
OJC Ojcow 79.03 326 *e*P P 03 45 28.1 +0.4
OJC Ojcow 79.03 326 *e*P P 03 45 27.3 -0.4
comp=Z,52nm,1.1s
OJC Ojcow 79.03 326 *e*P P 03 45 28.1 +0.4
ARCR ARCALIA 79.09 322⇓ *i*P P 03 45 29.3 +1.3
LDFC Landfair 79.11 54 *e*P P 03 45 29.9 +1.3
comp=Z,33nm,1.1s
PFO Pinyon Flats O 79.11 56 P P 03 45 29.3 +0.7
baz=307,SNR=8.1
PFO Pinyon Flats O 79.11 56 *e*P P 03 45 29.8 +1.2
comp=Z,32nm,1.3s
PFO Pinyon Flats O 79.11 56 *e*P P 03 45 29.8 +1.2
PFO pmax pmax
comp=Z,32nm,1.3s
109C Camp Elliot, M 79.11 57 P P 03 45 29.2 +0.7
baz=307
XPFO Piæon Flat 79.11 56 *e*P P 03 45 29.8 +1.2
comp=Z,37nm,1.4s
LCMT Little Creek M 79.11 52 *e*P P 03 45 30.2 +1.6
comp=Z,28nm,1.1s
P17A Butcher Ranch, 79.12 49 *e*P P 03 45 30.3 +1.8
comp=Z,48nm,1.2s
MTPU Mount Pierson 79.14 50 *e*P P 03 45 30.7 +1.7
comp=Z,20nm,1.0s
BELC Belle Mtn. Jos 79.18 56 P P 03 45 29.4 +0.5
baz=308,SNR=6.2
Q16A Castle Valley 79.21 49 *e*P P 03 45 31.0 +1.8
CRVS Cervenica-Dubn 79.21 324 *e*P P 03 45 29.3 +0.6
CRVS Cervenica-Dubn 79.21 324 *e*P P 03 45 29.3 +0.6
CRVS pmax pmax
comp=Z,20nm,1.3s
TRPA Tarpa 79.25 323⇓ *i*P P 03 45 29.8 +1.0
TRPA Tarpa 79.25 323⇓ *e*P P 03 45 29.4 +0.6
P18A Preston Nutter 79.32 48 *e*P P 03 45 31.3 +1.4
comp=Z,29nm,1.1s
DOPR Dopca 79.33 320⇓ *i*P P 03 45 29.7 +0.3
MLR Muntele Rosu 79.37 320 LR LR 04 22 44.6
comp=Z,54nm,20.5s,baz=41,slow=37
MLR Muntele Rosu 79.37 320⇑ *i*P P 03 45 30.2 +0.4
MLR Muntele Rosu 79.37 320 *e*P P 03 45 30.0 +0.2
comp=Z,16nm,1.1s
MLR Muntele Rosu 79.37 320 *e*P P 03 45 30.0 +0.2
MLR pmax pmax
comp=Z,17nm,1.1s
KNB Kanab 79.38 52 *e*P P 03 45 32.2 +2.2
comp=Z,48nm,1.2s
KNB Kanab 79.38 52 *e*P P 03 45 32.2 +2.2
KNB pmax pmax
comp=Z,48nm,1.2s
NIE Niedzica 79.38 325 *e*P P 03 45 30.2 +0.6
NIE Niedzica 79.38 325 *e*P P 03 45 30.2 +0.6
SRU San Rafael Swe 79.48 49 *e*P P 03 45 31.7 +1.1
comp=Z,31nm,1.1s
SRU San Rafael Swe 79.48 49 *e*P P 03 45 31.7 +1.1
SRU pmax pmax
comp=Z,31nm,1.1s
K22A Casper 79.52 44 P P 03 45 31.0 +0.3
baz=311
BAR Barrett 79.53 57 *e*P P 03 45 31.8 +1.1
comp=Z,21nm,1.0s
ULM Lac du Bonnet 79.56 33 P P 03 45 30.4 -0.1
comp=Z,16nm,1.1s,baz=310,slow=6.4,SNR=12
ULM LR LR 04 21 38.4
comp=Z,43nm,20.1s,baz=354,slow=36
ULM Lac du Bonnet 79.56 33 *e*P P 03 45 30.8 +0.3
comp=Z,32nm,1.3s
ULM Lac du Bonnet 79.56 33 *e*P P 03 45 30.8 +0.3
ULM pmax pmax
comp=Z,32nm,1.3s
MONP2 Monument Peak 79.57 57 P P 03 45 32.0 +0.9
baz=308,SNR=5.0
MDND Maddock 79.57 37 P P 03 45 31.0 +0.3
baz=315

NEE2 **Needles Airpor** 79.62 54 P P 03 45 31.6 +0.4
baz=308
IRM **Iron Mountain** 79.64 55 P P 03 45 32.3 +1.0
baz=308,SNR=5.3
CJR **Cluj-Napoca** 79.72 322⇓ *iP* P 03 45 32.4 +0.9
BC3 **Big Chuckawall** 79.75 56 P P 03 45 32.8 +0.7
baz=308,SNR=8.2
RWWY **Rawlins** 79.76 45 *eP* P 03 45 33.2 +1.0
comp=Z,20nm,1.0s
VOIR 79.87 320⇑ *iP* P 03 45 32.5 +0.1
W13A **Hualapai Mount** 79.89 54 *eP* P 03 45 34.0 +1.1
comp=Z,15nm,1.2s
RSSD **Black Hills** 79.89 42 P P 03 45 32.8 0.0
baz=312
RSSD **Black Hills** 79.89 42 *eP* P 03 45 33.5 +0.7
comp=Z,15nm,1.0s
RSSD **Black Hills** 79.89 42 *eP* P 03 45 33.5 +0.7
RSSD pmax pmax
comp=Z,15nm,1.0s
IKP **In-Ko-Pah, Jac** 79.92 57 P P 03 45 34.0 +1.0
baz=308,SNR=6.6
LANS **Liptovska Anna** 79.95 326 *eP* P 03 45 33.2 +0.5
LANS **Liptovska Anna** 79.95 326 *eP* P 03 45 33.2 +0.5
SWSC **Sam W. Stewart** 79.95 56 P P 03 45 33.5 +0.5
baz=308
U15A **North Rim** 80.08 52 *eP* P 03 45 35.5 +1.5
comp=Z,37nm,1.3s
B31A **Greenbush Farm** 80.08 35 P P 03 45 33.8 +0.3
baz=316,SNR=9.8
KSP **Ksiaz** 80.09 328 *eP* P 03 45 33.7 +0.3
KSP **Ksiaz** 80.09 328 *eP* P 03 45 33.7 +0.3
ARR **Arges** 80.13 320⇓ *iP* P 03 45 35.2 +1.4
O20A **White River Ci** 80.18 47 P P 03 45 35.0 +0.7
baz=311,SNR=7.6
O20A **White River Ci** 80.18 47 *eP* P 03 45 35.5 +1.2
comp=Z,19nm,1.0s
PDMCI **Parker Dam,Lak** 80.21 54 P P 03 45 35.3 +0.9
baz=308,SNR=9.8
A32A **Rocking H Ranc** 80.26 35 P P 03 45 33.9 -0.5
baz=317,SNR=9.7
Y12C **Blythe** 80.30 55 P P 03 45 36.0 +1.1
baz=308,SNR=5.5
Y12C **Blythe** 80.30 55 *eP* P 03 45 36.4 +1.5
comp=Z,25nm,1.1s
MORC **Moravsky Berou** 80.35 327⇑ *iP* P 03 45 35.8 +0.9
MORC **Moravsky Berou** 80.35 327 *eP* P 03 45 35.5 +0.6
comp=Z,114nm,1.1s
MORC **Moravsky Berou** 80.35 327 *eP* P 03 45 35.5 +0.6
MORC pmax pmax
comp=Z,114nm,1.1s
DPC **Dobruska-Polom** 80.45 328 *eP* P 03 45 35.6 +0.2
DPC *epP* PcP 03 45 42.0 -0.4
DPC **Dobruska-Polom** 80.45 328 *eP* P 03 45 35.6 +0.2
DPC *e* 03 45 42.0
KRLC **Kraliky** 80.46 327 *eP* P 03 45 35.7 +0.2
KRLC **Kraliky** 80.46 327 *eP* P 03 45 35.7 +0.2
UPC **Upice** 80.46 328 *eP* P 03 45 35.7 +0.3
UPC *epP* PcP 03 45 41.9 -0.5
UPC AMS AMS 04 26 40.0
comp=Z,400nm,16.5s
UPC **Upice** 80.46 328 *eP* P 03 45 35.7 +0.3
UPC *e* 03 45 41.9
UPC MLR MLR
comp=Z,400nm,16.5s
C31A **Landman Farms,** 80.50 36 P P 03 45 35.8 +0.1
baz=316
LOT **Lotru** 80.51 321⇑ *iP* P 03 45 36.3 +0.4
GLA **Glamis** 80.53 56 P P 03 45 37.3 +1.1
baz=308,SNR=5.2
GLA **Glamis** 80.53 56 *eP* P 03 45 37.8 +1.6
comp=Z,34nm,1.1s
GLA **Glamis** 80.53 56 *eP* P 03 45 37.8 +1.6
GLA pmax pmax
comp=Z,34nm,1.1s
RAYN **Ar Rayn** 80.61 292 *eP* P 03 45 36.4 -0.4
comp=Z,34nm,1.1s
B32A **Ashes, Strandq** 80.62 35 P P 03 45 36.2 -0.1
baz=317,SNR=11
PSZ **Piszkesteto** 80.64 324⇑ *iP* P 03 45 37.5 +0.9
PSZ **Piszkesteto** 80.64 324⇓ *eP* P 03 45 36.7 +0.1
PSZ **Piszkesteto** 80.64 324 *eP* P 03 45 37.3 +0.8
comp=Z,38nm,1.1s
PSZ **Piszkesteto** 80.64 324 *eP* P 03 45 37.3 +0.8
PSZ pmax pmax
comp=Z,38nm,1.1s
PV09 **Paradox Valley** 80.70 49 *eP* P 03 45 38.6 +1.3
VYHS **Vyhne** 80.71 325 *eP* P 03 45 37.2 +0.4
VYHS **Vyhne** 80.71 325 *eP* P 03 45 37.2 +0.4
VYHS pmax pmax
comp=Z,12nm,1.2s
A33A **Warroad** 80.74 34 P P 03 45 36.9 -0.1
baz=318,SNR=10
PV10 **Paradox Valley** 80.84 49 *eP* P 03 45 39.9 +1.9
AGMN **Agassiz Nation** 81.00 35 P P 03 45 38.1 -0.2
baz=317,SNR=6.6
AGMN **Agassiz Nation** 81.00 35 *eP* P 03 45 38.5 +0.1
comp=Z,19nm,1.1s
N23A **Red Feather La** 81.00 45 P P 03 45 40.0 +1.2
baz=312,SNR=16
N23A **Red Feather La** 81.00 45 *eP* P 03 45 40.2 +1.4
comp=Z,36nm,1.1s
PHWY **Pilot Hill** 81.00 45 *eP* P 03 45 40.0 +1.1
comp=Z,33nm,1.5s
C32A **Crookston** 81.03 35 P P 03 45 38.7 +0.1
baz=317
D31A **Mcclaflin, Tow** 81.04 36 P P 03 45 38.6 0.0
baz=316,SNR=9.7
BRG **Berggiesshubel** 81.05 329 *eP* P 03 45 39.0 +0.5
comp=Z,15nm,1.1s
BRG *i* 03 45 45.0
comp=Z,28nm,1.5s
comp=N,298nm,15.6s
comp=E,267nm,13.5s
comp=Z,643nm,15.9s
BRG **Berggiesshubel** 81.05 329 *eP* P 03 45 39.0 +0.5
BRG pmax pmax
comp=Z,15nm,1.1s
BRG pmax pmax
comp=Z,28nm,1.5s
BRG MLR MLR
comp=N,298nm,15.6s
BRG MLR MLR
comp=E,267nm,13.5s
BRG MLR MLR
comp=Z,643nm,15.9s
PVCC **Panska Ves** 81.05 329 *eP* P 03 45 39.1 +0.5
PVCC *epP* PcP 03 45 45.0 +0.1
PVCC **Panska Ves** 81.05 329 *eP* P 03 45 39.1 +0.5
CLL **Collm** 81.09 330⇓ *iP* P 03 45 38.2 -0.6
comp=Z,24nm,1.1s
CLL *i* pP PcP 03 45 43.8 -1.3
comp=Z,35nm,1.2s
CLL *eS* S 03 55 54.0 +7.2
CLL *eSSS* SSS 04 04 30.0
CLL *eSSSS* 04 07 24.0
CLL **Collm** 81.09 330 *eP* P 03 45 37.2 -1.5
comp=Z,35nm,1.2s
CLL **Collm** 81.09 330⇓ *iP* P 03 45 38.2 -0.6
CLL *eS* S 03 55 55.0 +8.2
CLL pmax pmax
comp=Z,24nm,1.1s
VRAC **Vranov** 81.11 327⇓ *iP* P 03 45 38.5 -0.4
B33A **Robert and Kas** 81.14 35 P P 03 45 38.7 -0.3
baz=317
Y14A **Wickenburg** 81.18 54 *eP* P 03 45 40.8 +1.1
comp=Z,19nm,1.0s
WUAZ **Wupatki** 81.23 52 P P 03 45 41.4 +1.4
baz=310,SNR=16
WUAZ **Wupatki** 81.23 52 *eP* P 03 45 41.8 +1.8
comp=Z,27nm,1.0s
PV01 **Paradox Valley** 81.28 49 *eP* P 03 45 41.5 +1.2
D32A **Dogwood Acres,** 81.31 36 P P 03 45 39.8 -0.2
baz=317
E31A **Nome** 81.31 37 P P 03 45 40.2 +0.2
baz=316,SNR=6.5
SMOL **Smolenice** 81.33 326 *eP* P 03 45 41.1 +1.0
SMOL **Smolenice** 81.33 326 *eP* P 03 45 41.1 +1.0
B34A **Aery, Baudette** 81.40 34 P P 03 45 40.1 -0.3
baz=318
113A **Mohawk Valley,** 81.41 55 *eP* P 03 45 42.1 +1.3
comp=Z,13nm,1.0s
GOPC **GO Pecny, Ondr** 81.43 328 *eP* P 03 45 41.0 +0.4
GOPC *epP* PcP 03 45 47.0 +0.4
GOPC **GO Pecny, Ondr** 81.43 328 *eP* P 03 45 41.0 +0.4
C33A **Trail** 81.43 35 P P 03 45 40.3 -0.4
baz=317,SNR=8.5

BZS **Buzias** 81.47 322⇓ *iP* P 03 45 40.9 0.0
PRU **Pruhonice** 81.47 328 *eP* P 03 45 41.2 +0.4
PRU *epP* PcP 03 45 47.0 +0.2
PRU **Pruhonice** 81.47 328 *eP* P 03 45 41.2 +0.4
MODS **Modra-Piesok** 81.51 326 *eP* P 03 45 41.1 0.0
MODS **Modra-Piesok** 81.51 326 *eP* P 03 45 41.1 0.0
MODS pmax pmax
comp=Z,26nm,1.4s
SMCO **Snowmass** 81.54 47 *eP* P 03 45 43.0 +1.1
comp=Z,23nm,1.3s
TREC **Trest** 81.60 328 *eP* P 03 45 41.8 +0.3
TREC *ex* x 03 45 47.6
TREC **Trest** 81.60 328 *eP* P 03 45 41.8 +0.3
F31A **Hecla** 81.64 38 P P 03 45 42.0 +0.2
baz=316,SNR=8.9
E32A **Braaten, Kindr** 81.68 36 P P 03 45 41.9 0.0
baz=317
CSKK **Cs˘ˇtkako** 81.81 325⇓ *eP* P 03 45 42.8 +0.2
D33A **AnnSam, Waubun** 81.85 35 P P 03 45 42.7 -0.2
baz=317
X16A **Lo Mia Camp, P** 81.88 53 *eP* P 03 45 45.0 +1.4
comp=Z,22nm,1.1s
C34A **RKJ Ranch, Bem** 81.91 35 P P 03 45 42.7 -0.5
baz=318
B35A **Bob, Littlefor** 81.91 34 P P 03 45 42.7 -0.5
baz=319
ISCO **Idaho Springs** 81.92 46 P P 03 45 45.0 +1.2
baz=312
ISCO **Idaho Springs** 81.92 46 *eP* P 03 45 45.0 +1.2
comp=Z,8.1nm,1.0s
ISCO **Idaho Springs** 81.92 46 *eP* P 03 45 45.0 +1.2
ISCO pmax pmax
comp=Z,8.0nm,1.0s
MVCO **Mesa Verde** 81.92 49 P P 03 45 44.8 +1.1
baz=311,SNR=13
MVCO **Mesa Verde** 81.92 49 *eP* P 03 45 45.0 +1.3
comp=Z,23nm,1.0s
MMAI **Mount Meron Ar** 81.93 305 P P 03 45 44.1 +0.5
comp=Z,6.4nm,0.7s,baz=74,slow=6.3,SNR=5.6
MMAI LR LR 04 25 15.7
comp=Z,160nm,20.9s,baz=45,slow=38
G31A **Conde** 82.11 38 P P 03 45 44.2 -0.1
baz=316
NKC **Novy Kostel** 82.15 330 *eP* P 03 45 44.9 +0.5
NKC **Novy Kostel** 82.15 330 *eP* P 03 45 44.9 +0.5
F32A **Veblen** 82.17 37 P P 03 45 44.4 -0.1
baz=317
D34A **Park Rapids** 82.19 35 P P 03 45 44.5 -0.2
baz=318,SNR=5.6
E33A **Westby DABS, E** 82.24 36 P P 03 45 45.1 +0.2
baz=317,SNR=6.5
C35A **Jirik Farms, M** 82.29 34 P P 03 45 44.7 -0.5
baz=319,SNR=8.6
SUSD **Miller** 82.30 39 P P 03 45 45.3 0.0
baz=316
G32A **Webster** 82.44 38 P P 03 45 46.0 0.0
baz=316
CONA **Conrad Observa** 82.47 326 *i* P P 03 45 47.4 +1.1
comp=Z,23nm,1.5s,SNR=9.0
MORH **M˝r˙igy, Hung** 82.47 324⇑ *eP* P 03 45 46.0 -0.1
W18A **Petrified Fore** 82.51 51 P P 03 45 47.8 +1.0
baz=310
KHC **Kasperske Hory** 82.54 328 *eP* P 03 45 46.4 -0.1
KHC *ex* x 03 45 52.6
KHC **Kasperske Hory** 82.54 328 *eP* P 03 45 46.4 -0.1
comp=Z,9.1nm,1.1s
KHC **Kasperske Hory** 82.54 328 *eP* P 03 45 46.4 -0.1
KHC *e* 03 45 52.6
214A **Organ Pipe Nat** 82.54 56 P P 03 45 48.0 +1.1
baz=309,SNR=9.3
S22A **4UR Ranch, Cre** 82.57 48 P P 03 45 48.6 +1.3
baz=312,SNR=6.4
S22A **4UR Ranch, Cre** 82.57 48 *eP* P 03 45 48.2 +1.0
comp=Z,22nm,1.1s
F33A **5 Mile Ranch,** 82.59 37 P P 03 45 47.1 +0.3
baz=317,SNR=6.9
E34A **Wadena** 82.63 36 P P 03 45 46.6 -0.4
baz=318
GEC2 **GERESS Array S** 82.70 328 *eP* P 03 45 47.5 0.0
comp=Z,12nm,1.1s
GEC2 **GERESS Array S** 82.70 328 *eP* P 03 45 47.5 0.0
GEC2 pmax pmax
comp=Z,12nm,1.1s
GERES **GERESS Array B** 82.70 328 P P 03 45 47.4 0.0
comp=Z,3.7nm,0.7s,baz=39,slow=5.4,SNR=29
GERES LR LR 04 27 37.6
comp=Z,152nm,19.2s,baz=21,slow=39
GEA0 **GERESS Array S** 82.71 328 *eP* P 03 45 46.9 -0.6
D35A **Remer** 82.72 35 P P 03 45 47.1 -0.3
baz=319
Q24A **Divide** 82.74 46 P P 03 45 48.5 +0.4
baz=312
C36A **Pine Crest Far** 82.75 33 P P 03 45 47.6 0.0
baz=319,SNR=5.7
X18A **Snowflake** 82.76 52 *eP* P 03 45 49.8 +1.7
comp=Z,20nm,1.3s
VTS **Vitosha** 82.80 319⇓ *iP* P 03 45 48.4 +0.3
VTS **Vitosha** 82.80 319 *eP* P 03 45 48.7 +0.6
comp=Z,14nm,1.0s
VTS **Vitosha** 82.80 319 *eP* P 03 45 48.7 +0.6
VTS pmax pmax
comp=Z,14nm,1.0s
I31A **Royce, Wessing** 82.81 39 P P 03 45 48.1 +0.1
baz=316
E35A **Pequot Lakes** 82.95 35 P P 03 45 48.3 -0.4
baz=318
G33A **Ortonville** 83.00 37 P P 03 45 48.9 0.0
baz=317,SNR=12
H32A **Carlson Farm,** 83.01 38 P P 03 45 48.7 -0.4
baz=317
D36A **Goodland** 83.05 34 P P 03 45 48.8 -0.3
baz=319
C37A **Embarrass** 83.06 33 P P 03 45 49.1 -0.1
baz=320
GRFO **Grafenberg** 83.07 330 *eP* P 03 45 49.4 +0.2
comp=Z,38nm,1.1s
GRFO **Grafenberg** 83.07 330 *eP* P 03 45 49.4 +0.2
GRFO pmax pmax
comp=Z,38nm,1.1s
F34A **Alexandria** 83.12 36 P P 03 45 49.4 -0.1
baz=318
EKA **Eskdalemuir Ar** 83.14 340 P P 03 45 49.2 -0.2
comp=Z,4.3nm,0.8s,baz=19,slow=9.3,SNR=6.7
EKA LR LR 04 25 38.9
comp=Z,68nm,19.9s,baz=90,slow=38
EKA **Eskdalemuir Ar** 83.14 340 P P 03 45 49.2 -0.2
EKA pmax pmax
comp=Z,6.0nm,1.0s
EKA MLR MLR
comp=Z,68nm,19.9s
OGNE **Ogallala** 83.14 43 P P 03 45 50.0 +0.2
baz=314
OGNE **Ogallala** 83.14 43 *eP* P 03 45 50.3 +0.5
comp=Z,114nm,1.8s
EYMN **Ely** 83.20 33 P P 03 45 49.9 0.0
baz=320
H33A **Prehn Over Nor** 83.22 38 P P 03 45 50.4 +0.3
baz=317,SNR=14
J31A **Geddes** 83.23 40 P P 03 45 50.1 -0.1
baz=316
I32A **Karley and Nic** 83.34 38 P P 03 45 50.7 0.0
baz=317
G34A **Benson** 83.35 37 P P 03 45 50.8 +0.1
baz=318,SNR=6.4
SDCO **Great Sand Dun** 83.36 47 P P 03 45 52.4 +1.2
baz=312,SNR=19
SDCO **Great Sand Dun** 83.36 47 *eP* P 03 45 52.5 +1.2
comp=Z,17nm,1.1s
DIVS **Divibare** 83.36 322 *eP* P 03 45 51.0 +0.1
comp=Z,26nm,1.3s
D37A **Cotton** 83.39 34 P P 03 45 51.0 +0.1
baz=320
F35A **Swanville** 83.39 36 P P 03 45 50.9 0.0
baz=318
C38A **Sawbill Land.** 83.47 33 P P 03 45 51.0 -0.3
baz=320,SNR=5.5
E36A **McGregor** 83.50 35 P P 03 45 51.4 -0.1
baz=319,SNR=6.3
THZ **Tophouse** 83.53 157 *eP* P 03 45 51.1 -0.3
comp=Z,44nm,1.1s
J32A **Parkston** 83.62 39 P P 03 45 52.2 0.0
baz=316
TUC **Tucson** 83.65 54 P P 03 45 53.6 +1.0
baz=310
TUC **Tucson** 83.65 54 *eP* P 03 45 54.0 +1.4
comp=Z,14nm,1.1s
TUC **Tucson** 83.65 54 *eP* P 03 45 54.0 +1.4
TUC pmax pmax
comp=Z,14nm,1.1s
I33A **Coleman** 83.66 38 P P 03 45 52.5 +0.2
baz=317
K31A **O'Neill** 83.70 40 P P 03 45 52.7 +0.1
baz=316,SNR=5.8
H34A **Spellman Lake,** 83.70 37 P P 03 45 52.6 0.0
baz=318
GROS **Grobnik** 83.74 326 *i* P P 03 45 52.4 -0.4
SOKA **Soboth** 83.78 326 *i* P P 03 45 53.3 +0.3
comp=Z,28nm,1.1s,SNR=11
F36A **Milaca** 83.88 35 P P 03 45 53.5 +0.1
baz=319
C39A **Grand Marais** 83.88 32 P P 03 45 53.5 +0.1
baz=321
G35A **Watkins** 83.91 36 P P 03 45 53.9 +0.3
baz=318
ECSD **EROS Data Cent** 83.98 38 P P 03 45 54.1 +0.1
baz=317
ECSD **EROS Data Cent** 83.98 38 *eP* P 03 45 54.2 +0.2
comp=Z,20nm,1.1s
VAY **Valandovo** 84.03 318 *i* P P 03 45 54.5 +0.2
K32A **Verdigre** 84.08 40 P P 03 45 54.3 -0.3
baz=316
J33A **Davis** 84.11 39 P P 03 45 54.7 0.0
baz=317
I34A **Hadley** 84.12 38 P P 03 45 55.1 +0.3
baz=318
H35A **Sunnyside Ranc** 84.13 37 P P 03 45 55.3 +0.5
baz=318,SNR=20
KSCO **Kaye Shedlock'** 84.15 45 P P 03 45 55.5 +0.4
baz=314
KSCO **Kaye Shedlock'** 84.15 45 *eP* P 03 45 56.2 +1.1
comp=Z,49nm,1.4s
SKO **Skopje** 84.16 319 *i* P P 03 45 55.7 +0.8
E38A **The Farm, Brul** 84.20 34 P P 03 45 54.9 -0.2
baz=320,SNR=5.5
LEGS **Legarje** 84.21 325 *i* P P 03 45 54.4 -0.7
KBA **Koelnbreinsper** 84.22 327 *i* P P 03 45 55.4 0.0
comp=Z,14nm,1.0s
PMOR **Pomariorio Ree** 84.22 113 *eT* T 05 18 31.0
comp=Z,18nm,0.2s
G36A **St. Michael** 84.24 36 P P 03 45 55.4 +0.2
baz=319
BLY **Banja Luka** 84.25 324 *eP* P 03 45 58.3 +3.0
comp=Z,27nm,1.3s
F37A **Hinrichs Farm,** 84.39 35 P P 03 45 56.0 0.0
baz=320
T25A **Trinidad** 84.41 47 P P 03 45 57.6 +1.0
baz=313,SNR=31
T25A **Trinidad** 84.41 47 *eP* P 03 45 57.5 +1.0
comp=Z,32nm,0.9s
LJU **Ljubljana** 84.50 326 *i* P P 03 45 55.8 -0.7
L32A **Elgin** 84.53 40 P P 03 45 56.9 +0.1
baz=316
F38A **Pierce - Schro** 84.55 34 P P 03 45 57.1 +0.3
baz=320,SNR=10.0
LAZ **Ladron** 84.60 51 *eP* P 03 45 59.0 +1.4
K33A **Hardington** 84.61 39 P P 03 45 57.3 +0.1
baz=317
J34A **George** 84.63 38 P P 03 45 57.4 +0.1
baz=318
H36A **Jessenland, He** 84.65 36 P P 03 45 57.9 +0.5
baz=319,SNR=7.1
ANMO **Albuquerque** 84.65 50 P P 03 45 59.1 +1.3
baz=312
ANMO **Albuquerque** 84.65 50 *eP* P 03 45 59.1 +1.3
comp=Z,26nm,1.1s
ANMO **Albuquerque** 84.65 50 *de*P P 03 45 58.7 +0.9
ANMO pmax pmax
comp=Z,28nm,1.2s
PPT **Papeete** 84.68 116 LR LR 04 19 16.6
comp=Z,101nm,21.4s,baz=293,slow=32
I35A **Creekview Farm** 84.69 37 P P 03 45 57.6 +0.1
baz=318
OXZ **Oxford** 84.69 158 *eP* P 03 45 57.7 +0.5
comp=Z,34nm,1.1s
SPMN **Marine on St.** 84.69 35 P P 03 45 57.8 +0.3
baz=320
SPMN **Marine on St.** 84.69 35 *eP* P 03 45 57.9 +0.3
comp=Z,66nm,1.8s
PPT2 **Papeete2** 84.69 117 *e*LR LR 04 12 18.3
comp=Z,369nm,29.8s
PPT2 **Papeete2** 84.69 117 *eT* T 05 19 06.0
comp=Z,28nm,0.3s
KRUS **Krusevo** 84.69 319 *i* P P 03 45 57.8 +0.1
L33A **Hoskins** 84.79 40 P P 03 45 58.1 0.0
baz=317
E39A **Mellen** 84.81 33 P P 03 45 58.3 +0.1
baz=321
TIAR **Tiarei** 84.83 116 *eT* T 05 19 16.9
comp=Z,3.0nm,0.4s
ABTA **Abfaltersbach** 84.84 327 *i* P P 03 45 58.2 -0.1
comp=Z,0.9nm,0.6s
BGNE **Belgrade** 84.89 41 P P 03 45 58.5 -0.2
baz=316
BGNE **Belgrade** 84.89 41 *eP* P 03 45 59.6 +0.9
comp=Z,60nm,1.1s
BIA **Bitola** 84.90 319 *i* P P 03 45 58.5 -0.3
J35A **Milford** 84.94 38 P P 03 45 58.8 -0.1
baz=318
PDG **Podgorica** 84.95 321⇑ *iP* P 03 45 59.0 +0.1
TTG **Podgorica** 84.95 321 *eP* P 03 45 59.0 +0.1
comp=Z,32nm,1.0s
TTG **Podgorica** 84.95 321 *eP* P 03 45 59.0 +0.1
TTG pmax pmax
comp=Z,32nm,1.0s
RETA **Reutte** 84.99 329 *i* PcP P 03 45 59.5 +0.4
comp=Z,25nm,1.2s,SNR=7.6
K34A **Le Mars** 85.00 39 P P 03 45 59.1 -0.1
baz=318
F39A **Loretta** 85.01 34 P P 03 45 58.9 -0.3
baz=321
I36A **Fitzsimmons Fa** 85.03 37 P P 03 45 59.6 +0.3
baz=319
FNA **Florina** 85.04 319 *eP* P 03 45 59.7 +0.2
comp=Z,26nm,1.1s
FNA **Florina** 85.04 319 *eP* P 03 45 59.7 +0.2
FNA pmax pmax
comp=Z,26nm,1.1s
E40A **Wakefield** 85.05 33 P P 03 45 60.0 +0.6
baz=321,SNR=5.6
BNM **Barren Site** 85.08 50 *eP* P 03 46 01.1 +1.1
OHR **Ohrid** 85.11 319 *iP* P 03 45 58.9 -0.9
H37A **Dierke Farm, C** 85.12 36 P P 03 46 00.2 +0.4
baz=320
LBZ **Lake Benmore** 85.12 160 *eP* P 03 46 00.1 +0.7
comp=Z,33nm,1.0s
G38A **Ridgeland** 85.16 35 P P 03 45 59.8 -0.2
baz=320
319A **Douglas** 85.22 54 *eP* P 03 46 02.1 +1.4
comp=Z,36nm,1.2s
M33A **Taylor Creek F** 85.26 40 P P 03 46 00.4 -0.1
baz=317
BFO **Black Forest** 85.30 331 *eP* P 03 46 00.3 -0.3
comp=Z,25nm,1.0s
BFO **Black Forest** 85.30 331 *eP* P 03 46 00.3 -0.3
BFO pmax pmax
comp=Z,25nm,1.0s
I37A **Lemond, Waseca** 85.33 36 P P 03 46 01.4 +0.6
baz=319,SNR=12
H38A **Maiden Rock** 85.35 35 P P 03 46 01.2 +0.3
baz=320
F40A **Park Falls** 85.36 33 P P 03 46 00.9 0.0
baz=321
FETA **Feichten** 85.38 329 *i* PcP P 03 46 01.3 +0.1
comp=Z,11nm,1.1s
SCHQ **Schefferville** 85.38 16 P P 03 45 60.0 -0.9
comp=Z,13nm,0.9s,baz=356,slow=7.4,SNR=4.6
SCHQ **Schefferville** 85.38 16 *eP* P 03 46 01.8 +1.0
comp=Z,13nm,0.9s
G39A **Holcombe** 85.38 34 P P 03 46 01.0 -0.1
baz=321
J36A **Seneca 1, Swea** 85.39 37 P P 03 46 01.2 +0.1
baz=319
L34A **Svendsen Farm,** 85.39 39 P P 03 46 01.1 0.0
baz=317
K35A **Storm Lake** 85.41 38 P P 03 46 01.0 -0.2
baz=318
121A **Cookes Peak, D** 85.43 52 P P 03 46 03.0 +1.3
baz=312,SNR=11
E41A **Kenton** 85.44 32 P P 03 46 01.2 -0.1
baz=322
DAVA **Damuels** 85.52 329 *i* PcP P 03 46 02.0 +0.1
comp=Z,19nm,0.9s
M34A **Aspy Farms, Fr** 85.63 40 P P 03 46 02.1 -0.2
baz=317
L35A **Bielow Farm, R** 85.70 39 P P 03 46 02.5 -0.2

	baz=318							
N33A	**J Bar K, Exete**	85.74	41	P		P	03 46 02.2	-0.7
	baz=317							
J37A	**Redenius Farm,**	85.78	37	P		P	03 46 03.3	+0.2
	baz=319							
H39A	**Augusta**	85.80	35	P		P	03 46 02.9	-0.2
	baz=321							
I38A	**Scanlan Farm,**	85.81	36	P		P	03 46 03.1	-0.1
	baz=320,SNR=5.3							
G40A	**Rib Lake**	85.83	34	P		P	03 46 03.3	+0.1
	baz=321,SNR=5.1							
ECH	**Echery**	85.85	331	*e*P		P	03 46 02.7	-0.6
	comp=Z,17nm,1.0s							
ECH	**Echery**	85.85	331	*e*P		P	03 46 02.7	-0.6
ECH				pmax		pmax		
	comp=Z,17nm,1.0s							
K36A	**Gilmore City**	85.85	38	P		P	03 46 03.8	+0.3
	baz=319							
FUORN	**Ofenpass-Fuorn**	85.89	329	*e*P		P	03 46 03.1	-0.8
	comp=Z,37nm,1.1s							
CBKS	**Cedar Bluff**	85.89	43	P		P	03 46 03.3	-0.5
	baz=316							
E42A	**Champion**	85.91	32	P		P	03 46 03.9	+0.2
	baz=323							
F41A	**Three Lakes**	85.94	33	P		P	03 46 04.0	+0.1
	baz=322							
M35A	**Neola**	86.11	39	P		P	03 46 04.8	+0.1
	baz=318							
L36A	**Harm Buss Farm**	86.15	38	P		P	03 46 04.5	-0.4
	baz=318							
K37A	**Belmond**	86.15	37	P		P	03 46 05.0	+0.1
	baz=319,SNR=6.7							
N34A	**Lincoln**	86.16	40	P		P	03 46 04.3	-0.6
	baz=317							
TAOE	**Nuku Hiva Isla**	86.22	104	*e*LR		LR	04 13 10.3	
	comp=Z,288nm,30.9s							
H40A	**Chili**	86.25	34	P		P	03 46 05.3	0.0
	baz=321							
J38A	**Wedel Dairy, R**	86.29	36	P		P	03 46 05.5	-0.1
	baz=320,SNR=6.9							
G41A	**Antigo**	86.33	33	P		P	03 46 05.5	-0.2
	baz=322							
I39A	**Houston**	86.33	35	P		P	03 46 05.6	-0.2
	baz=320							
E43A	**Lone Tree Farm**	86.33	31	P		P	03 46 05.2	-0.5
	baz=323							
TUE	**Stuetta**	86.39	329	*e*P		P	03 46 09.5	+3.2
	comp=Z,23nm,1.3s							
M36A	**Felix, Anita**	86.56	39	P		P	03 46 07.0	+0.1
	baz=318,SNR=5.2							
N35A	**Tabor**	86.58	40	P		P	03 46 07.2	+0.1
	baz=318,SNR=8.1							
L37A	**Phoenix Point,**	86.58	38	P		P	03 46 07.0	0.0
	baz=319							
H41A	**Junction City**	86.58	34	P		P	03 46 07.0	0.0
	baz=322							
H41A	**Junction City**	86.58	34	*e*P		P	03 46 08.1	+1.1
	comp=Z,40nm,1.3s							
G42A	**Mountain**	86.63	33	P		P	03 46 07.5	+0.3
	baz=322							
J39A	**Decorah**	86.64	36	P		P	03 46 06.8	-0.5
	baz=320,SNR=8.4							
K38A	**Parkersburg**	86.66	37	P		P	03 46 07.3	-0.1
	baz=320							
I40A	**Norwalk**	86.71	35	P		P	03 46 07.4	-0.3
	baz=321							
O35A	**Humboldt**	86.88	40	P		P	03 46 08.2	-0.3
	baz=318							
I41A	**Arkdale**	86.92	34	P		P	03 46 08.5	-0.2
	baz=322							
G43A	**Wallace**	86.94	32	P		P	03 46 08.9	+0.3
	baz=323							
L38A	**Oak Wood Farm,**	86.95	37	P		P	03 46 09.1	+0.3
	baz=320							
N36A	**Muff Farm, Cla**	86.96	39	P		P	03 46 09.3	+0.4
	baz=318							
IDI	**Anoyia**	86.96	313	LR		LR	04 28 20.6	
	comp=Z,47nm,18.9s,baz=34,slow=38							
M37A	**Trindle Farm,**	86.97	38	P		P	03 46 09.7	+0.8
	baz=319							
SCIA	**State Center**	87.01	38	P		P	03 46 09.2	+0.1
	baz=319							
SCIA	**State Center**	87.01	38	*e*P		P	03 46 10.3	+1.2
	comp=Z,36nm,1.1s							
K39A	**Oelwein**	87.04	36	P		P	03 46 08.6	-0.6
	baz=320,SNR=5.8							
J40A	**Soldiers Grove**	87.04	35	P		P	03 46 08.8	-0.4
	baz=321							
E45A	**Wooded Hills,**	87.09	30	P		P	03 46 09.5	0.0
	baz=325							
H42A	**Shiocton**	87.16	33	P		P	03 46 10.1	+0.3
	baz=322							
H42A	**Shiocton**	87.16	33	*e*P		P	03 46 10.5	+0.7
	comp=Z,51nm,1.4s							
KSU1	**Kansas State U**	87.37	41	P		P	03 46 10.8	-0.1
	baz=317							
KSU1	**Kansas State U**	87.37	41	*e*P		P	03 46 11.4	+0.5
	comp=Z,24nm,0.9s							
N37A	**Lee Faris, Mou**	87.38	39	P		P	03 46 11.4	+0.4
	baz=319,SNR=8.4							
M38A	**Pleasantville**	87.39	38	P		P	03 46 11.3	+0.3
	baz=319,SNR=8.9							
K40A	**Colesburg**	87.39	36	P		P	03 46 10.9	-0.1
	baz=321,SNR=7.0							
J41A	**Loganville**	87.40	35	P		P	03 46 11.1	+0.1
	baz=321							
L39A	**Vinton**	87.43	37	P		P	03 46 11.2	+0.1
	baz=320,SNR=9.2							
I42A	**Draeger Farm,**	87.48	34	P		P	03 46 11.6	+0.2
	baz=322							
I42A	**Draeger Farm,**	87.48	34	*e*P		P	03 46 11.6	+0.2
	comp=Z,20nm,1.0s							
MNTX	**Cornudas Mount**	87.50	52	P		P	03 46 12.4	+0.7
	baz=313							
MNTX	**Cornudas Mount**	87.50	52	*e*P		P	03 46 12.6	+0.9
	comp=Z,6.7nm,1.1s							
F45A	**CMU Biological**	87.50	31	P		P	03 46 11.5	+0.2
	baz=324							
H43A	**Windswept, Lux**	87.53	33	P		P	03 46 11.5	0.0
	baz=323							
MSTX	**Muleshoe**	87.55	48	P		P	03 46 11.9	-0.1
	baz=314							
MSTX	**Muleshoe**	87.55	48	*e*P		P	03 46 12.9	+0.9
	comp=Z,22nm,1.5s							
AMTX	**Amarillo**	87.56	47	P		P	03 46 12.4	+0.3
	baz=315							
AMTX	**Amarillo**	87.56	47	*e*P		P	03 46 13.4	+1.4
	comp=Z,21nm,0.8s							
JFWS	**Jewell Farm**	87.64	35	P		P	03 46 12.1	-0.1
	baz=321							
F46A	**Macinaw City C**	87.74	30	P		P	03 46 12.5	0.0
	baz=325							
I43A	**Langenfeld Bro**	87.83	33	P		P	03 46 13.3	+0.2
	baz=323							
J42A	**Columbus**	87.84	34	P		P	03 46 12.6	-0.5
	baz=322							
M39A	**Webster**	87.84	37	P		P	03 46 13.3	+0.2
	baz=320,SNR=7.1							
N38A	**Joes South For**	87.84	38	P		P	03 46 13.4	+0.2
	baz=319							
L40A	**Anamosa**	87.85	36	P		P	03 46 13.1	-0.1
	baz=321							
K41A	**Shullsburg**	87.85	35	P		P	03 46 12.9	-0.3
	baz=321							
O37A	**Wolven Farm, M**	87.86	39	P		P	03 46 13.5	+0.3
	baz=319							
J43A	**Natural Harves**	88.11	34	P		P	03 46 14.3	0.0
	baz=322							
N39A	**Derby Farms, D**	88.14	38	P		P	03 46 14.9	+0.3
	baz=320,SNR=7.9							
K42A	**Prairie Point,**	88.16	35	P		P	03 46 14.9	+0.3
	baz=322							
L41A	**Preston**	88.18	36	P		P	03 46 14.6	-0.1
	baz=321							
P37A	**Lathrop**	88.19	40	P		P	03 46 14.9	+0.1
	baz=319							
M40A	**Post Highland**	88.21	37	P		P	03 46 15.0	+0.1
	baz=320,SNR=6.4							
O38A	**Galt**	88.23	39	P		P	03 46 15.3	+0.3
	baz=319							
GLMI	**Grayling**	88.57	31	P		P	03 46 16.8	+0.3
	baz=325							
GLMI	**Grayling**	88.57	31	*e*P		P	03 46 17.8	+1.2
	comp=Z,95nm,1.1s							
P38A	**Dawn**	88.57	39	P		P	03 46 16.8	+0.1
	baz=319,SNR=7.9							
N40A	**Mertquake, Sal**	88.58	37	P		P	03 46 16.8	+0.2
	baz=320							
O39A	**Kirksville**	88.59	38	P		P	03 46 17.0	+0.3
	baz=320							
L42A	**Oliver, Polo**	88.62	35	P		P	03 46 16.6	-0.2
	baz=322							
Q37A	**Longview Farm,**	88.67	40	P		P	03 46 16.8	-0.3
	baz=319							
K43A	**Burlington**	88.68	34	P		P	03 46 16.9	-0.2
	baz=320							
L43A	**Garden Prairie**	88.91	35	P		P	03 46 18.1	0.0
	baz=322							
M42A	**Sheffield**	89.01	36	P		P	03 46 18.6	0.0
	baz=322							
O40A	**La Belle**	89.02	38	P		P	03 46 19.0	+0.3
	baz=320,SNR=6.8							
Q38A	**Cooks Store, C**	89.03	40	P		P	03 46 18.7	0.0
	baz=319							
N41A	**Harden Midland**	89.07	37	P		P	03 46 19.0	+0.1
	baz=321							
P39B	**Salisbury**	89.07	39	P		P	03 46 19.1	+0.1
	baz=320							
LPIG	**La Paz**	89.26	60	LR		LR	04 27 07.9	
	comp=Z,51nm,18.5s,baz=234,slow=36							
L44A	**Lake County Fo**	89.29	34	P		P	03 46 19.7	-0.2
	baz=323							
Q39A	**Willow Grove F**	89.29	39	P		P	03 46 20.2	+0.1
	baz=320,SNR=12							
WMOK	**Wichita Mounta**	89.34	46	P		P	03 46 20.9	+0.5
	baz=316							
WMOK	**Wichita Mounta**	89.34	46	*e*P		P	03 46 21.4	+1.0
	comp=Z,14nm,1.1s							
WMOK	**Wichita Mounta**	89.34	46	*e*P		P	03 46 21.4	+1.0
WMOK				pmax		pmax		
	comp=Z,14nm,1.1s							
N42A	**Yates City**	89.36	36	P		P	03 46 20.0	-0.3
	baz=322							
P40A	**Paris**	89.39	38	P		P	03 46 20.9	+0.5
	baz=320							
M43A	**Waltham Townsh**	89.39	35	P		P	03 46 20.6	+0.2
	baz=322,SNR=5.1							
R38A	**Fenwick Farm,**	89.47	40	P		P	03 46 20.3	-0.6
	baz=319							
O41A	**Passleys Farm,**	89.51	37	P		P	03 46 21.2	+0.2
	baz=321,SNR=5.9							
N43A	**Stutzman Famil**	89.69	36	P		P	03 46 22.1	+0.3
	baz=322							
P41A	**Barry, Barry**	89.77	38	P		P	03 46 22.1	-0.2
	baz=321,SNR=6.2							
Q40A	**Laux Farm, Aux**	89.79	39	P		P	03 46 22.4	+0.1
	baz=320							
ATD	**Arta Tunnel**	89.82	284	LR		LR	04 31 28.7	
	comp=Z,59nm,18.6s,baz=46,slow=39							
R39A	**Chumby, Stover**	89.82	40	P		P	03 46 22.0	-0.5
	baz=320,SNR=6.6							
O42A	**Bath**	89.84	37	P		P	03 46 22.6	+0.1
	baz=321							
M44A	**Midewin, Midew**	89.85	35	P		P	03 46 22.6	+0.1
	baz=323							
S38A	**Stockton**	89.88	41	P		P	03 46 22.3	-0.5
	baz=319							
HDIL	**Hopedale**	89.93	36	P		P	03 46 23.3	+0.3
	baz=322							
HDIL	**Hopedale**	89.93	36	*e*P		P	03 46 23.9	+0.9
	comp=Z,43nm,1.3s							
T38A	**Diamond**	90.13	41	P		P	03 46 23.7	-0.3
	baz=319,SNR=14							
S39A	**Bolivar**	90.14	40	P		P	03 46 23.7	-0.3
	baz=319,SNR=6.9							
TUL1	**Leonard**	90.16	43	P		P	03 46 24.3	+0.2
	baz=318							
TUL1	**Leonard**	90.16	43	*e*P		P	03 46 25.1	+1.0
	comp=Z,14nm,0.9s							
P42A	**Winchester**	90.19	37	P		P	03 46 24.2	0.0
	baz=321							
LTX	**Lajitas**	90.19	52	*e*P		P	03 46 25.1	+0.7
LTX	**Lajitas**	90.19	52	*e*P		P	03 46 25.2	+0.7
TX31	**Lajitas Ar. Si**	90.19	52	*e*P		P	03 46 25.0	+0.4
TXAR	**Lajitas Array**	90.19	52	P		P	03 46 25.1	+0.6
	comp=Z,5.5nm,0.8s,baz=294,slow=3.4,SNR=65							
TXAR				LR		LR	04 22 22.8	
	comp=Z,29nm,21.4s,baz=0.0,slow=32							
M45A	**Boilermakers S**	90.21	34	P		P	03 46 24.3	0.0
	baz=323							
R40A	**Maddies Statio**	90.23	39	P		P	03 46 24.2	-0.2
	baz=320,SNR=8.1							
Q41A	**Truxton**	90.24	38	P		P	03 46 24.6	+0.2
	baz=321							
N44A	**Piper City**	90.28	35	P		P	03 46 25.0	+0.4
	baz=323							
ABTX	**Abilene, Hawle**	90.35	48	P		P	03 46 25.7	+0.5
	baz=316							
ABTX	**Abilene, Hawle**	90.35	48	*e*P		P	03 46 26.3	+1.1
	comp=Z,24nm,1.0s							
N45A	**Kentland**	90.53	35	P		P	03 46 26.2	+0.5
	baz=323							
P43A	**Skaggs, Pawnee**	90.54	37	P		P	03 46 25.9	+0.1
	baz=322							
M46A	**Old House Fiel**	90.60	34	P		P	03 46 26.5	+0.4
	baz=324							
Q42A	**Golden Eagle**	90.61	38	P		P	03 46 26.5	+0.4
	baz=321							
T39A	**Clever**	90.62	41	P		P	03 46 26.2	-0.1
	baz=319							
O44A	**Mansfield**	90.64	36	P		P	03 46 26.1	-0.1
	baz=322							
S40A	**Lebanon**	90.64	40	P		P	03 46 26.2	-0.2
	baz=320							
R41A	**Rosebud**	90.67	39	P		P	03 46 26.5	0.0
	baz=321							
N46A	**Monticello**	90.84	34	P		P	03 46 27.2	0.0
	baz=324							
HHAR	**Hobbs**	90.88	42	*e*P		P	03 46 27.8	+0.3
	comp=Z,9.4nm,0.8s							
CCM	**Cathedral Cave**	90.92	39	P		P	03 46 27.6	0.0
	baz=321							
CCM	**Cathedral Cave**	90.92	39	*e*P		P	03 46 28.2	+0.6
	comp=Z,21nm,1.2s							
CCM	**Cathedral Cave**	90.92	39	*e*P		P	03 46 28.2	+0.6
CCM				pmax		pmax		
	comp=Z,21nm,1.2s							
T40A	**Mansfield**	90.97	40	P		P	03 46 27.8	-0.1
	baz=320							
R42A	**Luebbering**	90.97	38	P		P	03 46 28.1	+0.3
	baz=321							
S41A	**Jillco Farms,**	91.03	39	P		P	03 46 28.2	0.0
	baz=320							
U39A	**Green Forest**	91.05	41	P		P	03 46 28.2	-0.1
	baz=319							
TRQ	**Mont Tremblant**	91.09	24	*e*P		P	03 46 28.8	+0.4
SFIN	**Lafayette**	91.09	35	P		P	03 46 28.7	+0.3
	baz=323							
P44A	**Sand Creek, Wi**	91.10	36	P		P	03 46 28.7	+0.2
	baz=322							
Q44A	**Meyer Farm, Va**	91.36	37	P		P	03 46 30.0	+0.3
	baz=322							
S42A	**Caledonia**	91.37	39	P		P	03 46 30.2	+0.4
	baz=321							
V39A	**Pettigrew**	91.37	42	P		P	03 46 29.5	-0.3
	baz=319							
U40A	**Yellville**	91.40	41	P		P	03 46 29.9	0.0
	baz=320							
R43A	**Red Bud**	91.41	38	P		P	03 46 29.9	+0.1
	baz=322							
T41A	**Mountain View**	91.44	40	P		P	03 46 29.9	-0.2
	baz=320							
O47A	**Sheridan**	91.62	34	P		P	03 46 30.8	-0.1
	baz=324							
Q45A	**Warren Harvey,**	91.78	36	P		P	03 46 31.9	+0.3
	baz=323							
W39A	**Magazine**	91.78	42	P		P	03 46 31.9	+0.2
	baz=319							
W39A	**Magazine**	91.78	42	*e*P		P	03 46 32.3	+0.7
	comp=Z,15nm,1.3s							
JCT	**Junction City**	91.78	49	P		P	03 46 32.1	+0.3
	baz=316							
JCT	**Junction City**	91.78	49	*e*P		P	03 46 32.2	+0.4
	comp=Z,7.7nm,0.8s							
JCT	**Junction City**	91.78	49	*e*P		P	03 46 32.3	+0.4
JCT				pmax		pmax		
	comp=Z,8.0nm,0.8s							
T42A	**Van Buren**	91.79	39	P		P	03 46 31.7	0.0
	baz=321							
V40A	**Witts Springs**	91.83	41	P		P	03 46 31.7	-0.2
	baz=320							
V40A	**Witts Springs**	91.83	41	*e*P		P	03 46 32.1	+0.2
	comp=Z,8.7nm,1.2s							
R44A	**Waltonville**	91.84	37	P		P	03 46 32.3	+0.4
	baz=322							
S43A	**Fulton Ridge,**	91.88	38	P		P	03 46 32.2	+0.1
	baz=321							
U41A	**Viola**	91.89	40	P		P	03 46 32.1	-0.1
	baz=320							
WHTX	**Lake Whitney,**	92.09	47	P		P	03 46 33.9	+0.7
	baz=317							
WHTX	**Lake Whitney,**	92.09	47	*e*P		P	03 46 34.5	+1.3
	comp=Z,30nm,0.9s							
X39A	**Fountain Ranch**	92.12	43	P		P	03 46 33.8	+0.6
	baz=319							
T43A	**Greenville**	92.16	39	P		P	03 46 33.6	+0.3
	baz=321							
W40A	**Ferguson Farm,**	92.17	42	P		P	03 46 33.7	+0.2
	baz=320							
W40A	**Ferguson Farm,**	92.17	42	*e*P		P	03 46 34.2	+0.8
	comp=Z,22nm,0.9s							
P47A	**Martinsville**	92.19	35	P		P	03 46 33.6	+0.2
	baz=324							
S44A	**Carbondale**	92.19	38	P		P	03 46 33.8	+0.2
	baz=322							
V41A	**Mountainview**	92.20	41	P		P	03 46 33.4	-0.2
	baz=320							
PBMO	**Poplar Bluff**	92.32	39	*e*P		P	03 46 34.9	+0.8
	comp=Z,22nm,1.3s							
MIAR	**Mount Ida**	92.38	43	P		P	03 46 34.8	+0.3
	baz=319							
MIAR	**Mount Ida**	92.38	43	*e*P		P	03 46 35.4	+0.9
	comp=Z,24nm,1.0s							
MIAR	**Mount Ida**	92.38	43	*e*P		P	03 46 35.4	+0.9
MIAR				pmax		pmax		
	comp=Z,24nm,1.0s							
WHAR	**Wooly Hollow**	92.51	41	*e*P		P	03 46 35.5	+0.5
	comp=Z,26nm,1.0s							
V42A	**Cord**	92.58	40	P		P	03 46 35.4	+0.1
	baz=321							
W41B	**Gary Mavity, V**	92.62	41	P		P	03 46 35.7	+0.2
	baz=320							
W41B	**Gary Mavity, V**	92.62	41	*e*P		P	03 46 35.8	+0.2
	comp=Z,11nm,1.1s							
X40A	**Basin Creek Fa**	92.83	42	P		P	03 46 37.6	+1.1
	baz=320							
X40A	**Basin Creek Fa**	92.83	42	*e*P		P	03 46 37.9	+1.4
	comp=Z,12nm,1.1s							
X41A	**Kaden, Bauxite**	92.99	42	P		P	03 46 37.4	+0.1
	baz=320							
ACSO	**Alum Creek Sta**	93.03	32	P		P	03 46 37.4	0.0
	baz=326							
WLAR	**White Oak Lake**	93.28	43	*e*P		P	03 46 40.3	+1.7
	comp=Z,30nm,1.1s							
M54A	**Oil Creek Stat**	93.33	30	P		P	03 46 39.2	+0.5
	baz=328							
T46A	**Princeton**	93.37	37	P		P	03 46 39.4	+0.5
	baz=323							
PKME	**Peaks-Kenny Pk**	93.56	21	P		P	03 46 39.9	+0.3
	baz=336							
N54A	**Moraine State**	93.67	30	P		P	03 46 40.6	+0.3
	baz=328							
S48A	**Wiedeman Farm,**	93.76	36	P		P	03 46 40.8	+0.1
	baz=324							
T47A	**Sharon Grove**	93.80	37	P		P	03 46 41.5	+0.5
	baz=323							
T48A	**Bowling Green**	94.04	36	P		P	03 46 42.0	0.0
	baz=324							
WVT	**Waverly**	94.13	38	P		P	03 46 42.6	+0.1
	baz=323							
V46A	**Holladay**	94.25	38	P		P	03 46 43.1	+0.1
	baz=323							
V47A	**Nunnelly**	94.52	38	P		P	03 46 44.3	0.0
	baz=323							
HKT	**Hockley**	94.53	47	*e*P		P	03 46 46.0	+1.7
	comp=Z,17nm,1.5s							
HKT	**Hockley**	94.53	47	*e*P		P	03 46 46.0	+1.7
HKT				pmax		pmax		
	comp=Z,17nm,1.5s							
OXF	**Oxford**	94.61	40	P		P	03 46 44.8	+0.1
	baz=322							
Y44A	**Strider, Charl**	94.62	41	P		P	03 46 45.3	+0.5
	baz=321							
SSPA	**Standing Stone**	94.77	29	P		P	03 46 45.7	+0.4
	baz=330							
O56A	**Blue Knob Stat**	94.82	30	P		P	03 46 45.8	+0.1
	baz=329							
MCWV	**Mont Chateau**	94.83	31	P		P	03 46 45.8	+0.1
	baz=326							
V48A	**Smith Brothers**	94.93	37	P		P	03 46 46.2	0.0
	baz=323							
W47A	**Westpoint**	94.94	38	P		P	03 46 46.5	+0.2
	baz=323							
KEST	**Kesra**	95.01	323	LR		LR	04 33 37.7	
	comp=Z,91nm,18.7s,baz=313,slow=38							
341A	**Kurthwood**	95.03	44	P		P	03 46 47.4	+0.7
	baz=319							
Y45A	**Yeager Farm, C**	95.04	40	P		P	03 46 47.3	+0.6
	baz=322							
N59A	**State Game Lan**	95.33	27	P		P	03 46 48.3	+0.4
	baz=331							
W48A	**Pulaski**	95.36	38	P		P	03 46 48.6	+0.5
	baz=323							
ZAIG	**Zacatecas**	95.42	56	*e*P		P	03 46 50.7	+1.8
244A	**Avery, Jackson**	95.85	42	P		P	03 46 51.0	+0.6
	baz=321							
LNIG	**Linares**	95.95	53	*e*P		P	03 46 51.2	+0.2
	comp=Z,22nm,1.7s							
X49A	**Woodville**	96.16	38	P		P	03 46 51.7	-0.1
	baz=324							
ESDC	**Sonseca Array**	97.29	334	P		P	03 46 56.6	-0.3
	comp=Z,0.1nm,0.3s,baz=9.3,slow=9.5,SNR=3.2							
ESDC				LR		LR	04 36 17.7	
	comp=Z,131nm,19.0s,baz=335,slow=39							
VNDA	**Vanda**	114.95	175	PKP		PKPdf	03 52 01.4	-1.9
	comp=Z,1.4nm,1.0s,baz=318,slow=2.1,SNR=5.2							
KOWA	**Kowa**	119.26	321	PKP		**PKPdf**	03 52 12.9	-0.5
	comp=Z,3.3nm,0.8s,baz=270,slow=7.1,SNR=9.6							
SDV	**Santo Domingo**	125.39	40	*e*PKPdf		**PKPdf**	03 52 25.7	+0.2
DBIC	**Dimbokro**	126.27	317	PKP		**PKPdf**	03 52 26.0	-0.9
	comp=Z,4.9nm,0.9s,baz=89,slow=1.8,SNR=6.2							
QSPA	**South Pole Qui**	126.75	180	PKP		**PKPdf**	03 52 25.7	-0.5
	comp=Z,7.9nm,1.0s,baz=318,slow=2.8,SNR=8.2							
QSPA	**South Pole Qui**	126.75	180	*e*PKPdf		**PKPdf**	03 52 25.7	-0.5
QSPA				*e*PKPdf		**PKiKP**	03 52 26.4	-0.4
SYO	**Syowa Base**	128.15	207	*e*PKPdf		**PKPdf**	03 52 27.8	-1.0
SYO	**Syowa Base**	128.15	207	*e*PKiKP		**PKiKP**	03 52 34.1	+4.7
SNAA	**Sanae**	140.70	197	PKP		PKPpre	03 52 43.0	
SNAA	**Sanae**	140.70	197	PKhKP		PKPpre	03 52 43.8	
	comp=Z,1.3nm,0.7s,baz=31,slow=3.0,SNR=5.1							
SNAA	**Sanae**	140.70	197	*e*PKPpre		PKPpre	03 52 43.8	
SNAA				*e*PKPdf		**PKPdf**	03 52 52.3	0.0
VNA2	**Neumayer--Watz**	142.27	196	PKP		PKPpre	03 52 50.3	
	baz=65,slow=2.2							
VNA3	**Neumayer Olymp**	142.52	195	PKP		PKPpre	03 52 50.4	
SAML	**Samuel**	144.31	45	*e*PKPdf		PKPbc	03 52 59.0	+0.4
LPAZ	**La Paz**	146.76	60	PKPbc		**PKPbc**	03 53 06.3	-0.7
	comp=Z,15nm,0.9s,baz=338,slow=4.4,SNR=32							
LPAZ	**La Paz**	146.76	60	*e*PKPdf		**PKPbc**

CLDR	**Calidiran**	**0.34**	**49**	*e*Pg	**Pg**	**03 46 53.2**	**-0.2**
CLDR				*e*Sg	**Sg**	**03 46 58.7**	**+0.4**
CLDR				S	**Sb**	**03 46 59.7**	**+0.1**
VANB	**Van**	**0.36**	**206**	PG	**Pb**	**03 46 54.6**	**+0.1**
VANB	**Van**	**0.36**	**206**	*e*Pg	**Pb**	**03 46 54.6**	**+0.1**
TVAN	**Van**	**0.41**	**200**	*i* P	**Pg**	**03 46 54.5**	**-0.2**
TVAN				*i* S	**Sb**	**03 47 01.9**	**+0.3**
TVAN	**Van**	**0.41**	**200**	P	**Pg**	**03 46 54.5**	**-0.2**
TVAN				S	**Sb**	**03 47 02.0**	**+0.3**
AGRB	**Hanur-Agry**	**0.80**	**325**	PG	**Pg**	**03 47 01.9**	**-0.1**
AGRB	**Hanur-Agry**	**0.80**	**325**	*e*Pg	**Pg**	**03 47 01.9**	**-0.1**
GURO	**Guroymak-BITLI**	**1.27**	**254**	PN	**Pn**	**03 47 09.3**	**-0.4**
GURO	**Guroymak-BITLI**	**1.27**	**254**	*e*Pn	**Pn**	**03 47 09.3**	**-0.4**

DJA 19 03:50:54.3±1.0, **0°S**±8°×**12°5E**±°, **h78**km±36km, **M3.6**/7, **MLv3.6**/7, **Southern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KMSI	**Cibinong**	**1.48**	**299**	P		Pn	03 51 18.9	-0.5
SANI	**Sanana**	**2.02**	**159**	P		Pn	03 51 26.6	+0.2
LBMI	**Labuha**	**2.27**	**102**	P		Pn	03 51 30.1	+0.3
LBMI				S		Sn	03 51 57.9	+0.9
LUWI	**Luwuk**	**2.66**	**251**	P		Pn	03 51 35.4	+0.4
MRSI	**Marisa**	**3.40**	**281**	P		Pn	03 51 45.4	+0.4
NLAI	**Namlea**	**3.57**	**149**	P		Pn	03 51 46.1	-1.2
APSI	**Ampana**	**3.71**	**258**	P		Pn	03 51 49.9	+0.6

*CSEM **19** 03:58:43.6±0.2, 38.°48N×43.°01E, h10km, ML2.9, Error ellipse: s-maj=5.5km s-min=4.5km az=6.0*
*ISK **19** 03:58:43.3, 38.°54N×42.°98E, h13km, ML2.3/4*
*ATA **19** 03:58:43.2±1.5, 38.°49N×43.°03E, h3km±26km, ML3.0, MW2.9*
*ISCJB **19** 03:58:44.0±0.5, 38.°47N±0.°03×42.°99E±0.°04, h5km±7km, Error ellipse: s-maj=5.8km s-min=4.9km az=8.9*
*DDA **19** 03:58:44.1, 38.°48N×43.°00E, h7km, Ml2.9*
ISC 19 03:58:43.9±0.9, **38.°48N**±0.°03×**43.°01E**±0.°03, **h11**km±8km, **n26**, **σ0.°84**/43, **Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
GEVA	**Gevas**	**0.17**	**167**	*i* P		**Pg**	**03 58 47.4**	**-0.3**
GEVA				*e*S		**Sg**	**03 58 51.0**	**+0.4**
GEVA				IAML			03 58 52.3	
	comp=Z,535nm,0.5s							
GEVA	**Gevas**	**0.17**	**167**	*i* P		**Pg**	**03 58 47.5**	**-0.3**
GEVA				*i* S		**Sg**	**03 58 51.0**	**+0.4**
GEVA	**Gevas**	**0.17**	**167**	P		**Pg**	**03 58 47.5**	**-0.3**
GEVA				S		**Sg**	**03 58 51.0**	**+0.4**
TVAN	**Van**	**0.32**	**81**	*i* P		**Pg**	**03 58 50.3**	**0.0**
TVAN				*i* S		**Sb**	**03 58 56.2**	**-0.6**
TVAN	**Van**	**0.32**	**81**	P		**Pg**	**03 58 50.3**	**0.0**
TVAN				S		**Sb**	**03 58 56.2**	**-0.6**
VANB	**Van**	**0.32**	**69**	PG		**Pg**	**03 58 50.3**	**-0.1**
VANB				SG		**Sb**	**03 58 55.9**	**-1.0**
VANB	**Van**	**0.32**	**69**	*e*Pg		**Pg**	**03 58 50.3**	**-0.1**
VANB				*e*Sg		**Sb**	**03 58 55.9**	**-1.0**
ADCV	**BITLIS_Adilcev**	**0.40**	**326**	*i* P		**Pb**	**03 58 52.5**	**-0.5**
ADCV				*i* S		**Sb**	**03 58 59.1**	**-0.1**
ADCV	**BITLIS_Adilcev**	**0.40**	**326**	P		**Pb**	**03 58 52.5**	**-0.5**
ADCV				S		**Sb**	**03 58 59.1**	**-0.1**
GURO	**Guroymak-BITLI**	**0.77**	**276**	PG		**Pg**	**03 58 58.3**	**-0.5**
GURO				SG		**Sg**	**03 59 08.7**	**-0.1**
GURO	**Guroymak-BITLI**	**0.77**	**276**	*e*Pg		**Pg**	**03 58 58.3**	**-0.5**
GURO				*e*Sg		**Sg**	**03 59 08.7**	**-0.1**
TUTA	**Tutak**	**0.93**	**351**	*i* P		**Pb**	**03 59 01.9**	**-0.4**
TUTA				*e*S		**Sb**	**03 59 14.7**	**0.0**
TUTA				IAML			03 59 17.1	
	comp=Z,44nm,0.2s							
TUTA	**Tutak**	**0.93**	**351**	*i* P		**Pb**	**03 59 01.8**	**-0.4**
TUTA				*i* S		**Sb**	**03 59 14.7**	**0.0**
TUTA	**Tutak**	**0.93**	**351**	P		**Pb**	**03 59 01.8**	**-0.4**
TUTA				S		**Sb**	**03 59 14.7**	**0.0**
CLDR	**Calidiran**	**0.97**	**47**	PG		**Pg**	**03 59 01.9**	**-0.7**
CLDR	**Calidiran**	**0.97**	**47**	*e*Pg		**Pg**	**03 59 01.9**	**-0.7**
EKAR	**Karacoban**	**1.07**	**317**	*e*P		**Pn**	**03 59 04.8**	**-0.2**
EKAR				*e*S		**Sn**	**03 59 20.6**	**+0.6**
EKAR				IAML			03 59 27.9	
	comp=Z,13nm,0.3s							
EKAR	**Karacoban**	**1.07**	**317**	*i* P		**Pb**	**03 59 04.2**	**-0.3**
EKAR				*i* S		**Sn**	**03 59 21.5**	**+1.6**
EKAR	**Karacoban**	**1.07**	**317**	P		**Pb**	**03 59 04.2**	**-0.3**
SIRT	**Sirnak**	**1.08**	**205**	PN		**Pn**	**03 59 05.6**	**+0.6**
SIRT	**Sirnak**	**1.08**	**205**	*e*Pn		**Pn**	**03 59 05.6**	**+0.6**
AGRB	**Hanur-Agry**	**1.09**	**359**	PG		**Pg**	**03 59 03.7**	**-1.2**
AGRB	**Hanur-Agry**	**1.09**	**359**	*e*Pg		**Pg**	**03 59 03.7**	**-1.2**
VRTB	**Varto-Mus**	**1.39**	**300**	PN		**Pn**	**03 59 08.1**	**-1.2**
EATA	**Eleskirt**	**1.44**	**344**	*e*P		**Pg**	**03 59 11.2**	**-0.3**
EATA				*e*S		**Sg**	**03 59 33.8**	**+3.7**
EATA				IAML			03 59 35.8	
	comp=Z,2.9nm,0.5s							
HOMI	**Horasan**	**1.78**	**332**	*e*P		**Pb**	**03 59 16.8**	**+0.1**
HOMI				IAML			03 59 19.1	
	comp=Z,7.2nm,0.4s							

*ISCJB **19** 04:09:14.5±0.2, 24.°11N±0.°02×121.°71E±0.°02, h26km±2km, Error ellipse: s-maj=3.1km s-min=2.2km az=42.6*
*TAP **19** 04:09:14.4, 24.°13N×121.°67E, h27km, ML3.1, B*
*JMA **19** 04:09:14.1, 24.°07N×121.°60E, h30km±1km, M2.4*
ISC 19 04:09:14.5±0.9, **24.°11N**±0.°02×**121.°71E**±0.°02, **h28**km±3km, **n87**, **σ0.°95**/126, **10C-3D**, **Taiwan**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
TWD	**Chiawan**	**0.10**	**254**	⇑*i* P		**Pb**	**04 09 19.3**	**-0.3**
TWD				*i* S		**Sn**	**04 09 22.7**	**-0.3**
	baz=241							
NACB	**Ninganchiao**	**0.12**	**303**	P		**Pb**	**04 09 19.2**	**-0.5**
	baz=292							
NACB				S		**Sb**	**04 09 22.6**	**-0.7**
	baz=292							
HWA	**Hwalien**	**0.16**	**215**	⇑P		**Pb**	**04 09 20.4**	**+0.4**
	baz=206							
HWA				*e*S		**Sn**	**04 09 25.4**	**+1.6**
	baz=206							
ENLB	**Shoufeng**	**0.23**	**205**	*e*P		**Pb**	**04 09 21.2**	**+0.4**
	baz=202							
ENLB				*e*S		**Sn**	**04 09 26.6**	**+1.6**
	baz=202							
ENA	**Nanau**	**0.32**	**6**	P		**Pb**	**04 09 21.6**	**-0.5**
	baz=9.0							
NANB	**Nanao**	**0.32**	**7**	⇑P		**Pb**	**04 09 21.6**	**-0.5**
	baz=9.0							
NANB				S		**Sb**	**04 09 26.8**	**-0.4**
	baz=9.0							
ENAH	**Nanao**	**0.35**	**16**	*e*P		**Pb**	**04 09 21.9**	**-0.6**
	baz=21							
ESL	**Shilin**	**0.39**	**220**	*e*P		**Pb**	**04 09 22.2**	**-0.8**
	baz=224							
WHF	**Hehuan Shan**	**0.40**	**275**	⇑*i* P		**Pb**	**04 09 22.8**	**-0.8**
	baz=272							
WHF				*i* S		**Sb**	**04 09 28.7**	**-1.1**
	baz=272							
NNSB	**Datong**	**0.43**	**317**	⇓P		**Pb**	**04 09 23.2**	**-0.6**
	baz=318							
NNSB				S		**Sb**	**04 09 29.4**	**-0.9**
	baz=318							
NNSH	**Datong**	**0.43**	**317**	⇓*i* P		**Pb**	**04 09 23.2**	**-0.6**
	baz=317							
NNSH				S		**Sb**	**04 09 29.4**	**-0.8**
	baz=317							
NNS	**Nan Shan**	**0.45**	**317**	P		**Pb**	**04 09 23.4**	**-0.7**
	baz=318							
NNS				S		**Sb**	**04 09 29.5**	**-1.1**
	baz=318							
CHGB	**Renai**	**0.49**	**264**	⇑P		**Pb**	**04 09 24.3**	**-0.5**
	baz=256							
CHGB				S		**Sb**	**04 09 31.2**	**-0.6**
	baz=256							
TWT	**Tachien**	**0.50**	**287**	*e*P		**Pb**	**04 09 24.7**	**-0.3**
	baz=284							
OWD	**Renai**	**0.51**	**252**	⇑P		**Pb**	**04 09 24.4**	**-0.6**
	baz=250							
OWD				*e*S		**Sb**	**04 09 31.0**	**-1.2**
	baz=250							
TWC	**Suao**	**0.52**	**15**	⇑P		**Pb**	**04 09 24.8**	**-0.3**
	baz=15							
TWC				S		**Sb**	**04 09 32.6**	**+0.4**
	baz=15							
TDCB	**Techi**	**0.52**	**286**	⇑P		**Pb**	**04 09 24.7**	**-0.6**
	baz=284							
TDCB				S		**Sb**	**04 09 31.4**	**-1.1**
	baz=284							
ENTT	**Nioudou**	**0.54**	**347**	*e*P		**Pb**	**04 09 25.1**	**-0.5**
	baz=348							
ENTT				*e*S		**Sb**	**04 09 32.6**	**-0.4**
	baz=348							
EOS1	**EOS1**	**0.58**	**41**	*e*P		**Pn**	**04 09 26.9**	**0.0**
	baz=45							
TWE	**Neicheng**	**0.61**	**357**	*e*P		**Pb**	**04 09 26.1**	**-0.6**
	baz=353							
YHNB	**Yeheng**	**0.63**	**332**	⇓P		**Pb**	**04 09 26.5**	**-0.6**
	baz=323							
YHNB				*e*S		**Sb**	**04 09 34.3**	**-1.4**
	baz=323							
HGSD	**Ruisui**	**0.67**	**203**	*e*P		**Pb**	**04 09 27.0**	**-0.6**
	baz=215							
HGSD				*e*S		**Sn**	**04 09 39.9**	**+2.4**
	baz=215							
NWLT	**Wulai**	**0.69**	**345**	*e*P		**Pn**	**04 09 27.9**	**-0.5**
	baz=346							
DPDB	**Guoxing**	**0.72**	**264**	P		**Pn**	**04 09 27.9**	**-0.9**
	baz=258							
DPDB				*e*S		**Sb**	**04 09 37.8**	**-0.2**
	baz=258							
SSLB	**Suanglung**	**0.76**	**245**	P		**Pn**	**04 09 28.4**	**-1.0**
	baz=244							
SSLB				*e*S		**Sb**	**04 09 38.0**	**-1.2**
	baz=244							
EGS		**0.76**	**16**	*e*P		**Pn**	**04 09 29.0**	**-0.3**
	baz=18							
SMLT	**Sun Moon Lake**	**0.77**	**253**	P		**Pn**	**04 09 28.8**	**-0.8**
	baz=247							
SMLT				S		**Sb**	**04 09 39.2**	**-0.3**
	baz=247							
TYC	**Yuchr**	**0.80**	**255**	*e*P		**Pn**	**04 09 29.1**	**-0.8**
	baz=250							
TYC				*e*S		**Sn**	**04 09 39.9**	**-1.0**
	baz=250							
YULB	**Yu-li**	**0.81**	**208**	*e*P		**Pn**	**04 09 27.7**	**-2.3**
	baz=206							
LIOB	**Emei**	**0.82**	**310**	P		**Pn**	**04 09 30.3**	**+0.1**
	baz=310							
LIOB				S		**Sn**	**04 09 41.0**	**-0.5**
	baz=310							
NSTT	**Nanjuang**	**0.83**	**309**	*e*P		**Pn**	**04 09 30.4**	**+0.2**
	baz=308							
NSTT				S		**Sn**	**04 09 41.1**	**-0.4**
	baz=308							
TWF1	**Yuli**	**0.84**	**206**	*e*P		**Pn**	**04 09 28.3**	**-2.1**
	baz=215							
WLTB	**Daxi**	**0.85**	**331**	*e*P		**Pn**	**04 09 29.5**	**-1.0**
	baz=336							
TIPB	**Shuangxi**	**0.87**	**7**	*e*P		**Pn**	**04 09 30.0**	**-0.8**
	baz=358							
TWA	**Mucha**	**0.87**	**353**	*e*P		**Pn**	**04 09 30.8**	**-0.2**
	baz=354							
TWQ1	**Liyutan**	**0.88**	**286**	P		**Pn**	**04 09 31.5**	**+0.5**
	baz=284							
TWQ1				S		**Sn**	**04 09 43.5**	**+0.5**
	baz=284							
TATO	**Taipei**	**0.89**	**347**	*e*P		**Pn**	**04 09 31.3**	**+0.2**
	baz=346							
TATO				S		**Sn**	**04 09 42.2**	**-0.7**
	baz=346							
NSY	**Sanyi**	**0.91**	**290**	*e*P		**Pb**	**04 09 32.6**	**+0.8**
	baz=288							
NSY				*e*S		**Sn**	**04 09 44.7**	**+1.0**
	baz=288							
YUS	**Yu-Shan**	**0.93**	**228**	⇑P		**Pn**	**04 09 31.4**	**-0.6**
	baz=219							
YUS				*e*S		**Sn**	**04 09 42.9**	**-1.7**
	baz=219							
TWB1	**Santiao Chiao**	**0.93**	**16**	*e*P		**Pb**	**04 09 32.4**	**+0.4**
	baz=17							
NMLH	**Miaoli**	**0.94**	**297**	*e*P		**Pb**	**04 09 33.2**	**+1.1**
	baz=296							
WJS	**Zhushan**	**0.94**	**252**	*e*P		**Pb**	**04 09 32.5**	**+0.3**
	baz=252							
WJS				*e*S		**Sb**	**04 09 45.3**	**+1.0**
	baz=252							
TCU	**Taichung**	**0.94**	**273**	*e*P		**Pb**	**04 09 33.1**	**+0.9**
	baz=271							
SBCB	**Hsinchu**	**0.94**	**316**	*e*P		**Pb**	**04 09 32.9**	**+0.7**
	baz=315							
SBCB				*e*S		**Sb**	**04 09 46.6**	**+2.2**
	baz=315							
NWF	**Wu-fen Shan**	**0.96**	**4**	*e*P		**Pb**	**04 09 33.7**	**+1.1**
	baz=351							
WFSB	**Wu-fen Shan**	**0.96**	**4**	*e*P		**Pb**	**04 09 33.3**	**+0.8**
	baz=351							
HSN	**Hsinchu**	**0.96**	**316**	*e*P		**Pn**	**04 09 32.9**	**+0.8**
	baz=318							
WNT	**Mingjian**	**0.96**	**256**	*e*P		**Pn**	**04 09 32.6**	**+0.5**
	baz=255							
WNT				*e*S		**Sb**	**04 09 46.0**	**+1.1**
	baz=255							
PTSB	**Yuanli**	**0.97**	**290**	*e*P		**Pn**	**04 09 32.5**	**+0.3**
	baz=289							
PTSB				*e*S		**Sn**	**04 09 46.2**	**+1.1**
	baz=289							
NCUH	**Zhongli**	**0.98**	**331**	*e*P		**Pn**	**04 09 32.9**	**+0.6**
	baz=330							
NCU	**National Centr**	**0.98**	**331**	*e*P		**Pn**	**04 09 32.7**	**+0.4**
	baz=331							
FULB	**Fuli**	**0.98**	**203**	*e*P		**Pn**	**04 09 31.4**	**-1.0**
	baz=214							
ALS	**Alishan**	**1.02**	**234**	⇑P		**Pb**	**04 09 33.0**	**-0.1**
	baz=233							
TWS1	**Kuangyinshan**	**1.02**	**345**	*e*P		**Pn**	**04 09 32.9**	**0.0**
	baz=345							
WCHH	**Zhanghua**	**1.05**	**269**	*e*P		**Pn**	**04 09 33.8**	**+0.5**
	baz=267							
YM04	**YM04**	**1.05**	**352**	*e*P		**Pn**	**04 09 34.4**	**+0.3**
	baz=351							
CHKT	**Chengkung**	**1.05**	**197**	*e*P		**Pn**	**04 09 33.4**	**0.0**
	baz=210							
YM05	**YM05**	**1.06**	**353**	*e*P		**Pn**	**04 09 33.3**	**-0.2**
	baz=352							
YM07	**YM07**	**1.06**	**356**	*e*P		**Pn**	**04 09 33.4**	**-0.1**
	baz=355							
CHN5	**Tsauling**	**1.07**	**242**	*e*P		**Pn**	**04 09 34.0**	**+0.3**
	baz=230							
CHN5				*e*S		**Sb**	**04 09 49.4**	**+1.3**
	baz=230							
YM08	**YM08**	**1.08**	**354**	*e*P		**Pn**	**04 09 34.5**	**+0.8**
	baz=354							
ELDTW	**Lidau**	**1.11**	**215**	*e*P		**Pn**	**04 09 33.5**	**-0.8**
	baz=207							
JYNG	**Yonaguni jima**	**1.18**	**73**	P		**Pb**	**04 09 36.6**	**+0.4**
YOJ	**Yonaguni jima**	**1.24**	**73**	*e*P		**Pb**	**04 09 36.5**	**-0.7**
	baz=75							
YOJ	**Yonaguni jima**	**1.24**	**73**	P		**Pb**	**04 09 37.4**	**+0.1**
YOJ				S		**Sb**	**04 09 54.4**	**+1.5**
RLNB	**Erlin**	**1.25**	**260**	*e*P		**Pn**	**04 09 36.8**	**+0.8**
	baz=260							
RLNB				*e*S		**Sb**	**04 09 54.7**	**+1.7**
	baz=260							
CHN4	**Tsaushan**	**1.27**	**234**	*e*P		**Pb**	**04 09 37.2**	**-0.5**
	baz=235							
CHN4				*e*S		**Sb**	**04 09 55.0**	**+1.3**
	baz=235							
TPUB	**Ta-pu**	**1.27**	**231**	*e*P		**Pn**	**04 09 36.5**	**+0.1**
	baz=231							
TPUB				*e*S		**Sb**	**04 09 54.7**	**+0.9**
	baz=231							
WTP	**Ta-pu**	**1.32**	**230**	*e*P		**Pb**	**04 09 38.4**	**-0.2**
	baz=230							
CHY	**Chiayi**	**1.32**	**243**	*e*P		**Pb**	**04 09 38.5**	**-0.2**
	baz=243							
TWK	**Hsinying**	**1.40**	**233**	*e*P		**Pn**	**04 09 39.4**	**-0.5**
	baz=234							
TWG	**Pinlang**	**1.41**	**205**	*e*P		**Pn**	**04 09 39.0**	**+0.7**
	baz=191							
TWGBT	**Beinan**	**1.41**	**204**	*e*P		**Pn**	**04 09 38.3**	**+0.1**
	baz=191							
TWH	**Lutao**	**1.41**	**189**	*e*P		**Pn**	**04 09 37.2**	**-1.0**
	baz=189							
ECL	**Taimali**	**1.66**	**205**	*e*P		**Pn**	**04 09 42.4**	**+0.8**
	baz=196							
MASBT	**Mashibuluo**	**1.79**	**214**	*e*P		**Pn**	**04 09 44.8**	**+1.3**
	baz=217							
IRIF	**Iriomote-Funau**	**1.86**	**83**	P		**Pn**	**04 09 45.6**	**+1.1**
IRIF				*e*S		**Sb**	**04 10 08.1**	**-2.6**
EAST	**Anshuo**	**1.89**	**205**	*e*P		**Pn**	**04 09 46.1**	**+1.2**
	baz=199							
HATJ	**Hateruma jima**	**1.92**	**91**	P		**Pn**	**04 09 46.4**	**+1.1**
HATJ				*e*S		**Sb**	**04 10 09.6**	**-2.7**
SCZT	**Fangliau**	**2.00**	**210**	*e*P		**Pb**	**04 09 48.5**	**-1.6**
	baz=199							
PHUB	**P'eng-hu**	**2.04**	**254**	*e*P		**Pn**	**04 09 46.6**	**-0.3**
	baz=254							
PHUB				*e*S		**Sn**	**04 10 12.2**	**+0.7**
	baz=254							
WDGT	**Dungji**	**2.06**	**246**	*e*P		**Pn**	**04 09 47.7**	**+0.5**
	baz=246							
JKRS	**Kuro-shima**	**2.11**	**86**	P		**Pn**	**04 09 49.4**	**+1.5**
VWUC	**VWUC**	**2.23**	**294**	*e*P		**Pn**	**04 09 49.1**	**-0.4**
	baz=292							
JIJ	**Ishigaki jima**	**2.24**	**83**	P		**Pn**	**04 09 50.2**	**+0.5**
JIJ				*e*S		**Sn**	**04 10 16.6**	**+0.2**
MATB	**Ma-tsu**	**2.58**	**322**	*e*P		**Pn**	**04 09 53.7**	**-0.7**
	baz=320							
KNMB	**Chin-men Tao**	**3.05**	**277**	*e*P		**Pn**	**04 09 59.4**	**-1.4**
	baz=275							

*ATA **19** 04:14:10.7±1.5, 38.°89N×43.°66E, h0km±6km, ML3.1, MW3.2*
*DDA **19** 04:14:13.0, 38.°95N×43.°59E, h16km, Ml3.1*
*ISK **19** 04:14:12.3, 38.°91N×43.°58E, h5km, ML2.7/4*
*ISCJB **19** 04:14:13.5±0.6, 38.°94N±0.°03×43.°60E±0.°05, h4km±6km, Error ellipse: s-maj=6.6km s-min=4.1km az=12.0*
*CSEM **19** 04:14:13.2±0.3, 38.°95N×43.°58E, h10km, ML3.1, Error ellipse: s-maj=6.9km s-min=5.0km az=98.0*
ISC 19 04:14:13.5±1.0, **38.°90N**±0.°02×**43.°59E**±0.°03, **h8**km±7km, **n36**, **σ0.°92**/52, **Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
VMUR	**Van-Muradiye**	**0.09**	**349**	*i* P		**Pg**	**04 14 16.1**	**+0.2**
VMUR	**Van-Muradiye**	**0.09**	**349**	P		**Pg**	**04 14 16.1**	**+0.2**
ERCV	**ERCIS-VAN**	**0.23**	**300**	PG		**Pg**	**04 14 17.4**	**-0.8**
ERCV				SG		**Sg**	**04 14 21.5**	**+0.1**
ERCV	**ERCIS-VAN**	**0.23**	**300**	*e*Pg		**Pg**	**04 14 17.4**	**-0.8**
ERCV				*e*Sg		**Sg**	**04 14 21.5**	**+0.1**
CLDR	**Calidiran**	**0.35**	**47**	PG		**Pg**	**04 14 20.3**	**-0.1**
CLDR	**Calidiran**	**0.35**	**47**	*i* P		**Pg**	**04 14 20.3**	**-0.1**
CLDR	**Calidiran**	**0.35**	**47**	P		**Pg**	**04 14 20.3**	**-0.1**
VANB	**Van**	**0.35**	**207**	PG		**Pb**	**04 14 21.4**	**-0.6**
VANB				SG		**Sb**	**04 14 28.5**	**+0.8**
VANB	**Van**	**0.35**	**207**	*e*Pg		**Pb**	**04 14 21.4**	**-0.6**
VANB				*e*Sg		**Sb**	**04 14 28.5**	**+0.8**
TVAN	**Van**	**0.40**	**201**	*i* P		**Pg**	**04 14 21.3**	**-0.1**
TVAN				*i* S		**Sb**	**04 14 29.5**	**+0.2**
TVAN	**Van**	**0.40**	**201**	P		**Pg**	**04 14 21.3**	**-0.1**
TVAN				S		**Sb**	**04 14 29.5**	**+0.2**
DYDN	**Diyadin**	**0.64**	**7**	*e*P		**Pg**	**04 14 23.8**	**-2.2**
DYDN				*e*S		**Sb**	**04 14 36.0**	**-0.3**
DYDN				IAML			04 14 40.8	
	comp=Z,32nm,0.4s							
ADCV	**BITLIS_Adilcev**	**0.68**	**262**	*i* P		**Pg**	**04 14 25.9**	**-0.8**
ADCV				*i* S		**Sg**	**04 14 36.4**	**+0.7**
ADCV	**BITLIS_Adilcev**	**0.68**	**262**	P		**Pg**	**04 14 25.9**	**-0.8**
ADCV				S		**Sg**	**04 14 36.4**	**+0.7**
GEVA	**Gevas**	**0.72**	**215**	*e*P		**Pg**	**04 14 26.2**	**-1.2**
GEVA				*e*S		**Sb**	**04 14 38.4**	**-0.2**
GEVA				IAML			04 14 49.7	
	comp=Z,40nm,0.5s							
GEVA	**Gevas**	**0.72**	**215**	*i* P		**Pg**	**04 14 26.4**	**-1.1**
GEVA				*i* S		**Sb**	**04 14 39.7**	**+1.1**
GEVA	**Gevas**	**0.72**	**215**	P		**Pg**	**04 14 26.4**	**-1.1**
GEVA				S		**Sb**	**04 14 39.7**	**+1.1**
TUTA	**Tutak**	**0.78**	**310**	*e*P		**Pg**	**04 14 26.9**	**-1.7**
TUTA				IAML			04 14 42.3	
	comp=Z,95nm,0.3s							
TUTA	**Tutak**	**0.78**	**310**	*i* P		**Pg**	**04 14 27.1**	**-1.5**
TUTA				*i* S		**Sg**	**04 14 38.9**	**0.0**
TUTA	**Tutak**	**0.78**	**310**	P		**Pg**	**04 14 27.1**	**-1.5**
TUTA				S		**Sg**	**04 14 38.8**	**0.0**
AGRB	**Hanur-Agry**	**0.82**	**325**	PG		**Pg**	**04 14 29.0**	**-0.2**
AGRB	**Hanur-Agry**	**0.82**	**325**	*e*Pg		**Pg**	**04 14 29.0**	**-0.2**
TASB	**TASBURUN-IGDIR**	**1.19**	**25**	PN		**Pg**	**04 14 35.9**	**-0.4**
TASB	**TASBURUN-IGDIR**	**1.19**	**25**	*e*Pn		**Pg**	**04 14 35.9**	**-0.4**
EKAR	**Karacoban**	**1.24**	**287**	*e*P		**Pb**	**04 14 37.0**	**-0.3**
EKAR				*e*S		**Sn**	**04 14 56.2**	**+1.9**
EKAR				IAML			04 15 03.4	
	comp=Z,25nm,0.5s							
EKAR	**Karacoban**	**1.24**	**287**	*i* P		**Pg**	**04 14 37.6**	**+0.3**
EKAR				*i* S		**Sn**	**04 14 56.8**	**+2.5**
EKAR	**Karacoban**	**1.24**	**287**	P		**Pg**	**04 14 37.7**	**+0.3**
GURO	**Guroymak-BITLI**	**1.27**	**254**	PN		**Pn**	**04 14 36.4**	**-1.2**
GURO	**Guroymak-BITLI**	**1.27**	**254**	*e*Pn		**Pn**	**04 14 36.4**	**-1.2**
EATA	**Eleskirt**	**1.28**	**319**	*e*P		**Pg**	**04 14 38.0**	**-0.1**
EATA				IAML			04 15 05.0	
	comp=Z,6.8nm,0.5s							
SIRT	**Sirnak**	**1.67**	**213**	PN		**Pb**	**04 14 43.8**	**-0.7**
SIRT	**Sirnak**	**1.67**	**213**	*e*Pn		**Pb**	**04 14 43.8**	**-0.7**
VRTB	**Varto-Mus**	**1.68**	**279**	PN		**Pn**	**04 14 43.5**	**+0.2**
VRTB	**Varto-Mus**	**1.68**	**279**	*e*Pn		**Pn**	**04 14 43.5**	**+0.2**
HOMI	**Horasan**	**1.73**	**312**	*e*P		**Pb**	**04 14 45.6**	**-0.1**
HOMI				IAML			04 14 49.1	
	comp=Z,9.7nm,0.5s							
ERZM	**Erzurum**	**1.99**	**301**	*e*P		**Pb**	**04 14 49.2**	**-1.0**

*ISCJB **19** 04:20:18.5±0.9, 21.°7N±0.°1×143.°2E±0.°2, h311km, mb3.4/11, Error ellipse: s-maj=26.9km s-min=13.6

VANB					*e*Sg		**Sb**	04 48 59.4	+0.8
CLDR	**Caldiran**	0.38	49		PG		**Pg**	04 48 51.1	-1.3
CLDR	**Caldiran**	0.38	49		*i* P		**Pg**	04 48 51.0	-1.3
CLDR					*i* S		**Sb**	04 49 00.0	-0.1
CLDR	**Caldiran**	0.38	49		*e*Pg		**Pg**	04 48 51.1	-1.3
TVAN	**Van**	0.39	197		*i* P		**Pg**	04 48 52.1	-0.4
TVAN					*i* S		**Sb**	04 49 00.5	+0.1
TVAN	**Van**	0.39	197		P		**Pg**	04 48 52.1	-0.4
TVAN					S		**Sb**	04 49 00.5	+0.1
ADCV	**BITLIS_Adilcev**	0.65	262		*i* P		**Pg**	04 48 56.9	-0.7
ADCV					*i* S		**Sb**	04 49 07.3	-0.8
ADCV	**BITLIS_Adilcev**	0.65	262		P		**Pg**	04 48 56.9	-0.7
ADCV					S		**Sb**	04 49 07.3	-0.8
DYDN	**Diyadin**	0.65	9		*e*P		**Pg**	04 48 56.9	-0.7
DYDN					*e*S		**Sg**	04 49 06.0	-0.2
DYDN					IAML			04 49 11.8	
	comp=Z,515nm,0.4s								
DYDN	**Diyadin**	0.65	9		*i* P		**Pg**	04 48 57.2	-0.4
DYDN	**Diyadin**	0.65	9		P		**Pg**	04 48 57.2	-0.4
GEVA	**Gevas**	0.70	214		*i* P		**Pg**	04 48 56.9	-1.6
GEVA					*e*S		**Sb**	04 49 08.2	-1.3
GEVA					IAML			04 49 20.1	
	comp=Z,531nm,0.5s								
GEVA	**Gevas**	0.70	214		*i* P		**Pg**	04 48 57.1	-1.3
GEVA	**Gevas**	0.70	214		P		**Pg**	04 48 57.2	-1.3
TUTA	**Tutak**	0.77	311		*i* P		**Pg**	04 48 58.3	-1.4
TUTA					*e*S		**Sb**	04 49 10.9	-0.4
TUTA					IAML			04 49 13.3	
	comp=Z,1µm,0.3s								
AGRB	**Hanur-Agry**	0.81	327		PG		**Pg**	04 48 59.5	-1.0
AGRB	**Hanur-Agry**	0.81	327		*e*Pg		**Pg**	04 48 59.5	-1.0
IGDI	**IGDIR**	1.05	23		*i* P		**Pg**	04 49 04.3	-0.9
IGDI					*e*S		**Sb**	04 49 19.5	+0.1
IGDI					IAML			04 49 25.6	
	comp=Z,148nm,0.5s								
IGDI	**IGDIR**	1.05	23		*i* P		**Pg**	04 49 04.5	-0.7
TASB	**TASBURUN-IGDIR**	1.21	26		PN		**Pn**	04 49 07.7	-0.6
TASB	**TASBURUN-IGDIR**	1.21	26		*e*Pn		**Pn**	04 49 07.7	-0.6
EKAR	**Karacoban**	1.21	288		*e*P		**Pg**	04 49 07.0	-1.3
EKAR					*e*S		**Sb**	04 49 23.9	-0.4
EKAR					IAML			04 49 34.3	
	comp=Z,459nm,0.5s								
EKAR	**Karacoban**	1.21	288		*i* P		**Pg**	04 49 06.7	-1.6
EKAR					*i* S		**Sn**	04 49 27.4	+2.1
EKAR	**Karacoban**	1.21	288		P		**Pg**	04 49 06.7	-1.6
GURO	**Guroymak-BITLI**	1.24	254		PN		**Pn**	04 49 08.6	-0.1
GURO	**Guroymak-BITLI**	1.24	254		*e*Pn		**Pn**	04 49 08.6	-0.1
EATA	**Eleskirt**	1.27	320		*e*P		**Pg**	04 49 07.5	-1.8
EATA					*e*S		**Sn**	04 49 27.4	+0.6
EATA					IAML			04 49 36.0	
	comp=Z,94nm,0.5s								
EATA	**Eleskirt**	1.27	320		*i* P		**Pg**	04 49 07.8	-1.5
EATA					*i* S		**Sn**	04 49 28.0	+1.3
EATA	**Eleskirt**	1.27	320		P		**Pg**	04 49 07.8	-1.5
EATA					S		**Sn**	04 49 28.0	+1.3
HYR	**Heyderabad**	1.30	50		P		**Pn**	04 49 08.9	-0.6
	SNR=39								
HYR					⇓S		**Sn**	04 49 26.5	-0.7
HAKT	**HAKKARI**	1.34	175		*i* P		**Pn**	04 49 08.2	-2.1
HAKT					*i* S		**Sn**	04 49 31.2	+2.7
YOVA	**Hakkari_Y¨…kse**	1.43	156		*i* P		**Pb**	04 49 11.2	-0.8
YOVA					*i* S		**Sn**	04 49 34.6	+4.1
YOVA	**Hakkari_Y¨…kse**	1.43	156		P		**Pb**	04 49 11.2	-0.8
DIGO	**Kars**	1.52	355		*e*P		**Pb**	04 49 12.6	-1.0
DIGO					*e*S		**Sg**	04 49 36.1	+2.2
DIGO					IAML			04 49 47.6	
	comp=Z,85nm,0.6s								
DIGO	**Kars**	1.52	355		*i* P		**Pb**	04 49 12.8	-0.8
DIGO	**Kars**	1.52	355		P		**Pb**	04 49 12.8	-0.8
NAX	**Nakhchivan**	1.54	79		P		**Pg**	04 49 13.9	-0.5
	SNR=50								
NAX					⇑S		**Sg**	04 49 33.8	-0.6
SRTM	**Siirt_Merkez**	1.57	235		*i* P		**Pb**	04 49 13.2	-1.1
SRTM					*i* S		**Sg**	04 49 37.4	+2.1
SRTM	**Siirt_Merkez**	1.57	235		P		**Pb**	04 49 13.2	-1.1
SRTM					S		**Sg**	04 49 37.4	+2.1
SBZ	**Shahbuz**	1.63	72		P		**Pb**	04 49 14.8	-0.6
	SNR=67								
SBZ					⇑S		**Sn**	04 49 35.2	-0.2
SIRT	**Sirnak**	1.65	213		PN		**Pb**	04 49 14.8	-0.8
SIRT	**Sirnak**	1.65	213		*e*Pn		**Pb**	04 49 14.8	-0.8
VRTB	**Varto-Mus**	1.66	280		PN		**Pb**	04 49 15.3	-0.5
VRTB	**Varto-Mus**	1.66	280		*i* P		**Pg**	04 49 15.6	-1.1
VRTB					*i* S		**Sg**	04 49 41.7	+3.6
VRTB	**Varto-Mus**	1.66	280		*e*Pn		**Pb**	04 49 15.3	-0.5
VRTB	**Varto-Mus**	1.66	280		P		**Pg**	04 49 15.6	-1.1
SIRN	**S¨–rnak**	1.66	213		*i* P		**Pb**	04 49 15.3	-0.6
SIRN	**S¨–rnak**	1.66	213		P		**Pb**	04 49 15.3	-0.6
HOMI	**Horasan**	1.71	312		*e*P		**Pb**	04 49 16.1	-0.8
HOMI					IAML			04 49 39.4	
	comp=Z,102nm,0.6s								
HOMI					*e*S		**Sg**	04 49 41.9	+1.8
HOMI	**Horasan**	1.71	312		*i* P		**Pb**	04 49 15.8	-1.1
KARS	**Kars**	1.77	348		PN		**Pb**	04 49 16.6	-1.1
KARS	**Kars**	1.77	348		*e*Pn		**Pb**	04 49 16.6	-1.1
EAK	**Akyaka**	1.79	1		*e*P		**Pg**	04 49 18.3	-1.0
EAK					*e*S		**Sg**	04 49 45.1	+2.7
EAK					IAML			04 49 59.3	
	comp=Z,101nm,0.6s								
EAK	**Akyaka**	1.79	1		*i* P		**Pg**	04 49 18.8	-0.4
EAK	**Akyaka**	1.79	1		P		**Pg**	04 49 18.8	-0.4
ORD	**Ordubad**	1.90	88		⇑P		**Pb**	04 49 19.7	-0.3
	SNR=59								
ORD					⇓S		**Sg**	04 49 44.4	-1.7
SENK	**Senkaya-Erzuru**	1.90	331		PN		**Pb**	04 49 18.6	-1.5
SENK	**Senkaya-Erzuru**	1.90	331		*e*Pn		**Pb**	04 49 18.6	-1.5
ERZM	**Erzurum**	1.97	301		*i* P		**Pn**	04 49 18.9	0.0
ERZM	**Erzurum**	1.97	301		*i* P		**Pb**	04 49 19.5	-1.8
ERZM	**Erzurum**	1.97	301		P		**Pb**	04 49 19.5	-1.8
SVAN	**Silvan-Diyarba**	1.99	249		PN		**Pb**	04 49 19.9	-1.6
SVAN	**Silvan-Diyarba**	1.99	249		*i* P		**Pg**	04 49 21.9	-1.2
SVAN	**Silvan-Diyarba**	1.99	249		*e*Pn		**Pb**	04 49 19.9	-1.6
SVAN	**Silvan-Diyarba**	1.99	249		P		**Pg**	04 49 21.9	-1.2
BTMN	**Batman**	2.06	241		*i* P		**Pb**	04 49 22.2	-0.4
BTMN					*i* S		**Sg**	04 49 50.8	-0.2
BTMN	**Batman**	2.06	241		P		**Pb**	04 49 22.2	-0.4
BNGB	**Bing¨ll**	2.24	273		PN		**Pb**	04 49 23.8	-2.0
BGOL	**Bingol**	2.25	273		*i* P		**Pg**	04 49 27.2	-0.9
BINT	**Bingol**	2.39	270		*e*Pn		**Pn**	04 49 23.8	-0.8
DDEM	**Demirkent**	2.43	326		*i* P		**Pg**	04 49 29.7	-1.8
GDB	**GEDABAY**	2.49	42		⇓P		**Pn**	04 49 25.9	-0.1
	SNR=41								
GDB					⇓S		**Sn**	04 49 55.3	-1.3
AKH	**Akhalkalaki**	2.51	359		PN		**Pn**	04 49 26.9	+0.6
AKH	**Akhalkalaki**	2.51	359		P		**Pg**	04 49 35.0	+1.9
AKH	**Akhalkalaki**	2.51	359		*e*Pn		**Pn**	04 49 26.9	+0.6
HANI	**Diyarbakir_Han**	2.52	260		*i* P		**Pb**	04 49 29.3	-1.1
HANI	**Diyarbakir_Han**	2.52	260		P		**Pb**	04 49 29.3	-1.1
DBAD	**Bademkaya**	2.56	327		P		**Pg**	04 49 31.9	-2.0
QZX	**Qazax, Azerbai**	2.57	32		⇓P		**Pn**	04 49 26.9	-0.1
	SNR=16								
QZX					⇑S		**Sn**	04 49 57.1	-1.4
ARTV	**Artvin**	2.60	332		*e*P		**Pb**	04 49 30.7	-1.3
KOPT	**Kop Dagi**	2.62	296		*e*P		**Pg**	04 49 33.2	-1.9
KOPT					IAML			04 50 21.6	
	comp=Z,42nm,0.6s								
KOPT	**Kop Dagi**	2.62	296		*i* P		**Pg**	04 49 33.3	-1.8
EPOS	**Posof**	2.68	347		*e*P		**Pb**	04 49 32.5	-0.7
EPOS					IAML			04 49 57.7	
	comp=Z,6.0nm,0.5s								
EPOS					*e*S		**Sn**	04 50 03.0	+1.7
EPOS	**Posof**	2.68	347		*i* P		**Pg**	04 49 34.6	-1.7
MARD	**Mardin**	2.70	235		*i* P		**Pn**	04 49 28.7	-0.1
GANJ	**Ganja**	2.76	50		⇑P		**Pn**	04 49 29.6	+0.1
	SNR=8.6								
GANJ					⇓S		**Sn**	04 50 03.0	-0.1
DIY	**Diyarbakir**	2.80	250		*e*Pn		**Pb**	04 49 32.3	-3.0
MAZI	**Mazidag**	2.84	241		PN		**Pn**	04 49 31.6	+0.9
MAZI	**Mazidag**	2.84	241		*e*Pn		**Pn**	04 49 31.6	+0.9
DYBB	**Diyarbakir**	2.84	252		PN		**Pn**	04 49 32.3	+1.6
BAYB	**BAYBURT**	2.89	299		*e*P		**Pb**	04 49 36.6	-0.3
BAYB	**BAYBURT**	2.89	299		*i* P		**Pg**	04 49 38.1	-2.2
DGRG	**David-gareji**	2.91	28		*e*P		**Pb**	04 49 35.1	-2.0
BCA	**Borcka**	2.94	330		PN		**Pn**	04 49 33.4	+1.3
BCA	**Borcka**	2.94	330		*e*Pn		**Pn**	04 49 33.4	+1.3
TBLG	**Delisi**	2.97	17		*e*P		**Pn**	04 49 31.9	-0.6
TBLG					IAML			04 49 52.2	
	comp=Z,8.9nm,0.5s								
TBLG	**Delisi**	2.97	17		P		**Pn**	04 49 31.9	-0.6
BAYT	**Ayd¨–ntepe-Bay**	3.03	301		PN		**Pn**	04 49 34.9	+1.5
BAYT	**Ayd¨–ntepe-Bay**	3.03	301		*e*Pn		**Pn**	04 49 34.9	+1.5
ERZN	**Erzincan**	3.05	284		PN		**Pn**	04 49 35.2	+1.5
CHOM	**Cayeli-Rize**	3.07	317		*e*Pn		**Pn**	04 49 34.9	+1.1
BRDA	**Brd**	3.12	63		⇓P		**Pn**	04 49 35.5	+1.1
	SNR=4.9								
BRDA					⇓S		**Sn**	04 50 12.1	+0.3
TNCL	**Tunceli-Merkez**	3.13	275		*e*P		**Pb**	04 49 40.3	-0.7
TNCL					IAML			04 50 33.0	
	comp=Z,21nm,0.6s								
TNCL	**Tunceli-Merkez**	3.13	275		*i* P		**Pg**	04 49 42.7	-2.3
DDFL	**Dedoflistskaro**	3.22	37		P		**Pb**	04 49 41.4	-1.0
EZC	**Erzincan**	3.37	286		*e*Pn		**Pn**	04 49 35.2	-2.8
KELT	**Kelkit**	3.55	292		*e*P		**Pb**	04 49 48.9	+0.7
KELT					IAML			04 50 03.2	
	comp=Z,7.0nm,0.5s								
KELT	**Kelkit**	3.55	292		*i* P		**Pb**	04 49 49.3	+1.2
SEKA	**Sheki**	3.63	49		⇑P		**Pn**	04 49 42.4	+0.9
	SNR=7.0								
SEKA					⇓S		**Sn**	04 50 25.5	+0.9
ONI	**Oni**	3.69	359		P		**Pb**	04 49 51.7	+1.3
LRK	**Lerik**	3.75	92		⇓P		**Pn**	04 49 45.1	+1.8
	SNR=4.6								
REFA	**Refahiye_ERZ¨**	3.76	279		*e*P		**Pg**	04 49 53.9	-3.0
GLBA	**Cilalbad**	3.78	83		⇑P		**Pn**	04 49 45.6	+2.0
	SNR=10								
KEMA	**Kemaliye**	3.96	277		*e*P		**Pb**	04 49 56.0	+1.0
SANL	**SANLIURFA_Merk**	3.99	246		*i* P		**Pg**	04 49 58.2	-3.3
ASTR	**Astara**	4.11	93		⇑P		**Pn**	04 49 50.5	+2.4
	SNR=5.0								

*GUC **19** 04:51:07.4±0.6, 32.°68S×71.°73W, h37km±4km, ML3.2*
*SJA **19** 04:51:11.2±0.3, 32.°59S×71.°37W, h113km±16km, ML2.9, MW3.4*

ISC 19 04:51:08.2±2.6, 32.°75S±0.°07×71.°7W±0.°1, h25km, n12, σ0°80/16, 1C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PEL	**Peldehue**	0.96	115	*e*P		**Pn**	**04 51 25.0**	**-1.1**
PEL				*e*S		**Sb**	**04 51 38.8**	**+0.3**
ANTU	**Antumapu**	1.23	132	*e*P		**Pn**	**04 51 30.1**	**+0.2**
ANTU				IAML			04 51 50.6	
	comp=E,642nm,0.8s							
FCH	**Farellones**	1.34	116	*e*P		**Pn**	**04 51 31.1**	**-0.5**
FCH				*e*S		**Sb**	**04 51 50.0**	**+0.3**
FCH				IAML			04 51 51.8	
	comp=N,485nm,0.3s							
LMEL	**Las Melosas**	1.68	131	⇑*i*P		**Pn**	**04 51 37.0**	**+0.8**
LMEL				*e*S		**Sb**	**04 51 59.7**	**+0.3**
LMEL				IAML			04 52 03.9	
	comp=N,692nm,0.2s							
AUSP	**Uspallata**	2.04	76	*i* P		**Pn**	**04 51 42.6**	**+1.3**
RTLS	**Leoncito**	2.26	66	*i* P		**Pn**	**04 51 45.0**	**+0.7**
RTLS				IAML			04 51 55.8	
	comp=Z,56nm,0.5s							
RTLS				*i* S		**Sn**	**04 52 10.2**	**-1.3**
ARCO	**CERRO ARCO**	2.35	93	*i* P		**Pn**	**04 51 46.4**	**+0.9**
ARCO				IAML			04 51 54.9	
	comp=Z,97nm,0.4s							
ASAL	**Salagasta**	2.44	87	*i* P		**Pn**	**04 51 47.3**	**+0.7**
TLL	**Tololo Astrono**	2.69	17	*e*P		**Pn**	**04 51 50.0**	**-0.1**
RTCV	**Cerro Valdivia**	2.84	73	*i* P		**Pn**	**04 51 52.0**	**0.0**
AROD	**Rodeo**	3.21	37	*i* P		**Pn**	**04 51 58.0**	**+0.7**
AMOG	**MOGNA**	3.29	58	*i* P		**Pn**	**04 51 57.9**	**-0.3**

*ISCJB **19** 04:53:23.4±0.5, 6.°83N±0.°03×73.°10W±0.°04, h161km±4km, mb2.8/3, Error ellipse: s-maj=7.4km s-min=4.6km az=24.5*
*IDC **19** 04:53:23.3±0.8, 6.°70N×72.°89W, h162km±10km, mb2.5/3, mb1 3.0/5, mb1mx2.9/42, mbtmp3.2/5, Error ellipse: s-maj=33.3km s-min=7.7km az=131.0*
*RSNC **19** 04:53:25.5±0.8, 6.°79N×73.°13W, h150km±4km, ML3.4, Mw3.6*

ISC 19 04:53:23.8±0.8, 6.°81N±0.°04×73.°08W±0.°05, h158km±6km, n26, σ0°71/44, mb2.9/3, 1C-1D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	0.24	205	*i* P		**Pn**	**04 53 45.7**	**+0.2**
BARC				*e*S		**Sn**	**04 54 00.6**	**-1.5**
BARC				*i*			04 54 02.1	
	comp=Z,778nm,0.4s							
PAMC	**Pamplona, Colo**	0.65	36	*i* P		**Pn**	**04 53 48.5**	**+1.0**
PAMC				*e*S		**Sn**	**04 54 05.9**	**+0.3**
BRRC	**Barranca, Sant**	0.69	295	⇑*i*P		**Pn**	**04 53 47.6**	**+0.4**
BRRC				*i*			04 53 47.9	
	comp=Z,1µm,0.2s							
BRRC				*e*S		**Sn**	**04 54 05.0**	**-0.1**
RUSC	**La Rusia**	0.91	180	⇓*i*P		**Pn**	**04 53 49.6**	**+0.2**
RUSC				*e*S		**Sn**	**04 54 08.3**	**-0.6**
RUSC				*i*			04 54 09.7	
	comp=Z,281nm,0.4s							
OCAC	**Ocana**	1.44	350	*e*P		**Pn**	**04 53 54.1**	**+0.5**
OCAC				*e*S		**Sn**	**04 54 16.8**	**+0.2**
ZARC	**Zaragoza, Cauc**	1.89	291	*e*P		**Pn**	**04 53 58.0**	**-0.2**
ZARC				*e*S		**Sn**	**04 54 23.3**	**-1.4**
ZARC				*i*			04 54 30.9	
	comp=Z,451nm,0.4s							
NORC	**Norcasia**	2.17	235	*e*P		**Pn**	**04 54 01.5**	**0.0**
NORC				*e*S		**Sn**	**04 54 29.6**	**-1.0**
CHIC	**Chingaza**	2.26	197	*e*P		**Pn**	**04 54 03.2**	**+0.2**
CHIC				*e*S		**Sn**	**04 54 33.2**	**0.0**
CHIC				*i*			04 54 37.2	
	comp=Z,67nm,0.6s							
ROSC	**El Rosal**	2.31	212	P		**Pn**	**04 54 04.0**	**+0.4**
	comp=Z,12nm,0.3s,baz=73,slow=17,SNR=20							
ROSC				S		**Sn**	**04 54 34.6**	**+0.4**
	comp=Z,19nm,0.3s,baz=186,slow=19,SNR=9.4							
ROSC	**El Rosal**	2.31	212	*e*P		**Pn**	**04 54 04.0**	**+0.4**
ROSC				*e*S		**Sn**	**04 54 33.9**	**-0.3**
ROSC				*i*			04 54 44.0	
	comp=Z,140nm,0.3s							
HELC	**Santa Helena**	2.51	256	*e*P		**Pn**	**04 54 06.2**	**+0.3**
HELC				*e*S		**Sn**	**04 54 37.7**	**-0.6**
HELC				*i*			04 54 44.1	
	comp=Z,159nm,0.4s							
VILC	**Villavicencio,**	2.75	193	*e*P		**Pn**	**04 54 08.6**	**0.0**
VILC				*e*S		**Sn**	**04 54 43.2**	**-0.1**
VILC				*i*			04 54 51.1	
	comp=Z,61nm,0.6s							
GUYC	**Guyana, Colomb**	2.79	236	*e*P		**Pn**	**04 54 10.6**	**+1.2**
GUYC				*i*			04 54 50.1	
	comp=Z,199nm,0.5s							
RREF	**El Recreo**	2.95	230	*e*P		**Pn**	**04 54 12.3**	**+0.7**
RREF				*e*S		**Sn**	**04 54 48.7**	**+0.4**
RREF				*i*			04 54 55.8	
	comp=Z,125nm,0.4s							
DBBC	**Dabeiba**	3.12	274	*e*P		**Pn**	**04 54 13.4**	**+0.4**
DBBC				*e*S		**Sn**	**04 54 50.5**	**-0.7**
CODC	**Agust¨›n Codaz**	3.12	353	*e*P		**Pn**	**04 54 13.5**	**+0.4**
CODC				*i*			04 55 00.5	
	comp=Z,83nm,0.6s							
SDV	**Santo Domingo**	3.18	49	P		**Pn**	**04 54 14.6**	**+0.6**
	comp=Z,5.7nm,0.3s,baz=189,slow=3.0,SNR=23							
SDV				S		**Sn**	**04 54 51.2**	**-1.7**
	comp=Z,19nm,0.3s,baz=67,slow=22,SNR=37							
ANIL	**Santa Ana**	3.27	225	*e*P		**Pn**	**04 54 16.0**	**+0.8**
ANIL				*e*S		**Sn**	**04 54 55.4**	**+0.3**
PRAC	**Prado**	3.56	210	*e*P		**Pn**	**04 54 19.2**	**+0.4**
PRAC				*e*S		**Sn**	**04 55 01.3**	**-0.2**
SJAC	**San Juan de Ar**	3.62	194	*e*P		**Pn**	**04 54 19.3**	**-0.3**
SJAC				*e*S		**Sn**	**04 55 02.9**	**0.0**
YOTC	**Yotoco, Valle**	4.30	229	*e*P		**Pn**	**04 54 28.1**	**-0.2**
TXAR	**Lajitas Array**	36.50	312	P		**P**	**05 00 15.2**	**+1.1**
	comp=Z,0.1nm,0.4s,baz=145,slow=3.3,SNR=2.2							
PDAR	**Pinedale Array**	48.11	324	P		**P**	**05 01 48.0**	**0.0**
	comp=Z,0.1nm,0.4s,baz=132,slow=7.5,SNR=2.7							
YKA	**Yellowknife Ar**	63.29	340	P		**P**	**05 03 35.7**	**+0.3**
	comp=Z,0.1nm,0.5s,baz=136,slow=6.6,SNR=5.3							
ASAR	**Alice Springs**	149.14	234	PKPbc		**PKPbc**	**05 12 53.2**	**-1.2**
	comp=Z,0.4nm,0.5s,baz=110,slow=3.7,SNR=4.7							
WRA	**Warramunga Arr**	150.37	241	PKPbc		**PKPbc**	**05 12 56.1**	**-1.4**
	comp=Z,0.3nm,0.4s,baz=109,slow=2.4,SNR=8.6							

*NIED **19** 05:00:00, 37.°90N×143.°50E, h11km, Mw4.0 Best double couple: M0 1.7000×10^15 NP1:φs 188.00000°, δ42.00000°, λ-57.00000°. NP2:φs 327.00000°, δ56.00000°, λ-116.00000°.*
*ISCJB **19** 05:00:00.6±0.4, 37.°80N±0.°03×143.°46E±0.°04, h19km, mb4.3/43, MS4.7/1, Error ellipse: s-maj=4.8km s-min=3.9km az=29.2*

*JMA **19** 05:00:02.5±0.2, 37.°88N×143.°48E, h41km, M4.4*
*IDC **19** 05:00:04.0±4.7, 37.°77N×143.°46E, h32km±34km, mb3.8/21, mb1 4.0/26, mb1mx3.9/68, mbtmp4.0/26, ML4.1/4, MS2.8/4, Ms1 2.8/4, ms1mx2.5/62, Error ellipse: s-maj=18.0km s-min=14.1km az=99.0*
*BJI **19** 05:00:13.7, 39.°08N×142.°22E, h35km, mb4.6/17, mB4.9/7, Ms4.8/1, Ms7 4.6/1*
*NEIC **19** 05:00:16.9±0.5, 38.°75N×141.°81E, h35km, mb4.7/20, Error ellipse: s-maj=14.7km s-min=6.5km az=142.0*
NEIC Felt at Sendai.

ISC 19 05:00:01.4±0.5, 37.°79N±0.°04×143.°50E±0.°06, h19km, n87, σ2°26/83, mb4.4/44, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	1.82	292	P		**Pb**	**05 00 31.8**	**-2.3**
JIO				S		**Sn**	**05 00 52.9**	**-1.3**
OFUJ	**Ofunato**	1.93	313	P		**Pb**	**05 00 32.8**	**-3.2**
OFUJ				S		**Sn**	**05 00 55.2**	**-1.8**
JMK	**Ichinoseki**	2.13	304	P		**Pb**	**05 00 36.1**	**-3.4**
JMK				S		**Sn**	**05 01 00.8**	**-1.2**
JOM	**Ohasama**	2.41	315	P		**Pb**	**05 00 40.0**	**-4.2**
JOM				S		**Sn**	**05 01 07.6**	**-1.2**
JFT	**Otama**	2.52	265	P		**Pn**	**05 00 42.5**	**+1.1**
JFT				S		**Sn**	**05 01 11.5**	**-0.1**
JYK	**Kaneyama**	2.71	296	P		**Pb**	**05 00 45.0**	**-4.3**
JYK				S		**Sn**	**05 01 16.4**	**+0.1**
JANG	**Nango**	3.01	330	P		Pb	05 00 49.1	-5.3
JANG				S		**Sn**	**05 01 22.9**	**-0.7**
JAW	**Awa shima**	3.42	283	P		**Pn**	**05 00 55.2**	**+1.6**
JAG	**Ashikaga**	3.51	248	P		**Pn**	**05 00 55.7**	**+0.8**
JAG				S		**Sn**	**05 01 34.9**	**-1.0**
BSO1	**Boso 1**	3.73	214	P		**Pn**	**05 00 57.6**	**+0.1**
BSO1				S		**Sn**	**05 01 39.8**	**-0.9**
JOT	**Ohata**	4.06	333	P		**Pn**	**05 01 03.4**	**+0.9**
JRY	**Ryogami san**	4.08	246	P		**Pn**	**05 01 03.7**	**+0.8**
JRY				S		**Sn**	**05 01 47.8**	**-2.4**
JSD	**Sado**	4.15	275	P		**Pn**	**05 01 05.6**	**+1.9**
ERM	**Erimo**	4.23	357	*e*Pn		**Pn**	**05 01 04.4**	**-0.4**
ERM				*e*Sn		**Sn**	**05 01 45.6**	**-8.1**
JOD2	**Odawara 2**	4.35	236	P		**Pn**	**05 01 07.2**	**+0.6**
JOD2				S		**Sn**	**05 01 54.8**	**-2.0**
MJAR	**Matsushiro Arr**	4.40	255	P		**Pn**	**05 01 09.5**	**+2.2**
	10nm,0.3s,baz=90,slow=14,SNR=57							
MJAR				Sn		**Sn**	**05 01 55.0**	**-3.0**
	4.5nm,0.3s,baz=125,slow=9.7,SNR=5.2							
MJAR				LR		LR	05 03 02.3	
	comp=Z,179nm,19.2s,baz=100,slow=41							
MAJO	**Matsushiro**	4.40	255	*e*Pn		**Pn**	**05 01 09.9**	**+2.6**
**M

BMRM	**Bremner River**	**49.25**	**38**	*e*P		P	05 09 02.9	+14
	9.8nm,1.2s								
DOT	**Dot Lake**	**49.25**	**34**	*e*P		P	05 09 01.8	+13
	5.5nm,0.8s								
SCRK	**Sand Creek**	**49.26**	**34**	*e*P		P	05 09 01.4	+13
	2.4nm,0.7s								
MENT	**Mentasta**	**49.47**	**35**	*e*P		P	05 09 04.4	+14
	8.8nm,0.3s								
BVAR	**Borovoye Array**	**51.29**	**312**	P		**P**	**05 09 05.0**	**+1.0**
	1.0nm,0.6s,baz=50,slow=7.7,SNR=4.4								
KSH	**Kashi**	**51.61**	**294**	P		**P**	**05 09 09.8**	**+3.1**
WRAB	**Tennant Creek**	**58.05**	**190**	*e*P		P	05 10 17.1	+24
	66nm,1.2s								
WRA	**Warramunga Arr**	**58.06**	**190**	P		**P**	**05 09 53.5**	**+0.1**
	6.2nm,0.7s,baz=10,slow=7.3,SNR=59								
WRA				PcP		**PcP**	**05 10 45.8**	**+0.7**
	0.4nm,0.5s,baz=0.5,slow=4.5,SNR=5.3								
ABKAR	**Akbulak array**	**58.72**	**310**	*e*P		**P**	**05 09 58.6**	**+0.9**
	16nm,0.6s								
ASAR	**Alice Springs**	**61.79**	**190**	P		**P**	**05 10 19.4**	**+0.4**
	1.3nm,0.7s,baz=3.5,slow=6.9,SNR=17								
YKA	**Yellowknife Ar**	**62.32**	**31**	P		**P**	**05 10 22.8**	**+0.8**
	0.2nm,0.6s,baz=303,slow=6.6,SNR=6.6								
ARCES	**ARCESS Array B**	**63.87**	**340**	P		**P**	**05 10 32.9**	**+0.6**
	0.6nm,0.5s,baz=51,slow=7.9,SNR=5.6								
GEYT	**Alibeck**	**64.92**	**300**	P		**P**	**05 10 40.6**	**+1.0**
	1.2nm,0.3s,baz=29,slow=3.4,SNR=3.8								
FINES	**FINESS Array B**	**68.91**	**333**	P		**P**	**05 11 05.7**	**+1.0**
	2.0nm,0.6s,baz=40,slow=10.0,SNR=8.0								
KBZ	**Khabaz**	**71.66**	**311**	P		**P**	**05 11 23.3**	**+1.6**
	2.7nm,0.9s,baz=335,slow=8.0,SNR=3.7								
NVAR	**Mina Array Bea**	**73.20**	**54**	P		**P**	**05 11 33.0**	**+1.6**
	0.6nm,0.8s,baz=305,slow=5.9,SNR=3.7								
HFS	**Hagfors**	**74.07**	**336**	P		**P**	**05 11 36.6**	**+0.9**
	1.8nm,0.7s,baz=52,slow=9.6,SNR=5.1								
NB2	**NORSAR Subarra**	**74.12**	**338**	P		**P**	**05 11 36.7**	**+0.6**
	comp=Z,0.5nm,0.6s,baz=41,slow=5.9								
NOA	**NORSAR Array B**	**74.12**	**338**	P		**P**	**05 11 35.2**	**-0.9**
	comp=Z,0.6nm,0.7s,baz=5.2,slow=4.5,SNR=4.2								
H17A	**Grant Village**	**74.36**	**46**	*e*P		P	05 11 54.0	+16
	comp=Z,2.8nm,0.7s								
AKASG	**Malin Array Be**	**74.70**	**323**	P		**P**	**05 11 40.0**	**+0.4**
	comp=Z,0.6nm,0.4s,baz=34,slow=5.9,SNR=5.5								
DUG	**Dugway, Tooele**	**75.60**	**50**	*e*P		P	05 11 59.3	+14
	comp=Z,2.6nm,0.8s								
PDAR	**Pinedale Array**	**75.95**	**47**	P		**P**	**05 11 48.5**	**+1.2**
	comp=Z,0.6nm,0.5s,baz=265,slow=1.8,SNR=8.6								
P17A	**Butcher Ranch,**	**77.31**	**50**	*e*P		P	05 12 09.5	+15
	comp=Z,7.1nm,0.6s								
SRU	**San Rafael Swe**	**77.66**	**50**	*e*P		P	05 12 10.8	+14
	comp=Z,5.5nm,0.9s								
PV10	**Paradox Valley**	**79.03**	**50**	*e*P		P	05 12 19.3	+15
BRTR	**Keskin Array B**	**79.58**	**312**	P		**P**	**05 12 08.0**	**+0.6**
	comp=Z,0.8nm,0.8s,baz=75,slow=5.7,SNR=2.8								
EKA	**Eskdalemuir Ar**	**82.96**	**342**	P		**P**	**05 12 25.8**	**+0.9**
	comp=Z,0.6nm,0.5s,baz=34,slow=5.2,SNR=3.2								
TXAR	**Lajitas Array**	**88.34**	**54**	P		**P**	**05 12 52.3**	**0.0**
	comp=Z,0.2nm,0.7s,baz=318,slow=3.5,SNR=4.3								

*ATH **19** 05:07:15.8, 35°.42N×27°.86E, h12km±2km, ML2.9/4, Error ellipse: s-maj=5.4km s-min=1.5km az=322.0*
*ISK **19** 05:07:15.6, 35°.51N×27°.81E, h10km, ML3.4/7*
*CSEM **19** 05:07:16.8±0.4, 35°.50N×27°.84E, h10km, ML3.4, Error ellipse: s-maj=10.6km s-min=4.1km az=152.0*
*DDA **19** 05:07:18.2, 35°.52N×28°.13E, h6km, Ml3.3*

ISC 19 05:07:16.7±1.4, 35°.51N±0°.06×27°.82E±0°.04, h9km±12km, n42, σ1°.06/56, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.54**	**275**	PG	**Pg**		**05 07 26.1**	**-1.1**
KARP				SG	**Sg**		**05 07 34.7**	**+0.4**
KARP	**Karpathos**	**0.54**	**275**	P	**Pb**		**05 07 28.1**	**-0.3**
KARP				S	**Sg**		**05 07 34.4**	**0.0**
KARP				AML	AML		05 07 38.4	
	comp=N,2475μm,0.4s							
KARP				AML	AML		05 07 41.7	
	comp=E,2200μm,0.3s							
KARP	**Karpathos**	**0.54**	**275**	*e*Pg	**Pg**		**05 07 26.1**	**-1.1**
KARP	**Karpathos**	**0.54**	**275**	P	**Pg**		**05 07 27.6**	**+0.4**
KARP				*e*Sg	**Sg**		**05 07 34.7**	**+0.4**
ARG	**Arkhangelos**	**0.75**	**19**	P	**Pg**		**05 07 31.4**	**+0.2**
ARG				S	**Sb**		**05 07 42.1**	**-0.1**
ARG				AML	AML		05 07 48.9	
	comp=N,1302μm,0.7s							
ARG				AML	AML		05 07 50.0	
	comp=E,1732μm,0.6s							
ARG	**Arkhangelos**	**0.75**	**19**	P	**Pg**		**05 07 31.3**	**+0.2**
ARG				S	**Sb**		**05 07 42.4**	**+0.2**
ZKR	**Zakros**	**1.37**	**254**	P	**Pn**		**05 07 41.1**	**-0.8**
ZKR	**Zakros**	**1.37**	**254**	P	**Pn**		**05 07 41.4**	**-0.6**
TURN	**Turunc**	**1.50**	**25**	PN	**Pn**		**05 07 40.9**	**-2.9**
TURN	**Turunc**	**1.50**	**25**	*i* P	**Pn**		**05 07 42.1**	**-1.7**
TURN				*i* S	**Sg**		**05 08 04.6**	**-0.5**
TURN	**Turunc**	**1.50**	**25**	P	**Pn**		**05 07 42.1**	**-1.7**
TURN				S	**Sg**		**05 08 04.6**	**-0.5**
FETY	**Fethiye**	**1.52**	**42**	PN	**Pn**		**05 07 43.8**	**-0.3**
FETY	**Fethiye**	**1.52**	**42**	*e*Pn	**Pn**		**05 07 43.8**	**-0.3**
FETY	**Fethiye**	**1.52**	**42**	P	**Pn**		**05 07 44.0**	**-0.1**
BDRM	**Kayabasi**	**1.59**	**349**	*i* P	**Pn**		**05 07 45.1**	**+0.2**
BDRM				*i* S	**Sg**		**05 08 08.4**	**+0.7**
BDRM	**Kayabasi**	**1.59**	**349**	P	**Pn**		**05 07 45.1**	**+0.2**
BDRM				S	**Sg**		**05 08 08.4**	**+0.7**
BODT	**Bodrum**	**1.61**	**345**	PN	**Pn**		**05 07 44.8**	**-0.4**
BODT	**Bodrum**	**1.61**	**345**	*e*Pn	**Pn**		**05 07 44.8**	**-0.4**
AKAS	**Kas**	**1.62**	**63**	PN	**Pn**		**05 07 45.1**	**-0.4**
AKAS	**Kas**	**1.62**	**63**	*e*Pn	**Pn**		**05 07 45.1**	**-0.4**
MLSB	**Milas**	**1.79**	**359**	PN	**Pn**		**05 07 47.3**	**-0.4**
MLSB	**Milas**	**1.79**	**359**	*e*Pn	**Pn**		**05 07 47.3**	**-0.4**
NPS	**Neapolis**	**1.82**	**263**	P	**Pb**		**05 07 50.0**	**-0.2**
NPS				S	**Sb**		**05 08 14.1**	**+1.0**
NPS				AML	AML		05 08 23.2	
	comp=N,661μm,0.4s							
NPS				AML	AML		05 08 26.9	
	comp=E,828μm,0.8s							
NPS	**Neapolis**	**1.82**	**263**	P	**Pb**		**05 07 49.7**	**-0.5**
NPS				S	**Sb**		**05 08 14.1**	**+1.0**
LAST	**Lasithi**	**1.95**	**261**	P	**Pn**		**05 07 50.8**	**+0.8**
LAST				S	**Sb**		**05 08 16.8**	**+0.1**
LAST				AML	AML		05 08 29.3	
	comp=N,315μm,0.6s							
LAST				AML	AML		05 08 29.4	
	comp=E,370μm,1.0s							
LAST	**Lasithi**	**1.95**	**261**	P	**Pn**		**05 07 51.0**	**+1.0**
LAST				S	**Sb**		**05 08 16.9**	**+0.1**
ELL	**Elmali**	**2.10**	**53**	PN	**Pn**		**05 07 52.5**	**+0.5**
ELL	**Elmali**	**2.10**	**53**	*e*Pn	**Pn**		**05 07 52.5**	**+0.5**
TAVA	**DENIZLI_Tavas**	**2.14**	**24**	*i* P	**Pb**		**05 07 54.3**	**-1.4**
TAVA				*i* S	**Sg**		**05 08 30.9**	**+5.2**
TAVA	**DENIZLI_Tavas**	**2.14**	**24**	P	**Pb**		**05 07 54.3**	**-1.4**
GOLH	**Golhisar**	**2.23**	**39**	*i* P	**Pn**		**05 07 54.6**	**+0.8**
GOLH	**Golhisar**	**2.23**	**39**	P	**Pn**		**05 07 54.6**	**+0.8**
GCAM	**G?zelcaml?**	**2.24**	**348**	PN	**Pn**		**05 07 53.9**	**0.0**
GCAM	**G?zelcaml?**	**2.24**	**348**	*e*Pn	**Pn**		**05 07 53.9**	**0.0**
APE	**Apeiranthos**	**2.42**	**311**	PN	**Pn**		**05 07 56.3**	**-0.2**
APE	**Apeiranthos**	**2.42**	**311**	*e*Pn	**Pn**		**05 07 56.3**	**-0.2**
AYDB	**Zeytinkoy-Aydi**	**2.44**	**1**	PN	**Pn**		**05 07 56.6**	**-0.1**
AYDB	**Zeytinkoy-Aydi**	**2.44**	**1**	*e*Pn	**Pn**		**05 07 56.6**	**-0.1**
URLA	**Izmir**	**3.01**	**341**	PN	**Pn**		**05 08 04.7**	**+0.1**
URLA	**Izmir**	**3.01**	**341**	*e*Pn	**Pn**		**05 08 04.7**	**+0.1**
KULA	**Kula-Manisa**	**3.08**	**12**	PN	**Pn**		**05 08 05.8**	**+0.3**
KULA	**Kula-Manisa**	**3.08**	**12**	*e*Pn	**Pn**		**05 08 05.8**	**+0.3**

*CSEM **19** 05:08:17.7, 37°.32N×30°.82E, h3km, ML2.7*

ISK 19 05:08:17.7, 37°.32N×30°.82E, h3km, ML2.7/2, Turkey

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
SUTC	**Sutluce-Ispart**	**0.21**	**43**	PG	**Pg**		05 08 22.5	+0.7
SUTC				SG	**Sg**		05 08 39.4	+1.8
SUTC	**Sutluce-Ispart**	**0.21**	**43**	*e*Pg	**Pg**		05 08 22.5	+0.7
SUTC				*e*Sg	**Sg**		05 08 26.4	+1.8
BCK	**Bucak**	**0.23**	**307**	PG	**Pg**		05 08 22.9	+0.7
BCK	**Bucak**	**0.23**	**307**	*e*Pg	**Pg**		05 08 22.9	+0.7
ANTB	**Antalya**	**0.44**	**198**	PG	**Pg**		05 08 27.1	+0.9
ANTB	**Antalya**	**0.44**	**198**	*e*Pg	**Pg**		05 08 27.1	+0.9
KORT	**Korkueli**	**0.49**	**230**	PG	**Pg**		05 08 28.1	+0.9
KORT	**Korkueli**	**0.49**	**230**	*i* P	**Pg**		05 08 27.9	+0.8
KORT				*i* S	**Sb**		05 08 36.6	-0.2
KORT	**Korkueli**	**0.49**	**230**	*e*Pg	**Pg**		05 08 28.1	+0.9
ISP	**Isparta**	**0.55**	**335**	PG	**Pb**		05 08 29.5	-0.6
ISP	**Isparta**	**0.55**	**335**	*e*Pg	**Pb**		05 08 29.5	-0.6
LADK	**Ladik-KONYA**	**1.50**	**54**	PN	**Pg**		05 08 46.7	+0.1
LADK	**Ladik-KONYA**	**1.50**	**54**	*e*Pn	**Pg**		05 08 46.7	+0.1

*IDC **19** 05:09:33.6±2.4, 24°.01S×179°.72E, h504km±24km, mb3.3/8, mb1 3.6/8, mb1mx3.2/41, mbtmp4.1/8, Error ellipse: s-maj=48.3km s-min=15.2km az=155.0*
*ISCJB **19** 05:09:35.7±1.0, 24°.05S×179°.6E±0°.2, h537km, mb3.8/9, Error ellipse: s-maj=51.5km s-min=15.8km az=157.3*

ISC 19 05:09:36.6±1.1, 24°.05S±0°.4×179°.7E±0°.2, h537km, n14, σ1°.51/15, mb3.9/9, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**34.40**	**248**	P	**P**		**05 15 38.6**	**-0.6**
	4.4nm,0.7s,baz=100,slow=11,SNR=16							
ASAR	**Alice Springs**	**41.72**	**261**	P	**P**		**05 16 38.4**	**-0.5**
	1.8nm,0.5s,baz=96,slow=7.1,SNR=25							
ASAR				ScP	**ScP**		**05 21 25.5**	**+3.4**
	0.2nm,0.5s,baz=115,slow=4.4,SNR=2.6							
WRA	**Warramunga Arr**	**42.10**	**266**	P	**P**		**05 16 41.7**	**-0.3**
	4.9nm,0.4s,baz=97,slow=8.4,SNR=75							
WRA				ScP	**ScP**		**05 21 26.7**	**+3.0**
	1.8nm,0.9s,baz=98,slow=3.8,SNR=9.9							
PETK	**Petropavlovsk-**	**79.13**	**347**	P	**P**		**05 20 45.9**	**+0.6**
	2.2nm,0.8s,baz=141,slow=9.3,SNR=3.3							
NVAR	**Mina Array Bea**	**85.04**	**44**	P	**P**		**05 21 16.1**	**+0.1**
	0.4nm,0.6s,baz=221,slow=6.8,SNR=3.7							
TXAR	**Lajitas Array**	**90.74**	**58**	P	**P**		**05 21 43.0**	**+0.3**
	1.1nm,0.8s,baz=216,slow=7.1,SNR=14							
ILAR	**Eielson Array**	**92.20**	**14**	P	**P**		**05 21 48.2**	**-0.3**
	0.2nm,0.6s,baz=211,slow=5.1,SNR=4.1							
PDAR	**Pinedale Array**	**92.98**	**44**	P	**P**		**05 21 51.5**	**-1.4**
	0.1nm,0.3s,baz=204,slow=3.3,SNR=3.5							
APG	**El Apazote**	**95.86**	**76**	P	**P**		**05 22 06.9**	**+0.4**
	2.8nm,0.5s,baz=321,slow=6.5,SNR=2.9							
ARCES	**ARCESS Array B**	**131.93**	**348**	PKP	**PKPdf**		**05 27 47.9**	**-0.4**
	0.9nm,0.8s,baz=343,slow=3.8,SNR=4.6							
FINES	**FINESS Array B**	**138.45**	**341**	PKP	**PKPdf**		**05 28 01.2**	**+0.7**
	2.6nm,1.1s,baz=328,slow=16,SNR=2.9							
HFS	**Hagfors**	**142.59**	**348**	PKhKP	PKPpre		05 28 04.9	
	2.7nm,0.4s,baz=134,slow=6.2,SNR=20							
AKASG	**Malin Array Be**	**144.90**	**327**	PKP	**PKPdf**		**05 28 10.8**	**-1.5**
	0.5nm,0.5s,baz=44,slow=4.1,SNR=5.1							
EKA	**Eskdalemuir Ar**	**148.64**	**3**	PKPbc	**PKPbc**		**05 28 22.2**	**-0.6**
	0.4nm,0.4s,baz=0.0,slow=3.5,SNR=5.8							

NNC 19 05:24:23.7±1.9, 53°.50N×90°.61E, h0km, mb3.8, mpv3.5, 8C-2D, Error ellipse: s-maj=15.6km s-min=11.1km az=82.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
ZAA0	**Zalesovo Array**	**3.47**	**280**	⇑Pn	Pn		05 25 19.1	+0.2
	9.4nm,0.4s							
ZAA0				⇑Lg	Lg		05 26 13.0	
	72nm,0.8s							
KURK	**Kurchatov**	**7.89**	**254**	⇑Pn	Pn		05 26 20.3	+0.8
	2.9nm,0.6s							
KURK				⇓Sn	Sn		05 27 50.2	+0.7
	9.4nm,0.8s							
KURK				⇑Lg	Lg		05 28 34.8	
	58nm,0.9s							
MK31	**Makanchi Array**	**8.57**	**222**	Pn	Pn		05 26 28.3	-0.8
	0.4nm,0.3s,baz=45,slow=13,SNR=23							
MK31				⇓Sn	Sn		05 28 08.8	+2.4
	2.7nm,0.7s,baz=46,slow=22,SNR=3.6							
MK31				⇑Lg	Lg		05 28 55.1	
	15nm,0.8s,baz=37,slow=28,SNR=4.1							
MAKZ	**Makanchi**	**8.69**	**223**	⇑Pn	Pn		05 26 29.7	-0.9
	0.9nm,0.6s							
MAKZ				⇑Sn	Sn		05 28 10.9	+1.7
	4.0nm,0.7s							
MAKZ				⇑Lg	Lg		05 28 58.7	
	20nm,0.9s							

*ATA **19** 05:39:10.6±0.8, 38°.91N×43°.51E, h0km±2km, ML3.7, MW3.7*
*DDA **19** 05:39:11.8, 38°.92N×43°.56E, h16km, Ml3.5*
*CSEM **19** 05:39:11.8±0.2, 38°.94N×43°.58E, h10km, ML3.5, Error ellipse: s-maj=4.9km s-min=3.6km az=108.0*
*ISK **19** 05:39:11.3, 38°.91N×43°.56E, h6km, ML3.3/12*
*ISCJB **19** 05:39:12.3±0.5, 38°.90N±0°.02×43°.56E±0°.04, h3km±4km, Error ellipse: s-maj=5.2km s-min=3.2km az=24.0*

ISC 19 05:39:12.5±0.8, 38°.92N±0°.02×43°.54E±0°.02, h8km±5km, n62, σ1°.29/93, Turkey

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
VMUR	**Van-Muradiye**	**0.07**	**22**	*i* P	**Pg**		**05 39 14.1**	**-0.7**
VMUR				*i* S	**Sg**		**05 39 17.6**	**+1.2**
VMUR	**Van-Muradiye**	**0.07**	**22**	P	**Pg**		**05 39 14.1**	**-0.7**
VMUR				S	**Sg**		**05 39 17.6**	**+1.2**
ERCV	**ERCIS-VAN**	**0.18**	**303**	PG	**Pg**		**05 39 15.6**	**-0.8**
ERCV	**ERCIS-VAN**	**0.18**	**303**	*e*Pg	**Pg**		**05 39 15.6**	**-0.8**
VANB	**Van**	**0.35**	**200**	PG	**Pg**		**05 39 19.9**	**+0.5**
VANB				SG	**Sb**		**05 39 26.3**	**-0.4**
VANB	**Van**	**0.35**	**200**	*e*Pg	**Pg**		**05 39 19.9**	**+0.5**
VANB				*e*Sg	**Sb**		**05 39 26.3**	**-0.4**
CLDR	**Caldiran**	**0.37**	**53**	PG	**Pg**		**05 39 18.9**	**-1.0**
CLDR				SG	**Sg**		**05 39 24.5**	**-0.3**
CLDR	**Caldiran**	**0.37**	**53**	*i* P	**Pg**		**05 39 19.1**	**-1.3**
CLDR				*i* S	**Sb**		**05 39 26.7**	**-0.8**
CLDR	**Caldiran**	**0.37**	**53**	P	**Pg**		**05 39 18.6**	**-1.3**
CLDR	**Caldiran**	**0.37**	**53**	*e*Pg	**Pg**		**05 39 18.9**	**-1.0**
CLDR				*e*Sg	**Sg**		**05 39 24.5**	**-0.3**
TVAN	**Van**	**0.41**	**195**	*i* P	**Pg**		**05 39 20.3**	**-0.2**
TVAN				*i* S	**Sb**		**05 39 29.3**	**+0.8**
TVAN	**Van**	**0.41**	**195**	P	**Pg**		**05 39 20.3**	**-0.2**
DYDN	**Diyadin**	**0.63**	**11**	*e*P	**Pg**		**05 39 24.7**	**-0.2**
DYDN				*e*S	**Sb**		**05 39 35.0**	**-0.1**
DYDN				IAML			05 39 38.2	
	comp=Z,151nm,0.4s							
DYDN	**Diyadin**	**0.63**	**11**	*i* P	**Pg**		**05 39 24.1**	**-0.7**
DYDN				*i* S	**Sn**		**05 39 37.1**	**-1.3**
DYDN	**Diyadin**	**0.63**	**11**	P	**Pg**		**05 39 24.1**	**-0.7**
ADCV	**BITLIS_Adilcev**	**0.64**	**260**	*i* P	**Pg**		**05 39 24.6**	**-0.4**
ADCV				*i* S	**Sb**		**05 39 35.2**	**-0.1**
ADCV	**BITLIS_Adilcev**	**0.64**	**260**	P	**Pg**		**05 39 24.6**	**-0.4**
ADCV				S	**Sb**		**05 39 35.2**	**-0.1**
GEVA	**Gevas**	**0.71**	**212**	*i* P	**Pg**		**05 39 24.8**	**-1.5**
GEVA				*e*S	**Sb**		**05 39 36.7**	**-0.6**
GEVA				IAML			05 39 39.4	
	comp=Z,178nm,0.5s							
GEVA	**Gevas**	**0.71**	**212**	*i* P	**Pg**		**05 39 24.9**	**-1.4**
GEVA				*i* S	**Sb**		**05 39 37.1**	**-0.2**
GEVA	**Gevas**	**0.71**	**212**	P	**Pg**		**05 39 24.9**	**-1.4**
GEVA				S	**Sb**		**05 39 37.1**	**-0.2**
TUTA	**Tutak**	**0.74**	**311**	*i* P	**Pg**		**05 39 25.7**	**-1.1**
TUTA				*e*S	**Sb**		**05 39 38.2**	**+0.1**
TUTA				IAML			05 39 43.7	
	comp=Z,382nm,0.3s							
TUTA	**Tutak**	**0.74**	**311**	*i* P	**Pg**		**05 39 25.9**	**-0.9**
TUTA				*i* S	**Sg**		**05 39 37.1**	**+0.6**
TUTA	**Tutak**	**0.74**	**311**	P	**Pg**		**05 39 25.9**	**-0.9**
TUTA				S	**Sg**		**05 39 37.1**	**+0.6**
AGRB	**Hanur-Agry**	**0.78**	**327**	PG	**Pg**		**05 39 27.1**	**-0.5**
AGRB				SG	**Sb**		**05 39 38.9**	**-0.3**
AGRB	**Hanur-Agry**	**0.78**	**327**	*e*Pg	**Pg**		**05 39 27.1**	**-0.5**
AGRB				*e*Sg	**Sb**		**05 39 38.9**	**-0.3**
IGDI	**IGDIR**	**1.03**	**24**	*e*P	**Pg**		**05 39 31.8**	**-0.6**
IGDI				*e*S	**Sn**		**05 39 48.6**	**+0.5**
IGDI				IAML			05 39 57.0	
	comp=Z,48nm,0.6s							
IGDI	**IGDIR**	**1.03**	**24**	*i* P	**Pg**		**05 39 30.6**	**-1.8**
EKAR	**Karacoban**	**1.19**	**287**	*e*P	**Pb**		**05 39 34.3**	**-1.2**
EKAR				*e*S	**Sn**		**05 39 53.4**	**+1.2**
EKAR				IAML			05 40 01.5	
	comp=Z,132nm,0.6s							
EKAR	**Karacoban**	**1.19**	**287**	*i* P	**Pb**		**05 39 35.0**	**-0.5**
EKAR				*i* S	**Sn**		**05 39 57.0**	**+4.8**
EKAR	**Karacoban**	**1.19**	**287**	P	**Pb**		**05 39 35.0**	**-0.5**
GURO	**Guroymak-BITLI**	**1.23**	**253**	PN	**Pn**		**05 39 35.2**	**-1.0**
GURO	**Guroymak-BITLI**	**1.23**	**253**	*e*Pn	**Pn**		**05 39 35.2**	**-1.0**
EATA	**Eleskirt**	**1.24**	**320**	*e*P	**Pb**		**05 39 35.3**	**-1.1**
EATA				*e*S	**Sn**		**05 39 54.5**	**+1.0**
EATA				IAML			05 39 56.2	
	comp=Z,33nm,0.3s							
EATA	**Eleskirt**	**1.24**	**320**	*i* P	**Pb**		**05 39 35.8**	**-0.6**
EATA				*i* S	**Sn**		**05 39 54.0**	**+0.5**
EATA	**Eleskirt**	**1.24**	**320**	P	**Pb**		**05 39 35.8**	**-0.6**
EATA				S	**Sn**		**05 39 54.0**	**+0.5**
HAKT	**HAKKARI**	**1.37**	**174**	*i* P	**Pn**		**05 39 37.1**	**-1.0**
HAKT				*i* S	**Sg**		**05 40 00.4**	**+3.9**
HAKT	**HAKKARI**	**1.37**	**174**	P	**Pn**		**05 39 37.1**	**-1.0**
DIGO	**Kars**	**1.50**	**355**	*e*P	**Pn**		**05 39 40.1**	**+0.1**
DIGO				*e*S	**Sg**		**05 40 03.7**	**+3.0**
DIGO				IAML			05 40 11.4	
	comp=Z,22nm,0.5s							
SRTM	**Siirt_Merkez**	**1.57**	**234**	*i* P	**Pg**		**05 39 42.3**	**-0.4**
SRTM				*i* S	**Sg**		**05 40 03.0**	**0.0**
SRTM	**Siirt_Merkez**	**1.57**	**234**	P	**Pg**		**05 39 42.3**	**-0.4**
SRTM				S	**Sg**		**05 40 03.0**	**0.0**
VRTB	**Varto-Mus**	**1.64**	**279**	PN	**Pn**		**05 39 41.6**	**-0.2**
VRTB	**Varto-Mus**	**1.64**	**279**	*e*Pn	**Pn**		**05 39 41.6**	**-0.2**
SIRT	**Sirnak**	**1.66**	**212**	PN	**Pn**		**05 39 41.9**	**-0.1**
SIRT	**Sirnak**	**1.66**	**212**	*e*Pn	**Pn**		**05 39 41.9**	**-0.1**
HOMI	**Horasan**	**1.69**	**312**	*e*P	**Pb**		**05 39 43.9**	**-0.1**
HOMI				IAML			05 40 18.0	
	comp=Z,32nm,0.4s							
KARS	**Kars**	**1.74**	**348**	PN	**Pn**		**05 39 43.0**	**-0.2**
KARS	**Kars**	**1.74**	**348**	*e*Pn	**Pn**		**05 39 43.0**	**-0.2**
EAK	**Akyaka**	**1.76**	**2**	*e*P	**Pg**		**05 39 45.7**	**-0.7**
EAK				*e*S	**Sg**		**05 40 14.7**	**+5.4**
EAK				IAML			05 40 25.7	
	comp=Z,48nm,0.5s							
SENK	**Senkaya-Erzuru**	**1.88**	**331**	PN	**Pn**		**05 39 44.9**	**-0.2**
SENK	**Senkaya-Erzuru**	**1.88**	**331**	*e*Pn	**Pn**		**05 39 44.9**	**-0.2**
ERZM	**Erzurum**	**1.95**	**301**	*e*P	**Pb**		**05 39 48.5**	**+0.1**
BNGB	**Bing?l**	**2.23**	**273**	PN	**Pn**		**05 39 50.1**	**+0.3**
BINT	**Bingol**	**2.38**	**270**	*e*Pn	**Pn**		**05 39 50.1**	**-1.8**
KOPT	**Kop Dagi**	**2.59**	**296**	*e*P	**Pg**		**05 40 01.3**	**-1.0**
KOPT				IAML			05 40 21.2	
	comp=Z,15nm,0.5s							
EPOS	**Posof**	**2.65**	**347**	*e*P	**Pb**		**05 40 01.2**	**+0.9**
EPOS				IAML			05 40 08.6	
	comp=Z,4.9nm,0.7s							
MAZI	**Mazidag**	**2.84**	**240**	PN	**Pn**		**05 39 58.3**	**+0.1**
MAZI	**Mazidag**	**2.84**	**240**	*e*Pn	**Pn**		**05 39 58.3**	**+0.1**
BAYB	**BAYBURT**	**2.86**	**299**	*e*P	**Pg**		**05 40 06.8**	**-0.7**
DGRG	**David-gareji**	**2.89**	**29**	*e*P	**Pb**		**05 40 05.1**	**+0.7**
ERZN	**Erzincan**	**3.04**	**284**	PN	**Pn**		**05 40 01.8**	**+0.9**
EZC	**Erzincan**	**3.35**	**286**	*e*Pn	**Pn**		**05 40 01.8**	**-3.5**
KELT	**Kelkit**	**3.53**	**292**	*e*P	**Pb**		**05 40 12.1**	**-3.3**
KELT				IAML			05 40 27.2	
	comp=Z,3.7nm,0.5s							

*ISCJB **19** 05:51:00.4±2.3, 21°.5±1°.1×178°.1W±0°.5, h534km, mb3.8/6, Error ellipse: s-maj=159.5km s-min=20.1km az=160.3*
*IDC **19** 05:51:04.9±4.9, 20°.49S×178°.14W, h576km±54km, mb3.2/6, mb1 3.5/7, mb1mx3.1/43, mbtmp4.2/7, Error ellipse: s-maj=111.7km s-min=26.9km az=159.0*

**ISC 19 05:51:01.2±2.0, 20°.6S±1°.0×177°.9W±0°.3, h534km

KOZ	**Kozyrevsk**	**1.76**	**325**	PN	**Pn**	**06 07 40.1**	**+1.2**
KLY	**Klyuchi**	**1.78**	**342**	*e*P	**Pn**	**06 07 39.6**	**+0.4**
KLY	**Klyuchi**	**1.78**	**342**	PN	**Pn**	**06 07 39.6**	**+0.4**
SPN	**Mys Shipunski**	**1.82**	**213**	*e*P	**Pn**	**06 07 38.7**	**-0.9**
SPN				*e*S	**Sn**	**06 07 59.2**	**-2.2**
SPN	**Mys Shipunski**	**1.82**	**213**	PN	**Pn**	**06 07 38.7**	**-0.9**
SPN				S	**Sn**	**06 07 59.2**	**-2.2**
BDR	**Baidarnaya**	**1.96**	**353**	*e*P	**Pn**	**06 07 43.0**	**+1.3**
BDR	**Baidarnaya**	**1.96**	**353**	PN	**Pn**	**06 07 43.0**	**+1.3**
SMKR	**Semkarok**	**1.96**	**357**	*e*P	**Pn**	**06 07 42.8**	**+1.1**
SMKR	**Semkarok**	**1.96**	**357**	PN	**Pn**	**06 07 42.8**	**+1.1**
NLC	**Nalytchevo**	**2.00**	**224**	*e*P	**Pn**	**06 07 42.7**	**+0.5**
NLC				*e*S	**Sn**	**06 08 06.5**	**+0.5**
NLC	**Nalytchevo**	**2.00**	**224**	PN	**Pn**	**06 07 42.7**	**+0.5**
NLC				S	**Sn**	**06 08 06.5**	**+0.5**
SDLR	**Sedlovina**	**2.13**	**232**	*i* P	**Pn**	**06 07 45.0**	**+0.9**
SDLR				*e*S	**Sn**	**06 08 10.3**	**+1.0**
SDLR	**Sedlovina**	**2.13**	**232**	PN	**Pn**	**06 07 45.0**	**+0.9**
SDLR				S	**Sn**	**06 08 10.3**	**+1.0**
ESO	**Esso**	**2.14**	**309**	*e*P	**Pn**	**06 07 44.5**	**+0.4**
ESO	**Esso**	**2.14**	**309**	PN	**Pn**	**06 07 44.5**	**+0.4**
KRER	**Koryakskii**	**2.18**	**234**	*e*P	**Pn**	**06 07 45.1**	**+0.3**
KRER				*e*S	**Sn**	**06 08 09.9**	**-0.7**
KRER	**Koryakskii**	**2.18**	**234**	PN	**Pn**	**06 07 45.1**	**+0.3**
KRER				S	**Sn**	**06 08 09.9**	**-0.7**
SMAR	**Somma**	**2.18**	**232**	*i* P	**Pn**	**06 07 45.9**	**+1.1**
SMAR				*e*S	**Sn**	**06 08 11.4**	**+0.8**
SMAR	**Somma**	**2.18**	**232**	PN	**Pn**	**06 07 45.9**	**+1.1**
SMAR				S	**Sn**	**06 08 11.4**	**+0.8**
KRX	**Arik**	**2.19**	**236**	*e*P	**Pn**	**06 07 46.1**	**+1.2**
KRX				*e*S	**Sn**	**06 08 11.9**	**+1.1**
KRX	**Arik**	**2.19**	**236**	PN	**Pn**	**06 07 46.1**	**+1.2**
KRX				S	**Sn**	**06 08 11.9**	**+1.1**
UGLR	**Uglovaya**	**2.20**	**231**	*i* P	**Pn**	**06 07 46.1**	**+1.1**
UGLR				*e*S	**Sn**	**06 08 12.3**	**+1.2**
UGLR	**Uglovaya**	**2.20**	**231**	PN	**Pn**	**06 07 46.1**	**+1.1**
UGLR				S	**Sn**	**06 08 12.3**	**+1.2**
AVH	**Avacha**	**2.21**	**233**	*i* P	**Pn**	**06 07 46.3**	**+1.2**
AVH	**Avacha**	**2.21**	**233**	PN	**Pn**	**06 07 46.3**	**+1.2**
KOK	**Koryaka**	**2.24**	**234**	*e*P	**Pn**	**06 07 46.9**	**+1.4**
KOK	**Koryaka**	**2.24**	**234**	PN	**Pn**	**06 07 46.9**	**+1.4**
DALK	**Dalny**	**2.35**	**228**	*e*P	**Pn**	**06 07 47.8**	**+0.8**
DALK				*e*S	**Sn**	**06 08 15.2**	**+0.6**
DALK	**Dalny**	**2.35**	**228**	PN	**Pn**	**06 07 47.8**	**+0.8**
DALK				S	**Sn**	**06 08 15.2**	**+0.6**
GNL	**Ganaly**	**2.38**	**248**	*e*P	**Pn**	**06 07 48.6**	**+1.1**
GNL	**Ganaly**	**2.38**	**248**	PN	**Pn**	**06 07 48.6**	**+1.1**
PET	**Petropavlovsk**	**2.40**	**229**	*i* P	**Pn**	**06 07 49.0**	**+1.3**
PET				*e*S	**Sn**	**06 08 16.8**	**+1.0**
PET	**Petropavlovsk**	**2.40**	**229**	*e*PN	**Pn**	**06 07 48.9**	**+1.3**
PET				*e*S	**Sn**	**06 08 17.2**	**+1.4**
PET				pmax	pmax		
	comp=Z,36nm,0.7s						
PET				smax	smax		
	comp=E,384nm,0.6s						
PET				smax	smax		
	comp=N,334nm,0.6s						
BKI	**Bering**	**2.55**	**75**	*e*P	**Pn**	**06 07 49.9**	**+0.2**
BKI				*e*S	**Sn**	**06 08 18.0**	**-1.5**
BKI	**Bering**	**2.55**	**75**	PN	**Pn**	**06 07 49.9**	**+0.2**
BKI				S	**Sn**	**06 08 18.0**	**-1.5**
KRMR	**Karymshinskiy**	**2.77**	**231**	*e*P	**Pn**	**06 07 54.1**	**+1.4**
KRMR				*e*S	**Sn**	**06 08 26.2**	**+1.4**
KRMR	**Karymshinskiy**	**2.77**	**231**	PN	**Pn**	**06 07 54.1**	**+1.4**
KRMR				S	**Sn**	**06 08 26.2**	**+1.4**
PETK	**Petropavlovsk-**	**2.80**	**239**	Pn	**Pn**	**06 07 52.1**	**-1.0**
	comp=N,1.0nm,0.3s,baz=67,slow=18,SNR=21						
PETK				Sn	**Sn**	**06 08 27.7**	**+2.0**
	comp=N,2.2nm,0.3s,baz=48,slow=24,SNR=5.0						
PETK				LR	LR	06 09 13.1	
	comp=N,51nm,19.9s,baz=40,slow=46						
RUS	**Russkaya**	**2.90**	**222**	*i* P	**Pn**	**06 07 55.0**	**+0.6**
RUS	**Russkaya**	**2.90**	**222**	PN	**Pn**	**06 07 55.0**	**+0.6**
MTVR	**Mutnovka**	**2.99**	**225**	*e*P	**Pn**	**06 07 57.9**	**+2.0**
MTVR				*e*S	**Sn**	**06 08 32.6**	**+2.1**
MTVR	**Mutnovka**	**2.99**	**225**	PN	**Pn**	**06 07 57.9**	**+2.0**
MTVR				S	**Sn**	**06 08 32.6**	**+2.1**
ASAK	**Asacha**	**3.18**	**227**	*e*P	**Pn**	**06 08 01.1**	**+2.7**
ASAK				*e*S	**Sn**	**06 08 37.9**	**+2.8**
ASAK	**Asacha**	**3.18**	**227**	PN	**Pn**	**06 08 01.1**	**+2.7**
ASAK				S	**Sn**	**06 08 37.9**	**+2.8**
KDTR	**Khodutka, Kamc**	**3.56**	**219**	*e*P	**Pn**	**06 08 04.8**	**+1.3**
MIPR	**Malaya Ipel'ka**	**3.76**	**233**	*e*P	**Pn**	**06 08 08.4**	**+2.0**
MIPR	**Malaya Ipel'ka**	**3.76**	**233**	PN	**Pn**	**06 08 08.4**	**+2.0**
MA2	**Magadan**	**7.73**	**314**	Pn	**Pn**	**06 09 05.3**	**+4.6**
	comp=N,0.6nm,0.3s,baz=115,slow=12,SNR=5.1						
MA2				LR	LR	06 12 32.2	
	comp=N,47nm,18.8s,baz=148,slow=43						
KLR	**Kul'dur**	**19.13**	**266**	P	**Pn**	**06 11 30.5**	**-0.6**
	comp=N,0.0nm,0.3s,baz=85,slow=15,SNR=3.2						
MJAR	**Matsushiro Arr**	**24.23**	**231**	P	**P**	**06 12 22.5**	**-0.8**
	comp=N,0.9nm,0.3s,baz=31,slow=10,SNR=3.1						
ILAR	**Eielson Array**	**27.08**	**47**	P	**P**	**06 12 48.4**	**-0.3**
	comp=N,0.2nm,0.6s,baz=278,slow=7.2,SNR=3.6						
INK	**Inuvik**	**32.09**	**39**	P	**P**	**06 13 33.3**	**+0.4**
	comp=N,1.1nm,1.1s,baz=290,slow=8.3,SNR=4.5						
SONM	**Songino Array**	**34.47**	**282**	P	**P**	**06 13 54.0**	**-0.2**
	comp=N,1.6nm,0.7s,baz=78,slow=11,SNR=3.6						
SONM	**Songino Array**	**34.47**	**282**	P	**P**	**06 13 54.0**	**-0.2**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.4s						
H11N2	**WAKE ISLAND Hy**	**35.07**	**171**	T	T	06 51 07.2	
	baz=355,slow=76,SNR=201						
H11N3	**WAKE ISLAND Hy**	**35.08**	**171**	T	T	06 51 11.7	
	baz=355,slow=76,SNR=209						
H11N1	**WAKE ISLAND Hy**	**35.08**	**171**	T	T	06 51 11.9	
	baz=355,slow=76,SNR=236						
H11S1	**WAKE ISLAND Hy**	**36.26**	**172**	T	T	06 52 33.6	
	baz=352,slow=76,SNR=7.2						
H11S3	**WAKE ISLAND Hy**	**36.27**	**172**	T	T	06 52 34.9	
	baz=352,slow=76,SNR=8.9						
H11S2	**WAKE ISLAND Hy**	**36.28**	**172**	T	T	06 52 37.9	
	baz=352,slow=76,SNR=6.3						
YKA	**Yellowknife Ar**	**41.40**	**44**	P	**P**	**06 14 53.0**	**+0.8**
	comp=Z,0.5nm,0.6s,baz=299,slow=7.7,SNR=9.0						
YKA				PcP	**PcP**	**06 16 49.8**	**+0.5**
	comp=Z,0.2nm,0.8s,baz=306,slow=3.8,SNR=3.6						
SPITS	**Spitsbergen Ar**	**45.77**	**351**	P	**P**	**06 15 26.8**	**-0.3**
	comp=Z,3.1nm,0.7s,baz=17,slow=9.5,SNR=4.4						
KURK	**Kurchatov**	**47.72**	**301**	P	**P**	**06 15 42.1**	**-0.6**
KURBB	**Kurchatov Arra**	**47.82**	**301**	P	**P**	**06 15 42.1**	**-1.3**
	comp=Z,0.5nm,0.6s,baz=57,slow=7.9,SNR=3.4						
FINES	**FINESS Array B**	**59.07**	**337**	P	**P**	**06 17 05.4**	**-0.4**
	comp=Z,0.9nm,0.7s,baz=22,slow=15,SNR=2.9						
CMAR	**Chiang Mai Arr**	**59.41**	**259**	P	**P**	**06 17 08.0**	**-0.6**
	comp=Z,0.6nm,0.3s,baz=39,slow=8.5,SNR=5.5						
NOA	**NORSAR Array B**	**62.32**	**344**	P	**P**	**06 17 27.0**	**-0.9**
	comp=Z,0.5nm,0.7s,baz=27,slow=5.0,SNR=2.1						
NOA	**NORSAR Array B**	**62.32**	**344**	P	**P**	**06 17 27.0**	**-0.9**
NOA				pmax	pmax		
	comp=Z,1.0nm,1.0s						
WRA	**Warramunga Arr**	**77.87**	**206**	P	**P**	**06 19 03.5**	**0.0**
	comp=Z,0.4nm,0.9s,baz=26,slow=6.6,SNR=3.0						
ASAR	**Alice Springs**	**81.55**	**206**	P	**P**	**06 19 23.6**	**+0.2**
	comp=Z,0.5nm,0.8s,baz=12,slow=4.5,SNR=4.2						

*IDC **19** 06:17:57.3±1.1,9.88N×90.83E, h0km, mb3.6/7, mb1 3.8/8, mb1mx3.5/76, mbtmp3.7/8, ML4.5/1, Error ellipse: s-maj=40.7km s-min=19.2km az=54.0*

*ISCJB **19** 06:18:00.6±1.1,10.1N±0.1×91.1E±0.2, h33km, mb3.6/7, Error ellipse: s-maj=26.1km s-min=18.4km az=144.6*

ISC 19 06:18:03.0±1.3, 10.0N±0.2×91.0E±0.2, h35km, n8, σ1§64/8, mb3.7/7, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**11.39**	**42**	Pn	**Pn**	**06 20 42.3**	**-1.0**
	1.0nm,0.3s,baz=235,slow=16,SNR=4.3						
MKAR	**Makanchi Array**	**37.41**	**350**	P	**P**	**06 25 11.3**	**-1.3**
	0.6nm,0.6s,baz=167,slow=8.6,SNR=6.7						
SONM	**Songino Array**	**39.88**	**16**	P	**P**	**06 25 35.9**	**+2.4**
	0.8nm,0.6s,baz=200,slow=2.9,SNR=2.3						
KURBB	**Kurchatov Arra**	**41.78**	**348**	P	**P**	**06 25 48.6**	**-0.4**
	0.2nm,0.4s,baz=174,slow=7.3,SNR=2.6						
WRA	**Warramunga Arr**	**52.01**	**125**	P	**P**	**06 27 08.6**	**-0.8**
	0.4nm,0.5s,baz=300,slow=10.0,SNR=20						
ASAR	**Alice Springs**	**53.65**	**129**	P	**P**	**06 27 22.1**	**+0.6**
	0.8nm,0.7s,baz=310,slow=7.2,SNR=8.4						
BRTR	**Keskin Array B**	**58.70**	**311**	P	**P**	**06 27 56.1**	**-1.4**
	0.3nm,0.4s,baz=87,slow=8.5,SNR=2.7						
FINES	**FINESS Array B**	**69.39**	**332**	P	**P**	**06 29 08.4**	**+1.3**
	0.9nm,0.8s,baz=112,slow=10,SNR=2.3						

2012 APR

*ISCJB **19** 06:19:29.3±0.4,20.18N±0.04×146.60E±0.09, h33km, mb4.1/25, MS2.9/3, Error ellipse: s-maj=11.9km s-min=6.4km az=2.0*

*NEIC **19** 06:19:32.0±1.1,20.21N×146.62E, h42km±10km, mb4.4/3, Error ellipse: s-maj=10.4km s-min=6.6km az=86.0*

*IDC **19** 06:19:32.2±2.4,20.16N×146.65E, h45km±23km, mb3.9/23, mb1 4.1/27, mb1mx3.9/78, mbtmp4.2/27, ML4.2/3, MS3.0/4, Ms1 3.0/4, ms1mx2.6/59, Error ellipse: s-maj=19.6km s-min=12.4km az=87.0*

ISC 19 06:19:31.3±0.6, 20.24N±0.06×146.6E±0.1, h35km, n44, σ0§89/42, mb4.2/25, MS2.8/3, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**6.82**	**194**	P	**Pn**	**06 21 10.0**	**+1.1**
	5.0nm,0.3s,baz=24,slow=20,SNR=2.9						
GUMO				S	**Sn**	**06 22 25.1**	**-0.2**
	3.1nm,0.3s,baz=193,slow=18,SNR=2.4						
CBIJ	**Chichi jima**	**7.94**	**330**	P	**Pn**	**06 21 24.9**	**+0.6**
CBIJ				S	**Sn**	**06 22 51.0**	**-1.9**
JCJ	**Chichijima**	**7.94**	**330**	P	**Pn**	**06 21 24.9**	**+0.6**
	baz=274,slow=19						
JCJ				S	**Sn**	**06 22 51.0**	**-1.9**
	12nm,0.3s,baz=294,slow=20,SNR=4.5						
MJAR	**Matsushiro Arr**	**17.83**	**337**	P	**Pn**	**06 23 36.9**	**+0.1**
	0.7nm,0.3s,baz=158,slow=11,SNR=7.4						
JOW	**Kunigami**	**18.04**	**295**	*e*Pn	**Pn**	**06 23 38.8**	**-0.5**
JNU	**Nakatsue**	**19.00**	**316**	P	**Pn**	**06 23 51.6**	**+0.5**
	0.5nm,0.3s,baz=126,slow=8.5,SNR=3.9						
JNU				LR	LR	06 30 12.7	
	comp=Z,43nm,21.7s,baz=118,slow=34						
H11S3	**WAKE ISLAND Hy**	**19.02**	**92**	T	T	06 43 18.7	
	baz=279,slow=74,SNR=8.1						
H11S1	**WAKE ISLAND Hy**	**19.03**	**92**	T	T	06 43 12.2	
	baz=279,slow=74,SNR=4.6						
H11S2	**WAKE ISLAND Hy**	**19.04**	**92**	T	T	06 43 17.7	
	baz=279,slow=74,SNR=4.6						
H11N1	**WAKE ISLAND Hy**	**19.07**	**88**	T	T	06 43 24.5	
	baz=274,slow=74,SNR=8.3						
H11N2	**WAKE ISLAND Hy**	**19.07**	**88**	T	T	06 43 25.7	
	baz=274,slow=74,SNR=7.5						
H11N3	**WAKE ISLAND Hy**	**19.09**	**88**	T	T	06 43 26.0	
	baz=274,slow=74,SNR=5.9						
KSRS	**Korea Array**	**23.64**	**321**	P	**P**	**06 24 39.8**	**+0.5**
	6.4nm,0.7s,baz=146,slow=8.8,SNR=25						
KSAR	**Wonju Array Be**	**23.65**	**320**	P	**P**	**06 24 39.8**	**+0.3**
USRK	**Ussuriysk Ar.**	**26.82**	**336**	P	**P**	**06 25 10.7**	**+2.4**
	1.8nm,0.7s,baz=170,slow=12,SNR=4.7						
TNTI	**Ternate**	**26.99**	**227**	*e*P	**P**	**06 25 10.1**	**0.0**
HNR	**Honiara**	**32.27**	**155**	LR	LR	06 38 42.2	
	comp=Z,50nm,19.1s,baz=298,slow=36						
PETK	**Petropavlovsk-**	**33.91**	**12**	LR	LR	06 37 05.1	
	comp=Z,20nm,21.1s,baz=183,slow=31						
MA2	**Magadan**	**39.41**	**3**	P	**P**	**06 26 57.9**	**+0.3**
	3.3nm,0.5s,baz=212,slow=3.5,SNR=4.7						
MA2				LR	LR	06 42 29.0	
	comp=Z,9.8nm,19.4s,baz=153,slow=35						
WRA	**Warramunga Arr**	**41.70**	**197**	P	**P**	**06 27 15.4**	**-1.5**
	0.6nm,0.5s,baz=19,slow=8.2,SNR=7.2						
WRA				PcP	**PcP**	**06 29 11.9**	**-1.4**
	1.0nm,0.8s,baz=13,slow=3.1,SNR=5.9						
SONM	**Songino Array**	**42.51**	**320**	P	**P**	**06 27 23.6**	**+0.1**
	1.3nm,0.6s,baz=94,slow=4.8,SNR=2.6						
SEY	**Seymchan**	**42.85**	**4**	P	**P**	**06 27 26.9**	**+1.1**
	1.4nm,0.5s,baz=180,slow=8.1,SNR=6.4						
CMAR	**Chiang Mai Arr**	**44.89**	**276**	P	**P**	**06 27 43.9**	**+1.0**
	1.4nm,0.4s,baz=105,slow=3.1,SNR=3.7						
ASAR	**Alice Springs**	**45.36**	**196**	P	**P**	**06 27 45.5**	**-0.9**
	0.3nm,0.4s,baz=16,slow=11,SNR=4.1						
ZALV	**Zalesovo Beam**	**57.34**	**322**	P	**P**	**06 29 15.9**	**+0.1**
	1.7nm,0.4s,baz=106,slow=7.7,SNR=9.1						
ZALV				PcP	**PcP**	**06 30 09.1**	**-0.4**
	0.7nm,0.4s,baz=85,slow=4.5,SNR=2.4						
MKAR	**Makanchi Array**	**58.03**	**313**	P	**P**	**06 29 21.6**	**+0.8**
	0.8nm,0.6s,baz=86,slow=9.3,SNR=7.9						
MKAR				PcP	**PcP**	**06 30 12.5**	**-0.1**
	0.8nm,0.7s,baz=87,slow=6.1,SNR=4.2						
KURK	**Kurchatov**	**60.72**	**317**	P	**P**	**06 29 40.1**	**+0.8**
KURBB	**Kurchatov Arra**	**60.77**	**317**	P	**P**	**06 29 40.1**	**+0.5**
	1.8nm,0.5s,baz=92,slow=7.7,SNR=22						
ILAR	**Eielson Array**	**61.89**	**26**	P	**P**	**06 29 45.9**	**-1.1**
	1.6nm,0.9s,baz=254,slow=6.1,SNR=4.6						
BVAR	**Borovoye Array**	**65.85**	**320**	P	**P**	**06 30 13.7**	**+0.5**
	2.3nm,0.5s,baz=90,slow=7.2,SNR=14						
INK	**Inuvik**	**67.63**	**23**	P	**P**	**06 30 24.4**	**+0.1**
	1.9nm,0.8s,baz=252,slow=6.5,SNR=9.1						
INK	**Inuvik**	**67.63**	**23**	P	**P**	**06 30 24.4**	**+0.1**
	1.4nm,1.3s						
ARU	**Arti**	**72.32**	**324**	P	**P**	**06 30 53.3**	**0.0**
	4.7nm,0.2s,baz=279,slow=18,SNR=3.6						
ABKAR	**Akbulak array**	**72.81**	**317**	*e*P	**P**	**06 30 56.2**	**-0.1**
	0.3nm,0.3s						
YKA	**Yellowknife Ar**	**76.23**	**28**	P	**P**	**06 31 16.1**	**+0.2**
	1.7nm,0.7s,baz=288,slow=5.6,SNR=29						
RES	**Resolute Bay**	**77.73**	**14**	P	**P**	**06 31 24.6**	**+0.4**
	2.0nm,0.8s,baz=341,slow=4.6,SNR=13						
ARCES	**ARCESS Array B**	**81.30**	**342**	P	**P**	**06 31 44.3**	**+0.6**
	2.3nm,0.8s,baz=52,slow=7.6,SNR=10						
NVAR	**Mina Array Bea**	**81.52**	**52**	P	**P**	**06 31 45.7**	**0.0**
	0.6nm,0.7s,baz=260,slow=8.7,SNR=3.2						
FFC	**Flin Flon**	**85.34**	**33**	*e*P	**P**	**06 32 05.2**	**+0.4**
	7.5nm,1.1s						
FINES	**FINESS Array B**	**85.85**	**335**	P	**P**	**06 32 06.4**	**-0.8**
	2.4nm,0.4s,baz=66,slow=3.9,SNR=27						
PDAR	**Pinedale Array**	**86.14**	**46**	P	**P**	**06 32 09.0**	**-0.4**
	0.3nm,0.9s,baz=335,slow=4.0,SNR=2.5						
ULM	**Lac du Bonnet**	**90.85**	**35**	P	**P**	**06 32 30.9**	**-0.4**
	1.9nm,0.8s,baz=265,slow=5.1,SNR=4.1						
HFS	**Hagfors**	**91.28**	**338**	P	**P**	**06 32 31.5**	**-1.5**
	1.1nm,0.4s,baz=83,slow=4.6,SNR=5.0						
LPAZ	**La Paz**	**146.81**	**89**	PKPbc	**PKPab**	**06 39 12.2**	**-0.6**
	1.8nm,0.5s,baz=2.8,slow=2.8,SNR=8.4						

MAN 19 06:21:18, 12.67N×124.85E, h21km, mb4.4, ML3.3, MS3.1, 1C-1D, Samar

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CNP	**Catarman**	**0.24**	**230**	*e*P	Pb	06 21 25.8	+1.8
CNP				*e*S	Sb	06 21 32.9	+4.7
PVCP	**Virac**	**1.15**	**324**	*e*P	Pn	06 21 37.9	-0.9
PVCP				*e*S	Sn	06 21 54.7	+0.8
BESP	**Borongan**	**1.20**	**151**	*e*P	Pn	06 21 38.6	-1.0
BESP				*e*S	Sn	06 21 56.5	+1.2
PLP	**Palo**	**1.50**	**175**	*e*P	Pn	06 21 43.4	-0.3
PLP				*e*S	Sb	06 22 03.3	-0.4
RCP	**Roxas**	**2.33**	**242**	*e*P	Pn	06 21 56.5	+1.3

*ISN **19** 06:27:00.1±1.8,32.37N×47.08E, h8km±7km, ML3.6*

*CSEM **19** 06:27:03.6±0.2,32.33N×46.86E, h2km, ML3.6, Error ellipse: s-maj=5.2km s-min=3.8km az=16.0*

TEH 19 06:27:03.6, 32.43N×47.02E, h9km, ML3.6, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IKFM	**Kafar-mosalman**	**1.29**	**32**	*e*Pg	Pg	06 27 28.8	+0.4
IKFM				*e*Sg	Sn	06 27 48.9	+3.6
IKFM				*e*AMB	AMB	06 27 55.9	
	comp=Z,99nm,0.2s						
SHGR	**Shooshtar-Gavs**	**1.55**	**102**	*e*Pg	Pg	06 27 35.7	+2.4
SHGR				*e*Sg	Sg	06 27 57.7	+4.4
NSR	**Nassriya**	**1.60**	**208**	*e*Pn	Pn	06 27 30.0	-2.1
	SNR=4.0						
NSR				*i* Sn	Sn	06 27 51.0	-1.9
	SNR=4.0						
IKOM	**Komasi**	**1.79**	**13**	*e*Pn	Pg	06 27 37.8	-0.1
IKOM	**Komasi**	**1.79**	**13**	*e*Pn	Pg	06 27 37.8	-0.1
IGHG	**Ghaleghazi**	**1.93**	**349**	*e*Pn	Pg	06 27 40.3	-0.3
IGHG	**Ghaleghazi**	**1.93**	**349**	*e*Pn	Pg	06 27 40.3	-0.3
IVIS	**Veis**	**2.09**	**356**	*e*Pn	Pb	06 27 41.4	-0.4
IVIS	**Veis**	**2.09**	**356**	*e*Pn	Pb	06 27 41.4	-0.4
BHD	**Baghdad**	**2.37**	**291**	*e*Pn	Pn	06 27 42.0	-0.7
	SNR=4.0						
BHD				*i* Sn	Sn	06 28 12.0	+0.1
	SNR=4.0						
SNGE	**Sanandaj**	**2.67**	**6**	*e*Pn	Pb	06 27 50.1	-1.6
KHMZ	**Khomeyn**	**2.79**	**61**	*e*Pn	Pb	06 27 52.2	-1.6
HAGD	**Aghdareh**	**2.97**	**36**	*e*Pn	Pb	06 27 54.0	-2.8
HAGD				*e*AMB	AMB	06 28 02.0	
	comp=Z,99nm,0.1s						
HAGD	**Aghdareh**	**2.97**	**36**	*e*Pn	Pb	06 27 54.0	-2.8
ASAO	**Ashtian**	**3.28**	**49**	*e*Pn	Pb	06 27 58.9	-3.3
IPIR	**Pirpir**	**3.28**	**85**	*e*Pn	Pn	06 27 58.0	+2.5
IPIR				*e*AMB	AMB	06 29 09.8	
	comp=Z,2μm,0.4s						
IPIR	**Pirpir**	**3.28**	**85**	*e*Pn	Pn	06 27 58.0	+2.5
HKZM	**Kohzaman**	**3.33**	**28**	*e*Pn	Pn	06 27 59.4	+3.3
HKZM				*e*AMB	AMB	06 28 58.0	
	comp=Z,99nm,0.4s						
HKZM	**Kohzaman**	**3.33**	**28**	*e*Pn	Pn	06 27 59.4	+3.3
IRAZ	**Razeghan**	**3.83**	**38**	*e*AMB	AMB	06 28 20.3	
	comp=Z,797nm,0.3s						
IRAZ				*e*Pn	Pn	06 28 06.0	+3.1
IKLH	**Kolahrood**	**3.94**	**76**	*e*AMB	AMB	06 28 10.0	
	comp=Z,1μm,0.1s						
IKLH				*e*Pn	Pn	06 28 08.0	+3.5
QAM	**Ghamsar**	**3.94**	**69**	*e*AMB	AMB	06 28 14.3	
	comp=Z,1μm,0.1s						
QAM				*e*Pn	Pn	06 28 07.8	+3.3
GHVR	**GHOM**	**4.12**	**59**	*e*Pn	Pn	06 28 10.1	+3.3
IGAR	**Gharneh**	**4.25**	**89**	*e*Pn	Pn	06 28 11.7	+3.0
IGAR				*e*AMB	AMB	06 28 28.2	
	comp=Z,697nm,0.1s						
ZNJK	**Zanjan**	**4.45**	**18**	*e*Pn	Pn	06 28 14.6	+3.2
IZEF	**Zefreh**	**4.50**	**83**	*e*Pn	Pn	06 28 15.0	+2.7
IZEF				*e*AMB	AMB	06 28 38.0	
	comp=Z,348nm,0.2s						
IZEF	**Zefreh**	**4.50**	**83**	*e*Pn	Pn	06 28 15.0	+2.7
IRAM	**Ramesheh**	**4.59**	**96**	*e*Pn	Pn	06 28 16.1	+2.6
IRAM				*e*AMB	AMB	06 29 16.9	
	comp=Z,325nm,0.1s						
IRAM	**Ramesheh**	**4.59**	**96**	*e*Pn	Pn	06 28 16.1	+2.6
IVRN	**Varamin**	**4.68**	**56**	*e*Pn	Pn	06 28 17.0	+2.4
IVRN				*e*AMB	AMB	06 28 21.7	
	comp=Z,693nm,0.1s						
IVRN	**Varamin**	**4.68**	**56**	*e*Pn	Pn	06 28 17.0	+2.4
CHTH	**Charan**	**4.86**	**43**	*e*Pn	Pn	06 28 20.5	+3.4
IKAZ	**Kazeroun**	**4.91**	**121**	*e*Pn	Pn	06 28 06.3	-12
IKAZ				*e*AMB	AMB	06 29 20.1	
	comp=Z,1μm,0.2s						
IDMV	**Damavand**	**5.21**	**52**	*e*Pn	Pn	06 28 23.8	+1.8
IDMV				*e*AMB	AMB	06 28 46.3	
	comp=Z,276nm,0.4s						
IDMV	**Damavand**	**5.21**	**52**	*e*Pn	Pn	06 28 23.8	+1.8
RTB	**Rutbah**	**5.69**	**278**	*e*Pn	Pn	06 28 26.5	-1.8
	SNR=4.0						
RTB				*i* Sn	Sn	06 29 33.0	-0.7
	SNR=4.0						
IFIR	**Firoozkooh**	**5.74**	**55**	*e*Pn	Pn	06 28 31.6	+2.4
IFIR	**Firoozkooh**	**5.74**	**55**	*e*Pn	Pn	06 28 31.6	+2.4
ISRV	**Sarvestan**	**6.06**	**119**	*e*Pn	Pn	06 28 37.6	+3.9
ISRV				*e*AMB	AMB	06 29 57.0	
	comp=Z,407nm,0.1s						
ISRV	**Sarvestan**	**6.06**	**119**	*e*Pn	Pn	06 28 37.6	+3.9
GHIR	**Ghir-Karzin**	**6.61**	**127**	*e*Pn	Pn	06 28 43.2	+2.1

*BJI **19** 06:30:07.0, 1.15N×90.41E, h6km, mb4.7/49, mB4.8/29, Ms4.6/23, Ms7 4.3/21*

*IDC **

PBKT Sadao Pong 17.98 33 P **P** **06 34 22.9 +0.7**
comp=Z,38nm,0.8s
CHAI Chaiyaphum 18.03 37 P **P** **06 34 24.1 +1.4**
comp=Z,14nm,1.0s,comp=Z,117nm
PHIT Phitsanulok 18.21 31 P **P** **06 34 25.6 +1.0**
comp=Z,35nm,1.0s,comp=Z,495nm
CM01 Chiang Mai Arr 18.60 25 *e*P **P** **06 34 27.8 -1.1**
CM01 *e*Pn **Pn** **06 34 28.0 -1.2**
CM31 Chiang Mai Arr 18.62 25 *e*P **Pn** **06 34 29.8 +0.2**
CMAR Chiang Mai Arr 18.62 25 P **Pn** **06 34 29.8 +0.2**
comp=Z,0.9nm,0.3s,baz=218,slow=14,SNR=43
CMAR LR LR 06 41 48.5
comp=Z,141nm,20.1s,baz=210,slow=37
LEM Lembang 18.67 117 LR LR 06 40 55.7
comp=Z,384nm,20.4s,baz=195,slow=35
CHTO Chiang Mai 18.94 24 P **Pn** **06 34 33.4 0.0**
comp=Z,114nm,0.9s,comp=Z,2µm
XMIS Christmas Isla 18.94 129 *e*P **Pn** **06 34 34.4 +1.0**
comp=Z,159nm,1.4s
CMMT Chiang Mai 18.94 24 P **P** **06 34 32.3 -0.5**
comp=Z,24nm,0.9s,comp=Z,666nm
LAMP Lampang 18.98 26 P **Pn** **06 34 34.4 +0.6**
comp=Z,16nm,1.0s,comp=Z,117nm
KSM Kuching 19.45 90 *e*P **Pn** **06 34 38.5 -1.1**
comp=Z,39nm,1.0s
HYB Hyderabad 19.90 323 *i* P **Pn** **06 34 45.0 +0.1**
HYB *e* 06 34 51.0
HYB *e*S **Sn** **06 38 32.0 +3.1**
HYB Hyderabad 19.90 323 *e*P **P** **06 34 43.1 -0.2**
HYB IAmb IAmb 06 34 52.5
comp=Z,86nm,1.3s
CMAI Chiengmai2 19.99 23 P Pn 06 34 46.5 +0.4
comp=Z,151nm,1.1s,comp=Z,7µm
KPJI Karang Pucung 20.07 116 P Pn 06 34 55.7 +8.8
comp=Z,42nm,0.9s
SKNT Sakolnakorn 20.08 39 P **P** **06 34 45.8 +0.6**
comp=Z,17nm,1.0s
STKI Sintang 20.68 94 P Pn 06 34 53.9 -0.2
comp=Z,73nm,0.7s,comp=Z,22µm
SMRI Semarang 21.32 114 P P 06 35 10.7 +12
SMRI Semarang 21.32 114 *e*P **P** **06 34 56.5 -2.2**
comp=Z,168nm,1.2s
SBUM Sibu 21.38 87 *e*P **P** **06 34 60.0 +0.6**
comp=Z,30nm,0.8s
GOA Goa 21.80 311 *e*P **P** **06 35 06.2 +2.5**
NGP Nagpur 22.66 330 *e*P **P** **06 35 11.5 -1.5**
NGP IAmb IAmb 06 35 40.9
comp=Z,149nm,2.0s
BOK Bokaro 22.67 348 *e*P **P** **06 35 13.0 -0.1**
BOK IAmb IAmb 06 35 32.5
comp=Z,25nm,0.6s
POO Poona 23.75 316 *e*P **P** **06 35 24.7 +0.5**
POO IAmb IAmb 06 35 27.9
comp=Z,10nm,0.7s
SHL Shillong 23.94 2 *e*P **P** **06 35 25.0 -1.1**
SHL IAmb IAmb 06 35 34.3
BHPL Bhopal 25.23 330 *e*P **P** **06 35 34.8 -2.9**
BHPL IAmb IAmb 06 35 41.0
JAGI Jajag, Banyuwa 25.26 113 *e*P **P** **06 35 40.4 +2.4**
comp=Z,23nm,0.9s
QIZ Qiongzhong 25.49 46 P **P** **06 35 43.0 +3.0**
QIZ S **S** **06 40 08.8 +1.3**
QIZ LR LR
comp=Z,1µm,13.2s
QIZ LR LR
comp=Z,820nm,12.1s
QIZ LR LR
comp=Z,600nm,12.1s
KKM Kota Kinabalu 25.70 79 *e*P **P** **06 35 42.1 -0.1**
comp=Z,99nm,1.4s
KMI Kunming 26.14 25 P **P** **06 35 48.5 +2.4**
KMI pP sP 06 35 52.5 +2.1
KMI sP pP 06 35 54.8 +5.6
KMI S **S** **06 40 24.3 +6.2**
KMI pmax pmax
comp=Z,14nm,0.9s
KMI pmax pmax
comp=Z,74nm,3.2s
KMI LR LR
comp=Z,400nm,22.4s
KMI LR LR
comp=Z,480nm,19.6s
KMI LR LR
comp=Z,340nm,11.9s
DMN Daman 26.53 349 *e*P **P** **06 35 53.3 +3.6**
comp=Z,108nm,0.9s
GUN Gumba 26.68 350 *e*P **P** **06 35 53.7 +2.5**
GKN Gorkha 27.01 348 *e*P **P** **06 35 56.4 +2.5**
KOLN Koldanda 27.02 346 *e*P **P** **06 35 54.6 +0.5**
comp=Z,24nm,0.8s
PYUN Piuthan 27.49 345 *e*P **P** **06 35 58.5 +0.2**
comp=Z,51nm,0.8s
DANN Dangsing 27.54 346 *e*P **P** **06 36 00.1 +1.3**
MYLDM Lahad Datu 27.84 82 *e*P **P** **06 36 01.4 0.0**
MYLDM *e*pP **pP** **06 36 03.9 -0.5**
GYA Guiyang 29.10 30 P **P** **06 36 13.3 +0.8**
GYA pmax pmax
comp=Z,10.0nm,0.8s
SMLA Simla 32.18 338 *e*P **P** **06 36 39.5 0.0**
DHRM DHARAMSHALA 33.51 337 *e*P **P** **06 36 50.2 -1.3**
BATI Baumata 34.67 110 LR LR 06 52 33.2
comp=Z,292nm,20.2s,baz=306,slow=39
DAV Davao City (W) 35.06 80 LR LR 06 52 39.9
comp=Z,85nm,20.7s,baz=308,slow=38
LZH Lanzhou 36.46 18 *e*P P 06 37 22.1 +5.3
LZH pP sP 06 37 24.9 +3.8
LZH sP pP 06 37 27.0 +7.1
LZH pmax pmax
comp=Z,33nm,1.2s
LZH pmax pmax
comp=Z,180nm,5.7s
LZH LR LR
comp=Z,390nm,13.2s
LZH LR LR
comp=Z,810nm,15.8s
LZH LR LR
comp=Z,760nm,15.8s
WHN Wuhan 36.48 35 ⇓P P 06 37 25.1 +8.3
WHN S S 06 43 18.9 +20
WHN LR LR
comp=N,780nm,12.9s
WHN LR LR
comp=E,770nm,11.6s
WHN LR LR
comp=Z,780nm,16.6s
YULB Yu-li 36.67 51 *e*P **P** **06 37 18.6 0.0**
comp=Z,24nm,1.3s
WSAR Wadi Sarin 37.98 307 LR LR 06 51 14.8
comp=Z,353nm,19.3s,baz=138,slow=33
GTA Gaotai 38.60 11 P **P** **06 37 35.6 +0.7**
GTA pP sP 06 37 40.0 +0.8
GTA sP pP 06 37 42.6 +4.6
GTA S **S** **06 43 31.3 0.0**
GTA pmax pmax
comp=Z,7.0nm,1.0s
GTA pmax pmax
comp=Z,92nm,5.1s
GTA LR LR
comp=Z,410nm,14.9s
GTA LR LR
comp=Z,770nm,15.5s
GTA LR LR
comp=Z,220nm,15.7s
FITZ Fitzroy Crossi 39.40 121 P **P** **06 37 39.3 -2.4**
comp=Z,3.7nm,0.8s,baz=292,slow=10
KSH Kashi 40.19 342 P P 06 37 53.5 +5.4
KSH sP sP 06 38 00.9 +8.4
KSH PcP **PcP** **06 39 54.1 +1.8**
KSH S **S** **06 44 01.4 +6.3**
KSH pmax pmax
comp=Z,43nm,1.0s
KSH pmax pmax
comp=Z,240nm,3.1s
KSH LR LR
comp=N,250nm,6.2s
KSH LR LR
comp=E,290nm,5.4s
KSH LR LR
comp=Z,770nm,13.4s
NJ2 Nanjing 40.25 38 *e*P **P** **06 37 47.8 -0.8**
NJ2 pmax pmax
comp=Z,24nm,0.5s
SFK Sufi-Kurgan 41.45 340 P **P** **06 37 58.4 -0.2**
SFK pmax pmax
comp=Z,17nm,0.9s
TARG Taragay, Kyrgy 41.73 345 *e*P **P** **06 38 01.2 0.0**
comp=Z,12nm,1.1s
WMQ Urumqi 42.23 357 P **P** **06 38 04.5 -0.2**
WMQ pP sP 06 38 10.8 +1.7
WMQ S **S** **06 44 32.3 +7.1**
WMQ pmax pmax
comp=Z,18nm,0.6s
WMQ pmax pmax
comp=Z,220nm,8.1s
WMQ LR LR
comp=Z,570nm,6.1s
WMQ LR LR
comp=Z,900nm,19.1s
WMQ LR LR
comp=Z,450nm,29.3s
H01W3 Cape Leeuwin H 42.27 151 T T 07 23 04.2
baz=326,slow=74,SNR=5.9
KDJ Kajisay 42.27 345 *e*P **P** **06 38 06.0 +0.7**
comp=Z,13nm,1.2s
KDJ Kajisay 42.27 345 *e*P **P** **06 38 06.0 +0.7**
KDJ pmax pmax
comp=Z,13nm,1.2s
H01W2 Cape Leeuwin H 42.28 151 T T 07 23 06.1
baz=326,slow=74,SNR=11
H01W1 Cape Leeuwin H 42.28 151 T T 07 23 05.0
baz=326,slow=74,SNR=8.9
PDGK Podgornoye 42.86 348 P **P** **06 38 08.8 -1.2**
PDGK pmax pmax
comp=Z,8.0nm,1.1s
HHC Hu-ho-hao-te 43.42 23 *e*P **P** **06 38 14.0 -0.5**
HHC pmax pmax
comp=Z,12nm,1.0s
HHC pmax pmax
comp=Z,20nm,6.1s
AAK Ala-Archa 43.49 342 P **P** **06 38 15.3 +0.2**
comp=Z,2.5nm,0.9s,baz=193,slow=7.5,SNR=4.4
AAK Ala-Archa 43.49 342 *e*P **P** **06 38 15.8 +0.6**
comp=Z,11nm,1.1s
AAK Ala-Archa 43.49 342 P **P** **06 38 15.4 +0.2**
AAK pmax pmax
comp=Z,7.0nm,1.0s
JOW Kunigami 43.86 52 LR LR 06 55 59.4
comp=Z,355nm,21.7s,baz=230,slow=35
MNAS Manas 43.99 340 P P 06 38 26.7 +7.5
MNAS pmax pmax
comp=Z,5.0nm,1.1s
BJI Beijing 44.73 28 P **P** **06 38 26.1 +1.2**
BJI sP **sP** **06 38 33.1 +3.8**
BJI pmax pmax
comp=Z,13nm,0.8s
BJI LR LR
comp=Z,340nm,14.5s
BJI LR LR
comp=Z,570nm,16.2s
KK31 Karatay Array 45.23 339 *e*P **P** **06 38 28.6 -0.3**
KK31 Karatay Array 45.23 339 *e*P **P** **06 38 28.6 -0.3**
KKAR Karatay Array 45.23 339 *e*P **P** **06 38 28.5 -0.4**
KKAR Karatay Array 45.23 339 *e*P **P** **06 38 28.5 -0.4**
MK01 Makanchi Array 45.70 352 *e*P **P** **06 38 30.9 -1.7**
MK31 Makanchi Array 45.72 352 *e*P **P** **06 38 31.8 -0.9**
MK31 Makanchi Array 45.72 352 *i* P **P** **06 38 31.4 -1.3**
MK31 pmax pmax
comp=Z,6.0nm,0.9s
MKAR Makanchi Array 45.72 352 P **P** **06 38 31.8 -0.9**
comp=Z,2.3nm,0.8s,baz=171,slow=8.5,SNR=17
MKAR LR LR 06 59 03.6
comp=Z,272nm,20.4s,baz=172,slow=38
MKAR Makanchi Array 45.72 352 *e*P **P** **06 38 31.9 -0.9**
comp=Z,33nm,0.8s
MKAR Makanchi Array 45.72 352 *e*P **P** **06 38 31.9 -0.8**
MKAR pmax pmax
comp=Z,33nm,0.8s
MAKZ Makanchi 45.78 352 *e*P **P** **06 38 32.6 -0.6**
comp=Z,5.8nm,1.0s
MAKZ Makanchi 45.78 352 P **P** **06 38 32.3 -0.9**
MAKZ pmax pmax
comp=Z,5.0nm,1.1s
GEYT Alibeck 47.08 324 P **P** **06 38 43.1 -0.5**
comp=Z,5.1nm,0.9s,baz=158,slow=9.6,SNR=6.6
GEYT LR LR 07 00 03.7
comp=Z,146nm,18.8s,baz=110,slow=38
OPO Ambohidratompo 47.33 243 LR LR 06 55 43.7
comp=Z,301nm,18.6s,baz=53,slow=32
WRA Warramunga Arr 47.67 119 P **P** **06 38 46.2 -2.2**
comp=Z,4.2nm,0.8s,baz=297,slow=8.6,SNR=18
WRAB Tennant Creek 47.67 119 *e*P **P** **06 38 45.4 -3.1**
WRAB pmax pmax
comp=Z,8.0nm,1.1s
WB2 Warramunga Arr 47.68 119 *e*P **P** **06 38 47.3 -1.2**
comp=Z,12nm,0.9s
SONM Songino Array 48.07 14 P **P** **06 38 51.9 +0.6**
comp=Z,17nm,0.7s,baz=194,slow=9.3,SNR=34
SONM LR LR 07 02 41.9
comp=Z,219nm,18.4s,baz=254,slow=40
SONA1 Songino Array 48.09 14 *e*P **P** **06 38 51.2 -0.2**
DGZ Jazzator, Alta 48.10 357 *i* P **P** **06 38 48.2 -3.3**
DGZ pmax pmax
comp=Z,1.0nm,0.8s
ULN Ulaanbaatar 48.27 15 *e*P **P** **06 38 52.8 0.0**
comp=Z,10nm,0.9s
ULN Ulaanbaatar 48.27 15 *e*P **P** **06 38 51.2 -1.6**
ULN pmax pmax
comp=Z,4.0nm,0.9s
ATD Arta Tunnel 48.64 284 P **P** **06 38 56.8 +0.7**
comp=Z,5.3nm,0.4s,baz=270,slow=20,SNR=3.1
ASAR Alice Springs 48.75 124 P **P** **06 38 54.2 -2.6**
comp=Z,0.4nm,0.5s,baz=301,slow=7.0,SNR=7.4
ASAR LR LR 06 59 05.8
comp=Z,178nm,19.4s,baz=308,slow=36
JNU Nakatsue 48.96 46 LR LR 06 59 21.6
comp=Z,213nm,22.0s,baz=250,slow=36
RAYN Ar Rayn 49.06 300 *e*P **P** **06 38 59.5 +0.3**
comp=Z,12nm,0.8s
RAYN Ar Rayn 49.06 300 *e*P **P** **06 38 59.5 +0.3**
RAYN pmax pmax
comp=Z,12nm,0.8s
OTUK Ortayu 49.23 344 P **P** **06 38 58.3 -1.7**
OTUK pmax pmax
comp=Z,7.0nm,0.8s
KSAR Wonju Array Be 49.39 39 P **P** **06 39 01.9 +0.6**
KSAR Wonju Array Be 49.39 39 P **P** **06 39 02.0 +0.6**
KSRS Korea Array 49.42 39 P **P** **06 39 01.9 +0.4**
comp=Z,0.8nm,0.4s,baz=215,slow=11,SNR=6.8
KSRS LR LR 07 02 32.7
comp=Z,186nm,18.1s,baz=233,slow=39
HVS Khovu-Aksy 49.51 2 *e*P **P** **06 38 58.5 -3.7**
HVS pmax pmax
comp=Z,22nm,0.9s
ZAK Zakamensk 49.83 10 *e*P **P** **06 39 03.5 -1.2**
ZAK pmax pmax
comp=Z,4.0nm,1.4s
KURBB Kurchatov Arra 50.04 350 P **P** **06 39 05.3 -0.7**
comp=Z,3.0nm,0.9s,baz=170,slow=7.4,SNR=12
KURK Kurchatov 50.12 350 *e*P **P** **06 39 05.7 -1.0**
comp=Z,12nm,1.1s
KURK Kurchatov 50.12 350 *e*P **P** **06 39 04.0 -2.7**
KURK pmax pmax
comp=Z,4.0nm,0.9s
TLY Talaya 51.14 10 *e*P **P** **06 39 14.2 -0.3**
TLY pmax pmax
comp=Z,4.0nm,1.0s
CN2 Changchun 52.13 31 *e*P **P** **06 39 24.6 +2.6**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
ZALV Zalesovo Beam 52.51 356 P **P** **06 39 23.4 -1.1**
comp=Z,5.5nm,0.8s,baz=187,slow=8.6,SNR=11
ZALV LR LR 07 03 06.6
comp=Z,271nm,21.3s,baz=235,slow=38
NVS Novosibirsk 53.53 355 *e*P **P** **06 39 30.0 -2.0**
KMBO Kilima Mbogo 53.65 268 P **P** **06 39 32.7 -1.4**
comp=Z,1.5nm,0.7s,baz=131,slow=3.5,SNR=4.7
BVA0 Borovoye Array 54.09 345 *i* P **P** **06 39 33.4 -2.8**
BVA0 pmax pmax
comp=Z,5.0nm,1.3s
BVAR Borovoye Array 54.09 345 P **P** **06 39 35.1 -1.1**
comp=Z,1.4nm,0.8s,baz=137,slow=14,SNR=7.6
BVAR LR LR 07 03 29.7
comp=Z,556nm,18.6s,baz=162,slow=37
BRVK Borovoye 54.14 345 *e*P **P** **06 39 35.2 -1.4**
comp=Z,3.3nm,0.8s
BRVK Borovoye 54.14 345 *e*P **P** **06 39 34.3 -2.3**
BRVK pmax pmax
comp=Z,3.0nm,1.1s
AB31 Akbulak array 54.43 336 P **P** **06 39 37.7 -1.1**
AB31 pmax pmax
comp=Z,8.0nm,0.9s
ABKAR Akbulak array 54.43 336 *e*P **P** **06 39 38.4 -0.4**
GUMO Guam 54.75 74 LR LR 07 01 41.4
comp=Z,125nm,21.6s,baz=220,slow=34
MDJ Mudanjiang 54.89 33 P P 06 39 48.0 +5.8
MDJ pmax pmax
comp=Z,12nm,1.0s
MDJ pmax pmax
comp=Z,83nm,3.2s
JHJ Hachijo jima 2 55.58 50 LR LR 07 04 57.7
comp=Z,85nm,19.1s,baz=280,slow=38
MAJO Matsushiro 55.89 46 *e*P **P** **06 39 46.5 -3.1**
MAJO pmax pmax
comp=Z,6.0nm,1.5s
MJAR Matsushiro Arr 55.89 46 P **P** **06 39 49.0 -0.6**
comp=Z,0.9nm,0.4s,baz=231,slow=7.5,SNR=5.3
MJAR LR LR 07 06 20.7
comp=Z,118nm,18.2s,baz=250,slow=39
USRK Ussuriysk Ar. 55.97 35 P **P** **06 39 49.8 -0.2**
comp=Z,1.2nm,0.6s,baz=249,slow=7.4,SNR=3.5
USRK LR LR 07 06 43.5
comp=Z,190nm,18.2s,baz=218,slow=39
AKTO Aktyubinsk 56.13 335 P **P** **06 39 52.1 +1.1**
comp=Z,1.2nm,0.7s,baz=162,slow=3.2,SNR=3.2
AKTO Aktyubinsk 56.13 335 P **P** **06 39 51.9 +0.8**
AKTO pmax pmax
comp=Z,9.0nm,1.2s
GNI Garni 56.77 319 LR LR 07 05 57.4
comp=Z,150nm,21.6s,baz=104,slow=38
GNI Garni 56.77 319 *e*P **P** **06 39 52.7 -3.3**
GNI pmax pmax
comp=Z,21nm,0.9s
PMG Port Moresby 57.12 102 LR LR 07 06 08.6
comp=Z,63nm,19.2s,baz=238,slow=38
CTA Charters Tower 58.36 115 P **P** **06 40 06.8 -0.6**
comp=Z,3.6nm,0.7s,baz=265,slow=9.9,SNR=4.5
STKA Stephens Creek 58.37 129 P **P** **06 40 06.3 -0.9**
comp=Z,2.4nm,0.7s,baz=20,slow=6.0,SNR=5.2
STKA LR LR 07 06 50.6
comp=Z,116nm,18.0s,baz=234,slow=38
ZEI Tsey 58.66 321 *e*P P 06 40 16.2 +6.9
ZEI pmax pmax
comp=Z,7.0nm,0.9s
KLR Kul'dur 59.00 30 *e*P **P** **06 40 09.3 -2.0**
BOD Bodaibo 59.07 14 *e*P **P** **06 40 11.3 -0.3**
BOD pmax pmax
comp=Z,12nm,1.0s
KBZ Khabaz 59.78 321 P **P** **06 40 17.8 +1.1**
comp=Z,4.6nm,1.0s,baz=168,slow=5.9,SNR=6.0
KBZ LR LR 07 07 50.7
comp=Z,70nm,21.9s,baz=117,slow=38
KIV Kislovodsk 60.02 322 *e*P **P** **06 40 15.7 -2.9**
KIV pmax pmax
comp=Z,15nm,1.0s
KIV MLR MLR
comp=Z,67nm,16.0s
ZEA Zeya 60.07 24 *e*P P 06 40 24.4 +5.9
ARU Arti 60.58 340 *c* *i*P **P** **06 40 20.7 -1.3**
ARU 06 42 30.9
ARU S **S** **06 48 36.3 -1.6**
ARU SS **SS** **06 52 29.5 -6.8**
ARU pmax pmax
comp=Z,3.0nm,1.0s
ARU MLR MLR
comp=Z,269nm,23.0s
MMAI Mount Meron Ar 60.62 307 LR LR 07 06 26.1
comp=Z,201nm,20.2s,baz=105,slow=36
ASAJ Asahikawa 62.36 40 P **P** **06 40 34.0 -0.3**
comp=Z,1.6nm,0.3s,baz=342,slow=20,SNR=3.4
YSS Yuzh-Sakhalins 63.80 37 *e*P P 06 40 50.8 +7.0
YSS MLR MLR
comp=Z,100nm,17.0s
LSZ Lusaka 64.13 252 P **P** **06 40 45.2 -1.6**
comp=Z,3.1nm,0.9s,baz=90,slow=1.0,SNR=2.6
LSZ LR LR 07 05 19.4
comp=Z,210nm,18.4s,baz=52,slow=33
BRTR Keskin Array B 64.27 314 P **P** **06 40 47.2 0.0**
comp=Z,1.8nm,1.0s,baz=127,slow=9.4,SNR=5.4
BRTR LR LR 07 09 05.7
comp=Z,118nm,22.0s,baz=103,slow=36
VRH Novokhopyorsk 64.42 328 *e*P **P** **06 40 45.9 -1.8**
VRH pmax pmax
comp=Z,10.0nm,0.4s
VSR Storozhevoye 65.79 327 *e*P **P** **06 40 53.4 -3.3**
VSR pmax pmax
comp=Z,10.0nm,1.0s
NKL Nikolayevsk 65.84 30 *e*P **P** **06 40 57.0 0.0**
NKL pmax pmax
comp=Z,22nm,1.0s
YAK Yakutsk 67.04 19 *e*P **P** **06 41 09.0 +4.6**
YAK *e**PP sP 06 41 19.3 +10
YAK *e* 06 41 37.1
YAK *e* 06 43 38.4
YAK *e*S **S** **06 49 58.6 +0.6**
YAK *e**SS sS 06 50 14.7 +11
YAK *e* 06 50 58.5
YAK *e*SS **SS** **06 54 14.6 -2.2**
YAK pmax pmax
comp=Z,30nm,1.0s
YAK pmax pmax
comp=E,6.0nm,1.3s
YAK pmax pmax
comp=N,8.0nm,1.1s
YAK pmax pmax
comp=Z,185nm,5.3s
YAK pmax pmax
comp=E,85nm,5.7s
YAK pmax pmax
comp=N,65nm,5.9s
YAK smax smax
comp=N,54nm,3.3s
YAK smax smax
comp=E,30nm,3.0s
YAK MLR MLR
comp=Z,99nm,19.0s
YAK MLR MLR
comp=N,122nm,17.0s
LBTB Lobatse 68.36 242 *e*P **P** **06 41 13.3 -0.4**
LBTB Lobatse 68.36 242 *e*P **P** **06 41 13.3 -0.4**
MOS Moscow 68.90 331 *e*P **P** **06 41 14.1 -2.2**
MOS *e* 06 41 42.4
OBN Obninsk 69.10 330 *i* P **P** **06 41 15.3 -2.2**
OBN *i* 06 41 22.1
OBN *i* 06 41 38.0
OBN pmax pmax
comp=Z,6.0nm,0.9s
OBN MLR MLR
comp=Z,170nm,21.0s
BOSA Boshof 69.47 239 P **P** **06 41 18.6 -2.0**
comp=Z,4.9nm,0.9s,baz=87,slow=5.4,SNR=5.2
BOSA LR LR 07 09 58.4
comp=Z,132nm,18.5s,baz=49,slow=34
IDI Anoyia 69.62 307 LR LR 07 14 16.4
comp=Z,59nm,20.7s,baz=80,slow=38
HNR Honiara 69.66 101 LR LR 07 15 33.7
comp=Z,25nm,18.1s,baz=280,slow=39
SORM Soroca 70.81 321 ⇑*i*P **P** **06 41 28.8 +0.6**
SORM Soroca 70.81 321 ⇑P **P** **06 41 28.8 +0.6**
KLMR Klimovskoe 70.82 336 *e*P **P** **06 41 24.9 -3.1**
KLMR AMP 06 41 35.2
comp=Z,13nm,0.9s
KLMR Klimovskoe 70.82 336 *e*P **P** **06 41 24.9 -3.1**
KLMR pmax pmax
comp=Z,13nm,0.9s
VRI Vrincioaia 71.12 318 ⇑*i*P **P** **06 41 32.1 +1.9**
VRI Vrincioaia 71.12 318 ⇑P **P** **06 41 32.1 +1.9**
PLOR Plostina 71.17 318 ⇓*i*P **P** **06 41 32.3 +1.8**
PLOR Plostina 71.17 318 ⇓P **P** **06 41 32.3 +1.8**
AKASG Malin Array Be 71.20 324 P **P** **06 41 31.1 +0.6**
comp=Z,0.1nm,0.3s,baz=249,slow=4.0,SNR=5.4
KIEV Kiev 71.21 324 *e*P **P** **06 41 28.1 -2.5**
KIEV pmax pmax
comp=Z,2.0nm,1.1s
TESR Tescani 71.37 319 ⇓*i*P **P** **06 41 32.5 +0.8**
MLR Muntele Rosu 71.53 318 P **P** **06 41 33.3 +0.5**
comp=Z,3.1nm,1.0s,baz=129,slow=6.5,SNR=6.1
MLR Muntele Rosu 71.53 318 ⇑*i*P **P** **06 41 34.4 +1.6**
MLR Muntele Rosu 71.53 318 *e*P **P** **06 41 34.1 +1.3**
MLR Muntele Rosu 71.53 318 ⇑P **P** **06 41 34.4 +1.6**
MAW Mawson 71.69 191 LR LR 07 09 54.0
comp=Z,89nm,18.0s,baz=54,slow=33
PRAR RASCA 71.91 320 ⇑*i*P P 06 41 42.1 +7.1
VOIR 72.12 318 ⇓*i*P **P** **06 41 32.9 -3.4**
VOIR 72.12 318 ⇓P **P** **06 41 32.9 -3.4**
ARR Arges 72.38 317 ⇑*i*P **P** **06 41 38.6 +0.7**
BURAR Bucovina Array 72.64 320 ⇓*i*P **P** **06 41 42.0 +2.6**
BURAR Bucovina Array 72.64 320 ⇓P **P** **06 41 42.0 +2.6**

HERR	**Herculane**	**73.76**	**316**	⇑*iP*		**P**	**06 41 47.6**	**+1.6**
TIXI	**Tiksi**	**74.08**	**12**	*eP*		**P**	**06 41 44.6**	**-2.7**
TIXI				pmax	pmax			
	comp=Z,7.0nm,0.8s							
BZS	**Buzias**	**74.49**	**317**	⇓*iP*		**P**	**06 41 48.2**	**-2.0**
BZS	**Buzias**	**74.49**	**317**	⇓P		**P**	**06 41 48.2**	**-2.0**
PETK	**Petropavlovsk-comp=Z,67nm,20.7s,baz=239,slow=36**	**75.06**	**35**	LR	LR		07 15 39.2	
PET	**Petropavlovsk**	**75.59**	**35**	*eP*		**P**	**06 41 54.8**	**-1.5**
PET				pmax	pmax			
	comp=Z,11nm,1.1s							
STHS	**Stebnicka Huta**	**75.68**	**321**	*eP*		**P**	**06 41 58.5**	**+1.5**
STHS				*es*P		**sP**	**06 42 05.1**	**+3.6**
STHS	**Stebnicka Huta**	**75.68**	**321**	*eP*		**P**	**06 41 58.5**	**+1.5**
STHS				*e*			06 42 05.1	
STHS				pmax	pmax			
	comp=Z,5.0nm,1.1s							
SEY	**Seymchan**	**76.04**	**24**	*eP*		**P**	**06 41 57.4**	**-1.4**
FINES	**FINESS Array B**	**76.84**	**333**	P		**P**	**06 42 02.9**	**-0.5**
	comp=Z,3.9nm,0.9s,baz=102,slow=5.9,SNR=9.4							
FINES				LR	LR		07 17 31.9	
	comp=Z,166nm,20.0s,baz=108,slow=37							
DZM	**Mont Dzumac**	**77.24**	**113**	LR	LR		07 19 30.9	
	comp=Z,116nm,18.1s,baz=200,slow=38							
DZM	**Mont Dzumac**	**77.24**	**113**	*e*LR	LR		07 05 59.5	
	comp=Z,76nm,21.4s							
KRLC	**Kraliky**	**78.65**	**321**	*e*PCP		**PcP**	**06 42 22.3**	**-0.4**
DPC	**Dobruska-Polom**	**78.99**	**321**	*eP*		**P**	**06 42 18.2**	**+2.6**
DPC				*e*PCP		**PcP**	**06 42 24.1**	**-0.1**
DPC	**Dobruska-Polom**	**78.99**	**321**	*eP*		**P**	**06 42 18.2**	**+2.6**
DPC				*e*			06 42 24.1	
ARCES	**ARCESS Array B**	**80.15**	**341**	P		**P**	**06 42 20.4**	**-1.0**
	comp=Z,3.8nm,0.9s,baz=108,slow=8.0,SNR=7.1							
GERES	**GERESS Array B**	**80.42**	**319**	P		**P**	**06 42 22.2**	**-1.2**
	comp=Z,9.1nm,1.1s,baz=100,slow=5.5,SNR=24							
KHC	**Kasperske Hory**	**80.54**	**319**	*e*PCP		**PcP**	**06 42 31.7**	**+0.8**
KHC				*ex*		x	06 42 38.3	
BRG	**Berggiesshubel**	**80.58**	**321**	*eP*		P	06 42 31.8	+7.7
	comp=Z,8.7nm,1.1s							
CLL	**Collm**	**81.23**	**322**	*e*(P)		**P**	**06 42 30.0**	**+2.4**
CLL				*i* sP		**PcP**	**06 42 35.4**	**+1.6**
CLL				*e*			06 42 46.0	
CLL				Lm	MLR		07 19 00.0	
	comp=Z,100nm,21.8s							
CLL				LmH			16 47 00.0	
	comp=N,200nm,18.0s							
CLL				LmH			16 47 00.0	
	comp=E,100nm,20.9s							
CLL				LmV			16 56 00.0	
	comp=Z,100nm,19.6s							
CLL	**Collm**	**81.23**	**322**	*eP*		**P**	**06 42 30.0**	**+2.4**
CLL				*i*			06 42 35.4	
KEST	**Kesra**	**82.22**	**306**	P		**P**	**06 42 32.8**	**-0.5**
	comp=Z,4.9nm,0.9s,baz=22,slow=10.0,SNR=4.0							
KEST				LR	LR		07 21 57.8	
	comp=Z,28nm,20.6s,baz=246,slow=38							
HFS	**Hagfors**	**82.31**	**331**	LR	LR		07 22 40.2	
	comp=Z,94nm,18.5s,baz=116,slow=38							
BILL	**Bilibino**	**83.17**	**22**	⇑*eP*		**P**	**06 42 38.9**	**+1.4**
BILL				*e*			06 45 47.8	
BILL				pmax	pmax			
	comp=Z,2.0nm,1.0s							
BILL				MLR	MLR			
	comp=Z,153nm,17.0s							
NB2	**NORSAR Sudarra**	**83.66**	**331**	P		P	06 42 47.6	+7.4
	comp=Z,0.9nm,0.8s,baz=87,slow=6.2							
NOA	**NORSAR Array B**	**83.66**	**331**	P		**P**	**06 42 39.6**	**-0.6**
	comp=Z,1.0nm,0.8s,baz=98,slow=5.1,SNR=2.4							
NOA				LR	LR		07 23 33.5	
	comp=Z,77nm,19.0s,baz=110,slow=38							
SPITS	**Spitsbergen Ar**	**85.37**	**349**	LR	LR		07 25 29.9	
	comp=Z,254nm,18.9s,baz=115,slow=39							
VNDA	**Vanda**	**87.40**	**168**	LR	LR		07 16 33.9	
	comp=Z,168nm,18.9s,baz=308,slow=32							
EKA	**Eskdalemuir Ar**	**91.06**	**325**	LR	LR		07 26 47.7	
	comp=Z,39nm,21.9s,baz=155,slow=37							
QSPA	**South Pole Qui**	**91.45**	**180**	LR	LR		07 16 35.9	
	comp=Z,99nm,21.1s,baz=303,slow=30							
KOWA	**Kowa**	**94.34**	**285**	LR	LR		07 24 36.9	
	comp=Z,101nm,18.8s,baz=90,slow=35							
DBIC	**Dimbokro**	**95.49**	**277**	LR	LR		07 25 17.1	
	comp=Z,48nm,20.0s,baz=84,slow=35							
PPT2	**Papeete2**	**118.58**	**109**	*e*LR	LR		07 25 10.1	
	comp=Z,123nm,24.8s							
NVAR	**Mina Array Bea**	**132.03**	**31**	PKP		**PKPdf**	**06 49 26.7**	**+0.6**
	comp=Z,0.5nm,0.7s,baz=270,slow=0.9,SNR=3.7							
PDAR	**Pinedale Array**	**132.24**	**20**	PKP		**PKPdf**	**06 49 27.3**	**+0.9**
	comp=Z,0.3nm,0.6s,baz=41,slow=1.7,SNR=2.8							
TXAR	**Lajitas Array**	**146.34**	**23**	PKPbc		**PKPbc**	**06 49 53.4**	**0.0**
	comp=Z,1.8nm,0.7s,baz=260,slow=1.3,SNR=24							

*ISCJB **19** 06:36:30.5±0.6, 45°.81S±0°.04×166°.95E±0°.06, h100km, mb3.8/3, Error ellipse: s-maj=6.0km s-min=5.7km az=178.5*
*WEL **19** 06:36:32.2±1.5, 46°S±5°×167°E±°, h59km±11km, ML4.4/6*
*IDC **19** 06:36:37.0±4.4, 45°.17S×167°.07E, h125km±33km, mb3.6/3, mb1 3.8/5, mb1mx3.5/40, mbtmp4.0/5, Error ellipse: s-maj=67.0km s-min=21.2km az=3.0*
ISC 19 06:36:31.4±0.8, 45°.83S±0°.05×166°.89E±0°.05, h100km, n51, σ1s99/53, mb3.9/3, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PYZ	**Puysegur Point**	**0.37**	**203**	P	**Pn**	**06 36 43.9**	**-2.4**
PYZ	**Puysegur Point**	**0.37**	**203**	S	**Sn**	**06 36 53.0**	**-4.5**
DCZ	**Deep Cove**	**0.41**	**27**	P	**Pn**	**06 36 45.3**	**-1.2**
DCZ	**Deep Cove**	**0.41**	**27**	S	**Sn**	**06 36 55.2**	**-2.7**
WHZ	**Wether Hill Ro**	**0.74**	**95**	P	**Pn**	**06 36 48.6**	**-0.5**
WHZ	**Wether Hill Ro**	**0.74**	**95**	S	**Sn**	**06 37 01.2**	**-1.4**
MLZ	**Mavora Lakes**	**0.98**	**62**	P	**Pn**	**06 36 51.9**	**+0.3**
MLZ	**Mavora Lakes**	**0.98**	**62**	S	**Sn**	**06 37 06.7**	**-0.1**
APZ	**The Paps**	**1.26**	**143**	P	**Pn**	**06 36 54.4**	**-0.3**
APZ	**The Paps**	**1.26**	**143**	S	**Sn**	**06 37 10.8**	**-1.6**
MSZ	**Milford Sound**	**1.37**	**33**	P	**Pn**	**06 36 56.0**	**0.0**
MSZ	**Milford Sound**	**1.37**	**33**	S	**Sn**	**06 37 14.6**	**-0.1**
SYZ	**Scrubby Hill**	**1.71**	**115**	P	**Pn**	**06 37 00.2**	**0.0**
SYZ	**Scrubby Hill**	**1.71**	**115**	S	**Sn**	**06 37 21.7**	**-0.5**
EAZ	**Earnscleugh**	**1.80**	**71**	P	**Pn**	**06 37 02.2**	**+0.8**
EAZ	**Earnscleugh**	**1.80**	**71**	S	**Sn**	**06 37 24.5**	**+0.3**
WKZ	**Wanaka**	**1.80**	**57**	P	**Pn**	**06 37 02.7**	**+1.2**
WKZ	**Wanaka**	**1.80**	**57**	S	**Sn**	**06 37 25.1**	**+0.7**
TUZ	**Tuapeka**	**1.92**	**95**	P	**Pn**	**06 37 03.3**	**+0.4**
TUZ	**Tuapeka**	**1.92**	**95**	S	**Sn**	**06 37 25.4**	**-1.4**
JCZ	**Jackson Bay**	**2.21**	**38**	P	**Pn**	**06 37 07.4**	**+0.6**
HHSZ	**Highcliff Hill**	**2.59**	**93**	P	**Pn**	**06 37 12.1**	**+0.4**
HHSZ	**Highcliff Hill**	**2.59**	**93**	S	**Sn**	**06 37 40.8**	**-1.8**
LBZ	**Lake Benmore**	**2.74**	**59**	P	**Pn**	**06 37 13.3**	**-0.4**
LBZ	**Lake Benmore**	**2.74**	**59**	S	**Sn**	**06 37 45.3**	**-0.9**
ODZ	**Otahua Downs**	**2.76**	**75**	P	**Pn**	**06 37 13.4**	**-0.5**
ODZ	**Otahua Downs**	**2.76**	**75**	S	**Sn**	**06 37 44.4**	**-2.1**
FOZ	**Fox Glacier**	**3.10**	**43**	P	**Pn**	**06 37 18.1**	**-0.3**
RPZ	**Rata Peaks**	**3.64**	**56**	P	**Pn**	**06 37 24.7**	**-1.0**
	28nm,0.3s,baz=222,slow=5.9,SNR=63						
RPZ				S	**Sn**	**06 38 05.5**	**-2.2**
	21nm,0.3s,baz=62,slow=18,SNR=4.9						
RPZ	**Rata Peaks**	**3.64**	**56**	P	**Pn**	**06 37 24.8**	**-0.9**
WVZ	**Waitaha Valley**	**3.90**	**46**	P	**Pn**	**06 37 28.2**	**-0.9**
OXZ	**Oxford**	**4.45**	**58**	P	**Pn**	**06 37 35.1**	**-1.5**
INZ	**Inchbonnie**	**4.51**	**48**	P	**Pn**	**06 37 36.8**	**-0.6**
MQZ	**McQueen's Vall**	**4.62**	**65**	P	**Pn**	**06 37 37.9**	**-1.0**
OKCZ	**Okains Bay**	**4.87**	**67**	P	**Pn**	**06 37 42.4**	**+0.1**
LTZ	**Lake Taylor**	**4.92**	**54**	P	**Pn**	**06 37 41.8**	**-1.2**
DSZ	**Denniston Nort**	**5.41**	**43**	P	**Pn**	**06 37 48.4**	**-1.3**
KHZ	**Kahutara**	**5.88**	**57**	P	**Pn**	**06 37 55.0**	**-0.9**
THZ	**Tophouse**	**5.96**	**49**	P	**Pn**	**06 37 55.7**	**-1.4**
QRZ	**Quartz Range**	**6.47**	**41**	P	**Pn**	**06 38 02.8**	**-1.3**
NNZ	**Nelson**	**6.59**	**48**	P	**Pn**	**06 38 06.8**	**+1.1**
URZ	**Urewera**	**10.72**	**49**	P	**Pn**	**06 38 58.4**	**-3.4**
	1.3nm,0.3s,baz=255,slow=11,SNR=7.8						
URZ				S	**Sn**	**06 40 50.9**	**-8.7**
	0.5nm,0.3s,baz=95,slow=12,SNR=4.5						
STKA	**Stephens Creek**	**24.00**	**297**	P	**P**	**06 41 39.4**	**+2.7**
	3.1nm,0.8s,baz=128,slow=15,SNR=3.1						
ASAR	**Alice Springs**	**34.60**	**298**	P	**P**	**06 43 12.2**	**+1.4**
	1.6nm,0.9s,baz=130,slow=7.6,SNR=8.5						
WRA	**Warramunga Arr**	**37.17**	**303**	P	**P**	**06 43 33.7**	**+1.0**
	1.3nm,0.7s,baz=137,slow=8.0,SNR=13						
KURBB	**Kurchatov Arra**	**122.57**	**311**	PKP	**PKPdf**	**06 55 15.4**	**+1.2**
	0.2nm,0.4s,baz=201,slow=2.0,SNR=3.5						
BRTR	**Keskin Array B**	**145.55**	**277**	PKPbc	**PKPab**	**06 55 59.8**	**+1.5**
	1.0nm,0.6s,baz=140,slow=5.5,SNR=4.8						
SPITS	**Spitsbergen Ar**	**145.60**	**350**	PKP	**PKPab**	**06 55 58.3**	**+1.1**
	15nm,1.1s,baz=45,slow=8.4,SNR=10						
ARCES	**ARCESS Array B**	**149.47**	**334**	PKPbc	**PKPab**	**06 56 08.8**	**-3.9**
	1.1nm,0.8s,baz=80,slow=3.0,SNR=5.6						
AKASG	**Malin Array Be**	**151.70**	**295**	PKPbc	**PKPbc**	**06 56 15.3**	**+2.0**
	1.0nm,0.7s,baz=80,slow=2.3,SNR=3.6						
FINES	**FINESS Array B**	**152.55**	**319**	PKPbc	**PKPbc**	**06 56 16.0**	**+1.2**
	0.9nm,0.7s,baz=104,slow=5.9,SNR=3.5						

IDC 19 06:42:01.6±54.0, 17°.23S×174°.51W, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.5/47, mbtmp3.6/3, Error ellipse: s-maj=1032.0km s-min=165.0km az=80.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**42.22**	**241**	P	P	06 49 57.1	+0.5
	0.4nm,0.3s,baz=101,slow=8.5,SNR=2.2						
WRA	**Warramunga Arr**	**48.41**	**258**	P	P	06 50 45.5	-0.5
	0.4nm,0.4s,baz=98,slow=7.3,SNR=14						
ASAR	**Alice Springs**	**48.55**	**253**	P	P	06 50 46.5	-0.5
	0.6nm,0.7s,baz=88,slow=7.6,SNR=5.4						

IDC 19 06:45:52.5±4.8, 44°.34N×131°.50E, h0km, Error ellipse: s-maj=26.1km s-min=5.4km az=111.0, Priamurye-Northeastern China border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I45RU	**USSURIYSK INFR**	**0.37**	**112**	*i*		06 47 50.0	
	baz=292,slow=337,SNR=14						
USRK	**Ussuriysk Ar.**	**0.37**	**111**	Pg	Pg	06 45 59.6	0.0
	0.5nm,0.3s,baz=291,slow=18,SNR=5.7						
USRK				Lg	Lg	06 46 04.8	
	0.4nm,0.3s,baz=292,slow=32,SNR=5.4						
USRK				*i*		06 47 51.6	
	1.9nm,0.3s,baz=329,slow=18,SNR=12						
I44RU	**PETROPAVLOVSK**	**19.30**	**54**	*i*		08 46 50.0	
	baz=252,slow=327,SNR=0.6						

*ISCJB **19** 06:51:25.4±0.8, 2°.6N±0°.1×91°.79E±0°.08, h10km, mb4.0/13, MS3.4/1, Error ellipse: s-maj=18.1km s-min=9.3km az=28.3*
*IDC **19** 06:51:25.5±1.3, 2°.47N×91°.68E, h0km, mb4.0/10, mb1 4.1/13, mb1mx3.8/65, mbtmp4.0/13, ML3.5/3, MS3.4/1, Ms1 3.4/1, ms1mx2.5/62, Error ellipse: s-maj=37.8km s-min=21.1km az=35.0*
*NEIC **19** 06:51:27.1±0.6, 2°.57N×91°.76E, h10km, mb4.1/4, Error ellipse: s-maj=14.4km s-min=7.6km az=203.0*
ISC 19 06:51:27.3±0.9, 2°.6N±0°.2×91°.75E±0°.10, h10km, n34, σ0s81/31, mb4.0/13, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GSI	**Gunungsitoli**	**5.96**	**102**	*e*Pn	**Pn**	**06 52 56.1**	**+0.4**
PSI	**Prapat**	**7.17**	**88**	Pn	**Pn**	**06 53 11.4**	**-1.0**
	0.6nm,0.3s,baz=133,slow=18,SNR=3.4						
PSI	**Prapat**	**7.17**	**88**	Pn	**Pn**	**06 53 11.4**	**-1.0**
IPM	**Ipoh**	**9.45**	**78**	*e*Pn	**Pn**	**06 53 41.9**	**-1.7**
PALK	**Pallekele**	**11.95**	**293**	Pn	Pn	06 54 15.1	-2.7
	1.4nm,0.3s,baz=115,slow=14,SNR=4.6						
PALK	**Pallekele**	**11.95**	**293**	*e*Pn	**Pn**	**06 54 16.5**	**-1.4**
CMAR	**Chiang Mai Arr**	**17.28**	**24**	P	**Pn**	**06 55 28.5**	**-0.3**
	0.0nm,0.3s,baz=217,slow=12,SNR=4.3						
CMAR	**Chiang Mai Arr**	**17.28**	**24**	P	**Pn**	**06 55 28.5**	**-0.3**
CHTO	**Chiang Mai**	**17.60**	**23**	*e*P	**Pn**	**06 55 32.8**	**0.0**
	1.8nm,0.7s						
LSA	**Lhasa**	**26.97**	**359**	*e*P	P	06 57 04.5	-5.3
	3.9nm,0.7s						
MKAR	**Makanchi Array**	**44.80**	**351**	P	**P**	**06 59 41.5**	**+0.1**
	1.3nm,0.7s,baz=168,slow=9.0,SNR=15						
MKAR	**Makanchi Array**	**44.80**	**351**	P	**P**	**06 59 41.5**	**+0.1**
GEYT	**Alibeck**	**46.75**	**323**	P	**P**	**06 59 57.5**	**+0.6**
	1.6nm,0.4s,baz=137,slow=15,SNR=3.1						
SONM	**Songino Array**	**46.82**	**14**	P	**P**	**06 59 59.2**	**+1.8**
	1.8nm,0.6s,baz=183,slow=5.5,SNR=3.8						
SONM	**Songino Array**	**46.82**	**14**	P	**P**	**06 59 59.2**	**+1.8**
WRA	**Warramunga Arr**	**47.41**	**120**	P	**P**	**07 00 01.9**	**-0.4**
	0.6nm,0.5s,baz=300,slow=6.6,SNR=9.9						
WRA	**Warramunga Arr**	**47.41**	**120**	P	**P**	**07 00 01.9**	**-0.4**
WRAB	**Tennant Creek**	**47.42**	**120**	*e*P	**P**	**07 00 02.8**	**+0.4**
	0.5nm,0.4s						
KSRS	**Korea Array**	**48.02**	**39**	LR	LR	07 22 01.4	
	comp=Z,36nm,18.3s,baz=206,slow=38						
KURBB	**Kurchatov Arra**	**49.15**	**349**	P	**P**	**07 00 16.0**	**+0.7**
	0.8nm,0.5s,baz=168,slow=6.6,SNR=9.6						
KURK	**Kurchatov**	**49.22**	**349**	P	**P**	**07 00 16.0**	**+0.2**
ZALV	**Zalesovo Beam**	**51.51**	**355**	P	**P**	**07 00 33.6**	**+0.5**
	1.2nm,0.4s,baz=182,slow=9.2,SNR=6.5						
ZALV	**Zalesovo Beam**	**51.51**	**355**	P	**P**	**07 00 33.6**	**+0.5**
BVAR	**Borovoye Array**	**53.29**	**344**	P	**P**	**07 00 46.3**	**0.0**
	0.9nm,0.6s,baz=138,slow=6.9,SNR=5.7						
BVAR	**Borovoye Array**	**53.29**	**344**	P	**P**	**07 00 46.3**	**0.0**
ABKAR	**Akbulak array**	**53.83**	**335**	*e*P	**P**	**07 00 50.4**	**+0.1**
	4.0nm,1.4s						
BRTR	**Keskin Array B**	**64.18**	**313**	P	**P**	**07 02 01.9**	**-0.6**
	0.6nm,0.7s,baz=116,slow=6.7,SNR=3.0						
BRTR	**Keskin Array B**	**64.18**	**313**	P	**P**	**07 02 01.9**	**-0.6**
FINES	**FINESS Array B**	**76.28**	**333**	P	**P**	**07 03 15.6**	**-0.5**
	0.8nm,0.6s,baz=57,slow=7.0,SNR=4.4						
FINES	**FINESS Array B**	**76.28**	**333**	P	**P**	**07 03 15.6**	**-0.5**
GERES	**GERESS Array B**	**80.19**	**319**	P	**P**	**07 03 39.0**	**+0.8**
	1.6nm,0.7s,baz=98,slow=5.5,SNR=11						
GERES	**GERESS Array B**	**80.19**	**319**	P	**P**	**07 03 39.0**	**+0.8**
TXAR	**Lajitas Array**	**144.99**	**24**	PKPbc	**PKPab**	**07 11 05.3**	**+0.3**
	0.3nm,0.5s,baz=60,slow=0.6,SNR=8.1						
TXAR	**Lajitas Array**	**144.99**	**24**	PKPbc	**PKPab**	**07 11 05.3**	**+0.3**

*IDC **19** 06:52:07.5±1.2, 1°.22N×91°.99E, h0km, mb3.8/9, mb1 4.0/12, mb1mx3.7/65, mbtmp3.9/12, ML4.2/3, MS3.7/1, Ms1 3.7/1, ms1mx2.7/62, Error ellipse: s-maj=38.2km s-min=18.3km az=45.0*
*NEIC **19** 06:52:09.2±0.6, 1°.18N×91°.91E, h10km, mb4.5/9, Error ellipse: s-maj=13.1km s-min=7.1km az=207.0*
*DJA **19** 06:52:15.2±1.2, 1°.1N±7°×9°.2E±1°.0, h73km±147km, M5.0/9, mb5.1/9, mB5.5/7, MLv5.0/7, Mw(mB)5.0/7*
ISC 19 06:52:13.9±0.7, 1°.30N±0°.09×92°.06E±0°.07, h35km, n49, σ1s99/46, mb4.3/22, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MLSI	**Meulaboh, Aceh**	**5.25**	**56**	P	**Pn**	**06 53 29.8**	**-0.1**
	219nm,0.6s,8μm1.6nm						
BSI	**Banda Aceh**	**5.28**	**38**	P	**Pn**	**06 53 29.8**	**-0.5**
	54nm,1.0s,1μm0.5nm						
TPTI		**5.47**	**69**	P	**Pn**	**06 53 32.4**	**-0.6**
	226nm,0.5s,6μm1.1nm						
TPTI				S	**Sn**	**06 54 31.4**	**-3.4**
	226nm,0.5s,6μm1.1nm						
GSI	**Gunungsitoli**	**5.51**	**90**	P	**Pn**	**06 53 33.1**	**-0.5**
	128nm,0.8s,0.5nm						
GSI	**Gunungsitoli**	**5.51**	**90**	*e*Pn	**Pn**	**06 53 32.8**	**-0.7**
KCSI	**Kotacane, Aceh**	**6.12**	**69**	P	**Pn**	**06 53 41.2**	**-0.7**
KCSI				S	**Sn**	**06 54 49.0**	**-1.7**
LHMI	**Lhok Sumawe**	**6.25**	**51**	P	**Pn**	**06 53 43.4**	**-0.3**
LHMI	**Lhok Sumawe**	**6.25**	**51**	*e*Pn	**Pn**	**06 53 44.6**	**+0.9**
PSI	**Prapat**	**7.02**	**78**	Pn	**Pn**	**06 53 53.5**	**-0.8**
	3.6nm,0.3s,baz=264,slow=8.8,SNR=6.7						
PSI				Sn	**Sn**	**06 55 05.5**	**-7.6**
	0.9nm,0.3s,baz=159,slow=8.6,SNR=1.6						
PSI				LR	LR	06 56 56.5	
	comp=Z,544nm,19.1s,baz=159,slow=41						
SISI	**Saibi**	**7.49**	**110**	P	**Pn**	**06 54 00.4**	**-0.4**
MNSI	**Mandailing Nat**	**7.53**	**94**	P	**Pn**	**06 54 01.0**	**-0.3**
PDSI	**Padang**	**8.68**	**105**	P	**Pn**	**06 54 16.2**	**-0.9**
PPSI	**Pulau Pagai**	**8.91**	**117**	P	**Pn**	**06 54 19.5**	**-0.7**
KULM	**Kulim**	**9.45**	**65**	*e*Pn	**Pn**	**06 54 27.1**	**-0.5**
IPM	**Ipoh**	**9.49**	**70**	*e*Pn	**Pn**	**06 54 28.0**	**-0.3**
MNAI	**Manna**	**12.25**	**117**	*e*Pn	**Pn**	**06 55 04.6**	**-1.4**
PALK	**Pallekele**	**12.79**	**298**	Pn	**Pn**	**06 55 10.2**	**-3.2**
	0.6nm,0.3s,baz=117,slow=16,SNR=2.4						
PALK				Sn	Sn	06 57 17.2	-17
	4.0nm,0.3s,baz=296,slow=5.3,SNR=8.9						
KSM	**Kuching**	**18.24**	**89**	*e*P	**Pn**	**06 56 26.6**	**+2.1**
	9.4nm,0.8s						
CMAR	**Chiang Mai Arr**	**18.34**	**21**	P	**P**	**06 56 24.3**	**-1.2**
	0.5nm,0.3s,baz=196,slow=13,SNR=3.3						
SBUM	**Sibu**	**20.18**	**86**	*e*P	Pn	06 56 47.1	-0.7
	11nm,0.6s						
H08S2	**Diego Garcia H**	**21.45**	**245**	T	T	07 18 40.0	
	baz=65,slow=75,SNR=15						
H08S3	**Diego Garcia H**	**21.45**	**245**	T	T	07 18 38.3	
	baz=65,slow=75,SNR=12						
H08S1	**Diego Garcia H**	**21.46**	**245**	T	T	07 18 39.2	
	baz=65,slow=75,SNR=14						
JAGI	**Jajag, Banyuwa**	**24.06**	**114**	*e*P	**P**	**06 57 26.8**	**+0.6**
	16nm,0.8s						
KKM	**Kota Kinabalu**	**24.55**	**78**	*e*P	**P**	**06 57 30.7**	**-0.1**
	4.4nm,0.5s						
KMI	**Kunming**	**25.84**	**23**	P	**P**	**06 57 47.3**	**+4.8**
KMI				pP	pP	06 57 51.8	-0.7
KMI				pmax	pmax		
	comp=Z,19nm,0.6s						
LSA	**Lhasa**	**28.26**	**358**	*e*P	**P**	**06 58 04.4**	**-0.1**
	comp=Z,10nm,0.7s						
SOEI	**Soe**	**33.89**	**110**	*e*P	**P**	**06 58 57.0**	**+3.1**
	comp=Z,32nm,1.4s						
TPUB	**Ta-pu**	**35.30**	**50**	*e*P	**P**	**06 59 08.3**	**+2.4**
	comp=Z,15nm,1.1s						
TWG	**Pinlang**	**35.38**	**51**	*e*P	**P**	**06 59 09.3**	**+2.8**
	comp=Z,89nm,0.3s						
NJ2	**Nanjing**	**39.67**	**37**	*e*P	**P**	**06 59 46.1**	**+3.3**
NJ2				pmax	pmax		
	comp=Z,16nm,0.5s						
WMQ	**Urumqi**	**42.52**	**355**	P	P	07 00 14.1	+8.0
WMQ				pmax	pmax		
	comp=Z,15nm,0.6s						
WMQ				pmax	pmax		
	comp=Z,92nm,3.9s						
HHC	**Hu-ho-hao-te**	**43.15**	**22**	*e*P	P	07 00 17.0	+5.7
HHC				pmax	pmax		
	comp=Z,16nm,0.9s						
HHC				pmax	pmax		
	comp=Z,78nm,5.3s						
MKAR	**Makanchi Array**	**46.11**	**351**	P	**P**	**07 00 34.0**	**-0.7**
	comp=Z,0.9nm,0.8s,baz=171,slow=8.6,SNR=4.3						
WRA	**Warramunga Arr**	**46.50**	**119**	P	**P**	**07 00 36.8**	**-1.5**
	comp=Z,0.9nm,0.6s,baz=297,slow=8.6,SNR=12						
WRAB	**Tennant Creek**	**46.51**	**119**	*e*P	**P**	**07 00 37.6**	**-0.7**
	comp=Z,3.7nm,0.8s						
AZAR	**Alice Springs**	**47.63**	**124**	P	**P**	**07 00 45.8**	**-1.3**
	comp=Z,0.3nm,0.7s,baz=303,slow=7.9,SNR=3.0						
SONM	**Songino Array**	**47.99**	**13**	P	**P**	**07 00 49.3**	**-0.2**
	comp=Z,1.9nm,0.7s,baz=185,slow=10,SNR=4.4						
ULN	**Ulaanbaatar**	**48.17**	**14**	*e*P	**P**	**07 00 51.5**	**+0.5**
	comp=Z,1.0nm,0.5s						
KS15	**Wonju Array Si**	**48.79**	**38**	*e*P	**P**	**07 00 57.9**	**+2.2**
KURBB	**Kurchatov Arra**	**50.47**	**349**	P	**P**	**07 01 07.6**	**-0.6**
	comp=Z,0.7nm,0.7s,baz=172,slow=7.1,SNR=4.0						
KURK	**Kurchatov**	**50.55**	**349**	*e*P	**P**	**07 01 08.3**	**-0.5**
ZALV	**Zalesovo Beam**	**52.82**	**355**	P	**P**	**07 01 24.5**	**-1.3**
	comp=Z,0.9nm,0.4s,baz=188,slow=6.9,SNR=4.0						
ZALV	**Zalesovo Beam**	**52.82**	**355**	*e*P	**P**	**07 01 24.9**	**-0.9**
BVAR	**Borovoye Array**	**54.61**	**344**	P	**P**	**07 01 37.3**	**-1.6**
	comp=Z,0.3nm,0.4s,baz=146,slow=8.0,SNR=2.7						
TIXI	**Tiksi**	**74.05**	**11**	*e*P	**P**	**07 03 45.6**	**-0.2**
	comp=Z,6.1nm,0.8s						
FINES	**FINESS Array B**	**77.57**	**333**	P	**P**	**07 04 05.3**	**-0.9**
	comp=Z,0.9nm,0.9s,baz=117,slow=5.7,SNR=2.0						
GERES	**GERESS Array B**	**81.37**	**319**	P	**P**	**07 04 27.1**	**-0.1**
	comp=Z,1.1nm,0.7s,baz=103,slow=5.8,SNR=6.9						
TXAR	**Lajitas Array**	**146

BORA	**Eskisehir**	**1.29**	**53**	*i* P	**Pg**	**07 17 08.2**	**+0.1**
BORA				*i* S	**Sg**	**07 17 25.0**	**+0.2**
BORA	**Eskisehir**	**1.29**	**53**	P	**Pg**	**07 17 08.2**	**+0.1**
BORA				S	**Sg**	**07 17 25.0**	**+0.2**
ESKT	**Eskisehir**	**1.40**	**72**	*i* P	**Pg**	**07 17 10.6**	**+0.3**
ESKT				*i* S	**Sg**	**07 17 27.4**	**-1.1**
SEYT	**Eskypehyr**	**1.40**	**72**	P	**Pg**	**07 17 10.6**	**+0.3**
SEYT				S	**Sg**	**07 17 27.4**	**-1.1**
ADVT	**Abdulvahap**	**1.41**	**20**	PN	**Pb**	**07 17 10.3**	**-0.1**
ADVT	**Abdulvahap**	**1.41**	**20**	*e*Pn	**Pb**	**07 17 10.3**	**-0.1**
ARMT	**Armutlu**	**1.47**	**352**	PN	**Pn**	**07 17 11.1**	**+0.1**
ARMT	**Armutlu**	**1.47**	**352**	*e*Pn	**Pn**	**07 17 11.1**	**+0.1**
YLV	**Yalova**	**1.47**	**7**	PN	**Pb**	**07 17 11.4**	**-0.1**
YLV	**Yalova**	**1.47**	**7**	*e*Pn	**Pb**	**07 17 11.4**	**-0.1**
AYDB	**Zeytinkoy-Aydi**	**1.51**	**220**	PN	**Pn**	**07 17 11.1**	**-0.5**
AYDB	**Zeytinkoy-Aydi**	**1.51**	**220**	*e*Pn	**Pn**	**07 17 11.1**	**-0.5**
GULT	**Gulveren**	**1.70**	**39**	PN	**Pn**	**07 17 14.3**	**0.0**
GULT	**Gulveren**	**1.70**	**39**	*e*Pn	**Pn**	**07 17 14.3**	**0.0**

NEIC ***19*** *07:23:23.6±0.0, 17°.45N×95°.86W, h110km, MD4.1(MEX), After MEX.*

MEX 19 07:23:23.6±0.3, **17°.45N×95°.86W, h110**km±9km, **MD4.1, Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VHO	**Vista Hermosa**	**0.92**	**246**	*e*P	Pn	07 23 43.0	-1.1
VHO				*e*S	Sn	07 23 57.9	-1.7
VHO	**Vista Hermosa**	**0.92**	**246**	*e*P	Pn	07 23 43.0	-1.1
VHO				*e*S	Sn	07 23 57.9	-1.7
HUIG	**Huatulco**	**1.69**	**188**	*e*P	Pn	07 23 51.4	-1.3
HUIG				*e*S	Sn	07 24 12.8	-2.0
HUIG	**Huatulco**	**1.69**	**188**	*e*P	Pn	07 23 51.4	-1.3
HUIG				*e*S	Sn	07 24 12.8	-2.0
TPIG	**Tehuac#an**	**1.73**	**304**	*e*P	Pn	07 23 52.0	-1.4
TPIG				*e*S	Sn	07 24 14.5	-1.5
TPIG	**Tehuac#an**	**1.73**	**304**	*e*P	Pn	07 23 52.0	-1.4
TPIG				*e*S	Sn	07 24 14.5	-1.5
TLIG	**Tlapa**	**2.59**	**273**	*e*P	Pn	07 24 03.2	-1.1
TLIG				*e*S	Sn	07 24 34.3	-1.2
TLIG	**Tlapa**	**2.59**	**273**	*e*Pn	Pn	07 24 03.2	-1.1
TLIG				*e*Sn	Sn	07 24 29.0	-6.5

ISK ***19*** *07:28:39.8, 38°.46N×39°.18E, h8km, ML2.4/5*
ISCJB ***19*** *07:28:40.4±0.6, 38°.48N±0°.03×39°.18E±0°.03, h1km±7km, Error ellipse: s-maj=4.9km s-min=4.4km az=168.4*
DDA ***19*** *07:28:40.7, 38°.52N×39°.18E, h7km, Ml2.7*
CSEM ***19*** *07:28:40.4±0.1, 38°.48N×39°.15E, h10km, ML2.7, Error ellipse: s-maj=3.6km s-min=3.1km az=166.0*

ISC 19 07:28:40.7±0.9, **38°.48N**±0°.03×**39°.17E**±0°.03, **h12**km±6km, **n22**, σ0**s56**/36, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELZG	**Elazig**	**0.15**	**278**	*i* P	**Pg**	**07 28 44.4**	**0.0**
ELZG				*i* S	**Sg**	**07 28 47.2**	**+0.1**
ELZG	**Elazig**	**0.15**	**278**	P	**Pg**	**07 28 44.4**	**0.0**
ELZG				S	**Sg**	**07 28 47.2**	**+0.1**
PTK	**Pertek**	**0.45**	**23**	PG	**Pg**	**07 28 49.4**	**-0.3**
PTK	**Pertek**	**0.45**	**23**	*e*Pg	**Pg**	**07 28 49.4**	**-0.3**
MALT	**Malatya**	**0.61**	**255**	PG	**Pg**	**07 28 52.2**	**-0.4**
MALT				SG	**Sg**	**07 29 00.8**	**+0.1**
MALT	**Malatya**	**0.61**	**255**	*e*Pg	**Pg**	**07 28 52.2**	**-0.4**
MALT				*e*Sg	**Sg**	**07 29 00.8**	**+0.1**
TNCL	**Tunceli-Merkez**	**0.70**	**24**	*i* P	Pg	07 28 48.1	-6.2
TNCL				*i* S	**Sg**	**07 29 02.5**	**-1.0**
KEMA	**Kemaliye**	**0.95**	**326**	*i* P	**Pg**	**07 28 58.4**	**-0.7**
KEMA				*i* S	**Sb**	**07 29 12.0**	**+0.2**
KEMA	**Kemaliye**	**0.95**	**326**	P	**Pg**	**07 28 58.4**	**-0.7**
KEMA				S	**Sb**	**07 29 12.0**	**+0.2**
HANI	**Diyarbakir_Han**	**0.97**	**93**	*i* P	**Pb**	**07 28 59.4**	**0.0**
HANI				*i* S	**Sn**	**07 29 14.2**	**+0.4**
HANI	**Diyarbakir_Han**	**0.97**	**93**	P	**Pb**	**07 28 59.4**	**0.0**
HANI				S	**Sn**	**07 29 14.2**	**+0.4**
AKCD	**Akcadag**	**1.00**	**260**	*i* P	**Pg**	**07 28 58.9**	**-1.1**
AKCD				*i* S	**Sb**	**07 29 13.3**	**+0.2**
AKCD	**Akcadag**	**1.00**	**260**	P	**Pg**	**07 28 58.9**	**-1.1**
AKCD				S	**Sb**	**07 29 13.4**	**+0.2**
HEKM	**Malatya_Hekimh**	**1.03**	**293**	*i* P	**Pg**	**07 28 60.0**	**-0.6**
HEKM				*i* S	**Sn**	**07 29 16.6**	**+1.0**
HEKM	**Malatya_Hekimh**	**1.03**	**293**	P	**Pg**	**07 29 00.0**	**-0.6**
URFA	**Urfa**	**1.07**	**195**	PG	**Pg**	**07 29 00.3**	**-1.1**
URFA				SG	**Sb**	**07 29 15.4**	**+0.2**
URFA	**Urfa**	**1.07**	**195**	*e*Pg	**Pg**	**07 29 00.3**	**-1.1**
URFA				*e*Sg	**Sb**	**07 29 15.4**	**+0.2**
DARE	**Darende-Malaty**	**1.33**	**275**	PN	**Pn**	**07 29 05.1**	**0.0**
DARE	**Darende-Malaty**	**1.33**	**275**	*e*Pn	**Pn**	**07 29 05.1**	**0.0**
MAZI	**Mazidag**	**1.43**	**135**	PN	**Pn**	**07 29 07.0**	**+0.4**
MAZI	**Mazidag**	**1.43**	**135**	*e*Pn	**Pn**	**07 29 07.0**	**+0.4**
SURC	**SANLIURFA_SURC**	**1.66**	**196**	*i* P	**Pg**	**07 29 12.6**	**0.0**
SURC				*i* S	**Sg**	**07 29 33.8**	**-0.2**

IDC ***19*** *07:42:49.9±0.7, 32°.50N×46°.94E, h0km, mb4.2/24, mb1 4.2/29, mb1mx4.1/67, mbtmp4.2/29, ML3.8/5, MS3.6/32, Ms1 3.6/32, ms1mx3.4/68, Error ellipse: s-maj=17.1km s-min=12.4km az=176.0*
TEH ***19*** *07:42:50.4, 32°.46N×46°.97E, h10km, ML4.4*
ISCJB ***19*** *07:42:51.4±0.2, 32°.34N±0°.03×46°.96E±0°.02, h20km, mb4.4/77, MS3.7/28, Error ellipse: s-maj=4.0km s-min=2.8km az=5.5*
BJI ***19*** *07:42:51.6, 32°.70N×46°.31E, h42km, mb4.8/25, mB5.0/14, Ms4.3/8, Ms7 4.0/8*
NEIC ***19*** *07:42:51.8±0.3, 32°.39N×46°.95E, h10km, mb4.6/35, ML4.2(THR), MN4.4(TEH), Error ellipse: s-maj=7.2km s-min=4.7km az=186.0*
CSEM ***19*** *07:42:52.6±0.2, 32°.43N×46°.99E, h15km, mb4.5/58, Error ellipse: s-maj=6.7km s-min=4.2km az=11.0*
ISN ***19*** *07:42:52.3±1.6, 32°.31N×47°.01E, h28km±7km, ML4.5*
MOS ***19*** *07:42:53.7±1.3, 32°.47N×47°.04E, h33km, mb4.5/40, Error ellipse: s-maj=7.2km s-min=5.2km az=96.7*
THR ***19*** *07:42:55.6±0.5, 32°.66N×47°.19E, h14km±4km, ML4.2*
GII ***19*** *07:43:03.4±1.3, 32°.42N×46°.99E, h47km*

ISC 19 07:42:53.2±0.4, **32°.42N**±0°.04×**46°.98E**±0°.03, **h20**km, **n316**, σ1**s56**/304, **mb4.5**/77, **MS3.6**/29, **13C-9D, Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKFM	**Kafar-mosalman**	**1.32**	**33**	*e*Pg	**Pn**	**07 43 14.5**	**-2.0**
IKFM				*e*Sg	**Sb**	**07 43 35.4**	**+1.6**
IKFM				*e*AMB	AMB	07 43 37.5	
	comp=Z,99nm,0.6s						
SHGR	**Shooshtar-Gavs**	**1.57**	**101**	*e*Pg	**Pb**	**07 43 22.6**	**+1.0**
SHGR	**Shooshtar-Gavs**	**1.57**	**101**	*e*Pg	**Pb**	**07 43 22.6**	**+1.0**
SHGR	**Shooshtar-Gavs**	**1.57**	**101**	*e*Pg	**Pb**	**07 43 22.6**	**+1.0**
SHGR				AML	AML	07 43 50.4	
	comp=E,6μm,0.6s						
SHGR				AML	AML	07 44 03.6	
	comp=N,7μm,0.6s						
NSR	**Nassriya**	**1.58**	**207**	*e*Pn	**Pn**	**07 43 19.0**	**-1.0**
	SNR=5.0						
NSR				*i* Sn	**Sn**	**07 43 37.0**	**-2.8**
	SNR=5.0						
IVIS	**Veis**	**2.10**	**357**	*e*Pn	**Pn**	**07 43 27.8**	**+0.4**
IVIS	**Veis**	**2.10**	**357**	*e*Pn	**Pn**	**07 43 27.8**	**+0.4**
BHD	**Baghdad**	**2.35**	**292**	*e*Pn	**Pn**	**07 43 32.0**	**+1.4**
	SNR=5.0						
BHD				*i* Sn	**Sn**	**07 44 00.0**	**+1.2**
	SNR=5.0						
ILIN	**Lien**	**2.49**	**360**	*e*Pn	**Pn**	**07 43 34.3**	**+1.5**
ILIN	**Lien**	**2.49**	**360**	*e*Pn	**Pn**	**07 43 34.3**	**+1.5**
SNGE	**Sanandaj**	**2.68**	**6**	*e*Pn	**Pn**	**07 43 37.3**	**+1.8**
SNGE				*e*Sg	**Sb**	**07 44 11.9**	**-1.3**
SNGE	**Sanandaj**	**2.68**	**6**	*e*Pn	**Pn**	**07 43 37.3**	**+1.8**
SNGE				*e*Sg	**Sb**	**07 44 11.9**	**-1.3**
SNGE	**Sanandaj**	**2.68**	**6**	*e*Pn	**Pn**	**07 43 37.3**	**+1.8**
SNGE				*e*Sg	**Sb**	**07 44 11.9**	**-1.3**
KHMZ	**Khomeyn**	**2.83**	**61**	*e*Pn	**Pn**	**07 43 39.1**	**+1.7**
KHMZ	**Khomeyn**	**2.83**	**61**	*e*Pn	**Pn**	**07 43 39.1**	**+1.7**
KHMZ	**Khomeyn**	**2.83**	**61**	*e*Pn	**Pn**	**07 43 39.1**	**+1.7**
KHMZ				AML	AML	07 44 26.3	
	comp=E,464nm,0.6s						
KHMZ				AML	AML	07 44 27.4	
	comp=N,860nm,0.6s						
HAGD	**Aghdareh**	**3.00**	**36**	*e*Pn	**Pn**	**07 43 40.2**	**+0.4**
HAGD				*e*AMB	AMB	07 44 29.8	
	comp=Z,99nm,0.3s						
HAGD	**Aghdareh**	**3.00**	**36**	*e*Pn	**Pn**	**07 43 40.2**	**+0.4**
ASAO	**Ashtian**	**3.31**	**49**	*e*Pn	**Pn**	**07 43 45.3**	**+1.1**
ASAO	**Ashtian**	**3.31**	**49**	*e*Pn	**Pn**	**07 43 45.3**	**+1.1**
ASAO	**Ashtian**	**3.31**	**49**	*e*Pn	**Pn**	**07 43 45.3**	**+1.1**
IPIR	**Pirpir**	**3.31**	**84**	*e*Pn	**Pn**	**07 43 46.1**	**+1.9**
IPIR				*e*AMB	AMB	07 44 53.0	
	comp=Z,15μm,0.5s						
IPIR	**Pirpir**	**3.31**	**84**	*e*Pn	**Pn**	**07 43 46.1**	**+1.9**
HKZM	**Kohzaman**	**3.36**	**28**	*e*Pn	**Pn**	**07 43 45.4**	**+0.7**
HKZM				*e*AMB	AMB	07 44 32.9	
	comp=Z,99nm,0.4s						
HKZM	**Kohzaman**	**3.36**	**28**	*e*Pn	**Pn**	**07 43 45.4**	**+0.7**
IRAZ	**Razeghan**	**3.86**	**39**	*e*Pn	**Pn**	**07 43 53.2**	**+1.6**
IRAZ				*e*AMB	AMB	07 45 08.6	
	comp=Z,8μm,0.6s						
IRAZ	**Razeghan**	**3.86**	**39**	*e*Pn	**Pn**	**07 43 53.2**	**+1.6**
IKLH	**Kolahrood**	**3.97**	**76**	*e*Pn	**Pn**	**07 43 54.7**	**+1.5**
IKLH				*e*AMB	AMB	07 45 04.0	
	comp=Z,6μm,0.4s						
IKLH	**Kolahrood**	**3.97**	**76**	*e*Pn	**Pn**	**07 43 54.7**	**+1.5**
QAM	**Ghamsar**	**3.98**	**69**	*e*Pn	**Pn**	**07 43 55.0**	**+1.8**
QAM				*e*AMB	AMB	07 45 08.4	
	comp=Z,7μm,0.3s						
ZNJK	**Zanjan**	**4.47**	**18**	*e*Pn	**Pn**	**07 44 01.6**	**+1.6**
ZNJK	**Zanjan**	**4.47**	**18**	*e*Pn	**Pn**	**07 44 01.6**	**+1.6**
ZNJK	**Zanjan**	**4.47**	**18**	*e*Pn	**Pn**	**07 44 01.6**	**+1.6**
IZEF	**Zefreh**	**4.54**	**83**	*e*Pn	**Pn**	**07 44 02.4**	**+1.4**
IZEF				*e*AMB	AMB	07 45 25.9	
	comp=Z,3μm,0.4s						
IZEF	**Zefreh**	**4.54**	**83**	*e*Pn	**Pn**	**07 44 02.4**	**+1.4**
IRAM	**Ramesheh**	**4.62**	**96**	*e*Pn	**Pn**	**07 44 03.2**	**+1.1**
IRAM				*e*AMB	AMB	07 45 05.0	
	comp=Z,3μm,0.4s						
IRAM	**Ramesheh**	**4.62**	**96**	*e*Pn	**Pn**	**07 44 03.2**	**+1.1**
IVRN	**Varamin**	**4.72**	**56**	*e*Pn	**Pn**	**07 44 04.2**	**+0.9**
IVRN				*e*AMB	AMB	07 45 30.0	
	comp=Z,3μm,0.3s						
IVRN	**Varamin**	**4.72**	**56**	*e*Pn	**Pn**	**07 44 04.2**	**+0.9**
CHTH	**Charan**	**4.89**	**44**	*e*Pn	**Pn**	**07 44 06.9**	**+1.1**
CHTH	**Charan**	**4.89**	**44**	*e*Pn	**Pn**	**07 44 06.9**	**+1.1**
CHTH	**Charan**	**4.89**	**44**	*e*Pn	**Pn**	**07 44 06.9**	**+1.1**
IKAZ	**Kazeroun**	**4.93**	**121**	*e*Pn	**Pn**	**07 44 08.2**	**+1.8**
IKAZ				*e*AMB	AMB	07 45 12.5	
	comp=Z,10μm,0.4s						
IKAZ	**Kazeroun**	**4.93**	**121**	*e*Pn	**Pn**	**07 44 08.2**	**+1.8**
AHBU	**AHRAM**	**5.14**	**133**	*e*Pn	Pn	07 44 14.4	+5.4
DAMV	**Damavand**	**5.24**	**51**	*e*Pn	**Pn**	**07 44 11.8**	**+1.2**
DAMV	**Damavand**	**5.24**	**51**	*e*Pn	**Pn**	**07 44 11.8**	**+1.2**
DAMV	**Damavand**	**5.24**	**51**	*e*Pn	**Pn**	**07 44 11.8**	**+1.2**
RTB	**Rutbah**	**5.66**	**278**	*e*Pn	**Pn**	**07 44 17.0**	**+0.9**
	SNR=5.0						
RTB				*i* Sn	**Sn**	**07 45 20.5**	**0.0**
	SNR=5.0						
IPAR	**Pars**	**5.80**	**115**	*e*Pn	**Pn**	**07 44 17.4**	**-1.0**
IPAR				*e*AMB	AMB	07 46 20.6	
	comp=Z,2μm,0.4s						
IPAR	**Pars**	**5.80**	**115**	*e*Pn	**Pn**	**07 44 17.4**	**-1.0**
ISRV	**Sarvestan**	**6.08**	**118**	*e*Pn	**Pn**	**07 44 23.7**	**+1.5**
ISRV				*e*AMB	AMB	07 46 46.6	
	comp=Z,4μm,0.8s						
ISRV	**Sarvestan**	**6.08**	**118**	*e*Pn	**Pn**	**07 44 23.7**	**+1.5**
GNI	**Garni**	**7.92**	**347**	Lg	Lg	07 47 07.1	
	comp=Z,2.3nm,0.3s,baz=75,slow=20,SNR=1.7						
GNI				LR	LR	07 47 48.4	
	comp=Z,123nm,19.7s,baz=165,slow=38						
GNI	**Garni**	**7.92**	**347**	*e*P	**Pn**	**07 44 51.0**	**+3.6**
GNI	**Garni**	**7.92**	**347**	*e*P	**Pn**	**07 44 51.0**	**+3.6**
ASF	**Jabal al Asfar**	**8.54**	**271**	Pn	**Pn**	**07 44 54.3**	**-1.5**
	comp=Z,0.9nm,0.3s,baz=46,slow=5.3,SNR=5.7						
ASF				Lg	Lg	07 47 28.0	
	comp=Z,1.0nm,0.3s,baz=38,slow=19,SNR=4.6						
RAYN	**Ar Rayn**	**8.96**	**189**	*e*Pn	**Pn**	**07 45 02.2**	**+0.7**
RAYN	**Ar Rayn**	**8.96**	**189**	*e*Pn	**Pn**	**07 45 02.2**	**+0.7**
HMDT	**Nahal Hemdat**	**9.69**	**272**	Sn	Sn	07 47 14.4	+15
MMAI	**Mount Meron Ar**	**9.77**	**277**	Lg	Lg	07 47 58.3	
	comp=Z,0.8nm,0.3s,baz=167,slow=20,SNR=2.7						
MMAI				LR	LR	07 49 53.8	
	comp=Z,198nm,18.9s,baz=40,slow=44						
DSI	**Dead Sea**	**9.89**	**268**	Sn	Sn	07 47 16.8	+12
BLGI	**Bet Lehem HaGe**	**9.95**	**275**	Sn	Sn	07 47 20.6	+14
HNTI	**Hanita**	**9.96**	**277**	Sn	Sn	07 47 21.9	+15
SLTI	**Sal'it**	**10.10**	**272**	Sn	Sn	07 47 24.7	+15
HRFI	**Mount Harif**	**10.50**	**260**	Sn	Sn	07 47 33.7	+14
GEYT	**Alibeck**	**10.64**	**56**	Pn	**Pn**	**07 45 27.4**	**+2.9**
	comp=Z,0.4nm,0.3s,baz=255,slow=8.8,SNR=4.0						
GEYT				LR	LR	07 50 21.1	
	comp=Z,525nm,18.1s,baz=235,slow=42						
MBRI	**Mt Berech**	**10.67**	**259**	Sn	Sn	07 47 38.7	+15
EIL	**Elat**	**10.68**	**258**	Lg	Lg	07 48 24.7	
	comp=Z,0.4nm,0.3s,baz=41,slow=18,SNR=2.6						
EIL				LR	LR	07 50 13.4	
	comp=Z,259nm,21.5s,baz=66,slow=42						
EIL	**Elat**	**10.68**	**258**	Sn	Sn	07 47 38.5	+15
UOSS	**Minazif**	**11.00**	**130**	*e*Pn	**Pn**	**07 45 29.3**	**-0.1**
UOSS	**Minazif**	**11.00**	**130**	*e*Pn	**Pn**	**07 45 29.3**	**-0.1**
NEY	**Neytrino**	**11.32**	**344**	*e*P	**Pn**	**07 45 37.7**	**+3.8**
	comp=Z,4.0nm,1.2s						
NEY	**Neytrino**	**11.32**	**344**	*e*P	**Pn**	**07 45 37.7**	**+3.8**
NEY				pmax	pmax		
	comp=Z,4.0nm,1.2s						
KBZ	**Khabaz**	**11.74**	**345**	LR	LR	07 51 07.9	
	comp=Z,124nm,21.4s,baz=158,slow=43						
KVAR	**Kislovodsk Arr**	**12.00**	**345**	LR	LR	07 49 59.4	
	comp=Z,91nm,19.7s,baz=152,slow=36						
KIV	**Kislovodsk**	**12.00**	**345**	*e*P	**Pn**	**07 45 47.5**	**+4.4**
KIV				pmax	pmax		
	comp=Z,12nm,1.0s						
KIV				MLR	MLR		
	comp=Z,59nm,11.0s						
SOC	**Sochi**	**12.52**	**335**	*e*P	Pn	07 45 41.6	-8.6
SOC				*e*		07 48 02.5	
SOC				pmax	pmax		
	comp=Z,38nm,1.0s						
SOC				MLR	MLR		
	comp=Z,169nm,15.0s						
BR101	**Keskin Array S**	**13.01**	**308**	*e*Pn	**Pn**	**07 45 58.5**	**+1.4**
BR101	**Keskin Array S**	**13.01**	**308**	*e*Pn	**Pn**	**07 45 58.5**	**+1.4**
BRTR	**Keskin Array B**	**13.01**	**308**	Pn	**Pn**	**07 45 58.5**	**+1.4**
	comp=Z,0.1nm,0.3s,baz=145,slow=15,SNR=5.4						
WSAR	**Wadi Sarin**	**13.77**	**129**	Pn	**Pn**	**07 46 05.5**	**-1.8**
	comp=Z,1.3nm,0.3s,baz=317,slow=8.1,SNR=8.2						
WSAR				Sn	**Sn**	**07 48 32.4**	**-7.4**
	comp=Z,0.5nm,0.3s,baz=170,slow=15,SNR=3.0						
WSAR				LR	LR	07 52 25.5	
	comp=Z,112nm,19.3s,baz=325,slow=42						
ANN	**Anapa**	**14.43**	**332**	*e*P	**P**	**07 46 19.7**	**-3.1**
ANN				pmax	pmax		
	comp=Z,47nm,1.4s						
KBL	**Kabul**	**18.52**	**77**	*e*P	**Pn**	**07 47 10.5**	**+1.7**
	comp=Z,12nm,1.0s						
KBL	**Kabul**	**18.52**	**77**	*e*P	**Pn**	**07 47 10.5**	**+1.7**
	comp=Z,12nm,1.0s						
KBL	**Kabul**	**18.52**	**77**	*e*P	**Pn**	**07 47 10.5**	**+1.7**
KBL				pmax	pmax		
	comp=Z,12nm,1.0s						
IDI	**Anoyia**	**18.57**	**285**	P	**P**	**07 47 06.9**	**-2.0**
	comp=Z,0.4nm,0.3s,baz=301,slow=5.9,SNR=2.2						
IDI	**Anoyia**	**18.57**	**285**	*e*P	**P**	**07 47 06.8**	**-2.0**
	comp=Z,72nm,1.5s						
ABKAR	**Akbulak array**	**19.42**	**26**	*e*P	**P**	**07 47 17.5**	**-0.6**
ABKAR	**Akbulak array**	**19.42**	**26**	*e*P	**P**	**07 47 17.5**	**-0.6**
VSR	**Storozhevoye**	**19.64**	**345**	*e*P	**P**	**07 47 18.6**	**-1.8**
	comp=Z,9.0nm,0.5s						
VSR	**Storozhevoye**	**19.64**	**345**	*e*P	**P**	**07 47 18.6**	**-1.8**
VSR				pmax	pmax		
	comp=Z,9.0nm,0.5s						
AKTK	**Aktyubinsk**	**19.77**	**21**	P	**P**	**07 47 21.1**	**-0.8**
	comp=Z,8.0nm,0.9s						
AKTO	**Aktyubinsk**	**19.77**	**21**	P	**P**	**07 47 19.9**	**-2.0**
	comp=Z,0.4nm,0.3s,baz=198,slow=16,SNR=4.4						
AKTO				LR	LR	07 57 19.5	
	comp=Z,206nm,18.1s,baz=218,slow=44						
AKTO	**Aktyubinsk**	**19.77**	**21**	P	**P**	**07 47 21.1**	**-0.8**
AKTO				pmax	pmax		
	comp=Z,8.0nm,0.9s						
MLR	**Muntele Rosu**	**20.85**	**315**	P	Pn	07 47 35.7	-0.6
	comp=Z,1.5nm,1.0s,baz=109,slow=5.0,SNR=5.6						
MLR	**Muntele Rosu**	**20.85**	**315**	||*i*P	Pn	07 47 39.8	+3.5
MLR	**Muntele Rosu**	**20.85**	**315**	*e*P	Pn	07 47 36.3	0.0
MLR	**Muntele Rosu**	**20.85**	**315**	*e*P	Pn	07 47 36.3	0.0
MLR	**Muntele Rosu**	**20.85**	**315**	*e*P	Pn	07 47 36.3	0.0
SORM	**Soroca**	**21.09**	**324**	||*i*P	**P**	**07 47 36.8**	**+0.6**
SORM	**Soroca**	**21.09**	**324**	P	**P**	**07 47 36.8**	**+0.6**
SORM	**Soroca**	**21.09**	**324**	||P	**P**	**07 47 36.8**	**+0.6**
ITM	**Ithomi**	**21.09**	**290**	*e*P	**P**	**07 47 36.2**	**-0.1**
	comp=Z,54nm,0.8s						
ITM	**Ithomi**	**21.09**	**290**	*e*P	**P**	**07 47 36.2**	**-0.1**
	comp=Z,54nm,0.8s						
ATD	**Arta Tunnel**	**21.14**	**191**	LR	LR	07 56 29.1	
	comp=Z,145nm,19.3s,baz=5.5,slow=39						
VOIR		**21.36**	**314**	||*i*P	**P**	**07 47 39.9**	**+0.6**
VOIR		**21.36**	**314**	P	**P**	**07 47 39.9**	**+0.6**
VOIR		**21.36**	**314**	||P	**P**	**07 47 39.9**	**+0.6**
KK31	**Karatay Array**	**21.38**	**53**	*e*P	**P**	**07 47 41.4**	**+2.0**
KK31	**Karatay Array**	**21.38**	**53**	*e*P	**P**	**07 47 41.4**	**+2.0**
KK31	**Karatay Array**	**21.38**	**53**	*e*P	**P**	**07 47 41.4**	**+2.0**
KKAR	**Karatay Array**	**21.38**	**53**	*e*P	**P**	**07 47 41.6**	**+2.2**
KKAR	**Karatay Array**	**21.38**	**53**	*e*P	**P**	**07 47 41.6**	**+2.2**
KKAR	**Karatay Array**	**21.38**	**53**	*e*P	**P**	**07 47 41.6**	**+2.2**
DOPR	**Dopca**	**21.43**	**315**	||*i*P	**P**	**07 47 40.7**	**+0.8**
DOPR	**Dopca**	**21.43**	**315**	||P	**P**	**07 47 40.7**	**+0.8**
ARR	**Arges**	**21.59**	**313**	||*i*P	**P**	**07 47 44.8**	**+3.2**
ARR	**Arges**	**21.59**	**313**	||P	**P**	**07 47 44.8**	**+3.2**
NIL	**Nilore**	**22.04**	**80**	*e*P	**P**	**07 47 48.2**	**+1.6**
	comp=Z,24nm,1.0s						
NIL	**Nilore**	**22.04**	**80**	*e*P	**P**	**07 47 48.2**	**+1.6**
	comp=Z,24nm,1.0s						
NIL	**Nilore**			pmax	pmax	**07 47 48.2**	**+1.6**
	comp=Z,24nm,1.0s						
FNA	**Florina**	**22.13**	**299**	*e*P	**P**	**07 47 49.8**	**+2.3**
	comp=Z,29nm,1.4s						
FNA	**Florina**	**22.13**	**299**	*e*P	**P**	**07 47 49.8**	**+2.3**
	comp=Z,29nm,1.4s						
FNA	**Florina**	**22.13**	**299**	*e*P	**P**	**07 47 49.8**	**+2.3**
FNA				pmax	pmax		
	comp=Z,29nm,1.4s						
BURAR	**Bucovina Array**	**22.43**	**319**	||*i*P	**P**	**07 47 53.0**	**+2.3**
BURAR	**Bucovina Array**	**22.43**	**319**	||*i*P	**P**	**07 47 53.0**	**+2.3**
BURAR	**Bucovina Array**	**22.43**	**319**	||P	**P**	**07 47 53.0**	**+2.3**
BUR04	**Bucovina Ar. S**	**22.44**	**319**	*e*P	**P**	**07 47 49.9**	**-0.9**
BUR04	**Bucovina Ar. S**	**22.44**	**319**	*e*P	**P**	**07 47 49.9**	**-0.9**
BUR08	**Bucovina Ar. S**	**22.46**	**319**	*e*P	**P**	**07 47 50.8**	**-0.2**
BUR08	**Bucovina Ar. S**	**22.46**	**319**	*e*P	**P**	**07 47 50.8**	**-0.2**
AKASG	**Malin Array Be**	**22.48**	**330**	P	**P**	**07 47 51.0**	**-0.1**
	comp=Z,2.0nm,0.7s,baz=135,slow=9.0,SNR=8.1						
AKBB	**Malin Array Si**	**22.48**	**330**	*e*P	**P**	**07 47 51.8**	**+0.7**
	comp=Z,9.4nm,1.0s						
AKBB	**Malin Array Si**	**22.48**	**330**	*e*P	**P**	**07 47 51.8**	**+0.7**
AKBB				pmax	pmax		
	comp=Z,9.0nm,1.0s						
KIEV	**Kiev**	**22.49**	**329**	*e*P	**P**	**07 47 51.8**	**+0.7**
	comp=Z,8.4nm,1.0s						
KIEV	**Kiev**	**22.49**	**329**	*e*P	**P**	**07 47 51.8**	**+0.7**
	comp=Z,8.4nm,1.0s						
KIEV	**Kiev**	**22.49**	**329**	*e*P	**P**	**07 47 50.7**	**-0.4**
KIEV				pmax	pmax		
	comp=Z,7.0nm,1.0s						
AK11	**Malin Array Si**	**22.49**	**329**	*e*P	**P**	**07 47 52.1**	**+0.9**
AK11	**Malin Array Si**	**22.49**	**329**	*e*P	**P**	**07 47 52.1**	**+0.9**
MNAS	**Manas**	**22.54**	**56**	P	**P**	**07 47

comp=Z,32nm,1.2s
TARG Taragay, Kyrgy 26.18 60 *e*P **P 07 48 27.3 +0.5**
comp=Z,13nm,1.0s
TARG Taragay, Kyrgy 26.18 60 *e*P **P 07 48 27.3 +0.5**
comp=Z,13nm,1.0s
BRVK Borovoye 26.59 32 *e*P **P 07 48 29.4 -0.5**
comp=Z,7.3nm,1.3s
BRVK Borovoye 26.59 32 *e*P **P 07 48 29.5 -0.3**
comp=Z,7.0nm,1.2s
BRVK Borovoye 26.59 32*ce*P **P 07 48 29.5 -0.3**
BRVK pmax pmax
comp=Z,7.0nm,1.2s
BVA0 Borovoye Array 26.61 32 *i* P **P 07 48 28.5 -1.6**
BVA0 pmax pmax
comp=Z,7.0nm,1.1s
BVAR Borovoye Array 26.61 32 P **P 07 48 29.5 -0.6**
comp=Z,2.8nm,0.7s,baz=224,slow=8.1,SNR=21
BVAR LR LR 08 01 28.1
comp=Z,213nm,20.1s,baz=225,slow=42
OJC Ojcow 26.85 319 *e*P **P 07 48 32.7 +0.5**
comp=Z,26nm,1.5s
OJC Ojcow 26.85 319 *e*P **P 07 48 32.7 +0.5**
comp=Z,26nm,1.5s
OJC Ojcow 26.85 319 *e*P **P 07 48 32.7 +0.5**
OJC pmax pmax
comp=Z,27nm,1.5s
PDGK Podgornoye 27.71 57 P **P 07 48 40.0 -0.3**
comp=Z,7.0nm,1.2s
PDGK Podgornoye 27.71 57 P **P 07 48 40.0 -0.3**
PDGK pmax pmax
comp=Z,7.0nm,1.2s
VRAC Vranov 28.25 316 LR LR 08 00 58.6
comp=Z,46nm,19.9s,baz=164,slow=39
KLMR Klimovskoe 28.86 352 *e*P **P 07 48 47.9 -2.2**
KLMR AMP 07 48 52.4
comp=Z,10.0nm,1.5s
KLMR *e*S **S 07 53 37.6 -1.4**
KLMR *e*S **S 07 53 37.6 -1.4**
KLMR Klimovskoe 28.86 352 *e*P **P 07 48 47.8 -2.3**
KLMR *e*S **S 07 53 37.6 -1.4**
KLMR pmax pmax
comp=Z,10.0nm,1.5s
VSU Vasula 29.43 338 *e*P **P 07 48 55.5 +0.4**
VSU pmax pmax
comp=Z,17nm,0.9s
KURBB Kurchatov Arra 29.50 43 P **P 07 48 56.1 +0.3**
comp=Z,3.6nm,1.0s,baz=249,slow=9.5,SNR=13
KURK Kurchatov 29.59 42 *e*P **P 07 48 57.2 +0.6**
KURK Kurchatov 29.59 42 *e*P **P 07 48 56.7 +0.1**
comp=Z,5.0nm,1.0s
KURK Kurchatov 29.59 42*ce*P **P 07 48 56.7 +0.1**
KURK pmax pmax
comp=Z,5.0nm,1.0s
KHC Kasperske Hory 29.99 314 *e*P **P 07 49 02.2 +1.9**
KHC Kasperske Hory 29.99 314 *e*P **P 07 49 02.2 +1.9**
MK01 Makanchi Array 30.47 52 *e*P **P 07 49 04.5 -0.1**
MK01 Makanchi Array 30.47 52 *e*P **P 07 49 04.5 -0.1**
MK31 Makanchi Array 30.47 52 *e*P **P 07 49 04.7 +0.1**
MK31 Makanchi Array 30.47 52 *e*P **P 07 49 04.7 +0.1**
MK31 Makanchi Array 30.47 52 *e*P **P 07 49 04.7 +0.1**
MK32 Makanchi Array 30.47 52 *e*P **P 07 49 04.7 +0.1**
MK32 Makanchi Array 30.47 52 *e*P **P 07 49 04.7 +0.1**
MKAR Makanchi Array 30.47 52 P **P 07 49 04.7 +0.1**
comp=Z,4.6nm,0.9s,baz=248,slow=6.4,SNR=26
MKAR LR LR 08 03 23.1
comp=Z,100nm,21.3s,baz=251,slow=40
MKAR Makanchi Array 30.47 52 *e*P **P 07 49 04.7 +0.1**
comp=Z,27nm,0.9s
MKAR Makanchi Array 30.47 52 *e*P **P 07 49 04.7 +0.1**
comp=Z,27nm,0.9s
VLC Villacollemand 30.78 303 *e*P **P 07 49 08.4 +1.1**
comp=Z,68nm,1.3s
VLC Villacollemand 30.78 303 *e*P **P 07 49 08.4 +1.1**
comp=Z,68nm,1.3s
KEST Kesra 31.22 287 P **P 07 49 09.8 -1.6**
comp=Z,3.3nm,0.8s,baz=68,slow=19,SNR=2.4
KEST Kesra 31.22 287 *e*P **P 07 49 09.8 -1.6**
comp=Z,5.4nm,0.9s
KEST Kesra 31.22 287 *e*P **P 07 49 09.8 -1.6**
comp=Z,5.4nm,0.9s
PYUN Piuthan 31.31 88 *e*P **P 07 49 13.0 +0.7**
DANN Dangsing 31.89 88 *e*P **P 07 49 18.9 +1.4**
FIA0 FINESS Array S 32.05 341 *e*P **P 07 49 17.2 -1.0**
FIA0 FINESS Array S 32.05 341 *e*P **P 07 49 17.2 -1.0**
FIA1 FINESS Array S 32.05 341 *e*P **P 07 49 16.4 -1.8**
FINES FINESS Array B 32.05 341 P **P 07 49 17.2 -1.0**
comp=Z,5.9nm,1.0s,baz=142,slow=9.6,SNR=8.7
FINES LR LR 08 03 27.3
comp=Z,74nm,20.4s,baz=146,slow=39
GKN Gorkha 32.73 88 *e*P **P 07 49 25.2 +0.4**
DMN Daman 33.24 88 *e*P **P 07 49 30.1 +0.7**
comp=Z,40nm,1.0s
KKN Kakani 33.33 88 *e*P **P 07 49 30.6 +0.5**
comp=Z,41nm,0.9s
PKIN Phulchoki 33.50 88 *e*P **P 07 49 31.9 +0.3**
comp=Z,27nm,0.7s
BNI Bardonecchia 33.53 304 *e*P **P 07 49 34.0 +2.4**
comp=Z,12nm,1.0s
BNI Bardonecchia 33.53 304 *e*P **P 07 49 34.0 +2.4**
comp=Z,12nm,1.0s
BNI Bardonecchia 33.53 304 *e*P **P 07 49 34.0 +2.4**
BNI pmax pmax
comp=Z,12nm,1.0s
WMQ Urumqi 33.68 58 P **P 07 49 34.9 +2.1**
WMQ pP sP 07 49 43.8 +2.3
WMQ sP pP 07 49 51.9 +13
WMQ pmax pmax
comp=Z,24nm,1.1s
WMQ pmax pmax
comp=Z,300nm,4.3s
WMQ LR LR
comp=Z,220nm,35.7s
WMQ LR LR
comp=Z,160nm,30.5s
ECH Echery 33.79 310 *e*P **P 07 49 35.5 +1.9**
comp=Z,6.8nm,1.1s
ECH Echery 33.79 310 *e*P **P 07 49 35.5 +1.9**
comp=Z,6.8nm,1.1s
ECH Echery 33.79 310 *e*P **P 07 49 35.5 +1.9**
ECH pmax pmax
comp=Z,7.0nm,1.1s
GUN Gumba 33.80 87 *e*P **P 07 49 35.2 +0.8**
comp=Z,71nm,1.1s
NVS Novosibirsk 33.93 38 *e*P **P 07 49 34.8 +0.1**
JIRN Jiri 34.14 88 *e*P **P 07 49 37.1 -0.3**
comp=Z,37nm,0.8s
ZAA0 Zalesovo Array 34.39 40 *e*P **P 07 49 39.3 +0.5**
comp=Z,3.4nm,0.9s
ZAA0 *e*S **S 07 55 05.8 +0.3**
ZALV Zalesovo Beam 34.39 40 P **S 07 49 38.0 -0.7**
comp=Z,3.2nm,0.7s,baz=246,slow=8.5,SNR=9.8
ZALV LR LR 08 04 24.7
comp=Z,64nm,21.9s,baz=250,slow=38
ZALV Zalesovo Beam 34.39 40 *e*P **P 07 49 38.1 -0.7**
ZALV *e*S **S 07 55 04.3 -1.2**
ZALV Zalesovo Beam 34.39 40 *e*P **P 07 49 38.1 -0.7**
ZALV *e*S **S 07 55 04.3 -1.2**
ZAA1 Zalesovo Array 34.40 40 *e*P **P 07 49 38.0 -0.8**
DGZ Jazzator, Alta 34.55 48 *i* P **P 07 49 39.7 -0.7**
comp=Z,1.0nm,0.8s
DGZ Jazzator, Alta 34.55 48 *i* P **P 07 49 39.7 -0.7**
DGZ pmax pmax
comp=Z,1.0nm,0.8s
KMBO Kilima Mbogo 34.61 197 LR LR 08 03 45.5
comp=Z,159nm,19.4s,baz=279,slow=36
RAMN Ramite 34.71 89 *e*P **P 07 49 41.7 -0.4**
HFS Hagfors 35.34 332 P **P 07 49 45.6 -1.2**
comp=Z,1.0nm,0.3s,baz=154,slow=11,SNR=12
HFS LR LR 08 05 03.9
comp=Z,54nm,19.9s,baz=126,slow=38
NOA NORSAR Array B 36.86 332 LR LR 08 06 34.8
comp=Z,47nm,18.4s,baz=120,slow=39
TAM Tamanrasset 37.77 266 *e*P **P 07 50 08.3 +0.1**
comp=Z,16nm,1.4s
TAM Tamanrasset 37.77 266 *e*P **P 07 50 08.3 +0.1**
TAM pmax pmax
comp=Z,16nm,1.4s
ARA0 ARCESS Array S 39.08 348 *e*P **P 07 50 17.6 -0.9**
ARCES ARCESS Array B 39.08 348 P **P 07 50 17.6 -0.9**
comp=Z,1.2nm,0.9s,baz=156,slow=9.3,SNR=4.6
EKA Eskdalemuir Ar 41.62 319 P **P 07 50 38.3 -1.4**
comp=Z,2.1nm,0.8s,baz=108,slow=8.3,SNR=3.2
GTA Gaotai 42.84 65 P **P 07 50 49.9 -0.2**
GTA pP sP 07 50 58.8 0.0
GTA sP pP 07 51 03.1 +6.8
GTA S **S 07 57 12.4 -1.2**
GTA sS sS 07 57 32.3 +8.4
GTA pmax pmax
comp=Z,5.0nm,1.1s
GTA pmax pmax
comp=Z,64nm,4.7s
GTA LR LR
comp=Z,160nm,17.1s
GTA LR LR
comp=Z,290nm,18.1s
GTA LR LR
comp=Z,120nm,15.2s
TLY Talaya 45.02 47 LR LR 08 13 55.4
comp=Z,49nm,20.0s,baz=274,slow=42
LZH Lanzhou 46.58 69 *e*P **P 07 51 22.1 +2.2**
LZH pP sP 07 51 35.3 +6.6
LZH sP pP 07 51 40.0 +14
LZH pmax pmax
comp=Z,21nm,1.0s
LZH pmax pmax
comp=Z,89nm,4.3s
SONA0 Songino Array 46.83 53 *e*P **P 07 51 22.1 +0.4**
SONM Songino Array 46.83 53 P **P 07 51 22.1 +0.4**
comp=Z,0.6nm,0.4s,baz=308,slow=7.2,SNR=3.9
SONM LR LR 08 14 46.8
comp=Z,106nm,18.7s,baz=354,slow=41
ULN Ulaanbaatar 47.27 53*ce*P **P 07 51 24.6 -0.6**
ULN pmax pmax
comp=Z,6.0nm,1.0s
SPA0 Spitsbergen Ar 47.76 352 *e*P **P 07 51 27.9 -0.5**
SPITS Spitsbergen Ar 47.76 352 P **P 07 51 27.9 -0.5**
comp=Z,12nm,1.1s,baz=72,slow=6.2,SNR=6.8
CD2 Chengdu 47.86 76 *e*P **P 07 51 28.5 -1.3**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,120nm,5.0s
CM31 Chiang Mai Arr 48.50 94 *e*P **P 07 51 34.9 -0.1**
CMAR Chiang Mai Arr 48.50 94 P **P 07 51 34.9 -0.1**
comp=Z,1.0nm,0.3s,baz=300,slow=8.1,SNR=7.3
KMI Kunming 48.95 84 P **P 07 51 42.3 +3.7**
KMI pmax pmax
comp=Z,13nm,0.9s
KOWA Kowa 49.59 261 P **P 07 51 43.6 +0.3**
comp=Z,2.6nm,0.5s,baz=57,slow=12,SNR=7.4
KOWA LR LR 08 15 20.6
comp=Z,95nm,18.1s,baz=44,slow=39
KOWA Kowa 49.59 261 *e*P **P 07 51 43.5 +0.3**
comp=Z,5.4nm,1.0s
OPO Ambohidratompo 50.70 180 LR LR 08 13 53.5
comp=Z,126nm,19.8s,baz=24,slow=37
PBKT Sadao Pong 51.09 95 *e*P **P 07 51 54.2 -0.4**
comp=Z,4.9nm,0.8s
HHC Hu-ho-hao-te 51.46 61 *e*P **P 07 51 55.9 -1.4**
HHC S **S 07 59 14.4 -2.0**
HHC pmax pmax
comp=Z,23nm,1.1s
HHC pmax pmax
comp=Z,55nm,6.7s
HHC LR LR
comp=Z,160nm,16.4s
HHC LR LR
comp=Z,330nm,15.7s
HHC LR LR
comp=Z,350nm,15.7s
BORG Borgarnes 51.97 330 LR LR 08 15 09.9
comp=Z,28nm,18.8s,baz=131,slow=37
DBIC Dimbokro 54.50 254 LR LR 08 17 15.7
comp=Z,103nm,18.4s,baz=35,slow=38
TIXI Tiksi 57.05 22*ce*P **P 07 52 36.1 -1.2**
TIXI pmax pmax
comp=Z,2.0nm,1.0s
NJ2 Nanjing 59.65 69 *e*P **P 07 52 57.8 +1.7**
NJ2 pmax pmax
comp=Z,17nm,0.6s
CN2 Changchun 60.63 54 *e*P **P 07 53 04.3 +1.7**
CN2 pmax pmax
comp=Z,10.0nm,0.7s
ILULI Ilulissat 62.88 337 *e*P **P 07 53 14.4 -2.9**
comp=Z,13nm,0.9s
ILULI Ilulissat 62.88 337 *e*P **P 07 53 14.4 -2.9**
ILULI pmax pmax
comp=Z,13nm,0.9s
KLR Kul'dur 63.03 47 P **P 07 53 18.0 -0.7**
comp=Z,0.2nm,0.8s,baz=272,slow=8.8,SNR=4.6
KLR Kul'dur 63.03 47 *e*P **P 07 53 16.4 -2.3**
BOSA Boshof 64.11 201 P **P 07 53 27.0 +0.9**
comp=Z,4.8nm,0.9s,baz=42,slow=4.9,SNR=4.7
BOSA LR LR 08 23 46.6
comp=Z,78nm,18.3s,baz=30,slow=38
KS15 Wonju Array Si 64.57 60 *e*P **P 07 53 28.1 -1.0**
KSRS Korea Array 64.59 60 P **P 07 53 28.1 -1.1**
comp=Z,1.4nm,0.7s,baz=288,slow=6.3,SNR=6.1
KSRS LR LR 08 24 15.5
comp=Z,44nm,20.2s,baz=290,slow=38
USRK Ussuriysk Ar. 64.94 52 P **P 07 53 31.6 +0.3**
comp=Z,1.2nm,0.6s,baz=302,slow=6.5,SNR=4.3
USRK LR LR 08 24 49.2
comp=Z,70nm,18.9s,baz=250,slow=39
SEY Seymchan 66.18 28 P **P 07 53 51.2 -0.5**
comp=Z,2.9nm,0.9s,baz=273,slow=6.2,SNR=7.2
SEY Seymchan 68.18 28*ce*P **P 07 53 49.9 -1.8**
JNU Nakatsue 68.56 64 LR LR 08 26 30.4
comp=Z,34nm,19.1s,baz=258,slow=38
JOW Kunigami 69.27 71 LR LR 08 30 07.0
comp=Z,188nm,18.0s,baz=86,slow=41
BILL Bilibino 70.20 20 *i*P **P 07 54 03.9 -0.3**
BILL *e* 07 54 24.7
BILL *e* 07 56 43.6
BILL pmax pmax
comp=Z,2.0nm,1.1s
BILL MLR MLR
comp=Z,75nm,22.0s
YSS Yuzh-Sakhalins 70.71 46 *e*P P 07 54 02.3 -5.3
MJAR Matsushiro Arr 72.44 58 LR LR 08 30 15.2
comp=Z,29nm,19.0s,baz=330,slow=39
PETK Petropavlovsk- 75.80 36 LR LR 08 32 04.7
comp=Z,46nm,18.9s,baz=320,slow=39
SCHQ Schefferville 76.25 327 P **P 07 54 40.5 +0.3**
comp=Z,4.0nm,0.8s,baz=62,slow=12,SNR=3.6
SCHQ Schefferville 76.25 327 *e*P **P 07 54 40.4 +0.3**
comp=Z,4.9nm,0.8s
TOLK Toolik Lake Re 78.50 6 *e*P **P 07 54 52.7 +0.2**
comp=Z,6.3nm,0.9s
IM3 Indian Mountai 80.61 8 *e*P **P 07 55 03.5 -0.5**
MDM Murphy Dome 82.22 6 *e*P **P 07 55 12.7 +0.1**
comp=Z,6.3nm,1.2s
COLA College 82.33 6 *e*P **P 07 55 12.2 -0.9**
COLA pmax pmax
comp=Z,2.0nm,1.0s
IL1 Eielson Array 82.52 6 *e*P **P 07 55 13.3 -0.8**
ILAR Eielson Array 82.52 6 P **P 07 55 13.2 -0.9**
comp=Z,0.9nm,1.0s,baz=332,slow=3.9,SNR=6.1
ILB Eielson Array 82.52 6 *e*P **P 07 55 12.8 -1.3**
BPAW Bear Paw Mtn. 82.76 8 *e*P **P 07 55 15.3 -0.1**
comp=Z,5.7nm,1.2s
SCRK Sand Creek 83.54 5 *e*P **P 07 55 19.7 +0.2**
comp=Z,6.3nm,1.2s
FCC Fort Churchill 83.54 341 *e*P **P 07 55 20.1 +0.7**
comp=Z,4.9nm,1.1s
FCC Fort Churchill 83.54 341 *e*P **P 07 55 20.1 +0.7**
FCC pmax pmax
comp=Z,5.0nm,1.1s
DOT Dot Lake 83.86 5 *e*P **P 07 55 21.5 +0.5**
comp=Z,15nm,1.1s
YKA Yellowknife Ar 84.26 352 P **P 07 55 22.1 -1.0**
comp=Z,1.4nm,1.0s,baz=14,slow=5.0,SNR=20
YKB5 Yellowknife Ar 84.26 352 *e*P **P 07 55 22.8 -0.3**
HYT Haines Junctio 87.02 2 *e*P **P 07 55 36.0 -1.1**
comp=Z,4.6nm,1.2s
FFC Flin Flon 89.18 343 *e*P **P 07 55 47.2 0.0**
comp=Z,4.7nm,1.2s
FFC Flin Flon 89.18 343 *e*P **P 07 55 47.2 0.0**
FFC pmax pmax
comp=Z,5.0nm,1.2s
QSPA South Pole Qui 122.26 180 PKP **PKPdf 08 01 46.4 +0.6**
comp=Z,3.6nm,0.9s,baz=353,slow=2.3,SNR=5.7

*ISCJB **19** 07:47:01.8±0.9, 7°.31S±0°.05×130°.01E±0°.08, h104km, mb3.7/2, Error ellipse: s-maj=11.7km s-min=7.7km az=178.4*
*IDC **19** 07:47:06.3±2.2, 7°.11S×130°.06E, h125km±23km, mb3.5/2, mb1 3.8/7, mb1mx3.3/60, mbtmp4.2/7, Error ellipse: s-maj=37.9km s-min=20.4km az=93.0*
ISC 19 07:47:03.6±0.9, **7°.20S**±0°.06×**130°.1E**±0°.1, **h104**km, **n7**, σ**4**§**16**/12, **Tanimbar Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**6.39**	**10**	P	**Pn**	**07 48 37.2**	**+1.9**
	2.2nm,0.3s,baz=89,slow=2.8,SNR=21						
SIJI				S	**Sn**	**07 49 40.5**	**-6.4**
	3.4nm,0.3s,baz=284,slow=21,SNR=5.7						
BATI	**Baumata**	**7.05**	**244**	P	**Pn**	**07 48 47.1**	**+2.8**
	7.1nm,0.3s,baz=60,slow=6.8,SNR=3.4						
BATI				S	**Sn**	**07 50 00.3**	**-2.7**
	4.5nm,0.3s,baz=162,slow=9.6,SNR=9.2						
FITZ	**Fitzroy Crossi**	**11.68**	**202**	P	**Pn**	**07 49 48.7**	**+1.7**
	baz=32,slow=11						
FITZ				S	**Sn**	**07 51 50.4**	**-5.1**
	baz=136,slow=1.0						
WRA	**Warramunga Arr**	**13.31**	**163**	P	**Pn**	**07 50 11.7**	**+3.2**
	1.0nm,0.3s,baz=347,slow=13,SNR=35						
WRA				S	**Sn**	**07 52 31.5**	**-3.5**
	1.4nm,0.3s,baz=329,slow=23,SNR=10						
ASAR	**Alice Springs**	**16.77**	**168**	P	**P**	**07 50 56.0**	**+3.3**
	0.9nm,0.3s,baz=339,slow=9.3,SNR=58						
ASAR				S	**Sn**	**07 53 52.8**	**-5.8**
	0.2nm,0.3s,baz=334,slow=17,SNR=4.1						
MKAR	**Makanchi Array**	**68.46**	**327**	P	**P**	**07 57 54.4**	**-0.2**
	0.8nm,0.6s,baz=126,slow=8.1,SNR=11						
KURBB	**Kurchatov Arra**	**72.75**	**328**	P	**P**	**07 58 19.9**	**-0.5**
	0.6nm,0.5s,baz=128,slow=4.7,SNR=9.1						

*ISCJB **19** 07:49:09.6±0.7, 38°.48N±0°.05×39°.16E±0°.04, h5km±6km, Error ellipse: s-maj=9.0km s-min=4.4km az=163.1*
*CSEM **19** 07:47:09.7±0.3, 38°.51N×39°.12E, h2km, ML2.7, Error ellipse: s-maj=10.4km s-min=6.1km az=161.0*
*DDA **19** 07:47:09.0, 38°.46N×39°.19E, h7km, Ml2.7*
*ISK **19** 07:47:09.2, 38°.55N×39°.04E, h5km, ML2.8/6*
ISC 19 07:47:09.7±0.9, **38°.53N**±0°.04×**39°.14E**±0°.02, **h13**km±6km, **n22**, σ**0**§**87**/33, **Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ELZG	**Elazig**	**0.13**	**256**	*i* P	**Pg**	**07 47 13.2**	**0.0**
ELZG				*i* S	**Sg**	**07 47 15.8**	**+0.1**
ELZG	**Elazig**	**0.13**	**256**	P	**Pg**	**07 47 13.2**	**0.0**
ELZG				S	**Sg**	**07 47 15.8**	**+0.1**
PTK	**Pertek**	**0.41**	**29**	PG	**Pb**	**07 47 18.9**	**-0.1**
PTK	**Pertek**	**0.41**	**29**	*e*Pg	**Pb**	**07 47 18.9**	**-0.1**
MALT	**Malatya**	**0.60**	**249**	PG	**Pg**	**07 47 20.9**	**-0.6**
MALT				SG	**Sb**	**07 47 29.2**	**-1.3**
MALT	**Malatya**	**0.60**	**249**	*e*Pg	**Pg**	**07 47 20.9**	**-0.6**
MALT				*e*Sg	**Sb**	**07 47 29.2**	**-1.3**
TNCL	**Tunceli-Merkez**	**0.66**	**28**	*i* P	**Pg**	**07 47 22.4**	**-0.3**
TNCL				*i* S	**Sb**	**07 47 33.0**	**+0.6**
TNCL	**Tunceli-Merkez**	**0.66**	**28**	P	**Pg**	**07 47 22.4**	**-0.3**
TNCL				S	**Sb**	**07 47 33.0**	**+0.6**
AKCD	**Akcadag**	**0.98**	**257**	*i* P	**Pg**	**07 47 27.9**	**-0.8**
AKCD				*i* S	**Sb**	**07 47 41.6**	**0.0**
AKCD	**Akcadag**	**0.98**	**257**	P	**Pg**	**07 47 27.9**	**-0.8**
AKCD				S	**Sb**	**07 47 41.7**	**0.0**
HEKM	**Malatya_Hekimh**	**0.99**	**291**	*i* P	**Pb**	**07 47 28.7**	**-0.1**
HEKM				*i* S	**Sn**	**07 47 44.8**	**+1.4**
HEKM	**Malatya_Hekimh**	**0.99**	**291**	P	**Pb**	**07 47 28.7**	**-0.1**
HANI	**Diyarbakir_Han**	**0.99**	**96**	*i* P	**Pg**	**07 47 27.1**	**-1.8**
HANI				*i* S	**Sg**	**07 47 41.3**	**-0.7**
HANI	**Diyarbakir_Han**	**0.99**	**96**	P	**Pg**	**07 47 27.1**	**-1.8**
HANI				S	**Sg**	**07 47 41.3**	**-0.7**
URFA	**Urfa**	**1.11**	**193**	PN	**Pn**	**07 47 31.9**	**+0.8**
URFA	**Urfa**	**1.11**	**193**	*e*Pn	**Pn**	**07 47 31.9**	**+0.8**
DARE	**Darende-Malaty**	**1.30**	**272**	PN	**Pg**	**07 47 33.5**	**-1.2**
DARE	**Darende-Malaty**	**1.30**	**272**	*e*Pn	**Pg**	**07 47 33.5**	**-1.2**
MAZI	**Mazidag**	**1.49**	**136**	PN	**Pg**	**07 47 38.9**	**+0.6**
MAZI	**Mazidag**	**1.49**	**136**	*e*Pn	**Pg**	**07 47 38.9**	**+0.6**
VRTB	**Varto-Mus**	**1.92**	**70**	PN	**Pg**	**07 47 45.9**	**-0.6**
VRTB	**Varto-Mus**	**1.92**	**70**	*e*Pn	**Pg**	**07 47 45.9**	**-0.6**

WEL 19 07:52:25.4±1.1, **33°.S**±12°×**18°.0E**±3°, **h33**km, **ML4.2**/11, **ML4.3**/13, **South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**4.49**	**196**	P	**Pn**	**07 53 31.4**	**+0.3**
WMGZ	**Waiomatatini S**	**4.72**	**194**	P	**Pn**	**07 53 34.8**	**+0.7**
WMGZ	**Waiomatatini S**	**4.72**	**194**	S	**Sn**	**07 54 29.7**	**+2.0**
HAZ	**Te Kaha**	**4.81**	**200**	P	**Pn**	**07 53 36.4**	**+0.9**
HAZ	**Te Kaha**	**4.81**	**200**	S	**Sn**	**07 54 31.4**	**+1.3**
PKGZ	**Pakihiroa**	**4.86**	**197**	P	**Pn**	**07 53 36.1**	**-0.1**
PKGZ	**Pakihiroa**	**4.86**	**197**	S	**Sn**	**07 54 33.4**	**+2.0**
PUZ	**Puketiti**	**4.99**	**195**	P	**Pn**	**07 53 36.8**	**-1.2**
PUZ	**Puketiti**	**4.99**	**195**	S	**Sn**	**07 54 35.1**	**+0.5**
RUGZ	**Raukumara Rang**	**5.04**	**200**	P	**Pn**	**07 53 39.3**	**+0.6**
RUGZ	**Raukumara Rang**	**5.04**	**200**	S	**Sn**	**07 54 36.5**	**+0.6**
TWGZ	**Tauwhareparae**	**5.16**	**197**	P	**Pn**	**07 53 41.1**	**+0.8**
TWGZ	**Tauwhareparae**	**5.16**	**197**	S	**Sn**	**07 54 40.3**	**+1.6**
OPRZ	**Ohinepanea**	**5.33**	**210**	P	**Pn**	**07 53 44.7**	**+2.0**
CNGZ	**Carnagh Statio**	**5.40**	**194**	P	**Pn**	**07 53 43.4**	**-0.1**
MWZ	**Matawai**	**5.42**	**200**	P	**Pn**	**07 53 42.8**	**-1.1**
MWZ	**Matawai**	**5.42**	**200**	S	**Sn**	**07 54 45.2**	**-0.1**
TKGZ	**Te Karaka**	**5.44**	**197**	P	**Pn**	**07 53 43.0**	**-1.1**
TKGZ	**Te Karaka**	**5.44**	**197**	S	**Sn**	**07 54 45.0**	**-0.5**
URZ	**Urewera**	**5.49**	**204**	P	**Pn**	**07 53 44.2**	**-0.6**
URZ	**Urewera**	**5.49**	**204**	S	**Sn**	**07 54 46.7**	**0.0**
RIGZ	**Rimuhau**	**5.71**	**197**	P	**Pn**	**07 53 48.3**	**+0.4**
RIGZ	**Rimuhau**	**5.71**	**197**	S	**Sn**	**07 54 51.9**	**-0.4**
RTZ	**Ruatahuna**	**5.85**	**203**	P	**Pn**	**07 53 48.7**	**-1.2**
SNGZ	**Shannon Statio**	**5.89**	**200**	P	**Pn**	**07 53 50.5**	**0.0**
SNGZ	**Shannon Statio**	**5.89**	**200**	S	**Sn**	**07 54 57.9**	**+1.1**

IDC 19 07:56:13.2±1.1, **14°.78S**×**172°.95W**, **h0**km, **mb3.6**/4, **mb1 3.9**/4, **mb1mx3.6**/51, **mbtmp3.6**/4, **Error ellipse: s-maj=48.1km s-min=21.1km az=143.0**, **Samoa Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**1.43**	**53**	Pn	**Pn**	**07 56 39.2**	**-1.3**
	51nm,0.3s,baz=161,slow=1.1,SNR=53						
AFI				Sn	Sg	07 56 55.2	-3.9
	134nm,0.3s,baz=58,slow=18,SNR=17						
WRA	**Warramunga Arr**	**50.41**	**256**	P	P	08 05 12.1	-0.8
	0.6nm,0.8s,baz=92,slow=6.8,SNR=7.3						
ASAR	**Alice Springs**	**50.72**	**251**	P	P	08 05 14.7	-0.5
	0.7nm,0.5s,baz=88,slow=8.0,SNR=11						
VNDA	**Vanda**	**64.04**	**186**	P	P	08 06 48.6	+0.3
	0.9nm,0.9s,baz=31,slow=5.9,SNR=4.9						
YKA	**Yellowknife Ar**	**89.36**	**23**	P	P	08 09 12.6	+1.4
	0.1nm,0.8s,baz=241,slow=4.6,SNR=5.5						
BRTR	**Keskin Array B**	**145.94**	**322**	PKPbc	PKPdf	08 15 54.8	+0.1
	1.1nm,0.8s,baz=115,slow=2.0,SNR=2.4						

*ISCJB **19** 08:02:45.1±0.5, 7°.49N±0°.04×73°.18W±0°.05, h140km±5km, mb3.5/2, Error ellipse: s-maj=8.6km s-min=5.5km az=32.0*
*IDC **19** 08:02:45.5±1.2, 7°.58N×73°.23W, h132km±12km, mb3.2/2, mb1 3.4/5, mb1mx3.1/43, mbtmp3.8/5, Error ellipse: s-maj=26.3km s-min=8.2km az=130.0*
*RSNC **19** 08:02:46.7±0.9, 7°.44N×73°.18W, h133km±5km, ML3.1*
ISC 19 08:02:45.8±0.9, **7°.48N**±0°.05×**73°.17W**±0°.05, **h136**km±6km, **n22**, σ**0**§**91**/31, **1D, Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PAMC	**Pamplona, Colo**	**0.49**	**107**	*e*P	**Pn**	**08 03 06.5**	**+0.5**
PAMC				*e*S	**Sn**	**08 03 21.6**	**+0.4**
BRRC	**Barranca, Sant**	**0.66**	**235**	*i*/*e*P	**Pn**	**08 03 06.3**	**-0.1**
BRRC				*e*S	**Sn**	**08 03 21.4**	**-0.7**
BRRC				*i*		08 03 22.7	
	comp=Z,527nm,0.2s						
OCAC	**Ocana**	**0.77**	**349**	*e*P	**Pn**	**08 03 08.2**	**+0.8**
OCAC				*e*S	**Sn**	**08 03 25.2**	**+1.4**
BARC	**Barichara**	**0.89**	**181**	*e*P	**Pn**	**08 03 08.2**	**-0.3**
BARC				*e*S	**Sn**	**08 03 24.6**	**-1.1**
BARC				*i*		08 03 25.8	
	comp=Z,372nm,0.1s						
RUSC	**La Rusia**	**1.58**	**177**	*e*P	**Pn**	**08 03 15.0**	**-0.7**
RUSC				*i*		08 03 44.2	
	comp=Z,27nm,0.3s						
ZARC	**Zaragoza, Cauc**	**1.67**	**270**	*e*P	**Pn**	**08 03 16.3**	**0.0**
ZARC				*e*S	**Sn**	**08 03 39.6**	**+0.1**
ZARC				*i*		08 03 44.1	
	comp=Z,279nm,0.2s						
CODC	**Agust`>n Codaz**	**2.45**	**354**	*e*P	**Pn**	**08 03 26.0**	**+0.4**
CODC				*e*S	**Sn**	**08 03 56.2**	**-0.1**

CODC				*i*			08 04 00.8	
	comp=Z,67nm,0.4s							
NORC	**Norcasia**	**2.55**	**222**	*e*P		**Pn**	**08 03 26.5**	**-0.4**
HELC	**Santa Helena**	**2.67**	**241**	*e*P		**Pn**	**08 03 28.4**	**-0.3**
HELC				*i*			08 04 09.2	
	comp=Z,95nm,0.3s							
ROSC	**El Rosal**	**2.86**	**204**	P		**Pn**	**08 03 32.8**	**+1.6**
	comp=Z,7.9nm,0.3s,baz=305,slow=23,SNR=29							
ROSC				S		**Sn**	**08 04 07.2**	**+1.0**
	comp=Z,8.5nm,0.3s,baz=172,slow=23,SNR=15							
SDV	**Santo Domingo**	**2.87**	**61**	P		**Pn**	**08 03 31.9**	**+0.8**
	comp=Z,27nm,0.3s,baz=230,slow=4.7,SNR=83							
SDV				S		**Sn**	**08 04 06.3**	**+0.2**
	comp=Z,8.9nm,0.3s,baz=226,slow=16,SNR=4.1							
SDV	**Santo Domingo**	**2.87**	**61**	*e*P		**Pn**	**08 03 31.9**	**+0.8**
CHIC	**Chingaza**	**2.89**	**191**	*e*P		**Pn**	**08 03 31.9**	**+0.3**
CHIC				*i*			08 04 15.6	
	comp=Z,26nm,0.3s							
DBBC	**Dabeiba**	**3.05**	**261**	*e*P		**Pn**	**08 03 33.6**	**+0.3**
GUYC	**Guyana, Colomb**	**3.15**	**225**	*e*P		**Pn**	**08 03 36.0**	**+1.0**
TOLC	**Tolima**	**3.59**	**217**	*e*P		**Pn**	**08 03 41.3**	**+0.7**
PRAC	**Prado**	**4.12**	**205**	*e*P		**Pn**	**08 03 46.6**	**-0.6**
PRAC				*e*S		**Sn**	**08 04 34.5**	**-0.5**
PCRV	**Puerto La Cruz**	**8.85**	**72**	P		**Pn**	**08 04 49.5**	**-1.2**
	comp=Z,2.0nm,0.3s,baz=206,slow=8.1,SNR=11							
SIV	**San Ignacio**	**26.22**	**153**	P		**P**	**08 08 09.6**	**+1.3**
	comp=Z,0.8nm,0.3s,baz=278,slow=12,SNR=15							
YKA	**Yellowknife Ar**	**62.63**	**340**	P		**P**	**08 12 54.3**	**-1.1**
	comp=Z,0.2nm,0.6s,baz=133,slow=6.9,SNR=7.3							
ASAR	**Alice Springs**	**149.45**	**235**	PKPbc		**PKPbc**	**08 22 21.3**	**+1.4**
	comp=Z,0.3nm,0.7s,baz=144,slow=3.3,SNR=3.8							
WRA	**Warramunga Arr**	**150.60**	**242**	PKPbc		**PKPbc**	**08 22 20.8**	**-1.9**
	comp=Z,0.5nm,1.0s,baz=104,slow=3.2,SNR=4.7							

TIR ***19*** *08:05:41.7, 41.°85N× 19.°37E, h6km, Md2.6/5*

CSEM 19 08:05:36.7±2.5, 41.°29N×19.°11E, h5km, ML2.6, Error ellipse: s-maj=62.5km s-min=32.3km az=9.0, Albania

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TIR	**Tirane**	**0.57**	**84**	*i* Pg	Pb	08 05 49.7	+0.6
TIR	**Tirane**	**0.57**	**84**	*i* PG	Pb	08 05 49.7	+0.6
TIR				*i* SG	Sn	08 06 04.3	+3.1
PUK	**Puka**	**0.95**	**38**	*i* Pg	Pb	08 05 56.1	+0.4
PUK				*i* Sg	Sb	08 06 08.1	-0.5
PUK	**Puka**	**0.95**	**38**	*i* PG	Pg	08 05 51.1	-3.9
PUK				*i* SG	Sg	08 05 57.5	-10
PUK	**Puka**	**0.95**	**38**	*i* PG	Pb	08 05 56.1	+0.4
PUK				*i* SG	Sb	08 06 08.1	-0.6
PHP	**Peshkopia**	**1.07**	**68**	*i* Pg	Pg	08 05 54.5	-2.7
PHP				*i* Sg	Sg	08 06 10.0	-1.1
PHP	**Peshkopia**	**1.07**	**68**	*i* PG	Pg	08 05 54.5	-2.8
PHP				*i* SG	Sg	08 06 10.0	-1.1
KRUS	**Krusevo**	**1.61**	**87**	*e*Pn	Pg	08 06 11.1	+3.6
KRUS				*i* Sg	Sg	08 06 33.2	+4.8
STON	**Ston**	**1.90**	**327**	*e*Pn	Pn	08 06 09.5	-0.2
STON				Sn	Sn	08 06 30.1	-3.9
STON	**Ston**	**1.90**	**327**	*e*Pn	Pn	08 06 09.4	-0.3
STON				Sn	Sn	08 06 30.0	-4.0

IDC 19 08:10:51.5±63.0, 22.°73S×178.°50W, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.6/44, mbtmp3.9/3, Error ellipse: s-maj=1143.0km s-min=160.7km az=86.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**36.44**	**247**	P	P	08 17 57.0	-1.1
	0.8nm,0.4s,baz=84,slow=9.2,SNR=4.5						
ASAR	**Alice Springs**	**43.59**	**259**	P	P	08 18 57.5	-0.2
	0.4nm,0.3s,baz=93,slow=8.3,SNR=11						
WRA	**Warramunga Arr**	**43.87**	**264**	P	P	08 19 00.7	+0.7
	0.8nm,0.3s,baz=97,slow=8.2,SNR=54						

ISCJB ***19*** *08:13:15.6±0.9, 1.°8N±0.°1× 91.°01E±0.°09, h10km, mb4.3/8, MS3.2/2, Error ellipse: s-maj=18.6km s-min=10.1km az=31.8*

IDC ***19*** *08:13:16.3±1.5, 1.°79N× 90.°93E, h0km, mb3.9/6, mb1 4.1/9, mb1mx3.7/68, mbtmp4.0/9, ML3.9/3, MS3.2/4, Ms1 3.3/4, ms1mx2.7/72, Error ellipse: s-maj=40.6km s-min=23.3km az=39.0*

NEIC ***19*** *08:13:17.4±0.7, 1.°79N× 90.°93E, h10km, mb4.7/4, Error ellipse: s-maj=15.8km s-min=8.8km az=204.0*

ISC 19 08:13:17.5±1.1, 1.°9N±0.°2× 90.°99E±0.°08, h10km, n28, σ1s18/26, mb4.2/8, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**7.99**	**83**	Pn	**Pn**	**08 15 15.2**	**+1.4**
	0.3nm,0.3s,baz=322,slow=18,SNR=2.7						
KULM	**Kulim**	**10.23**	**70**	*e*Pn	**Pn**	**08 15 45.5**	**+1.0**
KULM				*e*Sn	**Sn**	**08 17 36.9**	**-2.6**
IPM	**Ipoh**	**10.36**	**75**	*e*Pn	**Pn**	**08 15 45.4**	**-0.9**
PALK	**Pallekele**	**11.57**	**298**	Pn	**Pn**	**08 16 01.7**	**-1.3**
	0.7nm,0.3s,baz=113,slow=7.8,SNR=3.5						
PALK				Sn	Sn	08 18 01.8	-11
	1.5nm,0.3s,baz=113,slow=4.6,SNR=4.2						
PALK				LR	LR	08 20 07.4	
	comp=Z,169nm,18.2s,baz=116,slow=36						
PALK	**Pallekele**	**11.57**	**298**	*e*Pn	**Pn**	**08 16 00.4**	**-2.6**
CMAR	**Chiang Mai Arr**	**18.25**	**25**	P	**Pn**	**08 17 31.0**	**-0.1**
	0.5nm,0.3s,baz=217,slow=13,SNR=9.7						
CMAR				LR	LR	08 23 42.3	
	comp=Z,48nm,20.9s,baz=200,slow=34						
H08S2	**Diego Garcia H**	**20.72**	**243**	T	T	08 39 10.1	
	baz=63,slow=75,SNR=55						
H08S3	**Diego Garcia H**	**20.72**	**243**	T	T	08 39 10.5	
	baz=63,slow=75,SNR=47						
H08S1	**Diego Garcia H**	**20.74**	**243**	T	T	08 39 11.2	
	baz=63,slow=75,SNR=44						
MK01	**Makanchi Array**	**45.37**	**352**	*e*P	**P**	**08 21 35.9**	**-0.3**
MK31	**Makanchi Array**	**45.39**	**352**	*e*P	**P**	**08 21 36.8**	**+0.5**
MK32	**Makanchi Array**	**45.39**	**352**	*e*P	**P**	**08 21 36.8**	**+0.5**
MKAR	**Makanchi Array**	**45.39**	**352**	P	**P**	**08 21 36.8**	**+0.5**
	0.7nm,0.5s,baz=168,slow=8.6,SNR=12						
MKAR				LR	LR	08 42 45.8	
	comp=Z,18nm,18.6s,baz=172,slow=39						
MKAR	**Makanchi Array**	**45.39**	**352**	*e*P	**P**	**08 21 36.8**	**+0.5**
	9.3nm,0.8s						
SONA0	**Songino Array**	**47.70**	**14**	*e*P	**P**	**08 21 56.3**	**+1.7**
SONM	**Songino Array**	**47.70**	**14**	P	**P**	**08 21 56.3**	**+1.7**
	5.0nm,0.7s,baz=190,slow=9.3,SNR=18						
SONA1	**Songino Array**	**47.71**	**14**	*e*P	**P**	**08 21 55.9**	**+1.2**
WR1	**Warramunga Arr**	**47.72**	**119**	*e*P	**P**	**08 21 54.8**	**-0.2**
	16nm,0.8s						
WRA	**Warramunga Arr**	**47.72**	**119**	P	**P**	**08 21 54.8**	**-0.2**
	0.6nm,0.9s,baz=298,slow=8.2,SNR=2.8						
WRAB	**Tennant Creek**	**47.73**	**119**	*e*P	**P**	**08 21 53.8**	**-1.3**
	7.7nm,1.3s						
KURBB	**Kurchatov Arra**	**49.72**	**350**	P	**P**	**08 22 10.1**	**+0.3**
	0.8nm,0.6s,baz=173,slow=6.5,SNR=8.8						
KURK	**Kurchatov**	**49.79**	**350**	*e*P	**P**	**08 22 10.1**	**-0.3**
ZALV	**Zalesovo Beam**	**52.16**	**355**	P	**P**	**08 22 28.3**	**+0.1**
	0.9nm,0.3s,baz=186,slow=8.2,SNR=5.8						
ZALV				LR	LR	08 46 06.0	
	comp=Z,40nm,21.5s,baz=257,slow=38						
ZAA1	**Zalesovo Array**	**52.17**	**355**	*e*P	**P**	**08 22 28.3**	**+0.1**
GEC2	**GERESS Array S**	**80.24**	**319**	*e*P	**P**	**08 25 29.9**	**+1.2**
	3.3nm,1.0s						
GERES	**GERESS Array B**	**80.24**	**319**	P	**P**	**08 25 29.9**	**+1.2**
	0.6nm,0.5s,baz=104,slow=4.5,SNR=5.6						
LTX	**Lajitas**	**145.96**	**23**	*e*PKPdf	**PKPab**	**08 32 58.8**	**0.0**
TXAR	**Lajitas Array**	**145.96**	**23**	PKPbc	**PKPab**	**08 32 58.8**	**0.0**
	0.8nm,0.9s,baz=254,slow=2.3,SNR=7.1						

KRSC 19 08:36:05.1±1.5, 54.°43N×160.°72E, h97km±29km, ML3.6, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KZV	**Kizimen**	**0.73**	**340**	*e*P	Pn	08 36 23.4	+0.7
KZV				*e*S	Sn	08 36 35.8	0.0
TUMD	**Tumrok D**	**0.80**	**347**	*e*P	Pn	08 36 23.3	+0.1
TUMD				*e*S	Sn	08 36 36.4	-0.3
KII	**Karymskiy**	**0.85**	**243**	*e*P	Pn	08 36 24.9	+1.2
KII				*e*S	Sn	08 36 39.4	+1.7
TUMR	**Tumrok**	**0.92**	**339**	*e*P	Pn	08 36 25.4	+0.9
TUMR				*e*S	Sn	08 36 39.8	+0.7
KMNR	**Kamenistaya**	**1.36**	**348**	*e*P	Pn	08 36 30.6	+1.1
SPN	**Mys Shipunski**	**1.40**	**198**	*e*P	Pn	08 36 31.4	+1.5
SPN				*e*S	Sn	08 36 50.2	+1.5
NLC	**Nalytchevo**	**1.50**	**213**	*e*P	Pn	08 36 33.2	+2.0
NLC				*e*S	Sn	08 36 52.9	+1.9
BZGR	**Bezymyannyi-Gr**	**1.51**	**359**	*e*P	Pn	08 36 32.9	+1.5
BZGR				*e*S	Sn	08 36 52.8	+1.4
BZMR	**Bezymyannaya**	**1.51**	**355**	*e*P	Pn	08 36 32.9	+1.4
BZMR				*e*S	Sn	08 36 53.2	+1.7
KIRR	**Kirishev**	**1.54**	**352**	*e*P	Pn	08 36 33.2	+1.4
BZWR	**Bezymyannyi-We**	**1.54**	**355**	*e*P	Pn	08 36 33.4	+1.5
KPT	**Kopyto**	**1.56**	**350**	*e*P	Pn	08 36 33.0	+0.9
SDLR	**Sedlovina**	**1.59**	**224**	*e*P	Pn	08 36 34.4	+2.0
SDLR				*e*S	Sn	08 36 55.4	+2.3
ZLN	**Zelenaya**	**1.59**	**2**	*e*P	Pn	08 36 34.0	+1.6
ZLN				*e*S	Sn	08 36 55.4	+2.3
KRER	**Koryakskii**	**1.62**	**227**	*e*P	Pn	08 36 35.3	+2.3
KRX	**Arik**	**1.63**	**230**	*e*P	Pn	08 36 35.8	+2.8
SMAR	**Somma**	**1.63**	**225**	*e*P	Pn	08 36 35.1	+2.0
SMAR				*e*S	Sn	08 36 56.8	+2.6
LGNR	**Loginova**	**1.66**	**359**	*e*P	Pn	08 36 35.3	+1.9
AVH	**Avacha**	**1.66**	**226**	*e*P	Pn	08 36 35.5	+2.3
UGLR	**Uglovaya**	**1.66**	**223**	*e*P	Pn	08 36 35.0	+1.7
UGLR				*e*S	Sn	08 36 56.7	+1.9
KOK	**Koryaka**	**1.68**	**228**	*e*P	Pn	08 36 35.8	+2.2
CIRR	**Tsirk**	**1.69**	**1**	*e*P	Pn	08 36 35.6	+1.9
CIRR				*e*S	Sn	08 36 57.8	+2.4
KOZ	**Kozyrevsk**	**1.70**	**344**	*e*P	Pn	08 36 34.6	+0.9
KRSR	**Krestovskiy**	**1.79**	**357**	*e*P	Pn	08 36 36.0	+1.0
GNL	**Ganaly**	**1.80**	**247**	*e*P	Pn	08 36 36.5	+1.5
DALK	**Dalny**	**1.83**	**221**	*e*P	Pn	08 36 37.3	+2.0
DALK				*e*S	Sn	08 37 00.5	+2.3
PET	**Petropavlovsk**	**1.87**	**222**	*e*P	Pn	08 36 38.5	+2.7
PET				*e*S	Sn	08 37 02.6	+3.3
KLY	**Klyuchi**	**1.89**	**359**	*e*P	Pn	08 36 37.8	+1.8
KLY				*e*S	Sn	08 37 02.0	+2.4
ESO	**Esso**	**1.89**	**323**	*e*P	Pn	08 36 36.4	+0.2
KBTR	**Krutoberegovo**	**2.15**	**33**	*e*P	Pn	08 36 41.7	+2.3
BDR	**Baidarnaya**	**2.16**	**7**	*e*P	Pn	08 36 41.9	+2.2
BDR				*e*S	Sn	08 37 08.5	+2.4
SMKR	**Semkarok**	**2.20**	**11**	*e*P	Pn	08 36 42.0	+1.8
KRMR	**Karymshinskiy**	**2.23**	**225**	*e*P	Pn	08 36 42.8	+2.3
KRMR				*e*S	Sn	08 37 10.1	+2.6
SRKR	**Sorokina**	**2.24**	**6**	*e*P	Pn	08 36 42.5	+1.7
SRKR				*e*S	Sn	08 37 09.7	+1.7
RUS	**Russkaya**	**2.40**	**214**	*e*P	Pn	08 36 44.4	+1.7
RUS				*e*S	Sn	08 37 13.2	+1.6
MTVR	**Mutnovka**	**2.47**	**219**	*e*P	Pn	08 36 34.6	-9.3
KDTR	**Khodutka, Kamc**	**3.07**	**212**	*e*P	Pn	08 36 53.1	+1.4
BKI	**Bering**	**3.13**	**74**	*e*S	Sn	08 37 31.1	+2.0

NIED ***19*** *08:41:00, 38.°40N× 142.°00E, h53km, Mw3.8 Best double couple: M0 5.09000×10^14 NP1: φ=59.00000°, δ=41.00000°, λ=119.00000°. NP2: φ=203.00000°, δ=55.00000°, λ=67.00000°.*

ISCJB ***19*** *08:41:38.0±0.7, 38.°38N±0.°04× 142.°02E±0.°08, h63km±5km, mb3.8/16, Error ellipse: s-maj=10.7km s-min=5.3km az=20.6*

IDC ***19*** *08:41:40.0±2.1, 38.°36N× 142.°02E, h67km±19km, mb3.5/16, mb1 3.7/21, mb1mx3.5/72, mbtmp3.8/21, MS3.0/2, Ms1 3.1/2, ms1mx2.4/62, Error ellipse: s-maj=17.2km s-min=13.5km az=98.0*

JMA ***19*** *08:41:39.1±0.1, 38.°41N× 141.°97E, h58km±1km, M3.8*

JMA Felt III J1.

ISC 19 08:41:38.7±1.3, 38.°38N±0.°05× 142.°04E±0.°09, h55km±11km, n43, σ1s09/49, mb3.8/16, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JIO	**Ouri**	**0.55**	**278**	P	**Pn**	**08 41 50.9**	**0.0**
JIO				S	**Sn**	**08 41 59.1**	**-0.5**
OFUJ	**Ofunato**	**0.76**	**337**	P	**Pn**	**08 41 53.4**	**-0.1**
OFUJ				S	**Sn**	**08 42 03.7**	**-0.5**
JMK	**Ichinoseki**	**0.86**	**312**	P	**Pn**	**08 41 54.8**	**0.0**
JMK				S	**Sn**	**08 42 06.2**	**-0.3**
JOU	**Okura**	**1.08**	**270**	P	**Pn**	**08 41 57.5**	**-0.2**
JOU				S	**Sn**	**08 42 11.3**	**-0.5**
JMM	**Marumori**	**1.11**	**243**	P	**Pn**	**08 41 57.7**	**-0.3**
JMM				S	**Sn**	**08 42 11.4**	**-1.0**
JOM	**Ohasama**	**1.24**	**332**	P	**Pn**	**08 41 59.8**	**0.0**
JOM				*e*S	**Sn**	**08 42 15.3**	**-0.2**
JFK	**Kawauchi**	**1.37**	**223**	P	**Pn**	**08 42 01.5**	**-0.1**
JFK				*e*S	**Sn**	**08 42 18.2**	**-0.5**
JYK	**Kaneyama**	**1.42**	**293**	P	**Pn**	**08 42 02.2**	**-0.1**
JYK				*e*S	**Sn**	**08 42 19.6**	**-0.4**
JRG	**Rokugo**	**1.50**	**313**	P	**Pn**	**08 42 03.1**	**-0.2**
JYS	**Shirataka**	**1.56**	**265**	P	**Pn**	**08 42 04.3**	**+0.1**
JYS				*e*S	**Sn**	**08 42 23.4**	**0.0**
JFT	**Otama**	**1.60**	**238**	P	**Pn**	**08 42 05.1**	**+0.4**
JFT				S	**Sn**	**08 42 24.0**	**-0.2**
JYA	**Atsumi**	**1.84**	**277**	P	**Pn**	**08 42 07.9**	**0.0**
MAT	**Matsushiro**	**3.56**	**240**	P	**Pn**	**08 42 33.3**	**+1.8**
MAT				*e*S	**Sn**	**08 43 11.2**	**-1.1**
MJAR	**Matsushiro Arr**	**3.56**	**240**	P	**Pn**	**08 42 33.4**	**+1.9**
	3.9nm,0.3s,baz=34,slow=14,SNR=45						
JHJ	**Hachijo jima 2**	**5.56**	**200**	P	**Pn**	**08 42 59.2**	**+0.3**
	9.1nm,0.3s,baz=74,slow=20,SNR=4.6						
JHJ				S	**Sn**	**08 43 57.5**	**-3.9**
	13nm,0.3s,baz=40,slow=16,SNR=2.9						
ASAJ	**Asahikawa**	**5.75**	**4**	P	**Pn**	**08 43 01.2**	**-0.2**
	1.1nm,0.3s,baz=234,slow=5.2,SNR=8.8						
ASAJ				S	**Sn**	**08 44 02.5**	**-3.6**
	0.6nm,0.3s,baz=72,slow=20,SNR=4.1						
USRK	**Ussuriysk Ar.**	**9.54**	**311**	P	**Pn**	**08 43 53.2**	**-0.1**
	0.6nm,0.3s,baz=117,slow=14,SNR=6.9						
KSRS	**Korea Array**	**11.19**	**270**	P	**Pn**	**08 44 18.9**	**+3.0**
	0.5nm,0.3s,baz=81,slow=14,SNR=5.5						
KSRS				LR	LR	08 48 06.7	
	comp=Z,29nm,18.9s,baz=190,slow=34						
SEY	**Seymchan**	**25.38**	**11**	P	**P**	**08 47 01.3**	**+0.8**
	0.8nm,0.7s,baz=197,slow=9.9,SNR=4.4						
SONM	**Songino Array**	**27.48**	**302**	P	**P**	**08 47 19.8**	**0.0**
	0.6nm,0.4s,baz=107,slow=9.2,SNR=3.2						
H11N2	**WAKE ISLAND Hy**	**28.44**	**124**	T	T	09 18 05.8	
	baz=316,slow=76,SNR=161						
H11N1	**WAKE ISLAND Hy**	**28.45**	**124**	T	T	09 18 00.6	
	baz=316,slow=76,SNR=213						
H11N3	**WAKE ISLAND Hy**	**28.46**	**124**	T	T	09 17 58.4	
	baz=316,slow=76,SNR=186						
H11S1	**WAKE ISLAND Hy**	**29.20**	**126**	T	T	09 18 46.2	
	baz=318,slow=76,SNR=94						
H11S3	**WAKE ISLAND Hy**	**29.21**	**126**	T	T	09 18 44.1	
	baz=318,slow=76,SNR=149						
H11S2	**WAKE ISLAND Hy**	**29.22**	**126**	T	T	09 18 47.5	
	baz=318,slow=76,SNR=63						
ZALV	**Zalesovo Beam**	**41.39**	**311**	P	**P**	**08 49 19.2**	**-0.1**
	1.2nm,0.4s,baz=84,slow=7.5,SNR=6.3						
MKAR	**Makanchi Array**	**43.84**	**301**	P	**P**	**08 49 39.6**	**+0.2**
	0.6nm,0.5s,baz=84,slow=9.9,SNR=9.2						
KURBB	**Kurchatov Arra**	**45.58**	**307**	P	**P**	**08 49 53.0**	**-0.1**
	2.7nm,0.5s,baz=81,slow=8.4,SNR=22						
ILAR	**Eielson Array**	**48.09**	**33**	P	**P**	**08 50 13.2**	**+0.6**
	0.6nm,0.7s,baz=265,slow=6.1,SNR=10						
BVAR	**Borovoye Array**	**50.05**	**312**	P	**P**	**08 50 28.1**	**+0.5**
	0.7nm,0.5s,baz=72,slow=9.5,SNR=4.4						
INK	**Inuvik**	**52.97**	**28**	P	**P**	**08 50 49.6**	**+0.5**
	0.4nm,0.5s,baz=269,slow=5.4,SNR=4.0						
WRA	**Warramunga Arr**	**58.46**	**189**	P	**P**	**08 51 28.2**	**-0.8**
	1.1nm,0.5s,baz=5.9,slow=7.0,SNR=24						
ASAR	**Alice Springs**	**62.19**	**188**	P	**P**	**08 51 54.3**	**-0.2**
	0.6nm,0.7s,baz=12,slow=5.9,SNR=9.7						
YKA	**Yellowknife Ar**	**62.40**	**31**	P	**P**	**08 51 55.6**	**+0.1**
	0.3nm,0.6s,baz=302,slow=6.7,SNR=9.1						
FINES	**FINESS Array B**	**67.86**	**332**	P	**P**	**08 52 30.5**	**-0.4**
	0.7nm,0.6s,baz=21,slow=5.9,SNR=4.2						
HFS	**Hagfors**	**73.07**	**336**	P	**P**	**08 53 02.2**	**-0.5**
	1.9nm,0.8s,baz=28,slow=6.5,SNR=3.1						
AKASG	**Malin Array Be**	**73.54**	**322**	P	**P**	**08 53 04.7**	**-0.8**
	0.2nm,0.3s,baz=42,slow=5.2,SNR=4.7						
NVAR	**Mina Array Bea**	**73.79**	**54**	LR	LR	09 17 36.3	
	comp=Z,29nm,22.0s,baz=266,slow=29						
PDAR	**Pinedale Array**	**76.37**	**46**	P	**P**	**08 53 22.6**	**+0.2**
	0.5nm,0.5s,baz=264,slow=1.6,SNR=9.4						
TXAR	**Lajitas Array**	**88.91**	**53**	P	**P**	**08 54 27.8**	**+0.2**
	0.4nm,0.7s,baz=299,slow=2.7,SNR=5.7						
LPAZ	**La Paz**	**145.58**	**59**	PKPbc	**PKPbc**	**09 01 12.1**	**-0.1**
	0.4nm,0.3s,baz=300,slow=2.4,SNR=3.7						
SIV	**San Ignacio**	**149.83**	**49**	PKPbc	**PKPbc**	**09 01 21.9**	**-1.3**
	0.2nm,0.3s,baz=328,slow=5.8,SNR=3.7						

ISCJB ***19*** *08:49:14.8±1.5, 35.°49N±0.°08× 27.°88E±0.°06, h10km±9km,*

Error ellipse: s-maj=14.3km s-min=4.9km az=150.7

ISK ***19*** *08:49:14.2, 35.°52N× 27.°90E, h7km, ML3.7/8*

CSEM ***19*** *08:49:15.2±0.4, 35.°51N× 27.°87E, h10km, ML2.7, Error ellipse: s-maj=11.0km s-min=4.3km az=158.0*

THE ***19*** *08:49:15.7, 35.°56N× 27.°78E, h0km±1km, ML2.7/3, Error ellipse: s-maj=2.9km s-min=0.7km az=146.0*

DDA ***19*** *08:49:25.5, 36.°09N× 28.°74E, h7km, Ml3.0*

ISC 19 08:49:15.1±1.3, 35.°52N±0.°06× 27.°91E±0.°04, h13km±10km, n48, σ1s32/59, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KARP	**Karpathos**	**0.61**	**272**	PG	**Pg**	**08 49 26.5**	**-0.5**
KARP				SG	**Sg**	**08 49 35.2**	**+0.1**
KARP	**Karpathos**	**0.61**	**272**	P	**Pg**	**08 49 25.7**	**-1.3**
KARP				S	**Sg**	**08 49 35.0**	**-0.1**
KARP	**Karpathos**	**0.61**	**272**	P	**Pg**	**08 49 25.7**	**-1.3**
KARP	**Karpathos**	**0.61**	**272**	*e*Pg	**Pg**	**08 49 26.5**	**-0.5**
KARP				S	**Sg**	**08 49 35.0**	**-0.1**
ARG	**Arkhangelos**	**0.71**	**14**	P	**Pb**	**08 49 30.1**	**+0.7**
ARG				S	**Sn**	**08 49 41.0**	**-0.8**
ARG	**Arkhangelos**	**0.71**	**14**	P	**Pb**	**08 49 30.1**	**+0.7**
ARG				S	**Sn**	**08 49 41.0**	**-0.8**
ZKR	**Zakros**	**1.44**	**254**	P	**Pn**	**08 49 40.0**	**-0.9**
ZKR				S	**Sn**	**08 50 00.0**	**+0.3**
ZKR	**Zakros**	**1.44**	**254**	P	**Pn**	**08 49 40.0**	**-0.9**
ZKR				S	**Sn**	**08 50 00.0**	**+0.3**
TURN	**Turunc**	**1.46**	**23**	PN	**Pn**	**08 49 39.7**	**-1.5**
TURN				SN	**Sn**	**08 49 57.7**	**-2.5**
TURN	**Turunc**	**1.46**	**23**	*i* P	**Pn**	**08 49 40.5**	**-0.7**
TURN	**Turunc**	**1.46**	**23**	*e*Pn	**Pn**	**08 49 39.7**	**-1.5**
TURN	**Turunc**	**1.46**	**23**	P	**Pn**	**08 49 40.5**	**-0.7**
TURN				eSn	**Sn**	**08 49 57.7**	**-2.5**
FETY	**Fethiye**	**1.46**	**40**	PN	**Pn**	**08 49 41.5**	**+0.2**
FETY	**Fethiye**	**1.46**	**40**	P	**Pb**	**08 49 42.8**	**+0.6**
FETY				S	**Sg**	**08 50 03.3**	**+1.0**
FETY	**Fethiye**	**1.46**	**40**	*e*Pn	**Pn**	**08 49 41.5**	**+0.2**
FETY	**Fethiye**	**1.46**	**40**	P	**Pb**	**08 49 42.8**	**+0.6**
FETY				S	**Sg**	**08 50 03.3**	**+1.0**
AKAS	**Kas**	**1.55**	**62**	PN	**Pn**	**08 49 42.9**	**+0.3**
AKAS	**Kas**	**1.55**	**62**	*i* P	**Pn**	**08 49 38.7**	**-3.9**
AKAS	**Kas**	**1.55**	**62**	P	**Pn**	**08 49 38.7**	**-3.9**
AKAS	**Kas**	**1.55**	**62**	*e*Pn	**Pn**	**08 49 42.9**	**+0.3**
BDRM	**Kayabasi**	**1.58**	**347**	*i* P	**Pn**	**08 49 43.3**	**+0.4**
BDRM	**Kayabasi**	**1.58**	**347**	P	**Pn**	**08 49 43.3**	**+0.4**
BODT	**Bodrum**	**1.61**	**343**	PN	**Pn**	**08 49 43.2**	**-0.1**
BODT	**Bodrum**	**1.61**	**343**	*e*Pn	**Pn**	**08 49 43.2**	**-0.1**
MLSB	**Milas**	**1.77**	**357**	PN	**Pn**	**08 49 45.8**	**+0.3**
MLSB	**Milas**	**1.77**	**357**	*e*Pn	**Pn**	**08 49 45.8**	**+0.3**
ELL	**Elmali**	**2.03**	**52**	PN	**Pn**	**08 49 50.0**	**+0.8**
ELL	**Elmali**	**2.03**	**52**	*e*Pn	**Pn**	**08 49 50.0**	**+0.8**
TAVA	**DENIZLI_Tavas**	**2.10**	**22**	*i* P	**Pn**	**08 49 51.3**	**+1.2**
TAVA	**DENIZLI_Tavas**	**2.10**	**22**	P	**Pn**	**08 49 51.3**	**+1.2**
GOLH	**Golhisar**	**2.17**	**38**	*i* P	**Pn**	**08 49 51.7**	**+0.6**
GOLH	**Golhisar**	**2.17**	**38**	P	**Pn**	**08 49 51.7**	**+0.6**
GCAM	**G?zelcami?**	**2.24**	**346**	PN	**Pn**	**08 49 52.6**	**+0.7**
GCAM	**G?zelcami?**	**2.24**	**346**	*e*Pn	**Pn**	**08

SART	**Tekirdag**	**1.37**	**38**	P		**Pn**	**09 06 43.8**	**-0.8**

*ISCJB **19** 09:06:45.8±0.3,20.°15S±0.°03×68.°96W±0.°05,h113km±3km, mb4.2/19,Error ellipse: s-maj=7.4km s-min=4.4km az=159.5*

*NEIC **19** 09:06:46.8±0.5,20.°13S×68.°83W,h105km±4km,mb4.3/10, ML4.4(GUC),Error ellipse: s-maj=9.8km s-min=6.2km az=90.0*

NEIC Felt [II] at Camina and Huara.

*GUC **19** 09:06:47.2±0.6,20.°17S×69.°07W,h103km±3km,ML4.4*

*IDC **19** 09:06:48.7±2.2,20.°07S×68.°73W,h119km±19km,mb3.8/14, mb1 4.0/17,mb1mx3.9/42,mbtmp4.3/17,MS2.6/2, Ms1 2.6/2,ms1mx2.5/38,Error ellipse: s-maj=20.3km s-min=12.3km az=73.0*

ISC 19 09:06:46.8±0.7,20.°15S±0.°03×68.°98W±0.°06,h105km±5km, n74,σ1§13/88,mb4.2/19,5C-3D,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PB08	**IPOC Station P**	**0.16**	**275**	⇓*i*	*i*	P	**Pn**	**09 07 02.4**	**+0.4**
PB08				*eS*		S	**Sn**	**09 07 13.9**	**+0.6**
PB08				IAML				09 07 14.4	
	comp=E,27μm,0.2s								
PB11	**IPOC Station P**	**0.75**	**301**	*eP*		P	**Pn**	**09 07 05.1**	**-0.1**
PB11				*eSn*		S	**Sn**	**09 07 19.3**	**+0.2**
PB11	**IPOC Station P**	**0.75**	**301**	⇓*eP*		P	**Pn**	**09 07 05.2**	**-0.1**
PB11				*eS*		S	**Sn**	**09 07 19.3**	**+0.2**
PB01	**IPOC Station P**	**1.00**	**208**	*ePn*		P	**Pn**	**09 07 08.0**	**+0.2**
PB01				*eSn*		S	**Sn**	**09 07 24.2**	**+0.7**
PB01	**IPOC Station P**	**1.00**	**208**	⇑*iP*		P	**Pn**	**09 07 07.9**	**+0.2**
PB01				*eS*		S	**Sn**	**09 07 23.9**	**+0.3**
PB01				IAML				09 07 25.4	
	comp=E,10μm,0.3s								
MNMC	**Minye Minye**	**1.17**	**330**	*ePn*		P	**Pn**	**09 07 10.5**	**+0.7**
MNMC				*eSn*		S	**Sn**	**09 07 28.1**	**+1.0**
MNMC	**Minye Minye**	**1.17**	**330**	⇓*iP*		P	**Pn**	**09 07 10.4**	**+0.7**
MNMC				*eS*		S	**Sn**	**09 07 27.9**	**+0.8**
PSGC	**Pisagua**	**1.21**	**297**	⇑*eP*		P	**Pn**	**09 07 09.7**	**-0.3**
PSGC				*eS*		S	**Sn**	**09 07 27.0**	**-0.6**
PSGC				IAML				09 07 27.9	
	comp=N,8μm,0.8s								
PB02	**IPOC Station P**	**1.44**	**216**	⇑*eP*		P	**Pn**	**09 07 12.7**	**-0.1**
PB02				*eS*		S	**Sn**	**09 07 32.5**	**+0.1**
PB02				IAML				09 07 33.9	
	comp=E,5μm,0.3s								
PB09	**IPOC Station P**	**1.65**	**188**	⇑*iP*		P	**Pn**	**09 07 16.1**	**+0.7**
PB09				*eS*		S	**Sn**	**09 07 37.9**	**+0.9**
PB09				IAML				09 07 38.8	
	comp=N,6μm,0.7s								
PB07	**IPOC Station P**	**1.78**	**208**	⇑*iP*		P	**Pn**	**09 07 16.6**	**-0.4**
PB07				*eS*		S	**Sn**	**09 07 39.4**	**-0.5**
PB12	**IPOC Station P**	**1.99**	**320**	*eP*		P	**Pn**	**09 07 19.2**	**-0.4**
PB12				*eS*		S	**Sn**	**09 07 44.1**	**-0.4**
PB04	**IPOC Station P**	**2.43**	**206**	*ePn*		P	**Pn**	**09 07 25.4**	**+0.1**
PB04				*eSn*		S	**Sn**	**09 07 51.1**	**-3.7**
PB10	**IPOC Station P**	**3.65**	**203**	*ePn*		P	**Pn**	**09 07 40.1**	**-1.2**
YJA	**Yavi**	**3.81**	**122**	*iP*		P	**Pn**	**09 07 47.0**	**+3.2**
YJA				IAML				09 07 48.1	
	comp=Z,20nm,0.8s								
YJA				*iS*		S	**Sn**	**09 08 28.3**	**+0.3**
LPAZ	**La Paz**	**3.93**	**12**	P		P	**Pn**	**09 07 48.1**	**+2.4**
	comp=Z,8.3nm,0.3s,baz=201,slow=5.4,SNR=193								
LPAZ				LR		LR		09 09 21.9	
	comp=Z,87nm,18.1s,baz=154,slow=40								
HJA	**Humahuaca**	**4.50**	**133**	*iP*		P	**Pn**	**09 07 54.8**	**+1.6**
GO02	**Mina Guanaco**	**5.02**	**186**	*ePn*		P	**Pn**	**09 07 59.6**	**-0.4**
AZAP	**Zapla**	**5.44**	**139**	*iP*		P	**Pn**	**09 08 06.4**	**+0.7**
AZAP				IAML				09 08 09.4	
	comp=Z,21nm,0.5s								
ASTB	**Santa Barbara**	**5.65**	**133**	*iP*		P	**Pn**	**09 08 09.2**	**+0.7**
FSA	**Cafayete**	**6.54**	**156**	*iP*		P	**Pn**	**09 08 19.4**	**-1.2**
FSA				IAML				09 08 24.7	
	comp=Z,2.4nm,0.8s								
SIV	**San Ignacio**	**8.58**	**62**	P		P	**Pn**	**09 08 46.3**	**-2.0**
	comp=Z,6.9nm,0.3s,baz=275,slow=9.4,SNR=121								
SIV				LR		LR		09 11 28.9	
	comp=Z,31nm,22.0s,baz=231,slow=34								
CPUP	**Villa Florida**	**12.35**	**122**	P		P	**Pn**	**09 09 38.0**	**-0.9**
	comp=Z,0.4nm,0.3s,baz=304,slow=12,SNR=27								
CPUP	**Villa Florida**	**12.35**	**122**	*ePn*		P	**Pn**	**09 09 37.4**	**-1.5**
SAML	**Samuel**	**12.47**	**28**	*ePn*		P	**Pn**	**09 09 38.9**	**-1.7**
TRQA	**Tornquist**	**18.85**	**163**	*eP*		P	**P**	**09 10 58.0**	**-0.5**
	comp=Z,13nm,0.7s								
GO06	**Curarrehue**	**19.48**	**186**	*eP*		P	**P**	**09 11 06.2**	**+0.6**
	comp=Z,21nm,1.0s								
PLCA	**Paso Flores**	**20.56**	**183**	P		P	**P**	**09 11 17.5**	**+0.4**
	comp=Z,11nm,0.8s,baz=22,slow=10,SNR=21								
PLCA	**Paso Flores**	**20.56**	**183**	*eP*		P	**P**	**09 11 17.7**	**+0.6**
	comp=Z,14nm,0.8s								
PTGA	**Pitinga**	**21.22**	**26**	P		P	**P**	**09 11 21.4**	**-2.9**
	comp=Z,4.5nm,0.3s,baz=213,slow=20,SNR=24								
PTGA	**Pitinga**	**21.22**	**26**	*eP*		P	**P**	**09 11 21.6**	**-2.8**
	comp=Z,5.0nm,0.4s								
RUSC	**La Rusia**	**26.20**	**351**	*eP*		P	**P**	**09 12 12.0**	**-0.3**
	comp=Z,13nm,1.8s								
APG	**El Apazote**	**40.83**	**327**	P		P	**P**	**09 14 21.0**	**+2.4**
	comp=Z,19nm,0.6s,baz=330,slow=16,SNR=12								
LTX	**Lajitas**	**59.49**	**325**	*eP*		P	**P**	**09 16 39.1**	**0.0**
TXAR	**Lajitas Array**	**59.49**	**325**	P		P	**P**	**09 16 39.1**	**0.0**
	comp=Z,0.4nm,0.8s,baz=157,slow=9.6,SNR=4.5								
VNA3	**Neumayer Olymp**	**61.37**	**162**	P		P	**P**	**09 16 50.5**	**-0.7**
VNA2	**Neumayer--Watz**	**61.94**	**161**	P		P	**P**	**09 16 55.6**	**+0.6**
	baz=296,slow=8.0								
SNAA	**Sanae**	**63.57**	**161**	P		P	**P**	**09 17 06.3**	**+0.4**
SNAA	**Sanae**	**63.57**	**161**	P		P	**P**	**09 17 06.4**	**+0.5**
	comp=Z,3.5nm,0.7s,baz=276,slow=6.3,SNR=15								
SNAA	**Sanae**	**63.57**	**161**	*eP*		P	**P**	**09 17 06.4**	**+0.5**
	comp=Z,6.4nm,0.9s								
LIC	**Lamto**	**68.08**	**74**	*eP*		P	**P**	**09 17 34.9**	**-0.8**
	comp=Z,53nm,1.7s								
TIC	**Toumodi**	**68.26**	**74**	*eP*		P	**P**	**09 17 36.3**	**-0.6**
KIC	**Kosan Boka**	**68.40**	**74**	*eP*		P	**P**	**09 17 36.6**	**-1.1**
	comp=Z,14nm,0.9s								
DBIC	**Dimbokro**	**68.42**	**74**	P		P	**P**	**09 17 37.1**	**-0.7**
	comp=Z,4.3nm,0.7s,baz=236,slow=7.0,SNR=7.9								
DBIC	**Dimbokro**	**68.42**	**74**	*eP*		P	**P**	**09 17 36.5**	**-1.4**
	comp=Z,29nm,1.7s								
SWSC	**Sam W. Stewart**	**69.19**	**319**	*eP*		P	**P**	**09 17 45.3**	**+3.1**
QSPA	**South Pole Qui**	**70.03**	**180**	P		P	**P**	**09 17 48.5**	**+1.4**
	comp=Z,1.8nm,0.6s,baz=171,slow=6.8,SNR=4.5								
CRY	**Cary Ranch**	**70.19**	**319**	*eP*		P	**P**	**09 17 49.0**	**+0.5**
KOWA	**Kowa**	**72.55**	**67**	P		P	**P**	**09 18 02.5**	**-0.4**
	comp=Z,1.5nm,0.6s,baz=261,slow=6.6,SNR=5.1								
PDAR	**Pinedale Array**	**72.92**	**330**	P		P	**P**	**09 18 05.0**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=118,slow=7.6,SNR=4.4								
ULM	**Lac du Bonnet**	**74.02**	**342**	P		P	**P**	**09 18 09.7**	**-1.1**
	comp=Z,1.6nm,0.5s,baz=143,slow=5.1,SNR=3.0								
TPAW	**Teton Pass**	**74.13**	**330**	*eP*		P	**P**	**09 18 11.8**	**-0.2**
	comp=Z,3.1nm,0.8s								
NV01	**Mina Array Sit**	**74.40**	**322**	*eP*		P	**P**	**09 18 13.3**	**-0.3**
NVAR	**Mina Array Bea**	**74.40**	**322**	P		P	**P**	**09 18 14.8**	**+1.2**
	comp=Z,0.5nm,0.8s,baz=143,slow=5.4,SNR=3.9								
PAHR	**Pah Rah Range**	**75.88**	**322**	*eP*		P	**P**	**09 18 22.5**	**+0.5**
	comp=Z,7.6nm,1.6s								
VNDA	**Vanda**	**78.16**	**190**	P		P	**P**	**09 18 36.0**	**+2.0**
	comp=Z,0.5nm,0.6s,baz=119,slow=5.5,SNR=5.6								
VNDA	**Vanda**	**78.16**	**190**	*eP*		P	**P**	**09 18 35.2**	**+1.2**
EDM	**Edmonton**	**82.52**	**335**	*eP*		P	**P**	**09 18 56.9**	**-0.7**
	comp=Z,5.3nm,0.6s								
BOSA	**Boshof**	**84.14**	**118**	P		P	**P**	**09 19 06.5**	**-0.3**
	comp=Z,4.0nm,0.8s,baz=104,slow=1.4,SNR=4.1								
YKA	**Yellowknife Ar**	**89.90**	**341**	P		P	**P**	**09 19 33.4**	**-0.1**
	comp=Z,2.8nm,0.8s,baz=130,slow=4.5,SNR=72								
ASAR	**Alice Springs**	**131.06**	**208**	PKP			**PKPdf**	**09 25 46.1**	**-0.9**
	comp=Z,0.5nm,0.5s,baz=132,slow=1.8,SNR=9.1								
PEA1	**Petropavlovsk-**	**131.44**	**324**	*e*PKPdf			**PKPdf**	**09 25 47.4**	**+0.7**
PETK	**Petropavlovsk-**	**131.44**	**324**	PKP			**PKPdf**	**09 25 47.4**	**+0.7**
	comp=Z,1.6nm,0.6s,baz=69,slow=7.9,SNR=3.6								
WR1	**Warramunga Arr**	**134.07**	**211**	*e*PKPdf			**PKPdf**	**09 25 52.5**	**-0.2**
WRA	**Warramunga Arr**	**134.07**	**211**	PKP			**PKPdf**	**09 25 52.5**	**-0.2**
	comp=Z,0.7nm,0.6s,baz=155,slow=1.7,SNR=13								
ZAA1	**Zalesovo Array**	**140.76**	**24**	*e*PKPdf			**PKPdf**	**09 26 03.8**	**-0.2**
ZALV	**Zalesovo Beam**	**140.76**	**24**	PKP			**PKPdf**	**09 26 03.8**	**-0.2**
	comp=Z,0.9nm,0.5s,baz=316,slow=4.1,SNR=3.7								
ASAJ	**Asahikawa**	**144.50**	**319**	PKP			**PKPab**	**09 26 09.7**	**+0.2**
	comp=Z,1.7nm,0.6s,baz=104,slow=8.3,SNR=9.0								
MK32	**Makanchi Array**	**144.58**	**35**	*e*PKPdf			**PKPab**	**09 26 09.8**	**+0.1**
MKAR	**Makanchi Array**	**144.58**	**35**	PKP			**PKPab**	**09 26 09.8**	**+0.1**
	comp=Z,0.6nm,0.6s,baz=304,slow=2.9,SNR=5.9								
KLR	**Kul'dur**	**146.58**	**335**	PKPbc			**PKPdf**	**09 26 15.0**	**+0.7**
	comp=Z,0.1nm,0.4s,baz=110,slow=3.8,SNR=3.3								
USRK	**Ussuriysk Ar.**	**150.34**	**329**	PKPbc			**PKPbc**	**09 26 26.2**	**+0.4**
	comp=Z,2.3nm,0.7s,baz=72,slow=3.5,SNR=5.0								
SONA0	**Songino Array**	**152.13**	**7**	*e*PKPbc			**PKPbc**	**09 26 30.3**	**+0.2**
SONM	**Songino Array**	**152.13**	**7**	PKPbc			**PKPbc**	**09 26 30.3**	**+0.2**
	comp=Z,1.3nm,0.4s,baz=282,slow=1.5,SNR=5.4								

MAN 19 09:07:12,9.°78N×123.°23E,h35km,mb4.0,ML2.8,MS2.4, Negros

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SNPH	**Sibulan**	**0.43**	**179**	*eP*		P	Pn	09 07 23.8	+2.0
SNPH				*eS*		S	Sn	09 07 30.8	+2.3
TBP	**Tagbilaran**	**0.63**	**98**	*eP*		P	Pn	09 07 25.7	+1.2
LLP	**Lapu-Lapu**	**0.90**	**53**	*eP*		P	Pn	09 07 29.4	+1.2
LLP				*eS*		S	Sn	09 07 40.9	+1.0
GUIM	**Jordan**	**1.05**	**323**	*eP*		P	Pn	09 07 31.0	+0.7
GUIM				*eS*		S	Sn	09 07 44.2	+0.5
MSLP	**Maasin**	**1.64**	**77**	*eP*		P	Pn	09 07 42.5	+4.1
MSLP				*eS*		S	Sn	09 08 05.5	+7.2

JMA 19 09:07:13.1,36.°90N×140.°60E,h18km,M3.1,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.26**	**38**	P		P	Pg	09 07 18.9	-0.1
ONAJ				S		S	Sg	09 07 22.9	-0.1
JHO	**Hitachi**	**0.29**	**185**	P		P	Pg	09 07 19.2	-0.3
JHO				S		S	Sg	09 07 23.6	-0.2
JFK	**Kawauchi**	**0.52**	**25**	P		P	Pg	09 07 23.1	-0.4
JFK				S		S	Sg	09 07 30.1	-0.4
MAT	**Matsushiro**	**1.96**	**260**	P		P	Pn	09 07 46.6	+1.2
MAT				S		S	Sb	09 08 12.1	-0.1

IDC 19 09:11:28.7±5.7,44.°47N×131.°08E,h0km,Error ellipse: s-maj=31.4km s-min=12.5km az=113.0, Priamurye-Northeastern China border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
I45RU	**USSURIYSK INFR**	**0.70**	**113**	*i*				09 13 40.0	
	baz=293,slow=338,SNR=16								
USRK	**Ussuriysk Ar.**	**0.70**	**112**	Pg		Pg		09 11 41.9	-0.2
	0.2nm,0.3s,baz=293,slow=18,SNR=3.8								
USRK				Lg		Lg		09 11 52.5	
	0.4nm,0.3s,baz=302,slow=40,SNR=4.2								
USRK				*i*				09 13 36.3	
	1.1nm,0.3s,baz=295,slow=36,SNR=7.0								
I44RU	**PETROPAVLOVSK1**	**9.46**	**54**	*i*				11 12 30.0	
	baz=251,slow=327,SNR=0.9								

*IDC **19** 09:12:14.3±2.2,17.°89S×178.°47W,h548km±25km, mb3.4/10,mb1 3.6/11,mb1mx3.2/52,mbtmp4.3/11,Error ellipse: s-maj=56.0km s-min=12.0km az=154.0*

*ISCJB **19** 09:12:15.8±1.1,17.°9S±0.°4×178.°6W±0.°2,h579km, mb3.8/10,Error ellipse: s-maj=63.3km s-min=13.8km az=154.8*

ISC 19 09:12:16.0±1.1,18.°0S±0.°4×178.°4W±0.°2,h579km,n11, σ1§60/12,mb3.8/10,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.52**	**58**	P		P	**P**	**09 14 07.0**	**-3.3**
	2.3nm,0.3s,baz=127,slow=12,SNR=4.7								
CTA	**Charters Tower**	**33.47**	**261**	P		P	**P**	**09 18 08.0**	**-0.5**
	4.2nm,0.7s,baz=96,slow=9.8,SNR=6.3								
PMG	**Port Moresby**	**34.50**	**280**	P		P	**P**	**09 18 17.4**	**+0.2**
	5.9nm,0.5s,baz=44,slow=9.6,SNR=4.3								
STKA	**Stephens Creek**	**38.63**	**241**	P		P	**P**	**09 18 51.2**	**+0.4**
	3.3nm,0.5s,baz=91,slow=10,SNR=17								
WRA	**Warramunga Arr**	**44.65**	**260**	P		P	**P**	**09 19 37.3**	**-1.1**
	3.5nm,0.7s,baz=94,slow=7.1,SNR=59								
ASAR	**Alice Springs**	**44.81**	**254**	P		P	**P**	**09 19 39.1**	**-0.5**
	20nm,0.6s,baz=88,slow=8.5,SNR=314								
ASAR				PcP		PcP	**PcP**	**09 21 08.8**	**-0.2**
	0.4nm,0.5s,baz=90,slow=5.6,SNR=4.3								
YBH	**Yreka Blue Hor**	**78.55**	**39**	P		P	**P**	**09 23 20.1**	**+1.6**
	0.8nm,0.5s,baz=214,slow=3.6,SNR=5.6								
NVAR	**Mina Array Bea**	**79.45**	**44**	P		P	**P**	**09 23 24.9**	**+1.5**
	1.0nm,0.7s,baz=225,slow=8.2,SNR=7.9								
TXAR	**Lajitas Array**	**86.00**	**58**	P		P	**P**	**09 23 58.6**	**+2.3**
	0.9nm,0.7s,baz=217,slow=5.7,SNR=14								
PDAR	**Pinedale Array**	**87.37**	**43**	P		P	**P**	**09 24 02.3**	**-0.3**
	0.5nm,0.6s,baz=205,slow=3.3,SNR=7.1								
YKA	**Yellowknife Ar**	**94.38**	**25**	P		P	**P**	**09 24 33.8**	**-0.3**
	0.1nm,0.5s,baz=237,slow=4.9,SNR=5.0								

*ISCJB **19** 09:26:10.1±0.7,60.°63S±0.°09×25.°1W±0.°3,h11km,mb4.0/8, MS3.6/8,Error ellipse: s-maj=21.3km s-min=10.5km az=154.5*

*IDC **19** 09:26:10.2±0.8,60.°62S×25.°10W,h0km,mb4.2/7, mb1 4.2/8,mb1mx3.9/30,mbtmp4.2/8,ML4.8/1,MS3.6/8, Ms1 3.6/8,ms1mx3.3/29,Error ellipse: s-maj=26.6km s-min=22.9km az=69.0*

ISC 19 09:26:11.9±0.7,60.°7S±0.°1×25.°0W±0.°2,h11km,n22, σ2§12/16,mb4.2/8,MS3.5/8,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**12.05**	**153**	P		P	**Pn**	**09 29 05.8**	**+2.5**
VNA1				S		S	**Sn**	**09 31 12.2**	**-5.2**
VNA3	**Neumayer Olymp**	**12.21**	**156**	P		P	**Pn**	**09 29 07.7**	**+2.3**
VNA3				S		S	Sn	09 31 10.3	-11
VNA2	**Neumayer--Watz**	**12.45**	**153**	P		P	**Pn**	**09 29 11.2**	**+2.5**
	baz=318,slow=13								
VNA2				S		S	Sn	09 31 20.5	-6.7
SNAA	**Sanae**	**14.03**	**151**	P		P	**Pn**	**09 29 32.2**	**+1.9**
SNAA				S		S	Sn	09 31 56.4	-9.4
SNAA	**Sanae**	**14.03**	**151**	Pn		P	**Pn**	**09 29 32.3**	**+1.9**
	4.0nm,0.3s,baz=323,slow=17,SNR=122								
SNAA				Sn		Sn	Sn	09 31 57.8	-8.1
	0.6nm,0.3s,baz=3.6,slow=19,SNR=9.6								
QSPA	**South Pole Qui**	**29.52**	**180**	P		P	**P**	**09 32 17.3**	**+1.3**
	5.5nm,0.8s,baz=199,slow=4.6,SNR=2.5								
PLCA	**Paso Flores**	**34.16**	**285**	P		P	**P**	**09 32 55.7**	**-1.1**
	0.8nm,0.7s,baz=167,slow=7.8,SNR=5.1								
PLCA				LR		LR	LR	09 44 54.0	
	comp=Z,81nm,21.0s,baz=195,slow=33								
MAW	**Mawson**	**35.76**	**139**	LR		LR		09 46 46.1	
	comp=Z,71nm,18.1s,baz=238,slow=34								
CPUP	**Villa Florida**	**40.81**	**313**	LR		LR		09 49 19.3	
	comp=Z,29nm,21.6s,baz=206,slow=34								
VNDA	**Vanda**	**41.95**	**182**	P		P		09 34 08.1	+6.2
	1.1nm,0.7s,baz=189,slow=7.5,SNR=7.8								
BOSA	**Boshof**	**46.26**	**69**	P		P	**P**	**09 34 36.8**	**-0.4**
	2.8nm,0.9s,baz=203,slow=5.4,SNR=3.9								
LPAZ	**La Paz**	**54.05**	**306**	P		P	**P**	**09 35 36.4**	**-0.5**
	0.6nm,0.5s,baz=143,slow=4.4,SNR=3.9								
LPAZ				LR		LR		10 00 53.7	
	comp=Z,12nm,18.7s,baz=155,slow=39								
DBIC	**Dimbokro**	**69.02**	**21**	P		P	**P**	**09 37 16.3**	**-0.9**
	1.8nm,0.5s,baz=205,slow=4.6,SNR=3.1								
RPZ	**Rata Peaks**	**75.11**	**192**	LR		LR		10 08 12.6	
	comp=Z,154nm,19.6s,baz=53,slow=34								
ROSC	**El Rosal**	**75.75**	**309**	LR		LR		10 13 51.5	
	comp=Z,16nm,18.8s,baz=192,slow=38								
KOWA	**Kowa**	**76.81**	**21**	P		P	**P**	**09 38 04.2**	**+0.9**
	1.5nm,0.6s,baz=166,slow=4.9,SNR=4.5								
URZ	**Urewera**	**79.73**	**197**	LR		LR		10 10 45.2	
	comp=Z,48nm,18.3s,baz=3.0,slow=34								
ASAR	**Alice Springs**	**94.18**	**161**	P		P	**P**	**09 39 30.5**	**-0.2**
	0.9nm,1.0s,baz=184,slow=5.3,SNR=4.4								
CTA	**Charters Tower**	**99.17**	**172**	LR		LR		10 25 26.5	
	comp=Z,107nm,18.3s,baz=174,slow=36								
YKA	**Yellowknife Ar**	**140.34**	**313**	PKP			**PKPdf**	**09 45 40.0**	**+0.8**
	0.3nm,0.6s,baz=129,slow=2.4,SNR=10.0								
SONM	**Songino Array**	**149.58**	**93**	PKPbc			**PKPbc**	**09 46 00.7**	**+0.4**
	1.3nm,0.9s,baz=231,slow=4.7,SNR=4.5								
ILAR	**Eielson Array**	**153.92**	**304**	PKPbc			**PKPbc**	**09 46 08.7**	**-0.9**
	0.4nm,0.8s,baz=150,slow=2.7,SNR=4.1								

*JMA **19** 09:26:56.9±0.3,22.°78N×122.°83E,h49km,M2.9*
*TAP **19** 09:26:57.9,22.°68N×122.°69E,h72km±1km,ML3.5,D*
ISC 19 09:26:51.5±1.4,22.°67N±0.°04×122.°82E±0.°03,h7km±10km, n73,σ1§16/118,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TWH	**Lutao**	**1.24**	**272**	P		P	**Pn**	**09 27 17.6**	**+2.4**
	baz=277								
TWH				*eS*		S	**Sn**	**09 27 32.3**	**+0.1**
	baz=277								
LAY	**Lan-yu**	**1.33**	**242**	*eP*		P	**Pn**	**09 27 19.7**	**+3.1**
	baz=239								
CHKT	**Chengkung**	**1.41**	**288**	P		P	**Pb**	**09 27 19.6**	**+1.5**
	baz=292								
CHKT				*eS*		S	**Sg**	**09 27 35.3**	**-1.5**
	baz=292								
FULB	**Fuli**	**1.50**	**291**	P		P	**Pg**	**09 27 21.0**	**+0.6**
	baz=299								
FULB				*eS*		S	**Sb**	**09 27 36.9**	**-2.2**
	baz=299								
HGSD	**Ruisui**	**1.53**	**303**	*eP*		P	**Pg**	**09 27 20.9**	**+0.2**
	baz=305								
HGSD				*eS*		S	**Sn**	**09 27 37.3**	**-2.0**
	baz=305								
TWF1	**Yuli**	**1.56**	**296**	P		P	**Pg**	**09 27 22.0**	**+0.6**
	baz=304								
TWF1				*eS*		S	**Sn**	**09 27 37.7**	**-2.5**
	baz=304								
YULB	**Yu-li**	**1.58**	**297**	*eP*		P	**Pg**	**09 27 22.3**	**+0.5**
	baz=299								
YULB				*eS*		S	**Sn**	**09 27 39.8**	**-0.8**
	baz=299								
EHY	**Hungye**	**1.61**	**301**	*eP*		P	**Pg**	**09 27 22.6**	**+0.2**
	baz=304								
EHY				*eS*		S	**Sn**	**09 27 41.1**	**-0.4**
	baz=304								
TWGBT	**Beinan**	**1.61**	**276**	*eP*		P	**Pg**	**09 27 23.7**	**+1.3**
	baz=280								
TWGBT				*eS*		S	**Sg**	**09 27 42.3**	**-1.1**
	baz=280								
TWG	**Pinlang**	**1.62**	**276**	*eP*		P	**Pg**	**09 27 23.7**	**+1.1**
	baz=280								
TWG				*eS*		S	**Sb**	**09 27 42.0**	**-0.5**
	baz=280								
HATJ	**Hateruma jima**	**1.65**	**33**	P		P	**Pb**	**09 27 22.8**	**+0.5**
HATJ						S	**Sn**	**09 27 41.1**	**-1.3**
ENLB	**Shoufeng**	**1.66**	**318**	*eP*		P	**Pg**	**09 27 24.4**	**+1.0**
	baz=328								
ESL	**Shilin**	**1.71**	**312**	*eP*		P	**Pg**	**09 27 25.5**	**+1.2**
	baz=315								
ESL				*eS*		S	**Sn**	**09 27 42.5**	**-1.5**
	baz=315								
ECL	**Taimali**	**1.73**	**268**	*eP*		P	**Pg**	**09 27 24.7**	**+0.1**
	baz=277								
ECL				*eS*		S	**Sb**	**09 27 45.0**	**-0.4**
	baz=277								
ELDTW	**Lidau**	**1.74**	**288**	*eP*		P	**Pg**	**09 27 24.8**	**-0.1**
	baz=289								
ELDTW				*eS*		S	**Sn**	**09 27 44.1**	**-0.7**
	baz=289								
JYNG	**Yonagunijimaku**	**1.78**	**4**	P		P	**Pb**	**09 27 25.4**	**+1.0**
JYNG				S		S	**Sn**	**09 27 44.7**	**-0.8**
YOJ	**Yonaguni jima**	**1.79**	**6**	*eP*		P	**Pb**	**09 27 25.5**	**+0.8**
	baz=17								
YOJ	**Yonaguni jima**	**1.79**	**6**	P		P	**Pb**	**09 27 25.3**	**+0.6**
YOJ				*eS*		S	**Sn**	**09 27 44.8**	**-1.1**
TWD	**Chiawan**	**1.80**	**322**	*eP*		P	**Pb**	**09 27 25.1**	**+0.3**
	baz=331								
TWD				*eS*		S	**Sn**	**09 27 43.4**	**-2.7**
	baz=331								
EAST	**Anshuo**	**1.85**	**262**	*eP*		P	**Pg**	**09 27 27.1**	**+0.2**
	baz=270								
EAST				*eS*		S	**Sb**	**09 27 47.7**	**-1.3**

NNSH	**Datong** baz=325	**2.19**	**323**	*e*P		**Pb**	**09 27 31.4**	**-0.2**
TDCB	**Techi** baz=323	**2.20**	**316**	*e*P		**Pb**	**09 27 31.5**	**-0.1**
NNS	**Nan Shan** baz=325	**2.21**	**323**	*e*P		**Pn**	**09 27 30.1**	**+1.3**
DPDB	**Guoxing** baz=310	**2.21**	**308**	*e*P		**Pb**	**09 27 32.2**	**+0.4**
TWK	**Hsinying** baz=294	**2.23**	**286**	*e*P		**Pg**	**09 27 34.3**	**0.0**
ENTT	**Nioudou** baz=328	**2.27**	**330**	*e*P		**Pb**	**09 27 32.6**	**-0.4**
ENTT	baz=328			*e*S		**Sn**	**09 27 57.5**	**-0.4**
TWE	**Neicheng** baz=328	**2.30**	**333**	*e*P		**Pb**	**09 27 32.7**	**-0.6**
JISG	**Ishigakijimahi**	**2.35**	**35**	P		**Pn**	**09 27 31.8**	**+1.3**
JISG				S		**Sn**	**09 27 57.8**	**-1.8**
YHNB	**Yeheng** baz=329	**2.39**	**327**	*e*P		**Pb**	**09 27 33.9**	**-1.1**
YHNB	baz=329			*e*S		**Sn**	**09 27 59.6**	**-1.2**
NWLT	**Wulai** baz=332	**2.42**	**330**	*e*P		**Pb**	**09 27 35.0**	**-0.4**
TIPB	**Shuangxi** baz=347	**2.47**	**339**	*e*P		**Pn**	**09 27 33.7**	**+1.5**
TIPB	baz=347			*e*S		**Sn**	**09 28 01.3**	**-1.4**
TWQ1	**Liyutan** baz=321	**2.52**	**312**	*e*P		**Pb**	**09 27 36.2**	**-0.8**
NSTT	**Nanjuang** baz=327	**2.57**	**320**	*e*P		**Pb**	**09 27 37.3**	**-0.6**
LIOB	**Emei** baz=327	**2.57**	**320**	*e*P		**Pb**	**09 27 38.1**	**+0.1**
NWF	**Wu-fen Shan** baz=350	**2.58**	**339**	*e*P		**Pb**	**09 27 38.2**	**+0.1**
WFSB	**Wu-fen Shan** baz=349	**2.58**	**339**	*e*P		**Pb**	**09 27 38.0**	**0.0**
JTJ	**Tarama**	**2.61**	**41**	P		**Pn**	**09 27 36.0**	**+1.9**
JTJ				*e*S		**Sn**	**09 28 04.9**	**-1.2**
YM07	**YM07** baz=338	**2.73**	**336**	*e*P		**Pn**	**09 27 38.5**	**+2.8**
WDGT	**Dungji** baz=283	**2.97**	**282**	*e*P		**Pb**	**09 27 42.0**	**-2.7**
JIRB	**Irabujima**	**3.04**	**45**	*e*S		**Sn**	**09 28 15.3**	**-1.5**
PHUB	**P'eng-hu** baz=287	**3.11**	**286**	*e*P		**Pb**	**09 27 44.8**	**-2.3**
PHUB	baz=287			*e*S		**Sn**	**09 28 19.5**	**+1.2**
VWUC	**VWUC** baz=308	**3.86**	**307**	*e*P		**Pn**	**09 27 54.4**	**+3.1**
VWUC	baz=308			*e*S		**Sn**	**09 28 35.6**	**-1.2**

*ISCJB **19** 09:34:41.9±0.5, 36.64N±0.03×2.76W±0.02, h4km±3km, Error ellipse: s-maj=4.3km s-min=3.1km az=170.6*
*CSEM **19** 09:34:43.2±0.2, 36.53N×2.69W, h10km, ML3.5/16, Error ellipse: s-maj=3.1km s-min=2.6km az=150.0*
*CRAAG **19** 09:34:43.0, 36.52N×2.69W, Ml3.2*
*MDD **19** 09:34:44.2±0.3, 36.50N×2.63W, h11km, mbLg3.2/38, Error ellipse: s-maj=3.3km s-min=2.6km az=125.0, PRXIMO*
MDD EMS: II INTENSIDAD MAXIMA.
*INMG **19** 09:34:44.6±1.9, 36.50N×2.65W, h12km±5km, ML3.2, Error ellipse: s-maj=3.9km s-min=2.8km az=116.0*

ISC 19 09:34:42.3±1.2, 36°52N±0'02×2°65W±0'02, h14km±10km, n130, σ1$57/170, 1C-2D, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
EBER	**Berja** 380nm,0.2s,SNR=18	**0.43**	**334**	⇓Pg		**Pb**	**09 34 52.4**	**+0.6**
EBER	3μm,0.4s,SNR=37				Lg	Lg	09 34 58.5	
EBER	**Berja** 380nm,0.2s,SNR=18	**0.43**	**334**	Pg		**Pb**	**09 34 52.4**	**+0.6**
EBER	3μm,0.4s,SNR=37				Lg	Lg	09 34 58.5	
ENIJ	**Nijar** 310nm,0.3s,SNR=18	**0.58**	**38**	⇑Pg		**Pb**	**09 34 54.6**	**+0.3**
ENIJ	3μm,0.3s,SNR=7.9				Lg	Lg	09 35 02.5	
ENIJ	**Nijar** 310nm,0.3s,SNR=18	**0.58**	**38**	Pg		**Pb**	**09 34 54.6**	**+0.3**
ENIJ	3μm,0.3s,SNR=7.9				Lg	Lg	09 35 02.5	
EALB	**Alboran** 420nm,0.4s,SNR=13	**0.65**	**208**	Pg		**Pn**	**09 34 56.8**	**-0.3**
EALB	2μm,0.3s,SNR=24				Lg	Lg	09 35 05.9	
EALB	**Alboran** 420nm,0.4s,SNR=13	**0.65**	**208**	Pg		**Pn**	**09 34 56.8**	**-0.3**
EALB	2μm,0.3s,SNR=24				Lg	Lg	09 35 05.9	
ELGU	**Los Guajares,** 130nm,0.1s,SNR=7.9	**0.86**	**295**	Pg		**Pb**	**09 34 59.8**	**+0.7**
ELGU	3μm,0.2s,SNR=7.9				Lg	Lg	09 35 12.5	
ELGU	**Los Guajares,** 130nm,0.1s,SNR=7.9	**0.86**	**295**	Pg		**Pb**	**09 34 59.8**	**+0.7**
ELGU	3μm,0.2s,SNR=7.9				Lg	Lg	09 35 12.5	
EQUE	**Quentar** 271nm,0.4s,SNR=18	**0.93**	**318**	⇓Pg		**Pn**	**09 35 01.9**	**+0.8**
EQUE	1μm,0.5s,SNR=17				Lg	Lg	09 35 13.7	
EQUE	**Quentar** 271nm,0.4s,SNR=18	**0.93**	**318**	Pg		**Pn**	**09 35 01.9**	**+0.8**
EQUE	1μm,0.5s,SNR=17				Lg	Lg	09 35 13.7	
GORA	**Gorafe** 71nm,0.5s,SNR=7.9	**1.01**	**342**	Pg		**Pn**	**09 35 02.8**	**+0.6**
GORA	921nm,0.4s,SNR=7.9				Lg	Lg	09 35 17.2	
GORA	**Gorafe** 71nm,0.5s,SNR=7.9	**1.01**	**342**	Pg		**Pn**	**09 35 02.8**	**+0.6**
GORA	921nm,0.4s,SNR=7.9				Lg	Lg	09 35 17.2	
EMLI	**Melilla** 44nm,0.6s,SNR=7.9	**1.24**	**191**	Pg		**Pn**	**09 35 06.3**	**+1.2**
EMLI	526nm,0.2s,SNR=7.9				Lg	Lg	09 35 22.5	
EMEL	**Melilla** 44nm,0.6s,SNR=7.9	**1.24**	**192**	Pg		**Pn**	**09 35 06.3**	**+1.1**
EMEL	526nm,0.2s,SNR=7.9				Lg	Lg	09 35 22.5	
MELI	**Melilla** 40nm,2.7s	**1.24**	**191**	Pg		**Pg**	**09 35 06.3**	**+0.1**
MELI	168nm,0.4s,SNR=4.0				Lg	Lg	09 35 22.4	
MELI	**Melilla** 40nm,2.7s	**1.24**	**191**	Pg		**Pg**	**09 35 06.3**	**+0.1**
MELI	168nm,0.4s,SNR=4.0				Lg	Lg	09 35 22.4	
EGOR	**Sierra Gorda,** 19nm,1.1s,SNR=7.9	**1.31**	**297**	Pg		**Pg**	**09 35 08.1**	**+0.5**
EGOR	529nm,0.5s,SNR=7.9				Lg	Lg	09 35 26.4	
EGOR	**Sierra Gorda,** 19nm,1.1s,SNR=7.9	**1.31**	**297**	Pg		**Pg**	**09 35 08.1**	**+0.5**
EGOR	529nm,0.5s,SNR=7.9				Lg	Lg	09 35 26.4	
EQES	**Quesada** 9.7nm,0.2s,SNR=44	**1.33**	**346**	Pg		**Pg**	**09 35 09.4**	**+1.5**
EQES	122nm,0.3s,SNR=4.8				Lg	Lg	09 35 28.0	
EQES	**Quesada** 9.7nm,0.2s,SNR=44	**1.33**	**346**	Pg		**Pg**	**09 35 09.4**	**+1.5**
EQES	122nm,0.3s,SNR=4.8				Lg	Lg	09 35 28.0	
EMAL	**Malaga-Limoner**	**1.45**	**280**	Pn		**Pn**	**09 35 07.9**	**-0.2**
EMAL				Sn		**Sn**	**09 35 26.8**	**-0.1**
EMAL	**Malaga-Limoner**	**1.45**	**280**	Pn		**Pn**	**09 35 07.9**	**-0.2**
EMAL				Sn		**Sn**	**09 35 26.8**	**-0.1**
SESP	**Santiago Espad** 48nm,0.2s,SNR=7.9	**1.60**	**3**	Pn		**Pb**	**09 35 11.9**	**+0.1**
SESP	19nm,0.6s,SNR=7.9			Pg		**Pg**	**09 35 13.8**	**+0.7**
SESP	366nm,0.4s,SNR=7.9				Lg	Lg	09 35 36.0	
SESP	**Santiago Espad** 48nm,0.2s,SNR=7.9	**1.60**	**3**	Pn		**Pb**	**09 35 11.9**	**+0.1**
SESP	**Santiago Espad** 19nm,0.6s,SNR=7.9	**1.60**	**3**	Pg		**Pg**	**09 35 13.8**	**+0.7**
SESP					Lg	Lg	09 35 36.0	
CART	**Cartagena**	**1.70**	**51**	Pg		**Pb**	**09 35 14.0**	**+0.7**
CART				Sn		**Sn**	**09 35 33.6**	**+0.5**
EMIJ	**Mijas** 23nm,0.3s,SNR=20	**1.71**	**272**	Pn		**Pn**	**09 35 10.6**	**-1.1**
EMIJ	82nm,0.5s,SNR=7.9				Pg	**Pg**	**09 35 15.4**	**+0.3**
EMIJ	257nm,2.6s,SNR=7.9				Sn	**Sn**	**09 35 30.3**	**-3.0**
EMUR	**La Murta** 16nm,0.3s,SNR=18	**1.74**	**40**	Pn		**Pn**	**09 35 12.7**	**+0.6**
EMUR	40nm,0.4s,SNR=7.9				Pg	**Pg**	**09 35 15.8**	**+0.1**
EMUR	203nm,0.4s,SNR=7.9				Sn	**Sn**	**09 35 32.9**	**-1.2**
EMUR	**La Murta** 16nm,0.3s,SNR=18	**1.74**	**40**	Pn		**Pn**	**09 35 12.7**	**+0.6**
USTO	**Oran**	**1.87**	**114**	P		**Sn**	**09 35 38.0**	**+0.7**
USTO	**Oran**	**1.87**	**114**	Sn		**Sn**	**09 35 38.0**	**+0.7**
EADA	**Adamuz** 1.2nm,0.9s,SNR=7.9	**2.25**	**318**	Pn		**Pn**	**09 35 20.5**	**+1.3**
EADA	14nm,0.2s,SNR=7.9				Pg	**Pg**	**09 35 25.4**	**-0.1**
EADA	42nm,0.3s,SNR=7.9				Lg	Lg	09 35 55.7	
EADA	**Adamuz** 1.2nm,0.9s,SNR=7.9	**2.25**	**318**	Pn		**Pn**	**09 35 20.5**	**+1.3**
EJIF	**Jimena Fronter** 17nm,0.4s,SNR=4.0	**2.27**	**269**	Pg		**Pg**	**09 35 25.2**	**-0.7**
EJIF	36nm,0.4s,SNR=7.9				Lg	Lg	09 35 56.0	
EJIF	**Jimena Fronter** 17nm,0.4s,SNR=4.0	**2.27**	**269**	Pg		**Pg**	**09 35 25.2**	**-0.7**
EJIF	36nm,0.4s,SNR=7.9				Lg	Lg	09 35 56.0	
CEU	**Ceuta**	**2.28**	**255**	Pn		**Pn**	**09 35 21.4**	**+1.8**
CEU	**Ceuta**	**2.28**	**255**	Pn		**Pn**	**09 35 21.4**	**+1.8**
ETOB	**Tobarra** 6.8nm,0.2s,SNR=22	**2.30**	**22**	Pn		**Pn**	**09 35 21.4**	**+1.5**
ETOB	100nm,0.4s,SNR=7.9				Sn	**Sn**	**09 35 49.0**	**+1.0**
ETOB	228nm,0.6s,SNR=4.9				Lg	Lg	09 35 56.9	
ETOB	**Tobarra** 6.8nm,0.2s,SNR=22	**2.30**	**22**	Pn		**Pn**	**09 35 21.4**	**+1.5**
ETOB	100nm,0.4s,SNR=7.9				Sn	**Sn**	**09 35 49.0**	**+1.0**
ETOB	228nm,0.6s,SNR=4.9				Lg	Lg	09 35 56.9	
ESPR	**Espera** 6.3nm,0.4s,SNR=73	**2.60**	**279**	Pn		**Pn**	**09 35 25.5**	**+1.6**
ESPR	67nm,0.4s,SNR=4.0				Lg	Lg	09 36 06.3	
ESPR	**Espera** 6.3nm,0.4s,SNR=73	**2.60**	**279**	Pn		**Pn**	**09 35 25.5**	**+1.6**
ESPR	67nm,0.4s,SNR=4.0				Lg	Lg	09 36 06.3	
ECAB	**El Cabril** 0.9nm,0.2s,SNR=7.9	**2.70**	**306**	Pn		**Pn**	**09 35 27.3**	**+1.9**
ECAB	7.6nm,0.2s,SNR=7.9				Pg	**Pg**	**09 35 33.5**	**-0.6**
ECAB	12nm,1.5s,SNR=7.9				Sn	**Sn**	**09 35 58.8**	**+0.9**
ECAB	71nm,0.5s,SNR=7.9				Lg	Lg	09 36 10.4	
ECAB	**El Cabril** 0.9nm,0.2s,SNR=7.9	**2.70**	**306**	Pn		**Pn**	**09 35 27.3**	**+1.9**
PAB	**San Pablo** 4.9nm,2.1s,SNR=7.9	**3.31**	**337**	Pn		**Pn**	**09 35 35.9**	**+2.2**
PAB	8.5nm,1.4s,SNR=7.9				Pg	**Pg**	**09 35 44.8**	**-0.9**
PAB	55nm,0.7s,SNR=7.9				Lg	Lg	09 36 29.4	
PAB	**San Pablo** 4.9nm,2.1s,SNR=7.9	**3.31**	**337**	Pn		**Pn**	**09 35 35.9**	**+2.2**
ESDC	**Sonseca Array** 0.9nm,0.3s,baz=156,slow=13,SNR=6.0	**3.32**	**342**	Pn		**Pn**	**09 35 36.1**	**+2.2**
ESDC	baz=165,slow=17,SNR=7.9				Pg	**Pg**	**09 35 45.0**	**-0.9**
ESDC	baz=156,slow=27,SNR=7.9				Lg	Lg	09 36 30.6	
ESDC	**Sonseca Array** 0.9nm,0.3s,SNR=6.0	**3.32**	**342**	Pn		**Pn**	**09 35 36.1**	**+2.2**
ESDC	**Sonseca Array** SNR=7.9	**3.32**	**342**	Pg		**Pg**	**09 35 45.0**	**-0.9**
ESDC	SNR=7.9				Lg	Lg	09 36 30.6	
EMIN	**Mina Concepcio** 2.7nm,0.4s,SNR=15	**3.45**	**292**	Pn		**Pn**	**09 35 36.1**	**+0.5**
EMIN	10nm,0.5s,SNR=7.9				Pg	**Pg**	**09 35 46.9**	**-1.5**
EMIN	4.6nm,1.7s,SNR=7.9				Sn	**Sn**	**09 36 15.6**	**-0.6**
EMIN	16nm,0.4s,SNR=7.9				Lg	Lg	09 36 34.1	
EMIN	**Mina Concepcio** 2.7nm,0.4s,SNR=15	**3.45**	**292**	Pn		**Pn**	**09 35 36.1**	**+0.5**
PBAR	**Barrancos**	**3.87**	**297**	*e*Pn		**Pn**	**09 35 43.1**	**+1.7**
PBAR	**Barrancos**	**3.87**	**297**	Pn		**Pn**	**09 35 43.1**	**+1.7**
PBAR	**Barrancos**	**3.87**	**297**	Pn		**Pn**	**09 35 43.1**	**+1.7**
EGRO	**El Granado** 5.8nm,1.8s,SNR=7.9	**4.00**	**286**	Pn		**Pn**	**09 35 44.0**	**+0.9**
EGRO	12nm,1.3s,SNR=7.9				Sn	**Sn**	**09 36 29.5**	**-0.3**
EGRO	13nm,0.4s,SNR=7.9				Lg	Lg	09 36 51.0	
EGRO	**El Granado** 5.8nm,1.8s,SNR=7.9	**4.00**	**286**	Pn		**Pn**	**09 35 44.0**	**+0.9**
EGRO	12nm,1.3s,SNR=7.9				Sn	**Sn**	**09 36 29.5**	**-0.3**
EGRO	13nm,0.4s,SNR=7.9				Lg	Lg	09 36 51.0	
EIBI	**Ibiza** 18nm,3.7s,SNR=7.9	**4.04**	**50**	Pn		**Pn**	**09 35 44.2**	**+0.5**
EIBI	15nm,0.3s,SNR=4.0				Sn	**Sn**	**09 36 29.9**	**-0.9**
EIBI	**Ibiza** 18nm,3.7s,SNR=7.9	**4.04**	**50**	Pn		**Pn**	**09 35 44.2**	**+0.5**
EBAD	**Badajoz** 4.8nm,0.5s,SNR=7.5	**4.12**	**304**	Pn		**Pn**	**09 35 45.6**	**+0.8**
EBAD	7.4nm,0.4s,SNR=7.9				Pg	**Pg**	**09 35 59.5**	**-1.7**
EBAD	16nm,0.9s,SNR=7.9				Sn	**Sn**	**09 36 32.6**	**-0.2**
EBAD	51nm,0.5s,SNR=8.2				Lg	Lg	09 36 54.7	
EBAD	**Badajoz** 4.8nm,0.5s,SNR=7.5	**4.12**	**304**	Pn		**Pn**	**09 35 45.6**	**+0.8**
PVAQ	**Vaqueiros**	**4.15**	**284**	*e*Pn		**Pn**	**09 35 46.6**	**+1.3**
PVAQ				*e*Sn		**Sn**	**09 36 32.4**	**-1.2**
PVAQ	12nm,0.4s			A		A	09 36 39.8	
PVAQ	**Vaqueiros**	**4.15**	**284**	Pn		**Pn**	**09 35 46.6**	**+1.3**
PVAQ	12nm,0.4s			Sn		**Sn**	**09 36 32.4**	**-1.2**
PVAQ	**Vaqueiros**	**4.15**	**284**	Pn		**Pn**	**09 35 46.6**	**+1.3**
PVAQ	12nm,0.4s			*e*Sn		**Sn**	**09 36 32.4**	**-1.2**
EMOS	**Mosqueruela** 5.6nm,1.3s,SNR=7.9	**4.21**	**23**	Pg		**Pg**	**09 36 00.4**	**-2.4**
EMOS	30nm,0.8s,SNR=7.9				Lg	Lg	09 36 57.4	
GUD	**Guadarrama** 1.0nm,0.9s,SNR=7.9	**4.29**	**345**	Pg		**Pg**	**09 36 02.1**	**-2.3**
GUD	10.0nm,0.4s,SNR=7.9				Sn	**Sn**	**09 36 36.3**	**-0.9**
GUD	18nm,0.4s,SNR=7.9				Lg	Lg	09 37 00.1	
PBDV	**Barranco-do-Ve** 8.5nm,0.5s	**4.29**	**281**	*e*Pn		**Pn**	**09 35 49.1**	**+1.9**
PBDV				*e*Sn		**Sn**	**09 36 36.0**	**-1.1**
PBDV	8.5nm,0.5s			A		A	09 36 51.3	
PBDV	**Barranco-do-Ve** 8.5nm,0.5s	**4.29**	**281**	Pn		**Pn**	**09 35 49.1**	**+1.9**
PBDV				Sn		**Sn**	**09 36 36.0**	**-1.1**
PBDV	**Barranco-do-Ve** 8.5nm,0.5s	**4.29**	**281**	Pn		**Pn**	**09 35 49.1**	**+1.9**
PBDV				*e*Sn		**Sn**	**09 36 36.0**	**-1.1**
ETOR	**Torete** 5.1nm,0.4s,SNR=7.9	**4.32**	**6**	Pn		**Pn**	**09 35 48.6**	**+0.9**
ETOR	14nm,0.4s,SNR=7.9				Pg	**Pg**	**09 36 01.8**	**-3.3**
ETOR	5.4nm,2.1s,SNR=7.9				Sn	**Sn**	**09 36 36.7**	**-1.3**
ETOR	28nm,0.4s,SNR=7.9				Lg	Lg	09 37 01.3	
ETOR	**Torete** 5.1nm,0.4s,SNR=7.9	**4.32**	**6**	Pn		**Pn**	**09 35 48.6**	**+0.9**
ETOR	28nm,0.4s,SNR=7.9				Lg	Lg	09 37 01.3	
PBEJ	**Beja** 14nm,0.5s	**4.42**	**291**	*e*Pn		**Pn**	**09 35 50.4**	**+1.4**
PBEJ				*e*Sn		**Sn**	**09 36 40.6**	**+0.3**
PBEJ				A		A	09 37 10.7	
PBEJ	**Beja** 7.2nm,0.5s	**4.42**	**291**	Pn		**Pn**	**09 35 50.4**	**+1.4**
PBEJ				Sn		**Sn**	**09 36 40.6**	**+0.3**
PBEJ	**Beja** 14nm,0.5s	**4.42**	**291**	Pn		**Pn**	**09 35 50.4**	**+1.4**
PBEJ				*e*Sn		**Sn**	**09 36 40.6**	**+0.3**
PCVE	**Castro Verde**	**4.45**	**286**	*e*Pn		**Pn**	**09 35 51.1**	**+1.8**
PCVE	**Castro Verde**	**4.45**	**286**	Pn		**Pn**	**09 35 51.1**	**+1.8**
PCVE	**Castro Verde**	**4.45**	**286**	Pn		**Pn**	**09 35 51.1**	**+1.8**
EPLA	**Plasencia** 3.3nm,0.3s,SNR=6.9	**4.45**	**324**	Pn		**Pn**	**09 35 51.3**	**+1.8**
EPLA	4.3nm,0.3s,SNR=7.9				Pg	**Pg**	**09 36 04.6**	**-3.0**
EPLA	109nm,0.9s,SNR=6.4				Lg	Lg	09 37 05.2	
EPLA	**Plasencia** 3.3nm,0.3s,SNR=6.9	**4.45**	**324**	Pn		**Pn**	**09 35 51.3**	**+1.8**
EPLA	109nm,0.9s,SNR=6.4				Lg	Lg	09 37 05.2	
PMRV	**Marv??o**	**4.74**	**309**	*e*Pn		**Pn**	**09 35 52.7**	**-0.7**
PMRV				*e*Sg		**Sg**	**09 37 13.7**	**-0.8**
PMRV	29nm,0.7s			A		A	09 37 28.5	
PMRV	**Marv??o** 29nm,0.7s	**4.74**	**309**	Lg		Lg	09 37 13.7	
PMRV	**Marv??o** 29nm,0.7s	**4.74**	**309**	*e*Pn		**Pn**	**09 35 52.7**	**-0.7**
PMRV				*e*Sg		**Sg**	**09 37 13.7**	**-0.8**
MORF	**Marmelete**	**4.87**	**281**	*e*Pn		**Pn**	**09 35 57.2**	**+2.0**
MORF	**Marmelete**	**4.87**	**281**	Pn		**Pn**	**09 35 57.2**	**+2.0**
MORF	**Marmelete**	**4.87**	**281**	Pn		**Pn**	**09 35 57.2**	**+2.0**
PNCL	**Nicolau / Gran**	**4.95**	**291**	*e*Pn		**Pn**	**09 35 57.7**	**+1.5**
PNCL	**Nicolau / Gran**	**4.95**	**291**	*e*Pn		**Pn**	**09 35 57.7**	**+1.5**
PTEO	**Sao Teotonio**	**4.96**	**284**	*e*Sn		**Sn**	**09 36 52.8**	**-0.8**
PTEO	23nm,0.6s			A		A	09 37 36.5	
PTEO	**Sao Teotonio** 12nm,0.6s	**4.96**	**284**	Sn		**Sn**	**09 36 52.8**	**-0.8**
PTEO	**Sao Teotonio** 12nm,0.6s	**4.96**	**284**	Sn		**Sn**	**09 36 52.8**	**-0.8**
PFVI	**Vila Bisbo** 6.0nm,0.6s,SNR=7.9	**4.99**	**279**	*e*Pn		**Pn**	**09 35 59.1**	**+2.3**
PFVI	**Vila Bisbo** 6.0nm,0.6s,SNR=7.9	**4.99**	**279**	Pn		**Pn**	**09 35 57.9**	**+1.1**
PFVI	**Vila Bisbo** 6.0nm,0.6s,SNR=7.9	**4.99**	**279**	Pn		**Pn**	**09 35 57.9**	**+1.1**
ERTA	**Horta de San J** 3.6nm,2.0s,SNR=7.9	**5.01**	**27**	Pn		**Pn**	**09 35 59.1**	**+2.0**
ERTA	**Horta de San J** 3.6nm,2.0s,SNR=7.9	**5.01**	**27**	Pn		**Pn**	**09 35 59.1**	**+2.0**
PCBR	**Castelo Branco**	**5.05**	**313**	*e*Pn		Pn	09 36 03.5	+6.0
PCBR				*e*Sn		**Sn**	**09 36 55.9**	**+0.3**
PCBR				*e*Sg		**Sg**	**09 37 23.6**	**-0.7**
PCBR	23nm,0.6s			A		A	09 37 36.6	
PCBR	**Castelo Branco**	**5.05**	**313**	Sn		**Sn**	**09 36 55.9**	**+0.3**
PCBR	12nm,0.6s			Lg		Lg	09 37 23.6	
PCBR	**Castelo Branco**	**5.05**	**313**	*e*Pn		Pn	09 36 03.5	+6.0
PCBR				Sn		**Sn**	**09 36 55.9**	**+0.3**
PCBR	23nm,0.6s			*e*Sg		**Sg**	**09 37 23.6**	**-0.7**
PMTG	**Montargil**	**5.10**	**302**	*e*Pn		**Pn**	**09 36 03.0**	**+4.8**
PMTG				*e*Sn		**Sn**	**09 36 56.3**	**-0.6**
PMTG				*e*Sg		**Sg**	**09 37 26.6**	**+0.7**
PMTG	37nm,0.6s			A		A	09 37 42.7	
PMTG	**Montargil**	**5.10**	**302**	*e*Pn		**Pn**	**09 36 03.0**	**+4.8**
PMTG				*e*Sn		**Sn**	**09 36 56.3**	**-0.6**
PMTG				*e*Sg		**Sg**	**09 37 26.6**	**+0.7**
ETOS	**Mallorca** 13nm,0.7s,SNR=4.9	**5.40**	**51**	Pn		**Pn**	**09 36 03.0**	**+0.6**
ETOS	SNR=7.9			Sn		**Sn**	**09 37 01.8**	**-2.5**
ETOS	**Mallorca** 13nm,0.7s,SNR=4.9	**5.40**	**51**	Pn		**Pn**	**09 36 03.0**	**+0.6**
MTE	**Manteigas** 52nm,0.7s	**5.46**	**317**	*e*Sg		**Sg**	**09 37 36.1**	**-1.3**
MTE				A		A	09 37 48.8	
MTE	**Manteigas** 26nm,0.7s	**5.46**	**317**	Lg		Lg	09 37 36.1	
MTE	**Manteigas** 52nm,0.7s	**5.46**	**317**	*e*Sg		**Sg**	**09 37 36.1**	**-1.3**
ESAC	**San Caprasio** 0.7nm,1.5s,SNR=7.9	**5.47**	**17**	Pg		**Pg**	**09 36 23.4**	**-3.6**
ESAC	21nm,0.6s,SNR=7.9			Lg		Lg	09 37 37.9	
MVO	**Moncorvo**	**5.76**	**325**	*e*Pn		Pn	09 36 13.9	+6.4
MVO				*e*Sg		**Sg**	**09 37 47.7**	**+0.4**
MVO	36nm,0.7s			A		A	09 37 53.0	
MVO	**Moncorvo** 2.7nm,1.0s,SNR=7.9	**5.76**	**325**	Pn		**Pn**	**09 36 09.1**	**+1.6**
MVO	31nm,0.5s,SNR=4.0			Lg		Lg	09 37 45.1	
MVO	**Moncorvo** 2.7nm,1.0s,SNR=7.9	**5.76**	**325**	Pn		**Pn**	**09 36 09.1**	**+1.6**
MVO	31nm,0.5s,SNR=4.0			Lg		Lg	09 37 45.1	
MVO	36nm,0.7s			*e*Sg		**Sg**	**09 37 47.7**	**+0.4**
PVIS	**Viseu**	**5.87**	**317**	*e*Pn		Pn	09 36 14.2	+5.3
PVIS				*e*Sn		**Sn**	**09 37 16.0**	**0.0**
PVIS				*e*Sg		**Sg**	**09 37 47.0**	**-3.6**
PVIS	18nm,0.7s			A		A	09 37 57.1	
PVRL	**Vila Real** 13nm,0.6s	**6.18**	**322**	*e*Sn		**Sn**	**09 37 25.6**	**+2.0**
PVRL				*e*Sg		**Sg**	**09 38 02.2**	**+1.6**
PVRL				A		A	09 38 06.7	
PVRL	**Vila Real** 6.5nm,0.6s	**6.18**	**322**	Lg		Lg	09 38 02.2	
PVRL	**Vila Real** 13nm,0.6s	**6.18**	**322**	*e*Sn		**Sn**	**09 37 25.6**	**+2.0**
PVRL				*e*Sg		**Sg**	**09 38 02.2**	**+1.6**
ECAL	**Calabor** 12nm,0.7s,SNR=7.9	**6.28**	**331**	Lg		Lg	09 38 03.5	
ECAL	**Calabor** 12nm,0.7s,SNR=7.9	**6.28**	**331**	Lg		Lg	09 38 03.5	
POLO	**Lamas de Olo** 8.5nm,0.6s	**6.29**	**322**	*e*Pn		Pn	09 36 20.7	+6.0
POLO				*e*Sg		**Sg**	**09 38 01.8**	**-2.4**
POLO				A		A	09 38 10.8	
EARA	**Aranguren** 20nm,1.5s,SNR=7.9	**6.30**	**7**	Lg		Lg	09 38 04.3	
EARA	**Aranguren** 20nm,1.5s,SNR=7.9	**6.30**	**7**	Lg		Lg	09 38 04.3	
IELO	**Elcoad** 0.5nm,0.5s,SNR=7.9	**6.41**	**9**	Pn		**Pn**	**09 36 17.6**	**+1.2**
IELO	9.8nm,2.6s,SNR=7.9			Pg		Pg	09 36 39.9	-5.2
IELO	18nm,1.9s,SNR=7.9			Lg		Lg	09 38 07.9	
IELO	**Elcoad** 0.5nm,0.5s,SNR=7.9	**6.41**	**9**	Pn		**Pn**	**09 36 17.6**	**+1.2**
IELO	18nm,1.9s,SNR=7.9			Lg		Lg	09 38 07.9	
EORO	**Oroz-Betelu** 0.3nm,2.4s,SNR=7.9	**6.45**	**9**	Pn		**Pn**	**09 36 18.0**	**+1.1**
EORO	4.5nm,0.8s,SNR=7.9			Pg		Pg	09 36 40.7	-5.1
EORO	38nm,1.1s,SNR=7.9			Lg		Lg	09 38 09.0	
EORO	**Oroz-Betelu** 0.3nm,2.4s,SNR=7.9	**6.45**	**9**	Pn		**Pn**	**09 36 18.0**	**+1.1**
EORO	38nm,1.1s,SNR=7.9			Lg		Lg	09 38 09.0	
ECHI	**Chisagues Biel** 9.1nm,2.6s,SNR=7.9	**6.52**	**19**	Pn		**Pn**	**09 36 20.3**	**+2.4**
ECHI	21nm,2.7s,SNR=7.9			Lg		Lg	09 38 11.5	
ECHI	**Chisagues Biel** 9.1nm,2.6s,SNR=7.9	**6.52**	**19**	Pn		**Pn**	**09 36 20.3**	**+2.4**
ECHI	21nm,2

	18nm,3.0s,SNR=7.9							
ATE	**Arette**	**6.73**	**12**	Lg	Lg	09 38 19.0		
	18nm,3.0s,SNR=7.9							
EALK	**Alkurruntz**	**6.75**	**7**	Pn	**Pn**	**09 36 25.9**	**+4.8**	
	16nm,2.5s,SNR=7.9							
EALK				Lg	Lg	09 38 19.8		
	19nm,1.7s,SNR=7.9							
ELOB	**Lobios**	**6.80**	**323**	Pn	**Pn**	**09 36 23.9**	**+2.2**	
	3.7nm,1.8s,SNR=7.9							
ELOB				Sn	**Sn**	**09 37 35.8**	**-3.1**	
	6.1nm,2.7s,SNR=7.9							
ELOB				Lg	Lg	09 38 19.9		
	5.6nm,1.0s,SNR=7.9							
ELOB	**Lobios**	**6.80**	**323**	Pn	**Pn**	**09 36 23.9**	**+2.2**	
	3.7nm,1.8s,SNR=7.9							
ELOB				Lg	Lg	09 38 19.9		
	5.6nm,1.0s,SNR=7.9							
PGAV	**Gavieira, Arco**	**6.97**	**323**	*e*Sg	**Sg**	**09 38 22.6**	**-3.4**	
PGAV				A	A	09 38 38.8		
	17nm,0.6s							

*IDC **19** 09:38:20.6±1.2, 15°.51S×75°.67W, h0km, mb3.6/5, mb1 3.8/6, mb1mx3.6/41, mbtmp3.6/6, ML3.7/1, MS3.0/2, Ms1 3.1/2, ms1mx2.6/29, Error ellipse: s-maj=36.9km s-min=26.2km az=61.0*

*ISCJB **19** 09:38:22.8±1.2, 15°.5S±0°.2×75°.6W±0°.2, h26km, mb3.6/5, MS3.3/1, Error ellipse: s-maj=29.7km s-min=18.9km az=29.8*

ISC 19 09:38:24.8±1.3,**15°.5S**±0°.2×**75°.7W**±0°.2,**h26**km,**n7**,σ1§**38**/6, **mb3.6**/5,**Near coast of Peru**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**7.28**	**97**	Pn	**Pn**	**09 40 10.6**	**+0.4**
	0.6nm,0.3s,baz=286,slow=6.3,SNR=14						
LPAZ				LR	LR	09 42 58.6	
	comp=Z,61nm,20.3s,baz=257,slow=38						
PTGA	**Pitinga**	**21.34**	**48**	P	**P**	**09 43 10.3**	**+0.2**
	1.5nm,0.6s,baz=218,slow=17,SNR=4.3						
TXAR	**Lajitas Array**	**52.14**	**329**	P	**P**	**09 47 34.9**	**+1.7**
	0.1nm,0.6s,baz=153,slow=8.1,SNR=2.6						
NVAR	**Mina Array Bea**	**66.89**	**325**	LR	LR	10 14 09.7	
	comp=Z,19nm,20.9s,baz=268,slow=32						
SNAA	**Sanae**	**70.00**	**161**	P	**P**	**09 49 33.7**	**-0.2**
	1.1nm,1.0s,baz=302,slow=13,SNR=7.9						
SCHQ	**Schefferville**	**70.45**	**5**	P	**P**	**09 49 35.1**	**-1.5**
	2.1nm,0.6s,baz=209,slow=10,SNR=2.6						
YKA	**Yellowknife Ar**	**83.52**	**343**	P	**P**	**09 50 49.4**	**-0.6**
	0.2nm,0.7s,baz=135,slow=5.3,SNR=4.6						

*DDA **19** 10:13:11.4, 36°.74N×27°.38E, h7km, Ml2.7*
*ISK **19** 10:13:12.9, 36°.77N×27°.38E, h5km, ML3.3/13*
*ATH **19** 10:13:13.7, 36°.81N×27°.45E, h24km±2km, ML3.0/3, Error ellipse: s-maj=2.4km s-min=1.3km az=243.0*
*THE **19** 10:13:13.7, 36°.81N×27°.48E, h3km±3km, ML2.9/3, Error ellipse: s-maj=3.5km s-min=0.7km az=213.0*
*CSEM **19** 10:13:14.4±0.2, 36°.78N×27°.39E, h5km, ML2.9, Error ellipse: s-maj=5.7km s-min=4.0km az=68.0*
*ISCJB **19** 10:13:14.4±0.6, 36°.79N±0°.02×27°.42E±0°.04, h8km±4km, Error ellipse: s-maj=5.6km s-min=3.9km az=166.3*

ISC 19 10:13:13.7±1.0,**36°.78N**±0°.02×**27°.43E**±0°.02,**h11**km±8km, **n64**,σ0§**78**/85,**Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BDRM	**Kayabasi**	**0.29**	**2**	*i* P	**Pg**	**10 13 19.7**	**+0.1**
BDRM	**Kayabasi**	**0.29**	**2**	P	**Pg**	**10 13 19.7**	**+0.1**
NISR	**Nisiros**	**0.29**	**236**	P	**Pb**	**10 13 20.8**	**-0.2**
NISR				S	**Sb**	**10 13 26.0**	**+0.2**
NISR				AML	AML	10 13 26.8	
	comp=N,10506μm,0.2s						
NISR				AML	AML	10 13 27.1	
	comp=E,24606μm,0.2s						
NISR	**Nisiros**	**0.29**	**236**	P	**Pb**	**10 13 20.7**	**-0.2**
NISR				S	**Sb**	**10 13 26.2**	**+0.4**
NISR	**Nisiros**	**0.29**	**236**	P	**Pb**	**10 13 20.7**	**-0.2**
NISR				S	**Sb**	**10 13 26.2**	**+0.4**
BODT	**Bodrum**	**0.30**	**341**	PG	**Pg**	**10 13 18.9**	**-0.9**
BODT				SG	**Sg**	**10 13 24.5**	**+0.6**
BODT	**Bodrum**	**0.30**	**341**	P	**Pg**	**10 13 19.1**	**-0.7**
BODT				S	**Sg**	**10 13 23.8**	**-0.1**
BODT	**Bodrum**	**0.30**	**341**	P	**Pg**	**10 13 19.1**	**-0.7**
BODT				S	**Sg**	**10 13 23.8**	**-0.1**
BODT				*e*Sg	**Sg**	**10 13 24.5**	**+0.6**
YKAV	**Yalikavak-Bodr**	**0.37**	**341**	PG	**Pg**	**10 13 21.3**	**+0.3**
YKAV				SG	**Sg**	**10 13 26.9**	**+1.0**
YKAV	**Yalikavak-Bodr**	**0.37**	**341**	*e*Pg	**Pg**	**10 13 21.3**	**+0.3**
YKAV				*e*Sg	**Sg**	**10 13 26.9**	**+1.0**
MLSB	**Milas**	**0.59**	**28**	PG	**Pb**	**10 13 25.9**	**-0.1**
MLSB	**Milas**	**0.59**	**28**	*e*Pg	**Pb**	**10 13 25.9**	**-0.1**
ARG	**Arkhangelos**	**0.79**	**135**	P	**Pb**	**10 13 29.4**	**0.0**
ARG				S	**Sb**	**10 13 40.0**	**-0.1**
ARG				AML	AML	10 13 43.5	
	comp=N,1517μm,0.4s						
ARG				AML	AML	10 13 44.0	
	comp=E,1204μm,0.3s						
ARG	**Arkhangelos**	**0.79**	**135**	P	**Pg**	**10 13 29.3**	**+0.3**
ARG				S	**Sb**	**10 13 40.8**	**+0.6**
ARG	**Arkhangelos**	**0.79**	**135**	P	**Pb**	**10 13 29.4**	**0.0**
ARG				S	**Sb**	**10 13 40.4**	**+0.2**
GCAM	**G?zelcaml?**	**0.94**	**350**	PG	**Pg**	**10 13 32.2**	**+0.5**
GCAM				SG	**Sn**	**10 13 46.1**	**0.0**
GCAM	**G?zelcaml?**	**0.94**	**350**	*i* P	**Pn**	**10 13 32.9**	**+0.1**
GCAM	**G?zelcaml?**	**0.94**	**350**	*e*Pg	**Pg**	**10 13 32.2**	**+0.5**
GCAM	**G?zelcaml?**	**0.94**	**350**	P	**Pn**	**10 13 32.9**	**+0.1**
GCAM				*e*Sg	**Sn**	**10 13 46.1**	**0.0**
TURN	**Turunc**	**0.95**	**84**	PG	Pb	10 13 26.6	-5.5
TURN	**Turunc**	**0.95**	**84**	*i* P	Pb	10 13 25.2	-6.9
TURN				*i* S	Sb	10 13 35.3	-9.3
SMG	**Samos**	**1.04**	**333**	P	**Pg**	**10 13 34.0**	**+0.2**
SMG				S	**Sb**	**10 13 47.2**	**-0.3**
SMG				AML	AML	10 13 52.5	
	comp=E,2043μm,0.4s						
SMG				AML	AML	10 13 54.9	
	comp=N,1142μm,0.3s						
SMG	**Samos**	**1.04**	**333**	P	**Pb**	**10 13 33.6**	**-0.2**
SMG				S	**Sn**	**10 13 48.1**	**-0.8**
SMG	**Samos**	**1.04**	**333**	P	**Pb**	**10 13 33.6**	**-0.2**
SMG				S	**Sg**	**10 13 47.4**	**0.0**
AYDB	**Zeytinkoy-Aydi**	**1.23**	**17**	PN	**Pg**	**10 13 37.4**	**+0.1**
AYDB				SN	**Sg**	**10 13 55.8**	**+2.6**
AYDB	**Zeytinkoy-Aydi**	**1.23**	**17**	*e*Pn	**Pg**	**10 13 37.4**	**+0.1**
AYDB				*e*Sn	**Sg**	**10 13 55.8**	**+2.6**
KARP	**Karpathos**	**1.25**	**190**	PN	**Pg**	**10 13 37.8**	**+0.2**
KARP	**Karpathos**	**1.25**	**190**	P	**Pg**	**10 13 37.7**	**+0.1**
KARP	**Karpathos**	**1.25**	**190**	P	**Pg**	**10 13 37.8**	**+0.2**
FETY	**Fethiye**	**1.34**	**96**	PN	**Pg**	**10 13 39.7**	**+0.3**
FETY	**Fethiye**	**1.34**	**96**	*e*Pn	**Pg**	**10 13 39.7**	**+0.3**
DGB	**˙zmir**	**1.35**	**341**	*i* P	**Pn**	**10 13 37.9**	**-0.5**
TAVA	**DENIZLI_Tavas**	**1.37**	**59**	*i* P	**Pn**	**10 13 36.8**	**-2.1**
TAVA	**DENIZLI_Tavas**	**1.37**	**59**	P	**Pn**	**10 13 36.8**	**-2.1**
APE	**Apeiranthos**	**1.55**	**281**	PN	**Pb**	**10 13 42.0**	**-0.4**
APE	**Apeiranthos**	**1.55**	**281**	*e*Pn	**Pb**	**10 13 42.0**	**-0.4**
BLCB	**Balcova**	**1.64**	**349**	PN	**Pb**	**10 13 43.8**	**-0.1**
BLCB	**Balcova**	**1.64**	**349**	*e*Pn	**Pb**	**10 13 43.8**	**-0.1**
ZEY	**˙zmir**	**1.64**	**333**	*i* P	**Pn**	**10 13 41.6**	**-0.8**
URLA	**Izmir**	**1.71**	**337**	PN	**Pb**	**10 13 44.8**	**-0.4**
URLA	**Izmir**	**1.71**	**337**	*i* P	**Pn**	**10 13 43.2**	**-0.3**
URLA	**Izmir**	**1.71**	**337**	P	**Pn**	**10 13 43.2**	**-0.3**
URLA	**Izmir**	**1.71**	**337**	*e*Pn	**Pb**	**10 13 44.8**	**-0.4**
GOLH	**Golhisar**	**1.77**	**74**	*i* P	**Pb**	**10 13 45.6**	**-0.6**
GOLH				*i* S	**Sb**	**10 14 09.2**	**+0.8**
GOLH	**Golhisar**	**1.77**	**74**	P	**Pb**	**10 13 45.6**	**-0.6**
GOLH				S	**Sb**	**10 14 09.2**	**+0.8**
AKAS	**Kas**	**1.83**	**107**	PN	**Pb**	**10 13 47.3**	**0.0**
AKAS	**Kas**	**1.83**	**107**	*i* P	**Pb**	**10 13 47.4**	**0.0**
AKAS	**Kas**	**1.83**	**107**	*e*Pn	**Pb**	**10 13 47.3**	**0.0**
ZKR	**Zakros**	**1.93**	**211**	P	**Pb**	**10 13 48.8**	**0.0**
ZKR	**Zakros**	**1.93**	**211**	P	**Pb**	**10 13 48.3**	**-0.6**
MANT	**Manisa**	**1.93**	**27**	*i* P	**Pg**	**10 13 51.1**	**+0.3**
MANT	**Manisa**	**1.93**	**27**	P	**Pg**	**10 13 51.1**	**+0.3**
CHOS	**Chios island**	**1.94**	**326**	PN	**Pb**	**10 13 47.9**	**-1.3**
CHOS	**Chios island**	**1.94**	**326**	P	**Pn**	**10 13 46.1**	**-0.6**
CHOS				S	**Sn**	**10 14 11.7**	**+0.5**
CHOS	**Chios island**	**1.94**	**326**	P	**Pn**	**10 13 46.7**	**0.0**
CHOS	**Chios island**	**1.94**	**326**	*e*Pn	**Pb**	**10 13 47.9**	**-1.3**
CHOS				S	**Sn**	**10 14 11.7**	**+0.5**
KULA	**Kula-Manisa**	**1.99**	**29**	PN	**Pb**	**10 13 49.2**	**-0.8**
KULA	**Kula-Manisa**	**1.99**	**29**	*e*Pn	**Pb**	**10 13 49.2**	**-0.8**
AKHS	**Akhisar**	**2.12**	**8**	*i* P	**Pb**	**10 13 52.9**	**+0.7**
AKHS	**Akhisar**	**2.12**	**8**	P	**Pb**	**10 13 52.9**	**+0.7**
KHAL	**Karahalli**	**2.28**	**45**	*i* P	**Pb**	**10 13 53.5**	**-1.5**
KHAL	**Karahalli**	**2.28**	**45**	P	**Pb**	**10 13 53.5**	**-1.5**
KORT	**Korkueli**	**2.35**	**84**	PN	**Pb**	**10 13 54.6**	**-1.6**
KORT	**Korkueli**	**2.35**	**84**	*e*Pn	**Pb**	**10 13 54.6**	**-1.6**

*ISCJB **19** 10:14:07.9±0.6, 38°.46N±0°.03×37°.17E±0°.05, h14km±4km, Error ellipse: s-maj=7.8km s-min=4.3km az=28.1*
*ISK **19** 10:14:07.5, 38°.44N×37°.18E, h15km, ML2.5/7*
*CSEM **19** 10:14:07.6±0.1, 38°.48N×37°.14E, h10km, ML2.7, Error ellipse: s-maj=4.0km s-min=2.5km az=125.0*
*DDA **19** 10:14:08.0, 38°.50N×37°.11E, h7km, Ml2.7*

ISC 19 10:14:07.8±0.9,**38°.49N**±0°.03×**37°.14E**±0°.04,**h17**km±6km, **n26**,σ0§**54**/38,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELBS	**KAHRAMANMARAS**	**0.17**	**181**	*i* P	**Pg**	**10 14 12.0**	**-0.3**
ELBS				*i* S	**Sg**	**10 14 15.2**	**0.0**
ELBS	**KAHRAMANMARAS**	**0.17**	**181**	P	**Pg**	**10 14 12.0**	**-0.3**
ELBS				S	**Sg**	**10 14 15.2**	**0.0**
CUGUR	**Gurin_S˙VAS**	**0.26**	**24**	*i* P	**Pg**	**10 14 13.4**	**-0.2**
CUGUR				*i* S	**Sb**	**10 14 18.1**	**-0.3**
CUGUR	**Gurin_S˙VAS**	**0.26**	**24**	P	**Pg**	**10 14 13.4**	**-0.2**
CUGUR				S	**Sb**	**10 14 18.1**	**-0.3**
DARE	**Darende-Malaty**	**0.28**	**73**	PG	**Pg**	**10 14 13.6**	**-0.5**
DARE				SG	**Sg**	**10 14 18.3**	**0.0**
DARE	**Darende-Malaty**	**0.28**	**73**	*e*Pg	**Pg**	**10 14 13.6**	**-0.5**
DARE				*e*Sg	**Sg**	**10 14 18.3**	**0.0**
AKCD	**Akcadag**	**0.65**	**107**	*i* P	**Pb**	**10 14 20.8**	**0.0**
AKCD	**Akcadag**	**0.65**	**107**	P	**Pb**	**10 14 20.8**	**0.0**
HEKM	**Malatya_Hekimh**	**0.75**	**59**	*i* P	**Pg**	**10 14 21.3**	**-1.3**
HEKM	**Malatya_Hekimh**	**0.75**	**59**	P	**Pg**	**10 14 21.3**	**-1.3**
CUKAN	**kangal_SIVAS**	**0.86**	**17**	*i* P	**Pg**	**10 14 24.2**	**-0.5**
CUKAN	**kangal_SIVAS**	**0.86**	**17**	P	**Pg**	**10 14 24.2**	**-0.5**
KMRS	**Kahramanmaras**	**1.00**	**191**	PG	**Pg**	**10 14 26.4**	**-0.9**
KMRS				SG	**Sb**	**10 14 40.1**	**+0.4**
KMRS	**Kahramanmaras**	**1.00**	**191**	*e*Pg	**Pg**	**10 14 26.4**	**-0.9**
KMRS				*e*Sg	**Sb**	**10 14 40.1**	**+0.4**
MALT	**Malatya**	**1.03**	**99**	PG	**Pg**	**10 14 27.3**	**-0.5**
MALT				SG	**Sb**	**10 14 41.3**	**+0.7**
MALT	**Malatya**	**1.03**	**99**	*e*Pg	**Pg**	**10 14 27.3**	**-0.5**
MALT				*e*Sg	**Sb**	**10 14 41.3**	**+0.7**
ANDN	**Andirin**	**1.10**	**215**	*i* P	**Pn**	**10 14 29.0**	**+0.3**
ANDN	**Andirin**	**1.10**	**215**	P	**Pn**	**10 14 29.0**	**+0.3**
GAZ	**Gaziantep**	**1.32**	**177**	PN	**Pn**	**10 14 32.0**	**+0.4**
GAZ				SN	**Sb**	**10 14 48.5**	**-0.3**
GAZ	**Gaziantep**	**1.32**	**177**	*e*Pn	**Pn**	**10 14 32.0**	**+0.4**
GAZ				*e*Sn	**Sb**	**10 14 48.5**	**-0.3**
SVSK	**Karacayir**	**1.43**	**356**	PN	**Pb**	**10 14 34.2**	**+0.2**
SVSK	**Karacayir**	**1.43**	**356**	*e*Pn	**Pb**	**10 14 34.2**	**+0.2**
KOZT	**Kozan**	**1.45**	**226**	PN	**Pn**	**10 14 33.7**	**+0.4**
KOZT	**Kozan**	**1.45**	**226**	*e*Pn	**Pn**	**10 14 33.7**	**+0.4**
PTK	**Pertek**	**1.81**	**76**	PN	**Pn**	**10 14 39.1**	**+0.6**
PTK	**Pertek**	**1.81**	**76**	*e*Pn	**Pn**	**10 14 39.1**	**+0.6**

*ISCJB **19** 10:16:18.7±0.2, 24°.37N±0°.02×122°.07E±0°.02, h27km±2km, Error ellipse: s-maj=3.1km s-min=2.3km az=148.0*
*JMA **19** 10:16:18.6, 24°.30N×122°.02E, h39km±2km, M2.4*
*TAP **19** 10:16:18.8, 24°.40N×122°.00E, h28km, ML3.0, B*

ISC 19 10:16:19.0±0.9,**24°.37N**±0°.02×**122°.02E**±0°.02,**h33**km±1km, **n77**,σ0§**84**/122,**2C-7D,Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS1	**EOS1**	**0.20**	**30**	⇓P	**Pn**	**10 16 25.1**	**+0.4**
	baz=46						
EOS1				*e*S	**Sb**	**10 16 30.0**	**-0.1**
	baz=46						
ENAH	**Nanao**	**0.20**	**292**	P	**Pn**	**10 16 24.6**	**-0.3**
	baz=294						
ENAH				*e*S	**Sb**	**10 16 28.8**	**-1.4**
	baz=294						
NANB	**Nanao**	**0.25**	**282**	⇓P	**Pn**	**10 16 25.2**	**-0.7**
	baz=283						
NANB				*e*S	**Sn**	**10 16 29.7**	**0.0**
	baz=283						
ENA	**Nanau**	**0.26**	**282**	⇓P	**Pn**	**10 16 25.3**	**-0.8**
	baz=283						
ENA				*e*S	**Sn**	**10 16 29.8**	**-0.2**
	baz=283						
TWC	**Suao**	**0.28**	**327**	P	**Pb**	**10 16 25.4**	**-1.1**
	baz=335						
TWC				S	**Sn**	**10 16 29.9**	**-1.1**
	baz=335						
NACB	**Ninganchiao**	**0.43**	**243**	⇓P	**Pb**	**10 16 28.1**	**-0.6**
	baz=244						
NACB				S	**Sn**	**10 16 35.5**	**-0.2**
	baz=244						
ILA	**Ilan**	**0.46**	**328**	*e*P	**Pb**	**10 16 28.9**	**-0.1**
	baz=326						
ILA				*e*S	**Sb**	**10 16 35.9**	**-0.1**
	baz=326						
TWE	**Neicheng**	**0.47**	**317**	P	**Pb**	**10 16 28.8**	**-0.4**
	baz=318						
TWE				S	**Sb**	**10 16 35.4**	**-0.8**
	baz=318						
EGS		**0.48**	**350**	*e*P	**Pb**	**10 16 29.1**	**-0.2**
	baz=354						
EGS				*e*S	**Sb**	**10 16 35.9**	**-0.4**
	baz=354						
TWD	**Chiawan**	**0.48**	**233**	⇑P	**Pn**	**10 16 28.9**	**-0.6**
	baz=236						
TWD				*e*S	**Sn**	**10 16 35.9**	**-1.0**
	baz=236						
ENTT	**Nioudou**	**0.49**	**303**	P	**Pb**	**10 16 29.1**	**-0.3**
	baz=302						
ENTT				*e*S	**Sb**	**10 16 35.9**	**-0.8**
	baz=302						
NTC	**Toucheng**	**0.51**	**340**	*e*P	**Pb**	**10 16 29.4**	**-0.4**
	baz=342						
NTC				*e*S	**Sb**	**10 16 36.5**	**-0.6**
	baz=342						
HWA	**Hwalien**	**0.55**	**224**	*e*P	**Pn**	**10 16 30.5**	**+0.1**
	baz=219						
NNSB	**Datong**	**0.58**	**275**	*e*P	**Pb**	**10 16 30.8**	**-0.2**
	baz=278						
NNSB				*e*S	**Sn**	**10 16 39.3**	**-0.1**
	baz=278						
NNSH	**Datong**	**0.58**	**275**	*e*P	**Pb**	**10 16 31.1**	**+0.1**
	baz=276						
NNSH				*e*S	**Sn**	**10 16 39.7**	**+0.2**
	baz=276						
NNS	**Nan Shan**	**0.59**	**277**	*e*P	**Pb**	**10 16 31.0**	**-0.2**
	baz=279						
NNS				*e*S	**Sn**	**10 16 39.2**	**-0.5**
	baz=279						
ENLB	**Shoufeng**	**0.60**	**219**	*e*P	**Pb**	**10 16 31.4**	**+0.1**
	baz=215						
ENLB				*e*S	**Sn**	**10 16 41.8**	**+2.0**
	baz=215						
NWLT	**Wulai**	**0.62**	**311**	*e*P	**Pn**	**10 16 31.3**	**-0.1**
	baz=310						
TIPB	**Shuangxi**	**0.62**	**344**	⇓P	**Pn**	**10 16 30.4**	**-1.0**
	baz=350						
TIPB				*e*S	**Sb**	**10 16 38.5**	**-1.7**
	baz=350						
TWB1	**Santiao Chiao**	**0.63**	**357**	⇓P	**Pn**	**10 16 31.5**	**0.0**
	baz=356						
TWB1				*e*S	**Sn**	**10 16 40.2**	**-0.3**
	baz=356						
YHNB	**Yeheng**	**0.66**	**297**	⇑P	**Pb**	**10 16 32.0**	**-0.2**
	baz=300						
YHNB				*e*S	**Sb**	**10 16 40.8**	**-0.4**
	baz=300						
TWA	**Mucha**	**0.72**	**327**	*e*P	**Pb**	**10 16 33.3**	**0.0**
	baz=320						
TWA				*e*S	**Sb**	**10 16 43.4**	**+0.4**
	baz=320						
WHF	**Hehuan Shan**	**0.72**	**252**	⇓P	**Pb**	**10 16 33.1**	**-0.5**
	baz=248						
WHF				*e*S	**Sn**	**10 16 43.4**	**0.0**
	baz=248						
NWF	**Wu-fen Shan**	**0.73**	**343**	*e*P	**Pb**	**10 16 33.4**	**0.0**
	baz=338						
NWF				*e*S	**Sb**	**10 16 43.6**	**+0.4**
	baz=338						
WFSB	**Wu-fen Shan**	**0.73**	**343**	*e*P	**Pb**	**10 16 33.5**	**+0.2**
	baz=338						
WFSB				*e*S	**Sb**	**10 16 43.4**	**+0.3**
	baz=338						
TATO	**Taipei**	**0.77**	**321**	*e*P	**Pb**	**10 16 34.4**	**+0.4**
	baz=315						
TATO				*e*S	**Sb**	**10 16 44.2**	**0.0**
	baz=315						
ESL	**Shilin**	**0.77**	**224**	*e*P	**Pn**	**10 16 33.1**	**-0.4**
	baz=219						
ESL				*e*S	**Sb**	**10 16 44.8**	**+0.5**
	baz=219						
TWT	**Tachien**	**0.78**	**261**	*e*P	**Pb**	**10 16 34.1**	**-0.1**
	baz=259						
TWT				*e*S	**Sb**	**10 16 46.3**	**+1.6**
	baz=259						
TDCB	**Techi**	**0.79**	**261**	*e*P	**Pb**	**10 16 34.3**	**-0.2**
	baz=259						
TDCB				*e*S	**Sb**	**10 16 45.3**	**+0.2**
	baz=259						
CHGB	**Renai**	**0.83**	**248**	P	**Pb**	**10 16 34.8**	**-0.4**
	baz=233						
CHGB				S	**Sb**	**10 16 47.1**	**+0.9**
	baz=233						
WLTB	**Daxi**	**0.84**	**305**	*e*P	**Pb**	**10 16 35.8**	**+0.5**
	baz=298						
JYNG	**Yonagunijimaku**	**0.85**	**85**	P	**Pn**	**10 16 34.3**	**-0.3**
JYNG				S	**Sn**	**10 16 45.7**	**-0.1**
OWD	**Renai**	**0.88**	**242**	*e*P	**Pb**	**10 16 35.1**	**-0.8**
	baz=238						
OWD				*e*S	**Sb**	**10 16 47.5**	**+0.1**
	baz=238						
YM07	**YM07**	**0.88**	**336**	*e*P	**Pn**	**10 16 34.6**	**-0.4**
	baz=337						
YM07				S	**Sn**	**10 16 46.9**	**+0.3**
	baz=337						
YM05	**YM05**	**0.89**	**332**	*e*P	**Pn**	**10 16 35.0**	**-0.2**
	baz=333						
YM04	**YM04**	**0.89**	**331**	*e*P	**Pb**	**10 16 35.8**	**-0.3**
	baz=331						
YM08	**YM08**	**0.90**	**334**	*e*P	**Pn**	**10 16 35.5**	**+0.2**
	baz=335						
TWS1	**Kuangyinshan**	**0.91**	**323**	P	**Pb**	**10 16 36.4**	**+0.1**
	baz=334						
TWS1				*e*S	**Sb**	**10 16 49.6**	**+1.4**
	baz=334						
YOJ	**Yonaguni jima**	**0.91**	**84**	P	**Pn**	**10 16 35.3**	**-0.1**
	baz=80						
YOJ				*e*S	**Sn**	**10 16 47.3**	**0.0**
	baz=80						
YOJ	**Yonaguni jima**	**0.91**	**84**	P	**Pn**	**10 16 35.2**	**-0.1**
YOJ				S	**Sn**	**10 16 47.3**	**0.0**
YM03	**YM03**	**0.91**	**332**	*e*P	**Pn**	**10 16 35.8**	**+0.2**
	baz=332						
LIOB	**Emei**	**0.95**	**287**	*e*P	**Pb**	**10 16 37.3**	**+0.2**
	baz=285						
LIOB				*e*S	**Sb**	**10 16 51.4**	**+2.0**
	baz=285						
NSTT	**Nanjuang**	**0.96**	**286**	*e*P	**Pb**	**10 16 37.6**	**+0.3**
	baz=284						
NSTT				*e*S	**Sb**	**10 16 50.9**	**+1.2**
	baz=284						
SBCB	**Hsinchu**	**1.03**	**294**	*e*P	**Pb**	**10 16 38.6**	**+0.2**
	baz=292						
HGSD	**Ruisui**	**1.03**	**212**	*e*P	**Pn**	**10 16 36.8**	**-0.4**
	baz=209						
HGSD				*e*S	**Sb**	**10 16 53.2**	**+1.5**
	baz=209						
DPDB	**Guoxing**	**1.05**	**251**	*e*P	**Pb**	**10 16 38.6**	**-0.2**
	baz=239						
NMLH	**Miaoli**	**1.13**	**279**	*e*P	**Pb**	**10 16 40.5**	**+0.5**
	baz=276						
SMLT	**Sun Moon Lake**	**1.13**	**245**	*e*P	**Pb**	**10 16 39.6**	**-0.6**
	baz=242						
SSLB	**Suanglung**	**1.14**	**239**	*e*P	**Pb**	**10 16 39.2**	**-1.0**
	baz=236						
TWQ1	**Liyutan**	**1.14**	**269**	*e*P	**Pb**	**10 16 39.8**	**-0.4**
	baz=265						
TWQ1				*e*S	**Sb**	**10 16 56.5**	**+1.9**
	baz=265						
NSY	**Sanyi**	**1.15**	**272**	*e*P	**Pb**	**10 16 41.1**	**+0.8**
	baz=269						
NSY				*e*S	**Sb**	**10 16 57.7**	**+2.7**
	baz=269						
TYC	**Yuchr**	**1.16**	**246**	*e*P	**Pb**	**10 16 39.8**	**-0.8**
	baz=236						
YULB	**Yu-li**	**1.18**	**214**	*e*P	**Pn**	**10 16 38.1**	**-1.0**
	baz=210						
PTSB	**Yuanli**	**1.20**	**274**	*e*P	**Pb**	**10 16 40.8**	**-0.5**
	baz=271						
TWF1	**Yuli**	**1.21**	**213**	*e*P	**Pn**	**10 16 38.7**	**-0.9**
	baz=223						
YUS	**Yu-Shan**	**1.31**	**228**	*e*P	**Pn**	**10 16 41.6**	**+0.2**
	baz=225						
FULB	**Fuli**	**1.34**	**210**	*e*P	**Pn**	**10 16 40.2**	**-1.3**
	baz=220						
CHKT	**Chengkung**	**1.40**	**205**	*e*P	**Pn**	**10 16 40.7**	**-1.5**
	baz=187						
CHN5	**Tsauling**	**1.45**	**238**	*e*P	**Pb**	**10 16 44.8**	**-0.7**
	baz=234						
IRIF	**Iriomote-Funau**	**1.56**	**91**	P	**Pn**	**10 16 44.5**	**+0.1**
IRIF				*e*S	**Sn**	**10 17 03.4**	**-0.1**
CHN4	**Tsaushan**	**1.66**	**232**	*e*P	**Pb**	**10 16 47.9**	**-1.0**
	baz=213						
CHN4				*e*S	**Sb**	**10 17 11.1**	**+1.6**
	baz=213						
TPUB	**Ta-pu**	**1.66**	**230**	*e*P	**Pb**	**10 16 47.8**	**-1.3**
	baz=212						
TPUB				*e*S	**Sb**	**10 17 10.4**	**+0.8**
	baz=212						
STYT	**Tauyuan**	**1

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**0.78**	**241**	Pg	**Pn**	**10 19 50.8**	**-2.3**
	56nm,0.3s,baz=66,slow=20,SNR=342						
SIJI				Lg	Lg	10 20 01.9	
	232nm,0.3s,baz=171,slow=19,SNR=122						
SIJI				LR	LR	10 20 07.9	
	comp=Z,50nm,20.9s,baz=168,slow=40						
FAKI	**Fak Fak**	**2.43**	**173**	P	**Pn**	**10 20 15.1**	**-0.7**
FAKI				S	**Sb**	**10 20 48.7**	**-2.1**
RKPI	**Ransiki, Papua**	**2.44**	**115**	P	**Pb**	**10 20 20.6**	**-0.9**
RKPI				S	**Sb**	**10 20 50.6**	**-0.6**
KMPI	**Kaimana, Papua**	**3.60**	**151**	P	**Pn**	**10 20 35.1**	**+3.2**
MSAI	**Masohi**	**4.15**	**227**	P	**Pn**	**10 20 41.8**	**+2.4**
MSAI				S	**Sn**	**10 21 28.9**	**+2.0**
NLAI	**Namlea**	**5.57**	**241**	P	**Pn**	**10 21 01.3**	**+2.4**
DAV	**Davao City (W)**	**9.84**	**320**	LR	LR	10 25 35.1	
	comp=Z,63nm,18.5s,baz=172,slow=37						
WRA	**Warramunga Arr**	**19.47**	**173**	P	**P**	**10 24 01.6**	**-1.1**
	0.2nm,0.3s,baz=352,slow=11,SNR=17						
WRA				S	S	10 27 27.8	-13
	0.1nm,0.3s,baz=274,slow=23,SNR=3.8						
ASAR	**Alice Springs**	**23.12**	**175**	P	**P**	**10 24 41.7**	**-0.1**
	4.4nm,1.0s,baz=347,slow=5.6,SNR=33						
JHJ	**Hachijo jima 2**	**34.23**	**12**	LR	LR	10 38 07.0	
	comp=Z,40nm,19.8s,baz=316,slow=33						
MKAR	**Makanchi Array**	**63.99**	**324**	P	**P**	**10 30 08.9**	**+0.1**
	1.0nm,0.8s,baz=113,slow=8.5,SNR=6.8						
ZALV	**Zalesovo Beam**	**66.72**	**332**	P	**P**	**10 30 25.6**	**-0.6**
	0.5nm,0.3s,baz=134,slow=8.3,SNR=3.3						
KURBB	**Kurchatov Arra**	**68.10**	**327**	P	**P**	**10 30 35.2**	**+0.2**
	2.1nm,0.8s,baz=120,slow=6.0,SNR=13						

*ISK **19** 10:34:37.4,39.07N×29.22E,h6km,ML2.9/8*
*DDA **19** 10:34:38.4,39.08N×29.14E,h7km,Ml2.6*
*CSEM **19** 10:34:38.5±0.1,39.10N×29.16E,h5km,ML2.9, Error ellipse: s-maj=3.5km s-min=2.5km az=132.0*
ISC 19 10:34:38.6±0.9,39.10N±0.02×29.16E±0.02,h8km±8km, n28,σ945/44,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIMA	**Simav-Kutahya**	**0.14**	**264**	P	**Pg**	**10 34 41.7**	**0.0**
SIMA	**Simav-Kutahya**	**0.14**	**264**	*e*Pg	**Pg**	**10 34 41.7**	**0.0**
GDZ	**Gediz**	**0.25**	**92**	*i* P	**Pg**	**10 34 43.5**	**-0.3**
GDZ				*i* S	**Sg**	**10 34 48.0**	**+0.8**
GDZ	**Gediz**	**0.25**	**92**	P	**Pg**	**10 34 43.5**	**-0.3**
GDZ				S	**Sg**	**10 34 48.0**	**+0.8**
DEMI	**Demirci**	**0.35**	**261**	*i* P	**Pg**	**10 34 45.4**	**-0.1**
DEMI				*i* S	**Sg**	**10 34 49.9**	**-0.2**
DEMI	**Demirci**	**0.35**	**261**	P	**Pg**	**10 34 45.4**	**-0.1**
DEMI				S	**Sg**	**10 34 49.9**	**-0.2**
TVSB	**Tavsanli**	**0.42**	**34**	PG	**Pg**	**10 34 46.2**	**-0.8**
TVSB				SG	**Sg**	**10 34 51.8**	**-0.8**
TVSB	**Tavsanli**	**0.42**	**34**	*e*Pg	**Pg**	**10 34 46.2**	**-0.8**
TVSB				*e*Sg	**Sg**	**10 34 51.8**	**-0.8**
KULA	**Kula-Manisa**	**0.70**	**214**	PG	**Pg**	**10 34 51.4**	**-0.7**
KULA				SG	**Sg**	**10 35 01.5**	**+0.2**
KULA	**Kula-Manisa**	**0.70**	**214**	*e*Pg	**Pg**	**10 34 51.4**	**-0.7**
KULA				*e*Sg	**Sg**	**10 35 01.5**	**+0.2**
DURS	**Dursunbey**	**0.73**	**314**	*i* P	**Pg**	**10 34 52.9**	**+0.1**
DURS				*i* S	**Sn**	**10 35 06.2**	**-0.5**
MANT	**Manisa**	**0.77**	**218**	*i* P	**Pg**	**10 34 52.9**	**-0.5**
MANT				*i* S	**Sg**	**10 35 03.4**	**0.0**
MANT	**Manisa**	**0.77**	**218**	P	**Pg**	**10 34 52.9**	**-0.5**
MANT				S	**Sg**	**10 35 03.4**	**0.0**
KHAL	**Karahalli**	**0.77**	**160**	*i* P	**Pb**	**10 34 54.0**	**-0.3**
KHAL				*i* S	**Sb**	**10 35 05.3**	**+0.3**
KHAL	**Karahalli**	**0.77**	**160**	P	**Pb**	**10 34 54.0**	**-0.3**
KHAL				S	**Sb**	**10 35 05.3**	**+0.3**
STEP	**BALIKESIR_Sava**	**1.15**	**284**	*i* P	**Pb**	**10 35 00.9**	**+0.1**
STEP				*i* S	**Sb**	**10 35 16.2**	**+0.3**
STEP	**BALIKESIR_Sava**	**1.15**	**284**	P	**Pb**	**10 35 00.9**	**+0.1**
STEP				S	**Sb**	**10 35 16.2**	**+0.3**
CAVI	**Cavuskoy**	**1.22**	**25**	PN	**Pg**	**10 35 01.9**	**-0.2**
CAVI	**Cavuskoy**	**1.22**	**25**	*e*Pn	**Pg**	**10 35 01.9**	**-0.2**
BORA	**Eskisehir**	**1.27**	**52**	*i* P	**Pb**	**10 35 03.1**	**+0.3**
BORA				*i* S	**Sn**	**10 35 21.1**	**+1.0**
YLV	**Yalova**	**1.48**	**6**	PN	**Pn**	**10 35 05.8**	**+0.2**
YLV	**Yalova**	**1.48**	**6**	*e*Pn	**Pn**	**10 35 05.8**	**+0.2**
GONE	**Gonen-Balikesi**	**1.48**	**310**	PN	**Pb**	**10 35 06.2**	**-0.2**
GONE	**Gonen-Balikesi**	**1.48**	**310**	*e*Pn	**Pb**	**10 35 06.2**	**-0.2**
ARMT	**Armutlu**	**1.48**	**351**	PN	**Pb**	**10 35 06.3**	**-0.1**
ARMT	**Armutlu**	**1.48**	**351**	*e*Pn	**Pb**	**10 35 06.3**	**-0.1**
GULT	**Gulveren**	**1.69**	**38**	PN	**Pn**	**10 35 08.5**	**-0.1**
GULT	**Gulveren**	**1.69**	**38**	*e*Pn	**Pn**	**10 35 08.5**	**-0.1**

KRSC 19 10:51:55.0±0.6,54.21N×160.69E,h97km±14km,ML3.6, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KII	**Karymskiy**	**0.75**	**257**	*e*P	Pn	10 52 13.7	+1.0
KZV	**Kizimen**	**0.94**	**346**	*e*P	Pn	10 52 15.7	+1.0
KZV				*e*S	Sn	10 52 29.9	+0.5
TUMD	**Tumrok D**	**1.01**	**351**	*e*P	Pn	10 52 16.1	+0.8
TUMD				*e*S	Sn	10 52 31.4	+0.8
TUMR	**Tumrok**	**1.12**	**344**	*i* P	Pn	10 52 17.9	+1.2
SPN	**Mys Shipunski**	**1.18**	**200**	*e*P	Pn	10 52 18.9	+1.7
SPN				*e*S	Sn	10 52 35.5	+1.5
NLC	**Nalytchevo**	**1.31**	**218**	*e*P	Pn	10 52 20.1	+1.3
NLC				*e*S	Sn	10 52 38.0	+1.3
SDLR	**Sedlovina**	**1.42**	**230**	*i* P	Pn	10 52 21.7	+1.5
SDLR				*e*S	Sn	10 52 40.9	+1.6
KRER	**Koryakskii**	**1.47**	**233**	*i* P	Pn	10 52 22.5	+1.6
KRER				*e*S	Sn	10 52 42.5	+2.1
SMAR	**Somma**	**1.47**	**231**	*i* P	Pn	10 52 22.5	+1.6
SMAR				*e*S	Sn	10 52 42.2	+1.7
KRX	**Arik**	**1.48**	**236**	*e*P	Pn	10 52 22.5	+1.5
KRX				*e*S	Sn	10 52 42.5	+1.9
UGLR	**Uglovaya**	**1.49**	**229**	*i* P	Pn	10 52 22.8	+1.7
UGLR				*e*S	Sn	10 52 42.9	+2.0
AVH	**Avacha**	**1.50**	**232**	*i* P	Pn	10 52 22.9	+1.8
AVH				*e*S	Sn	10 52 42.8	+1.9
KOK	**Koryaka**	**1.53**	**234**	*e*P	Pn	10 52 23.2	+1.7
KOK				*e*S	Sn	10 52 43.8	+2.2
KMNR	**Kamenistaya**	**1.57**	**351**	*i* P	Pn	10 52 23.6	+1.5
DALK	**Dalny**	**1.65**	**225**	*e*P	Pn	10 52 24.4	+1.5
DALK				*e*S	Sn	10 52 44.9	+0.8
PET	**Petropavlovsk**	**1.70**	**226**	*e*P	Pn	10 52 25.1	+1.6
PET				*e*S	Sn	10 52 46.5	+1.3
GNL	**Ganaly**	**1.70**	**254**	*e*P	Pn	10 52 24.6	+0.8
BZMR	**Bezymyannaya**	**1.73**	**356**	*e*P	Pn	10 52 25.8	+1.6
BZGR	**Bezymyannyi-Gr**	**1.74**	**0**	*e*P	Pn	10 52 25.8	+1.6
KIRR	**Kirishev**	**1.76**	**354**	*e*P	Pn	10 52 25.9	+1.4
BZWR	**Bezymyannyi-We**	**1.76**	**356**	*e*P	Pn	10 52 26.3	+1.7
KPT	**Kopyto**	**1.78**	**352**	*e*P	Pn	10 52 25.8	+1.1
ZLN	**Zelenaya**	**1.81**	**2**	*e*P	Pn	10 52 27.2	+2.1
LGNR	**Loginova**	**1.88**	**360**	*e*P	Pn	10 52 28.3	+2.2
CIRR	**Tsirk**	**1.91**	**1**	*e*P	Pn	10 52 28.7	+2.3
KOZ	**Kozyrevsk**	**1.91**	**346**	*e*P	Pn	10 52 27.1	+0.8
KRSR	**Krestovskiy**	**2.02**	**358**	*e*P	Pn	10 52 29.0	+1.3
KRMR	**Karymshinskiy**	**2.06**	**229**	*e*P	Pn	10 52 29.4	+1.2
KRMR				*e*S	Sn	10 52 55.9	+2.4
ESO	**Esso**	**2.07**	**327**	*e*P	Pn	10 52 28.3	0.0
KLY	**Klyuchi**	**2.11**	**359**	*e*P	Pn	10 52 30.8	+2.0
RUS	**Russkaya**	**2.21**	**217**	*i* P	Pn	10 52 31.4	+1.3
RUS				*e*S	Sn	10 52 57.7	+0.7
MTVR	**Mutnovka**	**2.29**	**222**	*e*P	Pn	10 52 33.3	+1.9
MTVR				*e*S	Sn	10 53 01.5	+2.3
KBTR	**Krutoberegovo**	**2.35**	**30**	*i* P	Pn	10 52 34.4	+2.5
BDR	**Baidarnaya**	**2.38**	**7**	*e*P	Pn	10 52 34.8	+2.3
SMKR	**Semkarok**	**2.42**	**10**	*e*P	Pn	10 52 34.9	+1.9
SRKR	**Sorokina**	**2.47**	**6**	*e*P	Pn	10 52 35.6	+2.0
ASAK	**Asacha**	**2.48**	**224**	*e*P	Pn	10 52 36.0	+2.2
KDTR	**Khodutka, Kamc**	**2.88**	**214**	*e*P	Pn	10 52 40.1	+1.1
KDTR				*e*S	Sn	10 53 12.5	-0.3
BKI	**Bering**	**3.22**	**70**	*e*S	Sn	10 53 22.8	+1.7

*BJI **19** 10:55:29.8, 1.41N×93.53E, h32km, mb4.8/39, mB4.7/25, Ms4.3/12, Ms7 4.0/9*
*IDC **19** 10:55:30.8±0.5,2.03N×93.57E, h0km, mb4.4/33, mb1 4.4/37, mb1mx4.3/79, mbtmp4.4/37, ML4.4/4, MS3.6/9, Ms1 3.6/9, ms1mx3.2/65, Error ellipse: s-maj=15.4km s-min=12.0km az=48.0*
*MOS **19** 10:55:31.7±0.9,2.04N×93.58E, h17km, mb4.8/21, Error ellipse: s-maj=9.7km s-min=5.9km az=104.3*

*NEIC **19** 10:55:32.2±0.2, 1.99N×93.53E, h10km, mb4.7/23, Error ellipse: s-maj=5.3km s-min=3.6km az=213.0*
*ISCJB **19** 10:55:33.0±1.3,2.03N±0.03×93.58E±0.04, h25km±9km, mb4.6/69, MS3.9/14, Error ellipse: s-maj=7.3km s-min=4.5km az=143.0*
*DJA **19** 10:55:32.6±1.7,2.1N±4°×93.3E±1°5, h10km, M5.2/13, mb5.4/12, mB5.6/11, MLv5.2/13, Mw(mB)5.1/11*
ISC 19 10:55:34.9±0.9,2.06N±0.05×93.65E±0.04,h27km±5km, n244,σ1942/245,mb4.7/74,MS3.9/15,6C-7D,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLSI	**Meulaboh, Aceh**	**3.52**	**51**	P	**Pn**	**10 56 28.8**	**+0.9**
TPTI		**3.73**	**71**	P	**Pn**	**10 56 31.2**	**+0.5**
BSI	**Banda Aceh**	**3.79**	**26**	P	**Pn**	**10 56 31.6**	**0.0**
GSI	**Gunungsitoli**	**4.00**	**101**	P	**Pn**	**10 56 36.0**	**+1.5**
GSI	**Gunungsitoli**	**4.00**	**101**	*e*Pn	**Pn**	**10 56 35.9**	**+1.4**
KCSI	**Kotacane, Aceh**	**4.37**	**70**	P	**Pn**	**10 56 42.2**	**+2.6**
LHMI	**Lhok Sumawe**	**4.55**	**46**	P	**Pn**	**10 56 44.0**	**+1.9**
LHMI	**Lhok Sumawe**	**4.55**	**46**	*e*Pn	**Pn**	**10 56 43.6**	**+1.4**
PBSI	**Pulau Batu**	**5.09**	**114**	P	**Pn**	**10 56 51.1**	**+1.7**
	4μm,0.7s,50μm14nm						
PSI	**Prapat**	**5.32**	**82**	Pn	**Pn**	**10 56 54.5**	**+1.6**
	3.3nm,0.3s,baz=320,slow=4.8,SNR=8.0						
PSI				Sn	**Sn**	**10 57 45.7**	**-7.7**
	4.4nm,0.3s,baz=307,slow=15,SNR=2.2						
PSI	**Prapat**	**5.32**	**82**	*e*Pn	**Pn**	**10 56 54.1**	**+1.3**
PSI				*e*Sn	**Sn**	**10 57 45.7**	**-7.7**
PSI	**Prapat**	**5.32**	**82**	*e*P	**Pn**	**10 56 54.1**	**+1.3**
MNSI	**Mandailing Nat**	**6.06**	**102**	P	**Pn**	**10 57 04.6**	**+1.7**
	437nm,0.5s,16μm						
SISI	**Saibi**	**6.40**	**122**	P	**Pn**	**10 57 08.4**	**+0.9**
	226nm,0.9s,3μm						
PDSI	**Padang**	**7.43**	**113**	P	**Pn**	**10 57 23.8**	**+2.2**
BKNI	**Bangkinang**	**7.59**	**103**	P	**Pn**	**10 57 25.7**	**+1.9**
	224nm,0.6s,4μm						
BKNI	**Bangkinang**	**7.59**	**103**	*e*Pn	**Pn**	**10 57 25.3**	**+1.4**
KULM	**Kulim**	**7.69**	**65**	*e*Pn	**Pn**	**10 57 26.4**	**+1.1**
IPM	**Ipoh**	**7.75**	**72**	*e*Pn	**Pn**	**10 57 26.9**	**+0.8**
PPSI	**Pulau Pagai**	**7.96**	**127**	P	**Pn**	**10 57 31.2**	**+2.2**
	396nm,0.5s,5μm						
TRTT	**Trang**	**8.32**	**46**	P	**Pn**	**10 57 33.7**	**-0.1**
	14nm,0.6s,0.1nm						
SDSI	**Sungai Dareh**	**8.33**	**111**	P	**Pn**	**10 57 36.0**	**+2.0**
SKLT	**Songkhla**	**8.61**	**54**	P	**Pn**	**10 57 37.9**	**+0.1**
	37nm,0.7s,0.1nm						
PBA	**Port Blair**	**9.57**	**355**	*e*P	Pn	10 57 50.7	-0.4
PBA	**Port Blair**	**9.57**	**355**	*e*Pn	Pn	10 57 52.0	+0.9
PBA				*e*Sn	Sn	10 59 37.9	0.0
MASI	**Maura Aman, Be**	**10.02**	**121**	P	**Pn**	**10 57 59.0**	**+1.7**
MYKOM	**Kota Tinggi**	**10.20**	**91**	*e*Pn	**Pn**	**10 58 01.3**	**+1.6**
DGPR	**DIGLIPUR**	**11.07**	**356**	*e*P	**Pn**	**10 58 09.8**	**-1.7**
MNAI	**Manna**	**11.28**	**124**	*e*Pn	**Pn**	**10 58 15.7**	**+1.2**
MDSI	**Maura Dua**	**12.37**	**122**	P	**Pn**	**10 58 31.0**	**+1.6**
	57nm,0.6s						
LWLI	**Liwa**	**12.55**	**124**	P	**Pn**	**10 58 33.8**	**+1.8**
KASI	**Kota Agung**	**13.20**	**125**	P	**Pn**	**10 58 42.5**	**+1.8**
CHBT	**CHBT**	**13.67**	**39**	P	**P**	**10 58 57.8**	**+2.2**
PALK	**Pallekele**	**13.90**	**292**	Pn	**Pn**	**10 58 49.9**	**-0.4**
	3.6nm,0.3s,baz=115,slow=11,SNR=8.4						
PALK				Sn	Sn	11 01 07.7	-16
	1.4nm,0.3s,baz=116,slow=12,SNR=3.4						
PALK				LR	LR	11 04 30.9	
	comp=Z,289nm,18.1s,baz=297,slow=39						
PALK	**Pallekele**	**13.90**	**292**	*e*Pn	**Pn**	**10 58 51.1**	**+0.8**
PALK				Sn	Sn	11 01 07.7	-16
PALK				*e*Sn	Sn	11 01 13.2	-11
PALK	**Pallekele**	**13.90**	**292**	*e*P	**Pn**	**10 58 51.1**	**+0.8**
NAYO	**Nakonayok**	**14.34**	**31**	P	**P**	**10 59 04.8**	**+1.7**
CHAI	**Chaiyaphum**	**16.02**	**30**	P	P	10 59 31.0	+9.2
PBKT	**Sadao Pong**	**16.12**	**26**	P	**Pn**	**10 59 20.5**	**+0.7**
	18nm,0.7s						
PBKT	**Sadao Pong**	**16.12**	**26**	*e*Pn	**Pn**	**10 59 19.9**	**+0.1**
	8.6nm,0.7s						
PHIT	**Phitsanulok**	**16.44**	**23**	P	**P**	**10 59 28.5**	**+2.1**
	11nm,1.0s						
LEM	**Lembang**	**16.50**	**122**	Pn	**Pn**	**10 59 24.9**	**0.0**
	2.6nm,0.3s,baz=315,slow=19,SNR=2.0						
KSM	**Kuching**	**16.66**	**92**	*e*Pn	**P**	**10 59 29.2**	**+0.2**
	4.6nm,0.9s						
CM01	**Chiang Mai Arr**	**17.07**	**17**	*e*Pn	**P**	**10 59 33.3**	**-0.1**
CM31	**Chiang Mai Arr**	**17.10**	**17**	*e*Pn	**Pn**	**10 59 32.7**	**+0.5**
CMAR	**Chiang Mai Arr**	**17.10**	**17**	P	**Pn**	**10 59 32.5**	**+0.2**
	0.4nm,0.3s,baz=214,slow=12,SNR=17						
CMAR				PcP	**PcP**	**11 04 17.9**	**+1.3**
	0.2nm,0.3s,baz=226,slow=4.0,SNR=4.8						
CMAR				LR	LR	11 07 14.9	
	comp=Z,160nm,19.5s,baz=285,slow=41						
MDRS	**Chennai**	**17.19**	**310**	*e*P	**Pn**	**10 59 32.7**	**-0.6**
MDRS				IAmb	IAmb	10 59 33.7	
	comp=Z,14nm,0.6s						
CHTO	**Chiang Mai**	**17.44**	**17**	*e*Pn	**P**	**10 59 37.6**	**+0.1**
	comp=Z,10nm,1.1s						
CHTO	**Chiang Mai**	**17.44**	**17**	*e*P	**P**	**10 59 37.6**	**+0.1**
CHTO				pmax	pmax		
	comp=Z,10.0nm,1.1s						
CMMT	**Chiang Mai**	**17.44**	**17**	P	**P**	**10 59 38.7**	**+1.2**
	comp=Z,9.3nm,1.1s						
SKNT	**Sakolnakorn**	**17.97**	**34**	P	**P**	**10 59 43.6**	**+0.2**
	comp=Z,5.2nm,1.0s						
CMAI	**Chiengmai2**	**18.53**	**16**	P	**Pn**	**10 59 52.5**	**+2.5**
SBUM	**Sibu**	**18.56**	**88**	*e*P	**Pn**	**10 59 51.9**	**+1.6**
	comp=Z,4.1nm,0.9s						
VIS	**Vishakhapatnam**	**18.57**	**328**	*i* P	**P**	**10 59 50.3**	**+0.3**
VIS				IAmb	IAmb	10 59 52.9	
	comp=Z,80nm,1.1s						
VIS				*i* x	x	11 03 06.7	
HYB	**Hyderabad**	**21.28**	**317**	*i* P	**P**	**11 00 21.0**	**+1.5**
HYB	**Hyderabad**	**21.28**	**317**	*ex*	**P**	**11 00 14.6**	**-5.0**
HYB				IAmb	IAmb	11 00 23.7	
	comp=Z,14nm,0.8s						
BOK	**Bokaro**	**22.88**	**341**	*e*P	**P**	**11 00 36.4**	**-0.2**
BOK				IAmb	IAmb	11 00 52.3	
	comp=Z,27nm,0.5s						
H08S2	**Diego Garcia H**	**23.20**	**245**	T	T	11 26 22.0	
	baz=62,slow=75,SNR=54						
H08S3	**Diego Garcia H**	**23.20**	**245**	T	T	11 26 15.1	
	baz=62,slow=75,SNR=49						
H08S1	**Diego Carcia H**	**23.22**	**245**	T	T	11 26 19.4	
	baz=62,slow=75,SNR=54						
SHL	**Shillong**	**23.43**	**356**	*ex*	**P**	**11 00 43.9**	**+1.6**
SHL				IAmb	IAmb	11 00 45.1	
	comp=Z,41nm,0.2s						
SHL	**Shillong**	**23.43**	**356**	*e*P	**P**	**11 00 43.0**	**+0.7**
	comp=Z,18nm,0.8s						
SHL	**Shillong**	**23.43**	**356**	*e*P	**P**	**11 00 43.0**	**+0.7**
SHL				pmax	pmax		
	comp=Z,18nm,0.8s						
GOA	**Goa**	**23.67**	**305**	*ex*	**P**	**11 00 38.9**	**-5.6**
NGP	**Nagpur**	**23.71**	**324**	*e*P	**P**	**11 00 42.0**	**-2.9**
NGP				IAmb	IAmb	11 01 04.5	
	comp=Z,55nm,1.8s						
KMI	**Kunming**	**24.55**	**20**	P	**P**	**11 00 54.9**	**+2.0**
KMI				pP	sP	11 01 02.9	-1.1
KMI				sP	pP	11 01 06.8	+6.1
KMI				PP	**PnPn**	**11 01 28.5**	**+3.9**
KMI				S	**S**	**11 05 15.3**	**+3.0**
KMI				sS	sS	11 05 28.3	+3.1
KMI				pmax	pmax		
	comp=Z,21nm,0.9s						
KMI				pmax	pmax		
	comp=Z,64nm,4.9s						
KMI				LR	LR		
	comp=Z,130nm,15.3s						
KMI				LR	LR		
	comp=Z,160nm,16.1s						
KMI				LR	LR		
	comp=Z,160nm,16.1s						
ODAN	**Odare**	**25.38**	**347**	*e*P	**P**	**11 01 02.1**	**+1.7**
POO	**Poona**	**25.39**	**311**	*e*P	**P**	**11 00 57.3**	**-3.0**
RAMN	**Ramite**	**25.66**	**345**	*e*P	**P**	**11 01 04.9**	**+2.0**
JIRN	**Jiri**	**26.44**	**345**	*e*P	**P**	**11 01 11.3**	**+1.2**
DMN	**Daman**	**26.69**	**343**	*e*P	**P**	**11 01 13.4**	**+1.2**
GUN	**Gumba**	**26.76**	**345**	*e*P	**P**	**11 01 13.5**	**+0.5**
KOLN	**Koldanda**	**27.31**	**340**	*e*P	**P**	**11 01 18.6**	**+0.8**
	comp=Z,18nm,0.8s						
LSA	**Lhasa**	**27.59**	**355**	*e*P	**P**	**11 01 20.9**	**+0.4**
	comp=Z,13nm,0.6s						
LSA	**Lhasa**	**27.59**	**355**	*e*P	**P**	**11 01 21.0**	**+0.4**
LSA				pmax	pmax		
	comp=Z,13nm,0.6s						
PYUN	**Piuthan**	**27.82**	**340**	*e*P	**P**	**11 01 23.2**	**+0.8**
LUWI	**Luwuk**	**29.28**	**96**	*e*P	**P**	**11 01 35.9**	**+0.6**
	comp=Z,159nm,0.7s						
ENH	**Enshi**	**31.83**	**27**	*e*P	**P**	**11 01 58.2**	**+0.6**
	comp=Z,17nm,0.8s						
DAV	**Davao City (W)**	**32.21**	**80**	LR	LR	11 18 09.7	
	comp=Z,37nm,18.2s,baz=340,slow=42						
DAV	**Davao City (W)**	**32.21**	**80**	*e*P	**P**	**11 02 00.8**	**-0.3**
	comp=Z,327nm,0.6s						
SOEI	**Soe**	**32.68**	**112**	*e*P	**P**	**11 02 05.9**	**+0.5**
	comp=Z,68nm,0.7s						
SMLA	**Simla**	**32.84**	**333**	*e*P	**P**	**11 02 06.9**	**+0.4**
SMLA				IAmb	IAmb	11 02 08.4	
	comp=Z,10.0nm,1.0s						
DHRM	**DHARAMSHALA**	**34.18**	**333**	*e*P	**P**	**11 02 18.6**	**+0.2**
DHRM				IAmb	IAmb	11 02 19.6	
	comp=Z,5.3nm,0.5s						
WHN	**Wuhan**	**34.45**	**33**	⇓P	P	11 02 29.3	+8.8
XAN	**Xi'an**	**34.87**	**22**	P	**P**	**11 02 24.1**	**0.0**
XAN				pmax	pmax		
	comp=Z,28nm,0.9s						
LZH	**Lanzhou**	**35.15**	**14**	*e*P	**P**	**11 02 26.8**	**+0.1**
LZH				pP	pP	11 02 35.3	+0.7
LZH				sP	sP	11 02 39.0	+1.1
LZH				pmax	pmax		
	comp=Z,17nm,1.1s						
LZH				pmax	pmax		
	comp=Z,68nm,5.2s						
LZH				LR	LR		
	comp=Z,1μm,14.0s						
LZH				LR	LR		
	comp=Z,1μm,14.2s						
LZH				LR	LR		
	comp=Z,1μm,16.8s						
GTA	**Gaotai**	**37.60**	**8**	P	**P**	**11 02 48.4**	**+0.9**
GTA				S	**S**	**11 08 36.8**	**+1.2**
GTA				sS	ScP	11 08 53.0	+2.2
GTA				pmax	pmax		
	comp=Z,8.0nm,1.4s						
GTA				pmax	pmax		
	comp=Z,49nm,5.3s						
GTA				LR	LR		
	comp=Z,130nm,18.7s						
GTA				LR	LR		
	comp=Z,82nm,15.7s						
NJ2	**Nanjing**	**38.12**	**36**	*e*P	**P**	**11 02 54.3**	**+2.4**
NJ2				pmax	pmax		
	comp=Z,16nm,0.6s						
KSH	**Kashi**	**40.61**	**339**	P	**P**	**11 03 11.8**	**-0.9**
KSH				S	**S**	**11 09 16.0**	**-4.9**
KSH				pmax	pmax		
	comp=Z,310nm,5.7s						
KSH				LR	LR		
	comp=Z,530nm,11.2s						
KSH				LR	LR		
	comp=Z,430nm,11.1s						
NWAO	**Narrogin (SRO)**	**41.33**	**149**	LR	LR	11 20 42.0	
	comp=Z,141nm,18.8s,baz=174,slow=37						
H01W3	**Cape Leeuwin H**	**41.47**	**154**	T	T	11 47 28.5	
	baz=328,slow=74,SNR=4.1						
H01W2	**Cape Leeuwin H**	**41.48**	**154**	T	T	11 47 42.0	
	baz=328						
H01W1	**Cape Leeuwin H**	**41.49**	**154**	T	T	11 47 31.4	
	baz=328,slow=74,SNR=4.2						
HHC	**Hu-ho-hao-te**	**41.87**	**20**	*e*P	P	11 03 28.6	+5.6
HHC				S	S	11 09 50.1	+11
HHC				pmax	pmax		
	comp=Z,31nm,1.0s						
HHC				pmax	pmax		
	comp=Z,100nm,5.8s						
HHC				LR	LR		
	comp=Z,700nm,14.2s						
HHC				LR	LR		
	comp=Z,590nm,13.9s						
HHC				LR	LR		
	comp=Z,680nm,14.4s						
WMQ	**Urumqi**	**41.92**	**354**	P	**P**	**11 03 26.3**	**+3.0**
WMQ				pP	pP	11 03 30.6	-0.8
WMQ				pmax	pmax		
	comp=Z,25nm,1.1s						
WMQ				pmax	pmax		
	comp=Z,160nm,5.5s						
WMQ				LR	LR		
	comp=Z,160nm,25.9s						
KDJ	**Kajisay**	**42.54**	**342**	*e*P	**P**	**11 03 29.2**	**+0.6**
	comp=Z,5.3nm,0.8s						
KDJ	**Kajisay**	**42.54**	**342**	*e*P	**P**	**11 03 29.2**	**+0.6**
KDJ				pmax	pmax		
	comp=Z,5.0nm,0.8s						
BJT	**Baijiatuau**	**42.96**	**26**	*e*P	**P**	**11 03 32.9**	**+1.2**
BJT	**

GEYT **Alibeck** 48.32 322 P **P** 11 04 14.8 +0.6
comp=Z,7.8nm,0.6s,baz=148,slow=8.7,SNR=14
ZAK **Zakamensk** 48.84 8 *e*P **P** 11 04 17.4 -0.7
ZAK pmax pmax
comp=Z,3.0nm,1.0s
HVS **Khovu-Aksy** 48.90 0‖ *e*P **P** 11 04 19.3 +0.8
KURBB **Kurchatov Arra** 50.05 347 P **P** 11 04 27.1 -0.1
comp=Z,7.2nm,0.8s,baz=170,slow=7.6,SNR=6.6
OPO **Ambohidratompo** 50.08 244 P **P** 11 04 28.8 +0.6
comp=Z,2.2nm,0.9s,baz=76,slow=4.2,SNR=1.6
KURK **Kurchatov** 50.12 348 *e*P **P** 11 04 27.1 -0.6
KURK **Kurchatov** 50.12 348 *e*P **P** 11 04 27.1 -0.6
TLY **Talaya** 50.16 8 P **P** 11 04 29.4 +1.4
comp=Z,0.9nm,0.3s,baz=339,slow=12,SNR=4.8
TLY **Talaya** 50.16 8 *e*P **P** 11 04 29.1 +1.1
comp=Z,2.9nm,0.9s
TLY *e*P **P** 11 04 29.4 +1.4
TLY **Talaya** 50.16 8 *e*P **P** 11 04 29.7 +1.7
TLY pmax pmax
comp=Z,2.0nm,0.6s
CN2 **Changchun** 50.24 30 *e*P **P** 11 04 32.0 +3.3
CN2 pmax pmax
comp=Z,10.0nm,0.8s
RAYN **Ar Rayn** 51.23 299 *e*P **P** 11 04 37.4 +0.8
comp=Z,6.3nm,0.8s
RAYN **Ar Rayn** 51.23 299 *e*P **P** 11 04 37.4 +0.8
RAYN pmax pmax
comp=Z,6.0nm,0.8s
ZAA0 **Zalesovo Array** 52.23 353 *e*P **P** 11 04 44.1 +0.6
comp=Z,8.0nm,0.6s
ZALV **Zalesovo Beam** 52.23 353 P **P** 11 04 43.9 +0.4
comp=Z,8.8nm,0.6s,baz=189,slow=7.1,SNR=16
ZAA1 **Zalesovo Array** 52.23 353 *e*P **P** 11 04 43.9 +0.4
NVS **Novosibirsk** 53.30 353 *i*P **P** 11 04 51.9 +0.6
NVS pmax pmax
comp=Z,9.0nm,1.1s
NVS pmax pmax
comp=N,5.0nm,0.9s
NVS pmax pmax
comp=E,2.0nm,0.9s
MJAR **Matsushiro Arr** 53.52 45 LR LR 11 30 05.1
comp=E,53nm,18.9s,baz=230,slow=39
ABKAR **Akbulak array** 55.13 334 *e*P **P** 11 05 04.4 -0.5
STKA **Stephens Creek** 56.58 131 P **P** 11 05 15.9 +0.4
comp=E,1.3nm,0.6s,baz=288,slow=8.7,SNR=5.1
STKA **Stephens Creek** 56.58 131 *e*P **P** 11 05 15.9 +0.4
comp=E,0.4nm,0.9s
STKA **Stephens Creek** 56.58 131 *e*P **P** 11 05 16.0 +0.4
AKTO **Aktyubinsk** 56.84 334 P **P** 11 05 16.5 -0.6
comp=E,0.6nm,0.3s,baz=136,slow=5.6,SNR=4.8
KLR **Kul'dur** 57.15 29 P **P** 11 05 20.1 +0.9
comp=E,0.5nm,0.8s,baz=262,slow=6.6,SNR=18
BOD **Bodaibo** 57.89 13 *e*P **P** 11 05 24.8 +0.5
BOD pmax pmax
comp=Z,10.0nm,1.1s
ZEI **Tsey** 60.03 320 *e*P **P** 11 05 39.1 -0.7
ZEI pmax pmax
comp=Z,5.0nm,0.7s
ASAJ **Asahikawa** 60.17 39 P **P** 11 05 41.4 +1.0
comp=Z,4.1nm,0.7s,baz=247,slow=11,SNR=13
ARU **Arti** 61.05 339 P **P** 11 05 45.5 -0.7
comp=Z,3.5nm,0.2s,baz=59,slow=2.0,SNR=5.8
ARU **Arti** 61.05 339 *e*P **P** 11 05 45.5 -0.7
comp=Z,5.7nm,0.9s
ARU **Arti** 61.05 339 *d i*P **P** 11 05 45.3 -0.9
ARU 11 06 25.1
ARU S **S** 11 14 03.5 +0.2
ARU SS **SS** 11 18 01.6 -1.7
ARU pmax pmax
comp=Z,19nm,2.5s
KBZ **Khabaz** 61.12 320 P **P** 11 05 47.1 +0.3
comp=Z,4.0nm,0.8s,baz=146,slow=6.3,SNR=9.4
KVAR **Kislovodsk Arr** 61.35 320 P **P** 11 05 48.9 +0.3
comp=Z,3.4nm,0.4s,baz=120,slow=14,SNR=3.0
KIV **Kislovodsk** 61.36 320 *e*P **P** 11 05 48.5 -0.2
comp=Z,8.8nm,0.5s
KIV **Kislovodsk** 61.36 320 *e*P **P** 11 05 48.5 -0.2
KIV pmax pmax
comp=Z,9.0nm,0.5s
YSS **Yuzh-Sakhalins** 61.69 36 *e*P **P** 11 05 51.5 +0.9
comp=Z,11nm,0.8s
YSS **Yuzh-Sakhalins** 61.69 36‖ *e*P **P** 11 05 51.6 +0.9
YSS pmax pmax
comp=Z,18nm,1.3s
YAK **Yakutsk** 65.64 18 P **P** 11 06 15.9 -0.6
comp=Z,14nm,0.6s,baz=307,slow=1.6,SNR=5.8
YAK **Yakutsk** 65.64 18 *e*P **P** 11 06 15.9 -0.6
comp=Z,29nm,0.8s
YAK **Yakutsk** 65.64 18 *e*P **P** 11 06 15.1 -1.3
YAK *e**PP **pP** 11 06 21.4 -3.4
YAK *e* 11 06 44.5
YAK *e*S **S** 11 15 00.0 -0.3
YAK *e* 11 16 02.1
YAK pmax pmax
comp=Z,25nm,0.9s
YAK pmax pmax
comp=E,5.0nm,1.3s
YAK pmax pmax
comp=N,6.0nm,1.2s
YAK pmax pmax
comp=Z,115nm,4.3s
YAK pmax pmax
comp=E,29nm,4.3s
YAK pmax pmax
comp=N,47nm,4.7s
YAK smax smax
comp=E,30nm,3.3s
YAK smax smax
comp=N,15nm,2.3s
YAK MLR MLR
comp=Z,88nm,26.0s
BR101 **Keskin Array S** 65.92 313 *e*P **P** 11 06 18.4 -0.5
BRTR **Keskin Array B** 65.92 313 P **P** 11 06 18.4 -0.5
comp=Z,1.3nm,0.7s,baz=118,slow=7.4,SNR=6.5
OBN **Obninsk** 70.05 329 *i*P **P** 11 06 43.8 -0.5
OBN *i* 11 07 00.2
OBN pmax pmax
comp=Z,8.0nm,0.8s
SKR **Severo-Kuril's** 71.25 37‖ *e*P **P** 11 06 52.5 +0.7
MA2 **Magadan** 72.13 27 *e*P **P** 11 06 56.8 -0.1
comp=Z,7.5nm,0.9s
MA2 **Magadan** 72.13 27 *e*P **P** 11 06 56.8 -0.1
MA2 pmax pmax
comp=Z,7.0nm,0.9s
BOSA **Boshof** 72.15 239 P **P** 11 06 57.6 -0.2
comp=Z,1.6nm,0.5s,baz=60,slow=6.3,SNR=2.6
AKASG **Malin Array Be** 72.43 323 P **P** 11 06 58.1 -0.7
comp=Z,0.4nm,0.4s,baz=92,slow=4.9,SNR=7.3
AKBB **Malin Array Si** 72.43 323 *e*P **P** 11 06 58.1 -0.7
comp=Z,1.4nm,1.0s
AKBB **Malin Array Si** 72.43 323 *e*P **P** 11 06 58.1 -0.7
AKBB pmax pmax
comp=Z,1.0nm,1.0s
TIXI **Tiksi** 72.99 11 P **P** 11 07 00.9 -0.9
comp=Z,13nm,0.7s,baz=224,slow=3.0,SNR=40
TIXI **Tiksi** 72.99 11 *ce*P **P** 11 07 01.1 -0.7
TIXI pmax pmax
comp=Z,33nm,1.7s
MLR **Muntele Rosu** 73.02 317 P **P** 11 07 03.1 +0.4
comp=Z,1.0nm,0.7s,baz=253,slow=3.9,SNR=5.4
MLR **Muntele Rosu** 73.02 317 *e*P **P** 11 07 02.2 -0.5
comp=Z,11nm,1.1s
MLR *e*P **P** 11 07 03.1 +0.4
BUR04 **Bucovina Ar. S** 74.05 319 *e*P **P** 11 07 09.1 +0.4
SEY **Seymchan** 74.39 24 P **P** 11 07 09.9 -0.3
comp=Z,2.6nm,0.7s,baz=257,slow=4.1,SNR=9.6
SEY **Seymchan** 74.39 24‖ *e*P **P** 11 07 09.6 -0.6
STHS **Stebnicka Huta** 77.03 320 *e*P **P** 11 07 26.2 +0.6
STHS **Stebnicka Huta** 77.03 320 *e*P **P** 11 07 26.2 +0.6
STHS pmax pmax
comp=Z,3.0nm,0.7s
TTG **Podgorica** 77.11 313 *e*PcP **PcP** 11 07 38.7 +1.8
FIA0 **FINESS Array S** 77.61 333 *e*P **P** 11 07 27.8 -0.7
FIA0 **FINESS Array S** 77.61 333 *e*P **P** 11 07 27.8 -0.7
FINES **FINESS Array B** 77.61 333 P **P** 11 07 27.8 -0.7
comp=Z,1.1nm,0.7s,baz=86,slow=7.8,SNR=6.2
SYO **Syowa Base** 79.74 197‖ *e*P **P** 11 07 40.0 -0.1
KRLC **Kraliky** 80.00 320 *e*P **P** 11 07 42.5 +0.5
KRLC **Kraliky** 80.00 320 *e*P **P** 11 07 42.5 +0.5
DPC **Dobruska-Polom** 80.33 321 *e*P **P** 11 07 44.7 +0.9
DPC **Dobruska-Polom** 80.33 321 *e*P **P** 11 07 44.7 +0.9
ARA0 **ARCESS Array S** 80.54 341 *e*P **P** 11 07 44.3 -0.2
ARCES **ARCESS Array B** 80.54 341 P **P** 11 07 44.3 -0.2
comp=Z,3.2nm,0.9s,baz=100,slow=6.3,SNR=8.7
BILL **Bilibino** 81.64 21 ‖ *i*P **P** 11 07 49.9 -0.4
BILL *e* 11 07 58.5
BILL *e* 11 10 58.3
BILL *e*SS SS 11 23 21.1 +2.9
BILL pmax pmax
comp=Z,6.0nm,1.8s
BILL MLR MLR
comp=Z,86nm,21.0s
GEA0 **GERESS Array S** 81.83 319 *e*P **P** 11 07 52.0 +0.2
GEA0 *e*pP **pP** 11 08 01.2 +0.7
GEC2 **GERESS Array S** 81.83 319 *e*P **P** 11 07 52.4 +0.5
comp=Z,3.7nm,0.8s
GEC2 **GERESS Array S** 81.83 319 *e*P **P** 11 07 52.4 +0.5
GEC2 pmax pmax
comp=Z,4.0nm,0.8s
GERES **GERESS Array B** 81.83 319 P **P** 11 07 52.4 +0.5
comp=Z,2.4nm,0.6s,baz=100,slow=5.5,SNR=16
KHC **Kasperske Hory** 81.94 319 *e*P **P** 11 07 52.4 0.0
KHC **Kasperske Hory** 81.94 319 *e*P **P** 11 07 52.4 0.0
HFS **Hagfors** 83.21 330 P **P** 11 07 58.5 -0.2
comp=Z,1.4nm,0.4s,baz=145,slow=5.4,SNR=10
NB2 **NORSAR Subarra** 84.53 331 P **P** 11 08 04.7 -0.8
comp=Z,1.7nm,0.7s,baz=95,slow=5.3
NB200 **NORSAR Array S** 84.53 331 *e*P **P** 11 08 04.9 -0.6
NOA **NORSAR Array B** 84.53 331 P **P** 11 08 04.9 -0.6
comp=Z,0.4nm,0.6s,baz=96,slow=5.9,SNR=3.5
SPA0 **Spitsbergen Ar** 85.39 348 *e*P **P** 11 08 08.7 -0.8
SPITS **Spitsbergen Ar** 85.39 348 P **P** 11 08 08.7 -0.8
comp=Z,4.0nm,0.7s,baz=18,slow=0.3,SNR=5.2
VNDA **Vanda** 87.37 168 P **P** 11 08 18.8 -0.3
comp=Z,1.0nm,1.1s,baz=307,slow=3.8,SNR=3.7
EKA **Eskdalemuir Ar** 92.20 325 P **P** 11 08 42.4 +0.1
comp=Z,0.7nm,0.5s,baz=84,slow=6.7,SNR=3.1
AFI **Afiamalu** 94.93 104 LR LR 11 53 05.0
comp=Z,16nm,18.9s,baz=244,slow=36
YKA **Yellowknife Ar** 112.15 14 PKKP **PKKPdf** 11 25 18.3 -2.1
comp=Z,0.2nm,0.8s,baz=150,slow=3.2,SNR=4.1
EGMT **Eagleton** 126.10 19 *e*PKPdf **PKPdf** 11 14 35.2 +0.1
ULM **Lac du Bonnet** 127.25 8 PKP **PKPdf** 11 14 36.6 -0.5
comp=Z,1.0nm,0.5s,baz=29,slow=3.5,SNR=3.0
YHB **Horse Butte** 128.40 22 *e*PKPdf **PKPdf** 11 14 37.9 -2.0
NV01 **Mina Array Sit** 130.08 33 *e*PKPdf **PKPdf** 11 14 43.1 -0.1
NVAR **Mina Array Bea** 130.08 33 PKP **PKPdf** 11 14 43.1 -0.1
comp=Z,0.5nm,0.7s,baz=320,slow=1.5,SNR=5.6
FRI **Friant** 130.31 35 *e*PKPdf **PKPdf** 11 14 43.3 -0.1
FRI **Friant** 130.31 35 *e*PKIKP **PKPdf** 11 14 43.3 -0.1
PD31 **Pinedale Array** 130.71 23 *e*PKPdf **PKPdf** 11 14 44.6 +0.4
PDAR **Pinedale Array** 130.71 23 PKhKP PKPpre 11 14 40.8
comp=Z,0.4nm,0.6s,baz=48,slow=2.2,SNR=5.8
PDAR PKP **PKPdf** 11 14 44.6 +0.4
comp=Z,0.6nm,0.8s,baz=90,slow=1.8,SNR=5.8
SYP **Santa Ynez Pea** 131.83 38 *e*PKPdf **PKPdf** 11 14 45.5 -1.1
CCCA **Chr Cany lake** 132.69 35 *e*PKPdf **PKPdf** 11 14 48.7 +0.7
ECSD **EROS Data Cent** 133.49 10 *e*PKPdf **PKPdf** 11 14 48.3 -0.9
MIAR **Mount Ida** 142.96 6 *e*PKPpre PKPpre 11 15 03.1
CPUP **Villa Florida** 143.13 227 PKP PKPbc 11 15 04.6 +0.4
comp=Z,0.9nm,0.4s,baz=60,slow=8.3,SNR=3.4
TX31 **Lajitas Ar. Si** 144.65 27 *e*PKPdf PKPbc 11 15 08.8 0.0
TX31 *e*PKPdf **PKPab** 11 15 08.9 +0.3
LTX **Lajitas** 144.65 27 *e*PKPdf PKPbc 11 15 08.9 +0.1
LTX **Lajitas** 144.65 27 *e*PKIKP PKPbc 11 15 08.9 +0.1
TXAR **Lajitas Array** 144.65 27 PKP PKPbc 11 15 08.9 +0.1
comp=Z,4.9nm,0.5s,baz=68,slow=1.0,SNR=120
LRAL **Lakeview Retre** 145.09 1 *e*PKPbc **PKPbc** 11 15 09.5 -0.4
JCT **Junction City** 145.19 21 *e*PKPbc **PKPbc** 11 15 10.2 -0.2
JCT **Junction City** 145.19 21 *e*PKIKP **PKPbc** 11 15 10.2 -0.2
HPIG 145.68 32 *e*PKPdf **PKPab** 11 15 13.0 +0.4
VBMS **Vicksburg** 145.68 6 *e*PKPdf **PKPdf** 11 15 11.1 -0.5
LNIG **Linares** 150.34 25 *e*PKPdf **PKPdf** 11 15 19.1 -0.4
LPAZ **La Paz** 157.16 231 PKP **PKPdf** 11 15 30.3 +0.2
comp=Z,1.2nm,0.9s,baz=98,slow=2.0,SNR=4.3
LPAZ **La Paz** 157.16 231 *e*PKPdf **PKPdf** 11 15 29.1 -1.0
LPAZ **La Paz** 157.16 231 *e*PKIKP **PKPdf** 11 15 29.1 -1.0

ISK ***19*** *10:55:39.7, 38˚.70N×43˚.39E, h20km, ML2.2/3*
DDA ***19*** *10:55:40.8, 38˚.75N×43˚.46E, h7km, Ml2.6*
CSEM ***19*** *10:55:40.2±0.5, 38˚.71N×43˚.46E, h10km, ML2.6, Error ellipse: s-maj=10.1km s-min=7.0km az=129.0*
ISC 19 10:55:39.7±1.1, 38.67N±0.04×43.52E±0.06, h29km±7km, n17, σ0960/32, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
VANB	**Van**	0.13	234	PG		**Pb**	**10 55 45.0**	**-0.3**
TVAN	**Van**	0.17	213	*i* P		**Pb**	**10 55 45.5**	**-0.2**
TVAN				*i* S		**Sb**	**10 55 50.1**	**+0.2**
TVAN	**Van**	0.17	213	P		**Pb**	**10 55 45.5**	**-0.2**
TVAN				S		**Sb**	**10 55 50.1**	**+0.2**
VMUR	**Van-Muradiye**	0.32	7	*i* P		**Pb**	**10 55 46.8**	**-0.7**
VMUR				*i* S		**Sb**	**10 55 53.1**	**+0.3**
VMUR	**Van-Muradiye**	0.32	7	P		**Pb**	**10 55 46.8**	**-0.7**
VMUR				S		**Sb**	**10 55 53.1**	**+0.3**
GEVA	**Gevas**	0.51	226	*i* P		**Pn**	**10 55 50.8**	**-0.4**
GEVA				*i* S		**Sn**	**10 56 00.5**	**+1.3**
GEVA	**Gevas**	0.51	226	P		**Pn**	**10 55 50.8**	**-0.4**
CLDR	**Caldiran**	0.56	33	*i* P		**Pb**	**10 55 50.6**	**-0.6**
CLDR				*i* S		**Sb**	**10 55 59.4**	**+0.2**
CLDR	**Caldiran**	0.56	33	P		**Pb**	**10 55 50.6**	**-0.6**
CLDR				S		**Sb**	**10 55 59.3**	**+0.2**
ADCV	**BITLIS_Adilcev**	0.64	282	*i* P		**Pn**	**10 55 52.4**	**-0.6**
ADCV				*i* S		**Sn**	**10 56 02.8**	**+0.5**
ADCV	**BITLIS_Adilcev**	0.64	282	P		**Pn**	**10 55 52.4**	**-0.6**
ADCV				S		**Sn**	**10 56 02.8**	**+0.5**
TUTA	**Tutak**	0.91	323	*i* P		**Pb**	**10 55 56.5**	**-0.6**
TUTA				*i* S		**Sn**	**10 56 10.3**	**+1.2**
TUTA	**Tutak**	0.91	323	P		**Pb**	**10 55 56.5**	**-0.6**
TUTA				S		**Sn**	**10 56 10.3**	**+1.2**
AGRB	**Hanur-Agry**	0.99	335	PG		**Pn**	**10 55 58.1**	**+0.2**
AGRB				SG		**Sn**	**10 56 11.6**	**+0.6**
AGRB	**Hanur-Agry**	0.99	335	*e*Pg		**Pn**	**10 55 58.1**	**+0.2**
AGRB				*e*Sg		**Sn**	**10 56 11.6**	**+0.6**
GURO	**Guroymak-BITLI**	1.18	265	PG		**Pn**	**10 56 00.1**	**-0.2**
GURO				SG		**Sn**	**10 56 15.4**	**0.0**
GURO	**Guroymak-BITLI**	1.18	265	*e*Pg		**Pn**	**10 56 00.1**	**-0.2**
GURO				*e*Sg		**Sn**	**10 56 15.4**	**0.0**

BJI ***19*** *10:59:12.8, 2˚.64N×122˚.77E, h553km, mb4.8/43, mB4.6/25*
NEIC ***19*** *10:59:17.7±0.3, 3˚.11N×122˚.47E, h547km±4km, mb4.5/34, Error ellipse: s-maj=6.3km s-min=4.7km az=62.0*
ISCJB ***19*** *10:59:17.6±0.2, 3˚.17N±0˚.02×122˚.51E±0˚.03, h560km±3km, mb4.4/82, Error ellipse: s-maj=5.4km s-min=3.8km az=174.8*
IDC ***19*** *10:59:18.2±0.8, 3˚.10N×122˚.49E, h554km±9km, mb3.7/42, mb1 3.7/44, mb1mx3.6/69, mbtmp4.6/44, Error ellipse: s-maj=9.9km s-min=5.4km az=79.0*
DJA ***19*** *10:59:19.4±0.4, 3˚.7N±5˚×12˚.3E±˚, h539km±5km, M4.5/29, mb4.8/29, mB4.9/19, MLv5.2/17, Mw(mB)4.2/19*
MAN ***19*** *10:59:24, 3˚.70N×122˚.30E, h490km, mb5.2, ML4.2, MS4.4*
ISC 19 10:59:18.3±0.5, 3˚.10N±0˚.04×122˚.51E±0˚.06, h555km±5km, n202, σ1927/236, mb4.4/82, 2C-2D, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MRSI	**Marisa**	2.67	192	P		**P**	**11 00 31.4**	**-0.5**
KMSI	**Cibinong**	2.91	150	P		**P**	**11 00 34.5**	**+1.3**
SGSI	**Sangihe**	3.07	79	P		**P**	**11 00 33.6**	**-0.6**
MPSI	**Mapaga**	3.79	224	P		**P**	**11 00 37.8**	**-1.2**
APSI	**Ampana**	4.07	192	P		**P**	**11 00 40.6**	**-0.5**
LUWI	**Luwuk**	4.12	176	P		**P**	**11 00 40.2**	**-1.3**
LUWI	**Luwuk**	4.12	176	*e*P		**P**	**11 00 39.0**	**-2.4**
CTBH	**Cotabato--PC H**	4.45	23	‖ *i*P		**P**	**11 00 43.7**	**-0.3**
MYLDM	**Lahad Datu**	4.50	297	*e*P		**P**	**11 00 44.7**	**+0.3**
IPIL	**Ipil**	4.66	1	*e*P		**P**	**11 00 44.9**	**-0.8**
PCI	**Palu**	4.79	214	P		**P**	**11 00 45.9**	**-0.9**
DAV	**Davao City (W)**	4.99	38	S		**S**	**11 02 01.9**	**0.0**
	46nm,0.3s,baz=40,slow=22,SNR=7.9							
MATI	**Mati**	5.34	44	*e*P		**P**	**11 00 51.4**	**0.0**
TNTI	**Ternate**	5.38	115	*e*P		**P**	**11 00 50.2**	**-1.5**
BUKP	**Musuan**	5.39	28	*e*P		**P**	**11 00 51.8**	**0.0**
SGKI	**Sangatta, Kali**	6.09	234	P		**P**	**11 00 58.7**	**+0.7**
SANI	**Sanana**	6.18	146	P		**P**	**11 00 56.9**	**-2.0**
	252nm,0.8s,3μm1.4nm							
LBMI	**Labuha**	6.22	127	P		**P**	**11 00 59.5**	**+0.3**
	190nm,0.8s,3μm2.6nm							
SMKI	**Samarinda**	6.36	236	P		**P**	**11 01 02.0**	**+1.5**
	190nm,0.9s,1.7nm							
TTSI	**Tana Toraja**	6.67	204	P		**P**	**11 01 05.3**	**+1.9**
	442nm,0.8s,3μm1.3nm							
KKM	**Kota Kinabalu**	6.92	295	*e*P		**P**	**11 01 04.4**	**-1.5**
KKM				*e*S		**S**	**11 02 32.8**	**-1.2**
BKB	**Balikpapan**	7.09	232	P		**P**	**11 01 07.8**	**+0.4**
	357nm,0.9s,3μm1.2nm							
MSLP	**Maasin**	7.37	18	*e*P		**P**	**11 01 09.5**	**-0.5**
GUIM	**Jordan**	7.48	1	*e*P		**P**	**11 01 09.4**	**-1.7**
NLAI	**Namlea**	7.79	144	P		**P**	**11 01 16.5**	**+2.4**
	1μm,0.6s,13μm5.2nm							
BNSI	**Bone**	7.83	198	P		**P**	**11 01 15.8**	**+1.3**
	243nm,0.9s,3μm							
MTKI	**Muara Teweh, K**	8.61	242	P		**P**	**11 01 23.6**	**+1.3**
ENPP	**El Nido**	8.62	339	*e*P		**P**	**11 01 21.5**	**-0.8**
BKSI	**Bulukumba**	8.70	196	P		**P**	**11 01 25.5**	**+2.3**
	1.4nm,0.8s							
AAI	**Ambon**	8.81	140	P		**P**	**11 01 26.4**	**+2.1**
	376nm,0.6s,4μm							
KBKI	**Kotabaru**	8.98	225	P		**P**	**11 01 27.7**	**+1.7**
	54nm,0.7s,604nm							
MSAI	**Masohi**	9.06	135	P		**P**	**11 01 29.2**	**+2.4**
	206nm,0.6s,2μm							
BUSP	**Coron**	9.14	346	*e*P		**P**	**11 01 27.0**	**-0.5**
OTRP	**Odiongan**	9.22	357	*e*P		**P**	**11 01 27.7**	**-0.7**
BSSI	**Bau Bau, Buton**	9.40	192	P		**P**	**11 01 30.3**	**+0.1**
	90nm,1.0s,2μm							
SJMP	**San Jose**	9.40	352	*e*P		**P**	**11 01 29.8**	**-0.5**
CNP	**Catarman**	9.59	13	*e*P		**P**	**11 01 32.9**	**+0.8**
SIJI	**Sorong**	9.60	114	P		**P**	**11 01 33.0**	**+0.7**
	22nm,0.3s,baz=326,slow=14,SNR=50							
AUQP	**San Andres**	10.16	1	*e*P		**P**	**11 01 38.5**	**+0.6**
SBUM	**Sibu**	10.30	267	*e*P		**P**	**11 01 39.5**	**+0.1**
BOAC	**Boac**	10.32	356	*e*P		**P**	**11 01 40.3**	**+0.8**
LUBP	**Lubang**	10.80	348	*e*P		**P**	**11 01 44.0**	**-0.5**
TGY	**Tagaytay City**	11.04	352	P		**P**	**11 01 46.6**	**-0.4**
	73nm,0.3s,baz=216,slow=3.6,SNR=10							
FAKI	**Fak Fak**	11.42	121	P		**P**	**11 01 51.8**	**+0.8**
	89nm,1.1s,1μm							
FAKI	**Fak Fak**	11.42	121	*e*P		**P**	**11 01 51.5**	**+0.6**
MMRI	**Maumere**	11.66	181	P		**P**	**11 01 53.6**	**+0.2**
	44nm,1.1s							
MMRI	**Maumere**	11.66	181	*e*P		**P**	**11 01 53.6**	**+0.2**
KSM	**Kuching**	12.30	263	*e*P		**P**	**11 01 58.8**	**-1.3**
BALP	**Baler**	12.60	356	*e*P		**P**	**11 02 00.4**	**-2.6**
PLAI	**Plampang**	12.75	202	P		**P**	**11 02 05.0**	**+0.3**
SCZP	**Santa Cruz**	12.86	349	*e*P		**P**	**11 02 02.6**	**-3.1**
SOEI	**Soe**	12.89	172	P		**P**	**11 02 07.5**	**+1.3**
	153nm,0.7s,1μm							
WBSI	**Waikabubak, Su**	13.03	194	P		**P**	**11 02 09.3**	**+1.7**
BATI	**Baumata**	13.27	175	P		**P**	**11 02 10.5**	**+0.5**
	43nm,0.3s,baz=46,slow=2.2,SNR=67							
BATI				S		**S**	**11 04 32.2**	**+0.9**
	2.4nm,0.3s,baz=130,slow=17,SNR=11							
BATI	**Baumata**	13.27	175	P		**P**	**11 02 09.9**	**-0.1**
BOLP	**Bolinao**	13.45	349	*e*P		**P**	**11 02 09.0**	**-2.8**
CAUP	**Cauayan**	13.78	357	*e*P		**P**	**11 02 14.7**	**-0.4**
APYP	**Conner**	14.72	355	*e*P		**P**	**11 02 22.7**	**-2.2**
KPJI	**Karang Pucung**	17.06	233	P		**P**	**11 02 49.2**	**+1.8**
LEM	**Lembang**	17.84	236	P		**P**	**11 02 55.9**	**+1.1**
	4.0nm,0.3s,baz=114,slow=8.6,SNR=5.3							
MTN	**Manton Dam**	18.00	152	*e*P		**P**	**11 02 56.7**	**+0.7**
	141nm,0.5s							
MYKOM	**Kota Tinggi**	18.69	266	*e*P		**P**	**11 03 01.9**	**-0.5**
	15nm,0.7s							
TWG	**Pinlang**	19.66	356	*e*P		**P**	**11 03 10.4**	**-0.5**
	123nm,0.8s							
TPUB	**Ta-pu**	20.17	355	*e*P		**P**	**11 03 14.9**	**-0.7**
	30nm,0.7s							
YULB	**Yu-li**	20.21	357	*e*P		**P**	**11 03 15.5**	**-0.6**
	25nm,0.8s							
SSLB	**Suanglung**	20.62	356	*e*P		**P**	**11 03 18.8**	**-1.0**
	46nm,1.2s							
FITZ	**Fitzroy Crossi**	21.29	172	P		**P**	**11 03 25.4**	**-0.4**
	3.7nm,0.4s,baz=5.0,slow=8.3							
YHNB	**Yeheng**	21.48	357	*e*P		**P**	**11 03 26.6**	**-0.9**
	15nm,0.7s							
CHBT	**CHBT**	22.15	297	P		**P**	**11 03 36.3**	**+2.7**
	86nm,0.7s,47μm							
PSI	**Prapat**	23.56	270	P		**P**	**11 03 44.4**	**-1.9**
	5.5nm,0.8s,baz=146,slow=7.1,SNR=5.0							
PSI	**Prapat**	23.56	270	*e*P		**P**	**11 03 44.7**	**-1.6**
	10nm,1.0s							
NAYO	**Nakonayok**	23.70	299	P		**P**	**11 03 47.4**	**+0.1**
	16nm,0.7s,745nm							
CHAI	**Chaiyaphum**	23.87	304	P		**P**	**11 03 48.3**	**-0.6**
	12nm,0.7s,178nm							
JOW	**Kunigami**	24.24	13	P		**P**	**11 03 52.1**	**+0.1**
	24nm,0.4s,baz=47,slow=5.9,SNR=8.7							
JOW	**Kunigami**	24.24	13	*e*P		**P**	**11 03 51.8**	**-0.2**
	113nm,1.6s							
PBKT	**Sadao Pong**	25.05	304	P		**P**	**11 03 58.5**	**-0.8**
	11nm,0.8s							
PBKT	**Sadao Pong**	25.05	304	*e*P		**P**	**11 03 57.8**	**-1.5**
	6.8nm,0.8s							
WRAB	**Tennant Creek**	25.67	154	*e*P		**P**	**11 03 59.6**	**-5.2**
	20nm,1.2s							
WRA	**Warramunga Arr**	25.68	154	P		**P**	**11 04 04.5**	**-0.3**
	7.8nm,0.6s,baz=336,slow=9.5,SNR=54							
WRA				PcP		**PcP**	**11 07 16.8**	**+0.3**
	2.6nm,0.6s,baz=327,slow=2.5,SNR=6.4							
WRA				S		**S**	**11 07 51.5**	**-3.3**
	6.0nm,0.8s,baz=334,slow=16,SNR=9.9							
WRA				ScP		**ScP**	**11 10 04.0**	**+0.3**
	1.1nm,0.5s,baz=338,slow=2.9,SNR=5.6							
WRA				PKiKP		**PKiKP**	**11 14 54.3**	**-1.5**
	0.3nm,0.5s,baz=320,slow=1.1,SNR=5.8							
WB2	**Warramunga Arr**	25.68	154	*e*P		**P**	**11 04 04.8**	**-0.1**
	12nm,0.6s							
WB2				*e*S		**S**	**11 07 52.5**	**-2.4**
PHIT	**Phitsanulok**	25.82	304	P		**P**	**11 04 06.6**	**+0.5**
	15nm,0.9s,606nm							
NANT	**Nan**	26.44	308	P		**P**	**11 04 12.1**	**+0.5**
	15nm,0.6s							
CMAR	**Chiang Mai Arr**	27.67	305	P		**P**	**11 04 22.5**	**+0.1**
	3.5nm,0.9s,baz=131,slow=7.8,SNR=13							
CMAR				PcP		**PcP**	**11 07 22.2**	**+0.9**
	1.6nm,0.6s,baz=187,slow=1.8,SNR=9.7							
CMAR				ScP		**ScP**	**11 10 10.2**	**+0.4**
	2.1nm,0.8s,baz=151,slow=1.8,SNR=12							
GYA	**Guiyang**	27.76	328	‖ *i*P		**P**	**11 04 23.4**	**+0.2**
GYA				sP		**sP**	**11 06 58.8**	**+0.5**
GYA				PcP		**PcP**	**11 07 23.0**	**+1.5**
GYA				S		**S**	**11 08 29.6**	**+2.2**
GYA				ScP		**ScP**	**11 10 11.4**	**+1.3**
GYA				PcS		**PcS**	**11 11 03.8**	**-0.7**
GYA				ScS		**ScS**	**11 14 03.0**	**-0

comp=Z,25nm,0.9s
KS15 Wonju Array Si 34.53 8 *e*P **P 11 05 21.6 +0.9**
KSRS Korea Array 34.55 8 P **P 11 05 21.4 +0.6**
7.6nm,0.7s,baz=187,slow=9.6,SNR=38
KSRS ScP **ScP 11 10 33.5 +0.9**
2.3nm,0.8s,baz=192,slow=3.3,SNR=7.0
KS01 Wonju Array Si 34.57 8 *e*P **P 11 05 21.1 +0.1**
NWAO Narrogin (SRO) 36.18 188 P **P 11 05 35.0 +0.6**
7.4nm,0.6s,baz=246,slow=6.8,SNR=8.4
MAT Matsushiro 36.29 22 P **P 11 05 34.3 -1.1**
MJAR Matsushiro Arr 36.29 22 P **P 11 05 34.5 -0.9**
11nm,0.7s,baz=197,slow=9.2,SNR=10
MJAR ScP **ScP 11 10 39.5 +0.4**
4.7nm,0.8s,baz=193,slow=5.5,SNR=7.8
LZH Lanzhou 37.08 335 *e*P **P 11 05 42.6 +0.5**
LZH pP pP 11 07 22.3 -2.8
LZH sP sP 11 08 18.8 -2.1
LZH SS SS 11 14 04.8 -1.1
LZH pmax pmax
comp=Z,24nm,1.2s
LZH pmax pmax
comp=Z,98nm,4.3s
BJI Beijing 37.22 352 P **P 11 05 43.3 +0.4**
BJI pmax pmax
comp=Z,26nm,0.7s
HHC Hu-ho-hao-te 38.86 347 *e*P **P 11 05 57.3 +0.9**
HHC sP sP 11 08 32.8 -3.2
HHC S **S 11 11 19.6 +4.6**
HHC pmax pmax
comp=Z,29nm,0.8s
HHC pmax pmax
comp=Z,87nm,4.6s
STKA Stephens Creek 39.23 154 P **P 11 06 00.9 +1.6**
2.9nm,0.7s,baz=331,slow=12,SNR=5.2
STKA PP **PP 11 07 43.6 -3.4**
5.2nm,0.9s,baz=310,slow=11,SNR=4.8
STKA PcP **PcP 11 07 55.5 +1.2**
1.7nm,0.6s,baz=327,slow=5.0,SNR=3.3
STKA ScP **ScP 11 10 51.2 +0.8**
1.6nm,0.7s,baz=231,slow=9.8,SNR=2.9
CN2 Changchun 40.62 3 *e*P **P 11 06 13.6 +3.4**
CN2 pmax pmax
comp=Z,10.0nm,1.0s
GTA Gaotai 41.62 333 ⇑P **P 11 06 19.0 +0.6**
GTA pP PcP 11 08 00.8 -1.5
GTA pmax pmax
comp=Z,23nm,1.0s
RAMN Ramite 41.74 308 *e*P **P 11 06 20.1 +0.3**
USRK Ussuriysk Ar. 41.78 10 P **P 11 06 19.6 +0.2**
23nm,0.5s,baz=196,slow=6.3,SNR=50
MDJ Mudanjiang 41.82 8 P **P 11 06 18.1 -1.6**
MDJ S **S 11 12 00.5 +3.0**
MDJ pmax pmax
comp=Z,49nm,0.6s
MDJ Mudanjiang 41.82 8 *e*P **P 11 06 20.1 +0.4**
31nm,0.6s
JIRN Jiri 42.40 309 *e*P **P 11 06 25.2 +0.1**
GUN Gumba 42.76 309 *e*P **P 11 06 27.8 -0.1**
39nm,0.7s
PKIN Phulchoki 42.98 308 *e*P **P 11 06 28.7 -0.8**
KOLN Koldanda 44.49 307 *e*P **P 11 06 41.2 +0.1**
38nm,0.6s
ASAJ Asahikawa 44.54 21 P **P 11 06 41.4 +0.4**
13nm,0.5s,baz=240,slow=7.8,SNR=30
ASAJ PcP **PcP 11 08 11.8 -0.2**
2.3nm,0.8s,baz=180,slow=5.1,SNR=2.3
ASAJ Asahikawa 44.54 21 *e*P **P 11 06 40.8 -0.1**
17nm,0.7s
DANN Dangsing 44.62 308 *e*P **P 11 06 42.4 +0.1**
PYUN Piuthan 45.12 307 *e*P **P 11 06 46.2 +0.2**
59nm,0.7s
ULN Ulaanbaatar 46.55 346 *e*P **P 11 06 56.5 +0.1**
6.6nm,0.5s
KLR Kul'dur 46.63 8 P **P 11 06 56.3 -0.5**
0.6nm,0.5s,baz=239,slow=6.9,SNR=23
SONM Songino Array 46.69 345 P **P 11 06 57.5 +0.1**
6.5nm,0.5s,baz=163,slow=9.2,SNR=25
SONM PcP **PcP 11 08 19.1 -0.6**
0.9nm,0.5s,baz=161,slow=5.3,SNR=3.4
SONM ScP **ScP 11 11 21.0 +0.4**
1.7nm,0.8s,baz=163,slow=3.8,SNR=6.2
SONA1 Songino Array 46.69 345 *e*P **P 11 06 57.5 0.0**
WMQ Urumqi 50.92 328 P **P 11 07 30.1 +1.4**
WMQ pmax pmax
comp=Z,34nm,0.7s
WMQ pmax pmax
comp=Z,150nm,3.9s
TLY Talaya 50.93 345 P **P 11 07 28.2 -0.4**
3.1nm,0.5s,baz=238,slow=7.8,SNR=6.3
TLY Talaya 50.93 345 *e*P **P 11 07 28.2 -0.4**
3.8nm,0.7s
KSH Kashi 55.57 317 P **P 11 08 03.4 +1.5**
MK01 Makanchi Array 55.73 328 *e*P **P 11 08 02.7 0.0**
MK31 Makanchi Array 55.75 328 *e*P **P 11 08 02.9 +0.1**
MKAR Makanchi Array 55.75 328 P **P 11 08 02.9 +0.1**
5.2nm,0.4s,baz=127,slow=7.8,SNR=27
MKAR PcP **PcP 11 08 53.4 -0.4**
3.6nm,0.6s,baz=111,slow=5.2,SNR=8.0
MKAR ScP **ScP 11 11 59.3 -0.5**
1.4nm,0.9s,baz=116,slow=5.5,SNR=4.6
MKAR Makanchi Array 55.75 328 *e*P **P 11 08 02.9 +0.1**
54nm,0.4s
MAKZ Makanchi 55.92 327 *e*P **P 11 08 04.1 +0.1**
4.6nm,0.6s
KDJ Kajisay 56.08 320 *e*P **P 11 08 06.0 +0.6**
6.5nm,0.8s
PETK Petropavlovsk- 57.67 24 P **P 11 08 16.7 +0.9**
3.7nm,0.6s,baz=180,slow=2.7,SNR=15
PETK PcP **PcP 11 09 01.1 -0.1**
1.1nm,0.5s,baz=230,slow=2.6,SNR=5.6
AAK Ala-Archa 58.05 320 P **P 11 08 20.7 +1.9**
3.5nm,0.7s,baz=127,slow=6.7,SNR=4.7
YAK Yakutsk 59.04 4 P **P 11 08 25.3 +0.4**
39nm,0.7s,baz=309,slow=2.8,SNR=7.2
YAK Yakutsk 59.04 4 *e*P **P 11 08 25.1 +0.2**
42nm,0.6s
ZALV Zalesovo Beam 59.31 335 P **P 11 08 25.9 -0.9**
1.8nm,0.3s,baz=139,slow=6.4,SNR=6.2
ZALV Zalesovo Beam 59.31 335 *e*P **P 11 08 25.8 -1.1**
KURBB Kurchatov Arra 60.06 329 P **P 11 08 31.6 -0.3**
3.9nm,0.7s,baz=121,slow=6.0,SNR=26
MA2 Magadan 60.41 16 *e*P **P 11 08 34.9 +0.8**
13nm,0.7s
SEY Seymchan 63.65 15 P **P 11 08 55.9 +0.9**
1.4nm,0.5s,baz=201,slow=5.2,SNR=4.7
RPZ Rata Peaks 63.74 143 P **P 11 08 57.5 +1.5**
6.9nm,0.6s,baz=348,slow=3.8,SNR=7.5
BVAR Borovoye Array 65.60 328 P **P 11 09 07.0 -0.6**
0.9nm,0.5s,baz=147,slow=7.8,SNR=5.2
GEYT Ailbeck 68.03 310 P **P 11 09 22.9 +0.1**
1.9nm,0.6s,baz=204,slow=2.6,SNR=4.0
TIXI Tiksi 68.58 2 P **P 11 09 24.8 -0.6**
7.7nm,0.4s,baz=175,slow=5.7,SNR=21
TIXI Tiksi 68.58 2 *e*P **P 11 09 24.4 -1.0**
8.2nm,0.6s
TIXI *e*pP **pP 11 11 21.9 +3.0**
CASY Casey 69.75 185 *e*P **P 11 09 32.8 +0.3**
12nm,0.8s
ABKAR Akbulak array 70.00 322 *e*P **P 11 09 34.0 -0.5**
AKTO Aktyubinsk 71.56 323 P **P 11 09 43.0 -0.6**
2.7nm,0.4s,baz=107,slow=8.8,SNR=12
ARU Arti 73.25 329 P **P 11 09 52.5 -0.7**
baz=274,slow=19
RAYN Ar Rayn 76.86 293 *e*P **P 11 10 13.3 -0.8**
4.7nm,0.9s
OPO Ambohidratompo 77.11 250 P **P 11 10 15.1 -0.6**
6.0nm,0.8s,baz=73,slow=2.1,SNR=4.1
MAW Mawson 81.73 200 P **P 11 10 39.0 +0.3**
4.8nm,0.8s,baz=30,slow=3.3,SNR=4.3
VNDA Vanda 83.36 172 P **P 11 10 47.3 +0.5**
2.3nm,0.6s,baz=310,slow=7.3,SNR=13
KLMR Klimovskoe 83.89 331 *e*P **P 11 10 48.5 -1.2**
KLMR AMP 11 10 53.2
comp=Z,4.0nm,0.7s
ASF Jabal al Asfar 84.65 302 P **P 11 10 55.2 +0.9**
comp=Z,6.7nm,0.8s,baz=195,slow=1.3,SNR=4.9
CAST Castle Rocks 85.19 27 *e*P **P 11 10 56.9 +0.8**
comp=Z,4.2nm,0.8s
KMBO Kilima Mbogo 85.33 269 P **P 11 10 58.9 +0.8**
comp=Z,5.3nm,0.8s,baz=41,slow=5.5,SNR=7.2
KMBO Kilima Mbogo 85.33 269 *e*P **P 11 10 58.1 0.0**
comp=Z,9.9nm,1.1s
MLY Manley 85.83 25 *e*P **P 11 10 59.8 +0.7**
comp=Z,8.2nm,1.4s
COLD Coldfoot 86.11 23 *e*P **P 11 11 01.0 +0.6**
comp=Z,2.6nm,0.8s
TOLK Toolik Lake Re 86.37 22 *e*P **P 11 11 02.7 +1.0**
comp=Z,17nm,1.9s
MCK McKinley 86.60 26 *e*P **P 11 11 02.5 -0.4**
comp=Z,3.8nm,0.7s
RND Reindeer 86.64 27 *e*P **P 11 11 02.4 -0.6**
comp=Z,3.7nm,0.6s
BRTR Keskin Array B 87.17 309 P **P 11 11 05.2 -1.0**
comp=Z,0.7nm,0.7s,baz=94,slow=4.0,SNR=3.7
HDA Harding Lake 87.46 26 *e*P **P 11 11 05.9 -0.9**
comp=Z,3.8nm,0.8s
ILAR Eielson Array 87.48 25 P **P 11 11 05.5 -1.4**
comp=Z,0.7nm,0.6s,baz=248,slow=5.2,SNR=16
ILB Eielson Array 87.48 25 *e*P **P 11 11 05.8 -1.1**
ARCES ARCESS Array B 89.58 340 P **P 11 11 15.1 -1.5**
comp=Z,2.1nm,0.7s,baz=82,slow=6.2,SNR=8.5
AKASG Malin Array Be 89.71 321 P **P 11 11 16.2 -1.4**
comp=Z,0.3nm,0.3s,baz=68,slow=4.4,SNR=3.1
SPITS Spitsbergen Ar 90.27 349 P **P 11 11 18.9 -0.8**
comp=Z,5.1nm,0.4s,baz=54,slow=7.6,SNR=81
FINES FINESS Array B 90.38 331 P **P 11 11 18.7 -1.7**
comp=Z,1.3nm,0.6s,baz=117,slow=6.8,SNR=4.9
INK Inuvik 92.28 21 P **P 11 11 28.9 -0.1**
comp=Z,1.3nm,0.6s,baz=303,slow=4.2,SNR=16
QSPA South Pole Qui 93.01 180 P **P 11 11 33.1 +0.6**
comp=Z,2.2nm,0.7s,baz=326,slow=3.6,SNR=5.2
WHY Whitehorse 93.48 29 *e*P **P 11 11 35.8 +1.0**
comp=Z,5.7nm,0.6s
HFS Hagfors 96.59 332 P **P 11 11 46.6 -2.1**
comp=Z,1.2nm,0.7s,baz=46,slow=4.2,SNR=2.3
YKA Yellowknife Ar 101.78 23 P **Pdif 11 12 11.7 -0.1**
comp=Z,0.2nm,0.6s,baz=301,slow=4.3,SNR=5.2
YKA PKiKP **PP 11 16 30.0 -0.8**
comp=Z,0.5nm,0.8s,baz=305,slow=1.8,SNR=7.3
YKA PKKPbc **PKKPbc 11 28 13.8 -4.2**
comp=Z,0.4nm,0.6s,baz=122,slow=3.0,SNR=12
NVAR Mina Array Bea 110.44 47 PKiKP **PKiKP 11 16 49.5 +1.0**
comp=Z,0.2nm,0.3s,baz=287,slow=1.4,SNR=5.2
NVAR PKKPab **PKKPab 11 28 02.4 -1.3**
comp=Z,0.6nm,0.7s,baz=148,slow=5.3,SNR=4.5
PDAR Pinedale Array 114.56 40 PKP PKPdf 11 16 56.8 +0.5
comp=Z,0.4nm,0.6s,baz=129,slow=3.6,SNR=4.1
PDAR PKKPab **PKKPab 11 27 43.5 -2.0**
comp=Z,0.7nm,0.6s,baz=114,slow=6.5,SNR=7.9
U15A North Rim 115.62 47 *e*PKPdf **PKPdf 11 16 59.8 +1.3**
K22A Casper 116.53 39 *e*PKPdf **PKPdf 11 17 00.5 +0.6**
ULM Lac du Bonnet 117.47 27 PKP **PKPdf 11 17 00.7 -0.6**
comp=Z,1.5nm,0.6s,baz=318,slow=3.9,SNR=3.7
ANMO Albuquerque 120.53 46 *e*PKPdf **PKPdf 11 17 09.1 +1.2**
TXAR Lajitas Array 125.28 51 PKP **PKPdf 11 17 17.8 +0.7**
comp=Z,1.0nm,0.8s,baz=308,slow=0.6,SNR=5.2
JCT Junction City 127.62 47 *e*PKPdf **PKPdf 11 17 21.9 +0.5**
V40A Witts Springs 129.12 37 *e*PKPdf **PKPdf 11 17 24.6 +0.4**
PLAL Pickwick Lake 132.47 35 *e*PKPdf **PKPdf 11 17 30.5 +0.1**
TKL Tuckaleechee C 134.26 30 PKP **PKPdf 11 17 33.2 -0.6**
comp=Z,3.2nm,0.5s,baz=149,slow=6.8,SNR=6.8
CMIG Matias Romero 137.99 60 PKP **PKPdf 11 17 41.5 +0.4**
comp=Z,3.1nm,0.8s,baz=350,slow=6.0,SNR=3.4
PLCA Paso Flores 140.72 164 PKhKP PKPpre 11 17 40.5
comp=Z,1.4nm,1.0s,baz=104,slow=4.2,SNR=2.8
APG El Apazote 142.72 60 PKhKP PKPpre 11 17 46.0
comp=Z,9.0nm,0.8s,baz=207,slow=5.6,SNR=8.0
JTS JuntasAbangare 149.59 64 PKPbc **PKPbc 11 18 04.8 -1.7**
comp=Z,5.3nm,0.6s,baz=340,slow=4.6,SNR=4.5
CPUP Villa Florida 156.90 180 PKP **PKPdf 11 18 11.9 +0.6**
comp=Z,1.3nm,0.6s,baz=112,slow=2.7,SNR=3.2
CPUP PKPab **PKPab 11 18 45.2 +0.7**
comp=Z,2.4nm,0.6s,baz=161,slow=4.2,SNR=5.5
SDV Santo Domingo 162.30 48 PKPab **PKPab 11 19 09.1 +0.2**
comp=Z,5.1nm,0.8s,baz=270,slow=5.1,SNR=4.2
LPAZ La Paz 163.23 142 PKP **PKPdf 11 18 20.4 +1.1**
comp=Z,2.8nm,1.0s,baz=349,slow=3.3,SNR=5.3
LPAZ La Paz 163.23 142 *e*PKPdf **PKPdf 11 18 19.8 +0.5**

*ATA **19** 11:00:29.8±1.5, 39.45N×43.88E, h0km±12km, ML3.5, MW3.5*
*ISK **19** 11:00:30.0, 39.45N×43.88E, h5km, ML3.0/8*
*DDA **19** 11:00:30.4, 39.46N×43.91E, h7km, Ml3.1*
*CSEM **19** 11:00:30.5±0.2, 39.45N×43.89E, h8km, ML3.1, Error ellipse: s-maj=4.6km s-min=3.4km az=113.0*
*NSSP **19** 11:00:30.2, 39.38N×43.97E, h6km, Ms3.0*
ISC 19 11:00:30.6±1.0, 39.45N±0.02×43.92E±0.02, h6km±8km, n47,σ109/67, 6C, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DYDN	**Diyadin**	**0.20**	**298**	*i* P	**Pg**	**11 00 34.2**	**-0.5**
DYDN				*i* S	**Sg**	**11 00 37.9**	**+0.4**
DYDN	**Diyadin**	**0.20**	**298**	P	**Pg**	**11 00 34.2**	**-0.5**
DYDN				S	**Sg**	**11 00 37.9**	**+0.4**
CLDR	**Caldiran**	**0.30**	**181**	PG	**Pg**	**11 00 36.6**	**0.0**
CLDR	**Caldiran**	**0.30**	**181**	*i* P	**Pg**	**11 00 36.2**	**-0.4**
CLDR				*i* S	**Sg**	**11 00 41.4**	**+0.7**
CLDR	**Caldiran**	**0.30**	**181**	P	**Pg**	**11 00 36.2**	**-0.4**
CLDR	**Caldiran**	**0.30**	**181**	*e*Pg	**Pg**	**11 00 36.6**	**0.0**
CLDR				S	**Sg**	**11 00 41.4**	**+0.7**
IGDI	**IGDIR**	**0.44**	**16**	*i* P	**Pg**	**11 00 39.3**	**+0.2**
IGDI				IAML		11 00 50.8	
comp=Z,201nm,0.4s							
IGDI	**IGDIR**	**0.44**	**16**	*i* P	**Pg**	**11 00 38.9**	**-0.1**
IGDI				*i* S	**Sg**	**11 00 45.5**	**+0.7**
TASB	**TASBURUN-IGDIR**	**0.59**	**24**	PG	**Pg**	**11 00 42.2**	**+0.2**
TASB				SG	**Sb**	**11 00 50.9**	**-1.1**
TASB	**TASBURUN-IGDIR**	**0.59**	**24**	*e*Pg	**Pg**	**11 00 42.2**	**+0.2**
TASB				*e*Sg	**Sb**	**11 00 50.9**	**-1.1**
AGRB	**Hanur-Agry**	**0.73**	**280**	PG	**Pg**	**11 00 43.9**	**-0.7**
AGRB				SG	**Sg**	**11 00 53.9**	**-0.2**
AGRB	**Hanur-Agry**	**0.73**	**280**	*e*Pg	**Pg**	**11 00 43.9**	**-0.7**
AGRB				*e*Sg	**Sg**	**11 00 53.9**	**-0.2**
TUTA	**Tutak**	**0.86**	**267**	*e*P	**Pg**	**11 00 46.6**	**-0.5**
TUTA				*e*S	**Sb**	**11 00 59.2**	**-0.7**
TUTA				IAML		11 01 03.4	
comp=Z,374nm,0.4s							
TUTA	**Tutak**	**0.86**	**267**	*i* P	**Pg**	**11 00 46.4**	**-0.7**
TUTA				*i* S	**Sb**	**11 00 59.1**	**-0.8**
TUTA	**Tutak**	**0.86**	**267**	P	**Pg**	**11 00 46.4**	**-0.7**
TUTA				S	**Sb**	**11 00 59.1**	**-0.8**
GNI	**Garni**	**0.94**	**42**	⇑*i*P	**Pb**	**11 00 49.5**	**0.0**
GNI				⇑*i*S	**Sn**	**11 01 03.6**	**-0.8**
GNI	**Garni**	**0.94**	**42**	⇑P	**Pb**	**11 00 49.5**	**0.0**
GNI				S	**Sn**	**11 01 03.6**	**-0.8**
VANB	**Van**	**0.95**	**206**	PG	**Pb**	**11 00 49.1**	**-0.4**
VANB	**Van**	**0.95**	**206**	*e*Pg	**Pb**	**11 00 49.1**	**-0.4**
TVAN	**Van**	**1.00**	**204**	*i* P	**Pn**	**11 00 50.9**	**-0.5**
TVAN				*i* S	**Sn**	**11 01 08.3**	**+2.4**
TVAN	**Van**	**1.00**	**204**	P	**Pn**	**11 00 50.9**	**-0.5**
DIGO	**Kars**	**1.05**	**337**	*e*P	**Pb**	**11 00 51.1**	**-0.3**
DIGO				IAML		11 01 16.8	
comp=Z,33nm,0.4s							
DIGO	**Kars**	**1.05**	**337**	*i* P	**Pg**	**11 00 50.8**	**-0.1**
DIGO				*i* S	**Sn**	**11 01 12.0**	**+4.7**
DIGO	**Kars**	**1.05**	**337**	P	**Pg**	**11 00 50.8**	**-0.1**
ADCV	**BITLIS_Adilcev**	**1.13**	**236**	*i* P	**Pn**	**11 00 52.8**	**-0.3**
ADCV	**BITLIS_Adilcev**	**1.13**	**236**	P	**Pn**	**11 00 52.8**	**-0.3**
EATA	**Eleskirt**	**1.18**	**291**	*e*P	**Pg**	**11 00 52.9**	**-0.3**
EATA				IAML		11 01 13.7	
comp=Z,36nm,0.4s							
EATA	**Eleskirt**	**1.18**	**291**	*i* P	**Pg**	**11 00 52.1**	**-1.1**
EATA				*i* S	**Sn**	**11 01 10.1**	**-0.4**
EATA	**Eleskirt**	**1.18**	**291**	P	**Pg**	**11 00 52.2**	**-1.1**
EATA				S	**Sn**	**11 01 10.1**	**-0.4**
GEVA	**Gevas**	**1.32**	**211**	*e*P	**Pg**	**11 00 55.9**	**+0.1**
GEVA				IAML		11 01 36.9	
comp=Z,17nm,0.5s							
GEVA	**Gevas**	**1.32**	**211**	*i* P	**Pn**	**11 00 55.6**	**-0.1**
GEVA	**Gevas**	**1.32**	**211**	P	**Pn**	**11 00 55.6**	**-0.1**
KARS	**Kars**	**1.34**	**332**	PN	**Pn**	**11 00 55.9**	**-0.1**
KARS	**Kars**	**1.34**	**332**	*e*Pn	**Pn**	**11 00 55.9**	**-0.1**
EKAR	**Karacoban**	**1.45**	**263**	*e*P	**Pg**	**11 00 58.5**	**0.0**
EKAR				IAML		11 01 30.4	
comp=Z,49nm,0.5s							
STE	**Stepanavan**	**1.59**	**12**	⇑P	**Pn**	**11 00 58.0**	**-1.4**
STEZ	**Stepenevan**	**1.59**	**13**	⇑*i*P	**Pn**	**11 00 58.0**	**-1.5**
STEZ				⇑*i*S	**Sg**	**11 01 24.0**	**+2.2**
SENK	**Senkaya-Erzuru**	**1.64**	**313**	PN	**Pn**	**11 00 59.7**	**-0.5**
SENK	**Senkaya-Erzuru**	**1.64**	**313**	*e*Pn	**Pn**	**11 00 59.7**	**-0.5**
HOMI	**Horasan**	**1.67**	**292**	*e*P	**Pb**	**11 01 01.1**	**-0.6**
HOMI				*e*S	**Sg**	**11 01 28.4**	**+4.3**
HOMI				IAML		11 01 37.1	
comp=Z,38nm,0.5s							
GURO	**Guroymak-BITLI**	**1.72**	**239**	PN	**Pn**	**11 01 01.4**	**+0.2**
GURO	**Guroymak-BITLI**	**1.72**	**239**	*e*Pn	**Pn**	**11 01 01.4**	**+0.2**
ERZM	**Erzurum**	**2.02**	**284**	*e*P	**Pb**	**11 01 08.1**	**+0.1**
EPOS	**Posof**	**2.25**	**336**	*e*P	**Pb**	**11 01 12.4**	**+0.7**
DGRG	**David-gareji**	**2.29**	**29**	*e*P	**Pb**	**11 01 11.5**	**-0.8**
BNGB	**Bing¶ji**	**2.56**	**261**	PN	**Pn**	**11 01 13.4**	**+0.7**
BINT	**Bingol**	**2.73**	**259**	*e*Pn	**Pn**	**11 01 13.4**	**-1.6**

IDC 19 11:06:42.2±6.0, 25.32S×69.63E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.5/63, mbtmp3.6/4, MS3.7/4, Ms1 3.7/4, ms1mx3.0/51, Error ellipse: s-maj=163.3km s-min=39.8km az=58.0, Indian Ocean Triple Junction

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BOSA	**Boshof**	**39.52**	**255**	LR	LR	11 27 07.5	
comp=Z,75nm,19.5s,baz=39,slow=31							
CMAR	**Chiang Mai Arr**	**52.03**	**36**	P	P	11 15 53.6	-0.2
0.3nm,0.4s,baz=218,slow=5.7,SNR=4.5							
ASAR	**Alice Springs**	**57.99**	**103**	P	P	11 16 36.9	-0.2
0.7nm,0.8s,baz=248,slow=6.5,SNR=4.9							
WRA	**Warramunga Arr**	**59.47**	**99**	P	P	11 16 47.5	+0.1
0.7nm,0.8s,baz=257,slow=6.0,SNR=4.0							
AAK	**Ala-Archa**	**67.77**	**4**	LR	LR	11 42 41.4	
comp=Z,64nm,21.8s,baz=182,slow=32							
MKAR	**Makanchi Array**	**72.68**	**9**	P	P	11 18 11.7	+0.1
0.5nm,0.6s,baz=178,slow=5.2,SNR=4.0							
AKTO	**Aktyubinsk**	**76.12**	**352**	LR	LR	11 49 28.8	
comp=Z,48nm,19.9s,baz=165,slow=34							
BVAR	**Borovoye Array**	**78.02**	**0**	LR	LR	11 51 31.5	
comp=Z,60nm,18.1s,baz=156,slow=34							

*IDC **19** 11:28:56.8±0.8, 6.47S×131.61E, h0km, mb4.1/11, mb1 4.3/15, mb1mx4.0/53, mbtmp4.2/15, ML4.3/3, Error ellipse: s-maj=41.2km s-min=15.5km az=75.0*
*ISCJB **19** 11:29:00.1±0.4, 6.70S±0.04×131.63E±0.08, h42km, mb4.1/14, Error ellipse: s-maj=11.6km s-min=4.9km az=171.5*
*NEIC **19** 11:29:02.3±1.1, 6.60S×131.72E, h42km±12km, mb4.6/3, Error ellipse: s-maj=15.4km s-min=8.8km az=72.0*
ISC 19 11:29:02.0±0.6, 6.76S±0.05×131.59E±0.09, h42km, n37, σ2857/43, mb4.1/14, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**1.25**	**193**	*e*Pn	Pn	11 29 29.7	+6.7
FAKI	**Fak Fak**	**3.87**	**10**	*e*Pn	**Pn**	**11 29 57.4**	**-1.6**
SIJI	**Sorong**	**5.86**	**357**	Pn	**Pn**	**11 30 23.0**	**-3.4**
10nm,0.3s,baz=269,slow=23,SNR=61							
SIJI				Sn	Sn	11 31 20.1	-12
19nm,0.3s,baz=174,slow=22,SNR=12							
MTN	**Manton Dam**	**6.06**	**184**	*e*Pn	Pn	11 30 34.2	+5.0
SOEI	**Soe**	**7.83**	**247**	*e*Pn	**Pn**	**11 30 55.3**	**+1.7**
BATI	**Baumata**	**8.55**	**246**	Pn	**Pn**	**11 31 06.7**	**+3.3**
7.2nm,0.3s,baz=180,slow=1.0,SNR=13							
BATI				Sn	**Sn**	**11 32 38.0**	**-0.6**
8.1nm,0.3s,baz=255,slow=20,SNR=3.4							
FITZ	**Fitzroy Crossi**	**12.68**	**207**	Pn	**Pn**	**11 32 02.3**	**+2.5**
baz=52,slow=8.6							
FITZ				Sn	**Sn**	**11 34 14.0**	**-5.6**
baz=180,slow=20							
WRAB	**Tennant Creek**	**13.37**	**169**	*e*Pn	**Pn**	**11 32 09.6**	**+0.4**
WRAB				*e*Sn	**Sn**	**11 34 34.2**	**-2.3**
WR1	**Warramunga Arr**	**13.38**	**169**	*e*Pn	**Pn**	**11 32 09.9**	**+0.6**
WR1				*e*Sn	**Sn**	**11 34 29.1**	**-7.7**
WRA	**Warramunga Arr**	**13.38**	**169**	Pn	**Pn**	**11 32 09.9**	**+0.6**
1.4nm,0.3s,baz=345,slow=14,SNR=60							
WRA				Sn	**Sn**	**11 34 29.1**	**-7.7**
2.8nm,0.3s,baz=348,slow=24,SNR=8.9							
WB2	**Warramunga Arr**	**13.38**	**169**	*e*Pn	**Pn**	**11 32 10.0**	**+0.7**
WB2				*e*Sn	**Sn**	**11 34 34.5**	**-2.3**
AS31	**Alice Springs**	**16.96**	**173**	*e*Pn	**P**	**11 32 58.2**	**+0.4**
2.2nm,0.8s							
AS31				*e*Sn	**Sn**	**11 36 01.1**	**-2.8**
ASAR	**Alice Springs**	**16.96**	**173**	P	**P**	**11 32 58.0**	**+0.2**
1.3nm,0.3s,baz=350,slow=11,SNR=50							
ASAR				S	**Sn**	**11 36 00.8**	**-3.0**
0.6nm,0.3s,baz=360,slow=28,SNR=12							
AS01	**Alice Springs**	**16.96**	**173**	*e*Pn	**P**	**11 32 58.5**	**+0.7**
CTA	**Charters Tower**	**19.44**	**134**	P	**Pn**	**11 33 29.9**	**+3.3**
0.4nm,0.3s,baz=279,slow=13,SNR=3.8							
STKA	**Stephens Creek**	**26.68**	**161**	P	**P**	**11 34 40.9**	**+3.7**
1.7nm,0.7s,baz=336,slow=9.2,SNR=5.1							
CMAR	**Chiang Mai Arr**	**40.80**	**308**	P	**P**	**11 36 38.2**	**-1.4**
1.0nm,0.5s,baz=128,slow=8.4,SNR=6.0							
SONA0	**Songino Array**	**58.73**	**340**	*e*P	**P**	**11 38 55.7**	**0.0**
SONM	**Songino Array**	**58.73**	**340**	P	**P**	**11 38 55.7**	**0.0**
0.5nm,0.6s,baz=156,slow=5.9,SNR=4.2							
MK01	**Makanchi Array**	**68.88**	**326**	*e*P	**P**	**11 40 02.4**	**0.0**
MK31	**Makanchi Array**	**68.90**	**326**	*e*P	**P**	**11 40 02.6**	**0.0**
MK32	**Makanchi Array**	**68.90**	**326**	*e*P	**P**	**11 40 02.5**	**0.0**
MKAR	**Makanchi Array**	**68.90**	**326**	P	**P**	**11 40 02.5**	**0.0**
4.5nm,0.5s,baz=117,slow=8.4,SNR=36							
MKAR	**Makanchi Array**	**68.90**	**326**	*e*P	**P**	**11 40 02.6**	**0.0**
36nm,0.6s							
MAKZ	**Makanchi**	**69.08**	**326**	*e*P	**P**	**11 40 03.5**	**-0.1**
4.8nm,0.8s							
KDJ	**Kajisay**	**69.40**	**320**	*e*P	**P**	**11 40 06.4**	**+0.5**
3.8nm,0.6s							
SEY	**Seymchan**	**71.29**	**10**	P	**P**	**11 40 16.2**	**-0.6**
0.6nm,0.5s,baz=174,slow=5.3,SNR=4.3							
AAK	**Ala-Archa**	**71.38**	**319**	P	**P**	**11 40 18.9**	**+0.9**
1.5nm,0.6s,baz=116,slow=8.6,SNR=4.3							
ZALV	**Zalesovo Beam**	**72.07**	**333**	P	**P**	**11 40 20.4**	**-1.3**
3.1nm,0.9s,baz=119,slow=5.2,SNR=7.1							
ZAA1	**Zalesovo Array**	**72.08**	**333**	*e*P	**P**	**11 40 20.4**	**-1.3**
VNDA	**Vanda**	**72.50**	**173**	P	**P**	**11 40 27.4**	**+3.5**
0.5nm,0.6s,baz=324,slow=9.0,SNR=4.0							
VNDA	**Vanda**	**72.50**	**173**	*e*P	**P**	**11 40 25.2**	**+1.3**
KURBB	**Kurchatov Arra**	**73.14**	**328**	P	**P**	**11 40 27.3**	**-0.8**
2.3nm,0.8s,baz=130,slow=4.9,SNR=20							
KURK	**Kurchatov**	**73.14**	**328**	*e*P	**P**	**11 40 28.0**	**-0.1**
BVAR	**Borovoye Array**	**78.71**	**327**	P	**P**	**11 40 59.5**	**-0.3**
1.6nm,0.8s,baz=105,slow=5.1,SNR=8.5							
HDA	**Harding Lake**	**92.37**	**25**	*e*P	**P**	**11 42 09.2**	**+1.4**
3.2nm,1.2s							
ILAR	**Eielson Array**	**92.46**	**25**	P	**P**	**11 42 06.8**	**-1.4**
0.1nm,0.5s,baz=265,slow=4.6,SNR=3.2							

**IDC 19 11:32:51.6±406.0, 51.86N×116.41E, h0km, Error ellipse: s-maj=152.0km s-

ILAR	**Eielson Array**	**89.89**	**18**	P		P		11 53 09.7	0.0
	0.1nm,0.3s,baz=211,slow=3.2,SNR=2.9								

IDC 19 11:54:18.6±392.0, 51.35N×115.18E, h0km, Error ellipse: s-maj=147.6km s-min=130.2km az=69.0, East of Lake Baykal

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
I34MN	**SONGINO INFRAS**	**6.72**	**241**	*i*			12 36 50.0	
	baz=54,slow=335,SNR=0.3							
I45RU	**USSURIYSK INFR**	**13.35**	**116**	*i*			13 14 50.0	
	baz=308,slow=327,SNR=1.7							
I44RU	**PETROPAVLOVSK**	**25.84**	**69**	*i*			14 33 10.0	
	baz=284,slow=330,SNR=1.1							

MEX 19 12:07:01.7±0.3, 26.97N×112.06W, h20km, MD3.7, Baja California

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SRIG	**Santa Rosalia**	**0.38**	**335**	*i* P		Pb	12 07 08.5	-1.3
	baz=155,slow=2.4							
SRIG				*i* S		Sb	12 07 13.8	-1.5

ISK 19 12:15:57.8, 39.59N×29.52E, h7km, ML2.5/13
ISCJB 19 12:15:58.5±0.4, 39.65N±0.03×29.42E±0.04, h0km, Error ellipse: s-maj=4.6km s-min=3.4km az=43.2
CSEM 19 12:15:58.7±0.2, 39.65N×29.41E, h1km, ML2.5, Error ellipse: s-maj=5.3km s-min=4.0km az=118.0, Suspected Mining explosion.
DDA 19 12:15:59.5, 39.67N×29.39E, h7km, Ml2.3, Suspected Mining explosion.

ISC 19 12:15:58.8±0.8, 39.64N±0.02×29.39E±0.02, h0km, n42, σ0§53/55, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TVSB	**Tavsanli**	**0.19**	**164**	PG		**Pg**	**12 16 01.6**	**-0.9**
TVSB	**Tavsanli**	**0.19**	**164**	*e*Pg		**Pg**	**12 16 01.6**	**-0.9**
GDZ	**Gediz**	**0.55**	**173**	*i* P		**Pg**	**12 16 09.7**	**+0.4**
GDZ	**Gediz**	**0.55**	**173**	P		**Pg**	**12 16 09.7**	**+0.4**
SIMA	**Simav-Kutahya**	**0.64**	**210**	PG		**Pg**	**12 16 10.5**	**-0.5**
SIMA	**Simav-Kutahya**	**0.64**	**210**	*e*Pg		**Pg**	**12 16 10.5**	**-0.5**
CAVI	**Cavuskoy**	**0.66**	**31**	PG		**Pg**	**12 16 11.1**	**-0.4**
CAVI				SG		**Sg**	**12 16 20.3**	**+0.2**
CAVI	**Cavuskoy**	**0.66**	**31**	*e*Pg		**Pg**	**12 16 11.1**	**-0.4**
CAVI				*e*Sg		**Sg**	**12 16 20.3**	**+0.2**
DURS	**Dursunbey**	**0.71**	**267**	*i* P		**Pb**	**12 16 13.2**	**-0.9**
DURS				*i* S		**Sb**	**12 16 24.3**	**-0.2**
DURS	**Dursunbey**	**0.71**	**267**	P		**Pb**	**12 16 13.2**	**-0.9**
DURS				S		**Sb**	**12 16 24.3**	**-0.2**
DEMI	**Demirci**	**0.79**	**222**	*i* P		**Pb**	**12 16 15.2**	**-0.3**
DEMI				*i* S		**Sn**	**12 16 32.0**	**+2.1**
DEMI	**Demirci**	**0.79**	**222**	P		**Pb**	**12 16 15.2**	**-0.3**
MDNY	**Mudanya-Bursa**	**0.83**	**332**	PG		**Pb**	**12 16 15.5**	**-0.6**
MDNY	**Mudanya-Bursa**	**0.83**	**332**	*e*Pg		**Pb**	**12 16 15.5**	**-0.6**
ADVT	**Abdulvahap**	**0.84**	**18**	PG		**Pg**	**12 16 14.3**	**-0.6**
ADVT	**Abdulvahap**	**0.84**	**18**	*e*Pg		**Pg**	**12 16 14.3**	**-0.6**
BORA	**Eskisehir**	**0.85**	**73**	*i* P		**Pg**	**12 16 15.3**	**+0.2**
BORA				*i* S		**Sb**	**12 16 28.2**	**-0.3**
BORA	**Eskisehir**	**0.85**	**73**	P		**Pg**	**12 16 15.3**	**+0.2**
BORA				S		**Sb**	**12 16 28.2**	**-0.3**
YLV	**Yalova**	**0.93**	**359**	PG		**Pg**	**12 16 16.9**	**+0.3**
YLV	**Yalova**	**0.93**	**359**	*e*Pg		**Pg**	**12 16 16.9**	**+0.3**
ARMT	**Armutlu**	**1.01**	**336**	PN		**Pb**	**12 16 19.0**	**-0.3**
ARMT				SN		**Sn**	**12 16 35.1**	**-0.2**
ARMT	**Armutlu**	**1.01**	**336**	*e*Pn		**Pb**	**12 16 19.0**	**-0.3**
ARMT				*e*Sn		**Sn**	**12 16 35.1**	**-0.2**
KCTX	**Karacabey (Bur**	**1.01**	**309**	PN		**Pb**	**12 16 19.5**	**+0.2**
KCTX	**Karacabey (Bur**	**1.01**	**309**	*e*Pn		**Pb**	**12 16 19.5**	**+0.2**
ESKT	**Eskisehir**	**1.13**	**95**	*i* P		**Pb**	**12 16 21.0**	**-0.3**
SEYT	**Eskypehyr**	**1.13**	**95**	P		**Pb**	**12 16 21.0**	**-0.3**
BALB	**Balikesir**	**1.17**	**271**	PN		**Pn**	**12 16 22.8**	**+0.4**
BALB	**Balikesir**	**1.17**	**271**	*e*Pn		**Pn**	**12 16 22.8**	**+0.4**
GULT	**Gulveren**	**1.17**	**47**	PN		**Pg**	**12 16 20.3**	**-1.0**
GULT				SN		**Sg**	**12 16 36.1**	**-0.3**
GULT	**Gulveren**	**1.17**	**47**	*e*Pn		**Pg**	**12 16 20.3**	**-1.0**
GULT				*e*Sn		**Sg**	**12 16 36.1**	**-0.3**
HRT	**Hereke**	**1.20**	**10**	PN		**Pg**	**12 16 21.9**	**+0.1**
HRT				SN		**Sb**	**12 16 38.6**	**0.0**
HRT	**Hereke**	**1.20**	**10**	*e*Pn		**Pg**	**12 16 21.9**	**+0.1**
HRT				*e*Sn		**Sb**	**12 16 38.6**	**0.0**
BUY	**Buyukada**	**1.23**	**350**	PN		**Pb**	**12 16 22.8**	**-0.2**
BUY	**Buyukada**	**1.23**	**350**	*e*Pn		**Pb**	**12 16 22.8**	**-0.2**
KULA	**Kula-Manisa**	**1.26**	**207**	PN		**Pg**	**12 16 22.5**	**-0.4**
KULA	**Kula-Manisa**	**1.26**	**207**	*e*Pn		**Pg**	**12 16 22.5**	**-0.4**
KHAL	**Karahalli**	**1.27**	**177**	*i* P		**Pn**	**12 16 24.3**	**+0.5**
KHAL	**Karahalli**	**1.27**	**177**	P		**Pn**	**12 16 24.3**	**+0.5**
BALY	**Balya**	**1.37**	**275**	*i* P		**Pg**	**12 16 24.7**	**-0.4**
BALY	**Balya**	**1.37**	**275**	P		**Pg**	**12 16 24.7**	**-0.4**
SAHE	**Sakarya_HENDEK**	**1.65**	**42**	*i* P		**Pg**	**12 16 30.5**	**+0.1**
SAHE	**Sakarya_HENDEK**	**1.65**	**42**	P		**Pg**	**12 16 30.5**	**+0.1**

NNC 19 12:17:18.8±1.1, 41.20N×71.11E, h0km, mb2.9, mpv2.6, Error ellipse: s-maj=9.6km s-min=5.7km az=20.0
KRNET 19 12:17:19.2±0.1, 41.41N×70.63E, h35km, mb2.4

ISC 19 12:17:19.6±1.9, 41.24N±0.06×71.11E±0.07, h2km±14km, n10, σ1§61/17, 15C-5D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ARK	**Arkit**	**0.85**	**48**	↑*i* P		**Pn**	**12 17 38.9**	**+0.2**
	baz=69							
ARK				↑*i* S		**Sn**	**12 17 54.0**	**+2.1**
	baz=69							
BTK	**Batken**	**1.20**	**191**	↑*e*P		**Pn**	**12 17 43.5**	**+0.1**
	baz=74							
BTK				↑*i* S		**Sn**	**12 18 01.3**	**+1.0**
	baz=74							
TOKL	**Toktogul**	**1.50**	**61**	↑*i* P		**Pg**	**12 17 49.0**	**+0.7**
	baz=72							
TOKL				↑*i* S		**Sg**	**12 18 10.4**	**+2.7**
	baz=72							
MNAS	**Manas**	**1.63**	**39**	↑Pn		**Pb**	**12 17 49.5**	**-0.9**
	1.2nm,0.4s							
MNAS				↓Lg		Lg	12 18 12.2	
	3.5nm,0.3s							
MNAS	**Manas**	**1.63**	**39**	↑*i* P		**Pb**	**12 17 49.4**	**-1.0**
	baz=52							
MNAS				↑*i* S		**Sg**	**12 18 11.5**	**-0.4**
	baz=52							
KK31	**Karatay Array**	**1.92**	**347**	↑Pg		**Pb**	**12 17 54.5**	**-0.8**
	3.3nm,0.3s,baz=163,slow=16,SNR=59							
KK31				↑Lg		Lg	12 18 20.6	
	13nm,0.6s,baz=162,slow=32,SNR=17							
AML	**Almayashu**	**2.13**	**64**	↑*e*P		**Pb**	**12 17 57.5**	**-1.7**
	baz=71							
AML				↑*i* S		**Sg**	**12 18 27.0**	**-1.1**
	baz=71							
UCH	**Uchtor**	**2.73**	**68**	↓*i* P		**Pn**	**12 18 05.9**	**+1.0**
	baz=73							
UCH				↓*i* S		**Sb**	**12 18 41.8**	**-1.8**
	baz=73							
AAK	**Ala-Archa**	**2.89**	**60**	↓Pg		**Pb**	**12 18 11.6**	**-0.4**
	1.1nm,0.4s							
AAK				↓Lg		Lg	12 18 50.5	
	3.4nm,0.8s							
AAK	**Ala-Archa**	**2.89**	**60**	↑*i* P		**Pn**	**12 18 08.0**	**+1.2**
	baz=66							
AAK				↑*i* S		**Sb**	**12 18 45.0**	**-2.7**
	baz=66							

ISCJB 19 12:19:32.7±0.7, 51.48N±0.05×166.69W±0.07, h11km, mb3.5/7, MS3.4/1, Error ellipse: s-maj=8.0km s-min=6.0km az=27.1
IDC 19 12:19:32.5±1.2, 51.44N×166.75W, h0km, mb3.6/7, mb1 3.8/8, mb1mx3.4/84, mbtmp3.5/8, ML3.1/1, MS3.4/1, Ms1 3.3/1, ms1mx2.4/57, Error ellipse: s-maj=31.5km s-min=21.9km az=164.0
NEIC 19 12:19:37.4±0.0, 51.70N×166.72W, h16km, ML3.3(AEIC), After AEIC.

ISC 19 12:19:34.4±0.9, 51.57N±0.08×166.63W±0.06, h11km, n27, σ1§60/32, mb3.5/7, South of Aleutian Islands

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

NIKH	**Nikolski High**	**1.96**	**317**	P		**Pn**		**12 20 07.3**	**-0.2**
NIKH				S		**Sn**		**12 20 32.5**	**+0.5**
OKSP	**Okmok Steeple**	**1.97**	**330**	P		**Pn**		**12 20 07.9**	**+0.2**
OKSP				S		**Sn**		**12 20 31.6**	**-0.7**
OKTU	**Okmok Mt. Tuli**	**2.01**	**335**	P		**Pn**		**12 20 08.8**	**+0.5**
OKTU				S		**Sn**		**12 20 34.4**	**+0.9**
MREP	**Makushin Rep't**	**2.24**	**358**	P		**Pn**		**12 20 12.3**	**+0.8**
OKAK	**Okmok**	**2.27**	**333**	P		**Pn**		**12 20 10.2**	**-1.6**
UNV	**Unalaska Valle**	**2.28**	**2**	P		**Pn**		**12 20 12.2**	**+0.3**
UNV				S		**Sn**		**12 20 40.6**	**+0.6**
MSW	**Makushin Switc**	**2.35**	**358**	P		**Pn**		**12 20 13.8**	**+0.9**
MTBL	**Makushin Table**	**2.40**	**359**	P		**Pn**		**12 20 14.6**	**+0.9**
ZRO	**Akutan Zero**	**2.56**	**9**	P		**Pn**		**12 20 16.3**	**+0.6**
WESN	**West Dahl Nort**	**3.25**	**22**	P		**Pn**		**12 20 27.0**	**+1.7**
SSLW	**Shishaldin Wes**	**3.54**	**24**	P		**Pn**		**12 20 31.0**	**+1.6**
KOFP	**Korovin Flat P**	**4.67**	**282**	P		**Pn**		**12 20 44.8**	**-0.1**
ATKA	**Atka Island**	**4.73**	**281**	P		**Pn**		**12 20 44.8**	**-0.8**
SDPT	**Sand Point**	**5.28**	**42**	P		**Pn**		**12 20 54.1**	**+1.0**
KDAK	**Kodiak Island**	**10.23**	**47**	Pn		**Pn**		**12 22 01.3**	**+0.3**
	0.4nm,0.3s,baz=257,slow=4.5,SNR=6.0								
KDAK						Sn		**12 23 48.8**	**-6.7**
	0.2nm,0.3s,baz=158,slow=19,SNR=1.8								
SML	**Sawmill**	**14.30**	**37**	*e*Pn		**Pn**		**12 22 57.8**	**+1.2**
	3.3nm,0.9s								
DIV	**Divide**	**14.94**	**42**	*e*Pn		**Pn**		**12 23 06.4**	**+1.0**
	33nm,0.7s								
ILAR	**Eielson Array**	**16.73**	**30**	Pn		**Pn**		**12 23 28.9**	**+0.5**
	0.1nm,0.3s,baz=225,slow=11,SNR=3.4								
DAWY	**Dawson**	**18.96**	**38**	*e*Pn		**Pn**		**12 23 57.9**	**+1.8**
	12nm,0.8s								
PETK	**Petropavlovsk-**	**21.71**	**288**	P		**P**		**12 24 25.6**	**+0.3**
	1.2nm,0.8s,baz=78,slow=13,SNR=2.8								
INK	**Inuvik**	**23.12**	**31**	P		**P**		**12 24 41.7**	**+1.7**
	2.8nm,0.7s,baz=244,slow=10,SNR=20								
INK	**Inuvik**	**23.12**	**31**	*e*Pn		**P**		**12 24 40.7**	**+0.7**
	4.2nm,0.9s								
YKA	**Yellowknife Ar**	**29.50**	**48**	P		**P**		**12 25 38.1**	**-0.1**
	0.2nm,0.6s,baz=265,slow=7.8,SNR=6.4								
NVAR	**Mina Array Bea**	**35.95**	**92**	P		**P**		**12 26 35.7**	**+0.6**
	0.4nm,0.7s,baz=294,slow=11,SNR=4.1								
PDAR	**Pinedale Array**	**38.88**	**80**	P		**P**		**12 27 01.0**	**+1.1**
	0.5nm,0.5s,baz=306,slow=5.1,SNR=4.5								
TXAR	**Lajitas Array**	**51.06**	**90**	P		**P**		**12 28 37.1**	**+0.4**
	1.3nm,0.6s,baz=300,slow=5.4,SNR=27								
TXAR						LR		12 50 12.6	
	comp=Z,32nm,18.9s,baz=0.0,slow=36								
ASAR	**Alice Springs**	**91.21**	**232**	P		**P**		**12 32 37.8**	**-1.7**
	0.2nm,0.6s,baz=28,slow=4.5,SNR=7.2								

NIED 19 12:25:00, 37.90N×144.40E, h5km, Mw3.8 Best double couple: M0 6.57000×10^14 NP1:φs=26.00000°, δ=23.00000°, λ=86.00000°. NP2:φs=201.00000°, δ=67.00000°, λ=92.00000°.
IDC 19 12:25:29.3±0.8, 37.71N×144.62E, h0km, mb3.5/9, mb1 3.8/11, mb1mx3.6/69, mbtmp3.5/11, ML3.6/2, MS2.4/2, Ms1 2.4/2, ms1mx2.1/49, Error ellipse: s-maj=23.7km s-min=17.4km az=128.0
ISCJB 19 12:25:32.3±0.6, 37.84N±0.04×144.49E±0.04, h33km, mb3.5/9, Error ellipse: s-maj=5.9km s-min=5.1km az=0.2
JMA 19 12:25:33.3±0.1, 37.90N×144.45E, h40km, M3.9

ISC 19 12:25:34.6±0.8, 37.93N±0.06×144.51E±0.07, h35km, n29, σ1§83/41, mb3.5/9, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
OFUJ	**Ofunato**	**2.51**	**298**	P		**Pn**	**12 26 12.6**	**-0.3**
OFUJ				S		**Sn**	**12 26 42.0**	**-0.2**
JIO	**Ouri**	**2.55**	**283**	P		**Pn**	**12 26 13.0**	**-0.4**
JIO				S		**Sn**	**12 26 42.0**	**-1.1**
MIYJ	**Miyakonagasawa**	**2.67**	**309**	P		**Pn**	**12 26 14.8**	**-0.3**
MIYJ				*e*S		**Sn**	**12 26 45.4**	**-0.9**
JMK	**Ichinoseki**	**2.78**	**293**	P		**Pn**	**12 26 16.6**	**0.0**
JMK				*e*S		**Sn**	**12 26 49.6**	**+0.7**
JOM	**Ohasama**	**2.95**	**302**	P		**Pn**	**12 26 19.2**	**+0.2**
JOM				*e*S		**Sn**	**12 26 53.5**	**+0.3**
JFT	**Otama**	**3.34**	**264**	P		**Pn**	**12 26 24.3**	**0.0**
JFT				S		**Sn**	**12 27 01.5**	**-1.2**
JANG	**Nango**	**3.38**	**317**	P		**Pn**	**12 26 25.1**	**+0.3**
JANG				*e*S		**Sn**	**12 27 03.7**	**+0.1**
JYK	**Kaneyama**	**3.41**	**288**	P		**Pn**	**12 26 24.6**	**-0.6**
JYK				S		**Sn**	**12 27 05.3**	**+0.9**
BSO1	**Boso 1**	**4.34**	**222**	P		**Pn**	**12 26 34.8**	**-2.7**
BSO1				*e*S		**Sn**	**12 27 24.2**	**-2.4**
JCH	**Churui**	**4.76**	**350**	P		**Pn**	**12 26 43.7**	**-0.1**
JCH				*e*S		**Sn**	**12 27 35.1**	**-2.7**
JKB	**Kayabe**	**4.77**	**327**	P		**Pn**	**12 26 45.9**	**+1.9**
JKB				*e*S		**Sn**	**12 27 36.5**	**-1.5**
JRY	**Ryogami san**	**4.88**	**249**	P		**Pn**	**12 26 44.2**	**-1.3**
JRY				S		**Sn**	**12 27 36.5**	**-4.3**
MJAR	**Matsushiro Arr**	**5.22**	**257**	Pn		**Pn**	**12 26 50.4**	**+0.3**
	0.9nm,0.3s,baz=80,slow=14,SNR=14								
MJAR						Sn		**12 27 49.0**	**-0.1**
	0.3nm,0.3s,baz=94,slow=27,SNR=4.5								
MJAR						LR	LR	12 28 57.5	
	comp=Z,50nm,21.4s,baz=85,slow=40								
NEM2	**Nemuro 2**	**5.51**	**9**	P		**Pn**		**12 26 51.3**	**-2.8**
NEM2				S		**Sn**		**12 27 50.5**	**-5.7**
JTKR	**Abashiri--Toko**	**6.05**	**356**	P		**Pn**		**12 27 00.9**	**-0.6**
JTKR				S		**Sn**		**12 28 05.8**	**-3.8**
ASAJ	**Asahikawa**	**6.35**	**347**	Pn		**Pn**		**12 27 06.0**	**+0.4**
	1.8nm,0.3s,baz=220,slow=7.8,SNR=25								
ASAJ						Sn		**12 28 14.6**	**-2.2**
	0.8nm,0.3s,baz=173,slow=12,SNR=3.7								
KSRS	**Korea Array**	**13.15**	**273**	LR		LR		12 33 16.3	
	comp=Z,14nm,20.0s,baz=65,slow=35								
H11N2	**WAKE ISLAND Hy**	**26.59**	**127**	T		T		12 58 39.4	
	baz=318,slow=76,SNR=2.9								
H11N1	**WAKE ISLAND Hy**	**26.60**	**127**	T		T		12 58 42.1	
	baz=318								
H11N3	**WAKE ISLAND Hy**	**26.61**	**127**	T		T		12 58 39.1	
	baz=318,slow=76,SNR=3.0								
MKAR	**Makanchi Array**	**45.74**	**302**	P		**P**		**12 33 54.1**	**+1.8**
	0.5nm,0.7s,baz=78,slow=11,SNR=5.7								
KURBB	**Kurchatov Array**	**47.40**	**308**	P		**P**		**12 34 06.6**	**+1.3**
	0.9nm,0.6s,baz=81,slow=7.6,SNR=8.3								
ILAR	**Eielson Array**	**47.41**	**33**	P		**P**		**12 34 05.8**	**+0.6**
	0.7nm,1.0s,baz=251,slow=6.7,SNR=5.7								
INK	**Inuvik**	**52.46**	**28**	P		**P**		**12 34 44.2**	**+0.9**
	0.5nm,0.8s,baz=294,slow=3.2,SNR=3.4								
WRA	**Warramunga Arr**	**58.35**	**191**	P		**P**		**12 35 24.4**	**-1.9**
	0.5nm,0.5s,baz=12,slow=7.3,SNR=11								
YKA	**Yellowknife Ar**	**61.78**	**31**	P		**P**		**12 35 49.9**	**+0.6**
	0.2nm,0.7s,baz=300,slow=6.8,SNR=5.6								
ASAR	**Alice Springs**	**62.07**	**191**	P		**P**		**12 35 50.4**	**-1.3**
	0.2nm,0.6s,baz=14,slow=8.2,SNR=7.1								
NVAR	**Mina Array Bea**	**72.47**	**55**	P		**P**		**12 36 59.2**	**+1.3**
	0.2nm,0.4s,baz=292,slow=5.7,SNR=4.2								
PDAR	**Pinedale Array**	**75.27**	**47**	P		**P**		**12 37 15.3**	**+1.1**
	0.1nm,0.3s,baz=317,slow=3.7,SNR=3.2								

ISCJB 19 12:30:48.9±0.6, 59.00N±0.04×18.28E±0.09, h0km, Error ellipse: s-maj=7.5km s-min=4.4km az=31.6
CSEM 19 12:30:49.8±0.2, 59.01N×18.21E, h2km, ML2.5, Error ellipse: s-maj=7.3km s-min=4.7km az=119.0, Mining explosion.
UPP 19 12:30:49.6±0.1, 58.99N×18.24E, h0km, ML2.5
HEL 19 12:30:50.3±0.1, 58.99N×18.26E, h0km, ML2.5(UPP), Explosion
FIA0 19 12:30:50.7, 59.24N×17.97E, h0km, ML2.1, Explosion
NAO 19 12:30:53.0±1.9, 59.24N×18.10E, ML2.0
BER 19 12:30:53.4±3.1, 59.16N×18.14E, h0km, ML2.0(NAO), Suspected explosion
IDC 19 12:30:53.8±1.9, 59.29N×18.07E, h0km, mb1 3.0/4, mb1mx2.8/64, mbtmp2.9/4, ML2.4/4, Error ellipse: s-maj=25.9km s-min=7.1km az=1.0

ISC 19 12:30:49.1±0.8, 59.00N±0.03×18.12E±0.03, h0km, n65, σ0§87/74, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
NRTU	**Norrtaelje**	**0.72**	**21**	P		**Pg**	**12 31 03.1**	**+0.2**
NRTU				S		**Sg**	**12 31 12.0**	**-0.4**
NRTU	**Norrtaelje**	**0.72**	**21**	P		**Pg**	**12 31 03.2**	**+0.2**
NRTU				S		**Sg**	**12 31 12.0**	**-0.4**
NRTU	**Norrtaelje**	**0.72**	**21**	*i* P		**Pg**	**12 31 03.1**	**+0.2**
NRTU				*i* S		**Sg**	**12 31 12.0**	**-0.4**
UPP	**Uppsala**	**0.90**	**344**	P		**Pb**	**12 31 06.8**	**-0.6**
UPP	**Uppsala**	**0.90**	**344**	P		**Pb**	**12 31 06.8**	**-0.6**
UPP	**Uppsala**	**0.90**	**344**	*e*P		**Pb**	**12 31 06.8**	**-0.6**

VIKU	**Vikbolandet**	**0.90**	**236**	P		**Pb**		**12 31 07.3**	**-0.2**
VIKU	**Vikbolandet**	**0.90**	**236**	P		**Pb**		**12 31 07.3**	**-0.2**
VIKU	**Vikbolandet**	**0.90**	**236**	*e*P		**Pb**		**12 31 07.3**	**-0.2**
FIBU	**Brunna**	**0.98**	**337**	P		**Pb**		**12 31 08.5**	**-0.5**
FIBU	**Brunna**	**0.98**	**337**	P		**Pb**		**12 31 08.5**	**-0.5**
GOTU	**Gotland**	**1.34**	**170**	P		**Pg**		**12 31 13.9**	**-0.9**
GOTU	**Gotland**	**1.34**	**170**	P		**Pg**		**12 31 13.9**	**-0.9**
GOTU	**Gotland**	**1.34**	**170**	*e*P		**Pg**		**12 31 13.9**	**-0.9**
GRAU	**Graesoe**	**1.35**	**9**	P		**Pn**		**12 31 14.8**	**-0.4**
GRAU	**Graesoe**	**1.35**	**9**	P		**Pn**		**12 31 14.8**	**-0.4**
GRAU	**Graesoe**	**1.35**	**9**	*e*P		**Pn**		**12 31 14.8**	**-0.4**
FORU	**Forsmark**	**1.39**	**1**	P		**Pb**		**12 31 15.6**	**-0.3**
FORU	**Forsmark**	**1.39**	**1**	P		**Pb**		**12 31 15.6**	**-0.3**
FORU	**Forsmark**	**1.39**	**1**	*e*P		**Pb**		**12 31 15.6**	**-0.3**
AAL	**Aland**	**1.52**	**38**	P		**Pn**		**12 31 16.7**	**-0.7**
AAL	**Aland**	**1.52**	**38**	P		**Pn**		**12 31 16.7**	**-0.7**
AAL	**Aland**	**1.52**	**38**	*e*P		**Pn**		**12 31 16.7**	**-0.7**
LNKU	**Linkoeping**	**1.58**	**241**	P		**Pg**		**12 31 19.3**	**0.0**
LNKU	**Linkoeping**	**1.58**	**241**	P		**Pg**		**12 31 19.3**	**0.0**
LNKU	**Linkoeping**	**1.58**	**241**	*e*P		**Pg**		**12 31 19.3**	**0.0**
VSTU	**Vaestervik**	**1.58**	**212**	P		**Pb**		**12 31 19.1**	**-0.1**
VSTU	**Vaestervik**	**1.58**	**212**	P		**Pb**		**12 31 19.1**	**-0.1**
VSTU	**Vaestervik**	**1.58**	**212**	*e*P		**Pb**		**12 31 19.1**	**-0.1**
NRAU	**Nora**	**1.68**	**291**	P		**Pg**		**12 31 21.3**	**0.0**
NRAU	**Nora**	**1.68**	**291**	P		**Pg**		**12 31 21.3**	**0.0**
NRAU	**Nora**	**1.68**	**291**	*e*P		**Pg**		**12 31 21.3**	**0.0**
ASKU	**Askersund**	**1.71**	**268**	P		**Pg**		**12 31 21.6**	**-0.2**
ASKU	**Askersund**	**1.71**	**268**	P		**Pg**		**12 31 21.6**	**-0.2**
ASKU	**Askersund**	**1.71**	**268**	*e*P		**Pg**		**12 31 21.6**	**-0.2**
ASPU	**Aespoe**	**1.78**	**208**	P		**Pb**		**12 31 22.6**	**+0.1**
ASPU	**Aespoe**	**1.78**	**208**	P		**Pb**		**12 31 22.6**	**+0.1**
ASPU	**Aespoe**	**1.78**	**208**	*e*P		**Pb**		**12 31 22.6**	**+0.1**
FALU	**Falun**	**1.89**	**323**	P		**Pb**		**12 31 24.1**	**-0.4**
FALU	**Falun**	**1.89**	**323**	P		**Pb**		**12 31 24.1**	**-0.4**
FALU	**Falun**	**1.89**	**323**	*e*P		**Pb**		**12 31 24.1**	**-0.4**
IGGU	**Iggoen**	**1.92**	**348**	P		**Pb**		**12 31 24.2**	**-0.8**
IGGU	**Iggoen**	**1.92**	**348**	P		**Pb**		**12 31 24.2**	**-0.8**
IGGU	**Iggoen**	**1.92**	**348**	*e*P		**Pb**		**12 31 24.2**	**-0.8**
HFS	**Hagfors**	**2.52**	**299**	Pn		**Pb**		**12 31 33.8**	**-1.4**
	baz=112,slow=18								
HFS						Lg	Lg	12 32 07.7	
	baz=109,slow=28								
HFS	**Hagfors**	**2.52**	**299**	Pn		**Pb**		**12 31 33.7**	**-1.5**
	0.7nm,0.3s,baz=106,slow=15,SNR=37								
HFS						Lg	Lg	12 32 07.6	
	3.0nm,0.3s,baz=108,slow=30,SNR=26								
HFS	**Hagfors**	**2.52**	**299**	Pn		**Pb**		**12 31 33.8**	**-1.4**
	SNR=9.1								
HFS						Lg	Lg	12 32 07.7	
	SNR=7.6								
HFS	**Hagfors**	**2.52**	**299**	Pn		**Pb**		**12 31 33.8**	**-1.4**
	baz=112,slow=18								
HFS						Lg	Lg	12 32 07.7	
	baz=109,slow=28								
NRA0	**NORESS Array S**	**3.74**	**300**	Pn		**Pn**		**12 31 48.6**	**+0.5**
	baz=119,slow=12								
NRA0						Lg	Lg	12 32 46.6	
	baz=108,slow=37								
NRA0	**NORESS Array S**	**3.74**	**300**	Pn		**Pn**		**12 31 48.6**	**+0.5**
	SNR=5.6								
NRA0						Lg	Lg	12 32 46.6	
	SNR=2.6								
NRA0	**NORESS Array S**	**3.74**	**300**	Pn		**Pn**		**12 31 48.6**	**+0.5**
	baz=119,slow=12								
NRA0						Lg	Lg	12 32 46.6	
	baz=108,slow=37								
NB2	**NORSAR Subarra**	**4.02**	**303**	Pn		**Pn**		**12 31 53.6**	**+1.7**
	baz=125,slow=14								
NB2						Lg	Lg	12 32 57.2	
	baz

DURS	**Dursunbey**	**0.73**	**312**	*i*	P		**Pg**	**12 36 27.9**	**+0.1**
DURS	**Dursunbey**	**0.73**	**312**		P		**Pg**	**12 36 27.9**	**+0.1**
KHAL	**Karahalli**	**0.78**	**161**	*i*	P		**Pb**	**12 36 29.5**	**-0.6**
KHAL	**Karahalli**	**0.78**	**161**		P		**Pb**	**12 36 29.5**	**-0.6**
MANT	**Manisa**	**0.79**	**218**	*i*	P		**Pg**	**12 36 28.6**	**-0.3**
MANT	**Manisa**	**0.79**	**218**		P		**Pg**	**12 36 28.6**	**-0.3**
CAVI	**Cavuskoy**	**1.20**	**25**		PN		**Pg**	**12 36 36.4**	**-0.5**
CAVI	**Cavuskoy**	**1.20**	**25**	*e*	Pn		**Pg**	**12 36 36.4**	**-0.5**
BORA	**Eskisehir**	**1.25**	**52**	*i*	P		**Pn**	**12 36 39.0**	**+0.8**
BORA	**Eskisehir**	**1.25**	**52**		P		**Pn**	**12 36 39.0**	**+0.8**
ARMT	**Armutlu**	**1.47**	**351**		PN		**Pb**	**12 36 41.4**	**-0.4**
ARMT					SN		**Sg**	**12 37 01.8**	**+0.7**
ARMT	**Armutlu**	**1.47**	**351**	*e*	Pn		**Pb**	**12 36 41.4**	**-0.4**
ARMT				*e*	Sn		**Sg**	**12 37 01.8**	**+0.7**

IDC 19 12:38:21.9±494.0, 53°30N×168°32W, h0km, Error ellipse: s-maj=317.9km s-min=228.0km az=148.0, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I53US	**FAIRBANKS INFR**	**15.56**	**34**	*i*		14 13 20.0	
	baz=233,slow=329,SNR=8.0						
I44RU	**PETROPAVLOVSK**	**20.24**	**283**	*i*		14 45 00.0	
	baz=80,slow=155,SNR=3.7						
I18DK	**QAANAAQ INFRAS**	**10.54**	**19**	*i*		16 47 05.0	
	baz=293,slow=364,SNR=3.4						

*ISK **19** 12:58:06.4, 38°.63N×43°.11E, h8km, ML2.9/10*
*ATA **19** 12:58:06.3±1.2, 38°.65N×43°.09E, h2km±7km, ML3.3, MW3.4*
*ISCJB **19** 12:58:07.7±0.4, 38°.64N±0°.03×43°.14E±0°.04, h12km±5km, Error ellipse: s-maj=5.3km s-min=4.4km az=138.6*
*CSEM **19** 12:58:07.2±0.2, 38°.65N×43°.14E, h10km, ML2.9, Error ellipse: s-maj=5.1km s-min=4.2km az=153.0*
*DDA **19** 12:58:07.4, 38°.65N×43°.17E, h7km, Ml3.1*
ISC 19 12:58:07.4±0.9, 38°.63N±0°.02×43°.14E±0°.02, h16km±7km, n45, σ0°.63/59, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.20**	**99**	PG		**Pg**	**12 58 11.9**	**-0.2**
VANB				SG		**Sb**	**12 58 16.5**	**+0.3**
VANB	**Van**	**0.20**	**99**	*e*Pg		**Pg**	**12 58 11.9**	**-0.2**
VANB				*e*Sg		**Sb**	**12 58 16.5**	**+0.3**
TVAN	**Van**	**0.23**	**115**	*i* P		**Pg**	**12 58 11.8**	**-0.8**
TVAN				*i* S		**Sg**	**12 58 16.7**	**+0.4**
TVAN	**Van**	**0.23**	**115**	P		**Pg**	**12 58 11.9**	**-0.8**
TVAN				S		**Sg**	**12 58 16.7**	**+0.4**
GEVA	**Gevas**	**0.32**	**192**	*i* P		**Pg**	**12 58 13.3**	**-0.8**
GEVA				*e*S		**Sb**	**12 58 20.4**	**+0.6**
GEVA				IAML			12 58 23.6	
	comp=Z,500nm,0.4s							
GEVA	**Gevas**	**0.32**	**192**	*i* P		**Pg**	**12 58 13.4**	**-0.8**
GEVA				*i* S		**Sb**	**12 58 20.5**	**+0.6**
GEVA	**Gevas**	**0.32**	**192**	P		**Pg**	**12 58 13.4**	**-0.8**
GEVA				S		**Sb**	**12 58 20.5**	**+0.6**
ADCV	**BITLIS_Adilcev**	**0.38**	**299**	*i* P		**Pg**	**12 58 14.9**	**-0.2**
ADCV				*i* S		**Sb**	**12 58 21.9**	**+0.4**
ADCV	**BITLIS_Adilcev**	**0.38**	**299**	P		**Pg**	**12 58 14.9**	**-0.2**
ADCV				S		**Sb**	**12 58 21.9**	**+0.4**
VMUR	**Van-Muradiye**	**0.49**	**43**	*i* P		**Pg**	**12 58 17.7**	**+0.4**
VMUR				*i* S		**Sn**	**12 58 27.4**	**-1.0**
VMUR	**Van-Muradiye**	**0.49**	**43**	P		**Pg**	**12 58 17.7**	**+0.4**
VMUR				S		**Sn**	**12 58 27.4**	**-1.0**
CLDR	**Caldiran**	**0.79**	**49**	PG		**Pg**	**12 58 22.4**	**-0.5**
CLDR				SG		**Sb**	**12 58 34.1**	**+0.5**
CLDR	**Caldiran**	**0.79**	**49**	*i* P		**Pg**	**12 58 21.6**	**-1.3**
CLDR	**Caldiran**	**0.79**	**49**	P		**Pg**	**12 58 21.6**	**-1.3**
CLDR	**Caldiran**	**0.79**	**49**	*e*Pg		**Pg**	**12 58 22.4**	**-0.5**
CLDR				*e*Sg		**Sb**	**12 58 34.1**	**+0.5**
TUTA	**Tutak**	**0.82**	**342**	*e*P		**Pg**	**12 58 23.0**	**-0.3**
TUTA				*e*S		**Sb**	**12 58 34.4**	**+0.1**
TUTA				IAML			12 58 41.2	
	comp=Z,140nm,0.3s							
TUTA	**Tutak**	**0.82**	**342**	*i* P		**Pg**	**12 58 23.0**	**-0.3**
TUTA	**Tutak**	**0.82**	**342**	P		**Pg**	**12 58 23.0**	**-0.3**
GURO	**Guroymak-BITLI**	**0.87**	**265**	PG		**Pg**	**12 58 23.1**	**-1.3**
GURO	**Guroymak-BITLI**	**0.87**	**265**	*e*Pg		**Pg**	**12 58 23.1**	**-1.3**
AGRB	**Hanur-Agry**	**0.95**	**353**	PG		**Pb**	**12 58 25.1**	**-0.6**
AGRB	**Hanur-Agry**	**0.95**	**353**	*e*Pg		**Pb**	**12 58 25.1**	**-0.6**
DYDN	**Diyadin**	**1.01**	**25**	*e*P		**Pb**	**12 58 26.4**	**-0.2**
DYDN				IAML			12 58 51.3	
	comp=Z,17nm,0.5s							
EKAR	**Karacoban**	**1.05**	**307**	*i* P		**Pg**	**12 58 27.7**	**-0.1**
EKAR	**Karacoban**	**1.05**	**307**	P		**Pg**	**12 58 27.7**	**-0.1**
SRTM	**Siirt_Merkez**	**1.15**	**237**	*i* P		**Pg**	**12 58 29.7**	**+0.1**
SRTM	**Siirt_Merkez**	**1.15**	**237**	P		**Pg**	**12 58 29.7**	**+0.1**
SIRT	**Sirnak**	**1.25**	**207**	PN		**Pg**	**12 58 31.7**	**+0.1**
SIRT	**Sirnak**	**1.25**	**207**	*e*Pn		**Pg**	**12 58 31.7**	**+0.1**
EATA	**Eleskirt**	**1.33**	**338**	*i* P		**Pb**	**12 58 32.3**	**+0.1**
EATA	**Eleskirt**	**1.33**	**338**	P		**Pb**	**12 58 32.3**	**+0.1**
VRTB	**Varto-Mus**	**1.42**	**293**	PN		**Pn**	**12 58 32.8**	**+0.1**
VRTB	**Varto-Mus**	**1.42**	**293**	*e*Pn		**Pn**	**12 58 32.8**	**+0.1**
TASB	**TASBURUN-IGDIR**	**1.60**	**32**	PN		**Pn**	**12 58 36.1**	**+1.0**
TASB	**TASBURUN-IGDIR**	**1.60**	**32**	*e*Pn		**Pn**	**12 58 36.1**	**+1.0**
BTMN	**Batman**	**1.65**	**244**	*i* P		**Pg**	**12 58 38.5**	**-0.5**
BTMN	**Batman**	**1.65**	**244**	P		**Pg**	**12 58 38.5**	**-0.5**
ECAT	**Cat-ERZURUM**	**1.95**	**301**	*e*P		**Pb**	**12 58 43.1**	**+0.4**
ECAT				IAML			12 59 24.5	
	comp=Z,6.8nm,0.5s							
BNGB	**Bingˆ‖**	**1.96**	**281**	PN		**Pn**	**12 58 40.9**	**+0.8**
SENK	**Senkaya-Erzuru**	**2.03**	**343**	PN		**Pn**	**12 58 41.4**	**+0.3**
SENK	**Senkaya-Erzuru**	**2.03**	**343**	*e*Pn		**Pn**	**12 58 41.4**	**+0.3**
BINT	**Bingol**	**2.09**	**278**	*e*Pn		**Pn**	**12 58 40.9**	**-1.0**
MAZI	**Mazidag**	**2.43**	**242**	PN		**Pn**	**12 58 47.1**	**+0.6**
MAZI	**Mazidag**	**2.43**	**242**	*e*Pn		**Pn**	**12 58 47.1**	**+0.6**
KOPT	**Kop Dagi**	**2.48**	**305**	*e*P		**Pb**	**12 58 51.8**	**+0.1**

*ISK **19** 13:04:29.2, 39°.05N×29°.23E, h5km, ML2.7/9*
*ISCJB **19** 13:04:30.3±0.5, 39°.10N±0°.04×29°.14E±0°.04, h5km±7km, Error ellipse: s-maj=6.9km s-min=4.1km az=142.4*
*CSEM **19** 13:04:30.5±0.1, 39°.10N×29°.16E, h5km, ML2.7, Error ellipse: s-maj=3.7km s-min=2.4km az=125.0*
*DDA **19** 13:04:30.8, 39°.12N×29°.16E, h7km, Ml2.5*
ISC 19 13:04:30.6±0.9, 39°.10N±0°.03×29°.15E±0°.02, h9km±10km, n30, σ0°.44/40, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIMA	**Simav-Kutahya**	**0.13**	**262**	PG		**Pg**	**13 04 33.5**	**-0.1**
SIMA	**Simav-Kutahya**	**0.13**	**262**	*e*Pg		**Pg**	**13 04 33.5**	**-0.1**
GDZ	**Gediz**	**0.26**	**93**	*i* P		**Pg**	**13 04 35.7**	**-0.1**
GDZ				*i* S		**Sg**	**13 04 40.0**	**+0.7**
GDZ	**Gediz**	**0.26**	**93**	P		**Pg**	**13 04 35.7**	**-0.1**
GDZ				S		**Sg**	**13 04 40.0**	**+0.7**
DEMI	**Demirci**	**0.34**	**260**	*i* P		**Pg**	**13 04 37.4**	**0.0**
DEMI				*i* S		**Sg**	**13 04 42.0**	**0.0**
DEMI	**Demirci**	**0.34**	**260**	P		**Pg**	**13 04 37.4**	**0.0**
DEMI				S		**Sg**	**13 04 42.0**	**0.0**
TVSB	**Tavsanli**	**0.42**	**35**	PG		**Pg**	**13 04 38.4**	**-0.5**
TVSB				SG		**Sg**	**13 04 43.9**	**-0.6**
TVSB	**Tavsanli**	**0.42**	**35**	*e*Pg		**Pg**	**13 04 38.4**	**-0.5**
TVSB				*e*Sg		**Sg**	**13 04 43.9**	**-0.6**
KULA	**Kula-Manisa**	**0.70**	**213**	PG		**Pg**	**13 04 42.9**	**-1.2**
KULA				SG		**Sg**	**13 04 53.1**	**-0.2**
KULA	**Kula-Manisa**	**0.70**	**213**	*e*Pg		**Pg**	**13 04 42.9**	**-1.2**
KULA				*e*Sg		**Sg**	**13 04 53.1**	**-0.2**
DURS	**Dursunbey**	**0.72**	**314**	*i* P		**Pg**	**13 04 44.7**	**+0.1**
DURS	**Dursunbey**	**0.72**	**314**	P		**Pg**	**13 04 44.7**	**+0.1**
MANT	**Manisa**	**0.77**	**217**	*i* P		**Pg**	**13 04 45.9**	**+0.5**
MANT				*i* S		**Sg**	**13 04 54.9**	**-0.5**
MANT	**Manisa**	**0.77**	**217**	P		**Pg**	**13 04 45.9**	**+0.5**
MANT				S		**Sg**	**13 04 54.9**	**-0.5**
KHAL	**Karahalli**	**0.78**	**160**	*i* P		**Pb**	**13 04 46.6**	**+0.3**
KHAL	**Karahalli**	**0.78**	**160**	P		**Pb**	**13 04 46.6**	**+0.3**
ORLT	**Orhaneli**	**0.96**	**348**	PG		**Pb**	**13 04 49.5**	**0.0**
ORLT	**Orhaneli**	**0.96**	**348**	*e*Pg		**Pb**	**13 04 49.5**	**0.0**
AKHS	**Akhisar**	**1.07**	**258**	*i* P		**Pb**	**13 04 51.3**	**+0.1**
AKHS	**Akhisar**	**1.07**	**258**	P		**Pb**	**13 04 51.3**	**+0.1**
CAVI	**Cavuskoy**	**1.22**	**26**	PN		**Pg**	**13 04 53.7**	**-0.3**
CAVI	**Cavuskoy**	**1.22**	**26**	*e*Pn		**Pg**	**13 04 53.7**	**-0.3**
MDNY	**Mudanya-Bursa**	**1.28**	**351**	PN		**Pg**	**13 04 55.3**	**+0.1**
MDNY	**Mudanya-Bursa**	**1.28**	**351**	*e*Pn		**Pg**	**13 04 55.3**	**+0.1**
YLV	**Yalova**	**1.47**	**7**	PN		**Pn**	**13 04 57.7**	**+0.3**
YLV	**Yalova**	**1.47**	**7**	*e*Pn		**Pn**	**13 04 57.7**	**+0.3**
ARMT	**Armutlu**	**1.48**	**351**	PN		**Pb**	**13 04 58.2**	**0.0**
ARMT	**Armutlu**	**1.48**	**351**	*e*Pn		**Pb**	**13 04 58.2**	**0.0**
GULT	**Gulveren**	**1.69**	**38**	PN		**Pn**	**13 05 00.4**	**0.0**
GULT	**Gulveren**	**1.69**	**38**	*e*Pn		**Pn**	**13 05 00.4**	**0.0**

IDC 19 13:30:42.0±7.8, 21°.21N×143°.11E, h0km, mb3.4/4, mb1 3.5/4, mb1mx3.2/56, mbtmp3.4/4, Error ellipse: s-maj=310.1km s-min=25.3km az=76.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**41.79**	**192**	P	P	13 38 33.7	+0.2
	0.2nm,0.6s,baz=13,slow=8.2,SNR=6.7						
ASAR	**Alice Springs**	**45.50**	**192**	P	P	13 39 02.9	-0.5
	0.1nm,0.4s,baz=10,slow=7.3,SNR=3.9						
MKAR	**Makanchi Array**	**54.97**	**313**	P	P	13 40 15.8	+0.7
	0.3nm,0.6s,baz=98,slow=10,SNR=3.9						
KURBB	**Kurchatov Arra**	**57.83**	**317**	P	P	13 40 34.8	-0.5
	0.2nm,0.3s,baz=92,slow=7.3,SNR=2.5						

*ISCJB **19** 13:31:49.5±0.5, 49°.86N±0°.04×18°.39E±0°.03, h0km, Error ellipse: s-maj=5.5km s-min=2.8km az=7.5*
*IPEC **19** 13:31:50.1±0.2, 49°.83N×18°.48E, h0km, ML1.7/3, Error ellipse: s-maj=2.1km s-min=1.1km az=161.0*
*CSEM **19** 13:31:50.3±0.3, 49°.84N×18°.39E, h1km, ML2.5/5, Error ellipse: s-maj=7.4km s-min=3.9km az=7.0*
ISC 19 13:31:50.0±0.8, 49°.83N±0°.04×18°.41E±0°.02, h0km, n21, σ1°.12/40, 2C, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	**Ostrava-Krasne**	**0.17**	**271**	*i* PG		**Pg**	**13 31 54.6**	**+1.3**
OKC				*e*SG		**Sg**	**13 31 57.1**	**+1.6**
	comp=Z,81nm,0.2s							
OKC	**Ostrava-Krasne**	**0.17**	**271**	Pg		**Pg**	**13 31 54.6**	**+1.3**
OKC				Sg		**Sg**	**13 31 57.1**	**+1.6**
	81nm,0.2s							
MORC	**Moravsky Berou**	**0.57**	**265**	*e*Pg		**Pg**	**13 32 01.8**	**+0.9**
MORC				*e*Sg		**Sg**	**13 32 09.2**	**+1.0**
	24nm,0.3s							
LANS	**Liptovska Anna**	**0.97**	**134**	*e*Pg		**Pb**	**13 32 09.2**	**-0.5**
LANS				*e*Sg		**Sn**	**13 32 25.3**	**-0.1**
LANS	**Liptovska Anna**	**0.97**	**134**	*e*PG		**Pb**	**13 32 09.2**	**-0.5**
LANS				*e*SG		**Sn**	**13 32 25.3**	**-0.1**
OJC	**Ojcow**	**0.97**	**66**	*e*Pg		**Pg**	**13 32 08.2**	**-0.5**
OJC				*e*Sg		**Sg**	**13 32 21.2**	**-0.1**
OJC	**Ojcow**	**0.97**	**66**	*e*Pg		**Pg**	**13 32 08.2**	**-0.5**
OJC				*e*Sg		**Sg**	**13 32 21.2**	**-0.1**
KRLC	**Kraliky**	**1.08**	**284**	*e*PG		**Pg**	**13 32 09.8**	**-0.9**
KRLC				*e*SG		**Sg**	**13 32 25.1**	**+0.4**
KRLC	**Kraliky**	**1.08**	**284**	Pg		**Pg**	**13 32 09.8**	**-0.9**
KRLC				Sg		**Sg**	**13 32 25.1**	**+0.4**
VRAC	**Vranov**	**1.30**	**247**	*e*Pg		**Pb**	**13 32 15.1**	**-0.2**
VRAC				*e*Sg		**Sg**	**13 32 32.0**	**+0.4**
	14nm,0.2s							
VYHS	**Vyhne**	**1.37**	**168**	*e*Pg		**Pg**	**13 32 16.0**	**-0.2**
VYHS				*e*Sn		**Sb**	**13 32 34.0**	**-0.5**
VYHS	**Vyhne**	**1.37**	**168**	*e*PG		**Pg**	**13 32 16.0**	**-0.2**
VYHS				*e*SN		**Sb**	**13 32 34.0**	**-0.5**
VYHS				eLG		Lg	13 32 37.4	
DPC	**Dobruska-Polom**	**1.44**	**292**	*e*PG		**Pn**	**13 32 17.3**	**-0.1**
DPC				*e*SG		**Sg**	**13 32 36.6**	**+0.3**
	comp=Z,1.7nm,0.1s							
DPC	**Dobruska-Polom**	**1.44**	**292**	Pg		**Pn**	**13 32 17.3**	**-0.1**
DPC				Sg		**Sg**	**13 32 36.6**	**+0.3**
	1.7nm,0.1s							
KRUC	**Moravsky**	**1.53**	**240**	*e*Pg		**Pn**	**13 32 18.5**	**0.0**
KRUC				*e*Sg		**Sn**	**13 32 39.0**	**-0.1**
	5.3nm,0.2s							
UPC	**Upice**	**1.69**	**295**	*e*PG		**Pb**	**13 32 21.8**	**-0.1**
UPC				*e*SG		**Sb**	**13 32 43.9**	**+0.3**
UPC	**Upice**	**1.69**	**295**	Pg		**Pb**	**13 32 21.8**	**-0.1**
UPC				Sg		**Sb**	**13 32 43.9**	**+0.3**
STHS	**Stebnicka Huta**	**1.89**	**102**	*e*Pn		**Pg**	**13 32 25.8**	**-0.4**
STHS				*e*Sg		**Sg**	**13 32 54.1**	**+3.5**
STHS	**Stebnicka Huta**	**1.89**	**102**	*e*PN		**Pg**	**13 32 25.8**	**-0.4**
STHS				*e*SG		**Sg**	**13 32 54.1**	**+3.5**
KHC	**Kasperske Hory**	**3.23**	**259**	*e*SG		**Sg**	**13 33 31.8**	**-1.9**
KHC	**Kasperske Hory**	**3.23**	**259**	Sg		**Sg**	**13 33 31.8**	**-1.9**

*SJA **19** 13:40:37.9±0.5, 27°.74S×72°.61W, h44km±11km, ML4.0, MW3.7*
*ISCJB **19** 13:40:42.1±1.1, 27°.89S±0°.04×72°.29W±0°.09, h35km, Error ellipse: s-maj=11.8km s-min=5.8km az=13.4*
*GUC **19** 13:40:42.0±0.6, 27°.99S×72°.10W, h36km±537km, ML4.0*
ISC 19 13:40:41.1±2.2, 27°.84S±0°.06×72°.5W±0°.1, h35km, n24, σ2°.80/35, 2C-1D, Off coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPCH	**Copiapo**	**1.92**	**76**	*e*P	P	**Pn**	**13 41 11.1**	**-0.2**
CPCH				*i* S		**Sn**	**13 41 32.3**	**-2.0**
LCO	**Las Campanas**	**1.93**	**128**	↓*i*P	P	**Pn**	**13 41 10.5**	**-1.2**
LCO				*i* S		**Sn**	**13 41 30.7**	**-4.2**
LCO				IAML			13 41 33.5	
	comp=E,1μm,0.2s							
GO03	**Copiap**	**1.98**	**83**	↑*i*P	P	**Pn**	**13 41 12.0**	**-0.2**
GO03				*e*S		**Sn**	**13 41 33.6**	**-2.1**
GO03				IAML			13 41 35.4	
	comp=N,3μm,0.3s							
TLL	**Tololo Astrono**	**2.73**	**149**	*e*P	P	**Pn**	**13 41 21.8**	**-0.8**
TLL				*e*S		**Sn**	**13 41 50.2**	**-4.3**
TLL				IAML			13 41 51.0	
	comp=E,2μm,0.5s							
GO04	**Tololo Observa**	**2.73**	**149**	*e*P	P	**Pn**	**13 41 21.8**	**-0.9**
GO04				*i* S		**Sn**	**13 41 50.5**	**-4.2**
AROD	**Rodeo**	**3.49**	**132**	*i* P	P	**Pn**	**13 41 35.2**	**+2.0**
AROD				*i* S		**Sn**	**13 42 16.3**	**+2.9**
ACDV	**Cuesta del Vie**	**3.73**	**129**	*i* P	P	**Pn**	**13 41 38.7**	**+2.4**
ACDV				IAML			13 41 41.9	
	comp=Z,138nm,0.3s							
AGUA	**GUANDACOL**	**3.84**	**116**	*i* P	P	**Pn**	**13 41 41.5**	**+3.7**
AGUA				*i* S		**Sn**	**13 42 25.6**	**+3.7**
VCA	**Vinchina**	**3.84**	**104**	*i* P	P	**Pn**	**13 41 42.0**	**+4.0**
VCA				*i* S		**Sn**	**13 42 25.6**	**+3.6**
VCA				IAML			13 42 35.2	
	comp=Z,190nm,0.5s							
AMOG	**MOGNA**	**4.63**	**133**	*i* P	P	**Pn**	**13 41 51.0**	**+2.3**
PB10	**IPOC Station P**	**4.64**	**22**	↑*i*P	P	**Pn**	**13 41 48.4**	**-0.3**
PB10				*i* S		**Sn**	**13 42 38.1**	**-3.2**
RTLS	**Leoncito**	**4.80**	**146**	*i* P	P	**Pn**	**13 41 53.4**	**+2.2**
RTLS				IAML			13 41 55.1	
	comp=Z,186nm,0.3s							
RTLS				*i* S		**Sn**	**13 42 45.6**	**-0.1**
AUSP	**Uspallata**	**5.11**	**149**	*i* P	P	**Pn**	**13 41 57.5**	**+2.1**
AUSP				*i* S		**Sn**	**13 42 52.2**	**-1.1**
RTCV	**Cerro Valdivia**	**5.25**	**141**	*i* P	P	**Pn**	**13 41 59.0**	**+1.8**
RTCV				*i* S		**Sn**	**13 43 01.4**	**+4.9**
ASAL	**Salagasta**	**5.67**	**147**	*i* P	P	**Pn**	**13 42 05.1**	**+2.1**
APLL	**PUNTA DE LOS L**	**5.77**	**118**	*i* P	P	**Pn**	**13 42 05.4**	**+1.1**
APLL				IAML			13 42 08.6	
	comp=Z,42nm,0.3s							
CYA	**Choya**	**5.90**	**97**	*i* P	P	**Pn**	**13 42 07.6**	**+1.5**
CYA				*i* S		**Sn**	**13 43 08.8**	**-3.7**
CYA				IAML			13 43 12.7	
	comp=Z,39nm,0.4s							
AAGR	**Agrelo**	**6.09**	**150**	*i* P	P	**Pn**	**13 42 10.9**	**+2.2**
ACAN	**Cantantal**	**6.35**	**135**	*i* P	P	**Pn**	**13 42 13.2**	**+1.0**
AZAP	**Zapla**	**7.55**	**63**	*i* P	P	Pn	13 42 31.9	+2.9
AZAP				IAML			13 42 34.3	
	comp=Z,12nm,0.4s							
TCA	**Tanti**	**7.67**	**119**	*i* P	P	**Pn**	**13 42 30.1**	**-0.4**
TCA				IAML			13 42 33.5	
	comp=Z,15nm,0.3s							
TCA				*i* S		**Sn**	**13 43 50.0**	**-6.3**
RFA	**San Rafael**	**7.70**	**155**	*i* P	P	**Pn**	**13 42 30.8**	**0.0**
RFA				IAML			13 42 34.3	
	comp=Z,19nm,0.3s							
HJA	**Humahuaca**	**7.85**	**56**	*i* P	P	Pn	13 42 36.4	+3.2
HJA				IAML			13 42 39.3	
	comp=Z,16nm,0.5s							
ASTB	**Santa Barbara**	**8.18**	**63**	*i* P	P	**Pn**	**13 42 39.9**	**+2.4**

IDC 19 13:45:07.4±3.6, 5°.52S×147°.41E, h198km±66km, mb2.9/2, mb1 3.3/4, mb1mx2.9/44, mbtmp3.7/4, Error ellipse: s-maj=152.2km s-min=31.3km az=110.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.87**	**184**	P	P	13 46 07.5	+0.1
	8.0nm,0.3s,baz=328,slow=6.0,SNR=31						
PMG				S	Sn	13 46 50.3	-4.4
	3.8nm,0.3s,baz=56,slow=18,SNR=3.7						
WRA	**Warramunga Arr**	**19.16**	**220**	P	P	13 49 15.7	-0.4
	0.7nm,0.3s,baz=48,slow=12,SNR=44						
ASAR	**Alice Springs**	**22.24**	**214**	P	P	13 49 48.5	+0.3
	1.4nm,0.6s,baz=49,slow=8.1,SNR=29						
MKAR	**Makanchi Array**	**77.39**	**320**	P	P	13 56 40.6	0.0
	0.1nm,0.6s,baz=108,slow=9.3,SNR=2.4						

*IDC **19** 13:49:04.2±1.5, 8°.93S×105°.98E, h0km, mb3.9/8, mb1 4.0/9, mb1mx3.7/57, mbtmp3.9/9, ML4.6/1, MS3.2/4, Ms1 3.3/4, ms1mx2.8/54, Error ellipse: s-maj=49.9km s-min=19.4km az=48.0*
*ISCJB **19** 13:49:07.0±0.5, 8°.85S±0°.05×106°.02E±0°.05, h33km, mb3.8/9, MS3.2/3, Error ellipse: s-maj=8.4km s-min=4.8km az=38.8*
*DJA **19** 13:49:06.1±0.4, 9°S±4°×10°E±°, h10km, M4.6/12, mb4.8/8, MLv4.5/12*
*NEIC **19** 13:49:09.3±0.4, 8°.89S×106°.07E, h35km, mb4.0/1, Error ellipse: s-maj=9.2km s-min=6.5km az=46.0*
ISC 19 13:49:08.8±0.8, 8°.86S±0°.06×106°.06E±0°.07, h35km, n44, σ1°.54/43, mb4.0/9, MS3.1/3, 1C, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
XMIS	**Christmas Isla**	**1.66**	**194**	*e*Pn	**Pn**	**13 49 34.9**	**-0.5**
SKJI	**Sukabumi**	**1.91**	**15**	P	**Pn**	**13 49 36.7**	**-2.2**
LEM	**Lembang**	**2.55**	**38**	Pn	**Pn**	**13 49 48.5**	**+0.7**
	102nm,0.3s,baz=67,slow=0.7,SNR=50						
LEM				Sn	Sn	13 50 04.3	-13
	96nm,0.3s,baz=300,slow=14,SNR=14						
LEM				LR	LR	13 51 09.3	
	comp=Z,445nm,18.6s,baz=122,slow=47						
LEM	**Lembang**	**2.55**	**38**	P	**Pn**	**13 49 48.3**	**+0.5**
SBJI	**Serang**	**2.73**	**2**	P	**Pn**	**13 49 50.1**	**0.0**
JCJI	**Jatiwangi**	**3.22**	**43**	P	**Pn**	**13 49 55.3**	**-1.6**
KPJI	**Karang Pucung**	**3.23**	**62**	P	**Pn**	**13 49 56.3**	**-0.7**
BLSI	**Bandar Lampung**	**3.56**	**347**	P	**Pn**	**13 50 01.2**	**-0.5**
KASI	**Kota Agung**	**3.66**	**335**	P	**Pn**	**13 50 01.9**	**-1.1**
KASI				S	**Sn**	**13 50 42.4**	**-2.5**
LWLI	**Liwa**	**4.30**	**332**	P	**Pn**	**13 50 12.4**	**+0.5**
LWLI				S	**Sn**	**13 51 00.9**	**-0.1**
UGM	**Wanagama**	**4.52**	**78**	P	**Pn**	**13 50 13.8**	**-1.0**
UGM	**Wanagama**	**4.52**	**78**	*e*Pn	**Pn**	**13 50 14.8**	**0.0**
MDSI	**Maura Dua**	**4.73**	**337**	P	**Pn**	**13 50 17.1**	**-0.6**
WOJI	**Wonogiri, Jawa**	**4.92**	**78**	P	**Pn**	**13 50 22.9**	**+2.6**
PCJI	**Pacitan**	**5.11**	**83**	P	**Pn**	**13 50 23.0**	**+0.1**
MNAI	**Manna**	**5.43**	**325**	P	**Pn**	**13 50 26.5**	**-0.8**
MNAI	**Manna**	**5.43**	**325**	*e*Pn	**Pn**	**13 50 27.1**	**-0.3**
PWJI	**Pagerwojo**	**5.75**	**82**	P	**Pn**	**13 50 32.6**	**+0.9**
PWJI				S	**Sn**	**13 51 31.1**	**-5.3**
GMJI	**Gumukmas**	**7.33**	**86**	P	**Pn**	**13 50 57.4**	**+4.0**
JAGI	**Jajag, Banyuwa**	**8.02**	**88**	P	**Pn**	**13 51 03.1**	**+0.3**
JAGI	**Jajag, Banyuwa**	**8.02**	**88**	*e*Pn	**Pn**	**13 51 02.1**	**-0.7**
SRBI	**Singaraja**	**9.09**	**86**	P	**Pn**	**13 51 19.1**	**+1.5**
H01W3	**Cape Leeuwin H**	**26.94**	**165**	T	T	14 22 51.1	
	baz=344,slow=75,SNR=16						
H01W1	**Cape Leeuwin H**	**26.95**	**165**	T	T	14 22 52.0	
	baz=344,slow=75,SNR=13						
H01W2	**Cape Leeuwin H**	**26.95

Error ellipse: s-maj=30.0km s-min=16.0km az=142.7
ISC 19 14:18:26.9±1.6,**2°2N**±0°2×**93°5E**±0°1,**h35**km,**n8**,σ0**8**3/8,
mb3.6/5,**Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**5.46**	**84**	Pn	**Pn**	**14 19 47.3**	**+1.3**
	2.4nm,0.3s,baz=259,slow=3.0,SNR=14						
PSI				Sn	**Sn**	**14 20 46.6**	**-1.1**
	0.8nm,0.3s,baz=335,slow=20,SNR=2.1						
PALK	**Pallekele**	**13.69**	**292**	Sn	Sn	14 23 54.6	-15
	1.0nm,0.3s,baz=115,slow=11,SNR=5.0						
CMAR	**Chiang Mai Arr**	**16.99**	**18**	P	**Pn**	**14 22 21.8**	**-0.3**
	0.2nm,0.3s,baz=217,slow=13,SNR=6.1						
MKAR	**Makanchi Array**	**45.45**	**349**	P	**P**	**14 26 42.5**	**0.0**
	0.3nm,0.4s,baz=175,slow=7.6,SNR=7.1						
WRA	**Warramunga Arr**	**45.73**	**121**	P	**P**	**14 26 44.6**	**-0.6**
	0.7nm,0.8s,baz=301,slow=8.6,SNR=5.6						
SONM	**Songino Array**	**46.78**	**12**	P	**P**	**14 26 53.2**	**0.0**
	0.6nm,0.6s,baz=198,slow=8.4,SNR=3.9						
ASAR	**Alice Springs**	**46.99**	**126**	P	**P**	**14 26 54.8**	**-0.2**
	0.2nm,0.7s,baz=204,slow=30,SNR=2.9						
ZALV	**Zalesovo Beam**	**52.05**	**354**	P	**P**	**14 27 32.9**	**-0.1**
	0.6nm,0.5s,baz=184,slow=5.3,SNR=2.8						

*IDC **19** 14:35:11.8*±0.9,15°.87N×98°.56W,h0*km*,mb4.1/10,*
mb1 4.2/14,mb1mx4.0/50,mbtmp4.0/14,ML3.2/4,MS3.2/8,
Ms1 3.2/8,ms1mx2.9/36,Error ellipse: s-maj=23.3km
s-min=13.9km az=23.0
*ISCJB **19** 14:35:13.3*±0.4, 15°.96N±0°.05×98°.51W±0°.03,h17*km*,*
mb4.5/47,MS3.4/9,Error ellipse: s-maj=6.7km
s-min=3.5km az=9.5
*NEIC **19** 14:35:14.2*±0.0, 15°.92N×98°.65W,h16*km*,mb4.6/49,*
MD4.4(MEX),After MEX.
*MEX **19** 14:35:14.2*±1.3, 15°.92N×98°.65W,h16*km*±299*km*,MD4.4*
ISC 19 14:35:13.9±0.6,**15°91N**±0°.05×**98°61W**±0°.04,**h17**km,**n275,**
σ1°**23**/270,**mb4.7**/47,**MS3.3**/9,**Off coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.66**	**44**	*e*P	**Pg**	**14 35 25.2**	**-1.8**
PNIG				*e*S	**Sg**	**14 35 33.4**	**-2.4**
PNIG	**Pinotepa**	**0.66**	**44**	*e*P	**Pg**	**14 35 25.2**	**-1.8**
PNIG				*e*S	**Sg**	**14 35 33.4**	**-2.4**
TLIG	**Tlapa**	**1.64**	**1**	*e*P	**Pn**	**14 35 39.8**	**-2.3**
TLIG				*e*S	**Sn**	**14 35 59.1**	**-3.8**
TLIG	**Tlapa**	**1.64**	**1**	*e*Pn	**Pn**	**14 35 40.4**	**-1.7**
CAIG	**El Cayaco**	**1.95**	**306**	*e*P	**Pn**	**14 35 42.3**	**-3.9**
CAIG	**El Cayaco**	**1.95**	**306**	*e*P	**Pn**	**14 35 42.3**	**-3.9**
HUIG	**Huatulco**	**2.41**	**93**	*e*P	**Pn**	**14 35 50.8**	**-1.9**
HUIG	**Huatulco**	**2.41**	**93**	*e*P	**Pn**	**14 35 50.8**	**-1.9**
TPIG	**Tehuac#an**	**2.76**	**25**	*e*P	**Pn**	**14 35 56.5**	**-1.1**
TPIG	**Tehuac#an**	**2.76**	**25**	*e*P	**Pn**	**14 35 56.5**	**-1.1**
PPM	**Popocatepetl**	**3.14**	**360**	*e*P	**Pb**	**14 36 09.1**	**-0.5**
PPM				*e*S	**Sb**	**14 36 49.3**	**+1.6**
PPM	**Popocatepetl**	**3.14**	**360**	*e*P	**Pb**	**14 36 09.1**	**-0.5**
PPM				*e*S	**Sb**	**14 36 49.3**	**+1.6**
UNM	**Universidad Na**	**3.44**	**351**	*e*Pn	**Pn**	**14 36 09.9**	**+2.9**
CMIG	**Matias Romero**	**3.76**	**71**	Pn	**Pn**	**14 36 10.3**	**-0.9**
	3.3nm,0.3s,baz=254,slow=14,SNR=20						
CMIG				Sn	**Sn**	**14 36 53.4**	**-1.7**
	10nm,0.3s,baz=268,slow=19,SNR=4.5						
CMIG				Lg	Lg	14 37 08.9	
	18nm,0.3s,baz=173,slow=21,SNR=8.6						
LVIG	**Laguna Verde**	**4.33**	**29**	*e*P	**Pn**	**14 36 17.7**	**-1.3**
LVIG				*e*S	**Sb**	**14 37 19.9**	**-1.5**
LVIG	**Laguna Verde**	**4.33**	**29**	*e*Pn	**Pn**	**14 36 17.5**	**-1.4**
LVIG				*e*S	**Sb**	**14 37 19.9**	**-1.5**
DEIG	**Demacu**	**4.38**	**355**	*e*P	Pn	14 36 07.9	-12
DEIG				*e*S	**Sn**	**14 37 16.6**	**+5.8**
MOIG	**Morelia**	**4.48**	**327**	*e*Pg	**Pb**	**14 36 30.2**	**-2.0**
JRQG	**Juriquilla Cam**	**5.07**	**340**	*e*Pn	**Pn**	**14 36 28.0**	**-1.5**
CCIG	**Comitan**	**6.23**	**86**	*e*Pn	**Pn**	**14 36 46.1**	**+0.8**
CCIG				*e*Sn	**Sn**	**14 37 54.3**	**-2.1**
ZAIG	**Zacatecas**	**7.78**	**332**	*e*P	Pb	14 37 44.8	+16
ZAIG	**Zacatecas**	**7.78**	**332**	*e*Pn	**Pn**	**14 37 05.2**	**-1.4**
APG	**El Apazote**	**7.91**	**95**	Pn	**Pn**	**14 37 09.2**	**+0.9**
	0.1nm,0.3s,baz=84,slow=17,SNR=2.8						
APG				Sn	**Sn**	**14 38 39.6**	**+2.0**
	0.7nm,0.3s,baz=340,slow=12,SNR=2.7						
APG				Lg	Lg	14 39 19.7	
	0.7nm,0.3s,baz=15,slow=14,SNR=4.6						
H06E1	**SOCORRO T-PHAS**	**12.10**	**285**	T	T	14 50 18.2	
	SNR=295						
H06S1	**SOCORRO T**	**12.12**	**285**	T	T	14 50 22.9	
	SNR=52						
TXAR	**Lajitas Array**	**14.15**	**342**	Pn	**Pn**	**14 38 35.1**	**+1.4**
	0.0nm,0.3s,baz=162,slow=14,SNR=9.1						
TXAR				Lg	Lg	14 42 47.7	
	0.2nm,0.3s,baz=156,slow=31,SNR=3.7						
JTS	**JuntasAbangare**	**14.43**	**111**	Pn	**Pn**	**14 38 38.1**	**+0.6**
	0.2nm,0.3s,baz=81,slow=5.0,SNR=1.9						
JTS	**JuntasAbangare**	**14.43**	**111**	*e*Pn	**Pn**	**14 38 37.5**	**0.0**
	24nm,1.0s						
WHTX	**Lake Whitney,**	**16.04**	**4**	P	**Pn**	**14 38 59.9**	**+1.2**
	baz=184						
WHTX	**Lake Whitney,**	**16.04**	**4**	*e*Pn	**P**	**14 39 00.6**	**-1.5**
	54nm,1.0s						
ABTX	**Abilene, Hawle**	**16.66**	**357**	P	**P**	**14 39 08.4**	**-0.7**
	baz=177						
ABTX	**Abilene, Hawle**	**16.66**	**357**	*e*Pn	**P**	**14 39 09.6**	**+0.5**
	36nm,1.0s						
MNTX	**Cornudas Mount**	**16.88**	**340**	P	**P**	**14 39 10.9**	**-0.6**
	baz=157,SNR=11						
MNTX	**Cornudas Mount**	**16.88**	**340**	*e*Pn	**Pn**	**14 39 09.4**	**-0.1**
	14nm,1.2s						
140A	**Cam and Jess,**	**17.27**	**14**	P	**P**	**14 39 15.9**	**+0.2**
	baz=197						
319A	**Douglas**	**18.21**	**330**	*e*Pn	**Pn**	**14 39 26.2**	**+0.1**
	22nm,1.2s						
MSTX	**Muleshoe**	**18.37**	**349**	P	**Pn**	**14 39 28.5**	**+0.5**
	baz=167						
MSTX	**Muleshoe**	**18.37**	**349**	*e*Pn	**P**	**14 39 27.6**	**-0.4**
	39nm,1.2s						
121A	**Cookes Peak, D**	**18.52**	**335**	P	**Pn**	**14 39 31.0**	**+1.1**
	baz=151						
121A	**Cookes Peak, D**	**18.52**	**335**	*e*P	**Pn**	**14 39 31.1**	**+1.1**
	34nm,1.4s						
WMOK	**Wichita Mounta**	**18.75**	**360**	P	**Pn**	**14 39 32.7**	**+0.2**
	baz=180						
WMOK	**Wichita Mounta**	**18.75**	**360**	*e*P	**Pn**	**14 39 33.2**	**+0.7**
	4.1nm,0.9s						
X39A	**Fountain Ranch**	**18.95**	**11**	P	**Pn**	**14 39 34.8**	**-0.2**
	baz=194						
AMTX	**Amarillo**	**19.09**	**352**	P	**Pn**	**14 39 36.5**	**-0.3**
	baz=171						
AMTX	**Amarillo**	**19.09**	**352**	*e*P	**P**	**14 39 36.3**	**+0.4**
	18nm,0.8s						
MIAR	**Mount Ida**	**19.10**	**13**	P	**P**	**14 39 35.9**	**0.0**
	baz=195						
MIAR	**Mount Ida**	**19.10**	**13**	*e*P	**Pn**	**14 39 37.3**	**+0.6**
	12nm,0.9s						
W39A	**Magazine**	**19.68**	**12**	P	**P**	**14 39 42.8**	**+0.5**
	baz=194						
LPM	**Los Pinos Moun**	**19.69**	**340**	*e*P	**Pn**	**14 39 45.6**	**+1.5**
TUC	**Tucson**	**19.72**	**328**	P	**P**	**14 39 42.7**	**-0.1**
	baz=143						
TUC	**Tucson**	**19.72**	**328**	*e*P	**Pn**	**14 39 44.7**	**+0.5**
	4.4nm,0.8s						
W40A	**Ferguson Farm,**	**19.83**	**13**	P	**P**	**14 39 44.5**	**+0.7**
	baz=196						
W40A	**Ferguson Farm,**	**19.83**	**13**	*e*P	**P**	**14 39 42.8**	**-1.0**
	19nm,1.4s						
Y46A	**Houston**	**19.94**	**24**	P	**Pn**	**14 39 46.1**	**-0.6**
	baz=208						
LAZ	**Ladron**	**19.95**	**339**	*e*P	**Pn**	**14 39 47.3**	**+0.2**
W41B	**Gary Mavity, V**	**20.01**	**15**	P	**P**	**14 39 46.4**	**+0.6**
	baz=198						
LRAL	**Lakeview Retre**	**20.03**	**30**	P	**P**	**14 39 46.2**	**+0.1**
	baz=214						
Z48A	**Northport**	**20.05**	**28**	P	**P**	**14 39 45.9**	**-0.5**
	baz=212						
TUL1	**Leonard**	**20.07**	**7**	*e*P	**P**	**14 39 45.0**	**-1.5**
	17nm,0.7s						
WHAR	**Wooly Hollow**	**20.11**	**15**	*e*P	Pn	14 39 48.8	0.0
	12nm,1.1s						
ANMO	**Albuquerque**	**20.22**	**341**	P	**P**	**14 39 48.2**	**-0.1**
	baz=158						
ANMO	**Albuquerque**	**20.22**	**341**	*e*P	**P**	**14 39 48.8**	**+0.5**
	18nm,1.3s						
OXF	**Oxford**	**20.28**	**22**	*e*P	Pn	14 39 50.0	-0.8
	33nm,1.1s						
V39A	**Pettigrew**	**20.33**	**12**	P	**P**	**14 39 49.1**	**-0.3**
	baz=194,SNR=6.8						
Y47A	**UCPARC, Winfie**	**20.37**	**26**	P	**P**	**14 39 49.0**	**-0.8**
	baz=211						
Z49A	**Columbiana**	**20.38**	**30**	P	**P**	**14 39 48.8**	**-1.0**
	baz=215						
V40A	**Witts Springs**	**20.47**	**14**	P	**P**	**14 39 51.2**	**+0.3**
	baz=196						
214A	**Organ Pipe Nat**	**20.54**	**324**	P	**P**	**14 39 52.0**	**+0.2**
	baz=198						
214A	**Organ Pipe Nat**	**20.54**	**324**	*e*P	Pn	14 39 53.2	-0.8
	217nm,1.8s						
V41A	**Mountainview**	**20.61**	**15**	P	**P**	**14 39 52.3**	**-0.2**
	baz=198						
Y48A	**Jasper**	**20.68**	**28**	P	**P**	**14 39 52.5**	**-0.6**
	baz=213						
Z50A	**Ashland**	**20.73**	**31**	P	**P**	**14 39 53.2**	**-0.5**
	baz=217						
U39A	**Green Forest**	**20.89**	**12**	P	**P**	**14 39 55.8**	**+0.4**
	baz=194						
U40A	**Yellville**	**21.00**	**13**	P	**P**	**14 39 56.7**	**+0.2**
	baz=196,SNR=12						
X18A	**Snowflake**	**21.16**	**333**	*e*P	**P**	**14 40 00.8**	**+2.3**
	26nm,1.1s						
U41A	**Viola**	**21.20**	**15**	P	**P**	**14 39 58.5**	**-0.2**
	baz=198						
T38A	**Diamond**	**21.38**	**10**	P	**P**	**14 40 01.4**	**+0.7**
	baz=192						
U42A	**Reveneden**	**21.39**	**16**	P	**P**	**14 40 00.6**	**-0.1**
	baz=200						
T39A	**Clever**	**21.53**	**11**	P	**P**	**14 40 02.1**	**-0.2**
	baz=194						
X49A	**Woodville**	**21.56**	**29**	P	**P**	**14 40 01.2**	**-1.4**
	baz=214						
W18A	**Petrified Fore**	**21.57**	**335**	P	**P**	**14 40 02.0**	**-0.9**
	baz=150						
W18A	**Petrified Fore**	**21.57**	**335**	*e*P	**P**	**14 40 05.1**	**+2.2**
	27nm,1.4s						
W47A	**Westpoint**	**21.64**	**25**	P	**P**	**14 40 03.2**	**-0.2**
	baz=210						
X16A	**Lo Mia Camp, P**	**21.74**	**330**	*e*P	**P**	**14 40 06.4**	**+1.7**
	27nm,0.9s						
T25A	**Trinidad**	**21.76**	**347**	P	**P**	**14 40 05.7**	**+0.7**
	baz=165,SNR=17						
T25A	**Trinidad**	**21.76**	**347**	*e*P	**P**	**14 40 08.2**	**+3.3**
	69nm,1.4s						
W48A	**Pulaski**	**21.82**	**27**	P	**P**	**14 40 05.3**	**-0.1**
	baz=212						
T40A	**Mansfield**	**21.83**	**13**	P	**P**	**14 40 05.4**	**-0.1**
	baz=196,SNR=7.8						
T41A	**Mountain View**	**21.91**	**15**	P	**P**	**14 40 06.1**	**-0.2**
	baz=198						
V46A	**Holladay**	**21.91**	**23**	P	**P**	**14 40 06.5**	**+0.1**
	baz=208,SNR=6.8						
S38A	**Stockton**	**22.03**	**10**	P	**P**	**14 40 08.4**	**+0.7**
	baz=192,SNR=5.9						
T42A	**Van Buren**	**22.07**	**16**	P	**P**	**14 40 08.8**	**+0.8**
	baz=200,SNR=5.6						
Y14A	**Wickenburg**	**22.15**	**327**	*e*P	**P**	**14 40 11.1**	**+2.1**
	27nm,1.1s						
V47A	**Nunnelly**	**22.17**	**24**	P	**P**	**14 40 08.9**	**-0.2**
	baz=209						
S39A	**Bolivar**	**22.19**	**11**	P	**P**	**14 40 09.9**	**+0.6**
	baz=194,SNR=18						
S40A	**Lebanon**	**22.27**	**13**	P	**P**	**14 40 09.8**	**-0.4**
	baz=196						
WVT	**Waverly**	**22.31**	**24**	P	**P**	**14 40 10.3**	**-0.3**
	baz=208						
WVT	**Waverly**	**22.31**	**24**	*e*P	**P**	**14 40 11.0**	**+0.3**
	38nm,1.0s						
SWET	**Sewanee**	**22.32**	**28**	*e*P	**P**	**14 40 09.2**	**-1.7**
	6.2nm,1.0s						
T43A	**Greenville**	**22.34**	**18**	P	**P**	**14 40 10.8**	**-0.1**
	baz=202,SNR=5.1						
V48A	**Smith Brothers**	**22.38**	**26**	P	**P**	**14 40 10.7**	**-0.7**
	baz=211						
S41A	**Jillco Farms,**	**22.43**	**14**	P	**P**	**14 40 11.3**	**-0.6**
	baz=198						
GLA	**Glamis**	**22.51**	**322**	P	**P**	**14 40 12.5**	**-0.4**
	baz=136						
GLA	**Glamis**	**22.51**	**322**	*e*P	**P**	**14 40 12.9**	**+0.1**
	42nm,1.3s						
R38A	**Fenwick Farm,**	**22.57**	**10**	P	**P**	**14 40 13.2**	**-0.2**
	baz=192						
SDCO	**Great Sand Dun**	**22.58**	**346**	P	**P**	**14 40 14.5**	**+0.7**
	baz=163,SNR=23						
SDCO	**Great Sand Dun**	**22.58**	**346**	*e*P	**P**	**14 40 14.6**	**+0.7**
	22nm,1.2s						
WUAZ	**Wupatki**	**22.61**	**332**	P	**P**	**14 40 15.6**	**+1.5**
	baz=147,SNR=19						
WUAZ	**Wupatki**	**22.61**	**332**	*e*P	**P**	**14 40 16.7**	**+2.6**
	45nm,1.0s						
U47A	**Clarksville**	**22.79**	**24**	P	**P**	**14 40 15.9**	**+0.1**
	baz=209						
S42A	**Caledonia**	**22.84**	**16**	P	**P**	**14 40 17.3**	**+1.0**
	baz=200,SNR=13						
R39A	**Chumby, Stover**	**22.85**	**11**	P	**P**	**14 40 16.8**	**+0.4**
	baz=194						
S43A	**Fulton Ridge,**	**22.86**	**18**	P	**P**	**14 40 17.1**	**+0.6**
	baz=202						
S22A	**4UR Ranch, Cre**	**22.93**	**343**	P	**P**	**14 40 18.5**	**+1.0**
	baz=160						
MVCO	**Mesa Verde**	**22.95**	**339**	P	**P**	**14 40 18.3**	**+0.5**
	baz=155,SNR=22						
MVCO	**Mesa Verde**	**22.95**	**339**	*e*P	**P**	**14 40 18.2**	**+0.5**
	42nm,1.0s						
R40A	**Maddies Statio**	**22.98**	**13**	P	**P**	**14 40 18.0**	**+0.2**
	baz=196,SNR=24						
CCM	**Cathedral Cave**	**22.99**	**15**	P	**P**	**14 40 17.8**	**-0.1**
	baz=198						
CCM	**Cathedral Cave**	**22.99**	**15**	*e*P	**P**	**14 40 17.4**	**-0.4**
	11nm,0.8s						
PDMCI	**Parker Dam,Lak**	**23.03**	**325**	P	**P**	**14 40 18.8**	**+0.5**
	baz=139						
T46A	**Princeton**	**23.09**	**22**	P	**P**	**14 40 19.2**	**+0.4**
	baz=207						
U48A	**Cassie Pea, Po**	**23.15**	**25**	P	**P**	**14 40 19.7**	**+0.2**
	baz=211						
R41A	**Rosebud**	**23.19**	**15**	P	**P**	**14 40 21.2**	**+1.4**
	baz=198						
S44A	**Carbondale**	**23.22**	**19**	P	**P**	**14 40 21.5**	**+1.3**
	baz=203						
SIUC	**Southern Illin**	**23.25**	**19**	*e*P	**P**	**14 40 20.2**	**-0.2**
	61nm,1.2s						
KSCO	**Kaye Shedlock'**	**23.28**	**352**	P	**P**	**14 40 22.3**	**+1.3**
	baz=170						
BC3	**Big Chuckawall**	**23.30**	**322**	P	**P**	**14 40 22.1**	**+0.8**
	baz=135						
R42A	**Luebbering**	**23.32**	**16**	P	**P**	**14 40 22.3**	**+1.1**
	baz=199						
T47A	**Sharon Grove**	**23.34**	**24**	P	**P**	**14 40 22.1**	**+0.8**
	baz=209						
MONP2	**Monument Peak**	**23.37**	**320**	P	**P**	**14 40 22.4**	**+0.5**
	baz=132						
Q38A	**Cooks Store, C**	**23.37**	**10**	P	**P**	**14 40 22.6**	**+0.9**
	baz=192						
S45A	**Carrier Mills**	**23.42**	**20**	P	**P**	**14 40 22.6**	**+0.4**
	baz=205						
IRM	**Iron Mountain**	**23.49**	**324**	P	**P**	**14 40 24.0**	**+1.1**
	baz=137						
R43A	**Red Bud**	**23.55**	**17**	P	**P**	**14 40 24.1**	**+0.6**
	baz=201						
Q39A	**Willow Grove F**	**23.57**	**11**	P	**P**	**14 40 23.4**	**-0.2**
	baz=194						
Q24A	**Divide**	**23.67**	**347**	P	**P**	**14 40 26.2**	**+1.2**
	baz=164						
Q40A	**Laux Farm, Aux**	**23.70**	**13**	P	**P**	**14 40 25.5**	**+0.6**
	baz=196						
TKL	**Tuckaleechee C**	**23.71**	**31**	P	**P**	**14 40 26.7**	**+1.6**
	1.2nm,0.5s,baz=108,slow=7.8,SNR=2.4						
TKL				LR	LR	14 51 18.1	
	comp=Z,17nm,21.6s,baz=211,slow=41						
T48A	**Bowling Green**	**23.73**	**25**	P	**P**	**14 40 25.6**	**+0.4**
	baz=210						
R44A	**Waltonville**	**23.78**	**19**	P	**P**	**14 40 26.5**	**+0.8**
	baz=203						
U15A	**North Rim**	**23.79**	**332**	*e*P	**P**	**14 40 28.2**	**+2.1**
	15nm,1.1s						
PV01	**Paradox Valley**	**23.81**	**340**	*e*P	**P**	**14 40 26.8**	**+0.5**
Q41A	**Truxton**	**23.85**	**14**	P	**P**	**14 40 27.1**	**+0.8**
	baz=198						
BELC	**Belle Mtn. Jos**	**23.87**	**322**	P	**P**	**14 40 27.8**	**+1.1**
	baz=135						
PFO	**Pinyon Flats O**	**23.88**	**321**	P	**P**	**14 40 27.0**	**+0.2**
	baz=133						
P37A	**Lathrop**	**23.88**	**8**	P	**P**	**14 40 26.4**	**-0.2**
	baz=190						
NHSC	**New Hope**	**23.90**	**41**	P	**P**	**14 40 27.6**	**+0.7**
	baz=229						
Q42A	**Golden Eagle**	**23.98**	**16**	P	**P**	**14 40 27.1**	**-0.5**
	baz=199						
P38A	**Dawn**	**24.04**	**10**	P	**P**	**14 40 27.6**	**-0.4**
	baz=192						
P39B	**Salisbury**	**24.04**	**11**	P	**P**	**14 40 28.1**	**0.0**
	baz=194						
R45A	**Skylar, Fairfi**	**24.08**	**20**	P	**P**	**14 40 28.6**	**+0.1**
	baz=205						
PV04	**Paradox Valley**	**24.16**	**340**	*e*P	**P**	**14 40 30.1**	**+0.6**
P40A	**Paris**	**24.22**	**12**	P	**P**	**14 40 29.8**	**0.0**
	baz=196,SNR=13						
GMRC	**Granite Mounta**	**24.23**	**324**	P	**P**	**14 40 30.1**	**0.0**
	baz=137						
SMCO	**Snowmass**	**24.31**	**344**	*e*P	**P**	**14 40 32.9**	**+1.8**
	40nm,1.2s						
PV09	**Paradox Valley**	**24.33**	**340**	*e*P	**P**	**14 40 31.2**	**+0.1**
S48A	**Wiedeman Farm,**	**24.34**	**25**	P	**P**	**14 40 31.7**	**+0.8**
	baz=210						
Q44A	**Meyer Farm, Va**	**24.40**	**18**	P	**P**	**14 40 31.7**	**+0.2**
	baz=203						
O38A	**Galt**	**24.53**	**10**	P	**P**	**14 40 33.8**	**+1.1**
	baz=192						
ISCO	**Idaho Springs**	**24.57**	**347**	P	**P**	**14 40 35.3**	**+1.9**
	baz=164						
ISCO	**Idaho Springs**	**24.57**	**347**	*e*P	**P**	**14 40 34.9**	**+1.5**
	49nm,1.4s						
P41A	**Barry, Barry**	**24.57**	**14**	P	**P**	**14 40 34.1**	**+1.1**
	baz=198						
HEC	**Hector,Ludlow**	**24.65**	**323**	P	**P**	**14 40 35.0**	**+1.1**
	baz=136						
Q45A	**Warren Harvey,**	**24.66**	**20**	P	**P**	**14 40 35.4**	**+1.6**
	baz=205						
P42A	**Winchester**	**24.67**	**15**	P	**P**	**14 40 34.0**	**+0.1**
	baz=199						
LCMT	**Little Creek M**	**24.70**	**331**	*e*P	**P**	**14 40 36.5**	**+2.1**
	6.8nm,1.0s						
R47A	**Wooly Knot Far**	**24.71**	**23**	P	**P**	**14 40 34.9**	**+0.7**
	baz=209						
WCI	**Wyandotte Cave**	**24.74**	**24**	P	**P**	**14 40 34.5**	**+0.1**
	baz=209						
WCI	**Wyandotte Cave**	**24.74**	**24**	*e*P	**P**	**14 40 34.6**	**+0.1**
	55nm,1.3s						
O39A	**Kirksville**	**24.82**	**11**	P	**P**	**14 40 35.6**	**+0.3**
	baz=194						
O40A	**La Belle**	**24.82**	**12**	P	**P**	**14 40 35.4**	**+0.2**
	baz=196						
TUQ	**Turquoise Moun**	**24.86**	**325**	P	**P**	**14 40 36.0**	**+0.2**
	baz=137,SNR=12						
O41A	**Passleys Farm,**	**25.04**	**14**	P	**P**	**14 40 37.9**	**+0.7**
	baz=198						
P44A	**Sand Creek, Wi**	**25.04**	**18**	P	**P**	**14 40 37.4**	**+0.1**
	baz=203						
OGNE	**Ogallala**	**25.12**	**354**	P	**P**	**14 40 39.2**	**+1.1**
	baz=172						
OGNE	**Ogallala**	**25.12**	**354**	*e*P	**P**	**14 40 38.2**	**+0.1**
	84nm,1.2s						
N38A	**Joes South For**	**25.23**	**10**	P	**P**	**14 40 40.1**	**+1.2**
	baz=192						
GSC	**Goldstone, Bar**	**25.26**	**323**	P	**P**	**14 40 40.3**	**+0.9**
	baz=135						
Q47A	**Bedord North L**	**25.30**	**23**	P	**P**	**14 40 40.7**	**+1.0**
	baz=208						
SRU	**San Rafael Swe**	**25.36**	**338**	*e*P	**P**	**14 40 41.8**	**+1.5**
	29nm,1.3s						
P45A	**Graceland, Par**	**25.37**	**20**	P	**P**	**14 40 41.5**	**+1.2**
	baz=205						
SHOC	**Shoshone, Teco**	**25.39**	**325**	P	**P**	**14 40 42.6**	**+2.1**
	baz=137						
N39A	**Derby Farms, D**	**25.43**	**11**	P	**P**	**14 40 41.2**	**+0.4**
	baz=194						
MSU	**Marysvale**	**25.48**	**335**	*e*P	**P**	**14 40 44.4**	**+2.9**
	2.0nm,1.4s						
O20A	**White River Ci**	**25.55**	**343**	P	**P**	**14 40 43.5**	**+1.4**
	baz=158,SNR=8.7						
O20A	**White River Ci**	**25.55**	**343**	*e*P	**P**	**14 40 44.9**	**+2.8**
	59nm,1.3s						
EDW2	**Edwards Air Fo**	**25.67**	**321**	P	**P**	**14 40 43.3**	**+0.2**
	baz=133						
N23A	**Red Feather La**	**25.69**	**347**	P	**P**	**14 40 43.9**	**+0.4**
	baz=164						
N23A	**Red Feather La**	**25.69**	**347**	*e*P	**P**	**14 40 44.8**	**+1.3**
	15nm,1.0s						
P18A	**Preston Nutter**	**25.72**	**339**	*e*P	**P**	**14 40 45.3**	**+1.5**
	27nm,1.3s						
TMUT	**Trail Mountain**	**25.78**	**337**	*e*P	**P**	**14 40 45.2**	**+1.0**
	192nm,1.8s						
M38A	**Pleasantville**	**25.84**	**9**	P	**P**	**14 40 44.9**	**+0.4**
	baz=192						
M39A	**Webster**	**26.07**	**11**	P	**P**	**14 40 46.8**	**+0.2**
	baz=194						
M40A	**Post Highland**	**26.13**	**12**	P	**P**	**14 40 47.6**	**+0.5**
	baz=196						
TPNV	**Topopah Spring**	**26.15**	**327**	P	**P**	**14 40 48.6**	**+1.1**
	baz=139,SNR=6.4						
MPMC	**Manual Prospec**	**26.18**	**324**	P	**P**	**14 40 48.2**	**+0.3**
	baz=135						
N43A	**Stutzman Famil**	**26.24**	**16**	P	**P**	**14 40 49.1**	**+1.0**
	baz=201						
M41A	**Milan**	**26.31**	**14**	P	**P**	**14 40 49.9**	**+1.2**
	baz=198						
SFIN	**Lafayette**	**26.35**	**20**	P	**P**	**14 40 50.2**	**+1.1**
	baz=206						
DAC	**Darwin (Calif)**	**26.40**	**324**	P	**P**	**14 40 49.0**	**-0.8**
	7.4nm,1.5s						
ISA	**Isabella, Lake**	**26.49**	**322**	P	**P**	**14 40 51.3**	**+0.8**
	baz=133						
L38A	**Oak Wood Farm,**	**26.59**	**9**	P	**P**	**14 40 52.1**	**+0.8**
	baz=192						
L39A	**V

F44A	**Big Bay de Noc** baz=203	**31.66**	**16**	P		**P**	**14 41 37.1**	**+0.8**
MDND	**Maddock** baz=178	**31.85**	**359**	P		**P**	**14 41 39.5**	**+1.5**
C35A	**Jirik Farms, M** baz=188	**31.93**	**6**	P		**P**	**14 41 38.9**	**+0.3**
J08A	**Circle Bar Ran** 17nm,1.1s	**32.17**	**332**	*e*P		**P**	**14 41 42.4**	**+1.4**
AGMN	**Agassiz Nation** baz=185	**32.37**	**3**	P		**P**	**14 41 43.3**	**+0.8**
AGMN	**Agassiz Nation** 12nm,0.8s	**32.37**	**3**	*e*P		**P**	**14 41 42.9**	**+0.4**
B32A	**Ashes, Strandq** baz=184	**32.44**	**3**	P		**P**	**14 41 43.9**	**+0.8**
B35A	**Bob, Littlefor** baz=189	**32.60**	**6**	P		**P**	**14 41 46.0**	**+1.5**
M04C	**Macdoel** baz=135	**32.63**	**327**	P		**P**	**14 41 46.4**	**+1.4**
A33A	**Warroad** baz=186	**33.04**	**4**	P		**P**	**14 41 49.3**	**+0.9**
EGMT	**Eagleton** baz=160	**33.31**	**346**	P		**P**	**14 41 51.9**	**+1.1**
MSO	**Missoula** baz=153	**33.36**	**341**	P		**P**	**14 41 53.2**	**+1.9**
ULM	**Lac du Bonnet** 4.7nm,1.0s,baz=180,slow=8.1,SNR=4.7	**34.32**	**3**	P		**P**	**14 42 00.1**	**+0.6**
I03D	**Drain, OR** baz=135	**34.77**	**328**	P		**P**	**14 42 05.0**	**+1.5**
LONY	**Lake Ozonia** baz=223	**35.08**	**30**	P		**P**	**14 42 07.0**	**+0.8**
HRV	**Adam Dziewonsk** baz=229	**35.21**	**36**	P		**P**	**14 42 08.2**	**+0.9**
NEW	**Newport** baz=148	**35.67**	**339**	P		**P**	**14 42 12.5**	**+1.3**
RPN	**Rapa Nui** 36nm,0.7s,baz=126,slow=3.5,SNR=3.4	**44.03**	**194**	P		P	14 43 28.7	+7.8
SCHQ	**Schefferville** 12nm,1.0s,baz=221,slow=6.3,SNR=4.4	**45.93**	**25**	P		P	14 43 41.3	+5.5
YKA	**Yellowknife Ar** 1.0nm,0.9s,baz=157,slow=7.4,SNR=14	**47.87**	**350**	P		**P**	**14 43 51.2**	**+0.5**
SIV	**San Ignacio** 0.9nm,0.9s,baz=318,slow=13,SNR=3.0	**48.76**	**129**	P		**P**	**14 43 58.2**	**0.0**
INK	**Inuvik** 3.1nm,1.1s,baz=131,slow=8.5,SNR=8.3	**56.89**	**345**	P		**P**	**14 44 58.2**	**+0.7**
SCRK	**Sand Creek** 12nm,1.2s	**57.13**	**338**	*e*P		**P**	**14 45 01.4**	**+1.8**
IL1	**Eielson Array**	**58.62**	**338**	*e*P		**P**	**14 45 10.2**	**+0.4**
ILAR	**Eielson Array** 3.7nm,1.1s,baz=142,slow=5.0,SNR=24	**58.62**	**338**	P		**P**	**14 45 10.7**	**+0.9**
ILB	**Eielson Array**	**58.62**	**338**	*e*P		**P**	**14 45 10.9**	**+1.1**
RND	**Reindeer** 22nm,1.1s	**58.65**	**336**	*e*P		**P**	**14 45 11.7**	**+1.6**
SFJD	**Kangerlussuaq** comp=Z,34nm,18.0s,baz=188,slow=38	**59.76**	**20**	LR		LR	15 13 19.1	
CAST	**Castle Rocks** 12nm,1.0s	**59.94**	**335**	*e*P		**P**	**14 45 19.5**	**+0.6**
TOLK	**Toolik Lake Re** baz=122	**61.60**	**341**	P		**P**	**14 45 30.4**	**+0.1**
BORG	**Borgarnes** comp=Z,14nm,18.2s,baz=116,slow=38	**70.31**	**26**	LR		LR	15 19 53.6	
SPITS	**Spitsbergen Ar** comp=Z,22nm,19.4s,baz=210,slow=37	**79.46**	**11**	LR		LR	15 24 17.4	
NOA	**NORSAR Array B** comp=Z,5.0nm,18.3s,baz=220,slow=37	**85.45**	**27**	LR		LR	15 27 50.0	
HFS	**Hagfors** comp=Z,23nm,18.1s,baz=24,slow=37	**86.95**	**28**	LR		LR	15 28 38.8	
TIXI	**Tiksi** 0.4nm,0.3s,baz=47,slow=6.0,SNR=4.7	**86.99**	**346**	P		**P**	**14 47 58.0**	**+0.1**
HHC	**Hu-ho-hao-te**	**116.97**	**335**	*e*P		**PKPdf**	**14 53 56.9**	**-1.4**
HHC	comp=Z,14nm,0.8s			pmax	pmax			
HHC	comp=Z,98nm,4.5s			pmax	pmax			
MKAR	**Makanchi Array** comp=Z,0.1nm,0.5s,baz=341,slow=2.6,SNR=3.8	**117.58**	**359**	PKP		**PKPdf**	**14 53 57.5**	**-1.7**
LZH	**Lanzhou**	**124.09**	**338**	*e*PKP		**PKPdf**	**14 54 09.5**	**-2.7**
LZH				sPKP			14 54 18.8	
LZH	**Lanzhou**	**124.09**	**338**	SS	SS		15 12 39.1	-5.3
LZH	comp=N,230nm,19.0s			LR	LR			
LZH	comp=E,260nm,19.5s			LR	LR			
LZH	comp=Z,290nm,20.0s			LR	LR			
WRA	**Warramunga Arr** comp=Z,1.5nm,1.0s,baz=76,slow=2.5,SNR=7.6	**129.63**	**257**	PKP		**PKPdf**	**14 54 23.3**	**+0.3**
ASAR	**Alice Springs** comp=Z,1.2nm,1.0s,baz=86,slow=1.4,SNR=7.6	**130.22**	**252**	PKP		**PKPdf**	**14 54 24.3**	**+0.3**
CMAR	**Chiang Mai Arr** comp=Z,1.3nm,0.9s,baz=320,slow=2.4,SNR=6.0	**141.72**	**332**	PKhKP		PKPpre	14 54 43.6	
OPO	**Ambohidratompo** comp=Z,3.6nm,0.9s,baz=256,slow=4.2,SNR=3.7	**147.25**	**100**	PKPbc		**PKPbc**	**14 54 58.2**	**+0.6**

DJA 19 14:35:37.9±0.4,**7°S**±3°×**107°E**±°,**h10**km,**M3.6/9,MLv3.6/9,**
Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LEM	**Lembang**	**0.24**	**41**	P	Pg	14 35 42.1	-0.8
LEM				S	Sg	14 35 48.1	+1.8
SKJI	**Sukabumi**	**0.90**	**270**	P	Pg	14 35 51.7	-3.5
JCJI	**Jatiwangi**	**0.96**	**57**	P	Pg	14 35 52.7	-3.6
JCJI				S	Sg	14 36 07.1	-1.7
TNG	**Tangerang**	**1.16**	**316**	P	Pn	14 35 59.1	-1.1
TNG				P	Pb	14 35 59.0	-1.1
TNG				S	Sn	14 36 15.8	-0.3
TNG				S	Sn	14 36 15.8	-0.3
KPJI	**Karang Pucung**	**1.50**	**102**	P	Pn	14 36 02.9	-1.9
KPJI				S	Sb	14 36 24.9	+0.1
SBJI	**Serang**	**1.59**	**304**	P	Pn	14 36 05.1	-1.0
SBJI				S	Sb	14 36 27.9	+0.3
UGM	**Wanagama**	**3.17**	**107**	P	Pn	14 36 28.5	+0.6
KASI	**Kota Agung**	**3.29**	**296**	P	Pn	14 36 30.7	+1.1

*ISCJB **19** 14:43:48.5±0.5,39°.07N±0°.03×29°.15E±0°.03,h7km±5km,*
Error ellipse: s-maj=5.4km s-min=4.4km az=2.3
*ISK **19** 14:43:48.1,39°.10N×29°.16E,h5km,ML2.5/11*
*DDA **19** 14:43:48.1,39°.10N×29°.15E,h7km,Ml2.6*
*CSEM **19** 14:43:48.5±0.1,39°.10N×29°.15E,h5km,ML2.5,Error*
ellipse: s-maj=2.4km s-min=1.8km az=131.0
ISC 19 14:43:48.3±0.9,**39°.10N**±0°.02×**29°.15E**±0°.02,**h11**km±6km,
n34,σ0°30/48,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIMA	**Simav-Kutahya**	**0.13**	**265**	PG	**Pg**	**14 43 51.7**	**+0.2**
SIMA				SG	**Sg**	**14 43 53.6**	**-0.2**
SIMA	**Simav-Kutahya**	**0.13**	**265**	*e*Pg	**Pg**	**14 43 51.7**	**+0.2**
SIMA				*e*Sg	**Sg**	**14 43 53.6**	**-0.2**
GDZ	**Gediz**	**0.25**	**91**	*i* P	**Pg**	**14 43 53.5**	**-0.1**
GDZ				*i* S	**Sg**	**14 43 57.5**	**+0.3**
GDZ	**Gediz**	**0.25**	**91**	P	**Pg**	**14 43 53.5**	**-0.1**
GDZ				S	**Sg**	**14 43 57.5**	**+0.3**
DEMI	**Demirci**	**0.34**	**261**	*i* P	**Pg**	**14 43 55.4**	**+0.2**
DEMI				*i* S	**Sg**	**14 43 59.8**	**0.0**
DEMI	**Demirci**	**0.34**	**261**	P	**Pg**	**14 43 55.4**	**+0.2**
DEMI				S	**Sg**	**14 43 59.8**	**0.0**
TVSB	**Tavsanli**	**0.43**	**34**	PG	**Pg**	**14 43 56.2**	**-0.5**
TVSB	**Tavsanli**	**0.43**	**34**	*e*Pg	**Pg**	**14 43 56.2**	**-0.5**
KULA	**Kula-Manisa**	**0.70**	**214**	PG	**Pb**	**14 44 02.1**	**-0.4**
KULA	**Kula-Manisa**	**0.70**	**214**	*e*Pg	**Pb**	**14 44 02.1**	**-0.4**
DURS	**Dursunbey**	**0.73**	**314**	*i* P	**Pg**	**14 44 02.5**	**+0.1**
DURS				*i* S	**Sn**	**14 44 15.8**	**-0.1**
DURS	**Dursunbey**	**0.73**	**314**	P	**Pg**	**14 44 02.5**	**+0.1**
DURS				S	**Sn**	**14 44 15.8**	**-0.1**
MANT	**Manisa**	**0.76**	**218**	*i* P	**Pg**	**14 44 03.0**	**0.0**
MANT				*i* S	**Sg**	**14 44 12.9**	**-0.1**
MANT	**Manisa**	**0.76**	**218**	P	**Pg**	**14 44 03.0**	**0.0**
MANT				S	**Sg**	**14 44 12.9**	**-0.1**
KHAL	**Karahalli**	**0.77**	**160**	*i* P	**Pb**	**14 44 03.9**	**+0.1**
KHAL				*i* S	**Sb**	**14 44 14.3**	**+0.1**
KHAL	**Karahalli**	**0.77**	**160**	P	**Pb**	**14 44 03.9**	**+0.1**
KHAL				S	**Sb**	**14 44 14.4**	**+0.1**
BALB	**Balikesir**	**1.13**	**299**	PN	**Pg**	**14 44 10.5**	**+0.5**
BALB	**Balikesir**	**1.13**	**299**	*e*Pn	**Pg**	**14 44 10.5**	**+0.5**
CAVI	**Cavuskoy**	**1.23**	**25**	PN	**Pg**	**14 44 11.9**	**0.0**
CAVI	**Cavuskoy**	**1.23**	**25**	*e*Pn	**Pg**	**14 44 11.9**	**0.0**
BORA	**Eskisehir**	**1.27**	**52**	*i* P	**Pg**	**14 44 12.7**	**-0.1**
BORA				*i* S	**Sg**	**14 44 30.1**	**+0.8**
BORA	**Eskisehir**	**1.27**	**52**	P	**Pg**	**14 44 12.7**	**-0.1**
BORA				S	**Sg**	**14 44 30.1**	**+0.8**
MDNY	**Mudanya-Bursa**	**1.29**	**351**	PN	**Pg**	**14 44 12.9**	**-0.1**
MDNY	**Mudanya-Bursa**	**1.29**	**351**	*e*Pn	**Pg**	**14 44 12.9**	**-0.1**
KCTX	**Karacabey (Bur**	**1.32**	**332**	PN	**Pg**	**14 44 13.7**	**0.0**
KCTX	**Karacabey (Bur**	**1.32**	**332**	*e*Pn	**Pg**	**14 44 13.7**	**0.0**
YLV	**Yalova**	**1.48**	**6**	PN	**Pb**	**14 44 15.9**	**0.0**
YLV	**Yalova**	**1.48**	**6**	*e*Pn	**Pb**	**14 44 15.9**	**0.0**
ARMT	**Armutlu**	**1.49**	**351**	PN	**Pg**	**14 44 16.2**	**-0.6**
ARMT	**Armutlu**	**1.49**	**351**	*e*Pn	**Pg**	**14 44 16.2**	**-0.6**
EDC	**Edincik**	**1.60**	**322**	PN	**Pb**	**14 44 17.8**	**0.0**
EDC	**Edincik**	**1.60**	**322**	*e*Pn	**Pb**	**14 44 17.8**	**0.0**
GULT	**Gulveren**	**1.70**	**38**	PN	**Pb**	**14 44 19.4**	**-0.2**
GULT	**Gulveren**	**1.70**	**38**	*e*Pn	**Pb**	**14 44 19.4**	**-0.2**

MAN 19 14:51:50,12°.62N×125°.44E,h28km,mb4.3,ML3.1,MS2.9,
1D,Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNP	**Catarman**	**0.77**	**262**	*e*P	Pb	14 52 04.5	-0.3
CNP				*e*S	Sn	14 52 17.1	+1.4
BESP	**Borongan**	**1.01**	**180**	*e*P	Pn	14 52 08.4	0.0
BESP				*e*S	Sb	14 52 25.2	+3.3
PLP	**Palo**	**1.52**	**198**	*e*P	Pn	14 52 16.1	+0.8
PLP				*e*S	Sn	14 52 34.8	+0.6
PVCP	**Virac**	**1.59**	**308**	*e*P	Pn	14 52 16.6	+0.3

*ISCJB **19** 14:52:38.8±0.5,39°.07N±0°.03×29°.16E±0°.04,h5km±5km,*
Error ellipse: s-maj=5.6km s-min=4.5km az=159.7
*CSEM **19** 14:52:38.9±0.1,39°.10N×29°.16E,h5km,ML2.2,Error*
ellipse: s-maj=2.7km s-min=2.0km az=132.0
*DDA **19** 14:52:38.8,39°.11N×29°.16E,h7km,Ml2.6*
*ISK **19** 14:52:38.3,39°.10N×29°.16E,h5km,ML2.2/5*
ISC 19 14:52:39.0±0.9,**39°.10N**±0°.03×**29°.15E**±0°.02,**h9**km±7km,
n26,σ0°42/38,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIMA	**Simav-Kutahya**	**0.13**	**262**	PG	**Pg**	**14 52 42.1**	**+0.1**
SIMA				SG	**Sg**	**14 52 44.0**	**-0.1**
SIMA	**Simav-Kutahya**	**0.13**	**262**	*e*Pg	**Pg**	**14 52 42.1**	**+0.1**
SIMA				*e*Sg	**Sg**	**14 52 44.0**	**-0.1**
GDZ	**Gediz**	**0.26**	**93**	*i* P	**Pg**	**14 52 44.0**	**-0.2**
GDZ				*i* S	**Sg**	**14 52 48.0**	**+0.3**
GDZ	**Gediz**	**0.26**	**93**	P	**Pg**	**14 52 44.0**	**-0.2**
GDZ				S	**Sg**	**14 52 48.0**	**+0.3**
DEMI	**Demirci**	**0.34**	**260**	*i* P	**Pg**	**14 52 45.8**	**0.0**
DEMI				*i* S	**Sg**	**14 52 50.0**	**-0.3**
DEMI	**Demirci**	**0.34**	**260**	P	**Pg**	**14 52 45.8**	**0.0**
DEMI				S	**Sg**	**14 52 50.0**	**-0.3**
TVSB	**Tavsanli**	**0.42**	**35**	PG	**Pg**	**14 52 46.6**	**-0.7**
TVSB	**Tavsanli**	**0.42**	**35**	*e*Pg	**Pg**	**14 52 46.6**	**-0.7**
KULA	**Kula-Manisa**	**0.70**	**213**	PG	**Pg**	**14 52 52.3**	**-0.2**
KULA	**Kula-Manisa**	**0.70**	**213**	*e*Pg	**Pg**	**14 52 52.3**	**-0.2**
DURS	**Dursunbey**	**0.72**	**314**	*i* P	**Pg**	**14 52 53.2**	**+0.2**
DURS				*i* S	**Sn**	**14 53 06.1**	**-0.6**
DURS	**Dursunbey**	**0.72**	**314**	P	**Pg**	**14 52 53.2**	**+0.2**
MANT	**Manisa**	**0.77**	**217**	*i* P	**Pg**	**14 52 53.6**	**-0.1**
MANT				*i* S	**Sg**	**14 53 03.3**	**-0.4**
MANT	**Manisa**	**0.77**	**217**	P	**Pg**	**14 52 53.6**	**-0.1**
MANT				S	**Sg**	**14 53 03.3**	**-0.4**
KHAL	**Karahalli**	**0.78**	**160**	*i* P	**Pb**	**14 52 54.2**	**-0.5**
KHAL				*i* S	**Sg**	**14 53 04.5**	**+0.4**
KHAL	**Karahalli**	**0.78**	**160**	P	**Pb**	**14 52 54.2**	**-0.5**
KHAL				S	**Sg**	**14 53 04.5**	**+0.4**
CAVI	**Cavuskoy**	**1.22**	**26**	PN	**Pg**	**14 53 02.0**	**-0.4**
CAVI	**Cavuskoy**	**1.22**	**26**	*e*Pn	**Pg**	**14 53 02.0**	**-0.4**
BORA	**Eskisehir**	**1.27**	**52**	*i* P	**Pn**	**14 53 03.6**	**+0.6**
BORA				*i* S	**Sn**	**14 53 20.5**	**+0.2**
BORA	**Eskisehir**	**1.27**	**52**	P	**Pn**	**14 53 03.6**	**+0.6**
YLV	**Yalova**	**1.47**	**7**	PN	**Pn**	**14 53 06.2**	**+0.4**
YLV	**Yalova**	**1.47**	**7**	*e*Pn	**Pn**	**14 53 06.2**	**+0.4**
ARMT	**Armutlu**	**1.48**	**351**	PN	**Pb**	**14 53 06.6**	**-0.1**
ARMT	**Armutlu**	**1.48**	**351**	*e*Pn	**Pb**	**14 53 06.6**	**-0.1**
GULT	**Gulveren**	**1.69**	**38**	PN	**Pn**	**14 53 09.6**	**+0.8**
GULT	**Gulveren**	**1.69**	**38**	*e*Pn	**Pn**	**14 53 09.6**	**+0.8**

MAN 19 14:53:09,16°.08N×120°.73E,h1km,mb4.1,ML2.9,MS2.5,
1C,Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCPH	**Palayan**	**0.62**	**145**	*e*P	Pn	14 53 22.2	-0.5
PCPH				*e*S	Sb	14 53 31.5	-0.4
BOLP	**Bolinao**	**0.84**	**291**	*e*P	Pb	14 53 26.2	-0.2
BOLP				*e*S	Sn	14 53 41.1	+0.1
BALP	**Baler**	**0.88**	**112**	*e*P	Pg	14 53 26.2	+0.2
BALP				*e*S	Sn	14 53 40.7	-1.3
CAUP	**Cauayan**	**1.36**	**50**	*e*P	Pg	14 53 34.8	-0.3
CAUP				*e*S	Sn	14 53 54.8	+0.9
APYP	**Conner**	**1.84**	**15**	*e*P	Pg	14 53 44.7	+0.3
APYP				*e*S	Sn	14 54 05.7	-0.1

IDC 19 14:54:14.2±7.4,**19°.37S×175°.02W,h0km,mb3.3/3,**
mb1 3.6/3,mb1mx3.4/42,mbtmp3.3/3,Error ellipse:
s-maj=319.8km s-min=37.0km az=143.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs** 0.2nm,0.5s,baz=94,slow=8.2,SNR=10	**47.52**	**255**	P	P	15 02 51.3	-0.3
WRA	**Warramunga Arr** 0.1nm,0.3s,baz=97,slow=7.5,SNR=10	**47.55**	**260**	P	P	15 02 52.0	+0.1
ILAR	**Eielson Array** 0.2nm,0.8s,baz=218,slow=4.2,SNR=2.6	**86.62**	**12**	P	P	15 06 59.1	0.0

MAN 19 15:07:12,10°.01N×123°.20E,h20km,mb4.1,ML2.9,MS2.5,
Cebu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNPH	**Sibulan**	**0.66**	**177**	*e*P	Pn	15 07 27.0	+0.7
SNPH				*e*S	Sn	15 07 37.4	+1.2
GUIM	**Jordan**	**0.86**	**316**	*e*P	Pb	15 07 28.2	-0.1
GUIM				*e*S	Sn	15 07 42.9	+2.0
MSLP	**Maasin**	**1.64**	**85**	*e*P	Pn	15 07 40.0	+0.2
MSLP				*e*S	Sb	15 08 02.2	+0.4

*CSEM **19** 15:11:41.9±0.8,41°.57N×20°.59E,h10km,ML2.5,Error*
ellipse: s-maj=13.0km s-min=8.7km az=104.0
*TIR **19** 15:11:43.2,41°.61N×20°.48E,h16km,Md2.5/4*
*SKO **19** 15:11:44.8,41°.57N×20°.44E,h9km,M1.8,ML2.2*
*PDG **19** 15:11:44.5±0.1,41°.61N×20°.37E,h8km,ML2.6/10,Error*
ellipse: s-maj=0.2km s-min=0.3km az=0.0
ISC 19 15:11:44.0±0.9,**41°.57N**±0°.03×**20°.41E**±0°.02,**h10**km±6km,
n39,σ1°03/76,4C-10D,Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PHP	**Peshkopia**	**0.12**	**11**	*i* Pg	**Pg**	**15 11 46.8**	**-0.1**
PHP				*i* Sg	**Sg**	**15 11 48.9**	**0.0**
PHP	**Peshkopia**	**0.12**	**11**	*i* PG	**Pg**	**15 11 46.8**	**-0.1**
PHP				*i* SG	**Sg**	**15 11 48.9**	**0.0**
TIR	**Tirane**	**0.47**	**242**	*i* Pg	**Pb**	**15 11 53.9**	**-0.4**
TIR				*i* Sg	**Sb**	**15 12 02.7**	**+1.4**
TIR	**Tirane**	**0.47**	**242**	*i* PG	**Pb**	**15 11 53.9**	**-0.4**
TIR				*i* SG	**Sb**	**15 12 02.7**	**+1.4**
OHR	**Ohrid**	**0.54**	**147**	*i* Pg	**Pb**	**15 11 55.7**	**0.0**
OHR				*i* Sg	**Sn**	**15 12 05.2**	**-1.9**
OHR	comp=N,72nm,0.3s			eLg	Lg	15 12 07.2	
OHR	comp=E,88nm,0.8s			eLg	Lg	15 12 07.6	
PUK	**Puka**	**0.61**	**321**	*i* Pg	**Pg**	**15 11 55.0**	**-0.9**
PUK				*i* Sg	**Sb**	**15 12 05.1**	**-0.4**
PUK	**Puka**	**0.61**	**321**	*i* PG	**Pg**	**15 11 55.0**	**-0.9**
PUK				*i* SG	**Sb**	**15 12 05.1**	**-0.4**
KRUS	**Krusevo**	**0.66**	**108**	*i* Pg	**Pb**	**15 11 57.5**	**-0.2**
KRUS				*i* Sg	**Sn**	**15 12 08.5**	**-1.5**
BCI	**Bajram Curri**	**0.83**	**342**	*i* Pg	**Pg**	**15 11 58.2**	**-1.9**
BCI				*i* Sg	**Sb**	**15 12 12.8**	**+0.9**
BCI	**Bajram Curri**	**0.83**	**342**	*i* PG	**Pg**	**15 11 58.2**	**-1.9**
BCI				*i* SG	**Sb**	**15 12 12.8**	**+0.9**
SKO	**Skopje**	**0.87**	**62**	*e*Pg	**Pb**	**15 12 01.3**	**+0.1**
SKO				*i* Sg	**Sb**	**15 12 13.3**	**+0.5**
BIA	**Bitola**	**0.88**	**128**	*i* Pg	**Pn**	**15 12 01.8**	**-0.7**
BIA				*i* Sg	**Sn**	**15 12 17.0**	**+1.6**
ULC	**Ulcinj**	**0.96**	**295**	⇓*i* Pg	**Pg**	**15 12 01.4**	**-1.0**
ULC				*e*Sg	**Sb**	**15 12 16.0**	**+0.6**
ULC	**Ulcinj**	**0.96**	**295**	⇓*i* Pg	**Pg**	**15 12 01.4**	**-1.0**
ULC				*e*Sg	**Sb**	**15 12 16.0**	**+0.6**
FNA	**Florina**	**1.07**	**137**	*e*Pg	**Pn**	**15 12 04.9**	**-0.3**
PVY	**Plav**	**1.08**	**342**	*e*Pg	**Pg**	**15 12 03.7**	**-1.0**
PVY				*e*Sg	**Sb**	**15 12 19.8**	**+0.8**
PVY	**Plav**	**1.08**	**342**	*e*Pg	**Pg**	**15 12 03.7**	**-1.0**
PVY				*e*Sg	**Sb**	**15 12 19.8**	**+0.8**
DRME	**Dracevica, Mon**	**1.10**	**304**	⇓*i* Pg	**Pb**	**15 12 03.9**	**-1.3**
DRME				*e*Sg	**Sn**	**15 12 20.8**	**0.0**
DRME	**Dracevica, Mon**	**1.10**	**304**	⇓*i* Pg	**Pb**	**15 12 03.9**	**-1.3**
DRME				*e*Sg	**Sn**	**15 12 20.8**	**0.0**
PDG	**Podgorica**	**1.22**	**315**	⇓*i* Pg	**Pn**	**15 12 05.9**	**-1.2**
PDG				*e*Sg	**Sn**	**15 12 24.7**	**+1.1**
TTG	**Podgorica**	**1.22**	**315**	⇓*i* Pg	**Pn**	**15 12 05.9**	**-1.2**
TTG				*e*Sg	**Sn**	**15 12 24.7**	**+1.1**
BUM	**Brajici-Budva**	**1.35**	**303**	⇓*i* Pg	**Pn**	**15 12 08.7**	**-0.2**
BUM				*e*Sg	**Sg**	**15 12 29.1**	**+1.8**
BUM	**Brajici-Budva**	**1.35**	**303**	⇓*i* Pg	**Pn**	**15 12 08.7**	**-0.2**
BUM				*e*Sg	**Sg**	**15 12 29.1**	**+1.8**
BEY	**Berane**	**1.35**	**344**	*e*Pg	**Pn**	**15 12 08.8**	**-0.3**
BEY				*e*Sg	**Sg**	**15 12 29.2**	**+1.6**
IVA	**Berane**	**1.35**	**344**	*e*Pg	**Pn**	**15 12 08.8**	**-0.3**
IVA				*e*Sg	**Sg**	**15 12 29.2**	**+1.6**
KOME	**Kolasin**	**1.44**	**333**	*e*Pg	**Pn**	**15 12 10.4**	**+0.1**
KOME				*e*Sg	**Sg**	**15 12 32.4**	**+2.0**
KOME	**Kolasin**	**1.44**	**333**	*e*Pg	**Pn**	**15 12 10.4**	**+0.1**
KOME				*e*Sg	**Sg**	**15 12 32.4**	**+2.0**
CEME	**Cevo**	**1.48**	**312**	⇑*i* Pg	**Pn**	**15 12 10.8**	**0.0**
CEME				*e*Sg	**Sg**	**15 12 33.4**	**+1.8**
CEME	**Cevo**	**1.48**	**312**	⇑*i* Pg	**Pn**	**15 12 10.8**	**0.0**
CEME				*e*Sg	**Sg**	**15 12 33.4**	**+1.8**
NKME	**Niksic**	**1.61**	**318**	*e*Pg	**Pb**	**15 12 13.5**	**-0.4**
NKME				*e*Sg	**Sg**	**15 12 36.6**	**+0.7**
NKME	**Niksic**	**1.61**	**318**	*e*Pg	**Pb**	**15 12 13.5**	**-0.4**
NKME				*e*Sg	**Sg**	**15 12 36.6**	**+0.7**
VAY	**Valandovo**	**1.64**	**98**	*e*Pg	**Pg**	**15 12 15.1**	**-0.4**
VAY				*i* Sg	**Sg**	**15 12 37.8**	**+1.1**
VAY	comp=N,26nm,0.7s			eLg	Lg	15 12 39.8	
VAY	comp=E,18nm,0.5s			eLg	Lg	15 12 39.9	
HCY	**Herceg Novi**	**1.68**	**302**	⇑*i* Pn	**Pb**	**15 12 14.4**	**-0.5**
HCY				*e*Sn	**Sg**	**15 12 38.2**	**+0.3**
HCY	**Herceg Novi**	**1.68**	**302**	⇑*i* Pn	**Pb**	**15 12 14.4**	**-0.5**
HCY				*e*Sn	**Sg**	**15 12 38.2**	**+0.3**
BRY	**Bratogost**	**1.92**	**314**	⇓*i* Pn	**Pn**	**15 12 18.0**	**+1.1**
BRY				*e*Sn	**Sb**	**15 12 44.1**	**+0.7**
BRY	**Bratogost**	**1.92**	**314**	⇓*i* Pn	**Pn**	**15 12 18.0**	**+1.1**
BRY				*e*Sn	**Sb**	**15 12 44.1**	**+0.7**
STON	**Ston**	**2.40**	**304**	*i* Pn	**Pn**	**15 12 23.9**	**+0.6**
STON				Sn	**Sb**	**15 12 55.7**	**-1.1**
STON	**Ston**	**2.40**	**304**	*i* Pn	**Pn**	**15 12 23.9**	**+0.6**
STON				Sn	**Sb**	**15 12 55.7**	**-1.1**
DIVS	**Divibare**	**2.54**	**353**	*e*Pn	**Pb**	**15 12 28.8**	**-1.0**

*ISCJB **19** 15:18:07.6±1.0,1°.2N±0°.1×91°.7E±0°.1,h10km,mb3.7/8,*
Error ellipse: s-maj=21.8km s-min=12.6km az=29.0
*IDC **19** 15:18:08.3±1.4,1°.21N×91°.71E,h0km,mb3.6/8,*
mb1 3.7/11,mb1mx3.5/64,mbtmp3.6/11,ML3.7/2,Error
ellipse: s-maj=40.8km s-min=20.1km az=46.0
ISC 19 15:18:09.9±1.2,**1°.3N**±0°.2×**91°.82E**±0°.09,**h10**km,**n18,**
σ1°48/13,mb3.8/8,North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat** 0.9nm,0.3s,baz=315,slow=7.1,SNR=2.7	**7.25**	**78**	Pn	**Pn**	**15 19 56.9**	**+0.8**
PSI	1.0nm,0.3s,baz=317,slow=22,SNR=2.1			Sn	**Sn**	**15 21 15.4**	**-3.3**
PALK	**Pallekele** 0.6nm,0.3s,baz=119,slow=11,SNR=4.1	**12.57**	**298**	Pn	**Pn**	**15 21 06.7**	**-2.3**
PALK	2.2nm,0.3s,baz=290,slow=2.2,SNR=11			Sn	Sn	15 23 15.9	-13
CMAR	**Chiang Mai Arr** baz=220,slow=11,SNR=4.0	**18.43**	**22**	P	**Pn**	**15 22 26.3**	**+0.6**
H08S2	**Diego Garcia H** baz=65,slow=75,SNR=35	**21.23**	**245**	T	T	15 44 34.8	
H08S3	**Diego Garcia H** baz=65,slow=75,SNR=28	**21.25**	**245**	T	T	15 44 33.4	
H08S1	**Diego Garcia H** baz=65,slow=75,SNR=53	**21.25**	**245**	T	T	15 44 36.9	
H01W3	**Cape Leeuwin H** baz=326,slow=75,SNR=7.2	**41.62**	**152**	T	T	16 10 17.0	
H01W2	**Cape Leeuwin H** baz=326,slow=75,SNR=8.1	**41.63**	**152**	T	T	16 10 15.9	
H01W1	**Cape Leeuwin H** baz=326,slow=75,SNR=8.6	**41.63**	**152**	T

	0.4nm,0.5s,baz=84,slow=8.0,SNR=3.8							
WRA	**Warramunga Arr**	**57.18**	**188**	P	P	15 29 43.1	-5.6	
	0.2nm,0.8s,baz=2.1,slow=6.7,SNR=2.7							
LPAZ	**La Paz**	**146.40**	**60**	PKPbc	**PKPdf**	**15 39 40.3**	**-2.3**	
	0.4nm,0.4s,baz=225,slow=1.4,SNR=2.7							

IDC 19 15:21:00.6±10.0, 14.96S×170.47W, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.4/42, mbtmp3.5/3, MS3.6/2, Ms1 3.8/2, ms1mx2.9/32, Error ellipse: s-maj=452.0km s-min=35.3km az=137.0, Samoa Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**52.70**	**256**	P	P	15 30 17.8	+0.4
	0.2nm,0.6s,baz=91,slow=6.8,SNR=4.7						
ASAR	**Alice Springs**	**52.94**	**252**	P	P	15 30 18.7	-0.4
	0.7nm,0.5s,baz=89,slow=7.8,SNR=26						
RPN	**Rapa Nui**	**57.84**	**113**	LR	LR	15 49 43.2	
	comp=Z,34nm,22.0s,baz=130,slow=30						
ILAR	**Eielson Array**	**81.50**	**10**	P	P	15 33 19.4	0.0
	0.6nm,1.1s,baz=216,slow=4.5,SNR=3.0						
CMAR	**Chiang Mai Arr**	**95.18**	**288**	LR	LR	16 14 48.0	
	comp=Z,53nm,20.4s,baz=160,slow=34						

*CSEM **19** 15:37:06.9±0.2, 39.20N×29.73E, h2km, ML2.5, Error ellipse: s-maj=5.8km s-min=3.6km az=108.0*
*ISK **19** 15:37:06.6, 39.23N×29.64E, h5km, ML2.6/10*
*DDA **19** 15:37:06.4, 39.20N×29.74E, h7km, Ml2.5*

ISC 19 15:37:06.4±1.2, 39.17N±0.02×29.73E±0.03, h5km±10km, n33, σ0969/45, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GDZ	**Gediz**	**0.21**	**247**	*i* P	**Pg**	**15 37 10.7**	**+0.1**
GDZ				*i* S	**Sg**	**15 37 14.4**	**+0.9**
GDZ	**Gediz**	**0.21**	**247**	P	**Pg**	**15 37 10.7**	**+0.1**
GDZ				S	**Sg**	**15 37 14.4**	**+0.9**
TVSB	**Tavsanli**	**0.35**	**323**	PG	**Pg**	**15 37 12.6**	**-0.6**
TVSB				SG	**Sg**	**15 37 17.4**	**-0.4**
TVSB	**Tavsanli**	**0.35**	**323**	*e*Pg	**Pg**	**15 37 12.6**	**-0.6**
TVSB				*e*Sg	**Sg**	**15 37 17.4**	**-0.4**
DEMI	**Demirci**	**0.80**	**261**	*i* P	**Pb**	**15 37 22.9**	**0.0**
DEMI				*i* S	**Sb**	**15 37 34.3**	**+0.1**
DEMI	**Demirci**	**0.80**	**261**	P	**Pb**	**15 37 23.0**	**0.0**
DEMI				S	**Sb**	**15 37 34.3**	**+0.1**
KHAL	**Karahalli**	**0.82**	**193**	*i* P	**Pg**	**15 37 22.4**	**+0.1**
KHAL				*i* S	**Sb**	**15 37 35.5**	**+0.7**
KHAL	**Karahalli**	**0.82**	**193**	P	**Pg**	**15 37 22.4**	**+0.1**
KHAL				S	**Sb**	**15 37 35.5**	**+0.7**
KZIL	**AFYON_Kizioren**	**0.97**	**161**	*i* P	**Pg**	**15 37 24.6**	**-0.4**
KZIL				*i* S	**Sn**	**15 37 40.4**	**-0.7**
CAVI	**Cavuskoy**	**1.03**	**5**	PG	**Pb**	**15 37 26.4**	**-0.4**
CAVI	**Cavuskoy**	**1.03**	**5**	*e*Pg	**Pb**	**15 37 26.4**	**-0.4**
KULA	**Kula-Manisa**	**1.06**	**232**	PG	**Pn**	**15 37 27.5**	**-0.7**
KULA	**Kula-Manisa**	**1.06**	**232**	*e*Pg	**Pn**	**15 37 27.5**	**-0.7**
DURS	**Dursunbey**	**1.07**	**294**	*i* P	**Pn**	**15 37 29.1**	**+0.9**
DURS				*i* S	**Sn**	**15 37 45.7**	**+2.2**
DURS	**Dursunbey**	**1.07**	**294**	P	**Pn**	**15 37 29.1**	**+0.9**
MANT	**Manisa**	**1.14**	**234**	*i* P	**Pn**	**15 37 29.2**	**-0.2**
MANT				*i* S	**Sn**	**15 37 44.5**	**-1.1**
MANT	**Manisa**	**1.14**	**234**	P	**Pn**	**15 37 29.2**	**-0.2**
MANT				S	**Sn**	**15 37 44.5**	**-1.1**
MDNY	**Mudanya-Bursa**	**1.36**	**332**	PN	**Pg**	**15 37 32.3**	**-0.3**
MDNY	**Mudanya-Bursa**	**1.36**	**332**	*e*Pn	**Pg**	**15 37 32.3**	**-0.3**
GULT	**Gulveren**	**1.39**	**25**	PN	**Pg**	**15 37 33.9**	**+0.7**
GULT	**Gulveren**	**1.39**	**25**	*e*Pn	**Pg**	**15 37 33.9**	**+0.7**
YLV	**Yalova**	**1.42**	**349**	PN	**Pg**	**15 37 33.3**	**-0.4**
YLV	**Yalova**	**1.42**	**349**	*e*Pn	**Pg**	**15 37 33.3**	**-0.4**
BALB	**Balikesir**	**1.51**	**289**	PN	**Pb**	**15 37 34.9**	**-0.1**
BALB	**Balikesir**	**1.51**	**289**	*e*Pn	**Pb**	**15 37 34.9**	**-0.1**
KCTX	**Karacabey (Bur**	**1.52**	**316**	PN	**Pb**	**15 37 34.4**	**-0.8**
KCTX	**Karacabey (Bur**	**1.52**	**316**	*e*Pn	**Pb**	**15 37 34.4**	**-0.8**
ARMT	**Armutlu**	**1.54**	**335**	PN	**Pb**	**15 37 34.9**	**-0.7**
ARMT	**Armutlu**	**1.54**	**335**	*e*Pn	**Pb**	**15 37 34.9**	**-0.7**
MDUB	**Mudurnu**	**1.72**	**41**	PN	**Pb**	**15 37 38.4**	**-0.2**
MDUB	**Mudurnu**	**1.72**	**41**	*e*Pn	**Pb**	**15 37 38.4**	**-0.2**
AYDB	**Zeytinkoy-Aydi**	**1.89**	**230**	PN	**Pb**	**15 37 41.0**	**-0.6**
AYDB	**Zeytinkoy-Aydi**	**1.89**	**230**	*e*Pn	**Pb**	**15 37 41.0**	**-0.6**

*ISCJB **19** 15:37:58.1±0.6, 5.51S±0.06×145.67E±0.08, h86km, mb3.8/12, Error ellipse: s-maj=12.5km s-min=7.4km az=153.0*
*IDC **19** 15:38:03.7±1.9, 5.71S×145.75E, h128km±20km, mb3.5/12, mb1 3.6/15, mb1mx3.5/48, mbtmp4.0/15, Error ellipse: s-maj=20.8km s-min=12.4km az=101.0*

ISC 19 15:38:00.2±0.7, 5.55S±0.08×145.6E±0.1, h86km, n18, σ1952/21, mb3.8/12, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.15**	**158**	P	**Pn**	**15 39 02.9**	**+1.6**
	40nm,0.3s,baz=14,slow=5.7,SNR=169						
PMG				S	**Sn**	**15 39 48.4**	**-0.2**
	13nm,0.3s,baz=138,slow=21,SNR=9.5						
CTA	**Charters Tower**	**14.47**	**177**	P	**P**	**15 41 27.9**	**+2.7**
	0.9nm,0.3s,baz=358,slow=15,SNR=12						
SIJI	**Sorong**	**15.01**	**288**	P	**P**	**15 41 32.5**	**+1.2**
	0.8nm,0.3s,baz=301,slow=20,SNR=2.8						
SIJI				S	**Sn**	**15 44 13.0**	**-0.4**
	0.5nm,0.3s,baz=125,slow=20,SNR=2.4						
WRA	**Warramunga Arr**	**18.00**	**216**	P	**Pn**	**15 42 04.0**	**-0.9**
	0.3nm,0.3s,baz=38,slow=11,SNR=11						
ASAR	**Alice Springs**	**21.23**	**211**	P	**P**	**15 42 38.5**	**-0.8**
	0.5nm,0.5s,baz=41,slow=6.6,SNR=20						
ASAR				S	**S**	**15 46 27.6**	**-3.1**
	0.6nm,0.8s,baz=31,slow=20,SNR=3.2						
BATI	**Baumata**	**22.17**	**257**	P	**P**	**15 42 51.2**	**+1.7**
	26nm,0.7s,baz=135,slow=2.8,SNR=7.7						
STKA	**Stephens Creek**	**26.45**	**188**	P	**P**	**15 43 27.7**	**-1.6**
	1.6nm,0.7s,baz=314,slow=9.0,SNR=4.4						
CMAR	**Chiang Mai Arr**	**51.78**	**299**	P	**P**	**15 47 00.6**	**+1.0**
	0.7nm,0.4s,baz=120,slow=5.9,SNR=7.7						
PETK	**Petropavlovsk-**	**59.33**	**8**	P	**P**	**15 47 53.1**	**0.0**
	1.3nm,0.6s,baz=162,slow=5.4,SNR=10						
SONM	**Songino Array**	**63.32**	**332**	P	**P**	**15 48 22.0**	**+1.7**
	0.3nm,0.4s,baz=115,slow=6.5,SNR=3.4						
VNDA	**Vanda**	**72.45**	**176**	P	**P**	**15 49 15.4**	**-1.6**
	0.4nm,0.7s,baz=330,slow=4.8,SNR=3.2						
MKAR	**Makanchi Array**	**76.24**	**321**	P	**P**	**15 49 39.0**	**-0.6**
	0.9nm,0.7s,baz=99,slow=7.3,SNR=9.9						
ZALV	**Zalesovo Beam**	**77.87**	**328**	P	**P**	**15 49 47.5**	**-1.0**
	0.6nm,0.4s,baz=116,slow=3.4,SNR=3.2						
KURBB	**Kurchatov Arra**	**80.02**	**323**	P	**P**	**15 49 59.8**	**-0.4**
	0.5nm,0.5s,baz=124,slow=4.4,SNR=5.9						
BVAR	**Borovoye Array**	**85.57**	**324**	P	**P**	**15 50 28.3**	**-0.7**
	0.9nm,0.7s,baz=104,slow=6.1,SNR=6.9						
ILAR	**Eielson Array**	**85.64**	**23**	P	**P**	**15 50 26.8**	**-2.3**
	1.1nm,0.7s,baz=251,slow=5.2,SNR=12						
KOWA	**Kowa**	**148.79**	**289**	PKPbc	**PKPbc**	**15 57 38.5**	**-0.4**
	0.9nm,0.3s,baz=72,slow=3.2,SNR=4.2						
DBIC	**Dimbokro**	**150.57**	**274**	PKPbc	**PKPbc**	**15 57 43.3**	**0.0**
	2.0nm,0.7s,baz=90,slow=9.2,SNR=3.5						

*ISCJB **19** 15:42:02.5±0.4, 0.56S±0.04×121.89E±0.04, h10km, mb3.7/8, Error ellipse: s-maj=6.3km s-min=4.7km az=29.9*
*IDC **19** 15:42:02.1±0.9, 0.10S×122.86E, h0km, mb3.6/8, mb1 3.7/8, mb1mx3.5/57, mbtmp3.6/8, Error ellipse: s-maj=59.4km s-min=16.6km az=65.0*
*DJA **19** 15:42:03.6±0.2, 1.1S±2.1×122.2E±.1, h10km, M4.0/11, mb4.3/3, MLv3.9/11*

ISC 19 15:42:03.5±0.7, 0.54S±0.04×121.81E±0.04, h10km, n19, σ088/23, mb3.8/8, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
APSI	**Ampana**	**0.41**	**204**	P	**Pg**	**15 42 10.5**	**-1.0**
APSI				S	**Sg**	**15 42 17.1**	**+0.2**
MRSI	**Marisa**	**1.01**	**7**	P	**Pg**	**15 42 22.1**	**-1.0**
MRSI				S	**Sg**	**15 42 35.7**	**-0.6**
LUWI	**Luwuk**	**1.08**	**118**	P	**Pg**	**15 42 23.3**	**-1.0**
LUWI				S	**Sn**	**15 42 40.5**	**+0.7**
PCI	**Palu**	**2.01**	**259**	P	**Pb**	**15 42 39.3**	**-0.9**
PCI				S	**Sb**	**15 43 06.2**	**+0.9**
MPSI	**Mapaga**	**2.10**	**294**	P	**Pn**	**15 42 38.7**	**-0.1**
KMSI	**Cibinong**	**2.43**	**63**	P	**Pb**	**15 42 48.2**	**+0.8**
TTSI	**Tana Toraja**	**3.19**	**219**	P	**Pn**	**15 42 54.8**	**+1.0**
TTSI				S	**Sn**	**15 43 31.8**	**-0.1**
BNSI	**Bone**	**4.20**	**204**	P	**Pn**	**15 43 08.6**	**+0.9**
SANI	**Sanana**	**4.44**	**110**	P	**Pn**	**15 43 10.1**	**-0.8**
LBMI	**Labuha**	**5.69**	**91**	P	**Pn**	**15 43 28.1**	**-0.1**
NLAI	**Namlea**	**5.93**	**117**	P	**Pn**	**15 43 32.3**	**+0.9**
WRA	**Warramunga Arr**	**22.86**	**148**	P	**P**	**15 47 06.3**	**-0.9**
	1.0nm,0.7s,baz=330,slow=9.9,SNR=8.6						
ASAR	**Alice Springs**	**25.81**	**154**	P	**P**	**15 47 34.8**	**-0.4**
	0.2nm,0.7s,baz=344,slow=15,SNR=3.2						
STKA	**Stephens Creek**	**36.35**	**151**	P	**P**	**15 49 06.6**	**-1.3**
	2.2nm,0.8s,baz=317,slow=11,SNR=3.9						
SONM	**Songino Array**	**50.01**	**346**	P	**P**	**15 50 59.0**	**+0.7**
	0.5nm,0.6s,baz=170,slow=9.1,SNR=4.3						
MKAR	**Makanchi Array**	**58.45**	**329**	P	**P**	**15 52 00.8**	**+1.1**
	0.9nm,0.5s,baz=124,slow=8.9,SNR=11						
PETK	**Petropavlovsk-**	**61.25**	**24**	P	P	15 52 12.8	-6.0
	1.1nm,0.8s,baz=233,slow=7.0,SNR=2.5						
KURBB	**Kurchatov Arra**	**62.84**	**331**	P	**P**	**15 52 30.1**	**+0.7**
	0.3nm,0.4s,baz=128,slow=6.0,SNR=4.1						
BVAR	**Borovoye Array**	**68.33**	**329**	P	**P**	**15 53 06.0**	**+1.0**
	0.2nm,0.4s,baz=127,slow=6.2,SNR=2.6						

*IDC **19** 15:46:48.9±0.4, 1.60S×134.50E, h0km, mb4.3/28, mb1 4.3/32, mb1mx4.3/55, mbtmp4.3/32, ML4.5/2, MS4.1/23, Ms1 4.1/23, ms1mx3.9/42, Error ellipse: s-maj=13.7km s-min=10.1km az=64.0*
*MOS **19** 15:46:50.5±0.9, 1.66S×134.44E, h26km, mb4.8/38, MS4.0/7, Error ellipse: s-maj=10.7km s-min=5.8km az=106.3*
*GCMT **19** 15:46:50.7±0.2, 1.53S×134.41E, h18km±1km, MW5.0/98, Moment Tensor Solution. s46,c55; s98,c154; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.01±.14; $M_{\theta\theta}$-1.54±.09; $M_{\phi\phi}$2.55±.12; $M_{r\theta}$-1.06±.25; $M_{\theta\phi}$3.36±.09; $M_{\phi r}$0.91±.25; Best double couple: M_o4.25000×10^{16} NP1:ϕs167.00000°, δ75.00000°, λ-160.00000°. NP2: ϕs72.00000°, δ71.00000°, λ-16.00000°. Principal axes: T 4.4520, Plg3.0000°, Azm299.0000°; N -0.4060, Plg65.0000°, Azm202.0000°; P -4.0470, Plg24.0000°, Azm30.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **19** 15:46:50.7±2.2, 1.68S×134.49E, h14km±14km, mb5.0/90 Error ellipse: s-maj=5.1km s-min=3.5km az=46.0*
NEIC Felt [III] at Ransiki.
*ISCJB **19** 15:46:51.2±0.1, 1.70S±0.02×134.43E±0.02, h29km, mb4.8/139, MS4.1/31, Error ellipse: s-maj=3.1km s-min=2.6km az=155.0*
*DJA **19** 15:46:52.5±0.3, 2.2S±2.3×134.4E±.4, h16km±2km, M4.9/26, mb5.1/26, mB5.3/24, MLv5.3/12, Mw(mB)4.8/24*
*BJI **19** 15:46:53.7, 1.08S×134.64E, h15km, mb4.7/47, mB4.9/31, Ms4.6/28, Ms7 4.2/24*

ISC 19 15:46:53.1±0.3, 1.72S±0.03×134.45E±0.04, h29km, n292, σ1952/315, mb4.8/138, MS4.1/32, 2C-2D, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RKPI	**Ransiki, Papua**	**0.34**	**307**	P	**Pb**	**15 46 57.2**	**-3.9**
RKPI				S	**Sb**	**15 47 02.5**	**-4.0**
BAKI	**Biak**	**1.74**	**73**	P	**Pn**	**15 47 19.9**	**-1.5**
KMPI	**Kaimana, Papua**	**2.07**	**201**	P	**Pb**	**15 47 28.5**	**-1.6**
FAKI	**Fak Fak**	**2.50**	**241**	P	**Pn**	**15 47 32.6**	**+0.7**
FAKI				S	**Sn**	**15 48 04.2**	**+2.7**
FAKI	**Fak Fak**	**2.50**	**241**	*e*Pn	**Pn**	**15 47 32.5**	**+0.5**
SIJI	**Sorong**	**3.29**	**285**	Pn	**Pn**	**15 47 41.5**	**-1.4**
	130nm,0.3s,baz=246,slow=22,SNR=163						
SIJI				Sn	**Sn**	**15 48 22.1**	**+1.0**
	229nm,0.3s,baz=136,slow=23,SNR=6.6						
SIJI				Lg	Lg	15 48 35.0	
	342nm,0.3s,baz=313,slow=23,SNR=3.9						
BNDI	**Bandanaira**	**5.33**	**238**	P	**Pn**	**15 48 11.5**	**+0.7**
BNDI				S	**Sn**	**15 49 11.7**	**+0.5**
MSAI	**Masohi**	**5.75**	**254**	P	**Pn**	**15 48 18.2**	**+1.6**
	167nm,0.6s,2μm1.3nm						
MSAI				S	**Sn**	**15 49 22.1**	**+0.5**
	167nm,0.6s,2μm1.3nm						
GENI	**Genyem**	**5.78**	**99**	P	**Pn**	**15 48 18.4**	**+1.4**
	199nm,0.6s,3μm0.8nm						
AAI	**Ambon**	**6.55**	**252**	P	**Pn**	**15 48 28.6**	**+1.0**
AAI				S	**Sn**	**15 49 40.1**	**-1.2**
SAUI	**Saumlaki**	**6.97**	**207**	*e*Pn	**Pn**	**15 48 29.8**	**-3.6**
LBMI	**Labuha**	**7.03**	**279**	P	**Pn**	**15 48 34.1**	**-0.1**
LBMI				S	**Sn**	**15 49 53.5**	**+0.3**
NLAI	**Namlea**	**7.50**	**258**	P	**Pn**	**15 48 40.8**	**+0.2**
	148nm,0.5s,2μm1.5nm						
NLAI				S	**Sn**	**15 50 03.7**	**-1.0**
	148nm,0.5s,2μm1.5nm						
TNTI	**Ternate**	**7.50**	**289**	*e*Pn	**Pn**	**15 48 42.0**	**+1.3**
SANI	**Sanana**	**8.46**	**268**	P	**Pn**	**15 48 52.0**	**-1.9**
SANI				S	**Sn**	**15 50 27.4**	**-1.1**
KMSI	**Cibinong**	**10.71**	**282**	P	**Pn**	**15 49 25.1**	**+0.4**
MTN	**Manton Dam**	**11.54**	**196**	*e*Pn	**Pn**	**15 49 36.1**	**+0.1**
LUWI	**Luwuk**	**11.69**	**273**	P	**Pn**	**15 49 36.5**	**-1.7**
LUWI	**Luwuk**	**11.69**	**273**	*e*Pn	**Pn**	**15 49 36.8**	**-1.4**
APSI	**Ampana**	**12.82**	**273**	P	**Pn**	**15 49 52.8**	**-0.8**
APSI				S	**Sn**	**15 52 13.4**	**-2.1**
SOEI	**Soe**	**12.89**	**231**	P	**Pn**	**15 49 58.5**	**+3.8**
SOEI				S	**Sn**	**15 52 21.3**	**+3.9**
SOEI	**Soe**	**12.89**	**231**	*e*Pn	**Pn**	**15 49 54.3**	**-0.4**
MANU	**Manus Island**	**12.91**	**92**	*e*Pn	Pn	15 49 48.1	-6.8
BATI	**Baumata**	**13.64**	**231**	Pn	**Pn**	**15 50 04.0**	**-0.9**
	2.1nm,0.3s,baz=54,slow=19,SNR=8.0						
BATI				Sn	**Sn**	**15 52 34.3**	**-1.2**
	3.6nm,0.3s,baz=197,slow=9.1,SNR=3.7						
BATI				LR	LR	15 56 06.5	
	comp=Z,1μm,19.8s,baz=20,slow=41						
MMRI	**Maumere**	**13.96**	**240**	P	**Pn**	**15 50 11.8**	**+2.6**
MMRI				S	**Sn**	**15 52 44.6**	**+1.2**
MMRI	**Maumere**	**13.96**	**240**	*e*Pn	**Pn**	**15 50 09.8**	**+0.6**
BNSI	**Bone**	**14.57**	**259**	P	**Pn**	**15 50 17.9**	**+0.4**
BNSI				S	S	15 53 32.3	+15
BSSI	**Bau Bau, Buton**	**14.60**	**252**	P	**Pn**	**15 50 18.2**	**+0.3**
PCI	**Palu**	**14.63**	**273**	P	**Pn**	**15 50 19.7**	**+1.4**
TTSI	**Tana Toraja**	**14.68**	**265**	P	P	15 50 30.9	+6.1
MPSI	**Mapaga**	**14.69**	**278**	P	**Pn**	**15 50 18.2**	**-0.9**
PMG	**Port Moresby**	**14.77**	**122**	Pn	**Pn**	**15 50 18.2**	**-2.0**
	0.2nm,0.3s,baz=60,slow=14,SNR=2.2						
PMG				LR	LR	15 57 27.2	
	comp=Z,1μm,18.1s,baz=292,slow=43						
PMG	**Port Moresby**	**14.77**	**122**	*e*Pn	**Pn**	**15 50 17.3**	**-2.9**
PMG	**Port Moresby**	**14.77**	**122**	*e*P	**Pn**	**15 50 18.7**	**-1.5**
PMG				pmax	pmax		
	comp=Z,79nm,1.1s						
COEN	**Coen**	**14.91**	**145**	*e*Pn	**Pn**	**15 50 19.9**	**-2.2**
WSI	**Waingapu**	**16.14**	**240**	P	**P**	**15 50 42.5**	**+1.4**
WBSI	**Waikabubak, Su**	**16.92**	**242**	P	**P**	**15 50 49.8**	**0.0**
SMKI	**Samarinda**	**17.28**	**274**	P	**Pn**	**15 50 52.4**	**-0.2**
MYLDM	**Lahad Datu**	**17.34**	**293**	*e*Pn	**P**	**15 50 54.5**	**+0.1**
	comp=Z,216nm,1.4s						
BKB	**Balikpapan**	**17.55**	**271**	P	**Pn**	**15 50 54.9**	**-1.0**
RABL	**Rabaul**	**17.86**	**98**	*e*Pn	**P**	**15 51 00.3**	**+0.1**
	comp=Z,78nm,0.4s						
PLAI	**Plampang**	**18.03**	**246**	P	**Pn**	**15 51 00.6**	**-1.2**
WRAB	**Tennant Creek**	**18.11**	**180**	*e*Pn	**Pn**	**15 51 02.1**	**-0.6**
	comp=Z,43nm,1.0s						
WRAB	**Tennant Creek**	**18.11**	**180**	*e*P	**Pn**	**15 51 02.5**	**-0.2**
WRAB				pmax	pmax		
	comp=Z,41nm,1.8s						
WB2	**Warramunga Arr**	**18.12**	**180**	*e*Pn	**Pn**	**15 51 01.6**	**-1.2**
WR1	**Warramunga Arr**	**18.12**	**180**	*e*Pn	**Pn**	**15 51 01.6**	**-1.2**
	comp=Z,59nm,1.1s						
WR1				*e*Sn	**Sn**	**15 54 22.8**	**-1.4**
WRA	**Warramunga Arr**	**18.12**	**180**	P	**Pn**	**15 51 01.6**	**-1.2**
	comp=Z,1.5nm,0.3s,baz=1.2,slow=12,SNR=45						
WRA				S	**Sn**	**15 54 22.8**	**-1.5**
	comp=Z,0.7nm,0.3s,baz=0.4,slow=22,SNR=4.7						
WRA				LR	LR	15 58 34.2	
	comp=Z,1μm,18.5s,baz=5.0,slow=39						
KBKI	**Kotabaru**	**18.33**	**265**	P	**P**	**15 51 04.4**	**-1.0**
MTKI	**Muara Teweh, K**	**19.56**	**272**	P	**Pn**	**15 51 21.0**	**+0.6**
KKM	**Kota Kinabalu**	**19.77**	**293**	*e*P	**P**	**15 51 21.9**	**+0.6**
	comp=Z,61nm,1.2s						
JAGI	**Jajag, Banyuwa**	**21.29**	**251**	*e*P	**P**	**15 51 37.2**	**-0.5**
	comp=Z,93nm,1.3s						
CTA	**Charters Tower**	**21.60**	**149**	P	**P**	**15 51 42.4**	**+1.4**
	comp=Z,2.5nm,0.7s,baz=319,slow=14,SNR=3.3						
CTAO	**Charters Tower**	**21.60**	**149**	*e*P	**P**	**15 51 41.6**	**+0.8**
	comp=Z,68nm,1.4s						
CTAO	**Charters Tower**	**21.60**	**149**	*e*P	**P**	**15 51 41.7**	**+0.8**
CTAO				pmax	pmax		
	comp=Z,68nm,1.4s						
AS01	**Alice Springs**	**21.82**	**181**	*e*P	**P**	**15 51 43.5**	**+0.2**
AS31	**Alice Springs**	**21.83**	**181**	*e*P	**P**	**15 51 43.8**	**+0.4**
	comp=Z,14nm,0.8s						
AS31				*e*S	**S**	**15 55 42.3**	**-1.0**
ASAR	**Alice Springs**	**21.83**	**181**	P	**P**	**15 51 43.7**	**+0.3**
	comp=Z,14nm,0.7s,baz=7.4,slow=11,SNR=97						
ASAR				S	**S**	**15 55 42.6**	**-0.8**
	comp=Z,8.8nm,0.8s,baz=2.6,slow=23,SNR=5.7						
ASAR				LR	LR	16 00 50.5	
	comp=Z,1μm,19.3s,baz=3.5,slow=38						
ASAR	**Alice Springs**	**21.83**	**181**	P	**P**	**15 51 43.7**	**+0.3**
ASAR				S	**S**	**15 55 42.6**	**-0.8**
ASAR				pmax	pmax		
	comp=Z,15nm,0.7s						
ASAR				smax	smax		
	comp=N,9.0nm,0.8s						
ASAR				MLR	MLR		
	comp=Z,1μm,19.3s						
SBUM	**Sibu**	**22.61**	**280**	*e*P	**P**	**15 51 52.9**	**+1.1**
	comp=Z,64nm,1.5s						
MBWA	**Marble Bar**	**24.07**	**216**	*e*P	**P**	**15 52 06.3**	**+0.1**
	comp=Z,111nm,1.3s						
KSM	**Kuching**	**24.34**	**277**	*e*P	**P**	**15 52 10.1**	**+1.2**
	comp=Z,30nm,0.7s						
SMRI	**Semarang**	**24.51**	**257**	*e*P	**P**	**15 52 10.8**	**+0.5**
	comp=Z,191nm,1.2s						
UGM	**Wanagama**	**24.61**	**255**	*e*P	**P**	**15 52 13.0**	**+1.7**
	comp=Z,389nm,1.5s						
LEM	**Lembang**	**27.23**	**258**	P	**P**	**15 52 35.5**	**+0.4**
	comp=Z,14nm,0.6s,baz=314,slow=7.6,SNR=2.5						
LEM				LR	LR	16 05 12.7	
	comp=Z,494nm,18.9s,baz=66,slow=40						
TWG	**Pinlang**	**27.66**	**333**	*e*P	**P**	**15 52 38.2**	**-0.4**
	comp=Z,64nm,1.1s						
EIDS	**Eidsvold**	**28.46**	**147**	*e*P	**P**	**15 52 46.6**	**+0.8**
	comp=Z,9.6nm,0.9s						
SSLB	**Suanglung**	**28.55**	**333**	*e*P	**P**	**15 52 43.8**	**-2.9**
	comp=Z,40nm,1.8s						
NACB	**Ninganchiao**	**28.61**	**335**	*e*P	**P**	**15 52 45.8**	**-1.3**
	comp=Z,103nm,2.0s						
JOW	**Kunigami**	**29.00**	**349**	LR	LR	16 02 30.3	
	comp=Z,397nm,20.3s,baz=107,slow=33						
FORT	**Forrest**	**29.53**	**191**	*e*P	**P**	**15 52 56.3**	**+1.1**
	comp=Z,31nm,0.8s						
STKA	**Stephens Creek**	**30.75**	**168**	P	**P**	**15 53 06.1**	**0.0**
	comp=Z,3.8nm,0.7s,baz=349,slow=7.0,SNR=8.6						
STKA				LR	LR	16 07 04.2	
	comp=Z,382nm,18.8s,baz=339,slow=39						
STKA	**Stephens Creek**	**30.75**	**168**	*e*P	**P**	**15 53 05.8**	**-0.1**
	comp=Z,6.0nm,1.4s						
STKA	**Stephens Creek**	**30.75**	**168**	*e*P	**P**	**15 53 05.9**	**-0.1**
STKA				pmax	pmax		
	comp=Z,6.0nm,1.4s						
MYKOM	**Kota Tinggi**	**30.79**	**276**	*e*P	**P**	**15 53 06.2**	**-0.5**
	comp=Z,29nm,1.0s						
BBOO	**Buckleboo**	**30.97**	**177**	*e*P	**P**	**15 53 07.2**	**-0.7**
	comp=Z,75nm,1.8s						
ARMA	**Armidale**	**32.87**	**152**	*e*P	**P**	**15 53 24.0**	**-0.8**
	comp=Z,70nm,1.7s						
UBPT	**Khong Chiam**	**33.27**	**302**	P	**P**	**15 53 30.2**	**+1.9**
	comp=Z,11nm,1.8s						
IPM	**Ipoh**	**33.96**	**281**	*e*P	**P**	**15 53 33.9**	**-0.5**
	comp=Z,15nm,1.0s						
KULM	**Kulim**	**34.47**	**282**	*e*P	**P**	**15 53 39.2**	**+0.4**
	comp=Z,15nm,1.1s						
JNU	**Nakatsue**	**34.81**	**355**	P	**P**	**15 53 40.2**	**-1.3**
	comp=Z,22nm,1.1s,baz=167,slow=13,SNR=4.6						
JNU				LR	LR	16 07 06.7	
	comp=Z,187nm,20.2s,baz=155,slow=35						
JNU	**Nakatsue**	**34.81**	**355**	*e*P	**P**	**15 53 40.5**	**-1.1**
	comp=Z,93nm,1.7s						
NWAO	**Narrogin (SRO)**	**35.01**	**206**	*e*P	**P**	**15 53 43.3**	**+0.1**
	comp=Z,63nm,1.4s						
**NWA

CD2 LR LR
comp=Z,490nm,16.9s
CD2 LR LR
comp=Z,320nm,11.3s
CD2 LR LR
comp=Z,290nm,9.3s
BJI Beijing 44.80 340 ⇓ iP P 15 55 05.4 +1.0
BJI S S 16 01 40.3 +0.5
BJI pmax pmax
comp=Z,18nm,1.3s
BJI LR LR
comp=Z,440nm,19.8s
BJI LR LR
comp=Z,270nm,24.5s
USRK Ussuriysk Ar. 45.76 358 P P 15 55 10.7 -1.3
comp=Z,4.1nm,0.8s,baz=177,slow=8.8,SNR=10
CN2 Changchun 46.03 351 eP P 15 55 16.8 +2.7
CN2 eSP sP 15 55 27.8 +1.5
CN2 eS S 16 02 00.8 +3.3
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 pmax pmax
comp=Z,200nm,6.0s
CN2 LR LR
comp=Z,200nm,16.0s
CN2 LR LR
comp=Z,200nm,16.0s
CN2 LR LR
comp=Z,300nm,16.0s
ASAJ Asahikawa 46.21 8 P P 15 55 14.4 -1.1
comp=Z,2.1nm,0.7s,baz=251,slow=11,SNR=5.7
ASAJ Asahikawa 46.21 8 eP P 15 55 15.2 -0.4
comp=Z,5.7nm,1.1s
MDJ Mudanjiang 46.33 355 P P 15 55 14.3 -2.2
MDJ PP PP 15 57 06.5 +0.8
MDJ S S 16 02 06.9 +5.0
MDJ pmax pmax
comp=Z,14nm,0.8s
MDJ pmax pmax
comp=Z,100nm,3.1s
MDJ LR LR
comp=Z,150nm,19.1s
MDJ LR LR
comp=Z,150nm,18.3s
MDJ LR LR
comp=Z,180nm,13.5s
MDJ Mudanjiang 46.33 355 eP P 15 55 15.2 -1.3
comp=Z,11nm,0.9s
LZH Lanzhou 47.20 326 eP P 15 55 30.3 +6.6
LZH pP sP 15 55 37.1 +1.2
LZH PcP PcP 15 56 58.1 +3.2
LZH PP PP 15 57 15.3 +0.4
LZH pmax pmax
comp=Z,25nm,1.1s
LZH pmax pmax
comp=Z,93nm,4.3s
LZH LR LR
comp=Z,2μm,14.4s
LZH LR LR
comp=Z,1μm,14.6s
LZH LR LR
comp=Z,1μm,17.4s
HHC Hu-ho-hao-te 47.22 336 eP P 15 55 24.8 +1.2
HHC pP pP 15 55 32.1 -0.3
HHC sP sP 15 55 35.4 -0.5
HHC S S 16 02 16.3 +1.4
HHC sS sS 16 02 29.0 -0.4
HHC pmax pmax
comp=Z,35nm,1.1s
HHC pmax pmax
comp=Z,99nm,6.1s
HHC LR LR
comp=Z,650nm,15.7s
HHC LR LR
comp=Z,800nm,15.4s
HHC LR LR
comp=Z,850nm,14.9s
YSS Yuzh-Sakhalins 49.01 8 eP P 15 55 35.8 -1.5
comp=Z,8.4nm,0.8s
YSS Yuzh-Sakhalins 49.01 8 ⇑ eP P 15 55 36.4 -0.8
YSS e 15 55 42.5
YSS e 15 55 49.7
YSS e 16 02 54.0
YSS pmax pmax
comp=Z,10.0nm,0.8s
YSS MLR MLR
comp=Z,100nm,16.0s
KLR Kul'dur 50.80 358 d iP P 15 55 50.1 -0.7
GTA Gaotai 51.80 326 P P 15 56 02.3 +3.6
GTA PcP PcP 15 57 14.4 +2.8
GTA S S 16 03 25.3 +6.0
GTA pmax pmax
comp=Z,5.0nm,1.4s
GTA pmax pmax
comp=Z,53nm,5.3s
GTA LR LR
comp=Z,140nm,16.2s
GTA LR LR
comp=Z,160nm,17.6s
GTA LR LR
comp=Z,200nm,14.7s
THZ Tophouse 52.75 144 eP P 15 56 05.3 -0.3
comp=Z,81nm,2.0s
OXZ Oxford 53.25 146 eP P 15 56 08.5 -0.7
comp=Z,27nm,1.5s
URZ Urewera 53.35 138 eP P 15 56 09.7 -0.2
comp=Z,32nm,1.3s
BKZ Black Stump Fm 53.43 140 eP P 15 56 10.4 -0.3
comp=Z,57nm,1.6s
BFZ Birch Farm 54.12 141 eP P 15 56 14.6 -1.0
comp=Z,68nm,1.3s
RAMN Ramite 54.17 305 eP P 15 56 17.4 +0.9
JIRN Jiri 54.79 306 eP P 15 56 21.7 +0.5
ULN Ulaanbaatar 54.86 338 eP P 15 56 21.8 +0.8
comp=Z,7.6nm,1.3s
ULN Ulaanbaatar 54.86 338 eP P 15 56 19.9 -1.1
ULN pmax pmax
comp=Z,2.0nm,1.1s
NKL Nikolayevsk 54.92 5 eP P 15 56 21.0 -0.1
SONA0 Songino Array 55.09 337 eP P 15 56 22.1 -0.5
SONM Songino Array 55.09 337 P P 15 56 22.1 -0.5
comp=Z,0.4nm,0.5s,baz=134,slow=8.3,SNR=3.0
SONM LR LR 16 19 13.0
comp=Z,111nm,20.3s,baz=146,slow=35
SONA1 Songino Array 55.09 337 eP P 15 56 22.2 -0.5
GUN Gumba 55.15 306 eP P 15 56 24.6 +0.9
comp=Z,25nm,1.0s
KKN Kakani 55.58 306 eP P 15 56 26.6 -0.1
KOLN Koldanda 56.95 305 eP P 15 56 36.5 +0.1
comp=Z,9.7nm,0.6s
PYUN Piuthan 57.57 305 eP P 15 56 40.2 -0.6
comp=Z,65nm,1.0s
PETK Petropavlovsk- 58.00 16 P P 15 56 42.4 -0.6
comp=Z,6.1nm,0.9s,baz=197,slow=4.5,SNR=9.2
PETK Petropavlovsk- 58.00 16 eP P 15 56 42.9 -0.2
PETK Petropavlovsk- 58.00 16 eP P 15 56 42.9 -0.2
PEA1 Petropavlovsk- 58.00 16 eP P 15 56 42.4 -0.7
PET Petropavlovsk 58.20 17 eP P 15 56 44.4 0.0
comp=Z,21nm,1.3s
PET Petropavlovsk 58.20 17 eP P 15 56 44.4 0.0
PET pmax pmax
comp=Z,21nm,1.3s
HYB Hyderabad 58.25 292 i P P 15 56 46.0 +0.4
ZAK Zakamensk 58.35 337 eP P 15 56 40.2 -5.6
ZAK pmax pmax
comp=Z,4.0nm,1.4s
TLY Talaya 59.25 338 eP P 15 56 53.8 +1.9
comp=Z,3.2nm,0.5s
TLY Talaya 59.25 338 eP P 15 57 00.2 +8.3
TLY eS S 16 05 08.9 +11
TLY pmax pmax
comp=Z,5.0nm,1.5s
TLY MLR MLR
comp=Z,84nm,13.0s
MOY Mondy 60.26 337 eP P 15 57 03.0 +4.1
BOD Bodaibo 61.57 348 eP P 15 57 05.8 -1.7
BOD pmax pmax
comp=Z,10.0nm,1.3s
WMQ Urumqi 61.63 323 P P 15 57 12.9 +4.5
WMQ pP pP 15 57 16.5 -0.9
WMQ sP sP 15 57 19.6 -1.2
WMQ PP PP 15 59 27.6 +3.3
WMQ S S 16 05 27.0 -1.9
WMQ pmax pmax
comp=Z,16nm,0.9s
WMQ pmax pmax
comp=Z,220nm,5.9s
WMQ LR LR
comp=Z,440nm,31.3s
WMQ LR LR
comp=Z,190nm,35.7s
DGAR Diego Garcia 62.01 263 eP P 15 57 11.8 +0.5
comp=Z,66nm,0.9s
DGAR Diego Garcia 62.01 263 eP P 15 57 11.9 +0.5
DGAR pmax pmax
comp=Z,66nm,0.9s
MA2 Magadan 62.44 9 LR LR 16 21 25.9
comp=Z,72nm,21.0s,baz=192,slow=33
MA2 Magadan 62.44 9 eP P 15 57 14.0 +0.6
comp=Z,7.6nm,1.1s
MA2 Magadan 62.44 9 eP P 15 57 14.0 +0.6
MA2 pmax pmax
comp=Z,8.0nm,1.1s
HVS Khovu-Aksy 63.00 333 eP P 15 57 17.8 +0.4
HVS pmax pmax
comp=Z,10.0nm,0.9s
YAK Yakutsk 63.68 357 LR LR 16 25 04.0
comp=Z,68nm,18.4s,baz=252,slow=36
YAK Yakutsk 63.68 357 eP P 15 57 21.0 -0.5
comp=Z,23nm,0.7s
YAK Yakutsk 63.68 357 eP P 15 57 20.8 -0.7
YAK e*PP pP 15 57 30.0 -0.6
YAK e 15 57 54.9
YAK e 15 59 42.9
YAK eS S 16 05 55.5 +1.7
YAK e*SS sS 16 06 14.3 +5.6
YAK e 16 07 14.3
YAK eSS SS 16 10 01.7 -0.2
YAK pmax pmax
comp=Z,17nm,0.8s
YAK pmax pmax
comp=N,3.0nm,1.0s
YAK pmax pmax
comp=Z,90nm,5.3s
YAK pmax pmax
comp=E,50nm,5.6s
YAK pmax pmax
comp=N,52nm,5.7s
YAK smax smax
comp=N,31nm,2.7s
YAK smax smax
comp=E,29nm,3.4s
YAK MLR MLR
comp=Z,158nm,18.0s
YAK MLR MLR
comp=N,214nm,18.0s
YAK MLR MLR
comp=E,58nm,17.0s
DGZ Jazzator, Alta 65.17 328 eP P 15 57 31.5 -0.3
DGZ pmax pmax
comp=Z,1.0nm,1.0s
SEY Seymchan 65.88 9 eP P 15 57 34.8 -1.1
MK01 Makanchi Array 66.42 324 eP P 15 57 39.3 -0.4
MK31 Makanchi Array 66.44 324 eP P 15 57 39.3 -0.6
MK31 Makanchi Array 66.44 324 eP P 15 57 39.3 -0.6
MK32 Makanchi Array 66.44 324 eP P 15 57 39.2 -0.7
MKAR Makanchi Array 66.44 324 P P 15 57 39.2 -0.7
comp=Z,1.3nm,0.5s,baz=115,slow=7.8,SNR=13
MKAR Makanchi Array 66.44 324 eP P 15 57 39.0 -0.9
comp=Z,41nm,1.1s
PDGK Podgornoye 66.52 319 P P 15 57 40.5 -0.1
PDGK pmax pmax
comp=Z,9.0nm,1.3s
MAKZ Makanchi 66.63 324 eP P 15 57 40.5 -0.6
comp=Z,7.7nm,0.9s
MAKZ Makanchi 66.63 324 P P 15 57 41.3 +0.2
MAKZ pmax pmax
comp=Z,11nm,1.1s
PRZ Przheval'sk 66.86 318 eP P 15 57 42.2 -0.7
comp=Z,18nm,1.2s
PRZ Przheval'sk 66.86 318 eP P 15 57 42.2 -0.7
PRZ pmax pmax
comp=Z,18nm,1.2s
TARG Taragay, Kyrgy 66.94 317 eP P 15 57 42.1 -1.6
comp=Z,7.4nm,1.1s
KSH Kashi 67.33 314 P P 15 57 54.3 +8.5
KSH pmax pmax
comp=Z,28nm,1.2s
KDJ Kajisay 67.53 317 eP P 15 57 47.0 -0.1
comp=Z,11nm,1.3s
NRN Naryn 68.06 316 eP P 15 57 50.5 -0.1
comp=Z,19nm,2.0s
NRN Naryn 68.06 316 eP P 15 57 50.5 -0.1
NRN pmax pmax
comp=Z,19nm,2.0s
ZAA0 Zalesovo Array 68.98 331 eP P 15 57 54.7 -0.9
comp=Z,5.6nm,1.3s
ZALV Zalesovo Beam 68.98 331 P P 15 57 55.1 -0.5
comp=Z,0.8nm,0.6s,baz=111,slow=7.9,SNR=3.5
ZALV PcP PcP 15 58 18.5 -1.3
comp=Z,0.5nm,0.3s,baz=132,slow=6.2,SNR=4.1
ZALV LR LR 16 28 15.2
comp=Z,53nm,20.5s,baz=288,slow=36
ZAA1 Zalesovo Array 68.98 331 eP P 15 57 55.1 -0.6
ZAA1 ePcP PcP 15 58 18.5 -1.3
SFK Sufi-Kurgan 69.28 314 P P 15 57 58.8 +0.6
SFK pmax pmax
comp=Z,5.0nm,1.1s
AAK Ala-Archa 69.56 317 eP P 15 58 01.3 +1.5
comp=Z,4.3nm,1.0s
AAK Ala-Archa 69.56 317 eP P 15 58 00.4 +0.7
AAK pmax pmax
comp=Z,2.0nm,1.0s
KURK Kurchatov 70.49 326 eP P 15 58 04.7 -0.3
KURK Kurchatov 70.49 326 P P 15 58 05.3 +0.3
KURK pmax pmax
comp=Z,5.0nm,1.0s
KURBB Kurchatov Arra 70.50 326 P P 15 58 04.7 -0.4
comp=Z,2.0nm,0.9s,baz=119,slow=5.0,SNR=9.3
MNAS Manas 70.87 316 P P 15 58 07.9 +0.1
MNAS pmax pmax
comp=Z,4.0nm,1.5s
KBL Kabul 70.94 307 eP P 15 58 06.9 -1.5
comp=Z,3.8nm,0.6s
KBL Kabul 70.94 307 eP P 15 58 06.9 -1.5
KBL pmax pmax
comp=Z,4.0nm,0.6s
KK31 Karatay Array 72.46 316 eP P 15 58 15.8 -1.4
KK31 Karatay Array 72.46 316 eP P 15 58 15.8 -1.4
KKAR Karatay Array 72.46 316 eP P 15 58 15.3 -1.8
KKAR Karatay Array 72.46 316 eP P 15 58 15.3 -1.8
OTUK Ortayu 73.12 322 P P 15 58 21.9 +0.9
OTUK pmax pmax
comp=Z,7.0nm,1.1s
TIXI Tiksi 73.33 358 eP P 15 58 19.7 -1.9
comp=Z,4.3nm,1.1s
TIXI Tiksi 73.33 358 i P P 15 58 19.2 -2.4
TIXI pmax pmax
comp=Z,2.0nm,0.9s
BVA0 Borovoye Array 76.09 326 i P P 15 58 42.5 +4.4
BVA0 pmax pmax
comp=Z,11nm,1.4s
BVAR Borovoye Array 76.09 326 P P 15 58 37.5 -0.6
comp=Z,0.4nm,0.5s,baz=111,slow=7.9,SNR=4.2
PPT2 Papeete2 76.11 108 eLR LR 16 21 59.9
comp=Z,144nm,25.5s
BRVK Borovoye 76.16 326 eP P 15 58 38.3 -0.2
comp=Z,6.3nm,1.0s
BRVK Borovoye 76.16 326 i P P 15 58 37.3 -1.2
BRVK pmax pmax
comp=Z,1.0nm,1.0s
GAMB Gambell 76.39 22 eP P 15 58 40.3 +0.8
comp=Z,7.6nm,1.2s
VNDA Vanda 77.17 174 P P 15 58 44.5 +0.8
comp=Z,0.3nm,0.5s,baz=340,slow=4.9,SNR=3.6
VNDA LR LR 16 33 03.9
comp=Z,439nm,18.2s,baz=352,slow=36
VNDA Vanda 77.17 174 eP P 15 58 44.4 +0.7
VNDA Vanda 77.17 174 eP P 15 58 44.4 +0.7
WSAR Wadi Sarin 77.67 294 LR LR 16 34 56.3
comp=Z,32nm,21.9s,baz=114,slow=37
GEYT Alibeck 80.30 309 P P 15 59 02.7 +1.0
comp=Z,1.8nm,0.6s,baz=101,slow=1.5,SNR=4.1
AB31 Akbulak array 81.23 320 P P 15 59 06.5 +0.1
AB31 pmax pmax
comp=Z,4.0nm,0.9s
ABKAR Akbulak array 81.23 320 eP P 15 59 05.0 -1.4
MAW Mawson 81.46 202 P P 15 59 08.5 +1.3
comp=Z,1.5nm,0.6s,baz=73,slow=11,SNR=3.0
MAW LR LR 16 32 58.7
comp=Z,266nm,19.6s,baz=60,slow=34
MAW Mawson 81.46 202 eP P 15 59 07.9 +0.6
comp=Z,4.9nm,1.6s
MAW Mawson 81.46 202 eP P 15 59 07.9 +0.6
MAW pmax pmax
comp=Z,5.0nm,1.6s
SVW2 Sparrevohn 81.93 27 eP P 15 59 10.5 +0.6
comp=Z,6.8nm,1.0s
KDAK Kodiak Island 82.43 31 P P 15 59 12.6 +0.1
comp=Z,7.7nm,0.8s
AKTO Aktyubinsk 82.70 321 P P 15 59 14.5 +0.3
comp=Z,1.4nm,0.7s,baz=142,slow=4.7,SNR=3.7
AKTO LR LR 16 37 47.2
comp=Z,53nm,21.7s,baz=109,slow=37
AKTO Aktyubinsk 82.70 321 P P 15 59 12.0 -2.1
AKTO pmax pmax
comp=Z,3.0nm,1.0s
ARU Arti 83.65 327 P P 15 59 18.8 -0.1
comp=Z,0.8nm,0.3s
ARU Arti 83.65 327 eP P 15 59 17.6 -1.2
comp=Z,12nm,1.3s
ARU Arti 83.65 327 c iP P 15 59 18.2 -0.7
ARU 16 02 29.5
ARU S S 16 09 37.6 -1.7
ARU SS SS 16 15 01.7 -4.5
ARU pmax pmax
comp=Z,9.0nm,2.5s
BRLK Bradley Lake 83.79 29 eP P 15 59 19.2 -0.4
comp=Z,48nm,1.8s
PPLA Purkeypile 83.99 26 eP P 15 59 21.0 +0.2
comp=Z,53nm,1.9s
SKT Skwentna 84.05 27 eP P 15 59 20.7 -0.1
comp=Z,5.8nm,0.9s
CAST Castle Rocks 84.18 26 eP P 15 59 21.9 +0.4
comp=Z,3.8nm,1.1s
IM3 Indian Mountai 84.22 23 eP P 15 59 21.8 +0.1
SUA Susitna One 84.28 28 eP P 15 59 22.0 -0.1
comp=Z,7.7nm,0.9s
RC01 Rabbit Creek A 84.66 28 eP P 15 59 24.0 0.0
comp=Z,12nm,1.0s
KTH Kantishna Hill 84.72 26 eP P 15 59 24.3 0.0
comp=Z,24nm,1.6s
BPAW Bear Paw Mtn. 84.83 25 eP P 15 59 25.8 +1.0
comp=Z,25nm,1.7s
TRF Thorofare Moun 84.97 26 eP P 15 59 24.4 -1.2
comp=Z,8.9nm,1.2s
PMR Palmer 85.06 28 eP P 15 59 24.9 -1.0
comp=Z,28nm,1.8s
PMR Palmer 85.06 28 eP P 15 59 24.9 -1.0
PMR pmax pmax
comp=Z,28nm,1.8s
MLY Manley 85.17 24 eP P 15 59 26.8 +0.3
comp=Z,5.6nm,1.0s
GHO Glory Hole Cre 85.19 28 eP P 15 59 25.3 -1.4
comp=Z,23nm,1.6s
SML Sawmill 85.48 28 eP P 15 59 27.8 -0.3
comp=Z,13nm,0.9s
SML Sawmill 85.48 28 eP P 15 59 27.8 -0.3
RND Reindeer 85.59 26 eP P 15 59 28.2 -0.5
comp=Z,17nm,1.2s
RND Reindeer 85.59 26 eP P 15 59 28.2 -0.5
RND pmax pmax
comp=Z,17nm,1.2s
MCK McKinley 85.62 26 eP P 15 59 28.6 -0.1
comp=Z,58nm,1.9s
MCK McKinley 85.62 26 eP P 15 59 28.6 -0.1
MCK pmax pmax
comp=Z,58nm,1.9s
COLD Coldfoot 85.93 22 eP P 15 59 30.3 +0.1
comp=Z,2.8nm,0.9s
SCM Sheep Creek Mo 85.95 28 eP P 15 59 30.5 0.0
comp=Z,15nm,0.9s
SCM Sheep Creek Mo 85.95 28 eP P 15 59 30.5 0.0
SCM pmax pmax
comp=Z,15nm,0.9s
WRH Wood River Hil 86.14 25 eP P 15 59 30.6 -0.7
comp=Z,32nm,1.7s
DHY Denali Highway 86.17 27 eP P 15 59 31.0 -0.7
comp=Z,16nm,1.2s
CCB Clear Creek Bu 86.30 25 eP P 15 59 31.5 -0.6
comp=Z,42nm,1.8s
COLA College 86.33 25 i P P 15 59 31.7 -0.4
COLA pmax pmax
comp=Z,3.0nm,0.9s
KLU Klutina 86.55 28 eP P 15 59 34.4 +1.0
comp=Z,6.3nm,0.9s
DIV Divide 86.56 29 eP P 15 59 34.0 +0.6
comp=Z,14nm,1.0s
ILAR Eielson Array 86.71 25 P P 15 59 33.2 -0.8
comp=Z,0.5nm,0.6s,baz=261,slow=4.8,SNR=6.8
ILB Eielson Array 86.71 25 eP P 15 59 33.3 -0.8
IL1 Eielson Array 86.71 25 eP P 15 59 32.7 -1.4
OPO Ambohidratompo 86.86 252 P P 15 59 37.2 +1.2
comp=Z,1.7nm,0.8s,baz=102,slow=13,SNR=2.0
PAX Paxson 87.01 27 eP P 15 59 34.9 -0.8
comp=Z,24nm,1.6s
PAX Paxson 87.01 27 eP P 15 59 34.9 -0.8
PAX pmax pmax
comp=Z,24nm,1.6s
BMRM Bremner River 87.09 29 eP P 15 59 35.1 -1.0
comp=Z,57nm,2.0s
RIDG Independ'e Rid 87.41 26 eP P 15 59 37.7 +0.1
comp=Z,36nm,1.8s
DOT Dot Lake 87.74 26 eP P 15 59 37.9 -1.2
comp=Z,12nm,1.1s
MENT Mentasta 87.79 27 eP P 15 59 39.1 -0.3
comp=Z,23nm,1.9s
SCRK Sand Creek 87.82 26 eP P 15 59 40.8 +1.1
comp=Z,8.3nm,1.4s
BALM Baldy 88.19 29 eP P 15 59 41.6 +0.2
comp=Z,23nm,1.6s
BALM Baldy 88.19 29 eP P 15 59 41.6 +0.2
BALM pmax pmax
comp=Z,23nm,1.6s
QSPA South Pole Qui 88.22 180 P P 15 59 42.8 +1.2
comp=Z,2.3nm,1.1s,baz=104,slow=14,SNR=3.4
QSPA LR LR 16 39 04.4
comp=Z,410nm,19.6s,baz=2.0,slow=36
MAK Makhachkala 88.92 313 eP P 15 59 42.3 -2.8
MAK eS SKSac 16 10 08.8 -4.0
MAK eSS SS 16 16 25.4 +1.2
MAK pmax pmax
comp=Z,248nm,1.5s
DAWY Dawson 89.84 26 eP P 15 59 49.9 +0.9
comp=Z,13nm,0.6s
RKT Rikitea 89.87 113 eLR LR 16 28 13.7
comp=Z,234nm,30.2s
GNI Garni 90.87 310 LR LR 16 44 09.3
comp=Z,33nm,21.6s,baz=85,slow=38
ATD Arta Tunnel 91.91 281 LR LR 16 42 46.4
comp=Z,24nm,18.6s,baz=118,slow=36
KIV Kislovodsk 92.45 314 eP P 15 59 59.0 -2.7
KIV pmax pmax
comp=Z,6.0nm,1.0s
TMCR Tamitsa 94.34 334 eP P 16 00 04.7 -5.0
TMCR pmax pmax
comp=Z,14nm,1.3s
SPA0 Spitsbergen Ar 97.24 349 eP P 16 00 22.3 -0.5
SPITS Spitsbergen Ar 97.24 349 P P 16 00 22.3 -0.5
comp=Z,10nm,1.1s,baz=300,slow=17,SNR=6.2
ARA0 ARCESS Array S 98.16 340 eP Pdif 16 00 26.9 -0.2
ARCES ARCESS Array B 98.16 340 P Pdif 16 00 26.9 -0.2
comp=Z,1.4nm,0.8s,baz=52,slow=6.0,SNR=2.5
BRTR Keskin Array B 99.41 310 LR LR 16 53 01.9
comp=Z,21nm,18.8s,baz=76,slow=40
YKA Yellowknife Ar 101.08 26 P **Pdif 16 00 39.7 -0.5**
comp=Z,0.1nm,0.4s,baz=294,slow=4.5,SNR=3.4
CPUP Villa Florida 149.89 159 PKPbc **PKPbc 16 06 43.7 +2.3**
comp=Z,3.0nm,0.7s,baz=171,slow=5.8,SNR=3.5
CPUP Villa Florida 149.89 159 ePKPdf **PKPdf 16 06 33.6 -3.0**
CPUP ePKPbc **PKPbc 16 06 44.1 +2.7**
CPUP Villa Florida 149.89 159 ePKIKP **PKPdf 16 06 33.6 -3.0**
CPUP e 16 06 44.2
LPAZ La Paz 151.41 130 PKPbc **PKPbc 16 06 48.2 +2.1**
comp=Z,2.6nm,0.6s,baz=301,slow=0.6,SNR=6.7
LPAZ PKPab **PKPab 16 06 53.5 -0.7**
comp=Z,2.7nm,0.6s,baz=12,slow=1.2,SNR=8.0
LPAZ La Paz 151.41 130 ePKPbc **PKPbc 16 06 49.0 +2.9**
SDV Santo Domingo 154.04 73 PKPbc **PKPbc 16 06 52.7 +1.2**
comp=Z,1.4nm,0.4s,baz=346,slow=4.2,SNR=2.9

CSEM **19** *15:47:41.7±0.6, 42°.65N×41°.64E, h10km, ML2.8, Error ellipse: s-maj=15.8km s-min=4.1km az=132.0*
DDA **19** *15:47:43.7, 42°.45N×41°.51E, h7km, Ml2.8*
ISC 19 15:47:41.7±3.7, **42°.8N**±0°.2×**41°.7E**±0°.2, **h25**km±13km, **n9, s0.31/18, Western Caucasus**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHVG	**Ch'k'valeri**	**0.32**	**98**	P	**Pb**	**15 47 49.0**	**-0.1**
CHVG				S	**Sb**	**15 47 54.0**	**-0.1**
ONI	**Oni**	**1.34**	**97**	P	**Pb**	**15 48 06.3**	**+0.2**
ONI				S	**Sn**	**15 48 21.5**	**-0.3**
ONI	**Oni**	**1.34**	**97**	P	**Pb**	**15 48 06.1**	**0.0**
ONI				S	**Sb**	**15 48 23.1**	**+0.2**
DBOC	**Borcka**	**1.42**	**180**	*i* P	**Pn**	**15 48 05.7**	**-0.2**
DBOC				*i* S	**Sn**	**15 48 24.0**	**+0.2**
DBOC	**Borcka**	**1.42**	**180**	P	**Pn**	**15 48 05.7**	**-0.2**
DBOC				S	**Sn**	**15 48 24.0**	**+0.2**
DBAD	**Bademkaya**	**1.74**	**179**	*i* P	**Pn**	**15 48 10.4**	**-0.1**
DBAD				*i* S	**Sn**	**15 48 31.5**	**-0.5**
DBAD	**Bademkaya**	**1.74**	**179**	P	**Pn**	**15 48 10.4**	**-0.1**
DBAD				S	**Sn**	**15 48 31.5**	**-0.5**
DDEM	**Demirkent**	**1.87**	**178**	*i* P	**Pn**	**15 48 12.7**	**+0.5**
DDEM				*i* S	**Sn**	**15 48 34.9**	**-0.1**
DDEM	**Demirkent**	**1.87**	**178**	P	**Pn**	**15 48 12.7**	**+0.5**
DDEM				S	**Sn**	**15 48 34.9**	**-0.1**

*MEX **19** 15:56:39.9±0.8, 15°.86N×98°.67W, h6km±20km, MD4.4*
*ISCJB **19** 15:56:43.6±0.4, 16°.20N±0°.04×98°.32W±0°.03, h17km, mb4.4/132, MS3.7/2, Error ellipse: s-maj=6.7km s-min=4.1km az=22.4*
*IDC **19** 15:56:44.5±5.9, 15°.94N×98°.30W, h35km±45km, mb3.7/6, mb1 3.9/10, mb1mx3.7/45, mbtmpg3.8/10, ML3.6/4, MS3.6/4, Ms1 3.6/4, ms1mx3.0/39, Error ellipse: s-maj=36.6km s-min=22.4km az=41.0*
*NEIC **19** 15:56:47.5±1.1, 16°.44N×98°.28W, h20km±8km, mb4.5/154, MD4.4(MEX), Error ellipse: s-maj=8.8km s-min=5.2km az=206.0*

ISC 19 15:56:43.9±0.6, 16°.11N±0°.05×98°.41W±0°.04, h17km, n222, σ1°80/221, mb4.5/132, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.39**	**45**	*e*P	**Pg**	**15 56 52.4**	**+0.3**
PNIG				*i* S	**Sn**	**15 57 02.6**	**+0.6**
PNIG	**Pinotepa**	**0.39**	**45**	*e*Pg	**Pg**	**15 56 52.4**	**+0.3**
TLIG	**Tlapa**	**1.45**	**354**	*e*P	**Pn**	**15 57 07.0**	**-2.5**
TLIG				*i* S	**Sn**	**15 57 27.7**	**-0.6**
TLIG	**Tlapa**	**1.45**	**354**	*e*Pn	**Pn**	**15 57 06.4**	**-3.2**
TLIG				*e*Sn	**Sn**	**15 57 28.2**	**0.0**
VHO	**Vista Hermosa**	**1.87**	**59**	*e*P	**Pn**	**15 57 14.8**	**-0.7**
VHO				*e*S	**Sb**	**15 57 41.3**	**+0.2**
VHO	**Vista Hermosa**	**1.87**	**59**	*e*Pn	**Pn**	**15 57 14.8**	**-0.7**
VHO				*e*Sn	**Sb**	**15 57 41.3**	**+0.2**
CAIG	**El Cayaco**	**2.01**	**298**	*e*P	Pn	15 57 09.8	-7.3
CAIG	**El Cayaco**	**2.01**	**298**	*e*P	Pn	15 57 09.8	-7.3
HUIG	**Huatulco**	**2.25**	**98**	*e*P	**Pn**	**15 57 18.1**	**-2.2**
HUIG	**Huatulco**	**2.25**	**98**	*e*Pn	**Pn**	**15 57 18.1**	**-2.2**
UNM	**Universidad Na**	**3.28**	**347**	*e*Pn	**Pn**	**15 57 35.6**	**+0.8**
UNM				*e*Sg	**Sg**	**15 58 33.4**	**+4.0**
CMIG	**Matias Romero**	**3.52**	**73**	Pn	**Pn**	**15 57 36.6**	**-1.3**
	3.6nm,0.3s,baz=261,slow=14,SNR=18						
CMIG				Sn	**Sn**	**15 58 17.5**	**-1.7**
	4.4nm,0.3s,baz=44,slow=20,SNR=6.2						
CMIG				Lg	Lg	15 58 34.9	
	8.9nm,0.3s,baz=254,slow=11,SNR=9.3						
CMIG				LR	LR	15 59 21.2	
	comp=Z,988nm,22.0s,baz=268,slow=45						
LVIG	**Laguna Verde**	**4.06**	**28**	*e*Pn	**Pn**	**15 57 45.8**	**+0.4**
LVIG				*e*Sg	**Sg**	**15 58 55.0**	**+0.5**
MOIG	**Morelia**	**4.42**	**324**	*e*Pn	Pn	15 57 55.9	+5.3
MOIG				*e*Sg	**Sb**	**15 58 59.0**	**+4.5**
JRQG	**Juriquilla Cam**	**4.96**	**337**	*e*Pn	**Pn**	**15 58 00.5**	**+2.6**
JRQG				*e*Sg	**Sg**	**15 59 20.4**	**-2.8**
CCIG	**Comitan**	**6.03**	**88**	*e*Pn	Pn	15 58 17.9	+5.3
CCIG				*e*Sn	**Sn**	**15 59 26.5**	**+5.1**
ZAIG	**Zacatecas**	**7.69**	**330**	*e*Pn	**Pn**	**15 58 33.7**	**-1.9**
APG	**El Apazote**	**7.74**	**97**	Pn	**Pn**	**15 58 33.4**	**-2.8**
	0.4nm,0.3s,baz=292,slow=11,SNR=1.9						
APG				Sn	**Sn**	**15 59 59.9**	**-3.7**
	0.2nm,0.3s,baz=11,slow=19,SNR=2.0						
LNIG	**Linares**	**8.80**	**354**	*e*Pn	Pn	15 58 44.3	-6.1
LNIG				*e*Lg	Lg	16 01 22.4	
H06E1	**SOCORRO T-PHAS**	**12.23**	**284**	T	T	16 11 45.7	
H06S1	**SOCORRO T**	**12.25**	**284**	T	T	16 11 50.3	
	SNR=34						
HPIG		**12.70**	**329**	*e*Pn	Pn	15 59 39.1	-5.0
LPIG	**La Paz**	**13.70**	**307**	LR	LR	16 04 14.7	
	comp=Z,104nm,18.9s,baz=238,slow=32						
TXAR	**Lajitas Array**	**14.02**	**341**	Pn	**Pn**	**16 00 04.3**	**+2.3**
	0.1nm,0.3s,baz=157,slow=16,SNR=3.9						
JTS	**JuntasAbangare**	**14.32**	**112**	Pn	**Pn**	**16 00 03.6**	**-2.6**
	0.6nm,0.3s,baz=282,slow=19,SNR=2.0						
HDC	**Heredia**	**15.19**	**112**	*e*Pn	**Pn**	**16 00 20.2**	**+2.1**
	104nm,1.1s						
WHTX	**Lake Whitney,**	**15.83**	**3**	*e*Pn	**Pn**	**16 00 24.6**	**-1.5**
	44nm,1.0s						
NATX	**Nacogdoches**	**15.95**	**12**	*e*Pn	**Pn**	**16 00 26.5**	**-1.1**
	113nm,1.9s						
ABTX	**Abilene, Hawle**	**16.48**	**356**	*e*Pn	**P**	**16 00 36.4**	**-0.6**
	28nm,1.1s						
MNTX	**Cornudas Mount**	**16.76**	**339**	*e*Pn	**Pn**	**16 00 37.0**	**-1.1**
	12nm,1.4s						
EPT	**El Paso**	**17.24**	**336**	*e*Pn	**Pn**	**16 00 45.1**	**+0.9**
	55nm,1.8s						
HSIG		**17.27**	**320**	*e*Pn	**Pn**	**16 00 43.2**	**-1.2**
VBMS	**Vicksburg**	**17.57**	**23**	*e*Pn	**Pn**	**16 00 44.7**	**-3.3**
	21nm,0.6s						
Z41A	**Richland Creek**	**17.81**	**16**	*e*Pn	**Pn**	**16 00 47.0**	**-4.1**
	63nm,1.4s						
319A	**Douglas**	**18.14**	**329**	*e*Pn	**Pn**	**16 00 53.9**	**-1.3**
	11nm,0.8s						
MSTX	**Muleshoe**	**18.21**	**348**	*e*Pn	**Pn**	**16 00 54.6**	**-1.5**
	36nm,1.4s						
WMOK	**Wichita Mounta**	**18.55**	**359**	*e*P	**P**	**16 00 56.5**	**-3.4**
	10nm,1.4s						
MIAR	**Mount Ida**	**18.86**	**12**	*e*P	**P**	**16 01 03.1**	**-0.2**
	10nm,1.0s						
AMTX	**Amarillo**	**18.92**	**352**	*e*P	**P**	**16 01 00.1**	**-4.0**
	26nm,1.3s						
X40A	**Basin Creek Fa**	**18.97**	**14**	*e*P	**P**	**16 01 00.9**	**-3.6**
	14nm,1.5s						
UALR	**University of**	**19.37**	**15**	*e*P	**P**	**16 01 05.8**	**-3.1**
	44nm,1.8s						
BCIP	**Isla Barro Col**	**19.39**	**109**	*e*P	**Pn**	**16 01 12.6**	**+2.2**
	117nm,1.9s						
BNM	**Barren Site**	**19.42**	**339**	*e*P	**Pn**	**16 01 10.8**	**-0.1**
W39A	**Magazine**	**19.45**	**11**	*e*P	**P**	**16 01 10.5**	**+0.7**
	12nm,0.9s						
W40A	**Ferguson Farm,**	**19.59**	**13**	*e*P	**P**	**16 01 08.0**	**-3.3**
	18nm,0.9s						
TUC	**Tucson**	**19.65**	**327**	*e*P	**P**	**16 01 11.5**	**-0.6**
	16nm,1.8s						
W41B	**Gary Mavity, V**	**19.77**	**15**	*e*P	**P**	**16 01 10.3**	**-2.9**
	9.4nm,1.2s						
LAZ	**Ladron**	**19.83**	**338**	*e*P	**P**	**16 01 11.5**	**-2.6**
TUL1	**Leonard**	**19.86**	**6**	*e*P	**P**	**16 01 11.2**	**-3.0**
	15nm,0.9s						
WHAR	**Wooly Hollow**	**19.87**	**15**	*e*P	**P**	**16 01 14.5**	**+0.2**
	26nm,1.3s						
OXF	**Oxford**	**20.03**	**22**	*e*P	**P**	**16 01 13.1**	**-3.0**
	33nm,1.1s						
ANMO	**Albuquerque**	**20.09**	**340**	*e*P	**P**	**16 01 17.6**	**+0.6**
	8.8nm,1.0s						
V40A	**Witts Springs**	**20.24**	**13**	*e*P	**P**	**16 01 17.3**	**-1.1**
	22nm,1.0s						
HHAR	**Hobbs**	**20.48**	**10**	*e*P	**P**	**16 01 21.2**	**+0.2**
	14nm,1.1s						
PLAL	**Pickwick Lake**	**20.95**	**24**	*e*P	**P**	**16 01 27.1**	**+1.0**
	19nm,1.3s						
X18A	**Snowflake**	**21.06**	**333**	*e*P	**P**	**16 01 27.9**	**+0.4**
	16nm,1.3s						
W18A	**Petrified Fore**	**21.47**	**334**	*e*P	**P**	**16 01 32.6**	**+0.7**
	23nm,1.5s						
T25A	**Trinidad**	**21.61**	**347**	*e*P	**P**	**16 01 32.5**	**-0.9**
	42nm,1.4s						
113A	**Mohawk Valley,**	**21.64**	**323**	*e*P	**P**	**16 01 34.1**	**+0.6**
	12nm,1.4s						
MHTCO	**State Highway**	**21.66**	**346**	*e*P	**P**	**16 01 35.1**	**+1.2**
	22nm,1.6s						
X16A	**Lo Mia Camp, P**	**21.66**	**330**	*e*P	**P**	**16 01 35.5**	**+1.6**
	11nm,0.9s						
PBMO	**Poplar Bluff**	**21.77**	**17**	*e*P	**P**	**16 01 36.0**	**+1.1**
	19nm,0.8s						
GOGA	**Godfrey**	**21.88**	**35**	*e*P	**P**	**16 01 35.4**	**-0.8**
	31nm,1.8s						
WVT	**Waverly**	**22.05**	**23**	*e*P	**P**	**16 01 37.8**	**-0.1**
	25nm,1.1s						
Y14A	**Wickenburg**	**22.09**	**326**	*e*P	**P**	**16 01 38.0**	**-0.4**
	26nm,1.5s						
SDCO	**Great Sand Dun**	**22.44**	**345**	*e*P	**P**	**16 01 42.1**	**-0.3**
	32nm,1.8s						
GLA	**Glamis**	**22.47**	**322**	*e*P	**P**	**16 01 43.8**	**+1.3**
	18nm,1.1s						
GTBY	**Guantanamo Bay**	**22.48**	**77**	*e*P	**P**	**16 01 45.5**	**+2.8**
	77nm,1.1s						
WUAZ	**Wupatki**	**22.53**	**331**	*e*P	**P**	**16 01 44.1**	**+0.8**
	22nm,1.0s						
CBKS	**Cedar Bluff**	**22.65**	**357**	*e*P	**P**	**16 01 45.4**	**+1.1**
	24nm,1.0s						
CCM	**Cathedral Cave**	**22.75**	**15**	*e*P	**P**	**16 01 45.5**	**+0.1**
	17nm,1.1s						
BLYC	**Blythe**	**22.79**	**323**	*e*Sn	Sn	16 06 02.0	-7.1
Y12C	**Blythe**	**22.79**	**323**	*e*P	**P**	**16 01 46.5**	**+0.7**
	12nm,1.4s						
S22A	**4UR Ranch, Cre**	**22.80**	**343**	*e*P	**P**	**16 01 46.0**	**-0.1**
	9.1nm,1.0s						
MVCO	**Mesa Verde**	**22.83**	**339**	*e*P	**P**	**16 01 46.0**	**-0.6**
	19nm,1.0s						
SIUC	**Southern Illin**	**23.00**	**19**	*e*P	**P**	**16 01 48.2**	**+0.2**
	26nm,1.1s						
KSCO	**Kaye Shedlock'**	**23.11**	**352**	*e*P	**P**	**16 01 49.9**	**+0.6**
	53nm,1.2s						
HODGE	**Hodges**	**23.16**	**36**	*e*P	**P**	**16 01 49.6**	**-0.1**
	21nm,1.6s						
BG3	**Lake Jocassee**	**23.36**	**34**	*e*P	**P**	**16 01 51.5**	**-0.2**
	11nm,1.3s						
W13A	**Hualapai Mount**	**23.44**	**327**	*e*P	**P**	**16 01 53.3**	**+0.6**
	4.9nm,1.1s						
Q24A	**Divide**	**23.52**	**347**	*e*P	**P**	**16 01 54.7**	**+1.2**
	5.0nm,1.0s						
BORC	**Borrego Spring**	**23.59**	**320**	*e*Sn	Sn	16 06 23.3	-4.9
PV01	**Paradox Valley**	**23.69**	**340**	*e*P	**P**	**16 01 56.1**	**+0.9**
U15A	**North Rim**	**23.70**	**331**	*e*P	**P**	**16 01 57.0**	**+1.7**
	13nm,1.3s						
USIN	**University of**	**23.74**	**21**	*e*P	**P**	**16 01 55.3**	**0.0**
	51nm,1.2s						
PV05	**Paradox Valley**	**23.82**	**339**	*e*P	**P**	**16 01 57.1**	**+0.7**
BELC	**Belle Mtn. Jos**	**23.83**	**322**	*e*P	**P**	**16 02 00.5**	**+4.1**
XPFO	**Piæon Flat**	**23.84**	**320**	*e*P	**P**	**16 01 57.3**	**+0.8**
	8.3nm,1.3s						
PFO	**Pinyon Flats O**	**23.84**	**320**	*e*P	**P**	**16 01 57.7**	**+1.2**
	7.1nm,1.2s						
PV10	**Paradox Valley**	**24.07**	**339**	*e*P	**P**	**16 01 59.4**	**+0.7**
SMCO	**Snowmass**	**24.17**	**344**	*e*P	**P**	**16 02 01.2**	**+1.4**
	34nm,1.4s						
TZTN	**Tazewell**	**24.26**	**30**	*e*P	**P**	**16 02 00.0**	**-0.2**
	37nm,1.5s						
OLIL	**Olney**	**24.29**	**20**	*e*P	**P**	**16 02 00.2**	**-0.2**
	18nm,1.1s						
KMSC	**Kings Mountain**	**24.35**	**36**	*e*P	**P**	**16 01 59.1**	**-1.9**
	26nm,1.8s						
BBSC	**Beaumont Base**	**24.37**	**320**	*e*P	**P**	**16 01 57.2**	**-4.2**
ISCO	**Idaho Springs**	**24.42**	**346**	*e*P	**P**	**16 02 02.5**	**+0.4**
	30nm,1.4s						
KNB	**Kanab**	**24.43**	**331**	*e*P	**P**	**16 02 04.6**	**+2.6**
	9.4nm,1.1s						
WCI	**Wyandotte Cave**	**24.48**	**24**	*e*P	**P**	**16 02 01.5**	**-0.7**
	68nm,1.6s						
HELC	**Santa Helena**	**24.50**	**111**	*e*P	**P**	**16 02 05.8**	**+2.8**
	44nm,1.6s						
BBRC	**Big Bear Solar**	**24.57**	**321**	*e*P	**P**	**16 02 03.7**	**+0.4**
LCMT	**Little Creek M**	**24.62**	**331**	*e*P	**P**	**16 02 05.6**	**+1.9**
	16nm,1.8s						
OGNE	**Ogallala**	**24.94**	**353**	*e*P	**P**	**16 02 06.9**	**+0.4**
	45nm,1.0s						
MTPU	**Mount Pierson**	**24.99**	**334**	*e*P	**P**	**16 02 08.7**	**+1.5**
	15nm,1.1s						
SZCU	**Shurtz Canyon**	**25.02**	**332**	*e*P	**P**	**16 02 09.0**	**+1.6**
	12nm,1.3s						
DLAC	**Del Amo**	**25.02**	**318**	*e*P	P	16 02 14.8	+7.7
CCUT	**Cedar City**	**25.11**	**331**	*e*P	**P**	**16 02 10.1**	**+1.9**
	5.9nm,1.3s						
SHPR	**Sheep Range**	**25.18**	**327**	*e*P	**P**	**16 02 10.4**	**+1.6**
	5.2nm,1.0s						
BGNE	**Belgrade**	**25.21**	**0**	*e*P	**P**	**16 02 07.5**	**-1.3**
	16nm,0.8s						
GSC	**Goldstone, Bar**	**25.21**	**323**	*e*P	**P**	**16 02 10.1**	**+1.1**
	24nm,1.8s						
BLO	**Bloomington**	**25.22**	**22**	*e*P	**P**	**16 02 08.1**	**-0.9**
	17nm,0.6s						
OTAV	**Otavalo**	**25.23**	**127**	*e*P	**P**	**16 02 11.5**	**+1.7**
	25nm,1.8s						
SRU	**San Rafael Swe**	**25.25**	**338**	*e*P	**P**	**16 02 10.7**	**+1.3**
	8.7nm,1.0s						
PASC	**Pasadena Art C**	**25.29**	**319**	*e*P	**P**	**16 02 13.1**	**+3.5**
PASC				*e*PcP	**PcP**	**16 05 44.7**	**+2.1**
MSU	**Marysvale**	**25.38**	**334**	*e*P	**P**	**16 02 12.3**	**+1.6**
O20A	**White River Ci**	**25.42**	**342**	*e*P	**P**	**16 02 11.9**	**+0.9**
	41nm,1.4s						
CJV	**Casa Juvan**	**25.50**	**320**	*e*P	**P**	**16 02 13.1**	**+1.5**
N23A	**Red Feather La**	**25.54**	**347**	*e*P	**P**	**16 02 12.7**	**+0.6**
	9.2nm,1.1s						
P18A	**Preston Nutter**	**25.61**	**339**	*e*P	**P**	**16 02 14.3**	**+1.5**
	28nm,1.6s						
HDIL	**Hodale**	**25.61**	**16**	*e*P	**P**	**16 02 13.0**	**+0.5**
	116nm,1.9s						
P17A	**Butcher Ranch,**	**25.65**	**338**	*e*P	**P**	**16 02 12.8**	**-0.2**
	23nm,1.7s						
TMUT	**Trail Mountain**	**25.67**	**337**	*e*P	**P**	**16 02 15.0**	**+1.7**
	14nm,1.4s						
CCCA	**Chr Cany lake**	**25.70**	**322**	*e*P	P	16 02 20.6	+7.3
CCCA				*e*S	**S**	**16 06 40.9**	**-0.5**
NCAT	**North Carolina**	**25.91**	**36**	*e*P	**P**	**16 02 15.5**	**+0.3**
	41nm,1.9s						
SRTC	**Snort**	**26.04**	**322**	*e*PcP	**PcP**	**16 05 43.6**	**-0.7**
TPNV	**Topopah Spring**	**26.09**	**326**	*e*P	**P**	**16 02 19.8**	**+2.7**
	11nm,1.3s						
SCIA	**State Center**	**26.09**	**9**	*e*P	**P**	**16 02 16.3**	**-0.5**
	28nm,1.0s						
SFIN	**Lafayette**	**26.11**	**20**	*e*P	**P**	**16 02 16.8**	**-0.1**
	40nm,1.6s						
DAC	**Darwin (Calif)**	**26.35**	**323**	*e*P	**P**	**16 02 21.6**	**+2.2**
	5.7nm,1.4s						
WHFM	**Hanning Flat**	**26.40**	**321**	*e*P	**P**	**16 02 25.1**	**+5.4**
MPU	**Mary Canyon**	**26.45**	**337**	*e*P	**P**	**16 02 21.2**	**+0.9**
	5.1nm,0.9s						
NLU	**North Lily Min**	**26.57**	**336**	*e*P	**P**	**16 02 21.3**	**-0.2**
	14nm,1.2s						
RWWY	**Rawlins**	**26.59**	**345**	*e*P	**P**	**16 02 22.4**	**+0.7**
	32nm,1.5s						
R11A	**Troy Canyon, C**	**26.81**	**329**	*e*P	**P**	**16 02 25.9**	**+2.4**
	15nm,2.0s						
RUSC	**La Rusia**	**26.82**	**109**	*e*P	**P**	**16 02 26.6**	**+2.4**
	5.3nm,1.2s						
JLU	**Jordanelle**	**26.90**	**338**	*e*P	**P**	**16 02 25.9**	**+1.5**
	8.5nm,1.4s						
CARC	**Carrizo Plain**	**27.07**	**319**	*e*PcP	**PcP**	**16 05 48.0**	**+1.2**
DUG	**Dugway, Tooele**	**27.07**	**335**	*e*P	**P**	**16 02 27.3**	**+1.4**
	3.2nm,0.8s						
CTU	**Camp Tracy**	**27.09**	**337**	*e*P	**P**	**16 02 28.6**	**+2.5**
	3.4nm,0.6s						
TCUT	**Toone Canyon**	**27.34**	**338**	*e*P	**P**	**16 02 29.2**	**+0.8**
	28nm,1.3s						
K22A	**Casper**	**27.35**	**347**	*e*P	**P**	**16 02 29.7**	**+1.4**
	12nm,1.4s						
ECSD	**EROS Data Cent**	**27.57**	**3**	*e*P	**P**	**16 02 31.8**	**+1.7**
	4.1nm,0.9s						
PAGB	**Antelope Grade**	**27.59**	**319**	*e*P	**P**	**16 02 33.1**	**+2.8**
	41nm,1.8s						
JFWS	**Jewell Farm**	**27.61**	**13**	*e*P	**P**	**16 02 31.1**	**+0.6**
	7.1nm,0.8s						
BGU	**Big Grassy Mou**	**27.78**	**336**	*e*P	**P**	**16 02 34.2**	**+2.0**
	11nm,1.5s						
HWUT	**Hardware Ranch**	**27.82**	**339**	*e*P	**P**	**16 02 33.1**	**+0.5**
	14nm,1.8s						
SDV	**Santo Domingo**	**28.03**	**101**	LR	LR	16 13 27.5	
	comp=Z,55nm,18.1s,baz=252,slow=36						
SDV	**Santo Domingo**	**28.03**	**101**	*e*P	**P**	**16 02 37.5**	**+2.7**
	8.5nm,1.1s						
OMMB	**Old Mammoth Mi**	**28.09**	**324**	*e*P	**P**	**16 02 35.9**	**+0.7**
	8.0nm,1.4s						
MDPB	**Devils Postpil**	**28.15**	**324**	*e*P	**P**	**16 02 36.8**	**+1.1**
	6.3nm,1.1s						
IP07	**Quail**	**28.19**	**36**	*e*P	**P**	**16 02 34.3**	**-1.4**
	40nm,1.9s						
NV11	**Mina Array Sit**	**28.20**	**326**	*e*P	**P**	**16 02 36.5**	**+0.5**
	0.8nm,1.4s						
BW06	**Boulder Array**	**28.23**	**342**	*e*P	**P**	**16 02 36.3**	**0.0**
	8.9nm,1.3s						
PD31	**Pinedale Array**	**28.23**	**342**	*e*P	**P**	**16 02 36.8**	**+0.5**
PDAR	**Pinedale Array**	**28.23**	**342**	P	**P**	**16 02 37.2**	**+0.9**
	4.1nm,1.1s,baz=141,slow=9.6,SNR=13						
PDAR	**Pinedale Array**	**28.23**	**342**	*e*P	**P**	**16 02 36.8**	**+0.5**
NV01	**Mina Array Sit**	**28.28**	**326**	*e*P	**P**	**16 02 36.8**	**0.0**
NVAR	**Mina Array Bea**	**28.28**	**326**	P	**P**	**16 02 37.0**	**+0.2**
	0.2nm,0.3s,baz=126,slow=9.0,SNR=11						
RSSD	**Black Hills**	**28.32**	**351**	*e*P	**P**	**16 02 36.9**	**-0.1**
	8.2nm,1.4s						
HVU	**Hansel Valley**	**28.41**	**337**	*e*P	**P**	**16 02 39.5**	**+1.6**
	4.6nm,1.1s						
REDW	**Red Top Meadow**	**29.16**	**341**	*e*P	**P**	**16 02 44.2**	**-0.3**
	5.5nm,1.1s						
CMB	**Columbia Colle**	**29.18**	**323**	*e*P	**P**	**16 02 44.0**	**-0.6**
	5.9nm,1.4s						
YERR	**Yerington**	**29.19**	**325**	*e*P	**P**	**16 02 45.1**	**+0.3**
	17nm,1.8s						
SNOW	**Snow King Moun**	**29.22**	**341**	*e*P	**P**	**16 02 47.8**	**+2.7**
	6.0nm,0.5s						
BMN	**Battle Mountai**	**29.22**	**330**	*e*P	**P**	**16 02 45.2**	**+0.1**
	9.1nm,1.5s						
TPAW	**Teton Pass**	**29.30**	**341**	*e*P	**P**	**16 02 45.8**	**-0.1**
	10nm,1.3s						
LOHW	**Long Hollow**	**29.31**	**342**	*e*P	**P**	**16 02 47.2**	**+1.3**
	9.9nm,1.5s						
H41A	**Junction City**	**29.36**	**13**	*e*P	**P**	**16 02 46.5**	**+0.4**
	16nm,1.2s						
MOOW	**Moose Ponds**	**29.48**	**342**	*e*P	**P**	**16 02 50.5**	**+3.2**
	3.9nm,1.3s						
VCNR	**Virginia City**	**29.64**	**325**	*e*P	**P**	**16 02 51.8**	**+3.0**
	4.4nm,0.4s						
IMW	**Indian Meadow**	**29.67**	**342**	*e*P	**P**	**16 02 50.4**	**+1.3**
	6.9nm,1.4s						
RUBR	**Rubicon Trail**	**29.74**	**324**	*e*P	**P**	**16 02 50.1**	**+0.3**
	36nm,1.5s						
ALLY	**Allegheny Colle**	**29.93**	**28**	*e*P	**P**	**16 02 51.3**	**+0.2**
	22nm,1.1s						
AFDM	**Forest Hills D**	**30.13**	**323**	*e*P	**P**	**16 02 53.2**	**+0.2**
	7.6nm,1.6s						
RLMT	**Red Lodge**	**30.33**	**345**	*e*P	**P**	**16 02 55.5**	**+0.6**
BEKR	**Beckworth**	**30.43**	**325**	*e*P	**P**	**16 02 57.3**	**+1.5**
	6.3nm,1.2s						
YHH	**Holmes Hill**	**30.45**	**342**	*e*P	**P**	**16 02 59.3**	**+3.2**
CVS	**Carmenet Viney**	**30.61**	**321**	*e*PcP	**PcP**	**16 05 55.9**	**+0.4**
QLMT	**Earthquake Lak**	**30.66**	**342**	*e*P	**P**	**16 03 00.4**	**+2.6**
MFID	**Camas Ranch**	**31.00**	**335**	*e*P	**P**	**16 03 01.0**	**+0.3**
	13nm,1.6s						
MCMT	**McKenzie Canyo**	**31.11**	**340**	*e*P	**P**	**16 03 03.7**	**+1.9**
WVOR	**Wild Horse Val**	**31.45**	**331**	*e*P	**P**	**16 03 05.7**	**+1.1**
	12nm,1.4s						
DLMT	**Dillon**	**31.50**	**341**	*e*P	**P**	**16 03 06.9**	**+1.7**
	6.8nm,0.6s						
MDND	**Maddock**	**31.66**	**358**	*e*P	**P**	**16 03 06.5**	**+0.2**
	48nm,1.1s						
LRM	**Limekiln Ridge**	**31.87**	**341**	*e*P	**P**	**16 03 09.4**	**+0.9**
J08A	**Circle Bar Ran**	**32.09**	**332**	*e*P	**P**	**16 03 12.9**	**+2.7**
	10nm,1.4s						
AGMN	**Agassiz Nation**	**32.16**	**3**	*e*P	**P**	**16 03 10.3**	**-0.5**
	6.8nm,0.8s						
F10A	**Beach Ranch, E**	**33.67**	**336**	*e*P	**P**	**16 03 26.5**	**+2.4**
	7.7nm,1.0s						
ULM	**Lac du Bonnet**	**34.11**	**3**	P	**P**	**16 03 27.9**	**+0.2**
	3.4nm,0.8s,baz=165,slow=6.9,SNR=5.7						
ULM	**Lac du Bonnet**	**34.11**	**3**	*e*P	**P**	**16 03 28.6**	**+0.9**
	21nm,1.6s						
LTY	**Liberty**	**36.11**	**334**	*e*P	**P**	**16 03 46.2**	**+1.2**
	13nm,1.4s						
FFC	**Flin Flon**	**38.63**	**357**	*e*P	**P**	**16 04 07.7**	**+1.4**
	7.2nm,1.3s						
EDM	**Edmonton**	**38.85**	**346**	*e*P	**P**	**16 04 08.3**	**+0.2**
	25nm,1.3s						
FCC	**Fort Churchill**	**42.70**	**3**	*e*P	**P**	**16 04 42.3**	**+2.6**
	8.1nm,1.3s						
SCHQ	**Schefferville**	**45.68**	**25**	P	**P**	**16 05 00.9**	**-2.8**
	1.5nm,0.6s,baz=201,slow=8.6,SNR=2.6						
SCHQ	**Schefferville**	**45.68**	**25**	*e*P	**P**	**16 05 03.4**	**-0.4**
	13nm,1.3s						
YKA	**Yellowknife Ar**	**47.71**	**350**	P	**P**	**16 05 18.4**	**-1.1**
	1.8nm,0.9s,baz=159,slow=7.4,SNR=12						
HYT	**Haines Junctio**	**52.70**	**337**	*e*P	**P**	**16

RUS	**Russkaya**	**0.73**	**312**	PN		**Pn**	**16 17 17.3**	**-1.9**
RUS				S		**Sn**	**16 17 27.6**	**-1.7**
KDTR	**Khodutka, Kamc**	**0.84**	**261**	*eP*		**Pn**	**16 17 18.7**	**-1.9**
KDTR				*eS*		**Sn**	**16 17 30.2**	**-1.6**
MTVR	**Mutnovka**	**0.92**	**306**	*eP*		**Pn**	**16 17 20.7**	**-1.2**
MTVR				*eS*		**Sn**	**16 17 33.7**	**-0.4**
MTVR	**Mutnovka**	**0.92**	**306**	PN		**Pn**	**16 17 20.7**	**-1.2**
MTVR				S		**Sn**	**16 17 33.7**	**-0.4**
ASAK	**Asacha**	**1.03**	**296**	*i* P		**Pn**	**16 17 22.6**	**-0.7**
ASAK				*eS*		**Sn**	**16 17 37.7**	**+1.2**
ASAK	**Asacha**	**1.03**	**296**	PN		**Pn**	**16 17 22.6**	**-0.7**
ASAK				S		**Sn**	**16 17 37.7**	**+1.2**
DALK	**Dalny**	**1.15**	**340**	*eP*		**Pn**	**16 17 23.4**	**-1.5**
DALK				*eS*		**Sn**	**16 17 38.7**	**-0.8**
DALK	**Dalny**	**1.15**	**340**	PN		**Pn**	**16 17 23.4**	**-1.5**
DALK				S		**Sn**	**16 17 38.7**	**-0.8**
PET	**Petropavlovsk**	**1.17**	**337**	*i* P		**Pn**	**16 17 23.9**	**-1.2**
PET				*eS*		**Sn**	**16 17 40.3**	**+0.4**
PET	**Petropavlovsk**	**1.17**	**337**	*e*PN		**Pn**	**16 17 23.7**	**-1.4**
PET				*eS*		**Sn**	**16 17 39.8**	**-0.1**
PET				pmax	pmax			
	comp=Z,654nm,0.5s							
PET				smax	smax			
	comp=N,6μm,0.7s							
KRMR	**Karymshinskiy**	**1.18**	**319**	*eP*		**Pn**	**16 17 24.2**	**-1.1**
KRMR				*eS*		**Sn**	**16 17 40.2**	**+0.1**
KRMR	**Karymshinskiy**	**1.18**	**319**	PN		**Pn**	**16 17 24.2**	**-1.1**
KRMR				S		**Sn**	**16 17 40.2**	**+0.1**
SPN	**Mys Shipunski**	**1.21**	**18**	*eP*		**Pn**	**16 17 24.6**	**-1.1**
SPN				*eS*		**Sn**	**16 17 41.6**	**+0.7**
SPN	**Mys Shipunski**	**1.21**	**18**	PN		**Pn**	**16 17 24.6**	**-1.1**
SPN				S		**Sn**	**16 17 41.6**	**+0.7**
NLC	**Nalytchevo**	**1.22**	**358**	*eP*		**Pn**	**16 17 23.7**	**-2.1**
NLC	**Nalytchevo**	**1.22**	**358**	PN		**Pn**	**16 17 23.7**	**-2.1**
UGLR	**Uglovaya**	**1.31**	**344**	*i* P		**Pn**	**16 17 26.0**	**-1.2**
UGLR	**Uglovaya**	**1.31**	**344**	PN		**Pn**	**16 17 26.0**	**-1.2**
SMAR	**Somma**	**1.37**	**344**	*eP*		**Pn**	**16 17 26.8**	**-1.2**
SMAR	**Somma**	**1.37**	**344**	PN		**Pn**	**16 17 26.8**	**-1.2**
SDLR	**Sedlovina**	**1.37**	**347**	*i* P		**Pn**	**16 17 26.4**	**-1.6**
SDLR	**Sedlovina**	**1.37**	**347**	PN		**Pn**	**16 17 26.4**	**-1.6**
AVH	**Avacha**	**1.38**	**343**	*i* P		**Pn**	**16 17 27.1**	**-1.0**
AVH	**Avacha**	**1.38**	**343**	PN		**Pn**	**16 17 27.1**	**-1.0**
KRER	**Koryakskii**	**1.41**	**344**	*i* P		**Pn**	**16 17 27.5**	**-1.2**
KRER	**Koryakskii**	**1.41**	**344**	PN		**Pn**	**16 17 27.5**	**-1.2**
KOK	**Koryaka**	**1.42**	**341**	*eP*		**Pn**	**16 17 29.3**	**+0.6**
KOK				*eS*		**Sn**	**16 17 48.0**	**+1.7**
KOK	**Koryaka**	**1.42**	**341**	PN		**Pn**	**16 17 29.3**	**+0.6**
KOK				S		**Sn**	**16 17 48.0**	**+1.7**
KRX	**Arik**	**1.48**	**342**	*eP*		**Pn**	**16 17 28.4**	**-1.2**
KRX				*eS*		**Sn**	**16 17 48.1**	**+0.2**
KRX	**Arik**	**1.48**	**342**	PN		**Pn**	**16 17 28.4**	**-1.2**
KRX				S		**Sn**	**16 17 48.1**	**+0.2**
PETK	**Petropavlovsk-**	**1.56**	**319**	P		**Pn**	**16 17 30.3**	**-0.2**
	comp=N,58nm,0.3s,baz=119,slow=17,SNR=1064							
PETK				S		**Sn**	**16 17 51.3**	**+1.8**
	comp=N,110nm,0.3s,baz=248,slow=32,SNR=22							
MIPR	**Malaya Ipel'ka**	**1.67**	**282**	*eP*		**Pn**	**16 17 32.2**	**+0.2**
MIPR				*eS*		**Sn**	**16 17 54.0**	**+1.9**
MIPR	**Malaya Ipel'ka**	**1.67**	**282**	PN		**Pn**	**16 17 32.2**	**+0.2**
MIPR				S		**Sn**	**16 17 54.0**	**+1.9**
PAU	**Pauzhetka**	**1.69**	**254**	*eP*		**Pn**	**16 17 31.3**	**-0.9**
PAU				*eS*		**Sn**	**16 17 52.8**	**+0.2**
PAU	**Pauzhetka**	**1.69**	**254**	PN		**Pn**	**16 17 31.3**	**-0.9**
PAU				S		**Sn**	**16 17 52.8**	**+0.2**
GNL	**Ganaly**	**1.96**	**334**	*i* P		**Pn**	**16 17 36.3**	**+0.2**
GNL	**Ganaly**	**1.96**	**334**	PN		**Pn**	**16 17 36.3**	**+0.2**
KII	**Karymskiy**	**2.09**	**1**	*eP*		**Pn**	**16 17 38.4**	**+0.6**
KII	**Karymskiy**	**2.09**	**1**	PN		**Pn**	**16 17 38.4**	**+0.6**
SKR	**Severo-Kuril's**	**2.42**	**240**	*eP*		**Pn**	**16 17 40.9**	**-1.4**
SKR				*eS*		**Sn**	**16 18 10.8**	**+0.1**
SKR	**Severo-Kuril's**	**2.42**	**240**	*e*PN		**Pn**	**16 17 42.1**	**-0.2**
SKR				*eS*		**Sn**	**16 18 11.5**	**+0.8**
SKR				pmax	pmax			
	comp=Z,100nm,0.7s							
SKR				pmax	pmax			
	comp=Z,108nm,0.6s							
SKR				smax	smax			
	comp=E,886nm,0.5s							
SKR				smax	smax			
	comp=N,747nm,0.5s							
KZV	**Kizimen**	**3.21**	**9**	*eP*		**Pn**	**16 17 53.7**	**+0.4**
KZV	**Kizimen**	**3.21**	**9**	PN		**Pn**	**16 17 53.7**	**+0.4**
TUMD	**Tumrok D**	**3.31**	**10**	*eP*		**Pn**	**16 17 54.4**	**-0.1**
TUMD				*eS*		**Sn**	**16 18 33.9**	**+1.3**
TUMR	**Tumrok**	**3.37**	**7**	*eP*		**Pn**	**16 17 56.6**	**+1.2**
TUMR	**Tumrok**	**3.37**	**7**	PN		**Pn**	**16 17 54.4**	**-1.0**
TUMR				S		**Sn**	**16 18 33.9**	**-0.2**
KMNR	**Kamenistaya**	**3.84**	**7**	*eP*		**Pn**	**16 18 05.1**	**+3.2**
KMNR	**Kamenistaya**	**3.84**	**7**	PN		**Pn**	**16 18 05.1**	**+3.2**
ESO	**Esso**	**4.00**	**354**	*eP*		**Pn**	**16 18 05.3**	**+1.3**
ESO	**Esso**	**4.00**	**354**	PN		**Pn**	**16 18 05.3**	**+1.3**
BZMR	**Bezymyannaya**	**4.04**	**9**	*eP*		**Pn**	**16 18 06.8**	**+2.1**
BZMR	**Bezymyannaya**	**4.04**	**9**	PN		**Pn**	**16 18 06.8**	**+2.1**
KIRR	**Kirishev**	**4.05**	**7**	*eP*		**Pn**	**16 18 06.3**	**+1.6**
KIRR	**Kirishev**	**4.05**	**7**	PN		**Pn**	**16 18 06.3**	**+1.6**
KPT	**Kopyto**	**4.05**	**6**	*eP*		**Pn**	**16 18 05.9**	**+1.2**
KPT	**Kopyto**	**4.05**	**6**	PN		**Pn**	**16 18 05.9**	**+1.2**
BZGR	**Bezymyannyi-Gr**	**4.07**	**10**	*eP*		**Pn**	**16 18 07.6**	**+2.6**
BZGR	**Bezymyannyi-Gr**	**4.07**	**10**	PN		**Pn**	**16 18 07.6**	**+2.6**
BZWR	**Bezymyannyi-We**	**4.07**	**9**	*eP*		**Pn**	**16 18 06.7**	**+1.6**
BZWR	**Bezymyannyi-We**	**4.07**	**9**	PN		**Pn**	**16 18 06.7**	**+1.6**
ZLN	**Zelenaya**	**4.16**	**11**	*eP*		**Pn**	**16 18 07.6**	**+1.4**
ZLN	**Zelenaya**	**4.16**	**11**	PN		**Pn**	**16 18 07.6**	**+1.4**
LGNR	**Loginova**	**4.21**	**10**	*eP*		**Pn**	**16 18 07.1**	**0.0**
LGNR	**Loginova**	**4.21**	**10**	PN		**Pn**	**16 18 07.1**	**0.0**
KBTR	**Krutoberegovo**	**4.71**	**24**	*i* P		**Pn**	**16 18 12.8**	**-0.9**
KBTR	**Krutoberegovo**	**4.71**	**24**	PN		**Pn**	**16 18 12.8**	**-0.9**
SMKR	**Semkarok**	**4.79**	**14**	*eP*		**Pn**	**16 18 15.9**	**+1.0**
SMKR	**Semkarok**	**4.79**	**14**	PN		**Pn**	**16 18 15.9**	**+1.0**
SRKR	**Sorokina**	**4.82**	**12**	*eP*		**Pn**	**16 18 17.2**	**+1.9**
SRKR	**Sorokina**	**4.82**	**12**	PN		**Pn**	**16 18 17.2**	**+1.9**
SEY	**Seymchan**	**11.63**	**344**	*e*PN		**Pn**	**16 19 44.8**	**-3.6**
YSS	**Yuzh-Sakhalins**	**11.93**	**252**↑	*e*PN		**Pn**	**16 19 56.9**	**+4.4**
YSS				pmax	pmax			
	comp=Z,10.0nm,0.8s							
ASAJ	**Asahikawa**	**13.69**	**242**	P		**Pn**	**16 20 16.3**	**-0.3**
	comp=Z,0.1nm,0.3s,baz=85,slow=9.6,SNR=2.9							
KLR	**Kul'dur**	**17.73**	**272**	*eP*		**P**	**16 21 08.9**	**-0.1**
YAK	**Yakutsk**	**18.90**	**314**	*eP*		**P**	**16 21 20.3**	**-1.4**
YAK				pmax	pmax			
	comp=Z,4.0nm,0.9s							
MJAR	**Matsushiro Arr**	**21.51**	**233**	P		**P**	**16 21 49.9**	**-0.4**
	comp=Z,2.0nm,0.7s,baz=17,slow=10,SNR=7.3							
MAJO	**Matsushiro**	**21.51**	**233**	*i* P		**P**	**16 21 51.0**	**+0.7**
MAJO				pmax	pmax			
	comp=Z,5.0nm,0.9s							
TIXI	**Tiksi**	**23.96**	**337**	P		**P**	**16 22 14.6**	**-0.3**
	comp=Z,1.0nm,0.5s,baz=120,slow=8.8,SNR=6.2							
TIXI	**Tiksi**	**23.96**	**337**	*eP*		**P**	**16 22 13.9**	**-0.9**
TIXI				pmax	pmax			
	comp=Z,1.0nm,0.9s							
KSRS	**Korea Array**	**26.41**	**249**	P		**P**	**16 22 37.2**	**-0.2**
	comp=Z,0.5nm,0.6s,baz=48,slow=8.8,SNR=2.6							
ILAR	**Eielson Array**	**29.92**	**44**	P		**P**	**16 23 06.1**	**-2.4**
	comp=Z,0.6nm,0.8s,baz=262,slow=7.8,SNR=7.4							
ILAR	**Eielson Array**	**29.92**	**44**	*eP*		**P**	**16 23 07.1**	**-1.4**
ILAR				pmax	pmax			
	comp=Z,1.0nm,0.8s							
H11N2	**WAKE ISLAND Hy**	**32.69**	**167**	T		T	16 58 38.6	
	baz=351,slow=76,SNR=35							
H11N3	**WAKE ISLAND Hy**	**32.70**	**167**	T		T	16 58 39.8	
	baz=351,slow=76,SNR=25							
H11N1	**WAKE ISLAND Hy**	**32.70**	**167**	T		T	16 58 39.9	
	baz=351,slow=76,SNR=22							
H11S1	**WAKE ISLAND Hy**	**33.86**	**168**	T		T	17 00 05.9	
	baz=351,slow=76,SNR=6.7							
H11S3	**WAKE ISLAND Hy**	**33.87**	**168**	T		T	17 00 09.2	
	baz=351,slow=76,SNR=8.7							
H11S2	**WAKE ISLAND Hy**	**33.88**	**168**	T		T	17 00 06.7	
	baz=351,slow=76,SNR=3.1							
INK	**Inuvik**	**35.03**	**37**	P		**P**	**16 23 52.8**	**-0.3**
	comp=Z,0.5nm,0.6s,baz=210,slow=3.0,SNR=2.5							
LZH	**Lanzhou**	**41.92**	**270**	SS		SS	16 34 13.8	-0.3
LZH				LR	LR			
	comp=N,220nm,18.9s							
LZH				LR	LR			
	comp=E,250nm,18.2s							
LZH				LR	LR			
	comp=Z,270nm,19.8s							
YKA	**Yellowknife Ar**	**44.29**	**42**	P		**P**	**16 25 10.0**	**-0.1**
	comp=Z,0.5nm,0.7s,baz=297,slow=7.6,SNR=9.2							
KURK	**Kurchatov**	**47.99**	**302**	P		**P**	**16 25 38.9**	**-0.4**
KURBB	**Kurchatov Arra**	**48.09**	**302**	P		**P**	**16 25 38.9**	**-1.2**
	comp=Z,0.6nm,0.6s,baz=60,slow=7.2,SNR=3.8							
SPITS	**Spitsbergen Ar**	**48.19**	**350**	P		**P**	**16 25 39.8**	**-0.8**
	comp=Z,2.7nm,0.8s,baz=46,slow=4.2,SNR=4.6							
MKAR	**Makanchi Array**	**48.28**	**296**	P		**P**	**16 25 39.5**	**-2.1**
	comp=Z,0.4nm,0.5s,baz=57,slow=6.9,SNR=8.0							
MKAR	**Makanchi Array**	**48.28**	**296**	*eP*		**P**	**16 25 43.4**	**+1.8**
BVAR	**Borovoye Array**	**50.77**	**309**	P		**P**	**16 25 58.1**	**-2.5**
	comp=Z,0.5nm,0.5s,baz=114,slow=6.6,SNR=3.4							
NVAR	**Mina Array Bea**	**56.53**	**69**	P		**P**	**16 26 42.5**	**-0.7**
	comp=Z,0.8nm,0.7s,baz=317,slow=6.3,SNR=4.8							
CMAR	**Chiang Mai Arr**	**57.54**	**258**	P		**P**	**16 26 51.1**	**+1.0**
	comp=Z,1.7nm,1.1s,baz=26,slow=7.5,SNR=5.7							
CMAR	**Chiang Mai Arr**	**57.54**	**258**	*eP*		**P**	**16 26 52.6**	**+2.4**
CMAR				pmax	pmax			
	comp=Z,2.0nm,1.1s							
PDAR	**Pinedale Array**	**58.45**	**60**	P		**P**	**16 26 57.0**	**+0.3**
	comp=Z,0.9nm,0.7s,baz=336,slow=3.3,SNR=9.3							
ULM	**Lac du Bonnet**	**59.91**	**46**	P		**P**	**16 27 05.8**	**-0.4**
	comp=Z,1.1nm,0.6s,baz=242,slow=4.3,SNR=3.2							
ULM	**Lac du Bonnet**	**59.91**	**46**	*eP*		**P**	**16 27 07.7**	**+1.4**
ULM				pmax	pmax			
	comp=Z,1.0nm,0.6s							
NB2	**NORSAR Subarra**	**64.52**	**343**	P		**P**	**16 27 36.6**	**-0.4**
	comp=Z,0.7nm,0.6s,baz=21,slow=6.9							
NOA	**NORSAR Array B**	**64.52**	**343**	P		**P**	**16 27 36.6**	**-0.4**
	comp=Z,0.7nm,0.6s,baz=21,slow=6.6,SNR=5.1							
NOA				pP		**pP**	**16 27 50.0**	**+0.3**
	comp=Z,1.4nm,0.6s,baz=20,slow=6.7,SNR=5.0							
NOA	**NORSAR Array B**	**64.52**	**343**	*eP*		**P**	**16 27 38.0**	**+1.0**
NOA				pmax	pmax			
	comp=Z,1.0nm,0.6s							
HFS	**Hagfors**	**64.91**	**342**	P		**P**	**16 27 38.9**	**-0.5**
	comp=Z,1.1nm,0.5s,baz=68,slow=9.8,SNR=5.8							
HFS				pP		**pP**	**16 27 52.2**	**0.0**
	comp=Z,1.8nm,0.5s,baz=43,slow=6.7,SNR=3.4							
TXAR	**Lajitas Array**	**71.48**	**66**	P		**P**	**16 28 21.0**	**-0.2**
	comp=Z,1.0nm,0.8s,baz=300,slow=5.0,SNR=10.0							
TXAR	**Lajitas Array**	**71.48**	**66**	*eP*		**P**	**16 28 21.5**	**+0.3**
TXAR				pmax	pmax			
	comp=Z,1.0nm,0.8s							
WRA	**Warramunga Arr**	**74.87**	**204**	P		**P**	**16 28 40.8**	**-0.2**
	comp=Z,0.4nm,0.7s,baz=22,slow=6.3,SNR=3.3							
WRA				pP		**PcP**	**16 28 54.4**	**-0.3**
	comp=Z,0.7nm,0.7s,baz=21,slow=6.3,SNR=5.2							
ASAR	**Alice Springs**	**78.54**	**204**	P		**P**	**16 29 02.4**	**+0.7**
	comp=Z,0.3nm,0.9s,baz=2.3,slow=4.6,SNR=3.3							
ASAR				pP		**pP**	**16 29 16.1**	**+1.4**
	comp=Z,0.5nm,0.8s,baz=19,slow=5.8,SNR=3.9							

TIR ***19*** *16:26:06.2,38.82N×20.45E,h23km, Md3.9/6*
THE ***19*** *16:26:07.9,38.91N×20.60E,h11km, ML3.4/9, Error ellipse: s-maj=1.4km s-min=0.8km az=272.0*
ISCJB ***19*** *16:26:08.2±0.4, 38.91N±0.02×20.56E±0.03, h5km±3km, mb3.4/8, Error ellipse: s-maj=4.4km s-min=2.4km az=151.2*
CSEM ***19*** *16:26:09.9±0.2, 38.89N×20.62E, h10km, ML3.5, Error ellipse: s-maj=5.8km s-min=3.3km az=62.0*
ATH ***19*** *16:26:09.5, 38.91N×20.63E, h11km±3km, ML3.5/13, Error ellipse: s-maj=3.2km s-min=0.8km az=229.0*
IDC ***19*** *16:26:10.0±2.3, 38.61N×20.35E, h59km±21km, mb3.2/8, mb1 3.3/12, mb1mx3.1/62, mbtmp3.4/12, ML3.1/4, MS3.1/2, Ms1 3.1/2, ms1mx2.4/30, Error ellipse: s-maj=33.2km s-min=13.5km az=50.0*

ISC 19 16:26:08.1±0.8, 38.89N±0.01×20.58E±0.02, h14km±5km, n118, σ1§82/170, mb3.3/8, 10C-10D, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LKD2	**Lefkada island**	**0.12**	**148**	P		**P**	**Pb**	**16 26 12.6**	**+0.3**
LKD2				S		**S**	**Sg**	**16 26 13.8**	**+0.1**
LKD2				AML	AML			16 26 14.7	
LKD2				AML	AML			16 26 14.8	
	comp=N,90270μm,0.3s								
LKD2	**Lefkada island**	**0.12**	**148**	P		**P**	**Pg**	**16 26 11.2**	**-0.2**
LKD2				S		**S**	**Sg**	**16 26 13.2**	**-0.6**
LKD2	**Lefkada island**	**0.12**	**148**	P		**P**	**Pb**	**16 26 12.5**	**+0.3**
LKD2				S		**S**	**Sg**	**16 26 14.3**	**+0.5**
MGNA	**Meganis**	**0.29**	**144**	P		**P**	**Pg**	**16 26 14.7**	**+0.6**
MGNA				S		**S**	**Sg**	**16 26 17.8**	**-0.4**
MGNA	**Meganis**	**0.29**	**144**	P		**P**	**Pb**	**16 26 15.0**	**-0.1**
MGNA				S		**S**	**Sg**	**16 26 18.6**	**+0.5**
FSK	**Fiskardo**	**0.43**	**181**	P		**P**	**Pg**	**16 26 16.4**	**-0.3**
FSK				S		**S**	**Sg**	**16 26 24.0**	**+1.5**
DSL	**Palaion Diasel**	**0.47**	**59**	P		**P**	**Pg**	**16 26 17.2**	**-0.3**
DSL				S		**S**	**Sg**	**16 26 23.9**	**+0.2**
DSL				AML	AML			16 26 31.3	
	comp=N,8965μm,0.6s								
DSL				AML	AML			16 26 32.5	
	comp=E,6177μm,0.6s								
DSL	**Palaion Diasel**	**0.47**	**59**	P		**P**	**Pg**	**16 26 16.1**	**-1.3**
DSL	**Palaion Diasel**	**0.47**	**59**	P		**P**	**Pg**	**16 26 17.5**	**+0.1**
DSL				S		**S**	**Sg**	**16 26 24.0**	**+0.2**
PDO	**Prodromos**	**0.56**	**121**	P		**P**	**Pb**	**16 26 20.4**	**+0.7**
PDO				S		**S**	**Sg**	**16 26 25.9**	**-0.5**
PDO				AML	AML			16 26 27.6	
	comp=E,15928μm,0.7s								
PDO				AML	AML			16 26 28.6	
	comp=N,13429μm,0.5s								
PDO	**Prodromos**	**0.56**	**121**	P		**P**	**Pg**	**16 26 18.3**	**-0.7**
PDO				S		**S**	**Sg**	**16 26 26.6**	**+0.1**
PDO	**Prodromos**	**0.56**	**121**	P		**P**	**Pb**	**16 26 20.1**	**+0.4**
PDO				S		**S**	**Sg**	**16 26 26.6**	**+0.1**
IGT	**Igoumenitsa**	**0.67**	**344**	P		**P**	**Pg**	**16 26 21.8**	**+0.7**
IGT	**Igoumenitsa**	**0.67**	**344**	P		**P**	**Pg**	**16 26 20.6**	**-0.5**
IGT	**Igoumenitsa**	**0.67**	**344**	P		**P**	**Pg**	**16 26 22.0**	**+0.9**
VLS	**Valsamata**	**0.71**	**179**	P		**P**	**Pn**	**16 26 24.1**	**+0.3**
VLS				S		**S**	**Sb**	**16 26 32.7**	**+0.7**
VLS				AML	AML			16 26 36.0	
	comp=E,8382μm,0.3s								
VLS				AML	AML			16 26 36.2	
	comp=N,7656μm,0.3s								
VLS	**Valsamata**	**0.71**	**179**	P		**P**	**Pg**	**16 26 21.3**	**-0.7**
VLS				S		**S**	**Sb**	**16 26 33.0**	**+1.0**
VLS	**Valsamata**	**0.71**	**179**	P		**P**	**Pn**	**16 26 23.8**	**0.0**
VLS				S		**S**	**Sb**	**16 26 33.0**	**+1.0**
PVO	**Paravola**	**0.79**	**110**	P		**P**	**Pn**	**16 26 23.7**	**-0.2**
PVO				S		**S**	**Sb**	**16 26 35.0**	**+0.7**
PVO				AML	AML			16 26 36.2	
	comp=E,13958μm,0.2s								
PVO				AML	AML			16 26 38.5	
	comp=N,13439μm,0.6s								
PVO	**Paravola**	**0.79**	**110**	P		**P**	**Pg**	**16 26 22.3**	**-1.1**
PVO	**Paravola**	**0.79**	**110**	P		**P**	**Pb**	**16 26 24.4**	**+0.7**
PVO				S		**S**	**Sb**	**16 26 34.8**	**+0.5**
JAN	**Janina**	**0.79**	**16**	P		**P**	**Pg**	**16 26 22.7**	**-0.8**
JAN				S		**S**	**Sb**	**16 26 35.6**	**+1.2**
JAN				AML	AML			16 26 37.1	
	comp=E,7490μm,0.6s								
JAN				AML	AML			16 26 38.9	
	comp=N,5168μm,0.7s								
JAN	**Janina**	**0.79**	**16**	P		**P**	**Pg**	**16 26 23.1**	**-0.4**
JAN	**Janina**	**0.79**	**16**	P		**P**	**Pg**	**16 26 23.4**	**-0.1**
JAN				S		**S**	**Sb**	**16 26 35.2**	**+0.8**
KFL	**Anninata**	**0.80**	**168**	P		**P**	**Pb**	**16 26 24.4**	**+0.7**
KFL				S		**S**	**Sb**	**16 26 35.5**	**+1.1**
KFL	**Anninata**	**0.80**	**168**	P		**P**	**Pg**	**16 26 22.8**	**-0.8**
KFL				S		**S**	**Sb**	**16 26 36.0**	**+1.5**
KFL	**Anninata**	**0.80**	**168**	P		**P**	**Pb**	**16 26 24.6**	**+0.8**
KFL				S		**S**	**Sb**	**16 26 35.8**	**+1.3**
EVR	**Evrytania**	**0.96**	**88**	P		**P**	**Pb**	**16 26 26.9**	**+0.3**
EVR				S		**S**	**Sg**	**16 26 38.0**	**-1.3**
EVR				AML	AML			16 26 40.5	
	comp=N,3078μm,0.7s								
EVR				AML	AML			16 26 47.1	
	comp=E,2995μm,0.6s								
EVR	**Evrytania**	**0.96**	**88**	P		**P**	**Pg**	**16 26 25.8**	**-0.9**
EVR				S		**S**	**Sn**	**16 26 40.3**	**-0.6**
EVR	**Evrytania**	**0.96**	**88**	P		**P**	**Pb**	**16 26 27.0**	**+0.3**
EVR				S		**S**	**Sn**	**16 26 40.3**	**-0.6**
KEK	**Kerkira**	**1.02**	**324**	P		**P**	**Pn**	**16 26 29.7**	**+1.6**
KEK	**Kerkira**	**1.02**	**324**	P		**P**	**Pn**	**16 26 29.3**	**+1.3**
SRN	**Sarande**	**1.08**	**336**	*i* Pg		**Pb**	**Pb**	**16 26 28.3**	**-0.3**
SRN				*i* Sg		**Sg**	**Sg**	**16 26 44.0**	**+0.9**
SRN	**Sarande**	**1.08**	**336**	*i* PG		**Pb**	**Pb**	**16 26 28.3**	**-0.3**
SRN				*i* SG		**Sg**	**Sg**	**16 26 44.0**	**+0.9**
RLS	**Riolos of Patr**	**1.09**	**140**	P		**P**	**Pg**	**16 26 30.6**	**+1.5**
RLS				S		**S**	**Sn**	**16 26 44.8**	**+1.0**
RLS				AML	AML			16 26 50.0	
	comp=N,2299μm,0.5s								
RLS				AML	AML			16 26 52.4	
	comp=E,1725μm,0.3s								
RLS	**Riolos of Patr**	**1.09**	**140**	P		**P**	**Pb**	**16 26 27.6**	**-1.1**
RLS				S		**S**	**Sn**	**16 26 44.8**	**+1.0**
RLS	**Riolos of Patr**	**1.09**	**140**	P		**P**	**Pg**	**16 26 30.2**	**+1.2**
RLS				S		**S**	**Sn**	**16 26 44.7**	**+0.9**
ANX	**Ano Chora**	**1.09**	**105**	P		**P**	**Pb**	**16 26 28.8**	**-0.1**
ANX	**Ano Chora**	**1.09**	**105**	P		**P**	**Pb**	**16 26 29.1**	**+0.2**
EFP	**Efpalio**	**1.14**	**114**	P		**P**	**Pb**	**16 26 29.2**	**-0.4**
EFP				S		**S**	**Sn**	**16 26 45.4**	**+0.2**
EFP				AML	AML			16 26 50.9	
	comp=N,7031μm,0.8s								
EFP				AML	AML			16 26 52.1	
	comp=E,4054μm,0.7s								
EFP	**Efpalio**	**1.14**	**114**	P		**P**	**Pb**	**16 26 28.3**	**-1.3**
EFP				S		**S**	**Sn**	**16 26 45.9**	**+0.8**
EFP	**Efpalio**	**1.14**	**114**	P		**P**	**Pb**	**16 26 29.8**	**+0.2**
EFP				S		**S**	**Sn**	**16 26 45.9**	**+0.8**
SERG	**Sergoula**	**1.25**	**112**	P		**P**	**Pg**	**16 26 33.2**	**+0.9**
SERG				S		**S**	**Sg**	**16 26 49.8**	**+1.2**
SERG				AML	AML			16 26 54.8	
	comp=E,3085μm,0.4s								
SERG				AML	AML			16 26 55.0	
	comp=N,3515μm,0.3s								
SERG	**Sergoula**	**1.25**	**112**	P		**P**	**Pn**	**16 26 30.4**	**-0.9**
SERG	**Sergoula**	**1.25**	**112**	P		**P**	**Pg**	**16 26 32.9**	**+0.7**
SERG				S		**S**	**Sg**	**16 26 49.6**	**+1.1**
LAKA	**Lakka**	**1.28**	**120**	P		**P**	**Pg**	**16 26 33.7**	**+1.1**
LAKA				S		**S**	**Sg**	**16 26 50.8**	**+1.4**
LAKA	**Lakka**	**1.28**	**120**	P		**P**	**Pn**	**16 26 30.8**	**-0.8**
LAKA	**Lakka**	**1.28**	**120**	P		**P**	**Pg**	**16 26 33.4**	**+0.7**
LAKA				S		**S**	**Sg**	**16 26 50.5**	**+1.2**
TRIZ	**Trizonia**	**1.28**	**114**	P		**P**	**Pg**	**16 26 34.1**	**+1.3**
TRIZ				S		**S**	**Sg**	**16 26 50.8**	**+1.2**
TRIZ	**Trizonia**	**1.28**	**114**	P		**P**	**Pn**	**16 26 31.0**	**-0.6**
TRIZ	**Trizonia**	**1.28**	**114**	P		**P**	**Pg**	**16 26 33.6**	**+0.8**
TRIZ				S		**S**	**Sg**	**16 26 50.6**	**+1.1**
DRO	**Drossia**	**1.29**	**136**	P		**P**	**Pb**	**16 26 32.6**	**+0.3**
DRO				S		**S**	**Sg**	**16 26 50.5**	**+0.7**
DRO				AML	AML			16 26 51.9	
	comp=E,7821μm,0.2s								
DRO				AML	AML			16 26 54.4	
	comp=N,4224μm,0.2s								
DRO	**Drossia**	**1.29**	**136**	P		**P**	**Pn**	**16 26 31.0**	**-0.8**
DRO	**Drossia**	**1.29**	**136**	P		**P**	**Pg**	**16 26 33.1**

TWH	**Lutao**	**0.40 331**	P	**Pb**	**16 32 41.0**	**+0.5**
	baz=336					
TTN	**Taitung**	**0.63 308**	*e*P	**Pn**	**16 32 45.7**	**-0.4**
	baz=323					
TTN			*e*S	**Sn**	**16 32 54.5**	**-1.3**
	baz=323					
ECL	**Taimali**	**0.71 289**	⇓P	**Pb**	**16 32 46.1**	**+0.3**
	baz=290					
ECL			*e*S	**Sg**	**16 32 54.9**	**-0.3**
	baz=290					
TWGBT	**Beinan**	**0.72 309**	P	**Pn**	**16 32 46.8**	**-0.5**
	baz=292					
TWGBT			*e*S	**Sb**	**16 32 56.0**	**+0.4**
	baz=292					
TWG	**Pinlang**	**0.73 309**	P	**Pn**	**16 32 46.9**	**-0.5**
	baz=292					
TWG			*e*S	**Sb**	**16 32 56.3**	**+0.5**
	baz=292					
TAW	**Tawu**	**0.73 270**	*e*P	**Pb**	**16 32 46.2**	**+0.1**
	baz=268					
TAW			*e*S	**Sg**	**16 32 54.7**	**-1.0**
	baz=268					
EAST	**Anshuo**	**0.77 272**	⇓*i*P	**Pg**	**16 32 47.0**	**+0.1**
	baz=271					
EAST			*e*S	**Sg**	**16 32 55.3**	**-1.8**
	baz=271					
CHKT	**Chengkung**	**0.79 338**	⇓P	**Pg**	**16 32 47.5**	**+0.2**
	baz=342					
CHKT			S	**Sb**	**16 32 57.5**	**-0.2**
	baz=342					
TSEB	**Hengchuen, Pin**	**0.86 238**	*e*P	**Pn**	**16 32 48.8**	**-0.5**
	baz=248					
TSEB			*e*S	**Sn**	**16 33 00.9**	**-0.5**
	baz=248					
FULB	**Fuli**	**0.91 337**	*e*P	**Pb**	**16 32 49.2**	**-0.1**
	baz=339					
FULB			*e*S	**Sb**	**16 33 00.9**	**-0.2**
	baz=339					
TWKBT	**Hengchun**	**0.91 243**	⇓P	**Pg**	**16 32 49.2**	**-0.3**
	baz=240					
TWKBT			*e*S	**Sb**	**16 32 59.7**	**-1.3**
	baz=240					
TWK1	**Hengchun**	**0.91 243**	P	**Pg**	**16 32 49.1**	**-0.4**
	baz=240					
TWK1			*e*S	**Sb**	**16 32 59.7**	**-1.5**
	baz=240					
HEN	**Hengchun**	**0.94 248**	*e*P	**Pg**	**16 32 49.9**	**-0.2**
	baz=246					
HEN			S	**Sb**	**16 33 01.6**	**-0.5**
	baz=246					
SCZT	**Fangliau**	**0.98 271**	P	**Pb**	**16 32 50.4**	**-0.1**
	baz=269					
SCZT			*e*S	**Sb**	**16 33 03.0**	**-0.2**
	baz=269					
MASBT	**Mashibuluo**	**1.00 285**	⇓P	**Pb**	**16 32 50.6**	**-0.2**
	baz=284					
ELDTW	**Lidau**	**1.03 323**	*e*P	**Pb**	**16 32 51.1**	**-0.2**
	baz=325					
ELDTW			*e*S	**Sb**	**16 33 02.8**	**-1.9**
	baz=325					
SSD	**Sandimen**	**1.04 292**	*e*P	**Pb**	**16 32 51.3**	**-0.2**
	baz=292					
TWF1	**Yuli**	**1.05 340**	⇓P	**Pb**	**16 32 51.7**	**+0.1**
	baz=353					
TWF1			*e*S	**Sb**	**16 33 05.1**	**0.0**
	baz=353					
YULB	**Yu-li**	**1.09 341**	*e*P	**Pb**	**16 32 52.2**	**0.0**
	baz=353					
YULB			*e*S	**Sb**	**16 33 06.0**	**-0.3**
	baz=353					
SLGT	**Liugui**	**1.15 304**	*e*P	**Pg**	**16 32 53.9**	**0.0**
	baz=298					
HGSD	**Ruisui**	**1.15 348**	*e*P	**Pb**	**16 32 53.7**	**+0.4**
	baz=1.0					
HGSD			*e*S	**Sb**	**16 33 07.8**	**-0.2**
	baz=1.0					
STYT	**Tauyuan**	**1.17 313**	P	**Pg**	**16 32 54.6**	**+0.1**
	baz=314					
EHY	**Hungye**	**1.19 344**	*e*P	**Pn**	**16 32 53.7**	**-0.1**
	baz=355					
EHY			*e*S	**Sb**	**16 33 08.0**	**-1.2**
	baz=355					
WLCH	**Liuqiu**	**1.21 270**	*e*P	**Pg**	**16 32 56.7**	**+1.6**
	baz=268					
TWP	**Hsiaoliuchiu**	**1.22 270**	*e*P	**Pg**	**16 32 56.2**	**+0.8**
	baz=251					
TWP			*e*S	**Sg**	**16 33 12.6**	**+1.2**
	baz=251					
SGST	**Jiashian**	**1.24 305**	*e*P	**Pg**	**16 32 56.1**	**+0.3**
	baz=306					
SGST			*e*S	**Sg**	**16 33 13.0**	**+0.9**
	baz=306					
TWM1	**Shoushan**	**1.25 292**	*e*P	**Pb**	**16 32 56.0**	**+0.1**
	baz=297					
YUS	**Yu-Shan**	**1.31 329**	*e*P	**Pb**	**16 32 56.3**	**-0.1**
	baz=339					
WTP	**Ta-pu**	**1.32 312**	*e*P	**Pg**	**16 32 57.3**	**0.0**
	baz=321					
CHN1	**Nanshi**	**1.34 308**	*e*P	**Pg**	**16 32 58.1**	**+0.4**
	baz=308					
CHN1			*e*S	**Sg**	**16 33 16.6**	**+1.3**
	baz=308					
TPUB	**Ta-pu**	**1.35 314**	*e*P	**Pg**	**16 32 57.7**	**-0.1**
	baz=315					
TPUB			*e*S	**Sg**	**16 33 14.9**	**-0.5**
	baz=315					
CHN4	**Tsaushan**	**1.41 315**	*e*P	**Pg**	**16 32 58.8**	**-0.1**
	baz=323					
CHN3	**Shinhua**	**1.41 301**	*e*P	**Pg**	**16 32 59.8**	**+0.8**
	baz=300					
CHN3			*e*S	**Sg**	**16 33 19.3**	**+2.0**
	baz=300					
TWK	**Hsinying**	**1.43 310**	*e*P	**Pg**	**16 32 59.0**	**-0.2**
	baz=310					
TWK			*e*S	**Sg**	**16 33 18.1**	**+0.3**
	baz=310					
ESL	**Shilin**	**1.47 351**	*e*P	**Pn**	**16 32 58.2**	**+0.6**
	baz=3.0					
ESL			*e*S	**Sn**	**16 33 15.9**	**-0.6**
	baz=3.0					
ENLB	**Shoufeng**	**1.54 357**	*e*P	**Pb**	**16 33 00.1**	**+0.2**
	baz=12					
ENLB			*e*S	**Sn**	**16 33 17.8**	**-0.5**
	baz=12					
CHN5	**Tsauling**	**1.54 323**	*e*P	**Pb**	**16 33 00.8**	**+0.7**
	baz=323					
SSLB	**Suanglung**	**1.57 335**	*e*P	**Pb**	**16 33 00.4**	**-0.1**
	baz=347					
SCLT	**Jiali**	**1.60 301**	*e*P	**Pb**	**16 33 01.0**	**+0.1**
	baz=300					
SCLT			*e*S	**Sg**	**16 33 22.3**	**-0.9**
	baz=300					
CHY	**Chiayi**	**1.62 315**	*e*P	**Pg**	**16 33 02.4**	**-0.6**
	baz=314					
CHY			*e*S	**Sg**	**16 33 23.5**	**-0.6**
	baz=314					
CHN8	**Yiju**	**1.68 306**	*e*P	**Pb**	**16 33 02.4**	**+0.1**
	baz=306					
CHN8			*e*S	**Sg**	**16 33 24.6**	**-1.3**
	baz=306					
WGK	**Gukeng**	**1.68 322**	*e*P	**Pb**	**16 33 02.9**	**+0.6**
	baz=322					
WGK			*e*S	**Sg**	**16 33 25.8**	**0.0**
	baz=322					
SMLT	**Sun Moon Lake**	**1.68 335**	*e*P	**Pb**	**16 33 03.0**	**+0.6**
	baz=344					
WDLH	**Douliu**	**1.69 322**	*e*P	**Pb**	**16 33 03.3**	**+0.7**
	baz=322					
WDLH			*e*S	**Sg**	**16 33 26.0**	**-0.4**
	baz=322					
WLGB	**Puzi**	**1.69 311**	*e*P	**Pg**	**16 33 03.8**	**-0.5**
	baz=311					
WLGB			*e*S	**Sg**	**16 33 25.5**	**-0.9**
	baz=311					
WJS	**Zhushan**	**1.70 329**	*e*P	**Pb**	**16 33 03.3**	**+0.6**
	baz=345					
WJS			*e*S	**Sg**	**16 33 26.0**	**-0.6**
	baz=345					
TWD	**Chiawan**	**1.71 357**	*e*P	**Pn**	**16 33 01.8**	**+0.8**
	baz=9.0					
TWD			*e*S	**Sn**	**16 33 22.2**	**-0.4**
	baz=9.0					
CHGB	**Renai**	**1.76 345**	*e*P	**Pb**	**16 33 03.1**	**-0.6**
	baz=356					
WNT	**Mingjian**	**1.77 329**	*e*P	**Pb**	**16 33 04.8**	**+0.9**
	baz=311					
WNT			*e*S	**Sg**	**16 33 28.0**	**-0.8**
	baz=311					
DPDB	**Guoxing**	**1.81 337**	*e*P	**Pb**	**16 33 04.5**	**-0.1**
	baz=350					
DPDB			*e*S	**Sb**	**16 33 27.1**	**+0.2**
	baz=350					
NACB	**Ninganchiao**	**1.81 357**	*e*P	**Pn**	**16 33 02.7**	**+0.4**
	baz=7.0					
NACB			*e*S	**Sn**	**16 33 23.7**	**-1.2**
	baz=7.0					
WHF	**Hehuan Shan**	**1.82 348**	*e*P	**Pb**	**16 33 04.5**	**-0.4**
	baz=359					
WHF			*e*S	**Sn**	**16 33 25.1**	**-0.7**
	baz=359					
WSF	**Szhu**	**1.85 314**	*e*P	**Pb**	**16 33 04.7**	**-0.5**
	baz=313					
WSF			*e*S	**Sb**	**16 33 28.8**	**+0.6**
	baz=313					
TWT	**Tachien**	**1.94 346**	*e*P	**Pb**	**16 33 06.7**	**-0.2**
	baz=346					
TWT			*e*S	**Sn**	**16 33 29.5**	**+1.0**
	baz=346					
TDCB	**Techi**	**1.94 346**	*e*P	**Pb**	**16 33 06.2**	**-0.7**
	baz=346					
RLNB	**Erlin**	**1.95 322**	*e*P	**Pb**	**16 33 06.8**	**-0.2**
	baz=321					
RLNB			*e*S	**Sb**	**16 33 31.3**	**+0.2**
	baz=321					
WTCT	**Ta-ch'eng**	**1.98 320**	*e*P	**Pb**	**16 33 06.7**	**-0.7**
	baz=319					
ENA	**Nanau**	**2.06 1**	*e*P	**Pn**	**16 33 07.2**	**+1.4**
	baz=14					
ENA			*e*S	**Sn**	**16 33 30.8**	**-0.3**
	baz=14					
NANB	**Nanao**	**2.06 2**	*e*P	**Pn**	**16 33 07.0**	**+1.3**
	baz=14					
NANB			*e*S	**Sn**	**16 33 30.4**	**-0.7**
	baz=14					
WDGT	**Dungji**	**2.07 296**	*e*P	**Pn**	**16 33 07.3**	**+1.4**
	baz=295					
WDGT			*e*S	**Sn**	**16 33 30.2**	**-1.2**
	baz=295					
NNSB	**Datong**	**2.08 352**	*e*P	**Pn**	**16 33 07.5**	**+1.4**
	baz=3.0					
NNSH	**Datong**	**2.08 352**	*e*P	**Pb**	**16 33 08.2**	**-1.0**
	baz=3.0					
NNS	**Nan Shan**	**2.09 352**	*e*P	**Pb**	**16 33 08.2**	**-1.3**
	baz=3.0					
TWQ1	**Liyutan**	**2.15 337**	*e*P	**Pb**	**16 33 10.2**	**-0.2**
	baz=338					
TWQ1			*e*S	**Sb**	**16 33 37.1**	**+0.3**
	baz=338					
EOS1	**EOS1**	**2.22 11**	*e*P	**Pn**	**16 33 09.8**	**+1.9**
	baz=11					
EOS1			*e*S	**Sn**	**16 33 35.6**	**+0.6**
	baz=11					
TWC	**Suao**	**2.24 4**	*e*P	**Pb**	**16 33 10.7**	**-1.3**
	baz=15					
TWC			*e*S	**Sn**	**16 33 35.9**	**+0.3**
	baz=15					
PHUB	**P'eng-hu**	**2.26 301**	*e*P	**Pn**	**16 33 09.0**	**+0.5**
	baz=300					
PHUB			*e*S	**Sn**	**16 33 34.8**	**-1.3**
	baz=300					
ENTT	**Nioudou**	**2.27 357**	*e*P	**Pb**	**16 33 10.9**	**-1.6**
	baz=358					
ENTT			*e*S	**Sn**	**16 33 37.0**	**+0.6**
	baz=358					
PNG	**Penghu**	**2.30 302**	*e*P	**Pn**	**16 33 09.9**	**+0.8**
	baz=301					
PNG			*e*S	**Sn**	**16 33 36.0**	**-1.1**
	baz=301					
YHNB	**Yeheng**	**2.32 353**	*e*P	**Pn**	**16 33 11.3**	**+1.9**
	baz=3.0					
YHNB			*e*S	**Sn**	**16 33 37.6**	**0.0**
	baz=3.0					
NSTT	**Nanjuang**	**2.34 345**	*e*P	**Pb**	**16 33 13.6**	**-0.1**
	baz=359					
NSTT			*e*S	**Sb**	**16 33 40.9**	**-1.6**
	baz=359					
TWE	**Neicheng**	**2.35 360**	*e*P	**Pb**	**16 33 12.8**	**-1.0**
	baz=360					
LIOB	**Emei**	**2.36 345**	*e*P	**Pb**	**16 33 13.5**	**-0.4**
	baz=359					
LIOB			*e*S	**Sb**	**16 33 41.8**	**-0.9**
	baz=359					
JYNG	**Yonagunijimaku**	**2.38 29**	P	**Pn**	**16 33 11.4**	**+1.2**
JYNG			*e*S	**Sn**	**16 33 38.0**	**-1.1**
NWLT	**Wulai**	**2.41 356**	*e*P	**Pb**	**16 33 13.6**	**-1.3**
	baz=356					
YOJ	**Yonaguni jima**	**2.42 30**	*e*P	**Pn**	**16 33 12.0**	**+1.3**
	baz=31					
YOJ			*e*S	**Sn**	**16 33 39.9**	**-0.1**
	baz=31					
YOJ	**Yonaguni jima**	**2.42 30**	P	**Pn**	**16 33 12.2**	**+1.5**
YOJ			S	**Sn**	**16 33 40.1**	**+0.1**
HATJ	**Hateruma jima**	**2.58 49**	P	**Pn**	**16 33 14.3**	**+1.4**
HATJ			*e*S	**Sn**	**16 33 43.3**	**-0.7**
TIPB	**Shuangxi**	**2.60 3**	*e*P	**Pn**	**16 33 15.0**	**+1.8**
	baz=14					
TIPB			*e*S	**Sn**	**16 33 44.8**	**+0.2**
	baz=14					
TATO	**Taipei**	**2.61 356**	*e*P	**Pb**	**16 33 16.2**	**-2.0**
	baz=8.0					
TATO			*e*S	**Sn**	**16 33 47.1**	**+2.4**
	baz=8.0					
TWA	**Mucha**	**2.61 358**	*e*P	**Pb**	**16 33 16.6**	**-1.6**
	baz=358					
IRIF	**Iriomote-Funau**	**2.72 43**	P	**Pn**	**16 33 16.4**	**+1.6**
IRIF			*e*S	**Sn**	**16 33 47.3**	**-0.1**
YM04	**YM04**	**2.78 357**	*e*P	**Pb**	**16 33 19.2**	**-2.0**
	baz=357					
YM05	**YM05**	**2.79 358**	*e*P	**Pb**	**16 33 19.8**	**-1.6**
	baz=357					
YM07	**YM07**	**2.80 359**	*e*P	**Pn**	**16 33 18.5**	**+2.5**
	baz=358					
JKRS	**Kuro-shima**	**2.84 48**	P	**Pn**	**16 33 18.1**	**+1.6**
JKRS			*e*S	**Sn**	**16 33 49.6**	**-0.8**
JIJ	**Ishigaki jima**	**3.01 48**	P	**Pn**	**16 33 19.9**	**+1.0**
JIJ			*e*S	**Sn**	**16 33 53.2**	**-1.5**
JISG	**Ishigakijimahi**	**3.28 47**	P	**Pn**	**16 33 23.3**	**+0.8**
JISG			*e*S	**Sn**	**16 33 59.7**	**-1.4**
VWUC	**VWUC**	**3.32 322**	*e*P	**Pn**	**16 33 24.9**	**+1.7**
	baz=321					
JTJ	**Tarama**	**3.58 50**	P	**Pn**	**16 33 28.2**	**+1.5**
JTJ			S	**Sn**	**16 34 07.9**	**-0.8**
KNMB	**Chin-men Tao**	**3.68 305**	*e*P	**Pn**	**16 33 30.1**	**+2.1**
	baz=303					
JIRB	**Irabujima**	**4.04 52**	P	**Pn**	**16 33 34.0**	**+1.1**
JIRB			S	**Sn**	**16 34 18.7**	**-1.2**
MATB	**Ma-tsu**	**4.09 338**	*e*P	**Pn**	**16 33 35.4**	**+1.7**
	baz=336					
JIKM	**Ikemajima**	**4.15 51**	P	**Pn**	**16 33 36.0**	**+1.5**
JIKM			*e*S	**Sn**	**16 34 22.1**	**-0.5**
JOGS	**Gusukube**	**4.17 54**	*e*S	**Sn**	**16 34 23.3**	**+0.1**
VDOS	**Pratas Island**	**4.90 251**	*e*P	**Pn**	**16 33 46.6**	**+1.8**
	baz=250					

*IDC **19** 16:42:17.6±6.2, 37.°11S×176.°65E, h0km, mb3.2/2, mb1 3.5/2, mb1mx3.2/43, mbtmp3.2/2, Error ellipse: s-maj=372.7km s-min=52.8km az=175.0*
*ISCJB **19** 16:42:40.7±0.4, 38.°69S±0.°02×175.°52E±0.°04, h183km±3km, mb3.0/2, Error ellipse: s-maj=5.2km s-min=3.9km az=14.4*
*WEL **19** 16:42:41.7, 39.°3S±2.°×17.°6E±.°, h179km±3km*

ISC 19 16:42:40.4±0.9, 38.°67S±0.°04×175.°52E±0.°05, h188km±6km, n149, σ0.°82/149, North Island

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WATZ	**Wairara**	**0.17**	**101**	P		**Pn**	**16 43 05.8**	**+0.5**
RATZ	**Rangitukua**	**0.28**	**134**	P		**Pn**	**16 43 05.7**	**+0.3**
KUTZ	**Kaahu Road**	**0.30**	**52**	P		**Pn**	**16 43 05.9**	**+0.3**
KATZ	**Kakaramea**	**0.33**	**155**	P		**Pn**	**16 43 06.2**	**+0.5**
WHTZ	**Whakaora**	**0.34**	**89**	P		**Pn**	**16 43 06.2**	**+0.5**
TLZ	**Tolley Road**	**0.34**	**2**	P		**Pn**	**16 43 05.8**	**+0.1**
TWVZ	**Taurewa**	**0.40**	**189**	P		**Pn**	**16 43 06.3**	**+0.5**
TWVZ	**Taurewa**	**0.40**	**189**	S		**Sn**	**16 43 24.6**	**-1.1**
RITZ	**Rihia Road**	**0.40**	**139**	P		**Pn**	**16 43 06.6**	**+0.8**
KRVZ	**Karewarewa**	**0.43**	**167**	P		**Pn**	**16 43 06.6**	**+0.6**
WTVZ	**West Tongariro**	**0.44**	**173**	P		**Pn**	**16 43 06.6**	**+0.5**
HATZ	**Hinemaiaia**	**0.50**	**116**	P		**Pn**	**16 43 06.4**	**+0.3**
HATZ	**Hinemaiaia**	**0.50**	**116**	S		**Sn**	**16 43 24.2**	**-1.8**
NGZ	**Ngauruhoe**	**0.50**	**173**	P		**Pn**	**16 43 06.8**	**+0.5**
COVZ	**Chateau Observ**	**0.53**	**178**	P		**Pn**	**16 43 06.8**	**+0.5**
WPRZ	**Whakapapatarin**	**0.53**	**73**	P		**Pn**	**16 43 06.2**	**0.0**
HIZ	**Hauiti**	**0.54**	**287**	P		**Pn**	**16 43 06.6**	**+0.3**
GRRZ	**Galatos Road**	**0.57**	**55**	P		**Pn**	**16 43 06.7**	**+0.2**
FWVZ	**Far West T-bar**	**0.58**	**177**	P		**Pn**	**16 43 07.3**	**+0.6**
DRZ	**Dome Shelter**	**0.60**	**177**	P		**Pn**	**16 43 07.7**	**+0.7**
TUVZ	**Tukino**	**0.60**	**170**	P		**Pn**	**16 43 07.4**	**+0.7**
WHVZ	**Whangaehu Hut**	**0.61**	**175**	P		**Pn**	**16 43 07.5**	**+0.6**
WHVZ	**Whangaehu Hut**	**0.61**	**175**	S		**Sn**	**16 43 26.5**	**-1.0**
TRVZ	**Turoa**	**0.62**	**178**	P		**Pn**	**16 43 07.7**	**+0.8**
TRVZ	**Turoa**	**0.62**	**178**	S		**Sn**	**16 43 26.8**	**-0.8**
PKVZ	**Pokaka**	**0.63**	**192**	P		**Pn**	**16 43 07.4**	**+0.7**
PKVZ	**Pokaka**	**0.63**	**192**	S		**Sn**	**16 43 26.8**	**-0.5**
ALRZ	**Allen Road**	**0.66**	**80**	P		**Pn**	**16 43 06.9**	**+0.1**
ALRZ	**Allen Road**	**0.66**	**80**	S		**Sn**	**16 43 26.3**	**-0.9**
HRRZ	**Handcock Road**	**0.66**	**65**	P		**Pn**	**16 43 07.1**	**+0.2**
HSRZ	**Hossack Road**	**0.68**	**58**	P		**Pn**	**16 43 06.8**	**-0.2**
HSRZ	**Hossack Road**	**0.68**	**58**	S		**Sn**	**16 43 27.5**	**+0.1**
PRRZ	**Plateau Road**	**0.71**	**76**	P		**Pn**	**16 43 07.1**	**0.0**
PRRZ	**Plateau Road**	**0.71**	**76**	S		**Sn**	**16 43 27.3**	**-0.3**
MTVZ	**Mangateitei**	**0.71**	**183**	P		**Pn**	**16 43 07.9**	**+0.8**
MTVZ	**Mangateitei**	**0.71**	**183**	S		**Sn**	**16 43 27.2**	**-0.9**
MRHZ	**Matea Rd**	**0.72**	**103**	P		**Pn**	**16 43 07.3**	**+0.1**
MRHZ	**Matea Rd**	**0.72**	**103**	S		**Sn**	**16 43 25.8**	**-2.1**
UTU	**Utuhina**	**0.73**	**47**	P		**Pn**	**16 43 07.6**	**+0.3**
VRZ	**Vera Road**	**0.74**	**233**	P		**Pn**	**16 43 07.8**	**+0.6**
MOVZ	**Moawhango**	**0.75**	**166**	P		**Pn**	**16 43 07.9**	**+0.5**
MOVZ	**Moawhango**	**0.75**	**166**	S		**Sn**	**16 43 26.4**	**-2.1**
HLRZ	**Highlands Stat**	**0.78**	**57**	P		**Pn**	**16 43 08.7**	**+1.1**
RRRZ	**Republican Roa**	**0.85**	**67**	P		**Pn**	**16 43 08.0**	**+0.1**
RRRZ	**Republican Roa**	**0.85**	**67**	P		**Pn**	**16 43 08.1**	**+0.2**
KARZ	**Kaharoa**	**0.87**	**41**	P		**Pn**	**16 43 08.2**	**+0.1**
OMRZ	**Omania**	**0.88**	**50**	P		**Pn**	**16 43 08.3**	**+0.1**
TARZ	**Mount Tarawera**	**0.89**	**61**	P		**Pn**	**16 43 08.5**	**+0.2**
KMRZ	**Kaimai**	**0.89**	**22**	P		**Pn**	**16 43 08.4**	**+0.1**
BKZ	**Black Stump Fm**	**0.90**	**123**	P		**Pn**	**16 43 08.8**	**+0.5**
BKZ	**Black Stump Fm**	**0.90**	**123**	S		**Sn**	**16 43 28.3**	**-1.6**
BHHZ	**Black Hill Sta**	**0.92**	**153**	P		**Pn**	**16 43 09.0**	**+0.6**
BHHZ	**Black Hill Sta**	**0.92**	**153**	S		**Sn**	**16 43 28.2**	**-2.0**
TOZ	**Tahuroa Road**	**0.94**	**359**	P		**Pn**	**16 43 08.7**	**+0.2**
MUGZ	**Murupara**	**1.00**	**79**	P		**Pn**	**16 43 08.8**	**-0.1**
MHEZ	**Mangahewa**	**1.02**	**246**	P		**Pn**	**16 43 10.1**	**+1.1**
KWHZ	**Kaweka Forest**	**1.03**	**137**	P		**Pn**	**16 43 10.1**	**+1.0**
MTHZ	**Maungataniwha**	**1.05**	**100**	P		**Pn**	**16 43 09.8**	**+0.5**
MTHZ	**Maungataniwha**	**1.05**	**100**	S		**Sn**	**16 43 30.1**	**-1.6**
NMHZ	**Naumai**	**1.09**	**113**	P		**Pn**	**16 43 11.0**	**+1.4**
NMHZ	**Naumai**	**1.09**	**113**	S		**Sn**	**16 43 32.2**	**-0.1**
TGRZ	**Tauranga**	**1.11**	**32**	P		**Pn**	**16 43 09.9**	**+0.1**
RTZ	**Ruatahuna**	**1.15**	**88**	P		**Pn**	**16 43 10.3**	**+0.2**
RTZ	**Ruatahuna**	**1.15**	**88**	S		**Sn**	**16 43 31.4**	**-1.7**
DREZ	**Durham Road**	**1.15**	**243**	P		**Pn**	**16 43 10.9**	**+0.9**
WAZ	**Wanganui**	**1.16**	**201**	P		**Pn**	**16 43 11.0**	**+1.0**
OPRZ	**Ohinepanea**	**1.16**	**45**	P		**Pn**	**16 43 10.2**	**0.0**
LREZ	**Lake Rotokare**	**1.17**	**228**	P		**Pn**	**16 43 11.3**	**+1.2**
KRHZ	**Kereru**	**1.17**	**146**	P		**Pn**	**16 43 11.3**	**+1.1**
KRHZ	**Kereru**	**1.17**	**146**	S		**Sn**	**16 43 32.0**	**-1.5**
MCHZ	**McNeill Hill**	**1.20**	**130**	P		**Pn**	**16 43 12.1**	**+1.7**
MCHZ	**McNeill Hill**	**1.20**	**130**	S		**Sn**	**16 43 34.3**	**+0.6**
PREZ	**Palmer Road**	**1.25**	**237**	P		**Pn**	**16 43 11.9**	**+1.0**
ARHZ	**Aropaoanui**	**1.29**	**118**	P		**Pn**	**16 43 12.5**	**+1.4**
ARHZ	**Aropaoanui**	**1.29**	**118**	S		**Sn**	**16 43 34.9**	**-0.2**
PKE	**Pukeiti**	**1.30**	**246**	P		**Pn**	**16 43 12.2**	**+0.9**
URZ	**Urewera**	**1.32**	**72**	P		**Pn**	**16 43 10.9**	**-0.4**
PNHZ	**Pukenui**	**1.34**	**157**	P		**Pn**	**16 43 12.6**	**+0.9**
WHHZ	**Waihua**	**1.40**	**107**	P		**Pn**	**16 43 13.1**	**+1.0**
TSZ	**Takapari Road**	**1.42**	**166**	P		**Pn**	**16 43 13.3**	**+0.9**
SNGZ	**Shannon Statio**	**1.43**	**95**	P		**Pn**	**16 43 13.1**	**+0.8**
NMEZ	**Namu Road**	**1.48**	**240**	P		**Pn**	**16 43 13.7**	**+0.9**
RAGZ	**Rawiri**	**1.50**	**84**	P		**Pn**	**16 43 13.3**	**+0.2**
KAHZ	**Kahuranaki**	**1.54**	**137**	P		**Pn**	**16 43 14.8**	**+1.4**
OHWZ	**Ohakea**	**1.54**	**186**	P		**Pn**	**16 43 14.7**	**+1.4**
CKHZ	**Cape Kidnapper**	**1.56**	**130**	P		**Pn**	**16 43 15.1**	**+1.6**
WPHZ	**Waipukurau**	**1.56**	**153**	P		**Pn**	**16 43 14.6**	**+1.1**
MKAZ	**Moumakai**	**1.59**	**350**	P		**Pn**	**16 43 14.0**	**+0.1**
MWZ	**Matawai**	**1.61**	**78**	P		**Pn**	**16 43 14.1**	**0.0**
KBAZ	**Karaka Road Bo**	**1.65**	**342**	P		**Pn**	**16 43 14.8**	**+0.3**
DVHZ	**Dannevirke**	**1.70**	**163**	P		**Pn**	**16 43 15.5**	**+0.6**
PXZ	**Pawanui**	**1.71**	**143**	P		**Pn**	**16 43 16.0**	**+1.1**
KNZ	**Kokohu**	**1.72**	**102**	P		**Pn**	**16 43 15.8**	**+0.8**
POWZ	**Post Office Ro**	**1.73**	**174**	P		**Pn**	**16 43 15.7**	**+0.6**
AWAZ	**Awhitu Peninsu**	**1.75**	**336**	P		**Pn**	**16 43 15.8**	**+0.3**
RIGZ	**Rimuhau**	**1.76**	**92**	P		**Pn**	**16 43 16.1**	**+0.6**
ETAZ	**East Tamaki Re**	**1.78**	**345**	P		**Pn**	**16 43 15.9**	**+0.1**
PRHZ	**Porangahau**	**1.81**	**152**	P		**Pn**	**16 43 17.0**	**+1.0**
RUGZ	**Raukumara Rang**	**1.84**	**68**	P		**Pn**	**16 43 15.5**	**-1.0**
TKGZ	**Te Karaka**	**1.84**	**83**	P		**Pn**	**16 43 16.9**	**+0.5**
PRGZ	**Paritu Road**	**1.86**	**98**	P		**Pn**	**16 43 17.2**	**+0.6**
WTAZ	**Waiatarua**	**1.89**	**336**	P		**Pn**	**16 43 17.5**	**+0.5**
WTAZ	**Waiatarua**	**1.89**	**336**	P		**Pn**	**16 43 17.5**	**+0.5**
EPAZ	**Eden Park BICE**	**1.90**	**341**	P		**Pn**	**16 43 17.4**	**+0.5**
WIAZ	**Waiheke Island**	**1.90**	**351**	P		**Pn**	**16 43 17.1**	**0.0**
PRWZ	**Pori Road**	**1.91**	**170**	P		**Pn**	**16 43 17.8**	**+0.8**
MHGZ	**Mahia Peninsul**	**1.92**	**105**	P		**Pn**	**16 43 18.1**	**+0.9**
HBAZ	**Herne Bay Bore**	**1.93**	**341**	P		**Pn**	**16 43 17.5**	**+0.3**
ANWZ	**Angora Road**	**1.93**	**158**	P		**Pn**	**16 43 18.2**	**+1.0**
KUZ	**Kuaotunu**	**1.93**	**5**	P		**Pn**	**16 43 17.3**	**0.0**
MRZ	**Mangatainoka R**	**1.98**	**179**	P		**Pn**	**16 43 18.1**	**+0.3**
TWGZ	**Tauwhareparae**	**2

SKJI	**Sukabumi**	**1.76**	**309**	P		**Pn**	**16 52 31.6**	**-0.1**
SKJI				S		**Sn**	**16 52 52.8**	**-0.5**
UGM	**Wanagama**	**2.58**	**85**	P		**Pn**	**16 52 42.5**	**-0.2**
UGM				S		**Sn**	**16 53 10.9**	**-2.2**
SMRI	**Semarang**	**2.71**	**67**	P		**Pn**	**16 52 45.4**	**+0.9**
SMRI				S		**Sn**	**16 53 18.2**	**+1.9**
WOJI	**Wonogiri, Jawa**	**2.98**	**85**	P		**Pn**	**16 52 47.7**	**-0.4**
PCJI	**Pacitan**	**3.22**	**91**	P		**Pn**	**16 52 51.5**	**+0.2**
PCJI				S		**Sn**	**16 53 26.5**	**-2.0**
PWJI	**Pagerwojo**	**3.84**	**89**	P		**Pn**	**16 53 00.1**	**+0.3**
PWJI				S		**Sn**	**16 53 43.1**	**-0.6**
KASI	**Kota Agung**	**4.28**	**307**	P		**Pn**	**16 53 05.7**	**-0.1**
JAGI	**Jajag, Banyuwa**	**6.17**	**94**	P		**Pn**	**16 53 33.0**	**+1.4**
WRA	**Warramunga Arr**	**28.13**	**117**	P		**P**	**16 57 50.3**	**+1.9**
	0.2nm,0.6s,baz=288,slow=12,SNR=3.9							
ASAR	**Alice Springs**	**29.29**	**125**	P		**P**	**16 57 59.8**	**+1.2**
	0.4nm,1.0s,baz=300,slow=7.4,SNR=3.2							
H08S2	**Diego Garcia H**	**35.10**	**268**	T		T	17 36 06.1	
	baz=93,slow=75,SNR=44							
H08S3	**Diego Garcia H**	**35.11**	**268**	T		T	17 36 06.9	
	baz=93,slow=75,SNR=36							
H08S1	**Diego Garcia H**	**35.12**	**268**	T		T	17 36 06.2	
	baz=93,slow=75,SNR=37							
STKA	**Stephens Creek**	**39.20**	**132**	P		**P**	**16 59 24.7**	**+0.5**
	1.3nm,0.6s,baz=321,slow=12,SNR=3.6							
SONM	**Songino Array**	**55.74**	**359**	P		**P**	**17 01 31.7**	**-0.5**
	0.2nm,0.4s,baz=168,slow=8.4,SNR=3.0							
SONM				PcP		**PcP**	**17 02 30.9**	**+0.3**
	0.5nm,0.5s,baz=168,slow=4.8,SNR=4.4							
MKAR	**Makanchi Array**	**59.26**	**340**	P		**P**	**17 01 55.1**	**-1.7**
	0.7nm,0.5s,baz=152,slow=8.4,SNR=14							
BVAR	**Borovoye Array**	**68.76**	**337**	P		**P**	**17 02 58.6**	**-0.4**
	0.5nm,0.4s,baz=141,slow=9.3,SNR=4.6							

ISK ***19*** *17:12:19.8,35˚.62N×27˚.63E,h25km,ML3.0/8*
ISCJB ***19*** *17:12:21.0±0.8,35˚.73N±0˚.07×27˚.65E±0.06,h24km±8km, Error ellipse: s-maj=13.5km s-min=4.8km az=148.7*
ATH ***19*** *17:12:21.0,35˚.86N×27˚.46E,h16km±2km, ML2.6/3, Error ellipse: s-maj=3.3km s-min=0.9km az=140.0*
CSEM ***19*** *17:12:20.5±0.2,35˚.71N×27˚.66E,h15km,ML3.0, Error ellipse: s-maj=7.5km s-min=2.8km az=148.0*

ISC 19 17:12:20.3±1.1, 35˚.70N±0˚.06×27˚.65E±0˚.04, h18km±7km, n28, σ0°80/40, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.43**	**249**	P	**Pg**	**Pg**	**17 12 29.0**	**0.0**
KARP				Sg	**Sg**	**Sg**	**17 12 35.1**	**+0.2**
KARP	**Karpathos**	**0.43**	**249**	P	**Pg**	**Pg**	**17 12 29.1**	**+0.1**
KARP				S	**Sg**	**Sg**	**17 12 34.7**	**-0.1**
KARP				AML	AML	AML	17 12 36.1	
	comp=N,3173µm,0.3s							
KARP				AML	AML	AML	17 12 37.0	
	comp=E,2951µm,0.1s							
KARP	**Karpathos**	**0.43**	**249**	P	**Pg**	**Pg**	**17 12 29.0**	**0.0**
KARP				S	**Sg**	**Sg**	**17 12 34.8**	**-0.1**
KARP				*e*Sg	**Sg**	**Sg**	**17 12 35.1**	**+0.2**
ARG	**Arkhangelos**	**0.64**	**37**	P	**Pg**	**Pg**	**17 12 33.2**	**+0.3**
ARG				S	**Sb**	**Sb**	**17 12 43.1**	**+1.4**
ARG				AML	AML	AML	17 12 43.3	
	comp=E,1435µm,0.3s							
ARG				AML	AML	AML	17 12 44.1	
	comp=N,687µm,0.3s							
ARG	**Arkhangelos**	**0.64**	**37**	P	**Pg**	**Pg**	**17 12 33.3**	**+0.3**
ARG				S	**Sb**	**Sb**	**17 12 42.8**	**+1.1**
ZKR	**Zakros**	**1.31**	**244**	P	**Pn**	**Pn**	**17 12 43.9**	**+0.2**
ZKR				S	**Sg**	**Sg**	**17 13 03.3**	**+0.7**
ZKR				AML	AML	AML	17 13 09.0	
	comp=N,192µm,0.5s							
ZKR				AML	AML	AML	17 13 10.2	
	comp=E,486µm,0.6s							
ZKR	**Zakros**	**1.31**	**244**	P	**Pb**	**Pb**	**17 12 44.3**	**0.0**
ZKR				S	**Sg**	**Sg**	**17 13 02.6**	**0.0**
BODT	**Bodrum**	**1.39**	**349**	PN	**Pn**	**Pn**	**17 12 45.1**	**+0.3**
BODT	**Bodrum**	**1.39**	**349**	*e*Pn	**Pn**	**Pn**	**17 12 45.1**	**+0.3**
TURN	**Turunc**	**1.40**	**33**	PN	**Pn**	**Pn**	**17 12 42.3**	**-2.6**
FETY	**Fethiye**	**1.49**	**51**	PN	**Pn**	**Pn**	**17 12 46.4**	**+0.2**
FETY	**Fethiye**	**1.49**	**51**	*e*Pn	**Pn**	**Pn**	**17 12 46.4**	**+0.2**
MLSB	**Milas**	**1.60**	**4**	PN	**Pn**	**Pn**	**17 12 48.2**	**+0.5**
MLSB	**Milas**	**1.60**	**4**	*e*Pn	**Pn**	**Pn**	**17 12 48.2**	**+0.5**
ANAF	**Anafi Island**	**1.66**	**294**	P	**Pn**	**Pn**	**17 12 48.9**	**+0.4**
ANAF				S	**Sn**	**Sn**	**17 13 07.9**	**-1.5**
ANAF	**Anafi Island**	**1.66**	**294**	P	**Pn**	**Pn**	**17 12 48.6**	**+0.1**
ANAF				S	**Sn**	**Sn**	**17 13 08.1**	**-1.3**
AKAS	**Kas**	**1.67**	**71**	PN	**Pn**	**Pn**	**17 12 48.8**	**0.0**
AKAS	**Kas**	**1.67**	**71**	*e*Pn	**Pn**	**Pn**	**17 12 48.8**	**0.0**
NPS	**Neapolis**	**1.72**	**256**	P	**Pn**	**Pn**	**17 12 50.4**	**+1.1**
NPS				S	**Sg**	**Sg**	**17 13 14.4**	**-1.4**
NPS	**Neapolis**	**1.72**	**256**	P	**Pb**	**Pb**	**17 12 50.7**	**-0.7**
NPS				S	**Sb**	**Sb**	**17 13 13.6**	**+0.9**
LAST	**Lasithi**	**1.85**	**254**	P	**Pn**	**Pn**	**17 12 51.5**	**+0.3**
LAST	**Lasithi**	**1.85**	**254**	P	**Pn**	**Pn**	**17 12 52.2**	**+1.0**
ELL	**Elmali**	**2.10**	**60**	PN	**Pn**	**Pn**	**17 12 54.9**	**+0.2**
ELL	**Elmali**	**2.10**	**60**	*e*Pn	**Pn**	**Pn**	**17 12 54.9**	**+0.2**
APE	**Apeiranthos**	**2.19**	**309**	PN	**Pn**	**Pn**	**17 12 56.3**	**+0.5**
APE	**Apeiranthos**	**2.19**	**309**	*e*Pn	**Pn**	**Pn**	**17 12 56.3**	**+0.5**
AYDB	**Zeytinkoy-Aydi**	**2.25**	**5**	PN	**Pn**	**Pn**	**17 12 57.6**	**+0.8**
AYDB	**Zeytinkoy-Aydi**	**2.25**	**5**	*e*Pn	**Pn**	**Pn**	**17 12 57.6**	**+0.8**

IDC 19 17:21:35.9±352.0, 37˚.15N×72˚.53W, h0km, Error ellipse: s-maj=149.2km s-min=138.4km az=30.0, Off east coast of United States

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
I51GB	**BERMUDA INFRAS**	**8.02**	**124**	*i*			18 10 10.0	
	baz=309,slow=319,SNR=0.9							
I10CA	**LAC DU BONNET**	**21.32**	**315**	*i*			19 31 00.0	
	baz=116,slow=335,SNR=0.5							
I42PT	**GRACIOSA ISLAN**	**34.83**	**73**	*i*			20 56 50.0	
	baz=281,slow=366,SNR=0.2							

BJI ***19*** *17:23:29.5,0˚.72N×126˚.54E,h12km,mb5.2/71,mB5.1/37, Ms4.5/62,Ms7 4.3/61*
IDC ***19*** *17:23:33.6±0.3,1˚.18N×126˚.40E,h0km,mb5.1/53, mb1 5.1/56,mb1mx5.1/65,mbtmp5.1/56,ML4.9/3,MS4.0/37, Ms1 4.0/37,ms1mx3.9/58,Error ellipse: s-maj=11.4km s-min=7.9km az=69.0*
MOS ***19*** *17:23:37.2±1.1,1˚.24N×126˚.35E,h33km,mb5.5/76, MS4.1/26,Error ellipse: s-maj=8.1km s-min=4.2km az=111.0*
DJA ***19*** *17:23:38.7±0.8,1˚.N±2˚×12˚7E±˚,h25km±7km,M5.0/20, mb5.3/20,mB5.5/19,MLv5.3/16,Mw(mB)4.9/19*
ISCJB ***19*** *17:23:38.3±0.3,1˚.18N±0˚.02×126˚.45E±0˚.02,h46km±3km, mb5.3/235,MS4.4/145,Error ellipse: s-maj=3.6km s-min=2.4km az=155.7*
NEIC ***19*** *17:23:39.3±0.5,1˚.20N×126˚.43E,h38km±4km,mb5.3/118, MS4.6/93,Error ellipse: s-maj=4.1km s-min=3.1km az=62.0*
GCMT ***19*** *17:23:39.3±0.2,1˚.23N×126˚.36E,h29km,MW5.2/88, Moment Tensor Solution. s86,c132; s38,c143; Duration: 1§0 Moment tensor: Scale 10^17 Nm; Mrr0.64±.02; Mθθ0.04±.01; Mϕϕ-0.68±.01; Mrθ-0.19±.02; Mθϕ-0.28±.01; Mϕr-0.20±.02; Best double couple: M=0.76100×10^17 NP1:ϕs209.00000°,δ56.00000°, λ103.00000°. NP2:ϕs7.00000°,δ37.00000°,λ72.00000°. Principal axes: T 0.7060, Plg75.0000°, Azm159.0000°; N 0.1110, Plg11.0000°, Azm22.0000°; P -0.8160, Plg10.0000°, Azm290.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 19 17:23:38.5±0.6, 1˚.18N±0˚.03×126˚.42E±0˚.04, h31km±3km, n836, σ1§42/842, mb5.3/235, MS4.4/145, 49C-15D, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.03**	**113**	*e*Pg	**Pn**	**Pn**	**17 23 55.6**	**-1.1**
LBMI	**Labuha**	**2.10**	**149**	P	**Pn**	**Pn**	**17 24 11.3**	**-0.3**
LBMI				S	**Sb**	**Sb**	**17 24 39.3**	**-2.3**
KMSI	**Cibinong**	**2.51**	**256**	P	**Pn**	**Pn**	**17 24 18.8**	**+1.6**
KMSI				S	**Sb**	**Sb**	**17 24 51.0**	**-2.5**
SGSI	**Sangihe**	**2.65**	**340**	P	**Pn**	**Pn**	**17 24 19.1**	**0.0**
SGSI				S	**Sn**	**Sn**	**17 24 51.0**	**+0.9**
SANI	**Sanana**	**3.23**	**188**	P	**Pn**	**Pn**	**17 24 27.6**	**+0.4**
SANI				S	**Sn**	**Sn**	**17 25 03.8**	**-0.9**
LUWI	**Luwuk**	**4.26**	**239**	P	**Pn**	**Pn**	**17 24 44.3**	**+3.0**
LUWI	**Luwuk**	**4.26**	**239**	*e*Pn	**Pn**	**Pn**	**17 24 44.3**	**+3.0**
NLAI	**Namlea**	**4.44**	**171**	P	**Pn**	**Pn**	**17 24 44.6**	**+0.9**
MRSI	**Marisa**	**4.54**	**261**	P	**Pn**	**Pn**	**17 24 47.6**	**+2.6**
GSPH	**General Santos**	**5.09**	**343**	⇑*i*P	**Pn**	**Pn**	**17 24 53.1**	**+0.2**
GSPH				*i* S	**Sn**	**Sn**	**17 25 50.6**	**-0.1**
MSAI	**Masohi**	**5.14**	**151**	P	**Pn**	**Pn**	**17 24 56.2**	**+2.8**
MSAI				S	**Sn**	**Sn**	**17 25 57.0**	**+5.2**
AAI	**Ambon**	**5.15**	**160**	P	**Pn**	**Pn**	**17 24 56.3**	**+2.8**
	319nm,0.9s,4µm1.3nm							
AAI				S	**Sn**	**Sn**	**17 25 58.2**	**+6.4**
	319nm,0.9s,4µm1.3nm							
APSI	**Ampana**	**5.21**	**247**	P	**Pn**	**Pn**	**17 24 57.9**	**+3.7**
SIJI	**Sorong**	**5.25**	**113**	Pn	**Pn**	**Pn**	**17 24 54.8**	**-0.1**
	5.4nm,0.3s,baz=169,slow=22,SNR=18							
SIJI				LR		LR	17 27 13.6	
	comp=Z,8µm,18.1s,baz=316,slow=42							
MATI	**Mati**	**5.73**	**358**	*e*P		**Pn**	**17 25 02.8**	**+1.3**
MATI				*e*S		**Sb**	**17 26 21.4**	**-4.7**
DAV	**Davao City (W)**	**5.91**	**352**	Pn		**Pn**	**17 25 03.0**	**-1.0**
	69nm,0.3s,baz=91,slow=8.8,SNR=2.2							
DAV				Sn		**Sn**	**17 26 18.0**	**+7.2**
	62nm,0.3s,baz=141,slow=23,SNR=2.2							
DAV	**Davao City (W)**	**5.91**	**352**	*e*Pn		**Pn**	**17 25 04.6**	**+0.6**
DAV				Sn		**Sn**	**17 26 18.0**	**+7.2**
DMPH	**Davao City--Mi**	**5.94**	**351**	⇑*e*P		Pn	17 25 12.1	+7.8
CTBH	**Cotabato--PC H**	**6.38**	**340**	⇑*i*P		Pn	17 25 05.6	-4.8
MPSI	**Mapaga**	**6.58**	**263**	P		**Pn**	**17 25 16.9**	**+3.8**
BNDI	**Bandanaira**	**6.65**	**148**	P		**Pn**	**17 25 15.4**	**+1.3**
BUKP	**Musuan**	**6.79**	**349**	*e*P		**Pn**	**17 25 19.9**	**+3.8**
PCI	**Palu**	**6.90**	**253**	P		**Pn**	**17 25 20.1**	**+2.5**
FAKI	**Fak Fak**	**7.11**	**125**	P		**Pn**	**17 25 20.6**	**+0.2**
FAKI				S		**Sn**	**17 26 41.3**	**+1.1**
FAKI	**Fak Fak**	**7.11**	**125**	*e*Pn		**Pn**	**17 25 21.4**	**+1.1**
IPIL	**Ipil**	**7.61**	**330**	*e*P		**Pn**	**17 25 28.2**	**+0.9**
IPIL				*e*S		**Sn**	**17 26 47.9**	**-4.5**
BUTP	**Butuan**	**7.78**	**354**	*e*P		**Pn**	**17 25 32.9**	**+3.3**
TTSI	**Tana Toraja**	**7.82**	**238**	P		**Pn**	**17 25 32.5**	**+2.3**
BNSI	**Bone**	**8.40**	**229**	P		**Pn**	**17 25 40.5**	**+2.4**
	285nm,1.0s,2µm							
SCPH	**Surigao**	**8.60**	**354**	⇑*e*P		**Pn**	**17 25 45.1**	**+4.2**
KMPI	**Kaimana, Papua**	**8.72**	**123**	P		Pn	17 25 47.8	+5.2
MYLDM	**Lahad Datu**	**8.85**	**297**	*e*Pn		**Pn**	**17 25 47.7**	**+3.4**
SGKI	**Sangatta, Kali**	**8.98**	**259**	P		**Pn**	**17 25 48.7**	**+2.6**
KAPI	**Kappang**	**9.07**	**227**	*e*Pn		**Pn**	**17 25 49.8**	**+2.4**
	67nm,0.7s							
SMKI	**Samarinda**	**9.35**	**260**	P		Pn	17 26 00.3	+9.0
BSSI	**Bau Bau, Buton**	**9.38**	**219**	P		**Pn**	**17 25 53.9**	**+2.3**
BKB	**Balikpapan**	**9.83**	**256**	P		**Pn**	**17 25 59.2**	**+1.4**
OCLP	**Ormoc**	**9.97**	**350**	*e*P		**Pn**	**17 26 03.9**	**+4.2**
PALU	**Palu**	**10.10**	**52**	P		**Pn**	**17 26 02.3**	**+0.9**
	baz=10.0,SNR=6.8							
SAUI	**Saumlaki**	**10.32**	**152**	P		Pn	17 26 16.7	+12
JAP	**San Jose, Anti**	**10.49**	**335**	*e*P		Pn	17 26 16.6	+10
MMRI	**Maumere**	**10.60**	**203**	P		Pn	17 26 13.5	+5.1
MMRI	**Maumere**	**10.60**	**203**	*e*Pn		Pn	17 26 14.8	+6.4
RCP	**Roxas**	**10.94**	**341**	⇑*e*P		**Pn**	**17 26 16.5**	**+3.5**
SOEI	**Soe**	**11.07**	**191**	P		Pn	17 26 22.6	+7.7
SOEI	**Soe**	**11.07**	**191**	*e*Pn		Pn	17 26 23.9	+9.0
	271nm,1.0s							
KBKI	**Kotabaru**	**11.18**	**247**	P		**Pn**	**17 26 17.9**	**+1.7**
KKM	**Kota Kinabalu**	**11.27**	**296**	*e*Pn		**Pn**	**17 26 21.7**	**+4.1**
BATI	**Baumata**	**11.64**	**194**	P		Pn	17 26 30.2	+7.6
MTKI	**Muara Teweh, K**	**11.72**	**260**	P		**Pn**	**17 26 26.9**	**+3.3**
ENPP	**El Nido**	**12.15**	**325**	*e*P		**Pn**	**17 26 30.9**	**+1.4**
WSI	**Waingapu**	**12.38**	**209**	P		**P**	**17 26 42.9**	**-1.5**
WRSI	**Waikabubak, Su**	**12.83**	**213**	P		**Pn**	**17 26 41.4**	**+2.5**
BOAC	**Boac**	**13.02**	**340**	*e*P		**Pn**	**17 26 44.4**	**+3.0**
PLAI	**Plampang**	**13.15**	**221**	P		**Pn**	**17 26 47.6**	**+4.3**
TGY	**Tagaytay City**	**13.94**	**337**	Pn		**Pn**	**17 26 53.6**	**-0.4**
	17nm,0.3s,baz=172,slow=2.8,SNR=3.2							
TGY				LR		LR	17 32 57.4	
	comp=Z,1µm,19.6s,baz=152,slow=40							
GENI	**Genyem**	**14.24**	**105**	P		**P**	**17 27 02.6**	**-2.5**
SBUM	**Sibu**	**14.25**	**275**	*e*P		**P**	**17 27 03.4**	**-1.8**
SRBI	**Singaraja**	**14.48**	**230**	P		**Pn**	**17 27 03.6**	**+2.2**
MTN	**Manton Dam**	**14.69**	**162**	P		**Pn**	**17 27 04.3**	**+0.1**
	baz=15,SNR=18							
MTN	**Manton Dam**	**14.69**	**162**	*e*Pn		**Pn**	**17 27 04.6**	**+0.3**
BALP	**Baler**	**15.24**	**342**	*e*P		**Pn**	**17 27 13.7**	**+2.2**
JAGI	**Jajag, Banyuwa**	**15.54**	**232**	*e*Pn		**Pn**	**17 27 17.4**	**+1.9**
	216nm,0.9s							
KSM	**Kuching**	**16.11**	**271**	*e*Pn		**P**	**17 27 28.2**	**+2.3**
	119nm,1.0s							
CAUP	**Cauayan**	**16.31**	**344**	*e*P		**Pn**	**17 27 26.6**	**+1.3**
KNRA	**Kununurra**	**16.91**	**172**	P		**Pn**	**17 27 32.6**	**-0.2**
	baz=17,SNR=28							
ABRA	**Dolores**	**17.30**	**341**	*e*P		**Pn**	**17 27 37.6**	**-0.3**
APYP	**Conner**	**17.34**	**343**	*e*P		**Pn**	**17 27 38.4**	**+0.1**
SGCP	**Mt. Cagua**	**17.49**	**346**	*e*P		**Pn**	**17 27 40.3**	**+0.1**
LEM	**Lembang**	**20.38**	**247**	P		**P**	**17 28 11.8**	**-1.3**
	25nm,0.7s,baz=54,slow=8.4,SNR=6.7							
LEM	**Lembang**	**20.38**	**247**	P		**P**	**17 28 11.8**	**-1.3**
LEM				pmax		pmax		
	comp=Z,23nm,0.7s							
MANU	**Manus Island**	**21.18**	**99**	*e*P		**P**	**17 28 22.6**	**+1.0**
	comp=Z,194nm,1.4s							
GUMO	**Guam**	**22.03**	**55**	P		**P**	**17 28 29.4**	**-1.2**
	comp=Z,107nm,1.0s,baz=200,slow=21,SNR=2.8							
GUMO				LR		LR	17 36 57.4	
	comp=Z,198nm,19.0s,baz=232,slow=36							
TWG	**Pinlang**	**22.13**	**347**	*e*P		**P**	**17 28 28.4**	**-3.3**
	comp=Z,358nm,0.7s							
WRAB	**Tennant Creek**	**22.38**	**160**	*e*P		**P**	**17 28 33.3**	**-1.0**
	comp=Z,244nm,0.9s							
WRAB				LR		LR		
	comp=Z,951nm,22.0s							
WRAB	**Tennant Creek**	**22.38**	**160**	*d* i P		**P**	**17 28 33.6**	**-0.7**
WRAB				pmax		pmax		
	comp=Z,366nm,1.2s							
WRA	**Warramunga Arr**	**22.38**	**160**	P		**P**	**17 28 33.2**	**-1.2**
	comp=Z,232nm,0.9s,baz=338,slow=10,SNR=388							
WRA				S		**S**	**17 32 34.1**	**-4.6**
	comp=Z,4.8nm,1.0s,baz=334,slow=15,SNR=7.8							
WB2	**Warramunga Arr**	**22.38**	**160**	*e*P		**P**	**17 28 33.4**	**-1.0**
	comp=Z,272nm,0.9s							
COEN	**Coen**	**22.40**	**133**	P		**P**	**17 28 34.2**	**-0.4**
	baz=22,SNR=12							
COEN	**Coen**	**22.40**	**133**	*e*P		**P**	**17 28 33.5**	**-1.2**
	comp=Z,64nm,1.0s							
MYKOM	**Kota Tinggi**	**22.57**	**272**	*e*P		**P**	**17 28 36.8**	**+0.3**
	comp=Z,173nm,1.4s							
YULB	**Yu-li**	**22.64**	**348**	*e*P		**P**	**17 28 34.0**	**-3.1**
	comp=Z,47nm,0.9s							
TPUB	**Ta-pu**	**22.70**	**346**	*e*P		**P**	**17 28 35.9**	**-1.8**
	comp=Z,130nm,1.0s							
TPUB				*e*S		**S**	**17 32 41.1**	**-3.2**
SSLB	**Suanglung**	**23.09**	**347**	*e*P		**P**	**17 28 39.9**	**-2.0**
	comp=Z,71nm,0.7s							
MBWA	**Marble Bar**	**23.14**	**196**	*e*P		**P**	**17 28 41.7**	**-0.7**
	comp=Z,52nm,0.9s							
PMG	**Port Moresby**	**23.18**	**117**	P		**P**	**17 28 43.4**	**+0.7**
	comp=Z,21nm,0.8s,baz=326,slow=6.1,SNR=8.4							
PMG				LR		LR	17 39 55.1	
	comp=Z,1µm,19.5s,baz=328,slow=42							
PMG	**Port Moresby**	**23.18**	**117**	*e*P		**P**	**17 28 43.8**	**+1.1**
	comp=Z,61nm,1.0s							
PMG	**Port Moresby**	**23.18**	**117**	*c i*P		**P**	**17 28 43.1**	**+0.4**
PMG				pmax		pmax		
	comp=Z,222nm,1.2s							
YOJ	**Yonaguni jima**	**23.38**	**352**	*e*P		**P**	**17 28 45.3**	**+0.7**
	comp=Z,101nm,0.9s							
YOJ	**Yonaguni jima**	**23.38**	**352**	*e*P		**P**	**17 28 45.3**	**+0.7**
YOJ				pmax		pmax		
	comp=Z,101nm,0.9s							
YHNB	**Yeheng**	**23.86**	**349**	*e*P		**P**	**17 28 48.0**	**-1.4**
	comp=Z,108nm,0.7s							
YHNB				LR		LR		
	comp=Z,1µm,20.0s							
QIZ	**Qiongzhong**	**24.06**	**319**	P		**P**	**17 28 51.5**	**+0.3**
QIZ				S		**S**	**17 33 10.0**	**+3.2**
QIZ				pmax		pmax		
	comp=Z,9.0nm,0.7s							
QIZ				LR		LR		
	comp=Z,570nm,10.0s							
QIZ				LR		LR		
	comp=Z,470nm,15.3s							
QIZ	**Qiongzhong**	**24.06**	**319**	PFAKE			17 29 00.0	+8.8
QIZ				LR		LR		
	comp=Z,682nm,19.0s							
MNAI	**Manna**	**24.09**	**257**	*e*P		**P**	**17 28 50.4**	**-1.1**
	comp=Z,243nm,1.1s							
TATO	**Taipei**	**24.13**	**349**	*e*P		**P**	**17 28 50.2**	**-1.5**
	comp=Z,68nm,0.8s							
TATO				LR		LR		
	comp=Z,840nm,20.0s							
UBPT	**Khong Chiam**	**24.98**	**305**	P		**P**	**17 28 58.9**	**-0.7**
	comp=Z,56nm,1.4s,comp=Z,894nm							
QIS	**Mount Isa**	**25.17**	**150**	P		**P**	**17 29 01.0**	**-0.2**
	baz=25,SNR=36							
JOW	**Kunigami**	**25.57**	**4**	P		**P**	**17 29 05.0**	**+0.2**
	comp=Z,118nm,0.6s,baz=164,slow=2.8,SNR=16							
JOW				LR		LR	17 39 44.0	
	comp=Z,233nm,19.4s,baz=220,slow=38							
JOW	**Kunigami**	**25.57**	**4**	*e*P		**P**	**17 29 05.1**	**+0.3**
	comp=Z,255nm,1.2s							
IPM	**Ipoh**	**25.57**	**278**	*e*P		**P**	**17 29 04.7**	**-0.4**
	comp=Z,35nm,0.8s							
AS31	**Alice Springs**	**25.74**	**164**	*e*P		**P**	**17 29 05.8**	**-0.7**
	comp=Z,24nm,0.8s							
ASAR	**Alice Springs**	**25.75**	**164**	P		**P**	**17 29 05.8**	**-0.7**
	comp=Z,54nm,0.8s,baz=352,slow=6.8,SNR=309							
ASAR				S		**S**	**17 33 38.2**	**+4.5**
	comp=Z,8.9nm,0.9s,baz=344,slow=19,SNR=5.8							
AS01	**Alice Springs**	**25.76**	**164**	*e*P		**P**	**17 29 05.2**	**-1.4**
MTSU	**Mount Surprise**	**26.05**	**138**	P		**P**	**17 29 06.7**	**-2.6**
	baz=26,SNR=8.0							
KULM	**Kulim**	**26.05**	**280**	*e*P		**P**	**17 29 09.2**	**-0.1**
	comp=Z,34nm,1.1s							
KULM				LR		LR		
	comp=Z,514nm,19.0s							
WRKA	**Warakurna**	**26.12**	**176**	P		**P**	**17 29 09.8**	**-0.2**
	baz=26,SNR=101							
RABL	**Rabaul**	**26.27**	**102**	*e*P		**P**	**17 29 14.0**	**+2.6**
	comp=Z,100nm,1.2s							
SKLT	**Songkhla**	**26.40**	**284**	P		**P**	**17 29 13.9**	**+1.4**
	comp=Z,51nm,1.0s,comp=Z,1µm							
SKNT	**Sakolnakorn**	**27.09**	**307**	P		**P**	**17 29 19.3**	**+0.5**
	comp=Z,13nm,1.1s							
SRAK	**Srakaew**	**27.28**	**299**	P		**P**	**17 29 15.8**	**-4.6**
TRTT	**Trang**	**27.44**	**285**	P		**P**	**17 29 22.9**	**+1.0**
	comp=Z,12nm,1.3s							
PSI	**Prapat**	**27.53**	**274**	P		**P**	**17 29 22.4**	**-0.4**
	comp=Z,29nm,0.8s,baz=89,slow=6.2,SNR=28							
PSI	**Prapat**	**27.53**	**274**	*e*P		**P**	**17 29 22.4**	**-0.4**
	comp=Z,57nm,1.0s							
CHAI	**Chaiyaphum**	**28.19**	**303**	P		**P**	**17 29 27.8**	**-0.7**
	comp=Z,21nm,0.8s,comp=Z,142nm							
SURT	**Suratani**	**28.56**	**287**	P		**P**	**17 29 31.6**	**-0.3**
	comp=Z,16nm,1.0s,comp=Z,178nm							
MEEK	**Meekatharra**	**28.66**	**195**	P		**P**	**17 29 32.4**	**-0.3**
	baz=29,SNR=13							
CTA	**Charters Tower**	**28.72**	**138**	P		**P**	**17 29 34.0**	**+0.8**
	comp=Z,16nm,0.9s,baz=324,slow=11,SNR=9.6							
CTA				PcP		**PcP**	**17 32 44.2**	**+0.9**
	comp=Z,14nm,0.9s,baz=246,slow=4.8,SNR=5.5							
CTAO	**Charters Tower**	**28.72**	**138**	*e*P		**P**	**17 29 36.4**	**+3.2**
	comp=Z,59nm,1.3s							
CTAO				LR		LR		
	comp=Z,1µm,20.0s							
CTAO	**Charters Tower**	**28.72**	**138**	*e*P		**P**	**17 29 36.4**	**+3.2**
CTAO				pmax		pmax		
	comp=Z,59nm,1.3s							
CTAO				MLR		MLR		
	comp=Z,1µm,20.0s							
PKDT	**Phuket**	**28.77**	**284**	P		**P**	**17 29 34.8**	**+1.1**
	comp=Z,11nm,1.4s,comp=Z,310nm							
GSI	**Gunungsitoli**	**28.84**	**271**	*e*P		**P**	**17 29 33.2**	**-1.2**
	comp=Z,57nm,0.9s							
PHET	**Kaeng Krachan**

baz=34,SNR=19
JHJ Hachijo jima 2 34.16 20 LR LR 17 43 01.9
comp=Z,301nm,21.5s,baz=234,slow=34
MUN Mundaring 34.37 195 P **P** **17 30 22.8 0.0**
baz=35,SNR=4.3
BBOO Buckleboo 35.01 166 P **P** **17 30 27.7 -0.6**
baz=35,SNR=20
BBOO Buckleboo 35.01 166 *e*P **P** **17 30 28.0 -0.3**
comp=Z,49nm,0.8s
HNR Honiara 35.01 108 P **P** **17 30 27.2 -1.4**
comp=Z,53nm,0.9s,baz=128,slow=7.7,SNR=2.9
HNR LR LR 17 44 14.5
comp=Z,599nm,20.5s,baz=282,slow=35
NWAO Narrogin (SRO) 35.01 194 P **P** **17 30 30.0 +1.7**
baz=35,SNR=8.7
NWAO P **P** **17 30 30.0 +1.7**
baz=35,SNR=8.7
NWAO Narrogin (SRO) 35.01 194 *e*P **P** **17 30 29.4 +1.1**
comp=Z,109nm,1.6s
NWAO Narrogin (SRO) 35.01 194 *e*P **P** **17 30 29.4 +1.1**
NWAO pmax pmax
comp=Z,109nm,1.6s
TJN Taejon 35.03 1*c e*P **P** **17 30 29.0 +0.6**
INU Inuyama 35.40 15 *e*P **P** **17 30 31.5 -0.1**
comp=Z,95nm,1.3s
EIDS Eidsvold 35.58 140 P **P** **17 30 32.9 -0.4**
baz=36,SNR=5.1
EIDS Eidsvold 35.58 140 *e*P **P** **17 30 33.0 -0.4**
comp=Z,39nm,1.2s
STKA Stephens Creek 35.88 158 P **P** **17 30 35.2 -0.6**
comp=Z,24nm,0.7s,baz=329,slow=9.2,SNR=56
STKA PcP **PcP** **17 33 02.7 0.0**
comp=Z,14nm,0.8s,baz=335,slow=4.7,SNR=3.5
STKA Stephens Creek 35.88 158 P **P** **17 30 35.3 -0.6**
baz=36,SNR=34
KS15 Wonju Array Si 36.11 2 *e*P **P** **17 30 38.7 +1.1**
KSAR Wonju Array Be 36.11 2 P **P** **17 30 38.5 +0.8**
KSAR PcP **PcP** **17 33 04.2 +0.9**
KSAR ScP **ScP** **17 36 49.2 +1.6**
KSAR Wonju Array Be 36.11 2 P **P** **17 30 38.5 +0.8**
KSAR 17 33 04.2
KSRS Korea Array 36.12 2 P **P** **17 30 38.5 +0.7**
comp=Z,8.2nm,0.6s,baz=181,slow=9.8,SNR=51
KSRS PcP **PcP** **17 33 04.2 +0.9**
comp=Z,10nm,0.9s,baz=186,slow=3.3,SNR=16
KSRS ScP **ScP** **17 36 49.2 +1.6**
comp=Z,2.0nm,0.9s,baz=187,slow=5.0,SNR=4.2
KSRS LR LR 17 43 54.4
comp=Z,106nm,20.6s,baz=176,slow=34
INCN Inchon 36.13 0 PFAKE 17 30 50.0 +12
INCN LR LR
comp=Z,462nm,20.0s
KS01 Wonju Array Si 36.15 2 *e*P **P** **17 30 38.2 +0.3**
HTT Hallett 36.38 162 P **P** **17 30 40.1 0.0**
baz=36,SNR=14
CD2 Chengdu 36.55 326 P **P** **17 30 40.9 -0.7**
CD2 pP pP 17 30 44.6 -6.1
CD2 PP **PnPn** **17 32 04.4 -0.5**
CD2 S **S** **17 36 24.6 +2.4**
CD2 pmax pmax
comp=Z,80nm,0.8s
CD2 pmax pmax
comp=Z,120nm,6.2s
CD2 LR LR
comp=Z,710nm,17.9s
CD2 LR LR
comp=Z,510nm,15.9s
CD2 LR LR
comp=Z,480nm,15.4s
XAN Xi'an 36.57 335 P **P** **17 30 40.5 -1.2**
XAN S **S** **17 36 20.4 -2.1**
XAN pmax pmax
comp=Z,21nm,1.0s
XAN LR LR
comp=Z,200nm,16.3s
XAN LR LR
comp=Z,240nm,19.2s
XAN LR LR
comp=Z,360nm,19.2s
RKGY Rocky Gully 36.69 193 P **P** **17 30 44.5 +1.9**
baz=37,SNR=5.6
MAJO Matsushiro 36.84 16 *e*P **P** **17 30 42.9 -1.1**
comp=Z,85nm,1.4s
MAJO LR LR
comp=Z,428nm,22.0s
MAJO Matsushiro 36.84 16*c i*P **P** **17 30 42.4 -1.6**
MAJO pmax pmax
comp=Z,73nm,1.6s
MAT Matsushiro 36.84 16 P **P** **17 30 42.4 -1.6**
MAT S **S** **17 36 26.2 -0.3**
MJAR Matsushiro Arr 36.84 16 P **P** **17 30 42.0 -2.0**
comp=Z,15nm,0.8s,baz=188,slow=9.8,SNR=33
MJAR PcP **PcP** **17 33 06.2 +0.7**
comp=Z,7.5nm,0.8s,baz=190,slow=3.2,SNR=7.5
MJAR LR LR 17 44 11.3
comp=Z,210nm,20.9s,baz=215,slow=34
MJB9 Matsu-Tunnel 36.84 16 *e*P **P** **17 30 42.9 -1.1**
comp=Z,87nm,1.4s
CMSA Cobar Meteorol 37.32 152 P **P** **17 30 47.9 -0.2**
baz=37,SNR=12
DL2 Dalian 37.80 354 P **P** **17 30 53.0 +1.0**
DL2 *e*S **S** **17 36 45.9 +4.9**
DL2 pmax pmax
comp=Z,120nm,0.8s
DL2 LR LR
comp=Z,290nm,20.2s
DL2 LR LR
comp=Z,300nm,16.3s
DL2 LR LR
comp=Z,350nm,14.7s
ARMA Armidale 39.55 145 P **P** **17 31 07.8 +0.9**
baz=40,SNR=11
ARMA Armidale 39.55 145 *e*P **P** **17 31 07.9 +1.0**
comp=Z,194nm,1.8s
BJT Baijiatuau 39.77 348 *e*P **P** **17 31 08.6 +0.1**
comp=Z,41nm,0.8s
BJT LR LR
comp=Z,276nm,22.0s
BJT Baijiatuau 39.77 348 *e*P **P** **17 31 08.6 +0.1**
BJT pmax pmax
comp=Z,41nm,0.8s
BJT MLR MLR
comp=Z,276nm,22.0s
BJI Beijing 39.79 348⇑ *i*P **P** **17 31 09.0 +0.3**
BJI S **S** **17 37 13.3 +2.4**
BJI pmax pmax
comp=Z,53nm,0.7s
BJI LR LR
comp=Z,210nm,13.2s
BJI LR LR
comp=Z,320nm,10.0s
BJI LR LR
comp=Z,370nm,28.4s
ARPS Mount Arapiles 40.38 161 P **P** **17 31 13.8 +0.2**
baz=40,SNR=20
LZH Lanzhou 40.56 331 *e*P **P** **17 31 15.0 -0.4**
LZH pP pP 17 31 18.4 -6.1
LZH sP sP 17 31 21.0 -7.3
LZH PP **PnPn** **17 32 54.6 +1.4**
LZH PcP **PcP** **17 33 18.5 +1.1**
LZH ScP **ScP** **17 37 06.9 +2.1**
LZH *e*S **S** **17 37 21.8 -1.1**
LZH pmax pmax
comp=Z,69nm,1.4s
LZH pmax pmax
comp=Z,280nm,5.7s
LZH LR LR
comp=Z,2μm,15.7s
LZH LR LR
comp=Z,2μm,15.2s
LZH LR LR
comp=Z,2μm,17.4s
SHL Shillong 41.18 309 *e*P P 17 31 14.0 -6.7
MSHR Mys Shultsa 41.44 5*c i*P **P** **17 31 23.1 +0.9**
HHC Hu-ho-hao-te 41.72 343 *e*P **P** **17 31 25.8 +1.0**
HHC pP pP 17 31 30.3 -3.7
HHC sP sP 17 31 32.9 -4.8
HHC PP **PnPn** **17 33 05.9 -0.8**
HHC S **S** **17 37 42.8 +2.9**
HHC pmax pmax
comp=Z,45nm,0.9s
HHC pmax pmax
comp=Z,120nm,5.8s
HHC LR LR
comp=Z,1μm,13.2s
HHC LR LR
comp=Z,1μm,14.4s
HHC LR LR
comp=Z,1μm,13.1s
VLA Vladivostok 42.04 6*c i*P **P** **17 31 28.1 +0.9**
VLA pmax pmax
comp=Z,108nm,1.3s
TOO Toolangi 42.40 157 P **P** **17 31 31.3 +1.0**
baz=42,SNR=6.9
CN2 Changchun 42.45 359⇑ P **P** **17 31 30.1 -0.4**
CN2 *e*sP pP 17 31 37.0 -2.7
CN2 *e*S **S** **17 37 52.3 +2.0**
CN2 pmax pmax
comp=Z,20nm,0.8s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=Z,200nm,18.0s
CN2 LR LR
comp=Z,300nm,18.0s
CN2 LR LR
comp=Z,300nm,19.0s
USRK Ussuriysk Ar. 43.12 6 P **P** **17 31 36.4 +0.4**
comp=Z,35nm,0.9s,baz=186,slow=7.0,SNR=64
USRK LR LR 17 48 57.2
comp=Z,115nm,22.0s,baz=174,slow=35
MDJ Mudanjiang 43.34 3 P **P** **17 31 36.4 -1.4**
MDJ pP pP 17 31 40.1 -6.9
MDJ sP sP 17 31 41.8 -8.9
MDJ PP **PP** **17 33 19.3 +0.4**
MDJ S **S** **17 38 09.5 +6.0**
MDJ sS pS 17 38 15.8 +1.6
MDJ pmax pmax
comp=Z,74nm,1.0s
MDJ LR LR
comp=Z,250nm,19.9s
MDJ LR LR
comp=Z,180nm,22.3s
MDJ LR LR
comp=Z,310nm,21.9s
MDJ Mudanjiang 43.34 3 *e*P **P** **17 31 38.3 +0.6**
comp=Z,40nm,0.8s
MDJ LR LR
comp=Z,252nm,21.0s
ERM Erimo 43.35 18 PFAKE 17 31 50.0 +12
ERM LR LR
comp=Z,344nm,19.0s
LSA Lhasa 43.92 314 P **P** **17 31 43.3 0.0**
LSA pmax pmax
comp=Z,26nm,0.8s
LSA Lhasa 43.92 314 *e*P **P** **17 31 43.4 0.0**
comp=Z,20nm,0.6s
LSA LR LR
comp=Z,257nm,22.0s
LSA Lhasa 43.92 314 P **P** **17 31 43.2 0.0**
LSA Lhasa 43.92 314 *e*P **P** **17 31 43.4 +0.1**
LSA pmax pmax
comp=Z,20nm,0.6s
LSA MLR MLR
comp=Z,257nm,22.0s
TEY Ternei 44.59 10 *e*P **P** **17 31 46.0 -1.7**
TEY pmax pmax
comp=N,66nm,0.8s
TEY pmax pmax
comp=Z,66nm,0.8s
ASAJ Asahikawa 45.11 16 P **P** **17 31 52.4 +0.5**
comp=Z,9.4nm,0.6s,baz=246,slow=11,SNR=25
ASAJ Asahikawa 45.11 16 *e*P **P** **17 31 52.4 +0.5**
comp=Z,18nm,0.7s
GTA Gaotai 45.14 331 P **P** **17 31 51.5 -0.9**
GTA pP pP 17 31 55.6 -6.0
GTA sP sP 17 31 58.5 -6.9
GTA PcP **PcP** **17 33 33.4 +0.8**
GTA ScP **ScP** **17 37 23.5 +0.4**
GTA PcS **PcS** **17 37 24.6 -1.9**
GTA S **S** **17 38 31.4 +1.4**
GTA sS sS 17 38 43.9 -1.4
GTA ScS **ScS** **17 41 47.0 -0.5**
GTA pmax pmax
comp=Z,8.0nm,1.6s
GTA pmax pmax
comp=Z,94nm,5.2s
GTA LR LR
comp=Z,270nm,16.6s
GTA LR LR
comp=Z,350nm,16.2s
GTA LR LR
comp=Z,480nm,16.6s
ODAN Odare 45.34 308 *e*P **P** **17 31 53.5 -0.8**
comp=Z,71nm,0.9s
DZM Mont Dzumac 45.37 123 P **P** **17 31 55.3 +0.9**
comp=Z,20nm,0.9s,baz=240,slow=14,SNR=4.4
DZM Mont Dzumac 45.37 123 *e*S **S** **17 38 30.4 -3.4**
comp=Z,549nm,23.6s
DZM *e*LR LR 17 44 43.8
comp=Z,549nm,23.6s
PALK Pallekele 45.97 279 P **P** **17 32 01.2 +1.9**
PALK Pallekele 45.97 279 *i* P **P** **17 32 01.7 +2.4**
RAMN Ramite 46.00 307 *e*P **P** **17 31 59.0 -0.6**
comp=Z,118nm,1.1s
JIRN Jiri 46.65 308 *e*P **P** **17 32 03.9 -0.9**
comp=Z,86nm,0.8s
GUN Gumba 47.01 308 *e*P **P** **17 32 06.8 -0.8**
comp=Z,123nm,0.8s
PKIN Phulchoki 47.24 307 *e*P **P** **17 32 09.1 -0.2**
comp=Z,24nm,0.7s
KKN Kakani 47.43 308 *e*P **P** **17 32 09.4 -1.3**
DMN Daman 47.48 307 *e*P **P** **17 32 10.2 -1.0**
comp=Z,85nm,1.1s
YSS Yuzh-Sakhalins 47.77 15 *e*P **P** **17 32 12.3 -0.4**
comp=Z,22nm,0.8s
YSS LR LR
comp=Z,149nm,20.0s
YSS Yuzh-Sakhalins 47.77 15⇑ *i*P **P** **17 32 12.5 -0.2**
YSS *e* 17 33 41.6
YSS *e*S **S** **17 39 05.0 -2.2**
YSS pmax pmax
comp=Z,20nm,1.3s
YSS MLR MLR
comp=Z,100nm,17.0s
GKN Gorkha 48.03 308 *e*P **P** **17 32 14.2 -1.1**
KLR Kul'dur 48.09 5 P **P** **17 32 15.0 -0.1**
comp=Z,1.6nm,0.5s,baz=205,slow=5.8,SNR=87
KLR PcP **PcP** **17 33 43.3 +0.8**
comp=Z,1.3nm,0.8s,baz=250,slow=5.1,SNR=4.3
HIA Hailar 48.25 354 *e*P **P** **17 32 17.0 +0.5**
comp=Z,116nm,1.6s
HIA LR LR
comp=Z,245nm,19.0s
HIA Hailar 48.25 354 *e*P **P** **17 32 17.0 +0.5**
HIA pmax pmax
comp=Z,116nm,1.6s
HIA MLR MLR
comp=Z,245nm,19.0s
KOLN Koldanda 48.76 307 *e*P **P** **17 32 20.3 -0.7**
comp=Z,71nm,0.6s
DANN Dangsing 48.88 308 *e*P **P** **17 32 21.1 -0.9**
comp=Z,7.7nm,0.9s
PYUN Piuthan 49.38 307 *e*P **P** **17 32 25.1 -0.7**
comp=Z,133nm,0.7s
ULN Ulaanbaatar 49.44 343 *e*P **P** **17 32 25.7 -0.1**
comp=Z,36nm,1.1s
ULN LR LR
comp=Z,197nm,21.0s
ULN Ulaanbaatar 49.44 343 P **P** **17 32 24.8 -1.0**
SNR=12
ULN Ulaanbaatar 49.44 343*ce*P **P** **17 32 25.2 -0.6**
ULN pmax pmax
comp=Z,8.0nm,0.6s
SONM Songino Array 49.61 342 P **P** **17 32 27.0 0.0**
comp=Z,4.7nm,0.6s,baz=157,slow=8.5,SNR=30
SONM PcP **PcP** **17 33 48.4 +0.1**
comp=Z,7.2nm,0.8s,baz=175,slow=4.1,SNR=5.0
SONM LR LR 17 55 46.8
comp=Z,166nm,20.3s,baz=156,slow=39
SONA1 Songino Array 49.62 342 *e*P **P** **17 32 26.7 -0.5**
HYB Hyderabad 49.73 292 *i* P **P** **17 32 28.0 -0.4**
comp=Z,107nm,1.2s
GRNR Gornyy 50.13 8⇑ *i*P **P** **17 32 30.2 -0.6**
GRNR pmax pmax
comp=N,84nm,0.9s
GRNR pmax pmax
comp=Z,110nm,0.9s
CIT Chita 51.80 350 *e*P **P** **17 32 44.5 +1.1**
CIT *e* 17 33 57.0
CIT pmax pmax
comp=Z,243nm,1.3s
ZEA Zeya 52.39 1 *e*P **P** **17 32 47.0 -0.7**
ZEA pmax pmax
comp=N,24nm,1.0s
ZEA pmax pmax
comp=Z,29nm,1.0s
ZAK Zakamensk 52.83 342 *e*P **P** **17 32 50.6 -0.5**
ZAK *e* 17 33 58.1
ZAK pmax pmax
comp=Z,10.0nm,1.3s
ZAK pmax pmax
comp=Z,17nm,1.0s
NKL Nikolayevsk 53.13 11 *i* P **P** **17 32 52.8 -0.3**
NKL pmax pmax
comp=N,36nm,0.9s
NKL pmax pmax
comp=E,16nm,0.9s
NKL pmax pmax
comp=Z,100nm,0.9s
TLY Talaya 53.85 343 P **P** **17 32 59.5 +1.0**
comp=Z,7.7nm,0.7s,baz=183,slow=4.7,SNR=25
TLY Talaya 53.85 343 PFAKE 17 33 10.0 +11
TLY LR LR
comp=Z,139nm,20.0s
TLY Talaya 53.85 343 P **P** **17 32 58.7 +0.2**
SNR=16
TLY Talaya 53.85 343 *e*P **P** **17 32 55.9 -2.6**
TLY *e*S **S** **17 40 32.2 +0.8**
TLY *e*SSS SSS 17 46 07.8
TLY pmax pmax
comp=Z,27nm,1.5s
IRK Irkutsk 54.16 343 *e*P **P** **17 33 00.8 0.0**
IRK pmax pmax
comp=Z,83nm,2.2s
POO Poona 54.34 292 *e*P P 17 32 55.0 -7.7
DGAR Diego Garcia 54.51 260 PFAKE 17 33 20.0 +16
DGAR LR LR
comp=Z,191nm,22.0s
WMQ Urumqi 54.64 326 P **P** **17 33 04.9 +0.4**
WMQ pP pP 17 33 11.8 -2.2
WMQ S **S** **17 40 44.4 +1.9**
WMQ pmax pmax
comp=Z,92nm,0.9s
WMQ pmax pmax
comp=Z,360nm,3.6s
WMQ LR LR
comp=Z,610nm,17.5s
WMQ LR LR
comp=Z,450nm,14.9s
WMQ LR LR
comp=Z,740nm,22.3s
MOY Mondy 54.67 341 *e*P **P** **17 33 05.5 +0.9**
MOY pmax pmax
comp=Z,67nm,2.8s
SKR Severo-Kuril's 55.37 23 *e*P **P** **17 33 10.0 +0.5**
SKR pmax pmax
comp=Z,100nm,4.3s
SKR pmax pmax
comp=Z,43nm,1.1s
SKR pmax pmax
comp=Z,200nm,3.6s
SKR MLR MLR
comp=Z,200nm,21.0s
SKR MLR MLR
comp=Z,100nm,20.0s
CLNS Chul'man 55.50 359 *e*P **P** **17 33 09.3 -1.1**
CLNS pmax pmax
comp=Z,26nm,1.0s
CLNS pmax pmax
comp=N,20nm,1.0s
CLNS pmax pmax
comp=E,10.0nm,1.0s
BOD Bodaibo 57.33 352 *e*P **P** **17 33 23.1 -0.3**
BOD pmax pmax
comp=Z,63nm,1.2s
PETK Petropavlovsk- 57.90 22 P **P** **17 33 27.7 +0.3**
comp=Z,12nm,0.8s,baz=180,slow=4.5,SNR=40
PETK LR LR 17 57 18.4
comp=Z,73nm,21.6s,baz=211,slow=35
PETK Petropavlovsk- 57.90 22 *e*P **P** **17 33 27.6 +0.1**
PETK Petropavlovsk- 57.90 22 *e*P **P** **17 33 27.6 +0.1**
PET Petropavlovsk 58.19 22 PFAKE 17 33 40.0 +11
PET LR LR
comp=Z,121nm,20.0s
SHLS Shalkode 59.12 321 *e*P **P** **17 33 34.3 -2.0**
comp=Z,610nm,0.9s
PDGK Podgornoye 59.19 322 P **P** **17 33 35.6 -1.3**
PDGK pmax pmax
comp=Z,48nm,1.1s
NIL Nilore 59.26 309 *e*P **P** **17 33 36.6 -0.8**
NIL LR LR
comp=Z,99nm,21.0s
NIL Nilore 59.26 309 *e*P **P** **17 33 36.6 -0.8**
NIL MLR MLR
comp=Z,99nm,21.0s
MK01 Makanchi Array 59.46 326 *e*P **P** **17 33 37.6 -0.9**
MK31 Makanchi Array 59.48 326 *e*P **P** **17 33 38.0 -0.6**
MK31 Makanchi Array 59.48 326 *e*P **P** **17 33 38.0 -0.6**
MKAR Makanchi Array 59.48 326 P **P** **17 33 38.0 -0.6**
comp=Z,17nm,0.6s,baz=122,slow=8.6,SNR=218
MKAR LR LR 18 00 08.4
comp=Z,398nm,19.5s,baz=108,slow=37
MKAR Makanchi Array 59.48 326 *e*P **P** **17 33 38.0 -0.6**
comp=Z,144nm,0.9s
TOZ Tahuroa Road 59.55 136 P **P** **17 33 39.8 +0.6**
KSH Kashi 59.64 316 P **P** **17 33 40.8 +0.8**
KSH pP pP 17 33 46.1 -3.5
KSH PcP **PcP** **17 34 26.0 -1.0**
KSH S **S** **17 41 44.3 -4.4**
KSH ScS **ScS** **17 43 24.5 -4.0**
KSH pmax pmax
comp=Z,110nm,1.2s
KSH pmax pmax
comp=Z,330nm,3.3s
KSH LR LR
comp=Z,140nm,7.0s
KSH LR LR
comp=Z,310nm,6.2s
KSH LR LR
comp=Z,530nm,15.7s
MAKZ Makanchi 59.66 326 *e*P **P** **17 33 39.2 -0.7**
comp=Z,62nm,1.3s
MAKZ Makanchi 59.66 326 *e*P **P** **17 33 39.2 -0.7**
MAKZ pmax pmax
comp=Z,63nm,1.3s
SATY Saty 59.73 321 *e*P **P** **17 33 40.4 -0.2**
comp=Z,891nm,0.8s
SATY *e*S **S** **17 41 51.1 +1.4**
KPKS Kokpek 59.77 321 *e*P **P** **17 33 40.1 -0.6**
comp=Z,780nm,0.8s
KPKS *i* PP **PP** **17 35 51.8 -1.1**
ZHN Zhinishke 59.77 321 *e*P **P** **17 33 40.3 -0.5**
comp=Z,203nm,1.0s
ZHN *e*S **S** **17 41 51.4 +1.2**
LBZ Lake Benmore 59.77 145 *e*P **P** **17 33 40.2 -0.4**
comp=Z,50nm,1.3s
RPZ Rata Peaks 59.88 144 *e*P **P** **17 33 41.4 0.0**
comp=Z,27nm,1.1s
THZ Tophouse 59.90 141 *e*P **P** **17 33 41.9 +0.2**
comp=Z,181nm,2.0s
KDJ Kajisay 60.05 319 *e*P **P** **17 33 42.5 -0.4**
comp=Z,27nm,0.8s
MARZ Manawahe 60.49 136 P **P** **17 33 45.8 +0.1**
TARZ Mount Tarawera 60.49 136 P **P** **17 33 44.6 -1.2**
MOVZ Moawhango 60.54 138 P **P** **17 33 44.6 -1.5**
MDOK Medeo 60.64 320 *e*P **P** **17 33 46.7 -0.2**
comp=Z,223nm,1.0s
MDOK LR LR 18 02 41.1
comp=Z,67nm,16.2s
MRHZ Matea Rd 60.71 137 P **P** **17 33 45.2 -2.0**
ULHL Ulahol 60.72 319 P **P** **17 33 47.0 -0.5**
SNR=31
TDK Taldyqorghan 60.73 323 *e*P **P** **17 33 47.3 +0.1**
comp=Z,1μm,0.8s
TDK *i* PP **PP** **17 36 01.2 -0.2**
TDK LR LR 18 00 40.8
comp=Z,212nm,19.2s
AAA Alma-Ata 60.75 320 *e*P **P** **17 33 47.6 +0.1**
comp=Z,155nm,0.8s
YAK Yakutsk 60.75 2 P **P** **17 33 46.7 -0.3**
comp=Z,91nm,0.8s,baz=332,slow=1.3,SNR=64
YAK Yakutsk 60.75 2 *e*P **P** **17 33 46.9 0.0**
comp=Z,130nm,0.9s
YAK LR LR
comp=Z,226nm,21.0s
YAK Yakutsk 60.75 2*c i*P **P** **17 33 46.7 -0.3**
YAK *e**PP **pP** **17 33 55.0 -1.5**

YAK e 17 34 30.0
YAK e 17 35 59.4
YAK eS S **17 42 02.0 +0.2**
YAK e*SS sS **17 42 18.7 +1.2**
YAK e 17 43 35.1
YAK eSS SS **17 46 05.7 +4.7**
YAK pmax pmax
comp=Z,100nm,0.9s
YAK pmax pmax
comp=N,30nm,1.3s
YAK pmax pmax
comp=E,6.0nm,1.3s
YAK pmax pmax
comp=Z,83nm,3.1s
YAK pmax pmax
comp=N,38nm,2.5s
YAK pmax pmax
comp=E,34nm,2.8s
YAK smax smax
comp=E,98nm,2.9s
YAK smax smax
comp=N,46nm,2.7s
YAK MLR MLR
comp=Z,153nm,23.0s
YAK MLR MLR
comp=E,59nm,24.0s
YAK MLR MLR
comp=N,227nm,23.0s
BHHZ Black Hill Sta 60.78 138 P **P** **17 33 46.9 -0.8**
SNZO South Karori 60.80 140 PFAKE 17 34 00.0 +12
SNZO LR LR
comp=Z,614nm,19.0s
OGWZ Otaki Gorge 60.85 139 P **P** **17 33 47.3 -0.8**
URZ Urewera 60.92 136 eP **P** **17 33 47.1 -1.5**
comp=Z,24nm,0.9s
BKZ Black Stump Fm 60.92 137 eP **P** **17 33 47.5 -1.2**
comp=Z,53nm,1.4s
CAW Cannon Point 60.93 140 P **P** **17 33 46.0 -2.6**
RTZ Ruatahuna 60.99 136 P **P** **17 33 49.0 -0.2**
KWHZ Kaweka Forest 61.00 137 P **P** **17 33 49.0 -0.2**
MTHZ Maungataniwha 61.01 137 P **P** **17 33 48.6 -0.7**
KRHZ Kereru 61.07 138 P **P** **17 33 49.2 -0.5**
PNHZ Pukenui 61.08 138 P **P** **17 33 48.3 -1.4**
NMHZ Naumai 61.10 137 P **P** **17 33 48.9 -1.0**
HOWZ Holdsworth Sta 61.12 139 P **P** **17 33 48.9 -1.1**
MA2 Magadan 61.24 14 P **P** **17 33 51.0 +0.7**
comp=Z,26nm,0.7s,baz=196,slow=6.5,SNR=43
MA2 Magadan 61.24 14 eP **P** **17 33 51.1 +0.7**
comp=Z,55nm,1.0s
MA2 LR LR
comp=Z,217nm,21.0s
MTW Mount Morrison 61.24 139 P **P** **17 33 49.4 -1.4**
KZA Kyzart 61.30 319 P **P** **17 33 51.7 +0.1**
SNR=50
KUU Kurty 61.45 321 eP **P** **17 33 51.7 -0.5**
comp=Z,394nm,0.7s
KUU eS **S** **17 42 12.8 +1.4**
TKM2 Tokmak 2 61.46 320 P **P** **17 33 52.0 -0.5**
SNR=49
TKM2 Tokmak 2 61.46 320 P **P** **17 33 51.8 -0.7**
TKM2 pmax pmax
comp=Z,29nm,1.3s
BMNS Besmoynak 61.50 320 eP **P** **17 33 51.9 -0.8**
comp=Z,163nm,1.0s
SFK Sufi-Kurgan 61.57 316 P **P** **17 33 52.6 -0.7**
SFK pmax pmax
comp=Z,30nm,0.8s
KBK Karagaybulak 61.76 319 P **P** **17 33 54.8 +0.3**
SNR=20
UCH Uchtor 61.85 318 P **P** **17 33 55.8 +0.4**
SNR=50
CHMS Chumysh 62.05 319 P **P** **17 33 55.8 -0.4**
SNR=9.6
AAK Ala-Archa 62.05 319 P **P** **17 33 56.6 +0.2**
comp=Z,13nm,0.9s,baz=110,slow=4.3,SNR=38
AAK LR LR 18 02 04.3
comp=Z,214nm,21.0s,baz=93,slow=37
AAK Ala-Archa 62.05 319 P **P** **17 33 56.1 -0.3**
SNR=18
AAK Ala-Archa 62.05 319 eP **P** **17 33 56.0 -0.3**
comp=Z,22nm,1.1s
AAK Ala-Archa 62.05 319 P **P** **17 33 56.6 +0.2**
SNR=17
AAK Ala-Archa 62.05 319 *i* P **P** **17 33 56.2 -0.3**
SNR=7.1
AAK Ala-Archa 62.05 319 P **P** **17 33 55.6 -0.8**
AAK pmax pmax
comp=Z,19nm,1.0s
FRU Bishkek 62.06 319 eP **P** **17 33 56.0 -0.3**
FRU e 17 34 33.0
FRU e 17 36 09.0
USP Ospenovka 62.33 320 P **P** **17 33 57.6 -0.6**
SNR=33
AML Almayashu 62.35 318 P **P** **17 33 59.0 +0.3**
SNR=53
EKS2 Erkin-Say 62.53 319 P **P** **17 33 59.6 0.0**
SNR=41
SEM Semipalatinsk 62.70 329 eP **P** **17 33 59.9 -0.8**
comp=Z,186nm,0.7s
ZAA0 Zalesovo Array 62.72 334 eP **P** **17 33 59.1 -1.2**
comp=Z,19nm,0.9s
ZALV Zalesovo Beam 62.72 334 P **P** **17 33 59.7 -0.7**
comp=Z,12nm,0.6s,baz=119,slow=5.8,SNR=47
ZALV PKP2bc 18 03 10.2
comp=Z,2.1nm,0.8s,baz=291,slow=4.1,SNR=8.5
ZALV LR LR 18 04 05.9
comp=Z,116nm,18.4s,baz=70,slow=39
ZALV Zalesovo Beam 62.72 334 eP **P** **17 33 59.1 -1.3**
ZALV ⇑e 18 03 10.2
ZALV Zalesovo Beam 62.72 334 eP **P** **17 33 59.1 -1.3**
KBL Kabul 62.84 309 eP **P** **17 34 01.0 -0.9**
comp=Z,52nm,1.3s
KBL Kabul 62.84 309 eP **P** **17 34 01.0 -0.9**
KBL pmax pmax
comp=Z,52nm,1.3s
AFI Afiamalu 63.01 106 P **P** **17 34 02.2 -0.9**
comp=Z,19nm,0.8s,baz=95,slow=14,SNR=4.0
AFI LR LR 18 00 51.0
comp=Z,145nm,20.2s,baz=280,slow=36
MNAS Manas 63.30 318 P **P** **17 34 04.2 -0.5**
MNAS pmax pmax
comp=Z,36nm,1.1s
KURBB Kurchatov Arra 63.72 328 P **P** **17 34 06.3 -0.8**
comp=Z,48nm,0.8s,baz=127,slow=6.3,SNR=166
KURK Kurchatov 63.73 328 eP **P** **17 34 06.6 -0.5**
comp=Z,102nm,0.9s
KURK LR LR
comp=Z,220nm,21.0s
KURK Kurchatov 63.73 328 P **P** **17 34 06.6 -0.5**
SNR=38
KURK Kurchatov 63.73 328 *c i* P **P** **17 34 06.5 -0.6**
KURK pmax pmax
comp=Z,80nm,0.7s
NVS Novosibirsk 64.00 334⇑ *i* P **P** **17 34 08.6 -0.3**
NVS pmax pmax
comp=N,15nm,0.8s
NVS pmax pmax
comp=E,15nm,0.8s
NVS pmax pmax
comp=Z,29nm,0.8s
DZA Taraz 64.26 318 eP **P** **17 34 10.7 -0.2**
comp=Z,371nm,0.7s
SEY Seymchan 64.57 13 P **P** **17 34 12.7 +0.3**
comp=Z,36nm,1.0s,baz=210,slow=5.8,SNR=97
SEY Seymchan 64.57 13⇑ *i* P **P** **17 34 13.5 +1.1**
IUG Iuzhnay 64.84 317 eP **P** **17 34 14.5 -0.3**
comp=Z,642nm,0.8s
KK31 Karatay Array 64.89 318 eP **P** **17 34 14.4 -0.6**
KK31 Karatay Array 64.89 318 *i* P **P** **17 34 14.1 -0.9**
KK31 pmax pmax
comp=Z,19nm,0.8s
KKAR Karatay Array 64.89 318 eP **P** **17 34 14.4 -0.6**
KKAR Karatay Array 64.89 318 eP **P** **17 34 14.4 -0.6**
OTUK Ortayu 65.97 324 P **P** **17 34 20.8 -1.1**
OTUK pmax pmax
comp=Z,42nm,1.0s
CASY Casey 68.26 187 eP **P** **17 34 36.6 +0.6**
comp=Z,29nm,0.9s
WSAR Wadi Sarin 69.17 294 LR LR 18 05 10.8
comp=Z,143nm,21.4s,baz=112,slow=36
BVA0 Borovoye Array 69.29 328 *i* P **P** **17 34 41.5 -1.2**
BVA0 pmax pmax
comp=Z,29nm,0.9s
BVAR Borovoye Array 69.29 328 P **P** **17 34 42.3 -0.4**
comp=Z,27nm,0.8s,baz=126,slow=7.7,SNR=142
BVAR LR LR 18 05 52.4
comp=Z,150nm,20.1s,baz=131,slow=37
BRVK Borovoye 69.36 328 eP **P** **17 34 42.7 -0.4**
comp=Z,56nm,1.0s
BRVK LR LR
comp=Z,126nm,19.0s
BRVK Borovoye 69.36 328 P **P** **17 34 42.9 -0.2**
SNR=26
BRVK Borovoye 69.36 328 *c i* P **P** **17 34 42.5 -0.6**
BRVK pmax pmax
comp=Z,38nm,0.8s
TIXI Tiksi 70.38 1 P **P** **17 34 48.0 -1.1**
comp=Z,25nm,0.8s,baz=170,slow=3.3,SNR=131
TIXI Tiksi 70.38 1 eP **P** **17 34 47.9 -1.1**
comp=Z,30nm,0.8s
TIXI LR LR
comp=Z,176nm,20.0s
TIXI Tiksi 70.38 1 *c i* P **P** **17 34 47.9 -1.1**
TIXI pmax pmax
comp=Z,42nm,0.9s
HATD Hatta, Dubai 71.64 296 P **P** **17 34 57.9 +0.2**
ALNE Al Ain 71.89 295 *i* P **P** **17 35 01.1 +1.9**
SNR=8.4
BILL Bilibino 72.08 15 *c i* P **P** **17 34 58.6 -0.8**
BILL e 17 35 15.6
BILL ePPP PPP 17 39 28.3
BILL pmax pmax
comp=Z,12nm,1.2s
GEYT Alibeck 72.26 310 P **P** **17 35 01.3 +0.1**
comp=Z,21nm,0.8s,baz=134,slow=4.3,SNR=47
GYA0B ALIBECK ARRAY 72.26 310 eP **P** **17 35 01.3 +0.2**
comp=Z,22nm,0.8s
NRIK Noril'sk 72.82 347 P **P** **17 35 04.0 +0.2**
comp=Z,19nm,0.5s
NRIK Noril'sk 72.82 347 P **P** **17 35 04.0 +0.2**
NRIK pmax pmax
comp=Z,19nm,0.5s
MZR Muzera 73.85 293 P **P** **17 35 10.7 -0.1**
AB31 Akbulak array 73.93 321 *i* P **P** **17 35 09.8 -0.9**
AB31 pmax pmax
comp=Z,15nm,0.8s
ABKAR Akbulak array 73.93 321 eP **P** **17 35 10.2 -0.5**
comp=Z,140nm,0.7s
AKTO Aktyubinsk 75.46 322 P **P** **17 35 19.6 0.0**
comp=Z,26nm,0.8s,baz=103,slow=6.7,SNR=57
AKTO LR LR 18 11 34.6
comp=Z,220nm,20.3s,baz=110,slow=38
AKTO Aktyubinsk 75.46 322 P **P** **17 35 18.9 -0.7**
AKTO pmax pmax
comp=Z,51nm,1.0s
SVE Sverdlovsk 75.97 329 *d i* P **P** **17 35 22.2 -0.1**
SVE pmax pmax
comp=Z,201nm,1.0s
GAMB Gambell 76.84 24 eP **P** **17 35 27.8 +0.7**
comp=Z,23nm,1.2s
ARU Arti 76.92 328 P **P** **17 35 27.1 -0.6**
comp=Z,74nm,0.9s,baz=104,slow=3.5,SNR=114
ARU LR LR 18 10 33.4
comp=Z,126nm,21.3s,baz=102,slow=37
ARU Arti 76.92 328 eP **P** **17 35 26.9 -0.8**
comp=Z,101nm,0.9s
ARU Arti 76.92 328 *c i* P **P** **17 35 26.9 -0.8**
ARU 17 38 20.3
ARU PPP PPP 17 40 06.8
ARU S **S** **17 45 16.6 +3.0**
ARU SS **SS** **17 50 09.1 -1.5**
ARU pmax pmax
comp=Z,130nm,1.0s
OPO Ambohidratompo 80.17 251 P **P** **17 35 47.3 +0.6**
comp=Z,8.6nm,0.9s,baz=69,slow=6.4,SNR=7.8
OPO LR LR 18 07 20.2
comp=Z,113nm,21.9s,baz=26,slow=33
VNDA Vanda 80.95 173 P **P** **17 35 49.4 -0.1**
comp=Z,32nm,0.8s,baz=318,slow=6.0,SNR=177
VNDA LR LR 18 11 13.8
comp=Z,87nm,21.1s,baz=339,slow=35
VNDA Vanda 80.95 173 eP **P** **17 35 49.4 -0.1**
comp=Z,39nm,0.9s
MAK Makhachkala 81.09 313 eP P 17 35 45.5 -5.3
MAK eS **S** **17 45 51.3 -7.2**
MAK pmax pmax
comp=Z,306nm,1.8s
RAYN Ar Rayn 81.20 293 eP **P** **17 35 51.9 -0.1**
comp=Z,28nm,1.1s
RAYN LR LR
comp=Z,158nm,19.0s
MAW Mawson 81.27 200 P **P** **17 35 50.6 -0.6**
comp=Z,9.4nm,0.9s,baz=38,slow=8.2,SNR=8.5
MAW LR LR 18 08 27.3
comp=Z,102nm,21.5s,baz=60,slow=33
MAW Mawson 81.27 200 P **P** **17 35 51.9 +0.7**
baz=81,SNR=5.6
SBA Scott Base 81.87 172 eP **P** **17 35 55.2 +0.9**
comp=Z,44nm,1.1s
SBA LR LR
comp=Z,455nm,19.0s
SBA Scott Base 81.87 172 eP **P** **17 35 55.2 +0.9**
SBA pmax pmax
comp=Z,44nm,1.1s
SBA MLR MLR
comp=Z,455nm,19.0s
DAMY Dhamar 81.99 284 eP **P** **17 35 58.6 +2.0**
comp=Z,49nm,1.3s
GROC Groznyy 82.36 313 eP **P** **17 35 56.8 -0.8**
GROC e 17 39 03.6
GROC eS **S** **17 46 04.8 -6.8**
GROC pmax pmax
comp=Z,125nm,1.1s
GNI Garni 82.88 310 eP **P** **17 36 01.8 +1.3**
comp=Z,53nm,0.8s
GNI LR LR
comp=Z,78nm,20.0s
GNI Garni 82.88 310 P **P** **17 36 01.1 +0.6**
SNR=9.1
GNI Garni 82.88 310 *i* P **P** **17 36 01.2 +0.6**
SNR=6.1
GNI Garni 82.88 310 *c i* P **P** **17 36 01.4 +0.8**
GNI pmax pmax
comp=Z,121nm,1.4s
TBLG Delisi 83.01 312 eP **P** **17 36 02.0 +1.1**
comp=Z,66nm,1.0s
TBLG Delisi 83.01 312 eP **P** **17 36 02.1 +1.1**
TBLG pmax pmax
comp=Z,66nm,1.0s
SVW2 Sparrevohn 83.17 29 eP **P** **17 36 02.6 +1.2**
comp=Z,63nm,1.6s
ATD Arta Tunnel 83.47 281 P **P** **17 36 04.2 +0.3**
comp=Z,46nm,0.9s,baz=315,slow=20,SNR=7.5
ATD LR LR 18 12 36.7
comp=Z,21nm,20.2s,baz=40,slow=35
ZEI Tsey 83.71 313 eP **P** **17 36 03.5 -1.3**
ZEI pmax pmax
comp=Z,77nm,0.9s
AKH Akhalkalaki 83.91 311⇑ *i* P **P** **17 36 07.7 +1.8**
AKH Akhalkalaki 83.91 311 eP **P** **17 36 07.6 +1.8**
comp=Z,75nm,0.9s
AKH Akhalkalaki 83.91 311 eP **P** **17 36 07.6 +1.7**
AKH pmax pmax
comp=Z,75nm,0.9s
NCK Nalchik 83.98 313⇓ *i* P **P** **17 36 06.2 +0.2**
NCK pmax pmax
comp=Z,58nm,0.8s
KDAK Kodiak Island 84.20 32 P **P** **17 36 07.2 +0.5**
comp=Z,28nm,1.1s,baz=262,slow=7.1,SNR=8.1
KDAK Kodiak Island 84.20 32 *i* P **P** **17 36 07.5 +0.8**
KBZ Khabaz 84.50 314 P **P** **17 36 08.8 +0.3**
comp=Z,38nm,1.0s,baz=116,slow=1.9,SNR=40
KBZ LR LR 18 17 58.8
comp=Z,71nm,20.0s,baz=61,slow=39
NEY Neytrino 84.60 313 *i* P **P** **17 36 10.4 +1.1**
NEY pmax pmax
comp=Z,9.0nm,0.8s
PPT Papeete 84.63 108 LR LR 18 11 19.8
comp=Z,102nm,18.8s,baz=288,slow=34
PPT2 Papeete2 84.63 108 eLR LR 18 02 57.8
comp=Z,179nm,23.5s
KIV Kislovodsk 84.67 314 eP **P** **17 36 10.2 +0.6**
comp=Z,308nm,2.0s
KIV LR LR
comp=Z,172nm,21.0s
KIV Kislovodsk 84.67 314 P **P** **17 36 09.0 -0.6**
SNR=17
KIV Kislovodsk 84.67 314 *i* P **P** **17 36 09.4 -0.2**
SNR=11
KIV Kislovodsk 84.67 314 eP **P** **17 36 10.0 +0.4**
KIV e 17 46 33.1
KIV eSS SS 17 52 03.4 -3.6
KIV pmax pmax
comp=Z,52nm,1.0s
KIV pmax pmax
comp=Z,9.0nm,2.2s
KIV MLR MLR
comp=Z,103nm,19.0s
IM3 Indian Mountai 84.78 24 eP **P** **17 36 09.3 -0.2**
PPLA Purkeypile 85.03 27 eP **P** **17 36 11.6 +0.6**
comp=Z,82nm,1.8s
CAST Castle Rocks 85.14 27 eP **P** **17 36 11.6 +0.2**
comp=Z,5.0nm,0.8s
BRLK Bradley Lake 85.30 30 eP **P** **17 36 12.3 0.0**
comp=Z,135nm,1.5s
SUA Susitna One 85.54 29 eP **P** **17 36 13.2 -0.3**
comp=Z,32nm,0.9s
KTH Kantishna Hill 85.67 26 eP **P** **17 36 14.5 +0.4**
comp=Z,13nm,1.2s
BPAW Bear Paw Mtn. 85.70 26 eP **P** **17 36 15.4 +1.2**
comp=Z,13nm,1.3s
VRH Novokhopyorsk 85.76 321 eP **P** **17 36 14.0 -0.7**
VRH pmax pmax
comp=Z,140nm,0.7s
MLY Manley 85.91 25 eP **P** **17 36 15.6 +0.4**
comp=Z,12nm,1.3s
TRF Thorofare Moun 85.94 27 eP **P** **17 36 16.1 +0.5**
comp=Z,32nm,1.8s
RC01 Rabbit Creek A 85.99 29 eP **P** **17 36 15.9 +0.3**
comp=Z,51nm,1.4s
PMR Palmer 86.32 28 eP **P** **17 36 17.8 +0.6**
comp=Z,51nm,1.5s
PMR Palmer 86.32 28 eP **P** **17 36 17.8 +0.6**
PMR pmax pmax
comp=Z,51nm,1.5s
COLD Coldfoot 86.35 23 eP **P** **17 36 17.9 +0.7**
comp=Z,17nm,1.0s
MCK McKinley 86.57 26 eP **P** **17 36 18.6 +0.1**
comp=Z,7.8nm,0.8s
MCK McKinley 86.57 26 eP **P** **17 36 18.6 +0.1**
MCK pmax pmax
comp=Z,8.0nm,0.8s
RND Reindeer 86.58 27 eP **P** **17 36 17.8 -0.8**
comp=Z,8.1nm,0.7s
RND Reindeer 86.58 27 eP **P** **17 36 17.8 -0.8**
RND pmax pmax
comp=Z,8.0nm,0.7s
SML Sawmill 86.71 28 eP **P** **17 36 19.2 0.0**
comp=Z,20nm,0.8s
SML Sawmill 86.71 28 eP **P** **17 36 19.2 0.0**
SML pmax pmax
comp=Z,20nm,0.8s
TOLK Toolik Lake Re 86.72 21 P **P** **17 36 20.0 +0.8**
baz=265
TOLK Toolik Lake Re 86.72 21 eP **P** **17 36 19.9 +0.8**
comp=Z,14nm,0.9s
SOC Sochi 86.80 313 eP **P** **17 36 17.8 -2.2**
SOC eS S 17 46 44.8 -11
SOC pmax pmax
comp=Z,70nm,1.1s
MDM Murphy Dome 86.96 25 eP **P** **17 36 19.8 -0.6**
comp=Z,5.0nm,1.0s
WRH Wood River Hil 86.99 26 eP **P** **17 36 19.8 -0.7**
comp=Z,14nm,1.2s
COLA College 87.12 25 PFAKE 17 36 30.0 +8.9
COLA LR LR
comp=Z,140nm,20.0s
CCB Clear Creek Bu 87.12 25 eP **P** **17 36 20.0 -1.1**
comp=Z,8.8nm,1.0s
SCM Sheep Creek Mo 87.19 28 eP **P** **17 36 22.2 +0.6**
comp=Z,14nm,0.8s
SCM Sheep Creek Mo 87.19 28 eP **P** **17 36 22.2 +0.6**
SCM pmax pmax
comp=Z,14nm,0.8s
DHY Denali Highway 87.23 27 eP **P** **17 36 18.8 -3.1**
DHY ePcP **PcP** **17 36 24.2 +0.2**
VORR Voronezh 87.35 321 P P 17 36 28.0 +5.5
VORR pmax pmax
comp=Z,720nm,1.6s
VORR pmax pmax
comp=Z,500nm,1.2s
VORR pmax pmax
comp=Z,250nm,1.2s
VSR Storozhevoye 87.36 321 eP **P** **17 36 20.9 -1.7**
VSR pmax pmax
comp=Z,20nm,0.8s
KLMR Klimovskoe 87.46 331 eP **P** **17 36 20.4 -2.4**
KLMR AMP 17 36 23.3
comp=Z,32nm,0.9s
KLMR ePP PP 17 39 38.2 -9.4
KLMR eS **SKSac** **17 46 46.4 -1.8**
KLMR eS **SKSac** **17 46 46.4 -1.8**
KLMR Klimovskoe 87.46 331 eP P **17 36 20.3 -2.5**
KLMR eS **SKSac** **17 46 46.4 -1.8**
KLMR pmax pmax
comp=Z,32nm,0.9s
HDA Harding Lake 87.48 26 eP **P** **17 36 21.6 -1.3**
comp=Z,8.2nm,1.1s
IL1 Eielson Array 87.53 25 eP **P** **17 36 20.0 -3.0**
ILAR Eielson Array 87.53 25 P **P** **17 36 21.3 -1.8**
comp=Z,2.1nm,0.7s,baz=245,slow=4.9,SNR=18
ILAR LR LR 18 12 05.7
comp=Z,45nm,21.9s,baz=278,slow=33
ILB Eielson Array 87.53 25 eP **P** **17 36 21.4 -1.7**
LPSR Galich'ya Gora 87.55 322 eP **P** **17 36 22.2 -1.2**
LPSR pmax pmax
comp=Z,30nm,0.8s
KLU Klutina 87.85 29 eP **P** **17 36 25.1 +0.3**
comp=Z,9.2nm,1.0s
DIV Divide 87.91 29 eP **P** **17 36 26.1 +1.0**
comp=Z,18nm,1.0s
PAX Paxson 88.09 27 eP **P** **17 36 25.9 0.0**
comp=Z,15nm,1.2s
PAX Paxson 88.09 27 eP **P** **17 36 25.9 0.0**
PAX pmax pmax
comp=Z,15nm,1.2s
HARP HAARP 88.23 28 eP **P** **17 36 27.5 +1.0**
comp=Z,29nm,1.3s
TMCR Tamitsa 88.24 334 eP **P** **17 36 25.0 -1.4**
TMCR pmax pmax
comp=Z,26nm,0.8s
FYU Fort Yukon 88.27 24 eP **P** **17 36 27.4 +0.8**
comp=Z,22nm,1.2s
MOS Moscow 88.36 326 eP **P** **17 36 25.1 -2.1**
MOS e 17 39 49.0
MOS pmax pmax
comp=Z,66nm,0.6s
RIDG Independ'e Rid 88.39 26 eP **P** **17 36 27.0 -0.3**
comp=Z,12nm,0.8s
ANN Anapa 88.46 315 eP **P** **17 36 25.4 -2.5**
ANN eS **SKSac** **17 46 53.7 -1.2**
ANN pmax pmax
comp=Z,111nm,1.0s
DOT Dot Lake 88.74 27 eP **P** **17 36 28.1 -0.8**
SCRK Sand Creek 88.77 26 eP **P** **17 36 29.0 -0.2**
comp=Z,3.9nm,0.8s
MENT Mentasta 88.89 27 eP **P** **17 36 29.6 -0.1**
comp=Z,7.1nm,0.9s
OBN Obninsk 88.96 325 eP **P** **17 36 29.2 -0.8**
comp=Z,60nm,1.0s
OBN LR LR
comp=Z,245nm,20.0s
OBN Obninsk 88.96 325 *c i* P **P** **17 36 28.9 -1.1**
OBN pmax pmax
comp=Z,74nm,1.1s
OBN MLR MLR
comp=Z,181nm,21.0s
KMBO Kilima Mbogo 89.19 269 P **P** **17 36 33.1 +0.8**
comp=Z,9.7nm,0.9s,baz=62,slow=4.1,SNR=12
KMBO LR LR 18 13 48.3
comp=Z,164nm,20.7s,baz=96,slow=34
KMBO Kilima Mbogo 89.19 269 eP **P** **17 36 33.4 +1.1**
comp=Z,21nm,1.1s
KMBO Kilima Mbogo 89.19 269 *i* P **P** **17 36 33.5 +1.1**
SNR=9.3
KMBO Kilima Mbogo 89.19 269 eP **P** **17 36 33.4 +1.1**
KMBO pmax pmax
comp=Z,21nm,1.1s
BALM Baldy 89.58 29 eP **P** **17 36 33.4 +0.4**
comp=Z,24nm,1.5s
BALM Baldy 89.58 29 eP **P** **17 36 33.4 +0.4**
BALM pmax pmax
comp=Z,24nm,1.5s
LVZ Lovozero 89.59 338 PFAKE 17 36 40.0 +7.2
LVZ LR LR
comp=Z,267nm,19.0s
LVZ Lovozero 89.59 338 *i* P **P** **17 36 31.9 -0.9**
LVZ pmax pmax
comp=Z,21nm,1.0s

SYO **Syowa Base** 89.95 201 ⇓ *e*PcP **PcP** 17 36 36.4 +0.8
EGAK **Eagle** 89.98 25 *e*P **P** 17 36 34.6 0.0
comp=Z,20nm,1.6s
EGAK LR LR
comp=Z,101nm,19.0s
MMAI **Mount Meron Ar** 90.22 303 P **P** 17 36 37.6 +1.0
comp=Z,22nm,1.0s,baz=86,slow=5.9,SNR=8.9
MMAI LR LR 18 22 59.2
comp=Z,96nm,20.5s,baz=175,slow=40
DAWY **Dawson** 90.79 26 *e*P **P** 17 36 38.5 0.0
comp=Z,18nm,1.3s
SIM **Simferopol'** 90.81 315 *e*P **P** 17 36 38.9 -0.1
SIM pmax pmax
comp=Z,38nm,0.9s
QSPA **South Pole Qui** 91.10 180 P **P** 17 36 40.2 +0.2
comp=Z,9.8nm,0.8s,baz=302,slow=2.4,SNR=26
BR131 **Keskin Array S** 91.40 310 *e*P **P** 17 36 41.2 -0.8
BRTR **Keskin Array B** 91.40 310 P **P** 17 36 41.2 -0.8
comp=Z,7.3nm,0.8s,baz=125,slow=5.5,SNR=36
BRTR LR LR 18 22 23.7
comp=Z,27nm,21.4s,baz=77,slow=39
CSS **Mathiatis** 91.87 305 *e*P **P** 17 36 44.0 -0.1
comp=Z,8.9nm,0.9s
HYT **Haines Junctio** 91.95 29 *e*P **P** 17 36 43.9 -0.1
comp=Z,22nm,1.4s
ANTO **Ankara** 92.04 310 PFAKE 17 37 00.0 +15
ANTO LR LR
comp=Z,111nm,20.0s
INK **Inuvik** 92.63 21 P **P** 17 36 46.1 -0.7
comp=Z,12nm,1.1s,baz=272,slow=5.8,SNR=23
INK **Inuvik** 92.63 21 *e*P **P** 17 36 46.6 -0.3
comp=Z,23nm,1.3s
INK **Inuvik** 92.63 21 *e*P **P** 17 36 46.6 -0.3
INK pmax pmax
comp=Z,23nm,1.3s
ARCES **ARCESS Array B** 92.72 340 P **P** 17 36 46.2 -1.0
comp=Z,20nm,0.8s,baz=74,slow=5.2,SNR=38
ARCES PKKPbc **PKKPbc** 17 54 00.9 -0.9
comp=Z,1.8nm,0.8s,baz=256,slow=3.6,SNR=4.4
ARCES **ARCESS Array B** 92.72 340 *e*P **P** 17 36 45.9 -1.4
ARCES PKKPbc **PKKPbc** 17 54 00.9 -0.9
ARCES **ARCESS Array B** 92.72 340 *e*P **P** 17 36 45.9 -1.4
ARCES 17 54 01.0
ARE0 **ARCESS Array S** 92.72 340 *e*P **P** 17 36 46.4 -0.9
comp=Z,24nm,0.9s
SPITS **Spitsbergen Ar** 92.91 349 P **P** 17 36 47.2 -0.9
comp=Z,8.6nm,0.8s,baz=219,slow=1.8,SNR=8.2
SPITS LR LR 18 22 44.6
comp=Z,79nm,20.8s,baz=350,slow=38
SKAG **Skagway** 93.19 30 *e*P **P** 17 36 50.4 +0.8
comp=Z,16nm,1.0s
WHY **Whitehorse** 93.25 29 *e*P **P** 17 36 50.9 +0.8
comp=Z,38nm,1.4s
KBS **Kingsbay** 93.44 350 PFAKE 17 37 00.0 +10
KBS LR LR
comp=Z,227nm,22.0s
BESE **Bessie Mountai** 93.56 31 *e*P **P** 17 36 53.0 +1.5
comp=Z,38nm,1.3s
TAOE **Nuku Hiva Isla** 93.57 99 *e*LR LR 18 07 05.2
comp=Z,297nm,21.8s
AKASG **Malin Array Be** 93.66 321 P **P** 17 36 50.4 -1.6
comp=Z,2.8nm,0.8s,baz=69,slow=4.3,SNR=20
AKASG LR LR 18 22 02.6
comp=Z,105nm,21.7s,baz=95,slow=38
KIEV **Kiev** 93.67 321 *e*P **P** 17 36 50.3 -1.7
comp=Z,42nm,2.0s
KIEV LR LR
comp=Z,155nm,22.0s
KIEV **Kiev** 93.67 321 ⇑ *i*P **P** 17 36 51.0 -1.0
KIEV pmax pmax
comp=Z,7.0nm,1.2s
FIA1 **FINESS Array S** 93.92 332 *e*P **P** 17 36 51.6 -1.3
FINES **FINESS Array B** 93.92 332 P **P** 17 36 51.6 -1.3
comp=Z,4.9nm,0.8s,baz=87,slow=6.5,SNR=16
FINES LR LR 18 22 53.2
comp=Z,119nm,19.6s,baz=84,slow=38
SORM **Soroca** 94.52 318 ⇓ *i*P **P** 17 36 54.7 -1.3
SORM **Soroca** 94.52 318 ⇓P **P** 17 36 54.7 -1.3
TLCR 94.54 315 ⇑ *i*P **P** 17 36 55.8 -0.3
TLCR 94.54 315 ⇑P **P** 17 36 55.8 -0.3
TIRR **Tirgusor** 94.91 315 ⇑ *i*P **P** 17 36 57.6 -0.2
TIRR **Tirgusor** 94.91 315 ⇑P **P** 17 36 57.6 -0.2
CFR **Carcaliu** 95.02 315 ⇓ *i*P **P** 17 36 57.9 -0.4
CFR **Carcaliu** 95.02 315 ⇓P **P** 17 36 57.9 -0.4
MANT **Manisa** 95.43 309 *e*P **P** 17 37 00.6 -0.1
comp=Z,42nm,1.0s
MBAR **Mbarara** 95.69 270 PFAKE 17 37 10.0 +7.6
MBAR LR LR
comp=Z,3μm,20.0s
TESR **Tescani** 95.88 317 ⇓ *i*P **P** 17 37 01.1 -1.2
VRI **Vrincioaia** 95.91 316 ⇑ *i*P **P** 17 37 02.2 -0.3
VRI **Vrincioaia** 95.91 316 ⇑P **P** 17 37 02.2 -0.3
PLOR **Plostina** 95.97 316 ⇑ *i*P **P** 17 37 02.9 +0.1
PLOR **Plostina** 95.97 316 ⇑P **P** 17 37 02.9 +0.1
MLR **Muntele Rosu** 96.51 316 P **P** 17 37 04.9 -0.5
comp=Z,2.6nm,0.9s,baz=111,slow=1.0,SNR=16
MLR LR LR 18 26 09.7
comp=Z,42nm,21.8s,baz=71,slow=39
MLR **Muntele Rosu** 96.51 316 ⇑ *i*P **P** 17 37 04.4 -0.9
MLR **Muntele Rosu** 96.51 316 *e*P **P** 17 37 05.0 -0.3
comp=Z,19nm,1.0s
MLR **Muntele Rosu** 96.51 316 ⇑P **P** 17 37 04.4 -0.9
BURAR **Bucovina Array** 96.69 318 ⇓ *i*P **P** 17 37 06.2 +0.2
BURAR **Bucovina Array** 96.69 318 ⇓P **P** 17 37 06.2 +0.2
BUR04 **Bucovina Ar. S** 96.69 318 *e*P **P** 17 37 05.6 -0.5
BUR08 **Bucovina Ar. S** 96.69 318 *e*P **P** 17 37 05.9 -0.2
SUW **Suwalki** 96.82 325 *e*P **P** 17 37 05.5 -0.8
SUW **Suwalki** 96.82 325 *e*P **P** 17 37 05.5 -0.8
DOPR **Dopca** 96.83 316 ⇑ *i*P **P** 17 37 06.4 -0.2
KARP **Karpathos** 96.86 306 *e*P **P** 17 37 07.4 +0.4
comp=Z,23nm,0.7s
VOIR 97.14 316 ⇑ *i*P **P** 17 37 04.7 -3.4
VOIR 97.14 316 ⇑P **P** 17 37 04.7 -3.4
ARR **Arges** 97.44 316 ⇓ *i*P **P** 17 37 08.4 -1.1
LSZ **Lusaka** 98.25 255 PFAKE 17 37 20.0 +6.2
LSZ LR LR
comp=Z,280nm,22.0s
TRPA **Tarpa** 98.37 319 ⇓ *i*P **P** 17 37 13.1 -0.3
UZH **Uzhgorod** 98.43 319 *c i*P **P** 17 37 13.7 0.0
UZH *e* 17 37 20.7
DRGR 98.51 318 ⇑ *i*P **P** 17 37 13.7 -0.5
DRGR 98.51 318 ⇑P **P** 17 37 13.7 -0.5
IDI **Anoyia** 98.73 306 LR LR 18 27 27.7
comp=Z,27nm,21.3s,baz=85,slow=39
CRVS **Cervenica-Dubn** 98.92 320 *e*PDIFF **P** 17 37 15.6 -0.3
CRVS **Cervenica-Dubn** 98.92 320 *e*P **P** 17 37 15.6 -0.3
VTS **Vitosha** 98.92 313 ⇑ *i*P **P** 17 37 14.9 -1.4
VTS **Vitosha** 98.92 313 *e*P **P** 17 37 15.7 -0.6
comp=Z,7.2nm,0.9s
VTS **Vitosha** 98.92 313 ⇑P **P** 17 37 14.9 -1.4
STHS **Stebnicka Huta** 98.95 320 *e*PDIFF Pdif 17 37 17.1 +1.0
STHS **Stebnicka Huta** 98.95 320 *e*P Pdif 17 37 17.1 +1.0
OJC **Ojcow** 99.68 321 *e*P **Pdif** 17 37 16.9 -0.4
OJC **Ojcow** 99.68 321 *e*P **Pdif** 17 37 18.9 -0.4
DAG **Danmarks Havn** 99.72 352 ⇑ *i*P **Pdif** 17 37 17.4 -1.5
comp=Z,12nm,0.8s
DAG **Danmarks Havn** 99.72 352 ⇑ *i*P **Pdif** 17 37 17.4 -1.5
DAG pmax pmax
comp=Z,12nm,0.8s
HFS **Hagfors** 100.12 332 P **Pdif** 17 37 18.9 -2.1
comp=Z,5.3nm,0.9s,baz=76,slow=9.1,SNR=5.9
LANS **Liptovska Anna** 100.14 320 *e*PDIFF **Pdif** 17 37 21.4 0.0
LANS **Liptovska Anna** 100.14 320 *e*P **Pdif** 17 37 21.4 0.0
PSZ **Piszkesteto** 100.15 319 *e*Pdif **Pdif** 17 37 21.3 -0.2
PSZ LR LR
comp=Z,146nm,21.0s
PSZ **Piszkesteto** 100.15 319 *e*P **Pdif** 17 37 21.3 -0.2
PSZ MLR MLR
comp=Z,146nm,21.0s
RES **Resolute Bay** 100.36 10 P **Pdif** 17 37 20.7 -1.0
comp=Z,9.5nm,0.9s,baz=310,slow=5.2,SNR=57
RES **Resolute Bay** 100.36 10 *e*Pdif **Pdif** 17 37 21.5 -0.3
RES **Resolute Bay** 100.36 10 *e*P **Pdif** 17 37 21.5 -0.3
NB2 **NORSAR Subarra** 100.92 333 P **Pdif** 17 37 22.7 -1.9
comp=Z,6.0nm,0.8s,baz=68,slow=4.8
NB2 **NORSAR Subarra** 100.92 333 P **Pdif** 17 37 22.7 -1.9
baz=68,slow=4.8
NOA **NORSAR Array B** 100.92 333 P **Pdif** 17 37 22.5 -2.1
comp=Z,4.4nm,0.8s,baz=69,slow=4.5,SNR=13
YKA **Yellowknife Ar** 101.93 25 P **Pdif** 17 37 29.1 +0.1
comp=Z,1.8nm,0.9s,baz=297,slow=4.6,SNR=18
YKA PKiKP **PKiKP** 17 41 52.2 +0.5
comp=Z,0.3nm,0.5s,baz=304,slow=1.6,SNR=5.6
YKA PKKPbc **PKKPbc** 17 53 32.7 -3.5
comp=Z,0.5nm,0.7s,baz=114,slow=2.6,SNR=7.3

SNAA **Sanae** 102.68 195 PKKPbc PKKPbc 17 53 31.8 -2.6
comp=Z,1.3nm,0.8s,baz=141,slow=2.2,SNR=4.9
BRG **Berggiesshubel** 103.09 323 *e*P **Pdif** 17 37 34.5 +0.1
comp=Z,9.9nm,1.2s
BRG *e* 17 37 39.8
comp=Z,5.4nm,1.0s
BRG **Berggiesshubel** 103.09 323 *e*P **Pdif** 17 37 34.5 +0.1
BRG pmax pmax
comp=Z,10.0nm,1.2s
BRG pmax pmax
comp=Z,5.0nm,1.0s
CLL **Collm** 103.51 324 *e*Pdif **Pdif** 17 37 36.0 -0.3
CLL *e*PP **PKiKP** 17 41 54.0 -0.9
CLL *i* 17 41 57.4
comp=Z,7.0nm,1.2s
CLL *e*SKKSac SKKSac 17 48 54.0 -1.6
CLL *e*Sdif **Sdif** 17 49 23.0 +0.5
CLL *e*PS **PS** 17 51 00.0 -2.6
CLL *e*PPS PPS 17 51 51.0
CLL *e*SSS SSS 18 00 48.0
CLL *e* 18 05 27.0
CLL **Collm** 103.51 324 *e*P **Pdif** 17 37 36.0 -0.3
CLL *e* 17 41 50.0
CLL *e*S **Sdif** 17 49 23.0 +0.5
GERES **GERESS Array B** 103.87 321 Pdiff **Pdif** 17 37 38.3 +0.2
comp=Z,1.1nm,0.9s,baz=72,slow=5.9,SNR=6.2
TIP **Timpagrande** 104.40 311 PFAKE 17 37 50.0 +9.4
TIP LR LR
comp=Z,108nm,19.0s
M02C **Callahan** 104.64 47 P **Pdif** 17 37 40.7 -1.0
baz=285
CUC **Castrocucco** 104.91 312 PFAKE 17 37 50.0 +7.2
CUC LR LR
comp=Z,109nm,20.0s
CEL **Celeste** 105.27 310 PFAKE 17 42 10.0
CEL LR LR
comp=Z,120nm,21.0s
NEW **Newport** 106.40 39 PFAKE 17 42 10.0
NEW LR LR
comp=Z,126nm,20.0s
CLTB **Caltabellotta** 107.49 310 PFAKE 17 42 10.0
CLTB LR LR
comp=Z,78nm,21.0s
TSUM **Tsumeb** 108.17 250 PFAKE 17 42 20.0
TSUM LR LR
comp=Z,210nm,19.0s
NVAR **Mina Array Bea** 108.82 49 Pdiff **Pdif** 17 38 01.1 +0.6
comp=Z,0.5nm,0.8s,baz=276,slow=5.8,SNR=4.0
NVAR PKiKP **PKiKP** 17 42 05.5 +0.1
comp=Z,0.6nm,0.8s,baz=290,slow=2.7,SNR=3.4
MSO **Missoula** 108.94 39 P **PKiKP** 17 42 03.8 -1.5
baz=293
HLID **Hailey** 109.89 42 P **PKiKP** 17 42 06.9 -0.4
baz=292
HLID **Hailey** 109.89 42 PFAKE 17 42 20.0
HLID LR LR
comp=Z,191nm,21.0s
R11A **Troy Canyon, C** 110.88 48 P **PKiKP** 17 42 09.8 +0.6
baz=289
BOZ **Bozeman (W)** 110.91 40 P **PKiKP** 17 42 08.4 -0.6
baz=295
BOZ **Bozeman (W)** 110.91 40 PFAKE 17 42 20.0
BOZ LR LR
comp=Z,154nm,19.0s
EGMT **Eagleton** 111.00 37 PFAKE 17 42 20.0
EGMT LR LR
comp=Z,149nm,19.0s
FFC **Flin Flon** 111.62 28 PFAKE 17 42 20.0
FFC LR LR
comp=Z,168nm,22.0s
FFC **Flin Flon** 111.62 28 *i* PKiKP **PKiKP** 17 42 10.5 +0.6
PFO **Pinyon Flats O** 111.66 53 PFAKE 17 42 20.0
PFO LR LR
comp=Z,385nm,20.0s
LKWY **Lake** 112.14 40 PFAKE 17 42 20.0
LKWY LR LR
comp=Z,291nm,21.0s
DUG **Dugway, Tooele** 112.25 45 PFAKE 17 42 20.0
DUG LR LR
comp=Z,177nm,20.0s
SWSC **Sam W. Stewart** 112.38 54 P **PKiKP** 17 42 11.6 -0.4
baz=287
AHID **Auburn Hatcher** 112.43 42 PFAKE 17 42 20.0
AHID LR LR
comp=Z,193nm,22.0s
BC3 **Big Chuckawall** 112.45 53 P **PKiKP** 17 42 11.9 -0.4
baz=288
HWUT **Hardware Ranch** 112.58 44 PFAKE 17 42 20.0
HWUT LR LR
comp=Z,151nm,20.0s
RLMT **Red Lodge** 112.62 39 PFAKE 17 42 20.0
RLMT LR LR
comp=Z,128nm,21.0s
PDMCI **Parker Dam,Lak** 113.28 52 P **PKiKP** 17 42 13.5 -0.2
baz=289
BW06 **Boulder Array** 113.46 42 PFAKE 17 42 30.0
BW06 LR LR
comp=Z,142nm,20.0s
PDAR **Pinedale Array** 113.46 42 PKiKP **PKiKP** 17 42 14.2 +0.1
comp=Z,0.4nm,0.6s,baz=243,slow=1.7,SNR=5.8
PDAR PKKPbc **PKKPbc** 17 52 58.2 -1.5
comp=Z,1.2nm,0.9s,baz=116,slow=5.4,SNR=7.8
WUAZ **Wupatki** 115.02 50 PFAKE 17 42 30.0 +13
WUAZ LR LR
comp=Z,212nm,20.0s
O20A **White River Ci** 115.48 44 *e*PKPdf **PKPdf** 17 42 18.3 +0.2
RSSD **Black Hills** 116.38 38 P **PKPdf** 17 42 18.3 -1.4
baz=301
RSSD **Black Hills** 116.38 38 *e*PKPdf **PKPdf** 17 42 18.8 -0.9
RSSD **Black Hills** 116.38 38 *e*PKIKP **PKPdf** 17 42 18.8 -0.9
MVCO **Mesa Verde** 116.52 47 P **PKPdf** 17 42 19.2 -1.0
baz=294
MVCO **Mesa Verde** 116.52 47 *e*PKPdf **PKPdf** 17 42 21.3 +1.1
MVCO LR LR
comp=Z,231nm,19.0s
TUC **Tucson** 116.59 53 P **PKPdf** 17 42 19.2 -1.0
baz=290
TUC **Tucson** 116.59 53 PFAKE 17 42 30.0 +10
TUC LR LR
comp=Z,274nm,19.0s
N23A **Red Feather La** 116.71 42 P **PKPdf** 17 42 19.7 -0.7
baz=298
ULM **Lac du Bonnet** 117.33 29 PKP **PKPdf** 17 42 19.8 -1.2
comp=Z,3.7nm,0.6s,baz=344,slow=3.2,SNR=8.8
ISCO **Idaho Springs** 117.44 43 P **PKPdf** 17 42 21.1 -0.9
baz=298
ISCO **Idaho Springs** 117.44 43 PFAKE 17 42 30.0 +8.0
ISCO LR LR
comp=Z,211nm,19.0s
TAM **Tamanrasset** 117.77 296 PFAKE 17 42 30.0 +7.2
TAM LR LR
comp=Z,90nm,19.0s
B32A **Ashes, Strandq** 118.19 31 P **PKPdf** 17 42 21.9 -0.8
baz=310
SDCO **Great Sand Dun** 118.45 45 P **PKPdf** 17 42 23.2 -0.7
baz=297
SDCO **Great Sand Dun** 118.45 45 *e*PKPdf **PKPdf** 17 42 24.0 +0.1
SDCO LR LR
comp=Z,169nm,20.0s
AGMN **Agassiz Nation** 118.60 31 PFAKE 17 42 30.0 +6.5
AGMN LR LR
comp=Z,182nm,20.0s
F31A **Hecla** 118.83 34 P **PKPdf** 17 42 23.3 -0.8
baz=307
121A **Cookes Peak, D** 118.88 51 P **PKPdf** 17 42 24.4 -0.4
baz=292
ANMO **Albuquerque** 118.95 48 P **PKPdf** 17 42 23.6 -1.3
baz=294
ANMO **Albuquerque** 118.95 48 *e*PKPdf **PKPdf** 17 42 25.4 +0.6
ANMO LR LR
comp=Z,180nm,19.0s
ANMO **Albuquerque** 118.95 48 *e*PKIKP **PKPdf** 17 42 25.5 +0.6
ANMO MLR MLR
comp=Z,180nm,19.0s
BNM **Barren Site** 119.14 49 *e*PKPdf **PKPdf** 17 42 26.2 +0.9
OGNE **Ogallala** 119.27 41 PFAKE 17 42 40.0 +15
OGNE LR LR
comp=Z,223nm,20.0s
D33A **AnnSam, Waubun** 119.35 32 P **PKPdf** 17 42 23.8 -1.2
baz=310
T25A **Trinidad** 119.49 45 P **PKPdf** 17 42 24.1 -1.7
baz=297
T25A **Trinidad** 119.49 45 *e*PKPdf **PKPdf** 17 42 26.6 +0.7
C34A **RKJ Ranch, Bem** 119.51 31 P **PKPdf** 17 42 24.4 -0.9
baz=311
B35A **Bob, Littlefor** 119.63 30 P **PKPdf** 17 42 24.0 -1.5
baz=312
E33A **Westby DABS, E** 119.67 32 P **PKPdf** 17 42 24.7 -0.9
baz=309
D34A **Park Rapids** 119.73 32 P **PKPdf** 17 42 24.6 -1.1
baz=310
F33A **5 Mile Ranch,** 119.93 33 P **PKPdf** 17 42 25.0 -1.1
baz=309
C35A **Jirik Farms, M** 119.95 30 P **PKPdf** 17 42 24.2 -2.0
baz=312
H32A **Carlson Farm,** 120.10 35 P **PKPdf** 17 42 26.2 -0.4
baz=307
G33A **Ortonville** 120.25 34 P **PKPdf** 17 42 25.7 -1.1
baz=308
D35A **Remer** 120.32 31 P **PKPdf** 17 42 25.8 -1.1
baz=311
C36A **Pine Crest Far** 120.48 30 P **PKPdf** 17 42 26.2 -0.9
baz=313
D36A **Goodland** 120.71 30 P **PKPdf** 17 42 26.7 -1.0
baz=312
C37A **Embarrass** 120.82 29 P **PKPdf** 17 42 26.9 -0.9
baz=314
K32A **Verdigre** 120.88 37 P **PKPdf** 17 42 27.4 -0.7
baz=306
H34A **Spellman Lake,** 120.94 34 P **PKPdf** 17 42 27.4 -0.7
baz=309
EYMN **Ely** 121.01 29 P **PKPdf** 17 42 27.1 -1.1
baz=314
EYMN **Ely** 121.01 29 *e*PKPdf **PKPdf** 17 42 27.3 -0.8
ECSD **EROS Data Cent** 121.04 35 P **PKPdf** 17 42 27.5 -0.9
baz=307
ECSD **EROS Data Cent** 121.04 35 *e*PKPdf **PKPdf** 17 42 27.8 -0.6
MNTX **Cornudas Mount** 121.08 51 P **PKPdf** 17 42 28.4 -0.4
baz=294
MNTX **Cornudas Mount** 121.08 51 *e*PKPdf **PKPdf** 17 42 29.1 +0.2
MNTX LR LR
comp=Z,183nm,19.0s
J33A **Davis** 121.08 36 P **PKPdf** 17 42 27.1 -1.3
baz=307
D37A **Cotton** 121.09 30 P **PKPdf** 17 42 27.4 -1.0
baz=313
E36A **McGregor** 121.10 31 P **PKPdf** 17 42 27.4 -1.0
baz=312
F36A **Milaca** 121.40 32 P **PKPdf** 17 42 27.8 -1.1
baz=311
H35A **Sunnyside Ranc** 121.45 33 P **PKPdf** 17 42 29.0 -0.1
baz=310
BGNE **Belgrade** 121.48 38 P **PKPdf** 17 42 27.7 -1.6
baz=305
C39A **Grand Marais** 121.75 28 P **PKPdf** 17 42 28.2 -1.4
baz=316
E38A **The Farm, Brul** 121.91 30 P **PKPdf** 17 42 28.6 -1.3
baz=314
F37A **Hinrichs Farm,** 121.96 31 P **PKPdf** 17 42 29.2 -0.8
baz=312
MSTX **Muleshoe** 122.11 48 P **PKPdf** 17 42 30.1 -0.8
baz=297
MSTX **Muleshoe** 122.11 48 *e*PKPdf **PKPdf** 17 42 30.1 -0.8
C40A **Isle Royale Na** 122.14 28 P **PKPdf** 17 42 28.8 -1.5
baz=317
E39A **Mellen** 122.56 30 P **PKPdf** 17 42 30.2 -1.0
baz=315,SNR=9.1
H37A **Dierke Farm, C** 122.57 33 P **PKPdf** 17 42 30.0 -1.3
baz=311
J36A **Seneca 1, Swea** 122.59 34 P **PKPdf** 17 42 30.6 -0.7
baz=309
I37A **Lemond, Waseca** 122.67 33 P **PKPdf** 17 42 30.9 -0.6
baz=311
F39A **Loretta** 122.70 30 P **PKPdf** 17 42 30.6 -0.9
baz=314,SNR=7.1
G38A **Ridgeland** 122.74 31 P **PKPdf** 17 42 30.6 -1.0
baz=313
E40A **Wakefield** 122.84 29 P **PKPdf** 17 42 31.4 -0.3
baz=315,SNR=8.7
K36A **Gilmore City** 122.96 35 P **PKPdf** 17 42 31.0 -1.1
baz=309
G39A **Holcombe** 123.01 31 P **PKPdf** 17 42 32.0 -0.1
baz=313
D41A **Chassel** 123.03 28 P **PKPdf** 17 42 32.0 -0.1
baz=317
F40A **Park Falls** 123.10 30 P **PKPdf** 17 42 31.5 -0.8
baz=315,SNR=8.6
I38A **Scanlan Farm,** 123.24 33 P **PKPdf** 17 42 32.1 -0.4
baz=312
E41A **Kenton** 123.28 29 P **PKPdf** 17 42 32.5 -0.1
baz=316
H39A **Augusta** 123.37 31 P **PKPdf** 17 42 31.8 -1.0
baz=313
TX31 **Lajitas Ar. Si** 123.38 53 *e*PKPdf **PKPdf** 17 42 33.2 -0.1
TX31 *e*PKPdf **PKiKP** 17 42 33.7 +0.1
TXAR **Lajitas Array** 123.38 53 PKP **PKPdf** 17 42 33.6 +0.2
comp=Z,2.0nm,0.8s,baz=295,slow=0.5,SNR=24
TXAR PKKPbc **PKKPbc** 17 52 24.1 +0.8
comp=Z,0.6nm,0.9s,baz=108,slow=8.0,SNR=5.2
COWI **Conover** 123.45 29 PFAKE 17 42 40.0 +7.1
COWI LR LR
comp=Z,167nm,20.0s
G40A **Rib Lake** 123.52 30 P **PKPdf** 17 42 32.2 -0.9
baz=314
J38A **Wedel Dairy, R** 123.64 33 P **PKPdf** 17 42 32.3 -1.1
baz=311
F41A **Three Lakes** 123.73 29 P **PKPdf** 17 42 33.0 -0.5
baz=316,SNR=7.8
E42A **Champion** 123.80 28 P **PKPdf** 17 42 32.6 -1.0
baz=317
I39A **Houston** 123.80 32 P **PKPdf** 17 42 32.3 -1.3
baz=312,SNR=7.0
H40A **Chili** 123.87 31 P **PKPdf** 17 42 33.6 -0.2
baz=314
K38A **Parkersburg** 123.91 34 P **PKPdf** 17 42 32.8 -1.1
baz=310
J39A **Decorah** 124.05 33 P **PKPdf** 17 42 32.9 -1.3
baz=312,SNR=5.8
L38A **Oak Wood Farm,** 124.13 35 P **PKPdf** 17 42 33.6 -0.8
baz=310
SCIA **State Center** 124.13 35 PFAKE 17 42 50.0 +16
SCIA LR LR
comp=Z,373nm,22.0s
H41A **Junction City** 124.25 31 P **PKPdf** 17 42 33.6 -0.9
baz=315
H41A **Junction City** 124.25 31 *e*PKPdf **PKPdf** 17 42 34.0 -0.5
E43A **Lone Tree Farm** 124.27 27 P **PKPdf** 17 42 33.8 -0.7
baz=318
K39A **Oelwein** 124.36 34 P **PKPdf** 17 42 32.9 -1.9
baz=311
G42A **Mountain** 124.42 29 P **PKPdf** 17 42 33.6 -1.2
baz=316
G42A **Mountain** 124.42 29 *e*PKPdf **PKPdf** 17 42 34.1 -0.7
F43A **Flat Rock, Esc** 124.59 28 P **PKPdf** 17 42 34.3 -0.7
baz=318
WMOK **Wichita Mounta** 124.65 45 P **PKPdf** 17 42 35.5 -0.1
baz=300
WMOK **Wichita Mounta** 124.65 45 PFAKE 17 42 50.0 +14
WMOK LR LR
comp=Z,111nm,19.0s
L39A **Vinton** 124.69 34 P **PKPdf** 17 42 34.2 -1.2
baz=311,SNR=5.3
G43A **Wallace** 124.77 29 P **PKPdf** 17 42 35.1 -0.3
baz=317
K40A **Colesburg** 124.78 33 P **PKPdf** 17 42 34.4 -1.1
baz=312,SNR=8.9
F44A **Big Bay de Noc** 124.83 27 P **PKPdf** 17 42 35.7 +0.2
baz=319
P37A **Lathrop** 124.90 38 P **PKPdf** 17 42 35.9 0.0
baz=307
J41A **Loganville** 124.93 32 P **PKPdf** 17 42 35.1 -0.8
baz=314
M39A **Webster** 125.01 35 P **PKPdf** 17 42 35.5 -0.5
baz=310
E45A **Wooded Hills,** 125.10 26 P **PKPdf** 17 42 35.2 -0.9
baz=320
JFWS **Jewell Farm** 125.12 32 P **PKPdf** 17 42 35.4 -0.8
baz=313
JFWS **Jewell Farm** 125.12 32 *e*PKPdf **PKPdf** 17 42 35.5 -0.7
JFWS LR LR
comp=Z,172nm,20.0s
JFWS **Jewell Farm** 125.12 32 *e*PKIKP **PKPdf** 17 42 35.5 -0.7
JFWS MLR MLR
comp=Z,172nm,20.0s
I42A **Draeger Farm,** 125.14 31 P **PKPdf** 17 42 35.4 -0.8
baz=315
L40A **Anamosa** 125.16 34 P **PKPdf** 17 42 35.1 -1.2
baz=312,SNR=5.6
HOPE **Hope Point** 125.23 192 PFAKE 17 42 50.0 +14
HOPE LR LR
comp=Z,299nm,20.0s
K41A **Shullsburg** 125.30 33 P **PKPdf** 17 42 36.1 -0.5
baz=313
P38A **Dawn** 125.38 37 P **PKPdf** 17 42 35.9 -0.9

	baz=308							
F45A	**CMU Biological**	**125.47**	**27**	P	**PKPdf**	**17 42 36.1**	**-0.6**
	baz=320							
I43A	**Langenfeld Bro**	**125.53**	**30**	P	**PKPdf**	**17 42 36.1**	**-0.8**
	baz=316							
L41A	**Preston**	**125.55**	**33**	P	**PKPdf**	**17 42 36.7**	**-0.4**
	baz=312							
J43A	**Natural Harves**	**125.75**	**31**	P	**PKPdf**	**17 42 36.4**	**-1.0**
	baz=315							
JCT	**Junction City**	**125.93**	**50**	P	**PKPdf**	**17 42 38.3**	**+0.1**
	baz=297							
JCT	**Junction City**	**125.93**	**50**	*e*PKPdf	**PKPdf**	**17 42 38.4**	**+0.2**
JCT				LR	LR			
	comp=Z,216nm,19.0s							
JCT	**Junction City**	**125.93**	**50**	*e*PKIKP	**PKPdf**	**17 42 38.4**	**+0.2**
JCT				MLR	MLR			
	comp=Z,216nm,19.0s							
P39B	**Salisbury**	**125.93**	**37**	P	**PKPdf**	**17 42 37.4**	**-0.5**
	baz=309							
R38A	**Fenwick Farm,**	**126.02**	**39**	P	**PKPdf**	**17 42 37.8**	**-0.3**
	baz=307							
L42A	**Oliver, Polo**	**126.05**	**33**	P	**PKPdf**	**17 42 38.1**	**+0.1**
	baz=313							
O40A	**La Belle**	**126.06**	**36**	P	**PKPdf**	**17 42 38.1**	**0.0**
	baz=310							
Q39A	**Willow Grove F**	**126.07**	**38**	P	**PKPdf**	**17 42 37.3**	**-0.8**
	baz=308,SNR=7.7							
P40A	**Paris**	**126.33**	**37**	P	**PKPdf**	**17 42 38.0**	**-0.6**
	baz=310							
S38A	**Stockton**	**126.35**	**40**	P	**PKPdf**	**17 42 37.9**	**-0.8**
	baz=307							
T38A	**Diamond**	**126.45**	**40**	P	**PKPdf**	**17 42 38.6**	**-0.4**
	baz=306							
R39A	**Chumby, Stover**	**126.48**	**38**	P	**PKPdf**	**17 42 38.0**	**-0.9**
	baz=308,SNR=5.4							
O41A	**Passleys Farm,**	**126.64**	**35**	P	**PKPdf**	**17 42 39.2**	**0.0**
	baz=311							
S39A	**Bolivar**	**126.68**	**39**	P	**PKPdf**	**17 42 38.5**	**-0.9**
	baz=307,SNR=9.2							
M43A	**Waltham Townsh**	**126.83**	**33**	P	**PKPdf**	**17 42 39.3**	**-0.3**
	baz=314							
R40A	**Maddies Statio**	**126.97**	**38**	P	**PKPdf**	**17 42 39.2**	**-0.7**
	baz=309,SNR=7.2							
T39A	**Clever**	**127.05**	**40**	P	**PKPdf**	**17 42 39.7**	**-0.4**
	baz=307							
HHAR	**Hobbs**	**127.12**	**41**	*e*PKPdf	**PKPdf**	**17 42 40.8**	**+0.5**
Q41A	**Truxton**	**127.19**	**37**	P	**PKPdf**	**17 42 40.2**	**0.0**
	baz=310							
833A	**Chaparral WMA,**	**127.20**	**53**	P	**PKPdf**	**17 42 41.0**	**+0.4**
	baz=296							
HDIL	**Hopedale**	**127.25**	**34**	P	**PKPdf**	**17 42 40.3**	**0.0**
	baz=313							
HDIL	**Hopedale**	**127.25**	**34**	PFAKE		17 42 50.0	+10
HDIL				LR	LR			
	comp=Z,328nm,22.0s							
S40A	**Lebanon**	**127.26**	**39**	P	**PKPdf**	**17 42 39.5**	**-1.0**
	baz=308							
P42A	**Winchester**	**127.30**	**36**	P	**PKPdf**	**17 42 39.8**	**-0.6**
	baz=311							
M44A	**Midewin, Midew**	**127.36**	**32**	P	**PKPdf**	**17 42 40.1**	**-0.4**
	baz=315							
U39A	**Green Forest**	**127.36**	**41**	P	**PKPdf**	**17 42 40.1**	**-0.6**
	baz=306							
R41A	**Rosebud**	**127.51**	**37**	P	**PKPdf**	**17 42 40.4**	**-0.5**
	baz=310,SNR=9.0							
T40A	**Mansfield**	**127.52**	**39**	P	**PKPdf**	**17 42 40.1**	**-0.9**
	baz=308,SNR=6.8							
V39A	**Pettigrew**	**127.57**	**41**	P	**PKPdf**	**17 42 40.1**	**-1.1**
	baz=306							
Q42A	**Golden Eagle**	**127.63**	**36**	P	**PKPdf**	**17 42 40.3**	**-0.8**
	baz=311							
S41A	**Jillco Farms,**	**127.73**	**38**	P	**PKPdf**	**17 42 40.6**	**-0.8**
	baz=309,SNR=8.4							
P43A	**Skaggs, Pawnee**	**127.74**	**35**	P	**PKPdf**	**17 42 40.8**	**-0.5**
	baz=312							
CCM	**Cathedral Cave**	**127.75**	**38**	P	**PKPdf**	**17 42 41.3**	**-0.1**
	baz=310							
CCM	**Cathedral Cave**	**127.75**	**38**	*e*PKPdf	**PKPdf**	**17 42 41.2**	**-0.1**
CCM	**Cathedral Cave**	**127.75**	**38**	*e*PKIKP	**PKPdf**	**17 42 41.2**	**-0.2**
U40A	**Yellville**	**127.78**	**40**	P	**PKPdf**	**17 42 40.7**	**-0.8**
	baz=307,SNR=5.6							
W39A	**Magazine**	**127.85**	**42**	P	**PKPdf**	**17 42 41.5**	**-0.1**
	baz=305							
R42A	**Luebbering**	**127.88**	**37**	P	**PKPdf**	**17 42 41.0**	**-0.6**
	baz=310							
X39A	**Fountain Ranch**	**128.02**	**43**	P	**PKPdf**	**17 42 41.8**	**-0.2**
	baz=305,SNR=7.1							
T41A	**Mountain View**	**128.06**	**39**	P	**PKPdf**	**17 42 41.9**	**-0.1**
	baz=308							
Q43A	**New Douglas**	**128.10**	**36**	P	**PKPdf**	**17 42 41.5**	**-0.5**
	baz=312							
V40A	**Witts Springs**	**128.13**	**41**	P	**PKPdf**	**17 42 42.1**	**-0.2**
	baz=307							
S42A	**Caledonia**	**128.21**	**38**	P	**PKPdf**	**17 42 41.9**	**-0.4**
	baz=310							
MIAR	**Mount Ida**	**128.37**	**43**	P	**PKPdf**	**17 42 42.4**	**-0.3**
	baz=305,SNR=6.6							
MIAR	**Mount Ida**	**128.37**	**43**	*e*PKPdf	**PKPdf**	**17 42 42.9**	**+0.2**
MIAR				LR	LR			
	comp=Z,228nm,20.0s							
MIAR	**Mount Ida**	**128.37**	**43**	*e*PKIKP	**PKPdf**	**17 42 42.9**	**+0.2**
MIAR				MLR	MLR			
	comp=Z,228nm,20.0s							
P44A	**Sand Creek, Wi**	**128.37**	**35**	P	**PKPdf**	**17 42 41.9**	**-0.6**
	baz=313							
U41A	**Viola**	**128.39**	**40**	P	**PKPdf**	**17 42 42.5**	**-0.1**
	baz=308							
T42A	**Van Buren**	**128.49**	**39**	P	**PKPdf**	**17 42 42.4**	**-0.4**
	baz=309							
KOWA	**Kowa**	**128.54**	**290**	PKP	**PKPdf**	**17 42 43.4**	**0.0**
	comp=Z,3.9nm,0.6s,baz=303,slow=2.7,SNR=9.9							
KOWA	**Kowa**	**128.54**	**290**	*e*PKPdf	**PKPdf**	**17 42 43.8**	**+0.3**
SFIN	**Lafayette**	**128.58**	**33**	P	**PKPdf**	**17 42 42.6**	**-0.3**
	baz=315							
V41A	**Mountainview**	**128.58**	**40**	P	**PKPdf**	**17 42 42.0**	**-1.1**
	baz=307							
KVTX	**Kingsville**	**128.74**	**53**	PFAKE		17 42 50.0	+6.5
KVTX				LR	LR			
	comp=Z,457nm,19.0s							
S43A	**Fulton Ridge,**	**128.77**	**37**	P	**PKPdf**	**17 42 42.5**	**-0.9**
	baz=310							
P45A	**Graceland, Par**	**128.82**	**34**	P	**PKPdf**	**17 42 42.5**	**-0.8**
	baz=314							
U42A	**Revenden**	**128.82**	**39**	P	**PKPdf**	**17 42 42.6**	**-0.9**
	baz=308							
W41B	**Gary Mavity, V**	**128.88**	**41**	P	**PKPdf**	**17 42 42.4**	**-1.2**
	baz=307							
AAM	**Ann Arbor**	**128.91**	**29**	PFAKE		17 42 50.0	+6.6
AAM				LR	LR			
	comp=Z,159nm,21.0s							
T43A	**Greenville**	**128.95**	**38**	P	**PKPdf**	**17 42 42.8**	**-0.9**
	baz=310							
Q45A	**Warren Harvey,**	**129.02**	**35**	P	**PKPdf**	**17 42 43.1**	**-0.7**
	baz=313							
P46A	**Rosedale**	**129.05**	**33**	P	**PKPdf**	**17 42 43.0**	**-0.8**
	baz=315							
V42A	**Cord**	**129.06**	**40**	P	**PKPdf**	**17 42 43.2**	**-0.7**
	baz=308							
NATX	**Nacogdoches**	**129.14**	**46**	PFAKE		17 43 00.0	+16
NATX				LR	LR			
	comp=Z,278nm,19.0s							
HKT	**Hockley**	**129.21**	**49**	*e*PKPdf	**PKPdf**	**17 42 45.7**	**+1.4**
HKT	**Hockley**	**129.21**	**49**	*e*PKIKP	**PKPdf**	**17 42 45.7**	**+1.4**
R45A	**Skylar, Fairfi**	**129.36**	**35**	P	**PKPdf**	**17 42 43.7**	**-0.7**
	baz=313							
R47A	**Wooly Knot Far**	**130.36**	**34**	P	**PKPdf**	**17 42 45.7**	**-0.6**
	baz=315							
T46A	**Princeton**	**130.43**	**36**	P	**PKPdf**	**17 42 46.7**	**+0.2**
	baz=312							
KIC	**Kosan Boka**	**130.68**	**279**	*e*PKIKP	**PKPdf**	**17 42 47.9**	**+0.3**
	comp=Z,13nm,0.7s							
PQI	**Presque Isle**	**130.69**	**13**	*e*PKPdf	**PKPdf**	**17 42 47.2**	**+0.5**
LONY	**Lake Ozonia**	**130.71**	**20**	P	**PKPdf**	**17 42 45.9**	**-1.0**
	baz=332							
LONY	**Lake Ozonia**	**130.71**	**20**	PFAKE		17 43 00.0	+13
LONY				LR	LR			
	comp=Z,139nm,19.0s							
DBIC	**Dimbokro**	**130.75**	**280**	PKP	**PKPdf**	**17 42 47.5**	**-0.2**
	comp=Z,5.2nm,0.6s,baz=63,slow=2.5,SNR=9.3							
ACSO	**Alum Creek Sta**	**130.82**	**30**	P	**PKPdf**	**17 42 47.4**	**+0.2**
	baz=320							
ACSO	**Alum Creek Sta**	**130.82**	**30**	PFAKE		17 43 00.0	+13
ACSO				LR	LR			
	comp=Z,207nm,20.0s							
TIC	**Toumodi**	**130.92**	**280**	*e*PKIKP	**PKPdf**	**17 42 48.2**	**+0.1**
LIC	**Lamto**	**130.98**	**279**	*e*PKIKP	**PKPdf**	**17 42 48.6**	**+0.4**
	comp=Z,26nm,0.7s							

S48A	**Wiedeman Farm,**	**131.07**	**34**	P	**PKPdf**	**17 42 47.6**	**-0.1**
	baz=315							
WVT	**Waverly**	**131.07**	**37**	P	**PKPdf**	**17 42 48.2**	**+0.4**
	baz=312							
WVT	**Waverly**	**131.07**	**37**	*e*PKPdf	**PKPdf**	**17 42 48.3**	**+0.6**
WVT	**Waverly**	**131.07**	**37**	*e*PKIKP	**PKPdf**	**17 42 48.3**	**+0.6**
U47A	**Clarksville**	**131.19**	**36**	P	**PKPdf**	**17 42 48.1**	**+0.1**
	baz=313							
Y45A	**Yeager Farm, C**	**131.45**	**41**	P	**PKPdf**	**17 42 47.8**	**-0.7**
	baz=309							
V47A	**Nunnelly**	**131.46**	**37**	P	**PKPdf**	**17 42 48.3**	**-0.2**
	baz=312							
U48A	**Cassie Pea, Po**	**131.58**	**36**	P	**PKPdf**	**17 42 48.4**	**-0.4**
	baz=314							
PLAL	**Pickwick Lake**	**131.68**	**39**	*e*PKPdf	**PKPdf**	**17 42 47.9**	**-1.0**
PKME	**Peaks-Kenny Pk**	**131.70**	**15**	P	**PKPdf**	**17 42 48.0**	**-0.6**
	baz=339							
PKME	**Peaks-Kenny Pk**	**131.70**	**15**	PFAKE		17 43 00.0	+11
PKME				LR	LR			
	comp=Z,168nm,19.0s							
W47A	**Westpoint**	**131.80**	**38**	P	**PKPdf**	**17 42 48.6**	**-0.5**
	baz=312							
Y46A	**Houston**	**131.88**	**40**	P	**PKPdf**	**17 42 49.3**	**-0.1**
	baz=309							
W48A	**Pulaski**	**132.28**	**38**	P	**PKPdf**	**17 42 48.9**	**-1.1**
	baz=312							
Y47A	**UCPARC, Winfie**	**132.52**	**39**	P	**PKPdf**	**17 42 50.6**	**+0.1**
	baz=310							
SSPA	**Standing Stone**	**132.85**	**25**	P	**PKPdf**	**17 42 50.8**	**-0.2**
	baz=326							
Z48A	**Northport**	**133.04**	**40**	P	**PKPdf**	**17 42 50.7**	**-0.9**
	baz=310							
X49A	**Woodville**	**133.07**	**38**	P	**PKPdf**	**17 42 50.7**	**-0.9**
	baz=312							
TZTN	**Tazewell**	**133.26**	**34**	P	**PKPdf**	**17 42 52.4**	**+0.5**
	baz=317							
CMLA	**Cha da Macela**	**133.38**	**329**	PFAKE		17 43 00.0	+7.9
CMLA				LR	LR			
	comp=Z,932nm,21.0s							
LRAL	**Lakeview Retre**	**133.62**	**40**	*e*PKPdf	**PKPdf**	**17 42 52.9**	**+0.3**
TKL	**Tuckaleechee C**	**133.78**	**35**	PKP	**PKPdf**	**17 42 52.7**	**-0.2**
	comp=Z,5.2nm,0.6s,baz=345,slow=2.6,SNR=6.3							
BLA	**Blacksburg**	**134.42**	**30**	PFAKE		17 43 10.0	+16
BLA				LR	LR			
	comp=Z,192nm,20.0s							
BG3	**Lake Jocassee**	**134.73**	**35**	*e*PKPpre	PKPpre	17 42 43.7		
CBN	**Corbin Frederi**	**135.08**	**27**	PFAKE		17 43 10.0	+15
CBN				LR	LR			
	comp=Z,122nm,20.0s							
KMSC	**Kings Mountain**	**135.51**	**33**	P	**PKPdf**	**17 42 56.4**	**+0.3**
	baz=318							
GOGA	**Godfrey**	**135.55**	**37**	P	**PKPdf**	**17 42 56.1**	**-0.2**
	baz=315							
GOGA	**Godfrey**	**135.55**	**37**	PFAKE		17 43 10.0	+14
GOGA				LR	LR			
	comp=Z,150nm,20.0s							
CNNC	**Cliffs of the**	**137.23**	**30**	PFAKE		17 43 10.0	+11
CNNC				LR	LR			
	comp=Z,1µm,19.0s							
NHSC	**New Hope**	**137.66**	**34**	PFAKE		17 43 10.0	+10
NHSC				LR	LR			
	comp=Z,187nm,20.0s							
PLCA	**Paso Flores**	**137.73**	**161**	PKP	**PKPdf**	**17 43 01.1**	**+0.9**
	comp=Z,8.9nm,1.1s,baz=286,slow=1.2,SNR=7.1							
TEIG	**Tepich**	**139.90**	**56**	PFAKE		17 43 20.0	+15
TEIG				LR	LR			
	comp=Z,9.0nm,22.0s							
BBSR	**BB Station**	**145.01**	**17**	*e*PKPdf	**PKPdf**	**17 43 13.5**	**+0.2**
BBSR				LR	LR			
	comp=Z,141nm,20.0s							
SACV	**Santiago Islan**	**146.29**	**300**	PFAKE		17 43 30.0	+12
SACV				LR	LR			
	comp=Z,105nm,22.0s							
JTS	**JuntasAbangare**	**146.76**	**69**	PKPbc	**PKPbc**	**17 43 18.4**	**-0.2**
	comp=Z,24nm,1.1s,baz=80,slow=18,SNR=8.0							
JTS	**JuntasAbangare**	**146.76**	**69**	PKPbc	**PKPbc**	**17 43 18.4**	**-0.2**
JTS				LR	LR			
	comp=Z,259nm,20.0s							
LCO	**Las Campanas**	**147.86**	**151**	*e*PKPdf	**PKPdf**	**17 43 20.0**	**+1.4**
BCIP	**Isla Barro Col**	**151.89**	**68**	PFAKE		17 43 40.0	-0.6
BCIP				LR	LR			
	comp=Z,493nm,19.0s							
SDDR	**Presa de Saban**	**153.46**	**40**	PFAKE		17 43 40.0	+5.1
SDDR				LR	LR			
	comp=Z,189nm,19.0s							
ATAH	**Atahualpa**	**154.56**	**104**	PKPbc	**PKPbc**	**17 43 39.4**	**+1.5**
	comp=Z,13nm,0.8s,baz=172,slow=1.6,SNR=7.1							
CPUP	**Villa Florida**	**154.73**	**172**	PKP	**PKPdf**	**17 43 28.4**	**-0.5**
	comp=Z,3.1nm,0.8s,baz=41,slow=2.8,SNR=4.2							
CPUP				PKPbc	**PKPbc**	**17 43 37.1**	**-0.2**
	comp=Z,9.7nm,1.0s,baz=138,slow=1.0,SNR=9.8							
CPUP				PKPab	**sPKPbc**	**17 43 51.3**	**+0.2**
	comp=Z,14nm,0.9s,baz=185,slow=6.0,SNR=8.6							
OTAV	**Otavalo**	**155.09**	**87**	PFAKE		17 43 40.0	+10
OTAV				LR	LR			
	comp=Z,107nm,20.0s							
LPAZ	**La Paz**	**159.24**	**137**	PKP	**PKPdf**	**17 43 35.3**	**-0.3**
	comp=Z,3.9nm,1.0s,baz=333,slow=1.1,SNR=10							
ANWB	**Willy Bob**	**159.60**	**23**	PFAKE		17 43 50.0	+15
ANWB				LR	LR			
	comp=Z,239nm,20.0s							
SDV	**Santo Domingo**	**160.28**	**59**	PKP	**PKPdf**	**17 43 35.2**	**-1.1**
	comp=Z,12nm,1.1s,baz=249,slow=2.0,SNR=12							
SDV	**Santo Domingo**	**160.28**	**59**	PKP	**PKPdf**	**17 43 35.2**	**-1.1**
SDV				LR	LR			
	comp=Z,127nm,22.0s							
RCBR	**Riachuelo**	**161.77**	**255**	PFAKE		17 43 50.0	+12
RCBR				LR	LR			
	comp=Z,39µm,22.0s							
SIV	**San Ignacio**	**163.53**	**154**	PKP	**PKPdf**	**17 43 39.4**	**+0.1**
	comp=Z,3.7nm,1.1s,baz=173,slow=0.3,SNR=9.7							
SIV				PKPab	**PKPab**	**17 44 31.0**	**+0.4**
	comp=Z,11nm,0.8s,baz=205,slow=4.4,SNR=23							
GRGR	**Grenville**	**164.53**	**31**	PFAKE		17 43 50.0	+10
GRGR				LR	LR			
	comp=Z,307nm,20.0s							
SAML	**Samuel**	**167.71**	**129**	*e*PKPdf	**PKPdf**	**17 43 42.7**	**-0.2**
SAML				LR	LR			
	comp=Z,219nm,19.0s							
PTGA	**Pitinga**	**173.60**	**86**	PFAKE		17 44 00.0	+14
PTGA				LR	LR			
	comp=Z,15µm,20.0s							

*MDD **19** 17:32:34.8±2.5, 37°.25N×13°.13W, h0km, mb3.7/5, Error ellipse: s-maj=21.5km s-min=17.2km az=35.0, PRX/IMO*
*INMG **19** 17:32:36.8±1.2, 36°.92N×13°.44W, h10km, ML2.4, Error ellipse: s-maj=11.7km s-min=10.0km az=126.0*
*CSEM **19** 17:32:37.8±0.6, 37°.35N×12°.88W, h10km, mb3.7, Error ellipse: s-maj=11.2km s-min=8.6km az=26.0*

ISC 19 17:32:33.7±3.1, 37°.35N±0°.08×13°.0W±0°.1, h10km, n53, σ2°.25/79, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFVI	**Vila Bisbo**	**3.35**	**92**	*e*Pn	**Pn**	**17 33 27.9**	**+1.8**
PFVI				*e*Sn	**Sn**	**17 34 06.3**	**+0.4**
PFVI				A	A	17 34 08.3	
	6.2nm,0.2s						
PFVI	**Vila Bisbo**	**3.35**	**92**	P	**Pn**	**17 33 27.7**	**+1.6**
	2.2nm,0.1s,SNR=7.9						
PFVI				S	**Sn**	**17 34 07.4**	**+1.5**
	0.7nm,0.4s,SNR=7.9						
PFVI	**Vila Bisbo**	**3.35**	**92**	*e*Pn	**Pn**	**17 33 27.9**	**+1.8**
PFVI				*e*Sn	**Sn**	**17 34 06.3**	**+0.4**
	6.2nm,0.2s						
PFVI				S	**Sn**	**17 34 07.4**	**+1.5**
	0.7nm,0.4s,SNR=7.9						
PMAFR	**Mafra**	**3.35**	**60**	P	**Pn**	**17 33 29.3**	**+3.2**
	4.4nm,0.2s,SNR=7.9						
PMAFR				S	**Sn**	**17 34 08.7**	**+2.8**
	11nm,0.5s,SNR=7.9						
PMAFR	**Mafra**	**3.35**	**60**	P	**Pn**	**17 33 29.3**	**+3.2**
	4.4nm,0.2s,SNR=7.9						
PMAFR				S	**Sn**	**17 34 08.7**	**+2.8**
	11nm,0.5s,SNR=7.9						
PMAFR				*e*Sn	**Sb**	**17 34 10.9**	**-3.0**
PTEO	**Sao Teotonio**	**3.42**	**85**	*e*Sn	**Sn**	**17 34 09.2**	**+1.6**
PTEO				A	A	17 34 15.9	
	6.7nm,0.5s						
PTEO	**Sao Teotonio**	**3.42**	**85**	S	**Sn**	**17 34 09.2**	**+1.6**
	3.3nm,0.5s						
PTEO	**Sao Teotonio**	**3.42**	**85**	S	**Sn**	**17 34 09.2**	**+1.6**
	3.3nm,0.5s						
MORF	**Marmelete**	**3.48**	**89**	*e*Sn	**Sn**	**17 34 10.0**	**+0.9**
MORF				A	A	17 34 16.7	
	6.9nm,0.5s						
MORF	**Marmelete**	**3.48**	**89**	S	**Sn**	**17 34 10.0**	**+0.9**
	6.9nm,0.5s						
PNCL	**Nicolau / Gran**	**3.63**	**77**	*e*Sn	**Sn**	**17 34 15.3**	**+2.4**
PNCL				A	A	17 34 22.1	
	6.0nm,0.8s						
PNCL	**Nicolau / Gran**	**3.63**	**77**	*e*Sn	**Sn**	**17 34 15.3**	**+2.4**
	6.0nm,0.8s						
PCVE	**Castro Verde**	**3.96**	**84**	*e*Pn	**Pn**	**17 33 37.5**	**+2.9**
PCVE				*e*Sn	**Sn**	**17 34 22.3**	**+1.2**
PCVE	**Castro Verde**	**3.96**	**84**	P	**Pn**	**17 33 37.5**	**+2.9**
PCVE				S	**Sn**	**17 34 22.3**	**+1.2**
PCVE	**Castro Verde**	**3.96**	**84**	P	**Pn**	**17 33 37.5**	**+2.9**
PCVE				S	**Sn**	**17 34 22.3**	**+1.2**
PBDV	**Barranco-do-Ve**	**4.05**	**90**	*e*Sn	**Sn**	**17 34 24.9**	**+1.6**
PBDV				A	A	17 34 30.7	
	3.3nm,0.2s						
PBDV	**Barranco-do-Ve**	**4.05**	**90**	S	**Sn**	**17 34 24.9**	**+1.6**
	3.3nm,0.2s						
PBDV	**Barranco-do-Ve**	**4.05**	**90**	S	**Sn**	**17 34 24.9**	**+1.6**
	3.3nm,0.2s						
EVO	**Evora**	**4.12**	**72**	*e*Sn	**Sn**	**17 34 28.2**	**+3.2**
EVO				A	A	17 34 31.4	
	6.1nm,0.2s						
EVO	**Evora**	**4.12**	**72**	S	**Sn**	**17 34 28.2**	**+3.2**
	6.1nm,0.2s						
EVO	**Evora**	**4.12**	**72**	S	**Sn**	**17 34 28.2**	**+3.2**
	6.1nm,0.2s						
PMTG	**Montargil**	**4.14**	**64**	*e*Pn	**Pb**	**17 33 42.2**	**-4.5**
PMTG				*e*Sn	**Sn**	**17 34 28.7**	**+3.2**
PMTG				A	A	17 34 30.4	
	2.2nm,0.4s						
PMTG	**Montargil**	**4.14**	**64**	*e*Pn	**Pb**	**17 33 42.2**	**-4.5**
PMTG				*e*Sn	**Sn**	**17 34 28.7**	**+3.2**
	2.2nm,0.4s						
PVAQ	**Vaqueiros**	**4.22**	**88**	*e*Sn	**Sn**	**17 34 29.2**	**+1.9**
PVAQ				A	A	17 34 32.1	
	4.2nm,0.3s						
PVAQ	**Vaqueiros**	**4.22**	**88**	S	**Sn**	**17 34 29.2**	**+1.9**
	4.2nm,0.3s						
PVAQ	**Vaqueiros**	**4.22**	**88**	S	**Sn**	**17 34 29.2**	**+1.9**
	4.2nm,0.3s						
EGRO	**El Granado**	**4.40**	**86**	P	**Pn**	**17 33 42.9**	**+2.3**
	0.4nm,0.1s,SNR=7.9						
EGRO				S	**Sn**	**17 34 32.9**	**+1.0**
	11nm,0.3s,SNR=7.9						
EGRO	**El Granado**	**4.40**	**86**	P	**Pn**	**17 33 42.9**	**+2.3**
	0.4nm,0.1s,SNR=7.9						
EGRO				S	**Sn**	**17 34 32.9**	**+1.0**
	11nm,0.3s,SNR=7.9						
PESTR	**Estremoz**	**4.54**	**69**	*e*Sn	**Sn**	**17 34 38.0**	**+2.8**
PESTR	**Estremoz**	**4.54**	**69**	*e*Sn	**Sn**	**17 34 38.0**	**+2.8**
PBAR	**Barrancos**	**4.80**	**78**	*e*Sn	**Sn**	**17 34 43.9**	**+2.1**
PBAR				A	A	17 34 49.0	
	3.4nm,0.3s						
PBAR	**Barrancos**	**4.80**	**78**	S	**Sn**	**17 34 43.9**	**+2.1**
	3.4nm,0.3s						
PBAR	**Barrancos**	**4.80**	**78**	S	**Sn**	**17 34 43.9**	**+2.1**
	3.4nm,0.3s						
PMRV	**Marv??o**	**4.88**	**63**	*e*Sn	**Sn**	**17 34 46.7**	**+3.0**
PMRV				A	A	17 34 49.4	
	2.9nm,0.4s						
PMRV	**Marv??o**	**4.88**	**63**	S	**Sn**	**17 34 46.7**	**+3.0**
	2.9nm,0.4s						
PMRV	**Marv??o**	**4.88**	**63**	S	**Sn**	**17 34 46.7**	**+3.0**
	2.9nm,0.4s						
EBAD	**Badajoz**	**4.94**	**72**	P	**Pn**	**17 33 51.1**	**+3.2**
	0.2nm,0.1s,SNR=7.9						
EBAD				S	**Sn**	**17 34 46.2**	**+1.1**
	15nm,0.6s,SNR=7.9						
EBAD	**Badajoz**	**4.94**	**72**	P	**Pn**	**17 33 51.1**	**+3.2**
	0.2nm,0.1s,SNR=7.9						
EBAD				S	**Sn**	**17 34 46.2**	**+1.1**
	15nm,0.6s,SNR=7.9						
EMIN	**Mina Concepcio**	**5.05**	**83**	P	**Pn**	**17 33 51.7**	**+2.2**
	2.0nm,9.1s,SNR=7.9						
EMIN				S	**Sn**	**17 34 48.9**	**+0.9**
	3.5nm,0.5s,SNR=5.9						
EMIN	**Mina Concepcio**	**5.05**	**83**	P	**Pn**	**17 33 51.7**	**+2.2**
	2.0nm,9.1s,SNR=7.9						
EMIN				S	**Sn**	**17 34 48.9**	**+0.9**
	3.5nm,0.5s,SNR=5.9						
ESPR	**Espera**	**5.74**	**93**	P	**Pn**	**17 34 01.8**	**+2.9**
	1.4nm,0.1s,SNR=7.9						
ESPR				S	**Sn**	**17 35 05.0**	**+0.2**
	7.6nm,0.4s,SNR=7.9						
ESPR	**Espera**	**5.74**	**93**	P	**Pn**	**17 34 01.8**	**+2.9**
	1.4nm,0.1s,SNR=7.9						
ESPR				S	**Sn**	**17 35 05.0**	**+0.2**
	7.6nm,0.4s,SNR=7.9						
ELOB	**Lobios**	**5.91**	**39**	P	**Pn**	**17 34 04.3**	**+2.9**
	0.3nm,0.2s,SNR=4.0						
ELOB				S	**Sn**	**17 35 10.1**	**+0.9**
	9.9nm,0.6s,SNR=7.9						
ELOB	**Lobios**	**5.91**	**39**	P	**Pn**	**17 34 04.3**	**+2.9**
	0.3nm,0.2s,SNR=4.0						
ELOB				S	**Sn**	**17 35 10.1**	**+0.9**
	9.9nm,0.6s,SNR=7.9						
**

SSFR	**Montelago di S**	**0.30**	**331**	Pg	Pg	17 35 50.8	-0.1
SSFR	**Montelago di S**	**0.30**	**331**	Pg	Pg	17 35 50.8	-0.1
ARVD	**Arcevia**	**0.33**	**354**	Pg	Pg	17 35 51.2	-0.1
ARVD				Sg	Sb	17 35 56.9	+0.4
ARVD	**Arcevia**	**0.33**	**354**	Pg	Pg	17 35 51.2	-0.1
ARVD				Sg	Sb	17 35 56.9	+0.4
MURB	**Monte Urbino**	**0.35**	**285**	Pg	Pb	17 35 51.9	-0.1
MURB				Sg	Sb	17 35 58.0	+0.8
MURB	**Monte Urbino**	**0.35**	**285**	Pg	Pb	17 35 51.9	-0.1
MURB				Sg	Sb	17 35 58.0	+0.8
NRCA	**Norcia**	**0.35**	**164**	Pg	Pg	17 35 51.4	-0.3
NRCA				Sg	Sb	17 35 57.3	+0.2
	28nm,0.1s						
NRCA	**Norcia**	**0.35**	**164**	Pg	Pg	17 35 51.4	-0.3
NRCA				Sg	Sb	17 35 57.3	+0.2
	28nm,0.1s						
FRON	**Frontone**	**0.40**	**331**	Pg	Pg	17 35 52.3	-0.2
FRON				Sg	Sb	17 35 58.7	+0.2
FRON	**Frontone**	**0.40**	**331**	Pg	Pg	17 35 52.3	-0.2
FRON				Sg	Sb	17 35 58.7	+0.2
PIEI	**Pieia**	**0.49**	**318**	Pg	Pg	17 35 53.8	-0.4
PIEI				Sg	Sb	17 36 01.5	+0.4
	13nm,0.3s						
PIEI	**Pieia**	**0.49**	**318**	Pg	Pg	17 35 53.8	-0.4
PIEI				Sg	Sb	17 36 01.5	+0.4
	13nm,0.3s						
ATPC	**Poggio Castell**	**0.49**	**309**	Pg	Pb	17 35 54.3	0.0
ATPC				Sg	Sb	17 36 02.3	+1.1
ATPC	**Poggio Castell**	**0.49**	**309**	Pg	Pb	17 35 54.3	0.0
ATPC				Sg	Sb	17 36 02.3	+1.1
GUMA	**Gualdo di Mace**	**0.70**	**99**	Pg	Pb	17 35 50.7	-7.2
GUMA				Sg	Sb	17 35 56.2	-11
	131nm,1.3s						
GUMA	**Gualdo di Mace**	**0.70**	**99**	Pg	Pb	17 35 50.7	-7.2
GUMA				Sg	Sb	17 35 56.2	-11
	131nm,1.3s						

IDC ***19*** *17:47:08.4±1.0, 7°.11N×77°.34W, h0km, mb3.8/7, mb1 4.0/9, mb1mx3.7/45, mbtmp3.8/9, ML2.4/2, MS3.0/4, Ms1 3.0/4, ms1mx2.7/49, Error ellipse: s-maj=36.8km s-min=21.2km az=42.0*

ISCJB ***19*** *17:47:12.9±0.6, 7°.22N±0°.03×77°.19W±0°.03, h39km±8km, mb3.9/8, Error ellipse: s-maj=5.8km s-min=5.1km az=154.3*

RSNC ***19*** *17:47:12.6±0.9, 7°.20N×77°.18W, h14km±4km, ML3.6*

NEIC ***19*** *17:47:14.9±0.8, 7°.14N×77°.23W, h48km±9km, mb4.2/2, Error ellipse: s-maj=11.0km s-min=9.1km az=68.0*

ISC 19 17:47:13.4±1.7, 7°.19N±0°.04×77°.20W±0°.04, h29km±13km, n38, σ1°29/47, mb4.0/8, 2C, Panama-Colombia border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SOLC	**Bahia Solano**	**0.98**	**192**	*e*P		**Pn**	**17 47 29.7**	**-1.6**
SOLC				*i* S		**Sb**	**17 47 43.9**	**-0.6**
SOLC				*e*S		**Sb**	**17 47 43.9**	**-0.6**
DBBC	**Dabeiba**	**1.00**	**100**	*e*P		**Pn**	**17 47 30.0**	**-1.6**
DBBC				*e*S		**Sb**	**17 47 43.0**	**-2.0**
CAPC	**Capurgana**	**1.44**	**354**	*e*P		**Pn**	**17 47 36.5**	**-1.0**
HELC	**Santa Helena**	**1.94**	**121**	*e*P		**Pn**	**17 47 44.0**	**-0.7**
HELC				*e*S		**Sn**	**17 48 08.2**	**-0.1**
HELC				*i*			17 48 17.5	
	comp=Z,275nm,0.7s							
MOTC	**Monteria, Cord**	**2.19**	**44**	*e*P		**Pn**	**17 47 48.0**	**+0.1**
MOTC				*i*			17 48 26.8	
	comp=Z,201nm,0.5s							
ZARC	**Zaragoza, Cauc**	**2.34**	**83**	*e*P		**Pn**	**17 47 50.2**	**+0.2**
ZARC				*e*S		**Sn**	**17 48 18.4**	**+0.6**
ZARC				*i*			17 48 28.1	
	comp=Z,644nm,0.5s							
GUYC	**Guyana, Colomb**	**2.66**	**137**	*e*P		**Pn**	**17 47 54.2**	**-0.5**
GUYC				*e*S		**Sn**	**17 48 26.9**	**+0.7**
GUYC				*i*			17 48 38.5	
	comp=Z,364nm,0.5s							
PTBC	**PUERTO BERRIO,**	**2.80**	**103**	*e*P		**Pn**	**17 47 56.2**	**-0.1**
PTBC				*e*S		**Sn**	**17 48 29.7**	**+0.5**
PTBC				*i*			17 48 34.9	
	comp=Z,204nm,0.6s							
NORC	**Norcasia**	**2.83**	**125**	*e*P		**Pn**	**17 47 56.2**	**-0.5**
RREF	**El Recreo**	**2.93**	**141**	*e*P		**Pn**	**17 47 58.4**	**-0.2**
RREF				*e*S		**Sn**	**17 48 34.2**	**+1.0**
RREF				*i*			17 48 39.1	
	comp=Z,171nm,0.5s							
TOLC	**Tolima**	**3.20**	**144**	*e*P		**Pn**	**17 48 01.4**	**-0.6**
ANIL	**Santa Ana**	**3.23**	**146**	*e*P		**Pn**	**17 48 02.3**	**-0.1**
BCIP	**Isla Barro Col**	**3.26**	**307**	*e*P		**Pn**	**17 48 02.9**	**+0.3**
BCIP	**Isla Barro Col**	**3.26**	**307**	*e*P		**Pn**	**17 48 02.3**	**-0.3**
ROSC	**El Rosal**	**3.70**	**129**	Pn		**Pn**	**17 48 09.0**	**+0.1**
	comp=Z,2.0nm,0.3s,baz=99,slow=19,SNR=3.6							
ROSC					Sn	**Sn**	**17 48 54.4**	**+2.6**
	comp=Z,8.3nm,0.3s,baz=292,slow=18,SNR=4.4							
BARC	**Barichara**	**4.04**	**98**	*e*P		**Pn**	**17 48 13.6**	**+0.2**
BARC				*e*S		**Sn**	**17 48 59.0**	**-0.9**
BARC				*i*			17 49 05.1	
	comp=Z,148nm,0.5s							
CODC	**Agust´›n Codaz**	**4.61**	**53**	*e*P		**Pn**	**17 48 20.8**	**-0.3**
CODC				*i*			17 48 25.0	
	comp=Z,71nm,0.2s							
CODC				*e*S		**Sn**	**17 49 12.6**	**-1.1**
SDV	**Santo Domingo**	**6.72**	**75**	Pn		**Pn**	**17 48 51.8**	**+1.5**
	comp=Z,3.6nm,0.3s,baz=276,slow=11,SNR=17							
SDV					Sn	**Sn**	**17 50 05.1**	**-0.9**
	comp=Z,13nm,0.3s,baz=205,slow=23,SNR=7.4							
SDV					Lg	Lg	17 50 40.7	
	comp=Z,1.2nm,0.3s,baz=311,slow=20,SNR=2.5							
SDV					LR	LR	17 51 41.1	
	comp=Z,90nm,21.8s,baz=232,slow=40							
URIC	**Uribia, Colomb**	**6.82**	**49**	*e*P		**Pn**	**17 48 51.6**	**+0.2**
OTAV	**Otavalo**	**7.02**	**190**	*e*P		**Pn**	**17 48 55.6**	**+0.8**
	comp=Z,6.0nm,0.4s							
JTS	**JuntasAbangare**	**8.26**	**292**	LR		LR	17 53 19.4	
	comp=Z,63nm,18.4s,baz=193,slow=45							
PCJ	**Portland Cotta**	**10.48**	**0**	*i* P		**Pn**	**17 49 44.6**	**+2.8**
GWJ	**Greenwich**	**10.82**	**2⇑**	*i* P		**Pn**	**17 49 49.0**	**+2.3**
STH	**Stony Hill**	**10.82**	**2**	*i* P		**Pn**	**17 49 49.4**	**+2.9**
BBJ	**Bamboo Saint A**	**11.12**	**360⇑**	*i* P		**Pn**	**17 49 54.4**	**+3.8**
SDDR	**Presa de Saban**	**13.05**	**26**	*e*P		**Pn**	**17 50 19.0**	**+2.0**
	comp=Z,57nm,0.7s							
SJG	**San Juan**	**15.29**	**44**	LR		LR	17 56 36.6	
	comp=Z,44nm,20.4s,baz=232,slow=37							
PTGA	**Pitinga**	**18.91**	**114**	LR		LR	17 59 19.0	
	comp=Z,80nm,19.1s,baz=160,slow=38							
HKT	**Hockley**	**28.62**	**325**	*e*P		**P**	**17 53 06.6**	**-0.7**
	comp=Z,11nm,0.6s							
TXAR	**Lajitas Array**	**33.26**	**315**	P		**P**	**17 53 49.4**	**+0.9**
	comp=Z,0.4nm,0.9s,baz=132,slow=6.2,SNR=3.8							
PDAR	**Pinedale Array**	**45.46**	**326**	P		**P**	**17 55 30.5**	**+0.2**
	comp=Z,0.3nm,0.5s,baz=118,slow=9.4,SNR=3.5							
ULM	**Lac du Bonnet**	**45.67**	**343**	P		**P**	**17 55 30.2**	**-1.2**
	comp=Z,0.9nm,0.5s,baz=133,slow=7.4,SNR=3.1							
YKA	**Yellowknife Ar**	**61.57**	**341**	P		**P**	**17 57 27.0**	**-0.7**
	comp=Z,0.8nm,0.6s,baz=133,slow=6.9,SNR=20							
INK	**Inuvik**	**71.33**	**341**	P		**P**	**17 58 29.9**	**-0.1**
	comp=Z,0.7nm,0.5s,baz=119,slow=4.2,SNR=7.5							
ILAR	**Eielson Array**	**74.93**	**335**	P		**P**	**17 58 51.2**	**-0.2**
	comp=Z,0.6nm,0.7s,baz=119,slow=4.1,SNR=7.4							
ARCES	**ARCESS Array B**	**87.72**	**20**	P		**P**	**17 59 58.7**	**-0.5**
	comp=Z,1.5nm,0.8s,baz=343,slow=3.8,SNR=4.1							
ASAR	**Alice Springs**	**145.96**	**238**	PKPbc		**PKPdf**	**18 06 50.0**	**-0.5**
	comp=Z,0.7nm,0.7s,baz=118,slow=3.8,SNR=13							
WRA	**Warramunga Arr**	**146.90**	**244**	PKPbc		**PKPdf**	**18 06 51.4**	**-0.8**
	comp=Z,1.4nm,1.1s,baz=105,slow=2.2,SNR=6.0							

NNC ***19*** *18:00:58.9±1.0, 37°.85N×56°.75E, h0km, mb3.6, mpv3.9, Error ellipse: s-maj=11.5km s-min=4.5km az=14.0*

CSEM ***19*** *18:00:59.6±0.5, 37°.68N×56°.93E, h10km, ML2.9, Error ellipse: s-maj=15.0km s-min=12.8km az=139.0*

TEH ***19*** *18:01:01.7, 37°.54N×57°.14E, h6km, ML3.3*

ISC 19 18:01:00.7±1.1, 37°.56N±0°.05×57°.07E±0°.03, h17km±9km, n31, σ2°52/39, 3C-2D, Iran-Turkmenistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
BJRD	**Bojnurd**	**0.30**	**63**	*e*Pg		**Pb**	**18 01 08.4**	**+0.6**
MRVT	**Maraveh tapeh**	**0.78**	**277**	*e*Pg		**Pg**	**18 01 15.3**	**-0.6**
MRVT				*e*Sg		**Sg**	**18 01 26.1**	**-0.2**
ISFR	**Sfrayin**	**0.90**	**124**	*e*Pg		**Pg**	**18 01 16.8**	**-1.5**
ISFR				*e*Sg		**Sg**	**18 01 29.3**	**-0.9**
ISFR				*e*AMB		AMB	18 01 31.3	
	comp=Z,15μm,0.1s							
GYA0B	**ALIBECK ARRAY**	**0.91**	**66**	P		**Pb**	**18 01 19.7**	**+1.6**
	comp=Z,32nm,0.2s							
GYA0B				S		**Sn**	**18 01 34.7**	**+3.2**
	comp=Z,455nm,0.5s							
ASHT	**Ashkhabad**	**1.11**	**70**	⇓P		**Pn**	**18 01 22.9**	**+1.4**
	comp=Z,62nm,0.4s							
ASHT				⇑S		**Sn**	**18 01 41.4**	**+5.0**
	comp=Z,350nm,0.5s							
ASHT	**Ashkhabad**	**1.11**	**70**	P		**Pn**	**18 01 22.9**	**+1.4**
	comp=Z,62nm,0.4s							
ASHT				S		**Sn**	**18 01 41.4**	**+5.0**
	comp=Z,350nm,0.5s							
IEMG	**Emamgholi**	**1.27**	**96**	*e*Pg		**Pg**	**18 01 24.5**	**-0.7**
IEMG				*e*AMB		AMB	18 01 50.0	
	comp=Z,6μm,0.1s							
IMND	**Minoodasht**	**1.35**	**257**	*e*Pn		**Pn**	**18 01 27.2**	**+2.4**
IMND				*e*Sg		**Sg**	**18 01 46.9**	**+2.4**
IMND				*e*AMB		AMB	18 01 51.5	
	comp=Z,6μm,0.1s							
IKRD	**Kardeh**	**1.40**	**124**	*e*Pn		Pg	18 01 38.8	+11
IKRD				*e*AMB		AMB	18 02 16.5	
	comp=Z,3μm,0.2s							
IAKL	**Akhelmad**	**1.66**	**125**	*e*Pn		**Pn**	**18 01 29.8**	**+0.5**
IAKL				*e*AMB		AMB	18 02 02.1	
	comp=Z,5μm,0.2s							
SHRO	**Shahrood**	**1.78**	**209**	*e*Pn		**Pn**	**18 01 30.5**	**-0.4**
SHRO				*e*Sg		**Sn**	**18 01 52.9**	**-0.3**
ISRO	**Mashad**	**2.30**	**122**	*e*Pn		**Pn**	**18 01 40.3**	**+2.4**
IMOG	**Moghan**	**2.33**	**128**	*e*Pn		**Pn**	**18 01 40.3**	**+1.8**
IMOG				*e*AMB		AMB	18 02 20.8	
	comp=Z,2μm,0.2s							
IMYA	**Miami**	**2.72**	**116**	*e*Pn		**Pn**	**18 01 47.4**	**+3.6**
IMYA				*e*AMB		AMB	18 02 36.0	
	comp=Z,1μm,0.4s							
IGLO	**Ghaloghah**	**2.80**	**249**	*e*Pn		**Pn**	**18 01 46.8**	**+1.9**
IGLO				*e*AMB		AMB	18 02 41.9	
	comp=Z,2μm,0.2s							
IANJ	**Anjilo**	**3.29**	**231**	*e*Pn		**Pn**	**18 01 53.7**	**+2.0**
IANJ				*e*AMB		AMB	18 02 47.4	
	comp=Z,442nm,0.2s							
IALA	**Alasht**	**3.72**	**248**	*e*Pn		**Pn**	**18 02 00.2**	**+2.6**
IALA				*e*AMB		AMB	18 02 59.9	
	comp=Z,870nm,0.1s							
TABS	**Tabas**	**3.91**	**179**	*e*Pn		**Pn**	**18 02 00.4**	**+0.4**
IFIR	**Firoozkooh**	**3.96**	**242**	*e*AMB		AMB	18 02 21.2	
	comp=Z,446nm,0.1s							
IFIR				*e*Pn		**Pn**	**18 02 03.6**	**+2.6**
IPRN	**Peran**	**4.01**	**252**	*e*Pn		**Pn**	**18 02 03.9**	**+2.4**
IPRN				*e*AMB		AMB	18 03 18.9	
	comp=Z,958nm,0.3s							
IDMV	**Damavand**	**4.51**	**245**	*e*Pn		**Pn**	**18 02 11.3**	**+2.8**
IDMV				*e*AMB		AMB	18 02 26.8	
	comp=Z,192nm,0.2s							
SHRT	**Shahrakht**	**4.71**	**145**	*e*Pn		**Pn**	**18 02 11.7**	**+0.7**
ITEG	**Tejag**	**4.86**	**163**	*e*Pn		**Pn**	**18 02 14.4**	**+1.2**
ITEG				*e*AMB		AMB	18 02 19.4	
	comp=Z,169nm,0.1s							
IDAH	**Dahanechah**	**5.33**	**154**	*e*Pn		**Pn**	**18 02 20.6**	**+0.8**
IDAH				*e*AMB		AMB	18 02 35.7	
	comp=N,166nm,0.1s							
IZEF	**Zefreh**	**6.06**	**221**	*e*Pn		**Pn**	**18 02 31.9**	**+2.2**
IKLH	**Kolahrood**	**6.16**	**228**	*e*Pn		**Pn**	**18 02 32.5**	**+1.3**
IKLH				*e*AMB		AMB	18 03 06.2	
	comp=Z,75nm,0.2s							
IRAM	**Ramesheh**	**6.92**	**215**	*e*Pn		**Pn**	**18 02 42.3**	**+0.8**
IRAM				*e*AMB		AMB	18 02 43.9	
	comp=Z,38nm,0.3s							
AB31	**Akbulak array**	**11.87**	**9**	Pn		**Pn**	**18 03 46.9**	**-2.2**
	comp=Z,0.2nm,0.4s,baz=202,slow=13,SNR=4.4							
AB31					⇑Sn	**Sn**	**18 05 57.0**	**-4.1**
	comp=Z,0.6nm,0.5s,baz=197,slow=23,SNR=4.2							
AB31	**Akbulak array**	**11.87**	**9**	Pn		**Pn**	**18 03 46.9**	**-2.2**
	comp=Z,0.2nm,0.4s,SNR=4.4							
AB31					Sn	**Sn**	**18 05 57.0**	**-4.1**
	comp=Z,0.6nm,0.5s,SNR=4.2							
AKTO	**Aktyubinsk**	**12.89**	**3**	⇑Pn		Pn	18 04 00.0	-3.0
	comp=Z,4.2nm,1.5s							
AKTO					⇓Sn	**Sn**	**18 06 22.0**	**-3.9**
	comp=Z,1.0nm,0.6s							
AKTO	**Aktyubinsk**	**12.89**	**3**	Pn		Pn	18 04 00.0	-3.0
	comp=Z,4.2nm,1.5s							
AKTO					Sn	**Sn**	**18 06 22.0**	**-3.9**
	comp=Z,1.0nm,0.6s							

IDC ***19*** *18:01:31.1±2.2, 43°.70N×105°.37W, h0km, mb1 3.5/3, mb1mx3.2/66, mbtmp3.2/3, ML2.8/2, Error ellipse: s-maj=53.0km s-min=9.5km az=150.0*

NEIC ***19*** *18:01:40.4±0.8, 43°.39N×105°.88W, h0km, ML3.0, Error ellipse: s-maj=9.4km s-min=9.3km az=195.0, Suspected Mining explosion.*

NEIC 32 km [20 miles] E of Midwest.

ISC 19 18:01:30.8±0.9, 43°.69N±0°.06×105°.42W±0°.05, h0km, n19, σ3°37/18, Wyoming

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
K22A	**Casper**	**1.31**	**218**	*e*P		**Pn**	**18 01 58.3**	**+1.7**
PDAR	**Pinedale Array**	**3.16**	**255**	Pn		**Pb**	**18 02 25.9**	**-2.2**
	4.0nm,0.3s,baz=70,slow=15,SNR=48							
PDAR					Lg	Lg	18 03 11.0	
	15nm,0.3s,baz=76,slow=33,SNR=7.7							
BW06	**Boulder Array**	**3.16**	**255**	*e*P		**Pb**	**18 02 25.9**	**-2.1**
OGNE	**Ogallala**	**3.71**	**136**	*e*P		**Pg**	**18 02 40.7**	**-1.3**
ISCO	**Idaho Springs**	**3.88**	**182**	*e*P		**Pn**	**18 02 35.6**	**+3.5**
YFT	**Old Faithful**	**3.98**	**283**	*e*P		**Pn**	**18 02 37.5**	**+4.2**
O20A	**White River Ci**	**4.13**	**212**	*e*P		**Pn**	**18 02 39.2**	**+3.9**
AHID	**Auburn Hatcher**	**4.25**	**259**	*e*P		**Pn**	**18 02 41.7**	**+4.7**
QLMT	**Earthquake Lak**	**4.47**	**287**	P		Pn	18 02 45.8	+5.8
HWUT	**Hardware Ranch**	**4.99**	**247**	*e*P		**Pn**	**18 02 51.4**	**+4.3**
TCUT	**Toone Canyon**	**5.12**	**242**	*e*P		**Pn**	**18 02 52.5**	**+3.4**
HRY	**Holter Researc**	**5.45**	**306**	*e*P		**Pb**	**18 03 03.9**	**-3.0**
	14nm,0.4s							
MDND	**Maddock**	**5.82**	**42**	*e*P		**Pb**	**18 03 13.5**	**+0.3**
	19nm,0.6s							
SRU	**San Rafael Swe**	**5.97**	**222**	*e*P		**Pn**	**18 03 03.3**	**+2.7**
	11nm,0.6s							
TMUT	**Trail Mountain**	**6.17**	**227**	*e*P		**Pn**	**18 03 07.0**	**+3.5**
	13nm,0.4s							
BGU	**Big Grassy Mou**	**6.28**	**247**	*e*P		**Pn**	**18 03 09.6**	**+4.7**
	15nm,0.6s							
DUG	**Dugway, Tooele**	**6.52**	**240**	*e*P		**Pn**	**18 03 09.8**	**+1.6**
	23nm,0.6s							
ULM	**Lac du Bonnet**	**9.25**	**41**	Pn		**Pn**	**18 03 43.2**	**-2.2**
	0.6nm,0.3s,baz=232,slow=13,SNR=6.0							
ULM					Lg	Lg	18 06 14.4	
	0.5nm,0.3s,baz=120,slow=18,SNR=3.7							
YKA	**Yellowknife Ar**	**19.59**	**347**	P		**P**	**18 06 00.0**	**-0.2**
	0.1nm,0.3s,baz=158,slow=12,SNR=4.7							

ISCJB ***19*** *18:07:07.2±0.5, 1°.27N±0°.07×91°.76E±0°.04, h10km, mb4.3/21, MS3.6/3, Error ellipse: s-maj=9.9km s-min=5.2km az=17.7*

IDC ***19*** *18:07:07.1±0.9, 1°.22N×91°.69E, h0km, mb4.2/15, mb1 4.3/18, mb1mx4.0/67, mbtmp4.2/18, ML3.7/3, MS3.4/6, Ms1 3.4/6, ms1mx2.9/63, Error ellipse: s-maj=31.2km s-min=16.6km az=37.0*

NEIC ***19*** *18:07:08.5±0.4, 1°.22N×91°.70E, h10km, mb4.5/5, Error ellipse: s-maj=10.5km s-min=5.2km az=195.0*

DJA ***19*** *18:07:18.6±1.4, 1°.N±6°.×9°.2E±1°.2, h10km, M4.7/7, mb4.8/7, mB5.2/6, MLv4.8/7, Mw(mB)4.6/6*

ISC 19 18:07:09.0±0.7, 1°.33N±0°.09×91°.86E±0°.07, h10km, n75, σ1°68/67, mb4.4/25, MS3.7/3, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
BSI	**Banda Aceh**	**5.38**	**40**	P		**Pn**	**18 08 31.6**	**+2.2**
BSI				S		**Sn**	**18 09 28.6**	**-2.8**
MLSI	**Meulaboh, Aceh**	**5.40**	**57**	P		**Pn**	**18 08 32.1**	**+2.5**
MLSI				S		**Sn**	**18 09 28.6**	**-3.3**
TPTI		**5.65**	**70**	P		**Pn**	**18 08 34.7**	**+1.5**
GSI	**Gunungsitoli**	**5.72**	**90**	P		**Pn**	**18 08 36.0**	**+2.0**
GSI	**Gunungsitoli**	**5.72**	**90**	*e*P		**Pn**	**18 08 35.7**	**+1.6**
	72nm,0.7s							
LHMI	**Lhok Sumawe**	**6.39**	**53**	P		**Pn**	**18 08 46.5**	**+3.2**
LHMI	**Lhok Sumawe**	**6.39**	**53**	*e*P		**Pn**	**18 08 45.6**	**+2.3**
	116nm,0.7s							
TSI	**Tuntungan**	**7.04**	**72**	P		Pn	18 08 57.1	+4.9
PSI	**Prapat**	**7.21**	**78**	Pn		**Pn**	**18 08 56.5**	**+1.8**
	2.6nm,0.3s,baz=233,slow=8.2,SNR=11							
PSI					Sn	**Sn**	**18 10 13.4**	**-3.3**
	0.2nm,0.3s,baz=3.6,slow=16,SNR=1.7							
PSI					LR	LR	18 11 59.3	
	comp=Z,297nm,20.9s,baz=250,slow=40							
SISI	**Saibi**	**7.70**	**110**	P		**Pn**	**18 09 03.7**	**+2.4**
MNSI	**Mandailing Nat**	**7.74**	**94**	P		**Pn**	**18 09 04.5**	**+2.7**
PDSI	**Padang**	**8.89**	**104**	P		**Pn**	**18 09 15.7**	**-1.9**
PKDT	**Phuket**	**9.17**	**45**	P		**Pn**	**18 09 23.1**	**+1.6**
	36nm,0.8s,1μm							
KULM	**Kulim**	**9.62**	**66**	*e*P		**Pn**	**18 09 29.2**	**+1.6**
	43nm,0.8s							
IPM	**Ipoh**	**9.67**	**71**	*e*P		**Pn**	**18 09 30.9**	**+2.5**
	18nm,0.8s							
TRTT	**Trang**	**10.13**	**50**	P		**Pn**	**18 09 35.9**	**+1.2**
	16nm,1.1s,208nm							
PBA	**Port Blair**	**10.30**	**5**	*e*P		Pn	18 09 37.6	+0.6
SKLT	**Songkhla**	**10.48**	**56**	P		**Pn**	**18 09 41.5**	**+2.0**
	36nm,1.0s							
DGPR	**DIGLIPUR**	**11.82**	**5**	*e*P		**Pn**	**18 09 59.1**	**+1.4**
PALK	**Pallekele**	**12.59**	**298**	Pn		**Pn**	**18 10 06.7**	**-1.7**
	0.6nm,0.3s,baz=118,slow=14,SNR=4.0							
PALK					Sn	Sn	18 12 14.5	-14
	8.9nm,0.3s,baz=286,slow=0.3,SNR=16							
PALK					LR	LR	18 14 01.4	
	comp=Z,212nm,21.1s,baz=116,slow=33							
PALK	**Pallekele**	**12.59**	**298**	Pn		**Pn**	**18 10 06.7**	**-1.7**
	3.1nm,0.5s							
PALK					Sn	Sn	18 12 14.5	-14
SRAK	**Srakaew**	**16.13**	**38**	P		P	18 11 07.4	+8.1
MDRS	**Chennai**	**16.38**	**316**	*e*P		**Pn**	**18 10 59.3**	**+0.1**
MDRS					IAmb	IAmb	18 11 01.0	
	comp=Z,49nm,1.5s							
VIS	**Vishakhapatnam**	**18.32**	**333**	*i* P		**P**	**18 11 23.6**	**+0.1**
VIS					IAmb	IAmb	18 11 27.5	
	comp=Z,83nm,1.3s							
VIS				*i* x		x	18 14 38.1	
CMAR	**Chiang Mai Arr**	**18.39**	**22**	P		**P**	**18 11 25.9**	**+1.7**
	comp=Z,0.0nm,0.3s,baz=215,slow=14,SNR=8.4							
CMAR					LR	LR	18 18 00.1	
	comp=Z,50nm,19.4s,baz=285,slow=35							
HYB	**Hyderabad**	**20.66**	**321**	*i* P		**P**	**18 11 50.0**	**+0.8**
HYB				*e*S		S	18 15 29.0	-11
H08S2	**Diego Garcia H**	**21.27**	**245**	T		T	18 33 37.0	
	baz=63,slow=76,SNR=7.1							
H08S3	**Diego Garcia H**	**21.28**	**245**	T		T	18 33 42.9	
	baz=63,slow=76,SNR=7.5							
H08S1	**Diego Garcia H**	**21.29**	**245**	T		T	18 33 53.5	
	baz=63,slow=76,SNR=9.6							
BOK	**Bokaro**	**23.07**	**346**	*e*P		**P**	**18 12 17.9**	**+2.9**
BOK					IAmb	IAmb	18 12 19.2	
	comp=Z,26nm,1.4s							
IMP	**Imphal**	**23.45**	**5**	*e*P		**P**	**18 12 19.1**	**+0.2**
SHL	**Shillong**	**24.10**	**0**	*e*P		**P**	**18 12 24.2**	**-0.9**
SHL					IAmb	IAmb	18 12 24.5	
	comp=Z,3.5nm,0.3s							
KOHI	**KOHIMA**	**24.34**	**5**	*e*P		**P**	**18 12 28.3**	**+0.9**
MOKO	**MOKOCHONG**	**24.98**	**6**	P		**P**	**18 12 31.8**	**-1.3**
TEZP	**TEZPUR**	**25.16**	**2**	P		**P**	**18 12 35.6**	**+1.0**
ODAN	**Odare**	**25.74**	**351**	*e*P		**P**	**18 12 41.9**	**+1.7**
	comp=Z,37nm,0.8s							
RAMN	**Ramite**	**25.97**	**349**	*e*P		**P**	**18 12 44.3**	**+2.0**
	comp=Z,29nm,0.7s							
ZIRO	**ZIRO**	**26.12**	**4**	*e*P		**P**	**18 12 40.5**	**-3.0**
JIRN	**Jiri**	**26.74**	**349**	*e*P		**P**	**18 12 50.6**	**+1.2**
	comp=Z,40nm,1.0s							
DMN	**Daman**	**26.92**	**347**	*e*P		**P**	**18 12 52.0**	**+1.1**
GUN	**Gumba**	**27.04**	**348**	*e*P		**P**	**18 12 53.3**	**+1.2**
	comp=Z,24nm,1.1s							
GKN	**Gorkha**	**27.41**	**346**	*e*P		**P**	**18 12 56.3**	**+1.2**
KOLN	**Koldanda**	**27.45**	**344**	*e*P		**P**	**18 12 57.0**	**+1.4**
	comp=Z,8.8nm,0.7s							
PYUN	**Piuthan**	**27.94**	**343**	*e*P		**P**	**18 13 01.2**	**+1.2**
LSA	**Lhasa**	**28.22**	**359**	*e*P		**P**	**18 13 04.4**	**+1.7**
	comp=Z,6.7nm,0.7s							

s-maj=54.8km s-min=26.4km az=50.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**12.45**	**288**	Pn	Pn	18 40 46.6	+1.0
	0.8nm,0.3s,baz=116,slow=12,SNR=7.1						
CMAR	**Chiang Mai Arr**	**16.15**	**22**	Pn	Pn	18 41 37.1	+1.6
	0.1nm,0.3s,baz=219,slow=12,SNR=7.3						
MKAR	**Makanchi Array**	**44.09**	**350**	P	P	18 45 57.1	+0.1
	0.4nm,0.6s,baz=167,slow=8.4,SNR=6.7						
WRA	**Warramunga Arr**	**47.11**	**121**	P	P	18 46 21.2	-0.1
	0.2nm,0.6s,baz=302,slow=8.3,SNR=2.4						
KURBB	**Kurchatov Arra**	**48.48**	**348**	P	P	18 46 31.3	-0.1
	0.3nm,0.6s,baz=159,slow=6.0,SNR=4.2						
ZALV	**Zalesovo Beam**	**50.74**	**354**	P	P	18 46 47.6	-1.0
	0.6nm,0.4s,baz=156,slow=7.1,SNR=3.8						

*ISCJB **19** 18:39:02.3±1.4, 38°.45N±0°.09×43°.47E±0°.09, h22km±6km, Error ellipse: s-maj=16.4km s-min=8.6km az=147.4*
*ISK **19** 18:39:03.1, 38°.58N×43°.31E, h16km, ML2.2/4*
*CSEM **19** 18:39:03.5±0.5, 38°.53N×43°.36E, h10km, ML2.6, Error ellipse: s-maj=12.0km s-min=8.1km az=148.0*
*DDA **19** 18:39:04.8, 38°.48N×43°.32E, h7km, Ml2.6*
ISC 19 18:39:03.4±1.2, **38°.51N**±0°.05×**43°.36E**±0°.06, **h18**km±6km, **n14**, σ0.8**94**/22, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TVAN	**Van**	**0.04**	**68**	*i* P	**Pg**	**18 39 06.9**	**0.0**
TVAN				*i* S	**Sg**	**18 39 08.9**	**-0.3**
TVAN	**Van**	**0.04**	**68**	P	**Pg**	**18 39 06.9**	**0.0**
TVAN				S	**Sg**	**18 39 08.9**	**-0.3**
VANB	**Van**	**0.09**	**17**	PG	**Pg**	**18 39 06.7**	**-0.4**
VANB	**Van**	**0.09**	**17**	*e*Pg	**Pg**	**18 39 06.7**	**-0.4**
GEVA	**Gevas**	**0.31**	**230**	*i* P	**Pg**	**18 39 09.7**	**-0.6**
GEVA				*i* S	**Sb**	**18 39 15.3**	**0.0**
GEVA	**Gevas**	**0.31**	**230**	P	**Pg**	**18 39 09.6**	**-0.6**
GEVA				S	**Sb**	**18 39 15.3**	**0.0**
ADCV	**BITLIS_Adilcev**	**0.58**	**301**	*i* P	**Pb**	**18 39 15.4**	**+0.3**
ADCV				*i* S	**Sb**	**18 39 24.9**	**+1.8**
ADCV	**BITLIS_Adilcev**	**0.58**	**301**	P	**Pb**	**18 39 15.4**	**+0.3**
ADCV				S	**Sb**	**18 39 24.9**	**+1.8**
CLDR	**Caldiran**	**0.77**	**35**	PG	**Pg**	**18 39 17.9**	**-0.6**
CLDR	**Caldiran**	**0.77**	**35**	*e*Pg	**Pg**	**18 39 17.9**	**-0.6**
GURO	**Guroymak-BITLI**	**1.04**	**273**	PG	**Pg**	**18 39 22.8**	**-0.8**
GURO				SG	**Sb**	**18 39 37.3**	**+0.9**
GURO	**Guroymak-BITLI**	**1.04**	**273**	*e*Pg	**Pg**	**18 39 22.8**	**-0.8**
GURO				*e*Sg	**Sb**	**18 39 37.3**	**+0.9**
AGRB	**Hanur-Agry**	**1.10**	**345**	PG	**Pg**	**18 39 23.3**	**-1.5**
AGRB	**Hanur-Agry**	**1.10**	**345**	*e*Pg	**Pg**	**18 39 23.3**	**-1.5**

*DDA **19** 18:39:58.8, 39°.02N×43°.51E, h21km, Ml2.5*
*CSEM **19** 18:39:58.6±0.3, 38°.93N×43°.61E, h15km, ML2.5, Error ellipse: s-maj=9.7km s-min=7.0km az=140.0*
*ISK **19** 18:39:58.4, 38°.91N×43°.61E, h15km, ML2.3/6*
*ISCJB **19** 18:39:59.1±0.8, 38°.90N±0°.04×43°.59E±0°.06, h14km±6km, Error ellipse: s-maj=8.6km s-min=6.3km az=39.8*
ISC 19 18:39:56.8±1.6, **38°.85N**±0°.05×**43°.67E**±0°.05, **h15**km±14km, **n18**, σ0.8**61**/24, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VMUR	**Van-Muradiye**	**0.16**	**332**	*i* P	**Pb**	**18 40 02.2**	**+0.5**
VMUR				*i* S	**Sb**	**18 40 05.3**	**+0.4**
VMUR	**Van-Muradiye**	**0.16**	**332**	P	**Pb**	**18 40 02.2**	**+0.5**
ERCV	**ERCIS-VAN**	**0.31**	**304**	PG	**Pb**	**18 40 04.0**	**-0.2**
ERCV	**ERCIS-VAN**	**0.31**	**304**	*e*Pg	**Pb**	**18 40 04.0**	**-0.2**
VANB	**Van**	**0.33**	**221**	PG	**Pn**	**18 40 07.5**	**+0.2**
VANB	**Van**	**0.33**	**221**	*e*Pg	**Pn**	**18 40 07.5**	**+0.2**
CLDR	**Caldiran**	**0.35**	**33**	PG	**Pb**	**18 40 05.7**	**+0.7**
CLDR	**Caldiran**	**0.35**	**33**	*i* P	**Pb**	**18 40 05.3**	**+0.3**
CLDR				*i* S	**Sn**	**18 40 13.1**	**-1.5**
CLDR	**Caldiran**	**0.35**	**33**	P	**Pb**	**18 40 05.3**	**+0.3**
CLDR	**Caldiran**	**0.35**	**33**	*e*Pg	**Pb**	**18 40 05.7**	**+0.7**
ADCV	**BITLIS_Adilcev**	**0.74**	**267**	*i* P	**Pg**	**18 40 10.7**	**-0.5**
ADCV				*i* S	**Sb**	**18 40 22.2**	**+0.8**
ADCV	**BITLIS_Adilcev**	**0.74**	**267**	P	**Pg**	**18 40 10.7**	**-0.5**
ADCV				S	**Sb**	**18 40 22.2**	**+0.8**
AGRB	**Hanur-Agry**	**0.90**	**324**	PG	**Pn**	**18 40 14.9**	**-0.2**
AGRB				SG	**Sb**	**18 40 26.6**	**+0.5**
AGRB	**Hanur-Agry**	**0.90**	**324**	*e*Pg	**Pn**	**18 40 14.9**	**-0.2**
AGRB				*e*Sg	**Sb**	**18 40 26.6**	**+0.5**
GURO	**Guroymak-BITLI**	**1.31**	**257**	PN	**Pg**	**18 40 22.4**	**+0.3**
GURO	**Guroymak-BITLI**	**1.31**	**257**	*e*Pn	**Pg**	**18 40 22.4**	**+0.3**
SIRT	**Sirnak**	**1.66**	**216**	PN	**Pg**	**18 40 28.1**	**-0.6**
SIRT	**Sirnak**	**1.66**	**216**	*e*Pn	**Pg**	**18 40 28.1**	**-0.6**

*IDC **19** 18:45:05.1±3.5, 32°.73N×93°.45E, h0km, mb3.1/3, mb1 3.3/4, mb1mx3.0/71, mbtmp3.1/4, ML2.9/1, Error ellipse: s-maj=468.8km s-min=25.9km az=57.0*
ISC 19 18:45:07.8±1.3, **32°.6N**±0°.2×**93°.1E**±0°.2, **h22**km, **n5**, σ0.6**69**/5, **Xizang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NDI	**New Delhi**	**14.21**	**258**	*e*PL	**P**	**18 48 35.0**	**0.0**
MKAR	**Makanchi Array**	**16.37**	**333**	Pn	**Pn**	**18 48 55.5**	**-0.7**
	0.0nm,0.3s,baz=143,slow=13,SNR=2.4						
KURBB	**Kurchatov Arra**	**20.93**	**333**	P	**P**	**18 49 49.6**	**+0.7**
	0.7nm,0.8s,baz=142,slow=12,SNR=5.4						
WRA	**Warramunga Arr**	**65.50**	**137**	P	**P**	**18 55 49.5**	**-0.1**
	0.1nm,0.5s,baz=329,slow=6.7,SNR=3.3						
ASAR	**Alice Springs**	**68.21**	**140**	P	**P**	**18 56 06.8**	**0.0**
	0.2nm,0.5s,baz=325,slow=7.3,SNR=4.5						

JMA 19 18:46:29.0, 36°.95N×138°.58E, h8km±1km, **M0.9, Eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JGK	**Kuni**	**0.39**	**173**	*e*S	Sg	18 46 42.4	+0.6
MAT	**Matsushiro**	**0.51**	**216**	P	Pg	18 46 38.7	-0.1
MAT				S	Sg	18 46 45.2	-0.2
MAT	**Matsushiro**	**0.51**	**216**	P	Pg	18 46 38.7	-0.1
JNG	**Nsakai**	**0.67**	**216**	P	Pg	18 46 41.7	-0.1
JNG				S	Sg	18 46 50.5	0.0

*ISCJB **19** 18:48:59.9±0.5, 39°.08N±0°.03×29°.16E±0°.03, h3km±6km, Error ellipse: s-maj=5.2km s-min=3.8km az=163.6*
*ISK **19** 18:48:59.5, 39°.11N×29°.18E, h5km, ML2.5/10*
*DDA **19** 18:48:59.9, 39°.10N×29°.16E, h7km, Ml2.8*
*CSEM **19** 18:49:00.0±0.1, 39°.09N×29°.17E, h5km, ML2.5, Error ellipse: s-maj=2.8km s-min=2.1km az=139.0*
ISC 19 18:49:00.0±0.9, **39°.09N**±0°.02×**29°.16E**±0°.02, **h8**km±8km, **n36**, σ0.8**44**/50, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIMA	**Simav-Kutahya**	**0.14**	**267**	PG	**Pg**	**18 49 03.2**	**0.0**
SIMA	**Simav-Kutahya**	**0.14**	**267**	*e*Pg	**Pg**	**18 49 03.2**	**0.0**
GDZ	**Gediz**	**0.25**	**90**	*i* P	**Pg**	**18 49 05.1**	**0.0**
GDZ				*i* S	**Sg**	**18 49 09.0**	**+0.5**
GDZ	**Gediz**	**0.25**	**90**	P	**Pg**	**18 49 05.1**	**0.0**
GDZ				S	**Sg**	**18 49 09.0**	**+0.5**
DEMI	**Demirci**	**0.35**	**262**	*i* P	**Pg**	**18 49 07.0**	**-0.1**
DEMI				*i* S	**Sg**	**18 49 11.7**	**+0.1**
DEMI	**Demirci**	**0.35**	**262**	P	**Pg**	**18 49 06.9**	**-0.1**
TVSB	**Tavsanli**	**0.43**	**33**	PG	**Pg**	**18 49 07.8**	**-0.6**
TVSB				SG	**Sg**	**18 49 13.7**	**-0.3**
TVSB	**Tavsanli**	**0.43**	**33**	*e*Pg	**Pg**	**18 49 07.8**	**-0.6**
TVSB				*e*Sg	**Sg**	**18 49 13.7**	**-0.3**
KULA	**Kula-Manisa**	**0.70**	**214**	PG	**Pg**	**18 49 13.7**	**+0.2**
KULA	**Kula-Manisa**	**0.70**	**214**	*e*Pg	**Pg**	**18 49 13.7**	**+0.2**
DURS	**Dursunbey**	**0.74**	**314**	*i* P	**Pg**	**18 49 13.8**	**-0.5**
DURS				*i* S	**Sb**	**18 49 26.2**	**+0.7**
DURS	**Dursunbey**	**0.74**	**314**	P	**Pg**	**18 49 13.8**	**-0.5**
DURS				S	**Sb**	**18 49 26.2**	**+0.7**
KHAL	**Karahalli**	**0.76**	**160**	*i* P	**Pb**	**18 49 15.4**	**-0.2**
KHAL				*i* S	**Sb**	**18 49 25.9**	**-0.3**
KHAL	**Karahalli**	**0.76**	**160**	P	**Pb**	**18 49 15.4**	**-0.2**
MANT	**Manisa**	**0.76**	**218**	*i* P	**Pg**	**18 49 14.8**	**0.0**
MANT				*i* S	**Sg**	**18 49 23.5**	**-1.2**
MANT	**Manisa**	**0.76**	**218**	P	**Pg**	**18 49 14.8**	**0.0**
MANT				S	**Sg**	**18 49 23.5**	**-1.2**
BALB	**Balikesir**	**1.14**	**299**	PN	**Pb**	**18 49 21.9**	**0.0**
BALB	**Balikesir**	**1.14**	**299**	*e*Pn	**Pb**	**18 49 21.9**	**0.0**
STEP	**BALIKESIR_Sava**	**1.16**	**285**	*i* P	**Pb**	**18 49 22.5**	**+0.2**
STEP				*i* S	**Sn**	**18 49 38.3**	**-0.3**
STEP	**BALIKESIR_Sava**	**1.16**	**285**	P	**Pb**	**18 49 22.5**	**+0.2**
STEP				S	**Sn**	**18 49 38.3**	**-0.3**
CAVI	**Cavuskoy**	**1.23**	**25**	PN	**Pn**	**18 49 23.7**	**+0.2**
CAVI	**Cavuskoy**	**1.23**	**25**	*e*Pn	**Pn**	**18 49 23.7**	**+0.2**
BORA	**Eskisehir**	**1.27**	**51**	*i* P	**Pn**	**18 49 24.3**	**+0.1**
BORA				*i* S	**Sn**	**18 49 41.4**	**-0.1**
BORA	**Eskisehir**	**1.27**	**51**	P	**Pn**	**18 49 24.3**	**+0.1**
BORA				S	**Sn**	**18 49 41.4**	**-0.1**
MDNY	**Mudanya-Bursa**	**1.29**	**350**	PN	**Pg**	**18 49 24.8**	**-0.1**
MDNY	**Mudanya-Bursa**	**1.29**	**350**	*e*Pn	**Pg**	**18 49 24.8**	**-0.1**
KCTX	**Karacabey (Bur**	**1.33**	**332**	PN	**Pb**	**18 49 25.1**	**-0.1**
KCTX	**Karacabey (Bur**	**1.33**	**332**	*e*Pn	**Pb**	**18 49 25.1**	**-0.1**
YLV	**Yalova**	**1.48**	**6**	PN	**Pb**	**18 49 27.5**	**-0.4**
YLV	**Yalova**	**1.48**	**6**	*e*Pn	**Pb**	**18 49 27.5**	**-0.4**
ARMT	**Armutlu**	**1.49**	**351**	PN	**Pn**	**18 49 27.5**	**+0.4**
ARMT	**Armutlu**	**1.49**	**351**	*e*Pn	**Pn**	**18 49 27.5**	**+0.4**
EDC	**Edincik**	**1.61**	**322**	PN	**Pn**	**18 49 29.1**	**+0.4**
EDC	**Edincik**	**1.61**	**322**	*e*Pn	**Pn**	**18 49 29.1**	**+0.4**
GULT	**Gulveren**	**1.70**	**37**	PN	**Pn**	**18 49 30.7**	**+0.7**
GULT	**Gulveren**	**1.70**	**37**	*e*Pn	**Pn**	**18 49 30.7**	**+0.7**

*ISCJB **19** 19:09:15.1±0.9, 35°.23S±0°.03×148°.54E±0°.04, h3km±7km, Error ellipse: s-maj=6.1km s-min=5.3km az=39.4*
*AUST **19** 19:09:16.8±0.5, 35°.27S×148°.63E, h5km±5km, Error ellipse: s-maj=4.0km s-min=2.6km az=39.0*
*NEIC **19** 19:09:16.0±0.0, 35°.23S×148°.60E, h4km, mb3.7/1, ML3.7(AUST), After AUST.*
NEIC Felt [II] at Canberra. Also felt at Batemans Bay, Bathurst-Orange, Cooma, Queanbeyan, Sydney and Wagga Wagga.
*IDC **19** 19:09:17.3±8.4, 35°.20S×148°.52E, h0km, mb1 3.7/3, mb1mx3.4/41, mbtmp3.5/3, ML3.6/3, Error ellipse: s-maj=216.8km s-min=54.2km az=18.0*
ISC 19 19:09:16.6±1.1, **35°.26S**±0°.02×**148°.62E**±0°.03, **h8**km±9km, **n41**, σ1.**25**/63, **New South Wales**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAN	**Canberra**	**0.32**	**102**	P	**Pg**	**19 09 22.8**	**-0.1**
	baz=0.3						
CAN				S	**Sg**	**19 09 26.8**	**-0.3**
	baz=0.3						
CAN	**Canberra**	**0.32**	**102**	P	**Pg**	**19 09 22.8**	**-0.1**
	baz=0.3						
CAN				S	**Sg**	**19 09 26.8**	**-0.3**
	baz=0.3						
CAN	**Canberra**	**0.32**	**102**	*e*Pg	**Pg**	**19 09 23.2**	**+0.3**
CAN				*e*Sg	**Sg**	**19 09 26.8**	**-0.3**
CNB	**Canberra Magne**	**0.61**	**96**	P	**Pg**	**19 09 28.3**	**-0.2**
	baz=0.6,SNR=1000						
CNB				S	**Sg**	**19 09 36.9**	**+0.5**
	baz=0.6						
CNB	**Canberra Magne**	**0.61**	**96**	P	**Pg**	**19 09 28.3**	**-0.2**
	baz=0.6,SNR=1000						
CNB				S	**Sg**	**19 09 36.9**	**+0.5**
	baz=0.6						
CNB	**Canberra Magne**	**0.61**	**96**	P	**Pg**	**19 09 28.6**	**+0.1**
CNB				S	**Sb**	**19 09 37.6**	**-0.8**
YNG	**Young**	**0.97**	**349**	P	**Pb**	**19 09 36.1**	**+0.4**
	baz=0.9,SNR=412						
YNG				S	**Sg**	**19 09 48.6**	**+0.7**
	baz=0.9,SNR=13						
YNG	**Young**	**0.97**	**349**	P	**Pb**	**19 09 36.1**	**+0.4**
	baz=1.0,SNR=412						
YNG				S	**Sg**	**19 09 48.6**	**+0.7**
	baz=1.0,SNR=13						
YNG	**Young**	**0.97**	**349**	P	**Pn**	**19 09 36.6**	**0.0**
YNG				S	**Sg**	**19 09 48.6**	**+0.7**
MILA	**Mila**	**1.85**	**167**	P	**Pn**	**19 09 49.3**	**+0.7**
	baz=1.9,SNR=798						
MILA				S	**Sb**	**19 10 14.0**	**+0.1**
	baz=1.9,SNR=6.4						
MILA	**Mila**	**1.85**	**167**	P	**Pn**	**19 09 49.3**	**+0.7**
	baz=1.8,SNR=798						
MILA				S	**Sb**	**19 10 14.0**	**+0.1**
	baz=1.8,SNR=6.4						
MILA	**Mila**	**1.85**	**167**	P	**Pb**	**19 09 49.6**	**-1.1**
MILA				S	**Sg**	**19 10 14.6**	**-1.4**
RIV	**Riverview**	**2.53**	**57**	P	**Pn**	**19 09 58.8**	**+0.8**
	baz=2.5,SNR=4.9						
RIV	**Riverview**	**2.53**	**57**	P	**Pn**	**19 09 58.8**	**+0.8**
	baz=2.5,SNR=4.9						
RIV	**Riverview**	**2.53**	**57**	Pg	**Pg**	**19 10 06.6**	**+1.5**
MGCD	**Mangrove Creek**	**2.90**	**46**	P	**Pn**	**19 10 03.9**	**+0.8**
	baz=2.9,SNR=15						
MGCD				S	**Sn**	**19 10 39.4**	**+1.3**
	baz=2.9						
MGCD	**Mangrove Creek**	**2.90**	**46**	P	**Pn**	**19 10 03.9**	**+0.8**
	baz=2.9,SNR=15						
MGCD	**Mangrove Creek**	**2.90**	**46**	P	**Pn**	**19 10 04.6**	**+1.5**
MGCD				S	**Sn**	**19 10 39.6**	**+1.5**
TOO	**Toolangi**	**3.42**	**227**	P	**Pn**	**19 10 11.5**	**+1.2**
	baz=3.4,SNR=34						
TOO				S	**Sn**	**19 10 52.0**	**+1.0**
	baz=3.4						
TOO	**Toolangi**	**3.42**	**227**	P	**Pn**	**19 10 11.5**	**+1.2**
	baz=3.4,SNR=34						
TOO				S	**Sn**	**19 10 52.0**	**+1.0**
	baz=3.4						
TOO	**Toolangi**	**3.42**	**227**	P	**Pn**	**19 10 12.6**	**+2.4**
TOO				S	**Sn**	**19 10 52.6**	**+1.6**
CMSA	**Cobar Meteorol**	**4.44**	**326**	P	**Pn**	**19 10 24.8**	**+0.6**
	baz=4.4						
CMSA	**Cobar Meteorol**	**4.44**	**326**	P	**Pn**	**19 10 25.6**	**+1.4**
ARMA	**Armidale**	**5.45**	**29**	*e*Pn	**Pn**	**19 10 39.8**	**+1.6**
ARMA				*e*Sg	**Sg**	**19 12 06.9**	**-4.6**
ARPS	**Mount Arapiles**	**5.70**	**253**	P	**Pn**	**19 10 42.5**	**+1.0**
	baz=5.7,SNR=73						
ARPS				S	**Sn**	**19 11 47.2**	**+0.1**
	baz=5.7						
ARPS	**Mount Arapiles**	**5.70**	**253**	P	**Pn**	**19 10 42.5**	**+1.0**
	baz=5.7,SNR=73						
ARPS	**Mount Arapiles**	**5.70**	**253**	P	**Pn**	**19 10 43.6**	**+2.1**
ARPS				S	**Sn**	**19 11 47.7**	**+0.6**
STKA	**Stephens Creek**	**6.76**	**298**	Pn	**Pn**	**19 10 57.1**	**+1.0**
	1.9nm,0.3s,baz=113,slow=14,SNR=51						
STKA				Sn	**Sn**	**19 12 09.6**	**-3.7**
	1.4nm,0.3s,baz=141,slow=23,SNR=2.9						
STKA				Lg	Lg	19 12 49.1	
	3.8nm,0.3s,baz=207,slow=22,SNR=4.3						
STKA	**Stephens Creek**	**6.76**	**298**	P	**Pn**	**19 10 57.1**	**+1.0**
	baz=6.7,SNR=31						
STKA	**Stephens Creek**	**6.76**	**298**	P	**Pn**	**19 10 57.1**	**+1.0**
	baz=6.8,SNR=31						
STKA	**Stephens Creek**	**6.76**	**298**	*e*Pn	**Pn**	**19 10 56.9**	**+0.8**
HTT	**Hallett**	**8.22**	**280**	P	**Pn**	**19 11 15.7**	**-0.5**
	baz=8.2,SNR=11						
HTT	**Hallett**	**8.22**	**280**	P	**Pn**	**19 11 17.7**	**+1.4**
BBOO	**Buckleboo**	**10.70**	**280**	P	**Pn**	**19 11 49.4**	**-0.8**
	baz=11,SNR=11						
BBOO				S	**Sn**	**19 13 47.9**	**-2.3**
	baz=11						
BBOO	**Buckleboo**	**10.70**	**280**	*e*Pn	**Pn**	**19 11 49.4**	**-0.8**
AS01	**Alice Springs**	**17.20**	**308**	*e*Pn	**Pn**	**19 13 16.7**	**-0.5**
AS31	**Alice Springs**	**17.23**	**308**	*e*Pn	**Pn**	**19 13 17.1**	**-0.5**
ASAR	**Alice Springs**	**17.23**	**308**	P	**Pn**	**19 13 16.5**	**-1.2**
	0.1nm,0.3s,baz=140,slow=12,SNR=10						
ASAR				S	Sn	19 16 18.4	-11
	0.0nm,0.3s,baz=141,slow=23,SNR=3.7						
WB2	**Warramunga Arr**	**19.78**	**317**	*e*P	**P**	**19 13 47.4**	**+0.2**
WRA	**Warramunga Arr**	**19.78**	**317**	P	**Pn**	**19 13 48.5**	**-0.3**
	0.1nm,0.3s,baz=144,slow=11,SNR=7.2						
WRAB	**Tennant Creek**	**19.79**	**317**	*e*P	**P**	**19 13 47.0**	**-0.4**
	5.2nm,1.3s						

*IDC **19** 19:11:34.3±9.4, 23°.22S×177°.94W, h276km±82km, mb3.4/7, mb1 3.6/7, mb1mx3.3/45, mbtmp4.0/7, Error ellipse: s-maj=77.2km s-min=30.4km az=151.0*
*ISCJB **19** 19:11:35.3±1.7, 23°.25S±0°.6×178°.0W±0°.3, h300km, mb3.5/7, Error ellipse: s-maj=89.1km s-min=20.1km az=155.7*
ISC 19 19:11:36.6±1.6, **23°.3S**±0°.6×**178°.0W**±0°.3, **h300**km, **n11**, σ0.8**85**/12, **mb3.5/7, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**33.35**	**268**	P	**P**	**19 17 48.4**	**+1.0**
	7.2nm,0.5s,baz=90,slow=11,SNR=15						
STKA	**Stephens Creek**	**36.70**	**247**	P	**P**	**19 18 15.2**	**-0.5**
	0.7nm,0.4s,baz=104,slow=11,SNR=3.3						
ASAR	**Alice Springs**	**43.99**	**259**	P	**P**	**19 19 14.9**	**-0.3**
	0.7nm,0.6s,baz=96,slow=7.0,SNR=12						
ASAR				PcP	**PcP**	**19 20 55.6**	**+0.5**
	0.4nm,0.5s,baz=108,slow=4.0,SNR=7.0						
WRA	**Warramunga Arr**	**44.32**	**265**	P	**P**	**19 19 17.4**	**-0.5**
	2.8nm,0.6s,baz=91,slow=8.4,SNR=79						
WRA				PcP	**PcP**	**19 20 56.1**	**-0.2**
	0.9nm,1.1s,baz=97,slow=3.0,SNR=3.2						
FITZ	**Fitzroy Crossi**	**52.75**	**264**	P	**P**	**19 20 21.4**	**-0.2**
	1.0nm,0.4s,baz=110,slow=9.2,SNR=11						
TXAR	**Lajitas Array**	**88.51**	**57**	P	**P**	**19 23 56.1**	**+0.3**
	0.1nm,0.3s,baz=216,slow=4.5,SNR=2.6						
ILAR	**Eielson Array**	**90.98**	**13**	P	**P**	**19 24 05.2**	**-1.0**
	0.4nm,0.8s,baz=226,slow=7.4,SNR=3.6						
HFS	**Hagfors**	**142.25**	**350**	PKhKP	PKPpre	19 30 28.9	
	1.0nm,0.6s,baz=103,slow=3.3,SNR=4.0						
AKASG	**Malin Array Be**	**145.41**	**329**	PKPbc	**PKPdf**	**19 30 37.8**	**-0.9**
	0.7nm,0.5s,baz=43,slow=5.7,SNR=6.1						
EKA	**Eskdalemuir Ar**	**147.73**	**6**	PKPbc	**PKPbc**	**19 30 47.0**	**+1.4**
	0.2nm,0.4s,baz=348,slow=3.7,SNR=3.9						
MMAI	**Mount Meron Ar**	**149.12**	**296**	PKPbc	**PKPbc**	**19 30 50.9**	**+0.8**
	2.3nm,0.6s,baz=76,slow=6.1,SNR=4.3						

*IDC **19** 19:13:37.4±3.2, 4°.70S×104°.61E, h0km, mb3.6/4, mb1 3.8/5, mb1mx3.4/63, mbtmp3.6/5, ML3.7/1, MS3.2/2, Ms1 3.2/2, ms1mx2.7/52, Error ellipse: s-maj=172.3km s-min=23.9km az=51.0*
*ISCJB **19** 19:13:51.1±1.5, 6°.11S±0°.08×105°.46E±0°.07, h1km±10km, mb3.5/3, MS3.2/2, Error ellipse: s-maj=17.1km s-min=4.4km az=40.4*
*DJA **19** 19:13:53.2±0.3, 6°.5S±4°×10°.6E±°, h10km, M3.5/8, MLv3.5/8*
ISC 19 19:13:51.7±2.1, **6°.1S**±0°.1×**105°.41E**±0°.09, **h8**km±15km, **n16**, σ1.**01**/22, **mb3.6/4, Sunda Strait**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBJI	**Serang**	**0.71**	**92**	P	**Pg**	**19 14 04.8**	**-0.7**
SBJI				S	**Sg**	**19 14 13.7**	**-1.1**
BLSI	**Bandar Lampung**	**0.74**	**347**	P	**Pg**	**19 14 05.8**	**-0.2**
BLSI				S	**Sg**	**19 14 15.6**	**-0.1**
KASI	**Kota Agung**	**1.07**	**302**	P	**Pb**	**19 14 12.5**	**-0.1**
KASI				S	**Sn**	**19 14 30.3**	**+2.1**
TNG	**Tangerang**	**1.23**	**94**	P	**Pn**	**19 14 14.6**	**-0.7**
TNG				P	**Pn**	**19 14 14.5**	**-0.7**
KLI	**Kotabumi**	**1.34**	**336**	P	**Pn**	**19 14 17.1**	**+0.3**
KLI				S	**Sg**	**19 14 36.4**	**+1.4**
SKJI	**Sukabumi**	**1.45**	**129**	P	**Pn**	**19 14 17.5**	**-0.8**
SKJI				S	**Sb**	**19 14 38.0**	**+0.3**
LWLI	**Liwa**	**1.72**	**308**	P	**Pb**	**19 14 24.0**	**+0.3**
LWLI				S	**Sb**	**19 14 45.4**	**-0.2**
MDSI	**Maura Dua**	**2.02**	**322**	P	**Pb**	**19 14 27.8**	**-0.9**
MDSI				S	**Sb**	**19 14 54.0**	**0.0**
LEM	**Lembang**	**2.31**	**108**	Pn	**Pb**	**19 14 35.5**	**+1.7**
	5.5nm,0.3s,baz=209,slow=6.6,SNR=14						
LEM	**Lembang**	**2.31**	**108**	P	**Pb**	**19 14 34.5**	**+0.8**
JCJI	**Jatiwangi**	**2.87**	**98**	P	**Pg**	**19 14 48.3**	**+1.6**
WRA	**Warramunga Arr**	**31.29**	**119**	P	**P**	**19 20 11.4**	**-1.2**
	0.4nm,0.5s,baz=296,slow=9.7,SNR=3.2						
ASAR	**Alice Springs**	**32.49**	**125**	P	**P**	**19 20 22.7**	**-0.5**
	0.2nm,0.5s,baz=298,slow=8.2,SNR=4.3						
ASAR				LR	LR	19 33 29.7	
	comp=Z,51nm,20.3s,baz=292,slow=35						
STKA	**Stephens Creek**	**42.41**	**132**	P	**P**	**19 21 46.6**	**-0.4**
	1.6nm,0.7s,baz=319,slow=9.3,SNR=3.1						
MKAR	**Makanchi Array**	**56.52**	**341**	P	P	19 23 10.1	-24
	0.3nm,0.4s,baz=165,slow=7.9,SNR=8.6						
NOA	**NORSAR Array B**	**97.33**	**331**	LR	LR	20 17 31.6	
	comp=Z,8.0nm,18.9s,baz=140,slow=40						

JMA 19 19:16:53.8±0.2, **40°.87N**×**145°.14E, h67**km±3km, **M3.6, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JEM	**Erimo**	**1.88**	**308**	P	Pn	19 17 24.4	+0.7
JEM				S	Sn	19 17 45.8	-0.6
JAK	**Akkeshi**	**2.15**	**351**	P	Pn	19 17 28.0	+0.6
JAK				S	Sn	19 17 53.0	0.0
JCH	**Churui**	**2.19**	**323**	P	Pn	19 17 28.7	+0.8
JCH				S	Sn	19 17 52.7	-1.3
JNBK	**Urakawa-nobuka**	**2.28**	**309**	P	Pn	19 17 30.5	+1.4

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGD	**Sagiada**	**0.12**	**169**	P	**Pg**	**19 22 10.5**	**-1.0**
SGD	**Sagiada**	**0.12**	**169**	P	**Pg**	**19 22 10.9**	**-0.5**
SGD	**Sagiada**	**0.12**	**169**	P	**Pg**	**19 22 11.0**	**-0.5**
KASA	**Kassiopi**	**0.21**	**275**	P	**Pg**	**19 22 12.7**	**-0.4**
KASA				S	**Sg**	**19 22 17.3**	**+1.3**
KASA	comp=N,3684μm,0.4s			AML	AML	19 22 17.8	
KASA	comp=E,2830μm,0.4s			AML	AML	19 22 18.0	
KASA	**Kassiopi**	**0.21**	**275**	P	**Pg**	**19 22 13.0**	**-0.2**
KASA				S	**Sg**	**19 22 16.9**	**+1.0**
IGT	**Igoumenitsa**	**0.22**	**153**	P	**Pg**	**19 22 12.4**	**-1.0**
IGT				S	**Sg**	**19 22 17.4**	**+1.2**
IGT	comp=N,1866μm,0.5s			AML	AML	19 22 18.8	
IGT	comp=E,853μm,0.3s			AML	AML	19 22 19.7	
IGT	**Igoumenitsa**	**0.22**	**153**	P	**Pg**	**19 22 12.8**	**-0.5**
IGT	**Igoumenitsa**	**0.22**	**153**	P	**Pg**	**19 22 12.8**	**-0.5**
IGT				S	**Sg**	**19 22 16.8**	**+0.6**
SRN	**Sarande**	**0.22**	**314**	P	**Pg**	**19 22 12.6**	**-0.7**
SRN				S	**Sg**	**19 22 16.5**	**+0.2**
SRN	**Sarande** baz=333	**0.22**	**314**	*i* Pg	**Pg**	**19 22 12.7**	**-0.7**
SRN				S	**Sg**	**19 22 16.5**	**+0.2**
SRN	**Sarande**	**0.22**	**314**	*i* PG	**Pg**	**19 22 12.7**	**-0.7**
SRN				*i* SG	**Sg**	**19 22 16.4**	**+0.2**
KEK	**Kerkira**	**0.31**	**267**	P	**Pg**	**19 22 14.5**	**-0.6**
KEK				S	**Sg**	**19 22 20.4**	**+1.1**
KEK	comp=N,1245μm,0.4s			AML	AML	19 22 21.0	
KEK	comp=E,823μm,0.5s			AML	AML	19 22 23.3	
KEK	**Kerkira**	**0.31**	**267**	P	**Pg**	**19 22 14.8**	**-0.4**
KEK				S	**Sg**	**19 22 20.2**	**+0.9**
KEK	**Kerkira**	**0.31**	**267**	P	**Pg**	**19 22 14.8**	**-0.4**
KEK				S	**Sg**	**19 22 20.0**	**+0.7**
JAN	**Janina**	**0.50**	**98**	P	**Pg**	**19 22 19.3**	**+0.5**
JAN				S	**Sg**	**19 22 26.0**	**+0.7**
JAN	comp=E,734μm,0.3s			AML	AML	19 22 28.9	
JAN	comp=N,599μm,0.3s			AML	AML	19 22 29.3	
JAN	**Janina**	**0.50**	**98**	P	**Pg**	**19 22 18.3**	**-0.5**
JAN	**Janina**	**0.50**	**98**	P	**Pg**	**19 22 18.3**	**-0.5**
JAN				S	**Sg**	**19 22 25.8**	**+0.5**
KPRO	**Kipourio**	**0.92**	**75**	P	**Pg**	**19 22 26.0**	**-0.7**
KPRO				S	**Sb**	**19 22 39.6**	**-0.6**
KPRO	comp=N,236μm,0.8s			AML	AML	19 22 44.9	
KPRO	comp=E,230μm,0.7s			AML	AML	19 22 48.1	
KPRO	**Kipourio**	**0.92**	**75**	P	**Pg**	**19 22 26.2**	**-0.5**
KPRO	**Kipourio**	**0.92**	**75**	P	**Pg**	**19 22 26.2**	**-0.5**
KPRO				S	**Sb**	**19 22 39.4**	**-0.7**
NEST	**Nestorio**	**0.94**	**43**	P	**Pg**	**19 22 27.3**	**+0.1**
NEST	**Nestorio**	**0.94**	**43**	P	**Pg**	**19 22 26.5**	**-0.7**
NEST	**Nestorio**	**0.94**	**43**	P	**Pg**	**19 22 27.2**	**+0.1**
LKD2	**Lefkada island**	**1.00**	**159**	P	**Pb**	**19 22 28.6**	**-0.3**
LKD2	**Lefkada island**	**1.00**	**159**	P	**Pg**	**19 22 27.9**	**-0.4**
THL	**Klokotos Trika**	**1.41**	**96**	P	**Pb**	**19 22 36.1**	**+0.3**
THL				S	**Sb**	**19 22 54.3**	**+0.3**
THL	comp=E,68μm,0.6s			AML	AML	19 23 00.9	
THL	comp=N,82μm,0.8s			AML	AML	19 23 01.9	
THL	**Klokotos Trika**	**1.41**	**96**	P	**Pg**	**19 22 35.7**	**-0.3**
THL				S	**Sn**	**19 22 54.4**	**+0.1**

IDC 19 19:25:50.9±2.6, 22°31S×111°30W, h0km, mb3.3/3, mb1 3.7/3, mb1mx3.4/39, mbtmp3.3/3, MS3.3/1, Ms1 3.3/1, ms1mx2.8/12, Error ellipse: s-maj=212.3km s-min=48.1km az=104.0, Easter Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPIG	**La Paz** comp=Z,40nm,20.8s,baz=191,slow=29	**46.14**	**1**	LR	LR	19 48 29.5	
NVAR	**Mina Array Bea** 0.1nm,0.3s,baz=186,slow=7.3,SNR=2.1	**60.77**	**354**	P	P	19 36 05.2	+0.4
PDAR	**Pinedale Array** 0.2nm,0.6s,baz=166,slow=11,SNR=2.0	**64.77**	**1**	P	P	19 36 30.5	-0.9
YKA	**Yellowknife Ar** 0.1nm,0.4s,baz=177,slow=5.7,SNR=2.7	**84.55**	**358**	P	P	19 38 26.0	+0.6
SONM	**Songino Array** 0.1nm,0.4s,baz=48,slow=2.1,SNR=2.6	**140.58**	**320**	PKP	PKPdf	19 45 22.6	+0.2
BVAR	**Borovoye Array** 0.1nm,0.3s,baz=62,slow=3.4,SNR=2.6	**149.30**	**358**	PKPbc	PKPbc	19 45 42.0	+0.6
KURBB	**Kurchatov Arra** 0.2nm,0.7s,baz=21,slow=2.1,SNR=2.7	**150.71**	**347**	PKPbc	PKPbc	19 45 44.0	-0.8
CMAR	**Chiang Mai Arr** 0.6nm,0.3s,baz=80,slow=3.3,SNR=1.1	**151.41**	**268**	PKPbc	PKPbc	19 45 47.3	-0.2
MKAR	**Makanchi Array** 0.3nm,0.9s,baz=27,slow=3.6,SNR=2.3	**153.21**	**339**	PKPbc	PKPbc	19 45 50.0	-0.8

MAN 19 19:26:36, 7°20N×125°07E, h23km, mb4.5, ML3.3, MS3.1, 2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DMPH	**Davao City--Mi**	**0.45**	**105**	*eP*	Pn	19 26 46.8	-0.3
DMPH				*eS*	Sn	19 26 53.5	-0.9
BUKP	**Musuan**	**0.67**	**359**	*eP*	Pn	19 26 49.7	-0.5
BUKP				*eS*	Sn	19 27 01.3	+1.3
CTBH	**Cotabato--PC H**	**0.82**	**271**	*i* P	Pb	19 26 51.8	+0.2
CTBH				*i* S	Sn	19 27 04.7	+1.2
MATI	**Mati**	**1.20**	**102**	*eP*	Pn	19 26 56.7	-0.7
MATI				*eS*	Sb	19 27 14.2	+1.0

*IDC **19** 19:32:25.9±1.2, 2.46N×92.67E, h0km, mb3.8/9, mb1 3.9/12, mb1mx3.6/76, mbtmp3.8/12, ML3.7/3, Error ellipse: s-maj=37.8km s-min=18.4km az=48.0*
*NEIC **19** 19:32:27.9±0.7, 2.44N×92.59E, h10km, mb4.0/2, Error ellipse: s-maj=14.6km s-min=8.6km az=204.0*
*ISCJB **19** 19:32:29.4±0.7, 2.53N±0.08×92.65E±0.06, h33km, mb3.8/11, Error ellipse: s-maj=12.4km s-min=6.7km az=30.3*
*DJA **19** 19:32:31.4±2.9, 3.7N×9.3E±1.6, h15km±26km, M4.6/7, mbBS.1/1, mb4.7/4, MLv4.6/7, Mw(mB)4.4/1*

ISC 19 19:32:32.0±0.8, 2.55N±0.09×92.73E±0.08, h35km, n33, σ2911/35, mb3.9/11, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSI	**Banda Aceh**	**3.89**	**41**	P	**Pn**	**19 33 30.0**	**+0.7**
MLSI	**Meulaboh, Aceh**	**4.04**	**65**	P	**Pn**	**19 33 32.4**	**+0.9**
TPTI		**4.50**	**81**	P	**Pn**	**19 33 38.6**	**+0.9**
LHMI	**Lhok Sumawe**	**4.98**	**58**	P	**Pn**	**19 33 44.0**	**-0.3**
LHMI	**Lhok Sumawe**	**4.98**	**58**	*eP*	**Pn**	**19 33 46.5**	**+2.2**
GSI	**Gunungsitoli**	**5.00**	**104**	P	**Pn**	**19 33 46.3**	**+1.7**
GSI	**Gunungsitoli** 71nm,0.5s	**5.00**	**104**	*ePn*	**Pn**	**19 33 46.3**	**+1.7**
PSI	**Prapat** 0.5nm,0.3s,baz=169,slow=17,SNR=2.0	**6.19**	**88**	Pn	**Pn**	**19 33 59.7**	**-1.4**
PSI					**Sn**	**19 35 09.3**	**-1.5**
MNSI	**Mandailing Nat** 3.2nm,0.3s,baz=198,slow=18,SNR=6.7	**7.06**	**104**	P	**Pn**	**19 34 14.1**	**+1.1**
SISI	**Saibi** 38nm,0.5s,1μm1.0nm	**7.43**	**121**	P	**Pn**	**19 34 19.5**	**+1.4**
SISI				S	Sn	19 35 29.9	-11
KULM	**Kulim** 10nm,0.6s	**8.36**	**71**	*eP*	**Pn**	**19 34 30.9**	**+0.1**
IPM	**Ipoh** 11nm,0.4s	**8.50**	**77**	*eP*	**Pn**	**19 34 34.1**	**+1.4**
PALK	**Pallekele** 1.6nm,0.3s,baz=114,slow=12,SNR=13	**12.87**	**292**	Pn	**Pn**	**19 35 31.6**	**-1.0**
PALK					Sn	19 37 43.3	-11
CMAR	**Chiang Mai Arr** 0.1nm,0.3s,baz=212,slow=12,SNR=13	**16.94**	**21**	P	**Pn**	**19 36 26.4**	**-0.1**
SAIH	**SAIHA**	**19.82**	**1**	*eP*	**Pn**	**19 37 08.1**	**+6.4**
AZL	**Aizawl**	**21.06**	**360**	*eP*	**P**	**19 37 11.6**	**-1.7**
AZL	comp=N,26nm,0.2s			IAML		19 37 29.1	
AZL	comp=E,26nm,0.3s			IAML		19 37 30.8	
IMP	**Imphal**	**22.18**	**3**	*eP*	**P**	**19 37 20.7**	**-4.6**
SHL	**Shillong**	**22.90**	**358**	*eP*	**P**	**19 37 35.6**	**+2.6**
SHL				*ex*	x	19 37 49.6	
KOHI	**KOHIMA**	**23.07**	**3**	*eP*	**P**	**19 37 32.7**	**-2.1**
ZIRO	**ZIRO**	**24.86**	**2**	*eP*	**P**	**19 37 56.7**	**+5.1**
ZIRO	comp=E,46nm,0.3s			IAML		19 38 22.2	
ZIRO	comp=N,56nm,0.4s			IAML		19 38 22.9	
LSA	**Lhasa** comp=N,1.8nm,0.6s	**27.04**	**357**	*eP*	**P**	**19 38 13.0**	**+1.3**
MKAR	**Makanchi Array** comp=N,1.3nm,0.6s,baz=167,slow=8.6,SNR=17	**45.00**	**350**	P	**P**	**19 40 44.2**	**+0.2**
WRA	**Warramunga Arr** comp=N,0.4nm,0.7s,baz=298,slow=8.6,SNR=6.0	**46.55**	**121**	P	**P**	**19 40 55.6**	**-1.1**
WRAB	**Tennant Creek** comp=N,1.8nm,1.0s	**46.55**	**121**	*eP*	**P**	**19 40 56.7**	**0.0**
SONM	**Songino Array** comp=N,1.3nm,0.5s,baz=191,slow=8.5,SNR=11	**46.63**	**13**	P	**P**	**19 40 57.7**	**+0.7**
ASAR	**Alice Springs** comp=N,0.1nm,0.5s,baz=296,slow=7.4,SNR=3.7	**47.79**	**125**	P	**P**	**19 41 06.2**	**-0.2**
KURBB	**Kurchatov Arra** comp=N,0.7nm,0.7s,baz=175,slow=6.7,SNR=9.0	**49.38**	**348**	P	**P**	**19 41 17.9**	**-0.2**
KURBB				PcP	**PcP**	**19 42 38.0**	**-2.2**
KURK	**Kurchatov** comp=N,0.3nm,0.8s,baz=153,slow=2.6,SNR=4.2	**49.45**	**348**	P	**P**	**19 41 17.9**	**-0.7**
KURK				PcP	**PcP**	**19 42 38.0**	**-2.4**
ZALV	**Zalesovo Beam** comp=N,2.3nm,0.5s,baz=186,slow=9.3,SNR=11	**51.64**	**354**	P	**P**	**19 41 35.3**	**+0.2**
BVAR	**Borovoye Array** comp=N,0.3nm,0.5s,baz=94,slow=5.8,SNR=3.4	**53.60**	**343**	P	**P**	**19 41 48.6**	**-1.0**
TIXI	**Tiksi** comp=N,2.8nm,0.6s,baz=226,slow=3.0,SNR=21	**72.69**	**11**	P	**P**	**19 43 55.1**	**-0.9**
GERES	**GERESS Array B** comp=N,0.8nm,0.7s,baz=104,slow=4.3,SNR=5.5	**80.86**	**319**	P	**P**	**19 44 42.6**	**-0.1**
TXAR	**Lajitas Array** comp=N,0.4nm,0.4s,baz=212,slow=1.2,SNR=8.0	**144.62**	**25**	PKP	PKPbc	19 52 04.8	+0.2

*DDA **19** 19:52:41.3, 39.11N×29.14E, h8km, Ml4.5*
*ISCJB **19** 19:52:41.6±0.4, 39.14N±0.01×29.14E±0.01, h4km±3km, mb4.0/32, MS3.6/20, Error ellipse: s-maj=2.1km s-min=1.9km az=11.7*
*IDC **19** 19:52:41.9±0.9, 39.09N×29.19E, h0km, mb3.9/18, mb1 4.0/28, mb1mx3.9/71, mbtmp3.9/28, ML3.6/10, MS3.5/23, Ms1 3.5/23, ms1mx3.3/58, Error ellipse: s-maj=17.8km s-min=11.3km az=30.0*
*ISK **19** 19:52:41.6, 39.13N×29.15E, h3km, ML4.6/44*
*NEIC **19** 19:52:41.6±0.0, 39.13N×29.15E, h4km, mb4.3/8, ML4.5(ISK), After ISK.*
*CSEM **19** 19:52:42.1±0.1, 39.12N×29.14E, h2km, mb4.2/16, Error ellipse: s-maj=2.0km s-min=1.9km az=143.0*
*MOS **19** 19:52:43.8±1.4, 39.15N×29.15E, h26km, mb4.3/22, Error ellipse: s-maj=5.4km s-min=3.9km az=82.0*

ISC 19 19:52:41.9±0.8, 39°14N±0.02×29°14E±0.01, h1km±5km, n545, σ1°56/578, mb4.1/32, MS3.6/20, 31C-29D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIMA	**Simav-Kutahya**	**0.14**	**247**	PG	**Pg**	**19 52 45.2**	**+0.7**
SIMA				SG	**Sg**	**19 52 47.5**	**+1.2**
SIMA	**Simav-Kutahya**	**0.14**	**247**	*e*Pg	**Pg**	**19 52 45.2**	**+0.7**
SIMA				*e*Sg	**Sg**	**19 52 47.5**	**+1.2**
GDZ	**Gediz**	**0.27**	**100**	*i*P	**Pg**	**19 52 46.8**	**-0.2**
GDZ				*i* S	**Sg**	**19 52 51.0**	**+0.5**
GDZ	**Gediz**	**0.27**	**100**	P	**Pg**	**19 52 46.8**	**-0.2**
GDZ				S	**Sg**	**19 52 51.0**	**+0.5**
DEMI	**Demirci**	**0.34**	**254**	*i*P	**Pg**	**19 52 48.8**	**+0.3**
DEMI				*i* S	**Sg**	**19 52 53.1**	**+0.1**
DEMI	**Demirci**	**0.34**	**254**	P	**Pg**	**19 52 48.8**	**+0.3**
DEMI				S	**Sg**	**19 52 53.1**	**+0.1**
TVSB	**Tavsanli**	**0.40**	**38**	PG	**Pg**	**19 52 49.5**	**-0.1**
TVSB	**Tavsanli**	**0.40**	**38**	Pg	**Pg**	**19 52 49.5**	**-0.1**
TVSB	**Tavsanli**	**0.40**	**38**	*e*Pg	**Pg**	**19 52 49.5**	**-0.1**
DURS	**Dursunbey**	**0.69**	**312**	*i*P	**Pg**	**19 52 55.6**	**+0.4**
DURS	**Dursunbey**	**0.69**	**312**	P	**Pg**	**19 52 55.6**	**+0.4**
KULA	**Kula-Manisa**	**0.73**	**211**	PG	**Pg**	**19 52 55.4**	**-0.4**
KULA	**Kula-Manisa**	**0.73**	**211**	Pg	**Pg**	**19 52 55.4**	**-0.4**
KULA	**Kula-Manisa**	**0.73**	**211**	*e*Pg	**Pg**	**19 52 55.4**	**-0.4**
MANT	**Manisa**	**0.79**	**215**	*i*P	**Pg**	**19 52 56.5**	**-0.5**
MANT	**Manisa**	**0.79**	**215**	P	**Pg**	**19 52 56.5**	**-0.5**
KHAL	**Karahalli**	**0.81**	**160**	*i*P	**Pb**	**19 52 57.5**	**-1.4**
KHAL				*i* S	**Sg**	**19 53 07.9**	**-0.1**
KHAL	**Karahalli**	**0.81**	**160**	P	**Pb**	**19 52 57.5**	**-1.4**
KHAL				S	**Sg**	**19 53 07.9**	**-0.1**
KHL	**Karahalli**	**0.87**	**160**	PG	**Pb**	**19 52 58.5**	**-1.3**
KHL	**Karahalli**	**0.87**	**160**	Pg	**Pb**	**19 52 58.5**	**-1.3**
KHL	**Karahalli**	**0.87**	**160**	*e*Pg	**Pb**	**19 52 58.5**	**-1.3**
ORLT	**Orhaneli**	**0.93**	**348**	PG	**Pn**	**19 53 00.6**	**-1.6**
ORLT	**Orhaneli**	**0.93**	**348**	Pg	**Pn**	**19 53 00.6**	**-1.6**
ORLT	**Orhaneli**	**0.93**	**348**	*e*Pg	**Pn**	**19 53 00.6**	**-1.6**
AUBOZ	**BOZOYUK**	**1.03**	**41**	*i*P	**Pg**	**19 53 00.7**	**-1.1**
AUBOZ				*i* S	**Sn**	**19 53 16.7**	**-2.2**
AUBOZ	**BOZOYUK**	**1.03**	**41**	P	**Pg**	**19 53 00.7**	**-1.1**
AUBOZ				S	**Sn**	**19 53 16.7**	**-2.2**
AUKUT	**KUTAHYA**	**1.06**	**39**	*i*P	**Pg**	**19 52 56.3**	**-6.0**
AUKUT				*i* S	**Sg**	**19 53 06.7**	**-9.4**
AUKUT	**KUTAHYA**	**1.06**	**39**	P	**Pg**	**19 52 56.3**	**-6.0**
AUKUT				S	**Sg**	**19 53 06.7**	**-9.4**
AKHS	**Akhisar**	**1.07**	**256**	*i*P	**Pb**	**19 53 02.2**	**-1.0**
AKHS				*i* S	**Sb**	**19 53 16.8**	**-0.9**
AKHS	**Akhisar**	**1.07**	**256**	P	**Pb**	**19 53 02.2**	**-1.0**
AKHS				S	**Sb**	**19 53 16.8**	**-0.9**
BALB	**Balikesir**	**1.10**	**298**	PN	**Pn**	**19 53 03.6**	**-0.9**
BALB	**Balikesir**	**1.10**	**298**	Pn	**Pn**	**19 53 03.6**	**-0.9**
BALB	**Balikesir**	**1.10**	**298**	*ePn*	**Pn**	**19 53 03.6**	**-0.9**
STEP	**BALIKESIR_Sava**	**1.13**	**283**	*i*P	**Pb**	**19 53 03.4**	**-1.0**
STEP	**BALIKESIR_Sava**	**1.13**	**283**	P	**Pb**	**19 53 03.3**	**-1.0**
KZIL	**AFYON_Kizioren**	**1.18**	**138**	*i*P	**Pn**	**19 53 04.3**	**-1.4**
KZIL				*i* S	**Sn**	**19 53 20.7**	**-1.7**
KZIL	**AFYON_Kizioren**	**1.18**	**138**	P	**Pn**	**19 53 04.3**	**-1.4**
KZIL				S	**Sn**	**19 53 20.7**	**-1.7**
CAVI	**Cavuskoy**	**1.19**	**27**	PN	**Pg**	**19 53 04.9**	**+0.1**
CAVI	**Cavuskoy**	**1.19**	**27**	*ePn*	**Pg**	**19 53 04.9**	**+0.1**
IZI	**Iznik**	**1.23**	**12**	PN	**Pg**	**19 53 06.1**	**+0.7**
IZI	**Iznik**	**1.23**	**12**	*ePn*	**Pg**	**19 53 06.1**	**+0.7**
MDNY	**Mudanya-Bursa**	**1.25**	**351**	PN	**Pg**	**19 53 06.4**	**+0.6**
MDNY	**Mudanya-Bursa**	**1.25**	**351**	*ePn*	**Pg**	**19 53 06.4**	**+0.6**
SHUT	**Suhut-Afyon**	**1.25**	**117**	PN	**Pg**	**19 53 06.3**	**+0.5**
SHUT	**Suhut-Afyon**	**1.25**	**117**	*ePn*	**Pg**	**19 53 06.3**	**+0.5**
BORA	**Eskisehir**	**1.26**	**53**	*i*P	**Pb**	**19 53 05.5**	**-1.0**
BORA				*i* S	**Sn**	**19 53 22.9**	**-1.5**
BORA	**Eskisehir**	**1.26**	**53**	P	**Pb**	**19 53 05.5**	**-1.0**
BORA				S	**Sn**	**19 53 22.9**	**-1.5**
KCTX	**Karacabey (Bur**	**1.28**	**332**	PN	**Pg**	**19 53 06.7**	**+0.3**
KCTX	**Karacabey (Bur**	**1.28**	**332**	*ePn*	**Pg**	**19 53 06.7**	**+0.3**
GEMT	**Gemlik**	**1.30**	**2**	PN	**Pg**	**19 53 07.1**	**+0.3**
GEMT	**Gemlik**	**1.30**	**2**	*ePn*	**Pg**	**19 53 07.1**	**+0.3**
BALY	**Balya**	**1.32**	**298**	*i*P	**Pn**	**19 53 06.0**	**-1.7**
BALY				*i* S	**Sn**	**19 53 24.0**	**-2.0**
BALY	**Balya**	**1.32**	**298**	P	**Pn**	**19 53 05.9**	**-1.7**
BALY				S	**Sn**	**19 53 24.0**	**-2.0**
ADVT	**Abdulvahap**	**1.37**	**19**	PN	**Pg**	**19 53 08.2**	**0.0**
ADVT	**Abdulvahap**	**1.37**	**19**	*ePn*	**Pg**	**19 53 08.2**	**0.0**
ESKT	**Eskisehir**	**1.38**	**73**	PN	**Pg**	**19 53 09.3**	**+1.0**
ESKT	**Eskisehir**	**1.38**	**73**	*i* P	**Pn**	**19 53 06.7**	**-1.8**
ESKT	**Eskisehir**	**1.38**	**73**	*ePn*	**Pg**	**19 53 09.3**	**+1.0**
SEYT	**Eskypehyr**	**1.38**	**73**	P	**Pn**	**19 53 06.7**	**-1.8**
DENT	**Denizli**	**1.38**	**184**	PN	**Pg**	**19 53 09.1**	**+0.7**
DENT	**Denizli**	**1.38**	**184**	*ePn*	**Pg**	**19 53 09.1**	**+0.7**
YLV	**Yalova**	**1.44**	**7**	PN	**Pb**	**19 53 08.9**	**-0.7**
YLV	**Yalova**	**1.44**	**7**	*ePn*	**Pb**	**19 53 08.9**	**-0.7**
ARMT	**Armutlu**	**1.44**	**352**	PN	**Pb**	**19 53 08.7**	**-0.9**
ARMT	**Armutlu**	**1.44**	**352**	*ePn*	**Pb**	**19 53 08.7**	**-0.9**
GONE	**Gonen-Balikesi**	**1.45**	**309**	PN	**Pg**	**19 53 09.9**	**+0.3**
GONE	**Gonen-Balikesi**	**1.45**	**309**	*ePn*	**Pg**	**19 53 09.9**	**+0.3**
GPA	**Golpazari**	**1.46**	**38**	PN	**Pg**	**19 53 09.9**	**0.0**
GPA	**Golpazari**	**1.46**	**38**	*ePn*	**Pg**	**19 53 09.9**	**0.0**
BOLV	**Bolvadin**	**1.47**	**106**	*i* P	**Pb**	**19 53 09.0**	**-1.2**
BOLV				*i* S	**Sg**	**19 53 29.6**	**+0.4**
BOLV	**Bolvadin**	**1.47**	**106**	P	**Pb**	**19 53 09.0**	**-1.2**
BOLV				S	**Sg**	**19 53 29.6**	**+0.4**
AYDB	**Zeytinkoy-Aydi**	**1.54**	**220**	PN	**Pg**	**19 53 10.7**	**-0.7**
AYDB	**Zeytinkoy-Aydi**	**1.54**	**220**	*ePn*	**Pg**	**19 53 10.7**	**-0.7**
EDC	**Edincik**	**1.56**	**321**	PN	**Pb**	**19 53 10.8**	**-0.8**
EDC	**Edincik**	**1.56**	**321**	*ePn*	**Pb**	**19 53 10.8**	**-0.8**
BRDR	**BURDUR-Merkez**	**1.61**	**153**	*i* P	**Pn**	**19 53 10.2**	**-1.5**
BRDR				*i* S	**Sg**	**19 53 33.7**	**+0.1**
BRDR	**BURDUR-Merkez**	**1.61**	**153**	P	**Pn**	**19 53 10.1**	**-1.5**
BRDR				S	**Sg**	**19 53 33.7**	**+0.1**
GEYV	**SAKARYA_Geyve**	**1.61**	**33**	*i* P	**Pn**	**19 53 10.8**	**-0.7**
GEYV	**SAKARYA_Geyve**	**1.61**	**33**	P	**Pn**	**19 53 10.8**	**-0.7**
GULT	**Gulveren**	**1.67**	**39**	PN	**Pb**	**19 53 12.6**	**-1.0**
GULT	**Gulveren**	**1.67**	**39**	*ePn*	**Pb**	**19 53 12.6**	**-1.0**
TAVA	**DENIZLI_Tavas**	**1.68**	**186**	*i* P	**Pn**	**19 53 11.0**	**-1.5**
TAVA				*i* S	**Sg**	**19 53 36.7**	**+0.9**
TAVA	**DENIZLI_Tavas**	**1.68**	**186**	P	**Pn**	**19 53 11.0**	**-1.5**
TAVA				S	**Sg**	**19 53 36.7**	**+0.9**
ISP	**Isparta**	**1.70**	**140**	PN	**Pb**	**19 53 12.7**	**-1.4**
ISP	**Isparta**	**1.70**	**140**	*i*P	**Pn**	**19 53 11.7**	**-1.1**
ISP	**Isparta**	**1.70**	**140**	S	**Sg**	**19 53 39.8**	**+3.2**
ISP	**Isparta**	**1.70**	**140**	P	**Pn**	**19 53 11.8**	**-1.1**
ISP	**Isparta**	**1.70**	**140**	P	**Pn**	**19 53 11.8**	**-1.1**
ISP	**Isparta**	**1.70**	**140**	P	**Pn**	**19 53 11.8**	**-1.1**
ISP	**Isparta**	**1.70**	**140**	*ePn*	**Pb**	**19 53 12.7**	**-1.4**
ISP	**Isparta**	**1.70**	**140**	*i* P	**Pn**	**19 53 11.2**	**-1.7**
BUY	**Buyukada**	**1.71**	**359**	PN	**Pb**	**19 53 13.3**	**-0.9**
BUY	**Buyukada**	**1.71**	**359**	*i*P	**Pn**	**19 53 12.4**	**-0.5**
BUY	**Buyukada**	**1.71**	**359**	P	**Pn**	**19 53 12.4**	**-0.5**
BUY	**Buyukada**	**1.71**	**359**	*ePn*	**Pb**	**19 53 13.3**	**-0.9**
BAGO	**Egridir - ISPA**	**1.73**	**131**	*i* P	**Pn**	**19 53 12.4**	**-0.8**
HRT	**Hereke**	**1.73**	**13**	PN	**Pb**	**19 53 13.5**	**-1.1**
HRT	**Hereke**	**1.73**	**13**	*ePn*	**Pb**	**19 53 13.5**	**-1.1**
DKL	**Dikili**	**1.74**	**269**	PN	**Pb**	**19 53 13.4**	**-1.3**
DKL	**Dikili**	**1.74**	**269**	*ePn*	**Pb**	**19 53 13.4**	**-1.3**
AYDN	**Tasoluk**	**1.78**	**214**	*i*P	**Pn**	**19 53 12.3**	**-1.6**
AYDN	**Tasoluk**	**1.78**	**214**	P	**Pn**	**19 53 12.3**	**-1.6**
SPNC	**Sapanca-Adapaz**	**1.79**	**30**	PN	**Pb**	**19 53 14.9**	**-0.6**
SPNC	**Sapanca-Adapaz**	**1.79**	**30**	*ePn*	**Pb**	**19 53 14.9**	**-0.6**
BLCB	**Balcova**	**1.81**	**246**	PN	**Pb**	**19 53 14.2**	**-1.6**
BLCB	**Balcova**	**1.81**	**246**	*ePn*	**Pb**	**19 53 14.2**	**-1.6**
SAUV	**Serdivan-Sakar**	**1.84**	**29**	PN	**Pb**	**19 53 14.7**	**-1.7**
SAUV	**Serdivan-Sakar**	**1.84**	**29**	*ePn*	**Pb**	**19 53 14.7**	**-1.7**
SVRH	**Sivrihisar-ESK**	**1.87**	**80**	PN	**Pb**	**19 53 15.8**	**-1.2**
SVRH	**Sivrihisar-ESK**	**1.87**	**80**	*ePn*	**Pb**	**19 53 15.8**	**-1.2**
AUSIV	**SIVRIHISAR**	**1.89**	**80**	*i* P	**Pn**	**19 53 14.8**	**-0.6**
AUSIV	**SIVRIHISAR**	**1.89**	**80**	P	**Pn**	**19 53 14.8**	**-0.6**
KRBG	**Karabiga-Canak**	**1.90**	**312**	PN	**Pb**	**19 53 16.2**	**-1.1**
KRBG	**Karabiga-Canak**	**1.90**	**312**	*ePn*	**Pb**	**19 53 16.2**	**-1.1**
AYVA	**Ayvalik**	**1.91**	**276**	*i*P	**Pn**	**19 53 14.8**	**-0.8**
AYVA	**Ayvalik**	**1.91**	**276**	P	**Pn**	**19 53 14.8**	**-0.8**
GOLH	**Golhisar**	**1.93**	**170**	*i*P	**Pn**	**19 53 13.9**	**-2.0**
GOLH				*i* S	**Sg**	**19 53 46.2**	**+2.4**
GOLH	**Golhisar**	**1.93**	**170**	P	**Pn**	**19 53 13.9**	**-2.0**
GOLH				S	**Sg**	**19 53 46.2**	**+2.4**
ISK	**Istanbul-Kandi**	**1.93**	**358**	PN	**Pb**	**19 53 16.4**	**-1.5**
ISK	**Istanbul-Kandi**	**1.93**	**358**	*ePn*	**Pb**	**19 53 16.4**	**-1.5**
AUMIH	**MIHALICIK**	**1.95**	**67**	*i* P	**Pg**	**19 53 19.1**	**-0.2**
AUMIH				*i* S	**Sg**	**19 53 46.0**	**+1.3**
AUMIH	**MIHALICIK**	**1.95**	**67**	P	**Pg**	**19 53 19.1**	**-0.2**
AUMIH				S	**Sg**	**19 53 46.0**	**+1.3**
SBT3	**Marmara-Eregli**	**1.96**	**333**	PN	**Pb**	**19 53 16.9**	**-1.4**
SBT3	**Marmara-Eregli**	**1.96**	**333**	*ePn*	**Pb**	**19 53 16.9**	**-1.4**
BCK	**Bucak**	**2.02**	**145**	PN	**Pb**	**19 53 17.3**	**-2.3**
BCK	**Bucak**	**2.02**	**145**	*ePn*	**Pb**	**19 53 17.3**	**-2.3**
BTAS	**Taskesti**	**2.02**	**44**	*i*P	**Pn**	**19 53 16.7**	**-0.6**
BTAS				*i* S	**Sg**	**19 53 46.9**	**0.0**
BTAS	**Taskesti**	**2.02

BODT Bodrum 2.52 215 P Pn 19 53 22.0 -2.1
BODT Bodrum 2.52 215 P Pn 19 53 22.0 -2.1
BODT Bodrum 2.52 215 *e*Pn Pb 19 53 25.0 -3.1
CHOS Chios island 2.53 254 PN Pn 19 53 24.9 +0.7
CHOS Chios island 2.53 254 P Pn 19 53 23.6 -0.6
CHOS Chios island 2.53 254 P Pn 19 53 23.6 -0.6
CHOS Chios island 2.53 254 P Pn 19 53 23.6 -0.6
CHOS Chios island 2.53 254 *e*Pn Pn 19 53 24.9 +0.7
ANTB Antalya 2.53 151 PN Pb 19 53 24.9 -3.3
ANTB Antalya 2.53 151 *e*Pn Pb 19 53 24.9 -3.3
KESN Edirne-Kesan 2.53 313 *i* P Pn 19 53 24.1 -0.4
KESN Edirne-Kesan 2.53 313 P Pn 19 53 24.1 -0.4
ERIK Erikli-Kesan 2.54 308 PN Pb 19 53 25.5 -2.7
ERIK Erikli-Kesan 2.54 308 *e*Pn Pb 19 53 25.5 -2.7
SIGR SIGRI 2.56 273 PN Pn 19 53 25.3 +0.8
SIGR SIGRI 2.56 273 P Pn 19 53 23.9 -0.6
SIGR SIGRI 2.56 273 P Pn 19 53 23.9 -0.6
SIGR SIGRI 2.56 273 P Pn 19 53 23.9 -0.6
SIGR SIGRI 2.56 273 *e*Pn Pn 19 53 25.3 +0.8
LADK Ladik-KONYA 2.69 109 PN Pn 19 53 26.9 +0.4
LADK Ladik-KONYA 2.69 109 *e*Pn Pn 19 53 26.9 +0.4
GADA Gvkgeada 2.71 294 PN Pn 19 53 27.5 +0.8
GADA Gvkgeada 2.71 294 P Pn 19 53 27.2 +0.5
GADA Gvkgeada 2.71 294 P Pn 19 53 27.2 +0.5
GADA Gvkgeada 2.71 294 P Pn 19 53 27.2 +0.5
GADA Gvkgeada 2.71 294 *e*Pn Pn 19 53 27.5 +0.8
PHSR Pinarhisar 2.78 334 PN Pn 19 53 27.9 +0.3
PHSR Pinarhisar 2.78 334 *e*Pn Pn 19 53 27.9 +0.3
ENEZ Enez 2.80 306 PN Pb 19 53 29.2 -3.5
ENEZ Enez 2.80 306 *e*Pn Pb 19 53 29.2 -3.5
BCAM Yenicaga 2.80 52 *i* P Pb 19 53 30.0 -2.9
BCAM Yenicaga 2.80 52 P Pb 19 53 30.0 -2.9
LOD Lodumlu 2.90 74 PN Pn 19 53 30.5 +1.2
LOD Lodumlu 2.90 74 *e*Pn Pn 19 53 30.5 +1.2
CMDR Camlidere-ANKA 2.90 61 *i* P Pn 19 53 30.5 +1.1
CMDR Camlidere-ANKA 2.90 61 P Pn 19 53 30.5 +1.1
ANTO Ankara 2.92 74 PN Pn 19 53 30.5 +0.9
ANTO Ankara 2.92 74 ||*i*P Pb 19 53 31.5 -3.3
ANTO Ankara 2.92 74 *e*Pn Pn 19 53 30.7 +1.1
ANTO Ankara 2.92 74 *e*Pn Pn 19 53 30.5 +0.9
ANTO Ankara 2.92 74 *e*P Pn 19 53 30.7 +1.1
AKAS Kas 2.92 173 *i* P Pn 19 53 28.1 -1.6
AKAS Kas 2.92 173 P Pn 19 53 28.1 -1.6
KKUL Konya-Kulu 2.94 88 *i* P Pb 19 53 34.0 -1.1
KKUL Konya-Kulu 2.94 88 P Pb 19 53 34.0 -1.1
ALN Alexandroupoli 2.96 307 PN Pn 19 53 31.3 +1.3
ALN Alexandroupoli 2.96 307 P Pn 19 53 30.0 0.0
ALN Alexandroupoli 2.96 307 P Pn 19 53 30.0 0.0
ALN Alexandroupoli 2.96 307 P Pn 19 53 30.0 0.0
ALN Alexandroupoli 2.96 307 *e*Pn Pn 19 53 31.3 +1.3
ALN Alexandroupoli 2.96 307 P Pn 19 53 30.0 0.0
KEPZ Antalya-Kepez 2.96 138 ||*i*P Pn 19 53 30.2 +0.1
KEPZ Antalya-Kepez 2.96 138 P Pn 19 53 30.2 +0.1
ARG Arkhangelos 3.02 196 P Pn 19 53 32.1 +1.1
ARG Arkhangelos 3.02 196 P Pn 19 53 32.1 +1.1
ARG Arkhangelos 3.02 196 P Pn 19 53 32.1 +1.1
ARG Arkhangelos 3.02 196 P Pn 19 53 32.1 +1.1
AFSR Afˇar-Bala (A 3.06 83 PN Pn 19 53 32.9 +1.3
AFSR Afˇar-Bala (A 3.06 83 *e*Pn Pn 19 53 32.9 +1.3
SMTH Samothraki Isl 3.08 297 P Pn 19 53 32.0 +0.2
SMTH Samothraki Isl 3.08 297 P Pn 19 53 32.0 +0.2
SMTH Samothraki Isl 3.08 297 P Pn 19 53 32.0 +0.2
BBAL Bala 3.11 81 *i* P Pn 19 53 33.4 +1.1
BBAL Bala 3.11 81 P Pn 19 53 33.4 +1.1
LIA Limnos Island 3.15 285 P Pn 19 53 33.5 +0.8
LIA Limnos Island 3.15 285 P Pn 19 53 33.5 +0.8
LIA Limnos Island 3.15 285 P Pn 19 53 33.5 +0.8
RDO Rodhopi 3.41 307 P Pn 19 53 36.7 +0.4
RDO Rodhopi 3.41 307 P Pn 19 53 36.7 +0.4
RDO Rodhopi 3.41 307 P Pn 19 53 36.7 +0.4
BTIN Bartˇ–n 3.44 43 *i* P Pn 19 53 36.5 -0.2
BTIN Bartˇ–n 3.44 43 P Pn 19 53 36.5 -0.2
APE Apeiranthos 3.52 235 ||*i*P Pg 19 53 50.1 +0.8
APE Apeiranthos 3.52 235 S Sg 19 54 35.4 +0.5
APE Apeiranthos 3.52 235 P Pn 19 53 36.6 -1.2
APE Apeiranthos 3.52 235 P Pn 19 53 36.6 -1.2
APE Apeiranthos 3.52 235 P Pn 19 53 36.6 -1.2
APE Apeiranthos 3.52 235 *i* P Pn 19 53 36.6 -1.2
BRTR Keskin Array B 3.53 79 Pn Pn 19 53 38.7 +0.6
2.9nm,0.3s,baz=254,slow=14,SNR=56
BRTR Sn Sn 19 54 19.8 -0.8
12nm,0.3s,baz=256,slow=26,SNR=3.0
BRTR Lg Lg 19 54 35.6
2.3nm,0.3s,baz=256,slow=30,SNR=2.3
AKSY AKSARAY - Alti 3.64 96 *i* P Pg 19 53 51.4 -0.2
AKSY AKSARAY - Alti 3.64 96 P Pg 19 53 51.4 -0.2
ERMK Ermenek 3.89 129 *i* P Pn 19 53 35.3 -7.7
ERMK Ermenek 3.89 129 P Pn 19 53 35.3 -7.7
KARP Karpathos 3.92 204 P Pn 19 53 42.5 -0.7
KARP Karpathos 3.92 204 P Pn 19 53 42.5 -0.7
KARP Karpathos 3.92 204 P Pn 19 53 42.5 -0.7
KAVA Kavala 4.01 299 P Pn 19 53 44.2 -0.3
KAVA Kavala 4.01 299 P Pn 19 53 44.2 -0.3
KAVA Kavala 4.01 299 P Pn 19 53 44.2 -0.3
CDAG Cicekdag 4.08 82 *i* P Pn 19 53 47.9 +2.3
CDAG Cicekdag 4.08 82 P Pn 19 53 47.9 +2.3
PAIG Paliouri 4.30 282 P Pn 19 53 48.5 +0.1
PAIG Paliouri 4.30 282 P Pn 19 53 48.5 +0.1
PAIG Paliouri 4.30 282 P Pn 19 53 48.5 +0.1
PAIG Paliouri 4.30 282 P Pn 19 53 48.5 +0.1
PLG Polygyros 4.56 288 P Pn 19 53 52.1 0.0
PLG Polygyros 4.56 288 P Pn 19 53 52.1 0.0
PLG Polygyros 4.56 288 P Pn 19 53 52.1 0.0
PLG Polygyros 4.56 288 P Pn 19 53 52.1 0.0
NVR Nevrokopi 4.61 300 P Pn 19 53 53.4 +0.7
NVR Nevrokopi 4.61 300 P Pn 19 53 53.4 +0.7
NVR Nevrokopi 4.61 300 P Pn 19 53 53.4 +0.7
ZKR Zakros 4.64 211 P Pn 19 53 53.9 +0.7
ZKR Zakros 4.64 211 P Pn 19 53 53.9 +0.7
ZKR Zakros 4.64 211 P Pn 19 53 53.9 +0.7
VILL Villia 4.67 260 P Pn 19 53 53.3 -0.3
SRS Serrai 4.69 297 P Pn 19 53 52.8 -1.1
SRS Serrai 4.69 297 P Pn 19 53 52.8 -1.1
SRS Serrai 4.69 297 P Pn 19 53 52.8 -1.1
SRS Serrai 4.69 297 P Pn 19 53 52.8 -1.1
MANR Mangalia 4.69 355 ||*i*P Pn 19 53 54.3 +0.4
NPS Neapolis 4.78 217 P Pn 19 53 55.2 0.0
NPS Neapolis 4.78 217 P Pn 19 53 55.2 0.0
NPS Neapolis 4.78 217 P Pn 19 53 55.2 0.0
NPS Neapolis 4.78 217 P Pn 19 53 55.2 0.0
ALFC Alefka 4.84 144 P Pn 19 53 54.2 -1.7
LAST Lasithi 4.93 218 P Pn 19 53 58.2 +1.0
LAST Lasithi 4.93 218 P Pn 19 53 58.2 +1.0
LAST Lasithi 4.93 218 P Pn 19 53 58.2 +1.0
IDI Anoyia 5.12 223 Pn Pn 19 53 59.5 -0.4
1.3nm,0.3s,baz=58,slow=17,SNR=8.0
IDI Lg Lg 19 55 25.3
1.3nm,0.3s,baz=39,slow=6.1,SNR=2.4
IDI LR LR 19 55 53.2
comp=Z,500nm,20.3s,baz=64,slow=37
IDI Anoyia 5.12 223 ⇑*i*P Pn 19 53 59.9 0.0
MAMC Mammari 5.12 139 P Pn 19 54 01.4 +1.6
KNT Kendrikon 5.19 295 P Pn 19 54 01.7 +0.9
KNT Kendrikon 5.19 295 P Pn 19 54 01.7 +0.9
KNT Kendrikon 5.19 295 P Pn 19 54 01.7 +0.9
KNT Kendrikon 5.19 295 P Pn 19 54 01.7 +0.9
TIRR Tirgusor 5.34 354 ⇑*i*P Pn 19 54 02.9 +0.1
TIRR Tirgusor 5.34 354 S Sn 19 55 00.7 -4.3
TIRR Tirgusor 5.34 354 *e*Pn Pn 19 54 02.6 -0.2
89nm,0.3s
TIRR Tirgusor 5.34 354 *e*Pn Pn 19 54 02.6 -0.2
89nm,0.3s
TIRR Tirgusor 5.34 354 *e*P Pn 19 54 02.6 -0.2
TIRR pmax pmax
comp=Z,89nm,0.3s
CSS Mathiatis 5.35 140 *e*Pn Pn 19 54 02.2 -0.7
comp=Z,9.5nm,0.8s
CSS Mathiatis 5.35 140 P Pn 19 54 00.8 -2.1
CSS Mathiatis 5.35 140 *e*Pn Pn 19 54 02.2 -0.7
comp=Z,9.5nm,0.8s
VAY Valandovo 5.48 296 *e*Pn Pn 19 54 06.4 +1.7
VAY *i* Sg Sg 19 55 37.5 -0.5
SGRR Singureni 5.61 336 ⇑*i*P Pn 19 54 07.2 +0.8
VLX Vlachokerasia 5.61 254 P Pn 19 54 07.2 +0.7
VLX Vlachokerasia 5.61 254 P Pn 19 54 07.2 +0.7
VLX Vlachokerasia 5.61 254 P Pn 19 54 07.2 +0.7
HARR Harsova 5.62 351 ||*i*P Pn 19 54 06.5 -0.1
AMRR Amara 5.63 347 ||*i*P Pn 19 54 07.5 +0.7
VTS Vitosha 5.67 309 ⇑*i*P Pn 19 54 08.8 +1.4
VTS Vitosha 5.67 309 P Pn 19 54 08.9 +1.5
VTS Vitosha 5.67 309 P Pn 19 54 08.9 +1.5
VTS Vitosha 5.67 309 P Pn 19 54 08.9 +1.5
VTS Vitosha 5.67 309 P Pn 19 54 08.9 +1.5
LAKA Lakka 5.67 263 P Pn 19 54 07.7 +0.3
LAKA Lakka 5.67 263 P Pn 19 54 07.7 +0.3
LAKA Lakka 5.67 263 P Pn 19 54 07.7 +0.3
PGOR Pogoanele 5.99 345 ||*i*P Pn 19 54 12.9 +1.3
TLCR 6.05 358 ||*i*P Pn 19 54 13.1 +0.6
CFR Carcaliu 6.08 353 ||*i*P Pn 19 54 12.5 -0.4
FNA Florina 6.19 288 P Pn 19 54 15.2 +0.7
FNA Florina 6.19 288 P Pn 19 54 15.2 +0.7
FNA Florina 6.19 288 P Pn 19 54 15.2 +0.7
FNA Florina 6.19 288 P Pn 19 54 15.2 +0.7
ISR Istrita 6.28 343 ||*i*P Pn 19 54 17.1 +1.3
SECR 6.32 340 ||*i*P Pn 19 54 17.6 +1.3
SEV Sevastopol' 6.37 31 *e*P Pn 19 54 14.3 -2.6
SEV *e*S Sn 19 55 22.4 -7.9
SEV Sevastopol' 6.37 31 *e*P Pn 19 54 14.3 -2.6
SEV *e*S Sn 19 55 22.4 -7.9
KRUS Krusevo 6.44 293 *e*Pn Pn 19 54 19.1 +1.2
GRER 6.44 346 ||*i*P Pn 19 54 19.0 +1.1
YAL Yalta 6.53 33 *e*P Pn 19 54 19.3 +0.3
YAL *e*S Sn 19 55 30.0 -4.1
YAL Yalta 6.53 33 *e*P Pn 19 54 19.3 +0.3
YAL *e*S Sn 19 55 30.0 -4.1
MLR Muntele Rosu 6.78 341 Pn Pn 19 54 23.7 +1.1
comp=Z,0.7nm,0.3s,baz=59,slow=3.0,SNR=70
MLR Lg Lg 19 56 19.1
comp=Z,0.4nm,0.3s,baz=346,slow=18,SNR=1.5
MLR LR LR 19 57 40.7
comp=Z,146nm,18.8s,baz=156,slow=44
ALU Alushta 6.79 34 *e*P Pn 19 54 22.1 -0.5
ALU *e*S Sn 19 55 36.1 -4.5
ALU Alushta 6.79 34 *e*P Pn 19 54 22.1 -0.5
ALU *e*S Sn 19 55 36.1 -4.5
MTUR Matau 6.80 335 ||*i*P Pn 19 54 23.7 +0.8
ODBI Odobesti 6.80 348 ||*i*P Pn 19 54 24.0 +1.2
SIM Simferopol' 6.89 31 *e*P Pn 19 54 24.6 +0.6
comp=Z,54nm,0.8s
SIM *e*S Sn 19 55 39.1 -3.9
comp=Z,400nm,11.0s
SIM Simferopol' 6.89 31 *e*P Pn 19 54 24.6 +0.6
SIM *e*S Sn 19 55 39.1 -3.9
SIM pmax pmax
comp=Z,54nm,0.8s
SIM MLR MLR
comp=Z,400nm,11.0s
VRI Vrincioaia 6.96 346 ⇑*i*P Pn 19 54 25.7 +0.7
ARR Arges 7.07 333 ||*i*P Pn 19 54 27.4 +0.9
SUDU Sudak 7.21 35 *e*P Pn 19 54 28.7 +0.2
SUDU *e*S Sn 19 55 47.9 -3.2
SUDU Sudak 7.21 35 *e*P Pn 19 54 28.7 +0.2
SUDU *e*S Sn 19 55 47.9 -3.2
DOPR Dopca 7.37 339 ||*i*P Pn 19 54 31.7 +1.1
LOT Lotru 7.46 329 ||*i*P Pn 19 54 30.7 -1.2
TESR Tescani 7.59 347 ⇑*i*P Pn 19 54 33.1 -0.6
MILM Milestii Mici 7.78 358 ⇑*i*P Pn 19 54 36.3 0.0
MDB Medias 7.83 335 ⇑*i*P Pn 19 54 38.6 +1.7
KIS Kishinev 7.86 358 *e*P Pn 19 54 36.0 -1.4
KIS *e*S Sn 19 56 06.0 -1.0
KIS LRM MLR 19 58 08.0
comp=Z,700nm,10.0s
KIS Kishinev 7.86 358 *e*P Pn 19 54 36.0 -1.4
KIS *e*S Sn 19 56 06.0 -1.0
comp=Z,800nm,10.0s
KIS Kishinev 7.86 358 *e*P Pn 19 54 36.0 -1.4
KIS *e*S Sn 19 56 06.0 -1.0
KIS MLR MLR
comp=N,700nm,10.0s
KIS MLR MLR
comp=Z,700nm,10.0s
KIS MLR MLR
comp=Z,800nm,10.0s
MMAI Mount Meron Ar 7.94 138 Pn Pn 19 54 37.7 -0.8
comp=Z,5.3nm,0.3s,baz=321,slow=13,SNR=19
MMAI Sn Sn 19 56 07.0 -2.0
comp=Z,1.9nm,0.3s,baz=309,slow=25,SNR=1.2
ANN Anapa 8.37 45 *e*P Pn 19 54 46.2 +1.8
comp=Z,90nm,1.3s
ANN *e*S Sn 19 56 19.5 -0.1
ANN Anapa 8.37 45 *e*P Pn 19 54 46.2 +1.8
ANN *e*S Sn 19 56 19.5 -0.1
ANN pmax pmax
comp=Z,90nm,1.3s
PRAR RASCA 8.49 346 ||*i*P Pn 19 54 49.2 +3.2
BZS Buzias 8.54 322 ⇑*i*P Pn 19 54 45.9 -0.8
CJR Cluj-Napoca 8.59 334 ||*i*P Pn 19 54 48.6 +1.1
DRGR 8.98 330 ||*i*P Pn 19 54 53.0 +0.2
DRGR 8.98 330 S Sn 19 56 32.3 -2.4
SORM Soroca 9.01 357 ⇑*i*P Pn 19 54 52.8 -0.3
SOC Sochi 9.11 57 *e*P Pn 19 55 03.5 +9.0
comp=Z,623nm,14.0s
SOC Sochi 9.11 57 *e*P Pn 19 55 03.5 +9.0
SOC pmax pmax
comp=Z,44nm,1.0s
SOC MLR MLR
comp=Z,623nm,14.0s
ASF Jabal al Asfar 9.38 135 Pn Pn 19 54 58.0 -0.4
comp=Z,0.2nm,0.3s,baz=257,slow=17,SNR=1.6
BMR Baia Mare 9.47 336 ||*i*P Pn 19 55 00.8 +1.4
TRPA Tarpa 10.18 334 ⇑*i*P Pn 19 55 09.3 +0.2
HORU Horodok 10.26 350 P Pn 19 55 07.9 -2.4
HORU Horodok 10.26 350 P Pn 19 55 07.9 -2.4
MORH M¨‡r¨igy, Hung 10.47 316 ⇑*e*Pn Pn 19 55 13.3 +0.2
EIL Elat 10.59 151 Pn Pn 19 55 13.8 -1.1
comp=Z,1.1nm,0.3s,baz=245,slow=3.8,SNR=6.8
EIL Sn Sn 19 57 10.5 -3.6
comp=Z,0.5nm,0.3s,baz=73,slow=17,SNR=1.6
UZH Uzhgorod 10.70 335 *e*P Pn 19 55 20.2 +4.0
UZH *e*S Sn 19 57 23.4 +6.9
UZH Uzhgorod 10.70 335 *e*P Pn 19 55 20.2 +4.0
UZH *e*S Sn 19 57 23.4 +6.9
UZH MLR MLR
comp=E,2µm,13.0s
UZH MLR MLR
comp=Z,1µm,13.0s
NEY Neytrino 11.03 64 *i* P Pn 19 55 22.5 +1.6
NEY Neytrino 11.03 64 *i* P Pn 19 55 22.5 +1.6
CRVS Cervenica-Dubn 11.21 333 *e*P Pn 19 55 33.1 +10
CRVS Cervenica-Dubn 11.21 333 *e*PN Pn 19 55 33.0 +10
CRVS Cervenica-Dubn 11.21 333 *e*P Pn 19 55 33.1 +10
KIV Kislovodsk 11.23 60 *e*P Pn 19 55 25.5 +1.8
comp=Z,111nm,10.0s
KIV Kislovodsk 11.23 60 *e*P Pn 19 55 25.5 +1.8
KIV pmax pmax
comp=Z,11nm,1.1s
KIV MLR MLR
comp=Z,111nm,10.0s
KBZ Khabaz 11.30 62 Pn Pn 19 55 27.6 +3.1
comp=Z,0.1nm,0.3s,baz=132,slow=21,SNR=3.0
KWP Kalwaria Pacla 11.45 338 *e*P Pn 19 55 27.9 +1.4
KWP Kalwaria Pacla 11.45 338 *e*P Pn 19 55 27.9 +1.4
KWP Kalwaria Pacla 11.45 338 *e*P Pn 19 55 27.9 +1.4
KIEV Kiev 11.56 0 *e*Pn Pn 19 55 27.0 -1.0
comp=Z,3.8nm,0.6s
KIEV Kiev 11.56 0 *e*Pn Pn 19 55 27.0 -1.0
comp=Z,3.8nm,0.6s
KIEV Kiev 11.56 0 *i* P Pn 19 55 27.5 -0.5
KIEV Kiev 11.56 0 *i* P Pn 19 55 27.5 -0.5
AKASG Malin Array Be 11.56 0 Pn Pn 19 55 27.0 -1.1
comp=Z,1.2nm,0.3s,baz=168,slow=11,SNR=5.0
AKASG Malin Array Be 11.56 0 Pn Pn 19 55 27.0 -1.1
AKASG Malin Array Be 11.56 0 P Pn 19 55 27.0 -1.1
AKASG pmax pmax
comp=Z,1.0nm,0.3s
STHS Stebnicka Huta 11.72 334 *e*P Pn 19 55 32.8 +2.5
STHS Stebnicka Huta 11.72 334 *e*PN Pn 19 55 32.8 +2.5
STHS Stebnicka Huta 11.72 334 *e*P Pn 19 55 32.8 +2.5
ZEI Tsey 11.74 67 *e*P Pn 19 55 33.3 +2.6
comp=Z,4.0nm,0.7s
ZEI Tsey 11.74 67 *e*P Pn 19 55 33.3 +2.6
ZEI pmax pmax
comp=Z,4.0nm,0.7s
VYHS Vyhne 11.94 325 *e*P Pn 19 55 34.0 +0.7
VYHS Vyhne 11.94 325 *e*PN Pn 19 55 34.0 +0.7
VYHS Vyhne 11.94 325 *e*P Pn 19 55 34.0 +0.7
NIE Niedzica 12.06 331 *e*P Pn 19 55 36.8 +1.8
NIE Niedzica 12.06 331 *e*P Pn 19 55 36.8 +1.8
GNI Garni 12.07 80 *i* P Pn 19 55 36.5 +1.3
comp=Z,13nm,1.0s
GNI Garni 12.07 80 *i* P Pn 19 55 36.5 +1.3
GNI pmax pmax
comp=Z,13nm,1.0s
CONA Conrad Observa 13.02 317 *i* P P 19 55 52.8 -6.0
comp=Z,7.8nm,1.2s
OKC Ostrava-Krasne 13.25 327 AMS AMS 20 02 00.0
comp=Z,800nm,10.4s
VRAC Vranov 13.56 323 LR LR 20 01 33.7
comp=Z,101nm,20.5s,baz=130,slow=39
MYKA Terra Mystica 13.60 308 *i* P **P** **19 56 01.4 -3.8**
comp=Z,8.0nm,0.9s
VSR Storozhevoye 13.98 27 *e*P **Pn** **19 55 59.9 -1.1**
comp=Z,10.0nm,1.0s
VSR Storozhevoye 13.98 27 *e*P **Pn** **19 55 59.9 -1.1**
VSR pmax pmax
comp=Z,10.0nm,1.0s
TREC Trest 14.08 321 AMS AMS 20 03 00.0
comp=Z,300nm,10.6s
MAK Makhachkala 14.37 69 *e*P **Pn** **19 56 06.9 +0.4**
comp=Z,172nm,1.2s
MAK *e*S **Sn** **19 58 49.9 +3.4**
comp=Z,182nm,14.0s
MAK Makhachkala 14.37 69 *e*P **Pn** **19 56 06.9 +0.4**
MAK *e*S **Sn** **19 58 49.9 +3.4**
MAK pmax pmax
comp=Z,172nm,1.2s
MAK MLR MLR
comp=Z,182nm,14.0s
DPC Dobruska-Polom 14.42 325 AMS AMS 20 03 00.0
comp=Z,400nm,9.5s
UPC Upice 14.67 325 AMS AMS 20 03 10.0
comp=Z,700nm,7.7s
GERES GERESS Array B 14.73 316 Pn **Pn** **19 56 12.2 +0.8**
comp=Z,0.1nm,0.3s,baz=213,slow=36,SNR=6.1
GERES LR LR 20 02 18.5
comp=Z,143nm,20.3s,baz=122,slow=39
GOPC GO Pecny, Ondr 14.83 321 AMS AMS 20 03 00.0
comp=Z,400nm,11.2s
VRH Novokhopyorsk 14.95 32 *e*P **P** **19 56 16.3 -3.7**
comp=Z,20nm,1.5s
VRH Novokhopyorsk 14.95 32 *e*P **P** **19 56 16.3 -3.7**
VRH pmax pmax
comp=Z,20nm,1.5s
KHC Kasperske Hory 14.96 317 *e*P **P** **19 56 18.2 -2.1**
KHC *ex* x 19 56 23.0
KHC AMS AMS 20 03 50.0
comp=Z,400nm,10.3s
KHC Kasperske Hory 14.96 317 *e*P **P** **19 56 18.2 -2.1**
comp=Z,400nm,10.3s
KHC Kasperske Hory 14.96 317 *e*P **P** **19 56 18.2 -2.1**
KHC MLR MLR
comp=Z,400nm,10.3s
PRU Pruhonice 15.00 321 AMS AMS 20 03 10.0
comp=Z,300nm,11.6s
LPSR Galich'ya Gora 15.07 23 *e*P **Pn** **19 56 16.5 +0.6**
LPSR pmax pmax
comp=Z,10.0nm,0.9s
PVCC Panska Ves 15.35 323 AMS AMS 20 03 30.0
comp=Z,400nm,7.7s
MOTA Moosalm 15.47 308 *i* pP **P** **19 56 27.5 +1.4**
comp=Z,6.7nm,1.1s
FETA Feichten 15.57 306 P **P** **19 56 29.8 +2.7**
comp=Z,16nm,1.1s
BRG Berggiesshubel 15.88 323 *e*P **P** **19 56 34.8 +4.4**
comp=Z,3.6nm,1.1s
BRG Berggiesshubel 15.88 323 *e*P **P** **19 56 34.8 +4.4**
BRG pmax pmax
comp=Z,4.0nm,1.1s
KEST Kesra 16.09 264 Pn **P** **19 56 30.3 -2.6**
comp=Z,0.1nm,0.3s,baz=296,slow=18,SNR=2.3
NKC Novy Kostel 16.21 319 AMS AMS 20 04 00.0
comp=Z,400nm,7.1s
CLL Collm 16.61 322 *e*SS **S** **19 59 57.0 +4.3**
CLL LmH 20 02 00.0
comp=N,200nm,20.8s
CLL LmH 20 02 00.0
comp=E,300nm,19.0s
OBN Obninsk 16.75 15 *i* P **P** **19 56 39.6 -0.3**
comp=E,132nm,15.0s
OBN Obninsk 16.75 15 *i* P **P** **19 56 39.6 -0.3**
OBN pmax pmax
comp=Z,6.0nm,0.9s
OBN MLR MLR
comp=Z,132nm,15.0s
MOS Moscow 17.55 16 *e*P **P** **19 56 49.4 +0.6**
comp=Z,32nm,0.7s
MOS Moscow 17.55 16 *e*P **P** **19 56 49.4 +0.6**
MOS *e* 20 00 01.7
MOS pmax pmax
comp=Z,32nm,0.7s
VSU Vasula 19.40 356 *c*eP **Pn** **19 57 11.0 +0.7**
VSU pmax pmax
comp=Z,53nm,1.7s
RAYN Ar Rayn 20.87 133 *e*Pn Pn 19 57 25.6 -2.4
comp=Z,26nm,1.7s
RAYN Ar Rayn 20.87 133 *e*Pn Pn 19 57 25.5 -2.4
comp=Z,26nm,1.7s
FINES FINESS Array B 22.41 356 P **P** **19 57 41.2 -0.5**
comp=Z,3.7nm,0.8s,baz=152,slow=13,SNR=8.9
FINES LR LR 20 07 02.4
comp=Z,211nm,19.4s,baz=178,slow=38
GEYT Alibeck 22.66 84 P **P** **19 57 45.7 +1.0**
comp=Z,5.9nm,0.7s,baz=279,slow=12,SNR=5.2
KLMR Klimovskoe 22.68 13 *e*P **P** **19 57 43.1 -1.6**
KLMR AMP 19 57 50.2
comp=Z,11nm,1.1s
KLMR *e*S **S** **20 01 53.0 -0.6**
KLMR *e*S **S** **20 01 53.0 -0.6**
KLMR LQ LQ 20 04 58.2
KLMR LQ LQ 20 04 58.2
KLMR Klimovskoe 22.68 13 *e*P **P** **19 57 43.0 -1.6**
KLMR *e*S **S** **20 01 53.0 -0.6**
KLMR pmax pmax
comp=Z,11nm,1.1s
HFS Hagfors 23.16 340 P **P** **19 57 50.9 +1.3**
comp=Z,6.8nm,0.9s,baz=158,slow=12,SNR=6.5
HFS LR LR 20 08 26.5
comp=Z,111nm,19.0s,baz=154,slow=41
AKTO Aktyubinsk 23.25 51 P **P** **19 57 50.8 +0.1**
comp=Z,4.4nm,0.8s,baz=261,slow=7.3,SNR=12
AKTO LR LR 20 10 47.2
comp=Z,131nm,19.6s,baz=260,slow=47
KONO Kongsberg 23.98 335 *c*eP **P** **19 57 59.8 +2.1**
KONO pmax pmax
comp=Z,23nm,1.7s
ABKAR Akbulak array 24.14 55 *e*P **P** **19 58 00.6 +1.3**
comp=Z,1.8nm,0.7s
ABKAR Akbulak array 24.14 55 *e*P **P** **19 58 00.6 +1.3**
comp=Z,1.8nm,0.7s
NB2 NORSAR Subarra 24.59 339 P **P** **19 58 04.5 +1.1**
comp=Z,8.8nm,1.4s,baz=143,slow=10
NOA NORSAR Array B 24.59 339 P **P** **19 58 04.8 +1.4**
comp=Z,0.7nm,0.6s,baz=142,slow=9.4,SNR=6.0
NOA LR LR 20 08 43.2
comp=Z,86nm,20.2s,baz=140,slow=39
ESDC Sonseca Array 25.51 282 LR LR 20 08 59.5
comp=Z,40nm,19.3s,baz=295,slow=38
TAM Tamanrasset 25.88 238 *e*P **P** **19 58 16.3 +0.8**
comp=Z,8.3nm,1.4s
TAM Tamanrasset 25.88 238 *e*P **P** **19 58 16.3 +0.8**
comp=Z,8.2nm,1.4s
TAM Tamanrasset 25.88 238 *e*P **P** **19 58 16.3 +0.8**
TAM pmax pmax
comp=Z,8.0nm,1.4s
ARU Arti 25.97 39 P **P** **19 58 16.6 +0.7**
comp=Z,4.6nm,0.7s,baz=246,slow=5.4,SNR=14
ARU LR LR 20 10 28.9
comp=Z,67nm,18.7s,baz=218,slow=41
ARU Arti 25.97 39 *e*P **P** **19 58 16.4 +0.6**
comp=Z,5.4nm,0.7s
ARU Arti 25.97 39 *c* iP **P** **19 58 16.5 +0.7**
ARU 19 58 53.6
ARU S **S** **20 02 49.9 +2.9**
ARU SS **SnSn** **20 03 44.4 +1.3**
ARU pmax pmax
comp=Z,20nm,1.7s
EKA Eskdalemuir Ar 26.94 318 P **P** **19 58 25.8 +1.2**
comp=Z,1.4nm,0.6s,baz=113,slow=12,SNR=9.8
ARCES ARCESS Array B 30.52 357 P **P** **19 58 57.1 +0.7**
comp=Z,1.9nm,0.7s,baz=152,slow=6.3,SNR=6.1
KKAR Karatay Array 31.19 69 *e*P **P** **19 59 02.6 0.0**
comp=Z,0.6nm,0.3s
KKAR Karatay Array 31.19 69 *e*P **P** **19 59 02.6 0.0**
comp=Z,0.6nm,0.3s
KKAR Karatay Array 31.19 69 *e*P **P** **19 59 02.6 0.0**
KKAR pmax pmax
comp=Z,1.0nm,0.3s
BVAR Borovoye Array 31.33 50 P **P** **19 59 05.0 +1.4**
comp=Z,0.2nm,0.4s,baz=256,slow=5.8,SNR=5.1
BVAR LR LR 20 15 27.5

	comp=Z,89nm,18.2s,baz=202,slow=44							
AAK	**Ala-Archa**	**34.15**	**69**	*e*P		**P**	**19 59 29.8**	**+1.1**
	comp=Z,4.3nm,0.9s							
AAK	**Ala-Archa**	**34.15**	**69**	*i* P		**P**	**19 59 28.7**	**0.0**
NIL	**Nilore**	**35.66**	**85**	*e*P		**P**	**19 59 41.3**	**-0.3**
	comp=Z,16nm,0.9s							
NIL	**Nilore**	**35.66**	**85**	*e*P		**P**	**19 59 41.3**	**-0.3**
	comp=Z,16nm,0.9s							
NIL	**Nilore**	**35.66**	**85**	*e*P		**P**	**19 59 41.3**	**-0.3**
NIL					pmax	pmax		
	comp=Z,15nm,0.9s							
KURBB	**Kurchatov Arra**	**36.19**	**55**	P		**P**	**19 59 45.7**	**-0.2**
	comp=Z,1.3nm,0.6s,baz=277,slow=8.8,SNR=5.4							
KURK	**Kurchatov**	**36.25**	**55**	P		**P**	**19 59 45.7**	**-0.7**
KURK	**Kurchatov**	**36.25**	**55**	*ce*P		**P**	**19 59 47.3**	**+0.9**
KURK					pmax	pmax		
	comp=Z,4.0nm,1.7s							
BORG	**Borgarnes**	**38.72**	**328**	LR		LR	20 17 40.0	
	comp=Z,98nm,19.0s,baz=53,slow=39							
MKAR	**Makanchi Array**	**38.99**	**61**	P		**P**	**20 00 10.0**	**+0.2**
	comp=Z,1.9nm,0.8s,baz=267,slow=8.0,SNR=18							
SPITS	**Spitsbergen Ar**	**39.51**	**356**	LR		LR	20 17 44.4	
	comp=Z,71nm,18.4s,baz=140,slow=38							
ZALV	**Zalesovo Beam**	**39.98**	**49**	P		**P**	**20 00 17.8**	**-0.1**
	comp=Z,1.9nm,0.6s,baz=261,slow=10.0,SNR=9.1							
ZALV					LR	LR	20 20 07.0	
	comp=Z,32nm,21.8s,baz=254,slow=41							
DGZ	**Jazzator, Alta**	**41.97**	**56**	*i* P		**P**	**20 00 35.8**	**+1.3**
DGZ					pmax	pmax		
	comp=Z,1.0nm,0.9s							
HVS	**Khovu-Aksy**	**45.68**	**53**	*i* P		**P**	**20 01 05.7**	**+1.4**
HVS					pmax	pmax		
	comp=Z,6.0nm,0.9s							
SFJD	**Kangerlussuaq**	**50.77**	**330**	LR		LR	20 24 26.3	
	comp=Z,38nm,19.9s,baz=96,slow=38							
TLY	**Talaya**	**51.59**	**50**	*i* P		**P**	**20 01 50.8**	**+1.2**
TLY					pmax	pmax		
	comp=Z,3.0nm,1.0s							
GTA	**Gaotai**	**53.35**	**66**	*e*P		**P**	**20 02 05.1**	**+2.1**
GTA					pP		20 02 12.1	
GTA					sP		20 02 16.3	
GTA					pmax	pmax		
	comp=Z,4.0nm,1.2s							
SONM	**Songino Array**	**54.54**	**54**	P		**P**	**20 02 11.5**	**-0.1**
	comp=Z,1.5nm,0.7s,baz=291,slow=8.2,SNR=14							
ULN	**Ulaanbaatar**	**54.94**	**54**	*e*P		**P**	**20 02 16.6**	**+2.1**
	comp=Z,2.1nm,0.8s							
ULN	**Ulaanbaatar**	**54.94**	**54**	*ce*P		**P**	**20 02 16.4**	**+1.9**
ULN					pmax	pmax		
	comp=Z,6.0nm,1.7s							
FRB	**Frobisher Bay**	**58.88**	**329**	P		**P**	**20 02 41.5**	**-0.5**
	comp=Z,1.2nm,0.2s,baz=27,slow=6.4,SNR=5.4							
CMAR	**Chiang Mai Arr**	**63.08**	**88**	P		**P**	**20 03 09.3**	**-2.0**
	comp=Z,0.7nm,0.8s,baz=301,slow=7.3,SNR=6.3							
BILL	**Bilibino**	**68.40**	**16**	*e*P		**P**	**20 03 46.7**	**+1.9**
BILL				*e*			20 06 16.1	
BILL				*i* S		S	20 13 05.7	+19
BILL					pmax	pmax		
	comp=Z,2.0nm,1.3s							
BILL					MLR	MLR		
	comp=Z,80nm,20.0s							
KSAR	**Wonju Array Be**	**73.35**	**55**	P		**P**	**20 04 14.6**	**-0.8**
KSAR	**Wonju Array Be**	**73.35**	**55**	P		**P**	**20 04 14.6**	**-0.8**
KSRS	**Korea Array**	**73.37**	**55**	P		**P**	**20 04 14.6**	**-0.9**
	comp=Z,3.2nm,0.7s,baz=307,slow=4.1,SNR=13							
KSRS					LR	LR	20 40 48.2	
	comp=Z,43nm,19.2s,baz=273,slow=39							
YKA	**Yellowknife Ar**	**74.60**	**343**	P		**P**	**20 04 23.4**	**+1.1**
	comp=Z,0.1nm,0.4s,baz=21,slow=6.0,SNR=4.2							
ILAR	**Eielson Array**	**76.38**	**359**	P		**P**	**20 04 34.6**	**+2.1**
	comp=Z,0.2nm,0.5s,baz=341,slow=5.2,SNR=3.4							
PETK	**Petropavlovsk-**	**77.92**	**29**	LR		LR	20 43 46.8	
	comp=Z,42nm,19.3s,baz=312,slow=39							
JNU	**Nakatsue**	**77.93**	**57**	LR		LR	20 42 52.2	
	comp=Z,43nm,19.0s,baz=288,slow=39							
ULM	**Lac du Bonnet**	**78.73**	**328**	LR		LR	20 44 03.7	
	comp=Z,35nm,18.4s,baz=0.0,slow=39							
TKL	**Tuckaleechee C**	**83.21**	**311**	LR		LR	20 40 42.3	
	comp=Z,28nm,20.5s,baz=14,slow=35							
PDAR	**Pinedale Array**	**90.28**	**331**	LR		LR	20 47 41.6	
	comp=Z,32nm,18.4s,baz=54,slow=36							
NVAR	**Mina Array Bea**	**97.22**	**335**	LR		LR	20 52 14.1	
	comp=Z,53nm,19.1s,baz=268,slow=37							
TXAR	**Lajitas Array**	**98.92**	**320**	LR		LR	20 50 15.6	
	comp=Z,34nm,20.2s,baz=0.0,slow=35							

IDC 19 19:57:12.9±2.1, 4.06S×152.29E, h0km, mb3.3/3, mb1 3.6/3, mb1mx3.3/48, mbtmp3.3/3, Error ellipse: s-maj=154.5km s-min=29.5km az=126.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.57**	**226**	P	P	20 02 23.5	-1.9
	0.6nm,0.7s,baz=52,slow=9.7,SNR=7.0						
ASAR	**Alice Springs**	**26.36**	**221**	P	P	20 02 52.8	+1.8
	0.2nm,0.5s,baz=57,slow=8.4,SNR=4.1						
ILAR	**Eielson Array**	**81.67**	**22**	P	P	20 09 32.5	-0.2
	0.3nm,0.8s,baz=241,slow=4.8,SNR=4.6						

*ISCJB **19** 20:12:40.6±0.4, 14.72N×60.03W×0.07, h132km±3km, mb3.4/7, Error ellipse: s-maj=11.0km s-min=3.2km az=162.3*
*TRN **19** 20:12:40.6, 14.73N×60.86W, h125km, MD3.7*
*IDC **19** 20:12:48.0±5.1, 15.18N×61.09W, h161km±63km, mb3.1/7, mb1 3.4/8, mb1mx3.2/47, mbtmp3.6/8, Error ellipse: s-maj=53.9km s-min=25.8km az=175.0*

ISC 19 20:12:41.6±0.8, 14.73N±0.03×60.88W±0.07, h127km±5km, n54, σ0s84/68, mb3.6/7, 8C-1D, Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LPMF	**Morne Lapointe**	**0.17**	**208**	*e*P	**Pn**	**20 12 59.8**	**+0.7**
ZAM	**Aeronautique**	**0.21**	**222**	*e*P	**Pn**	**20 12 59.8**	**+0.6**
TRMF	**Trois Ilets**	**0.25**	**220**	*e*P	**Pn**	**20 12 59.9**	**+0.7**
FDF	**Fort de France**	**0.26**	**271**	⇓*i*P	**Pn**	**20 12 59.3**	**-0.1**
FDF				*e*S	**Sn**	**20 13 10.8**	**-1.9**
BAMF	**Morne Balai**	**0.27**	**288**	*e*P	**Pn**	**20 12 59.8**	**+0.4**
BIM	**Bigot**	**0.28**	**221**	*e*P	**Pn**	**20 12 59.9**	**+0.5**
BIM				*e*S	**Sn**	**20 13 12.5**	**-0.3**
CXM	**Morne La Croix**	**0.29**	**286**	⇑*i*P	**Pn**	**20 13 00.0**	**+0.5**
CXM				*e*S	**Sn**	**20 13 12.4**	**-0.6**
PML	**Morne Lenard**	**0.30**	**280**	*e*P	**Pn**	**20 12 59.9**	**+0.5**
SVN	**Savane Anatole**	**0.30**	**292**	*e*P	**Pn**	**20 12 59.9**	**+0.5**
PCM	**Pelee Case Pet**	**0.33**	**285**	*e*P	**Pn**	**20 12 59.8**	**+0.2**
PCM	**Pelee Case Pet**	**0.33**	**285**	*e*P	**Pn**	**20 12 60.0**	**+0.4**
DLPL	**La Plaine**	**0.69**	**330**	⇑*i*P	**Pn**	**20 13 01.3**	**-0.4**
DLPL				*e*S	**Sn**	**20 13 17.0**	**+0.1**
SLW	**Petit Monier**	**0.71**	**184**	*e*P	**Pn**	**20 13 01.6**	**-0.2**
BBL	**Barber's Block**	**0.97**	**324**	⇑*i*P	**Pn**	**20 13 03.6**	**-0.5**
BBL				*e*S	**Sn**	**20 13 21.9**	**+0.9**
MDMP	**Dominica, Moor**	**1.00**	**329**	⇑*i*P	**Pn**	**20 13 04.1**	**-0.2**
MDMP				*e*S	**Sn**	**20 13 21.5**	**0.0**
MDPO	**Dominica; Chan**	**1.00**	**327**	⇑*i*P	**Pn**	**20 13 04.0**	**-0.3**
MDPO				*e*S	**Sn**	**20 13 21.1**	**-0.4**
MDVC	**Dominica, Viel**	**1.01**	**330**	*e*P	**Pn**	**20 13 03.9**	**-0.5**
MDVC				*e*S	**Sn**	**20 13 21.1**	**-0.6**
MCLT	**Moule a Chique**	**1.02**	**183**	*e*P	**Pn**	**20 13 05.5**	**+1.0**
MCLT				*e*S	**Sn**	**20 13 21.8**	**+0.1**
MDPV	**Dominica, Penn**	**1.03**	**330**	*e*P	**Pn**	**20 13 04.4**	**-0.2**
MGG	**Marie-Galante**	**1.25**	**341**	*e*P	**Pn**	**20 13 06.3**	**-0.5**
MGG				*e*S	**Sn**	**20 13 24.8**	**-1.2**
TBG	**Guadaloupe-3**	**1.34**	**327**	⇑*i*P	**Pn**	**20 13 07.0**	**-0.7**
TBG				*e*S	**Sn**	**20 13 27.5**	**-0.1**
SVCV	**St. Vincent, C**	**1.47**	**190**	*e*P	**Pn**	**20 13 09.0**	**-0.2**
SVCV				*e*S	**Sn**	**20 13 30.0**	**-0.3**
SVB	**Belmont**	**1.49**	**194**	⇑*i*P	**Pn**	**20 13 09.3**	**-0.2**
SVB				*e*S	**Sn**	**20 13 29.8**	**-0.9**
DEG	**La Desirade**	**1.58**	**354**	*e*P	**Pn**	**20 13 10.2**	**-0.4**
DEG				*e*S	**Sn**	**20 13 31.6**	**-1.0**
BBGH	**Gun Hill**	**2.03**	**141**	*e*P	**Pn**	**20 13 15.3**	**-0.6**
BBGH				*e*S	**Sn**	**20 13 41.3**	**-0.8**
BBSP	**Saint Philip**	**2.13**	**139**	*e*P	**Pn**	**20 13 17.8**	**+0.8**
BBSP				*e*S	**Sn**	**20 13 42.8**	**-1.3**
MLYT	**Lee's Yard**	**2.35**	**328**	*e*P	**Pn**	**20 13 20.3**	**+0.5**
BPA	**Boggy Peak**	**2.49**	**338**	⇑*e*P	**Pn**	**20 13 22.7**	**+1.1**
BPA				*e*S	**Sn**	**20 13 51.9**	**-0.4**
GRGR	**Grenville**	**2.69**	**196**	*e*P	**Pn**	**20 13 24.0**	**-0.1**
NEV	**Hard Times**	**2.89**	**326**	*e*P	**Pn**	**20 13 27.5**	**+0.7**
NVBH	**Bath Hotel, Ne**	**2.90**	**325**	*e*P	**Pn**	**20 13 27.9**	**+1.1**
NVRH	**Round Hill, Ne**	**2.95**	**326**	*e*P	**Pn**	**20 13 28.2**	**+0.7**
NVRH				*e*S	**Sn**	**20 14 01.8**	**-1.0**
ANWB	**Willy Bob**	**3.05**	**344**	*e*P	**Pn**	**20 13 29.4**	**+0.6**
ANWB				*e*S	**Sn**	**20 14 03.5**	**-1.6**
SKI	**Saint Kitts**	**3.14**	**326**	*e*P	**Pn**	**20 13 29.9**	**-0.1**
BSK	**Brimstone Hill**	**3.21**	**324**	*e*P	**Pn**	**20 13 30.8**	**-0.1**
TOSP	**Speyside**	**3.43**	**174**	*e*P	**Pn**	**20 13 34.7**	**+0.9**
TOSP				*e*S	**Sn**	**20 14 12.7**	**-1.4**
SABA	**Saba**	**3.66**	**322**	*e*P	**Pn**	**20 13 36.4**	**-0.4**
SMRT	**St. Maarten**	**3.92**	**328**	*e*P	**Pn**	**20 13 40.7**	**+0.5**
SMRT				*e*S	**Sn**	**20 14 24.6**	**-1.1**
TRN	**Trinidad (W)**	**4.09**	**187**	*e*P	**Pn**	**20 13 42.2**	**-0.3**
TRN	**Trinidad (W)**	**4.09**	**187**	*e*S	**Sn**	**20 14 28.2**	**-1.6**
PCRV	**Puerto La Cruz**	**5.82**	**219**	P	Pn	20 14 15.3	+9.4
	0.5nm,0.3s,baz=32,slow=4.6,SNR=3.9						
JTS	**JuntasAbangare**	**23.90**	**262**	P	**P**	**20 17 46.7**	**+2.8**
	1.7nm,0.3s,baz=53,slow=20,SNR=4.2						
TXAR	**Lajitas Array**	**42.00**	**298**	P	**P**	**20 20 20.3**	**-0.3**
	0.1nm,0.4s,baz=114,slow=7.6,SNR=4.1						
ULM	**Lac du Bonnet**	**45.37**	**329**	P	**P**	**20 20 46.5**	**-0.6**
	0.5nm,0.3s,baz=122,slow=18,SNR=2.9						
PDAR	**Pinedale Array**	**50.10**	**314**	P	**P**	**20 21 23.6**	**-0.5**
	0.4nm,0.5s,baz=122,slow=9.7,SNR=5.2						
H10N3	**ASCENSION HYDR**	**51.16**	**113**	T	T	21 17 09.7	
	baz=296,slow=75,SNR=15						
H10N2	**ASCENSION HYDR**	**51.17**	**113**	T	T	21 17 10.2	
	baz=296,slow=75,SNR=8.4						
H10N1	**ASCENSION HYDR**	**51.19**	**113**	T	T	21 17 11.3	
	baz=296,slow=75,SNR=16						
H10S3	**ASCENSION HYDR**	**51.51**	**114**	T	T	21 17 37.9	
	baz=297						
H10S1	**ASCENSION HYDR**	**51.52**	**114**	T	T	21 17 38.9	
	baz=297						
H10S2	**ASCENSION HYDR**	**51.53**	**114**	T	T	21 17 39.9	
	baz=297						
NVAR	**Mina Array Bea**	**55.56**	**307**	P	**P**	**20 22 02.7**	**-1.6**
	0.3nm,0.6s,baz=93,slow=10.0,SNR=2.6						
YKA	**Yellowknife Ar**	**60.69**	**335**	P	**P**	**20 22 39.1**	**-0.1**
	0.4nm,0.5s,baz=108,slow=7.5,SNR=6.9						
GERES	**GERESS Array B**	**68.92**	**43**	P	**P**	**20 23 34.5**	**+1.4**
	0.3nm,0.6s,baz=289,slow=9.2,SNR=3.4						

IDC 19 20:14:30.8±4.2, 13.67S×166.34E, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.5/43, mbtmp3.6/3, Error ellipse: s-maj=201.8km s-min=33.8km az=142.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**31.23**	**254**	P	P	20 20 52.6	+0.3
	0.4nm,0.7s,baz=86,slow=9.4,SNR=8.7						
ASAR	**Alice Springs**	**32.23**	**247**	P	P	20 21 00.8	-0.3
	0.5nm,0.6s,baz=73,slow=9.4,SNR=13						
ILAR	**Eielson Array**	**85.81**	**18**	P	P	20 27 11.7	0.0
	0.4nm,0.7s,baz=232,slow=5.8,SNR=5.7						

*IDC **19** 20:36:14.8±1.4, 6.10N×127.05E, h0km, mb3.5/5, mb1 3.8/6, mb1mx3.4/58, mbtmp3.7/6, ML4.4/1, MS3.3/2, Ms1 3.3/2, ms1mx2.6/35, Error ellipse: s-maj=67.6km s-min=17.4km az=62.0*
*ISCJB **19** 20:36:20.7±1.3, 5.64N±0.08×126.10E±0.08, h51km±15km, mb3.4/5, MS3.2/2, Error ellipse: s-maj=14.1km s-min=12.7km az=25.7*
*MAN **19** 20:36:22, 5.86N×126.18E, h73km, mb4.7, ML3.6, MS3.6*

ISC 19 20:36:21.8±2.0, 5.63N±0.10×126.1E±0.1, h42km±26km, n14, σ1s84/16, mb3.5/5, 2C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GSPH	**General Santos**	**1.24**	**292**	⇑*i*P	**Pn**	**20 36 42.4**	**-0.4**
GSPH				*i* S	**Sn**	**20 36 56.1**	**-2.3**
MATI	**Mati**	**1.32**	**6**	*e*P	**Pn**	**20 36 42.5**	**-1.3**
MATI				*e*S	**Sn**	**20 36 58.3**	**-1.9**
DAV	**Davao City (W)**	**1.53**	**340**	Pn	**Pn**	**20 36 46.4**	**-0.2**
	60nm,0.3s,baz=61,slow=19,SNR=2.2						
DAV				Sn	**Sn**	**20 37 05.5**	**+0.2**
	103nm,0.3s,baz=305,slow=22,SNR=7.7						
DMPH	**Davao City--Mi**	**1.56**	**338**	‖*e*P	**Pn**	**20 36 49.6**	**+2.5**
DMPH				*i* S	**Sn**	**20 37 09.7**	**+3.5**
CTBH	**Cotabato--PC H**	**2.43**	**311**	⇑*i*P	**Pn**	**20 36 58.6**	**-0.5**
BUKP	**Musuan**	**2.46**	**335**	*e*P	**Pn**	**20 36 59.6**	**+0.1**
BUKP				*e*S	**Sn**	**20 37 28.3**	**-0.2**
BATI	**Baumata**	**15.92**	**189**	Pn	**P**	**20 40 08.5**	**+2.4**
	1.4nm,0.3s,baz=87,slow=2.5,SNR=4.9						
WRA	**Warramunga Arr**	**26.67**	**163**	P	**P**	**20 41 58.9**	**+1.9**
	1.0nm,0.7s,baz=345,slow=10,SNR=6.6						
PSI	**Prapat**	**27.25**	**265**	LR	LR	20 53 35.4	
	comp=Z,215nm,18.9s,baz=166,slow=37						
JNU	**Nakatsue**	**27.71**	**9**	LR	LR	20 53 04.8	
	comp=Z,17nm,21.3s,baz=253,slow=37						
ASAR	**Alice Springs**	**30.09**	**166**	P	**P**	**20 42 26.6**	**-0.9**
	0.2nm,0.5s,baz=346,slow=7.0,SNR=5.1						
STKA	**Stephens Creek**	**40.11**	**159**	P	**P**	**20 43 53.0**	**-0.5**
	1.7nm,0.8s,baz=342,slow=6.4,SNR=3.5						
MKAR	**Makanchi Array**	**55.65**	**325**	P	P	20 45 54.7	+1.0
	0.2nm,0.6s,baz=128,slow=5.9,SNR=3.8						
KURBB	**Kurchatov Arra**	**59.82**	**327**	P	**P**	**20 46 21.9**	**-0.9**
	0.2nm,0.5s,baz=126,slow=5.7,SNR=3.2						

IDC 19 20:36:44.6±1.7, 7.32S×144.91E, h0km, mb3.5/1, mb1 3.4/4, mb1mx3.2/45, mbtmp3.3/4, ML3.0/2, Error ellipse: s-maj=41.7km s-min=26.0km az=53.0, Near south coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.04**	**133**	Pn	Pn	20 37 34.7	+0.8
	1.7nm,0.3s,baz=297,slow=6.8,SNR=5.5						
PMG				Sn	Sn	20 38 12.4	+1.4
	0.8nm,0.3s,baz=323,slow=20,SNR=3.6						
WRA	**Warramunga Arr**	**16.20**	**218**	Pn	Pn	20 40 33.5	-0.4
	0.0nm,0.3s,baz=44,slow=10,SNR=5.5						
ASAR	**Alice Springs**	**19.39**	**212**	P	P	20 41 12.2	-0.1
	0.1nm,0.3s,baz=44,slow=9.0,SNR=11						
MKAR	**Makanchi Array**	**77.21**	**321**	P	P	20 48 40.5	-0.1
	0.4nm,0.8s,baz=116,slow=5.3,SNR=2.8						

*SOME **19** 20:39:59.6, 42.45N×82.07E, h5km*

ISC 19 20:40:03.4±3.2, 42.4N±0.2×82.4E±0.1, h10km, n9, σ2s16/18, 4C-4D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PDGK	**Podgornoye**	**2.30**	**295**	⇓Pn	**Pn**	**20 40 39.5**	**-2.0**
	3.0nm,0.5s						
PDGK				⇓Sn	**Sn**	**20 41 07.7**	**-2.3**
	8.8nm,0.4s						
DJR	**Jarkent**	**2.68**	**317**	*e*P	**Pn**	**20 40 46.8**	**0.0**
	1.0nm,0.1s						
DJR				⇓*i*S	**Sn**	**20 41 20.9**	**+1.6**
	3.6nm,0.2s						
KPKS	**Kokpek**	**2.90**	**293**	*e*P	**Pn**	**20 40 49.1**	**-0.6**
	2.2nm,0.2s						
KPKS				*e*S	**Sn**	**20 41 24.4**	**-0.3**
	24nm,0.4s						
SATY	**Saty**	**2.98**	**284**	⇑*i*P	**Pn**	**20 40 50.4**	**-0.5**
	2.7nm,0.4s						
SATY				*e*S	**Sn**	**20 41 27.0**	**+0.2**
	15nm,0.3s						
MNBS	**Baschi**	**3.34**	**301**	*e*P	**Pn**	**20 40 56.2**	**+0.4**
	1.0nm,0.2s						
MNBS				*e*S	**Sn**	**20 41 36.9**	**+1.4**
	6.4nm,0.2s						
KAPS	**Kapalarasan**	**3.60**	**324**	*e*P	**Pn**	**20 41 01.3**	**+1.9**
	0.7nm,0.4s						
KAPS				*e*S	**Sn**	**20 41 45.7**	**+3.7**
	2.0nm,0.4s						
TNSS	**Tian-Shan**	**4.04**	**281**	*e*P	**Pn**	**20 41 08.5**	**+2.9**
	0.7nm,0.1s						
TNSS				*e*S	**Sn**	**20 41 57.8**	**+4.6**
	1.9nm,0.2s						
IZV	**Izvestkoviy**	**4.28**	**280**	*e*P	Pn	20 41 14.1	+5.3
	1.4nm,0.2s						
IZV				*e*S	**Sb**	**20 42 07.7**	**-2.9**
	4.2nm,0.3s						
MK31	**Makanchi Array**	**4.38**	**359**	⇑Pn	**Pn**	**20 41 10.0**	**0.0**
	0.4nm,0.7s						
MK31				⇑Pg	**Pb**	**20 41 20.0**	**-0.5**
MK31				⇑Sn	**Sn**	**20 42 00.5**	**-0.7**
	0.2nm,0.4s						
MK31				⇓Lg	Lg	20 42 18.6	
	0.8nm,0.6s,baz=185,slow=20,SNR=4.3						

IDC 19 20:46:40.4±5.6, 26.63S×71.36E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.5/57, mbtmp3.7/4, Error ellipse: s-maj=152.7km s-min=38.4km az=55.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H08S1	**Diego Carcia H**	**18.91**	**3**	T	T	21 10 06.9	
	baz=182,slow=76,SNR=12						
H08S2	**Diego Garcia H**	**18.91**	**3**	T	T	21 10 06.5	
	baz=182,slow=76,SNR=17						
H08S3	**Diego Garcia H**	**18.92**	**3**	T	T	21 10 10.1	
	baz=182,slow=76,SNR=14						
CMAR	**Chiang Mai Arr**	**52.21**	**34**	P	P	20 55 53.2	0.0
	1.1nm,0.9s,baz=223,slow=8.3,SNR=6.6						
ASAR	**Alice Springs**	**56.20**	**102**	P	P	20 56 21.9	-0.7
	0.3nm,0.8s,baz=251,slow=5.8,SNR=4.2						
WRA	**Warramunga Arr**	**57.74**	**98**	P	P	20 56 33.9	+0.4
	0.9nm,0.9s,baz=254,slow=7.3,SNR=3.9						
MKAR	**Makanchi Array**	**73.74**	**8**	P	P	20 58 16.1	0.0
	0.6nm,0.8s,baz=197,slow=7.9,SNR=5.5						

*ISCJB **19** 21:03:43.1±0.6, 25.98S±0.05×132.75E±0.06, h10km, Error ellipse: s-maj=8.6km s-min=6.6km az=23.5*
*IDC **19** 21:03:45.1±2.3, 25.92S×132.81E, h0km, mb1 3.9/5, mb1mx3.5/43, mbtmp3.8/5, ML3.6/4, Error ellipse: s-maj=19.1km s-min=18.3km az=95.0*
*AUST **19** 21:03:46.5±0.4, 25.92S×132.89E, h0km, Error ellipse: s-maj=0.2km s-min=0.1km az=10.0*

ISC 19 21:03:45.2±0.9, 26.02S±0.06×132.83E±0.06, h10km, n15, σ2s15/23, South Australia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ASPA	**Alice Springs**	**2.54**	**23**	P	**Pn**	**21 04 28.1**	**+1.6**
	baz=2.4						
ASPA				S	**Sn**	**21 04 59.5**	**+2.0**
	baz=2.4						
ASAR	**Alice Springs**	**2.54**	**23**	Pn	**Pn**	**21 04 27.4**	**+0.9**
	3.9nm,0.3s,baz=202,slow=18,SNR=85						
ASAR				Pg	**Pb**	**21 04 31.1**	**+0.2**
	5.5nm,0.3s,baz=202,slow=17,SNR=76						
ASAR				Sn	**Sn**	**21 04 59.0**	**+1.4**
	12nm,0.3s,baz=201,slow=24,SNR=14						
ASAR				Lg	Lg	21 05 02.8	
	39nm,0.3s,baz=206,slow=27,SNR=35						
WRKA	**Warakurna**	**4.21**	**282**	P	**Pn**	**21 04 52.7**	**+3.2**
	baz=4.2						
WRA	**Warramunga Arr**	**6.21**	**13**	Pn	**Pn**	**21 05 17.1**	**+0.2**
	2.8nm,0.3s,baz=196,slow=14,SNR=272						
WRA				Pg	**Pb**	**21 05 35.1**	**+1.7**
	1.8nm,0.3s,baz=193,slow=14,SNR=8.4						
WRA				Sn	**Sn**	**21 06 26.3**	**-1.7**
	4.6nm,0.3s,baz=192,slow=24,SNR=14						
WRA				Lg	Lg	21 06 57.1	
	2.9nm,0.3s,baz=193,slow=30,SNR=11						
WB2	**Warramunga Arr**	**6.21**	**13**	P	**Pn**	**21 05 17.5**	**+0.5**
	baz=6.1						
QIS	**Mount Isa**	**8.27**	**50**	P	**Pn**	**21 05 45.8**	**+0.6**
	baz=8.2,SNR=3.8						
QIS				S	**Sn**	**21 07 14.0**	**-4.8**
	baz=8.2						
HTT	**Hallett**	**9.09**	**146**	P	**Pn**	**21 05 58.9**	**+2.5**
	baz=9.2						
STKA	**Stephens Creek**	**9.64**	**129**	Pn	**Pn**	**21 06 06.1**	**+2.0**
	0.3nm,0.3s,baz=302,slow=15,SNR=3.5						
STKA				Sn	**Sn**	**21 07 49.7**	**-2.8**
	0.8nm,0.3s,baz=272,slow=11,SNR=5.5						
QLP	**Quilpie**	**10.25**	**96**	P	**Pn**	**21 06 13.5**	**+1.1**
	baz=10						
FITZ	**Fitzroy Crossi**	**10.32**	**318**	Pn	**Pn**	**21 06 13.8**	**+0.5**
	0.6nm,0.3s,baz=132,slow=12,SNR=15						
FITZ				Sn	**Sn**	**21 08 04.9**	**-4.3**
	0.3nm,0.3s,baz=24,slow=20,SNR=3.5						
FITZ	**Fitzroy Crossi**	**10.32**	**318**	P	**Pn**	**21 06 14.8**	**+1.4**
	baz=10						
KNRA	**Kununurra**	**10.97**	**339**	P	**Pn**	**21 06 22.7**	**+0.4**
	baz=11,SNR=5.4						
MEEK	**Meekatharra**	**12.76**	**264**	P	**Pn**	**21 06 45.8**	**-1.0**
	baz=13,SNR=4.9						
KLBR	**Kellerberrin**	**14.33**	**244**	P	**Pn**	**21 07 06.5**	**-1.7**
	baz=14,SNR=22						
NWAO	**Narrogin (SRO)**	**15.21**	**239**	Pn	**Pn**	**21 07 19.8**	**-0.3**
	0.5nm,0.3s,baz=51,slow=6.5,SNR=3.8						

*CRAAG **19** 21:13:02.1, 35.95N×0.93E, Ml3.0*
*ISCJB **19** 21:13:03.4±1

az=165.8

ISC 19 21:23:31.2±1.3, 25.4N±0.1×142.9E±0.3, h40km, n8, σ1§22/7, mb3.7/5, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**1.77**	**339**	Pn	**Pn**	**21 23 58.0**	**-1.3**
	36nm,0.3s,baz=258,slow=14,SNR=22						
JCJ				Sn	**Sn**	**21 24 22.1**	**+1.4**
	36nm,0.3s,baz=270,slow=20,SNR=8.7						
WRA	**Warramunga Arr**	**45.86**	**191**	P	**P**	**21 31 49.9**	**+0.2**
	0.6nm,0.5s,baz=9.6,slow=8.6,SNR=11						
KURBB	**Kurchatov Arra**	**54.65**	**315**	P	**P**	**21 32 54.8**	**-1.1**
	0.5nm,0.7s,baz=91,slow=8.6,SNR=6.0						
ILAR	**Eielson Array**	**58.87**	**28**	LR	LR	21 57 31.3	
	comp=Z,8.2nm,20.1s,baz=291,slow=35						
BVAR	**Borovoye Array**	**59.69**	**318**	P	**P**	**21 33 32.3**	**+0.8**
	0.5nm,0.5s,baz=84,slow=6.8,SNR=8.5						
YKA	**Yellowknife Ar**	**73.30**	**28**	P	**P**	**21 34 58.2**	**0.0**
	0.1nm,0.4s,baz=297,slow=6.0,SNR=2.2						
RPZ	**Rata Peaks**	**73.51**	**159**	LR	LR	22 05 59.5	
	comp=Z,31nm,18.6s,baz=244,slow=35						
FINES	**FINESS Array B**	**79.71**	**334**	P	**P**	**21 35 35.0**	**+0.6**
	2.7nm,0.9s,baz=63,slow=6.4,SNR=5.3						

*ISK **19** 21:26:33.9, 38.88N×43.63E, h10km, ML2.5/5*
*DDA **19** 21:26:34.4, 38.82N×43.62E, h8km, Ml2.7*
*CSEM **19** 21:26:34.7±0.2, 38.91N×43.61E, h12km, ML2.7, Error ellipse: s-maj=7.3km s-min=4.1km az=123.0*
*ATA **19** 21:26:34.8±1.9, 38.85N×43.46E, h0km±13km, ML2.8, MW3.0*
*ISCJB **19** 21:26:35.1±0.6, 38.88N±0.03×43.65E±0.06, h13km±4km, Error ellipse: s-maj=7.5km s-min=4.3km az=16.6*

ISC 19 21:26:35.2±0.9, 38.87N±0.02×43.59E±0.03, h12km±6km, n30, σ0§95/47, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VMUR	**Van-Muradiye**	**0.12**	**352**	*i* P	**Pg**	**21 26 37.9**	**-0.7**
VMUR				*i* S	**Sg**	**21 26 42.0**	**+0.9**
VMUR	**Van-Muradiye**	**0.12**	**352**	P	**Pg**	**21 26 37.9**	**-0.7**
VMUR				S	**Sg**	**21 26 42.0**	**+0.9**
VANB	**Van**	**0.31**	**211**	PG	**Pb**	**21 26 42.4**	**-0.4**
VANB				SG	**Sb**	**21 26 48.5**	**+0.6**
VANB	**Van**	**0.31**	**211**	*e*Pg	**Pb**	**21 26 42.4**	**-0.4**
VANB				*e*Sg	**Sb**	**21 26 48.5**	**+0.6**
TVAN	**Van**	**0.37**	**204**	*i* P	**Pg**	**21 26 42.4**	**-0.3**
TVAN				*i* S	**Sb**	**21 26 49.5**	**-0.1**
TVAN	**Van**	**0.37**	**204**	P	**Pg**	**21 26 42.4**	**-0.3**
TVAN				S	**Sb**	**21 26 49.5**	**-0.1**
CLDR	**Caldiran**	**0.38**	**42**	PG	**Pg**	**21 26 41.3**	**-1.5**
CLDR	**Caldiran**	**0.38**	**42**	*i* P	**Pg**	**21 26 42.0**	**-0.8**
CLDR				*i* S	**Sg**	**21 26 48.5**	**+0.6**
CLDR	**Caldiran**	**0.38**	**42**	*e*Pg	**Pg**	**21 26 41.3**	**-1.5**
CLDR	**Caldiran**	**0.38**	**42**	P	**Pg**	**21 26 42.0**	**-0.8**
CLDR				S	**Sg**	**21 26 48.5**	**+0.6**
ADCV	**BITLIS_Adilcev**	**0.68**	**265**	*i* P	**Pg**	**21 26 47.1**	**-1.4**
ADCV				*i* S	**Sb**	**21 26 58.3**	**-0.3**
ADCV	**BITLIS_Adilcev**	**0.68**	**265**	P	**Pg**	**21 26 47.1**	**-1.4**
ADCV				S	**Sb**	**21 26 58.3**	**-0.3**
GEVA	**Gevas**	**0.69**	**217**	*e*P	**Pg**	**21 26 48.0**	**-0.7**
TUTA	**Tutak**	**0.81**	**312**	*e*P	**Pg**	**21 26 49.5**	**-1.4**
TUTA				*e*S	**Sb**	**21 27 09.0**	**-0.2**
TUTA				IAML		21 27 04.2	
	comp=Z,25nm,0.2s						
AGRB	**Hanur-Agry**	**0.85**	**327**	PG	**Pg**	**21 26 50.7**	**-1.0**
AGRB				SG	**Sb**	**21 27 03.2**	**-0.3**
AGRB	**Hanur-Agry**	**0.85**	**327**	*e*Pg	**Pg**	**21 26 50.7**	**-1.0**
AGRB				*e*Sg	**Sb**	**21 27 03.2**	**-0.3**
IGDI	**IGDIR**	**1.07**	**20**	*e*P	**Pn**	**21 26 58.2**	**+2.1**
TASB	**TASBURUN-IGDIR**	**1.22**	**24**	PN	**Pn**	**21 26 57.3**	**-0.9**
TASB	**TASBURUN-IGDIR**	**1.22**	**24**	*e*Pn	**Pn**	**21 26 57.3**	**-0.9**
EKAR	**Karacoban**	**1.25**	**289**	*e*P	**Pn**	**21 26 58.2**	**-0.6**
EKAR				*e*S	**Sn**	**21 27 17.8**	**+2.1**
GURO	**Guroymak-BITLI**	**1.26**	**256**	PN	**Pn**	**21 26 58.2**	**-0.6**
GURO	**Guroymak-BITLI**	**1.26**	**256**	*e*Pn	**Pn**	**21 26 58.2**	**-0.6**
EATA	**Eleskirt**	**1.31**	**320**	*e*P	**Pn**	**21 26 59.7**	**0.0**
EATA				*e*S	**Sg**	**21 27 20.3**	**+2.7**
SRTM	**Siirt_Merkez**	**1.58**	**237**	*i* P	**Pb**	**21 27 04.1**	**-0.3**
SRTM				*i* S	**Sg**	**21 27 26.2**	**+0.3**
SRTM	**Siirt_Merkez**	**1.58**	**237**	P	**Pb**	**21 27 04.1**	**-0.3**
SRTM				S	**Sg**	**21 27 26.2**	**+0.3**
SIRT	**Sirnak**	**1.64**	**214**	PN	**Pn**	**21 27 04.0**	**+0.1**
SIRT	**Sirnak**	**1.64**	**214**	*e*Pn	**Pn**	**21 27 04.0**	**+0.1**
HOMI	**Horasan**	**1.76**	**313**	*e*P	**Pb**	**21 27 07.8**	**+0.2**
SENK	**Senkaya-Erzuru**	**1.95**	**331**	PN	**Pn**	**21 27 08.0**	**-0.3**
SENK	**Senkaya-Erzuru**	**1.95**	**331**	*e*Pn	**Pn**	**21 27 08.0**	**-0.3**

*ISCJB **19** 21:32:12.8±0.5, 39.08N±0.03×29.16E±0.03, h8km±4km, Error ellipse: s-maj=5.0km s-min=3.9km az=174.9*
*CSEM **19** 21:32:12.7±0.1, 39.11N×29.16E, h5km, ML2.5, Error ellipse: s-maj=2.6km s-min=2.2km az=141.0*
*DDA **19** 21:32:12.4, 39.08N×29.14E, h6km, Ml2.7*
*ISK **19** 21:32:12.5, 39.12N×29.16E, h6km, ML2.5/10*

ISC 19 21:32:12.8±0.9, 39.11N±0.02×29.16E±0.02, h11km±6km, n42, σ0§53/58, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIMA	**Simav-Kutahya**	**0.14**	**260**	PG	**Pg**	**21 32 16.3**	**+0.2**
SIMA				SG	**Sg**	**21 32 18.4**	**-0.1**
SIMA	**Simav-Kutahya**	**0.14**	**260**	*e*Pg	**Pg**	**21 32 16.3**	**+0.2**
SIMA				*e*Sg	**Sg**	**21 32 18.4**	**-0.1**
GDZ	**Gediz**	**0.25**	**94**	*i* P	**Pg**	**21 32 17.7**	**-0.4**
GDZ				*i* S	**Sg**	**21 32 21.6**	**0.0**
GDZ	**Gediz**	**0.25**	**94**	P	**Pg**	**21 32 17.7**	**-0.4**
GDZ				S	**Sg**	**21 32 21.6**	**0.0**
DEMI	**Demirci**	**0.35**	**260**	*i* P	**Pg**	**21 32 19.9**	**+0.1**
DEMI				*i* S	**Sg**	**21 32 24.3**	**-0.2**
DEMI	**Demirci**	**0.35**	**260**	P	**Pg**	**21 32 19.9**	**+0.1**
DEMI				S	**Sg**	**21 32 24.3**	**-0.2**
TVSB	**Tavsanli**	**0.42**	**34**	PG	**Pg**	**21 32 20.4**	**-0.7**
TVSB	**Tavsanli**	**0.42**	**34**	*e*Pg	**Pg**	**21 32 20.4**	**-0.7**
KULA	**Kula-Manisa**	**0.71**	**213**	PG	**Pg**	**21 32 26.6**	**+0.1**
KULA	**Kula-Manisa**	**0.71**	**213**	*e*Pg	**Pg**	**21 32 26.6**	**+0.1**
DURS	**Dursunbey**	**0.72**	**313**	*i* P	**Pg**	**21 32 26.6**	**-0.3**
DURS				*i* S	**Sn**	**21 32 40.0**	**-0.2**
DURS	**Dursunbey**	**0.72**	**313**	P	**Pg**	**21 32 26.6**	**-0.3**
DURS				S	**Sn**	**21 32 40.0**	**-0.2**
MANT	**Manisa**	**0.77**	**218**	*i* P	**Pg**	**21 32 27.6**	**-0.2**
MANT				*i* S	**Sg**	**21 32 37.3**	**-0.6**
MANT	**Manisa**	**0.77**	**218**	P	**Pg**	**21 32 27.6**	**-0.2**
MANT				S	**Sg**	**21 32 37.3**	**-0.6**
KHAL	**Karahalli**	**0.78**	**160**	*i* P	**Pb**	**21 32 28.2**	**-0.2**
KHAL				*i* S	**Sg**	**21 32 38.4**	**+0.3**
KHAL	**Karahalli**	**0.78**	**160**	P	**Pb**	**21 32 28.2**	**-0.2**
KHAL				S	**Sg**	**21 32 38.4**	**+0.3**
ORLT	**Orhaneli**	**0.96**	**348**	PG	**Pg**	**21 32 31.2**	**-0.1**
ORLT	**Orhaneli**	**0.96**	**348**	*e*Pg	**Pg**	**21 32 31.2**	**-0.1**
AKHS	**Akhisar**	**1.07**	**258**	*i* P	**Pg**	**21 32 32.0**	**-1.4**
AKHS				*i* S	**Sg**	**21 32 46.9**	**-0.5**
AKHS	**Akhisar**	**1.07**	**258**	P	**Pg**	**21 32 32.0**	**-1.4**
AKHS				S	**Sg**	**21 32 46.9**	**-0.5**
BALB	**Balikesir**	**1.12**	**299**	PN	**Pn**	**21 32 34.9**	**+0.4**
BALB	**Balikesir**	**1.12**	**299**	*e*Pn	**Pn**	**21 32 34.9**	**+0.4**
STEP	**BALIKESIR_Sava**	**1.15**	**284**	*i* P	**Pn**	**21 32 35.1**	**+0.2**
STEP				*i* S	**Sb**	**21 32 50.5**	**+0.8**
STEP	**BALIKESIR_Sava**	**1.15**	**284**	P	**Pn**	**21 32 35.1**	**+0.2**
STEP				S	**Sb**	**21 32 50.5**	**+0.8**
CAVI	**Cavuskoy**	**1.22**	**26**	PN	**Pg**	**21 32 35.9**	**-0.3**
CAVI	**Cavuskoy**	**1.22**	**26**	*e*Pn	**Pg**	**21 32 35.9**	**-0.3**
SHUT	**Suhut-Afyon**	**1.22**	**116**	PN	**Pn**	**21 32 36.5**	**+0.6**
SHUT	**Suhut-Afyon**	**1.22**	**116**	*e*Pn	**Pn**	**21 32 36.5**	**+0.6**
MDNY	**Mudanya-Bursa**	**1.28**	**351**	PN	**Pg**	**21 32 37.3**	**-0.1**
MDNY	**Mudanya-Bursa**	**1.28**	**351**	*e*Pn	**Pg**	**21 32 37.3**	**-0.1**
KCTX	**Karacabey (Bur**	**1.31**	**332**	PN	**Pg**	**21 32 38.1**	**+0.1**
KCTX	**Karacabey (Bur**	**1.31**	**332**	*e*Pn	**Pg**	**21 32 38.1**	**+0.1**
YLV	**Yalova**	**1.47**	**6**	PN	**Pn**	**21 32 39.9**	**+0.6**
YLV	**Yalova**	**1.47**	**6**	*e*Pn	**Pn**	**21 32 39.9**	**+0.6**
ARMT	**Armutlu**	**1.48**	**351**	PN	**Pb**	**21 32 40.2**	**-0.1**
ARMT	**Armutlu**	**1.48**	**351**	*e*Pn	**Pb**	**21 32 40.2**	**-0.1**
EDC	**Edincik**	**1.59**	**322**	PN	**Pn**	**21 32 41.6**	**+0.7**
EDC	**Edincik**	**1.59**	**322**	*e*Pn	**Pn**	**21 32 41.6**	**+0.7**
GULT	**Gulveren**	**1.69**	**38**	PN	**Pn**	**21 32 43.2**	**+0.9**
GULT	**Gulveren**	**1.69**	**38**	*e*Pn	**Pn**	**21 32 43.2**	**+0.9**
MDUB	**Mudurnu**	**2.08**	**48**	PN	**Pb**	**21 32 49.6**	**-1.0**
MDUB	**Mudurnu**	**2.08**	**48**	*e*Pn	**Pb**	**21 32 49.6**	**-1.0**

NNC 19 21:32:52.0±3.5, 37.07N×70.73E, h0km, mb3.8, mpv3.5, 4C-4D, Error ellipse: s-maj=28.6km s-min=24.8km az=143.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SFK	**Sufi-Kurgan**	**3.65**	**36**	⇓P	Pn	21 33 50.0	0.0
	4.1nm,0.4s						
SFK				⇑S	Sn	21 34 35.8	+1.9
	12nm,0.4s						
MNAS	**Manas**	**5.58**	**14**	⇓P	Pn	21 34 16.5	+0.2
	2.4nm,0.4s						
MNAS				⇓S	Sn	21 35 22.5	+1.3
	2.6nm,0.5s						
KK31	**Karatay Array**	**6.03**	**358**	⇑P	Pn	21 34 23.4	+1.0
	1.1nm,0.2s						
KK31				⇑S	Sn	21 35 33.5	+1.4
	0.9nm,0.3s,baz=185,slow=23,SNR=10.0						
AAK	**Ala-Archa**	**6.26**	**26**	⇑P	Pn	21 34 24.5	-1.3
AAK				⇓S	Sn	21 35 37.1	-1.1
	3.6nm,0.9s						

KRSC 19 21:34:00.3±0.8, 53.26N×159.76E, h82km±7km, ML4.0, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SPN	**Mys Shipunski**	**0.23**	**135**	*e*P	Pn	21 34 14.0	+1.6
SPN				*e*S	Sn	21 34 23.4	+2.1
NLC	**Nalytchevo**	**0.26**	**251**	*e*P	Pn	21 34 13.7	+1.1
NLC				*e*S	Sn	21 34 23.4	+1.8
SDLR	**Sedlovina**	**0.53**	**273**	*i* P	Pn	21 34 15.5	+0.9
SDLR				*e*S	Sn	21 34 26.3	+1.1
UGLR	**Uglovaya**	**0.56**	**265**	*i* P	Pn	21 34 16.2	+1.3
UGLR				*e*S	Sn	21 34 27.7	+1.9
SMAR	**Somma**	**0.58**	**271**	*i* P	Pn	21 34 16.0	+0.8
SMAR				*e*S	Sn	21 34 27.2	+1.1
KRER	**Koryakskii**	**0.61**	**275**	*i* P	Pn	21 34 16.5	+1.1
KRER				*e*S	Sn	21 34 28.0	+1.4
AVH	**Avacha**	**0.61**	**271**	*e*P	Pn	21 34 16.5	+1.2
AVH				*e*S	Sn	21 34 28.4	+1.9
DALK	**Dalny**	**0.65**	**250**	*e*P	Pn	21 34 16.4	+0.9
DALK				*e*S	Sn	21 34 28.0	+1.1
KRX	**Arik**	**0.67**	**279**	*i* P	Pn	21 34 16.7	+0.7
KRX				*e*S	Sn	21 34 28.4	+0.7
KOK	**Koryaka**	**0.68**	**273**	*e*P	Pn	21 34 16.9	+0.9
KOK				*e*S	Sn	21 34 28.7	+1.1
PET	**Petropavlovsk**	**0.71**	**251**	*i* P	Pn	21 34 17.2	+1.1
PET				*e*S	Sn	21 34 29.0	+1.1
KII	**Karymskiy**	**0.80**	**347**	*e*P	Pn	21 34 17.7	+0.4
KII				*e*S	Sn	21 34 30.6	+0.7
KRMR	**Karymshinskiy**	**1.07**	**247**	*e*P	Pn	21 34 21.1	+0.8
KRMR				*e*S	Sn	21 34 36.1	+0.8
RUS	**Russkaya**	**1.12**	**223**	*i* P	Pn	21 34 22.0	+1.1
RUS				*e*S	Sn	21 34 37.8	+1.5
GNL	**Ganaly**	**1.17**	**293**	*i* P	Pn	21 34 21.8	+0.2
GNL				*e*S	Sn	21 34 37.4	-0.2
MTVR	**Mutnovka**	**1.23**	**232**	*e*P	Pn	21 34 24.1	+1.7
MTVR				*e*S	Sn	21 34 41.5	+2.5
ASAK	**Asacha**	**1.43**	**233**	*i* P	Pn	21 34 26.7	+1.8
ASAK				*e*S	Sn	21 34 46.5	+3.2
KDTR	**Khodutka, Kamc**	**1.78**	**216**	*e*P	Pn	21 34 30.6	+1.3
KDTR				*e*S	Sn	21 34 52.6	+1.3
KZV	**Kizimen**	**1.89**	**9**	*i* P	Pn	21 34 32.5	+1.6
KZV				*e*S	Sn	21 34 56.2	+2.1
TUMD	**Tumrok D**	**1.98**	**11**	*e*P	Pn	21 34 33.4	+1.4
TUMD				*e*S	Sn	21 34 57.4	+1.2
TUMR	**Tumrok**	**2.04**	**6**	*e*P	Pn	21 34 34.8	+1.9
MIPR	**Malaya Ipel'ka**	**2.07**	**243**	*e*P	Pn	21 34 34.9	+1.7
KMNR	**Kamenistaya**	**2.52**	**6**	*e*P	Pn	21 34 41.5	+2.3
BZMR	**Bezymyannaya**	**2.72**	**9**	*e*P	Pn	21 34 44.4	+2.5
KIRR	**Kirishev**	**2.72**	**7**	*e*P	Pn	21 34 44.3	+2.3
KPT	**Kopyto**	**2.73**	**5**	*e*P	Pn	21 34 44.0	+2.0
BZGR	**Bezymyannyi-Gr**	**2.74**	**11**	*e*P	Pn	21 34 44.9	+2.6
BZWR	**Bezymyannyi-We**	**2.75**	**9**	*e*P	Pn	21 34 45.0	+2.6
ZLN	**Zelenaya**	**2.83**	**12**	*e*P	Pn	21 34 46.3	+2.9
LGNR	**Loginova**	**2.88**	**10**	*e*P	Pn	21 34 47.3	+3.0
CIRR	**Tsirk**	**2.92**	**11**	*e*P	Pn	21 34 46.1	+1.4
KRSR	**Krestovskiy**	**3.00**	**9**	*e*P	Pn	21 34 47.8	+2.0
BDR	**Baidarnaya**	**3.42**	**14**	*e*P	Pn	21 34 54.9	+3.5
KBTR	**Krutoberegovo**	**3.45**	**30**	*e*P	Pn	21 34 54.0	+2.3
SMKR	**Semkarok**	**3.47**	**16**	*e*P	Pn	21 34 54.9	+2.8
SMKR				*e*S	Sn	21 35 36.1	+4.0
SRKR	**Sorokina**	**3.50**	**13**	*e*P	Pn	21 34 55.9	+3.5
SRKR				*e*S	Sn	21 35 37.1	+4.4
BKI	**Bering**	**4.13**	**59**	*e*S	Sn	21 35 46.7	-1.3

MEX 19 21:42:14.7±0.5, 16.25N×98.28W, h2km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.21**	**46**	*i* P	Pg	21 42 18.5	-0.2
PNIG				*i* S	Sg	21 42 21.6	+0.1
TLIG	**Tlapa**	**1.34**	**348**	*e*P	Pg	21 42 36.3	-4.1
TLIG				*e*S	Sg	21 42 53.8	-3.9
VHO	**Vista Hermosa**	**1.70**	**61**	*e*P	Pn	21 42 41.5	-4.0
VHO				*e*S	Sn	21 43 04.5	-3.5

IDC 19 21:48:40.5±3.0, 2.32S×140.07E, h0km, mb3.2/2, mb1 3.8/4, mb1mx3.3/52, mbtmp3.7/4, ML3.9/2, Error ellipse: s-maj=80.8km s-min=30.2km az=90.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**18.08**	**244**	P	Pn	21 52 53.1	-0.2
	1.6nm,0.3s,baz=114,slow=4.5,SNR=4.2						
WRA	**Warramunga Arr**	**18.39**	**197**	P	Pn	21 52 56.9	-0.1
	0.2nm,0.3s,baz=16,slow=12,SNR=16						
WRA				S	Sn	21 56 10.5	-13
	0.1nm,0.3s,baz=6.4,slow=23,SNR=3.8						
ASAR	**Alice Springs**	**22.04**	**195**	P	P	21 53 37.0	+0.1
	0.5nm,0.5s,baz=28,slow=10,SNR=8.0						
MKAR	**Makanchi Array**	**70.31**	**322**	P	P	21 59 56.0	0.0
	0.1nm,0.4s,baz=106,slow=8.0,SNR=4.3						

IDC 19 21:49:22.3±3.5, 21.85S×179.63W, h0km, mb3.9/2, mb1 4.3/3, mb1mx3.5/50, mbtmp4.1/3, ML4.4/1, Error ellipse: s-maj=73.5km s-min=58.3km az=86.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**16.60**	**189**	Pn	Pn	21 53 17.3	+0.9
	1.4nm,0.3s,baz=41,slow=20,SNR=5.3						
ASAR	**Alice Springs**	**42.74**	**258**	P	P	21 57 21.1	-0.6
	0.6nm,0.4s,baz=97,slow=7.6,SNR=6.0						
WRA	**Warramunga Arr**	**42.92**	**264**	P	P	21 57 23.4	+0.2
	1.0nm,0.3s,baz=102,slow=8.3,SNR=46						
BRTR	**Keskin Array B**	**146.57**	**310**	PKPbc	PKPdf	22 09 05.2	+0.5
	0.4nm,0.6s,baz=75,slow=1.6,SNR=3.4						

*NIED **19** 21:54:00, 37.00N×141.50E, h8km, Mw3.7 Best double couple: M0=4.60000×10^14 NP1:φ=18.00000°, δ=36.00000°, λ=-96.00000°. NP2:φ=205.00000°, δ=54.00000°, λ=-86.00000°.*
*ISCJB **19** 21:54:08.8±1.1, 37.07N±0.03×141.53E±0.06, h15km±7km, mb3.5/14, Error ellipse: s-maj=8.5km s-min=4.7km az=18.0*
*JMA **19** 21:54:10.7±0.1, 37.07N×141.39E, h32km±1km, M3.9*
JMA Felt II J1.
*IDC **19** 21:54:13.0±6.1, 37.09N×141.36E, h29km±44km, mb3.4/14, mb1 3.6/18, mb1mx3.5/71, mbtmp3.6/18, ML3.4/4, MS2.1/1, Ms1 2.1/1, ms1mx1.9/47, Error ellipse: s-maj=19.9km s-min=14.5km az=95.0*

ISC 19 21:54:10.2±2.1, 37.10N±0.04×141.42E±0.07, h12km±12km, n36, σ0§95/43, mb3.6/14, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ONAJ	**Iwakimizuishiy**	**0.50**	**271**	P	**Pg**	**21 54 20.5**	**+0.5**
ONAJ				S	**Sb**	**21 54 27.6**	**-0.5**
JFK	**Kawauchi**	**0.51**	**302**	P	**Pb**	**21 54 20.8**	**-0.4**
JFK				S	**Sb**	**21 54 27.9**	**-0.7**
JHO	**Hitachi**	**0.84**	**235**	P	**Pb**	**21 54 25.2**	**-1.5**
JHO				S	**Sb**	**21 54 36.4**	**-1.4**
JMM	**Marumori**	**0.92**	**327**	P	**Pb**	**21 54 27.4**	**-0.6**
JMM				S	**Sb**	**21 54 39.5**	**-0.7**
JFT	**Otama**	**0.96**	**296**	P	**Pb**	**21 54 28.5**	**-0.3**
JFT				S	**Sb**	**21 54 40.9**	**-0.6**
JIO	**Ouri**	**1.36**	**358**	P	**Pn**	**21 54 34.2**	**-0.7**
JIO				S	**Sn**	**21 54 51.1**	**-1.7**
JOU	**Okura**	**1.40**	**335**	P	**Pb**	**21 54 35.8**	**-0.5**
JOU				S	**Sb**	**21 54 53.6**	**-0.6**
JFY	**Yanaizu**	**1.40**	**283**	P	**Pb**	**21 54 35.7**	**-0.6**
JFY				S	**Sb**	**21 54 53.9**	**-0.3**
JYS	**Shirataka**	**1.56**	**317**	P	**Pb**	**21 54 38.5**	**-0.4**
JYS				eS	**Sb**	**21 54 57.8**	**-0.7**
MJAR	**Matsushiro Arr**	**2.64**	**259**	Pn	**Pn**	**21 54 52.9**	**+0.4**
	10nm,0.3s,baz=85,slow=15,SNR=88						
MJAR				Sn	**Sb**	**21 55 30.6**	**+0.9**
	12nm,0.3s,baz=92,slow=16,SNR=9.7						
MJAR				LR	LR	21 55 52.3	
	comp=Z,32nm,18.7s,baz=235,slow=39						
MAT	**Matsushiro**	**2.64**	**259**	P	**Pn**	**21 54 53.3**	**+0.7**
MAT				S	**Sb**	**21 55 27.8**	**-1.9**
JHJ	**Hachijo jima 2**	**4.19**	**199**	Pn	**Pn**	**21 55 14.4**	**+0.6**
	13nm,0.3s,baz=114,slow=20,SNR=4.2						
JHJ				Sn	**Sn**	**21 56 03.5**	**+0.8**
	8.7nm,0.3s,baz=90,slow=20,SNR=2.3						
ASAJ	**Asahikawa**	**7.07**	**7**	Pn	**Pn**	**21 55 52.8**	**-0.7**
	0.4nm,0.3s,baz=208,slow=12,SNR=4.2						
ASAJ				Sn	**Sn**	**21 57 16.0**	**+2.4**
	baz=73,slow=20,SNR=2.4						
USRK	**Ussuriysk Ar.**	**10.08**	**318**	Pn	Pn	21 56 39.1	+4.5
	0.1nm,0.3s,baz=123,slow=10,SNR=2.8						
KSRS	**Korea Array**	**10.76**	**276**	Pn	**Pn**	**21 56 45.5**	**+1.5**
	0.1nm,0.3s,baz=96,slow=14,SNR=2.5						
SONM	**Songino Array**	**27.76**	**304**	P	**P**	**21 59 59.7**	**+1.0**
	0.4nm,0.6s,baz=106,slow=9.4,SNR=3.3						
H11N2	**WAKE ISLAND Hy**	**28.17**	**121**	T	T	22 29 29.6	
	baz=313,slow=75,SNR=69						
H11N1	**WAKE ISLAND Hy**	**28.18**	**121**	T	T	22 29 25.4	
	baz=313,slow=75,SNR=75						
H11N3	**WAKE ISLAND Hy**	**28.19**	**121**	T	T	22 29 31.0	
	baz=313,slow=75,SNR=79						
H11S1	**WAKE ISLAND Hy**	**28.89**	**123**	T	T	22 30 23.6	
	baz=315,slow=76,SNR=35						
H11S3	**WAKE ISLAND Hy**	**28.89**	**123**	T	T	22 30 22.9	
	baz=315,slow=76,SNR=27						
H11S2	**WAKE ISLAND Hy**	**28.90**	**123**	T	T	22 30 24.1	
	baz=315,slow=76,SNR=21						
ZALV	**Zalesovo Beam**	**41.88**	**312**	P	**P**	**22 02 00.1**	**+0.1**
	0.6nm,0.5s,baz=124,slow=9.4,SNR=3.5						
MKAR	**Makanchi Array**	**44.09**	**302**	P	**P**	**22 02 17.9**	**-0.2**
	0.6nm,0.8s,baz=91,slow=8.2,SNR=7.5						
KURBB	**Kurchatov Arra**	**45.97**	**308**	P	**P**	**22 02 32.2**	**-0.7**
	1.2nm,0.9s,baz=82,slow=8.1,SNR=7.5						
ILAR	**Eielson Array**	**49.44**	**32**	P	**P**	**22 03 00.2**	**+0.6**
	0.7nm,0.6s,baz=263,slow=5.9,SNR=9.3						
BVAR	**Borovoye Array**	**50.53**	**312**	P	**P**	**22 03 07.3**	**-0.8**
	0.2nm,0.4s,baz=57,slow=5.3,SNR=3.4						
INK	**Inuvik**	**54.33**	**27**	P	**P**	**22 03 37.5**	**+1.5**
	0.8nm,1.0s,baz=308,slow=4.1,SNR=3.3						
WRA	**Warramunga Arr**	**57.12**	**188**	P	**P**	**22 03 56.0**	**-0.6**
	0.5nm,0.5s,baz=4.6,slow=7.3,SNR=13						
WRA				PcP	**PcP**	**22 04 52.3**	**+1.0**
	0.3nm,0.6s,baz=359,slow=4.4,SNR=3.2						
ASAR	**Alice Springs**	**60.85**	**188**	P	**P**	**22 04 22.6**	**+0.2**
	0.2nm,0.3s,baz=17,slow=10,SNR=3.3						
YKA	**Yellowknife Ar**	**63.75**	**30**	P	**P**	**22 04 42.1**	**+0.7**
	0.2nm,0.7s,baz=299,slow=7.6,SNR=3.3						
FINES	**FINESS Array B**	**68.76**	**332**	P	**P**	**22 05 13.4**	**-0.1**
	0.7nm,0.7s,baz=46,slow=8.0,SNR=2.4						
AKASG	**Malin Array Be**	**74.25**	**322**	P	**P**	**22 05 46.3**	**-0.5**
	0.1nm,0.3s,baz=46,slow=6.0,SNR=4.2						
GERES	**GERESS Array B**	**82.66**	**328**	P

SUTC	**Sutluce-Ispart**	**3.23**	**53**	PN	**Pn**	**22 12 18.0**	**+1.0**
SUTC	**Sutluce-Ispart**	**3.23**	**53**	*e*Pn	**Pn**	**22 12 18.0**	**+1.0**

IDC 19 22:13:02.6±19.0, 1°.69N×91°.72E, h0km, mb3.7/3, mb1 3.9/4, mb1mx3.3/67, mbtmp3.8/4, ML3.8/1, Error ellipse: s-maj=397.7km s-min=95.1km az=148.0, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**18.11**	**23**	P	Pn	22 17 15.2	-0.6
	0.1nm,0.3s,baz=218,slow=11,SNR=4.9						
MKAR	**Makanchi Array**	**45.67**	**351**	P	**P**	22 21 24.3	-0.9
	0.3nm,0.6s,baz=168,slow=8.6,SNR=5.1						
KURBB	**Kurchatov Arra**	**50.02**	**349**	P	**P**	22 21 59.4	+0.6
	0.5nm,0.7s,baz=174,slow=7.1,SNR=5.9						
ZALV	**Zalesovo Beam**	**52.40**	**355**	P	**P**	22 22 16.6	0.0
	1.4nm,0.4s,baz=188,slow=6.4,SNR=9.1						

IDC 19 22:23:25.6±999.0, 12°.18N×6°.35E, h0km, Error ellipse: s-maj=629.1km s-min=203.5km az=43.0, Nigeria

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I48TN	**KESRA INFRASON**	**23.67**	**6**	*i*		00 46 50.0	
	baz=184,slow=320,SNR=0.8						
I26DE	**FREYUNG INFRAS**	**37.06**	**8**	*i*		02 10 09.0	
	baz=191,slow=329,SNR=0.5						

*IDC **19** 22:23:48.3±2.3, 1°.49N×95°.05E, h0km, mb3.5/5, mb1 3.5/6, mb1mx3.2/64, mbtmp3.4/6, ML3.2/1, Error ellipse: s-maj=62.8km s-min=26.2km az=46.0*

*ISCJB **19** 22:23:51.8±1.5, 1°.6N±0°.2×95°.17E±0°.09, h33km, mb3.4/5, Error ellipse: s-maj=28.3km s-min=12.6km az=3.3*

ISC 19 22:23:53.9±1.6, 1°.6N±0°.2×95°.2E±0°.1, h35km, n6, σ0‡55/7, mb3.5/5, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**3.94**	**72**	Pn	**Pn**	**22 24 51.8**	**-0.1**
	1.4nm,0.3s,baz=282,slow=12,SNR=9.9						
PSI				Sn	**Sn**	**22 25 36.9**	**-0.1**
	1.4nm,0.3s,baz=257,slow=22,SNR=4.4						
WRA	**Warramunga Arr**	**43.94**	**121**	P	**P**	**22 31 58.0**	**+0.1**
	0.1nm,0.4s,baz=299,slow=8.4,SNR=5.7						
MKAR	**Makanchi Array**	**46.43**	**348**	P	**P**	**22 32 17.6**	**+0.4**
	0.5nm,0.5s,baz=167,slow=8.9,SNR=7.6						
SONM	**Songino Array**	**47.10**	**10**	P	**P**	**22 32 23.0**	**+0.5**
	0.2nm,0.4s,baz=188,slow=8.7,SNR=4.3						
ZALV	**Zalesovo Beam**	**52.91**	**352**	P	**P**	**22 33 06.6**	**+0.3**
	0.5nm,0.6s,baz=157,slow=8.0,SNR=4.6						
BVAR	**Borovoye Array**	**55.27**	**342**	P	**P**	**22 33 22.7**	**-0.8**
	0.3nm,0.7s,baz=134,slow=6.2,SNR=2.4						

*CSEM **19** 22:39:56.2, 38°.06N×30°.08E, h7km, ML2.6*

DDA 19 22:39:56.2, 38°.06N×30°.08E, h7km, Ml2.6, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KZIL	**AFYON_Kizioren**	**0.20**	**14**	*i* P	Pg	22 40 00.5	+0.2
KZIL				*i* S	Sg	22 40 04.7	+1.5
KZIL	**AFYON_Kizioren**	**0.20**	**14**	P	Pg	22 40 00.5	+0.1
KZIL				S	Sg	22 40 04.7	+1.5
BRDR	**BURDUR-Merkez**	**0.36**	**182**	*i* P	Pg	22 40 03.3	0.0
BRDR				*i* S	Sg	22 40 09.3	+1.2
BRDR	**BURDUR-Merkez**	**0.36**	**182**	P	Pg	22 40 03.3	0.0
BRDR				S	Sg	22 40 09.4	+1.3
KHAL	**Karahalli**	**0.56**	**304**	*i* P	Pg	22 40 06.5	-0.6
KHAL				*i* S	Sb	22 40 16.0	-0.6
KHAL	**Karahalli**	**0.56**	**304**	P	Pg	22 40 06.5	-0.5
KHAL				S	Sb	22 40 16.0	-0.6
BAGO	**Egridir - ISPA**	**0.56**	**97**	*i* P	Pg	22 40 07.3	+0.2
BAGO				*i* S	Sb	22 40 16.3	-0.5
BOLV	**Bolvadin**	**0.95**	**46**	*i* P	Pg	22 40 13.6	-0.9
BOLV				*i* S	Sb	22 40 27.8	-0.1
BOLV	**Bolvadin**	**0.95**	**46**	P	Pg	22 40 13.6	-0.9
BOLV				S	Sb	22 40 27.8	-0.1
TAVA	**DENIZLI_Tavas**	**1.10**	**238**	*i* P	Pb	22 40 17.6	0.0
TAVA				*i* S	Sb	22 40 32.5	+0.4
MANT	**Manisa**	**1.27**	**290**	*i* P	Pn	22 40 19.9	-0.8
MANT				*i* S	Sg	22 40 36.5	-0.7

*NIED **19** 22:53:00, 37°.80N×140°.00E, h5km, Mw3.8 Best double couple: M0 5.00000×10^14 NP1:φs=343.00000°, δ29.00000°, λ89.00000°. NP2:φs=163.00000°, δ61.00000°, λ90.00000°.*

*IDC **19** 22:53:39.6±0.7, 37°.76N×139°.96E, h0km, mb3.8/18, mb1 4.0/19, mb1mx3.8/64, mbtmp3.7/19, ML3.2/1, MS2.8/2, Ms1 2.8/2, ms1mx2.3/67, Error ellipse: s-maj=18.5km s-min=11.0km az=129.0*

*ISCJB **19** 22:53:40.8±0.6, 37°.75N±0°.03×140°.01E±0°.04, h18km±4km, mb3.9/23, Error ellipse: s-maj=6.2km s-min=5.0km az=30.9*

*JMA **19** 22:53:41.0, 37°.77N×139°.98E, h7km±1km, M3.8 Broadband fault plane solution: P waves. NP1: φs=174.00000°, δ56.00000°, λ88.00000°. NP2: φs=357.00000°, δ34.00000°, λ92.00000°. Principal axes: T Plg79.0000°, Azm78.0000°; N Plg1.0000°, Azm175.0000°; P Plg11.0000°, Azm265.0000°;*

JMA Felt II J1.

*NEIC **19** 22:53:44.8±0.7, 37°.69N×140°.02E, h38km±6km, mb4.2/4 Error ellipse: s-maj=9.0km s-min=6.2km az=126.0*

ISC 19 22:53:41.4±1.1, 37°.74N±0°.03×139°.99E±0°.04, h11km±7km, n37, σ1‡18/43, mb3.9/23, 3D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JFT	**Otama**	**0.36**	**129**	P	**Pg**	**22 53 48.4**	**-0.1**
JFT				S	**Sg**	**22 53 53.5**	**+0.2**
JFY	**Yanaizu**	**0.41**	**214**	‖P	**Pg**	**22 53 49.3**	**-0.1**
JFY				S	**Sg**	**22 53 55.0**	**+0.2**
JYS	**Shirataka**	**0.48**	**7**	‖P	**Pg**	**22 53 50.0**	**-0.8**
JYS				S	**Sg**	**22 53 56.4**	**-0.8**
JNS	**Sasagawa**	**0.54**	**278**	‖P	**Pg**	**22 53 51.1**	**-0.8**
JNS				S	**Sg**	**22 53 58.1**	**-0.9**
MJAR	**Matsushiro Arr**	**1.86**	**230**	Pg	**Pn**	**22 54 13.6**	**+0.2**
	37nm,0.3s,baz=65,slow=13,SNR=164						
MJAR				Lg	Lg	22 54 39.4	
	31nm,0.3s,baz=25,slow=33,SNR=9.5						
MJAR				LR	LR	22 55 05.5	
	comp=Z,129nm,19.4s,baz=60,slow=47						
MAJO	**Matsushiro**	**1.86**	**230**	*e*Pn	**Pn**	**22 54 13.7**	**+0.4**
MAJO				Sg	**Sn**	**22 54 38.1**	**+1.3**
ERM	**Erimo**	**4.91**	**29**	*e*Pn	**Pn**	**22 54 55.9**	**+0.7**
ASAJ	**Asahikawa**	**6.67**	**16**	Pn	**Pn**	**22 55 20.4**	**+1.1**
	0.5nm,0.3s,baz=229,slow=20,SNR=4.1						
ASAJ				Sn	**Sn**	**22 56 37.6**	**+2.4**
	0.1nm,0.3s,baz=305,slow=34,SNR=2.1						
ASAJ	**Asahikawa**	**6.67**	**16**	*e*Pn	**Pn**	**22 55 20.0**	**+0.7**
	1.5nm,0.8s						
ASAJ				Sn	**Sn**	**22 56 37.6**	**+2.4**
JNU	**Nakatsue**	**8.75**	**241**	LR	LR	22 59 25.7	
	comp=Z,80nm,19.2s,baz=78,slow=40						
KSRS	**Korea Array**	**9.58**	**272**	Pn	**Pn**	**22 56 02.1**	**+2.9**
	0.9nm,0.3s,baz=87,slow=15,SNR=8.3						
KSRS				LR	LR	22 59 24.0	
	comp=Z,39nm,18.4s,baz=130,slow=36						
KSAR	**Wonju Array Be**	**9.61**	**272**	Pn	**Pn**	**22 56 02.1**	**+2.4**
KLR	**Kul'dur**	**12.94**	**335**	Pn	**Pn**	**22 56 47.8**	**+2.7**
	0.0nm,0.3s,baz=139,slow=11,SNR=3.2						
YAK	**Yakutsk**	**25.14**	**349**	*e*P	**P**	**22 59 07.3**	**+1.1**
	4.2nm,0.4s						
SONM	**Songino Array**	**26.45**	**303**	P	**P**	**22 59 18.9**	**+0.4**
	0.7nm,0.7s,baz=100,slow=8.8,SNR=6.2						
ZALV	**Zalesovo Beam**	**40.60**	**312**	P	**P**	**23 01 20.9**	**-0.1**
	0.5nm,0.4s,baz=98,slow=7.7,SNR=4.1						
MKAR	**Makanchi Array**	**42.78**	**301**	P	**P**	**23 01 38.3**	**-0.7**
	0.6nm,0.8s,baz=88,slow=9.8,SNR=5.9						
KURK	**Kurchatov**	**44.60**	**307**	*e*P	**P**	**23 01 52.9**	**-0.6**
	17nm,0.7s						
KURBB	**Kurchatov Arra**	**44.67**	**307**	P	**P**	**23 01 53.4**	**-0.6**
	2.2nm,0.7s,baz=83,slow=8.1,SNR=15						
BVAR	**Borovoye Array**	**49.26**	**312**	P	**P**	**23 02 29.6**	**-0.3**
	1.0nm,0.6s,baz=62,slow=7.6,SNR=6.8						
ILAR	**Eielson Array**	**49.51**	**33**	P	**P**	**23 02 32.1**	**+0.5**
	0.7nm,0.9s,baz=268,slow=6.5,SNR=6.0						
KKAR	**Karatay Array**	**51.79**	**299**	*e*P	**P**	**23 02 49.3**	**+0.1**
	0.8nm,0.5s						
INK	**Inuvik**	**54.27**	**27**	P	**P**	**23 03 07.2**	**+0.1**
	1.0nm,0.7s,baz=322,slow=5.5,SNR=5.0						
ABKAR	**Akbulak array**	**56.61**	**309**	*e*P	**P**	**23 03 23.5**	**-0.7**
	0.8nm,0.6s						
WRA	**Warramunga Arr**	**57.62**	**186**	P	**P**	**23 03 31.0**	**-0.6**
	1.2nm,0.7s,baz=4.4,slow=7.4,SNR=18						
ASAR	**Alice Springs**	**61.35**	**186**	P	**P**	**23 03 57.5**	**+0.2**
	0.6nm,0.7s,baz=12,slow=7.0,SNR=6.2						
YKA	**Yellowknife Ar**	**63.76**	**30**	P	**P**	**23 04 12.9**	**0.0**
	0.2nm,0.6s,baz=305,slow=6.7,SNR=4.7						
FINES	**FINESS Array B**	**67.66**	**332**	P	**P**	**23 04 37.4**	**-0.7**
	2.3nm,0.9s,baz=52,slow=7.2,SNR=3.9						
AKASG	**Malin Array Be**	**73.04**	**322**	P	**P**	**23 05 10.3**	**-0.9**
	0.2nm,0.3s,baz=43,slow=5.7,SNR=4.1						
NOA	**NORSAR Array B**	**73.09**	**337**	P	**P**	**23 05 10.5**	**-0.9**
	0.8nm,0.8s,baz=40,slow=5.9,SNR=3.9						
NVAR	**Mina Array Bea**	**75.46**	**53**	P	**P**	**23 05 26.6**	**+0.7**
	0.7nm,0.6s,baz=294,slow=5.8,SNR=5.3						
RAO	**Raoul Island**	**77.42**	**143**	*e*P	**P**	**23 05 34.0**	**-2.6**
	95nm,0.3s						
BRTR	**Keskin Array B**	**77.53**	**311**	P	**P**	**23 05 36.9**	**-0.6**
	0.7nm,0.9s,baz=64,slow=4.5,SNR=3.5						
PDAR	**Pinedale Array**	**77.97**	**45**	P	**P**	**23 05 40.2**	**+0.2**
	0.3nm,0.5s,baz=285,slow=2.3,SNR=4.9						
CLL	**Collm**	**79.91**	**329**	*e*P	**P**	**23 05 50.0**	**-0.2**
GERES	**GERESS Array B**	**81.51**	**327**	P	**P**	**23 05 58.1**	**-0.8**
	0.4nm,0.4s,baz=38,slow=6.8,SNR=5.3						
TXAR	**Lajitas Array**	**90.58**	**51**	P	**P**	**23 06 43.5**	**-0.6**
	0.5nm,0.7s,baz=277,slow=2.2,SNR=4.7						

*ISCJB **19** 23:02:45.0±0.1, 14°.87S±0°.02×71°.62W±0°.04, h131km, mb4.7/186, Error ellipse: s-maj=5.7km s-min=2.6km az=154.6*

*GCMT **19** 23:02:45.1±0.4, 14°.87S×72°.04W, h138km±4km, MW4.9/81, Moment Tensor Solution. s24,c24; s81,c100; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr2.08±.10; Mθθ-1.13±.13; Mφφ-0.94±.16; Mrθ0.84±.09; Mrφ1.35±.10; Mθφ-1.05±.11; Best double couple: Mo2.60800×10^16 NP1:φs138.00000°, δ61.00000°, λ95.00000°. NP2: φs307.00000°, δ30.00000°, λ81.00000°. Principal axes: T 2.4620, Plg74.0000°, Azm62.0000°; N 0.3020, Plg5.0000°, Azm315.0000°; P -2.7550, Plg15.0000°, Azm224.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **19** 23:02:45.3±0.4, 14°.95S×71°.72W, h110km±4km, mb4.9/178 Error ellipse: s-maj=6.1km s-min=3.4km az=65.0*

*BJI **19** 23:02:46.9, 14°.13S×72°.03W, h123km, mB5.1/8*

*IDC **19** 23:02:47.7±0.5, 14°.78S×71°.70W, h129km±3km, mb4.4/17, mb1 4.5/22, mb1mx4.3/45, mbtmp4.7/22, MS3.3/5, Ms1 3.3/5, ms1mx2.9/40, Error ellipse: s-maj=13.9km s-min=7.9km az=48.0*

ISC 19 23:02:46.9±0.3, 15°.07S±0°.04×71°.88W±0°.06, h128km±3km, h128km:pP-P, n656, σ1‡49/692, mb4.8/186, 1C-3D, Southern Peru

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ARE	**Arequipa**	**1.43**	**165**	‖*e*P	**Pn**	**23 03 14.6**	**+0.2**
ARE				*e*S	**Sn**	**23 03 34.2**	**-1.1**
LPAZ	**La Paz**	**3.81**	**109**	P	**Pn**	**23 03 46.2**	**+1.5**
	9.8nm,0.3s,baz=289,slow=9.8,SNR=78						
LPAZ				S	**Sn**	**23 04 30.6**	**+1.3**
	7.7nm,0.3s,baz=187,slow=16,SNR=6.2						
LPAZ	**La Paz**	**3.81**	**109**	*e*Pn	**Pn**	**23 03 46.7**	**+2.1**
LPAZ				*e*Sn	Sn	23 04 17.5	-12
LPAZ				S	**Sn**	**23 04 30.6**	**+1.3**
LPAZ	**La Paz**	**3.81**	**109**	*e*P	**Pn**	**23 03 46.3**	**+1.7**
PB12	**IPOC Station P**	**3.82**	**157**	‖*i*P	**Pn**	**23 03 43.7**	**-0.6**
PB12				*i* S	**Sn**	**23 04 28.7**	**-0.2**
MNMC	**Minye Minye**	**4.59**	**152**	*e*Pn	**Pn**	**23 03 54.4**	**-0.4**
MNMC				*e*Sn	**Sn**	**23 04 46.8**	**-0.6**
MNMC	**Minye Minye**	**4.59**	**152**	*e*P	**Pn**	**23 03 54.3**	**-0.4**
MNMC				*i* S	**Sn**	**23 04 46.6**	**-0.8**
PSGC	**Pisagua**	**4.80**	**160**	*e*P	**Pn**	**23 03 56.3**	**-1.1**
PSGC				*i* S	**Sn**	**23 04 49.0**	**-3.3**
PB11	**IPOC Station P**	**5.12**	**156**	*e*Pn	**Pn**	**23 03 60.0**	**-1.8**
PB11				*e*Sn	**Sn**	**23 04 57.0**	**-3.0**
PB11	**IPOC Station P**	**5.12**	**156**	*e*P	**Pn**	**23 04 00.4**	**-1.4**
PB11				*i* S	**Sn**	**23 04 56.9**	**-3.1**
PB08	**IPOC Station P**	**5.67**	**153**	*e*P	**Pn**	**23 04 08.6**	**-0.7**
PB08				*i* S	**Sn**	**23 05 11.2**	**-2.4**
NNA	**Nana**	**5.72**	**302**	*e*Pn	**Pn**	**23 04 07.0**	**-2.6**
	421nm,0.6s						
PB01	**IPOC Station P**	**6.36**	**159**	*e*Pn	**Pn**	**23 04 15.9**	**-2.4**
PB01				*e*Sn	Sn	23 05 18.6	-11
PB01	**IPOC Station P**	**6.36**	**159**	*e*P	**Pn**	**23 04 16.0**	**-2.4**
PB01				*i* S	**Sn**	**23 05 23.3**	**-6.5**
PB02	**IPOC Station P**	**6.49**	**163**	*e*P	**Pn**	**23 04 18.2**	**-1.9**
PB02				*i* S	Sn	23 05 20.3	-13
PB07	**IPOC Station P**	**6.88**	**164**	‖*i*P	**Pn**	**23 04 22.2**	**-3.3**
PB04	**IPOC Station P**	**7.41**	**167**	*e*Pn	**Pn**	**23 04 29.2**	**-3.3**
PB04				*e*Sn	**Sn**	**23 05 51.1**	**-4.1**
PB10	**IPOC Station P**	**8.49**	**172**	*e*Pn	**Pn**	**23 04 43.0**	**-3.9**
PB10				*e*Sn	**Sn**	**23 06 16.2**	**-4.9**
ATAH	**Atahualpa**	**10.15**	**320**	P	**Pn**	**23 05 09.8**	**0.0**
	1.3nm,0.3s,baz=136,slow=18,SNR=6.9						
ATAH				S	**Sn**	**23 07 00.8**	**-1.2**
	1.8nm,0.3s,baz=103,slow=19,SNR=2.9						
SIV	**San Ignacio**	**10.46**	**96**	P	**Pn**	**23 05 10.6**	**-2.9**
	1.3nm,0.3s,baz=280,slow=12,SNR=57						
SIV				S	**Sn**	**23 07 03.7**	**-5.3**
	0.9nm,0.3s,baz=253,slow=18,SNR=4.4						
SAML	**Samuel**	**10.46**	**55**	*e*Pn	Pn	23 05 08.5	-5.0
LCO	**Las Campanas**	**13.91**	**176**	*e*Pn	**Pn**	**23 05 58.7**	**-0.2**
OTAV	**Otavalo**	**16.54**	**336**	*e*Pn	**Pn**	**23 06 32.1**	**+0.1**
	58nm,1.6s						
OTAV	**Otavalo**	**16.54**	**336**	*e*P	**Pn**	**23 06 32.1**	**+0.1**
CMBC	**Cumbal**	**16.96**	**339**	*e*P	**Pn**	**23 06 44.2**	**+7.1**
FLOC	**Florencia**	**16.96**	**347**	*e*P	**Pn**	**23 06 36.7**	**0.0**
GCUF	**Volcan Galeras**	**17.07**	**341**	*e*P	**Pn**	**23 06 39.0**	**+0.5**
CRUC	**La Cruz**	**17.28**	**343**	*e*P	**Pn**	**23 06 41.0**	**+0.2**
CPUP	**Villa Florida**	**17.61**	**132**	P	**P**	**23 06 44.0**	**+0.4**
	1.4nm,0.3s,baz=310,slow=11,SNR=56						
CPUP				LR	LR	23 15 24.8	
	comp=Z,55nm,19.9s,baz=308,slow=43						
CPUP	**Villa Florida**	**17.61**	**132**	*e*P	**P**	**23 06 44.0**	**+0.4**
	39nm,0.9s						
SOTA	**Rioblanco**	**17.73**	**344**	*e*P	**Pn**	**23 06 46.0**	**-0.4**
PCON	**Cinco Dias**	**17.86**	**345**	*e*P	**P**	**23 06 47.3**	**+0.4**
PEL	**Peldehue**	**18.02**	**177**	*e*P	**Pn**	**23 06 50.2**	**+0.9**
	57nm,1.1s						
SJAC	**San Juan de Ar**	**18.34**	**353**	*e*P	**P**	**23 06 48.7**	**-3.1**
PTGA	**Pitinga**	**18.48**	**41**	P	**P**	**23 06 50.9**	**-2.3**
	4.1nm,0.3s,baz=307,slow=22,SNR=40						
PTGA	**Pitinga**	**18.48**	**41**	*e*P	**P**	**23 06 50.7**	**-2.5**
	162nm,1.4s						
PRAC	**Prado**	**18.90**	**351**	*e*P	**P**	**23 06 58.7**	**+0.9**
	44nm,0.9s						
PRAC	**Prado**	**18.90**	**351**	*e*P	**Pn**	**23 06 59.3**	**-0.5**
YOTC	**Yotoco, Valle**	**19.44**	**347**	*e*P	**P**	**23 07 03.5**	**-0.3**
GO05	**HualaaæØ**	**19.85**	**180**	*e*P	**Pn**	**23 07 09.6**	**-1.1**
	34nm,0.9s						
ROSC	**El Rosal**	**19.93**	**353**	P	**P**	**23 07 10.3**	**+1.1**
	1.6nm,0.3s,baz=238,slow=22,SNR=2.8						
RREF	**El Recreo**	**20.14**	**350**	*e*P	**P**	**23 07 13.0**	**+1.2**
PLMC	**San Jos¨ del**	**20.32**	**347**	*e*P	**P**	**23 07 12.7**	**-0.5**
GUYC	**Guyana, Colomb**	**20.46**	**350**	*e*P	**P**	**23 07 16.0**	**+0.9**
NORC	**Norcasia**	**20.72**	**352**	*e*P	**P**	**23 07 17.1**	**-0.3**
RUSC	**La Rusia**	**20.86**	**357**	*e*P	**P**	**23 07 17.0**	**-2.4**
	15nm,0.9s						
RUSC				*e*Sn	**S**	**23 11 12.2**	**+6.7**
RUSC	**La Rusia**	**20.86**	**357**	*e*P	**P**	**23 07 16.5**	**-2.9**
HELC	**Santa Helena**	**21.43**	**350**	*e*P	**P**	**23 07 25.5**	**+0.1**
	149nm,1.4s						
HELC	**Santa Helena**	**21.43**	**350**	*e*P	**P**	**23 07 23.4**	**-1.9**
PTBC	**PUERTO BERRIO,**	**21.62**	**353**	*e*P	**P**	**23 07 24.4**	**-2.6**
PAMC	**Pamplona, Colo**	**22.28**	**358**	*e*P	**P**	**23 07 31.0**	**-3.4**
DBBC	**Dabeiba**	**22.36**	**349**	*e*P	**P**	**23 07 35.7**	**+0.9**
ZARC	**Zaragoza, Cauc**	**22.61**	**352**	*e*P	**P**	**23 07 33.7**	**-3.4**
SDV	**Santo Domingo**	**23.84**	**3**	P	**P**	**23 07 49.6**	**+0.9**
	34nm,0.7s,baz=184,slow=13,SNR=26						
SDV	**Santo Domingo**	**23.84**	**3**	*e*P	**P**	**23 07 46.7**	**-1.9**
	44nm,0.8s						
MOTC	**Monteria, Cord**	**23.99**	**351**	*e*P	**P**	**23 07 47.9**	**-2.0**
TRQA	**Tornquist**	**24.51**	**161**	*e*P	**P**	**23 07 54.2**	**-0.2**
	6.9nm,0.8s						
SPB	**Sao Paulo**	**24.55**	**114**	*e*P	**P**	**23 07 54.4**	**-0.4**
	79nm,1.4s						
CODC	**Agust¨›n Codaz**	**24.90**	**356**	*e*P	**P**	**23 07 53.8**	**-4.2**
PLCA	**Paso Flores**	**25.59**	**178**	P	**P**	**23 08 05.7**	**+1.5**
	11nm,1.0s,baz=21,slow=11,SNR=9.6						
PLCA				PcP	**PcP**	**23 11 33.6**	**+1.6**
	1.9nm,0.7s,baz=15,slow=2.4,SNR=3.7						
PLCA	**Paso Flores**	**25.59**	**178**	*e*P	**P**	**23 08 05.3**	**+1.1**
	70nm,1.5s						
PLCA				PcP	**PcP**	**23 11 33.6**	**+1.6**
SVB	**Belmont**	**30.07**	**21**	*e*P	**P**	**23 08 41.5**	**-2.7**
	74nm,0.8s						
CRPR	**Cabo Rojo, PR**	**33.21**	**8**	*e*P	**P**	**23 09 09.0**	**-2.6**
	82nm,1.3s						
RPN	**Rapa Nui**	**36.80**	**245**	LR	LR	23 20 33.4	
	comp=Z,70nm,20.3s,baz=342,slow=29						
060A	**Indiantown**	**42.66**	**349**	P	**P**	**23 10 32.9**	**+2.0**
	baz=168						
LNIG	**Linares**	**47.98**	**326**	*e*P	**P**	**23 11 12.5**	**-0.5**
	21nm,1.2s						
254A	**Abbeville**	**48.01**	**347**	P	**P**	**23 11 12.1**	**-0.9**
	baz=165						
ZAIG	**Zacatecas**	**48.14**	**321**	*e*P	**P**	**23 11 16.0**	**+1.4**
NHSC	**New Hope**	**48.56**	**351**	P	**P**	**23 11 16.8**	**-0.4**
	baz=169						
154A	**Montrose**	**48.62**	**347**	P	**P**	**23 11 16.7**	**-1.0**
	baz=165						
251A	**Midway**	**48.66**	**345**	P	**P**	**23 11 16.4**	**-1.6**
	baz=162						
250A	**Grady**	**48.77**	**344**	P	**P**	**23 11 17.2**	**-1.7**
	baz=161						
347A	**Saraland**	**48.90**	**341**	P	**P**	**23 11 18.7**	**-1.1**
	baz=158						
249A	**Camden**	**49.01**	**343**	P	**P**	**23 11 19.5**	**-1.2**
	baz=160						
346A	**Big Creek Wild**	**49.19**	**340**	P	**P**	**23 11 20.9**	**-1.2**
	baz=157						
150A	**Eclectic**	**49.30**	**344**	P	**P**	**23 11 21.6**	**-1.4**
	baz=162						
GOGA	**Godfrey**	**49.47**	**347**	P	**P**	**23 11 22.7**	**-1.5**
	baz=165						
GOGA	**Godfrey**	**49.47**	**347**	*e*P	**P**	**23 11 23.2**	**-0.9**
	6.8nm,0.9s						
247A	**Quitman**	**49.53**	**341**	P	**P**	**23 11 23.3**	**-1.3**
	baz=158						
344A	**Westbrook Farm**	**49.67**	**339**	P	**P**	**23 11 24.9**	**-0.8**
	baz=156						
JSC	**Jenkinsville**	**49.89**	**350**	*e*PcP	**PcP**	**23 12 46.9**	**+1.0**
Z50A	**Ashland**	**49.89**	**345**	P	**P**	**23 11 25.7**	**-1.7**
	baz=162,SNR=7.7						
LRAL	**Lakeview Retre**	**49.97**	**343**	P	**P**	**23 11 26.5**	**-1.5**
	baz=161						
LRAL	**Lakeview Retre**	**49.97**	**343**	*e*P	**P**	**23 11 25.9**	**-2.1**
	9.3nm,0.9s						
Z49A	**Columbiana**	**49.99**	**344**	P	**P**	**23 11 26.8**	**-1.4**
	baz=161						
342A	**Flagon Creek P**	**50.18**	**337**	P	**P**	**23 11 29.5**	**-0.1**
	baz=154						
Z47A	**Carrollton**	**50.43**	**342**	P	**P**	**23 11 30.0**	**-1.5**
	baz=159						
Z48A	**Northport**	**50.45**	**343**	P	**P**	**23 11 29.9**	**-1.7**
	baz=160,SNR=5.2						
145A	**Houston Renfro**	**50.45**	**340**	P	**P**	**23 11 30.4**	**-1.3**
	baz=157						
Y49A	**Blount Mountai**	**50.59**	**344**	P	**P**	**23 11 30.8**	**-1.8**
	baz=162						
833A	**Chaparral WMA,**	**50.70**	**328**	P	**P**	**23 11 33.4**	**-0.2**
	baz=145						
KMSC	**Kings Mountain**	**50.74**	**350**	P	**P**	**23 11 32.6**	**-1.1**
	baz=168						
KMSC	**Kings Mountain**	**50.74**	**350**	*e*P	**P**	**23 11 33.3**	**-0.4**
	19nm,1.3s						
Y47A	**UCPARC, Winfie**	**51.02**	**343**	P	**P**	**23 11 34.1**	**-1.8**
	baz=160,SNR=9.0						
Z45A	**Winona**	**51.09**	**341**	P	**P**	**23 11 35.1**	**-1.3**
	baz=158						
X49A	**Woodville**	**51.19**	**345**	P	**P**	**23 11 35.3**	**-1.8**
	baz=162						
Z44A	**Pea Ridge, Bel**	**51.24**	**340**	P	**P**	**23 11 36.3**	**-1.2**
	baz=157						
Y46A	**Houston**	**51.30**	**342**	P	**P**	**23 11 36.2**	**-1.8**
	baz=159						
X48A	**Hartselle**	**51.32**	**344**	P	**P**	**23 11 36.4**	**-1.7**
	baz=161						
NCAT	**North Carolina**	**51.42**	**352**	*e*P	**P**	**23 11 38.1**	**-0.7**
	19nm,0.9s						
Y45A	**Yeager Farm, C**	**51.50**	**341**	P	**P**	**23 11 38.2**	**-1.2**
	baz=158						
X47A	**Russelville**	**51.60**	**343**	P	**P**	**23 11 37.8**	**-2.4**
	baz=160			

	baz=154,SNR=11							
T43A	Greenville baz=158,SNR=7.4	54.70	342	P	P	23	12	01.0 -1.9
WCI	Wyandotte Cave baz=163	54.72	346	P	P	23	12	01.0 -2.0
WCI	Wyandotte Cave 12nm,0.8s	54.72	346	eP	P	23	12	01.1 -1.9
S45A	Carrier Mills baz=160,SNR=5.1	54.77	344	P	P	23	12	01.5 -1.8
R48A	Northridge Ran baz=163	54.78	347	P	P	23	12	01.9 -1.6
R47A	Wooly Knot Far baz=162	54.84	346	P	P	23	12	01.5 -2.3
U40A	Yellville baz=155,SNR=6.2	54.86	339	P	P	23	12	02.3 -1.7
T42A	Van Buren baz=157,SNR=5.5	54.90	341	P	P	23	12	02.0 -2.2
MVL	Millersville 8.0nm,0.7s	54.95	356	eP	P	23	12	03.9 -0.6
MCWV	Mont Chateau baz=170	54.95	352	P	P	23	12	04.3 -0.3
MCWV	Mont Chateau 35nm,0.8s	54.95	352	eP	P	23	12	04.7 +0.1
S44A	Carbondale baz=159,SNR=5.2	54.97	343	P	P	23	12	03.1 -1.7
SIUC	Southern Illin 36nm,0.6s	54.98	343	eP	P	23	12	03.6 -1.3
R46A	Gibon Southern baz=161	55.00	345	P	P	23	12	02.7 -2.2
S43A	Fulton Ridge, baz=158	55.09	342	P	P	23	12	03.7 -2.0
U39A	Green Forest baz=154	55.10	339	P	P	23	12	04.0 -1.7
T41A	Mountain View baz=156,SNR=6.0	55.12	341	P	P	23	12	04.0 -1.9
R45A	Skylar, Fairfi baz=160,SNR=5.8	55.27	344	P	P	23	12	05.1 -1.8
O56A	Blue Knob Stat baz=172,SNR=14	55.41	354	P	P	23	12	07.7 -0.2
O56A	Blue Knob Stat 30nm,0.8s	55.41	354	eP	P	23	12	07.7 -0.2
Q47A	Bedord North L baz=163	55.42	346	P	P	23	12	05.8 -2.2
R44A	Waltonville baz=160	55.44	344	P	P	23	12	06.3 -1.8
T40A	Mansfield baz=155,SNR=6.2	55.46	340	P	P	23	12	06.6 -1.8
S42A	Caledonia baz=158	55.49	342	P	P	23	12	06.3 -2.2
TUL1	Leonard baz=152	55.53	336	P	P	23	12	07.8 -1.0
TUL1	Leonard 16nm,0.8s	55.53	336	eP	P	23	12	08.0 -0.8
S41A	Jillco Farms, baz=156,SNR=9.3	55.61	341	P	P	23	12	07.4 -2.0
T39A	Clever baz=154	55.64	339	P	P	23	12	08.4 -1.2
R43A	Red Bud baz=159,SNR=11	55.70	343	P	P	23	12	08.4 -1.6
SSPA	Standing Stone baz=173	55.70	354	P	P	23	12	09.3 -0.7
SSPA	Standing Stone 17nm,1.2s	55.70	354	eP	P	23	12	09.6 -0.4
WMOK	Wichita Mounta baz=148	55.74	333	P	P	23	12	08.8 -1.6
WMOK	Wichita Mounta	55.74	333	eP	P	23	12	08.8 -1.6
WMOK				ePcP	PcP	23	13	08.7 +0.6
N59A	State Game Lan baz=175	55.82	356	P	P	23	12	09.6 -1.2
S40A	Lebanon baz=156,SNR=6.3	55.87	340	P	P	23	12	09.5 -1.7
CCM	Cathedral Cave baz=157	55.89	342	P	P	23	12	09.5 -1.8
P47A	Martinsville baz=163	55.91	347	P	P	23	12	09.3 -2.2
R42A	Luebbering baz=158	55.96	342	P	P	23	12	09.8 -2.0
T38A	Diamond baz=154,SNR=8.2	55.97	338	P	P	23	12	10.6 -1.4
ACSO	Alum Creek Sta baz=167	55.98	350	P	P	23	12	10.1 -1.9
ACSO	Alum Creek Sta 21nm,1.1s	55.98	350	eP	P	23	12	10.7 -1.3
Q44A	Meyer Farm, Va baz=160	56.04	344	P	P	23	12	10.2 -2.2
R41A	Rosebud baz=157,SNR=12	56.15	342	P	P	23	12	11.4 -1.8
S39A	Bolivar baz=155,SNR=10	56.22	340	P	P	23	12	12.0 -1.7
N54A	Moraine State baz=170,SNR=11	56.25	353	P	P	23	12	13.3 -0.6
N54A	Moraine State 38nm,0.9s	56.25	353	eP	P	23	12	13.8 -0.1
P45A	Graceland, Par baz=161	56.30	345	P	P	23	12	12.0 -2.2
S38A	Stockton baz=154	56.37	339	P	P	23	12	12.8 -2.0
R40A	Maddies Statio baz=156,SNR=7.1	56.42	341	P	P	23	12	13.3 -1.8
P44A	Sand Creek, Wi baz=160	56.46	344	P	P	23	12	13.4 -2.0
Q42A	Golden Eagle baz=158	56.47	343	P	P	23	12	14.0 -1.5
MNTX	Cornudas Mount baz=140,SNR=5.2	56.53	326	P	P	23	12	14.8 -1.3
MNTX	Cornudas Mount 11nm,1.1s	56.53	326	eP	P	23	12	15.5 -0.6
O47A	Sheridan baz=163	56.61	347	P	P	23	12	13.9 -2.5
R39A	Chumby, Stover baz=155	56.69	340	P	P	23	12	15.7 -1.4
BRYW	Bryant College 23nm,0.7s	56.70	0	eP	P	23	12	15.9 -1.2
Q41A	Truxton baz=157,SNR=5.4	56.71	342	P	P	23	12	15.3 -1.9
M54A	Oil Creek Stat baz=171,SNR=22	56.75	353	P	P	23	12	16.7 -0.7
M54A	Oil Creek Stat 54nm,0.9s	56.75	353	eP	P	23	12	16.7 -0.7
P43A	Skaggs, Pawnee baz=159	56.86	344	P	P	23	12	16.1 -2.1
R38A	Fenwick Farm, baz=154,SNR=5.3	56.87	339	P	P	23	12	16.5 -1.8
ALLY	Alegheny Colle 57nm,0.7s	56.95	353	eP	P	23	12	18.2 -0.6
SFIN	Lafayette baz=162	56.95	346	P	P	23	12	16.1 -2.7
MSTX	Muleshoe baz=144,SNR=6.3	56.96	329	P	P	23	12	18.1 -1.1
MSTX	Muleshoe 22nm,1.1s	56.96	329	eP	P	23	12	18.2 -1.0
O45A	Potomac baz=162	56.98	346	P	P	23	12	16.3 -2.7
Q40A	Laux Farm, Aux baz=156	57.01	341	P	P	23	12	17.1 -2.1
P42A	Winchester baz=158	57.04	343	P	P	23	12	17.4 -2.1
BINY	Binghamton baz=175	57.11	356	P	P	23	12	19.0 -0.9
BINY	Binghamton 44nm,1.4s	57.11	356	eP	P	23	12	19.2 -0.7
HRV	Adam Dziewonsk baz=180	57.29	0	P	P	23	12	19.8 -1.4
P41A	Barry, Barry baz=158	57.33	342	P	P	23	12	19.4 -2.1
Q39A	Willow Grove F baz=156	57.34	341	P	P	23	12	19.8 -1.7
ERPA	Erie baz=170,SNR=13	57.39	353	P	P	23	12	20.9 -1.0
ERPA	Erie 71nm,0.8s	57.39	353	eP	P	23	12	21.6 -0.3
Q38A	Cooks Store, C baz=155,SNR=6.8	57.47	340	P	P	23	12	21.1 -1.4
P40A	Paris baz=157,SNR=5.4	57.49	342	P	P	23	12	20.7 -1.9
O42A	Bath baz=159	57.53	344	P	P	23	12	20.9 -2.0
TRY	Troy 12nm,0.8s	57.54	358	eP	P	23	12	22.3 -0.6
HDIL	Hopedale baz=160	57.66	344	P	P	23	12	21.2 -2.6
P39B	Salisbury baz=156	57.67	341	P	P	23	12	21.9 -2.0
O41A	Passleys Farm, baz=158	57.68	343	P	P	23	12	21.7 -2.3
MMNY	Mt. Morris Dam 22nm,0.6s	57.78	355	eP	P	23	12	24.1 -0.6
O40A	La Belle	57.98	342	P	P	23	12	24.2 -1.8
	baz=157							
N43A	Stutzman Famil baz=160	57.99	345	P	P	23	12	24.0 -2.1
P38A	Dawn baz=155	58.04	340	P	P	23	12	24.7 -1.8
N42A	Yates City baz=159	58.11	344	P	P	23	12	24.7 -2.3
ACCN	Adirondack Com	58.19	358	ePcP	PcP	23	13	17.5 0.0
N41A	Harden Midland baz=158	58.23	343	P	P	23	12	25.6 -2.1
P37A	Lathrop baz=154	58.28	340	P	P	23	12	26.2 -2.0
O39A	Kirksville baz=156	58.30	341	P	P	23	12	26.7 -1.6
TYNO	Tyneside baz=171,SNR=9.3	58.34	353	P	P	23	12	27.4 -1.1
M43A	Waltham Townsh baz=160	58.40	345	P	P	23	12	26.4 -2.5
121A	Cookes Peak, D baz=138,SNR=5.4	58.49	324	P	P	23	12	30.3 +0.4
121A	Cookes Peak, D 11nm,0.9s	58.49	324	eP	P	23	12	30.4 +0.4
319A	Douglas 14nm,0.8s	58.50	322	eP	P	23	12	30.6 +0.6
N40A	Mertquake, Sal baz=157	58.60	343	P	P	23	12	28.3 -2.0
DRWO	Darlington Wes baz=172,SNR=15	58.99	354	P	P	23	12	32.0 -0.9
WLVO	Wesleyville baz=172,SNR=14	59.01	355	P	P	23	12	32.0 -1.0
LBNH	Lisbon baz=180	59.03	360	P	P	23	12	32.1 -1.2
L43A	Garden Prairie baz=161	59.05	345	P	P	23	12	31.2 -2.3
M40A	Post Highland baz=158	59.06	343	P	P	23	12	31.3 -2.2
BNM	Barren Site	59.08	327	eP	P	23	12	34.3 +0.2
L42A	Oliver, Polo baz=160	59.12	345	P	P	23	12	31.5 -2.3
LPM	Los Pinos Moun	59.20	327	eP	P	23	12	35.1 +0.2
N37A	Lee Faris, Mou baz=155	59.29	340	P	P	23	12	33.1 -2.0
L41A	Preston baz=159,SNR=5.3	59.40	344	P	P	23	12	33.4 -2.5
LONY	Lake Ozonia baz=177	59.46	358	P	P	23	12	35.0 -1.1
LONY	Lake Ozonia 7.7nm,0.9s	59.46	358	eP	P	23	12	35.1 -1.1
DELO	Deloro Mine baz=173,SNR=12	59.53	355	P	P	23	12	35.5 -1.2
LAZ	Ladron	59.54	326	eP	P	23	12	37.8 +0.5
M38A	Pleasantville baz=156	59.57	342	P	P	23	12	35.2 -1.8
L40A	Anamosa baz=158	59.59	343	P	P	23	12	35.5 -1.6
N36A	Muff Farm, Cla baz=154	59.59	340	P	P	23	12	35.7 -1.4
ANMO	Albuquerque baz=140	59.60	327	P	P	23	12	37.4 -0.3
ANMO	Albuquerque 4.3nm,0.8s	59.60	327	eP	P	23	12	37.3 -0.3
CBKS	Cedar Bluff baz=148	59.61	335	P	P	23	12	35.9 -1.6
FRNY	Flat Rock 45nm,1.8s	59.64	359	eP	P	23	12	36.7 -0.7
K42A	Prairie Point, baz=160,SNR=6.0	59.76	345	P	P	23	12	36.2 -2.1
K41A	Shullsburg baz=159	59.85	344	P	P	23	12	37.0 -1.9
SADO	Sadowa 42nm,0.8s	59.92	354	eP	P	23	12	38.2 -1.1
PLVO	Plevna baz=174,SNR=5.8	60.01	356	P	P	23	12	38.8 -1.1
PLVO	Plevna 10nm,0.7s	60.01	356	eP	P	23	12	39.2 -0.7
BANO	Bancroft baz=173,SNR=6.5	60.06	355	P	P	23	12	39.0 -1.3
TUC	Tucson baz=136	60.06	322	P	P	23	12	40.5 -0.1
TUC	Tucson 3.8nm,0.9s	60.06	322	eP	P	23	12	41.0 +0.3
PKME	Peaks-Kenny Pk baz=183	60.10	2	P	P	23	12	39.5 -1.0
M36A	Felix, Anita baz=154	60.11	340	P	P	23	12	39.1 -1.6
J43A	Natural Harves baz=161	60.11	346	P	P	23	12	38.6 -2.0
JFWS	Jewell Farm baz=159	60.12	345	P	P	23	12	38.8 -2.0
N34A	Lincoln baz=152	60.13	339	P	P	23	12	39.4 -1.5
K40A	Colesburg baz=158	60.15	344	P	P	23	12	38.7 -2.3
L38A	Oak Wood Farm, baz=156	60.16	342	P	P	23	12	38.9 -2.1
J42A	Columbus baz=161	60.22	346	P	P	23	12	39.4 -2.0
T25A	Trinidad baz=143,SNR=10.0	60.30	330	P	P	23	12	42.2 -0.1
T25A	Trinidad 13nm,0.9s	60.30	330	eP	P	23	12	42.3 -0.1
M35A	Neola baz=153	60.41	340	P	P	23	12	41.6 -1.2
MHTCO	State Highway 11nm,0.9s	60.42	330	eP	P	23	12	43.6 +0.4
J41A	Loganville baz=160	60.48	345	P	P	23	12	41.4 -1.9
I43A	Langenfeld Bro baz=162	60.53	347	P	P	23	12	42.2 -1.3
KLBO	Killbear Provi baz=171,SNR=14	60.62	353	P	P	23	12	42.7 -1.4
L36A	Harm Buss Farm baz=154	60.65	341	P	P	23	12	42.7 -1.6
J40A	Soldiers Grove baz=159,SNR=8.9	60.70	344	P	P	23	12	42.7 -2.0
M34A	Aspy Farms, Fr baz=152	60.75	339	P	P	23	12	43.8 -1.3
J39A	Decorah baz=158,SNR=6.7	60.90	344	P	P	23	12	43.9 -2.2
M33A	Taylor Creek F baz=152	61.03	338	P	P	23	12	45.5 -1.5
214A	Organ Pipe Nat baz=134,SNR=5.1	61.03	320	P	P	23	12	47.7 +0.5
TRQ	Mont Tremblant	61.06	358	eP	P	23	12	45.8 -1.3
K36A	Gilmore City baz=155	61.06	341	P	P	23	12	45.6 -1.6
L34A	Svendsen Farm, baz=153	61.09	339	P	P	23	12	45.8 -1.6
I41A	Arkdale baz=160	61.10	345	P	P	23	12	45.4 -1.9
I40A	Norwalk baz=159	61.13	345	P	P	23	12	45.9 -1.7
X18A	Snowflake 8.8nm,1.0s	61.18	324	eP	P	23	12	49.2 +0.8
H42A	Shiocton baz=161	61.21	346	P	P	23	12	46.2 -1.9
H42A	Shiocton 24nm,0.6s	61.21	346	eP	P	23	12	46.8 -1.3
BGNE	Belgrade 21nm,0.3s	61.23	338	eP	P	23	12	47.7 -0.6
SDCO	Great Sand Dun baz=142,SNR=18	61.30	330	P	P	23	12	49.2 0.0
SDCO	Great Sand Dun 19nm,0.8s	61.30	330	eP	P	23	12	49.3 0.0
SDCO				epP	pP	23	13	20.1 +0.1
I39A	Houston baz=158,SNR=6.0	61.33	344	P	P	23	12	47.1 -1.9
K35A	Storm Lake baz=154	61.39	341	P	P	23	12	48.3 -1.1
W18A	Petrified Fore baz=138	61.49	325	P	P	23	12	50.6 +0.2
H41A	Junction City baz=160	61.57	346	P	P	23	12	48.5 -2.0
J36A	Seneca 1, Swea baz=155	61.66	342	P	P	23	12	49.5 -1.6
F45A	CMU Biological baz=165	61.72	349	P	P	23	12	49.4 -2.1
I38A	Scanlan Farm, baz=157,SNR=6.2	61.72	343	P	P	23	12	49.7 -1.8
H40A	Chili baz=160	61.75	345	P	P	23	12	50.0 -1.8
G42A	Mountain baz=162	61.88	347	P	P	23	12	50.8 -1.8
X16A	Lo Mia Camp, P 10nm,0.9s	61.95	323	eP	P	23	12	54.2 +0.7
X16A				ePcP	PcP	23	13	30.5 -2.5
S22A	4UR Ranch, Cre baz=141,SNR=8.8	61.95	329	P	P	23	12	53.5 -0.2
S22A	4UR Ranch, Cre 5.4nm,0.8s	61.95	329	eP	P	23	12	53.5 -0.2
J35A	Milford baz=154	61.96	341	P	P	23	12	51.8 -1.4
I37A	Lemond, Waseca baz=156	62.00	343	P	P	23	12	52.0 -1.4
Q24A	Divide baz=143,SNR=7.2	62.11	331	P	P	23	12	54.3 -0.4
J34A	George baz=153	62.13	340	P	P	23	12	53.1 -1.2
F43A	Flat Rock, Esc baz=163	62.18	348	P	P	23	12	52.6 -2.0
113A	Mohawk Valley, 7.8nm,0.8s	62.18	321	eP	P	23	12	55.3 +0.5
I36A	Fitzsimmons Fa baz=156	62.19	342	P	P	23	12	52.9 -1.8
H38A	Maiden Rock baz=158	62.30	344	P	P	23	12	53.8 -1.6
I35A	Creekview Farm baz=154	62.33	341	P	P	23	12	54.4 -1.3
OGNE	Ogallala baz=147	62.35	335	P	P	23	12	55.2 -0.8
H37A	Dierke Farm, C baz=157	62.38	343	P	P	23	12	54.6 -1.4
MVCO	Mesa Verde baz=139	62.39	327	P	P	23	12	56.4 -0.1
MVCO	Mesa Verde 17nm,1.3s	62.39	327	eP	P	23	12	56.5 -0.1
J33A	Davis baz=152,SNR=5.8	62.49	340	P	P	23	12	55.4 -1.3
F41A	Three Lakes baz=161	62.50	346	P	P	23	12	55.3 -1.5
K31A	O'Neill baz=150	62.51	338	P	P	23	12	56.0 -0.9
G38A	Ridgeland baz=158	62.64	344	P	P	23	12	55.8 -1.9
E43A	Lone Tree Farm baz=163	62.66	348	P	P	23	12	55.8 -2.0
H36A	Jessenland, He baz=156,SNR=10	62.67	342	P	P	23	12	56.7 -1.2
WUAZ	Wupatki baz=136,SNR=6.4	62.70	324	P	P	23	12	58.9 +0.4
WUAZ	Wupatki 14nm,0.9s	62.70	324	eP	P	23	12	59.4 +0.9
ECSD	EROS Data Cent baz=153,SNR=5.8	62.74	340	P	P	23	12	57.1 -1.3
ECSD	EROS Data Cent 14nm,1.3s	62.74	340	eP	P	23	12	57.5 -0.9
J32A	Parkston baz=152	62.84	339	P	P	23	12	57.5 -1.6
E42A	Champion baz=162	62.90	348	P	P	23	12	57.6 -1.8
F40A	Park Falls baz=160,SNR=6.6	62.91	346	P	P	23	12	58.0 -1.5
SPMN	Marine on St. baz=157	62.95	344	P	P	23	12	58.0 -1.7
SPMN	Marine on St. 8.6nm,0.8s	62.95	344	eP	P	23	12	58.5 -1.2
ISCO	Idaho Springs baz=143,SNR=10.0	62.99	331	P	P	23	13	00.4 -0.1
ISCO	Idaho Springs 4.9nm,0.8s	62.99	331	eP	P	23	13	00.4 -0.1
GLA	Glamis baz=132	63.02	320	P	P	23	13	01.1 +0.6
H35A	Sunnyside Ranc baz=155,SNR=15	63.05	342	P	P	23	12	58.8 -1.5
I33A	Coleman baz=153	63.08	340	P	P	23	12	59.6 -1.0
PV01	Paradox Valley	63.13	328	eP	P	23	13	02.0 +0.6
SMCO	Snowmass 9.9nm,0.7s	63.14	330	eP	P	23	13	01.8 +0.2
E41A	Kenton baz=161	63.16	347	P	P	23	12	59.6 -1.5
G36A	St. Michael baz=156	63.22	343	P	P	23	13	00.3 -1.2
I32A	Karley and Nic baz=152	63.29	340	P	P	23	13	01.0 -1.0
H34A	Spellman Lake, baz=154,SNR=8.2	63.31	341	P	P	23	13	00.9 -1.2
Y12C	Blythe baz=133	63.31	321	P	P	23	13	03.2 +0.8
F38A	Pierce - Schro baz=158	63.38	345	P	P	23	13	01.0 -1.5
E39A	Mellen baz=160	63.44	346	P	P	23	13	01.7 -1.3
PDMCI	Parker Dam,Lak baz=133	63.46	322	P	P	23	13	03.6 +0.3
IKP	In-Ko-Pah, Jac baz=131	63.56	319	P	P	23	13	05.0 +0.8
H33A	Prehn Over Nor baz=153,SNR=5.0	63.63	340	P	P	23	13	03.2 -1.0
D41A	Chassel baz=162	63.64	347	P	P	23	13	02.9 -1.3
I31A	Royce, Wessing baz=151,SNR=7.2	63.66	339	P	P	23	13	03.5 -0.9
H32A	Carlson Farm, baz=152	63.70	340	P	P	23	13	03.6 -1.1
F36A	Milaca baz=156,SNR=9.7	63.73	343	P	P	23	13	03.3 -1.5
G34A	Benson baz=154	63.78	342	P	P	23	13	04.0 -1.2
BC3	Big Chuckawall baz=132	63.82	320	P	P	23	13	06.3 +0.5
W13A	Hualapai Mount 4.4nm,0.8s	63.85	322	eP	P	23	13	07.2 +1.0
U15A	North Rim 8.3nm,1.1s	63.87	324	eP	P	23	13	07.1 +0.8
E38A	The Farm, Brul baz=159	63.90	345	P	P	23	13	04.7 -1.2
MONP2	Monument Peak baz=131	63.92	319	P	P	23	13	07.3 +0.7
BAR	Barrett 16nm,0.9s	63.94	319	eP	P	23	13	07.7 +1.2
IRM	Iron Mountain baz=132,SNR=6.4	63.97	321	P	P	23	13	07.3 +0.6
N23A	Red Feather La baz=143	64.01	332	P	P	23	13	06.9 -0.3
E36A	McGregor baz=157,SNR=8.6	64.26	344	P	P	23	13	07.0 -1.3
109C	Camp Elliot, M baz=130	64.35	319	P	P	23	13	09.9 +0.7
XPFO	Piæon Flat 14nm,1.3s	64.41	320	eP	P	23	13	10.9 +1.1
PFO	Pinyon Flats O baz=131	64.42	320	P	P	23	13	10.5 +0.7
PFO	Pinyon Flats O 13nm,1.3s	64.42	320	eP	P	23	13	10.9 +1.1
O20A	White River Ci baz=140,SNR=11	64.50	330	P	P	23	13	10.4 +0.1
O20A	White River Ci 14nm,0.8s	64.50	330	eP	P	23	13	10.4 +0.1
F33A	5 Mile Ranch, baz=154,SNR=5.7	64.52	341	P	P	23	13	08.8 -1.3
C40A	Isle Royale Na baz=161	64.58	347	P	P	23	13	08.8 -1.5
KNB	Kanab 19nm,1.1s	64.59	325	eP	P	23	13	12.1 +1.2
G31A	Conde baz=152	64.59	340	P	P	23	13	09.4 -1.1
E35A	Pequot Lakes baz=156,SNR=5.8	64.61	343	P	P	23	13	09.3 -1.3
D37A	Cotton baz=158,SNR=5.3	64.63	345	P	P	23	13	09.4 -1.4
C39A	Grand Marais baz=160,SNR=6.7	64.70	347	P	P	23	13	09.6 -1.5
GMRC	Granite Mounta baz=132,SNR=7.4	64.70	321	P	P	23	13	12.3 +0.7
E34A	Wadena baz=155	64.79	342	P	P	23	13	10.8 -1.0
F32A	Veblen baz=153	64.81	341	P	P	23	13	10.7 -1.2
D36A	Goodland baz=157	64.84	344	P	P	23	13	11.2 -0.9
C38A	Sawbill Land. baz=159	64.87	346	P	P	23	13	10.4 -1.8
SRU	San Rafael Swe 12nm,1.0s	64.87	328	eP	P	23	13	13.1 +0.4
MTPU	Mount Pierson 5.5nm,0.7s	64.97	326	eP	P	23	13	14.3 +0.7
E33A	Westby DABS, E baz=154	65.03	342	P	P	23	13	12.0 -1.3
C37A	Embarrass baz=158,SNR=6.9	65.10	345	P	P	23	13	12.4 -1.3
P18A	Preston Nutter 11nm,0.9s	65.11	328	eP	P	23	13	14.9 +0.6
EYMN	Ely baz=159	65.14	346	P	P	23	13	12.3 -1.6
EYMN	Ely	65.14	346	eP	P	23	13	12.7 -1.3

	8.7nm,0.7s								
HEC	**Hector,Ludlow**	**65.14**	**321**	P	**P**	23	13	15.3	**+0.9**
	baz=132,SNR=9.1								
F31A	**Hecla**	**65.17**	**340**	P	**P**	23	13	13.4	**-0.8**
	baz=152,SNR=14								
P17A	**Butcher Ranch,**	**65.25**	**328**	*e*P	**P**	23	13	15.4	**+0.3**
	14nm,0.8s								
CCUT	**Cedar City**	**65.27**	**325**	*e*P	**P**	23	13	16.9	**+1.5**
	9.3nm,0.8s								
CCUT				*ep*P	**PcP**	23	13	48.0	**+1.3**
C36A	**Pine Crest Far**	**65.30**	**345**	P	**P**	23	13	13.8	**-1.2**
	baz=158,SNR=11								
MSU	**Marysvale**	**65.31**	**326**	*e*P	**P**	23	13	16.2	**+0.6**
D34A	**Park Rapids**	**65.32**	**343**	P	**P**	23	13	13.7	**-1.5**
	baz=155								
E32A	**Braaten, Kindr**	**65.44**	**341**	P	**P**	23	13	14.7	**-1.2**
	baz=153								
C35A	**Jirik Farms, M**	**65.54**	**344**	P	**P**	23	13	15.1	**-1.5**
	baz=156								
D33A	**AnnSam, Waubun**	**65.56**	**342**	P	**P**	23	13	15.4	**-1.3**
	baz=154								
SHPR	**Sheep Range**	**65.57**	**323**	*e*P	**P**	23	13	18.1	**+0.9**
	7.9nm,0.7s								
BFSC	**Mount Baldy Ra**	**65.58**	**319**	P	**P**	23	13	18.4	**+1.1**
	baz=130								
E31A	**Nome**	**65.67**	**341**	P	**P**	23	13	16.4	**-1.0**
	baz=152								
K22A	**Casper**	**65.68**	**333**	P	**P**	23	13	17.6	**-0.1**
	baz=143								
K22A	**Casper**	**65.68**	**333**	*e*P	**P**	23	13	17.9	**+0.1**
	12nm,0.6s								
GSC	**Goldstone, Bar**	**65.75**	**321**	P	**P**	23	13	19.1	**+0.8**
	baz=132,SNR=5.2								
GSC	**Goldstone, Bar**	**65.75**	**321**	*e*P	**P**	23	13	19.1	**+0.8**
	5.5nm,0.8s								
C34A	**RKJ Ranch, Bem**	**65.75**	**343**	P	**P**	23	13	16.6	**-1.4**
	baz=155								
RSSD	**Black Hills**	**65.81**	**335**	P	**P**	23	13	18.7	**0.0**
	baz=146								
RSSD	**Black Hills**	**65.81**	**335**	*e*P	**P**	23	13	18.9	**+0.3**
	6.2nm,0.6s								
D32A	**Dogwood Acres,**	**65.91**	**341**	P	**P**	23	13	17.9	**-1.0**
	baz=153								
D31A	**Mcclaflin, Tow**	**66.05**	**341**	P	**P**	23	13	18.9	**-0.9**
	baz=152								
B35A	**Bob, Littlefor**	**66.08**	**344**	P	**P**	23	13	18.5	**-1.5**
	baz=157,SNR=8.8								
C33A	**Trail**	**66.10**	**343**	P	**P**	23	13	18.8	**-1.3**
	baz=154								
MPU	**Maple Canyon**	**66.12**	**328**	*e*P	**P**	23	13	21.8	**+1.1**
	14nm,1.2s								
EDW2	**Edwards Air Fo**	**66.20**	**320**	P	**P**	23	13	21.5	**+0.3**
	baz=130								
NLU	**North Lily Min**	**66.30**	**327**	*e*P	**P**	23	13	22.7	**+0.8**
	7.8nm,1.0s								
LRMC	**Laurel Mtn Rad**	**66.40**	**320**	P	**P**	23	13	23.0	**+0.5**
	baz=131								
B34A	**Aery, Baudette**	**66.44**	**344**	P	**P**	23	13	21.0	**-1.4**
	baz=156								
JLU	**Jordanelle**	**66.45**	**328**	*e*P	**P**	23	13	23.7	**+0.8**
	11nm,0.8s								
B33A	**Robert and Kas**	**66.51**	**343**	P	**P**	23	13	21.5	**-1.2**
	baz=155								
TPNV	**Topopah Spring**	**66.51**	**322**	P	**P**	23	13	24.3	**+1.0**
	baz=132,SNR=11								
TPNV	**Topopah Spring**	**66.51**	**322**	*e*P	**P**	23	13	24.3	**+1.0**
	12nm,0.9s								
FURC	**Furnace Creek,**	**66.55**	**322**	P	**P**	23	13	24.3	**+1.0**
	baz=132,SNR=10								
AGMN	**Agassiz Nation**	**66.61**	**343**	P	**P**	23	13	22.3	**-1.1**
	baz=154,SNR=15								
AGMN	**Agassiz Nation**	**66.61**	**343**	*e*P	**P**	23	13	22.5	**-0.9**
	19nm,0.8s								
MPMC	**Manual Prospec**	**66.66**	**321**	P	**P**	23	13	24.7	**+0.5**
	baz=131,SNR=11								
CTU	**Camp Tracy**	**66.68**	**328**	*e*P	**P**	23	13	24.7	**+0.5**
	7.1nm,0.8s								
SCZ2	**Santa Cruz Isl**	**66.69**	**318**	P	**P**	23	13	25.8	**+1.6**
	baz=129								
C31A	**Landman Farms,**	**66.71**	**341**	P	**P**	23	13	23.2	**-0.9**
	baz=153								
TCUT	**Toone Canyon**	**66.82**	**328**	*e*P	**P**	23	13	25.7	**+0.5**
	11nm,0.6s								
DUG	**Dugway, Tooele**	**66.86**	**327**	P	**P**	23	13	25.9	**+0.5**
	baz=136,SNR=13								
DUG	**Dugway, Tooele**	**66.86**	**327**	*e*P	**P**	23	13	23.1	**-2.2**
	18nm,1.0s								
DAC	**Darwin (Calif)**	**66.87**	**321**	*e*P	**P**	23	13	26.2	**+0.7**
	8.2nm,0.9s								
DAC				*e*PcP	**PcP**	23	13	54.0	**+0.7**
B32A	**Ashes, Strandq**	**66.89**	**342**	P	**P**	23	13	24.1	**-1.0**
	baz=154								
ISA	**Isabella, Lake**	**67.01**	**320**	P	**P**	23	13	27.2	**+0.9**
	baz=130								
ISA	**Isabella, Lake**	**67.01**	**320**	*e*P	**P**	23	13	27.6	**+1.3**
	10nm,0.9s								
VNA3	**Neumayer Olymp**	**67.03**	**162**	P	**P**	23	13	27.6	**+1.7**
A33A	**Warroad**	**67.06**	**343**	P	**P**	23	13	25.2	**-1.0**
	baz=155,SNR=11								
R11A	**Troy Canyon, C**	**67.08**	**324**	P	**P**	23	13	27.7	**+0.9**
	baz=134,SNR=20								
R11A	**Troy Canyon, C**	**67.08**	**324**	*e*P	**P**	23	13	27.5	**+0.7**
	7.9nm,0.8s								
BW06	**Boulder Array**	**67.16**	**331**	P	**P**	23	13	26.6	**-0.7**
	baz=140								
BW06	**Boulder Array**	**67.16**	**331**	*e*P	**P**	23	13	26.9	**-0.4**
	6.6nm,1.0s								
PD31	**Pinedale Array**	**67.16**	**331**	*e*P	**P**	23	13	26.9	**-0.4**
PDAR	**Pinedale Array**	**67.16**	**331**	P	**P**	23	13	26.6	**-0.7**
	2.6nm,0.7s,baz=111,slow=6.4,SNR=18								
PDAR				PcP	**PcP**	23	13	53.0	**-1.4**
	0.8nm,0.6s,baz=134,slow=5.2,SNR=3.9								
PDAR				sP	**sP**	23	14	11.8	**-0.6**
	1.4nm,0.9s,baz=115,slow=6.7,SNR=1.9								
VNA1	**Neumayer--Stat**	**67.25**	**161**	P	**P**	23	13	29.6	**+2.4**
HWUT	**Hardware Ranch**	**67.26**	**329**	*e*P	**P**	23	13	27.2	**-0.7**
	6.9nm,0.8s								
CWC	**Cottonwood Cre**	**67.27**	**321**	P	**P**	23	13	28.8	**+0.8**
	baz=131								
MDND	**Maddock**	**67.36**	**340**	P	**P**	23	13	28.0	**-0.1**
	baz=151,SNR=8.7								
MDND	**Maddock**	**67.36**	**340**	*e*P	**P**	23	13	28.2	**+0.1**
	98nm,1.3s								
PKM	**Mcpherson Peak**	**67.36**	**319**	P	**P**	23	13	29.5	**+0.8**
	baz=129								
VES	**Vestal, Richgr**	**67.50**	**320**	P	**P**	23	13	30.2	**+0.9**
	baz=130								
BGU	**Big Grassy Mou**	**67.51**	**327**	*e*P	**P**	23	13	29.8	**+0.3**
	7.7nm,1.0s								
VNA2	**Neumayer--Watz**	**67.61**	**161**	P	**P**	23	13	31.1	**+1.6**
	baz=289,slow=6.7								
SMMC	**Simmler**	**67.74**	**319**	P	**P**	23	13	31.8	**+0.9**
	baz=129								
AHID	**Auburn Hatcher**	**67.89**	**330**	*e*P	**P**	23	13	31.6	**-0.2**
	12nm,0.8s								
HVU	**Hansel Valley**	**68.00**	**328**	*e*P	**P**	23	13	32.4	**-0.1**
	10nm,0.7s								
REDW	**Red Top Meadow**	**68.23**	**330**	*e*P	**P**	23	13	33.9	**0.0**
	5.5nm,0.8s								
LOHW	**Long Hollow**	**68.30**	**331**	*e*P	**P**	23	13	34.4	**0.0**
	8.4nm,0.8s								
TPAW	**Teton Pass**	**68.37**	**330**	*e*P	**P**	23	13	35.3	**+0.4**
	7.6nm,0.6s								
ULM	**Lac du Bonnet**	**68.38**	**344**	P	**P**	23	13	33.1	**-1.3**
	11nm,0.8s,baz=156,slow=5.3,SNR=16								
ULM				pP	**pP**	23	14	05.7	**-0.1**
	9.3nm,0.5s,baz=270,slow=3.0,SNR=8.2								
ULM	**Lac du Bonnet**	**68.38**	**344**	*e*P	**P**	23	13	32.9	**-1.6**
	11nm,0.8s								
ULM				*ep*P	**pP**	23	14	06.8	**+1.0**
MOOW	**Moose Ponds**	**68.47**	**331**	*e*P	**P**	23	13	35.2	**-0.2**
	7.6nm,1.2s								
FXWY	**Fox Creek**	**68.52**	**330**	*e*P	**P**	23	13	35.7	**-0.1**
	7.8nm,0.8s								
MDPB	**Devils Postpil**	**68.65**	**321**	*e*P	**P**	23	13	37.9	**+1.1**
	10.0nm,0.9s								
IMW	**Indian Meadow**	**68.67**	**331**	*e*P	**P**	23	13	36.9	**+0.1**
	11nm,0.6s								
NV01	**Mina Array Sit**	**68.71**	**322**	*e*P	**P**	23	13	37.7	**+0.6**
NVAR	**Mina Array Bea**	**68.71**	**322**	P	**P**	23	13	37.3	**+0.2**
	3.8nm,0.8s,baz=155,slow=7.7,SNR=19								
NVAR				PcP	**PcP**	23	14	01.6	**+0.5**
	1.8nm,0.6s,baz=124,slow=4.5,SNR=6.8								
LAO	**LASA Array**	**68.80**	**335**	P	**P**	23	13	37.0	**-0.2**
	baz=144								
RLMT	**Red Lodge**	**68.84**	**333**	P	**P**	23	13	37.7	**0.0**
	baz=141,SNR=10								
RLMT	**Red Lodge**	**68.84**	**333**	*e*P	**P**	23	13	37.8	**0.0**
	20nm,1.4s								
H17A	**Grant Village**	**68.88**	**331**	*e*P	**P**	23	13	39.1	**+1.0**
	3.8nm,0.6s								
YPP	**Pitchstone Pla**	**68.89**	**331**	*e*P	**P**	23	13	39.6	**+1.5**
	3.3nm,0.9s								
RYN	**Ryan**	**68.97**	**322**	*e*P	**P**	23	13	39.7	**+1.0**
	5.1nm,0.9s								
SNAA	**Sanae**	**69.24**	**162**	P	**P**	23	13	41.4	**+1.7**
SNAA	**Sanae**	**69.24**	**162**	P	**P**	23	13	41.3	**+1.7**
	19nm,0.6s,baz=280,slow=7.2,SNR=116								
SNAA				pP	**pP**	23	14	13.8	**+2.7**
	5.0nm,0.7s,baz=287,slow=8.1,SNR=2.8								
SNAA	**Sanae**	**69.24**	**162**	*e*P	**P**	23	13	41.4	**+1.7**
	22nm,0.6s								
SNAA				pP	**pP**	23	14	13.8	**+2.7**
YMR	**Madison River**	**69.27**	**331**	*e*P	**P**	23	13	41.8	**+1.4**
	15nm,0.8s								
YHH	**Holmes Hill**	**69.31**	**331**	*e*P	**P**	23	13	41.5	**+0.7**
	8.3nm,0.8s								
WAKR	**Walker**	**69.43**	**322**	*e*P	**P**	23	13	43.1	**+1.6**
	6.0nm,0.8s								
YHB	**Horse Butte**	**69.44**	**331**	*e*P	**P**	23	13	42.6	**+1.1**
	16nm,0.8s								
DGMT	**Dagmar**	**69.49**	**338**	P	**P**	23	13	41.8	**+0.4**
	baz=146,SNR=10.0								
DGMT	**Dagmar**	**69.49**	**338**	*e*P	**P**	23	13	41.8	**+0.4**
	24nm,0.6s								
GCMT	**Greycliff**	**69.54**	**333**	*e*P	**P**	23	13	40.3	**-1.7**
YERR	**Yerington**	**69.63**	**322**	*e*P	**P**	23	13	43.9	**+1.2**
	32nm,1.4s								
DBIC	**Dimbokro**	**69.84**	**77**	P	**P**	23	13	41.6	**-2.7**
	6.3nm,0.7s,baz=230,slow=7.2,SNR=7.2								
DBIC				LR	LR	23	43	29.0	
	comp=Z,47nm,19.2s,baz=157,slow=35								
VCNR	**Virginia City**	**70.07**	**322**	*e*P	**P**	23	13	47.0	**+1.5**
	10nm,0.8s								
HLID	**Hailey**	**70.12**	**328**	P	**P**	23	13	46.1	**+0.5**
	baz=136,SNR=9.8								
HLID	**Hailey**	**70.12**	**328**	*e*P	**P**	23	13	46.2	**+0.6**
	8.2nm,1.2s								
PAHR	**Pah Rah Range**	**70.18**	**323**	*e*P	**P**	23	13	47.5	**+1.5**
	21nm,0.9s								
MCMT	**McKenzie Canyo**	**70.28**	**330**	*e*P	**P**	23	13	47.5	**+0.9**
BOZ	**Bozeman (W)**	**70.28**	**332**	P	**P**	23	13	46.5	**+0.1**
	baz=139,SNR=9.6								
BOZ	**Bozeman (W)**	**70.28**	**332**	*e*P	**P**	23	13	46.6	**+0.1**
	6.9nm,0.8s								
AFDM	**Forest Hills D**	**70.64**	**321**	*e*P	**P**	23	13	49.5	**+0.8**
	7.1nm,1.0s								
MFID	**Camas Ranch**	**70.74**	**328**	*e*P	**P**	23	13	50.1	**+0.8**
	22nm,0.9s								
EGMT	**Eagleton**	**71.32**	**334**	P	**P**	23	13	52.2	**-0.4**
	baz=141								
ORV	**Oroville**	**71.34**	**322**	*e*P	**P**	23	13	54.0	**+1.2**
	22nm,1.0s								
O03D	**Paynes Creek**	**71.99**	**322**	P	**P**	23	13	57.7	**+0.9**
	baz=129								
J08A	**Circle Bar Ran**	**72.10**	**326**	*e*P	**P**	23	13	58.1	**+0.7**
	3.7nm,0.8s								
MOD	**Modoc Plateau**	**72.14**	**324**	*e*P	**P**	23	13	58.5	**+0.7**
	18nm,0.8s								
MSO	**Missoula**	**72.27**	**331**	P	**P**	23	13	58.9	**+0.6**
	baz=137,SNR=6.4								
MSO	**Missoula**	**72.27**	**331**	*e*P	**P**	23	13	59.3	**+0.9**
	7.7nm,0.9s								
BMO	**Blue Mountains**	**72.51**	**328**	*e*P	**P**	23	14	00.2	**+0.4**
	6.8nm,0.7s								
M04C	**Macdoel**	**72.95**	**323**	P	**P**	23	14	03.1	**+0.6**
	baz=129,SNR=7.8								
N02D	**Trinity Center**	**72.95**	**322**	P	**P**	23	14	02.0	**-0.5**
	baz=128								
K05A	**Summer Lake**	**73.01**	**324**	*e*P	**P**	23	14	04.3	**+1.3**
	17nm,1.2s								
JTMT	**Jette**	**73.10**	**332**	*e*P	**P**	23	14	04.1	**+0.8**
	4.1nm,0.8s								
I07A	**Izee**	**73.14**	**326**	*e*P	**P**	23	14	04.8	**+1.3**
	4.6nm,0.7s								
F10A	**Beach Ranch, E**	**73.25**	**329**	*e*P	**P**	23	14	05.0	**+0.9**
	8.0nm,0.9s								
KOWA	**Kowa**	**73.25**	**70**	P	**P**	23	14	02.4	**-2.3**
	6.5nm,0.6s,baz=244,slow=6.8,SNR=30								
KOWA	**Kowa**	**73.25**	**70**	*e*P	**P**	23	14	02.8	**-1.8**
	25nm,1.6s								
M02C	**Callahan**	**73.29**	**322**	P	**P**	23	14	04.5	**0.0**
	baz=128								
YBH	**Yreka Blue Hor**	**73.42**	**323**	P	**P**	23	14	04.5	**-0.7**
	5.2nm,0.8s,baz=221,slow=5.6,SNR=11								
YBH				LR	LR	23	44	08.6	
	comp=Z,8.2nm,21.5s,baz=165,slow=34								
YBH	**Yreka Blue Hor**	**73.42**	**323**	*e*P	**P**	23	14	04.6	**-0.7**
	6.0nm,0.9s								
J05D	**Fort Rock, OR**	**73.56**	**325**	P	**P**	23	14	06.8	**+0.7**
	baz=130								
G08A	**Pilot Rock**	**73.66**	**327**	*e*P	**P**	23	14	07.5	**+0.9**
	5.9nm,0.9s								
PINE	**Pine Mountain**	**73.73**	**325**	*e*P	**P**	23	14	08.3	**+1.2**
	14nm,0.8s								
WALA	**Waterton Lakes**	**73.90**	**333**	*e*P	**P**	23	14	08.1	**+0.1**
	7.5nm,0.8s								
J04D	**Umpqua Nationa**	**74.03**	**324**	P	**P**	23	14	09.4	**+0.5**
	baz=129								
FFC	**Flin Flon**	**74.08**	**342**	*e*P	**P**	23	14	08.2	**-0.5**
	7.6nm,1.4s								
L02D	**Cave Junction,**	**74.21**	**323**	P	**P**	23	14	10.5	**+0.7**
	baz=128								
I05D	**Terrebonne, OR**	**74.30**	**325**	P	**P**	23	14	11.4	**+1.1**
	baz=130								
I04A	**Tendick Farm,**	**74.55**	**325**	P	**P**	23	14	12.3	**+0.6**
	baz=129								
HAWA	**Hanford**	**74.70**	**328**	*e*P	**P**	23	14	13.7	**+1.2**
	13nm,0.8s								
NEW	**Newport**	**74.80**	**331**	P	**P**	23	14	12.9	**-0.1**
	baz=135								
G05D	**Wamic, OR**	**74.88**	**326**	P	**P**	23	14	14.9	**+1.4**
	baz=130								
I03D	**Drain, OR**	**75.01**	**324**	P	**P**	23	14	15.4	**+1.1**
	baz=128								
QSPA	**South Pole Qui**	**75.08**	**180**	P	**P**	23	14	17.1	**+2.5**
	7.1nm,0.7s,baz=169,slow=2.1,SNR=21								
FCC	**Fort Churchill**	**75.79**	**348**	*e*P	**P**	23	14	17.8	**-0.6**
	11nm,1.0s								
LTY	**Liberty**	**75.86**	**328**	*e*P	**P**	23	14	20.1	**+0.9**
	7.1nm,0.9s								
D05A	**Enumclaw**	**76.49**	**327**	*e*P	**P**	23	14	23.6	**+0.9**
	30nm,0.8s								
EDM	**Edmonton**	**76.78**	**336**	*e*P	**P**	23	14	23.3	**-0.9**
	38nm,1.1s								
EDM				*ep*P	**pP**	23	14	55.5	**-0.7**
B05A	**Bryant**	**77.25**	**328**	P	**P**	23	14	27.0	**+0.2**
	baz=130								
MORF	**Marmelete**	**78.99**	**46**	*e*P	**P**	23	14	37.4	**+0.6**
PNCL	**Nicolau / Gran**	**79.46**	**46**	*e*P	**P**	23	14	39.1	**-0.2**
PCVE	**Castro Verde**	**79.58**	**46**	*e*P	**P**	23	14	39.8	**-0.1**
PBEJ	**Beja**	**79.88**	**46**	*e*P	**P**	23	14	41.5	**-0.1**
ALMR	**Almeirim**	**79.93**	**45**	*e*P	**P**	23	14	41.6	**-0.2**
PCBR	**Castelo Branco**	**81.00**	**45**	*e*P	**P**	23	14	47.0	**-0.5**
VNDA	**Vanda**	**82.65**	**190**	P	**P**	23	14	58.6	**+3.1**
	2.6nm,0.8s,baz=126,slow=4.3,SNR=15								
VNDA				pP	**pP**	23	15	30.4	**+2.4**
	2.0nm,1.0s,baz=121,slow=2.7,SNR=3.1								
VNDA	**Vanda**	**82.65**	**190**	*e*P	**P**	23	14	58.8	**+3.2**
	3.9nm,0.9s								
VNDA				pP	**pP**	23	15	30.4	**+2.4**
PAB	**San Pablo**	**83.02**	**46**	*e*P	**P**	23	14	57.9	**-0.3**
	18nm,1.0s								
ESDC	**Sonseca Array**	**83.34**	**46**	P	**P**	23	14	59.3	**-0.5**
	10nm,0.8s,baz=255,slow=4.9,SNR=37								
ESLA	**Sonseca Array**	**83.34**	**46**	*e*P	**P**	23	14	59.7	**-0.1**
	18nm,1.0s								
ES19	**SONSECA Array**	**83.40**	**46**	*e*P	**P**	23	14	59.3	**-0.8**
YKA	**Yellowknife Ar**	**84.23**	**342**	P	**P**	23	15	02.8	**-0.9**
	12nm,0.8s,baz=134,slow=5.1,SNR=269								
YKA				pP	**pP**	23	15	35.2	**-1.0**
	5.0nm,0.8s,baz=136,slow=5.3,SNR=6.4								
TAM	**Tamanrasset**	**84.56**	**65**	*e*P	**P**	23	15	05.5	**-0.9**
	8.4nm,1.2s								
TSUM	**Tsumeb**	**84.66**	**108**	*e*P	**P**	23	15	07.9	**+0.8**
	22nm,0.9s								
ILULI	**Ilulissat**	**85.35**	**7**	*e*P	**P**	23	15	08.4	**-0.7**
	42nm,0.4s								
DLBC	**Dease Lake**	**87.23**	**333**	*e*P	**P**	23	15	18.7	**0.0**
	14nm,1.0s								
BOSA	**Boshof**	**88.99**	**119**	P	**P**	23	15	28.0	**0.0**
	9.4nm,0.8s,baz=254,slow=3.7,SNR=16								
BOSA	**Boshof**	**88.99**	**119**	*e*P	**P**	23	15	28.4	**+0.5**
	12nm,0.9s								
BESE	**Bessie Mountai**	**89.44**	**332**	*e*P	**P**	23	15	30.5	**+1.4**
	26nm,0.8s								
KULLO	**Kullorsuaq**	**89.94**	**4**↑	*i*P	**P**	23	15	30.9	**-0.1**
	36nm,1.0s								
SKAG	**Skagway**	**90.10**	**333**	*e*P	**P**	23	15	33.2	**+1.2**
	13nm,1.0s								
SUMG	**Summit**	**90.20**	**10**	*i*P	**P**	23	15	33.2	**+0.4**
	30nm,0.9s								
SUMG	**Summit**	**90.20**	**10**	*e*P	**P**	23	15	33.2	**+0.4**
	31nm,0.9s								
LBTB	**Lobatse**	**90.31**	**116**	*e*P	**P**	23	15	34.5	**+0.4**
	7.1nm,0.8s								
RES	**Resolute Bay**	**90.74**	**354**	*e*P	**P**	23	15	35.0	**+0.3**
	7.5nm,0.9s								
RES				*ep*P	**pP**	23	16	08.1	**+0.5**
MAW	**Mawson**	**91.26**	**164**	P	**P**	23	15	39.1	**+1.7**
	9.0nm,1.0s,baz=223,slow=7.1,SNR=5.7								
MAW	**Mawson**	**91.26**	**164**	*e*P	**P**	23	15	39.5	**+2.0**
	3.0nm,1.0s								
SCO	**Scoresbysund**	**91.97**	**15**	*i*P	**P**	23	15	40.5	**0.0**
	7.5nm,0.9s								
SCO	**Scoresbysund**	**91.97**	**15**	*e*P	**P**	23	15	40.4	**0.0**
	6.1nm,0.8s								
INK	**Inuvik**	**93.97**	**341**	*e*P	**P**	23	15	49.8	**0.0**
	10nm,1.1s								
DAWY	**Dawson**	**93.99**	**336**	*e*P	**P**	23	15	49.9	**-0.2**
	5.2nm,1.0s								
EGAK	**Eagle**	**94.99**	**336**	*e*P	**P**	23	15	54.6	**+0.1**
	7.4nm,0.3s								
DIV	**Divide**	**95.50**	**332**	*e*P	**P**	23	15	57.6	**+0.5**
	8.2nm,0.7s								
KLU	**Klutina**	**95.70**	**332**	*e*P	**P**	23	15	57.8	**-0.2**
	10nm,0.7s								
DOT	**Dot Lake**	**95.70**	**335**	*e*P	**P**	23	15	57.2	**-0.6**
SCRK	**Sand Creek**	**95.80**	**335**	*e*P	**P**	23	15	58.1	**-0.3**
	3.8nm,0.8s								
FETA	**Feichten**	**95.94**	**43**	*i*P	**P**	23	15	58.6	**-0.9**
	1.9nm,0.8s								
PAX	**Paxsgrid**	**96.04**	**334**	*e*P	**P**	23	15	58.8	**-0.7**
	4.3nm,0.9s								
MOTA	**Moosalm**	**96.27**	**43**	*i*P	**P**	23	15	58.2	**-2.8**
	1.3nm,0.5s								
DAG	**Danmarks Havn**	**96.80**	**11**	*i*P	**P**	23	16	00.8	**-1.7**
	5.5nm,1.3s								
SML	**Sawmill**	**96.89**	**332**	*e*P	**P**	23	16	03.0	**-0.3**
	11nm,0.7s								
ABTA	**Abfaltersbach**	**97.05**	**44**	*i*P	**P**	23	16	02.6	**-1.8**
	2.1nm,0.7s								
IL1	**Eielson Array**	**97.26**	**335**	*e*P	**P**	23	16	03.7	**-1.2**
ILAR	**Eielson Array**	**97.26**	**335**	P	**P**	23	16	03.7	**-1.1**
	1.3nm,0.8s,baz=148,slow=3.0,SNR=14								
CCB	**Clear Creek Bu**	**97.59**	**335**	*e*P	**P**	23	16	05.8	**-0.5**
	3.0nm,0.7s								
RND	**Reindeer**	**97.63**	**334**	*e*P	**P**	23	16	06.5	**-0.1**
	7.9nm,1.1s								
WRH	**Wood River Hil**	**97.65**	**335**	*e*P	**P**	23	16	06.3	**-0.3**
	4.9nm,1.2s								
KBA	**Koelnbreinsper**	**97.69**	**43**	*i*P	**P**	23	16	05.8	**-1.6**
	1.6nm,0.6s								
GEA0	**GERESS Array S**	**98.33**	**42**	*e*

	comp=N,160nm,18.5s							
LZH					LR	LR		
	comp=E,130nm,19.2s							
LZH					LR	LR		
	comp=Z,190nm,19.8s							
NJ2	**Nanjing**	**160.47**	**332**	*e*PKP	**PKPdf**	**23 22 31.8**	**-0.1**
CD2	**Chengdu**	**163.74**	**13**	PKP	**PKPdf**	**23 22 33.6**	**-1.7**
KMI	**Kunming**	**168.80**	**26**	PKP	**PKPdf**	**23 22 39.5**	**-0.2**
CMAR	**Chiang Mai Arr**	**170.59**	**68**	PKP	**PKPdf**	**23 22 41.1**	**+0.5**
	0.4nm,0.4s,baz=313,slow=1.5,SNR=7.2							
CMAR				PKPab	**PKPab**	**23 23 57.6**	**-1.1**
	1.6nm,0.6s,baz=282,slow=5.9,SNR=12							
CM01	**Chiang Mai Arr**	**170.62**	**68**	*e*PKPdf	**PKPdf**	**23 22 41.0**	**+0.4**
CM01				*e*PKPab	**PKPab**	**23 23 57.9**	**-1.0**

*ISK **19** 23:03:42.7, 38.86N×43.59E, h5km, ML2.5/6*
*ATA **19** 23:03:43.7±1.9, 38.89N×43.49E, h15km±80km, ML2.6, MW2.8*
*DDA **19** 23:03:43.8, 38.94N×43.55E, h18km, Ml2.4*
*ISCJB **19** 23:03:44.5±0.5, 38.89N±0.03×43.51E±0.05, h4km±5km, Error ellipse: s-maj=6.7km s-min=4.3km az=25.1*
*CSEM **19** 23:03:44.2±0.2, 38.92N×43.58E, h8km, ML2.4, Error ellipse: s-maj=6.9km s-min=5.1km az=115.0*

ISC 19 23:03:44.0±0.9, 38.91N±0.02×43.56E±0.03, h13km±5km, n30, σ0.72/43, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VMUR	**Van-Muradiye**	**0.08**	**7**	*i* P	**Pg**	**23 03 46.5**	**-0.6**
VMUR				*i* S	**Sg**	**23 03 49.9**	**+0.6**
VMUR	**Van-Muradiye**	**0.08**	**7**	P	**Pg**	**23 03 46.5**	**-0.6**
VMUR				S	**Sg**	**23 03 49.9**	**+0.6**
ERCV	**ERCIS-VAN**	**0.20**	**303**	PG	**Pg**	**23 03 49.0**	**+0.3**
ERCV	**ERCIS-VAN**	**0.20**	**303**	*e*Pg	**Pg**	**23 03 49.0**	**+0.3**
VANB	**Van**	**0.34**	**203**	PG	**Pg**	**23 03 51.4**	**+0.4**
VANB	**Van**	**0.34**	**203**	*e*Pg	**Pg**	**23 03 51.4**	**+0.4**
CLDR	**Caldiran**	**0.37**	**50**	PG	**Pg**	**23 03 50.9**	**-0.6**
CLDR				SG	**Sb**	**23 03 58.0**	**-0.3**
CLDR	**Caldiran**	**0.37**	**50**	*i* P	**Pg**	**23 03 50.4**	**-1.1**
CLDR				*i* S	**Sb**	**23 03 57.9**	**-0.3**
CLDR	**Caldiran**	**0.37**	**50**	P	**Pg**	**23 03 50.4**	**-1.1**
CLDR	**Caldiran**	**0.37**	**50**	*e*Pg	**Pg**	**23 03 50.9**	**-0.6**
CLDR				S	**Sb**	**23 03 57.9**	**-0.3**
TVAN	**Van**	**0.40**	**197**	*i* P	**Pg**	**23 03 52.2**	**+0.1**
TVAN				*i* S	**Sb**	**23 03 59.9**	**+0.8**
TVAN	**Van**	**0.40**	**197**	P	**Pg**	**23 03 52.2**	**+0.1**
TVAN				S	**Sb**	**23 03 59.9**	**+0.8**
DYDN	**Diyadin**	**0.64**	**9**	*e*P	**Pn**	**23 03 58.5**	**-0.6**
DYDN				*e*S	**Sb**	**23 04 06.9**	**+0.6**
DYDN				IAML		23 04 08.9	
	comp=Z,13nm,0.5s						
GEVA	**Gevas**	**0.71**	**214**	*e*P	**Pg**	**23 03 56.7**	**-1.2**
GEVA				IAML		23 04 20.5	
	comp=Z,21nm,0.3s						
TUTA	**Tutak**	**0.76**	**311**	*e*P	**Pg**	**23 03 58.0**	**-0.8**
TUTA				*e*S	**Sn**	**23 04 11.0**	**-1.2**
TUTA				IAML		23 04 18.3	
	comp=Z,35nm,0.3s						
TUTA	**Tutak**	**0.76**	**311**	*i* P	**Pg**	**23 03 58.6**	**-0.2**
TUTA				*i* S	**Sg**	**23 04 08.2**	**-0.7**
TUTA	**Tutak**	**0.76**	**311**	P	**Pg**	**23 03 58.6**	**-0.2**
TUTA				S	**Sg**	**23 04 08.2**	**-0.7**
AGRB	**Hanur-Agry**	**0.80**	**327**	PG	**Pb**	**23 03 59.8**	**-0.1**
AGRB	**Hanur-Agry**	**0.80**	**327**	*e*Pg	**Pb**	**23 03 59.8**	**-0.1**
IGDI	**IGDIR**	**1.04**	**23**	*e*P	**Pn**	**23 04 05.3**	**+0.9**
IGDI				*e*S	**Sn**	**23 04 20.2**	**+1.4**
IGDI				IAML		23 04 26.7	
	comp=Z,6.3nm,0.7s						
TASB	**TASBURUN-IGDIR**	**1.20**	**26**	PN	**Pg**	**23 04 07.9**	**+0.8**
TASB	**TASBURUN-IGDIR**	**1.20**	**26**	*e*Pn	**Pg**	**23 04 07.9**	**+0.8**
EKAR	**Karacoban**	**1.21**	**287**	*e*P	**Pn**	**23 04 06.1**	**-0.8**
EKAR				IAML		23 04 43.3	
	comp=Z,6.8nm,0.4s						
GURO	**Guroymak-BITLI**	**1.25**	**254**	PN	**Pb**	**23 04 07.6**	**+0.1**
GURO	**Guroymak-BITLI**	**1.25**	**254**	*e*Pn	**Pb**	**23 04 07.6**	**+0.1**
EATA	**Eleskirt**	**1.26**	**319**	*e*P	**Pg**	**23 04 08.1**	**-0.3**
EATA				*e*S	**Sg**	**23 04 26.2**	**+1.4**
EATA				IAML		23 04 35.1	
	comp=Z,3.3nm,0.5s						
SIRT	**Sirnak**	**1.66**	**212**	PN	**Pb**	**23 04 13.8**	**-0.7**
SIRT	**Sirnak**	**1.66**	**212**	*e*Pn	**Pb**	**23 04 13.8**	**-0.7**
SENK	**Senkaya-Erzuru**	**1.90**	**331**	PN	**Pb**	**23 04 18.8**	**+0.2**
SENK	**Senkaya-Erzuru**	**1.90**	**331**	*e*Pn	**Pb**	**23 04 18.8**	**+0.2**

DJA 19 23:22:36.7±1.2, 2.7N±5.3×97.3E±1.0, h10km, M4.4/5, MLv4.4/5, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MLSI	**Meulaboh, Aceh**	**3.99**	**56**	P	Pn	23 23 38.4	+0.5
MLSI				S	Sn	23 24 26.3	+1.6
BSI	**Banda Aceh**	**4.09**	**33**	P	Pn	23 23 37.5	-1.8
BSI				S	Sn	23 24 27.8	+0.5
TPTI		**4.26**	**73**	P	Pn	23 23 42.0	+0.3
TPTI				S	Sn	23 24 32.4	+0.8
GSI	**Gunungsitoli**	**4.54**	**99**	P	Pn	23 23 45.8	+0.2
GSI				S	Sn	23 24 38.8	+0.3
LHMI	**Lhok Sumawe**	**4.99**	**50**	P	Pn	23 23 53.2	+1.5

*ISCJB **19** 23:40:09.4±0.7, 4.83S±0.09×154.1E±0.1, h35km, mb4.1/15, Error ellipse: s-maj=16.1km s-min=12.3km az=175.7*
*IDC **19** 23:40:09.5±2.3, 4.50S×153.36E, h0km, mb4.0/8, mb1 4.1/8, mb1mx3.8/45, mbtmp4.0/8, MS2.5/1, Ms1 2.5/1, ms1mx2.2/46, Error ellipse: s-maj=70.0km s-min=25.1km az=109.0*
*NEIC **19** 23:40:11.3±0.7, 4.85S×153.97E, h35km, mb4.2/7, Error ellipse: s-maj=14.9km s-min=11.8km az=96.0*

ISC 19 23:40:11.5±0.9, 4.9S±0.1×153.9E±0.1, h35km, n21, σ1.9 23/20, mb4.1/15, 1C, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**7.48**	**127**	LR	LR	23 44 31.5	
	comp=Z,32nm,20.8s,baz=288,slow=32						
HNR	**Honiara**	**7.48**	**127**	Pn	**Pn**	**23 41 57.5**	**-0.7**
PMG	**Port Moresby**	**8.08**	**236**	Pn	**Pn**	**23 42 04.5**	**-1.9**
CTAO	**Charters Tower**	**16.86**	**206**	Pn	**Pn**	**23 44 06.2**	**+1.2**
	2.7nm,0.4s						
WRAB	**Tennant Creek**	**24.23**	**230**	*e*P	**P**	**23 45 26.7**	**+1.4**
	1.4nm,0.5s						
WRA	**Warramunga Arr**	**24.24**	**230**	P	**P**	**23 45 27.3**	**+1.9**
	3.1nm,0.4s,baz=50,slow=9.7,SNR=24						
WRA				PcP	**PcP**	**23 49 07.6**	**+2.3**
	0.4nm,0.7s,baz=57,slow=2.2,SNR=4.6						
ASAR	**Alice Springs**	**26.86**	**224**	P	**P**	**23 45 50.3**	**+1.2**
	0.2nm,0.5s,baz=42,slow=8.7,SNR=3.6						
FITZ	**Fitzroy Crossi**	**30.61**	**242**	P	**P**	**23 46 22.6**	**+0.1**
	1.2nm,0.4s,baz=54,slow=8.8,SNR=5.8						
MBWA	**Marble Bar**	**36.91**	**241**	P	**P**	**23 47 18.2**	**+1.0**
	3.1nm,0.4s						
NWAO	**Narrogin (SRO)**	**44.14**	**226**	P	**P**	**23 48 15.1**	**-1.7**
	29nm,1.0s						
KULM	**Kulim**	**54.16**	**280**	P	**P**	**23 49 34.6**	**+0.7**
	1.7nm,0.6s						
ENH	**Enshi**	**55.04**	**312**	P	**P**	**23 49 38.8**	**-1.2**
	0.9nm,0.3s						
CMAR	**Chiang Mai Arr**	**58.94**	**295**	P	**P**	**23 50 08.2**	**+0.4**
	0.4nm,0.4s,baz=111,slow=5.0,SNR=2.6						
ULN	**Ulaanbaatar**	**66.67**	**328**	P	**P**	**23 50 58.7**	**-0.2**
	0.6nm,0.5s						
MKAR	**Makanchi Array**	**81.13**	**319**	P	**P**	**23 52 23.8**	**+0.3**
	0.8nm,0.5s,baz=103,slow=6.6,SNR=13						
ZALV	**Zalesovo Beam**	**81.85**	**326**	P	**P**	**23 52 26.6**	**-0.5**
	0.6nm,0.5s,baz=123,slow=6.0,SNR=3.7						
KURK	**Kurchatov**	**84.53**	**322**	P	**P**	**23 52 41.3**	**+0.4**
KURBB	**Kurchatov Arra**	**84.56**	**322**	P	**P**	**23 52 41.3**	**+0.2**
	0.9nm,0.8s,baz=105,slow=4.3,SNR=7.1						
AAK	**Ala-Archa**	**85.55**	**313**	*e*P	**P**	**23 52 47.0**	**+0.5**
	2.6nm,0.8s						
BVAR	**Borovoye Array**	**89.98**	**323**	P	**P**	**23 53 06.4**	**-0.9**
	2.2nm,0.6s,baz=90,slow=5.8,SNR=12						
SYO	**Syowa Base**	**93.96**	**199**	*e*X	P	23 53 34.1	+8.7

*MDD **19** 23:41:09.4±1.2, 34.43N×16.71W, h50km, mb4.2/18, Error ellipse: s-maj=19.5km s-min=4.6km az=121.0, PRXIMO*
*CSEM **19** 23:41:09.7±0.4, 34.32N×16.47W, h30km, mb4.2, Error ellipse: s-maj=13.3km s-min=3.1km az=120.0*
*INMG **19** 23:41:10.8±2.3, 34.53N×16.91W, h10km, MD3.6, ML3.1, Error ellipse: s-maj=12.5km s-min=2.7km az=114.0*

ISC 19 23:41:04.9±1.3, 34.39N±0.06×16.54W±0.08, h10km, n100, σ2.72/122, 1D, Madeira Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMPS	**Porto Santo**	**1.34**	**173**	*i* Pn	**Pn**	**23 41 32.4**	**+2.8**
PMPS				*e*Sn	**Sb**	**23 41 49.2**	**+1.9**
PMPS				A	A	23 41 50.8	
	173nm,0.4s						
PMPS	**Porto Santo**	**1.34**	**173**	P	**Pn**	**23 41 32.4**	**+2.8**
PMPS				S	**Sb**	**23 41 49.2**	**+1.9**
	87nm,0.4s						
PMPS	**Porto Santo**	**1.34**	**173**	P	**Pn**	**23 41 32.4**	**+2.8**
PMPS				S	**Sb**	**23 41 49.2**	**+1.9**
	87nm,0.4s						
PMOZ	**Porto Moniz, M**	**1.66**	**200**	*e*Pn	**Pn**	**23 41 36.0**	**+1.9**
PMOZ				*e*Sn	**Sn**	**23 41 53.4**	**-2.1**
PMOZ				A	A	23 41 59.2	
	664nm,0.4s						
PMOZ	**Porto Moniz, M**	**1.66**	**200**	P	**Pn**	**23 41 36.1**	**+2.0**
	60nm,0.2s,SNR=7.9						
PMOZ				S	**Sn**	**23 41 54.5**	**-1.0**
	803nm,0.4s,SNR=7.9						
PMOZ	**Porto Moniz, M**	**1.66**	**200**	P	**Pn**	**23 41 36.1**	**+2.0**
	60nm,0.2s,SNR=7.9						
PMOZ				*e*Sn	**Sn**	**23 41 53.4**	**-2.1**
	664nm,0.4s						
PMOZ				S	**Sn**	**23 41 54.5**	**-1.0**
	803nm,0.4s,SNR=7.9						
PMAR	**Madeira**	**1.69**	**191**	*e*Pn	**Pn**	**23 41 36.5**	**+1.8**
PMAR				*e*Sn	**Sn**	**23 41 56.3**	**-0.1**
PMAR				A	A	23 42 02.9	
	391nm,0.5s						
PMAR	**Madeira**	**1.69**	**191**	P	**Pn**	**23 41 36.5**	**+1.8**
PMAR				S	**Sn**	**23 41 56.3**	**-0.1**
	195nm,0.5s						
PMAR	**Madeira**	**1.69**	**191**	P	**Pn**	**23 41 36.5**	**+1.8**
PMAR				S	**Sn**	**23 41 56.3**	**-0.1**
	195nm,0.5s						
FUL	**Funchal**	**1.76**	**190**	*e*Pn	**Pn**	**23 41 37.3**	**+1.9**
FUL				*e*Sn	**Sn**	**23 41 57.4**	**-0.5**
FUL				A	A	23 42 02.2	
	279nm,0.2s						
FUL	**Funchal**	**1.76**	**190**	P	**Pn**	**23 41 37.3**	**+1.9**
FUL				S	**Sn**	**23 41 57.4**	**-0.5**
	139nm,0.2s						
TBT	**Taburiente**	**5.81**	**192**	P	**Pn**	**23 42 32.0**	**+0.8**
	5.3nm,0.4s,SNR=7.9						
TBT				S	**Sn**	**23 43 33.8**	**-4.1**
	6.7nm,0.3s,SNR=7.9						
TBT	**Taburiente**	**5.81**	**192**	P	**Pn**	**23 42 32.0**	**+0.8**
	5.3nm,0.4s,SNR=7.9						
TBT				S	**Sn**	**23 43 33.8**	**-4.1**
	6.7nm,0.3s,SNR=7.9						
EBAJ	**Bajamar**	**5.83**	**178**	P	**Pn**	**23 42 33.2**	**+1.7**
	8.5nm,0.2s,SNR=11						
EBAJ				S	**Sn**	**23 43 34.4**	**-4.1**
	11nm,0.4s,SNR=7.9						
EBAJ	**Bajamar**	**5.83**	**178**	P	**Pn**	**23 42 33.2**	**+1.7**
	8.5nm,0.2s,SNR=11						
EBAJ				S	**Sn**	**23 43 34.4**	**-4.1**
	11nm,0.4s,SNR=7.9						
EFAM	**Famara**	**5.84**	**153**	P	**Pn**	**23 42 34.0**	**+2.5**
	60nm,2.6s,SNR=7.9						
EFAM	**Famara**	**5.84**	**153**	P	**Pn**	**23 42 34.0**	**+2.5**
	60nm,2.6s,SNR=7.9						
CRAJ	**Montana Rajada**	**6.11**	**180**	P	**Pn**	**23 42 36.7**	**+1.2**
	2.5nm,0.2s,SNR=7.9						
CRAJ				S	**Sn**	**23 43 41.4**	**-4.1**
	29nm,0.3s,SNR=7.9						
CRAJ	**Montana Rajada**	**6.11**	**180**	P	**Pn**	**23 42 36.7**	**+1.2**
	2.5nm,0.2s,SNR=7.9						
CRAJ				S	**Sn**	**23 43 41.4**	**-4.1**
	29nm,0.3s,SNR=7.9						
CFUE	**Fuerteventura**	**6.14**	**158**	P	**Pn**	**23 42 37.9**	**+2.2**
	5.2nm,0.2s,SNR=7.9						
CFUE				S	**Sn**	**23 43 43.5**	**-2.5**
	18nm,0.2s,SNR=7.9						
CFUE	**Fuerteventura**	**6.14**	**158**	P	**Pn**	**23 42 37.9**	**+2.2**
	5.2nm,0.2s,SNR=7.9						
CFUE				S	**Sn**	**23 43 43.5**	**-2.5**
	18nm,0.2s,SNR=7.9						
CCAN	**Las Canadas**	**6.15**	**181**	P	**Pn**	**23 42 37.8**	**+1.8**
	0.7nm,0.3s,SNR=7.9						
CCAN				S	**Sn**	**23 43 43.1**	**-3.5**
	2.8nm,0.3s,SNR=7.9						
CCAN	**Las Canadas**	**6.15**	**181**	P	**Pn**	**23 42 37.8**	**+1.8**
	0.7nm,0.3s,SNR=7.9						
CCAN				S	**Sn**	**23 43 43.1**	**-3.5**
	2.8nm,0.3s,SNR=7.9						
EGOM	**La Gomera**	**6.24**	**185**	P	**Pn**	**23 42 38.8**	**+1.8**
	4.0nm,0.2s,SNR=7.9						
EGOM				S	**Sn**	**23 43 44.2**	**-4.1**
	13nm,0.2s,SNR=7.9						
EGOM	**La Gomera**	**6.24**	**185**	P	**Pn**	**23 42 38.8**	**+1.8**
	4.0nm,0.2s,SNR=7.9						
EGOM				S	**Sn**	**23 43 44.2**	**-4.1**
	13nm,0.2s,SNR=7.9						
GGC	**Guia Canaria**	**6.30**	**173**	P	**Pn**	**23 42 40.7**	**+2.8**
	1.2nm,3.2s,SNR=7.9						
GGC				S	**Sn**	**23 43 46.9**	**-3.0**
	67nm,13.3s,SNR=7.9						
GGC	**Guia Canaria**	**6.30**	**173**	P	**Pn**	**23 42 40.7**	**+2.8**
	1.2nm,3.2s,SNR=7.9						
GGC				S	**Sn**	**23 43 46.9**	**-3.0**
	67nm,13.3s,SNR=7.9						
CFTV	**Fuerteventura**	**6.32**	**160**	P	**Pn**	**23 42 40.6**	**+2.5**
	1.3nm,0.2s,SNR=7.9						
CFTV				S	**Sn**	**23 43 47.6**	**-2.7**
	2.8nm,0.2s,SNR=7.9						
CFTV	**Fuerteventura**	**6.32**	**160**	P	**Pn**	**23 42 40.6**	**+2.5**
	1.3nm,0.2s,SNR=7.9						
CFTV				S	**Sn**	**23 43 47.6**	**-2.7**
	2.8nm,0.2s,SNR=7.9						
EOSO	**Osorio**	**6.35**	**172**	P	**Pn**	**23 42 40.6**	**+1.9**
	2.4nm,0.3s,SNR=7.9						
EOSO				S	**Sn**	**23 43 48.1**	**-3.2**
	8.4nm,0.4s,SNR=7.9						
EOSO	**Osorio**	**6.35**	**172**	P	**Pn**	**23 42 40.6**	**+1.9**
	2.4nm,0.3s,SNR=7.9						
EOSO				S	**Sn**	**23 43 48.1**	**-3.2**
	8.4nm,0.4s,SNR=7.9						
CTIG	**El Hierro**	**6.69**	**191**	P	**Pn**	**23 42 44.7**	**+1.5**
	11nm,1.8s,SNR=7.9						
CTIG				S	**Sn**	**23 43 54.9**	**-4.5**
	23nm,5.3s,SNR=7.9						
CTIG	**El Hierro**	**6.69**	**191**	P	**Pn**	**23 42 44.7**	**+1.5**
	11nm,1.8s,SNR=7.9						
CTIG				S	**Sn**	**23 43 54.9**	**-4.5**
	23nm,5.3s,SNR=7.9						
CTAN	**El Hierro**	**6.74**	**192**	P	**Pn**	**23 42 45.3**	**+1.4**
	71nm,1.8s,SNR=7.9						
CJUL	**El Julon, El H**	**6.77**	**192**	S	**Sn**	**23 43 57.1**	**-4.6**
	63nm,0.4s,SNR=7.9						
CMCL	**Mercadel, El H**	**6.78**	**191**	S	**Sn**	**23 43 57.3**	**-4.5**
	383nm,2.5s,SNR=7.9						
CORC	**Orchilla, El H**	**6.80**	**192**	S	**Sn**	**23 43 57.2**	**-5.1**
	30nm,1.2s,SNR=7.9						
PFVI	**Vila Bisbo**	**6.84**	**64**	*e*Pn	**Pn**	**23 42 48.1**	**+2.8**
PFVI				*e*Sn	**Sn**	**23 43 59.5**	**-3.7**
PFVI				A	A	23 44 01.0	
	9.2nm,0.7s						
PFVI	**Vila Bisbo**	**6.84**	**64**	P	**Pn**	**23 42 48.0**	**+2.8**
	1.0nm,0.1s,SNR=7.9						
PFVI				S	**Sn**	**23 43 59.8**	**-3.4**
	11nm,0.2s,SNR=7.9						
PFVI	**Vila Bisbo**	**6.84**	**64**	P	**Pn**	**23 42 48.0**	**+2.8**
	1.0nm,0.1s,SNR=7.9						
PFVI				S	**Sn**	**23 43 59.8**	**-3.4**
	11nm,0.2s,SNR=7.9						
MORF	**Marmelete**	**7.03**	**63**	*e*Sn	**Sn**	**23 44 05.2**	**-2.8**
MORF				A	A	23 44 09.8	
	6.6nm,0.2s						
MORF	**Marmelete**	**7.03**	**63**	S	**Sn**	**23 44 05.2**	**-2.8**
	6.6nm,0.2s						
MORF	**Marmelete**	**7.03**	**63**	S	**Sn**	**23 44 05.2**	**-2.8**
	6.6nm,0.2s						
PTEO	**Sao Teotonio**	**7.07**	**61**	*e*Sn	**Sn**	**23 44 08.3**	**-0.6**
PTEO	**Sao Teotonio**	**7.07**	**61**	*e*Sn	**Sn**	**23 44 08.3**	**-0.6**
PMAFR	**Mafra**	**7.40**	**50**	*e*Sn	Sn	23 44 10.6	-6.3
PMAFR				A	A	23 44 20.6	
	15nm,0.7s						
PMAFR	**Mafra**	**7.40**	**50**	P	**Pn**	**23 42 55.5**	**+2.6**
	9.9nm,0.4s,SNR=7.9						
PMAFR				S	Sn	23 44 11.4	-5.5
	18nm,0.4s,SNR=7.9						
PMAFR	**Mafra**	**7.40**	**50**	P	**Pn**	**23 42 55.5**	**+2.6**
	9.9nm,0.4s,SNR=7.9						
PMAFR				S	Sn	23 44 11.4	-5.5
	18nm,0.4s,SNR=7.9						
PNCL	**Nicolau / Gran**	**7.46**	**58**	*e*Pn	**Pn**	**23 42 56.5**	**+2.8**
PNCL				*e*Sn	Sn	23 44 12.5	-5.9
PNCL				A	A	23 44 16.9	
	3.2nm,0.3s						
PNCL	**Nicolau / Gran**	**7.46**	**58**	*e*Pn	**Pn**	**23 42 56.5**	**+2.8**
PBDV	**Barranco-do-Ve**	**7.55**	**65**	*e*Sn	**Sn**	**23 44 19.0**	**-1.7**
PBDV				A	A	23 44 24.3	
	4.6nm,0.5s						
PBDV	**Barranco-do-Ve**	**7.55**	**65**	S	**Sn**	**23 44 19.0**	**-1.7**
	4.6nm,0.5s						
PBDV	**Barranco-do-Ve**	**7.55**	**65**	S	**Sn**	**23 44 19.0**	**-1.7**
	4.6nm,0.5s						
PCVE	**Castro Verde**	**7.61**	**62**	*e*Sn	**Sn**	**23 44 21.6**	**-0.5**
PCVE	**Castro Verde**	**7.61**	**62**	*e*Sn	**Sn**	**23 44 21.6**	**-0.5**
PVAQ	**Vaqueiros**	**7.76**	**65**	*e*Pn	**Pn**	**23 43 02.3**	**+4.4**
PVAQ				*e*Sn	**Sn**	**23 44 23.0**	**-2.9**
PVAQ				A	A	23 44 37.3	
	5.4nm,0.5s						
PVAQ	**Vaqueiros**	**7.76**	**65**	P	**Pn**	**23 43 02.3**	**+4.4**
PVAQ				S	**Sn**	**23 44 23.0**	**-2.9**
	5.4nm,0.5s						
ALMR	**Almeirim**	**7.96**	**51**	*e*Sn	Sn	23 44 25.8	-5.0
ALMR				A	A	23 44 31.1	
	13nm,0.5s						
ALMR	**Almeirim**	**7.96**	**51**	S	Sn	23 44 25.8	-5.0
	6.3nm,0.5s						
ALMR	**Almeirim**	**7.96**	**51**	S	Sn	23 44 25.8	-5.0
	6.3nm,0.5s						
EGRO	**El Granado**	**7.98**	**64**	P	**Pn**	**23 43 03.4**	**+2.5**
	1.6nm,0.3s,SNR=7.9						
EGRO				S	**Sn**	**23 44 27.9**	**-3.4**
	3.2nm,0.2s,SNR=7.9						
EGRO	**El Granado**	**7.98**	**64**	P	**Pn**	**23 43 03.4**	**+2.5**
	1.6nm,0.3s,SNR=7.9						
EGRO				S	**Sn**	**23 44 27.9**	**-3.4**
	3.2nm,0.2s,SNR=7.9						
EVO	**Evora**	**8.02**	**56**	*e*Sn	Sn	23 44 26.6	-5.5
EVO				A	A	23 44 39.7	
	3.7nm,0.5s						
EVO	**Evora**	**8.02**	**56**	S	Sn	23 44 26.6	-5.5
	3.7nm,0.5s						
EVO	**Evora**	**8.02**	**56**	S	Sn	23 44 26.6	-5.5
	3.7nm,0.5s						
PMTG	**Montargil**	**8.14**	**53**	*e*Pn	**Pn**	**23 43 04.4**	**+1.3**
PMTG				*e*Sn	Sn	23 44 29.9	-5.3
PMTG				A	A	23 44 32.6	
	2.5nm,0.2s						
PMTG	**Montargil**	**8.14**	**53**	*e*Pn	**Pn**	**23 43 04.4**	**+1.3**
PTOM	**Tomar**	**8.33**	**49**	*e*Sn	Sn	23 44 34.9	-5.0
PTOM				A	A	23 44 52.7	
	5.7nm,0.5s						
PTOM	**Tomar**	**8.33**	**49**	S	Sn	23 44 34.9	-5.0
	2.8nm,0.5s						
PTOM	**Tomar**	**8.33**	**49**	S	Sn	23 44 34.9	-5.0
	2.8nm,0.5s						
PESTR	**Estremoz**	**8.47**	**56**	*e*Sn	Sn	23 44 36.7	-6.5
PCAS	**Casmilo, Conde**	**8.54**	**46**	*e*Sn	Sn	23 44 39.4	-5.7
EMIN	**Mina Concepcio**	**8.67**	**64**	P	**Pn**	**23 43 12.7**	**+2.4**
	0.7nm,0.2s,SNR=7.9						
EMIN				S	Sn	23 44 43.2	-4.9
	1.5nm,0.2s,SNR=7.9						
EMIN	**Mina Concepcio**	**8.67**	**64**	P	**Pn**	**23 43 12.7**	**+2.4**
	0.7nm,0.2s,SNR=7.9						
EMIN				S	Sn	23 44 43.2	-4.9
	1.5nm,0.2s,SNR=7.9						
EBAD	**Badajoz**	**8.81**	**58**	P	**Pn**	**23 43 14.4**	**+2.1**
	0.2nm,0.1s,SNR=7.9						
EBAD				S	Sn	23 44 47.1	-4.6
	1.4nm,0.2s,SNR=7.9						
EBAD	**Badajoz**	**8.81**	**58**	P	**Pn**	**23 43 14.4**	**+2.1**
	0.2nm,0.1s,SNR=7.9						
EBAD				S	Sn	23 44 47.1	-4.6
	1.4nm,0.2s,SNR=7.9						
PMRV	**Marv??o**	**8.88**	**53**	*e*Pn	**Pn**	**23 43 16.3**	**+3.0**
PMRV				*e*Sn	Sn	23 44 46.7	-6.7
PMRV				A	A	23 44 59.7	
	2.8nm,0.9s						
PMRV	**Marv??o**	**8.88**	**53**	P	**Pn**	**23 43 16.3**	**+3.0**
PMRV				S	Sn	23 44 46.7	-6.7
	2.8nm,0.9s						
PMRV	**Marv??o**	**8.88**	**53**	P	**Pn**	**23 43 16.3**	**+3.0**
PMRV				S	Sn	23 44 46.7	-6.7
	2.8nm,0.9s						
ESPR	**Espera**	**9.04**	**71**	P	**Pn**	**23 43 17.8**	**+2.4**
	1.5nm,0.2s,SNR=9.6						
ESPR				S	Sn	23 44 52.3	-5.0
	10nm,0.3s,SNR=7.9						
ESPR	**Espera**	**9.04**	**71**	P	**Pn**	**23 43 17.8**	**+2.4**
	1.5nm,0.2s,SNR=9.6						
ESPR				S	Sn	23 44 52.3	-5.0
	10nm,0.3s,SNR=7.9						
PVIS	**Viseu**	**9.32**	**45**	*e*Sn

*DDA **19** 23:51:40.7, 41°.30N×43°.93E, h7km, Ml3.0*
*ISK **19** 23:51:40.6, 41°.34N×43°.98E, h4km, ML2.5/5*
*CSEM **19** 23:51:41.2±0.1, 41°.32N×43°.94E, h2km, ML2.5, Error ellipse: s-maj=3.9km s-min=2.5km az=146.0*
*TIF **19** 23:51:41.2, 41°.37N×43°.95E, h13km±1km*
ISC 19 23:51:40.8±1.0, **41°.33N**±0°.02×**43°.94E**±0°.02, **h9**km±9km, **n49**, σ0s**70**/83, **Turkey-Georgia-Armenia border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AKH	**Akhalkalaki**	**0.34**	**284**	PG	**Pb**	**23 51 48.4**	**-0.8**
AKH				SG	**Sb**	**23 51 54.4**	**-0.5**
AKH	**Akhalkalaki**	**0.34**	**284**	P	**Pb**	**23 51 48.5**	**-0.8**
AKH				S	**Sg**	**23 51 53.3**	**+1.1**
AKH	**Akhalkalaki**	**0.34**	**284**	*e*Pg	**Pb**	**23 51 48.4**	**-0.8**
AKH				S	**Sg**	**23 51 53.3**	**+1.1**
AKH				*e*Sg	**Sb**	**23 51 54.4**	**-0.5**
KZR	**Kazreti**	**0.36**	**81**	P	**Pb**	**23 51 48.9**	**-0.6**
KZR				S	**Sg**	**23 51 53.8**	**+1.0**
KZR	**Kazreti**	**0.36**	**81**	P	**Pb**	**23 51 48.9**	**-0.6**
KZR				S	**Sg**	**23 51 53.8**	**+1.0**
EAK	**Akyaka**	**0.69**	**201**	*i* P	**Pg**	**23 51 53.7**	**-0.4**
EAK				*e*S	**Sg**	**23 52 03.0**	**-0.1**
EAK	**Akyaka**	**0.69**	**201**	*i* P	**Pg**	**23 51 53.9**	**-0.2**
EAK				*i* S	**Sg**	**23 52 03.0**	**-0.1**
EAK	**Akyaka**	**0.69**	**201**	P	**Pg**	**23 51 53.9**	**-0.2**
EAK				S	**Sg**	**23 52 03.0**	**-0.1**
TBLG	**Delisi**	**0.72**	**56**	PG	**Pg**	**23 51 54.6**	**-0.2**
TBLG	**Delisi**	**0.72**	**56**	*e*P	**Pg**	**23 51 54.8**	**0.0**
TBLG				*e*S	**Sb**	**23 52 05.1**	**-0.5**
TBLG				IAML		23 52 06.2	
	comp=Z,118nm,0.2s						
TBLG	**Delisi**	**0.72**	**56**	P	**Pb**	**23 51 55.1**	**-0.5**
TBLG				S	**Sb**	**23 52 05.3**	**-0.4**
TBLG	**Delisi**	**0.72**	**56**	*e*Pg	**Pg**	**23 51 54.6**	**-0.2**
TBLG	**Delisi**	**0.72**	**56**	P	**Pb**	**23 51 55.2**	**-0.5**
TBLG				S	**Sb**	**23 52 05.0**	**-0.7**
BTNK	**Botanikuri**	**0.74**	**61**	P	**Pb**	**23 51 55.3**	**-0.6**
BTNK				S	**Sb**	**23 52 05.5**	**-0.6**
BTNK	**Botanikuri**	**0.74**	**61**	P	**Pb**	**23 51 55.3**	**-0.6**
BTNK				S	**Sb**	**23 52 05.5**	**-0.6**
SEAG	**Tbilisi Sea**	**0.78**	**56**	P	**Pb**	**23 51 56.6**	**-0.1**
SEAG				S	**Sb**	**23 52 07.6**	**+0.2**
SEAG	**Tbilisi Sea**	**0.78**	**56**	P	**Pb**	**23 51 56.6**	**-0.1**
SEAG				S	**Sb**	**23 52 07.6**	**+0.2**
EPOS	**Posof**	**0.93**	**281**	*i* P	**Pg**	**23 51 57.9**	**-0.7**
EPOS				*e*S	**Sb**	**23 52 11.9**	**+0.3**
EPOS				IAML		23 52 15.8	
	comp=Z,9.0nm,0.3s						
EPOS	**Posof**	**0.93**	**281**	*i* P	**Pg**	**23 51 57.8**	**-0.8**
EPOS				*i* S	**Sg**	**23 52 09.7**	**-1.0**
EPOS	**Posof**	**0.93**	**281**	P	**Pg**	**23 51 57.8**	**-0.8**
EPOS				S	**Sg**	**23 52 09.7**	**-1.0**
DUS	**Dusheti**	**0.95**	**37**	P	**Pn**	**23 52 00.1**	**-0.4**
DUS				S	**Sb**	**23 52 13.1**	**+0.7**
KARS	**Kars**	**0.95**	**223**	PG	**Pn**	**23 52 00.3**	**-0.3**
KARS	**Kars**	**0.95**	**223**	*e*Pg	**Pn**	**23 52 00.3**	**-0.3**
DIGO	**Kars**	**1.01**	**205**	*e*P	**Pg**	**23 51 59.7**	**-0.5**
DIGO	**Kars**	**1.01**	**205**	*i* P	**Pg**	**23 51 59.3**	**-0.9**
DIGO				*i* S	**Sg**	**23 52 12.3**	**-0.9**
DIGO	**Kars**	**1.01**	**205**	P	**Pg**	**23 51 59.3**	**-0.9**
DIGO				S	**Sg**	**23 52 12.4**	**-0.9**
DGRG	**David-gareji**	**1.09**	**83**	*i* P	**Pg**	**23 52 01.1**	**-0.6**
DGRG				*e*S	**Sg**	**23 52 15.9**	**+0.1**
DGRG				IAML		23 52 18.5	
	comp=Z,22nm,0.2s						
GUDG	**Gudauri**	**1.21**	**19**	P	**Pb**	**23 52 03.8**	**-0.2**
GUDG				S	**Sb**	**23 52 20.0**	**+0.3**
GUDG	**Gudauri**	**1.21**	**19**	P	**Pb**	**23 52 03.8**	**-0.2**
GUDG				S	**Sb**	**23 52 20.0**	**+0.3**
ONI	**Oni**	**1.31**	**344**	P	**Pb**	**23 52 05.5**	**-0.2**
ONI				S	**Sn**	**23 52 23.2**	**+0.1**
TASB	**TASBURUN-IGDIR**	**1.36**	**170**	PN	**Pb**	**23 52 06.8**	**+0.3**
TASB	**TASBURUN-IGDIR**	**1.36**	**170**	*e*Pn	**Pb**	**23 52 06.8**	**+0.3**
SENK	**Senkaya-Erzuru**	**1.43**	**238**	PN	**Pg**	**23 52 08.7**	**+0.5**
SENK	**Senkaya-Erzuru**	**1.43**	**238**	*e*Pn	**Pg**	**23 52 08.7**	**+0.5**
IGDI	**IGDIR**	**1.46**	**176**	*i* P	**Pb**	**23 52 08.2**	**0.0**
IGDI				*e*S	**Sg**	**23 52 27.9**	**+0.1**
IGDI				IAML		23 52 29.2	
	comp=Z,10nm,0.4s						
IGDI	**IGDIR**	**1.46**	**176**	*i* P	**Pn**	**23 52 07.8**	**+0.4**
IGDI				*i* S	**Sn**	**23 52 25.7**	**-1.1**
ARTV	**Artvin**	**1.52**	**265**	*e*P	**Pn**	**23 52 08.5**	**+0.1**
ARTV				*e*S	**Sn**	**23 52 28.5**	**+0.1**
ARTV				IAML		23 52 31.6	
	comp=Z,11nm,0.4s						
DDFL	**Dedoflistskaro**	**1.65**	**85**	P	**Pg**	**23 52 12.9**	**+0.5**
DDFL				S	**Sg**	**23 52 33.5**	**-0.2**
DDFL	**Dedoflistskaro**	**1.65**	**85**	P	**Pg**	**23 52 12.1**	**-0.3**
DDFL				S	**Sg**	**23 52 33.5**	**-0.2**
DDEM	**Demirkent**	**1.71**	**256**	*i* P	**Pb**	**23 52 12.4**	**0.1**
DDEM				*i* S	**Sb**	**23 52 34.3**	**+0.2**
DBAD	**Bademkaya**	**1.72**	**260**	*i* P	**Pb**	**23 52 12.7**	**0.0**
BCA	**Borcka**	**1.75**	**275**	PN	**Pb**	**23 52 13.2**	**+0.2**
EATA	**Eleskirt**	**1.83**	**217**	*e*P	**Pb**	**23 52 14.1**	**-0.5**
EATA				*e*S	**Sb**	**23 52 38.6**	**+0.8**
AGRB	**Hanur-Agry**	**1.89**	**203**	PN	**Pb**	**23 52 15.5**	**-0.2**
AGRB	**Hanur-Agry**	**1.89**	**203**	*e*Pn	**Pb**	**23 52 15.5**	**-0.2**
CHVG	**Ch'k'valeri**	**1.96**	**316**	P	**Pb**	**23 52 16.0**	**-0.7**
CHVG				S	**Sg**	**23 52 43.3**	**-0.4**
CHOM	**Cayeli-Rize**	**2.41**	**266**	*e*Pn	**Pn**	**23 52 22.3**	**+1.9**
BAYT	**Ayd¨–ntepe-Bay**	**3.03**	**253**	PN	**Pn**	**23 52 31.5**	**+2.4**
BAYT	**Ayd¨–ntepe-Bay**	**3.03**	**253**	*e*Pn	**Pn**	**23 52 31.5**	**+2.4**

*GUC **20** 00:04:18.3±0.7, 31°.63S×71°.81W, h61km±13km, ML3.2*
*SJA **20** 00:04:18.6±0.5, 31°.72S×71°.87W, h26km±33km, ML3.6, MW3.8*
ISC 20 00:04:16.1±3.0, **31°.64S**±0°.04×**71°.7W**±0°.1, **h1**km±18km, **n12**, σ1s**40**/20, **1D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GO04	**Tololo Observa**	**1.67**	**29**	*e*P	**Pb**	**00 04 47.4**	**-0.3**
GO04				*e*S	**Sb**	**00 05 09.7**	**+0.3**
TLL	**Tololo Astrono**	**1.67**	**29**	*e*P	**Pb**	**00 04 47.8**	**0.0**
TLL				*e*S	**Sb**	**00 05 10.5**	**+1.1**
TLL				IAML		00 05 15.2	
	comp=E,475nm,0.3s						
PEL	**Peldehue**	**1.75**	**150**	*e*P	**Pb**	**00 04 48.6**	**-0.4**
PEL				*e*S	**Sb**	**00 05 11.2**	**-0.3**
FCH	**Farellones**	**2.08**	**144**	*e*P	**Pb**	**00 04 54.1**	**-0.8**
FCH				*e*S	**Sb**	**00 05 20.8**	**-0.6**
FCH				IAML		00 05 23.1	
	comp=E,198nm,0.5s						
AUSP	**Uspallata**	**2.09**	**107**	*i* P	**Pg**	**00 04 56.2**	**+0.1**
AUSP				*i* S	**Sg**	**00 05 24.0**	**+0.9**
RTLS	**Leoncito**	**2.09**	**95**	*i* P	**Pg**	**00 04 56.5**	**+0.3**
RTLS				*i* S	**Sg**	**00 05 24.4**	**+1.2**
RTLS				IAML		00 05 24.9	
	comp=Z,361nm,0.4s						
AROD	**Rodeo**	**2.44**	**54**	*i* P	**Pb**	**00 05 01.6**	**+0.7**
AROD				*i* S	**Sg**	**00 05 34.2**	**-0.3**
RTCV	**Cerro Valdivia**	**2.74**	**96**	*i* P	**Pb**	**00 05 05.1**	**-0.8**
LCO	**Las Campanas**	**2.77**	**19**	*e*P	**Pn**	**00 05 02.5**	**+0.7**
LCO				*e*S	**Sn**	**00 05 36.5**	**+0.5**
AMOG	**MOGNA**	**2.87**	**77**	*i* P	**Pb**	**00 05 07.5**	**-0.6**
AGUA	**GUANDACOL**	**3.53**	**53**	*i* P	**Pb**	**00 05 17.0**	**-2.4**
VCA	**Vinchina**	**4.21**	**48**	*i* P	**Pb**	**00 05 26.8**	**-4.3**
VCA				IAML		00 06 33.4	
	comp=Z,58nm,0.3s						

*IDC **20** 00:06:35.9±0.7, 15°.86N×98°.50W, h0km, mb4.1/16, mb1 4.3/20, mb1mx4.2/44, mbtmp4.1/20, ML3.5/4, Error ellipse: s-maj=17.4km s-min=11.8km az=38.0*
*ISCJB **20** 00:06:36.8±0.3, 15°.94N±0°.04×98°.43W±0°.02, h10km, mb4.6/107, Error ellipse: s-maj=5.2km s-min=3.0km az=11.6*
*MEX **20** 00:06:38.8±1.2, 15°.86N×98°.66W, h16km±30km, MD4.6*
*NEIC **20** 00:06:39.3±0.0, 15°.79N×98°.57W, h16km, mb4.7/162, MD4.6(MEX), After MEX.*
ISC 20 00:06:37.4±0.4, **15°.87N**±0°.04×**98°.67W**±0°.03, **h10**km, **n428**, σ1s**79**/451, **mb4.7**/107, **Off coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.74**	**45**	*e*P	**Pg**	**00 06 50.1**	**-1.6**
PNIG				*e*S	**Sg**	**00 06 59.2**	**-2.1**
PNIG	**Pinotepa**	**0.74**	**45**	*e*P	**Pg**	**00 06 50.1**	**-1.6**
PNIG				*e*S	**Sg**	**00 06 59.2**	**-2.1**
ACP2	**Acapulco**	**1.54**	**311**	*i* P	**Pn**	**00 07 01.8**	**-3.2**
TLIG	**Tlapa**	**1.69**	**3**	*e*P	**Pn**	**00 07 04.7**	**-2.5**
TLIG				*e*S	**Sn**	**00 07 25.0**	**-3.9**
TLIG	**Tlapa**	**1.69**	**3**	*e*Pn	**Pn**	**00 07 05.5**	**-1.6**
TLIG				*e*S	**Sn**	**00 07 21.8**	**-7.1**
TLIG				*e*Sn	**Sb**	**00 07 26.1**	**-4.0**
HMTT	**Tlapaneco**	**1.92**	**3**	*e*P	**Pn**	**00 07 11.2**	**+0.8**
CAIG	**El Cayaco**	**1.93**	**308**	*i* P	**Pn**	**00 07 07.3**	**-3.1**
CAIG				*e*S	**Sn**	**00 07 30.0**	**-4.7**
CAIG	**El Cayaco**	**1.93**	**308**	*i* P	**Pn**	**00 07 07.3**	**-3.1**
CAIG				*e*S	**Sn**	**00 07 30.0**	**-4.7**
VHO	**Vista Hermosa**	**2.21**	**57**	*e*P	**Pn**	**00 07 12.6**	**-1.8**
VHO				*i* S	**Sn**	**00 07 37.6**	**-4.2**
VHO	**Vista Hermosa**	**2.21**	**57**	*e*P	**Pn**	**00 07 12.6**	**-1.8**
VHO				*i* S	**Sn**	**00 07 34.6**	**-7.2**
HUIG	**Huatulco**	**2.47**	**92**	*e*P	**Pn**	**00 07 15.6**	**-2.1**
HUIG				*e*S	**Sn**	**00 07 43.5**	**-4.4**
HUIG	**Huatulco**	**2.47**	**92**	*e*P	**Pn**	**00 07 15.6**	**-2.1**
HUIG				*e*S	**Sn**	**00 07 44.5**	**-3.4**
PLIG	**Platanillo**	**2.63**	**342**	*e*P	**Pn**	**00 07 17.7**	**-2.4**
PLIG				*i* S	**Sn**	**00 07 48.5**	**-3.7**
PLIG	**Platanillo**	**2.63**	**342**	*e*P	**Pn**	**00 07 18.7**	**-1.4**
PLIG				*i* S	**Sn**	**00 07 50.5**	**-1.7**
TPIG	**Tehuac#an**	**2.83**	**26**	*e*P	**Pn**	**00 07 21.2**	**-1.6**
TPIG	**Tehuac#an**	**2.83**	**26**	*e*P	**Pn**	**00 07 21.2**	**-1.6**
ARIG	**Puente Sto Nin**	**2.89**	**326**	*e*P	**Pn**	**00 07 22.6**	**-0.9**
ARIG				*e*S	**Sn**	**00 07 55.0**	**-3.3**
YAIG	**Yautepec**	**3.00**	**353**	*e*P	**Pn**	**00 07 25.0**	**-0.2**
YAIG				*e*S	**Sn**	**00 08 05.4**	**+4.0**
YAIG	**Yautepec**	**3.00**	**353**	*e*P	**Pb**	**00 07 29.8**	**-1.3**
YAIG				*e*S	**Sn**	**00 08 05.4**	**+4.0**
PPM	**Popocatepetl**	**3.18**	**1**	*e*P	**Pb**	**00 07 34.0**	**-0.4**
PPM				*e*S	**Sb**	**00 08 12.8**	**-0.7**
PPM	**Popocatepetl**	**3.18**	**1**	*e*P	**Pb**	**00 07 34.0**	**-0.4**
PPM				*e*S	**Sb**	**00 08 12.8**	**-0.7**
ZIIG	**Zihuatanejo**	**3.19**	**303**	*e*P	**Pn**	**00 07 25.7**	**-2.0**
ZIIG				*e*S	**Sn**	**00 08 04.1**	**-1.7**
ZIIG	**Zihuatanejo**	**3.19**	**303**	*e*P	**Pn**	**00 07 25.7**	**-2.0**
ZIIG				*e*S	**Sn**	**00 08 04.1**	**-1.7**
PHPU	**Puebla**	**3.19**	**9**	*e*P	**Pb**	**00 07 35.8**	**+1.3**
UNM	**Universidad Na**	**3.48**	**352**	*e*P	**Pb**	**00 07 37.3**	**-1.9**
UNM	**Universidad Na**	**3.48**	**352**	*e*P	**Pb**	**00 07 37.3**	**-1.9**
CMIG	**Matias Romero**	**3.83**	**71**	Pn	**Pn**	**00 07 34.3**	**-2.2**
	8.8nm,0.3s,baz=248,slow=12,SNR=88						
CMIG					Sn	**Sn**	**00 08 19.2**	**-2.3**
	28nm,0.3s,baz=236,slow=12,SNR=5.5						
CMIG					Lg	Lg	00 08 31.9	
	26nm,0.3s,baz=255,slow=10,SNR=9.5						
CMIG	**Matias Romero**	**3.83**	**71**	Pn	**Pn**	**00 07 34.3**	**-2.2**
CMIG					Sn	**Sn**	**00 08 19.2**	**-2.3**
LVIG	**Laguna Verde**	**4.39**	**29**	*e*Pn	Pn	00 07 40.8	-3.4
MOIG	**Morelia**	**4.49**	**328**	*e*P	**Pb**	**00 07 54.1**	**-2.4**
MOIG	**Morelia**	**4.49**	**328**	*e*Pn	Pn	00 07 51.6	+5.9
MMIG	**Aquila**	**5.08**	**299**	*e*P	**Pn**	**00 07 51.6**	**-2.1**
MMIG	**Aquila**	**5.08**	**299**	*e*P	**Pn**	**00 07 51.6**	**-2.1**
JRQG	**Juriquilla Cam**	**5.10**	**341**	*e*Pn	**Pn**	**00 07 56.2**	**+2.1**
JRQG				*e*Sn	**Sn**	**00 08 51.7**	**-1.5**
TGIG		**5.40**	**80**	*e*P	**Pn**	**00 07 56.4**	**-1.8**
TGIG		**5.40**	**80**	*e*P	**Pn**	**00 07 56.4**	**-1.8**
CCIG	**Comitan**	**6.29**	**85**	*e*P	**Pn**	**00 08 14.5**	**+4.0**
CCIG				*i* S	**Sn**	**00 09 19.9**	**-2.6**
CCIG	**Comitan**	**6.29**	**85**	*e*P	**Pn**	**00 08 14.5**	**+4.0**
CCIG				*i* S	**Sn**	**00 09 19.9**	**-2.6**
APG	**El Apazote**	**7.96**	**95**	Pn	**Pn**	**00 08 32.6**	**-0.8**
	0.3nm,0.3s,baz=283,slow=13,SNR=4.9						
APG					Sn	**Sn**	**00 10 03.1**	**-0.5**
	0.8nm,0.3s,baz=359,slow=17,SNR=2.5						
APG					Lg	Lg	00 10 43.2	
	0.7nm,0.3s,baz=3.8,slow=15,SNR=2.5						
APG	**El Apazote**	**7.96**	**95**	Pn	**Pn**	**00 08 32.6**	**-0.8**
APG					Sn	**Sn**	**00 10 03.1**	**-0.5**
LNIG	**Linares**	**9.02**	**355**	*e*Pn	**Pn**	**00 08 48.3**	**+0.6**
LNIG				*e*Sn	Sn	00 10 16.8	-13
H06E1	**SOCORRO T-PHAS**	**12.06**	**286**	T	T	00 21 42.5	
	SNR=232						
H06S1	**SOCORRO T**	**12.08**	**285**	T	T	00 21 49.3	
	SNR=74						
H06N1	**SOCORRO T-PHAS**	**12.13**	**286**	T	T	00 21 50.2	
	SNR=4.9						
TXAR	**Lajitas Array**	**14.17**	**342**	Pn	**Pn**	**00 09 59.3**	**+0.9**
	0.0nm,0.3s,baz=166,slow=16,SNR=6.4						
TXAR					Lg	Lg	00 14 15.9	
	0.1nm,0.3s,baz=168,slow=32,SNR=3.9						
TXAR	**Lajitas Array**	**14.17**	**342**	Pn	**Pn**	**00 09 59.3**	**+0.9**
HKT	**Hockley**	**14.26**	**10**	*e*Pn	**Pn**	**00 10 02.8**	**+3.4**
JTS	**JuntasAbangare**	**14.46**	**111**	Pn	**Pn**	**00 10 01.7**	**-0.6**
	0.2nm,0.3s,baz=343,slow=11,SNR=2.0						
JTS	**JuntasAbangare**	**14.46**	**111**	Pn	**Pn**	**00 10 01.7**	**-0.6**
JCT	**Junction City**	**14.58**	**356**	P	**Pn**	**00 10 06.1**	**+2.1**
	baz=175						
JCT	**Junction City**	**14.58**	**356**	*e*Pn	**Pn**	**00 10 07.4**	**+3.4**
HDC	**Heredia**	**15.33**	**111**	*e*Pn	**Pn**	**00 10 15.8**	**+1.6**
	311nm,1.8s						
WHTX	**Lake Whitney,**	**16.09**	**4**	P	**Pn**	**00 10 26.6**	**+2.8**
	baz=184						
WHTX	**Lake Whitney,**	**16.09**	**4**	*e*Pn	**P**	**00 10 27.9**	**+0.7**
	47nm,0.9s						
NATX	**Nacogdoches**	**16.24**	**12**	*e*Pn	**Pn**	**00 10 27.4**	**+1.7**
	31nm,0.9s						
342A	**Flagon Creek P**	**16.49**	**19**	P	**Pn**	**00 10 31.2**	**+2.3**
	baz=202						
ABTX	**Abilene, Hawle**	**16.71**	**357**	P	**Pn**	**00 10 34.2**	**+2.5**
	baz=176,SNR=12						
ABTX	**Abilene, Hawle**	**16.71**	**357**	*e*Pn	**P**	**00 10 35.3**	**+1.2**
	42nm,0.8s						
MNTX	**Cornudas Mount**	**16.91**	**340**	P	**Pn**	**00 10 35.9**	**+1.7**
	baz=157,SNR=7.2						
MNTX	**Cornudas Mount**	**16.91**	**340**	*e*Pn	**Pn**	**00 10 34.9**	**+0.7**
	15nm,1.1s						
GDL2	**Guadalupe Moun**	**17.07**	**343**	*e*Pn	**P**	**00 10 40.1**	**+2.0**
344A	**Westbrook Farm**	**17.12**	**24**	P	**Pn**	**00 10 36.1**	**-0.7**
	baz=206						
140A	**Cam and Jess,**	**17.33**	**15**	P	**Pn**	**00 10 39.6**	**+0.2**
	baz=196						
244A	**Avery, Jackson**	**17.67**	**23**	P	**Pn**	**00 10 43.4**	**-0.2**
	baz=206						
Z40A	**Long Farm, Mag**	**17.96**	**14**	P	**Pn**	**00 10 47.1**	**-0.2**
	baz=196						
Z41A	**Richland Creek**	**18.11**	**16**	P	**Pn**	**00 10 49.2**	**+0.1**
	baz=198						
319A	**Douglas**	**18.23**	**330**	*e*P	**P**	**00 10 53.4**	**+2.5**
MSTX	**Muleshoe**	**18.40**	**349**	P	**P**	**00 10 52.8**	**-0.1**
	baz=167						
121A	**Cookes Peak, D**	**18.54**	**335**	P	**P**	**00 10 55.5**	**+1.1**
	baz=151						
121A	**Cookes Peak, D**	**18.54**	**335**	*e*Pn	**Pn**	**00 10 56.3**	**+1.7**
	39nm,1.4s						
Y41A	**Eaglette Beard**	**18.75**	**16**	P	**P**	**00 10 55.4**	**-1.1**
	baz=198						
WMOK	**Wichita Mounta**	**18.79**	**360**	*e*Pn	**P**	**00 10 58.3**	**+1.2**
	5.9nm,0.8s						
X39A	**Fountain Ranch**	**19.01**	**12**	P	**P**	**00 10 58.6**	**-0.8**
	baz=193						
AMTX	**Amarillo**	**19.13**	**352**	P	**P**	**00 11 01.2**	**+0.4**
	baz=171						
AMTX	**Amarillo**	**19.13**	**352**	*e*P	**P**	**00 11 01.6**	**+0.8**
	24nm,0.7s						
MIAR	**Mount Ida**	**19.16**	**13**	P	**P**	**00 11 00.2**	**-0.8**
	baz=195						
MIAR	**Mount Ida**	**19.16**	**13**	*e*P	**P**	**00 11 00.6**	**-0.4**
	19nm,0.8s						
X40A	**Basin Creek Fa**	**19.27**	**15**	P	**P**	**00 11 01.9**	**-0.4**
	baz=197						
148A	**Greensboro**	**19.50**	**29**	P	**P**	**00 11 03.4**	**-1.4**
	baz=213						
BNM	**Barren Site**	**19.57**	**340**	*e*P	**Pn**	**00 11 08.8**	**+1.8**
UALR	**University of**	**19.67**	**16**	*e*P	**Pn**	**00 11 09.2**	**+1.2**
	23nm,1.0s						
Y45A	**Yeager Farm, C**	**19.72**	**23**	P	**P**	**00 11 06.5**	**-0.7**
	baz=206						
TUC	**Tucson**	**19.73**	**328**	P	**P**	**00 11 09.1**	**+1.8**
	baz=143						
W39A	**Magazine**	**19.74**	**12**	P	**P**	**00 11 06.9**	**-0.4**
	baz=194,SNR=14						
Z47A	**Carrollton**	**19.74**	**27**	P	**P**	**00 11 06.9**	**-0.5**
	baz=211						
149A	**Jones**	**19.84**	**31**	P	**P**	**00 11 08.2**	**-0.2**
	baz=215						
453A	**Whigham**	**19.87**	**39**	P	**P**	**00 11 08.6**	**-0.2**
	baz=224						
LAZ	**Ladron**	**19.97**	**339**	*e*P	**Pn**	**00 11 13.2**	**+1.4**
Y46A	**Houston**	**20.00**	**24**	P	**P**	**00 11 09.2**	**-1.1**
	baz=208,SNR=11						
W41B	**Gary Mavity, V**	**20.07**	**15**	P	**P**	**00 11 08.6**	**-2.4**
	baz=198						
LRAL	**Lakeview Retre**	**20.10**	**30**	P	**P**	**00 11 10.9**	**-0.3**
	baz=214						
Z48A	**Northport**	**20.12**	**28**	P	**P**	**00 11 10.4**	**-1.1**
	baz=212						
TUL1	**Leonard**	**20.13**	**7**	P	**P**	**00 11 10.0**	**-1.6**
	baz=188,SNR=5.8						
TUL1	**Leonard**	**20.13**	**7**	*e*P	**P**	**00 11 10.6**	**-1.0**
	24nm,0.8s						
WHAR	**Wooly Hollow**	**20.17**	**15**	*e*P	**P**	**00 11 13.3**	**+1.2**
	39nm,1.2s						
ANMO	**Albuquerque**	**20.24**	**341**	P	**P**	**00 11 14.9**	**+1.8**
	baz=158						
ANMO	**Albuquerque**	**20.24**	**341**	*e*P	**P**	**00 11 15.0**	**+1.9**
	22nm,0.9s						
OXF	**Oxford**	**20.35**	**22**	*e*P	**P**	**00 11 14.7**	**+0.7**
	45nm,1.1s						
V39A	**Pettigrew**	**20.39**	**12**	P	**P**	**00 11 13.3**	**-1.2**
	baz=194,SNR=24						
Y47A	**UCPARC, Winfie**	**20.44**	**27**	P	**P**	**00 11 14.0**	**-1.0**
	baz=211						
Z49A	**Columbiana**	**20.45**	**30**	P	**P**	**00 11 15.2**	**+0.1**
	baz=215						
V40A	**Witts Springs**	**20.53**	**14**	P	**P**	**00 11 14.8**	**-1.2**
	baz=196,SNR=9.8						
214A	**Organ Pipe Nat**	**20.55**	**324**	P	**P**	**00 11 17.3**	**+1.0**
	baz=138,SNR=9.0						
214A	**Organ Pipe Nat**	**20.55**	**324**	*e*P	Pn	00 11 19.9	+1.4
	126nm,1.4s						
V41A	**Mountainview**	**20.67**	**15**	P	**P**	**00 11 16.4**	**-1.1**
	baz=198,SNR=12						
X46A	**Booneville**	**20.70**	**24**	P	**P**	**00 11 17.1**	**-0.8**
	baz=208						
Y48A	**Jasper**	**20.75**	**28**	P	**P**	**00 11 17.0**	**-1.4**
	baz=212						
HHAR	**Hobbs**	**20.76**	**11**	*e*P	**P**	**00 11 20.1**	**+1.6**
	26nm,1.0s						
Z50A	**Ashland**	**20.80**	**31**	P	**P**	**00 11 18.4**	**-0.6**
	baz=216						
253A	**Americus**	**20.85**	**37**	P	**P**	**00 11 18.5**	**-1.0**
	baz=222						
V42A	**Cord**	**20.89**	**17**	P	**P**	**00 11 18.9**	**-1.0**
	baz=200						
U39A	**Green Forest**	**20.95**	**12**	P	**P**	**00 11 19.1**	**-1.5**
	baz=194,SNR=8.5						
X47A	**Russelville**	**20.96**	**26**	P	**P**	**00 11 19.1**	**-1.5**
	baz=210						
Y49A	**Blount Mountai**	**21.05**	**29**	P	**P**	**00 11 20.7**	**-0.9**
	baz=214						
U40A	**Yellville**	**21.05**	**13**	P	**P**	**00 11 20.4**	**-1.2**
	baz=195,SNR=16						
X18A	**Snowflake**	**21.17**	**333**	*e*P	**P**	**00 11 25.8**	**+2.6**
	18nm,0.8s						
X48A	**Hartselle**	**21.25**	**27**	P	**P**	**00 11 22.2**	**-1.6**
	baz=212						
U41A	**Viola**	**21.26**	**15**	P	**P**	**00 11 22.7**	**-1.1**
	baz=198,SNR=7.7						
PLAL	**Pickwick Lake**	**21.27**	**25**	*e*P	**P**	**00 11 23.0**	**-1.0**
	26nm,1.0s						
T38A	**Diamond**	**21.44**	**10**	P	**P**	**00 11 24.6**	**-1.2**
	baz=191,SNR=5.9						
U42A	**Revenden**	**21.45**	**17**	P	**P**	**00 11 23.9**	**-1.9**
	baz=200,SNR=11						
T39A	**Clever**	**21.59**	**12**	P	**P**	**00 11 26.2**	**-1.2**
	baz=194,SNR=14						
X49A	**Woodville**	**21.63**	**29**	P	**P**	**00 11 25.7**	**-2.1**
	baz=214,SNR=7.7						
113A	**Mohawk Valley,**	**21.69**	**324**	*e*P	**P**	**00 11 31.0**	**+2.5**
	15nm,0.9s						
W47A	**Westpoint**	**21.70**	**25**	P	**P**	**00 11 26.7**	**-1.9**
	baz=210,SNR=9.1						
X16A	**Lo Mia Camp, P**	**21.75**	**330**	*e*P	**P**	**00 11 31.9**	**+2.5**
	34nm,0.9s						
T25A	**Trinidad**	**21.79**	**348**	P	**P**	**

	baz=170										
KSCO	Kaye Shedlock'	23.32	352	eP	P		00 11 46.9	+1.0			
	48nm,0.9s										
MONP2	Monument Peak	23.37	320	P	P		00 11 47.4	+1.0			
	baz=132										
R42A	Luebbering	23.38	16	P	P		00 11 46.1	-0.2			
	baz=199										
T47A	Sharon Grove	23.41	24	P	P		00 11 46.1	-0.5			
	baz=209,SNR=16										
Q38A	Cooks Store, C	23.43	10	P	P		00 11 45.9	-0.8			
	baz=192										
S45A	Carrier Mills	23.48	20	P	P		00 11 46.4	-1.0			
	baz=205										
IRM	Iron Mountain	23.49	324	P	P		00 11 48.7	+1.2			
	baz=137,SNR=5.7										
W13A	Hualapai Mount	23.51	327	eP	P		00 11 51.8	+3.9			
	15nm,1.1s										
R43A	Red Bud	23.61	17	P	P		00 11 48.2	-0.4			
	baz=201										
Q39A	Willow Grove F	23.62	11	P	P		00 11 48.2	-0.5			
	baz=194										
BG3	Lake Jocassee	23.70	34	eP	P		00 11 49.5	0.0			
	8.4nm,0.8s										
Q40A	Laux Farm, Aux	23.76	13	P	P		00 11 49.1	-0.9			
	baz=196										
TKL	Tuckaleechee C	23.78	31	P	P		00 11 50.7	+0.4			
	2.1nm,0.5s,baz=192,slow=11,SNR=4.4										
TKL	Tuckaleechee C	23.78	31	P	P		00 11 50.7	+0.4			
T48A	Bowling Green	23.79	25	P	P		00 11 50.2	-0.2			
	baz=210										
U15A	North Rim	23.80	332	eP	P		00 11 53.4	+2.6			
	20nm,1.1s										
PV01	Paradox Valley	23.84	340	eP	P		00 11 49.6	-1.4			
R44A	Waltonville	23.84	19	P	P		00 11 50.2	-0.6			
	baz=203										
BELC	Belle Mtn. Jos	23.87	322	P	P		00 11 53.0	+1.7			
	baz=135										
PFO	Pinyon Flats O	23.88	321	P	P		00 11 53.1	+1.7			
	baz=134										
Q41A	Truxton	23.91	14	P	P		00 11 50.4	-1.0			
	baz=198										
Q42A	Golden Eagle	24.04	16	P	P		00 11 51.9	-0.8			
	baz=199										
P38A	Dawn	24.09	10	P	P		00 11 52.3	-0.9			
	baz=192,SNR=9.5										
P39B	Salisbury	24.09	11	P	P		00 11 52.3	-0.9			
	baz=194,SNR=5.1										
R45A	Skylar, Fairfi	24.14	20	P	P		00 11 53.5	-0.1			
	baz=205										
PV04	Paradox Valley	24.18	340	eP	P		00 11 56.0	+1.7			
GMRC	Granite Mounta	24.24	324	P	P		00 11 56.2	+1.5			
	baz=137,SNR=7.0										
P40A	Paris	24.28	13	P	P		00 11 54.6	-0.3			
	baz=195										
MURC	Murrieta	24.32	320	P	P		00 11 56.1	+0.7			
	baz=132										
R46A	Gibon Southern	24.34	22	P	P		00 11 55.8	+0.3			
	baz=206										
SMCO	Snowmass	24.34	344	eP	P		00 11 57.4	+1.5			
	35nm,1.1s										
S48A	Wiedeman Farm,	24.40	25	P	P		00 11 55.7	-0.3			
	baz=210										
Q44A	Meyer Farm, Va	24.46	18	P	P		00 11 55.9	-0.7			
	baz=203										
KNB	Kanab	24.52	332	eP	P		00 12 01.0	+3.6			
	19nm,1.0s										
O38A	Galt	24.59	10	P	P		00 11 57.7	0.0			
	baz=192										
TZTN	Tazewell	24.59	30	P	P		00 11 57.5	-0.3			
	baz=217										
TZTN	Tazewell	24.59	30	eP	P		00 11 58.1	+0.2			
	23nm,1.2s										
OLIL	Olney	24.60	20	eP	P		00 12 01.1	+3.3			
	26nm,1.0s										
ISCO	Idaho Springs	24.60	347	P	P		00 11 59.4	+1.2			
	baz=164,SNR=35										
ISCO	Idaho Springs	24.60	347	eP	P		00 12 00.0	+1.8			
	28nm,1.1s										
HEC	Hector,Ludlow	24.65	323	P	P		00 12 00.3	+1.8			
	baz=136										
KMSC	Kings Mountain	24.69	36	P	P		00 11 58.5	-0.2			
	baz=223										
LCMT	Little Creek M	24.71	331	eP	P		00 12 02.3	+3.2			
	9.2nm,1.0s										
P42A	Winchester	24.73	16	P	P		00 11 58.5	-0.4			
	baz=199										
R47A	Wooly Knot Far	24.77	23	P	P		00 11 59.0	-0.4			
	baz=208,SNR=10										
WCI	Wyandotte Cave	24.80	24	P	P		00 11 59.8	+0.2			
	baz=209										
WCI	Wyandotte Cave	24.80	24	eP	P		00 11 60.0	+0.3			
	40nm,1.0s										
TUQ	Turquoise Moun	24.86	325	P	P		00 12 02.9	+2.5			
	baz=137										
O39A	Kirksville	24.88	11	P	P		00 12 00.1	-0.2			
	baz=194										
O40A	La Belle	24.88	12	P	P		00 11 59.8	-0.6			
	baz=195,SNR=13										
N34A	Lincoln	24.95	4	P	P		00 12 00.9	-0.1			
	baz=185										
BFSC	Mount Baldy Ra	25.03	320	P	P		00 12 04.1	+2.2			
	baz=132										
N35A	Tabor	25.04	5	P	P		00 12 02.5	+0.7			
	baz=187										
O41A	Passleys Farm,	25.09	14	P	P		00 12 02.2	-0.1			
	baz=198										
MTPU	Mount Pierson	25.10	334	eP	P		00 12 05.4	+2.6			
	24nm,0.9s										
P44A	Sand Creek, Wi	25.10	19	P	P		00 12 02.1	-0.2			
	baz=203										
R48A	Northridge Ran	25.12	24	P	P		00 12 02.7	+0.2			
	baz=210										
OGNE	Ogallala	25.16	354	P	P		00 12 04.2	+1.3			
	baz=172										
OGNE	Ogallala	25.16	354	eP	P		00 12 05.2	+2.2			
	57nm,0.9s										
SHPR	Sheep Range	25.25	328	eP	P		00 12 07.8	+3.8			
	17nm,1.1s										
GSC	Goldstone, Bar	25.26	323	P	P		00 12 06.3	+2.3			
	baz=136										
GSC	Goldstone, Bar	25.26	323	eP	P		00 12 08.2	+4.2			
	17nm,1.2s										
N38A	Joes South For	25.28	10	P	P		00 12 04.5	+0.5			
	baz=192										
OTAV	Otavalo	25.28	126	eP	P		00 12 08.3	+3.6			
	26nm,1.4s										
Q47A	Bedord North L	25.37	23	P	P		00 12 05.5	+0.7			
	baz=208										
SRU	San Rafael Swe	25.38	338	eP	P		00 12 07.4	+2.2			
	15nm,0.9s										
N39A	Derby Farms, D	25.49	11	P	P		00 12 05.8	0.0			
	baz=194										
MSU	Marysvale	25.50	335	eP	P		00 12 10.4	+4.2			
O20A	White River Ci	25.58	343	P	P		00 12 08.6	+1.7			
	baz=158,SNR=12										
M35A	Neola	25.64	5	P	P		00 12 07.8	+0.6			
	baz=186										
N41A	Harden Midland	25.66	14	P	P		00 12 07.6	+0.1			
	baz=197										
EDW2	Edwards Air Fo	25.67	321	P	P		00 12 09.8	+2.1			
	baz=133										
N40A	Mertquake, Sal	25.67	12	P	P		00 12 07.5	0.0			
	baz=196										
N23A	Red Feather La	25.73	347	P	P		00 12 10.3	+2.0			
	baz=164,SNR=11										
N23A	Red Feather La	25.73	347	eP	P		00 12 11.9	+3.6			
	19nm,0.9s										
P18A	Preston Nutter	25.75	339	eP	P		00 12 10.4	+1.8			
	16nm,0.9s										
M37A	Trindle Farm,	25.76	8	P	P		00 12 08.7	+0.4			
	baz=190										
LRMC	Laurel Mtn Rad	25.89	322	P	P		00 12 11.5	+1.8			
	baz=134										
M38A	Pleasantville	25.90	9	P	P		00 12 08.9	-0.6			
	baz=192,SNR=7.1										
P47A	Martinsville	25.91	22	P	P		00 12 09.2	-0.5			
	baz=208										
HDIL	Hopedale	25.91	16	eP	P		00 12 13.1	+3.4			
	43nm,1.1s										
O45A	Potomac	26.10	19	P	P		00 12 11.9	+0.5			
	baz=204										
M39A	Webster	26.13	11	P	P		00 12 11.7	+0.1			
	baz=194,SNR=14										
FURC	Furnace Creek,	26.13	325	P	P		00 12 13.6	+1.9			
	baz=137										
TPNV	Topopah Spring	26.16	327	P	P		00 12 14.6	+2.4			
	baz=139,SNR=7.1										
MPMC	Manual Prospec	26.19	324	P	P		00 12 15.0	+2.5			
	baz=135										
M40A	Post Highland	26.19	12	P	P		00 12 12.4	+0.2			
	baz=196										
L33A	Hoskins	26.24	2	P	P		00 12 13.2	+0.5			
	baz=183										
N43A	Stutzman Famil	26.30	16	P	P		00 12 13.8	+0.5			
	baz=201										
ARVC	Arvin	26.34	320	P	P		00 12 16.5	+2.8			
	baz=132										
L36A	Harm Buss Farm	26.37	7	P	P		00 12 14.9	+1.1			
	baz=188										
M41A	Milan	26.37	14	P	P		00 12 15.0	+1.2			
	baz=198										
DAC	Darwin (Calif)	26.40	324	eP	P		00 12 16.9	+2.4			
	7.0nm,1.0s										
SFIN	Lafayette	26.42	20	P	P		00 12 15.2	+0.9			
	baz=205										
N44A	Piper City	26.47	18	P	P		00 12 15.7	+1.0			
	baz=203										
L37A	Phoenix Point,	26.51	8	P	P		00 12 16.1	+1.1			
	baz=190										
O47A	Sheridan	26.61	22	P	P		00 12 16.9	+0.9			
	baz=207										
L38A	Oak Wood Farm,	26.64	9	P	P		00 12 16.9	+0.7			
	baz=192										
NLU	North Lily Min	26.70	337	eP	P		00 12 19.6	+2.6			
	19nm,1.1s										
BLA	Blacksburg	26.71	34	P	P		00 12 17.1	+0.1			
	baz=222										
BLA	Blacksburg	26.71	34	eP	P		00 12 17.1	+0.1			
	15nm,0.8s										
L39A	Vinton	26.79	11	P	P		00 12 17.0	-0.6			
	baz=194										
L40A	Anamosa	26.88	12	P	P		00 12 18.3	-0.1			
	baz=196										
R11A	Troy Canyon, C	26.90	330	P	P		00 12 20.8	+2.0			
	baz=142										
R11A	Troy Canyon, C	26.90	330	eP	P		00 12 21.3	+2.4			
	11nm,1.4s										
VES	Vestal, Richgr	26.97	321	P	P		00 12 21.8	+2.4			
	baz=132										
L41A	Preston	27.05	13	P	P		00 12 20.1	+0.1			
	baz=197										
K37A	Belmond	27.15	8	P	P		00 12 21.5	+0.6			
	baz=190										
L42A	Oliver, Polo	27.18	15	P	P		00 12 21.1	0.0			
	baz=199										
DUG	Dugway, Tooele	27.19	336	P	P		00 12 22.6	+1.2			
	baz=149										
K39A	Oelwein	27.37	11	P	P		00 12 22.7	-0.1			
	baz=194										
TCUT	Toone Canyon	27.48	339	eP	P		00 12 26.6	+2.5			
	35nm,1.0s										
K41A	Shullsburg	27.60	13	P	P		00 12 25.7	+0.8			
	baz=197										
J36A	Seneca 1, Swea	27.62	7	P	P		00 12 26.0	+0.9			
	baz=189										
ECSD	EROS Data Cent	27.83	3	P	P		00 12 27.7	+0.8			
	baz=184										
BGU	Big Grassy Mou	27.90	336	eP	P		00 12 30.3	+2.4			
	12nm,1.2s										
HWUT	Hardware Ranch	27.96	339	eP	P		00 12 31.1	+2.7			
J39A	Decorah	28.02	11	P	P		00 12 28.4	-0.2			
	baz=194										
SDV	Santo Domingo	28.23	101	P	P		00 12 29.8	-1.2			
	1.1nm,0.3s,baz=319,slow=9.3,SNR=2.7										
J40A	Soldiers Grove	28.26	12	P	P		00 12 31.4	+0.6			
	baz=196										
NV11	Mina Array Sit	28.27	326	eP	P		00 12 33.8	+2.7			
	1.2nm,1.1s										
NV01	Mina Array Sit	28.35	326	eP	P		00 12 33.6	+1.7			
NVAR	Mina Array Bea	28.35	326	P	P		00 12 33.9	+2.0			
	1.4nm,0.6s,baz=152,slow=12,SNR=10.0										
NVAR				PcP	PcP		00 15 45.5	+0.8			
	1.0nm,0.6s,baz=128,slow=2.4,SNR=5.2										
NVAR	Mina Array Bea	28.35	326	P	P		00 12 33.9	+2.0			
NVAR				PcP	PcP		00 15 45.5	+0.8			
J41A	Loganville	28.39	13	P	P		00 12 31.5	-0.4			
	baz=197										
BW06	Boulder Array	28.39	343	P	P		00 12 32.5	+0.3			
	baz=157										
BW06	Boulder Array	28.39	343	eP	P		00 12 34.6	+2.4			
	12nm,1.1s										
PD31	Pinedale Array	28.39	343	eP	P		00 12 34.5	+2.3			
PDAR	Pinedale Array	28.39	343	P	P		00 12 33.8	+1.6			
	1.3nm,0.6s,baz=139,slow=10,SNR=11										
PDAR	Pinedale Array	28.39	343	eP	P		00 12 33.0	+0.8			
HVU	Hansel Valley	28.55	338	eP	P		00 12 35.2	+1.7			
	11nm,1.0s										
I39A	Houston	28.55	11	P	P		00 12 32.3	-1.0			
	baz=194										
H32A	Carlson Farm,	28.57	2	P	P		00 12 32.7	-0.8			
	baz=182										
I38A	Scanlan Farm,	28.59	10	P	P		00 12 33.3	-0.4			
	baz=193										
H33A	Prehn Over Nor	28.77	3	P	P		00 12 35.1	-0.3			
	baz=184										
H38A	Maiden Rock	29.22	9	P	P		00 12 38.6	-0.7			
	baz=192										
H39A	Augusta	29.39	11	P	P		00 12 40.0	-0.9			
	baz=194										
LOHW	Long Hollow	29.47	342	eP	P		00 12 43.6	+1.9			
	9.5nm,1.0s										
SPMN	Marine on St.	29.68	8	P	P		00 12 42.8	-0.6			
	baz=191										
SPMN	Marine on St.	29.68	8	eP	P		00 12 43.8	+0.4			
	7.4nm,0.7s										
VCNR	Virginia City	29.70	326	eP	P		00 12 47.3	+3.4			
	8.2nm,1.2s										
G38A	Ridgeland	29.77	10	P	P		00 12 42.8	-1.4			
	baz=193										
RUBR	Rubicon Trail	29.80	325	eP	P		00 12 48.3	+3.5			
	28nm,0.9s										
IMW	Indian Meadow	29.82	342	eP	P		00 12 46.9	+1.9			
	5.8nm,0.9s										
IMW				ePcP	PcP		00 15 55.4	+7.0			
PAHR	Pah Rah Range	29.85	327	eP	P		00 12 47.5	+2.3			
	10nm,1.4s										
G39A	Holcombe	30.00	11	P	P		00 12 45.1	-1.2			
	baz=194										
M54A	Oil Creek Stat	30.37	29	P	P		00 12 48.7	-0.8			
	baz=218										
RLMT	Red Lodge	30.50	345	P	P		00 12 52.0	+1.1			
	baz=160										
YMR	Madison River	30.54	343	eP	P		00 12 52.4	+1.2			
	7.7nm,0.9s										
HLID	Hailey	30.69	337	P	P		00 12 53.2	+0.6			
	baz=149										
G43A	Wallace	30.73	15	P	P		00 12 52.8	+0.2			
	baz=201										
F40A	Park Falls	30.81	12	P	P		00 12 53.0	-0.3			
	baz=196										
D35A	Remer	31.36	6	P	P		00 12 58.1	-0.1			
	baz=188										
LAO	LASA Array	31.37	350	P	P		00 12 58.5	+0.2			
	baz=166										
F43A	Flat Rock, Esc	31.39	16	P	P		00 12 58.7	+0.2			
	baz=201										
BOZ	Bozeman (W)	31.58	342	P	P		00 13 02.1	+1.8			
	baz=156,SNR=6.9										
BOZ	Bozeman (W)	31.58	342	eP	P		00 13 03.2	+2.8			
	7.0nm,1.1s										
O03D	Paynes Creek	31.58	325	P	P		00 13 02.0	+1.7			
	baz=134										
D37A	Cotton	31.63	8	P	P		00 13 00.0	-0.5			
	baz=191										
DLMT	Dillon	31.65	341	eP	P		00 13 03.7	+2.7			
	17nm,1.1s										
F45A	CMU Biological	31.71	18	P	P		00 13 01.1	-0.2			
	baz=204										
F44A	Big Bay de Noc	31.72	16	P	P		00 13 01.2	-0.2			
	baz=203										
MDND	Maddock	31.90	359	P	P		00 13 02.7	-0.3			
	baz=178,SNR=5.4										
MDND	Maddock	31.90	359	eP	P		00 13 07.1	+4.1			
	64nm,0.9s										
MOD	Modoc Plateau	31.94	329	eP	P		00 13 05.9	+2.4			
	8.9nm,0.9s										
LRM	Limekiln Ridge	32.02	342	eP	P		00 13 10.2	+5.8			
C36A	Pine Crest Far	32.16	7	P	P		00 13 05.4	+0.1			
	baz=190										
J08A	Circle Bar Ran	32.19	332	eP	P		00 13 07.7	+2.0			
	25nm,1.1s										
C38A	Sawbill Land.	32.34	9	P	P		00 13 06.4	-0.5			
	baz=193										
AGMN	Agassiz Nation	32.42	3	P	P		00 13 07.1	-0.5			
	baz=185,SNR=16										
AGMN	Agassiz Nation	32.42	3	eP	P		00 13 07.7	+0.1			
	20nm,0.7s										
B32A	Ashes, Strandq	32.48	3	P	P		00 13 07.8	-0.2			
	baz=184										
EYMN	Ely	32.53	9	P	P		00 13 07.7	-0.8			
	baz=193										
C39A	Grand Marais	32.63	11	P	P		00 13 08.2	-1.1			
	baz=195										
M04C	Macdoel	32.64	327	P	P		00 13 10.3	+0.6			
	baz=135										
HRY	Holter Researc	32.65	343	P	P		00 13 10.8	+1.1			
	18nm,1.0s										
B35A	Bob, Littlefor	32.66	6	P	P		00 13 08.7	-0.9			
	baz=189										
BINY	Binghamton	32.69	32	P	P		00 13 09.5	-0.4			
	baz=223										
DGMT	Dagmar	32.83	353	P	P		00 13 12.2	+1.1			
	baz=170										
M02C	Callahan	32.91	325	P	P		00 13 12.5	+0.5			
	baz=134										
YBH	Yreka Blue Hor	33.07	326	P	P		00 13 13.6	+0.2			
	0.8nm,0.6s,baz=76,slow=4.2,SNR=2.9										
YBH	Yreka Blue Hor	33.07	326	P	P		00 13 13.6	+0.2			
A33A	Warroad	33.09	4	P	P		00 13 13.4	+0.1			
	baz=186										
EGMT	Eagleton	33.34	346	P	P		00 13 16.8	+1.1			
	baz=160										
EGMT	Eagleton	33.34	346	eP	P		00 13 19.6	+3.9			
	24nm,1.4s										
MSO	Missoula	33.38	341	P	P		00 13 17.3	+1.2			
	baz=152										
J04D	Umpqua Nationa	33.83	329	P	P		00 13 21.5	+1.4			
	baz=137										
G08A	Pilot Rock	33.94	334	eP	P		00 13 22.8	+1.8			
	12nm,1.1s										
ULM	Lac du Bonnet	34.37	3	P	P		00 13 23.6	-0.9			
	1.8nm,0.6s,baz=179,slow=7.5,SNR=4.5										
ULM	Lac du Bonnet	34.37	3	eP	P		00 13 24.8	+0.4			
NEW	Newport	35.70	339	P	P		00 13 37.1	+1.1			
	baz=148										
LTY	Liberty	36.22	334	eP	P		00 13 42.8	+2.2			
FFC	Flin Flon	38.86	357	eP	P		00 14 02.9	+0.1			
	11nm,0.9s										
EDM	Edmonton	39.02	346	eP	P		00 14 05.0	+0.9			
	29nm,0.8s										
PTGA	Pitinga	41.62	110	P	P		00 14 24.0	-2.1			
	1.1nm,0.4s,baz=307,slow=5.3,SNR=5.1										
PTGA	Pitinga	41.62	110	P	P		00 14 24.0	-2.1			
FCC	Fort Churchill	42.96	4	eP	P		00 14 36.5	+0.1			
	20nm,1.6s										
LPAZ	La Paz	43.92	135	P	P		00 14 43.6	-1.8			
	1.2nm,0.8s,baz=351,slow=9.1,SNR=4.0										
LPAZ	La Paz	43.92	135	P	P		00 14 43.6	-1.8			
SCHQ	Schefferville	46.00	25	P	P		00 14 60.0	-0.9			
	4.2nm,0.5s,baz=258,slow=9.8,SNR=5.5										
SCHQ	Schefferville	46.00	25	eP	P		00 15 00.8	0.0			
	12nm,0.8s										
YKA	Yellowknife Ar	47.91	350	P	P		00 15 15.4	-0.2			
	0.7nm,0.8s,baz=158,slow=7.5,SNR=15										
YKA	Yellowknife Ar	47.91	350	P	P		00 15 15.4	-0.2			
DLBC	Dease Lake	48.45	339	eP	P		00 15 23.3	+3.4			
	11nm,1.0s										
SIV	San Ignacio	48.78	129	P	P		00 15 22.4	-0.6			
	1.2nm,0.9s,baz=314,slow=10,SNR=4.4										
SIV	San Ignacio	48.78	129	P	P		00 15 22.4	-0.6			
HYT	Haines Junctio	52.83	337	eP	P		00 15 55.4	+2.3			
DAWY	Dawson	55.62	340	eP	P		00 16 14.3	+1.1			
	9.6nm,1.4s										
EGAK	Eagle	56.66	340	eP	P		00 16 21.6	+1.0			
	8.3nm,0.8s										
HARP	HAARP	56.70	336	eP	P		00 16 23.6	+2.6			
	21nm,1.1s										
INK	Inuvik	56.92	345	eP	P		00 16 23.1	+0.8			
	13nm,0.9s										
DOT	Dot Lake	56.99	338	eP	P		00 16 24.9	+1.9			
	41nm,1.1s										
PAX	Paxson	57.13	337	eP	P		00 16 25.7	+1.6			
	8.8nm,0.9s										
SCRK	Sand Creek	57.16	338	eP	P		00 16 26.6	+2.3			
	10.0nm,0.9s										
RIDG	Independ'e Rid	57.33	338	eP	P		00 16 27.3	+1.9			
	30nm,1.1s										
SML	Sawmill	57.66	335	eP	P		00 16 30.3	+2.5			
	14nm,1.0s										
BRLK	Bradley Lake	57.81	332	eP	P		00 16 30.2	+1.3			
CPUP	Villa Florida	58.09	136	P	P		00 16 30.3	-1.0			
	1.7nm,0.9s,baz=342,slow=3.2,SNR=3.0										
CPUP	Villa Florida	58.09	136	P	P		00 16 30.3	-1.0			
HDA	Harding Lake	58.47	338	eP	P		00 16 33.5	+0.1			
	58nm,1.7s										
SUA	Susitna One	58.51	334	eP	P		00 16 35.5	+1.7			
	19nm,0.8s										
IL1	Eielson Array	58.65	338	eP	P		00 16 35.0	+0.4			
ILAR	Eielson Array	58.65	338	P	P		00 16 34.5	-0.1			
	5.4nm,1.1s,baz=147,slow=5.0,SNR=23										
ILAR	Eielson Array	58.65	338	P	P		00 16 34.5	-0.1			
ILB	Eielson Array	58.65	338	eP	P		00 16 35.6	+1.0			
RND	Reindeer	58.67	336	eP	P		00 16 36.4	+1.5			
	23nm,1.0s										
RES	Resolute Bay	58.86	1	eP	P		00 16 35.3	-0.6			
	9.4nm,1.5s										
MCK	McKinley	58.87	336	eP	P		00 16 37.5	+1.4			
	11nm,0.8s										
CCB	Clear Creek Bu	58.91	338	eP	P		00 16 39.1	+2.6			
	4.4nm,1.1s										
WRH	Wood River Hil	58.93	337	eP	P		00 16 37.6	+1.1			

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**3.59**	**73**	Pn	**Pn**	**00 07 40.8**	**-0.4**
	13nm,0.3s,baz=245,slow=15,SNR=23						
CMIG				Lg	Lg	00 08 40.3	
	44nm,0.3s,baz=353,slow=20,SNR=6.5						
APG	**El Apazote**	**7.79**	**97**	Pn	**Pn**	**00 08 38.8**	**-0.3**
	0.9nm,0.3s,baz=2.6,slow=14,SNR=10						
APG				Lg	Lg	00 11 03.1	
	0.8nm,0.3s,baz=86,slow=19,SNR=1.9						
TXAR	**Lajitas Array**	**14.06**	**341**	Pn	**Pn**	**00 10 04.7**	**0.0**
	0.1nm,0.3s,baz=155,slow=15,SNR=8.9						
JTS	**JuntasAbangare**	**14.35**	**112**	Pn	**Pn**	**00 10 08.3**	**-0.5**
	0.8nm,0.3s,baz=36,slow=12,SNR=9.9						
EPT	**El Paso**	**17.27**	**336**	*e*Pn	**P**	**00 10 52.5**	**+4.3**
	20nm,1.0s						
HSIG		**17.28**	**320**	*e*Pn	**P**	**00 10 50.3**	**+2.1**
WLAR	**White Oak Lake**	**18.21**	**14**	*e*Pn	**Pn**	**00 10 57.4**	**-0.8**
	56nm,1.3s						
LPM	**Los Pinos Moun**	**19.61**	**340**	*e*P	**P**	**00 11 12.5**	**-1.4**
W40A	**Ferguson Farm,**	**19.66**	**13**	*e*P	**P**	**00 11 14.1**	**-0.2**
	87nm,1.4s						
TUC	**Tucson**	**19.67**	**328**	*e*P	**Pn**	**00 11 16.2**	**+0.2**
	23nm,1.5s						
LRAL	**Lakeview Retre**	**19.84**	**29**	*e*P	**Pn**	**00 11 17.6**	**-0.3**
	6.9nm,0.8s						
GTBY	**Guantanamo Bay**	**22.54**	**77**	*e*P	**P**	**00 11 45.9**	**+0.3**
	102nm,1.1s						
Y12C	**Blythe**	**22.80**	**324**	*e*P	**P**	**00 11 49.4**	**+1.2**
	20nm,1.4s						
XPFO	**Piæon Flat**	**23.85**	**320**	*e*P	**P**	**00 11 59.2**	**+0.4**
	31nm,1.8s						
PFO	**Pinyon Flats O**	**23.85**	**320**	*e*P	**P**	**00 11 59.2**	**+0.4**
	46nm,2.0s						
PV05	**Paradox Valley**	**23.86**	**339**	*e*P	**P**	**00 11 56.6**	**-2.4**
PV10	**Paradox Valley**	**24.10**	**339**	*e*P	**P**	**00 12 01.0**	**-0.3**
PV09	**Paradox Valley**	**24.25**	**339**	*e*P	**P**	**00 12 02.2**	**-0.5**
SZCU	**Shurtz Canyon**	**25.05**	**332**	*e*P	**P**	**00 12 10.5**	**+0.7**
	9.8nm,1.0s						
CCUT	**Cedar City**	**25.14**	**331**	*e*P	**P**	**00 12 12.0**	**+1.4**
	7.2nm,1.0s						
P17A	**Butcher Ranch,**	**25.68**	**338**	*e*P	**P**	**00 12 16.3**	**+0.7**
	12nm,1.1s						
TMUT	**Trail Mountain**	**25.70**	**337**	*e*P	**P**	**00 12 15.3**	**-0.6**
	25nm,1.2s						
TPNV	**Topopah Spring**	**26.11**	**326**	*e*P	**P**	**00 12 16.9**	**-2.5**
	15nm,1.0s						
MPU	**Maple Canyon**	**26.49**	**337**	*e*P	**P**	**00 12 23.9**	**+1.0**
	17nm,1.2s						
RUSC	**La Rusia**	**26.86**	**109**	*e*P	**P**	**00 12 26.2**	**-0.6**
	7.6nm,1.1s						
DUG	**Dugway, Tooele**	**27.10**	**335**	*e*P	**P**	**00 12 28.9**	**+0.6**
	7.7nm,0.9s						
CTU	**Camp Tracy**	**27.12**	**337**	*e*P	**P**	**00 12 29.4**	**+0.9**
	14nm,1.2s						
ACSO	**Alum Creek Sta**	**27.60**	**26**	*e*P	**P**	**00 12 33.8**	**+1.1**
	8.7nm,0.8s						
JFWS	**Jewell Farm**	**27.68**	**13**	*e*P	**P**	**00 12 34.0**	**+0.7**
	14nm,0.9s						
SPUT	**South Promonto**	**27.92**	**337**	*e*P	**P**	**00 12 36.5**	**+0.9**
	9.5nm,1.0s						
SDV	**Santo Domingo**	**28.07**	**101**	P	**P**	**00 12 39.3**	**+1.9**
	4.5nm,0.7s,baz=327,slow=4.9,SNR=4.0						
SDV	**Santo Domingo**	**28.07**	**101**	*e*P	**P**	**00 12 39.0**	**+1.6**
	7.6nm,0.9s						
MDPB	**Devils Postpil**	**28.16**	**324**	*e*P	**P**	**00 12 38.7**	**+0.6**
	9.3nm,0.9s						
PDAR	**Pinedale Array**	**28.27**	**343**	P	**P**	**00 12 39.8**	**+0.9**
	3.8nm,0.8s,baz=129,slow=7.1,SNR=22						
NVAR	**Mina Array Bea**	**28.30**	**326**	P	**P**	**00 12 39.9**	**+0.7**
	8.0nm,0.9s,baz=151,slow=9.8,SNR=16						
RSSD	**Black Hills**	**28.37**	**352**	*e*P	**P**	**00 12 39.5**	**-0.3**
	6.0nm,1.1s						
RYN	**Ryan**	**28.56**	**326**	*e*P	**P**	**00 12 42.4**	**+1.0**
	6.6nm,1.2s						
WAKR	**Walker**	**28.98**	**325**	*e*P	**P**	**00 12 44.6**	**-0.5**
	14nm,1.4s						
REDW	**Red Top Meadow**	**29.20**	**341**	*e*P	**P**	**00 12 45.9**	**-1.2**
	20nm,1.4s						
YERR	**Yerington**	**29.21**	**326**	*e*P	**P**	**00 12 48.0**	**+0.8**
	5.5nm,0.9s						
BMN	**Battle Mountai**	**29.25**	**330**	*e*P	**P**	**00 12 48.0**	**+0.5**
	5.4nm,0.9s						
SNOW	**Snow King Moun**	**29.26**	**342**	*e*P	**P**	**00 12 46.6**	**-1.1**
	14nm,0.9s						
TPAW	**Teton Pass**	**29.34**	**341**	*e*P	**P**	**00 12 48.7**	**+0.2**
	11nm,1.0s						
FXWY	**Fox Creek**	**29.50**	**341**	*e*P	**P**	**00 12 49.2**	**-0.6**
	4.9nm,1.0s						
MOOW	**Moose Ponds**	**29.51**	**342**	*e*P	**P**	**00 12 48.0**	**-1.9**
	4.1nm,1.0s						
RLMT	**Red Lodge**	**30.37**	**345**	*e*P	**P**	**00 12 56.8**	**-0.7**
	6.6nm,0.8s						
YHH	**Holmes Hill**	**30.49**	**342**	*e*P	**P**	**00 12 59.9**	**+1.2**
	4.9nm,1.0s						
HLID	**Hailey**	**30.59**	**337**	*e*P	**P**	**00 12 59.5**	**+0.1**
	4.0nm,1.0s						
ORV	**Oroville**	**30.86**	**324**	*e*P	**P**	**00 13 03.1**	**+1.5**
	8.9nm,1.3s						
MFID	**Camas Ranch**	**31.02**	**335**	*e*P	**P**	**00 13 03.5**	**+0.3**
	11nm,1.0s						
MCMT	**McKenzie Canyo**	**31.14**	**340**	*e*P	**P**	**00 13 04.8**	**+0.4**
WVOR	**Wild Horse Val**	**31.47**	**331**	*e*P	**P**	**00 13 07.2**	**+0.1**
	14nm,1.2s						
KMRM	**Mail Ridge**	**32.57**	**323**	*e*P	**P**	**00 13 18.1**	**+1.3**
	15nm,1.0s						
DGMT	**Dagmar**	**32.67**	**353**	*e*P	**P**	**00 13 18.3**	**+0.8**
	13nm,0.8s						
BMO	**Blue Mountains**	**32.81**	**335**	*e*P	**P**	**00 13 18.4**	**-0.4**
	6.1nm,0.9s						
YBH	**Yreka Blue Hor**	**33.02**	**326**	P	**P**	**00 13 19.4**	**-1.3**
	2.2nm,0.7s,baz=115,slow=2.6,SNR=4.3						
MSO	**Missoula**	**33.27**	**340**	*e*P	**P**	**00 13 22.1**	**-0.8**
	5.0nm,1.1s						
F10A	**Beach Ranch, E**	**33.70**	**336**	*e*P	**P**	**00 13 27.0**	**+0.4**
	14nm,0.9s						
ULM	**Lac du Bonnet**	**34.17**	**3**	P	**P**	**00 13 29.6**	**-0.9**
	5.3nm,0.8s,baz=194,slow=9.7,SNR=6.6						
JTMT	**Jette**	**34.19**	**341**	*e*P	**P**	**00 13 29.8**	**-1.1**
	11nm,1.1s						
H04A	**Detroit Lake**	**34.86**	**330**	*e*P	**P**	**00 13 36.4**	**-0.1**
	12nm,0.9s						
WALA	**Waterton Lakes**	**35.25**	**342**	*e*P	**P**	**00 13 40.3**	**+0.3**
	23nm,1.5s						
C09A	**Chrisman Ranch**	**35.62**	**337**	*e*P	**P**	**00 13 43.2**	**+0.1**
	12nm,0.8s						
TRQ	**Mont Tremblant**	**36.09**	**29**	*e*P	**P**	**00 13 47.7**	**+0.5**
LTY	**Liberty**	**36.14**	**334**	*e*pP	**P**	**00 13 47.5**	**0.0**
LLLB	**Lillooet**	**39.28**	**336**	*e*P	**P**	**00 14 13.4**	**-0.7**
	13nm,1.1s						
SCHQ	**Schefferville**	**45.75**	**25**	P	**P**	**00 15 06.3**	**-0.2**
	9.1nm,0.7s,baz=233,slow=6.4,SNR=8.4						
YKA	**Yellowknife Ar**	**47.76**	**350**	P	**P**	**00 15 21.1**	**-1.0**
	3.8nm,0.9s,baz=156,slow=7.1,SNR=33						
HYT	**Haines Junctio**	**52.73**	**337**	*e*pP	**P**	**00 16 01.1**	**+1.0**
MENT	**Mentasta**	**56.36**	**337**	*e*P	**P**	**00 16 27.2**	**+1.0**
	13nm,1.4s						
KLU	**Klutina**	**56.42**	**335**	*e*P	**P**	**00 16 27.3**	**+0.6**
	17nm,1.1s						
BRLK	**Bradley Lake**	**57.73**	**332**	*e*pP	**P**	**00 16 36.3**	**+0.2**
DHY	**Denali Highway**	**57.83**	**336**	*e*P	**P**	**00 16 35.6**	**-1.1**
	3.8nm,0.8s						
ILAR	**Eielson Array**	**58.55**	**338**	P	**P**	**00 16 41.1**	**-0.4**
	12nm,1.1s,baz=145,slow=4.2,SNR=22						
FYU	**Fort Yukon**	**58.98**	**340**	*e*P	**P**	**00 16 45.1**	**+0.6**
	27nm,1.4s						
MDM	**Murphy Dome**	**59.13**	**338**	*e*P	**P**	**00 16 44.8**	**-0.9**
	5.2nm,0.9s						
SFJD	**Kangerlussuaq**	**59.58**	**20**	P	**P**	**00 16 49.0**	**+0.3**
	8.8nm,0.8s,baz=256,slow=8.3,SNR=5.8						
IM3	**Indian Mountai**	**61.65**	**338**	*e*P	**P**	**00 17 01.0**	**-1.8**
SUMG	**Summit**	**65.99**	**17**	*e*P	**P**	**00 17 32.0**	**+0.2**
	7.2nm,0.8s						
EKA	**Eskdalemuir Ar**	**79.94**	**35**	P	**P**	**00 18 54.1**	**-0.2**
	2.0nm,0.8s,baz=298,slow=4.7,SNR=3.5						
ESDC	**Sonseca Array**	**83.31**	**51**	P	**P**	**00 19 12.3**	**-0.2**
	2.2nm,1.0s,baz=306,slow=5.2,SNR=3.9						
ES19	**SONSECA Array**	**83.35**	**51**	*e*P	**P**	**00 19 12.9**	**+0.2**
WRA	**Warramunga Arr**	**129.79**	**257**	PKP	**PKPdf**	**00 25 54.4**	**-1.1**
	1.4nm,0.9s,baz=84,slow=2.1,SNR=6.4						
WRA	**Warramunga Arr**	**129.79**	**257**	PKP	**PKPdf**	**00 25 54.4**	**-1.1**
CMAR	**Chiang Mai Arr**	**141.66**	**333**	PKP	**PKPdf**	**00 26 17.6**	**-0.1**
	0.8nm,0.3s,baz=338,slow=2.4,SNR=5.1						

*ISK **20** 00:24:16.5,38°.91N×43°.58E,h10km, ML2.4/6*
*DDA **20** 00:24:16.9,38°.95N×43°.51E,h16km, Ml2.7*

*CSEM **20** 00:24:16.9±0.2,38°.94N×43°.58E,h12km, ML2.7, Error ellipse: s-maj=6.1km s-min=4.2km az=132.0*
*ISCJB **20** 00:24:17.5±0.6,38°.94N±0°.03×43°.56E±0°.05,h14km±4km, Error ellipse: s-maj=6.6km s-min=4.5km az=26.0*
ISC 20 00:24:16.9±1.0, 38°.92N±0°.03×43°.59E±0°.03, h14km±6km, n20, σ0s59/36, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VMUR	**Van-Muradiye**	**0.07**	**350**	*i* P	**Pg**	**00 24 19.5**	**-0.5**
VMUR				*i* S	**Sg**	**00 24 22.6**	**+0.6**
VMUR	**Van-Muradiye**	**0.07**	**350**	P	**Pg**	**00 24 19.5**	**-0.5**
VMUR				S	**Sg**	**00 24 22.6**	**+0.6**
ERCV	**ERCIS-VAN**	**0.22**	**296**	PG	**Pg**	**00 24 21.6**	**-0.3**
ERCV				SG	**Sg**	**00 24 25.3**	**+0.1**
ERCV	**ERCIS-VAN**	**0.22**	**296**	*e*Pg	**Pg**	**00 24 21.6**	**-0.3**
ERCV				*e*Sg	**Sg**	**00 24 25.3**	**+0.1**
CLDR	**Caldiran**	**0.34**	**50**	PG	**Pg**	**00 24 23.5**	**-0.4**
CLDR				SG	**Sb**	**00 24 29.5**	**-0.7**
CLDR	**Caldiran**	**0.34**	**50**	*i* P	**Pg**	**00 24 23.1**	**-0.8**
CLDR				*i* S	**Sb**	**00 24 30.9**	**+0.7**
CLDR	**Caldiran**	**0.34**	**50**	P	**Pg**	**00 24 23.1**	**-0.8**
CLDR	**Caldiran**	**0.34**	**50**	*e*Pg	**Pg**	**00 24 23.5**	**-0.4**
CLDR				*e*Sg	**Sb**	**00 24 29.5**	**-0.7**
CLDR				S	**Sb**	**00 24 30.9**	**+0.7**
VANB	**Van**	**0.36**	**205**	PG	**Pb**	**00 24 25.2**	**0.0**
VANB				SG	**Sb**	**00 24 31.8**	**+1.0**
VANB	**Van**	**0.36**	**205**	*e*Pg	**Pb**	**00 24 25.2**	**0.0**
VANB				*e*Sg	**Sb**	**00 24 31.8**	**+1.0**
TVAN	**Van**	**0.42**	**200**	*i* P	**Pg**	**00 24 24.9**	**-0.5**
TVAN				*i* S	**Sb**	**00 24 33.0**	**+0.5**
TVAN	**Van**	**0.42**	**200**	P	**Pg**	**00 24 24.9**	**-0.5**
TVAN				S	**Sb**	**00 24 33.0**	**+0.5**
ADCV	**BITLIS_Adilcev**	**0.68**	**260**	*i* P	**Pg**	**00 24 29.4**	**-0.9**
ADCV				*i* S	**Sg**	**00 24 39.0**	**-0.4**
ADCV	**BITLIS_Adilcev**	**0.68**	**260**	P	**Pg**	**00 24 29.4**	**-0.9**
ADCV				S	**Sg**	**00 24 39.0**	**-0.4**
AGRB	**Hanur-Agry**	**0.80**	**325**	PG	**Pb**	**00 24 32.5**	**-0.2**
AGRB				SG	**Sb**	**00 24 44.0**	**+0.6**
AGRB	**Hanur-Agry**	**0.80**	**325**	*e*Pg	**Pb**	**00 24 32.5**	**-0.2**
AGRB				*e*Sg	**Sb**	**00 24 44.0**	**+0.6**
TASB	**TASBURUN-IGDIR**	**1.17**	**25**	PN	**Pg**	**00 24 39.8**	**+0.3**
TASB	**TASBURUN-IGDIR**	**1.17**	**25**	*e*Pn	**Pg**	**00 24 39.8**	**+0.3**
GURO	**Guroymak-BITLI**	**1.27**	**253**	PN	**Pb**	**00 24 40.8**	**+0.1**
GURO	**Guroymak-BITLI**	**1.27**	**253**	*e*Pn	**Pb**	**00 24 40.8**	**+0.1**

*IDC **20** 00:24:25.6±1.5, 3°.52N×92°.75E, h0km, mb3.8/8, mb1 4.0/11,mb1mx3.7/70,mbtmp3.9/11, ML4.2/3, Error ellipse: s-maj=41.9km s-min=21.7km az=38.0*
*ISCJB **20** 00:24:29.1±1.1, 3°.6N±0°.2×92°.91E±0°.10, h35km, mb3.8/8, Error ellipse: s-maj=25.2km s-min=9.8km az=25.2*
ISC 20 00:24:30.1±1.1, 3°.5N±0°.2×92°.78E±0°.10, h35km, n14, σ1s24/12, mb3.9/8, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**6.17**	**97**	Pn	**Pn**	**00 25 59.5**	**+0.5**
	3.9nm,0.3s,baz=319,slow=8.6,SNR=12						
PSI				Sn	**Sn**	**00 27 06.6**	**-1.9**
	0.9nm,0.3s,baz=165,slow=20,SNR=2.5						
PALK	**Pallekele**	**12.58**	**288**	Pn	**Pn**	**00 27 24.7**	**-2.1**
	3.1nm,0.3s,baz=116,slow=17,SNR=3.9						
PALK				Sn	Sn	00 29 33.1	-13
	2.0nm,0.3s,baz=295,slow=17,SNR=4.2						
CMAR	**Chiang Mai Arr**	**16.00**	**22**	Pn	**Pn**	**00 28 11.5**	**-1.3**
	0.2nm,0.3s,baz=220,slow=13,SNR=7.7						
H08S2	**Diego Garcia H**	**23.09**	**241**	T	T	00 54 57.5	
	baz=62						
H08S3	**Diego Garcia H**	**23.09**	**241**	T	T	00 55 05.8	
	baz=62,slow=74						
H08S1	**Diego Carcia H**	**23.11**	**241**	T	T	00 54 56.4	
	baz=62,slow=74						
MKAR	**Makanchi Array**	**44.04**	**350**	P	**P**	**00 32 35.3**	**+0.8**
	1.4nm,0.7s,baz=169,slow=8.5,SNR=17						
SONM	**Songino Array**	**45.66**	**13**	P	**P**	**00 32 47.6**	**+0.1**
	0.5nm,0.7s,baz=196,slow=9.0,SNR=2.5						
GEYT	**Allbeck**	**46.63**	**322**	P	**P**	**00 32 55.8**	**+0.6**
	1.2nm,0.6s,baz=105,slow=9.1,SNR=3.7						
WRA	**Warramunga Arr**	**47.01**	**121**	P	**P**	**00 32 58.9**	**+0.5**
	0.5nm,0.4s,baz=300,slow=8.5,SNR=6.8						
KURBB	**Kurchatov Arra**	**48.43**	**348**	P	**P**	**00 33 09.6**	**+0.6**
	0.7nm,0.6s,baz=168,slow=7.3,SNR=5.7						
ZALV	**Zalesovo Beam**	**50.67**	**354**	P	**P**	**00 33 26.9**	**+1.0**
	1.6nm,0.5s,baz=182,slow=8.1,SNR=6.9						
BVAR	**Borovoye Array**	**52.67**	**343**	P	**P**	**00 33 41.4**	**+0.5**
	0.6nm,0.6s,baz=179,slow=8.6,SNR=4.5						
GERES	**GERESS Array B**	**80.16**	**319**	P	**P**	**00 36 38.0**	**+1.0**
	0.5nm,0.7s,baz=116,slow=6.1,SNR=5.7						

*ISCJB **20** 00:28:44.3±0.7, 49°.5S±0°.2×115°.8W±0°.3, h10km, mb3.9/8, MS4.0/28, Error ellipse: s-maj=31.8km s-min=16.7km az=42.9*
*IDC **20** 00:28:44.3±0.9, 49°.53S×115°.83W, h0km, mb4.0/7, mb1 4.2/7,mb1mx3.9/35,mbtmp3.9/7,MS3.9/28, Ms1 3.9/28,ms1mx3.9/35, Error ellipse: s-maj=38.1km s-min=22.5km az=136.0*
*NEIC **20** 00:28:45.7±0.5, 49°.51S×115°.84W, h10km, mb4.2/1, Error ellipse: s-maj=26.6km s-min=15.2km az=136.0*
ISC 20 00:28:45.7±0.8, 49°.5S±0°.2×115°.9W±0°.2, h10km, n47, σ0s98/14, mb4.0/8, MS4.0/28, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPN	**Rapa Nui**	**22.91**	**15**	LR	LR	00 39 32.3	
	comp=Z,92nm,18.1s,baz=192,slow=28						
RKT	**Rikitea**	**30.33**	**323**	*e*LR	LR	00 42 40.4	
	79nm,27.2s,baz=157						
RKT	**Rikitea**	**30.33**	**323**	*e*T	T	01 06 02.5	
	2.4nm,0.3s						
PLCA	**Paso Flores**	**32.72**	**92**	LR	LR	00 44 57.1	
	comp=Z,185nm,21.9s,baz=259,slow=30						
VNDA	**Vanda**	**40.61**	**199**	P	**P**	**00 36 25.6**	**+0.6**
	0.7nm,1.0s,baz=86,slow=13,SNR=1.8						
VNDA				LR	LR	00 49 44.1	
	comp=Z,182nm,18.7s,baz=95,slow=31						
QSPA	**South Pole Qui**	**40.70**	**180**	P	**P**	**00 36 25.5**	**-0.6**
	8.1nm,1.0s,baz=104,slow=6.5,SNR=10						
QSPA				LR	LR	00 52 27.7	
	comp=Z,167nm,18.2s,baz=97,slow=35						
QSPA	**South Pole Qui**	**40.70**	**180**	*e*P	**P**	**00 36 25.9**	**-0.2**
PPT2	**Papeete2**	**41.85**	**307**	*e*LR	LR	00 48 05.6	
	591nm,24.5s						
PPT	**Papeete**	**41.87**	**307**	LR	LR	00 49 17.6	
	comp=Z,252nm,21.2s,baz=182,slow=30						
RAR	**Rarotonga**	**44.69**	**290**	LR	LR	00 50 25.7	
	comp=Z,79nm,19.2s,baz=117,slow=29						
TAOE	**Nuku Hiva Isla**	**45.32**	**325**	*e*LR	LR	00 49 35.7	
	450nm,27.6s						
URZ	**Urewera**	**48.10**	**257**	LR	LR	00 54 43.7	
	comp=Z,117nm,18.0s,baz=140,slow=32						
RPZ	**Rata Peaks**	**48.73**	**247**	LR	LR	00 54 14.5	
	comp=Z,119nm,19.4s,baz=131,slow=31						
CPUP	**Villa Florida**	**50.21**	**85**	P	**P**	**00 37 42.2**	**+0.6**
	0.7nm,0.7s,baz=203,slow=7.7,SNR=3.2						
CPUP				LR	LR	00 55 11.0	
	comp=Z,163nm,21.6s,baz=233,slow=32						
SNAA	**Sanae**	**50.30**	**158**	LR	LR	00 56 14.1	
	comp=Z,271nm,21.9s,baz=177,slow=33						
LPAZ	**La Paz**	**50.76**	**67**	P	**P**	**00 37 46.6**	**0.0**
	3.0nm,1.0s,baz=220,slow=7.9,SNR=7.3						
LPAZ				LR	LR	00 54 16.2	
	comp=Z,109nm,19.5s,baz=225,slow=30						
AFI	**Afiamalu**	**57.60**	**288**	LR	LR	00 58 17.1	
	comp=Z,40nm,18.6s,baz=92,slow=31						
MAW	**Mawson**	**63.21**	**179**	LR	LR	01 04 15.6	
	comp=Z,187nm,18.9s,baz=196,slow=34						
ROSC	**El Rosal**	**64.99**	**47**	LR	LR	01 03 46.9	
	comp=Z,95nm,18.9s,baz=230,slow=32						
JTS	**JuntasAbangare**	**65.42**	**34**	LR	LR	01 00 28.7	
	comp=Z,98nm,20.9s,baz=255,slow=29						
DZM	**Mont Dzumac**	**65.67**	**264**	LR	LR	01 01 44.3	
	comp=Z,82nm,18.8s,baz=278,slow=30						
DZM	**Mont Dzumac**	**65.67**	**264**	*e*LR	LR	00 58 37.0	
	174nm,23.9s						
APG	**El Apazote**	**68.04**	**27**	LR	LR	01 02 54.0	
	comp=Z,64nm,20.2s,baz=100,slow=30						
SDV	**Santo Domingo**	**70.28**	**48**	LR	LR	01 07 46.9	
	comp=Z,112nm,18.0s,baz=226,slow=33						
SDV	**Santo Domingo**	**70.28**	**48**	P	**P**	**00 39 59.6**	**+0.2**
	0.8nm,0.4s						
LPIG	**La Paz**	**73.44**	**5**	LR	LR	01 04 42.0	
	comp=Z,70nm,21.1s,baz=216,slow=29						
PCRV	**Puerto La Cruz**	**74.40**	**53**	LR	LR	01 09 44.5	
	comp=Z,271nm,18.9s,baz=218,slow=33						
HNR	**Honiara**	**79.14**	**268**	LR	LR	01 11 21.7	
	comp=Z,37nm,18.8s,baz=346,slow=32						
TXAR	**Lajitas Array**	**79.23**	**11**	LR	LR	01 08 55.0	
	comp=Z,31nm,20.7s,baz=0.0,slow=30						
ASAR	**Alice Springs**	**84.50**	**240**	P	**P**	**00 41 18.0**	**-0.9**
	1.8nm,0.9s,baz=144,slow=4.6,SNR=6.8						
ASAR				LR	LR	01 16 20.9	
	comp=Z,37nm,18.5s,baz=323,slow=34						
WRA	**Warramunga Arr**	**87.17**	**242**	P	**P**	**00 41 32.5**	**+0.4**
	0.4nm,0.8s,baz=143,slow=4.5,SNR=3.0						
PMG	**Port Moresby**	**87.43**	**259**	LR	LR	01 17 06.3	
	comp=Z,69nm,18.0s,baz=145,slow=33						
NVAR	**Mina Array Bea**	**87.59**	**358**	LR	LR	01 11 56.6	
	comp=Z,112nm,20.0s,baz=272,slow=30						
YBH	**Yreka Blue Hor**	**91.06**	**355**	LR	LR	01 13 18.2	
	comp=Z,96nm,21.6s,baz=184,slow=29						
PDAR	**Pinedale Array**	**92.06**	**5**	P	**P**	**00 41 54.0**	**-0.6**
	0.3nm,0.7s,baz=180,slow=2.7,SNR=3.5						
PDAR				LR	LR	01 16 43.7	
	comp=Z,48nm,18.2s,baz=189,slow=31						
H11S2	**WAKE ISLAND Hy**	**96.00**	**291**	T	T	02 28 26.9	
	baz=141						
H11S3	**WAKE ISLAND Hy**	**96.02**	**291**	T	T	02 28 30.8	
	baz=141						
H11S1	**WAKE ISLAND Hy**	**96.02**	**291**	T	T	02 28 29.9	
	baz=141						
H11N3	**WAKE ISLAND Hy**	**96.82**	**292**	T	T	02 29 28.0	
	baz=134						
H11N1	**WAKE ISLAND Hy**	**96.82**	**292**	T	T	02 29 33.4	
	baz=134						
H11N2	**WAKE ISLAND Hy**	**96.83**	**292**	T	T	02 29 29.6	
	baz=134						
NEW	**Newport**	**97.40**	**359**	LR	LR	01 17 55.8	
	comp=Z,70nm,20.5s,baz=178,slow=30						
CMAR	**Chiang Mai Arr**	**138.31**	**235**	PKP	**PKPdf**	**00 48 10.1**	**-1.2**
	0.6nm,0.3s,baz=222,slow=1.2,SNR=4.1						
GERES	**GERESS Array B**	**147.51**	**72**	PKPbc	**PKPbc**	**00 48 28.5**	**-0.8**
	0.2nm,0.3s,baz=258,slow=4.0,SNR=3.9						
SONM	**Songino Array**	**152.31**	**283**	PKPbc	**PKPbc**	**00 48 43.5**	**+2.4**
	0.6nm,0.6s,baz=148,slow=2.8,SNR=3.8						
BRTR	**Keskin Array B**	**156.33**	**103**	PKPab	**PKPab**	**00 49 08.0**	**-0.5**
	2.3nm,1.0s,baz=202,slow=5.2,SNR=7.2						
GNI	**Garni**	**163.40**	**117**	*e*PKPdf	**PKPdf**	**00 48 48.2**	**+0.1**

*ISCJB **20** 00:29:48.6±0.5, 4°.28S±0°.06×143°.7E±0°.1, h150km, mb3.8/15, Error ellipse: s-maj=17.1km s-min=8.7km az=170.8*
*IDC **20** 00:29:48.2±0.7, 4°.29S×143°.74E, h134km±6km, mb3.7/16, mb1 3.8/19,mb1mx3.7/48,mbtmp4.2/19,MS2.6/1, Ms1 2.6/1,ms1mx2.4/45, Error ellipse: s-maj=18.1km s-min=9.7km az=79.0*
ISC 20 00:29:49.1±0.5, 4°.29S±0°.08×143°.8E±0°.1, h150km, n26, σ1s58/31, mb3.8/15, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.09**	**147**	P	**Pn**	**00 31 17.7**	**+0.7**
	3.2nm,0.3s,baz=353,slow=17,SNR=3.5						
PMG				S	**Sn**	**00 32 23.2**	**-2.7**
	1.1nm,0.3s,baz=324,slow=19,SNR=3.5						
PMG				LR	LR	00 33 50.9	
	comp=Z,58nm,21.8s,baz=110,slow=40						
CTA	**Charters Tower**	**15.89**	**171**	P	**P**	**00 33 26.4**	**+1.1**
	0.4nm,0.3s,baz=340,slow=14,SNR=3.6						
WRA	**Warramunga Arr**	**18.08**	**210**	P	**Pn**	**00 33 49.2**	**-1.8**
	1.9nm,0.3s,baz=30,slow=12,SNR=42						
BATI	**Baumata**	**20.80**	**252**	P	**P**	**00 34 17.6**	**-1.1**
	15nm,0.5s,baz=86,slow=16,SNR=3.8						
ASAR	**Alice Springs**	**21.50**	**205**	P	**P**	**00 34 25.9**	**-0.3**
	4.4nm,0.6s,baz=36,slow=3.9,SNR=29						
FITZ	**Fitzroy Crossi**	**22.44**	**231**	P	**P**	**00 34 35.9**	**+0.1**
	6.9nm,0.6s,baz=41,slow=9.1						

MKAR	**Makanchi Array**	**81.44**	**319**	P		P	00 56 08.7	-0.1
	0.7nm,0.7s,baz=97,slow=6.2,SNR=6.3							
ZALV	**Zalesovo Beam**	**82.24**	**326**	P		P	00 56 10.8	-1.9
	0.4nm,0.4s,baz=106,slow=4.7,SNR=3.0							

*NNC **20** 00:52:02.5±3.0,36.77N×70.27E,h101km±75km,mb3.1, mpv3.7,Error ellipse: s-maj=30.4km s-min=22.7km az=123.0*

ISC 20 00:51:59.4±3.0,36.6N±0.2×70.3E±0.1,h100km,n13, σ1§09/18,4C-6D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**4.25**	**35**	⇑P		**Pn**	**00 53 03.6**	**+1.5**
	8.4nm,0.4s							
SFK				⇓S		**Sn**	**00 53 51.6**	**+0.9**
	9.0nm,0.4s							
AML	**Almayashu**	**6.13**	**24**	P		**Pn**	**00 53 28.1**	**+0.3**
	SNR=58							
MNAS	**Manas**	**6.14**	**15**	⇑P		**Pn**	**00 53 29.0**	**+1.2**
	2.2nm,0.3s							
MNAS				⇓S		**Sn**	**00 54 35.4**	**-1.3**
	4.5nm,0.5s							
UCH	**Uchtor**	**6.51**	**28**	P		**Pn**	**00 53 32.5**	**-0.5**
	SNR=9.1							
KK31	**Karatay Array**	**6.53**	**1**	P		**Pn**	**00 53 34.8**	**+1.9**
	2.0nm,0.3s,baz=173,slow=11,SNR=150							
KK31				⇓S		**Sn**	**00 54 45.0**	**-0.8**
	1.9nm,0.3s,baz=184,slow=20,SNR=10							
EKS2	**Erkin-Say**	**6.64**	**22**	P		**Pn**	**00 53 35.3**	**+0.9**
	SNR=6.1							
AAK	**Ala-Archa**	**6.86**	**27**	⇓P		**Pn**	**00 53 37.6**	**+0.2**
	1.7nm,0.3s							
AAK				⇓S		**Sn**	**00 54 52.8**	**-1.3**
	1.8nm,0.5s							
AAK	**Ala-Archa**	**6.86**	**27**	P		**Pn**	**00 53 37.9**	**+0.4**
	SNR=6.9							
USP	**Ospennovka**	**7.42**	**24**	P		**Pn**	**00 53 44.9**	**0.0**
	SNR=5.7							
TKM2	**Tokmak 2**	**7.53**	**31**	⇑P		**Pn**	**00 53 45.5**	**-1.0**
	3.2nm,0.5s							
TKM2				⇓S		**Sn**	**00 55 12.0**	**+1.6**
	0.9nm,0.6s							
TKM2	**Tokmak 2**	**7.53**	**31**	P		**Pn**	**00 53 45.9**	**-0.7**
	SNR=9.6							
AB31	**Akbulak array**	**14.77**	**332**	P		**P**	**00 55 26.0**	**-0.5**
	0.3nm,0.4s,baz=146,slow=11,SNR=7.7							
AKTO	**Aktyubinsk**	**16.46**	**331**	⇑P		**Pn**	**00 55 43.8**	**-0.4**
	0.7nm,0.5s							

*ISK **20** 01:00:51.8,39.11N×29.16E,h5km,ML2.6/17*
*ISCJB **20** 01:00:52.1±0.4,39.11N±0.02×29.14E±0.03,h2km±4km, Error ellipse: s-maj=3.8km s-min=3.3km az=170.6*
*CSEM **20** 01:00:52.5±0.1,39.10N×29.13E,h8km,ML2.6,Error ellipse: s-maj=2.2km s-min=2.1km az=135.0*
*DDA **20** 01:00:52.4,39.10N×29.10E,h7km,Ml2.9*

ISC 20 01:00:52.4±0.9,39.11N±0.02×29.13E±0.02,h8km±7km, n54,σ0§40/76,Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SIMA	**Simav-Kutahya**	**0.12**	**259**	PG		**Pg**	**01 00 55.2**	**0.0**
SIMA				SG		**Sg**	**01 00 57.2**	**+0.1**
SIMA	**Simav-Kutahya**	**0.12**	**259**	*e*Pg		**Pg**	**01 00 55.2**	**0.0**
SIMA				*e*Sg		**Sg**	**01 00 57.2**	**+0.1**
GDZ	**Gediz**	**0.27**	**94**	*i* P		**Pg**	**01 00 57.8**	**-0.1**
GDZ				*i* S		**Sg**	**01 01 01.9**	**+0.4**
GDZ	**Gediz**	**0.27**	**94**	P		**Pg**	**01 00 57.8**	**-0.1**
GDZ				S		**Sg**	**01 01 01.9**	**+0.4**
TVSB	**Tavsanli**	**0.43**	**37**	PG		**Pg**	**01 01 00.1**	**-0.7**
TVSB				SG		**Sg**	**01 01 05.9**	**-0.5**
TVSB	**Tavsanli**	**0.43**	**37**	*e*Pg		**Pg**	**01 01 00.1**	**-0.7**
TVSB				*e*Sg		**Sg**	**01 01 05.9**	**-0.5**
KULA	**Kula-Manisa**	**0.70**	**212**	PG		**Pg**	**01 01 05.9**	**0.0**
KULA	**Kula-Manisa**	**0.70**	**212**	*e*Pg		**Pg**	**01 01 05.9**	**0.0**
DURS	**Dursunbey**	**0.71**	**314**	*i* P		**Pg**	**01 01 06.1**	**0.0**
DURS				*i* S		**Sb**	**01 01 17.0**	**-0.1**
DURS	**Dursunbey**	**0.71**	**314**	P		**Pg**	**01 01 06.1**	**0.0**
DURS				S		**Sb**	**01 01 17.0**	**-0.1**
MANT	**Manisa**	**0.76**	**216**	*i* P		**Pg**	**01 01 06.8**	**-0.3**
MANT				*i* S		**Sg**	**01 01 16.5**	**-0.6**
MANT	**Manisa**	**0.76**	**216**	P		**Pg**	**01 01 06.8**	**-0.3**
MANT				S		**Sg**	**01 01 16.5**	**-0.6**
KHAL	**Karahalli**	**0.79**	**159**	*i* P		**Pb**	**01 01 08.0**	**-0.4**
KHAL				*i* S		**Sg**	**01 01 17.6**	**-0.2**
KHAL	**Karahalli**	**0.79**	**159**	P		**Pb**	**01 01 08.0**	**-0.4**
KHAL				S		**Sg**	**01 01 17.6**	**-0.2**
ORLT	**Orhaneli**	**0.96**	**349**	PG		**Pg**	**01 01 10.5**	**-0.3**
ORLT				SG		**Sb**	**01 01 24.3**	**+0.2**
ORLT	**Orhaneli**	**0.96**	**349**	*e*Pg		**Pg**	**01 01 10.5**	**-0.3**
ORLT				*e*Sg		**Sb**	**01 01 24.3**	**+0.2**
AKHS	**Akhisar**	**1.05**	**258**	*i* P		**Pg**	**01 01 11.7**	**-0.9**
AKHS				*i* S		**Sg**	**01 01 26.3**	**0.0**
AKHS	**Akhisar**	**1.05**	**258**	P		**Pg**	**01 01 11.7**	**-0.9**
AKHS				S		**Sg**	**01 01 26.3**	**0.0**
BALB	**Balikesir**	**1.11**	**299**	PN		**Pb**	**01 01 14.0**	**+0.2**
BALB	**Balikesir**	**1.11**	**299**	*e*Pn		**Pb**	**01 01 14.0**	**+0.2**
STEP	**BALIKESIR_Sava**	**1.13**	**284**	*i* P		**Pn**	**01 01 14.9**	**+0.3**
STEP				*i* S		**Sn**	**01 01 30.2**	**-0.2**
STEP	**BALIKESIR_Sava**	**1.13**	**284**	P		**Pn**	**01 01 14.9**	**+0.3**
STEP				S		**Sn**	**01 01 30.2**	**-0.2**
KZIL	**AFYON_Kizioren**	**1.16**	**137**	*i* P		**Pn**	**01 01 15.4**	**+0.4**
KZIL				*i* S		**Sn**	**01 01 32.2**	**+1.1**
KZIL	**AFYON_Kizioren**	**1.16**	**137**	P		**Pn**	**01 01 15.4**	**+0.4**
KZIL				S		**Sn**	**01 01 32.2**	**+1.1**
CAVI	**Cavuskoy**	**1.22**	**26**	PN		**Pb**	**01 01 15.4**	**-0.5**
CAVI	**Cavuskoy**	**1.22**	**26**	*e*Pn		**Pb**	**01 01 15.4**	**-0.5**
SHUT	**Suhut-Afyon**	**1.24**	**116**	PN		**Pg**	**01 01 15.7**	**-0.5**
SHUT	**Suhut-Afyon**	**1.24**	**116**	*e*Pn		**Pg**	**01 01 15.7**	**-0.5**
MDNY	**Mudanya-Bursa**	**1.28**	**351**	PN		**Pn**	**01 01 16.6**	**0.0**
MDNY	**Mudanya-Bursa**	**1.28**	**351**	*e*Pn		**Pn**	**01 01 16.6**	**0.0**
BORA	**Eskisehir**	**1.28**	**52**	*i* P		**Pg**	**01 01 17.0**	**0.0**
BORA				*i* S		**Sg**	**01 01 33.9**	**+0.2**
BORA	**Eskisehir**	**1.28**	**52**	P		**Pg**	**01 01 17.0**	**0.0**
BORA				S		**Sg**	**01 01 33.9**	**+0.2**
KCTX	**Karacabey (Bur**	**1.30**	**333**	PN		**Pb**	**01 01 17.4**	**+0.2**
KCTX	**Karacabey (Bur**	**1.30**	**333**	*e*Pn		**Pb**	**01 01 17.4**	**+0.2**
ESKT	**Eskisehir**	**1.40**	**72**	*i* S		**Sb**	**01 01 36.5**	**-0.3**
SEYT	**Eskypehyr**	**1.40**	**72**	S		**Sb**	**01 01 36.5**	**-0.3**
ADVT	**Abdulvahap**	**1.41**	**19**	PN		**Pn**	**01 01 18.6**	**+0.2**
ADVT	**Abdulvahap**	**1.41**	**19**	*e*Pn		**Pn**	**01 01 18.6**	**+0.2**
GONE	**Gonen-Balikesi**	**1.46**	**310**	PN		**Pb**	**01 01 19.7**	**-0.2**
GONE	**Gonen-Balikesi**	**1.46**	**310**	*e*Pn		**Pb**	**01 01 19.7**	**-0.2**
YLV	**Yalova**	**1.47**	**7**	PN		**Pn**	**01 01 19.6**	**+0.3**
YLV	**Yalova**	**1.47**	**7**	*e*Pn		**Pn**	**01 01 19.6**	**+0.3**
ARMT	**Armutlu**	**1.47**	**352**	PN		**Pn**	**01 01 19.7**	**+0.4**
ARMT	**Armutlu**	**1.47**	**352**	*e*Pn		**Pn**	**01 01 19.7**	**+0.4**
EDC	**Edincik**	**1.58**	**322**	PN		**Pn**	**01 01 21.3**	**+0.5**
EDC	**Edincik**	**1.58**	**322**	*e*Pn		**Pn**	**01 01 21.3**	**+0.5**
GULT	**Gulveren**	**1.70**	**38**	PN		**Pn**	**01 01 22.7**	**+0.2**
GULT	**Gulveren**	**1.70**	**38**	*e*Pn		**Pn**	**01 01 22.7**	**+0.2**
HRT	**Hereke**	**1.76**	**13**	PN		**Pn**	**01 01 23.4**	**+0.1**
HRT	**Hereke**	**1.76**	**13**	*e*Pn		**Pn**	**01 01 23.4**	**+0.1**
ISK	**Istanbul-Kandi**	**1.96**	**358**	PN		**Pn**	**01 01 26.6**	**+0.7**
ISK	**Istanbul-Kandi**	**1.96**	**358**	*e*Pn		**Pn**	**01 01 26.6**	**+0.7**
MDUB	**Mudurnu**	**2.10**	**49**	PN		**Pn**	**01 01 28.3**	**+0.4**
MDUB	**Mudurnu**	**2.10**	**49**	*e*Pn		**Pn**	**01 01 28.3**	**+0.4**

TAP 20 01:16:38.0,21.24N×121.88E,h168km,ML3.9,D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
LAY	**Lan-yu**	**0.85**	**339**	*e*P		Pn	01 17 03.5	0.0
	baz=340							
LAY				S		Sn	01 17 21.6	-1.6
	baz=340							
TSEB	**Hengchuen, Pin**	**1.12**	**306**	*e*S		Sn	01 17 27.2	+0.6
	baz=300							
TWKBT	**Hengchun**	**1.21**	**306**	*e*P		Pn	01 17 06.8	+0.5
	baz=303							
TWKBT				*e*S		Sn	01 17 27.7	-0.4
	baz=303							
TWK1	**Hengchun**	**1.22**	**305**	*e*P		Pn	01 17 06.9	+0.6
	baz=303							
TWK1				*e*S		Sn	01 17 28.1	-0.1
	baz=303							
HEN	**Hengchun**	**1.31**	**306**	*e*P		Pn	01 17 07.0	-0.1
	baz=298							
HEN				*e*S		Sn	01 17 29.5	-0.1
	baz=298							
TAW	**Tawu**	**1.44**	**321**	*e*P		Pn	01 17 08.2	-0.2
	baz=321							
TAW				*e*S		Sn	01 17 30.3	-1.5
	baz=321							
EAST	**Anshuo**	**1.49**	**320**	*e*P		Pn	01 17 08.9	0.0
	baz=320							
EAST				*e*S		Sn	01 17 31.4	-1.4
	baz=320							
TWH	**Lutao**	**1.51**	**346**	*e*P		Pn	01 17 07.7	-1.4
	baz=350							
TWH				*e*S		Sn	01 17 32.1	-1.1
	baz=350							
ECL	**Taimali**	**1.60**	**328**	*e*P		Pn	01 17 09.3	-0.6
	baz=324							
ECL				*e*S		Sn	01 17 32.4	-2.3
	baz=324							
SCZT	**Fangliau**	**1.62**	**314**	*e*P		Pn	01 17 10.2	-0.1
	baz=320							
SCZT				*e*S		Sn	01 17 33.8	-1.3
	baz=320							
TTN	**Taitung**	**1.66**	**336**	*e*P		Pn	01 17 10.7	+0.2
	baz=328							
TTN				*e*S		Sn	01 17 35.3	-0.4
	baz=328							
SSPT	**Xinbi**	**1.74**	**316**	*e*P		Pn	01 17 11.8	+0.4
	baz=319							
SSPT				*e*S		Sn	01 17 36.2	-1.0
	baz=319							
TWGBT	**Beinan**	**1.74**	**335**	*e*P		Pn	01 17 11.0	-0.5
	baz=329							
TWGBT				*e*S		Sn	01 17 35.4	-1.9
	baz=329							
TWG	**Pinlang**	**1.75**	**335**	*e*P		Pn	01 17 11.1	-0.4
	baz=329							
TWG				*e*S		Sn	01 17 35.3	-2.1
	baz=329							
WLCH	**Liuqiu**	**1.78**	**309**	*e*S		Sn	01 17 40.1	+2.1
	baz=309							
TWP	**Hsiaoliuchiu**	**1.79**	**308**	*e*P		Pn	01 17 13.5	+1.6
	baz=308							
MASBT	**Mashibuluo**	**1.79**	**320**	*e*P		Pn	01 17 12.0	0.0
	baz=320							
MASBT				*e*S		Sn	01 17 36.5	-1.8
	baz=320							
SSD	**Sandimen**	**1.90**	**323**	*e*P		Pn	01 17 13.2	+0.2
	baz=323							
SSD				*e*S		Sn	01 17 38.6	-1.7
	baz=323							
CHKT	**Chengkung**	**1.91**	**346**	*e*S		Sn	01 17 40.5	-0.1
	baz=348							
FULB	**Fuli**	**2.03**	**345**	*e*P		Pn	01 17 14.7	+0.1
	baz=340							
FULB				*e*S		Sn	01 17 43.2	+0.2
	baz=340							
TWM1	**Shoushan**	**2.08**	**320**	*e*P		Pn	01 17 16.5	+1.4
	baz=313							
TWM1				*e*S		Sn	01 17 45.2	+1.2
	baz=313							
SLGT	**Liugui**	**2.09**	**327**	*e*P		Pn	01 17 15.0	-0.3
	baz=332							
SLGT				*e*S		Sn	01 17 43.0	-1.2
	baz=332							
ELDTW	**Lidau**	**2.10**	**338**	*e*P		Pn	01 17 16.1	+0.6
	baz=338							
ELDTW				*e*S		Sn	01 17 43.5	-1.1
	baz=338							
TWF1	**Yuli**	**2.17**	**346**	*e*P		Pn	01 17 16.8	+0.5
	baz=336							
TWF1				*e*S		Sn	01 17 45.7	-0.3
	baz=336							
STYT	**Tauyuan**	**2.18**	**332**	*e*P		Pn	01 17 16.8	+0.4
	baz=332							
STYT				*e*S		Sn	01 17 45.4	-0.8
	baz=332							
SGST	**Jiashian**	**2.19**	**327**	*e*P		Pn	01 17 18.1	+1.6
	baz=327							
SGST				*e*S		Sn	01 17 45.8	-0.5
	baz=327							
YULB	**Yu-li**	**2.21**	**346**	*e*P		Pn	01 17 16.6	-0.1
	baz=337							
YULB				*e*S		Sn	01 17 45.5	-1.2
	baz=337							
HGSD	**Ruisui**	**2.28**	**350**	*e*P		Pn	01 17 17.9	+0.4
	baz=351							
HGSD				*e*S		Sn	01 17 49.2	+1.0
	baz=351							
CHN1	**Nanshi**	**2.31**	**327**	*e*P		Pn	01 17 18.2	+0.4
	baz=327							
CHN1				*e*S		Sn	01 17 47.9	-0.8
	baz=327							
EHY	**Hungye**	**2.32**	**347**	*e*S		Sn	01 17 46.9	-2.0
	baz=339							
WTP	**Ta-pu**	**2.32**	**330**	*e*P		Pn	01 17 17.9	0.0
	baz=330							
WTP				*e*S		Sn	01 17 47.4	-1.5
	baz=330							
TAI1	**Yung-k'ang**	**2.36**	**320**	*e*S		Sn	01 17 49.7	+0.1
	baz=312							
TPUB	**Ta-pu**	**2.36**	**331**	*e*P		Pn	01 17 18.2	-0.2
	baz=331							
TPUB				*e*S		Sn	01 17 47.7	-2.0
	baz=331							
TWK	**Hsinying**	**2.40**	**328**	*e*P		Pn	01 17 19.0	+0.2
	baz=328							
TWK				*e*S		Sn	01 17 49.0	-1.6
	baz=328							
YUS	**Yu-Shan**	**2.40**	**339**	*e*S		Sn	01 17 51.0	-0.5
	baz=332							
CHN4	**Tsaushan**	**2.42**	**331**	*e*P		Pn	01 17 18.7	-0.3
	baz=331							
CHN4				*e*S		Sn	01 17 49.7	-1.3
	baz=331							
ALS	**Alishan**	**2.47**	**337**	*e*S		Sn	01 17 52.2	-0.4
	baz=337							
SCLT	**Jiali**	**2.48**	**321**	*e*S		Sn	01 17 52.6	+0.3
	baz=328							
CHN5	**Tsauling**	**2.60**	**335**	*e*P		Pn	01 17 21.2	-0.1
	baz=335							
CHN5				*e*S		Sn	01 17 53.7	-1.3
	baz=335							
CHN8	**Yiju**	**2.60**	**324**	*e*S		Sn	01 17 54.4	-0.5
	baz=330							
CHY	**Chiayi**	**2.62**	**329**	*e*S		Sn	01 17 54.5	-0.8
	baz=329							
WLGB	**Puzi**	**2.67**	**327**	*e*S		Sn	01 17 55.6	-0.6
	baz=327							
SSLB	**Suanglung**	**2.68**	**342**	*e*P		Pn	01 17 21.6	-0.6
	baz=334							
SSLB				*e*S		Sn	01 17 54.8	-1.8
	baz=334							
WDLH	**Douliu**	**2.74**	**333**	*e*S		Sn	01 17 56.9	-0.9
	baz=333							
SMLT	**Sun Moon Lake**	**2.79**	**341**	*e*P		Pn	01 17 23.7	+0.1
	baz=334							
SMLT				*e*S		Sn	01 17 57.9	-1.2
	baz=334							
TYC	**Yuchr**	**2.82**	**341**	*e*P		Pn	01 17 23.5	-0.3
	baz=341							
TYC				*e*S		Sn	01 17 58.3	-1.3
	baz=341							
WDGT	**Dungji**	**2.88**	**315**	*e*P		Pn	01 17 24.4	-0.2
	baz=315							
WDGT				*e*S		Sn	01 17 58.4	-2.4
	baz=315							
CHGB	**Renai**	**2.88**	**347**	*e*P		Pn	01 17 26.1	+1.2
	baz=347							
CHGB				*e*S		Sn	01 18 01.1	-0.3
	baz=347							
WHF	**Hehuan Shan**	**2.95**	**349**	*e*P		Pn	01 17 26.6	+0.7
	baz=355							
WHF				*e*S		Sn	01 18 02.5	-0.7
	baz=355							
RLNB	**Erlin**	**2.99**	**332**	*e*S		Sn	01 18 01.5	-1.8
	baz=337							
TDCB	**Techi**	**3.08**	**348**	*e*P		Pn	01 17 28.1	+0.9
	baz=340							
TDCB				*e*S		Sn	01 18 04.7	-0.8
	baz=340							
WCHH	**Zhanghua**	**3.08**	**337**	*e*S		Sn	01 18 05.0	-0.4
	baz=337							
PHUB	**P'eng-hu**	**3.11**	**317**	*e*P		Pn	01 17 27.2	-0.2
	baz=323							
PHUB				*e*S		Sn	01 18 03.7	-2.3
	baz=323							
NNSB	**Datong**	**3.21**	**352**	*e*P		Pn	01 17 29.2	+0.4
	baz=352							
NNSB				*e*S		Sn	01 18 07.8	-0.7
	baz=352							
NNSH	**Datong**	**3.21**	**352**	*e*P		Pn	01 17 30.7	+1.9
	baz=355							
NNSH				*e*S		Sn	01 18 07.8	-0.7
	baz=355							

*NSSC **20** 01:20:45.1±2.0,32.64N×48.74E,h0km±999km,ML4.8*
*ISCJB **20** 01:21:05.5±0.4,32.44N±0.02×47.01E±0.01,h11km±2km, mb4.9/197,MS4.5/71,Error ellipse: s-maj=2.7km s-min=1.7km az=16.8*
*IDC **20** 01:21:06.0±0.4,32.58N×47.11E,h0km,mb4.7/43, mb1 4.7/53,mb1mx4.7/70,mbtmp4.7/53,ML4.0/10, MS4.4/49,Ms1 4.4/49,ms1mx4.3/63,Error ellipse: s-maj=8.9km s-min=7.2km az=173.0*
*CSEM **20** 01:21:07.4±0.1,32.44N×46.99E,h10km,mb5.0/29,Error ellipse: s-maj=3.7km s-min=2.3km az=17.0*
*MOS **20** 01:21:07.4±1.3,32.56N×47.04E,h21km,mb5.1/86, MS4.2/39,Error ellipse: s-maj=4.9km s-min=3.2km az=110.6*
*GCMT **20** 01:21:07.5±0.1,32.53N×46.83E,h12km,MW5.2/119, Moment Tensor Solution. s73,c102; s119,c219; Duration: 1§0 Moment tensor: Scale 10¹⁷Nm; Mrr0.76±.01; Mθθ-0.57±.01; Mϕϕ-0.18±.01; Mrθ0.17±.03; Mθϕ0.38±.01; Mϕr-0.15±.03; Best double couple: M₀0.81300×10¹⁷ NP1:ϕs124.00000°,δs53.00000°, λ93.00000°. NP2:ϕs298.00000°,δs37.00000°,λ85.00000°. Principal axes: T 0.7900, Plg82.0000°, Azm51.0000°; N 0.0460, Plg3.0000°, Azm302.0000°; P -0.8360, Plg8.0000°, Azm212.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*ISN **20** 01:21:07.1±0.9,32.49N×46.85E,h0km±3km,ML5.0*
*TEH **20** 01:21:07.3,32.50N×47.05E,h20km,ML5.1*
*NEIC **20** 01:21:07.5±0.2,32.51N×47.02E,h10km,mb5.1/88, ML5.0(THR),MN5.1(TEH),Error ellipse: s-maj=4.2km s-min=2.7km az=193.0*
NEIC Felt at Dehloran, Iran.
*BJI **20** 01:21:08.5,32.50N×47.00E,h32km,mb4.9/58,mB5.2/44, Ms5.0/47,Ms7 4.6/46*
*GII **20** 01:21:10.4±0.0,32.53N×47.07E,h30km*
*THR **20** 01:21:10.9±0.6,32.73N×47.19E,h14km±6km,ML4.9*
*DSN **20** 01:21:11.1±0.7,32.59N×47.46E,h34km,mb6.0/15,Error ellipse: s-maj=17.3km s-min=5.7km az=56.0*
*OMAN **20** 01:21:11.8±4.5,32.36N×47.16E,h34km,Error ellipse: s-maj=4.9km s-min=3.2km az=341.0*

ISC 20 01:21:08.8±0.7,32.52N±0.03×47.11E±0.02,h19km±2km, n1036,σ1§68/1110,mb5.0/197,MS4.4/71,70C-55D, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
IKFM	**Kafar-mosalman**	**1.18**	**32**	*e*Pg		**Pn**	**01 21 29.9**	**-0.4**
IKFM				*e*AMB		AMB	01 22 06.3	
	comp=Z,99nm,0.6s							
IKFM	**Kafar-mosalman**	**1.18**	**32**	*e*Pg		**Pn**	**01 21 29.9**	**-0.4**
SHGR	**Shooshtar-Gavs**	**1.49**	**106**	Pg		**Pg**	**01 21 38.0**	**+0.4**
SHGR				Sg		**Sg**	**01 21 58.0**	**+1.0**
SHGR	**Shooshtar-Gavs**	**1.49**	**106**	Pg		**Pg**	**01 21 38.0**	**+0.4**
SHGR				Sg		**Sg**	**01 21 58.0**	**+1.0**
SHGR	**Shooshtar-Gavs**	**1.49**	**106**	*e*Pg		**Pg**	**01 21 38.1**	**+0.4**
SHGR				*e*Sg		**Sg**	**01 21 58.5**	**+1.5**
SHGR				AML		AML	01 22 04.6	
	comp=N,21μm,0.6s							
SHGR				AML		AML	01 22 04.8	
	comp=E,24μm,0.5s							
IKOM	**Komasi**	**1.68**	**11**	*e*Pn		**Pg**	**01 21 39.8**	**-1.6**
IKOM				*e*Sg		**Sg**	**01 22 04.8**	**+1.5**
IKOM				*e*AMB		AMB	01 22 05.9	
	comp=Z,41μm,0.5s							
IKOM	**Komasi**	**1.68**	**11**	Pn		**Pg**	**01 21 39.7**	**-1.6**
IKOM				Sg		**Sg**	**01 22 04.7**	**+1.5**
IKOM	**Komasi**	**1.68**	**11**	Pn		**Pg**	**01 21 39.7**	**-1.6**
IKOM				Sg		**Sg**	**01 22 04.7**	**+1.5**
NSR	**Nassriya**	**1.72**	**209**	*e*Pn		**Pn**	**01 21 37.0**	**-0.7**
	SNR=3.0							
NSR				*e*Sn		**Sn**	**01 21 57.0**	**-2.1**
	SNR=3.0							
IGHG	**Ghaleghazi**	**1.86**	**346**	*e*Pn		**Pb**	**01 21 41.5**	**-0.9**
IGHG				*e*AMB		AMB	01 22 17.9	
	comp=Z,88μm,0.3s							
IGHG	**Ghaleghazi**	**1.86**	**346**	Pn		**Pb**	**01 21 41.4**	**-0.9**
IGHG	**Ghaleghazi**	**1.86**	**346**	*e*Pn		**Pb**	**01 21 41.5**	**-0.9**
IVIS	**Veis**	**2.01**	**354**	*e*Pn		**Pn**	**01 21 42.9**	**+1.0**
IVIS				*e*AMB		AMB	01 22 18.0	
	comp=Z,38μm,0.3s							
IVIS	**Veis**	**2.01**	**354**	Pn		**Pn**	**01 21 42.8**	**+0.9**
IVIS	**Veis**	**2.01**	**354**	*e*Pn		**Pn**	**01 21 42.9**	**+1.0**
ILIN	**Lien**	**2.40**	**357**	*e*Pn		**Pb**	**01 21 49.1**	**-2.4**
ILIN				*e*AMB		AMB	01 22 32.0	
	comp=Z,68μm,0.3s							
ILIN	**Lien**	**2.40**	**357**	Pn		**Pb**	**01 21 49.0**	**-2.4**
ILIN	**Lien**	**2.40**	**357**	*e*Pn		**Pb**	**01 21 49.1**	**-2.4**
BHD	**Baghdad**	**2.42**	**289**	*e*Pn		**Pn**	**01 21 46.0**	**-1.3**
	SNR=3.0							
BHD				*i* Sn		**Sn**	**01 22 14.0**	**-2.3**
	SNR=3.0							
SNGE	**Sanandaj**	**2.57**	**4**	Pn		**Pn**	**01 21 51.0**	**+1.3**
SNGE				Sg		**Sb**	**01 22 24.0**	**-1.8**
SNGE	**Sanandaj**	**2.57**	**4**	*e*Pn		**Pn**	**01 21 51.4**	**+1.7**
SNGE				Sg		**Sb**	**01 22 24.0**	**-1.8**
SNGE	**Sanandaj**	**2.57**	**4**	*e*Pn		**Pn**	**01 21 51.4**	**+1.7**
SNGE				*e*Sg		**Sb**	**01 22 24.8**	**-1.0**
SNGE				AML		AML	01 22 37.1	
	comp=E,5μm,0.5s							
SNGE				AML		AML	01 22 40.4	
	comp=N,4μm,0.6s							
KHMZ	**Khomeyn**	**2.68**	**62**	Pn		**Pn**	**01 21 53.0**	**+1.8**
KHMZ	**Khomeyn**	**2.68**	**62**	Pn		**Pn**	**01 21 53.0**	**+1.8**
KHMZ	**Khomeyn**	**2.68**	**62**	*e*Pn		**Pb**	**01 21 53.7**	**-2.7**
HAGD	**Aghdareh**	**2.85**	**36**	*e*Pn		**Pn**	**01 21 55.9**	**+2.4**
HAGD				*e*AMB		AMB	01 22

IGZV	**Ghazvin**	**4.63**	**33**	*e*Pn	**Pn**	**01 22 19.4 +1.4**
IGZV				*e*AMB	AMB	01 22 44.2
comp=Z,5µm,0.3s						
IGZV	**Ghazvin**	**4.63**	**33**	Pn	**Pn**	**01 22 19.3 +1.3**
IGZV	**Ghazvin**	**4.63**	**33**	*e*Pn	**Pn**	**01 22 19.4 +1.4**
IKAZ	**Kazeroun**	**4.89**	**123**	*e*Pn	**Pn**	**01 22 23.9 +2.3**
IKAZ				*e*AMB	AMB	01 23 39.1
comp=Z,28µm,0.3s						
IKAZ	**Kazeroun**	**4.89**	**123**	Pn	**Pn**	**01 22 23.9 +2.3**
IKAZ	**Kazeroun**	**4.89**	**123**	*e*Pn	**Pn**	**01 22 23.9 +2.3**
IDMV	**Damavand**	**5.10**	**52**	*e*Pn	**Pn**	**01 22 25.9 +1.4**
IDMV				*e*AMB	AMB	01 24 11.4
comp=Z,66µm,1.3s						
IDMV	**Damavand**	**5.10**	**52**	Pn	**Pn**	**01 22 25.9 +1.4**
IDMV	**Damavand**	**5.10**	**52**	*e*Pn	**Pn**	**01 22 25.9 +1.4**
IBST	**Bostanabad**	**5.17**	**358**	*e*Pn	**Pn**	**01 22 27.3 +1.9**
IBST				*e*AMB	AMB	01 23 29.7
comp=Z,4µm,0.4s						
IBST	**Bostanabad**	**5.17**	**358**	Pn	**Pn**	**01 22 27.3 +1.9**
IBST	**Bostanabad**	**5.17**	**358**	*e*Pn	**Pn**	**01 22 27.3 +1.9**
YOVA	**Hakkari_Y¨…kse**	**5.56**	**336**	*i* P	**Pn**	**01 22 28.7 -2.0**
ISAD	**Sadrabad**	**5.61**	**94**	*e*Pn	**Pn**	**01 22 32.8 +1.4**
ISAD				*e*AMB	AMB	01 24 34.8
comp=Z,9µm,0.5s						
ISAD	**Sadrabad**	**5.61**	**94**	Pn	**Pn**	**01 22 32.8 +1.4**
ISAD	**Sadrabad**	**5.61**	**94**	*e*Pn	**Pn**	**01 22 32.8 +1.4**
IFIR	**Firoozkooh**	**5.62**	**55**	*e*Pn	**Pn**	**01 22 33.5 +1.8**
IFIR				*e*AMB	AMB	01 22 37.6
comp=Z,2µm,0.2s						
IFIR	**Firoozkooh**	**5.62**	**55**	Pn	**Pn**	**01 22 33.4 +1.8**
IFIR	**Firoozkooh**	**5.62**	**55**	*e*Pn	**Pn**	**01 22 33.5 +1.8**
ILAS	**Lasjerd**	**5.64**	**58**	*e*Pn	**Pn**	**01 22 33.5 +1.7**
ILAS				*e*AMB	AMB	01 24 29.8
comp=E,8µm,0.5s						
ILAS	**Lasjerd**	**5.64**	**58**	*e*Pn	**Pn**	**01 22 33.5 +1.7**
IPAR	**Pars**	**5.75**	**116**	*e*Pn	**Pn**	**01 22 35.3 +1.8**
IPAR				*e*AMB	AMB	01 23 51.3
comp=Z,8µm,0.4s						
IPAR	**Pars**	**5.75**	**116**	Pn	**Pn**	**01 22 35.2 +1.8**
IPAR	**Pars**	**5.75**	**116**	Pn	**Pn**	**01 22 35.2 +1.8**
RTB	**Rutbah**	**5.75**	**277**	*e*Pn	**Pn**	**01 22 33.0 -0.2**
SNR=3.0						
ITBZ	**Tabriz**	**5.75**	**352**	*e*Pn	**Pn**	**01 22 34.3 +0.9**
ITBZ				*e*AMB	AMB	01 24 25.9
comp=Z,5µm,0.6s						
ITBZ	**Tabriz**	**5.75**	**352**	*e*Pn	**Pn**	**01 22 34.3 +0.9**
ISHB	**Shabestar**	**5.88**	**348**	*e*Pn	**Pn**	**01 22 35.7 +0.6**
ISHB				*e*AMB	AMB	01 23 10.7
comp=Z,3µm,0.4s						
ISHB	**Shabestar**	**5.88**	**348**	Pn	**Pn**	**01 22 35.6 +0.5**
ISHB	**Shabestar**	**5.88**	**348**	Pn	**Pn**	**01 22 35.6 +0.5**
ISRV	**Sarvestan**	**6.03**	**120**	*e*Pn	**Pn**	**01 22 38.9 +1.6**
ISRV				*e*AMB	AMB	01 25 09.1
comp=Z,13µm,0.5s						
ISRV	**Sarvestan**	**6.03**	**120**	Pn	**Pn**	**01 22 38.9 +1.6**
ISRV	**Sarvestan**	**6.03**	**120**	*e*Pn	**Pn**	**01 22 38.9 +1.6**
ICHK	**Chekchek**	**6.18**	**91**	*e*Pn	**Pn**	**01 22 40.7 +1.4**
ICHK				*e*AMB	AMB	01 24 51.5
comp=Z,8µm,0.5s						
ICHK	**Chekchek**	**6.18**	**91**	Pn	**Pn**	**01 22 40.6 +1.3**
ICHK	**Chekchek**	**6.18**	**91**	*e*Pn	**Pn**	**01 22 40.7 +1.4**
SIRT	**Sirnak**	**6.27**	**324**	*e*P	**Pn**	**01 22 40.9 +0.5**
SIRN	**S¨–rnak**	**6.28**	**323**	*i* P	**Pn**	**01 22 38.7 -1.8**
IMRD	**Marand**	**6.28**	**350**	*e*Pn	**Pn**	**01 22 41.6 +0.9**
IMRD				*e*AMB	AMB	01 24 53.2
comp=Z,4µm,0.4s						
IMRD	**Marand**	**6.28**	**350**	Pn	**Pn**	**01 22 41.5 +0.9**
IMRD	**Marand**	**6.28**	**350**	*e*Pn	**Pn**	**01 22 41.6 +0.9**
IANJ	**Anjilo**	**6.37**	**61**	*e*AMB	AMB	01 24 46.4
comp=Z,10µm,0.7s						
GEVA	**Gevas**	**6.66**	**331**	*i* P	**Pn**	**01 22 45.5 -0.3**
GEVA				*i* S	**Sn**	**01 23 58.6 -2.6**
GEVA	**Gevas**	**6.66**	**331**	P	**Pn**	**01 22 45.5 -0.3**
TVAN	**Van**	**6.71**	**334**	*i* P	**Pn**	**01 22 47.4 +0.8**
TVAN	**Van**	**6.71**	**334**	P	**Pn**	**01 22 47.4 +0.8**
VANB	**Van**	**6.78**	**334**	*e*P	**Pn**	**01 22 47.2 -0.2**
SRTM	**Siirt_Merkez**	**6.91**	**324**	*i* P	**Pn**	**01 22 48.4 -0.9**
SRTM	**Siirt_Merkez**	**6.91**	**324**	P	**Pn**	**01 22 48.3 -0.9**
MARD	**Mardin**	**7.06**	**314**	*i* P	**Pn**	**01 22 49.5 -1.9**
VMUR	**Van-Muradiye**	**7.07**	**337**	*i* P	**Pn**	**01 22 51.5 +0.1**
VMUR	**Van-Muradiye**	**7.07**	**337**	P	**Pn**	**01 22 51.5 +0.1**
CLDR	**Caldiran**	**7.10**	**339**	*e*P	**Pn**	**01 22 52.7 +0.8**
BTMN	**Batman**	**7.18**	**320**	*i* P	**Pn**	**01 22 48.2 -4.7**
ADCV	**BITLIS_Adilcev**	**7.22**	**332**	*i* P	**Pn**	**01 22 52.4 -1.1**
ADCV	**BITLIS_Adilcev**	**7.22**	**332**	P	**Pn**	**01 22 52.4 -1.1**
IBAF	**Bafgh**	**7.24**	**95**	*e*Pn	**Pn**	**01 22 55.1 +1.3**
IBAF				*e*AMB	AMB	01 25 16.3
comp=Z,4µm,0.7s						
IBAF	**Bafgh**	**7.24**	**95**	Pn	**Pn**	**01 22 55.0 +1.3**
IBAF	**Bafgh**	**7.24**	**95**	Pn	**Pn**	**01 22 55.0 +1.3**
GURO	**Guroymak-BITLI**	**7.30**	**327**	*e*P	**Pn**	**01 22 53.8 -0.8**
MAZI	**Mazidag**	**7.36**	**314**	*e*P	**Pn**	**01 22 56.2 +0.8**
SVAN	**Silvan-Diyarba**	**7.41**	**321**	*e*P	**Pn**	**01 22 56.5 +0.6**
TUTA	**Tutak**	**7.70**	**334**	*i* P	**Pn**	**01 22 57.2 -2.9**
IGDI	**IGDIR**	**7.73**	**342**	*i* P	**Pn**	**01 23 01.1 +0.7**
AGRB	**Hanur-Agry**	**7.79**	**336**	*e*P	**Pn**	**01 23 01.9 +0.6**
TASB	**TASBURUN-IGDIR**	**7.80**	**344**	*e*P	**Pn**	**01 23 02.4 +1.1**
GNI	**Garni**	**7.85**	**347**	Pn	Pn	01 23 06.9 +4.8
comp=Z,0.7nm,0.3s,baz=286,slow=6.8,SNR=8.8						
GNI				Lg	Lg	01 25 12.4
comp=Z,0.8nm,0.3s,baz=108,slow=20,SNR=1.8						
GNI				LR	LR	01 25 57.2
comp=Z,2µm,19.4s,baz=164,slow=37						
GNI	**Garni**	**7.85**	**347**	*e*Pn	**Pn**	**01 23 06.0 +3.9**
GNI				Lg	Lg	01 25 12.3
GNI	**Garni**	**7.85**	**347**	*e*P	**Pn**	**01 23 04.0 +1.9**
comp=Z,37nm,0.7s						
GNI	**Garni**	**7.85**	**347**	*e*Pn	**Pn**	**01 23 06.0 +3.9**
GNI	**Garni**	**7.85**	**347**	*ce*P	**Pn**	**01 23 04.0 +1.9**
GNI				pmax	pmax	
comp=Z,37nm,0.7s						
DIYA	**Diyarbakir**	**7.86**	**315**	*i* P	**Pn**	**01 23 03.7 +1.6**
DIYA	**Diyarbakir**	**7.86**	**315**	P	**Pn**	**01 23 03.7 +1.6**
DYBB	**Diyarbakir**	**7.87**	**315**	*e*P	**Pn**	**01 23 02.8 +0.5**
EKAR	**Karacoban**	**7.87**	**330**	*i* P	**Pn**	**01 23 02.4 0.0**
EKAR	**Karacoban**	**7.87**	**330**	P	**Pn**	**01 23 02.4 0.0**
HANI	**Diyarbakir_Han**	**8.03**	**319**	*i* P	Pn	01 22 54.6 -10
VRTB	**Varto-Mus**	**8.06**	**327**	*e*P	**Pn**	**01 23 05.3 +0.3**
VRTB	**Varto-Mus**	**8.06**	**327**	*i* P	**Pn**	**01 23 02.4 -2.6**
EATA	**Eleskirt**	**8.22**	**334**	*i* P	Pn	01 23 02.4 -4.9
BNGB	**Bing¨‖**	**8.30**	**323**	*e*P	**Pn**	**01 23 07.4 -0.9**
URFA	**Urfa**	**8.39**	**308**	*e*P	**Pn**	**01 23 09.9 +0.5**
SLMH	**Al Salmeh**	**8.44**	**298**	*e*P	Pn	01 23 16.0 +5.9
SLMH				*e*S		01 25 37.0
SLMH				AML	AML	01 25 54.5
comp=N,846nm,0.7s						
SLMH				AML	AML	01 26 03.8
comp=E,284nm,0.7s						
SLMH	**Al Salmeh**	**8.44**	**298**	*e*P	Pn	01 23 04.9 -5.1
SLMH				*e*S	**Sn**	**01 24 48.7 +3.9**
SLMH				AML	AML	01 25 54.5
comp=N,846nm,0.7s						
SLMH				AML	AML	01 26 03.8
comp=E,284nm,0.7s						
ASF	**Jabal al Asfar**	**8.65**	**270**	Pn	**Pn**	**01 23 10.8 -2.2**
comp=E,2.5nm,0.3s,baz=44,slow=9.0,SNR=23						
ASF				Sn	**Sn**	**01 24 44.1 -6.0**
comp=E,1.4nm,0.3s,baz=44,slow=14,SNR=2.9						
ASF				Lg	Lg	01 25 37.6
comp=E,5.2nm,0.3s,baz=228,slow=19,SNR=3.9						
ASF				LR	LR	01 27 10.9
comp=E,1µm,19.7s,baz=44,slow=42						
SENK	**Senkaya-Erzuru**	**8.89**	**336**	*e*P	**Pn**	**01 23 16.7 +0.3**
PTK	**Pertek**	**8.93**	**318**	*e*P	**Pn**	**01 23 16.3 -0.7**
AKT	**Akhty**	**8.96**	**3**	*e*P	**Pn**	**01 23 20.6 +3.4**
comp=E,30nm,0.7s						
AKT	**Akhty**	**8.96**	**3**	*e*P	**Pn**	**01 23 20.6 +3.4**
AKT				*e*S	**Sn**	**01 25 03.2 +5.6**
AKT				pmax	pmax	
comp=Z,30nm,0.7s						
AKT				smax	smax	
comp=E,12nm,1.8s						
AKT				smax	smax	
comp=N,14nm,1.3s						
TOTH	**TOTAH**	**9.02**	**278**	*e*P	**Pn**	**01 23 17.0 -1.1**
TOTH				*e*S	Sn	01 25 38.4 +39
TOTH				AML	AML	01 26 11.2
comp=N,424nm,0.7s						
TOTH				AML	AML	01 26 24.1
comp=E,396nm,0.6s						
TOTH	**TOTAH**	**9.02**	**278**	*e*P	**Pn**	**01 23 17.4 -0.7**
TOTH				*e*S	**Sn**	**01 25 06.8 +7.7**
TOTH				AML	AML	01 26 11.2
comp=N,424nm,0.7s						
TOTH				AML	AML	01 26 24.1
comp=E,396nm,0.6s						
TOTH				AML	AML	01 26 53.2
comp=Z,3µm,1.4s						
RAYN	**Ar Rayn**	**9.08**	**189**	*e*Pn	**Pn**	**01 23 17.4 -1.5**
RAYN	**Ar Rayn**	**9.08**	**189**	*e*Pn	**Pn**	**01 23 17.4 -1.5**
MALT	**Malatya**	**9.14**	**312**	*e*P	**Pn**	**01 23 19.8 0.0**
QASN	**Qassioun**	**9.15**	**279**	*e*P	**Pn**	**01 23 19.7 -0.2**
QASN				*e*S	Sn	01 25 42.4 +40
QASN				AML	AML	01 26 12.1
comp=N,604nm,0.8s						
QASN				AML	AML	01 26 52.0
comp=E,1µm,0.9s						
QASN	**Qassioun**	**9.15**	**279**	*e*P	**Pn**	**01 23 19.2 -0.8**
QASN				AML	AML	01 26 12.1
comp=N,604nm,0.8s						
QASN				AMB	AMB	01 26 26.9
comp=Z,6µm,1.2s						
QASN				AML	AML	01 26 52.0
comp=E,1µm,0.9s						
ERZN	**Erzincan**	**9.24**	**322**	*e*P	**Pn**	**01 23 21.2 0.0**
GAZ	**Gaziantep**	**9.36**	**302**	*e*P	**Pn**	**01 23 22.9 +0.1**
BRBR	**Barbar**	**9.42**	**278**	*e*P	**Pn**	**01 23 22.4 -1.3**
BRBR				*e*S	Sn	01 25 47.6 +38
BRBR				AML	AML	01 26 41.8
comp=E,325nm,0.8s						
BRBR				AML	AML	01 26 47.3
comp=N,332nm,0.8s						
BRBR	**Barbar**	**9.42**	**278**	*e*P	**Pn**	**01 23 22.2 -1.5**
BRBR				*e*S	**Sn**	**01 25 14.6 +5.4**
BRBR				AML	AML	01 26 41.8
comp=E,325nm,0.8s						
BRBR				AML	AML	01 26 47.3
comp=N,332nm,0.8s						
KSHT	**Keshet**	**9.53**	**276**	Pn	**Pn**	**01 23 24.5 -0.6**
BAYT	**Ayd¨–ntepe-Bay**	**9.65**	**326**	*e*P	**Pn**	**01 23 26.6 -0.2**
KMRS	**Kahramanmaras**	**9.74**	**304**	*e*P	**Pn**	**01 23 27.7 -0.2**
YAYL	**Yayladag**	**9.76**	**294**	*e*P	**Pn**	**01 23 28.4 +0.2**
HMDT	**Nahal Hemdat**	**9.80**	**272**	Pn	**Pn**	**01 23 29.0 +0.3**
MMA0	**Mount Meron ar**	**9.87**	**276**	Pn	**Pn**	**01 23 28.9 -0.9**
MMAI	**Mount Meron Ar**	**9.87**	**276**	Pn	**Pn**	**01 23 28.8 -1.0**
comp=N,2.3nm,0.3s,baz=81,slow=17,SNR=20						
MMAI				Lg	Lg	01 26 23.7
comp=N,9.9nm,0.3s,baz=105,slow=30,SNR=5.0						
MMAI				LR	LR	01 28 02.2
comp=N,1µm,20.1s,baz=70,slow=42						
MMLI	**Mount Malkishu**	**9.88**	**273**	Pn	**Pn**	**01 23 29.8 0.0**
DARE	**Darende-Malaty**	**9.89**	**310**	*e*P	**Pn**	**01 23 29.9 -0.2**
BCA	**Borcka**	**9.93**	**335**	*e*P	**Pn**	**01 23 30.6 +0.1**
DSI	**Dead Sea**	**10.00**	**268**	Pn	**Pn**	**01 23 30.0 -1.5**
MZDA	**Masada**	**10.06**	**266**	Pn	**Pn**	**01 23 32.9 +0.7**
SHME	**Shamm**	**10.18**	**127**	P	**Pn**	**01 23 33.5 -0.5**
SNR=23						
SHME	**Shamm**	**10.18**	**127**	*i* P	**Pn**	**01 23 33.3 -0.8**
SNR=12						
SHME				S	**Sn**	**01 25 22.8 -4.9**
SLTI	**Sal'it**	**10.21**	**272**	Pn	**Pn**	**01 23 34.1 -0.3**
KTUT	**Trabzon**	**10.30**	**327**	*e*P	**Pn**	**01 23 35.3 -0.2**
ZFRI	**Zfri**	**10.37**	**262**	Pn	**Pn**	**01 23 36.3 -0.2**
BANOM	**Banah**	**10.37**	**127**	P	**Pn**	**01 23 36.1 -0.5**
SNR=62						
BANOM				S	**Sn**	**01 25 30.4 -2.0**
BANOM	**Banah**	**10.37**	**127**	P	**Pn**	**01 23 36.1 -0.5**
SNR=62						
BANOM				S	**Sn**	**01 25 30.4 -2.0**
BANOM	**Banah**	**10.37**	**127**	*i* P	**Pn**	**01 23 35.9 -0.8**
SNR=67						
MAK	**Makhachkala**	**10.43**	**2**	*e*S	**Sn**	**01 25 36.1 +2.6**
comp=N,3µm,15.0s						
MAK	**Makhachkala**	**10.43**	**2**	*e*P	**Pn**	**01 23 35.9 -1.4**
MAK				*e*S	**Sn**	**01 25 36.1 +2.6**
MAK				pmax	pmax	
comp=Z,1µm,2.0s						
MAK				MLR	MLR	
comp=Z,3µm,15.0s						
KOZT	**Kozan**	**10.49**	**301**	*e*P	**Pn**	**01 23 37.9 -0.3**
GEYT	**Alibeck**	**10.49**	**56**	Pn	**Pn**	**01 23 38.7 +0.5**
comp=Z,0.2nm,0.3s,baz=246,slow=7.1,SNR=15						
GEYT				Lg	Lg	01 26 47.8
comp=Z,0.1nm,0.3s,baz=244,slow=33,SNR=2.1						
GYA0B	**ALIBECK ARRAY**	**10.49**	**56**	*e*Pn	**Pn**	**01 23 41.7 +3.5**
GYA0B	**ALIBECK ARRAY**	**10.49**	**56**	*e*Pn	**Pn**	**01 23 41.7 +3.5**
AJN	**Ajban**	**10.52**	**137**	*i* P	**Pn**	**01 23 38.4 -0.3**
SNR=12						
ZEI	**Tsey**	**10.56**	**347**	*e*P	Pn	01 23 44.6 +5.3
ZEI				pmax	pmax	
comp=Z,25nm,1.3s						
PRNI	**Paran**	**10.56**	**261**	Pn	**Pn**	**01 23 38.9 -0.3**
PRNI	**Paran**	**10.56**	**261**	Pn	**Pn**	**01 23 39.6 +0.4**
NAZ	**Nazwa, Dubai**	**10.61**	**133**	P	**Pn**	**01 23 39.4 -0.4**
SNR=20						
NAZ	**Nazwa, Dubai**	**10.61**	**133**	*i* P	**Pn**	**01 23 39.4 -0.4**
SNR=20						
HRFI	**Mount Harif**	**10.62**	**260**	Pn	**Pn**	**01 23 39.7 -0.4**
MSFE	**Esma-Masafi**	**10.66**	**130**	P	**Pn**	**01 23 40.1 -0.5**
SNR=26						
MSFE	**Esma-Masafi**	**10.66**	**130**	*i* P	**Pn**	**01 23 39.9 -0.7**
SNR=26						
RMNI	**Mount Ramon**	**10.71**	**263**	Pn	**Pn**	**01 23 41.2 -0.1**
ESPY	**Espiye-Giresun**	**10.74**	**324**	*e*P	**Pn**	**01 23 41.3 -0.3**
MDH	**Madha**	**10.79**	**129**	*i* P	**Pn**	**01 23 41.4 -0.9**
SNR=9.3						
MBH	**Mount Berech**	**10.79**	**259**	Pn	**Pn**	**01 23 43.0 +0.5**
MBRI	**Mt Berech**	**10.80**	**259**	Pn	**Pn**	**01 23 42.2 -0.3**
EIL	**Elat**	**10.80**	**258**	Pn	**Pn**	**01 23 42.1 -0.4**
comp=Z,3.2nm,0.3s,baz=106,slow=5.3,SNR=25						
EIL				Lg	Lg	01 26 49.4
comp=Z,3.3nm,0.3s,baz=2.7,slow=4.5,SNR=4.5						
EIL				LR	LR	01 28 42.2
comp=Z,2µm,21.4s,baz=80,slow=42						
EIL	**Elat**	**10.80**	**258**	Pn	**Pn**	**01 23 41.8 -0.7**
UOSS	**Minazif**	**10.98**	**131**	*e*Pn	**Pn**	**01 23 44.1 -0.9**
UOSS	**Minazif**	**10.98**	**131**	*e*Pn	**Pn**	**01 23 44.1 -0.9**
UOSS	**Minazif**	**10.98**	**131**	*i* P	**Pn**	**01 23 44.0 -0.9**
SNR=32						
SVSK	**Karacayir**	**11.00**	**315**	*e*P	**Pn**	**01 23 44.9 -0.2**
HATD	**Hatta, Dubai**	**11.02**	**132**	P	**Pn**	**01 23 45.1 -0.4**
SNR=12						
HATD	**Hatta, Dubai**	**11.02**	**132**	*i* P	**Pn**	**01 23 45.1 -0.4**
SNR=12						
MZR	**Muzera**	**11.03**	**148**	P	**Pn**	**01 23 45.1 -0.5**
ASHO	**Ashiyiah**	**11.08**	**133**	P	**Pn**	**01 23 46.3 0.0**
SNR=10						
ASHO				S	**Sn**	**01 25 44.0 -5.7**
ASHO	**Ashiyiah**	**11.08**	**133**	P	**Pn**	**01 23 46.3 0.0**
SNR=10						
ASHO	**Ashiyiah**	**11.08**	**133**	*i* P	**Pn**	**01 23 45.5 -0.8**
SNR=19						
BNN	**Bunyan**	**11.12**	**308**	*e*P	**Pn**	**01 23 47.1 +0.2**
RSDY	**Resadiye-TOKAT**	**11.12**	**318**	*e*P	**Pn**	**01 23 46.4 -0.4**
NEY	**Neytrino**	**11.25**	**343**	*i* P	**Pn**	**01 23 52.6 +3.8**
comp=Z,11nm,1.1s						
NEY	**Neytrino**	**11.25**	**343**	*i* P	**Pn**	**01 23 52.6 +3.8**
NEY				pmax	pmax	
comp=Z,11nm,1.1s						
NCK	**Nalchik**	**11.30**	**347**	*i* P	**Pn**	**01 23 52.8 +3.5**
comp=Z,10.0nm,1.1s						
NCK	**Nalchik**	**11.30**	**347**	*i* P	**Pn**	**01 23 52.8 +3.5**
NCK				pmax	pmax	
comp=Z,10.0nm,1.1s						
ALNE	**Al Ain**	**11.36**	**136**	P	**Pn**	**01 23 50.2 +0.1**
SNR=15						
ALNE	**Al Ain**	**11.36**	**136**	*i* P	**Pn**	**01 23 49.2 -0.9**
SNR=33						
KBZ	**Khabaz**	**11.67**	**345**	Pn	**Pn**	**01 23 57.5 +3.2**
comp=Z,0.1nm,0.3s,baz=169,slow=11,SNR=8.2						
KBZ				Lg	Lg	01 27 27.2
comp=Z,0.1nm,0.3s,baz=107,slow=19,SNR=1.6						
KBZ				LR	LR	01 29 00.8
comp=Z,2µm,21.0s,baz=156,slow=41						
CSS	**Mathiatis**	**11.73**	**286**	*e*P	**Pn**	**01 23 54.8 -0.3**
CSS	**Mathiatis**	**11.73**	**286**	*e*Pn	**Pn**	**01 23 54.8 -0.3**
CSS	**Mathiatis**	**11.73**	**286**	*e*Pn	**Pn**	**01 23 54.8 -0.3**
SOHO	**SOHO**	**11.77**	**133**	P	**Pn**	**01 23 56.2 +0.4**
SNR=18						
SOHO	**SOHO**	**11.77**	**133**	*i* P	**Pn**	**01 23 54.2 -1.5**
SNR=17						
YOZ	**Yozgat**	**11.89**	**310**	*e*P	**Pn**	**01 23 57.1 -0.3**
KVAR	**Kislovodsk Arr**	**11.93**	**344**	Pn	**Pn**	**01 24 01.2 +3.3**
baz=269,slow=8.9,SNR=15						
KVAR				LR	LR	01 28 17.2
comp=Z,1µm,19.1s,baz=138,slow=36						
KIV	**Kislovodsk**	**11.93**	**344**	*e*Pn	**Pn**	**01 24 01.1 +3.1**
KIV	**Kislovodsk**	**11.93**	**344**	*i* P	**Pn**	**01 24 00.8 +2.9**
SNR=10						
KIV	**Kislovodsk**	**11.93**	**344**	P	**Pn**	**01 23 58.6 +0.6**
SNR=7.1						
KIV	**Kislovodsk**	**11.93**	**344**	*e*Pn	**Pn**	**01 24 01.1 +3.1**
KIV	**Kislovodsk**	**11.93**	**344**	*i* P	**Pn**	**01 23 58.6 +0.6**
SNR=7.1						
KIV	**Kislovodsk**	**11.93**	**344**	*e*P	**Pn**	**01 24 01.0 +3.1**
KIV				*e*S	**Sn**	**01 26 16.4 +5.9**
KIV				pmax	pmax	
comp=Z,37nm,1.1s						
KIV				MLR	MLR	
comp=Z,535nm,9.0s						
KVT	**Kavak**	**12.30**	**317**	*e*P	**Pn**	**01 24 02.5 -0.5**
ARQ	**Araqi**	**12.36**	**135**	P	**Pn**	**01 24 04.0 +0.2**
SNR=16						
ARQ	**Araqi**	**12.36**	**135**	P	**Pn**	**01 24 04.0 +0.2**
SNR=16						
SULT	**Sultanhani-AKS**	**12.46**	**301**	*e*P	**Pn**	**01 24 04.5 -0.6**
SOC	**Sochi**	**12.48**	**334**	*e*S	**Sn**	**01 26 22.6 -1.2**
comp=Z,1µm,13.0s						
SOC	**Sochi**	**12.48**	**334**	*e*P	**Pn**	**01 24 06.1 +0.8**
SOC				*e*		01 26 22.6
SOC				pmax	pmax	
comp=Z,53nm,1.6s						
SOC				MLR	MLR	
comp=Z,1µm,13.0s						
CORM	**Corum**	**12.62**	**311**	*e*P	**Pn**	**01 24 06.7 -0.8**
BR131	**Keskin Array S**	**13.04**	**307**	*e*Pn	**Pn**	**01 24 14.9 +1.7**
BR131	**Keskin Array S**	**13.04**	**307**	*e*Pn	**Pn**	**01 24 14.9 +1.7**
BRTR	**Keskin Array B**	**13.04**	**307**	Pn	**Pn**	**01 24 14.8 +1.6**
comp=Z,0.1nm,0.3s,baz=120,slow=12,SNR=21						
BRTR				Lg	Lg	01 28 07.6
comp=Z,0.0nm,0.3s,baz=155,slow=18,SNR=4.0						
BRTR				LR	LR	01 30 32.0
comp=Z,944nm,18.4s,baz=100,slow=44						
AFSR	**Af¨ar-Bala (A**	**13.30**	**305**	*e*P	**Pn**	**01 24 15.7 -0.9**
LADK	**Ladik-KONYA**	**13.30**	**299**	*e*P	**Pn**	**01 24 15.8 -0.8**
BR231	**Keskin MP Arra**	**13.68**	**306**	*e*Pn	**Pn**	**01 24 23.2 +1.3**
ANTO	**Ankara**	**13.68**	**306**	*e*Pn	**Pn**	**01 24 22.4 +0.6**
ANTO	**Ankara**	**13.68**	**306**	*e*P	**Pn**	**01 24 22.4 +0.6**
WSAR	**Wadi Sarin**	**13.75**	**129**	Pn	**Pn**	**01 24 20.8 -2.0**
comp=Z,5.8nm,0.3s,baz=328,slow=9.5,SNR=44						
WSAR				Sn	Sn	01 26 46.3 -8.7
comp=Z,1.2nm,0.3s,baz=156,slow=20,SNR=4.1						
WSAR				LR	LR	01 30 38.6
comp=Z,1µm,19.2s,baz=320,slow=42						
ANN	**Anapa**	**14.39**	**331**	*e*P	**Pn**	**01 24 28.1 -3.3**
ANN				*e*S	**Sn**	**01 27 07.7 -2.6**
ANN				pmax	pmax	
comp=Z,100nm,1.1s						
ANN				MLR	MLR	
comp=E,2µm,16.0s						
ANN				MLR	MLR	
comp=Z,2µm,16.0s						
ANN				MLR	MLR	
comp=N,3µm,16.0s						
ISP	**Isparta**	**14.56**	**296**	‖ *i* P	**P**	**01 24 38.0 -2.3**
ISP	**Isparta**	**14.56**	**296**	*e*Pn	**P**	**01 24 37.1 -3.1**
ISP	**Isparta**	**14.56**	**296**	*i* P	**Pn**	**01 24 33.6 -0.3**
ISP				pmax	pmax	
comp=Z,25nm,0.9s						
WHFO	**Wadi Hawf**	**15.73**	**156**	P	**Pn**	**01 24 46.5 -2.9**
SNR=9						
SIM	**Simferopol'**	**16.00**	**325**	*e*P	**Pn**	**01 24 51.3 -1.4**
SIM				*e*S	**Sn**	**01 27 51.4 +1.9**
SIM				pmax	pmax	
comp=Z,21nm,1.2s						
SIM				pmax	pmax	
comp=Z,160nm,3.1s						
SIM				MLR	MLR	
comp=Z,1µm,18.5s						
ABTO	**Aybut**	**16.10**	**158**	P	**Pn**	**01 24 51.6 -2.7**
SNR=8.9						
MANT	**Manisa**	**16.23**	**297**	*e*Pn	**Pn**	**01 24 56.1 +0.1**
comp=Z,792nm,1.1s						
MANT	**Manisa**	**16.23**	**297**	*e*Pn	**Pn**	**01 24 56.1 +0.1**
comp=Z,792nm,1.1s						
SHAO	**Shalim**	**16.35**	**150**	*i* P	**Pn**	**01 24 55.5 -1.8**

AKTO LR LR 01 35 36.3
comp=Z,2µm,18.4s,baz=212,slow=44
AKTO Aktyubinsk 19.64 21 P **P** **01 25 35.5 -0.7**
AKTO pmax pmax
comp=Z,39nm,1.5s
PTL Penteli 19.74 293 P **P** **01 25 37.2 -0.3**
PTL Penteli 19.74 293 P **P** **01 25 37.2 -0.3**
PTL Penteli 19.74 293 P **P** **01 25 37.2 -0.3**
EREA Eretria 19.75 294 P **Pn** **01 25 38.4 -0.7**
EREA Eretria 19.75 294 P **Pn** **01 25 38.4 -0.7**
ATHU Athens Univers 19.79 292 P **P** **01 25 36.8 -1.2**
ATHU Athens Univers 19.79 292 P **P** **01 25 36.8 -1.2**
ATHU Athens Univers 19.79 292 P **P** **01 25 36.8 -1.2**
SZH Strazhica 19.81 309 P **P** **01 25 37.0 -1.1**
ATH Athens Observa 19.84 292 P **P** **01 25 38.0 -0.6**
ATH Athens Observa 19.84 292 P **P** **01 25 38.0 -0.6**
ATH Athens Observa 19.84 292 P **P** **01 25 38.0 -0.6**
ATH Athens Observa 19.84 292 P **P** **01 25 38.0 -0.6**
VORR Voronezh 19.99 345 *e*P **Pn** **01 25 42.0 +0.2**
comp=Z,350nm,1.4s
VORR Voronezh 19.99 345 *e*P **Pn** **01 25 42.0 +0.2**
VORR *e*S **S** **01 29 21.0 -2.9**
VORR pmax pmax
comp=Z,5µm,1.6s
VORR pmax pmax
comp=Z,350nm,1.4s
VORR pmax pmax
comp=Z,350nm,1.4s
VORR smax smax
comp=Z,500nm,2.0s
VORR smax smax
comp=Z,350nm,1.4s
RZN Rozhen 20.02 304 P **P** **01 25 40.5 -0.2**
LEOM Leova 20.08 319 ⇓*i*P **P** **01 25 41.3 +0.3**
LEOM Leova 20.08 319 ⇓*i*P **P** **01 25 41.3 +0.3**
KIS Kishinev 20.10 321 *i* P **P** **01 25 40.0 -1.2**
comp=Z,250nm,2.0s
KIS Kishinev 20.10 321 *e*PP PP 01 26 00.0
KIS *e*S **S** **01 29 21.0 -5.1**
KIS LRM MLR 01 36 12.0
comp=Z,700nm,14.0s
KIS Kishinev 20.10 321 *i* P **P** **01 25 40.0 -1.2**
comp=Z,250nm,2.0s
KIS Kishinev 20.10 321 *c i*P **P** **01 25 40.0 -1.2**
KIS *e* 01 26 00.0
KIS *e*S **S** **01 29 21.0 -5.1**
KIS *i* 01 29 54.0
KIS pmax pmax
comp=Z,250nm,2.0s
KIS pmax pmax
comp=N,400nm,4.0s
KIS pmax pmax
comp=E,400nm,4.0s
KIS pmax pmax
comp=Z,500nm,4.0s
KIS MLR MLR
comp=E,600nm,14.0s
KIS MLR MLR
comp=Z,600nm,14.0s
KIS MLR MLR
comp=Z,700nm,14.0s
PLD Plovdiv 20.18 305 P **P** **01 25 40.0 -2.2**
KRND KRANIDI 20.21 291 P **P** **01 25 40.9 -1.7**
KRND KRANIDI 20.21 291 P **P** **01 25 40.9 -1.7**
SGRR Singureni 20.21 311 ⇓*i*P Pn 01 25 43.3 -1.2
SGRR Singureni 20.21 311 ⇓*i*P Pn 01 25 43.3 -1.2
PAIG Paliouri 20.26 298 P **P** **01 25 42.7 -0.4**
PAIG Paliouri 20.26 298 P **P** **01 25 42.7 -0.4**
PAIG Paliouri 20.26 298 P **P** **01 25 42.7 -0.4**
PAIG Paliouri 20.26 298 P **P** **01 25 42.7 -0.4**
ISR Istrita 20.30 314 ⇑*i*P Pn 01 25 44.6 -1.0
ISR Istrita 20.30 314 ⇑*i*P Pn 01 25 44.6 -1.0
VLI Veliai 20.31 289 P **P** **01 25 40.9 -2.8**
VLI Veliai 20.31 289 P **P** **01 25 40.9 -2.8**
VLI Veliai 20.31 289 P **P** **01 25 40.9 -2.8**
LOUT Loutraki 20.43 292 P **P** **01 25 43.8 -1.1**
LOUT Loutraki 20.43 292 P **P** **01 25 43.8 -1.1**
LTK Loutraki 20.44 292 P **P** **01 25 43.1 -2.0**
LTK Loutraki 20.44 292 P **P** **01 25 43.1 -2.0**
LTK Loutraki 20.44 292 P **P** **01 25 43.1 -2.0**
NEO Neokhori 20.46 296 P **P** **01 25 44.8 -0.6**
NEO Neokhori 20.46 296 P **P** **01 25 44.8 -0.6**
NEO Neokhori 20.46 296 P **P** **01 25 44.8 -0.6**
XOR Xorichti 20.50 296 P **P** **01 25 45.4 -0.3**
XOR Xorichti 20.50 296 P **P** **01 25 45.4 -0.3**
XOR Xorichti 20.50 296 P **P** **01 25 45.4 -0.3**
LKR Lokris 20.51 294 P **P** **01 25 45.8 0.0**
LKR Lokris 20.51 294 P **P** **01 25 45.8 0.0**
LKR Lokris 20.51 294 P **P** **01 25 45.8 0.0**
NVR Nevrokopi 20.52 302 P **P** **01 25 45.2 -0.7**
NVR Nevrokopi 20.52 302 P **P** **01 25 45.2 -0.7**
NVR Nevrokopi 20.52 302 P **P** **01 25 45.2 -0.7**
PROD Prodromos 20.52 293 P **P** **01 25 45.1 -0.9**
PROD Prodromos 20.52 293 P **P** **01 25 45.1 -0.9**
PLG Polygyros 20.55 299 P **P** **01 25 45.9 -0.3**
PLG Polygyros 20.55 299 P **P** **01 25 45.9 -0.3**
PLG Polygyros 20.55 299 P **P** **01 25 45.9 -0.3**
PLG Polygyros 20.55 299 P **P** **01 25 45.9 -0.3**
IUG Iuzhnay 20.55 56 ⇓*i*P **P** **01 25 47.1 +0.8**
comp=Z,233nm,1.0s
VRI Vrincioaia 20.59 316 ⇓*i*P **P** **01 25 47.5 +0.8**
VRI Vrincioaia 20.59 316 ⇓*i*P **P** **01 25 47.5 +0.8**
PLOR Plostina 20.63 316 ⇑*i*P Pn 01 25 48.2 -1.2
PLOR Plostina 20.63 316 ⇑*i*P Pn 01 25 48.2 -1.2
SRS Serrai 20.64 301 P **P** **01 25 46.3 -1.0**
SRS Serrai 20.64 301 P **P** **01 25 46.3 -1.0**
SRS Serrai 20.64 301 P **P** **01 25 46.3 -1.0**
SRS Serrai 20.64 301 P **P** **01 25 46.3 -1.0**
THAL Thalero 20.68 292 P **P** **01 25 45.9 -1.7**
THAL Thalero 20.68 292 P **P** **01 25 45.9 -1.7**
MMB Musomiste 20.69 303 P **P** **01 25 47.0 -0.8**
FYTO Fytoko, Volos 20.70 296 P **P** **01 25 47.6 -0.3**
FYTO Fytoko, Volos 20.70 296 P **P** **01 25 47.6 -0.3**
FYTO Fytoko, Volos 20.70 296 P **P** **01 25 47.6 -0.3**
PGB Panagyurishte 20.71 305 P **P** **01 25 47.0 -1.0**
SOH Sokhos 20.73 300 P **P** **01 25 48.0 -0.3**
SOH Sokhos 20.73 300 P **P** **01 25 48.0 -0.3**
SOH Sokhos 20.73 300 P **P** **01 25 48.0 -0.3**
SOH Sokhos 20.73 300 P **P** **01 25 48.0 -0.3**
AXAR Agios Charalam 20.80 294 P Pn 01 25 50.0 -1.4
AXAR Agios Charalam 20.80 294 P Pn 01 25 50.0 -1.4
AXAR Agios Charalam 20.80 294 P Pn 01 25 50.0 -1.4
DYR Agios Nikonas 20.80 289 P **P** **01 25 47.1 -1.9**
DYR Agios Nikonas 20.80 289 P **P** **01 25 47.1 -1.9**
DSF Desfina 20.84 293 P **P** **01 25 47.6 -1.8**
DSF Desfina 20.84 293 P **P** **01 25 47.6 -1.8**
DSF Desfina 20.84 293 P **P** **01 25 47.6 -1.8**
MLR Muntele Rosu 20.86 314 P Pn 01 25 50.8 -1.4
comp=Z,14nm,1.1s,baz=151,slow=2.6,SNR=20
MLR Muntele Rosu 20.86 314 ⇓*i*P **P** **01 25 50.7 +1.0**
MLR Muntele Rosu 20.86 314 *e*P **P** **01 25 50.4 +0.8**
comp=Z,115nm,1.3s
MLR Muntele Rosu 20.86 314 *e*P **P** **01 25 50.4 +0.8**
comp=Z,115nm,1.3s
MLR Muntele Rosu 20.86 314 *e*P **P** **01 25 50.4 +0.8**
MLR pmax pmax
comp=Z,115nm,1.3s
HORT Hortiatis 20.86 300 P **P** **01 25 49.3 -0.4**
HORT Hortiatis 20.86 300 P **P** **01 25 49.3 -0.4**
HORT Hortiatis 20.86 300 P **P** **01 25 49.3 -0.4**
IAS Iasi 20.89 320 ⇓*i*P **P** **01 25 49.5 -0.3**
IAS Iasi 20.89 320 ⇓*i*P **P** **01 25 49.5 -0.3**
LPSR Galich'ya Gora 20.93 346 *e*P **P** **01 25 48.9 -1.3**
comp=Z,210nm,0.7s
LPSR Galich'ya Gora 20.93 346 *e*P **P** **01 25 48.9 -1.3**
LPSR *e*S **S** **01 29 36.3 -6.2**
LPSR pmax pmax
comp=Z,210nm,0.7s
LPSR smax smax
comp=E,200nm,1.5s
THE Thessaloniki 20.97 300 P **P** **01 25 50.1 -0.6**
THE Thessaloniki 20.97 300 P **P** **01 25 50.1 -0.6**
THE Thessaloniki 20.97 300 P **P** **01 25 50.1 -0.6**
THE Thessaloniki 20.97 300 P **P** **01 25 50.1 -0.6**
HUMR Humele 20.98 311 ⇑*i*P **P** **01 25 51.0 +0.1**
HUMR Humele 20.98 311 ⇑*i*P **P** **01 25 51.0 +0.1**
TESR Tescani 21.00 318 ⇑*i*P **P** **01 25 50.1 -0.9**
TESR Tescani 21.00 318 ⇑*i*P **P** **01 25 50.1 -0.9**
SORM Soroca 21.07 323 ⇑*i*P **P** **01 25 51.5 -0.3**
SORM Soroca 21.07 323 ⇑*i*P **P** **01 25 51.5 -0.3**
GOLR 21.14 312 ⇓*i*P **P** **01 25 54.0 +1.4**
GOLR 21.14 312 ⇓*i*P **P** **01 25 54.0 +1.4**
ITM Ithomi 21.16 290 P **P** **01 25 51.5 -1.4**
ITM Ithomi 21.16 290 P **P** **01 25 51.5 -1.4**
ITM Ithomi 21.16 290 P **P** **01 25 51.5 -1.4**
TRIZ Trizonia 21.18 293 P **P** **01 25 50.5 -2.6**
TRIZ Trizonia 21.18 293 P **P** **01 25 50.5 -2.6**
LIT Litokhoron 21.19 298 P **P** **01 25 52.2 -1.0**
LIT Litokhoron 21.19 298 P **P** **01 25 52.2 -1.0**
LIT Litokhoron 21.19 298 P **P** **01 25 52.2 -1.0**
LIT Litokhoron 21.19 298 P **P** **01 25 52.2 -1.0**
KK31 Karatay Array 21.23 53 *e*P **P** **01 25 53.6 +0.1**
KK31 Karatay Array 21.23 53 *e*P **P** **01 25 53.6 +0.1**
KK31 Karatay Array 21.23 53 *i* P **P** **01 25 53.3 -0.2**
KK31 pmax pmax
comp=Z,109nm,1.2s
KKAR Karatay Array 21.23 53 *e*P **P** **01 25 53.6 0.0**
comp=Z,100nm,1.1s
KKAR Karatay Array 21.23 53 *e*P **P** **01 25 53.6 0.0**
comp=Z,100nm,1.1s
KKAR Karatay Array 21.23 53 *e*P **P** **01 25 53.6 0.0**
KKAR pmax pmax
comp=Z,100nm,1.1s
KKB Krupnik 21.24 303 P **P** **01 25 52.0 -1.6**
ATD Arta Tunnel 21.26 192 P **P** **01 25 55.9 +1.9**
comp=Z,10nm,1.0s,baz=47,slow=10.0,SNR=4.4
ATD S Sn 01 29 58.1 +1.1
comp=Z,2.3nm,0.7s,baz=180,slow=20,SNR=1.6
ATD Lg Lg 01 32 25.5
comp=Z,7.4nm,0.8s,baz=107,slow=19,SNR=2.6
ATD LR LR 01 34 36.2
comp=Z,1µm,20.4s,baz=7.5,slow=38
PYL PYLOS 21.28 289 P **P** **01 25 52.2 -2.0**
PYL PYLOS 21.28 289 P **P** **01 25 52.2 -2.0**
PYL PYLOS 21.28 289 P **P** **01 25 52.2 -2.0**
ANX Ano Chora 21.34 294 P **P** **01 25 54.4 -0.4**
ANX Ano Chora 21.34 294 P **P** **01 25 54.4 -0.4**
AMT Artemida-Makis 21.37 291 P **P** **01 25 53.5 -1.6**
AMT Artemida-Makis 21.37 291 P **P** **01 25 53.5 -1.6**
VOIR 21.37 313 ⇑*i*P **P** **01 25 55.8 +0.6**
VOIR 21.37 313 ⇑*i*P **P** **01 25 55.8 +0.6**
VTS Vitosha 21.39 305 ⇑*i*P **P** **01 25 54.8 -0.6**
VTS Vitosha 21.39 305 *e*P **P** **01 25 54.8 -0.6**
comp=Z,32nm,1.2s
VTS Vitosha 21.39 305 P **P** **01 25 53.0 -2.4**
VTS Vitosha 21.39 305 P **P** **01 25 54.2 -1.2**
VTS Vitosha 21.39 305 *e*P **P** **01 25 54.8 -0.6**
comp=Z,32nm,1.2s
VTS Vitosha 21.39 305 *e*P **P** **01 25 54.8 -0.6**
VTS pmax pmax
comp=Z,32nm,1.2s
DRO Drossia 21.41 292 P **P** **01 25 54.5 -1.1**
DRO Drossia 21.41 292 P **P** **01 25 54.5 -1.1**
THL Klokotos Trika 21.43 296 P **P** **01 25 54.9 -0.9**
THL Klokotos Trika 21.43 296 P **P** **01 25 54.9 -0.9**
DOPR Dopca 21.44 315 ⇑*i*P **P** **01 25 56.2 +0.4**
DOPR Dopca 21.44 315 ⇑*i*P **P** **01 25 56.2 +0.4**
VAY Valandovo 21.44 301 *i* P **P** **01 25 56.9 +1.0**
VAY *i* S **S** **01 29 53.0 +0.1**
GRG Griva 21.46 300 P **P** **01 25 54.9 -1.2**
GRG Griva 21.46 300 P **P** **01 25 54.9 -1.2**
GRG Griva 21.46 300 P **P** **01 25 54.9 -1.2**
GRG Griva 21.46 300 P **P** **01 25 54.9 -1.2**
ARR Arges 21.60 313 ⇑*i*P **P** **01 25 57.9 +0.4**
ARR Arges 21.60 313 ⇑*i*P **P** **01 25 57.9 +0.4**
PRAR RASCA 21.72 319 ⇓*i*P **P** **01 25 58.3 -0.5**
PRAR RASCA 21.72 319 ⇓*i*P **P** **01 25 58.3 -0.5**
NIL Nilore 21.92 80 *e*P **P** **01 26 01.1 +0.1**
comp=Z,342nm,1.1s
NIL Nilore 21.92 80 *e*P **P** **01 26 01.1 +0.1**
comp=Z,342nm,1.1s
NIL Nilore 21.92 80 *e*P **P** **01 26 01.1 +0.1**
NIL pmax pmax
comp=Z,342nm,1.1s
LOT Lotru 22.17 312 ⇑*i*P **P** **01 26 03.1 -0.7**
LOT Lotru 22.17 312 ⇑*i*P **P** **01 26 03.1 -0.7**
SRE Strehaia 22.18 310 ⇓*i*P **P** **01 26 03.3 -0.5**
SRE Strehaia 22.18 310 ⇓*i*P **P** **01 26 03.3 -0.5**
MNAS Manas 22.39 56 *i* P **P** **01 26 06.2 0.0**
comp=Z,121nm,1.5s
MNAS Manas 22.39 56 *i* P **P** **01 26 06.2 0.0**
MNAS pmax pmax
comp=Z,121nm,1.5s
KRUS Krusevo 22.41 301 *i* P **P** **01 26 05.8 -0.6**
BURAR Bucovina Array 22.43 319 ⇑*i*P **P** **01 26 05.9 -0.6**
BURAR Bucovina Array 22.43 319 ⇑*i*P **P** **01 26 05.9 -0.6**
BUR04 Bucovina Ar. S 22.43 319 *e*P **P** **01 26 05.3 -1.3**
BUR04 Bucovina Ar. S 22.43 319 *e*P **P** **01 26 05.3 -1.3**
SKO Skopje 22.44 302 *i* P **P** **01 26 04.6 -1.9**
AKASG Malin Array Be 22.45 329 P **P** **01 26 04.2 -2.3**
comp=Z,12nm,0.7s,baz=137,slow=9.9,SNR=30
AKASG S **S** **01 30 07.9 -4.1**
comp=Z,0.6nm,0.5s,baz=136,slow=22,SNR=4.9
AKASG LR LR 01 36 24.9
comp=Z,683nm,19.6s,baz=140,slow=41
AKBB Malin Array Si 22.45 329 *e*P **P** **01 26 04.7 -1.9**
comp=Z,38nm,0.8s
AKBB Malin Array Si 22.45 329 *e*P **P** **01 26 04.7 -1.9**
comp=Z,38nm,0.8s
AKBB Malin Array Si 22.45 329 *e*P **P** **01 26 04.7 -1.9**
AKBB pmax pmax
comp=Z,38nm,0.8s
BUR08 Bucovina Ar. S 22.45 319 *e*P **P** **01 26 06.1 -0.7**
KIEV Kiev 22.45 329 *e*P **P** **01 26 04.7 -1.9**
comp=Z,35nm,0.8s
KIEV Kiev 22.45 329 P **P** **01 26 07.5 +0.9**
SNR=18
KIEV Kiev 22.45 329 *i* P **P** **01 26 07.5 +0.9**
SNR=18
KIEV Kiev 22.45 329 *i* P **P** **01 26 07.5 +0.9**
KIEV pmax pmax
comp=Z,29nm,0.9s
AK11 Malin Array Si 22.46 329 *e*P **P** **01 26 04.3 -2.3**
AK11 *e*pP **P** **01 26 06.3 -0.4**
ZAGS Zajecar 22.49 307 ⇑*i*P **P** **01 26 05.1 -1.9**
SFK Sufi-Kurgan 22.50 63 P **P** **01 26 08.6 +1.1**
comp=Z,120nm,1.5s
SFK Sufi-Kurgan 22.50 63 P **P** **01 26 08.6 +1.1**
SFK pmax pmax
comp=Z,120nm,1.5s
KBN Korca 22.57 298 P **P** **01 26 06.5 -1.6**
KBN Korca 22.57 298 P **P** **01 26 06.5 -1.6**
KBN Korca 22.57 298 P **P** **01 26 06.5 -1.6**
KBN Korca 22.57 298 *i* P **P** **01 26 07.5 -0.6**
KBN Korca 22.57 298 P **P** **01 26 06.5 -1.6**
OHR Ohrid 22.68 300 *i* P **P** **01 26 08.8 -0.4**
HERR Herculane 22.79 310 ⇑*i*P **P** **01 26 09.4 -0.8**
CJR Cluj-Napoca 22.88 315 ⇑*i*P **P** **01 26 10.8 -0.5**
CJR Cluj-Napoca 22.88 315 ⇑*i*P **P** **01 26 10.8 -0.5**
SELS Selova 23.04 305 ⇑*i*P **P** **01 26 10.7 -2.2**
PHP Peshkopia 23.08 301 *i* P **P** **01 26 11.6 -1.7**
PHP Peshkopia 23.08 301 *i* P **P** **01 26 11.6 -1.7**
AML Almayashu 23.14 58 P **P** **01 26 15.4 +1.1**
SNR=27
SVIS Svilajnac 23.34 308 *e*P **P** **01 26 14.0 -1.8**
EKS2 Erkin-Say 23.34 57 P **P** **01 26 17.4 +1.3**
SNR=12
TIR Tirane 23.42 300 ⇑*i*P **P** **01 26 15.6 -1.1**
TIR Tirane 23.42 300 *e*P **P** **01 26 15.5 -1.1**
comp=Z,122nm,1.0s
TIR Tirane 23.42 300 *e*P **P** **01 26 15.5 -1.1**
comp=Z,122nm,1.0s
TIR Tirane 23.42 300 *i* P **P** **01 26 15.7 -0.9**
TIR Tirane 23.42 300 *e*P **P** **01 26 15.5 -1.1**
TIR pmax pmax
comp=Z,121nm,1.0s
BMR Baia Mare 23.44 317 ⇓*i*P **P** **01 26 17.4 +0.6**
BMR Baia Mare 23.44 317 ⇓*i*P **P** **01 26 17.4 +0.6**
DRGR 23.45 315 ⇑*i*P **P** **01 26 16.7 -0.4**
DRGR 23.45 315 ⇑*i*P **P** **01 26 16.7 -0.4**
BCI Bajram Curri 23.53 302 *i* P **P** **01 26 18.4 +0.6**
BCI Bajram Curri 23.53 302 *i* P **P** **01 26 18.4 +0.6**
GRUS Gruza 23.54 306 ⇑*i*P **P** **01 26 17.4 -0.5**
PUK Puka 23.57 302 *i* P **P** **01 26 18.7 +0.5**
PUK Puka 23.57 302 *i* P **P** **01 26 18.7 +0.5**
BZS Buzias 23.60 311 ⇑*i*P **P** **01 26 17.0 -1.4**
BZS Buzias 23.60 311 ⇑*i*P **P** **01 26 17.0 -1.4**
PVY Plav 23.67 303 ⇓*i*P **P** **01 26 19.1 -0.1**
UCH Uchtor 23.75 58 P **P** **01 26 22.1 +1.7**
SNR=18
OBN Obninsk 23.78 345 P **P** **01 26 19.5 -0.4**
comp=Z,82nm,0.9s,baz=144,slow=3.3,SNR=23
OBN S **S** **01 30 33.3 -1.1**
comp=Z,14nm,0.7s,baz=11,slow=23,SNR=7.0
OBN LR LR 01 36 20.4
comp=Z,1µm,19.9s,baz=156,slow=38
OBN Obninsk 23.78 345 *e*P **P** **01 26 19.1 -0.9**
comp=Z,155nm,1.1s
OBN *e*S **S** **01 30 31.9 -2.5**
OBN Obninsk 23.78 345*d i*P **P** **01 26 19.4 -0.6**
OBN *i* 01 26 30.0
OBN *e* 01 26 51.7
OBN *i* S **S** **01 30 31.8 -2.5**
OBN pmax pmax
comp=Z,274nm,1.7s
OBN MLR MLR
comp=Z,904nm,19.0s
BEY Berane 23.79 304 *e*P **P** **01 26 20.0 -0.4**
IVA Berane 23.79 304 *e*P **P** **01 26 20.0 -0.4**
BANR Banloc 23.82 310 ⇑*i*P **P** **01 26 20.9 +0.4**
BANR Banloc 23.82 310 ⇑*i*P **P** **01 26 20.9 +0.4**
AAK Ala-Archa 23.84 57 P **P** **01 26 22.3 +1.3**
comp=Z,12nm,0.8s,baz=240,slow=9.8,SNR=20
AAK S **S** **01 30 41.0 +5.0**
comp=Z,1.0nm,0.5s,baz=252,slow=16,SNR=1.7
AAK LR LR 01 37 06.8
comp=Z,1µm,21.1s,baz=264,slow=40
AAK Ala-Archa 23.84 57 P **P** **01 26 23.9 +2.9**
SNR=21
AAK Ala-Archa 23.84 57 *e*P **P** **01 26 22.7 +1.7**
comp=Z,19nm,0.9s
AAK S **S** **01 30 41.0 +5.0**
AAK Ala-Archa 23.84 57 P **P** **01 26 22.9 +1.9**
SNR=23
AAK Ala-Archa 23.84 57 *i* P **P** **01 26 21.5 +0.5**
comp=Z,24nm,1.4s
AAK Ala-Archa 23.84 57 *i* P **P** **01 26 16.8 -4.2**
SNR=9.2
AAK Ala-Archa 23.84 57 *i* P **P** **01 26 21.5 +0.5**
AAK pmax pmax
comp=Z,24nm,1.4s
TRUS Trudelj 23.87 307 ⇑*i*P **P** **01 26 20.8 -0.2**
FRU Bishkek 23.98 57 *e*P **P** **01 26 23.5 +1.3**
comp=Z,160nm,1.8s
FRU Bishkek 23.98 57 *e*P **P** **01 26 23.5 +1.3**
FRU *e*S **S** **01 30 42.5 +4.4**
FRU *e* 01 31 27.5
FRU pmax pmax
comp=Z,160nm,1.8s
ULC Ulcinj 24.02 301 ⇓*i*P **P** **01 26 21.6 -0.8**
USP Ospenovka 24.03 56 P **P** **01 26 23.8 +1.2**
SNR=32
KOME Kolasin 24.05 303 ⇓*i*P **P** **01 26 22.5 -0.4**
KOME Kolasin 24.05 303 ⇓*i*P **P** **01 26 22.5 -0.4**
DIVS Divibare 24.10 306 *e*P **P** **01 26 21.7 -1.6**
comp=Z,32nm,1.2s
DIVS Divibare 24.10 306 *e*P **P** **01 26 21.7 -1.6**
comp=Z,32nm,1.2s
DRME Dracevica, Mon 24.11 302 ⇓*i*P **P** **01 26 23.0 -0.3**
DRME Dracevica, Mon 24.11 302 ⇓*i*P **P** **01 26 23.0 -0.3**
PDG Podgorica 24.12 302 ⇓*i*P **P** **01 26 23.6 +0.2**
PDG Podgorica 24.12 302 ⇓*i*P **P** **01 26 23.0 -0.4**
TTG Podgorica 24.12 302 ⇓*i*P **P** **01 26 23.0 -0.4**
CHMS Chumysh 24.13 56 P **P** **01 26 25.1 +1.6**
SNR=24
MOS Moscow 24.14 347 *e*P **P** **01 26 23.1 -0.3**
MOS *e* 01 26 55.6
MOS *e* 01 30 04.2
MOS *e*S **S** **01 30 38.8 -1.4**
MOS pmax pmax
comp=Z,239nm,1.3s
MOS pmax pmax
comp=N,115nm,1.3s
MOS pmax pmax
comp=Z,500nm,1.8s
MOS MLR MLR
comp=Z,800nm,16.0s
KBK Karagaybulak 24.17 57 P **P** **01 26 26.5 +2.5**
SNR=43
TRPA Tarpa 24.22 317 ⇑*i*P **P** **01 26 24.3 0.0**
TRPA Tarpa 24.22 317 ⇑*i*P **P** **01 26 24.3 0.0**
KZA Kyzart 24.24 59 P **P** **01 26 26.6 +1.6**
SNR=35
PLE Pljevlja 24.28 304 ⇓*i*P **P** **01 26 24.3 -0.7**
KSH Kashi 24.30 65 P **P** **01 26 23.3 -1.9**
KSH sP sP 01 26 36.3 +2.8
KSH PcP **PcP** **01 30 05.4 +0.6**
KSH S **S** **01 30 34.3 -9.1**
KSH SS **SnSn** **01 31 28.4 +2.0**
KSH ScP **ScP** **01 33 41.1 -1.3**
KSH pmax pmax
comp=Z,160nm,0.9s
KSH pmax pmax
comp=Z,1µm,3.2s
KSH LR LR
comp=Z,4µm,13.3s
KSH LR LR
comp=Z,2µm,13.1s
KSH LR LR
comp=Z,5µm,17.8s
BTLS Baital 24.31 51 ⇑*i*P **P** **01 26 25.9 +0.8**
comp=Z,641nm,1.2s
BTLS *e*S **S** **01 30 45.5 +2.3**
LVV L'vov 24.35 322 *e*P **P** **01 26 25.3 -0.1**
LVV *e*S **S** **01 30 40.4 -3.3**
LVV MLR MLR
comp=N,200nm,10.0s
LVV MLR MLR
comp=E,200nm,10.0s
LVV MLR MLR
comp=Z,200nm,10.0s
BUM Brajici-Budva 24.35 302 ⇓*i*P **P** **01 26 24.8 -0.8**
BUM Brajici-Budva 24.35 302 ⇓*i*P **P** **01 26 24.8 -0.8**
CEME Cevo 24.39 302 ⇓*i*P **P** **01 26 25.3 -0.7**
CEME Cevo 24.39 302 ⇓*i*P **P** **01 26 25.3 -0.7**
NKY Niksic 24.41 303 ⇓*i*P **P** **01 26 25.5 -0.7**
NKY Niksic 24.41 303 ⇓*i*P **P** **01 26 25.5 -0.7**
NKME Niksic 24.43 303 ⇓*i*P **P** **01 26 25.4 -0.9**
NKME Niksic 24.43 303 ⇓*i*P **P** **01 26 25.4 -0.9**
BBLS Lazići 24.43 306 *e*P **P** **01 26 24.1 -2.2**
TEKS Tekeris 24.57 307 *e*P **P** **01 26 26.8 -0.7**
UPM Unac-Piva 24.58 304 ⇓*i*P **P** **01 26 27.0 -0.8**
UPM Unac-Piva 24.58 304 ⇓*i*P **P** **01 26 27.0 -0.8**
FGSL Fruska Gora 24.59 309 ⇑*i*P **P** **01 26 27.2 -0.5**
FRGS Fruska Gora 24.60 309 *e*P **P** **01 26 27.1 -0.6**
UZH Uzhgorod 24.62 318 *i* P **P** **01 26 27.6 -0.3**
UZH Uzhgorod 24.62 318*d i*P **P** **01 26 27.6 -0.3**
UZH *i* 01 26 34.2
UZH *e* 01 27 10.2
UZH *e* 01 30 08.4
UZH *e*S **S** **01 30 44.0 -4.1**
UZH *e*SS **SnSn** **01 31 46.8 +13**
UZH MLR MLR
comp=N,990nm,16.0s
UZH MLR MLR
comp=E,620nm,16.0s
UZH MLR MLR
comp=Z,270nm,16.0s
OTUK Ortayu 24.66 43 P **P** **01 26 28.4 +0.1**
OTUK pmax pmax
comp=Z,74nm,1.5s
HCY Herceg Novi 24.67 302 ⇓*i*P **P** **01 26 27.5 -0.9**
HCY Herceg Novi 24.67 302 ⇓*i*P **P** **01 26 27.6 -0.9**
TKM2 Tokmak 2 24.70 57 P **P** **01 26 30.3 +1.4**
SNR=63
TKM2 Tokmak 2 24.70 57 *i* P **P** **01 26 29.7 +0.7**
comp=Z,102nm,1.4s
TKM2 Tokmak 2 24.70 57 *i* P **P** **01 26 29.7 +0.7**
TKM2 pmax pmax
comp=Z,102nm,1.4s
BRY Bratogost 24.76 303 ⇓*i*P **P** **01 26 28.4 -1.0**
BRY Bratogost 24.76 303 ⇓*i*P **P** **01 26 28.4 -1.0**
BMNS Besmoynak 24.80 57 ⇑*i*P **P** **01 26 31.8 +2.0**
comp=Z,488nm,1.0s
BMNS *e*S **S** **01 30 53.9 +2.4**
BMNS LR LR 01 37 04.4
comp=Z,330nm,13.2s
HAPS Han Pijesak,Bl 24.81 306 *e*P **P** **01 26 28.3 -1.5**
TREB Trebinje 24.84 302 *e*P **P** **01 26 29.2 -0.8**
KWP Kalwaria Pacla 24.94 320 *e*P **P** **01 26 31.2 +0.4**
KWP Kalwaria Pacla 24.94 320 *e*P **P** **01 26 31.1 +0.3**
comp=Z,1µm,1.2s
KWP Kalwaria Pacla 24.94 320 *e*P **P** **01 26 31.2 +0.4**
ULHL Ulahol 25.00 59 P **P** **01 26 34.1 +2.5**
SNR=25
FASA Fasano 25.17 298 *e*P **P** **01 26 32.3 -0.6**
ARU Arti 25.19 15 P **P** **01 26 33.3 +0.3**
comp=Z,14nm,0.5s,baz=196,slow=6.2,SNR=28
ARU S **S** **01 30 58.5 +1.4**

comp=Z,0.9nm,0.3s,baz=270,slow=20,SNR=1.4
ARU LR LR 01 39 54.6
comp=Z,908nm,19.8s,baz=138,slow=45
ARU Arti 25.19 15 *e*P **P 01 26 33.0 +0.1**
comp=Z,102nm,1.2s
ARU S **S 01 30 58.5 +1.4**
ARU Arti 25.19 15*c i*P **P 01 26 32.9 -0.1**
ARU 01 27 09.0
ARU PPP PPP 01 27 19.4
ARU *e*S **S 01 31 00.3 +3.2**
ARU SS **SnSn 01 31 59.2 +11**
ARU SSS SSS 01 32 17.6
ARU pmax pmax
comp=Z,80nm,1.7s
ARU MLR MLR
comp=Z,1μm,17.0s
CRVS Cervenica-Dubn 25.24 318 *e*P **P 01 26 34.0 +0.6**
CRVS *e*S S 01 31 09.2 +11
CRVS Cervenica-Dubn 25.24 318 *e*P **P 01 26 34.1 +0.6**
CRVS pmax pmax
comp=Z,36nm,1.2s
MASS Massafra 25.30 297 *e*P **P 01 26 33.7 -0.4**
STON Ston 25.35 303 P **P 01 26 32.6 -1.9**
STON Ston 25.35 303 *e*P **P 01 26 32.7 -1.8**
TIP Timpagrande 25.41 294⇓*i*P **P 01 26 35.5 +0.3**
TIP Timpagrande 25.41 294 *e*P **P 01 26 35.1 -0.1**
comp=Z,72nm,0.8s
TIP Timpagrande 25.41 294⇓*i*P **P 01 26 35.5 +0.3**
KUU Kurty 25.49 55⇑*i*P **P 01 26 36.9 +1.1**
comp=Z,366nm,1.2s
KUU *e*S **S 01 31 04.3 +2.1**
KUU LR LR 01 38 33.7
comp=Z,154nm,9.8s
BAI Bari 25.58 298 *e*P **P 01 26 35.1 -1.5**
STHS Stebnicka Huta 25.63 319 *e*P **P 01 26 38.4 +1.4**
STHS Stebnicka Huta 25.63 319 *e*P **P 01 26 38.4 +1.4**
STHS pmax pmax
comp=Z,42nm,1.5s
MATE Matera 25.63 297⇑*i*P **P 01 26 36.8 -0.3**
MATE Matera 25.63 297⇑*i*P **P 01 26 36.8 -0.3**
KDJ Kajisay 25.65 59 *e*P **P 01 26 39.5 +2.0**
comp=Z,76nm,1.1s
PSZ Piszkesteto 25.67 315⇓*i*P **P 01 26 38.8 +1.3**
PSZ Piszkesteto 25.67 315 *e*P **P 01 26 37.8 +0.3**
comp=Z,43nm,1.1s
PSZ Piszkesteto 25.67 315 *e*P **P 01 26 37.8 +0.3**
PSZ pmax pmax
comp=Z,43nm,1.1s
SG1 Sgolgore (BA) 25.68 298 *e*P **P 01 26 37.5 -0.1**
AAA Alma-Ata 25.71 57 *e*P **P 01 26 39.7 +1.8**
AAA *e*S **S 01 31 04.8 -0.9**
AAA pmax pmax
comp=Z,200nm,3.6s
AAA smax smax
comp=E,600nm,7.3s
AAA MLR MLR
comp=Z,700nm,17.0s
MICGM Minsk 25.86 334 *e*P **P 01 26 39.0 0.0**
MICGM *e*PP **PnPn 01 27 24.0 +7.7**
MICGM *e*PPP PPP 01 27 36.0
MICGM *e*S **S 01 31 05.0 -2.7**
MICGM *e*SS **SnSn 01 32 08.0 +3.9**
MICGM *e*SSS SSS 01 32 46.0
MICGM *e*LR LR 01 35 16.0
CEL Celeste 26.01 292 *e*P **P 01 26 40.4 -0.3**
comp=Z,104nm,1.0s
SVE Sverdlovsk 26.04 17⇓*e*P **P 01 26 41.0 +0.4**
SVE *e*S **S 01 31 11.9 +1.4**
SVE pmax pmax
comp=Z,83nm,1.4s
SVE MLR MLR
comp=Z,2μm,22.0s
NDI New Delhi 26.15 90 *e*P **P 01 26 42.0 0.0**
NIE Niedzica 26.16 318 *e*P **P 01 26 42.0 +0.2**
NIE *e*S S 01 31 25.5 +13
NIE Niedzica 26.16 318 *e*P **P 01 26 42.0 +0.2**
BLY Banja Luka 26.22 306⇑*i*P **P 01 26 42.4 0.0**
BLY Banja Luka 26.22 306 *e*P **P 01 26 42.3 -0.1**
comp=Z,51nm,1.1s
BLY Banja Luka 26.22 306 *e*P **P 01 26 41.8 -0.6**
CUC Castrocucco 26.22 295 *e*P **P 01 26 43.3 +0.8**
comp=Z,20nm,0.7s
BRVK Borovoye 26.44 32 *e*P **P 01 26 45.2 +0.8**
comp=Z,25nm,0.8s
BRVK Borovoye 26.44 32 P **P 01 26 45.2 +0.8**
SNR=20
BRVK Borovoye 26.44 32*ce*P **P 01 26 44.1 -0.2**
BRVK pmax pmax
comp=Z,36nm,1.7s
BVA0 Borovoye Array 26.47 32 *i* P **P 01 26 43.8 -0.8**
BVA0 pmax pmax
comp=Z,32nm,1.0s
BVAR Borovoye Array 26.47 32 P **P 01 26 45.2 +0.6**
comp=Z,14nm,0.8s,baz=224,slow=8.4,SNR=38
BVAR S **S 01 31 13.2 -4.2**
comp=Z,0.2nm,0.5s,baz=210,slow=28,SNR=2.4
BVAR LR LR 01 39 44.4
comp=Z,2μm,21.0s,baz=236,slow=42
LANS Liptovska Anna 26.50 317 *e*P **P 01 26 45.7 +0.8**
LANS Liptovska Anna 26.50 317 *e*P **P 01 26 45.7 +0.8**
VYHS Vyhne 26.57 315 *e*P **P 01 26 45.3 -0.2**
VYHS *e*S S 01 31 34.8 +16
VYHS Vyhne 26.57 315 *e*P **P 01 26 45.3 -0.2**
VYHS pmax pmax
comp=Z,27nm,2.0s
NACGM Naroch 26.58 333 *e*P **P 01 26 45.0 -0.5**
NACGM *e*S **S 01 31 22.0 +3.0**
NACGM *e*SSS SSS 01 32 54.0
NACGM *e*LQ LQ 01 36 00.0
NACGM *e*LR LR 01 37 12.0
SATY Saty 26.73 58 *i* P **P 01 26 49.1 +1.9**
comp=Z,618nm,1.3s
SATY *e*S **S 01 31 25.0 +2.9**
ZHN Zhinishke 26.78 58 *e*P **P 01 26 49.3 +1.6**
comp=Z,443nm,1.4s
OJC Ojcow 26.84 319 *e*P **P 01 26 47.8 -0.2**
OJC *e*S S 01 31 38.9 +15
OJC Ojcow 26.84 319 *e*P **P 01 26 47.9 -0.2**
comp=Z,81nm,1.5s
OJC Ojcow 26.84 319 *e*P **P 01 26 47.8 -0.2**
IDID Didziasalis 26.91 334 *e*P **P 01 26 47.9 -0.6**
IDID IAmb IAmb 01 26 51.9
comp=Z,24nm,1.2s
IDID Didziasalis 26.91 334 *e*P **P 01 26 47.9 -0.6**
SNR=28
KPKS Kokpek 27.02 57⇑*i*P **P 01 26 51.0 +1.2**
comp=Z,858nm,1.2s
KPKS *e*S **S 01 31 28.3 +1.8**
IIGN Ignalina 27.13 333 *e*P **P 01 26 49.9 -0.6**
IIGN IAmb IAmb 01 26 56.7
comp=Z,22nm,0.7s
VAE Valguarnera 27.16 290 P **P 01 26 52.1 +1.1**
comp=Z,41nm,1.0s,baz=36,slow=3.6,SNR=7.0
BEL Belsk 27.20 323 *e*P **P 01 26 50.8 -0.3**
BEL Belsk 27.20 323 *e*P **P 01 26 50.8 -0.3**
SMOL Smolenice 27.42 314 *e*P **P 01 26 54.7 +1.5**
SMOL Smolenice 27.42 314 *e*P **P 01 26 54.7 +1.5**
SUW Suwalki 27.42 329 *e*P **P 01 26 52.5 -0.6**
SUW *e*S S 01 31 50.7 +18
SUW Suwalki 27.42 329 *e*P **P 01 26 52.5 -0.6**
comp=Z,103nm,1.0s
SUW Suwalki 27.42 329 *e*P **P 01 26 52.5 -0.6**
SUW pmax pmax
comp=Z,103nm,1.0s
IZAR Zarasai 27.42 334 *e*P **P 01 26 52.5 -0.6**
IZAR IAmb IAmb 01 27 00.6
comp=Z,56nm,1.1s
MODS Modra-Piesok 27.45 314 *e*P **P 01 26 56.0 +2.5**
MODS Modra-Piesok 27.45 314 *e*P **P 01 26 56.1 +2.5**
MODS pmax pmax
comp=Z,29nm,1.3s
SHLS Shalkode 27.51 58 *e*P **P 01 26 58.4 +4.2**
comp=Z,347nm,1.3s
SHLS LR LR 01 38 52.9
comp=Z,338nm,12.8s
PDGK Podgornoye 27.57 58 P **P 01 26 57.6 +2.9**
PDGK pmax pmax
comp=Z,13nm,1.3s
OKC Ostrava-Krasne 27.58 317 *e*P **P 01 26 54.5 -0.1**
OKC *e*S **S 01 31 35.6 +0.6**
OKC AMS AMS 01 42 00.0
comp=Z,500nm,14.3s
OKC Ostrava-Krasne 27.58 317 P **P 01 26 54.5 -0.1**
OKC S **S 01 31 35.6 +0.6**
OKC Ostrava-Krasne 27.58 317 *e*P **P 01 26 54.5 -0.1**
OKC *e*S **S 01 31 35.6 +0.6**
OKC MLR MLR
comp=Z,500nm,14.3s
CRES Cresnjev 27.70 308 *e*P **P 01 26 55.6 -0.2**
BOJS Bojanci 27.75 307 *i* P **P 01 26 56.1 0.0**
NVLJ Novalja 27.75 305 P **P 01 26 55.0 -1.2**
MORC Moravsky Berou 27.90 317⇑*i*P **P 01 26 57.3 -0.3**
MORC Moravsky Berou 27.90 317 *e*P **P 01 26 55.3 -2.3**
comp=Z,52nm,1.0s
MORC Moravsky Berou 27.90 317 *e*P **P 01 26 55.3 -2.3**
MORC pmax pmax
comp=Z,52nm,1.0s
VISS Visnje 28.11 308 *e*P **P 01 26 59.2 -0.2**
ARSA Arzberg 28.12 311 *i* P **P 01 27 02.7 +3.2**
comp=Z,8.9nm,1.2s
CONA Conrad Observa 28.15 312 *i* P **P 01 26 59.4 -0.4**
comp=Z,15nm,1.5s
PERS Pernice 28.18 309 *i* P **P 01 27 00.3 +0.2**
SOKA Soboth 28.25 309 P **P 01 27 01.4 +0.7**
comp=Z,5.7nm,1.1s
SOKA Soboth 28.25 309 PcP **PcP 01 30 14.7 +1.0**
comp=Z,10nm,1.4s
SOKA Soboth 28.25 309 *i* pP **P 01 27 01.4 +0.7**
comp=Z,5.7nm,1.1s
SOKA *i* PcP **PcP 01 30 14.7 +1.0**
comp=Z,10nm,1.4s
VRAC Vranov 28.25 315 P **P 01 27 01.9 +1.2**
comp=Z,4.5nm,0.8s,baz=131,slow=7.4,SNR=9.4
VRAC LR LR 01 39 31.0
comp=Z,254nm,21.7s,baz=159,slow=39
VRAC Vranov 28.25 315⇑*i*P **P 01 27 00.1 -0.5**
OBKA Obir 28.51 309 P **P 01 27 03.7 +0.6**
comp=Z,27nm,1.2s
OBKA Obir 28.51 309 *i* pP **P 01 27 03.7 +0.6**
comp=Z,27nm,1.2s
JAVS Javornik 28.66 307 *i* P **P 01 27 04.6 +0.3**
KLMR Klimovskoe 28.78 352 *e*P **P 01 27 02.7 -2.4**
KLMR AMP 01 27 07.4
comp=Z,35nm,1.2s
KLMR *e*S **S 01 31 53.0 -0.5**
KLMR *e*S **S 01 31 53.0 -0.5**
KLMR LQ LQ 01 36 28.4
KLMR LQ LQ 01 36 28.4
KLMR Klimovskoe 28.78 352 *e*P **P 01 27 02.6 -2.5**
KLMR *e*S **S 01 31 53.0 -0.5**
KLMR pmax pmax
comp=Z,35nm,1.2s
DPC Dobruska-Polom 28.86 317 *e*P **P 01 27 05.9 -0.2**
DPC *e*S S 01 32 04.4 +9.1
DPC AMS AMS 01 42 20.0
comp=Z,500nm,14.8s
DPC Dobruska-Polom 28.86 317 P **P 01 27 05.9 -0.2**
DPC Dobruska-Polom 28.86 317 *e*P **P 01 27 05.9 -0.2**
DPC MLR MLR
comp=Z,500nm,14.8s
TREC Trest 28.91 315 AMS AMS 01 41 50.0
comp=Z,600nm,15.5s
KSP Ksiaz 29.10 318 *e*P **P 01 27 08.1 0.0**
KSP Ksiaz 29.10 318 *e*P **P 01 27 08.1 0.0**
KSP Ksiaz 29.10 318 *e*P **P 01 27 08.1 0.0**
UPC Upice 29.11 317 *e*S S 01 32 08.9 +10
UPC AMS AMS 01 44 00.0
comp=Z,500nm,15.2s
MOA Molln 29.13 311 P **P 01 27 08.3 -0.1**
comp=Z,6.4nm,0.7s
MOA Molln 29.13 311 *i* P **P 01 27 08.3 -0.1**
comp=Z,6.4nm,0.7s
KLNR Kaliningrad 29.13 327 *i* P **P 01 27 10.0 +1.7**
KLNR pmax pmax
comp=Z,33nm,1.2s
KURBB Kurchatov Arra 29.35 43 P **P 01 27 10.8 +0.5**
comp=Z,13nm,1.0s,baz=250,slow=9.5,SNR=23
VSU Vasula 29.37 338*ce*P **P 01 27 10.0 -0.4**
VSU pmax pmax
comp=Z,81nm,0.8s
KURK Kurchatov 29.44 43 *e*P **P 01 27 11.5 +0.4**
comp=Z,27nm,1.0s
KURK Kurchatov 29.44 43 P **P 01 27 12.5 +1.4**
SNR=13
KURK Kurchatov 29.44 43*ce*P **P 01 27 12.0 +0.9**
KURK pmax pmax
comp=Z,28nm,1.0s
KBA Koelnbreinsper 29.47 309 P **P 01 27 10.8 -0.9**
comp=Z,17nm,1.0s
KBA Koelnbreinsper 29.47 309 *i* P **P 01 27 10.8 -0.9**
comp=Z,17nm,1.0s
GOPC GO Pecny, Ondr 29.57 316 *e*P **P 01 27 12.1 -0.3**
GOPC *e*S **S 01 32 12.0 +5.6**
GOPC AMS AMS 01 41 30.0
comp=Z,600nm,14.9s
GOPC GO Pecny, Ondr 29.57 316 *e*P **P 01 27 12.1 -0.3**
GOPC *e*S **S 01 32 12.0 +5.6**
GOPC MLR MLR
comp=Z,600nm,14.9s
PRU Pruhonice 29.75 316 *e*P **P 01 27 16.6 +2.7**
PRU *e*S S 01 32 20.0 +11
PRU AMS AMS 01 41 30.0
comp=Z,600nm,16.2s
PRU Pruhonice 29.75 316 *e*P **P 01 27 16.6 +2.7**
PRU MLR MLR
comp=Z,600nm,16.2s
GKP Gorka Klasztor 29.80 323 *e*P **P 01 27 12.0 -2.2**
GKP *e*S **S 01 32 17.2 +7.5**
GKP Gorka Klasztor 29.80 323 *e*P **P 01 27 12.0 -2.2**
GKP *e*S **S 01 32 17.2 +7.5**
GEA0 GERESS Array S 29.82 313 *e*P **P 01 27 13.2 -1.4**
GEC2 GERESS Array S 29.82 313 *e*P **P 01 27 16.0 +1.3**
comp=Z,7.2nm,1.2s
GEC2 GERESS Array S 29.82 313 *e*P **P 01 27 16.0 +1.3**
GEC2 pmax pmax
comp=Z,7.0nm,1.2s
GERES GERESS Array B 29.82 313 P **P 01 27 13.9 -0.8**
comp=Z,0.7nm,0.5s,baz=99,slow=8.2,SNR=10.0
GERES PcP **PcP 01 30 17.1 -0.6**
comp=Z,1.7nm,0.8s,baz=145,slow=3.6,SNR=5.1
GERES LR LR 01 42 02.3
comp=Z,382nm,19.9s,baz=104,slow=42
PRA Prague 29.84 316 AMS AMS 01 41 40.0
comp=Z,500nm,11.7s
ABTA Abfaltersbach 29.93 308 P **P 01 27 15.8 +0.2**
comp=Z,11nm,1.2s
ABTA Abfaltersbach 29.93 308 *i* P **P 01 27 15.8 +0.2**
comp=Z,11nm,1.2s
ABTA *i* PcP **PcP 01 30 20.9 +2.9**
comp=Z,14nm,1.2s
PVCC Panska Ves 29.95 317 AMS AMS 01 45 10.0
comp=Z,500nm,14.9s
KHC Kasperske Hory 30.00 313 *e*P **P 01 27 17.8 +1.6**
KHC *ex* x 01 27 25.7
KHC *ex* x 01 32 53.6
KHC AMS AMS 01 43 10.0
comp=Z,600nm,15.6s
KHC Kasperske Hory 30.00 313 *e*P **P 01 27 16.8 +0.6**
comp=Z,5.6nm,1.5s
KHC Kasperske Hory 30.00 313 P **P 01 27 17.8 +1.6**
KHC Kasperske Hory 30.00 313 *e*P **P 01 27 16.8 +0.6**
KHC pmax pmax
comp=Z,6.0nm,1.5s
SEM Semipalatinsk 30.25 44⇑*e*P **P 01 27 19.6 +0.9**
comp=Z,180nm,1.2s
SEM *e*S **S 01 32 19.6 +2.1**
MK01 Makanchi Array 30.32 52 *e*P **P 01 27 19.1 0.0**
MK31 Makanchi Array 30.32 52 *e*P **P 01 27 20.0 +0.9**
MK31 Makanchi Array 30.32 52 *i* P **P 01 27 19.3 +0.2**
MK31 pmax pmax
comp=Z,49nm,1.3s
MKAR Makanchi Array 30.32 52 P **P 01 27 20.0 +0.9**
comp=Z,13nm,0.8s,baz=248,slow=7.5,SNR=63
MKAR LR LR 01 41 29.8
comp=Z,1μm,19.8s,baz=256,slow=40
MKAR Makanchi Array 30.32 52 *e*P **P 01 27 20.0 +0.9**
comp=Z,85nm,0.8s
MKAR Makanchi Array 30.32 52 P **P 01 27 20.0 +0.9**
MKAR pmax pmax
comp=Z,13nm,0.8s
MKAR MLR MLR
comp=Z,1μm,19.8s
BRG Berggiesshubel 30.46 317 *e*P **P 01 27 19.3 -0.9**
comp=Z,8.2nm,1.2s
comp=N,374nm,12.6s
comp=E,258nm,15.7s
comp=Z,595nm,12.9s
BRG Berggiesshubel 30.46 317 *e*P **P 01 27 19.3 -0.9**
BRG pmax pmax
comp=Z,8.0nm,1.2s
BRG MLR MLR
comp=N,374nm,12.6s
BRG MLR MLR
comp=E,258nm,15.7s
BRG MLR MLR
comp=Z,595nm,12.9s
WTTA Wattenberg 30.64 309 P **P 01 27 21.6 -0.5**
comp=Z,28nm,1.4s,SNR=5.3
WTTA Wattenberg 30.64 309 PcP **PcP 01 30 20.9 +0.9**
comp=Z,11nm,1.4s
WTTA Wattenberg 30.64 309 *i* P **P 01 27 21.6 -0.5**
comp=Z,28nm,1.4s,SNR=5.3
WTTA *i* PcP **PcP 01 30 20.9 +0.9**
comp=Z,11nm,1.4s
WATA Walderalm 30.70 309 P **P 01 27 21.7 -0.9**
comp=Z,14nm,0.8s,SNR=9.1
WATA Walderalm 30.70 309 *i* P **P 01 27 21.7 -0.9**
comp=Z,14nm,0.8s,SNR=9.1
MOTA Moosalm 31.02 309 P **P 01 27 24.1 -1.2**
comp=Z,8.6nm,0.6s,SNR=9.5
MOTA Moosalm 31.02 309 *i* P **P 01 27 24.1 -1.2**
comp=Z,8.6nm,0.6s,SNR=9.5
NKC Novy Kostel 31.09 315 *e*P **P 01 27 25.7 -0.1**
NKC AMS AMS 01 43 30.0
comp=Z,600nm,11.8s
NKC Novy Kostel 31.09 315 *e*P **P 01 27 25.7 -0.1**
NKC MLR MLR
comp=Z,600nm,11.8s
VSL Villasalto 31.14 294 *e*P **P 01 27 26.6 +0.3**
comp=Z,31nm,0.9s
CLL Collm 31.18 317 *i* P **P 01 27 24.9 -1.6**
comp=Z,17nm,1.5s
CLL *i* pP **pP 01 27 28.6 -3.7**
comp=Z,17nm,1.3s
CLL *e*S **S 01 32 33.0 +1.6**
CLL *e*SSS SSS 01 34 25.0
CLL Collm 31.18 317 *e*P **P 01 27 26.1 -0.4**
comp=Z,19nm,1.4s
CLL Collm 31.18 317 *e*P **P 01 27 26.1 -0.4**
CLL pmax pmax
comp=Z,19nm,1.4s
FETA Feichten 31.18 308 *i* P **P 01 27 26.2 -0.6**
comp=Z,16nm,0.9s
PYUN Piuthan 31.19 89 *e*P **P 01 27 28.1 +0.9**
comp=Z,196nm,1.4s
RETA Reutte 31.28 309 *i* P **P 01 27 26.2 -1.3**
comp=Z,12nm,1.2s
KEST Kesra 31.30 286 P **P 01 27 29.1 +1.3**
comp=Z,24nm,1.1s,baz=24,slow=4.5,SNR=13
KEST LR LR 01 41 52.4
comp=Z,313nm,21.9s,baz=3.0,slow=40
KEST Kesra 31.30 286 *e*P **P 01 27 29.7 +1.8**
comp=Z,24nm,1.0s
GRFO Grafenberg 31.64 313 *e*P **P 01 27 28.3 -2.3**
comp=Z,24nm,1.1s
GRFO Grafenberg 31.64 313 *e*P **P 01 27 28.3 -2.3**
GRFO pmax pmax
comp=Z,24nm,1.1s
DANN Dangsing 31.77 88 *e*P **P 01 27 33.9 +1.6**
comp=Z,21nm,1.1s
DAVA Damuels 31.80 309 P **P 01 27 30.5 -1.8**
comp=Z,32nm,1.1s,SNR=8.2
DAVA Damuels 31.80 309 *i* P **P 01 27 30.5 -1.8**
comp=Z,32nm,1.1s,SNR=8.2
KOLN Koldanda 31.81 89 *e*P **P 01 27 33.3 +0.8**
comp=Z,55nm,1.1s
TUE Stuetta 31.98 307 *e*P **P 01 27 33.8 0.0**
comp=Z,24nm,1.4s
FIA1 FINESS Array S 31.99 341 *e*P **P 01 27 32.9 -0.7**
comp=Z,56nm,1.3s
FINES FINESS Array B 31.99 341 P **P 01 27 32.8 -0.7**
comp=Z,10nm,0.6s,baz=148,slow=9.3,SNR=34
FINES LR LR 01 42 17.3
comp=Z,742nm,20.4s,baz=142,slow=40
HYB Hyderabad 32.08 110 *i* P **P 01 27 33.0 -1.8**
comp=Z,125nm,1.4s
TMCR Tamitsa 32.17 353 *e*P **P 01 27 34.8 -0.2**
TMCR pmax pmax
comp=Z,43nm,1.1s
ZSN Zaisan 32.19 51 *e*P **P 01 27 36.1 +0.6**
comp=Z,29nm,1.1s
ZSN *e*S **S 01 32 47.1 -0.3**
ZSN LR LR 01 42 01.1
comp=Z,181nm,12.9s
GKN Gorkha 32.61 88 *e*P **P 01 27 40.6 +1.0**
comp=Z,288nm,1.3s
DMN Daman 33.13 88 *e*P **P 01 27 45.2 +1.0**
comp=Z,238nm,1.1s
KKN Kakani 33.22 88 *e*P **P 01 27 45.9 +1.0**
comp=Z,74nm,0.8s
SENIN Lac Senin/Sane 33.34 306 *e*P **P 01 27 44.6 -1.2**
comp=Z,11nm,0.8s
CKFL Kef-Lekhel 33.36 288 P **P 01 27 47.0 +1.1**
CKFL Kef-Lekhel 33.36 288 P **P 01 27 47.0 +1.1**
PKIN Phulchoki 33.38 88 *e*P **P 01 27 47.2 +0.8**
comp=Z,256nm,1.3s
WMQ Urumqi 33.53 58 P **P 01 27 48.6 +1.3**
WMQ pP sP 01 27 53.8 -1.8
WMQ sP pP 01 27 59.5 +6.3
WMQ S **S 01 33 07.5 -0.9**
WMQ PcS **PcS 01 34 12.1 -1.4**
WMQ SS **SnSn 01 35 09.0 -2.2**
WMQ pmax pmax
comp=Z,42nm,1.5s
WMQ pmax pmax
comp=Z,530nm,5.5s
WMQ LR LR
comp=Z,3μm,16.9s
WMQ LR LR
comp=Z,2μm,20.7s
WMQ LR LR
comp=Z,2μm,28.3s
CASM Ain Smara 33.55 288 P **P 01 27 47.3 -0.3**
CASM Ain Smara 33.55 288 P **P 01 27 47.3 -0.3**
BNI Bardonecchia 33.57 304 *e*P **P 01 27 46.4 -1.3**
comp=Z,53nm,1.0s
BNI Bardonecchia 33.57 304 *e*P **P 01 27 46.4 -1.3**
BNI pmax pmax
comp=Z,53nm,1.0s
CTEI Djebel Teioual 33.64 287 P **P 01 27 49.5 +1.0**
CTEI Djebel Teioual 33.64 287 P **P 01 27 49.5 +1.0**
GUN Gumba 33.69 87 *e*P **P 01 27 50.2 +1.0**
comp=Z,366nm,1.2s
NVS Novosibirsk 33.78 38⇓*i*P **P 01 27 51.5 +2.3**
NVS *i* S **S 01 33 08.5 -3.3**
NVS pmax pmax
comp=N,26nm,1.8s
NVS pmax pmax
comp=Z,52nm,1.8s
NVS pmax pmax
comp=E,17nm,1.6s
NVS smax smax
comp=N,10.0nm,1.6s
NVS smax smax
comp=E,23nm,2.0s
ECH Echery 33.81 309 *e*P **P 01 27 47.9 -1.7**
comp=E,18nm,1.1s
ECH Echery 33.81 309 *e*P **P 01 27 47.9 -1.7**
ECH pmax pmax
comp=Z,18nm,1.1s
DFRA Djebel Bou Aff 34.02 288 P **P 01 27 52.6 +0.9**
DFRA Djebel Bou Aff 34.02 288 P **P 01 27 52.6 +0.9**
JIRN Jiri 34.03 88 *e*P **P 01 27 53.0 +0.8**
comp=Z,187nm,1.0s
ZAA0 Zalesovo Array 34.24 40 *e*P **P 01 27 53.7 +0.4**
comp=Z,13nm,0.8s
ZALV Zalesovo Beam 34.24 40 P **P 01 27 53.3 0.0**
comp=Z,11nm,0.7s,baz=256,slow=9.2,SNR=32
ZALV LR LR 01 45 17.1
comp=Z,574nm,18.2s,baz=248,slow=42
CKHR Kef el Ahmar 34.37 288 P **P 01 27 55.2 +0.4**
CKHR Kef el Ahmar 34.37 288 P **P 01 27 55.2 +0.4**
DGZ Jazzator, Alta 34.40 48 *e*P **P 01 27 55.6 +0.7**
DGZ pmax pmax
comp=Z,4.0nm,0.8s
SET Setif 34.44 288 P **P 01 27 57.0 +1.7**
SET Setif 34.44 288 P **P 01 27 57.0 +1.7**
RAMN Ramite 34.60 89 *e*P **P 01 27 57.0 0.0**
comp=Z,202nm,1.3s
KMBO Kilima Mbogo 34.74 197 P **P 01 28 00.2 +2.0**
comp=Z,0.9nm,0.4s,baz=7.9,slow=11,SNR=7.4
KMBO LR LR 01 42 02.4
comp=Z,1μm,18.4s,baz=51,slow=36
KMBO Kilima Mbogo 34.74 197 *e*P **P 01 28 00.3 +2.1**
comp=Z,15nm,1.4s
KMBO Kilima Mbogo 34.74 197 *e*P **P 01 28 00.3 +2.1**
KMBO pmax pmax

comp=Z,15nm,1.4s
NAI Nairobi 35.00 198 *e*P **P 01 28 02.9 +2.5**
comp=Z,48nm,1.4s
NAI Nairobi 35.00 198 *e*P **P 01 28 02.9 +2.5**
NAI pmax pmax
comp=Z,49nm,1.4s
ODAN Odare 35.29 89 *e*P **P 01 28 03.3 +0.3**
comp=Z,25nm,0.6s
HFS Hagfors 35.30 332 P **P 01 28 02.2 -0.1**
comp=Z,8.6nm,0.4s,baz=139,slow=11,SNR=82
HFS LR LR 01 43 55.9
comp=Z,438nm,18.6s,baz=124,slow=39
MUD Monsted U'grnd 35.42 324⇑ *i*P **P 01 28 04.2 +0.8**
comp=Z,28nm,0.8s
MUD Monsted U'grnd 35.42 324 *i*P **P 01 28 04.2 +0.8**
MUD pmax pmax
comp=Z,28nm,0.8s
LVZ Lovozero 36.15 352 *i*P **P 01 28 11.3 +1.7**
LVZ pmax pmax
comp=Z,22nm,1.2s
NC405 NORSAR Array S 36.66 332 *e*P **P 01 28 14.4 +0.4**
KONO Kongsberg 36.75 329 *ce*P **P 01 28 13.5 -1.2**
KONO pmax pmax
comp=Z,29nm,1.7s
NB2 NORSAR Subarra 36.82 332 P **P 01 28 14.0 -1.4**
comp=Z,10nm,1.1s,baz=126,slow=9.3
NOA NORSAR Array B 36.82 332 P **P 01 28 14.4 -1.0**
comp=Z,2.4nm,0.7s,baz=125,slow=8.6,SNR=9.1
NOA LR LR 01 44 43.1
comp=Z,459nm,21.8s,baz=125,slow=38
LSA Lhasa 37.61 82 *e*P **P 01 28 24.2 +1.2**
comp=Z,33nm,1.0s
LSA Lhasa 37.61 82 P **P 01 28 21.0 -2.1**
LSA Lhasa 37.61 82 *e*P **P 01 28 24.2 +1.2**
LSA pmax pmax
comp=Z,33nm,1.0s
TAM Tamanrasset 37.89 266 *e*P **P 01 28 25.5 +0.5**
comp=Z,79nm,1.4s
TAM Tamanrasset 37.89 266 *e*P **P 01 28 25.5 +0.5**
TAM pmax pmax
comp=Z,79nm,1.4s
HVS Khovu-Aksy 38.62 47 *i*P **P 01 28 30.7 -0.1**
HVS pmax pmax
comp=Z,8.0nm,0.8s
ARCES ARCESS Array B 39.00 348 P **P 01 28 33.2 -0.5**
comp=Z,2.1nm,0.5s,baz=157,slow=9.0,SNR=20
ARCES PP **PP 01 30 00.6 -2.4**
comp=Z,4.2nm,0.6s,baz=144,slow=11,SNR=4.2
ARCES ARCESS Array B 39.00 348 P **P 01 28 33.2 -0.5**
ARCES 01 30 00.6
ARCES pmax pmax
comp=Z,7.0nm,0.9s
ARCES pmax pmax
comp=Z,4.0nm,0.6s
SHL Shillong 39.53 88⇑ *i*P **P 01 28 40.0 +1.2**
SHL *e*S **S 01 34 41.0 +0.5**
PALK Pallekele 40.05 121 P **P 01 28 44.0 +0.9**
comp=Z,20nm,1.0s,baz=298,slow=1.8,SNR=5.8
PALK Pallekele 40.05 121 *e*P **P 01 28 45.2 +2.1**
comp=Z,30nm,1.0s
PALK Pallekele 40.05 121 *e*P **P 01 28 45.2 +2.1**
PALK pmax pmax
comp=Z,30nm,1.0s
ES19 SONSECA Array 41.37 295 *e*P **P 01 28 53.2 -0.5**
ESDC Sonseca Array 41.42 295 P **P 01 28 53.9 -0.3**
comp=Z,4.1nm,0.6s,baz=76,slow=8.5,SNR=22
ESDC LR LR 01 47 19.7
comp=Z,42nm,18.3s,baz=120,slow=38
ESLA Sonseca Array 41.42 295 *e*P **P 01 28 54.6 +0.5**
comp=Z,40nm,1.4s
EKA Eskdalemuir Ar 41.61 319 P **P 01 28 54.7 -0.7**
comp=Z,17nm,0.9s,baz=108,slow=7.7,SNR=24
PAB San Pablo 41.73 295 *e*P **P 01 28 58.4 +1.7**
comp=Z,26nm,1.3s
PAB San Pablo 41.73 295 *e*P **P 01 28 58.4 +1.7**
PAB pmax pmax
comp=Z,26nm,1.3s
GTA Gaotai 42.70 65 P **P 01 29 05.8 +1.1**
GTA pP sP 01 29 15.8 +2.7
GTA sP pP 01 29 20.8 +10
GTA PcP **PcP 01 30 54.3 -2.0**
GTA S **S 01 35 28.1 +0.7**
GTA sS sS 01 35 45.9 +8.7
GTA SS **SS 01 38 36.3 -1.6**
GTA pmax pmax
comp=Z,9.0nm,1.7s
GTA pmax pmax
comp=Z,220nm,5.8s
GTA LR LR
comp=Z,1μm,19.0s
GTA LR LR
comp=Z,650nm,20.4s
GTA LR LR
comp=Z,590nm,19.0s
MOY Mondy 43.22 47 *e*P **P 01 29 10.6 +1.9**
MOY pmax pmax
comp=Z,43nm,2.7s
PBRG Braganca 43.29 298 *e*P **P 01 29 08.7 -0.6**
PBRG Braganca 43.29 298 *e*P **P 01 29 08.7 -0.6**
MVO Moncorvo 43.57 297 *e*P **P 01 29 13.1 +1.4**
PBAR Barrancos 44.01 293 *e*P **P 01 29 14.6 -0.5**
PBAR Barrancos 44.01 293 *e*P **P 01 29 14.6 -0.5**
PVRL Vila Real 44.08 298 *e*P **P 01 29 15.6 -0.1**
PVRL Vila Real 44.08 298 *e*P **P 01 29 15.6 -0.1**
PMRV Marv??o 44.08 295 *e*P **P 01 29 15.2 -0.5**
PMRV Marv??o 44.08 295 *e*P **P 01 29 15.2 -0.5**
PCBR Castelo Branco 44.08 296 *e*P **P 01 29 15.6 -0.1**
PCBR Castelo Branco 44.08 296 *e*P **P 01 29 15.6 -0.1**
POLO Lamas de Olo 44.12 298 *e*P **P 01 29 16.1 0.0**
PVIS Viseu 44.28 297 *e*P **P 01 29 17.1 -0.2**
PVIS Viseu 44.28 297 *e*P **P 01 29 17.1 -0.2**
PESTR Estremoz 44.32 294 *e*P **P 01 29 16.8 -0.8**
PESTR Estremoz 44.32 294 *e*P **P 01 29 16.8 -0.8**
KIB El Ksiba 44.40 285 *i*P **P 01 29 19.0 +0.6**
PGAV Gavieira, Arco 44.41 299 *e*P **P 01 29 18.7 +0.3**
PGAV Gavieira, Arco 44.41 299 *e*P **P 01 29 18.7 +0.3**
ZAK Zakamensk 44.59 49 *e*P **P 01 29 19.5 -0.2**
ZAK *e* 01 31 00.1
ZAK pmax pmax
comp=Z,9.0nm,1.7s
ZAK pmax pmax
comp=Z,5.0nm,1.4s
PVAQ Vaqueiros 44.67 292 *e*P **P 01 29 19.3 -1.1**
PVAQ Vaqueiros 44.67 292 *e*P **P 01 29 19.3 -1.1**
PBEJ Beja 44.67 293 *e*P **P 01 29 18.9 -1.5**
PBEJ Beja 44.67 293 *e*P **P 01 29 18.9 -1.5**
PTO Porto 44.76 298 *e*P **P 01 29 21.6 +0.6**
PTO Porto 44.76 298 *e*P **P 01 29 21.6 +0.6**
PCAS Casmilo, Conde 44.83 296 *e*P **P 01 29 21.9 +0.2**
PCAS Casmilo, Conde 44.83 296 *e*P **P 01 29 21.9 +0.2**
PTOM Tomar 44.83 295 *e*P **P 01 29 21.5 -0.1**
PTOM Tomar 44.83 295 *e*P **P 01 29 21.5 -0.1**
PBDV Barranco-do-Ve 44.87 292 *e*P **P 01 29 20.5 -1.5**
PBDV Barranco-do-Ve 44.87 292 *e*P **P 01 29 20.5 -1.5**
PCVE Castro Verde 44.88 293 *e*P **P 01 29 21.6 -0.5**
PCVE Castro Verde 44.88 293 *e*P **P 01 29 21.6 -0.5**
TZC Tazercounte 44.88 285 *i*P **P 01 29 22.0 -0.4**
PNCL Nicolau / Gran 45.17 293 *e*P **P 01 29 26.2 +1.8**
LZH Lanzhou 46.44 69 *e*P **P 01 29 35.3 +0.7**
LZH pP sP 01 29 45.6 +2.6
LZH sP pP 01 29 49.5 +8.8
LZH PcP **PcP 01 31 10.3 +1.1**
LZH PP **PP 01 31 24.6 +0.9**
LZH *e*S **S 01 36 22.8 +1.0**
LZH sS sS 01 36 40.6 +8.9
LZH pmax pmax
comp=Z,33nm,1.3s
LZH pmax pmax
comp=Z,160nm,4.3s
LZH LR LR
comp=Z,3μm,15.1s
LZH LR LR
comp=Z,1μm,15.3s
LZH LR LR
comp=Z,2μm,16.8s
SONM Songino Array 46.68 53 P **P 01 29 36.8 +0.5**
comp=Z,2.7nm,0.8s,baz=269,slow=8.5,SNR=23
SONM LR LR 01 53 04.0
comp=Z,663nm,19.6s,baz=280,slow=41
SONA1 Songino Array 46.68 53 *e*P **P 01 29 36.9 +0.6**
ULN Ulaanbaatar 47.12 53 *e*P **P 01 29 40.6 +0.8**
comp=Z,34nm,1.3s
ULN Ulaanbaatar 47.12 53 P **P 01 29 40.7 +0.9**
SNR=20

ULN Ulaanbaatar 47.12 53 *ce*P **P 01 29 39.5 -0.3**
ULN pmax pmax
comp=Z,40nm,1.7s
SPA0 Spitsbergen Ar 47.68 352 *e*P **P 01 29 46.4 +2.8**
SPITS Spitsbergen Ar 47.68 352 P **P 01 29 43.1 -0.5**
comp=Z,17nm,0.8s,baz=138,slow=6.7,SNR=43
CD2 Chengdu 47.72 76 P **P 01 29 42.3 -2.3**
CD2 PP **PP 01 31 33.8 -2.5**
CD2 PcS **PcS 01 35 06.9 -2.5**
CD2 S **S 01 36 37.8 -2.2**
CD2 pmax pmax
comp=Z,30nm,0.7s
CD2 pmax pmax
comp=Z,160nm,5.0s
CD2 LR LR
comp=Z,3μm,27.8s
CD2 LR LR
comp=Z,1μm,22.9s
CD2 LR LR
comp=Z,870nm,20.9s
CMAI Chiengmai2 47.83 92 P **P 01 29 47.8 +2.2**
comp=Z,88nm,1.2s,comp=Z,23μm
CHTO Chiang Mai 48.24 93 P **P 01 29 48.8 +0.1**
comp=Z,84nm,1.6s,comp=Z,2μm
CHTO Chiang Mai 48.24 93 *e*P **P 01 29 48.4 -0.3**
comp=Z,33nm,1.4s
CHTO Chiang Mai 48.24 93 P **P 01 29 49.2 +0.5**
SNR=17
CHTO Chiang Mai 48.24 93 *e*P **P 01 29 48.4 -0.3**
CHTO pmax pmax
comp=Z,33nm,1.4s
CMMT Chiang Mai 48.24 93 P **P 01 29 47.8 -0.9**
comp=Z,30nm,1.2s,comp=Z,451nm
CMAR Chiang Mai Arr 48.40 94 P **P 01 29 50.2 +0.3**
comp=Z,1.7nm,0.4s,baz=213,slow=26,SNR=7.8
CMAR LR LR 01 53 04.9
comp=Z,208nm,21.1s,baz=252,slow=40
CMAR Chiang Mai Arr 48.40 94 P **P 01 29 50.2 +0.3**
CMAR pmax pmax
comp=Z,3.0nm,0.4s
CMAR MLR MLR
comp=Z,208nm,21.1s
CM01 Chiang Mai Arr 48.43 94 *e*P **P 01 29 49.9 -0.2**
PAYA Payao 48.77 92 P **P 01 29 54.5 +1.7**
comp=Z,6.8nm,1.3s,comp=Z,122nm
KMI Kunming 48.83 84 P **P 01 29 53.9 +0.5**
KMI PP **PP 01 31 47.9 +1.2**
KMI pmax pmax
comp=Z,15nm,1.0s
KMI pmax pmax
comp=Z,230nm,4.1s
KMI LR LR
comp=Z,900nm,21.0s
KMI LR LR
comp=Z,280nm,18.0s
KMI LR LR
comp=Z,340nm,21.4s
LAMP Lampang 48.95 93 P **P 01 29 55.3 +1.2**
comp=Z,7.3nm,1.0s,comp=Z,122nm
KOWA Kowa 49.71 261 P **P 01 29 59.4 -0.6**
comp=Z,19nm,0.7s,baz=58,slow=10,SNR=35
KOWA LR LR 01 54 30.7
comp=Z,863nm,18.5s,baz=56,slow=40
KOWA Kowa 49.71 261 *e*P **P 01 29 59.3 -0.6**
comp=Z,26nm,0.8s
PHIT Phitsanulok 50.23 94 P **P 01 30 05.0 +1.1**
comp=Z,18nm,1.1s,comp=Z,308nm
SRDT SRDT 50.52 98 P **P 01 30 06.8 +0.7**
comp=Z,15nm,1.6s
OPO Ambohidratompo 50.80 180 P **P 01 30 09.9 +1.7**
comp=Z,4.2nm,0.7s,baz=21,slow=4.6,SNR=4.8
OPO LR LR 01 51 08.2
comp=Z,1μm,21.7s,baz=2.5,slow=35
LSZ Lusaka 50.86 204 P **P 01 30 09.5 +0.9**
comp=Z,10nm,0.9s,baz=28,slow=7.6,SNR=9.4
LSZ Lusaka 50.86 204 *e*P **P 01 30 10.5 +1.8**
comp=Z,46nm,1.4s
LSZ Lusaka 50.86 204 P **P 01 30 10.0 +1.4**
SNR=8.9
XAN Xi'an 50.99 70⇑ P **P 01 30 09.3 -0.2**
XAN pP sP 01 30 19.3 +1.4
XAN sP pP 01 30 23.8 +8.2
XAN PP **PP 01 32 06.8 +0.9**
XAN ScS ScS 01 39 58.3 -1.1
XAN pmax pmax
comp=Z,18nm,1.4s
XAN pmax pmax
comp=Z,190nm,4.9s
XAN LR LR
comp=Z,900nm,18.4s
XAN LR LR
comp=Z,920nm,19.5s
XAN LR LR
comp=Z,650nm,21.6s
PBKT Sadao Pong 50.99 95 P **P 01 30 08.7 -0.9**
comp=Z,24nm,1.1s,comp=Z,4μm
BOD Bodaibo 50.99 39 *e*P **P 01 30 08.3 -0.8**
BOD pmax pmax
comp=Z,30nm,1.7s
HHC Hu-ho-hao-te 51.32 61 *e*P **P 01 30 11.8 -0.2**
HHC pP sP 01 30 21.0 +0.6
HHC PP **PP 01 32 12.1 +3.2**
HHC S **S 01 37 31.3 +1.1**
HHC pmax pmax
comp=Z,41nm,1.1s
HHC pmax pmax
comp=Z,100nm,6.1s
HHC LR LR
comp=Z,550nm,16.3s
HHC LR LR
comp=Z,680nm,16.1s
HHC LR LR
comp=Z,750nm,16.7s
GYA Guiyang 51.62 80 *e*P **P 01 30 15.3 +0.9**
GYA pP sP 01 30 25.4 +2.5
GYA PP **PP 01 32 14.3 +2.4**
GYA ScP **ScP 01 35 21.6 -2.2**
GYA S **S 01 37 32.8 -2.0**
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,120nm,6.2s
PHET Kaeng Krachan 51.68 100 P **P 01 30 15.7 +0.9**
comp=Z,12nm,0.9s
CHAI Chaiyaphum 52.16 95 P **P 01 30 19.9 +1.5**
comp=Z,4.6nm,0.8s,comp=Z,167nm
ENH Enshi 52.61 75 *e*P **P 01 30 21.1 -0.5**
TIY Taiyuan 52.73 65 *e*P **P 01 30 21.4 -1.0**
TIY PP **PP 01 32 22.9 +1.3**
TIY S **S 01 37 46.4 -3.2**
TIY pmax pmax
comp=Z,190nm,5.5s
TIY LR LR
comp=Z,490nm,17.3s
TIY LR LR
comp=Z,530nm,16.2s
TIY LR LR
comp=Z,610nm,17.8s
SCO Scoresbysund 52.74 337 *i*P **P 01 30 23.0 +1.0**
SCO Scoresbysund 52.74 337 *e*P **P 01 30 22.9 +1.0**
comp=Z,35nm,1.5s
SCO Scoresbysund 52.74 337 *e*P **P 01 30 22.9 +1.0**
SCO pmax pmax
comp=Z,35nm,1.5s
DAG Danmarks Havn 53.09 345 *i*P **P 01 30 23.4 -1.1**
comp=Z,17nm,1.4s
DAG Danmarks Havn 53.09 345 *i*P **P 01 30 23.4 -1.1**
DAG pmax pmax
comp=Z,17nm,1.4s
SURT Suratani 53.11 104 P **P 01 30 29.0 +3.6**
comp=Z,7.1nm,1.2s
SKNT Sakolnakorn 53.34 92 P **P 01 30 26.2 -0.9**
comp=Z,12nm,1.5s
TRTT Trang 54.47 105 P **P 01 30 34.8 -0.6**
comp=Z,7.9nm,1.4s
DBIC Dimbokro 54.64 254 P **P 01 30 35.6 -1.0**
comp=Z,18nm,1.1s,baz=34,slow=7.5,SNR=8.6
DBIC LR LR 01 55 11.5
comp=Z,795nm,19.0s,baz=30,slow=37
DBIC Dimbokro 54.64 254 *e*P **P 01 30 36.0 -0.6**
comp=Z,37nm,1.3s
DBIC Dimbokro 54.64 254 *e*P **P 01 30 36.0 -0.6**
DBIC pmax pmax
comp=Z,37nm,1.3s
KIC Kosan Boka 54.72 253 *e*P **P 01 30 34.4 -2.8**
comp=Z,81nm,1.2s

TIC Toumodi 54.78 254 *e*P **P 01 30 34.9 -2.8**
BJI Beijing 54.93 61 P **P 01 30 41.6 +3.2**
BJI LR LR
comp=Z,2μm,19.1s
BJI LR LR
comp=Z,380nm,20.8s
LIC Lamto 55.03 253 *e*P **P 01 30 37.5 -2.0**
comp=Z,99nm,1.2s
HIA Hailar 55.29 50 *e*P **P 01 30 41.1 +0.2**
comp=Z,34nm,1.1s
HIA Hailar 55.29 50 *i*P **P 01 30 40.0 -0.9**
HIA pmax pmax
comp=Z,23nm,1.1s
UBPT Khong Chiam 55.40 93 P **P 01 30 41.6 -0.5**
comp=Z,15nm,1.1s,comp=Z,980nm
SKLT Songkhla 55.61 105 P **P 01 30 42.9 -0.7**
comp=Z,27nm,1.2s
KULM Kulim 56.71 107 *e*P **P 01 30 50.9 -0.6**
comp=Z,43nm,1.2s
TIA Tai'an 56.75 65 P **P 01 30 52.3 +0.7**
TIA pmax pmax
comp=Z,15nm,1.6s
PSI Prapat 56.79 110 P **P 01 30 52.1 -0.1**
comp=Z,5.7nm,0.3s,baz=290,slow=8.3,SNR=10
PSI LR LR 01 57 16.8
comp=Z,457nm,20.8s,baz=306,slow=38
PSI Prapat 56.79 110 *e*P **P 01 30 51.9 -0.4**
comp=Z,72nm,1.5s
PSI Prapat 56.79 110 *e*P **P 01 30 51.9 -0.4**
PSI pmax pmax
comp=Z,72nm,1.5s
TIXI Tiksi 56.92 22 *e*P **P 01 30 50.9 -1.2**
comp=Z,6.0nm,0.7s
TIXI Tiksi 56.92 22 *ce*P **P 01 30 51.4 -0.7**
TIXI pmax pmax
comp=Z,14nm,1.7s
IPM Ipoh 57.48 107 *e*P **P 01 30 55.8 -1.2**
comp=Z,28nm,0.9s
SUMG Summit 58.00 339 *i*P **P 01 30 00.8 +0.5**
comp=Z,11nm,0.9s
SUMG Summit 58.00 339 *e*P **P 01 31 00.3 0.0**
comp=Z,16nm,0.8s
SUMG Summit 58.00 339 *i*P **P 01 30 00.8 +0.5**
SUMG pmax pmax
comp=Z,11nm,0.9s
YAK Yakutsk 58.44 33 *e*P **P 01 31 04.1 +1.1**
YAK pmax pmax
comp=Z,18nm,0.9s
TSUM Tsumeb 58.68 213 *e*P **P 01 31 07.8 +2.4**
comp=Z,36nm,1.6s
NJ2 Nanjing 59.52 69 *e*P **P 01 31 11.5 +0.5**
NJ2 pmax pmax
comp=Z,18nm,0.6s
NJ2 LR LR
comp=Z,740nm,16.8s
NJ2 LR LR
comp=Z,400nm,18.4s
NJ2 LR LR
comp=Z,720nm,22.8s
BBTS Babate 60.16 269 LR LR 01 58 37.9
comp=Z,332nm,21.1s,baz=70,slow=37
PDSI Padang 60.28 113 P P 01 31 24.9 +8.5
CN2 Changchun 60.48 55 *e*P **P 01 31 18.4 +1.0**
CN2 *e*S **S 01 39 29.8 -2.1**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 LR LR
comp=Z,900nm,17.0s
CN2 LR LR
comp=Z,400nm,16.0s
CN2 LR LR
comp=Z,500nm,17.0s
LBTB Lobatse 60.78 202 *e*P **P 01 31 20.8 +1.1**
LBTB Lobatse 60.78 202 *e*P **P 01 31 20.8 +1.1**
KLR Kul'dur 62.88 47 P **P 01 31 33.1 -0.4**
comp=Z,0.5nm,0.9s,baz=295,slow=8.0,SNR=14
KLR Kul'dur 62.88 47 *c i*P **P 01 31 32.3 -1.2**
SFJD Kangerlussuaq 63.43 334 P **P 01 31 36.7 -0.2**
comp=Z,14nm,1.2s,baz=41,slow=9.3,SNR=4.0
SFJD LR LR 01 59 14.4
comp=Z,350nm,21.6s,baz=64,slow=36
SFJD Kangerlussuaq 63.43 334 *i*P **P 01 31 35.2 -1.6**
SFJD Kangerlussuaq 63.43 334 *i*P **P 01 31 35.2 -1.6**
BOSA Boshof 64.25 201 P **P 01 31 43.4 +0.6**
comp=Z,17nm,0.9s,baz=22,slow=6.2,SNR=12
BOSA LR LR 02 01 08.1
comp=Z,609nm,18.3s,baz=27,slow=37
BOSA Boshof 64.25 201 *e*P **P 01 31 43.0 +0.2**
BOSA Boshof 64.25 201 *e*P **P 01 31 43.0 +0.2**
TULEG Thule 64.31 346 *e*P **P 01 31 41.4 -1.0**
KS01 Wonju Array Si 64.42 61 *e*P **P 01 31 42.8 -1.0**
KSAR Wonju Array Be 64.42 61 P **P 01 31 43.4 -0.5**
KSAR Wonju Array Be 64.42 61 P **P 01 31 43.4 -0.5**
KSRS Korea Array 64.45 61 P **P 01 31 43.4 -0.6**
comp=Z,6.2nm,0.8s,baz=284,slow=7.0,SNR=17
KSRS LR LR 02 04 22.5
comp=Z,343nm,18.9s,baz=290,slow=40
TPUB Ta-pu 64.48 78 *e*P **P 01 31 45.0 +0.5**
comp=Z,28nm,0.8s
YHNB Yeheng 64.50 76 *e*P **P 01 31 46.1 +1.5**
USRK Ussuriysk Ar. 64.79 52 P **P 01 31 45.0 -1.1**
comp=Z,12nm,0.8s,baz=279,slow=6.2,SNR=19
USRK LR LR 02 03 05.1
comp=Z,577nm,19.7s,baz=277,slow=39
MSHR Mys Shultsa 64.82 54 *ce*P **P 01 31 45.8 -0.6**
YULB Yu-li 64.99 77 *e*P **P 01 31 48.2 +0.4**
comp=Z,15nm,1.0s
GRNR Gornyy 65.18 44 *i*P P 01 31 40.3 -8.3
MDSI Maura Dua 65.40 113 P **P 01 31 52.5 +2.0**
SEY Seymchan 68.04 28 *ce*P **P 01 32 06.6 0.0**
JNU Nakatsue 68.41 64 LR LR 02 04 47.3
comp=Z,391nm,20.4s,baz=291,slow=38
MA2 Magadan 68.96 32⇓ *e*P **P 01 32 11.3 -1.1**
TGY Tagaytay City 69.03 86 LR LR 02 04 22.3
comp=Z,251nm,21.9s,baz=47,slow=38
BILL Bilibino 70.07 20 *c i*P **P 01 32 18.9 -0.2**
BILL *e* 01 32 44.9
BILL *e* 01 34 56.5
BILL pmax pmax
comp=Z,7.0nm,1.1s
BILL MLR MLR
comp=Z,672nm,23.0s
RES Resolute Bay 70.19 350 *e*P **P 01 32 20.0 +0.2**
RES Resolute Bay 70.19 350 *e*P **P 01 32 20.0 +0.2**
YSS Yuzh-Sakhalins 70.56 46⇓ *e*P **P 01 32 25.5 0.0**
YSS *e* 01 32 24.5
YSS *e* 01 32 39.3
YSS pmax pmax
comp=Z,20nm,0.5s
ASAJ Asahikawa 71.76 49 P **P 01 32 28.8 -1.0**
comp=Z,3.0nm,0.3s,baz=287,slow=28,SNR=3.8
MAJO Matsushiro 72.29 58 *i*P **P 01 32 31.7 -1.5**
MAJO pmax pmax
comp=Z,9.0nm,1.1s
MAT Matsushiro 72.29 58 P **P 01 32 31.9 -1.3**
MAT S **SKiKP 01 42 06.0 -2.2**
MJAR Matsushiro Arr 72.29 58 P **P 01 32 32.5 -0.7**
comp=Z,4.1nm,0.9s,baz=306,slow=5.5,SNR=10
MJAR LR LR 02 06 40.9
comp=Z,295nm,21.3s,baz=300,slow=38
GMJI Gumukmas 74.98 110 P P 01 32 58.7 +10
JHJ Hachijo jima 2 75.06 60 LR LR 02 09 22.6
comp=Z,164nm,18.5s,baz=344,slow=39
MPSI Mapaga 75.34 99 P **P 01 32 51.3 0.0**
comp=Z,15nm,1.6s
PETK Petropavlovsk- 75.66 36 P **P 01 32 51.5 -1.0**
comp=Z,2.7nm,1.0s,baz=125,slow=14,SNR=3.4
PETK LR LR 02 10 32.2
comp=Z,374nm,19.6s,baz=302,slow=39
PET Petropavlovsk 76.17 35 *e*P **P 01 32 53.4 -2.1**
PET *e*S **S 01 42 35.2 -3.2**
PET *e*PPS PPS 01 43 31.2
PET MLR MLR
comp=Z,300nm,20.0s
SCHQ Schefferville 76.23 327 P **P 01 32 55.3 -0.5**
comp=Z,17nm,0.9s,baz=32,slow=3.4,SNR=9.0
SCHQ LR LR 02 09 24.5
comp=Z,126nm,18.5s,baz=38,slow=38
DAV Davao City (W) 76.52 90 LR LR 02 12 28.9
comp=Z,229nm,18.4s,baz=336,slow=40
KAPI Kappang 78.19 104 P **P 01 33 07.7 +0.3**
SNR=5.7
TOLK Toolik Lake Re 78.38 6 P **P 01 33 07.9 +0.3**
baz=346
INK Inuvik 79.48 0 *e*P **P 01 33 12.4 -1.2**
comp=Z,15nm,1.3s

INK	**Inuvik**	**79.48**	**0**	*eP*	**P**	**01 33 12.4**	**-1.2**
INK				pmax	pmax		
	comp=Z,15nm,1.3s						
COLD	**Coldfoot**	**79.70**	**7**	*eP*	**P**	**01 33 14.5**	**-0.4**
	comp=Z,14nm,1.1s						
COLA	**College**	**82.22**	**6**	*eP*	**P**	**01 33 26.7**	**-1.6**
	comp=Z,15nm,1.0s						
COLA	**College**	**82.22**	**6**	*eP*	**P**	**01 33 26.7**	**-1.6**
COLA				pmax	pmax		
	comp=Z,15nm,1.0s						
ILAR	**Eielson Array**	**82.41**	**6**	P	**P**	**01 33 28.9**	**-0.4**
	comp=Z,4.6nm,1.1s,baz=336,slow=4.0,SNR=16						
ILAR				PP	**PP**	**01 36 38.1**	**+0.6**
	comp=Z,1.5nm,1.1s,baz=339,slow=6.0,SNR=4.3						
ILAR				LR	LR	02 15 08.0	
	comp=Z,138nm,19.9s,baz=340,slow=39						
BPAW	**Bear Paw Mtn.**	**82.65**	**8**	*eP*	**P**	**01 33 30.0**	**-0.6**
	comp=Z,5.2nm,1.3s						
EGAK	**Eagle**	**82.81**	**4**	*eP*	**P**	**01 33 31.0**	**-0.4**
	comp=Z,14nm,1.1s						
KTH	**Kantishna Hill**	**83.18**	**8**	*eP*	**P**	**01 33 32.8**	**-0.6**
	comp=Z,11nm,1.0s						
MCK	**McKinley**	**83.23**	**7**	*eP*	**P**	**01 33 31.6**	**-2.1**
	comp=Z,11nm,1.1s						
MCK	**McKinley**	**83.23**	**7**	*eP*	**P**	**01 33 31.6**	**-2.1**
MCK				pmax	pmax		
	comp=Z,11nm,1.1s						
TRF	**Thorofare Moun**	**83.36**	**8**	*eP*	**P**	**01 33 34.5**	**0.0**
	comp=Z,7.7nm,1.0s						
FCC	**Fort Churchill**	**83.48**	**341**	*eP*	**P**	**01 33 35.1**	**+0.2**
	comp=Z,17nm,1.1s						
FCC	**Fort Churchill**	**83.48**	**341**	*eP*	**P**	**01 33 35.2**	**+0.2**
FCC				pmax	pmax		
	comp=Z,17nm,1.1s						
DAWY	**Dawson**	**83.60**	**3**	*eP*	**P**	**01 33 34.8**	**-0.8**
	comp=Z,8.0nm,1.1s						
DOT	**Dot Lake**	**83.75**	**5**	*eP*	**P**	**01 33 35.8**	**-0.5**
	comp=Z,32nm,1.0s						
YKA	**Yellowknife Ar**	**84.18**	**352**	P	**P**	**01 33 37.9**	**-0.6**
	comp=Z,5.3nm,1.0s,baz=14,slow=5.3,SNR=53						
YKA				PP	**PP**	**01 36 44.8**	**-7.1**
	comp=Z,0.4nm,0.7s,baz=14,slow=6.5,SNR=3.6						
SOEI	**Soe**	**84.55**	**105**	*eP*	**P**	**01 33 43.9**	**+2.6**
	comp=Z,20nm,1.2s						
SOEI	**Soe**	**84.55**	**105**	*eP*	**P**	**01 33 39.1**	**-2.1**
	comp=Z,42nm,1.3s						
SML	**Sawmill**	**85.17**	**7**	*eP*	**P**	**01 33 43.3**	**-0.3**
	comp=Z,4.6nm,1.2s						
SML	**Sawmill**	**85.17**	**7**	*eP*	**P**	**01 33 43.3**	**-0.3**
SML				pmax	pmax		
	comp=Z,5.0nm,1.2s						
PMR	**Palmer**	**85.30**	**8**	*eP*	**P**	**01 33 43.5**	**-0.6**
	comp=Z,28nm,1.4s						
PMR	**Palmer**	**85.30**	**8**	*eP*	**P**	**01 33 43.5**	**-0.6**
PMR				pmax	pmax		
	comp=Z,27nm,1.4s						
LBNH	**Lisbon**	**85.57**	**321**	P	**P**	**01 33 46.6**	**+0.8**
	baz=48						
FRNY	**Flat Rock**	**86.04**	**322**	*eP*	**P**	**01 33 47.6**	**-0.6**
	comp=Z,9.5nm,1.0s						
HRV	**Adam Dziewonsk**	**86.53**	**319**	P	**P**	**01 33 50.9**	**+0.3**
	baz=48						
LONY	**Lake Ozonia**	**86.70**	**323**	P	**P**	**01 33 51.5**	**+0.1**
	baz=46						
LONY	**Lake Ozonia**	**86.70**	**323**	*eP*	**P**	**01 33 51.0**	**-0.4**
	comp=Z,24nm,1.1s						
FFC	**Flin Flon**	**89.12**	**343**	*eP*	**P**	**01 34 02.0**	**-0.7**
	comp=Z,14nm,1.1s						
FFC	**Flin Flon**	**89.12**	**343**	*eP*	**P**	**01 34 02.0**	**-0.7**
FFC				pmax	pmax		
	comp=Z,14nm,1.1s						
GUMO	**Guam**	**89.20**	**74**	LR	LR	02 15 50.0	
	comp=Z,91nm,21.8s,baz=106,slow=37						
DLBC	**Dease Lake**	**89.36**	**358**	*eP*	**P**	**01 34 04.2**	**+0.3**
	comp=Z,25nm,1.4s						
ULM	**Lac du Bonnet**	**91.31**	**337**	P	**P**	**01 34 12.3**	**-0.7**
	comp=Z,5.4nm,0.9s,baz=53,slow=4.9,SNR=7.0						
ULM				LR	LR	02 16 05.0	
	comp=Z,196nm,21.4s,baz=16,slow=36						
M54A	**Oil Creek Stat**	**91.53**	**323**	P	**P**	**01 34 13.8**	**-0.5**
	baz=43						
EYMN	**Ely**	**91.72**	**334**	P	**P**	**01 34 14.7**	**-0.3**
	baz=34						
EYMN	**Ely**	**91.72**	**334**	*eP*	**P**	**01 34 13.6**	**-1.4**
	comp=Z,28nm,1.4s						
C37A	**Embarrass**	**92.16**	**334**	P	**P**	**01 34 16.6**	**-0.4**
	baz=34						
B35A	**Bob, Littlefor**	**92.19**	**335**	P	**P**	**01 34 16.5**	**-0.7**
	baz=32						
A33A	**Warroad**	**92.28**	**336**	P	**P**	**01 34 16.7**	**-0.9**
	baz=31						
COWI	**Conover**	**92.31**	**331**	*eP*	**P**	**01 34 16.4**	**-1.4**
	comp=Z,13nm,1.3s						
E40A	**Wakefield**	**92.34**	**332**	P	**P**	**01 34 17.7**	**-0.2**
	baz=35						
C36A	**Pine Crest Far**	**92.38**	**334**	P	**P**	**01 34 17.2**	**-0.8**
	baz=33						
B34A	**Aery, Baudette**	**92.41**	**336**	P	**P**	**01 34 17.6**	**-0.6**
	baz=32						
E39A	**Mellen**	**92.65**	**332**	P	**P**	**01 34 18.9**	**-0.5**
	baz=35						
A32A	**Rocking H Ranc**	**92.66**	**337**	P	**P**	**01 34 19.0**	**-0.3**
	baz=30						
D37A	**Cotton**	**92.72**	**334**	P	**P**	**01 34 18.9**	**-0.8**
	baz=33						
C35A	**Jirik Farms, M**	**92.84**	**335**	P	**P**	**01 34 19.6**	**-0.6**
	baz=32						
D36A	**Goodland**	**92.98**	**334**	P	**P**	**01 34 20.4**	**-0.5**
	baz=33						
AGMN	**Agassiz Nation**	**92.99**	**336**	P	**P**	**01 34 20.3**	**-0.5**
	baz=31						
AGMN	**Agassiz Nation**	**92.99**	**336**	*eP*	**P**	**01 34 19.7**	**-1.1**
	comp=Z,8.9nm,1.1s						
B32A	**Ashes, Strandq**	**93.13**	**337**	P	**P**	**01 34 20.9**	**-0.6**
	baz=30						
C33A	**Trail**	**93.42**	**336**	P	**P**	**01 34 22.2**	**-0.7**
	baz=31						
G40A	**Rib Lake**	**93.42**	**331**	P	**P**	**01 34 22.5**	**-0.4**
	baz=35						
C31A	**Landman Farms,**	**94.05**	**337**	P	**P**	**01 34 25.1**	**-0.6**
	baz=29						
G38A	**Ridgeland**	**94.16**	**332**	P	**P**	**01 34 25.7**	**-0.7**
	baz=34						
MDND	**Maddock**	**94.60**	**338**	P	**P**	**01 34 28.5**	**+0.2**
	baz=28						
F33A	**5 Mile Ranch,**	**95.25**	**335**	P	**P**	**01 34 30.6**	**-0.8**
	baz=30						
DGMT	**Dagmar**	**95.38**	**341**	P	**P**	**01 34 32.0**	**+0.1**
	baz=24						
EGMT	**Eagleton**	**97.18**	**345**	*eP*	**P**	**01 34 40.0**	**-0.1**
	comp=Z,5.4nm,1.1s						
LAO	**LASA Array**	**97.56**	**342**	P	Pdif	01 34 42.2	+0.3
	baz=22						
LAO	**LASA Array**	**97.56**	**342**	*eP*	Pdif	01 34 42.3	+0.4
	comp=Z,28nm,1.4s						
TKL	**Tuckaleechee C**	**98.04**	**322**	LR	LR	02 21 01.3	
	comp=Z,112nm,19.8s,baz=24,slow=37						
WRA	**Warramunga Arr**	**98.22**	**108**	P	Pdif	01 34 47.2	+2.0
	comp=Z,0.9nm,0.9s,baz=311,slow=4.0,SNR=4.4						
WRA				LR	LR	02 26 34.1	
	comp=Z,35nm,18.3s,baz=295,slow=40						
ASAR	**Alice Springs**	**99.80**	**112**	P	**Pdif**	**01 34 51.0**	**-1.2**
	comp=Z,0.7nm,0.8s,baz=284,slow=4.5,SNR=4.0						
ASAR				PP	**PP**	**01 38 58.8**	**+1.7**
	comp=Z,1.4nm,1.0s,baz=292,slow=7.4,SNR=6.7						
ASAR				LR	LR	02 24 13.7	
	comp=Z,110nm,18.6s,baz=310,slow=38						
NVAR	**Mina Array Bea**	**108.12**	**348**	PKiKP	**PKiKP**	**01 39 36.1**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=46,slow=6.5,SNR=3.6						
QSPA	**South Pole Qui**	**122.36**	**180**	PKP	**PKPdf**	**01 40 01.2**	**-0.6**
	comp=Z,7.6nm,0.9s,baz=215,slow=2.4,SNR=10						
DZM	**Mont Dzumac**	**125.72**	**95**	*e*LR	LR	02 19 33.1	
	comp=Z,167nm,27.8s						
PLCA	**Paso Flores**	**130.23**	**242**	PKP	**PKPdf**	**01 40 18.2**	**+0.5**
	comp=Z,4.2nm,1.2s,baz=118,slow=6.1,SNR=4.4						
TAOE	**Nuku Hiva Isla**	**155.51**	**18**	*e*LR	LR	02 33 19.0	
	comp=Z,293nm,25.2s						
PPT2	**Papeete2**	**158.84**	**49**	*e*LR	LR	02 34 43.8	
	comp=Z,240nm,24.0s						
RKT	**Rikitea**	**170.46**	**12**	*e*LR	LR	02 40 13.3	
	comp=Z,252nm,24.0s						

*IDC **20** 01:22:20.3±1.6, 1.°55N×95.°25E, h0km, mb3.8/6, mb1 3.9/8, mb1mx3.6/75, mbtmp3.8/8, ML2.5/1, Error ellipse: s-maj=41.7km s-min=19.8km az=52.0*
*ISCJB **20** 01:22:23.3±1.1, 1.°6N±0.°1×95.°28E±0.°08, h33km, mb3.8/6,*

Error ellipse: s-maj=17.6km s-min=11.7km az=9.5
ISC 20 01:22:25.4±1.5, 1.°6N±0.°2×95.°3E±0.°1, h35km, n14, σ0.°52/9, mb3.8/6, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**3.83**	**71**	Pn	**Pn**	**01 23 21.9**	**-0.2**
	0.4nm,0.3s,baz=158,slow=16,SNR=3.1						
PSI				Sn	**Sn**	**01 24 06.1**	**+0.1**
	1.6nm,0.3s,baz=196,slow=23,SNR=7.5						
CMAR	**Chiang Mai Arr**	**17.16**	**12**	P	**Pn**	**01 26 22.9**	**+0.2**
	baz=204,slow=12,SNR=5.3						
H08S2	**Diego Garcia H**	**24.51**	**248**	T	T	01 55 14.3	
	baz=67,slow=75,SNR=4.8						
H08S3	**Diego Garcia H**	**24.52**	**248**	T	T	01 55 11.2	
	baz=67,slow=75,SNR=5.7						
H08S1	**Diego Garcia H**	**24.53**	**248**	T	T	01 54 43.6	
	baz=67,slow=75,SNR=3.2						
H01W3	**Cape Leeuwin H**	**40.33**	**156**	T	T	02 14 42.2	
	baz=334,slow=75,SNR=5.9						
H01W2	**Cape Leeuwin H**	**40.34**	**156**	T	T	02 14 36.6	
	baz=334,slow=75,SNR=5.7						
H01W1	**Cape Leeuwin H**	**40.35**	**156**	T	T	02 14 37.1	
	baz=334,slow=75,SNR=4.4						
WRA	**Warramunga Arr**	**43.85**	**121**	P	**P**	**01 30 28.9**	**+0.2**
	1.2nm,0.8s,baz=300,slow=9.0,SNR=8.5						
ASAR	**Alice Springs**	**45.14**	**126**	P	**P**	**01 30 39.0**	**0.0**
	0.6nm,0.7s,baz=297,slow=7.6,SNR=6.2						
MKAR	**Makanchi Array**	**46.45**	**348**	P	**P**	**01 30 49.9**	**+1.0**
	1.2nm,0.6s,baz=162,slow=8.0,SNR=3.8						
SONM	**Songino Array**	**47.08**	**10**	P	**P**	**01 30 53.7**	**-0.3**
	0.4nm,0.3s,baz=207,slow=9.1,SNR=2.3						
KURBB	**Kurchatov Arra**	**50.91**	**346**	P	**P**	**01 31 22.4**	**-0.7**
	0.8nm,0.7s,baz=163,slow=6.5,SNR=2.5						
ZALV	**Zalesovo Beam**	**52.92**	**352**	P	**P**	**01 31 37.9**	**0.0**
	0.8nm,0.5s,baz=177,slow=8.5,SNR=2.2						

*TEH **20** 01:30:49.4, 32.°50N×47.°01E, h10km, ML3.4*
*IDC **20** 01:30:49.3±2.1, 32.°59N×46.°99E, h0km, mb3.7/7, mb1 3.8/7, mb1mx3.3/64, mbtmp3.7/7, Error ellipse: s-maj=54.6km s-min=24.6km az=158.0*
*ISCJB **20** 01:30:50.1±0.9, 32.°38N±0.°08×46.°87E±0.°08, h20km, mb3.7/7, Error ellipse: s-maj=11.3km s-min=9.3km az=8.4*
ISC 20 01:30:52.2±1.1, 32.°53N±0.°09×46.°92E±0.°09, h20km, n19, σ1s01/19, mb3.8/7, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IKFM	**Kafar-mosalman**	**1.27**	**38**	*e*Pg	**Pn**	**01 31 14.0**	**-0.7**
IKFM				*e*Sg	**Sn**	**01 31 32.7**	**+1.6**
IKFM				*e*AMB	AMB	01 31 43.5	
	comp=Z,99nm,0.4s						
IKOM	**Komasi**	**1.72**	**17**	*e*Pn	**Pb**	**01 31 22.7**	**-0.4**
IKOM				*e*AMB	AMB	01 31 49.1	
	comp=Z,9μm,0.2s						
IGHG	**Ghaleghazi**	**1.82**	**351**	*e*AMB	AMB	01 32 00.5	
	comp=Z,6μm,0.4s						
IVIS	**Veis**	**2.00**	**358**	*e*Pn	**Pn**	**01 31 26.1**	**+1.2**
IVIS				*e*AMB	AMB	01 32 02.5	
	comp=Z,3μm,0.2s						
ILIN	**Lien**	**2.39**	**1**	*e*Pn	**Pb**	**01 31 32.5**	**-2.1**
ILIN				*e*AMB	AMB	01 31 33.9	
	comp=Z,2μm,0.1s						
HAGD	**Aghdareh**	**2.95**	**38**	*e*Pn	**Pn**	**01 31 38.8**	**+0.7**
HAGD				*e*AMB	AMB	01 32 23.1	
	comp=Z,99nm,0.2s						
HKZM	**Kohzaman**	**3.29**	**30**	*e*Pn	**Pn**	**01 31 44.5**	**+1.7**
HKZM				*e*AMB	AMB	01 32 32.3	
	comp=Z,99nm,0.3s						
IPIR	**Pirpir**	**3.36**	**86**	*e*Pn	**Pn**	**01 31 44.5**	**+0.7**
IPIR				*e*AMB	AMB	01 32 52.4	
	comp=Z,683nm,0.3s						
QAM	**Ghamsar**	**3.99**	**71**	*e*Pn	**Pn**	**01 31 52.9**	**+0.5**
QAM				*e*AMB	AMB	01 31 56.5	
	comp=Z,822nm,0.1s						
IKLH	**Kolahrood**	**4.00**	**77**	*e*Pn	**Pn**	**01 31 53.0**	**+0.4**
IKLH				*e*AMB	AMB	01 31 55.3	
	comp=Z,721nm,0.1s						
IZEF	**Zefreh**	**4.58**	**84**	*e*Pn	**Pn**	**01 32 00.7**	**+0.2**
IZEF				*e*AMB	AMB	01 32 21.1	
	comp=Z,238nm,0.3s						
IRAM	**Ramesheh**	**4.69**	**97**	*e*Pn	**Pn**	**01 32 02.5**	**+0.5**
IRAM				*e*AMB	AMB	01 33 07.8	
	comp=N,328nm,0.2s						
BVAR	**Borovoye Array**	**26.55**	**33**	P	**P**	**01 36 28.3**	**-0.2**
	comp=N,0.9nm,0.5s,baz=215,slow=8.7,SNR=5.4						
MKAR	**Makanchi Array**	**30.45**	**52**	P	**P**	**01 37 03.4**	**0.0**
	comp=N,0.6nm,0.7s,baz=245,slow=6.9,SNR=5.2						
FINES	**FINESS Array B**	**31.93**	**341**	P	**P**	**01 37 15.9**	**-0.3**
	comp=N,1.5nm,0.8s,baz=141,slow=9.0,SNR=3.4						
ZALV	**Zalesovo Beam**	**34.35**	**40**	P	**P**	**01 37 35.9**	**-1.5**
	comp=N,0.5nm,0.4s,baz=263,slow=8.6,SNR=3.2						
HFS	**Hagfors**	**35.22**	**332**	P	**P**	**01 37 44.9**	**+0.1**
	comp=N,0.7nm,0.4s,baz=116,slow=9.8,SNR=8.1						
KOWA	**Kowa**	**49.55**	**261**	P	**P**	**01 39 42.7**	**+0.7**
	comp=N,0.9nm,0.6s,baz=103,slow=18,SNR=3.1						
YKA	**Yellowknife Ar**	**84.15**	**351**	P	**P**	**01 43 21.3**	**-0.2**
	comp=N,0.2nm,0.8s,baz=22,slow=5.3,SNR=3.2						

*CSEM **20** 01:33:14.8±0.1, 39.°61N×20.°36E, h15km, ML2.1, Error ellipse: s-maj=3.1km s-min=2.3km az=20.0*
*ATH **20** 01:33:14.7, 39.°62N×20.°35E, h20km±2km, ML2.1/5, Error ellipse: s-maj=2.7km s-min=1.0km az=213.0*
*TIR **20** 01:33:16.1, 39.°56N×20.°25E, h7km, Md2.2/3*
THE 20 01:33:15.6, 39.°64N×20.°38E, h12km±2km, ML2.0/4, Error ellipse: s-maj=2.7km s-min=0.6km az=193.0, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SGD	**Sagiada**	**0.11**	**255**	P	Pg	01 33 17.8	-0.8
SGD	**Sagiada**	**0.11**	**255**	P	Pg	01 33 18.2	-0.4
SGD	**Sagiada**	**0.11**	**255**	P	Pg	01 33 18.1	-0.5
IGT	**Igoumenitsa**	**0.12**	**197**	P	Pg	01 33 18.4	-0.2
IGT				AML	AML	01 33 21.7	
	comp=N,3341μm,0.2s						
IGT				AML	AML	01 33 21.8	
	comp=E,3127μm,0.2s						
IGT				S	Sg	01 33 21.8	+0.9
IGT	**Igoumenitsa**	**0.12**	**197**	P	Pg	01 33 18.4	-0.3
IGT				S	Sg	01 33 21.3	+0.4
IGT	**Igoumenitsa**	**0.12**	**197**	P	Pg	01 33 18.5	-0.2
IGT				S	Sg	01 33 21.5	+0.6
JAN	**Janina**	**0.37**	**88**	P	Pg	01 33 23.4	+0.5
JAN				S	Sg	01 33 28.6	+0.7
JAN				AML	AML	01 33 30.7	
	comp=N,1034μm,0.3s						
JAN				AML	AML	01 33 32.3	
	comp=E,810μm,0.3s						
JAN	**Janina**	**0.37**	**88**	P	Pg	01 33 23.0	0.0
JAN				S	Sg	01 33 28.5	+0.6
JAN	**Janina**	**0.37**	**88**	P	Pg	01 33 23.0	0.0
JAN				S	Sg	01 33 28.5	+0.6
SRN	**Sarande**	**0.37**	**309**	P	Pg	01 33 22.4	-0.7
SRN				S	Sg	01 33 29.0	+0.9
SRN	**Sarande**	**0.37**	**309**	*i* Pg	Pg	01 33 22.5	-0.6
SRN				*i* Sg	Sb	01 33 29.1	-0.8
SRN	**Sarande**	**0.37**	**309**	*i* PG	Pg	01 33 22.6	-0.5
SRN				*i* SG	Sb	01 33 29.1	-0.9
KEK	**Kerkira**	**0.45**	**279**	P	Pg	01 33 24.4	-0.1
KEK				S	Sg	01 33 30.0	-0.5
KEK				AML	AML	01 33 31.8	
	comp=E,399μm,0.3s						
KEK				AML	AML	01 33 32.8	
	comp=N,502μm,0.4s						
KEK	**Kerkira**	**0.45**	**279**	P	Pg	01 33 24.0	-0.5
KEK				S	Sb	01 33 31.5	-0.7
KEK	**Kerkira**	**0.45**	**279**	P	Pg	01 33 24.0	-0.5
KEK				S	Sg	01 33 30.1	-0.4
DSL	**Palaion Diasel**	**0.76**	**132**	P	Pg	01 33 29.2	-1.0
DSL	**Palaion Diasel**	**0.76**	**132**	P	Pg	01 33 29.3	-0.9
KPRO	**Kipourio**	**0.82**	**67**	P	Pg	01 33 30.4	-1.1
KPRO				S	Sb	01 33 43.1	+0.2
KPRO				AML	AML	01 33 45.9	
	comp=E,216μm,0.5s						
KPRO				AML	AML	01 33 46.0	
	comp=N,190μm,0.6s						
KPRO	**Kipourio**	**0.82**	**67**	P	Pg	01 33 30.7	-0.8
KPRO	**Kipourio**	**0.82**	**67**	P	Pg	01 33 30.8	-0.7
KPRO				S	Sb	01 33 43.1	+0.2
LKD2	**Lefkada island**	**0.88**	**165**	P	Pg	01 33 31.1	-1.5
LKD2				S	Sg	01 33 43.8	-0.3
LKD2				AML	AML	01 33 50.3	
	comp=E,135μm,0.3s						
LKD2				AML	AML	01 33 55.2	
	comp=N,203μm,1.0s						
LKD2	**Lefkada island**	**0.88**	**165**	P	Pg	01 33 31.2	-1.4
LKD2				S	Sg	01 33 43.6	-0.5
NEST	**Nestorio**	**0.93**	**34**	P	Pg	01 33 33.5	0.0
NEST	**Nestorio**	**0.93**	**34**	P	Pg	01 33 32.9	-0.6
NEST	**Nestorio**	**0.93**	**34**	P	Pg	01 33 33.3	-0.2
FNA	**Florina**	**1.37**	**34**	P	Pn	01 33 40.2	-0.4
FNA	**Florina**	**1.37**	**34**	P	Pn	01 33 40.2	-0.4

*NIED **20** 01:34:00, 37.°50N×141.°40E, h65km, Mw4.0 Best double couple: Mo1.26000×10^15 NP1:φs194.00000°, δ24.00000°, λ82.00000°. NP2:φs22.00000°, δ67.00000°, λ93.00000°.*
*ISCJB **20** 01:34:06.7±0.8, 37.°48N±0.°04×141.°46E±0.°08, h55km±5km, mb3.9/21, Error ellipse: s-maj=11.4km s-min=6.2km az=23.4*
*JMA **20** 01:34:07.8, 37.°51N×141.°40E, h49km±1km, M3.9*
JMA Felt I J1.
*IDC **20** 01:34:11.9±2.4, 37.°45N×141.°25E, h86km±20km, mb3.6/21, mb1 3.7/24, mb1mx3.6/71, mbtmp3.9/24, MS2.7/3, Ms1 2.7/3, ms1mx2.4/62, Error ellipse: s-maj=17.4km s-min=13.1km az=89.0*
ISC 20 01:34:07.4±1.3, 37.°51N±0.°05×141.°48E±0.°08, h46km±11km, n46, σ1s24/48, mb4.0/21, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**0.50**	**254**	P	**Pn**	**01 34 18.2**	**-0.3**
JFK				S	**Sn**	**01 34 25.5**	**-0.9**
JMM	**Marumori**	**0.65**	**304**	P	**Pn**	**01 34 20.3**	**-0.1**
JMM				S	**Sn**	**01 34 29.1**	**-0.6**
ONAJ	**Iwakimizuishiy**	**0.68**	**234**	P	**Pn**	**01 34 20.3**	**-0.5**
ONAJ				S	**Sn**	**01 34 29.3**	**-1.1**
JFT	**Otama**	**0.91**	**271**	P	**Pn**	**01 34 24.0**	**+0.2**
JFT				S	**Sn**	**01 34 35.3**	**-0.5**
JIO	**Ouri**	**0.95**	**354**	P	**Pn**	**01 34 24.8**	**+0.4**
JIO				*e*S	**Sn**	**01 34 36.6**	**-0.3**
JOU	**Okura**	**1.07**	**323**	P	**Pn**	**01 34 25.9**	**-0.2**
JYS	**Shirataka**	**1.33**	**303**	P	**Pn**	**01 34 29.6**	**+0.1**
JYS				*e*S	**Sn**	**01 34 46.0**	**-0.1**
JFY	**Yanaizu**	**1.42**	**267**	P	**Pn**	**01 34 30.6**	**-0.2**
JFY				*e*S	**Sn**	**01 34 48.6**	**+0.4**
JMK	**Ichinoseki**	**1.46**	**352**	P	**Pn**	**01 34 31.7**	**+0.4**
JMK				*e*S	**Sn**	**01 34 49.3**	**+0.1**
JYK	**Kaneyama**	**1.66**	**328**	P	**Pn**	**01 34 34.5**	**+0.4**
JNS	**Sasagawa**	**1.74**	**281**	P	**Pn**	**01 34 35.3**	**+0.1**
MJAR	**Matsushiro Arr**	**2.79**	**251**	P	**Pn**	**01 34 50.2**	**+0.6**
	3.8nm,0.3s,baz=57,slow=7.1,SNR=28						
MJAR				LR	LR	01 36 10.5	
	comp=Z,167nm,19.6s,baz=70,slow=46						
MAT	**Matsushiro**	**2.79**	**251**	P	**Pn**	**01 34 50.4**	**+0.8**
MAT				S	**Sn**	**01 35 25.9**	**+3.9**
JNU	**Nakatsue**	**9.70**	**246**	LR	LR	01 39 46.4	
	comp=Z,26nm,18.1s,baz=276,slow=35						
USRK	**Ussuriysk Ar.**	**9.81**	**316**	P	**Pn**	**01 36 29.3**	**+3.5**
	0.5nm,0.3s,baz=128,slow=14,SNR=15						
USRK				LR	LR	01 39 59.0	
	comp=Z,66nm,21.5s,baz=174,slow=36						
KSRS	**Korea Array**	**10.78**	**274**	P	**Pn**	**01 36 43.0**	**+3.9**
	0.3nm,0.3s,baz=87,slow=13,SNR=8.7						
KLR	**Kul'dur**	**13.68**	**332**	P	**P**	**01 37 23.6**	**-2.6**
	0.0nm,0.3s,baz=135,slow=13,SNR=7.4						
SEY	**Seymchan**	**26.32**	**11**	P	**P**	**01 39 40.6**	**+2.0**
	1.7nm,0.7s,baz=195,slow=9.2,SNR=5.8						
SONM	**Songino Array**	**27.57**	**303**	P	**P**	**01 39 49.3**	**-0.8**
	1.4nm,0.5s,baz=104,slow=8.8,SNR=13						
H11N2	**WAKE ISLAND Hy**	**28.35**	**122**	T	T	02 10 10.9	
	baz=315,slow=75,SNR=45						
H11N1	**WAKE ISLAND Hy**	**28.36**	**122**	T	T	02 10 12.6	
	baz=315,slow=75,SNR=33						
H11N3	**WAKE ISLAND Hy**	**28.36**	**122**	T	T	02 10 14.1	
	baz=315,slow=75,SNR=47						
H11S1	**WAKE ISLAND Hy**	**29.07**	**124**	T	T	02 11 13.2	
	baz=317,slow=76,SNR=14						
H11S3	**WAKE ISLAND Hy**	**29.07**	**124**	T	T	02 11 16.7	
	baz=317,slow=76,SNR=20						
H11S2	**WAKE ISLAND Hy**	**29.09**	**124**	T	T	02 11 18.2	
	baz=317,slow=76,SNR=11						
ZALV	**Zalesovo Beam**	**41.64**	**312**	P	**P**	**01 41 50.6**	**-0.3**
	2.4nm,0.7s,baz=86,slow=6.3,SNR=9.3						
MKAR	**Makanchi Array**	**43.91**	**302**	P	**P**	**01 42 09.3**	**-0.3**
	3.1nm,0.9s,baz=89,slow=9.6,SNR=26						
KURBB	**Kurchatov Arra**	**45.75**	**308**	P	**P**	**01 42 23.4**	**-0.7**
	4.1nm,0.7s,baz=84,slow=8.2,SNR=22						
ILAR	**Eielson Array**	**49.07**	**33**	P	**P**	**01 42 50.4**	**+0.7**
	0.6nm,0.8s,baz=267,slow=6.4,SNR=8.5						
BVAR	**Borovoye Array**	**50.30**	**312**	P	**P**	**01 42 58.4**	**-0.7**
	0.8nm,0.5s,baz=63,slow=8.5,SNR=6.0						
AAK	**Ala-Archa**	**50.31**	**298**	P	**P**	**01 42 59.2**	**-0.4**
	3.5nm,0.7s,baz=14,slow=1.5,SNR=4.3						
INK	**Inuvik**	**53.95**	**27**	P	**P**	**01 43 27.3**	**+1.3**

H01W1	**Cape Leeuwin H**	**43.19**	**150**	T	T		02 30 46.9	
	baz=324,slow=75,SNR=9.6							
MKAR	**Makanchi Array**	**45.23**	**353**	P	**P**		**01 44 51.6**	**+0.1**
	0.5nm,0.6s,baz=164,slow=8.8,SNR=5.0							
SONM	**Songino Array**	**48.08**	**15**	P	**P**		**01 45 14.3**	**+0.4**
	1.6nm,0.6s,baz=195,slow=9.9,SNR=13							
WRA	**Warramunga Arr**	**48.94**	**119**	P	**P**		**01 45 21.8**	**+0.8**
	0.7nm,0.6s,baz=296,slow=8.6,SNR=7.5							
WRAB	**Tennant Creek**	**48.95**	**119**	*e*P	**P**		**01 45 20.4**	**-0.6**
	4.7nm,1.0s							
KURBB	**Kurchatov Arra**	**49.51**	**351**	P	**P**		**01 45 24.5**	**-0.1**
	0.8nm,0.6s,baz=176,slow=7.1,SNR=7.9							
KURK	**Kurchatov**	**49.58**	**351**	*e*P	**P**		**01 45 24.8**	**-0.5**
ASAR	**Alice Springs**	**49.99**	**123**	P	**P**		**01 45 28.6**	**-0.3**
	0.5nm,0.6s,baz=288,slow=8.0,SNR=4.5							
ZALV	**Zalesovo Beam**	**52.09**	**356**	P	**P**		**01 45 43.8**	**-0.3**
	0.6nm,0.4s,baz=145,slow=5.4,SNR=3.9							
BRTR	**Keskin Array B**	**63.13**	**314**	P	**P**		**01 47 02.0**	**-0.3**
	0.6nm,0.6s,baz=130,slow=7.0,SNR=5.7							
GERES	**GERESS Array B**	**79.34**	**319**	P	**P**		**01 48 40.3**	**+0.1**
	0.9nm,0.7s,baz=103,slow=5.8,SNR=9.1							
ARCES	**ARCESS Array B**	**79.43**	**341**	P	**P**		**01 48 40.0**	**-0.2**
	2.5nm,0.9s,baz=150,slow=2.0,SNR=2.5							
TXAR	**Lajitas Array**	**146.51**	**21**	PKPbc	**PKPbc**		**01 56 15.9**	**-0.6**
	0.5nm,0.7s,baz=257,slow=1.5,SNR=8.4							

*IDC **20** 01:48:36.9±1.4, 32°.30N×46°.80E, h0km, mb3.9/16, mb1 3.9/22, mb1mx3.7/62, mbtmp3.9/22, ML3.6/6, MS3.4/11, Ms1 3.4/11, ms1mx3.1/64, Error ellipse: s-maj=28.5km s-min=15.0km az=174.0*
*ISN **20** 01:48:37.6±1.1, 32°.48N×47°.05E, h0km±3km, ML4.1*
*TEH **20** 01:48:38.3, 32°.48N×47°.00E, h10km, ML4.1*
*NEIC **20** 01:48:39.6±0.4, 32°.42N×46°.96E, h10km, mb4.1/14, ML4.0(THR), MN4.1(TEH), Error ellipse: s-maj=6.9km s-min=4.9km az=184.0*
*CSEM **20** 01:48:40.2±0.1, 32°.46N×47°.01E, h10km, mb4.2/11, Error ellipse: s-maj=5.3km s-min=3.9km az=34.0*
*THR **20** 01:48:42.9±0.9, 32°.60N×47°.15E, h33km±7km, ML4.0*
*OMAN **20** 01:48:44.8±0.3, 32°.12N×47°.02E, h34km, Error ellipse: s-maj=34.2km s-min=12.2km az=33.0*
*DSN **20** 01:49:09.3±0.5, 31°.10N×48°.73E, h34km, mb5.0/1, ML4.3/4, Error ellipse: s-maj=14.2km s-min=4.5km az=59.0*

ISC 20 01:48:40.9±0.4, 32°.43N±0°.03×47°.01E±0°.03, h21km±3km, n166, σ1§48/175, mb4.0/26, MS3.4/6, 2C-8D, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
IKFM	**Kafar-mosalman**	**1.30**	**33**	*e*AMB		AMB	01 49 28.9	
	comp=Z,99nm,0.3s							
IKFM				*e*Pg		**Pn**	**01 49 03.2**	**-0.6**
SHGR	**Shooshtar-Gavs**	**1.55**	**101**	Pg		**Pb**	**01 49 09.0**	**+0.1**
SHGR	**Shooshtar-Gavs**	**1.55**	**101**	Pg		**Pb**	**01 49 09.0**	**+0.1**
SHGR	**Shooshtar-Gavs**	**1.55**	**101**	*e*Pg		**Pb**	**01 49 09.9**	**+1.1**
SHGR				AML		AML	01 49 37.5	
	comp=E,4μm,0.6s							
SHGR				AML		AML	01 49 37.6	
	comp=N,3μm,0.5s							
NSR	**Nassriya**	**1.60**	**208**	*e*Pn		**Pb**	**01 49 09.0**	**-0.7**
	SNR=4.0							
NSR				*i* Sn		**Sb**	**01 49 32.0**	**+2.6**
	SNR=4.0							
IKOM	**Komasi**	**1.79**	**13**	*e*Pn		**Pn**	**01 49 11.1**	**+0.4**
IKOM				*e*Sg		**Sb**	**01 49 37.4**	**+2.3**
IKOM				*e*AMB		AMB	01 49 39.1	
	comp=Z,30μm,0.2s							
IKOM	**Komasi**	**1.79**	**13**	Pn		**Pn**	**01 49 11.1**	**+0.4**
IKOM				Sg		**Sb**	**01 49 37.3**	**+2.2**
IKOM	**Komasi**	**1.79**	**13**	*e*Pn		**Pn**	**01 49 11.1**	**+0.4**
IKOM				Sg		**Sb**	**01 49 37.3**	**+2.2**
IGHG	**Ghaleghazi**	**1.93**	**349**	*e*Pn		**Pn**	**01 49 14.0**	**+1.3**
IGHG				*e*AMB		AMB	01 49 57.8	
	comp=Z,18μm,0.3s							
IGHG	**Ghaleghazi**	**1.93**	**349**	Pn		**Pn**	**01 49 14.0**	**+1.3**
IGHG	**Ghaleghazi**	**1.93**	**349**	*e*Pn		**Pn**	**01 49 14.0**	**+1.3**
IVIS	**Veis**	**2.10**	**356**	*e*Pn		**Pn**	**01 49 15.7**	**+0.8**
IVIS				*e*AMB		AMB	01 49 51.6	
	comp=Z,11μm,0.2s							
IVIS	**Veis**	**2.10**	**356**	Pn		**Pn**	**01 49 15.7**	**+0.8**
IVIS	**Veis**	**2.10**	**356**	*e*Pn		**Pn**	**01 49 15.7**	**+0.8**
BHD	**Baghdad**	**2.37**	**291**	*e*Pn		**Pn**	**01 49 20.0**	**+1.5**
	SNR=4.0							
BHD				*i* Sn		**Sb**	**01 49 51.0**	**-0.6**
	SNR=4.0							
ILIN	**Lien**	**2.48**	**359**	*e*Pn		**Pn**	**01 49 21.6**	**+1.3**
ILIN				*e*AMB		AMB	01 50 08.0	
	comp=Z,7μm,0.4s							
ILIN	**Lien**	**2.48**	**359**	Pn		**Pn**	**01 49 21.6**	**+1.3**
ILIN	**Lien**	**2.48**	**359**	*e*Pn		**Pn**	**01 49 21.6**	**+1.3**
SNGE	**Sanandaj**	**2.67**	**6**	Pn		**Pn**	**01 49 23.0**	**+0.1**
SNGE				Sg		**Sb**	**01 49 59.0**	**-1.5**
SNGE	**Sanandaj**	**2.67**	**6**	*e*Pn		**Pn**	**01 49 23.3**	**+0.4**
SNGE	**Sanandaj**	**2.67**	**6**	*e*Pn		**Pn**	**01 49 23.3**	**+0.4**
SNGE				*e*Sg		**Sb**	**01 49 59.6**	**-0.9**
SNGE				*e*AML		AML	01 50 10.7	
	comp=E,562nm,0.6s							
KHMZ	**Khomeyn**	**2.80**	**61**	Pn		**Pn**	**01 49 25.0**	**+0.4**
KHMZ				Sg		**Sb**	**01 50 03.0**	**-1.2**
KHMZ	**Khomeyn**	**2.80**	**61**	*e*Pn		**Pn**	**01 49 25.4**	**+0.8**
KHMZ				*e*Sg		**Sb**	**01 50 03.0**	**-1.2**
KHMZ	**Khomeyn**	**2.80**	**61**	*e*Pn		**Pn**	**01 49 25.4**	**+0.8**
KHMZ				*e*Sg		**Sb**	**01 50 03.0**	**-1.2**
KHMZ				*e*AML		AML	01 50 16.2	
	comp=E,322nm,0.6s							
HAGD	**Aghdareh**	**2.97**	**36**	*e*Pn		**Pn**	**01 49 28.4**	**+1.3**
HAGD				*e*AMB		AMB	01 50 12.3	
	comp=Z,99nm,0.2s							
HAGD	**Aghdareh**	**2.97**	**36**	*e*Pn		**Pn**	**01 49 28.4**	**+1.3**
ASAO	**Ashtian**	**3.29**	**49**	Pn		**Pn**	**01 49 31.0**	**-0.4**
ASAO	**Ashtian**	**3.29**	**49**	*e*Pn		**Pn**	**01 49 32.0**	**+0.6**
ASAO	**Ashtian**	**3.29**	**49**	*e*Pn		**Pn**	**01 49 32.0**	**+0.6**
IPIR	**Pirpir**	**3.29**	**85**	*e*Pn		**Pn**	**01 49 33.4**	**+2.0**
IPIR				*e*AMB		AMB	01 50 17.9	
	comp=Z,6μm,0.2s							
IPIR	**Pirpir**	**3.29**	**85**	Pn		**Pn**	**01 49 33.3**	**+1.9**
IPIR	**Pirpir**	**3.29**	**85**	Pn		**Pn**	**01 49 33.3**	**+1.9**
HKZM	**Kohzaman**	**3.33**	**28**	*e*Pn		**Pn**	**01 49 33.0**	**+0.9**
HKZM				*e*AMB		AMB	01 50 20.2	
	comp=Z,99nm,0.4s							
HKZM	**Kohzaman**	**3.33**	**28**	*e*Pn		**Pn**	**01 49 33.0**	**+0.9**
IKLH	**Kolahrood**	**3.94**	**76**	*e*Pn		**Pn**	**01 49 42.2**	**+1.8**
IKLH				*e*AMB		AMB	01 51 03.2	
	comp=Z,2μm,0.3s							
IKLH	**Kolahrood**	**3.94**	**76**	*e*Pn		**Pn**	**01 49 42.2**	**+1.8**
QAM	**Ghamsar**	**3.95**	**69**	*e*Pn		**Pn**	**01 49 42.7**	**+2.3**
QAM				*e*AMB		AMB	01 50 44.6	
	comp=Z,4μm,0.2s							
IR5	**Iran Long-Peri**	**4.07**	**46**	*e*Pn		**Pn**	**01 49 44.4**	**+2.4**
IR5				*e*AMB		AMB	01 50 57.3	
	comp=E,1μm,0.3s							
IR5	**Iran Long-Peri**	**4.07**	**46**	*e*Pn		**Pn**	**01 49 44.4**	**+2.4**
GHVR	**GHOM**	**4.12**	**59**	Pn		**Pn**	**01 49 43.0**	**+0.3**
GHVR	**GHOM**	**4.12**	**59**	*e*Pn		**Pn**	**01 49 43.2**	**+0.5**
GHVR	**GHOM**	**4.12**	**59**	*e*Pn		**Pn**	**01 49 43.2**	**+0.5**
IGAR	**Gharneh**	**4.25**	**89**	*e*Pn		**Pn**	**01 49 46.6**	**+1.9**
IGAR				*e*AMB		AMB	01 50 40.7	
	comp=Z,3μm,0.2s							
IMHD	**Mahdasht**	**4.44**	**42**	*e*Pn		**Pn**	**01 49 48.4**	**+1.2**
IMHD				*e*AMB		AMB	01 51 15.6	
	comp=Z,832nm,0.3s							
IMHD	**Mahdasht**	**4.44**	**42**	Pn		**Pn**	**01 49 48.4**	**+1.2**
IMHD	**Mahdasht**	**4.44**	**42**	*e*Pn		**Pn**	**01 49 48.4**	**+1.2**
IZEF	**Zefreh**	**4.51**	**83**	*e*Pn		**Pn**	**01 49 50.0**	**+1.8**
IZEF				*e*AMB		AMB	01 51 20.4	
	comp=Z,965nm,0.3s							
IZEF	**Zefreh**	**4.51**	**83**	Pn		**Pn**	**01 49 50.0**	**+1.8**
IZEF	**Zefreh**	**4.51**	**83**	*e*Pn		**Pn**	**01 49 50.0**	**+1.8**
IRAM	**Ramesheh**	**4.60**	**96**	*e*Pn		**Pn**	**01 49 51.3**	**+1.9**
IRAM				*e*AMB		AMB	01 51 24.0	
	comp=Z,1μm,0.3s							
IRAM	**Ramesheh**	**4.60**	**96**	Pn		**Pn**	**01 49 51.3**	**+1.9**
IRAM	**Ramesheh**	**4.60**	**96**	*e*Pn		**Pn**	**01 49 51.3**	**+1.9**
IVRN	**Varamin**	**4.69**	**56**	*e*Pn		**Pn**	**01 49 51.8**	**+1.3**
IVRN				*e*AMB		AMB	01 50 49.7	
	comp=Z,1μm,0.2s							
IVRN	**Varamin**	**4.69**	**56**	Pn		**Pn**	**01 49 51.8**	**+1.3**
IVRN	**Varamin**	**4.69**	**56**	*e*Pn		**Pn**	**01 49 51.8**	**+1.3**
IGZV	**Ghazvin**	**4.75**	**33**	*e*Pn		**Pn**	**01 49 51.8**	**+0.3**
IGZV				*e*AMB		AMB	01 50 16.8	
	comp=Z,822nm,0.3s							
IGZV	**Ghazvin**	**4.75**	**33**	*e*Pn		**Pn**	**01 49 51.8**	**+0.3**

IKAZ	**Kazeroun**	**4.91**	**121**	*e*Pn		**Pn**	**01 49 55.4**	**+1.6**
IKAZ				*e*AMB		AMB	01 51 00.4	
	comp=Z,4μm,0.2s							
IKAZ	**Kazeroun**	**4.91**	**121**	*e*Pn		**Pn**	**01 49 55.4**	**+1.6**
AHBU	**AHRAM**	**5.12**	**133**	*e*Pn		**Pn**	**01 49 59.4**	**+3.0**
IDMV	**Damavand**	**5.22**	**52**	*e*AMB		AMB	01 50 25.0	
	comp=Z,833nm,0.4s							
RTB	**Rutbah**	**5.68**	**278**	*e*Pn		**Pn**	**01 50 05.5**	**+1.4**
	SNR=4.0							
IFIR	**Firoozkooh**	**5.74**	**55**	*e*AMB		AMB	01 50 15.9	
	comp=Z,403nm,0.1s							
IFIR				*e*Pn		**Pn**	**01 50 06.2**	**+1.0**
IPAR	**Pars**	**5.78**	**115**	*e*Pn		**Pn**	**01 50 08.3**	**+2.5**
IPAR				*e*AMB		AMB	01 51 36.5	
	comp=Z,857nm,0.4s							
IPAR	**Pars**	**5.78**	**115**	*e*Pn		**Pn**	**01 50 08.3**	**+2.5**
ISRV	**Sarvestan**	**6.06**	**118**	*e*Pn		**Pn**	**01 50 11.7**	**+2.1**
ISRV				*e*AMB		AMB	01 52 46.7	
	comp=Z,3μm,0.7s							
ISRV	**Sarvestan**	**6.06**	**118**	*e*Pn		**Pn**	**01 50 11.7**	**+2.1**
GNI	**Garni**	**7.92**	**347**	*e*Pn		**Pn**	**01 50 32.6**	**-2.3**
ASF	**Jabal al Asfar**	**8.57**	**271**	Pn		**Pn**	**01 50 41.2**	**-2.6**
	comp=Z,0.5nm,0.3s,baz=5.4,slow=5.4,SNR=6.0							
ASF				Lg		Lg	01 53 14.6	
	comp=Z,1.1nm,0.3s,baz=66,slow=20,SNR=2.9							
RAYN	**Ar Rayn**	**8.97**	**189**	*e*Pn		**Pn**	**01 50 49.0**	**-0.3**
RAYN	**Ar Rayn**	**8.97**	**189**	*e*Pn		**Pn**	**01 50 49.0**	**-0.3**
MMAI	**Mount Meron Ar**	**9.80**	**277**	Pn		**Pn**	**01 51 02.4**	**+1.8**
	comp=Z,0.4nm,0.3s,baz=91,slow=15,SNR=3.4							
MMAI				Lg		Lg	01 53 49.8	
	comp=Z,0.9nm,0.3s,baz=112,slow=41,SNR=3.1							
MMAI				LR		LR	01 55 51.1	
	comp=Z,157nm,18.8s,baz=245,slow=45							
SHME	**Shamm**	**10.20**	**126**	P		**Pn**	**01 51 05.9**	**-0.2**
BANOM	**Banah**	**10.38**	**126**	P		**Pn**	**01 51 08.5**	**-0.2**
	SNR=14							
BANOM	**Banah**	**10.38**	**126**	*i* P		**Pn**	**01 51 08.5**	**-0.2**
	SNR=14							
NAZ	**Nazwa, Dubai**	**10.61**	**132**	P		**Pn**	**01 51 12.4**	**+0.7**
	SNR=8.5							
NAZ	**Nazwa, Dubai**	**10.61**	**132**	*i* P		**Pn**	**01 51 12.4**	**+0.7**
	SNR=8.5							
GEYT	**Alibeck**	**10.61**	**56**	Pn		**Pn**	**01 51 13.3**	**+1.6**
	comp=Z,0.3nm,0.3s,baz=271,slow=12,SNR=3.5							
MSFE	**Esma-Masafi**	**10.67**	**129**	P		**Pn**	**01 51 13.2**	**+0.7**
MSFE	**Esma-Masafi**	**10.67**	**129**	P		**Pn**	**01 51 12.6**	**+0.1**
EIL	**Elat**	**10.70**	**258**	Pn		**Pn**	**01 51 11.5**	**-1.5**
	comp=Z,0.5nm,0.3s,baz=108,slow=6.6,SNR=4.9							
EIL				Lg		Lg	01 54 23.6	
	comp=Z,0.5nm,0.3s,baz=288,slow=20,SNR=3.4							
EIL				LR		LR	01 56 12.3	
	comp=Z,198nm,19.7s,baz=61,slow=43							
UOSS	**Minazif**	**10.98**	**130**	*e*Pn		**Pn**	**01 51 17.5**	**+0.7**
UOSS				*e*Sn		**Sn**	**01 53 18.3**	**-0.8**
UOSS	**Minazif**	**10.98**	**130**	P		**Pn**	**01 51 15.9**	**-0.9**
UOSS				S		**Sn**	**01 53 15.4**	**-3.7**
UOSS	**Minazif**	**10.98**	**130**	P		**Pn**	**01 51 17.0**	**+0.1**
UOSS	**Minazif**	**10.98**	**130**	*e*Pn		**Pn**	**01 51 17.5**	**+0.7**
UOSS				*e*Sn		**Sn**	**01 53 18.3**	**-0.8**
UOSS	**Minazif**	**10.98**	**130**	P		**Pn**	**01 51 17.0**	**+0.1**
MZR	**Muzera**	**11.00**	**147**	P		**Pn**	**01 51 18.6**	**+1.5**
HATD	**Hatta, Dubai**	**11.02**	**131**	P		**Pn**	**01 51 17.9**	**+0.5**
HATD	**Hatta, Dubai**	**11.02**	**131**	P		**Pn**	**01 51 17.9**	**+0.5**
ASHO	**Ashiyiah**	**11.08**	**132**	P		**Pn**	**01 51 18.6**	**+0.4**
ASHO				S		**Sn**	**01 53 19.8**	**-1.7**
ASHO	**Ashiyiah**	**11.08**	**132**	P		**Pn**	**01 51 19.1**	**+1.0**
	SNR=4							
ASHO	**Ashiyiah**	**11.08**	**132**	*i* P		**Pn**	**01 51 19.1**	**+1.0**
	SNR=8.4							
ALNE	**Al Ain**	**11.35**	**135**	*i* P		**Pn**	**01 51 22.8**	**+0.9**
	SNR=8.9							
KVAR	**Kislovodsk Arr**	**11.99**	**345**	LR		LR	01 56 24.6	
	comp=Z,95nm,19.6s,baz=204,slow=39							
BRTR	**Keskin Array B**	**13.03**	**308**	Pn		**Pn**	**01 51 45.6**	**+0.8**
	comp=Z,0.0nm,0.3s,baz=148,slow=15,SNR=2.7							
WSAR	**Wadi Sarin**	**13.76**	**129**	Pn		**Pn**	**01 51 53.4**	**-1.3**
	comp=Z,1.6nm,0.3s,baz=319,slow=7.4,SNR=6.9							
WSAR				Sn		**Sn**	**01 54 21.8**	**-5.2**
	comp=Z,1.5nm,0.3s,baz=128,slow=19,SNR=5.6							
WSAR				LR		LR	01 58 04.6	
	comp=Z,184nm,18.4s,baz=298,slow=41							
SHAO	**Shalim**	**16.31**	**150**	PKKPdf		**P**	**01 52 31.4**	**-0.2**
	SNR=7.8							
SHAO	**Shalim**	**16.31**	**150**	P		**P**	**01 52 31.3**	**-0.3**
	SNR=7.8							
SHAO	**Shalim**	**16.31**	**150**	*i* P		**P**	**01 52 31.3**	**-0.3**
	SNR=7.8							
IDI	**Anoyia**	**18.59**	**285**	P		**P**	**01 52 52.5**	**-4.2**
	comp=Z,0.2nm,0.3s,baz=79,slow=16,SNR=2.2							
IDI	**Anoyia**	**18.59**	**285**	*e*P		**Pn**	**01 52 58.3**	**+1.3**
	comp=Z,8.9nm,0.8s							
IDI	**Anoyia**	**18.59**	**285**	*e*P		**Pn**	**01 52 58.3**	**+1.3**
	comp=Z,8.9nm,0.8s							
TIRR	**Tirgusor**	**18.83**	**315**	*e*P		**P**	**01 52 59.2**	**0.0**
	comp=Z,5.2nm,0.8s							
TIRR	**Tirgusor**	**18.83**	**315**	*e*P		**P**	**01 52 59.2**	**0.0**
	comp=Z,5.2nm,0.8s							
ABKAR	**Akbulak array**	**19.40**	**26**	*e*P		**P**	**01 53 05.5**	**+0.1**
ABKAR	**Akbulak array**	**19.40**	**26**	*e*P		**P**	**01 53 05.5**	**+0.1**
AKTO	**Aktyubinsk**	**19.75**	**21**	P		**P**	**01 53 09.1**	**-0.2**
	comp=Z,0.5nm,0.3s,baz=178,slow=9.4,SNR=6.3							
AKTO				LR		LR	02 03 06.4	
	comp=Z,100nm,18.4s,baz=217,slow=44							
MLR	**Muntele Rosu**	**20.86**	**315**	P		**P**	**01 53 21.7**	**+0.2**
	comp=Z,0.3nm,0.6s,baz=151,slow=19,SNR=2.7							
MLR	**Muntele Rosu**	**20.86**	**315**	*i* P		Pn	01 53 25.6	+1.6
TESR	**Tescani**	**21.01**	**318**	*i* P		**P**	**01 53 23.0**	**0.0**
TESR	**Tescani**	**21.01**	**318**	*i* P		**P**	**01 53 23.0**	**0.0**
ATD	**Arta Tunnel**	**21.15**	**191**	LR		LR	02 01 41.1	
	comp=Z,99nm,18.2s,baz=32,slow=37							
KK31	**Karatay Array**	**21.35**	**53**	*e*P		**P**	**01 53 28.3**	**+1.6**
KK31	**Karatay Array**	**21.35**	**53**	*e*P		**P**	**01 53 28.3**	**+1.6**
KKAR	**Karatay Array**	**21.35**	**53**	*e*P		**P**	**01 53 27.5**	**+0.8**
	comp=Z,4.4nm,0.7s							
KKAR	**Karatay Array**	**21.35**	**53**	*e*P		**P**	**01 53 27.5**	**+0.8**
	comp=Z,4.4nm,0.7s							
VOIR		**21.38**	**314**	*i* P		**P**	**01 53 26.8**	**-0.2**
VOIR		**21.38**	**314**	*i* P		**P**	**01 53 26.8**	**-0.2**
ARR	**Arges**	**21.60**	**313**	*i* P		**P**	**01 53 31.9**	**+2.5**
ARR	**Arges**	**21.60**	**313**	*i* P		**P**	**01 53 31.9**	**+2.5**
NIL	**Nilore**	**22.02**	**80**	*e*P		**P**	**01 53 34.8**	**+0.9**
	comp=Z,8.8nm,0.9s							
NIL	**Nilore**	**22.02**	**80**	*e*P		**P**	**01 53 34.8**	**+0.9**
	comp=Z,8.8nm,0.9s							
BURAR	**Bucovina Array**	**22.44**	**319**	*i* P		**P**	**01 53 42.0**	**+3.6**
BUR04	**Bucovina Ar. S**	**22.45**	**319**	*e*P		**P**	**01 53 40.5**	**+2.0**
BUR04	**Bucovina Ar. S**	**22.45**	**319**	*e*P		**P**	**01 53 40.5**	**+2.0**
BUR08	**Bucovina Ar. S**	**22.47**	**319**	*e*P		**P**	**01 53 41.9**	**+3.2**
AKASG	**Malin Array Be**	**22.49**	**329**	P		**P**	**01 53 37.0**	**-1.7**
	comp=Z,0.8nm,0.5s,baz=133,slow=11,SNR=4.0							
KIEV	**Kiev**	**22.49**	**329**	*e*P		**P**	**01 53 39.0**	**+0.2**
	comp=Z,4.0nm,0.8s							
DRGR		**23.46**	**315**	*i* P		**P**	**01 53 48.5**	**-0.4**
DRGR		**23.46**	**315**	*i* P		**P**	**01 53 48.5**	**-0.4**
AAK	**Ala-Archa**	**23.96**	**57**	P		**P**	**01 53 56.0**	**+2.1**
	comp=Z,0.9nm,0.5s,baz=195,slow=14,SNR=4.6							
AAK	**Ala-Archa**	**23.96**	**57**	*e*P		**P**	**01 53 52.7**	**-1.2**
	comp=Z,3.0nm,0.9s							
AAK	**Ala-Archa**	**23.96**	**57**	*e*P		**P**	**01 53 52.7**	**-1.2**
	comp=Z,3.0nm,0.9s							
ARU	**Arti**	**25.30**	**15**	P		**P**	**01 54 06.5**	**+0.7**
	comp=Z,1.8nm,0.3s,baz=260,slow=6.0,SNR=4.3							
ARU	**Arti**	**25.30**	**15**	*e*P		**P**	**01 54 06.2**	**+0.5**
	comp=Z,8.4nm,1.2s							
TIP	**Timpagrande**	**25.37**	**294**	*e*P		**P**	**01 54 07.7**	**+1.1**
	comp=Z,11nm,0.7s							
TIP	**Timpagrande**	**25.37**	**294**	*e*P		**P**	**01 54 07.7**	**+1.1**
	comp=Z,11nm,0.7s							
KDJ	**Kajisay**	**25.77**	**59**	*e*P		**P**	**01 54 13.5**	**+3.1**
	comp=Z,13nm,1.4s							
BRVK	**Borovoye**	**26.57**	**32**	*e*P		**P**	**01 54 15.7**	**-1.5**
	comp=Z,3.0nm,0.8s							
BRVK	**Borovoye**	**26.57**	**32**	*e*P		**P**	**01 54 15.7**	**-1.5**
	comp=Z,3.0nm,0.8s							
BVAR	**Borovoye Array**	**26.59**	**32**	P		**P**	**01 54 18.3**	**+0.8**
	comp=Z,0.9nm,0.3s,baz=231,slow=8.4,SNR=11							
BVAR				LR		LR	02 07 17.1	
	comp=Z,110nm,21.6s,baz=196,slow=42							
KURBB	**Kurchatov Arra**	**29.47**	**43**	P		**P**	**01 54 45.1**	**+1.9**
	comp=Z,1.2nm,0.8s,baz=247,slow=9.6,SNR=5.5							
KURK	**Kurchatov**	**29.56**	**42**	*e*P		**P**	**01 54 42.0**	**-2.0**
	comp=Z,3.2nm,1.1s							
KURK	**Kurchatov**	**29.56**	**42**	*e*P		**P**	**01 54 42.0**	**-2.0**
	comp=Z,3.2nm,1.1s							
MK01	**Makanchi Array**	**30.45**	**52**	*e*P		**P**	**01 54 52.9**	**+0.9**
MK01	**Makanchi Array**	**30.45**	**52**	*e*P		**P**	**01 54 52.8**	**+0.9**

MK31	**Makanchi Array**	**30.45**	**52**	*e*P		**P**	**01 54 53.2**	**+1.3**
MK31	**Makanchi Array**	**30.45**	**52**	*e*P		**P**	**01 54 53.2**	**+1.3**
MKAR	**Makanchi Array**	**30.45**	**52**	P		**P**	**01 54 53.1**	**+1.2**
	comp=Z,1.8nm,0.9s,baz=250,slow=7.4,SNR=12							
MKAR				LR		LR	02 09 08.3	
	comp=Z,74nm,18.5s,baz=234,slow=40							
MKAR	**Makanchi Array**	**30.45**	**52**	*e*P		**P**	**01 54 53.2**	**+1.2**
	comp=Z,9.3nm,0.6s							
MKAR	**Makanchi Array**	**30.45**	**52**	*e*P		**P**	**01 54 53.2**	**+1.2**
	comp=Z,9.3nm,0.6s							
FINES	**FINESS Array B**	**32.05**	**341**	P		**P**	**01 55 04.9**	**-0.9**
	comp=Z,1.4nm,0.8s,baz=134,slow=11,SNR=8.4							
BNI	**Bardonecchia**	**33.55**	**304**	*e*P		**P**	**01 55 18.9**	**-0.4**
	comp=Z,4.6nm,0.8s							
ZALV	**Zalesovo Beam**	**34.37**	**40**	P		**P**	**01 55 26.1**	**-0.1**
	comp=Z,1.2nm,0.6s,baz=252,slow=7.6,SNR=5.4							
ZALV				LR		LR	02 12 50.7	
	comp=Z,69nm,18.9s,baz=250,slow=42							
HFS	**Hagfors**	**35.34**	**332**	P		**P**	**01 55 34.1**	**-0.3**
	comp=Z,1.8nm,0.5s,baz=123,slow=10,SNR=13							
TAM	**Tamanrasset**	**37.80**	**266**	*e*P		**P**	**01 55 57.7**	**+1.6**
	comp=Z,3.8nm,1.2s							
ARCES	**ARCESS Array B**	**39.08**	**348**	P		**P**	**01 56 05.7**	**-0.3**
	comp=Z,3.7nm,1.1s,baz=156,slow=9.4,SNR=5.4							
EKA	**Eskdalemuir Ar**	**41.63**	**319**	P		**P**	**01 56 26.9**	**-0.4**
	comp=Z,0.3nm,0.4s,baz=103,slow=8.1,SNR=5.1							
TLY	**Talaya**	**44.99**	**47**	LR		LR	02 18 41.2	
	comp=Z,71nm,18.6s,baz=288,slow=40							
SPITS	**Spitsbergen Ar**	**47.76**	**352**	P		**P**	**01 57 16.3**	**+0.4**
	comp=Z,7.6nm,1.0s,baz=140,slow=7.6,SNR=6.3							
CD2	**Chengdu**	**47.83**	**76**	*e*P		**P**	**01 57 17.5**	**+0.3**
CD2				pmax		pmax		
	comp=Z,10.0nm,0.5s							
KOWA	**Kowa**	**49.62**	**261**	P		**P**	**01 57 28.2**	**-2.8**
	comp=Z,1.9nm,0.6s,baz=55,slow=13,SNR=9.3							
DBIC	**Dimbokro**	**54.53**	**254**	LR		LR	02 23 23.9	
	comp=Z,60nm,18.9s,baz=36,sl

KULA	**Kula-Manisa**	**0.97**	**53**	*e*Pg	Pg	01 52 02.8	+0.1	
ZEY	**˙zmir**	**0.97**	**288**	*i* P	Pg	01 52 01.6	-1.2	
ZEY				*i* S	Sg	01 52 15.9	+0.5	
TAVA	**DENIZLI_Tavas**	**1.09**	**115**	*i* P	Pg	01 52 04.6	-0.4	
TAVA				*i* S	Sn	01 52 23.3	+1.7	
TAVA	**DENIZLI_Tavas**	**1.09**	**115**	P	Pg	01 52 04.6	-0.4	
TAVA				S	Sn	01 52 23.3	+1.6	
DKL	**Dikili**	**1.28**	**332**	PN	Pb	01 52 09.1	+0.3	
DKL	**Dikili**	**1.28**	**332**	*e*Pn	Pb	01 52 09.1	+0.3	
TURN	**Turunc**	**1.29**	**145**	PN	Pn	01 52 08.3	-0.5	
TURN	**Turunc**	**1.29**	**145**	*i* P	Pn	01 52 07.1	-1.7	
TURN				*i* S	Sn	01 52 27.1	+0.6	
TURN	**Turunc**	**1.29**	**145**	P	Pn	01 52 07.1	-1.7	
TURN	**Turunc**	**1.29**	**145**	*e*Pn	Pn	01 52 08.3	-0.5	
TURN				S	Sn	01 52 27.1	+0.6	
CHOS	**Chios island**	**1.35**	**290**	PN	Pg	01 52 10.5	+0.4	
CHOS	**Chios island**	**1.35**	**290**	*e*PN	Pg	01 52 10.5	+0.4	
BALB	**Balikesir**	**1.71**	**5**	PN	Pb	01 52 15.6	-0.4	
BALB	**Balikesir**	**1.71**	**5**	*e*Pn	Pb	01 52 15.6	-0.4	
FETY	**Fethiye**	**1.72**	**139**	PN	Pb	01 52 15.5	-0.7	
FETY	**Fethiye**	**1.72**	**139**	*e*Pn	Pb	01 52 15.5	-0.7	
APE	**Apeiranthos**	**1.91**	**244**	PN	Pn	01 52 18.4	+1.0	
APE	**Apeiranthos**	**1.91**	**244**	*e*Pn	Pn	01 52 18.4	+1.0	

*CSEM **20** 01:52:54.0±0.2,39˚14N×29˚14E, h2km, ML2.3, Error ellipse: s-maj=7.3km s-min=4.7km az=136.0*

ISK 20 01:52:53.8,39˚12N×29˚15E, h4km, ML2.3/8, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIMA	**Simav-Kutahya**	**0.14**	**254**	PG	Pg	01 52 57.3	+0.7
SIMA				SG	Sg	01 52 59.9	+1.5
SIMA	**Simav-Kutahya**	**0.14**	**254**	*e*Pg	Pg	01 52 57.3	+0.7
SIMA				*e*Sg	Sg	01 52 59.9	+1.5
TVSB	**Tavsanli**	**0.41**	**36**	PG	Pg	01 53 02.1	+0.4
TVSB	**Tavsanli**	**0.41**	**36**	*e*Pg	Pg	01 53 02.1	+0.4
DURS	**Dursunbey**	**0.71**	**313**	*i* P	Pg	01 53 06.2	-1.3
DURS	**Dursunbey**	**0.71**	**313**	P	Pg	01 53 06.2	-1.3
KULA	**Kula-Manisa**	**0.72**	**213**	PG	Pg	01 53 08.1	+0.5
KULA	**Kula-Manisa**	**0.72**	**213**	*e*Pg	Pg	01 53 08.1	+0.5
BALB	**Balikesir**	**1.11**	**298**	PN	Pn	01 53 16.0	-0.2
BALB	**Balikesir**	**1.11**	**298**	*e*Pn	Pn	01 53 16.0	-0.2
CAVI	**Cavuskoy**	**1.20**	**26**	PN	Pn	01 53 17.4	0.0
CAVI	**Cavuskoy**	**1.20**	**26**	*e*Pn	Pn	01 53 17.4	0.0
SHUT	**Suhut-Afyon**	**1.23**	**117**	PN	Pn	01 53 17.9	0.0
SHUT	**Suhut-Afyon**	**1.23**	**117**	*e*Pn	Pn	01 53 17.9	0.0
MDNY	**Mudanya-Bursa**	**1.26**	**351**	PN	Pn	01 53 18.6	+0.4
MDNY	**Mudanya-Bursa**	**1.26**	**351**	*e*Pn	Pn	01 53 18.6	+0.4
ADVT	**Abdulvahap**	**1.39**	**19**	PN	Pg	01 53 20.7	+0.3
ADVT	**Abdulvahap**	**1.39**	**19**	*e*Pn	Pg	01 53 20.7	+0.3
YLV	**Yalova**	**1.45**	**7**	PN	Pg	01 53 21.6	-0.1
YLV	**Yalova**	**1.45**	**7**	*e*Pn	Pg	01 53 21.6	-0.1
GULT	**Gulveren**	**1.68**	**38**	PN	Pb	01 53 24.9	-0.4
GULT	**Gulveren**	**1.68**	**38**	*e*Pn	Pb	01 53 24.9	-0.4

IDC 20 02:08:13.6±2.0,2˚10N×90˚35E, h0km, mb3.6/3, mb1 3.8/4, mb1mx3.2/63, mbtmp3.7/4, ML3.5/1, Error ellipse: s-maj=63.7km s-min=28.3km az=48.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**10.90**	**298**	Pn	Pn	02 10 50.9	-0.2
	0.4nm,0.3s,baz=118,slow=11,SNR=4.7						
PALK				Sn	Sn	02 12 42.3	-12
	1.8nm,0.3s,baz=112,slow=4.1,SNR=5.6						
H08S2	**Diego Garcia H**	**20.28**	**241**	T	T	02 34 02.2	
	baz=60,slow=75,SNR=27						
H08S3	**Diego Garcia H**	**20.28**	**241**	T	T	02 34 00.5	
	baz=60,slow=75,SNR=28						
H08S1	**Diego Carcia H**	**20.29**	**241**	T	T	02 33 53.3	
	baz=60,slow=75,SNR=32						
H01W3	**Cape Leeuwin H**	**43.02**	**151**	T	T	03 02 30.6	
	baz=324,slow=74						
H01W2	**Cape Leeuwin H**	**43.04**	**151**	T	T	03 02 32.0	
	baz=324,slow=74						
H01W1	**Cape Leeuwin H**	**43.04**	**151**	T	T	03 02 33.0	
	baz=324						
MKAR	**Makanchi Array**	**45.07**	**352**	P	P	02 16 29.8	-1.5
	0.2nm,0.4s,baz=161,slow=9.2,SNR=3.3						
SONM	**Songino Array**	**47.62**	**15**	P	P	02 16 52.0	+0.4
	1.4nm,0.5s,baz=195,slow=9.1,SNR=12						
WRA	**Warramunga Arr**	**48.39**	**119**	P	P	02 16 57.0	-0.8
	0.4nm,0.9s,baz=295,slow=8.7,SNR=3.0						
TXAR	**Lajitas Array**	**145.98**	**22**	PKPbc	PKPab	02 27 57.3	+0.7
	0.2nm,0.5s,baz=20,slow=2.3,SNR=4.6						

*ISK **20** 02:09:40.7,38˚92N×43˚64E, h23km, ML2.2/4*
*CSEM **20** 02:09:41.2±0.3,38˚93N×43˚63E, h20km, ML2.6, Error ellipse: s-maj=10.3km s-min=6.3km az=126.0*
*DDA **20** 02:09:41.6,38˚95N×43˚52E, h18km, Ml2.6*
*ISCJB **20** 02:09:42.4±0.8,38˚93N±0˚04×43˚59E±0˚07, h19km±8km, Error ellipse: s-maj=9.1km s-min=6.0km az=23.7*

ISC 20 02:09:41.1±0.9,38˚94N±0˚04×43˚60E±0˚04, h18km±4km, n16, σ0§73/28, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VMUR	**Van-Muradiye**	**0.05**	**335**	*i* P	**Pg**	**02 09 44.4**	**-0.3**
VMUR				*i* S	**Sg**	**02 09 47.8**	**+0.7**
VMUR	**Van-Muradiye**	**0.05**	**335**	P	**Pg**	**02 09 44.4**	**-0.3**
VMUR				S	**Sg**	**02 09 47.8**	**+0.7**
CLDR	**Caldiran**	**0.32**	**50**	PG	**Pg**	**02 09 48.2**	**0.0**
CLDR	**Caldiran**	**0.32**	**50**	*i* P	**Pb**	**02 09 48.9**	**+0.4**
CLDR				*i* S	**Sn**	**02 09 56.1**	**-1.4**
CLDR	**Caldiran**	**0.32**	**50**	*e*Pg	**Pg**	**02 09 48.2**	**0.0**
CLDR	**Caldiran**	**0.32**	**50**	P	**Pb**	**02 09 48.9**	**+0.4**
CLDR				S	**Sn**	**02 09 56.1**	**-1.4**
VANB	**Van**	**0.38**	**206**	PG	**Pb**	**02 09 50.3**	**+0.8**
VANB				SG	**Sn**	**02 09 57.7**	**-1.2**
VANB	**Van**	**0.38**	**206**	*e*Pg	**Pb**	**02 09 50.3**	**+0.8**
VANB				*e*Sg	**Sn**	**02 09 57.7**	**-1.2**
TVAN	**Van**	**0.44**	**200**	*i* P	**Pg**	**02 09 49.9**	**-0.3**
TVAN				*i* S	**Sb**	**02 09 57.9**	**+1.1**
TVAN	**Van**	**0.44**	**200**	P	**Pg**	**02 09 49.9**	**-0.3**
TVAN				S	**Sb**	**02 09 57.9**	**+1.1**
ADCV	**BITLIS_Adilcev**	**0.70**	**259**	*i* P	**Pb**	**02 09 54.6**	**-0.3**
ADCV				*i* S	**Sg**	**02 10 04.5**	**+0.3**
ADCV	**BITLIS_Adilcev**	**0.70**	**259**	P	**Pb**	**02 09 54.6**	**-0.3**
ADCV				S	**Sg**	**02 10 04.5**	**+0.3**
AGRB	**Hanur-Agry**	**0.79**	**324**	PG	**Pn**	**02 09 57.3**	**-0.3**
AGRB				SG	**Sn**	**02 10 09.5**	**+0.4**
AGRB	**Hanur-Agry**	**0.79**	**324**	*e*Pg	**Pn**	**02 09 57.3**	**-0.3**
AGRB				*e*Sg	**Sn**	**02 10 09.5**	**+0.4**
GURO	**Guroymak-BITLI**	**1.29**	**253**	PN	**Pn**	**02 10 04.2**	**-0.2**
GURO	**Guroymak-BITLI**	**1.29**	**253**	*e*Pn	**Pn**	**02 10 04.2**	**-0.2**

*IDC **20** 02:16:05.9±1.0,7˚45N×91˚81E, h0km, mb3.8/10, mb1 4.0/12, mb1mx3.7/70, mbtmp3.9/12, ML4.5/2, MS3.3/4, Ms1 3.4/4, ms1mx2.9/65, Error ellipse: s-maj=31.8km s-min=18.7km az=50.0*
*ISCJB **20** 02:16:07.1±0.5,7˚33N±0˚08×91˚79E±0˚08, h24km, mb3.9/15, MS3.4/2, Error ellipse: s-maj=12.6km s-min=8.9km az=43.4*
*NEIC **20** 02:16:10.6±0.5,7˚48N×91˚81E, h35km, mb4.2/6, Error ellipse: s-maj=11.2km s-min=9.5km az=200.0*

ISC 20 02:16:09.2±0.7,7˚4N±0˚1×91˚79E±0˚08, h24km, n35, σ1§20/30, mb3.9/15, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**9.05**	**103**	*e*Pn	**Pn**	**02 18 19.6**	**+1.1**
PALK	**Pallekele**	**11.00**	**270**	Pn	**Pn**	**02 18 44.2**	**-1.0**
	3.1nm,0.3s,baz=116,slow=14,SNR=13						
PALK				Sn	Sn	02 20 34.2	-13
	2.8nm,0.3s,baz=116,slow=16,SNR=5.9						
PALK				LR	LR	02 22 08.2	
	comp=Z,143nm,20.8s,baz=116,slow=33						
PALK	**Pallekele**	**11.00**	**270**	*e*Pn	**Pn**	**02 18 44.7**	**-0.5**
	16nm,0.7s						
PALK				*e*Sn	Sn	02 20 35.5	-12
CMAR	**Chiang Mai Arr**	**12.99**	**32**	Pn	**Pn**	**02 19 10.4**	**-2.0**
	0.8nm,0.3s,baz=223,slow=13,SNR=23						
CMAR				LR	LR	02 24 26.5	
	comp=Z,108nm,19.3s,baz=166,slow=39						
CHTO	**Chiang Mai**	**13.29**	**31**	*e*Pn	**Pn**	**02 19 15.9**	**-0.5**
	4.0nm,1.0s						

RAMN	**Ramite**	**20.04**	**346**	*e*P	Pn	02 20 45.0	+2.3	
	19nm,0.7s							
JIRN	**Jiri**	**20.82**	**346**	*e*P	**P**	**02 20 50.9**	**+1.4**	
	40nm,0.8s							
PKIN	**Phulchoki**	**20.95**	**344**	*e*P	**P**	**02 20 53.0**	**+2.3**	
	7.8nm,0.5s							
DMN	**Daman**	**21.06**	**343**	*e*P	**P**	**02 20 54.3**	**+2.4**	
	13nm,0.6s							
GUN	**Gumba**	**21.14**	**345**	*e*P	**P**	**02 20 54.3**	**+1.5**	
	55nm,0.7s							
KOLN	**Koldanda**	**21.68**	**340**	*e*P	**P**	**02 20 59.8**	**+1.3**	
	32nm,0.7s							
DANN	**Dangsing**	**22.16**	**341**	*e*P	**P**	**02 21 04.4**	**+0.6**	
	5.6nm,1.0s							
PYUN	**Piuthan**	**22.19**	**339**	*e*P	**P**	**02 21 05.1**	**+1.1**	
	16nm,0.7s							
H08S3	**Diego Garcia H**	**24.37**	**233**	T	T	02 48 03.9		
	baz=59							
H08S2	**Diego Garcia H**	**24.38**	**233**	T	T	02 47 58.7		
	baz=59							
H08S1	**Diego Carcia H**	**24.39**	**233**	T	T	02 48 15.9		
	baz=59							
AAK	**Ala-Archa**	**38.25**	**339**	P	**P**	**02 23 28.0**	**+0.3**	
	0.4nm,0.4s,baz=164,slow=7.4,SNR=2.3							
AAK	**Ala-Archa**	**38.25**	**339**	*e*P	**P**	**02 23 26.5**	**-1.2**	
	6.2nm,1.4s							
MBWA	**Marble Bar**	**39.49**	**137**	*e*P	**P**	**02 23 37.1**	**-0.9**	
MKAR	**Makanchi Array**	**40.07**	**350**	P	**P**	**02 23 42.5**	**-0.1**	
	1.1nm,0.7s,baz=169,slow=7.8,SNR=6.9							
SONM	**Songino Array**	**42.15**	**15**	P	**P**	**02 23 59.8**	**-0.1**	
	1.6nm,0.7s,baz=199,slow=9.4,SNR=12							
ULN	**Ulaanbaatar**	**42.35**	**15**	*e*P	**P**	**02 24 01.2**	**-0.3**	
	2.0nm,0.7s							
GEYT	**Alibeck**	**43.02**	**320**	P	**P**	**02 24 07.2**	**+0.3**	
	1.0nm,0.4s,baz=317,slow=53,SNR=2.8							
KURBB	**Kurchatov Arra**	**44.46**	**348**	P	**P**	**02 24 18.3**	**0.0**	
	2.3nm,1.0s,baz=170,slow=7.3,SNR=7.9							
KURK	**Kurchatov**	**44.53**	**348**	*e*P	**P**	**02 24 18.3**	**-0.5**	
ZALV	**Zalesovo Beam**	**46.74**	**354**	P	**P**	**02 24 36.8**	**+0.6**	
	1.5nm,0.6s,baz=183,slow=8.9,SNR=7.0							
ZALV				LR	LR	02 45 50.0		
	comp=Z,45nm,21.0s,baz=246,slow=38							
RAYN	**Ar Rayn**	**47.16**	**295**	*e*P	**P**	**02 24 40.8**	**+0.7**	
	2.1nm,0.8s							
BVAR	**Borovoye Array**	**48.70**	**343**	LR	LR	02 45 34.9		
	comp=Z,48nm,21.9s,baz=131,slow=36							
ABKAR	**Akbulak array**	**49.54**	**333**	*e*P	**P**	**02 24 57.5**	**-0.5**	
	0.4nm,0.5s							
WRA	**Warramunga Arr**	**49.92**	**124**	P	**P**	**02 25 02.7**	**+1.3**	
	1.3nm,1.0s,baz=305,slow=8.6,SNR=6.1							
ASAR	**Alice Springs**	**51.44**	**128**	P	**P**	**02 25 12.4**	**-0.4**	
	1.0nm,0.8s,baz=312,slow=8.0,SNR=9.7							
BRTR	**Keskin Array B**	**60.97**	**311**	P	**P**	**02 26 23.0**	**+2.2**	
	0.3nm,0.6s,baz=112,slow=6.4,SNR=3.3							
LSZ	**Lusaka**	**66.92**	**250**	*e*P	**P**	**02 27 00.0**	**-0.3**	
	2.9nm,1.1s							
TIXI	**Tiksi**	**68.14**	**12**	*e*P	**P**	**02 27 05.8**	**-1.0**	
	3.4nm,0.6s							
GERES	**GERESS Array B**	**76.61**	**318**	P	**P**	**02 27 56.7**	**-1.3**	
	0.3nm,0.7s,baz=77,slow=4.2,SNR=2.4							

*ISK **20** 02:25:40.6,37˚47N×36˚20E, h6km, ML2.5/7*
*ISCJB **20** 02:25:41.3±0.6,37˚40N±0˚04×36˚17E±0˚04, h15km, Error ellipse: s-maj=6.5km s-min=4.4km az=15.0*
*CSEM **20** 02:25:41.3±0.2,37˚41N×36˚18E, h10km, ML2.5, Error ellipse: s-maj=5.6km s-min=3.4km az=18.0*
*DDA **20** 02:25:41.8,37˚65N×36˚62E, h7km, Ml2.5*

ISC 20 02:25:41.6±0.9,37˚43N±0˚05×36˚18E±0˚03, h15km, n20, σ0§67/30, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANDN	**Andirin**	**0.20**	**40**	*i* P	**Pg**	**02 25 45.6**	**-0.8**
ANDN				*i* S	**Sb**	**02 25 50.8**	**0.0**
ANDN	**Andirin**	**0.20**	**40**	P	**Pg**	**02 25 45.6**	**-0.8**
ANDN				S	**Sb**	**02 25 50.8**	**0.0**
KOZT	**Kozan**	**0.29**	**281**	PG	**Pg**	**02 25 46.7**	**-0.9**
KOZT				SG	**Sg**	**02 25 51.6**	**-0.2**
KOZT	**Kozan**	**0.29**	**281**	*e*Pg	**Pg**	**02 25 46.7**	**-0.9**
KOZT				*e*Sg	**Sg**	**02 25 51.6**	**-0.2**
SAIM	**ADANA**	**0.56**	**352**	*i* P	**Pg**	**02 25 52.6**	**0.0**
SAIM				*i* S	**Sb**	**02 26 01.9**	**+1.0**
SAIM	**ADANA**	**0.56**	**352**	P	**Pg**	**02 25 52.6**	**0.0**
SAIM				S	**Sb**	**02 26 01.9**	**+1.0**
KMRS	**Kahramanmaras**	**0.58**	**82**	PG	**Pg**	**02 25 52.0**	**-1.0**
KMRS				SG	**Sg**	**02 26 00.2**	**-0.5**
KMRS	**Kahramanmaras**	**0.58**	**82**	*e*Pg	**Pg**	**02 25 52.0**	**-1.0**
KMRS				*e*Sg	**Sg**	**02 26 00.2**	**-0.5**
GAZ	**Gaziantep**	**0.86**	**107**	PG	**Pb**	**02 25 57.6**	**-0.6**
GAZ	**Gaziantep**	**0.86**	**107**	*e*Pg	**Pb**	**02 25 57.6**	**-0.6**
KARA	**Karaisali**	**0.91**	**260**	PG	**Pb**	**02 25 58.9**	**-0.2**
KARA	**Karaisali**	**0.91**	**260**	*e*Pg	**Pb**	**02 25 58.9**	**-0.2**
KUZU	**Kuzuini**	**0.97**	**132**	*i* P	**Pb**	**02 26 00.1**	**+0.1**
KUZU				*i* S	**Sg**	**02 26 13.8**	**+0.9**
KUZU	**Kuzuini**	**0.97**	**132**	P	**Pb**	**02 26 00.1**	**+0.1**
KUZU				S	**Sg**	**02 26 13.8**	**+0.9**
BNN	**Bunyan**	**1.45**	**350**	PN	**Pn**	**02 26 07.5**	**+0.1**
BNN	**Bunyan**	**1.45**	**350**	*e*Pn	**Pn**	**02 26 07.5**	**+0.1**
MALT	**Malatya**	**1.99**	**63**	PN	**Pn**	**02 26 15.3**	**+0.6**
MALT	**Malatya**	**1.99**	**63**	*e*Pn	**Pn**	**02 26 15.3**	**+0.6**
URFA	**Urfa**	**2.10**	**89**	PN	**Pn**	**02 26 17.2**	**+0.9**
URFA	**Urfa**	**2.10**	**89**	*e*Pn	**Pn**	**02 26 17.2**	**+0.9**

*IDC **20** 02:32:36.2±1.7,7˚66N×91˚65E, h0km, mb3.4/4, mb1 3.7/6, mb1mx3.4/62, mbtmp3.6/6, ML4.1/2, Error ellipse: s-maj=39.8km s-min=29.8km az=56.0*
*ISCJB **20** 02:32:38.6±1.2,7˚6N±0˚2×91˚6E±0˚1, h33km, mb3.4/4, Error ellipse: s-maj=23.6km s-min=16.7km az=157.0*

ISC 20 02:32:41.0±1.3,7˚7N±0˚2×91˚6E±0˚1, h35km, n9, σ0§37/6, mb3.3/4, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**10.84**	**269**	Pn	**Pn**	**02 35 13.7**	**-0.2**
	0.6nm,0.3s,baz=117,slow=13,SNR=2.5						
PALK				Sn	Sn	02 37 03.1	-11
	0.7nm,0.3s,baz=338,slow=0.2,SNR=3.5						
CMAR	**Chiang Mai Arr**	**12.88**	**33**	Pn	**Pn**	**02 35 41.4**	**-0.4**
	0.6nm,0.3s,baz=233,slow=14,SNR=7.1						
H08S3	**Diego Garcia H**	**24.39**	**232**	T	T	03 04 42.8	
	baz=47						
H08S2	**Diego Garcia H**	**24.39**	**232**	T	T	03 04 29.5	
	baz=47						
H08S1	**Diego Carcia H**	**24.41**	**232**	T	T	03 04 22.1	
	baz=47						
MKAR	**Makanchi Array**	**39.82**	**350**	P	**P**	**02 40 10.9**	**0.0**
	0.3nm,0.8s,baz=157,slow=7.8,SNR=2.7						
SONM	**Songino Array**	**41.97**	**15**	P	**P**	**02 40 28.9**	**+0.2**
	0.4nm,0.5s,baz=187,slow=10,SNR=3.4						
ZALV	**Zalesovo Beam**	**46.49**	**354**	P	**P**	**02 41 05.1**	**+0.5**
	0.5nm,0.4s,baz=167,slow=7.0,SNR=2.5						
WRA	**Warramunga Arr**	**50.18**	**124**	P	**P**	**02 41 33.6**	**0.0**
	0.2nm,0.8s,baz=306,slow=8.4,SNR=5.4						

*DDA **20** 02:43:18.4,39˚11N×29˚10E, h8km, Ml3.6*
*ISK **20** 02:43:18.5,39˚11N×29˚12E, h2km, ML3.5/55*
*CSEM **20** 02:43:19.2±0.1,39˚11N×29˚12E, h2km, ML3.5, Error ellipse: s-maj=1.6km s-min=1.6km az=165.0*

ISC 20 02:43:19.1±0.9,39˚12N±0˚02×29˚12E±0˚02, h5km±8km, n153, σ0§87/177, 4C-4D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIMA	**Simav-Kutahya**	**0.11**	**252**	PG	**Pg**	**02 43 21.4**	**0.0**
SIMA				SG	**Sg**	**02 43 23.4**	**+0.5**
SIMA	**Simav-Kutahya**	**0.11**	**252**	*e*Pg	**Pg**	**02 43 21.4**	**0.0**
SIMA				*e*Sg	**Sg**	**02 43 23.4**	**+0.5**
GDZ	**Gediz**	**0.29**	**96**	*i* P	**Pg**	**02 43 24.2**	**-0.5**
GDZ				*i* S	**Sg**	**02 43 28.7**	**+0.2**
GDZ	**Gediz**	**0.29**	**96**	P	**Pg**	**02 43 24.2**	**-0.5**
GDZ				S	**Sg**	**02 43 28.7**	**+0.2**
TVSB	**Tavsanli**	**0.43**	**39**	PG	**Pg**	**02 43 26.5**	**-0.9**
TVSB	**Tavsanli**	**0.43**	**39**	*e*Pg	**Pg**	**02 43 26.5**	**-0.9**
DURS	**Dursunbey**	**0.69**	**314**	*i* P	**Pg**	**02 43 32.1**	**-0.3**
DURS				*i* S	**Sg**	**02 43 41.2**	**-0.2**
DURS	**Dursunbey**	**0.69**	**314**	P	**Pg**	**02 43 32.1**	**-0.3**
DURS				S	**Sg**	**02 43 41.2**	**-0.2**
KULA	**Kula-Manisa**	**0.70**	**211**	PG	**Pg**	**02 43 32.2**	**-0.3**
KULA	**Kula-Manisa**	**0.70**	**211**	*e*Pg	**Pg**	**02 43 32.2**	**-0.3**
MANT	**Manisa**	**0.76**	**215**	*i* P	**Pg**	**02 43 33.4**	**-0.3**
MANT				*i* S	**Sg**	**02 43 42.5**	**-1.1**
MANT	**Manisa**	**0.76**	**215**	P	**Pg**	**02 43 33.4**	**-0.3**
MANT				S	**Sg**	**02 43 42.5**	**-1.1**
KHAL	**Karahalli**	**0.80**	**158**	*i* P	**Pb**	**02 43 34.6**	**-1.0**
KHAL				*i* S	**Sg**	**02 43 44.4**	**-0.5**
KHAL	**Karahalli**	**0.80**	**158**	P	**Pb**	**02 43 34.6**	**-1.0**
KHAL				S	**Sg**	**02 43 44.4**	**-0.5**
KHL	**Karahalli**	**0.85**	**158**	PG	**Pb**	**02 43 35.7**	**-0.8**
KHL	**Karahalli**	**0.85**	**158**	*e*Pg	**Pb**	**02 43 35.7**	**-0.8**
ORLT	**Orhaneli**	**0.94**	**350**	PG	**Pb**	**02 43 37.7**	**-0.3**
ORLT	**Orhaneli**	**0.94**	**350**	*e*Pg	**Pb**	**02 43 37.7**	**-0.3**
AKHS	**Akhisar**	**1.04**	**257**	*i* P	**Pg**	**02 43 38.3**	**-0.7**
AKHS				*i* S	**Sg**	**02 43 52.6**	**+0.1**
AKHS	**Akhisar**	**1.04**	**257**	P	**Pg**	**02 43 38.3**	**-0.7**
AKHS				S	**Sg**	**02 43 52.6**	**+0.1**
AKS	**Akhisar**	**1.04**	**257**	PG	**Pb**	**02 43 39.4**	**-0.2**
AKS	**Akhisar**	**1.04**	**257**	*e*Pg	**Pb**	**02 43 39.4**	**-0.2**
AUBOZ	**BOZOYUK**	**1.06**	**42**	*i* P	**Pg**	**02 43 39.2**	**-0.3**
AUBOZ				*i* S	**Sn**	**02 43 55.9**	**-0.1**
AUBOZ	**BOZOYUK**	**1.06**	**42**	P	**Pg**	**02 43 39.2**	**-0.3**
AUBOZ				S	**Sn**	**02 43 55.9**	**-0.1**
BALB	**Balikesir**	**1.09**	**299**	PN	**Pn**	**02 43 40.7**	**-0.4**
BALB	**Balikesir**	**1.09**	**299**	*e*Pn	**Pn**	**02 43 40.7**	**-0.4**
AUKUT	**KUTAHYA**	**1.09**	**40**	*i* P	Pg	02 43 33.6	-6.4
AUKUT				*i* S	Sg	02 43 44.0	-10
STEP	**BALIKESIR_Sava**	**1.11**	**284**	*i* P	**Pb**	**02 43 40.5**	**-0.4**
STEP				*i* S	**Sb**	**02 43 56.1**	**+0.3**
STEP	**BALIKESIR_Sava**	**1.11**	**284**	P	**Pb**	**02 43 40.5**	**-0.4**
STEP				S	**Sb**	**02 43 56.1**	**+0.3**
KZIL	**AFYON_Kizioren**	**1.18**	**137**	*i* P	**Pn**	**02 43 41.8**	**-0.6**
KZIL				*i* S	**Sn**	**02 43 58.8**	**0.0**
KZIL	**AFYON_Kizioren**	**1.18**	**137**	P	**Pn**	**02 43 41.8**	**-0.6**
KZIL				S	**Sn**	**02 43 58.8**	**0.0**
CAVI	**Cavuskoy**	**1.22**	**27**	PN	**Pn**	**02 43 42.8**	**-0.1**
CAVI	**Cavuskoy**	**1.22**	**27**	*e*Pn	**Pn**	**02 43 42.8**	**-0.1**
IZI	**Iznik**	**1.25**	**13**	PN	**Pn**	**02 43 43.4**	**+0.1**
IZI	**Iznik**	**1.25**	**13**	*e*Pn	**Pn**	**02 43 43.4**	**+0.1**
SHUT	**Suhut-Afyon**	**1.25**	**116**	PN	**Pn**	**02 43 43.2**	**-0.3**
SHUT	**Suhut-Afyon**	**1.25**	**116**	*e*Pn	**Pn**	**02 43 43.2**	**-0.3**
MDNY	**Mudanya-Bursa**	**1.26**	**352**	PN	**Pn**	**02 43 43.7**	**+0.3**
MDNY	**Mudanya-Bursa**	**1.26**	**352**	*e*Pn	**Pn**	**02 43 43.7**	**+0.3**
BORA	**Eskisehir**	**1.29**	**53**	*i* P	**Pg**	**02 43 43.3**	**-0.4**
BORA				*i* S	**Sn**	**02 44 01.3**	**-0.2**
BORA	**Eskisehir**	**1.29**	**53**	P	**Pg**	**02 43 43.3**	**-0.4**
BORA				S	**Sn**	**02 44 01.3**	**-0.2**
KCTX	**Karacabey (Bur**	**1.29**	**333**	PN	**Pg**	**02 43 43.5**	**-0.3**
KCTX	**Karacabey (Bur**	**1.29**	**333**	*e*Pn	**Pg**	**02 43 43.5**	**-0.3**
GEMT	**Gemlik**	**1.32**	**2**	PN	**Pb**	**02 43 44.8**	**+0.4**
GEMT	**Gemlik**	**1.32**	**2**	*e*Pn	**Pb**	**02 43 44.8**	**+0.4**
DENT	**Denizli**	**1.36**	**183**	PN	**Pb**	**02 43 45.2**	**+0.1**
DENT	**Denizli**	**1.36**	**183**	*e*Pn	**Pb**	**02 43 45.2**	**+0.1**
ADVT	**Abdulvahap**	**1.40**	**20**	PN	**Pg**	**02 43 45.9**	**0.0**
ADVT	**Abdulvahap**	**1.40**	**20**	*e*Pn	**Pg**	**02 43 45.9**	**0.0**
ESKT	**Eskisehir**	**1.41**	**73**	PN	**Pb**	**02 43 45.8**	**-0.1**
ESKT	**Eskisehir**	**1.41**	**73**	*i* P	**Pn**	**02 43 44.2**	**-1.3**
ESKT				*i* S	**Sn**	**02 44 04.1**	**-0.5**
ESKT	**Eskisehir**	**1.41**	**73**	*e*Pn	**Pb**	**02 43 45.8**	**-0.1**
SEYT	**Eskypehyr**	**1.41**	**73**	P	**Pn**	**02 43 44.2**	**-1.3**
SEYT				S

MLR	Muntele Rosu	6.79 341	∥ *i*P	Pn	02 45 01.0	+1.5
PLOR	Plostina	6.97 346	∥ *i*P	Pn	02 45 07.1	+5.2
VRI	Vrincioaia	6.97 346	⇑ *i*P	Pn	02 45 02.5	+0.6
VRI	Vrincioaia	6.97 346	⇑ *i*P	Pn	02 45 02.5	+0.6

IDC 20 02:43:35.6±2.3,13°.92S×70°.84W,h117km±30km, mb3.1/2, mb1 3.2/5, mb1mx3.0/43, mbtmp3.5/5, MS3.7/1, Ms1 3.7/1, ms1mx2.7/12, Error ellipse: s-maj=80.7km s-min=20.3km az=36.0, Central Peru

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LPAZ	La Paz	3.52	132	P	Pn	02 44 27.5	-1.7
	1.3nm,0.3s,baz=309,slow=5.9,SNR=27						
LPAZ				S	Sn	02 45 11.7	+1.0
	1.8nm,0.3s,baz=331,slow=9.4,SNR=9.3						
SIV	San Ignacio	9.66	104	P	Pn	02 45 51.7	+0.1
	0.3nm,0.3s,baz=295,slow=15,SNR=5.4						
ATAH	Atahualpa	10.03	311	P	Pn	02 45 57.7	+0.7
	0.5nm,0.3s,baz=98,slow=15,SNR=2.3						
RPN	Rapa Nui	38.22	244	LR	LR	03 04 08.8	
	comp=Z,106nm,20.5s,baz=290,slow=32						
KOWA	Kowa	71.90	70	P	P	02 54 46.9	+0.4
	0.9nm,0.5s,baz=250,slow=8.6,SNR=9.1						
YKA	Yellowknife Ar	83.46	341	P	P	02 55 50.2	+0.5
	0.1nm,0.5s,baz=134,slow=5.3,SNR=3.5						
YKA				pP	pP	02 56 20.8	+1.0
	0.2nm,0.6s,baz=137,slow=4.8,SNR=4.3						
SONM	Songino Array	146.11	3	PKPbc	PKPdf	03 03 00.2	-0.9
	0.6nm,0.3s,baz=316,slow=4.0,SNR=2.5						

*ISCJB **20** 02:48:08.0±0.5,39°.14N±0°.02×29°.11E±0°.02, h1km±5km, Error ellipse: s-maj=3.6km s-min=3.0km az=0.7*
*DDA **20** 02:48:08.4,39°.10N×29°.15E, h7km, Ml3.5*
*CSEM **20** 02:48:08.4±0.1,39°.11N×29°.14E, h2km, ML3.6, Error ellipse: s-maj=1.5km s-min=1.4km az=110.0*
*ISK **20** 02:48:08.2,39°.12N×29°.13E, h6km, ML3.6/42*
ISC 20 02:48:08.6±0.9, 39°.12N±0°.02×29°.13E±0°.02, h7km±7km, n133, σ0°61/153, 9C-14D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIMA	Simav-Kutahya	0.12	251	PG	Pg	02 48 11.2	0.0
SIMA				SG	Sg	02 48 13.3	+0.3
SIMA	Simav-Kutahya	0.12	251	*e*Pg	Pg	02 48 11.2	0.0
SIMA				*e*Sg	Sg	02 48 13.3	+0.3
GDZ	Gediz	0.28	96	*i* P	Pg	02 48 13.7	-0.5
GDZ				*i* S	Sg	02 48 17.7	-0.2
GDZ	Gediz	0.28	96	P	Pg	02 48 13.7	-0.5
GDZ				S	Sg	02 48 17.7	-0.2
TVSB	Tavsanli	0.42	38	PG	Pg	02 48 16.3	-0.5
TVSB	Tavsanli	0.42	38	*e*Pg	Pg	02 48 16.3	-0.5
DURS	Dursunbey	0.70	314	*i* P	Pg	02 48 22.5	+0.4
DURS				*i* S	Sn	02 48 35.1	-1.1
DURS	Dursunbey	0.70	314	P	Pg	02 48 22.5	+0.4
DURS				S	Sn	02 48 35.1	-1.1
KULA	Kula-Manisa	0.71	211	PG	Pg	02 48 21.5	-0.7
KULA	Kula-Manisa	0.71	211	*e*Pg	Pg	02 48 21.5	-0.7
MANT	Manisa	0.77	215	*i* P	Pg	02 48 23.3	-0.1
MANT				*i* S	Sg	02 48 32.7	-0.8
MANT	Manisa	0.77	215	P	Pg	02 48 23.3	-0.1
MANT				S	Sg	02 48 32.7	-0.8
KHAL	Karahalli	0.80	159	*i* P	Pg	02 48 24.1	+0.1
KHAL				*i* S	Sg	02 48 34.1	-0.4
KHAL	Karahalli	0.80	159	P	Pg	02 48 24.1	+0.1
KHAL				S	Sg	02 48 34.1	-0.4
KHL	Karahalli	0.85	159	PG	Pb	02 48 25.1	-0.8
KHL	Karahalli	0.85	159	*e*Pg	Pb	02 48 25.1	-0.8
ORLT	Orhaneli	0.94	349	PG	Pg	02 48 26.6	-0.1
ORLT	Orhaneli	0.94	349	*e*Pg	Pg	02 48 26.6	-0.1
AKHS	Akhisar	1.05	257	*i* P	Pg	02 48 28.4	-0.3
AKHS				*i* S	Sg	02 48 41.8	-0.6
AKHS	Akhisar	1.05	257	P	Pg	02 48 28.5	-0.3
AKHS				S	Sg	02 48 41.8	-0.6
AKS	Akhisar	1.05	257	PG	Pg	02 48 28.7	-0.1
AKS	Akhisar	1.05	257	*e*Pg	Pg	02 48 28.7	-0.1
AUBOZ	BOZOYUK	1.06	41	*i* P	Pb	02 48 28.9	-0.4
AUBOZ				*i* S	Sb	02 48 43.8	+0.4
AUBOZ	BOZOYUK	1.06	41	P	Pb	02 48 29.0	-0.4
AUBOZ				S	Sb	02 48 43.8	+0.4
BALB	Balikesir	1.09	299	PN	Pg	02 48 29.8	+0.1
BALB	Balikesir	1.09	299	*e*Pn	Pg	02 48 29.8	+0.1
STEP	BALIKESIR_Sava	1.12	284	*i* P	Pn	02 48 30.8	-0.1
STEP				*i* S	Sb	02 48 45.9	+0.6
STEP	BALIKESIR_Sava	1.12	284	P	Pn	02 48 30.8	-0.1
STEP				S	Sb	02 48 45.9	+0.6
KZIL	AFYON_Kizioren	1.17	137	*i* P	Pg	02 48 30.8	-0.3
KZIL				*i* S	Sn	02 48 47.8	-0.2
KZIL	AFYON_Kizioren	1.17	137	P	Pg	02 48 30.8	-0.3
KZIL				S	Sn	02 48 47.8	-0.2
CAVI	Cavuskoy	1.21	27	PN	Pg	02 48 31.7	-0.2
CAVI	Cavuskoy	1.21	27	*e*Pn	Pg	02 48 31.7	-0.2
IZI	Iznik	1.24	12	PN	Pg	02 48 32.3	-0.2
IZI	Iznik	1.24	12	*e*Pn	Pg	02 48 32.3	-0.2
SHUT	Suhut-Afyon	1.25	117	PN	Pn	02 48 32.5	-0.2
SHUT	Suhut-Afyon	1.25	117	*e*Pn	Pn	02 48 32.5	-0.2
MDNY	Mudanya-Bursa	1.26	352	PN	Pn	02 48 32.7	0.0
MDNY	Mudanya-Bursa	1.26	352	*e*Pn	Pn	02 48 32.7	0.0
BORA	Eskisehir	1.28	53	S	Sb	02 48 49.9	+0.1
BORA	Eskisehir	1.28	53	S	Sb	02 48 49.9	+0.1
KCTX	Karacabey (Bur	1.29	333	PN	Pg	02 48 33.3	-0.1
KCTX	Karacabey (Bur	1.29	333	*e*Pn	Pg	02 48 33.3	-0.1
GEMT	Gemlik	1.31	2	PN	Pg	02 48 33.7	-0.1
GEMT	Gemlik	1.31	2	*e*Pn	Pg	02 48 33.7	-0.1
DENT	Denizli	1.37	183	PN	Pg	02 48 34.5	-0.3
DENT	Denizli	1.37	183	*e*Pn	Pg	02 48 34.5	-0.3
ADVT	Abdulvahap	1.39	20	PN	Pb	02 48 34.8	-0.2
ADVT	Abdulvahap	1.39	20	*e*Pn	Pb	02 48 34.8	-0.2
ESKT	Eskisehir	1.40	73	PN	Pb	02 48 34.9	-0.3
ESKT	Eskisehir	1.40	73	*i* P	Pn	02 48 34.3	-0.4
ESKT	Eskisehir	1.40	73	*e*Pn	Pb	02 48 34.9	-0.3
SEYT	Eskypehyr	1.40	73	P	Pn	02 48 34.3	-0.4
GONE	Gonen-Balikesi	1.45	310	PN	Pn	02 48 35.5	+0.2
GONE	Gonen-Balikesi	1.45	310	*e*Pn	Pn	02 48 35.5	+0.2
ARMT	Armutlu	1.46	352	PN	Pn	02 48 35.7	+0.2
ARMT	Armutlu	1.46	352	*e*Pn	Pn	02 48 35.7	+0.2
YLV	Yalova	1.46	7	PN	Pn	02 48 35.7	+0.2
YLV	Yalova	1.46	7	*e*Pn	Pn	02 48 35.7	+0.2
BOLV	Bolvadin	1.48	105	*i* P	Pn	02 48 34.9	-1.0
BOLV				*i* S	Sg	02 48 57.1	+0.9
BOLV	Bolvadin	1.48	105	P	Pn	02 48 34.9	-1.0
BOLV				S	Sg	02 48 57.1	+0.9
GPA	Golpazari	1.48	38	PN	Pb	02 48 36.1	-0.5
GPA	Golpazari	1.48	38	*e*Pn	Pb	02 48 36.1	-0.5
AYDB	Zeytinkoy-Aydi	1.52	220	PN	Pn	02 48 36.6	+0.2
AYDB	Zeytinkoy-Aydi	1.52	220	*e*Pn	Pn	02 48 36.6	+0.2
EDC	Edincik	1.56	322	PN	Pn	02 48 37.3	+0.4
EDC	Edincik	1.56	322	*e*Pn	Pn	02 48 37.3	+0.4
GULT	Gulveren	1.69	39	PN	Pn	02 48 39.0	+0.2
GULT	Gulveren	1.69	39	*e*Pn	Pn	02 48 39.0	+0.2
ISP	Isparta	1.70	139	PN	Pg	02 48 39.2	+0.4
ISP	Isparta	1.70	139	∥ *i*P	Pg	02 48 44.8	+3.6
ISP	Isparta	1.70	139	*e*Pn	Pn	02 48 39.2	+0.4
DKL	Dikili	1.73	269	PN	Pn	02 48 39.5	+0.4
DKL	Dikili	1.73	269	*e*Pn	Pn	02 48 39.5	+0.4
BUY	Buyukada	1.73	360	PN	Pn	02 48 39.1	-0.1
BUY	Buyukada	1.73	360	*e*Pn	Pn	02 48 39.1	-0.1
HRT	Hereke	1.75	14	PN	Pn	02 48 39.6	+0.1
HRT	Hereke	1.75	14	*e*Pn	Pn	02 48 39.6	+0.1
BLCB	Balcova	1.79	246	PN	Pn	02 48 40.4	+0.4
BLCB	Balcova	1.79	246	*e*Pn	Pn	02 48 40.4	+0.4
SPNC	Sapanca-Adapaz	1.81	30	PN	Pn	02 48 40.8	+0.5
SPNC	Sapanca-Adapaz	1.81	30	*e*Pn	Pn	02 48 40.8	+0.5
SAUV	Serdivan-Sakar	1.86	29	PN	Pn	02 48 41.3	+0.3
SAUV	Serdivan-Sakar	1.86	29	*e*Pn	Pn	02 48 41.3	+0.3
SVRH	Sivrihisar-ESK	1.89	79	PN	Pn	02 48 41.9	+0.4
SVRH	Sivrihisar-ESK	1.89	79	*e*Pn	Pn	02 48 41.9	+0.4
KRBG	Karabiga-Canak	1.90	313	PN	Pn	02 48 41.9	+0.4
KRBG	Karabiga-Canak	1.90	313	*e*Pn	Pn	02 48 41.9	+0.4
FOCM	Fo¨ça	1.91	258	PN	Pn	02 48 42.2	+0.5
FOCM	Fo¨ça	1.91	258	*e*Pn	Pn	02 48 42.2	+0.5
ISK	Istanbul-Kandi	1.94	359	PN	Pn	02 48 42.5	+0.4
ISK	Istanbul-Kandi	1.94	359	*e*Pn	Pn	02 48 42.5	+0.4
SBT3	Marmara-Eregli	1.97	334	PN	Pn	02 48 43.1	+0.8
SBT3	Marmara-Eregli	1.97	334	*e*Pn	Pn	02 48 43.1	+0.8
SILT	Sile	2.07	11	PN	Pn	02 48 43.9	+0.1
SILT	Sile	2.07	11	*e*Pn	Pn	02 48 43.9	+0.1
MDUB	Mudurnu	2.09	49	PN	Pn	02 48 44.8	+0.5
MDUB	Mudurnu	2.09	49	*e*Pn	Pn	02 48 44.8	+0.5
KLYT	Kilyos	2.13	358	PN	Pn	02 48 44.5	-0.2
KLYT	Kilyos	2.13	358	*e*Pn	Pn	02 48 44.5	-0.2
CTKS	Kestanelik-??a	2.17	348	PN	Pn	02 48 45.7	+0.5
CTKS	Kestanelik-??a	2.17	348	*e*Pn	Pn	02 48 45.7	+0.5
RKY	Sarkoy-Tekirda	2.17	317	PN	Pn	02 48 45.8	+0.6
RKY	Sarkoy-Tekirda	2.17	317	*e*Pn	Pn	02 48 45.8	+0.6
SLVT	Silivri	2.22	342	PN	Pn	02 48 46.6	+0.7
SLVT	Silivri	2.22	342	*e*Pn	Pn	02 48 46.6	+0.7
TKR	Tekirdag	2.23	327	PN	Pn	02 48 46.7	+0.6
TKR	Tekirdag	2.23	327	*e*Pn	Pn	02 48 46.7	+0.6
CRLT	Corlu	2.27	332	PN	Pn	02 48 47.2	+0.6
CRLT	Corlu	2.27	332	*e*Pn	Pn	02 48 47.2	+0.6
CTYL	Yalikoy Yolu	2.44	345	PN	Pn	02 48 49.6	+0.7
CTYL	Yalikoy Yolu	2.44	345	*e*Pn	Pn	02 48 49.6	+0.7
TIRR	Tirgusor	5.36	355	∥ *i*P	Pn	02 49 29.4	+0.3
TIRR	Tirgusor	5.36	355	∥ *i*P	Pn	02 49 29.4	+0.3
TLCR		6.07	358	⇑ *i*P	Pn	02 49 38.8	+0.1
TLCR		6.07	358	⇑ *i*P	Pn	02 49 38.8	+0.1
CFR	Carcaliu	6.10	353	∥ *i*P	Pn	02 49 39.4	+0.2
CFR	Carcaliu	6.10	353	∥ *i*P	Pn	02 49 39.4	+0.2
MLR	Muntele Rosu	6.79	341	∥ *i*P	Pn	02 49 49.9	+1.1
MLR	Muntele Rosu	6.79	341	∥ *i*P	Pn	02 49 49.9	+1.1
VRI	Vrincioaia	6.97	346	∥ *i*P	Pn	02 49 52.2	+1.0
VRI	Vrincioaia	6.97	346	∥ *i*P	Pn	02 49 52.2	+1.0
VOIR		7.00	336	∥ *i*P	Pn	02 49 52.5	+0.9
VOIR		7.00	336	∥ *i*P	Pn	02 49 52.5	+0.9
ARR	Arges	7.08	333	∥ *i*P	Pn	02 49 53.9	+1.2
ARR	Arges	7.08	333	∥ *i*P	Pn	02 49 53.9	+1.2
DOPR	Dopca	7.38	339	∥ *i*P	Pn	02 49 58.2	+1.4
DOPR	Dopca	7.38	339	∥ *i*P	Pn	02 49 58.2	+1.4
TESR	Tescani	7.61	347	⇑ *i*P	Pn	02 50 00.0	+0.1
TESR	Tescani	7.61	347	⇑ *i*P	Pn	02 50 00.0	+0.1
BURAR	Bucovina Array	8.95	343	⇑ *i*P	Pn	02 50 19.8	+1.3
BURAR	Bucovina Array	8.95	343	⇑ *i*P	Pn	02 50 19.8	+1.3
SORM	Soroca	9.03	357	⇑ *i*P	Pn	02 50 19.4	0.0
SORM	Soroca	9.03	357	⇑ *i*P	Pn	02 50 19.4	0.0

*ISCJB **20** 02:54:04.2±0.5,39°.12N±0°.02×29°.12E±0°.02, h2km±4km, Error ellipse: s-maj=3.5km s-min=2.9km az=6.1*
*CSEM **20** 02:54:04.7±0.1,39°.11N×29°.13E, h5km, ML3.5, Error ellipse: s-maj=1.6km s-min=1.6km az=105.0*
*DDA **20** 02:54:04.2,39°.09N×29°.11E, h7km, Ml3.5*
*ISK **20** 02:54:04.3,39°.11N×29°.12E, h5km, ML3.5/42*
ISC 20 02:54:04.7±0.9, 39°.12N±0°.02×29°.12E±0°.02, h7km±7km, n130, σ0°72/154, 7C-10D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIMA	Simav-Kutahya	0.11	249	PG	Pg	02 54 07.4	+0.2
SIMA				SG	Sg	02 54 09.9	0.0
SIMA	Simav-Kutahya	0.11	249	*e*Pg	Pg	02 54 07.4	+0.2
SIMA				*e*Sg	Sg	02 54 08.9	0.0
GDZ	Gediz	0.29	97	*i* P	Pg	02 54 10.1	-0.2
GDZ				*i* S	Sg	02 54 14.5	+0.3
GDZ	Gediz	0.29	97	P	Pg	02 54 10.1	-0.2
GDZ				S	Sg	02 54 14.5	+0.3
TVSB	Tavsanli	0.42	39	PG	Pg	02 54 12.5	-0.4
TVSB	Tavsanli	0.42	39	*e*Pg	Pg	02 54 12.5	-0.4
DURS	Dursunbey	0.69	314	*i* P	Pg	02 54 17.9	-0.1
DURS				*i* S	Sn	02 54 31.6	-0.4
DURS	Dursunbey	0.69	314	P	Pg	02 54 17.9	-0.1
DURS				S	Sn	02 54 31.6	-0.4
KULA	Kula-Manisa	0.70	210	PG	Pg	02 54 18.1	-0.1
KULA	Kula-Manisa	0.70	210	*e*Pg	Pg	02 54 18.1	-0.1
MANT	Manisa	0.77	215	*i* P	Pg	02 54 19.3	-0.2
MANT				*i* S	Sg	02 54 28.4	-1.0
MANT	Manisa	0.77	215	P	Pg	02 54 19.3	-0.2
MANT				S	Sg	02 54 28.4	-1.0
KHAL	Karahalli	0.81	159	*i* P	Pg	02 54 20.0	-0.2
KHAL				*i* S	Sg	02 54 30.3	-0.4
KHAL	Karahalli	0.81	159	P	Pg	02 54 20.0	-0.2
KHAL				S	Sg	02 54 30.3	-0.4
KHL	Karahalli	0.86	158	PG	Pg	02 54 21.1	-0.1
KHL	Karahalli	0.86	158	*e*Pg	Pg	02 54 21.1	-0.1
ORLT	Orhaneli	0.94	350	PG	Pg	02 54 22.9	+0.2
ORLT	Orhaneli	0.94	350	*e*Pg	Pg	02 54 22.9	+0.2
AKHS	Akhisar	1.04	257	*i* P	Pg	02 54 24.2	-0.5
AKHS				*i* S	Sg	02 54 37.9	-0.3
AKHS	Akhisar	1.04	257	P	Pg	02 54 24.2	-0.5
AKHS				S	Sg	02 54 37.9	-0.3
AKS	Akhisar	1.04	257	PG	Pg	02 54 24.8	+0.1
AKS	Akhisar	1.04	257	*e*Pg	Pg	02 54 24.8	+0.1
AUBOZ	BOZOYUK	1.06	42	*i* P	Pg	02 54 24.9	-0.1
AUBOZ				*i* S	Sn	02 54 42.6	+1.6
AUBOZ	BOZOYUK	1.06	42	P	Pg	02 54 24.9	-0.1
AUBOZ				S	Sn	02 54 42.6	+1.6
AUKUT	KUTAHYA	1.09	40	*i* P	Pg	02 54 19.2	-6.3
AUKUT				*i* S	Sg	02 54 30.1	-9.5
BALB	Balikesir	1.09	299	PN	Pb	02 54 26.1	+0.3
BALB	Balikesir	1.09	299	*e*Pn	Pb	02 54 26.1	+0.3
STEP	BALIKESIR_Sava	1.11	284	*i* P	Pn	02 54 27.0	+0.3
STEP				*i* S	Sn	02 54 42.1	-0.2
STEP	BALIKESIR_Sava	1.11	284	P	Pn	02 54 27.0	+0.3
STEP				S	Sn	02 54 42.2	-0.2
KZIL	AFYON_Kizioren	1.18	137	*i* P	Pn	02 54 28.1	+0.4
KZIL				*i* S	Sb	02 54 43.2	+0.2
KZIL	AFYON_Kizioren	1.18	137	P	Pn	02 54 28.1	+0.4
KZIL				S	Sb	02 54 43.2	+0.2
CAVI	Cavuskoy	1.21	27	PN	Pn	02 54 28.1	0.0
CAVI	Cavuskoy	1.21	27	*e*Pn	Pn	02 54 28.1	0.0
IZI	Iznik	1.24	13	PN	Pn	02 54 28.6	0.0
IZI	Iznik	1.24	13	*e*Pn	Pn	02 54 28.6	0.0
MDNY	Mudanya-Bursa	1.26	352	PN	Pn	02 54 28.9	+0.2
MDNY	Mudanya-Bursa	1.26	352	*e*Pn	Pn	02 54 28.9	+0.2
SHUT	Suhut-Afyon	1.26	117	PN	Pg	02 54 28.6	-0.2
SHUT	Suhut-Afyon	1.26	117	*e*Pn	Pg	02 54 28.6	-0.2
BORA	Eskisehir	1.28	53	*i* P	Pb	02 54 29.2	0.0
BORA				*i* S	Sn	02 54 47.2	+0.6
BORA	Eskisehir	1.28	53	P	Pb	02 54 29.2	0.0
BORA				S	Sn	02 54 47.2	+0.6
KCTX	Karacabey (Bur	1.28	333	PN	Pg	02 54 29.5	+0.2
KCTX	Karacabey (Bur	1.28	333	*e*Pn	Pg	02 54 29.5	+0.2
GEMT	Gemlik	1.31	2	PN	Pg	02 54 30.1	+0.3
GEMT	Gemlik	1.31	2	*e*Pn	Pg	02 54 30.1	+0.3
DENT	Denizli	1.37	183	PN	Pn	02 54 30.5	+0.3
DENT	Denizli	1.37	183	*e*Pn	Pn	02 54 30.5	+0.3
ADVT	Abdulvahap	1.39	20	PN	Pb	02 54 31.1	+0.1
ADVT	Abdulvahap	1.39	20	*e*Pn	Pb	02 54 31.1	+0.1
ESKT	Eskisehir	1.40	73	PN	Pb	02 54 31.2	-0.1
ESKT	Eskisehir	1.40	73	*i* P	Pn	02 54 29.8	-1.0
ESKT				*i* S	Sb	02 54 47.0	-2.4
ESKT	Eskisehir	1.40	73	*e*Pn	Pb	02 54 31.2	-0.1
SEYT	Eskypehyr	1.40	73	P	Pn	02 54 29.8	-0.9
SEYT				S	Sb	02 54 47.0	-2.4
GONE	Gonen-Balikesi	1.44	310	PN	Pb	02 54 31.8	0.0
GONE	Gonen-Balikesi	1.44	310	*e*Pn	Pb	02 54 31.8	0.0
ARMT	Armutlu	1.45	352	PN	Pb	02 54 32.1	0.0
ARMT	Armutlu	1.45	352	*e*Pn	Pb	02 54 32.1	0.0
YLV	Yalova	1.46	8	PN	Pb	02 54 32.1	0.0
YLV	Yalova	1.46	8	*e*Pn	Pb	02 54 32.1	0.0
GPA	Golpazari	1.48	38	PN	Pb	02 54 32.4	-0.2
GPA	Golpazari	1.48	38	*e*Pn	Pb	02 54 32.4	-0.2
BOLV	Bolvadin	1.49	105	*i* P	Pn	02 54 31.8	-0.1
BOLV				*i* S	Sn	02 54 51.1	-0.6
BOLV	Bolvadin	1.49	105	P	Pn	02 54 31.8	-0.1
BOLV				S	Sn	02 54 51.1	-0.6
AYDB	Zeytinkoy-Aydi	1.52	220	PN	Pn	02 54 32.7	+0.3
AYDB	Zeytinkoy-Aydi	1.52	220	*e*Pn	Pn	02 54 32.7	+0.3
EDC	Edincik	1.56	322	PN	Pb	02 54 33.5	-0.3
EDC	Edincik	1.56	322	*e*Pn	Pb	02 54 33.5	-0.3
BRDR	BURDUR-Merkez	1.61	152	*i* P	Pn	02 54 33.3	-0.3
BRDR				*i* S	Sg	02 55 00.1	+3.8
BRDR	BURDUR-Merkez	1.61	152	P	Pn	02 54 33.3	-0.3
GULT	Gulveren	1.69	39	PN	Pn	02 54 35.4	+0.6
GULT	Gulveren	1.69	39	*e*Pn	Pn	02 54 35.4	+0.6
ISP	Isparta	1.70	139	PN	Pn	02 54 35.3	+0.4
ISP	Isparta	1.70	139	*e*Pn	Pn	02 54 35.3	+0.4
DKL	Dikili	1.72	269	PN	Pn	02 54 35.7	+0.7
DKL	Dikili	1.72	269	*e*Pn	Pn	02 54 35.7	+0.7
BUY	Buyukada	1.73	0	PN	Pn	02 54 35.8	+0.7
BUY	Buyukada	1.73	0	*e*Pn	Pn	02 54 35.8	+0.7
HRT	Hereke	1.75	14	PN	Pn	02 54 35.9	+0.4
HRT	Hereke	1.75	14	*e*Pn	Pn	02 54 35.9	+0.4
BLCB	Balcova	1.78	246	PN	Pn	02 54 36.5	+0.6
BLCB	Balcova	1.78	246	*e*Pn	Pn	02 54 36.5	+0.6
SPNC	Sapanca-Adapaz	1.81	30	PN	Pn	02 54 37.1	+0.8
SPNC	Sapanca-Adapaz	1.81	30	*e*Pn	Pn	02 54 37.1	+0.8
SAUV	Serdivan-Sakar	1.86	30	PN	Pn	02 54 37.8	+0.8
SAUV	Serdivan-Sakar	1.86	30	*e*Pn	Pn	02 54 37.8	+0.8
KRBG	Karabiga-Canak	1.89	313	PN	Pn	02 54 38.3	+0.9
KRBG	Karabiga-Canak	1.89	313	*e*Pn	Pn	02 54 38.3	+0.9
SVRH	Sivrihisar-ESK	1.90	79	PN	Pn	02 54 38.2	+0.7
SVRH	Sivrihisar-ESK	1.90	79	*e*Pn	Pn	02 54 38.2	+0.7
FOCM	Fo¨ça	1.91	258	PN	Pn	02 54 38.4	+0.8
FOCM	Fo¨ça	1.91	258	*e*Pn	Pn	02 54 38.4	+0.8
ISK	Istanbul-Kandi	1.94	359	PN	Pn	02 54 38.9	+0.8
ISK	Istanbul-Kandi	1.94	359	*e*Pn	Pn	02 54 38.9	+0.8
SBT3	Marmara-Eregli	1.96	334	PN	Pn	02 54 39.4	+1.2
SBT3	Marmara-Eregli	1.96	334	*e*Pn	Pn	02 54 39.4	+1.2
SILT	Sile	2.07	11	PN	Pn	02 54 39.8	0.0
SILT	Sile	2.07	11	*e*Pn	Pn	02 54 39.8	0.0
MDUB	Mudurnu	2.09	49	PN	Pn	02 54 41.1	+0.8
MDUB	Mudurnu	2.09	49	*e*Pn	Pn	02 54 41.1	+0.8
KLYT	Kilyos	2.13	358	PN	Pn	02 54 40.8	+0.2
KLYT	Kilyos	2.13	358	*e*Pn	Pn	02 54 40.8	+0.2
RKY	Sarkoy-Tekirda	2.16	317	PN	Pn	02 54 42.1	+1.0
RKY	Sarkoy-Tekirda	2.16	317	*e*Pn	Pn	02 54 42.1	+1.0
CTKS	Kestanelik-??a	2.16	348	PN	Pn	02 54 42.1	+1.0
CTKS	Kestanelik-??a	2.16	348	*e*Pn	Pn	02 54 42.1	+1.0
SLVT	Silivri	2.22	342	PN	Pn	02 54 42.9	+1.1
SLVT	Silivri	2.22	342	*e*Pn	Pn	02 54 42.9	+1.1
TKR	Tekirdag	2.22	327	PN	Pn	02 54 43.0	+1.0
TKR	Tekirdag	2.22	327	*e*Pn	Pn	02 54 43.0	+1.0
CRLT	Corlu	2.27	333	PN	Pn	02 54 43.6	+1.1
CRLT	Corlu	2.27	333	*e*Pn	Pn	02 54 43.6	+1.1
CTYL	Yalikoy Yolu	2.43	345	PN	Pn	02 54 45.9	+1.1
CTYL	Yalikoy Yolu	2.43	345	*e*Pn	Pn	02 54 45.9	+1.1
ANTO	Ankara	2.94	74	⇑ *i*P	Pg	02 55 01.4	+0.4
TIRR	Tirgusor	5.36	355	∥ *i*P	Pn	02 55 24.3	-0.7
TIRR	Tirgusor	5.36	355	∥ *i*P	Pn	02 55 24.3	-0.7
TLCR		6.06	358	⇑ *i*P	Pn	02 55 35.6	+0.9
TLCR		6.06	358	⇑ *i*P	Pn	02 55 35.6	+0.9
CFR	Carcaliu	6.09	353	⇑ *i*P	Pn	02 55 35.5	+0.4
CFR	Carcaliu	6.09	353	⇑

KHAL				*i* S	**Sb**	**03 04 16.8**	**-0.6**
KHAL	**Karahalli**	**0.77**	**159**	P	**Pb**	**03 04 07.0**	**+0.3**
KHAL				S	**Sb**	**03 04 16.8**	**-0.6**
BALB	**Balikesir**	**1.12**	**299**	PN	**Pb**	**03 04 12.5**	**0.0**
BALB	**Balikesir**	**1.12**	**299**	*e*Pn	**Pb**	**03 04 12.5**	**0.0**
SHUT	**Suhut-Afyon**	**1.22**	**116**	PN	**Pg**	**03 04 14.1**	**-0.3**
SHUT	**Suhut-Afyon**	**1.22**	**116**	*e*Pn	**Pg**	**03 04 14.1**	**-0.3**
CAVI	**Cavuskoy**	**1.23**	**26**	PN	**Pg**	**03 04 13.9**	**-0.6**
CAVI	**Cavuskoy**	**1.23**	**26**	*e*Pn	**Pg**	**03 04 13.9**	**-0.6**
BORA	**Eskisehir**	**1.28**	**52**	*i* P	**Pg**	**03 04 15.4**	**0.0**
BORA				*i* S	**Sn**	**03 04 32.7**	**+0.2**
BORA	**Eskisehir**	**1.28**	**52**	P	**Pg**	**03 04 15.4**	**0.0**
BORA				S	**Sn**	**03 04 32.7**	**+0.2**
MDNY	**Mudanya-Bursa**	**1.29**	**351**	PN	**Pn**	**03 04 15.1**	**-0.1**
MDNY	**Mudanya-Bursa**	**1.29**	**351**	*e*Pn	**Pn**	**03 04 15.1**	**-0.1**
YLV	**Yalova**	**1.48**	**7**	PN	**Pn**	**03 04 17.9**	**0.0**
YLV	**Yalova**	**1.48**	**7**	*e*Pn	**Pn**	**03 04 17.9**	**0.0**
GULT	**Gulveren**	**1.70**	**38**	PN	**Pn**	**03 04 21.3**	**+0.4**
GULT	**Gulveren**	**1.70**	**38**	*e*Pn	**Pn**	**03 04 21.3**	**+0.4**

MEX 20 03:05:13.6±0.7, 18°.19N×103°.38W, h13km, MD3.8, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMIG	**Aquila**	**0.11**	**20**	*e*P	Pg	03 05 15.7	-1.0
MMIG				*i* S	Sg	03 05 18.2	-0.7
EZ5V		**1.30**	**351**	*e*P	Pn	03 05 34.3	-3.5
EZ5V				*e*S	Sb	03 05 50.0	-4.9
ARIG	**Puente Sto Nin**	**2.89**	**88**	*e*P	Pn	03 05 58.9	-0.5
ARIG				*e*S	Sn	03 06 34.0	0.0

*BJI **20** 03:05:40.0, 32°.54N×46°.31E, h40km, mb4.8/51, mB5.0/38, Ms5.0/39, Ms7 4.6/37*
*ISCJB **20** 03:05:40.0±0.5, 32°.50N±0°.02×46°.97E±0°.01, h9km±3km, mb4.8/162, MS4.6/40, Error ellipse: s-maj=3.2km s-min=2.0km az=11.7*
*IDC **20** 03:05:40.1±0.4, 32°.57N×47°.06E, h0km, mb4.5/43, mb1 4.6/52, mb1mx4.5/71, mbtmp4.5/52, ML3.6/7, MS4.4/20, Ms1 4.4/20, ms1mx4.3/33, Error ellipse: s-maj=11.2km s-min=9.0km az=2.0*
*NEIC **20** 03:05:41.8±0.2, 32°.45N×46°.99E, h10km, mb5.0/71, ML4.7(THR), MN4.8(TEH), Error ellipse: s-maj=4.9km s-min=3.0km az=187.0*
*THR **20** 03:05:41.3±0.5, 32°.48N×46°.81E, h18km±5km, ML4.7*
*GCMT **20** 03:05:41.8±0.1, 32°.63N×46°.73E, h12km, MW5.2/125, Moment Tensor Solution. s76,c110; s125,c234; Duration: 1s0 Moment tensor: Scale 10^17 Nm; Mrr0.82±.01; Mθθ-0.59±.01; Mφφ-0.22±.01; Mrθ0.01±.04; Mrφ0.43±.01; Mθr-0.20±.04; Best double couple: M0 0.87300×10^17 NP1:φs135.00000°, δ50.00000°, λ105.00000°. NP2:φs292.00000°, δ42.00000°, λ73.00000°. Principal axes: T 0.8590, Plg78.0000°, Azm104.0000°; N 0.0280, Plg11.0000°, Azm305.0000°; P -0.8870, Plg4.0000°, Azm214.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*MOS **20** 03:05:42.0±1.1, 32°.58N×47°.01E, h22km, mb4.9/67, MS4.3/27 Error ellipse: s-maj=5.4km s-min=3.4km az=113.0*
*CSEM **20** 03:05:42.0±0.1, 32°.51N×46°.99E, h10km, mb4.9/71, Error ellipse: s-maj=3.9km s-min=2.6km az=13.0*
*OMAN **20** 03:05:43.8±99.0, 32°.47N×47°.18E, h8km±178km, Error ellipse: s-maj=34.2km s-min=13.7km az=245.0*
*ISN **20** 03:05:44.4±1.0, 32°.57N×46°.99E, h32km±4km, ML4.9*
*GII **20** 03:05:44.9±0.0, 32°.62N×47°.01E, h30km*
*TEH **20** 03:05:44.4, 32°.54N×46°.99E, h10km, ML4.8*
*DSN **20** 03:05:47.9±0.9, 32°.76N×47°.87E, h34km, mb6.0/10, Error ellipse: s-maj=26.9km s-min=7.2km az=49.0*
*NSSC **20** 03:06:55.5±0.9, 34°.36N×44°.81E, h37km±999km, ML4.3*

ISC 20 03:05:42.9±0.5, 32°.52N±0°.02×47°.04E±0°.02, h17km±3km, n795, σ1§94/866, mb4.8/161, MS4.6/41, 68C-36D, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKFM	**Kafar-mosalman**	**1.21**	**34**	*e*Sg	**Sg**	**03 06 22.1**	**+0.1**
IKFM				*e*Pg	**Pb**	**03 06 05.4**	**+0.1**
IKFM				*e*AMB	AMB	03 06 31.3	
	comp=Z,99nm,0.4s						
SHGR	**Shooshtar-Gavs**	**1.54**	**105**	Pg	**Pg**	**03 06 12.0**	**-0.7**
SHGR				Sg	**Sg**	**03 06 35.0**	**+2.2**
SHGR	**Shooshtar-Gavs**	**1.54**	**105**	Pg	**Pg**	**03 06 12.0**	**-0.7**
SHGR				Sg	**Sg**	**03 06 35.0**	**+2.2**
SHGR	**Shooshtar-Gavs**	**1.54**	**105**	*e*Pg	**Pg**	**03 06 12.9**	**+0.3**
SHGR				*e*Sg	**Sg**	**03 06 35.8**	**+3.0**
SHGR				AML	AML	03 06 39.8	
	comp=N,9μm,0.5s						
SHGR				AML	AML	03 06 43.3	
	comp=E,9μm,0.4s						
IKOM	**Komasi**	**1.69**	**13**	*e*Pg	**Pb**	**03 06 14.2**	**+0.5**
IKOM				*e*Sg	**Sg**	**03 06 37.6**	**0.0**
IKOM				*e*AMB	AMB	03 06 45.6	
	comp=Z,7μm,0.5s						
IKOM	**Komasi**	**1.69**	**13**	Pg	**Pb**	**03 06 14.2**	**+0.5**
IKOM				Sg	**Sg**	**03 06 37.5**	**0.0**
IKOM	**Komasi**	**1.69**	**13**	*e*Pg	**Pb**	**03 06 14.2**	**+0.5**
IKOM				Sg	**Sg**	**03 06 37.5**	**0.0**
NSR	**Nassriya**	**1.69**	**207**	*e*Pn	**Pb**	**03 06 13.0**	**-0.6**
	SNR=5.0						
NSR				*i* Sn	**Sb**	**03 06 35.0**	**+0.4**
	SNR=5.0						
IGHG	**Ghaleghazi**	**1.84**	**348**	*e*Pn	**Pg**	**03 06 17.2**	**-1.2**
IGHG				*e*AMB	AMB	03 06 53.3	
	comp=Z,12μm,0.4s						
IGHG	**Ghaleghazi**	**1.84**	**348**	Pn	**Pg**	**03 06 17.2**	**-1.2**
IGHG	**Ghaleghazi**	**1.84**	**348**	*e*Pn	**Pg**	**03 06 17.2**	**-1.2**
IVIS	**Veis**	**2.00**	**355**	*e*Pn	**Pb**	**03 06 17.6**	**-1.4**
IVIS				*e*AMB	AMB	03 06 50.5	
	comp=Z,23μm,0.3s						
IVIS	**Veis**	**2.00**	**355**	Pn	**Pb**	**03 06 17.6**	**-1.4**
IVIS	**Veis**	**2.00**	**355**	*e*Pn	**Pb**	**03 06 17.6**	**-1.4**
BHD	**Baghdad**	**2.36**	**289**	*e*Pn	**Pn**	**03 06 21.8**	**+0.9**
	SNR=54						
BHD				*i* Sn	**Sn**	**03 06 49.0**	**-0.4**
	SNR=5.0						
ILIN	**Lien**	**2.39**	**358**	*e*Pn	**Pb**	**03 06 23.7**	**-2.0**
ILIN				*e*AMB	AMB	03 07 05.8	
	comp=Z,64μm,0.4s						
ILIN	**Lien**	**2.39**	**358**	Pn	**Pb**	**03 06 23.7**	**-2.0**
ILIN	**Lien**	**2.39**	**358**	*e*Pn	**Pb**	**03 06 23.7**	**-2.0**
SNGE	**Sanandaj**	**2.58**	**6**	Pn	**Pn**	**03 06 25.0**	**+1.0**
SNGE				Sg	**Sg**	**03 07 04.0**	**-1.8**
SNGE	**Sanandaj**	**2.58**	**6**	Pn	**Pn**	**03 06 25.0**	**+1.0**
SNGE				Sg	**Sg**	**03 07 04.0**	**-1.8**
SNGE	**Sanandaj**	**2.58**	**6**	*e*Pn	**Pn**	**03 06 25.6**	**+1.6**
SNGE				*e*Sg	**Sg**	**03 07 04.3**	**-1.5**
SNGE				AML	AML	03 07 13.6	
	comp=N,3μm,0.6s						
SNGE				AML	AML	03 07 14.9	
	comp=E,4μm,0.7s						
KHMZ	**Khomeyn**	**2.73**	**63**	Pn	**Pb**	**03 06 29.0**	**-2.4**
KHMZ	**Khomeyn**	**2.73**	**63**	*e*Pn	**Pb**	**03 06 29.0**	**-2.4**
KHMZ	**Khomeyn**	**2.73**	**63**	*e*Pn	**Pb**	**03 06 29.0**	**-2.4**
HAGD	**Aghdareh**	**2.88**	**37**	*e*Pn	**Pn**	**03 06 30.6**	**+2.3**
HAGD				*e*AMB	AMB	03 07 29.2	
	comp=Z,99nm,0.6s						
HAGD	**Aghdareh**	**2.88**	**37**	*e*Pn	**Pn**	**03 06 30.6**	**+2.3**
ASAO	**Ashtian**	**3.21**	**50**	Pn	**Pn**	**03 06 35.0**	**+2.2**
ASAO	**Ashtian**	**3.21**	**50**	Pn	**Pn**	**03 06 35.0**	**+2.2**
ASAO	**Ashtian**	**3.21**	**50**	*e*Pn	**Pn**	**03 06 35.6**	**+2.8**
HKZM	**Kohzaman**	**3.24**	**28**	*e*Pn	**Pn**	**03 06 36.3**	**+3.1**
HKZM				*e*AMB	AMB	03 07 18.3	
	comp=Z,99nm,0.5s						
HKZM	**Kohzaman**	**3.24**	**28**	*e*Pn	**Pn**	**03 06 36.3**	**+3.1**
IPIR	**Pirpir**	**3.25**	**86**	*e*Pn	**Pb**	**03 06 36.9**	**-3.5**
IPIR				*e*AMB	AMB	03 07 20.2	
	comp=Z,26μm,0.3s						
IPIR	**Pirpir**	**3.25**	**86**	Pn	**Pb**	**03 06 36.9**	**-3.5**
IPIR	**Pirpir**	**3.25**	**86**	*e*Pn	**Pb**	**03 06 36.9**	**-3.5**
QAM	**Ghamsar**	**3.89**	**70**	*e*Pn	**Pn**	**03 06 45.4**	**+3.3**
QAM				*e*AMB	AMB	03 07 38.7	
	comp=Z,9μm,0.2s						
IKLH	**Kolahrood**	**3.90**	**77**	*e*Pn	**Pn**	**03 06 45.3**	**+3.1**
IKLH				*e*AMB	AMB	03 07 57.0	
	comp=Z,8μm,0.4s						
IKLH	**Kolahrood**	**3.90**	**77**	*e*Pn	**Pn**	**03 06 45.3**	**+3.1**
GHVR	**GHOM**	**4.05**	**60**	Pn	**Pn**	**03 06 46.0**	**+1.8**
GHVR	**GHOM**	**4.05**	**60**	Pn	**Pn**	**03 06 46.0**	**+1.8**
GHVR	**GHOM**	**4.05**	**60**	*e*Pn	**Pn**	**03 06 46.9**	**+2.7**
ZNJK	**Zanjan**	**4.35**	**18**	Pn	**Pn**	**03 06 50.0**	**+1.5**
ZNJK	**Zanjan**	**4.35**	**18**	Pn	**Pn**	**03 06 50.0**	**+1.5**
ZNJK	**Zanjan**	**4.35**	**18**	*e*Pn	**Pn**	**03 06 50.3**	**+1.8**
IMHD	**Mahdasht**	**4.36**	**43**	*e*Pn	**Pn**	**03 06 50.9**	**+2.5**
IMHD				*e*AMB	AMB	03 08 08.7	
	comp=Z,7μm,0.5s						
IMHD	**Mahdasht**	**4.36**	**43**	Pn	**Pn**	**03 06 50.8**	**+2.4**
IMHD	**Mahdasht**	**4.36**	**43**	Pn	**Pn**	**03 06 50.8**	**+2.4**
IZEF	**Zefreh**	**4.47**	**84**	*e*Pn	**Pn**	**03 06 52.2**	**+2.0**
IZEF				*e*AMB	AMB	03 07 47.0	
	comp=Z,3μm,0.2s						
IZEF	**Zefreh**	**4.47**	**84**	Pn	**Pn**	**03 06 52.1**	**+1.9**
IZEF	**Zefreh**	**4.47**	**84**	Pn	**Pn**	**03 06 52.1**	**+1.9**
IRAM	**Ramesheh**	**4.58**	**98**	*e*Pn	**Pn**	**03 06 53.7**	**+2.0**
IRAM				*e*AMB	AMB	03 08 26.8	
	comp=Z,7μm,0.5s						
IRAM	**Ramesheh**	**4.58**	**98**	Pn	**Pn**	**03 06 53.6**	**+1.9**
IRAM	**Ramesheh**	**4.58**	**98**	Pn	**Pn**	**03 06 53.6**	**+1.9**
IVRN	**Varamin**	**4.62**	**56**	*e*Pn	**Pn**	**03 06 54.6**	**+2.6**
IVRN				*e*AMB	AMB	03 08 29.7	
	comp=Z,7μm,0.5s						
IVRN	**Varamin**	**4.62**	**56**	Pn	**Pn**	**03 06 54.5**	**+2.6**
IVRN	**Varamin**	**4.62**	**56**	Pn	**Pn**	**03 06 54.5**	**+2.6**
IGZV	**Ghazvin**	**4.66**	**33**	*e*Pn	**Pn**	**03 06 54.4**	**+1.7**
IGZV				*e*AMB	AMB	03 08 41.7	
	comp=Z,5μm,0.4s						
IGZV	**Ghazvin**	**4.66**	**33**	Pn	**Pn**	**03 06 54.3**	**+1.6**
IGZV	**Ghazvin**	**4.66**	**33**	Pn	**Pn**	**03 06 54.3**	**+1.6**
IKAZ	**Kazeroun**	**4.94**	**122**	*e*Pn	**Pn**	**03 06 59.2**	**+2.6**
IKAZ				*e*AMB	AMB	03 08 08.1	
	comp=Z,13μm,0.4s						
IKAZ	**Kazeroun**	**4.94**	**122**	*e*Pn	**Pn**	**03 06 59.2**	**+2.6**
IDMV	**Damavand**	**5.14**	**52**	*e*AMB	AMB	03 08 40.6	
	comp=Z,33μm,1.0s						
YOVA	**Hakkari_Y¨…kse**	**5.53**	**337**	*i* P	**Pn**	**03 07 00.2**	**-4.5**
IFIR	**Firoozkooh**	**5.67**	**55**	*e*AMB	AMB	03 07 34.5	
	comp=Z,1μm,0.2s						
IFIR				*e*Pn	**Pn**	**03 07 08.1**	**+1.5**
RTB	**Rutbah**	**5.70**	**277**	*e*Pn	**Pn**	**03 07 08.0**	**+1.2**
	SNR=5.0						
RTB				*i* Sn	**Sn**	**03 08 10.0**	**-1.8**
	SNR=5.0						
ISRV	**Sarvestan**	**6.08**	**119**	*e*Pn	**Pn**	**03 07 13.3**	**+1.0**
ISRV				*e*AMB	AMB	03 08 44.8	
	comp=Z,3μm,0.3s						
ISRV	**Sarvestan**	**6.08**	**119**	Pn	**Pn**	**03 07 13.3**	**+1.0**
ISRV	**Sarvestan**	**6.08**	**119**	*e*Pn	**Pn**	**03 07 13.3**	**+1.0**
SIRT	**Sirnak**	**6.24**	**324**	*e*P	**Pn**	**03 07 11.2**	**-3.1**
SIRN	**S¨–rnak**	**6.25**	**324**	*i* P	**Pn**	**03 07 13.1**	**-1.2**
GEVA	**Gevas**	**6.63**	**332**	*i* P	Pn	03 07 10.6	-9.1
TVAN	**Van**	**6.69**	**335**	*i* P	Pn	03 07 13.1	-7.4
VANB	**Van**	**6.75**	**335**	*e*P	**Pn**	**03 07 20.6**	**-0.7**
SRTM	**Siirt_Merkez**	**6.88**	**324**	*i* P	**Pn**	**03 07 20.9**	**-2.1**
VMUR	**Van-Muradiye**	**7.04**	**337**	*i* P	**Pn**	**03 07 27.4**	**+2.0**
CLDR	**Caldiran**	**7.08**	**340**	*e*P	**Pn**	**03 07 26.2**	**+0.3**
CLDR	**Caldiran**	**7.08**	**340**	*i* P	**Pn**	**03 07 24.8**	**-1.1**
BTMN	**Batman**	**7.14**	**320**	*i* P	**Pn**	**03 07 26.1**	**-0.5**
ADCV	**BITLIS_Adilcev**	**7.19**	**332**	*i* P	**Pn**	**03 07 26.1**	**-1.3**
MAZI	**Mazidag**	**7.32**	**314**	*e*P	**Pn**	**03 07 29.2**	**+0.1**
SVAN	**Silvan-Diyarba**	**7.37**	**321**	*e*P	**Pn**	**03 07 27.5**	**-2.3**
TUTA	**Tutak**	**7.67**	**335**	*i* P	**Pn**	**03 07 31.3**	**-2.8**
AGRB	**Hanu-Agry**	**7.76**	**336**	*e*P	**Pn**	**03 07 36.3**	**+1.0**
TASB	**TATBURUN-IGDIR**	**7.78**	**344**	*e*P	Pn	03 07 41.7	+6.3
DYBB	**Diyarbakir**	**7.82**	**316**	*e*P	**Pn**	**03 07 35.5**	**-0.5**
GNI	**Garni**	**7.83**	**347**	Pn	**Pn**	**03 07 37.0**	**+0.7**
	comp=Z,0.3nm,0.3s,baz=198,slow=20,SNR=3.1						
GNI				Lg	Lg	03 09 46.3	
	comp=Z,1.3nm,0.3s,baz=106,slow=18,SNR=2.0						
GNI				LR	LR	03 11 11.6	
	comp=Z,4μm,20.9s,baz=166,slow=42						
GNI	**Garni**	**7.83**	**347**	*i* P	**Pn**	**03 07 35.0**	**-1.2**
GNI	**Garni**	**7.83**	**347**	*i* P	**Pn**	**03 07 35.0**	**-1.2**
EKAR	**Karacoban**	**7.84**	**330**	*i* P	**Pn**	**03 07 35.2**	**-1.2**
VRTB	**Varto-Mus**	**8.03**	**327**	*e*P	**Pn**	**03 07 36.7**	**-2.1**
VRTB	**Varto-Mus**	**8.03**	**327**	*i* P	**Pn**	**03 07 39.1**	**+0.2**
EATA	**Eleskirt**	**8.19**	**335**	*i* P	**Pn**	**03 07 39.1**	**-2.2**
BNGB	**Bing¨¶l**	**8.27**	**323**	*e*P	**Pn**	**03 07 40.0**	**-2.1**
SLMH	**Al Salmeh**	**8.39**	**299**	*e*P	Pb	03 08 21.8	+14
SLMH				*e*S	**Sn**	**03 09 23.8**	**+5.9**
SLMH				AML	AML	03 10 26.8	
	comp=N,533nm,0.7s						
SLMH				AML	AML	03 10 35.9	
	comp=E,403nm,0.6s						
ASF	**Jabal al Asfar**	**8.59**	**270**	Pn	**Pn**	**03 07 45.0**	**-1.6**
	comp=E,1.9nm,0.3s,baz=71,slow=1.2,SNR=11						
ASF				Sn	**Sn**	**03 09 18.0**	**-5.1**
	comp=E,3.4nm,0.3s,baz=52,slow=19,SNR=2.5						
ASF				Lg	Lg	03 10 08.8	
	comp=E,5.8nm,0.3s,baz=45,slow=20,SNR=5.6						
ASF				LR	LR	03 11 44.7	
	comp=E,2μm,19.4s,baz=42,slow=42						
ASF	**Jabal al Asfar**	**8.59**	**270**	P	**Pn**	**03 07 45.0**	**-1.6**
ASF				Sn		03 09 18.0	
ASF				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ASF				smax	smax		
	comp=N,3.0nm,0.3s						
ASF				MLR	MLR		
	comp=Z,2μm,19.4s						
EAK	**Akyaka**	**8.60**	**342**	*i* P	**Pn**	**03 07 46.9**	**+0.1**
ERZM	**Erzurum**	**8.68**	**330**	*i* P	Pn	03 07 41.7	-6.2
SENK	**Senkaya-Erzuru**	**8.86**	**336**	*e*P	**Pn**	**03 07 51.4**	**+1.0**
PTK	**Pertek**	**8.89**	**318**	*e*P	**Pn**	**03 07 49.8**	**-1.0**
TOTH	**TOTAH**	**8.96**	**278**	*e*P	Pn	03 08 37.4	+46
TOTH				*e*S	Sn	03 09 50.2	+18
RAYN	**Ar Rayn**	**9.07**	**189**	*e*Pn	**Pn**	**03 07 51.9**	**-1.2**
RAYN				*e*Sn	**Sn**	**03 09 31.3**	**-3.6**
RAYN	**Ar Rayn**	**9.07**	**189**	*e*Pn	**Pn**	**03 07 51.9**	**-1.2**
RAYN				*e*Sn	**Sn**	**03 09 31.3**	**-3.6**
QASN	**Qassioun**	**9.10**	**279**	*e*P	Pn	03 08 39.2	+46
QASN				*e*S	Sn	03 09 53.4	+18
QASN				AML	AML	03 10 48.2	
	comp=N,557nm,0.7s						
QASN				AML	AML	03 10 53.9	
	comp=E,902nm,0.7s						
MALT	**Malatya**	**9.10**	**312**	*e*P	**Pn**	**03 07 54.9**	**+1.4**
ERZN	**Erzincan**	**9.21**	**322**	*e*P	**Pn**	**03 07 53.5**	**-1.5**
AKH	**Akhalkalaki**	**9.31**	**343**	*e*Pn	**Pn**	**03 07 59.8**	**+3.3**
AKH	**Akhalkalaki**	**9.31**	**343**	*e*P	**Pn**	**03 07 59.8**	**+3.3**
AKH	**Akhalkalaki**	**9.31**	**343**	*e*P	**Pn**	**03 07 59.8**	**+3.3**
GAZ	**Gaziantep**	**9.31**	**303**	*e*P	Pn	03 08 03.9	+7.4
BRBR	**Barbar**	**9.36**	**278**	*e*P	Pn	03 08 42.6	+45
BRBR				*e*S	Sn	03 10 00.8	+19
BRBR				AML	AML	03 11 11.1	
	comp=E,433nm,0.7s						
BRBR				AML	AML	03 11 16.2	
	comp=N,435nm,0.7s						
BAYT	**Ayd¨–ntepe-Bay**	**9.62**	**327**	*e*P	**Pn**	**03 07 59.3**	**-1.4**
KMRS	**Kahramanmaras**	**9.69**	**304**	*e*P	**Pn**	**03 08 05.6**	**+4.1**
HMDT	**Nahal Hemdat**	**9.74**	**272**	Pn	**Pn**	**03 08 02.5**	**+0.2**
MMAI	**Mount Meron Ar**	**9.81**	**276**	Pn	**Pn**	**03 08 00.8**	**-2.5**
	comp=N,1.0nm,0.3s,baz=91,slow=15,SNR=3.7						
MMAI				Sn	**Sn**	**03 09 53.9**	**+0.8**
	comp=N,3.6nm,0.3s,baz=99,slow=18,SNR=2.8						
MMAI				Lg	Lg	03 10 49.2	
	comp=N,7.1nm,0.3s,baz=92,slow=33,SNR=4.3						
MMAI				LR	LR	03 12 35.4	
	comp=N,1μm,20.7s,baz=90,slow=42						
MMLI	**Mount Malkishu**	**9.82**	**273**	Pn	**Pn**	**03 08 03.6**	**+0.3**
DARE	**Darende-Malaty**	**9.85**	**310**	*e*P	**Pn**	**03 08 06.2**	**+2.4**
BCA	**Borcka**	**9.90**	**336**	*e*P	**Pn**	**03 08 05.6**	**+1.2**
DSI	**Dead Sea**	**9.95**	**268**	Pn	**Pn**	**03 08 05.0**	**0.0**
MZDA	**Masada**	**10.00**	**266**	Pn	**Pn**	**03 08 05.7**	**-0.1**
SLTI	**Sal'it**	**10.15**	**272**	Pn	**Pn**	**03 08 07.6**	**-0.3**
SHME	**Shamm**	**10.23**	**127**	*i* P	**Pn**	**03 08 07.7**	**-1.3**
	SNR=12						
SHME				S	**Sn**	**03 09 56.4**	**-6.9**
BANOM	**Banah**	**10.42**	**127**	P	**Pn**	**03 08 10.9**	**-0.7**
BANOM	**Banah**	**10.42**	**127**	P	**Pn**	**03 08 10.0**	**-1.6**
	SNR=16						
BANOM				S	**Sn**	**03 10 01.0**	**-7.0**
BANOM	**Banah**	**10.42**	**127**	*i* P	**Pn**	**03 08 10.0**	**-1.6**
	SNR=16						
BANOM				S	**Sn**	**03 10 01.0**	**-7.0**
MAK	**Makhachkala**	**10.43**	**2**	*e*P	**Pn**	**03 08 08.8**	**-2.8**
MAK				*e*S	**Sn**	**03 10 03.6**	**-4.3**
MAK				pmax	pmax		
	comp=Z,1μm,2.8s						
MAK				MLR	MLR		
	comp=Z,3μm,14.0s						
KOZT	**Kozan**	**10.44**	**301**	*e*P	Pn	03 08 20.1	+8.3
PRNI	**Paran**	**10.51**	**261**	Pn	**Pn**	**03 08 12.9**	**+0.1**
GEYT	**Alibeck**	**10.54**	**56**	Pn	**Pn**	**03 08 12.1**	**-1.1**
	comp=Z,0.6nm,0.3s,baz=242,slow=14,SNR=2.4						
GEYT				Lg	Lg	03 11 15.7	
	baz=258,slow=32,SNR=2.6						
GEYT				LR	LR	03 13 07.6	
	comp=Z,6μm,18.1s,baz=235,slow=43						
ZEI	**Tsey**	**10.54**	**347**	*e*P	**Pn**	**03 08 14.5**	**+1.1**
ZEI				pmax	pmax		
	comp=Z,19nm,1.5s						
AJN	**Ajban**	**10.56**	**137**	*i* P	**Pn**	**03 08 14.2**	**+0.7**
	SNR=7.6						
HRFI	**Mount Harif**	**10.57**	**260**	Pn	**Pn**	**03 08 14.1**	**+0.5**
NAZ	**Nazwa, Dubai**	**10.65**	**133**	P	**Pn**	**03 08 14.9**	**+0.1**
	SNR=21						
NAZ	**Nazwa, Dubai**	**10.65**	**133**	*i* P	**Pn**	**03 08 14.9**	**+0.1**
	SNR=21						
RMNI	**Mount Ramon**	**10.65**	**263**	Pn	**Pn**	**03 08 15.3**	**+0.5**
MSFE	**Esma-Masafi**	**10.71**	**129**	*i* P	**Pn**	**03 08 14.9**	**-0.6**
	SNR=7.8						
MBRI	**Mt Berech**	**10.74**	**259**	Pn	**Pn**	**03 08 17.3**	**+1.3**
EIL	**Elat**	**10.75**	**258**	Pn	Pn	03 08 21.9	+5.9
	comp=Z,1.1nm,0.3s,baz=83,slow=6.9,SNR=10						
EIL				Lg	Lg	03 11 23.7	
	comp=Z,3.1nm,0.3s,baz=96,slow=18,SNR=3.1						
EIL				LR	LR	03 13 33.5	
	comp=Z,3μm,19.6s,baz=80,slow=44						
EIL	**Elat**	**10.75**	**258**	Pn	**Pn**	**03 08 15.4**	**-0.7**
SVSK	**Karacayir**	**10.96**	**315**	*e*P	**Pn**	**03 08 19.9**	**+1.0**
UOSS	**Minazif**	**11.02**	**131**	*e*Pn	**Pn**	**03 08 19.5**	**-0.4**
UOSS				*e*Sn	**Sn**	**03 10 18.0**	**-4.8**
UOSS	**Minazif**	**11.02**	**131**	*e*Pn	**Pn**	**03 08 19.5**	**-0.4**
UOSS				*e*Sn	**Sn**	**03 10 18.0**	**-4.8**
UOSS	**Minazif**	**11.02**	**131**	*i* P	**Pn**	**03 08 19.3**	**-0.6**
	SNR=9.3						
MZR	**Muzera**	**11.06**	**147**	P	**Pn**	**03 08 20.2**	**-0.2**
HATD	**Hatta, Dubai**	**11.06**	**132**	P	**Pn**	**03 08 20.2**	**-0.2**
	SNR=9.4						
HATD	**Hatta, Dubai**	**11.06**	**132**	*i* P	**Pn**	**03 08 20.2**	**-0.2**
	SNR=9.4						
BNN	**Bunyan**	**11.07**	**308**	*e*P	**Pn**	**03 08 24.3**	**+3.7**
ASHO	**Ashiyiah**	**11.12**	**132**	P	**Pn**	**03 08 20.7**	**-0.5**
	SNR=25						
ASHO	**Ashiyiah**	**11.12**	**132**	*i* P	**Pn**	**03 08 20.7**	**-0.5**
	SNR=25						
NEY	**Neytrino**	**11.24**	**344**	*i* P	**Pn**	**03 08 23.8**	**+1.0**
NEY	**Neytrino**	**11.24**	**344**	*i* P	**Pn**	**03 08 23.8**	**+1.0**
NCK	**Nalchik**	**11.29**	**347**	*e*P	**Pn**	**03 08 23.4**	**0.0**
	comp=Z,6.0nm,0.8s						
NCK	**Nalchik**	**11.29**	**347¶**	*e*P	**Pn**	**03 08 23.4**	**0.0**
NCK				pmax	pmax		
	comp=Z,6.0nm,0.8s						
ALNE	**Al Ain**	**11.40**	**136**	P	**Pn**	**03 08 25.5**	**+0.5**
	SNR=6.9						
ALNE	**Al Ain**	**11.40**	**136**	*i* P	**Pn**	**03 08 24.9**	**-0.1**
	SNR=18						
KBZ	**Khabaz**	**11.65**	**345**	Pn	**Pn**	**03 08 32.6**	**+4.3**
	comp=Z,0.1nm,0.3s,baz=171,slow=11,SNR=6.7						
KBZ				LR	LR	03 12 26.3	
	comp=Z,970nm,18.8s,baz=160,slow=35						
CSS	**Mathiatis**	**11.67**	**286**	*e*Pn	**Pn**	**03 08 29.4**	**+0.7**
CSS	**Mathiatis**	**11.67**	**286**	*e*Pn	**Pn**	**03 08 29.4**	**+0.7**
SOHO	**SOHO**	**11.81**	**133**	P	**Pn**	**03 08 30.0**	**-0.7**
	SNR=9.5						
SOHO	**SOHO**	**11.81**	**

APE pmax pmax
comp=Z,15nm,1.1s
KBL Kabul 18.45 78 *eP* **Pn 03 09 59.0 +1.0**
comp=Z,63nm,1.4s
KBL Kabul 18.45 78 *eP* **Pn 03 09 59.0 +1.0**
comp=Z,63nm,1.4s
KBL Kabul 18.45 78 *eP* **Pn 03 09 59.0 +1.0**
KBL pmax pmax
comp=Z,63nm,1.4s
IDI Anoyia 18.59 285 P **P 03 09 59.3 0.0**
comp=Z,2.3nm,0.3s,baz=82,slow=13,SNR=19
IDI Anoyia 18.59 285⇑ *i*P **Pn 03 10 00.1 +0.5**
IDI Anoyia 18.59 285 *eP* **P 03 09 59.5 +0.2**
comp=Z,197nm,1.2s
IDI Anoyia 18.59 285 *eP* **P 03 09 59.5 +0.2**
comp=Z,197nm,1.2s
PRD Provadia 18.77 310 P **Pn 03 10 02.0 +0.4**
TIRR Tirgusor 18.78 315⇑ *i*P **P 03 10 01.2 0.0**
TIRR Tirgusor 18.78 315 *eP* **P 03 10 01.1 -0.1**
comp=Z,85nm,1.7s
TIRR Tirgusor 18.78 315 *eP* **P 03 10 01.1 -0.1**
comp=Z,85nm,1.7s
TIRR Tirgusor 18.78 315 *eP* **P 03 10 01.1 -0.1**
TIRR pmax pmax
comp=Z,85nm,1.7s
VRH Novokhopyorsk 19.07 350 *eP* **P 03 10 03.3 -1.0**
comp=Z,980nm,15.0s
VRH Novokhopyorsk 19.07 350 *eP* **P 03 10 03.3 -1.0**
VRH pmax pmax
comp=Z,40nm,0.7s
VRH MLR MLR
comp=Z,980nm,15.0s
HARR Harsova 19.20 315⇑ *i*P **P 03 10 06.1 +0.3**
AB31 Akbulak array 19.30 26 *i* P **P 03 10 07.0 +0.1**
comp=Z,11nm,0.7s
AB31 Akbulak array 19.30 26*c i*P **P 03 10 07.0 +0.1**
AB31 pmax pmax
comp=Z,11nm,0.7s
ABKAR Akbulak array 19.30 26 *eP* **P 03 10 07.2 +0.3**
comp=Z,120nm,1.0s
ABKAR Akbulak array 19.30 26 *eP* **P 03 10 07.2 +0.3**
comp=Z,120nm,1.0s
CFR Carcaliu 19.34 316⇑ *i*P **P 03 10 06.9 -0.5**
VSR Storozhevoye 19.56 345 *eP* **P 03 10 09.1 -0.5**
comp=Z,90nm,1.4s
VSR Storozhevoye 19.56 345 *eP* **P 03 10 09.1 -0.5**
VSR *e*S **S 03 13 43.9 -5.8**
VSR pmax pmax
comp=Z,90nm,1.4s
VSR smax smax
comp=N,210nm,1.3s
VSR MLR MLR
comp=Z,1μm,12.0s
AKTK Aktyubinsk 19.66 21 *i* P **P 03 10 10.4 -0.4**
comp=Z,53nm,1.6s
AKTO Aktyubinsk 19.66 21 P **P 03 10 10.3 -0.4**
comp=Z,0.6nm,0.3s,baz=210,slow=12,SNR=21
AKTO LR LR 03 20 04.1
comp=Z,2μm,20.5s,baz=212,slow=44
AKTO Aktyubinsk 19.66 21 *i* P **P 03 10 10.4 -0.4**
AKTO pmax pmax
comp=Z,53nm,1.6s
SZH Strazhica 19.76 309 P **P 03 10 11.5 -0.5**
RZN Rozhen 19.98 304 P **P 03 10 14.0 -0.5**
VORR Voronezh 19.98 346 P **P 03 10 13.0 -1.2**
comp=Z,300nm,1.4s
VORR Voronezh 19.98 346 P **P 03 10 13.0 -1.2**
VORR pmax pmax
comp=Z,250nm,1.4s
VORR pmax pmax
comp=Z,250nm,1.6s
VORR pmax pmax
comp=Z,300nm,1.4s
KIS Kishinev 20.06 321 *eP* **P 03 10 14.0 -1.2**
comp=Z,200nm,1.3s
KIS *e*S **S 03 13 56.0 -3.9**
KIS *e*SS **SnSn 03 14 27.0 +10**
KIS *e*LQ LQ 03 18 20.0
KIS LRM MLR 03 22 44.0
comp=Z,1μm,13.0s
KIS Kishinev 20.06 321 *eP* **P 03 10 14.0 -1.2**
comp=Z,500nm,8.0s
KIS *e*S **S 03 13 56.0 -3.9**
KIS Kishinev 20.06 321 *eP* **P 03 10 14.0 -1.2**
KIS *e*S **S 03 13 56.0 -3.9**
KIS pmax pmax
comp=Z,180nm,1.3s
KIS pmax pmax
comp=Z,500nm,8.0s
PVL Pavlikeni 20.14 308 P **P 03 10 16.5 +0.5**
VILL Villia 20.14 293 P **P 03 10 16.0 -0.2**
VLI Veliai 20.26 289 P **P 03 10 15.7 -1.8**
VLI Veliai 20.26 289 P **P 03 10 15.7 -1.8**
VLI Veliai 20.26 289 P **P 03 10 15.7 -1.8**
ISR Istrita 20.26 314⇑ *i*P Pn 03 10 19.7 +0.2
SMIA Simia 20.34 295 P **P 03 10 19.2 +0.9**
LTK Loutraki 20.39 292 P **P 03 10 18.2 -0.6**
LTK Loutraki 20.39 292 P **P 03 10 18.2 -0.6**
LTK Loutraki 20.39 292 P **P 03 10 18.2 -0.6**
NEO Neokhori 20.41 296 P **P 03 10 19.4 +0.3**
NEO Neokhori 20.41 296 P **P 03 10 19.4 +0.3**
NEO Neokhori 20.41 296 P **P 03 10 19.4 +0.3**
XOR Xorichti 20.45 296 P **P 03 10 19.5 0.0**
XOR Xorichti 20.45 296 P **P 03 10 19.5 0.0**
XOR Xorichti 20.45 296 P **P 03 10 19.5 0.0**
LKR Lokris 20.46 294 P **P 03 10 20.0 +0.4**
LKR Lokris 20.46 294 P **P 03 10 20.0 +0.4**
LKR Lokris 20.46 294 P **P 03 10 20.0 +0.4**
NVR Nevrokopi 20.47 302 P **P 03 10 19.5 -0.3**
NVR Nevrokopi 20.47 302 P **P 03 10 19.5 -0.3**
NVR Nevrokopi 20.47 302 P **P 03 10 19.5 -0.3**
PLG Polygyros 20.50 299 P **P 03 10 20.3 +0.3**
PLG Polygyros 20.50 299 P **P 03 10 20.3 +0.3**
PLG Polygyros 20.50 299 P **P 03 10 20.3 +0.3**
PLG Polygyros 20.50 299 P **P 03 10 20.3 +0.3**
SECR 20.51 314⇑ *i*P Pn 03 10 22.1 -0.2
VRI Vrincioaia 20.55 316⇑ *i*P **P 03 10 20.7 +0.1**
PLOR Plostina 20.59 316⇓ *i*P Pn 03 10 22.2 -1.1
SRS Serrai 20.59 301 P **P 03 10 20.8 -0.3**
SRS Serrai 20.59 301 P **P 03 10 20.8 -0.3**
SRS Serrai 20.59 301 P **P 03 10 20.8 -0.3**
SRS Serrai 20.59 301 P **P 03 10 20.8 -0.3**
IUG Iuzhnay 20.60 56 *eP* **P 03 10 21.6 +0.4**
comp=Z,217nm,1.1s
IUG *e*S **S 03 14 10.4 -0.4**
THAL Thalero 20.62 292 P **P 03 10 20.5 -0.9**
MMB Musomiste 20.64 303 P **P 03 10 21.0 -0.6**
FYTO Fytoko, Volos 20.65 296 P **P 03 10 22.2 +0.5**
FYTO Fytoko, Volos 20.65 296 P **P 03 10 22.2 +0.5**
FYTO Fytoko, Volos 20.65 296 P **P 03 10 22.2 +0.5**
PGB Panagyurishte 20.66 306 P **P 03 10 22.0 +0.1**
SOH Sokhos 20.68 300 P **P 03 10 22.4 +0.3**
SOH Sokhos 20.68 300 P **P 03 10 22.4 +0.3**
SOH Sokhos 20.68 300 P **P 03 10 22.4 +0.3**
SOH Sokhos 20.68 300 P **P 03 10 22.4 +0.3**
DYR Agios Nikonas 20.75 289 P **P 03 10 22.3 -0.5**
DYR Agios Nikonas 20.75 289 P **P 03 10 22.3 -0.5**
VLX Vlachokerasia 20.77 290 P **P 03 10 20.2 -2.9**
VLX Vlachokerasia 20.77 290 P **P 03 10 20.2 -2.9**
VLX Vlachokerasia 20.77 290 P **P 03 10 20.2 -2.9**
DSF Desfina 20.79 293 P **P 03 10 22.4 -0.8**
DSF Desfina 20.79 293 P **P 03 10 22.4 -0.8**
DSF Desfina 20.79 293 P **P 03 10 22.4 -0.8**
MLR Muntele Rosu 20.82 315 P **P 03 10 24.1 +0.6**
comp=Z,14nm,1.1s,baz=24,slow=4.5,SNR=20
MLR Muntele Rosu 20.82 315⇓ *i*P **P 03 10 23.3 -0.3**
MLR Muntele Rosu 20.82 315 *eP* Pn 03 10 24.9 -1.1
comp=Z,87nm,1.3s
MLR Muntele Rosu 20.82 315 *eP* Pn 03 10 24.9 -1.1
comp=Z,87nm,1.3s
MLR Muntele Rosu 20.82 315 *eP* Pn 03 10 24.9 -1.1
MLR pmax pmax
comp=Z,87nm,1.3s
LPSR Galich'ya Gora 20.91 346 *eP* **P 03 10 22.9 -1.4**
LPSR *e*S **S 03 14 09.9 -6.8**
LPSR pmax pmax
comp=Z,220nm,0.8s
LPSR smax smax
comp=E,120nm,1.1s
THE Thessaloniki 20.92 300 P **P 03 10 24.7 +0.2**
THE Thessaloniki 20.92 300 P **P 03 10 24.7 +0.2**
THE Thessaloniki 20.92 300 P **P 03 10 24.7 +0.2**
THE Thessaloniki 20.92 300 P **P 03 10 24.7 +0.2**
HUMR Humele 20.94 311⇑ *i*P **P 03 10 25.4 +0.6**
HUMR Humele 20.94 311⇑ *i*P **P 03 10 25.4 +0.6**
TESR Tescani 20.96 318⇑ *i*P **P 03 10 24.1 -0.8**
TESR Tescani 20.96 318⇑ *i*P **P 03 10 24.1 -0.8**
SORM Soroca 21.04 323⇓ *i*P **P 03 10 24.6 -1.2**
SORM Soroca 21.04 323⇓ *i*P **P 03 10 24.6 -1.2**
ITM Ithomi 21.11 290 P **P 03 10 25.4 -1.2**
ITM Ithomi 21.11 290 P **P 03 10 25.4 -1.2**
ITM Ithomi 21.11 290 P **P 03 10 25.4 -1.2**
LIT Litokhoron 21.14 298 P **P 03 10 26.8 -0.2**
LIT Litokhoron 21.14 298 P **P 03 10 26.8 -0.2**
LIT Litokhoron 21.14 298 P **P 03 10 26.8 -0.2**
LIT Litokhoron 21.14 298 P **P 03 10 26.8 -0.2**
KKB Krupnik 21.19 303 P **P 03 10 26.5 -1.0**
MTUR Matau 21.22 313⇓ *i*P **P 03 10 28.3 +0.4**
MTUR Matau 21.22 313⇓ *i*P **P 03 10 28.3 +0.4**
ATD Arta Tunnel 21.25 191 P **P 03 10 32.0 +3.7**
comp=E,9.3nm,0.7s,baz=326,slow=6.9,SNR=5.3
ATD Lg Lg 03 17 00.3
comp=E,2.8nm,0.3s,baz=288,slow=20,SNR=2.9
ATD LR LR 03 19 23.0
comp=E,1μm,19.4s,baz=8.0,slow=39
KK31 Karatay Array 21.27 54 *eP* **P 03 10 28.5 +0.1**
KK31 Karatay Array 21.27 54 *eP* **P 03 10 28.5 +0.1**
KK31 Karatay Array 21.27 54 *i* P **P 03 10 28.1 -0.3**
KK31 pmax pmax
comp=Z,32nm,1.0s
KKAR Karatay Array 21.27 54 *eP* **P 03 10 27.8 -0.6**
comp=Z,5.7nm,0.3s
KKAR Karatay Array 21.27 54 *eP* **P 03 10 27.8 -0.6**
comp=Z,5.7nm,0.3s
KKAR Karatay Array 21.27 54 *eP* **P 03 10 27.8 -0.6**
KKAR pmax pmax
comp=Z,6.0nm,0.3s
VOIR 21.33 314⇑ *i*P **P 03 10 30.2 +1.1**
VOIR 21.33 314⇑ *i*P **P 03 10 30.2 +1.1**
VTS Vitosha 21.34 305⇑ *i*P **P 03 10 29.1 -0.1**
VTS Vitosha 21.34 305 *eP* **P 03 10 29.4 +0.2**
comp=Z,22nm,1.2s
VTS Vitosha 21.34 305 P **P 03 10 28.0 -1.2**
VTS Vitosha 21.34 305 *eP* **P 03 10 29.4 +0.2**
comp=Z,22nm,1.2s
VTS Vitosha 21.34 305 *eP* **P 03 10 29.4 +0.2**
VTS pmax pmax
comp=Z,23nm,1.2s
DRO Drossia 21.36 292 P **P 03 10 29.0 -0.4**
DRO Drossia 21.36 292 P **P 03 10 29.0 -0.4**
THL Klokotos Trika 21.38 296 P **P 03 10 28.7 -0.9**
THL Klokotos Trika 21.38 296 P **P 03 10 28.7 -0.9**
VAY Valandovo 21.39 301 *i* P **P 03 10 29.3 -0.3**
VAY *i* S **S 03 14 28.6 +2.1**
DOPR Dopca 21.39 315⇑ *i*P **P 03 10 30.3 +0.6**
DOPR Dopca 21.39 315⇑ *i*P **P 03 10 30.3 +0.6**
GRG Griva 21.41 300 P **P 03 10 29.2 -0.8**
GRG Griva 21.41 300 P **P 03 10 29.2 -0.8**
GRG Griva 21.41 300 P **P 03 10 29.2 -0.8**
GRG Griva 21.41 300 P **P 03 10 29.2 -0.8**
PRAR RASCA 21.68 319⇑ *i*P **P 03 10 32.1 -0.6**
PRAR RASCA 21.68 319⇑ *i*P **P 03 10 32.1 -0.6**
NIL Nilore 21.97 80 *eP* **P 03 10 37.4 +1.4**
comp=Z,107nm,0.9s
NIL Nilore 21.97 80 *eP* **P 03 10 37.4 +1.4**
comp=Z,107nm,0.9s
NIL Nilore 21.97 80 *eP* **P 03 10 37.4 +1.4**
NIL pmax pmax
comp=Z,107nm,0.9s
LOT Lotru 22.13 312⇑ *i*P **P 03 10 37.8 +0.1**
LOT Lotru 22.13 312⇑ *i*P **P 03 10 37.8 +0.1**
SRE Strehaia 22.14 310⇓ *i*P **P 03 10 38.3 +0.7**
SRE Strehaia 22.14 310⇓ *i*P **P 03 10 38.3 +0.7**
JAN Janina 22.28 296 P **P 03 10 39.4 +0.1**
JAN Janina 22.28 296 P **P 03 10 39.4 +0.1**
JAN Janina 22.28 296 P **P 03 10 39.4 +0.1**
JAN Janina 22.28 296 P **P 03 10 39.4 +0.1**
KRUS Krusevo 22.36 301 *i* P **P 03 10 41.9 +1.7**
SKO Skopje 22.39 302 *i* P **P 03 10 39.8 -0.6**
BURAR Bucovina Array 22.39 319⇑ *i*P **P 03 10 40.2 -0.2**
BURAR Bucovina Array 22.39 319⇑ *i*P **P 03 10 40.2 -0.2**
BUR04 Bucovina Ar. S 22.39 319 *eP* **P 03 10 39.7 -0.8**
BUR04 Bucovina Ar. S 22.39 319 *eP* **P 03 10 39.7 -0.8**
BUR08 Bucovina Ar. S 22.41 319 *eP* **P 03 10 40.5 -0.2**
BUR08 Bucovina Ar. S 22.41 319 *eP* **P 03 10 40.5 -0.2**
AKASG Malin Array Be 22.42 329 P **P 03 10 38.4 -2.2**
comp=Z,11nm,0.8s,baz=137,slow=9.9,SNR=20
AKASG LR LR 03 20 59.4
comp=Z,895nm,20.8s,baz=145,slow=41
AKBB Malin Array Si 22.42 329 *eP* **P 03 10 38.9 -1.7**
comp=Z,32nm,1.0s
AKBB Malin Array Si 22.42 329 *eP* **P 03 10 38.9 -1.7**
comp=Z,32nm,1.0s
AKBB Malin Array Si 22.42 329 *eP* **P 03 10 38.9 -1.7**
AKBB pmax pmax
comp=Z,33nm,1.0s
KIEV Kiev 22.42 329 *eP* **P 03 10 38.9 -1.8**
comp=Z,32nm,1.0s
KIEV Kiev 22.42 329⇑ *e*P **P 03 10 38.4 -2.2**
KIEV pmax pmax
comp=Z,26nm,1.0s
AK11 Malin Array Si 22.43 329 *eP* **P 03 10 40.5 -0.2**
AK11 *e*pP **P 03 10 41.1 +0.4**
AK11 Malin Array Si 22.43 329 *eP* **P 03 10 40.5 -0.2**
MNAS Manas 22.44 56 *i* P **P 03 10 44.0 +2.9**
comp=Z,62nm,1.2s
MNAS Manas 22.44 56 *i* P **P 03 10 44.0 +2.9**
MNAS pmax pmax
comp=Z,62nm,1.2s
ZAGS Zajecar 22.44 307⇑ *i*P **P 03 10 41.4 +0.5**
SFK Sufi-Kurgan 22.55 63 *i* P **P 03 10 43.5 +1.1**
comp=Z,69nm,1.3s
SFK Sufi-Kurgan 22.55 63 *i* P **P 03 10 43.5 +1.1**
SFK pmax pmax
comp=Z,69nm,1.3s
OHR Ohrid 22.63 300 *i* P **P 03 10 42.8 -0.1**
BOVS Bovan 22.73 306 *eP* **P 03 10 42.7 -1.3**
HERR Herculane 22.74 310⇑ *i*P **P 03 10 43.9 -0.2**
CJR Cluj-Napoca 22.84 315⇑ *i*P **P 03 10 43.6 -1.6**
CJR Cluj-Napoca 22.84 315⇑ *i*P **P 03 10 43.6 -1.6**
KUBS Kucevo 23.04 308⇑ *i*P **P 03 10 45.5 -1.7**
AML Almayashu 23.18 58 P **P 03 10 50.3 +1.1**
SNR=24
TIR Tirane 23.37 300⇓ *i*P **P 03 10 51.1 +0.6**
TIR Tirane 23.37 300 *eP* **P 03 10 51.5 +1.0**
comp=Z,130nm,1.1s
TIR Tirane 23.37 300 *eP* **P 03 10 51.5 +1.0**
comp=Z,130nm,1.1s
TIR Tirane 23.37 300 *eP* **P 03 10 51.5 +1.0**
TIR pmax pmax
comp=Z,130nm,1.1s
EKS2 Erkin-Say 23.39 57 P **P 03 10 54.6 +3.7**
SNR=13
BMR Baia Mare 23.40 317⇓ *i*P **P 03 10 51.0 +0.2**
BMR Baia Mare 23.40 317⇓ *i*P **P 03 10 51.0 +0.2**
DRGR 23.41 315⇑ *i*P **P 03 10 50.8 -0.2**
DRGR 23.41 315⇑ *i*P **P 03 10 50.8 -0.2**
GRUS Gruza 23.50 306 *eP* **P 03 10 51.0 -0.8**
BZS Buzias 23.56 311⇓ *i*P **P 03 10 51.8 -0.6**
BZS Buzias 23.56 311⇓ *i*P **P 03 10 51.8 -0.6**
PVY Plav 23.62 303 *eP* **P 03 10 53.0 -0.1**
BEY Berane 23.74 304⇓ *i*P **P 03 10 54.1 -0.2**
IVA Berane 23.74 304⇓ *i*P **P 03 10 54.1 -0.2**
OBN Obninsk 23.76 345 P **P 03 10 52.7 -1.4**
comp=Z,66nm,0.9s,baz=160,slow=6.2,SNR=24
OBN S **S 03 15 06.6 -2.1**
comp=Z,28nm,0.7s,baz=186,slow=19,SNR=4.7
OBN LR LR 03 21 06.8
comp=Z,954nm,19.7s,baz=154,slow=39
OBN Obninsk 23.76 345 *eP* **P 03 10 53.4 -0.8**
comp=Z,156nm,1.2s
OBN S **S 03 15 06.6 -2.1**
OBN Obninsk 23.76 345*d i*P **P 03 10 52.6 -1.6**
OBN *i* 03 10 56.5
OBN *e* 03 11 22.5
OBN *i*S **S 03 15 06.5 -2.1**
OBN pmax pmax
comp=Z,176nm,1.3s
OBN MLR MLR
comp=Z,878nm,17.0s
UCH Uchtor 23.80 58 P **P 03 10 53.4 -1.8**
SNR=13
SIRR Siria 23.81 313⇑ *i*P **P 03 10 55.8 +0.9**
SIRR Siria 23.81 313⇑ *i*P **P 03 10 55.8 +0.9**
AAK Ala-Archa 23.89 57 P **P 03 10 56.1 +0.3**
comp=Z,5.5nm,0.8s,baz=241,slow=8.6,SNR=19
AAK Ala-Archa 23.89 57 P **P 03 10 58.5 +2.7**
SNR=8.9
AAK Ala-Archa 23.89 57 *eP* **P 03 10 56.2 +0.4**
comp=Z,30nm,1.4s
AAK Ala-Archa 23.89 57 P **P 03 10 57.0 +1.2**
SNR=12
AAK Ala-Archa 23.89 57 *eP* **P 03 10 56.2 +0.4**
comp=Z,30nm,1.4s
AAK Ala-Archa 23.89 57 *i* P **P 03 10 57.0 +1.2**
AAK pmax pmax
comp=Z,22nm,1.5s
ULC Ulcinj 23.96 301⇓ *i*P **P 03 10 55.0 -1.4**
ULC Ulcinj 23.96 301⇓ *i*P **P 03 10 55.0 -1.4**
KOME Kolasin 24.00 303⇓ *i*P **P 03 10 56.0 -0.8**
KOME Kolasin 24.00 303⇓ *i*P **P 03 10 56.0 -0.8**
FRU Bishkek 24.03 57⇓ *e*P **P 03 10 58.0 +1.0**
FRU *e*S **S 03 15 17.0 +3.6**
FRU pmax pmax
comp=Z,120nm,1.8s
FRU MLR MLR
comp=E,2μm,11.0s
DIVS Divibare 24.06 307 *eP* **P 03 10 56.5 -0.8**
comp=E,26nm,1.2s
DIVS Divibare 24.06 307 *eP* **P 03 10 56.5 -0.8**
comp=E,26nm,1.2s
DRME Dracevica, Mon 24.06 302⇓ *i*P **P 03 10 55.6 -1.6**
DRME Dracevica, Mon 24.06 302⇓ *i*P **P 03 10 55.7 -1.5**
TTG Podgorica 24.07 302⇓ *i*P **P 03 10 57.1 -0.2**
TTG Podgorica 24.07 302 *eP* **P 03 10 56.8 -0.5**
comp=E,105nm,1.4s
TTG Podgorica 24.07 302 *eP* **P 03 10 56.8 -0.5**
comp=E,105nm,1.4s
TTG Podgorica 24.07 302 *eP* **P 03 10 56.8 -0.5**
TTG pmax pmax
comp=Z,105nm,1.4s
MOS Moscow 24.13 347 *eP* **P 03 10 56.8 -0.9**
MOS *e* 03 11 29.8
MOS *e*S **S 03 15 13.5 -1.0**
MOS *e*SS **SnSn 03 16 03.8 +7.6**
MOS pmax pmax
comp=Z,127nm,1.5s
MOS pmax pmax
comp=Z,200nm,1.7s
MOS MLR MLR
comp=Z,900nm,16.0s
CHMS Chumysh 24.17 56 P **P 03 11 00.0 +1.7**
SNR=11
TRPA Tarpa 24.18 317⇑ *i*P **P 03 10 58.4 +0.1**
TRPA Tarpa 24.18 317⇑ *e*P **P 03 10 58.1 -0.2**
TRPA Tarpa 24.18 317⇑ *i*P **P 03 10 58.4 +0.1**
KBK Karagaybulak 24.22 57 P **P 03 11 00.7 +1.8**
SNR=21
PLE Pljevlja 24.23 304⇓ *i*P **P 03 10 58.0 -0.9**
KZA Kyzart 24.29 59 P **P 03 11 01.6 +1.8**
SNR=20
BUM Brajici-Budva 24.30 302⇓ *i*P **P 03 10 58.5 -1.0**
LVV L'vov 24.31 322 *eP* **P 03 10 59.7 +0.3**
LVV *e*S **S 03 15 14.8 -2.8**
LVV MLR MLR
comp=N,300nm,11.0s
LVV MLR MLR
comp=E,300nm,11.0s
LVV MLR MLR
comp=Z,300nm,11.0s
CEME Cevo 24.35 302⇓ *i*P **P 03 10 58.7 -1.2**
KSH Kashi 24.35 65 P **P 03 10 58.1 -2.0**
KSH sP sP 03 11 14.1 +6.6
KSH PP **PnPn 03 11 35.3 +5.0**
KSH S **S 03 15 09.1 -10**
KSH pmax pmax
comp=Z,230nm,1.7s
KSH pmax pmax
comp=Z,710nm,2.7s
KSH LR LR
comp=Z,2μm,13.0s
KSH LR LR
comp=Z,2μm,12.1s
KSH LR LR
comp=Z,3μm,16.6s
NKY Niksic 24.36 303⇓ *i*P **P 03 10 59.1 -1.0**
NKME Niksic 24.38 303⇓ *i*P **P 03 10 58.8 -1.4**
BBLS Lazići 24.38 306⇑ *i*P **P 03 11 00.3 0.0**
TEKS Tekeris 24.52 307⇑ *i*P **P 03 11 01.5 0.0**
UPM Unac-Piva 24.53 304⇓ *i*P **P 03 11 00.4 -1.4**
FGSL Fruska Gora 24.55 309⇑ *i*P **P 03 11 01.4 -0.3**
UZH Uzhgorod 24.59 318*d i*P **P 03 11 02.0 +0.1**
UZH *e* 03 11 04.4
UZH *i* 03 11 09.4
UZH *e* 03 11 36.0
UZH *e* 03 14 47.0
UZH *e*S **S 03 15 17.2 -4.9**
UZH *e*SS **SnSn 03 16 12.0 +4.5**
UZH *e*SSS SSS 03 16 34.8
HCY Herceg Novi 24.62 302⇓ *i*P **P 03 11 01.6 -0.8**
BRY Bratogost 24.71 303⇓ *i*P **P 03 11 01.6 -1.7**
TKM2 Tokmak 2 24.75 57 P **P 03 11 05.1 +1.3**
SNR=37
TKM2 Tokmak 2 24.75 57 *i* P **P 03 11 05.1 +1.3**
TKM2 pmax pmax
comp=Z,56nm,1.5s
BMNS Besmoynak 24.85 57⇑ *e*P **P 03 11 06.5 +1.9**
comp=Z,638nm,0.8s
BMNS *e*S **S 03 15 28.2 +1.4**
BMNS LR LR 03 21 37.1
comp=Z,332nm,13.0s
KWP Kalwaria Pacla 24.90 320 *eP* **P 03 11 05.4 +0.6**
KWP Kalwaria Pacla 24.90 320 *eP* **P 03 11 05.7 +0.9**
comp=Z,1μm,1.3s
KWP Kalwaria Pacla 24.90 320 *eP* **P 03 11 05.7 +0.9**
comp=Z,1μm,1.3s
KWP Kalwaria Pacla 24.90 320 *eP* **P 03 11 05.4 +0.6**
ULHL Ulahol 25.04 59 P **P 03 11 08.2 +1.8**
SNR=36
FASA Fasano 25.12 298 *eP* **P 03 11 06.5 -0.4**
CRVS Cervenica-Dubn 25.20 318 *eP* **P 03 11 07.9 +0.5**
CRVS *e*S **S 03 15 40.4 +8.5**
CRVS Cervenica-Dubn 25.20 318 *eP* **P 03 11 08.0 +0.5**
CRVS pmax pmax
comp=Z,27nm,1.1s
ARU Arti 25.21 15 P **P 03 11 06.6 -0.8**
comp=Z,3.2nm,0.3s,baz=203,slow=6.8,SNR=30
ARU Arti 25.21 15 *eP* **P 03 11 07.8 +0.4**
comp=Z,63nm,1.3s
ARU Arti 25.21 15*c i*P **P 03 11 07.5 +0.1**
ARU 03 11 42.6
ARU 03 14 40.0
ARU S **S 03 15 32.3 +0.4**
ARU SS **SnSn 03 16 25.2 +2.6**
ARU pmax pmax
comp=Z,76nm,1.7s
ARU MLR MLR
comp=Z,1μm,18.0s
TIP Timpagrande 25.35 294⇑ *i*P **P 03 11 08.6 -0.5**
TIP Timpagrande 25.35 294 *eP* **P 03 11 08.6 -0.5**
comp=Z,85nm,1.3s
TIP Timpagrande 25.35 294⇑ *i*P **P 03 11 08.6 -0.5**
BAI Bari 25.52 298 *eP* **P 03 11 10.9 +0.4**
KUU Kurty 25.54 55⇑ *i*P **P 03 11 11.7 +1.1**
comp=Z,160nm,1.2s
KUU *e*S **S 03 15 37.9 +0.5**
KUU LR LR 03 22 41.3
comp=Z,240nm,13.0s
MATE Matera 25.58 297⇑ *i*P **P 03 11 10.5 -0.5**
MATE Matera 25.58 297⇑ *i*P **P 03 11 10.5 -0.5**
STHS Stebnicka Huta 25.59 319 *eP* **P 03 11 12.5 +1.5**
STHS *e* 03 13 02.0
STHS Stebnicka Huta 25.59 319 *eP* **P 03 11 12.5 +1.5**
STHS pmax pmax
comp=Z,31nm,1.2s
SG1 Sgolgore (BA) 25.63 298 *eP* **P 03 11 12.2 +0.7**
PSZ Piszkesteto 25.63 315⇑ *i*P **P 03 11 11.7 +0.2**
PSZ Piszkesteto 25.63 315 *eP* **P 03 11 13.0 +1.5**
PSZ Piszkesteto 25.63 315 *eP* **P 03 11 11.5 0.0**
comp=Z,41nm,1.1s
PSZ Piszkesteto 25.63 315⇑ *i*P **P 03 11 11.7 +0.2**
PSZ Piszkesteto 25.63 315 *eP* **P 03 11 11.5 0.0**
PSZ pmax pmax
comp=Z,41nm,1.1s
KDJ Kajisay 25.70 59 *eP* **P 03 11 14.7 +2.3**
comp=Z,51nm,1.2s
KDJ Kajisay 25.70 59 *eP* **P 03 11 14.6 +2.3**
comp=Z,51nm,1.2s
MORH M¨‡r¡gy, Hung 25.70 310⇑ *e*P **P 03 11 12.3 +0.2**
MICGM Minsk 25.83 334 *eP* **P 03 11 13.0 -0.1**
MICGM *e*PP PnPn 03 12 06.0 +16

MICGM eS S 03 15 37.0 -4.8
MICGM eSS SnSn 03 16 37.0 -0.9
MICGM eSSS SSS 03 17 12.0
MICGM eLR LR 03 21 20.0
MNK Minsk 25.83 334 eP P 03 11 13.0 -0.1
MNK e 03 12 06.0
MNK eS S 03 15 37.0 -4.8
MNK eSS SnSn 03 16 37.0 -0.9
CEL Celeste 25.96 292 eP P 03 11 15.3 +0.8
comp=Z,107nm,1.1s
CEL Celeste 25.96 292 eP P 03 11 15.4 +0.8
comp=Z,107nm,1.1s
SVE Sverdlovsk 26.05 17 eP P 03 11 15.5 +0.4
SVE eS S 03 15 50.6 +5.3
SVE pmax pmax
comp=Z,50nm,1.3s
SVE MLR MLR
comp=Z,2µm,22.0s
NIE Niedzica 26.12 318 eP P 03 11 17.5 +1.7
NIE e 03 13 08.7
NIE eS S 03 16 01.8 +15
NIE Niedzica 26.12 318 eP P 03 11 17.5 +1.7
CUC Castrocucco 26.17 295 eP P 03 11 16.9 +0.5
comp=Z,38nm,1.2s
CUC Castrocucco 26.17 295 eP P 03 11 16.9 +0.5
comp=Z,38nm,1.2s
BLY Banja Luka 26.17 306⇑ iP P 03 11 16.9 +0.5
BLY Banja Luka 26.17 306 eP P 03 11 16.1 -0.3
comp=Z,62nm,1.2s
BLY Banja Luka 26.17 306 eP P 03 11 16.0 -0.3
comp=Z,62nm,1.2s
CSKK Cs˙ťkako 26.39 313 eP P 03 11 21.0 +2.7
LANS Liptovska Anna 26.46 317 eP P 03 11 19.9 +0.9
LANS e 03 13 10.8
LANS Liptovska Anna 26.46 317 eP P 03 11 19.9 +0.9
BRVK Borovoye 26.47 32 eP P 03 11 19.4 +0.4
comp=Z,30nm,1.3s
BRVK Borovoye 26.47 32 eP P 03 11 19.4 +0.4
comp=Z,30nm,1.3s
BRVK Borovoye 26.47 32*ce*P P 03 11 19.2 +0.2
BRVK pmax pmax
comp=Z,26nm,1.2s
BVAR Borovoye Array 26.50 32 P P 03 11 19.3 0.0
comp=Z,7.1nm,0.5s,baz=232,slow=7.4,SNR=29
VYHS Vyhne 26.52 315 eP P 03 11 20.6 +1.1
VYHS e 03 13 15.6
VYHS eS S 03 16 10.5 +18
VYHS Vyhne 26.52 315 eP P 03 11 20.6 +1.1
VYHS pmax pmax
comp=Z,10.0nm,1.4s
NACGM Naroch 26.55 333 eP P 03 11 19.0 -0.6
NACGM eS S 03 15 52.0 -1.2
NACGM eSS SnSn 03 17 16.0 +21
NACGM eSSS SSS 03 17 48.0
NACGM eLQ LQ 03 20 14.0
NACGM eLR LR 03 22 26.0
SATY Saty 26.78 58⇑ eP P 03 11 23.6 +1.5
comp=Z,622nm,1.4s
SATY LR LR 03 24 14.0
comp=Z,345nm,12.6s
OJC Ojcow 26.80 319 eP P 03 11 22.2 +0.2
OJC e 03 13 12.5
OJC eS S 03 16 12.0 +15
OJC Ojcow 26.80 319 eP P 03 11 22.5 +0.5
comp=Z,40nm,1.0s
OJC Ojcow 26.80 319 eP P 03 11 22.5 +0.5
OJC pmax pmax
comp=Z,40nm,1.0s
ZHN Zhinishke 26.83 58⇑ eP P 03 11 24.0 +1.5
comp=Z,265nm,1.4s
ZHN eS S 03 15 58.6 +0.5
IDID Didziasalis 26.88 334 eP P 03 11 22.6 0.0
IDID IAmb IAmb 03 11 29.7
comp=Z,23nm,1.2s
KPKS Kokpek 27.07 57 eP P 03 11 24.1 -0.5
comp=Z,359nm,1.2s
KPKS LR LR 03 22 48.6
comp=Z,547nm,12.6s
IIGN Ignalina 27.10 334 eP P 03 11 24.7 +0.1
IIGN IAmb IAmb 03 11 31.9
comp=Z,27nm,0.8s
VAE Valguarnera 27.10 290 P P 03 11 27.0 +2.1
comp=Z,33nm,1.0s,baz=54,slow=5.7,SNR=5.5
SMOL Smolenice 27.38 314 eP P 03 11 28.0 +0.8
SMOL Smolenice 27.38 314 eP P 03 11 28.0 +0.8
SUW Suwalki 27.39 329 eP P 03 11 26.9 -0.3
SUW Suwalki 27.39 329 eP P 03 11 26.9 -0.3
IZAR Zarasai 27.39 334 eP P 03 11 27.4 +0.2
IZAR IAmb IAmb 03 11 32.7
comp=Z,41nm,1.1s
MODS Modra-Piesok 27.41 314 eP P 03 11 27.2 -0.3
MODS e 03 13 14.7
MODS eS S 03 16 25.0 +18
MODS Modra-Piesok 27.41 314 eP P 03 11 27.2 -0.3
MODS pmax pmax
comp=Z,52nm,1.9s
OKC Ostrava-Krasne 27.54 317 eP P 03 11 34.5 +5.9
OKC eS S 03 16 15.2 +6.3
OKC AMS AMS 03 26 50.0
comp=Z,700nm,11.7s
OKC Ostrava-Krasne 27.54 317 eP P 03 11 34.5 +5.9
OKC eS S 03 16 15.2 +6.3
OKC MLR MLR
comp=Z,700nm,11.7s
SHLS Shalkode 27.56 58 eP P 03 11 33.0 +4.0
comp=Z,163nm,1.3s
SHLS eS S 03 16 15.2 +5.6
SOP Sopron 27.58 312⇑ ePKiKP P 03 11 29.7 +0.7
PDGK Podgornoye 27.61 58 iP P 03 11 30.3 +0.8
PDGK pmax pmax
comp=Z,22nm,1.4s
BOJS Bojanci 27.70 307 iP P 03 11 30.2 +0.1
BOJS Bojanci 27.70 307 iP P 03 11 30.2 +0.1
MORC Moravsky Berou 27.86 317⇑ iP P 03 11 31.4 -0.2
MORC Moravsky Berou 27.86 317 eP P 03 11 31.4 -0.2
comp=Z,65nm,1.3s
MORC Moravsky Berou 27.86 317⇑ iP P 03 11 31.4 -0.2
MORC Moravsky Berou 27.86 317 eP P 03 11 31.4 -0.2
MORC pmax pmax
comp=Z,65nm,1.3s
VISS Visnje 28.07 308 iP P 03 11 33.6 +0.3
VISS Visnje 28.07 308 iP P 03 11 33.7 +0.3
ARSA Arzberg 28.08 311 P P 03 11 33.6 +0.1
comp=Z,6.1nm,1.1s
CONA Conrad Observa 28.11 312 iP P 03 11 34.2 +0.4
comp=Z,12nm,1.5s
PERS Pernice 28.14 309 eP P 03 11 34.0 0.0
PERS Pernice 28.14 309 eP P 03 11 34.0 0.0
SOKA Soboth 28.20 309 P P 03 11 34.9 +0.2
comp=Z,9.7nm,1.6s
SOKA Soboth 28.20 309 iP P 03 11 34.9 +0.2
comp=Z,9.7nm,1.6s
VRAC Vranov 28.21 315 P P 03 11 34.9 +0.2
comp=Z,2.4nm,0.6s,baz=104,slow=9.5,SNR=5.9
OBKA Obir 28.47 309 P P 03 11 37.5 +0.4
comp=Z,22nm,1.2s
OBKA Obir 28.47 309 iP P 03 11 37.5 +0.4
comp=Z,22nm,1.2s
JAVS Javornik 28.61 307 iP P 03 11 38.9 +0.6
KLMR Klimovskoe 28.77 352 eP P 03 11 37.1 -2.3
KLMR AMP 03 11 43.1
comp=Z,26nm,1.1s
KLMR eS S 03 16 23.6 -4.4
KLMR eS S 03 16 23.6 -4.4
KLMR LQ LQ 03 20 52.9
KLMR LQ LQ 03 20 52.9
KLMR LR LR 03 22 36.3
KLMR Klimovskoe 28.77 352 eP P 03 11 37.1 -2.3
KLMR eS S 03 16 23.5 -4.4
KLMR pmax pmax
comp=Z,26nm,1.1s
DPC Dobruska-Polom 28.82 317 eP P 03 11 40.0 -0.1
DPC ex x 03 11 55.5
DPC eS S 03 16 40.7 +12
DPC AMS AMS 03 26 20.0
comp=Z,900nm,14.2s
DPC Dobruska-Polom 28.82 317 eP P 03 11 40.0 -0.1
DPC MLR MLR
comp=Z,900nm,14.2s
TREC Trest 28.86 315 AMS AMS 03 26 30.0
comp=Z,1µm,13.5s
KSP Ksiaz 29.06 318 eP P 03 11 42.2 0.0
KSP Ksiaz 29.06 318 eP P 03 11 42.2 0.0
UPC Upice 29.07 317 eP P 03 11 42.1 -0.2
UPC eS S 03 16 40.3 +7.3
UPC AMS AMS 03 26 30.0
comp=Z,900nm,14.7s
UPC Upice 29.07 317 P P 03 11 42.1 -0.2
UPC Upice 29.07 317 eP P 03 11 42.1 -0.2
UPC eS S 03 16 40.3 +7.3
UPC MLR MLR
comp=Z,900nm,14.7s
MOA Molln 29.08 311 P P 03 11 42.6 +0.2
comp=Z,11nm,1.0s
MOA Molln 29.08 311 iP P 03 11 42.6 +0.2
comp=Z,11nm,1.0s
VSU Vasula 29.35 338⇑ eP P 03 11 44.0 -0.6
VSU pmax pmax
comp=Z,74nm,1.2s
KURBB Kurchatov Arra 29.38 43 P P 03 11 45.5 +0.4
comp=Z,5.9nm,0.8s,baz=249,slow=9.5,SNR=24
KBA Koelnbreinsper 29.43 309 iP P 03 11 45.8 +0.1
comp=Z,7.8nm,0.8s
KURK Kurchatov 29.48 43 eP P 03 11 47.0 +1.2
comp=Z,17nm,1.0s
KURK Kurchatov 29.48 43 P P 03 11 46.6 +0.8
SNR=11
KURK Kurchatov 29.48 43 eP P 03 11 47.0 +1.2
comp=Z,17nm,1.0s
KURK Kurchatov 29.48 43⇑ eP P 03 11 46.6 +0.8
KURK pmax pmax
comp=Z,25nm,1.2s
GOPC GO Pecny, Ondr 29.53 316 eS S 03 16 52.1 +12
GOPC AMS AMS 03 26 00.0
comp=Z,1µm,14.9s
PRU Pruhonice 29.71 316 eS S 03 16 45.5 +2.5
PRU AMS AMS 03 26 00.0
comp=Z,1µm,15.9s
GEA0 GERESS Array S 29.78 313 eP P 03 11 51.9 +3.3
GEC2 GERESS Array S 29.78 313 eP P 03 11 53.4 +4.7
comp=Z,9.9nm,1.4s
GEC2 GERESS Array S 29.78 313 eP P 03 11 53.4 +4.7
comp=Z,9.9nm,1.4s
GEC2 GERESS Array S 29.78 313 eP P 03 11 53.4 +4.7
GEC2 pmax pmax
comp=Z,10.0nm,1.4s
GERES GERESS Array B 29.78 313 P P 03 11 47.3 -1.4
comp=Z,0.3nm,0.5s,baz=108,slow=13,SNR=5.2
GERES PcP PcP 03 14 52.6 +0.6
comp=Z,0.8nm,0.7s,baz=105,slow=3.5,SNR=3.4
PRA Prague 29.80 316 AMS AMS 03 26 10.0
comp=Z,1µm,14.1s
ABTA Abfaltersbach 29.88 309 iP P 03 11 49.2 -0.4
comp=Z,11nm,1.5s
PVCC Panska Ves 29.91 317 AMS AMS 03 26 50.0
comp=Z,1µm,14.8s
KHC Kasperske Hory 29.96 314 eP P 03 11 50.8 +0.6
KHC eS S 03 16 42.7 -4.4
KHC AMS AMS 03 27 40.0
comp=Z,900nm,14.2s
KHC Kasperske Hory 29.96 314 eP P 03 11 50.5 +0.3
comp=Z,1.8nm,1.0s
KHC Kasperske Hory 29.96 314 eP P 03 11 50.5 +0.3
comp=Z,1.8nm,1.0s
KHC S S 03 16 42.7 -4.4
KHC Kasperske Hory 29.96 314 eP P 03 11 50.8 +0.6
KHC eS S 03 16 42.7 -4.4
KHC MLR MLR
comp=Z,900nm,14.2s
SEM Semipalatinsk 30.29 44 eP P 03 11 54.1 +0.7
comp=Z,125nm,1.2s
MK01 Makanchi Array 30.37 52 eP P 03 11 54.2 +0.4
MK31 Makanchi Array 30.37 52 eP P 03 11 54.5 +0.7
MK31 Makanchi Array 30.37 52 eP P 03 11 54.5 +0.7
MKAR Makanchi Array 30.37 52 P P 03 11 54.8 +1.0
comp=Z,3.8nm,0.6s,baz=250,slow=7.2,SNR=20
MKAR Makanchi Array 30.37 52 eP P 03 11 54.6 +0.8
comp=Z,39nm,0.8s
MKAR Makanchi Array 30.37 52 eP P 03 11 54.6 +0.8
MKAR pmax pmax
comp=Z,39nm,0.8s
BRG Berggiesshubel 30.42 317 eP P 03 11 53.9 -0.3
comp=Z,10nm,1.3s
BRG Berggiesshubel 30.42 317 eP P 03 11 53.9 -0.3
BRG pmax pmax
comp=Z,10.0nm,1.3s
WTTA Wattenberg 30.60 309 iP P 03 11 55.5 -0.6
comp=Z,24nm,1.3s
MOTA Moosalm 30.97 309 iP P 03 11 58.4 -0.9
comp=Z,4.6nm,0.6s
NKC Novy Kostel 31.05 315 eS S 03 17 06.6 +2.6
NKC AMS AMS 03 28 10.0
comp=Z,1µm,12.4s
VSL Villasalto 31.08 294 eP P 03 12 03.8 +3.6
comp=Z,42nm,1.2s
VSL Villasalto 31.08 294 eP P 03 12 03.8 +3.6
comp=Z,42nm,1.2s
FETA Feichten 31.13 308 P P 03 12 00.3 -0.4
comp=Z,18nm,1.1s
FETA Feichten 31.13 308 iP P 03 12 00.3 -0.4
comp=Z,18nm,1.1s
CLL Collm 31.14 317 iP P 03 11 59.9 -0.5
comp=Z,20nm,1.6s
CLL iP pP 03 12 03.1 -2.7
comp=Z,15nm,1.3s
CLL i 03 12 16.3
CLL eS S 03 17 04.0 -1.3
CLL eSS SnSn 03 18 52.0 +4.8
CLL LV 03 28 00.0
comp=Z,700nm,18.6s
CLL Collm 31.14 317 eP P 03 12 00.0 -0.5
comp=Z,15nm,1.3s
CLL Collm 31.14 317 eP P 03 12 00.0 -0.5
CLL pmax pmax
comp=Z,15nm,1.3s
RETA Reutte 31.23 309 iP P 03 12 00.5 -1.0
comp=Z,14nm,1.2s
KEST Kesra 31.24 286 P P 03 12 03.5 +1.7
comp=Z,18nm,1.0s,baz=33,slow=2.5,SNR=7.3
KEST LR LR 03 28 25.7
comp=Z,264nm,18.6s,baz=78,slow=44
KEST Kesra 31.24 286 eP P 03 12 01.0 -0.8
KEST epP pP 03 12 03.7 -3.3
KEST Kesra 31.24 286 eP P 03 12 01.0 -0.8
KEST epP pP 03 12 03.7 -3.3
PYUN Piuthan 31.25 89 eP P 03 12 02.9 +0.9
comp=Z,37nm,0.9s
GRFO Grafenberg 31.60 313 eP P 03 12 04.8 +0.2
comp=Z,49nm,1.6s
GRFO Grafenberg 31.60 313 eP P 03 12 04.8 +0.2
comp=Z,49nm,1.6s
GRFO Grafenberg 31.60 313 eP P 03 12 04.8 +0.2
GRFO pmax pmax
comp=Z,49nm,1.6s
DAVA Damuels 31.76 309 iP P 03 12 05.5 -0.7
comp=Z,18nm,0.8s
DANN Dangsing 31.83 88 eP P 03 12 08.9 +1.7
comp=Z,8.3nm,1.0s
KOLN Koldanda 31.86 89 eP P 03 12 08.0 +0.6
comp=Z,17nm,0.8s
TUE Stuetta 31.93 307 eP P 03 12 07.2 -0.6
comp=Z,3.4nm,0.5s
TUE Stuetta 31.93 307 eP P 03 12 07.2 -0.6
comp=Z,3.4nm,0.5s
FINES FINESS Array B 31.97 341 P P 03 12 07.2 -0.5
comp=Z,15nm,0.9s,baz=150,slow=9.7,SNR=16
FIA1 FINESS Array S 31.97 341 eP P 03 12 06.5 -1.2
FIA1 epP pP 03 12 11.0 -2.0
HYB Hyderabad 32.13 110 iP P 03 12 11.0 +1.3
TMCR Tamitsa 32.16 353 eP P 03 12 08.5 -0.8
TMCR pmax pmax
comp=Z,54nm,1.1s
GKN Gorkha 32.67 88 eP P 03 12 15.2 +0.8
comp=Z,51nm,0.7s
BFO Black Forest 33.03 310 eP P 03 12 18.2 +1.0
comp=Z,16nm,1.4s
BFO Black Forest 33.03 310 eP P 03 12 18.2 +1.0
BFO pmax pmax
comp=Z,16nm,1.4s
DMN Daman 33.18 88 eP P 03 12 19.7 +0.6
comp=Z,96nm,1.0s
KKN Kakani 33.28 88 eP P 03 12 20.6 +0.8
comp=Z,38nm,0.6s
SENIN Lac Senin/Sane 33.30 306 eP P 03 12 19.5 -0.3
comp=Z,62nm,1.9s
SENIN Lac Senin/Sane 33.30 306 eP P 03 12 19.5 -0.3
comp=Z,62nm,1.9s
PKIN Phulchoki 33.44 88 eP P 03 12 22.1 +0.8
comp=Z,68nm,0.9s
BNI Bardonecchia 33.52 304 eP P 03 12 21.1 -0.6
comp=Z,59nm,1.2s
BNI Bardonecchia 33.52 304 eP P 03 12 21.1 -0.6
BNI pmax pmax
comp=Z,59nm,1.2s
WMQ Urumqi 33.58 58 P P 03 12 24.3 +2.2
WMQ S S 03 17 45.8 +2.0
WMQ PcS PcS 03 18 43.5 -4.6
WMQ LR LR
WMQ comp=Z,2µm,23.1s LR LR
WMQ comp=Z,1µm,18.1s LR LR
comp=Z,2µm,31.5s
CTEI Djebel Teioual 33.59 287 P P 03 12 23.8 +1.4
CTEI Djebel Teioual 33.59 287 P P 03 12 23.8 +1.4
GUN Gumba 33.75 87 eP P 03 12 25.0 +0.9
comp=Z,84nm,0.8s
ECH Echery 33.76 309 eP P 03 12 22.9 -0.7
comp=Z,19nm,1.4s
ECH Echery 33.76 309 eP P 03 12 22.9 -0.7
ECH pmax pmax
comp=Z,19nm,1.4s
NVS Novosibirsk 33.81 38⇓ iP P 03 12 25.9 +2.0
NVS pmax pmax
comp=N,16nm,1.6s
NVS pmax pmax
comp=Z,28nm,1.6s
NVS pmax pmax
comp=E,12nm,1.4s
JIRN Jiri 34.08 88 eP P 03 12 27.9 +0.9
comp=E,48nm,0.6s
ZALV Zalesovo Beam 34.28 40 P P 03 12 28.4 +0.4
comp=E,4.6nm,0.6s,baz=266,slow=9.8,SNR=18
CKHR Kef el Ahmar 34.31 288 P P 03 12 30.1 +1.4
CKHR Kef el Ahmar 34.31 288 P P 03 12 30.1 +1.4
SET Setif 34.38 288 P P 03 12 32.0 +2.8
SET Setif 34.38 288 P P 03 12 32.0 +2.8
DGZ Jazzator, Alta 34.44 48 iP P 03 12 30.2 +0.6
DGZ pmax pmax
comp=Z,2.0nm,0.8s
RAMN Ramite 34.65 89 eP P 03 12 32.0 +0.2
comp=Z,58nm,1.0s
KMBO Kilima Mbogo 34.73 197 LR LR 03 26 39.9
comp=Z,1µm,19.6s,baz=61,slow=36
HFS Hagfors 35.27 332 P P 03 12 36.1 -0.3
comp=Z,5.0nm,0.4s,baz=138,slow=11,SNR=43
HFS LR LR 03 28 29.3
comp=Z,682nm,18.6s,baz=123,slow=39
MUD Monsted U'grnd 35.38 324 iP P 03 12 38.7 +1.3
MUD i 03 12 49.4
MUD Monsted U'grnd 35.38 324 iP P 03 12 38.7 +1.3
MUD i 03 12 49.4
APA Apatity 35.98 351⇑ iP P 03 12 40.0 -2.5
APA pmax pmax
comp=Z,3.0nm,1.2s
APA MLR MLR
comp=Z,500nm,18.0s
NB2 NORSAR Subarra 36.80 332 P P 03 12 48.4 -1.1
comp=Z,1.5nm,0.6s,baz=124,slow=8.6
NOA NORSAR Array B 36.80 332 P P 03 12 48.4 -1.1
comp=Z,1.9nm,0.7s,baz=124,slow=8.4,SNR=7.3
NOA LR LR 03 31 11.8
comp=Z,613nm,18.1s,baz=130,slow=42
TAM Tamanrasset 37.83 266 eP P 03 13 00.1 +1.2
comp=Z,62nm,1.3s
TAM Tamanrasset 37.83 266 eP P 03 13 00.1 +1.2
TAM pmax pmax
comp=Z,62nm,1.3s
ARCES ARCESS Array B 38.99 348 P P 03 13 07.2 -0.7
comp=Z,8.2nm,1.1s,baz=157,slow=6.6,SNR=16
ARCES LR LR 03 29 32.3
comp=Z,536nm,21.7s,baz=148,slow=37
SHL Shillong 39.58 88 eP P 03 13 15.5 +1.9
ES19 SONSECA Array 41.31 295 eP P 03 13 27.9 +0.3
ES19 SONSECA Array 41.31 295 eP P 03 13 27.9 +0.3
ESDC Sonseca Array 41.37 295 P P 03 13 27.7 -0.4
comp=Z,5.9nm,0.9s,baz=74,slow=8.3,SNR=14
EKA Eskdalemuir Ar 41.57 319 P P 03 13 28.8 -0.7
comp=Z,1.0nm,0.3s,baz=101,slow=8.2,SNR=11
GTA Gaotai 42.75 65 P P 03 13 40.3 +0.8
GTA pP sP 03 13 49.9 +2.9
GTA sP pP 03 13 53.9 +9.0
GTA PcP PcP 03 15 28.6 -2.3
GTA S S 03 20 02.1 -0.6
GTA SS SS 03 23 07.8 -5.6
GTA pmax pmax
comp=Z,10.0nm,1.5s
GTA pmax pmax
comp=Z,60nm,4.5s
GTA LR LR
comp=Z,1µm,20.0s
GTA LR LR
comp=Z,560nm,20.0s
GTA LR LR
comp=Z,620nm,16.6s
PBRG Braganca 43.24 298 eP P 03 13 43.3 0.0
MOY Mondy 43.26 47 eP P 03 13 45.7 +2.3
PBAR Barrancos 43.95 293 eP P 03 13 49.0 0.0
PBAR Barrancos 43.95 293 eP P 03 13 49.0 0.0
PVRL Vila Real 44.02 298 eP P 03 13 50.0 +0.4
PVRL Vila Real 44.02 298 eP P 03 13 50.0 +0.4
PMRV Marv??o 44.02 295 eP P 03 13 52.2 +2.6
PCBR Castelo Branco 44.03 296 eP P 03 13 50.0 +0.4
PCBR Castelo Branco 44.03 296 eP P 03 13 50.0 +0.4
POLO Lamas de Olo 44.07 298 eP P 03 13 50.6 +0.5
POLO Lamas de Olo 44.07 298 eP P 03 13 50.6 +0.5
PESTR Estremoz 44.26 294 eP P 03 13 51.2 -0.4
PESTR Estremoz 44.26 294 eP P 03 13 53.7 +2.2
comp=Z,10nm,1.1s
PESTR Estremoz 44.26 294 eP P 03 13 51.2 -0.4
PGAV Gavieira, Arco 44.35 299 eP P 03 13 53.0 +0.6
PBEJ Beja 44.62 293 eP P 03 13 54.5 +0.1
PBEJ Beja 44.62 293 eP P 03 13 54.5 +0.1
ZAK Zakamensk 44.63 49 eP P 03 13 54.8 +0.3
ZAK pmax pmax
comp=Z,5.0nm,1.6s
PMTG Montargil 44.72 295 eP P 03 13 56.3 +1.1
PMTG Montargil 44.72 295 eP P 03 13 56.3 +1.1
PTOM Tomar 44.77 295 eP P 03 13 58.6 +3.0
PCAS Casmilo, Conde 44.78 296 eP P 03 13 58.6 +3.0
PCVE Castro Verde 44.83 293 eP P 03 13 58.8 +2.8
TLY Talaya 44.91 47 P P 03 13 57.3 +0.8
comp=Z,0.7nm,0.4s,baz=246,slow=8.5,SNR=4.3
TLY Talaya 44.91 47 P P 03 13 58.4 +1.8
SNR=5.3
TLY Talaya 44.91 47 eP P 03 13 59.0 +2.5
TLY eS S 03 20 34.4 +0.8
TLY eSS SS 03 23 56.9 +2.0
TLY pmax pmax
comp=Z,5.0nm,1.4s
TLY MLR MLR
comp=Z,669nm,18.0s
LZH Lanzhou 46.49 69 eP P 03 14 10.3 +0.9
LZH pP sP 03 14 21.1 +4.1
LZH sP pP 03 14 26.3 +11
LZH PP PP 03 16 01.1 +2.4
LZH eS S 03 20 55.8 -1.3
LZH sS sS 03 21 16.0 +10
LZH SS SS 03 24 13.8 -9.1
LZH pmax pmax
comp=Z,16nm,1.0s
LZH pmax pmax
comp=Z,95nm,4.3s
LZH LR LR
comp=Z,3µm,15.7s
LZH LR LR
comp=Z,1µm,15.0s
LZH LR LR
comp=Z,2µm,17.2s
SONM Songino Array 46.72 53 P P 03 14 11.4 +0.3
comp=Z,0.8nm,0.5s,baz=270,slow=9.4,SNR=15
SONM PcP PcP 03 15 44.5 +0.1
comp=Z,1.1nm,0.8s,baz=271,slow=4.8,SNR=3.8
SONA1 Songino Array 46.73 53 eP P 03 14 11.6 +0.5
ULN Ulaanbaatar 47.16 53 eP P 03 14 15.4 +0.9
comp=Z,26nm,1.4s
ULN Ulaanbaatar 47.16 53 P P 03 14 15.1 +0.5
SNR=7.9
ULN Ulaanbaatar 47.16 53⇑ eP P 03 14 15.2 +0.7
ULN pmax pmax
comp=Z,26nm,1.7s
SPITS Spitsbergen Ar 47.67 352 P P 03 14 17.8 -0.1
comp=Z,9.5nm,0.9s,baz=125,slow=7.7,SNR=20

CD2	**Chengdu**	**47.78**	**76**	*eP*		**P**		**03 14 21.0 +1.6**
CD2					pmax	pmax		
	comp=Z,10.0nm,0.5s							
CD2					pmax	pmax		
	comp=Z,120nm,5.0s							
CHTO	**Chiang Mai**	**48.30**	**93**	P		**P**		**03 14 23.9 +0.4**
	comp=Z,47nm,1.5s							
CHTO	**Chiang Mai**	**48.30**	**93**	*eP*		**P**		**03 14 23.8 +0.3**
	comp=Z,14nm,1.3s							
CHTO	**Chiang Mai**	**48.30**	**93**	P		**P**		**03 14 23.6 +0.1**
	SNR=7.7							
CHTO	**Chiang Mai**	**48.30**	**93**	*eP*		**P**		**03 14 23.8 +0.3**
CHTO					pmax	pmax		
	comp=Z,14nm,1.3s							
CMMT	**Chiang Mai**	**48.30**	**93**	P		**P**		**03 14 22.8 -0.7**
	comp=Z,10nm,1.5s							
CMAR	**Chiang Mai Arr**	**48.46**	**94**	P		**P**		**03 14 24.6 -0.1**
	comp=Z,1.6nm,0.4s,baz=291,slow=8.8,SNR=13							
CMAR				PcP		**PcP**		**03 15 51.2 +0.4**
	comp=Z,1.4nm,0.5s,baz=286,slow=4.1,SNR=4.0							
CMAR					LR	LR		03 40 00.6
	comp=Z,126nm,19.8s,baz=242,slow=42							
KMI	**Kunming**	**48.89**	**84**	P		**P**		**03 14 29.8 +1.5**
KMI					pmax	pmax		
	comp=Z,15nm,0.5s							
KMI					LR	LR		
	comp=Z,980nm,21.7s							
KMI					LR	LR		
	comp=Z,310nm,20.6s							
KMI					LR	LR		
	comp=Z,460nm,24.9s							
LAMP	**Lampang**	**49.01**	**93**	P		**P**		**03 14 31.9 +2.9**
	comp=Z,3.9nm,1.1s							
KOWA	**Kowa**	**49.66**	**261**	P		**P**		**03 14 33.6 -0.3**
	comp=Z,20nm,0.9s,baz=55,slow=11,SNR=45							
KOWA	**Kowa**	**49.66**	**261**	*eP*		**P**		**03 14 33.9 0.0**
	comp=Z,62nm,1.4s							
NANT	**Nan**	**49.78**	**92**	P		P		03 14 41.8 +6.9
PHIT	**Phitsanulok**	**50.29**	**94**	P		**P**		**03 14 41.7 +3.0**
	comp=Z,8.6nm,1.0s							
LSZ	**Lusaka**	**50.84**	**204**	P		**P**		**03 14 44.2 +1.3**
	comp=Z,5.0nm,0.8s,baz=25,slow=9.9,SNR=7.1							
LSZ	**Lusaka**	**50.84**	**204**	*eP*		**P**		**03 14 44.5 +1.6**
	comp=Z,42nm,1.7s							
LSZ	**Lusaka**	**50.84**	**204**	P		**P**		**03 14 46.1 +3.2**
	SNR=5.2							
BOD	**Bodaibo**	**51.03**	**39**	*eP*		**P**		**03 14 42.3 -1.5**
BOD				*e*				03 16 35.4
BOD					pmax	pmax		
	comp=Z,21nm,1.6s							
XAN	**Xi'an**	**51.04**	**70**	⇑P		**P**		**03 14 44.1 -0.2**
XAN				pP		sP		03 14 54.8 +2.9
XAN				sP		pP		03 15 00.6 +11
XAN				S		**S**		**03 22 04.0 +3.0**
XAN					pmax	pmax		
	comp=Z,11nm,1.3s							
XAN					pmax	pmax		
	comp=Z,110nm,3.5s							
XAN					LR	LR		
	comp=Z,890nm,20.6s							
XAN					LR	LR		
	comp=Z,960nm,19.5s							
XAN					LR	LR		
	comp=Z,590nm,20.6s							
PBKT	**Sadao Pong**	**51.05**	**95**	P		**P**		**03 14 43.5 -0.9**
	comp=Z,11nm,1.3s,comp=Z,1μm							
HHC	**Hu-ho-hao-te**	**51.37**	**61**	*eP*		**P**		**03 14 47.3 +0.6**
HHC				S		**S**		**03 22 04.0 -1.5**
HHC					pmax	pmax		
	comp=Z,43nm,1.1s							
HHC					pmax	pmax		
	comp=Z,130nm,6.7s							
HHC					LR	LR		
	comp=Z,1μm,16.5s							
HHC					LR	LR		
	comp=Z,1μm,16.2s							
HHC					LR	LR		
	comp=Z,1μm,16.1s							
GYA	**Guiyang**	**51.68**	**80**	*eP*		**P**		**03 14 50.0 +0.8**
GYA					pmax	pmax		
	comp=Z,10.0nm,1.0s							
SCO	**Scoresbysund**	**52.72**	**337**	*eP*		**P**		**03 14 57.3 +1.2**
	comp=Z,16nm,1.4s							
SCO	**Scoresbysund**	**52.72**	**337**	*eP*		**P**		**03 14 57.3 +1.2**
SCO					pmax	pmax		
	comp=Z,16nm,1.4s							
SKNT	**Sakolnakorn**	**53.40**	**92**	P		**P**		**03 15 01.2 -0.7**
	comp=Z,11nm,1.1s							
TRTT	**Trang**	**54.53**	**105**	P		**P**		**03 15 12.5 +2.3**
	comp=Z,8.5nm,1.0s							
DBIC	**Dimbokro**	**54.58**	**254**	P		**P**		**03 15 09.9 -0.7**
	comp=Z,17nm,1.1s,baz=38,slow=8.5,SNR=9.5							
DBIC	**Dimbokro**	**54.58**	**254**	*eP*		**P**		**03 15 11.6 +1.0**
	comp=Z,57nm,1.5s							
DBIC	**Dimbokro**	**54.58**	**254**	*eP*		**P**		**03 15 11.6 +1.0**
DBIC					pmax	pmax		
	comp=Z,57nm,1.5s							
KIC	**Kosan Boka**	**54.67**	**253**	*eP*		**P**		**03 15 10.6 -0.6**
	comp=Z,102nm,1.3s							
TIC	**Toumodi**	**54.73**	**254**	*eP*		**P**		**03 15 13.4 +1.7**
BJI	**Beijing**	**54.98**	**61**	P		**P**		**03 15 11.8 -1.3**
BJI				S		**S**		**03 23 03.0 +8.6**
BJI					pmax	pmax		
	comp=Z,9.0nm,1.2s							
BJI					pmax	pmax		
	comp=Z,98nm,4.1s							
BJI					LR	LR		
	comp=Z,2μm,20.2s							
BJI					LR	LR		
	comp=Z,480nm,21.3s							
BJI					LR	LR		
	comp=Z,1μm,37.9s							
LIC	**Lamto**	**54.98**	**253**	*eP*		**P**		**03 15 12.7 -0.8**
	comp=Z,128nm,1.6s							
SKLT	**Songkhla**	**55.66**	**105**	P		**P**		**03 15 21.9 +3.5**
	comp=Z,18nm,1.4s							
KULM	**Kulim**	**56.76**	**107**	*eP*		**P**		**03 15 25.3 -1.0**
	comp=Z,30nm,1.3s							
PSI	**Prapat**	**56.85**	**110**	P		**P**		**03 15 26.6 -0.4**
	comp=Z,4.9nm,0.7s,baz=308,slow=4.9,SNR=7.0							
TIXI	**Tiksi**	**56.94**	**22**	*eP*		**P**		**03 15 26.1 -0.5**
	comp=Z,9.1nm,1.2s							
TIXI	**Tiksi**	**56.94**	**22**	*ceP*		**P**		**03 15 25.9 -0.8**
TIXI					pmax	pmax		
	comp=Z,12nm,1.7s							
SUMG	**Summit**	**57.98**	**339**	*eP*		**P**		**03 15 35.0 +0.5**
SUMG	**Summit**	**57.98**	**339**	*eP*		**P**		**03 15 35.0 +0.5**
YAK	**Yakutsk**	**58.47**	**33**	*eP*		**P**		**03 15 41.6 +4.0**
YAK				*e*	*P*	**sP**		**03 15 50.7 +5.5**
YAK				*e*				03 16 26.6
YAK				*e*	PPP	PPP		03 19 08.6
YAK				*e*	S	**S**		**03 23 45.7 +5.8**
YAK					pmax	pmax		
	comp=Z,15nm,1.1s							
YAK					pmax	pmax		
	comp=E,10.0nm,1.1s							
YAK					pmax	pmax		
	comp=N,6.0nm,1.4s							
YAK					pmax	pmax		
	comp=Z,14nm,0.6s							
YAK					smax	smax		
	comp=E,96nm,18.2s							
YAK					MLR	MLR		
	comp=Z,704nm,23.0s							
YAK					MLR	MLR		
	comp=E,310nm,22.0s							
YAK					MLR	MLR		
	comp=N,782nm,20.0s							
TSUM	**Tsumeb**	**58.65**	**213**	*eP*		**P**		**03 15 40.1 +0.6**
	comp=N,5.7nm,1.1s							
NJ2	**Nanjing**	**59.57**	**69**	*eP*		**P**		**03 15 46.4 +0.7**
NJ2					pmax	pmax		
	comp=N,12nm,0.7s							
NJ2					LR	LR		
	comp=N,700nm,14.1s							
NJ2					LR	LR		
	comp=N,480nm,15.7s							
NJ2					LR	LR		
	comp=N,500nm,15.7s							
CN2	**Changchun**	**60.53**	**55**	*eP*		**P**		**03 15 53.0 +0.9**
CN2				*e*	S	**S**		**03 24 01.9 -5.1**
CN2					pmax	pmax		
	comp=N,10.0nm,0.6s							
CN2					LR	LR		
	comp=N,500nm,17.0s							
CN2					LR	LR		
	comp=N,500nm,17.0s							
CN2					LR	LR		
	comp=N,800nm,18.0s							
KLR	**Kul'dur**	**62.92**	**47**	⇑*eP*		**P**		**03 16 07.4 -0.8**
SFJD	**Kangerlussuaq**	**63.40**	**334**	P		**P**		**03 16 10.6 -0.5**
	comp=N,2.2nm,0.3s,baz=112,slow=4.7,SNR=3.8							
BOSA	**Boshof**	**64.23**	**201**	P		**P**		**03 16 17.7 +0.7**
	comp=N,4.7nm,0.7s,baz=11,slow=6.4,SNR=13							
KSAR	**Wonju Array Be**	**64.47**	**61**	P		**P**		**03 16 17.7 -0.9**
KSAR	**Wonju Array Be**	**64.47**	**61**	P		**P**		**03 16 17.7 -0.9**
KSRS	**Korea Array**	**64.50**	**61**	P		**P**		**03 16 17.7 -1.0**
	comp=N,4.2nm,0.8s,baz=282,slow=6.9,SNR=13							
TPUB	**Ta-pu**	**64.54**	**78**	*eP*		**P**		**03 16 19.3 +0.1**
	comp=N,21nm,0.9s							
USRK	**Ussuriysk Ar.**	**64.83**	**52**	P		**P**		**03 16 19.5 -1.4**
	comp=N,5.1nm,0.6s,baz=271,slow=7.4,SNR=13							
YULB	**Yu-li**	**65.05**	**77**	*eP*		**P**		**03 16 23.4 +0.8**
	comp=N,9.4nm,0.8s							
SEY	**Seymchan**	**68.06**	**28**	P		**P**		**03 16 41.1 -0.1**
	comp=N,3.0nm,0.6s,baz=280,slow=6.3,SNR=12							
SEY	**Seymchan**	**68.06**	**28**	*ceP*		**P**		**03 16 41.5 +0.3**
MA2	**Magadan**	**68.99**	**32**	P		**P**		**03 16 45.9 -1.1**
	comp=N,2.6nm,0.3s,baz=342,slow=17,SNR=3.2							
JOW	**Kunigami**	**69.19**	**71**	LR		LR		03 50 44.9
	comp=N,308nm,19.2s,baz=84,slow=39							
BILL	**Bilibino**	**70.09**	**20**	⇓*iP*		**P**		**03 16 53.7 0.0**
BILL				*e*				03 17 14.7
BILL				*e*				03 19 35.3
BILL				*eS*		**SKSac**		**03 26 54.6 +0.8**
BILL					pmax	pmax		
	comp=Z,7.0nm,1.1s							
RES	**Resolute Bay**	**70.18**	**350**	*eP*		**P**		**03 16 53.8 -0.3**
	comp=Z,5.4nm,1.1s							
RES	**Resolute Bay**	**70.18**	**350**	*eP*		**P**		**03 16 53.8 -0.3**
RES					pmax	pmax		
	comp=Z,5.0nm,1.1s							
YSS	**Yuzh-Sakhalins**	**70.60**	**46**	⇓*eP*		**P**		**03 16 56.8 -0.3**
YSS				*e*				03 17 01.2
YSS					pmax	pmax		
	comp=Z,10.0nm,1.3s							
YSS					MLR	MLR		
	comp=Z,300nm,15.0s							
ASAJ	**Asahikawa**	**71.80**	**49**	P		**P**		**03 17 03.9 -0.6**
	comp=Z,1.6nm,0.3s,baz=285,slow=12,SNR=4.6							
MAT	**Matsushiro**	**72.34**	**58**	P		**P**		**03 17 07.9 0.0**
MJAR	**Matsushiro Arr**	**72.34**	**58**	P		**P**		**03 17 06.6 -1.3**
	comp=Z,2.9nm,0.9s,baz=301,slow=6.4,SNR=10.0							
SCHQ	**Schefferville**	**76.20**	**327**	P		**P**		**03 17 29.9 -0.1**
	comp=Z,9.3nm,0.7s,baz=53,slow=6.8,SNR=7.7							
PET	**Petropavlovsk**	**76.20**	**35**	*eP*		**P**		**03 17 29.5 -0.5**
PET				*eS*		**S**		**03 27 09.9 -3.4**
PET				*ePPS*		PPS		03 28 03.1
PET					MLR	MLR		
	comp=Z,400nm,17.0s							
TOLK	**Toolik Lake Re**	**78.39**	**6**	P		**P**		**03 17 42.3 +0.2**
	baz=346							
INK	**Inuvik**	**79.48**	**0**	P		**P**		**03 17 47.0 -0.9**
	comp=Z,3.8nm,1.0s,baz=28,slow=8.9,SNR=8.5							
INK	**Inuvik**	**79.48**	**0**	*eP*		**P**		**03 17 46.8 -1.1**
	comp=Z,12nm,1.4s							
COLD	**Coldfoot**	**79.70**	**7**	*eP*		**P**		**03 17 49.0 -0.3**
	comp=Z,14nm,1.5s							
COLA	**College**	**82.22**	**6**	*eP*		**P**		**03 18 02.1 -0.6**
	comp=Z,5.7nm,0.8s							
COLA	**College**	**82.22**	**6**	*eP*		**P**		**03 18 02.1 -0.6**
COLA					pmax	pmax		
	comp=Z,6.0nm,0.8s							
ILAR	**Eielson Array**	**82.41**	**6**	P		**P**		**03 18 02.8 -1.0**
	comp=Z,2.2nm,0.9s,baz=342,slow=3.4,SNR=16							
BPAW	**Bear Paw Mtn.**	**82.65**	**8**	*eP*		**P**		**03 18 05.0 0.0**
	comp=Z,4.3nm,1.3s							
EGAK	**Eagle**	**82.81**	**4**	*eP*		**P**		**03 18 04.7 -1.1**
	comp=Z,16nm,1.4s							
KTH	**Kantishna Hill**	**83.19**	**8**	*eP*		**P**		**03 18 07.6 -0.3**
	comp=Z,11nm,1.1s							
MCK	**McKinley**	**83.23**	**7**	*eP*		**P**		**03 18 07.5 -0.6**
	comp=Z,19nm,1.4s							
MCK	**McKinley**	**83.23**	**7**	*eP*		**P**		**03 18 07.5 -0.6**
MCK					pmax	pmax		
	comp=Z,19nm,1.4s							
TRF	**Thorofare Moun**	**83.36**	**8**	*eP*		**P**		**03 18 12.4 +3.5**
	comp=Z,7.1nm,1.2s							
FCC	**Fort Churchill**	**83.46**	**341**	*eP*		**P**		**03 18 09.5 +0.2**
	comp=Z,25nm,1.5s							
FCC	**Fort Churchill**	**83.46**	**341**	*eP*		**P**		**03 18 09.5 +0.2**
FCC					pmax	pmax		
	comp=Z,25nm,1.5s							
DAWY	**Dawson**	**83.60**	**3**	*eP*		**P**		**03 18 08.9 -1.1**
	comp=Z,12nm,1.4s							
DOT	**Dot Lake**	**83.75**	**5**	*eP*		**P**		**03 18 10.8 +0.1**
	comp=Z,23nm,1.1s							
YKA	**Yellowknife Ar**	**84.17**	**352**	P		**P**		**03 18 12.3 -0.5**
	comp=Z,1.7nm,0.7s,baz=13,slow=5.4,SNR=44							
LBNH	**Lisbon**	**85.53**	**321**	P		**P**		**03 18 21.0 +0.9**
	baz=48							
FRNY	**Flat Rock**	**86.00**	**322**	*eP*		**P**		**03 18 22.2 -0.2**
	comp=Z,11nm,1.2s							
DIV	**Divide**	**86.10**	**6**	*eP*		**P**		**03 18 23.1 +0.5**
	comp=Z,43nm,1.5s							
HRV	**Adam Dziewonsk**	**86.49**	**319**	P		**P**		**03 18 25.0 +0.2**
	baz=48							
LONY	**Lake Ozonia**	**86.66**	**322**	P		**P**		**03 18 26.0 +0.3**
	baz=46							
LONY	**Lake Ozonia**	**86.66**	**322**	*eP*		**P**		**03 18 25.4 -0.3**
	comp=Z,19nm,1.3s							
FFC	**Flin Flon**	**89.10**	**343**	*eP*		**P**		**03 18 36.7 -0.4**
	comp=Z,5.0nm,0.8s							
FFC	**Flin Flon**	**89.10**	**343**	*eP*		**P**		**03 18 36.7 -0.4**
FFC					pmax	pmax		
	comp=Z,5.0nm,0.8s							
DLBC	**Dease Lake**	**89.35**	**358**	*eP*		**P**		**03 18 39.4 +1.1**
	comp=Z,14nm,1.2s							
ERPA	**Erie**	**91.20**	**324**	P		**P**		**03 18 46.7 -0.4**
	baz=42							
ULM	**Lac du Bonnet**	**91.28**	**337**	P		**P**		**03 18 46.5 -0.9**
	comp=Z,2.8nm,0.8s,baz=47,slow=5.4,SNR=4.8							
M54A	**Oil Creek Stat**	**91.49**	**323**	P		**P**		**03 18 48.1 -0.5**
	baz=43							
EYMN	**Ely**	**91.69**	**334**	P		**P**		**03 18 47.5 -1.8**
	baz=34							
EYMN	**Ely**	**91.69**	**334**	*eP*		**P**		**03 18 47.4 -1.9**
	comp=Z,24nm,1.4s							
C37A	**Embarrass**	**92.13**	**334**	P		**P**		**03 18 50.9 -0.4**
	baz=34							
B35A	**Bob, Littlefor**	**92.16**	**335**	P		**P**		**03 18 51.0 -0.5**
	baz=32							
E40A	**Wakefield**	**92.31**	**332**	P		**P**		**03 18 51.8 -0.4**
	baz=35							
B34A	**Aery, Baudette**	**92.38**	**336**	P		**P**		**03 18 51.7 -0.8**
	baz=32							
E39A	**Mellen**	**92.62**	**332**	P		**P**		**03 18 53.0 -0.6**
	baz=35							
A32A	**Rocking H Ranc**	**92.64**	**337**	P		**P**		**03 18 53.2 -0.5**
	baz=30							
C35A	**Jirik Farms, M**	**92.81**	**335**	P		**P**		**03 18 54.0 -0.5**
	baz=32							
AGMN	**Agassiz Nation**	**92.96**	**336**	P		**P**		**03 18 54.6 -0.5**
	baz=31							
B32A	**Ashes, Strandq**	**93.11**	**337**	P		**P**		**03 18 55.4 -0.4**
	baz=30							
G40A	**Rib Lake**	**93.39**	**331**	P		**P**		**03 18 57.0 -0.2**
	baz=35							
C33A	**Trail**	**93.39**	**336**	P		**P**		**03 18 56.7 -0.4**
	baz=31							
F36A	**Milaca**	**94.20**	**334**	P		**P**		**03 19 00.0 -0.9**
	baz=32							
E34A	**Wadena**	**94.25**	**335**	P		**P**		**03 19 00.4 -0.8**
	baz=31							
F33A	**5 Mile Ranch,**	**95.23**	**335**	P		**P**		**03 19 05.3 -0.3**
	baz=30							
LAO	**LASA Array**	**97.54**	**342**	*eP*		Pdif		03 19 17.5 +1.2
	comp=Z,15nm,1.4s							
TKL	**Tuckaleechee C**	**98.00**	**322**	P		Pdif		03 19 18.7 +0.3
	comp=Z,1.9nm,0.7s,baz=66,slow=2.4,SNR=3.0							
WRA	**Warramunga Arr**	**98.28**	**108**	P		Pdif		03 19 20.5 +0.7
	comp=Z,0.6nm,1.0s,baz=316,slow=4.1,SNR=3.5							
ASAR	**Alice Springs**	**99.86**	**112**	P		**Pdif**		**03 19 25.4 -1.4**
	comp=Z,0.4nm,0.7s,baz=297,slow=4.7,SNR=4.5							
ASAR					LR	LR		04 07 26.4
	comp=Z,130nm,19.7s,baz=312,slow=37							
NVAR	**Mina Array Bea**	**108.10**	**348**	PKiKP		**PKiKP**		**03 24 11.3 +1.0**
	comp=Z,0.2nm,0.5s,baz=59,slow=0.5,SNR=3.1							
LPAZ	**La Paz**	**119.62**	**269**	PKP		**PKPdf**		**03 24 32.8 -0.4**
	comp=Z,1.9nm,1.1s,baz=45,slow=1.4,SNR=3.0							
QSPA	**South Pole Qui**	**122.36**	**180**	PKP		**PKPdf**		**03 24 35.8 -0.4**
	comp=Z,3.1nm,0.7s,baz=216,slow=2.2,SNR=8.7							
DZM	**Mont Dzumac**	**125.78**	**95**	*eLR*		LR		04 03 56.0
	comp=Z,235nm,38.6s							
PPT2	**Papeete2**	**158.88**	**49**	*eLR*		LR		04 19 20.6
	comp=Z,264nm,22.5s							
RKT	**Rikitea**	**170.46**	**11**	*eLR*		LR		04 24 47.3
	comp=Z,260nm,25.2s							

IDC ***20*** *03:07:25.1±1.1,32.°57N×47.°03E,h0km,mb4.2/16, mb1 4.3/18,mb1mx4.0/66,mbtmp4.2/18,ML4.1/2,MS4.2/3, Ms1 4.2/3,ms1mx3.7/33,Error ellipse: s-maj=22.6km s-min=17.4km az=137.0*

ISCJB ***20*** *03:07:26.1±0.6,32.°55N±0.°09×47.°03E±0.°06,h20km, mb4.3/29,MS4.2/3,Error ellipse: s-maj=13.1km s-min=7.5km az=171.7*

CSEM ***20*** *03:07:26.3,32.°55N×47.°06E,h10km,mb4.7/17*

NEIC ***20*** *03:07:26.3±0.5,32.°55N×47.°06E,h10km,mb4.7/17,Error ellipse: s-maj=10.1km s-min=6.0km az=172.0*

ISC 20 03:07:27.8±0.7,32.°5N±0.°1×47.°10E±0.°08,h20km,n61, σ1°48/60,mb4.4/29,MS4.2/3,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GNI	**Garni**	**7.86**	**347**	Lg	Lg	03 11 36.1	
	0.2nm,0.3s,baz=187,slow=16,SNR=1.8						
ASF	**Jabal al Asfar**	**8.64**	**271**	Lg	Lg	03 11 58.8	
	baz=133,slow=19,SNR=1.8						
CSS	**Mathiatis**	**11.72**	**286**	*e*Pn	**Pn**	**03 10 14.2**	**+0.3**
CSS	**Mathiatis**	**11.72**	**286**	*e*Pn	**Pn**	**03 10 14.1**	**+0.3**
SANT	**Santorini**	**18.25**	**288**	*e*Pn	**Pn**	**03 11 38.7**	**-1.2**
SANT	**Santorini**	**18.25**	**288**	*e*Pn	**Pn**	**03 11 38.7**	**-1.2**
IDI	**Anoyia**	**18.64**	**285**	P	**Pn**	**03 11 44.7**	**+0.1**
	0.9nm,0.3s,baz=90,slow=12,SNR=2.8						
IDI	**Anoyia**	**18.64**	**285**	*e*P	**Pn**	**03 11 50.5**	**+5.8**
	58nm,1.0s						
IDI	**Anoyia**	**18.64**	**285**	*e*P	**Pn**	**03 11 50.5**	**+5.8**
	58nm,1.0s						
TIRR	**Tirgusor**	**18.83**	**315**	*e*P	**P**	**03 11 45.1**	**-1.1**
	12nm,0.9s						
TIRR	**Tirgusor**	**18.83**	**315**	*e*P	**P**	**03 11 45.1**	**-1.1**
	12nm,0.9s						
AKTO	**Aktyubinsk**	**19.66**	**21**	P	**P**	**03 11 55.1**	**-0.2**
	0.4nm,0.3s,baz=230,slow=14,SNR=1.7						
MLR	**Muntele Rosu**	**20.86**	**315**	P	**P**	**03 12 08.6**	**+0.1**
	1.6nm,1.0s,baz=108,slow=6.4,SNR=2.0						
KKAR	**Karatay Array**	**21.25**	**53**	*e*P	**P**	**03 12 12.7**	**+0.1**
	6.6nm,0.6s						
KKAR	**Karatay Array**	**21.25**	**53**	*e*P	**P**	**03 12 12.7**	**+0.1**
	6.6nm,0.6s						
NIL	**Nilore**	**21.93**	**80**	*e*P	**P**	**03 12 20.5**	**+0.5**
	48nm,0.7s						
NIL	**Nilore**	**21.93**	**80**	*e*P	**P**	**03 12 20.5**	**+0.5**
	48nm,0.7s						
AKASG	**Malin Array Be**	**22.46**	**329**	P	**P**	**03 12 24.4**	**-1.0**
	1.3nm,0.5s,baz=139,slow=9.1,SNR=2.1						
TIR	**Tirane**	**23.42**	**300**	*e*P	**P**	**03 12 33.2**	**-2.3**
	41nm,1.0s						
TIR	**Tirane**	**23.42**	**300**	*e*P	**P**	**03 12 33.2**	**-2.3**
	41nm,1.0s						
OBN	**Obninsk**	**23.79**	**345**	P	**P**	**03 12 38.4**	**-0.6**
	8.4nm,0.3s,baz=150,slow=14,SNR=2.1						
OBN				S	**S**	**03 16 55.7**	**+2.4**
	8.0nm,0.4s,baz=197,slow=19,SNR=2.8						
OBN	**Obninsk**	**23.79**	**345**	*e*P	**P**	**03 12 38.3**	**-0.6**
	20nm,0.5s						
OBN				S	**S**	**03 16 55.7**	**+2.4**
OBN	**Obninsk**	**23.79**	**345**	*e*P	**P**	**03 12 38.3**	**-0.6**
	20nm,0.5s						
OBN				S	**S**	**03 16 55.7**	**+2.4**
AAK	**Ala-Archa**	**23.86**	**57**	*e*P	**P**	**03 12 40.8**	**+0.8**
	4.4nm,0.7s						
AAK	**Ala-Archa**	**23.86**	**57**	*e*P	**P**	**03 12 40.8**	**+0.8**
	4.4nm,0.7s						
ARU	**Arti**	**25.21**	**15**	*e*P	**P**	**03 12 50.9**	**-1.0**
	7.4nm,0.4s						
ARU	**Arti**	**25.21**	**15**	*e*P	**P**	**03 12 50.9**	**-1.0**
	7.4nm,0.4s						
TIP	**Timpagrande**	**25.40**	**294**	*e*P	**P**	**03 12 54.3**	**+0.4**
TIP	**Timpagrande**	**25.40**	**294**	*e*P	**P**	**03 12 54.3**	**+0.4**
PSZ	**Piszkesteto**	**25.68**	**315**	*e*P	**P**	**03 12 56.3**	**0.0**
	23nm,1.0s						
PSZ	**Piszkesteto**	**25.68**	**315**	*e*P	**P**	**03 12 56.3**	**0.0**
	23nm,1.0s						
CEL	**Celeste**	**26.00**	**292**	*e*P	**P**	**03 13 00.8**	**+1.4**
	35nm,0.9s						
CEL	**Celeste**	**26.00**	**292**	*e*P	**P**	**03 13 00.8**	**+1.4**
	35nm,0.9s						
BVAR	**Borovoye Array**	**26.49**	**32**	P	**P**	**03 13 03.8**	**+0.2**
	2.6nm,0.5s,baz=220,slow=6.6,SNR=3.1						
VRAC	**Vranov**	**28.26**	**315**	LR	LR	03 26 44.7	
	comp=Z,425nm,21.1s,baz=112,slow=41						
KURBB	**Kurchatov Arra**	**29.37**	**43**	P	**P**	**03 13 30.0**	**+0.7**
	1.1nm,0.8s,baz=246,slow=9.1,SNR=3.2						
KURK	**Kurchatov**	**29.46**	**43**	*e*P	**P**	**03 13 30.9**	**+0.8**
KURK	**Kurchatov**	**29.46**	**43**	*e*P	**P**	**03 13 30.9**	**+0.8**
KHC	**Kasperske Hory**	**30.00**	**314**	*e*P	**P**	**03 13 35.4**	**+0.4**
	1.0nm,0.8s						
GRFO	**Grafenberg**	**31.64**	**313**	*e*P	**P**	**03 13 48.9**	**-0.6**
	12nm,1.0s						
GRFO	**Grafenberg**	**31.64**	**313**	*e*P	**P**	**03 13 48.9**	**-0.6**
	12nm,1.0s						
FINES	**FINESS Array B**	**32.00**	**341**	P	**P**	**03 13 51.5**	**-0.9**
	7.8nm,0.9s,baz=142,slow=12,SNR=2.7						
BNI	**Bardonecchia**	**33.57**	**304**	*e*P	**P**	**03 14 06.2**	**-0.3**
BNI	**Bardonecchia**	**33.57**	**304**	*e*P	**P**	**03 14 06.2**	**-0.3**
ECH	**Echery**	**33.81**	**310**	*e*P	**P**	**03 14 08.9**	**+0.5**
	22nm,1.5s						
ZALV	**Zalesovo Beam**	**34.27**	**40**	P	**

SIJI					Sn		**Sn**	**03 18 51.2**	**+0.4**
	5.6nm,0.3s,baz=56,slow=21,SNR=11								
FAKI	**Fak Fak**		**3.89**	**94**	P		**Pn**	**03 18 18.0**	**-0.3**
WRA	**Warramunga Arr**		**18.14**	**162**	P		**Pn**	**03 21 27.9**	**-2.4**
	0.3nm,0.3s,baz=342,slow=13,SNR=16								
ASAR	**Alice Springs**		**21.56**	**166**	P		**P**	**03 22 06.8**	**-0.8**
	5.1nm,0.7s,baz=346,slow=11,SNR=45								
ASAR					S		**S**	**03 25 59.5**	**-5.3**
	0.5nm,0.7s,baz=350,slow=21,SNR=3.6								
HNR	**Honiara**		**32.10**	**103**	LR		LR	03 36 51.2	
	comp=Z,66nm,18.6s,baz=15,slow=37								
MKAR	**Makanchi Array**		**63.72**	**327**	P		**P**	**03 27 52.2**	**+3.1**
	0.2nm,0.7s,baz=130,slow=6.6,SNR=2.1								
KURBB	**Kurchatov Arra**		**67.98**	**328**	P		**P**	**03 28 18.5**	**+2.1**
	0.2nm,0.3s,baz=128,slow=5.6,SNR=4.7								
MAW	**Mawson**		**78.38**	**201**	LR		LR	04 03 28.5	
	comp=Z,210nm,19.0s,baz=45,slow=35								
FINES	**FINESS Array B**		**98.19**	**332**	LR		LR	04 19 36.0	
	comp=Z,73nm,18.0s,baz=188,slow=38								

ISN **20** *03:31:39.9*±*0.8,32.°46N*×*46.°78E,h0km*±*3km,ML4.4*
IDC **20** *03:31:39.2*±*0.7,32.°43N*×*46.°97E,h0km,mb4.0/17, mb1 4.0/22,mb1mx3.9/60,mbtmp4.0/22,ML3.7/4,MS3.7/15, Ms1 3.7/15,ms1mx3.4/62,Error ellipse: s-maj=17.0km s-min=14.3km az=163.0*
TEH **20** *03:31:39.9,32.°54N*×*46.°91E,h10km,ML4.1*
NEIC **20** *03:31:41.3*±*0.4,32.°37N*×*46.°85E,h10km,mb4.4/21, ML4.2(THR),MN4.1(TEH),Error ellipse: s-maj=8.5km s-min=5.8km az=209.0*
OMAN **20** *03:31:41.3*±*4.9,32.°10N*×*46.°57E,h8km*±*35km, Error ellipse: s-maj=58.2km s-min=21.5km az=148.0*
CSEM **20** *03:31:41.3*±*0.2,32.°45N*×*46.°92E,h10km,mb4.3/25,Error ellipse: s-maj=6.6km s-min=4.8km az=45.0*
THR **20** *03:31:41.1*±*0.3,32.°17N*×*46.°71E,h37km*±*6km,ML4.2*
MOS **20** *03:31:42.2*±*2.1,32.°69N*×*46.°98E,h26km,mb4.3/25,Error ellipse: s-maj=9.2km s-min=5.9km az=94.0*
GII **20** *03:31:55.2*±*0.0,32.°50N*×*46.°91E,h2km*
DSN **20** *03:32:05.6*±*7.8,31.°47N*×*48.°44E,h34km,mb5.5/1,ML4.5/2, Error ellipse: s-maj=85.1km s-min=16.7km az=141.0*

ISC 20 03:31:41.9±1.1,**32.°46N**±0.°03×**46.°90E**±0.°03,**h16**km±7km, **n225,**σ1**§84/**213**, mb4.2**/38**, MS3.7**/11**, 6C-13D, Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
IKFM	**Kafar-mosalman**	**1.33**	**36**	*e*AMB		AMB	03 32 27.7	
	comp=Z,99nm,0.6s							
IKFM				*e*Pg		**Pn**	**03 32 05.0**	**-0.8**
NSR	**Nassriya**	**1.58**	**204**	*e*Pn		**Pn**	**03 32 10.0**	**+0.8**
	SNR=4.0							
NSR				*i* Sn		**Sg**	**03 32 32.0**	**-0.9**
	SNR=4.0							
SHGR	**Shooshtar-Gavs**	**1.65**	**102**	Pg		**Pg**	**03 32 13.0**	**-0.6**
SHGR				Sg		**Sg**	**03 32 36.0**	**+1.0**
SHGR	**Shooshtar-Gavs**	**1.65**	**102**	*e*Pg		**Pg**	**03 32 13.0**	**-0.6**
SHGR				Sg		**Sg**	**03 32 36.0**	**+1.0**
SHGR	**Shooshtar-Gavs**	**1.65**	**102**	*e*Pg		**Pg**	**03 32 13.0**	**-0.6**
SHGR				*e*Sg		**Sg**	**03 32 36.4**	**+1.4**
SHGR				AML		AML	03 32 45.7	
	comp=N,9μm,0.6s							
SHGR				AML		AML	03 32 46.3	
	comp=E,7μm,0.7s							
IKOM	**Komasi**	**1.79**	**16**	*e*Pn		**Pn**	**03 32 12.4**	**+0.1**
IKOM				*e*Sg		**Sb**	**03 32 37.4**	**+0.7**
IKOM				*e*AMB		AMB	03 32 49.6	
	comp=Z,19μm,0.3s							
IKOM	**Komasi**	**1.79**	**16**	Pn		**Pn**	**03 32 12.4**	**+0.1**
IKOM				Sg		**Sb**	**03 32 37.3**	**+0.6**
IKOM	**Komasi**	**1.79**	**16**	*e*Pn		**Pn**	**03 32 12.4**	**+0.1**
IKOM				Sg		**Sb**	**03 32 37.3**	**+0.6**
IGHG	**Ghaleghazi**	**1.89**	**352**	*e*AMB		AMB	03 32 55.5	
	comp=Z,16μm,0.4s							
IVIS	**Veis**	**2.06**	**359**	*e*Pn		**Pn**	**03 32 16.0**	**-0.1**
IVIS				*e*AMB		AMB	03 32 55.4	
	comp=Z,8μm,0.4s							
IVIS	**Veis**	**2.06**	**359**	Pn		**Pn**	**03 32 15.9**	**-0.1**
IVIS	**Veis**	**2.06**	**359**	Pn		**Pn**	**03 32 15.9**	**-0.1**
BHD	**Baghdad**	**2.27**	**292**	*e*Pn		**Pn**	**03 32 19.0**	**+0.2**
	SNR=4.0							
BHD				*i* Sn		**Sn**	**03 32 48.0**	**+1.6**
	SNR=4.0							
ILIN	**Lien**	**2.46**	**1**	*e*Pn		**Pn**	**03 32 23.0**	**+1.4**
ILIN				*e*AMB		AMB	03 33 00.9	
	comp=Z,4μm,0.4s							
ILIN	**Lien**	**2.46**	**1**	Pn		**Pn**	**03 32 23.0**	**+1.4**
ILIN	**Lien**	**2.46**	**1**	*e*Pn		**Pn**	**03 32 23.0**	**+1.4**
SNGE	**Sanandaj**	**2.66**	**8**	Pn		**Pb**	**03 32 27.0**	**-2.2**
SNGE	**Sanandaj**	**2.66**	**8**	Pn		**Pb**	**03 32 27.0**	**-2.2**
SNGE	**Sanandaj**	**2.66**	**8**	*e*Pn		**Pb**	**03 32 27.8**	**-1.4**
SNGE				AML		AML	03 33 15.1	
	comp=N,242nm,0.5s							
SNGE				AML		AML	03 33 18.6	
	comp=E,258nm,0.6s							
KHMZ	**Khomeyn**	**2.87**	**63**	Pn		**Pb**	**03 32 30.0**	**-2.9**
KHMZ	**Khomeyn**	**2.87**	**63**	Pn		**Pb**	**03 32 30.0**	**-2.9**
KHMZ	**Khomeyn**	**2.87**	**63**	*e*Pn		**Pb**	**03 32 30.6**	**-2.3**
HAGD	**Aghdareh**	**3.01**	**38**	*e*Pn		**Pn**	**03 32 28.3**	**-0.8**
HAGD				*e*AMB		AMB	03 33 15.5	
	comp=Z,99nm,0.1s							
HAGD	**Aghdareh**	**3.01**	**38**	*e*Pn		**Pn**	**03 32 28.3**	**-0.8**
ASAO	**Ashtian**	**3.34**	**51**	Pn		**Pn**	**03 32 37.0**	**+3.3**
ASAO	**Ashtian**	**3.34**	**51**	Pn		**Pn**	**03 32 37.0**	**+3.3**
ASAO	**Ashtian**	**3.34**	**51**	*e*Pn		**Pb**	**03 32 37.3**	**-3.7**
HKZM	**Kohzaman**	**3.36**	**29**	*e*Pn		**Pn**	**03 32 34.7**	**+0.8**
HKZM				*e*AMB		AMB	03 33 24.1	
	comp=Z,99nm,0.3s							
HKZM	**Kohzaman**	**3.36**	**29**	*e*Pn		**Pn**	**03 32 34.7**	**+0.8**
QAM	**Ghamsar**	**4.03**	**70**	*e*Pn		**Pn**	**03 32 45.2**	**+2.1**
IKLH	**Kolahrood**	**4.03**	**76**	*e*Pn		**Pn**	**03 32 45.3**	**+2.1**
IKLH				*e*AMB		AMB	03 34 02.7	
	comp=Z,6μm,0.4s							
IKLH	**Kolahrood**	**4.03**	**76**	Pn		**Pn**	**03 32 45.3**	**+2.1**
IKLH	**Kolahrood**	**4.03**	**76**	*e*Pn		**Pn**	**03 32 45.3**	**+2.1**
GHVR	**GHOM**	**4.19**	**60**	Pn		**Pn**	**03 32 48.0**	**+2.8**
GHVR	**GHOM**	**4.19**	**60**	*e*Pn		**Pn**	**03 32 48.0**	**+2.8**
GHVR	**GHOM**	**4.19**	**60**	*e*Pn		**Pn**	**03 32 48.0**	**+2.8**
IRAM	**Ramesheh**	**4.69**	**96**	*e*Pn		**Pn**	**03 32 53.5**	**+1.1**
IRAM				*e*AMB		AMB	03 34 40.7	
	comp=Z,4μm,0.5s							
IRAM	**Ramesheh**	**4.69**	**96**	Pn		**Pn**	**03 32 53.4**	**+1.1**
IRAM	**Ramesheh**	**4.69**	**96**	Pn		**Pn**	**03 32 53.4**	**+1.1**
IKAZ	**Kazeroun**	**5.00**	**121**	*e*Pn		**Pn**	**03 32 58.6**	**+1.9**
IKAZ				*e*AMB		AMB	03 35 14.1	
	comp=Z,14μm,0.6s							
IKAZ	**Kazeroun**	**5.00**	**121**	Pn		**Pn**	**03 32 58.5**	**+1.9**
IKAZ	**Kazeroun**	**5.00**	**121**	Pn		**Pn**	**03 32 58.5**	**+1.9**
ISRV	**Sarvestan**	**6.15**	**118**	*e*Pn		**Pn**	**03 33 14.2**	**+1.7**
ISRV				*e*AMB		AMB	03 35 53.1	
	comp=Z,6μm,0.6s							
ISRV	**Sarvestan**	**6.15**	**118**	Pn		**Pn**	**03 33 14.1**	**+1.6**
ISRV	**Sarvestan**	**6.15**	**118**	Pn		**Pn**	**03 33 14.1**	**+1.6**
GNI	**Garni**	**7.87**	**348**	Lg		Lg	03 35 54.8	
	baz=174,slow=18,SNR=1.3							
GNI				LR		LR	03 36 37.0	
	comp=Z,122nm,20.5s,baz=165,slow=38							
GNI	**Garni**	**7.87**	**348**	*i* P		**Pn**	**03 33 31.5**	**-4.4**
ASF	**Jabal al Asfar**	**8.47**	**271**	Lg		Lg	03 36 08.8	
	comp=Z,0.2nm,0.3s,baz=103,slow=18,SNR=2.7							
ASF				LR		LR	03 37 34.4	
	comp=Z,318nm,21.4s,baz=42,slow=42							
RAYN	**Ar Rayn**	**8.98**	**188**	*e*Pn		**Pn**	**03 33 49.3**	**-1.8**
RAYN				*e*Sn		**Sn**	**03 35 31.7**	**-0.3**
RAYN	**Ar Rayn**	**8.98**	**188**	*e*Pn		**Pn**	**03 33 49.3**	**-1.8**
RAYN	**Ar Rayn**	**8.98**	**188**	P		**Pn**	**03 33 52.7**	**+1.6**
RAYN				*e*Sn		**Sn**	**03 35 31.7**	**-0.3**
RAYN	**Ar Rayn**	**8.98**	**188**	P		**Pn**	**03 33 52.7**	**+1.6**
HMDT	**Nahal Hemdat**	**9.63**	**272**	Sn		Sn	03 36 05.4	+18
MMA0B	**Mount Meron ar**	**9.70**	**276**	Sn		Sn	03 36 06.4	+17
MMAI	**Mount Meron Ar**	**9.70**	**276**	Lg		Lg	03 36 49.8	
	comp=Z,0.9nm,0.3s,baz=79,slow=30,SNR=3.9							
MMAI				LR		LR	03 38 33.8	
	comp=Z,164nm,19.0s,baz=315,slow=42							
MMLI	**Mount Malkishu**	**9.70**	**273**	Sn		Sn	03 36 06.3	+17
DSI	**Dead Sea**	**9.82**	**268**	Sn		Sn	03 36 08.9	+16
BLGI	**Bet Lehem HaGe**	**9.88**	**275**	Sn		Sn	03 36 10.4	+16
HNTI	**Hanita**	**9.89**	**277**	Sn		Sn	03 36 11.1	+17
SLTI	**Sal'it**	**10.04**	**272**	Sn		Sn	03 36 13.9	+16
OFRI	**'Ofer**	**10.06**	**274**	Sn		Sn	03 36 15.2	+17
ZFRI	**Zfri**	**10.19**	**262**	Sn		Sn	03 36 17.9	+17
AMAZ	**Amatzia**	**10.22**	**268**	Sn		Sn	03 36 19.0	+17

SHME	**Shamm**		**10.29**	**126**	P		**Pn**	**03 34 08.2**	**-0.7**
PRNI	**Paran**		**10.38**	**261**	Sn		Sn	03 36 23.0	+17
BANOM	**Banah**		**10.47**	**126**	P		**Pn**	**03 34 11.9**	**+0.4**
BANOM	**Banah**		**10.47**	**126**	P		**Pn**	**03 34 11.2**	**-0.3**
	SNR=16								
BANOM	**Banah**		**10.47**	**126**	*i* P		**Pn**	**03 34 11.2**	**-0.3**
	SNR=16								
MBRI	**Mt Berech**		**10.61**	**259**	Sn		Sn	03 36 28.7	+17
EIL	**Elat**		**10.62**	**258**	Lg		Lg	03 37 24.9	
	comp=Z,0.4nm,0.3s,baz=9.5,slow=18,SNR=2.5								
EIL					LR		LR	03 39 22.7	
	comp=Z,476nm,20.3s,baz=70,slow=43								
EIL	**Elat**		**10.62**	**258**	Sn		Sn	03 36 28.7	+17
NAZ	**Nazwa, Dubai**		**10.70**	**132**	P		**Pn**	**03 34 15.1**	**+0.6**
	SNR=6.9								
NAZ	**Nazwa, Dubai**		**10.70**	**132**	*i* P		**Pn**	**03 34 15.1**	**+0.6**
	SNR=6.9								
MSFE	**Esma-Masafi**		**10.76**	**129**	P		**Pn**	**03 34 15.8**	**+0.5**
MSFE	**Esma-Masafi**		**10.76**	**129**	P		**Pn**	**03 34 14.9**	**-0.4**
KZIT	**Kziot**		**10.77**	**265**	Sn		Sn	03 36 32.6	+17
MZR	**Muzera**		**11.07**	**147**	P		**Pn**	**03 34 20.7**	**+1.1**
UOSS	**Minazif**		**11.07**	**130**	*e*Pn		**Pn**	**03 34 19.8**	**+0.2**
UOSS					*e*Sn		**Sn**	**03 36 19.7**	**-3.4**
UOSS	**Minazif**		**11.07**	**130**	P		**Pn**	**03 34 19.8**	**+0.2**
UOSS	**Minazif**		**11.07**	**130**	P		**Pn**	**03 34 19.4**	**-0.2**
UOSS					*e*Sn		**Sn**	**03 36 19.7**	**-3.4**
UOSS	**Minazif**		**11.07**	**130**	P		**Pn**	**03 34 19.4**	**-0.2**
HATD	**Hatta, Dubai**		**11.11**	**131**	P		**Pn**	**03 34 20.4**	**+0.2**
HATD	**Hatta, Dubai**		**11.11**	**131**	P		**Pn**	**03 34 20.4**	**+0.2**
ASHO	**Ashiyiah**		**11.16**	**132**	P		**Pn**	**03 34 21.2**	**+0.3**
	SNR=7.5								
ASHO	**Ashiyiah**		**11.16**	**132**	*i* P		**Pn**	**03 34 21.2**	**+0.3**
	SNR=7.5								
NEY	**Neytrino**		**11.27**	**344**	*i* P		**Pn**	**03 34 19.4**	**-3.0**
ALNE	**Al Ain**		**11.44**	**135**	*i* P		**Pn**	**03 34 24.7**	**+0.1**
	SNR=8.2								
SOHO	**SOHO**		**11.86**	**132**	P		**Pn**	**03 34 29.2**	**-1.2**
SOHO	**SOHO**		**11.86**	**132**	P		**Pn**	**03 34 29.2**	**-1.2**
KVAR	**Kislovodsk Arr**		**11.95**	**345**	Pn		Pn	03 34 36.2	+4.6
	baz=139,slow=11,SNR=3.4								
KVAR					LR		LR	03 38 50.0	
	comp=Z,215nm,18.0s,baz=172,slow=36								
KIV	**Kislovodsk**		**11.95**	**345**	*e*P		**Pn**	**03 34 27.4**	**-4.2**
KIV					pmax		pmax		
	comp=Z,6.0nm,1.1s								
KIV					MLR		MLR		
	comp=Z,63nm,8.0s								
SOC	**Sochi**		**12.46**	**335**	*e*P		Pn	03 34 33.5	-5.0
SOC					*e*			03 36 46.6	
SOC					MLR		MLR		
	comp=Z,257nm,19.0s								
BRTR	**Keskin Array B**		**12.94**	**308**	Pn		**Pn**	**03 34 48.2**	**+3.0**
	comp=Z,0.0nm,0.3s,baz=104,slow=18,SNR=4.4								
WSAR	**Wadi Sarin**		**13.85**	**129**	Pn		**Pn**	**03 34 55.4**	**-2.1**
	comp=Z,0.5nm,0.3s,baz=313,slow=8.2,SNR=8.9								
WSAR					Sn		Sn	03 37 21.2	-10
	comp=Z,0.4nm,0.3s,baz=330,slow=20,SNR=3.3								
WHFO	**Wadi Hawf**		**15.74**	**155**	P		**Pn**	**03 35 21.8**	**-1.4**
RBK	**Rabkut**		**16.28**	**154**	P		**Pn**	**03 35 28.9**	**-1.1**
SHAO	**Shalim**		**16.38**	**149**	Pn		**P**	**03 35 32.9**	**-1.1**
	SNR=6.4								
SHAO	**Shalim**		**16.38**	**149**	Pn		**P**	**03 35 32.9**	**-1.1**
	SNR=6.4								
SHAO	**Shalim**		**16.38**	**149**	*i* P		**P**	**03 35 34.7**	**+0.6**
	SNR=6.3								
IDI	**Anoyia**		**18.49**	**285**	P		**Pn**	**03 35 58.1**	**+0.6**
	comp=Z,0.2nm,0.3s,baz=100,slow=6.1,SNR=2.3								
IDI	**Anoyia**		**18.49**	**285**	⇑*i* P		**Pn**	**03 36 01.2**	**+3.7**
IDI	**Anoyia**		**18.49**	**285**	*e*P		**Pn**	**03 36 01.7**	**+4.2**
	comp=Z,58nm,1.6s								
IDI	**Anoyia**		**18.49**	**285**	⇑*i*P		**Pn**	**03 36 01.2**	**+3.7**
KBL	**Kabul**		**18.58**	**78**	*e*P		**Pn**	**03 36 01.1**	**+2.4**
	comp=Z,28nm,1.5s								
KBL	**Kabul**		**18.58**	**78**	*e*P		**Pn**	**03 36 01.1**	**+2.4**
	comp=Z,28nm,1.5s								
KBL	**Kabul**		**18.58**	**78**	*e*P		**Pn**	**03 36 01.1**	**+2.4**
KBL					pmax		pmax		
	comp=Z,28nm,1.5s								
ABKAR	**Akbulak array**		**19.42**	**26**	*e*P		**Pn**	**03 36 09.0**	**+0.5**
	comp=Z,4.1nm,0.9s								
ABKAR	**Akbulak array**		**19.42**	**26**	*e*P		**Pn**	**03 36 09.0**	**+0.5**
	comp=Z,4.1nm,0.9s								
VSR	**Storozhevoye**		**19.59**	**345**	*e*P		**P**	**03 36 08.7**	**-0.5**
	comp=Z,3.0nm,0.7s								
VSR	**Storozhevoye**		**19.59**	**345**	*e*P		**P**	**03 36 08.7**	**-0.5**
VSR					pmax		pmax		
	comp=Z,3.0nm,0.7s								
AKTK	**Aktyubinsk**		**19.76**	**21**	P		**P**	**03 36 11.1**	**0.0**
	comp=Z,290nm,18.9s								
AKTO	**Aktyubinsk**		**19.76**	**21**	P		**P**	**03 36 11.1**	**0.0**
	comp=Z,0.3nm,0.3s,baz=202,slow=5.4,SNR=2.9								
AKTO					LR		LR	03 46 00.3	
	comp=Z,290nm,18.9s,baz=226,slow=44								
MLR	**Muntele Rosu**		**20.78**	**315**	P		Pn	03 36 23.8	-1.0
	comp=Z,0.5nm,1.0s,baz=119,slow=19								
MLR	**Muntele Rosu**		**20.78**	**315**	||*i*P		Pn	03 36 24.7	0.0
MLR	**Muntele Rosu**		**20.78**	**315**	*e*P		Pn	03 36 24.3	-0.4
	comp=Z,11nm,1.2s								
TESR	**Tescani**		**20.93**	**318**	||*i*P		**P**	**03 36 24.5**	**+0.7**
TESR	**Tescani**		**20.93**	**318**	||*i*P		**P**	**03 36 24.5**	**+0.7**
LPSR	**Galich'ya Gora**		**20.95**	**346**	*e*P		**P**	**03 36 22.3**	**-1.6**
	comp=Z,10.0nm,0.7s								
LPSR	**Galich'ya Gora**		**20.95**	**346**	*e*P		**P**	**03 36 22.3**	**-1.6**
LPSR					pmax		pmax		
	comp=Z,10.0nm,0.7s								
SORM	**Soroca**		**21.02**	**324**	||*i*P		**P**	**03 36 25.6**	**+0.9**
SORM	**Soroca**		**21.02**	**324**	||*i*P		**P**	**03 36 25.6**	**+0.9**
ATD	**Arta Tunnel**		**21.16**	**191**	LR		LR	03 45 19.4	
	comp=Z,214nm,19.5s,baz=3.0,slow=39								
VOIR			**21.29**	**314**	||*i*P		**P**	**03 36 28.2**	**+0.4**
VOIR			**21.29**	**314**	||*i*P		**P**	**03 36 28.2**	**+0.4**
DOPR	**Dopca**		**21.36**	**315**	⇑*i*P		**P**	**03 36 28.5**	**+0.1**
DOPR	**Dopca**		**21.36**	**315**	⇑*i*P		**P**	**03 36 28.5**	**+0.1**
KK31	**Karatay Array**		**21.41**	**53**	*e*P		**P**	**03 36 31.9**	**+2.9**
KK31	**Karatay Array**		**21.41**	**53**	*e*P		**P**	**03 36 31.9**	**+2.9**
KK31	**Karatay Array**		**21.41**	**53**	*e*P		**P**	**03 36 31.9**	**+2.9**
KKAR	**Karatay Array**		**21.41**	**53**	*e*P		**P**	**03 36 27.4**	**-1.6**
	comp=Z,2.3nm,0.5s								
KKAR	**Karatay Array**		**21.41**	**53**	*e*P		**P**	**03 36 27.4**	**-1.6**
	comp=Z,2.0nm,0.5s								
KKAR	**Karatay Array**		**21.41**	**53**	*e*P		**P**	**03 36 27.4**	**-1.6**
KKAR					pmax		pmax		
	comp=Z,2.0nm,0.5s								
ARR	**Arges**		**21.51**	**313**	⇑*i*P		**P**	**03 36 30.5**	**+0.4**
ARR	**Arges**		**21.51**	**313**	⇑*i*P		**P**	**03 36 30.5**	**+0.4**
NIL	**Nilore**		**22.10**	**80**	*e*P		**P**	**03 36 35.8**	**-0.8**
	comp=Z,32nm,0.8s								
NIL	**Nilore**		**22.10**	**80**	*e*P		**P**	**03 36 35.8**	**-0.8**
	comp=Z,32nm,0.8s								
NIL	**Nilore**		**22.10**	**80**	*e*P		**P**	**03 36 35.8**	**-0.8**
NIL					pmax		pmax		
	comp=Z,32nm,0.8s								
BURAR	**Bucovina Array**		**22.36**	**319**	||*i*P		**P**	**03 36 38.9**	**-0.4**
BURAR	**Bucovina Array**		**22.36**	**319**	||*i*P		**P**	**03 36 38.9**	**-0.4**
BUR04	**Bucovina Ar. S**		**22.37**	**319**	*e*P		**P**	**03 36 41.5**	**+2.2**
BUR04	**Bucovina Ar. S**		**22.37**	**319**	*e*P		**P**	**03 36 41.5**	**+2.2**
AKASG	**Malin Array Be**		**22.42**	**330**	P		**P**	**03 36 38.9**	**-0.8**
	comp=Z,1.2nm,0.7s,baz=136,slow=10,SNR=7.5								
AKBB	**Malin Array Si**		**22.42**	**330**	*e*P		**P**	**03 36 41.3**	**+1.6**
	comp=Z,6.3nm,1.1s								
AKBB	**Malin Array Si**		**22.42**	**330**	*e*P		**P**	**03 36 41.3**	**+1.6**
	comp=Z,6.0nm,1.1s								
AKBB	**Malin Array Si**		**22.42**	**330**	*e*P		**P**	**03 36 41.3**	**+1.6**
AKBB					pmax		pmax		
	comp=Z,6.0nm,1.1s								
KIEV	**Kiev**		**22.42**	**330**	*e*P		**P**	**03 36 40.7**	**+1.0**
	comp=Z,6.1nm,1.1s								
KIEV	**Kiev**		**22.42**	**330**	*e*P		**P**	**03 36 40.7**	**+1.0**
	comp=Z,6.1nm,1.1s								
KIEV	**Kiev**		**22.42**	**330**	*i* P		**P**	**03 36 35.5**	**-4.2**
KIEV					pmax		pmax		
	comp=Z,4.0nm,1.0s								
AK11	**Malin Array Si**		**22.43**	**329**	*e*P		**P**	**03 36 41.1**	**+1.4**
AK11	**Malin Array Si**		**22.43**	**329**	*e*P		**P**	**03 36 41.2**	**+1.4**
DRGR			**23.38**	**315**	||*i*P		**P**	**03 36 49.1**	**-0.7**
DRGR			**23.38**	**315**	||*i*P		**P**	**03 36 49.1**	**-0.7**
OBN	**Obninsk**		**23.80**	**345**	P		**P**	**03 36 54.0**	**+0.3**
	comp=Z,9.0nm,0.4s,baz=156,slow=12,SNR=6.0								
OBN					LR		LR	03 47 51.0	
	comp=Z,197nm,18.5s,baz=101,slow=41								
OBN	**Obninsk**		**23.80**	**345**	*e*P		**P**	**03 36 54.3**	**+0.6**
OBN					*e*			03 37 20.1	
OBN					*e*S		**S**	**03 41 05.8**	**-2.6**
OBN					pmax		pmax		
	comp=Z,13nm,1.2s								

OBN					MLR		MLR		
	comp=Z,157nm,17.0s								
AAK	**Ala-Archa**		**24.03**	**57**	P		**P**	**03 36 56.8**	**+0.6**
	comp=Z,2.4nm,0.7s,baz=231,slow=10,SNR=5.9								
AAK					LR		LR	03 47 54.8	
	comp=Z,228nm,21.3s,baz=258,slow=41								
AAK	**Ala-Archa**		**24.03**	**57**	*e*P		**P**	**03 36 57.2**	**+0.9**
	comp=Z,5.7nm,1.1s								
AAK	**Ala-Archa**		**24.03**	**57**	*e*P		**P**	**03 36 57.2**	**+0.9**
	comp=Z,5.7nm,1.1s								
AAK	**Ala-Archa**		**24.03**	**57**	*i* P		**P**	**03 36 51.9**	**-4.4**
FRU	**Bishkek**		**24.17**	**57**	*e*P		**P**	**03 36 56.0**	**-1.4**
FRU	**Bishkek**		**24.17**	**57**	*e*P		**P**	**03 36 56.0**	**-1.4**
KWP	**Kalwaria Pacla**		**24.88**	**321**	*e*P		**P**	**03 37 05.8**	**+2.1**
	comp=Z,182nm,1.3s								
KWP	**Kalwaria Pacla**		**24.88**	**321**	*e*P		**P**	**03 37 05.8**	**+2.1**
	comp=Z,182nm,1.3s								
KWP	**Kalwaria Pacla**		**24.88**	**321**	*e*P		**P**	**03 37 05.8**	**+2.1**
KWP					pmax		pmax		
	comp=Z,182nm,1.3s								
ARU	**Arti**		**25.30**	**15**	P		**P**	**03 37 07.5**	**+0.1**
	comp=Z,2.0nm,0.3s,baz=191,slow=6.5,SNR=7.9								
ARU	**Arti**		**25.30**	**15**	*e*P		**P**	**03 37 06.2**	**-1.3**
	comp=Z,16nm,1.3s								
ARU	**Arti**		**25.30**	**15***d*	*i*P		**P**	**03 37 07.6**	**+0.1**
ARU								03 37 43.6	
ARU					S		**S**	**03 41 35.3**	**+2.7**
ARU					SS		**SnSn**	**03 42 28.3**	**+4.2**
ARU					pmax		pmax		
	comp=Z,17nm,1.7s								
PSZ	**Piszkesteto**		**25.59**	**315**	*e*P		**P**	**03 37 11.6**	**+1.3**
PSZ	**Piszkesteto**		**25.59**	**315**	*e*P		**P**	**03 37 11.6**	**+1.3**
PSZ	**Piszkesteto**		**25.59**	**315**	*e*P		**P**	**03 37 11.6**	**+1.3**
KDJ	**Kajisay**		**25.84**	**59**	*e*P		**P**	**03 37 14.2**	**+1.5**
	comp=Z,23nm,1.6s								
KDJ	**Kajisay**		**25.84**	**59**	*e*P		**P**	**03 37 14.2**	**+1.5**
	comp=Z,23nm,1.6s								
BRVK	**Borovoye**		**26.59**	**32**	*e*P		**P**	**03 37 17.4**	**-1.8**
	comp=Z,8.2nm,1.2s								
BRVK	**Borovoye**		**26.59**	**32**	*e*P		**P**	**03 37 17.4**	**-1.8**
	comp=Z,8.2nm,1.2s								
BRVK	**Borovoye**		**26.59**	**32**	*i* P		**P**	**03 37 15.0**	**-4.2**
BRVK					pmax		pmax		
	comp=Z,6.0nm,

comp=Z,156nm,22.0s
ILAR Eielson Array 82.49 6 P P 03 44 02.6 -0.7
comp=Z,0.8nm,1.0s,baz=328,slow=4.3,SNR=4.8
YKA Yellowknife Ar 84.22 351 P P 03 44 11.5 -0.7
comp=Z,0.9nm,1.0s,baz=16,slow=4.7,SNR=10
LPAZ La Paz 119.50 269 PKP PKPdf 03 50 30.8 -1.3
comp=Z,0.7nm,0.3s,baz=112,slow=1.2,SNR=6.4
QSPA South Pole Qui 122.29 180 PKP PKPdf 03 50 35.5 +0.2
comp=Z,2.7nm,1.0s,baz=198,slow=4.4,SNR=3.5

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*SJA **20** 03:37:21.8±0.7, 34.42S×70.06W±8km, h148km±8km, ML4.2, MW4.5, Fault plane solution: NP1:ϕs72.00000°, δ68.50000°, λ-151.50000°.*
*ISCJB **20** 03:37:22.1±0.3, 34.39S±0.03×70.19W±0.04, h126km±2km, mb4.2/24, Error ellipse: s-maj=6.2km s-min=4.6km az=36.3*
*IDC **20** 03:37:22.6±2.6, 34.38S×70.08W, h109km±23km, mb3.8/10, mb1 3.9/13, mb1mx3.8/31, mbtmp4.2/13, Error ellipse: s-maj=23.3km s-min=13.0km az=86.0*
*GUC **20** 03:37:23.6±0.6, 34.32S×70.31W, h126km±3km, ML3.8*
*NEIC **20** 03:37:23.0±0.0, 34.32S×70.31W, h126km, mb4.0/11, ML3.8(GUC), After GUC.*
NEIC Felt [II] at Santiago. Also felt at Rancagua. Felt [III] at Mendoza and San Rafael, Argentina.
ISC 20 03:37:23.1±0.7, 34.36S±0.04×70.20W±0.04, h118km±5km, n181, σ1s04/197, mb4.0/24, 13C-7D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LMEL	**Las Melosas**	**0.51**	**360**	⇓	*i*P		**Pn**	**03 37 41.8**	**+0.6**
LMEL					*e*S		**Sn**	**03 37 56.1**	**+1.3**
LMEL					IAML			03 37 56.6	
	comp=E,4μm,0.7s								
ANTU	**Antumapu**	**0.87**	**335**		*e*P		**Pn**	**03 37 44.4**	**+0.6**
ANTU					*e*S		**Sn**	**03 37 60.0**	**+0.5**
ANTU					IAML			03 38 02.7	
	comp=E,4μm,0.4s								
FCH	**Farellones**	**1.03**	**356**	⇓	*i*P		**Pn**	**03 37 46.4**	**+0.7**
FCH					*e*S		**Sn**	**03 38 03.9**	**+1.1**
FCH					IAML			03 38 05.3	
	comp=N,2μm,0.4s								
NICH	**Los Niches**	**1.06**	**233**	⇑	*i*P		**Pn**	**03 37 46.2**	**+0.7**
NICH					*e*S		**Sn**	**03 38 03.1**	**+0.5**
PEL	**Peldehue**	**1.28**	**342**		*e*Pn		**Pn**	**03 37 48.7**	**+0.7**
PEL					*e*Sn		**Sn**	**03 38 03.6**	**-3.3**
PEL	**Peldehue**	**1.28**	**342**	⇓	*i*P		**Pn**	**03 37 48.4**	**+0.4**
PEL					*e*S		**Sn**	**03 38 06.9**	**0.0**
RFA	**San Rafael**	**1.49**	**106**	⇓	*i*P		**Pn**	**03 37 50.8**	**+0.5**
RFA					IAML			03 37 51.1	
	comp=Z,865nm,0.6s								
RFA					*i* S		**Sn**	**03 38 11.7**	**+0.6**
CHPI	**Pichilemu**	**1.49**	**268**		*e*P		**Pn**	**03 37 49.8**	**-0.4**
CHPI					*e*S		**Sn**	**03 38 09.9**	**-1.0**
GO05	**HualaæØ**	**1.56**	**245**		*e*Pn		**Pn**	**03 37 50.6**	**-0.5**
GO05					*e*Sn		**Sn**	**03 38 11.6**	**-1.0**
GO05	**HualaæØ**	**1.56**	**245**	⇑	*i*P		**Pn**	**03 37 51.0**	**-0.2**
GO05					*e*S		**Sn**	**03 38 12.0**	**-0.5**
GO05					IAML			03 38 16.0	
	comp=E,2μm,0.4s								
AUSP	**Uspallata**	**2.24**	**18**		*i* P		**Pn**	**03 38 01.4**	**+1.5**
RTLS	**Leoncito**	**2.67**	**17**	⇑	*e*P		**Pn**	**03 38 07.4**	**+2.0**
RTLS					IAML			03 38 07.9	
	comp=Z,1μm,0.3s								
RTLS					*i* S		**Sn**	**03 38 39.6**	**+1.9**
RTCV	**Cerro Valdivia**	**2.86**	**30**	⇓	*i*P		**Pn**	**03 38 08.1**	**+0.6**
RTCV					*i* S		**Sn**	**03 38 42.6**	**+0.9**
SJA	**San Juan**	**3.15**	**26**	⇑	*i*P		**Pn**	**03 38 12.1**	**+0.8**
ACAN	**Cantantal**	**3.27**	**51**	⇑	*i*P		**Pn**	**03 38 13.5**	**+0.6**
RTLL	**Cerro Villicun**	**3.36**	**26**		*i* P		**Pn**	**03 38 15.1**	**+1.0**
RTLL					*i* S		**Sn**	**03 38 54.1**	**+0.6**
AMOG	**MOGNA**	**3.71**	**23**	⇑	*e*P		**Pn**	**03 38 19.3**	**+0.6**
AROD	**Rodeo**	**4.23**	**9**		*i* P		**Pn**	**03 38 27.1**	**+1.0**
ACDV	**Cuesta del Vie**	**4.28**	**13**	⇑	*e*P		**Pn**	**03 38 27.1**	**+0.6**
SUCO	**SUCO**	**4.54**	**79**	⇓	*i*P		**Pn**	**03 38 29.1**	**-0.8**
SUCO					IAML			03 38 29.2	
	comp=Z,194nm,0.3s								
APLL	**PUNTA DE LOS L**	**5.03**	**39**	⇑	*e*P		**Pn**	**03 38 35.2**	**-1.3**
AGUA	**GUANDACOL**	**5.07**	**17**	⇑	*e*P		**Pn**	**03 38 37.2**	**0.0**
LCO	**Las Campanas**	**5.35**	**355**		*e*Pn		**Pn**	**03 38 39.7**	**-1.3**
LCO					*e*Sn		**Sn**	**03 39 37.2**	**-4.5**
TCA	**Tanti**	**5.60**	**59**		*i* P		**Pn**	**03 38 42.9**	**-1.3**
TCA				⇑	*i*P		**Pn**	**03 38 43.4**	**-0.8**
VCA	**Vinchina**	**5.86**	**17**	⇑	*e*P		**Pn**	**03 38 47.1**	**-0.8**
PLCA	**Paso Flores**	**6.37**	**182**		P		**Pn**	**03 38 54.0**	**-0.4**
	comp=Z,1.3nm,0.3s,baz=14,slow=11,SNR=56								
PLCA	**Paso Flores**	**6.37**	**182**		*e*Pn		**Pn**	**03 38 54.4**	**-0.1**
CYA	**Choya**	**7.00**	**34**	⇑	*e*P		**Pn**	**03 38 59.6**	**-3.5**
TRQA	**Tornquist**	**7.60**	**121**		*e*Pn		**Pn**	**03 39 10.6**	**-0.5**
AHML	**Horco Molle**	**8.64**	**30**	⇓	*e*P		**Pn**	**03 39 21.0**	**-4.3**
PB01	**IPOC Station P**	**13.28**	**3**		*e*Pn		**Pn**	**03 40 23.8**	**-3.4**
CPUP	**Villa Florida**	**13.69**	**58**		P		**Pn**	**03 40 29.5**	**-2.8**
	comp=Z,0.5nm,0.3s,baz=236,slow=11,SNR=12								
CPUP	**Villa Florida**	**13.69**	**58**		*e*Pn		**Pn**	**03 40 28.8**	**-3.5**
MNMC	**Minye Minye**	**15.18**	**2**		*e*Pn		**Pn**	**03 40 51.0**	**-0.6**
LPAZ	**La Paz**	**18.09**	**6**		P		**Pn**	**03 41 27.6**	**0.0**
	comp=Z,0.8nm,0.3s,baz=145,slow=4.7,SNR=22								
LPAZ	**La Paz**	**18.09**	**6**		*e*P		**Pn**	**03 41 28.2**	**+0.6**
	comp=Z,3.3nm,0.7s								
SIV	**San Ignacio**	**20.05**	**26**		P		**P**	**03 41 46.3**	**-0.7**
	comp=Z,15nm,0.7s,baz=218,slow=13,SNR=49								
SAML	**Samuel**	**26.10**	**16**		*e*P		**P**	**03 42 45.2**	**-0.8**
	comp=Z,0.8nm,0.5s								
OTAV	**Otavalo**	**35.28**	**346**		*e*P		**P**	**03 44 05.3**	**-1.8**
	comp=Z,1.5nm,0.6s								
HELC	**Santa Helena**	**40.65**	**352**		*e*P		**P**	**03 44 53.1**	**+1.0**
	comp=Z,15nm,0.6s								
HELC					*e*PcP		**PcP**	**03 46 52.3**	**+0.5**
GRGR	**Grenville**	**46.95**	**11**		*e*P		**P**	**03 45 41.7**	**-0.4**
	comp=Z,180nm,1.3s								
SNAA	**Sanae**	**50.67**	**158**		P		**P**	**03 46 10.1**	**+0.1**
	comp=Z,0.9nm,0.4s,baz=250,slow=6.1,SNR=9.3								
APG	**El Apazote**	**52.74**	**335**		P		**P**	**03 46 27.5**	**+1.3**
	comp=Z,3.7nm,0.7s,baz=90,slow=16,SNR=4.8								
QSPA	**South Pole Qui**	**55.88**	**180**		P		**P**	**03 46 48.2**	**0.0**
	comp=Z,5.4nm,0.8s,baz=115,slow=2.1,SNR=13								
VNDA	**Vanda**	**64.04**	**191**		P		**P**	**03 47 44.8**	**+1.2**
	comp=Z,0.6nm,0.6s,baz=130,slow=6.2,SNR=8.4								
SYO	**Syowa Base**	**64.97**	**158**	⇑	*e*P		**P**	**03 47 47.6**	**-2.1**
546A	**Slidell**	**66.84**	**342**		P		**P**	**03 48 02.7**	**+0.6**
	baz=163								
446A	**Poplarville**	**67.28**	**342**		P		**P**	**03 48 06.0**	**+1.2**
	baz=163								
154A	**Montrose**	**67.72**	**348**		P		**P**	**03 48 07.4**	**-0.2**
	baz=169								
151A	**Opelika**	**68.04**	**346**		P		**P**	**03 48 09.2**	**-0.4**
	baz=167								
833A	**Chaparral WMA,**	**68.19**	**332**		P		**P**	**03 48 11.7**	**+1.1**
	baz=154								
150A	**Eclectic**	**68.26**	**346**		P		**P**	**03 48 10.8**	**-0.1**
	baz=166								
149A	**Jones**	**68.41**	**345**		P		**P**	**03 48 12.2**	**+0.2**
	baz=165								
GOGA	**Godfrey**	**68.56**	**348**		P		**P**	**03 48 12.6**	**-0.3**
	baz=168								
244A	**Avery, Jackson**	**68.81**	**341**		P		**P**	**03 48 15.3**	**+0.9**
	baz=162								
341A	**Kurthwood**	**68.84**	**339**		P		**P**	**03 48 15.7**	**+1.1**
	baz=160								
Z50A	**Ashland**	**68.86**	**346**		P		**P**	**03 48 14.5**	**-0.2**
	baz=166								
LRAL	**Lakeview Retre**	**68.88**	**345**		P		**P**	**03 48 15.4**	**+0.6**
	baz=165								
242A	**Grayson**	**69.23**	**340**		P		**P**	**03 48 18.3**	**+1.3**
	baz=161								
Z47A	**Carrollton**	**69.27**	**344**		P		**P**	**03 48 17.7**	**+0.5**
	baz=164								
Z48A	**Northport**	**69.33**	**345**		P		**P**	**03 48 17.6**	**+0.1**
	baz=165								
Z46A	**Louisville**	**69.47**	**343**		P		**P**	**03 48 19.6**	**+1.1**
	baz=164								
Y47A	**UCPARC, Winfie**	**69.90**	**344**		P		**P**	**03 48 21.3**	**+0.2**
	baz=165								
Y46A	**Houston**	**70.11**	**344**		P		**P**	**03 48 22.5**	**+0.1**
	baz=164								
X48A	**Hartselle**	**70.25**	**345**		P		**P**	**03 48 23.4**	**+0.2**
	baz=165								
Y45A	**Yeager Farm, C**	**70.25**	**343**		P		**P**	**03 48 23.2**	**0.0**
	baz=163								
JCT	**Junction City**	**70.28**	**333**		P		**P**	**03 48 24.3**	**+0.7**
	baz=154								
JCT	**Junction City**	**70.28**	**333**		*e*P		**P**	**03 48 24.1**	**+0.5**
	comp=Z,17nm,1.5s								
X47A	**Russelville**	**70.49**	**345**		P		**P**	**03 48 24.5**	**-0.2**
	baz=165								
X45A	**UM Field Stati**	**70.75**	**343**		P		**P**	**03 48 26.0**	**-0.3**
	baz=163								
TXAR	**Lajitas Array**	**70.81**	**329**		P		**P**	**03 48 27.9**	**+1.0**
	comp=Z,1.4nm,0.6s,baz=157,slow=9.1,SNR=38								
TX31	**Lajitas Ar. Si**	**70.81**	**329**		*e*P		**P**	**03 48 28.1**	**+1.3**
OXF	**Oxford**	**70.84**	**343**		P		**P**	**03 48 26.6**	**-0.2**
	baz=163								
OXF	**Oxford**	**70.84**	**343**		*e*P		**P**	**03 48 27.1**	**+0.3**
	comp=Z,14nm,0.9s								
W48A	**Pulaski**	**70.89**	**346**		P		**P**	**03 48 27.4**	**+0.3**
	baz=166								
Y41A	**Eaglette Beard**	**71.07**	**340**		P		**P**	**03 48 28.9**	**+0.7**
	baz=161								
W47A	**Westpoint**	**71.14**	**345**		P		**P**	**03 48 28.6**	**0.0**
	baz=165								
V48A	**Smith Brothers**	**71.45**	**346**		P		**P**	**03 48 30.5**	**0.0**
	baz=166								
V47A	**Nunnelly**	**71.68**	**345**		P		**P**	**03 48 31.6**	**-0.2**
	baz=165,SNR=7.3								
V46A	**Holladay**	**71.78**	**345**		P		**P**	**03 48 32.1**	**-0.3**
	baz=165,SNR=6.5								
BLA	**Blacksburg**	**71.84**	**351**		P		**P**	**03 48 31.6**	**-1.2**
	baz=171								
MIAR	**Mount Ida**	**71.96**	**340**		P		**P**	**03 48 33.7**	**+0.2**
	baz=160								
WVT	**Waverly**	**72.03**	**345**		P		**P**	**03 48 33.9**	**-0.1**
	baz=165								
WVT	**Waverly**	**72.03**	**345**		*e*P		**P**	**03 48 33.8**	**-0.1**
	comp=Z,12nm,0.7s								
U47A	**Clarksville**	**72.22**	**346**		P		**P**	**03 48 34.8**	**-0.2**
	baz=165								
W40A	**Ferguson Farm,**	**72.43**	**340**		P		**P**	**03 48 36.7**	**+0.4**
	baz=160								
W39A	**Magazine**	**72.63**	**340**		P		**P**	**03 48 38.3**	**+0.8**
	baz=160								
T48A	**Bowling Green**	**72.69**	**346**		P		**P**	**03 48 37.8**	**0.0**
	baz=166								
T47A	**Sharon Grove**	**72.71**	**346**		P		**P**	**03 48 37.6**	**-0.4**
	baz=166								
V41A	**Mountainview**	**72.74**	**341**		P		**P**	**03 48 38.2**	**0.0**
	baz=161								
V40A	**Wits Springs**	**72.93**	**341**		P		**P**	**03 48 39.2**	**-0.1**
	baz=161								
U42A	**Revenden**	**73.04**	**342**		P		**P**	**03 48 39.8**	**-0.1**
	baz=162								
V39A	**Pettigrew**	**73.19**	**340**		P		**P**	**03 48 41.0**	**+0.1**
	baz=160								
U41A	**Viola**	**73.20**	**342**		P		**P**	**03 48 40.8**	**0.0**
	baz=162								
PBMO	**Poplar Bluff**	**73.25**	**343**		*e*P		**P**	**03 48 41.2**	**+0.1**
	comp=Z,6.0nm,0.8s								
U40A	**Yellville**	**73.46**	**341**		P		**P**	**03 48 42.4**	**0.0**
	baz=161								
T43A	**Greenville**	**73.50**	**343**		P		**P**	**03 48 42.3**	**-0.2**
	baz=163,SNR=6.1								
S46A	**Don Dixon Farm**	**73.51**	**346**		P		**P**	**03 48 41.9**	**-0.8**
	baz=165								
MNTX	**Cornudas Mount**	**73.59**	**329**		P		**P**	**03 48 43.1**	**-0.1**
	baz=150								
MNTX	**Cornudas Mount**	**73.59**	**329**		*e*P		**P**	**03 48 42.6**	**-0.7**
	comp=Z,1.8nm,0.9s								
T42A	**Van Buren**	**73.65**	**343**		P		**P**	**03 48 43.0**	**-0.4**
	baz=162								
U39A	**Green Forest**	**73.66**	**341**		P		**P**	**03 48 43.5**	**0.0**
	baz=160								
WCI	**Wyandotte Cave**	**73.76**	**347**		*e*P		**P**	**03 48 43.2**	**-0.9**
	comp=Z,7.6nm,0.4s								
T41A	**Mountain View**	**73.83**	**342**		P		**P**	**03 48 44.5**	**-0.1**
	baz=162								
S43A	**Fulton Ridge,**	**73.92**	**344**		P		**P**	**03 48 44.6**	**-0.4**
	baz=163								
T40A	**Mansfield**	**74.12**	**342**		P		**P**	**03 48 46.1**	**-0.1**
	baz=161								
T39A	**Clever**	**74.23**	**341**		P		**P**	**03 48 46.9**	**0.0**
	baz=160								
S42A	**Caledonia**	**74.28**	**343**		P		**P**	**03 48 46.7**	**-0.4**
	baz=163								
S41A	**Jillco Farms,**	**74.34**	**342**		P		**P**	**03 48 47.5**	**+0.1**
	baz=162,SNR=5.4								
T38A	**Diamond**	**74.49**	**340**		P		**P**	**03 48 48.6**	**+0.2**
	baz=160								
S40A	**Lebanon**	**74.54**	**342**		P		**P**	**03 48 48.9**	**+0.3**
	baz=161								
CCM	**Cathedral Cave**	**74.66**	**343**		P		**P**	**03 48 49.4**	**+0.1**
	baz=162								
CCM	**Cathedral Cave**	**74.66**	**343**		*e*P		**P**	**03 48 49.4**	**+0.1**
R42A	**Luebbering**	**74.76**	**343**		P		**P**	**03 48 49.8**	**-0.1**
	baz=163								
Q45A	**Warren Harvey,**	**74.77**	**346**		P		**P**	**03 48 49.7**	**-0.1**
	baz=165								
S39A	**Bolivar**	**74.84**	**341**		P		**P**	**03 48 50.6**	**+0.2**
	baz=160								
R41A	**Rosebud**	**74.92**	**343**		P		**P**	**03 48 50.7**	**-0.1**
	baz=162								
S38A	**Stockton**	**74.94**	**341**		P		**P**	**03 48 50.8**	**-0.1**
	baz=160,SNR=7.5								
R40A	**Maddies Statio**	**75.14**	**342**		P		**P**	**03 48 52.1**	**0.0**
	baz=162,SNR=6.4								
Q43A	**New Douglas**	**75.14**	**344**		P		**P**	**03 48 51.9**	**-0.2**
	baz=164								
Q42A	**Golden Eagle**	**75.30**	**344**		P		**P**	**03 48 52.8**	**-0.2**
	baz=163								
R39A	**Chumby, Stover**	**75.35**	**342**		P		**P**	**03 48 53.4**	**+0.1**
	baz=161								
Q41A	**Truxton**	**75.51**	**343**		P		**P**	**03 48 54.0**	**-0.2**
	baz=162								
Q40A	**Laux Farm, Aux**	**75.75**	**343**		P		**P**	**03 48 55.5**	**-0.1**
	baz=162								
P42A	**Winchester**	**75.90**	**344**		P		**P**	**03 48 56.1**	**-0.3**
	baz=163								
O44A	**Mansfield**	**76.04**	**346**		P		**P**	**03 48 56.8**	**-0.4**
	baz=165								
Q38A	**Cooks Store, C**	**76.11**	**341**		P		**P**	**03 48 57.6**	**0.0**
	baz=160								
HDIL	**Hopedale**	**76.60**	**345**		P		**P**	**03 49 00.0**	**-0.3**
	baz=164								
ANMO	**Albuquerque**	**76.84**	**330**		P		**P**	**03 49 03.3**	**+1.2**
	baz=150								
ANMO	**Albuquerque**	**76.84**	**330**		*e*P		**P**	**03 49 02.8**	**+0.8**
	comp=Z,0.8nm,0.7s								
P37A	**Lathrop**	**76.90**	**341**		P		**P**	**03 49 01.5**	**-0.5**
	baz=160								
214A	**Organ Pipe Nat**	**77.20**	**324**		P		**P**	**03 49 05.4**	**+1.5**
	baz=145								
O37A	**Wren Farm, M**	**77.39**	**341**		P		**P**	**03 49 04.5**	**-0.2**
	baz=160								
N39A	**Derby Farms, D**	**77.64**	**343**		P		**P**	**03 49 05.9**	**-0.2**
	baz=161								
T25A	**Trinidad**	**77.94**	**333**		P		**P**	**03 49 09.6**	**+1.4**
	baz=152,SNR=5.1								
T25A	**Trinidad**	**77.94**	**333**		*e*P		**P**	**03 49 10.0**	**+1.8**
MHTCO	**State Highway**	**78.04**	**332**		*e*P		**P**	**03 49 10.7**	**+2.0**
L40A	**Anamosa**	**78.46**	**344**		P		**P**	**03 49 10.2**	**-0.4**
	baz=162								
M37A	**Trindle Farm,**	**78.52**	**342**		P		**P**	**03 49 11.1**	**+0.1**
	baz=160								
BOSA	**Boshof**	**78.55**	**117**		P		**P**	**03 49 12.0**	**+0.2**
	comp=Z,1.5nm,0.6s,baz=216,slow=2.6,SNR=6.2								
K41A	**Shullsburg**	**78.78**	**345**		P		**P**	**03 49 12.1**	**-0.3**
	baz=163								
SDCO	**Great Sand Dun**	**78.89**	**332**		P		**P**	**03 49 13.9**	**+0.4**
	baz=151								
SDCO	**Great Sand Dun**	**78.89**	**332**		*e*P		**P**	**03 49 13.4**	**0.0**
	comp=Z,1.0nm,0.8s								
KOWA	**Kowa**	**79.41**	**64**		P		**P**	**03 49 16.7**	**+0.3**
	comp=Z,1.4nm,0.6s,baz=212,slow=2.7,SNR=8.5								
IRM	**Iron Mountain**	**80.12**	**324**		P		**P**	**03 49 21.4**	**+1.5**
	baz=144								
I38A	**Scanlan Farm,**	**80.59**	**344**		P		**P**	**03 49 22.5**	**+0.4**
	baz=162								
K31A	**O'Neill**	**80.95**	**339**		P		**P**	**03 49 24.5**	**+0.4**
	baz=156								
ECSD	**EROS Data Cent**	**81.37**	**341**		P		**P**	**03 49 26.3**	**0.0**
	baz=158								
ECSD	**EROS Data Cent**	**81.37**	**341**		*e*P		**P**	**03 49 26.5**	**+0.2**
H35A	**Sunnyside Ranc**	**81.81**	**343**		P		**P**	**03 49 28.3**	**-0.2**
	baz=160								
F36A	**Milaca**	**82.59**	**344**		P		**P**	**03 49 32.2**	**-0.4**
	baz=161								
E36A	**McGregor**	**83.15**	**344**		P		**P**	**03 49 35.2**	**-0.3**
	baz=161								
R11A	**Troy Canyon, C**	**83.70**	**326**		P		**P**	**03 49 40.0**	**+1.2**
	baz=144								
RSSD	**Black Hills**	**83.97**	**336**		*e*P		**P**	**03 49 37.2**	**-2.8**
	comp=Z,1.1nm,0.6s								
HWUT	**Hardware Ranch**	**84.61**	**330**		*e*P		**P**	**03 49 42.6**	**-0.7**
	comp=Z,1.4nm,0.6s								
D31A	**Mcclaflin, Tow**	**84.74**	**341**		P		**P**	**03 49 43.6**	**+0.1**
	baz=158								
PDAR	**Pinedale Array**	**84.78**	**332**		P		**P**	**03 49 44.2**	**+0.1**
	comp=Z,0.6nm,0.7s,baz=123,slow=5.5,SNR=6.2								
NVAR	**Mina Array Bea**	**85.06**	**324**		P		**P**	**03 49 46.8**	**+1.2**
	comp=Z,0.8nm,0.8s,baz=172,slow=5.8,SNR=6.2								
B32A	**Ashes, Strandq**	**85.69**	**343**		P		**P**	**03 49 48.5**	**+0.3**
	baz=158								
A33A	**Warroad**	**85.92**	**344**		P		**P**	**03 49 49.8**	**+0.4**
	baz=160								
MDND	**Maddock**	**85.98**	**341**		P		**P**	**03 49 50.2**	**+0.5**
	baz=156								
RLMT	**Red Lodge**	**86.68**	**333**		P		**P**	**03 49 54.1**	**+0.7**
	baz=149								
LAO	**LASA Array**	**86.96**	**336**		P		**P**	**03 49 55.0**	**+0.4**
	baz=151								
HLID	**Hailey**	**87.41**	**330**		*e*P		**P**	**03 49 55.9**	**-1.1**
	comp=Z,2.1nm,1.2s								
DGMT	**Dagmar**	**87.88**	**338**		P		**P**	**03 49 59.5**	**+0.7**
	baz=153								
BOZ	**Bozeman (W)**	**87.97**	**332**		P		**P**	**03 49 59.8**	**+0.3**
	baz=147								
YKA	**Yellowknife Ar**	**102.90**	**341**		P		**Pdif**	**03 51 08.2**	**+1.3**
	comp=Z,0.1nm,0.4s,baz=138,slow=4.3,SNR=3.1								
ASAR	**Alice Springs**	**117.91**	**205**		PKP		**PKPdf**	**03 55 55.3**	**-0.9**
	comp=Z,0.3nm,0.4s,baz=141,slow=2.9,SNR=4.0								
WRA	**Warramunga Arr**	**121.16**	**207**		PKP		**PKPdf**	**03 56 02.1**	**-0.4**
	comp=Z,1.1nm,0.4s,baz=159,slow=1.8,SNR=46								
AKASG	**Malin Array Be**	**121.32**	**47**		PKP		**PKPdf**	**03 56 00.6**	**-1.0**
	comp=Z,0.4nm,0.4s,baz=257,slow=2.9,SNR=3.7								
FINES	**FINESS Array B**	**122.43**	**34**		PKP		**PKPdf**	**03 56 03.2**	**-0.3**
	comp=Z,2.9nm,0.9s,baz=308,slow=6.8,SNR=3.1								
ARCES	**ARCESS Array B**	**123.70**	**25**		PKP		**PKPdf**	**03 56 05.6**	**-0.1**
	comp=Z,1.8nm,0.7s,baz=243,slow=4.0,SNR=4.5								
BVAR	**Borovoye Array**	**146.50**	**44**		PKPbc		**PKPab**	**03 56 51.2**	**0.0**
	comp=Z,3.4nm,0.6s,baz=311,slow=2.2,SNR=11								
PSI	**Prapat**	**147.00**	**160**		PKPbc		**PKPbc**	**03 56 52.2**	**-0.5**
	comp=Z,5.2nm,0.6s,baz=225,slow=8.6,SNR=6.9								
AAK	**Ala-Archa**	**151.33**	**63**		PKPbc		**PKPbc**	**03 57 04.0**	**+1.2**
	comp=Z,4.3nm,0.6s,baz=180,slow=2.2,SNR=15								
KURBB	**Kurchatov Arra**	**152.07**	**45**		PKPbc		**PKPbc**	**03 57 04.7**	**+0.7**
	comp=Z,2.9nm,0.5s,baz=301,slow=2.9,SNR=22								
KURK	**Kurchatov**	**152.08**	**45**		PKPbc		**PKPbc**	**03 57 04.7**	**+0.7**
KSH	**Kashi**	**152.58**	**69**		P		**PKPbc**	**03 57 06.0**	**+0.3**
ZALV	**Zalesovo Beam**	**153.69**	**34**		PKPbc		**PKPbc**	**03 57 07.9**	**+0.4**
	comp=Z,1.5nm,0.4s,baz=282,slow=2.7,SNR=6.6								
WMQ	**Urumqi**	**160.47**	**55**		*e*P		**PKPdf**	**03 57 08.9**	**+0.4**
LZH	**Lanzhou**	**174.83**	**69**		*e*PKP		**PKPdf**	**03 57 22.8**	**+3.8**
LZH					pPKP		pPKPdf	03 57 50.3	-1.0
LZH					sPKP			03 58 01.3	
LZH					LR		LR		
	comp=N,190nm,17.7s								
LZH					LR		LR		
	comp=E,200nm,18.6s								
LZH					LR		LR		
	comp=Z,250nm,19.7s								

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*ISK **20** 03:39:19.9, 39.12N×29.14E, h6km, ML2.3/10*
*DDA **20** 03:39:19.9, 39.11N×29.10E, h13km, Ml2.6*
*ISCJB **20** 03:39:20.4±0.5, 39.10N±0.03×29.11E±0.04, h7km±5km, Error ellipse: s-maj=5.7km s-min=4.1km az=145.0*
*CSEM **20** 03:39:20.4±0.1, 39.11N×29.12E, h6km±1km, ML2.3, Error ellipse: s-maj=2.7km s-min=1.9km az=145.0*
ISC 20 03:39:20.3±0.8, 39.11N±0.02×29.11E±0.02, h10km±6km, n30, σ0s30/43, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SIMA	**Simav-Kutahya**	**0.10**	**255**			PG	**Pg**	**03 39 23.0**	**-0.1**
SIMA						SG	**Sg**	**03 39 25.1**	**0.0**
SIMA	**Simav-Kutahya**	**0.10**	**255**		*e*P	g	**Pg**	**03 39 23.0**	**-0.1**
SIMA					*e*S	g	**Sg**	**03 39 25.1**	**0.0**
GDZ	**Gediz**	**0.29**	**94**		*i* P		**Pg

ATAB				*i* S		**Sg**	**03 42 29.7**	**-2.9**
MAZI	**Mazdag**	**1.30**	**132**	PN		**Pg**	**03 42 20.6**	**0.0**
MAZI	**Mazdag**	**1.30**	**132**	*e*Pn		**Pg**	**03 42 20.6**	**0.0**
DARE	**Darende-Malaty**	**1.40**	**280**	PN		**Pb**	**03 42 21.9**	**-0.1**
DARE	**Darende-Malaty**	**1.40**	**280**	*e*Pn		**Pb**	**03 42 21.9**	**-0.1**
SURC	**SANLIURFA_SURC**	**1.54**	**199**	*i* P		**Pg**	**03 42 25.2**	**-0.1**
SURC				*i* S		**Sg**	**03 42 46.5**	**+1.1**
SURC	**SANLIURFA_SURC**	**1.54**	**199**	P		**Pg**	**03 42 25.2**	**-0.1**
SURC				S		**Sg**	**03 42 46.5**	**+1.1**
SVSK	**Karacayir**	**2.35**	**313**	PN		**Pn**	**03 42 35.2**	**+0.8**
SVSK	**Karacayir**	**2.35**	**313**	*e*Pn		**Pn**	**03 42 35.2**	**+0.8**

ISN **20** *03:43:14.2±0.8, 32°.31N×47°.10E, h17km±4km, ML4.1*
IDC **20** *03:43:15.5±1.3, 32°.62N×46°.92E, h0km, mb3.8/19, mb1 3.9/25, mb1mx3.8/62, mbtmp3.9/25, ML3.5/6, MS3.5/6, Ms1 3.5/6, ms1mx3.1/64, Error ellipse: s-maj=27.8km s-min=13.7km az=176.0*
CSEM **20** *03:43:16.1±0.2, 32°.49N×46°.96E, h2km, mb4.2/28, Error ellipse: s-maj=8.9km s-min=5.2km az=4.0*
ISCJB **20** *03:43:17.1±0.3, 32°.46N±0°.04×47°.03E±0°.02, h20km, mb4.1/41, MS4.1/2, Error ellipse: s-maj=5.8km s-min=2.4km az=167.9*
MOS **20** *03:43:17.7±1.5, 32°.37N×46°.98E, h33km, mb4.3/27, Error ellipse: s-maj=9.3km s-min=5.3km az=104.9*
NEIC **20** *03:43:17.3±0.4, 32°.48N×46°.95E, h10km, mb4.2/19, ML4.0(THR), MN4.1(TEH), Error ellipse: s-maj=8.4km s-min=5.3km az=188.0*
TEH **20** *03:43:18.0, 32°.52N×46°.97E, h4km, ML4.1*
GII **20** *03:43:20.8±0.1, 32°.33N×46°.99E, h10km*
THR **20** *03:43:22.5±0.6, 32°.68N×47°.36E, h14km±5km, ML4.0*

ISC 20 03:43:18.8±0.4**, 32°.54N**±0°.04×**47°.02E**±0°.03**, h20km, n211,** σ1§**86**/214**, mb4.2**/41**, 21C-10D, Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
IKFM	**Kafar-mosalman**	**1.21**	**35**	*e*Pg		**Pn**	**03 43 40.4**	**-0.2**
IKFM				*e*AMB		AMB	03 44 08.8	
	comp=N,99nm,0.6s							
IKFM	**Kafar-mosalman**	**1.21**	**35**	*e*Pg		**Pn**	**03 43 40.4**	**-0.2**
SHGR	**Shooshtar-Gavs**	**1.57**	**105**	Pg		**Pb**	**03 43 47.0**	**-0.1**
SHGR	**Shooshtar-Gavs**	**1.57**	**105**	*e*Pg		**Pb**	**03 43 47.1**	**-0.1**
SHGR	**Shooshtar-Gavs**	**1.57**	**105**	*e*Pg		**Pb**	**03 43 47.1**	**-0.1**
IKOM	**Komasi**	**1.69**	**14**	*e*Pn		**Pb**	**03 43 48.9**	**-0.4**
IKOM				*e*AMB		AMB	03 44 20.6	
	comp=Z,51μm,0.5s							
IKOM	**Komasi**	**1.69**	**14**	Pn		**Pb**	**03 43 48.8**	**-0.5**
IKOM	**Komasi**	**1.69**	**14**	Pn		**Pb**	**03 43 48.8**	**-0.5**
IGHG	**Ghaleghazi**	**1.83**	**348**	*e*Pn		**Pb**	**03 43 50.9**	**-0.8**
IGHG				*e*AMB		AMB	03 44 31.1	
	comp=Z,6μm,0.4s							
IGHG	**Ghaleghazi**	**1.83**	**348**	Pn		**Pb**	**03 43 50.8**	**-0.9**
IGHG	**Ghaleghazi**	**1.83**	**348**	Pn		**Pb**	**03 43 50.8**	**-0.9**
IVIS	**Veis**	**1.99**	**356**	*e*Pn		**Pn**	**03 43 51.5**	**0.0**
IVIS	**Veis**	**1.99**	**356**	Pn		**Pn**	**03 43 51.5**	**0.0**
IVIS	**Veis**	**1.99**	**356**	*e*Pn		**Pn**	**03 43 51.5**	**0.0**
BHD	**Baghdad**	**2.33**	**289**	*e*Pn		**Pn**	**03 43 56.0**	**-0.1**
	SNR=5.0							
BHD				*i* Sn		**Sn**	**03 44 26.0**	**+1.8**
	SNR=5.0							
ILIN	**Lien**	**2.38**	**359**	*e*Pn		**Pn**	**03 43 58.0**	**+1.1**
ILIN				*e*AMB		AMB	03 44 39.9	
	comp=Z,13μm,0.3s							
ILIN	**Lien**	**2.38**	**359**	Pn		**Pn**	**03 43 58.0**	**+1.1**
ILIN	**Lien**	**2.38**	**359**	*e*Pn		**Pn**	**03 43 58.0**	**+1.1**
SNGE	**Sanandaj**	**2.56**	**6**	Pn		**Pb**	**03 44 03.0**	**-1.3**
SNGE				Sg		**Sb**	**03 44 37.0**	**+1.5**
SNGE	**Sanandaj**	**2.56**	**6**	Pn		**Pb**	**03 44 03.0**	**-1.3**
SNGE				*e*Sg		**Sb**	**03 44 37.9**	**+2.4**
SNGE	**Sanandaj**	**2.56**	**6**	*e*Pn		**Pb**	**03 44 03.7**	**-0.6**
SNGE				*e*Sg		**Sb**	**03 44 37.9**	**+2.4**
SNGE				AML		AML	03 44 46.4	
	comp=E,952nm,0.6s							
SNGE				AML		AML	03 44 55.2	
	comp=N,559nm,0.6s							
KHMZ	**Khomeyn**	**2.75**	**63**	Pn		**Pn**	**03 44 04.0**	**+2.1**
KHMZ	**Khomeyn**	**2.75**	**63**	Pn		**Pn**	**03 44 04.0**	**+2.1**
KHMZ	**Khomeyn**	**2.75**	**63**	*e*Pn		**Pn**	**03 44 04.1**	**+2.2**
HAGD	**Aghdareh**	**2.89**	**37**	*e*Pn		**Pn**	**03 44 05.1**	**+1.2**
HAGD				*e*AMB		AMB	03 44 52.7	
	comp=Z,99nm,0.3s							
HAGD	**Aghdareh**	**2.89**	**37**	*e*Pn		**Pn**	**03 44 05.1**	**+1.2**
ASAO	**Ashtian**	**3.22**	**51**	*e*P		**Pn**	**03 44 10.0**	**+1.6**
ASAO	**Ashtian**	**3.22**	**51**	*e*P		**Pn**	**03 44 10.0**	**+1.6**
ASAO	**Ashtian**	**3.22**	**51**	*e*Pn		**Pn**	**03 44 10.6**	**+2.2**
ASAO	**Ashtian**	**3.22**	**51**	*e*Pn		**Pn**	**03 44 10.6**	**+2.2**
HKZM	**Kohzaman**	**3.24**	**28**	*e*Pn		**Pn**	**03 44 10.9**	**+2.1**
HKZM				*e*AMB		AMB	03 45 13.5	
	comp=Z,99nm,0.4s							
HKZM	**Kohzaman**	**3.24**	**28**	*e*Pn		**Pn**	**03 44 10.9**	**+2.1**
QAM	**Ghamsar**	**3.91**	**71**	*e*Pn		**Pn**	**03 44 18.9**	**+1.0**
QAM				*e*AMB		AMB	03 45 17.1	
	comp=Z,2μm,0.2s							
IKLH	**Kolahrood**	**3.92**	**77**	*e*Pn		**Pn**	**03 44 19.6**	**+1.5**
IKLH				*e*AMB		AMB	03 45 45.0	
	comp=Z,2μm,0.4s							
IKLH	**Kolahrood**	**3.92**	**77**	Pn		**Pn**	**03 44 19.6**	**+1.5**
IKLH	**Kolahrood**	**3.92**	**77**	*e*Pn		**Pn**	**03 44 19.6**	**+1.5**
IZEF	**Zefreh**	**4.49**	**84**	*e*Pn		**Pn**	**03 44 26.8**	**+0.7**
IZEF				*e*AMB		AMB	03 45 53.1	
	comp=Z,528nm,0.3s							
IZEF	**Zefreh**	**4.49**	**84**	Pn		**Pn**	**03 44 26.7**	**+0.7**
IZEF	**Zefreh**	**4.49**	**84**	Pn		**Pn**	**03 44 26.7**	**+0.7**
IVRN	**Varamin**	**4.63**	**57**	*e*Pn		**Pn**	**03 44 28.7**	**+1.0**
IVRN				*e*AMB		AMB	03 46 00.8	
	comp=Z,2μm,0.6s							
IVRN	**Varamin**	**4.63**	**57**	Pn		**Pn**	**03 44 28.6**	**+0.9**
IVRN	**Varamin**	**4.63**	**57**	Pn		**Pn**	**03 44 28.6**	**+0.9**
IGZV	**Ghazvin**	**4.66**	**34**	*e*Pn		**Pn**	**03 44 28.4**	**+0.1**
IGZV				*e*AMB		AMB	03 46 22.2	
	comp=Z,1μm,0.6s							
IGZV	**Ghazvin**	**4.66**	**34**	*e*Pn		**Pn**	**03 44 28.4**	**+0.1**
IDMV	**Damavand**	**5.15**	**53**	*e*Pn		**Pn**	**03 44 35.6**	**+0.5**
IDMV				*e*AMB		AMB	03 46 31.9	
	comp=Z,3μm,0.8s							
IDMV	**Damavand**	**5.15**	**53**	*e*Pn		**Pn**	**03 44 35.6**	**+0.5**
GNI	**Garni**	**7.82**	**347**	Lg		Lg	03 47 18.9	
	comp=Z,0.8nm,0.3s,baz=130,slow=18,SNR=1.9							
GNI				LR		LR	03 48 11.4	
	comp=Z,165nm,21.3s,baz=171,slow=38							
GNI	**Garni**	**7.82**	**347**	*e*Pn		**Pn**	**03 45 12.8**	**+1.3**
GNI				Lg		Lg	03 47 18.9	
GNI				*e*Sg		Sb	03 47 26.2	+20
GNI	**Garni**	**7.82**	**347**	*e*Pn		**Pn**	**03 45 12.8**	**+1.3**
GNI				Lg		Lg	03 47 18.9	
GNI	**Garni**	**7.82**	**347**	*i* P		**Pn**	**03 45 14.1**	**+2.6**
ASF	**Jabal al Asfar**	**8.57**	**270**	Pn		**Pn**	**03 45 20.0**	**-1.8**
	comp=Z,0.7nm,0.3s,baz=65,slow=18,SNR=5.8							
ASF				Lg		Lg	03 47 47.3	
	comp=Z,2.4nm,0.3s,baz=202,slow=19,SNR=4.5							
ASF	**Jabal al Asfar**	**8.57**	**270**	P		**Pn**	**03 45 20.0**	**-1.8**
ASF				pmax		pmax		
	comp=Z,1.0nm,0.3s							
RAYN	**Ar Rayn**	**9.08**	**189**	*e*Pn		**Pn**	**03 45 28.9**	**+0.1**
RAYN	**Ar Rayn**	**9.08**	**189**	*e*Pn		**Pn**	**03 45 28.9**	**+0.1**
HMDT	**Nahal Hemdat**	**9.72**	**271**	Sn		**Sn**	**03 47 30.2**	**+4.1**
MMA0B	**Mount Meron ar**	**9.79**	**276**	Sn		**Sn**	**03 47 31.5**	**+3.6**
MMAI	**Mount Meron Ar**	**9.79**	**276**	Lg		Lg	03 48 24.0	
	comp=Z,1.6nm,0.3s,baz=109,slow=35,SNR=3.3							
MMAI				LR		LR	03 49 43.8	
	comp=Z,218nm,18.1s,baz=40,slow=40							
MMLI	**Mount Malkishu**	**9.79**	**273**	Sn		**Sn**	**03 47 32.2**	**+4.2**
DSI	**Dead Sea**	**9.92**	**268**	Sn		**Sn**	**03 47 34.2**	**+3.1**
BLGI	**Bet Lehem HaGe**	**9.97**	**274**	Sn		**Sn**	**03 47 36.2**	**+3.9**
HNTI	**Hanita**	**9.98**	**276**	Sn		**Sn**	**03 47 36.7**	**+4.1**
SLTI	**Sal'it**	**10.13**	**272**	Sn		**Sn**	**03 47 40.1**	**+3.9**
OFRI	**'Ofer**	**10.15**	**274**	Sn		**Sn**	**03 47 40.8**	**+4.0**
ZFRI	**Zfri**	**10.29**	**262**	Sn		**Sn**	**03 47 42.7**	**+2.6**
AMAZ	**Amatzia**	**10.32**	**268**	Sn		**Sn**	**03 47 44.5**	**+3.6**
PRNI	**Paran**	**10.49**	**261**	Sn		**Sn**	**03 47 48.2**	**+3.2**
HRFI	**Mount Harif**	**10.55**	**259**	Sn		**Sn**	**03 47 49.7**	**+3.2**
GEYT	**Alibeck**	**10.55**	**56**	Pn		**Pn**	**03 45 48.3**	**-0.6**
	comp=Z,0.2nm,0.3s,baz=230,slow=13,SNR=2.1							
MBRI	**Mt Berech**	**10.72**	**258**	Sn		**Sn**	**03 47 52.8**	**+2.0**
EIL	**Elat**	**10.73**	**258**	Pn		Pn	03 45 57.1	+5.7
	comp=Z,0.4nm,0.3s,baz=59,slow=12,SNR=3.0							
EIL				Lg		Lg	03 49 01.4	
	comp=Z,1.2nm,0.3s,baz=135,slow=18,SNR=2.5							
EIL				LR		LR	03 50 43.4	
	comp=Z,267nm,19.1s,baz=76,slow=42							
EIL	**Elat**	**10.73**	**258**	Sn		**Sn**	**03 47 53.1**	**+2.2**
KZIT	**Kziot**	**10.87**	**265**	Sn		**Sn**	**03 47 57.8**	**+3.5**
NEY	**Neytrino**	**11.22**	**344**	*i* P		**Pn**	**03 46 01.1**	**+3.0**
KBZ	**Khabaz**	**11.63**	**345**	Pn		Pn	03 46 09.3	+5.7
	comp=Z,0.1nm,0.3s,baz=160,slow=11,SNR=4.7							
KBZ				LR		LR	03 51 36.1	
	comp=Z,156nm,21.8s,baz=158,slow=43							
KIV	**Kislovodsk**	**11.89**	**345**	*e*P		**Pn**	**03 46 11.1**	**+3.8**
KIV				pmax		pmax		
	comp=Z,12nm,1.1s							
KIV				MLR		MLR		
	comp=Z,71nm,9.0s							
SOC	**Sochi**	**12.43**	**335**	*e*P		**Pn**	**03 46 14.5**	**-0.1**
SOC				*e*			03 48 32.4	
SOC				pmax		pmax		
	comp=Z,19nm,1.1s							
SOC				MLR		MLR		
	comp=Z,186nm,16.0s							
BRTR	**Keskin Array B**	**12.97**	**307**	Pn		**Pn**	**03 46 22.9**	**+0.8**
	comp=Z,0.1nm,0.3s,baz=138,slow=10,SNR=5.9							
WSAR	**Wadi Sarin**	**13.82**	**129**	Pn		**Pn**	**03 46 32.4**	**-1.2**
	comp=Z,0.5nm,0.3s,baz=313,slow=8.2,SNR=5.5							
WSAR				Sn		**Sn**	**03 49 02.1**	**-4.5**
	comp=Z,0.3nm,0.3s,baz=326,slow=15,SNR=2.4							
SANT	**Santorini**	**18.18**	**288**	*e*P		**P**	**03 47 30.4**	**+0.2**
	comp=Z,50nm,1.0s							
SANT	**Santorini**	**18.18**	**288**	*e*P		**P**	**03 47 30.4**	**+0.2**
	comp=Z,50nm,1.0s							
KBL	**Kabul**	**18.47**	**78**	*e*P		**Pn**	**03 47 35.3**	**+1.5**
	comp=Z,6.1nm,0.9s							
KBL	**Kabul**	**18.47**	**78**	*e*P		**Pn**	**03 47 35.3**	**+1.5**
	comp=Z,6.1nm,0.9s							
KBL	**Kabul**	**18.47**	**78**	*e*P		**Pn**	**03 47 35.3**	**+1.5**
KBL				pmax		pmax		
	comp=Z,6.0nm,0.9s							
IDI	**Anoyia**	**18.57**	**285**	P		**P**	**03 47 33.4**	**-1.2**
	comp=Z,0.7nm,0.3s,baz=88,slow=12,SNR=11							
IDI	**Anoyia**	**18.57**	**285**	*i* P		**Pn**	**03 47 37.0**	**+2.2**
IDI	**Anoyia**	**18.57**	**285**	*e*P		**Pn**	**03 47 36.0**	**+1.2**
	comp=Z,16nm,0.8s							
IDI	**Anoyia**	**18.57**	**285**	*e*P		**Pn**	**03 47 36.0**	**+1.2**
	comp=Z,16nm,0.8s							
TIRR	**Tirgusor**	**18.76**	**315**	*e*P		**Pn**	**03 47 37.6**	**+0.7**
	comp=Z,3.3nm,0.6s							
TIRR	**Tirgusor**	**18.76**	**315**	*e*P		**Pn**	**03 47 37.7**	**+0.7**
	comp=Z,3.3nm,0.6s							
TIRR	**Tirgusor**	**18.76**	**315**	*e*P		**Pn**	**03 47 37.7**	**+0.7**
TIRR				pmax		pmax		
	comp=Z,3.0nm,0.6s							
VRH	**Novokhopyorsk**	**19.05**	**350**	*e*P		**Pn**	**03 47 44.0**	**+3.5**
VRH				pmax		pmax		
	comp=Z,6.0nm,0.3s							
ABKAR	**Akbulak array**	**19.30**	**26**	*e*P		**P**	**03 47 42.4**	**0.0**
	comp=Z,1.8nm,0.5s							
ABKAR	**Akbulak array**	**19.30**	**26**	*e*P		**P**	**03 47 42.4**	**0.0**
	comp=Z,1.8nm,0.5s							
CFR	**Carcaliu**	**19.32**	**316**	*i* P		**P**	**03 47 42.3**	**-0.3**
CFR	**Carcaliu**	**19.32**	**316**	*i* P		**P**	**03 47 42.3**	**-0.3**
VSR	**Storozhevoye**	**19.54**	**345**	*e*P		**Pn**	**03 47 46.4**	**+0.1**
VSR				pmax		pmax		
	comp=Z,10.0nm,0.6s							
AKTO	**Aktyubinsk**	**19.65**	**21**	P		**P**	**03 47 44.1**	**-2.1**
	comp=Z,0.2nm,0.3s,baz=219,slow=12,SNR=5.0							
AKTO				LR		LR	03 57 46.1	
	comp=Z,262nm,18.0s,baz=219,slow=44							
VRI	**Vrincioaia**	**20.53**	**316**	*i* P		**P**	**03 47 54.3**	**-1.5**
VRI	**Vrincioaia**	**20.53**	**316**	*i* P		**P**	**03 47 54.3**	**-1.5**
PLOR	**Plostina**	**20.56**	**316**	*i* P		**P**	**03 47 56.8**	**+0.6**
PLOR	**Plostina**	**20.56**	**316**	*i* P		**P**	**03 47 56.8**	**+0.6**
MLR	**Muntele Rosu**	**20.79**	**315**	P		**P**	**03 47 57.7**	**-1.0**
	comp=Z,0.4nm,0.7s,baz=127,slow=5.1,SNR=3.7							
MLR	**Muntele Rosu**	**20.79**	**315**	*i* P		Pn	03 48 02.4	+1.1
MLR	**Muntele Rosu**	**20.79**	**315**	*e*P		**P**	**03 47 59.0**	**+0.2**
	comp=Z,11nm,1.1s							
MLR	**Muntele Rosu**	**20.79**	**315**	*e*P		**P**	**03 47 59.0**	**+0.2**
	comp=Z,11nm,1.1s							
TESR	**Tescani**	**20.93**	**318**	*i* P		**P**	**03 47 59.2**	**-1.0**
TESR	**Tescani**	**20.93**	**318**	*i* P		**P**	**03 47 59.2**	**-1.0**
SORM	**Soroca**	**21.02**	**323**	*i* P		**P**	**03 48 01.2**	**+0.2**
SORM	**Soroca**	**21.02**	**323**	*i* P		**P**	**03 48 01.2**	**+0.2**
KK31	**Karatay Array**	**21.28**	**54**	*e*P		**P**	**03 48 06.5**	**+2.5**
KK31	**Karatay Array**	**21.28**	**54**	*e*P		**P**	**03 48 06.5**	**+2.5**
KK31	**Karatay Array**	**21.28**	**54**	*e*P		**P**	**03 48 06.5**	**+2.5**
KKAR	**Karatay Array**	**21.28**	**54**	*e*P		**P**	**03 48 05.4**	**+1.4**
	comp=Z,7.2nm,0.9s							
KKAR	**Karatay Array**	**21.28**	**54**	*e*P		**P**	**03 48 05.4**	**+1.4**
	comp=Z,7.2nm,0.9s							
KKAR	**Karatay Array**	**21.28**	**54**	*e*P		**P**	**03 48 05.4**	**+1.4**
KKAR				pmax		pmax		
	comp=Z,7.0nm,0.9s							
VOIR		**21.31**	**314**	*i* P		**P**	**03 48 04.4**	**+0.1**
VOIR		**21.31**	**314**	*i* P		**P**	**03 48 04.4**	**+0.1**
DOPR	**Dopca**	**21.37**	**315**	*i* P		**P**	**03 48 04.8**	**-0.1**
DOPR	**Dopca**	**21.37**	**315**	*i* P		**P**	**03 48 04.8**	**-0.1**
ARR	**Arges**	**21.53**	**313**	*i* P		**P**	**03 48 07.8**	**+1.1**
ARR	**Arges**	**21.53**	**313**	*i* P		**P**	**03 48 07.8**	**+1.1**
PRAR	**PRASCA**	**21.66**	**319**	*i* P		**P**	**03 48 07.5**	**-0.5**
BURAR	**Bucovina Array**	**22.36**	**319**	*i* P		**P**	**03 48 16.2**	**+0.5**
BURAR	**Bucovina Array**	**22.36**	**319**	*i* P		**P**	**03 48 16.2**	**+0.5**
BUR04	**Bucovina Ar. S**	**22.37**	**319**	*e*P		**P**	**03 48 15.2**	**-0.5**
BUR04	**Bucovina Ar. S**	**22.37**	**319**	*e*P		**P**	**03 48 15.2**	**-0.5**
BUR08	**Bucovina Ar. S**	**22.39**	**319**	*e*P		**P**	**03 48 16.6**	**+0.6**
BUR08	**Bucovina Ar. S**	**22.39**	**319**	*e*P		**P**	**03 48 16.6**	**+0.6**
AKASG	**Malin Array Be**	**22.40**	**329**	P		**P**	**03 48 14.4**	**-1.4**
	comp=Z,0.8nm,0.5s,baz=141,slow=9.8,SNR=14							
AKASG				S		**S**	**03 52 12.3**	**-8.5**
	comp=Z,0.1nm,0.3s,baz=133,slow=19,SNR=2.7							
AKBB	**Malin Array Si**	**22.40**	**329**	*e*P		**P**	**03 48 15.9**	**+0.1**
	comp=Z,8.4nm,1.0s							
AKBB	**Malin Array Si**	**22.40**	**329**	*e*P		**P**	**03 48 16.0**	**+0.1**
AKBB				pmax		pmax		
	comp=Z,8.0nm,1.0s							
KIEV	**Kiev**	**22.40**	**329**	*e*P		**P**	**03 48 16.0**	**+0.1**
	comp=Z,5.6nm,0.8s							
KIEV	**Kiev**	**22.40**	**329**	*e*P		**P**	**03 48 16.0**	**+0.1**
	comp=Z,5.6nm,0.8s							
KIEV	**Kiev**	**22.40**	**329**	*i* P		**P**	**03 48 15.0**	**-0.9**
KIEV				pmax		pmax		
	comp=Z,6.0nm,0.9s							
AK11	**Malin Array Si**	**22.41**	**329**	*e*P		**P**	**03 48 14.7**	**-1.2**
AK11	**Malin Array Si**	**22.41**	**329**	*e*P		**P**	**03 48 14.7**	**-1.2**
ZAGS	**Zajecar**	**22.42**	**307**	*e*P		**P**	**03 48 17.2**	**+1.1**
BZS	**Buzias**	**23.54**	**311**	*i* P		**P**	**03 48 26.7**	**-0.9**
BZS	**Buzias**	**23.54**	**311**	*i* P		**P**	**03 48 26.7**	**-0.9**
OBN	**Obninsk**	**23.74**	**345**	*ce*P		**P**	**03 48 27.9**	**-1.6**
OBN				*e*			03 48 59.5	
OBN				*e*S		**S**	**03 52 41.9**	**-1.7**
OBN				pmax		pmax		
	comp=Z,7.0nm,0.6s							
OBN				MLR		MLR		
	comp=Z,111nm,19.0s							
AAK	**Ala-Archa**	**23.90**	**57**	P		**P**	**03 48 31.8**	**+0.4**
	comp=Z,0.7nm,0.4s,baz=238,slow=12,SNR=2.6							
AAK	**Ala-Archa**	**23.90**	**57**	*e*P		**P**	**03 48 32.1**	**+0.7**
	comp=Z,3.2nm,1.0s							
AAK	**Ala-Archa**	**23.90**	**57**	*e*P		**P**	**03 48 32.1**	**+0.7**
	comp=Z,3.2nm,1.0s							
AAK	**Ala-Archa**	**23.90**	**57**	*e*P		**P**	**03 48 30.5**	**-0.9**
AAK				pmax		pmax		
	comp=Z,2.0nm,1.0s							
FRU	**Bishkek**	**24.04**	**57**	*e*P		**P**	**03 48 36.0**	**+3.4**
MOS	**Moscow**	**24.11**	**347**	*e*P		**P**	**03 48 33.9**	**+0.9**
MOS				pmax		pmax		
	comp=Z,32nm,0.7s							
KWP	**Kalwaria Pacla**	**24.88**	**320**	*e*P		**P**	**03 48 41.6**	**+1.5**
	comp=Z,164nm,1.1s							
KWP	**Kalwaria Pacla**	**24.88**	**320**	*e*P		**P**	**03 48 41.6**	**+1.5**
KWP				pmax		pmax		
	comp=Z,164nm,1.1s							
CRVS	**Cervenica-Dubn**	**25.17**	**318**	*e*P		**P**	**03 48 45.6**	**+2.9**
CRVS	**Cervenica-Dubn**	**25.17**	**318**	*e*P		**P**	**03 48 45.6**	**+2.9**
CRVS				pmax		pmax		
	comp=Z,19nm,2.1s							
ARU	**Arti**	**25.20**	**15**	P		**P**	**03 48 42.3**	**-0.6**
	comp=Z,3.1nm,0.3s,baz=270,slow=20,SNR=4.5							
ARU	**Arti**	**25.20**	**15**	*e*P		**P**	**03 48 44.5**	**+1.6**
	comp=Z,11nm,1.0s							
ARU	**Arti**	**25.20**	**15**	*d*P		**P**	**03 48 42.9**	**0.0**
ARU				S		**S**	**03 53 07.7**	**+0.7**
ARU				pmax		pmax		
	comp=Z,19nm,1.7s							
TIP	**Timpagrande**	**25.33**	**294**	*e*P		**P**	**03 48 44.6**	**+0.3**
	comp=Z,6.6nm,0.8s							
TIP	**Timpagrande**	**25.33**	**294**	*e*P		**P**	**03 48 44.6**	**+0.3**
	comp=Z,6.6nm,0.8s							
STHS	**Stebnicka Huta**	**25.56**	**319**	*e*P		**P**	**03 48 52.5**	**+6.2**
STHS	**Stebnicka Huta**	**25.56**	**319**	*e*P		**P**	**03 48 52.5**	**+6.2**
STHS				pmax		pmax		
	comp=Z,54nm,3.1s							
KDJ	**Kajisay**	**25.71**	**59**	*e*P		**P**	**03 48 50.3**	**+2.4**
	comp=Z,17nm,1.1s							
KDJ	**Kajisay**	**25.71**	**59**	*e*P		**P**	**03 48 50.3**	**+2.4**
	comp=Z,17nm,1.1s							
TARG	**Taragay, Kyrgy**	**26.09**	**61**	*e*P		**P**	**03 48 54.0**	**+2.4**
	comp=Z,11nm,1.0s							
TARG	**Taragay, Kyrgy**	**26.09**	**61**	*e*P		**P**	**03 48 54.0**	**+2.4**
	comp=Z,11nm,1.0s							
LANS	**Liptovska Anna**	**26.43**	**317**	*e*P		**P**	**03 48 56.1**	**+1.9**
LANS	**Liptovska Anna**	**26.43**	**317**	*e*P		**P**	**03 48 56.1**	**+1.9**
BRVK	**Borovoye**	**26.47**	**32**	*e*P		**P**	**03 48 56.0**	**+1.6**
	comp=Z,14nm,1.3s							
BRVK	**Borovoye**	**26.47**	**32**	*ce*P		**P**	**03 48 53.8**	**-0.7**
BRVK				pmax		pmax		
	comp=Z,13nm,1.2s							
BVAR	**Borovoye Array**	**26.50**	**32**	P		**P**	**03 48 53.9**	**-0.8**
	comp=Z,2.2nm,0.8s,baz=231,slow=8.0,SNR=13							
VYHS	**Vyhne**	**26.50**	**315**	*e*P		**P**	**03 48 57.0**	**+2.2**
VYHS	**Vyhne**	**26.50**	**315**	*e*P		**P**	**03 48 57.0**	**+2.2**
MORC	**Moravsky Berou**	**27.84**	**317**	*e*P		**P**	**03 49 08.4**	**+1.6**
	comp=Z,5.8nm,0.6s							
MORC	**Moravsky Berou**	**27.84**	**317**	*e*P		**P**	**03 49 08.4**	**+1.6**
	comp=Z,5.8nm,0.6s							
MORC	**Moravsky Berou**	**27.84**	**317**	*e*P		**P**	**03 49 08.4**	**+1.6**
MORC				pmax		pmax		
	comp=Z,6.0nm,0.6s							
KLMR	**Klimovskoe**	**28.75**	**352**	*e*P		**P**	**03 49 15.9**	**+1.2**
KLMR				AMP			03 49 18.4	
	comp=Z,6.0nm,0.9s							
KLMR	**Klimovskoe**	**28.75**	**352**	*e*P		**P**	**03 49 15.9**	**+1.2**
KLMR				pmax		pmax		
	comp=Z,6.0nm,0.9s							
KURBB	**Kurchatov Arra**	**29.39**	**43**	P		**P**	**03 49 21.7**	**+1.2**
	comp=Z,1.9nm,0.8s,baz=249,slow=9.2,SNR=8.4							
KURK	**Kurchatov**	**29.48**	**43**	P		**P**	**03 49 21.7**	**+0.4**
KURK	**Kurchatov**	**29.48**	**43**	*ce*P		**P**	**03 49 22.3**	**+1.0**
KURK				pmax		pmax		
	comp=Z,1.0nm,0.4s							
GERES	**GERESS Array B**	**29.76**	**313**	P		**P**	**03 49 24.7**	**+0.7**
	comp=Z,0.1nm,0.3s,baz=96,slow=9.2,SNR=3.1							
MK01	**Makanchi Array**	**30.38**	**52**	*e*P		**P**	**03 49 28.9**	**-0.5**
MK01	**Makanchi Array**	**30.38**	**52**	*e*P		**P**	**03 49 28.9**	**-0.5**
MKAR	**Makanchi

DURS	**Dursunbey**	**0.69**	**314**	P	**Pb**	**03 49 54.1**	**-0.4**
KULA	**Kula-Manisa**	**0.70**	**210**	PG	**Pg**	**03 49 52.9**	**-0.7**
KULA	**Kula-Manisa**	**0.70**	**210**	*e*Pg	**Pg**	**03 49 52.9**	**-0.7**
MANT	**Manisa**	**0.77**	**215**	*i* P	**Pg**	**03 49 54.6**	**-0.2**
MANT	**Manisa**	**0.77**	**215**	P	**Pg**	**03 49 54.6**	**-0.2**
KHAL	**Karahalli**	**0.81**	**159**	*i* P	**Pb**	**03 49 56.5**	**0.0**
KHAL	**Karahalli**	**0.81**	**159**	P	**Pb**	**03 49 56.5**	**0.0**
BALB	**Balikesir**	**1.09**	**299**	PN	**Pb**	**03 50 01.3**	**+0.1**
BALB	**Balikesir**	**1.09**	**299**	*e*Pn	**Pb**	**03 50 01.3**	**+0.1**
YLV	**Yalova**	**1.45**	**8**	PN	**Pn**	**03 50 07.0**	**+0.1**
GULT	**Gulveren**	**1.69**	**39**	PN	**Pn**	**03 50 10.4**	**+0.3**

IDC ***20*** *03:52:33.5±1.1, 32°.35N×46°.99E, h0km, mb3.8/19, mb1 3.8/23, mb1mx3.7/58, mbtmp3.8/23, ML3.4/4, MS4.0/24, Ms1 4.0/24, ms1mx3.7/66, Error ellipse: s-maj=23.9km s-min=13.6km az=4.0*

ISCJB ***20*** *03:52:35.8±0.3, 32°.30N±0°.03×47°.05E±0°.04, h20km, mb4.0/31, MS4.0/21, Error ellipse: s-maj=5.2km s-min=3.8km az=34.6*

THR ***20*** *03:52:35.4±0.7, 32°.23N×46°.84E, h15km±12km, ML4.3*

CSEM ***20*** *03:52:36.8±0.2, 32°.40N×47°.05E, h10km, mb4.4/11, Error ellipse: s-maj=6.4km s-min=5.3km az=28.0*

NEIC ***20*** *03:52:36.8±0.5, 32°.38N×46°.96E, h10km, mb4.3/15, ML4.3(THR), MN4.2(TEH), Error ellipse: s-maj=8.3km s-min=6.2km az=187.0*

GCMT ***20*** *03:52:36.8±0.4, 32°.61N×46°.73E, h12km±1km, MW4.8/74, Moment Tensor Solution. s18,c19; s74,c96; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=1.84±.17; Mθθ=-1.23±.12; Mφφ=-0.60±.11; Mrθ=0.20±.31; Mrφ=1.05±.07; Mθφ=-1.03±.34; Best double couple: Mo2.19000×10^16 NP1:ϕs150.00000°, δ56.00000°, λ118.00000°. NP2: ϕs285.00000°, δ43.00000°, λ54.00000°. Principal axes: T 2.3070, Plg66.0000°, Azm113.0000°; N -0.2300, Plg23.0000°, Azm313.0000°; P -2.0730, Plg7.0000°, Azm220.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISN ***20*** *03:52:37.9±0.8, 32°.48N×47°.04E, h16km±4km, ML4.2*

TEH ***20*** *03:52:38.8, 32°.53N×47°.00E, h10km, ML4.2*

DSN ***20*** *03:52:43.9±1.3, 32°.54N×47°.78E, h34km, mb5.7/7, Error ellipse: s-maj=54.0km s-min=11.8km az=39.0*

ISC 20 03:52:37.8±0.4, 32°.37N±0°.04×46°.97E±0°.03, h20km, n139, σ1s76/134, mb4.0/31, MS4.1/21, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NSR	**Nassriya**	**1.53**	**208**	*e*Pg	**Pb**	**03 53 07.0**	**+1.5**
	SNR=9.0						
NSR				*e*Sg	**Sb**	**03 53 29.0**	**+4.5**
	SNR=9.0						
SHGR	**Shooshtar-Gavs**	**1.57**	**99**	Pg	**Pn**	**03 53 05.0**	**+0.5**
SHGR	**Shooshtar-Gavs**	**1.57**	**99**	Pg	**Pn**	**03 53 05.0**	**+0.5**
SHGR	**Shooshtar-Gavs**	**1.57**	**99**	*e*Pg	**Pb**	**03 53 05.9**	**-0.2**
SHGR				AML	AML	03 53 40.8	
	comp=N,9μm,0.6s						
SHGR				AML	AML	03 53 48.1	
	comp=E,10μm,0.7s						
IKOM	**Komasi**	**1.85**	**14**	*e*AMB	AMB	03 53 39.2	
	comp=Z,19μm,0.2s						
IKOM				*e*Pn	**Pn**	**03 53 08.5**	**0.0**
IVIS	**Veis**	**2.15**	**357**	*e*Pn	**Pn**	**03 53 12.6**	**0.0**
IVIS				*e*AMB	AMB	03 53 48.4	
	comp=Z,9μm,0.4s						
IVIS	**Veis**	**2.15**	**357**	Pn	**Pn**	**03 53 12.6**	**0.0**
IVIS	**Veis**	**2.15**	**357**	*e*Pn	**Pn**	**03 53 12.6**	**0.0**
BHD	**Baghdad**	**2.36**	**293**	*e*Pn	**Pn**	**03 53 18.0**	**+2.6**
	SNR=5.0						
BHD				*e*Sn	**Sb**	**03 53 47.0**	**-1.3**
	SNR=5.0						
ILIN	**Lien**	**2.54**	**360**	*e*Pn	**Pn**	**03 53 17.7**	**-0.4**
ILIN				*e*AMB	AMB	03 54 01.1	
	comp=Z,5μm,0.3s						
ILIN	**Lien**	**2.54**	**360**	Pn	**Pn**	**03 53 17.7**	**-0.4**
ILIN	**Lien**	**2.54**	**360**	*e*Pn	**Pn**	**03 53 17.7**	**-0.4**
SNGE	**Sanandaj**	**2.73**	**6**	Pn	**Pn**	**03 53 23.0**	**+2.3**
SNGE	**Sanandaj**	**2.73**	**6**	*e*Pn	**Pn**	**03 53 23.0**	**+2.3**
SNGE	**Sanandaj**	**2.73**	**6**	*e*Pn	**Pn**	**03 53 23.0**	**+2.3**
SNGE				AML	AML	03 54 04.0	
	comp=N,234nm,0.5s						
SNGE				AML	AML	03 54 07.4	
	comp=E,374nm,0.6s						
KHMZ	**Khomeyn**	**2.85**	**61**	Pn	**Pn**	**03 53 25.0**	**+2.6**
KHMZ				Sg	**Sb**	**03 54 10.0**	**+7.3**
KHMZ	**Khomeyn**	**2.85**	**61**	Pn	**Pn**	**03 53 25.0**	**+2.6**
KHMZ	**Khomeyn**	**2.85**	**61**	*e*Pn	**Pn**	**03 53 24.7**	**+2.3**
KHMZ				*e*Sg	**Sb**	**03 54 10.0**	**+7.3**
HAGD	**Aghdareh**	**3.04**	**36**	*e*Pn	**Pn**	**03 53 25.4**	**+0.5**
HAGD				*e*AMB	AMB	03 54 16.8	
	comp=N,99nm,0.2s						
ASAO	**Ashtian**	**3.35**	**49**	Pn	**Pn**	**03 53 32.0**	**+2.8**
ASAO	**Ashtian**	**3.35**	**49**	Pn	**Pn**	**03 53 32.0**	**+2.8**
ASAO	**Ashtian**	**3.35**	**49**	*e*Pn	**Pn**	**03 53 32.4**	**+3.2**
HKZM	**Kohzaman**	**3.40**	**28**	*e*Pn	**Pn**	**03 53 30.6**	**+0.7**
HKZM				*e*AMB	AMB	03 54 35.7	
	comp=Z,99nm,0.6s						
HKZM	**Kohzaman**	**3.40**	**28**	*e*Pn	**Pn**	**03 53 30.6**	**+0.7**
QAM	**Ghamsar**	**4.00**	**69**	*e*Pn	**Pn**	**03 53 39.7**	**+1.6**
QAM				*e*AMB	AMB	03 54 54.1	
	comp=Z,6μm,0.3s						
GHVR	**GHOM**	**4.18**	**59**	Pn	**Pn**	**03 53 42.0**	**+1.5**
GHVR	**GHOM**	**4.18**	**59**	Pn	**Pn**	**03 53 42.0**	**+1.5**
GHVR	**GHOM**	**4.18**	**59**	*e*Pn	**Pn**	**03 53 42.8**	**+2.3**
IMHD	**Mahdasht**	**4.51**	**42**	*e*Pn	**Pn**	**03 53 44.7**	**-0.3**
IMHD				*e*AMB	AMB	03 58 53.9	
	comp=N,3μm,0.3s						
IMHD	**Mahdasht**	**4.51**	**42**	Pn	**Pn**	**03 53 44.6**	**-0.4**
IMHD	**Mahdasht**	**4.51**	**42**	*e*Pn	**Pn**	**03 53 44.7**	**-0.3**
IVRN	**Varamin**	**4.75**	**55**	*e*Pn	**Pn**	**03 53 48.5**	**+0.2**
IVRN				*e*AMB	AMB	03 55 23.4	
	comp=Z,5μm,0.6s						
IVRN	**Varamin**	**4.75**	**55**	Pn	**Pn**	**03 53 48.4**	**+0.2**
IVRN	**Varamin**	**4.75**	**55**	*e*Pn	**Pn**	**03 53 48.5**	**+0.2**
IGZV	**Ghazvin**	**4.82**	**33**	*e*Pn	**Pn**	**03 53 48.2**	**-1.2**
IGZV				*e*AMB	AMB	03 56 02.3	
	comp=Z,2μm,0.5s						
IGZV	**Ghazvin**	**4.82**	**33**	*e*Pn	**Pn**	**03 53 48.2**	**-1.2**
IDMV	**Damavand**	**5.28**	**51**	*e*Pn	**Pn**	**03 53 54.5**	**-1.3**
IDMV				*e*AMB	AMB	03 55 34.6	
	comp=Z,14μm,1.1s						
IDMV	**Damavand**	**5.28**	**51**	*e*Pn	**Pn**	**03 53 54.5**	**-1.3**
IFIR	**Firoozkooh**	**5.80**	**54**	*e*Pn	**Pn**	**03 54 02.5**	**-0.5**
IFIR				*e*AMB	AMB	03 55 51.6	
	comp=Z,554nm,0.5s						
IFIR	**Firoozkooh**	**5.80**	**54**	Pn	**Pn**	**03 54 02.4**	**-0.5**
IFIR	**Firoozkooh**	**5.80**	**54**	*e*Pn	**Pn**	**03 54 02.5**	**-0.5**
ISRV	**Sarvestan**	**6.06**	**118**	*e*Pn	**Pn**	**03 54 08.4**	**+1.8**
ISRV				*e*AMB	AMB	03 56 38.6	
	comp=Z,9μm,0.5s						
ISRV	**Sarvestan**	**6.06**	**118**	Pn	**Pn**	**03 54 08.4**	**+1.8**
ISRV	**Sarvestan**	**6.06**	**118**	*e*Pn	**Pn**	**03 54 08.4**	**+1.8**
ASF	**Jabal al Asfar**	**8.54**	**271**	Pn	**Pn**	**03 54 39.1**	**-1.3**
	comp=Z,0.2nm,0.3s,baz=85,slow=1.8,SNR=2.4						
ASF				Lg	Lg	03 57 04.6	
	comp=Z,0.4nm,0.3s,baz=156,slow=16,SNR=3.8						
ASF				LR	LR	03 59 00.4	
	comp=Z,547nm,19.0s,baz=42,slow=45						
RAYN	**Ar Rayn**	**8.91**	**189**	*e*Pn	**Pn**	**03 54 46.2**	**+0.7**
RAYN	**Ar Rayn**	**8.91**	**189**	*e*Pn	**Pn**	**03 54 46.2**	**+0.7**
MMAI	**Mount Meron Ar**	**9.77**	**277**	Lg	Lg	03 57 44.4	
	comp=Z,1.9nm,0.3s,baz=108,slow=23,SNR=3.6						
MMAI				LR	LR	03 59 30.3	
	comp=Z,361nm,19.9s,baz=80,slow=43						
SHME	**Shamm**	**10.19**	**126**	P	**Pn**	**03 55 01.9**	**-1.1**
BANOM	**Banah**	**10.38**	**126**	P	**Pn**	**03 55 05.2**	**-0.3**
	SNR=9.9						
BANOM	**Banah**	**10.38**	**126**	*i* P	**Pn**	**03 55 05.2**	**-0.3**
	SNR=9.9						
AJN	**Ajban**	**10.50**	**136**	P	**Pn**	**03 55 06.9**	**-0.2**
NAZ	**Nazwa, Dubai**	**10.59**	**132**	P	**Pn**	**03 55 08.8**	**+0.3**
NAZ	**Nazwa, Dubai**	**10.59**	**132**	P	**Pn**	**03 55 08.8**	**+0.3**
MSFE	**Esma-Masafi**	**10.66**	**129**	P	**Pn**	**03 55 08.2**	**-1.2**
MSFE				S	**Sn**	**03 57 03.4**	**-4.7**
EIL	**Elat**	**10.66**	**259**	Pn	**Pn**	**03 55 11.7**	**+2.3**
	comp=Z,0.8nm,0.3s,baz=100,slow=7.8,SNR=3.3						
EIL				LR	LR	04 00 15.1	
	comp=Z,755nm,20.9s,baz=76,slow=43						
FAQ	**Al Faqa, Dubai**	**10.73**	**133**	P	**Pn**	**03 55 12.0**	**+1.7**
	SNR=17						
FAQ	**Al Faqa, Dubai**	**10.73**	**133**	*i* P	**Pn**	**03 55 12.0**	**+1.7**
	SNR=17						
UOSS	**Minazif**	**10.97**	**130**	*e*Pn	**Pn**	**03 55 13.6**	**0.0**
UOSS	**Minazif**	**10.97**	**130**	P	**Pn**	**03 55 12.6**	**-1.1**
UOSS	**Minazif**	**10.97**	**130**	P	**Pn**	**03 55 12.6**	**-1.1**
HATD	**Hatta, Dubai**	**11.01**	**131**	P	**Pn**	**03 55 13.7**	**-0.5**
HATD	**Hatta, Dubai**	**11.01**	**131**	P	**Pn**	**03 55 13.7**	**-0.5**
ASHO	**Ashiyiah**	**11.06**	**132**	P	**Pn**	**03 55 15.1**	**+0.2**
	SNR=8.6						
ASHO	**Ashiyiah**	**11.06**	**132**	*i* P	**Pn**	**03 55 15.1**	**+0.2**
	SNR=8.6						
ALNE	**Al Ain**	**11.33**	**135**	P	**Pn**	**03 55 19.1**	**+0.5**
BRTR	**Kaskin Array B**	**13.04**	**308**	Pn	**Pn**	**03 55 42.8**	**+0.8**
	comp=Z,0.0nm,0.3s,baz=116,slow=9.8,SNR=2.9						
WSAR	**Wadi Sarin**	**13.74**	**129**	Pn	**Pn**	**03 55 49.1**	**-2.4**
	comp=Z,1.1nm,0.3s,baz=329,slow=14,SNR=13						
WSAR				Sn	**Sn**	**03 58 17.2**	**-6.5**
	comp=Z,1.3nm,0.3s,baz=352,slow=24,SNR=4.9						
KBL	**Kabul**	**18.54**	**77**	*e*Pn	**Pn**	**03 56 54.9**	**+1.3**
	comp=Z,20nm,1.2s						
KBL	**Kabul**	**18.54**	**77**	*e*Pn	**Pn**	**03 56 54.9**	**+1.3**
	comp=Z,20nm,1.2s						
ABKAR	**Akbulak array**	**19.46**	**26**	*e*P	**Pn**	**03 57 04.2**	**-0.2**
	comp=Z,1.7nm,0.6s						
ABKAR	**Akbulak array**	**19.46**	**26**	*e*P	**Pn**	**03 57 04.2**	**-0.2**
	comp=Z,1.7nm,0.6s						
AKTO	**Aktyubinsk**	**19.82**	**21**	P	**P**	**03 57 06.2**	**-0.8**
	comp=Z,0.2nm,0.3s,baz=199,slow=12,SNR=3.3						
AKTO				LR	LR	04 06 55.9	
	comp=Z,445nm,19.2s,baz=208,slow=44						
MLR	**Muntele Rosu**	**20.88**	**315**	P	**P**	**03 57 19.7**	**+1.1**
	comp=Z,0.4nm,1.0s,baz=131,slow=11,SNR=3.7						
MLR	**Muntele Rosu**	**20.88**	**315**	*e*P	Pn	03 57 22.6	+1.4
	comp=Z,8.7nm,1.2s						
ATD	**Arta Tunnel**	**21.09**	**191**	Lg	Lg	04 03 48.7	
	comp=Z,1.7nm,0.3s,baz=287,slow=19,SNR=1.7						
ATD				LR	LR	04 06 12.7	
	comp=Z,429nm,18.7s,baz=356,slow=39						
KK31	**Karatay Array**	**21.41**	**53**	*e*P	**P**	**03 57 25.8**	**+1.5**
KK31	**Karatay Array**	**21.41**	**53**	*e*P	**P**	**03 57 25.8**	**+1.5**
KKAR	**Karatay Array**	**21.41**	**53**	*e*P	**P**	**03 57 25.3**	**+1.0**
	comp=Z,2.4nm,0.4s						
KKAR	**Karatay Array**	**21.41**	**53**	*e*P	**P**	**03 57 25.3**	**+1.0**
	comp=Z,2.4nm,0.4s						
NIL	**Nilore**	**22.06**	**80**	*e*P	**P**	**03 57 32.2**	**+0.8**
	comp=Z,26nm,1.1s						
NIL	**Nilore**	**22.06**	**80**	*e*P	**P**	**03 57 32.2**	**+0.8**
	comp=Z,26nm,1.1s						
BUR04	**Bucovina Ar. S**	**22.47**	**319**	*e*P	**P**	**03 57 37.8**	**+2.1**
AKASG	**Malin Array Be**	**22.52**	**330**	P	**P**	**03 57 35.6**	**-0.5**
	comp=Z,1.0nm,0.6s,baz=137,slow=9.9,SNR=8.6						
KIEV	**Kiev**	**22.52**	**330**	*e*P	**P**	**03 57 37.4**	**+1.3**
	comp=Z,2.1nm,0.6s						
OBN	**Obninsk**	**23.89**	**345**	P	**P**	**03 57 49.7**	**-0.1**
	comp=Z,12nm,0.3s,baz=174,slow=9.3,SNR=4.6						
OBN				LR	LR	04 08 46.0	
	comp=Z,238nm,18.8s,baz=132,slow=41						
AAK	**Ala-Archa**	**24.02**	**57**	P	**P**	**03 57 52.0**	**+0.6**
	comp=Z,2.5nm,0.8s,baz=240,slow=8.8,SNR=4.8						
AAK				LR	LR	04 08 59.6	
	comp=Z,211nm,20.0s,baz=252,slow=41						
AAK	**Ala-Archa**	**24.02**	**57**	*e*P	**P**	**03 57 54.0**	**+2.5**
	comp=Z,7.4nm,1.3s						
TIP	**Timpagrande**	**25.36**	**294**	*e*P	**P**	**03 58 04.9**	**+1.3**
	comp=Z,9.1nm,0.8s						
TIP	**Timpagrande**	**25.36**	**294**	*e*P	**P**	**03 58 04.9**	**+1.3**
	comp=Z,9.1nm,0.8s						
ARU	**Arti**	**25.37**	**15**	P	**P**	**03 58 01.8**	**-1.5**
	comp=Z,1.6nm,0.3s,baz=168,slow=7.4,SNR=4.4						
ARU				LR	LR	04 09 06.2	
	comp=Z,204nm,20.4s,baz=158,slow=39						
ARU	**Arti**	**25.37**	**15**	*e*P	**P**	**03 58 04.8**	**+1.4**
	comp=Z,31nm,1.8s						
PSZ	**Piszkesteto**	**25.70**	**315**	*e*P	**P**	**03 58 07.3**	**+0.8**
	comp=Z,3.0nm,0.8s						
PSZ	**Piszkesteto**	**25.70**	**315**	*e*P	**P**	**03 58 07.3**	**+0.8**
	comp=Z,3.0nm,0.8s						
KDJ	**Kajisay**	**25.83**	**59**	*e*P	**P**	**03 58 07.7**	**-0.2**
	comp=Z,20nm,1.4s						
KDJ	**Kajisay**	**25.83**	**59**	*e*P	**P**	**03 58 07.7**	**-0.2**
	comp=Z,20nm,1.4s						
BVAR	**Borovoye Array**	**26.66**	**32**	P	**P**	**03 58 14.4**	**-0.7**
	comp=Z,0.8nm,0.4s,baz=220,slow=11,SNR=3.7						
BVAR				LR	LR	04 11 12.4	
	comp=Z,559nm,19.7s,baz=224,slow=42						
VAE	**Valguarnera**	**27.10**	**290**	LR	LR	04 12 04.6	
	comp=Z,126nm,18.4s,baz=193,slow=43						
MORC	**Moravsky Berou**	**27.93**	**317**	*e*P	**P**	**03 58 27.8**	**+1.2**
	comp=Z,6.4nm,0.8s						
MORC	**Moravsky Berou**	**27.93**	**317**	*e*P	**P**	**03 58 27.8**	**+1.2**
	comp=Z,6.4nm,0.8s						
KURBB	**Kurchatov Arra**	**29.53**	**43**	P	**P**	**03 58 39.9**	**-0.9**
	comp=Z,0.8nm,0.8s,baz=245,slow=9.1,SNR=3.8						
KURK	**Kurchatov**	**29.62**	**42**	*e*P	**P**	**03 58 41.7**	**+0.1**
	comp=Z,22nm,1.1s						
KURK	**Kurchatov**	**29.62**	**42**	*e*P	**P**	**03 58 41.7**	**+0.1**
	comp=Z,22nm,1.1s						
MK01	**Makanchi Array**	**30.51**	**52**	*e*P	**P**	**03 58 48.8**	**-0.7**
MK01	**Makanchi Array**	**30.51**	**52**	*e*P	**P**	**03 58 48.8**	**-0.7**
MK31	**Makanchi Array**	**30.51**	**51**	*e*P	**P**	**03 58 49.1**	**-0.4**
MK31	**Makanchi Array**	**30.51**	**51**	*e*P	**P**	**03 58 49.1**	**-0.4**
MKAR	**Makanchi Array**	**30.51**	**51**	P	**P**	**03 58 48.1**	**-1.3**
	comp=Z,1.5nm,0.8s,baz=248,slow=6.4,SNR=8.3						
MKAR				LR	LR	04 12 47.9	
	comp=Z,391nm,18.3s,baz=249,slow=40						
MKAR	**Makanchi Array**	**30.51**	**51**	*e*P	**P**	**03 58 49.1**	**-0.4**
MKAR	**Makanchi Array**	**30.51**	**51**	*e*P	**P**	**03 58 49.1**	**-0.4**
FINES	**FINESS Array B**	**32.09**	**341**	P	**P**	**03 59 00.9**	**-2.3**
	comp=Z,0.9nm,0.5s,baz=108,slow=6.2,SNR=5.3						
BNI	**Bardonecchia**	**33.55**	**304**	*e*P	**P**	**03 59 18.3**	**+1.9**
	comp=Z,3.2nm,0.8s						
BNI	**Bardonecchia**	**33.55**	**304**	*e*P	**P**	**03 59 18.3**	**+1.9**
	comp=Z,3.2nm,0.8s						
ZALV	**Zalesovo Beam**	**34.43**	**40**	P	**P**	**03 59 21.9**	**-1.8**
	comp=Z,0.4nm,0.3s,baz=260,slow=8.6,SNR=2.5						
ZALV				LR	LR	04 14 59.1	
	comp=Z,140nm,20.8s,baz=246,slow=39						
KMBO	**Kilima Mbogo**	**34.56**	**197**	LR	LR	04 13 29.5	
	comp=Z,344nm,18.0s,baz=78,slow=36						
HFS	**Hagfors**	**35.37**	**332**	P	**P**	**03 59 30.4**	**-1.4**
	comp=Z,0.8nm,0.3s,baz=140,slow=11,SNR=11						
NOA	**NORSAR Array B**	**36.90**	**332**	P	**P**	**03 59 43.2**	**-1.6**
	comp=Z,0.3nm,0.6s,baz=141,slow=11,SNR=2.5						
TAM	**Tamanrasset**	**37.76**	**266**	*e*P	**P**	**03 59 53.9**	**+1.1**
	comp=Z,9.4nm,1.4s						
TAM	**Tamanrasset**	**37.76**	**266**	*e*P	**P**	**03 59 53.8**	**+1.1**
	comp=Z,9.4nm,1.4s						
ARCES	**ARCESS Array B**	**39.12**	**348**	P	**P**	**04 00 02.9**	**-0.6**
	comp=Z,1.0nm,0.9s,baz=158,slow=7.8,SNR=2.6						
ESDC	**Sonseca Array**	**41.38**	**295**	P	**P**	**04 00 23.1**	**+0.5**
	comp=Z,0.5nm,0.6s,baz=80,slow=8.6,SNR=3.1						
EKA	**Eskdalemuir Ar**	**41.65**	**319**	P	**P**	**04 00 23.0**	**-1.5**
	comp=Z,0.8nm,0.7s,baz=92,slow=11,SNR=3.2						
SONM	**Songino Array**	**46.86**	**53**	P	**P**	**04 01 05.8**	**-0.7**
	comp=Z,0.5nm,0.6s,baz=282,slow=8.7,SNR=2.0						
SONM				LR	LR	04 24 32.1	
	comp=Z,229nm,18.4s,baz=268,slow=41						
ULN	**Ulaanbaatar**	**47.30**	**53**	*e*P	**P**	**04 01 08.7**	**-1.3**
SPITS	**Spitsbergen Ar**	**47.81**	**352**	P	**P**	**04 01 13.3**	**0.0**
	comp=Z,3.8nm,0.8s,baz=158,slow=8.7,SNR=6.2						
CD2	**Chengdu**	**47.87**	**76**	P	**P**	**04 01 14.0**	**-0.6**
CD2				pP	pP	04 01 17.1	-3.8
CD2				PP	**PP**	**04 03 05.3**	**-1.1**
CD2				PcS	**PcS**	**04 06 39.1**	**+0.3**
CD2				S	**S**	**04 08 10.1**	**-0.7**
CD2	**Chengdu**	**47.87**	**76**	SS	SS	04 11 39.8	+0.4
CD2				pmax	pmax		
	comp=Z,20nm,0.5s						
CD2				pmax	pmax		
	comp=Z,220nm,5.0s						
CD2				LR	LR		
	comp=N,460nm,19.9s						
CD2				LR	LR		
	comp=E,410nm,17.9s						
CD2				LR	LR		
	comp=Z,410nm,12.9s						
CMAR	**Chiang Mai Ar**	**48.51**	**93**	P	**P**	**04 01 18.5**	**-1.0**
	comp=Z,0.6nm,0.3s,baz=300,slow=7.2,SNR=3.2						
KOWA	**Kowa**	**49.58**	**261**	P	**P**	**04 01 26.3**	**-1.4**
	comp=Z,1.3nm,0.7s,baz=87,slow=6.6,SNR=6.8						
KOWA				LR	LR	04 25 41.3	
	comp=Z,339nm,19.4s,baz=56,slow=40						
OPO	**Ambohidratompo**	**50.66**	**180**	LR	LR	04 22 46.4	
	comp=Z,298nm,20.4s,baz=2.0,slow=36						
DBIC	**Dimbokro**	**54.48**	**254**	LR	LR	04 28 29.7	
	comp=Z,214nm,18.7s,baz=30,slow=40						
BBTS	**Babate**	**60.04**	**269**	LR	LR	04 31 12.1	
	comp=Z,72nm,18.0s,baz=73,slow=39						
BOSA	**Boshof**	**64.07**	**201**	LR	LR	04 29 57.7	
	comp=Z,156nm,19.8s,baz=23,slow=35						
KSRS	**Korea Array**	**64.62**	**60**	LR	LR	04 35 40.7	
	comp=Z,110nm,18.9s,baz=296,slow=40						
USRK	**Ussuriysk Ar.**	**64.97**	**52**	P	**P**	**04 03 13.8**	**-2.3**
	comp=Z,1.3nm,0.5s,baz=294,slow=6.4,SNR=3.2						
USRK				LR	LR	04 34 32.6	
	comp=Z,168nm,18.1s,baz=278,slow=39						
JNU	**Nakatsue**	**68.58**	**64**	LR	LR	04 35 43.0	
	comp=Z,87nm,19.8s,baz=293,slow=38						
MJAR	**Matsushiro Arr**	**72.47**	**58**	LR	LR	04 38 43.3	
	comp=Z,103nm,21.2s,baz=295,slow=38						
YKA	**Yellowknife Ar**	**84.31**	**352**	P	**P**	**04 05 05.7**	**-2.2**
	comp=Z,0.2nm,0.7s,baz=15,slow=5.3,SNR=4.7						
ULM	**Lac du Bonnet**	**91.40**	**337**	LR	LR	04 49 07.9	
	comp=Z,52nm,18.6s,baz=91,slow=37						

ISCJB ***20*** *03:56:23.9±0.6, 32°.56N±0°.02×46°.83E±0°.02, h10km±3km, mb4.5/109, MS4.2/12, Error ellipse: s-maj=3.9km s-min=2.7km az=162.0*

BJI ***20*** *03:56:23.0, 32°.60N×46°.80E, h8km, mb4.6/27, mB4.9/16, Ms4.6/14, Ms7 4.2/14*

IDC ***20*** *03:56:23.4±0.6, 32°.61N×46°.96E, h0km, mb4.3/32, mb1 4.4/39, mb1mx4.3/63, mbtmp4.3/39, ML4.0/5, MS3.9/3, Ms1 3.9/3, ms1mx3.1/66, Error ellipse: s-maj=12.9km s-min=10.6km az=171.0*

CSEM ***20*** *03:56:25.3±0.1, 32°.55N×46°.87E, h10km, mb4.6/82, Error ellipse: s-maj=5.2km s-min=4.0km az=178.0*

GCMT ***20*** *03:56:25.4±0.4, 32°.65N×46°.58E, h12km±2km, MW4.9/62, Moment Tensor Solution. s12,c12; s62,c96; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=1.62±.21; Mθθ=-1.35±.13; Mφφ=-0.26±.12; Mrθ=0.34±.27; Mrφ=0.95±.07; Mθφ=-2.01±.54; Best double couple: Mo2.67700×10^16 NP1:ϕs152.00000°, δ71.00000°, λ115.00000°. NP2: ϕs277.00000°, δ31.00000°, λ39.00000°. Principal axes: T 2.9090, Plg57.0000°, Azm96.0000°; N -0.4610, Plg24.0000°, Azm324.0000°; P -2.4440, Plg22.0000°, Azm223.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***20*** *03:56:25.4±0.3, 32°.52N×46°.85E, h10km, mb4.6/54, ML4.4(THR), MN4.5(TEH) Error ellipse: s-maj=5.8km s-min=3.8km az=184.0*

THR ***20*** *03:56:25.6±0.5, 32°.53N×46°.75E, h14km±6km, ML4.4*

MOS ***20*** *03:56:27.2±1.5, 32°.69N×46°.97E, h34km, mb4.7/48, Error ellipse: s-maj=7.6km s-min=4.6km az=109.6*

ISN ***20*** *03:56:27.4±1.2, 32°.56N×46°.85E, h27km±5km, ML4.5*

TEH ***20*** *03:56:27.3, 32°.58N×46°.82E, h8km, ML4.5*

GII ***20*** *03:56:29.5±0.0, 32°.63N×46°.89E, h30km*

ISC 20 03:56:26.3±0.7, 32°.62N±0°.03×46°.91E±0°.03, h17km±4km, n376, σ1s79/391, mb4.6/112, MS4.2/12, 18C-15D, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IKFM	**Kafar-mosalman**	**1.20**	**41**	*e*Pg	**Pg**	**03 56 49.3**	**-0.1**
IKFM				*e*AMB	AMB	03 57 14.8	
	comp=Z,99nm,0.3s						
IKFM	**Kafar-mosalman**	**1.20**	**41**	*e*Pg	**Pg**	**03 56 49.3**	**-0.1**
IKOM	**Komasi**	**1.63**	**18**	*e*Pg	**Pg**	**03 56 57.1**	**-0.5**
IKOM				*e*Sg	**Sg**	**03 57 20.8**	**+1.9**
IKOM				*e*AMB	AMB	03 57 27.5	
	comp=Z,89μm,0.3s						
IKOM	**Komasi**	**1.63**	**18**	*e*Pg	**Pg**	**03 56 57.1**	**-0.5**
IKOM				*e*Sg	**Sg**	**03 57 20.8**	**+1.9**
SHGR	**Shooshtar-Gavs**	**1.68**	**107**	P

MMLI	**Mount Malkishu**	**9.70**	**272**	Sn		**Sn**	**04 00 35.3**	**+1.6**
BLGI	**Bet Lehem HaGe**	**9.88**	**274**	Sn		**Sn**	**04 00 38.6**	**+0.6**
MZDA	**Masada**	**9.89**	**265**	Sn		**Sn**	**04 00 39.9**	**+1.5**
SLTI	**Sal'it**	**10.04**	**271**	Sn		**Sn**	**04 00 44.0**	**+2.0**
OFRI	**'Ofer**	**10.06**	**273**	Sn		**Sn**	**04 00 43.5**	**+1.0**
ZFRI	**Zfri**	**10.21**	**261**	Sn		**Sn**	**04 00 47.5**	**+1.2**
AMAZ	**Amatzia**	**10.23**	**267**	Sn		**Sn**	**04 00 48.2**	**+1.4**
PRNI	**Paran**	**10.41**	**261**	Sn		**Sn**	**04 00 52.5**	**+1.3**
ZEI	**Tsey**	**10.42**	**348**	*e*P		Pn	03 59 03.0	+7.8
ZEI					pmax	pmax		
	comp=Z,18nm,1.5s							
GEYT	**Allbeck**	**10.58**	**57**	Lg		Lg	04 01 57.2	
	comp=Z,0.4nm,0.3s,baz=247,slow=25,SNR=2.5							
MBRI	**Mt Berech**	**10.65**	**258**	Sn		**Sn**	**04 00 58.3**	**+1.2**
EIL	**Elat**	**10.66**	**257**	Pn		**Pn**	**03 59 02.4**	**+4.2**
	comp=Z,0.7nm,0.3s,baz=11,slow=19,SNR=4.8							
EIL					Lg	Lg	04 02 09.0	
	comp=Z,0.9nm,0.3s,baz=137,slow=19,SNR=2.2							
KZIT	**Kziot**	**10.79**	**264**	Sn		**Sn**	**04 01 01.8**	**+1.4**
NEY	**Neytrino**	**11.11**	**344**	*i* P		**Pn**	**03 59 04.0**	**-0.5**
NEY	**Neytrino**	**11.11**	**344**	*i* P		**Pn**	**03 59 04.0**	**-0.5**
KBZ	**Khabaz**	**11.53**	**345**	Pn		Pn	03 59 17.1	+7.1
	comp=Z,0.1nm,0.3s,baz=170,slow=11,SNR=7.5							
CSS	**Mathiatis**	**11.54**	**285**	*e*Pn		**Pn**	**03 59 10.0**	**-0.3**
CSS	**Mathiatis**	**11.54**	**285**	*e*Pn		**Pn**	**03 59 10.0**	**-0.3**
KVAR	**Kislovodsk Arr**	**11.79**	**345**	Pn		**Pn**	**03 59 17.3**	**+3.5**
	baz=122,slow=9.5,SNR=4.8							
KIV	**Kislovodsk**	**11.79**	**345**	*e*Pn		**Pn**	**03 59 15.6**	**+1.8**
KIV	**Kislovodsk**	**11.79**	**345**	*e*P		**Pn**	**03 59 13.2**	**-0.5**
	comp=Z,115nm,10.0s							
KIV	**Kislovodsk**	**11.79**	**345**	*e*Pn		**Pn**	**03 59 15.6**	**+1.8**
KIV	**Kislovodsk**	**11.79**	**345**	*e*P		**Pn**	**03 59 13.2**	**-0.5**
KIV					pmax	pmax		
	comp=Z,24nm,1.0s							
KIV					MLR	MLR		
	comp=Z,115nm,10.0s							
SOC	**Sochi**	**12.31**	**335**	*e*P		**Pn**	**03 59 17.5**	**-3.3**
	comp=Z,189nm,8.0s							
SOC	**Sochi**	**12.31**	**335**	*e*P		**Pn**	**03 59 17.5**	**-3.3**
SOC				*e*			04 01 35.6	
SOC					pmax	pmax		
	comp=Z,11nm,0.5s							
SOC					MLR	MLR		
	comp=Z,189nm,8.0s							
BR131	**Keskin Array S**	**12.84**	**307**	*e*Pn		**Pn**	**03 59 29.5**	**+1.3**
BR131	**Keskin Array S**	**12.84**	**307**	*e*Pn		**Pn**	**03 59 29.5**	**+1.3**
BRTR	**Keskin Array B**	**12.84**	**307**	Pn		**Pn**	**03 59 30.0**	**+1.8**
	comp=Z,0.1nm,0.3s,baz=141,slow=14,SNR=5.7							
ANTO	**Ankara**	**13.48**	**306**	*e*Pn		**Pn**	**03 59 39.2**	**+2.4**
ANTO	**Ankara**	**13.48**	**306**	*e*Pn		**Pn**	**03 59 39.2**	**+2.4**
ANTO	**Ankara**	**13.48**	**306**	*e*P		**Pn**	**03 59 39.3**	**+2.4**
WSAR	**Wadi Sarin**	**13.95**	**129**	Pn		**Pn**	**03 59 41.2**	**-2.0**
	comp=Z,1.3nm,0.3s,baz=317,slow=6.4,SNR=10.0							
WSAR					Sn	Sn	04 02 07.5	-10
	comp=Z,0.4nm,0.3s,baz=258,slow=19,SNR=1.6							
WSAR					LR	LR	04 05 51.9	
	comp=Z,594nm,19.1s,baz=328,slow=41							
ANN	**Anapa**	**14.22**	**332**	*e*P		**Pn**	**03 59 44.0**	**-2.8**
	comp=Z,96nm,1.2s							
ANN	**Anapa**	**14.22**	**332**	*e*P		**Pn**	**03 59 44.0**	**-2.8**
ANN				*e*S		**Sn**	**04 02 24.9**	**+0.8**
ANN					pmax	pmax		
	comp=Z,96nm,1.2s							
SANT	**Santorini**	**18.07**	**288**	*e*Pn		**P**	**04 00 37.3**	**+0.4**
SANT	**Santorini**	**18.07**	**288**	*e*Pn		**P**	**04 00 37.3**	**+0.4**
DAMY	**Dhamar**	**18.11**	**188**	*e*Pn		**Pn**	**04 00 37.1**	**-0.4**
	comp=Z,28nm,1.0s							
IDI	**Anoyia**	**18.45**	**284**	P		**Pn**	**04 00 41.7**	**+0.3**
	comp=Z,1.2nm,0.3s,baz=87,slow=12,SNR=12							
IDI	**Anoyia**	**18.45**	**284**	ǁ *i* P		**Pn**	**04 00 42.8**	**+1.4**
IDI	**Anoyia**	**18.45**	**284**	*e*P		**Pn**	**04 00 42.5**	**+1.1**
	comp=Z,62nm,1.1s							
IDI	**Anoyia**	**18.45**	**284**	*e*P		**Pn**	**04 00 42.5**	**+1.1**
	comp=Z,62nm,1.1s							
TIRR	**Tirgusor**	**18.63**	**315**	ǁ *i* P		**Pn**	**04 00 43.8**	**+0.5**
TIRR	**Tirgusor**	**18.63**	**315**	*e*P		**P**	**04 00 41.9**	**-1.1**
	comp=Z,27nm,1.2s							
TIRR	**Tirgusor**	**18.63**	**315**	*e*P		**P**	**04 00 41.9**	**-1.1**
	comp=Z,27nm,1.2s							
TIRR	**Tirgusor**	**18.63**	**315**	*e*P		**P**	**04 00 41.9**	**-1.1**
TIRR					pmax	pmax		
	comp=Z,27nm,1.2s							
VRH	**Novokhopyorsk**	**18.95**	**350**	*e*P		**P**	**04 00 45.6**	**-0.9**
	comp=Z,10.0nm,0.5s							
VRH				*e*S		**Sn**	**04 04 17.3**	**-1.6**
VRH	**Novokhopyorsk**	**18.95**	**350**	*e*P		**P**	**04 00 45.6**	**-0.9**
VRH				*e*S		**Sn**	**04 04 17.3**	**-1.6**
VRH					pmax	pmax		
	comp=Z,10.0nm,0.5s							
VRH					smax	smax		
	comp=E,90nm,0.9s							
HARR	**Harsova**	**19.05**	**315**	ǁ *i* P		**Pn**	**04 00 49.5**	**+1.1**
CFR	**Carcaliu**	**19.20**	**316**	ǁ *i* P		**Pn**	**04 00 50.4**	**+0.3**
ABKAR	**Akbulak array**	**19.27**	**27**	*e*P		**Pn**	**04 00 50.7**	**-0.3**
	comp=E,2.1nm,0.5s							
ABKAR	**Akbulak array**	**19.27**	**27**	*e*P		**Pn**	**04 00 50.7**	**-0.3**
	comp=E,2.1nm,0.5s							
VSR	**Storozhevoye**	**19.43**	**345**	*e*P		**P**	**04 00 51.7**	**0.0**
	comp=E,10.0nm,0.7s							
VSR				*e*S		**Sn**	**04 04 25.7**	**-4.8**
	comp=E,100nm,1.3s							
VSR	**Storozhevoye**	**19.43**	**345**	*e*P		**P**	**04 00 51.7**	**0.0**
VSR				*e*S		**Sn**	**04 04 25.7**	**-4.8**
VSR					pmax	pmax		
	comp=Z,10.0nm,0.7s							
VSR					smax	smax		
	comp=N,100nm,1.3s							
AKTK	**Aktyubinsk**	**19.61**	**22**	P		**P**	**04 00 53.9**	**+0.2**
	comp=N,1.0nm,0.3s							
AKTO	**Aktyubinsk**	**19.61**	**22**	P		**P**	**04 00 53.9**	**+0.2**
	comp=N,0.5nm,0.3s,baz=212,slow=15,SNR=7.0							
RZN	**Rozhen**	**19.82**	**303**	P		**P**	**04 00 56.0**	**-0.3**
VRI	**Vrincioaia**	**20.40**	**316**	ǁ *i* P		Pn	04 01 03.8	-0.7
PLOR	**Plostina**	**20.44**	**316**	ǁ *i* P		Pn	04 01 04.4	-0.6
MMB	**Musomiste**	**20.49**	**302**	P		**P**	**04 01 04.0**	**+0.6**
PGB	**Panagyurishte**	**20.51**	**305**	P		**P**	**04 01 04.5**	**+0.8**
MLR	**Muntele Rosu**	**20.66**	**315**	P		Pn	04 01 06.9	-0.8
	comp=N,5.4nm,1.1s,baz=139,slow=19							
MLR	**Muntele Rosu**	**20.66**	**315**	ǁ *i* P		Pn	04 01 07.2	-0.5
MLR	**Muntele Rosu**	**20.66**	**315**	*e*P		Pn	04 01 07.7	0.0
	comp=N,16nm,1.1s							
LPSR	**Galich'ya Gora**	**20.79**	**346**	*e*P		**P**	**04 01 05.7**	**-0.8**
	comp=N,100nm,0.8s							
LPSR	**Galich'ya Gora**	**20.79**	**346**	*e*P		**P**	**04 01 05.7**	**-0.8**
LPSR					pmax	pmax		
	comp=Z,100nm,0.8s							
TESR	**Tescani**	**20.81**	**318**	ǁ *i* P		**P**	**04 01 07.1**	**+0.3**
SORM	**Soroca**	**20.89**	**323**	ǁ *i* P		Pn	04 01 09.2	-0.9
MTUR	**Matau**	**21.07**	**313**	ǁ *i* P		**P**	**04 01 11.6**	**+1.9**
VOIR		**21.18**	**313**	ǁ *i* P		**P**	**04 01 12.6**	**+1.7**
VTS	**Vitosha**	**21.19**	**305**	ǁ *i* P		**P**	**04 01 13.5**	**+2.4**
VTS	**Vitosha**	**21.19**	**305**	*e*P		**P**	**04 01 10.5**	**-0.6**
	comp=Z,8.9nm,1.1s							
VTS	**Vitosha**	**21.19**	**305**	P		**P**	**04 01 10.0**	**-1.1**
VTS	**Vitosha**	**21.19**	**305**	*e*P		**P**	**04 01 10.5**	**-0.6**
	comp=Z,9.0nm,1.1s							
VTS	**Vitosha**	**21.19**	**305**	*e*P		**P**	**04 01 10.5**	**-0.6**
VTS					pmax	pmax		
	comp=Z,9.0nm,1.1s							
DOPR	**Dopca**	**21.25**	**315**	ǁ *i* P		**P**	**04 01 12.9**	**+1.4**
KK31	**Karatay Array**	**21.30**	**54**	*e*P		**P**	**04 01 14.6**	**+2.4**
KK31	**Karatay Array**	**21.30**	**54**	*e*P		**P**	**04 01 14.6**	**+2.4**
KK31	**Karatay Array**	**21.30**	**54**	*e*P		**P**	**04 01 14.6**	**+2.4**
KKAR	**Karatay Array**	**21.30**	**54**	*e*P		**P**	**04 01 14.6**	**+2.4**
	comp=Z,8.8nm,0.8s							
KKAR	**Karatay Array**	**21.30**	**54**	*e*P		**P**	**04 01 14.6**	**+2.4**
	comp=Z,9.0nm,0.8s							
KKAR	**Karatay Array**	**21.30**	**54**	*e*P		**P**	**04 01 14.6**	**+2.4**
KKAR					pmax	pmax		
	comp=Z,9.0nm,0.8s							
ATD	**Arta Tunnel**	**21.32**	**191**	P		**P**	**04 01 13.5**	**+0.9**
	comp=Z,2.9nm,0.6s,baz=359,slow=6.6,SNR=4.1							
ARR	**Arges**	**21.40**	**313**	ǁ *i* P		**P**	**04 01 14.5**	**+1.2**
PRAR	**RASCA**	**21.53**	**319**	ǁ *i* P		**P**	**04 01 17.3**	**+2.7**
LOT	**Lotru**	**21.98**	**312**	ǁ *i* P		**P**	**04 01 20.1**	**+0.6**
NIL	**Nilore**	**22.07**	**80**	*e*P		**P**	**04 01 20.9**	**+0.4**
	comp=Z,32nm,1.0s							
NIL	**Nilore**	**22.07**	**80**	*e*P		**P**	**04 01 20.9**	**+0.4**
	comp=Z,32nm,1.0s							
NIL	**Nilore**	**22.07**	**80**	*e*P		**P**	**04 01 20.9**	**+0.4**
NIL					pmax	pmax		
	comp=Z,32nm,1.0s							
BURAR	**Bucovina Array**	**22.24**	**319**	ǁ *i* P		**P**	**04 01 24.8**	**+2.5**
BUR04	**Bucovina Ar. S**	**22.24**	**319**	*e*P		**P**	**04 01 22.1**	**-0.2**
BUR04	**Bucovina Ar. S**	**22.24**	**319**	*e*P		**P**	**04 01 22.1**	**-0.2**
BUR08	**Bucovina Ar. S**	**22.27**	**319**	*e*P		**P**	**04 01 23.2**	**+0.7**
BUR08	**Bucovina Ar. S**	**22.27**	**319**	*e*P		**P**	**04 01 23.2**	**+0.7**
AKASG	**Malin Array Be**	**22.28**	**329**	P		**P**	**04 01 21.1**	**-1.5**
	comp=Z,2.8nm,0.6s,baz=136,slow=11,SNR=14							
AKASG					S	**S**	**04 05 22.2**	**-4.7**
	comp=Z,1.8nm,0.9s,baz=134,slow=20,SNR=6.4							
AKASG					LR	LR	04 11 50.1	
	comp=Z,194nm,19.0s,baz=130,slow=42							
AKBB	**Malin Array Si**	**22.28**	**329**	*e*P		**P**	**04 01 22.0**	**-0.5**
	comp=Z,19nm,0.9s							
AKBB	**Malin Array Si**	**22.28**	**329**	*e*P		**P**	**04 01 22.0**	**-0.5**
	comp=Z,19nm,0.9s							
AKBB	**Malin Array Si**	**22.28**	**329**	*e*P		**P**	**04 01 22.0**	**-0.5**
AKBB					pmax	pmax		
	comp=Z,19nm,0.9s							
KIEV	**Kiev**	**22.28**	**329**	*e*P		**P**	**04 01 22.0**	**-0.5**
	comp=Z,20nm,1.0s							
KIEV	**Kiev**	**22.28**	**329**	*i* P		**P**	**04 01 21.1**	**-1.4**
KIEV					pmax	pmax		
	comp=Z,10.0nm,0.8s							
AK11	**Malin Array Si**	**22.29**	**329**	*e*P		**P**	**04 01 23.9**	**+1.3**
AK11	**Malin Array Si**	**22.29**	**329**	*e*P		**P**	**04 01 23.9**	**+1.3**
HERR	**Herculane**	**22.59**	**310**	ǁ *i* P		**P**	**04 01 26.2**	**+0.3**
TIR	**Tirane**	**23.22**	**300**	ǁ *i* P		**P**	**04 01 33.9**	**+1.4**
TIR	**Tirane**	**23.22**	**300**	*e*P		**P**	**04 01 33.0**	**+0.5**
	comp=Z,41nm,0.9s							
TIR	**Tirane**	**23.22**	**300**	*e*P		**P**	**04 01 33.0**	**+0.5**
	comp=Z,41nm,0.9s							
TIR	**Tirane**	**23.22**	**300**	*e*P		**P**	**04 01 33.0**	**+0.5**
TIR					pmax	pmax		
	comp=Z,41nm,0.9s							
DRGR		**23.26**	**315**	⇑ *i* P		**P**	**04 01 33.5**	**+0.5**
BZS	**Buzias**	**23.41**	**311**	ǁ *i* P		**P**	**04 01 34.1**	**-0.2**
OBN	**Obninsk**	**23.64**	**345**	P		**P**	**04 01 35.2**	**-1.2**
	comp=Z,13nm,0.5s,baz=222,slow=0.4,SNR=9.8							
OBN					S	**S**	**04 05 46.3**	**-3.8**
	comp=Z,11nm,0.5s,baz=180,slow=20,SNR=7.9							
OBN	**Obninsk**	**23.64**	**345**	*e*P		**P**	**04 01 37.3**	**+0.9**
	comp=Z,71nm,1.4s							
OBN					S	**S**	**04 05 46.3**	**-3.8**
OBN	**Obninsk**	**23.64**	**345**	*de*P		**P**	**04 01 36.6**	**+0.2**
OBN				*e*			04 02 04.6	
OBN				*i* S		**S**	**04 05 47.0**	**-3.2**
OBN					pmax	pmax		
	comp=Z,97nm,1.3s							
OBN					MLR	MLR		
	comp=Z,200nm,19.0s							
DIVS	**Divibare**	**23.91**	**306**	*e*P		**P**	**04 01 40.5**	**+1.2**
	comp=Z,4.1nm,1.0s							
DIVS	**Divibare**	**23.91**	**306**	*e*P		**P**	**04 01 40.5**	**+1.2**
	comp=Z,4.1nm,1.0s							
AAK	**Ala-Archa**	**23.93**	**57**	P		**P**	**04 01 39.7**	**+0.1**
	comp=Z,2.2nm,0.7s,baz=254,slow=5.8,SNR=6.0							
AAK	**Ala-Archa**	**23.93**	**57**	*e*P		**P**	**04 01 42.2**	**+2.6**
	comp=Z,7.4nm,1.1s							
AAK	**Ala-Archa**	**23.93**	**57**	*e*P		**P**	**04 01 42.2**	**+2.6**
	comp=Z,7.4nm,1.1s							
AAK	**Ala-Archa**	**23.93**	**57**	*i* P		**P**	**04 01 36.7**	**-3.0**
MOS	**Moscow**	**24.01**	**347**	*e*P		**P**	**04 01 40.2**	**+0.2**
MOS				*e*			04 02 08.5	
MOS				*e*S		**S**	**04 05 54.8**	**-1.3**
MOS					pmax	pmax		
	comp=Z,87nm,1.7s							
TRPA	**Tarpa**	**24.03**	**317**	⇑ *i* P		**P**	**04 01 42.6**	**+2.3**
FRU	**Bishkek**	**24.07**	**57**	*e*P		**P**	**04 01 42.5**	**+1.7**
	comp=Z,90nm,2.1s							
FRU	**Bishkek**	**24.07**	**57**	*e*P		**P**	**04 01 42.5**	**+1.7**
FRU					pmax	pmax		
	comp=Z,90nm,2.1s							
LVV	**L'vov**	**24.16**	**322**	*e*P		**P**	**04 01 41.9**	**+0.4**
LVV	**L'vov**	**24.16**	**322**	*e*P		**P**	**04 01 41.9**	**+0.4**
UZH	**Uzhgorod**	**24.44**	**318**	*c i*P		**P**	**04 01 45.0**	**+1.0**
UZH				*e*			04 01 53.4	
UZH				*e*			04 02 18.2	
UZH				*e*			04 05 30.8	
UZH				*e*S		**S**	**04 05 59.8**	**-3.3**
UZH				*e*SS		**SnSn**	**04 06 56.6**	**+9.3**
UZH					MLR	MLR		
	comp=N,680nm,18.0s							
UZH					MLR	MLR		
	comp=E,510nm,18.0s							
UZH					MLR	MLR		
	comp=Z,260nm,18.0s							
KWP	**Kalwaria Pacla**	**24.75**	**320**	*e*P		**P**	**04 01 47.7**	**+0.8**
KWP	**Kalwaria Pacla**	**24.75**	**320**	*e*P		**P**	**04 01 47.7**	**+0.8**
KWP	**Kalwaria Pacla**	**24.75**	**320**	*e*P		**P**	**04 01 47.7**	**+0.8**
CRVS	**Cervenica-Dubn**	**25.05**	**318**	*e*P		**P**	**04 01 51.7**	**+2.1**
	comp=Z,16nm,1.1s							
CRVS	**Cervenica-Dubn**	**25.05**	**318**	*e*P		**P**	**04 01 51.7**	**+2.1**
CRVS	**Cervenica-Dubn**	**25.05**	**318**	*e*P		**P**	**04 01 51.7**	**+2.1**
CRVS					pmax	pmax		
	comp=Z,16nm,1.1s							
ARU	**Arti**	**25.14**	**15**	P		**P**	**04 01 49.9**	**-0.4**
	comp=Z,2.1nm,0.3s,baz=173,slow=5.3,SNR=9.4							
ARU	**Arti**	**25.14**	**15**	*e*P		**P**	**04 01 51.4**	**+1.1**
	comp=Z,17nm,1.1s							
ARU	**Arti**	**25.14**	**15**	*c i*P		**P**	**04 01 51.6**	**+1.3**
ARU							04 02 29.4	
ARU					SS		04 07 19.0	
ARU					pmax	pmax		
	comp=Z,31nm,1.7s							
TIP	**Timpagrande**	**25.21**	**294**	⇑ *i* P		**P**	**04 01 52.2**	**+1.0**
TIP	**Timpagrande**	**25.21**	**294**	*e*P		**P**	**04 01 51.7**	**+0.5**
	comp=Z,24nm,1.1s							
TIP	**Timpagrande**	**25.21**	**294**	*e*P		**P**	**04 01 51.7**	**+0.5**
	comp=Z,24nm,1.1s							
STHS	**Stebnicka Huta**	**25.44**	**319**	*e*P		**P**	**04 01 54.6**	**+1.5**
	comp=Z,17nm,1.1s							
STHS	**Stebnicka Huta**	**25.44**	**319**	*e*P		**P**	**04 01 54.6**	**+1.5**
STHS	**Stebnicka Huta**	**25.44**	**319**	*e*P		**P**	**04 01 54.6**	**+1.5**
STHS					pmax	pmax		
	comp=Z,17nm,1.1s							
PSZ	**Piszkesteto**	**25.48**	**315**	⇑ *i* P		**P**	**04 01 55.3**	**+1.7**
PSZ	**Piszkesteto**	**25.48**	**315**	*e*P		**P**	**04 01 54.7**	**+1.1**
	comp=Z,25nm,1.1s							
PSZ	**Piszkesteto**	**25.48**	**315**	*e*P		**P**	**04 01 54.7**	**+1.1**
	comp=Z,25nm,1.1s							
PSZ	**Piszkesteto**	**25.48**	**315**	*e*P		**P**	**04 01 54.7**	**+1.1**
PSZ					pmax	pmax		
	comp=Z,25nm,1.1s							
MORH	**M¨ɪr¡gy, Hung**	**25.55**	**310**	⇑ *e*PP		**P**	**04 01 54.7**	**+0.6**
CEL	**Celeste**	**25.81**	**291**	*e*P		**P**	**04 01 56.5**	**-0.2**
	comp=Z,47nm,1.0s							
CEL	**Celeste**	**25.81**	**291**	*e*P		**P**	**04 01 56.5**	**-0.2**
	comp=Z,46nm,1.0s							
BUD	**Budapest**	**25.82**	**313**	ǁ *ex*		**P**	**04 01 59.4**	**+2.8**
NIE	**Niedzica**	**25.97**	**318**	*e*P		**P**	**04 01 59.3**	**+1.3**
NIE	**Niedzica**	**25.97**	**318**	*e*P		**P**	**04 01 59.3**	**+1.3**
SVE	**Sverdlovsk**	**25.99**	**17**	*e*P		**P**	**04 01 58.1**	**+0.1**
SVE					pmax	pmax		
	comp=Z,30nm,1.4s							
BLY	**Banja Luka**	**26.02**	**306**	*e*P		**P**	**04 01 59.8**	**+1.4**
	comp=Z,19nm,1.0s							
BLY	**Banja Luka**	**26.02**	**306**	*e*P		**P**	**04 01 59.8**	**+1.4**
	comp=Z,19nm,1.0s							
CSKK	**Cs¨ɪkako**	**26.24**	**313**	ǁ *e*P		**P**	**04 02 03.4**	**+3.0**
LANS	**Liptovska Anna**	**26.31**	**317**	*e*P		**P**	**04 02 02.3**	**+1.2**
LANS	**Liptovska Anna**	**26.31**	**317**	*e*P		**P**	**04 02 02.3**	**+1.2**
VYHS	**Vyhne**	**26.37**	**315**	*e*P		**P**	**04 02 05.0**	**+3.4**
	comp=Z,12nm,1.6s							
VYHS	**Vyhne**	**26.37**	**315**	*e*P		**P**	**04 02 05.0**	**+3.4**
VYHS	**Vyhne**	**26.37**	**315**	*e*P		**P**	**04 02 05.0**	**+3.4**
VYHS					pmax	pmax		
	comp=Z,12nm,1.6s							
BRVK	**Borovoye**	**26.45**	**33**	*e*P		**P**	**04 02 02.8**	**+0.6**
	comp=Z,12nm,1.0s							
BRVK	**Borovoye**	**26.45**	**33**	*i* P		**P**	**04 01 59.6**	**-2.6**
BRVK					pmax	pmax		
	comp=Z,4.0nm,0.7s							
BVAR	**Borovoye Array**	**26.48**	**33**	P		**P**	**04 02 03.1**	**+0.6**
	comp=Z,8.5nm,0.8s,baz=235,slow=8.1,SNR=17							
BVAR	**Borovoye Array**	**26.48**	**33**	P		**P**	**04 02 03.1**	**+0.6**
	comp=Z,8.0nm,0.9s							
BVAR	**Borovoye Array**	**26.48**	**33**	P		**P**	**04 02 03.1**	**+0.6**
BVAR					pmax	pmax		
	comp=Z,8.0nm,0.9s							
OJC	**Ojcow**	**26.66**	**319**	*e*P		**P**	**04 02 05.0**	**+0.9**
OJC	**Ojcow**	**26.66**	**319**	*e*P		**P**	**04 02 06.4**	**+2.3**
	comp=Z,28nm,1.1s							
OJC	**Ojcow**	**26.66**	**319**	*e*P		**P**	**04 02 05.0**	**+0.9**
IDID	**Didziasalis**	**26.74**	**334**	*e*P		**P**	**04 02 05.5**	**+0.7**
IDID					IAmb	IAmb	04 02 17.5	
	comp=Z,6.6nm,0.8s							
IIGN	**Ignalina**	**26.96**	**334**	*e*P		**P**	**04 02 07.3**	**+0.5**
IIGN					IAmb	IAmb	04 02 12.2	
	comp=Z,17nm,1.1s							
VAE	**Valguarnera**	**26.96**	**289**	P		**P**	**04 02 08.0**	**+0.9**
	comp=Z,7.9nm,0.6s,baz=153,slow=6.8,SNR=1.6							
SUW	**Suwalki**	**27.24**	**329**	*e*P		**P**	**04 02 12.7**	**+3.4**
SUW	**Suwalki**	**27.24**	**329**	*e*P		**P**	**04 02 10.4**	**+1.1**
	comp=Z,58nm,1.0s							
SUW	**Suwalki**	**27.24**	**329**	*e*P		**P**	**04 02 12.7**	**+3.4**
IZAR	**Zarasai**	**27.25**	**334**	*e*P		**P**	**04 02 10.1**	**+0.6**
IZAR					IAmb	IAmb	04 02 15.0	
	comp=Z,32nm,1.1s							
BOJS	**Bojanci**	**27.55**	**307**	*i* P		**P**	**04 02 14.6**	**+2.4**
MORC	**Moravsky Berou**	**27.71**	**317**	ǁ *i* P		**P**	**04 02 15.2**	**+1.5**
MORC	**Moravsky Berou**	**27.71**	**317**	*e*P		**P**	**04 02 11.4**	**-2.2**
	comp=Z,22nm,1.1s							
MORC	**Moravsky Berou**	**27.71**	**317**	*e*P		**P**	**04 02 11.5**	**-2.2**
	comp=Z,22nm,1.1s							
MORC	**Moravsky Berou**	**27.71**	**317**	*e*P		**P**	**04 02 11.5**	**-2.2**
MORC					pmax	pmax		
	comp=Z,22nm,1.1s							
VISS	**Visnje**	**27.91**	**308**	*i* P		**P**	**04 02 17.2**	**+1.7**
CONA	**Conrad Observa**	**27.96**	**312**	*e*P		**P**	**04 02 17.3**	**+1.3**
	comp=Z,5.3nm,1.4s							
VRAC	**Vranov**	**28.06**	**315**	P		**P**	**04 02 17.6**	**+0.9**
	comp=Z,1.4nm,0.3s,baz=112,slow=8.1,SNR=5.5							
OBKA	**Obir**	**28.32**	**309**	*e*pP		**P**	**04 02 20.9**	**+1.7**
	comp=Z,12nm,1.3s							
JAVS	**Javornik**	**28.46**	**307**	*i* P		**P**	**04 02 22.4**	**+2.0**
KLMR	**Klimovskoe**	**28.66**	**352**	*e*P		**P**	**04 02 19.7**	**-2.2**
KLMR					AMP		04 02 25.1	
	comp=Z,15nm,1.0s							
KLMR	**Klimovskoe**	**28.66**	**352**	*e*P		**P**	**04 02 19.7**	**-2.2**
KLMR					pmax	pmax		
	comp=Z,15nm,1.0s							
DPC	**Dobruska-Polom**	**28.67**	**317**	*e*P		**P**	**04 02 23.0**	**+0.8**
DPC				*e*pP		**pP**	**04 02 26.2**	**-1.1**
DPC				*ex*		x	04 02 30.6	
DPC					AMS	AMS	04 16 50.0	
	comp=Z,200nm,14.5s							
DPC	**Dobruska-Polom**	**28.67**	**317**	*e*P		**P**	**04 02 23.0**	**+0.8**
DPC	**Dobruska-Polom**	**28.67**	**317**	*e*P		**P**	**04 02 23.0**	**+0.8**
DPC				*e*			04 02 30.6	
DPC					MLR	MLR		
	comp=Z,200nm,14.5s							
MOA	**Molln**	**28.93**	**311**	*e*P		**P**	**04 02 24.9**	**+0.4**
	comp=Z,8.7nm,1.3s							
KURBB	**Kurchatov Arra**	**29.39**	**43**	P		**P**	**04 02 28.9**	**+0.5**
	comp=Z,2.4nm,0.7s,baz=249,slow=9.0,SNR=10							
KURK	**Kurchatov**	**29.48**	**43**	*e*P		**P**	**04 02 30.2**	**+0.9**
	comp=Z,74nm,1.3s							
KURK	**Kurchatov**	**29.48**	**43**	*e*P		**P**	**04 02 30.2**	**+0.9**
	comp=Z,74nm,1.3s							
KURK	**Kurchatov**	**29.48**	**43**	*i* P		**P**	**04 02 27.4**	**-1.9**
KURK					pmax	pmax		
	comp=Z,4.0n

comp=Z,2.7nm,0.8s,baz=167,slow=8.8,SNR=9.4
ES19 SONSECA Array 41.17 295 *e*P **P 04 04 11.0 +1.1**
ES19 SONSECA Array 41.17 295 *e*P **P 04 04 11.0 +1.1**
ESDC Sonseca Array 41.22 295 P **P 04 04 10.3 0.0**
comp=Z,1.9nm,0.8s,baz=73,slow=9.0,SNR=7.9
EKA Eskdalemuir Ar 41.42 319 P **P 04 04 11.3 -0.4**
comp=Z,4.9nm,0.9s,baz=103,slow=8.3,SNR=5.8
GTA Gaotai 42.82 65 P **P 04 04 24.4 +0.9**
GTA pP sP 04 04 29.4 -1.3
GTA sP pP 04 04 32.5 +3.8
GTA S **S 04 10 49.3 +2.2**
GTA sS sS 04 10 59.8 +4.1
GTA pmax pmax
comp=Z,6.0nm,1.7s
GTA pmax pmax
comp=Z,98nm,5.3s
GTA LR LR
comp=Z,510nm,19.0s
GTA LR LR
comp=Z,740nm,19.8s
GTA LR LR
comp=Z,210nm,15.2s
MVO Moncorvo 43.37 297 *e*P **P 04 04 27.2 -0.7**
PBAR Barrancos 43.81 293 *e*P **P 04 04 31.5 +0.2**
MTE Manteigas 43.86 296 *e*P **P 04 04 29.8 -2.0**
PCBR Castelo Branco 43.88 295 *e*P **P 04 04 32.5 +0.6**
PTO Porto 44.56 297 *e*P **P 04 04 37.5 +0.2**
PCVE Castro Verde 44.68 292 *e*P **P 04 04 38.7 +0.4**
LZH Lanzhou 46.56 69 *e*P **P 04 04 54.0 +0.5**
LZH pP pP 04 04 57.8 -0.9
LZH sP sP 04 05 00.3 -0.4
LZH PcP **PcP 04 06 27.8 +0.3**
LZH *e*S **S 04 11 45.6 +3.9**
LZH sS sS 04 11 53.4 +3.1
LZH SS **SS 04 14 59.6 -8.0**
LZH pmax pmax
comp=Z,20nm,1.1s
LZH pmax pmax
comp=Z,95nm,4.3s
LZH LR LR
comp=Z,2μm,15.0s
LZH LR LR
comp=Z,1μm,14.6s
LZH LR LR
comp=Z,2μm,17.2s
SONM Songino Array 46.75 53 P **P 04 04 55.2 +0.5**
comp=Z,1.3nm,1.1s,baz=263,slow=11,SNR=6.6
SONM PcP **PcP 04 06 27.0 -0.9**
comp=Z,1.4nm,1.2s,baz=245,slow=3.4,SNR=3.7
SONA1 Songino Array 46.76 53 *e*P **P 04 04 55.9 +1.1**
SONA1 *e*PcP **PcP 04 06 28.2 +0.3**
ULN Ulaanbaatar 47.19 53 *e*P **P 04 04 58.7 +0.5**
comp=Z,8.4nm,1.1s
ULN Ulaanbaatar 47.19 53 *i* P **P 04 04 54.9 -3.3**
ULN pmax pmax
comp=Z,1.0nm,0.3s
SPITS Spitsbergen Ar 47.56 352 P **P 04 05 00.6 +0.1**
comp=Z,12nm,1.0s,baz=133,slow=6.3,SNR=15
CD2 Chengdu 47.87 76 *e*P **P 04 05 05.5 +2.0**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CHTO Chiang Mai 48.42 93 *e*P **P 04 05 07.3 -0.6**
comp=Z,3.3nm,0.8s
CHTO Chiang Mai 48.42 93 *e*P **P 04 05 07.3 -0.6**
CHTO pmax pmax
comp=Z,3.0nm,0.8s
CMAR Chiang Mai Arr 48.58 94 P **P 04 05 06.9 -2.3**
comp=Z,1.3nm,0.3s,baz=297,slow=9.0,SNR=4.0
KMI Kunming 48.99 84 P **P 04 05 15.9 +3.4**
KMI pmax pmax
comp=Z,8.0nm,0.5s
KOWA Kowa 49.56 261 P **P 04 05 16.5 -0.2**
comp=Z,7.9nm,0.8s,baz=53,slow=12,SNR=23
KOWA Kowa 49.56 261 *e*P **P 04 05 16.6 0.0**
comp=Z,14nm,1.1s
LSZ Lusaka 50.88 204 P **P 04 05 27.3 +0.6**
comp=Z,3.2nm,0.9s,baz=51,slow=4.2,SNR=4.0
LSZ Lusaka 50.88 204 *e*P **P 04 05 27.4 +0.8**
comp=Z,5.5nm,1.1s
LSZ Lusaka 50.88 204 P **P 04 05 27.3 +0.6**
LSZ pmax pmax
comp=Z,2.0nm,0.8s
XAN Xi'an 51.11 70 P **P 04 05 27.9 -0.4**
XAN pmax pmax
comp=Z,11nm,1.2s
XAN LR LR
comp=Z,280nm,19.5s
XAN LR LR
comp=Z,270nm,18.4s
XAN LR LR
comp=Z,210nm,18.4s
HHC Hu-ho-hao-te 51.42 61 *e*P **P 04 05 31.6 +1.0**
HHC S **S 04 12 52.5 +2.8**
HHC pmax pmax
comp=Z,31nm,1.2s
HHC pmax pmax
comp=Z,90nm,6.6s
HHC LR LR
comp=Z,290nm,16.1s
HHC LR LR
comp=Z,290nm,16.2s
HHC LR LR
comp=Z,190nm,16.7s
DBIC Dimbokro 54.50 253 P **P 04 05 52.6 -0.8**
comp=Z,7.1nm,1.0s,baz=57,slow=8.6,SNR=5.2
TIXI Tiksi 56.89 22 *e*P **P 04 06 08.0 -1.8**
comp=Z,1.7nm,0.3s
TIXI Tiksi 56.89 22 *ce*P **P 04 06 06.2 -3.6**
TIXI pmax pmax
comp=Z,12nm,2.5s
KULM Kulim 56.90 107 *e*P **P 04 06 10.5 -0.2**
comp=Z,4.3nm,0.7s
TSUM Tsumeb 58.67 213 *e*P **P 04 06 23.1 0.0**
comp=Z,1.1nm,0.4s
NJ2 Nanjing 59.64 69 *e*P **P 04 06 33.0 +3.3**
CN2 Changchun 60.56 55 *e*P **P 04 06 33.4 -2.4**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 LR LR
comp=Z,300nm,13.0s
CN2 LR LR
comp=Z,200nm,13.0s
CN2 LR LR
comp=Z,200nm,13.0s
SFJD Kangerlussuaq 63.26 334 LR LR 04 34 16.4
comp=Z,84nm,20.6s,baz=64,slow=36
BOSA Boshof 64.28 201 P **P 04 07 01.1 +0.3**
comp=Z,6.7nm,0.9s,baz=5.6,slow=7.5,SNR=7.1
BOSA Boshof 64.28 201 *e*P **P 04 07 01.7 +0.9**
comp=Z,10.0nm,1.0s
KSAR Wonju Array Be 64.52 61 P **P 04 07 01.2 -1.2**
KSAR Wonju Array Be 64.52 61 P **P 04 07 01.2 -1.2**
KSRS Korea Array 64.55 61 P **P 04 07 01.2 -1.3**
comp=Z,1.9nm,0.7s,baz=292,slow=7.4,SNR=5.5
USRK Ussuriysk Ar. 64.86 52 P **P 04 07 02.2 -2.2**
comp=Z,2.7nm,0.8s,baz=297,slow=6.3,SNR=4.1
YULB Yu-li 65.14 77 *e*P **P 04 07 07.5 +0.9**
comp=Z,7.6nm,0.9s
SEY Seymchan 68.03 28 *i* P **P 04 07 24.6 +0.2**
BILL Bilibino 70.03 20 ⇑*i* P **P 04 07 36.5 -0.3**
BILL *e* 04 07 55.5
BILL *e* 04 10 11.4
BILL pmax pmax
comp=Z,11nm,1.3s
BILL MLR MLR
comp=Z,200nm,21.0s
MJAR Matsushiro Arr 72.39 58 P **P 04 07 50.3 -1.3**
comp=Z,0.5nm,0.3s,baz=303,slow=6.9,SNR=4.3
SCHQ Schefferville 76.05 327 P **P 04 08 12.4 -0.2**
comp=Z,5.8nm,1.0s,baz=50,slow=7.9,SNR=5.2
SCHQ Schefferville 76.05 327 *e*P **P 04 08 13.1 +0.4**
comp=Z,11nm,1.1s
TOLK Toolik Lake Re 78.30 6 *e*P **P 04 08 26.1 +1.0**
comp=Z,8.8nm,0.8s
INK Inuvik 79.38 0 *e*P **P 04 08 31.1 +0.2**
comp=Z,0.6nm,0.6s
INK Inuvik 79.38 0 *e*P **P 04 08 31.1 +0.2**
INK pmax pmax
comp=Z,1.0nm,0.6s
COLD Coldfoot 79.62 7 *e*P **P 04 08 32.0 -0.3**
comp=Z,2.9nm,0.9s
IM3 Indian Mountai 80.42 8 *e*P **P 04 08 35.3 -1.3**
MLY Manley 81.69 7 *e*P **P 04 08 44.1 +0.6**
comp=Z,5.7nm,1.2s
MDM Murphy Dome 82.02 6 *e*P **P 04 08 45.7 +0.6**
comp=Z,11nm,1.2s

COLA College 82.14 6 *e*P **P 04 08 46.7 +1.0**
comp=Z,9.6nm,1.1s
COLA College 82.14 6 *e*P **P 04 08 46.7 +1.0**
COLA pmax pmax
comp=Z,10.0nm,1.1s
IL1 Eielson Array 82.33 6 *e*P **P 04 08 46.1 -0.7**
ILAR Eielson Array 82.33 6 P **P 04 08 46.0 -0.7**
comp=Z,1.5nm,1.0s,baz=338,slow=4.1,SNR=11
BPAW Bear Paw Mtn. 82.57 8 *e*P **P 04 08 48.8 +0.7**
comp=Z,12nm,1.2s
EGAK Eagle 82.72 3 *e*P **P 04 08 49.2 +0.4**
comp=Z,4.4nm,1.1s
CAST Castle Rocks 83.10 8 *e*P **P 04 08 51.1 +0.3**
comp=Z,6.6nm,1.0s
KTH Kantishna Hill 83.11 8 *e*P **P 04 08 50.8 -0.2**
comp=Z,5.5nm,1.0s
MCK McKinley 83.15 7 *e*P **P 04 08 51.6 +0.5**
comp=Z,4.9nm,1.1s
MCK McKinley 83.15 7 *e*P **P 04 08 51.6 +0.5**
MCK pmax pmax
comp=Z,5.0nm,1.1s
TRF Thorofare Moun 83.28 8 *e*P **P 04 08 52.0 +0.1**
comp=Z,9.6nm,1.4s
FCC Fort Churchill 83.33 341 *e*P **P 04 08 52.1 +0.1**
comp=Z,4.4nm,1.1s
FCC Fort Churchill 83.33 341 *e*P **P 04 08 52.1 +0.1**
FCC pmax pmax
comp=Z,4.0nm,1.1s
SCRK Sand Creek 83.34 5 *e*P **P 04 08 52.7 +0.5**
comp=Z,5.0nm,0.9s
RIDG Independ'e Rid 83.51 5 *e*P **P 04 08 53.9 +0.9**
comp=Z,6.5nm,1.0s
DOT Dot Lake 83.66 5 *e*P **P 04 08 53.7 0.0**
comp=Z,20nm,1.2s
YKA Yellowknife Ar 84.05 351 P **P 04 08 55.1 -0.5**
comp=Z,1.1nm,0.8s,baz=14,slow=5.3,SNR=13
SUA Susitna One 85.16 8 *e*P **P 04 09 01.5 +0.1**
comp=Z,6.2nm,1.0s
PMR Palmer 85.22 8 *e*P **P 04 09 05.6 +4.0**
comp=Z,6.9nm,1.1s
PMR Palmer 85.22 8 *e*P **P 04 09 05.6 +4.0**
PMR pmax pmax
comp=Z,7.0nm,1.1s
KLU Klutina 85.64 6 *e*P **P 04 09 04.9 +1.0**
comp=Z,9.4nm,1.0s
FFC Flin Flon 88.97 343 *e*P **P 04 09 19.0 -0.9**
comp=Z,2.2nm,0.8s
FFC Flin Flon 88.97 343 *e*P **P 04 09 19.0 -0.9**
FFC pmax pmax
comp=Z,2.0nm,0.8s
DLBC Dease Lake 89.25 358 *e*P **P 04 09 22.4 +1.1**
comp=Z,14nm,1.4s
LAO LASA Array 97.42 342 *e*P Pdif 04 10 00.8 +1.7
comp=Z,1.0nm,0.8s

IDC ***20*** *03:57:49.9±1.3, 32°.49N×46°.94E, h0km, mb4.1/14, mb1 4.2/15, mb1mx3.9/57, mbtmp4.1/15, ML4.1/1, MS3.8/1, Ms1 3.8/1, ms1mx2.9/59, Error ellipse: s-maj=29.4km s-min=17.3km az=2.0*
ISCJB ***20*** *03:57:51.2±0.8, 32°.5N±0°.1×46°.96E±0°.08, h20km, mb4.1/17, MS3.8/1, Error ellipse: s-maj=19.3km s-min=9.3km az=174.1*
NEIC ***20*** *03:57:51.8±0.6, 32°.53N×46°.97E, h10km, mb4.1/3, Error ellipse: s-maj=13.1km s-min=6.8km az=174.0*
CSEM ***20*** *03:57:51.8, 32°.53N×46°.97E, h10km, mb4.1/3*
ISC 20 03:57:53.2±0.9, 32°.5N±0°.2×46°.98E±0°.08, h20km, n25, σ0.665/24, mb4.1/17, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ASF	**Jabal al Asfar**	**8.54**	**270**	Pn	**Pn**	**03 59 55.1**	**-0.7**
	2.2nm,0.3s,baz=111,slow=14,SNR=2.4						
IDI	**Anoyia**	**18.54**	**285**	*e*P	**P**	**04 02 08.6**	**-0.1**
	11nm,0.8s						
IDI	**Anoyia**	**18.54**	**285**	*e*P	**P**	**04 02 08.6**	**-0.1**
	11nm,0.8s						
NIL	**Nilore**	**22.03**	**80**	*e*P	**P**	**04 02 46.4**	**-0.1**
	26nm,0.7s						
NIL	**Nilore**	**22.03**	**80**	*e*P	**P**	**04 02 46.4**	**-0.1**
	26nm,0.7s						
AKASG	**Malin Array Be**	**22.39**	**329**	P	**P**	**04 02 50.5**	**+0.3**
	1.6nm,0.7s,baz=140,slow=9.6,SNR=4.2						
KIEV	**Kiev**	**22.39**	**329**	*e*P	**P**	**04 02 51.0**	**+0.8**
	4.6nm,0.7s						
BVAR	**Borovoye Array**	**26.52**	**33**	P	**P**	**04 03 29.0**	**-0.4**
	2.6nm,0.6s,baz=232,slow=9.0,SNR=3.1						
BVAR	**Borovoye Array**	**26.52**	**33**	P	**P**	**04 03 29.0**	**-0.4**
KURBB	**Kurchatov Arra**	**29.41**	**43**	P	**P**	**04 03 56.2**	**+1.1**
	1.2nm,0.7s,baz=247,slow=9.2,SNR=2.9						
KURK	**Kurchatov**	**29.51**	**43**	P	**P**	**04 03 56.2**	**+0.2**
MKAR	**Makanchi Array**	**30.41**	**52**	P	**P**	**04 04 05.0**	**+0.9**
	1.5nm,0.8s,baz=252,slow=10,SNR=3.2						
FINES	**FINESS Array B**	**31.95**	**341**	P	**P**	**04 04 16.8**	**-0.6**
	2.1nm,0.6s,baz=146,slow=11,SNR=4.5						
ZALV	**Zalesovo Beam**	**34.31**	**40**	P	**P**	**04 04 38.7**	**+0.6**
	2.6nm,0.6s,baz=236,slow=9.1,SNR=5.8						
HFS	**Hagfors**	**35.24**	**332**	P	**P**	**04 04 45.5**	**-0.6**
	3.8nm,0.6s,baz=134,slow=10,SNR=2.9						
NOA	**NORSAR Array B**	**36.76**	**332**	P	**P**	**04 04 58.4**	**-0.8**
	1.4nm,0.9s,baz=130,slow=11,SNR=2.8						
TAM	**Tamanrasset**	**37.78**	**266**	*e*P	**P**	**04 05 09.6**	**+1.2**
	2.3nm,0.8s						
TAM	**Tamanrasset**	**37.78**	**266**	*e*P	**P**	**04 05 09.6**	**+1.2**
	2.3nm,0.8s						
ARCES	**ARCESS Array B**	**38.97**	**348**	P	**P**	**04 05 17.9**	**+0.2**
	2.5nm,0.9s,baz=166,slow=8.4,SNR=3.5						
SPITS	**Spitsbergen Ar**	**47.66**	**352**	P	**P**	**04 06 28.1**	**+0.4**
	5.0nm,0.9s,baz=126,slow=7.3,SNR=3.6						
CMAR	**Chiang Mai Arr**	**48.51**	**94**	P	**P**	**04 06 34.7**	**-0.3**
	0.7nm,0.3s,baz=294,slow=6.8,SNR=3.7						
KOWA	**Kowa**	**49.60**	**261**	P	**P**	**04 06 43.2**	**-0.2**
	14nm,1.3s,baz=54,slow=12,SNR=3.6						
BORG	**Borgarnes**	**51.88**	**330**	LR	LR	04 30 28.1	
	comp=Z,96nm,20.0s,baz=16,slow=38						
USRK	**Ussuriysk Ar.**	**64.87**	**52**	P	**P**	**04 08 30.5**	**-0.5**
	1.0nm,0.4s,baz=280,slow=6.0,SNR=2.6						
YKA	**Yellowknife Ar**	**84.16**	**352**	P	**P**	**04 10 22.1**	**-0.5**
	0.8nm,1.0s,baz=16,slow=5.5,SNR=3.3						

NNC ***20*** *04:00:54.2±3.5, 39°.34N×75°.83E, h0km, mb3.9, mpv3.5, Error ellipse: s-maj=28.7km s-min=14.3km az=155.0*
ISC 20 04:00:55.8±2.3, 39°.5N±0°.2×75°.90E±0°.06, h10km, n8, σ1890/11, 6C-6D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SFK	**Sufi-Kurgan**	**1.93**	**288**	Pn	**Pn**	**04 01 27.1**	**-1.8**
	26nm,0.2s						
SFK				⇓Sn	**Sg**	**04 01 55.0**	**-2.9**
	106nm,0.3s						
AAK	**Ala-Archa**	**3.35**	**342**	Pg	**Pb**	**04 01 56.0**	**+0.6**
	16nm,0.5s						
AAK				⇑Lg	Lg	04 02 45.5	
	26nm,0.8s						
TKM2	**Tokmak 2**	**3.47**	**356**	⇓Pg	**Pb**	**04 01 58.5**	**+1.0**
	6.4nm,0.4s						
TKM2				⇑Lg	Lg	04 02 47.3	
	13nm,0.6s						
MDOK	**Medeo**	**3.80**	**13**	Pn	**Pb**	**04 02 00.9**	**-2.2**
	21nm,1.0s						
MDOK				⇓Lg	Lg	04 02 57.8	
	27nm,0.7s						
MNAS	**Manas**	**3.97**	**321**	Pg	**Pb**	**04 02 06.6**	**+0.7**
	3.6nm,0.6s						
MNAS				⇓Lg	Lg	04 03 05.9	
	7.1nm,0.4s						
PDGK	**Podgornoye**	**4.72**	**34**	⇑Pg	**Pb**	**04 02 19.2**	**+0.5**
	7.6nm,0.6s						
PDGK				⇓Lg	Lg	04 03 28.0	
	39nm,0.9s						
KK31	**Karatay Array**	**5.45**	**314**	⇑Pn	**Pn**	**04 02 16.8**	**-0.3**
	0.5nm,0.3s,baz=125,slow=13,SNR=13						
KK31				⇑Pg	**Pb**	**04 02 33.8**	**+2.7**
	0.8nm,0.3s,baz=130,slow=13,SNR=4.4						
KK31				⇓Sn	**Sn**	**04 03 21.3**	**+1.4**
	2.2nm,0.5s,baz=147,slow=25,SNR=2.6						
KK31				⇑Lg	Lg	04 03 45.6	
	1.5nm,0.4s						
WMQ	**Urumqi**	**9.85**	**60**	*e*P	**Pn**	**04 03 18.6**	**+1.2**

MEX 20 04:01:45.1±0.8, 28°.00N×112°.75W, h3km, MD3.6, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SRIG	**Santa Rosalia**	**0.82**	**146**	*e*P	Pg	04 01 59.8	-1.0
SRIG				*e*S	Sg	04 02 10.6	-0.8
GUYB	**Guaymas**	**1.67**	**93**	*e*P	Pn	04 02 10.5	-4.7

ISK ***20*** *04:03:38.7, 39°.12N×29°.15E, h5km, ML2.4/10*
ISCJB ***20*** *04:03:39.1±0.4, 39°.11N±0°.03×29°.14E±0°.03, h5km±5km, Error ellipse: s-maj=5.0km s-min=4.1km az=156.4*
DDA ***20*** *04:03:39.0, 39°.11N×29°.13E, h7km, Ml2.6*
CSEM ***20*** *04:03:39.2±0.1, 39°.13N×29°.13E, h5km, ML2.4, Error ellipse: s-maj=2.1km s-min=1.6km az=128.0*
ISC 20 04:03:39.3±0.9, 39°.13N±0°.02×29°.14E±0°.02, h7km±7km, n34, σ0.948/51, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIMA	**Simav-Kutahya**	**0.13**	**251**	PG	**Pg**	**04 03 42.0**	**-0.1**
SIMA				SG	**Sg**	**04 03 44.1**	**+0.1**
SIMA	**Simav-Kutahya**	**0.13**	**251**	*e*Pg	**Pg**	**04 03 42.0**	**-0.1**
SIMA				*e*Sg	**Sg**	**04 03 44.1**	**+0.1**
GDZ	**Gediz**	**0.27**	**98**	*i* P	**Pg**	**04 03 44.5**	**-0.2**
GDZ				*i* S	**Sg**	**04 03 48.5**	**+0.2**
GDZ	**Gediz**	**0.27**	**98**	P	**Pg**	**04 03 44.5**	**-0.2**
GDZ				S	**Sg**	**04 03 48.5**	**+0.2**
DEMI	**Demirci**	**0.34**	**256**	*i* P	**Pg**	**04 03 46.2**	**+0.2**
DEMI				*i* S	**Sg**	**04 03 50.6**	**+0.1**
DEMI	**Demirci**	**0.34**	**256**	P	**Pg**	**04 03 46.2**	**+0.2**
DEMI				S	**Sg**	**04 03 50.6**	**+0.1**
TVSB	**Tavsanli**	**0.41**	**38**	PG	**Pg**	**04 03 47.2**	**-0.1**
TVSB				SG	**Sg**	**04 03 52.8**	**+0.1**
TVSB	**Tavsanli**	**0.41**	**38**	*e*Pg	**Pg**	**04 03 47.2**	**-0.1**
TVSB				*e*Sg	**Sg**	**04 03 52.8**	**+0.1**
DURS	**Dursunbey**	**0.70**	**313**	*i* P	**Pg**	**04 03 52.8**	**0.0**
DURS				*i* S	**Sn**	**04 04 06.4**	**-0.5**
DURS	**Dursunbey**	**0.70**	**313**	P	**Pg**	**04 03 52.8**	**0.0**
DURS				S	**Sn**	**04 04 06.4**	**-0.5**
KULA	**Kula-Manisa**	**0.71**	**212**	PG	**Pg**	**04 03 52.8**	**-0.3**
KULA	**Kula-Manisa**	**0.71**	**212**	*e*Pg	**Pg**	**04 03 52.8**	**-0.3**
MANT	**Manisa**	**0.78**	**216**	*i* P	**Pg**	**04 03 54.1**	**-0.1**
MANT				*i* S	**Sg**	**04 04 03.5**	**-1.0**
MANT	**Manisa**	**0.78**	**216**	P	**Pg**	**04 03 54.2**	**-0.1**
MANT				S	**Sg**	**04 04 03.5**	**-1.0**
KHAL	**Karahalli**	**0.80**	**160**	*i* P	**Pb**	**04 03 55.1**	**-0.6**
KHAL				*i* S	**Sg**	**04 04 05.0**	**-0.2**
KHAL	**Karahalli**	**0.80**	**160**	P	**Pb**	**04 03 55.1**	**-0.6**
KHAL				S	**Sg**	**04 04 05.0**	**-0.2**
BALB	**Balikesir**	**1.10**	**298**	PN	**Pb**	**04 04 00.8**	**+0.1**
BALB	**Balikesir**	**1.10**	**298**	*e*Pn	**Pb**	**04 04 00.8**	**+0.1**
KZIL	**AFYON_Kizioren**	**1.17**	**137**	*i* S	**Pn**	**04 04 04.5**	**+2.3**
KZIL				*i* S	**Sn**	**04 04 18.5**	**0.0**
KZIL	**AFYON_Kizioren**	**1.17**	**137**	S	**Sn**	**04 04 18.5**	**0.0**
CAVI	**Cavuskoy**	**1.21**	**27**	PN	**Pb**	**04 04 02.2**	**-0.3**
CAVI	**Cavuskoy**	**1.21**	**27**	*e*Pn	**Pb**	**04 04 02.2**	**-0.3**
MDNY	**Mudanya-Bursa**	**1.26**	**351**	PN	**Pg**	**04 04 03.4**	**0.0**
MDNY	**Mudanya-Bursa**	**1.26**	**351**	*e*Pn	**Pg**	**04 04 03.4**	**0.0**
BORA	**Eskisehir**	**1.27**	**53**	*i* P	**Pg**	**04 04 03.8**	**+0.2**
BORA				*i* S	**Sb**	**04 04 19.4**	**-0.7**
BORA	**Eskisehir**	**1.27**	**53**	P	**Pg**	**04 04 03.8**	**+0.2**
BORA				S	**Sb**	**04 04 19.4**	**-0.7**
KCTX	**Karacabey (Bur**	**1.29**	**332**	PN	**Pg**	**04 04 04.1**	**+0.1**
KCTX	**Karacabey (Bur**	**1.29**	**332**	*e*Pn	**Pg**	**04 04 04.1**	**+0.1**
YLV	**Yalova**	**1.45**	**7**	PN	**Pb**	**04 04 06.3**	**-0.4**
YLV	**Yalova**	**1.45**	**7**	*e*Pn	**Pb**	**04 04 06.3**	**-0.4**
ARMT	**Armutlu**	**1.45**	**352**	PN	**Pb**	**04 04 06.4**	**-0.3**
ARMT	**Armutlu**	**1.45**	**352**	*e*Pn	**Pb**	**04 04 06.4**	**-0.3**
GULT	**Gulveren**	**1.68**	**39**	PN	**Pn**	**04 04 09.6**	**+0.4**
GULT	**Gulveren**	**1.68**	**39**	*e*Pn	**Pn**	**04 04 09.6**	**+0.4**

IDC ***20*** *04:10:40.6±1.2, 32°.54N×46°.90E, h0km, mb3.9/19, mb1 4.0/25, mb1mx3.9/63, mbtmp3.9/25, ML3.6/6, MS3.4/9, Ms1 3.4/9, ms1mx3.1/55, Error ellipse: s-maj=24.9km s-min=14.5km az=174.0*
NEIC ***20*** *04:10:42.9±0.4, 32°.50N×46°.80E, h10km, mb4.1/18, ML4.2(THR), MN4.3(TEH), Error ellipse: s-maj=6.6km s-min=4.7km az=191.0*
CSEM ***20*** *04:10:44.3±0.2, 32°.57N×46°.86E, h15km, mb4.3/17, Error ellipse: s-maj=6.4km s-min=4.7km az=13.0*
THR ***20*** *04:10:45.6±0.6, 32°.56N×46°.79E, h46km±5km, ML4.3*
TEH ***20*** *04:10:45.5, 32°.59N×46°.83E, h17km, ML4.3*
ISN ***20*** *04:10:45.2±0.9, 32°.57N×46°.85E, h30km±4km, ML4.3*
ISCJB ***20*** *04:10:46.1±0.5, 32°.60N±0°.04×46°.89E±0°.04, h48km±5km, mb4.0/32, MS3.5/1, Error ellipse: s-maj=6.2km s-min=5.0km az=175.6*
ISC 20 04:10:45.6±1.1, 32°.55N±0°.03×46°.80E±0°.03, h29km±9km, n133, σ1836/141, mb4.1/32, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NSR	**Nassriya**	**1.64**	**200**	*e*Pn	**Pb**	**04 11 14.0**	**-1.1**
	SNR=5.0						
NSR				*e*Sn	**Sb**	**04 11 35.0**	**-0.3**
	SNR=5.0						
IKOM	**Komasi**	**1.72**	**20**	*e*Pn	**Pb**	**04 11 14.7**	**-2.0**
IKOM				*e*Sg	**Sb**	**04 11 38.0**	**0.0**
IKOM				*e*AMB	AMB	04 11 45.1	
	comp=Z,41μm,0.2s						
IKOM	**Komasi**	**1.72**	**20**	Pn	**Pb**	**04 11 14.6**	**-2.1**
IKOM				Sg	**Sb**	**04 11 38.0**	**0.0**
IKOM	**Komasi**	**1.72**	**20**	Pn	**Pb**	**04 11 14.6**	**-2.1**
IKOM				*e*Sg	**Sb**	**04 11 38.0**	**0.0**
SHGR	**Shooshtar-Gavs**	**1.75**	**104**	Pg	**Pb**	**04 11 18.0**	**+1.0**
SHGR				Sg	**Sb**	**04 11 40.0**	**+1.5**
SHGR	**Shooshtar-Gavs**	**1.75**	**104**	*e*Pg	**Pb**	**04 11 18.0**	**+1.0**
SHGR				*e*Sg	**Sb**	**04 11 40.8**	**+2.3**
SHGR	**Shooshtar-Gavs**	**1.75**	**104**	*e*Pg	**Pb**	**04 11 17.6**	**+0.7**
SHGR				*e*Sg	**Sb**	**04 11 40.8**	**+2.3**
SHGR				AML	AML	04 11 47.8	
	comp=E,5μm,0.4s						
SHGR				AML	AML	04 11 49.1	
	comp=N,6μm,0.6s						
IGHG	**Ghaleghazi**	**1.78**	**354**	*e*Pn	**Pb**	**04 11 15.5**	**-2.3**
IGHG				*e*AMB	AMB	04 11 50.3	
	comp=Z,85μm,0.3s						
IGHG	**Ghaleghazi**	**1.78**	**354**	Pn	**Pb**	**04 11 15.5**	**-2.3**
IGHG	**Ghaleghazi**	**1.78**	**354**	*e*Pn	**Pb**	**04 11 15.5**	**-2.3**
IVIS	**Veis**	**1.97**	**1**	*e*Pn	**Pn**	**04 11 17.3**	**+0.1**
IVIS				*e*AMB	AMB	04 11 53.5	
	comp=Z,22μm,0.2s						
IVIS	**Veis**	**1.97**	**1**	Pn	**Pn**	**04 11 17.3**	**+0.1**
IVIS	**Veis**	**1.97**	**1**	*e*Pn	**Pn**	**04 11 17.3**	**+0.1**
BHD	**Baghdad**	**2.16**	**290**	*e*Pn	**Pn**	**04 11 21.0**	**+1.4**
	SNR=5.0						
BHD				*e*Sn	**Sn**	**04 11 48.0**	**+2.5**
	SNR=5.0						
ILIN	**Lien**	**2.37**	**3**	*e*Pn	**Pn**	**04 11 22.8**	**+0.1**
ILIN				*e*AMB	AMB	04 12 03.7	
	comp=Z,12μm,0.3s						
ILIN	**Lien**	**2.37**	**3**	Pn	**Pn**	**04 11 22.8**	**+0.1**
ILIN	**Lien**	**2.37**	**3**	*e*Pn	**Pn**	**04 11 22.8**	**+0.1**
SNGE	**Sanandaj**	**2.57**	**10**	Pn	**Pn**	**04 11 26.0**	**+0.4**
SNGE				Sg	**Sb**	**04 12 04.0**	**+1.5**
SNGE	**Sanandaj**	**2.57**	**10**	*e*Pn	**Pn**	**04 11 26.0**	**+0.4**
SNGE				*e*Sg	**Sb**	**04 12 05.0**	**+2.5**
SNGE	**Sanandaj**	**2.57**	**10**	*e*Pn	**Pn**	**04 11 26.0**	**+0.4**
SNGE				*e*Sg	**Sb**	**04 12 05.0**	**+2.5**
SNGE				AML	AML	04 12 14.0	
	comp=N,449nm,0.6s						
SNGE				AML	AML	04 12 14.4	
	comp=E,603nm,0.6s						
KHMZ	**Khomeyn**	**2.90**	**65**	Pn	**Pn**	**04 11 31.0**	**+1.0**
KHMZ	**Khomeyn**	**2.90**	**65**	Pn	**Pn**	**04 11 31.0**	**+1.0**
KHMZ	**Khomeyn**	**2.90**	**65**	*e*Pn	**Pn**	**04 11 31.2**	**+1.2**
HKZM	**Kohzaman**	**3.32**	**31**	*e*Pn	**Pn**	**04 11 35.8**	**0.0**
HKZM				*e*AMB	AMB	04 13 31.0	
	comp=Z,99nm,0.4s						
HKZM	**Kohzaman**	**3.32**	**31**	*e*Pn	**Pn**	**04 11 35.8**	**0.0**
IRAZ	**Razeghan**	**3.85**	**42**	*e*Pn	**Pn**	**04 11 43.5**	**+0.4**
IRAZ				*e*AMB	AMB	04 13 02.5	
	comp=Z,5μm,0.4s						
IRAZ	**Razeghan**	**3.85**	**42**	Pn	**Pn**	**04 11 43.5**	**+0.4**
IRAZ	**Razeghan**	**3.85**	**42**	*e*Pn	**Pn

IKLH	**Kolahrood**	**4.09**	**78**	Pn	**Pn**	**04 11 47.0**	**+0.6**
IKLH	**Kolahrood**	**4.09**	**78**	Pn	**Pn**	**04 11 47.0**	**+0.6**
GHVR	**GHOM**	**4.22**	**62**	Pn	**Pn**	**04 11 48.0**	**0.0**
GHVR	**GHOM**	**4.22**	**62**	Pn	**Pn**	**04 11 48.0**	**0.0**
GHVR	**GHOM**	**4.22**	**62**	*e*Pn	**Pn**	**04 11 48.2**	**+0.2**
IGAR	**Gharneh**	**4.43**	**91**	*e*Pn	**Pn**	**04 11 50.9**	**-0.2**
IGAR				*e*AMB	AMB	04 13 12.6	
	comp=Z,5μm,0.5s						
IZEF	**Zefreh**	**4.67**	**84**	*e*Pn	**Pn**	**04 11 54.0**	**-0.5**
IZEF				*e*AMB	AMB	04 13 30.6	
	comp=Z,2μm,0.6s						
IZEF	**Zefreh**	**4.67**	**84**	Pn	**Pn**	**04 11 53.9**	**-0.5**
IZEF	**Zefreh**	**4.67**	**84**	*e*Pn	**Pn**	**04 11 54.0**	**-0.5**
IGZV	**Ghazvin**	**4.75**	**35**	*e*Pn	**Pn**	**04 11 54.7**	**-0.8**
IGZV				*e*AMB	AMB	04 13 29.1	
	comp=Z,2μm,0.5s						
IGZV	**Ghazvin**	**4.75**	**35**	Pn	**Pn**	**04 11 54.6**	**-0.9**
IGZV	**Ghazvin**	**4.75**	**35**	*e*Pn	**Pn**	**04 11 54.7**	**-0.8**
IVRN	**Varamin**	**4.77**	**58**	*e*Pn	**Pn**	**04 11 56.0**	**+0.3**
IVRN				*e*AMB	AMB	04 13 24.9	
	comp=Z,2μm,0.5s						
IVRN	**Varamin**	**4.77**	**58**	Pn	**Pn**	**04 11 55.9**	**+0.3**
IVRN	**Varamin**	**4.77**	**58**	Pn	**Pn**	**04 11 55.9**	**+0.3**
IRAM	**Ramesheh**	**4.79**	**97**	*e*Pn	**Pn**	**04 11 56.3**	**+0.2**
IRAM				*e*AMB	AMB	04 13 32.8	
	comp=Z,2μm,0.4s						
IRAM	**Ramesheh**	**4.79**	**97**	Pn	**Pn**	**04 11 56.2**	**+0.2**
IRAM	**Ramesheh**	**4.79**	**97**	Pn	**Pn**	**04 11 56.2**	**+0.2**
IDMV	**Damavand**	**5.29**	**54**	*e*Pn	**Pn**	**04 12 01.8**	**-1.1**
IDMV				*e*AMB	AMB	04 13 55.2	
	comp=Z,9μm,1.2s						
IDMV	**Damavand**	**5.29**	**54**	Pn	**Pn**	**04 12 01.8**	**-1.1**
IDMV	**Damavand**	**5.29**	**54**	*e*Pn	**Pn**	**04 12 01.8**	**-1.1**
IFIR	**Firoozkooh**	**5.82**	**56**	*e*AMB	AMB	04 12 19.8	
	comp=Z,364nm,0.2s						
IFIR				*e*Pn	**Pn**	**04 12 09.5**	**-0.7**
GNI	**Garni**	**7.76**	**348**	Lg	Lg	04 14 44.8	
	comp=Z,1.1nm,0.3s,baz=144,slow=19,SNR=2.4						
GNI				LR	LR	04 15 36.4	
	comp=Z,146nm,20.5s,baz=171,slow=38						
GNI	**Garni**	**7.76**	**348**	*e*Pn	**Pn**	**04 12 37.1**	**+0.4**
GNI				*e*Sn	**Sn**	**04 14 04.7**	**+0.9**
GNI				Lg	Lg	04 14 44.8	
GNI	**Garni**	**7.76**	**348**	*e*Pn	**Pn**	**04 12 37.2**	**+0.4**
GNI				*e*Sn	**Sn**	**04 14 04.7**	**+0.9**
ASF	**Jabal al Asfar**	**8.39**	**270**	Pn	**Pn**	**04 12 44.0**	**-1.4**
	comp=Z,0.6nm,0.3s,baz=66,slow=3.1,SNR=3.9						
ASF				Lg	Lg	04 15 11.3	
	comp=Z,1.1nm,0.3s,baz=13,slow=19,SNR=2.9						
RAYN	**Ar Rayn**	**9.07**	**188**	*e*Pn	**Pn**	**04 12 52.3**	**-2.4**
MMAI	**Mount Meron Ar**	**9.61**	**276**	Lg	Lg	04 15 49.0	
	comp=Z,1.3nm,0.3s,baz=91,slow=33,SNR=2.4						
MMAI				LR	LR	04 17 10.0	
	comp=Z,144nm,19.1s,baz=45,slow=40						
EIL	**Elat**	**10.56**	**257**	LR	LR	04 18 29.7	
	comp=Z,401nm,19.7s,baz=80,slow=44						
GEYT	**Alibeck**	**10.69**	**57**	Lg	Lg	04 16 20.0	
	comp=Z,0.4nm,0.3s,baz=249,slow=26,SNR=2.5						
GEYT				LR	LR	04 18 29.9	
	comp=Z,128nm,19.8s,baz=240,slow=44						
UOSS	**Minazif**	**11.20**	**130**	*e*Pn	**Pn**	**04 13 22.1**	**-1.6**
UOSS				*e*Sn	**Sn**	**04 15 23.5**	**-4.5**
UOSS	**Minazif**	**11.20**	**130**	*e*Pn	**Pn**	**04 13 22.1**	**-1.6**
KBZ	**Khabaz**	**11.57**	**346**	Pn	**Pn**	**04 13 32.2**	**+3.5**
	comp=Z,0.1nm,0.3s,baz=160,slow=10.0,SNR=2.8						
KBZ				LR	LR	04 19 00.6	
	comp=Z,233nm,21.1s,baz=186,slow=43						
KVAR	**Kislovodsk Arr**	**11.83**	**345**	LR	LR	04 17 49.6	
	comp=Z,84nm,20.3s,baz=183,slow=36						
BRTR	**Keskin Array B**	**12.81**	**308**	Pn	**Pn**	**04 13 47.5**	**+1.6**
	comp=Z,0.1nm,0.3s,baz=120,slow=14,SNR=2.6						
WSAR	**Wadi Sarin**	**13.97**	**129**	Pn	**Pn**	**04 13 58.1**	**-3.5**
	comp=Z,1.1nm,0.3s,baz=339,slow=11,SNR=11						
WSAR				Sn	Sn	04 16 25.1	-11
	comp=Z,0.5nm,0.3s,baz=304,slow=18,SNR=2.3						
WSAR				LR	LR	04 20 11.8	
	comp=Z,312nm,21.1s,baz=338,slow=41						
IDI	**Anoyia**	**18.39**	**285**	P	**Pn**	**04 14 59.4**	**+1.0**
	comp=Z,0.6nm,0.3s,baz=82,slow=9.8,SNR=6.0						
IDI				LR	LR	04 23 58.8	
	comp=Z,121nm,20.2s,baz=117,slow=43						
IDI	**Anoyia**	**18.39**	**285**	*e*P	**Pn**	**04 14 60.0**	**+1.5**
	comp=Z,15nm,0.9s						
IDI	**Anoyia**	**18.39**	**285**	*e*P	**Pn**	**04 15 00.0**	**+1.5**
	comp=Z,15nm,0.9s						
TIRR	**Tirgusor**	**18.62**	**315**	*e*P	**Pn**	**04 15 01.2**	**+0.1**
	comp=Z,6.3nm,1.0s						
TIRR	**Tirgusor**	**18.62**	**315**	*e*P	**Pn**	**04 15 01.2**	**+0.1**
	comp=Z,6.2nm,1.0s						
ABKAR	**Akbulak array**	**19.37**	**27**	*e*P	**P**	**04 15 08.1**	**-0.8**
	comp=Z,1.1nm,0.4s						
ABKAR	**Akbulak array**	**19.37**	**27**	*e*P	**P**	**04 15 08.1**	**-0.8**
	comp=Z,1.1nm,0.4s						
AKTO	**Aktyubinsk**	**19.70**	**22**	P	**P**	**04 15 10.9**	**-1.6**
	comp=Z,0.3nm,0.3s,baz=210,slow=16,SNR=4.3						
MLR	**Muntele Rosu**	**20.65**	**315**	P	**P**	**04 15 24.0**	**+1.0**
	comp=Z,0.5nm,0.6s,baz=155,slow=8.0,SNR=5.4						
ATD	**Arta Tunnel**	**21.24**	**191**	Lg	Lg	04 21 57.0	
	comp=Z,1.8nm,0.3s,baz=73,slow=19,SNR=3.4						
ATD				LR	LR	04 24 20.3	
	comp=Z,218nm,19.8s,baz=14,slow=39						
KK31	**Karatay Array**	**21.42**	**54**	*e*P	**P**	**04 15 33.7**	**+2.5**
KK31	**Karatay Array**	**21.42**	**54**	*e*P	**P**	**04 15 33.7**	**+2.5**
KKAR	**Karatay Array**	**21.42**	**54**	*e*P	**P**	**04 15 33.0**	**+1.8**
	comp=Z,1.5nm,0.4s						
KKAR	**Karatay Array**	**21.42**	**54**	*e*P	**P**	**04 15 33.0**	**+1.8**
	comp=Z,1.5nm,0.4s						
BUR04	**Bucovina Ar. S**	**22.24**	**319**	*e*P	**P**	**04 15 39.3**	**-0.7**
BUR04	**Bucovina Ar. S**	**22.24**	**319**	*e*P	**P**	**04 15 39.3**	**-0.7**
BUR08	**Bucovina Ar. S**	**22.26**	**319**	*e*P	**P**	**04 15 42.7**	**+2.4**
BUR08	**Bucovina Ar. S**	**22.26**	**319**	*e*P	**P**	**04 15 42.7**	**+2.4**
AKASG	**Malin Array Be**	**22.29**	**330**	P	**P**	**04 15 38.5**	**-2.0**
	comp=Z,1.0nm,0.6s,baz=138,slow=9.7,SNR=9.4						
AKBB	**Malin Array Si**	**22.29**	**330**	*e*P	**P**	**04 15 42.9**	**+2.4**
	comp=Z,4.9nm,0.9s						
AKBB	**Malin Array Si**	**22.29**	**330**	*e*P	**P**	**04 15 42.9**	**+2.4**
	comp=Z,4.9nm,0.9s						
KIEV	**Kiev**	**22.30**	**330**	*e*P	**P**	**04 15 41.7**	**+1.2**
	comp=Z,5.2nm,1.0s						
KIEV	**Kiev**	**22.30**	**330**	*e*P	**P**	**04 15 41.7**	**+1.2**
	comp=Z,5.2nm,1.0s						
AK11	**Malin Array Si**	**22.30**	**329**	*e*P	**P**	**04 15 44.5**	**+3.9**
ARU	**Arti**	**25.23**	**15**	P	**P**	**04 16 07.8**	**-1.0**
	comp=Z,1.8nm,0.3s,baz=263,slow=16,SNR=3.8						
ARU	**Arti**	**25.23**	**15**	*e*P	**P**	**04 16 08.3**	**-0.5**
	comp=Z,5.4nm,0.9s						
PSZ	**Piszkesteto**	**25.47**	**315**	*e*P	**P**	**04 16 12.2**	**+1.1**
	comp=Z,3.8nm,0.8s						
PSZ	**Piszkesteto**	**25.47**	**315**	*e*P	**P**	**04 16 12.2**	**+1.1**
	comp=Z,3.8nm,0.8s						
KDJ	**Kajisay**	**25.86**	**60**	*e*P	**P**	**04 16 16.2**	**+1.3**
	comp=Z,5.9nm,1.0s						
KDJ	**Kajisay**	**25.86**	**60**	*e*P	**P**	**04 16 16.2**	**+1.3**
	comp=Z,5.9nm,1.0s						
BRVK	**Borovoye**	**26.56**	**33**	*e*P	**P**	**04 16 21.2**	**+0.4**
	comp=Z,12nm,0.9s						
BRVK	**Borovoye**	**26.56**	**33**	*e*P	**P**	**04 16 21.2**	**+0.4**
	comp=Z,12nm,0.9s						
BVAR	**Borovoye Array**	**26.58**	**33**	P	**P**	**04 16 19.7**	**-1.4**
	comp=Z,4.0nm,0.9s,baz=227,slow=7.7,SNR=10						
MORC	**Moravsky Berou**	**27.70**	**317**	*e*P	**P**	**04 16 31.5**	**+0.3**
	comp=Z,6.4nm,0.7s						
MORC	**Moravsky Berou**	**27.70**	**317**	*e*P	**P**	**04 16 31.5**	**+0.3**
	comp=Z,6.4nm,0.7s						
KURBB	**Kurchatov Arra**	**29.50**	**43**	P	**P**	**04 16 47.1**	**0.0**
	comp=Z,0.8nm,0.8s,baz=251,slow=9.1,SNR=4.9						
KURK	**Kurchatov**	**29.59**	**43**	P	**P**	**04 16 47.1**	**-0.8**
KURK	**Kurchatov**	**29.59**	**43**	P	**P**	**04 16 47.2**	**-0.8**
MK31	**Makanchi Array**	**30.51**	**52**	*e*P	**P**	**04 16 56.6**	**+0.4**
MKAR	**Makanchi Array**	**30.51**	**52**	P	**P**	**04 16 55.8**	**-0.4**
	comp=Z,0.5nm,0.5s,baz=251,slow=10,SNR=8.6						
MKAR	**Makanchi Array**	**30.51**	**52**	*e*P	**P**	**04 16 56.6**	**+0.4**
	comp=Z,11nm,0.7s						
MK01	**Makanchi Array**	**30.51**	**52**	*e*P	**P**	**04 16 55.9**	**-0.3**
FINES	**FINESS Array B**	**31.88**	**341**	P	**P**	**04 17 07.3**	**-0.6**
	comp=Z,1.8nm,0.5s,baz=145,slow=10,SNR=15						
ECH	**Echery**	**33.59**	**310**	*e*P	**P**	**04 17 24.1**	**+0.9**
	comp=Z,5.1nm,1.0s						
ECH	**Echery**	**33.59**	**310**	*e*P	**P**	**04 17 24.1**	**+0.9**
	comp=Z,5.1nm,1.0s						
ZAA0	**Zalesovo Array**	**34.39**	**40**	*e*P	**P**	**04 17 32.5**	**+2.5**
	comp=Z,4.7nm,0.8s						
ZALV	**Zalesovo Beam**	**34.39**	**40**	P	**P**	**04 17 28.9**	**-1.1**
	comp=Z,2.1nm,0.5s,baz=238,slow=9.3,SNR=8.2						
ZALV	**Zalesovo Beam**	**34.39**	**40**	*e*P	**P**	**04 17 29.6**	**-0.4**
KMBO	**Kilima Mbogo**	**34.69**	**197**	*e*P	**P**	**04 17 33.9**	**+0.7**
	comp=Z,1.2nm,0.6s						
HFS	**Hagfors**	**35.15**	**332**	P	**P**	**04 17 35.9**	**-0.6**
	comp=Z,3.0nm,0.4s,baz=140,slow=11,SNR=13						
NB2	**NORSAR Subarra**	**36.67**	**332**	P	**P**	**04 17 48.5**	**-1.1**
	comp=Z,0.4nm,0.5s,baz=124,slow=8.6						
NOA	**NORSAR Array B**	**36.67**	**332**	P	**P**	**04 17 48.4**	**-1.2**
	comp=Z,0.6nm,0.7s,baz=131,slow=7.0,SNR=2.6						
TAM	**Tamanrasset**	**37.63**	**266**	*e*P	**P**	**04 17 59.8**	**+1.5**
	comp=Z,11nm,1.8s						
TAM	**Tamanrasset**	**37.63**	**266**	*e*P	**P**	**04 17 59.8**	**+1.5**
	comp=Z,11nm,1.8s						
ARCES	**ARCESS Array B**	**38.92**	**348**	P	**P**	**04 18 07.1**	**-1.3**
	comp=Z,3.5nm,1.0s,baz=165,slow=8.2,SNR=3.7						
ESDC	**Sonseca Array**	**41.17**	**295**	P	**P**	**04 18 27.5**	**0.0**
	comp=Z,0.5nm,0.7s,baz=72,slow=8.2,SNR=3.1						
EKA	**Eskdalemuir Ar**	**41.42**	**319**	P	**P**	**04 18 29.5**	**+0.2**
	comp=Z,0.5nm,0.5s,baz=101,slow=9.0,SNR=4.2						
SPITS	**Spitsbergen Ar**	**47.61**	**352**	P	**P**	**04 19 17.9**	**-0.6**
	comp=Z,2.4nm,0.7s,baz=132,slow=4.3,SNR=8.1						
KOWA	**Kowa**	**49.46**	**261**	P	**P**	**04 19 33.4**	**-0.1**
	comp=Z,3.1nm,0.6s,baz=58,slow=7.9,SNR=11						
USRK	**Ussuriysk Ar.**	**64.97**	**52**	P	**P**	**04 21 21.2**	**-1.6**
	comp=Z,1.0nm,0.5s,baz=277,slow=6.3,SNR=3.2						
YULB	**Yu-li**	**65.24**	**77**	*e*P	**P**	**04 21 24.4**	**-0.4**
	comp=Z,7.7nm,1.1s						
TOLK	**Toolik Lake Re**	**78.38**	**6**	*e*P	**P**	**04 22 43.5**	**+0.5**
	comp=Z,8.4nm,0.7s						
INK	**Inuvik**	**79.45**	**0**	P	**P**	**04 22 48.5**	**-0.3**
	comp=Z,1.4nm,1.1s,baz=326,slow=6.3,SNR=4.2						
INK	**Inuvik**	**79.45**	**0**	*e*P	**P**	**04 22 48.8**	**+0.1**
	comp=Z,2.3nm,1.2s						
COLD	**Coldfoot**	**79.70**	**7**	*e*P	**P**	**04 22 49.5**	**-0.7**
	comp=Z,1.3nm,0.6s						
ILAR	**Eielson Array**	**82.41**	**6**	P	**P**	**04 23 04.5**	**-0.1**
	comp=Z,0.4nm,0.8s,baz=297,slow=1.1,SNR=5.2						
YKA	**Yellowknife Ar**	**84.11**	**351**	P	**P**	**04 23 12.8**	**-0.6**
	comp=Z,0.3nm,0.8s,baz=13,slow=5.3,SNR=7.2						

*IDC **20** 04:11:49.3±0.9, 32.66N×46.80E, h0km, mb4.2/23, mb1 4.2/29, mb1mx4.1/61, mbtmp4.2/29, ML3.8/5, MS3.7/2, Ms1 3.7/2, ms1mx2.9/52, Error ellipse: s-maj=19.8km s-min=12.8km az=162.0*

*BJI **20** 04:11:49.0, 32.48N×46.45E, h22km, mb4.5/5, mB4.7/2, Ms4.2/2, Ms7 4.0/2*

*ISCJB **20** 04:11:50.4±0.3, 32.50N±0.04×46.78E±0.03, h20km, mb4.4/64, MS3.9/4, Error ellipse: s-maj=6.2km s-min=4.2km az=1.5*

*NEIC **20** 04:11:50.2±1.5, 32.58N×46.80E, h5km±8km, mb4.5/36, MN4.7(TEH), Error ellipse: s-maj=8.5km s-min=4.5km az=170.0*

*CSEM **20** 04:11:52.4±0.2, 32.55N×46.81E, h20km, mb4.6/32, Error ellipse: s-maj=7.7km s-min=4.8km az=177.0*

*MOS **20** 04:11:52.3±1.1, 32.56N×46.79E, h33km, mb4.6/26, Error ellipse: s-maj=8.4km s-min=4.5km az=109.8*

*TEH **20** 04:11:53.3, 32.66N×46.91E, h15km, ML4.7*

ISC 20 04:11:52.3±0.5, 32.55N±0.05×46.80E±0.05, h20km, n219, σ1§19/228, mb4.5/64, MS4.0/4, 13C-15D, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IKFM	**Kafar-mosalman**	**1.32**	**42**	*e*Pg	**Pn**	**04 12 14.4**	**-1.1**
IKFM	**Kafar-mosalman**	**1.32**	**42**	*e*Pg	**Pn**	**04 12 14.4**	**-1.1**
IKOM	**Komasi**	**1.73**	**20**	*e*Pg	**Pn**	**04 12 22.0**	**+0.6**
IKOM				*e*AMB	AMB	04 12 52.2	
	comp=Z,93μm,0.3s						
IKOM	**Komasi**	**1.73**	**20**	Pg	**Pn**	**04 12 22.0**	**+0.6**
IKOM	**Komasi**	**1.73**	**20**	*e*Pg	**Pn**	**04 12 22.0**	**+0.6**
IGHG	**Ghaleghazi**	**1.79**	**354**	*e*Pg	**Pb**	**04 12 23.8**	**-0.8**
IGHG				*e*AMB	AMB	04 12 51.5	
	comp=Z,16μm,0.4s						
IGHG	**Ghaleghazi**	**1.79**	**354**	Pg	**Pb**	**04 12 23.7**	**-0.8**
IGHG	**Ghaleghazi**	**1.79**	**354**	Pg	**Pb**	**04 12 23.7**	**-0.8**
IVIS	**Veis**	**1.98**	**1**	*e*Pn	**Pn**	**04 12 24.6**	**-0.1**
IVIS				*e*Sg	**Sb**	**04 12 51.5**	**-0.5**
IVIS				*e*AMB	AMB	04 12 57.2	
	comp=E,60μm,0.4s						
IVIS	**Veis**	**1.98**	**1**	Pn	**Pn**	**04 12 24.6**	**-0.1**
IVIS				Sg	**Sb**	**04 12 51.4**	**-0.5**
IVIS	**Veis**	**1.98**	**1**	*e*Pn	**Pn**	**04 12 24.6**	**-0.1**
IVIS				Sg	**Sb**	**04 12 51.4**	**-0.5**
ILIN	**Lien**	**2.37**	**3**	*e*Pn	**Pn**	**04 12 30.2**	**-0.1**
ILIN				*e*AMB	AMB	04 13 07.5	
	comp=Z,22μm,0.3s						
ILIN	**Lien**	**2.37**	**3**	Pn	**Pn**	**04 12 30.2**	**-0.1**
ILIN	**Lien**	**2.37**	**3**	*e*Pn	**Pn**	**04 12 30.2**	**-0.1**
ASF	**Jabal al Asfar**	**8.38**	**270**	Pn	**Pn**	**04 13 51.2**	**-1.5**
	comp=Z,0.7nm,0.3s,baz=67,slow=10.0,SNR=3.0						
ASF				LR	LR	04 17 09.2	
	comp=Z,351nm,20.5s,baz=52,slow=38						
EIL	**Elat**	**10.55**	**257**	Pn	**Pn**	**04 14 23.2**	**+0.8**
	comp=Z,0.4nm,0.3s,baz=56,slow=9.5,SNR=2.4						
GEYT	**Alibeck**	**10.70**	**57**	Pn	**Pn**	**04 14 23.6**	**-0.8**
	comp=Z,0.6nm,0.3s,baz=238,slow=8.3,SNR=2.2						
NEY	**Neytrino**	**11.16**	**344**	*e*P	**Pn**	**04 14 31.4**	**+0.6**
NEY	**Neytrino**	**11.16**	**344**	*e*P	**Pn**	**04 14 31.4**	**+0.6**
KBZ	**Khabaz**	**11.58**	**346**	Pn	Pn	04 14 41.2	+4.9
	comp=Z,0.1nm,0.3s,baz=163,slow=6.4,SNR=4.9						
KVAR	**Kislovodsk Arr**	**11.84**	**345**	Pn	**Pn**	**04 14 44.1**	**+4.1**
	baz=190,slow=6.1,SNR=4.4						
KIV	**Kislovodsk**	**11.84**	**345**	*e*P	**Pn**	**04 14 42.2**	**+2.2**
	comp=Z,63nm,9.0s						
KIV	**Kislovodsk**	**11.84**	**345**	*e*P	**Pn**	**04 14 42.2**	**+2.2**
KIV				pmax	pmax		
	comp=Z,15nm,1.0s						
KIV				MLR	MLR		
	comp=Z,63nm,9.0s						
SOC	**Sochi**	**12.34**	**335**	*e*P	**Pn**	**04 14 48.2**	**+1.4**
	comp=Z,291nm,16.0s						
SOC				*e*S	**Sn**	**04 17 02.4**	**-1.4**
SOC	**Sochi**	**12.34**	**335**	*e*P	**Pn**	**04 14 48.2**	**+1.4**
SOC				*e*		04 17 02.4	
SOC				MLR	MLR		
	comp=Z,291nm,16.0s						
BRTR	**Keskin Array B**	**12.81**	**308**	Pn	**Pn**	**04 14 54.7**	**+1.3**
	comp=Z,0.0nm,0.3s,baz=127,slow=11,SNR=3.6						
ANTO	**Ankara**	**13.45**	**307**	*e*Pn	**Pn**	**04 15 03.0**	**+0.9**
	comp=Z,21nm,0.6s						
ANTO	**Ankara**	**13.45**	**307**	*e*P	**Pn**	**04 15 03.0**	**+0.9**
	comp=Z,21nm,0.6s						
ANTO	**Ankara**	**13.45**	**307**	*e*P	**Pn**	**04 15 03.0**	**+0.9**
ANTO				pmax	pmax		
	comp=Z,21nm,0.6s						
ANN	**Anapa**	**14.24**	**332**	*e*P	**Pn**	**04 15 13.8**	**+1.1**
ANN				*e*S	**Sn**	**04 17 50.5**	**+0.5**
ANN				pmax	pmax		
	comp=Z,83nm,1.2s						
SANT	**Santorini**	**18.00**	**288**	*e*P	**Pn**	**04 16 01.1**	**-0.2**
	comp=Z,52nm,0.9s						
SANT	**Santorini**	**18.00**	**288**	*e*P	**Pn**	**04 16 01.1**	**-0.2**
	comp=Z,52nm,0.9s						
IDI	**Anoyia**	**18.38**	**285**	P	**P**	**04 16 05.8**	**-0.1**
	comp=Z,1.0nm,0.3s,baz=86,slow=11,SNR=7.9						
IDI	**Anoyia**	**18.38**	**285**	*i*P	**P**	**04 16 06.0**	**0.0**
IDI	**Anoyia**	**18.38**	**285**	*e*P	**Pn**	**04 16 06.5**	**+0.5**
	comp=Z,38nm,1.0s						
IDI	**Anoyia**	**18.38**	**285**	*e*P	**Pn**	**04 16 06.5**	**+0.5**
	comp=Z,38nm,1.0s						
TIRR	**Tirgusor**	**18.62**	**315**	*e*P	**P**	**04 16 08.2**	**-0.2**
	comp=Z,5.1nm,0.8s						
TIRR	**Tirgusor**	**18.62**	**315**	*e*P	**P**	**04 16 08.2**	**-0.2**
	comp=Z,5.1nm,0.8s						
TIRR	**Tirgusor**	**18.62**	**315**	*e*P	**P**	**04 16 08.2**	**-0.2**
TIRR				pmax	pmax		
	comp=Z,5.0nm,0.8s						
KBL	**Kabul**	**18.65**	**78**	*e*P	**P**	**04 16 06.8**	**-2.3**
	comp=Z,12nm,1.1s						
KBL	**Kabul**	**18.65**	**78**	*e*P	**P**	**04 16 06.8**	**-2.3**
	comp=Z,12nm,1.1s						
KBL	**Kabul**	**18.65**	**78**	*e*P	**P**	**04 16 06.8**	**-2.3**
KBL				pmax	pmax		
	comp=Z,12nm,1.1s						
VRH	**Novokhopyorsk**	**19.01**	**350**	*e*P	**Pn**	**04 16 16.3**	**+2.9**
VRH				pmax	pmax		
	comp=Z,20nm,0.5s						
CFR	**Carcaliu**	**19.18**	**316**	*i*P	**P**	**04 16 14.0**	**-0.6**
CFR	**Carcaliu**	**19.18**	**316**	P	**P**	**04 16 14.0**	**-0.6**
CFR	**Carcaliu**	**19.18**	**316**	P	**P**	**04 16 14.0**	**-0.6**
ABKAR	**Akbulak array**	**19.38**	**27**	*e*P	**P**	**04 16 15.9**	**-0.8**
	comp=Z,4.1nm,0.7s						
ABKAR	**Akbulak array**	**19.38**	**27**	*e*P	**P**	**04 16 15.9**	**-0.8**
	comp=Z,4.1nm,0.7s						
VSR	**Storozhevoye**	**19.48**	**346**	*e*P	**Pn**	**04 16 18.5**	**-0.6**
	comp=Z,30nm,0.9s						
VSR	**Storozhevoye**	**19.48**	**346**	*e*P	**Pn**	**04 16 18.5**	**-0.6**
VSR				pmax	pmax		
	comp=Z,30nm,0.9s						
AKTK	**Aktyubinsk**	**19.71**	**22**	P	**P**	**04 16 19.9**	**-0.4**
AKTO	**Aktyubinsk**	**19.71**	**22**	P	**P**	**04 16 19.9**	**-0.4**
	comp=Z,0.3nm,0.3s,baz=210,slow=13,SNR=2.9						
VRI	**Vrincioaia**	**20.39**	**317**	*i*P	**P**	**04 16 28.5**	**+0.7**
VRI	**Vrincioaia**	**20.39**	**317**	P	**P**	**04 16 28.5**	**+0.7**
VRI	**Vrincioaia**	**20.39**	**317**	P	**P**	**04 16 28.5**	**+0.7**
PLOR	**Plostina**	**20.43**	**316**	*i*P	**P**	**04 16 28.9**	**+0.7**
PLOR	**Plostina**	**20.43**	**316**	P	**P**	**04 16 28.9**	**+0.7**
PLOR	**Plostina**	**20.43**	**316**	P	**P**	**04 16 28.9**	**+0.7**
MLR	**Muntele Rosu**	**20.65**	**315**	P	Pn	04 16 32.5	-0.5
	comp=Z,2.1nm,0.8s,baz=162,slow=20,SNR=8.3						
MLR	**Muntele Rosu**	**20.65**	**315**	*i*P	**P**	**04 16 31.2**	**+0.5**
MLR	**Muntele Rosu**	**20.65**	**315**	*e*P	**P**	**04 16 31.7**	**+0.9**
	comp=Z,11nm,0.9s						
MLR	**Muntele Rosu**	**20.65**	**315**	P	**P**	**04 16 31.2**	**+0.5**
MLR	**Muntele Rosu**	**20.65**	**315**	P	**P**	**04 16 31.2**	**+0.5**
TESR	**Tescani**	**20.80**	**318**	*i*P	**P**	**04 16 32.4**	**+0.2**
LPSR	**Galich'ya Gora**	**20.84**	**346**	*e*P	**P**	**04 16 33.1**	**+0.6**
LPSR				pmax	pmax		
	comp=Z,140nm,0.9s						
SORM	**Soroca**	**20.90**	**324**	*i*P	**P**	**04 16 32.7**	**-0.5**
SORM	**Soroca**	**20.90**	**324**	P	**P**	**04 16 32.7**	**-0.5**
SORM	**Soroca**	**20.90**	**324**	P	**P**	**04 16 32.7**	**-0.5**
MTUR	**Matau**	**21.05**	**313**	*i*P	**P**	**04 16 36.2**	**+1.2**
MTUR	**Matau**	**21.05**	**313**	P	**P**	**04 16 36.2**	**+1.2**
MTUR	**Matau**	**21.05**	**313**	P	**P**	**04 16 36.2**	**+1.2**
VOIR		**21.16**	**314**	*i*P	**P**	**04 16 36.8**	**+0.6**
VOIR		**21.16**	**314**	P	**P**	**04 16 36.8**	**+0.6**
VOIR		**21.16**	**314**	P	**P**	**04 16 36.8**	**+0.6**
DOPR	**Dopca**	**21.23**	**315**	*i*P	**P**	**04 16 37.7**	**+0.8**
ARR	**Arges**	**21.39**	**313**	*i*P	**P**	**04 16 38.8**	**+0.2**
KK31	**Karatay Array**	**21.43**	**54**	*e*P	**P**	**04 16 40.2**	**+1.2**
KK31	**Karatay Array**	**21.43**	**54**	*e*P	**P**	**04 16 40.2**	**+1.2**
KK31	**Karatay Array**	**21.43**	**54**	*e*P	**P**	**04 16 40.2**	**+1.2**
KKAR	**Karatay Array**	**21.43**	**54**	*e*P	**P**	**04 16 40.2**	**+1.2**
	comp=Z,8.8nm,0.7s						
KKAR	**Karatay Array**	**21.43**	**54**	*e*P	**P**	**04 16 40.2**	**+1.2**
	comp=Z,8.8nm,0.7s						
KKAR	**Karatay Array**	**21.43**	**54**	*e*P	**P**	**04 16 40.2**	**+1.2**
KKAR				pmax	pmax		
	comp=Z,9.0nm,0.7s						
NIL	**Nilore**	**22.18**	**80**	*e*P	**P**	**04 16 47.2**	**+0.1**
	comp=Z,25nm,0.9s						
NIL	**Nilore**	**22.18**	**80**	*e*P	**P

IZAR	Zarasai	27.28	334	*eP*		P	04 17 37.6	+2.5
MORC	Moravsky Berou	27.70	317	*eP*		P	04 17 39.0	-0.1
	comp=Z,10.0nm,0.7s							
MORC	Moravsky Berou	27.70	317	*eP*		P	04 17 39.0	-0.1
MORC				pmax	pmax			
	comp=Z,10.0nm,0.7s							
KLMR	Klimovskoe	28.72	353	*eP*		P	04 17 47.2	-0.7
KLMR				AMP			04 17 49.1	
	comp=Z,11nm,1.0s							
KLMR	Klimovskoe	28.72	353	*eP*		P	04 17 47.2	-0.7
KLMR				pmax	pmax			
	comp=Z,11nm,1.0s							
VSU	Vasula	29.25	338	*eP*		P	04 17 54.3	+1.6
VSU				pmax	pmax			
	comp=Z,41nm,0.9s							
KURBB	Kurchatov Arra	29.51	43	P		P	04 17 55.0	-0.1
	comp=Z,2.8nm,0.8s,baz=249,slow=9.2,SNR=11							
KURK	Kurchatov	29.60	43	*eP*		P	04 17 56.3	+0.4
	comp=Z,4.4nm,0.8s							
KURK	Kurchatov	29.60	43	*eP*		P	04 17 56.3	+0.4
	comp=Z,4.4nm,0.8s							
KURK	Kurchatov	29.60	43	*ceP*		P	04 17 55.6	-0.3
KURK				pmax	pmax			
	comp=Z,7.0nm,1.7s							
GERES	GERESS Array B	29.61	313	P		P	04 17 57.1	+1.0
	comp=Z,0.3nm,0.6s,baz=113,slow=12,SNR=2.6							
GERES				PcP		PcP	04 21 01.0	+0.6
	comp=Z,0.5nm,0.6s,baz=152,slow=4.4,SNR=3.9							
MK01	Makanchi Array	30.52	52	*eP*		P	04 18 04.2	+0.1
MK01	Makanchi Array	30.52	52	*eP*		P	04 18 04.2	+0.1
MK31	Makanchi Array	30.52	52	*eP*		P	04 18 04.2	+0.2
MK31	Makanchi Array	30.52	52	*eP*		P	04 18 04.2	+0.2
MK31	Makanchi Array	30.52	52	*eP*		P	04 18 04.3	+0.2
MKAR	Makanchi Array	30.52	52	P		P	04 18 03.1	-1.0
	comp=Z,2.3nm,0.7s,baz=248,slow=6.4,SNR=10							
MKAR	Makanchi Array	30.52	52	*eP*		P	04 18 04.2	+0.2
	comp=Z,17nm,0.7s							
MKAR	Makanchi Array	30.52	52	*eP*		P	04 18 04.2	+0.2
	comp=Z,17nm,0.7s							
MKAR	Makanchi Array	30.52	52	*eP*		P	04 18 04.3	+0.2
MKAR				pmax	pmax			
	comp=Z,17nm,0.7s							
CLL	Collm	30.98	317	*eP*		P	04 18 09.0	+1.0
CLL				LmV			04 33 00.0	
	comp=Z,100nm,18.5s							
CLL	Collm	30.98	317	*eP*		P	04 18 09.0	+1.0
GRFO	Grafenberg	31.43	314	*eP*		P	04 18 12.0	-0.1
	comp=Z,5.5nm,0.8s							
GRFO	Grafenberg	31.43	314	*eP*		P	04 18 12.0	-0.1
GRFO				pmax	pmax			
	comp=Z,5.0nm,0.8s							
FINES	FINESS Array B	31.88	341	P		P	04 18 14.1	-1.7
	comp=Z,4.3nm,0.7s,baz=144,slow=10,SNR=4.1							
TMCR	Tamitsa	32.11	353	*eP*		P	04 18 19.0	+1.2
BNI	Bardonecchia	33.33	304	*eP*		P	04 18 28.0	-1.0
	comp=Z,24nm,1.3s							
BNI	Bardonecchia	33.33	304	*eP*		P	04 18 28.0	-1.0
	comp=Z,24nm,1.3s							
BNI	Bardonecchia	33.33	304	*eP*		P	04 18 28.0	-1.0
BNI				pmax	pmax			
	comp=Z,24nm,1.3s							
ECH	Echery	33.59	310	*eP*		P	04 18 28.7	-2.3
	comp=Z,3.8nm,0.9s							
ECH	Echery	33.59	310	*eP*		P	04 18 28.7	-2.3
ECH				pmax	pmax			
	comp=Z,4.0nm,0.9s							
NVS	Novosibirsk	33.92	38	*eP*		P	04 18 36.2	+2.4
ZAA0	Zalesovo Array	34.40	40	*eP*		P	04 18 38.3	+0.4
	comp=Z,4.7nm,0.8s							
ZALV	Zalesovo Beam	34.40	40	P		P	04 18 36.6	-1.3
	comp=Z,3.1nm,0.6s,baz=244,slow=9.0,SNR=8.8							
ZALV	Zalesovo Beam	34.40	40	*eP*		P	04 18 37.8	-0.1
ZALV	Zalesovo Beam	34.40	40	*eP*		P	04 18 37.8	-0.1
KMBO	Kilima Mbogo	34.69	197	*eP*		P	04 18 40.8	-0.2
	comp=Z,2.6nm,0.9s							
KMBO	Kilima Mbogo	34.69	197	*eP*		P	04 18 40.8	-0.2
KMBO				pmax	pmax			
	comp=Z,3.0nm,0.9s							
HFS	Hagfors	35.15	332	P		P	04 18 43.4	-0.9
	comp=Z,8.0nm,0.7s,baz=119,slow=9.0,SNR=5.9							
NB2	NORSAR Subarra	36.68	332	P		P	04 18 55.9	-1.6
	comp=Z,1.2nm,0.7s,baz=125,slow=8.6							
NOA	NORSAR Array B	36.68	332	P		P	04 18 56.0	-1.4
	comp=Z,1.5nm,0.7s,baz=125,slow=8.7,SNR=6.2							
TAM	Tamanrasset	37.62	266	*eP*		P	04 19 07.4	+1.3
	comp=Z,13nm,1.3s							
TAM	Tamanrasset	37.62	266	*eP*		P	04 19 07.4	+1.3
TAM				pmax	pmax			
	comp=Z,13nm,1.3s							
ARCES	ARCESS Array B	38.92	348	P		P	04 19 15.7	-0.6
	comp=Z,1.3nm,0.7s,baz=146,slow=9.8,SNR=3.6							
ESDC	Sonseca Array	41.17	295	P		P	04 19 35.3	-0.1
	comp=Z,1.8nm,0.9s,baz=87,slow=8.7,SNR=4.4							
EKA	Eskdalemuir Ar	41.42	319	P		P	04 19 37.5	+0.4
	comp=Z,1.1nm,0.6s,baz=102,slow=8.8,SNR=3.5							
GTA	Gaotai	42.93	65	*eP*		P	04 19 52.4	+2.5
GTA				pP		sP	04 19 57.9	-0.7
GTA				sP		pP	04 20 00.4	+4.3
GTA				pmax	pmax			
	comp=Z,5.0nm,1.2s							
ULN	Ulaanbaatar	47.31	53	*ceP*		P	04 20 24.2	-0.4
ULN				pmax	pmax			
	comp=Z,2.0nm,0.5s							
SPITS	Spitsbergen Ar	47.62	352	P		P	04 20 26.7	+0.3
	comp=Z,13nm,1.1s,baz=107,slow=5.0,SNR=3.7							
KOWA	Kowa	49.45	261	P		P	04 20 41.4	+0.1
	comp=Z,7.4nm,0.8s,baz=47,slow=7.2,SNR=12							
KOWA				LR		LR	04 42 11.3	
	comp=Z,126nm,18.1s,baz=49,slow=37							
KOWA	Kowa	49.45	261	*eP*		P	04 20 41.8	+0.5
	comp=Z,11nm,0.9s							
BOD	Bodaibo	51.14	39	*eP*		P	04 20 49.1	-4.4
BOD				pmax	pmax			
	comp=Z,6.0nm,1.4s							
XAN	Xi'an	51.23	70	P		P	04 20 55.4	+0.8
XAN				pP		pP	04 21 01.9	+0.9
XAN				pmax	pmax			
	comp=Z,8.0nm,1.3s							
XAN				LR		LR		
	comp=Z,130nm,18.4s							
XAN				LR		LR		
	comp=Z,140nm,18.4s							
XAN				LR		LR		
	comp=Z,130nm,16.3s							
TIXI	Tiksi	56.99	22	*ceP*		P	04 21 35.5	-0.5
TIXI				pmax	pmax			
	comp=Z,6.0nm,2.5s							
BOSA	Boshof	64.17	201	P		P	04 22 26.6	+1.1
	comp=Z,4.6nm,0.9s,baz=13,slow=7.5,SNR=5.7							
KSAR	Wonju Array Be	64.64	60	P		P	04 22 29.4	+0.8
KSAR	Wonju Array Be	64.64	60	P		P	04 22 29.4	+0.8
KSRS	Korea Array	64.67	60	P		P	04 22 29.4	+0.6
	comp=Z,1.3nm,0.6s,baz=281,slow=7.6,SNR=4.6							
SEY	Seymchan	68.14	28	*ceP*		P	04 22 49.7	-0.9
BILL	Bilibino	70.14	20	*eP*		P	04 23 02.5	-0.4
BILL				*e*			04 23 24.5	
BILL				*e*			04 25 41.8	
BILL				*i S*		S	04 32 13.3	+0.6
BILL				pmax	pmax			
	comp=Z,4.0nm,1.4s							
BILL				MLR		MLR		
	comp=Z,148nm,21.0s							
SCHQ	Schefferville	76.06	327	P		P	04 23 37.6	-0.6
	comp=Z,3.7nm,0.8s,baz=63,slow=8.4,SNR=4.6							
TOLK	Toolik Lake Re	78.39	6	*eP*		P	04 23 51.2	+0.2
	comp=Z,8.4nm,0.7s							
INK	Inuvik	79.45	0	P		P	04 23 55.5	-1.2
	comp=Z,0.5nm,0.5s,baz=17,slow=6.4,SNR=3.1							
INK	Inuvik	79.45	0	*eP*		P	04 23 55.5	-1.2
	comp=Z,2.0nm,1.0s							
INK	Inuvik	79.45	0	*eP*		P	04 23 55.5	-1.2
INK				pmax	pmax			
	comp=Z,2.0nm,1.0s							
COLD	Coldfoot	79.70	7	*eP*		P	04 23 58.5	+0.3
	comp=Z,2.5nm,0.8s							
IM3	Indian Mountai	80.51	8	*eP*		P	04 24 01.8	-0.8
MLY	Manley	81.78	7	*eP*		P	04 24 10.1	+0.7
	comp=Z,2.6nm,1.0s							
IL1	Eielson Array	82.41	6	*eP*		P	04 24 12.2	-0.4
ILAR	Eielson Array	82.41	6	P		P	04 24 11.6	-1.1
	comp=Z,1.0nm,0.7s,baz=332,slow=4.2,SNR=8.9							
BPAW	Bear Paw Mtn.	82.66	8	*eP*		P	04 24 16.6	+2.7
	comp=Z,4.7nm,1.0s							
CAST	Castle Rocks	83.19	8	*eP*		P	04 24 17.6	+0.9
	comp=Z,4.1nm,0.9s							
KTH	Kantishna Hill	83.20	8	*eP*		P	04 24 16.9	+0.1
	comp=Z,2.8nm,0.7s							
TRF	Thorofare Moun	83.37	8	*eP*		P	04 24 18.3	+0.5
	comp=Z,7.0nm,1.2s							
FCC	Fort Churchill	83.37	341	*eP*		P	04 24 17.4	-0.3
	comp=Z,2.0nm,0.9s							
FCC	Fort Churchill	83.37	341	*eP*		P	04 24 17.4	-0.3
FCC				pmax	pmax			
	comp=Z,2.0nm,0.9s							
SCRK	Sand Creek	83.42	5	*eP*		P	04 24 18.7	+0.7
	comp=Z,4.3nm,0.8s							
DOT	Dot Lake	83.75	5	*eP*		P	04 24 19.4	-0.2
	comp=Z,10nm,0.9s							
YKA	Yellowknife Ar	84.11	351	P		P	04 24 20.4	-1.0
	comp=Z,1.0nm,0.8s,baz=15,slow=5.4,SNR=11							
SUA	Susitna One	85.24	8	*eP*		P	04 24 29.5	+2.2
	comp=Z,38nm,1.9s							

ISCJB ***20*** *04:43:21.4±0.5, 39.07N±0.03×29.11E±0.03, h8km±4km, Error ellipse: s-maj=4.9km s-min=4.2km az=165.9*
CSEM ***20*** *04:43:21.4±0.1, 39.09N×29.13E, h5km, ML2.4, Error ellipse: s-maj=2.6km s-min=2.2km az=127.0*
ISK ***20*** *04:43:21.2, 39.10N×29.12E, h5km, ML2.4/13*
DDA ***20*** *04:43:21.2, 39.09N×29.12E, h7km, ML2.7*

ISC 20 04:43:21.5±0.9, 39.09N±0.02×29.12E±0.02, h9km±7km, n38, σ0s54/52, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SIMA	Simav-Kutahya	0.10	267	PG		Pg	04 43 24.2	+0.1
SIMA				SG		Sg	04 43 25.9	-0.1
SIMA	Simav-Kutahya	0.10	267	*e*Pg		Pg	04 43 24.2	+0.1
SIMA				*e*Sg		Sg	04 43 25.9	-0.1
GDZ	Gediz	0.28	90	*i* P		Pg	04 43 27.0	-0.2
GDZ				*i* S		Sg	04 43 31.3	+0.2
GDZ	Gediz	0.28	90	P		Pg	04 43 27.0	-0.2
GDZ				S		Sg	04 43 31.3	+0.2
DEMI	Demirci	0.32	262	*i* P		Pg	04 43 27.9	+0.1
DEMI				*i* S		Sg	04 43 32.2	+0.2
DEMI	Demirci	0.32	262	P		Pg	04 43 27.9	+0.1
DEMI				S		Sg	04 43 32.2	+0.2
TVSB	Tavsanli	0.45	36	PG		Pg	04 43 29.4	-0.9
TVSB	Tavsanli	0.45	36	*e*Pg		Pg	04 43 29.4	-0.9
KULA	Kula-Manisa	0.68	212	PG		Pg	04 43 34.9	+0.4
KULA	Kula-Manisa	0.68	212	*e*Pg		Pg	04 43 34.9	+0.4
DURS	Dursunbey	0.71	316	*i* P		Pg	04 43 35.3	0.0
DURS				*i* S		Sb	04 43 47.3	+1.2
DURS	Dursunbey	0.71	316	P		Pg	04 43 35.3	0.0
DURS				S		Sb	04 43 47.3	+1.2
MANT	Manisa	0.74	216	*i* P		Pg	04 43 36.2	-0.5
MANT				*i* S		Sg	04 43 44.9	-0.5
MANT	Manisa	0.74	216	P		Pg	04 43 36.2	-0.5
MANT				S		Sg	04 43 44.9	-0.5
KHAL	Karahalli	0.78	158	*i* P		Pg	04 43 36.6	+0.2
KHAL				*i* S		Sb	04 43 47.8	0.0
KHAL	Karahalli	0.78	158	P		Pg	04 43 36.6	+0.2
KHAL				S		Sb	04 43 47.8	0.0
ORLT	Orhaneli	0.97	350	PG		Pg	04 43 40.1	-0.1
ORLT	Orhaneli	0.97	350	*e*Pg		Pg	04 43 40.1	-0.1
AKHS	Akhisar	1.04	259	*i* P		Pg	04 43 41.1	-0.3
AKHS				*i* S		Sg	04 43 53.1	-1.7
AKHS	Akhisar	1.04	259	P		Pg	04 43 41.1	-0.3
AKHS				S		Sg	04 43 53.2	-1.7
BALB	Balikesir	1.11	300	PN		Pn	04 43 43.2	+0.1
BALB	Balikesir	1.11	300	*e*Pn		Pn	04 43 43.2	+0.1
SHUT	Suhut-Afyon	1.24	115	PN		Pn	04 43 45.5	+0.4
SHUT	Suhut-Afyon	1.24	115	*e*Pn		Pn	04 43 45.5	+0.4
CAVI	Cavuskoy	1.25	27	PN		Pn	04 43 45.2	+0.1
CAVI	Cavuskoy	1.25	27	*e*Pn		Pn	04 43 45.2	+0.1
MDNY	Mudanya-Bursa	1.29	352	PN		Pg	04 43 46.2	-0.1
MDNY	Mudanya-Bursa	1.29	352	*e*Pn		Pg	04 43 46.2	-0.1
KCTX	Karacabey (Bur	1.31	334	PN		Pg	04 43 46.7	0.0
KCTX	Karacabey (Bur	1.31	334	*e*Pn		Pg	04 43 46.7	0.0
ARMT	Armutlu	1.49	352	PN		Pb	04 43 49.1	-0.2
ARMT	Armutlu	1.49	352	*e*Pn		Pb	04 43 49.1	-0.2
YLV	Yalova	1.49	8	PN		Pb	04 43 49.1	-0.3
YLV	Yalova	1.49	8	*e*Pn		Pb	04 43 49.1	-0.3
GULT	Gulveren	1.72	38	PN		Pn	04 43 52.3	+0.6
GULT	Gulveren	1.72	38	*e*Pn		Pn	04 43 52.3	+0.6
HRT	Hereke	1.78	14	PN		Pn	04 43 52.9	+0.4
HRT	Hereke	1.78	14	*e*Pn		Pn	04 43 52.9	+0.4

IDC 20 04:43:40.7±5.8, 32.63N×46.96E, h0km, mb3.3/5, mb1 3.4/5, mb1mx3.2/54, mbtmp3.3/5, MS3.1/2, Ms1 3.1/2, ms1mx2.3/34, Error ellipse: s-maj=122.5km s-min=36.5km az=8.0, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
IDI	Anoyia	18.50	284	LR		LR	04 56 55.2	
	comp=Z,26nm,21.6s,baz=176,slow=43							
AKASG	Malin Array Be	22.29	329	P		P	04 48 39.8	+0.3
	0.6nm,0.6s,baz=140,slow=10,SNR=2.3							
BVAR	Borovoye Array	26.45	33	P		P	04 49 19.1	0.0
	1.0nm,0.8s,baz=217,slow=7.8,SNR=4.4							
KURBB	Kurchatov Arra	29.35	43	P		P	04 49 44.4	-0.7
	0.3nm,0.6s,baz=246,slow=9.2,SNR=3.7							
MKAR	Makanchi Array	30.36	52	P		P	04 49 54.9	+0.7
	0.3nm,0.7s,baz=262,slow=7.0,SNR=3.2							
MJAR	Matsushiro Arr	72.34	58	LR		LR	05 28 36.3	
	comp=Z,34nm,20.7s,baz=210,slow=37							
YKA	Yellowknife Ar	84.05	352	P		P	04 56 12.7	-0.1
	0.0nm,0.3s,baz=21,slow=5.5,SNR=3.8							

IDC 20 04:45:19.9±1.7, 1.24N×127.00E, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.5/52, mbtmp3.8/4, Error ellipse: s-maj=163.5km s-min=20.9km az=67.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
WRA	Warramunga Arr	22.25	161	P		P	04 50 18.6	+0.1
	1.8nm,0.5s,baz=340,slow=11,SNR=21							
ASAR	Alice Springs	25.65	165	P		P	04 50 51.5	-0.1
	0.7nm,0.4s,baz=343,slow=7.6,SNR=11							
MKAR	Makanchi Array	59.75	326	P		P	04 55 27.0	+0.4
	0.3nm,0.3s,baz=118,slow=8.0,SNR=6.7							
KURBB	Kurchatov Arra	63.97	328	P		P	04 55 54.6	-0.4
	1.0nm,0.6s,baz=132,slow=6.4,SNR=8.3							

ISCJB ***20*** *04:49:32.9±0.4, 39.09N±0.03×29.13E±0.03, h5km±6km, Error ellipse: s-maj=5.2km s-min=4.1km az=16.5*
ISK ***20*** *04:49:32.9, 39.10N×29.14E, h5km, ML2.5/16*
DDA ***20*** *04:49:33.0, 39.11N×29.16E, h7km, ML2.6*
CSEM ***20*** *04:49:33.0±0.1, 39.10N×29.15E, h2km, ML2.5, Error ellipse: s-maj=2.3km s-min=2.0km az=139.0*

ISC 20 04:49:33.0±0.9, 39.10N±0.02×29.15E±0.02, h8km±8km, n45, σ0s60/59, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
SIMA	Simav-Kutahya	0.13	261	PG		Pg	04 49 35.9	0.0
SIMA				SG		Sg	04 49 38.0	+0.1
SIMA	Simav-Kutahya	0.13	261	*e*Pg		Pg	04 49 35.9	0.0
SIMA				*e*Sg		Sg	04 49 38.0	+0.1
GDZ	Gediz	0.26	93	*i* P		Pg	04 49 38.3	0.0
GDZ				*i* S		Sg	04 49 42.4	+0.6
GDZ	Gediz	0.26	93	P		Pg	04 49 38.3	0.0
GDZ				S		Sg	04 49 42.4	+0.6
DEMI	Demirci	0.34	260	*i* P		Pg	04 49 30.2	-10
DEMI				*i* S		Sg	04 49 41.9	-2.3
TVSB	Tavsanli	0.42	35	PG		Pg	04 49 40.9	-0.5
TVSB	Tavsanli	0.42	35	*e*Pg		Pg	04 49 40.9	-0.5
KULA	Kula-Manisa	0.70	213	PG		Pg	04 49 46.8	+0.3
KULA	Kula-Manisa	0.70	213	*e*Pg		Pg	04 49 46.8	+0.3
DURS	Dursunbey	0.72	314	*i* P		Pg	04 49 47.1	+0.2
DURS				*i* S		Sb	04 49 57.3	-0.6
DURS	Dursunbey	0.72	314	P		Pg	04 49 47.1	+0.2
DURS				S		Sb	04 49 57.3	-0.6
MANT	Manisa	0.77	217	*i* P		Pg	04 49 47.7	-0.1
MANT				*i* S		Sg	04 49 57.3	-0.4
MANT	Manisa	0.77	217	P		Pg	04 49 47.7	-0.1
MANT				S		Sg	04 49 57.3	-0.4
KHAL	Karahalli	0.78	160	*i* P		Pb	04 49 48.7	-0.2
KHAL				*i* S		Sg	04 49 58.9	+0.7
KHAL	Karahalli	0.78	160	P		Pb	04 49 48.7	-0.2
KHAL				S		Sg	04 49 58.9	+0.7
ORLT	Orhaneli	0.96	349	PG		Pb	04 49 51.8	-0.2
ORLT	Orhaneli	0.96	349	*e*Pg		Pb	04 49 51.8	-0.2
BALB	Balikesir	1.12	299	PN		Pb	04 49 54.9	+0.3
BALB	Balikesir	1.12	299	*e*Pn		Pb	04 49 54.9	+0.3
CAVI	Cavuskoy	1.22	26	PN		Pn	04 49 56.9	+0.4
CAVI	Cavuskoy	1.22	26	*e*Pn		Pn	04 49 56.9	+0.4
SHUT	Suhut-Afyon	1.23	116	PN		Pn	04 49 57.0	+0.4
SHUT	Suhut-Afyon	1.23	116	*e*Pn		Pn	04 49 57.0	+0.4
BORA	Eskisehir	1.27	52	*i* P		Pb	04 49 57.5	+0.1
BORA				*i* S		Sg	04 50 13.8	-0.3
BORA	Eskisehir	1.27	52	P		Pb	04 49 57.5	+0.1
BORA				S		Sg	04 50 13.8	-0.3
MDNY	Mudanya-Bursa	1.28	351	PN		Pg	04 49 57.9	+0.3
MDNY	Mudanya-Bursa	1.28	351	*e*Pn		Pg	04 49 57.9	+0.3
KCTX	Karacabey (Bur	1.31	333	PN		Pg	04 49 58.5	+0.3
KCTX	Karacabey (Bur	1.31	333	*e*Pn		Pg	04 49 58.5	+0.3
ESKT	Eskisehir	1.39	72	*i* P		Pn	04 49 58.6	-0.2
ESKT				*i* S		Sb	04 50 16.2	-1.0
SEYT	Eskypehyr	1.39	72	P		Pn	04 49 58.6	-0.2
SEYT				S		Sb	04 50 16.2	-1.0
ADVT	Abdulvahap	1.41	19	PN		Pg	04 49 59.9	-0.1
ADVT	Abdulvahap	1.41	19	*e*Pn		Pg	04 49 59.9	-0.1
YLV	Yalova	1.47	7	PN		Pb	04 50 00.8	+0.1
YLV	Yalova	1.47	7	*e*Pn		Pb	04 50 00.8	+0.1
ARMT	Armutlu	1.48	352	PN		Pb	04 50 00.9	+0.1
ARMT	Armutlu	1.48	352	*e*Pn		Pb	04 50 00.9	+0.1
GULT	Gulveren	1.70	38	PN		Pb	04 50 04.0	-0.5
GULT	Gulveren	1.70	38	*e*Pn		Pb	04 50 04.0	-0.5
SVRH	Sivrihisar-ESK	1.88	79	PN		Pn	04 50 06.7	+1.2
SVRH	Sivrihisar-ESK	1.88	79	*e*Pn		Pn	04 50 06.7	+1.2
SILT	Sile	2.08	10	PN		Pn	04 50 09.5	+1.3
SILT	Sile	2.08	10	*e*Pn		Pn	04 50 09.5	+1.3
MDUB	Mudurnu	2.09	49	PN		Pn	04 50 09.0	+0.5
MDUB	Mudurnu	2.09	49	*e*Pn		Pn	04 50 09.0	+0.5

IDC ***20*** *04:56:03.9±0.9, 3.61N×92.64E, h0km, mb4.0/13, mb1 4.1/14, mb1mx3.9/63, mbtmp4.0/14, ML3.9/1, MS3.3/3, Ms1 3.3/3, ms1mx2.8/63, Error ellipse: s-maj=38.9km s-min=16.1km az=45.0*
ISCJB ***20*** *04:56:05.8±0.8, 3.7N±0.1×92.71E±0.09, h24km, mb4.1/16, MS3.5/2, Error ellipse: s-maj=23.0km s-min=7.1km az=27.6*
NEIC ***20*** *04:56:05.2±0.6, 3.60N×92.55E, h10km, mb4.3/2, Error ellipse: s-maj=19.3km s-min=6.8km az=214.0*

ISC 20 04:56:07.6±0.9, 3.6N±0.2×92.7E±0.1, n24, σ0s82/24, mb4.2/16, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
GSI	Gunungsitoli	5.42	115	*e*Pn		Pn	04 57 27.7	+0.6
PSI	Prapat	6.32	97	Pn		Pn	04 57 39.7	+0.3
	2.4nm,0.3s,baz=299,slow=10,SNR=8.4							
PSI				Sn		Sn	04 58 49.9	-1.0
	0.6nm,0.3s,baz=286,slow=18,SNR=2.4							
IPM	Ipoh	8.40	84	*e*Pn		Pn	04 58 09.7	+1.8
PALK	Pallekele	12.44	288	Sn		Sn	05 01 09.1	-12
	2.5nm,0.3s,baz=116,slow=5.7,SNR=5.8							
PALK				LR		LR	05 03 13.0	
	comp=Z,77nm,21.8s,baz=116,slow=34							
MKAR	Makanchi Array	43.95	350	P		P	05 04 12.5	-0.3
	3.4nm,0.7s,baz=166,slow=8.6,SNR=31							
SONM	Songino Array	45.63	13	P		P	05 04 26.0	-0.2
	1.1nm,0.6s,baz=204,slow=6.5,SNR=5.7							
SONM				PcP		PcP	05 06 04.9	+0.6
	0.8nm,0.8s,baz=195,slow=3.9,SNR=3.2							
GEYT	Alibeck	46.50	322	P		P	05 04 34.4	+1.2
	2.0nm,0.5s,baz=144,slow=11,SNR=4.1							
WRA	Warramunga Arr	47.16	121	P		P	05 04 38.9	+0.4
	0.7nm,0.6s,baz=297,slow=8.7,SNR=5.3							
KURBB	Kurchatov Arra	48.34	348	P		P	05 04 47.1	-0.1
	3.5nm,0.9s,baz=171,slow=7.0,SNR=23							
KURK	Kurchatov	48.41	348	*eP*		P	05 04 47.2	-0.5
ASAR	Alice Springs	48.47	126	P		P	05 04 48.2	-0.5
	0.3nm,0.6s,baz=309,slow=7.8,SNR=3.1							
ASAR				PcP		PcP	05 06 14.4	-0.3
	0.3nm,0.8s,baz=306,slow=3.9,SNR=2.8							
ZALV	Zalesovo Beam	50.59	354	P		P	05 05 04.3	0.0
	5.0nm,0.6s,baz=185,slow=8.1,SNR=22							
BVAR	Borovoye Array	52.58	343	P		P	05 05 18.4	-0.8
	2.4nm,0.9s,baz=142,slow=7.2,SNR=13							
BRVK	Borovoye	52.64	343	*eP*		P	05 05 18.9	-0.8
	3.8nm,0.5s							
ABKAR	Akbulak array	53.31	334	*eP*		P	05 05 24.0

GEC2	**GERESS Array S** 1.6nm,0.8s	**79.91**	**319**	*e*P	**P**	**05 12 52.2**	**+0.6**
GERES	**GERESS Array B** 0.7nm,0.7s,baz=104,slow=4.1,SNR=5.5	**79.91**	**319**	P	**P**	**05 12 52.2**	**+0.6**
NLWA	**Neilton Lookou**	**119.69**	**28**	*e*PKPdf	**PKPdf**	**05 19 32.1**	**-0.6**

ISK ***20*** *05:02:47.9, 39.°10N×29.°14E, h5km, ML2.2/9*
DDA ***20*** *05:02:48.3, 39.°09N×29.°12E, h7km, Ml2.5*
CSEM ***20*** *05:02:48.2±0.2, 39.°11N×29.°15E, h2km, ML2.2, Error ellipse: s-maj=4.3km s-min=3.4km az=146.0*

ISC 20 05:02:48.3±1.1, 39.°11N±0.°03×29.°16E±0.°02, h2km±11km, n32, σ0°60/46, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SIMA	**Simav-Kutahya**	**0.14**	**260**	PG		**Pg**	**05 02 51.0**	**0.0**
SIMA				SG		**Sg**	**05 02 53.2**	**+0.4**
SIMA	**Simav-Kutahya**	**0.14**	**260**	*e*Pg		**Pg**	**05 02 51.0**	**0.0**
SIMA				*e*Sg		**Sg**	**05 02 53.2**	**+0.4**
GDZ	**Gediz**	**0.25**	**94**	*i* P		**Pg**	**05 02 51.3**	**-1.9**
GDZ				*i* S		**Sg**	**05 02 57.5**	**+1.0**
GDZ	**Gediz**	**0.25**	**94**	P		**Pg**	**05 02 51.3**	**-1.9**
GDZ				S		**Sg**	**05 02 57.5**	**+1.0**
DEMI	**Demirci**	**0.35**	**260**	*i* P		**Pg**	**05 02 55.1**	**+0.1**
DEMI				*i* S		**Sg**	**05 02 59.0**	**-0.5**
DEMI	**Demirci**	**0.35**	**260**	P		**Pg**	**05 02 55.1**	**+0.1**
DEMI				S		**Sg**	**05 02 59.0**	**-0.5**
TVSB	**Tavsanli**	**0.42**	**35**	PG		**Pg**	**05 02 56.5**	**+0.2**
TVSB	**Tavsanli**	**0.42**	**35**	*e*Pg		**Pg**	**05 02 56.5**	**+0.2**
KULA	**Kula-Manisa**	**0.71**	**213**	PG		**Pg**	**05 03 01.8**	**0.0**
KULA	**Kula-Manisa**	**0.71**	**213**	*e*Pg		**Pg**	**05 03 01.8**	**0.0**
DURS	**Dursunbey**	**0.72**	**313**	*i* P		**Pg**	**05 03 02.2**	**0.0**
DURS	**Dursunbey**	**0.72**	**313**	P		**Pg**	**05 03 02.2**	**0.0**
MANT	**Manisa**	**0.77**	**217**	*i* P		**Pg**	**05 03 03.2**	**+0.1**
MANT				*i* S		**Sg**	**05 03 12.6**	**-0.5**
MANT	**Manisa**	**0.77**	**217**	P		**Pg**	**05 03 03.2**	**+0.1**
MANT				S		**Sg**	**05 03 12.6**	**-0.5**
KHAL	**Karahalli**	**0.78**	**160**	*i* P		**Pb**	**05 03 04.7**	**0.0**
KHAL				*i* S		**Sg**	**05 03 14.3**	**+0.9**
KHAL	**Karahalli**	**0.78**	**160**	P		**Pb**	**05 03 04.7**	**0.0**
KHAL				S		**Sg**	**05 03 14.3**	**+0.9**
STEP	**BALIKESIR_Sava**	**1.15**	**284**	*i* P		**Pb**	**05 03 10.5**	**-0.4**
STEP				*i* S		**Sb**	**05 03 25.7**	**-0.6**
STEP	**BALIKESIR_Sava**	**1.15**	**284**	P		**Pb**	**05 03 10.5**	**-0.4**
STEP				S		**Sb**	**05 03 25.7**	**-0.6**
CAVI	**Cavuskoy**	**1.22**	**26**	PN		**Pb**	**05 03 11.8**	**-0.3**
CAVI	**Cavuskoy**	**1.22**	**26**	*e*Pn		**Pb**	**05 03 11.8**	**-0.3**
SHUT	**Suhut-Afyon**	**1.22**	**116**	PN		**Pg**	**05 03 11.9**	**+0.2**
SHUT	**Suhut-Afyon**	**1.22**	**116**	*e*Pn		**Pg**	**05 03 11.9**	**+0.2**
BORA	**Eskisehir**	**1.27**	**52**	*i* P		**Pb**	**05 03 13.4**	**+0.4**
BORA				*i* S		**Sn**	**05 03 31.2**	**+0.4**
BORA	**Eskisehir**	**1.27**	**52**	P		**Pb**	**05 03 13.4**	**+0.4**
BORA				S		**Sn**	**05 03 31.2**	**+0.4**
MDNY	**Mudanya-Bursa**	**1.28**	**351**	PN		**Pb**	**05 03 12.9**	**-0.2**
MDNY	**Mudanya-Bursa**	**1.28**	**351**	*e*Pn		**Pb**	**05 03 12.9**	**-0.2**
KCTX	**Karacabey (Bur**	**1.31**	**332**	PN		**Pg**	**05 03 13.5**	**+0.1**
KCTX	**Karacabey (Bur**	**1.31**	**332**	*e*Pn		**Pg**	**05 03 13.5**	**+0.1**
YLV	**Yalova**	**1.47**	**6**	PN		**Pb**	**05 03 15.8**	**-0.6**
YLV	**Yalova**	**1.47**	**6**	*e*Pn		**Pb**	**05 03 15.8**	**-0.6**
GULT	**Gulveren**	**1.69**	**38**	PN		**Pn**	**05 03 19.1**	**+0.2**
GULT	**Gulveren**	**1.69**	**38**	*e*Pn		**Pn**	**05 03 19.1**	**+0.2**

TEH 20 05:10:05.3, 32.°49N×47.°09E, h10km, ML3.1, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
IKFM	**Kafar-mosalman**	**1.21**	**31**	*e*Pg		Pn	05 10 26.8	-1.4
IKFM				*e*AMB		AMB	05 10 29.8	
	comp=Z,99nm,0.1s							
IKOM	**Komasi**	**1.71**	**12**	*e*Pn		Pn	05 10 36.0	+0.6
IKOM				*e*Sg		Sb	05 10 58.9	+0.3
IKOM				*e*AMB		AMB	05 11 02.9	
	comp=N,5μm,0.3s							
IGHG	**Ghaleghazi**	**1.88**	**347**	*e*Pn		Pn	05 10 37.7	-0.1
IVIS	**Veis**	**2.04**	**354**	*e*Pn		Pn	05 10 39.1	-0.7
IVIS				*e*AMB		AMB	05 11 11.5	
	comp=Z,787nm,0.3s							

JMA 20 05:19:34.3±0.2, 26.°00N×123.°56E, h284km, M3.8, Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
JISG	**Ishigakijimahi**	**1.56**	**154**	P		Pn	05 20 16.7	+0.3
JISG				*e*S		S	05 20 49.2	-0.6
YOJ	**Yonaguni jima**	**1.61**	**198**	P		Pn	05 20 16.9	+0.2
YOJ				*e*S		S	05 20 50.1	-0.3
IRIF	**Iriomote-Funau**	**1.67**	**175**	P		Pn	05 20 17.1	0.0
IRIF				S		S	05 20 50.9	-0.2
JTJ	**Tarama**	**1.70**	**142**	P		Pn	05 20 17.7	+0.3
JTJ				S		S	05 20 51.0	-0.6
JIJ	**Ishigaki jima**	**1.71**	**162**	P		Pn	05 20 17.3	-0.2
JIJ				S		S	05 20 50.8	-1.0
JKRS	**Kuro-shima**	**1.80**	**167**	P		Pn	05 20 18.6	+0.5
JKRS				S		S	05 20 52.9	-0.1
JIKM	**Ikemajima**	**1.86**	**125**	P		Pn	05 20 18.7	+0.1
JIKM				*e*S		S	05 20 52.9	-0.9
JIRB	**Irabujima**	**1.87**	**128**	P		Pn	05 20 18.2	-0.4
JIRB				*e*S		S	05 20 52.5	-1.3
HATJ	**Hateruma jima**	**1.95**	**173**	P		Pn	05 20 19.8	+0.5
HATJ				S		S	05 20 54.8	-0.3
JOGS	**Gusukube**	**2.08**	**126**	P		Pn	05 20 21.0	+0.7
JOGS				*e*S		S	05 20 56.4	-0.5
JOW	**Kunigami**	**4.31**	**78**	*e*S		S	05 21 29.0	-9.3

IDC ***20*** *05:22:29.1±2.4, 32.°34N×46.°93E, h0km, mb3.7/11, mb1 3.8/13, mb1mx3.7/58, mbtmp3.8/13, ML3.7/2, MS2.9/4, Ms1 2.9/4, ms1mx2.4/67, Error ellipse: s-maj=48.6km s-min=20.4km az=18.0*
ISCJB ***20*** *05:22:30.2±0.8, 32.°30N±0.°06×46.°75E±0.°07, h20km, mb3.8/10, MS3.3/1, Error ellipse: s-maj=10.5km s-min=7.1km az=38.8*
THR ***20*** *05:22:33.6±0.5, 32.°58N×46.°94E, h17km±5km, ML3.7*
CSEM ***20*** *05:22:33.8±1.2, 32.°57N×46.°98E, h10km, ML3.7, Error ellipse: s-maj=28.6km s-min=9.6km az=53.0*
TEH ***20*** *05:22:33.1, 32.°54N×46.°88E, h6km, ML3.7*
GII ***20*** *05:22:48.2±0.0, 32.°54N×46.°88E, h6km*

ISC 20 05:22:32.1±1.0, 32.°38N±0.°07×46.°83E±0.°08, h20km, n53, σ1°23/46, mb3.9/10, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
SHGR	**Shooshtar-Gavs**	**1.70**	**99**	*e*Pg		**Pb**	**05 23 03.7**	**+1.1**
SHGR	**Shooshtar-Gavs**	**1.70**	**99**	*e*Pg		**Pb**	**05 23 03.7**	**+1.1**
SHGR				AML		AML	05 23 29.2	
	comp=E,1μm,0.4s							
SHGR				AML		AML	05 23 31.2	
	comp=N,1μm,0.6s							
IKOM	**Komasi**	**1.88**	**18**	*e*Sg		**Sn**	**05 23 26.4**	**-0.1**
IKOM				*e*Pg		**Pn**	**05 23 04.3**	**+1.0**
IKOM				*e*AMB		AMB	05 23 30.9	
	comp=Z,11μm,0.4s							
IGHG	**Ghaleghazi**	**1.96**	**354**	*e*Pn		**Pn**	**05 23 04.9**	**+0.5**
IGHG				*e*AMB		AMB	05 23 40.6	
	comp=Z,10μm,0.3s							
IGHG	**Ghaleghazi**	**1.96**	**354**	*e*Pn		**Pn**	**05 23 04.9**	**+0.5**
IVIS	**Veis**	**2.14**	**1**	*e*AMB		AMB	05 23 39.1	
IVIS	comp=Z,3μm,0.3s			*e*Pn		**Pn**	**05 23 06.8**	**-0.1**
SNGE	**Sanandaj**	**2.74**	**9**	*e*Pn		**Pn**	**05 23 16.1**	**+0.9**
SNGE	**Sanandaj**	**2.74**	**9**	*e*Pn		**Pn**	**05 23 16.1**	**+0.9**
SNGE				*e*Sg		**Sb**	**05 23 52.9**	**-0.9**
SNGE				AML		AML	05 24 00.6	
	comp=E,171nm,0.8s							
KHMZ	**Khomeyn**	**2.96**	**62**	*e*Pn		**Pn**	**05 23 19.4**	**+1.2**
KHMZ	**Khomeyn**	**2.96**	**62**	*e*Pn		**Pn**	**05 23 19.4**	**+1.2**
ASAO	**Ashtian**	**3.44**	**50**	*e*Pn		**Pn**	**05 23 26.2**	**+1.4**
ASAO	**Ashtian**	**3.44**	**50**	*e*Pn		**Pn**	**05 23 26.2**	**+1.4**
IPIR	**Pirpir**	**3.45**	**84**	*e*Pn		**Pn**	**05 23 27.1**	**+2.1**
IPIR				*e*AMB		AMB	05 24 32.7	
	comp=Z,2μm,0.3s							
IPIR	**Pirpir**	**3.45**	**84**	*e*Pn		**Pn**	**05 23 27.1**	**+2.1**
HKZM	**Kohzaman**	**3.46**	**29**	*e*Pn		**Pn**	**05 23 25.6**	**+0.5**
HKZM				*e*AMB		AMB	05 24 26.1	
	comp=Z,99nm,0.4s							
HKZM	**Kohzaman**	**3.46**	**29**	*e*Pn		**Pn**	**05 23 25.6**	**+0.5**

IRAZ	**Razeghan**	**3.97**	**40**	*e*Pn		**Pn**	**05 23 32.5**	**+0.4**
IRAZ				*e*AMB		AMB	05 24 43.3	
	comp=Z,2μm,0.5s							
IRAZ	**Razeghan**	**3.97**	**40**	*e*Pn		**Pn**	**05 23 32.5**	**+0.4**
IKLH	**Kolahrood**	**4.11**	**76**	*e*Pn		**Pn**	**05 23 35.5**	**+1.4**
IKLH				*e*AMB		AMB	05 25 01.6	
	comp=Z,949nm,0.4s							
IKLH	**Kolahrood**	**4.11**	**76**	*e*Pn		**Pn**	**05 23 35.5**	**+1.4**
QAM	**Ghamsar**	**4.11**	**69**	*e*Pn		**Pn**	**05 23 35.4**	**+1.4**
QAM				*e*AMB		AMB	05 24 44.2	
	comp=Z,1μm,0.2s							
GHVR	**GHOM**	**4.28**	**60**	*e*Pn		**Pn**	**05 23 37.1**	**+0.8**
GHVR	**GHOM**	**4.28**	**60**	*e*Pn		**Pn**	**05 23 37.1**	**+0.8**
IGAR	**Gharneh**	**4.41**	**88**	*e*Pn		**Pn**	**05 23 39.0**	**+0.8**
IGAR				*e*AMB		AMB	05 24 35.0	
	comp=Z,819nm,0.2s							
IZEF	**Zefreh**	**4.67**	**82**	*e*Pn		**Pn**	**05 23 42.9**	**+1.1**
IZEF				*e*AMB		AMB	05 24 06.1	
	comp=Z,416nm,0.3s							
IZEF	**Zefreh**	**4.67**	**82**	*e*Pn		**Pn**	**05 23 42.9**	**+1.1**
IRAM	**Ramesheh**	**4.75**	**95**	*e*Pn		**Pn**	**05 23 43.8**	**+1.0**
IRAM				*e*AMB		AMB	05 24 47.4	
	comp=Z,428nm,0.2s							
IRAM	**Ramesheh**	**4.75**	**95**	*e*Pn		**Pn**	**05 23 43.8**	**+1.0**
IDMV	**Damavand**	**5.37**	**52**	*e*Pn		**Pn**	**05 23 50.6**	**-0.9**
IDMV				*e*AMB		AMB	05 25 30.9	
	comp=Z,455nm,0.5s							
IDMV	**Damavand**	**5.37**	**52**	*e*Pn		**Pn**	**05 23 50.6**	**-0.9**
GNI	**Garni**	**7.93**	**348**	LR	LR	LR	05 27 59.5	
	comp=Z,38nm,18.0s,baz=180,slow=41							
ASF	**Jabal al Asfar**	**8.41**	**271**	Lg		Lg	05 26 56.8	
	comp=Z,0.2nm,0.3s,baz=70,slow=18,SNR=3.2							
HMDT	**Nahal Hemdat**	**9.56**	**272**	Sn		Sn	05 26 56.2	+21
ZFRI	**Zfri**	**10.11**	**263**	Sn		Sn	05 27 09.3	+20
PRNI	**Paran**	**10.31**	**262**	Sn		Sn	05 27 15.2	+21
MBRI	**Mt Berech**	**10.53**	**259**	Sn		Sn	05 27 20.2	+21
EIL	**Elat**	**10.54**	**258**	Lg		Lg	05 28 08.4	
	comp=Z,0.2nm,0.3s,baz=81,slow=13,SNR=2.8							
EIL	**Elat**	**10.54**	**258**	Sn		Sn	05 27 20.4	+21
GEYT	**Alibeck**	**10.77**	**56**	LR		LR	05 29 38.6	
	comp=Z,97nm,19.3s,baz=255,slow=40							
WSAR	**Wadi Sarin**	**13.85**	**128**	Pn		**Pn**	**05 25 46.7**	**-0.7**
	comp=Z,0.6nm,0.3s,baz=348,slow=11,SNR=6.7							
WSAR				Sn		**Sn**	**05 28 16.1**	**-4.4**
	comp=Z,0.3nm,0.3s,baz=274,slow=19,SNR=4.6							
AKTO	**Aktyubinsk**	**19.86**	**21**	P		**P**	**05 27 00.8**	**-1.0**
	comp=Z,0.2nm,0.3s,baz=216,slow=14,SNR=3.4							
AKTO				LR		LR	05 37 22.1	
	comp=Z,24nm,21.2s,baz=150,slow=45							
MLR	**Muntele Rosu**	**20.79**	**315**	P		**P**	**05 27 12.8**	**+0.7**
	comp=Z,0.3nm,0.7s,baz=163,slow=11,SNR=2.3							
AKASG	**Malin Array Be**	**22.45**	**330**	P		**P**	**05 27 30.2**	**+0.4**
	comp=Z,0.2nm,0.4s,baz=138,slow=9.0,SNR=8.8							
AAK	**Ala-Archa**	**24.12**	**57**	P		**P**	**05 27 47.2**	**+0.4**
	comp=Z,0.8nm,0.3s,baz=228,slow=9.6,SNR=4.3							
BVAR	**Borovoye Array**	**26.72**	**32**	P		**P**	**05 28 09.6**	**-0.4**
	comp=Z,2.5nm,0.8s,baz=229,slow=8.8,SNR=10							
KURBB	**Kurchatov Arra**	**29.61**	**43**	P		**P**	**05 28 36.0**	**+0.2**
	comp=Z,1.0nm,0.8s,baz=250,slow=9.0,SNR=5.6							
MKAR	**Makanchi Array**	**30.60**	**52**	P		**P**	**05 28 44.9**	**+0.2**
	comp=Z,1.2nm,0.8s,baz=252,slow=7.3,SNR=9.9							
FINES	**FINESS Array B**	**32.05**	**341**	P		**P**	**05 28 59.6**	**+2.4**
	comp=Z,2.7nm,1.0s,baz=189,slow=7.9,SNR=2.9							
ZALV	**Zalesovo Beam**	**34.51**	**40**	P		**P**	**05 29 18.2**	**-0.6**
	comp=Z,1.4nm,0.6s,baz=249,slow=9.1,SNR=6.6							
HFS	**Hagfors**	**35.31**	**332**	P		**P**	**05 29 26.1**	**+0.5**
	comp=Z,1.5nm,0.8s,baz=165,slow=9.2,SNR=2.2							
TLY	**Talaya**	**45.14**	**47**	LR		LR	05 50 30.8	
	comp=Z,34nm,18.1s,baz=108,slow=37							
USRK	**Ussuriysk Ar.**	**65.06**	**52**	P		**P**	**05 33 10.3**	**-0.8**
	comp=Z,1.2nm,0.6s,baz=254,slow=5.4,SNR=2.8							
YKA	**Yellowknife Ar**	**84.28**	**351**	P		**P**	**05 35 02.0**	**-0.2**
	comp=Z,0.5nm,1.0s,baz=16,slow=5.6,SNR=7.6							

CSEM ***20*** *05:30:54.5, 40.°66N×19.°44E, h57km, ML2.5*

TIR 20 05:30:54.5, 40.°66N×19.°44E, h57km, Md2.5/6, Albania

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
TIR	**Tirane**	**0.76**	**25**	*i* Pg		Pn	05 31 09.8	+0.6
TIR				*i* Sg		Sn	05 31 23.0	+2.9
TIR	**Tirane**	**0.76**	**25**	*i* PG		Pn	05 31 09.8	+0.5
TIR				*i* SG		Sn	05 31 23.0	+2.9
SRN	**Sarande**	**0.90**	**151**	*i* Pg		Pn	05 31 13.2	+2.2
SRN				*i* Sg		Sn	05 31 25.7	+2.6
SRN	**Sarande**	**0.90**	**151**	*i* PG		Pn	05 31 13.2	+2.2
SRN				*i* SG		Sn	05 31 25.7	+2.6
PHP	**Peshkopia**	**1.27**	**36**	*i* Pg		Pn	05 31 16.9	+0.8
PHP				*i* Sg		Sn	05 31 35.5	+3.3
PHP	**Peshkopia**	**1.27**	**36**	*i* PG		Pn	05 31 16.9	+0.8
PHP				*i* SG		Sn	05 31 35.5	+3.3
PUK	**Puka**	**1.42**	**14**	*i* Pn		Pn	05 31 20.5	+2.4
PUK				*i* Sn		Sn	05 31 39.8	+4.0
PUK	**Puka**	**1.42**	**14**	*i* PN		Pn	05 31 20.5	+2.4
PUK				*i* SN		Sn	05 31 39.8	+4.0

GEN ***20*** *05:35:50.8, 44.°47N×6.°70E, h9km, ML1.5*
ISCJB ***20*** *05:35:50.3±0.3, 44.°49N±0.°01×6.°71E±0.°02, h12km±2km, Error ellipse: s-maj=2.7km s-min=2.5km az=3.5*
CSEM ***20*** *05:35:50.6±0.1, 44.°49N×6.°71E, h10km, ML2.3/13, Error ellipse: s-maj=1.8km s-min=1.6km az=56.0*
LDG ***20*** *05:35:51.0±0.1, 44.°49N×6.°70E, h2km, Md2.6/1, Ml2.5/6, Error ellipse: s-maj=1.2km s-min=0.9km az=66.0*
STR ***20*** *05:35:51.0±0.4, 44.°N±2°×°±°, h5km, M2.0/6, MLv2.0/6*
ROM ***20*** *05:35:51.1±0.3, 44.°51N×6.°79E, h22km±7km, Md1.9/6, Ml1.7/4, Error ellipse: s-maj=5.2km s-min=2.2km az=73.0*

ISC 20 05:35:51.1±0.9, 44.°51N±0.°02×6.°75E±0.°02, h21km±1km, n51, σ0°85/90, France

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
OGAG	**Argentiere**	**0.16**	**249**	Pg		**Pb**	**05 35 57.1**	**-0.2**
OGAG	**Argentiere**	**0.16**	**249**	Sg		**Sb**	**05 36 02.2**	**+0.5**
MBDF	**Montbardon**	**0.22**	**4**	*e*Pg		**Pb**	**05 35 56.0**	**-1.3**
MBDF				*e*Sg		**Sb**	**05 35 59.5**	**-2.1**
	58nm,0.3s							
MBDF	**Montbardon**	**0.22**	**4**	*e*Pg		**Pb**	**05 35 56.0**	**-1.3**
MBDF				*e*Sg		**Sb**	**05 35 59.5**	**-2.1**
	29nm,0.3s							
PZZ	**Stroppo**	**0.26**	**91**	Pg		**Pb**	**05 35 57.0**	**-0.6**
PZZ				Sg		**Sb**	**05 36 01.1**	**-0.9**
	235nm,0.2s							
OG22	**Abries**	**0.34**	**24**	Pg		**Pb**	**05 35 56.5**	**-2.1**
OG22				Sg		**Sb**	**05 36 01.7**	**-2.0**
DOI	**San Damiano**	**0.36**	**91**	Pg		**Pb**	**05 35 58.5**	**-0.2**
DOI				Sg		**Sb**	**05 36 03.8**	**-0.1**
	65nm,0.3s							
DOI	**San Damiano**	**0.36**	**91**	Pg		**Pb**	**05 35 58.5**	**-0.2**
DOI				Sg		**Sb**	**05 36 03.8**	**-0.1**
	65nm,0.3s							
ISO	**Isola**	**0.39**	**146**	Sg		**Sb**	**05 36 03.4**	**-1.5**
ISO	**Isola**	**0.39**	**146**	Pg		**Pb**	**05 35 58.3**	**-1.0**
RRL	**Rocca Remolon**	**0.41**	**4**	P		**Pb**	**05 35 59.4**	**-0.3**
RRL	**Rocca Remolon**	**0.41**	**4**	Pg		**Pb**	**05 35 59.7**	**0.0**
RRL				Sg		**Sb**	**05 36 05.7**	**+0.1**
	42nm,0.3s							
RRL	**Rocca Remolon**	**0.41**	**4**	Pg		**Pb**	**05 35 59.7**	**0.0**
RRL				Sg		**Sb**	**05 36 05.7**	**+0.1**
	42nm,0.3s							
STV	**Sant Anna di V**	**0.49**	**122**	P		**Pb**	**05 36 00.7**	**-0.4**
STV				S		**Sb**	**05 36 06.8**	**-1.1**
STV				Sg		**Sb**	**05 36 07.2**	**-0.7**
	27nm,0.4s							
STV	**Sant Anna di V**	**0.49**	**122**	Pg		**Pb**	**05 36 00.7**	**-0.4**
STV				Sg		**Sb**	**05 36 07.2**	**-0.7**
	27nm,0.4s							
BHB	**Bricherasio**	**0.49**	**48**	P		**Pb**	**05 36 01.3**	**+0.2**
BHB				S		**Sb**	**05 36 08.3**	**+0.3**
BHB	**Bricherasio**	**0.49**	**48**	Pg		**Pb**	**05 36 01.3**	**+0.2**
BHB				Sg		**Sb**	**05 36 08.2**	**+0.3**
OG25	**Le Caire**	**0.50**	**254**	Pg		**Pb**	**05 36 00.1**	**-1.2**
OG25				Sg		**Sb**	**05 36 05.9**	**-2.4**
OGDI	**Digne**	**0.51**	**219**	Sg		**Sb**	**05 36 08.3**	**-0.2**
OGDI	**Digne**	**0.51**	**219**	Pg		**Pb**	**05 36 01.9**	**+0.4**
ENR	**Entracque**	**0.56**	**120**	P		**Pb**	**05 36 01.8**	**-0.6**
ENR				S		**Sb**	**05 36 09.0**	**-1.0**
ENR				Sg		**Sb**	**05 36 10.3**	**+0.3**
ENR	**Entracque**	**0.56**	**120**	Pg		**Pb**	**05 36 01.8**	**-0.6**
ENR				Sg		**Sb**	**05 36 10.3**	**+0.3**
RSP	**Reno Superiore**	**0.74**	**30**	P		**Pb**	**05 36 05.7**	**+0.4**
RSP				S		**Sb**	**05 36 16.0**	**+1.0**

ORIF	**Oris-en-Rattie**	**0.74**	**304**	*e*Pg		**Pb**	**05 36 04.3**	**-1.1**
ORIF				*e*Sg		**Sb**	**05 36 14.0**	**-1.1**
	16nm,0.3s							
ORIF	**Oris-en-Rattie**	**0.74**	**304**	*e*Pg		**Pb**	**05 36 04.3**	**-1.1**
ORIF				*e*Sg		**Sb**	**05 36 14.0**	**-1.1**
	8.1nm,0.3s							
ORIF	**Oris-en-Rattie**	**0.74**	**304**	Pg		**Pb**	**05 36 04.6**	**-0.8**
CALF	**Calern**	**0.77**	**171**	Sg		**Sb**	**05 36 15.7**	**-0.2**
CALF	**Calern**	**0.77**	**171**	Pg		**Pb**	**05 36 05.6**	**-0.3**
SBF	**Sospel**	**0.81**	**142**	*e*Pg		**Pb**	**05 36 06.6**	**0.0**
SBF				*e*Sg		**Sb**	**05 36 17.9**	**+0.7**
	14nm,0.3s							
SBF	**Sospel**	**0.81**	**142**	*e*Pg		**Pb**	**05 36 06.6**	**0.0**
SBF				*e*Sg		**Sb**	**05 36 17.9**	**+0.7**
	7.2nm,0.3s							
GBOS	**Grotte di Boss**	**0.83**	**109**	P		**Pb**	**05 36 06.9**	**+0.1**
GBOS				S		**Sb**	**05 36 17.3**	**-0.3**
FRF	**La Foret Royal**	**0.95**	**184**	*e*Pg		**Pb**	**05 36 08.5**	**-0.4**
FRF				*e*Sg		**Sb**	**05 36 20.9**	**-0.2**
	34nm,0.2s							
FRF	**La Foret Royal**	**0.95**	**184**	*e*Pg		**Pb**	**05 36 08.5**	**-0.4**
FRF				*e*Sg		**Sb**	**05 36 20.9**	**-0.2**
	17nm,0.2s							
LPG	**La Plagne**	**0.99**	**0**	*e*Pg		**Pn**	**05 36 10.2**	**+0.2**
LPG				*e*Sg		**Sn**	**05 36 24.0**	**+0.5**
	10nm,0.2s							
LPG	**La Plagne**	**0.99**	**0**	*e*Pg		**Pn**	**05 36 10.2**	**+0.2**
LPG				*e*Sg		**Sn**	**05 36 24.0**	**+0.5**
	5.2nm,0.2s							
SMRF	**Simiane la Rot**	**1.00**	**238**	*e*Pn		**Pn**	**05 36 09.9**	**0.0**
SMRF				*e*Sn		**Sn**	**05 36 23.4**	**0.0**
	16nm,0.4s							
SMRF	**Simiane la Rot**	**1.00**	**238**	*e*Pn		**Pn**	**05 36 09.9**	**0.0**
SMRF				*e*Sn		**Sn**	**05 36 23.4**	**0.0**
	8.1nm,0.4s							
LPL	**La Plagne**	**1.01**	**359**	*e*Pg		**Pb**	**05 36 10.4**	**+0.2**
LPL				*e*Sg		**Sn**	**05 36 24.1**	**+0.2**
	10.0nm,0.4s							
LPL	**La Plagne**	**1.01**	**359**	*e*Pg		**Pn**	**05 36 10.4**	**+0.2**
LPL				*e*Sg		**Sn**	**05 36 24.1**	**+0.2**
	5.0nm,0.4s							
RUSF	**Rustrel**	**1.07**	**238**	Pn		**Pb**	**05 36 11.6**	**+0.6**
RUSF	**Rustrel**	**1.07**	**238**	Sg		**Sn**	**05 36 26.7**	**+1.4**
LMR	**La Mourre**	**1.19**	**188**	*e*Pn		**Pb**	**05 36 13.3**	**+0.4**
LMR				*e*Sg		**Sb**	**05 36 27.6**	**-0.3**
	8.2nm,0.2s							
LMR	**La Mourre**	**1.19**	**188**	*e*Pn		**Pb**	**05 36 13.3**	**+0.4**
LMR				*e*Sg		**Sb**	**05 36 27.6**	**-0.3**
	4.1nm,0.2s							
VIVF	**Saint-Julien-l**	**1.52**	**284**	*e*P		**Pb**	**05 36 17.9**	**-0.7**
VIVF				*e*Sg		**Sb**	**05 36 37.4**	**-0.1**
	3.1nm,0.3s							
VIVF	**Saint-Julien-l**	**1.52**	**284**	*e*P		**Pb**	**05 36 17.9**	**-0.7**
VIVF				*e*Sg		**Sb**	**05 36 37.4**	**-0.1**
	1.5nm,0.3s							
LASF	**Ste Croix**	**2.12**	**259**	*e*P		**Pn**	**05 36 26.1**	**+0.7**
LASF				*e*Sn		**Sn**	**05 36 50.1**	**-1.0**
LASF	**Ste Croix**	**2.12**	**259**	*e*P		**Pn**	**05 36

1.4nm,0.3s,baz=89,slow=20,SNR=8.4
PPT Papeete 27.14 69 LR LR 06 32 02.8
comp=Z,34nm,19.1s,baz=358,slow=34
ASAR Alice Springs 44.76 266 P **P 06 25 08.0 0.0**
0.3nm,0.7s,baz=101,slow=7.3,SNR=2.9
WRA Warramunga Arr 45.70 271 P **P 06 25 15.7 +0.2**
0.6nm,0.6s,baz=109,slow=7.6,SNR=7.9
NVAR Mina Array Bea 86.73 42 P **P 06 29 38.3 0.0**
0.3nm,0.6s,baz=209,slow=8.3,SNR=3.6
AKASG Malin Array Be 151.80 325 PKPbc **PKPbc 06 36 48.1 -0.2**
0.3nm,0.4s,baz=47,slow=2.6,SNR=1.7

IDC 20 06:53:01.6±7.0, 20.27S×177.04W, h0km, mb3.3/2, mb1 3.6/2, mb1mx3.3/41, mbtmp3.3/2, Error ellipse: s-maj=377.6km s-min=100.4km az=156.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**45.45**	**256**	P	P	07 01 22.2	-0.5
	0.2nm,0.5s,baz=105,slow=7.1,SNR=4.0						
WRA	**Warramunga Arr**	**45.53**	**262**	P	P	07 01 23.4	+0.1
	0.4nm,0.9s,baz=97,slow=7.5,SNR=10						
AKASG	**Malin Array Be**	**143.25**	**332**	PKP	PKPdf	07 12 37.0	-0.6
	0.4nm,0.3s,baz=43,slow=3.9,SNR=4.4						

*CSEM **20** 07:02:28.3±0.3, 32.55N×46.75E, h2km, ML3.5, Error ellipse: s-maj=7.5km s-min=5.4km az=135.0*
*ISN **20** 07:02:28.9±0.6, 32.50N×46.72E, h2km±2km, ML3.5*
TEH 20 07:02:29.5, 32.50N×46.76E, h10km, ML3.5, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IKFM	**Kafar-mosalman**	**1.38**	**41**	*e*Pg	Pn	07 02 54.5	-0.2
IKFM				*e*Sg	Sb	07 03 12.3	-0.6
IKFM				*e*AMB	AMB	07 03 19.4	
	comp=Z,99nm,0.7s						
IKFM	**Kafar-mosalman**	**1.38**	**41**	*e*Pg	Pn	07 02 54.5	-0.2
IKFM				*e*Sg	Sb	07 03 12.3	-0.6
NSR	**Nassriya**	**1.57**	**200**	*e*Pn	Pn	07 02 58.0	+0.6
	SNR=3.0						
NSR				*e*Sn	Sn	07 03 18.0	+0.2
	SNR=3.0						
IKOM	**Komasi**	**1.79**	**20**	*e*Pg	Pb	07 03 01.9	-0.6
IKOM				*e*Sg	Sb	07 03 25.6	+0.6
IKOM				*e*AMB	AMB	07 03 34.1	
	comp=Z,7μm,0.2s						
IKOM	**Komasi**	**1.79**	**20**	*e*Pg	Pb	07 03 01.9	-0.6
IKOM				*e*Sg	Sb	07 03 25.6	+0.6
IVIS	**Veis**	**2.03**	**2**	*e*AMB	AMB	07 03 41.8	
	comp=Z,6μm,0.5s						
IVIS				*e*Pg	Pb	07 03 05.7	-0.8
BHD	**Baghdad**	**2.15**	**292**	*e*Pn	Pn	07 03 06.0	+0.7
	SNR=3.0						
BHD				*e*Sn	Sn	07 03 32.0	0.0
	SNR=3.0						

MEX 20 07:04:31.1±0.3, 16.23N×98.21W, h18km±22km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.18**	**27**	*e*P	Pb	07 04 35.0	-0.2
PNIG				*i* S	Sb	07 04 38.0	+0.1
TLIG	**Tlapa**	**1.37**	**346**	*e*P	Pn	07 04 51.7	-3.7
TLIG				*e*S	Sn	07 05 08.3	-4.7
VHO	**Vista Hermosa**	**1.65**	**59**	*e*P	Pn	07 04 55.9	-3.4

*ISCJB **20** 07:07:39.3±0.6, 32.39N±0.03×115.22W±0.03, h11km±3km, Error ellipse: s-maj=4.8km s-min=4.7km az=173.4*
*ECX **20** 07:07:40.9±0.6, 32.38N×115.22W, h5km, MD2.5, ML2.7*
ISC 20 07:07:38.2±0.9, 32.42N±0.03×115.20W±0.03, h15km±6km, n25, σ0°60/33, 6C-4D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CPBX	**Cerro Prieto**	**0.09**	**271**	⇑*e*P	**Pg**	**07 07 41.1**	**-0.2**
CPBX				*e*S	**Sg**	**07 07 43.2**	**-0.1**
CPBX				IAML		07 07 47.2	
	comp=N,10μm,0.3s						
CPBX				⇑*e*		07 07 47.2	
CPBX				⇑*e*		07 07 47.5	
CPBX				IAML		07 07 47.5	
	comp=E,21μm,0.6s						
EMSC	**East Mesa**	**0.37**	**30**	*e*P	**Pn**	**07 07 48.4**	**-0.7**
DREC	**Desert Rsrch C**	**0.44**	**332**	*e*P	**Pn**	**07 07 49.4**	**-0.6**
COA	**Coachella**	**0.45**	**9**	⇓*i*P	**Pn**	**07 07 49.7**	**-0.4**
SGL	**Mount Signal**	**0.50**	**298**	⇓*i*P	**Pb**	**07 07 49.4**	**+0.8**
WESC	**Westside Schoo**	**0.56**	**308**	⇑*e*P	**Pn**	**07 07 51.4**	**-0.3**
YMD	**Yuma Desert**	**0.57**	**76**	⇑*i*P	**Pn**	**07 07 51.1**	**-0.7**
COK	**Cook Ranch**	**0.62**	**314**	*e*P	**Pn**	**07 07 52.0**	**-0.4**
YUH	**Yuha Desert**	**0.65**	**291**	⇓*i*P	**Pb**	**07 07 52.0**	**+0.7**
GLA	**Glamis**	**0.71**	**27**	P	**Pn**	**07 07 53.3**	**-0.5**
	baz=206,SNR=30						
GLA				S	**Sn**	**07 08 03.8**	**-0.7**
	baz=206						
SWSC	**Sam W. Stewart**	**0.73**	**316**	P	**Pb**	**07 07 53.1**	**+0.5**
	baz=140,SNR=28						
SWSC				S	**Sb**	**07 08 03.5**	**+1.1**
	baz=140						
IKP	**In-Ko-Pah, Jac**	**0.80**	**287**	P	**Pn**	**07 07 54.5**	**-0.6**
	baz=110,SNR=29						
IKP				S	**Sb**	**07 08 05.6**	**+1.1**
	baz=110						
IKP	**In-Ko-Pah, Jac**	**0.80**	**287**	⇓*e*P	**Pn**	**07 07 54.7**	**-0.3**
ECBX	**El Chinero**	**0.95**	**172**	⇑*e*P	**Pn**	**07 07 57.1**	**+0.1**
ECBX				*e*S	**Sn**	**07 08 10.0**	**-0.4**
MONP2	**Monument Peak**	**1.13**	**295**	P	**Pb**	**07 07 59.5**	**-0.1**
	baz=117,SNR=12						
MONP2				S	**Sb**	**07 08 14.6**	**+0.3**
	baz=117						
CBX	**Cerro Bola**	**1.24**	**266**	*e*P	**Pg**	**07 08 02.0**	**-0.1**
CBX				IAML		07 08 20.9	
	comp=N,113nm,0.9s						
BC3	**Big Chuckawall**	**1.25**	**350**	S	**Sn**	**07 08 18.0**	**0.0**
	baz=171						
SPIG	**San Pedro Mart**	**1.39**	**189**	*e*P	**Pb**	**07 08 04.2**	**+0.2**
SPX	**San Pedro Mart**	**1.39**	**189**	*e*P	**Pb**	**07 08 04.3**	**+0.3**
Y12C	**Blythe**	**1.45**	**23**	Pb	**Pg**	**07 08 06.6**	**+0.6**
	baz=203,SNR=23						
Y12C				Sb	**Sg**	**07 08 25.7**	**+0.8**
	baz=203						
PFO	**Pinyon Flats O**	**1.59**	**319**	P	**Pn**	**07 08 05.6**	**-0.4**
	baz=140						
109C	**Camp Elliot, M**	**1.67**	**287**	Pb	**Pg**	**07 08 10.0**	**-0.3**
	baz=108						
109C				Sb	**Sg**	**07 08 31.5**	**-0.5**
	baz=108						
IRM	**Iron Mountain**	**1.74**	**2**	Pb	**Pg**	**07 08 11.6**	**+0.1**
	baz=182,SNR=28						
214A	**Organ Pipe Nat**	**2.08**	**102**	P	**Pn**	**07 08 12.2**	**-0.4**
	baz=282						
GMRC	**Granite Mounta**	**2.39**	**351**	Pb	**Pg**	**07 08 22.8**	**-1.3**
	baz=171,SNR=12						

*DJA **20** 07:29:06.9±1.6, 1.1N±9.9×9.3E±1.9, h16km±27km, M5.2/12, mb5.1/12, mB5.8/7, MLv5.2/9, Mw(mB)5.3/7*
*IDC **20** 07:29:08.7±1.2, 0.79N×93.09E, h0km, mb3.9/9, mb1 4.0/12, mb1mx3.7/74, mbtmp4.0/12, ML4.3/3, MS3.2/2, Ms1 3.4/2, ms1mx2.6/63, Error ellipse: s-maj=33.8km s-min=18.5km az=46.0*
*ISCJB **20** 07:29:12.2±0.7, 0.90N±0.06×93.15E±0.06, h33km, mb4.0/9, MS3.2/1, Error ellipse: s-maj=10.2km s-min=6.8km az=33.5*
ISC 20 07:29:14.0±0.8, 0.90N±0.07×93.10E±0.07, h35km, n29, σ29°13/34, mb4.0/9, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GSI	**Gunungsitoli**	**4.50**	**85**	P	**Pn**	**07 30 20.4**	**+0.7**
GSI				S	**Sn**	**07 31 08.5**	**-2.4**
MLSI	**Meulaboh, Aceh**	**4.71**	**45**	P	**Pn**	**07 30 22.4**	**-0.2**
MLSI				S	**Sn**	**07 31 12.0**	**-4.0**
TPTI		**4.71**	**60**	P	**Pn**	**07 30 22.9**	**+0.3**
	304nm,0.8s,7μm						
TPTI				S	**Sn**	**07 31 13.2**	**-2.9**
	304nm,0.8s,7μm						
BSI	**Banda Aceh**	**5.07**	**26**	P	**Pn**	**07 30 27.7**	**+0.1**
	76nm,0.6s,9μm						
BSI				S	**Sn**	**07 31 21.2**	**-3.8**
	76nm,0.6s,9μm						
KCSI	**Kotacane, Aceh**	**5.35**	**61**	P	**Pn**	**07 30 33.9**	**+2.4**
LHMI	**Lhok Sumawe**	**5.77**	**42**	P	**Pn**	**07 30 38.3**	**+1.0**
	319nm,0.6s,4μm						
LHMI				S	**Sn**	**07 31 49.0**	**+6.7**
	319nm,0.6s,4μm						
PSI	**Prapat**	**6.12**	**72**	Pn	**Pn**	**07 30 42.5**	**+0.3**
	7.7nm,0.3s,baz=263,slow=11,SNR=17						
SISI	**Saibi**	**6.39**	**110**	P	**Pn**	**07 30 45.1**	**-0.6**
	67nm,0.7s						
MNSI	**Mandailing Nat**	**6.48**	**91**	P	**Pn**	**07 30 47.5**	**+0.5**
	331nm,0.5s,6μm						
PDSI	**Padang**	**7.58**	**104**	P	**Pn**	**07 31 01.2**	**-1.0**
PPSI	**Pulau Pagai**	**7.81**	**118**	P	**Pn**	**07 31 02.6**	**-2.6**
PPSI				S	**Sn**	**07 32 35.4**	**+2.9**
PKDT	**Phuket**	**8.69**	**37**	P	**Pn**	**07 31 16.9**	**-0.5**
	25nm,0.7s						
TRTT	**Trang**	**9.53**	**43**	P	**Pn**	**07 31 29.4**	**+0.6**
	9.0nm,0.8s						
SKLT	**Songkhla**	**9.75**	**50**	P	**Pn**	**07 31 31.3**	**-0.6**
DGPR	**DIGLIPUR**	**12.21**	**359**	*ex*	**Pn**	**07 32 03.5**	**-2.0**
PALK	**Pallekele**	**13.88**	**297**	Pn	**Pn**	**07 32 25.8**	**-2.7**
	1.0nm,0.3s,baz=115,slow=16,SNR=3.7						
PALK				Sn	Sn	07 34 47.3	-14
	4.4nm,0.3s,baz=116,slow=6.1,SNR=7.4						
CMAR	**Chiang Mai Arr**	**18.37**	**18**	P	**Pn**	**07 33 26.9**	**+0.8**
	0.5nm,0.3s,baz=214,slow=12,SNR=7.7						
CMAR					LR	07 40 24.9	
	comp=Z,83nm,18.9s,baz=202,slow=37						
VIS	**Vishakhapatnam**	**19.28**	**331**	*ex*	**Pn**	**07 33 39.1**	**+1.9**
WRA	**Warramunga Arr**	**45.41**	**119**	P	**P**	**07 37 29.1**	**-0.6**
	1.7nm,0.7s,baz=297,slow=8.5,SNR=19						
ASAR	**Alice Springs**	**46.55**	**124**	P	**P**	**07 37 37.8**	**-0.9**
	0.4nm,0.5s,baz=294,slow=8.0,SNR=6.6						
MKAR	**Makanchi Array**	**46.68**	**350**	P	**P**	**07 37 39.8**	**+0.4**
	1.1nm,0.9s,baz=164,slow=9.0,SNR=11						
SONM	**Songino Array**	**48.16**	**12**	P	**P**	**07 37 51.9**	**+1.0**
	2.0nm,0.7s,baz=200,slow=8.0,SNR=7.4						
KSRS	**Korea Array**	**48.50**	**37**	P	**P**	**07 37 54.2**	**+0.7**
	2.1nm,0.7s,baz=224,slow=9.2,SNR=8.2						
KURBB	**Kurchatov Arra**	**51.07**	**348**	P	**P**	**07 38 12.7**	**-0.2**
	0.2nm,0.4s,baz=176,slow=7.5,SNR=2.5						
ZALV	**Zalesovo Beam**	**53.32**	**354**	P	**P**	**07 38 30.1**	**+0.5**
	0.7nm,0.4s,baz=191,slow=6.8,SNR=2.1						
MJAR	**Matsushiro Arr**	**54.73**	**44**	LR	LR	08 05 10.1	
	comp=Z,21nm,18.1s,baz=210,slow=39						
BRTR	**Keskin Array B**	**66.31**	**314**	P	**P**	**07 40 01.8**	**+2.4**
	0.6nm,0.4s,baz=111,slow=3.2,SNR=3.1						
TIXI	**Tiksi**	**74.24**	**11**	P	**P**	**07 40 46.1**	**-0.9**
	2.6nm,0.6s,baz=229,slow=2.7,SNR=8.8						
TXAR	**Lajitas Array**	**145.94**	**27**	PKPbc	**PKPdf**	**07 48 50.1**	**0.0**
	0.5nm,0.7s,baz=290,slow=2.0,SNR=9.1						

*DJA **20** 07:51:18.7±3.6, 2.6N±6.9×92.2E±3.1, h10km, M5.2/12, mb5.1/12, mB5.6/6, MLv5.2/6, Mw(mB)5.1/6*
*ISCJB **20** 07:51:21.8±0.2, 2.52N±0.03×91.94E±0.02, h10km, mb4.7/120, MS3.7/30, Error ellipse: s-maj=4.6km s-min=3.0km az=25.7*
*IDC **20** 07:51:22.0±0.5, 2.52N×91.87E, h0km, mb4.4/30, mb1 4.5/33, mb1mx4.4/70, mbtmp4.4/33, ML4.3/3, MS3.6/27, Ms1 3.6/27, ms1mx3.4/62, Error ellipse: s-maj=16.5km s-min=11.6km az=33.0*
*BJI **20** 07:51:22.4, 2.60N×91.90E, h10km, mb4.8/39, mB4.9/21, Ms4.4/10, Ms7 4.1/10*
*NEIC **20** 07:51:23.8±0.2, 2.56N×91.90E, h10km, mb5.0/43, Error ellipse: s-maj=5.0km s-min=3.3km az=211.0*
*MOS **20** 07:51:25.5±1.0, 2.60N×91.90E, h33km, mb5.1/48, Error ellipse: s-maj=9.4km s-min=4.9km az=108.4*
ISC 20 07:51:24.7±1.7, 2.51N±0.05×91.88E±0.06, h17km±10km, n400, σ0°96/402, mb4.8/123, MS3.6/30, 23C-19D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSI	**Banda Aceh**	**4.51**	**49**	P	**Pn**	**07 52 31.0**	**-1.4**
MLSI	**Meulaboh, Aceh**	**4.84**	**69**	P	**Pn**	**07 52 36.1**	**-0.7**
TPTI		**5.34**	**82**	P	**Pn**	**07 52 42.6**	**-1.1**
	162nm,0.7s,4μm						
LHMI	**Lhok Sumawe**	**5.73**	**62**	*e*Pn	**Pn**	**07 52 51.3**	**+2.2**
GSI	**Gunungsitoli**	**5.81**	**102**	P	**Pn**	**07 52 49.5**	**-0.7**
	288nm,0.8s,3μm						
GSI	**Gunungsitoli**	**5.81**	**102**	*e*Pn	**Pn**	**07 52 49.5**	**-0.7**
KCSI	**Kotacane, Aceh**	**5.96**	**80**	P	**Pn**	**07 52 53.9**	**+1.6**
	457nm,0.8s,13μm						
PBSI	**Pulau Batu**	**6.88**	**112**	P	**Pn**	**07 53 04.1**	**-0.8**
	1μm,0.8s,9μm						
PSI	**Prapat**	**7.04**	**87**	Pn	**Pn**	**07 53 06.1**	**-1.1**
	2.6nm,0.3s,baz=146,slow=2.6,SNR=10						
PSI				LR	LR	07 56 00.2	
	comp=Z,452nm,21.7s,baz=275,slow=40						
PSI	**Prapat**	**7.04**	**87**	*e*Pn	**Pn**	**07 53 05.8**	**-1.4**
PSI	**Prapat**	**7.04**	**87**	*e*P	**Pn**	**07 53 05.8**	**-1.4**
MNSI	**Mandailing Nat**	**7.88**	**102**	P	**Pn**	**07 53 18.0**	**-0.6**
	134nm,0.7s,3μm						
SISI	**Saibi**	**8.15**	**118**	P	**Pn**	**07 53 20.4**	**-1.9**
	140nm,1.1s						
PKDT	**Phuket**	**8.36**	**50**	P	**Pn**	**07 53 24.0**	**-1.2**
	25nm,1.1s,0.1nm						
PBA	**Port Blair**	**9.13**	**5**	*e*P	Pn	07 53 33.0	-2.7
KULM	**Kulim**	**9.17**	**72**	*e*Pn	**Pn**	**07 53 35.8**	**-0.6**
PDSI	**Padang**	**9.22**	**112**	P	**Pn**	**07 53 36.3**	**-0.8**
IPM	**Ipoh**	**9.33**	**78**	*e*Pn	**Pn**	**07 53 38.4**	**-0.2**
BKNI	**Bangkinang**	**9.41**	**103**	*e*Pn	**Pn**	**07 53 39.5**	**-0.1**
SKLT	**Songkhla**	**9.86**	**62**	P	**Pn**	**07 53 44.4**	**-1.4**
	36nm,0.9s						
DGPR	**DIGLIPUR**	**10.65**	**6**	*e*P	**Pn**	**07 53 55.1**	**-1.5**
PALK	**Pallekele**	**12.10**	**293**	Pn	**Pn**	**07 54 14.0**	**-2.5**
	2.6nm,0.3s,baz=116,slow=14,SNR=15						
PALK				Sn	Sn	07 56 19.6	-12
	5.3nm,0.3s,baz=300,slow=0.5,SNR=6.8						
PALK				LR	LR	07 58 19.3	
	comp=Z,465nm,20.4s,baz=116,slow=34						
PALK	**Pallekele**	**12.10**	**293**	*e*Pn	**Pn**	**07 54 14.4**	**-2.1**
PALK				*e*Sn	Sn	07 56 20.2	-11
PALK	**Pallekele**	**12.10**	**293**	*i* P	**Pn**	**07 54 15.8**	**-0.8**
MNAI	**Manna**	**13.00**	**122**	*e*Pn	**Pn**	**07 54 28.4**	**-0.4**
MDSI	**Maura Dua**	**14.12**	**119**	P	**Pn**	**07 54 43.3**	**-0.8**
NAYO	**Nakonayok**	**14.98**	**38**	P	**Pn**	**07 54 55.6**	**-0.2**
	13nm,1.2s						
SRAK	**Srakaew**	**15.21**	**41**	P	**P**	**07 55 09.4**	**+5.6**
COCO	**West Island**	**15.41**	**161**	*e*Pn	**Pn**	**07 55 01.9**	**+0.4**
	100nm,0.8s						
COCO	**West Island**	**15.41**	**161**	*e*P	**Pn**	**07 55 01.9**	**+0.4**
COCO				pmax	pmax		
	comp=Z,100nm,0.8s						
MDRS	**Chennai**	**15.58**	**313**	*e*P	**Pn**	**07 55 01.9**	**-1.8**
TRD	**Trivandrum**	**16.00**	**292**	*e*P	**Pn**	**07 55 09.3**	**+0.1**
SKHT	**Srikalahasti**	**16.41**	**314**	*e*P	**Pn**	**07 55 13.5**	**-0.9**
PBKT	**Sadao Pong**	**16.59**	**32**	P	**Pn**	**07 55 15.2**	**-1.4**
	comp=Z,18nm,1.5s						
PHIT	**Phitsanulok**	**16.82**	**29**	P	**P**	**07 55 22.0**	**+0.3**
	comp=Z,34nm,0.9s						
CM01	**Chiang Mai Arr**	**17.27**	**23**	*e*Pn	**Pn**	**07 55 23.4**	**-1.8**
VIS	**Vishakhapatnam**	**17.29**	**332**	*e*P	**Pn**	**07 55 24.2**	**-1.3**
VIS				IAmb	IAmb	07 55 25.4	
	comp=Z,126nm,1.5s						
CM31	**Chiang Mai Arr**	**17.29**	**23**	*e*Pn	**Pn**	**07 55 24.1**	**-1.4**
CMAR	**Chiang Mai Arr**	**17.29**	**23**	P	**Pn**	**07 55 24.0**	**-1.5**
	comp=Z,0.4nm,0.3s,baz=217,slow=13,SNR=42						
CMAR					LR	LR	08 03 09.1
	comp=Z,122nm,18.2s,baz=212,slow=41						
CHTO	**Chiang Mai**	**17.62**	**23**	P	**Pn**	**07 55 28.3**	**-1.3**
	comp=Z,88nm,1.2s						
CHTO	**Chiang Mai Arr**	**17.62**	**23**	*e*Pn	**Pn**	**07 55 27.7**	**-1.9**
	comp=Z,25nm,1.1s						
CHTO	**Chiang Mai**	**17.62**	**23**	*e*P	**Pn**	**07 55 27.7**	**-1.9**
CHTO				pmax	pmax		
	comp=Z,25nm,1.1s						
CMMT	**Chiang Mai**	**17.62**	**23**	P	**Pn**	**07 55 27.2**	**-2.4**
	comp=Z,23nm,1.0s,comp=Z,741nm						
LAMP	**Lampang**	**17.63**	**25**	P	**Pn**	**07 55 29.4**	**-0.3**
	comp=Z,6.5nm,0.9s						
CHLP	**Challavanipeta**	**17.65**	**335**	*e*P	**Pn**	**07 55 28.8**	**-1.2**
ADKI	**Addanki**	**17.70**	**319**	*e*P	**Pn**	**07 55 29.5**	**-1.0**
PVM	**Polavaram**	**17.78**	**326**	*e*P	**Pn**	**07 55 31.3**	**-0.3**
RCLA	**Racherla**	**18.11**	**316**	*e*P	**Pn**	**07 55 35.2**	**-0.4**
LEM	**Lembang**	**18.24**	**121**	LR	LR	08 01 40.5	
	comp=Z,311nm,21.4s,baz=349,slow=34						
PAYA	**Payao**	**18.48**	**24**	P	**Pn**	**07 55 42.1**	**+1.9**
	comp=Z,4.6nm,1.0s						
SRLM	**Srisailam**	**18.60**	**317**	*e*P	**Pn**	**07 55 41.7**	**0.0**
BWNR	**Bhubaneshwar**	**18.65**	**342**	*e*P	**Pn**	**07 55 42.1**	**-0.1**
NJS	**Nagarjunasagar**	**18.65**	**319**	*e*P	**Pn**	**07 55 41.8**	**-0.5**
SKNT	**Sakolnakorn**	**18.65**	**39**	P	**P**	**07 55 40.5**	**-1.4**
	comp=Z,11nm,1.0s						
CMAI	**Chiengmai2**	**18.68**	**21**	P	**P**	**07 55 41.8**	**-0.5**
XMIS	**Christmas Isla**	**18.83**	**133**	*e*P	**Pn**	**07 55 44.5**	**+0.1**
	comp=Z,170nm,1.4s						
URV	**Uravakonda**	**19.00**	**311**	*e*P	**P**	**07 55 45.6**	**-0.1**
HYB	**Hyderabad**	**19.77**	**319**	*i* P	**Pn**	**07 55 57.0**	**+1.2**
HYB				*e*S	**S**	**07 59 36.0**	**-0.6**
HYB	**Hyderabad**	**19.77**	**319**	*e*P	**P**	**07 55 54.3**	**+0.1**
HYBB	**Hyderabad (bro**	**19.77**	**319**	*e*P	**P**	**07 55 54.4**	**+0.1**
SBUM	**Sibu**	**20.32**	**90**	*e*P	**P**	**07 56 00.1**	**-0.1**
	comp=Z,27nm,1.0s						
RPR	**Rampur**	**20.39**	**324**	*e*P	**P**	**07 56 01.3**	**+0.4**
BELO	**BELONIA**	**20.62**	**359**	*e*P	**P**	**07 56 02.6**	**-0.7**
SRSP	**Sriramsagar**	**21.02**	**322**	*e*P	**P**	**07 56 07.6**	**-0.2**
KLRI	**Killari**	**21.54**	**317**	*e*P	**P**	**07 56 13.5**	**+0.1**
H08S2	**Diego Garcia H**	**21.82**	**242**	T	T	08 18 57.9	
	baz=60,slow=75,SNR=9.2						
H08S3	**Diego Garcia H**	**21.82**	**242**	T	T	08 19 03.8	
	baz=60,slow=75,SNR=10						
H08S1	**Diego Garcia H**	**21.84**	**242**	T	T	08 18 47.2	
	baz=60,slow=75,SNR=11						
BOK	**Bokaro**	**21.94**	**345**	*e*P	**P**	**07 56 18.7**	**+1.1**
BOK				IAmb	IAmb	07 56 21.6	
	comp=Z,37nm,0.5s						
SHL	**Shillong**	**22.92**	**360**	*e*P	**P**	**07 56 28.1**	**-0.2**
KOHI	**KOHIMA**	**23.18**	**5**	*e*P	**P**	**07 56 30.7**	**-0.1**
POO	**Poona**	**23.78**	**313**	*e*P	**P**	**07 56 36.0**	**-0.8**
MOKO	**MOKOCHONG**	**23.81**	**6**	*e*P	**P**	**07 56 35.2**	**-1.8**
TEZP	**TEZPUR**	**23.98**	**2**	*e*P	**P**	**07 56 38.7**	**+0.2**
ODAN	**Odare**	**24.59**	**350**	*e*P	**P**	**07 56 45.0**	**+0.6**
	comp=Z,68nm,0.8s						
KMI	**Kunming**	**24.80**	**24**	P	**P**	**07 56 47.9**	**+1.6**
KMI				pP	sP	07 56 51.6	-2.1
KMI				sP	pP	07 56 52.8	+1.3
KMI				pmax	pmax		
	comp=Z,29nm,0.7s						
RAMN	**Ramite**	**24.82**	**349**	*e*P	**P**	**07 56 47.5**	**+1.0**
	comp=Z,132nm,0.9s						
BHPL	**Bhopal**	**24.92**	**327**	*e*P	**P**	**07 56 47.5**	**+0.3**
JIRN	**Jiri**	**25.59**	**348**	*e*P	**P**	**07 56 54.2**	**+0.6**
	comp=Z,203nm,1.0s						
DMN	**Daman**	**25.79**	**346**	*e*P	**P**	**07 56 55.8**	**+0.6**
	comp=Z,57nm,1.3s						
GUN	**Gumba**	**25.90**	**348**	*e*P	**P**	**07 56 56.8**	**+0.4**
	comp=Z,72nm,0.7s						
KKN	**Kakani**	**25.92**	**347**	*e*P	**P**	**07 56 56.8**	**+0.4**
	comp=Z,78nm,1.2s						
GKN	**Gorkha**	**26.28**	**345**	*e*P	**P**	**07 57 00.1**	**+0.5**
	comp=Z,83nm,1.0s						
KOLN	**Koldanda**	**26.34**	**343**	*e*P	**P**	**07 57 00.9**	**+0.7**
	comp=Z,22nm,0.9s						
PYUN	**Piuthan**	**26.83**	**342**	*e*P	**P**	**07 57 05.1**	**+0.5**
	comp=Z,35nm,0.9s						
LSA	**Lhasa**	**27.05**	**359**	P	**P**	**07 57 08.3**	**+1.4**
LSA				pmax	pmax		
	comp=Z,45nm,0.8s						
LSA	**Lhasa**	**27.05**	**359**	*e*P	**P**	**07 57 07.8**	**+0.9**
	comp=Z,29nm,0.7s						
LSA	**Lhasa**	**27.05**	**359**	*e*P	**P**	**07 57 07.8**	**+0.9**
LSA				pmax	pmax		
	comp=Z,29nm,0.7s						
GYA	**Guiyang**	**27.72**	**29**	P	**P**	**07 57 14.3**	**+1.8**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
CD2	**Chengdu**	**30.40**	**20**	*e*P	**P**	**07 57 36.5**	**+0.3**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,120nm,5.0s						
SMLA	**Simla**	**31.68**	**335**	*e*P	**P**	**07 57 48.0**	**+0.6**
SMLA				IAmb	IAmb	07 57 48.6	
	comp=Z,23nm,0.9s						
DHRM	**DHARAMSHALA**	**33.02**	**335**	*e*P	**P**	**07 57 58.5**	**-1.0**
DHRM				IAmb	IAmb	07 58 00.4	
	comp=Z,24nm,1.2s						
BATI	**Baumata**	**34.07**	**112**	LR	LR	08 15 08.0	
	comp=Z,393nm,18.7s,baz=256,slow=42						
XAN	**Xi'an**	**35.17**	**25**	⇑P	**P**	**07 58 17.3**	**-0.6**
XAN				pP	sP	07 58 23.4	-2.0
XAN				S	S	08 03 41.1	-9.4
XAN				pmax	pmax		
	comp=Z,38nm,1.0s						
XAN				pmax	pmax		
	comp=Z,120nm,3.2s						
XAN				LR	LR		
	comp=Z,100nm,14.1s						
XAN				LR	LR		
	comp=Z,200nm,15.2s						
XAN				LR	LR		
	comp=Z,160nm,20.6s						
LZH	**Lanzhou**	**35.20**	**17**	*e*P	**P**	**07 58 17.8**	**-0.4**
LZH				pP	sP	07 58 21.8	-3.9
LZH				sP	pP	07 58 24.3	+0.7
LZH				PP	**PP**	**07 59 41.5**	**+3.2**
LZH

HHC pmax pmax
comp=Z,4nm,1.1s
HHC pmax pmax
comp=Z,110nm,5.8s
HHC LR LR
comp=Z,770nm,14.9s
HHC LR LR
comp=Z,760nm,15.6s
HHC LR LR
comp=Z,890nm,15.5s
PDGK Podgornoye 42.12 346 *i* P **P 07 59 16.2 0.0**
PDGK pmax pmax
comp=Z,16nm,1.0s
UCH Uchtor 42.50 341 P **P 07 59 20.1 +0.4**
SNR=10
AML Almayashu 42.69 340 P **P 07 59 21.8 +0.6**
SNR=23
TKM2 Tokmak 2 42.78 342 P **P 07 59 21.8 +0.1**
SNR=10
AAK Ala-Archa 42.87 341 *e*P **P 07 59 21.5 -0.8**
comp=Z,8.4nm,1.2s
AAK Ala-Archa 42.87 341⇑ *e*P **P 07 59 21.1 -1.3**
AAK pmax pmax
comp=Z,2.0nm,0.6s
FRU Bishkek 43.01 341 *e*P P 07 59 28.0 +4.7
EKS2 Erkin-Say 43.13 340 P **P 07 59 25.2 +0.8**
SNR=9.6
BJI Beijing 43.37 27⇓ *i*P **P 07 59 28.0 +1.8**
BJI pmax pmax
comp=Z,25nm,0.9s
MNAS Manas 43.41 339 *i* P **P 07 59 27.0 +0.2**
MNAS pmax pmax
comp=Z,9.0nm,1.0s
USP Ospenovka 43.44 341 P **P 07 59 26.8 0.0**
SNR=7.2
KK31 Karatay Array 44.68 338 *e*P **P 07 59 36.6 -0.2**
KK31 Karatay Array 44.68 338 *i* P **P 07 59 36.5 -0.2**
KK31 pmax pmax
comp=Z,7.0nm,0.7s
KKAR Karatay Array 44.68 338 *e*P **P 07 59 36.6 -0.2**
KKAR Karatay Array 44.68 338 *e*P **P 07 59 36.6 -0.2**
MK01 Makanchi Array 44.87 351 *e*P **P 07 59 37.8 -0.4**
MK31 Makanchi Array 44.89 351 *e*P **P 07 59 38.0 -0.3**
MK31 Makanchi Array 44.89 351 *i* P **P 07 59 37.6 -0.8**
MK31 pmax pmax
comp=Z,13nm,0.9s
MKAR Makanchi Array 44.89 351 P **P 07 59 38.0 -0.3**
comp=Z,7.7nm,0.8s,baz=166,slow=8.6,SNR=61
MKAR LR LR 08 19 15.4
comp=Z,54nm,20.6s,baz=154,slow=37
MKAR Makanchi Array 44.89 351 *e*P **P 07 59 38.0 -0.3**
comp=Z,56nm,0.9s
MKAR Makanchi Array 44.89 351 *e*P **P 07 59 38.1 -0.3**
MKAR pmax pmax
comp=Z,57nm,0.9s
MAKZ Makanchi 44.96 350 *e*P **P 07 59 38.0 -0.9**
comp=Z,6.5nm,0.9s
MAKZ Makanchi 44.96 350 *e*P **P 07 59 38.0 -0.9**
MAKZ pmax pmax
comp=Z,7.0nm,0.9s
SONM Songino Array 46.86 13 P **P 07 59 54.4 +0.4**
comp=Z,3.8nm,0.6s,baz=194,slow=9.4,SNR=21
SONM PcP **PcP 08 01 27.1 +0.3**
comp=Z,3.0nm,0.9s,baz=205,slow=3.6,SNR=4.1
SONM LR LR 08 21 24.3
comp=Z,68nm,19.6s,baz=234,slow=38
SONA1 Songino Array 46.87 13 *e*P **P 07 59 54.4 +0.3**
GEYT Alibeck 46.89 323 P **P 07 59 54.5 +0.2**
comp=Z,10nm,0.8s,baz=148,slow=8.6,SNR=22
GEYT LR LR 08 20 30.1
comp=Z,117nm,21.4s,baz=190,slow=37
GYA0B ALIBECK ARRAY 46.89 323 *e*P **P 07 59 55.0 +0.6**
comp=Z,18nm,0.9s
ULN Ulaanbaatar 47.04 14 *e*P **P 07 59 55.4 -0.1**
comp=Z,4.1nm,1.1s
ULN Ulaanbaatar 47.04 14⇑ *e*P **P 07 59 55.5 -0.1**
ULN pmax pmax
comp=Z,9.0nm,1.7s
DGZ Jazzator, Alta 47.17 356⇑ *i*P **P 07 59 57.2 +0.7**
DGZ pmax pmax
comp=Z,5.0nm,1.0s
WRA Warramunga Arr 47.26 120 P **P 07 59 57.3 -0.1**
comp=Z,4.9nm,0.7s,baz=299,slow=8.7,SNR=26
WRAB Tennant Creek 47.27 120 *e*P **P 07 59 57.2 -0.3**
comp=Z,18nm,0.8s
WRAB Tennant Creek 47.27 120⇑ *e*P **P 07 59 57.5 0.0**
WRAB pmax pmax
comp=Z,7.0nm,0.7s
WB2 Warramunga Arr 47.27 120 *e*P **P 07 59 57.2 -0.3**
comp=Z,16nm,0.8s
KSAR Wonju Array Be 47.96 39 P **P 08 00 01.9 -0.7**
KSAR Wonju Array Be 47.96 39 P **P 08 00 01.9 -0.7**
KS01 Wonju Array Si 47.99 39 *e*P **P 08 00 03.6 +0.7**
KSRS Korea Array 47.99 39 P **P 08 00 01.9 -0.9**
comp=Z,2.7nm,0.8s,baz=222,slow=8.8,SNR=9.8
ASAR Alice Springs 48.46 125 P **P 08 00 06.6 -0.2**
comp=Z,0.8nm,0.8s,baz=298,slow=7.7,SNR=6.9
ASAR PcP **PcP 08 01 32.8 -0.1**
comp=Z,1.1nm,0.7s,baz=310,slow=4.2,SNR=5.2
HVS Khovu-Aksy 48.48 2⇑ *i*P **P 08 00 07.3 +0.8**
HVS pmax pmax
comp=Z,33nm,0.9s
AS01 Alice Springs 48.50 125 *e*P **P 08 00 07.0 -0.1**
OTUK Ortayu 48.57 343 P **P 08 00 07.1 -0.1**
OTUK pmax pmax
comp=Z,17nm,0.8s
KURBB Kurchatov Arra 49.25 349 P **P 08 00 12.0 -0.3**
comp=Z,4.3nm,0.8s,baz=165,slow=6.7,SNR=26
KURBB PcP **PcP 08 01 35.2 +0.1**
comp=Z,2.8nm,0.9s,baz=181,slow=2.8,SNR=7.1
KURK Kurchatov 49.33 349 *e*P **P 08 00 12.6 -0.3**
comp=Z,9.2nm,1.0s
KURK PcP **PcP 08 01 35.2 -0.1**
KURK Kurchatov 49.33 349 *c i*P **P 08 00 12.5 -0.3**
KURK pmax pmax
comp=Z,18nm,1.7s
ATD Arta Tunnel 49.42 283 LR LR 08 16 22.2
comp=Z,36nm,21.3s,baz=28,slow=30
RAYN Ar Rayn 49.47 299 *e*P **P 08 00 14.6 +0.1**
comp=Z,10nm,0.9s
TLY Talaya 49.98 10 LR LR 08 22 51.5
comp=Z,45nm,20.2s,baz=176,slow=38
TLY Talaya 49.98 10 *e*P **P 08 00 18.7 +0.8**
TLY pmax pmax
comp=Z,2.0nm,0.7s
CN2 Changchun 50.74 31 *e*P **P 08 00 24.0 +0.2**
CN2 pmax pmax
comp=Z,10.0nm,0.8s
ZAA0 Zalesovo Array 51.60 355 *e*P **P 08 00 29.6 -0.4**
comp=Z,20nm,1.2s
ZALV Zalesovo Beam 51.60 355 P **P 08 00 29.5 -0.5**
comp=Z,4.0nm,0.5s,baz=183,slow=8.0,SNR=14
ZALV LR LR 08 23 53.4
comp=Z,77nm,20.8s,baz=54,slow=38
NVS Novosibirsk 52.64 354⇓ *i*P **P 08 00 37.2 -0.5**
NVS pmax pmax
comp=N,11nm,1.3s
NVS pmax pmax
comp=E,8.0nm,1.3s
NVS pmax pmax
comp=Z,14nm,1.3s
INU Inuyama 53.04 46 *e*P **P 08 00 40.8 -0.3**
comp=Z,11nm,0.9s
KRAR Krasnoyarsk 53.34 1⇑ *e*P **P 08 00 44.5 +1.6**
BVAR Borovoye Array 53.40 344 P **P 08 00 42.2 -1.2**
comp=Z,5.7nm,0.8s,baz=145,slow=10,SNR=33
BRVK Borovoye 53.46 344 *e*P **P 08 00 42.9 -1.0**
comp=Z,11nm,1.1s
BRVK Borovoye 53.46 344 *c i*P **P 08 00 42.6 -1.2**
BRVK pmax pmax
comp=Z,17nm,1.7s
MDJ Mudanjiang 53.49 33 P **P 08 00 43.8 -0.4**
MDJ pmax pmax
comp=Z,10.0nm,1.0s
MDJ pmax pmax
comp=Z,110nm,4.3s
VLA Vladivostok 53.84 36⇓ *e*P **P 08 00 46.8 0.0**
VLA pmax pmax
comp=Z,28nm,0.7s
ABKAR Akbulak array 53.96 335 *e*P **P 08 00 47.2 -0.4**
comp=Z,101nm,1.0s
ABKAR *e*S **S 08 08 25.0 +2.5**
MAJO Matsushiro 54.45 46⇓ *e*P **P 08 00 53.3 +1.9**
MAJO pmax pmax
comp=Z,8.0nm,1.1s
MJAR Matsushiro Arr 54.45 46 P **P 08 00 52.4 +1.0**
comp=Z,2.7nm,0.9s,baz=238,slow=8.5,SNR=6.3
MJAR PcP **PcP 08 01 55.0 0.0**
comp=Z,2.3nm,0.8s,baz=241,slow=5.0,SNR=5.0
USRK Ussuriysk Ar. 54.56 35 P **P 08 00 52.2 +0.2**
comp=Z,1.8nm,0.8s,baz=74,slow=6.8,SNR=5.3
KMBO Kilima Mbogo 54.74 267 P **P 08 00 54.4 +0.2**
comp=Z,1.6nm,0.6s,baz=57,slow=12,SNR=4.9
AKTO Aktyubinsk 55.67 334 P **P 08 00 59.1 -0.8**
comp=Z,4.0nm,0.9s,baz=114,slow=10.0,SNR=10
GNI Garni 56.72 318 LR LR 08 26 29.3
comp=Z,44nm,21.2s,baz=126,slow=37
TBLG Delisi 57.49 319 *e*P **P 08 01 14.3 +1.3**
comp=Z,34nm,1.1s
TBLG Delisi 57.49 319 *e*P **P 08 01 14.4 +1.3**
TBLG pmax pmax
comp=Z,34nm,1.1s
KLR Kul'dur 57.62 30 P **P 08 01 14.3 +0.5**
comp=Z,0.6nm,0.9s,baz=265,slow=7.4,SNR=16
KLR LR LR 08 29 20.8
comp=Z,5.8nm,18.2s,baz=118,slow=40
BOD Bodaibo 57.85 14 *e*P **P 08 01 14.8 -0.5**
BOD pmax pmax
comp=Z,15nm,1.5s
STKA Stephens Creek 58.21 130 P **P 08 01 19.2 +0.9**
comp=Z,1.3nm,0.5s,baz=327,slow=13,SNR=3.1
NEY Neytrino 59.53 320⇓ *e*P **P 08 01 28.9 +1.4**
SVE Sverdlovsk 59.61 341⇓ *e*P **P 08 01 27.2 -0.3**
SVE pmax pmax
comp=Z,23nm,0.9s
KBZ Khabaz 59.65 321 P **P 08 01 29.0 +0.9**
comp=Z,11nm,0.8s,baz=118,slow=6.0,SNR=27
KBZ LR LR 08 29 20.2
comp=Z,27nm,21.2s,baz=64,slow=38
KVAR Kislovodsk Arr 59.89 321 LR LR 08 29 15.6
comp=Z,34nm,21.0s,baz=56,slow=38
KIV Kislovodsk 59.90 321 *e*P **P 08 01 30.4 +0.4**
comp=Z,25nm,1.0s
KIV Kislovodsk 59.90 321 *e*P **P 08 01 30.2 +0.3**
KIV pmax pmax
comp=Z,23nm,1.0s
KIV MLR MLR
comp=Z,25nm,16.0s
ARU Arti 60.00 339 *e*P **P 08 01 29.0 -1.3**
comp=Z,12nm,1.0s
ARU Arti 60.00 339 *c i*P **P 08 01 28.8 -1.5**
ARU S **S 08 09 42.9 +0.9**
ARU SS **SS 08 13 38.9 +0.1**
ARU pmax pmax
comp=Z,21nm,1.7s
MMAI Mount Meron Ar 60.85 307 P **P 08 01 37.9 +1.3**
comp=Z,3.1nm,0.7s,baz=197,slow=1.5,SNR=3.7
MMAI LR LR 08 31 09.3
comp=Z,39nm,18.4s,baz=125,slow=39
YSS Yuzh-Sakhalins 62.38 37⇓ *e*P **P 08 01 47.4 +0.8**
YSS pmax pmax
comp=Z,25nm,1.5s
VRH Novokhopyorsk 64.12 328 *e*P **P 08 01 57.1 -0.9**
VRH pmax pmax
comp=Z,10.0nm,0.3s
BR131 Keskin Array S 64.33 313 *e*P **P 08 01 59.6 -0.2**
BRTR Keskin Array B 64.33 313 P **P 08 01 59.6 -0.2**
comp=Z,6.6nm,0.8s,baz=130,slow=7.2,SNR=34
ANTO Ankara 64.99 313⇑ *i*P **P 08 02 04.4 +0.3**
ANTO Ankara 64.99 313 *e*P **P 08 02 04.0 -0.1**
comp=Z,20nm,1.0s
ANTO Ankara 64.99 313 *e*P **P 08 02 04.0 -0.1**
ANTO pmax pmax
comp=Z,20nm,1.0s
BR231 Keskin MP Arra 65.00 313 *e*P **P 08 02 04.8 +0.6**
VSR Storozhevoye 65.52 327 *e*P **P 08 02 05.1 -2.0**
VSR pmax pmax
comp=Z,10.0nm,0.7s
YAK Yakutsk 65.76 18 *e*P **P 08 02 08.3 -0.1**
comp=Z,25nm,0.6s
YAK Yakutsk 65.76 18 *e*P **P 08 02 08.3 -0.1**
YAK pmax pmax
comp=Z,25nm,0.6s
LPSR Galich'ya Gora 66.32 328 *e*P **P 08 02 10.8 -1.5**
LPSR pmax pmax
comp=Z,30nm,1.0s
MANT Manisa 67.73 311 *e*P **P 08 02 22.2 +0.4**
comp=Z,56nm,1.0s
KARP Karpathos 68.09 307 *e*P **P 08 02 24.6 +0.7**
comp=Z,21nm,0.8s
OBN Obninsk 68.76 330⇓ *e*P **P 08 02 27.4 -0.2**
OBN *e* 08 04 59.8
OBN *e*S **S 08 11 33.2 +2.9**
OBN pmax pmax
comp=Z,25nm,1.0s
OBN MLR MLR
comp=Z,66nm,19.0s
HNR Honiara 68.83 101 LR LR 08 36 11.5
comp=Z,14nm,18.1s,baz=178,slow=39
TIRR Tirgusor 69.52 317⇓ *i*P **P 08 02 32.9 +0.3**
TIRR Tirgusor 69.52 317 *e*P **P 08 02 32.6 0.0**
comp=Z,11nm,0.9s
TIRR Tirgusor 69.52 317 *e*P **P 08 02 32.6 0.0**
TIRR pmax pmax
comp=Z,11nm,0.9s
LBTB Lobatse 69.74 242 *e*P **P 08 02 35.4 +0.9**
comp=Z,9.8nm,0.8s
LBTB Lobatse 69.74 242 *e*P **P 08 02 35.4 +0.9**
LBTB pmax pmax
comp=Z,10.0nm,0.8s
IDI Anoyia 69.85 307 P **P 08 02 34.9 -0.1**
comp=Z,15nm,0.8s,baz=89,slow=10,SNR=5.2
IDI LR LR 08 38 11.5
comp=Z,16nm,18.1s,baz=82,slow=40
IDI Anoyia 69.85 307⇑ *i*P **P 08 02 35.7 +0.8**
IDI Anoyia 69.85 307 *e*P **P 08 02 35.1 +0.2**
comp=Z,23nm,1.0s
HARR Harsova 69.92 317⇑ *i*P **P 08 02 35.4 +0.4**
CFR Carcaliu 69.92 318⇑ *i*P **P 08 02 35.2 +0.2**
KLMR Klimovskoe 70.33 336 *e*P **P 08 02 35.1 -2.2**
KLMR AMP 08 02 36.7
comp=Z,9.0nm,1.0s
KLMR *e*PcP **PcP 08 02 56.8 -2.0**
KLMR Klimovskoe 70.33 336 *e*P **P 08 02 35.0 -2.2**
KLMR *e* 08 02 56.8
KLMR pmax pmax
comp=Z,9.0nm,1.0s
SORM Soroca 70.70 321⇑ *i*P **P 08 02 39.3 -0.4**
BOSA Boshof 70.87 239 P **P 08 02 40.8 -0.5**
comp=Z,5.1nm,1.0s,baz=68,slow=8.0,SNR=4.5
AKASG Malin Array Be 71.01 323 P **P 08 02 40.7 -0.9**
comp=Z,0.8nm,0.5s,baz=92,slow=4.7,SNR=17
AKASG LR LR 08 37 51.5
comp=Z,31nm,19.2s,baz=145,slow=39
AKBB Malin Array Si 71.01 323 *e*P **P 08 02 40.8 -0.8**
comp=Z,6.0nm,1.0s
AKBB Malin Array Si 71.01 323 *e*P **P 08 02 40.8 -0.8**
AKBB pmax pmax
comp=Z,6.0nm,1.0s
KIEV Kiev 71.02 323 *e*P **P 08 02 40.8 -0.8**
comp=Z,5.8nm,1.0s
KIEV Kiev 71.02 323⇓ *e*P **P 08 02 40.4 -1.2**
KIEV pmax pmax
comp=Z,7.0nm,1.1s
AK11 Malin Array Si 71.04 323 *e*P **P 08 02 40.5 -1.3**
VRI Vrincioaia 71.07 318⇑ *i*P **P 08 02 43.1 +1.0**
PLOR Plostina 71.12 318⇓ *i*P **P 08 02 43.6 +1.2**
TESR Tescani 71.31 319⇑ *i*P **P 08 02 43.5 0.0**
MLR Muntele Rosu 71.49 317 P **P 08 02 45.2 +0.4**
comp=Z,3.7nm,0.8s,baz=72,slow=1.4,SNR=25
MLR LR LR 08 37 30.6
comp=Z,8.8nm,20.4s,baz=41,slow=39
MLR Muntele Rosu 71.49 317⇓ *i*P **P 08 02 45.8 +1.0**
MLR Muntele Rosu 71.49 317 *e*P **P 08 02 45.4 +0.6**
comp=Z,28nm,1.0s
MLR Muntele Rosu 71.49 317 *e*P **P 08 02 45.4 +0.6**
MLR pmax pmax
comp=Z,28nm,1.0s
VOIR 72.08 317⇓ *i*P **P 08 02 47.9 -0.4**
ARR Arges 72.35 317⇓ *i*P **P 08 02 49.9 0.0**
MA2 Magadan 72.53 27 *e*P **P 08 02 50.0 -0.5**
comp=Z,6.2nm,0.8s
MA2 Magadan 72.53 27 *e*P **P 08 02 50.1 -0.5**
MA2 pmax pmax
comp=Z,6.0nm,0.8s
BURAR Bucovina Array 72.56 319⇓ *i*P **P 08 02 52.2 +1.1**
BUR04 Bucovina Ar. S 72.56 319 *e*P **P 08 02 51.7 +0.6**
BUR08 Bucovina Ar. S 72.58 319 *e*P **P 08 02 51.6 +0.4**
VTS Vitosha 72.69 314⇓ *i*P **P 08 02 52.3 +0.3**
VTS Vitosha 72.69 314 *e*P **P 08 02 51.5 -0.5**
comp=Z,15nm,1.0s
VTS Vitosha 72.69 314 *e*P **P 08 02 51.5 -0.5**
VTS pmax pmax
comp=Z,15nm,1.0s
TMCR Tamitsa 72.70 338 *e*P **P 08 02 50.1 -1.3**
TIXI Tiksi 72.90 12 *e*P **P 08 02 51.4 -1.1**
comp=Z,18nm,1.0s
TIXI Tiksi 72.90 12 *c i*P **P 08 02 51.3 -1.2**
TIXI pmax pmax
comp=Z,33nm,1.7s
HERR Herculane 73.76 316⇑ *i*P **P 08 02 58.0 -0.1**
TRPA Tarpa 74.43 319⇑ *i*P **P 08 03 01.7 -0.3**
BZS Buzias 74.47 317⇑ *i*P **P 08 03 02.3 0.0**
SEY Seymchan 74.71 24⇑ *e*P **P 08 03 02.5 -0.8**
VSU Vasula 75.07 330⇓ *i*P **P 08 03 05.2 -0.2**
VSU pmax pmax
comp=Z,53nm,0.9s
CRVS Cervenica-Dubn 75.31 320 *e*P **P 08 03 08.1 +1.0**
CRVS Cervenica-Dubn 75.31 320 *e*P **P 08 03 08.1 +1.0**
CRVS pmax pmax
comp=Z,5.0nm,1.2s
STHS Stebnicka Huta 75.57 320 *e*P **P 08 03 09.2 +0.7**
STHS *e*PP **PP 08 05 58.7 +0.7**
STHS Stebnicka Huta 75.57 320 *e*P **P 08 03 09.3 +0.7**
STHS pmax pmax
comp=Z,5.0nm,1.0s
LVZ Lovozero 75.82 341⇓ *e*P **P 08 03 09.0 -0.7**
LVZ pmax pmax
comp=Z,18nm,1.1s
FIA1 FINESS Array S 76.41 333 *e*P **P 08 03 12.5 -0.6**
FINES FINESS Array B 76.42 333 P **P 08 03 12.7 -0.4**
comp=Z,9.0nm,0.8s,baz=97,slow=7.7,SNR=15
VYHS Vyhne 76.92 319 *e*P **P 08 03 16.6 +0.3**
VYHS Vyhne 76.92 319 *e*P **P 08 03 16.6 +0.3**
VYHS pmax pmax
comp=Z,3.0nm,1.0s
MODS Modra-Piesok 77.92 319 *e*P **P 08 03 21.5 -0.4**
MODS Modra-Piesok 77.92 319 *e*P **P 08 03 21.5 -0.4**
MODS pmax pmax
comp=Z,21nm,1.1s
MORC Moravsky Berou 78.00 320 *e*P **P 08 03 22.5 +0.2**
comp=Z,39nm,1.4s
MORC Moravsky Berou 78.00 320 *e*P **P 08 03 22.5 +0.2**
MORC pmax pmax
comp=Z,39nm,1.4s
KRLC Kraliky 78.53 321 *e*P **P 08 03 25.7 +0.4**
KRLC Kraliky 78.53 321 *e*P **P 08 03 25.7 +0.4**
CONA Conrad Observa 78.78 318 *e*P **P 08 03 26.8 +0.1**
comp=Z,4.0nm,0.8s
DPC Dobruska-Polom 78.87 321 *e*P **P 08 03 28.2 +1.1**
DPC *e*PCP **PcP 08 03 36.7 +0.9**
DPC Dobruska-Polom 78.87 321 *e*P **P 08 03 28.2 +1.1**
DPC *e* 08 03 36.7
ARSA Arzberg 78.91 318 *e*P **P 08 03 28.1 +0.7**
comp=Z,10nm,0.8s
SOKA Soboth 79.16 317 *e*P **P 08 03 29.2 +0.4**
comp=Z,14nm,1.2s
OBKA Obir 79.47 317 *i* P **P 08 03 31.0 +0.5**
comp=Z,10nm,1.1s
ARCES ARCESS Array B 79.54 341 P **P 08 03 30.6 +0.2**
comp=Z,3.8nm,0.8s,baz=106,slow=6.4,SNR=7.7
ARCES ARCESS Array B 79.54 341 *e*P **P 08 03 30.1 -0.2**
ARCES ARCESS Array B 79.54 341 *e*P **P 08 03 30.1 -0.2**
SYO Syowa Base 79.65 197⇓ *e*X **P 08 03 29.2 -1.7**
MOA Molln 79.84 318 *e*P **P 08 03 33.1 +0.7**
comp=Z,6.7nm,1.4s
PRU Pruhonice 79.95 320 *e*P **P 08 03 33.4 +0.5**
PRU Pruhonice 79.95 320 *e*P **P 08 03 33.4 +0.5**
MYKA Terra Mystica 80.11 317 *e*P **P 08 03 34.0 0.0**
comp=Z,4.8nm,0.5s
GEA0 GERESS Array S 80.34 319 *e*P **P 08 03 35.6 +0.4**
GEC2 GERESS Array S 80.34 319 *e*P **P 08 03 36.2 +1.0**
comp=Z,21nm,1.0s
GEC2 GERESS Array S 80.34 319 *e*P **P 08 03 36.2 +1.0**
GEC2 pmax pmax
comp=Z,21nm,1.0s
GERES GERESS Array B 80.34 319 P **P 08 03 35.8 +0.6**
comp=Z,11nm,0.9s,baz=97,slow=5.4,SNR=52
GERES LR LR 08 45 35.8
comp=Z,17nm,18.4s,baz=84,slow=40
BRG Berggiesshubel 80.45 321 *e*P **P 08 03 36.6 +1.0**
comp=Z,15nm,1.4s
BRG Berggiesshubel 80.45 321 *e*P **P 08 03 36.6 +1.0**
BRG pmax pmax
comp=Z,15nm,1.4s
KHC Kasperske Hory 80.45 319 *e*P **P 08 03 36.3 +0.5**
KHC Kasperske Hory 80.45 319 *e*P **P 08 03 36.5 +0.7**
comp=Z,3.8nm,1.2s
KHC Kasperske Hory 80.45 319 *e*P **P 08 03 36.3 +0.5**
CLL Collm 81.09 321 *e*P **P 08 03 40.0 +0.9**
comp=Z,6.0nm,1.1s
CLL Collm 81.09 321 *e*P **P 08 03 40.0 +0.9**
CLL pmax pmax
comp=Z,6.0nm,1.1s
WTTA Wattenberg 81.54 317 *i* P **P 08 03 42.1 +0.3**
comp=Z,12nm,1.2s
WATA Walderalm 81.59 317 *i* P **P 08 03 41.4 -0.6**
comp=Z,7.1nm,0.9s
BILL Bilibino 81.87 21⇓ *i*P **P 08 03 42.1 -0.7**
BILL *e* 08 03 50.1
BILL *e* 08 06 54.6
BILL pmax pmax
comp=Z,8.0nm,1.6s
BILL MLR MLR
comp=Z,42nm,17.0s
MOTA Moosalm 81.91 317 *e*P **P 08 03 43.1 -0.6**
comp=Z,9.3nm,0.8s
HFS Hagfors 81.95 330 P **P 08 03 43.2 -0.2**
comp=Z,3.0nm,0.9s,baz=69,slow=7.9,SNR=4.2
FETA Feichten 82.14 317 *e*P **P 08 03 44.8 -0.1**
comp=Z,8.2nm,1.0s
RETA Reutte 82.15 317 *i* P **P 08 03 44.7 -0.1**
comp=Z,13nm,1.1s
KEST Kesra 82.48 306 P **P 08 03 47.0 +0.2**
comp=Z,5.3nm,0.9s,baz=340,slow=8.8,SNR=5.3
KEST LR LR 08 40 26.1
comp=Z,30nm,21.6s,baz=311,slow=36
DAVA Damuels 82.73 317 *i* P **P 08 03 48.5 +0.5**
comp=Z,18nm,0.8s
NB2 NORSAR Subarra 83.29 331 P **P 08 03 49.5 -0.9**
comp=Z,1.7nm,0.9s,baz=98,slow=5.3
NOA NORSAR Array B 83.29 331 P **P 08 03 49.1 -1.3**
comp=Z,1.2nm,0.8s,baz=96,slow=5.5,SNR=4.6
SPITS Spitsbergen Ar 84.60 348 P **P 08 03 56.1 -0.7**
comp=Z,8.4nm,1.0s,baz=259,slow=5.3,SNR=3.1
SPITS LR LR 08 45 24.1
comp=Z,82nm,21.9s,baz=105,slow=38
TAM Tamanrasset 85.68 293 *e*P **P 08 04 05.1 +1.6**
comp=Z,15nm,1.5s
TAM Tamanrasset 85.68 293 *e*P **P 08 04 05.1 +1.6**
TAM pmax pmax
comp=Z,15nm,1.5s
VNDA Vanda 88.17 168 LR LR 08 37 41.9
comp=Z,72nm,18.5s,baz=282,slow=32
NVL N'lazarevskaya 89.08 199 *e*P P 08 04 27.7 +9.1
NVL *e*S S 08 14 54.7 -11
NVL pmax pmax
comp=Z,9.0nm,0.6s
QSPA South Pole Qui 92.45 180 LR LR 08 39 29.8
comp=Z,71nm,20.6s,baz=306,slow=31
ES19 SONSECA Array 92.86 310 *e*P **P 08 04 37.2 +0.1**
SNAA Sanae 93.86 198 P **P 08 04 41.5 +0.6**
VNA2 Neumayer--Watz 95.40 199 P P 08 04 55.1 +7.2
IM3 Indian Mountai 97.41 22 *e*P **P 08 04 56.6 -0.6**
BORG Borgarnes 97.45 337 LR LR 08 49 42.0
comp=Z,53nm,21.3s,baz=82,slow=36
TOLK Toolik Lake Re 97.72 19 P **P 08 04 57.9 -0.7**
baz=298
G03D McMinnville, O 123.14 29 P **PKPdf 08 10 20.1 -0.6**
baz=317
MSO Missoula 125.86 22 P **PKPdf 08 10 25.6 -0.5**
baz=328
EGMT Eagleton 126.24 18 *e*PKPdf **PKPdf 08 10 27.0 +0.3**
A33A Warroad 128.37 6 P **PKPdf 08 10 30.6 0.0**
baz=351
HLID Hailey 128.40 24 P **PKPdf 08 10 31.1 -0.1**
baz=326
HLID Hailey 128.40 24 *e*PKPdf **PKPdf 08 10 32.5 +1.3**
LAO LASA Array 128.47 16 P **PKPdf 08 10 31.8 +0.8**
baz=337
LAO LASA Array 128.47 16 *e*PKPdf **PKPdf 08 10 32.6 +1.5**
REDW Red Top Meadow 129.96 22 *e*PKPdf **PKPdf 08 10 35.4 +1.2**
NVAR Mina Array Bea 130.64 31 PKP **PKPdf 08 10 36.3 +0.7**
comp=Z,0.9nm,0.8s,baz=342,slow=1.7,SNR=7.7
PDAR Pinedale Array 130.95 21 PKP **PKPdf 08 10 35.5 -0.5**
comp=Z,0.6nm,0.8s,baz=80,slow=1.7,SNR=5.6
E39A Mellen 131.27 2 P **PKPdf 08 10 36.5 +0.2**
baz=357

E43A	**Lone Tree Farm**	**131.31**	**359**	P		**PKPdf**	**08 10 36.8**	**+0.5**
	baz=1.5							
F33A	**5 Mile Ranch,**	**131.31**	**8**	P		**PKPdf**	**08 10 36.8**	**+0.5**
	baz=349							
RSSD	**Black Hills**	**131.43**	**15**	P		**PKPdf**	**08 10 37.1**	**+0.1**
	baz=339							
F35A	**Swanville**	**131.50**	**6**	P		**PKPdf**	**08 10 36.8**	**+0.1**
	baz=351							
LONY	**Lake Ozonia**	**131.54**	**347**	P		**PKPdf**	**08 10 37.0**	**+0.1**
	baz=18							
DUG	**Dugway, Tooele**	**131.86**	**25**	P		**PKPdf**	**08 10 38.2**	**+0.5**
	baz=326							
R11A	**Troy Canyon, C**	**132.07**	**29**	P		**PKPdf**	**08 10 38.7**	**+0.4**
	baz=322							
R11A	**Troy Canyon, C**	**132.07**	**29**	*e*PKPdf		**PKPdf**	**08 10 40.2**	**+1.9**
PKM	**Mcpherson Peak**	**132.38**	**36**	P		**PKPdf**	**08 10 38.3**	**-0.7**
	baz=315							
I32A	**Karley and Nic**	**132.92**	**9**	P		**PKPdf**	**08 10 38.9**	**-0.6**
	baz=347							
ECSD	**EROS Data Cent**	**133.34**	**8**	P		**PKPdf**	**08 10 39.6**	**-0.6**
	baz=348							
Q41A	**Truxton**	**138.64**	**4**	P		**PKPdf**	**08 10 49.6**	**-0.6**
	baz=355							
Q45A	**Warren Harvey,**	**138.80**	**0**	P		**PKPdf**	**08 10 49.9**	**-0.6**
	baz=360							
ANMO	**Albuquerque**	**138.96**	**23**	P		**PKPdf**	**08 10 51.7**	**+0.5**
	baz=332							
R40A	**Maddies Statio**	**139.22**	**5**	P		**PKPdf**	**08 10 51.6**	**+0.3**
	baz=354							
S40A	**Lebanon**	**139.89**	**5**	P		**PKPdf**	**08 10 51.9**	**-0.7**
	baz=353							
S41A	**Jillco Farms,**	**139.96**	**4**	P		**PKPdf**	**08 10 52.8**	**+0.1**
	baz=354							
T41A	**Mountain View**	**140.50**	**5**	P		**PKPdf**	**08 10 53.2**	**-0.5**
	baz=354							
Z42A	**Norrel Spur, H**	**144.22**	**5**	P		PKPbc	08 10 59.0	+0.5
	baz=353							
Z47A	**Carrollton**	**144.48**	**360**	P		**PKPab**	**08 10 59.1**	**+0.1**
	baz=0.1							
LRAL	**Lakeview Retre**	**144.63**	**358**	P		**PKPab**	**08 10 59.3**	**-0.3**
	baz=1.9							
140A	**Cam and Jess,**	**144.66**	**8**	P		PKPbc	08 11 00.3	+0.4
	baz=351							
141A	**Papa Simpson,**	**144.78**	**7**	P		PKPbc	08 11 00.6	+0.4
	baz=352							
143A	**Socs Landing,**	**144.84**	**5**	P		PKPbc	08 11 00.7	+0.3
	baz=354							
TX31	**Lajitas Ar. Si**	**145.00**	**24**	*e*PKPdf		PKPbc	08 11 01.6	+0.3
TX31				*ep*PKPdf		**PKPdf**	**08 11 01.8**	**-0.2**
TXAR	**Lajitas Array**	**145.01**	**24**	PKPbc		PKPbc	08 11 01.3	+0.1
	comp=Z,5.0nm,0.8s,baz=272,slow=1.7,SNR=49							
147A	**Livingston**	**145.01**	**0**	P		**PKPab**	**08 11 01.0**	**0.0**
	baz=360							
150A	**Eclectic**	**145.02**	**357**	P		**PKPab**	**08 11 00.4**	**-0.7**
	baz=3.6							
148A	**Greensboro**	**145.03**	**359**	P		**PKPab**	**08 11 00.5**	**-0.6**
	baz=0.9							
145A	**Houston Renfro**	**145.03**	**3**	P		**PKPab**	**08 11 01.1**	**0.0**
	baz=357							
151A	**Opelika**	**145.05**	**356**	P		**PKPab**	**08 11 01.0**	**-0.2**
	baz=4.8							
JCT	**Junction City**	**145.35**	**18**	P		**PKPbc**	**08 11 01.3**	**-1.0**
	baz=339,SNR=13							
JCT	**Junction City**	**145.35**	**18**	*e*PKPbc		**PKPbc**	**08 11 02.0**	**-0.3**
JCT	**Junction City**	**145.35**	**18**	*e*PKIKP		**PKPbc**	**08 11 02.0**	**-0.3**
241A	**Mo Tay, Goldon**	**145.35**	**7**	P		**PKPdf**	**08 11 02.6**	**+0.2**
	baz=352,SNR=6.7							
NATX	**Nacogdoches**	**145.35**	**10**	P		**PKPbc**	**08 11 02.3**	**+0.1**
	baz=348,SNR=5.3							
NATX	**Nacogdoches**	**145.35**	**10**	*e*PKPbc		**PKPdf**	**08 11 02.5**	**+0.1**
NATX				*e*PKPdf		**PKPab**	**08 11 03.0**	**+0.7**
VBMS	**Vicksburg**	**145.39**	**4**	P		**PKPdf**	**08 11 02.6**	**+0.1**
	baz=356,SNR=5.1							
VBMS	**Vicksburg**	**145.39**	**4**	*e*PKPbc		**PKPdf**	**08 11 02.7**	**+0.2**
VBMS				*e*PKPdf		**PKPab**	**08 11 03.0**	**+0.7**
242A	**Grayson**	**145.40**	**6**	P		**PKPab**	**08 11 02.5**	**0.0**
	baz=353							
254A	**Abbeville**	**145.43**	**353**	P		**PKPab**	**08 11 02.6**	**+0.1**
	baz=8.4							
251A	**Midway**	**145.49**	**356**	P		**PKPbc**	**08 11 02.2**	**-0.4**
	baz=4.7,SNR=9.9							
252A	**Lumpkin**	**145.53**	**355**	P		**PKPbc**	**08 11 02.1**	**-0.6**
	baz=5.9,SNR=5.1							
244A	**Avery, Jackson**	**145.55**	**4**	P		**PKPdf**	**08 11 02.9**	**+0.2**
	baz=356,SNR=5.9							
248A	**Dixon Mills**	**145.58**	**359**	P		**PKPdf**	**08 11 02.7**	**-0.1**
	baz=0.6,SNR=6.0							
245A	**Little AP, Sta**	**145.60**	**3**	P		**PKPdf**	**08 11 02.7**	**-0.1**
	baz=357,SNR=9.0							
247A	**Quitman**	**145.62**	**1**	P		**PKPdf**	**08 11 03.0**	**+0.1**
	baz=359							
250A	**Grady**	**145.66**	**357**	P		**PKPdf**	**08 11 02.4**	**-0.5**
	baz=3.2							
249A	**Camden**	**145.69**	**359**	P		**PKPdf**	**08 11 03.1**	**+0.1**
	baz=1.7,SNR=10							
355A	**Pearson**	**145.96**	**352**	P		**PKPbc**	**08 11 04.0**	**-0.1**
	baz=9.3							
TIGA	**Tifton**	**145.97**	**353**	P		**PKPbc**	**08 11 04.0**	**-0.1**
	baz=8.0							
TIGA	**Tifton**	**145.97**	**353**	*e*PKPdf		**PKPdf**	**08 11 03.8**	**+0.3**
TIGA				*e*PKPbc		**PKPbc**	**08 11 04.5**	**+0.3**
341A	**Kurthwood**	**146.00**	**8**	P		**PKPbc**	**08 11 04.4**	**+0.1**
	baz=351							
352A	**Blakely**	**146.06**	**355**	P		**PKPbc**	**08 11 04.4**	**0.0**
	baz=5.7,SNR=5.5							
342A	**Flagon Creek P**	**146.06**	**6**	P		**PKPab**	**08 11 05.1**	**+0.2**
	baz=352							
353A	**Camilla**	**146.12**	**354**	P		**PKPdf**	**08 11 04.3**	**+0.5**
	baz=6.9							
344A	**Westbrook Farm**	**146.13**	**4**	P		**PKPbc**	**08 11 04.9**	**+0.3**
	baz=355							
HPIG		**146.18**	**29**	*e*PKPdf		**PKPdf**	**08 11 04.2**	**0.0**
HPIG				*e*PKPbc		**PKPbc**	**08 11 04.8**	**-0.3**
350A	**Dozier**	**146.21**	**357**	P		**PKPbc**	**08 11 04.7**	**-0.1**
	baz=3.1							
347A	**Saraland**	**146.27**	**1**	P		**PKPbc**	**08 11 05.4**	**+0.4**
	baz=359							
349A	**Repton**	**146.31**	**359**	P		**PKPbc**	**08 11 05.5**	**+0.4**
	baz=1.6							
351A	**Pinckard**	**146.32**	**356**	P		**PKPbc**	**08 11 05.2**	**+0.1**
	baz=4.5							
453A	**Whigham**	**146.62**	**354**	P		**PKPbc**	**08 11 06.4**	**+0.3**
	baz=6.8							
447A	**Lucedale**	**146.88**	**1**	P		**PKPbc**	**08 11 07.3**	**+0.5**
	baz=359							
HKT	**Hockley**	**146.89**	**12**	*e*PKPdf		**PKPbc**	**08 11 07.5**	**+0.7**
HKT	**Hockley**	**146.89**	**12**	*e*PKP2		**PKPbc**	**08 11 07.5**	**+0.7**
555A	**McAlpin**	**147.18**	**352**	P		**PKPbc**	**08 11 07.3**	**-0.4**
	baz=9.4							
833A	**Chaparral WMA,**	**147.48**	**19**	P		**PKPbc**	**08 11 08.5**	**-0.1**
	baz=339							
656A	**Willston**	**147.85**	**351**	P		**PKPbc**	**08 11 09.4**	**-0.1**
	baz=10							
857A	**Zephyrhills**	**148.88**	**350**	P		**PKPbc**	**08 11 11.4**	**-0.9**
	baz=11							
059A	**Moore Haven**	**149.93**	**348**	P		**PKPbc**	**08 11 14.2**	**-0.7**
	baz=14							
PTGA	**Pitinga**	**151.81**	**273**	*e*PKPbc		**PKPbc**	**08 11 20.1**	**+0.3**
LPAZ	**La Paz**	**156.04**	**234**	PKP		**PKPdf**	**08 11 19.7**	**-0.3**
	comp=Z,1.2nm,0.7s,baz=68,slow=3.2,SNR=4.6							
LPAZ				PKPab		**PKPab**	**08 11 47.1**	**-0.1**
	comp=Z,1.2nm,0.8s,baz=61,slow=7.7,SNR=4.1							

NIED ***20*** *07:51:00,23.˚10N×124.˚30E,h8km,Mw3.5 Best double couple: M₀1.95000×10¹⁴ NP1:φs=23.00000°,δ80.00000°, λ-170.00000°. NP2:φs=291.00000°,δ81.00000°, λ-10.00000°.*

IDC ***20*** *07:51:25.8±1.3,22.˚96N×124.˚19E,h0km,mb3.5/3, mb1 3.8/4,mb1mx3.3/65,mbtmp3.6/4,ML3.8/1,MS3.6/2, Ms1 3.6/2,ms1mx2.6/44,Error ellipse: s-maj=51.2km s-min=25.2km az=72.0*

JMA ***20*** *07:51:28.4±0.3,23.˚11N×124.˚29E,h43km,M3.5*

ISC 20 07:51:27.4±2.1,23.˚14N±0.˚07×124.˚27E±0.˚07,h13km±12km, n15,σ⁰86/23,mb3.7/3,Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATJ	**Hateruma jima**	**1.01**	**335**	P	**Pg**	**07 51 46.8**	**-0.2**
HATJ				S	**Sg**	**07 51 59.8**	**-0.4**
JKRS	**Kuro-shima**	**1.12**	**348**	P	**Pb**	**07 51 49.0**	**+0.3**
JKRS				S	**Sb**	**07 52 03.8**	**+0.6**
JIJ	**Ishigaki jima**	**1.23**	**355**	P	**Pn**	**07 51 49.9**	**-0.3**
JIJ				S	**Sb**	**07 52 05.6**	**-0.6**
IRIF	**Iriomote-Funau**	**1.29**	**338**	P	**Pn**	**07 51 51.2**	**+0.1**
IRIF				S	**Sb**	**07 52 07.9**	**-0.2**
JISG	**Ishigakijimahi**	**1.45**	**1**	P	**Pn**	**07 51 52.8**	**-0.4**
JISG				S	**Sn**	**07 52 11.8**	**-0.2**
JTJ	**Tarama**	**1.55**	**15**	P	**Pn**	**07 51 54.6**	**-0.1**
JTJ				S	**Sn**	**07 52 14.5**	**-0.1**
YOJ	**Yonaguni jima**	**1.75**	**319**	P	**Pn**	**07 51 57.7**	**+0.2**
YOJ				S	**Sn**	**07 52 18.1**	**-1.5**
JYNG	**Yonagunijimaku**	**1.79**	**317**	P	**Pn**	**07 51 58.2**	**+0.3**
JYNG				S	**Sn**	**07 52 19.4**	**-1.0**
JIRB	**Irabujima**	**1.88**	**26**	P	**Pn**	**07 51 58.6**	**-0.6**
JIRB				S	**Sn**	**07 52 22.0**	**-0.7**
JOGS	**Gusukube**	**1.92**	**32**	S	**Sn**	**07 52 22.8**	**-1.0**
MJAR	**Matsushiro Arr**	**17.99**	**39**	P	**P**	**07 55 39.7**	**+2.1**
	0.3nm,0.3s,baz=229,slow=11,SNR=5.6						
MKAR	**Makanchi Array**	**41.06**	**316**	P	**P**	**07 59 11.6**	**+1.0**
	0.2nm,0.5s,baz=114,slow=7.8,SNR=4.3						
WRA	**Warramunga Arr**	**43.93**	**166**	P	**P**	**07 59 32.9**	**-1.3**
	1.0nm,0.8s,baz=347,slow=8.8,SNR=5.6						
ASAR	**Alice Springs**	**47.45**	**168**	P	**P**	**08 00 01.5**	**-0.5**
	0.5nm,0.5s,baz=349,slow=8.4,SNR=12						
ASAR				LR	LR	08 24 50.8	
	comp=Z,41nm,18.7s,baz=312,slow=42						
OBN	**Obninsk**	**70.06**	**322**	LR	LR	08 35 37.3	
	comp=Z,68nm,18.4s,baz=88,slow=38						

TAP ***20*** *08:26:31.9,24.˚50N×122.˚11E,h63km,ML3.1,B*

JMA ***20*** *08:26:31.6±0.1,24.˚43N×122.˚10E,h69km±2km,M2.7*

ISCJB ***20*** *08:26:32.0±0.4,24.˚50N±0.˚03×122.˚14E±0.˚02,h62km±4km, Error ellipse: s-maj=4.5km s-min=2.7km az=165.0*

ISC 20 08:26:32.5±1.3,24.˚50N±0.˚04×122.˚13E±0.˚02,h60km±7km, n55,σ⁰970/94,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS1	**EOS1**	**0.04**	**360**	*e*P	**Pn**	**08 26 41.7**	**+0.3**
	baz=23						
EOS1				*e*S	**Sn**	**08 26 48.9**	**+1.2**
	baz=23						
TWC	**Suao**	**0.28**	**292**	P	**Pn**	**08 26 42.5**	**+0.1**
	baz=294						
TWC				S	**Sn**	**08 26 49.7**	**+0.2**
	baz=294						
ENAH	**Nanao**	**0.29**	**259**	P	**Pn**	**08 26 42.4**	**-0.1**
	baz=258						
ENAH				*e*S	**Sn**	**08 26 50.2**	**+0.4**
	baz=258						
NANB	**Nanao**	**0.35**	**258**	P	**Pn**	**08 26 42.9**	**-0.1**
	baz=256						
NANB				*e*S	**Sn**	**08 26 50.8**	**+0.1**
	baz=256						
ENA	**Nanau**	**0.36**	**258**	P	**Pn**	**08 26 43.0**	**-0.1**
	baz=256						
ENA				S	**Sn**	**08 26 51.2**	**+0.4**
	baz=256						
NTC	**Toucheng**	**0.44**	**322**	*e*P	**Pn**	**08 26 43.7**	**-0.2**
	baz=324						
TWE	**Neicheng**	**0.47**	**297**	P	**Pn**	**08 26 44.2**	**+0.1**
	baz=298						
TWE				S	**Sn**	**08 26 52.7**	**+0.1**
	baz=298						
ENTT	**Nioudou**	**0.53**	**285**	P	**Pn**	**08 26 44.8**	**0.0**
	baz=285						
ENTT				S	**Sn**	**08 26 53.8**	**+0.1**
	baz=285						
TIPB	**Shuangxi**	**0.54**	**329**	*e*P	**Pn**	**08 26 43.4**	**-1.5**
	baz=331						
TIPB				*e*S	**Sn**	**08 26 52.4**	**-1.6**
	baz=331						
NACB	**Ninganchiao**	**0.59**	**236**	*e*P	**Pn**	**08 26 44.6**	**-0.8**
	baz=234						
NACB				*e*S	**Sn**	**08 26 53.8**	**-1.0**
	baz=234						
NWLT	**Wulai**	**0.63**	**296**	*e*P	**Pn**	**08 26 46.1**	**+0.2**
	baz=296						
NWLT				*e*S	**Sn**	**08 26 56.1**	**+0.3**
	baz=296						
TWD	**Chiawan**	**0.64**	**229**	P	**Pn**	**08 26 45.4**	**-0.6**
	baz=227						
TWD				*e*S	**Sn**	**08 26 56.2**	**+0.3**
	baz=227						
NWF	**Wu-fen Shan**	**0.65**	**331**	*e*P	**Pn**	**08 26 45.7**	**-0.5**
	baz=332						
NNSB	**Datong**	**0.68**	**264**	*e*P	**Pn**	**08 26 46.3**	**-0.4**
	baz=263						
NNSB				*e*S	**Sn**	**08 26 56.5**	**-0.5**
	baz=263						
NNSH	**Datong**	**0.68**	**264**	P	**Pn**	**08 26 46.3**	**-0.3**
	baz=263						
NNSH				*e*S	**Sn**	**08 26 57.1**	**+0.1**
	baz=263						
NNS	**Nan Shan**	**0.69**	**265**	*i* P	**Pn**	**08 26 46.4**	**-0.3**
	baz=264						
NNS				S	**Sn**	**08 26 57.0**	**-0.1**
	baz=264						
YHNB	**Yeheng**	**0.70**	**284**	*e*P	**Pn**	**08 26 46.7**	**-0.1**
	baz=283						
YHNB				*e*S	**Sn**	**08 26 57.0**	**-0.4**
	baz=283						
HWA	**Hwalien**	**0.71**	**222**	*e*P	**Pn**	**08 26 46.6**	**-0.3**
	baz=220						
JYNG	**Yonagunijimaku**	**0.75**	**94**	P	**Pn**	**08 26 47.4**	**+0.1**
JYNG				S	**Sn**	**08 26 58.5**	**+0.4**
ENLB	**Shoufeng**	**0.77**	**219**	P	**Pn**	**08 26 47.4**	**-0.2**
	baz=217						
ENLB				*e*S	**Sn**	**08 26 59.1**	**+0.5**
	baz=217						
YOJ	**Yonaguni jima**	**0.81**	**93**	*e*P	**Pn**	**08 26 48.1**	**+0.1**
	baz=92						
YOJ				*e*S	**Sn**	**08 26 59.5**	**+0.2**
	baz=92						
YOJ	**Yonaguni jima**	**0.81**	**93**	P	**Pn**	**08 26 48.0**	**0.0**
YOJ				S	**Sn**	**08 26 59.6**	**+0.2**
YM07	**YM07**	**0.81**	**325**	*e*P	**Pn**	**08 26 46.4**	**-1.7**
	baz=326						
YM04	**YM04**	**0.84**	**320**	*e*P	**Pn**	**08 26 47.9**	**-0.6**
	baz=321						
YM04				*e*S	**Sn**	**08 27 00.5**	**+0.2**
	baz=321						
WHF	**Hehuan Shan**	**0.86**	**246**	*e*P	**Pn**	**08 26 48.7**	**-0.5**
	baz=244						
WHF				*e*S	**Sn**	**08 27 01.2**	**-0.3**
	baz=244						
TWS1	**Kuangyinshan**	**0.88**	**313**	*e*P	**Pn**	**08 26 48.5**	**-0.4**
	baz=313						
TWS1				*e*S	**Sn**	**08 27 01.6**	**+0.5**
	baz=313						
TWT	**Tachien**	**0.90**	**254**	*e*P	**Pn**	**08 26 49.7**	**+0.2**
	baz=253						
TWT				*e*S	**Sn**	**08 27 02.1**	**+0.1**
	baz=253						
TDCB	**Techi**	**0.92**	**254**	*e*P	**Pn**	**08 26 49.7**	**+0.1**
	baz=253						
ESL	**Shilin**	**0.94**	**223**	*e*P	**Pn**	**08 26 48.9**	**-0.8**
	baz=221						
NCU	**National Centr**	**0.97**	**299**	*e*S	**Sn**	**08 27 03.6**	**+0.4**
	baz=299						
LIOB	**Emei**	**1.02**	**278**	P	**Pn**	**08 26 51.2**	**+0.4**
	baz=278						
LIOB				*e*S	**Sn**	**08 27 04.7**	**+0.2**
	baz=278						
OWD	**Renai**	**1.03**	**238**	*e*P	**Pn**	**08 26 50.9**	**-0.1**
	baz=237						
NSTT	**Nanjuang**	**1.03**	**277**	*e*P	**Pn**	**08 26 51.3**	**+0.3**
	baz=277						
EHY	**Hungye**	**1.24**	**217**	*e*P	**Pn**	**08 26 52.2**	**-1.5**
	baz=215						
SMLT	**Sun Moon Lake**	**1.28**	**241**	*e*P	**Pn**	**08 26 54.7**	**+0.4**
	baz=240						
TYC	**Yuchr**	**1.31**	**243**	*e*P	**Pn**	**08 26 54.9**	**+0.4**
	baz=242						
TYC				*e*S	**Sn**	**08 27 11.8**	**+0.7**
	baz=242						
TWF1	**Yuli**	**1.38**	**214**	*e*P	**Pn**	**08 26 54.4**	**-1.1**
	baz=212						
TWF1				*e*S	**Sn**	**08 27 13.2**	**+0.4**
	baz=212						
WJS	**Zhushan**	**1.45**	**242**	*e*P	**Pn**	**08 26 57.1**	**+0.6**
	baz=241						
WJS				*e*S	**Sn**	**08 27 15.1**	**+0.6**
	baz=241						
IRIF	**Iriomote-Funau**	**1.47**	**96**	P	**Pn**	**08 26 56.6**	**-0.1**
IRIF				S	**Sn**	**08 27 14.7**	**-0.3**
YUS	**Yu-Shan**	**1.48**	**227**	P	**Pn**	**08 26 57.1**	**-0.2**
	baz=226						
YUS				*e*S	**Sn**	**08 27 15.6**	**-0.3**
	baz=226						
FULB	**Fuli**	**1.51**	**211**	*e*P	**Pn**	**08 26 56.6**	**-0.7**
	baz=209						
FULB				*e*S	**Sn**	**08 27 15.9**	**0.0**
	baz=209						
ALS	**Alishan**	**1.56**	**231**	*e*P	**Pn**	**08 26 58.9**	**+0.6**
	baz=230						
ALS				*e*S	**Sn**	**08 27 18.5**	**+0.8**
	baz=230						
CHKT	**Chengkung**	**1.56**	**207**	*e*S	**Sn**	**08 27 15.4**	**-1.8**
	baz=205						
HATJ	**Hateruma jima**	**1.59**	**106**	S	**Sn**	**08 27 19.6**	**+1.6**
CHN5	**Tsauling**	**1.60**	**236**	P	**Pn**	**08 26 59.3**	**+0.6**
	baz=235						
CHN5				*e*S	**Sn**	**08 27 19.5**	**+1.1**
	baz=235						
JKRS	**Kuro-shima**	**1.73**	**98**	P	**Pn**	**08 27 00.6**	**+0.3**
JKRS				S	**Sn**	**08 27 21.7**	**+0.3**
CHN4	**Tsaushan**	**1.81**	**231**	*e*P	**Pn**	**08 27 02.7**	**+1.2**
	baz=230						
CHN4				*e*S	**Sn**	**08 27 24.6**	**+1.2**
	baz=230						
JIJ	**Ishigaki jima**	**1.84**	**94**	P	**Pn**	**08 27 01.5**	**-0.3**
JIJ				S	**Sn**	**08 27 23.3**	**-0.7**
WTP	**Ta-pu**	**1.87**	**228**	*e*P	**Pn**	**08 27 03.1**	**+0.9**
	baz=227						
TWH	**Lutao**	**1.88**	**199**	*e*P	**Pn**	**08 27 01.1**	**-1.3**
	baz=197						
TWH				*e*S	**Sn**	**08 27 24.0**	**-1.0**
	baz=197						
TWG	**Pinlang**	**1.94**	**210**	*e*P	**Pn**	**08 27 01.6**	**-1.5**
	baz=209						
TWG				*e*S	**Sn**	**08 27 25.8**	**-0.5**
	baz=209						
TWK	**Hsinying**	**1.94**	**231**	*e*P	**Pn**	**08 27 04.1**	**+0.9**
	baz=230						
TWK				*e*S	**Sn**	**08 27 26.8**	**+0.2**
	baz=230						
CHN1	**Nanshi**	**1.97**	**228**	*e*P	**Pn**	**08 27 04.5**	**+0.9**
	baz=227						
CHN1				*e*S	**Sn**	**08 27 28.5**	**+1.3**
	baz=227						
JISG	**Ishigakijimahi**	**1.99**	**87**	S	**Sn**	**08 27 27.6**	**0.0**
JTJ	**Tarama**	**2.35**	**86**	S	**Sn**	**08 27 37.0**	**+0.7**

NEIC ***20*** *08:54:46.0±0.5,19.˚08S×168.˚72E,h10km,mb4.5/13,Error ellipse: s-maj=12.3km s-min=10.3km az=82.0*

ISCJB ***20*** *08:54:49.0±0.5,19.˚13S±0.˚06×168.˚62E±0.˚08,h42km, mb4.3/16,MS3.4/5,Error ellipse: s-maj=11.1km s-min=8.2km az=9.8*

IDC ***20*** *08:54:51.3±3.5,19.˚13S×168.˚57E,h44km±32km,mb3.9/7, mb1 4.2/9,mb1mx3.8/40,mbtmp4.3/9,ML3.9/2,MS3.2/7, Ms1 3.2/7,ms1mx2.9/39,Error ellipse: s-maj=27.9km s-min=23.3km az=104.0*

ISC 20 08:54:50.5±0.7,19.˚13S±0.˚08×168.˚7E±0.˚1,h42km,n37, σ1⁰905/35,mb4.3/16,MS3.4/5,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.60**	**215**	P	**Pn**	**08 55 42.8**	**-1.1**
	3.1nm,0.3s,baz=11,slow=6.1,SNR=27						
DZM				LR	LR	08 56 24.7	
	comp=Z,88nm,19.6s,baz=36,slow=26						
DZM				S	**Sn**	**08 56 25.2**	**0.0**
	5.1nm,0.3s,baz=119,slow=22,SNR=3.8						
DZM	**Mont Dzumac**	**3.60**	**215**	*e*Pn	**Pn**	**08 55 44.1**	**+0.2**
DZM				*e*Sn	**Sn**	**08 56 26.1**	**+0.9**
HNR	**Honiara**	**12.82**	**318**	P	**Pn**	**08 57 49.9**	**-0.4**
	2.5nm,0.3s,baz=217,slow=10,SNR=3.1						
HNR				LR	LR	09 02 12.0	
	comp=Z,73nm,19.9s,baz=181,slow=35						
LHI	**Lord Howe Isla**	**15.08**	**213**	*e*Pn	**Pn**	**08 58 19.7**	**-1.0**
	146nm,1.1s						
URZ	**Urewera**	**20.43**	**161**	P	**P**	**08 59 25.0**	**+0.9**
	6.5nm,0.7s,baz=324,slow=6.0,SNR=4.2						
URZ				LR	LR	09 06 11.5	
	comp=Z,134nm,18.5s,baz=335,slow=33						
URZ	**Urewera**	**20.43**	**161**	*e*P	**P**	**08 59 24.8**	**+0.7**
	17nm,1.2s						
BKZ	**Black Stump Fm**	**21.08**	**163**	*e*P	**P**	**08 59 32.0**	**+0.6**
	5.4nm,0.8s						
CTA	**Charters Tower**	**21.14**	**264**	P	**P**	**08 59 33.2**	**+1.1**
	9.9nm,0.9s,baz=79,slow=14,SNR=11						
CTAO	**Charters Tower**	**21.14**	**264**	*e*P	**P**	**08 59 33.6**	**+1.5**
	9.2nm,0.8s						
THZ	**Tophouse**	**22.85**	**172**	*e*P	**P**	**08 59 50.3**	**+0.2**
	28nm,1.5s						
CAN	**Canberra**	**23.73**	**223**	*e*P	**P**	**09 00 00.2**	**+1.4**
	30nm,1.4s						
COEN	**Coen**	**24.97**	**278**	*e*P	**P**	**09 00 11.7**	**+1.3**
	15nm,1.3s						
STKA	**Stephens Creek**	**27.46**	**237**	P	**P**	**09 00 33.4**	**+0.7**
	1.7nm,0.6s,baz=76,slow=10,SNR=7.8						
STKA	**Stephens Creek**	**27.46**	**237**	*e*P	**P**	**09 00 33.5**	**+0.8**
	0.9nm,1.1s						
WRAB	**Tennant Creek**	**32.33**	**263**	*e*P	**P**	**09 01 14.6**	**-1.4**
	3.1nm,0.9s						
WR1	**Warramunga Arr**	**32.34**	**263**	*e*P	**P**	**09 01 14.9**	**-1.2**
WRA	**Warramunga Arr**	**32.34**	**263**	P	**P**	**09 01 14.9**	**-1.2**
	2.1nm,0.8s,baz=86,slow=8.4,SNR=16						
AS31	**Alice Springs**	**32.64**	**256**	*e*P	**P**	**09 01 18.2**	**-0.4**
ASAR	**Alice Springs**	**32.64**	**256**	P	**P**	**09 01 18.2**	**-0.5**
	7.3nm,0.8s,baz=83,slow=9.0,SNR=57						
MTN	**Manton Dam**	**36.58**	**274**	*e*P	**P**	**09 01 52.7**	**0.0**
	21nm,0.7s						
GUMO	**Guam**	**40.09**	**322**	LR	LR	09 18 59.4	
	comp=Z,23nm,21.1s,baz=110,slow=36						
SBA	**Scott Base**	**58.77**	**180**	*e*P	**P**	**09 04 44.7**	**+0.8**
	8.0nm,1.4s						
CASY	**Casey**	**60.01**	**203**	*e*P	**P**	**09 04 51.5**	**-1.1**
JNU	**Nakatsue**	**63.27**	**325**	LR	LR	09 32 36.7	
	comp=Z,25nm,18.6s,baz=132,slow=36						
PETK	**Petropavlovsk-**	**72.56**	**

KU6	**Riekki**	**2.29 228**	Pg	**Pb**	**09 24 41.8**	**+0.5**
KU6			Sg	**Sg**	**09 25 12.7**	**0.0**
	comp=Z,7.6nm,0.2s						
KU6	**Riekki**	**2.29 228**	PG	**Pb**	**09 24 41.8**	**+0.5**
KU6			MSG		09 25 09.9		
	comp=Z,7.6nm,0.2s						
KU6			SG	**Sg**	**09 25 12.7**	**0.0**
MSF	**Maaselka**	**2.62 232**	Pg	**Pb**	**09 24 47.3**	**+0.3**
MSF	**Maaselka**	**2.62 232**	PG	**Pb**	**09 24 47.3**	**+0.3**
	baz=49						
MSF			SG	**Sg**	**09 25 23.7**	**+0.4**
SGF	**Sodankyl**	**2.90 270**	Pb	**Pn**	**09 24 48.8**	**+2.2**
SGF	**Sodankyl**	**2.90 270**	PB	**Pn**	**09 24 48.8**	**+2.2**
	baz=86						
SGF			SG	**Sg**	**09 25 29.4**	**-2.9**
RNF	**Rovaniemi**	**3.30 256**	PN	**Pn**	**09 24 54.0**	**+2.0**
	baz=70						
RNF			SB	**Sb**	**09 25 36.7**	**-2.5**
ARA0	**ARCESS Array S**	**3.69 306**	Pn	**Pn**	**09 24 57.6**	**+0.2**
	baz=123,slow=16						
ARA0			Sn	**Sn**	**09 25 40.9**	**-0.6**
	baz=122,slow=28						
ARA0			Lg	Lg	09 25 55.5		
	baz=117,slow=37						
ARA0	**ARCESS Array S**	**3.69 306**	Pn	**Pn**	**09 24 57.6**	**+0.2**
	baz=123,slow=15,SNR=175						
ARA0			Sn	**Sn**	**09 25 40.9**	**-0.6**
	baz=122,slow=26,SNR=1.0						
ARA0			Lg	Lg	09 25 55.5		
	baz=117,slow=31,SNR=3.2						
ARA0	**ARCESS Array S**	**3.69 306**	Pn	**Pn**	**09 24 57.6**	**+0.2**
	baz=123,slow=16						
ARA0			Sn	**Sn**	**09 25 40.9**	**-0.6**
	baz=122,slow=28						
ARA0			Lg	Lg	09 25 55.5		
	baz=117,slow=37						
ARE0	**ARCESS Array S**	**3.69 306**	Pn	**Pn**	**09 24 57.5**	**+0.1**
ARE0			Sb	**Sn**	**09 25 43.2**	**+1.6**
ARE0	**ARCESS Array S**	**3.69 306**	PN	**Pn**	**09 24 57.5**	**+0.1**
ARE0			SB	**Sn**	**09 25 43.2**	**+1.6**
HEF	**Hetta**	**4.00 286**	Pn	**Pn**	**09 25 03.8**	**+2.2**
HEF	**Hetta**	**4.00 286**	PN	**Pn**	**09 25 03.8**	**+2.2**
HEF			SN	**Sn**	**09 25 51.4**	**+2.3**
OUL	**Oulu**	**4.15 236**	SG	**Sg**	**09 26 11.8**	**-0.5**
LANU	**Lannavaara**	**4.60 281**	PN	**Pn**	**09 25 11.1**	**+1.2**
FIA0	**FINESS Array S**	**7.07 213**	Pn	**Pn**	**09 25 42.7**	**-1.2**
FIA0			Lg	Lg	09 27 38.6		
	baz=25,slow=28						
FIA0	**FINESS Array S**	**7.07 213**	Pn	**Pn**	**09 25 42.7**	**-1.2**
FIA0			Lg	Lg	09 27 38.6		
	baz=25,slow=28						
SPA0	**Spitsbergen Ar**	**11.73 342**	Pn	**Pn**	**09 26 47.6**	**0.0**
	baz=140,slow=12						
SPA0	**Spitsbergen Ar**	**11.73 342**	Pn	**Pn**	**09 26 47.6**	**0.0**
	baz=140,slow=12						

IDC 20 09:24:41.7±3.4, 2°.85N×92°.83E, h0km, mb3.3/2, mb1 3.9/3, mb1mx3.3/70, mbtmp3.6/3, ML4.4/1, Error ellipse: s-maj=112.4km s-min=31.5km az=61.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**16.63**	**21**	Pn	Pn	09 28 36.9	+0.5
	0.5nm,0.3s,baz=209,slow=11,SNR=8.1						
MKAR	**Makanchi Array**	**44.72 350**		P	P	09 32 56.5	-0.2
	0.2nm,0.6s,baz=168,slow=8.4,SNR=1.9						
WRA	**Warramunga Arr**	**46.62 121**		P	P	09 33 11.9	-0.2
	0.5nm,0.8s,baz=300,slow=8.6,SNR=4.4						

*ISCJB **20** 09:31:56.0±0.6, 64°.74N±0°.03×30°.24E±0°.08, h0km, Error ellipse: s-maj=5.2km s-min=3.6km az=18.2*
*HEL **20** 09:31:56.8±0.1, 64°.71N×30°.86E, h0km, ML2.1, Explosion*
*CSEM **20** 09:31:58.3±0.4, 64°.72N×30°.36E, h1km, ML2.1, Error ellipse: s-maj=7.6km s-min=4.8km az=94.0, Mining explosion.*
*KOLA **20** 09:31:59.7, 64°.68N×31°.28E, h0km*
*IDC **20** 09:32:00.8±1.8, 64°.66N×30°.55E, h0km, mb1 3.1/4, mb1mx2.9/72, mbtmp3.1/4, ML3.2/3, Error ellipse: s-maj=24.8km s-min=8.4km az=103.0*
*BER **20** 09:32:00.0±3.5, 64°.71N×30°.49E, h0km, ML2.4(NAO), Suspected explosion*
*NAO **20** 09:32:01.2±1.7, 64°.72N×30°.01E, ML2.4*

ISC 20 09:31:58.2±0.9, 64°.73N±0°.02×30°.61E±0°.05, h0km, n42, σ1§37/66, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KU6	**Riekki**	**1.34 347**		Pn	**Pg**	**09 32 23.1**	**-0.8**
KU6				Sn	**Sn**	**09 32 42.8**	**+0.1**
KU6	**Riekki**	**1.34 347**		PN	**Pg**	**09 32 23.1**	**-0.8**
	baz=165						
KU6				MSG		09 32 38.5	
	comp=Z,12nm,0.2s						
KU6				SN	**Sn**	**09 32 42.8**	**+0.1**
MSF	**Maaselka**	**1.36 332**		Pn	**Pg**	**09 32 23.6**	**-0.7**
MSF				Sn	**Sn**	**09 32 43.1**	**-0.1**
MSF	**Maaselka**	**1.36 332**		PN	**Pg**	**09 32 23.6**	**-0.7**
	baz=151						
MSF				SN	**Sn**	**09 32 43.1**	**-0.1**
JOF	**Joensuu**	**1.84 170**		Sn	**Sn**	**09 32 53.0**	**-2.0**
JOF	**Joensuu**	**1.84 170**		PG	**Pn**	**09 32 29.1**	**-1.9**
JOF				SN	**Sn**	**09 32 53.0**	**-2.0**
OUL	**Oulu**	**2.04 282**		Pg	**Pb**	**09 32 35.4**	**-0.7**
OUL				Sg	**Sb**	**09 33 02.3**	**+0.3**
OUL	**Oulu**	**2.04 282**		PG	**Pb**	**09 32 35.4**	**-0.7**
	baz=93						
OUL				SG	**Sb**	**09 33 02.3**	**+0.3**
OUF	**Merijarvi**	**2.56 265**		PG	**Pn**	**09 32 41.9**	**+1.0**
OUF				MSG		09 33 15.6	
	comp=Z,13nm,0.2s						
OUF				SG	**Sb**	**09 33 16.9**	**-0.1**
RNF	**Rovaniemi**	**2.68 317**		Sg	**Sb**	**09 33 21.5**	**+1.1**
RNF	**Rovaniemi**	**2.68 317**		PG	**Pb**	**09 32 45.3**	**-1.8**
	baz=135						
RNF				SG	**Sb**	**09 33 21.5**	**+1.1**
TOF	**Tornio**	**2.96 300**		Sg	**Sb**	**09 33 28.3**	**-0.1**
	comp=Z,8.2nm,0.2s						
TOF	**Tornio**	**2.96 300**		PG	**Pb**	**09 32 50.4**	**-1.3**
TOF				MSG		09 33 26.7	
	comp=Z,8.2nm,0.2s						
TOF				SG	**Sb**	**09 33 28.3**	**-0.1**
APA0	**Apatity Array**	**3.05**	**17**	P	**Pn**	**09 32 48.2**	**+0.6**
APA0				S	**Sn**	**09 33 24.4**	**-0.4**
VRF	**Varrio**	**3.06 353**		PB	**Pn**	**09 32 49.4**	**+1.5**
	baz=174						
VRF				MSG		09 33 27.8	
	comp=Z,2.9nm,0.2s						
APA	**Apatity**	**3.07**	**20**	P	**Pn**	**09 32 48.3**	**+0.3**
APA				S	**Sn**	**09 33 24.7**	**-0.7**
SGF	**Sodankyl**	**3.19 330**		PB	**Pn**	**09 32 50.5**	**+0.9**
SGF				SG	**Sb**	**09 33 35.5**	**+0.4**
KALU	**Kalix**	**3.25 294**		Pg	**Pb**	**09 32 57.9**	**+1.2**
KALU	**Kalix**	**3.25 294**		PG	**Pb**	**09 32 57.9**	**+1.2**
	baz=105						
KAF	**Kangasniemi**	**3.26 218**		Sg	**Sb**	**09 33 38.3**	**+1.3**
KAF	**Kangasniemi**	**3.26 218**		SG	**Sb**	**09 33 38.4**	**+1.3**
FIA0	**FINESS Array S**	**3.88 214**		Pn	**Pn**	**09 32 59.3**	**+0.2**
	baz=36,slow=14						
FIA0				Pg	**Pb**	**09 33 07.0**	**-0.6**
	baz=27,slow=16						
FIA0				Sn	**Sn**	**09 33 45.0**	**-0.4**
	baz=42,slow=22						
FIA0				Lg	Lg	09 33 56.6	
	baz=25,slow=37						
FIA0	**FINESS Array S**	**3.88 214**		Pn	**Pn**	**09 32 59.3**	**+0.2**
	baz=36,slow=14,SNR=1.7						
FIA0				Sn	**Sn**	**09 33 45.0**	**-0.4**
	baz=42,slow=19						
FIA0				Lg	Lg	09 33 56.6	
	SNR=7.5						
FIA0	**FINESS Array S**	**3.88 214**		Pn	**Pn**	**09 32 59.3**	**+0.2**
	baz=36,slow=14						
FIA0				Pg	**Pb**	**09 33 07.0**	**-0.6**
	baz=27,slow=16						
FIA0				Sn	**Sn**	**09 33 45.0**	**-0.4**
	baz=42,slow=22						
FIA0				Lg	Lg	09 33 56.6	
	baz=25,slow=37						
FINES	**FINESS Array B**	**3.88 214**		Pn	**Pn**	**09 32 58.9**	**-0.2**
	comp=Z,0.1nm,0.3s,baz=29,slow=15,SNR=6.4						
FINES				Pg	**Pb**	**09 33 08.6**	**+1.1**
	comp=Z,0.5nm,0.3s,baz=33,slow=14,SNR=11						
FINES				Lg	Lg	09 33 58.3	
	comp=Z,1.2nm,0.3s,baz=34,slow=28,SNR=14						
BURU	**Burvik**	**3.97 272**		Pn	**Pn**	**09 33 00.6**	**+0.3**
BURU	**Burvik**	**3.97 272**		PN	**Pn**	**09 33 00.6**	**+0.3**
VJF	**Virojoki**	**4.43 200**		SG	**Sb**	**09 34 13.7**	**+2.9**
HEF	**Hetta**	**4.62 326**		PG	**Pb**	**09 33 21.4**	**+1.3**
HEF				SG	**Sb**	**09 34 21.2**	**+5.1**
PVF	**Pernaja**	**4.73 210**		SG	**Sb**	**09 34 23.2**	**+3.9**
ARA0	**ARCESS Array S**	**5.22 340**		Pn	**Pn**	**09 33 17.8**	**+0.3**
	baz=153,slow=14						
ARA0				Sn	**Sn**	**09 34 16.2**	**-2.1**
	baz=156,slow=28						
ARA0				Lg	Lg	09 34 39.1	
	baz=161,slow=37						
ARA0	**ARCESS Array S**	**5.22 340**		Pn	**Pn**	**09 33 17.8**	**+0.3**
	baz=153,slow=13,SNR=0.2						
ARA0				Sn	**Sn**	**09 34 16.2**	**-2.1**
	baz=156,slow=23,SNR=5.0						
ARA0				Lg	Lg	09 34 39.1	
	SNR=5.2						
ARA0	**ARCESS Array S**	**5.22 340**		Pn	**Pn**	**09 33 17.8**	**+0.3**
	baz=153,slow=14						
ARA0				Sn	**Sn**	**09 34 16.2**	**-2.1**
	baz=156,slow=28						
ARA0				Lg	Lg	09 34 39.1	
	baz=161,slow=37						
ARCES	**ARCESS Array B**	**5.22 340**		Pn	**Pn**	**09 33 17.9**	**+0.5**
	comp=Z,0.8nm,0.3s,baz=152,slow=12,SNR=26						
ARCES				Sn	**Sn**	**09 34 16.9**	**-1.4**
	comp=Z,0.4nm,0.3s,baz=159,slow=23,SNR=3.7						
ARCES				Lg	Lg	09 34 39.3	
	comp=Z,1.0nm,0.3s,baz=152,slow=30,SNR=5.9						
HFS	**Hagfors**	**9.08 247**		Pn	**Pn**	**09 34 08.2**	**-2.1**
	baz=62,slow=16						
HFS				Lg	Lg	09 36 38.6	
HFS	**Hagfors**	**9.08 247**		Pn	**Pn**	**09 34 09.9**	**-0.4**
	comp=Z,0.3nm,0.3s,baz=56,slow=16,SNR=7.6						
HFS				Lg	Lg	09 36 40.8	
	comp=Z,0.4nm,0.3s,baz=56,slow=28,SNR=4.4						
HFS	**Hagfors**	**9.08 247**		Pn	**Pn**	**09 34 08.2**	**-2.1**
	baz=62,slow=16						
HFS				Lg	Lg	09 36 38.6	
NB2	**NORSAR Subarra**	**9.58 256**		Pn	**Pn**	**09 34 18.5**	**+1.3**
	baz=59,slow=11						
NB2	**NORSAR Subarra**	**9.58 256**		Pn	**Pn**	**09 34 18.5**	**+1.3**
	baz=59,slow=11						
NOA	**NORSAR Array B**	**9.58 256**		Pn	**Pn**	**09 34 16.5**	**-0.7**
	comp=Z,0.2nm,0.3s,baz=67,slow=13,SNR=4.6						
NOA				Lg	Lg	09 36 57.7	
	comp=Z,0.2nm,0.3s,baz=115,slow=21,SNR=4.0						
NRA0	**NORESS Array S**	**9.60 254**		Pn	**Pn**	**09 34 16.6**	**-0.9**
	baz=51,slow=12						
NRA0	**NORESS Array S**	**9.60 254**		Pn	**Pn**	**09 34 16.6**	**-0.9**
	baz=51,slow=12						

*IDC **20** 09:44:02.3±0.7, 6°.86S×155°.84E, h80km±5km, mb4.0/21, mb1 4.1/25, mb1mx4.0/54, mbtmp4.3/25, MS3.3/14, Ms1 3.3/14, ms1mx3.2/43, Error ellipse: s-maj=16.8km s-min=10.8km az=87.0*
*NEIC **20** 09:44:02.4±0.3, 6°.83S×155°.81E, mb4.7/20, Error ellipse: s-maj=9.9km s-min=7.8km az=76.0*
*ISCJB **20** 09:44:03.4±0.9, 6°.88S±0°.05×155°.80E±0°.04, h106km±9km, mb4.5/46, Error ellipse: s-maj=8.3km s-min=7.1km az=26.0*

ISC 20 09:44:02.8±0.5, 6°.79S±0°.06×155°.80E±0°.06, h85km±4km, h85km:pP-P, n98, σ1§43/102, mb4.5/46, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**4.45**	**305**	*e*Pn	**Pn**	**09 45 10.9**	**+3.0**
RABL				*e*Sn	**Sn**	**09 45 56.4**	**-2.2**
HNR	**Honiara**	**4.87**	**123**	*e*P	**Pn**	**09 45 15.0**	**+1.3**
HNR				*e*S	Sn	09 46 26.0	+17
HNR	**Honiara**	**4.87**	**123**	P	**Pn**	**09 45 13.8**	**+0.2**
	34nm,0.3s,baz=240,slow=4.3,SNR=10						
HNR				S	**Sn**	**09 46 10.9**	**+2.1**
	89nm,0.3s,baz=288,slow=20,SNR=5.4						
HNR	**Honiara**	**4.87**	**123**	*e*Pn	**Pn**	**09 45 15.3**	**+1.6**
HNR				*e*Sn	**Sn**	**09 46 09.1**	**+0.3**
PMG	**Port Moresby**	**8.94 253**		P	**Pn**	**09 46 10.7**	**+1.5**
	7.1nm,0.3s,baz=36,slow=6.3,SNR=20						
PMG				S	**Sn**	**09 47 52.1**	**+3.7**
	1.1nm,0.3s,baz=47,slow=22,SNR=5.7						
PMG				LR	LR	09 49 36.9	
	comp=Z,167nm,18.7s,baz=356,slow=37						
PMG	**Port Moresby**	**8.94 253**		*e*Pn	**Pn**	**09 46 12.3**	**+3.1**
PMG				*e*Sn	**Sn**	**09 47 48.5**	**+0.1**
PMG				*e*		09 47 52.1	
CTA	**Charters Tower**	**16.14 214**		P	**Pn**	**09 47 45.0**	**+0.3**
	0.1nm,0.3s,baz=8.7,slow=13,SNR=2.5						
DZM	**Mont Dzumac**	**18.34 147**		P	**Pn**	**09 48 11.0**	**-0.7**
	1.2nm,0.3s,baz=303,slow=7.1,SNR=10						
DZM	**Mont Dzumac**	**18.34 147**		*e*P	**Pn**	**09 48 10.6**	**-1.0**
	51nm,1.4s						
EIDS	**Eidsvold**	**19.02 193**		*e*P	**Pn**	**09 48 18.5**	**-1.1**
	18nm,1.5s						
GUMO	**Guam**	**22.98 332**		LR	LR	09 56 38.9	
	comp=Z,35nm,21.5s,baz=162,slow=33						
FAKI	**Fak Fak**	**23.78 278**		*e*P	**P**	**09 49 06.8**	**-1.2**
	12nm,0.9s						
WRAB	**Tennant Creek**	**24.58 236**		*e*P	**P**	**09 49 11.2**	**-3.9**
	6.7nm,0.8s						
WR1	**Warramunga Arr**	**24.59 236**		*e*P	**P**	**09 49 15.5**	**+0.3**
WRA	**Warramunga Arr**	**24.59 236**		P	**P**	**09 49 15.5**	**+0.2**
	7.2nm,0.8s,baz=61,slow=9.7,SNR=29						
WRA				ScP	**ScP**	**09 56 22.6**	**-0.1**
	0.5nm,0.5s,baz=64,slow=3.4,SNR=9.2						
WRA				LR	LR	09 58 23.0	
	comp=Z,80nm,19.8s,baz=350,slow=35						
MTN	**Manton Dam**	**25.03 254**		*e*P	**P**	**09 49 16.8**	**-2.5**
	50nm,1.4s						
SIJI	**Sorong**	**25.17 282**		P	**P**	**09 49 21.0**	**+0.5**
	17nm,0.7s,baz=75,slow=9.4,SNR=8.3						
SIJI				LR	LR	10 00 16.8	
	comp=Z,84nm,18.9s,baz=155,slow=39						
AS31	**Alice Springs**	**26.91 229**		*e*P	**P**	**09 49 35.8**	**-0.4**
AS31				*e*PcP	**PcP**	**09 52 56.9**	**+0.3**
ASAR	**Alice Springs**	**26.91 229**		P	**P**	**09 49 35.8**	**-0.4**
	0.9nm,0.4s,baz=58,slow=9.5,SNR=25						
ASAR				PcP	**PcP**	**09 52 56.9**	**+0.3**
	1.5nm,0.7s,baz=61,slow=2.8,SNR=10						
ASAR				ScP	**ScP**	**09 56 28.9**	**-0.5**
	1.6nm,0.8s,baz=69,slow=2.9,SNR=11						
H11S3	**WAKE ISLAND Hy 27.33**		**23**	T	T	10 18 24.2	
	baz=202,slow=75,SNR=100						
H11S2	**WAKE ISLAND Hy 27.33**		**23**	T	T	10 18 04.7	
	baz=202,slow=75,SNR=104						
H11S1	**WAKE ISLAND Hy 27.34**		**23**	T	T	10 18 12.8	
	baz=202,slow=75,SNR=51						
WAKE	**Wake Island**	**28.03**	**22**	*e*P	**P**	**09 49 45.0**	**-1.1**
	109nm,1.1s						
STKA	**Stephens Creek**	**28.26 206**		P	**P**	**09 49 47.5**	**-0.6**
	2.1nm,1.0s,baz=21,slow=14,SNR=2.8						
STKA				PcP	**PcP**	**09 52 59.1**	**-0.5**
	1.8nm,0.7s,baz=22,slow=5.8,SNR=3.4						
STKA				LR	LR	10 00 05.5	
	comp=Z,82nm,19.3s,baz=26,slow=34						
STKA	**Stephens Creek**	**28.26 206**		*e*P	**P**	**09 49 46.5**	**-1.6**
	1.8nm,1.4s						
H11N1	**WAKE ISLAND Hy 28.51**		**22**	T	T	10 19 47.1	
	baz=202,slow=76,SNR=5.7						
H11N3	**WAKE ISLAND Hy 28.52**		**22**	T	T	10 19 48.0	
	baz=202,slow=76,SNR=7.2						
H11N2	**WAKE ISLAND Hy 28.53**		**22**	T	T	10 20 18.3	
	baz=202,slow=76,SNR=3.4						
AFI	**Afiamalu**	**32.64 105**		LR	LR	10 01 19.1	
	comp=Z,38nm,18.1s,baz=31,slow=32						
DAV	**Davao City (W)**	**33.15 294**		LR	LR	10 01 38.0	
	comp=Z,58nm,21.0s,baz=106,slow=32						
BKZ	**Black Stump Fm**	**37.24 153**		*e*P	**P**	**09 51 05.9**	**-0.4**
	14nm,1.3s						
THZ	**Tophouse**	**37.99 159**		*e*P	**P**	**09 51 12.3**	**-0.4**
	8.2nm,0.7s						
MYLDM	**Lahad Datu**	**39.08 287**		*e*P	**P**	**09 51 24.0**	**+1.9**
	37nm,1.4s						
RPZ	**Rata Peaks**	**39.14 162**		P	**P**	**09 51 21.5**	**-0.7**
	5.0nm,0.6s,baz=348,slow=2.3,SNR=6.7						
RAR	**Rarotonga**	**45.25 113**		LR	LR	10 07 51.7	
	comp=Z,86nm,21.1s,baz=258,slow=32						
TATO	**Taipei**	**45.97 315**		*e*P	**P**	**09 52 16.7**	**-1.0**
	27nm,0.9s						
MJAR	**Matsushiro Arr**	**46.16 340**		P	**P**	**09 52 18.7**	**-0.3**
	2.3nm,0.8s,baz=167,slow=7.6,SNR=8.2						
MAJO	**Matsushiro**	**46.16 340**		*e*P	**P**	**09 52 18.7**	**-0.4**
JNU	**Nakatsue**	**46.22 331**		LR	LR	10 09 27.8	
	comp=Z,32nm,20.0s,baz=134,slow=33						
KSRS	**Korea Array**	**51.14 331**		P	**P**	**09 52 58.5**	**+1.3**
	2.3nm,0.8s,baz=148,slow=7.7,SNR=9.9						
KSRS				LR	LR	10 14 03.8	
	comp=Z,38nm,19.0s,baz=178,slow=35						
KS01	**Wonju Array Si**	**51.17 331**		*e*P	**P**	**09 52 58.7**	**+1.3**
ASAJ	**Asahikawa**	**52.06 348**		*e*P	**P**	**09 53 04.8**	**+0.9**
	1.9nm,0.7s,baz=226,slow=18,SNR=3.5						
ASAJ	**Asahikawa**	**52.06 348**		*e*P	**P**	**09 53 05.0**	**+1.1**
	4.3nm,1.0s						
NJ2	**Nanjing**	**52.27 320**		*e*P	**P**	**09 53 06.5**	**+0.8**
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.5s						
MNAI	**Manna**	**52.63 270**		*e*P	**P**	**09 53 07.2**	**-1.6**
	comp=Z,360nm,1.3s						
PPT	**Papeete**	**54.29 107**		LR	LR	10 13 33.9	
	comp=Z,34nm,18.9s,baz=292,slow=33						
USRK	**Ussuriysk Ar.**	**55.12 339**		P	**P**	**09 53 27.9**	**+1.6**
	comp=Z,3.7nm,0.8s,baz=106,slow=4.2,SNR=6.1						
USRK				LR	LR	10 17 18.0	
	comp=Z,34nm,18.8s,baz=93,slow=36						
IPM	**Ipoh**	**55.81 280**		*e*P	**P**	**09 53 30.4**	**-1.5**
	comp=Z,9.7nm,0.7s						
KULM	**Kulim**	**56.34 281**		*e*P	**P**	**09 53 33.1**	**-2.5**
	comp=Z,8.9nm,0.8s						
KLR	**Kul'dur**	**59.62 342**		P	**P**	**09 53 59.5**	**+1.6**
	comp=Z,0.1nm,0.6s,baz=149,slow=12,SNR=3.4						
PEA0B	**Petropavlovsk-**	**59.69**	**1**	*e*P	**P**	**09 54 00.6**	**+2.3**
	comp=Z,14nm,1.4s						
PETK	**Petropavlovsk-**	**59.69**	**1**	P	**P**	**09 53 59.5**	**+1.2**
	comp=Z,1.7nm,0.7s,baz=166,slow=6.8,SNR=3.8						
PETK				pP	**pP**	**09 54 20.8**	**+1.1**
	comp=Z,2.6nm,0.8s,baz=140,slow=7.7,SNR=3.3						
PETK				LR	LR	10 18 08.0	
	comp=Z,17nm,20.0s,baz=160,slow=34						
PETK	**Petropavlovsk-**	**59.69**	**1**	*e*P	**P**	**09 54 00.0**	**+1.7**
PEA1	**Petropavlovsk-**	**59.70**	**1**	*e*P	**P**	**09 53 59.5**	**+1.2**
PEA1				*e*pP	**pP**	**09 54 20.8**	**+1.0**
XAN	**Xi'an**	**60.12 316**		P	**P**	**09 54 06.4**	**+4.7**
XAN				pP	pP	09 54 13.1	-10
XAN				pmax	pmax		
	comp=Z,5.0nm,1.1s						
XAN				LR	LR		
	comp=E,120nm,17.3s						
KMI	**Kunming**	**60.57 304**		P	**P**	**09 54 06.3**	**+1.2**
KMI				pmax	pmax		
	comp=Z,11nm,0.5s						
CM01	**Chiang Mai Arr**	**61.40 295**		*e*P	**P**	**09 54 10.9**	**+0.4**
CM31	**Chiang Mai Arr**	**61.42 295**		*e*P	**P**	**09 54 11.6**	**+0.9**
CMAR	**Chiang Mai Arr**	**61.42 295**		P	**P**	**09 54 11.6**	**+0.9**
	comp=Z,1.7nm,0.7s,baz=131,slow=4.7,SNR=4.9						
CD2	**Chengdu**	**62.30 310**		*e*P	**P**	**09 54 16.5**	**+0.1**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,120nm,5.0s						
HHC	**Hu-ho-hao-te**	**62.41 323**		*e*P	**P**	**09 54 19.0**	**+1.9**
HHC				S	**S**	**10 02 34.0**	**-3.6**
HHC				sS	sS	10 03 35.8	+21
HHC				pmax	pmax		
	comp=Z,21nm,1.2s						
HHC				pmax	pmax		
	comp=Z,74nm,7.2s						
LZH	**Lanzhou**	**64.74 315**		*e*P	**P**	**09 54 33.4**	**+0.8**
LZH				pP	PcP	09 55 06.1	+0.6
LZH				sP	sP	09 55 22.8	+19
LZH				pmax	pmax		
	comp=Z,25nm,1.1s						
ULN	**Ulaanbaatar**	**69.27 327**		*e*P	**P**	**09 55 02.4**	**+1.4**
	comp=Z,4.4nm,0.8s						
SONA0	**Songino Array**	**69.60 327**		*e*P	**P**	**09 55 04.3**	**+1.3**
SONM	**Songino Array**	**69.60 327**		P	**P**	**09 55 04.3**	**+1.3**
	comp=Z,6.0nm,0.8s,baz=136,slow=6.7,SNR=23						
SONA1	**Songino Array**	**69.61 327**		*e*P	**P**	**09 55 03.4**	**+0.3**
VNDA	**Vanda**	**70.76 179**		P	**P**	**09 55 09.6**	**+0.1**
	comp=Z,1.0nm,1.0s,baz=322,slow=3.5,SNR=4.7						
TLY	**Talaya**	**73.30 329**		P	**P**	**09 55 26.1**	**+1.0**
	comp=Z,1.4nm,0.5s,baz=294,slow=9.3,SNR=3.5						
WMQ	**Urumqi**	**79.22 317**		P	**P**	**09 55 59.1**	**+0.2**
WMQ				pmax	pmax		
	comp=Z,23nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,210nm,4.5s						
WMQ				LR	LR		
	comp=Z,63nm,19.5s						
CAST	**Castle Rocks**	**80.25**	**21**	*e*P	**P**	**09 56 04.0**	**0.0**
	comp=Z,5.2nm,1.0s						
TIXI	**Tiksi**	**80.27 352**		LR	LR	10 31 19.0	
	comp=Z,23nm,19.2s,baz=220,slow=35						
MCK	**McKinley**	**81.57**	**22**	*e*P	**P**	**09 56 11.2**	**+0.2**
	comp=Z,7.9nm,1.0s						
ILAR	**Eielson Array**	**82.89**	**21**	P	**P**	**09 56 16.9**	**-0.9**
	comp=Z,1.0nm,0.5s,baz=242,slow=5.1,SNR=13						
ILB	**Eielson Array**	**82.89**	**21**	*e*P	**P**	**09 56 16.9**	**-0.9**
QSPA	**South Pole Qui**	**83.18 180**		P	**P**	**09 56 19.1**	**-0.5**
	comp=Z,3.6nm,0.5s,baz=306,slow=0.5,SNR=23						
QSPA	**South Pole Qui**	**83.18 180**		*e*P	**P**	**09 56 19.3**	**-0.2**
DOT	**Dot Lake**	**83.37**	**23**	*e*P	**P**	**09 56 19.9**	**-0.4**
	comp=Z,7.9nm,1.0s						
MK01	**Makanchi Array**	**83.77 318**		*e*P	**P**	**09 56 22.6**	**-0.2**
MK31	**Makanchi Array**	**83.78 318**		*e*P	**P**	**09 56 23.5**	**+0.6**
MK32

ULHL	**Ulahol** SNR=29	**1.87**	**341**	P		**Pn**	**10 06 19.2**	**-0.1**
ULHL	**Ulahol** baz=41	**1.87**	**341**	⇑*i*P		**Pn**	**10 06 19.2**	**-0.1**
ULHL	baz=41			⇑*i*S		**Sn**	**10 06 42.9**	**-0.8**
KZA	**Kyzart** SNR=66	**2.10**	**320**	P		**Pb**	**10 06 23.7**	**-1.4**
KZA	**Kyzart** baz=18	**2.10**	**320**	⇑*i*P		**Pb**	**10 06 23.5**	**-1.6**
KZA	baz=18			⇑*i*S		**Sb**	**10 06 51.4**	**-0.3**
PRZ	**Przheval'sk** baz=29	**2.25**	**26**	⇓*e*P		**Pn**	**10 06 24.4**	**-0.1**
PRZ	baz=29			⇓*i*S		**Sn**	**10 06 52.7**	**-0.3**
TNSS	**Tian-Shan** 57nm,0.6s	**2.56**	**358**	*e*P		**Pb**	**10 06 32.0**	**-0.9**
TNSS	63nm,0.4s			⇓*i*S		**Sg**	**10 07 08.0**	**-0.3**
IZV	**Izvestkoviy** 42nm,0.5s	**2.58**	**353**	*e*P		**Pb**	**10 06 32.2**	**-1.0**
IZV	90nm,0.4s			*e*S		**Sb**	**10 07 07.3**	**+1.9**
UCH	**Uchtor** SNR=25	**2.59**	**313**	P		**Pb**	**10 06 33.1**	**-0.3**
UCH	**Uchtor** baz=11	**2.59**	**313**	⇑*i*P		**Pn**	**10 06 30.5**	**+1.1**
UCH	baz=11			⇑*i*S		**Sb**	**10 07 03.9**	**-2.0**
TKM2	**Tokmak 2** 4.1nm,0.2s	**2.67**	**337**	⇓Pg		**Pb**	**10 06 32.4**	**-2.4**
TKM2	12nm,0.3s			⇑Lg		Lg	10 07 10.6	
TKM2	**Tokmak 2** SNR=21	**2.67**	**337**	P		**Pb**	**10 06 32.2**	**-2.5**
TKM2	**Tokmak 2** baz=36	**2.67**	**337**	⇑*i*P		**Pn**	**10 06 31.8**	**+1.4**
TKM2	baz=36			⇑*i*S		**Sb**	**10 07 05.6**	**-2.6**
MDOK	**Medeo** 11nm,0.5s	**2.69**	**0**	Pg		**Pb**	**10 06 32.8**	**-2.2**
MDOK	40nm,0.6s			Lg		Lg	10 07 10.2	
MDOK	**Medeo** 21nm,0.4s	**2.69**	**0**	⇑*i*P		**Pb**	**10 06 34.0**	**-0.9**
MDOK	46nm,0.6s			⇓*i*S		**Sb**	**10 07 10.2**	**+1.7**
KBK	**Karagaybulak** SNR=14	**2.69**	**325**	P		**Pb**	**10 06 34.7**	**-0.3**
KBK	**Karagaybulak** baz=23	**2.69**	**325**	⇑*i*P		**Pb**	**10 06 32.6**	**-2.4**
KBK	baz=23			⇑*i*S		**Sb**	**10 07 06.6**	**-1.9**
KST	**Kastek** 5.6nm,0.3s	**2.69**	**343**	*e*P		**Pb**	**10 06 34.2**	**-0.8**
KST	27nm,0.6s			*e*S		**Sb**	**10 07 10.9**	**+2.4**
MTBS	**Maitube** 11nm,0.3s	**2.69**	**350**	*e*P		**Pb**	**10 06 33.8**	**-1.2**
MTBS	31nm,0.4s			*e*S		**Sb**	**10 07 10.6**	**+2.1**
SFK	**Sufi-Kurgan** 2.6nm,0.4s	**2.75**	**261**	⇓Pg		**Pb**	**10 06 35.4**	**-0.7**
SFK	7.3nm,0.4s			⇑Lg		Lg	10 07 12.2	
SFK	**Sufi-Kurgan** baz=58	**2.75**	**261**	⇑*e*P		**Pb**	**10 06 34.9**	**-1.2**
SFK	baz=58			⇑*i*S		**Sb**	**10 07 09.6**	**-0.8**
KOTS	**Kotyrbulak** 16nm,0.4s	**2.76**	**1**	*e*P		**Pb**	**10 06 35.3**	**-0.9**
KOTS	106nm,0.8s			*e*S		**Sb**	**10 07 12.2**	**+1.7**
SATY	**Saty** 48nm,0.4s	**2.77**	**21**	*e*P		**Pb**	**10 06 34.8**	**-1.7**
SATY	40nm,0.6s			*e*S		**Sb**	**10 07 11.8**	**+0.8**
ZHN	**Zhinishke** 27nm,0.3s	**2.88**	**21**	*e*P		**Pb**	**10 06 36.1**	**-2.2**
ZHN	53nm,0.3s			*e*S		**Sb**	**10 07 15.1**	**+0.9**
AAK	**Ala-Archa** 7.1nm,0.3s	**2.89**	**319**	⇑Pg		**Pb**	**10 06 37.1**	**-1.3**
AAK	17nm,0.6s			⇓Lg		Lg	10 07 16.5	
AAK	**Ala-Archa** SNR=37	**2.89**	**319**	P		**Pb**	**10 06 37.9**	**-0.5**
AAK	**Ala-Archa** baz=17	**2.89**	**319**	⇑*e*P		**Pb**	**10 06 36.5**	**-1.9**
AAK	baz=17			⇑*i*S		**Sb**	**10 07 11.6**	**-2.6**
DGS	**Degeres** 28nm,0.6s	**2.92**	**341**	*e*P		**Pb**	**10 06 38.0**	**-1.0**
DGS	38nm,0.6s			*e*S		**Sb**	**10 07 16.8**	**+1.6**
AML	**Almayashu** SNR=26	**3.02**	**304**	P		**Pn**	**10 06 37.4**	**+2.1**
AML	**Almayashu** baz=2.0	**3.02**	**304**	⇓*i*P		**Pn**	**10 06 37.2**	**+1.9**
AML	baz=2.0			⇓*i*S		**Sn**	**10 07 13.5**	**+1.2**
CHMS	**Chumysh** SNR=11	**3.05**	**326**	P		**Pb**	**10 06 40.7**	**-0.4**
UZB	**Uzynbulak** 15nm,0.3s	**3.05**	**28**	*e*P		**Pb**	**10 06 40.0**	**-1.2**
UZB	19nm,0.5s			*e*S		**Sb**	**10 07 20.8**	**+1.8**
KURS	**Kuram** 4.7nm,0.3s	**3.12**	**15**	*e*P		**Pb**	**10 06 41.1**	**-1.3**
KURS	15nm,0.8s			*e*S		**Sb**	**10 07 22.6**	**+1.6**
KPKS	**Kokpek** 42nm,0.4s	**3.23**	**22**	*e*P		**Pb**	**10 06 42.6**	**-1.6**
KPKS	57nm,0.6s			*e*S		**Sb**	**10 07 26.0**	**+2.0**
SHLS	**Shalkode** 18nm,0.4s	**3.23**	**33**	*e*P		**Pg**	**10 06 46.9**	**-1.1**
SHLS	46nm,0.6s			*e*S		**Sg**	**10 07 33.5**	**+3.6**
KTBS	**Karatobe** 11nm,0.6s	**3.25**	**355**	*e*P		**Pb**	**10 06 43.4**	**-1.1**
KTBS	37nm,0.5s			*e*S		**Sb**	**10 07 26.8**	**+2.4**
USP	**Ospenovka** SNR=17	**3.38**	**327**	P		**Pb**	**10 06 46.4**	**-0.3**
CHKK	**Chushkaly** 20nm,0.5s	**3.38**	**359**	*e*P		**Pb**	**10 06 45.8**	**-0.8**
CHKK	41nm,0.3s			*e*S		**Sb**	**10 07 30.7**	**+2.5**
PDGK	**Podgornoye** 9.7nm,0.6s	**3.38**	**32**	⇓Pg		**Pb**	**10 06 45.9**	**-0.9**
PDGK	22nm,0.7s			⇑Lg		Lg	10 07 31.4	
PDGK	**Podgornoye** baz=34	**3.38**	**32**	⇓*e*P		**Pn**	**10 06 40.7**	**+0.6**
PDGK	baz=34			⇓*i*S		**Sn**	**10 07 20.5**	**-0.4**
KUU	**Kurty** 3.9nm,0.3s	**3.46**	**351**	*e*P		**Pb**	**10 06 46.7**	**-1.3**
KUU	27nm,0.7s			*e*S		**Sb**	**10 07 32.2**	**+1.7**
MRKS	**Merke** 9.2nm,0.3s	**3.65**	**310**	*e*P		**Pb**	**10 06 51.4**	**0.0**
MRKS	12nm,0.3s			*e*S		**Sb**	**10 07 40.2**	**+4.0**
MNBS	**Baschi** 8.9nm,0.3s	**3.74**	**15**	*e*P		**Pb**	**10 06 52.4**	**-0.5**
MNBS	19nm,0.8s			*e*S		**Sb**	**10 07 42.2**	**+3.5**
ARXS	**Arharly** 6.2nm,0.5s	**3.78**	**9**	*e*P		**Pb**	**10 06 52.0**	**-1.6**
ARXS	17nm,0.7s			*e*S		**Sb**	**10 07 41.2**	**+1.4**
MNAS	**Manas** 2.4nm,0.5s	**3.96**	**302**	⇑Pg		**Pb**	**10 06 57.0**	**+0.4**
MNAS	6.3nm,0.6s			⇑Lg		Lg	10 07 49.8	
MNAS	**Manas** baz=0.0	**3.96**	**302**	⇓*e*P		**Pn**	**10 06 49.1**	**+1.1**
MNAS	baz=0.0			⇓*i*S		**Sn**	**10 07 35.4**	**+0.3**
DJR	**Jarkent** 7.7nm,0.4s	**4.36**	**27**	*e*P		**Pb**	**10 07 02.0**	**-1.4**
DJR	7.1nm,0.5s			⇓*i*S		**Sb**	**10 07 58.8**	**+2.4**
KAPS	**Kapalarasan** 2.4nm,0.6s	**5.10**	**19**	*e*P		**Pb**	**10 07 15.3**	**-0.7**
KAPS	2.9nm,0.5s			*e*S		**Sb**	**10 08 21.3**	**+3.6**
KK31	**Karatay Array** 1.1nm,0.6s,baz=118,slow=12,SNR=12	**5.54**	**300**	⇓Pg		**Pb**	**10 07 26.2**	**+2.6**
KK31	1.4nm,0.5s,baz=123,slow=28,SNR=5.1			⇓Lg		Lg	10 08 39.8	

*ATA **20** 10:10:02.3±1.4,40.°64N×37.°36E,h15km±34km,ML2.8, MW2.9*
*ISK **20** 10:10:02.5,40.°44N×37.°26E,h5km,ML2.4/6*
*ISCJB **20** 10:10:03.5±0.4,40.°47N±0.°04×37.°28E±0.°03,h0km,Error ellipse: s-maj=5.7km s-min=3.5km az=15.3*
*CSEM **20** 10:10:03.5±0.2,40.°47N×37.°30E,h2km,ML2.4, Error ellipse: s-maj=5.3km s-min=3.9km az=8.0, Suspected Mining explosion.*
*DDA **20** 10:10:03.8,40.°50N×37.°34E,h7km,Ml2.6, Suspected Mining explosion.*

ISC 20 10:10:03.9±0.8, 40.°46N±0.°03×37.°31E±0.°02, h0km, n36, σ0s92/46, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RSDY	**Resadiye-TOKAT**	**0.07**	**166**	PG	**Pg**	**10 10 03.9**	**-1.3**
RSDY				SG	**Sg**	**10 10 05.5**	**-0.5**
RSDY	**Resadiye-TOKAT**	**0.07**	**166**	*e*Pg	**Pg**	**10 10 03.9**	**-1.3**
RSDY				*e*Sg	**Sg**	**10 10 05.5**	**-0.5**
ERBA	**Erbaa**	**0.47**	**298**	*i* P	**Pg**	**10 10 13.2**	**+0.3**
ERBA				*i* S	**Sb**	**10 10 22.0**	**-0.7**
ERBA	**Erbaa**	**0.47**	**298**	P	**Pg**	**10 10 13.2**	**+0.3**
ERBA				S	**Sb**	**10 10 22.0**	**-0.7**
SVSK	**Karacayir**	**0.59**	**203**	PG	**Pg**	**10 10 14.7**	**-0.6**
SVSK	**Karacayir**	**0.59**	**203**	*e*Pg	**Pg**	**10 10 14.7**	**-0.6**
TOKT	**Tokat**	**0.60**	**256**	PG	**Pg**	**10 10 14.7**	**-0.6**
TOKT				SG	**Sg**	**10 10 23.6**	**+0.5**
TOKT	**Tokat**	**0.60**	**256**	*e*Pg	**Pg**	**10 10 14.7**	**-0.6**
TOKT				*e*Sg	**Sg**	**10 10 23.6**	**+0.5**
ORDU	**Ordu-Boztepe**	**0.67**	**38**	*i* P	**Pg**	**10 10 16.6**	**-0.2**
ORDU	**Ordu-Boztepe**	**0.67**	**38**	P	**Pg**	**10 10 16.6**	**-0.2**
SUSE	**Susehri**	**0.73**	**110**	*i* P	**Pg**	**10 10 17.6**	**-0.3**
SUSE				*i* S	**Sb**	**10 10 29.7**	**-0.5**
SUSE	**Susehri**	**0.73**	**110**	P	**Pg**	**10 10 17.6**	**-0.3**
SUSE				S	**Sb**	**10 10 29.7**	**-0.5**
GRSN	**GIRESUNGRSN**	**0.86**	**58**	*i* P	**Pg**	**10 10 19.3**	**-1.2**
GRSN	**GIRESUNGRSN**	**0.86**	**58**	P	**Pg**	**10 10 19.3**	**-1.2**
KVT	**Kavak**	**1.14**	**303**	PN	**Pg**	**10 10 25.2**	**-0.5**
KVT	**Kavak**	**1.14**	**303**	*e*Pn	**Pg**	**10 10 25.2**	**-0.5**
CUKAN	**kangal_SIVAS**	**1.15**	**174**	*i* P	**Pb**	**10 10 26.4**	**-0.4**
CUKAN	**kangal_SIVAS**	**1.15**	**174**	P	**Pb**	**10 10 26.4**	**-0.4**
ESPY	**Espiye-Giresun**	**1.17**	**67**	PN	**Pb**	**10 10 26.9**	**-0.1**
ESPY	**Espiye-Giresun**	**1.17**	**67**	*e*Pn	**Pb**	**10 10 26.9**	**-0.1**
HAVZ	**Havza**	**1.35**	**297**	*i* P	**Pg**	**10 10 29.6**	**-0.2**
HAVZ	**Havza**	**1.35**	**297**	P	**Pg**	**10 10 29.6**	**-0.2**
KEMA	**Kemaliye**	**1.50**	**142**	*e*P	**Pb**	**10 10 32.9**	**+0.2**
KEMA				*i* Pg	**Pg**	**10 10 34.1**	**+1.4**
KEMA				*e*S	**Sn**	**10 10 56.8**	**+4.2**
KEMA	comp=Z,2.8nm,0.6s			IAML		10 11 02.7	
KEMA	**Kemaliye**	**1.50**	**142**	*i* P	**Pb**	**10 10 32.9**	**+0.2**
KEMA	**Kemaliye**	**1.50**	**142**	P	**Pb**	**10 10 32.9**	**+0.2**
KELT	**Kelkit**	**1.52**	**101**	*i* P	**Pn**	**10 10 32.2**	**-0.4**
KELT				*e*S	**Sn**	**10 10 54.4**	**+1.2**
KELT	comp=Z,7.3nm,0.5s			IAML		10 11 01.9	
KELT	**Kelkit**	**1.52**	**101**	*i* P	**Pn**	**10 10 32.1**	**-0.4**
KELT	**Kelkit**	**1.52**	**101**	P	**Pn**	**10 10 32.2**	**-0.4**
REFA	**Refahiye_ERZ¯**	**1.55**	**133**	*e*P	Pn	10 10 26.3	-6.6
BOYT	**Boyabat**	**2.06**	**298**	*i* P	**Pn**	**10 10 39.4**	**-0.3**
BOYT	**Boyabat**	**2.06**	**298**	P	**Pn**	**10 10 39.4**	**-0.3**
CORM	**Corum**	**2.06**	**263**	PN	**Pn**	**10 10 39.2**	**-0.7**
CORM	**Corum**	**2.06**	**263**	*e*Pn	**Pn**	**10 10 39.2**	**-0.7**
BAYT	**Ayd¯–ntepe-Bay**	**2.17**	**91**	PN	**Pn**	**10 10 41.7**	**+0.3**
BAYT	**Ayd¯–ntepe-Bay**	**2.17**	**91**	*e*Pn	**Pn**	**10 10 41.7**	**+0.3**
KOPT	**Kop Dagi**	**2.48**	**99**	*e*P	**Pb**	**10 10 48.1**	**-1.4**

MEX 20 10:13:15.1±1.0, 14.°88N×93.°71W, h17km±999km, MD3.9, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PCIG		**0.94**	**30**	*e*P	Pb	10 13 29.5	-3.6
PCIG				*i* S	Sb	10 13 38.2	-7.1
TGIG		**1.97**	**17**	*e*P	Pn	10 13 44.5	-3.3
CCIG	**Comitan**	**2.06**	**47**	*e*P	Pn	10 13 47.6	-1.5

*IDC **20** 10:17:10.7±1.1,2.°09N×92.°43E,h0km,mb4.0/11, mb1 4.2/12,mb1mx3.8/71,mbtmp4.0/12,MS3.3/4, Ms1 3.3/4,ms1mx2.8/61,Error ellipse: s-maj=42.6km s-min=17.8km az=47.0*
*NEIC **20** 10:17:11.9±0.4,2.°03N×92.°33E,h10km,mb5.0/6,Error ellipse: s-maj=9.6km s-min=5.3km az=213.0*
*ISCJB **20** 10:17:13.5±0.4,2.°09N±0.°05×92.°44E±0.°04,h33km, mb4.2/14,MS3.3/3,Error ellipse: s-maj=7.5km s-min=4.8km az=30.4*
*DJA **20** 10:17:15.3±1.0,2.°N±6.°×9.°2E±.°,h52km±61km,M5.1/13, mB5.6/6,mb5.0/13,MLv5.1/8,Mw(mB)5.1/6*

ISC 20 10:17:15.7±0.6, 2.°07N±0.°07×92.°52E±0.°06, h35km, n69, σ1s96/68, mb4.3/14, MS3.4/3, 1D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BSI	**Banda Aceh**	**4.39**	**39**	P	**Pn**	**10 18 20.4**	**+0.4**
BSI				S	**Sn**	**10 19 06.2**	**-3.7**
MLSI	**Meulaboh, Aceh**	**4.45**	**61**	P	**Pn**	**10 18 22.3**	**+1.5**
MLSI				S	**Sn**	**10 19 09.1**	**-2.3**
TPTI		**4.80**	**76**	P	**Pn**	**10 18 26.6**	**+1.0**
TPTI				S	**Sn**	**10 19 16.2**	**-3.9**
GSI	**Gunungsitoli** 152nm,0.8s,4μm1.7nm	**5.11**	**98**	P	**Pn**	**10 18 31.2**	**+1.3**
GSI	152nm,0.8s,4μm1.7nm			S	**Sn**	**10 19 24.5**	**-3.2**
GSI	**Gunungsitoli**	**5.11**	**98**	*e*Pn	**Pn**	**10 18 31.7**	**+1.8**
LHMI	**Lhok Sumawe** 231nm,0.8s,4μm1.0nm	**5.42**	**54**	P	**Pn**	**10 18 36.3**	**+2.2**
LHMI	**Lhok Sumawe**	**5.42**	**54**	*e*Pn	**Pn**	**10 18 36.6**	**+2.4**
KCSI	**Kotacane, Aceh**	**5.44**	**75**	P	**Pn**	**10 18 35.3**	**+0.9**
PSI	**Prapat**	**6.44**	**83**	*e*Pn	**Pn**	**10 18 50.3**	**+2.1**
MNSI	**Mandailing Nat** 91nm,0.4s,3μm2.6nm	**7.17**	**100**	P	**Pn**	**10 19 00.6**	**+2.4**
MNSI	91nm,0.4s,3μm2.6nm			S	**Sn**	**10 20 14.3**	**-4.2**
SISI	**Saibi** 81nm,0.7s,0.4nm	**7.38**	**117**	P	**Pn**	**10 19 02.1**	**+1.0**
PKDT	**Phuket**	**8.19**	**45**	P	**Pn**	**10 19 12.1**	**0.0**
PDSI	**Padang**	**8.48**	**110**	P	**Pn**	**10 19 17.4**	**+1.3**
KULM	**Kulim**	**8.72**	**68**	*e*Pn	**Pn**	**10 19 20.6**	**+1.1**
IPM	**Ipoh**	**8.82**	**74**	*e*Pn	**Pn**	**10 19 22.6**	**+1.7**
PPSI	**Pulau Pagai**	**8.89**	**123**	P	**Pn**	**10 19 23.4**	**+1.5**
TRTT	**Trang** 38nm,0.7s	**9.16**	**51**	P	**Pn**	**10 19 25.3**	**-0.1**
SURT	**Suratani** 24nm,0.8s,334nm0.1nm	**9.26**	**42**	P	**Pn**	**10 19 27.0**	**+0.1**
PBA	**Port Blair**	**9.53**	**1**	*e*Pn	Pn	10 19 29.2	-1.3
PBA				*e*Sn	Sn	10 21 09.0	-7.4
SKLT	**Songkhla** 121nm,0.9s,1μm0.4nm	**9.53**	**58**	P	**Pn**	**10 19 30.8**	**+0.2**
MNAI	**Manna**	**12.23**	**121**	*e*Pn	**Pn**	**10 20 08.9**	**+1.3**
PALK	**Pallekele**	**12.86**	**294**	*e*Pn	**Pn**	**10 20 13.9**	**-2.3**
PALK				*e*Sn	Sn	10 22 24.7	-14
MDSI	**Maura Dua**	**13.35**	**119**	P	**Pn**	**10 20 24.6**	**+1.8**
NAYO	**Nakonayok** 12nm,1.0s	**14.96**	**35**	P	**P**	**10 20 51.1**	**+1.3**
SRAK	**Srakaew**	**15.15**	**38**	P	**P**	**10 20 56.1**	**+4.2**
CHAI	**Chaiyaphum** 4.1nm,0.8s	**16.61**	**34**	P	**P**	**10 21 13.0**	**+4.8**
PBKT	**Sadao Pong** 14nm,1.0s	**16.64**	**29**	P	**P**	**10 21 09.0**	**+0.5**
PHIT	**Phitsanulok** 10nm,1.2s	**16.91**	**27**	P	**P**	**10 21 15.9**	**+4.4**
CMAR	**Chiang Mai Arr** baz=214,slow=14,SNR=8.2	**17.46**	**21**	P	**Pn**	**10 21 16.5**	**-0.2**
CMAR	comp=Z,55nm,21.2s,baz=199,slow=33			LR	LR	10 26 54.9	
CHTO	**Chiang Mai** 39nm,1.0s	**17.79**	**20**	P	P	10 21 29.3	+8.0
CHTO	**Chiang Mai** 4.2nm,0.8s	**17.79**	**20**	*e*Pn	**Pn**	**10 21 20.2**	**-0.5**
CMMT	**Chiang Mai**	**17.79**	**20**	P	**P**	**10 21 28.2**	**+6.9**
SKNT	**Sakolnakorn** 8.7nm,1.0s,2μm	**18.61**	**37**	P	**Pn**	**10 21 30.8**	**0.0**
SMRI	**Semarang** 152nm,1.2s	**20.05**	**117**	*e*P	**P**	**10 21 45.3**	**-0.8**
HYB	**Hyderabad**	**20.52**	**319**	*i* P	Pn	10 21 54.0	+0.5
AAK	**Ala-Archa** comp=Z,56nm,19.6s,baz=137,slow=39	**43.49**	**341**	LR	LR	10 45 16.0	
KK31	**Karatay Array**	**45.33**	**337**	*e*P	**P**	**10 25 30.3**	**-0.1**
KKAR	**Karatay Array**	**45.33**	**337**	*e*P	**P**	**10 25 30.1**	**-0.3**
MK01	**Makanchi Array**	**45.41**	**350**	*e*P	**P**	**10 25 30.5**	**-0.5**
MK31	**Makanchi Array**	**45.43**	**350**	*e*P	**P**	**10 25 31.2**	**0.0**
MK32	**Makanchi Array**	**45.43**	**350**	*e*P	**P**	**10 25 31.2**	**+0.1**
MKAR	**Makanchi Array** 2.1nm,0.7s,baz=167,slow=8.6,SNR=24	**45.43**	**350**	*e*P	**P**	**10 25 31.2**	**0.0**
MKAR	**Makanchi Array** 12nm,0.7s	**45.43**	**350**	*e*P	**P**	**10 25 31.2**	**0.0**
WR1	**Warramunga Arr**	**46.49**	**120**	*e*P	**P**	**10 25 40.5**	**+0.6**
WRA	**Warramunga Arr** 4.0nm,0.6s,baz=299,slow=8.6,SNR=51	**46.49**	**120**	P	**P**	**10 25 40.5**	**+0.6**
WRAB	**Tennant Creek** 3.1nm,0.5s	**46.50**	**120**	*e*P	**P**	**10 25 40.6**	**+0.6**
SONA0	**Songino Array**	**47.14**	**13**	*e*P	**P**	**10 25 44.6**	**-0.2**
SONM	**Songino Array** 0.8nm,0.6s,baz=191,slow=9.7,SNR=3.7	**47.14**	**13**	P	**P**	**10 25 44.6**	**-0.2**
JNU	**Nakatsue** comp=Z,40nm,18.3s,baz=258,slow=41	**47.38**	**45**	LR	LR	10 49 25.7	
GEYT	**Alibeck** 1.2nm,0.4s,baz=150,slow=6.1,SNR=3.3	**47.62**	**323**	P	**P**	**10 25 49.3**	**+0.8**
AS31	**Alice Springs**	**47.69**	**125**	*e*P	**P**	**10 25 50.0**	**+0.6**
ASAR	**Alice Springs** 0.6nm,0.5s,baz=300,slow=7.3,SNR=8.1	**47.69**	**125**	P	**P**	**10 25 50.0**	**+0.7**
KURBB	**Kurchatov Arra** 1.9nm,0.6s,baz=173,slow=7.1,SNR=6.7	**49.81**	**348**	P	**P**	**10 26 04.5**	**-0.6**
KURK	**Kurchatov**	**49.88**	**348**	*e*P	**P**	**10 26 06.0**	**+0.4**
ZAA0	**Zalesovo Array** 20nm,1.0s	**52.10**	**354**	*e*P	**P**	**10 26 24.6**	**+2.4**
ZALV	**Zalesovo Beam**	**52.10**	**354**	*e*P	**P**	**10 26 22.7**	**+0.5**
GUMO	**Guam** comp=Z,17nm,18.2s,baz=252,slow=39	**52.99**	**75**	LR	LR	10 51 45.9	
BVAR	**Borovoye Array** 1.2nm,0.6s,baz=150,slow=9.9,SNR=7.0	**54.00**	**344**	P	**P**	**10 26 35.3**	**-1.0**
ABKAR	**Akbulak array**	**54.63**	**334**	*e*P	**P**	**10 26 40.1**	**-0.8**
AKTO	**Aktyubinsk** 0.6nm,0.4s,baz=108,slow=6.4,SNR=3.0	**56.34**	**334**	P	**P**	**10 26 52.1**	**-1.1**
KBZ	**Khabaz** 1.5nm,0.7s,baz=187,slow=5.6,SNR=4.0	**60.39**	**321**	P	**P**	**10 27 21.8**	**+0.2**
BR101	**Keskin Array S**	**65.09**	**313**	*e*P	**P**	**10 27 53.5**	**+0.2**
BRTR	**Keskin Array B** 0.6nm,0.8s,baz=127,slow=4.5,SNR=3.4	**65.09**	**313**	P	**P**	**10 27 53.5**	**+0.2**
ILGA	**Ilgaz** 8.8nm,0.5s	**65.48**	**315**	*e*P	**P**	**10 27 52.8**	**-3.1**
SYO	**Syowa Base**	**79.42**	**197**	⇓*e*P	**P**	**10 29 18.2**	**+0.2**
GEC2	**GERESS Array S** 2.9nm,1.1s	**81.08**	**319**	*e*P	**P**	**10 29 26.4**	**-1.2**
GERES	**GERESS Array B** 0.4nm,0.5s,baz=104,slow=5.6,SNR=5.4	**81.08**	**319**	P	**P**	**10 29 26.4**	**-1.2**
LTX	**Lajitas**	**145.14**	**25**	*e*PKPbc	**PKPdf**	**10 36 51.7**	**+1.2**
TXAR	**Lajitas Array** 0.1nm,0.4s,baz=270,slow=0.9,SNR=2.4	**145.14**	**25**	PKPbc	**PKPdf**	**10 36 51.7**	**+1.2**

IDC 20 10:18:55.0±13.0, 15.°22S×165.°88E, h0km, mb4.2/3, mb1 4.4/4, mb1mx3.6/52, mbtmp4.2/4, ML4.1/1, Error ellipse: s-maj=230.0km s-min=35.8km az=57.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac** 3.4nm,0.3s,baz=115,slow=21,SNR=41	**6.84**	**176**	Pn	Pn	10 20 37.1	+0.4
DZM	5.4nm,0.3s,baz=290,slow=22,SNR=9.6			Sn	Sn	10 21 55.4	0.0
STKA	**Stephens Creek** 2.0nm,0.3s,baz=62,slow=9.9,SNR=17	**27.66**	**229**	P	P	10 24 44.4	-0.3
WRA	**Warramunga Arr** 0.5nm,0.5s,baz=86,slow=9.3,SNR=16	**30.40**	**256**	P	P	10 25 09.4	+0.1
ASAR	**Alice Springs** 1.9nm,0.4s,baz=75,slow=9.3,SNR=52	**31.24**	**249**	P	P	10 25 16.8	+0.1

JMA 20 10:25:06.2±0.5, 22.°31N×123.°74E, h51km, M3.5, Southeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HATJ	**Hateruma jima**	**1.74**	**2**	P	Pn	10 25 35.1	+1.1
HATJ				S	Sn	10 25 55.2	+0.2
JKRS	**Kuro-shima**	**1.93**	**7**	P	Pn	10 25 38.1	+1.4
JKRS				S	Sn	10 26 00.8	+1.0
IRIF	**Iriomote-Funau**	**2.02**	**360**	P	Pn	10 25 39.2	+1.4
IRIF				*e*S	Sn	10 26 02.5	+0.7
JIJ	**Ishigaki jima**	**2.08**	**10**	P	Pn	10 25 39.2	+0.6
JIJ				S	Sn	10 26 02.3	-1.0
YOJ	**Yonaguni jima**	**2.24**	**343**	P	Pn	10 25 42.8	+1.9
YOJ				S	Sn	10 26 08.5	+1.1
JYNG	**Yonagunijimaku**	**2.25**	**341**	P	Pn	10 25 42.8	+1.8
JYNG				S	Sn	10 26 08.6	+1.0
JISG	**Ishigakijimahi**	**2.33**	**13**	P	Pn	10 25 42.4	+0.4
JISG				S	Sn	10 26 09.4	0.0
JTJ	**Tarama**	**2.48**	**21**	P	Pn	10 25 44.9	+0.7
JTJ				S	Sn	10 26 13.3	0.0
JOGS	**Gusukube**	**2.88**	**32**	S	Sn	10 26 24.5	+1.5

*CSEM **20** 10:34:43.8±0.1,43.°39N×13.°25E,h2km,ML2.8/13,Error ellipse: s-maj=2.7km s-min=1.7km az=55.0*
*ROM **20** 10:34:43.6±0.1,43.°38N×13.°19E,h6km,Ml2.2/18,Error ellipse: s-maj=1.7km s-min=0.8km az=54.0*

ISC 20 10:34:42.1±0.9, 43.°39N±0.°02×13.°32E±0.°02, h10km±6km, n41, σ0s78/70, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CING	**Cingoli**	**0.09**	**263**	Pg	**Pg**	**10 34 45.2**	**+0.5**
CING				Sg	**Sg**	**10 34 46.0**	**-0.5**
CING	**Cingoli** 2μm,0.3s	**0.09**	**263**	Pg	**Pg**	**10 34 45.2**	**+0.5**
CING	2μm,0.3s			Sg	**Sg**	**10 34 46.0**	**-0.5**
ARVD	**Arcevia**	**0.30**	**292**	Pg	**Pb**	**10 34 48.8**	**-0.7**
ARVD				Sg	**Sg**	**10 34 52.6**	**+0.5**
ARVD	**Arcevia** 128nm,0.2s	**0.30**	**292**	Pg	**Pb**	**10 34 48.8**	**-0.7**
ARVD	128nm,0.2s			Sg	**Sg**	**10 34 52.6**	**+0.5**
SNTG	**Esanatoglia**	**0.31**	**245**	Pg	**Pg**	**10 34 48.8**	**+0.5**
SNTG	500nm,0.3s			Sg	**Sg**	**10 34 52.4**	**0.0**
SNTG	**Esanatoglia** 500nm,0.3s	**0.31**	**245**	Pg	**Pg**	**10 34 48.8**	**+0.5**
SNTG				Sg	**Sg**	**10 34 52.4**	**0.0**
FDMO	**Fiordimonte** 117nm,0.2s	**0.39**	**206**	Pg	**Pb**	**10 34 51.1**	**+0.1**
FDMO		

189nm,0.3s
GUMA Gualdo di Mace 0.55 126 Pg Pg 10 34 51.2 -1.6
GUMA Sg Sg 10 34 57.0 -3.1
892nm,0.3s
NRCA Norcia 0.57 195 Pg Pb 10 34 54.6 +0.4
NRCA Sg Sb 10 35 03.2 +0.8
136nm,0.1s
NRCA Norcia 0.57 195 Pg Pb 10 34 54.6 +0.4
NRCA Sg Sb 10 35 03.2 +0.8
136nm,0.1s
MURB Monte Urbino 0.59 258 Pg Pb 10 34 54.4 -0.1
MURB Sg Sb 10 35 02.4 -0.6
290nm,0.2s
MURB Monte Urbino 0.59 258 Pg Pb 10 34 54.4 -0.1
MURB Sg Sb 10 35 02.4 -0.6
290nm,0.2s
ATPC Poggio Castell 0.64 279 Pg Pg 10 34 54.8 +0.4
ATPC Sg Sb 10 35 03.9 -0.3
92nm,0.3s
ATPC Poggio Castell 0.64 279 Pg Pg 10 34 54.8 +0.4
ATPC Sg Sb 10 35 03.9 -0.3
92nm,0.3s
ATVO AVT- Monte Val 0.67 270 Pg Pg 10 34 55.2 +0.2
ATVO Sg Sg 10 35 04.3 +0.6
64nm,0.3s
ATVO AVT- Monte Val 0.67 270 Pg Pg 10 34 55.2 +0.2
ATVO Sg Sg 10 35 04.3 +0.6
64nm,0.3s
SMA1 SAN MARTINO 0.76 179 Pg Pn 10 34 58.2 -0.6
SMA1 Sg Sn 10 35 10.0 -0.3
175nm,0.3s
SMA1 SAN MARTINO 0.76 179 Pg Pn 10 34 58.2 -0.6
SMA1 Sg Sn 10 35 10.0 -0.3
175nm,0.3s
TERO Teramo 0.79 165 Pg Pn 10 34 59.6 +0.4
TERO Teramo 0.79 165 Pg Pn 10 34 59.6 +0.4
LNSS Leonessa 0.81 195 Pg Pb 10 34 58.6 +0.4
67nm,0.2s
LNSS Leonessa 0.81 195 Pg Pb 10 34 58.6 +0.4
67nm,0.2s
PARC Parchiule 0.83 289 Pg Pb 10 34 58.3 -0.3
23nm,0.4s
PARC Parchiule 0.83 289 Pg Pb 10 34 58.3 -0.3
23nm,0.4s
CPGN Carpegna, Ital 0.84 300 Pg Pn 10 34 59.5 -0.5
240µm,32.0s
CPGN Carpegna, Ital 0.84 300 Pg Pn 10 34 59.5 -0.5
240µm,32.0s
CAMP Campotosto 0.85 176 Pg Pn 10 35 01.1 +0.9
75nm,0.4s
CAMP Campotosto 0.85 176 Pg Pn 10 35 01.1 +0.9
75nm,0.4s
NVLJ Novalja 1.62 43 *e*Pn **Pg 10 35 14.1 +0.8**
NVLJ Sn **Sg 10 35 36.4 +2.1**
NVLJ Novalja 1.62 43 *e*Pn **Pg 10 35 14.0 +0.8**
NVLJ Sn **Sg 10 35 36.3 +2.1**

NDI ***20*** *10:35:01.3±2.2,25°.09N×92°.24E,h17km±6km, ML3.5*
ISC 20 10:35:02.5±1.3,25°.10N±0°.03×92°.21E±0°.04,h24km±14km, n14,σ0°.86/25,India-Bangladesh border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SHL	**Shillong**	**0.56**	**328**	*e*P	**Pb**	**10 35 13.4**	**-0.3**
SHL				*e*S	**Sb**	**10 35 22.1**	**+0.7**
GUWA	**GUWAHATI**	**1.19**	**337**	*e*P	**Pn**	**10 35 23.4**	**-0.2**
GUWA				*e*S	**Sn**	**10 35 39.8**	**+0.7**
GUWA				IAML		10 35 40.4	
	comp=N,233nm,0.1s						
GUWA				IAML		10 35 40.9	
	comp=E,282nm,0.1s						
AZL	**Aizawl**	**1.42**	**162**	*e*P	**Pn**	**10 35 25.5**	**-1.4**
AZL				*e*S	**Sn**	**10 35 45.3**	**+0.4**
AZL				IAML		10 35 46.0	
	comp=E,681nm,0.2s						
AZL				IAML		10 35 46.9	
	comp=N,683nm,0.2s						
AGT	**Agartala**	**1.49**	**216**	*e*P	**Pn**	**10 35 28.1**	**+0.3**
AGT				*e*S	**Sb**	**10 35 48.2**	**+0.2**
AGT				IAML		10 35 50.2	
	comp=N,639nm,0.5s						
AGT				IAML		10 36 07.7	
	comp=E,676nm,0.6s						
IMP	**Imphal**	**1.59**	**99**	*e*P	**Pn**	**10 35 29.9**	**+0.7**
IMP				*e*S	**Sn**	**10 35 49.7**	**+0.6**
TEZP	**TEZPUR**	**1.60**	**19**	*e*P	**Pn**	**10 35 28.4**	**-0.9**
TEZP				*e*S	**Sn**	**10 35 49.6**	**+0.3**
TEZP				IAML		10 35 51.8	
	comp=E,1µm,0.2s						
TEZP				IAML		10 35 52.5	
	comp=N,2µm,0.1s						
TURI	**Tura**	**1.76**	**285**	*e*P	**Pn**	**10 35 31.6**	**+0.1**
TURI				*e*S	**Sb**	**10 35 55.5**	**-0.3**
TURI				IAML		10 36 00.5	
	comp=N,482nm,0.1s						
TURI				IAML		10 36 03.5	
	comp=E,771nm,0.1s						
KOHI	**KOHIMA**	**1.82**	**70**	*e*P	**Pn**	**10 35 33.6**	**+1.2**
KOHI				*e*S	**Sb**	**10 35 58.4**	**+0.6**
KOHI				IAML		10 35 59.1	
	comp=E,533nm,0.4s						
KOHI				IAML		10 35 59.9	
	comp=N,307nm,0.4s						
DHUB	**DHUBRI**	**2.21**	**295**	*e*P	**Pn**	**10 35 37.1**	**-0.5**
DHUB				*e*S	**Sn**	**10 36 05.0**	**+0.9**
DHUB				IAML		10 36 05.5	
	comp=N,205nm,0.1s						
DHUB				IAML		10 36 12.7	
	comp=E,297nm,0.2s						
MOKO	**MOKOCHONG**	**2.41**	**59**	*e*S	**Sn**	**10 36 08.1**	**-1.3**
MOKO				IAML		10 36 19.7	
	comp=N,254nm,0.4s						
MOKO				IAML		10 36 19.8	
	comp=E,373nm,0.4s						
ITAN	**ITANAGAR**	**2.45**	**33**	*e*P	**Pn**	**10 35 41.4**	**+0.4**
ITAN				*e*S	**Sn**	**10 36 10.7**	**+0.6**
ITAN				IAML		10 36 12.5	
	comp=N,501nm,0.1s						
ITAN				IAML		10 36 21.9	
	comp=E,369nm,0.3s						
TAWA	**Tawang**	**2.51**	**353**	*e*S	**Sn**	**10 36 13.1**	**+1.0**
SAIH	**SAIHA**	**2.69**	**165**	*e*P	**Pn**	**10 35 44.2**	**-0.2**
ZIRO	**ZIRO**	**2.83**	**31**	*e*P	**Pn**	**10 35 45.5**	**-0.9**
ZIRO				*e*S	**Sn**	**10 36 18.0**	**-1.9**
ZIRO				IAML		10 36 21.9	
	comp=N,494nm,0.2s						
ZIRO				IAML		10 36 22.2	
	comp=E,1µm,0.3s						

MAN 20 11:15:39,10°.02N×123°.21E,h1km,mb4.2,ML3.1,MS2.8, 1C-2D,Cebu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SNPH	**Sibulan**	**0.67**	**178**	*e*P	Pb	11 15 53.3	-0.2
SNPH				*e*S	Sg	11 16 02.0	+1.4
TBP	**Tagbilaran**	**0.72**	**117**	*e*P	Pg	11 15 53.1	+0.3
LLP	**Lapu-Lapu**	**0.80**	**68**↑	*e*P	Pg	11 15 54.4	-0.1
LLP				*e*S	Sg	11 16 05.3	+0.5
GUIM	**Jordan**	**0.86**	**315**	*e*P	Pg	11 15 55.5	0.0
GUIM				*e*S	Sb	11 16 08.0	-0.8
DCPH	**Dipolog City**	**1.43**	**174**↓	*e*P	Pn	11 16 04.1	-2.0
RCP	**Roxas**	**1.60**	**344**↓	*e*P	Pn	11 16 08.4	-0.1
RCP				*e*S	Sg	11 16 31.3	+0.8
MSLP	**Maasin**	**1.63**	**86**	*e*P	Pn	11 16 08.9	0.0
MSLP				*e*S	Sg	11 16 31.8	+0.4

MEX 20 11:26:11.3±0.3,16°.26N×98°.27W,h6km±5km,MD3.8,Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.18**	**46**	*e*P	Pg	11 26 14.8	-0.3
PNIG				*i* S	Sg	11 26 17.5	0.0
TLIG	**Tlapa**	**1.32**	**347**	*e*P	Pn	11 26 32.7	-3.7
TLIG				*e*S	Sb	11 26 49.2	-4.8
VHO	**Vista Hermosa**	**1.68**	**61**	*e*P	Pn	11 26 37.8	-3.5
VHO				*e*S	Sn	11 26 58.5	-4.7

NIED ***20*** *11:39:00,37°.80N×144°.20E,h5km,Mw3.7 Best double couple: M0 3.48000×10^14 NP1:φ=27.00000°,δ=25.00000°, λ=-91.00000°. NP2:φ=208.00000°,δ=65.00000°, λ=-90.00000°.*
IDC ***20*** *11:39:14.2±0.9,37°.65N×144°.29E,h0km,mb3.7/6, mb1 3.9/9,mb1mx3.5/69,mbtmp3.8/9,ML3.7/3,MS2.3/1, Ms1 2.3/1,ms1mx1.9/64,Error ellipse: s-maj=28.6km s-min=16.6km az=112.0*
ISCJB ***20*** *11:39:16.4±0.7,37°.83N±0°.04×144°.25E±0°.05,h33km, mb3.8/6,Error ellipse: s-maj=6.0km s-min=5.8km az=9.4*
JMA ***20*** *11:39:17.9±0.1,37°.84N×144°.16E,h44km,M4.0*

ISC 20 11:39:18.7±1.0,37°.84N±0°.06×144°.16E±0°.08,h35km,n26, σ2°.32/39,mb3.7/6,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JIO	**Ouri**	**2.30**	**286**	P	**Pn**	**11 39 54.5**	**+0.5**
JIO				S	**Sn**	**11 40 21.9**	**+0.8**
OFUJ	**Ofunato**	**2.31**	**303**	P	**Pn**	**11 39 54.7**	**+0.5**
OFUJ				S	**Sn**	**11 40 22.1**	**+0.7**
MIYJ	**Miyakonagasawa**	**2.52**	**314**	P	**Pn**	**11 39 57.3**	**+0.2**
MIYJ				*e*S	**Sn**	**11 40 27.0**	**+0.5**
JMK	**Ichinoseki**	**2.56**	**297**	P	**Pn**	**11 39 58.4**	**+0.8**
JMK				*e*S	**Sn**	**11 40 28.7**	**+1.1**
JOM	**Ohasama**	**2.77**	**307**	P	**Pn**	**11 40 01.6**	**+1.0**
JOM				*e*S	**Sn**	**11 40 34.6**	**+1.8**
JFT	**Otama**	**3.05**	**265**	P	**Pn**	**11 40 05.7**	**+1.3**
JFT				S	**Sn**	**11 40 40.3**	**+0.6**
JYK	**Kaneyama**	**3.17**	**291**	P	**Pn**	**11 40 07.7**	**+1.6**
JYK				S	**Sn**	**11 40 44.4**	**+1.7**
JANG	**Nango**	**3.26**	**322**	S	**Sn**	**11 40 44.6**	**-0.2**
JOT	**Ohata**	**4.27**	**327**	*e*S	**Sn**	**11 41 08.7**	**-1.1**
JRY	**Ryogami san**	**4.59**	**248**	P	**Pn**	**11 40 25.4**	**-0.2**
JRY				*e*S	**Sn**	**11 41 15.5**	**-2.2**
JKB	**Kayabe**	**4.70**	**330**	S	**Sn**	**11 41 18.7**	**-1.6**
JCH	**Churui**	**4.80**	**353**	P	**Pn**	**11 40 28.2**	**-0.3**
JCH				S	**Sn**	**11 41 20.5**	**-2.4**
JOD2	**Odawara 2**	**4.83**	**239**	P	**Pn**	**11 40 28.6**	**-0.2**
JOD2				S	**Sn**	**11 41 19.8**	**-3.7**
MJAR	**Matsushiro Arr**	**4.92**	**257**	Pn	**Pn**	**11 40 31.8**	**+1.6**
	2.2nm,0.3s,baz=90,slow=10,SNR=18						
MJAR				Sn	**Sn**	**11 41 27.8**	**+1.8**
	0.6nm,0.3s,baz=88,slow=29,SNR=5.4						
NEM2	**Nemuro 2**	**5.64**	**12**	P	**Pn**	**11 40 37.6**	**-2.4**
NEM2				S	**Sn**	**11 41 37.6**	**-6.0**
JHJ	**Hachijo jima 2**	**5.91**	**218**	Pn	**Pn**	**11 40 41.6**	**-2.1**
	13nm,0.3s,baz=240,slow=20,SNR=4.7						
JHJ				Sn	**Sn**	**11 41 43.1**	**-7.1**
	11nm,0.3s,baz=217,slow=20,SNR=3.4						
JTKR	**Abashiri--Toko**	**6.12**	**358**	P	**Pn**	**11 40 46.1**	**-0.5**
JTKR				S	**Sn**	**11 41 51.3**	**-4.1**
ASAJ	**Asahikawa**	**6.38**	**350**	Pn	**Pn**	**11 40 51.0**	**+1.0**
	1.0nm,0.3s,baz=203,slow=17,SNR=22						
KSRS	**Korea Array**	**12.88**	**273**	LR	LR	11 47 50.1	
	comp=Z,12nm,18.1s,baz=215,slow=40						
SEY	**Seymchan**	**25.62**	**9**	P	**P**	**11 44 47.4**	**+2.9**
	0.8nm,0.3s,baz=21,slow=22,SNR=4.2						
KURBB	**Kurchatov Arra**	**47.23**	**308**	P	**P**	**11 47 49.6**	**+1.6**
	0.5nm,0.5s,baz=82,slow=8.4,SNR=3.0						
ILAR	**Eielson Array**	**47.64**	**33**	P	**P**	**11 47 52.1**	**+1.2**
	0.6nm,0.7s,baz=255,slow=6.9,SNR=7.0						
INK	**Inuvik**	**52.66**	**28**	P	**P**	**11 48 30.8**	**+1.9**
	0.4nm,0.6s,baz=275,slow=3.0,SNR=2.8						
WRA	**Warramunga Arr**	**58.22**	**191**	P	**P**	**11 49 08.6**	**-0.8**
	1.7nm,0.6s,baz=13,slow=7.5,SNR=22						
ASAR	**Alice Springs**	**61.94**	**191**	P	**P**	**11 49 34.6**	**-0.2**
	0.3nm,0.6s,baz=8.2,slow=7.5,SNR=8.5						
POO	**Poona**	**63.51**	**274**	*e*P	**P**	**11 49 42.0**	**-3.7**

IDC 20 11:43:28.7±1.0,31°.14N×74°.38E,h0km,mb3.5/5, mb1 3.6/7,mb1mx3.3/71,mbtmp3.5/7,ML3.1/2,MS4.1/1, Ms1 4.1/1,ms1mx2.5/55,Error ellipse: s-maj=37.0km s-min=24.3km az=66.0,India-Pakistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**16.78**	**19**	Pn	Pn	11 47 25.0	-0.1
	0.1nm,0.3s,baz=197,slow=19,SNR=3.6						
KURBB	**Kurchatov Arra**	**19.71**	**8**	P	P	11 47 59.5	0.0
	0.1nm,0.3s,baz=198,slow=11,SNR=5.1						
BVAR	**Borovoye Array**	**22.06**	**354**	P	P	11 48 25.1	+0.1
	1.0nm,0.8s,baz=172,slow=11,SNR=6.7						
JOW	**Kunigami**	**46.96**	**81**	LR	LR	12 12 34.1	
	comp=Z,238nm,21.4s,baz=128,slow=37						
KOWA	**Kowa**	**72.84**	**277**	P	P	11 55 00.1	+0.3
	0.8nm,0.4s,baz=114,slow=10,SNR=3.3						
WRA	**Warramunga Arr**	**76.75**	**123**	P	P	11 55 22.6	+0.4
	0.5nm,0.5s,baz=319,slow=5.4,SNR=11						
ASAR	**Alice Springs**	**78.86**	**126**	P	P	11 55 33.8	-0.2
	0.3nm,0.7s,baz=310,slow=5.8,SNR=4.3						
YKA	**Yellowknife Ar**	**86.41**	**4**	P	P	11 56 11.7	-1.0
	0.1nm,0.8s,baz=357,slow=3.1,SNR=3.3						

SKHL ***20*** *11:54:38.0±0.7,41°.67N×152°.45E,h71km±37km,mb4.8/2*
ISCJB ***20*** *11:54:39.4±0.5,47°.59N±0°.07×148°.7E±0°.1,h350km, mb3.3/7,Error ellipse: s-maj=15.6km s-min=5.1km az=33.1*
IDC ***20*** *11:54:42.9±1.5,47°.81N×148°.53E,h376km±21km,mb3.0/7, mb1 3.2/11,mb1mx2.8/67,mbtmp3.8/11,Error ellipse: s-maj=34.2km s-min=14.5km az=153.0*

ISC 20 11:54:39.9±0.7,47°.50N±0°.10×148°.7E±0°.1,h350km,n29, σ2°.92/35,mb3.3/7,Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SHO	**Shikotan**	**3.85**	**200**	*e*P	**Pn**	**11 55 48.7**	**+1.3**
SHO				AMB	AMB	11 55 49.8	
	22nm,0.4s						
SHO				*i* S	**S**	**11 56 41.2**	**-0.6**
SHO				A	A	11 56 44.4	
	141nm,0.3s						
SHO				A	A	11 56 44.4	
	95nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**3.99**	**211**	*e*P	Pn	11 55 53.7	+5.0
YUK				AMB	AMB	11 55 54.4	
	90nm,0.2s						
YUK				*e*S	**S**	**11 56 50.9**	**+6.6**
YUK				A	A	11 56 54.4	
	186nm,0.5s						
NEM2	**Nemuro 2**	**4.62**	**208**	P	**Pn**	**11 55 56.8**	**+1.4**
NEM2				*e*S	**S**	**11 56 56.2**	**-0.2**
JTKR	**Abashiri--Toko**	**4.86**	**225**	P	**Pn**	**11 56 02.5**	**+4.6**
JMP	**Maruseppu**	**5.10**	**229**	P	**Pn**	**11 56 04.9**	**+4.2**
JAK	**Akkeshi**	**5.31**	**213**	P	**Pn**	**11 56 04.3**	**+1.4**
JAK				*e*S	**S**	**11 57 10.0**	**0.0**
ASAJ	**Asahikawa**	**5.43**	**234**	P	Pn	11 56 08.9	+4.7
	3.9nm,0.3s,baz=67,slow=7.8,SNR=49						
ASAJ	**Asahikawa**	**5.43**	**234**	P	**Pn**	**11 56 08.8**	**+4.5**
JAR	**Ashorobuto**	**5.44**	**221**	P	**Pn**	**11 56 07.2**	**+2.8**
JOB	**Onbets**	**5.73**	**218**	P	**Pn**	**11 56 09.3**	**+1.7**
JOB				*e*S	**S**	**11 57 19.0**	**+0.3**
JCH	**Churui**	**6.17**	**220**	P	**Pn**	**11 56 13.7**	**+1.1**
JCH				*e*S	**S**	**11 57 25.3**	**-2.5**
MYR	**Moyori**	**6.46**	**218**	*e*P	**Pn**	**11 56 16.7**	**+0.7**
MYR				*e*S	**S**	**11 57 30.3**	**-3.7**
JNBK	**Urakawa-nobuka**	**6.70**	**221**	P	**Pn**	**11 56 19.4**	**+0.6**
JNBK				*e*S	**S**	**11 57 37.0**	**-2.1**
JSH	**Shimam**	**7.80**	**235**	P	**Pn**	**11 56 34.7**	**+3.1**
JKB	**Kayabe**	**7.82**	**227**	*e*S	**S**	**11 57 59.2**	**-3.9**
JYM2	**Yakumo 2**	**7.99**	**231**	P	**Pn**	**11 56 36.2**	**+2.4**
PETK	**Petropavlovsk-**	**8.05**	**42**	P	**Pn**	**11 56 35.6**	**+1.2**
	0.3nm,0.3s,baz=139,slow=7.7,SNR=13						
JTM	**Tenmabayashi**	**8.65**	**222**	*e*S	**S**	**11 58 15.5**	**-5.9**
JANG	**Nango**	**8.80**	**219**	*e*S	**S**	**11 58 19.5**	**-5.0**
KLR	**Kul'dur**	**11.40**	**285**	P	**P**	**11 57 14.6**	**-0.1**
	0.0nm,0.3s,baz=85,slow=11,SNR=6.8						
MJAR	**Matsushiro Arr**	**13.42**	**219**	P	**Pn**	**11 57 41.9**	**+3.6**
	0.7nm,0.3s,baz=14,slow=12,SNR=11						
KSRS	**Korea Array**	**18.26**	**244**	P	**P**	**11 58 32.0**	**+2.6**
	0.2nm,0.3s,baz=46,slow=11,SNR=7.4						
ILAR	**Eielson Array**	**37.86**	**39**	P	**P**	**12 01 23.8**	**0.0**
	0.5nm,0.7s,baz=255,slow=6.1,SNR=7.9						
INK	**Inuvik**	**42.64**	**32**	P	**P**	**12 02 01.7**	**-0.9**
	0.5nm,0.4s,baz=303,slow=5.8,SNR=7.8						
YKA	**Yellowknife Ar**	**52.11**	**36**	P	**P**	**12 03 14.3**	**-0.4**
	0.3nm,0.4s,baz=301,slow=7.1,SNR=8.7						
ARU	**Arti**	**52.39**	**315**	P	**P**	**12 03 17.2**	**+0.4**
	3.3nm,0.3s,baz=94,slow=7.9,SNR=3.6						
FINES	**FINESS Array B**	**62.03**	**333**	P	**P**	**12 04 21.0**	**-2.5**
	0.9nm,0.8s,baz=8.9,slow=9.8,SNR=4.2						
NOA	**NORSAR Array B**	**66.49**	**339**	P	**P**	**12 04 49.6**	**-2.7**
	0.5nm,0.5s,baz=33,slow=7.4,SNR=3.0						
PDAR	**Pinedale Array**	**66.70**	**52**	P	**P**	**12 04 53.3**	**-0.9**
	0.3nm,0.5s,baz=135,slow=0.2,SNR=4.5						

JMA 20 11:55:20.1±0.1,37°.13N×141°.34E,h55km±1km,M2.9, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ONAJ	**Iwakimizuishiy**	**0.43**	**266**	P	Pn	11 55 30.9	-0.1
ONAJ				S	Sn	11 55 38.6	-0.3
JFK	**Kawauchi**	**0.44**	**303**	P	Pn	11 55 30.8	-0.3
JFK				S	Sn	11 55 38.5	-0.5
JHO	**Hitachi**	**0.81**	**230**	P	Pn	11 55 35.0	-0.4
JHO				S	Sn	11 55 45.9	-0.7
JMM	**Marumori**	**0.85**	**330**	P	Pn	11 55 35.9	-0.1
JMM				S	Sn	11 55 48.0	+0.3
JFT	**Otama**	**0.89**	**296**	P	Pn	11 55 37.3	+0.8
JFT				S	Sn	11 55 49.6	+1.0
JIO	**Ouri**	**1.32**	**0**	P	Pn	11 55 42.2	-0.1
JIO				S	Sn	11 55 58.1	-0.7
JFY	**Yanaizu**	**1.33**	**282**	P	Pn	11 55 43.3	+0.9
JOU	**Okura**	**1.34**	**337**	P	Pn	11 55 43.3	+0.7
JOU				S	Sn	11 56 00.6	+1.2
JYS	**Shirataka**	**1.49**	**318**	P	Pn	11 55 45.5	+1.0
JYS				S	Sn	11 56 04.5	+1.6
JAG	**Ashikaga**	**1.67**	**246**	P	Pn	11 55 47.5	+0.5
JKT	**Katashina**	**1.71**	**258**	S	Sn	11 56 09.8	+1.3

SOME ***20*** *12:00:18.8,44°.70N×82°.33E,h25km*
ISCJB ***20*** *12:00:19.7±1.8,44°.58N±0°.07×82°.5E±0°.2,h11km±16km, Error ellipse: s-maj=22.5km s-min=6.0km az=28.9*
NNC ***20*** *12:00:20.9±1.2,44°.71N×82°.19E,h0km,mb3.0,mpv2.5, Error ellipse: s-maj=18.3km s-min=3.5km az=117.0*

ISC 20 12:00:15.3±2.0,44°.63N±0°.06×82°.41E±0°.10,h0km±16km, n10,σ0°.81/20,3C-3D,Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KTMS	**Ketmen**	**1.90**	**232**	*e*P	**Pb**	**12 00 51.8**	**+0.9**
	1.5nm,0.1s						
KTMS				*e*S	**Sg**	**12 01 15.9**	**-0.4**
	15nm,0.3s						
DJR	**Jarkent**	**1.90**	**262**	*e*P	**Pg**	**12 00 52.0**	**+0.4**
	2.8nm,0.1s						
DJR				*e*S	**Sg**	**12 01 16.3**	**0.0**
	5.9nm,0.3s						
MK31	**Makanchi Array**	**2.17**	**358**	↓Pn	**Pg**	**12 00 57.5**	**+0.7**
	1.8nm,0.2s,baz=183,slow=14,SNR=87						
MK31				↑Sn	**Sg**	**12 01 24.5**	**-0.4**
	2.7nm,0.3s,baz=185,slow=28,SNR=13						
MAKZ	**Makanchi**	**2.20**	**352**	↑Pn	**Pg**	**12 00 57.2**	**-0.2**
	0.8nm,0.2s						
MAKZ				↓Sn	**Sg**	**12 01 25.5**	**-0.4**
	3.2nm,0.6s						
KAPS	**Kapalarasan**	**2.27**	**288**	*e*P	**Pb**	**12 00 57.3**	**+0.2**
	2.1nm,0.1s						
KAPS				*e*S	**Sb**	**12 01 25.2**	**-0.4**
	6.0nm,0.2s						
PDGK	**Podgornoye**	**2.48**	**239**	↓Pn	**Pb**	**12 01 01.1**	**+0.4**
	0.5nm,0.2s						
PDGK				↑Sn	**Sb**	**12 01 32.8**	**+1.1**
	7.7nm,0.8s						
SHLS	**Shalkode**	**2.59**	**236**	*e*P	**Pb**	**12 01 00.8**	**-1.8**
	6.1nm,0.2s						
SHLS				*e*S	**Sn**	**12 01 31.1**	**+0.4**
	17nm,0.3s						
KPKS	**Kokpek**	**2.93**	**248**	*e*P	**Pb**	**12 01 07.7**	**-0.7**
	3.1nm,0.1s						
KPKS				*e*S	**Sb**	**12 01 43.1**	**-1.7**
	12nm,0.3s						
MNBS	**Baschi**	**2.93**	**261**	*e*P	**Pb**	**12 01 08.7**	**+0.3**
	2.2nm,0.3s						
MNBS				*e*S	**Sb**	**12 01 44.6**	**-0.2**
	5.6nm,0.3s						
ARXS	**Arharly**	**3.31**	**264**	*e*P	**Pb**	**12 01 15.3**	**+0.4**
	1.1nm,0.3s						
ARXS				*e*S	**Sb**	**12 01 55.7**	**0.0**
	5.8nm,0.6s						

JMA ***20*** *12:10:57.4±0.3,33°.39N×127°.02E,h10km,M3.4*

ISC 20 12:11:00.7±1.6,33°.40N±0°.06×127°.27E±0°.04,h9km±16km, n12,σ0°.53/17,2C-2D,South Korea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSSSP	**Seongsanpo**	**0.32**	**268**	↑P	**Pb**	**12 11 09.1**	**+0.5**
KSSSP				↓S	**Sb**	**12 11 14.3**	**+0.3**
KSJJU	**Jeju**	**0.60**	**273**	P	**Pb**	**12 11 13.8**	**+0.3**
	SNR=148						
KSJJU				↑S	**Sb**	**12 11 22.2**	**+0.1**
KSSGP	**Seogwipo**	**0.66**	**258**	↓P	**Pb**	**12 11 14.7**	**+0.4**
	SNR=87						
KSWAN	**Wando**	**1.09**	**335**	P	**Pg**	**12 11 21.7**	**+0.1**
	SNR=25						
KOHB	**KOHEUNG**	**1.21**	**0**	P	**Pn**	**12 11 23.4**	**-0.5**
	SNR=298						
KSHAN	**Haenam**	**1.30**	**334**	P	**Pn**	**12 11 24.4**	**-0.7**
	SNR=92						
KSJDO	**Jindo**	**1.33**	**324**	P	**Pn**	**12 11 25.0**	**-0.5**
	SNR=25						
JFU	**Fukue jima 2**	**1.45**	**120**	P	**Pn**	**12 11 26.5**	**-0.7**
JFU				*e*S	**Sg**	**12 11 47.0**	**-0.4**
JII	**Iki**	**2.10**	**79**	P	**Pn**	**12 11 35.9**	**-0.1**
JII				*e*S	**Sb**	**12 12 05.9**	**+0.9**
JTU	**Tsushima**	**2.10**	**57**	P	**Pn**	**12 11 36.1**	**+0.1**
JTU				*e*S	**Sb**	**12 12 05.0**	**-0.1**
NGSJ	**Nagasakinomoza**	**2.26**	**109**	*e*S	**Sb**	**12 12 09.1**	**-0.7**
JUR	**Ureshino**	**2.27**	**97**	P	**Pn**	**12 11 38.8**	**+0.4**

IDC 20 12:13:37.7±5.1,7°.54S×118°.15E,h254km±47km,mb2.9/3, mb1 3.0/6,mb1mx2.8/58,mbtmp3.6/6,Error ellipse: s-maj=102.8km s-min=19.0km az=60.0,Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**6.06**	**116**	P	Pn	12 15 06.5	-0.3
	3.7nm,0.3s,baz=288,slow=13,SNR=4.3						
FITZ	**Fitzroy Crossi**	**12.78**	**146**	P	Pn	12 16 32.1	-0.6
	baz=337,slow=14,SNR=1.8						
WRA	**Warramunga Arr**	**19.96**	**130**	P	P	12 17 50.8	-0.3
	0.1nm,0.3s,baz=302,slow=12,SNR=16						
ASAR	**Alice Springs**	**22.04**	**138**	P	P	12 18 11.9	+0.1
	0.6nm,0.4s,baz=314,slow=9.3,SNR=14						
SONM	**Songino Array**	**56.10**	**350**	P	P	12 22 51.2	+0.4
	0.5nm,0.5s,baz=168,slow=8.0,SNR=

VMUR				*i* S	**Sn**	**12 13 57.6**	**-0.5**
VMUR	**Van-Muradiye**	**0.43**	**37**	P	**Pb**	**12 13 49.9**	**+0.1**
VMUR				S	**Sn**	**12 13 57.6**	**-0.5**
CLDR	**Caldiran**	**0.73**	**47**	PG	**Pn**	**12 13 54.9**	**-0.2**
CLDR				SG	**Sn**	**12 14 05.7**	**+0.3**
CLDR	**Caldiran**	**0.73**	**47**	*e*Pg	**Pn**	**12 13 54.9**	**-0.2**
CLDR				*e*Sg	**Sn**	**12 14 05.7**	**+0.3**
TUTA	**Tutak**	**0.82**	**337**	*i* P	**Pn**	**12 13 55.9**	**-0.5**
TUTA				*e*S	**Sb**	**12 14 05.7**	**-1.4**
TUTA				IAML		12 14 10.7	
	comp=Z,46nm,0.5s						
TUTA	**Tutak**	**0.82**	**337**	*i* P	**Pb**	**12 13 56.0**	**-0.3**
TUTA				*i* S	**Sn**	**12 14 06.8**	**-1.0**
TUTA	**Tutak**	**0.82**	**337**	P	**Pb**	**12 13 56.0**	**-0.3**
TUTA				S	**Sn**	**12 14 06.8**	**-1.0**
GURO	**Guroymak-BITLI**	**0.95**	**265**	PG	**Pb**	**12 13 58.5**	**+0.2**
GURO	**Guroymak-BITLI**	**0.95**	**265**	*e*Pg	**Pb**	**12 13 58.5**	**+0.2**
AGRB	**Hanur-Agry**	**0.95**	**349**	PG	**Pb**	**12 13 58.4**	**0.0**
AGRB	**Hanur-Agry**	**0.95**	**349**	*e*Pg	**Pb**	**12 13 58.4**	**0.0**
EATA	**Eleskirt**	**1.35**	**335**	*e*P	**Pb**	**12 14 05.4**	**+0.2**
EATA				*e*S	**Sb**	**12 14 23.8**	**+1.6**
EATA				IAML		12 14 30.8	
	comp=Z,3.7nm,0.5s						
EATA	**Eleskirt**	**1.35**	**335**	*i* P	**Pb**	**12 14 04.5**	**-0.6**
EATA				*i* S	**Sb**	**12 14 24.4**	**+2.3**
EATA	**Eleskirt**	**1.35**	**335**	P	**Pb**	**12 14 04.5**	**-0.6**
EATA				S	**Sb**	**12 14 24.4**	**+2.3**

*ISCJB **20** 12:15:56.8±0.5,39.°11N±0.°03×29.°14E±0.°04, h7km±5km, Error ellipse: s-maj=6.2km s-min=4.2km az=142.9*
*ISK **20** 12:15:56.4,39.°16N×29.°12E, h5km, ML2.4/5*
*DDA **20** 12:15:56.7,39.°10N×29.°13E, h7km, Ml2.7*
*CSEM **20** 12:15:56.8±0.2,39.°11N×29.°15E, h8km, ML2.4, Error ellipse: s-maj=4.5km s-min=3.2km az=134.0*
ISC 20 12:15:56.9±0.9, 39.°11N±0.°03×29.°15E±0.°02, h8km±8km, n24, σ0°48/38, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIMA	**Simav-Kutahya**	**0.13**	**259**	PG	**Pg**	**12 15 59.7**	**-0.1**
SIMA				SG	**Sg**	**12 16 02.1**	**+0.3**
SIMA	**Simav-Kutahya**	**0.13**	**259**	*e*Pg	**Pg**	**12 15 59.7**	**-0.1**
SIMA				*e*Sg	**Sg**	**12 16 02.1**	**+0.3**
GDZ	**Gediz**	**0.26**	**95**	*i* P	**Pg**	**12 16 01.9**	**-0.1**
GDZ				*i* S	**Sg**	**12 16 06.2**	**+0.7**
GDZ	**Gediz**	**0.26**	**95**	P	**Pg**	**12 16 01.9**	**-0.1**
GDZ				S	**Sg**	**12 16 06.2**	**+0.7**
DEMI	**Demirci**	**0.34**	**259**	*i* P	**Pg**	**12 16 03.7**	**+0.1**
DEMI				*i* S	**Sg**	**12 16 08.2**	**0.0**
DEMI	**Demirci**	**0.34**	**259**	P	**Pg**	**12 16 03.7**	**+0.1**
DEMI				S	**Sg**	**12 16 08.2**	**0.0**
TVSB	**Tavsanli**	**0.42**	**35**	PG	**Pg**	**12 16 04.5**	**-0.5**
TVSB				SG	**Sg**	**12 16 10.3**	**-0.2**
TVSB	**Tavsanli**	**0.42**	**35**	*e*Pg	**Pg**	**12 16 04.5**	**-0.5**
TVSB				*e*Sg	**Sg**	**12 16 10.3**	**-0.2**
DURS	**Dursunbey**	**0.72**	**313**	*i* P	**Pb**	**12 16 12.1**	**+0.4**
DURS	**Dursunbey**	**0.72**	**313**	P	**Pb**	**12 16 12.1**	**+0.4**
MANT	**Manisa**	**0.77**	**217**	*i* P	**Pg**	**12 16 11.7**	**0.0**
MANT				*i* S	**Sg**	**12 16 21.5**	**-0.3**
MANT	**Manisa**	**0.77**	**217**	P	**Pg**	**12 16 11.7**	**0.0**
MANT				S	**Sg**	**12 16 21.5**	**-0.3**
KHAL	**Karahalli**	**0.79**	**160**	*i* P	**Pb**	**12 16 12.5**	**-0.4**
KHAL				*i* S	**Sb**	**12 16 23.3**	**-0.4**
KHAL	**Karahalli**	**0.79**	**160**	P	**Pb**	**12 16 12.5**	**-0.4**
KHAL				S	**Sb**	**12 16 23.3**	**-0.4**
CAVI	**Cavuskoy**	**1.22**	**26**	PN	**Pg**	**12 16 19.3**	**-0.9**
CAVI	**Cavuskoy**	**1.22**	**26**	*e*Pn	**Pg**	**12 16 19.3**	**-0.9**
BORA	**Eskisehir**	**1.27**	**52**	*i* P	**Pg**	**12 16 21.5**	**+0.3**
BORA				*i* S	**Sn**	**12 16 39.5**	**+1.2**
BORA	**Eskisehir**	**1.27**	**52**	P	**Pg**	**12 16 21.5**	**+0.3**
BORA				S	**Sn**	**12 16 39.5**	**+1.2**
YLV	**Yalova**	**1.47**	**7**	PN	**Pn**	**12 16 23.4**	**-0.3**
YLV	**Yalova**	**1.47**	**7**	*e*Pn	**Pn**	**12 16 23.4**	**-0.3**
ARMT	**Armutlu**	**1.47**	**351**	PN	**Pn**	**12 16 23.3**	**-0.4**
ARMT	**Armutlu**	**1.47**	**351**	*e*Pn	**Pn**	**12 16 23.3**	**-0.4**
GULT	**Gulveren**	**1.69**	**38**	PN	**Pn**	**12 16 26.8**	**0.0**
GULT	**Gulveren**	**1.69**	**38**	*e*Pn	**Pn**	**12 16 26.8**	**0.0**

*IDC **20** 12:30:29.4±1.0,4.°14S×145.°09E, h0km, mb4.0/7, mb1 4.2/10,mb1mx3.8/46,mbtmp4.0/10,ML3.9/2,MS3.4/6, Ms1 3.4/6,ms1mx3.0/39, Error ellipse: s-maj=39.3km s-min=17.2km az=89.0*
*ISCJB **20** 12:30:32.7±0.5,4.°24S±0.°05×145.°05E±0.°08, h33km, mb4.1/10,MS3.4/4, Error ellipse: s-maj=11.5km s-min=6.9km az=172.5*
*NEIC **20** 12:30:36.4±2.1,4.°26S×145.°08E, h53km±21km, mb4.1/3, Error ellipse: s-maj=14.9km s-min=10.9km az=159.0*
ISC 20 12:30:34.7±0.7,4.°21S±0.°08×145.°1E±0.°1, h35km, n29, σ1°26/25, mb4.2/10, MS3.5/4, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.55**	**159**	Sn	**Pn**	**12 31 54.6**	**-0.1**
	10nm,0.3s,baz=32,slow=6.1,SNR=30						
PMG				S	**Sn**	**12 32 57.6**	**+0.2**
	4.8nm,0.3s,baz=120,slow=20,SNR=4.2						
PMG				LR	LR	12 34 30.0	
	comp=Z,305nm,20.6s,baz=346,slow=43						
COEN	**Coen**	**9.87**	**191**	*e*Pn	**Pn**	**12 32 56.0**	**+1.8**
CTA	**Charters Tower**	**15.82**	**176**	Pn	**P**	**12 34 16.4**	**-1.9**
	0.4nm,0.3s,baz=40,slow=16,SNR=3.6						
MTN	**Manton Dam**	**16.25**	**237**	*e*Pn	**P**	**12 34 22.3**	**-0.9**
	11nm,0.8s						
GUMO	**Guam**	**17.69**	**359**	LR	LR	12 41 04.6	
	comp=Z,40nm,18.8s,baz=147,slow=36						
WRAB	**Tennant Creek**	**18.82**	**213**	*e*P	**P**	**12 34 50.3**	**-1.2**
	7.2nm,1.0s						
WR1	**Warramunga Arr**	**18.83**	**213**	*e*P	**P**	**12 34 50.3**	**-1.3**
WRA	**Warramunga Arr**	**18.83**	**213**	P	**P**	**12 34 50.3**	**-1.3**
	0.4nm,0.3s,baz=35,slow=12,SNR=21						
SOEI	**Soe**	**21.40**	**254**	*e*P	**P**	**12 35 20.0**	**+0.3**
	28nm,0.6s						
AS31	**Alice Springs**	**22.16**	**208**	*e*P	**P**	**12 35 26.9**	**-0.8**
ASAR	**Alice Springs**	**22.16**	**208**	P	**P**	**12 35 26.9**	**-0.8**
	8.3nm,0.9s,baz=34,slow=11,SNR=15						
DZM	**Mont Dzumac**	**27.26**	**133**	LR	LR	12 45 51.4	
	comp=Z,90nm,18.2s,baz=257,slow=34						
STKA	**Stephens Creek**	**27.72**	**186**	P	**P**	**12 36 21.2**	**+1.4**
	1.9nm,0.7s,baz=2.4,slow=13,SNR=3.7						
STKA				LR	LR	12 49 36.0	
	comp=Z,155nm,19.7s,baz=7.7,slow=41						
TARA	**Tarawa**	**28.34**	**79**	*e*P	**P**	**12 36 26.2**	**+0.6**
	163nm,1.1s						
LEM	**Lembang**	**37.40**	**264**	LR	LR	12 57 49.7	
	comp=Z,116nm,18.0s,baz=238,slow=44						
KSRS	**Korea Array**	**44.43**	**340**	LR	LR	12 54 52.5	
	comp=Z,16nm,21.3s,baz=205,slow=33						
CMAR	**Chiang Mai Arr**	**50.75**	**298**	P	**P**	**12 39 31.6**	**0.0**
	0.9nm,0.6s,baz=120,slow=5.7,SNR=6.2						
KLR	**Kul'dur**	**54.48**	**349**	P	**P**	**12 39 59.3**	**+0.6**
	0.1nm,0.6s,baz=137,slow=7.2,SNR=1.9						
MK01	**Makanchi Array**	**74.91**	**321**	*e*P	**P**	**12 42 11.4**	**-0.7**
MK32	**Makanchi Array**	**74.93**	**321**	*e*P	**P**	**12 42 12.1**	**-0.1**
MKAR	**Makanchi Array**	**74.93**	**321**	P	**P**	**12 42 12.1**	**-0.1**
	0.6nm,0.5s,baz=106,slow=7.3,SNR=8.4						
ZALV	**Zalesovo Beam**	**76.51**	**328**	P	**P**	**12 42 20.3**	**-0.7**
	1.5nm,0.6s,baz=125,slow=7.2,SNR=3.1						
ZAA1	**Zalesovo Array**	**76.51**	**328**	*e*P	**P**	**12 42 20.3**	**-0.7**
BVAR	**Borovoye Array**	**84.22**	**324**	P	**P**	**12 43 02.5**	**-0.1**
	1.1nm,0.7s,baz=74,slow=6.2,SNR=6.7						
ILAR	**Eielson Array**	**84.60**	**24**	P	**P**	**12 43 03.0**	**-1.2**
	1.4nm,0.7s,baz=273,slow=5.4,SNR=9.1						
ILB	**Eielson Array**	**84.60**	**24**	*e*P	**P**	**12 43 03.0**	**-1.2**
BBGB	**Big Mountain B**	**95.58**	**54**	*e*P	**P**	**12 43 57.1**	**+0.2**
FMP	**Fort Macarthur**	**97.81**	**57**	*e*P	Pdif	12 44 08.5	+1.6
DEVC	**Devers**	**99.23**	**56**	*e*P	**Pdif**	**12 44 17.0**	**+3.7**

*GUC **20** 12:40:25.9±0.6,31.°24S×69.°20W, h127km±3km, ML3.5*
*SJA **20** 12:40:25.5±0.5,31.°30S×69.°13W, h114km±3km, ML2.7, MW3.5*
*ISCJB **20** 12:40:26.2±1.0,31.°28S±0.°03×69.°07W±0.°06, h119km±9km, Error ellipse: s-maj=8.7km s-min=5.2km az=0.6*
ISC 20 12:40:27.6±1.8, 31.°27S±0.°04×69.°11W±0.°06, h107km±13km, n16, σ0°66/28, 5C-1D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJA	**San Juan**	**0.54**	**119**	*i* P	**Pn**	**12 40 43.8**	**-0.6**
SJA				IAML		12 40 44.3	
	comp=Z,4.8nm,0.2s						
RTLL	**Cerro Villicun**	**0.55**	**96**	*i* P	**Pn**	**12 40 44.3**	**-0.2**
RTLL				*i* S	**Sn**	**12 40 57.5**	**+0.2**
RTLL	**Cerro Villicun**	**0.55**	**96**	*i* P	**Pn**	**12 40 44.5**	**-0.1**
RTLL				*i* S	**Sn**	**12 40 57.6**	**+0.4**
RTLS	**Leoncito**	**0.55**	**197**	*i* P	**Pn**	**12 40 44.3**	**-0.6**
RTLS				IAML		12 40 44.5	
	comp=Z,752nm,0.3s						
RTLS				*i* S	**Sn**	**12 40 58.6**	**+0.8**
AMOG	**MOGNA**	**0.62**	**58**	*i* P	**Pn**	**12 40 44.5**	**-0.6**
RTCV	**Cerro Valdivia**	**0.76**	**141**	*i* P	**Pn**	**12 40 45.3**	**-1.0**
RTCV				*i* S	**Sn**	**12 41 00.3**	**-0.1**
AUSP	**Uspallata**	**0.98**	**194**	*i* P	**Pn**	**12 40 48.0**	**-0.7**
ACDV	**Cuesta del Vie**	**1.10**	**360**	*i* P	**Pn**	**12 40 49.5**	**-0.3**
ACDV				*i* S	**Sn**	**12 41 07.6**	**+1.1**
AROD	**Rodeo**	**1.14**	**344**	*i* P	**Pn**	**12 40 50.5**	**0.0**
AROD				*i* S	**Sn**	**12 41 08.7**	**+1.0**
GO04	**Tololo Observa**	**1.82**	**307**	*i* P	**Pn**	**12 40 57.9**	**-0.6**
GO04				*i* S	**Sn**	**12 41 22.3**	**+0.4**
TLL	**Tololo Astrono**	**1.83**	**307**	*e*P	**Pn**	**12 40 58.0**	**-0.5**
TLL				*i* S	**Sn**	**12 41 22.3**	**+0.2**
TLL				IAML		12 41 28.0	
	comp=N,387nm,0.3s						
FCH	**Farellones**	**2.28**	**206**	*i* P	**Pn**	**12 41 05.0**	**+0.6**
FCH				*i* S	**Sn**	**12 41 33.7**	**+1.1**
FCH				IAML		12 41 41.1	
	comp=E,99nm,0.9s						
PEL	**Peldehue**	**2.30**	**215**	*i* P	**Pn**	**12 41 03.7**	**-0.6**
PEL				*i* S	**Sn**	**12 41 32.8**	**+0.3**
LCO	**Las Campanas**	**2.64**	**328**	*i* P	**Pn**	**12 41 08.2**	**-0.9**
LCO				*i* S	**Sn**	**12 41 40.2**	**-0.6**
LCO				IAML		12 41 42.0	
	comp=N,248nm,0.2s						
VCA	**Vinchina**	**2.65**	**17**	*i* P	**Pn**	**12 41 08.9**	**-0.2**
VCA				IAML		12 41 46.6	
	comp=Z,195nm,0.3s						
VCA	**Vinchina**	**2.65**	**17**	*i* P	**Pn**	**12 41 08.8**	**-0.2**
VCA				*i* S	**Sn**	**12 41 41.4**	**+0.6**
VCA				IAML		12 41 46.1	
	comp=E,238nm,0.4s						

*IDC **20** 12:43:40.0±2.1,23.°91S×179.°88W, h509km±22km, mb3.4/10,mb1 3.6/12,mb1mx3.3/42,mbtmp4.4/12, Error ellipse: s-maj=22.5km s-min=16.5km az=133.0*
*ISCJB **20** 12:43:40.3±0.5,23.°85S±0.°04×180.°0W±0.°1, h518km, mb3.8/10, Error ellipse: s-maj=12.3km s-min=5.6km az=178.1*
*WEL **20** 12:43:42.2±1.1,24.°S±9.°×18.°0W±3.°2, h552km±17km*
ISC 20 12:43:40.6±0.6, 23.°94S±0.°07×179.°9W±0.°1, h518km, n73, σ1°50/72, mb3.8/10, 1D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**5.58**	**162**	P	**P**	**12 45 17.0**	**+3.3**
GLKZ	**Green Lake**	**5.58**	**162**	S	**S**	**12 46 30.5**	**+0.5**
AFI	**Afiamalu**	**12.57**	**39**	P	**P**	**12 46 22.6**	**-2.7**
	1.7nm,0.3s,baz=263,slow=5.1,SNR=4.3						
OUZ	**Omahuta**	**12.60**	**205**	P	**P**	**12 46 26.9**	**+1.7**
KUZ	**Kuaotunu**	**13.32**	**196**	P	**P**	**12 46 33.6**	**+0.9**
WIAZ	**Waiheke Island**	**13.52**	**197**	P	P	12 46 41.0	+6.2
MXZ	**Matakaoa Point**	**13.67**	**186**	P	**P**	**12 46 38.7**	**+2.2**
MKAZ	**Moumakai**	**13.80**	**197**	P	**P**	**12 46 38.8**	**+1.0**
WMGZ	**Waiomatatini S**	**13.92**	**186**	P	**P**	**12 46 41.0**	**+2.0**
HAZ	**Te Kaha**	**13.92**	**188**	P	**P**	**12 46 39.0**	**-0.1**
PKGZ	**Pakihiroa**	**14.02**	**187**	P	**P**	**12 46 40.9**	**+0.7**
RUGZ	**Raukumara Rang**	**14.14**	**188**	P	**P**	**12 46 42.3**	**+0.8**
PUZ	**Puketiti**	**14.18**	**186**	P	**P**	**12 46 43.9**	**+2.1**
TOZ	**Tahuroa Road**	**14.31**	**195**	P	P	12 46 47.4	+4.2
TWGZ	**Tauwhareparae**	**14.31**	**187**	P	**P**	**12 46 42.2**	**-1.0**
MKRZ	**Makatiti**	**14.50**	**192**	P	P	12 46 38.3	-6.9
URZ	**Urewera**	**14.51**	**190**	P	**P**	**12 46 45.4**	**+0.2**
	5.7nm,0.3s,baz=272,slow=1.9,SNR=37						
URZ	**Urewera**	**14.51**	**190**	S	**S**	**12 46 43.9**	**-1.3**
URZ	**Urewera**	**14.51**	**190**	S	**S**	**12 49 17.8**	**+0.2**
MWZ	**Matawai**	**14.53**	**188**	P	**P**	**12 46 45.0**	**-0.5**
MWZ	**Matawai**	**14.53**	**188**	S	**S**	**12 49 17.0**	**-0.9**
TKGZ	**Te Karaka**	**14.59**	**187**	P	**P**	**12 46 47.7**	**+1.6**
TKGZ	**Te Karaka**	**14.59**	**187**	S	S	12 49 27.8	+8.7
CNGZ	**Carnagh Station**	**14.60**	**186**	P	**P**	**12 46 49.1**	**+2.9**
RAGZ	**Rawiri**	**14.70**	**188**	P	**P**	**12 46 47.1**	**-0.2**
HRRZ	**Handcock Road**	**14.78**	**192**	P	**P**	**12 46 49.9**	**+1.8**
RIGZ	**Rimuhau**	**14.86**	**187**	P	**P**	**12 46 48.3**	**-0.6**
TLZ	**Tolley Road**	**14.87**	**194**	S	**S**	**12 49 23.5**	**-1.0**
RTZ	**Ruatahuna**	**14.88**	**190**	P	**P**	**12 46 47.7**	**-1.5**
SNGZ	**Shannon Statio**	**14.99**	**188**	P	**P**	**12 46 51.0**	**+0.7**
MTHZ	**Maungataniwha**	**15.13**	**190**	P	**P**	**12 46 50.7**	**-1.1**
WATZ	**Wairara**	**15.20**	**193**	P	**P**	**12 46 54.0**	**+1.5**
HIZ	**Hastii**	**15.21**	**196**	P	**P**	**12 46 53.1**	**+0.5**
RATZ	**Rangitukua**	**15.34**	**193**	P	**P**	**12 46 54.5**	**+0.5**
NMHZ	**Naumai**	**15.38**	**190**	P	**P**	**12 46 54.6**	**+0.2**
NMHZ	**Naumai**	**15.38**	**190**	S	**S**	**12 49 33.2**	**-0.9**
BKZ	**Black Stump Fm**	**15.49**	**191**	P	**P**	**12 46 53.6**	**-2.0**
BKZ	**Black Stump Fm**	**15.49**	**191**	S	**S**	**12 49 31.6**	**-4.5**
TWVZ	**Taurewa**	**15.61**	**194**	P	**P**	**12 46 56.7**	**-0.1**
NGZ	**Ngauruhoe**	**15.67**	**193**	P	**P**	**12 46 59.0**	**+1.5**
COVZ	**Chateau Observ**	**15.71**	**193**	P	**P**	**12 46 58.5**	**+0.6**
MCHZ	**McNeill Hill**	**15.73**	**190**	P	**P**	**12 46 58.1**	**+0.1**
FWVZ	**Far West T-bar**	**15.76**	**193**	P	**P**	**12 46 58.3**	**-0.2**
KWHZ	**Kaweka Forest**	**15.76**	**191**	P	**P**	**12 46 57.8**	**-0.5**
KWHZ	**Kaweka Forest**	**15.76**	**191**	S	**S**	**12 49 37.8**	**-3.2**
WHVZ	**Whangaehu Hut**	**15.78**	**193**	P	**P**	**12 46 58.7**	**0.0**
TRVZ	**Turoa**	**15.80**	**193**	P	**P**	**12 46 58.2**	**-0.8**
VRZ	**Vera Road**	**15.81**	**195**	P	**P**	**12 47 01.0**	**+2.2**
BHHZ	**Black Hill Sta**	**15.88**	**192**	P	**P**	**12 46 57.8**	**-1.8**
KRHZ	**Kereru**	**15.98**	**191**	P	**P**	**12 46 59.4**	**-1.1**
KRHZ	**Kereru**	**15.98**	**191**	S	**S**	**12 49 41.3**	**-3.7**
KAHZ	**Kahuranaki**	**16.05**	**189**	P	**P**	**12 47 00.4**	**-0.9**
RPZ	**Rata Peaks**	**21.09**	**199**	P	**P**	**12 47 49.0**	**+1.0**
	8.5nm,0.5s,baz=305,slow=1.1,SNR=12						
CTA	**Charters Tower**	**31.59**	**270**	P	**P**	**12 49 21.0**	**+0.2**
	8.8nm,0.4s,baz=92,slow=11,SNR=40						
ASAR	**Alice Springs**	**42.15**	**261**	P	**P**	**12 50 47.0**	**-0.6**
	3.7nm,0.8s,baz=95,slow=7.6,SNR=79						
ASAR				S	**S**	**12 56 27.2**	**-2.7**
	0.5nm,0.8s,baz=96,slow=15,SNR=4.1						
WRA	**Warramunga Arr**	**42.52**	**266**	P	**P**	**12 50 49.4**	**-1.1**
	6.7nm,0.5s,baz=96,slow=8.4,SNR=206						
WRA				ScP	**ScP**	**12 55 34.5**	**+1.6**
	0.2nm,0.7s,baz=95,slow=3.9,SNR=5.6						
WRA				S	**S**	**12 56 36.2**	**+0.9**
	0.4nm,0.7s,baz=103,slow=13,SNR=3.3						
ASAJ	**Asahikawa**	**75.95**	**333**	P	**P**	**12 54 35.8**	**+1.9**
	2.6nm,0.8s,baz=45,slow=5.7,SNR=4.2						
KSRS	**Korea Array**	**78.35**	**320**	P	**P**	**12 54 47.6**	**+0.5**
	0.8nm,0.6s,baz=132,slow=5.9,SNR=4.7						
PETK	**Petropavlovsk-**	**79.16**	**346**	P	**P**	**12 54 51.0**	**-0.1**
	2.0nm,0.6s,baz=106,slow=7.3,SNR=9.6						
NVAR	**Mina Array Bea**	**84.69**	**44**	P	**P**	**12 55 20.8**	**+0.8**
	0.4nm,0.7s,baz=229,slow=8.5,SNR=3.7						
CMAR	**Chiang Mai Arr**	**89.65**	**290**	P	**P**	**12 55 44.9**	**+1.4**
	1.3nm,0.8s,baz=134,slow=3.7,SNR=6.6						
ILAR	**Eielson Array**	**92.04**	**14**	P	**P**	**12 55 54.1**	**+0.7**
	0.3nm,0.9s,baz=197,slow=9.7,SNR=4.2						
KURBB	**Kurchatov Arra**	**115.35**	**316**	PKP	**PKPdf**	**13 01 21.2**	**-1.8**
	0.6nm,0.6s,baz=106,slow=2.0,SNR=7.0						
BVAR	**Borovoye Array**	**120.54**	**319**	PKP	**PKPdf**	**13 01 31.7**	**-1.2**
	0.9nm,0.4s,baz=33,slow=3.4,SNR=4.7						
ARCES	**ARCESS Array B**	**131.94**	**348**	PKP	**PKPdf**	**13 01 53.3**	**-0.9**
	1.2nm,0.8s,baz=35,slow=4.4,SNR=8.0						
FINES	**FINESS Array B**	**138.52**	**341**	PKP	**PKPdf**	**13 02 07.5**	**+0.9**
	1.2nm,0.6s,baz=52,slow=3.1,SNR=4.0						
HFS	**Hagfors**	**142.60**	**349**	PKhKP	PKPpre	13 02 10.1	
	4.0nm,0.4s,baz=126,slow=3.7,SNR=26						
AKASG	**Malin Array Be**	**145.06**	**327**	PKPbc	**PKPdf**	**13 02 18.4**	**-0.1**
	2.3nm,0.4s,baz=43,slow=4.1,SNR=6.6						
BRTR	**Keskin Array B**	**147.69**	**307**	PKPbc	**PKPbc**	**13 02 26.2**	**-0.9**
	1.1nm,0.6s,baz=133,slow=3.8,SNR=5.9						
BRTR				PKPab	**PKPab**	**13 02 31.5**	**+0.2**
	1.7nm,0.6s,baz=97,slow=3.4,SNR=8.4						
MMAI	**Mount Meron Ar**	**147.82**	**294**	PKPbc	**PKPbc**	**13 02 27.0**	**-0.6**
	4.5nm,0.5s,baz=76,slow=6.1,SNR=9.5						
EKA	**Eskdalemuir Ar**	**148.54**	**4**	PKPbc	**PKPbc**	**13 02 27.3**	**-1.2**
	0.6nm,0.4s,baz=355,slow=3.9,SNR=2.8						
CLL	**Collm**	**150.92**	**343**	*i* PKPbc	**PKPbc**	**13 02 34.1**	**-0.2**
	comp=Z,7.0nm,0.7s						
BRG	**Berggiesshubel**	**151.06**	**342**	*i* PKP	**PKPbc**	**13 02 34.5**	**-0.1**
	comp=Z,5.8nm,0.6s						

*IDC **20** 13:03:53.4±0.8,2.°56N×127.°56E, h0km, mb3.7/8, mb1 3.8/9,mb1mx3.6/58,mbtmp3.8/9,ML4.5/1,MS3.3/2, Ms1 3.3/2,ms1mx2.5/58, Error ellipse: s-maj=63.5km s-min=15.9km az=68.0*
*ISCJB **20** 13:03:58.3±0.6,2.°87N±0.°05×128.°47E±0.°05, h50km, mb3.7/8,MS3.3/2, Error ellipse: s-maj=8.6km s-min=6.3km az=139.4*
*DJA **20** 13:04:01.8±1.4,3.°N±4.°×12.°8E±.°, h31km±21km, M4.4/8, mB4.8/2,mb4.5/6,MLv4.3/8,Mw(mB)4.0/2*
ISC 20 13:04:00.4±0.8, 2.°86N±0.°08×128.°45E±0.°08, h50km, n24, σ1°56/20, mb3.8/8, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**3.03**	**286**	P	**Pn**	**13 04 48.1**	**+2.3**
SGSI				S	**Sn**	**13 05 21.0**	**+0.1**
SIJI	**Sorong**	**4.65**	**143**	Pn	**Pn**	**13 05 11.2**	**+3.0**
	18nm,0.3s,baz=284,slow=22,SNR=70						
SIJI				Sn	**Sn**	**13 06 01.0**	**+0.1**
	4.0nm,0.3s,baz=221,slow=23,SNR=7.1						
KMSI	**Cibinong**	**5.01**	**243**	P	**Pn**	**13 05 13.8**	**+0.8**
SANI	**Sanana**	**5.46**	**207**	P	**Pn**	**13 05 19.1**	**-0.1**
	16nm,1.1s,0.1nm						
SANI				S	**Sn**	**13 06 21.0**	**+0.3**
	16nm,1.1s,0.1nm						
FAKI	**Fak Fak**	**6.88**	**146**	P	**Pn**	**13 05 41.2**	**+2.4**
	36nm,0.8s,642nm0.2nm						
MRSI	**Marisa**	**6.92**	**250**	P	**Pn**	**13 05 40.1**	**+0.8**
	69nm,0.7s,594nm0.2nm						
APSI	**Ampana**	**7.76**	**241**	P	**Pn**	**13 05 51.6**	**+0.8**
	41nm,0.6s						
MPSI	**Mapaga**	**8.90**	**254**	P	**Pn**	**13 06 07.4**	**+0.9**
WRA	**Warramunga Arr**	**23.38**	**166**	P	**P**	**13 09 03.8**	**-1.1**
	1.3nm,0.4s,baz=344,slow=10,SNR=25						
ASAR	**Alice Springs**	**26.89**	**169**	P	**P**	**13 09 35.4**	**-1.4**
	0.2nm,0.5s,baz=351,slow=7.8,SNR=5.7						
ASAR				PcP	**PcP**	**13 12 57.0**	**-1.4**
	0.2nm,0.4s,baz=350,slow=2.2,SNR=4.8						
KSRS	**Korea Array**	**34.44**	**359**	P	**P**	**13 10 45.0**	**+1.9**
	0.8nm,0.7s,baz=181,slow=9.3,SNR=5.0						
STKA	**Stephens Creek**	**36.73**	**161**	LR	LR	13 27 06.5	
	comp=Z,60nm,18.1s,baz=274,slow=38						
H11S3	**WAKE ISLAND Hy**	**40.53**	**65**	T	T	13 55 07.5	
	baz=267,SNR=3.9						
H11S2	**WAKE ISLAND Hy**	**40.55**	**65**	T	T	13 55 05.8	
	baz=267						
H11S1	**WAKE ISLAND Hy**	**40.55**	**65**	T	T	13 55 02.3	
	baz=267						
H11N1	**WAKE ISLAND Hy**	**41.10**	**63**	T	T	13 55 39.3	
	baz=250						
H11N2	**WAKE ISLAND Hy**	**41.11**	**63**	T	T	13 55 49.3	
	baz=250						
H11N3	**WAKE ISLAND Hy**	**41.12**	**63**	T	T	13 55 44.5	
	baz=250						
SONM	**Songino Array**	**48.68**	**340**	P	**P**	**13 12 39.8**	**+0.1**
	0.4nm,0.6s,baz=150,slow=9.7,SNR=3.2						
TLY	**Talaya**	**52.90**	**341**	P	**P**	**13 13 10.6**	**-0.7**
	1.2nm,0.4s,baz=196,slow=7.9,SNR=3.0						
PETK	**Petropavlovsk-**	**55.61**	**21**	LR	LR	13 35 38.4	
	comp=Z,18nm,21.5s,baz=274,slow=34						
MKAR

JFT				*e*S	**Sn**	**13 24 59.8**	**-0.3**
JMK	**Ichinoseki**	**2.64**	**322**	P	**Pn**	**13 24 34.4**	**+0.3**
JMK				S	**Sn**	**13 25 04.2**	**-0.7**
BSO1	**Boso 1**	**2.91**	**221**	P	**Pn**	**13 24 38.6**	**+1.3**
JOM	**Ohasama**	**3.04**	**329**	P	**Pn**	**13 24 40.5**	**+1.0**
JOM				*e*S	**Sn**	**13 25 14.2**	**-0.4**
JYK	**Kaneyama**	**3.09**	**312**	P	**Pn**	**13 24 41.0**	**+0.8**
JAG	**Ashikaga**	**3.12**	**263**	P	**Pn**	**13 24 41.5**	**+0.8**
JRY	**Ryogami san**	**3.65**	**258**	P	**Pn**	**13 24 48.4**	**+0.5**
JRY				*e*S	**Sn**	**13 25 27.7**	**-2.0**
JANG	**Nango**	**3.76**	**339**	P	**Pn**	**13 24 50.9**	**+1.5**
JANG				*e*S	**Sn**	**13 25 30.3**	**-2.1**
JOD2	**Odawara 2**	**3.77**	**246**	P	**Pn**	**13 24 50.2**	**+0.6**
JOD2				*e*S	**Sn**	**13 25 31.7**	**-1.1**
JYN	**Shimob**	**4.08**	**252**	P	**Pn**	**13 24 55.3**	**+1.4**
JYN				*e*S	**Sn**	**13 25 40.7**	**+0.2**
MJAR	**Matsushiro Arr**	**4.10**	**267**	Pn	**Pn**	**13 24 54.5**	**+0.4**
	1.1nm,0.3s,baz=89,slow=14,SNR=11						
MJAR				Sn	**Sn**	**13 25 41.4**	**+0.5**
	0.4nm,0.3s,baz=89,slow=24,SNR=3.1						
JHJ	**Hachijo jima 2**	**4.73**	**219**	Pn	**Pn**	**13 25 02.0**	**-0.8**
	5.7nm,0.3s,baz=105,slow=20,SNR=5.1						
JHJ				Sn	**Sn**	**13 25 51.2**	**-5.2**
	4.9nm,0.3s,baz=65,slow=11,SNR=2.9						
ASAJ	**Asahikawa**	**7.25**	**356**	Pn	**Pn**	**13 25 34.9**	**-2.5**
	0.2nm,0.3s,baz=234,slow=14,SNR=3.3						
ASAJ				Sn	**Sn**	**13 26 56.5**	**-1.9**
	0.1nm,0.3s,baz=252,slow=20,SNR=1.7						
WRA	**Warramunga Arr**	**57.14**	**190**	P	**P**	**13 33 38.6**	**+1.4**
	0.6nm,0.9s,baz=7.6,slow=7.0,SNR=6.8						
ASAR	**Alice Springs**	**60.87**	**190**	P	**P**	**13 34 03.8**	**+0.8**
	0.3nm,1.0s,baz=0.3,slow=6.2,SNR=3.9						

*SOME **20** 13:26:12.6,44˚.07N×81˚.90E,h15km*
*IDC **20** 13:26:15.2±1.6,44˚.14N×81˚.65E,h0km,mb2.9/1,*
mb1 3.5/6,mb1mx3.2/67,mbtmp3.4/6,ML3.2/4,Error
ellipse: s-maj=20.4km s-min=10.9km az=128.0
*NNC **20** 13:26:16.2±2.2,44˚.16N×81˚.75E,h0km,mb3.7,mpv3.3,*
Error ellipse: s-maj=30.8km s-min=10.3km az=130.0
ISC 20 13:26:16.0±1.0,**44˚.14N**±0˚.04×**81˚.78E**±0˚.05,**h10km,n37,**
σ2§08/61,8C-8D,Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTMS	**Ketmen**	**1.24**	**237**	*e*P	**Pb**	**13 26 38.7**	**-0.9**
	72nm,0.1s						
KTMS				*e*S	**Sn**	**13 26 57.3**	**+0.9**
	73nm,0.4s						
DJR	**Jarkent**	**1.44**	**279**	*e*P	**Pb**	**13 26 42.0**	**-0.9**
	141nm,0.2s						
DJR				*e*S	**Sg**	**13 27 02.8**	**+0.4**
	114nm,0.6s						
PDGK	**Podgornoye**	**1.84**	**245**	⇓Pn	**Pb**	**13 26 48.5**	**-1.3**
	13nm,0.3s						
PDGK				⇓Sn	**Sg**	**13 27 14.4**	**-0.8**
	107nm,0.7s						
SHLS	**Shalkode**	**1.94**	**241**	*e*P	**Pn**	**13 26 46.8**	**-2.4**
	155nm,0.4s						
SHLS				*e*S	**Sn**	**13 27 11.2**	**-2.5**
	185nm,0.6s						
KAPS	**Kapalarasan**	**2.07**	**305**	*e*P	**Pb**	**13 26 53.5**	**-0.2**
	75nm,0.3s						
KAPS				*e*S	**Sg**	**13 27 22.8**	**+0.2**
	181nm,0.5s						
UZB	**Uzynbulak**	**2.23**	**245**	*e*P	**Pb**	**13 26 54.9**	**-1.6**
	43nm,0.4s						
UZB				*e*S	**Sg**	**13 27 25.7**	**-2.0**
	92nm,0.8s						
KPKS	**Kokpek**	**2.34**	**254**	*e*P	**Pb**	**13 26 56.5**	**-1.7**
	431nm,0.2s						
KPKS				*e*S	**Sg**	**13 27 28.1**	**-3.0**
	229nm,0.5s						
MNBS	**Baschi**	**2.43**	**270**	*e*P	**Pb**	**13 26 58.4**	**-1.5**
	68nm,0.2s						
MNBS				*e*S	**Sg**	**13 27 31.5**	**-2.6**
	164nm,0.6s						
TDK	**Taldyqorghan**	**2.56**	**291**	*e*P	**Pb**	**13 27 01.1**	**-0.9**
	95nm,0.4s						
TDK				*e*S	**Sg**	**13 27 35.6**	**-2.6**
	188nm,0.6s						
ZHN	**Zhinishke**	**2.61**	**249**	*e*P	**Pb**	**13 27 00.9**	**-2.0**
	26nm,0.2s						
ZHN				*e*S	**Sb**	**13 27 35.5**	**+0.4**
	67nm,0.3s						
SATY	**Saty**	**2.67**	**247**	*e*P	**Pb**	**13 27 02.1**	**-1.9**
	32nm,0.2s						
SATY				*e*S	**Sg**	**13 27 38.6**	**-3.3**
	70nm,0.3s						
MAKZ	**Makanchi**	**2.68**	**3**	⇑Pn	**Pb**	**13 27 01.7**	**-2.3**
	9.7nm,0.5s						
MAKZ				⇓Lg	Lg	13 27 39.3	
	17nm,0.5s						
MK31	**Makanchi Array**	**2.68**	**8**	Pn	**Pb**	**13 27 01.4**	**-2.7**
	1.9nm,0.2s,baz=184,slow=15,SNR=167						
MK31				⇑Lg	Lg	13 27 39.1	
	4.7nm,0.3s,baz=186,slow=26,SNR=23						
MKAR	**Makanchi Array**	**2.68**	**8**	Pn	**Pb**	**13 27 01.6**	**-2.5**
	4.0nm,0.3s,baz=187,slow=13,SNR=68						
MKAR				Sn	**Sb**	**13 27 36.1**	**-0.9**
	10nm,0.3s,baz=189,slow=26,SNR=29						
KURS	**Kuram**	**2.69**	**257**	*e*P	**Pb**	**13 27 03.1**	**-1.1**
	4.1nm,0.2s						
KURS				*e*S	**Sg**	**13 27 39.0**	**-3.3**
	26nm,0.4s						
ARXS	**Arharly**	**2.84**	**273**	*e*P	**Pb**	**13 27 05.4**	**-1.4**
	13nm,0.3s						
ARXS				*e*S	**Sb**	**13 27 43.2**	**+1.5**
	103nm,0.5s						
CHKK	**Chushkaly**	**3.47**	**267**	*e*P	**Pb**	**13 27 16.0**	**-1.5**
	22nm,0.2s						
CHKK				*e*S	**Sb**	**13 28 01.4**	**+1.8**
	59nm,0.2s						
KOTS	**Kotyrbulak**	**3.50**	**257**	*e*P	**Pb**	**13 27 15.5**	**-2.6**
	6.1nm,0.2s						
KOTS				*e*S	**Sb**	**13 28 00.5**	**-0.3**
	18nm,0.6s						
TNSS	**Tian-Shan**	**3.68**	**254**	*e*P	**Pb**	**13 27 22.5**	**+1.3**
	15nm,0.5s						
TNSS				⇑*i*S	**Sg**	**13 28 12.9**	**-1.1**
	19nm,0.7s						
IZV	**Izvestkoviy**	**3.91**	**255**	*e*P	**Pb**	**13 27 24.9**	**-0.2**
	14nm,0.4s						
IZV				*e*S	**Sg**	**13 28 17.1**	**-4.5**
	32nm,0.7s						
KUU	**Kurty**	**3.93**	**268**	*e*P	**Pb**	**13 27 22.8**	**-2.5**
	6.0nm,0.4s						
KUU				⇓*i*S	**Sb**	**13 28 12.8**	**-0.2**
	41nm,0.6s						
MTBS	**Maitube**	**4.01**	**257**	⇑*i*P	**Pb**	**13 27 26.7**	**-0.1**
	9.3nm,0.3s						
MTBS				⇓*i*S	**Sg**	**13 28 19.6**	**-5.1**
	19nm,0.3s						
KST	**Kastek**	**4.36**	**258**	*e*P	**Pb**	**13 27 33.8**	**+1.0**
	3.3nm,0.3s						
KST				*e*S	**Sg**	**13 28 32.0**	**-4.0**
	22nm,0.7s						
ULHL	**Ulahol**	**4.47**	**247**	P	**Pn**	**13 27 26.2**	**+2.3**
	SNR=7.5						
TKM2	**Tokmak 2**	**4.66**	**257**	⇓Pn	**Pn**	**13 27 28.5**	**+2.0**
	1.1nm,0.4s						
TKM2				⇓Pg	**Pb**	**13 27 38.7**	**+0.8**
	5.7nm,0.5s						
TKM2				⇑Lg	Lg	13 28 41.6	
	18nm,0.8s						
TKM2	**Tokmak 2**	**4.66**	**257**	P	**Pb**	**13 27 39.1**	**+1.3**
	SNR=6.8						
KBK	**Karagaybulak**	**5.19**	**256**	P	**Pn**	**13 27 36.7**	**+2.9**
	SNR=6.8						
CHMS	**Chumysh**	**5.23**	**260**	P	**Pn**	**13 27 36.1**	**+1.9**
	SNR=5.8						
USP	**Ospenovka**	**5.35**	**263**	P	**Pn**	**13 27 37.9**	**+2.0**
	SNR=5.9						
AAK	**Ala-Archa**	**5.51**	**257**	Pn	**Pn**	**13 27 40.9**	**+2.7**
	0.9nm,0.3s,baz=76,slow=9.2,SNR=5.9						
AAK				Pg	**Pb**	**13 27 54.3**	**+1.8**
	1.4nm,0.3s,baz=90,slow=7.7,SNR=9.2						
AAK				Lg	Lg	13 29 07.2	
	0.7nm,0.3s,baz=0.0,slow=18,SNR=9.8						
AAK	**Ala-Archa**	**5.51**	**257**	⇓Pn	**Pn**	**13 27 40.7**	**+2.4**
	1.1nm,0.4s						
AAK				⇑Pg	**Pb**	**13 27 53.8**	**+1.4**
	2.9nm,0.6s						
AAK				⇑Lg	Lg	13 29 09.3	
	11nm,0.6s						
EKS2	**Erkin-Say**	**6.01**	**259**	P	**Pn**	**13 27 47.4**	**+2.3**
	SNR=6.4						
KURBB	**Kurchatov Arra**	**6.85**	**342**	Pn	**Pn**	**13 27 57.0**	**+0.6**
	0.4nm,0.3s,baz=165,slow=12,SNR=19						
KURBB				Sn	**Sn**	**13 29 15.1**	**+0.6**
	0.2nm,0.3s,baz=164,slow=21,SNR=11						
KURBB				Lg	Lg	13 29 52.5	
	0.2nm,0.3s,baz=167,slow=29,SNR=6.1						
KK31	**Karatay Array**	**8.24**	**267**	⇑Lg	Lg	13 30 35.1	
	0.9nm,0.3s,baz=72,slow=28,SNR=5.3						
ZALV	**Zalesovo Beam**	**10.02**	**10**	Pn	**Pn**	**13 28 40.6**	**+0.7**
	0.8nm,0.3s,baz=198,slow=13,SNR=9.3						
SONM	**Songino Array**	**17.48**	**69**	P	**P**	**13 30 23.4**	**+2.4**
	baz=268,slow=12,SNR=6.4						
YKA	**Yellowknife Ar**	**72.91**	**8**	P	**P**	**13 37 45.5**	**+0.7**
	0.1nm,0.6s,baz=341,slow=5.9,SNR=3.0						

*ISCJB **20** 13:31:23.7±0.3,25˚.92N±0˚.06×125˚.24E±0˚.05,*
h123km±5km,mb3.5/11,Error ellipse: s-maj=12.7km
s-min=3.4km az=145.8
*IDC **20** 13:31:23.4±2.8,25˚.98N×125˚.20E,h103km±26km,*
mb3.3/11,mb1 3.4/12,mb1mx3.2/63,mbtmp3.6/12,Error
ellipse: s-maj=24.6km s-min=18.3km az=53.0
*JMA **20** 13:31:25.2±0.1,25˚.92N×125˚.21E,h114km,M3.8*
ISC 20 13:31:24.8±0.8,**25˚.91N**±0˚.08×**125˚.25E**±0˚.06,**h120km**±9km,
n32,σ1§01/52,mb3.5/11,Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKM	**Ikemajima**	**0.98**	**180**	P	**Pn**	**13 31 47.1**	**+0.4**
JIKM				S	**Sn**	**13 32 03.0**	**-0.2**
JIRB	**Irabujima**	**1.08**	**184**	P	**Pn**	**13 31 47.7**	**0.0**
JIRB				S	**Sn**	**13 32 04.3**	**-0.6**
JMJ	**Miyako jima 2**	**1.09**	**178**	P	**Pn**	**13 31 48.2**	**+0.4**
JMJ				S	**Sn**	**13 32 04.6**	**-0.6**
JOGS	**Gusukube**	**1.16**	**173**	P	**Pn**	**13 31 49.0**	**+0.5**
JOGS				S	**Sn**	**13 32 06.2**	**-0.1**
JTJ	**Tarama**	**1.36**	**201**	P	**Pn**	**13 31 50.8**	**+0.1**
JTJ				S	**Sn**	**13 32 09.2**	**-1.0**
JKE	**Kume jima 2**	**1.44**	**73**	P	**Pn**	**13 31 52.4**	**+0.8**
JKE				S	**Sn**	**13 32 12.3**	**+0.4**
JISG	**Ishigakijimahi**	**1.57**	**213**	P	**Pn**	**13 31 53.3**	**+0.2**
JISG				S	**Sn**	**13 32 13.7**	**-0.8**
JIJ	**Ishigaki jima**	**1.84**	**213**	P	**Pn**	**13 31 56.1**	**-0.2**
JIJ				S	**Sn**	**13 32 18.1**	**-2.2**
JAGN	**Aguni-jima**	**1.91**	**69**	P	**Pn**	**13 31 58.1**	**+0.9**
JAGN				S	**Sn**	**13 32 22.2**	**+0.3**
JKRS	**Kuro-shima**	**2.01**	**214**	P	**Pn**	**13 31 58.3**	**-0.1**
JKRS				S	**Sn**	**13 32 23.1**	**-1.0**
IRIF	**Iriomote-Funau**	**2.09**	**222**	P	**Pn**	**13 31 59.4**	**0.0**
IRIF				S	**Sn**	**13 32 24.8**	**-1.0**
HATJ	**Hateruma jima**	**2.26**	**216**	P	**Pn**	**13 32 01.6**	**0.0**
HATJ				S	**Sn**	**13 32 27.5**	**-2.3**
JJT3	**Tamagusuku3**	**2.29**	**84**	P	**Pn**	**13 32 02.9**	**+0.9**
JJT3				S	**Sn**	**13 32 30.3**	**-0.2**
YOJ	**Yonaguni jima**	**2.49**	**235**	P	**Pn**	**13 32 05.2**	**+0.7**
YOJ				S	**Sn**	**13 32 36.6**	**+1.7**
JYNG	**Yonagunijimaku**	**2.54**	**236**	P	**Pn**	**13 32 06.1**	**+0.9**
JYNG				S	**Sn**	**13 32 35.4**	**-0.7**
JNTH	**Nagotoyohara**	**2.56**	**76**	P	**Pn**	**13 32 05.9**	**+0.5**
JNTH				S	**Sn**	**13 32 35.4**	**-1.3**
JIH	**Iheya**	**2.68**	**65**	P	**Pn**	**13 32 07.6**	**+0.6**
JIH				S	**Sn**	**13 32 37.8**	**-1.6**
JOW	**Kunigami**	**2.87**	**71**	P	**Pn**	**13 32 09.4**	**0.0**
	41nm,0.3s,baz=298,slow=24,SNR=109						
JOW				S	**Sn**	**13 32 41.5**	**-2.2**
	21nm,0.3s,baz=305,slow=19,SNR=3.2						
JOW	**Kunigami**	**2.87**	**71**	P	**Pn**	**13 32 09.6**	**+0.2**
JOKE	**Okinoerabujima**	**3.31**	**63**	P	**Pn**	**13 32 15.1**	**-0.1**
JTK	**Tokunoshima**	**3.80**	**60**	P	**Pn**	**13 32 21.5**	**-0.2**
JTK				S	**Sn**	**13 33 03.5**	**-2.2**
SONM	**Songino Array**	**26.44**	**331**	P	**P**	**13 36 51.4**	**+0.9**
	0.4nm,0.3s,baz=148,slow=11,SNR=2.8						
MKAR	**Makanchi Array**	**39.77**	**313**	P	**P**	**13 38 45.4**	**-0.5**
	0.2nm,0.3s,baz=102,slow=11,SNR=7.9						
MKAR				PcP	**PcP**	**13 40 50.0**	**+0.2**
	0.2nm,0.6s,baz=99,slow=3.6,SNR=3.7						
ZALV	**Zalesovo Beam**	**40.91**	**324**	P	**P**	**13 38 54.0**	**-1.0**
	1.0nm,0.4s,baz=126,slow=9.1,SNR=4.3						
KURBB	**Kurchatov Arra**	**43.25**	**317**	P	**P**	**13 39 12.9**	**-1.3**
	0.5nm,0.3s,baz=110,slow=8.0,SNR=5.1						
WRA	**Warramunga Arr**	**46.43**	**168**	P	**P**	**13 39 39.8**	**+0.2**
	0.3nm,1.0s,baz=350,slow=8.7,SNR=3.0						
ASAR	**Alice Springs**	**49.99**	**170**	P	**P**	**13 40 08.1**	**+1.1**
	0.2nm,0.7s,baz=358,slow=14,SNR=3.4						
AKTO	**Aktyubinsk**	**56.15**	**315**	P	**P**	**13 40 53.1**	**+1.3**
	0.4nm,0.4s,baz=127,slow=20,SNR=2.6						
ILAR	**Eielson Array**	**65.98**	**28**	P	**P**	**13 41 58.8**	**+0.8**
	0.4nm,0.6s,baz=299,slow=10,SNR=8.2						
FINES	**FINESS Array B**	**71.81**	**330**	P	**P**	**13 42 32.8**	**-1.3**
	2.5nm,0.9s,baz=122,slow=5.1,SNR=3.4						
NOA	**NORSAR Array B**	**78.40**	**333**	P	**P**	**13 43 10.3**	**-1.7**
	0.5nm,0.6s,baz=64,slow=8.0,SNR=2.5						
YKA	**Yellowknife Ar**	**79.93**	**24**	P	**P**	**13 43 20.8**	**+0.7**
	0.8nm,0.7s,baz=306,slow=5.2,SNR=22						

IDC 20 13:34:59.0±2.5,**10˚.67S×163˚.75E,h0km,mb3.4/3,**
mb1 3.8/5,mb1mx3.4/46,mbtmp3.7/5,ML3.8/2,MS2.9/3,
Ms1 2.9/3,ms1mx2.7/25,Error ellipse: s-maj=49.5km
s-min=32.9km az=51.0,Bougainville-Solomon Islands
region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**3.94**	**288**	P	Pn	13 36 03.0	+2.2
HNR				S	Sn	13 36 50.0	+2.3
HNR	**Honiara**	**3.94**	**288**	Pn	Pn	13 36 02.8	+2.0
	12nm,0.3s,baz=76,slow=12,SNR=4.7						
HNR				Sn	Sn	13 36 47.6	-0.1
	28nm,0.3s,baz=176,slow=22,SNR=6.9						
HNR				LR	LR	13 37 50.0	
	comp=Z,120nm,18.4s,baz=26,slow=43						
DZM	**Mont Dzumac**	**11.63**	**167**	Pn	Pn	13 37 47.5	+1.1
	0.3nm,0.3s,baz=322,slow=19,SNR=2.7						
DZM				LR	LR	13 41 26.4	
	comp=Z,90nm,20.0s,baz=254,slow=33						
WRA	**Warramunga Arr**	**29.78**	**248**	P	P	13 41 07.8	0.0
	0.2nm,0.3s,baz=79,slow=8.8,SNR=6.0						
GUMO	**Guam**	**30.52**	**322**	LR	LR	13 52 18.7	
	comp=Z,22nm,21.2s,baz=108,slow=34						
ASAR	**Alice Springs**	**31.23**	**242**	P	P	13 41 19.8	-0.7
	0.5nm,0.9s,baz=64,slow=10,SNR=6.4						
MKAR	**Makanchi Array**	**91.91**	**317**	P	P	13 48 09.2	-0.3
	0.2nm,0.6s,baz=107,slow=5.0,SNR=2.8						

*IDC **20** 13:50:25.5±1.7,57˚.54N×22˚.18E,h0km,mb1 3.2/5,*
mb1mx2.9/72,mbtmp3.1/5,ML2.7/5,Error ellipse:
s-maj=18.0km s-min=9.9km az=160.0
*ISCJB **20** 13:50:27.0±0.4,57˚.74N±0˚.03×21˚.94E±0˚.04,h0km,Error*
ellipse: s-maj=4.0km s-min=3.2km az=171.2
*UPP **20** 13:50:26.6±2.2,57˚.61N×22˚.11E,h0km,ML2.4*
*CSEM **20** 13:50:27.7±0.2,57˚.67N×21˚.97E,h2km,ML2.3,Error*
ellipse: s-maj=6.3km s-min=4.5km az=162.0,Mining
explosion.
*NAO **20** 13:50:27.9±2.0,57˚.77N×22˚.02E,ML2.1*
*BER **20** 13:50:27.7±3.5,57˚.66N×22˚.00E,h0km,ML2.1(NAO),*
Suspected explosion
*HEL **20** 13:50:27.3,57˚.66N×21˚.89E,h0km,ML2.3,Explosion*
ISC 20 13:50:26.5±0.7,**57.72N**±0˚.03×**21˚.95E**±0˚.03,**h0km,n88,**
σ1§80/114,Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLIT	**Slitere, Latvi**	**0.20**	**116**	*e*P	**Pg**	**13 50 31.4**	**+1.0**
	SNR=90						
SLIT				*e*S	**Sg**	**13 50 34.6**	**+1.7**
SLIT	**Slitere, Latvi**	**0.20**	**116**	*e*P	**Pg**	**13 50 31.3**	**+0.9**
SLIT				*e*S	**Sg**	**13 50 34.6**	**+1.7**
MTSE	**Matsula**	**1.40**	**44**	*e*P	**Pg**	**13 50 53.1**	**-0.3**
MTSE				*e*S	**Sg**	**13 51 11.5**	**-0.1**
	SNR=90						
MTSE	**Matsula**	**1.40**	**44**	*e*P	**Pg**	**13 50 53.1**	**-0.3**
MTSE				*e*S	**Sg**	**13 51 10.8**	**-0.7**
PBUR	**Paburg**	**1.70**	**180**	*e*P	**Pn**	**13 50 57.5**	**+0.1**
	SNR=90						
PBUR				*e*S	**Sb**	**13 51 21.6**	**+1.2**
	SNR=90						
GOTU	**Gotland**	**1.82**	**270**	P	**Pn**	**13 51 00.1**	**+1.2**
GOTU				S	**Sb**	**13 51 26.0**	**+2.1**
GOTU	**Gotland**	**1.82**	**270**	*e*P	**Pn**	**13 51 00.2**	**+1.2**
GOTU				*e*S	**Sb**	**13 51 26.0**	**+2.1**
GOTU	**Gotland**	**1.82**	**270**	*e*P	**Pn**	**13 51 00.1**	**+1.2**
GOTU				*e*S	**Sb**	**13 51 26.0**	**+2.1**
NYNU	**Nynaeshamn**	**2.45**	**303**	P	**Pn**	**13 51 09.5**	**+1.8**
NYNU	**Nynaeshamn**	**2.45**	**303**	*e*P	**Pn**	**13 51 09.5**	**+1.8**
NYNU	**Nynaeshamn**	**2.45**	**303**	*e*P	**Pn**	**13 51 09.5**	**+1.8**
NRTU	**Norrtaelje**	**2.62**	**320**	P	**Pn**	**13 51 11.9**	**+1.9**
NRTU	**Norrtaelje**	**2.62**	**320**	*e*P	**Pn**	**13 51 11.9**	**+1.9**
NRTU	**Norrtaelje**	**2.62**	**320**	*e*P	**Pn**	**13 51 11.9**	**+1.9**
VSU	**Vasula**	**2.65**	**72**	Pn	**Pn**	**13 51 11.6**	**+1.2**
VSU				Pg	**Pb**	**13 51 14.1**	**-0.6**
VSU				Lg	Lg	13 51 48.0	
VSU	**Vasula**	**2.65**	**72**	Pn	**Pn**	**13 51 11.6**	**+1.2**
VSU	**Vasula**	**2.65**	**72**	*e*P	**Pn**	**13 51 11.8**	**+1.4**
VSU	**Vasula**	**2.65**	**72**	Pg	**Pb**	**13 51 14.1**	**-0.6**
VSU				*e*S	**Sb**	**13 51 48.0**	**+0.3**
	151nm,0.4s,SNR=48						
VSU	**Vasula**	**2.65**	**72**	*e*P	**Pn**	**13 51 11.8**	**+1.4**
VSU				*e*SB	**Sb**	**13 51 48.5**	**+0.8**
VSU	**Vasula**	**2.65**	**72**	Pn	**Pn**	**13 51 11.6**	**+1.2**
VSU				Pg	**Pb**	**13 51 14.1**	**-0.6**
VSU				Lg	Lg	13 51 48.0	
AAL	**Aland**	**2.67**	**338**	*e*P	**Pn**	**13 51 11.6**	**+0.9**
AAL				*e*Sg	**Sb**	**13 51 51.4**	**+3.0**
AAL	**Aland**	**2.67**	**338**	*e*P	**Pn**	**13 51 11.6**	**+0.9**
AAL				*e*SG	**Sb**	**13 51 51.4**	**+3.0**
BYXU	**Byxelkrok**	**2.70**	**263**	P	**Pn**	**13 51 12.9**	**+1.8**
BYXU	**Byxelkrok**	**2.70**	**263**	*e*P	**Pn**	**13 51 12.9**	**+1.8**
BYXU	**Byxelkrok**	**2.70**	**263**	*e*P	**Pn**	**13 51 12.9**	**+1.8**
ARBE	**Arbavere**	**2.73**	**49**	*e*PB	**Pb**	**13 51 15.1**	**-1.0**
ARBE				*e*SB	**Sb**	**13 51 50.5**	**+0.5**
MEF	**Metsahovi**	**2.81**	**26**	*e*P	**Pb**	**13 51 16.7**	**-0.8**
	SNR=48						
MEF	**Metsahovi**	**2.81**	**26**	*e*PB	**Pb**	**13 51 16.2**	**-1.3**
MEF				*e*SB	**Sb**	**13 51 53.2**	**+0.8**
MEF				MSG		13 51 54.7	
	comp=Z,18nm,0.1s						
VIKU	**Vikbolandet**	**2.90**	**288**	P	**Pn**	**13 51 15.5**	**+1.7**
VIKU	**Vikbolandet**	**2.90**	**288**	*e*P	**Pn**	**13 51 15.5**	**+1.7**
VIKU	**Vikbolandet**	**2.90**	**288**	*e*P	**Pn**	**13 51 15.5**	**+1.7**
GRAU	**Graesoe**	**3.16**	**328**	P	**Pn**	**13 51 18.7**	**+1.2**
GRAU	**Graesoe**	**3.16**	**328**	*e*P	**Pn**	**13 51 18.7**	**+1.2**
GRAU	**Graesoe**	**3.16**	**328**	*e*P	**Pn**	**13 51 18.7**	**+1.2**
FLYU	**Flymyra**	**3.21**	**321**	P	**Pn**	**13 51 20.0**	**+1.9**
FLYU	**Flymyra**	**3.21**	**321**	*e*P	**Pn**	**13 51 20.0**	**+1.9**
FLYU	**Flymyra**	**3.21**	**321**	*e*P	**Pn**	**13 51 20.0**	**+1.9**
FIBU	**Brunna**	**3.25**	**314**	P	**Pn**	**13 51 20.7**	**+2.1**
FIBU	**Brunna**	**3.25**	**314**	P	**Pn**	**13 51 20.7**	**+2.1**
ESKU	**Eskilstuna**	**3.29**	**300**	P	**Pn**	**13 51 21.2**	**+2.0**
ESKU	**Eskilstuna**	**3.29**	**300**	*e*P	**Pn**	**13 51 21.2**	**+2.0**
ESKU	**Eskilstuna**	**3.29**	**300**	*e*P	**Pn**	**13 51 21.2**	**+2.0**
BACU	**Backbrunna**	**3.31**	**312**	P	**Pn**	**13 51 21.5**	**+2.0**
BACU	**Backbrunna**	**3.31**	**312**	*e*P	**Pn**	**13 51 21.5**	**+2.0**
BACU	**Backbrunna**	**3.31**	**312**	*e*P	**Pn**	**13 51 21.5**	**+2.0**
RAF	**Rauma**	**3.32**	**358**	*e*P	**Pn**	**13 51 21.8**	**+2.2**
RAF				*e*S	**Sn**	**13 52 04.5**	**+4.8**
	comp=Z,13nm,0.9s,SNR=46						
RAF	**Rauma**	**3.32**	**358**	*e*P	**Pn**	**13 51 21.8**	**+2.2**
PVF	**Pernaja**	**3.48**	**34**	*e*P	**Pn**	**13 51 24.0**	**+2.2**
PVF				*e*Sg	**Sg**	**13 52 16.7**	**-1.5**
	comp=Z,6.4nm,0.1s						
PVF	**Pernaja**	**3.48**	**34**	*e*P	**Pn**	**13 51 24.0**	**+2.2**
PVF				*e*SG	**Sg**	**13 52 16.7**	**-1.5**
PVF				MSG		13 52 20.5	
	comp=Z,6.4nm,0.1s						
OSTU	**Oestervaala**	**3.55**	**317**	P	**Pn**	**13 51 24.7**	**+1.9**
OSTU	**Oestervaala**	**3.55**	**317**	*e*P	**Pn**	**13 51 24.7**	**+1.9**
OSTU	**Oestervaala**	**3.55**	**317**	*e*P	**Pn**	**13 51 24.7**	**+1.9**
IGGU	**Iggoen**	**3.96**	**325**	P	**Pn**	**13 51 30.6**	**+2.2**
IGGU	**Iggoen**	**3.96**	**325**	*e*P	**Pn**	**13 51 30.6**	**+2.2**
IGGU	**Iggoen**	**3.96**	**325**	*e*P	**Pn**	**13 51 30.6**	**+2.2**
VJF	**Virojoki**	**4.04**	**43**	*e*P	**Pn**	**13 51 31.1**	**+1.6**
VJF	**Virojoki**	**4.04**	**43**	*e*P	**Pn**	**13 51 31.1**	**+1.6**
FIA0	**FINESS Array S**	**4.29**	**28**	Pn	**Pn**	**13 51 33.8**	**+0.9**
	baz=191,slow=16						
FIA0				Lg	Lg	13 52 42.0	
	baz=216,slow=22						
FIA0	**FINESS Array S**	**4.

comp=Z,0.1nm,0.3s,baz=344,slow=11,SNR=2.3

*NEIC **20** 13:55:30.1±0.0, 16°.26N×98°.15W, h9km, MD4.0(MEX), After MEX.*

MEX 20 13:55:30.1±0.8, 16°.26N×98°.14W, h9km±5km, MD4.0, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res
PNIG	**Pinotepa**	**0.14**	**7**	*eP*		Pg	13 55 32.4	-0.8
PNIG				*eS*		Sg	13 55 35.3	-0.1
PNIG	**Pinotepa**	**0.14**	**7**	*eP*		Pg	13 55 32.4	-0.8
PNIG				*eS*		Sg	13 55 35.3	-0.1
TLIG	**Tlapa**	**1.36**	**343**	*eP*		Pn	13 55 51.0	-4.4
TLIG	**Tlapa**	**1.36**	**343**	*eP*		Pn	13 55 51.0	-4.4
VHO	**Vista Hermosa**	**1.58**	**59**	*eP*		Pn	13 55 55.5	-2.9
VHO	**Vista Hermosa**	**1.58**	**59**	*eP*		Pn	13 55 55.5	-2.9
HUIG	**Huatulco**	**2.02**	**104**	*eP*		Pg	13 56 08.1	-0.7
HUIG	**Huatulco**	**2.02**	**104**	*eP*		Pg	13 56 08.1	-0.7
CAIG	**El Cayaco**	**2.18**	**291**	*eP*		Pn	13 56 04.2	-2.3
CAIG	**El Cayaco**	**2.18**	**291**	*eP*		Pn	13 56 04.2	-2.3

IDC 20 14:07:54.0±1.5, 1°.78N×126°.32E, h0km, mb3.5/5, mb1 3.7/5, mb1mx3.4/50, mbtmp3.5/5, Error ellipse: s-maj=97.6km s-min=19.9km az=62.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.98**	**160**	P		P	14 12 59.2	-1.2
	1.4nm,0.7s,baz=341,slow=11,SNR=5.6							
ASAR	**Alice Springs**	**26.35**	**164**	P		P	14 13 32.8	+0.8
	0.3nm,0.3s,baz=345,slow=11,SNR=6.2							
CMAR	**Chiang Mai Arr**	**31.55**	**303**	P		P	14 14 17.4	-1.0
	0.5nm,0.4s,baz=101,slow=8.3,SNR=3.4							
MKAR	**Makanchi Array**	**58.92**	**326**	P		P	14 17 56.0	+0.9
	0.2nm,0.5s,baz=116,slow=7.3,SNR=3.1							
KURBB	**Kurchatov Arra**	**63.16**	**328**	P		P	14 18 23.5	-0.2
	0.1nm,0.4s,baz=128,slow=6.9,SNR=4.1							

*ISCJB **20** 14:10:40.0±1.3, 36°.81N±0°.04×141°.46E±0°.07, h15km±9km, mb3.3/5, Error ellipse: s-maj=10.1km s-min=6.5km az=25.1*
*IDC **20** 14:10:40.0±1.1, 36°.81N×141°.33E, h0km, mb3.3/5, mb1 3.4/7, mb1mx3.2/63, mbtmp3.2/7, ML2.9/2, Error ellipse: s-maj=26.0km s-min=21.8km az=95.0*
*JMA **20** 14:10:41.9±0.1, 36°.84N×141°.34E, h29km±1km, M3.4*

ISC 20 14:10:41.6±2.1, 36°.84N±0°.04×141°.30E±0°.07, h12km±12km, n22, σ0°75/26, mb3.3/5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.48**	**303**	P		**Pb**	**14 10 52.1**	**0.0**
ONAJ				S		**Sb**	**14 10 59.5**	**+0.3**
JFK	**Kawauchi**	**0.63**	**327**	P		**Pb**	**14 10 54.2**	**-0.4**
JFK				S		**Sb**	**14 11 03.0**	**-0.4**
JHO	**Hitachi**	**0.63**	**249**	P		**Pb**	**14 10 54.6**	**0.0**
JHO				S		**Sb**	**14 11 03.6**	**+0.2**
JFT	**Otama**	**1.03**	**312**	P		**Pn**	**14 11 01.3**	**-0.6**
JFT				S		**Sg**	**14 11 14.9**	**+0.1**
JYT	**Yasato**	**1.08**	**236**	P		**Pb**	**14 11 01.1**	**-1.2**
JYT				S		**Sb**	**14 11 15.3**	**-1.1**
JMM	**Marumori**	**1.10**	**338**	P		**Pb**	**14 11 01.7**	**-0.9**
JMM				*eS*		**Sb**	**14 11 16.2**	**-0.8**
JSB	**Shiboa**	**1.12**	**277**	P		**Pg**	**14 11 03.4**	**+0.3**
JSB				S		**Sn**	**14 11 18.6**	**+0.1**
JFY	**Yanaizu**	**1.40**	**294**	P		**Pb**	**14 11 07.4**	**-0.3**
JFY				S		**Sb**	**14 11 25.4**	**-0.1**
MJAR	**Matsushiro Arr**	**2.50**	**264**	Pn		**Pn**	**14 11 22.9**	**+0.7**
	2.5nm,0.3s,baz=87,slow=14,SNR=15							
MJAR					Sn	**Sb**	**14 11 55.2**	**-2.1**
	3.4nm,0.3s,baz=69,slow=16,SNR=6.3							
MAT	**Matsushiro**	**2.51**	**264**	P		**Pn**	**14 11 23.2**	**+1.0**
MAT				S		**Sb**	**14 11 57.8**	**+0.4**
ASAJ	**Asahikawa**	**7.34**	**7**	Pn		**Pn**	**14 12 28.9**	**+0.4**
	0.2nm,0.3s,baz=173,slow=17,SNR=3.2							
H11N2	**WAKE ISLAND Hy**	**28.12**	**120**	T		T	14 45 59.3	
	baz=313,slow=75,SNR=23							
H11N1	**WAKE ISLAND Hy**	**28.13**	**120**	T		T	14 45 59.9	
	baz=313,slow=75,SNR=27							
H11N3	**WAKE ISLAND Hy**	**28.14**	**120**	T		T	14 46 01.0	
	baz=313,slow=75,SNR=18							
H11S1	**WAKE ISLAND Hy**	**28.83**	**122**	T		T	14 46 54.8	
	baz=314,slow=75,SNR=18							
H11S3	**WAKE ISLAND Hy**	**28.83**	**122**	T		T	14 46 53.7	
	baz=314,slow=75,SNR=14							
H11S2	**WAKE ISLAND Hy**	**28.84**	**122**	T		T	14 46 52.6	
	baz=314,slow=75,SNR=8.6							
MKAR	**Makanchi Array**	**44.15**	**302**	P		**P**	**14 18 49.4**	**-0.6**
	0.3nm,0.6s,baz=99,slow=9.3,SNR=3.6							
KURBB	**Kurchatov Arra**	**46.05**	**308**	P		**P**	**14 19 05.2**	**+0.2**
	0.4nm,0.5s,baz=84,slow=7.3,SNR=4.3							
ILAR	**Eielson Array**	**49.70**	**32**	P		**P**	**14 19 33.9**	**+0.7**
	0.2nm,0.6s,baz=236,slow=6.4,SNR=4.6							
WRA	**Warramunga Arr**	**56.86**	**188**	P		**P**	**14 20 25.9**	**-0.3**
	0.2nm,0.6s,baz=6.0,slow=7.4,SNR=5.7							
ASAR	**Alice Springs**	**60.58**	**188**	P		**P**	**14 20 52.6**	**+0.4**
	0.2nm,0.8s,baz=14,slow=9.5,SNR=3.0							

*IDC **20** 14:11:35.5±1.5, 7°.51S×147°.56E, h0km, mb3.6/5, mb1 3.7/6, mb1mx3.5/43, mbtmp3.6/6, ML3.2/1, Error ellipse: s-maj=55.2km s-min=19.1km az=103.0*
*ISCJB **20** 14:11:39.8±1.1, 7°.47S±0°.07×147°.3E±0°.2, h33km, mb3.7/4, Error ellipse: s-maj=34.4km s-min=10.0km az=1.5*

ISC 20 14:11:40.9±1.3, 7°.5S±0°.1×147°.4E±0°.3, h35km, n7, σ1s06/8, mb3.7/4, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**1.91**	**188**	Pn		**Pn**	**14 12 10.6**	**-0.4**
	20nm,0.3s,baz=6.0,slow=10,SNR=46							
PMG					Sn	**Sn**	**14 12 35.0**	**+1.2**
	27nm,0.3s,baz=306,slow=19,SNR=14							
PMG					LR	LR	14 13 10.8	
	comp=Z,82nm,19.1s,baz=287,slow=49							
WRA	**Warramunga Arr**	**17.71**	**224**	P		**Pn**	**14 15 44.6**	**-0.4**
	0.1nm,0.3s,baz=50,slow=12,SNR=5.0							
ASAR	**Alice Springs**	**20.65**	**217**	P		**P**	**14 16 16.9**	**-0.8**
	0.7nm,0.7s,baz=48,slow=10.0,SNR=13							
MKAR	**Makanchi Array**	**78.91**	**321**	P		**P**	**14 23 41.4**	**+0.5**
	0.9nm,0.9s,baz=101,slow=6.3,SNR=7.5							
ZALV	**Zalesovo Beam**	**80.50**	**328**	P		**P**	**14 23 49.5**	**+0.2**
	0.6nm,0.5s,baz=98,slow=5.9,SNR=3.6							
KURBB	**Kurchatov Arra**	**82.67**	**323**	P		**P**	**14 24 02.4**	**+1.6**
	0.4nm,0.7s,baz=113,slow=4.2,SNR=3.9							
ILAR	**Eielson Array**	**86.69**	**23**	P		**P**	**14 24 20.3**	**-0.5**
	0.3nm,0.9s,baz=230,slow=4.4,SNR=3.2							

*IDC **20** 14:17:48.1±1.6, 3°.59N×92°.43E, h0km, mb3.8/8, mb1 3.9/9, mb1mx3.6/63, mbtmp3.7/9, ML3.8/1, MS3.4/1, Ms1 3.4/1, ms1mx2.5/61, Error ellipse: s-maj=53.3km s-min=26.2km az=55.0*
*ISCJB **20** 14:17:49.9±1.2, 3°.6N±0°.2×92°.4E±0°.2, h24km, mb3.7/8, MS3.3/1, Error ellipse: s-maj=32.3km s-min=21.8km az=152.8*

ISC 20 14:17:51.7±1.5, 3°.6N±0°.2×92°.4E±0°.3, h24km, n13, σ0s70/9, mb3.6/8, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**16.10**	**23**	Pn		**Pn**	**14 21 37.3**	**+0.7**
	0.1nm,0.3s,baz=215,slow=12,SNR=3.9							
WSAR	**Wadi Sarin**	**38.07**	**304**	LR		LR	14 38 26.9	
	comp=Z,56nm,21.6s,baz=235,slow=32							
H01W3	**Cape Leeuwin H**	**43.37**	**154**	T		T	15 12 24.5	
	baz=335							
H01W2	**Cape Leeuwin H**	**43.38**	**154**	T		T	15 12 23.9	
	baz=335							
H01W1	**Cape Leeuwin H**	**43.38**	**154**	T		T	15 12 22.2	
	baz=335							
MKAR	**Makanchi Array**	**43.93**	**350**	P		**P**	**14 25 57.0**	**+0.3**
	0.7nm,0.6s,baz=166,slow=8.0,SNR=9.1							
SONM	**Songino Array**	**45.70**	**13**	P		**P**	**14 26 09.7**	**-1.2**
	0.3nm,0.5s,baz=197,slow=4.5,SNR=2.9							
WRA	**Warramunga Arr**	**47.33**	**121**	P		**P**	**14 26 24.1**	**0.0**
	0.3nm,0.7s,baz=304,slow=8.9,SNR=3.2							
KURBB	**Kurchatov Arra**	**48.32**	**348**	P		**P**	**14 26 30.6**	**-0.6**
	0.6nm,0.6s,baz=170,slow=6.9,SNR=12							
ZALV	**Zalesovo Beam**	**50.59**	**354**	P		**P**	**14 26 49.2**	**+0.7**
	2.1nm,0.4s,baz=177,slow=6.7,SNR=12							
BVAR	**Borovoye Array**	**52.53**	**343**	P		**P**	**14 27 03.1**	**+0.1**
	0.3nm,0.5s,baz=247,slow=40,SNR=3.3							
ARCES	**ARCESS Array B**	**78.71**	**341**	P		**P**	**14 29 52.1**	**+0.3**
	3.5nm,1.0s,baz=56,slow=8.1,SNR=2.6							
GERES	**GERESS Array B**	**79.89**	**319**	P		**P**	**14 29 58.9**	**+0.2**
	0.4nm,0.6s,baz=104,slow=3.1,SNR=3.4							

*IDC **20** 14:31:10.5±2.0, 3°.88S×103°.41W, h0km, mb3.6/5, mb1 4.0/5, mb1mx3.7/36, mbtmp3.6/5, MS3.2/3, Ms1 3.3/3, ms1mx2.9/31, Error ellipse: s-maj=62.2km s-min=44.8km az=114.0*

ISC 20 14:31:11.9±2.1, 3°.9S±0°.4×103°.4W±0°.4, h10km, n18, σ0s58/9, mb3.7/5, MS3.1/3, Central East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
APG	**El Apazote**	**22.73**	**34**	P		**P**	**14 36 14.8**	**+0.2**
	5.3nm,0.9s,baz=206,slow=18,SNR=3.4							
JTS	**JuntasAbangare**	**23.14**	**52**	LR		LR	14 42 30.1	
	comp=Z,54nm,18.5s,baz=322,slow=29							
TXAR	**Lajitas Array**	**33.04**	**360**	LR		LR	14 49 17.3	
	comp=Z,54nm,21.8s,baz=0.0,slow=33							
LPAZ	**La Paz**	**36.75**	**112**	LR		LR	14 50 45.6	
	comp=Z,36nm,21.5s,baz=248,slow=32							
NVAR	**Mina Array Bea**	**44.32**	**343**	P		**P**	**14 39 23.2**	**+0.7**
	0.2nm,0.5s,baz=167,slow=8.2,SNR=3.0							
PDAR	**Pinedale Array**	**46.78**	**354**	P		**P**	**14 39 42.1**	**+0.2**
	0.4nm,0.6s,baz=148,slow=5.3,SNR=4.6							
YKA	**Yellowknife Ar**	**66.76**	**354**	P		**P**	**14 42 02.1**	**-1.1**
	0.8nm,0.9s,baz=161,slow=6.2,SNR=11							
ILAR	**Eielson Array**	**75.57**	**342**	P		**P**	**14 42 56.7**	**+0.1**
	0.7nm,0.9s,baz=151,slow=4.3,SNR=6.7							
H11N3	**WAKE ISLAND Hy**	**91.02**	**290**	T		T	16 25 23.9	
	baz=103							
H11N2	**WAKE ISLAND Hy**	**91.03**	**290**	T		T	16 25 21.3	
	baz=103							
H11N1	**WAKE ISLAND Hy**	**91.04**	**290**	T		T	16 25 22.7	
	baz=103							
H11S2	**WAKE ISLAND Hy**	**91.13**	**288**	T		T	16 25 37.2	
	baz=95							
H11S1	**WAKE ISLAND Hy**	**91.14**	**288**	T		T	16 25 36.3	
	baz=95							
H11S3	**WAKE ISLAND Hy**	**91.15**	**288**	T		T	16 25 38.3	
	baz=95							
BVAR	**Borovoye Array**	**130.76**	**5**	PKP		**PKPdf**	**14 50 24.0**	**+0.5**
	0.5nm,0.6s,baz=302,slow=3.3,SNR=5.1							
KURBB	**Kurchatov Arra**	**133.41**	**358**	PKP		**PKPdf**	**14 50 28.3**	**-0.2**
	0.3nm,0.6s,baz=352,slow=1.9,SNR=4.1							
MKAR	**Makanchi Array**	**136.98**	**354**	PKP		**PKPdf**	**14 50 35.4**	**0.0**
	0.5nm,0.8s,baz=29,slow=3.3,SNR=3.7							
CMAR	**Chiang Mai Arr**	**153.80**	**305**	PKPbc		**PKPbc**	**14 51 12.5**	**0.0**
	0.4nm,0.7s,baz=43,slow=1.1,SNR=4.1							

MAN 20 14:33:17, 10°.11N×123°.20E, h1km, mb4.7, ML3.6, MS3.5, 3C-2D, Cebu

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SNPH	**Sibulan**	**0.76**	**177**	*eP*		Pb	14 33 32.5	-0.6
SNPH				*i* S		Sb	14 33 43.8	-0.3
TBP	**Tagbilaran**	**0.77**	**123**	*eP*		Pg	14 33 32.5	+0.6
LLP	**Lapu-Lapu**	**0.78**	**75**	*iP*		Pg	14 33 32.4	+0.4
LLP				*i* S		Sb	14 33 43.3	-1.1
GUIM	**Jordan**	**0.79**	**310**	*eP*		Pg	14 33 32.5	+0.4
GUIM				*eS*		Sb	14 33 44.0	-0.8
RCP	**Roxas**	**1.51**	**343**	*eP*		Pn	14 33 44.9	-0.3
RCP				*eS*		Sg	14 34 06.8	+1.3
DCPH	**Dipolog City**	**1.53**	**174**	*eP*		Pn	14 33 44.0	-1.4
DCPH				*eS*		Sn	14 34 04.6	-1.3
MSLP	**Maasin**	**1.63**	**89**	*eP*		Pn	14 33 47.1	+0.2
MSLP				*eS*		Sg	14 34 10.4	+1.0
OCLP	**Ormoc**	**1.67**	**56**	*eP*		Pn	14 33 47.3	-0.1
OCLP				*eS*		Sg	14 34 12.8	+2.1
PLP	**Palo**	**2.04**	**59**	*eP*		Pn	14 33 51.9	-0.6
PLP				*eS*		Sn	14 34 17.8	-0.8
IPIL	**Ipil**	**2.39**	**195**	*eP*		Pn	14 33 58.2	+0.9
IPIL				*eS*		Sb	14 34 29.2	-1.7
BUKP	**Musuan**	**2.88**	**140**	*eP*		Pn	14 34 05.5	+1.3
ENPP	**El Nido**	**3.87**	**287**	*eP*		Pn	14 34 18.1	+0.4

*IDC **20** 14:38:30.6±2.5, 3°.88N×92°.09E, h0km, mb3.3/6, mb1 3.4/7, mb1mx3.3/62, mbtmp3.3/7, ML3.6/1, Error ellipse: s-maj=90.2km s-min=20.8km az=61.0*
*ISCJB **20** 14:38:33.9±1.6, 4°.0N±0°.2×92°.2E±0°.3, h33km, mb3.3/6, Error ellipse: s-maj=46.2km s-min=17.9km az=156.9*

ISC 20 14:38:36.6±2.1, 4°.0N±0°.2×92°.3E±0°.4, h35km, n7, σ1s30/7, mb3.4/6, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**15.79**	**24**	Pn		**Pn**	**14 42 16.2**	**-0.2**
	0.1nm,0.3s,baz=219,slow=13,SNR=4.4							
MKAR	**Makanchi Array**	**43.51**	**350**	P		**P**	**14 46 34.9**	**-1.8**
	0.3nm,0.4s,baz=178,slow=8.2,SNR=2.6							
SONM	**Songino Array**	**45.34**	**13**	P		**P**	**14 46 52.3**	**+1.0**
	0.3nm,0.4s,baz=197,slow=6.6,SNR=5.4							
WRA	**Warramunga Arr**	**47.67**	**122**	P		**P**	**14 47 09.7**	**-0.2**
	0.8nm,1.2s,baz=298,slow=8.8,SNR=3.1							
KURBB	**Kurchatov Arra**	**47.90**	**348**	P		**P**	**14 47 12.5**	**+1.3**
	0.2nm,0.7s,baz=172,slow=7.4,SNR=3.0							
ASAR	**Alice Springs**	**48.99**	**126**	P		**P**	**14 47 20.2**	**+0.1**
	0.2nm,0.9s,baz=304,slow=6.6,SNR=3.0							
ZALV	**Zalesovo Beam**	**50.18**	**354**	P		**P**	**14 47 27.7**	**-0.9**
	0.3nm,0.5s,baz=172,slow=7.1,SNR=2.3							

*ECX **20** 14:46:08.6±0.6, 32°.23N×115°.28W, h7km, MD2.6, ML2.7*

ISC 20 14:46:05.1±1.4, 32°.25N±0°.03×115°.23W±0°.03, h4km±12km, n28, σ0s51/39, 3C-11D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
EMSC	**East Mesa**	**0.53**	**23**	*iP*		**Pn**	**14 46 18.9**	**-0.6**
SGL	**Mount Signal**	**0.58**	**314**	*iP*		**Pb**	**14 46 18.1**	**+0.3**
COA	**Coachella**	**0.62**	**8**	*iP*		**Pn**	**14 46 20.2**	**-0.5**
YMD	**Yuma Desert**	**0.66**	**62**	*iP*		**Pn**	**14 46 20.7**	**-0.5**
WESC	**Westside Schoo**	**0.66**	**320**	*eP*		**Pb**	**14 46 20.1**	**+0.8**
YUH	**Yuha Desert**	**0.71**	**304**	*iP*		**Pb**	**14 46 20.1**	**+0.1**
ECBX	**El Chinero**	**0.79**	**169**	*eP*		**Pb**	**14 46 21.7**	**+0.3**
ECBX				*eS*		**Sb**	**14 46 32.3**	**-0.1**
RMX	**La Rumorosa**	**0.80**	**296**	*eP*		**Pg**	**14 46 20.8**	**+0.3**
RMX				*eP*		**Pb**	**14 46 21.3**	**-0.4**
RMX				*eS*		**Sg**	**14 46 30.3**	**-0.5**
IKP	**In-Ko-Pah, Jac**	**0.84**	**299**	P		**Pb**	**14 46 22.5**	**+0.1**
	baz=125,SNR=38							
IKP				S		**Sb**	**14 46 33.4**	**-0.7**
	baz=125							
IKP	**In-Ko-Pah, Jac**	**0.84**	**299**	*eP*		**Pb**	**14 46 22.6**	**+0.1**
SWSC	**Sam W. Stewart**	**0.84**	**325**	P		**Pb**	**14 46 22.3**	**0.0**
	baz=151,SNR=17							
GLA	**Glamis**	**0.87**	**23**	P		**Pb**	**14 46 23.2**	**+0.4**
	baz=204,SNR=14							
GLA				Sn		**Sb**	**14 46 36.5**	**+1.6**
	baz=204							
CRR	**Carrizo Plain**	**0.89**	**316**	*i* P		**Pb**	**14 46 23.8**	**+0.6**
ZAX	**El Zacaton**	**1.15**	**231**	IAML			14 46 44.8	
	comp=N,276nm,0.7s							
ZAX					*e*		14 46 44.8	
MONP2	**Monument Peak**	**1.19**	**303**	P		**Pn**	**14 46 28.9**	**+0.1**
	baz=127,SNR=26							
MONP2				S		**Sb**	**14 46 44.3**	**0.0**
	baz=127							
CBX	**Cerro Bola**	**1.22**	**273**	*eP*		**Pn**	**14 46 29.4**	**+0.3**
CBX				*eS*		**Sn**	**14 46 45.3**	**-0.7**
CBX				IAML			14 46 50.1	
	comp=E,131nm,0.6s							
SPIG	**San Pedro Mart**	**1.22**	**190**	*eP*		**Pb**	**14 46 29.0**	**+0.1**
SPX	**San Pedro Mart**	**1.22**	**189**	*eP*		**Pb**	**14 46 29.1**	**+0.1**
TJIG	**Tijuana**	**1.23**	**279**	*eP*		**Pn**	**14 46 29.4**	**+0.2**
BAR	**Barrett**	**1.29**	**290**	*eP*		**Pn**	**14 46 30.4**	**+0.4**
BAR				*eS*		**Sg**	**14 46 46.6**	**0.0**
ECNX	**Esteban Cantu**	**1.30**	**243**	*eP*		**Pn**	**14 46 30.7**	**+0.5**
ECNX				*eS*		**Sg**	**14 46 46.6**	**-0.4**
BC3	**Big Chuckawall**	**1.42**	**352**	P		**Pn**	**14 46 31.2**	**-0.6**
	baz=175							
SDRC	**San Diego Road**	**1.52**	**289**	*eP*		**Pg**	**14 46 34.5**	**+0.1**
Y12C	**Blythe**	**1.61**	**21**	P		**Pn**	**14 46 33.9**	**-0.5**
	baz=203							
Y12C					Sb	**Sb**	**14 46 56.5**	**+0.4**
	baz=203							
109C	**Camp Elliot, M**	**1.71**	**292**	Pb		**Pg**	**14 46 37.7**	**-0.2**
	baz=115							
109C				S		**Sn**	**14 46 58.3**	**+0.3**
	baz=115							
PFO	**Pinyon Flats O**	**1.71**	**323**	P		**Pn**	**14 46 35.0**	**-0.8**
	baz=146							
PFO					Sb	**Sg**	**14 47 00.1**	**+0.1**
	baz=146							
214A	**Organ Pipe Nat**	**2.07**	**97**	P		**Pn**	**14 46 40.5**	**-0.2**
	baz=276							
MURC	**Murrieta**	**2.13**	**310**	Sb		**Sg**	**14 47 13.2**	**-0.4**
	baz=131							

MAN 20 14:49:33, 14°.77N×120°.38E, h22km, mb3.7, ML2.5, MS2.0, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**0.86**	**141**	*eP*		Pn	14 49 57.6	+7.8
LUBP	**Lubang**	**1.04**	**187**	*eP*		Pn	14 49 50.1	-2.2
LUBP				*eS*		Sn	14 50 07.7	+1.5
SCZP	**Santa Cruz**	**1.10**	**336**	*eP*		Pb	14 49 53.2	-0.1
SCZP				*eS*		Sn	14 50 08.2	+0.7
BOLP	**Bolinao**	**1.66**	**344**	*eP*		Pn	14 50 01.9	+1.0
BOLP				*eS*		Sn	14 50 22.2	+0.7

*ISK **20** 14:51:11.9, 38°.96N×43°.79E, h28km, ML2.3/3*
*CSEM **20** 14:51:13.9±0.3, 38°.99N×43°.69E, h5km, ML2.4, Error ellipse: s-maj=6.6km s-min=4.6km az=97.0*
*DDA **20** 14:51:13.9, 38°.99N×43°.69E, h10km, Ml2.4*
*ATA **20** 14:51:13.6±1.1, 39°.00N×43°.64E, h20km±34km, ML2.8, MW2.8*
*ISCJB **20** 14:51:14.3±0.7, 38°.99N±0°.03×43°.70E±0°.05, h9km±5km, Error ellipse: s-maj=7.1km s-min=4.1km az=15.9*

ISC 20 14:51:14.1±1.0, 38°.99N±0°.02×43°.68E±0°.03, h8km±6km, n21, σ0s69/42, Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
VMUR	**Van-Muradiye**	**0.09**	**272**	*i* P		**Pg**	**14 51 16.2**	**-0.3**
VMUR				*i* S		**Sg**	**14 51 18.7**	**+0.5**
VMUR	**Van-Muradiye**	**0.09**	**272**	P		**Pg**	**14 51 16.2**	**-0.3**
VMUR				S		**Sg**	**14 51 18.7**	**+0.5**
CLDR	**Caldiran**	**0.24**	**49**	PG		**Pg**	**14 51 18.4**	**-0.7**
CLDR				SG		**Sg**	**14 51 23.1**	**+0.6**
CLDR	**Caldiran**	**0.24**	**49**	*i* P		**Pg**	**14 51 18.6**	**-0.5**
CLDR				*i* S		**Sg**	**14 51 23.0**	**+0.6**
CLDR	**Caldiran**	**0.24**	**49**	*e*Pg		**Pg**	**14 51 18.4**	**-0.7**
CLDR				S		**Sg**	**14 51 23.0**	**+0.6**
VANB	**Van**	**0.45**	**210**	PG		**Pb**	**14 51 23.7**	**-0.7**
VANB				SG		**Sb**	**14 51 32.3**	**+1.0**
VANB	**Van**	**0.45**	**210**	*e*Pg		**Pb**	**14 51 23.7**	**-0.7**
VANB				*e*Sg		**Sb**	**14 51 32.3**	**+1.0**
TVAN	**Van**	**0.51**	**205**	*i* P		**Pg**	**14 51 24.1**	**+0.2**
TVAN				*i* S		**Sb**	**14 51 32.1**	**-0.8**
TVAN	**Van**	**0.51**	**205**	P		**Pg**	**14 51 24.1**	**+0.2**
TVAN				S		**Sb**	**14 51 32.1**	**-0.8**
DYDN	**Diyadin**	**0.56**	**1**	*e*P		**Pg**	**14 51 25.4**	**+0.5**
DYDN				*e*S		**Sb**	**14 51 33.9**	**-0.6**
DYDN				IAML			14 51 35.2	
	comp=Z,75nm,0.2s							
DYDN	**Diyadin**	**0.56**	**1**	*i* P		**Pg**	**14 51 25.4**	**+0.5**
DYDN				*i* S		**Sb**	**14 51 34.3**	**-0.1**
DYDN	**Diyadin**	**0.56**	**1**	P		**Pg**	**14 51 25.4**	**+0.5**
DYDN				S		**Sb**	**14 51 34.3**	**-0.1**
TUTA	**Tutak**	**0.79**	**302**	*e*P		**Pg**	**14 51 29.0**	**-0.4**
TUTA				*e*S		**Sg**	**14 51 40.4**	**+0.7**
TUTA				IAML			14 51 42.2	
	comp=Z,67nm,0.3s							
TUTA	**Tutak**	**0.79**	**302**	*i* P		**Pg**	**14 51 29.0**	**-0.4**
TUTA				*i* S		**Sg**	**14 51 40.5**	**+0.7**
TUTA	**Tutak**	**0.79**	**302**	P		**Pg**	**14 51 29.0**	**-0.4**
TUTA				S		**Sg**	**14 51 40.5**	**+0.7**
AGRB	**Hanur-Agry**	**0.80**	**318**	PG		**Pg**	**14 51 28.7**	**-0.8**
AGRB				SG		**Sb**	**14 51 40.9**	**-0.4**
AGRB	**Hanur-Agry**	**0.80**	**318**	*e*Pg		**Pg**	**14 51 28.7**	**-0.8**
AGRB				*e*Sg		**Sb**	**14 51 40.9**	**-0.4**
GEVA	**Gevas**	**0.83**	**216**	*e*P		**Pg**	**14 51 28.9**	**-1.3**
GEVA				*e*S		**Sb**	**14 51 43.0**	**+0.8**
GEVA				IAML			14 51 44.2	
	comp=Z,19nm,0.4s							
EATA	**Eleskirt**	**1.27**	**314**	*e*P		**Pg**	**14 51 37.8**	**-0.7**
EATA				*e*S		**Sn**	**14 51 56.4**	**+0.5**
EATA				IAML			14 51 56.9	
	comp=Z,2.2nm,0.3s							
EATA	**Eleskirt**	**1.27**	**314**	*i* P		**Pg**	**14 51 37.6**	**-0.9**

	610nm,0.3s							
TLAR				Sgmax			14 56 13.1	
	490nm,0.3s							
MGD	**Magadan 1**	**4.48**	**245**	*e*P		**Pn**	**14 55 37.2**	**+1.1**
MGD				Pmax			14 55 37.9	
	20nm,0.3s							
MGD				Pmax			14 55 37.9	
	60nm,0.3s							
MGD				*e*Pg		**Pb**	**14 55 48.9**	**+2.0**
MGD				*e*S		**Sn**	**14 56 27.1**	**-1.2**
MGD				*e*Sg		**Sg**	**14 56 49.3**	**-2.7**
MGD				Sgmax			14 56 52.2	
	270nm,0.4s							
MGD				Sgmax			14 56 52.2	
	50nm,0.3s							
MA2	**Magadan**	**4.74**	**240**	Pn		**Pn**	**14 55 40.1**	**+0.5**
	14nm,0.3s,baz=56,slow=12,SNR=151							
MA2				Pg		**Pb**	**14 55 54.9**	**+3.6**
	7.5nm,0.3s,baz=43,slow=17,SNR=10							
MA2				Lg		Lg	14 56 52.4	
	6.5nm,0.3s,baz=336,slow=19,SNR=3.7							
MA2				LR		LR	14 57 43.1	
	comp=Z,99nm,18.7s,baz=70,slow=41							
MA2	**Magadan**	**4.74**	**240**	*i*P		**Pn**	**14 55 40.2**	**+0.5**
MA2				Pmax			14 55 40.5	
	40nm,0.3s							
MA2				*e*Sg		**Sb**	**14 56 52.5**	**+4.2**
MA2				Sgmax			14 57 03.3	
	150nm,0.6s							
MA2				Sgmax			14 57 03.3	
	90nm,0.6s							
SUUS	**Susuman**	**4.97**	**281**	*e*P		**Pn**	**14 55 43.8**	**+0.8**
SUUS				Pmax			14 55 44.5	
	10.0nm,0.3s							
SUUS				Pmax			14 55 44.5	
	20nm,0.3s							
SUUS				Pmax			14 55 44.5	
	20nm,0.3s							
SUUS				*e*Pg		**Pb**	**14 55 59.7**	**+4.3**
SUUS				*e*S		**Sn**	**14 56 41.1**	**+0.6**
SUUS				*e*Sg		**Sg**	**14 57 03.8**	**-4.0**
SUUS				Sgmax			14 57 06.1	
	180nm,0.4s							
OCHR	**Omchak**	**5.20**	**269**	*e*P		**Pn**	**14 55 47.0**	**+0.9**
OCHR				Pmax			14 55 47.6	
	10.0nm,0.2s							
OCHR				*e*S		**Sn**	**14 56 45.3**	**-0.8**
OCHR				*e*Sg		**Sg**	**14 57 10.8**	**-4.3**
OCHR				Sgmax			14 57 16.3	
	730nm,0.3s							
BILL	**Bilibino**	**6.64**	**25**	*e*P		**Pn**	**14 56 09.4**	**+3.6**
BILL				pmax		pmax		
	comp=Z,1.0nm,0.3s							
OKHR	**Okhotsk**	**8.13**	**256**	*e*P		**Pn**	**14 56 27.8**	**+1.6**
OKHR				*e*Sg		**Sg**	**14 58 48.3**	**-0.6**
OKHR				Sgmax			14 58 56.7	
	comp=Z,170nm,0.9s							
PETK	**Petropavlovsk-**	**9.14**	**184**	Pn		**Pn**	**14 56 40.6**	**+0.5**
	baz=333,slow=14,SNR=2.8							
YAK	**Yakutsk**	**13.59**	**282**	Lg		Lg	15 01 36.4	
	comp=Z,0.0nm,0.3s,baz=75,slow=20,SNR=2.7							
YAK	**Yakutsk**	**13.59**	**282**	*e*P		**P**	**14 57 46.1**	**-3.7**
YAK				pmax		pmax		
	comp=Z,4.0nm,0.9s							
YAK				pmax		pmax		
	comp=Z,11nm,0.8s							
YAK				MLR		MLR		
	comp=Z,88nm,15.0s							
YAK				MLR		MLR		
	comp=E,75nm,16.0s							
TIXI	**Tiksi**	**14.88**	**322**	Lg		Lg	15 02 16.3	
	baz=82,slow=19,SNR=1.8							
TIXI	**Tiksi**	**14.88**	**322**	*e*P		**Pn**	**14 57 59.5**	**+1.2**
TIXI				pmax		pmax		
	comp=Z,1.0nm,0.5s							
ZEA	**Zeya**	**18.59**	**257**	*e*P		**Pn**	**14 58 46.7**	**+1.2**
KLR	**Kul'dur**	**19.83**	**242**	P		**P**	**14 58 59.1**	**+0.2**
	comp=Z,0.0nm,0.3s,baz=33,slow=8.0,SNR=4.6							
ASAJ	**Asahikawa**	**20.45**	**215**	P		**P**	**14 59 04.3**	**-1.4**
	comp=Z,2.0nm,0.8s,baz=63,slow=18,SNR=2.3							
COLA	**College**	**23.32**	**60**	*e*P		**P**	**14 59 37.9**	**+1.9**
COLA				pmax		pmax		
	comp=Z,4.0nm,1.0s							
ILAR	**Eielson Array**	**23.75**	**60**	P		**P**	**14 59 40.5**	**+0.3**
	comp=Z,1.4nm,0.8s,baz=281,slow=7.8,SNR=20							
KSRS	**Korea Array**	**31.24**	**232**	LR		LR	15 13 27.5	
	comp=Z,21nm,18.0s,baz=230,slow=36							
ULN	**Ulaanbaatar**	**31.96**	**268**	*e*P		**P**	**15 00 56.0**	**+1.8**
ULN				pmax		pmax		
	comp=Z,1.0nm,0.5s							
SONM	**Songino Array**	**32.29**	**268**	P		**P**	**15 00 55.3**	**-1.7**
	comp=Z,0.5nm,0.6s,baz=31,slow=6.9,SNR=5.4							
SONM	**Songino Array**	**32.29**	**268**	*e*P		**P**	**15 00 58.0**	**+0.9**
SONM				pmax		pmax		
	comp=Z,1.0nm,0.6s							
YKA	**Yellowknife Ar**	**37.31**	**50**	P		**P**	**15 01 39.7**	**-0.3**
	comp=Z,0.7nm,0.6s,baz=306,slow=8.1,SNR=8.5							
ZALV	**Zalesovo Beam**	**37.92**	**292**	P		**P**	**15 01 45.5**	**+0.2**
	comp=Z,0.8nm,0.6s,baz=30,slow=9.1,SNR=4.0							
DGZ	**Jazzator, Alta**	**39.74**	**286**	*e*P		**P**	**15 02 02.2**	**+1.4**
DGZ				pmax		pmax		
	comp=Z,1.0nm,0.7s							
KURK	**Kurchatov**	**42.90**	**293**	P		**P**	**15 02 27.9**	**+1.4**
KURK				pmax		pmax		
	comp=Z,2.0nm,0.6s							
KURBB	**Kurchatov Arra**	**43.01**	**293**	P		**P**	**15 02 27.9**	**+0.6**
	comp=Z,2.4nm,0.6s,baz=43,slow=7.9,SNR=17							
MKAR	**Makanchi Array**	**44.21**	**287**	PcP		**PcP**	**15 04 19.0**	**-2.6**
	comp=Z,0.2nm,0.5s,baz=64,slow=6.6,SNR=2.9							
ARCES	**ARCESS Array B**	**44.46**	**339**	P		**P**	**15 02 39.1**	**+0.3**
	comp=Z,2.1nm,0.8s,baz=31,slow=11,SNR=2.9							
BVAR	**Borovoye Array**	**44.63**	**301**	P		**P**	**15 02 40.1**	**-0.3**
	comp=Z,1.3nm,0.5s,baz=48,slow=7.1,SNR=9.6							
BRVK	**Borovoye**	**44.64**	**301**	*e*P		**P**	**15 02 40.8**	**+0.3**
BRVK				pmax		pmax		
	comp=Z,2.0nm,0.9s							
GUMO	**Guam**	**49.56**	**198**	P		**P**	**15 03 17.6**	**-1.6**
	comp=Z,30nm,0.6s,baz=30,slow=13,SNR=3.7							
AAK	**Ala-Archa**	**50.92**	**289**	*e*P		**P**	**15 03 30.5**	**+1.0**
AAK				pmax		pmax		
	comp=Z,9.0nm,3.0s							
PDAR	**Pinedale Array**	**53.99**	**65**	P		**P**	**15 03 51.9**	**-0.5**
	comp=Z,1.1nm,0.7s,baz=338,slow=3.2,SNR=4.1							
WRA	**Warramunga Arr**	**84.15**	**203**	P		**P**	**15 06 58.7**	**-0.5**
	comp=Z,1.2nm,0.9s,baz=16,slow=5.5,SNR=8.4							
WRA	**Warramunga Arr**	**84.15**	**203**	*e*P		**P**	**15 06 58.3**	**-0.9**
WRA				pmax		pmax		
	comp=Z,1.0nm,0.9s							
ASAR	**Alice Springs**	**87.87**	**203**	P		**P**	**15 07 16.9**	**-0.6**
	comp=Z,0.3nm,0.6s,baz=10,slow=4.6,SNR=7.1							
ASAR	**Alice Springs**	**87.87**	**203**	*e*P		**P**	**15 07 15.4**	**-2.1**

*ISK **20** 15:08:19.8, 40.01N×32.39E, h13km, ML2.1/4*
*CSEM **20** 15:08:20.6±0.2, 39.96N×32.37E, h8km, ML2.1, Error ellipse: s-maj=5.9km s-min=3.9km az=9.0*
*DDA **20** 15:08:20.2, 39.88N×32.38E, h7km, Ml2.5*
ISC 20 15:08:20.8±1.0, 39.95N±0.03×32.39E±0.03, h11km±9km, n20, σ1§21/34, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LOD	**Lodumlu**	**0.29**	**102**	PG	**Pg**	**15 08 26.5**	**-0.3**
LOD				SG	**Sg**	**15 08 31.4**	**+0.6**
LOD	**Lodumlu**	**0.29**	**102**	*e*Pg	**Pg**	**15 08 26.5**	**-0.3**
LOD				*e*Sg	**Sg**	**15 08 31.4**	**+0.6**
ANTO	**Ankara**	**0.32**	**104**	PG	**Pg**	**15 08 26.9**	**-0.4**
ANTO				SG	**Sg**	**15 08 32.4**	**+0.8**
ANTO	**Ankara**	**0.32**	**104**	*e*Pg	**Pg**	**15 08 26.9**	**-0.4**
ANTO				*e*Sg	**Sg**	**15 08 32.4**	**+0.8**
CMDR	**Camlidere-ANKA**	**0.55**	**7**	*i*P	**Pb**	**15 08 31.7**	**-0.8**
CMDR				*i*S	**Sb**	**15 08 41.0**	**+0.6**
CMDR	**Camlidere-ANKA**	**0.55**	**7**	P	**Pb**	**15 08 31.7**	**-0.8**
AUMIH	**MIHALICIK**	**0.70**	**264**	*i*P	**Pg**	**15 08 33.6**	**-0.8**
AUMIH	**MIHALICIK**	**0.70**	**264**	P	**Pg**	**15 08 33.6**	**-0.8**
AFSR	**Af˙ar-Bala (A**	**0.73**	**134**	PG	**Pg**	**15 08 34.9**	**0.0**
AFSR				SG	**Sb**	**15 08 46.1**	**+0.6**
AFSR	**Af˙ar-Bala (A**	**0.73**	**134**	*e*Pg	**Pg**	**15 08 34.9**	**0.0**
AFSR				*e*Sg	**Sb**	**15 08 46.1**	**+0.6**
SVRH	**Sivrihisar-ESK**	**0.84**	**233**	PG	**Pb**	**15 08 36.9**	**-0.5**
SVRH				SG	**Sn**	**15 08 49.6**	**-1.4**
SVRH	**Sivrihisar-ESK**	**0.84**	**233**	*e*Pg	**Pb**	**15 08 36.9**	**-0.5**
SVRH				*e*Sg	**Sn**	**15 08 49.6**	**-1.4**
BCAM	**Yenicaga**	**0.90**	**344**	*i*P	**Pn**	**15 08 38.7**	**-0.8**
BCAM				*i*S	**Sn**	**15 08 55.2**	**+2.7**
BCAM	**Yenicaga**	**0.90**	**344**	P	**Pn**	**15 08 38.7**	**-0.8**
MDUB	**Mudurnu**	**1.05**	**300**	PG	**Pg**	**15 08 39.9**	**-1.2**
MDUB	**Mudurnu**	**1.05**	**300**	*e*Pg	**Pg**	**15 08 39.9**	**-1.2**
ESKT	**Eskisehir**	**1.26**	**251**	*i*P	**Pn**	**15 08 43.5**	**-1.0**
ESKT				*i*S	**Sn**	**15 09 03.0**	**+1.5**
SEYT	**Eskypehyr**	**1.26**	**251**	P	**Pn**	**15 08 43.5**	**-1.0**
SEYT				S	**Sn**	**15 09 03.0**	**+1.5**
BORA	**Eskisehir**	**1.49**	**268**	*i*P	**Pb**	**15 08 48.2**	**-0.4**
BORA				*i*S	**Sg**	**15 09 11.7**	**+2.8**
BORA	**Eskisehir**	**1.49**	**268**	P	**Pb**	**15 08 48.2**	**-0.4**
BORA				S	**Sg**	**15 09 11.6**	**+2.8**

*TEH **20** 15:09:01.9, 32.65N×46.67E, h28km, ML3.7*
*ISN **20** 15:09:02.1±0.7, 32.61N×46.66E, h27km±3km, ML3.7*
*CSEM **20** 15:09:03.0±0.3, 32.56N×46.72E, h20km, ML3.7, Error ellipse: s-maj=6.9km s-min=6.7km az=41.0*
*IDC **20** 15:09:05.1±6.4, 33.32N×47.06E, h0km, mb3.4/6, mb1 3.5/6, mb1mx3.3/58, mbtmp3.4/6, MS3.4/1, Ms1 3.6/1, ms1mx2.2/42, Error ellipse: s-maj=128.8km s-min=32.5km az=10.0*
ISC 20 15:09:00.4±3.7, 32.59N±0.05×46.72E±0.05, h4km±25km, n21, σ1§08/27, mb3.3/6, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IKFM	**Kafar-mosalman**	**1.32**	**45**	*e*Pg	**Pn**	**15 09 25.5**	**-0.2**
IKFM				*e*AMB	AMB	15 09 51.2	
	comp=Z,99nm,0.3s						
IKFM	**Kafar-mosalman**	**1.32**	**45**	*e*Pg	**Pn**	**15 09 25.5**	**-0.2**
NSR	**Nassriya**	**1.66**	**198**	*e*Pn	**Pn**	**15 09 31.0**	**+0.7**
	SNR=5.0						
NSR				*e*Sn	**Sn**	**15 09 52.0**	**0.0**
	SNR=5.0						
IKOM	**Komasi**	**1.71**	**23**	*e*Pg	**Pb**	**15 09 32.7**	**+0.1**
IKOM				*e*Sg	**Sb**	**15 09 55.6**	**+1.1**
IKOM				*e*AMB	AMB	15 10 02.4	
	comp=Z,11μm,0.3s						
IKOM	**Komasi**	**1.71**	**23**	*e*Pg	**Pb**	**15 09 32.7**	**+0.1**
IKOM				*e*Sg	**Sb**	**15 09 55.6**	**+1.1**
IGHG	**Ghaleghazi**	**1.74**	**356**	*e*Pg	**Pb**	**15 09 33.3**	**+0.2**
IGHG				*e*AMB	AMB	15 10 01.9	
	comp=Z,10μm,0.4s						
IGHG	**Ghaleghazi**	**1.74**	**356**	*e*Pg	**Pb**	**15 09 33.3**	**+0.2**
SHGR	**Shooshtar-Gavs**	**1.83**	**105**	*e*Pg	**Pn**	**15 09 32.8**	**+0.2**
IVIS	**Veis**	**1.93**	**3**	*e*Pg	**Pn**	**15 09 35.4**	**+1.2**
IVIS				*e*Sg	**Sb**	**15 10 00.1**	**-0.7**
IVIS				*e*AMB	AMB	15 10 11.9	
	comp=Z,4μm,0.3s						
IVIS	**Veis**	**1.93**	**3**	*e*Pg	**Pn**	**15 09 35.4**	**+1.2**
IVIS				*e*Sg	**Sb**	**15 10 00.1**	**-0.7**
BHD	**Baghdad**	**2.08**	**290**	*e*Pn	**Pn**	**15 09 36.0**	**-0.1**
	SNR=5.0						
BHD				*e*Sn	**Sn**	**15 10 01.5**	**-1.0**
	SNR=5.0						
SNGE	**Sanandaj**	**2.55**	**12**	*e*Pn	**Pb**	**15 09 45.6**	**-1.3**
KHMZ	**Khomeyn**	**2.95**	**66**	*e*Pn	**Pn**	**15 09 49.2**	**+0.9**
KHMZ				*e*Sg	**Sb**	**15 10 29.4**	**-0.8**
ASAO	**Ashtian**	**3.38**	**54**	*e*Pn	**Pn**	**15 09 55.3**	**+1.1**
AKASG	**Malin Array Be**	**22.22**	**330**	P	**P**	**15 13 57.0**	**-1.0**
	comp=Z,0.8nm,0.8s,baz=137,slow=10,SNR=2.5						
BVAR	**Borovoye Array**	**26.59**	**33**	P	**P**	**15 14 36.6**	**-3.0**
	comp=Z,0.3nm,0.5s,baz=19,slow=27,SNR=3.0						
KURBB	**Kurchatov Arra**	**29.52**	**43**	P	**P**	**15 15 05.6**	**-0.1**
	comp=Z,0.2nm,0.6s,baz=240,slow=9.4,SNR=2.5						
MKAR	**Makanchi Array**	**30.54**	**52**	P	**P**	**15 15 14.1**	**-0.8**
	comp=Z,0.3nm,0.6s,baz=246,slow=8.2,SNR=2.8						
FINES	**FINESS Array B**	**31.82**	**341**	P	**P**	**15 15 27.5**	**+1.6**
	comp=Z,1.1nm,0.7s,baz=139,slow=9.3,SNR=4.8						
CMAR	**Chiang Mai Arr**	**48.73**	**94**	LR	LR	15 43 12.1	
	comp=Z,37nm,18.9s,baz=170,slow=42						
YKA	**Yellowknife Ar**	**84.06**	**351**	P	**P**	**15 21 33.3**	**+1.3**
	comp=Z,0.1nm,0.5s,baz=15,slow=6.7,SNR=3.9						

*IDC **20** 15:13:37.3±2.7, 2.67N×93.10E, h0km, mb3.7/5, mb1 3.7/6, mb1mx3.4/63, mbtmp3.7/6, ML3.7/1, Error ellipse: s-maj=90.6km s-min=27.8km az=59.0*
*ISCJB **20** 15:13:38.9±1.9, 2.8N±0.2×93.3E±0.3, h21km, mb3.8/5, Error ellipse: s-maj=51.5km s-min=23.8km az=155.4*
ISC 20 15:13:41.2±2.4, 2.8N±0.2×93.3E±0.4, h21km, n6, σ1§26/6, mb3.8/5, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**16.57**	**19**	Pn	**Pn**	**15 17 31.7**	**-0.7**
	0.1nm,0.3s,baz=204,slow=13,SNR=3.6						
MKAR	**Makanchi Array**	**44.90**	**349**	P	**P**	**15 21 54.1**	**-0.2**
	0.8nm,0.6s,baz=167,slow=8.7,SNR=11						
WRA	**Warramunga Arr**	**46.19**	**121**	P	**P**	**15 22 04.8**	**-0.2**
	0.2nm,0.5s,baz=301,slow=8.5,SNR=6.1						
SONM	**Songino Array**	**46.32**	**12**	P	**P**	**15 22 07.3**	**+1.6**
	0.4nm,0.4s,baz=201,slow=7.7,SNR=3.0						
KURBB	**Kurchatov Arra**	**49.30**	**348**	P	**P**	**15 22 28.1**	**-0.5**
	0.6nm,0.3s,baz=164,slow=7.2,SNR=3.3						
ZALV	**Zalesovo Beam**	**51.50**	**354**	P	**P**	**15 22 44.0**	**-1.1**
	0.8nm,0.4s,baz=184,slow=7.5,SNR=4.7						

*ISCJB **20** 15:18:20.7±0.7, 73.89N±0.04×9.1E±0.3, h10km, mb3.3/6, MS3.3/2, Error ellipse: s-maj=12.8km s-min=5.9km az=172.7*
*IDC **20** 15:18:21.0±0.9, 73.77N×8.48E, h0km, mb3.4/6, mb1 3.7/10, mb1mx3.4/68, mbtmp3.6/10, ML2.5/2, MS3.1/6, Ms1 3.1/6, ms1mx2.7/55, Error ellipse: s-maj=20.3km s-min=12.7km az=65.0*
*NAO **20** 15:18:23.7±3.5, 73.87N×9.71E, ML3.1*
*IEPN **20** 15:18:23.0, 73.83N×8.88E, h15km*
*BER **20** 15:18:25.5±3.9, 73.87N×9.28E, h9km±33km, ML2.1, ML3.1(NAO)*
ISC 20 15:18:22.6±0.8, 73.90N±0.05×9.55E±0.09, h10km, n32, σ2§13/40, mb3.2/6, Greenland Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BJO	**Bjornoya**	**2.71**	**72**	*e*P	**Pn**	**15 19 07.9**	**+1.8**
BJO				IAML		15 19 38.9	
	comp=Z,12nm,0.4s						
HSPB	**Hornsund (broa**	**3.46**	**23**	*e*P	**Pn**	**15 19 17.4**	**+1.0**
HSPB				Pn	**Pn**	**15 19 17.5**	**+1.0**
HSP	**Hornsund**	**3.47**	**23**	Pn	**Pn**	**15 19 17.5**	**+0.9**
SPA0	**Spitsbergen Ar**	**4.61**	**18**	Pn	**Pn**	**15 19 33.6**	**+1.5**
	baz=213,slow=14						
SPA0				Sn	**Sn**	**15 20 27.3**	**+1.7**
	baz=221,slow=18						
SPA0	**Spitsbergen Ar**	**4.61**	**18**	Pn	**Pn**	**15 19 33.6**	**+1.5**
	baz=213,slow=14						
SPA0				Sn	**Sn**	**15 20 27.3**	**+1.7**
	baz=221,slow=18						
SPA0	**Spitsbergen Ar**	**4.61**	**18**	P	**Pn**	**15 19 33.9**	**+1.7**
SPA0				*i*S	**Sn**	**15 20 25.8**	**+0.2**
SPITS	**Spitsbergen Ar**	**4.61**	**18**	Pn	**Pn**	**15 19 33.5**	**+1.3**
	baz=201,slow=11,SNR=619						
SPITS				Sn	**Sn**	**15 20 24.8**	**-0.8**
	baz=198,slow=22,SNR=1.4						
SPITS				LR	LR	15 21 16.9	
	comp=Z,136nm,19.3s,baz=210,slow=36						
HOPEN	**Hopen**	**4.74**	**49**	*e*P	**Pn**	**15 19 35.9**	**+1.9**
KBS	**Kingsbay**	**5.09**	**5**	Pn	**Pn**	**15 19 38.7**	**-0.1**
KBS	**Kingsbay**	**5.09**	**5**	*e*P	**Pn**	**15 19 38.8**	**+0.1**
KBS	**Kingsbay**	**5.09**	**5**	*i*P	**Pn**	**15 19 38.4**	**-0.3**
KBS				*i*S	**Sn**	**15 20 35.2**	**-2.2**
TRO	**Tromso**	**5.19**	**141**	*e*P	**Pn**	**15 19 43.8**	**+3.6**
TRO				*e*S	**Sn**	**15 20 36.5**	**-3.5**
TRO				IAML		15 20 41.5	
	comp=Z,8.0nm,0.7s						
HAMF	**Hammerfest**	**5.41**	**120**	*e*S	**Sn**	**15 20 41.0**	**-4.3**
HAMF				IAML		15 20 42.9	
	comp=Z,6.7nm,0.7s						
KIF	**Kilpisjarvi**	**6.08**	**138**	*e*P	**Pn**	**15 19 54.0**	**+1.7**
KIF				*e*S	**Sn**	**15 20 58.9**	**-2.8**
JMIC	**Jan Mayen**	**6.18**	**251**	Pn	**Pn**	15 19 47.2	-6.6
	comp=Z,2.5nm,0.3s,baz=134,slow=4.3,SNR=5.6						
KTK1	**Kautokeino**	**6.55**	**132**	*e*P	**Pn**	**15 20 02.1**	**+3.2**
KTK1				*e*S	**Sn**	**15 21 12.0**	**-1.5**
ARA0	**ARCESS Array S**	**6.64**	**123**	Pn	**Pn**	**15 20 02.0**	**+1.9**
	baz=316,slow=12						
ARA0				Sn	**Sn**	**15 21 13.7**	**-2.1**
	baz=316,slow=22						
ARA0	**ARCESS Array S**	**6.64**	**123**	Pn	**Pn**	**15 20 02.0**	**+1.9**
	baz=316,slow=12						
ARA0				Sn	**Sn**	**15 21 13.7**	**-2.1**
	baz=316,slow=22						
ARCES	**ARCESS Array B**	**6.64**	**123**	Pn	**Pn**	**15 20 00.7**	**+0.6**
	comp=Z,0.2nm,0.3s,baz=319,slow=12,SNR=26						
ARCES				Sn	**Sn**	**15 21 10.1**	**-5.6**
	comp=Z,0.7nm,0.3s,baz=324,slow=17,SNR=8.7						
ZFI2	**Zemlya Franca-**	**10.55**	**33**	*i*P	**Pn**	**15 20 54.6**	**+1.0**
ZFI2				*i*S	**Sn**	**15 22 49.0**	**-2.6**
NOA	**NORSAR Array B**	**12.93**	**176**	LR	LR	15 26 09.3	
	comp=Z,44nm,19.2s,baz=5.0,slow=36						
FINES	**FINESS Array B**	**13.90**	**145**	Pn	**Pn**	**15 21 40.2**	**+0.8**
	comp=Z,0.1nm,0.3s,baz=353,slow=10,SNR=2.7						
FINES				LR	LR	15 26 32.5	
	comp=Z,70nm,21.1s,baz=216,slow=35						
HFS	**Hagfors**	**13.92**	**171**	LR	LR	15 26 32.6	
	comp=Z,59nm,19.3s,baz=330,slow=36						
KLMR	**Klimovskoe**	**17.12**	**124**	*e*Pn	**Pn**	**15 22 25.6**	**+2.3**
KLMR				AMP		15 22 27.0	
	comp=Z,5.0nm,0.9s						
SFJD	**Kangerlussuaq**	**20.36**	**281**	LR	LR	15 29 41.2	
	comp=Z,66nm,18.6s,baz=22,slow=34						
AKASG	**Malin Array Be**	**24.74**	**149**	P	**P**	**15 23 42.9**	**-0.8**
	comp=Z,0.2nm,0.4s,baz=348,slow=10,SNR=5.3						
GERES	**GERESS Array B**	**25.21**	**174**	P	**P**	**15 23 48.3**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=3.8,slow=8.0,SNR=3.9						
YKA	**Yellowknife Ar**	**38.95**	**322**	P	**P**	**15 25 46.6**	**-1.4**
	comp=Z,0.5nm,0.9s,baz=21,slow=8.8,SNR=7.1						
ILAR	**Eielson Array**	**40.71**	**345**	P	**P**	**15 26 02.7**	**0.0**
	comp=Z,0.3nm,0.9s,baz=359,slow=8.1,SNR=6.8						
PDAR	**Pinedale Array**	**56.65**	**310**	LR	LR	15 51 01.9	
	comp=Z,36nm,18.2s,baz=20,slow=35						
TORD	**Torodi Ar. Bea**	**60.90**	**189**	P	**P**	**15 28 34.5**	**-0.8**
	comp=Z,0.8nm,0.8s,baz=353,slow=5.0,SNR=5.5						
CMAR	**Chiang Mai Arr**	**72.24**	**85**	P	**P**	**15 29 50.2**	**+2.5**
	comp=Z,0.5nm,0.8s,baz=318,slow=8.8,SNR=4.5						

*IDC **20** 15:30:56.4±2.4, 3.89N×92.43E, h0km, mb3.4/6, mb1 3.6/7, mb1mx3.4/72, mbtmp3.4/7, ML3.2/1, Error ellipse: s-maj=89.9km s-min=20.8km az=61.0*
*ISCJB **20** 15:31:00.1±1.6, 4.0N±0.2×92.6E±0.3, h33km, mb3.5/6, Error ellipse: s-maj=46.5km s-min=17.8km az=156.7*
ISC 20 15:31:02.7±2.1, 4.1N±0.2×92.7E±0.4, h35km, n7, σ1§10/7, mb3.4/6, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**15.57**	**23**	Pn	**Pn**	**15 34 39.0**	**-0.7**
	0.0nm,0.3s,baz=217,slow=14,SNR=11						
MKAR	**Makanchi Array**	**43.53**	**350**	P	**P**	**15 39 02.2**	**-0.7**
	0.2nm,0.5s,baz=164,slow=8.4,SNR=2.7						
SONM	**Songino Array**	**45.19**	**13**	P	**P**	**15 39 17.7**	**+1.5**
	0.2nm,0.4s,baz=186,slow=7.2,SNR=2.7						
WRA	**Warramunga Arr**	**47.34**	**122**	P	**P**	**15 39 32.7**	**-0.9**
	0.5nm,0.9s,baz=304,slow=8.6,SNR=4.0						
KURBB	**Kurchatov Arra**	**47.92**	**348**	P	**P**	**15 39 36.6**	**-0.9**
	0.6nm,0.7s,baz=162,slow=6.7,SNR=3.5						
ASAR	**Alice Springs**	**48.69**	**126**	P	**P**	**15 39 44.4**	**+0.5**
	0.2nm,0.8s,baz=291,slow=8.0,SNR=3.2						
ZALV	**Zalesovo Beam**	**50.16**	**354**	P	**P**	**15 39 54.6**	**0.0**
	1.1nm,0.5s,baz=185,slow=7.6,SNR=6.9						

MAN 20 15:32:37, 16.49N×120.15E, h56km, mb3.6, ML2.3, MS1.7, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BOLP	**Bolinao**	**0.24**	**245**	*e*P	Pn	15 32 48.9	+2.6
ABRA	**Dolores**	**1.28**	**25**	*e*P	Pn	15 33 00.1	+1.5
ABRA				*e*S	Sn	15 33 17.8	+3.0
BALP	**Baler**	**1.56**	**118**	*e*P	Pn	15 33 04.5	+2.1
APYP	**Conner**	**1.73**	**37**	*e*P	Pn	15 33 00.3	-4.4
APYP				*e*S	Sn	15 33 27.5	+1.8

*ISCJB **20** 15:37:00.3±0.6, 32.39N±0.02×47.03E±0.02, h8km±3km, mb4.8/165, MS3.8/29, Error ellipse: s-maj=2.9km s-min=2.2km az=30.3*
*GII **20** 15:37:01.3±0.2, 32.43N×47.11E, h40km*
*SGS **20** 15:37:01.0, 32.95N×47.08E, h29km*
*NEIC **20** 15:37:02.1±0.2, 32.47N×47.07E, h10km, mb4.9/63, MN5.0(TEH), Error ellipse: s-maj=5.2km s-min=4.1km az=186.0*
*ISN **20** 15:37:02.1±1.1, 32.43N×46.80E, h0km±4km, ML5.0*
*CSEM **20** 15:37:02.5±0.1, 32.44N×47.05E, h10km, mb4.9/72, Error ellipse: s-maj=4.1km s-min=2.8km az=25.0*
*MOS **20** 15:37:02.1±1.3, 32.40N×47.02E, h21km, mb5.0/57, Error ellipse: s-maj=5.4km s-min=3.8km az=101.1*
*THR **20** 15

IPIR	**Pirpir**	**3.26**	**84**	*e*Pn	**Pn**	**15 37 56.9**	**+1.7**
IPIR				eAMB	AMB	15 38 56.1	
	comp=Z,30μm,0.3s						
IPIR	**Pirpir**	**3.26**	**84**	*e*Pn	**Pn**	**15 37 56.9**	**+1.7**
ASAO	**Ashtian**	**3.29**	**49**	*e*Pn	**Pn**	**15 37 57.2**	**+1.7**
ASAO	**Ashtian**	**3.29**	**49**	*e*Pn	**Pn**	**15 37 57.2**	**+1.7**
HKZM	**Kohzaman**	**3.35**	**27**	*e*Pn	**Pn**	**15 37 57.2**	**+0.8**
HKZM	**Kohzaman**	**3.35**	**27**	*e*Pn	**Pn**	**15 37 57.2**	**+0.8**
IKLH	**Kolahrood**	**3.92**	**75**	*e*Pn	**Pn**	**15 38 05.7**	**+1.4**
IKLH				eAMB	AMB	15 39 04.9	
	comp=Z,12μm,0.2s						
IKLH	**Kolahrood**	**3.92**	**75**	*e*Pn	**Pn**	**15 38 05.7**	**+1.4**
QAM	**Ghamsar**	**3.93**	**69**	*e*Pn	**Pn**	**15 38 06.4**	**+2.1**
QAM				eAMB	AMB	15 39 13.4	
	comp=Z,18μm,0.2s						
GHVR	**GHOM**	**4.12**	**59**	*e*Pn	**Pn**	**15 38 08.1**	**+1.4**
GHVR	**GHOM**	**4.12**	**59**	*e*Pn	**Pn**	**15 38 08.1**	**+1.4**
GHVR				AML	AML	15 38 59.5	
	comp=E,1μm,0.5s						
KFJS		**4.27**	**169**	P	**Pn**	**15 38 12.0**	**+3.2**
KFJS				S	**Sn**	**15 39 02.5**	**+5.1**
IZEF	**Zefreh**	**4.49**	**82**	*e*Pn	**Pn**	**15 38 12.5**	**+0.5**
IZEF				eAMB	AMB	15 39 40.1	
	comp=Z,6μm,0.5s						
IZEF	**Zefreh**	**4.49**	**82**	*e*Pn	**Pn**	**15 38 12.5**	**+0.5**
IRAM	**Ramesheh**	**4.57**	**96**	*e*Pn	**Pn**	**15 38 12.6**	**-0.5**
IRAM	**Ramesheh**	**4.57**	**96**	*e*Pn	**Pn**	**15 38 12.6**	**-0.5**
SIRT	**Sirnak**	**6.34**	**325**	*e*P	Pn	15 38 26.5	-11
BOQSS		**6.82**	**162**	P	**Pn**	**15 38 45.5**	**+1.7**
BOQSS				S	**Sn**	**15 40 02.1**	**+1.9**
VANB	**Van**	**6.86**	**335**	*e*P	**Pn**	**15 38 42.4**	**-2.1**
MAZI	**Mazidag**	**7.40**	**315**	*e*P	**Pn**	**15 38 49.9**	**-2.0**
DYBB	**Diyarbakir**	**7.91**	**316**	*e*P	**Pn**	**15 38 55.2**	**-3.6**
GNI	**Garni**	**7.95**	**347**	Pn	**Pn**	**15 39 00.5**	**+1.0**
	comp=Z,1.0nm,0.3s,baz=89,slow=3.6,SNR=5.3						
GNI				Lg	Lg	15 41 07.9	
	comp=Z,1.9nm,0.3s,baz=75,slow=20,SNR=2.3						
GNI				LR	LR	15 41 52.5	
	comp=Z,258nm,19.1s,baz=166,slow=37						
GNI	**Garni**	**7.95**	**347**	*e*Pn	**Pn**	**15 38 57.8**	**-1.7**
GNI				Sn	**Sn**	**15 40 30.8**	**+2.5**
GNI	**Garni**	**7.95**	**347**	*e*Pn	**Pn**	**15 38 57.8**	**-1.7**
GNI				Sn	**Sn**	**15 40 30.8**	**+2.5**
GNI	**Garni**	**7.95**	**347**⇓	*e*P	**Pn**	**15 39 02.3**	**+2.8**
GNI				pmax	pmax		
	comp=Z,24nm,0.7s						
SLWS		**8.21**	**156**	P	**Pn**	**15 39 03.5**	**+0.7**
URFA	**Urfa**	**8.42**	**309**	*e*P	**Pn**	**15 39 07.9**	**+2.1**
ASF	**Jabal al Asfar**	**8.59**	**271**	Pn	**Pn**	**15 39 06.8**	**-1.5**
	comp=Z,3.3nm,0.3s,baz=17,slow=3.2,SNR=19						
ASF				Sn	**Sn**	**15 40 38.2**	**-5.7**
	comp=Z,1.5nm,0.3s,baz=187,slow=7.8,SNR=4.6						
ASF				Lg	Lg	15 41 31.8	
	comp=Z,2.0nm,0.3s,baz=72,slow=20,SNR=3.3						
ASF				LR	LR	15 43 28.3	
	comp=Z,243nm,20.6s,baz=44,slow=44						
RAYN	**Ar Rayn**	**8.95**	**189**	*e*Pn	**Pn**	**15 39 13.1**	**0.0**
RAYN				*e*Sn	**Sn**	**15 40 53.0**	**+0.4**
RAYN	**Ar Rayn**	**8.95**	**189**	*e*Pn	**Pn**	**15 39 13.1**	**0.0**
RAYN				*e*Sn	**Sn**	**15 40 53.0**	**+0.4**
BTHS		**8.97**	**157**	P	**Pn**	**15 39 14.5**	**+1.2**
PTK	**Pertek**	**8.98**	**318**	*e*P	**Pn**	**15 39 09.1**	**-4.5**
AFFS	**'Afif**	**9.16**	**204**	S	Sn	15 40 48.1	-10
MALT	**Malatya**	**9.18**	**312**	*e*P	**Pn**	**15 39 14.9**	**-1.3**
MMLI	**Mount Malkishu**	**9.82**	**273**	Pn	**Pn**	**15 39 21.3**	**-3.7**
MMLI				Sn	**Sn**	**15 41 11.4**	**-2.6**
MMAI	**Mount Meron Ar**	**9.83**	**277**	Pn	**Pn**	**15 39 25.0**	**-0.1**
	comp=Z,0.9nm,0.3s,baz=78,slow=16,SNR=5.3						
MMAI				Sn	**Sn**	**15 41 13.6**	**-0.6**
	comp=Z,1.1nm,0.3s,baz=96,slow=28,SNR=2.1						
MMAI				Lg	Lg	15 42 11.0	
	comp=Z,3.0nm,0.3s,baz=83,slow=37,SNR=5.6						
MZDA	**Masada**	**9.99**	**267**	Pn	**Pn**	**15 39 23.5**	**-3.8**
SHME	**Shamm**	**10.16**	**126**	P	**Pn**	**15 39 28.7**	**-0.9**
	SNR=11						
SHME	**Shamm**	**10.16**	**126**	*i* P	**Pn**	**15 39 28.2**	**-1.4**
	SNR=28						
BANOM	**Banah**	**10.35**	**126**	P	**Pn**	**15 39 31.7**	**-0.5**
	SNR=42						
BANOM	**Banah**	**10.35**	**126**	P	**Pn**	**15 39 31.7**	**-0.5**
	SNR=42						
BANOM	**Banah**	**10.35**	**126**	*i* P	**Pn**	**15 39 30.7**	**-1.5**
	SNR=42						
BANOM				S	**Sn**	**15 41 21.6**	**-5.3**
AJN	**Ajban**	**10.47**	**136**	*i* P	**Pn**	**15 39 34.8**	**+0.9**
	SNR=12						
PRNI	**Paran**	**10.49**	**262**	Pn	**Pn**	**15 39 30.8**	**-3.4**
PRNI				Sn	**Sn**	**15 41 27.2**	**-3.2**
HRFI	**Mount Harif**	**10.55**	**260**	Pn	**Pn**	**15 39 31.1**	**-3.8**
MAK	**Makhachkala**	**10.55**	**2**	*e*P	**Pn**	**15 39 33.6**	**-1.2**
	comp=Z,265nm,1.6s						
MAK				*e*S	**Sn**	**15 41 32.0**	**+0.4**
	comp=Z,505nm,14.0s						
MAK	**Makhachkala**	**10.55**	**2**	*e*P	**Pn**	**15 39 33.6**	**-1.2**
MAK				*e*S	**Sn**	**15 41 32.0**	**+0.4**
MAK				pmax	pmax		
	comp=Z,265nm,1.6s						
MAK				MLR	MLR		
	comp=Z,505nm,14.0s						
NAZ	**Nazwa, Dubai**	**10.57**	**132**	P	**Pn**	**15 39 35.8**	**+0.6**
	SNR=29						
NAZ	**Nazwa, Dubai**	**10.57**	**132**	*i* P	**Pn**	**15 39 35.8**	**+0.6**
	SNR=29						
GEYT	**Alibeck**	**10.61**	**56**	Pn	**Pn**	**15 39 34.6**	**-1.1**
	comp=Z,0.2nm,0.3s,baz=264,slow=13,SNR=10.0						
GEYT				Lg	Lg	15 42 38.2	
	comp=Z,0.2nm,0.3s,baz=154,slow=21,SNR=2.7						
GEYT				LR	LR	15 44 23.1	
	comp=Z,1μm,19.1s,baz=245,slow=42						
GYA0B	**ALIBECK ARRAY**	**10.61**	**56**	*e*Pn	**Pn**	**15 39 37.0**	**+1.3**
GYA0B	**ALIBECK ARRAY**	**10.61**	**56**	*e*Pn	**Pn**	**15 39 37.0**	**+1.3**
MSFE	**Esma-Masafi**	**10.63**	**129**	P	**Pn**	**15 39 35.3**	**-0.8**
	SNR=12						
MSFE	**Esma-Masafi**	**10.63**	**129**	*i* P	**Pn**	**15 39 35.1**	**-0.9**
	SNR=13						
ZEI	**Tsey**	**10.66**	**347**	*e*P	**Pn**	**15 39 40.2**	**+3.6**
ZEI				pmax	pmax		
	comp=Z,13nm,1.4s						
MBRI	**Mt Berech**	**10.72**	**259**	Pn	**Pn**	**15 39 33.6**	**-3.7**
EIL	**Elat**	**10.72**	**258**	Pn	**Pn**	**15 39 38.4**	**+1.1**
	comp=Z,2.5nm,0.3s,baz=85,slow=5.9,SNR=16						
EIL				Lg	Lg	15 42 41.5	
	comp=Z,1.2nm,0.3s,baz=79,slow=18,SNR=2.5						
EIL				LR	LR	15 44 39.3	
	comp=Z,467nm,21.1s,baz=68,slow=42						
EIL	**Elat**	**10.72**	**258**	Pn	**Pn**	**15 39 33.2**	**-4.1**
MDH	**Madha**	**10.76**	**129**	*i* P	**Pn**	**15 39 36.5**	**-1.3**
	SNR=12						
UOSS	**Minazif**	**10.94**	**130**	*e*Pn	**Pn**	**15 39 36.7**	**-3.6**
UOSS	**Minazif**	**10.94**	**130**	P	**Pn**	**15 39 39.8**	**-0.5**
	SNR=30						
UOSS	**Minazif**	**10.94**	**130**	*e*Pn	**Pn**	**15 39 36.7**	**-3.6**
UOSS	**Minazif**	**10.94**	**130**	P	**Pn**	**15 39 39.8**	**-0.5**
	SNR=30						
UOSS	**Minazif**	**10.94**	**130**	*i* P	**Pn**	**15 39 38.6**	**-1.8**
	SNR=18						
HATD	**Hatta, Dubai**	**10.98**	**131**	P	**Pn**	**15 39 40.6**	**-0.3**
	SNR=23						
HATD	**Hatta, Dubai**	**10.98**	**131**	*i* P	**Pn**	**15 39 40.6**	**-0.3**
	SNR=23						
ASHO	**Ashiyiah**	**11.04**	**132**	P	**Pn**	**15 39 41.3**	**-0.4**
	SNR=31						
ASHO	**Ashiyiah**	**11.04**	**132**	P	**Pn**	**15 39 41.3**	**-0.4**
	SNR=31						
ASHO	**Ashiyiah**	**11.04**	**132**	*i* P	**Pn**	**15 39 41.0**	**-0.6**
	SNR=33						
ALNE	**Al Ain**	**11.31**	**135**	P	**Pn**	**15 39 45.6**	**+0.2**
	SNR=14						
ALNE	**Al Ain**	**11.31**	**135**	*i* P	**Pn**	**15 39 45.6**	**+0.2**
	SNR=19						
NEY	**Neytrino**	**11.35**	**344**	*e*P	**Pn**	**15 39 48.6**	**+2.6**
NEY	**Neytrino**	**11.35**	**344**⇓	*e*P	**Pn**	**15 39 48.6**	**+2.6**
NCK	**Nalchik**	**11.40**	**347**⇓	*e*P	Pn	15 39 51.8	+5.2
CSS	**Mathiatis**	**11.71**	**286**	*e*Pn	**Pn**	**15 39 49.9**	**-0.9**
CSS	**Mathiatis**	**11.71**	**286**	*e*Pn	**Pn**	**15 39 49.9**	**-0.9**
SOHO	**SOHO**	**11.73**	**132**	P	**Pn**	**15 39 50.1**	**-1.0**
	SNR=14						
SOHO	**SOHO**	**11.73**	**132**	*i* P	**Pn**	**15 39 49.5**	**-1.6**
	SNR=14						
KBZ	**Khabaz**	**11.77**	**345**	Pn	**Pn**	**15 39 52.6**	**+1.1**
	comp=Z,0.1nm,0.3s,baz=156,slow=12,SNR=6.2						
KBZ				LR	LR	15 44 57.3	
	comp=Z,281nm,21.9s,baz=158,slow=41						
KVAR	**Kislovodsk Arr**	**12.03**	**345**	Pn	**Pn**	**15 39 56.8**	**+1.6**
	baz=236,slow=5.7,SNR=14						
KVAR				LR	LR	15 44 12.7	
	comp=Z,170nm,19.4s,baz=156,slow=36						
KIV	**Kislovodsk**	**12.03**	**345**	*e*Pn	**Pn**	**15 39 55.3**	**+0.1**
KIV	**Kislovodsk**	**12.03**	**345**	P	**Pn**	**15 39 57.3**	**+2.1**
	SNR=8.9						
KIV	**Kislovodsk**	**12.03**	**345**	*e*Pn	**Pn**	**15 39 55.3**	**+0.1**
KIV	**Kislovodsk**	**12.03**	**345**	P	**Pn**	**15 39 57.3**	**+2.1**
	SNR=8.9						
KIV	**Kislovodsk**	**12.03**	**345**	*i* P	**Pn**	**15 39 57.4**	**+2.1**
	SNR=5.5						
KIV	**Kislovodsk**	**12.03**	**345**	*e*P	**Pn**	**15 39 57.3**	**+2.1**
KIV				pmax	pmax		
	comp=Z,25nm,1.1s						
KIV				MLR	MLR		
	comp=Z,86nm,9.0s						
ARQ	**Araqi**	**12.31**	**135**	P	**Pn**	**15 39 58.7**	**-0.4**
	SNR=45						
ARQ	**Araqi**	**12.31**	**135**	P	**Pn**	**15 39 58.7**	**-0.4**
	SNR=45						
SOC	**Sochi**	**12.56**	**335**	*e*P	**Pn**	**15 40 04.0**	**+1.6**
	comp=Z,34nm,1.0s						
SOC	**Sochi**	**12.56**	**335**	*e*P	**Pn**	**15 40 04.0**	**+1.6**
SOC				*e*		15 42 29.0	
SOC				pmax	pmax		
	comp=Z,34nm,1.0s						
SOC				MLR	MLR		
	comp=Z,354nm,15.0s						
HOQ	**Hoqain**	**12.62**	**132**	P	**Pn**	**15 40 03.3**	**0.0**
	SNR=12						
HOQ	**Hoqain**	**12.62**	**132**	P	**Pn**	**15 40 03.3**	**0.0**
	SNR=12						
BR131	**Keskin Array S**	**13.07**	**308**	*e*Pn	**Pn**	**15 40 08.1**	**-1.4**
BR131	**Keskin Array S**	**13.07**	**308**	*e*Pn	**Pn**	**15 40 08.1**	**-1.4**
BRTR	**Keskin Array B**	**13.07**	**308**	Pn	**Pn**	**15 40 10.4**	**+1.0**
	comp=Z,0.1nm,0.3s,baz=123,slow=14,SNR=18						
BRTR				Lg	Lg	15 44 03.9	
	comp=Z,0.1nm,0.3s,baz=141,slow=28,SNR=2.5						
BRTR				LR	LR	15 46 28.4	
	comp=Z,104nm,21.6s,baz=90,slow=43						
BSY	**Bisya**	**13.17**	**134**	P	**Pn**	**15 40 10.2**	**-0.6**
	SNR=15						
BSYO	**Bisya**	**13.20**	**134**	P	**Pn**	**15 40 10.2**	**-1.1**
	SNR=15						
SMDO	**Samad**	**13.47**	**131**	P	**Pn**	**15 40 13.1**	**-1.8**
	SNR=9.5						
SMDO	**Samad**	**13.47**	**131**	P	**Pn**	**15 40 13.1**	**-1.8**
	SNR=9.5						
WSAR	**Wadi Sarin**	**13.72**	**129**	Pn	**Pn**	**15 40 15.8**	**-2.5**
	comp=Z,10nm,0.3s,baz=320,slow=9.4,SNR=70						
WSAR				Sn	Sn	15 42 40.0	-9.3
	comp=Z,1.7nm,0.3s,baz=28,slow=17,SNR=3.5						
WSAR				LR	LR	15 46 32.5	
	comp=Z,256nm,19.0s,baz=326,slow=41						
WSAR	**Wadi Sarin**	**13.72**	**129**	P	**Pn**	**15 40 16.0**	**-2.3**
JMDO	**Jabal Madar**	**14.00**	**133**	P	**Pn**	**15 40 20.1**	**-2.1**
	SNR=17						
WBK	**Wadi Bani Khal**	**14.38**	**130**	P	**Pn**	**15 40 26.3**	**-1.0**
	SNR=11						
ISP	**Isparta**	**14.56**	**296**⇑	*e*P	**Pn**	**15 40 29.7**	**0.0**
ISP				pmax	pmax		
	comp=Z,10.0nm,0.9s						
WHFO	**Wadi Hawf**	**15.64**	**156**	P	**Pn**	**15 40 41.6**	**-2.4**
	SNR=8.5						
SIM	**Simferopol'**	**16.06**	**325**	*e*P	**P**	**15 40 50.9**	**-1.2**
	comp=Z,41nm,0.3s						
SIM	**Simferopol'**	**16.06**	**325**	*e*P	**P**	**15 40 50.9**	**-1.2**
SIM				*e*S	**Sn**	**15 43 51.4**	**+5.3**
SIM				pmax	pmax		
	comp=Z,41nm,0.3s						
SIM				MLR	MLR		
	comp=Z,250nm,16.9s						
SHAO	**Shalim**	**16.27**	**150**	P	**P**	**15 40 54.0**	**-0.6**
	SNR=5.9						
SHAO	**Shalim**	**16.27**	**150**	*i* P	**P**	**15 40 54.0**	**-0.6**
	SNR=5.9						
KARP	**Karpathos**	**16.79**	**286**	*e*Pn	**Pn**	**15 40 58.1**	**-0.3**
	comp=Z,30nm,0.9s						
KARP	**Karpathos**	**16.79**	**286**	*e*Pn	**Pn**	**15 40 58.1**	**-0.3**
	comp=Z,30nm,0.9s						
DAMY	**Dhamar**	**17.91**	**188**	*e*Pn	**Pn**	**15 41 11.2**	**-1.5**
	comp=Z,19nm,0.9s						
DAMY	**Dhamar**	**17.91**	**188**	*e*Pn	**Pn**	**15 41 11.2**	**-1.5**
	comp=Z,19nm,0.9s						
SANT	**Santorini**	**18.24**	**288**⇓	*i* P	**Pn**	**15 41 16.8**	**+0.4**
SANT	**Santorini**	**18.24**	**288**	*e*P	**P**	**15 41 13.6**	**-2.8**
	comp=Z,113nm,1.1s						
SANT	**Santorini**	**18.24**	**288**⇓	*i* P	**Pn**	**15 41 16.8**	**+0.4**
APE	**Apeiranthos**	**18.28**	**291**⇑	P	**Pn**	**15 41 16.6**	**-0.2**
APE	**Apeiranthos**	**18.28**	**291**	*e*P	**P**	**15 41 14.5**	**-2.2**
	comp=Z,60nm,0.9s						
APE	**Apeiranthos**	**18.28**	**291**	*ce*P	**P**	**15 41 14.5**	**-2.2**
APE				pmax	pmax		
	comp=Z,60nm,0.9s						
IDI	**Anoyia**	**18.62**	**285**	P	**Pn**	**15 41 21.0**	**-0.1**
	comp=Z,2.0nm,0.3s,baz=71,slow=11,SNR=26						
IDI				LR	LR	15 51 47.0	
	comp=Z,99nm,20.7s,baz=79,slow=47						
IDI	**Anoyia**	**18.62**	**285**⇓	*i* P	**Pn**	**15 41 22.1**	**+1.0**
IDI	**Anoyia**	**18.62**	**285**	*e*P	**P**	**15 41 20.1**	**-0.4**
	comp=Z,104nm,0.9s						
IDI	**Anoyia**	**18.62**	**285**	*e*P	**P**	**15 41 20.1**	**-0.4**
	comp=Z,104nm,0.9s						
PRD	**Provadia**	**18.85**	**310**	P	**Pn**	**15 41 24.0**	**+0.3**
TIRR	**Tirgusor**	**18.87**	**315**⇓	*i* P	**Pn**	**15 41 24.0**	**+0.1**
TIRR	**Tirgusor**	**18.87**	**315**	*e*P	**P**	**15 41 20.7**	**-2.3**
	comp=Z,18nm,0.9s						
TIRR	**Tirgusor**	**18.87**	**315**	*e*P	**P**	**15 41 20.7**	**-2.3**
	comp=Z,18nm,0.9s						
TIRR	**Tirgusor**	**18.87**	**315**	*e*P	**P**	**15 41 20.7**	**-2.3**
TIRR				pmax	pmax		
	comp=Z,18nm,0.9s						
JMB	**Yambol**	**19.06**	**308**	P	P	15 41 14.2	-11
VRH	**Novokhopyorsk**	**19.19**	**350**	*e*P	**P**	**15 41 24.5**	**-2.0**
	comp=Z,50nm,0.9s						
VRH	**Novokhopyorsk**	**19.19**	**350**	*e*P	**P**	**15 41 24.5**	**-2.0**
VRH				*e*S	**Sn**	**15 44 59.0**	**-2.7**
VRH				pmax	pmax		
	comp=Z,50nm,0.9s						
VRH				smax	smax		
	comp=E,130nm,1.9s						
HARR	**Harsova**	**19.29**	**315**⇑	*i* P	**Pn**	**15 41 28.7**	**-0.2**
HARR	**Harsova**	**19.29**	**315**⇑	*i* P	**Pn**	**15 41 28.7**	**-0.2**
IMMV	**Iera Moni Meta**	**19.37**	**285**	P	**Pn**	**15 41 29.7**	**-0.3**
IMMV	**Iera Moni Meta**	**19.37**	**285**	P	**Pn**	**15 41 29.7**	**-0.3**
AB31	**Akbulak array**	**19.42**	**26**	*i* P	**P**	**15 41 29.1**	**+0.1**
	comp=E,28nm,0.9s						
AB31	**Akbulak array**	**19.42**	**26**	*i* P	**P**	**15 41 29.1**	**+0.1**
AB31				pmax	pmax		
	comp=Z,28nm,0.9s						
ABKAR	**Akbulak array**	**19.42**	**26**	*e*P	**P**	**15 41 28.1**	**-0.9**
ABKAR	**Akbulak array**	**19.42**	**26**	*e*P	**P**	**15 41 28.1**	**-0.9**
CFR	**Carcaliu**	**19.43**	**316**⇑	*i* P	**P**	**15 41 29.2**	**0.0**
CFR	**Carcaliu**	**19.43**	**316**⇑	*i* P	**P**	**15 41 29.2**	**0.0**
KDZ	**Kurdzhali**	**19.54**	**304**	P	**Pn**	**15 41 31.5**	**-0.5**
VSR	**Storozhevoye**	**19.68**	**345**	*e*P	**P**	**15 41 29.6**	**-2.2**
	comp=Z,50nm,1.0s						
VSR	**Storozhevoye**	**19.68**	**345**	*e*P	**P**	**15 41 29.6**	**-2.2**
VSR				*e*S	**S**	**15 45 11.0**	**-0.5**
VSR				pmax	pmax		
	comp=Z,50nm,1.0s						
VSR				smax	smax		
	comp=E,40nm,1.0s						
AKTK	**Aktyubinsk**	**19.77**	**21**	P	**P**	**15 41 31.9**	**-1.0**
AKTO	**Aktyubinsk**	**19.77**	**21**	P	**P**	**15 41 31.9**	**-1.0**
	comp=E,0.6nm,0.3s,baz=204,slow=13,SNR=18						
AKTO				LR	LR	15 51 31.5	
	comp=E,315nm,18.4s,baz=210,slow=44						
RZN	**Rozhen**	**20.04**	**304**	P	**P**	**15 41 36.8**	**+0.7**
VORR	**Voronezh**	**20.09**	**346**	P	Pn	15 41 38.0	-0.4
	comp=E,350nm,1.2s						
VORR	**Voronezh**	**20.09**	**346**	P	Pn	15 41 38.0	-0.4
VORR				pmax	pmax		
	comp=Z,300nm,1.4s						
VORR				pmax	pmax		
	comp=Z,450nm,1.2s						
VORR				pmax	pmax		
	comp=Z,350nm,1.2s						
DID	**Didima**	**20.15**	**291**	P	**P**	**15 41 37.0**	**-0.1**
DID	**Didima**	**20.15**	**291**	P	**P**	**15 41 37.0**	**-0.1**
DID	**Didima**	**20.15**	**291**	P	**P**	**15 41 37.0**	**-0.1**
KIS	**Kishinev**	**20.16**	**322**	*e*P	**P**	**15 41 34.0**	**-3.1**
	comp=Z,400nm,4.0s						
KIS				*e*S	**S**	**15 45 18.0**	**-3.1**
KIS	**Kishinev**	**20.16**	**322**	*e*P	**P**	**15 41 34.0**	**-3.1**
KIS				*e*S	**S**	**15 45 18.0**	**-3.1**
KIS				*e*		15 45 30.0	
KIS				pmax	pmax		
	comp=Z,400nm,4.0s						
VLI	**Veliai**	**20.30**	**289**	P	**P**	**15 41 38.0**	**-0.7**
VLI	**Veliai**	**20.30**	**289**	P	**P**	**15 41 38.0**	**-0.7**
VLI	**Veliai**	**20.30**	**289**	P	**P**	**15 41 38.0**	**-0.7**
ISR	**Istrita**	**20.35**	**315**⇓	*i* P	Pn	15 41 40.8	-0.7
ISR	**Istrita**	**20.35**	**315**⇓	*i* P	Pn	15 41 40.8	-0.7
NVR	**Nevrokopi**	**20.54**	**302**	P	**P**	**15 41 41.5**	**+0.2**
NVR	**Nevrokopi**	**20.54**	**302**	P	**P**	**15 41 41.5**	**+0.2**
NVR	**Nevrokopi**	**20.54**	**302**	P	**P**	**15 41 41.5**	**+0.2**
VRI	**Vrincioaia**	**20.64**	**317**⇓	*i* P	**P**	**15 41 42.8**	**+0.4**
VRI	**Vrincioaia**	**20.64**	**317**⇓	*i* P	**P**	**15 41 42.8**	**+0.4**
IUG	**Iuzhnay**	**20.66**	**55**⇑	*i* P	**P**	**15 41 42.0**	**-0.7**
	comp=Z,189nm,1.1s						
IUG				*e*S	**S**	**15 45 32.3**	**+0.8**
IUG				LR	LR	15 50 50.2	
	comp=Z,69nm,12.1s						
PLOR	**Plostina**	**20.68**	**316**⇓	*i* P	Pn	15 41 43.9	-1.4
PLOR	**Plostina**	**20.68**	**316**⇓	*i* P	Pn	15 41 43.9	-1.4
MMB	**Musomiste**	**20.71**	**303**	P	**P**	**15 41 43.1**	**-0.1**
PGB	**Panagyurishte**	**20.73**	**306**	P	**P**	**15 41 43.8**	**+0.3**
MLR	**Muntele Rosu**	**20.90**	**315**	P	**P**	**15 41 45.0**	**-0.3**
	comp=Z,5.9nm,0.8s,baz=89,slow=3.1,SNR=11						
MLR	**Muntele Rosu**	**20.90**	**315**⇓	*i* P	Pn	15 41 46.9	-1.1
MLR	**Muntele Rosu**	**20.90**	**315**	*e*P	**P**	**15 41 44.8**	**-0.5**
	comp=Z,79nm,1.4s						
IAS	**Iasi**	**20.95**	**320**⇓	*i* P	**P**	**15 41 46.3**	**+0.7**
IAS	**Iasi**	**20.95**	**320**⇓	*i* P	**P**	**15 41 46.3**	**+0.7**
HUMR	**Humele**	**21.02**	**312**⇑	*i* P	**P**	**15 41 47.7**	**+1.2**
HUMR	**Humele**	**21.02**	**312**⇑	*i* P	**P**	**15 41 47.7**	**+1.2**
LPSR	**Galich'ya Gora**	**21.03**	**346**	*e*P	**P**	**15 41 44.3**	**-2.2**
	comp=Z,280nm,0.8s						
LPSR	**Galich'ya Gora**	**21.03**	**346**	*e*P	**P**	**15 41 44.3**	**-2.2**
LPSR				*e*S	**S**	**15 45 32.9**	**-5.4**
LPSR				pmax	pmax		
	comp=Z,280nm,0.8s						
LPSR				smax	smax		
	comp=E,110nm,1.3s						
TESR	**Tescani**	**21.05**	**318**⇓	*i* P	**P**	**15 41 46.5**	**-0.3**
TESR	**Tescani**	**21.05**	**318**⇓	*i* P	**P**	**15 41 46.5**	**-0.3**
AGG	**Agios Georgios**	**21.09**	**295**	*e*P	**P**	**15 41 47.4**	**+0.1**
	comp=E,121nm,1.0s						
AGG	**Agios Georgios**	**21.09**	**295**	P	**P**	**15 41 47.8**	**+0.5**
AGG	**Agios Georgios**	**21.09**	**295**	*e*P	**P**	**15 41 47.4**	**+0.1**
	comp=E,121nm,1.0s						
AGG	**Agios Georgios**	**21.09**	**295**	*e*P	**P**	**15 41 47.4**	**+0.1**
AGG				pmax	pmax		
	comp=Z,121nm,1.0s						
ATD	**Arta Tunnel**	**21.13**	**191**	P	**P**	**15 41 50.3**	**+2.4**
	comp=Z,2.6nm,0.3s,baz=264,slow=19,SNR=2.2						
ATD				LR	LR	15 50 40.6	
	comp=Z,268nm,20.4s,baz=12,slow=38						
SORM	**Soroca**	**21.14**	**323**⇑	*i* P	**P**	**15 41 48.2**	**+0.6**
SORM	**Soroca**	**21.14**	**323**⇑	*i* P	**P**	**15 41 48.2**	**+0.6**
ITM	**Ithomi**	**21.15**	**290**	P	**P**	**15 41 47.7**	**-0.2**
ITM	**Ithomi**	**21.15**	**290**	P	**P**	**15 41 47.7**	**-0.2**
ITM	**Ithomi**	**21.15**	**290**	P	**P**	**15 41 47.7**	**-0.2**
KKB	**Krupnik**	**21.25**	**303**	P	**P**	**15 41 48.3**	**-0.7**
PYL	**PYLOS**	**21.27**	**289**	P	**P**	**15 41 47.7**	**-1.5**
PYL	**PYLOS**	**21.27**	**289**	P	**P**	**15 41 47.7**	**-1.5**
PYL	**PYLOS**	**21.27**	**289**	P	**P**	**15 41 47.7**	**-1.5**
ANX	**Ano Chora**	**21.33**	**294**	P	**P**	**15 41 50.7**	**+0.7**
ANX	**Ano Chora**	**21.33**	**294**	P	**P**	**15 41 50.7**	**+0.7**
KK31	**Karatay Array**	**21.34**	**53**	*e*P	**P**	**15 41 50.9**	**+0.9**
KK31	**Karatay Array**	**21.34**	**53**	*i* P	**P**	**15 41 49.1**	**-0.9**
	comp=Z,36nm,0.8s						
KK31	**Karatay Array**	**21.

SNR=14
DRGR 23.50 315⇓iP P 15 42 12.6 +0.1
DRGR 23.50 315⇓iP P 15 42 12.6 +0.1
GRUS Gruza 23.57 307⇑iP P 15 42 12.2 -0.9
BANR Banloc 23.85 310⇑iP P 15 42 17.5 +1.7
BANR Banloc 23.85 310⇑iP P 15 42 17.5 +1.7
UCH Uchtor 23.86 58 P P 15 42 19.6 +3.2
SNR=9.5
OBN Obninsk 23.88 345 P P 15 42 15.0 -0.9
comp=Z,34nm,0.6s,baz=151,slow=3.7,SNR=15
OBN Obninsk 23.88 345 eP P 15 42 14.8 -1.1
comp=Z,52nm,0.8s
OBN Obninsk 23.88 345ceP P 15 42 15.2 -0.7
OBN e 15 42 17.9
OBN e 15 42 47.8
OBN i S S 15 46 29.8 +0.6
OBN pmax pmax
comp=Z,63nm,0.8s
OBN MLR MLR
comp=Z,149nm,17.0s
SIRR Siria 23.90 313⇑iP P 15 42 16.8 +0.6
SIRR Siria 23.90 313⇑iP P 15 42 16.8 +0.6
AAK Ala-Archa 23.96 57 P P 15 42 17.4 +0.4
comp=Z,9.5nm,0.8s,baz=225,slow=5.4,SNR=25
AAK ScP ScP 15 49 35.8 +2.1
comp=Z,0.6nm,0.3s,baz=187,slow=16,SNR=3.6
AAK LR LR 15 53 25.7
comp=Z,138nm,20.3s,baz=259,slow=41
AAK Ala-Archa 23.96 57 P P 15 42 19.5 +2.5
SNR=14
AAK Ala-Archa 23.96 57 eP P 15 42 18.1 +1.1
comp=Z,20nm,1.2s
AAK ScP ScP 15 49 35.8 +2.1
AAK Ala-Archa 23.96 57 P P 15 42 19.2 +2.2
SNR=14
AAK Ala-Archa 23.96 57 eP P 15 42 18.1 +1.1
comp=Z,20nm,1.2s
AAK ScP ScP 15 49 35.8 +2.1
AAK Ala-Archa 23.96 57d iP P 15 42 18.8 +1.8
AAK pmax pmax
comp=Z,61nm,1.7s
FRU Bishkek 24.10 57 eP P 15 42 19.0 +0.8
FRU pmax pmax
comp=Z,70nm,2.1s
FRU MLR MLR
comp=E,500nm,12.0s
DIVS Divibare 24.13 307 eP P 15 42 18.4 -0.1
PDG Podgorica 24.14 302⇑iP P 15 42 18.9 +0.4
PDG Podgorica 24.14 302⇑iP P 15 42 18.9 +0.4
CHMS Chumysh 24.24 56 P P 15 42 20.5 +1.1
SNR=18
MOS Moscow 24.25 347 eP P 15 42 17.6 -1.7
MOS e 15 42 47.9
MOS eS S 15 46 35.5 +0.4
MOS pmax pmax
comp=Z,300nm,2.1s
TRPA Tarpa 24.27 317⇑eP P 15 42 19.7 +0.1
KBK Karagaybulak 24.28 57 P P 15 42 22.1 +2.0
SNR=29
KZA Kyzart 24.35 59 P P 15 42 22.4 +1.5
SNR=24
KSH Kashi 24.40 65 P P 15 42 18.8 -2.3
KSH pP pP 15 42 30.5 -1.5
KSH PP PnPn 15 42 53.1 +0.5
KSH S S 15 46 29.8 -8.4
KSH PcS PcS 15 49 38.0 -1.4
KSH pmax pmax
comp=Z,98nm,0.8s
KSH pmax pmax
comp=Z,510nm,3.9s
KSH LR LR
comp=Z,600nm,7.3s
KSH LR LR
comp=Z,570nm,8.3s
KSH LR LR
comp=Z,560nm,9.2s
LVV L'vov 24.41 322 eP P 15 42 21.8 +0.9
BTLS Baital 24.43 51⇑iP P 15 42 21.6 +0.5
comp=Z,405nm,1.0s
BTLS i S S 15 46 40.8 +2.5
BBLS Lazići 24.45 306 eP P 15 42 22.1 +0.7
TEKS Tekeris 24.60 307⇓iP P 15 42 22.6 -0.1
FGSL Fruska Gora 24.63 309⇑iP P 15 42 23.3 +0.4
UZH Uzhgorod 24.68 318 eP P 15 42 24.8 +1.5
UZH e 15 42 29.4
OTUK Ortayu 24.79 43 P P 15 42 24.3 -0.1
OTUK pmax pmax
comp=Z,31nm,0.9s
TKM2 Tokmak 2 24.82 57 P P 15 42 26.1 +1.2
SNR=49
TKM2 Tokmak 2 24.82 57 i P P 15 42 25.9 +1.0
TKM2 pmax pmax
comp=Z,30nm,0.7s
KWP Kalwaria Pacla 25.00 321 eP P 15 42 26.9 +0.7
KWP Kalwaria Pacla 25.00 321 eP P 15 42 26.9 +0.7
ULHL Ulahol 25.11 59 P P 15 42 29.1 +1.6
SNR=22
CRVS Cervenica-Dubn 25.29 318 eP P 15 42 29.8 +0.9
CRVS Cervenica-Dubn 25.29 318 eP P 15 42 29.8 +0.9
CRVS pmax pmax
comp=Z,23nm,1.5s
ARU Arti 25.32 15 P P 15 42 28.9 -0.1
comp=Z,13nm,0.7s,baz=208,slow=5.9,SNR=19
ARU Arti 25.32 15 eP P 15 42 27.7 -1.4
comp=Z,40nm,1.0s
ARU Arti 25.32 15c iP P 15 42 28.6 -0.5
ARU 15 43 05.6
ARU S S 15 46 54.6 +2.2
ARU SS SnSn 15 47 49.1 +3.0
ARU pmax pmax
comp=Z,79nm,1.7s
TIP Timpagrande 25.40 294⇑iP P 15 42 31.3 +1.2
TIP Timpagrande 25.40 294 eP P 15 42 28.9 -1.2
comp=Z,40nm,0.8s
TIP Timpagrande 25.40 294 eP P 15 42 28.9 -1.2
comp=Z,40nm,0.8s
KUU Kurty 25.61 55⇑iP P 15 42 32.6 +0.8
comp=Z,186nm,1.1s
KUU eS S 15 46 59.7 +2.5
KUU LR LR 15 52 24.1
comp=Z,36nm,10.5s
MATE Matera 25.64 297⇓iP P 15 42 32.5 +0.4
MATE Matera 25.64 297⇓iP P 15 42 32.5 +0.4
STHS Stebnicka Huta 25.68 319 eP P 15 42 34.2 +1.8
STHS Stebnicka Huta 25.68 319 eP P 15 42 34.2 +1.8
STHS pmax pmax
comp=Z,9.0nm,0.9s
PSZ Piszkesteto 25.72 315⇓iP P 15 42 33.9 +1.0
PSZ Piszkesteto 25.72 315⇓eP P 15 42 34.8 +1.9
PSZ Piszkesteto 25.72 315 eP P 15 42 30.2 -2.7
comp=Z,16nm,1.0s
PSZ Piszkesteto 25.72 315⇓iP P 15 42 33.9 +1.0
PSZ Piszkesteto 25.72 315 eP P 15 42 30.2 -2.7
PSZ pmax pmax
comp=Z,17nm,1.0s
KDJ Kajisay 25.76 59 eP P 15 42 34.6 +1.1
comp=Z,25nm,1.0s
KDJ Kajisay 25.76 59 eP P 15 42 34.6 +1.1
comp=Z,25nm,1.0s
MORH Mˆ‡rˆ¡gy, Hung 25.78 311⇑eP P 15 42 33.8 +0.5
MICGM Minsk 25.94 334 e P 15 42 34.0 -0.7
MNK Minsk 25.94 334 eP P 15 42 34.0 -0.7
CEL Celeste 26.00 292 eP P 15 42 33.7 -1.8
comp=Z,39nm,0.9s
CEL Celeste 26.00 292 eP P 15 42 33.7 -1.8
comp=Z,39nm,0.9s
TARG Taragay, Kyrgy 26.14 60 eP P 15 42 38.0 +0.9
comp=Z,24nm,0.8s
TARG Taragay, Kyrgy 26.14 60 eP P 15 42 38.0 +0.9
comp=Z,24nm,0.8s
SVE Sverdlovsk 26.17 17⇑iP P 15 42 37.1 +0.3
SVE pmax pmax
comp=Z,40nm,1.2s
NIE Niedzica 26.21 318 eP P 15 42 38.4 +1.2
NIE Niedzica 26.21 318 eP P 15 42 38.4 +1.2
CUC Castrocucco 26.22 296 eP P 15 42 38.8 +1.3
comp=Z,38nm,1.0s
CUC Castrocucco 26.22 296 eP P 15 42 38.8 +1.3
comp=Z,38nm,1.0s
LANS Liptovska Anna 26.55 317 eP P 15 42 41.4 +1.1
LANS Liptovska Anna 26.55 317 eP P 15 42 41.4 +1.1
LANS Liptovska Anna 26.55 317 eP P 15 42 41.4 +1.1
BRVK Borovoye 26.58 32 eP P 15 42 40.2 -0.3
comp=Z,27nm,0.8s
BRVK Borovoye 26.58 32 P P 15 42 40.4 -0.1
SNR=13
BRVK Borovoye 26.58 32c iP P 15 42 40.1 -0.3
BRVK pmax pmax
comp=Z,18nm,1.4s
BVAR Borovoye Array 26.60 32 P P 15 42 41.1 +0.4
comp=Z,9.2nm,0.5s,baz=219,slow=9.1,SNR=92
BVAR PcP PcP 15 46 05.3 +1.3
comp=Z,2.6nm,0.8s,baz=298,slow=3.2,SNR=5.2
BVAR ScP ScP 15 49 42.3 +1.4
comp=Z,1.9nm,0.8s,baz=222,slow=2.0,SNR=9.0
BVAR LR LR 15 55 39.0
comp=Z,358nm,20.2s,baz=238,slow=42
VYHS Vyhne 26.61 315 eP P 15 42 42.7 +1.8
comp=Z,19nm,2.0s
VYHS Vyhne 26.61 315 eP P 15 42 42.7 +1.8
VYHS Vyhne 26.61 315 eP P 15 42 42.7 +1.8
VYHS pmax pmax
comp=Z,19nm,2.0s
NACGM Naroch 26.66 334 e P 15 42 40.0 -1.2
SATY Saty 26.85 58⇑iP P 15 42 44.4 +1.2
comp=Z,728nm,1.2s
SATY LR LR 15 53 31.7
comp=Z,57nm,9.4s
ZHN Zhinishke 26.89 57⇑iP P 15 42 44.8 +1.2
comp=Z,286nm,1.2s
ZHN eS S 15 47 20.7 +3.0
OJC Ojcow 26.90 319 eP P 15 42 43.6 +0.2
OJC Ojcow 26.90 319 eP P 15 42 41.2 -2.2
comp=Z,18nm,1.0s
OJC Ojcow 26.90 319 eP P 15 42 43.6 +0.2
IDID Didziasalis 26.99 334 eP P 15 42 43.9 -0.3
IDID IAmb IAmb 15 42 47.4
comp=Z,15nm,0.9s
IDID Didziasalis 26.99 334 eP P 15 42 43.9 -0.3
SNR=28
KPKS Kokpek 27.14 57⇑iP P 15 42 46.5 +0.8
comp=Z,422nm,1.1s
VAE Valguarnera 27.14 290 P P 15 42 47.9 +2.1
comp=Z,12nm,0.7s,baz=48,slow=12,SNR=3.0
IIGN Ignalina 27.21 334 eP P 15 42 45.9 -0.2
IIGN IAmb IAmb 15 42 49.5
comp=Z,11nm,0.7s
IIGN Ignalina 27.21 334 eP P 15 42 45.9 -0.2
SNR=28
UZB Uzynbulak 27.31 58⇑eP P 15 42 48.4 +1.0
comp=Z,212nm,1.5s
UZB eS S 15 47 27.0 +2.7
UZB LR LR 15 54 15.2
comp=Z,49nm,11.0s
IZAR Zarasai 27.50 334 eP P 15 42 48.4 -0.3
IZAR IAmb IAmb 15 42 53.5
comp=Z,11nm,0.8s
SHLS Shalkode 27.62 58⇑eP P 15 42 53.6 +3.5
comp=Z,123nm,1.4s
SHLS LR LR 15 54 47.7
comp=Z,52nm,10.5s
OKC Ostrava-Krasne 27.63 318 eP P 15 42 50.8 +0.8
OKC Ostrava-Krasne 27.63 318 eP P 15 42 50.8 +0.8
OKC Ostrava-Krasne 27.63 318 eP P 15 42 50.8 +0.8
PDGK Podgornoye 27.68 57 i P P 15 42 51.8 +1.1
comp=Z,18nm,1.0s
PDGK Podgornoye 27.68 57 i P P 15 42 51.8 +1.1
PDGK pmax pmax
comp=Z,18nm,1.0s
BOJS Bojanci 27.78 307 eP P 15 42 52.1 +0.8
MORC Moravsky Berou 27.95 317 eP P 15 42 46.6 -6.3
comp=Z,106nm,1.6s
MORC Moravsky Berou 27.95 317 eP P 15 42 52.8 -0.1
MORC Moravsky Berou 27.95 317 eP P 15 42 46.6 -6.3
MORC pmax pmax
comp=Z,106nm,1.6s
VISS Visnje 28.14 308 i P P 15 42 54.9 +0.3
ARSA Arzberg 28.16 311 P P 15 42 55.2 +0.4
comp=Z,5.4nm,1.2s
ARSA Arzberg 28.16 311 eP P 15 42 55.2 +0.4
comp=Z,5.4nm,1.2s
CONA Conrad Observa 28.19 313 P P 15 42 54.7 -0.4
comp=Z,12nm,1.6s
CONA Conrad Observa 28.19 313 eP P 15 42 54.6 -0.4
comp=Z,12nm,1.6s
PERS Pernice 28.21 310 i P P 15 42 56.2 +0.9
SOKA Soboth 28.28 310 ePcP PcP 15 46 10.3 +2.0
comp=Z,4.5nm,0.6s
VRAC Vranov 28.30 316 P P 15 42 56.4 +0.5
comp=Z,1.5nm,0.5s,baz=107,slow=7.5,SNR=7.3
VRAC LR LR 15 55 26.1
comp=Z,60nm,19.8s,baz=166,slow=39
JAVS Javornik 28.68 308 eP P 15 42 58.6 -1.0
KLMR Klimovskoe 28.89 352 eP P 15 42 58.3 -2.8
KLMR AMP 15 43 00.1
comp=Z,15nm,1.1s
KLMR Klimovskoe 28.89 352 eP P 15 42 58.2 -2.8
KLMR pmax pmax
comp=Z,15nm,1.1s
DPC Dobruska-Polom 28.91 317 eP P 15 43 01.4 -0.1
DPC ex x 15 43 10.5
DPC Dobruska-Polom 28.91 317 eP P 15 43 01.4 -0.1
DPC Dobruska-Polom 28.91 317 eP P 15 43 01.4 -0.1
DPC e 15 43 10.5
UPC Upice 29.16 318 eP P 15 43 03.8 +0.2
UPC Upice 29.16 318 eP P 15 43 03.8 +0.2
UPC Upice 29.16 318 eP P 15 43 03.8 +0.2
MOA Molln 29.16 312 eP P 15 43 03.2 -0.5
comp=Z,8.7nm,0.7s
MYKA Terra Mystica 29.18 309 P P 15 43 04.0 +0.1
comp=Z,12nm,1.4s
MYKA Terra Mystica 29.18 309 eP P 15 43 04.0 +0.1
comp=Z,12nm,1.4s
VSU Vasula 29.46 338⇓eP P 15 43 05.8 -0.3
VSU pmax pmax
comp=Z,44nm,0.8s
KURBB Kurchatov Arra 29.47 43 P P 15 43 07.0 +0.6
comp=Z,10nm,1.0s,baz=249,slow=9.5,SNR=20
KURBB PcP PcP 15 46 11.6 +0.5
comp=Z,2.2nm,0.9s,baz=233,slow=3.6,SNR=4.6
KURBB ScP ScP 15 49 52.0 +2.3
comp=Z,1.4nm,0.9s,baz=247,slow=4.4,SNR=7.9
KBA Koelnbreinsper 29.51 310 P P 15 43 07.4 +0.5
comp=Z,9.5nm,0.8s
KBA Koelnbreinsper 29.51 310 epP P 15 43 07.4 +0.5
comp=Z,9.5nm,0.8s
KURK Kurchatov 29.57 42 P P 15 43 07.0 -0.2
KURK PcP PcP 15 46 11.6 +0.3
KURK ScP ScP 15 49 52.0 +2.0
KURK Kurchatov 29.57 42 P P 15 43 07.0 -0.2
KURK 15 46 11.6
KURK 15 49 52.1
GOPC GO Pecny, Ondr 29.62 316 AMS AMS 15 57 30.0
comp=Z,100nm,12.0s
PRU Pruhonice 29.80 316 AMS AMS 15 57 30.0
comp=Z,200nm,15.7s
GEA0 GERESS Array S 29.86 313 eP P 15 43 08.5 -1.4
GEA0 GERESS Array S 29.86 313 eP P 15 43 08.5 -1.4
GERES GERESS Array B 29.87 313 P P 15 43 09.9 -0.1
comp=Z,0.9nm,0.8s,baz=111,slow=7.6,SNR=6.0
GERES PcP PcP 15 46 13.7 +1.4
comp=Z,1.9nm,0.6s,baz=146,slow=2.6,SNR=9.9
ABTA Abfaltersbach 29.96 309 P P 15 43 10.5 -0.3
comp=Z,7.5nm,1.1s
ABTA Abfaltersbach 29.96 309 eP P 15 43 10.5 -0.3
comp=Z,7.5nm,1.1s
KHC Kasperske Hory 30.05 314 eP P 15 43 12.3 +0.8
KHC AMS AMS 15 59 10.0
comp=Z,200nm,15.4s
KHC Kasperske Hory 30.05 314 eP P 15 43 12.3 +0.8
KHC MLR MLR
comp=Z,200nm,15.4s
MAKZ Makanchi 30.24 51 eP P 15 43 13.4 +0.2
comp=Z,5.8nm,0.8s
MAKZ Makanchi 30.24 51 eP P 15 43 13.4 +0.2
MAKZ pmax pmax
comp=Z,6.0nm,0.8s
SEM Semipalatinsk 30.38 44⇑iP P 15 43 15.3 +0.7
comp=Z,102nm,1.0s
SEM LR LR 15 55 30.1
comp=Z,58nm,14.2s
MK01 Makanchi Array 30.44 52 eP P 15 43 15.4 +0.4
MK01 Makanchi Array 30.44 52 eP P 15 43 15.4 +0.4
MK31 Makanchi Array 30.44 51 eP P 15 43 15.6 +0.5
MK31 Makanchi Array 30.44 51 eP P 15 43 15.6 +0.5
MK31 Makanchi Array 30.44 51 i P P 15 43 15.5 +0.5
MK31 pmax pmax
comp=Z,18nm,0.7s
MKAR Makanchi Array 30.44 51 P P 15 43 15.6 +0.6
comp=Z,12nm,0.8s,baz=248,slow=7.2,SNR=89
MKAR PcP PcP 15 46 14.5 +0.8
comp=Z,1.2nm,0.7s,baz=213,slow=2.6,SNR=2.7
MKAR LR LR 15 57 23.6
comp=Z,262nm,18.4s,baz=255,slow=40
BRG Berggiesshubel 30.51 317 eP P 15 43 15.1 -0.4
comp=Z,5.7nm,1.1s
BRG Berggiesshubel 30.51 317 eP P 15 43 15.1 -0.4
BRG pmax pmax
comp=Z,6.0nm,1.1s
WTTA Wattenberg 30.68 309 P P 15 43 16.9 -0.4
comp=Z,13nm,1.0s
WTTA Wattenberg 30.68 309 PcP PcP 15 46 16.2 +1.7
comp=Z,5.1nm,0.7s
WTTA Wattenberg 30.68 309 eP P 15 43 16.9 -0.4
comp=Z,13nm,1.0s
WTTA i PcP PcP 15 46 16.2 +1.7
comp=Z,5.1nm,0.7s
WATA Walderalm 30.74 309 P P 15 43 17.0 -0.7
comp=Z,6.3nm,0.6s
WATA Walderalm 30.74 309 eP P 15 43 17.0 -0.7
comp=Z,6.3nm,0.6s
MOTA Moosalm 31.05 309 P P 15 43 19.6 -0.9
comp=Z,10nm,0.7s
MOTA Moosalm 31.05 309 PcP PcP 15 46 17.0 +1.5
comp=Z,4.7nm,0.6s
MOTA Moosalm 31.05 309 eP P 15 43 19.6 -0.9
comp=Z,10nm,0.7s
MOTA ePcP PcP 15 46 17.0 +1.5
comp=Z,4.7nm,0.6s
FETA Feichten 31.21 309 P P 15 43 21.4 -0.5
comp=Z,8.6nm,0.9s
FETA Feichten 31.21 309 PcP PcP 15 46 17.9 +2.0
comp=Z,8.4nm,0.8s
FETA Feichten 31.21 309 eP P 15 43 21.4 -0.5
comp=Z,8.6nm,0.9s
FETA i PcP PcP 15 46 17.9 +2.0
comp=Z,8.4nm,0.8s
CLL Collm 31.23 317 eP P 15 43 22.0 +0.2
CLL epP pP 15 43 24.0 -8.8
CLL e 15 43 39.0
CLL eS S 15 48 33.0 +7.7
CLL Lm MLR 15 58 00.0
comp=N,100nm,18.3s
CLL Lm MLR 15 58 00.0
comp=E,100nm,19.5s
CLL Lm MLR 15 58 00.0
comp=Z,100nm,18.3s
CLL Collm 31.23 317 eP P 15 43 24.0 +2.2
CLL eS S 15 48 33.0 +7.7
PYUN Piuthan 31.25 88 eP P 15 43 23.6 +1.0
comp=Z,52nm,0.8s
KEST Kesra 31.28 287 P P 15 43 24.8 +2.2
comp=Z,22nm,0.9s,baz=221,slow=3.0,SNR=13
DANN Dangsing 31.83 88 eP P 15 43 29.2 +1.4
DAVA Damuels 31.84 309 P P 15 43 27.0 -0.4
comp=Z,16nm,0.7s
DAVA Damuels 31.84 309 PcP PcP 15 46 19.3 +1.7
comp=Z,8.8nm,0.9s
DAVA Damuels 31.84 309 i P P 15 43 27.0 -0.4
comp=Z,16nm,0.7s
DAVA ePcP PcP 15 46 19.3 +1.7
comp=Z,8.8nm,0.9s
KOLN Koldanda 31.87 89 eP P 15 43 28.8 +0.8
comp=Z,29nm,0.9s
FIA1 FINESS Array S 32.09 341 eP P 15 43 28.1 -1.2
FINES FINESS Array B 32.09 341 P P 15 43 28.4 -0.9
comp=Z,5.3nm,0.5s,baz=146,slow=9.3,SNR=32
FINES LR LR 15 58 13.3
comp=Z,134nm,19.3s,baz=76,slow=40
HYB Hyderabad 32.09 110 i P P 15 43 32.0 +2.2
ZSN Zaisan 32.31 51 eP P 15 43 28.9 -2.6
comp=Z,12nm,1.1s
ZSN LR LR 15 56 28.6
comp=Z,43nm,13.1s
GKN Gorkha 32.67 88 eP P 15 43 35.9 +0.9
comp=Z,80nm,0.7s
DMN Daman 33.19 88 eP P 15 43 40.6 +1.0
KKN Kakani 33.28 88 eP P 15 43 41.4 +1.0
comp=Z,64nm,0.6s
PKIN Phulchoki 33.44 88 eP P 15 43 43.4 +1.6
comp=Z,92nm,0.7s
BNI Bardonecchia 33.59 304 eP P 15 43 42.0 -0.8
comp=Z,26nm,0.9s
BNI Bardonecchia 33.59 304 eP P 15 43 42.0 -0.8
BNI pmax pmax
comp=Z,26nm,0.9s
WMQ Urumqi 33.64 58 P P 15 43 43.3 +0.1
WMQ pP pP 15 43 51.5 -2.7
WMQ sP sP 15 43 56.8 -2.1
WMQ LR LR
comp=Z,370nm,18.1s
WMQ LR LR
comp=Z,290nm,22.7s
WMQ LR LR
comp=Z,310nm,29.5s
GUN Gumba 33.75 87 eP P 15 43 45.9 +1.3
comp=Z,174nm,0.9s
ECH Echery 33.84 310 eP P 15 43 44.1 -0.7
comp=Z,11nm,1.0s
ECH Echery 33.84 310 eP P 15 43 44.1 -0.7
ECH pmax pmax
comp=Z,11nm,1.0s
NVS Novosibirsk 33.91 38 eP P 15 43 45.9 +0.7
NVS e 15 44 59.9
NVS pmax pmax
comp=Z,22nm,1.5s
NVS pmax pmax
comp=N,12nm,1.6s
NVS pmax pmax
comp=E,6.0nm,0.7s
JIRN Jiri 34.09 88 eP P 15 43 48.7 +1.1
comp=E,110nm,0.6s
ZAA0 Zalesovo Array 34.37 40 eP P 15 43 48.2 -1.1
comp=E,9.8nm,0.8s
ZALV Zalesovo Beam 34.37 40 P P 15 43 48.9 -0.4
comp=E,6.7nm,0.5s,baz=256,slow=9.4,SNR=32
ZALV LR LR 15 59 15.2
comp=E,97nm,21.8s,baz=252,slow=39
DGZ Jazzator, Alta 34.52 48 i P P 15 43 51.7 +0.9
DGZ pmax pmax
comp=Z,3.0nm,0.9s
KMBO Kilima Mbogo 34.61 197 LR LR 15 57 56.6
comp=Z,203nm,18.9s,baz=88,slow=36
RAMN Ramite 34.66 89 eP P 15 43 52.8 +0.5
comp=Z,88nm,0.7s
ODAN Odare 35.35 88 eP P 15 43 58.5 +0.2
comp=Z,22nm,0.5s
HFS Hagfors 35.38 332 P P 15 43 57.8 -0.1
comp=Z,17nm,0.7s,baz=120,slow=8.8,SNR=45
NB2 NORSAR Subarra 36.90 332 P P 15 44 09.9 -1.1
comp=Z,1.7nm,0.7s,baz=125,slow=8.6
NOA NORSAR Array B 36.90 332 P P 15 44 09.1 -1.8
comp=Z,2.6nm,0.8s,baz=125,slow=8.5,SNR=8.3
NOA PP PnPn 15 45 36.1 +0.4
comp=Z,1.4nm,0.7s,baz=135,slow=10,SNR=3.4
NOA LR LR 16 00 39.0
comp=Z,71nm,22.0s,baz=125,slow=38
LSA Lhasa 37.69 82 eP P 15 44 15.4 -3.1
comp=Z,18nm,0.9s
LSA Lhasa 37.69 82 eP P 15 44 15.4 -3.1
comp=Z,18nm,0.9s
LSA Lhasa 37.69 82 eP P 15 44 15.4 -3.1
LSA pmax pmax
comp=Z,18nm,0.9s
TAM Tamanrasset 37.82 266 eP P 15 44 16.6 -2.7
comp=Z,17nm,0.9s
TAM Tamanrasset 37.82 266 eP P 15 44 16.6 -2.7
comp=Z,17nm,0.9s
TAM Tamanrasset 37.82 266 eP P 15 44 16.6 -2.7
TAM pmax pmax
comp=Z,17nm,0.9s
HVS Khovu-Aksy 38.75 47⇑eP P 15 44 27.4 +0.7
HVS pmax pmax
comp=Z,6.0nm,1.4s
ARCES ARCESS Array B 39.11 348 P P 15 44 28.3 -1.1
comp=Z,3.4nm,0.8s,baz=153,slow=9.2,SNR=8.9
ARCES PP PP 15 45 58.2 -1.1
comp=Z,3.1nm,0.7s,baz=152,slow=10,SNR=4.8
ARCES PcP PcP 15 46 39.4 +1.0
comp=Z,4.2nm,0.8s,baz=168,slow=4.6,SNR=3.8
ARCES ScP S 15 50 25.2 -0.8
comp=Z,2.1nm,0.8s,baz=188,slow=4.6,SNR=6.0
KRAR Krasnoyarsk 39.44 39⇓eP P 15 44 33.4 +1.1
SHL Shillong 39.59 88 eP P 15 44 38.0 +3.9
ES19 SONSECA Array 41.37 295 eP P 15 44 48.2 -0.3
ES19 SONSECA Array 41.37 295 eP P 15 44 48.2 -0.3
ESDC Sonseca Array 41.42 295 P P 15 44 49.2 +0.3
comp=Z,5.3nm,0.8s,baz=76,slow=8.4,SNR=17

ESDC PcP **PcP** **15 46 47.7 +1.2**
comp=Z,0.7nm,0.6s,baz=65,slow=3.4,SNR=4.3
EKA **Eskdalemuir Ar** **41.67 319** P **P** **15 44 50.4 -0.3**
comp=Z,11nm,0.8s,baz=110,slow=8.4,SNR=20
EKA PcP **PcP** **15 46 48.3 +1.4**
comp=Z,4.0nm,0.8s,baz=112,slow=5.7,SNR=6.6
GTA **Gaotai** **42.80 65** P **P** **15 45 01.1 +0.7**
GTA pP pP 15 45 08.8 -2.8
GTA sP sP 15 45 11.9 -4.4
GTA PcP **PcP** **15 46 52.3 +1.2**
GTA S **S** **15 51 22.4 +0.5**
GTA SS **SS** **15 54 26.8 -6.9**
GTA pmax pmax
comp=Z,11nm,0.9s
GTA pmax pmax
comp=Z,100nm,6.5s
GTA LR LR
comp=Z,200nm,19.5s
GTA LR LR
comp=Z,140nm,19.4s
GTA LR LR
comp=Z,180nm,16.6s
PBRG **Braganca** **43.30 298** *e*P **P** **15 45 04.6 +0.4**
MOY **Mondy** **43.34 47** *e*P **P** **15 45 06.5 +2.0**
MOY pmax pmax
comp=Z,23nm,2.3s
PBAR **Barrancos** **44.00 293** *e*P **P** **15 45 10.2 +0.3**
PBAR **Barrancos** **44.00 293** *e*P **P** **15 45 10.2 +0.3**
PMRV **Marv??o** **44.08 295** *e*P **P** **15 45 10.8 +0.3**
PMRV **Marv??o** **44.08 295** *e*P **P** **15 45 10.8 +0.3**
PCBR **Castelo Branco** **44.08 296** *e*P **P** **15 45 11.6 +1.1**
PCBR **Castelo Branco** **44.08 296** *e*P **P** **15 45 11.6 +1.1**
POLO **Lamas de Olo** **44.13 298** *e*P **P** **15 45 11.5 +0.5**
POLO **Lamas de Olo** **44.13 298** *e*P **P** **15 45 11.5 +0.5**
PESTR **Estremoz** **44.31 294** *e*P **P** **15 45 12.9 +0.5**
PESTR **Estremoz** **44.31 294** *e*P **P** **15 45 12.9 +0.5**
PGAV **Gavieira, Arco** **44.41 299** *e*P **P** **15 45 14.5 +1.2**
PVAQ **Vaqueiros** **44.66 292** *e*P **P** **15 45 15.8 +0.6**
PVAQ **Vaqueiros** **44.66 292** *e*P **P** **15 45 15.8 +0.6**
PBEJ **Beja** **44.67 293** *e*P **P** **15 45 15.6 +0.4**
PBEJ **Beja** **44.67 293** *e*P **P** **15 45 15.6 +0.4**
ZAK **Zakamensk** **44.71 49** *e*P **P** **15 45 16.3 +0.8**
ZAK *e* 15 46 57.1
ZAK pmax pmax
comp=Z,4.0nm,1.7s
ZAK pmax pmax
comp=Z,3.0nm,1.2s
TLY **Talaya** **44.99 47** *e*P **P** **15 45 19.3 +1.7**
TLY pmax pmax
comp=Z,5.0nm,1.5s
TLY MLR MLR
comp=Z,60nm,12.0s
PNCL **Nicolau / Gran** **45.17 293** *e*P **P** **15 45 20.1 +0.9**
PNCL **Nicolau / Gran** **45.17 293** *e*P **P** **15 45 20.1 +0.9**
TORD **Torodi Ar. Bea** **45.60 256** P **P** **15 45 23.3 +0.5**
comp=Z,18nm,0.8s,baz=52,slow=8.3,SNR=67
LZH **Lanzhou** **46.53 69** *e*P **P** **15 45 31.3 +1.1**
LZH pP pP 15 45 41.6 +0.1
LZH sP sP 15 45 46.5 +0.3
LZH *e*S **S** **15 52 14.0 -2.2**
LZH sS sS 15 52 34.6 -0.4
LZH pmax pmax
comp=Z,47nm,1.1s
LZH pmax pmax
comp=Z,180nm,4.6s
SONM **Songino Array** **46.80 53** P **P** **15 45 32.5 +0.5**
comp=Z,1.7nm,0.6s,baz=276,slow=9.4,SNR=14
SONM PcP **PcP** **15 47 05.5 +0.8**
comp=Z,1.1nm,0.6s,baz=232,slow=1.5,SNR=3.7
SONM LR LR 16 08 59.0
comp=Z,120nm,19.5s,baz=263,slow=41
SONA1 **Songino Array** **46.80 53** *e*P **P** **15 45 32.1 0.0**
ULN **Ulaanbaatar** **47.24 53** *e*P **P** **15 45 35.0 -0.5**
comp=Z,9.3nm,0.7s
ULN **Ulaanbaatar** **47.24 53** P **P** **15 45 36.1 +0.7**
SNR=10
ULN **Ulaanbaatar** **47.24 53***c* *i*P **P** **15 45 36.2 +0.7**
ULN pmax pmax
comp=Z,25nm,1.7s
SPITS **Spitsbergen Ar** **47.79 352** P **P** **15 45 39.3 +0.1**
comp=Z,7.9nm,0.7s,baz=119,slow=12,SNR=17
CD2 **Chengdu** **47.81 76** *e*P **P** **15 45 38.3 -1.7**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,120nm,5.0s
CMAI **Chiengmai2** **47.88 92** P **P** **15 45 40.9 +0.1**
comp=Z,81nm,0.9s
CHTO **Chiang Mai** **48.29 93** P **P** **15 45 44.2 +0.4**
comp=Z,64nm,1.5s
CHTO **Chiang Mai** **48.29 93** *e*P **P** **15 45 44.2 +0.4**
comp=Z,9.0nm,0.8s
CHTO **Chiang Mai** **48.29 93** P **P** **15 45 39.2 -4.6**
SNR=6.6
CHTO **Chiang Mai** **48.29 93** *e*P **P** **15 45 44.2 +0.4**
CHTO pmax pmax
comp=Z,9.0nm,0.8s
CMMT **Chiang Mai** **48.29 93** P **P** **15 45 43.1 -0.8**
comp=Z,14nm,1.0s
CMAR **Chiang Mai Arr** **48.45 94** P **P** **15 45 44.9 -0.2**
comp=Z,4.7nm,0.6s,baz=291,slow=8.4,SNR=43
CMAR PcP **PcP** **15 47 12.3 +1.4**
comp=Z,2.8nm,0.7s,baz=287,slow=4.5,SNR=6.5
CMAR PP **PP** **15 47 37.0 -0.9**
comp=Z,2.2nm,0.9s,baz=297,slow=9.2,SNR=3.9
CMAR LR LR 16 08 32.2
comp=Z,94nm,18.2s,baz=190,slow=39
PAYA **Payao** **48.83 92** P **P** **15 45 49.4 +1.4**
comp=Z,4.3nm,0.8s
KMI **Kunming** **48.90 84** P **P** **15 45 49.3 +0.5**
KMI pP pP 15 45 59.3 -0.9
KMI S **S** **15 52 49.4 -0.7**
KMI pmax pmax
comp=Z,16nm,1.0s
LAMP **Lampang** **49.00 93** P **P** **15 45 50.5 +1.2**
comp=Z,6.9nm,0.9s
KOWA **Kowa** **49.64 261** P **P** **15 45 55.0 +0.8**
comp=Z,14nm,0.7s,baz=58,slow=7.6,SNR=40
KOWA **Kowa** **49.64 261** *e*P **P** **15 45 54.9 +0.8**
comp=Z,18nm,0.8s
NANT **Nan** **49.78 92** P **P** **15 45 55.9 +0.7**
comp=Z,7.4nm,0.9s
PHIT **Phitsanulok** **50.28 94** P **P** **15 46 00.3 +1.3**
comp=Z,12nm,0.9s
OPO **Ambohidratompo** **50.68 180** LR LR 16 07 22.3
comp=Z,226nm,20.3s,baz=10.0,slow=36
LSZ **Lusaka** **50.73 204** P **P** **15 46 05.2 +2.7**
comp=Z,5.9nm,0.7s,baz=24,slow=6.1,SNR=12
PBKT **Sadao Pong** **51.04 95** P **P** **15 46 04.2 -0.5**
comp=Z,26nm,0.9s
XAN **Xi'an** **51.08 70** P **P** **15 46 05.0 0.0**
XAN pP pP 15 46 15.3 -1.1
XAN pmax pmax
comp=Z,9.0nm,0.8s
XAN pmax pmax
comp=Z,160nm,4.2s
BOD **Bodaibo** **51.12 39** *e*P **P** **15 46 04.2 -0.6**
BOD pmax pmax
comp=Z,16nm,1.9s
HHC **Hu-ho-hao-te** **51.43 61** *e*P **P** **15 46 05.6 -1.9**
HHC S **S** **15 53 18.5 -6.2**
HHC pmax pmax
comp=Z,23nm,1.2s
HHC pmax pmax
comp=Z,100nm,6.4s
HHC LR LR
comp=Z,710nm,15.6s
HHC LR LR
comp=Z,650nm,16.1s
HHC LR LR
comp=Z,810nm,15.0s
PHET **Kaeng Krachan** **51.72 99** P **P** **15 46 10.7 +0.8**
comp=Z,17nm,0.8s
BORG **Borgarnes** **52.01 330** LR LR 16 09 31.6
comp=Z,23nm,18.5s,baz=148,slow=38
CHAI **Chaiyaphum** **52.21 95** P **P** **15 46 14.2 +0.7**
comp=Z,3.9nm,0.8s
NAYO **Nakonayok** **52.42 97** P **P** **15 46 15.6 +0.5**
comp=Z,53nm,1.2s
SCO **Scoresbysund** **52.83 337** *i* P **P** **15 46 18.4 +1.1**
comp=Z,3.9nm,0.6s
SCO **Scoresbysund** **52.83 337** *i* P **P** **15 46 18.4 +1.1**
SCO pmax pmax
comp=Z,4.0nm,0.6s
SRAK **Srakaew** **53.18 97** P **P** **15 46 24.8 +4.1**
comp=Z,99nm,0.9s

DAG **Danmarks Havn** **53.19 345**⇑ *i*P **P** **15 46 19.7 -0.2**
DAG **Danmarks Havn** **53.19 345**⇑ *i*P **P** **15 46 19.7 -0.2**
SKNT **Sakolnakorn** **53.39 92** P **P** **15 46 21.5 -0.7**
comp=Z,11nm,1.1s
DBIC **Dimbokro** **54.55 254** P **P** **15 46 31.4 +0.7**
comp=Z,21nm,1.1s,baz=31,slow=8.7,SNR=8.0
DBIC LR LR 16 10 21.4
comp=Z,104nm,19.8s,baz=34,slow=37
KIC **Kosan Boka** **54.63 253** *e*P **P** **15 46 31.8 +0.5**
comp=Z,42nm,0.9s
TIC **Toumodi** **54.70 254** *e*P **P** **15 46 32.1 +0.3**
LIC **Lamto** **54.94 253** *e*P **P** **15 46 34.0 +0.4**
comp=Z,80nm,0.9s
BJI **Beijing** **55.04 61** *e*P **P** **15 46 34.5 +0.6**
BJI pmax pmax
comp=Z,10.0nm,0.7s
KULM **Kulim** **56.73 107** P **P** **15 46 44.1 -2.2**
comp=Z,19nm,0.9s
TIXI **Tiksi** **57.05 22** *e*P **P** **15 46 46.7 -1.1**
comp=Z,5.7nm,0.8s
TIXI **Tiksi** **57.05 22**⇑ *e*P **P** **15 46 46.9 -0.9**
TIXI pmax pmax
comp=Z,3.0nm,0.7s
IPM **Ipoh** **57.50 107** *e*P **P** **15 46 51.2 -0.6**
comp=Z,20nm,0.9s
SUMG **Summit** **58.10 339** *i* P **P** **15 46 56.4 +0.7**
comp=Z,14nm,0.9s
SUMG **Summit** **58.10 339** *e*P **P** **15 46 55.1 -0.6**
comp=Z,15nm,0.9s
SUMG **Summit** **58.10 339** *i* P **P** **15 46 56.4 +0.7**
SUMG pmax pmax
comp=Z,14nm,0.9s
YAK **Yakutsk** **58.58 33** *e*P **P** **15 47 03.2 +4.6**
YAK pmax pmax
comp=Z,16nm,0.9s
ZEA **Zeya** **59.04 43** *e*P **P** **15 47 03.0 +1.0**
ZEA pmax pmax
comp=Z,18nm,1.2s
NJ2 **Nanjing** **59.61 69** *e*P **P** **15 47 05.6 -0.7**
NJ2 pmax pmax
comp=Z,14nm,0.5s
CN2 **Changchun** **60.60 55** *e*P **P** **15 47 11.8 -1.1**
CN2 pmax pmax
comp=Z,10.0nm,0.7s
KLR **Kul'dur** **63.01 47**⇑ *i*P **P** **15 47 28.5 -0.5**
SFJD **Kangerlussuaq** **63.51 334** P **P** **15 47 29.8 -2.2**
comp=Z,4.2nm,0.7s,baz=67,slow=7.6,SNR=3.1
SFJD LR LR 16 15 10.2
comp=Z,59nm,20.6s,baz=65,slow=36
KS01 **Wonju Array Si** **64.53 60** *e*P **P** **15 47 37.5 -1.7**
KSAR **Wonju Array Be** **64.53 61** P **P** **15 47 39.1 -0.1**
KSAR **Wonju Array Be** **64.53 61** P **P** **15 47 39.2 -0.1**
KSRS **Korea Array** **64.56 60** P **P** **15 47 39.1 -0.2**
comp=Z,5.3nm,0.6s,baz=286,slow=7.0,SNR=34
KSRS LR LR 16 18 25.1
comp=Z,65nm,18.4s,baz=282,slow=38
YHNB **Yeheng** **64.58 76** *e*P **P** **15 47 38.6 -1.3**
comp=Z,27nm,1.0s
USRK **Ussuriysk Ar.** **64.91 52** P **P** **15 47 40.7 -0.9**
comp=Z,10.0nm,0.6s,baz=280,slow=6.7,SNR=24
USRK LR LR 16 18 38.9
comp=Z,103nm,20.8s,baz=280,slow=38
MSHR **Mys Shultsa** **64.94 54***d* *i*P **P** **15 47 41.7 -0.1**
VLA **Vladivostok** **65.24 53**⇓ *e*P **P** **15 47 42.9 -0.8**
VLA pmax pmax
comp=Z,11nm,0.6s
NKL **Nikolayevsk** **66.84 41** *e*P **P** **15 47 52.0 -1.8**
NKL pmax pmax
comp=Z,17nm,1.0s
SEY **Seymchan** **68.17 28**⇑ *e*P **P** **15 48 02.4 +0.3**
JNU **Nakatsue** **68.52 64** LR LR 16 20 41.6
comp=Z,63nm,19.6s,baz=293,slow=38
MA2 **Magadan** **69.09 32** *e*P **P** **15 48 07.6 -0.3**
comp=Z,22nm,0.9s
MA2 **Magadan** **69.09 32** *e*P **P** **15 48 07.6 -0.3**
MA2 pmax pmax
comp=Z,22nm,0.9s
BILL **Bilibino** **70.20 20**⇓ *i*P **P** **15 48 14.9 +0.3**
BILL *e* 15 48 34.2
BILL *e* 15 50 54.4
BILL *e*S **SKiKP** **15 57 47.9 -8.6**
BILL pmax pmax
comp=Z,6.0nm,1.1s
BILL MLR MLR
comp=Z,126nm,21.0s
RES **Resolute Bay** **70.30 350** *e*P **P** **15 48 15.7 +0.6**
comp=Z,3.6nm,0.9s
RES **Resolute Bay** **70.30 350** *e*P **P** **15 48 15.7 +0.6**
RES pmax pmax
comp=Z,4.0nm,0.9s
YSS **Yuzh-Sakhalins** **70.68 46** *e*P **P** **15 48 17.6 -0.3**
comp=Z,30nm,1.2s
YSS **Yuzh-Sakhalins** **70.68 46**⇓ *e*P **P** **15 48 17.2 -0.7**
YSS *e* 15 48 19.5
YSS pmax pmax
comp=Z,20nm,0.8s
ASAJ **Asahikawa** **71.88 49** P **P** **15 48 24.4 -0.8**
comp=Z,4.0nm,0.6s,baz=334,slow=4.3,SNR=14
ASAJ **Asahikawa** **71.88 49** *e*P **P** **15 48 24.3 -0.8**
comp=Z,6.0nm,0.7s
MAJO **Matsushiro** **72.40 58**⇓ *i*P **P** **15 48 27.9 -0.6**
MAJO pmax pmax
comp=Z,20nm,1.6s
MAT **Matsushiro** **72.40 58** P **P** **15 48 27.7 -0.8**
MJAR **Matsushiro Arr** **72.41 58** P **P** **15 48 28.0 -0.5**
comp=Z,1.6nm,0.7s,baz=305,slow=7.5,SNR=6.8
MJAR LR LR 16 22 46.4
comp=Z,63nm,21.5s,baz=250,slow=38
ERM **Erimo** **73.23 51**⇑ *e*P **P** **15 48 33.2 -0.1**
ERM pmax pmax
comp=Z,31nm,1.9s
PETK **Petropavlovsk-** **75.79 36** P **P** **15 48 46.4 -1.6**
comp=Z,2.0nm,0.9s,baz=50,slow=2.3,SNR=3.6
PETK LR LR 16 27 18.7
comp=Z,68nm,18.4s,baz=298,slow=40
SCHQ **Schefferville** **76.30 327** P **P** **15 48 51.3 +0.5**
comp=Z,18nm,0.7s,baz=55,slow=5.0,SNR=20
SCHQ **Schefferville** **76.30 327** *e*P **P** **15 48 51.0 +0.2**
comp=Z,21nm,0.8s
TOLK **Toolik Lake Re** **78.51 6** *e*P **P** **15 49 03.7 +0.7**
comp=Z,21nm,0.8s
GAMB **Gambell** **79.36 16** *e*P **P** **15 49 06.1 -1.5**
comp=Z,4.9nm,1.4s
INK **Inuvik** **79.60 0** *e*P **P** **15 49 07.9 -0.9**
comp=Z,5.2nm,1.0s
INK **Inuvik** **79.60 0** *e*P **P** **15 49 07.9 -0.9**
INK pmax pmax
comp=Z,5.0nm,1.0s
COLD **Coldfoot** **79.82 7** *e*P **P** **15 49 10.5 +0.4**
comp=Z,5.2nm,0.9s
MLY **Manley** **81.90 8** *e*P **P** **15 49 21.6 +0.3**
comp=Z,3.9nm,0.8s
MDM **Murphy Dome** **82.23 6** *e*P **P** **15 49 22.9 -0.1**
comp=Z,11nm,1.1s
COLA **College** **82.35 6**⇑ *e*P **P** **15 49 22.9 -0.6**
COLA pmax pmax
comp=Z,10.0nm,1.1s
ILAR **Eielson Array** **82.54 6** P **P** **15 49 24.5 -0.1**
comp=Z,1.5nm,0.7s,baz=333,slow=4.0,SNR=20
BPAW **Bear Paw Mtn.** **82.77 8** *e*P **P** **15 49 22.7 -3.2**
comp=Z,1.2nm,0.9s
EGAK **Eagle** **82.93 4** *e*P **P** **15 49 24.6 -2.0**
comp=Z,11nm,1.0s
CAST **Castle Rocks** **83.30 9** *e*P **P** **15 49 29.1 +0.6**
comp=Z,8.7nm,0.9s
KTH **Kantishna Hill** **83.31 8** *e*P **P** **15 49 29.0 +0.3**
comp=Z,8.5nm,1.0s
MCK **McKinley** **83.36 7** *e*P **P** **15 49 28.5 -0.4**
comp=Z,7.4nm,1.0s
MCK **McKinley** **83.36 7** *e*P **P** **15 49 28.5 -0.4**
MCK pmax pmax
comp=Z,7.0nm,1.0s
SCRK **Sand Creek** **83.55 5** *e*P **P** **15 49 30.1 +0.1**
comp=Z,10nm,1.0s
FCC **Fort Churchill** **83.58 341** *e*P **P** **15 49 29.4 -0.5**
comp=Z,9.3nm,0.8s
FCC **Fort Churchill** **83.58 341** *e*P **P** **15 49 29.5 -0.5**
FCC pmax pmax
comp=Z,9.0nm,0.8s
RND **Reindeer** **83.68 7** *e*P **P** **15 49 29.4 -1.2**
comp=Z,13nm,1.3s
RND **Reindeer** **83.68 7** *e*P **P** **15 49 29.4 -1.2**
RND pmax pmax
comp=Z,13nm,1.3s
RIDG **Independ'e Rid** **83.72 5** *e*P **P** **15 49 30.4 -0.4**
comp=Z,6.0nm,0.9s

DAWY **Dawson** **83.72 3** *e*P **P** **15 49 30.8 0.0**
comp=Z,7.3nm,1.1s
DOT **Dot Lake** **83.87 5** *e*P **P** **15 49 31.4 -0.1**
comp=Z,20nm,1.0s
YKA **Yellowknife Ar** **84.29 352** P **P** **15 49 33.6 0.0**
comp=Z,2.9nm,0.8s,baz=14,slow=5.2,SNR=54
SUA **Susitna One** **85.36 8** *e*P **P** **15 49 39.0 -0.2**
comp=Z,6.6nm,0.8s
SIJI **Sorong** **85.58 94** P **P** **15 49 41.4 +0.5**
comp=Z,7.0nm,0.7s,baz=336,slow=4.4,SNR=5.5
FRNY **Flat Rock** **86.10 322** *e*P **P** **15 49 43.1 +0.1**
comp=Z,8.1nm,0.8s
FFC **Flin Flon** **89.22 343** *i* P **P** **15 49 58.6 +0.8**
ULM **Lac du Bonnet** **91.40 337** P **P** **15 50 07.9 -0.1**
comp=Z,5.1nm,0.8s,baz=37,slow=4.0,SNR=9.3
ULM **Lac du Bonnet** **91.40 337** *e*P **P** **15 50 07.2 -0.8**
comp=Z,5.5nm,0.8s
ULM **Lac du Bonnet** **91.40 337** *e*P **P** **15 50 07.2 -0.8**
ULM pmax pmax
comp=Z,6.0nm,0.8s
WRA **Warramunga Arr** **98.24 108** PP PP 15 54 41.5 +1.5
comp=Z,0.8nm,1.0s,baz=305,slow=8.7,SNR=4.9
WRA PKKPbc **PKKPbc** **16 07 11.2 +0.4**
comp=Z,0.3nm,0.8s,baz=116,slow=3.2,SNR=7.1
ASAR **Alice Springs** **99.81 112** P **Pdif** **15 50 46.2 -0.5**
comp=Z,0.8nm,0.9s,baz=309,slow=3.8,SNR=5.6
ASAR PP **PP** **15 54 52.8 +0.8**
comp=Z,0.9nm,0.9s,baz=314,slow=6.9,SNR=5.8
ASAR PKiKP **PKiKP** **15 55 13.5 -1.6**
comp=Z,0.4nm,0.7s,baz=340,slow=1.3,SNR=6.2
ASAR PKKPbc **PKKPbc** **16 07 06.7 +0.3**
comp=Z,0.5nm,0.9s,baz=106,slow=3.9,SNR=6.7
NVAR **Mina Array Bea** **108.22 348** PKiKP **PKiKP** **15 55 31.5 +1.0**
comp=Z,0.5nm,0.7s,baz=315,slow=1.4,SNR=5.8
LPAZ **La Paz** **119.62 269** PKP **PKPdf** **15 55 53.4 +0.2**
comp=Z,0.6nm,0.4s,baz=8.3,slow=1.4,SNR=5.1
QSPA **South Pole Qui** **122.24 180** PKP **PKPdf** **15 55 56.5 +0.5**
comp=Z,7.7nm,0.8s,baz=254,slow=1.5,SNR=17
CYA **Choya** **122.81 255** *e*P **PKPdf** **15 55 59.7 +1.4**
APLL **PUNTA DE LOS L** **124.11 253** *e*S **PKPdf** **15 55 55.3 -5.5**
VCA **Vinchina** **124.89 256** *e*P PKPdf 15 55 52.0 -10
VCA IAML 15 56 11.2
comp=Z,43nm,0.2s
AMOG **MOGNA** **125.88 253** *e*P PKPdf 15 55 56.0 -8.1
RTLL **Cerro Villicun** **126.00 253** *e*P **PKPdf** **15 56 00.3 -4.0**
RTLL IAML 15 56 03.2
comp=Z,40nm,0.4s
RTCV **Cerro Valdivia** **126.23 252** *e*P **PKPdf** **15 56 09.5 +4.7**
VNDA **Vanda** **126.71 166** PKP **PKPdf** **15 56 04.8 +0.6**
comp=Z,0.4nm,0.7s,baz=277,slow=2.1,SNR=3.2
PLCA **Paso Flores** **130.12 242** PKP **PKPdf** **15 56 11.1 -0.9**
comp=Z,3.1nm,1.0s,baz=132,slow=1.6,SNR=4.3
PLCA PP **PP** **15 58 28.8 +3.3**
comp=Z,1.1nm,0.7s,baz=29,slow=3.4,SNR=3.5

IDC 20 15:39:53.1±3.2, **14°.42N**×93°.76W, **h0**km, **mb3.5**/2, **mb1 3.8**/5, **mb1mx3.6**/47, **mbtmp3.4**/5, **ML3.1**/2, **MS3.0**/1, **Ms1 3.0**/1, **ms1mx2.3**/36, **Error ellipse: s-maj=73.6km s-min=31.6km az=23.0, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMIG	**Matias Romero**	**2.86**	**338**	Pn	Pn	15 40 38.8	-1.3
	4.2nm,0.3s,baz=160,slow=11,SNR=34						
CMIG				Sn	Sn	15 41 10.1	-5.2
	2.2nm,0.3s,baz=141,slow=9.5,SNR=4.8						
APG	**El Apazote**	**3.25**	**79**	Pn	Pn	15 40 45.8	+0.3
	1.3nm,0.3s,baz=296,slow=7.9,SNR=13						
TXAR	**Lajitas Array**	**17.44**	**330**	P	Pn	15 43 58.3	+0.3
	baz=158,slow=12,SNR=2.6						
NVAR	**Mina Array Bea**	**32.28**	**322**	P	P	15 46 25.0	+1.0
	0.5nm,0.7s,baz=129,slow=11,SNR=5.0						
SADO	**Sadowa**	**32.70**	**19**	LR	LR	16 00 29.4	
	comp=Z,27nm,20.2s,baz=10.0,slow=38						
YKA	**Yellowknife Ar**	**50.24**	**348**	P	P	15 48 50.4	-0.3
	0.6nm,0.7s,baz=154,slow=7.3,SNR=12						
CMAR	**Chiang Mai Arr**	**145.01**	**339**	PKPbc	PKPab	15 59 31.7	-0.9
	0.4nm,0.3s,baz=345,slow=4.0,SNR=5.2						

IDC 20 15:41:57.5±2.0, **1°.20N**×91°.53E, **h0**km, **mb3.6**/6, **mb1 3.7**/6, **mb1mx3.4**/74, **mbtmp3.6**/6, **Error ellipse: s-maj=76.1km s-min=27.0km az=55.0, North Indian Ocean**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H08S2	**Diego Garcia H**	**20.93**	**245**	T	T	16 08 20.7	
	baz=65,slow=75,SNR=17						
H08S3	**Diego Garcia H**	**20.93**	**245**	T	T	16 08 20.9	
	baz=65,slow=75,SNR=25						
H08S1	**Diego Carcia H**	**20.94**	**245**	T	T	16 08 22.0	
	baz=65,slow=75,SNR=21						
H01W3	**Cape Leeuwin H**	**41.67**	**152**	T	T	16 34 08.2	
	baz=326,slow=75,SNR=8.1						
H01W2	**Cape Leeuwin H**	**41.69**	**152**	T	T	16 34 09.1	
	baz=326,slow=75,SNR=8.9						
H01W1	**Cape Leeuwin H**	**41.69**	**152**	T	T	16 34 11.0	
	baz=326,slow=75,SNR=5.9						
MKAR	**Makanchi Array**	**46.12**	**351**	P	P	15 50 22.8	-0.8
	0.3nm,0.5s,baz=194,slow=9.3,SNR=3.1						
WRA	**Warramunga Arr**	**46.92**	**119**	P	P	15 50 30.2	-0.1
	0.9nm,0.7s,baz=297,slow=8.7,SNR=8.4						
SONM	**Songino Array**	**48.21**	**13**	P	P	15 50 39.7	-0.2
	1.1nm,0.5s,baz=198,slow=8.8,SNR=7.9						
KURBB	**Kurchatov Arra**	**50.46**	**349**	P	P	15 50 56.7	-0.3
	0.2nm,0.6s,baz=170,slow=7.2,SNR=2.9						
ZALV	**Zalesovo Beam**	**52.86**	**355**	P	P	15 51 15.8	+0.8
	0.3nm,0.4s,baz=181,slow=7.2,SNR=1.9						
GERES	**GERESS Array B**	**81.09**	**319**	P	P	15 54 14.9	0.0
	0.3nm,0.6s,baz=105,slow=6.2,SNR=3.5						
TXAR	**Lajitas Array**	**146.34**	**24**	PKPbc	PKPdf	16 01 40.3	+0.3
	0.2nm,0.5s,baz=318,slow=1.2,SNR=3.4						

IDC 20 15:45:47.1±1.3, **13°.28N**×144°.97E, **h46**km±10km, **mb3.0**/6, **mb1 3.3**/6, **mb1mx3.1**/65, **mbtmp3.3**/6, **MS3.2**/1, **Ms1 3.2**/1, **ms1mx2.5**/20, **Error ellipse: s-maj=30.8km s-min=18.8km az=99.0, Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**0.33**	**342**	P	Pn	15 45 57.9	+1.7
	baz=165,slow=12						
GUMO				S	Sn	15 46 05.2	+2.5
	1μm,0.3s,baz=252,slow=19,SNR=115						
GUMO				LR	LR	15 46 15.3	
	comp=Z,138nm,20.8s,baz=171,slow=87						
WRA	**Warramunga Arr**	**34.63**	**198**	P	P	15 52 30.7	-1.4
	0.5nm,0.9s,baz=18,slow=9.3,SNR=3.2						
WRA				PcP	PcP	15 55 06.6	+0.7
	0.4nm,0.8s,baz=9.8,slow=3.4,SNR=3.2						
ASAR	**Alice Springs**	**38.28**	**197**	P	P	15 53 03.6	+0.3
	0.2nm,0.7s,baz=15,slow=1.2,SNR=4.3						
DZM	**Mont Dzumac**	**40.96**	**149**	LR	LR	16 07 55.8	
	comp=Z,28nm,19.1s,baz=226,slow=32						
MKAR	**Makanchi Array**	**61.78**	**316**	P	P	15 56 02.1	+0.9
	0.2nm,0.6s,baz=100,slow=6.1,SNR=2.8						
KURBB	**Kurchatov Arra**	**64.92**	**320**	P	P	15 56 21.2	-0.6
	0.3nm,0.6s,baz=104,slow=7.9,SNR=3.2						
ILAR	**Eielson Array**	**68.81**	**25**	P	P	15 56 45.0	-1.3
	0.1nm,0.5s,baz=260,slow=6.3,SNR=4.4						
YKA	**Yellowknife Ar**	**83.09**	**27**	P	P	15 58 08.1	+0.4
	0.1nm,0.5s,baz=285,slow=4.6,SNR=3.1						

*IDC **20** 15:48:34.9±1.1, 32°.43N×46°.91E, h0km, mb3.8/19, mb1 3.9/23, mb1mx3.7/70, mbtmp3.8/23, ML3.4/4, Error ellipse: s-maj=25.3km s-min=14.3km az=162.0*
*ISCJB **20** 15:48:35.7±1.4, 32°.55N±0°.05×46°.87E±0°.05, h7km±8km, mb3.8/18, Error ellipse: s-maj=9.5km s-min=7.3km az=21.7*
*ISN **20** 15:48:38.9±1.0, 32°.62N×46°.81E, h0km±3km, ML3.8*
*CSEM **20** 15:48:38.8±0.3, 32°.58N×46°.96E, h2km, ML3.8, Error ellipse: s-maj=5.8km s-min=5.5km az=155.0*
*THR **20** 15:48:39.1±0.3, 32°.46N×46°.91E, h38km±3km, ML3.6*
*TEH **20** 15:48:39.7, 32°.62N×46°.85E, h5km, ML3.8*

ISC 20 15:48:38.7±1.6, **32°.58N**±0°.04×**46°.92E**±0°.05, **h17**km±10km, **n56**,σ1°**57**/59, **mb3.9**/18, **5C-3D, Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IKFM	**Kafar-mosalman**	**1.23**	**39**	*e*Sg	**Sg**	**15 49 17.4**	**-1.0**
IKFM				*e*Pg	**Pg**	**15 49 02.0**	**-0.4**
IKFM				*e*AMB	AMB	15 49 28.2	
	comp=Z,99nm,0.3s						

SHGR	**Shooshtar-Gavs**	**1.66**	**106**	*e*Pg		**Pn**	**15 49 08.7**	**+1.6**
SHGR	**Shooshtar-Gavs**	**1.66**	**106**	*e*Pg		**Pn**	**15 49 08.7**	**+1.6**
IKOM	**Komasi**	**1.67**	**17**	*e*Sg		**Sg**	**15 49 32.8**	**+0.3**
IKOM				*e*Pg		**Pn**	**15 49 09.6**	**+2.2**
IKOM				*e*AMB	AMB		15 49 36.9	
	comp=Z,15μm,0.2s							
NSR	**Nassriya**	**1.70**	**203**	*e*Pn		**Pn**	**15 49 10.0**	**+2.4**
	SNR=3.0							
NSR				*e*Sn		**Sn**	**15 49 32.0**	**+3.1**
	SNR=3.0							
IGHG	**Ghaleghazi**	**1.77**	**351**	*e*AMB	AMB		15 49 46.1	
	comp=Z,23μm,0.3s							
IVIS	**Veis**	**1.94**	**358**	*e*Pg		**Pn**	**15 49 12.7**	**+1.6**
IVIS				*e*Sg		**Sn**	**15 49 37.6**	**+2.4**
IVIS				*e*AMB	AMB		15 49 46.8	
	comp=Z,7μm,0.2s							
IVIS	**Veis**	**1.94**	**358**	*e*Pg		**Pn**	**15 49 12.7**	**+1.6**
BHD	**Baghdad**	**2.24**	**289**	*e*Pn		**Pn**	**15 49 17.0**	**+1.9**
	SNR=3.0							
BHD				*e*Sn		**Sn**	**15 49 44.0**	**+1.6**
	SNR=3.0							
ILIN	**Lien**	**2.33**	**1**	*e*Pn		**Pn**	**15 49 19.0**	**+2.4**
ILIN				*e*AMB	AMB		15 50 02.7	
	comp=Z,4μm,0.3s							
ILIN	**Lien**	**2.33**	**1**	*e*Pn		**Pn**	**15 49 19.0**	**+2.4**
SNGE	**Sanandaj**	**2.53**	**8**	*e*Pn		**Pn**	**15 49 21.4**	**+2.1**
SNGE				*e*Sg		**Sg**	**15 50 00.6**	**+0.4**
SNGE	**Sanandaj**	**2.53**	**8**	*e*Pn		**Pn**	**15 49 21.4**	**+2.1**
SNGE				*e*Sg		**Sg**	**15 50 00.6**	**+0.4**
SNGE				AML	AML		15 50 07.5	
	comp=N,164nm,0.5s							
SNGE				AML	AML		15 50 11.8	
	comp=E,304nm,0.6s							
KHMZ	**Khomeyn**	**2.80**	**65**	*e*Pn		**Pn**	**15 49 24.3**	**+1.3**
KHMZ	**Khomeyn**	**2.80**	**65**	*e*Pn		**Pn**	**15 49 24.3**	**+1.3**
HAGD	**Aghdareh**	**2.91**	**39**	*e*Pn		**Pn**	**15 49 26.1**	**+1.7**
HAGD	**Aghdareh**	**2.91**	**39**	*e*Pn		**Pn**	**15 49 26.1**	**+1.7**
HKZM	**Kohzaman**	**3.24**	**30**	*e*Pn		**Pn**	**15 49 31.7**	**+2.6**
HKZM				*e*AMB	AMB		15 50 31.8	
	comp=Z,99nm,0.4s							
HKZM	**Kohzaman**	**3.24**	**30**	*e*Pn		**Pn**	**15 49 31.7**	**+2.6**
ASAO	**Ashtian**	**3.25**	**52**	*e*Pn		**Pn**	**15 49 30.9**	**+1.6**
ASAO	**Ashtian**	**3.25**	**52**	*e*Pn		**Pn**	**15 49 30.9**	**+1.6**
IPIR	**Pirpir**	**3.36**	**87**	*e*Pn		**Pn**	**15 49 33.0**	**+2.3**
IPIR				*e*AMB	AMB		15 50 36.3	
	comp=Z,1μm,0.3s							
IPIR	**Pirpir**	**3.36**	**87**	*e*Pn		**Pn**	**15 49 33.0**	**+2.3**
QAM	**Ghamsar**	**3.97**	**72**	*e*Pn		**Pn**	**15 49 41.3**	**+2.2**
QAM				*e*AMB	AMB		15 50 03.1	
	comp=Z,834nm,0.2s							
ASF	**Jabal al Asfar**	**8.48**	**270**	Pn		**Pn**	**15 50 38.4**	**-2.6**
	comp=Z,0.3nm,0.3s,baz=98,slow=19,SNR=3.0							
ASF				Lg	Lg		15 53 07.7	
	comp=Z,0.8nm,0.3s,baz=287,slow=10,SNR=4.0							
MMAI	**Mount Meron Ar**	**9.70**	**276**	Lg	Lg		15 53 46.4	
	comp=Z,0.9nm,0.3s,baz=280,slow=40,SNR=2.8							
EIL	**Elat**	**10.66**	**257**	Pn	Pn		15 51 06.6	-4.0
	comp=Z,0.2nm,0.3s,baz=72,slow=6.4,SNR=2.1							
EIL				Lg	Lg		15 54 19.1	
	comp=Z,0.3nm,0.3s,baz=119,slow=19,SNR=2.2							
WSAR	**Wadi Sarin**	**13.91**	**129**	Pn	Pn		15 51 51.5	-3.7
	comp=Z,0.2nm,0.3s,baz=241,slow=13,SNR=3.0							
AKTO	**Aktyubinsk**	**19.64**	**21**	P		**P**	**15 53 06.1**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=208,slow=12,SNR=5.0							
MLR	**Muntele Rosu**	**20.70**	**315**	P		**P**	**15 53 18.8**	**+0.6**
	comp=Z,0.8nm,0.8s,baz=107,slow=11,SNR=3.6							
MLR	**Muntele Rosu**	**20.70**	**315**	⇓*i*P		**P**	**15 53 20.1**	**+1.9**
TESR	**Tescani**	**20.84**	**318**	⇑*i*P		**P**	**15 53 19.4**	**-0.2**
SORM	**Soroca**	**20.93**	**323**	⇓*i*P		**P**	**15 53 21.9**	**+1.4**
VOIR		**21.22**	**314**	⇑*i*P		**P**	**15 53 25.1**	**+1.4**
DOPR	**Dopca**	**21.28**	**315**	⇑*i*P		**P**	**15 53 25.9**	**+1.6**
ARR	**Arges**	**21.44**	**313**	⇑*i*P		**P**	**15 53 26.8**	**+0.7**
BURAR	**Bucovina Array**	**22.28**	**319**	⇓*i*P		**P**	**15 53 35.7**	**+0.6**
AKASG	**Malin Array Be**	**22.32**	**329**	P		**P**	**15 53 35.8**	**+0.4**
	comp=Z,0.9nm,0.6s,baz=139,slow=9.4,SNR=12							
DRGR		**23.30**	**315**	⇑*i*P		**P**	**15 53 45.8**	**+0.1**
AAK	**Ala-Archa**	**23.95**	**57**	P		**P**	**15 53 51.7**	**-0.6**
	comp=Z,0.7nm,0.5s,baz=239,slow=5.9,SNR=4.5							
ARU	**Arti**	**25.18**	**15**	P		**P**	**15 54 02.7**	**-0.4**
	comp=Z,0.8nm,0.3s,baz=238,slow=15,SNR=3.5							
BVAR	**Borovoye Array**	**26.51**	**33**	P		**P**	**15 54 15.1**	**-0.1**
	comp=Z,2.3nm,0.8s,baz=233,slow=7.1,SNR=12							
KURBB	**Kurchatov Arra**	**29.41**	**43**	P		**P**	**15 54 41.5**	**+0.3**
	comp=Z,0.8nm,0.8s,baz=250,slow=9.4,SNR=6.3							
MKAR	**Makanchi Array**	**30.42**	**52**	P		**P**	**15 54 49.6**	**-0.5**
	comp=Z,1.0nm,0.7s,baz=246,slow=10,SNR=7.8							
FINES	**FINESS Array B**	**31.89**	**341**	P		**P**	**15 55 02.3**	**-0.5**
	comp=Z,0.8nm,0.4s,baz=146,slow=11,SNR=7.6							
ZALV	**Zalesovo Beam**	**34.31**	**40**	P		**P**	**15 55 24.2**	**+0.2**
	comp=Z,1.6nm,0.6s,baz=251,slow=9.2,SNR=8.5							
HFS	**Hagfors**	**35.17**	**332**	P		**P**	**15 55 31.4**	**-0.1**
	comp=Z,1.1nm,0.4s,baz=132,slow=9.9,SNR=8.3							
ARCES	**ARCESS Array B**	**38.91**	**348**	P		**P**	**15 56 03.0**	**-0.2**
	comp=Z,2.0nm,1.0s,baz=166,slow=9.3,SNR=3.3							
EKA	**Eskdalemuir Ar**	**41.46**	**319**	P		**P**	**15 56 23.0**	**-1.5**
	comp=Z,0.3nm,0.4s,baz=105,slow=9.6,SNR=3.7							
TORD	**Torodi Ar. Bea**	**45.25**	**257**	P		**P**	**15 56 57.2**	**-0.6**
	comp=Z,1.1nm,0.8s,baz=43,slow=9.4,SNR=6.0							
SPITS	**Spitsbergen Ar**	**47.60**	**352**	P		**P**	**15 57 14.2**	**+1.0**
	comp=Z,4.3nm,0.9s,baz=142,slow=5.1,SNR=4.7							
KOWA	**Kowa**	**49.56**	**261**	P		**P**	**15 57 28.0**	**-1.1**
	comp=Z,1.3nm,0.5s,baz=57,slow=9.6,SNR=2.2							
SEY	**Seymchan**	**68.07**	**28**	P		**P**	**15 59 36.8**	**-0.3**
	comp=Z,1.1nm,0.7s							
FRB	**Frobisher Bay**	**71.43**	**335**	P		**P**	**15 59 57.4**	**-0.4**
	comp=Z,1.4nm,0.5s							
ILAR	**Eielson Array**	**82.37**	**6**	P		**P**	**16 00 57.9**	**-1.5**
	comp=Z,0.4nm,0.9s,baz=325,slow=4.4,SNR=4.8							
YKA	**Yellowknife Ar**	**84.10**	**351**	P		**P**	**16 01 07.0**	**-1.3**
	comp=Z,0.2nm,0.6s,baz=16,slow=5.3,SNR=5.7							

*IDC **20** 15:55:34.7±7.5,27.93S×70.56W,h56km±65km,mb4.0/1, mb1 3.9/3,mb1mx3.3/44,mbtmp4.0/3,ML3.9/2,Error ellipse: s-maj=104.6km s-min=39.6km az=82.0*
*GUC **20** 15:55:35.1±0.6,28.02S×70.53W,h79km±4km,ML4.2*
*NEIC **20** 15:55:35.0±0.0,28.05S×70.31W,h70km,ML4.1(GUC), After GUC.*
NEIC Felt [IV] at Copiapo and Tierra Amarilla and [III] at Caldera and Vallenar.

ISC 20 15:55:35.9±0.9,27.96S±0.06×70.7W±0.2,h74km±7km,n19, σ1§61/26,3C,Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
GO03	**Copiap**	**0.57**	**50**	*e*P		**Pn**	**15 55 50.5**	**+0.6**
GO03				*i* S		**Sn**	**15 56 00.6**	**+0.4**
GO03				IAML			15 56 01.3	
	comp=E,19μm,0.3s							
CPCH	**Copiapo**	**0.69**	**29**	*e*P		**Pn**	**15 55 51.4**	**+0.3**
CPCH				*i* S		**Sn**	**15 56 03.0**	**+0.7**
LCO	**Las Campanas**	**1.05**	**179**	*e*Pn		**Pn**	**15 55 56.3**	**+0.8**
LCO				*e*Sn		**Sn**	**15 56 09.5**	**-0.6**
LCO	**Las Campanas**	**1.05**	**179**	⇑*i*P		**Pn**	**15 55 56.0**	**+0.5**
LCO				*i* S		**Sn**	**15 56 11.2**	**+1.1**
LCO				IAML			15 56 11.7	
	comp=E,5μm,0.2s							
GO04	**Tololo Observa**	**2.20**	**182**	⇑*i*P		**Pn**	**15 56 11.1**	**+0.4**
GO04				*i* S		**Sn**	**15 56 38.2**	**+1.0**
GO02	**Mina Guanaco**	**2.97**	**20**	⇑*i*P		**Pn**	**15 56 22.3**	**+1.2**
GO02				*e*S		**Sn**	**15 56 57.8**	**+2.0**
GO02				IAML			15 57 16.1	
	comp=E,839nm,0.4s							
PB10	**IPOC Station P**	**4.43**	**2**	*e*Pn		**Pn**	**15 56 40.0**	**-0.8**
PEL	**Peldehue**	**5.17**	**180**	*e*Pn		**Pn**	**15 56 50.8**	**0.0**
PB01	**IPOC Station P**	**6.98**	**10**	*e*Pn		**Pn**	**15 57 13.3**	**-2.3**
GO05	**HualaæØ**	**7.10**	**188**	*e*Pn		**Pn**	**15 57 14.2**	**-3.0**
PB11	**IPOC Station P**	**8.22**	**7**	*e*Pn		Pn	15 57 29.1	-3.5
MNMC	**Minye Minye**	**8.85**	**7**	*e*Pn		**Pn**	**15 57 38.5**	**-2.9**
LPAZ	**La Paz**	**11.86**	**12**	P		**Pn**	**15 58 21.7**	**-1.1**
	comp=E,0.3nm,0.3s,baz=198,slow=6.4,SNR=4.0							
SIV	**San Ignacio**	**14.89**	**39**	P		**Pn**	**15 58 58.6**	**-3.9**
	comp=E,0.6nm,0.3s,baz=239,slow=10,SNR=6.6							
SAML	**Samuel**	**20.21**	**22**	*e*P		**P**	**16 00 06.0**	**+1.1**
	comp=E,3.1nm,0.8s							
SNAA	**Sanae**	**56.78**	**159**	P		**P**	**16 05 12.7**	**+0.7**
	comp=E,3.3nm,1.0s,baz=268,slow=10,SNR=11							
ASAR	**Alice Springs**	**123.44**	**207**	PKP		**PKPdf**	**16 14 25.8**	**+0.6**
	comp=E,1.0nm,1.2s,baz=124,slow=5.7,SNR=4.3							
WRA	**Warramunga Arr**	**126.56**	**210**	PKP		**PKPdf**	**16 14 31.9**	**+0.6**
	comp=E,0.3nm,0.7s,baz=157,slow=1.8,SNR=5.4							
WRA				pPKP		**pPKPdf**	**16 14 54.0**	**+1.6**
	comp=E,0.3nm,0.8s,baz=159,slow=1.7,SNR=2.0							
MKAR	**Makanchi Array**	**151.70**	**41**	PKPbc		**PKPbc**	**16 15 22.9**	**+1.2**
	comp=E,0.1nm,0.3s,baz=293,slow=1.1,SNR=3.6							
MKAR				pPKPbc		**sPKPdf**	**16 15 45.3**	**+0.9**
	comp=E,0.6nm,0.6s,baz=315,slow=1.5,SNR=5.0							

WEL 20 15:55:48.1,39.8S±0.8×177.7E±, h43km±2km,ML4.0/35, North Island

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CKHZ	**Cape Kidnapper**	**0.19**	**21**	P		Pn	15 55 55.9	+0.3
CKHZ	**Cape Kidnapper**	**0.19**	**21**	S		Sn	15 56 01.6	+0.8
PXZ	**Pawanui**	**0.22**	**207**	P		Pn	15 55 56.7	+0.8
PXZ	**Pawanui**	**0.22**	**207**	S		Sn	15 56 03.0	+1.6
MCHZ	**McNeill Hill**	**0.45**	**329**	P		Pn	15 55 58.3	0.0
MCHZ	**McNeill Hill**	**0.45**	**329**	S		Sn	15 56 05.5	0.0
WPHZ	**Waipukurau**	**0.48**	**241**	P		Pn	15 55 59.4	+0.6
WPHZ	**Waipukurau**	**0.48**	**241**	S		Sn	15 56 07.7	+1.3
PRHZ	**Porangahau**	**0.51**	**212**	P		Pn	15 56 00.1	+0.9
PRHZ	**Porangahau**	**0.51**	**212**	S		Sn	15 56 09.3	+2.3
KRHZ	**Kereru**	**0.52**	**291**	P		Pn	15 55 58.8	-0.4
KRHZ	**Kereru**	**0.52**	**291**	S		Sn	15 56 06.4	-0.7
ARHZ	**Aropaoanui**	**0.57**	**0**	P		Pn	15 56 00.3	+0.5
ARHZ	**Aropaoanui**	**0.57**	**0**	S		Sn	15 56 09.6	+1.4
KWHZ	**Kaweka Forest**	**0.60**	**313**	P		Pn	15 55 60.0	-0.4
KWHZ	**Kaweka Forest**	**0.60**	**313**	S		Sn	15 56 08.4	-0.6
PNHZ	**Pukenui**	**0.61**	**262**	P		Pn	15 56 00.6	+0.1
PNHZ	**Pukenui**	**0.61**	**262**	S		Sn	15 56 09.8	+0.4
ANWZ	**Angora Road**	**0.74**	**212**	P		Pn	15 56 02.8	+0.7
ANWZ	**Angora Road**	**0.74**	**212**	S		Sn	15 56 14.1	+1.8
NMHZ	**Naumai**	**0.75**	**349**	P		Pn	15 56 02.8	+0.5
NMHZ	**Naumai**	**0.75**	**349**	S		Sn	15 56 13.4	+0.9
BKZ	**Black Stump Fm**	**0.77**	**330**	P		Pn	15 56 02.5	-0.1
BKZ	**Black Stump Fm**	**0.77**	**330**	S		Sn	15 56 12.7	-0.4
WHHZ	**Waihua**	**0.78**	**14**	P		Pn	15 56 03.2	+0.6
DVHZ	**Dannevirke**	**0.79**	**233**	P		Pn	15 56 03.2	+0.5
DVHZ	**Dannevirke**	**0.79**	**233**	S		Sn	15 56 14.8	+1.3
BHHZ	**Black Hill Sta**	**0.80**	**295**	P		Pn	15 56 02.6	-0.3
BHHZ	**Black Hill Sta**	**0.80**	**295**	S		Sn	15 56 12.3	-1.4
TSZ	**Takapari Road**	**0.82**	**254**	P		Pn	15 56 03.5	+0.2
TSZ	**Takapari Road**	**0.82**	**254**	S		Sn	15 56 14.4	0.0
RAHZ	**Arahi**	**0.92**	**5**	P		Pn	15 56 05.0	+0.4
RAHZ	**Arahi**	**0.92**	**5**	S		Sn	15 56 17.7	+1.1
KNZ	**Kokohu**	**0.97**	**33**	P		Pn	15 56 05.7	+0.5
MHGZ	**Mahia Peninsul**	**0.98**	**47**	P		Pn	15 56 06.2	+0.9
MTHZ	**Maungataniwha**	**0.98**	**353**	P		Pn	15 56 05.7	+0.2
MTHZ	**Maungataniwha**	**0.98**	**353**	S		Sn	15 56 18.6	+0.3
BFZ	**Birch Farm**	**1.02**	**214**	P		Pn	15 56 06.3	+0.4
BFZ	**Birch Farm**	**1.02**	**214**	S		Sn	15 56 20.2	+1.1
MOVZ	**Moawhango**	**1.05**	**294**	P		Pn	15 56 06.7	+0.3
PRWZ	**Pori Road**	**1.06**	**227**	P		Pn	15 56 07.2	+0.7
SNGZ	**Shannon Statio**	**1.08**	**15**	P		Pn	15 56 07.3	+0.4
MRHZ	**Matea Rd**	**1.09**	**336**	P		Pn	15 56 07.3	+0.3
POWZ	**Post Office Ro**	**1.09**	**239**	P		Pn	15 56 07.4	+0.5
PRGZ	**Paritu Road**	**1.14**	**38**	P		Pn	15 56 08.0	+0.4
HATZ	**Hinemaiaia**	**1.17**	**323**	P		Pn	15 56 08.6	+0.6
TUVZ	**Tukino**	**1.18**	**298**	P		Pn	15 56 09.0	+0.8
RTZ	**Ruatahuna**	**1.22**	**360**	P		Pn	15 56 08.9	+0.2
WHVZ	**Whangaehu Hut**	**1.22**	**296**	P		Pn	15 56 09.4	+0.6
RITZ	**Rihia Road**	**1.23**	**314**	P		Pn	15 56 09.6	+0.8
CPWZ	**Castlepoint**	**1.23**	**209**	P		Pn	15 56 09.5	+0.7
DRZ	**Dome Shelter**	**1.24**	**296**	P		Pn	15 56 10.2	+1.0
TRVZ	**Turoa**	**1.24**	**295**	P		Pn	15 56 09.7	+0.6
FWVZ	**Far West T-bar**	**1.25**	**297**	P		Pn	15 56 09.7	+0.4
MTVZ	**Mangateitei**	**1.26**	**290**	P		Pn	15 56 10.4	+1.2
NGZ	**Ngauruhoe**	**1.26**	**301**	P		Pn	15 56 09.9	+0.6
TIWZ	**Tintock**	**1.27**	**222**	P		Pn	15 56 09.6	+0.2
RIGZ	**Rimuhau**	**1.27**	**28**	P		Pn	15 56 09.5	+0.1
KRVZ	**Karewarewa**	**1.28**	**305**	P		Pn	15 56 10.2	+0.6
COVZ	**Chateau Observ**	**1.29**	**299**	P		Pn	15 56 10.1	+0.4
WTVZ	**West Tongariro**	**1.30**	**303**	P		Pn	15 56 10.6	+0.7
KATZ	**Kakaramea**	**1.31**	**310**	P		Pn	15 56 10.7	+0.6
OHWZ	**Ohakea**	**1.34**	**253**	P		Pn	15 56 11.9	+1.6
RATZ	**Rangitukua**	**1.35**	**315**	P		Pn	15 56 11.0	+0.5
MRZ	**Mangatainoka R**	**1.36**	**232**	P		Pn	15 56 10.7	+0.1
MUGZ	**Murupara**	**1.36**	**353**	P		Pn	15 56 10.8	+0.2
ALRZ	**Allen Road**	**1.36**	**338**	P		Pn	15 56 11.1	+0.4
RAGZ	**Rawiri**	**1.37**	**14**	P		Pn	15 56 11.0	+0.2
PKVZ	**Pokaka**	**1.38**	**293**	P		Pn	15 56 12.0	+1.1
PRRZ	**Plateau Road**	**1.41**	**341**	P		Pn	15 56 11.5	+0.3
WHTZ	**Whakaora**	**1.42**	**325**	P		Pn	15 56 12.0	+0.6
TWVZ	**Taurewa**	**1.42**	**302**	P		Pn	15 56 11.8	+0.3
WPRZ	**Whakapapatarin**	**1.46**	**334**	P		Pn	15 56 12.1	+0.1
WATZ	**Wairara**	**1.49**	**319**	P		Pn	15 56 12.5	+0.1
TMWZ	**Te Maipa**	**1.53**	**213**	P		Pn	15 56 12.6	-0.3
RRRZ	**Republican Roa**	**1.54**	**346**	P		Pn	15 56 13.3	+0.2
RRRZ	**Republican Roa**	**1.54**	**346**	P		Pn	15 56 13.3	+0.2
HRRZ	**Handcock Road**	**1.54**	**339**	P		Pn	15 56 13.3	+0.2
TKGZ	**Te Karaka**	**1.54**	**26**	P		Pn	15 56 13.0	-0.1
WAZ	**Wanganui**	**1.57**	**223**	P		Pn	15 56 14.8	+1.6
HOWZ	**Holdsworth Sta**	**1.55**	**226**	P		Pn	15 56 12.9	-0.4
MWZ	**Matawai**	**1.55**	**16**	P		Pn	15 56 13.0	-0.2
URZ	**Urewera**	**1.57**	**3**	P		Pn	15 56 13.3	-0.2
KUTZ	**Kaahu Road**	**1.62**	**326**	P		Pn	15 56 14.4	+0.2
HSRZ	**Hossack Road**	**1.63**	**339**	P		Pn	15 56 14.5	+0.3
GRRZ	**Galatos Road**	**1.63**	**335**	P		Pn	15 56 14.8	+0.4
TARZ	**Mount Tarawera**	**1.64**	**346**	P		Pn	15 56 14.9	+0.4
CNGZ	**Carnagh Statio**	**1.65**	**35**	P		Pn	15 56 14.8	+0.3
HLRZ	**Highlands Stat**	**1.66**	**342**	P		Pn	15 56 15.5	+0.8
OGWZ	**Otaki Gorge**	**1.71**	**234**	P		Pn	15 56 15.1	-0.2
EDRZ	**Edgecumbe**	**1.73**	**353**	P		Pn	15 56 15.9	+0.1
MKRZ	**Makatiti**	**1.74**	**346**	P		Pn	15 56 16.5	+0.6
MTW	**Mount Morrison**	**1.75**	**220**	P		Pn	15 56 15.0	-0.9
UTU	**Utuhina**	**1.77**	**339**	P		Pn	15 56 16.6	+0.4
OMRZ	**Omania**	**1.79**	**344**	P		Pn	15 56 16.5	0.0
TWGZ	**Tauwhareparae**	**1.82**	**25**	P		Pn	15 56 16.8	-0.2
NGRZ	**Ngongotaha**	**1.84**	**340**	P		Pn	15 56 18.4	+1.2
TRWZ	**Traveller**	**1.85**	**212**	P		Pn	15 56 16.3	-1.1
MARZ	**Manawahe**	**1.86**	**352**	P		Pn	15 56 17.8	+0.4
VRZ	**Vera Road**	**1.87**	**292**	P		Pn	15 56 18.1	+0.6
TLZ	**Tolley Road**	**1.88**	**323**	P		Pn	15 56 17.4	-0.4
LIRZ	**Lichensteins R**	**1.89**	**345**	P		Pn	15 56 17.8	0.0
KIW	**Kapiti Island**	**1.90**	**236**	P		Pn	15 56 17.8	-0.1
KARZ	**Kaharoa**	**1.90**	**342**	P		Pn	15 56 18.0	0.0
RUGZ	**Raukumara Rang**	**1.94**	**16**	P		Pn	15 56 18.5	-0.1
CAW	**Cannon Point**	**1.94**	**228**	P		Pn	15 56 17.9	-0.7
PAWZ	**Paruwai Farm**	**1.95**	**217**	P		Pn	15 56 17.9	-0.9
WHRZ	**Whale Island**	**1.97**	**360**	P		Pn	15 56 19.0	0.0
OPRZ	**Ohinepanea**	**2.01**	**350**	P		Pn	15 56 19.4	-0.1
PUZ	**Puketiti**	**2.02**	**30**	P		Pn	15 56 18.9	-0.7
MSWZ	**Moikau Station**	**2.06**	**219**	P		Pn	15 56 18.9	-1.4
PKGZ	**Pakihiroa**	**2.12**	**24**	P		Pn	15 56 20.8	-0.2
HIZ	**Hauiti**	**2.12**	**308**	P		Pn	15 56 21.0	0.0
KMRZ	**Kaimai**	**2.15**	**337**	P		Pn	15 56 21.3	-0.1
HAZ	**Te Kaha**	**2.16**	**7**	P		Pn	15 56 21.2	-0.3
TGRZ	**Tauranga**	**2.18**	**345**	P		Pn	15 56 21.4	-0.4
PLWZ	**Palliser**	**2.18**	**217**	P		Pn	15 56 20.4	-1.5
BHW	**Baring Head**	**2.25**	**225**	P		Pn	15 56 21.7	-1.1
WMGZ	**Waiomatatini S**	**2.30**	**29**	P		Pn	15 56 22.9	-0.6
WMGZ	**Waiomatatini S**	**2.30**	**29**	P		Pn	15 56 22.9	-0.6
TOZ	**Tahuroa Road**	**2.40**	**330**	P		Pn	15 56 24.8	0.0
TCW	**Tory Channel**	**2.49**	**236**	P		Pn	15 56 25.4	-0.6
MXZ	**Matakaoa Point**	**2.49**	**25**	P		Pn	15 56 25.8	-0.3
DUWZ	**D'Urville Isla**	**2.54**	**247**	P		Pn	15 56 26.6	-0.2
TUWZ	**Tuamarina**	**2.82**	**235**	P		Pn	15 56 29.3	-1.3
BSWZ	**Blackbirch Sta**	**3.02**	**231**	P		Pn	15 56 32.3	-1.1
MKAZ	**Moumakai**	**3.08**	**332**	P		Pn	15 56 34.8	+0.6
NNZ	**Nelson**	**3.08**	**242**	P		Pn	15 56 33.6	-0.6
KBAZ	**Karaka Road Bo**	**3.19**	**328**	P		Pn	15 56 36.4	+0.7
KUZ	**Kuaotunu**	**3.24**	**342**	P		Pn	15 56 36.8	+0.4
ETAZ	**East Tamaki Re**	**3.30**	**330**	P		Pn	15 56 37.9	+0.7
AWAZ	**Awhitu Peninsu**	**3.32**	**326**	P		Pn	15 56 38.2	+0.7
WIAZ	**Waiheke Island**	**3.37**	**334**	P		Pn	15 56 38.9	+0.7
WTAZ	**Waiatarua**	**3.46**	**326**	P		Pn	15 56 40.2	+0.7
QRZ	**Quartz Range**	**3.55**	**252**	P		Pn	15 56 39.6	-1.1
RVAZ	**Riverhead Bore**	**3.60**	**327**	P		Pn	15 56 42.0	+0.7
ABAZ	**Army Bay**	**3.65**	**332**	P		Pn	15 56 43.0	+1.0
THZ	**Tophouse**	**3.65**	**237**	P		Pn	15 56 40.6	-1.6
KHZ	**Kahutara**	**3.67**	**224**	P		Pn	15 56 40.3	-2.0
GRZ	**Great Barrier**	**3.77**	**341**	P		Pn	15 56 44.3	+0.6
DSZ	**Denniston Nort**	**4.38**	**242**	P		Pn	15 56 50.4	-1.6
WCZ	**Waipu Caves**	**4.42**	**331**	P		Pn	15 56 53.5	+1.0
LTZ	**Lake Taylor**	**4.62**	**229**	P		Pn	15 56 53.9	-1.4
LTZ	**Lake Taylor**	**4.62**	**229**	P		Pn	15 56 54.3	-1.1
OKCZ	**Okains Bay**	**4.87**	**216**	P		Pn	15 56 56.1	-2.7
EYCZ	**Eyrewell**	**4.99**	**223**	P		Pn	15 56 59.0	-1.5
AKCZ	**Akaroa Harbour**	**5.06**	**216**	P		Pn	15 56 59.3	-2.1
INZ	**Inchbonnie**	**5.08**	**234**	P		Pn	15 56 59.3	-2.4
OXZ	**Oxford**	**5.10**	**225**	P		Pn	15 56 60.0	-1.9
OUZ	**Omahuta**	**5.34**	**329**	P		Pn	15 57 06.0	+0.8
OUZ	**Omahuta**	**5.34**	**329**	P		Pn	15 57 06.2	+1.0
WVZ	**Waitaha Valley**	**5.71**	**233**	P		Pn	15 57 08.9	-1.4
RPZ	**Rata Peaks**	**5.89**	**227**	P		Pn	15 57 10.9	-2.0
CTZ	**Chatham Island**	**6.17**	**131**	P		Pn	15 57 17.6	+1.1

*CSEM **20** 15:57:58.7±1.4,32.44N×47.01E,h20km,ML3.0,Error ellipse: s-maj=38.2km s-min=13.8km az=48.0*

TEH 20 15:57:57.0,32.48N×46.92E,h5km,ML3.6,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
IKFM	**Kafar-mosalman**	**1.30**	**37**	*e*Pg		**Pn**	**15 58 20.0**	**-1.9**
IKFM				*e*AMB	AMB		15 58 45.9	
	comp=Z,99nm,0.2s							
IKFM	**Kafar-mosalman**	**1.30**	**37**	*e*Pg		Pn	15 58 20.0	-1

KFJS 4.36 170 P Pn 16 18 58.7 +2.0
IZEF Zefreh 4.47 83 *e*Pn Pn 16 18 59.3 +0.8
IZEF *e*AMB AMB 16 20 23.4
comp=Z,10μm,0.6s
IZEF Zefreh 4.47 83 *e*Pn Pn 16 18 59.3 +0.8
IRAM Rameshen 4.58 97 *e*Pn Pn 16 18 59.7 -0.2
IRAM *e*AMB AMB 16 20 54.0
comp=Z,13μm,0.6s
IRAM Rameshen 4.58 97 *e*Pn Pn 16 18 59.7 -0.2
ASYS 5.50 206 P Pn 16 19 12.8 +0.5
BOQSS 6.91 162 P Pn 16 19 32.4 +0.7
GNI Garni 7.87 347 Pn Pn 16 19 45.0 0.0
comp=Z,0.3nm,0.3s,baz=165,slow=20,SNR=1.9
GNI Lg Lg 16 21 58.6
comp=Z,0.5nm,0.3s,baz=267,slow=19,SNR=1.7
GNI LR LR 16 22 41.8
comp=Z,906nm,21.2s,baz=162,slow=38
GNI Garni 7.87 347 *e*Pn Pn 16 19 42.8 -2.2
GNI *e*Sn Sn 16 21 08.4 -4.6
GNI Garni 7.87 347 *e*Pn Pn 16 19 42.8 -2.2
GNI Garni 7.87 347 *e*P Pn 16 19 46.4 +1.4
GNI *e*Sn Sn 16 21 08.4 -4.6
GNI Garni 7.87 347⇑ *e*P Pn 16 19 46.4 +1.4
ASF Jabal al Asfar 8.60 271 Pn Pn 16 19 53.7 -1.2
comp=Z,2.3nm,0.3s,baz=27,slow=3.6,SNR=17
ASF Sn Sn 16 21 26.3 -4.6
comp=Z,1.8nm,0.3s,baz=15,slow=19,SNR=2.3
ASF Lg Lg 16 22 20.6
comp=Z,1.6nm,0.3s,baz=348,slow=9.3,SNR=4.8
ASF LR LR 16 23 32.4
comp=Z,499nm,20.9s,baz=43,slow=40
BTHS 9.05 157 P Pn 16 20 01.4 +0.2
HMDT Nahal Hemdat 9.75 272 Sn Sn 16 21 58.4 -0.6
MMAOB Mount Meron ar 9.82 276 Sn Sn 16 22 00.2 -0.7
MMAI Mount Meron Ar 9.82 276 Pn Pn 16 20 12.2 +0.5
comp=Z,0.8nm,0.3s,baz=87,slow=15,SNR=5.7
MMAI Sn Sn 16 22 03.1 +2.2
comp=Z,1.2nm,0.3s,baz=20,slow=30,SNR=2.8
MMAI Lg Lg 16 23 12.7
comp=Z,2.8nm,0.3s,baz=73,slow=26,SNR=3.3
MMAI LR LR 16 24 48.0
comp=Z,135nm,22.0s,baz=315,slow=42
MMLI Mount Malkishu 9.82 273 Sn Sn 16 22 01.2 +0.3
DSI Dead Sea 9.95 268 Sn Sn 16 22 02.9 -1.0
MZDA Masada 10.00 266 Sn Sn 16 22 05.2 0.0
BLGI Bet Lehem HaGe 10.00 275 Sn Sn 16 22 04.0 -1.3
HNTI Hanita 10.01 277 Sn Sn 16 22 05.5 -0.1
SLTI Sal'it 10.16 272 Sn Sn 16 22 09.3 +0.2
SHME Shamm 10.21 127 P Pn 16 20 16.2 -0.8
SNR=6.4
SHME Shamm 10.21 127 *i* P Pn 16 20 15.5 -1.5
SNR=6.4
SHME S Sn 16 22 04.3 -6.1
ZFRI Zfri 10.31 262 Pn Pn 16 20 16.0 -2.4
AMAZ Amatzia 10.34 268 Sn Sn 16 22 13.1 -0.6
BANOM Banah 10.40 127 P Pn 16 20 18.8 -0.8
SNR=25
BANOM Banah 10.40 127 P Pn 16 20 18.8 -0.8
SNR=25
BANOM Banah 10.40 127 *i* P Pn 16 20 18.1 -1.6
SNR=25
MAK Makhachkala 10.46 2 *e*P Pn 16 20 18.3 -2.0
MAK *e*S Sn 16 22 14.4 -1.9
MAK pmax pmax
comp=Z,324nm,2.1s
MAK MLR MLR
comp=Z,1μm,14.0s
PRNI Paran 10.51 261 Pn Pn 16 20 18.6 -2.5
PRNI Sn Sn 16 22 16.4 -1.3
AJN Ajban 10.54 137 *i* P Pn 16 20 21.9 +0.4
SNR=7.7
GEYT Alibeck 10.55 56 Pn Pn 16 20 21.9 +0.1
comp=Z,0.2nm,0.3s,baz=249,slow=12,SNR=6.9
GEYT Sn Sn 16 22 25.4 +6.6
baz=224,slow=18,SNR=2.2
GEYT Lg Lg 16 23 37.0
comp=Z,0.2nm,0.3s,baz=255,slow=26,SNR=2.8
GEYT LR LR 16 24 55.9
comp=Z,4μm,18.6s,baz=235,slow=40
HRFI Mount Harif 10.56 260 Sn Sn 16 22 18.3 -0.8
ZEI Tsey 10.58 347 *e*P Pn 16 20 25.7 +3.5
ZEI pmax pmax
comp=Z,10.0nm,1.3s
NAZ Nazwa, Dubai 10.63 133 P Pn 16 20 22.0 -0.8
SNR=20
NAZ Nazwa, Dubai 10.63 133 *i* P Pn 16 20 22.0 -0.8
SNR=20
MSFE Esma-Masafi 10.68 129 *i* P Pn 16 20 22.3 -1.2
SNR=11
MBRI Mt Berech 10.74 259 Pn Pn 16 20 21.6 -2.7
MBRI Sn Sn 16 22 22.0 -1.4
EIL Elat 10.74 258 Pn Pn 16 20 23.9 -0.4
comp=Z,1.2nm,0.3s,baz=128,slow=5.4,SNR=11
EIL Lg Lg 16 23 27.9
comp=Z,1.0nm,0.3s,baz=14,slow=6.0,SNR=4.0
EIL LR LR 16 25 28.6
comp=Z,875nm,18.7s,baz=78,slow=42
EIL Elat 10.74 258 Pn Pn 16 20 24.0 -0.4
EIL Elat 10.74 258 Pn Pn 16 20 22.3 -2.0
EIL Sn Sn 16 22 23.2 -0.3
KZIT Kziot 10.89 265 Sn Sn 16 22 27.0 -0.1
UOSS Minazif 11.00 131 *e*Pn Pn 16 20 26.7 -1.2
UOSS Minazif 11.00 131 P Pn 16 20 26.1 -1.8
SNR=10
UOSS Minazif 11.00 131 *e*Pn Pn 16 20 26.7 -1.2
UOSS Minazif 11.00 131 *i* P Pn 16 20 26.1 -1.8
SNR=10
MZR Muzera 11.03 147 P Pn 16 20 28.2 -0.1
HATD Hatta, Dubai 11.04 131 P Pn 16 20 27.0 -1.4
SNR=17
HATD Hatta, Dubai 11.04 131 *i* P Pn 16 20 27.0 -1.4
SNR=17
ASHO Ashiyiah 11.10 132 P Pn 16 20 29.0 -0.2
SNR=18
ASHO Ashiyiah 11.10 132 P Pn 16 20 27.9 -1.3
SNR=18
ASHO Ashiyiah 11.10 132 *i* P Pn 16 20 27.9 -1.3
SNR=18
NEY Neytrino 11.27 344 *i* P Pn 16 20 35.2 +3.6
NEY Neytrino 11.27 344 ⇓ *i* P Pn 16 20 35.2 +3.6
NCK Nalchik 11.32 347 *e*P Pn 16 20 35.9 +3.8
NCK Nalchik 11.32 347⇑ *e*P Pn 16 20 35.9 +3.8
ALNE Al Ain 11.37 135 P Pn 16 20 31.8 -1.2
SNR=14
ALNE Al Ain 11.37 135 *i* P Pn 16 20 31.6 -1.3
SNR=20
KBZ Khabaz 11.68 345 Pn Pn 16 20 36.5 -0.6
comp=Z,0.1nm,0.3s,baz=153,slow=16,SNR=2.6
KBZ LR LR 16 24 36.5
comp=Z,414nm,19.2s,baz=152,slow=35
SOHO SOHO 11.79 133 P Pn 16 20 37.2 -1.5
SNR=10.0
SOHO SOHO 11.79 133 *i* P Pn 16 20 37.2 -1.5
SNR=10.0
KVAR Kislovodsk Arr 11.94 345 Pn Pn 16 20 42.9 +2.1
baz=168,slow=20,SNR=11
KVAR LR LR 16 25 00.6
comp=Z,578nm,18.1s,baz=136,slow=36
KIV Kislovodsk 11.95 345 P Pn 16 20 42.2 +1.4
SNR=5.8
KIV Kislovodsk 11.95 345 P Pn 16 20 42.2 +1.4
SNR=5.8
KIV Kislovodsk 11.95 345 *e*P Pn 16 20 43.3 +2.5
KIV pmax pmax
comp=Z,16nm,1.1s
KIV MLR MLR
comp=Z,305nm,10.0s
ARQ Araqi 12.38 135 P Pn 16 20 46.7 0.0
SNR=20
ARQ Araqi 12.38 135 P Pn 16 20 46.7 0.0
SNR=20
SOC Sochi 12.48 335 *e*P Pn 16 20 47.9 -0.1
comp=Z,12nm,0.6s
SOC *e*S Sn 16 23 06.6 +0.7
comp=Z,2μm,14.0s
SOC Sochi 12.48 335 *e*P Pn 16 20 47.9 -0.1
SOC *e* 16 23 06.6
SOC pmax pmax
comp=Z,12nm,0.6s
SOC MLR MLR
comp=Z,2μm,14.0s
GOF Gofitskoye 12.93 347⇑ *e*P P 16 21 04.6 +0.2
GOF pmax pmax
comp=Z,62nm,1.3s
BRTR Keskin Array B 13.02 307 Pn Pn 16 20 56.1 +0.6
comp=Z,0.0nm,0.3s,baz=132,slow=12,SNR=13
BRTR Lg Lg 16 24 56.8
comp=Z,0.1nm,0.3s,baz=163,slow=10,SNR=2.4
BRTR LR LR 16 27 16.4
comp=Z,1μm,18.0s,baz=108,slow=44
BSY Bisya 13.23 135 P Pn 16 20 57.2 -1.1
SNR=10.0
BSYO Bisya 13.26 135 P Pn 16 20 57.2 -1.6
SNR=10.0
WSAR Wadi Sarin 13.77 129 Pn Pn 16 21 02.6 -3.2
comp=Z,2.0nm,0.3s,baz=313,slow=11,SNR=24
WSAR Sn Sn 16 23 26.1 -11
baz=240,slow=20,SNR=3.3
WSAR LR LR 16 27 07.1
comp=Z,1μm,20.6s,baz=329,slow=40
ANN Anapa 14.39 331 *e*P Pn 16 21 11.1 -2.9
ANN *e*S Sn 16 23 48.2 -4.2
ANN pmax pmax
comp=Z,56nm,1.2s
ANN MLR MLR
comp=E,1μm,15.0s
ANN MLR MLR
comp=Z,2μm,15.0s
ANN MLR MLR
comp=N,2μm,15.0s
ISP Isparta 14.52 296*c* *i*P Pn 16 21 17.5 +1.5
ISP pmax pmax
comp=Z,20nm,0.8s
SIM Simferopol' 15.99 325 *e*P Pn 16 21 33.4 -1.8
SIM *e*S Sn 16 24 30.2 -1.2
SIM pmax pmax
comp=Z,86nm,0.2s
SIM MLR MLR
comp=Z,940nm,17.3s
MANT Manisa 16.20 297 *e*Pn Pn 16 21 38.4 +0.3
comp=Z,254nm,1.1s
MANT Manisa 16.20 297 *e*Pn Pn 16 21 38.4 +0.3
comp=Z,254nm,1.1s
IDI Anoyia 18.60 285 P Pn 16 22 08.7 +0.9
comp=Z,1.7nm,0.3s,baz=118,slow=8.8,SNR=17
IDI Anoyia 18.60 285 *e*P Pn 16 22 08.9 +1.1
comp=Z,22nm,0.8s
IDI Anoyia 18.60 285 *e*P Pn 16 22 08.9 +1.1
comp=Z,22nm,0.8s
PRD Provadia 18.80 310 P Pn 16 22 10.9 +0.9
VRH Novokhopyorsk 19.10 350 *e*P P 16 22 11.6 -1.0
comp=Z,20nm,0.5s
VRH Novokhopyorsk 19.10 350 *e*P P 16 22 11.6 -1.0
VRH pmax pmax
comp=Z,20nm,0.5s
AB31 Akbulak array 19.33 26 *i* P Pn 16 22 15.6 -0.8
comp=Z,26nm,1.1s
AB31 Akbulak array 19.33 26 *i* P Pn 16 22 15.6 -0.8
AB31 pmax pmax
comp=Z,26nm,1.1s
ABKAR Akbulak array 19.33 26 *e*P P 16 22 14.5 -0.7
ABKAR Akbulak array 19.33 26 *e*P P 16 22 14.5 -0.7
CFR Carcaliu 19.37 316⇑ *i*P Pn 16 22 16.4 -0.5
CFR Carcaliu 19.37 316⇑ *i*P Pn 16 22 16.4 -0.5
VSR Storozhevoye 19.59 345 *e*P P 16 22 16.0 -1.9
VSR pmax pmax
comp=Z,20nm,0.6s
AKTK Aktyubinsk 19.68 21 P P 16 22 18.2 -0.8
AKTO Aktyubinsk 19.68 21 P P 16 22 18.2 -0.9
comp=Z,1.6nm,0.3s,baz=201,slow=12,SNR=17
AKTO LR LR 16 31 57.5
comp=Z,470nm,20.1s,baz=199,slow=43
RZN Rozhen 20.00 304 P P 16 22 23.4 +0.7
KIS Kishinev 20.09 321⇑ *i*P P 16 22 20.0 -3.4
comp=Z,500nm,4.0s
KIS *e*S S 16 26 05.0 -2.4
KIS Kishinev 20.09 321 *i* PcP Sn 16 26 14.0 +3.6
KIS LRM MLR 16 32 26.0
comp=Z,600nm,16.0s
KIS Kishinev 20.09 321*c* *i*P P 16 22 20.0 -3.4
KIS *e*S S 16 26 05.0 -2.4
KIS *i* 16 26 14.0
KIS pmax pmax
comp=Z,500nm,4.0s
KIS MLR MLR
comp=Z,500nm,14.0s
KIS MLR MLR
comp=Z,600nm,16.0s
VRI Vrincioaia 20.58 316⇓ *i*P Pn 16 22 30.1 -1.1
VRI Vrincioaia 20.58 316⇓ *i*P Pn 16 22 30.1 -1.1
PLOR Plostina 20.61 316⇓ *i*P Pn 16 22 30.6 -1.0
PLOR Plostina 20.61 316⇓ *i*P Pn 16 22 30.6 -1.0
MMB Musomiste 20.66 303 P P 16 22 29.9 +0.1
PGB Panagyurishte 20.68 306 P P 16 22 30.5 +0.5
MLR Muntele Rosu 20.84 315 P P 16 22 32.2 +0.4
comp=Z,2.7nm,0.9s,baz=65,slow=4.7,SNR=9.3
MLR S S 16 26 22.3 -0.2
comp=Z,0.2nm,0.5s,baz=147,slow=14,SNR=1.8
MLR Muntele Rosu 20.84 315⇑ *i*P Pn 16 22 33.3 -1.1
MLR Muntele Rosu 20.84 315 *e*P P 16 22 29.4 -2.4
comp=Z,17nm,1.0s
MLR Muntele Rosu 20.84 315⇑ *i*P Pn 16 22 33.3 -1.1
MLR Muntele Rosu 20.84 315 *e*P P 16 22 29.4 -2.4
MLR pmax pmax
comp=Z,17nm,1.0s
LPSR Galich'ya Gora 20.94 346 *e*P P 16 22 30.8 -1.8
comp=Z,210nm,0.9s
LPSR Galich'ya Gora 20.94 346 *e*P P 16 22 30.8 -1.8
LPSR pmax pmax
comp=Z,210nm,0.9s
TESR Tescani 20.98 318 ⇓ *i*P P 16 22 34.2 +1.0
TESR Tescani 20.98 318 ⇓ *i*P P 16 22 34.2 +1.0
SORM Soroca 21.07 323⇑ *i*P P 16 22 33.7 -0.3
SORM Soroca 21.07 323⇑ *i*P P 16 22 33.7 -0.3
KKB Krupnik 21.21 303 P P 16 22 35.4 -0.2
ATD Arta Tunnel 21.22 191 P P 16 22 39.6 +3.7
comp=Z,15nm,0.9s,baz=50,slow=12,SNR=6.2
ATD S Sn 16 26 35.4 -2.6
comp=Z,6.9nm,0.8s,baz=270,slow=19,SNR=2.1
ATD LR LR 16 31 39.1
comp=Z,1μm,18.3s,baz=10.0,slow=39
KK31 Karatay Array 21.29 53 *e*P P 16 22 36.0 -0.5
KK31 Karatay Array 21.29 53 *e*P P 16 22 36.0 -0.5
KK31 Karatay Array 21.29 53 *i* P P 16 22 35.7 -0.8
KK31 pmax pmax
comp=Z,38nm,1.0s
KKAR Karatay Array 21.29 53 *e*P P 16 22 36.0 -0.5
KKAR Karatay Array 21.29 53 *e*P P 16 22 36.0 -0.5
KKAR Karatay Array 21.29 53 *e*P P 16 22 36.0 -0.5
VOIR 21.36 314⇑ *i*P P 16 22 38.4 +1.1
VOIR 21.36 314⇑ *i*P P 16 22 38.4 +1.1
VTS Vitosha 21.36 305 ⇓ *i*P P 16 22 38.6 +1.2
VTS Vitosha 21.36 305 *e*P P 16 22 39.3 +1.9
comp=Z,4.4nm,0.8s
VTS Vitosha 21.36 305 P P 16 22 39.4 +1.9
VTS Vitosha 21.36 305 *e*P P 16 22 39.3 +1.9
comp=Z,4.4nm,0.8s
VTS Vitosha 21.36 305 *e*P P 16 22 39.3 +1.9
VTS pmax pmax
comp=Z,4.0nm,0.8s
DOPR Dopca 21.42 315 ⇓ *i*P P 16 22 38.8 +0.9
DOPR Dopca 21.42 315 ⇓ *i*P P 16 22 38.8 +0.9
ARR Arges 21.58 313 ⇓ *i*P P 16 22 40.4 +0.8
ARR Arges 21.58 313 ⇓ *i*P P 16 22 40.4 +0.8
BARS Barje 22.40 305 *e*P P 16 22 49.0 +0.6
BURAR Bucovina Array 22.42 319⇑ *i*P P 16 22 50.0 +1.4
BURAR Bucovina Array 22.42 319⇑ *i*P P 16 22 50.0 +1.4
AKASG Malin Array Be 22.45 329 P P 16 22 46.4 -2.5
comp=Z,4.0nm,0.5s,baz=136,slow=9.8,SNR=28
AKASG S S 16 26 52.0 -1.3
comp=Z,0.3nm,0.5s,baz=130,slow=20,SNR=2.6
AKASG LR LR 16 33 51.4
comp=Z,269nm,18.1s,baz=145,slow=43
AKBB Malin Array Si 22.45 329 *e*P P 16 22 47.6 -1.2
comp=Z,9.3nm,0.8s
AKBB Malin Array Si 22.45 329 *e*P P 16 22 47.6 -1.2
comp=Z,9.3nm,0.8s
AKBB Malin Array Si 22.45 329 *e*P P 16 22 47.6 -1.2
AKBB pmax pmax
comp=Z,9.0nm,0.8s
KIEV Kiev 22.45 329 *e*P P 16 22 47.6 -1.3
comp=Z,8.2nm,0.7s
KIEV Kiev 22.45 329 P P 16 22 49.8 +0.9
SNR=7.6
KIEV Kiev 22.45 329 *i* P P 16 22 49.8 +0.9
SNR=7.6
KIEV Kiev 22.45 329 ⇓ *e*P P 16 22 48.7 -0.2
KIEV pmax pmax
comp=Z,9.0nm,0.8s
MNAS Manas 22.46 56 *i* P P 16 22 48.5 -0.7
comp=Z,31nm,1.1s
MNAS Manas 22.46 56 *i* P P 16 22 48.5 -0.7
MNAS pmax pmax
comp=Z,31nm,1.1s
AK11 Malin Array Si 22.46 329 *e*P P 16 22 48.2 -0.8
ZAGS Zajecar 22.46 307 ⇓ *i*P P 16 22 50.1 +1.0
SFK Sufi-Kurgan 22.56 63 *i* P P 16 22 50.7 +0.2
comp=Z,57nm,1.3s
SFK Sufi-Kurgan 22.56 63 *i* P P 16 22 50.7 +0.2
SFK pmax pmax
comp=Z,57nm,1.3s
AML Almayashu 23.20 58 P P 16 22 57.4 +0.2
SNR=18
EKS2 Erkin-Say 23.41 57 P P 16 23 00.9 +2.0
SNR=10
DRGR 23.44 315 ⇓ *i*P P 16 22 59.6 +0.5
DRGR 23.44 315 ⇓ *i*P P 16 22 59.6 +0.5
BZS Buzias 23.58 311 ⇓ *i*P P 16 22 59.9 -0.6
BZS Buzias 23.58 311 ⇓ *i*P P 16 22 59.9 -0.6
OBN Obninsk 23.79 345 P P 16 23 01.2 -1.1
comp=Z,25nm,0.6s,baz=187,slow=0.8,SNR=16
OBN LR LR 16 33 37.8
comp=Z,855nm,18.8s,baz=152,slow=40
OBN Obninsk 23.79 345 *e*P P 16 23 02.0 -0.3
comp=Z,73nm,1.2s
OBN Obninsk 23.79 345 *e*P P 16 23 02.0 -0.3
comp=Z,73nm,1.2s
OBN Obninsk 23.79 345*c* *i*P P 16 23 01.5 -0.8
OBN *e* 16 23 27.9
OBN pmax pmax
comp=Z,77nm,1.2s
OBN MLR MLR
comp=Z,855nm,20.0s
UCH Uchtor 23.81 58 P P 16 23 04.1 +0.9
SNR=11
SIRR Siria 23.84 313⇑ *i*P P 16 23 04.0 +1.1
SIRR Siria 23.84 313⇑ *i*P P 16 23 04.0 +1.1
AAK Ala-Archa 23.91 57 P P 16 23 04.2 +0.4
comp=Z,6.9nm,0.7s,baz=229,slow=7.6,SNR=34
AAK S S 16 27 19.0 +0.9
comp=Z,0.4nm,0.3s,baz=238,slow=19,SNR=1.9
AAK Ala-Archa 23.91 57 P P 16 23 05.6 +1.8
SNR=15
AAK Ala-Archa 23.91 57 *e*P P 16 23 04.7 +0.9
comp=Z,10nm,0.8s
AAK Ala-Archa 23.91 57 P P 16 23 04.5 +0.7
SNR=8.5
AAK Ala-Archa 23.91 57 *i* P P 16 23 04.1 +0.4
comp=Z,10.0nm,1.0s
AAK Ala-Archa 23.91 57*c* *i*P P 16 23 04.1 +0.4
AAK pmax pmax
comp=Z,10.0nm,1.0s
FRU Bishkek 24.05 57 *e*P P 16 23 06.0 +1.1
comp=Z,120nm,2.0s
FRU Bishkek 24.05 57 *e*P P 16 23 06.0 +1.1
FRU *e*S S 16 27 19.0 -1.1
FRU *e* 16 27 28.0
FRU pmax pmax
comp=Z,120nm,2.0s
FRU MLR MLR
comp=E,2μm,12.0s
DIVS Divibare 24.08 307 *e*P P 16 23 05.9 +0.7
comp=E,10.0nm,1.3s
DIVS Divibare 24.08 307 *e*P P 16 23 05.9 +0.7
comp=E,10.0nm,1.3s
USP Ospenovka 24.09 56 P P 16 23 05.9 +0.6
SNR=22
MOS Moscow 24.16 347 *e*P P 16 23 04.7 -1.0
MOS *e* 16 23 13.6
MOS *e* 16 23 35.8
MOS *e*S S 16 27 22.8 +1.3
MOS pmax pmax
comp=Z,61nm,1.3s
CHMS Chumysh 24.19 56 P P 16 23 07.0 +0.8
SNR=18
KBK Karagaybulak 24.23 57 P P 16 23 08.4 +1.6
SNR=24
KZA Kyzart 24.30 59 P P 16 23 08.9 +1.2
SNR=16
LVV L'vov 24.34 322 *e*P P 16 23 08.7 +1.2
LVV L'vov 24.34 322 *e*P P 16 23 08.7 +1.2
KSH Kashi 24.36 65 P P 16 23 05.5 -2.4
KSH PP PnPn 16 23 37.3 -1.5
KSH S S 16 27 16.3 -9.1
KSH PcS PcS 16 30 27.4 +0.7
KSH pmax pmax
comp=Z,90nm,1.0s
KSH pmax pmax
comp=Z,900nm,3.7s
KSH LR LR
comp=Z,1μm,8.4s
KSH LR LR
comp=Z,900nm,6.5s
KSH LR LR
comp=Z,1μm,7.4s
TEKS Tekeris 24.55 307 *e*P P 16 23 10.6 +1.2
FGSL Fruska Gora 24.57 309 *e*P P 16 23 09.7 0.0
UZH Uzhgorod 24.61 318 *e*P P 16 23 13.7 +3.8
UZH *e* 16 23 20.2
OTUK Ortayu 24.72 43 P P 16 23 11.0 0.0
comp=Z,27nm,0.9s
OTUK Ortayu 24.72 43 P P 16 23 11.0 0.0
OTUK pmax pmax
comp=Z,27nm,0.9s
TKM2 Tokmak 2 24.76 57 P P 16 23 12.4 +0.7
SNR=35
TKM2 Tokmak 2 24.76 57 *i* P P 16 23 12.1 +0.4
TKM2 pmax pmax
comp=Z,43nm,1.5s
KWP Kalwaria Pacla 24.93 321 *e*P P 16 23 13.6 +0.7
KWP Kalwaria Pacla 24.93 321 *e*P P 16 23 13.5 +0.7
ULHL Ulahol 25.06 59 P P 16 23 15.7 +1.4
SNR=16
CRVS Cervenica-Dubn 25.22 318 *e*P P 16 23 16.4 +0.9
CRVS *e*S S 16 27 39.8 +1.0
CRVS Cervenica-Dubn 25.22 318 *e*P P 16 23 16.4 +0.9
CRVS pmax pmax
comp=Z,7.0nm,0.9s
ARU Arti 25.24 15 P P 16 23 15.3 -0.2
comp=Z,15nm,0.6s,baz=203,slow=5.4,SNR=28
ARU S S 16 27 38.6 -0.2
comp=Z,0.6nm,0.3s,baz=108,slow=20,SNR=1.4
ARU Arti 25.24 15 *e*P P 16 23 15.3 -0.2
comp=Z,28nm,0.8s
ARU Arti 25.24 15*c* *i*P P 16 23 14.7 -0.8
ARU 16 23 48.8
ARU PPP PPP 16 23 58.5
ARU *e*S S 16 27 39.6 +0.8
ARU SS SnSn 16 28 34.3 +3.4
ARU pmax pmax
comp=Z,48nm,1.2s
ARU MLR MLR
comp=Z,520nm,17.0s
TIP Timpagrande 25.37 294⇑ *i*P P 16 23 18.0 +1.0
TIP Timpagrande 25.37 294 *e*P P 16 23 17.5 +0.5
comp=Z,20nm,0.8s
TIP Timpagrande 25.37 294 *e*P P 16 23 17.5 +0.5
comp=Z,20nm,0.8s
STHS Stebnicka Huta 25.61 319 *e*P P 16 23 20.8 +1.8
STHS Stebnicka Huta 25.61 319 *e*P P 16 23 20.8 +1.8
STHS pmax pmax
comp=Z,9.0nm,0.9s
PSZ Piszkesteto 25.66 315⇑ *e*P P 16 23 21.0 +1.5
PSZ Piszkesteto 25.66 315 *e*P P 16 23 21.5 +2.0
comp=Z,11nm,1.1s
PSZ Piszkesteto 25.66 315 *e*P P 16 23 21.5 +2.0
comp=Z,11nm,1.1s
PSZ Piszkesteto 25.66 315 *e*P P 16 23 21.5 +2.0
PSZ pmax pmax
comp=Z,11nm,1.1s
KDJ Kajisay 25.71 59 *e*P P 16 23 21.8 +1.5
comp=Z,36nm,1.2s
KDJ Kajisay 25.71 59 *e*P P 16 23 21.8 +1.5
comp=Z,36nm,1.2s
MORH M¨‡r¨igy, Hung 25.73 310⇑ *e*P P 16 23 20.3 +0.2
MICGM Minsk 25.86 334 *e* P 16 23 21.0 -0.2
MNK Minsk 25.86 334 *e*P P 16 23 21.0 -0.2
SVE Sverdlovsk 26.08 17 ⇓ *e*P P 16 23 23.2 0.0
SVE pmax pmax
comp=Z,37nm,1.1s
NIE Niedzica 26.14 318 *e*P P 16 23 26.4 +2.5
NIE Niedzica 26.14 318 *e*P P 16 23 26.4 +2.5
LANS Liptovska Anna 26.48 317 *e*P P 16 23 28.3 +1.3
LANS Liptovska Anna 26.48 317 *e*P P 16 23 28.3 +1.3
BRVK Borovoye 26.50 32 *e*P P 16 23 26.8 -0.2
comp=Z,8.9nm,0.7s

BRVK Borovoye 26.50 32 P P 16 23 27.1 +0.1
SNR=7.8
BRVK Borovoye 26.50 32 *e*P P 16 23 26.8 -0.2
comp=Z,8.9nm,0.7s
BRVK Borovoye 26.50 32 *c i*P P 16 23 26.7 -0.3
BRVK pmax pmax
comp=Z,17nm,1.2s
BVA0 Borovoye Array 26.52 32 *i* P P 16 23 26.9 -0.3
BVA0 pmax pmax
comp=Z,16nm,1.2s
BVAR Borovoye Array 26.52 32 P P 16 23 27.0 -0.2
comp=Z,9.6nm,0.6s,baz=228,slow=8.1,SNR=70
BVAR PcP **PcP** 16 26 51.6 +0.3
comp=Z,0.9nm,0.5s,baz=195,slow=2.0,SNR=3.3
BVAR S **S** 16 27 59.0 -0.3
comp=Z,0.7nm,0.7s,baz=189,slow=36,SNR=2.6
BVAR LR LR 16 35 51.0
comp=Z,1μm,21.6s,baz=228,slow=41
VYHS Vyhne 26.55 315 *e*P P 16 23 30.2 +2.7
VYHS *e*S **S** 16 28 03.4 +3.6
VYHS Vyhne 26.55 315 *e*P P 16 23 30.2 +2.7
VYHS pmax pmax
comp=Z,3.0nm,1.1s
OJC Ojcow 26.83 319 *e*P P 16 23 30.2 +0.2
OJC Ojcow 26.83 319 *e*P P 16 23 30.2 +0.2
IDID Didziasalis 26.91 334 *e*P P 16 23 31.0 +0.3
IDID IAmb IAmb 16 23 43.0
comp=Z,7.3nm,0.6s
IIGN Ignalina 27.13 334 *e*P P 16 23 32.8 +0.2
IIGN IAmb IAmb 16 23 43.1
comp=Z,9.7nm,0.7s
IZAR Zarasai 27.43 334 *e*P P 16 23 35.6 +0.4
IZAR IAmb IAmb 16 23 40.8
comp=Z,20nm,1.2s
VRAC Vranov 28.24 315 P P 16 23 43.4 +0.8
comp=Z,1.1nm,0.4s,baz=101,slow=14,SNR=2.5
VRAC S **S** 16 28 26.2 -0.1
comp=Z,1.3nm,0.5s,baz=178,slow=24,SNR=3.7
VRAC LR LR 16 37 14.9
comp=Z,275nm,20.5s,baz=104,slow=41
KLMR Klimovskoe 28.80 352 *e*P P 16 23 51.9 +4.4
KLMR AMP 16 23 54.4
comp=Z,22nm,1.3s
KLMR *e*S **S** 16 28 41.8 +6.9
KLMR *e*S **S** 16 28 41.8 +6.9
KLMR LQ LQ 16 33 20.8
KLMR LQ LQ 16 33 20.8
KLMR Klimovskoe 28.80 352 *e*P P 16 23 51.9 +4.4
KLMR *e*S **S** 16 28 41.8 +6.9
KLMR pmax pmax
comp=Z,22nm,1.3s
MOA Molln 29.11 311 P P 16 23 50.7 +0.3
comp=Z,3.5nm,0.7s
MOA Molln 29.11 311 *e*P P 16 23 50.7 +0.3
comp=Z,3.5nm,0.7s
KURBB Kurchatov Arra 29.41 43 P P 16 23 53.4 +0.4
comp=Z,5.7nm,0.9s,baz=240,slow=10,SNR=26
KURBB S **S** 16 28 46.0 +1.4
comp=Z,0.4nm,0.7s,baz=6.2,slow=37,SNR=2.0
KBA Koelnbreinsper 29.45 310 P P 16 23 54.8 +1.1
comp=Z,3.9nm,0.8s
KBA Koelnbreinsper 29.45 310 *e*pP P 16 23 54.8 +1.1
comp=Z,3.9nm,0.8s
KURK Kurchatov 29.50 43 P P 16 23 53.4 -0.4
KURK Kurchatov 29.50 43 P P 16 23 53.4 -0.4
GERES GERESS Array B 29.81 313 P P 16 23 56.8 +0.1
comp=Z,0.3nm,0.5s,baz=104,slow=10.0,SNR=3.7
GERES PcP **PcP** 16 27 00.0 +0.5
comp=Z,0.5nm,0.6s,baz=131,slow=3.0,SNR=3.4
GERES S **S** 16 28 53.3 +2.1
comp=Z,0.1nm,0.2s,baz=289,slow=9.8,SNR=2.2
GERES LR LR 16 38 54.4
comp=Z,222nm,20.7s,baz=103,slow=42
MAKZ Makanchi 30.18 51 *e*P P 16 24 00.4 +0.4
comp=Z,6.0nm,1.1s
MAKZ Makanchi 30.18 51 *e*P P 16 24 00.4 +0.4
MAKZ pmax pmax
comp=Z,6.0nm,1.1s
MK01 Makanchi Array 30.39 52 *e*P P 16 24 01.5 -0.2
MK01 Makanchi Array 30.39 52 *e*P P 16 24 01.5 -0.2
MK31 Makanchi Array 30.39 52 *e*P P 16 24 02.1 +0.3
MK31 Makanchi Array 30.39 52 *e*P P 16 24 02.1 +0.3
MK31 Makanchi Array 30.39 52 *i* P P 16 24 01.8 +0.1
MK31 pmax pmax
comp=Z,8.0nm,0.6s
MKAR Makanchi Array 30.39 52 P P 16 24 02.1 +0.4
comp=Z,9.2nm,0.8s,baz=248,slow=7.8,SNR=100
MKAR PcP **PcP** 16 27 00.5 -0.5
comp=Z,0.5nm,0.6s,baz=247,slow=3.0,SNR=2.9
MKAR S **S** 16 29 01.9 +1.7
comp=Z,0.4nm,0.9s,baz=298,slow=3.1,SNR=2.0
MKAR LR LR 16 39 10.8
comp=Z,173nm,18.8s,baz=254,slow=42
BRG Berggiesshubel 30.44 317 *e*P P 16 24 00.5 -1.7
comp=Z,7.2nm,1.5s
comp=N,280nm,12.5s
comp=E,261nm,13.9s
comp=Z,407nm,13.1s
BRG Berggiesshubel 30.44 317 *e*P P 16 24 00.5 -1.7
BRG pmax pmax
comp=Z,7.0nm,1.5s
BRG MLR MLR
comp=N,280nm,12.5s
BRG MLR MLR
comp=E,261nm,13.9s
BRG MLR MLR
comp=Z,407nm,13.1s
WATA Walderalm 30.68 309 P P 16 24 04.1 -0.4
comp=Z,1.8nm,0.3s
WATA Walderalm 30.68 309 *i* P P 16 24 04.1 -0.4
comp=Z,1.8nm,0.3s
MOTA Moosalm 30.99 309 *i* P P 16 24 06.3 -0.9
comp=Z,3.5nm,0.6s
FETA Feichten 31.16 308 *e*P P 16 24 09.2 +0.6
comp=Z,6.3nm,0.8s
CLL Collm 31.16 317 *e*P P 16 24 10.0 +1.5
CLL *e*S **S** 16 29 12.0 -0.2
CLL *e*SSS SSS 16 31 08.0
CLL LmV 16 38 00.0
comp=Z,300nm,20.5s
CLL LmH 16 40 00.0
comp=N,300nm,18.6s
CLL LmH 16 40 00.0
comp=E,400nm,19.1s
CLL Collm 31.16 317 *e*P P 16 24 10.0 +1.5
CLL *e*S **S** 16 29 12.0 -0.2
CLL MLR MLR
comp=Z,300nm,20.5s
PYUN Piuthan 31.25 88 *e*P P 16 24 10.1 +0.3
comp=Z,33nm,0.7s
KEST Kesra 31.26 286 P P 16 24 11.0 +1.4
comp=Z,3.7nm,0.7s,baz=44,slow=8.1,SNR=4.3
DAVA Damuels 31.78 309 P P 16 24 13.9 -0.3
DAVA Damuels 31.78 309 *i* P P 16 24 13.9 -0.3
DANN Dangsing 31.83 88 *e*P P 16 24 16.2 +1.2
KOLN Koldanda 31.86 89 *e*P P 16 24 15.3 +0.1
comp=Z,15nm,0.8s
FINES FINESS Array B 32.00 341 P P 16 24 15.6 -0.1
comp=Z,4.9nm,0.6s,baz=153,slow=9.0,SNR=19
FINES LR LR 16 38 59.0
comp=Z,634nm,19.7s,baz=147,slow=40
HYB Hyderabad 32.12 110 *i* P P 16 24 18.5 +1.2
TMCR Tamitsa 32.19 353 *e*P P 16 24 16.4 -0.9
TMCR pmax pmax
comp=Z,11nm,0.5s
GKN Gorkha 32.67 88 *e*P P 16 24 22.4 +0.2
comp=Z,49nm,0.5s
DMN Daman 33.18 88 *e*P P 16 24 27.3 +0.5
comp=Z,97nm,0.8s
KKN Kakani 33.27 88 *e*P P 16 24 28.0 +0.4
comp=Z,63nm,0.8s
PKIN Phulchoki 33.44 88 *e*P P 16 24 29.8 +0.8
comp=Z,71nm,0.7s
BNI Bardonecchia 33.54 304 *e*P P 16 24 29.5 -0.1
comp=Z,15nm,1.1s
BNI Bardonecchia 33.54 304 *e*P P 16 24 29.5 -0.1
comp=Z,15nm,1.1s
BNI Bardonecchia 33.54 304 *e*P P 16 24 29.5 -0.1
BNI pmax pmax
comp=Z,15nm,1.1s
WMQ Urumqi 33.59 58 P P 16 24 30.8 +0.8
WMQ pP pP 16 24 38.3 -1.0
WMQ S **S** 16 29 52.8 +2.4
WMQ ScS **ScS** 16 34 53.3 0.0
WMQ pmax pmax
comp=Z,27nm,1.3s
WMQ pmax pmax
comp=Z,330nm,5.5s
WMQ LR LR
comp=Z,1μm,21.7s
WMQ LR LR
comp=Z,900nm,22.5s
WMQ LR LR
comp=Z,970nm,26.1s
GUN Gumba 33.74 87 *e*P P 16 24 32.3 +0.5
comp=Z,157nm,0.8s
NVS Novosibirsk 33.84 38 *e*P P 16 24 32.0 +0.2
NVS pmax pmax
comp=Z,24nm,1.8s
NVS pmax pmax
comp=N,8.0nm,1.4s
NVS pmax pmax
comp=E,7.0nm,1.4s
JIRN Jiri 34.08 88 *e*P P 16 24 35.2 +0.4
comp=E,100nm,0.6s
ZAA0 Zalesovo Array 34.30 40 *e*P P 16 24 35.8 -0.1
comp=E,7.0nm,0.8s
ZALV Zalesovo Beam 34.30 40 P P 16 24 35.0 -0.9
comp=E,6.4nm,0.7s,baz=255,slow=9.3,SNR=26
ZALV S **S** 16 29 58.4 -2.6
comp=E,0.2nm,0.4s,baz=38,slow=9.5,SNR=2.6
ZALV LR LR 16 40 11.5
comp=E,367nm,18.4s,baz=250,slow=39
ZALV Zalesovo Beam 34.30 40 *e*P P 16 24 35.4 -0.5
ZALV Zalesovo Beam 34.30 40 *e*P P 16 24 35.4 -0.5
DGZ Jazzator, Alta 34.46 48 *i* P P 16 24 37.5 0.0
DGZ pmax pmax
comp=Z,3.0nm,0.8s
RAMN Ramite 34.65 89 *e*P P 16 24 39.2 -0.3
comp=Z,61nm,0.8s
KMBO Kilima Mbogo 34.70 197 P P 16 24 42.8 +2.8
comp=Z,2.0nm,0.8s,baz=7.4,slow=7.8,SNR=3.5
KMBO LR LR 16 38 36.3
comp=Z,515nm,21.4s,baz=104,slow=36
HFS Hagfors 35.30 332 P P 16 24 44.2 -0.2
comp=Z,7.2nm,0.5s,baz=125,slow=9.3,SNR=37
HFS LR LR 16 40 18.6
comp=Z,353nm,20.4s,baz=126,slow=38
ODAN Odare 35.35 88 *e*P P 16 24 45.5 0.0
comp=Z,16nm,0.6s
NB2 NORSAR Subarra 36.83 332 P P 16 24 56.9 -0.6
comp=Z,2.1nm,0.7s,baz=124,slow=9.3
NOA NORSAR Array B 36.83 332 P P 16 24 57.7 +0.1
comp=Z,1.2nm,0.6s,baz=135,slow=9.0,SNR=5.2
NOA LR LR 16 41 15.2
comp=Z,333nm,21.7s,baz=130,slow=38
TAM Tamanrasset 37.83 266 *e*P P 16 25 08.3 +1.6
comp=Z,24nm,1.3s
TAM Tamanrasset 37.83 266 *e*P P 16 25 08.3 +1.6
comp=Z,24nm,1.3s
TAM Tamanrasset 37.83 266 *e*P P 16 25 08.3 +1.6
TAM pmax pmax
comp=Z,24nm,1.3s
HVS Khovu-Aksy 38.68 47⇑ *e*P P 16 25 15.0 +1.6
HVS pmax pmax
comp=Z,11nm,0.9s
ARCES ARCESS Array B 39.02 348 P P 16 25 16.0 +0.1
comp=Z,0.7nm,0.4s,baz=133,slow=8.4,SNR=8.4
ARCES PP **PP** 16 26 46.1 +0.6
comp=Z,7.0nm,1.1s,baz=140,slow=12,SNR=4.2
ARCES LR LR 16 43 48.9
comp=Z,163nm,20.2s,baz=124,slow=40
ARCES ARCESS Array B 39.02 348 P P 16 25 16.0 +0.1
KRAR Krasnoyarsk 39.37 39⇓ *e*P P 16 25 20.3 +1.3
SHL Shillong 39.58 88 *e*P P 16 25 24.0 +2.7
ES19 SONSECA Array 41.33 295 *e*P P 16 25 37.2 +1.7
ES19 SONSECA Array 41.33 295 *e*P P 16 25 37.2 +1.7
ESDC Sonseca Array 41.38 295 P P 16 25 35.6 -0.3
comp=Z,1.1nm,0.6s,baz=76,slow=8.8,SNR=6.1
EKA Eskdalemuir Ar 41.60 319 P P 16 25 37.1 -0.3
comp=Z,1.4nm,0.4s,baz=106,slow=8.1,SNR=11
GTA Gaotai 42.76 65 P P 16 25 47.5 +0.2
GTA pP pP 16 25 53.6 -3.2
GTA sP sP 16 25 56.5 -4.1
GTA PP **PP** 16 27 30.5 +3.8
GTA S **S** 16 32 09.4 +0.2
GTA SS **SS** 16 35 14.3 -6.2
GTA pmax pmax
comp=Z,6.0nm,1.2s
GTA pmax pmax
comp=Z,120nm,6.5s
GTA LR LR
comp=Z,660nm,19.0s
GTA LR LR
comp=Z,400nm,19.5s
GTA LR LR
comp=Z,450nm,15.2s
NRIK Noril'sk 43.30 20 LR LR 16 48 02.9
comp=Z,395nm,19.9s,baz=242,slow=42
ZAK Zakamensk 44.65 49 *e*P P 16 26 01.2 -1.1
ZAK pmax pmax
comp=Z,3.0nm,2.0s
TLY Talaya 44.93 47 *e*P P 16 26 06.4 +2.0
TLY *e*S **S** 16 32 38.2 -2.1
TLY *e*SS **SS** 16 36 03.7 +1.6
TLY pmax pmax
comp=Z,6.0nm,1.7s
TLY MLR MLR
comp=Z,402nm,20.0s
TORD Torodi Ar. Bea 45.62 256 P P 16 26 10.3 0.0
comp=Z,7.5nm,0.9s,baz=61,slow=8.5,SNR=15
TORD LR LR 16 47 06.0
comp=Z,224nm,18.1s,baz=50,slow=38
LZH Lanzhou 46.50 69 *e*P P 16 26 17.4 +0.2
LZH pP pP 16 26 26.8 0.0
LZH sP sP 16 26 29.9 -0.7
LZH pmax pmax
comp=Z,22nm,1.0s
LZH pmax pmax
comp=Z,110nm,5.2s
SONM Songino Array 46.74 53 P P 16 26 18.5 -0.3
comp=Z,0.9nm,0.5s,baz=277,slow=9.3,SNR=10.0
SONM PcP **PcP** 16 27 50.4 -1.5
comp=Z,0.6nm,0.5s,baz=284,slow=5.8,SNR=2.6
SONM LR LR 16 47 42.4
comp=Z,518nm,19.1s,baz=272,slow=38
SONA1 Songino Array 46.74 53 *e*P P 16 26 18.6 -0.4
ULN Ulaanbaatar 47.18 53 *e*P P 16 26 22.6 +0.2
comp=Z,8.9nm,0.9s
ULN Ulaanbaatar 47.18 53 P P 16 26 22.8 +0.5
SNR=6.8
ULN Ulaanbaatar 47.18 53 *c i*P P 16 26 22.4 +0.1
ULN pmax pmax
comp=Z,10.0nm,0.8s
SPITS Spitsbergen Ar 47.70 352 P P 16 26 25.4 -0.4
comp=Z,2.5nm,0.4s,baz=138,slow=7.6,SNR=35
CHTO Chiang Mai 48.29 93 P P 16 26 31.2 0.0
comp=Z,56nm,1.2s
CHTO Chiang Mai 48.29 93 *e*P P 16 26 31.1 0.0
comp=Z,5.8nm,0.8s
CHTO Chiang Mai 48.29 93 *e*P P 16 26 31.1 0.0
CHTO pmax pmax
comp=Z,6.0nm,0.8s
CMMT Chiang Mai 48.30 93 P P 16 26 30.1 -1.1
comp=Z,8.9nm,0.8s,comp=Z,546nm
CM31 Chiang Mai Arr 48.45 94 *e*P P 16 26 32.3 -0.1
CMAR Chiang Mai Arr 48.45 94 P P 16 26 31.9 -0.5
comp=Z,2.5nm,0.6s,baz=293,slow=8.4,SNR=19
CMAR PcP **PcP** 16 27 58.4 +0.1
comp=Z,1.5nm,0.8s,baz=299,slow=4.3,SNR=5.1
CMAR LR LR 16 51 53.9
comp=Z,116nm,18.4s,baz=239,slow=42
CM01 Chiang Mai Arr 48.48 94 *e*P P 16 26 31.7 -0.9
PAYA Payao 48.83 92 P P 16 26 41.4 +6.1
comp=Z,3.8nm,0.7s
KMI Kunming 48.89 84 P P 16 26 37.0 +1.1
KMI PP **PP** 16 28 29.9 +0.5
KMI S **S** 16 33 37.1 -0.8
KMI SS **SS** 16 37 04.1 -4.6
KMI pmax pmax
comp=Z,13nm,0.5s
KMI pmax pmax
comp=Z,240nm,4.2s
KMI LR LR
comp=Z,490nm,20.4s
KMI LR LR
comp=Z,220nm,18.0s
KMI LR LR
comp=Z,280nm,16.9s
LAMP Lampang 49.00 93 P P 16 26 38.9 +2.3
comp=Z,4.4nm,0.7s
KOWA Kowa 49.65 261 P P 16 26 41.7 +0.1
comp=Z,4.2nm,0.6s,baz=47,slow=9.3,SNR=10.0
KOWA LR LR 16 48 16.6
comp=Z,234nm,18.1s,baz=54,slow=37
KOWA Kowa 49.65 261 *e*P P 16 26 42.1 +0.5
comp=Z,7.0nm,0.8s
NANT Nan 49.78 92 P P 16 26 42.7 +0.2
comp=Z,5.0nm,0.8s
PHIT Phitsanulok 50.28 94 P P 16 26 48.3 +2.0
comp=Z,7.5nm,0.8s
OPO Ambohidratompo 50.77 180 LR LR 16 47 50.0
comp=Z,525nm,21.5s,baz=5.5,slow=35
LSZ Lusaka 50.81 204 P P 16 26 52.3 +1.9
comp=Z,7.1nm,1.0s,baz=20,slow=8.9,SNR=9.1
LSZ Lusaka 50.81 204 *e*P P 16 26 52.9 +2.5
comp=Z,11nm,1.1s
XAN Xi'an 51.05 70 P P 16 26 51.3 -0.7
XAN pP pP 16 26 59.1 -2.6
XAN sP sP 16 27 03.1 -2.4
XAN S **S** 16 34 06.8 -0.6
XAN pmax pmax
comp=Z,9.0nm,1.1s
XAN pmax pmax
comp=Z,150nm,11.3s
XAN LR LR
comp=Z,560nm,20.6s
XAN LR LR
comp=Z,560nm,19.5s
XAN LR LR
comp=Z,420nm,20.6s
BOD Bodaibo 51.05 39 *e*P P 16 26 49.1 -2.5
BOD pmax pmax
comp=Z,10.0nm,1.3s
HHC Hu-ho-hao-te 51.38 61 *e*P P 16 26 54.1 -0.4
HHC PP **PP** 16 28 46.8 -4.8
HHC S **S** 16 34 07.6 -4.4
HHC pmax pmax
comp=Z,15nm,1.1s
HHC pmax pmax
comp=Z,70nm,6.5s
HHC LR LR
comp=Z,350nm,16.0s
HHC LR LR
comp=Z,270nm,15.0s
HHC LR LR
comp=Z,280nm,15.3s
PHET Kaeng Krachan 51.73 99 P P 16 26 58.2 +1.0
comp=Z,9.3nm,0.7s
BORG Borgarnes 51.94 330 LR LR 16 50 44.3
comp=Z,94nm,18.6s,baz=19,slow=38
CHAI Chaiyaphum 52.22 95 P P 16 27 02.5 +1.6
comp=Z,3.3nm,0.8s
NAYO Nakonayok 52.43 97 P P 16 27 02.7 +0.2
comp=Z,12nm,1.0s,comp=Z,3μm
SRAK Srakaew 53.19 97 P P 16 27 11.7 +3.6
comp=Z,78nm,0.8s,comp=Z,897nm
SKNT Sakolnakorn 53.39 92 P P 16 27 10.0 +0.5
comp=Z,13nm,1.2s
DBIC Dimbokro 54.58 254 P P 16 27 17.4 -0.9
comp=Z,2.1nm,0.5s,baz=29,slow=10,SNR=3.7
DBIC LR LR 16 53 01.6
comp=Z,310nm,18.5s,baz=30,slow=39
KIC Kosan Boka 54.66 253 *e*P P 16 27 18.6 -0.2
comp=Z,42nm,1.2s
TIC Toumodi 54.72 254 *e*P P 16 27 19.8 +0.5
LIC Lamto 54.97 253 *e*P P 16 27 20.7 -0.4
comp=Z,52nm,1.2s
BJI Beijing 54.99 61 *e*P P 16 27 17.6 -3.3
BJI pmax pmax
comp=Z,6.0nm,0.9s
TIXI Tiksi 56.97 22 P P 16 27 33.4 -1.2
comp=Z,1.8nm,0.4s,baz=322,slow=3.6,SNR=13
TIXI Tiksi 56.97 22 *e*P P 16 27 33.4 -1.2
comp=Z,2.8nm,0.9s
TIXI Tiksi 56.97 22⇑ *i*P P 16 27 33.3 -1.2
TIXI pmax pmax
comp=Z,11nm,2.5s
IPM Ipoh 57.52 107 *e*P P 16 27 38.4 -0.9
comp=Z,17nm,0.9s
YAK Yakutsk 58.50 33 *e*P P 16 27 43.0 -2.4
YAK pmax pmax
comp=Z,6.0nm,0.9s
YAK MLR MLR
comp=Z,342nm,22.0s
YAK MLR MLR
comp=E,144nm,17.0s
NJ2 Nanjing 59.58 69 *e*P P 16 27 54.9 +1.5
NJ2 pmax pmax
comp=E,12nm,0.5s
CN2 Changchun 60.54 55 *e*P P 16 27 58.5 -1.4
CN2 pmax pmax
comp=E,10.0nm,0.6s
CN2 LR LR
comp=E,400nm,13.0s
CN2 LR LR
comp=E,400nm,13.0s
CN2 LR LR
comp=E,400nm,15.0s
KLR Kul'dur 62.95 47⇑ *e*P P 16 28 14.9 -1.0
NRS Narsarsuaq 63.26 327 *e*P P 16 28 15.5 -2.3
comp=E,10.0nm,0.7s
NRS Narsarsuaq 63.26 327 *e*P P 16 28 15.5 -2.3
NRS pmax pmax
comp=Z,10.0nm,0.7s
SFJD Kangerlussuaq 63.43 334 LR LR 16 55 46.8
comp=Z,158nm,20.3s,baz=65,slow=36
KSAR Wonju Array Be 64.48 61 P P 16 28 25.4 -0.8
KSAR Wonju Array Be 64.48 61 P P 16 28 25.5 -0.8
TJN Taejon 64.51 62⇑ *e*P P 16 28 24.3 -2.1
KSRS Korea Array 64.51 61 P P 16 28 25.4 -1.0
comp=Z,2.9nm,0.6s,baz=286,slow=6.9,SNR=16
KSRS LR LR 16 59 46.8
comp=Z,245nm,19.2s,baz=290,slow=39
USRK Ussuriysk Ar. 64.85 52 P P 16 28 27.5 -1.1
comp=Z,5.6nm,0.7s,baz=277,slow=5.7,SNR=9.3
USRK LR LR 16 59 11.9
comp=Z,339nm,18.9s,baz=278,slow=38
MSHR Mys Shultsa 64.88 54⇓ *e*P P 16 28 28.2 -0.6
VLA Vladivostok 65.18 53⇓ *e*P P 16 28 29.4 -1.3
VLA pmax pmax
comp=Z,15nm,0.9s
SEY Seymchan 68.09 28⇑ *i*P P 16 28 49.0 +0.1
JNU Nakatsue 68.47 64 LR LR 17 01 39.1
comp=Z,259nm,20.2s,baz=296,slow=38
MA2 Magadan 69.01 32⇓ *i*P P 16 28 54.7 -0.1
MA2 pmax pmax
comp=Z,2.0nm,1.2s
TGY Tagaytay City 69.09 86 LR LR 17 01 03.4
comp=Z,154nm,21.9s,baz=326,slow=38
JOW Kunigami 69.20 71 LR LR 17 02 50.6
comp=Z,321nm,20.2s,baz=162,slow=39
BILL Bilibino 70.11 20*c i*P P 16 29 01.2 -0.2
BILL *e* 16 29 20.2
BILL *e* 16 31 34.4
BILL *e*S **S** 16 38 12.4 +2.4
BILL *e*SS **SS** 16 42 43.3 +4.2
BILL pmax pmax
comp=Z,4.0nm,1.0s
RES Resolute Bay 70.21 350 *e*P P 16 29 02.7 +0.8
comp=Z,5.2nm,1.3s
RES Resolute Bay 70.21 350 *e*P P 16 29 02.7 +0.8
RES pmax pmax
comp=Z,5.0nm,1.3s
YSS Yuzh-Sakhalins 70.62 46 *e*P P 16 29 03.0 -1.8
comp=Z,14nm,1.0s
YSS Yuzh-Sakhalins 70.62 46⇓ *e*P P 16 29 01.4 -3.4
YSS *e* 16 29 10.1
YSS *e* 16 29 21.4
YSS pmax pmax
comp=Z,10.0nm,1.0s
YSS MLR MLR
comp=Z,200nm,15.0s
YSS MLR MLR
comp=N,200nm,16.0s
YSS MLR MLR
comp=E,100nm,15.0s
FRB Frobisher Bay 71.55 335 LR LR 17 00 29.4
comp=E,156nm,20.2s,baz=48,slow=36
MJAR Matsushiro Arr 72.36 58 LR LR 17 03 32.7
comp=E,223nm,20.6s,baz=310,slow=38
SHO Shikotan 74.61 48 *e*P P 16 29 26.7 -2.0
JHJ Hachijo jima 2 75.12 60 LR LR 17 06 04.4
comp=E,161nm,18.1s,baz=270,slow=38
PETK Petropavlovsk- 75.71 36 LR LR 17 07 14.6
comp=E,195nm,18.2s,baz=303,slow=39
SCHQ Schefferville 76.23 327 P P 16 29 35.9 -1.8
comp=E,5.7nm,0.8s,baz=52,slow=5.8,SNR=10
SCHQ LR LR 17 05 58.5
comp=E,76nm,18.1s,baz=66,slow=38

SCHQ	**Schefferville**	**76.23**	**327**	*e*P		**P**	**16 29 38.2**	**+0.5**
	comp=E,7.7nm,0.8s							
PET	**Petropavlovsk**	**76.23**	**35**	*e*P		**P**	**16 29 38.5**	**+0.8**
PET				*e*S		**S**	**16 39 19.7**	**0.0**
PET				MLR		MLR		
	comp=Z,200nm,21.0s							
DAV	**Davao City (W)**	**76.58**	**90**	LR		LR	17 09 00.3	
	comp=Z,108nm,18.5s,baz=318,slow=40							
TOLK	**Toolik Lake Re**	**78.42**	**6**	P		**P**	**16 29 50.3**	**+0.5**
	baz=346,SNR=12							
TOLK	**Toolik Lake Re**	**78.42**	**6**	*e*P		**P**	**16 29 50.4**	**+0.5**
	comp=Z,13nm,0.8s							
INK	**Inuvik**	**79.51**	**0**	*e*P		**P**	**16 29 55.5**	**-0.2**
	comp=Z,3.8nm,1.0s							
INK	**Inuvik**	**79.51**	**0**	*e*P		**P**	**16 29 55.5**	**-0.2**
INK				pmax		pmax		
	comp=Z,4.0nm,1.0s							
COLD	**Coldfoot**	**79.73**	**7**	*e*P		**P**	**16 29 57.6**	**+0.6**
	comp=Z,3.7nm,1.0s							
MLY	**Manley**	**81.81**	**8**	*e*P		**P**	**16 30 08.8**	**+0.6**
	comp=Z,4.4nm,1.0s							
MDM	**Murphy Dome**	**82.14**	**6**	*e*P		**P**	**16 30 10.4**	**+0.5**
	comp=Z,9.3nm,1.2s							
COLA	**College**	**82.26**	**6**⇑	*e*P		**P**	**16 30 10.5**	**+0.1**
COLA				pmax		pmax		
	comp=Z,6.0nm,0.9s							
ILAR	**Eielson Array**	**82.45**	**6**	P		**P**	**16 30 09.2**	**-2.2**
	comp=Z,1.2nm,0.9s,baz=340,slow=4.4,SNR=12							
ILAR				LR		LR	17 11 38.5	
	comp=Z,79nm,20.2s,baz=344,slow=39							
BPAW	**Bear Paw Mtn.**	**82.68**	**8**	*e*P		**P**	**16 30 12.8**	**0.0**
	comp=Z,10nm,1.3s							
EGAK	**Eagle**	**82.84**	**4**	*e*P		**P**	**16 30 12.7**	**-0.8**
	comp=Z,6.1nm,1.0s							
CAST	**Castle Rocks**	**83.21**	**9**	*e*P		**P**	**16 30 15.6**	**+0.2**
	comp=Z,13nm,1.5s							
SCRK	**Sand Creek**	**83.46**	**5**	*e*P		**P**	**16 30 17.3**	**+0.4**
	comp=Z,6.2nm,1.0s							
FCC	**Fort Churchill**	**83.49**	**341**	*e*P		**P**	**16 30 17.6**	**+0.7**
	comp=Z,4.1nm,0.9s							
FCC	**Fort Churchill**	**83.49**	**341**	*e*P		**P**	**16 30 17.6**	**+0.7**
FCC				pmax		pmax		
	comp=Z,4.0nm,0.9s							
RIDG	**Independ'e Rid**	**83.63**	**5**	*e*P		**P**	**16 30 18.4**	**+0.7**
	comp=Z,1.6nm,1.5s							
DAWY	**Dawson**	**83.64**	**3**	*e*P		**P**	**16 30 18.1**	**+0.4**
	comp=Z,6.3nm,1.2s							
DOT	**Dot Lake**	**83.78**	**5**	*e*P		**P**	**16 30 19.0**	**+0.6**
	comp=Z,22nm,1.3s							
YKA	**Yellowknife Ar**	**84.20**	**352**	P		**P**	**16 30 19.9**	**-0.6**
	comp=Z,1.6nm,0.8s,baz=14,slow=5.3,SNR=33							
BATI	**Baumata**	**84.35**	**106**	P		**P**	**16 30 23.4**	**+1.3**
	comp=Z,12nm,0.9s,baz=230,slow=16,SNR=3.0							
SUA	**Susitna One**	**85.27**	**8**	*e*P		**P**	**16 30 26.2**	**+0.1**
	comp=Z,7.0nm,0.8s							
LBNH	**Lisbon**	**85.56**	**321**	P		**P**	**16 30 28.5**	**+0.7**
	baz=48							
SIJI	**Sorong**	**85.58**	**94**	P		**P**	**16 30 26.8**	**-1.5**
	comp=Z,2.2nm,0.4s,baz=294,slow=9.5,SNR=3.6							
KLU	**Klutina**	**85.76**	**6**	*e*P		**P**	**16 30 29.5**	**+1.0**
	comp=Z,7.5nm,1.0s							
LONY	**Lake Ozonia**	**86.69**	**322**	P		**P**	**16 30 33.9**	**+0.5**
	baz=46							
LONY	**Lake Ozonia**	**86.69**	**322**	*e*P		**P**	**16 30 34.6**	**+1.3**
	comp=Z,11nm,1.1s							
HYT	**Haines Junctio**	**86.95**	**2**	*e*P		**P**	**16 30 35.1**	**+0.7**
	comp=Z,9.4nm,1.2s							
FFC	**Flin Flon**	**89.13**	**343**	*e*P		**P**	**16 30 45.0**	**+0.2**
	comp=Z,4.9nm,0.9s							
FFC	**Flin Flon**	**89.13**	**343**	*e*P		**P**	**16 30 45.0**	**+0.2**
FFC				pmax		pmax		
	comp=Z,5.0nm,0.9s							
GUMO	**Guam**	**89.26**	**74**	LR		LR	17 12 18.4	
	comp=Z,41nm,21.8s,baz=302,slow=37							
ULM	**Lac du Bonnet**	**91.32**	**337**	P		**P**	**16 30 54.2**	**-0.8**
	comp=Z,1.1nm,0.5s,baz=340,slow=4.4,SNR=3.5							
ULM				LR		LR	17 12 58.6	
	comp=Z,130nm,20.9s,baz=54,slow=36							
ULM	**Lac du Bonnet**	**91.32**	**337**	*e*P		**P**	**16 30 54.8**	**-0.3**
	comp=Z,3.3nm,0.8s							
C37A	**Embarrass**	**92.16**	**334**	P		**P**	**16 30 59.3**	**+0.3**
	baz=34							
C36A	**Pine Crest Far**	**92.38**	**334**	P		**P**	**16 30 60.0**	**0.0**
	baz=33							
E39A	**Mellen**	**92.66**	**332**	P		**P**	**16 31 01.3**	**0.0**
	baz=35							
A32A	**Rocking H Ranc**	**92.67**	**337**	P		**P**	**16 31 01.6**	**+0.3**
	baz=30							
D37A	**Cotton**	**92.73**	**334**	P		**P**	**16 31 01.8**	**+0.1**
	baz=34							
B32A	**Ashes, Strandq**	**93.14**	**337**	P		**P**	**16 31 03.4**	**-0.1**
	baz=30							
TKL	**Tuckaleechee C**	**98.03**	**322**	LR		LR	17 17 34.4	
	comp=Z,66nm,20.1s,baz=18,slow=37							
WRA	**Warramunga Arr**	**98.26**	**108**	P		Pdif	16 31 28.6	+1.4
	comp=Z,0.9nm,0.9s,baz=317,slow=3.9,SNR=5.5							
ASAR	**Alice Springs**	**99.84**	**112**	P		**Pdif**	**16 31 32.8**	**-1.4**
	comp=Z,0.5nm,0.9s,baz=303,slow=5.2,SNR=4.2							
ASAR				PP		**PP**	**16 35 41.5**	**+2.0**
	comp=Z,1.0nm,1.0s,baz=307,slow=8.2,SNR=5.7							
U43A	**Rector**	**100.77**	**326**	P		**Pdif**	**16 31 37.9**	**-0.3**
	baz=36							
353A	**Camilla**	**101.54**	**319**	P		**Pdif**	**16 31 42.2**	**+0.4**
	baz=40							
V42A	**Cord**	**101.69**	**327**	P		**Pdif**	**16 31 42.3**	**0.0**
	baz=35							
TPNV	**Topopah Spring**	**109.18**	**346**	P		**PKiKP**	**16 36 19.8**	**+0.1**
	baz=15							

*IDC **20** 16:20:14.1±1.8,9°.94N×123°.24E,h0km,mb3.4/4,*
mb1 3.7/4,mb1mx3.4/67,mbtmp3.4/4,MS3.3/3,Ms1 3.3/3,
ms1mx2.8/35,Error ellipse: s-maj=89.6km s-min=21.5km az=56.0
*MAN **20** 16:20:15,10°.12N×123°.18E,h0km,mb5.0,ML3.9,MS3.9*

ISC 20 16:20:15.4±1.1,10°.06N±0°.02×123°.20E±0°.03,h10km±9km, n29,σ1°51/42,mb3.5/4,4C-4D,Cebu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SNPH	**Sibulan**	**0.71**	**177**⇓	*e*P	**Pb**	**16 20 30.7**	**+0.7**
SNPH				*e*S	**Sg**	**16 20 38.7**	**+0.2**
TBP	**Tagbilaran**	**0.75**	**119**	*e*P	**Pb**	**16 20 30.6**	**+0.2**
TBP				*i* S	**Sn**	**16 20 42.5**	**-0.9**
LLP	**Lapu-Lapu**	**0.79**	**71**⇓	*i* P	**Pg**	**16 20 30.4**	**-0.3**
LLP				*i* S	**Sg**	**16 20 41.5**	**+0.4**
GUIM	**Jordan**	**0.82**	**313**	*e*P	**Pg**	**16 20 30.5**	**-0.8**
GUIM				*e*S	**Sg**	**16 20 42.1**	**0.0**
DCPH	**Dipolog City**	**1.48**	**174**⇑	*e*P	**Pn**	**16 20 42.2**	**+0.2**
DCPH				*e*S	**Sg**	**16 21 02.7**	**-0.2**
RCP	**Roxas**	**1.56**	**343**⇑	*e*P	**Pn**	**16 20 43.4**	**+0.2**
RCP				*e*S	**Sb**	**16 21 05.6**	**+1.4**
MSLP	**Maasin**	**1.63**	**87**	*e*P	**Pb**	**16 20 45.3**	**-0.3**
MSLP				*e*S	**Sg**	**16 21 08.8**	**+0.9**
OCLP	**Ormoc**	**1.70**	**54**	*e*P	**Pn**	**16 20 45.4**	**+0.3**
OCLP				*e*S	**Sg**	**16 21 10.5**	**+0.5**
PLP	**Palo**	**2.06**	**58**⇑	*e*P	**Pn**	**16 20 50.4**	**+0.2**
CGP	**Cagayan de Oro**	**2.17**	**137**⇓	*e*P	**Pb**	**16 20 54.6**	**-0.2**
CGP				*e*S	**Sg**	**16 21 24.8**	**-0.4**
PAGZ	**Pagadian**	**2.21**	**175**	*e*P	**Pb**	**16 20 54.4**	**-1.0**
SCPH	**Surigao**	**2.27**	**97**⇓	*e*P	**Pn**	**16 20 54.5**	**+1.5**
IPIL	**Ipil**	**2.34**	**196**	*e*P	**Pn**	**16 20 55.8**	**+1.8**
IPIL				*e*S	**Sb**	**16 21 27.3**	**+0.5**
OTRP	**Odiongan**	**2.56**	**333**	*e*P	**Pn**	**16 20 59.7**	**+2.6**
BUTP	**Butuan**	**2.62**	**114**	*e*P	**Pn**	**16 20 57.7**	**-0.1**
BUTP				*e*S	**Sb**	**16 21 35.1**	**+0.4**
BESP	**Borongan**	**2.68**	**55**	*e*P	**Pb**	**16 21 02.7**	**-0.7**
CNP	**Catarman**	**2.83**	**30**	*e*P	**Pn**	**16 21 00.7**	**+0.1**
CNP				*e*S	**Sg**	**16 21 46.1**	**-0.1**
BUKP	**Musuan**	**2.84**	**140**	*e*P	**Pn**	**16 21 02.9**	**+2.1**
BUKP				*e*S	**Sg**	**16 21 45.2**	**-1.5**
CTBH	**Cotabato--PC H**	**3.00**	**160**⇑	*i* P	**Pn**	**16 21 04.8**	**+1.7**
SJMP	**San Jose**	**3.14**	**320**	*e*P	**Pn**	**16 21 06.7**	**+1.8**
SJMP				*e*S	**Sn**	**16 21 44.2**	**+1.6**
BUSP	**Coron**	**3.52**	**303**	*e*P	**Pn**	**16 21 11.3**	**+1.1**
BUSP				*e*S	**Sn**	**16 21 45.5**	**-6.5**
DAV	**Davao City (W)**	**3.79**	**141**	LR	LR	16 23 05.7	
	comp=Z,441nm,21.4s,baz=306,slow=47						
ENPP	**El Nido**	**3.88**	**287**	*e*P	**Pn**	**16 21 16.1**	**+0.9**
ENPP				*e*S	**Sn**	**16 21 59.9**	**-1.0**
CMAR	**Chiang Mai Arr**	**24.93**	**292**	P	**P**	**16 25 40.5**	**+1.4**
	0.2nm,0.6s,baz=101,slow=7.6,SNR=2.8						
JHJ	**Hachijo jima 2**	**27.57**	**31**	LR	LR	16 38 21.3	
	comp=Z,34nm,18.3s,baz=60,slow=39						
WRA	**Warramunga Arr**	**31.77**	**160**	P	**P**	**16 26 38.4**	**-1.7**
	0.7nm,0.9s,baz=334,slow=10,SNR=6.3						
ASAR	**Alice Springs**	**35.12**	**163**	P	**P**	**16 27 08.9**	**-0.4**
	0.8nm,0.7s,baz=340,slow=6.6,SNR=22						
NWAO	**Narrogin (SRO)**	**43.12**	**187**	LR	LR	16 48 02.3	
	comp=Z,86nm,20.6s,slow=39						
KURBB	**Kurchatov Arra**	**54.56**	**327**	P	**P**	**16 29 44.4**	**+0.7**
	0.3nm,0.6s,baz=121,slow=6.6,SNR=5.0						

MEX 20 16:21:50.0±0.4,16°.26N×98°.25W,h11km±13km,MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.18**	**40**	*i* P	Pg	16 21 53.4	-0.6
PNIG				*i* S	Sg	16 21 56.3	-0.3
TLIG	**Tlapa**	**1.33**	**347**	*e*P	Pn	16 22 11.0	-3.8

*NNC **20** 16:27:02.8±5.2,36°.56N×72°.67E,h0km,mb4.0,mpv3.7,*
Error ellipse: s-maj=61.8km s-min=39.8km az=103.0
*ISCJB **20** 16:27:04.6±0.8,36°.66N±0°.06×72°.8E±0°.1,h42km,mb3.5/6,*
Error ellipse: s-maj=12.4km s-min=8.7km az=179.6
*IDC **20** 16:27:07.2±3.5,36°.70N×72°.90E,h51km±30km,mb3.4/6,*
mb1 3.5/13,mb1mx3.2/76,mbtmp3.6/13,ML3.0/7,Error
ellipse: s-maj=26.1km s-min=22.2km az=38.0

ISC 20 16:27:05.4±1.1,36°.60N±0°.09×73°.0E±0°.1,h42km,n21, σ2°17/23,mb3.6/6,4C-5D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SFK	**Sufi-Kurgan**	**3.43**	**7**	⇓P*n*	Pn	16 28 00.9	+4.4
	28nm,0.6s						
SFK				⇓S*n*	Sn	16 28 44.9	+8.8
	38nm,0.6s						
MNAS	**Manas**	**5.89**	**357**	⇓P*n*	Pn	16 28 34.1	+3.9
	1.8nm,0.4s						
MNAS				⇑S*n*	**Sn**	**16 29 38.4**	**+2.0**
	5.4nm,0.7s						
AAK	**Ala-Archa**	**6.14**	**11**	P	**Pn**	**16 28 34.6**	**+0.9**
	0.3nm,0.3s,baz=174,slow=5.3,SNR=4.1						
AAK				S	**Sn**	**16 29 43.7**	**+1.0**
	0.2nm,0.3s,baz=315,slow=19,SNR=2.2						
AAK	**Ala-Archa**	**6.14**	**11**	⇓P*n*	**Pn**	**16 28 35.2**	**+1.5**
	3.0nm,0.7s						
AAK				S*n*	**Sn**	**16 29 48.1**	**+5.4**
	8.2nm,0.9s						
TKM2	**Tokmak 2**	**6.62**	**17**	⇑P*n*	**Pn**	**16 28 42.0**	**+1.7**
	2.8nm,0.5s						
KK31	**Karatay Array**	**6.76**	**345**	P*n*	**Pn**	**16 28 42.9**	**+0.8**
	0.9nm,0.3s,baz=145,slow=11,SNR=19						
KK31				⇓S*n*	**Sn**	**16 29 57.4**	**-0.4**
	3.6nm,0.6s,baz=165,slow=24,SNR=4.5						
PDGK	**Podgornoye**	**8.38**	**35**	⇑P*n*	**Pn**	**16 29 03.2**	**-1.1**
	6.7nm,1.2s						
GEYT	**Alibeck**	**11.91**	**281**	P	**Pn**	**16 29 53.4**	**+0.9**
	0.3nm,0.3s,baz=81,slow=8.9,SNR=3.0						
MKAR	**Makanchi Array**	**12.33**	**31**	P	**Pn**	**16 29 59.8**	**+1.5**
	0.1nm,0.3s,baz=219,slow=11,SNR=2.9						
KURBB	**Kurchatov Arra**	**14.57**	**14**	P	**P**	**16 30 29.6**	**-4.8**
	0.0nm,0.3s,baz=210,slow=12,SNR=4.7						
AB31	**Akbulak array**	**15.81**	**327**	P	**Pn**	**16 30 42.9**	**-2.0**
	0.7nm,0.6s,baz=142,slow=12,SNR=7.1						
BVAR	**Borovoye Array**	**16.52**	**355**	P	**P**	**16 30 54.1**	**-1.9**
	0.1nm,0.3s,baz=161,slow=9.6,SNR=2.2						
AKTO	**Aktyubinsk**	**17.52**	**327**	P	**Pn**	**16 31 04.8**	**-1.6**
	0.1nm,0.3s,baz=122,slow=19,SNR=2.9						
AKTO	**Aktyubinsk**	**17.52**	**327**	⇑P	**P**	**16 31 09.1**	**+2.0**
	5.4nm,1.2s						
ZALV	**Zalesovo Beam**	**19.20**	**22**	P	**Pn**	**16 31 24.1**	**-2.6**
	0.2nm,0.3s,baz=206,slow=11,SNR=10						
FINES	**FINESS Array B**	**38.29**	**326**	P	**P**	**16 34 20.8**	**-0.6**
	0.8nm,0.8s,baz=116,slow=9.4,SNR=2.0						
ARCES	**ARCESS Array B**	**41.66**	**337**	P	**P**	**16 34 50.1**	**+0.8**
	2.9nm,0.9s,baz=108,slow=8.6,SNR=3.2						
NOA	**NORSAR Array B**	**45.25**	**323**	P	**P**	**16 35 18.8**	**+0.4**
	0.3nm,0.6s,baz=93,slow=7.8,SNR=2.5						
WRA	**Warramunga Arr**	**80.71**	**123**	P	**P**	**16 39 15.8**	**+1.5**
	0.5nm,0.7s,baz=321,slow=4.8,SNR=5.3						
YKA	**Yellowknife Ar**	**81.06**	**4**	P	**P**	**16 39 15.9**	**+0.4**
	0.4nm,0.6s,baz=348,slow=5.6,SNR=8.3						
ASAR	**Alice Springs**	**83.03**	**126**	P	**P**	**16 39 27.8**	**+1.3**
	0.3nm,0.7s,baz=306,slow=4.7,SNR=5.5						

*IDC **20** 16:27:44.7±1.6,38°.26N×142°.50E,h0km,mb3.4/3,*
mb1 3.5/6,mb1mx3.3/78,mbtmp3.5/6,ML3.1/3,Error
ellipse: s-maj=38.5km s-min=23.6km az=88.0
*ISCJB **20** 16:27:51.5±0.9,38°.14N±0°.04×141°.98E±0°.08,h51km±9km,*
mb3.5/3,Error ellipse: s-maj=11.2km s-min=5.5km
az=18.6
*JMA **20** 16:27:53.0±0.1,38°.17N×141°.86E,h51km±1km,M3.5*
JMA Felt I J1.

ISC 20 16:27:51.5±1.9,38°.11N±0°.04×142°.00E±0°.08,h32km±12km, n28,σ1°61/35,mb3.5/3,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JIO	**Ouri**	**0.61**	**304**	P	**Pb**	**16 28 04.2**	**+0.3**
JIO				S	**Sb**	**16 28 12.1**	**-0.2**
JMM	**Marumori**	**0.98**	**256**	P	**Pn**	**16 28 09.1**	**+0.1**
JMM				S	**Sn**	**16 28 20.9**	**-0.9**
OFUJ	**Ofunato**	**1.00**	**345**	P	**Pn**	**16 28 09.6**	**+0.3**
JMK	**Ichinoseki**	**1.04**	**324**	P	**Pn**	**16 28 10.0**	**+0.2**
JMK				S	**Sn**	**16 28 22.8**	**-0.4**
JOU	**Okura**	**1.08**	**284**	P	**Pn**	**16 28 10.6**	**+0.2**
JOU				S	**Sn**	**16 28 23.3**	**-1.0**
JFK	**Kawauchi**	**1.16**	**230**	P	**Pn**	**16 28 12.2**	**+0.7**
JFK				S	**Sn**	**16 28 26.2**	**-0.1**
JFT	**Otama**	**1.44**	**246**	P	**Pn**	**16 28 16.4**	**+1.0**
JFT				S	**Sn**	**16 28 33.7**	**+0.5**
JOM	**Ohasama**	**1.47**	**338**	P	**Pn**	**16 28 16.4**	**+0.7**
JOM				S	**Sn**	**16 28 34.2**	**+0.4**
JYK	**Kaneyama**	**1.52**	**303**	P	**Pn**	**16 28 16.6**	**+0.2**
JYK				S	**Sn**	**16 28 33.9**	**-1.1**
JYS	**Shirataka**	**1.52**	**275**	P	**Pn**	**16 28 17.1**	**+0.6**
JYS				S	**Sn**	**16 28 34.7**	**-0.6**
JRG	**Rokugo**	**1.67**	**321**	P	**Pn**	**16 28 19.3**	**+0.8**
JRG				S	**Sn**	**16 28 39.5**	**+0.7**
JYA	**Atsumi**	**1.86**	**286**	P	**Pn**	**16 28 21.5**	**+0.4**
JYA				S	**Sn**	**16 28 43.3**	**-0.2**
JFY	**Yanaizu**	**1.95**	**250**	P	**Pn**	**16 28 23.8**	**+1.4**
JFY				S	**Sn**	**16 28 46.5**	**+0.8**
MJAR	**Matsushiro Arr**	**3.40**	**244**	P*n*	**Pn**	**16 28 45.2**	**+2.9**
	0.8nm,0.3s,baz=68,slow=10.0,SNR=9.8						
MJAR				S*n*	**Sb**	**16 29 29.6**	**-2.4**
	0.9nm,0.3s,baz=93,slow=7.5,SNR=4.3						
MAT	**Matsushiro**	**3.40**	**244**	P	**Pn**	**16 28 47.0**	**+4.6**
MAT				S	**Sn**	**16 29 24.9**	**+3.3**
JHJ	**Hachijo jima 2**	**5.30**	**201**	P*n*	**Pn**	**16 29 07.6**	**-0.8**
	4.6nm,0.3s,baz=73,slow=19,SNR=2.1						
JHJ				S*n*	**Sn**	**16 30 03.7**	**-4.6**
	6.7nm,0.3s,baz=246,slow=20,SNR=2.3						
ASAJ	**Asahikawa**	**6.02**	**4**	P*n*	Pn	16 29 11.6	-6.7
	0.4nm,0.3s,baz=330,slow=6.8,SNR=12						
ASAJ				S*n*	**Sn**	**16 30 25.0**	**-0.9**
	0.2nm,0.3s,baz=276,slow=18,SNR=2.0						
ASAJ	**Asahikawa**	**6.02**	**4**	*e*P*n*	Pn	16 29 11.7	-6.5
	3.7nm,0.6s						
ASAJ	**Asahikawa**	**6.02**	**4**	P	Pn	16 29 11.6	-6.6
H11N2	**WAKE ISLAND Hy**	**28.33**	**123**	T	T	17 04 00.5	
	baz=316,slow=75,SNR=3.8						
H11N1	**WAKE ISLAND Hy**	**28.34**	**123**	T	T	17 03 57.4	
	baz=316,slow=75,SNR=10						
H11N3	**WAKE ISLAND Hy**	**28.34**	**123**	T	T	17 04 03.0	
	baz=316,slow=75,SNR=4.6						
H11S1	**WAKE ISLAND Hy**	**29.08**	**125**	T	T	17 04 52.9	
	baz=326						
H11S3	**WAKE ISLAND Hy**	**29.08**	**125**	T	T	17 04 57.1	
	baz=326						
H11S2	**WAKE ISLAND Hy**	**29.10**	**125**	T	T	17 04 56.3	
	baz=326						
KURBB	**Kurchatov Arra**	**45.71**	**307**	P	**P**	**16 36 09.4**	**+0.1**
	0.3nm,0.4s,baz=87,slow=8.4,SNR=3.7						
WRA	**Warramunga Arr**	**58.19**	**188**	P	**P**	**16 37 41.7**	**-0.7**
	0.3nm,0.8s,baz=5.7,slow=6.9,SNR=3.7						
ASAR	**Alice Springs**	**61.92**	**188**	P	**P**	**16 38 07.8**	**-0.2**
	0.4nm,1.0s,baz=2.8,slow=6.2,SNR=3.5						

IDC 20 16:28:17.3±3.9,2°.62N×89°.99E,h0km,mb3.6/5,mb1 3.7/5, mb1mx3.3/71,mbtmp3.6/5,Error ellipse:
s-maj=138.5km s-min=28.1km az=58.0,North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**44.51**	**352**	P	P	16 36 30.4	-0.2
	0.5nm,0.7s,baz=171,slow=8.7,SNR=6.0						
SONM	**Songino Array**	**47.22**	**15**	P	P	16 36 52.9	+0.8
	1.9nm,0.7s,baz=193,slow=9.8,SNR=13						
KURBB	**Kurchatov Arra**	**48.80**	**350**	P	P	16 37 04.1	-0.1
	0.3nm,0.5s,baz=176,slow=8.0,SNR=3.9						
WRA	**Warramunga Arr**	**48.96**	**119**	P	P	16 37 05.6	-0.3
	0.3nm,1.0s,baz=298,slow=8.8,SNR=2.8						
ZALV	**Zalesovo Beam**	**51.34**	**356**	P	P	16 37 22.4	-1.0
	0.3nm,0.3s,baz=187,slow=10,SNR=2.8						

*ISN **20** 16:32:46.0±8.2,32°.79N×46°.80E,h0km±109km,ML4.2*
*IDC **20** 16:32:51.1±0.8,32°.49N×46°.97E,h0km,mb3.9/22,*
mb1 3.9/31,mb1mx3.8/73,mbtmp3.9/31,ML3.7/8,MS3.6/9,
Ms1 3.6/9,ms1mx3.2/66,Error ellipse: s-maj=19.1km
s-min=11.4km az=174.0
*CSEM **20** 16:32:52.9±0.2,32°.43N×46°.92E,h10km,ML4.2,Error*
ellipse: s-maj=5.0km s-min=4.3km az=23.0
*NEIC **20** 16:32:52.6±0.3,32°.43N×46°.98E,h10km,mb4.1/4,*
ML4.3(THR),MN4.2(TEH),Error ellipse: s-maj=5.4km
s-min=4.6km az=183.0
*THR **20** 16:32:53.4±0.3,32°.50N×46°.89E,h18km±3km,ML4.3*
*TEH **20** 16:32:53.7,32°.50N×46°.80E,h5km,ML4.2*
*ISCJB **20** 16:32:54.5±0.4,32°.32N±0°.03×46°.95E±0°.03,h44km±4km,*
mb3.9/25,MS3.6/5,Error ellipse: s-maj=5.3km
s-min=4.0km az=43.3
*DSN **20** 16:33:01.0±1.2,32°.32N×47°.54E,h34km,mb5.7/7,Error*
ellipse: s-maj=25.3km s-min=9.3km az=26.0
*GII **20** 16:33:04.5±0.0,32°.56N×46°.98E,h15km,mb4.4/1,*
MD4.3/1

ISC 20 16:32:55.0±1.1,32°.39N±0°.03×46°.95E±0°.04,h29km±9km, n142,σ1°27/140,mb4.0/25,MS3.6/5,10C-3D,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IKFM	**Kafar-mosalman**	**1.36**	**33**	*e*P*g*	**Pn**	**16 33 17.4**	**-0.6**
IKFM				*e*AMB	AMB	16 34 05.5	
	comp=Z,99nm,1.1s						
IKFM	**Kafar-mosalman**	**1.36**	**33**	*e*P*g*	**Pn**	**16 33 17.4**	**-0.6**
NSR	**Nassriya**	**1.54**	**207**	*i* P*g*	**Pb**	**16 33 22.0**	**-0.8**
	SNR=9.0						
NSR				*i* S*g*	**Sb**	**16 33 43.0**	**+1.1**
	SNR=9.0						
SHGR	**Shooshtar-Gavs**	**1.59**	**100**	*e*P*g*	**Pb**	**16 33 23.9**	**+0.2**
SHGR	**Shooshtar-Gavs**	**1.59**	**100**	*e*P*g*	**Pb**	**16 33 24.0**	**+0.2**
SHGR	**Shooshtar-Gavs**	**1.59**	**100**	*e*P*g*	**Pb**	**16 33 23.9**	**+0.2**
SHGR				AML	AML	16 33 50.3	
	comp=E,16μm,0.8s						
SHGR				AML	AML	16 33 51.1	
	comp=N,7μm,0.5s						
IKOM	**Komasi**	**1.84**	**15**	*e*P*g*	**Pn**	**16 33 25.9**	**+1.1**
IKOM				*e*S*g*	**Sb**	**16 33 50.3**	**-0.5**
IKOM				*e*AMB	AMB	16 33 51.9	
	comp=Z,36μm,0.2s						
IKOM	**Komasi**	**1.84**	**15**	P*g*	**Pn**	**16 33 25.9**	**+1.1**
IKOM				S*g*	**Sb**	**16 33 50.3**	**-0.5**
IKOM	**Komasi**	**1.84**	**15**	*e*P*g*	**Pn**	**16 33 25.9**	**+1.1**
IKOM				*e*S*g*	**Sb**	**16 33 50.3**	**-0.5**
IGHG	**Ghaleghazi**	**1.96**	**351**	*e*P*n*	**Pn**	**16 33 26.2**	**-0.3**
IGHG				*e*S*g*	**Sb**	**16 33 52.3**	**-2.1**
IGHG	**Ghaleghazi**	**1.96**	**351**	P*n*	**Pn**	**16 33 26.1**	**-0.4**
IGHG				S*g*	**Sb**	**16 33 52.2**	**-2.1**
IGHG	**Ghaleghazi**	**1.96**	**351**	*e*P*n*	**Pn**	**16 33 26.2**	**-0.3**
IGHG				S*g*	**Sb**	**16 33 52.2**	**-2.1**
IVIS	**Veis**	**2.13**	**358**	*e*P*g*	**Pn**	**16 33 30.0**	**+1.2**
IVIS				*e*S*g*	**Sn**	**16 33 54.2**	**-0.2**
IVIS				*e*AMB	AMB	16 34 08.9	
	comp=Z,21μm,0.4s						
IVIS	**Veis**	**2.13**	**358**	P*g*	**Pn**	**16 33 28.9**	**+0.1**
IVIS				S*g*	**Sn**	**16 33 54.2**	**-0.2**
IVIS	**Veis**	**2.13**	**358**	*e*P*g

2012 APR

*IDC **20** 16:39:16.8±0.9,39°.17N×29°.03E,h0km,mb3.7/11, mb1 3.8/17,mb1mx3.6/65,mbtmp3.7/17,ML3.7/6,MS3.8/2, Ms1 3.8/2,ms1mx2.7/67,Error ellipse: s-maj=15.8km s-min=12.2km az=13.0*

*CSEM **20** 16:39:17.4±0.1,39°.14N×29°.09E,h10km,mb4.0/11,Error ellipse: s-maj=2.0km s-min=1.9km az=71.0*

*MOS **20** 16:39:19.7±1.5,39°.27N×29°.14E,h28km,mb4.1/13,Error ellipse: s-maj=8.2km s-min=4.3km az=88.4*

ISC 20 16:39:18.1±0.4,**39°.15N**±0°.01×**29°.10E**±0°.01,**h10km**,**n344,** σ1**$**45/403,**mb3.8**/20,**MS3.8**/3,**42C-32D,Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIMA	**Simav-Kutahya**	**0.11**	**234**	PG	**Pg**	**16 39 19.6**	**-1.3**
SIMA				SG	**Sg**	**16 39 21.3**	**-1.7**
SIMA	**Simav-Kutahya**	**0.11**	**234**	*e*Pg	**Pg**	**16 39 19.6**	**-1.3**
SIMA				*e*Sg	**Sg**	**16 39 21.3**	**-1.7**
GDZ	**Gediz**	**0.30**	**102**	⇓*i*P	**Pg**	**16 39 22.1**	**-2.1**
GDZ				*i* S	**Sg**	**16 39 26.5**	**-1.7**
GDZ	**Gediz**	**0.30**	**102**	P	**Pg**	**16 39 22.1**	**-2.1**
GDZ				S	**Sg**	**16 39 26.5**	**-1.7**
DEMI	**Demirci**	**0.32**	**250**	⇓*i*P	**Pg**	**16 39 23.2**	**-1.2**
DEMI				*i* S	**Sg**	**16 39 27.5**	**-1.2**
DEMI	**Demirci**	**0.32**	**250**	P	**Pg**	**16 39 23.2**	**-1.2**
DEMI				S	**Sg**	**16 39 27.5**	**-1.2**
TVSB	**Tavsanli**	**0.41**	**43**	PG	**Pg**	**16 39 24.0**	**-2.2**
TVSB	**Tavsanli**	**0.41**	**43**	*e*Pg	**Pg**	**16 39 24.0**	**-2.2**
DURS	**Dursunbey**	**0.66**	**313**	⇓*i*P	**Pg**	**16 39 29.6**	**-1.3**
DURS				*i* S	**Sg**	**16 39 38.3**	**-1.3**
DURS	**Dursunbey**	**0.66**	**313**	P	**Pg**	**16 39 29.6**	**-1.3**
DURS				S	**Sg**	**16 39 38.3**	**-1.3**
KULA	**Kula-Manisa**	**0.72**	**209**	PG	**Pg**	**16 39 30.4**	**-1.6**
KULA				SG	**Sg**	**16 39 39.7**	**-1.8**
KULA	**Kula-Manisa**	**0.72**	**209**	*e*Pg	**Pg**	**16 39 30.4**	**-1.6**
KULA				*e*Sg	**Sg**	**16 39 39.7**	**-1.8**
MANT	**Manisa**	**0.78**	**213**	⇑*i*P	**Pg**	**16 39 31.5**	**-1.7**
MANT				*i* S	**Sg**	**16 39 41.1**	**-2.3**
MANT	**Manisa**	**0.78**	**213**	P	**Pg**	**16 39 31.5**	**-1.7**
MANT				S	**Sg**	**16 39 41.1**	**-2.3**
KHAL	**Karahalli**	**0.84**	**158**	⇑*i*P	**Pg**	**16 39 33.0**	**-1.2**
KHAL				*i* S	**Sg**	**16 39 43.5**	**-1.6**
KHAL	**Karahalli**	**0.84**	**158**	P	**Pg**	**16 39 33.0**	**-1.2**
KHAL				S	**Sg**	**16 39 43.5**	**-1.6**
KHL	**Karahalli**	**0.89**	**158**	PG	**Pg**	**16 39 33.9**	**-1.3**
KHL	**Karahalli**	**0.89**	**158**	*e*Pg	**Pg**	**16 39 33.9**	**-1.3**
ORLT	**Orhaneli**	**0.91**	**350**	PG	**Pg**	**16 39 33.6**	**-2.0**
ORLT	**Orhaneli**	**0.91**	**350**	*e*Pg	**Pg**	**16 39 33.6**	**-2.0**
AKHS	**Akhisar**	**1.04**	**255**	⇓*i*P	**Pg**	**16 39 36.6**	**-1.4**
AKHS				*i* S	**Sg**	**16 39 50.3**	**-1.2**
AKHS				*i* S	**Sb**	**16 39 50.6**	**-1.2**
AKHS	**Akhisar**	**1.04**	**255**	P	**Pg**	**16 39 36.6**	**-1.4**
AKHS				S	**Sg**	**16 39 50.3**	**-1.2**
AKS	**Akhisar**	**1.04**	**255**	PG	**Pg**	**16 39 36.3**	**-1.7**
AKS	**Akhisar**	**1.04**	**255**	*e*Pg	**Pg**	**16 39 36.3**	**-1.7**
AUBOZ	**BOZOYUK**	**1.05**	**43**	⇑*i*P	**Pg**	**16 39 36.3**	**-1.9**
AUBOZ				*i* S	**Sb**	**16 39 51.1**	**-1.0**
AUBOZ	**BOZOYUK**	**1.05**	**43**	P	**Pg**	**16 39 36.3**	**-1.9**
AUBOZ				S	**Sb**	**16 39 51.1**	**-1.0**
BALB	**Balikesir**	**1.06**	**298**	PG	**Pg**	**16 39 37.0**	**-1.5**
BALB	**Balikesir**	**1.06**	**298**	*e*Pg	**Pg**	**16 39 37.0**	**-1.5**
AUKUT	**KUTAHYA**	**1.07**	**41**	⇓*i*P	Pg	16 39 31.2	-7.5
AUKUT				*i* S	Sg	16 39 41.8	-11
STEP	**BALIKESIR_Sava**	**1.10**	**282**	⇓*i*P	**Pb**	**16 39 37.5**	**-1.7**
STEP				*i* S	**Sn**	**16 39 54.3**	**-0.4**
STEP	**BALIKESIR_Sava**	**1.10**	**282**	P	**Pb**	**16 39 37.5**	**-1.7**
STEP				S	**Sn**	**16 39 54.3**	**-0.4**
CAVI	**Cavuskoy**	**1.20**	**28**	PN	**Pb**	**16 39 39.2**	**-1.6**
CAVI	**Cavuskoy**	**1.20**	**28**	*e*Pn	**Pb**	**16 39 39.2**	**-1.6**
KZIL	**AFYON_Kizioren**	**1.21**	**137**	⇑*i*P	**Pn**	**16 39 39.6**	**-1.7**
KZIL				*i* S	**Sn**	**16 39 56.7**	**-0.9**
KZIL	**AFYON_Kizioren**	**1.21**	**137**	P	**Pn**	**16 39 40.0**	**-1.1**
KZIL				S	**Sn**	**16 39 56.7**	**-0.9**
IZI	**Iznik**	**1.22**	**13**	PN	**Pb**	**16 39 39.6**	**-1.7**
IZI	**Iznik**	**1.22**	**13**	*e*Pn	**Pb**	**16 39 39.6**	**-1.7**
MDNY	**Mudanya-Bursa**	**1.23**	**352**	PN	**Pn**	**16 39 39.7**	**-1.6**
MDNY	**Mudanya-Bursa**	**1.23**	**352**	*e*Pn	**Pn**	**16 39 39.7**	**-1.6**
KCTX	**Karacabey (Bur**	**1.25**	**333**	PN	**Pn**	**16 39 40.2**	**-1.5**
KCTX	**Karacabey (Bur**	**1.25**	**333**	*e*Pn	**Pn**	**16 39 40.2**	**-1.5**
BORA	**Eskisehir**	**1.27**	**55**	⇑*i*P	**Pn**	**16 39 40.5**	**-1.5**
BORA				*i* S	**Sn**	**16 39 58.4**	**-0.8**
BORA	**Eskisehir**	**1.27**	**55**	P	**Pn**	**16 39 40.5**	**-1.5**
BORA				S	**Sn**	**16 39 58.4**	**-0.8**
SHUT	**Suhut-Afyon**	**1.28**	**117**	PN	**Pg**	**16 39 41.3**	**-1.3**
SHUT	**Suhut-Afyon**	**1.28**	**117**	*e*Pn	**Pg**	**16 39 41.3**	**-1.3**
GEMT	**Gemlik**	**1.28**	**3**	PN	**Pb**	**16 39 40.9**	**-1.4**
GEMT	**Gemlik**	**1.28**	**3**	*e*Pn	**Pb**	**16 39 40.9**	**-1.4**
BALY	**Balya**	**1.29**	**298**	⇓*i*P	**Pb**	**16 39 58.0**	**-2.0**
BALY				*i* S	**Sb**	**16 39 58.0**	**-1.1**
BALY	**Balya**	**1.29**	**298**	P	**Pn**	**16 39 40.2**	**-2.0**
BALY				S	**Sb**	**16 39 58.0**	**-1.1**
ADVT	**Abdulvahap**	**1.37**	**21**	PN	**Pb**	**16 39 42.2**	**-1.6**
ADVT	**Abdulvahap**	**1.37**	**21**	*e*Pn	**Pb**	**16 39 42.2**	**-1.6**
DENT	**Denizli**	**1.40**	**182**	PN	**Pb**	**16 39 42.9**	**-1.3**
DENT	**Denizli**	**1.40**	**182**	*e*Pn	**Pb**	**16 39 42.9**	**-1.3**
ESKT	**Eskisehir**	**1.41**	**74**	PN	**Pb**	**16 39 42.9**	**-1.6**
ESKT	**Eskisehir**	**1.41**	**74**	*i* P	**Pn**	**16 39 41.7**	**-2.1**
ESKT				*i* S	**Sg**	**16 40 01.9**	**-1.4**
ESKT	**Eskisehir**	**1.41**	**74**	*e*Pn	**Pb**	**16 39 42.9**	**-1.6**
SEYT	**Eskypehyr**	**1.41**	**74**	P	**Pn**	**16 39 41.7**	**-2.1**
SEYT				S	**Sg**	**16 40 01.9**	**-1.4**
ARMT	**Armutlu**	**1.43**	**353**	PN	**Pn**	**16 39 42.9**	**-1.1**
ARMT	**Armutlu**	**1.43**	**353**	*e*Pn	**Pn**	**16 39 42.9**	**-1.1**
YLV	**Yalova**	**1.43**	**8**	PN	**Pn**	**16 39 42.9**	**-1.2**
YLV	**Yalova**	**1.43**	**8**	*e*Pn	**Pn**	**16 39 42.9**	**-1.2**
GPA	**Golpazari**	**1.47**	**39**	PN	**Pb**	**16 39 43.7**	**-1.8**
GPA	**Golpazari**	**1.47**	**39**	*e*Pn	**Pb**	**16 39 43.7**	**-1.8**
BOLV	**Bolvadin**	**1.50**	**106**	*i* P	**Pb**	**16 39 44.9**	**-1.3**
BOLV				*i* S	**Sg**	**16 40 06.1**	**-0.4**
BOLV	**Bolvadin**	**1.50**	**106**	P	**Pb**	**16 39 44.9**	**-1.3**
EDC	**Edincik**	**1.53**	**322**	PN	**Pn**	**16 39 44.3**	**-1.1**
EDC	**Edincik**	**1.53**	**322**	*e*Pn	**Pn**	**16 39 44.3**	**-1.1**
AYDB	**Zeytinkoy-Aydi**	**1.53**	**219**	PN	**Pn**	**16 39 44.7**	**-0.9**
AYDB	**Zeytinkoy-Aydi**	**1.53**	**219**	*e*Pn	**Pn**	**16 39 44.7**	**-0.9**
GEYV	**SAKARYA_Geyve**	**1.62**	**34**	⇑*i*P	**Pn**	**16 39 45.8**	**-0.9**
GEYV				*i* S	**Sg**	**16 40 09.8**	**-0.3**
GEYV	**SAKARYA_Geyve**	**1.62**	**34**	P	**Pn**	**16 39 45.8**	**-0.9**
GEYV				S	**Sg**	**16 40 09.8**	**-0.3**
BRDR	**BURDUR-Merkez**	**1.64**	**152**	⇑*i*P	**Pn**	**16 39 45.6**	**-1.4**
BRDR				*i* S	**Sg**	**16 40 09.7**	**-0.9**
BRDR	**BURDUR-Merkez**	**1.64**	**152**	P	**Pn**	**16 39 45.6**	**-1.4**
BRDR				S	**Sg**	**16 40 09.7**	**-0.9**
GULT	**Gulveren**	**1.68**	**40**	PN	**Pn**	**16 39 46.7**	**-0.9**
GULT	**Gulveren**	**1.68**	**40**	*e*Pn	**Pn**	**16 39 46.7**	**-0.9**
TAVA	**DENIZLI_Tavas**	**1.69**	**185**	⇑*i*P	**Pn**	**16 39 46.1**	**-1.6**
TAVA				*i* S	**Sg**	**16 40 13.6**	**+1.3**
TAVA	**DENIZLI_Tavas**	**1.69**	**185**	P	**Pn**	**16 39 46.1**	**-1.6**
TAVA				S	**Sg**	**16 40 13.6**	**+1.3**
BUY	**Buyukada**	**1.70**	**0**	PN	**Pn**	**16 39 46.6**	**-1.2**
BUY	**Buyukada**	**1.70**	**0**	*e*Pn	**Pn**	**16 39 46.6**	**-1.2**
DKL	**Dikili**	**1.71**	**268**	PN	**Pn**	**16 39 46.9**	**-1.0**
DKL	**Dikili**	**1.71**	**268**	*e*Pn	**Pn**	**16 39 46.9**	**-1.0**
HRT	**Hereke**	**1.73**	**14**	PN	**Pn**	**16 39 46.9**	**-1.3**
HRT	**Hereke**	**1.73**	**14**	*e*Pn	**Pn**	**16 39 46.9**	**-1.3**
HRT	**Hereke**	**1.73**	**14**	P	**Pb**	**16 39 48.3**	**-1.6**
HRT	**Hereke**	**1.73**	**14**	P	**Pb**	**16 39 48.3**	**-1.6**
ISP	**Isparta**	**1.73**	**139**	PN	**Pn**	**16 39 47.6**	**-0.7**
ISP	**Isparta**	**1.73**	**139**	⇓*i*P	**Pn**	**16 39 47.4**	**-0.9**
ISP				*i* S	**Sb**	**16 40 11.1**	**-0.8**
ISP	**Isparta**	**1.73**	**139**	P	**Pn**	**16 39 47.1**	**-1.2**
ISP	**Isparta**	**1.73**	**139**	*i* P	**Pn**	**16 39 47.6**	**-0.7**
ISP	**Isparta**	**1.73**	**139**	*e*Pn	**Pn**	**16 39 47.6**	**-0.7**
ISP				S	**Sb**	**16 40 11.1**	**-0.8**
ISP	**Isparta**	**1.73**	**139**	*c* *i*P	**Pn**	**16 39 47.1**	**-1.2**
BAGO	**Egridir - ISPA**	**1.76**	**131**	⇑*i*P	**Pn**	**16 39 47.4**	**-1.3**
BAGO				*i* S	**Sg**	**16 40 16.7**	**+2.1**
AYDN	**Tasoluk**	**1.77**	**213**	*e*P	**Pn**	**16 39 47.6**	**-1.2**
AYDN				*i* S	**Sn**	**16 40 09.4**	**-2.0**
AYDN	**Tasoluk**	**1.77**	**213**	P	**Pn**	**16 39 47.6**	**-1.2**
AYDN				S	**Sn**	**16 40 09.4**	**-2.0**
BLCB	**Balcova**	**1.78**	**245**	PN	**Pn**	**16 39 48.1**	**-0.8**
BLCB	**Balcova**	**1.78**	**245**	*e*Pn	**Pn**	**16 39 48.1**	**-0.8**
SPNC	**Sapanca-Adapaz**	**1.79**	**31**	PN	**Pn**	**16 39 48.2**	**-0.9**
SPNC	**Sapanca-Adapaz**	**1.79**	**31**	*e*Pn	**Pn**	**16 39 48.2**	**-0.9**
SAUV	**Serdivan-Sakar**	**1.85**	**30**	PN	**Pn**	**16 39 48.9**	**-0.9**
SAUV	**Serdivan-Sakar**	**1.85**	**30**	*e*Pn	**Pn**	**16 39 48.9**	**-0.9**
KRBG	**Karabiga-Canak**	**1.86**	**312**	PN	**Pn**	**16 39 49.0**	**-1.0**
KRBG	**Karabiga-Canak**	**1.86**	**312**	*e*Pn	**Pn**	**16 39 49.0**	**-1.0**
SVRH	**Sivrihisar-ESK**	**1.90**	**80**	PN	**Pn**	**16 39 50.0**	**-0.7**
SVRH	**Sivrihisar-ESK**	**1.90**	**80**	*e*Pn	**Pn**	**16 39 50.0**	**-0.7**
ISK	**Istanbul-Kandi**	**1.91**	**359**	PN	**Pn**	**16 39 49.8**	**-0.9**
ISK	**Istanbul-Kandi**	**1.91**	**359**	*e*Pn	**Pn**	**16 39 49.8**	**-0.9**
AUSIV	**SIVRIHISAR**	**1.91**	**81**	*i* P	**Pn**	**16 39 50.6**	**-0.2**
AUSIV				*i* S	**Sg**	**16 40 18.4**	**-1.2**
AUSIV	**SIVRIHISAR**	**1.91**	**81**	P	**Pn**	**16 39 50.6**	**-0.2**
AUSIV				S	**Sg**	**16 40 18.4**	**-1.2**
SBT3	**Marmara-Eregli**	**1.94**	**334**	PN	**Pn**	**16 39 50.1**	**-0.8**
SBT3	**Marmara-Eregli**	**1.94**	**334**	*e*Pn	**Pn**	**16 39 50.1**	**-0.8**
GOLH	**Golhisar**	**1.94**	**169**	⇑*i*P	**Pn**	**16 39 49.6**	**-1.6**
GOLH				*i* S	**Sg**	**16 40 21.4**	**+0.8**
GOLH	**Golhisar**	**1.94**	**169**	P	**Pn**	**16 39 49.6**	**-1.6**
AUMIH	**MIHALICIK**	**1.98**	**68**	*i* P	**Pb**	**16 39 52.8**	**-1.4**
AUMIH				*i* S	**Sg**	**16 40 20.2**	**-1.4**
AUMIH	**MIHALICIK**	**1.98**	**68**	P	**Pb**	**16 39 52.8**	**-1.4**
AUMIH				S	**Sg**	**16 40 20.2**	**-1.4**
BTAS	**Taskesti**	**2.04**	**45**	⇑*i*P	**Pn**	**16 39 51.9**	**-0.6**
BTAS				*i* S	**Sg**	**16 40 22.0**	**-1.5**
BTAS	**Taskesti**	**2.04**	**45**	P	**Pn**	**16 39 51.9**	**-0.6**
SILT	**Sile**	**2.04**	**12**	PN	**Pn**	**16 39 51.7**	**-0.8**
SILT	**Sile**	**2.04**	**12**	*e*Pn	**Pn**	**16 39 51.7**	**-0.8**
BGKT	**Bogazkoy**	**2.04**	**353**	PN	**Pn**	**16 39 51.1**	**-1.4**
BGKT	**Bogazkoy**	**2.04**	**353**	*e*Pn	**Pn**	**16 39 51.1**	**-1.4**
BCK	**Bucak**	**2.05**	**145**	PN	**Pn**	**16 39 52.3**	**-0.4**
BCK	**Bucak**	**2.05**	**145**	*e*Pn	**Pn**	**16 39 52.3**	**-0.4**
GCAM	**G?zelcaml?**	**2.06**	**226**	PN	**Pn**	**16 39 52.0**	**-0.7**
GCAM	**G?zelcaml?**	**2.06**	**226**	*e*Pn	**Pn**	**16 39 52.0**	**-0.7**
MDUB	**Mudurnu**	**2.08**	**50**	PN	**Pn**	**16 39 52.5**	**-0.7**
MDUB	**Mudurnu**	**2.08**	**50**	*e*Pn	**Pn**	**16 39 52.5**	**-0.7**
KLYT	**Kilyos**	**2.10**	**359**	PN	**Pn**	**16 39 52.3**	**-1.0**
KLYT	**Kilyos**	**2.10**	**359**	*e*Pn	**Pn**	**16 39 52.3**	**-1.0**
URLA	**Izmir**	**2.11**	**249**	PN	**Pn**	**16 39 52.8**	**-0.7**
URLA	**Izmir**	**2.11**	**249**	*e*Pn	**Pn**	**16 39 52.8**	**-0.7**
MLSB	**Milas**	**2.13**	**210**	PN	**Pn**	**16 39 52.9**	**-0.8**
MLSB	**Milas**	**2.13**	**210**	*e*Pn	**Pn**	**16 39 52.9**	**-0.8**
RKY	**Sarkoy-Tekirda**	**2.13**	**317**	PN	**Pn**	**16 39 52.9**	**-0.9**
RKY	**Sarkoy-Tekirda**	**2.13**	**317**	*e*Pn	**Pn**	**16 39 52.9**	**-0.9**
CTKS	**Kestanelik-??a**	**2.13**	**348**	PN	**Pn**	**16 39 52.9**	**-0.8**
CTKS	**Kestanelik-??a**	**2.13**	**348**	*e*Pn	**Pn**	**16 39 52.9**	**-0.8**
LPK	**Lapseki**	**2.18**	**305**	PN	**Pn**	**16 39 53.5**	**-0.9**
LPK	**Lapseki**	**2.18**	**305**	*e*Pn	**Pn**	**16 39 53.5**	**-0.9**
SLVT	**Silivri**	**2.19**	**342**	PN	**Pn**	**16 39 53.7**	**-0.8**
SLVT	**Silivri**	**2.19**	**342**	*e*Pn	**Pn**	**16 39 53.7**	**-0.8**
TKR	**Tekirdag**	**2.19**	**327**	PN	**Pn**	**16 39 53.8**	**-0.8**
TKR	**Tekirdag**	**2.19**	**327**	*e*Pn	**Pn**	**16 39 53.8**	**-0.8**
PRK	**Paraskevi**	**2.20**	**273**	P	**Pn**	**16 39 53.8**	**-0.8**
PRK	**Paraskevi**	**2.20**	**273**	P	**Pn**	**16 39 53.8**	**-0.8**
CRLT	**Corlu**	**2.24**	**333**	PN	**Pn**	**16 39 54.4**	**-0.8**
CRLT	**Corlu**	**2.24**	**333**	*e*Pn	**Pn**	**16 39 54.4**	**-0.8**
SUTC	**Sutluce-Ispart**	**2.24**	**138**	PN	**Pn**	**16 39 54.9**	**-0.4**
SUTC	**Sutluce-Ispart**	**2.24**	**138**	*e*Pn	**Pn**	**16 39 54.9**	**-0.4**
EZN	**Ezine**	**2.25**	**288**	PN	**Pn**	**16 39 54.6**	**-0.7**
EZN	**Ezine**	**2.25**	**288**	P	**Pn**	**16 39 54.6**	**-0.7**
EZN	**Ezine**	**2.25**	**288**	P	**Pn**	**16 39 54.6**	**-0.7**
SMG	**Samos**	**2.29**	**232**	P	**Pb**	**16 39 59.1**	**-0.3**
SMG	**Samos**	**2.29**	**232**	P	**Pb**	**16 39 59.1**	**-0.3**
TURN	**Turunc**	**2.31**	**190**	PN	**Pb**	**16 39 57.3**	**-2.4**
TURN	**Turunc**	**2.31**	**190**	*e*Pn	**Pb**	**16 39 57.3**	**-2.4**
KORT	**Korkueli**	**2.36**	**155**	PN	**Pn**	**16 39 56.8**	**-0.2**
KORT	**Korkueli**	**2.36**	**155**	*e*Pn	**Pn**	**16 39 56.8**	**-0.2**
CTYL	**Yalikoy Yolu**	**2.40**	**345**	PN	**Pn**	**16 39 56.7**	**-0.7**
CTYL	**Yalikoy Yolu**	**2.40**	**345**	*e*Pn	**Pn**	**16 39 56.7**	**-0.7**
BOZC	**Bozcaada**	**2.46**	**287**	PN	**Pn**	**16 39 57.5**	**-0.7**
BOZC	**Bozcaada**	**2.46**	**287**	*e*Pn	**Pn**	**16 39 57.5**	**-0.7**
ELL	**Elmali**	**2.48**	**165**	PN	**Pn**	**16 39 58.4**	**-0.2**
ELL	**Elmali**	**2.48**	**165**	*e*Pn	**Pn**	**16 39 58.4**	**-0.2**
CHOS	**Chios island**	**2.50**	**253**	PN	**Pn**	**16 39 58.4**	**-0.4**
CHOS	**Chios island**	**2.50**	**253**	P	**Pn**	**16 39 57.7**	**-1.1**
CHOS	**Chios island**	**2.50**	**253**	P	**Pn**	**16 39 57.7**	**-1.1**
CHOS	**Chios island**	**2.50**	**253**	*e*Pn	**Pn**	**16 39 58.4**	**-0.4**
ERIK	**Erikli-Kesan**	**2.50**	**308**	PN	**Pn**	**16 39 58.2**	**-0.6**
ERIK	**Erikli-Kesan**	**2.50**	**308**	*e*Pn	**Pn**	**16 39 58.2**	**-0.6**
FETY	**Fethiye**	**2.51**	**180**	P	**Pn**	**16 39 57.7**	**-1.3**
FETY	**Fethiye**	**2.51**	**180**	P	**Pn**	**16 39 57.7**	**-1.3**
BODT	**Bodrum**	**2.52**	**215**	PN	**Pn**	**16 39 58.7**	**-0.3**
BODT	**Bodrum**	**2.52**	**215**	P	**Pn**	**16 39 58.8**	**-0.3**
BODT	**Bodrum**	**2.52**	**215**	*e*Pn	**Pn**	**16 39 58.7**	**-0.3**
SIGR	**SIGRI**	**2.52**	**272**	PN	**Pn**	**16 39 58.6**	**-0.5**
SIGR	**SIGRI**	**2.52**	**272**	P	**Pn**	**16 39 58.1**	**-1.0**
SIGR	**SIGRI**	**2.52**	**272**	P	**Pn**	**16 39 58.1**	**-1.0**
SIGR	**SIGRI**	**2.52**	**272**	*e*Pn	**Pn**	**16 39 58.6**	**-0.5**
GADA	**Gvkgeada**	**2.68**	**294**	PN	**Pn**	**16 40 00.7**	**-0.6**
GADA	**Gvkgeada**	**2.68**	**294**	P	**Pn**	**16 40 00.7**	**-0.6**
GADA	**Gvkgeada**	**2.68**	**294**	P	**Pn**	**16 40 00.7**	**-0.6**
LADK	**Ladik-KONYA**	**2.73**	**109**	PN	**Pn**	**16 40 01.8**	**-0.2**
LADK	**Ladik-KONYA**	**2.73**	**109**	*e*Pn	**Pn**	**16 40 01.8**	**-0.2**
PHSR	**Pinarhisar**	**2.75**	**335**	PN	**Pn**	**16 40 01.8**	**-0.5**
PHSR	**Pinarhisar**	**2.75**	**335**	*e*Pn	**Pn**	**16 40 01.8**	**-0.5**
ENEZ	**Enez**	**2.77**	**306**	PN	**Pn**	**16 40 01.9**	**-0.5**
ENEZ	**Enez**	**2.77**	**306**	P	**Pn**	**16 40 02.2**	**-0.2**
ENEZ	**Enez**	**2.77**	**306**	*e*Pn	**Pn**	**16 40 01.9**	**-0.5**
ENEZ	**Enez**	**2.77**	**306**	P	**Pn**	**16 40 02.2**	**-0.2**
ALN	**Alexandroupoli**	**2.92**	**308**	PN	**Pn**	**16 40 04.2**	**-0.4**
ALN	**Alexandroupoli**	**2.92**	**308**	P	**Pn**	**16 40 03.8**	**-0.8**
ALN	**Alexandroupoli**	**2.92**	**308**	P	**Pn**	**16 40 03.8**	**-0.8**
ALN	**Alexandroupoli**	**2.92**	**308**	*e*Pn	**Pn**	**16 40 04.2**	**-0.4**
LOD	**Lodumlu**	**2.93**	**74**	PN	**Pn**	**16 40 04.6**	**-0.1**
LOD	**Lodumlu**	**2.93**	**74**	*e*Pn	**Pn**	**16 40 04.6**	**-0.1**
AKAS	**Kas**	**2.94**	**172**	PN	**Pn**	**16 40 04.1**	**-0.9**
AKAS	**Kas**	**2.94**	**172**	*e*Pn	**Pn**	**16 40 04.1**	**-0.9**
ANTO	**Ankara**	**2.94**	**75**	PN	**Pn**	**16 40 04.9**	**-0.1**
ANTO	**Ankara**	**2.94**	**75**	*e*Pn	**Pn**	**16 40 04.9**	**-0.1**
KSL	**Kastellorizon**	**3.02**	**173**	P	**Pn**	**16 40 06.9**	**+0.4**
ARG	**Arkhangelos**	**3.03**	**195**	P	**Pn**	**16 40 06.6**	**+0.6**
ARG	**Arkhangelos**	**3.03**	**195**	P	**Pn**	**16 40 06.6**	**+0.6**
SMTH	**Samothraki Isl**	**3.05**	**297**	P	**Pn**	**16 40 05.7**	**-0.6**
SMTH	**Samothraki Isl**	**3.05**	**297**	P	**Pn**	**16 40 05.7**	**-0.6**
AFSR	**Af˙ar-Bala (A**	**3.09**	**83**	PN	**Pn**	**16 40 06.9**	**-0.1**
AFSR	**Af˙ar-Bala (A**	**3.09**	**83**	*e*Pn	**Pn**	**16 40 06.9**	**-0.1**
LIA	**Limnos Island**	**3.12**	**285**	P	**Pn**	**16 40 06.5**	**-0.8**
LIA	**Limnos Island**	**3.12**	**285**	P	**Pn**	**16 40 06.5**	**-0.8**
RDO	**Rodhopi**	**3.38**	**307**	P	**Pn**	**16 40 10.4**	**-0.5**
RDO	**Rodhopi**	**3.38**	**307**	P	**Pn**	**16 40 10.4**	**-0.5**
APE	**Apeiranthos**	**3.50**	**235**	*e*P	**Pn**	**16 40 11.5**	**-1.1**
APE	**Apeiranthos**	**3.50**	**235**	⇑*e*P	**Pn**	**16 40 11.5**	**-1.1**
BRTR	**Keskin Array B**	**3.56**	**79**	Pn	**Pn**	**16 40 13.9**	**+0.4**
	6.6nm,0.3s,baz=255,slow=13,SNR=119						
BRTR				Pg	**Pg**	**16 40 23.6**	**-2.6**
	6.5nm,0.3s,baz=251,slow=16,SNR=37						
BRTR				Sn	**Sn**	**16 40 53.5**	**-2.2**
	6.0nm,0.3s,baz=256,slow=20,SNR=4.6						
BRTR				Lg	Lg	16 41 09.6	
	3.5nm,0.3s,baz=268,slow=17,SNR=4.2						
KARP	**Karpathos**	**3.92**	**204**	P	**Pn**	**16 40 17.3**	**-1.0**
KARP	**Karpathos**	**3.92**	**204**	P	**Pn**	**16 40 17.3**	**-1.0**
KAVA	**Kavala**	**3.97**	**299**	P	**Pn**	**16 40 18.4**	**-0.6**
KAVA	**Kavala**	**3.97**	**299**	P	**Pn**	**16 40 18.4**	**-0.6**
NVR	**Nevrokopi**	**4.57**	**300**	P	**Pn**	**16 40 26.9**	**-0.4**
NVR	**Nevrokopi**	**4.57**	**300**	P	**Pn**	**16 40 26.9**	**-0.4**
SRS	**Serrai**	**4.66**	**297**	P	**Pn**	**16 40 27.8**	**-0.6**
SRS	**Serrai**	**4.66**	**297**	P	**Pn**	**16 40 27.8**	**-0.6**
IDI	**Anoyia**	**5.11**	**222**	Pn	**Pn**	**16 40 34.2**	**-0.5**
	1.6nm,0.3s,baz=50,slow=16,SNR=8.6						
IDI				Sn	**Sn**	**16 41 30.6**	**-3.3**
	0.7nm,0.3s,baz=32,slow=19,SNR=1.9						
KNT	**Kendrikon**	**5.16**	**295**	P	**Pn**	**16 40 35.3**	**0.0**
KNT	**Kendrikon**	**5.16**	**295**	P	**Pn**	**16 40 35.3**	**0.0**
TIRR	**Tirgusor**	**5.33**	**355**	⇓*i*P	**Pn**	**16 40 37.3**	**-0.3**
TIRR	**Tirgusor**	**5.33**	**355**	P	**Pn**	**16 40 37.3**	**-0.3**
TIRR	**Tirgusor**	**5.33**	**355**	⇓P	**Pn**	**16 40 37.3**	**-0.3**
THL	**Klokotos Trika**	**5.51**	**277**	P	**Pn**	**16 40 40.0**	**-0.1**
THL	**Klokotos Trika**	**5.51**	**277**	P	**Pn**	**16 40 40.0**	**-0.1**
VTS	**Vitosha**	**5.64**	**309**	P	**Pn**	**16 40 41.2**	**-0.8**
VTS	**Vitosha**	**5.64**	**309**	P	**Pn**	**16 40 41.2**	**-0.8**
CFR	**Carcaliu**	**6.07**	**354**	⇑*i*P	**Pn**	**16 40 47.3**	**-0.4**
CFR	**Carcaliu**	**6.07**	**354**	*i* P	**Pn**	**16 40 47.3**	**-0.4**
CFR	**Carcaliu**	**6.07**	**354**	⇑P	**Pn**	**16 40 47.3**	**-0.4**
ISR	**Istrita**	**6.26**	**343**	⇑*i*P	**Pn**	**16 40 50.9**	**+0.4**
ISR	**Istrita**	**6.26**	**343**	P	**Pn**	**16 40 50.9**	**+0.4**
ISR	**Istrita**	**6.26**	**343**	⇑P	**Pn**	**16 40 50.9**	**+0.4**
GIUM	**Giurgiulesti**	**6.37**	**354**	⇓*i*P	**Pn**	**16 40 50.8**	**-1.0**
GIUM	**Giurgiulesti**	**6.37**	**354**	⇓*i*P	**Pn**	**16 40 50.8**	**-1.0**
SEV	**Sevastopol'**	**6.38**	**31**	*e*P	**Pn**	**16 40 48.5**	**-3.5**
SEV				*e*S	**Sn**	**16 41 57.6**	**-7.2**
YAL

0.2nm,0.3s,baz=270,slow=20,SNR=2.3
MLR Muntele Rosu 6.75 341 ⇓ iP Pn 16 40 58.3 +1.0
MLR Muntele Rosu 6.75 341 P Pn 16 40 58.3 +1.0
MLR Muntele Rosu 6.75 341 ⇓ P Pn 16 40 58.3 +1.0
MTUR Matau 6.77 335 ⇑ iP Pn 16 40 58.5 +1.0
MTUR Matau 6.77 335 P Pn 16 40 58.5 +1.0
MTUR Matau 6.77 335 ⇑ P Pn 16 40 58.5 +1.0
ODBI Odobesti 6.78 348 ⇓ iP Pn 16 40 58.0 +0.5
ODBI Odobesti 6.78 348 ⇓ iP Pn 16 40 58.0 +0.5
ALU Alushta 6.79 34 eP Pn 16 40 56.7 -1.0
ALU Alushta 6.79 34 eP Pn 16 40 56.7 -1.0
ALU eS Sn 16 42 11.6 -3.5
SIM Simferopol' 6.89 31 eP Pn 16 40 59.5 +0.4
96nm,0.2s
SIM eS Sn 16 42 15.0 -2.5
53µm,0.6s
SIM Simferopol' 6.89 31 eP Pn 16 40 59.5 +0.4
SIM eS Sn 16 42 15.0 -2.5
SIM pmax pmax
comp=Z,96nm,0.2s
SIM smax smax
comp=E,70µm,0.8s
SIM smax smax
comp=N,53µm,0.6s
PLOR Plostina 6.94 346 ⇑ iP Pn 16 41 00.5 +0.7
PLOR Plostina 6.94 346 P Pn 16 41 00.5 +0.7
PLOR Plostina 6.94 346 ⇑ P Pn 16 41 00.5 +0.7
VRI Vrincioaia 6.94 346 ⇑ iP Pn 16 41 00.6 +0.9
VRI Vrincioaia 6.94 346 P Pn 16 41 00.6 +0.9
VRI Vrincioaia 6.94 346 ⇑ P Pn 16 41 00.6 +0.9
ZAGS Zajecar 6.95 314 ⇑ iPn Pn 16 40 58.6 -1.3
VOIR 6.96 336 ⇑ iP Pn 16 41 00.3 +0.1
VOIR 6.96 336 P Pn 16 41 00.3 +0.1
VOIR 6.96 336 ⇑ P Pn 16 41 00.3 +0.1
ARR Arges 7.04 333 ⇑ iP Pn 16 41 01.6 +0.4
ARR Arges 7.04 333 ⇑ iP Pn 16 41 01.6 +0.4
SUDU Sudak 7.22 36 eP Pn 16 41 02.7 -0.9
SUDU Sudak 7.22 36 eP Pn 16 41 02.7 -0.9
SUDU eS Sn 16 42 21.4 -4.2
DOPR Dopca 7.34 339 ⇑ iP Pn 16 41 05.7 +0.4
DOPR Dopca 7.34 339 ⇑ iP Pn 16 41 05.7 +0.4
LOT Lotru 7.43 330 ⇓ iP Pn 16 41 08.1 +1.5
LOT Lotru 7.43 330 ⇓ iP Pn 16 41 08.1 +1.5
TESR Tescani 7.57 347 ⇓ iP Pn 16 41 07.7 -0.8
TESR Tescani 7.57 347 ⇓ iP Pn 16 41 07.7 -0.8
KUBS Kucevo 7.64 316 ⇓ iPn Pn 16 41 07.1 -2.3
MDB Medias 7.80 335 ⇓ iP Pn 16 41 12.5 +0.9
MDB Medias 7.80 335 P Pn 16 41 12.5 +0.9
MDB Medias 7.80 335 ⇓ P Pn 16 41 12.5 +0.9
GRUS Gruza 7.87 310 ePn Pn 16 41 11.7 -0.8
MMAI Mount Meron Ar 7.97 138 Pn Pn 16 41 13.5 -0.5
comp=N,4.9nm,0.3s,baz=316,slow=12,SNR=26
MMAI Sn Sn 16 42 43.8 -0.4
comp=N,1.4nm,0.3s,baz=304,slow=47,SNR=3.5
TRUS Trudelj 8.24 311 ePn Pn 16 41 18.2 +0.5
ANN Anapa 8.39 45 eP Pn 16 41 17.2 -2.4
comp=N,54nm,1.2s
ANN eS Sn 16 42 51.7 -2.6
ANN Anapa 8.39 45 eP Pn 16 41 17.2 -2.4
ANN eS Sn 16 42 51.7 -2.6
ANN pmax pmax
comp=Z,54nm,1.2s
BZS Buzias 8.51 322 ⇑ iP Pn 16 41 20.6 -0.7
BZS Buzias 8.51 322 ePn Pn 16 41 20.2 -1.1
BZS Buzias 8.51 322 P Pn 16 41 20.7 -0.6
BZS Buzias 8.51 322 ⇑ P Pn 16 41 20.7 -0.6
BURAR Bucovina Array 8.92 343 ⇓ iP Pn 16 41 27.3 +0.3
BURAR Bucovina Array 8.92 343 ⇓ iP Pn 16 41 27.3 +0.3
BURAR Bucovina Array 8.92 343 ⇓ P Pn 16 41 27.3 +0.3
TEKS Tekeris 8.95 310 ePn Pn 16 41 24.6 -2.7
DRGR 8.96 331 ⇑ iP Pn 16 41 28.0 +0.5
DRGR 8.96 331 P Pn 16 41 28.0 +0.5
DRGR 8.96 331 ⇑ P Pn 16 41 28.0 +0.5
SORM Soroca 9.00 357 ⇑ iP Pn 16 41 27.0 -1.0
SORM Soroca 9.00 357 P Pn 16 41 27.0 -1.0
SORM Soroca 9.00 357 ⇑ P Pn 16 41 27.0 -1.0
ASF Jabal al Asfar 9.41 135 Pn Pn 16 41 36.3 +2.5
comp=Z,0.5nm,0.3s,baz=254,slow=7.4,SNR=3.0
TRPA Tarpa 10.15 334 ⇑ iP Pn 16 41 44.1 +0.3
TRPA Tarpa 10.15 334 ⇑ iP Pn 16 41 44.1 +0.3
EIL Elat 10.62 151 Pn Pn 16 41 47.5 -2.7
comp=Z,0.7nm,0.3s,baz=24,slow=20,SNR=4.5
EIL Sn Sn 16 43 43.5 -5.6
comp=Z,0.3nm,0.3s,baz=40,slow=7.9,SNR=2.4
KIV Kislovodsk 11.25 60 eP Pn 16 41 59.6 +0.6
comp=Z,5.0nm,1.0s
KIV Kislovodsk 11.25 60 eP Pn 16 41 59.6 +0.6
KIV pmax pmax
comp=Z,5.0nm,1.0s
KIEV Kiev 11.54 0 ⇓ iP Pn 16 42 04.6 +1.8
KIEV pmax pmax
comp=Z,2.0nm,0.6s
AKASG Malin Array Be 11.55 0 Pn Pn 16 41 60.0 -2.9
comp=Z,1.2nm,0.3s,baz=181,slow=12,SNR=6.8
AKASG Sn Sn 16 44 16.8 +4.9
comp=Z,1.1nm,0.3s,baz=193,slow=25,SNR=3.6
NCK Nalchik 11.73 64 i P Pn 16 42 06.6 +1.2
comp=Z,9.0nm,0.5s
NCK Nalchik 11.73 64 ⇑ iP Pn 16 42 06.6 +1.2
NCK pmax pmax
comp=Z,9.0nm,0.5s
GERES GERESS Array B 14.70 316 Pn P 16 42 48.7 -3.5
comp=Z,0.1nm,0.3s,baz=135,slow=15,SNR=4.0
CLL Collm 16.58 322 epP P 16 43 13.0 0.0
CLL Collm 16.58 322 eP P 16 43 13.0 0.0
MOS Moscow 17.55 16 eP Pn 16 43 20.1 -2.4
VSU Vasula 19.39 356 ⇓ eP Pn 16 43 48.1 +3.1
VSU pmax pmax
comp=Z,45nm,1.0s
FINES FINESS Array B 22.40 356 P P 16 44 16.7 +0.3
comp=Z,2.8nm,0.8s,baz=170,slow=17,SNR=3.2
KLMR Klimovskoe 22.68 13 eP P 16 44 18.5 -0.9
KLMR AMP 16 44 23.3
comp=Z,11nm,1.3s
KLMR Klimovskoe 22.68 13 eP P 16 44 18.5 -0.9
KLMR pmax pmax
comp=Z,11nm,1.3s
GEYT Alibeck 22.69 84 P P 16 44 24.5 +4.7
comp=Z,2.9nm,0.7s,baz=299,slow=10.0,SNR=6.7
AKTK Aktyubinsk 23.27 52 P P 16 44 26.6 +1.0
comp=Z,2.0nm,0.7s
AKTO Aktyubinsk 23.27 52 P P 16 44 26.6 +1.0
comp=Z,1.4nm,0.6s,baz=243,slow=9.7,SNR=5.4
AKTO Aktyubinsk 23.27 52 P P 16 44 26.6 +1.0
AKTO pmax pmax
comp=Z,2.0nm,0.7s
NOA NORSAR Array B 24.57 339 P P 16 44 38.9 +1.0
comp=Z,1.7nm,1.0s,baz=143,slow=9.4,SNR=3.4
ARU Arti 25.98 39 P P 16 44 51.2 +0.6
comp=Z,1.3nm,0.4s,baz=270,slow=19,SNR=3.4
ARU Arti 25.98 39 c iP P 16 44 51.5 +0.8
ARU 16 45 25.3
ARU S S 16 49 24.5 +3.5
ARU SS SnSn 16 50 25.0 +7.3
ARU pmax pmax
comp=Z,5.0nm,0.8s
EKA Eskdalemuir Ar 26.91 318 P P 16 44 57.7 -1.3
comp=Z,1.3nm,0.5s,baz=114,slow=12,SNR=15
BRVK Borovoye 31.29 50 ⇑ eP P 16 45 38.3 +0.3
BRVK pmax pmax
comp=Z,6.0nm,2.2s
AAK Ala-Archa 34.18 69 P P 16 46 04.4 +0.7
comp=Z,0.5nm,0.4s,baz=245,slow=9.3,SNR=4.2
AAK Ala-Archa 34.18 69 ⇑ eP P 16 46 06.4 +2.8
AAK pmax pmax
comp=Z,1.0nm,0.9s
TORD Torodi Ar. Bea 35.46 231 P P 16 46 13.6 -1.1
comp=Z,0.9nm,0.8s,baz=46,slow=8.0,SNR=3.5
KURBB Kurchatov Arra 36.21 55 P P 16 46 21.7 +0.9
comp=Z,0.7nm,0.6s,baz=278,slow=8.9,SNR=5.8
KURK Kurchatov 36.27 55 P P 16 46 21.7 +0.4
KURK pmax pmax
comp=Z,1.0nm,0.5s
KOWA Kowa 38.08 239 LR LR 17 05 40.9
comp=Z,131nm,18.3s,baz=44,slow=42
MKAR Makanchi Array 39.02 61 P P 16 46 45.2 +0.6
comp=Z,0.3nm,0.5s,baz=269,slow=9.4,SNR=6.9
DGZ Jazzator, Alta 41.99 56 ⇑ eP P 16 47 12.0 +2.6
DBIC Dimbokro 44.50 232 LR LR 17 06 21.7
comp=Z,117nm,20.2s,baz=30,slow=36
SONM Songino Array 54.56 54 P P 16 48 48.3 +1.9
comp=Z,0.3nm,0.4s,baz=311,slow=9.3,SNR=2.5
ULN Ulaanbaatar 54.96 54 ⇓ eP P 16 48 50.8 +1.5
ULN pmax pmax
comp=Z,1.0nm,1.0s
TIXI Tiksi 56.31 22 ⇑ eP P 16 48 58.5 +0.1
TIXI pmax pmax
comp=Z,5.0nm,1.8s
ZEA Zeya 63.87 41 eP P 16 49 56.0 +5.4
BILL Bilibino 68.40 16 ⇑ eP P 16 50 21.5 +2.1
BILL 16 52 51.4
BILL eS S 16 59 09.7 -11
BILL pmax pmax
comp=Z,2.0nm,1.4s
BILL MLR MLR
comp=Z,81nm,17.0s
KLR Kul'dur 68.70 43 ⇓ eP P 16 50 24.2 +2.6
MA2 Magadan 70.52 27 ⇓ eP P 16 50 34.6 +2.0
MA2 pmax pmax
comp=Z,3.0nm,1.2s
MSHR Mys Shultsa 72.31 49 ⇓ eP P 16 50 43.8 +0.1
YKA Yellowknife Ar 74.58 343 P P 16 50 58.5 +1.7
comp=Z,0.1nm,0.6s,baz=26,slow=5.5,SNR=4.0

*IDC **20** 16:42:11.9±2.3,5°.11S×129°.60E,h211km±29km, mb3.2/4, mb1 3.4/8, mb1mx3.0/52, mbtmp3.9/8, MS3.5/1, Ms1 3.5/1, ms1mx2.7/17, Error ellipse: s-maj=44.6km s-min=14.2km az=75.0*
*ISCJB **20** 16:42:12.4±0.4,4°.96S±0°.04×129°.82E±0°.05, h250km, mb3.3/4, Error ellipse: s-maj=7.7km s-min=5.2km az=170.5*
*DJA **20** 16:42:14.9±0.5,5°.S±4°×13°.0E±°, h211km±4km, M4.6/9, mB5.1/2, mb5.2/1, MLv4.2/9, Mw(mB)4.5/2*
ISC 20 16:42:11.4±0.8, 5°.12S±0°.06×129°.71E±0°.06, h250km, n19, σ3°13/25, mb3.3/4, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BNDI	**Bandanaira**	**0.63**	**18**	P	**Pn**	**16 42 43.8**	**-0.9**
BNDI				S	**S**	**16 43 07.5**	**-3.5**
MSAI	**Masohi**	**1.93**	**336**	P	**Pn**	**16 42 51.8**	**-1.5**
MSAI				S	**S**	**16 43 21.0**	**-5.3**
AAI	**Ambon**	**2.08**	**313**	P	**Pn**	**16 42 55.4**	**+0.8**
AAI				S	**S**	**16 43 24.6**	**-4.1**
SAUI	**Saumlaki**	**3.25**	**151**	P	Pn	16 43 09.3	+2.7
FAKI	**Fak Fak**	**3.34**	**49**	P	**Pn**	**16 43 08.0**	**+0.3**
FAKI				S	**S**	**16 43 48.4**	**-3.9**
SIJI	**Sorong**	**4.50**	**20**	P	**Pn**	**16 43 20.8**	**-0.4**
	21nm,0.3s,baz=217,slow=20,SNR=271						
SIJI				S	**S**	**16 44 11.4**	**-5.4**
	47nm,0.3s,baz=252,slow=19,SNR=38						
SANI	**Sanana**	**4.81**	**309**	P	**Pn**	**16 43 25.1**	**+0.2**
SANI				S	**S**	**16 44 17.6**	**-5.9**
LBMI	**Labuha**	**4.97**	**334**	P	**Pn**	**16 43 27.1**	**+0.2**
LBMI				S	**S**	**16 44 26.2**	**-0.9**
RKPI	**Ransiki, Papua**	**5.72**	**51**	P	**Pn**	**16 43 37.9**	**+1.8**
	250nm,0.5s,7µm1.6nm						
RKPI				S	**S**	**16 44 40.9**	**-2.9**
	250nm,0.5s,7µm1.6nm						
SOEI	**Soe**	**7.09**	**229**	P	Pn	16 44 01.3	+7.9
KMSI	**Cibinong**	**8.05**	**315**	P	**Pn**	**16 44 07.4**	**+2.0**
FITZ	**Fitzroy Crossi**	**13.50**	**197**	P	**P**	**16 45 13.2**	**-1.4**
	baz=90,slow=7.7						
FITZ				S	**S**	**16 47 38.7**	**-4.5**
	baz=27,slow=9.0						
WRA	**Warramunga Arr**	**15.40**	**163**	P	**Pn**	**16 45 38.3**	**+1.8**
	0.5nm,0.3s,baz=348,slow=13,SNR=23						
WRA				S	**S**	**16 48 24.5**	**-1.2**
	0.3nm,0.3s,baz=338,slow=21,SNR=9.0						
ASAR	**Alice Springs**	**18.87**	**168**	P	**Pn**	**16 46 18.1**	**+0.8**
	0.7nm,0.3s,baz=351,slow=12,SNR=112						
ASAR				S	**S**	**16 49 36.9**	**+2.3**
	0.2nm,0.3s,baz=347,slow=20,SNR=18						
STKA	**Stephens Creek**	**28.85**	**159**	P	P	16 47 51.3	+4.4
	2.5nm,1.0s,baz=329,slow=12,SNR=3.8						
CMAR	**Chiang Mai Arr**	**38.33**	**308**	P	**P**	**16 49 12.4**	**+3.8**
	0.5nm,0.5s,baz=139,slow=7.0,SNR=7.3						
DZM	**Mont Dzumac**	**39.32**	**119**	LR	LR	17 07 44.8	
	comp=Z,64nm,18.2s,baz=26,slow=39						
MKAR	**Makanchi Array**	**66.51**	**327**	P	P	16 52 39.0	+4.5
	0.3nm,0.5s,baz=132,slow=7.0,SNR=4.8						
KURBB	**Kurchatov Arra**	**70.77**	**328**	P	**P**	**16 53 03.9**	**+3.4**
	0.2nm,0.5s,baz=140,slow=5.4,SNR=3.3						

*ISCJB **20** 17:03:18.6±1.4, 36°.60N±0°.08×38°.47E±0°.05, h0km, Error ellipse: s-maj=11.6km s-min=5.4km az=161.9*
*CSEM **20** 17:03:19.1±0.6, 36°.61N×38°.47E, h2km, ML2.6, Error ellipse: s-maj=13.5km s-min=5.2km az=166.0, Suspected Mining explosion.*
*DDA **20** 17:03:20.6, 36°.88N×38°.39E, h7km, Ml2.6, Suspected Mining explosion.*
*ISK **20** 17:03:20.2, 36°.72N×38°.43E, h9km, ML2.4/4*
ISC 20 17:03:17.4±1.8, 36°.6N±0°.1×38°.45E±0°.04, h0km, n16, σ0°.36/25, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SURC	**SANLIURFA_SURC**	**0.36**	**22**	*i* P	**Pg**	**17 03 24.7**	**+0.4**
SURC	**SANLIURFA_SURC**	**0.36**	**22**	P	**Pg**	**17 03 24.7**	**+0.4**
URFA	**Urfa**	**0.94**	**19**	PG	**Pg**	**17 03 35.8**	**+0.3**
URFA				SG	**Sg**	**17 03 47.2**	**-0.5**
URFA	**Urfa**	**0.94**	**19**	*e*Pg	**Pg**	**17 03 35.8**	**+0.3**
URFA				*e*Sg	**Sg**	**17 03 47.2**	**-0.5**
KUZU	**Kuzuini**	**1.12**	**282**	*i* P	**Pb**	**17 03 39.8**	**0.0**
KUZU				*i* S	**Sn**	**17 03 56.2**	**-0.5**
KUZU	**Kuzuini**	**1.12**	**282**	P	**Pb**	**17 03 39.8**	**0.0**
KUZU				S	**Sn**	**17 03 56.2**	**-0.5**
GAZ	**Gaziantep**	**1.17**	**303**	PG	**Pn**	**17 03 41.2**	**+0.1**
GAZ				SG	**Sb**	**17 03 56.6**	**+0.3**
GAZ	**Gaziantep**	**1.17**	**303**	*e*Pg	**Pn**	**17 03 41.2**	**+0.1**
GAZ				*e*Sg	**Sb**	**17 03 56.6**	**+0.3**
MALT	**Malatya**	**1.76**	**360**	PN	**Pn**	**17 03 49.3**	**0.0**
MALT	**Malatya**	**1.76**	**360**	*e*Pn	**Pn**	**17 03 49.3**	**0.0**
AKCD	**Akcadag**	**1.79**	**347**	*i* P	**Pg**	**17 03 50.4**	**+0.6**
AKCD				*i* S	**Sg**	**17 04 15.0**	**-0.1**
AKCD	**Akcadag**	**1.79**	**347**	P	**Pn**	**17 03 50.4**	**+0.6**
MAZI	**Mazidag**	**1.84**	**60**	PN	**Pb**	**17 03 51.9**	**-0.2**
MAZI	**Mazidag**	**1.84**	**60**	*e*Pn	**Pb**	**17 03 51.9**	**-0.2**
ANDN	**Andirin**	**1.97**	**302**	*i* P	**Pb**	**17 03 54.0**	**-0.3**
ANDN				*i* S	**Sg**	**17 04 20.6**	**-0.2**
ANDN	**Andirin**	**1.97**	**302**	P	**Pb**	**17 03 54.0**	**-0.3**
ANDN				S	**Sg**	**17 04 20.6**	**-0.2**

*ISN **20** 17:19:45.0±0.9, 32°.47N×47°.03E, h0km±46km, ML4.2*
*ISCJB **20** 17:19:46.7±0.6, 32°.51N±0°.02×46°.97E±0°.02, h8km±4km, mb4.4/82, MS3.3/10, Error ellipse: s-maj=3.9km s-min=2.5km az=170.3*
*TEH **20** 17:19:48.4, 32°.59N×47°.04E, h8km, ML4.2*
*NEIC **20** 17:19:48.4±0.3, 32°.51N×47°.01E, h10km, mb4.6/42, ML4.1(THR), MN4.2(TEH), Error ellipse: s-maj=5.5km s-min=4.0km az=193.0*
*CSEM **20** 17:19:49.0±0.1, 32°.44N×46°.91E, h15km, mb4.6/35, Error ellipse: s-maj=5.2km s-min=3.8km az=7.0*
*MOS **20** 17:19:49.5±1.4, 32°.63N×46°.97E, h26km, mb4.6/34, Error ellipse: s-maj=6.7km s-min=4.6km az=100.6*
*GII **20** 17:19:50.4±0.0, 32°.49N×46°.97E, h8km, mb4.7/1, MD4.6/1*
*BJI **20** 17:19:50.5, 32°.40N×47°.00E, h44km, mb4.5/26, mB4.9/12, Ms4.3/4, Ms7 4.2/4*
*THR **20** 17:19:51.7±0.6, 32°.69N×47°.06E, h14km±5km, ML4.1*
*IDC **20** 17:19:52.8±2.3, 32°.58N×46°.92E, h40km±20km, mb3.9/29, mb1 3.9/38, mb1mx3.9/70, mbtmp4.1/38, ML3.3/7, MS3.1/12, Ms1 3.1/12, ms1mx2.8/61, Error ellipse: s-maj=16.5km s-min=10.5km az=159.0*
ISC 20 17:19:48.6±1.1, 32°.53N±0°.03×47°.02E±0°.03, h13km±7km, n336, σ1°69/345, mb4.5/86, MS3.2/10, 13C-24D, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IKFM	**Kafar-mosalman**	**1.21**	**35**	*e*Pg	**Pn**	**17 20 11.5**	**+0.3**
IKFM				*e*AMB	AMB	17 20 38.1	
	comp=Z,99nm,0.4s						
SHGR	**Shooshtar-Gavs**	**1.56**	**105**	*e*Pg	**Pg**	**17 20 20.4**	**+1.8**
SHGR	**Shooshtar-Gavs**	**1.56**	**105**	*e*Pg	**Pg**	**17 20 20.4**	**+1.8**
SHGR	**Shooshtar-Gavs**	**1.56**	**105**	*e*Pg	**Pg**	**17 20 20.6**	**+2.0**
SHGR				AML	AML	17 20 47.7	
	comp=N,2µm,0.5s						
SHGR				AML	AML	17 20 52.5	
	comp=E,2µm,0.5s						
IKOM	**Komasi**	**1.69**	**14**	*e*Pn	**Pg**	**17 20 20.4**	**-0.6**
IKOM				*e*Sg	**Sg**	**17 20 43.4**	**+0.5**
IKOM				*e*AMB	AMB	17 20 57.7	
	comp=Z,65µm,0.6s						
IKOM	**Komasi**	**1.69**	**14**	Pn	**Pg**	**17 20 20.3**	**-0.7**
IKOM				Sg	**Sg**	**17 20 43.3**	**+0.4**
IKOM	**Komasi**	**1.69**	**14**	*e*Pn	**Pg**	**17 20 20.4**	**-0.6**
IKOM				Sg	**Sg**	**17 20 43.3**	**+0.4**
NSR	**Nassriya**	**1.69**	**207**	*e*Pg	**Pn**	**17 20 18.0**	**+0.1**
	SNR=9.0						
NSR				*e*Sg	**Sn**	**17 20 41.5**	**+2.1**
	SNR=9.0						
IVIS	**Veis**	**1.99**	**356**	*e*Pn	**Pb**	**17 20 24.4**	**-0.4**
IVIS				*e*AMB	AMB	17 20 56.3	
	comp=Z,18µm,0.2s						
IVIS	**Veis**	**1.99**	**356**	Pn	**Pb**	**17 20 24.3**	**-0.5**
IVIS	**Veis**	**1.99**	**356**	Pn	**Pb**	**17 20 24.3**	**-0.5**
BHD	**Baghdad**	**2.34**	**289**	*e*Pn	**Pn**	**17 20 27.0**	**+0.2**
	SNR=4.0						
BHD				*e*Sn	**Sn**	**17 20 57.5**	**+2.1**
	SNR=4.0						
ILIN	**Lien**	**2.38**	**359**	*e*Pn	**Pb**	**17 20 30.2**	**-1.3**
ILIN				*e*Sg	**Sg**	**17 21 05.9**	**+0.8**
ILIN				*e*AMB	AMB	17 21 14.6	
	comp=Z,10µm,0.3s						
ILIN	**Lien**	**2.38**	**359**	Pn	**Pb**	**17 20 30.2**	**-1.3**
ILIN				Sg	**Sg**	**17 21 05.9**	**+0.8**
ILIN	**Lien**	**2.38**	**359**	*e*Pn	**Pb**	**17 20 30.2**	**-1.3**
SNGE	**Sanandaj**	**2.57**	**6**	*e*Pn	**Pb**	**17 20 32.9**	**-1.7**
SNGE				*e*Sg	**Sg**	**17 21 07.3**	**-3.8**
SNGE	**Sanandaj**	**2.57**	**6**	*e*Pn	**Pb**	**17 20 32.9**	**-1.7**
SNGE				*e*Sg	**Sg**	**17 21 07.3**	**-3.8**
SNGE	**Sanandaj**	**2.57**	**6**	*e*Pn	**Pb**	**17 20 32.9**	**-1.7**
SNGE				*e*Sg	**Sg**	**17 21 07.3**	**-3.8**
SNGE				AML	AML	17 21 19.8	
	comp=E,830nm,0.6s						
KHMZ	**Khomeyn**	**2.74**	**63**	*e*Pn	**Pb**	**17 20 36.2**	**-1.4**
KHMZ	**Khomeyn**	**2.74**	**63**	*e*Pn	**Pb**	**17 20 36.2**	**-1.4**
HAGD	**Aghdareh**	**2.89**	**37**	*e*Pn	**Pb**	**17 20 37.7**	**-2.4**
HAGD				*e*AMB	AMB	17 21 14.7	
	comp=Z,99nm,0.3s						
HAGD	**Aghdareh**	**2.89**	**37**	*e*Pn	**Pb**	**17 20 37.7**	**-2.4**
ASAO	**Ashtian**	**3.21**	**50**	*e*Pn	**Pb**	**17 20 42.8**	**-2.9**
ASAO	**Ashtian**	**3.21**	**50**	*e*Pn	**Pb**	**17 20 42.8**	**-2.9**
HKZM	**Kohzaman**	**3.24**	**28**	*e*Pn	**Pb**	**17 20 43.1**	**-3.0**
HKZM				*e*AMB	AMB	17 21 24.2	
	comp=E,99nm,0.5s						
HKZM	**Kohzaman**	**3.24**	**28**	*e*Pn	**Pb**	**17 20 43.1**	**-3.0**
IPIR	**Pirpir**	**3.27**	**86**	*e*Pn	**Pb**	**17 20 43.8**	**-2.8**
IPIR				*e*AMB	AMB	17 21 27.8	
	comp=Z,10µm,0.3s						
IPIR	**Pirpir**	**3.27**	**86**	*e*Pn	**Pb**	**17 20 43.8**	**-2.8**
IRAZ	**Razeghan**	**3.75**	**39**	*e*Pn	**Pb**	**17 20 50.1**	**-4.6**
IRAZ				*e*AMB	AMB	17 22 03.2	
	comp=Z,8µm,0.5s						
IRAZ	**Razeghan**	**3.75**	**39**	*e*Pn	**Pb**	**17 20 50.1**	**-4.6**
QAM	**Ghamsar**	**3.90**	**71**	*e*Pn	**Pb**	**17 20 52.8**	**-4.6**
QAM				*e*AMB	AMB	17 21 41.4	
	comp=Z,4µm,0.2s						
IKLH	**Kolahrood**	**3.91**	**77**	*e*AMB	AMB	17 21 05.4	
	comp=Z,3µm,0.2s						
GHVR	**GHOM**	**4.06**	**60**	*e*Pn	**Pn**	**17 20 53.9**	**+3.3**
GHVR	**GHOM**	**4.06**	**60**	*e*Pn	**Pn**	**17 20 53.9**	**+3.3**
IGAR	**Gharneh**	**4.24**	**90**	*e*Pn	**Pn**	**17 20 56.5**	**+3.3**
IGAR				*e*AMB	AMB	17 21 49.8	
	comp=Z,3µm,0.1s						
IMHD	**Mahdasht**	**4.36**	**43**	*e*Pn	**Pn**	**17 20 57.4**	**+2.7**
IMHD				*e*AMB	AMB	17 21 21.4	
	comp=Z,2µm,0.5s						
IMHD	**Mahdasht**	**4.36**	**43**	*e*Pn	**Pn**	**17 20 57.4**	**+2.7**
IZEF	**Zefreh**	**4.49**	**84**	*e*Pn	**Pn**	**17 20 59.7**	**+3.1**
IZEF				*e*AMB	AMB	17 21 57.2	
	comp=Z,1µm,0.2s						
IZEF	**Zefreh**	**4.49**	**84**	*e*Pn	**Pn**	**17 20 59.7**	**+3.1**
IRAM	**Ramesheh**	**4.60**	**98**	*e*Pn	**Pn**	**17 21 00.2**	**+2.1**
IRAM				*e*AMB	AMB	17 22 03.2	
	comp=Z,938nm,0.3s						
IRAM	**Ramesheh**	**4.60**	**98**	*e*Pn	**Pn**	**17 21 00.2**	**+2.1**
THKV	**Tehran--Karaj**	**4.65**	**42**	*e*Pn	**Pn**	**17 21 01.9**	**+3.2**
THKV	**Tehran--Karaj**	**4.65**	**42**	*e*Pn	**Pn**	**17 21 01.9**	**+3.2**
IKAZ	**Kazeroun**	**4.96**	**122**	*e*Pn	**Pn**	**17 21 05.7**	**+2.6**
IKAZ				*e*AMB	AMB	17 22 06.8	
	comp=Z,3µm,0.2s						
IKAZ	**Kazeroun**	**4.96**	**122**	*e*Pn	**Pn**	**17 21 05.7**	**+2.6**
IDMV	**Damavand**	**5.15**	**52**	*e*AMB	AMB	17 21 29.5	
	comp=Z,1µm,0.3s						
IDMV				*e*Pn	**Pn**	**17 21 08.1**	**+2.4**
ANAR	**Anarak**	**5.68**	**82**	*e*Pn	**Pn**	**17 21 15.4**	**+2.6**
ANAR				*e*AMB	AMB	17 23 17.5	
	comp=Z,99nm,0.6s						
ANAR	**Anarak**	**5.68**	**82**	*e*Pn	**Pn**	**17 21 15.4**	**+2.6**
GNI	**Garni**	**7.82**	**347**	Pn	Pn	17 21 47.1	+4.9
	comp=Z,0.2nm,0.3s,baz=348,slow=19,SNR=2.4						
GNI				Lg	Lg	17 23 52.0	
	comp=Z,0.6nm,0.3s,baz=270,slow=20,SNR=2.4						
GNI				LR	LR	17 25 16.6	
	comp=Z,76nm,20.2s,baz=168,slow=42						
GNI	**Garni**	**7.82**	**347**	*e*Pn	**Pn**	**17 21 43.3**	**+1.1**
GNI	**Garni**	**7.82**	**347**	*e*P	**Pn**	**17 21 43.3**	**+1.1**
GNI	**Garni**	**7.82**	**347**	*e*P	**Pn**	**17 21 43.3**	**+1.1**
ASF	**Jabal al Asfar**	**8.57**	**270**	Pn	**Pn**	**17 21 51.3**	**-1.2**
	comp=Z,0.6nm,0.3s,baz=43,slow=4.8,SNR=4.3						
ASF				Sn	**Sn**	**17 23 24.6**	**-4.6**
	comp=Z,0.9nm,0.3s,baz=208,slow=15,SNR=2.5						
ASF				Lg	Lg	17 24 10.4	
	comp=Z,1.0nm,0.3s,baz=117,slow=2.3,SNR=3.6						
RAYN	**Ar Rayn**	**9.08**	**189**	*e*Pn	**Pn**	**17 21 58.5**	**-0.9**
RAYN				*e*Sn	**Sn**	**17 23 39.0**	**-2.5**
RAYN	**Ar Rayn**	**9.08**	**189**	*e*Pn	**Pn**	**17 21 58.5**	**-0.9**
RAYN				*e*Sn	**Sn**	**17 23 39.0**	**-2.5**
AKH	**Akhalkalaki**	**9.30**	**343**	*e*Pn	**Pn**	**17 22 00.6**	**-1.9**
AKH	**Akhalkalaki**	**9.30**	**343**	*e*P	**Pn**	**17 22 00.6**	**-1.9**
TBLG	**Delisi**	**9.36**	**349**	*e*Pn	**Pn**	**17 22 02.2**	**-0.9**
TBLG	**Delisi**	**9.36**	**349**	*e*P	**Pn**	**17 22 02.3**	**-0.9**
HMDT	**Nahal Hemdat**	**9.73**	**271**	Sn	**Sn**	**17 24 00.5**	**+3.2**
MMA0B	**Mount Meron ar**	**9.80**	**276**	Sn	**Sn**	**17 24 02.6**	**+3.4**
MMAI	**Mount Meron Ar**	**9.80**	**276**	Pn	**Pn**	**17 22 09.1**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=93,slow=15,SNR=2.8						
MMAI				Sn	**Sn**	**17 23 55.2**	**-3.9**
	comp=

BR101 **Keskin Array S** 12.97 307 *e*Pn Pn 17 22 55.2 +2.4
BRTR **Keskin Array B** 12.97 307 Pn Pn 17 22 55.1 +2.4
comp=Z,0.0nm,0.3s,baz=125,slow=13,SNR=5.2
ILGA **Ilgaz** 13.62 312 *e*Pn Pn 17 22 56.3 -5.4
WSAR **Wadi Sarin** 13.81 129 Pn Pn 17 23 03.0 -1.1
comp=Z,1.1nm,0.3s,baz=6.0,slow=16,SNR=12
WSAR Sn Sn 17 25 28.2 -9.3
comp=Z,0.3nm,0.3s,baz=318,slow=15,SNR=2.4
ISP **Isparta** 14.48 296 *e*Pn Pn 17 23 16.1 +2.7
ISP **Isparta** 14.48 296 *e*Pn Pn 17 23 16.1 +2.7
ISP **Isparta** 14.48 296 *e*P Pn 17 23 16.1 +2.7
MANT **Manisa** 16.16 297 *e*Pn Pn 17 23 36.5 +0.9
comp=Z,91nm,1.0s
MANT **Manisa** 16.16 297 *e*Pn Pn 17 23 36.5 +0.9
comp=Z,91nm,1.0s
KARP **Karpathos** 16.73 286 *e*Pn P 17 23 45.2 +0.2
comp=Z,21nm,1.1s
DAMY **Dhamar** 18.04 188 *e*Pn P 17 24 01.6 +1.8
comp=Z,17nm,1.0s
IDI **Anoyia** 18.57 285 P Pn 17 24 06.0 +0.4
comp=Z,1.3nm,0.3s,baz=90,slow=14,SNR=10.0
IDI LR LR 17 34 55.1
comp=Z,27nm,19.1s,baz=86,slow=49
IDI **Anoyia** 18.57 285 *e*P Pn 17 24 07.0 +1.5
comp=Z,42nm,1.0s
IDI **Anoyia** 18.57 285 *e*P Pn 17 24 07.1 +1.5
comp=Z,42nm,1.0s
VRH **Novokhopyorsk** 19.06 350 *e*P P 17 24 10.4 -0.1
comp=Z,10.0nm,0.6s
VRH **Novokhopyorsk** 19.06 350 *e*P P 17 24 10.4 -0.1
VRH pmax pmax
comp=Z,10.0nm,0.6s
ABKAR **Akbulak array** 19.30 26 *e*P Pn 17 24 14.4 +0.2
ABKAR **Akbulak array** 19.30 26 *e*P Pn 17 24 14.4 +0.2
CFR **Carcaliu** 19.33 316 *j*/P Pn 17 24 14.2 -0.3
CFR **Carcaliu** 19.33 316 *j*/P Pn 17 24 14.2 -0.3
VSR **Storozhevoye** 19.54 345 *e*P P 17 24 14.8 -1.0
comp=Z,10.0nm,0.6s
VSR **Storozhevoye** 19.54 345 *e*P P 17 24 14.8 -1.0
VSR pmax pmax
comp=Z,10.0nm,0.6s
AKTK **Aktyubinsk** 19.65 21 *e*P P 17 24 16.7 -0.3
AKTO **Aktyubinsk** 19.65 21 P P 17 24 16.7 -0.3
comp=Z,0.5nm,0.3s,baz=200,slow=12,SNR=9.0
AKTO LR LR 17 34 17.5
comp=Z,58nm,19.2s,baz=213,slow=44
PLOR **Plostina** 20.57 316 *j*/P P 17 24 28.1 +1.0
PLOR **Plostina** 20.57 316 *j*/P P 17 24 28.1 +1.0
MLR **Muntele Rosu** 20.80 315 P Pn 17 24 31.3 -0.8
comp=Z,2.1nm,0.9s,baz=114,slow=5.8,SNR=9.4
MLR **Muntele Rosu** 20.80 315 *j*/P P 17 24 30.6 +1.0
LPSR **Galich'ya Gora** 20.90 346 *e*P P 17 24 29.1 -1.4
LPSR pmax pmax
comp=Z,60nm,0.8s
TESR **Tescani** 20.94 318 *j*/P P 17 24 31.1 +0.1
TESR **Tescani** 20.94 318 *j*/P P 17 24 31.1 +0.1
AGG **Agios Georgios** 21.02 295 *e*P P 17 24 32.3 +0.3
comp=Z,133nm,1.2s
AGG **Agios Georgios** 21.02 295 *e*P P 17 24 32.3 +0.3
comp=Z,133nm,1.2s
AGG **Agios Georgios** 21.02 295 *e*P P 17 24 32.3 +0.3
AGG pmax pmax
comp=Z,133nm,1.2s
SORM **Soroca** 21.02 323 *j*/P P 17 24 32.9 +1.1
SORM **Soroca** 21.02 323 *j*/P P 17 24 32.9 +1.1
ITM **Ithomi** 21.09 290 *e*P P 17 24 32.5 -0.2
comp=Z,51nm,0.7s
ITM **Ithomi** 21.09 290 *e*P P 17 24 32.5 -0.2
comp=Z,51nm,0.7s
KK31 **Karatay Array** 21.28 54 *e*P P 17 24 35.3 +0.6
KK31 **Karatay Array** 21.28 54 *e*P P 17 24 35.3 +0.6
KK31 **Karatay Array** 21.28 54 *e*P P 17 24 35.3 +0.6
KKAR **Karatay Array** 21.28 54 *e*P P 17 24 34.5 -0.2
KKAR **Karatay Array** 21.28 54 *e*P P 17 24 34.5 -0.2
KKAR **Karatay Array** 21.28 54 *e*P P 17 24 34.5 -0.2
VOIR 21.31 314 *j*/P P 17 24 36.5 +1.4
VOIR 21.31 314 *j*/P P 17 24 36.5 +1.4
VTS **Vitosha** 21.32 305 *e*P P 17 24 37.6 +2.3
comp=Z,21nm,1.7s
VTS **Vitosha** 21.32 305 *e*P P 17 24 37.6 +2.3
comp=Z,21nm,1.7s
VTS **Vitosha** 21.32 305 *e*P P 17 24 37.6 +2.3
VTS pmax pmax
comp=Z,21nm,1.7s
DOPR **Dopca** 21.38 315 *j*/P P 17 24 37.0 +1.2
DOPR **Dopca** 21.38 315 *j*/P P 17 24 37.0 +1.2
ARR **Arges** 21.53 313 *j*/P P 17 24 38.6 +1.1
ARR **Arges** 21.53 313 *j*/P P 17 24 38.6 +1.1
NIL **Nilore** 21.99 80 *e*P P 17 24 43.2 +0.8
comp=Z,13nm,0.8s
NIL **Nilore** 21.99 80 *e*P P 17 24 43.3 +0.8
comp=Z,13nm,0.8s
NIL **Nilore** 21.99 80 *e*P P 17 24 43.3 +0.8
NIL pmax pmax
comp=Z,13nm,0.8s
FNA **Florina** 22.11 299 *e*P P 17 24 43.7 0.0
comp=Z,10nm,0.6s
FNA **Florina** 22.11 299 *e*P P 17 24 43.7 0.0
comp=Z,10nm,0.6s
FNA **Florina** 22.11 299 *e*P P 17 24 43.7 0.0
FNA pmax pmax
comp=Z,10.0nm,0.6s
BURAR **Bucovina Array** 22.37 319 *j*/P P 17 24 47.5 +1.0
BURAR **Bucovina Array** 22.37 319 *j*/P P 17 24 47.5 +1.0
AKASG **Malin Array Be** 22.41 329 P P 17 24 45.4 -1.3
comp=Z,3.8nm,0.8s,baz=136,slow=9.5,SNR=17
AKBB **Malin Array Si** 22.41 329 *e*P P 17 24 46.5 -0.2
comp=Z,6.7nm,0.8s
AKBB **Malin Array Si** 22.41 329 *e*P P 17 24 46.5 -0.2
AKBB pmax pmax
comp=Z,7.0nm,0.8s
KIEV **Kiev** 22.41 329 *e*P P 17 24 46.3 -0.4
comp=Z,6.5nm,0.8s
KIEV **Kiev** 22.41 329 *e*P P 17 24 46.3 -0.4
comp=Z,6.5nm,0.8s
KIEV **Kiev** 22.41 329 *de*P P 17 24 48.2 +1.5
KIEV pmax pmax
comp=Z,6.0nm,0.7s
AK11 **Malin Array Si** 22.41 329 *e*P P 17 24 47.0 +0.2
AML **Almayashu** 23.19 58 P P 17 24 57.1 +1.6
SNR=10
DRGR 23.39 315 *j*/P P 17 24 57.5 +0.4
DRGR 23.39 315 *j*/P P 17 24 57.5 +0.4
EKS2 **Erkin-Say** 23.40 57 P P 17 25 00.0 +2.7
SNR=5.6
BZS **Buzias** 23.54 311 *j*/P P 17 24 57.8 -0.7
BZS **Buzias** 23.54 311 *j*/P P 17 24 57.8 -0.7
OBN **Obninsk** 23.75 345 P P 17 24 59.4 -0.9
comp=Z,10nm,0.4s,baz=220,slow=5.9,SNR=4.8
OBN **Obninsk** 23.75 345 *e*P P 17 24 58.6 -1.7
comp=Z,52nm,1.4s
OBN **Obninsk** 23.75 345 *e*P P 17 25 00.2 -0.2
OBN *e* 17 25 04.1
OBN *e* 17 25 25.8
OBN *e*S S 17 29 13.3 -1.9
OBN pmax pmax
comp=Z,17nm,0.9s
OBN MLR MLR
comp=Z,28nm,17.0s
AAK **Ala-Archa** 23.90 57 P P 17 25 03.6 +1.4
comp=Z,1.7nm,0.6s,baz=221,slow=6.6,SNR=7.4
AAK **Ala-Archa** 23.90 57 *e*P P 17 25 04.1 +1.9
AAK pmax pmax
comp=Z,3.0nm,1.1s
DIVS **Divibare** 24.04 307 *e*P P 17 25 06.7 +3.2
comp=Z,11nm,1.3s
FRU **Bishkek** 24.04 57 *e*P P 17 25 06.0 +2.6
MOS **Moscow** 24.12 347 *e*P P 17 25 03.8 -0.1
MOS pmax pmax
comp=Z,30nm,0.7s
CHMS **Chumysh** 24.18 56 P P 17 25 07.0 +2.3
SNR=5.2
KBK **Karagaybulak** 24.23 57 P P 17 25 08.3 +3.0
SNR=6.7
KZA **Kyzart** 24.30 59 P P 17 25 09.1 +2.9
SNR=9.1
KSH **Kashi** 24.36 65 P P 17 25 08.3 +1.8
KSH pmax pmax
comp=Z,35nm,1.2s
NRN **Naryn** 24.70 61 *e*P P 17 25 10.3 +0.5
comp=Z,38nm,1.7s
NRN **Naryn** 24.70 61 *e*P P 17 25 10.3 +0.5
NRN pmax pmax
comp=Z,38nm,1.7s
TKM2 **Tokmak 2** 24.76 57 P P 17 25 12.7 +2.5
SNR=16
KWP **Kalwaria Pacla** 24.88 320 *e*P P 17 25 12.3 +1.3
KWP **Kalwaria Pacla** 24.88 320 *e*P P 17 25 11.9 +0.9
comp=Z,480nm,1.6s
KWP **Kalwaria Pacla** 24.88 320 *e*P P 17 25 12.3 +1.3
KWP **Kalwaria Pacla** 24.88 320 *e*P P 17 25 11.9 +0.9
KWP pmax pmax
comp=Z,480nm,1.6s
CRVS **Cervenica-Dubn** 25.18 318 *e*P P 17 25 14.6 +1.0
CRVS **Cervenica-Dubn** 25.18 318 *e*P P 17 25 14.6 +1.0
CRVS pmax pmax
comp=Z,6.0nm,1.2s
ARU **Arti** 25.20 15 P P 17 25 14.3 +0.6
comp=Z,2.0nm,0.4s,baz=219,slow=9.8,SNR=7.1
ARU **Arti** 25.20 15 *e*P P 17 25 13.8 0.0
comp=Z,9.9nm,1.1s
ARU **Arti** 25.20 15 *d*/P P 17 25 13.4 -0.3
ARU 17 25 45.0
ARU S S 17 29 36.5 -2.0
ARU pmax pmax
comp=Z,11nm,1.2s
TIP **Timpagrande** 25.33 294 *j*/P P 17 25 13.3 -1.9
TIP **Timpagrande** 25.33 294 *e*P P 17 25 15.8 +0.6
comp=Z,88nm,1.7s
TIP **Timpagrande** 25.33 294 *j*/P P 17 25 13.3 -1.9
STHS **Stebnicka Huta** 25.57 319 *e*P P 17 25 19.0 +1.9
STHS **Stebnicka Huta** 25.57 319 *e*P P 17 25 19.1 +1.9
STHS pmax pmax
comp=Z,5.0nm,1.1s
PSZ **Piszkesteto** 25.61 315 *e*P P 17 25 17.2 -0.5
comp=Z,6.9nm,0.9s
PSZ **Piszkesteto** 25.61 315 *e*P P 17 25 17.2 -0.5
PSZ pmax pmax
comp=Z,7.0nm,0.9s
KDJ **Kajisay** 25.71 59 *e*P P 17 25 19.9 +1.2
comp=Z,20nm,1.3s
SVE **Sverdlovsk** 26.05 17 *e*P P 17 25 22.1 +0.7
SVE pmax pmax
comp=Z,16nm,1.4s
TARG **Taragay, Kyrgy** 26.09 61 *e*P P 17 25 24.2 +1.8
comp=Z,12nm,1.2s
LANS **Liptovska Anna** 26.44 317 *e*P P 17 25 25.1 0.0
LANS **Liptovska Anna** 26.44 317 *e*P P 17 25 25.1 0.0
BRVK **Borovoye** 26.47 32 *e*P P 17 25 25.2 -0.1
comp=Z,5.5nm,0.9s
BRVK **Borovoye** 26.47 32 *e*P P 17 25 26.1 +0.8
BRVK pmax pmax
comp=Z,8.0nm,1.2s
BVAR **Borovoye Array** 26.50 32 P P 17 25 26.8 +1.3
comp=Z,4.1nm,0.6s,baz=234,slow=7.9,SNR=22
BVAR LR LR 17 38 12.8
comp=Z,81nm,20.8s,baz=238,slow=42
VYHS **Vyhne** 26.50 315 *e*P P 17 25 26.6 +0.9
VYHS **Vyhne** 26.50 315 *e*P P 17 25 26.6 +0.9
PRZ **Przheval'sk** 26.67 59 *e*P P 17 25 29.2 +1.8
comp=Z,10.0nm,1.1s
PRZ **Przheval'sk** 26.67 59 *e*P P 17 25 29.2 +1.8
comp=Z,10.0nm,1.1s
PRZ **Przheval'sk** 26.67 59 *e*P P 17 25 29.2 +1.8
PRZ pmax pmax
comp=Z,10.0nm,1.1s
OJC **Ojcow** 26.79 319 *e*P P 17 25 28.2 +0.1
comp=Z,45nm,1.9s
OJC **Ojcow** 26.79 319 *e*P P 17 25 28.3 +0.1
OJC pmax pmax
comp=Z,45nm,1.9s
IDID **Didziasalis** 26.86 334 *e*P P 17 25 29.3 +0.5
IDID IAmb IAmb 17 25 36.9
comp=Z,4.1nm,0.6s
IIGN **Ignalina** 27.08 334 *e*P P 17 25 31.4 +0.6
IIGN IAmb IAmb 17 25 37.3
comp=Z,5.7nm,0.6s
SUW **Suwalki** 27.37 329 *e*P P 17 25 32.2 -1.1
comp=Z,31nm,1.2s
SUW **Suwalki** 27.37 329 *e*P P 17 25 32.2 -1.1
comp=Z,31nm,1.2s
SUW **Suwalki** 27.37 329 *e*P P 17 25 32.2 -1.1
SUW pmax pmax
comp=Z,31nm,1.2s
IZAR **Zarasai** 27.38 334 *e*P P 17 25 33.8 +0.4
IZAR IAmb IAmb 17 25 37.8
comp=Z,9.6nm,0.9s
MORC **Moravsky Berou** 27.84 317 *e*P P 17 25 37.4 -0.3
comp=Z,57nm,1.9s
MORC **Moravsky Berou** 27.84 317 *e*P P 17 25 37.4 -0.3
comp=Z,57nm,1.9s
MORC **Moravsky Berou** 27.84 317 *e*P P 17 25 37.4 -0.3
MORC pmax pmax
comp=Z,57nm,1.9s
KLMR **Klimovskoe** 28.76 352 *e*P P 17 25 42.7 -2.9
KLMR AMP 17 25 48.8
comp=Z,9.0nm,1.2s
KLMR **Klimovskoe** 28.76 352 *e*P P 17 25 42.6 -3.0
KLMR pmax pmax
comp=Z,9.0nm,1.2s
KURBB **Kurchatov Arra** 29.39 43 P P 17 25 53.3 +1.9
comp=Z,1.9nm,0.7s,baz=249,slow=9.4,SNR=6.7
KURK **Kurchatov** 29.48 43 *e*P P 17 25 53.3 +1.1
KURK **Kurchatov** 29.48 43 *e*P P 17 25 53.3 +1.1
KURK **Kurchatov** 29.48 43 *e*P P 17 25 53.3 +1.1
GEC2 **GERESS Array S** 29.76 313 *e*P P 17 25 56.7 +1.8
comp=Z,16nm,2.0s
GEC2 **GERESS Array S** 29.76 313 *e*P P 17 25 56.7 +1.8
comp=Z,16nm,2.0s
GEC2 **GERESS Array S** 29.76 313 *e*P P 17 25 56.7 +1.8
GEC2 pmax pmax
comp=Z,16nm,2.0s
GERES **GERESS Array B** 29.76 313 P P 17 25 56.7 +1.8
comp=Z,0.4nm,0.7s,baz=122,slow=9.6,SNR=3.5
MK01 **Makanchi Array** 30.37 52 *e*P P 17 26 01.0 +0.8
MK31 **Makanchi Array** 30.37 52 *e*P P 17 26 01.3 +1.1
MK31 **Makanchi Array** 30.37 52 *e*P P 17 26 01.3 +1.1
MK32 **Makanchi Array** 30.37 52 *e*P P 17 26 01.9 +1.7
MKAR **Makanchi Array** 30.37 52 P P 17 26 01.9 +1.7
comp=Z,1.9nm,0.7s,baz=248,slow=8.9,SNR=23
MKAR LR LR 17 38 42.5
comp=Z,47nm,19.1s,baz=301,slow=37
MKAR **Makanchi Array** 30.37 52 *e*P P 17 26 01.4 +1.2
comp=Z,16nm,0.6s
MKAR **Makanchi Array** 30.37 52 *e*P P 17 26 01.4 +1.2
MKAR pmax pmax
comp=Z,16nm,0.6s
PYUN **Piuthan** 31.27 89 *e*P P 17 26 09.9 +1.4
DANN **Dangsing** 31.84 88 *e*P P 17 26 15.6 +1.9
comp=Z,42nm,1.0s
FIA0 **FINESS Array S** 31.96 341 *e*P P 17 26 13.8 -0.1
FIA0 **FINESS Array S** 31.96 341 *e*P P 17 26 13.8 -0.1
FIA1 **FINESS Array S** 31.96 341 *e*P P 17 26 13.2 -0.7
comp=Z,22nm,1.3s
FINES **FINESS Array B** 31.96 341 P P 17 26 13.8 -0.1
comp=Z,2.4nm,0.5s,baz=153,slow=10,SNR=17
GKN **Gorkha** 32.69 88 *e*P P 17 26 22.3 +1.4
comp=Z,14nm,0.4s
MON **Monaco** 32.81 301 *e*P P 17 26 21.4 -0.2
MON **Monaco** 32.81 301 *e*P P 17 26 21.4 -0.2
DMN **Daman** 33.20 88 *e*P P 17 26 27.1 +1.6
comp=Z,28nm,0.9s
SENIN **Lac Senin/Sane** 33.28 306 *e*P P 17 26 25.8 -0.1
comp=Z,27nm,1.8s
SENIN **Lac Senin/Sane** 33.28 306 *e*P P 17 26 25.8 -0.1
comp=Z,27nm,1.8s
KKN **Kakani** 33.29 88 *e*P P 17 26 27.7 +1.4
comp=Z,20nm,0.7s
BNI **Bardonecchia** 33.50 304 *e*P P 17 26 26.9 -0.8
comp=Z,8.1nm,0.7s
BNI **Bardonecchia** 33.50 304 *e*P P 17 26 27.0 -0.8
comp=Z,8.1nm,0.7s
BNI **Bardonecchia** 33.50 304 *e*P P 17 26 27.0 -0.8
BNI pmax pmax
comp=Z,8.0nm,0.7s
WMQ **Urumqi** 33.59 59 P P 17 26 31.0 +2.5
WMQ pmax pmax
comp=Z,19nm,0.7s
WMQ pmax pmax
comp=Z,95nm,3.7s
GUN **Gumba** 33.76 87 *e*P P 17 26 32.0 +1.5
comp=Z,37nm,0.9s
NVS **Novosibirsk** 33.82 38 *e*P P 17 26 30.7 +0.5
NVS pmax pmax
comp=Z,5.0nm,1.1s
JIRN **Jiri** 34.10 88 *e*P P 17 26 35.1 +1.6
comp=Z,20nm,0.5s
ZAA0 **Zalesovo Array** 34.28 40 *e*P P 17 26 35.3 +1.0
comp=Z,3.0nm,0.6s
ZALV **Zalesovo Beam** 34.28 40 P P 17 26 35.1 +0.8
comp=Z,2.6nm,0.5s,baz=244,slow=8.5,SNR=15
ZALV **Zalesovo Beam** 34.28 40 *e*P P 17 26 34.5 +0.2
ZALV **Zalesovo Beam** 34.28 40 *e*P P 17 26 34.5 +0.2
ZAA1 **Zalesovo Array** 34.28 40 *e*P P 17 26 35.1 +0.8
DGZ **Jazzator, Alta** 34.44 48 *i*P P 17 26 37.8 +1.8
DGZ pmax pmax
comp=Z,1.0nm,0.8s
RAMN **Ramite** 34.67 89 *e*P P 17 26 39.3 +1.0
comp=Z,17nm,0.7s
KMBO **Kilima Mbogo** 34.73 197 LR LR 17 42 32.6
comp=Z,49nm,18.8s,baz=96,slow=39
HFS **Hagfors** 35.25 332 P P 17 26 42.9 +0.3
comp=Z,4.1nm,0.5s,baz=137,slow=11,SNR=18
MBAR **Mbarara** 36.37 208 *e*P P 17 26 49.5 -3.3
comp=Z,9.5nm,1.3s
MBAR **Mbarara** 36.37 208 *e*P P 17 26 49.5 -3.3
MBAR pmax pmax
comp=Z,10.0nm,1.3s
NC602 **NORSAR Array S** 36.47 331 *e*P P 17 26 52.2 -0.9
NC405 **NORSAR Array S** 36.62 332 *e*P P 17 26 53.2 -1.1
NB2 **NORSAR Subarra** 36.78 332 P P 17 26 55.1 -0.6
comp=Z,1.2nm,0.7s,baz=124,slow=9.3
NB200 **NORSAR Array S** 36.78 332 *e*P P 17 26 54.0 -1.7
NOA **NORSAR Array B** 36.78 332 P P 17 26 54.0 -1.7
comp=Z,0.7nm,0.6s,baz=124,slow=8.7,SNR=4.2
NOA LR LR 17 45 26.0
comp=Z,17nm,18.5s,baz=115,slow=42
NOA **NORSAR Array B** 36.78 332 P P 17 26 54.0 -1.7
NOA **NORSAR Array B** 36.78 332 P P 17 26 54.0 -1.7
NBO02 **NORSAR Array S** 36.93 331 *e*P P 17 26 54.6 -2.4
LSA **Lhasa** 37.69 82 *e*P P 17 27 05.9 +1.6
comp=Z,2.3nm,0.6s
LSA **Lhasa** 37.69 82 *e*P P 17 27 05.9 +1.6
LSA pmax pmax
comp=Z,2.0nm,0.6s
TAM **Tamanrasset** 37.81 266 *e*P P 17 27 07.0 +1.9
comp=Z,9.4nm,1.2s
TAM **Tamanrasset** 37.81 266 *e*P P 17 27 07.0 +1.9
TAM pmax pmax
comp=Z,9.0nm,1.2s
ARA0 **ARCESS Array S** 38.98 348 *e*P P 17 27 14.0 -0.2
ARCES **ARCESS Array B** 38.98 348 P P 17 27 14.0 -0.2
comp=Z,2.5nm,1.0s,baz=133,slow=6.3,SNR=4.8
ARCES **ARCESS Array B** 38.98 348 P P 17 27 14.0 -0.2
KRAR **Krasnoyarsk** 39.35 39 *e*P P 17 27 19.0 +1.6
EKA **Eskdalemuir Ar** 41.55 319 P P 17 27 35.0 -0.7
comp=Z,1.5nm,0.7s,baz=107,slow=7.5,SNR=6.0
EKA **Eskdalemuir Ar** 41.55 319 *e*P P 17 27 35.0 -0.7
GTA **Gaotai** 42.76 65 P P 17 27 47.6 +1.7
GTA pP sP 17 27 57.8 +6.3
GTA sP pP 17 28 01.6 +12
GTA pmax pmax
comp=Z,3.0nm,1.2s
TOA1 **Torodi Ar. Sit** 45.62 256 *e*P P 17 28 09.0 +0.1
TORD **Torodi Ar. Bea** 45.62 256 P P 17 28 09.0 +0.1
comp=Z,4.9nm,0.8s,baz=58,slow=7.5,SNR=19
LZH **Lanzhou** 46.50 69 *e*P P 17 28 13.0 -2.9
LZH pP sP 17 28 25.8 +4.3
LZH sP pP 17 28 31.4 +11
LZH pmax pmax
comp=Z,27nm,1.2s
SONA0 **Songino Array** 46.73 53 *e*P P 17 28 18.7 +1.3
SONM **Songino Array** 46.73 53 P P 17 28 18.7 +1.3
comp=Z,0.5nm,0.5s,baz=271,slow=9.8,SNR=4.6
PBA **Port Blair** 46.75 106 *e*P P 17 28 17.4 -0.4
comp=Z,108nm,1.7s
ULN **Ulaanbaatar** 47.17 53 *e*P P 17 28 20.9 -0.1
comp=Z,5.2nm,1.2s
ULN **Ulaanbaatar** 47.17 53 *j*/P P 17 28 22.4 +1.5
ULN pmax pmax
comp=Z,5.0nm,1.3s
SPA0 **Spitsbergen Ar** 47.66 352 *e*P P 17 28 24.9 +0.7
SPITS **Spitsbergen Ar** 47.66 352 P P 17 28 24.9 +0.7
comp=Z,1.0nm,0.5s,baz=153,slow=8.1,SNR=8.8
CD2 **Chengdu** 47.79 76 *e*P P 17 28 24.8 -1.1
CHTO **Chiang Mai** 48.31 93 *e*P P 17 28 29.0 -1.0
comp=Z,18nm,2.0s
CHTO **Chiang Mai** 48.31 93 *e*P P 17 28 29.0 -1.0
CHTO pmax pmax
comp=Z,18nm,2.0s
CMAR **Chiang Mai Arr** 48.48 94 P P 17 28 32.0 +0.8
comp=Z,0.7nm,0.4s,baz=292,slow=8.3,SNR=7.6
CM01 **Chiang Mai Arr** 48.51 94 *e*P P 17 28 31.6 +0.1
JMIC **Jan Mayen** 48.52 339 LR LR 17 48 32.6
comp=Z,17nm,19.7s,baz=82,slow=36
KMI **Kunming** 48.91 84 P P 17 28 35.4 +0.7
KMI pmax pmax
comp=Z,5.0nm,0.5s
KOWA **Kowa** 49.64 261 P P 17 28 40.4 +0.3
comp=Z,5.5nm,0.8s,baz=58,slow=1.6,SNR=9.8
KOWA **Kowa** 49.64 261 *e*P P 17 28 38.7 -1.4
comp=Z,9.5nm,1.0s
LSZ **Lusaka** 50.84 204 *e*P P 17 28 48.4 -0.9
comp=Z,17nm,1.6s
LSZ **Lusaka** 50.84 204 *e*P P 17 28 48.4 -0.9
LSZ pmax pmax
comp=Z,17nm,1.6s
BOD **Bodaibo** 51.03 39 *e*P P 17 28 48.1 -2.0
BOD pmax pmax
comp=Z,7.0nm,1.4s
XAN **Xi'an** 51.05 70 P P 17 28 51.4 +0.7
XAN pP sP 17 29 03.3 +7.0
XAN pmax pmax
comp=Z,6.0nm,1.1s
PBKT **Sadao Pong** 51.06 95 *e*P P 17 28 50.8 -0.1
comp=Z,18nm,1.8s
HHC **Hu-ho-hao-te** 51.38 61 *e*P P 17 28 53.4 +0.2
HHC S S 17 36 09.9 -2.6
HHC pmax pmax
comp=Z,21nm,1.1s
HHC pmax pmax
comp=Z,70nm,6.6s
HHC LR LR
comp=Z,510nm,16.5s
HHC LR LR
comp=Z,640nm,16.8s
HHC LR LR
comp=Z,690nm,15.3s
BORG **Borgarnes** 51.89 330 LR LR 17 51 41.8
comp=Z,6.5nm,18.3s,baz=338,slow=37
DBIC **Dimbokro** 54.57 254 P P 17 29 16.9 0.0
comp=Z,3.7nm,0.8s,baz=126,slow=9.0,SNR=3.7
TIXI **Tiksi** 56.93 22 P P 17 29 33.1 +0.1
comp=Z,1.4nm,0.4s,baz=341,slow=0.5,SNR=8.6
TIXI **Tiksi** 56.93 22 *j*/*e*P P 17 29 32.9 -0.1
TIXI pmax pmax
comp=Z,3.0nm,2.0s
YAK **Yakutsk** 58.47 33 *j*/*e*P P 17 29 43.7 -0.3
YAK pmax pmax
comp=Z,4.0nm,1.0s
NJ2 **Nanjing** 59.58 69 *e*P P 17 29 52.1 -0.1
NJ2 pmax pmax
comp=Z,11nm,0.5s
KLR **Kul'dur** 62.93 47 P P 17 30 14.4 -0.2
comp=Z,0.1nm,0.7s,baz=276,slow=9.2,SNR=2.9
KLR **Kul'dur** 62.93 47 *j*/*e*P P 17 30 14.8 +0.2
BOSA **Boshof** 64.23 201 P P 17 30 24.0 +0.6
comp=Z,5.4nm,0.8s,baz=20,slow=3.6,SNR=7.1
KSAR **Wonju Array Be** 64.48 61 P P 17 30 24.9 -0.1
KSAR **Wonju Array Be** 64.48 61 P P 17 30 24.9 -0.1
KSRS **Korea Array** 64.51 61 P P 17 30 24.9 -0.3
comp=Z,1.9nm,0.6s,baz=280,slow=7.3,SNR=6.8
SEY **Seymchan** 68.06 28 P P 17 30 48.2 +0.6
comp=Z,2.0nm,0.6s,baz=284,slow=6.6,SNR=12
JNU **Nakatsue** 68.47 64 P P 17 30 51.0 +0.3
comp=Z,7.4nm,0.9s,baz=104,slow=12,SNR=2.6
JNU **Nakatsue** 68.47 64 P P 17 30 51.0 +0.3
MA2 **Nagadan** 68.99 32 P P 17 30 53.0 -0.4
comp=Z,0.6nm,0.5s,baz=243,slow=6.8,SNR=2.8
BILL **Bilibino** 70.08 20 *j*/P P 17 31 00.1 +0.1
BILL *e*S S 17 40 00.7 -10
BILL pmax pmax
comp=Z,2.0nm,1.1s
BILL MLR MLR
comp=Z,34nm,16.0s
YSS **Yuzh-Sakhalins** 70.60 46 *e*P P 17 31 04.4 +0.9
YSS pmax pmax
comp=Z,12nm,1.4s
MJAR **Matsushiro Arr** 72.35 58 LR LR 18 07 29.6
comp=Z,17nm,20.0s,baz=235,slow=39
TOLK **Toolik Lake Re** 78.38 6 *e*P P 17 31 48.9 +0.4
comp=Z,6.3nm,0.7s
MDM **Murphy Dome** 82.10 6 *e*P P 17 32 08.4 -0.2
comp=Z,11nm,1.5s
ILAR **Eielson Array** 82.41 6 P P 17 32 10.3 +0.2

comp=Z,0.6nm,0.8s,baz=330,slow=5.9,SNR=6.3

ILB	**Eielson Array**	**82.41**	**6**	*e*P	**P**	**17 32 10.3**	**+0.2**
SCRK	**Sand Creek**	**83.42**	**5**	*e*P	**P**	**17 32 16.3**	**+0.8**
	comp=Z,4.3nm,1.0s						
YKA	**Yellowknife Ar**	**84.16**	**352**	P	**P**	**17 32 19.1**	**0.0**
	comp=Z,0.9nm,0.8s,baz=16,slow=5.6,SNR=17						
FFC	**Flin Flon**	**89.09**	**343**	*e*P	**P**	**17 32 43.5**	**+0.1**
	comp=Z,4.9nm,1.1s						
FFC	**Flin Flon**	**89.09**	**343**	*e*P	**P**	**17 32 43.5**	**+0.1**
FFC				pmax	pmax		
	comp=Z,5.0nm,1.1s						

PRU 20 17:22:43.3, 50.04N×18.39E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OKC	**Ostrava-Krasne**	**0.26**	**218**	*e*PG	Pg	17 22 47.9	-0.3
OKC				*e*SG	Sg	17 22 51.2	-0.3
	comp=Z,8.7nm,0.5s						
DPC	**Dobruska-Polom**	**1.36**	**284**	*e*SG	Sg	17 23 26.5	-0.6

NDI ***20*** *17:25:35.2±3.4, 25.04N×93.30E, h36km±11km, ML2.7*
ISC 20 17:25:35.0±6.6, 25.03N±0.04×93.31E±0.04, h38km±7km, n9, σ1§46/17, Northeastern India

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IMP	**Imphal**	**0.61**	**109**	*e*P	**Pn**	**17 25 46.1**	**-1.3**
IMP				*e*S	**Sn**	**17 25 57.3**	**+1.4**
KOHI	**KOHIMA**	**0.99**	**46**	*e*P	**Pn**	**17 25 52.2**	**-0.4**
KOHI				*e*S	**Sn**	**17 26 05.7**	**+0.3**
KOHI				IAML		17 26 08.0	
	comp=N,108nm,0.4s						
KOHI				IAML		17 26 12.4	
	comp=E,72nm,0.5s						
SHL	**Shillong**	**1.40**	**293**	*e*P	**Pn**	**17 25 58.9**	**+0.7**
SHL				*e*PG		17 26 02.5	
SHL				*e*S	**Sn**	**17 26 14.9**	**-0.7**
SHL				IAML		17 26 17.8	
	comp=N,93nm,0.1s						
SHL				*e*SG		17 26 19.0	
SHL				IAML		17 26 19.4	
	comp=E,106nm,0.1s						
AZL	**Aizawl**	**1.41**	**204**	*e*P	**Pn**	**17 25 57.8**	**-0.4**
AZL				*e*S	**Sn**	**17 26 17.3**	**+1.8**
AZL				IAML		17 26 20.6	
	comp=E,96nm,0.3s						
AZL				IAML		17 26 20.8	
	comp=N,71nm,0.2s						
TEZP	**TEZPUR**	**1.65**	**344**	*e*P	**Pn**	**17 26 02.7**	**+1.3**
TEZP				*e*S	**Sn**	**17 26 23.1**	**+1.7**
TEZP				IAML		17 26 26.2	
	comp=E,106nm,0.1s						
TEZP				IAML		17 26 27.1	
	comp=N,116nm,0.1s						
MOKO	**MOKOCHONG**	**1.68**	**40**	*e*P	**Pn**	**17 26 03.7**	**+1.6**
MOKO				*e*S	**Sn**	**17 26 23.5**	**+1.1**
MOKO				IAML		17 26 28.2	
	comp=E,52nm,0.2s						
MOKO				IAML		17 26 29.1	
	comp=N,44nm,0.3s						
GUWA	**GUWAHATI**	**1.87**	**309**	*e*S	**Sn**	**17 26 25.1**	**-1.7**
GUWA				IAML		17 26 32.3	
	comp=E,38nm,0.1s						
GUWA				IAML		17 26 32.4	
	comp=N,18nm,0.1s						
ITAN	**ITANAGAR**	**2.14**	**10**	*e*P	**Pn**	**17 26 07.7**	**-0.5**
ITAN				*e*S	**Sn**	**17 26 31.9**	**-1.6**
ITAN				IAML		17 26 43.9	
	comp=N,134nm,0.2s						
ITAN				IAML		17 26 44.0	
	comp=E,164nm,0.2s						
ZIRO	**ZIRO**	**2.53**	**11**	*e*P	**Pn**	**17 26 15.1**	**+1.3**
ZIRO				*e*S	**Sn**	**17 26 41.6**	**-1.9**
ZIRO				IAML		17 26 58.7	
	comp=E,63nm,0.4s						
ZIRO				IAML		17 26 59.5	
	comp=N,74nm,0.3s						

MEX ***20*** *17:25:45.8±0.4, 31.08N×115.93W, h12km±2km, MD3.7*
ECX ***20*** *17:25:45.6±0.5, 31.23N×115.90W, h5km, MD2.7, ML2.9, Fault plane solution: NP1:φs30.00000°, δ90.00000°, λ0.00000°.*
ISC 20 17:25:44.3±1.3, 31.23N±0.05×115.89W±0.05, h12km±10km, n17, σ0§67/31, 4C-5D, Baja California

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SPIG	**San Pedro Mart**	**0.40**	**116**	*i* P	**Pb**	**17 25 53.5**	**0.0**
SPIG				*i* S	**Sb**	**17 25 59.2**	**-0.5**
SPIG	**San Pedro Mart**	**0.40**	**116⇑**	*e*P	**Pb**	**17 25 53.5**	**0.0**
SPIG				*e*S	**Sb**	**17 25 59.2**	**-0.5**
SPX	**San Pedro Mart**	**0.40**	**116⇑**	*e*P	**Pb**	**17 25 53.5**	**0.0**
SPX				*e*S	**Sb**	**17 25 59.4**	**-0.4**
ZAX	**El Zacaton**	**0.44**	**311⇓**	*e*P	**Pg**	**17 25 52.9**	**-0.1**
ZAX				*e*S	**Sg**	**17 25 59.2**	**+0.2**
ZAX				⇑*e*		17 25 59.9	
ZAX				IAML		17 25 59.9	
	comp=N,1μm,0.2s						
ECNX	**Esteban Cantu**	**0.75**	**305⇓**	*e*P	**Pg**	**17 25 58.5**	**-0.3**
ECNX				⇓*e*P	**Pn**	**17 26 01.8**	**+1.1**
ECNX				*e*S	**Sn**	**17 26 13.9**	**+1.9**
ECBX	**El Chinero**	**0.75**	**71⇑**	*e*P	**Pb**	**17 25 59.4**	**0.0**
ECBX				*e*S	**Sg**	**17 26 09.4**	**+0.6**
CBX	**Cerro Bola**	**1.27**	**329**	*e*P	**Pn**	**17 26 07.2**	**-0.7**
CBX				*i* S	**Sb**	**17 26 24.3**	**-0.4**
CBX	**Cerro Bola**	**1.27**	**329⇓**	*e*P	**Pn**	**17 26 07.3**	**-0.7**
CBX				*e*S	**Sb**	**17 26 24.2**	**-0.4**
CBX				IAML		17 26 30.1	
	comp=N,214nm,0.6s						
CBX				⇓*e*		17 26 30.1	
TJIG	**Tijuana**	**1.38**	**331**	*e*P	**Pn**	**17 26 09.1**	**-0.3**
TJIG				*e*S	**Sn**	**17 26 26.6**	**-0.9**
IKP	**In-Ko-Pah, Jac**	**1.43**	**352**	P	**Pb**	**17 26 11.0**	**0.0**
	baz=173,SNR=52						
IKP				S	**Sb**	**17 26 28.9**	**-0.3**
	baz=173						
SWSC	**Sam W. Stewart**	**1.72**	**2**	P	**Pb**	**17 26 16.0**	**+0.3**
	baz=183,SNR=18						
MONP2	**Monument Peak**	**1.72**	**345**	P	**Pb**	**17 26 15.4**	**-0.6**
	baz=165,SNR=26						
MONP2				S	**Sb**	**17 26 37.3**	**-0.4**
	baz=165						
109C	**Camp Elliot, M**	**1.96**	**328**	Sb	**Sb**	**17 26 43.2**	**-1.0**
	baz=148						
GLA	**Glamis**	**2.03**	**26**	Sb	**Sg**	**17 26 49.8**	**+0.2**
	baz=207						
PFO	**Pinyon Flats O**	**2.43**	**349**	Pb	**Pb**	**17 26 28.3**	**+0.3**
	baz=169,SNR=9.4						
PFO				Sb	**Sb**	**17 26 58.6**	**+0.7**
	baz=169						
MURC	**Murrieta**	**2.62**	**335**	Pb	**Pb**	**17 26 30.6**	**-0.5**
	baz=155						
MURC				Sb	**Sb**	**17 27 02.8**	**-0.3**
	baz=155						
BELC	**Belle Mtn. Jos**	**2.77**	**358**	Pb	**Pb**	**17 26 35.0**	**+1.2**
	baz=178						

ISCJB ***20*** *17:27:28.7±0.6, 34.44N±0.04×140.24E±0.07, h81km±6km, mb3.6/3, Error ellipse: s-maj=9.1km s-min=5.8km az=165.0*
JMA ***20*** *17:27:29.4±0.2, 34.45N×140.23E, h70km±3km, M3.0*
IDC ***20*** *17:27:31.0±1.5, 34.38N×140.10E, h88km±13km, mb3.3/3, mb1 3.5/4, mb1mx2.9/66, mbtmp3.6/4, MS3.8/1, Ms1 3.8/1, ms1mx2.5/33, Error ellipse: s-maj=35.7km s-min=6.7km az=74.0*
ISC 20 17:27:29.7±1.0, 34.44N±0.04×140.23E±0.06, h73km±8km, n19, σ0§78/26, mb3.6/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BSO3	**Boso 3**	**0.43**	**33**	P	**Pn**	**17 27 41.8**	**0.0**
BSO3				X		17 27 52.2	
BSO4	**Boso 4**	**0.56**	**9**	P	**Pn**	**17 27 43.2**	**0.0**
BSO4				*e*X		17 27 55.1	
TATJ	**Tateyama 2**	**0.65**	**335**	P	**Pn**	**17 27 44.6**	**+0.4**
TATJ				S	**Sn**	**17 27 56.2**	**+1.2**
BSO1	**Boso 1**	**0.66**	**71**	P	**Pn**	**17 27 43.6**	**-0.1**
BSO1				*e*X		17 27 55.2	

JIM2	**Oshima 3**	**0.71**	**293**	P	**Pn**	**17 27 44.5**	**-0.4**
JIM2				S	**Sn**	**17 27 55.5**	**-0.7**
JKO	**Kozu shima**	**0.94**	**255**	P	**Pn**	**17 27 47.9**	**+0.4**
JKO				*e*S	**Sn**	**17 28 02.1**	**+1.3**
KTJJ	**Kamata 2**	**1.07**	**297**	P	**Pn**	**17 27 48.8**	**-0.4**
KTJJ				S	**Sn**	**17 28 03.0**	**-0.8**
JIZS	**Izushimoda**	**1.15**	**284**	P	**Pn**	**17 27 50.1**	**0.0**
JIZS				S	**Sn**	**17 28 05.7**	**+0.3**
JOD2	**Odawara 2**	**1.25**	**312**	P	**Pn**	**17 27 50.9**	**-0.5**
JOD2				S	**Sn**	**17 28 07.2**	**-0.5**
JHJ	**Hachijo jima 2**	**1.37**	**196**	P	**Pn**	**17 27 53.5**	**+0.5**
	122nm,0.3s,baz=198,slow=24,SNR=45						
JHJ				S	**Sn**	**17 28 11.2**	**+0.6**
	222nm,0.3s,baz=331,slow=23,SNR=21						
JHJ2	**Mitsune**	**1.37**	**195**	P	**Pn**	**17 27 53.3**	**+0.3**
JHJ2				S	**Sn**	**17 28 11.1**	**+0.6**
MJAR	**Matsushiro Arr**	**2.67**	**322**	P	**Pn**	**17 28 11.4**	**+1.0**
	5.5nm,0.3s,baz=157,slow=12,SNR=65						
MJAR				S	**Sn**	**17 28 43.0**	**+1.3**
	7.9nm,0.3s,baz=78,slow=26,SNR=14						
MAT	**Matsushiro**	**2.67**	**322**	P	**Pn**	**17 28 11.7**	**+1.3**
MAT				S	**Sn**	**17 28 42.7**	**+1.0**
H11N2	**WAKE ISLAND Hy**	**27.79**	**115**	T	T	18 02 20.3	
	baz=306,slow=74						
H11N1	**WAKE ISLAND Hy**	**27.80**	**115**	T	T	18 02 20.4	
	baz=306						
H11N3	**WAKE ISLAND Hy**	**27.81**	**115**	T	T	18 02 21.6	
	baz=306,slow=74						
MKAR	**Makanchi Array**	**44.73**	**304**	P	**P**	**17 35 35.3**	**-0.2**
	0.5nm,0.5s,baz=81,slow=9.3,SNR=8.1						
WRA	**Warramunga Arr**	**54.37**	**187**	P	**P**	**17 36 48.0**	**-1.1**
	0.8nm,0.6s,baz=4.9,slow=7.7,SNR=22						
WRA				LR	LR	17 57 55.5	
	comp=Z,90nm,21.8s,baz=355,slow=34						
INK	**Inuvik**	**57.13**	**26**	P	**P**	**17 37 08.4**	**+0.2**
	0.2nm,0.4s,baz=233,slow=5.1,SNR=2.7						

NIED ***20*** *17:29:00, 37.10N×141.40E, h8km, Mw3.6 Best double couple: M0 2.88000×10¹⁴ NP1:φs31.00000°, δ30.00000°, λ-82.00000°. NP2:φs202.00000°, δ60.00000°, λ-95.00000°.*
ISCJB ***20*** *17:29:02.9±1.1, 37.05N±0.03×141.52E±0.06, h15km±7km, mb3.5/12, MS4.5/1, Error ellipse: s-maj=7.9km s-min=4.6km az=23.3*
IDC ***20*** *17:29:02.6±0.8, 37.07N×141.37E, h0km, mb3.6/12, mb1 3.7/15, mb1mx3.6/68, mbtmp3.6/15, ML3.5/3, MS2.4/2, Ms1 2.4/2, ms1mx2.2/61, Error ellipse: s-maj=21.0km s-min=14.0km az=108.0*
JMA ***20*** *17:29:04.8±0.1, 37.07N×141.39E, h34km±1km, M3.9*
JMA Felt II J1.
ISC 20 17:29:02.7±1.8, 37.09N±0.04×141.44E±0.06, h1km±10km, n33, σ0§90/38, mb3.6/12, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ONAJ	**Iwakimizuishiy**	**0.51**	**271**	P	**Pb**	**17 29 14.7**	**+0.1**
ONAJ				S	**Sb**	**17 29 22.2**	**-0.4**
JFK	**Kawauchi**	**0.53**	**301**	P	**Pb**	**17 29 15.0**	**+0.1**
JFK				S	**Sb**	**17 29 22.1**	**-0.9**
JHO	**Hitachi**	**0.85**	**236**	P	**Pg**	**17 29 19.3**	**+0.3**
JHO				S	**Sg**	**17 29 30.2**	**+0.2**
JMM	**Marumori**	**0.93**	**326**	P	**Pb**	**17 29 21.5**	**-0.1**
JMM				S	**Sg**	**17 29 33.3**	**+0.7**
JFT	**Otama**	**0.98**	**296**	P	**Pb**	**17 29 22.6**	**+0.1**
JFT				S	**Sb**	**17 29 35.1**	**-0.8**
JIO	**Ouri**	**1.36**	**357**	P	**Pn**	**17 29 28.4**	**-0.5**
JIO				S	**Sg**	**17 29 45.5**	**-1.0**
JOU	**Okura**	**1.41**	**334**	P	**Pn**	**17 29 29.8**	**+0.2**
JOU				S	**Sb**	**17 29 48.1**	**-0.3**
JFY	**Yanaizu**	**1.42**	**283**	P	**Pn**	**17 29 29.5**	**-0.2**
JFY				S	**Sg**	**17 29 47.9**	**-0.5**
JYS	**Shirataka**	**1.57**	**316**	P	**Pb**	**17 29 32.4**	**-0.2**
JYS				S	**Sb**	**17 29 52.8**	**-0.1**
MJAR	**Matsushiro Arr**	**2.65**	**259**	Pn	**Pn**	**17 29 47.1**	**+0.4**
	5.6nm,0.3s,baz=304,slow=27,SNR=12						
MJAR				Sn	**Sn**	**17 30 19.3**	**-0.2**
	11nm,0.3s,baz=91,slow=26,SNR=4.8						
MAT	**Matsushiro**	**2.65**	**259**	P	**Pn**	**17 29 47.4**	**+0.7**
MAT				S	**Sn**	**17 30 20.7**	**+1.2**
JHJ	**Hachijo jima 2**	**4.19**	**199**	Pn	**Pn**	**17 30 09.1**	**+1.3**
	14nm,0.3s,baz=5.1,slow=11,SNR=4.4						
JHJ				Sn	**Sn**	**17 30 55.7**	**-1.8**
	11nm,0.3s,baz=127,slow=20,SNR=3.0						
JHJ				LR	LR	17 31 31.6	
	comp=Z,37nm,18.2s,baz=120,slow=36						
ASAJ	**Asahikawa**	**7.07**	**7**	Pn	**Pn**	**17 30 47.1**	**-0.2**
	0.9nm,0.3s,baz=192,slow=8.7,SNR=11						
ASAJ				Sn	**Sn**	**17 32 10.3**	**+2.0**
	0.3nm,0.3s,baz=196,slow=7.4,SNR=2.6						
KSRS	**Korea Array**	**10.78**	**276**	LR	LR	17 35 40.7	
	comp=Z,24nm,18.4s,baz=275,slow=37						
MA2	**Magadan**	**23.29**	**12**	P	**P**	**17 34 11.2**	**-0.5**
	1.4nm,0.2s,baz=102,slow=20,SNR=2.1						
SEY	**Seymchan**	**26.73**	**11**	P	**P**	**17 34 44.6**	**+1.2**
	0.4nm,0.2s,baz=0.0,slow=20,SNR=3.1						
SONM	**Songino Array**	**27.77**	**304**	P	**P**	**17 34 52.4**	**-0.7**
	0.3nm,0.5s,baz=108,slow=9.3,SNR=2.7						
H11N2	**WAKE ISLAND Hy**	**28.16**	**121**	T	T	18 04 26.0	
	baz=313,slow=75,SNR=61						
H11N1	**WAKE ISLAND Hy**	**28.17**	**121**	T	T	18 04 25.9	
	baz=313,slow=75,SNR=82						
H11N3	**WAKE ISLAND Hy**	**28.18**	**121**	T	T	18 04 27.6	
	baz=313,slow=75,SNR=90						
H11S1	**WAKE ISLAND Hy**	**28.87**	**123**	T	T	18 05 18.5	
	baz=315,slow=75,SNR=42						
H11S3	**WAKE ISLAND Hy**	**28.87**	**123**	T	T	18 05 18.8	
	baz=315,slow=75,SNR=29						
H11S2	**WAKE ISLAND Hy**	**28.89**	**123**	T	T	18 05 20.7	
	baz=315,slow=75,SNR=22						
ZALV	**Zalesovo Beam**	**41.89**	**312**	P	**P**	**17 36 54.4**	**-0.1**
	0.6nm,0.7s,baz=86,slow=6.2,SNR=3.1						
MKAR	**Makanchi Array**	**44.10**	**302**	P	**P**	**17 37 12.8**	**+0.2**
	0.5nm,0.7s,baz=86,slow=9.8,SNR=5.7						
KURBB	**Kurchatov Arra**	**45.98**	**308**	P	**P**	**17 37 25.2**	**-2.1**
	0.6nm,0.6s,baz=91,slow=7.6,SNR=4.0						
ILAR	**Eielson Array**	**49.43**	**32**	P	**P**	**17 37 55.0**	**+1.0**
	0.5nm,0.7s,baz=267,slow=6.5,SNR=6.4						
ARU	**Arti**	**56.33**	**319**	LR	LR	18 03 54.2	
	comp=Z,394nm,20.1s,baz=348,slow=37						
WRA	**Warramunga Arr**	**57.12**	**188**	P	**P**	**17 38 50.0**	**-0.9**
	0.3nm,0.5s,baz=5.5,slow=7.4,SNR=8.8						
ASAR	**Alice Springs**	**60.85**	**188**	P	**P**	**17 39 16.3**	**-0.5**
	0.1nm,0.4s,baz=14,slow=9.7,SNR=3.6						
YKA	**Yellowknife Ar**	**63.75**	**30**	P	**P**	**17 39 36.2**	**+0.4**
	0.1nm,0.6s,baz=304,slow=7.4,SNR=3.7						
FINES	**FINESS Array B**	**68.77**	**332**	P	**P**	**17 40 09.5**	**+1.5**
	1.5nm,1.0s,baz=69,slow=7.6,SNR=2.3						
AKASG	**Malin Array Be**	**74.26**	**322**	P	**P**	**17 40 40.3**	**-1.0**
	0.3nm,0.5s,baz=46,slow=6.0,SNR=2.9						

ISK ***20*** *17:45:51.6, 39.06N×29.21E, h6km, ML2.6/11*
ISCJD ***20*** *17:45:52.7±0.4, 39.10N±0.03×29.13E±0.03, h4km±5km, Error ellipse: s-maj=4.8km s-min=3.6km az=44.7*
CSEM ***20*** *17:45:52.8±0.2, 39.10N×29.15E, h5km, ML2.6, Error ellipse: s-maj=3.9km s-min=3.0km az=123.0*
DDA ***20*** *17:45:53.2, 39.08N×29.10E, h11km, Ml2.7*
ISC 20 17:45:53.0±0.9, 39.10N±0.02×29.13E±0.02, h9km±8km, n40, σ0§54/62, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIMA	**Simav-Kutahya**	**0.12**	**262**	PG	**Pg**	**17 45 55.6**	**-0.2**
SIMA	**Simav-Kutahya**	**0.12**	**262**	*e*Pg	**Pg**	**17 45 55.6**	**-0.2**
GDZ	**Gediz**	**0.27**	**92**	*i* P	**Pg**	**17 45 58.5**	**+0.1**
GDZ				*i* S	**Sg**	**17 46 03.1**	**+1.0**
GDZ	**Gediz**	**0.27**	**92**	P	**Pg**	**17 45 58.5**	**+0.1**
GDZ				S	**Sg**	**17 46 03.1**	**+1.0**
DEMI	**Demirci**	**0.33**	**260**	*i* P	**Pg**	**17 45 59.5**	**0.0**
DEMI				*i* S	**Sg**	**17 46 03.6**	**-0.3**
DEMI	**Demirci**	**0.33**	**260**	P	**Pg**	**17 45 59.5**	**0.0**
DEMI				S	**Sg**	**17 46 03.6**	**-0.3**
TVSB	**Tavsanli**	**0.43**	**36**	PG	**Pg**	**17 46 00.5**	**-1.0**
TVSB				SG	**Sg**	**17 46 06.5**	**-0.7**
TVSB	**Tavsanli**	**0.43**	**36**	*e*Pg	**Pg**	**17 46 00.5**	**-1.0**
TVSB				*e*Sg	**Sg**	**17 46 06.5**	**-0.7**
KULA	**Kula-Manisa**	**0.69**	**212**	PG	**Pg**	**17 46 15.4**	**+0.1**
KULA				SG	**Sg**	**17 46 06.5**	**-0.8**
KULA	**Kula-Manisa**	**0.69**	**212**	*e*Pg	**Pg**	**17 46 15.4**	**+0.1**
KULA				*e*Sg	**Sg**	**17 46 06.5**	**-0.8**

DURS	**Dursunbey**	**0.72**	**315**	*i* P	**Pg**	**17 46 07.2**	**+0.4**
DURS	**Dursunbey**	**0.72**	**315**	P	**Pg**	**17 46 07.2**	**+0.4**
MANT	**Manisa**	**0.76**	**217**	*i* P	**Pg**	**17 46 07.4**	**-0.1**
MANT				*i* S	**Sg**	**17 46 17.1**	**-0.3**
MANT	**Manisa**	**0.76**	**217**	P	**Pg**	**17 46 07.4**	**-0.1**
MANT				S	**Sg**	**17 46 17.1**	**-0.3**
KHAL	**Karahalli**	**0.78**	**159**	*i* P	**Pb**	**17 46 09.0**	**+0.2**
KHAL				*i* S	**Sb**	**17 46 19.6**	**+0.1**
KHAL	**Karahalli**	**0.78**	**159**	P	**Pb**	**17 46 09.0**	**+0.2**
KHAL				S	**Sb**	**17 46 19.6**	**+0.1**
ORLT	**Orhaneli**	**0.96**	**349**	PG	**Pg**	**17 46 11.5**	**0.0**
ORLT				SG	**Sb**	**17 46 25.9**	**+1.1**
ORLT	**Orhaneli**	**0.96**	**349**	*e*Pg	**Pg**	**17 46 11.5**	**0.0**
ORLT				*e*Sg	**Sb**	**17 46 25.9**	**+1.1**
AKHS	**Akhisar**	**1.05**	**258**	*i* P	**Pg**	**17 46 13.0**	**-0.2**
AKHS				*i* S	**Sg**	**17 46 26.7**	**-0.1**
AKHS	**Akhisar**	**1.05**	**258**	P	**Pg**	**17 46 13.0**	**-0.2**
AKHS				S	**Sg**	**17 46 26.7**	**-0.1**
STEP	**BALIKESIR_Sava**	**1.13**	**285**	*i* P	**Pg**	**17 46 14.8**	**+0.2**
STEP				*i* S	**Sb**	**17 46 30.6**	**+1.0**
STEP	**BALIKESIR_Sava**	**1.13**	**285**	P	**Pg**	**17 46 14.9**	**+0.2**
STEP				S	**Sb**	**17 46 30.6**	**+1.0**
CAVI	**Cavuskoy**	**1.23**	**26**	PN	**Pg**	**17 46 15.6**	**-1.0**
CAVI	**Cavuskoy**	**1.23**	**26**	*e*Pn	**Pg**	**17 46 15.6**	**-1.0**
MDNY	**Mudanya-Bursa**	**1.28**	**351**	PN	**Pn**	**17 46 17.4**	**+0.3**
MDNY	**Mudanya-Bursa**	**1.28**	**351**	*e*Pn	**Pn**	**17 46 17.4**	**+0.3**
KCTX	**Karacabey (Bur**	**1.31**	**333**	PN	**Pn**	**17 46 18.1**	**+0.6**
KCTX	**Karacabey (Bur**	**1.31**	**333**	*e*Pn	**Pn**	**17 46 18.1**	**+0.6**
BALY	**Balya**	**1.34**	**299**	*i* P	**Pn**	**17 46 17.0**	**-0.9**
BALY				*i* S	**Sb**	**17 46 35.4**	**-0.1**
BALY	**Balya**	**1.34**	**299**	P	**Pn**	**17 46 17.0**	**-0.9**
BALY				S	**Sb**	**17 46 35.4**	**-0.1**
YLV	**Yalova**	**1.48**	**7**	PN	**Pn**	**17 46 19.9**	**+0.1**
YLV	**Yalova**	**1.48**	**7**	*e*Pn	**Pn**	**17 46 19.9**	**+0.1**
ARMT	**Armutlu**	**1.48**	**352**	PN	**Pn**	**17 46 20.2**	**+0.4**
ARMT	**Armutlu**	**1.48**	**352**	*e*Pn	**Pn**	**17 46 20.2**	**+0.4**
AYDB	**Zeytinkoy-Aydi**	**1.51**	**221**	PN	**Pn**	**17 46 20.3**	**0.0**
AYDB	**Zeytinkoy-Aydi**	**1.51**	**221**	*e*Pn	**Pn**	**17 46 20.3**	**0.0**
GULT	**Gulveren**	**1.71**	**38**	PN	**Pn**	**17 46 22.8**	**-0.2**
GULT	**Gulveren**	**1.71**	**38**	*e*Pn	**Pn**	**17 46 22.8**	**-0.2**
BAYC	**CANAKKALE_Bayr**	**2.10**	**289**	*i* P	**Pb**	**17 46 31.0**	**-0.3**
BAYC				*i* S	**Sg**	**17 47 00.0**	**-0.5**
BAYC	**CANAKKALE_Bayr**	**2.10**	**289**	P	**Pb**	**17 46 31.0**	**-0.3**
BAYC				S	**Sg**	**17 47 00.0**	**-0.5**

DJA ***20*** *17:46:46.3±4.0, 11.5S×34.1×11.9E±1.4, h10km, M3.5/7, MLv3.5/7*
IDC ***20*** *17:46:49.1±2.1, 10.25S×119.04E, h0km, mb3.4/1, mb1 3.3/4, mb1mx3.1/54, mbtmp3.2/4, ML3.0/3, Error ellipse: s-maj=80.2km s-min=26.5km az=41.0*
ISCJB ***20*** *17:46:52.0±0.9, 10.25S±0.1×119.13E±0.07, h41km, mb3.5/1, Error ellipse: s-maj=15.8km s-min=7.6km az=22.9*
ISC 20 17:46:53.9±1.1, 10.25S±0.1×119.11E±0.06, h41km, n9, σ1§71/10, Sumba region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WBSI	**Waikabubak, Su**	**0.61**	**27**	P	**Pn**	**17 47 04.6**	**-1.6**
PLAI	**Plampang**	**1.89**	**316**	P	**Pn**	**17 47 24.6**	**+0.9**
TWSI	**Taliwang, Sumb**	**2.63**	**303**	P	**Pn**	**17 47 31.2**	**-2.7**
BSSI	**Bau Bau, Buton**	**4.25**	**19**	P	**Pn**	**17 47 56.5**	**+0.4**
SRBI	**Singaraja**	**4.38**	**298**	P	**Pn**	**17 47 57.7**	**-0.3**
BATI	**Baumata**	**4.48**	**91**	Pn	**Pn**	**17 47 59.2**	**-0.1**
	1.1nm,0.3s,baz=14,slow=8.3,SNR=5.1						
BATI				Sn	**Sn**	**17 48 49.5**	**-0.8**
	1.7nm,0.3s,baz=339,slow=17,SNR=3.7						
WRA	**Warramunga Arr**	**17.60**	**125**	P	**Pn**	**17 50 54.4**	**-1.9**
	0.1nm,0.3s,baz=292,slow=14,SNR=4.8						
WRA				S	Sn	17 53 56.5	-15
	0.1nm,0.3s,baz=289,slow=35,SNR=5.0						
ASAR	**Alice Springs**	**19.46**	**135**	P	**P**	**17 51 19.2**	**+1.9**
	0.1nm,0.3s,baz=309,slow=11,SNR=5.3						
MKAR	**Makanchi Array**	**65.56**	**333**	P	**P**	**17 57 34.7**	**+1.3**
	0.3nm,0.6s,baz=134,slow=8.3,SNR=2.8						

IDC ***20*** *17:48:17.5±2.2, 17.96S×178.14W, h525km±24km, mb3.6/21, mb1 3.7/22, mb1mx3.6/44, mbtmp4.5/22, Error ellipse: s-maj=15.4km s-min=12.6km az=168.0*
ISCJB ***20*** *17:48:21.7±0.5, 18.00S±0.09×178.50W±0.09, h579km, mb3.9/23, Error ellipse: s-maj=13.6km s-min=8.9km az=140.5*
ISC 20 17:48:22.0±0.5, 18.05S±0.1×178.29W±0.08, h579km, n71, σ1§42/75, mb3.9/23, 4C-8D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**7.48**	**58**	P	**P**	**17 50 15.5**	**-0.4**
	12nm,0.3s,baz=150,slow=2.8,SNR=9.1						
AFI				S	**S**	**17 51 43.1**	**-5.8**
	2.0nm,0.3s,baz=292,slow=15,SNR=3.9						
DZM	**Mont Dzumac**	**14.90**	**252**	P	**P**	**17 51 28.2**	**-1.9**
	2.3nm,0.3s,baz=302,slow=21,SNR=14						
URZ

2.4nm,0.5s,baz=3.0,slow=2.8,SNR=6.8
ARCES ARCESS Array B 126.45 350 PKP **PKPdf 18 06 19.3 +0.1**
3.1nm,1.0s,baz=5.7,slow=2.4,SNR=7.5
GEYT Alibeck 127.20 304 PKP **PKPdf 18 06 20.4 -1.2**
1.0nm,0.6s,baz=316,slow=4.0,SNR=4.3
FINES FINESS Array B 133.33 344 PKP **PKPdf 18 06 32.2 -0.2**
4.1nm,1.1s,baz=101,slow=1.4,SNR=6.3
HFS Hagfors 137.07 351 PKhKP PKPpre 18 06 33.9
0.7nm,0.4s,baz=50,slow=2.3,SNR=6.5
AKASG Malin Array Be 140.72 332 PKP **PKPdf 18 06 49.2 +2.9**
0.7nm,0.4s,baz=48,slow=2.9,SNR=2.3
SORM Soroca 142.95 330 ||*i*P **PKPdf 18 06 47.8 -2.6**
TLCR 144.74 326 ||*i*P **PKPab 18 06 54.5 -0.3**
TESR Tescani 144.92 330 ||*i*P PKPbc 18 06 54.6 0.0
BRTR Keskin Array B 144.95 315 PKPbc **PKPab 18 06 55.7 -0.3**
5.2nm,0.8s,baz=101,slow=1.3,SNR=9.5
CFR Carcaliu 145.10 327 ||*i*P **PKPab 18 06 56.8 +0.6**
ODBI Odobesti 145.25 328 ||*i*P **PKPab 18 06 56.5 -0.3**
ASF Jabal al Asfar 145.34 301 PKPbc **PKPbc 18 06 56.3 -0.1**
2.1nm,0.7s,baz=103,slow=6.6,SNR=3.3
TIRR Tirgusor 145.43 325 ||*i*P **PKPdf 18 06 54.4 -0.4**
CLL Collm 145.60 347 ||*i*PKPbc **PKPbc 18 06 57.1 +0.7**
comp=Z,11nm,0.6s
UPC Upice 145.63 344 *e*PKP **PKPab 18 06 57.7 -0.5**
DPC Dobruska-Polom 145.69 343 *e*PKP **PKPab 18 06 58.0 -0.5**
KRLC Kraliky 145.81 343 *e*PKP **PKPab 18 06 58.2 -0.8**
DOPR Dopca 145.92 330 ||*i*P **PKPbc 18 06 58.5 +1.0**
ISR Istrita 145.96 328 ||*i*P **PKPbc 18 06 58.2 +0.5**
PVCC Panska Ves 145.98 345 *e*PKP **PKPab 18 06 58.9 -0.7**
MLR Muntele Rosu 145.99 329 PKPbc **PKPbc 18 06 57.5 -0.4**
comp=Z,0.4nm,0.4s,baz=221,slow=1.9,SNR=6.7
MMAI Mount Meron Ar 146.31 303 PKPbc **PKPbc 18 07 00.1 +1.0**
comp=Z,5.6nm,0.5s,baz=72,slow=5.4,SNR=27
VOIR 146.47 330 ||*i*P **PKPbc 18 07 00.2 +1.1**
PRU Pruhonice 146.49 345 *e*PKP **PKPbc 18 06 59.8 +0.9**
GOPC GO Pecny, Ondr 146.50 345 *e*PKP **PKPbc 18 07 00.0 +1.0**
ARR Arges 146.72 330 ||*i*P **PKPab 18 07 01.5 -1.3**
KHC Kasperske Hory 147.52 345 *e*PKP **PKPbc 18 07 02.7 +1.0**
KHC *ex* x 18 07 07.0
GERES GERESS Array B 147.75 345 PKPbc **PKPbc 18 07 03.3 +0.8**
comp=Z,4.3nm,0.6s,baz=26,slow=3.1,SNR=37
CONA Conrad Observa 148.01 342 *i* PKPbc **PKPbc 18 07 04.5 +1.5**
comp=Z,4.5nm,0.6s
SOKA Soboth 149.38 342 *i* PKPbc **PKPbc 18 07 07.0 +0.5**
comp=Z,5.9nm,1.2s
VTS Vitosha 149.45 328 ||*i*P **PKPbc 18 07 07.5 +0.6**
KBA Koelnbreinsper 149.48 344 *e*PKPbc **PKPbc 18 07 07.1 +0.3**
comp=Z,3.0nm,0.4s
WATA Walderalm 149.67 347 *i* PKPbc **PKPbc 18 07 07.9 +0.7**
comp=Z,3.2nm,0.4s
RETA Reutte 149.69 348 *i* PKPbc **PKPbc 18 07 08.2 +1.0**
comp=Z,1.9nm,0.5s
WTTA Wattenberg 149.72 347 *i* PKPbc **PKPbc 18 07 08.0 +0.6**
comp=Z,6.1nm,0.7s
MOTA Moosalm 149.76 347 *i* PKPbc **PKPbc 18 07 08.1 +0.7**
comp=Z,2.7nm,0.5s
MYKA Terra Mystica 149.82 344 *i* PKPbc **PKPbc 18 07 07.7 +0.2**
comp=Z,3.7nm,0.4s
ABTA Abfaltersbach 150.00 345 *i* PKPbc **PKPbc 18 07 08.3 +0.4**
comp=Z,7.3nm,0.6s
DAVA Damuels 150.06 349 *i* PKPbc **PKPbc 18 07 09.3 +1.2**
comp=Z,7.0nm,0.8s

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*IDC **20** 17:55:20.7±1.8, 10°.43S×118°.86E, h0km, mb3.8/2, mb1 3.7/6, mb1mx3.4/63, mbtmp3.6/6, ML3.4/4, MS3.3/2, Ms1 3.3/2, ms1mx2.6/50, Error ellipse: s-maj=56.8km s-min=23.8km az=39.0*

*ISCJB **20** 17:55:25.7±0.8, 10°.22S±0°.07×119°.22E±0°.06, h35km, mb3.8/2, MS3.2/2, Error ellipse: s-maj=11.2km s-min=7.5km az=30.4*

*DJA **20** 17:55:27.3±1.1, 10°S±7°×11°9E±°, h13km±6km, M3.5/7, MLv3.5/7*

ISC 20 17:55:27.2±1.1, 10°.01S±0°.08×119°.28E±0°.06, h35km, n13, σ2§72/15, Sumba region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WBSI	**Waikabubak, Su**	**0.38**	**17**	P	**Pn**	**17 55 37.4**	**+1.2**
WBSI				S	**Sn**	**17 55 44.0**	**+1.6**
BASI	**Baing, Sumba**	**1.30**	**99**	P	**Pn**	**17 55 51.1**	**+2.3**
PLAI	**Plampang**	**1.89**	**308**	P	**Pn**	**17 55 59.5**	**+2.5**
TWSI	**Taliwang, Sumb**	**2.68**	**298**	P	**Pn**	**17 56 08.8**	**+0.9**
MMRI	**Maumere**	**3.22**	**65**	P	**Pn**	**17 56 18.5**	**+3.2**
BSSI	**Bau Bau, Buton**	**4.02**	**17**	P	**Pn**	**17 56 29.6**	**+3.2**
BATI	**Baumata**	**4.32**	**93**	Pn	**Pn**	**17 56 33.3**	**+2.8**
	3.2nm,0.3s,baz=292,slow=5.4,SNR=7.5						
BATI				Sn	**Sn**	**17 57 21.4**	**+1.7**
	2.5nm,0.3s,baz=294,slow=20,SNR=4.4						
SIJI	**Sorong**	**14.98**	**53**	Pn	**P**	**17 59 01.0**	**-0.6**
	0.3nm,0.3s,baz=320,slow=18,SNR=3.3						
SIJI				Sn	**Sn**	**18 01 35.6**	**-5.9**
	0.2nm,0.3s,baz=311,slow=20,SNR=2.6						
WRA	**Warramunga Arr**	**17.57**	**126**	P	**Pn**	**17 59 27.2**	**-2.3**
	0.1nm,0.3s,baz=296,slow=14,SNR=4.9						
WRA				S	Sn	18 02 26.0	-18
	0.1nm,0.3s,baz=291,slow=21,SNR=3.4						
ASAR	**Alice Springs**	**19.48**	**136**	P	**P**	**17 59 50.5**	**-0.8**
	0.0nm,0.3s,baz=298,slow=9.9,SNR=3.5						
ASAR				S	S	18 03 14.7	-15
	0.1nm,0.3s,baz=310,slow=23,SNR=3.7						
NWAO	**Narrogin (SRO)**	**22.89**	**184**	LR	LR	18 09 35.7	
	comp=Z,60nm,18.2s,baz=36,slow=38						
MKAR	**Makanchi Array**	**65.47**	**333**	P	**P**	**18 06 07.5**	**+0.7**
	0.6nm,0.6s,baz=148,slow=6.5,SNR=6.8						
MKAR				LR	LR	18 38 02.9	
	comp=Z,20nm,19.6s,baz=52,slow=39						
ZALV	**Zalesovo Beam**	**70.07**	**339**	P	**P**	**18 06 35.5**	**0.0**
	0.4nm,0.4s,baz=160,slow=6.2,SNR=3.2						

IDC 20 17:57:13.4±4.5, 3°.73N×93°.15E, h0km, mb3.4/3, mb1 3.5/3, mb1mx3.2/76, mbtmp3.4/3, Error ellipse: s-maj=159.6km s-min=30.1km az=60.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**43.92**	**349**	P	P	18 05 21.8	-0.2
	0.2nm,0.7s,baz=168,slow=8.3,SNR=3.5						
SONM	**Songino Array**	**45.40**	**13**	P	P	18 05 33.8	-0.1
	0.4nm,0.4s,baz=207,slow=8.0,SNR=2.8						
WRA	**Warramunga Arr**	**46.79**	**122**	P	P	18 05 45.0	-0.1
	0.3nm,0.6s,baz=298,slow=8.8,SNR=3.7						

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*ISCJB **20** 18:02:26.0±0.3, 55°.27S±0°.04×158°.67E±0°.08, h10km, mb4.8/37, MS3.8/13, Error ellipse: s-maj=7.1km s-min=4.7km az=40.9*

*IDC **20** 18:02:25.8±0.5, 55°.32S×158°.60E, h0km, mb4.5/10, mb1 4.6/11, mb1mx4.4/42, mbtmp4.5/11, ML3.5/1, MS3.7/14, Ms1 3.7/14, ms1mx3.5/33, Error ellipse: s-maj=25.8km s-min=14.5km az=84.0*

*NEIC **20** 18:02:27.8±0.2, 55°.26S×158°.67E, h10km, mb4.8/26, Error ellipse: s-maj=7.3km s-min=4.8km az=125.0*

*BJI **20** 18:02:27.5, 55°.26S×158°.57E, h8km, mb5.0/7*

ISC 20 18:02:27.9±0.3, 55°.27S±0°.05×158°.64E±0°.08, h10km, n169, σ1§52/159, mb4.9/37, MS3.8/13, 1C, Macquarie Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MCQ	**Macquarie Isla**	**0.79**	**13**	*e*Pg	**Pg**	**18 02 40.6**	**-2.6**
PYZ	**Puysegur Point**	**10.44**	**32**	*e*Pn	**Pn**	**18 04 53.2**	**-4.3**
WHZ	**Wether Hill Ro**	**11.09**	**36**	*e*Pn	**Pn**	**18 05 04.7**	**-1.7**
DCZ	**Deep Cove**	**11.21**	**32**	*e*Pn	**Pn**	**18 05 07.7**	**-0.3**
MLZ	**Mavora Lakes**	**11.61**	**35**	*e*Pn	**Pn**	**18 05 12.7**	**-0.9**
WKZ	**Wanaka**	**12.38**	**37**	*e*Pn	**Pn**	**18 05 25.6**	**+1.5**
ODZ	**Otahua Downs**	**12.79**	**42**	*e*Pn	**Pn**	**18 05 26.5**	**-3.1**
LBZ	**Lake Benmore**	**13.18**	**39**	*e*Pn	**Pn**	**18 05 32.2**	**-2.8**
FOZ	**Fox Glacier**	**13.79**	**36**	*e*Pn	**Pn**	**18 05 41.5**	**-1.9**
RPZ	**Rata Peaks**	**14.07**	**40**	Pn	**Pn**	**18 05 45.9**	**-1.3**
	0.2nm,0.3s,baz=214,slow=11,SNR=1.9						
RPZ				Sn	**Sn**	**18 08 25.9**	**+2.7**
	0.4nm,0.3s,baz=6.7,slow=17,SNR=2.4						
RPZ				LR	LR	18 10 27.6	
	comp=Z,188nm,18.4s,baz=208,slow=34						
TAU	**Tasmania Unive**	**14.40**	**325**	*e*Pn	**Pn**	**18 05 49.6**	**-2.0**
MQZ	**McQueen's Vall**	**14.69**	**44**	*e*Pn	**Pn**	**18 05 54.3**	**-1.3**
OXZ	**Oxford**	**14.77**	**42**	*e*Pn	**Pn**	**18 05 56.4**	**-0.4**
CRLZ	**Canterbury Las**	**14.79**	**43**	*e*Pn	**Pn**	**18 05 57.6**	**+0.7**
LTZ	**Lake Taylor**	**15.33**	**41**	*e*Pn	**Pn**	**18 06 05.8**	**+1.6**
	28nm,1.2s						
KHZ	**Kahutara**	**16.13**	**43**	*e*Pn	**Pn**	**18 06 14.6**	**+0.1**
	16nm,0.9s						
THZ	**Tophouse**	**16.44**	**41**	*e*Pn	**Pn**	**18 06 20.2**	**+1.6**
	47nm,1.2s						
BFZ	**Birch Farm**	**18.68**	**46**	*e*P	**P**	**18 06 44.1**	**-1.8**
	95nm,1.8s						
MILA	**Mila**	**19.33**	**337**	P	**Pn**	**18 06 58.6**	**+4.3**
	baz=22						
BKZ	**Black Stump Fm**	**20.07**	**44**	*e*P	**P**	**18 07 00.8**	**-0.4**
	24nm,1.1s						
CAN	**Canberra**	**21.03**	**338**	*e*P	**P**	**18 07 13.3**	**+1.6**
	44nm,1.2s						
URZ	**Urewera**	**21.09**	**44**	P	**P**	**18 07 12.3**	**+0.1**
	13nm,1.1s,baz=302,slow=4.4,SNR=7.5						
URZ				LR	LR	18 15 15.6	
	comp=Z,295nm,18.3s,baz=214,slow=36						
URZ	**Urewera**	**21.09**	**44**	*e*P	**P**	**18 07 12.2**	**-0.1**
	23nm,1.0s						
MXZ	**Matakaoa Point**	**22.17**	**45**	*e*P	**P**	**18 07 25.4**	**+1.5**
	61nm,1.2s						
VNDA	**Vanda**	**22.38**	**178**	P	**P**	**18 07 24.6**	**-1.2**
	5.8nm,1.0s,baz=348,slow=10,SNR=20						
VNDA				LR	LR	18 14 57.7	
	comp=Z,59nm,21.7s,baz=14,slow=34						
OUZ	**Omahuta**	**22.55**	**33**	*e*P	**P**	**18 07 28.1**	**+0.2**
	153nm,1.9s						
SBA	**Scott Base**	**22.86**	**176**	*e*P	**P**	**18 07 32.6**	**+1.7**
	25nm,1.3s						
LHI	**Lord Howe Isla**	**23.74**	**1**	*e*P	**P**	**18 07 39.9**	**-0.2**
	175nm,1.0s						
CASY	**Casey**	**25.24**	**225**	*e*P	**P**	**18 07 53.3**	**-0.2**
	22nm,1.4s						
ARMA	**Armidale**	**25.34**	**346**	P	**P**	**18 07 56.5**	**+1.6**
	baz=28,SNR=4.9						
ARMA	**Armidale**	**25.34**	**346**	*e*P	**P**	**18 07 56.5**	**+1.6**
	40nm,1.3s						
CMSA	**Cobar Meteorol**	**25.43**	**334**	P	**P**	**18 07 56.1**	**+0.5**
	baz=28,SNR=6.6						
STKA	**Stephens Creek**	**26.30**	**326**	P	**P**	**18 08 03.6**	**+0.1**
	5.8nm,0.8s,baz=152,slow=9.6,SNR=11						
STKA				LR	LR	18 15 52.2	
	comp=Z,93nm,20.3s,baz=187,slow=31						
STKA	**Stephens Creek**	**26.30**	**326**	*e*P	**P**	**18 08 04.9**	**+1.4**
	3.6nm,1.3s						
BBOO	**Buckleboo**	**27.47**	**315**	*e*P	**P**	**18 08 14.6**	**+0.6**
	19nm,1.1s						
EIDS	**Eidsvold**	**30.38**	**346**	P	**P**	**18 08 41.0**	**+1.1**
	baz=33						
QLP	**Quilpie**	**30.53**	**334**	P	**P**	**18 08 42.1**	**+0.9**
	baz=33,SNR=11						
FORT	**Forrest**	**32.69**	**306**	P	P	18 08 53.5	-6.7
	baz=35						
FORT	**Forrest**	**32.69**	**306**	*e*P	**P**	**18 09 00.6**	**+0.4**
	28nm,0.7s						
QSPA	**South Pole Qui**	**34.84**	**180**	P	**P**	**18 09 18.5**	**-0.3**
	7.0nm,1.0s,baz=16,slow=3.4,SNR=8.9						
CTA	**Charters Tower**	**36.35**	**340**	P	**P**	**18 09 32.3**	**+0.3**
	4.0nm,0.9s,baz=187,slow=11,SNR=4.4						
CTA	**Charters Tower**	**36.35**	**340**	P	**P**	**18 09 32.5**	**+0.5**
	baz=39						
CTAO	**Charters Tower**	**36.35**	**340**	*e*P	**P**	**18 09 32.2**	**+0.3**
	9.5nm,1.0s						
NWAO	**Narrogin (SRO)**	**36.42**	**290**	*e*P	**P**	**18 09 32.2**	**-0.3**
	52nm,1.4s						
ASAR	**Alice Springs**	**36.49**	**320**	P	**P**	**18 09 33.0**	**-0.2**
	18nm,1.1s,baz=159,slow=7.3,SNR=77						
ASAR				PcP	**PcP**	**18 11 55.1**	**-1.7**
	1.4nm,0.7s,baz=142,slow=3.6,SNR=6.5						
ASAR				LR	LR	18 22 33.5	
	comp=Z,91nm,22.0s,baz=174,slow=33						
AS31	**Alice Springs**	**36.50**	**320**	*e*P	**P**	**18 09 33.0**	**-0.2**
AS31				*e*PcP	**PcP**	**18 11 55.1**	**-1.7**
H01W1	**Cape Leeuwin H**	**36.62**	**285**	T	T	18 48 21.5	
	baz=137,slow=75,SNR=3620						
H01W2	**Cape Leeuwin H**	**36.63**	**285**	T	T	18 48 21.2	
	baz=137,slow=75,SNR=3071						
H01W3	**Cape Leeuwin H**	**36.64**	**285**	T	T	18 48 21.9	
	baz=137,slow=75,SNR=3118						
WRKA	**Warakurna**	**37.52**	**311**	P	P	18 09 38.2	-3.8
	baz=40,SNR=9.6						
BLDU	**Ballidu**	**38.50**	**292**	P	P	18 09 37.5	-13
	baz=40						
WR1	**Warramunga Arr**	**39.76**	**323**	*e*P	**P**	**18 09 59.7**	**-1.0**
WR1				*e*PcP	**PcP**	**18 12 05.6**	**-1.4**
WRA	**Warramunga Arr**	**39.76**	**323**	P	**P**	**18 09 59.7**	**-1.0**
	9.8nm,0.8s,baz=157,slow=7.1,SNR=65						
WRA				PcP	**PcP**	**18 12 05.6**	**-1.4**
	2.7nm,0.9s,baz=163,slow=2.9,SNR=9.0						
WRA				LR	LR	18 25 15.9	
	comp=Z,242nm,20.6s,baz=170,slow=34						
WRAB	**Tennant Creek**	**39.76**	**323**	*e*P	**P**	**18 10 00.2**	**-0.6**
	13nm,0.9s						
COEN	**Coen**	**42.94**	**338**	*e*P	**P**	**18 10 27.3**	**+0.4**
	26nm,1.0s						
MBWA	**Marble Bar**	**44.77**	**304**	*e*P	**P**	**18 10 40.6**	**-0.9**
	29nm,1.4s						
MTN	**Manton Dam**	**47.45**	**322**	P	**P**	**18 10 59.7**	**-2.9**
	baz=50,SNR=3.8						
MTN	**Manton Dam**	**47.45**	**322**	*e*P	**P**	**18 11 02.2**	**-0.5**
	87nm,1.8s						
SYO	**Syowa Base**	**48.33**	**205**	||*e*P	**P**	**18 11 08.6**	**-0.3**
RABL	**Rabaul**	**51.19**	**352**	*e*P	**P**	**18 11 31.4**	**+0.1**
	14nm,1.0s						
SNAA	**Sanae**	**52.68**	**187**	P	**P**	**18 11 40.2**	**-1.6**
SNAA	**Sanae**	**52.68**	**187**	P	**P**	**18 11 40.3**	**-1.5**
	3.6nm,0.8s,baz=177,slow=16,SNR=12						
SNAA	**Sanae**	**52.68**	**187**	*e*P	**P**	**18 11 40.0**	**-1.9**
	34nm,1.6s						
VNA3	**Neumayer Olymp**	**53.51**	**185**	P	**P**	**18 11 46.7**	**-1.2**
VNA2	**Neumayer--Watz**	**53.71**	**186**	P	**P**	**18 11 48.1**	**-1.2**
	baz=161,slow=6.0						
PPT2	**Papeete2**	**54.27**	**67**	*e*LR	LR	18 27 36.9	
	320nm,23.5s,baz=208						
PPT	**Papeete**	**54.28**	**67**	LR	LR	18 29 55.3	
	comp=Z,142nm,21.1s,baz=190,slow=30						
BNDI	**Bandanaira**	**55.63**	**325**	P	**P**	**18 12 03.8**	**-0.1**
FAKI	**Fak Fak**	**56.39**	**328**	*e*P	**P**	**18 12 10.3**	**+1.0**
	33nm,1.2s						
PMOR	**Pomariorio Ree**	**57.30**	**67**	*e*T	T	19 14 06.2	
	3.9nm,0.2s						
BSSI	**Bau Bau, Buton**	**57.68**	**313**	P	**P**	**18 12 18.5**	**+0.1**
RKT	**Rikitea**	**57.91**	**85**	*e*LR	LR	18 29 02.9	
	211nm,28.8s						
RKT	**Rikitea**	**57.91**	**85**	*e*T	T	19 14 48.9	
	1.4nm,0.2s						
SANI	**Sanana**	**59.29**	**321**	P	**P**	**18 12 28.9**	**-0.8**
LBMI	**Labuha**	**60.07**	**323**	P	**P**	**18 12 35.6**	**+0.5**
	15nm,1.2s						
UGM	**Wanagama**	**60.62**	**302**	P	**P**	**18 12 38.4**	**-0.5**
LUWI	**Luwuk**	**61.41**	**318**	*e*P	**P**	**18 12 44.6**	**+0.5**
	35nm,1.1s						
LEM	**Lebang**	**62.98**	**300**	LR	LR	18 37 44.5	
	comp=Z,154nm,18.6s,baz=206,slow=34						
LEM	**Lembang**	**62.98**	**300**	P	**P**	**18 12 55.3**	**+0.4**
MRSI	**Marisa**	**63.12**	**318**	P	**P**	**18 12 55.3**	**-0.3**
DBJI	**Dramaga**	**63.65**	**299**	P	**P**	**18 13 03.0**	**+3.8**
MPSI	**Mapaga**	**63.80**	**316**	P	**P**	**18 13 00.6**	**+0.5**
MTKI	**Muara Teweh, K**	**64.74**	**310**	P	**P**	**18 13 06.6**	**+0.3**
MDSI	**Maura Dua**	**66.71**	**298**	P	**P**	**18 13 19.4**	**+0.4**
	7.3nm,2.5s						
STKI	**Sintang**	**67.16**	**307**	P	**P**	**18 13 23.4**	**+1.5**
	16nm,1.1s,4μm						
DAV	**Davao City (W)**	**67.93**	**324**	LR	LR	18 42 17.9	
	comp=Z,48nm,21.4s,baz=255,slow=35						
RPN	**Rapa Nui**	**69.27**	**108**	LR	LR	18 35 24.4	
	comp=Z,96nm,19.0s,baz=206,slow=29						
HOPE	**Hope Point**	**70.10**	**171**	*e*P	**P**	**18 13 40.9**	**+1.2**
	47nm,0.8s						
KULM	**Kulim**	**76.88**	**300**	*e*P	**P**	**18 14 19.8**	**-0.3**
	19nm,1.1s						
H08S2	**Diego Garcia H**	**81.58**	**269**	T	T	19 44 37.9	
	baz=144,slow=76,SNR=578						
H08S1	**Diego Garcia H**	**81.59**	**269**	T	T	19 44 37.8	
	baz=144,slow=76,SNR=406						
H08S3	**Diego Garcia H**	**81.60**	**269**	T	T	19 44 40.3	
	baz=144,slow=76,SNR=431						
SUR	**Sutherland**	**85.52**	**215**	P	**P**	**18 15 06.6**	**+0.5**
	0.4nm,0.8s,baz=294,slow=2.7,SNR=3.9						
BOSA	**Boshof**	**87.42**	**220**	P	**P**	**18 15 13.4**	**-2.0**
	3.6nm,0.6s,baz=266,slow=2.7,SNR=3.7						
BOSA				LR	LR	18 52 38.7	
	comp=Z,32nm,18.4s,baz=179,slow=34						
CM01	**Chiang Mai Arr**	**89.04**	**305**	*e*P	**P**	**18 15 22.2**	**-0.8**
CM31	**Chiang Mai Arr**	**89.08**	**305**	*e*P	**P**	**18 15 23.7**	**+0.6**
CMAR	**Chiang Mai Arr**	**89.08**	**305**	P	**P**	**18 15 22.5**	**-0.6**
	4.8nm,1.0s,baz=179,slow=4.3,SNR=18						
CMAR				LR	LR	18 52 47.0	
	comp=Z,57nm,21.1s,baz=195,slow=34						
CHTO	**Chiang Mai**	**89.39**	**305**	*e*P	**P**	**18 15 24.3**	**-0.2**
	7.4nm,1.0s						
JNU	**Nakatsue**	**91.20**	**337**	LR	LR	18 56 44.8	
	comp=Z,34nm,18.8s,baz=120,slow=36						
KMI	**Kunming**	**93.18**	**311**	P	**P**	**18 15 44.9**	**+2.6**
KMI				pmax	pmax		
	comp=Z,4.0nm,0.7s						
NJ2	**Nanjing**	**93.42**	**327**	*e*P	**P**	**18 15 45.0**	**+2.1**
NJ2				pmax	pmax		
	comp=Z,13nm,0.5s						
MNMC	**Minye Minye**	**95.35**	**135**	*e*P	**P**	**18 15 53.1**	**+0.5**
	16nm,0.5s						
CD2	**Chengdu**	**97.83**	**315**	*e*P	**P**	**18 16 04.0**	**+0.8**
LPAZ	**La Paz**	**98.50**	**135**	LR	LR	18 49 46.4	
	comp=Z,23nm,20.2s,baz=168,slow=29						
LZH	**Lanzhou**	**102.34**	**317**	*e*P	**Pdif**	**18 16 29.4**	**+6.1**
LZH				pP	sPdif	18 16 32.3	+4.5
LZH				sP	pPdif	18 16 33.9	+7.3
LZH				pmax	pmax		
	comp=Z,23nm,1.1s						
WMQ	**Urumqi**	**115.50**	**311**	*e*PKP	**PKPdf**	**18 21 10.8**	**+1.6**
NV01	**Mina Array Sit**	**116.95**	**61**	*e*PKPdf	**PKPdf**	**18 21 13.8**	**+1.4**
NVAR	**Mina Array Bea**	**116.95**	**61**	PKP	**PKPdf**	**18 21 13.8**	**+1.4**
	1.1nm,1.1s,baz=201,slow=4.3,SNR=5.3						
MK01	**Makanchi Array**	**120.18**	**309**	*e*PKPdf	**PKPdf**	**18 21 16.9**	**-1.2**
MK31	**Makanchi Array**	**120.20**	**309**	*e*PKPdf	**PKPdf**	**18 21 16.8**	**-1.3**
MK32	**Makanchi Array**	**120.20**	**309**	*e*PKPdf	**PKPdf**	**18 21 16.3**	**-1.8**
MKAR	**Makanchi Array**	**120.20**	**309**	PKP	**PKPdf**	**18 21 16.3**	**-1.8**
	1.6nm,0.9s,baz=155,slow=2.5,SNR=11						
MKAR	**Makanchi Array**	**120.20**	**309**	*e*PKPdf	**PKPdf**	**18 21 16.8**	**-1.3**
MAKZ	**Makanchi**	**120.35**	**309**	*e*PKPdf	**PKPdf**	**18 21 17.9**	**-0.5**
KK31	**Karatay Array**	**123.00**	**299**	*e*PKPdf	**PKPdf**	**18 21 22.6**	**-1.0**
KKAR	**Karatay Array**	**123.00**	**299**	*e*PKPdf	**PKPdf**	**18 21 22.7**	**-0.9**
ZALV	**Zalesovo Beam**	**124.56**	**316**	PKP	**PKPdf**	**18 21 25.9**	**-0.2**
	0.4nm,0.3s,baz=201,slow=2.5,SNR=3.1						
ZAA1	**Zalesovo Array**	**124.56**	**316**	*e*PKPdf	**PKPdf**	**18 21 25.9**	**-0.2**
PD31	**Pinedale Array**	**124.61**	**63**	*e*PKPdf	**PKPdf**	**18 21 26.1**	**-0.9**
PDAR	**Pinedale Array**	**124.61**	**63**	PKP	**PKPdf**	**18 21 26.1**	**-0.9**
	0.3nm,0.6s,baz=188,slow=7.2,SNR=4.7						
KURBB	**Kurchatov Arra**	**124.72**	**310**	PKP	**PKPdf**	**18 21 25.1**	**-1.4**
	1.0nm,0.4s,baz=122,slow=1.4,SNR=13						
TRF	**Thorofare Moun**	**124.82**	**25**	*e*PKPdf	**PKPdf**	**18 21 26.2**	**-0.4**
RND	**Reindeer**	**125.14**	**26**	*e*PKPdf	**PKPdf**	**18 21 26.4**	**-0.7**
BPAW	**Bear Paw Mtn.**	**125.20**	**24**	*e*PKPdf	**PKPdf**	**18 21 27.4**	**+0.2**
MCK	**McKinley**	**125.39**	**26**	*e*PKPdf	**PKPdf**	**18 21 27.7**	**+0.2**
YHH	**Holmes Hill**	**125.41**	**61**	*e*PKPdf	**PKPdf**	**18 21 28.8**	**+0.3**
GEYT	**Alibeck**	**125.78**	**287**	PKP	**PKPdf**	**18 21 28.5**	**-0.6**
	1.0nm,0.5s,baz=336,slow=3.3,SNR=4.9						
HDA	**Harding Lake**	**126.44**	**26**	*e*PKPdf	**PKPdf**	**18 21 29.9**	**+0.4**
ILAR	**Eielson Array**	**126.75**	**26**	PKP	**PKPdf**	**18 21 29.5**	**-0.6**
	1.2nm,0.9s,baz=278,slow=3.0,SNR=10						
ILB	**Eielson Array**	**126.75**	**26**	*e*PKPdf	**PKPdf**	**18 21 29.5**	**-0.6**
SCRK	**Sand Creek**	**126.86**	**28**	*e*PKPdf	**PKPdf**	**18 21 30.6**	**+0.1**
TOLK	**Toolik Lake Re**	**129.30**	**22**	*e*PKPdf	**PKPdf**	**18 21 36.3**	**+1.4**
BVAR	**Borovoye Array**	**130.01**	**308**	PKP	**PKPdf**	**18 21 36.0**	**-0.6**
	0.7nm,0.5s,baz=169,slow=2.3,SNR=5.9						
INK	**Inuvik**	**132.92**	**28**	PKP	**PKPdf**	**18 21 40.3**	**-1.3**
	2.0nm,1.1s,baz=184,slow=2.3,SNR=5.4						
TORD	**Torodi Ar. Bea**	**134.29**	**212**	PKP	**PKPdf**	**18 21 44.7**	**-1.2**
	1.7nm,0.8s,baz=173,slow=1.3,SNR=8.3						
TOA1	**Torodi Ar. Sit**	**134.30**	**212**	*e*PKPdf	**PKPdf**	**18 21 44.7**	**-1.2**
YKA	**Yellowknife Ar**	**135.34**	**41**	PKP	**PKPdf**	**18 21 44.1**	**-2.2**
	0.2nm,0.5s,baz=238,slow=2.3,SNR=5.3						
ARU	**Arti**	**137.52**	**306**	PKP	**PKPdf**	**18 21 50.5**	**-0.1**
	1.3nm,0.5s,baz=39,slow=2.6,SNR=4.0						
BRTR	**Keskin Array B**	**140.82**	**270**	PKP	**PKPdf**	**18 21 55.0**	**-2.4**
	0.4nm,0.8s,baz=45,slow=2.9,SNR=2.6						
BR101	**Keskin Array S**	**140.82**	**270**	*e*PKPdf	**PKPdf**	**18 21 55.0**	**-

PTK	**Pertek**	**1.03 174**	PG	**Pn**	**18 05 22.0**	**-0.9**
PTK			SG	**Sn**	**18 05 36.9**	**-0.7**
PTK	**Pertek**	**1.03 174**	*e*Pg	**Pn**	**18 05 22.0**	**-0.9**
PTK			*e*Sg	**Sn**	**18 05 36.9**	**-0.7**
ESPY	**Espiye-Giresun**	**1.07 338**	PG	**Pg**	**18 05 22.2**	**-0.5**
ESPY	**Espiye-Giresun**	**1.07 338**	*e*Pg	**Pg**	**18 05 22.2**	**-0.5**
MACK	**Trabzon**	**1.09 21**	*i* P	**Pb**	**18 05 22.6**	**-0.6**
MACK			*i* S	**Sn**	**18 05 38.1**	**-0.8**
MACK	**Trabzon**	**1.09 21**	P	**Pb**	**18 05 22.6**	**-0.6**
MACK			S	**Sn**	**18 05 38.1**	**-0.8**
KTUT	**Trabzon**	**1.13 20**	PN	**Pb**	**18 05 23.4**	**-0.5**
KTUT	**Trabzon**	**1.13 20**	*e*Pn	**Pb**	**18 05 23.4**	**-0.5**
CUZAR	**Zara_SIVAS**	**1.14 269**	*i* P	**Pb**	**18 05 23.1**	**-1.0**
CUZAR	**Zara_SIVAS**	**1.14 269**	P	**Pb**	**18 05 23.1**	**-1.0**
GRSN	**GIRESUNGRSN**	**1.25 323**	*i* P	**Pn**	**18 05 24.2**	**-1.6**
GRSN			*i* S	**Sb**	**18 05 38.9**	**-3.3**
GRSN	**GIRESUNGRSN**	**1.25 323**	P	**Pn**	**18 05 24.2**	**-1.6**
GRSN			S	**Sb**	**18 05 38.9**	**-3.3**
ECAT	**Cat-ERZURUM**	**1.36 103**	*i* P	**Pn**	**18 05 27.0**	**-0.4**
ECAT			*i* S	**Sg**	**18 05 47.4**	**+1.5**
ECAT	**Cat-ERZURUM**	**1.36 103**	P	**Pn**	**18 05 27.0**	**-0.4**
ECAT			S	**Sg**	**18 05 47.4**	**+1.5**
BINT	**Bingol**	**1.42 137**	*e*Pn	**Pg**	**18 05 28.6**	**-0.7**
ELZG	**Elazig**	**1.44 188**	*i* P	**Pb**	**18 05 28.3**	**-0.8**
ELZG	**Elazig**	**1.44 188**	P	**Pb**	**18 05 28.3**	**-0.8**
BGOL	**Bingol**	**1.44 130**	*i* P	**Pn**	**18 05 27.9**	**-0.4**
BGOL	**Bingol**	**1.44 130**	P	**Pn**	**18 05 28.0**	**-0.4**
BNGB	**Bing¶ll**	**1.44 130**	PN	**Pb**	**18 05 28.6**	**-0.6**
HEKM	**Malatya_Hekimh**	**1.45 224**	*i* P	**Pg**	**18 05 29.2**	**-0.7**
HEKM			*i* S	**Sg**	**18 05 49.5**	**+0.9**
HEKM	**Malatya_Hekimh**	**1.45 224**	P	**Pg**	**18 05 29.2**	**-0.7**
HEKM			S	**Sg**	**18 05 49.5**	**+0.9**
CUKAN	**kangal_SIVAS**	**1.51 247**	*i* P	**Pb**	**18 05 29.6**	**-0.7**
CUKAN			*i* S	**Sg**	**18 05 52.5**	**+1.9**
CUKAN	**kangal_SIVAS**	**1.51 247**	P	**Pb**	**18 05 29.6**	**-0.7**
CUKAN			S	**Sg**	**18 05 52.5**	**+1.9**
ORDU	**Ordu-Boztepe**	**1.51 316**	*i* P	**Pb**	**18 05 29.9**	**-0.4**
ORDU			*i* S	**Sg**	**18 05 49.6**	**-1.0**
ORDU	**Ordu-Boztepe**	**1.51 316**	P	**Pb**	**18 05 29.9**	**-0.4**
ORDU			S	**Sg**	**18 05 49.6**	**-1.0**
CHOM	**Cayeli-Rize**	**1.64 44**	*e*Pn	**Pn**	**18 05 31.2**	**+0.1**
MALT	**Malatya**	**1.73 202**	PN	**Pb**	**18 05 33.0**	**-1.1**
MALT	**Malatya**	**1.73 202**	*e*Pn	**Pb**	**18 05 33.0**	**-1.1**
SVSK	**Karacayir**	**1.74 271**	PN	**Pb**	**18 05 33.6**	**-0.5**
SVSK	**Karacayir**	**1.74 271**	*e*Pn	**Pb**	**18 05 33.6**	**-0.5**
HANI	**Diyarbakir_Han**	**1.75 149**	*i* P	**Pb**	**18 05 34.2**	**-0.2**
HANI			*i* S	**Sg**	**18 05 59.1**	**+0.8**
HANI	**Diyarbakir_Han**	**1.75 149**	P	**Pb**	**18 05 34.2**	**-0.2**
HANI			S	**Sg**	**18 05 59.1**	**+0.8**
VRTB	**Varto-Mus**	**1.86 113**	PN	**Pn**	**18 05 34.6**	**+0.3**
VRTB	**Varto-Mus**	**1.86 113**	*i* P	**Pg**	**18 05 36.9**	**-0.9**
VRTB	**Varto-Mus**	**1.86 113**	*e*Pn	**Pg**	**18 05 34.6**	**+0.3**
VRTB	**Varto-Mus**	**1.86 113**	P	**Pg**	**18 05 36.9**	**-0.9**
AKCD	**Akcadag**	**1.93 213**	*i* P	**Pb**	**18 05 36.5**	**-0.9**
AKCD			*i* S	**Sg**	**18 06 03.4**	**-0.6**
AKCD	**Akcadag**	**1.93 213**	P	**Pb**	**18 05 36.5**	**-0.9**
AKCD			S	**Sg**	**18 06 03.4**	**-0.6**
DARE	**Darende-Malaty**	**1.93 226**	PN	**Pb**	**18 05 36.3**	**-1.1**
DARE	**Darende-Malaty**	**1.93 226**	*e*Pn	**Pb**	**18 05 36.3**	**-1.1**
CUGUR	**Gurin_S¨VAS**	**1.95 233**	*i* P	**Pg**	**18 05 38.5**	**-0.9**
CUGUR			*i* S	**Sg**	**18 06 05.2**	**+0.5**
CUGUR	**Gurin_S¨VAS**	**1.95 233**	P	**Pg**	**18 05 38.5**	**-0.9**
CUGUR			S	**Sg**	**18 06 05.2**	**+0.5**
CUALT	**Altinyayla-SIV**	**2.04 252**	*i* P	**Pb**	**18 05 38.7**	**-0.6**
CUALT			*i* S	**Sg**	**18 06 10.5**	**+3.0**
CUALT	**Altinyayla-SIV**	**2.04 252**	P	**Pb**	**18 05 38.7**	**-0.6**
HOMI	**Horasan**	**2.04 86**	P	**Pb**	**18 05 38.7**	**-0.7**
ERBA	**Erbaa**	**2.06 292**	*i* P	**Pb**	**18 05 39.6**	**-1.0**
ERBA	**Erbaa**	**2.06 292**	P	**Pb**	**18 05 39.7**	**0.0**
DYBB	**Diyarbakir**	**2.08 160**	PN	**Pb**	**18 05 38.0**	**-2.1**
DIYA	**Diyarbakir**	**2.11 161**	*i* P	**Pb**	**18 05 39.5**	**-0.9**
DIYA	**Diyarbakir**	**2.11 161**	P	**Pb**	**18 05 39.5**	**-0.9**
TOKT	**Tokat**	**2.12 282**	PN	**Pb**	**18 05 38.9**	**-1.7**
TOKT	**Tokat**	**2.12 282**	*e*Pn	**Pb**	**18 05 38.9**	**-1.7**
DIY	**Diyarbakir**	**2.16 159**	*e*Pn	**Pn**	**18 05 38.0**	**-0.3**
TOKA	**Tokat**	**2.17 282**	*i* P	**Pb**	**18 05 41.5**	**0.0**
TOKA	**Tokat**	**2.17 282**	P	**Pb**	**18 05 41.5**	**0.0**
EKAR	**Karacoban**	**2.27 106**	*i* P	**Pb**	**18 05 43.7**	**+0.3**
EKAR	**Karacoban**	**2.27 106**	P	**Pb**	**18 05 43.7**	**+0.3**
DBOC	**Borcka**	**2.32 51**	*i* P	**Pb**	**18 05 43.5**	**-0.6**
DBOC	**Borcka**	**2.32 51**	P	**Pb**	**18 05 43.5**	**-0.6**
BCA	**Borcka**	**2.36 49**	PN	**Pn**	**18 05 41.6**	**+0.6**
BCA	**Borcka**	**2.36 49**	*e*Pn	**Pn**	**18 05 41.6**	**+0.6**
ARTV	**Artvin**	**2.40 57**	*i* P	**Pb**	**18 05 44.8**	**-0.7**
ARTV	**Artvin**	**2.40 57**	P	**Pb**	**18 05 44.8**	**-0.7**
SENK	**Senkaya-Erzuru**	**2.45 74**	PN	**Pn**	**18 05 42.8**	**+0.3**
SENK	**Senkaya-Erzuru**	**2.45 74**	*e*Pn	**Pn**	**18 05 42.8**	**+0.3**
URFA	**Urfa**	**2.50 188**	PN	**Pn**	**18 05 44.3**	**+1.3**
URFA	**Urfa**	**2.50 188**	*e*Pn	**Pn**	**18 05 44.3**	**+1.3**
BTMN	**Batman**	**2.56 142**	*i* P	**Pg**	**18 05 49.3**	**-2.0**
BTMN			*i* S	**Sg**	**18 06 24.4**	**-0.1**
BTMN	**Batman**	**2.56 142**	P	**Pg**	**18 05 49.3**	**-2.0**
MAZI	**Mazidag**	**2.63 159**	PN	**Pn**	**18 05 45.8**	**+1.0**
MAZI	**Mazidag**	**2.63 159**	*e*Pn	**Pn**	**18 05 45.8**	**+1.0**
KVT	**Kavak**	**2.71 296**	PN	**Pn**	**18 05 47.3**	**+1.5**
KVT	**Kavak**	**2.71 296**	*e*Pn	**Pn**	**18 05 47.3**	**+1.5**
BNN	**Bunyan**	**2.85 249**	PN	**Pn**	**18 05 49.5**	**+1.7**
BNN	**Bunyan**	**2.85 249**	*e*Pn	**Pn**	**18 05 49.5**	**+1.7**
MARD	**Mardin**	**2.86 155**	*i* P	**Pb**	**18 05 53.0**	**-0.4**
AGRB	**Hanur-Agry**	**2.90 96**	PN	**Pn**	**18 05 49.2**	**+0.6**
AGRB	**Hanur-Agry**	**2.90 96**	*e*Pn	**Pn**	**18 05 49.2**	**+0.6**
YOZ	**Yozgat**	**3.04 266**	PN	**Pn**	**18 05 52.3**	**+1.8**
YOZ	**Yozgat**	**3.04 266**	*e*Pn	**Pn**	**18 05 52.3**	**+1.8**
AKH	**Akhalkalaki**	**3.55 64**	*i*P	**Pg**	**18 06 07.9**	**-2.2**
GNI	**Garni**	**4.22 85**	Pn	**Pn**	**18 06 10.4**	**+3.8**
	0.1nm,0.3s,baz=324,slow=19,SNR=2.1					
GNI			Sn	**Sn**	**18 06 57.4**	**+1.3**
	0.4nm,0.3s,baz=327,slow=23,SNR=2.3					
BRTR	**Keskin Array B**	**4.33 269**	Pn	**Pn**	**18 06 10.1**	**+1.9**
	0.5nm,0.3s,baz=91,slow=14,SNR=22					
BRTR			Pg	**Pb**	**18 06 20.8**	**+2.4**
	0.9nm,0.3s,baz=103,slow=17,SNR=23					
BRTR			Lg	Lg	18 07 16.4	
	baz=98,slow=25,SNR=1.6					
KBZ	**Khabaz**	**4.68 34**	Pn	**Pn**	**18 06 15.4**	**+2.6**
	0.2nm,0.3s,baz=215,slow=12,SNR=4.7					
KBZ			Sn	**Sn**	**18 07 12.7**	**+5.5**
	0.2nm,0.3s,baz=29,slow=21,SNR=2.8					
KVAR	**Kislovodsk Arr**	**4.78 31**	Pn	**Pn**	**18 06 17.2**	**+2.9**
	baz=201,slow=3.7,SNR=5.1					
ANTO	**Ankara**	**4.97 271**	*i*P	**Pb**	**18 06 32.2**	**+2.9**
ASF	**Jabal al Asfar**	**7.96 195**	Pn	**Pn**	**18 06 57.5**	**-0.6**
	0.2nm,0.3s,baz=311,slow=12,SNR=3.3					
AKASG	**Malin Array Be**	**12.87 330**	Pn	**Pn**	**18 08 04.1**	**-1.0**
	0.8nm,0.3s,baz=137,slow=12,SNR=2.8					
NOA	**NORSAR Array B**	**27.29 330**	P	**P**	**18 10 48.3**	**+1.7**
	0.7nm,1.0s,baz=131,slow=5.4,SNR=2.8					

IDC 20 18:40:06.2±1.7, 20.16N×121.71E, h0km, mb3.6/6, mb1 3.7/6, mb1mx3.3/58, mbtmp3.6/6, Error ellipse: s-maj=182.6km s-min=18.4km az=64.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**41.62**	**319**	P	P	18 47 56.0	-0.2
	0.3nm,0.6s,baz=106,slow=8.9,SNR=3.9						
WRA	**Warramunga Arr**	**41.73**	**162**	P	P	18 47 56.4	-0.8
	0.6nm,0.5s,baz=343,slow=9.0,SNR=12						
ZALV	**Zalesovo Beam**	**43.91**	**329**	P	P	18 48 14.4	-0.1
	0.4nm,0.4s,baz=127,slow=9.7,SNR=2.3						
ASAR	**Alice Springs**	**45.15**	**164**	P	P	18 48 25.4	+0.5
	0.5nm,0.6s,baz=346,slow=6.9,SNR=12						
KURBB	**Kurchatov Arra**	**45.54**	**322**	P	P	18 48 27.1	-0.5
	0.1nm,0.5s,baz=122,slow=8.3,SNR=2.5						
FINES	**FINESS Array B**	**75.16**	**330**	P	P	18 51 50.6	+0.4
	1.7nm,0.9s,baz=80,slow=7.5,SNR=2.9						

*IDC **20** 18:56:19.9±1.0, 2.51N×90.35E, h0km, mb3.8/12, mb1 3.9/13, mb1mx3.6/66, mbtmp3.8/13, MS3.7/2, Ms1 3.7/2, ms1mx2.7/64, Error ellipse: s-maj=37.8km s-min=19.1km az=50.0*

*ISCJB **20** 18:56:23.1±0.8, 2.6N±0.1×90.5E±0.2, h33km, mb3.9/12, MS3.8/2, Error ellipse: s-maj=24.9km s-min=16.5km az=143.8*

ISC 20 18:56:25.3±1.0, 2.6N±0.2×90.4E±0.2, h35km, n19, σ0s63/14, mb3.9/12, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**17.86**	**27**	P	**Pn**	**19 00 30.6**	**-0.6**
	baz=218,slow=10,SNR=3.4						
H08S2	**Diego Garcia H**	**20.58**	**240**	T	T	19 21 59.1	
	baz=61,slow=75,SNR=24						
H08S3	**Diego Garcia H**	**20.58**	**240**	T	T	19 21 59.0	
	baz=61,slow=75,SNR=37						
H08S1	**Diego Garcia H**	**20.59**	**240**	T	T	19 22 06.1	
	baz=61,slow=75,SNR=23						
MKAR	**Makanchi Array**	**44.62**	**352**	P	**P**	**19 04 34.0**	**-0.4**
	0.7nm,0.7s,baz=171,slow=8.5,SNR=9.6						
GEYT	**Alibeck**	**45.99**	**324**	P	**P**	**19 04 44.7**	**-0.6**
	0.9nm,0.5s,baz=123,slow=11,SNR=3.6						
SONM	**Songino Array**	**47.16**	**15**	P	**P**	**19 04 55.7**	**+1.2**
	1.8nm,0.6s,baz=196,slow=9.2,SNR=18						
WRA	**Warramunga Arr**	**48.54**	**119**	P	**P**	**19 05 05.7**	**+0.2**
	0.8nm,0.9s,baz=296,slow=8.4,SNR=6.0						
KURBB	**Kurchatov Arra**	**48.94**	**350**	P	**P**	**19 05 07.7**	**-0.3**
	0.9nm,0.7s,baz=172,slow=6.9,SNR=10						
ZALV	**Zalesovo Beam**	**51.42**	**356**	P	**P**	**19 05 26.2**	**-0.6**
	1.0nm,0.5s,baz=170,slow=6.1,SNR=5.7						
CTA	**Charters Tower**	**59.18**	**115**	LR	LR	19 34 44.3	
	comp=Z,156nm,19.6s,slow=39						
STKA	**Stephens Creek**	**59.36**	**130**	P	**P**	**19 06 23.8**	**-0.5**
	1.3nm,0.8s,baz=306,slow=6.8,SNR=2.5						
BRTR	**Keskin Array B**	**63.24**	**314**	P	**P**	**19 06 50.8**	**+0.1**
	0.2nm,0.5s,baz=90,slow=1.4,SNR=2.1						
FINES	**FINESS Array B**	**75.72**	**333**	P	**P**	**19 08 06.5**	**-0.6**
	1.1nm,0.7s,baz=110,slow=5.1,SNR=5.1						
ARCES	**ARCESS Array B**	**79.02**	**341**	P	**P**	**19 08 25.6**	**+0.2**
	1.2nm,0.8s,baz=106,slow=6.3,SNR=2.4						
GERES	**GERESS Array B**	**79.35**	**319**	P	**P**	**19 08 28.4**	**+0.6**
	0.3nm,0.6s,baz=107,slow=3.3,SNR=3.2						
HFS	**Hagfors**	**81.19**	**330**	P	**P**	**19 08 37.5**	**+0.2**
	2.0nm,1.0s,baz=92,slow=19,SNR=2.1						
JMIC	**Jan Mayen**	**90.51**	**341**	LR	LR	19 48 37.2	
	comp=Z,12nm,18.4s,baz=266,slow=35						
TXAR	**Lajitas Array**	**145.52**	**22**	PKPbc	**PKPab**	**19 16 01.4**	**+0.4**
	0.9nm,0.7s,baz=264,slow=2.4,SNR=6.0						

*ISCJB **20** 18:58:03.5±0.4, 1.30N±0.06×91.57E±0.05, h10km, mb4.4/34, Error ellipse: s-maj=9.2km s-min=5.9km az=30.4*

*IDC **20** 18:58:04.2±0.8, 1.38N×91.51E, h0km, mb4.1/16, mb1 4.1/17, mb1mx3.9/65, mbtmp4.0/17, ML3.5/1, Error ellipse: s-maj=27.5km s-min=16.6km az=40.0*

*NEIC **20** 18:58:05.5±0.3, 1.35N×91.55E, h10km, mb4.6/22, Error ellipse: s-maj=8.0km s-min=5.1km az=206.0*

ISC 20 18:58:05.2±0.6, 1.31N±0.09×91.53E±0.08, h10km, n103, σ0s85/97, mb4.4/39, 1D, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSI	**Gunungsitoli**	**6.04**	**90**	*e*P	Pn	18 59 24.2	-11
PSI	**Prapat**	**7.54**	**79**	*e*Pn	**Pn**	**18 59 54.0**	**-1.4**
BKNI	**Bangkinang**	**9.56**	**96**	*e*Pn	**Pn**	**19 00 21.2**	**-1.9**
KULM	**Kulim**	**9.93**	**66**	*e*Pn	**Pn**	**19 00 27.3**	**-0.8**
IPM	**Ipoh**	**9.99**	**71**	*e*Pn	**Pn**	**19 00 27.2**	**-1.8**
PBA	**Port Blair**	**10.35**	**7**	*e*P	Pn	19 00 31.2	-2.8
PBA	**Port Blair**	**10.35**	**7**	*e*Pn	Pn	19 00 30.7	-3.2
DGPR	**DIGLIPUR**	**11.88**	**7**	*e*P	**Pn**	**19 00 54.6**	**-0.1**
PALK	**Pallekele**	**12.31**	**299**	*e*Pn	**Pn**	**19 00 59.7**	**-1.1**
MDRS	**Chennai**	**16.17**	**317**	*e*P	**Pn**	**19 01 51.8**	**-1.0**
MDRS				IAmb	IAmb	19 01 52.9	
	comp=Z,15nm,0.6s						
PBKT	**Sadao Pong**	**17.79**	**31**	*e*Pn	**P**	**19 02 14.5**	**+0.6**
	comp=Z,3.7nm,0.9s						
VIS	**Vishakhapatnam**	**18.20**	**334**	*e*P	**P**	**19 02 18.5**	**+0.1**
VIS				IAmb	IAmb	19 02 27.4	
	comp=Z,20nm,0.8s						
CM31	**Chiang Mai Arr**	**18.53**	**23**	*e*P	**Pn**	**19 02 23.6**	**+1.4**
CMAR	**Chiang Mai Arr**	**18.53**	**23**	P	**P**	**19 02 21.0**	**-1.1**
	comp=Z,0.1nm,0.3s,baz=217,slow=13,SNR=4.0						
CHTO	**Chiang Mai**	**18.86**	**22**	*e*P	**P**	**19 02 25.7**	**0.0**
	comp=Z,3.0nm,0.7s						
BWNR	**Bhubaneshwar**	**19.68**	**344**	*ex*	**Pn**	**19 02 38.1**	**+2.0**
BWNR				IAmb	IAmb	19 02 40.8	
	comp=Z,18nm,1.1s						
HYB	**Hyderabad**	**20.47**	**322**	*e*P	Pn	19 02 46.2	+0.6
HYB				IAmb	IAmb	19 03 24.0	
	comp=Z,6.7nm,0.3s						
H08S2	**Diego Garcia H**	**20.97**	**245**	T	T	19 24 37.1	
	baz=64,slow=74,SNR=8.8						
H08S3	**Diego Garcia H**	**20.97**	**245**	T	T	19 24 35.0	
	baz=64,slow=74,SNR=7.8						
H08S1	**Diego Garcia H**	**20.99**	**245**	T	T	19 24 36.8	
	baz=64,slow=74,SNR=6.5						
GOA	**Goa**	**22.45**	**310**	*e*P	**P**	**19 03 04.6**	**0.0**
BOK	**Bokaro**	**23.02**	**347**	*e*P	**P**	**19 03 12.2**	**+1.7**
BOK				IAmb	IAmb	19 03 26.1	
	comp=Z,8.8nm,0.6s						
IMP	**Imphal**	**23.50**	**6**	*e*P	**P**	**19 03 16.2**	**+0.7**
SHL	**Shillong**	**24.12**	**1**	*e*P	**P**	**19 03 20.4**	**-1.2**
SHL				IAmb	IAmb	19 03 23.1	
	comp=Z,3.0nm,0.4s						
KOHI	**KOHIMA**	**24.40**	**6**	*e*P	**P**	**19 03 22.6**	**-1.5**
MOKO	**MOKOCHONG**	**25.04**	**6**	*e*P	**P**	**19 03 29.4**	**-0.5**
KKM	**Kota Kinabalu**	**25.07**	**79**	*e*P	**P**	**19 03 31.2**	**+0.9**
	comp=Z,35nm,1.4s						
ODAN	**Odare**	**25.72**	**351**	*e*P	**P**	**19 03 37.5**	**+1.3**
	comp=Z,34nm,0.8s						
BHPL	**Bhopal**	**25.75**	**329**	*e*P	**P**	**19 03 36.6**	**+0.3**
BHPL				IAmb	IAmb	19 03 37.5	
	comp=Z,157nm,0.1s						
ITAN	**ITANAGAR**	**25.78**	**4**	*e*P	**P**	**19 03 37.4**	**+1.0**
RAMN	**Ramite**	**25.93**	**350**	*e*P	**P**	**19 03 39.6**	**+1.4**
	comp=Z,26nm,0.7s						
GTK	**Tadong**	**26.02**	**354**	*e*P	**P**	**19 03 40.4**	**+1.6**
ZIRO	**ZIRO**	**26.17**	**5**	*e*P	**P**	**19 03 39.3**	**-0.9**
JIRN	**Jiri**	**26.70**	**349**	*e*P	**P**	**19 03 45.9**	**+0.7**
	comp=Z,62nm,1.2s						
PKIN	**Phulchoki**	**26.77**	**348**	*e*P	**P**	**19 03 47.0**	**+1.2**
	comp=Z,4.4nm,0.5s						
GUN	**Gumba**	**27.00**	**349**	*e*P	**P**	**19 03 48.5**	**+0.6**
KKN	**Kakani**	**27.01**	**348**	*e*P	**P**	**19 03 48.8**	**+1.0**
GKN	**Gorkha**	**27.35**	**347**	*e*P	**P**	**19 03 51.7**	**+0.8**
KOLN	**Koldanda**	**27.39**	**345**	*e*P	**P**	**19 03 52.1**	**+0.9**
	comp=Z,6.3nm,0.8s						
PYUN	**Piuthan**	**27.87**	**344**	*e*P	**P**	**19 03 56.4**	**+0.9**
LSA	**Lhasa**	**28.24**	**359**	*e*P	**P**	**19 04 00.1**	**+1.0**
	comp=Z,5.8nm,0.8s						
SMLA	**Simla**	**32.63**	**337**	*e*P	**P**	**19 04 38.1**	**+0.7**
SMLA				IAmb	IAmb	19 04 39.0	
	comp=Z,8.9nm,0.5s						
ENH	**Enshi**	**33.48**	**29**	*e*P	**P**	**19 04 45.5**	**+0.6**
	comp=Z,35nm,1.9s						
DHRM	**DHARAMSHALA**	**33.96**	**337**	*e*P	**P**	**19 04 49.1**	**-0.2**
DHRM				IAmb	IAmb	19 04 50.0	
	comp=Z,14nm,1.2s						
NIL	**Nilore**	**36.45**	**334**	*e*P	**P**	**19 05 10.8**	**+0.3**
	comp=Z,18nm,1.1s						
H01W3	**Cape Leeuwin H**	**41.77**	**152**	T	T	19 50 41.4	
	baz=326,slow=74,SNR=5.0						
H01W2	**Cape Leeuwin H**	**41.78**	**152**	T	T	19 50 36.7	
	baz=326,slow=74,SNR=5.9						
H01W1	**Cape Leeuwin H**	**41.78**	**152**	T	T	19 50 43.1	
	baz=326,slow=74,SNR=5.4						
NWAO	**Narrogin (SRO)**	**41.81**	**147**	*e*P	**P**	**19 05 55.2**	**-0.2**
	comp=Z,81nm,1.5s						
TARG	**Taragay, Kyrgy**	**42.10**	**345**	*e*P	**P**	**19 05 58.9**	**+0.9**
	comp=Z,2.1nm,0.7s						
NRN	**Naryn**	**42.34**	**343**	*e*P	**P**	**19 06 00.1**	**+0.3**
	comp=Z,3.3nm,1.2s						
KDJ	**Kajisay**	**42.64**	**344**	*e*P	**P**	**19 06 03.1**	**+0.9**
	comp=Z,2.5nm,0.8s						
KK31	**Karatay Array**	**45.66**	**338**	*e*P	**P**	**19 06 26.9**	**+0.7**
KKAR	**Karatay Array**	**45.66**	**338**	*e*P	**P**	**19 06 26.5**	**+0.3**
MK01	**Makanchi Array**	**45.99**	**351**	*e*P	**P**	**19 06 28.6**	**-0.1**
MK31	**Makanchi Array**	**46.02**	**351**	*e*P	**P**	**19 06 28.7**	**-0.3**
MK32	**Makanchi Array**	**46.02**	**351**	*e*P	**P**	**19 06 28.5**	**-0.5**
MKAR	**Makanchi Array**	**46.02**	**351**	P	**P**	**19 06 28.5**	**-0.5**
	comp=Z,2.7nm,0.6s,baz=171,slow=9.0,SNR=34						
MKAR	**Makanchi Array**	**46.02**	**351**	*e*P	**P**	**19 06 28.8**	**-0.1**
	comp=Z,1.8nm,0.6s						
MAKZ	**Makanchi**	**46.08**	**351**	*e*P	**P**	**19 06 29.1**	**-0.4**
	comp=Z,10.0nm,1.6s						
WRA	**Warramunga Arr**	**46.97**	**119**	P	**P**	**19 06 37.7**	**+0.8**
	comp=Z,1.7nm,1.1s,baz=296,slow=8.7,SNR=8.4						
WR1	**Warramunga Arr**	**46.98**	**119**	*e*P	**P**	**19 06 37.7**	**+0.8**
WRAB	**Tennant Creek**	**46.98**	**119**	*e*P	**P**	**19 06 37.8**	**+0.9**
	comp=Z,28nm,1.8s						
GEYT	**Alibeck**	**47.64**	**324**	P	**P**	**19 06 41.1**	**-0.7**
	comp=Z,3.0nm,0.8s,baz=167,slow=7.2,SNR=7.4						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GYA0B	**ALIBECK ARRAY**	**47.64**	**324**	*e*P	**P**	**19 06 40.7**	**-1.1**
	comp=Z,2.5nm,0.8s						
AS31	**Alice Springs**	**48.08**	**124**	*e*P	**P**	**19 06 45.9**	**+0.5**
AS31				*e*PcP	**PcP**	**19 08 13.8**	**+0.6**
ASAR	**Alice Springs**	**48.08**	**124**	P	**P**	**19 06 45.9**	**+0.5**
	comp=Z,0.1nm,0.3s,baz=290,slow=8.8,SNR=3.8						
ASAR				PcP	**PcP**	**19 08 13.8**	**+0.6**
	comp=Z,0.3nm,0.5s,baz=306,slow=3.3,SNR=4.1						
SONA0	**Songino Array**	**48.10**	**13**	*e*P	**P**	**19 06 46.3**	**+1.0**
SONM	**Songino Array**	**48.10**	**13**	P	**P**	**19 06 46.3**	**+1.0**
	comp=Z,6.2nm,0.6s,baz=193,slow=9.3,SNR=31						
SONA1	**Songino Array**	**48.12**	**13**	*e*P	**P**	**19 06 46.0**	**+0.6**
ULN	**Ulaanbaatar**	**48.29**	**14**	*e*P	**P**	**19 06 47.5**	**+0.7**
	comp=Z,4.9nm,1.3s						
KSAR	**Wonju Array Be**	**49.11**	**39**	P	**P**	**19 06 52.6**	**-0.5**
KSRS	**Korea Array**	**49.14**	**39**	P	**P**	**19 06 52.6**	**-0.7**
	comp=Z,1.0nm,0.8s,baz=226,slow=7.2,SNR=3.5						
RAYN	**Ar Rayn**	**49.75**	**300**	*e*P	**P**	**19 06 57.8**	**-0.6**
	comp=Z,12nm,1.8s						
KURBB	**Kurchatov Arra**	**50.36**	**349**	P	**P**	**19 07 02.1**	**-0.3**
	comp=Z,2.4nm,0.9s,baz=173,slow=7.0,SNR=16						
KURBB				PcP	**PcP**	**19 08 21.0**	**+0.1**
	comp=Z,0.3nm,0.6s,baz=167,slow=4.3,SNR=2.9						
KURK	**Kurchatov**	**50.43**	**349**	*e*P	**P**	**19 07 02.1**	**-0.9**
KURK				*e*PcP	**PcP**	**19 08 21.0**	**-0.2**
ZAA0	**Zalesovo Array**	**52.76**	**355**	*e*P	**P**	**19 07 19.8**	**-0.5**
	comp=Z,5.8nm,1.4s						
ZALV	**Zalesovo Beam**	**52.76**	**355**	P	**P**	**19 07 20.0**	**-0.3**
	comp=Z,1.7nm,0.4s,baz=192,slow=8.0,SNR=9.8						
ZALV	**Zalesovo Beam**	**52.76**	**355**	*e*P	**P**	**19 07 19.2**	**-1.1**
ZAA1	**Zalesovo Array**	**52.76**	**355**	*e*P	**P**	**19 07 20.0**	**-0.3**
BVAR	**Borovoye Array**	**54.46**	**344**	P	**P**	**19 07 32.0**	**-0.8**
	comp=Z,0.8nm,0.7s,baz=162,slow=11,SNR=5.4						
ABKAR	**Akbulak array**	**54.89**	**335**	*e*P	**P**	**19 07 35.9**	**-0.2**
MAJO	**Matsushiro**	**55.54**	**45**	*e*P	**P**	**19 07 41.9**	**+1.0**
MJAR	**Matsushiro Arr**	**55.54**	**45**	P	**P**	**19 07 41.9**	**+1.0**
	comp=Z,0.6nm,0.6s,baz=238,slow=7.5,SNR=3.3						
TBLG	**Delisi**	**58.17**	**320**	*e*P	**P**	**19 07 59.8**	**+0.2**
	comp=Z,6.6nm,0.6s						
KBZ	**Khabaz**	**60.36**	**321**	P	**P**	**19 08 15.5**	**+0.9

BJI ***20*** *19:34:02.9,3˙.06N×93˙.80E,h14km,mb4.9/67,mB5.2/54, Ms5.2/68,Ms7 5.0/62*

ISCJB ***20*** *19:34:04.0±0.7,3˙.22N±0˙.02×93˙.81E±0˙.02,h11km±4km, mb5.0/210,MS4.6/75,Error ellipse: s-maj=4.3km s-min=2.8km az=32.0*

IDC ***20*** *19:34:04.1±0.3,3˙.23N×93˙.85E,h0km,mb4.7/46, mb1 4.7/49,mb1mx4.7/71,mbtmp4.7/49,ML4.1/3,MS4.3/44, Ms1 4.3/44,ms1mx4.2/60,Error ellipse: s-maj=12.6km s-min=8.8km az=45.0*

GCMT ***20*** *19:34:06.8±0.2,3˙.32N×93˙.71E,h12km,MW5.1/105, Moment Tensor Solution. s54,c73; s105,c179; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr4.38±.07; Mθθ-0.87±.07; Mφφ-3.52±.07; Mrθ-2.83±.24; Mθφ2.05±.06; Mφr1.05±.21; Best double couple: Mo5.41800×10¹⁶ NP1:φs311.00000°,δ62.00000°,λ69.00000°. NP2: φs170.00000°,δ34.00000°,λ123.00000°. Principal axes: T 5.6180, Plg67.0000°, Azm182.0000°; N -0.4060, Plg18.0000°, Azm321.0000°; P -5.2180, Plg14.0000°, Azm56.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***20*** *19:34:06.8±1.9,3˙.25N×93˙.82E,h19km±11km,mb5.2/100 Error ellipse: s-maj=5.3km s-min=3.1km az=46.0*

MOS ***20*** *19:34:07.3±0.9,3˙.28N×93˙.82E,h33km,mb5.3/77, MS4.6/11,Error ellipse: s-maj=6.8km s-min=3.9km az=113.0*

DJA ***20*** *19:34:07.1±0.2,3˚N±3˚×,9˚4E±˚,h10km,M5.0/39,mb5.0/39, mB5.5/21,MLv5.3/13,Mw(mB)4.9/21,Mwp5.4/1*

ISC 20 19:34:08.2±0.6,3˙20N±0˙03×93˙79E±0˙03,h28km±3km, n601,σ1§43/640,mb5.1/215,MS4.5/76,47C-15D,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MLSI	**Meulaboh, Aceh**	**2.81**	**68**	P	**Pn**	**19 34 51.0**	**-0.4**
TPTI		**3.38**	**89**	P	**Pn**	**19 34 58.2**	**-1.0**
LHMI	**Lhok Sumawe**	**3.73**	**57**	P	**Pn**	**19 35 04.2**	**+0.1**
LHMI	**Lhok Sumawe**	**3.73**	**57**	*e*Pn	**Pn**	**19 35 03.2**	**-0.9**
GSI	**Gunungsitoli**	**4.23**	**116**	P	**Pn**	**19 35 10.2**	**-0.6**
GSI	**Gunungsitoli**	**4.23**	**116**	*e*Pn	**Pn**	**19 35 09.8**	**-1.0**
GSI				*e*Sn	**Sn**	**19 35 56.7**	**-2.6**
TSI	**Tuntungan**	**4.78**	**86**	P	**Pn**	**19 35 20.1**	**+1.7**
PSI	**Prapat**	**5.14**	**94**	*e*Pn	**Pn**	**19 35 23.2**	**-0.3**
PSI				*e*Sn	**Sn**	**19 36 21.3**	**-0.7**
PSI	**Prapat**	**5.14**	**94**	*e*P	**Pn**	**19 35 23.3**	**-0.3**
PSI				*e*		19 36 21.3	
PBSI	**Pulau Batu**	**5.53**	**126**	P	**Pn**	**19 35 28.5**	**-0.3**
MNSI	**Mandailing Nat**	**6.26**	**112**	P	**Pn**	**19 35 38.7**	**-0.1**
SISI	**Saibi**	**6.95**	**130**	P	**Pn**	**19 35 47.5**	**-0.8**
KULM	**Kulim**	**7.15**	**73**	*e*Pn	**Pn**	**19 35 50.8**	**-0.2**
KULM				*e*Sn	**Sn**	**19 37 05.5**	**-5.8**
IPM	**Ipoh**	**7.33**	**80**	*e*Pn	**Pn**	**19 35 52.9**	**-0.6**
IPM				*e*Sn	**Sn**	**19 37 11.0**	**-4.8**
TRTT	**Trang**	**7.46**	**52**	P	**Pn**	**19 35 54.4**	**-0.9**
	18nm,1.2s,425nm0.1nm						
PPI	**Padang Panjang**	**7.54**	**119**	P	**Pn**	**19 35 56.5**	**+0.1**
BKNI	**Bangkinang**	**7.79**	**111**	*e*Pn	**Pn**	**19 35 59.0**	**-0.8**
PDSI	**Padang**	**7.82**	**121**	P	**Pn**	**19 35 59.4**	**-0.9**
SKLT	**Songkhla**	**7.86**	**60**	P	**Pn**	**19 36 03.0**	**+2.2**
	88nm,1.5s,2μm0.3nm						
PBA	**Port Blair**	**8.46**	**353**	*e*P	Pn	19 36 05.1	-3.9
PBA	**Port Blair**	**8.46**	**353**	*e*Pn	Pn	19 36 05.0	-4.0
PBA				*e*Sn	Sn	19 37 38.3	-5.4
KRJI	**Kerinci**	**9.30**	**124**	P	**Pn**	**19 36 21.6**	**+1.0**
DGPR	**DIGLIPUR**	**9.95**	**355**	*e*P	**Pn**	**19 36 26.7**	**-2.7**
MYKOM	**Kota Tinggi**	**10.15**	**98**	*e*Pn	**Pn**	**19 36 30.9**	**-1.3**
MASI	**Maura Aman, Be**	**10.54**	**127**	P	**Pn**	**19 36 37.2**	**-0.4**
TPRI	**Tanjung Pinang**	**10.96**	**102**	P	**Pn**	**19 36 44.8**	**+1.4**
KSI	**Kapahiang**	**11.12**	**128**	P	**Pn**	**19 36 46.6**	**+1.0**
MNAI	**Manna**	**11.85**	**129**	P	**Pn**	**19 36 55.0**	**-0.5**
MNAI	**Manna**	**11.85**	**129**	*e*Pn	**Pn**	**19 36 54.1**	**-1.4**
SRDT	**SRDT**	**12.26**	**25**	P	**P**	**19 37 12.8**	**-0.3**
CHBT	**CHBT**	**12.70**	**41**	P	**P**	**19 37 16.2**	**-1.8**
MDSI	**Maura Dua**	**12.89**	**126**	P	**Pn**	**19 37 09.7**	**0.0**
LWLI	**Liwa**	**13.11**	**128**	P	**Pn**	**19 37 13.3**	**+0.4**
NAYO	**Nakonayok**	**13.31**	**33**	P	**Pn**	**19 37 16.1**	**+0.7**
	68nm,0.9s						
SRAK	**Srakaew**	**13.48**	**37**	P	**P**	**19 37 24.5**	**-2.2**
PALK	**Pallekele**	**13.64**	**288**	Pn	**Pn**	**19 37 18.6**	**-1.5**
	0.9nm,0.3s,baz=115,slow=15,SNR=4.2						
PALK				Sn	Sn	19 39 38.8	-12
	3.4nm,0.3s,baz=114,slow=4.7,SNR=7.0						
PALK				LR	LR	19 42 10.4	
	comp=Z,2μm,18.1s,baz=116,slow=36						
PALK	**Pallekele**	**13.64**	**288**	*e*Pn	**Pn**	**19 37 19.2**	**-0.9**
PALK				*e*Sn	Sn	19 39 38.1	-13
PALK	**Pallekele**	**13.64**	**288**	*e*P	**Pn**	**19 37 19.2**	**-0.9**
KLI	**Kotabumi**	**13.65**	**126**	P	P	19 37 37.3	+8.6
KASI	**Kota Agung**	**13.77**	**129**	P	**Pn**	**19 37 19.8**	**-1.9**
CHAI	**Chaiyaphum**	**14.97**	**32**	P	**Pn**	**19 37 38.0**	**-0.1**
	10nm,1.0s,101nm						
PBKT	**Sadao Pong**	**15.04**	**28**	P	**Pn**	**19 37 37.3**	**-1.7**
	78nm,0.9s,1μm						
PBKT	**Sadao Pong**	**15.04**	**28**	*e*Pn	**Pn**	**19 37 37.1**	**-1.9**
PHIT	**Phitsanulok**	**15.35**	**25**	P	**Pn**	**19 37 42.1**	**-0.9**
	30nm,1.1s,288nm						
CGJI	**Cibinong**	**15.37**	**129**	P	**Pn**	**19 37 39.2**	**-4.2**
SBJI	**Serang**	**15.41**	**127**	P	**P**	**19 37 51.1**	**+2.9**
CM31	**Chiang Mai Arr**	**15.98**	**18**	*e*Pn	**Pn**	**19 37 49.2**	**-1.9**
CMAR	**Chiang Mai Arr**	**15.98**	**18**	Pn	**Pn**	**19 37 49.2**	**-1.9**
	0.2nm,0.3s,baz=210,slow=12,SNR=26						
CMAR				LR	LR	19 44 51.0	
	comp=Z,1μm,18.4s,baz=200,slow=41						
DBJI	**Dramaga**	**16.17**	**127**	P	**P**	**19 37 57.7**	**+1.1**
LAMP	**Lampang**	**16.26**	**20**	P	**P**	**19 37 57.0**	**-0.6**
	27nm,1.0s,224nm						
SKJI	**Sukabumi**	**16.29**	**129**	P	**P**	**19 37 59.8**	**+1.9**
CHTO	**Chiang Mai**	**16.31**	**18**	P	**Pn**	**19 37 53.2**	**-2.3**
	180nm,1.1s,3μm						
CHTO	**Chiang Mai**	**16.31**	**18**	*e*Pn	**Pn**	**19 37 52.8**	**-2.7**
	34nm,0.9s						
CHTO	**Chiang Mai**	**16.31**	**18**	P	**Pn**	**19 37 53.2**	**-2.3**
	SNR=13						
CHTO	**Chiang Mai**	**16.31**	**18**	*e*P	**Pn**	**19 37 52.8**	**-2.7**
CHTO				pmax	pmax		
	comp=Z,34nm,0.9s						
CMMT	**Chiang Mai**	**16.31**	**18**	P	**Pn**	**19 37 52.2**	**-3.3**
	comp=Z,40nm,1.1s,comp=Z,664nm						
KSM	**Kuching**	**16.59**	**96**	*e*Pn	**P**	**19 38 00.7**	**-0.7**
	comp=Z,125nm,1.1s						
MDRS	**Chennai**	**16.59**	**307**	*e*P	**Pn**	**19 37 58.6**	**-0.5**
MDRS				IAmb	IAmb	19 38 04.7	
	comp=Z,114nm,1.4s						
UBPT	**Khong Chiam**	**16.62**	**43**	P	**Pn**	**19 37 58.3**	**-1.1**
	comp=Z,75nm,1.8s,comp=Z,2μm						
SKNT	**Sakolnakorn**	**16.95**	**35**	P	**Pn**	**19 38 01.8**	**-1.8**
	comp=Z,22nm,1.1s						
LEM	**Lembang**	**17.02**	**126**	Pn	**Pn**	**19 38 04.4**	**-0.2**
	comp=Z,0.9nm,0.3s,baz=243,slow=5.0,SNR=6.5						
PAYA	**Payao**	**17.12**	**20**	P	**Pn**	**19 38 05.3**	**-0.4**
	comp=Z,21nm,0.9s,comp=Z,198nm						
CMAI	**Chiengmai2**	**17.40**	**17**	P	**P**	**19 38 16.6**	**+6.2**
TRD	**Trivandrum**	**17.55**	**288**	*e*P	**Pn**	**19 38 10.2**	**-0.8**
VIS	**Vishakhapatnam**	**17.70**	**325**	*e*P	**Pn**	**19 38 11.4**	**-1.4**
STKI	**Sintang**	**17.95**	**100**	P	**P**	**19 38 16.7**	**+0.3**
KPJI	**Karang Pucung**	**18.38**	**125**	P	**Pn**	**19 38 23.3**	**+2.1**
SBUM	**Sibu**	**18.42**	**92**	*e*P	**P**	**19 38 21.2**	**-0.4**
	comp=Z,59nm,1.3s						
BWNR	**Bhubaneshwar**	**18.69**	**336**	*e*P	**P**	**19 38 22.3**	**-2.1**
BWNR				IAmb	IAmb	19 38 28.7	
	comp=Z,638nm,2.6s						
PBKI	**Pangkalan Bun**	**18.81**	**108**	P	**Pn**	**19 38 30.2**	**+3.7**
SMRI	**Semarang**	**19.49**	**122**	P	**P**	**19 38 32.6**	**-0.7**
SMRI	**Semarang**	**19.49**	**122**	*e*P	**P**	**19 38 32.5**	**-0.9**
	comp=Z,71nm,0.7s						
HYB	**Hyderabad**	**20.57**	**314**	*i* P	**P**	**19 38 45.0**	**0.0**
HYB	**Hyderabad**	**20.57**	**314**	*e*P	**P**	**19 38 41.7**	**-3.3**
HYB				IAmb	IAmb	19 38 48.2	
	comp=Z,1μm,3.7s						
MTKI	**Muara Teweh, K**	**21.50**	**101**	P	**P**	**19 38 56.9**	**+1.8**
	comp=Z,113nm,1.6s,comp=Z,2μm						
BOK	**Bokaro**	**21.85**	**340**	*e*P	**P**	**19 39 00.1**	**+1.3**
BOK				IAmb	IAmb	19 39 01.3	
	comp=Z,183nm,0.6s						
QIZ	**Qiongzhong**	**22.22**	**44**	P	**P**	**19 39 02.3**	**-0.5**
QIZ				S	**S**	**19 43 07.6**	**+1.5**
QIZ				LR	LR		
	comp=Z,5μm,13.7s						
QIZ				LR	LR		
	comp=Z,2μm,14.1s						
QIZ				LR	LR		
	comp=Z,2μm,16.9s						
SHL	**Shillong**	**22.31**	**355**	*e*P	**P**	**19 39 03.0**	**-0.9**
SHL				IAmb	IAmb	19 39 06.1	
SHL				*ex*	x	19 43 23.0	
SHL	**Shillong**	**22.31**	**355**	*e*P	**P**	**19 39 01.4**	**-2.5**
	comp=Z,67nm,0.9s						
SHL	**Shillong**	**22.31**	**355**	*e*P	**P**	**19 39 01.4**	**-2.5**
SHL				pmax	pmax		
	comp=Z,67nm,0.9s						
KKM	**Kota Kinabalu**	**22.53**	**82**	*e*P	**P**	**19 39 05.7**	**-0.6**
	comp=Z,91nm,1.4s						
NGP	**Nagpur**	**22.89**	**322**	*ex*	**P**	**19 39 11.1**	**+1.2**
NGP				IAmb	IAmb	19 39 13.7	
	comp=Z,41nm,0.5s						
GOA	**Goa**	**23.14**	**303**	*e*P	**P**	**19 39 11.8**	**-0.7**
KMI	**Kunming**	**23.43**	**21**	P	**P**	**19 39 16.0**	**+0.4**
KMI				pP	pP	19 39 19.1	-4.4
KMI				sP	sP	19 39 21.1	-5.9
KMI				PP	**PnPn**	**19 39 48.9**	**+6.4**
KMI				S	**S**	**19 43 25.3**	**-2.2**
KMI				sS	pS	19 43 32.1	-4.3
KMI				SS	**SnSn**	**19 44 09.4**	**+5.1**
KMI				pmax	pmax		
	comp=Z,30nm,2.0s						
KMI				pmax	pmax		
	comp=Z,740nm,6.6s						
KMI				LR	LR		
	comp=Z,1μm,15.6s						
KMI				LR	LR		
	comp=Z,3μm,17.1s						
KMI				LR	LR		
	comp=Z,4μm,11.0s						
H08S2	**Diego Garcia H**	**23.83**	**243**	T	T	20 04 19.5	
	baz=63,slow=75,SNR=4289						
H08S3	**Diego Garcia H**	**23.83**	**243**	T	T	20 04 12.1	
	baz=63,slow=75,SNR=4106						
H08S1	**Diego Garcia H**	**23.84**	**243**	T	T	20 04 13.1	
	baz=63,slow=75,SNR=4212						
SRBI	**Singaraja**	**24.13**	**118**	P	**P**	**19 39 24.6**	**+2.5**
	comp=Z,41nm,1.5s						
ODAN	**Odare**	**24.31**	**346**	*e*P	**P**	**19 39 23.8**	**0.0**
	comp=Z,148nm,0.9s						
RAMN	**Ramite**	**24.59**	**344**	*e*P	**P**	**19 39 27.1**	**+0.6**
	comp=Z,214nm,1.4s						
MYLDM	**Lahad Datu**	**24.72**	**85**	*e*P	**P**	**19 39 28.0**	**+0.5**
	comp=Z,146nm,1.4s						
POO	**Poona**	**24.76**	**309**	*e*P	**P**	**19 39 26.0**	**-1.8**
POO				*e*P	**P**	**19 39 28.4**	**+0.5**
POO				IAmb	IAmb	19 39 36.1	
	comp=Z,508nm,4.0s						
JIRN	**Jiri**	**25.38**	**344**	*e*P	**P**	**19 39 34.0**	**+0.3**
BHPL	**Bhopal**	**25.45**	**323**	*e*P	**P**	**19 39 34.2**	**+0.2**
BHPL				IAmb	IAmb	19 39 36.3	
	comp=Z,44nm,1.1s						
PKIN	**Phulchoki**	**25.53**	**343**	*e*P	**P**	**19 39 35.4**	**+0.5**
	comp=Z,86nm,1.2s						
DMN	**Daman**	**25.65**	**342**	*e*P	**P**	**19 39 36.1**	**+0.1**
	comp=Z,68nm,1.0s						
GUN	**Gumba**	**25.70**	**344**	*e*P	**P**	**19 39 36.6**	**0.0**
	comp=Z,164nm,1.1s						
KKN	**Kakani**	**25.76**	**342**	*e*P	**P**	**19 39 36.9**	**-0.1**
	comp=Z,109nm,1.3s						
GKN	**Gorkha**	**26.16**	**341**	*e*P	**P**	**19 39 40.6**	**+0.1**
	comp=Z,89nm,1.1s						
GYA	**Guiyang**	**26.21**	**27**	P	**P**	**19 39 41.6**	**+0.6**
GYA				PP	**PnPn**	**19 40 25.3**	**+4.9**
GYA				S	**S**	**19 44 11.9**	**+0.3**
GYA				SS	**SnSn**	**19 45 19.3**	**+7.3**
GYA				ScP	**ScP**	**19 46 48.3**	**+2.7**
GYA				pmax	pmax		
	comp=Z,20nm,0.8s						
GYA				pmax	pmax		
	comp=Z,140nm,5.8s						
GYA				LR	LR		
	comp=Z,610nm,17.4s						
GYA				LR	LR		
	comp=Z,580nm,18.0s						
GYA				LR	LR		
	comp=Z,540nm,17.8s						
MPSI	**Mapaga**	**26.25**	**96**	P	**P**	**19 39 43.5**	**+2.2**
	comp=Z,18nm,0.8s,comp=Z,498nm						
KOLN	**Kolanda**	**26.30**	**339**	*e*P	**P**	**19 39 42.0**	**+0.2**
	comp=Z,58nm,1.0s						
LSA	**Lhasa**	**26.47**	**355**	P	**P**	**19 39 45.3**	**+1.6**
LSA				pmax	pmax		
	comp=Z,140nm,1.0s						
LSA	**Lhasa**	**26.47**	**355**	*e*P	**P**	**19 39 44.8**	**+1.1**
	comp=Z,146nm,0.9s						
LSA	**Lhasa**	**26.47**	**355**	P	**P**	**19 39 44.8**	**+1.1**
LSA	**Lhasa**	**26.47**	**355**	*e*P	**P**	**19 39 44.8**	**+1.1**
LSA				pmax	pmax		
	comp=Z,146nm,0.9s						
PYUN	**Piuthan**	**26.82**	**338**	*e*P	**P**	**19 39 46.8**	**+0.3**
	comp=Z,77nm,0.9s						
BNSI	**Bone**	**27.36**	**106**	P	P	19 40 04.8	+13
MRSI	**Marisa**	**28.26**	**95**	P	**P**	**19 40 02.6**	**+3.2**
	comp=Z,17nm,0.5s						
TGY	**Tagaytay City**	**28.90**	**66**	LR	LR	19 52 04.8	
	comp=Z,836nm,18.5s,baz=253,slow=38						
CD2	**Chengdu**	**29.12**	**18**	P	**P**	**19 40 06.3**	**-0.6**
CD2				pP	pP	19 40 09.8	-5.3
CD2				sP	sP	19 40 11.4	-7.2
CD2				S	**S**	**19 44 59.3**	**+2.0**
CD2				sS	pS	19 45 05.4	-1.2
CD2				pmax	pmax		
	comp=Z,30nm,0.7s						
CD2				pmax	pmax		
	comp=Z,220nm,5.0s						
CD2				LR	LR		
	comp=Z,4μm,10.1s						
CD2				LR	LR		
	comp=Z,3μm,11.3s						
CD2				LR	LR		
	comp=Z,5μm,10.5s						
LUWI	**Luwuk**	**29.27**	**98**	P	P	19 40 17.4	+9.0
LUWI	**Luwuk**	**29.27**	**98**	*e*P	**P**	**19 40 07.8**	**-0.6**
	comp=Z,142nm,1.7s						
ENH	**Enshi**	**30.75**	**27**	*e*P	**P**	**19 40 19.6**	**-1.6**
	comp=Z,38nm,1.4s						
DAV	**Davao City (W)**	**31.89**	**82**	LR	LR	19 54 54.7	
	comp=Z,888nm,20.7s,baz=260,slow=39						
SMLA	**Simla**	**31.90**	**332**	*e*P	**P**	**19 40 31.6**	**+0.3**
QZH	**Quanzhou**	**32.21**	**46**	P	**P**	**19 40 37.3**	**+3.1**
QZH				S	**S**	**19 45 45.6**	**-0.1**
QZH				LR	LR		
	comp=Z,910nm,11.6s						
QZH				LR	LR		
	comp=Z,2μm,10.4s						
QZH				LR	LR		
	comp=Z,4μm,10.7s						
BATI	**Baumata**	**32.59**	**114**	P	**P**	**19 40 35.6**	**-2.2**
	comp=Z,13nm,0.5s,baz=281,slow=2.8,SNR=9.0						
SOEI	**Soe**	**32.98**	**113**	P	P	19 40 53.3	+12
SOEI	**Soe**	**32.98**	**113**	*e*P	**P**	**19 40 37.9**	**-3.3**
	comp=Z,38nm,1.1s						
DHRM	**DHARAMSHALA**	**33.24**	**332**	*e*P	**P**	**19 40 42.2**	**-1.2**
YULB	**Yu-li**	**33.32**	**51**	*e*P	**P**	**19 40 44.1**	**+0.2**
	comp=Z,63nm,1.8s						
WHN	**Wuhan**	**33.42**	**33**	⇓P	**P**	**19 40 45.1**	**+0.4**
WHN				S	S	19 45 55.1	-9.3
WHN				pmax	pmax		
	comp=Z,64nm,1.2s						
WHN				LR	LR		
	comp=Z,5μm,12.5s						
WHN				LR	LR		
	comp=Z,6μm,11.3s						
WHN				LR	LR		
	comp=Z,9μm,12.2s						
XAN	**Xi'an**	**33.77**	**23**	⇑P	**P**	**19 40 46.4**	**-1.3**
XAN				pP	pP	19 40 50.5	-5.5
XAN				PP	**PP**	**19 42 03.9**	**-0.6**
XAN				S	**S**	**19 46 08.0**	**-1.8**
XAN				sS	sS	19 46 23.0	-0.5
XAN				PcS	**PcS**	**19 47 09.8**	**-3.0**
XAN				pmax	pmax		
	comp=Z,25nm,1.0s						
XAN				pmax	pmax		
	comp=Z,270nm,6.1s						
XAN				LR	LR		
	comp=Z,1μm,9.8s						
XAN				LR	LR		
	comp=Z,2μm,11.0s						
XAN				LR	LR		
	comp=Z,2μm,10.4s						
LBMI	**Labuha**	**33.91**	**96**	P	**P**	**19 40 50.9**	**+1.7**
	comp=Z,58nm,2.2s,comp=Z,2μm						
LZH	**Lanzhou**	**34.01**	**15**	*e*P	**P**	**19 40 49.3**	**-0.7**
LZH				pP	pP	19 40 53.6	-4.7
LZH				sP	sP	19 40 55.4	-6.3
LZH				PP	**PP**	**19 42 06.3**	**-1.0**
LZH				*e*S	**S**	**19 46 15.4**	**+1.6**
LZH				sS	pS	19 46 23.0	-0.3
LZH				SS	**SnSn**	**19 48 24.5**	**+2.6**
LZH				pmax	pmax		
	comp=Z,33nm,1.1s						
LZH				pmax	pmax		
	comp=Z,250nm,5.0s						
LZH				LR	LR		
	comp=Z,2μm,10.7s						
LZH				LR	LR		
	comp=Z,3μm,11.4s						
LZH				LR	LR		
	comp=Z,2μm,11.5s						
AAI	**Ambon**	**35.06**	**101**	P	**P**	**19 40 59.5**	**+0.4**
	comp=Z,45nm,1.5s						
MBWA	**Marble Bar**	**35.10**	**135**	*e*P	**P**	**19 40 59.3**	**-0.1**
	comp=Z,56nm,1.5s						
NIL	**Nilore**	**35.85**	**330**	*e*P	**P**	**19 41 05.0**	**-0.7**
	comp=Z,35nm,0.9s						
NIL	**Nilore**	**35.85**	**330**	*e*P	**P**	**19 41 05.0**	**-0.7**
NIL				pmax	pmax		
	comp=Z,35nm,0.9s						
GTA	**Gaotai**	**36.45**	**8**	⇑P	**P**	**19 41 10.6**	**-0.3**
GTA				pP	pP	19 41 14.9	-4.4
GTA				sP	sP	19 41 17.8	-4.9
GTA				PcP	**PcP**	**19 43 36.3**	**+1.6**
GTA				S	**S**	**19 46 52.1**	**+0.9**
GTA				sS	pS	19 47 00.3	-0.4
GTA				SS	**SnSn**	**19 49 18.9**	**-1.9**
GTA				pmax	pmax		
	comp=Z,19nm,1.3s						
GTA				pmax	pmax		
	comp=Z,110nm,6.5s						
GTA				LR	LR		
	comp=Z,790nm,10.9s						
GTA				LR	LR		
	comp=Z,650nm,11.9s						
GTA				LR	LR		
	comp=Z,540nm,11.4s						
NJ2	**Nanjing**	**37.12**	**37**	*e*P	**P**	**19 41 17.4**	**+0.9**
NJ2				pmax	pmax		
	comp=Z,11nm,1.1s						
NJ2				LR	LR		
	comp=Z,5μm,10.6s						
NJ2				LR	LR		
	comp=Z,5μm,11.4s						
NJ2				LR	LR		
	comp=Z,8μm,10.8s						
SIJI	**Sorong**	**37.68**	**96**	P	**P**	**19 41 20.8**	**-0.8**
	comp=Z,17nm,0.7s,baz=300,slow=7.0,SNR=22						
MEEK	**Meekatharra**	**38.15**	**143**	P	**P**	**19 41 26.5**	**+1.1**
	baz=38,SNR=6.5						
TIY	**Taiyuan**	**38.36**	**24**	*e*P	**P**	**19 41 29.1**	**+2.0**
TIY				S	**S**	**19 47 17.1**	**-3.0**
TIY				pmax	pmax		
	comp=Z,240nm,5.8s						
TIY				LR	LR		
	comp=Z,1μm,12.3s						
TIY				LR	LR		
	comp=Z,1μm,13.1s						
TIY				LR	LR		
	comp=Z,1μm,15.4s						
FAKI	**Fak Fak**	**38.92**	**99**	P	**P**	**19 41 33.4**	**+1.4**
	comp=Z,28nm,1.1s						
FAKI	**Fak Fak**	**38.92**	**99**	*e*P	**P**	**19 41 29.9**	**-2.0**
	comp=Z,31nm,1.0s						
KNRA	**Kununurra**	**39.36**	**119**	P	**P**	**19 41 34.5**	**-1.1**
	baz=39,SNR=6.3						
WSAR	**Wadi Sarin**	**39.41**	**303**	LR	LR	19 57 39.0	
	comp=Z,458nm,18.3s,baz=134,slow=36						
KSH	**Kashi**	**39.60**	**338**	P	**P**	**19 41 35.5**	**-2.0**
KSH				sP	pP	19 41 42.0	-3.9
KSH				PP	**PnPn**	**19 43 11.1**	**-0.8**
KSH				PcP	**PcP**	**19 43 39.8**	**-4.6**
KSH				S	**S**	**19 47 36.5**	**-2.4**
KSH				ScS	**ScS**	**19 51 37.4**	**-6.5**
KSH				pmax	pmax		
	comp=Z,27nm,1.0s						
KSH				pmax	pmax		
	comp=Z,390nm,5.4s						
KSH				LR	LR		
	comp=Z,660nm,12.0s						
KSH				LR	LR		
	comp=Z,980nm,12.2s						
KSH				LR	LR		
	comp=Z,990nm,14.8s						
MTN	**Manton Dam**	**40.37**	**114**	P	**P**	**19 41 43.3**	**-0.7**
	baz=40,SNR=5.5						
MTN	**Manton Dam**	**40.37**	**114**	*e*P	**P**	**19 41 41.2**	**-2.8**
	comp=Z,130nm,2.0s						
JOW	**Kunigami**	**40.51**	**51**	LR	LR	19 58 29.9	
	comp=Z,843nm,21.6s,baz=281,slow=36						
HHC	**Hu-ho-hao-te**	**40.76**	**21**	*e*P	**P**	**19 41 46.9**	**-0.1**
HHC				pP	pP	19 41 51.0	-4.5
HHC				sP	sP	19 41 54.3	-4.6
HHC				PP	**PnPn**	**19 43 27.9**	**+2.4**
HHC				S	**S**	**19 47 58.3**	**+2.2**
HHC				pmax	pmax		
	comp=Z,44nm,1.1s						
HHC				pmax	pmax		
	comp=Z,170nm,5.6s						
HHC				LR	LR		
	comp=Z,1μm,13.7s						
HHC				LR	LR		
	comp=Z,2μm,15.6s						
HHC				LR	LR		
	comp=Z,940nm,13.9s						
WMQ	**Urumqi**	**40.81**	**353**	P	**P**	**19 41 48.1**	**+0.8**
WMQ				sP	sP	19 41 56.1	-3.0
WMQ				PcS	**PcS**	**19 47 33.6**	**-5.3**
WMQ				S	**S**	**19 48 02.5**	**+5.9**
WMQ				pmax	pmax		
	comp=Z,73nm,2.1s						
WMQ				pmax	pmax		
	comp=Z,550nm,3.6s						
WMQ				LR	LR		
	comp=Z,430nm,24.1s						
WMQ				LR	LR		
	comp=Z,680nm,25.3s						
WMQ				LR	LR		
	comp=Z,530nm,22.9s						
TARG	**Taragay, Kyrgy**	**40.95**	**342**	*e*P	**P**	**19 41 49.9**	**+1.0**
	comp=Z,23nm,1.0s						
MUN	**Mundaring**	**40.96**	**150**	P	**P**	**19 41 50.3**	**+1.6**
	baz=41,SNR=4.8						
SFK	**Sufi-Kurgan**	**40.99**	**336**	*i* P	**P**	**19 41 49.5**	**+0.4**
SFK				pmax	pmax		
	comp=Z,52nm,1.4s						
NRN	**Naryn**	**41.28**	**340**	*e*P	**P**	**19 41 51.

MSFE **Esma-Masafi** 42.35 305 P **P** 19 42 02.9 +2.7
H01W3 **Cape Leeuwin H** 42.44 155 T T 20 27 11.9
baz=331,slow=76,SNR=114
H01W2 **Cape Leeuwin H** 42.45 155 T T 20 27 10.8
baz=331,slow=76,SNR=148
H01W1 **Cape Leeuwin H** 42.45 155 T T 20 27 12.4
baz=331,slow=76,SNR=136
UCH **Uchtor** 42.51 339 P **P** 19 42 02.4 +0.6
SNR=38
AAA **Alma-Ata** 42.57 342 *e*P **P** 19 42 02.8 +1.0
AAA *e*S **S** 19 48 23.3 +0.5
AAA pmax pmax
comp=Z,200nm,2.7s
AAA smax smax
comp=E,500nm,7.1s
AAA MLR MLR
comp=Z,400nm,16.0s
AML **Almayashu** 42.73 338 P **P** 19 42 04.3 +0.8
SNR=64
KBK **Karagaybulak** 42.73 339 P **P** 19 42 04.2 +1.0
SNR=39
TKM2 **Tokmak 2** 42.74 340 P **P** 19 42 04.0 +0.6
SNR=25
TKM2 **Tokmak 2** 42.74 340 *i* P **P** 19 42 03.4 +0.1
TKM2 pmax pmax
comp=Z,43nm,1.5s
AAK **Ala-Archa** 42.87 339 P **P** 19 42 04.5 +0.1
comp=Z,9.8nm,1.0s,baz=155,slow=5.7,SNR=24
AAK **Ala-Archa** 42.87 339 P **P** 19 42 05.7 +1.4
SNR=12
AAK **Ala-Archa** 42.87 339 P **P** 19 42 05.1 +0.8
SNR=14
AAK **Ala-Archa** 42.87 339 *i* P **P** 19 42 05.3 +0.9
SNR=16
AAK **Ala-Archa** 42.87 339 *c i*P **P** 19 42 05.2 +0.8
AAK pmax pmax
comp=Z,25nm,1.3s
FRU **Bishkek** 43.00 339 *e*P **P** 19 42 05.0 -0.3
FRU pmax pmax
comp=Z,60nm,2.0s
FRU MLR MLR
comp=E,1μm,14.0s
CHMS **Chumysh** 43.10 339 P **P** 19 42 06.8 +0.7
SNR=6.2
EKS2 **Erkin-Say** 43.16 338 P **P** 19 42 07.4 +0.8
SNR=21
USP **Ospenovka** 43.42 339 P **P** 19 42 09.2 +0.5
SNR=29
MNAS **Manas** 43.49 337 *i* P **P** 19 42 09.7 +0.4
MNAS pmax pmax
comp=Z,36nm,1.5s
DL2 **Dalian** 43.65 32 P **P** 19 42 11.0 +0.5
DL2 *e*S **S** 19 48 39.0 +0.5
DL2 pmax pmax
comp=Z,22nm,1.0s
DL2 pmax pmax
comp=Z,330nm,5.4s
DL2 LR LR
comp=Z,1μm,13.9s
DL2 LR LR
comp=Z,860nm,16.0s
DL2 LR LR
comp=Z,1μm,11.4s
WRKA **Warakurna** 43.70 132 P **P** 19 42 11.1 0.0
baz=44,SNR=8.0
MK31 **Makanchi Array** 44.55 349 *i* P **P** 19 42 17.5 -0.2
MK31 pmax pmax
comp=Z,21nm,0.6s
MK32 **Makanchi Array** 44.55 349 *e*P **P** 19 42 18.1 +0.4
MKAR **Makanchi Array** 44.55 349 P **P** 19 42 18.1 +0.4
comp=Z,26nm,0.7s,baz=166,slow=8.5,SNR=176
MKAR LR LR 20 03 34.3
comp=Z,298nm,20.1s,baz=172,slow=40
MKAR **Makanchi Array** 44.55 349 *e*P **P** 19 42 17.6 -0.1
comp=Z,554nm,1.5s
MKAR **Makanchi Array** 44.55 349 *e*P **P** 19 42 17.6 -0.1
MKAR pmax pmax
comp=Z,554nm,1.5s
MAKZ **Makanchi** 44.63 348 *e*P **P** 19 42 18.1 -0.2
comp=Z,21nm,0.9s
MAKZ **Makanchi** 44.63 348 *e*P **P** 19 42 18.1 -0.2
MAKZ pmax pmax
comp=Z,21nm,0.9s
KK31 **Karatay Array** 44.80 336 *i* P **P** 19 42 19.3 -0.4
KK31 pmax pmax
comp=Z,33nm,1.2s
KKAR **Karatay Array** 44.80 336 *e*P **P** 19 42 19.4 -0.3
KKAR **Karatay Array** 44.80 336 *e*P **P** 19 42 19.4 -0.3
JNU **Nakatsue** 45.69 45 LR LR 20 04 05.0
comp=Z,1μm,18.4s,baz=286,slow=40
JNU **Nakatsue** 45.69 45 *e*P **P** 19 42 26.8 -0.1
comp=Z,66nm,1.6s
SONA0 **Songino Array** 45.77 12 *e*P **P** 19 42 27.2 -0.2
SONA0 *e*PcP **PcP** 19 44 05.9 +1.1
SONM **Songino Array** 45.77 12 P **P** 19 42 27.2 -0.2
comp=Z,12nm,0.7s,baz=190,slow=9.4,SNR=74
SONM PcP **PcP** 19 44 05.9 +1.1
comp=Z,2.7nm,0.6s,baz=191,slow=4.6,SNR=5.7
SONM LR LR 20 02 34.8
comp=Z,428nm,20.7s,baz=202,slow=37
ULN **Ulaanbaatar** 45.94 12 *e*P **P** 19 42 28.1 -0.7
comp=Z,9.9nm,0.8s
ULN **Ulaanbaatar** 45.94 12 P **P** 19 42 28.4 -0.5
SNR=8.8
ULN **Ulaanbaatar** 45.94 12 *c i*P **P** 19 42 28.3 -0.5
ULN pmax pmax
comp=Z,31nm,2.5s
WR1 **Warramunga Arr** 45.98 122 *e*P **P** 19 42 29.1 -0.2
WR1 *e*PcP **PcP** 19 44 06.1 +0.2
WRA **Warramunga Arr** 45.98 122 P **P** 19 42 29.1 -0.2
comp=Z,20nm,0.7s,baz=300,slow=8.8,SNR=223
WRA PcP **PcP** 19 44 06.1 +0.2
comp=Z,1.8nm,1.0s,baz=314,slow=2.8,SNR=3.2
WRA LR LR 20 02 28.7
comp=Z,372nm,21.5s,baz=275,slow=37
WRAB **Tennant Creek** 45.98 122 *e*P **P** 19 42 29.0 -0.4
comp=Z,51nm,1.1s
WRAB **Tennant Creek** 45.98 122 *c i*P **P** 19 42 29.2 -0.2
WRAB pmax pmax
comp=Z,130nm,2.5s
KS15 **Wonju Array Si** 46.23 38 *e*P **P** 19 42 31.1 0.0
KSAR **Wonju Array Be** 46.23 38 P **P** 19 42 31.1 0.0
KSAR **Wonju Array Be** 46.23 38 P **P** 19 42 31.1 0.0
KSRS **Korea Array** 46.26 38 P **P** 19 42 31.1 -0.3
comp=Z,3.7nm,1.0s,baz=232,slow=9.7,SNR=7.7
KSRS LR LR 20 04 18.6
comp=Z,517nm,19.0s,baz=224,slow=39
DGZ **Jazzator, Alta** 46.64 354 *i* P **P** 19 42 35.3 +1.0
DGZ pmax pmax
comp=Z,5.0nm,0.8s
FORT **Forrest** 47.01 139 *e*P **P** 19 42 39.1 +1.9
comp=Z,49nm,1.3s
ASAR **Alice Springs** 47.31 127 P **P** 19 42 39.5 -0.3
comp=Z,0.4nm,0.5s,baz=285,slow=18,SNR=4.2
ASAR PcP **PcP** 19 44 11.3 +0.7
comp=Z,2.8nm,0.6s,baz=299,slow=3.3,SNR=7.6
AS31 **Alice Springs** 47.32 127 *e*P **P** 19 42 39.5 -0.3
AS31 *e*PcP **PcP** 19 44 11.3 +0.7
GEYT **Alibeck** 47.52 321 P **P** 19 42 41.8 +0.6
comp=Z,15nm,0.8s,baz=147,slow=8.3,SNR=51
ZAK **Zakamensk** 47.69 8 *e*P **P** 19 42 41.8 -0.6
ZAK pmax pmax
comp=Z,8.0nm,1.4s
HVS **Khovu-Aksy** 47.77 360 *c i*P **P** 19 42 43.8 +0.9
HVS pmax pmax
comp=Z,59nm,1.1s
OTUK **Ortayu** 48.51 341 *i* P **P** 19 42 49.1 +0.4
OTUK pmax pmax
comp=Z,58nm,1.2s
KURBB **Kurchatov Arra** 48.98 347 P **P** 19 42 52.7 +0.5
comp=Z,14nm,0.7s,baz=170,slow=6.9,SNR=121
KURBB PcP **PcP** 19 44 17.3 +1.3
comp=Z,4.5nm,1.0s,baz=157,slow=2.9,SNR=2.9
TLY **Talaya** 49.01 8 *e*P **P** 19 42 52.9 +0.5
comp=Z,6.5nm,0.9s
TLY **Talaya** 49.01 8 P **P** 19 42 53.0 +0.5
SNR=6.5
TLY **Talaya** 49.01 8 *e*P **P** 19 42 53.1 +0.7
TLY *e* 19 44 50.3
TLY *e*S **S** 19 49 59.1 +4.0
TLY *e* 19 52 46.0
TLY pmax pmax
comp=Z,10.0nm,1.1s
TLY MLR MLR
comp=Z,301nm,11.0s
KURK **Kurchatov** 49.04 347 *e*P **P** 19 42 52.7 0.0
KURK *e*PcP **PcP** 19 44 17.3 +1.1
KURK **Kurchatov** 49.04 347 *e*P **P** 19 42 52.7 0.0
KURK *e* 19 44 17.3
CN2 **Changchun** 49.18 30 *e*P **P** 19 42 51.6 -2.3
CN2 PP **PP** 19 44 46.4 -1.4
CN2 *e*S **S** 19 49 56.1 -1.6
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=Z,900nm,10.0s
CN2 LR LR
comp=Z,800nm,13.0s
CN2 LR LR
comp=Z,1μm,10.0s
IRK **Irkutsk** 49.65 8 *e*P **P** 19 42 56.2 -1.1
IRK pmax pmax
comp=Z,43nm,2.3s
DAMY **Dhamar** 49.98 286 *e*P **P** 19 43 01.9 +1.1
comp=Z,48nm,1.5s
OPO **Ambohidratompo** 50.72 243 LR LR 20 01 19.1
comp=Z,474nm,18.8s,baz=55,slow=32
QIS **Mount Isa** 50.75 120 P **P** 19 43 06.3 +0.2
baz=51,SNR=3.9
RAYN **Ar Rayn** 50.81 298 *e*P **P** 19 43 07.0 +0.3
comp=Z,24nm,1.3s
HIA **Hailar** 50.95 22 *e*P **P** 19 43 06.5 -0.7
comp=Z,27nm,0.8s
HIA **Hailar** 50.95 22 *e*P **P** 19 43 06.5 -0.7
HIA pmax pmax
comp=Z,27nm,0.8s
ZALV **Zalesovo Beam** 51.12 353 P **P** 19 43 08.7 +0.4
comp=Z,19nm,0.5s,baz=180,slow=7.1,SNR=88
ZALV LR LR 20 07 56.0
comp=Z,247nm,18.9s,baz=246,slow=40
ZAA1 **Zalesovo Array** 51.12 353 *e*P **P** 19 43 08.7 +0.3
ATD **Arta Tunnel** 51.13 282 P **P** 19 43 10.7 +1.5
comp=Z,16nm,1.0s,baz=106,slow=3.4,SNR=3.8
ATD LR LR 20 01 12.7
comp=Z,116nm,20.5s,baz=72,slow=32
INU **Inuyama** 51.19 46 *e*P **P** 19 43 08.2 -1.1
comp=Z,17nm,0.9s
MSHR **Mys Shultsa** 51.42 35⇑ *e*P **P** 19 43 10.9 0.0
GUMO **Guam** 51.47 75 LR LR 20 03 51.2
comp=Z,370nm,21.8s,baz=266,slow=35
COEN **Coen** 51.85 110 P **P** 19 43 14.9 +0.4
baz=52,SNR=5.4
COEN **Coen** 51.85 110 *e*P **P** 19 43 13.9 -0.6
comp=Z,25nm,1.4s
MDJ **Mudanjiang** 51.89 32 P **P** 19 43 13.4 -0.9
MDJ pP pP 19 43 17.1 -5.8
MDJ sP sP 19 43 18.8 -7.5
MDJ S **S** **19 50 37.6 +2.3**
MDJ sS pS 19 50 44.8 -0.7
MDJ ScS **ScS** **19 53 01.6 -1.0**
MDJ pmax pmax
comp=Z,19nm,1.1s
MDJ pmax pmax
comp=Z,210nm,4.5s
MDJ LR LR
comp=Z,1μm,10.3s
MDJ LR LR
comp=Z,1μm,11.3s
MDJ LR LR
comp=Z,2μm,14.4s
MDJ **Mudanjiang** 51.89 32 *e*P **P** 19 43 13.5 -0.8
comp=Z,24nm,1.2s
CBIJ **Chichi jima** 51.96 58 *e*P **P** 19 43 13.9 -1.3
comp=Z,135nm,0.9s
JCJ **Chichijima** 51.96 58 LR LR 20 03 04.9
comp=Z,425nm,20.4s,baz=266,slow=34
VLA **Vladivostok** 52.18 35 *c e*P **P** 19 43 17.1 +0.6
VLA pmax pmax
comp=Z,41nm,1.8s
NVS **Novosibirsk** 52.19 352 *e*P **P** 19 43 16.4 +0.1
NVS *e*S **S** 19 50 38.5 -0.6
NVS pmax pmax
comp=Z,43nm,1.1s
NVS pmax pmax
comp=N,28nm,1.2s
NVS pmax pmax
comp=E,17nm,1.2s
NVS smax smax
comp=N,7.0nm,1.6s
NVS smax smax
comp=E,18nm,2.1s
MAJO **Matsushiro** 52.61 45 *e*P **P** 19 43 19.1 -0.7
comp=E,37nm,1.8s
MAJO **Matsushiro** 52.61 45⇑ *e*P **P** 19 43 19.6 -0.2
MAJO pmax pmax
comp=Z,30nm,2.2s
MAT **Matsushiro** 52.61 45 P **P** 19 43 19.1 -0.7
MAT S **S** 19 50 50.2 +4.7
MJAR **Matsushiro Arr** 52.61 45 P **P** 19 43 20.6 +0.8
comp=Z,2.6nm,0.6s,baz=231,slow=7.0,SNR=6.6
KRAR **Krasnoyarsk** 52.66 359 ‖ *i*P **P** 19 43 20.9 +1.1
USRK **Ussuriysk Ar.** 52.92 34 P **P** 19 43 21.3 -0.6
comp=Z,4.8nm,0.8s,baz=236,slow=6.2,SNR=12
USRK LR LR 20 08 40.1
comp=Z,973nm,19.4s,baz=209,slow=39
BVAR **Borovoye Array** 53.29 343 P **P** 19 43 24.2 -0.4
comp=Z,9.6nm,0.7s,baz=146,slow=8.0,SNR=49
BVAR LR LR 20 07 57.9
comp=Z,289nm,19.1s,baz=152,slow=38
BRVK **Borovoye** 53.35 343 *e*P **P** 19 43 23.8 -1.2
comp=Z,18nm,0.9s
BRVK **Borovoye** 53.35 343 P **P** 19 43 24.5 -0.5
SNR=12
BRVK **Borovoye** 53.35 343 *c e*P **P** 19 43 24.5 -0.5
BRVK pmax pmax
comp=Z,23nm,1.0s
BBOO **Buckleboo** 53.68 135 *e*P **P** 19 43 27.5 -0.2
comp=Z,54nm,1.6s
MANU **Manus Island** 53.81 95 *e*P **P** 19 43 27.2 -1.8
comp=Z,20nm,1.1s
MTSU **Mount Surprise** 54.10 115 P **P** 19 43 31.5 +0.5
baz=54,SNR=4.3
AB31 **Akbulak array** 54.18 333 *i* P **P** 19 43 30.4 -0.7
AB31 pmax pmax
comp=Z,24nm,1.1s
ABKAR **Akbulak array** 54.18 333 *e*P **P** 19 43 30.8 -0.3
PMG **Port Moresby** 54.63 104 LR LR 20 10 18.0
comp=Z,105nm,18.7s,baz=282,slow=40
PMG **Port Moresby** 54.63 104 *e*P **P** 19 43 34.0 -1.0
comp=Z,19nm,1.0s
PMG **Port Moresby** 54.63 104 *e*P **P** 19 43 34.0 -1.0
PMG pmax pmax
comp=Z,19nm,1.0s
AKTO **Aktyubinsk** 55.89 333 P **P** 19 43 42.6 -0.9
comp=Z,6.3nm,1.0s,baz=104,slow=4.3,SNR=16
AKTO LR LR 20 08 46.4
comp=Z,184nm,19.8s,baz=141,slow=37
AKTO **Aktyubinsk** 55.89 333 *i* P **P** 19 43 41.6 -1.9
AKTO pmax pmax
comp=Z,16nm,1.2s
KLR **Kul'dur** 56.08 29 *c i*P **P** 19 43 45.0 +0.1
CTA **Charters Tower** 56.44 117 P **P** 19 43 48.0 +0.1
comp=Z,5.6nm,0.8s,baz=271,slow=6.9,SNR=6.2
CTAO **Charters Tower** 56.44 117 *e*P **P** 19 43 48.3 +0.4
comp=Z,11nm,1.0s
CTAO **Charters Tower** 56.44 117 *e*P **P** 19 43 48.3 +0.4
CTAO pmax pmax
comp=Z,11nm,1.0s
KMBO **Kilima Mbogo** 56.68 267 P **P** 19 43 51.0 +0.9
comp=Z,1.4nm,0.3s,baz=57,slow=12,SNR=6.0
KMBO LR LR 20 05 55.2
comp=Z,432nm,18.4s,baz=95,slow=34
KMBO **Kilima Mbogo** 56.68 267 *e*P **P** 19 43 50.4 +0.4
KMBO **Kilima Mbogo** 56.68 267 *e*P **P** 19 43 50.4 +0.4
BOD **Bodaibo** 56.75 13 *e*P **P** 19 43 48.8 -0.6
BOD pmax pmax
comp=Z,19nm,1.4s
MAK **Makhachkala** 57.03 321 *e*P **P** 19 43 49.6 -2.1
MAK *e* 19 45 55.8
MAK *e*S **S** **19 51 44.4 -0.2**
MAK *e*SS **SS** **19 55 32.8 -0.8**
MAK pmax pmax
comp=Z,82nm,0.8s
STKA **Stephens Creek** 57.22 131 P **P** 19 43 53.2 0.0
comp=Z,7.2nm,0.7s,baz=316,slow=5.3,SNR=28
STKA LR LR 20 11 06.5
comp=Z,181nm,19.2s,baz=336,slow=39
STKA **Stephens Creek** 57.22 131 P **P** 19 43 53.4 +0.1
baz=57,SNR=16
ZEA **Zeya** 57.35 23 *e*P **P** 19 43 54.0 +0.2
ZEA pmax pmax
comp=Z,25nm,1.2s
ZEA MLR MLR
comp=Z,2μm,12.0s
ZEA MLR MLR
comp=E,1μm,11.0s
ZEA MLR MLR
comp=N,1μm,12.0s
GNI **Garni** 57.50 317 *e*P **P** 19 43 55.8 +0.5
comp=N,57nm,1.5s
GNI **Garni** 57.50 317 P **P** 19 43 55.7 +0.4
SNR=6.9
GNI **Garni** 57.50 317 *i* P **P** 19 43 56.0 +0.6
SNR=5.6
GNI **Garni** 57.50 317 *c i*P **P** 19 43 55.7 +0.4
GNI pmax pmax
comp=Z,93nm,1.2s
TBLG **Delisi** 58.22 318 *e*P **P** 19 44 00.3 +0.1
comp=Z,32nm,1.1s
TBLG **Delisi** 58.22 318 *e*P **P** 19 44 00.3 +0.1
TBLG pmax pmax
comp=Z,33nm,1.1s
GROC **Groznyy** 58.23 320 *e*P **P** 19 43 58.6 -1.6
GROC *e* 19 44 49.9
GROC pmax pmax
comp=Z,47nm,1.2s
ERM **Erimo** 58.56 42 *e*P **P** 19 44 02.9 +0.4
comp=Z,59nm,1.8s
ERM **Erimo** 58.56 42⇑ *e*P **P** 19 44 04.7 +2.2
ERM pmax pmax
comp=Z,29nm,1.6s
AKH **Akhalkalaki** 58.91 317⇑ *i*P **P** 19 44 05.5 +0.3
AKH **Akhalkalaki** 58.91 317 *e*P **P** 19 44 05.7 +0.5
comp=Z,8.8nm,1.0s
AKH **Akhalkalaki** 58.91 317 *e*P **P** 19 44 05.7 +0.5
AKH pmax pmax
comp=Z,9.0nm,1.0s
ASAJ **Asahikawa** 59.19 39 P **P** 19 44 07.8 +1.0
comp=Z,7.4nm,0.7s,baz=232,slow=2.5,SNR=17
ASAJ **Asahikawa** 59.19 39 *e*P **P** 19 44 06.8 0.0
comp=Z,9.3nm,0.7s
ZEI **Tsey** 59.26 319 *e*P **P** 19 44 05.5 -2.1
ZEI pmax pmax
comp=Z,9.0nm,0.6s
GRNR **Gornyy** 59.38 30 *e*P **P** 19 44 07.4 -0.6
GRNR pmax pmax
comp=Z,60nm,1.2s
SVE **Sverdlovsk** 59.61 340 *e*P **P** 19 44 09.2 -0.3
SVE pmax pmax
comp=Z,52nm,1.4s
NCK **Nalchik** 59.79 320⇑ *e*P **P** 19 44 11.0 0.0
NCK pmax pmax
comp=Z,5.0nm,0.4s
ARU **Arti** 60.05 338 *e*P **P** 19 44 11.3 -1.1
comp=Z,28nm,1.2s
ARU **Arti** 60.05 338 *c i*P **P** 19 44 11.4 -1.1
ARU 19 45 00.0
ARU 19 46 20.9
ARU S **S** **19 52 24.9 +1.4**
ARU 19 54 02.6
ARU SS **SS** **19 56 19.7 -0.9**
ARU pmax pmax
comp=Z,30nm,1.2s
CMSA **Cobar Meteorol** 60.19 129 P **P** 19 44 14.4 +0.5
baz=60,SNR=52
NEY **Neytrino** 60.24 319 ‖ *e*P **P** 19 44 15.6 +1.3
NEY pmax pmax
comp=Z,1.0nm,0.7s
KBZ **Khabaz** 60.34 320 P **P** 19 44 14.8 +0.1
comp=Z,10nm,1.0s,baz=103,slow=4.5,SNR=14
KIV **Kislovodsk** 60.58 320 *e*P **P** 19 44 15.9 -0.6
comp=Z,24nm,1.1s
KIV **Kislovodsk** 60.58 320 P **P** 19 44 16.3 -0.3
SNR=6.8
KIV **Kislovodsk** 60.58 320 *i* P **P** 19 44 16.4 -0.1
SNR=7.2
KIV **Kislovodsk** 60.58 320 *e*P **P** 19 44 16.2 -0.3
KIV *e*S **S** **19 52 32.4 +1.4**
KIV pmax pmax
comp=Z,22nm,1.1s
YSS **Yuzh-Sakhalins** 60.69 36 *e*P **P** 19 44 17.2 +0.2
comp=Z,49nm,1.1s
YSS **Yuzh-Sakhalins** 60.69 36⇑ *e*P **P** 19 44 17.5 +0.4
YSS *e* 19 44 25.7
YSS *e*S **S** **19 52 35.1 +3.1**
YSS pmax pmax
comp=Z,30nm,0.8s
YSS pmax pmax
comp=Z,100nm,1.2s
YSS MLR MLR
comp=Z,600nm,14.0s
YSS MLR MLR
comp=N,400nm,16.0s
YSS MLR MLR
comp=E,700nm,14.0s
RMQ **Roma** 60.72 123 P **P** 19 44 19.2 +1.5
baz=61,SNR=4.7
GOF **Gofitskoye** 60.86 321⇑ *e*P **P** 19 44 17.7 -0.6
EIL **Elat** 61.51 302 LR LR 20 11 46.8
comp=E,412nm,18.3s,baz=64,slow=37
MMAI **Mount Meron Ar** 61.98 306 P **P** 19 44 28.2 +2.0
comp=E,6.7nm,0.7s,baz=99,slow=9.2,SNR=14
MMAI LR LR 20 12 49.9
comp=E,215nm,19.9s,baz=130,slow=38
EIDS **Eidsvold** 62.33 121 *e*P **P** 19 44 28.1 -0.5
comp=E,44nm,1.6s
SOC **Sochi** 62.36 318 *e*P **P** 19 44 25.6 -2.8
SOC *e*S **S** **19 52 50.8 -2.6**
SOC *e*SSS SSS 19 59 34.2
TYV **Tymovskoe** 62.66 32 *e*P **P** 19 44 26.9 -3.4
TYV *e* 19 52 54.9
TYV pmax pmax
comp=Z,300nm,4.5s
TYV pmax pmax
comp=Z,19nm,1.4s
TYV MLR MLR
comp=E,2μm,17.0s
TYV MLR MLR
comp=Z,2μm,14.0s
NKL **Nikolayevsk** 62.91 30 *e*P **P** 19 44 31.2 -0.7
NKL *e* 19 44 40.5
NKL pmax pmax
comp=Z,35nm,1.2s
NKL MLR MLR
comp=N,1μm,13.0s
NKL MLR MLR
comp=E,1μm,13.0s
NKL MLR MLR
comp=Z,2μm,13.0s
MBAR **Mbarara** 63.14 268 *e*P **P** 19 44 35.6 +1.2
comp=Z,16nm,1.5s
MBAR **Mbarara** 63.14 268 *e*P **P** 19 44 35.6 +1.2
MBAR pmax pmax
comp=Z,16nm,1.5s
ARMA **Armidale** 64.46 126 *e*P **P** 19 44 42.9 +0.2
comp=Z,85nm,1.8s
YAK **Yakutsk** 64.51 18 *e*P **P** 19 44 41.3 -0.9
comp=Z,77nm,1.5s
YAK **Yakutsk** 64.51 18 *i* P **P** 19 44 41.4 -0.9
YAK *e**PP **pP** 19 44 49.5 -1.5
YAK *e* 19 45 14.5
YAK *e* 19 47 10.1
YAK *e*S **S** **19 53 16.6 -2.9**
YAK *e**SS **sS** **19 53 36.6 +2.6**
YAK *e* 19 54 36.9
YAK *e*SS **SS** **19 57 31.3 +1.2**
YAK pmax pmax
comp=Z,28nm,1.0s
YAK pmax pmax
comp=N,8.0nm,1.0s
YAK pmax pmax
comp=Z,120nm,4.2s
YAK pmax pmax
comp=N,68nm,4.4s
YAK pmax pmax
comp=E,56nm,2.8s
YAK smax smax
comp=N,99nm,4.7s
YAK smax smax
comp=E,176nm,5.1s
YAK MLR MLR
comp=Z,447nm,17.0s
YAK MLR MLR
comp=N,398nm,18.0s
YAK MLR MLR
comp=E,164nm,18.0s

VRH Novokhopyorsk 64.58 327 *e*P **P** **19 44 41.1 -1.8**
VRH pmax pmax
comp=Z,20nm,1.3s
BR101 Keskin Array S 65.25 313 *e*P **P** **19 44 47.3 -0.5**
BR131 Keskin Array S 65.25 313 P **P** **19 44 47.3 -0.5**
BRTR Keskin Array B 65.25 313 P **P** **19 44 47.3 -0.5**
comp=Z,4.9nm,0.8s,baz=131,slow=5.6,SNR=35
BRTR LR LR 20 14 53.5
comp=Z,102nm,19.8s,baz=108,slow=38
ILGA Ilgaz 65.60 314 *e*P **P** **19 44 50.1 0.0**
comp=Z,32nm,1.0s
ANTO Ankara 65.92 312 ⇓*i*P **P** **19 44 52.7 +0.7**
ANTO Ankara 65.92 312 *e*P **P** **19 44 51.1 -0.9**
comp=Z,16nm,0.8s
ANTO Ankara 65.92 312 *e*P **P** **19 44 51.1 -0.9**
ANTO pmax pmax
comp=Z,15nm,0.8s
VSR Storozhevoye 66.00 326 *e*P **P** **19 44 49.8 -2.3**
VSR pmax pmax
comp=Z,10.0nm,1.1s
SIM Simferopol' 66.60 318 *ce*P **P** **19 44 56.1 -0.1**
SIM *e*S **S** **19 53 47.0 +1.3**
SIM pmax pmax
comp=Z,50nm,1.4s
LPSR Galich'ya Gora 66.77 327 *e*P **P** **19 44 55.9 -1.1**
LPSR pmax pmax
comp=Z,20nm,1.0s
HNR Honiara 67.09 102 LR LR 20 17 51.1
comp=Z,59nm,19.3s,baz=262,slow=39
LSZ Lusaka 67.45 252 P **P** **19 45 02.9 +0.6**
comp=Z,2.0nm,0.6s,baz=102,slow=6.2,SNR=7.2
LSZ Lusaka 67.45 252 *e*P **P** **19 45 02.8 +0.6**
comp=Z,15nm,1.4s
LSZ Lusaka 67.45 252 *e*P **P** **19 45 02.8 +0.6**
LSZ pmax pmax
comp=Z,15nm,1.4s
MANT Manisa 68.74 310 *e*P **P** **19 45 08.8 -1.2**
comp=Z,52nm,0.6s
MOS Moscow 68.89 330 *e*P **P** **19 45 06.9 -3.4**
MOS pmax pmax
comp=Z,40nm,1.2s
OBN Obninsk 69.14 329 *e i*P **P** **19 45 10.8 -1.1**
comp=Z,21nm,1.2s
OBN Obninsk 69.14 329 *c i*P **P** **19 45 10.8 -1.1**
OBN *i* 19 45 34.5
OBN *i* 19 47 48.4
OBN *i* S **S** **19 54 08.9 -6.8**
OBN pmax pmax
comp=Z,25nm,1.2s
OBN MLR MLR
comp=Z,143nm,18.0s
KARP Karpathos 69.20 307 *e*P **P** **19 45 13.4 +0.6**
comp=Z,26nm,1.0s
SKR Severo-Kuril's 70.25 37 *e*P **P** **19 45 15.9 -2.9**
SKR *e*S **S** **19 54 29.1 +0.2**
SKR pmax pmax
comp=Z,200nm,9.9s
SKR MLR MLR
comp=Z,300nm,20.0s
SKR MLR MLR
comp=Z,500nm,16.0s
TIRR Tirgusor 70.33 316 ⇑*i*P **P** **19 45 19.3 -0.1**
TIRR Tirgusor 70.33 316 *e*P **P** **19 45 18.8 -0.6**
comp=Z,12nm,0.8s
TIRR Tirgusor 70.33 316 *e*P **P** **19 45 18.8 -0.6**
TIRR pmax pmax
comp=Z,12nm,0.8s
CASY Casey 70.37 173 *e*P **P** **19 45 20.3 +1.2**
comp=Z,29nm,1.6s
KLMR Klimovskoe 70.50 335 *e*P **P** **19 45 18.0 -2.1**
KLMR AMP 19 45 20.6
comp=Z,17nm,1.2s
KLMR Klimovskoe 70.50 335 *e*P **P** **19 45 18.0 -2.1**
KLMR pmax pmax
comp=Z,17nm,1.2s
CFR Carcaliu 70.71 317 ⇑*i*P **P** **19 45 21.5 -0.2**
SANT Santorini 70.71 307 *e*P **P** **19 45 22.6 +0.6**
comp=Z,107nm,1.2s
KIS Kishinev 70.76 319 *e*P **P** **19 45 20.0 -2.0**
KIS Kishinev 70.76 319 *e*P **P** **19 45 20.0 -2.0**
KIS *e* 19 45 32.0
IDI Anoyia 70.97 306 P **P** **19 45 24.5 +0.8**
comp=Z,18nm,0.6s,baz=87,slow=9.6,SNR=17
IDI LR LR 20 19 34.3
comp=Z,64nm,21.4s,baz=84,slow=38
IDI Anoyia 70.97 306 *e*P **P** **19 45 23.7 0.0**
comp=Z,24nm,0.8s
MA2 Magadan 71.05 27 *e*P **P** **19 45 23.1 -0.5**
comp=Z,35nm,1.5s
MA2 Magadan 71.05 27 *e*P **P** **19 45 23.1 -0.5**
MA2 pmax pmax
comp=Z,35nm,1.5s
ALN Alexandroupoli 71.16 312 *e*P **P** **19 45 24.9 +0.3**
comp=Z,49nm,1.5s
ALN Alexandroupoli 71.16 312 *e*P **P** **19 45 24.9 +0.3**
ALN pmax pmax
comp=Z,49nm,1.5s
SORM Soroca 71.38 320 ⇑*i*P **P** **19 45 25.0 -0.8**
AKASG Malin Array Be 71.61 323 P **P** **19 45 25.8 -1.2**
AKASG LR LR 20 20 47.3
comp=Z,5.0nm,0.7s,baz=87,slow=5.0,SNR=24
comp=Z,90nm,18.8s,baz=75,slow=39
AKBB Malin Array Si 71.61 323 *e*P **P** **19 45 25.8 -1.3**
AKBB Malin Array Si 71.61 323 *e*P **P** **19 45 25.8 -1.3**
KIEV Kiev 71.61 323 *e*P **P** **19 45 25.6 -1.5**
comp=Z,7.6nm,0.9s
KIEV Kiev 71.61 323 *i*P **P** **19 45 25.8 -1.3**
SNR=6.1
KIEV Kiev 71.61 323 *ce*P **P** **19 45 25.9 -1.3**
KIEV pmax pmax
comp=Z,10.0nm,1.1s
ISR Istrita 71.78 317 ⇓*i*P **P** **19 45 29.0 +0.6**
VRI Vrincioaia 71.84 317 ⇓*i*P **P** **19 45 29.0 +0.3**
TIXI Tiksi 71.85 11 *e*P **P** **19 45 27.4 -0.7**
comp=Z,30nm,1.0s
TIXI Tiksi 71.85 11 *e*P **P** **19 45 27.4 -0.7**
TIXI pmax pmax
comp=Z,30nm,1.0s
SULR 71.88 316 ⇑*i*P **P** **19 45 29.4 +0.6**
PLOR Plostina 71.89 317 ⇑*i*P **P** **19 45 29.7 +0.7**
PETK Petropavlovsk- 72.00 35 P **P** **19 45 28.8 -0.6**
comp=Z,1.1nm,0.7s,baz=259,slow=0.9,SNR=4.1
PETK LR LR 20 20 03.7
comp=Z,439nm,18.3s,baz=248,slow=38
PEA1 Petropavlovsk- 72.00 35 *e*P **P** **19 45 28.8 -0.6**
TESR Tescani 72.06 318 ⇑*i*P **P** **19 45 29.5 -0.4**
MLR Muntele Rosu 72.28 317 P **P** **19 45 31.6 +0.1**
comp=Z,5.2nm,1.0s,baz=30,slow=5.1,SNR=25
MLR LR LR 20 22 28.0
comp=Z,28nm,18.2s,baz=72,slow=40
MLR Muntele Rosu 72.28 317 ⇑*i*P **P** **19 45 31.8 +0.4**
MLR Muntele Rosu 72.28 317 *e*P **P** **19 45 31.1 -0.4**
comp=Z,48nm,1.2s
MLR Muntele Rosu 72.28 317 *e*P **P** **19 45 31.1 -0.4**
MLR pmax pmax
comp=Z,48nm,1.2s
PET Petropavlovsk 72.52 35 *e*P **P** **19 45 31.1 -1.3**
comp=Z,30nm,1.5s
PET Petropavlovsk 72.52 35 ⇓*i*P **P** **19 45 32.0 -0.4**
PET *e*S **S** **19 54 53.5 -1.5**
PET *e*SS **SS** **19 59 36.1 +2.0**
PET pmax pmax
comp=Z,13nm,1.5s
PRAR RASCA 72.56 319 ⇑*i*P **P** **19 45 33.3 +0.4**
HUMR Humele 72.73 316 ⇑*i*P **P** **19 45 33.8 -0.1**
TMCR Tamitsa 72.78 338 *e*P **P** **19 45 33.2 -0.6**
BOSA Boshof 72.86 239 P **P** **19 45 35.5 +0.4**
comp=Z,3.5nm,0.7s,baz=105,slow=4.0,SNR=8.2
BOSA LR LR 20 15 24.0
comp=Z,353nm,19.2s,baz=66,slow=34
VOIR 72.88 317 ⇓*i*P **P** **19 45 35.4 +0.5**
ARR Arges 73.15 316 ⇑*i*P **P** **19 45 36.2 -0.3**
BURAR Bucovina Array 73.28 319 ⇑*i*P **P** **19 45 37.9 +0.6**
SEY Seymchan 73.30 24 ⇑*e*P **P** **19 45 36.6 -0.3**
VTS Vitosha 73.59 313 ⇑*i*P **P** **19 45 38.8 -0.5**
VTS Vitosha 73.59 313 *e*P **P** **19 45 38.6 -0.7**
comp=Z,18nm,1.1s
VTS Vitosha 73.59 313 *e*P **P** **19 45 38.6 -0.7**
VTS pmax pmax
comp=Z,18nm,1.1s
AGG Agios Georgios 73.61 310 *e*P **P** **19 45 39.3 -0.1**
comp=Z,67nm,0.8s
AGG Agios Georgios 73.61 310 *e*P **P** **19 45 39.3 -0.1**
AGG pmax pmax
comp=Z,67nm,0.8s

ITM Ithomi 73.64 308 *e*P **P** **19 45 39.2 -0.3**
comp=Z,157nm,2.0s
MAW Mawson 73.92 192 P **P** **19 45 39.8 -0.6**
comp=Z,3.4nm,0.6s,baz=350,slow=6.1,SNR=2.5
IDID Didziasalis 74.45 327 *e*P **P** **19 45 42.7 -1.1**
IDID IAmb IAmb 19 45 46.4
comp=Z,8.0nm,0.9s
FNA Florina 74.62 311 *e*P **P** **19 45 43.8 -1.4**
comp=Z,49nm,1.8s
FNA Florina 74.62 311 *e*P **P** **19 45 43.8 -1.4**
FNA pmax pmax
comp=Z,49nm,1.8s
IIGN Ignalina 74.74 327 *e*P **P** **19 45 44.5 -1.0**
IIGN IAmb IAmb 19 45 48.1
comp=Z,8.2nm,1.0s
DRGR 74.76 318 ⇑*i*P **P** **19 45 45.4 -0.5**
IZAR Zarasai 74.85 327 *e*P **P** **19 45 45.2 -0.8**
IZAR IAmb IAmb 19 45 46.5
comp=Z,5.1nm,0.6s
TRPA Tarpa 75.16 319 ⇑*i*P **P** **19 45 48.3 +0.3**
TRPA Tarpa 75.16 319 ⇑*e*P **P** **19 45 48.4 +0.4**
DZM Mont Dzumac 75.20 114 *e*LR LR 20 08 57.3
comp=Z,278nm,22.1s
BZS Buzias 75.28 316 ⇑*i*P **P** **19 45 48.4 -0.4**
KWP Kalwaria Pacla 75.36 321 *e*P **P** **19 45 49.5 +0.2**
KWP Kalwaria Pacla 75.36 321 *e*P **P** **19 45 49.2 -0.1**
comp=Z,591nm,1.6s
KWP Kalwaria Pacla 75.36 321 *e*P **P** **19 45 49.5 +0.2**
SIRR Siria 75.37 317 ⇑*i*P **P** **19 45 48.6 -0.8**
VSU Vasula 75.42 330 ⇓*i*P **P** **19 45 48.0 -1.3**
VSU pmax pmax
comp=Z,78nm,1.3s
UZH Uzhgorod 75.42 319 *e*P **P** **19 45 48.8 -0.7**
UZH *e* 19 45 54.6
UZH *i* 19 46 00.8
LVZ Lovozero 75.81 340 *e*P **P** **19 45 50.4 -1.0**
comp=Z,72nm,1.7s
LVZ Lovozero 75.81 340 ⇑*e*P **P** **19 45 50.9 -0.5**
LVZ pmax pmax
comp=Z,9.0nm,1.0s
TIR Tirane 75.84 312 *e*P **P** **19 45 51.3 -0.8**
comp=Z,213nm,1.8s
TIR Tirane 75.84 312 *e*P **P** **19 45 51.3 -0.8**
TIR pmax pmax
comp=Z,213nm,1.8s
CRVS Cervenica-Dubn 76.01 320 *e*P **P** **19 45 53.3 +0.3**
CRVS Cervenica-Dubn 76.01 320 *e*P **P** **19 45 53.3 +0.3**
CRVS pmax pmax
comp=Z,26nm,1.6s
SUW Suwalki 76.09 325 *e*P **P** **19 45 52.5 -0.7**
SUW Suwalki 76.09 325 *e*P **P** **19 45 52.2 -1.0**
comp=Z,86nm,1.2s
SUW Suwalki 76.09 325 *e*P **P** **19 45 52.5 -0.7**
DIVS Divibare 76.16 315 *e*P **P** **19 45 53.6 -0.4**
comp=Z,29nm,1.6s
STHS Stebnicka Huta 76.25 320 *e*P **P** **19 45 54.6 +0.2**
STHS *e* 19 46 06.8
STHS Stebnicka Huta 76.25 320 *e*P **P** **19 45 54.6 +0.2**
STHS *e* 19 46 06.8
STHS pmax pmax
comp=Z,9.0nm,0.9s
FIA0 FINESS Array S 76.67 333 *e*P **P** **19 45 55.9 -0.5**
FIA0 FINESS Array S 76.67 333 *e*P **P** **19 45 55.9 -0.5**
FINES FINESS Array B 76.67 333 P **P** **19 45 55.9 -0.5**
comp=Z,5.0nm,0.7s,baz=106,slow=5.4,SNR=34
PSZ Piszkesteto 76.86 318 ⇑*i*P **P** **19 45 57.9 0.0**
PSZ Piszkesteto 76.86 318 ⇑*e*P **P** **19 45 57.7 -0.2**
PSZ Piszkesteto 76.86 318 *e*P **P** **19 45 56.9 -1.0**
comp=Z,15nm,1.2s
PSZ Piszkesteto 76.86 318 *e*P **P** **19 45 56.9 -1.0**
PSZ pmax pmax
comp=Z,15nm,1.2s
NIE Niedzica 76.86 320 *e*P **P** **19 45 58.4 +0.6**
NIE Niedzica 76.86 320 *e*P **P** **19 45 58.4 +0.6**
BEL Belsk 77.02 322 *e*P **P** **19 45 58.8 +0.2**
BEL Belsk 77.02 322 *e*P **P** **19 45 58.8 +0.2**
OJC Ojcow 77.33 321 *e*P **P** **19 46 00.6 +0.2**
OJC Ojcow 77.33 321 *e*P **P** **19 46 00.1 -0.2**
comp=Z,23nm,1.2s
OJC Ojcow 77.33 321 *e*P **P** **19 46 00.6 +0.2**
LANS Liptovska Anna 77.35 320 *e*P **P** **19 46 00.9 +0.3**
LANS Liptovska Anna 77.35 320 *e*P **P** **19 46 00.9 +0.3**
MORH M¯r¡gy, Hung 77.43 317 ⇑*e*P **P** **19 46 00.8 -0.2**
VYHS Vyhne 77.65 319 *e*P **P** **19 46 02.4 +0.2**
VYHS Vyhne 77.65 319 *e*P **P** **19 46 02.4 +0.2**
VYHS pmax pmax
comp=Z,12nm,1.3s
CSKK Cs¯tkako 77.86 318 ⇑*e*P **P** **19 46 03.6 +0.2**
KLNR Kaliningrad 77.92 325 ⇑*e*P **P** **19 46 03.6 +0.1**
BLY Banja Luka 78.24 315 ⇓*i*P **P** **19 46 06.4 +0.8**
BLY Banja Luka 78.24 315 *e*P **P** **19 46 04.5 -1.1**
comp=Z,35nm,1.3s
OKC Ostrava-Krasne 78.31 320 *e*P **P** **19 46 06.7 +0.9**
OKC AMS AMS 20 29 30.0
comp=Z,200nm,21.2s
OKC Ostrava-Krasne 78.31 320 *e*P **P** **19 46 06.7 +0.9**
OKC MLR MLR
comp=Z,200nm,21.2s
MODS Modra-Piesok 78.66 319 *e*P **P** **19 46 07.6 -0.2**
MODS *e* 19 46 15.9
MODS Modra-Piesok 78.66 319 *e*P **P** **19 46 07.6 -0.2**
MODS *e* 19 46 15.9
MODS pmax pmax
comp=Z,45nm,1.2s
MORC Moravsky Berou 78.69 320 ⇑*i*P **P** **19 46 08.5 +0.4**
MORC Moravsky Berou 78.69 320 *e*P **P** **19 46 08.4 +0.4**
comp=Z,81nm,1.3s
MORC Moravsky Berou 78.69 320 *e*P **P** **19 46 08.4 +0.4**
MORC pmax pmax
comp=Z,81nm,1.3s
SOP Sopron 79.05 318 ⇓*e*P **P** **19 46 10.8 +0.9**
KRLC Kraliky 79.22 320 *e*P **P** **19 46 10.8 -0.1**
KRLC Kraliky 79.22 320 *e*P **P** **19 46 10.8 -0.1**
ARA0 ARCESS Array S 79.52 341 *e*P **P** **19 46 11.8 -0.2**
ARCES ARCESS Array B 79.52 341 P **P** **19 46 11.8 -0.2**
comp=Z,12nm,1.1s,baz=93,slow=4.8,SNR=18
CONA Conrad Observa 79.54 318 *e*P **P** **19 46 12.8 0.0**
comp=Z,10nm,1.1s
DPC Dobruska-Polom 79.55 321 *e*P **P** **19 46 13.6 +0.9**
DPC *e*pP **PcP** **19 46 21.5 +0.9**
DPC AMS AMS 20 27 30.0
comp=Z,100nm,18.9s
DPC Dobruska-Polom 79.55 321 *e*P **P** **19 46 13.6 +0.9**
DPC *e* 19 46 21.5
DPC MLR MLR
comp=Z,100nm,18.9s
KSP Ksiaz 79.63 321 *e*P **P** **19 46 13.8 +0.7**
KSP Ksiaz 79.63 321 *e*P **P** **19 46 13.8 +0.7**
ARSA Arzberg 79.69 317 *e*P **P** **19 46 14.1 +0.6**
comp=Z,30nm,1.2s,SNR=12
UPC Upice 79.77 321 *e*P **P** **19 46 14.7 +0.9**
UPC Upice 79.77 321 *e*P **P** **19 46 14.7 +0.9**
SOKA Soboth 79.96 317 *e*P **P** **19 46 15.6 +0.5**
comp=Z,48nm,1.3s,SNR=19
OBKA Obir 80.28 316 *e*P **P** **19 46 17.3 +0.5**
comp=Z,21nm,1.2s
GOPC GO Pecny, Ondr 80.47 320 *e*P **P** **19 46 18.7 +1.0**
GOPC AMS AMS 20 33 40.0
comp=Z,200nm,14.9s
GOPC GO Pecny, Ondr 80.47 320 *e*P **P** **19 46 18.7 +1.0**
GOPC MLR MLR
comp=Z,200nm,14.9s
BILL Bilibino 80.53 21 *d i*P **P** **19 46 18.0 +0.4**
BILL *e* 19 49 24.1
BILL pmax pmax
comp=Z,7.0nm,1.4s
BILL MLR MLR
comp=Z,651nm,18.0s
MOA Molln 80.60 318 *e*P **P** **19 46 18.4 -0.1**
comp=Z,10nm,1.3s
PRU Pruhonice 80.64 320 *e*P **P** **19 46 19.4 +0.9**
PRU Pruhonice 80.64 320 *e*P **P** **19 46 19.4 +0.9**
PVCC Panska Ves 80.68 321 *e*P **P** **19 46 19.4 +0.7**
PVCC Panska Ves 80.68 321 *e*P **P** **19 46 19.4 +0.7**
AQU L'Aquila 80.75 312 *e*P **P** **19 46 19.3 0.0**
comp=Z,42nm,1.2s
AQU L'Aquila 80.75 312 *e*P **P** **19 46 19.3 0.0**
AQU pmax pmax
comp=Z,42nm,1.2s
SYO Syowa Base 80.87 197 ⇓*e*P P 19 46 13.0 -6.3
MYKA Terra Mystica 80.91 317 *e*P **P** **19 46 20.5 +0.3**
comp=Z,13nm,1.0s,SNR=6.9
GEC2 GERESS Array S 81.07 319 *e*P **P** **19 46 21.4 +0.4**
GEC2 GERESS Array S 81.07 319 *e*P **P** **19 46 21.4 +0.4**

GERES GERESS Array B 81.07 319 P **P** **19 46 21.4 +0.4**
comp=Z,8.8nm,0.6s,baz=93,slow=5.5,SNR=68
GERES LR LR 20 27 48.6
comp=Z,62nm,18.7s,baz=78,slow=40
BRG Berggiesshubel 81.11 321 *e*P **P** **19 46 21.4 +0.3**
comp=Z,25nm,1.5s
BRG *e* 19 46 29.5
comp=Z,35nm,1.9s
BRG SKS **S** **19 56 29.0 0.0**
BRG S **SKKSac** **19 56 41.0 +0.2**
comp=N,63nm,14.5s
comp=E,111nm,14.6s
comp=Z,186nm,18.2s
BRG Berggiesshubel 81.11 321 *e*P **P** **19 46 21.4 +0.3**
BRG *e* 19 46 29.5
BRG 19 56 29.0
BRG pmax pmax
comp=Z,25nm,1.5s
BRG pmax pmax
comp=Z,35nm,2.0s
BRG MLR MLR
comp=N,63nm,14.5s
BRG MLR MLR
comp=E,111nm,14.6s
BRG MLR MLR
comp=Z,186nm,18.2s
KBA Koelnbreinsper 81.15 317 *e*P **P** **19 46 21.5 -0.1**
comp=Z,2.7nm,0.5s
KHC Kasperske Hory 81.18 319 *e*P **P** **19 46 21.6 +0.1**
KHC AMS AMS 20 31 10.0
comp=Z,200nm,18.9s
KHC Kasperske Hory 81.18 319 *e*P **P** **19 46 19.7 -1.8**
comp=Z,13nm,1.7s
KHC Kasperske Hory 81.18 319 *e*P **P** **19 46 21.6 +0.1**
KHC MLR MLR
comp=Z,200nm,18.9s
WHZ Wether Hill Ro 81.34 137 *e*P **P** **19 46 22.8 +0.5**
comp=Z,29nm,1.3s
ABTA Abfaltersbach 81.70 317 *e*P **P** **19 46 23.7 -0.6**
comp=Z,11nm,1.4s
CLL Collm 81.75 321 *i*P **P** **19 46 24.3 -0.1**
comp=Z,10.0nm,1.2s
CLL *es*P **pP** **19 46 32.0 -1.4**
CLL *e*S **S** **19 56 30.0 -5.5**
CLL *e*PS **PnS** **19 57 25.0 -1.0**
CLL *e*SS **SS** **20 01 57.0 +3.5**
CLL *e*SSS SSS 20 05 30.0
CLL LmV 20 31 00.0
comp=Z,100nm,18.5s
CLL Collm 81.75 321 *e*P **P** **19 46 23.7 -0.7**
comp=Z,10nm,1.2s
CLL Collm 81.75 321 *i*P **P** **19 46 24.3 -0.1**
CLL *e* 19 46 32.0
CLL pmax pmax
comp=Z,10.0nm,1.2s
NKC Novy Kostel 82.01 320 *e*P **P** **19 46 26.7 +0.9**
NKC Novy Kostel 82.01 320 *e*P **P** **19 46 26.7 +0.9**
HFS Hagfors 82.30 330 P **P** **19 46 27.1 0.0**
comp=Z,4.6nm,0.7s,baz=120,slow=5.8,SNR=16
HFS LR LR 20 28 28.1
comp=Z,106nm,18.2s,baz=78,slow=40
WTTA Wattenberg 82.33 317 *i*P **P** **19 46 27.4 -0.4**
comp=Z,18nm,1.4s
WATA Walderalm 82.38 317 *e*P **P** **19 46 27.4 -0.6**
comp=Z,22nm,1.2s,SNR=5.4
MOTA Moosalm 82.70 317 *e*P **P** **19 46 29.0 -0.7**
comp=Z,14nm,0.8s,SNR=7.6
GRFO Grafenberg 82.76 320 *e*P **P** **19 46 28.8 -0.9**
GRFO Grafenberg 82.76 320 *e*P **P** **19 46 28.8 -0.9**
FETA Feichten 82.93 317 *e*P **P** **19 46 31.0 +0.1**
comp=Z,12nm,0.9s
RETA Reutte 82.94 317 *i*P **P** **19 46 30.7 -0.1**
comp=Z,12nm,0.6s
RPZ Rata Peaks 83.03 135 P **P** **19 46 31.2 0.0**
comp=Z,5.8nm,0.6s,baz=234,slow=3.8,SNR=4.6
VLC Villacollemand 83.05 314 *e*P **P** **19 46 28.3 -3.0**
comp=Z,190nm,1.9s
FUORN Ofenpass-Fuorn 83.23 316 *e*P **P** **19 46 32.5 -0.1**
comp=Z,59nm,1.5s
DAVA Damuels 83.53 317 *e*P **P** **19 46 34.1 +0.1**
comp=Z,22nm,1.2s,SNR=5.4
NB2 NORSAR Subarra 83.61 331 P **P** **19 46 33.1 -0.8**
comp=Z,19nm,1.4s,baz=98,slow=5.1
NB2 NORSAR Subarra 83.61 331 P **P** **19 46 33.1 -0.8**
baz=98,slow=5.1
NB200 NORSAR Array S 83.61 331 *e*P **P** **19 46 33.6 -0.4**
NOA NORSAR Array B 83.61 331 P **P** **19 46 33.6 -0.4**
comp=Z,7.1nm,1.0s,baz=94,slow=5.5,SNR=8.1
KEST Kesra 83.63 305 P **P** **19 46 35.9 +1.3**
comp=Z,12nm,0.7s,baz=262,slow=2.4,SNR=11
KEST LR LR 20 28 04.7
comp=Z,52nm,18.7s,baz=320,slow=39
TUE Stuetta 83.86 316 *e*P **P** **19 46 35.3 -0.4**
comp=Z,37nm,1.6s
SPA0 Spitsbergen Ar 84.31 348 *e*P **P** **19 46 37.4 +0.2**
SPITS Spitsbergen Ar 84.31 348 P **P** **19 46 37.4 +0.2**
comp=Z,4.7nm,0.6s,baz=44,slow=6.4,SNR=11
SPITS LR LR 20 32 36.0
comp=Z,200nm,18.1s,baz=180,slow=42
KONO Kongsberg 84.31 329 *e*P **P** **19 46 37.3 -0.2**
comp=Z,31nm,1.4s
KONO Kongsberg 84.31 329 ⇓*i*P **P** **19 46 37.7 +0.2**
KONO pmax pmax
comp=Z,9.0nm,0.8s
BFO Black Forest 84.60 318 *e*P **P** **19 46 38.3 -1.0**
comp=Z,29nm,1.9s
BFO Black Forest 84.60 318 *e*P **P** **19 46 38.3 -1.0**
BFO pmax pmax
comp=Z,29nm,1.9s
SENIN Lac Senin/Sane 85.28 316 *e*P **P** **19 46 43.0 +0.1**
comp=Z,37nm,1.8s
BNI Bardonecchia 85.71 315 *e*P **P** **19 46 44.5 -0.5**
comp=Z,35nm,1.4s
BNI Bardonecchia 85.71 315 *e*P **P** **19 46 44.5 -0.5**
BNI pmax pmax
comp=Z,35nm,1.4s
BKZ Black Stump Fm 86.35 129 *e*P **P** **19 46 48.0 -0.2**
comp=Z,61nm,1.9s
BFZ Birch Farm 86.35 131 *e*P **P** **19 46 48.5 +0.4**
comp=Z,60nm,1.5s
URZ Urewera 86.72 128 P **P** **19 46 49.6 -0.3**
comp=Z,8.1nm,0.8s,baz=204,slow=2.0,SNR=5.9
URZ Urewera 86.72 128 *e*P **P** **19 46 49.4 -0.5**
comp=Z,13nm,0.9s
TAM Tamanrasset 87.18 293 *e*P **P** **19 46 54.4 +1.7**
comp=Z,18nm,1.3s
TAM Tamanrasset 87.18 293 *e*P **P** **19 46 54.4 +1.7**
TAM pmax pmax
comp=Z,18nm,1.3s
SSB Saint Sauveur 87.22 315 *e*P **P** **19 46 51.8 -0.5**
comp=Z,20nm,1.4s
SSB Saint Sauveur 87.22 315 *e*P **P** **19 46 51.8 -0.5**
SSB pmax pmax
comp=Z,20nm,1.4s
VNDA Vanda 88.46 168 P **P** **19 46 57.9 +0.5**
comp=Z,1.9nm,1.0s,baz=309,slow=5.1,SNR=11
VNDA LR LR 20 20 33.7
comp=Z,132nm,18.5s,baz=285,slow=32
GAMB Gambell 89.15 26 *e*P **P** **19 47 00.3 -0.6**
comp=Z,16nm,1.4s
SBA Scott Base 89.56 168 *e*P **P** **19 47 04.6 +2.0**
comp=Z,17nm,1.4s
SBA Scott Base 89.56 168 *e*P **P** **19 47 04.6 +2.0**
SBA pmax pmax
comp=Z,17nm,1.4s
TORD Torodi Ar. Bea 91.32 283 P **P** **19 47 13.4 +1.3**
comp=Z,4.2nm,1.1s,baz=73,slow=3.4,SNR=12
TORD LR LR 20 26 04.0
comp=Z,117nm,19.4s,baz=120,slow=34
TOA1 Torodi Ar. Sit 91.32 283 *e*P **P** **19 47 13.4 +1.3**
EKA Eskdalemuir Ar 91.34 325 P **P** **19 47 12.1 +0.7**
comp=Z,1.5nm,0.6s,baz=102,slow=5.7,SNR=8.4
EKA LR LR 20 34 33.2
comp=Z,94nm,18.1s,baz=110,slow=40
QSPA South Pole Qui 93.14 180 LR LR 20 24 04.6
comp=Z,242nm,19.1s,baz=299,slow=32
ESDC Sonseca Array 92.94 310 P **P** **19 47 24.8 +0.9**
comp=Z,0.6nm,0.5s,baz=60,slow=4.7,SNR=7.3
AFI Afiamalu 95.06 104 LR LR 20 33 47.2
comp=Z,30nm,19.4s,baz=306,slow=38
SNAA Sanae 95.11 198 P **P** **19 47 29.9 +1.4**
comp=Z,1.3nm,1.0s,baz=98,slow=7.1,SNR=4.5
SNAA Sanae 95.11 198 *e*P **P** **19 47 29.3 +0.8**
comp=Z,28nm,1.9s
SNAA Sanae 95.11 198 ⇓*e*P **P** **19 47 28.5 0.0**
TOLK Toolik Lake Re 96.45 19 P **P** **19 47 35.2 +0.5**
baz=296

TOLK	Toolik Lake Re	96.45	19	*e*P		P		19 47 35.0	+0.3
	comp=Z,6.8nm,1.1s								
KOWA	Kowa	96.75	285		LR	LR		20 31 35.3	
	comp=Z,179nm,18.0s,baz=96,slow=36								
BORG	Borgarnes	97.56	337		LR	LR		20 35 11.1	
	comp=Z,98nm,18.9s,baz=352,slow=38								
BPAW	Bear Paw Mtn.	97.87	24	*e*P		P		19 47 41.0	-0.2
	comp=Z,8.0nm,1.3s								
DBIC	Dimbokro	98.20	277		LR	LR		20 30 39.3	
	comp=Z,183nm,20.1s,baz=64,slow=35								
ILAR	Eielson Array	99.17	22		P	Pdif		19 47 47.1	+0.2
	comp=Z,0.2nm,0.6s,baz=309,slow=4.8,SNR=3.5								
ILAR					LR	LR		20 35 26.1	
	comp=Z,168nm,19.2s,baz=303,slow=37								
ILB	Eielson Array	99.17	22	*e*P		Pdif		19 47 47.1	+0.2
RES	Resolute Bay	102.05	2	*e*Pdif		Pdif		19 48 00.0	+0.5
RES	Resolute Bay	102.05	2	*e*P		Pdif		19 48 00.0	+0.5
YKA	Yellowknife Ar	111.02	14	PKKPab	PKKPab			20 03 46.2	-1.0
	comp=Z,0.1nm,0.5s,baz=144,slow=4.4,SNR=3.7								
YKB5	Yellowknife Ar	111.02	14	*e*PKKPab	PKKPab			20 03 46.2	-1.0
PPT2	Papeete2	116.33	108	*e*LR		LR		20 28 00.7	
	comp=Z,92nm,22.8s								
ULM	Lac du Bonnet	126.11	8	PKP		PKPdf		19 53 07.3	-0.8
	comp=Z,1.4nm,0.6s,baz=45,slow=5.3,SNR=4.0								
LAO	LASA Array	127.27	17	*e*PKPdf		PKPdf		19 53 08.9	-1.6
NV01	Mina Array Sit	129.05	33	*e*PKPdf		PKPdf		19 53 14.4	+0.1
NVAR	Mina Array Bea	129.05	33	PKP		PKPdf		19 53 14.4	+0.1
	comp=Z,1.1nm,0.9s,baz=256,slow=1.5,SNR=6.3								
PD31	Pinedale Array	129.60	22	*e*PKPdf		PKPdf		19 53 15.4	+0.1
PDAR	Pinedale Array	129.60	22	PKP		PKPdf		19 53 15.4	+0.1
	comp=Z,0.2nm,0.4s,baz=117,slow=0.7,SNR=5.6								
R11A	Troy Canyon, C	130.53	30	*e*PKPdf		PKPdf		19 53 17.4	+0.2
P17A	Butcher Ranch,	131.91	26	*e*PKPpre		PKPpre		19 53 07.2	
P17A				*e*PKPdf		PKPdf		19 53 14.2	-5.5
ECSD	EROS Data Cent	132.35	10	*e*PKPdf		PKPdf		19 53 21.2	+1.0
LTX	Lajitas	143.57	26	*e*PKPdf	PKPbc			19 53 39.5	+0.9
LTX	Lajitas	143.57	26	*e*PKIKP	PKPbc			19 53 39.5	+0.9
TXAR	Lajitas Array	143.57	26	PKP	PKPbc			19 53 39.5	+0.9
	comp=Z,1.0nm,0.6s,baz=156,slow=1.8,SNR=8.1								
CPUP	Villa Florida	144.01	228	PKP	PKPbc			19 53 40.3	+0.5
	comp=Z,6.7nm,0.6s,baz=102,slow=3.0,SNR=21								
151A	Opelika	144.46	359	P		PKPdf		19 53 42.1	-0.6
	baz=1.4								
242A	Grayson	144.48	9	P	PKPbc			19 53 41.8	+0.6
	baz=350								
HPIG		144.63	31	*e*PKPdf	PKPbc			19 53 42.5	+0.4
244A	Avery, Jackson	144.69	7	P		PKPdf		19 53 42.5	-0.5
	baz=352								
245A	Little AP, Sta	144.78	5	P		PKPdf		19 53 42.9	-0.3
	baz=354								
247A	Quitman	144.86	4	P	PKPbc			19 53 42.8	+0.4
	baz=356								
252A	Lumpkin	144.97	358	P		PKPab		19 53 42.6	0.0
	baz=2.5								
249A	Camden	145.00	1	P	PKPbc			19 53 42.8	0.0
	baz=358								
250A	Grady	145.01	0	P		PKPab		19 53 42.8	-0.1
	baz=360								
341A	Kurthwood	145.02	10	P		PKPbc		19 53 43.2	+0.3
	baz=348								
342A	Flagon Creek P	145.12	9	P		PKPdf		19 53 44.1	+0.3
	baz=349								
344A	Westbrook Farm	145.27	7	P		PKPdf		19 53 44.6	+0.6
	baz=352								
346A	Big Creek Wild	145.46	5	P		PKPab		19 53 45.0	+0.5
	baz=354								
352A	Blakely	145.49	358	P		PKPab		19 53 45.2	+0.6
	baz=2.2								
355A	Pearson	145.50	355	P		PKPab		19 53 45.2	+0.6
	baz=5.8								
347A	Saraland	145.51	4	P		PKPab		19 53 45.1	+0.4
	baz=356								
348A	Jackson	145.54	3	P		PKPab		19 53 45.0	+0.2
	baz=357								
353A	Camilla	145.59	357	P		PKPab		19 53 45.2	+0.2
	baz=3.4								
349A	Repton	145.62	1	P		PKPab		19 53 45.4	+0.3
	baz=358								
351A	Pinckard	145.71	359	P		PKPab		19 53 45.3	-0.1
	baz=1.0								
444A	Pine Grove	145.99	7	P		PKPab		19 53 46.6	+0.1
	baz=352								
448A	Bay Minette	146.02	3	P		PKPab		19 53 47.0	+0.4
	baz=357								
453A	Whigham	146.08	357	P		PKPab		19 53 46.9	0.0
	baz=3.3								
455A	Stateville	146.11	355	P		PKPbc		19 53 46.5	+0.2
	baz=5.6								
452A	Marianna	146.12	358	P		PKPbc		19 53 46.5	+0.1
	baz=1.8								
833A	Chaparral WMA,	146.19	21	P		PKPab		19 53 47.3	0.0
	baz=336								
555A	McAlpin	146.72	355	P		PKPab		19 53 49.2	-0.1
	baz=5.8								
LNIG	Linares	149.24	24	*e*PKPbc		PKPbc		19 53 54.6	-0.5
HUMP	Col San Antoni	150.80	317	*e*PKPdf		PKPdf		19 53 50.8	-2.6
HUMP				*e*PKPbc		PKPbc		19 53 58.9	-0.1
SIV	San Ignacio	152.20	241	PKPbc		PKPbc		19 54 02.9	+0.6
	comp=Z,1.2nm,0.5s,baz=123,slow=3.7,SNR=6.8								
SIV				PKPab		PKPab		19 54 13.4	+1.3
	comp=Z,1.6nm,0.5s,baz=104,slow=4.8,SNR=6.1								
PTGA	Pitinga	153.66	275	PKPbc		PKPbc		19 54 06.3	+0.6
	comp=Z,1.0nm,0.3s,baz=87,slow=6.5,SNR=4.1								
PTGA				PKPab		PKPab		19 54 19.9	+1.6
	comp=Z,6.4nm,0.8s,baz=103,slow=9.6,SNR=6.6								
PTGA	Pitinga	153.66	275	*e*PKPdf		PKPdf		19 53 56.1	-1.8
PTGA				PKPbc		PKPbc		19 54 06.3	+0.6
PTGA				*e*PKPab		PKPab		19 54 19.9	+1.6
SAML	Samuel	156.41	255	*e*PKPdf		PKPdf		19 53 59.9	-1.7
SAML				*e*PKPab		PKPab		19 54 30.1	0.0
SDV	Santo Domingo	160.37	308	*e*PKPab		PKPab		19 54 46.4	-1.0

*ISCJB **20** 19:47:32.5±0.4,38°.13N±0°.02×23°.22E±0°.02,h1km±5km, Error ellipse: s-maj=3.5km s-min=2.7km az=20.5*
*CSEM **20** 19:47:32.5±0.1,38°.15N×23°.24E,h10km,ML2.3, Error ellipse: s-maj=2.9km s-min=2.2km az=20.0*
*THE **20** 19:47:32.8,38°.11N×23°.22E,h12km, ML2.3/15, Error ellipse: s-maj=0.9km s-min=0.3km az=177.0*
*ATH **20** 19:47:32.6,38°.13N×23°.22E,h14km±4km, ML2.3/14, Error ellipse: s-maj=4.2km s-min=0.5km az=173.0*

ISC 20 19:47:32.5±0.9,**38°.13N**±0°.02×**23°.23E**±0°.02,**h11**km±7km, **n63**,σ0°**38**/113,**Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LTK	**Loutraki**	**0.23**	**243**	P	**Pg**	**19 47 36.8**	**-0.5**
LTK				S	**Sg**	**19 47 40.7**	**+0.2**
LTK				AML	AML	19 47 43.1	
	comp=E,1913μm,0.2s						
LTK				AML	AML	19 47 43.7	
	comp=N,1380μm,0.4s						
LTK	**Loutraki**	**0.23**	**243**	P	**Pg**	**19 47 37.2**	**-0.1**
LTK				S	**Sg**	**19 47 40.8**	**+0.2**
LTK	**Loutraki**	**0.23**	**243**	P	**Pg**	**19 47 37.2**	**-0.1**
LTK				S	**Sg**	**19 47 41.0**	**+0.4**
ATH	**Athens Observa**	**0.42**	**112**	P	**Pg**	**19 47 41.1**	**+0.3**
ATH				S	**Sb**	**19 47 48.2**	**-0.2**
ATH				AML	AML	19 47 49.2	
	comp=N,1197μm,0.3s						
ATH				AML	AML	19 47 49.2	
	comp=E,1433μm,0.3s						
ATH	**Athens Observa**	**0.42**	**112**	P	**Pg**	**19 47 41.1**	**+0.3**
ATH				S	**Sb**	**19 47 47.7**	**-0.6**
ATH	**Athens Observa**	**0.42**	**112**	P	**Pg**	**19 47 41.1**	**+0.3**
ATH				S	**Sb**	**19 47 47.7**	**-0.6**
PTL	**Penteli**	**0.51**	**99**	P	**Pg**	**19 47 42.7**	**+0.2**
PTL				S	**Sg**	**19 47 49.9**	**0.0**
PTL				AML	AML	19 47 55.8	
	comp=E,330μm,0.5s						
PTL				AML	AML	19 47 55.9	
	comp=N,277μm,0.4s						
PTL	**Penteli**	**0.51**	**99**	P	**Pg**	**19 47 42.7**	**+0.2**
PTL				S	**Sg**	**19 47 49.9**	**+0.6**
PTL	**Penteli**	**0.51**	**99**	P	**Pg**	**19 47 42.7**	**+0.2**
PTL				S	**Sg**	**19 47 49.6**	**+0.3**
VLY	**Voula,Athens**	**0.53**	**121**	P	**Pg**	**19 47 42.7**	**-0.1**
VLY				S	**Sg**	**19 47 49.1**	**-0.7**
VLY				AML	AML	19 47 51.8	
	comp=E,1343μm,0.2s						
VLY				AML	AML	19 47 51.8	
	comp=N,749μm,0.2s						
VLY	**Voula,Athens**	**0.53**	**121**	P	**Pg**	**19 47 42.8**	**-0.1**
VLY				S	**Sg**	**19 47 50.1**	**+0.3**
VLY	**Voula,Athens**	**0.53**	**121**	P	**Pg**	**19 47 42.9**	**+0.1**
VLY				S	**Sg**	**19 47 50.1**	**+0.3**
LKR	**Lokris**	**0.55**	**341**	P	**Pg**	**19 47 43.3**	**+0.1**
LKR	**Lokris**	**0.55**	**341**	P	**Pg**	**19 47 43.4**	**+0.1**
LKR				S	**Sb**	**19 47 52.5**	**+0.3**
LKR	**Lokris**	**0.55**	**341**	P	**Pg**	**19 47 43.3**	**+0.1**
LKR				S	**Sb**	**19 47 52.5**	**+0.3**
DION	**Dionisos Attik**	**0.56**	**95**	P	**Pg**	**19 47 43.4**	**-0.1**
DION				S	**Sb**	**19 47 51.8**	**-0.6**
DION				AML	AML	19 47 53.3	
	comp=E,555μm,0.2s						
DION				AML	AML	19 47 55.8	
	comp=N,519μm,0.3s						
DION	**Dionisos Attik**	**0.56**	**95**	P	**Pg**	**19 47 43.5**	**0.0**
DION				S	**Sg**	**19 47 51.7**	**+0.8**
DSF	**Desfina**	**0.62**	**297**	P	**Pg**	**19 47 44.4**	**-0.2**
DSF				S	**Sg**	**19 47 53.4**	**+0.6**
DSF				AML	AML	19 47 55.8	
	comp=N,1714μm,0.3s						
DSF				AML	AML	19 47 56.9	
	comp=E,1158μm,0.5s						
DSF	**Desfina**	**0.62**	**297**	P	**Pg**	**19 47 44.5**	**-0.1**
DSF				S	**Sb**	**19 47 54.3**	**+0.1**
DSF	**Desfina**	**0.62**	**297**	P	**Pg**	**19 47 44.5**	**-0.1**
DSF				S	**Sg**	**19 47 53.3**	**+0.6**
DID	**Didima**	**0.62**	**179**	P	**Pg**	**19 47 43.7**	**-0.9**
DID				S	**Sg**	**19 47 53.4**	**+0.6**
DID				AML	AML	19 47 54.9	
	comp=N,1034μm,0.4s						
DID				AML	AML	19 47 55.7	
	comp=E,645μm,0.4s						
DID	**Didima**	**0.62**	**179**	P	**Pg**	**19 47 44.3**	**-0.3**
DID				S	**Sg**	**19 47 53.1**	**+0.3**
DID	**Didima**	**0.62**	**179**	P	**Pg**	**19 47 44.3**	**-0.3**
DID				S	**Sg**	**19 47 53.4**	**+0.6**
DLFA	**Delphi**	**0.67**	**301**	P	**Pg**	**19 47 45.4**	**-0.2**
DLFA				S	**Sg**	**19 47 53.7**	**-0.7**
DLFA	**Delphi**	**0.67**	**301**	P	**Pg**	**19 47 45.4**	**-0.2**
DLFA				S	**Sg**	**19 47 54.3**	**-0.1**
GUR	**Goura**	**0.72**	**255**	P	**Pg**	**19 47 46.0**	**-0.6**
GUR				S	**Sg**	**19 47 56.6**	**+0.5**
GUR				AML	AML	19 47 60.0	
	comp=E,370μm,0.4s						
GUR				AML	AML	19 48 02.1	
	comp=N,419μm,0.2s						
GUR	**Goura**	**0.72**	**255**	P	**Pg**	**19 47 46.3**	**-0.3**
GUR				S	**Sg**	**19 47 56.4**	**+0.4**
GUR	**Goura**	**0.72**	**255**	P	**Pg**	**19 47 46.3**	**-0.3**
GUR				S	**Sg**	**19 47 56.4**	**+0.4**
KRND	**KRANIDI**	**0.75**	**185**	P	**Pb**	**19 47 47.6**	**0.0**
KRND				S	**Sb**	**19 47 58.8**	**+1.0**
KRND				AML	AML	19 48 01.0	
	comp=N,762μm,0.6s						
KRND				AML	AML	19 48 01.4	
	comp=E,585μm,0.3s						
KRND	**KRANIDI**	**0.75**	**185**	P	**Pg**	**19 47 46.6**	**-0.4**
KRND				S	**Sb**	**19 47 57.8**	**0.0**
KRND	**KRANIDI**	**0.75**	**185**	P	**Pg**	**19 47 47.3**	**+0.3**
KRND				S	**Sb**	**19 47 57.8**	**0.0**
KLV	**Kalavryta, Ach**	**0.85**	**265**	P	**Pb**	**19 47 49.5**	**+0.1**
KLV				S	**Sg**	**19 48 00.2**	**0.0**
KLV	**Kalavryta, Ach**	**0.85**	**265**	P	**Pg**	**19 47 49.0**	**0.0**
KLV	**Kalavryta, Ach**	**0.85**	**265**	P	**Pg**	**19 47 49.0**	**0.0**
KLV				S	**Sg**	**19 48 00.4**	**+0.3**
SERG	**Sergoula**	**0.96**	**288**	P	**Pg**	**19 47 51.0**	**-0.1**
SERG				S	**Sg**	**19 48 03.2**	**-0.4**
SERG				AML	AML	19 48 11.2	
	comp=E,267μm,0.7s						
SERG				AML	AML	19 48 11.9	
	comp=N,355μm,0.4s						
SERG	**Sergoula**	**0.96**	**288**	P	**Pg**	**19 47 51.0**	**-0.1**
SERG				S	**Sb**	**19 48 04.6**	**+0.5**
SERG	**Sergoula**	**0.96**	**288**	P	**Pg**	**19 47 51.0**	**-0.1**
SERG				S	**Sg**	**19 48 03.7**	**+0.1**
VLX	**Vlachokerasia**	**1.01**	**222**	P	**Pn**	**19 47 53.1**	**+0.2**
VLX				S	**Sb**	**19 48 05.5**	**-0.1**
VLX				AML	AML	19 48 09.7	
	comp=N,288μm,0.5s						
VLX				AML	AML	19 48 10.3	
	comp=E,471μm,0.6s						
VLX	**Vlachokerasia**	**1.01**	**222**	P	**Pg**	**19 47 52.4**	**+0.4**
VLX				S	**Sb**	**19 48 05.7**	**+0.2**
EFP	**Efpalio**	**1.08**	**286**	P	**Pb**	**19 47 53.1**	**-0.2**
EFP				S	**Sn**	**19 48 08.5**	**-0.1**
EFP				AML	AML	19 48 12.7	
	comp=E,253μm,1.1s						
EFP				AML	AML	19 48 13.8	
	comp=N,162μm,0.4s						
EFP	**Efpalio**	**1.08**	**286**	P	**Pb**	**19 47 53.1**	**-0.2**
EFP				S	**Sn**	**19 48 08.8**	**+0.1**
EFP	**Efpalio**	**1.08**	**286**	P	**Pb**	**19 47 53.1**	**-0.2**
EFP				S	**Sn**	**19 48 08.2**	**-0.5**
ANX	**Ano Chora**	**1.13**	**295**	P	**Pb**	**19 47 53.6**	**-0.5**
ANX				S	**Sg**	**19 48 09.2**	**+0.3**
ANX	**Ano Chora**	**1.13**	**295**	P	**Pb**	**19 47 53.6**	**-0.5**
ANX				S	**Sg**	**19 48 09.2**	**+0.3**
AGG	**Agios Georgios**	**1.14**	**322**	P	**Pb**	**19 47 54.1**	**-0.1**
AGG				S	**Sb**	**19 48 09.0**	**-0.1**
AGG				AML	AML	19 48 13.8	
	comp=N,269μm,0.6s						
AGG				AML	AML	19 48 17.7	
	comp=E,365μm,0.7s						
AGG	**Agios Georgios**	**1.14**	**322**	P	**Pb**	**19 47 54.0**	**-0.2**
AGG				S	**Sn**	**19 48 09.8**	**-0.3**
AGG	**Agios Georgios**	**1.14**	**322**	P	**Pb**	**19 47 54.1**	**-0.1**
AGG				S	**Sg**	**19 48 09.2**	**+0.1**
NEO	**Neokhori**	**1.18**	**360**	P	**Pg**	**19 47 55.1**	**0.0**
NEO				S	**Sn**	**19 48 12.1**	**+0.9**
NEO				AML	AML	19 48 15.0	
	comp=E,248μm,0.3s						
NEO				AML	AML	19 48 17.4	
	comp=N,273μm,0.5s						
NEO	**Neokhori**	**1.18**	**360**	P	**Pb**	**19 47 54.6**	**-0.4**
NEO				S	**Sn**	**19 48 11.2**	**+0.1**
NEO	**Neokhori**	**1.18**	**360**	P	**Pn**	**19 47 54.9**	**-0.1**
NEO				S	**Sn**	**19 48 11.2**	**+0.1**
DRO	**Drossia**	**1.21**	**262**	P	**Pg**	**19 47 56.2**	**+0.4**
DRO	**Drossia**	**1.21**	**262**	P	**Pg**	**19 47 55.8**	**0.0**
XOR	**Xorichti**	**1.24**	**359**	P	**Pb**	**19 47 55.9**	**-0.2**
XOR	**Xorichti**	**1.24**	**359**	P	**Pn**	**19 47 55.6**	**-0.3**
XOR				S	**Sg**	**19 48 12.8**	**+0.4**
XOR	**Xorichti**	**1.24**	**359**	P	**Pb**	**19 47 55.9**	**-0.1**
XOR				S	**Sg**	**19 48 12.8**	**+0.4**
AMT	**Artemida-Makis**	**1.34**	**244**	P	**Pg**	**19 47 58.8**	**+0.5**
AMT	**Artemida-Makis**	**1.34**	**244**	P	**Pg**	**19 47 58.3**	**0.0**
ITM	**Ithomi**	**1.40**	**228**	P	**Pg**	**19 47 59.9**	**+0.5**
ITM	**Ithomi**	**1.40**	**228**	P	**Pg**	**19 47 59.5**	**+0.1**
VLI	**Veliai**	**1.43**	**189**	P	**Pn**	**19 47 58.0**	**-0.5**
VLI	**Veliai**	**1.43**	**189**	P	**Pb**	**19 47 58.8**	**-0.4**
MES3	**Kyparissia**	**1.51**	**235**	P	**Pg**	**19 48 02.5**	**+0.9**
MES3	**Kyparissia**	**1.51**	**235**	P	**Pg**	**19 48 01.8**	**+0.2**

*ISK **20** 19:48:05.7,39°.06N×29°.18E,h6km,ML2.7/20*
*CSEM **20** 19:48:06.6±0.2,39°.11N×29°.15E,h0km±2km,ML2.7, Error ellipse: s-maj=3.7km s-min=3.0km az=151.0*
*DDA **20** 19:48:06.3,39°.11N×29°.14E,h7km,Ml2.9*

ISC 20 19:48:06.6±0.9,**39°.10N**±0°.02×**29°.16E**±0°.01,**h8**km±7km, **n80**,σ0°**69**/115,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIMA	**Simav-Kutahya**	**0.14**	**263**	PG	**Pg**	**19 48 09.7**	**+0.1**
SIMA				SG	**Sg**	**19 48 11.9**	**+0.2**
SIMA	**Simav-Kutahya**	**0.14**	**263**	*e*Pg	**Pg**	**19 48 09.7**	**+0.1**
SIMA				*e*Sg	**Sg**	**19 48 11.9**	**+0.2**
GDZ	**Gediz**	**0.25**	**93**	*i* P	**Pg**	**19 48 11.3**	**-0.4**
GDZ				*i* S	**Sg**	**19 48 15.5**	**+0.3**
GDZ	**Gediz**	**0.25**	**93**	P	**Pg**	**19 48 11.3**	**-0.4**
GDZ				S	**Sg**	**19 48 15.5**	**+0.3**
DEMI	**Demirci**	**0.35**	**261**	*i* P	**Pg**	**19 48 13.6**	**+0.2**
DEMI				*i* S	**Sg**	**19 48 18.1**	**+0.1**
DEMI	**Demirci**	**0.35**	**261**	P	**Pg**	**19 48 13.6**	**+0.2**
DEMI				S	**Sg**	**19 48 18.1**	**+0.1**
TVSB	**Tavsanli**	**0.42**	**34**	PG	**Pg**	**19 48 13.9**	**-1.0**
TVSB	**Tavsanli**	**0.42**	**34**	*e*Pg	**Pg**	**19 48 13.9**	**-1.0**
KULA	**Kula-Manisa**	**0.70**	**214**	PG	**Pg**	**19 48 19.3**	**-0.8**
KULA				SG	**Sg**	**19 48 28.9**	**-0.4**
KULA	**Kula-Manisa**	**0.70**	**214**	*e*Pg	**Pg**	**19 48 19.3**	**-0.8**
KULA				*e*Sg	**Sg**	**19 48 28.9**	**-0.4**
DURS	**Dursunbey**	**0.73**	**314**	*i* P	**Pg**	**19 48 20.5**	**-0.2**
DURS				*i* S	**Sn**	**19 48 34.6**	**0.0**
MANT	**Manisa**	**0.77**	**218**	*i* P	**Pg**	**19 48 21.3**	**-0.1**
MANT				*i* S	**Sg**	**19 48 31.0**	**-0.4**
MANT	**Manisa**	**0.77**	**218**	P	**Pg**	**19 48 21.3**	**-0.1**
MANT				S	**Sg**	**19 48 31.0**	**-0.4**
KHAL	**Karahalli**	**0.78**	**160**	*i* P	**Pb**	**19 48 22.1**	**-0.4**
KHAL				*i* S	**Sb**	**19 48 32.5**	**-0.6**
KHAL	**Karahalli**	**0.78**	**160**	P	**Pb**	**19 48 22.0**	**-0.4**
KHAL				S	**Sb**	**19 48 32.5**	**-0.6**
ORLT	**Orhaneli**	**0.96**	**348**	PG	**Pb**	**19 48 25.4**	**-0.2**
ORLT	**Orhaneli**	**0.96**	**348**	*e*Pg	**Pb**	**19 48 25.4**	**-0.2**
AUBOZ	**BOZOYUK**	**1.06**	**40**	*i* P	**Pb**	**19 48 27.0**	**-0.2**
AUBOZ				*i* S	**Sg**	**19 48 40.6**	**-0.1**
AUBOZ	**BOZOYUK**	**1.06**	**40**	P	**Pb**	**19 48 27.0**	**-0.2**
AUBOZ				S	**Sg**	**19 48 40.6**	**-0.1**
AKHS	**Akhisar**	**1.07**	**258**	*i* P	**Pb**	**19 48 27.1**	**-0.3**
AKHS				*i* S	**Sb**	**19 48 41.2**	**-0.3**
AKHS	**Akhisar**	**1.07**	**258**	P	**Pb**	**19 48 27.1**	**-0.2**
BALB	**Balikesir**	**1.13**	**299**	PN	**Pn**	**19 48 28.7**	**0.0**
BALB	**Balikesir**	**1.13**	**299**	*e*Pn	**Pn**	**19 48 28.7**	**0.0**
KZIL	**AFYON_Kizioren**	**1.14**	**137**	*i* P	**Pn**	**19 48 29.4**	**+0.4**
KZIL				*i* S	**Sn**	**19 48 44.9**	**0.0**
KZIL	**AFYON_Kizioren**	**1.14**	**137**	P	**Pn**	**19 48 29.4**	**+0.4**
KZIL				S	**Sn**	**19 48 44.9**	**0.0**
STEP	**BALIKESIR_Sava**	**1.15**	**284**	*i* P	**Pg**	**19 48 28.4**	**-0.3**
STEP				*i* S	**Sg**	**19 48 42.9**	**-0.8**
STEP	**BALIKESIR_Sava**	**1.15**	**284**	P	**Pg**	**19 48 28.4**	**-0.3**
SHUT	**Suhut-Afyon**	**1.22**	**116**	PN	**Pg**	**19 48 28.7**	**-1.3**
SHUT	**Suhut-Afyon**	**1.22**	**116**	*e*Pn	**Pg**	**19 48 28.7**	**-1.3**
CAVI	**Cavuskoy**	**1.22**	**26**	PN	**Pb**	**19 48 29.8**	**-0.2**
CAVI	**Cavuskoy**	**1.22**	**26**	*e*Pn	**Pb**	**19 48 29.8**	**-0.2**
BORA	**Eskisehir**	**1.27**	**52**	*i* P	**Pn**	**19 48 30.9**	**+0.2**
BORA				*i* S	**Sb**	**19 48 47.4**	**0.0**
BORA	**Eskisehir**	**1.27**	**52**	P	**Pn**	**19 48 31.0**	**+0.2**
BORA				S	**Sb**	**19 48 47.4**	**0.0**
MDNY	**Mudanya-Bursa**	**1.28**	**351**	PN	**Pg**	**19 48 31.4**	**+0.1**
MDNY	**Mudanya-Bursa**	**1.28**	**351**	*e*Pn	**Pg**	**19 48 31.4**	**+0.1**
KCTX	**Karacabey (Bur**	**1.32**	**332**	PN	**Pg**	**19 48 32.0**	**+0.1**
KCTX	**Karacabey (Bur**	**1.32**	**332**	*e*Pn	**Pg**	**19 48 32.0**	**+0.1**
BALY	**Balya**	**1.35**	**299**	*i* P	**Pn**	**19 48 30.7**	**-1.1**
BALY				*i* S	**Sb**	**19 48 48.3**	**-1.3**
BALY	**Balya**	**1.35**	**299**	P	**Pn**	**19 48 30.7**	**-1.1**
ESKT	**Eskisehir**	**1.38**	**72**	*i* P	**Pb**	**19 48 32.6**	**-0.1**
ESKT				*i* S	**Sb**	**19 48 49.6**	**-1.0**
SEYT	**Eskypehyr**	**1.38**	**72**	P	**Pb**	**19 48 32.6**	**-0.1**
SEYT				S	**Sb**	**19 48 49.6**	**-1.0**
ADVT	**Abdulvahap**	**1.41**	**18**	PN	**Pb**	**19 48 32.9**	**-0.2**
ADVT	**Abdulvahap**	**1.41**	**18**	*e*Pn	**Pb**	**19 48 32.9**	**-0.2**
YLV	**Yalova**	**1.47**	**6**	PN	**Pb**	**19 48 33.9**	**-0.4**
YLV	**Yalova**	**1.47**	**6**	*e*Pn	**Pb**	**19 48 33.9**	**-0.4**
GONE	**Gonen-Balikesi**	**1.48**	**310**	PN	**Pb**	**19 48 34.2**	**-0.1**
GONE	**Gonen-Balikesi**	**1.48**	**310**	*e*Pn	**Pb**	**19 48 34.2**	**-0.1**
ARMT	**Armutlu**	**1.48**	**351**	PN	**Pb**	**19 48 34.2**	**-0.2**
ARMT	**Armutlu**	**1.48**	**351**	*e*Pn	**Pb**	**19 48 34.2**	**-0.2**
AYDB	**Zeytinkoy-Aydi**	**1.52**	**221**	PN	**Pn**	**19 48 33.9**	**-0.3**
AYDB	**Zeytinkoy-Aydi**	**1.52**	**221**	*e*Pn	**Pn**	**19 48 33.9**	**-0.3**
BRDR	**BURDUR-Merkez**	**1.57**	**153**	*i* P	**Pg**	**19 48 37.0**	**+0.2**
BRDR				*i* S	**Sg**	**19 49 00.2**	**+3.1**
BRDR	**BURDUR-Merkez**	**1.57**	**153**	P	**Pg**	**19 48 37.0**	**+0.2**
BRDR				S	**Sg**	**19 49 00.2**	**+3.1**
EDC	**Edincik**	**1.59**	**322**	PN	**Pb**	**19 48 35.9**	**-0.4**
EDC	**Edincik**	**1.59**	**322**	*e*Pn	**Pb**	**19 48 35.9**	**-0.4**
GEYV	**SAKARYA_Geyve**	**1.64**	**32**	*i* P	**Pg**	**19 48 37.8**	**-0.2**
GEYV				*i* S	**Sg**	**19 49 00.4**	**+1.1**
GEYV	**SAKARYA_Geyve**	**1.64**	**32**	P	**Pg**	**19 48 37.8**	**-0.2**
GEYV				S	**Sg**	**19 49 00.4**	**+1.1**
GULT	**Gulveren**	**1.69**	**38**	PN	**Pn**	**19 48 36.9**	**+0.3**
GULT	**Gulveren**	**1.69**	**38**	*e*Pn	**Pn**	**19 48 36.9**	**+0.3**
AYDN	**Tasoluk**	**1

AKASG	**Malin Array Be**	**44.15**	**334**	P	**P**	**20 04 12.0**	**+0.2**
	0.3nm,0.4s,baz=126,slow=7.6,SNR=4.7						
AKASG	**Malin Array Be**	**44.15**	**334**	P	**P**	**20 04 12.0**	**+0.2**
AKBB	**Malin Array Si**	**44.15**	**334**	*eP*	**P**	**20 04 12.0**	**+0.2**
AKBB	**Malin Array Si**	**44.15**	**334**	*eP*	**P**	**20 04 12.0**	**+0.2**
KIEV	**Kiev**	**44.16**	**334**	*eP*	**P**	**20 04 11.5**	**-0.3**
	18nm,2.0s						
ZALV	**Zalesovo Beam**	**46.02**	**22**	P	**P**	**20 04 26.4**	**-0.2**
	3.0nm,0.8s,baz=220,slow=7.1,SNR=12						
ZAA1	**Zalesovo Array**	**46.02**	**22**	*eP*	**P**	**20 04 26.4**	**-0.2**
ZAA1	**Zalesovo Array**	**46.02**	**22**	*eP*	**P**	**20 04 26.4**	**-0.2**
LBTB	**Lobatse**	**49.20**	**220**	P	**P**	**20 04 53.0**	**+1.2**
	17nm,1.4s,baz=2.6,slow=2.8,SNR=4.5						
TAM	**Tamanrasset**	**50.47**	**289**	*eP*	**P**	**20 05 01.4**	**-0.2**
	9.0nm,1.8s						
FUORN	**Ofenpass-Fuorn**	**51.97**	**320**	*eP*	**P**	**20 05 11.8**	**-0.9**
	9.7nm,1.3s						
CLL	**Collm**	**52.50**	**326**	*eP*	**P**	**20 05 16.1**	**-0.1**
	12nm,1.7s						
CLL	**Collm**	**52.50**	**326**	*eP*	**P**	**20 05 16.1**	**-0.1**
	12nm,1.7s						
SONA0	**Songino Array**	**53.10**	**39**	*eP*	**P**	**20 05 20.4**	**-0.5**
SONM	**Songino Array**	**53.10**	**39**	P	**P**	**20 05 20.4**	**-0.5**
	1.1nm,1.1s,baz=235,slow=7.0,SNR=6.6						
FIA0	**FINESS Array S**	**53.47**	**342**	*eP*	**P**	**20 05 21.7**	**-1.5**
FIA0	**FINESS Array S**	**53.47**	**342**	*eP*	**P**	**20 05 21.7**	**-1.5**
FINES	**FINESS Array B**	**53.47**	**342**	P	**P**	**20 05 21.7**	**-1.5**
	1.2nm,0.6s,baz=111,slow=10,SNR=6.9						
TORD	**Torodi Ar. Bea**	**54.56**	**277**	P	**P**	**20 05 31.9**	**0.0**
	0.8nm,0.8s,baz=83,slow=9.5,SNR=3.8						
TOA1	**Torodi Ar. Sit**	**54.56**	**277**	*eP*	**P**	**20 05 31.9**	**0.0**
WLF	**Walferdange**	**55.70**	**322**	*eP*	**P**	**20 05 38.7**	**-0.9**
	28nm,1.5s						
WLF	**Walferdange**	**55.70**	**322**	*eP*	**P**	**20 05 38.7**	**-0.9**
	28nm,1.5s						
SMRI	**Semarang**	**55.96**	**108**	*eP*	**P**	**20 05 42.1**	**+0.1**
	51nm,1.2s						
ARA0	**ARCESS Array S**	**60.00**	**347**	*eP*	**P**	**20 06 08.6**	**-0.9**
ARCES	**ARCESS Array B**	**60.00**	**347**	P	**P**	**20 06 08.6**	**-0.9**
	1.7nm,0.9s,baz=103,slow=16,SNR=4.2						
ESDC	**Sonseca Array**	**60.10**	**308**	P	**P**	**20 06 09.4**	**-1.3**
	0.4nm,0.6s,baz=88,slow=6.4,SNR=4.5						
EKA	**Eskdalemuir Ar**	**62.97**	**326**	P	**P**	**20 06 28.4**	**-1.3**
	0.4nm,0.5s,baz=127,slow=8.1,SNR=3.3						
H01W3	**Cape Leeuwin H**	**71.56**	**134**	T	T	21 25 25.3	
	baz=302,slow=75,SNR=51						
H01W2	**Cape Leeuwin H**	**71.56**	**134**	T	T	21 25 22.7	
	baz=302,slow=75,SNR=59						
H01W1	**Cape Leeuwin H**	**71.58**	**134**	T	T	21 25 26.4	
	baz=302,slow=75,SNR=48						
TIXI	**Tiksi**	**71.74**	**18**	*eP*	**P**	**20 07 25.8**	**+0.8**
	2.9nm,1.1s						
WR1	**Warramunga Arr**	**82.10**	**113**	*eP*	**P**	**20 08 23.2**	**-1.2**
WRA	**Warramunga Arr**	**82.10**	**113**	P	**P**	**20 08 23.2**	**-1.2**
	0.5nm,0.9s,baz=297,slow=4.2,SNR=6.1						
ASAR	**Alice Springs**	**82.81**	**116**	P	**P**	**20 08 27.4**	**-0.6**
	0.6nm,0.8s,baz=286,slow=4.9,SNR=7.8						
AS31	**Alice Springs**	**82.81**	**116**	*eP*	**P**	**20 08 27.4**	**-0.7**
SYO	**Syowa Base**	**82.88**	**187**	*eP*	**P**	**20 08 26.2**	**-1.1**

NNC 20 19:57:39.5±3.1, 36.65N×70.02E, h0km, mb3.5, mpv3.1, 5C-3D, Error ellipse: s-maj=30.1km s-min=20.6km az=143.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SFK	**Sufi-Kurgan**	**4.33**	**38**	⇑P	Pn	19 58 46.7	-0.1
	2.5nm,0.5s						
SFK				⇑S	Sn	19 59 39.2	+1.1
	2.6nm,0.2s						
MNAS	**Manas**	**6.13**	**17**	⇓P	Pn	19 59 12.7	+1.2
	0.4nm,0.3s						
MNAS				⇑S	Sn	20 00 24.0	+1.5
	1.2nm,0.4s						
KK31	**Karatay Array**	**6.45**	**3**	⇓P	Pn	19 59 17.1	+1.3
	0.5nm,0.3s,baz=189,slow=12,SNR=7.4						
KK31				⇓S	Sn	20 00 31.5	+1.3
	0.4nm,0.2s,baz=194,slow=22,SNR=5.5						
AAK	**Ala-Archa**	**6.90**	**29**	⇑P	Pn	19 59 20.9	-1.2
	0.8nm,0.5s						
AAK				⇑S	Sn	20 00 42.1	+0.8
	2.6nm,0.8s						
AB31	**Akbulak array**	**14.58**	**333**	P	Pn	20 01 06.2	-0.7
	0.4nm,0.5s,baz=148,slow=12,SNR=8.6						

DJA 20 20:00:24.3±1.0, 1°S±4°×12°4E±°, h18km±8km, M4.1/9, mb4.6/1, MLv3.8/9, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LUWI	**Luwuk**	**0.96**	**285**	P	Pb	20 00 41.7	-0.7
LUWI				S	Sb	20 00 54.2	-0.6
KMSI	**Cibinong**	**1.87**	**9**	P	Pn	20 00 56.0	+0.5
APSI	**Ampana**	**2.08**	**280**	P	Pn	20 00 59.3	+0.9
APSI				S	Sn	20 01 24.5	+0.6
SANI	**Sanana**	**2.41**	**108**	P	Pn	20 01 01.2	-1.6
MRSI	**Marisa**	**2.48**	**315**	P	Pn	20 01 04.6	+0.7
LBMI	**Labuha**	**3.85**	**80**	P	Pn	20 01 23.0	+0.2
LBMI				S	Sn	20 02 08.0	+0.4
MPSI	**Mapaga**	**4.13**	**293**	P	Pn	20 01 26.9	+0.4
AAI	**Ambon**	**5.08**	**118**	P	Pn	20 01 43.4	+3.8
BSSI	**Bau Bau, Buton**	**5.79**	**214**	P	Pn	20 01 50.7	+1.4

*ISCJB **20** 20:08:47.4±0.6, 7.75S±0.05×127.5E±0.1, h100km, mb3.5/7, Error ellipse: s-maj=14.4km s-min=7.3km az=174.2*
*IDC **20** 20:08:47.5±2.3, 7.71S×127.54E, h82km±22km, mb3.4/7, mb1 3.7/11, mb1mx3.4/53, mbtmp3.9/11, Error ellipse: s-maj=27.7km s-min=14.5km az=72.0*
ISC 20 20:08:48.2±0.7, 7.66S±0.06×127.61E±0.09, h100km, n18, σ3°35/18, mb3.7/7, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BNDI	**Bandanaira**	**3.87**	**36**	P	**Pn**	**20 09 48.0**	**+2.4**
AAI	**Ambon**	**3.99**	**8**	P	Pn	20 09 52.7	+5.3
MSAI	**Masohi**	**4.49**	**17**	P	**Pn**	**20 09 58.2**	**+4.2**
BATI	**Baumata**	**4.65**	**237**	P	**Pn**	**20 09 53.5**	**-2.7**
	5.0nm,0.3s,baz=89,slow=7.5,SNR=14						
BATI				S	Sn	20 11 04.8	+16
	12nm,0.3s,baz=288,slow=20,SNR=4.5						
SANI	**Sanana**	**5.81**	**344**	S	**Pn**	**20 10 08.8**	**-3.2**
FAKI	**Fak Fak**	**6.60**	**45**	P	**Sn**	**20 11 29.1**	**-7.4**
LBMI	**Labuha**	**6.98**	**359**	P	Pn	20 10 20.5	-7.4
SIJI	**Sorong**	**7.67**	**29**	P	**Pn**	**20 10 38.5**	**+1.2**
	5.6nm,0.3s,baz=131,slow=22,SNR=25						
SIJI				S	**Sn**	**20 11 57.4**	**-5.3**
	0.9nm,0.3s,baz=45,slow=20,SNR=3.9						
WRA	**Warramunga Arr**	**13.84**	**153**	P	**Pn**	**20 11 59.0**	**-1.2**
	3.2nm,0.3s,baz=336,slow=14,SNR=154						
WRA				S	Sn	20 14 20.3	-12
	2.3nm,0.3s,baz=327,slow=23,SNR=9.5						
ASAR	**Alice Springs**	**17.02**	**160**	P	**P**	**20 12 41.8**	**+1.3**
	0.9nm,0.3s,baz=332,slow=10,SNR=66						
ASAR				S	**Sn**	**20 15 44.4**	**-5.0**
	0.6nm,0.3s,baz=319,slow=14,SNR=6.6						
CTA	**Charters Tower**	**21.88**	**126**	P	**P**	**20 13 32.9**	**-0.3**
	2.6nm,0.5s,baz=289,slow=13,SNR=6.0						
STKA	**Stephens Creek**	**27.39**	**153**	P	**P**	**20 14 26.0**	**+1.7**
	1.4nm,0.5s,baz=322,slow=8.5,SNR=6.1						
KSRS	**Korea Array**	**44.88**	**0**	P	**P**	**20 16 53.9**	**+1.1**
	0.8nm,0.5s,baz=182,slow=8.5,SNR=3.8						
SONM	**Songino Array**	**58.36**	**343**	P	**P**	**20 18 34.4**	**+1.3**
	0.5nm,0.7s,baz=169,slow=8.5,SNR=5.2						
MKAR	**Makanchi Array**	**67.51**	**328**	P	**P**	**20 19 36.1**	**+2.5**
	0.1nm,0.4s,baz=113,slow=8.0,SNR=3.7						
KURBB	**Kurchatov Arra**	**71.86**	**330**	P	**P**	**20 20 00.5**	**+0.3**
	0.2nm,0.3s,baz=146,slow=5.9,SNR=4.2						
VNDA	**Vanda**	**72.09**	**173**	P	**P**	**20 20 02.5**	**+1.3**
	0.7nm,1.0s,baz=326,slow=3.6,SNR=2.5						
LPAZ	**La Paz**	**151.55**	**147**	PKPbc	**PKPbc**	**20 28 33.6**	**+1.1**
	1.0nm,0.4s,baz=52,slow=3.4,SNR=6.9						

DJA 20 20:09:13.5±0.8, 0°S±5°×12°3E±°, h70km±15km, M3.8/6, mb4.8/1, MLv3.3/6, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LUWI	**Luwuk**	**0.79**	**194**	P	Pn	20 09 30.1	+0.6
LUWI				S	Sn	20 09 43.2	+2.0
MRSI	**Marisa**	**1.26**	**306**	P	Pn	20 09 35.8	+0.5
MRSI				S	Sn	20 09 52.2	+0.5
KMSI	**Cibinong**	**1.32**	**51**	P	Pn	20 09 35.9	-0.2
KMSI				S	Sn	20 09 52.3	-0.8
APSI	**Ampana**	**1.46**	**244**	P	Pn	20 09 39.6	+1.7
SANI	**Sanana**	**3.51**	**120**	P	Pn	20 09 57.1	-8.5

*ISCJB **20** 20:13:33.3±1.1, 14.9N±0.1×93.31W±0.07, h50km, mb3.6/6, Error ellipse: s-maj=19.2km s-min=6.7km az=19.9*
*MEX **20** 20:13:35.3±0.5, 14.75N×93.29W, h27km±3.5km, MD4.0*
*IDC **20** 20:13:37.8±4.3, 15.14N×93.07W, h66km±21km, mb3.3/6, mb1 3.6/9, mb1mx3.4/50, mbtmp3.6/9, MS2.4/1, Ms1 2.4/1, ms1mx2.2/29, Error ellipse: s-maj=97.7km s-min=23.2km az=27.0*
ISC 20 20:13:34.6±1.1, 14.8N±0.1×93.33W±0.06, h50km, n14, σ1°91/17, mb3.7/6, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THIG		**1.04**	**86**	*eP*	**Pn**	**20 13 51.0**	**-1.8**
THIG				*eS*	**Sn**	**20 14 03.5**	**-2.8**
CCIG	**Comitan**	**1.85**	**38**	*eP*	**Pn**	**20 14 04.6**	**+0.6**
TGIG		**1.95**	**6**	*eP*	**Pn**	**20 14 05.4**	**+0.1**
CMIG	**Matias Romero**	**2.70**	**327**	P	**Pn**	**20 14 16.3**	**+0.8**
	2.7nm,0.3s,baz=149,slow=15,SNR=19						
CMIG				S	**Sn**	**20 14 45.0**	**-2.0**
	10nm,0.3s,baz=96,slow=23,SNR=12						
APG	**El Apazote**	**2.78**	**86**	P	**Pn**	**20 14 17.5**	**+0.6**
	13nm,0.3s,baz=202,slow=14,SNR=75						
APG				S	**Sn**	**20 14 54.1**	**+4.8**
	27nm,0.3s,baz=332,slow=23,SNR=9.1						
APG				LR	LR	20 15 07.1	
	comp=Z,87nm,21.1s,baz=292,slow=35						
HUIG	**Huatulco**	**2.83**	**290**	*eP*	**Pn**	**20 14 17.7**	**+0.3**
TXAR	**Lajitas Array**	**17.30**	**328**	P	**Pn**	**20 17 32.9**	**+0.1**
	0.0nm,0.3s,baz=161,slow=15,SNR=2.6						
PDAR	**Pinedale Array**	**31.14**	**337**	P	**P**	**20 19 49.4**	**+0.6**
	0.1nm,0.5s,baz=160,slow=5.6,SNR=2.7						
NVAR	**Mina Array Bea**	**32.22**	**322**	P	**P**	**20 20 01.1**	**+2.8**
	0.6nm,0.5s,baz=131,slow=9.1,SNR=6.9						
YKA	**Yellowknife Ar**	**49.33**	**347**	P	**P**	**20 22 22.0**	**-1.1**
	0.3nm,0.6s,baz=153,slow=7.5,SNR=9.3						
RES	**Resolute Bay**	**59.86**	**360**	P	**P**	**20 23 33.8**	**-0.9**
	0.5nm,0.7s,baz=200,slow=8.2,SNR=4.2						
ILAR	**Eielson Array**	**61.57**	**337**	P	**P**	**20 23 47.2**	**+0.8**
	0.4nm,0.6s,baz=152,slow=4.8,SNR=5.2						
ARCES	**ARCESS Array B**	**85.75**	**18**	P	**P**	**20 26 07.2**	**-0.9**
	2.5nm,1.0s,baz=302,slow=8.4,SNR=3.6						
CMAR	**Chiang Mai Arr**	**144.78**	**340**	PKP	**PKPab**	**20 33 05.0**	**-0.8**
	0.7nm,0.7s,baz=344,slow=3.5,SNR=5.7						

*IDC **20** 20:18:28.2±0.7, 25.43N×142.73E, h0km, mb3.8/18, mb1 3.9/18, mb1mx3.8/64, mbtmp3.8/18, MS3.6/2, Ms1 3.6/2, ms1mx2.7/62, Error ellipse: s-maj=22.2km s-min=13.8km az=86.0*
*ISCJB **20** 20:18:32.0±0.4, 25.36N±0.04×142.6E±0.1, h38km, mb3.9/21, MS3.6/2, Error ellipse: s-maj=13.5km s-min=5.8km az=173.2*
*NEIC **20** 20:18:34.8±1.2, 25.45N×142.69E, h46km±11km, mb5.0/4, Error ellipse: s-maj=11.6km s-min=7.4km az=94.0*
ISC 20 20:18:33.8±0.6, 25.39N±0.07×142.7E±0.1, h38km, n48, σ1°01/42, mb3.9/21, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**1.77**	**345**	*e*Pn	**Pn**	**20 19 01.3**	**-0.5**
CBIJ				*e*Sn	**Sn**	**20 19 23.9**	**+0.9**
JCJ	**Chichijima**	**1.77**	**345**	Pn	**Pn**	**20 19 01.1**	**-0.6**
	195nm,0.3s,baz=288,slow=20,SNR=70						
JCJ				Sn	**Sn**	**20 19 24.1**	**+1.1**
	176nm,0.3s,baz=287,slow=19,SNR=12						
MJAR	**Matsushiro Arr**	**11.77**	**342**	Pn	**Pn**	**20 21 19.8**	**+0.7**
	0.2nm,0.3s,baz=157,slow=10.0,SNR=2.8						
MAJO	**Matsushiro**	**11.77**	**342**	*e*Pn	**Pn**	**20 21 19.8**	**+0.7**
TWG	**Pinlang**	**19.91**	**267**	*eP*	**P**	**20 23 01.7**	**-0.5**
	138nm,1.5s						
H11N1	**WAKE ISLAND Hy**	**23.02**	**99**	T	T	20 47 12.6	
	baz=289						
H11N2	**WAKE ISLAND Hy**	**23.02**	**99**	T	T	20 47 12.9	
	baz=289,SNR=2.8						
H11N3	**WAKE ISLAND Hy**	**23.04**	**99**	T	T	20 47 13.4	
	baz=289						
H11S3	**WAKE ISLAND Hy**	**23.26**	**102**	T	T	20 47 32.1	
	baz=323						
H11S1	**WAKE ISLAND Hy**	**23.26**	**102**	T	T	20 47 32.8	
	baz=323						
H11S2	**WAKE ISLAND Hy**	**23.27**	**102**	T	T	20 47 32.7	
	baz=323						
DAV	**Davao City (W)**	**24.48**	**225**	LR	LR	20 32 50.5	
	comp=Z,32nm,21.0s,baz=317,slow=35						
KLR	**Kul'dur**	**25.29**	**343**	P	**P**	**20 23 56.8**	**+0.3**
	0.2nm,0.6s,baz=138,slow=8.2,SNR=11						
PMG	**Port Moresby**	**34.85**	**172**	*eP*	**P**	**20 25 21.4**	**0.0**
	20nm,1.0s						
SONA0	**Songino Array**	**36.28**	**318**	*eP*	**P**	**20 25 31.5**	**-2.0**
SONM	**Songino Array**	**36.28**	**318**	P	**P**	**20 25 31.5**	**-2.0**
	0.4nm,0.5s,baz=127,slow=8.3,SNR=5.2						
SEY	**Seymchan**	**38.09**	**7**	P		**20 25 49.2**	**+0.6**
	0.3nm,0.2s,baz=146,slow=10,SNR=4.0						
CM31	**Chiang Mai Arr**	**41.04**	**269**	*eP*	**P**	**20 26 15.5**	**+1.8**
CMAR	**Chiang Mai Arr**	**41.04**	**269**	P	**P**	**20 26 15.5**	**+1.8**
	0.3nm,0.3s,baz=54,slow=6.7,SNR=4.2						
WRAB	**Tennant Creek**	**45.77**	**191**	*eP*	**P**	**20 26 52.4**	**+0.7**
	39nm,1.9s						
WR1	**Warramunga Arr**	**45.78**	**191**	*eP*	**P**	**20 26 52.5**	**+0.7**
WRA	**Warramunga Arr**	**45.78**	**191**	P	**P**	**20 26 52.5**	**+0.7**
	2.0nm,0.5s,baz=9.5,slow=8.5,SNR=35						
AS31	**Alice Springs**	**49.50**	**191**	*eP*	**P**	**20 27 22.2**	**+1.6**
ASAR	**Alice Springs**	**49.50**	**191**	P	**P**	**20 27 22.2**	**+1.5**
	0.2nm,0.5s,baz=16,slow=14,SNR=7.3						
MK32	**Makanchi Array**	**51.93**	**311**	*eP*	**P**	**20 27 38.4**	**-0.4**
MKAR	**Makanchi Array**	**51.93**	**311**	P	**P**	**20 27 38.4**	**-0.4**
	0.3nm,0.5s,baz=91,slow=10,SNR=6.4						
KURK	**Kurchatov**	**54.52**	**315**	*eP*	**P**	**20 27 56.8**	**-0.9**
KURBB	**Kurchatov Arra**	**54.57**	**315**	P	**P**	**20 27 56.8**	**-1.3**
	1.5nm,0.5s,baz=91,slow=8.4,SNR=13						
STKA	**Stephens Creek**	**56.95**	**181**	P	**P**	**20 28 14.0**	**-1.3**
	2.2nm,1.0s,baz=329,slow=12,SNR=2.9						
ILAR	**Eielson Array**	**58.99**	**24**	P	**P**	**20 28 28.1**	**-1.1**
	0.7nm,0.7s,baz=256,slow=6.2,SNR=8.5						
ILB	**Eielson Array**	**58.99**	**28**	*eP*	**P**	**20 28 28.1**	**-1.1**
BVAR	**Borovoye Array**	**59.62**	**318**	P	**P**	**20 28 33.5**	**-0.3**
	1.6nm,0.5s,baz=88,slow=7.8,SNR=10						
INK	**Inuvik**	**64.39**	**24**	P	**P**	**20 29 05.6**	**+0.1**
	0.6nm,0.6s,baz=306,slow=5.1,SNR=3.6						
INK	**Inuvik**	**64.39**	**24**	*eP*	**P**	**20 29 05.4**	**-0.1**
	12nm,1.9s						
ABKAR	**Akbulak array**	**66.62**	**315**	*eP*	**P**	**20 29 19.6**	**-0.7**
AKTO	**Aktyubinsk**	**67.58**	**316**	P	**P**	**20 29 26.8**	**+0.4**
	0.6nm,0.5s,baz=18,slow=3.2,SNR=2.9						
BBB	**Bella Bella**	**69.88**	**41**	LR	LR	20 52 17.6	
	comp=Z,215nm,21.7s,baz=96,slow=29						
YKA	**Yellowknife Ar**	**73.42**	**28**	P	**P**	**20 30 01.2**	**-0.5**
	0.4nm,0.6s,baz=291,slow=5.9,SNR=8.8						
YKB5	**Yellowknife Ar**	**73.42**	**28**	*eP*	**P**	**20 30 01.2**	**-0.5**
ARA0	**ARCESS Array S**	**75.30**	**341**	*eP*	**P**	**20 30 13.8**	**+1.2**
ARCES	**ARCESS Array B**	**75.30**	**341**	P	**P**	**20 30 13.8**	**+1.2**
	1.9nm,0.8s,baz=72,slow=9.3,SNR=4.7						
FIA0	**FINESS Array S**	**79.68**	**334**	*eP*	**P**	**20 30 36.9**	**-0.2**
FINES	**FINESS Array B**	**79.68**	**334**	P	**P**	**20 30 36.9**	**-0.2**
	1.8nm,0.5s,baz=67,slow=5.5,SNR=14						
NV01	**Mina Array Sit**	**81.21**	**52**	*eP*	**P**	**20 30 47.1**	**+1.0**
NVAR	**Mina Array Bea**	**81.21**	**52**	P	**P**	**20 30 47.1**	**+1.0**
	0.2nm,0.5s,baz=316,slow=5.0,SNR=2.8						
AKASG	**Malin Array Be**	**84.27**	**324**	P	**P**	**20 31 00.7**	**-0.8**
	0.2nm,0.3s,baz=52,slow=5.1,SNR=4.0						
AKBB	**Malin Array Si**	**84.27**	**324**	*eP*	**P**	**20 31 00.7**	**-0.8**
NB2	**NORSAR Subarra**	**85.36**	**339**	P	**P**	**20 31 06.2**	**-0.6**
	comp=Z,4.1nm,1.2s,baz=44,slow=5.3						

*IDC **20** 20:24:28.4±1.2, 3.13N×92.74E, h0km, mb3.6/8, mb1 3.8/11, mb1mx3.5/65, mbtmp3.6/11, ML3.9/2, MS3.4/2, Ms1 3.4/2, ms1mx2.7/56, Error ellipse: s-maj=39.0km s-min=17.8km az=45.0*
*NEIC **20** 20:24:29.5±0.5, 3.15N×92.71E, h10km, mb4.2/1, Error ellipse: s-maj=11.2km s-min=6.5km az=222.0*
*ISCJB **20** 20:24:31.9±0.7, 3.27N±0.09×92.91E±0.07, h33km, mb3.6/9, MS3.5/1, Error ellipse: s-maj=14.4km s-min=7.1km az=36.8*
ISC 20 20:24:33.3±0.9, 3.2N±0.1×92.82E±0.07, h35km, n30, σ1°68/26, mb3.7/9, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LHMI	**Lhok Sumawe**	**4.58**	**64**	*e*Pn	**Pn**	**20 25 35.8**	**-4.3**
GSI	**Gunungsitoli**	**5.12**	**112**	*e*Pn	**Pn**	**20 25 47.0**	**-0.6**
PSI	**Prapat**	**6.12**	**94**	Pn	**Pn**	**20 26 02.6**	**+1.3**
	baz=270,slow=18						
PSI				Sn	**Sn**	**20 27 09.6**	**-0.6**
	baz=222,slow=15						
PSI	**Prapat**	**6.12**	**94**	*e*Pn	**Pn**	**20 26 02.2**	**+0.9**
PSI				*e*Sn	**Sn**	**20 27 10.4**	**+0.2**
KULM	**Kulim**	**8.08**	**75**	*e*Pn	**Pn**	**20 26 28.7**	**+0.5**
KULM				*e*Sn	**Sn**	**20 27 53.0**	**-5.4**
IPM	**Ipoh**	**8.29**	**81**	*e*Pn	Pn	20 26 24.3	-6.8
PBA	**Port Blair**	**8.38**	**360**	*e*Pn	Pn	20 26 31.8	-0.5
PALK	**Pallekele**	**12.71**	**289**	Pn	**Pn**	**20 27 29.0**	**-2.8**
	0.6nm,0.3s,baz=111,slow=13,SNR=4.2						
PALK				Sn	Sn	20 29 38.4	-14
	0.9nm,0.3s,baz=115,slow=11,SNR=4.0						
PALK	**Pallekele**	**12.71**	**289**	*e*Pn	**Pn**	**20 27 28.4**	**-3.4**
PALK				*e*Sn	Sn	20 29 36.9	-15
CM31	**Chiang Mai Arr**	**16.29**	**21**	*e*Pn	**Pn**	**20 28 18.8**	**-0.7**
CMAR	**Chiang Mai Arr**	**16.29**	**21**	Pn	**Pn**	**20 28 18.8**	**-0.7**
	0.1nm,0.3s,baz=219,slow=14,SNR=7.8						
LEM	**Lembang**	**17.83**	**124**	LR	LR	20 35 46.9	
	comp=Z,104nm,18.5s,baz=238,slow=38						
H08S2	**Diego Garcia H**	**22.97**	**242**	T	T	20 53 21.3	
	baz=61,slow=75,SNR=4.7						
H08S3	**Diego Garcia H**	**22.97**	**242**	T	T	20 53 18.3	
	baz=61,slow=75,SNR=5.1						
H08S1	**Diego Garcia H**	**22.99**	**242**	T	T	20 53 12.4	
	baz=61,slow=75,SNR=4.3						
LSA	**Lhasa**	**26.38**	**357**	*eP*	**P**	**20 30 08.2**	**+1.2**
	3.0nm,0.6s						
MK32	**Makanchi Array**	**44.35**	**350**	*eP*	**P**	**20 32 39.6**	**-0.5**
MKAR	**Makanchi Array**	**44.35**	**350**	P	**P**	**20 32 39.6**	**-0.5**
	0.3nm,0.5s,baz=175,slow=9.3,SNR=5.5						
SONA0	**Songino Array**	**45.96**	**13**	*eP*	**P**	**20 32 54.4**	**+1.3**
SONM	**Songino Array**	**45.96**	**13**	P	**P**	**20 32 54.4**	**+1.3**
	0.3nm,0.7s,baz=195,slow=9.4,SNR=3.6						
WRA	**Warramunga Arr**	**46.82**	**121**	P	**P**	**20 33 00.1**	**0.0**
	0.5nm,0.5s,baz=298,slow=8.8,SNR=15						
WR1	**Warramunga Arr**	**46.82**	**121**	*eP*	**P**	**20 33 00.1**	**0.0**
GEYT	**Alibeck**	**46.90**	**322**	P	**P**	**20 33 01.4**	**+0.9**
	0.5nm,0.5s,baz=157,slow=7.8,SNR=2.9						
GEYT				LR	LR	20 53 13.1	
	comp=Z,47nm,19.2s,baz=85,slow=37						
AS31	**Alice Springs**	**48.11**	**126**	*eP*	**P**	**20 33 10.2**	**0.0**
ASAR	**Alice Springs**	**48.11**	**126**	P	**P**	**20 33 10.2**	**0.0**
	0.2nm,0.4s,baz=298,slow=7.2,SNR=6.8						
KURBB	**Kurchatov Arra**	**48.75**	**348**	P	**P**	**20 33 15.9**	**+1.4**
	0.4nm,0.7s,baz=169,slow=7.0,SNR=4.7						
KURK	**Kurchatov**	**48.82**	**348**	*eP*	**P**	**20 33 15.9**	**+0.9**
ZALV	**Zalesovo Beam**	**50.99**	**354**	P	**P**	**20 33 32.2**	**+0.8**
	0.7nm,0.8s,baz=172,slow=7.4,SNR=4.0						
ZAA1	**Zalesovo Array**	**50.99**	**354**	*eP*	**P**	**20 33 32.2**	**+0.8**
GERES	**GERESS Array B**	**80.42**	**319**	P	**P**	**20 36 43.0**	**+1.5**
	0.6nm,0.7s,baz=112,slow=5.9,SNR=4.5						

MAN 20 20:32:59, 16.64N×120.15E, h33km, mb3.6, ML2.3, MS1.7, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BOLP	**Bolinao**	**0.34**	**221**	*eP*	Pn	20 33 08.5	+0.9
BOLP				*eS*	Sn	20 33 15.9	+2.8
ABRA	**Dolores**	**1.14**	**28**	*eP*	Pb	20 33 20.0	-0.3
ABRA				*eS*	Sn	20 33 33.4	+0.1
APYP	**Conner**	**1.61**	**41**	*eP*	Pb	20 33 44.4	+16
BALP	**Baler**	**1.64**	**123**	*eP*	Pn	20 33 26.1	+0.6

*IDC **20** 20:44:56.5±1.1, 17.70S×173.69W, h0km, mb4.0/6, mb1 4.3/6, mb1mx3.8

MASI	**Maura Aman, Be**	**2.31**	**351**	P	**Pb**	**21 02 41.3**	**-3.3**
KLI	**Kotabumi**	**2.31**	**76**	P	**Pb**	**21 02 42.0**	**-2.6**
BLSI	**Bandar Lampung**	**2.63**	**89**	P	**Pb**	**21 02 47.1**	**-2.9**
CGJI	**Cibinong**	**3.29**	**111**	P	**Pn**	**21 02 53.2**	**+0.6**
KRJI	**Kerinci**	**3.52**	**341**	P	**Pn**	**21 02 57.4**	**+1.6**
KRJI				S	**Sn**	**21 03 38.2**	**+1.9**
DBJI	**Dramaga**	**4.27**	**105**	P	Pb	21 03 13.0	-4.9
LEM	**Lembang**	**5.17**	**106**	Pn	**Pn**	**21 03 21.8**	**+3.1**
	3.7nm,0.3s,baz=302,slow=13,SNR=3.6						
LEM				Sn	**Sn**	**21 04 20.1**	**+2.8**
	2.7nm,0.3s,baz=221,slow=19,SNR=2.9						
DSRI	**Dabo**	**5.31**	**22**	P	**Pn**	**21 03 22.3**	**+1.9**
BATI	**Baumata**	**21.39**	**104**	P	**P**	**21 06 50.0**	**+1.5**
	4.7nm,0.3s,baz=17,slow=17,SNR=2.7						
BATI				S	**S**	**21 10 39.0**	**-5.2**
	4.9nm,0.5s,baz=253,slow=19,SNR=2.7						
CMAR	**Chiang Mai Arr**	**24.02**	**351**	P	**P**	**21 07 15.1**	**-0.3**
	0.3nm,0.5s,baz=185,slow=8.1,SNR=2.8						
H08S2	**Diego Garcia H**	**29.99**	**264**	T	T	21 39 06.0	
	baz=88,slow=75,SNR=36						
H08S3	**Diego Garcia H**	**30.00**	**264**	T	T	21 39 12.5	
	baz=88,slow=75,SNR=31						
H08S1	**Diego Garcia H**	**30.01**	**264**	T	T	21 39 07.4	
	baz=88,slow=75,SNR=28						
H01W3	**Cape Leeuwin H**	**31.18**	**161**	T	T	21 40 58.5	
	baz=338,slow=76,SNR=7.4						
H01W2	**Cape Leeuwin H**	**31.19**	**162**	T	T	21 41 02.6	
	baz=338,slow=76,SNR=7.9						
H01W1	**Cape Leeuwin H**	**31.19**	**161**	T	T	21 41 00.9	
	baz=338,slow=76,SNR=9.9						
WRA	**Warramunga Arr**	**34.06**	**118**	P	**P**	**21 08 45.4**	**+0.6**
	0.4nm,0.6s,baz=290,slow=9.1,SNR=2.8						
ASAR	**Alice Springs**	**35.16**	**124**	P	**P**	**21 08 55.0**	**+0.5**
	0.7nm,0.5s,baz=293,slow=8.2,SNR=4.7						
ASAR				pP	**pP**	**21 09 05.8**	**+1.5**
	0.8nm,0.4s,baz=300,slow=7.8,SNR=6.2						
STKA	**Stephens Creek**	**44.94**	**131**	P	**P**	**21 10 16.0**	**+0.6**
	2.1nm,0.6s,baz=314,slow=10,SNR=11						
SONM	**Songino Array**	**53.15**	**3**	P	**P**	**21 11 16.4**	**-1.7**
	0.6nm,0.7s,baz=185,slow=11,SNR=4.7						
SONM				pP	**pP**	**21 11 27.6**	**-0.8**
	0.7nm,0.6s,baz=182,slow=8.3,SNR=4.1						
MKAR	**Makanchi Array**	**55.04**	**343**	P	**P**	**21 11 31.4**	**-0.4**
	0.3nm,0.5s,baz=149,slow=8.7,SNR=6.4						
MKAR				pP	**pP**	**21 11 41.9**	**-0.2**
	0.6nm,0.5s,baz=149,slow=9.0,SNR=5.8						
ZALV	**Zalesovo Beam**	**61.03**	**348**	P	**P**	**21 12 12.5**	**-1.0**
	0.4nm,0.4s,baz=150,slow=5.6,SNR=2.6						
ZALV				pP	**pP**	**21 12 24.0**	**0.0**
	1.0nm,0.6s,baz=186,slow=6.1,SNR=3.2						
TXAR	**Lajitas Array**	**145.63**	**43**	PKPbc	**PKPab**	**21 21 40.2**	**+0.5**
	0.3nm,0.7s,baz=201,slow=4.8,SNR=3.1						

*ISCJB **20** 21:03:26.5±0.5,86.12N±0.05×3.1E±., h10km, mb3.7/14, MS3.3/25, Error ellipse: s-maj=9.8km s-min=7.1km az=6.4*
*IDC **20** 21:03:27.4±0.6,86.29N×33.08E, h0km, mb3.7/13, mb1 3.9/17, mb1mx3.6/75, mbtmpb3.7/17, ML3.5/3, MS3.3/29, Ms1 3.3/29, ms1mx3.1/72, Error ellipse: s-maj=21.3km s-min=12.3km az=66.0*
*IEPN **20** 21:03:29.0, 85.86N×42.86E, h20km, station ZFI2 has station magnitude of 2.90*
ISC 20 21:03:28.6±0.6,**86.15N**±0.06×**32.54E**±0.09,**h10**km,**n37,** σ1§**71**/25,**mb3.8**/14,**MS3.3**/25,**North of Svalbard**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
ZFI2	**Zemlya Franca-**	**5.60**	**155**	*i* P	**Pn**	**21 04 49.3**		**-2.5**
ZFI2				*i* S	Sn	21 05 46.2		-10
	7.6nm,0.8s							
KBS	**Kingsbay**	**7.64**	**211**	*i* P	**Pn**	**21 05 20.2**		**+0.5**
KBS				*i* S	**Sn**	**21 06 44.5**		**-1.6**
SPA0	**Spitsbergen Ar**	**8.25**	**204**	P	**Pn**	**21 05 27.8**		**-0.3**
SPA0				*i* S	**Sn**	**21 06 57.0**		**-4.1**
SPITS	**Spitsbergen Ar**	**8.25**	**204**	Pn	**Pn**	**21 05 27.8**		**-0.3**
	baz=11,slow=14,SNR=30							
SPITS				Sn	**Sn**	**21 06 59.1**		**-1.9**
	baz=40,slow=27,SNR=1.7							
SPITS				LR	LR	21 08 18.1		
	comp=Z,146nm,18.7s,baz=45,slow=35							
DAG	**Danmarks Havn**	**11.29**	**246**	*i* P	**Pn**	**21 06 12.4**		**+2.8**
	6.8nm,1.0s							
JMIC	**Jan Mayen**	**16.40**	**230**	LR	LR	21 11 15.3		
	comp=Z,29nm,18.4s,baz=116,slow=28							
ARCES	**ARCESS Array B**	**16.75**	**189**	Pn	**Pn**	**21 07 22.2**		**-0.7**
	0.2nm,0.3s,baz=2.5,slow=8.5,SNR=6.2							
RES	**Resolute Bay**	**18.03**	**317**	P	**Pn**	**21 07 37.2**		**-1.5**
	0.3nm,0.3s,baz=26,slow=12,SNR=6.3							
RES				LR	LR	21 14 05.0		
	comp=Z,82nm,20.7s,baz=16,slow=36							
TIXI	**Tiksi**	**19.27**	**73**	P	**P**	**21 07 51.7**		**-1.1**
	0.2nm,0.3s,baz=340,slow=6.4,SNR=4.5							
TIXI				LR	LR	21 13 42.6		
	comp=Z,47nm,19.8s,baz=339,slow=32							
SFJD	**Kangerlussuaq**	**22.99**	**272**	LR	LR	21 17 04.4		
	comp=Z,55nm,19.6s,baz=360,slow=36							
BORG	**Borgarnes**	**23.31**	**241**	LR	LR	21 17 06.5		
	comp=Z,22nm,18.6s,baz=44,slow=35							
FINES	**FINESS Array B**	**24.87**	**187**	LR	LR	21 18 23.3		
	comp=Z,48nm,20.4s,baz=18,slow=36							
NOA	**NORSAR Array B**	**25.55**	**204**	LR	LR	21 17 46.3		
	comp=Z,14nm,19.4s,baz=5.0,slow=33							
HFS	**Hagfors**	**26.39**	**201**	LR	LR	21 18 41.3		
	comp=Z,35nm,21.7s,baz=352,slow=34							
FRB	**Frobisher Bay**	**27.40**	**288**	LR	LR	21 18 50.6		
	comp=Z,87nm,21.7s,baz=246,slow=34							
ILAR	**Eielson Array**	**29.25**	**359**	P	**P**	**21 09 29.8**		**-0.3**
	2.0nm,1.0s,baz=357,slow=8.1,SNR=6.1							
YKA	**Yellowknife Ar**	**30.99**	**331**	P	**P**	**21 09 43.9**		**-1.6**
	0.2nm,0.6s,baz=4.7,slow=8.1,SNR=6.3							
ZALV	**Zalesovo Beam**	**33.98**	**123**	P	**P**	**21 10 11.3**		**-0.4**
	0.5nm,0.5s,baz=345,slow=11,SNR=3.8							
ZALV				LR	LR	21 24 51.8		
	comp=Z,30nm,18.9s,baz=76,slow=38							
BVAR	**Borovoye Array**	**34.17**	**139**	P	**P**	**21 10 14.6**		**+1.2**
	1.2nm,0.7s,baz=359,slow=6.1,SNR=6.0							
BVAR				LR	LR	21 26 54.9		
	comp=Z,81nm,18.3s,baz=30,slow=41							
AKASG	**Malin Array Be**	**35.62**	**184**	LR	LR	21 25 00.1		
	comp=Z,52nm,20.4s,baz=255,slow=36							
AKTO	**Aktyubinsk**	**36.29**	**152**	LR	LR	21 28 48.5		
	comp=Z,47nm,18.2s,baz=354,slow=42							
KURBB	**Kurchatov Arra**	**36.96**	**130**	P	**P**	**21 10 38.2**		**+0.9**
	0.6nm,0.8s,baz=350,slow=8.9,SNR=5.2							
MLR	**Muntele Rosu**	**40.85**	**187**	LR	LR	21 28 49.2		
	comp=Z,19nm,18.5s,baz=12,slow=37							
MKAR	**Makanchi Array**	**40.98**	**127**	P	**P**	**21 11 11.5**		**+0.5**
	0.3nm,0.5s,baz=4.8,slow=6.4,SNR=5.5							
MKAR				LR	LR	21 30 49.5		
	comp=Z,60nm,20.0s,baz=2.0,slow=40							
ULM	**Lac du Bonnet**	**42.44**	**312**	LR	LR	21 28 20.9		
	comp=Z,78nm,18.1s,baz=12,slow=35							
KBZ	**Khabaz**	**42.65**	**169**	P	**P**	**21 11 27.7**		**+3.0**
	2.4nm,0.9s,baz=336,slow=4.1,SNR=4.8							
KBZ				LR	LR	21 31 13.2		
	comp=Z,52nm,19.5s,baz=12,slow=39							
GNI	**Garni**	**46.26**	**167**	LR	LR	21 34 13.1		
	comp=Z,36nm,21.2s,baz=354,slow=40							
BRTR	**Keskin Array B**	**46.59**	**179**	P	**P**	**21 11 58.2**		**+1.9**
	0.5nm,0.9s,baz=46,slow=5.3,SNR=3.8							
BRTR				LR	LR	21 32 40.4		
	comp=Z,41nm,20.4s,baz=336,slow=38							
GEYT	**Alibeck**	**48.78**	**153**	P	**P**	**21 12 15.4**		**+2.1**
	1.1nm,0.8s,baz=310,slow=12,SNR=4.0							
GEYT				LR	LR	21 37 55.9		
	comp=Z,41nm,18.2s,baz=315,slow=42							
PDAR	**Pinedale Array**	**50.53**	**324**	P	**P**	**21 12 27.0**		**+0.2**
	0.5nm,0.7s,baz=343,slow=4.6,SNR=4.7							
PDAR				LR	LR	21 34 00.7		
	comp=Z,97nm,18.4s,baz=75,slow=36							
IDI	**Anoyia**	**51.05**	**188**	P	**P**	**21 12 31.5**		**+0.9**
	11nm,0.9s,baz=350,slow=12,SNR=3.6							
IDI				LR	LR	21 34 51.2		
	comp=Z,26nm,20.8s,baz=72,slow=37							
KSRS	**Korea Array**	**53.19**	**82**	LR	LR	21 34 51.1		
	comp=Z,13nm,18.4s,baz=320,slow=35							
NVAR	**Mina Array Bea**	**55.17**	**332**	P	**P**	**21 13 00.9**		**-0.2**
	2.7nm,1.3s,baz=6.7,slow=4.6,SNR=4.1							
NVAR				LR	LR	21 37 33.5		
	comp=Z,82nm,19.6s,baz=279,slow=37							
TXAR	**Lajitas Array**	**63.66**	**318**	P	**P**	**21 13 59.2**		**-0.5**
	0.4nm,0.7s,baz=338,slow=6.8,SNR=2.4							
TXAR				LR	LR	21 41 39.2		
	comp=Z,45nm,20.5s,baz=0.0,slow=36							
CMAR	**Chiang Mai Arr**	**70.14**	**112**	P	**P**	**21 14 40.8**		**-0.1**
	0.6nm,0.9s,baz=353,slow=6.7,SNR=4.0							
CMAR				LR	LR	21 47 51.3		
	comp=Z,46nm,18.2s,baz=195,slow=38							
APG	**El Apazote**	**77.23**	**304**	LR	LR	21 51 58.3		
	comp=Z,18nm,18.6s,baz=274,slow=38							
SDV	**Santo Domingo**	**82.08**	**284**	LR	LR	21 52 19.1		
	comp=Z,19nm,19.0s,baz=213,slow=36							

*ISCJB **20** 21:04:01.1±0.4,63.30N±0.02×151.12W±0.05, h8km±3km, mb3.4/5, Error ellipse: s-maj=3.9km s-min=2.8km az=32.6*
*IDC **20** 21:04:01.9±0.9,63.29N×150.98W, h0km, mb3.5/5, mb1 3.7/9, mb1mx3.4/81, mbtmpb3.5/9, ML3.1/4, MS2.6/1, Ms1 2.7/1, ms1mx2.2/62, Error ellipse: s-maj=18.7km s-min=12.0km az=135.0*
*NEIC **20** 21:04:01.4±0.0,63.26N×151.10W, h9km, MW3.5, ML3.4(AEIC), Moment Tensor Solution. s29 Moment tensor: Scale 10¹⁴Nm; Mrr2.37; Mθθ-1.84; Mϕϕ-0.52; Mrθ0.03; Mθϕ-0.85; Mϕr0.19; Best double couple: M₀2.30000×10¹⁴ NP1:ϕs248.00000°, δ44.00000°, λ95.00000°. NP2:ϕs60.00000°, δ47.00000°, λ85.00000°. Principal axes: T 2.3800, Plg86.0000°, Azm265.0000°; N -0.1200, Plg4.0000°, Azm64.0000°; P -2.2600, Plg1.0000°, Azm154.0000°; After AEIC.*
ISC 20 21:04:01.5±1.1,**63.28N**±0.02×**151.07W**±0.02,**h7**km±8km, **n71,** σ1§**24**/90,**mb3.4**/5,**Central Alaska**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
KTH	**Kantishna Hill**	**0.28**	**14**	*e*Pg	**Pg**	**21 04 07.8**		**+0.7**
KTH				*e*Sg	**Sb**	**21 04 12.8**		**-1.0**
TRF	**Thorofare Moun**	**0.39**	**64**	*e*Pg	**Pg**	**21 04 09.5**		**+0.3**
TRF				*e*Sg	**Sg**	**21 04 15.8**		**+1.4**
CAST	**Castle Rocks**	**0.47**	**287**	*e*Pg	**Pg**	**21 04 10.7**		**0.0**
CAST				*e*Sg	**Sg**	**21 04 17.0**		**+0.1**
PPLA	**Purkeypile**	**0.64**	**233**	*e*Pg	**Pg**	**21 04 13.6**		**-0.3**
PPLA				*e*Sg	**Sg**	**21 04 23.2**		**+1.1**
HUR	**Hurricane**	**0.72**	**115**	P	**Pg**	**21 04 14.8**		**-0.6**
BPAW	**Bear Paw Mtn.**	**0.82**	**3**	*e*Pg	**Pg**	**21 04 17.5**		**+0.2**
BPAW				*e*Sn	**Sn**	**21 04 31.5**		**-0.4**
RND	**Reindeer**	**1.01**	**82**	*e*Pg	**Pg**	**21 04 20.2**		**-0.7**
MCK	**McKinley**	**1.06**	**64**	*e*Pg	**Pg**	**21 04 21.3**		**-0.5**
MCK				*e*Sn	**Sn**	**21 04 38.3**		**+0.5**
SKT	**Skwentna**	**1.32**	**189**	P	**Pn**	**21 04 25.1**		**-1.3**
SKT				S	**Sg**	**21 04 41.9**		**-2.2**
DHY	**Denali Highway**	**1.69**	**95**	*e*Pn	**Pn**	**21 04 31.5**		**-0.1**
DHY				*e*Sn	**Sb**	**21 04 54.9**		**+0.4**
MLY	**Manley**	**1.76**	**5**	*e*Pn	**Pn**	**21 04 32.2**		**-0.3**
WRH	**Wood River Hil**	**1.78**	**47**	*e*Pn	**Pn**	**21 04 32.0**		**-0.6**
WRH				*e*Sn	**Sg**	**21 04 58.2**		**-0.4**
GHO	**Glory Hole Cre**	**1.81**	**146**	P	**Pn**	**21 04 32.3**		**-0.9**
STLK	**Strandline Lak**	**1.83**	**192**	P	**Pn**	**21 04 33.3**		**0.0**
SUA	**Susitna One**	**1.83**	**175**	*e*Pn	**Pn**	**21 04 33.2**		**-0.3**
SUA				*e*Sn	**Sb**	**21 04 58.2**		**-0.4**
PMR	**Palmer**	**1.92**	**151**	*e*Pn	**Pn**	**21 04 34.2**		**-0.4**
PMR				*e*Sn	**Sb**	**21 05 00.7**		**-0.3**
SML	**Sawmill**	**1.95**	**138**	*e*Pn	**Pn**	**21 04 35.0**		**0.0**
SML				*e*Sn	**Sb**	**21 05 01.1**		**-0.7**
CCB	**Clear Creek Bu**	**1.99**	**45**	*e*Pn	**Pn**	**21 04 34.8**		**-0.7**
SPCP	**Crater Peak Br**	**2.09**	**194**	P	**Pn**	**21 04 37.0**		**0.0**
MDM	**Murphy Dome**	**2.09**	**35**	*e*Pn	**Pn**	**21 04 36.4**		**-0.6**
SPWE	**Spurr West**	**2.13**	**200**	P	**Pn**	**21 04 38.2**		**+0.6**
COLA	**College**	**2.13**	**40**	*e*Pn	**Pn**	**21 04 36.9**		**-0.5**
HDA	**Harding Lake**	**2.15**	**56**	*e*Pn	**Pn**	**21 04 37.3**		**-0.4**
SPU	**Mount Spurr**	**2.16**	**193**	*e*Pn	**Pn**	**21 04 38.4**		**+0.5**
SPU				*e*Sn	**Sb**	**21 05 07.4**		**-0.5**
KNK	**Knik Glacier**	**2.24**	**146**	P	**Pn**	**21 04 39.3**		**+0.3**
SCM	**Sheep Creek Mo**	**2.26**	**128**	*e*Pn	**Pb**	**21 04 42.0**		**-0.7**
SCM				*e*Sn	**Sb**	**21 05 10.6**		**-0.3**
TT01	**Tatalina**	**2.28**	**263**	P	**Pn**	**21 04 38.5**		**-1.0**
RC01	**Rabbit Creek A**	**2.29**	**164**	*e*Pn	**Pn**	**21 04 40.4**		**+0.7**
RC01				*e*Sn	**Sn**	**21 05 09.8**		**+1.7**
ILAR	**Eielson Array**	**2.37**	**49**	Pn	**Pn**	**21 04 40.1**		**-0.6**
	2.0nm,0.3s,baz=233,slow=14,SNR=46							
ILAR				Lg	Lg	21 05 15.1		
	35nm,0.3s,baz=233,slow=30,SNR=15							
ILAR				LR	LR	21 05 52.2		
	comp=Z,113nm,19.9s,baz=159,slow=47							
PS10	**TAPS Pump St10**	**2.40**	**84**	P	**Pn**	**21 04 42.6**		**+1.5**
PAX	**Paxson**	**2.56**	**95**	*e*Pn	**Pn**	**21 04 44.0**		**+0.5**
DFR	**Drift River**	**2.81**	**196**	P	**Pn**	**21 04 47.2**		**+0.3**
RIDG	**Independ'e Rid**	**2.83**	**78**	*e*Pn	**Pn**	**21 04 47.6**		**+0.4**
HARP	**HAARP**	**2.85**	**105**	*e*Pn	**Pb**	**21 04 50.4**		**-2.4**
RDWB	**Redoubt West**	**2.93**	**197**	P	**Pn**	**21 04 49.1**		**+0.6**
IM3	**Indian Mountai**	**2.95**	**338**	P	**Pn**	**21 04 48.9**		**+0.2**
KLU	**Klutina**	**3.00**	**125**	*e*Pn	**Pn**	**21 04 51.0**		**+1.5**
SVW2	**Sparrevohn**	**3.05**	**226**	*e*Pn	**Pn**	**21 04 49.8**		**-0.3**
JPK	**Jack Peak**	**3.07**	**135**	P	**Pn**	**21 04 51.6**		**+1.2**
DOT	**Dot Lake**	**3.17**	**80**	*e*Pn	**Pn**	**21 04 52.1**		**+0.3**
SCRK	**Sand Creek**	**3.24**	**74**	*e*Pn	**Pn**	**21 04 52.9**		**+0.1**
DIV	**Divide**	**3.29**	**129**	*e*Pn	**Pn**	**21 04 54.5**		**+1.0**
PRP	**Porcupine Dome**	**3.29**	**45**	P	**Pn**	**21 04 53.5**		**-0.1**
MENT	**Mentasta**	**3.36**	**93**	*e*Pn	**Pn**	**21 04 56.0**		**+1.6**
BRLK	**Bradley Lake**	**3.53**	**178**	*e*Pn	**Pn**	**21 04 57.9**		**+1.2**
PS05	**TAPS Pump Stn5**	**3.55**	**3**	P	**Pn**	**21 04 57.9**		**+1.0**
HOM	**Homer**	**3.65**	**185**	*e*Pn	**Pn**	**21 05 00.4**		**+2.1**
HOM				*e*Sg	**Sb**	**21 05 49.0**		**-1.6**
EYAK	**Cordova Ski Ar**	**3.72**	**135**	*e*Pn	**Pn**	**21 05 01.7**		**+2.4**
BMRM	**Bremner River**	**3.82**	**124**	*e*Pn	**Pn**	**21 05 02.0**		**+1.2**
COLD	**Coldfoot**	**3.98**	**5**	*e*Pn	**Pn**	**21 05 03.8**		**+1.0**
FYU	**Fort Yukon**	**4.13**	**34**	*e*Pn	**Pn**	**21 05 06.1**		**+1.2**
RAGM	**Ragged Mountai**	**4.20**	**131**	*e*Pn	**Pn**	**21 05 07.8**		**+1.9**
BCA3	**Beaver Creek A**	**4.22**	**89**	P	**Pn**	**21 05 07.0**		**+0.8**
PTPK	**Patty Peak**	**4.54**	**114**	P	**Pn**	**21 05 12.6**		**+1.8**
EGAK	**Eagle**	**4.61**	**67**	*e*Pn	**Pn**	**21 05 11.9**		**+0.4**
BALM	**Baldy**	**4.67**	**115**	*e*Pn	**Pn**	**21 05 14.0**		**+1.5**
KIAG	**Kiagna River**	**4.73**	**116**	P	**Pn**	**21 05 14.1**		**+0.8**
ISLE	**Juniper Island**	**4.92**	**119**	P	**Pn**	**21 05 16.6**		**+0.6**
BM3	**Burnt Mountain**	**4.96**	**30**	P	**Pn**	**21 05 15.9**		**-0.4**
DAWY	**Dawson**	**5.26**	**76**	*e*Pn	**Pn**	**21 05 20.8**		**+0.3**
TOLK	**Toolik Lake Re**	**5.42**	**6**	*e*Pn	**Pn**	**21 05 24.4**		**+1.8**
KDAK	**Kodiak Island**	**5.57**	**188**	Pn	**Pn**	**21 05 22.9**		**-1.7**
	0.3nm,0.3s,baz=330,slow=20,SNR=11							
KDAK				Sn	**Sn**	**21 06 29.3**		**+0.5**
	0.5nm,0.3s,baz=127,slow=15,SNR=1.8							
HYT	**Haines Junctio**	**6.84**	**105**	*e*Pn	**Pn**	**21 05 43.8**		**+1.6**
INK	**Inuvik**	**8.77**	**47**	Pn	**Pn**	**21 06 08.5**		**0.0**
	0.4nm,0.3s,baz=241,slow=14,SNR=15							
INK				Sn	**Sn**	**21 07 43.4**		**-4.1**
	0.1nm,0.3s,baz=217,slow=5.1,SNR=2.2							
INK				Lg	Lg	21 08 38.0		
	0.1nm,0.3s,baz=114,slow=18,SNR=2.3							
INK	**Inuvik**	**8.77**	**47**	*e*Pn	**Pn**	**21 06 11.6**		**+3.1**
INK				Sn	**Sn**	**21 07 43.4**		**-4.1**
YKA	**Yellowknife Ar**	**16.50**	**76**	Pn	**Pn**	**21 07 52.9**		**-0.1**
	0.1nm,0.3s,baz=290,slow=10,SNR=8.5							
SEY	**Seymchan**	**24.88**	**295**	P	**P**	**21 09 26.6**		**+2.3**
	0.3nm,0.3s,baz=83,slow=6.1,SNR=7.7							
PDAR	**Pinedale Array**	**31.49**	**111**	P	**P**	**21 10 25.6**		**+1.8**
	0.2nm,0.4s,baz=289,slow=4.5,SNR=4.0							
NVAR	**Mina Array Bea**	**31.72**	**126**	P	**P**	**21 10 26.1**		**+0.3**
	0.2nm,0.5s,baz=321,slow=8.5,SNR=2.8							
TXAR	**Lajitas Array**	**45.42**	**116**	P	**P**	**21 12 20.9**		**+0.1**
	0.3nm,0.6s,baz=308,slow=4.5,SNR=3.6							
SONM	**Songino Array**	**53.62**	**305**	P	**P**	**21 13 24.2**		**+1.1**
	0.9nm,0.9s,baz=72,slow=6.2,SNR=5.6							

*DDA **20** 21:18:35.5, 38.88N×43.60E, h16km, Ml2.7*
*ISK **20** 21:18:35.4, 38.89N×43.59E, h14km, ML2.3/5*
*ATA **20** 21:18:35.8±1.6, 38.92N×43.53E, h3km±23km, ML2.4, MW2.6*
*CSEM **20** 21:18:35.8±0.2, 38.89N×43.60E, h10km, ML2.7, Error ellipse: s-maj=5.0km s-min=3.9km az=123.0*
*ISCJB **20** 21:18:36.9±0.5, 38.91N±0.02×43.59E±0.04, h8km±3km, Error ellipse: s-maj=5.6km s-min=3.6km az=20.3*
ISC 20 21:18:36.0±0.9,**38.89N**±0.02×**43.60E**±0.02,**h13**km±5km, **n35,** σ0§**82**/62,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
VMUR	**Van-Muradiye**	**0.10**	**346**	*i* P	**Pg**	**21 18 39.1**		**-0.1**
VMUR				*i* S	**Sg**	**21 18 41.9**		**+0.4**
VMUR	**Van-Muradiye**	**0.10**	**346**	P	**Pg**	**21 18 39.1**		**-0.1**
VMUR				S	**Sg**	**21 18 41.9**		**+0.4**
ERCV	**ERCIS-VAN**	**0.24**	**301**	PG	**Pg**	**21 18 40.9**		**-0.4**
ERCV				SG	**Sg**	**21 18 44.9**		**0.0**
ERCV	**ERCIS-VAN**	**0.24**	**301**	*e*Pg	**Pg**	**21 18 40.9**		**-0.4**
ERCV				*e*Sg	**Sg**	**21 18 44.9**		**0.0**
VANB	**Van**	**0.34**	**209**	PG	**Pb**	**21 18 44.1**		**+0.1**
VANB				SG	**Sb**	**21 18 50.4**		**+1.0**
VANB	**Van**	**0.34**	**209**	*e*Pg	**Pb**	**21 18 44.1**		**+0.1**
VANB				*e*Sg	**Sb**	**21 18 50.4**		**+1.0**
CLDR	**Caldiran**	**0.35**	**44**	PG	**Pg**	**21 18 42.9**		**-0.3**
CLDR				SG	**Sg**	**21 18 48.8**		**+0.7**
CLDR	**Caldiran**	**0.35**	**44**	*i* P	**Pg**	**21 18 42.7**		**-0.5**
CLDR				*i* S	**Sb**	**21 18 49.7**		**-0.1**
CLDR	**Caldiran**	**0.35**	**44**	P	**Pg**	**21 18 42.7**		**-0.5**
CLDR	**Caldiran**	**0.35**	**44**	*e*Pg	**Pg**	**21 18 42.9**		**-0.3**
CLDR				*e*Sg	**Sg**	**21 18 48.8**		**+0.7**
CLDR				S	**Sb**	**21 18 49.7**		**-0.1**
TVAN	**Van**	**0.40**	**203**	*i* P	**Pg**	**21 18 43.9**		**-0.2**
TVAN				*i* S	**Sb**	**21 18 52.5**		**+1.4**
TVAN	**Van**	**0.40**	**203**	P	**Pg**	**21 18 43.8**		**-0.2**
ADCV	**BITLIS_Adilcev**	**0.69**	**263**	*i* P	**Pg**	**21 18 48.8**		**-0.7**
ADCV				*i* S	**Sb**	**21 18 59.5**		**-0.1**
ADCV	**BITLIS_Adilcev**	**0.69**	**263**	P	**Pg**	**21 18 48.8**		**-0.7**
ADCV				S	**Sb**	**21 18 59.5**		**-0.1**
GEVA	**Gevas**	**0.72**	**216**	*e*P	**Pg**	**21 18 49.1**		**-1.0**
GEVA				*e*S	**Sn**	**21 19 01.5**		**-1.6**
GEVA				IAML		21 19 10.4		
	comp=Z,11nm,0.4s							
GEVA	**Gevas**	**0.72**	**216**	*i* P	**Pg**	**21 18 49.1**		**-1.0**
GEVA				*i* S	**Sn**	**21 19 02.9**		**-0.2**
GEVA	**Gevas**	**0.72**	**216**	P	**Pg**	**21 18 49.1**		**-1.0**
TUTA	**Tutak**	**0.80**	**310**	*e*P	**Pg**	**21 18 50.4**		**-1.1**
TUTA				*e*S	**Sg**	**21 19 01.6**		**-0.4**
TUTA				IAML		21 19 05.7		
	comp=Z,27nm,0.2s							
TUTA	**Tutak**	**0.80**	**310**	*i* P	**Pg**	**21 18 50.4**		**-1.1**
TUTA				*i* S	**Sb**	**21 19 02.6**		**0.0**
TUTA	**Tutak**	**0.80**	**310**	P	**Pg**	**21 18 50.4**		**-1.1**
TUTA				S	**Sb**	**21 19 02.6**		**0.0**
AGRB	**Hanur-Agry**	**0.83**	**325**	PG	**Pg**	**21 18 51.8**		**-0.3**
AGRB				SG	**Sb**	**21 19 03.7**		**+0.1**
AGRB	**Hanur-Agry**	**0.83**	**325**	*e*Pg	**Pg**	**21 18 51.8**		**-0.3**
AGRB				*e*Sg	**Sb**	**21 19 03.7**		**+0.1**
IGDI	**IGDIR**	**1.04**	**21**	*e*P	**Pg**	**21 18 56.0**		**-0.1**
IGDI				*e*S	**Sn**	**21 19 12.0**		**+1.2**
IGDI				IAML		21 19 18.1		
	comp=Z,3.0nm,0.6s							
EKAR	**Karacoban**	**1.25**	**287**	*e*P	**Pg**	**21 18 59.8**		**-0.3**
EKAR				*e*S	**Sg**	**21 19 18.1**		**+1.6**
EKAR				IAML		21 19 21.4		
	comp=Z,5.4nm,0.3s							
EKAR	**Karacoban**	**1.25**	**287**

IGAR					eAMB	AMB	21 42 49.9		
	comp=Z,720nm,0.1s								
ZNJK	**Zanjan**	**4.50**	**18**	*e*Pn	**Pn**		**21 41 58.0**	**+0.7**	
ZNJK	**Zanjan**	**4.50**	**18**	*e*Pn	**Pn**		**21 41 58.0**	**+0.7**	
IZEF	**Zefreh**	**4.56**	**82**	*e*Pn	**Pn**		**21 41 58.6**	**+0.5**	
IZEF					eAMB	AMB	21 42 17.2		
	comp=Z,537nm,0.3s								
IZEF	**Zefreh**	**4.56**	**82**	*e*Pn	**Pn**		**21 41 58.6**	**+0.5**	
IRAM	**Ramesheh**	**4.64**	**96**	*e*Pn	**Pn**		**21 41 59.5**	**+0.3**	
IRAM					eAMB	AMB	21 43 00.5		
	comp=Z,410nm,0.2s								
IRAM	**Ramesheh**	**4.64**	**96**	*e*Pn	**Pn**		**21 41 59.5**	**+0.3**	
GNI	**Garni**	**7.95**	**348**	LR	LR		21 45 49.3		
	comp=Z,18nm,18.2s,baz=159,slow=38								
ASF	**Jabal al Asfar**	**8.52**	**271**	Pn	**Pn**		**21 42 52.1**	**-0.2**	
	comp=Z,0.3nm,0.3s,baz=128,slow=19,SNR=4.4								
ASF				Lg	Lg		21 45 12.6		
	comp=Z,0.2nm,0.3s,baz=71,slow=20,SNR=4.2								
EIL	**Elat**	**10.65**	**258**	Lg	Lg		21 46 39.7		
	comp=Z,0.2nm,0.3s,baz=130,slow=17,SNR=2.8								
GEYT	**Alibeck**	**10.67**	**56**	LR	LR		21 47 56.0		
	comp=Z,52nm,20.2s,baz=0.0,slow=40								
WSAR	**Wadi Sarin**	**13.77**	**129**	Pn	**Pn**		**21 44 01.3**	**-2.8**	
	comp=Z,0.4nm,0.3s,baz=359,slow=16,SNR=11								
AKTO	**Aktyubinsk**	**19.80**	**21**	LR	LR		21 55 17.2		
	comp=Z,29nm,19.0s,baz=196,slow=44								
TESR	**Tescani**	**21.00**	**318**⇑	*i*P	**P**		**21 45 33.1**	**+1.0**	
ATD	**Arta Tunnel**	**21.11**	**191**	LR	LR		21 54 18.4		
	comp=Z,14nm,20.0s,baz=318,slow=38								
VOIR		**21.37**	**314**⇓	*i*P	**P**		**21 45 37.4**	**+1.3**	
ARR	**Arges**	**21.59**	**313**⇑	*i*P	**P**		**21 45 40.5**	**+2.0**	
AKASG	**Malin Array Be**	**22.50**	**330**	P	**P**		**21 45 47.3**	**-0.8**	
	comp=Z,0.3nm,0.4s,baz=139,slow=10.0,SNR=4.0								
DRGR		**23.45**	**315**⇓	*i*P	**P**		**21 46 00.0**	**+1.9**	
AAK	**Ala-Archa**	**24.02**	**57**	P	**P**		**21 46 04.3**	**+0.6**	
	comp=Z,0.5nm,0.5s,baz=176,slow=5.5,SNR=3.8								
ARU	**Arti**	**25.35**	**15**	P	**P**		**21 46 15.1**	**-0.3**	
	comp=Z,0.6nm,0.3s,baz=105,slow=19,SNR=2.5								
BVAR	**Borovoye Array**	**26.65**	**32**	P	**P**		**21 46 26.8**	**-0.4**	
	comp=Z,0.6nm,0.5s,baz=232,slow=7.3,SNR=5.9								
KURBB	**Kurchatov Arra**	**29.53**	**49**		**P**		**21 46 53.0**	**0.0**	
	comp=Z,0.8nm,0.9s,baz=250,slow=9.1,SNR=3.1								
MKAR	**Makanchi Array**	**30.51**	**52**	P	**P**		**21 47 01.3**	**-0.4**	
	comp=Z,0.9nm,0.8s,baz=249,slow=7.5,SNR=11								
FINES	**FINESS Array B**	**32.07**	**341**	P	**P**		**21 47 14.0**	**-1.2**	
	comp=Z,1.7nm,1.0s,baz=173,slow=7.7,SNR=4.0								
HFS	**Hagfors**	**35.35**	**332**	P	**P**		**21 47 43.6**	**-0.2**	
	comp=Z,0.6nm,0.3s,baz=123,slow=10,SNR=7.4								
TORD	**Torodi Ar. Bea**	**45.52**	**256**	P	**P**		**21 49 08.5**	**0.0**	
	comp=Z,0.7nm,0.6s,baz=75,slow=6.5,SNR=7.4								

IDC 20 21:41:32.2±2.5, 25°88S×132°83E, h0km, mb1 2.8/2, mb1mx2.8/41, mbtmp2.5/2, ML2.5/2, Error ellipse: s-maj=22.7km s-min=20.2km az=125.0, Northern Territory

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**2.41**	**24**	Pn	Pn	21 42 14.2	+1.1
	0.3nm,0.3s,baz=202,slow=17,SNR=9.6						
ASAR				Pg	Pb	21 42 17.0	+0.4
	0.4nm,0.3s,baz=202,slow=17,SNR=11						
ASAR				Sn	Sn	21 42 44.9	+1.6
	1.2nm,0.3s,baz=203,slow=26,SNR=18						
ASAR				Lg	Lg	21 42 48.5	
	2.8nm,0.3s,baz=206,slow=27,SNR=27						
WRA	**Warramunga Arr**	**6.07**	**14**	Pn	Pn	21 43 03.5	+0.2
	0.2nm,0.3s,baz=196,slow=14,SNR=19						
WRA				Pg	Pb	21 43 20.9	+2.0
	0.1nm,0.3s,baz=192,slow=14,SNR=7.0						
WRA				Sn	Sn	21 44 11.5	-2.1
	0.4nm,0.3s,baz=203,slow=24,SNR=9.4						
WRA				Lg	Lg	21 44 44.1	
	0.3nm,0.3s,baz=192,slow=28,SNR=5.7						
GERES	**GERESS Array B**	**128.00**	**313**	PKP	PKPdf	22 00 39.4	-0.7
	0.3nm,0.5s,baz=96,slow=3.1,SNR=3.7						

*IDC **20** 21:45:19.1±0.7, 10°29S×113°72E, h0km, mb4.0/21, mb1 4.1/23, mb1mx4.0/58, mbtmp4.1/23, ML3.8/2, MS3.5/4, Ms1 3.5/4, ms1mx3.0/52, Error ellipse: s-maj=22.9km s-min=13.4km az=46.0*

*DJA **20** 21:45:21.8±0.5, 10°S±5°×11°4E±°, h10km, M4.7/18, mb4.9/8, mB5.2/3, MLv4.7/18, Mw(mB)4.6/3*

*NEIC **20** 21:45:29.3±1.8, 9°89S×113°54E, h55km±11km, mb4.4/13, Error ellipse: s-maj=23.0km s-min=9.8km az=185.0*

ISC 20 21:45:22.7±0.5, 10°36S±0°08×113°66E±0°05, h23km, n103, σ1§84/88, mb4.3/43, MS3.4/4, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAGI	**Jajag, Banyuwa**	**1.94**	**15**	P	**Pn**	**21 45 55.5**	**+1.2**
JAGI	**Jajag, Banyuwa**	**1.94**	**15**	*e*Pn	**Pn**	**21 45 55.0**	**+0.7**
GMJI	**Gumukmas**	**2.08**	**354**	P	**Pn**	**21 45 56.6**	**+0.3**
IGBI	**Denpasar**	**2.12**	**44**	P	**Pn**	**21 45 58.9**	**+2.1**
DNP	**Denpasar**	**2.27**	**43**	P	**Pn**	**21 46 01.0**	**+2.2**
ABJI	**Asem Bagus**	**2.61**	**13**	P	**Pb**	**21 46 06.9**	**-1.9**
SRBI	**Singaraja**	**2.73**	**34**	P	**Pn**	**21 46 07.8**	**+2.6**
PCJI	**Pacitan**	**3.26**	**311**	P	**Pn**	**21 46 11.2**	**-1.3**
TWSI	**Taliwang, Sumb**	**3.56**	**63**	P	**Pn**	**21 46 17.9**	**+1.3**
GRJI	**Gresik**	**3.62**	**341**	P	**Pn**	**21 46 19.1**	**+1.7**
NGJI	**Ngawi**	**3.68**	**324**	P	**Pn**	**21 46 21.8**	**+3.5**
WOJI	**Wonogiri, Jawa**	**3.69**	**313**	P	**Pn**	**21 46 18.0**	**-0.3**
UGM	**Wanagama**	**3.94**	**308**	P	**Pn**	**21 46 21.5**	**-0.3**
UGM	**Wanagama**	**3.94**	**308**	*e*Pn	**Pn**	**21 46 21.9**	**+0.1**
TBJI	**Tambak Boyo**	**3.95**	**333**	P	**Pn**	**21 46 23.4**	**+1.5**
PLAI	**Plampang**	**4.34**	**70**	P	**Pn**	**21 46 27.8**	**+0.5**
SMRI	**Semarang**	**4.58**	**316**	P	**Pn**	**21 46 32.3**	**+1.7**
SMRI	**Semarang**	**4.58**	**316**	*e*Pn	**Pn**	**21 46 30.4**	**-0.2**
BWJI	**Bawean**	**4.59**	**347**	P	**Pn**	**21 46 32.3**	**+1.6**
KPJI	**Karang Pucung**	**5.56**	**302**	P	**Pn**	**21 46 46.8**	**+2.7**
LEM	**Lembang**	**6.93**	**300**	Pn	**Pn**	**21 47 03.0**	**-0.1**
	0.9nm,0.3s,baz=311,slow=20,SNR=2.8						
LEM				Sn	**Sn**	**21 48 19.3**	**-2.0**
	3.4nm,0.3s,baz=239,slow=15,SNR=4.9						
LEM				LR	LR	21 50 18.5	
	comp=Z,399nm,20.9s,baz=72,slow=43						
LEM	**Lembang**	**6.93**	**300**	P	**Pn**	**21 47 04.8**	**+1.7**
KBKI	**Kotabaru**	**7.44**	**20**	P	Pn	21 47 20.1	+10
BSSI	**Bau Bau, Buton**	**7.95**	**59**	P	**Pn**	**21 47 19.1**	**+2.1**
BNSI	**Bone**	**8.71**	**48**	P	**Pn**	**21 47 31.4**	**+4.0**
CGJI	**Cibinong**	**8.71**	**295**	P	**Pn**	**21 47 27.6**	**+0.2**
TTSI	**Tana Toraja**	**9.50**	**40**	P	Pn	21 47 50.4	+12
BATI	**Baumata**	**9.85**	**90**	Pn	**Pn**	**21 47 44.7**	**+1.6**
	2.0nm,0.3s,baz=216,slow=19,SNR=3.1						
BATI				Sn	**Sn**	**21 49 26.5**	**-6.4**
	1.3nm,0.3s,baz=274,slow=13,SNR=6.2						
BATI	**Baumata**	**9.85**	**90**	P	**Pn**	**21 47 44.6**	**+1.6**
SOEI	**Soe**	**10.46**	**88**	P	Pn	21 47 41.2	-10
STKI	**Sintang**	**10.58**	**348**	P	Pn	21 48 03.3	+10
MDSI	**Maura Dua**	**11.06**	**301**	P	**Pn**	**21 47 58.8**	**-0.8**
MPSI	**Mapaga**	**12.31**	**31**	P	P	21 48 35.3	+6.6
KSI	**Kapahiang**	**12.84**	**300**	P	**Pn**	**21 48 21.5**	**-2.6**
MRSI	**Marisa**	**13.56**	**38**	P	P	21 48 50.8	+8.2
SANI	**Sanana**	**14.77**	**57**	P	**P**	**21 48 58.7**	**+2.6**
BKNI	**Bangkinang**	**16.44**	**309**	*e*Sn	**Sn**	**21 52 08.9**	**-5.2**
IPM	**Ipoh**	**19.38**	**319**	*e*P	**P**	**21 49 45.8**	**-1.3**
	11nm,0.7s						
FAKI	**Fak Fak**	**19.88**	**69**	*e*P	**Pn**	**21 49 57.0**	**+2.7**
	20nm,0.7s						
FAKI				*e*S	**S**	**21 53 33.8**	**-1.7**
SIJI	**Sorong**	**19.88**	**63**	P	**P**	**21 49 51.7**	**-1.0**
	0.7nm,0.3s,baz=284,slow=4.8,SNR=8.1						
DAV	**Davao City (W)**	**20.99**	**35**	LR	LR	22 00 20.1	
	comp=Z,89nm,19.0s,baz=280,slow=43						
WRA	**Warramunga Arr**	**22.09**	**118**	P	**P**	**21 50 15.5**	**-1.1**
	5.1nm,1.0s,baz=290,slow=11,SNR=18						
WRA				S	**S**	**21 54 15.8**	**-3.4**
	0.7nm,0.8s,baz=284,slow=22,SNR=3.9						
ASAR	**Alice Springs**	**23.41**	**127**	P	**P**	**21 50 29.2**	**-1.0**
	5.8nm,0.8s,baz=300,slow=8.9,SNR=45						
ASAR				S	**S**	**21 54 42.9**	**+0.5**
	0.6nm,0.9s,baz=312,slow=24,SNR=2.7						
PHET	**Kaeng Krachan**	**26.99**	**329**	P	P	21 51 10.2	+7.1
	14nm,0.9s,141nm						
NAYO	**Nakonayok**	**27.40**	**333**	P	P	21 51 14.1	+7.4
	6.8nm,0.8s,2µm						
CHAI	**Chaiyaphum**	**28.54**	**336**	P	**P**	**21 51 21.6**	**+4.7**
	4.8nm,1.0s						
PBKT	**Sadao Pong**	**29.55**	**335**	P	P	21 51 32.0	+6.1
	10nm,0.9s						
PHIT	**Phitsanulok**	**30.34**	**334**	P	P	21 51 40.4	+7.5
	11nm,0.8s						

LAMP	**Lampang**	**31.86**	**334**	P	P		21 51 54.2	+7.9	
	6.7nm,0.8s								
CMAR	**Chiang Mai Arr**	**32.11**	**333**	P	**P**		**21 51 49.9**	**+1.5**	
	3.7nm,0.8s,baz=167,slow=8.0,SNR=25								
CMAR				LR	LR		22 05 02.7		
	comp=Z,66nm,18.5s,baz=340,slow=37								
CMMT	**Chiang Mai**	**32.42**	**333**	P	P		21 51 57.2	+6.0	
	10nm,0.7s,399nm								
CHTO	**Chiang Mai**	**32.42**	**333**	P	P		21 51 58.3	+7.1	
	31nm,0.9s								
CHTO	**Chiang Mai**	**32.42**	**333**	*e*P	**P**		**21 51 51.1**	**0.0**	
	5.0nm,0.9s								
PAYA	**Payao**	**32.51**	**335**	P	P		21 52 00.0	+8.0	
	4.3nm,1.0s,315nm								
STKA	**Stephens Creek**	**33.55**	**134**	P	**P**		**21 52 00.4**	**-0.6**	
	4.0nm,1.0s,baz=313,slow=10,SNR=5.9								
STKA				LR	LR		22 08 38.1		
	comp=Z,85nm,18.1s,baz=5.7,slow=42								
KMI	**Kunming**	**36.84**	**343**	P	**P**		**21 52 32.0**	**+2.4**	
KMI				pmax	pmax				
	comp=Z,8.0nm,0.5s								
ENH	**Enshi**	**40.59**	**354**	*e*P	**P**		**21 53 00.5**	**-0.3**	
	comp=Z,13nm,0.4s								
H08S2	**Diego Garcia H**	**40.73**	**270**	T	T		22 36 10.8		
	baz=96,slow=75,SNR=128								
H08S3	**Diego Garcia H**	**40.74**	**270**	T	T		22 36 11.7		
	baz=96,slow=75,SNR=115								
H08S1	**Diego Garcia H**	**40.75**	**270**	T	T		22 36 12.2		
	baz=96,slow=75,SNR=110								
XAN	**Xi'an**	**44.38**	**354**	P	P		21 53 37.4	+5.8	
XAN				pmax	pmax				
	comp=Z,6.0nm,0.7s								
XAN				pmax	pmax				
	comp=Z,150nm,4.0s								
XAN				LR	LR				
	comp=E,140nm,14.1s								
ODAN	**Odare**	**44.94**	**326**	*e*P	**P**		**21 53 35.3**	**-1.1**	
	comp=E,21nm,0.8s								
LSA	**Lhasa**	**45.35**	**332**	*e*P	**P**		**21 53 39.7**	**-0.2**	
	comp=E,4.3nm,0.7s								
JIRN	**Jiri**	**46.23**	**325**	*e*P	**P**		**21 53 45.8**	**-0.9**	
GUN	**Gumba**	**46.59**	**325**	*e*P	**P**		**21 53 48.6**	**-1.0**	
	comp=E,22nm,0.7s								
PKIN	**Phulchoki**	**46.61**	**325**	*e*P	**P**		**21 53 48.6**	**-1.0**	
KKN	**Kakani**	**46.84**	**325**	*e*P	**P**		**21 53 49.9**	**-1.4**	
	comp=E,14nm,0.7s								
GKN	**Gorkha**	**47.37**	**324**	*e*P	**P**		**21 53 53.8**	**-1.6**	
	comp=E,16nm,0.7s								
KOLN	**Koldanda**	**47.80**	**323**	*e*P	**P**		**21 53 57.3**	**-1.5**	
	comp=E,22nm,0.7s								
PYUN	**Piuthan**	**48.40**	**323**	*e*P	**P**		**21 54 02.2**	**-1.3**	
KSAR	**Wonju Array Be**	**49.39**	**15**	P	**P**		**21 54 10.9**	**+0.3**	
KSRS	**Korea Array**	**49.41**	**15**	P	**P**		**21 54 10.9**	**+0.2**	
	comp=E,3.0nm,0.9s,baz=200,slow=7.9,SNR=6.3								
HHC	**Hu-ho-hao-te**	**50.99**	**358**	*e*P	**P**		**21 54 24.6**	**+1.8**	
HHC				pmax	pmax				
	comp=Z,11nm,1.1s								
HHC				pmax	pmax				
	comp=Z,27nm,6.5s								
GTA	**Gaotai**	**51.16**	**346**	*e*P	P		21 54 31.3	+7.1	
GTA				pP	sP		21 54 52.4	+18	
GTA				sP	pP		21 55 01.9	+31	
GTA				pmax	pmax				
	comp=Z,3.0nm,1.0s								
MJAR	**Matsushiro Arr**	**52.06**	**25**	P	**P**		**21 54 28.6**	**-2.2**	
	comp=Z,1.3nm,0.8s,baz=206,slow=8.1,SNR=4.8								
MDJ	**Mudanjiang**	**56.59**	**14**	*e*P	**P**		**21 55 02.3**	**-1.3**	
	comp=Z,1.4nm,0.4s								
USRK	**Ussuriysk Ar.**	**56.79**	**16**	P	**P**		**21 55 04.4**	**-0.7**	
	comp=Z,8.1nm,1.0s,baz=197,slow=5.6,SNR=13								
NIL	**Nilore**	**58.24**	**321**	*e*P	**P**		**21 55 17.6**	**+2.0**	
	comp=Z,4.1nm,0.6s								
ULN	**Ulaanbaatar**	**58.26**	**355**	*e*P	**P**		**21 55 14.8**	**-0.8**	
	comp=Z,3.3nm,0.8s								
SONM	**Songino Array**	**58.29**	**354**	P	**P**		**21 55 15.3**	**-0.5**	
	comp=Z,1.5nm,0.7s,baz=175,slow=9.4,SNR=10								
WMQ	**Urumqi**	**58.87**	**338**	P	**P**		**21 55 19.8**	**0.0**	
WMQ				pmax	pmax				
	comp=Z,13nm,0.7s								
WMQ				pmax	pmax				
	comp=Z,230nm,5.3s								
ASAJ	**Asahikawa**	**60.25**	**24**	P	**P**		**21 55 28.4**	**-0.8**	
	comp=Z,1.0nm,0.6s,baz=119,slow=13,SNR=2.4								
WSAR	**Wadi Sarin**	**63.34**	**303**	P	**P**		**21 55 50.6**	**+0.1**	
	comp=Z,1.9nm,0.7s,baz=262,slow=7.1,SNR=2.4								
MKAR	**Makanchi Array**	**63.42**	**336**	P	**P**		**21 55 49.9**	**-0.7**	
	comp=Z,0.6nm,0.6s,baz=148,slow=7.4,SNR=8.3								
MKAR	**Makanchi Array**	**63.42**	**336**	*e*P	**P**		**21 55 50.0**	**-0.6**	
	comp=Z,7.9nm,0.6s								
AAK	**Ala-Archa**	**63.75**	**329**	P	**P**		**21 55 52.7**	**-0.2**	
	comp=Z,0.3nm,0.3s,baz=189,slow=17,SNR=3.2								
AAK	**Ala-Archa**	**63.75**	**329**	*e*P	**P**		**21 55 53.2**	**+0.2**	
	comp=Z,2.3nm,0.9s								
KURBB	**Kurchatov Arra**	**67.98**	**337**	P	**P**		**21 56 19.2**	**-0.7**	
	comp=Z,0.4nm,0.3s,baz=154,slow=5.8,SNR=4.9								
KURK	**Kurchatov**	**68.02**	**337**	P	**P**		**21 56 19.2**	**-0.9**	
ZALV	**Zalesovo Beam**	**68.57**	**342**	P	**P**		**21 56 22.2**	**-1.3**	
	comp=Z,1.1nm,0.6s,baz=130,slow=4.9,SNR=5.0								
GEYT	**Alibeck**	**70.68**	**316**	P	**P**		**21 56 36.6**	**-0.3**	
	comp=Z,0.8nm,0.7s,baz=185,slow=7.2,SNR=2.7								
VNDA	**Vanda**	**71.52**	**170**	P	**P**		**21 56 42.5**	**+1.3**	
	comp=Z,0.9nm,0.7s,baz=292,slow=6.7,SNR=6.7								
BVAR	**Borovoye Array**	**73.12**	**334**	P	**P**		**21 56 50.9**	**-0.3**	
	comp=Z,1.0nm,0.8s,baz=79,slow=7.5,SNR=4.6								
PETK	**Petropavlovsk-**	**73.51**	**26**	P	**P**		**21 56 53.9**	**+0.4**	
	comp=Z,0.8nm,0.5s,baz=250,slow=7.1,SNR=3.5								
RAYN	**Ar Rayn**	**74.63**	**298**	*e*P	**P**		**21 57 03.5**	**+2.8**	
	comp=Z,2.2nm,0.9s								
ABKAR	**Akbulak array**	**75.73**	**327**	*e*P	**P**		**21 57 06.0**	**-0.4**	
	comp=Z,1.5nm,0.6s								
AKTO	**Aktyubinsk**	**77.42**	**327**	P	**P**		**21 57 15.7**	**-0.4**	
	comp=Z,1.1nm,0.5s,baz=29,slow=10,SNR=2.4								
ARU	**Arti**	**80.55**	**332**	P	**P**		**21 57 32.9**	**-0.1**	
	comp=Z,0.8nm,0.3s,baz=90,slow=8.1,SNR=2.9								
TIXI		**82.46**	**5**	*e*P	**P**		**21 57 41.4**	**-1.4**	
	comp=Z,14nm,0.8s								
BRTR	**Keskin Array B**	**88.98**	**311**	P	**P**		**21 58 15.8**	**-0.3**	
	comp=Z,0.5nm,0.7s,baz=56,slow=3.6,SNR=3.4								
YKA	**Yellowknife Ar**	**117.54**	**23**	PKP	**PKPdf**		**22 04 06.4**	**+0.1**	
	comp=Z,0.1nm,0.7s,baz=333,slow=2.0,SNR=2.8								
MTPU	**Mount Pierson**	**130.60**	**48**	*e*PKPdf	**PKPdf**		**22 04 36.3**	**+3.6**	
TKL	**Tuckaleechee C**	**150.24**	**29**	PKPbc	**PKPbc**		**22 05 13.9**	**+1.4**	
	comp=Z,2.3nm,0.8s,baz=315,slow=1.4,SNR=3.6								

*JMA **20** 21:45:53.6±0.1, 23°45N×121°68E, h44km±3km, M3.0*

*ISCJB **20** 21:45:54.1±0.3, 23°47N±0°02×121°69E±0°02, h43km±6km, Error ellipse: s-maj=3.4km s-min=2.4km az=136.0*

*TAP **20** 21:45:54.2, 23°48N×121°64E, h46km, ML3.1, C*

ISC 20 21:45:54.6±1.2, 23°47N±0°03×121°68E±0°03, h41km±8km, n53, σ0§70/101, 6C, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HGSD	**Ruisui**	**0.23**	**275**⇑	*e*P	**Pn**	**21 46 02.6**	**+0.4**
	baz=273						
EGFH	**Guangfu**	**0.30**	**311**	*e*P	**Pn**	**21 46 02.9**	**0.0**
	baz=303						
EGFH				*e*S	**Sn**	**21 46 09.3**	**+0.5**
	baz=303						
EHY	**Hungye**	**0.33**	**276**	⇑P	**Pn**	**21 46 03.0**	**-0.2**
	baz=274						
EHY				*e*S	**Sn**	**21 46 09.0**	**-0.2**
	baz=274						
YULB	**Yu-li**	**0.36**	**258**⇑	*e*P	**Pn**	**21 46 03.4**	**-0.2**
	baz=265						
YULB				*e*S	**Sn**	**21 46 08.4**	**-1.4**
	baz=265						
TWF1	**Yuli**	**0.37**	**251**	⇑P	**Pn**	**21 46 03.6**	**-0.1**
	baz=257						
TWF1				*e*S	**Sn**	**21 46 10.1**	**+0.1**
	baz=257						
ESL	**Shilin**	**0.41**	**327**	⇑P	**Pn**	**21 46 03.7**	**-0.5**
	baz=326						
ESL				*e*S	**Sn**	**21 46 10.3**	**-0.6**
	baz=326						
FULB	**Fuli**	**0.44**	**232**	*e*P	**Pn**	**21 46 04.9**	**+0.3**
	baz=219						
FULB				*e*S	**Sn**	**21 46 13.5**	**+1.8**
	baz=219						
CHKT	**Chengkung**	**0.47**	**218**	P	**Pn**	**21 46 04.6**	**-0.3**
	baz=206						
CHKT				*e*S	**Sn**	**21 46 12.4**	**+0.3**
	baz=206						
HWA	**Hwalien**	**0.51**	**353**	*e*P	**Pn**	**21 46 05.7**	**+0.2**
	baz=3.0						
HWA				*e*S	**Sn**	**21 46 14.6**	**+1.5**
	baz=3.0						
TWD	**Chiawan**	**0.61**	**353**	P	**Pn**	**21 46 06.5**	**-0.4**
	baz=6.0						
TWD				*e*S	**Sn**	**21 46 16.1**	**+0.5**
	baz=6.0						
YUS	**Yu-Shan**	**0.67**	**272**	P	**Pn**	**21 46 07.9**	**-0.1**
	baz=277						
YUS				*e*S	**Sn**	**21 46 16.6**	**-1.0**
	baz=277						
ELDTW	**Lidau**	**0.67**	**245**	P	**Pn**	**21 46 06.9**	**-0.8**
	baz=237						
ELDTW				*e*S	**Sn**	**21 46 14.7**	**-2.4**
	baz=237						
SSLB	**Suanglung**	**0.73**	**296**	*e*P	**Pn**	**21 46 08.1**	**-0.4**
	baz=302						
WHF	**Hehuan Shan**	**0.77**	**331**	*e*P	**Pn**	**21 46 08.9**	**-0.5**
	baz=334						
WHF				*e*S	**Sn**	**21 46 19.0**	**-1.0**
	baz=334						
TWH	**Lutao**	**0.78**	**194**	*e*P	**Pn**	**21 46 08.7**	**-0.4**
	baz=183						
TWH				*e*S	**Sn**	**21 46 19.2**	**-0.3**
	baz=183						
ALS	**Alishan**	**0.80**	**273**	*e*P	**Pn**	**21 46 10.0**	**+0.3**
	baz=279						
ALS				*e*S	**Sn**	**21 46 20.7**	**+0.1**
	baz=279						
SMLT	**Sun Moon Lake**	**0.82**	**300**	*e*P	**Pn**	**21 46 09.8**	**0.0**
	baz=301						
SMLT				*e*S	**Sn**	**21 46 20.3**	**-0.6**
	baz=301						
TWGBT	**Beinan**	**0.85**	**220**	*e*P	**Pn**	**21 46 09.3**	**-0.8**
	baz=225						
TWGBT				*e*S	**Sn**	**21 46 20.3**	**-1.1**
	baz=225						
TYC	**Yuchr**	**0.87**	**300**	*e*P	**Pn**	**21 46 10.4**	**+0.1**
	baz=301						
TYC				*e*S	**Sn**	**21 46 21.8**	**+0.1**
	baz=301						
DPDB	**Guoxing**	**0.89**	**309**	*e*P	**Pn**	**21 46 10.7**	**+0.1**
	baz=319						
DPDB				*e*S	**Sn**	**21 46 22.7**	**+0.3**
	baz=319						
STYT	**Tauyuan**	**0.90**	**250**	*e*P	**Pn**	**21 46 11.0**	**+0.2**
	baz=244						
STYT				*e*S	**Sn**	**21 46 23.1**	**+0.4**
	baz=244						
TDCB	**Techi**	**0.91**	**329**⇑	*e*P	**Pn**	**21 46 11.1**	**0.0**
	baz=335						
TDCB				*e*S	**Sn**	**21 46 21.4**	**-1.7**
	baz=335						
CHN5	**Tsauling**	**0.92**	**278**	*e*P	**Pn**	**21 46 11.7**	**+0.5**
	baz=277						
CHN5				*e*S	**Sn**	**21 46 24.1**	**+0.8**
	baz=277						
ENA	**Nanau**	**0.95**	**4**	*e*P	**Pn**	**21 46 11.7**	**+0.1**
	baz=17						
ENA				*e*S	**Sn**	**21 46 23.8**	**-0.1**
	baz=17						
NANB	**Nanao**	**0.95**	**4**	*e*P	**Pn**	**21 46 11.6**	**0.0**
	baz=17						
NANB				*e*S	**Sn**	**21 46 23.4**	**-0.5**
	baz=17						
TPUB	**Ta-pu**	**0.98**	**260**	*e*P	**Pn**	**21 46 12.5**	**+0.7**
	baz=259						
NNSB	**Datong**	**0.99**	**344**	*e*P	**Pn**	**21 46 11.9**	**-0.3**
	baz=348						
NNSB				*e*S	**Sn**	**21 46 23.7**	**-1.3**
	baz=348						
WTP	**Ta-pu**	**1.00**	**257**	*e*P	**Pn**	**21 46 12.9**	**+0.7**
	baz=255						
WTP				*e*S	**Sn**	**21 46 25.6**	**+0.4**
	baz=255						
CHN4	**Tsaushan**	**1.00**	**263**	*e*P	**Pn**	**21 46 12.4**	**+0.2**
	baz=270						
CHN4				*e*S	**Sn**	**21 46 25.6**	**+0.5**
	baz=270						
NNS	**Nan Shan**	**1.00**

mb1 3.5/2, mb1mx2.9/70, mbtmp3.3/2, ML2.2/1, Error ellipse: s-maj=46.6km s-min=13.3km az=7.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TLY	**Talaya**	**4.64**	**85**	Pg	Pb	22 06 13.6	-0.6
	0.0nm,0.3s,baz=282,slow=13,SNR=8.2						
TLY				Lg	Lg	22 07 14.9	
	0.1nm,0.3s,baz=136,slow=13,SNR=11						
ZALV	**Zalesovo Beam**	**7.33**	**294**	Pg	Pb	22 07 03.7	+3.7
	0.2nm,0.3s,baz=111,slow=15,SNR=5.2						
ZALV				Lg	Lg	22 08 34.4	
	0.5nm,0.3s,baz=109,slow=25,SNR=7.8						
SONM	**Songino Array**	**7.57**	**115**	Pg	Pb	22 07 09.2	+5.0
	0.2nm,0.3s,baz=301,slow=18,SNR=6.4						
SONM				Lg	Lg	22 08 52.3	
	0.9nm,0.3s,baz=299,slow=31,SNR=7.8						
MKAR	**Makanchi Array**	**10.27**	**248**	Pg	Pn	22 08 03.9	+43
	0.3nm,0.3s,baz=50,slow=13,SNR=4.1						
MKAR				Lg	Lg	22 10 14.9	
	0.2nm,0.3s,baz=65,slow=31,SNR=4.4						
KURBB	**Kurchatov Arra**	**11.16**	**272**	Pn	Pn	22 07 32.5	-0.2
	0.0nm,0.3s,baz=82,slow=15,SNR=4.1						
KURBB				Lg	Lg	22 10 40.0	
	0.0nm,0.3s,baz=78,slow=32,SNR=6.7						
NOA	**NORSAR Array B**	**44.88**	**317**	P	P	22 13 07.4	-0.3
	0.7nm,0.8s,baz=62,slow=7.8,SNR=2.6						

ISCJB ***20*** *22:19:42.4±0.6, 3.25N±0.02×93.82E±0.02, h7km±3km, mb5.2/211, MS5.6/212, Error ellipse: s-maj=3.7km s-min=2.5km az=30.4*

BJI ***20*** *22:19:42.6, 3.15N×94.05E, h14km, mb5.3/79, mB5.7/80, Ms5.9/95, Ms7 5.9/88*

IDC ***20*** *22:19:42.9±0.3, 3.22N×93.83E, h0km, mb5.0/51, mb1 5.0/54, mb1mx4.9/72, mbtmp4.9/54, ML4.3/2, MS5.3/9, Ms1 5.3/9, ms1mx4.6/67, Error ellipse: s-maj=10.9km s-min=8.8km az=40.0*

NEIC ***20*** *22:19:45.0±0.0, 3.06N×93.65E, h17km, Moment Tensor Solution. s40 Moment tensor: Scale 10^17 Nm; Mw=4.42; Mθθ=1.43; Mφφ=-2.99; Mrr=0.65; Mθφ=1.33; Mθr=-0.43; Best double couple: Mw=4.20000×10^17 NP1:φ=146.00000°, δ=50.00000°, λ=85.00000°. NP2:φ=334.00000°, δ=40.00000°, λ=96.00000°. Principal axes: T 4.5000, Plg83.0000°, Azm21.0000°; N -0.6900, Plg3.0000°, Azm149.0000°; P -3.8100, Plg4.0000°, Azm239.0000°;*

DJA ***20*** *22:19:45.6±0.2, 3.1N±2.1×9.4E±1.1°, h10km, M5.5/56, mb5.4/56, mB5.9/44, MLv5.7/12, Mw(mB)5.5/44, Mwp5.8/5*

NEIC ***20*** *22:19:46.8±1.4, 3.26N×93.85E, h25km±9km, mb5.3/68, MS5.7/162, MW5.7, Error ellipse: s-maj=5.0km s-min=3.1km az=49.0*

MOS ***20*** *22:19:46.4±1.0, 3.32N×93.88E, h33km, mb5.5/70, MS5.3/42, Error ellipse: s-maj=6.5km s-min=3.9km az=111.4*

GCMT ***20*** *22:19:46.8±0.1, 3.28N×93.65E, h12km, MW5.8/143, Moment Tensor Solution. s122,c231; s143,c440; Duration: 1s8 Moment tensor: Scale 10^17 Nm; Mrr=4.97±.04; Mθθ=0.88±.04; Mφφ=-4.08±.05; Mrθ=1.53±.12; Mrφ=2.47±.04; Mθφ=-0.08±.12; Best double couple: Mw=5.43200×10^17 NP1:φ=316.00000°, δ=51.00000°, λ=70.00000°. NP2:φ=167.00000°, δ=43.00000°, λ=113.00000°. Principal axes: T 5.3970, Plg74.0000°, Azm164.0000°; N 0.0760, Plg16.0000°, Azm330.0000°; P -5.4670, Plg4.0000°, Azm61.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

ISC 20 22:19:46.4±0.4, 3°23'N±0°03'×93°76'E±0°04', h22km±4km, h22km:pP-P, n1023, σ1°51/979, mb5.3/219, MS5.7/215, 84C-20D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MLSI	**Meulaboh, Aceh**	**2.83**	**69**	P	**Pn**	**22 20 29.4**	**-1.0**
TPTI		**3.41**	**89**	P	**Pn**	**22 20 36.9**	**-1.5**
LHMI	**Lhok Sumawe**	**3.75**	**58**	P	**Pn**	**22 20 43.5**	**+0.5**
LHMI	**Lhok Sumawe**	**3.75**	**58**	*e*Pn	**Pn**	**22 20 42.4**	**-0.6**
KCSI	**Kotacane, Aceh**	**4.01**	**86**	P	**Pn**	**22 20 48.0**	**+1.3**
GSI	**Gunungsitoli**	**4.26**	**117**	P	**Pn**	**22 20 48.7**	**-1.4**
GSI	**Gunungsitoli**	**4.26**	**117**	*e*Pn	**Pn**	**22 20 48.5**	**-1.6**
TSI	**Tuntungan**	**4.80**	**87**	P	**Pn**	**22 20 58.7**	**+1.2**
PSI	**Prapat**	**5.17**	**95**	Pn	**Pn**	**22 21 02.4**	**-0.3**
	baz=270,slow=7.5						
PSI	**Prapat**	**5.17**	**95**	*e*Pn	**Pn**	**22 21 02.2**	**-0.5**
PSI	**Prapat**	**5.17**	**95**	*e*P	**Pn**	**22 21 02.2**	**-0.5**
PBSI	**Pulau Batu**	**5.57**	**126**	P	**Pn**	**22 21 07.0**	**-1.1**
	4µm,0.8s,39µm14nm						
MNSI	**Mandailing Nat**	**6.29**	**112**	P	**Pn**	**22 21 16.6**	**-1.5**
	646nm,0.5s,15µm3.2nm						
PKDT	**Phuket**	**6.49**	**44**	P	**Pn**	**22 21 19.4**	**-1.4**
	67nm,0.8s,2µm0.6nm						
SISI	**Saibi**	**6.99**	**130**	P	**Pn**	**22 21 26.1**	**-1.5**
	750nm,0.9s,8µm2.3nm						
KULM	**Kulim**	**7.17**	**73**	*e*Pn	**Pn**	**22 21 29.2**	**-0.8**
IPM	**Ipoh**	**7.35**	**80**	*e*Pn	**Pn**	**22 21 31.6**	**-1.0**
TRTT	**Trang**	**7.47**	**52**	P	**Pn**	**22 21 32.7**	**-1.5**
	67nm,0.9s,1µm0.5nm						
BKNI	**Bangkinang**	**7.82**	**111**	P	**Pn**	**22 21 39.1**	**0.0**
	581nm,0.8s,5µm1.9nm						
BKNI	**Bangkinang**	**7.82**	**111**	*e*Pn	**Pn**	**22 21 38.3**	**-0.8**
PDSI	**Padang**	**7.86**	**121**	P	**Pn**	**22 21 37.6**	**-2.0**
	142nm,1.1s,18µm0.8nm						
SKLT	**Songkhla**	**7.87**	**60**	P	**Pn**	**22 21 39.3**	**-0.4**
	191nm,0.8s,4µm0.8nm						
PBA	**Port Blair**	**8.43**	**353**	*e*P	Pn	22 21 45.4	-2.0
SDSI	**Sungai Dareh**	**8.71**	**118**	P	**Pn**	**22 21 52.9**	**+1.7**
KRJI	**Kerinci**	**9.34**	**124**	P	**Pn**	**22 21 59.2**	**-0.7**
	695nm,0.8s,8µm						
DGPR	**DIGLIPUR**	**9.92**	**355**	*e*P	**Pn**	**22 22 06.0**	**-1.8**
DGPR				IAmb	IAmb	22 22 08.3	
	comp=Z,102nm,0.6s						
MYKOM	**Kota Tinggi**	**10.18**	**98**	*e*Pn	**Pn**	**22 22 10.7**	**-0.7**
MASI	**Maura Aman, Be**	**10.57**	**127**	P	**Pn**	**22 22 17.2**	**+0.3**
	comp=Z,517nm,1.1s,comp=Z,7µm						
TPRI	**Tanjung Pinang**	**11.00**	**102**	P	**Pn**	**22 22 21.8**	**-0.8**
	comp=Z,49nm,0.6s,comp=Z,5µm						
PHET	**Kaeng Krachan**	**11.23**	**31**	P	**Pn**	**22 22 27.6**	**+1.8**
	comp=Z,11nm,0.9s,comp=Z,183nm						
MNAI	**Manna**	**11.88**	**129**	*e*Pn	**Pn**	**22 22 33.3**	**-1.5**
SRDT	**SRDT**	**12.25**	**25**	P	**Pn**	**22 22 39.5**	**-0.2**
	comp=Z,51nm,1.6s,comp=Z,3µm						
CHBT	**CHBT**	**12.70**	**41**	P	**Pn**	**22 22 47.2**	**+1.3**
	comp=Z,147nm,0.7s						
MDSI	**Maura Dua**	**12.93**	**126**	P	**Pn**	**22 22 47.5**	**-1.5**
	comp=Z,147nm,1.2s,comp=Z,2µm						
LWLI	**Liwa**	**13.15**	**128**	P	**Pn**	**22 22 51.3**	**-0.9**
	comp=Z,349nm,0.7s,comp=Z,14µm						
NAYO	**Nakonayok**	**13.30**	**34**	P	**Pn**	**22 22 54.3**	**+0.2**
	comp=Z,60nm,1.1s						
SRAK	**Srakaew**	**13.47**	**37**	P	**P**	**22 23 02.3**	**-3.3**
PALK	**Pallekele**	**13.61**	**288**	Pn	**Pn**	**22 22 57.9**	**-0.5**
	comp=Z,1.4nm,0.3s,baz=116,slow=13,SNR=9.5						
PALK				Sn	Sn	22 25 16.3	-13
	comp=Z,8.7nm,0.3s,baz=116,slow=7.0,SNR=7.2						
PALK				LR	LR	22 27 33.6	
	comp=Z,15µm,21.9s,baz=118,slow=34						
KLI	**Kotabumi**	**13.69**	**126**	P	**P**	**22 23 11.3**	**+3.3**
KASI	**Kota Agung**	**13.80**	**129**	P	**Pn**	**22 22 58.9**	**-2.1**
	comp=Z,191nm,1.3s,comp=Z,2µm						
BLSI	**Bandar Lampung**	**14.30**	**127**	P	**P**	**22 23 17.2**	**+2.4**
CHAI	**Chaiyaphum**	**14.97**	**32**	P	**Pn**	**22 23 16.5**	**-0.4**
	comp=Z,29nm,0.9s,comp=Z,264nm						
PBKT	**Sadao Pong**	**15.03**	**28**	P	**Pn**	**22 23 15.6**	**-2.1**
	comp=Z,178nm,0.9s,comp=Z,3µm						
PHIT	**Phitsanulok**	**15.33**	**25**	P	**Pn**	**22 23 20.5**	**-1.2**
	comp=Z,78nm,1.2s,comp=Z,702nm						
CGJI	**Cibinong**	**15.41**	**129**	P	**P**	**22 23 28.9**	**+1.8**
SBJI	**Serang**	**15.45**	**127**	P	**P**	**22 23 28.1**	**+0.5**
CM01	**Chiang Mai Arr**	**15.93**	**18**	*e*Pn	**Pn**	**22 23 27.5**	**-2.0**
CM31	**Chiang Mai Arr**	**15.96**	**18**	*e*Pn	**Pn**	**22 23 28.7**	**-1.2**
CMAR	**Chiang Mai Arr**	**15.96**	**18**	Pn	**Pn**	**22 23 28.2**	**-1.6**
	comp=Z,0.5nm,0.3s,baz=209,slow=12,SNR=42						
CMAR				LR	LR	22 30 19.2	
	comp=Z,6µm,19.4s,baz=208,slow=40						
DBJI	**Dramaga**	**16.20**	**127**	P	**Pn**	**22 23 33.5**	**+0.5**
	comp=Z,216nm,1.2s,comp=Z,5µm						
LAMP	**Lampang**	**16.25**	**20**	P	**Pn**	**22 23 33.5**	**0.0**
	comp=Z,83nm,0.8s,comp=Z,554nm						
CHTO	**Chiang Mai**	**16.30**	**18**	P	**Pn**	**22 23 32.0**	**-2.1**
	comp=Z,562nm,1.1s,comp=Z,13µm						
CHTO	**Chiang Mai**	**16.30**	**18**	*e*Pn	**Pn**	**22 23 32.1**	**-2.1**
	comp=Z,125nm,1.0s						
CHTO	**Chiang Mai**	**16.30**	**18**	P	**Pn**	**22 23 32.1**	**-2.1**
	SNR=33						
CHTO	**Chiang Mai**	**16.30**	**18**	*e*P	**Pn**	**22 23 32.1**	**-2.1**
CHTO				pmax	pmax		
	comp=Z,125nm,1.0s						
CMMT	**Chiang Mai**	**16.30**	**18**	P	**Pn**	**22 23 31.0**	**-3.1**
	comp=Z,125nm,1.0s,comp=Z,3µm						
SKJI	**Sukabumi**	**16.32**	**129**	P	**P**	**22 23 38.4**	**+1.1**
MDRS	**Chennai**	**16.56**	**307**	*e*P	**P**	**22 23 38.9**	**-0.9**
MDRS				IAmb	IAmb	22 23 43.8	
	comp=Z,50nm,0.4s						
KSM	**Kuching**	**16.62**	**96**	*e*Pn	**P**	**22 23 39.6**	**-1.0**
	comp=Z,189nm,0.9s						
UBPT	**Khong Chiam**	**16.62**	**43**	P	**Pn**	**22 23 37.0**	**-1.3**
	comp=Z,154nm,2.5s,comp=Z,7µm						
LEM	**Lembang**	**17.06**	**126**	Pn	**P**	**22 23 45.0**	**-0.7**
	comp=Z,28nm,0.3s,baz=257,slow=6.0,SNR=12						
LEM	**Lembang**	**17.06**	**126**	P	**P**	**22 23 45.0**	**-0.7**
PAYA	**Payao**	**17.11**	**20**	P	**Pn**	**22 23 43.5**	**-0.9**
	comp=Z,66nm,0.8s,comp=Z,503nm						
SKHT	**Srikalahasti**	**17.37**	**308**	*e*P	**P**	**22 23 48.6**	**-0.2**
CMAI	**Chiengmai2**	**17.38**	**17**	P	**Pn**	**22 23 46.4**	**-1.6**
	comp=Z,520nm,1.6s						
JCJI	**Jatiwangi**	**17.41**	**124**	P	**P**	**22 23 50.4**	**+1.1**
	comp=Z,205nm,0.8s						
TRD	**Trivandrum**	**17.51**	**288**	*e*P	**P**	**22 23 51.7**	**+1.2**
TRD				IAmb	IAmb	22 23 59.3	
	comp=Z,74nm,1.1s						
VIS	**Vishakhapatnam**	**17.67**	**325**	*e*P	**Pn**	**22 23 49.3**	**-2.1**
VIS				IAmb	IAmb	22 23 53.1	
	comp=Z,41nm,0.8s						
VIS				*i* x	x	22 27 16.5	
CHLP	**Challavanipeta**	**17.91**	**329**	*e*P	**Pn**	**22 23 53.2**	**-1.1**
STKI	**Sintang**	**17.98**	**100**	P	**P**	**22 23 55.5**	**-0.2**
	comp=Z,100nm,1.1s,comp=Z,7µm						
PVM	**Polavaram**	**18.33**	**320**	*e*P	**Pn**	**22 23 59.6**	**+0.1**
KPJI	**Karang Pucung**	**18.42**	**125**	P	**Pn**	**22 24 01.8**	**+1.2**
	comp=Z,79nm,0.8s						
SBUM	**Sibu**	**18.45**	**92**	*e*P	**P**	**22 23 59.8**	**-1.0**
	comp=Z,212nm,1.7s						
ADKI	**Addanki**	**18.48**	**314**	*e*P	**Pn**	**22 24 01.9**	**+0.6**
BWNR	**Bhubaneshwar**	**18.65**	**336**	*e*P	**P**	**22 24 01.2**	**-1.8**
BWNR				IAmb	IAmb	22 24 07.5	
PBKI	**Pangkalan Bun**	**18.84**	**108**	P	**Pn**	**22 24 06.7**	**+0.9**
	comp=Z,225nm,1.2s,comp=Z,6µm						
RCLA	**Racherla**	**18.98**	**311**	*e*P	**P**	**22 24 06.8**	**+0.1**
NJS	**Nagarjunasagar**	**19.42**	**314**	*e*P	**Pn**	**22 24 12.1**	**-0.6**
SRLM	**Srisailam**	**19.43**	**312**	*e*P	**Pn**	**22 24 12.4**	**-0.4**
SMRI	**Semarang**	**19.53**	**122**	P	**P**	**22 24 12.7**	**0.0**
	comp=Z,244nm,0.8s,comp=Z,9µm						
SMRI	**Semarang**	**19.53**	**122**	*e*P	**P**	**22 24 11.8**	**-0.9**
	comp=Z,179nm,0.8s						
URV	**Uravakonda**	**20.00**	**307**	*e*P	**Pn**	**22 24 18.8**	**-0.9**
WOJI	**Wonogiri, Jawa**	**20.35**	**123**	P	Pn	22 24 29.8	+6.1
HYB	**Hyderabad**	**20.53**	**314**	*i* P	Pn	22 24 25.0	-0.9
	comp=Z,312nm,1.4s						
HYB				*e*S	**S**	**22 28 08.0**	**-4.5**
HYB	**Hyderabad**	**20.53**	**314**	*e*P	**P**	**22 24 24.1**	**+0.5**
HYB				IAmb	IAmb	22 24 29.8	
	comp=Z,222nm,1.8s						
HYBB	**Hyderabad (bro**	**20.53**	**314**	*e*P	**P**	**22 24 24.2**	**+0.6**
RPR	**Rampur**	**21.01**	**319**	*e*P	**P**	**22 24 29.7**	**+0.9**
MTKI	**Muara Teweh, K**	**21.53**	**101**	P	**P**	**22 24 34.1**	**-0.3**
	comp=Z,184nm,2.0s,comp=Z,6µm						
SRSP	**Sriramsagar**	**21.70**	**317**	*e*P	**P**	**22 24 36.8**	**+0.7**
BOK	**Bokaro**	**21.82**	**340**	*e*P	**P**	**22 24 39.0**	**+1.7**
BOK				IAmb	IAmb	22 24 43.0	
	comp=Z,731nm,1.3s						
QIZ	**Qiongzhong**	**22.22**	**44**	P	**P**	**22 24 40.8**	**-1.0**
QIZ				pmax	pmax		
	comp=Z,55nm,1.5s						
QIZ				LR	LR		
	comp=Z,20µm,9.7s						
QIZ				LR	LR		
	comp=Z,18µm,10.1s						
QIZ				LR	LR		
	comp=Z,16µm,18.2s						
QIZ	**Qiongzhong**	**22.22**	**44**	PFAKE		22 24 50.0	+8.2
QIZ				LR	LR		
	comp=Z,17µm,20.0s						
SHL	**Shillong**	**22.28**	**356**	*e*P	**P**	**22 24 40.2**	**-2.4**
SHL				IAmb	IAmb	22 24 45.4	
	comp=Z,104nm,0.9s						
SHL				*ex*	x	22 28 55.5	
KLRI	**Killari**	**22.37**	**312**	*e*P	**P**	**22 24 44.0**	**+0.6**
KKM	**Kota Kinabalu**	**22.55**	**82**	*e*P	**P**	**22 24 44.3**	**-1.2**
	comp=Z,113nm,0.9s						
KKM				LR	LR		
	comp=Z,10µm,19.0s						
NGP	**Nagpur**	**22.85**	**322**	*e*P	**P**	**22 24 48.5**	**0.0**
NGP				IAmb	IAmb	22 24 54.6	
	comp=Z,79nm,0.3s						
GOA	**Goa**	**23.11**	**303**	*e*P	**P**	**22 24 53.3**	**+2.1**
GOA				IAmb	IAmb	22 25 00.7	
KKBI	**Kotabaru**	**23.31**	**106**	P	**P**	**22 24 55.8**	**+2.6**
KMI	**Kunming**	**23.42**	**21**	P	**P**	**22 24 54.9**	**+0.5**
KMI				pP	pP	22 24 59.8	-0.9
KMI				sP	sP	22 25 01.8	-1.7
KMI				S	**S**	**22 29 06.1**	**-0.7**
KMI				SS	**SnSn**	**22 29 51.5**	**+8.5**
KMI				pmax	pmax		
	comp=Z,56nm,1.7s						
KMI				pmax	pmax		
	comp=Z,2µm,4.9s						
KMI				LR	LR		
	comp=Z,17µm,10.7s						
KMI				LR	LR		
	comp=Z,30µm,10.5s						
KMI				LR	LR		
	comp=Z,26µm,10.7s						
BKB	**Balikpapan**	**23.55**	**101**	P	**P**	**22 24 57.5**	**+1.9**
SMKI	**Samarinda**	**23.72**	**98**	P	**P**	**22 25 00.5**	**+3.3**
DGAR	**Diego Garcia**	**23.75**	**244**	PFAKE		22 25 10.0	+13
DGAR				LR	LR		
	comp=Z,8µm,22.0s						
H08S2	**Diego Garcia H**	**23.81**	**243**	T	T	22 49 48.1	
	baz=63,slow=75,SNR=5737						
H08S3	**Diego Garcia H**	**23.82**	**243**	T	T	22 49 54.4	
	baz=63,slow=75,SNR=8884						
H08S1	**Diego Garcia H**	**23.83**	**243**	T	T	22 49 53.3	
	baz=63,slow=75						
SGKI	**Sangatta, Kali**	**24.12**	**98**	P	**P**	**22 25 03.1**	**+2.1**
	comp=Z,145nm,1.3s,comp=Z,6µm						
SRBI	**Singaraja**	**24.17**	**118**	P	**P**	**22 25 01.5**	**+0.1**
	comp=Z,69nm,1.0s,comp=Z,2µm						
ODAN	**Odare**	**24.28**	**346**	*e*P	**P**	**22 25 02.7**	**+0.1**
RAMN	**Ramite**	**24.56**	**344**	*e*P	**P**	**22 25 05.8**	**+0.6**
	comp=Z,159nm,0.9s						
POO	**Poona**	**24.72**	**309**	*e*P	**P**	**22 25 08.6**	**+2.1**
POO				IAmb	IAmb	22 25 10.2	
	comp=Z,34nm,1.1s						
POO	**Poona**	**24.72**	**309**	*e*P	**P**	**22 25 06.0**	**-0.5**
	comp=Z,2.0nm,1.0s						
POO				*e*PP	PnPn	22 26 29.0	+50
POO				*e*PCP		22 27 33.5	
POO				*i* S	S	22 30 43.0	+75
POO				*i* PCS		22 31 20.5	
POO				*i* SS	ScP	22 33 02.0	+41
POO				*i* LQ	LQ	22 33 12.0	
POO				*i* SSS	SSS	22 33 29.5	
POO				*e*LR	LR	22 34 46.5	
POO				*e*SCS	ScS	22 35 24.0	-46
MYLDM	**Lahad Datu**	**24.75**	**85**	*e*P	**P**	**22 25 07.4**	**+0.6**
	comp=Z,294nm,1.1s						
JIRN	**Jiri**	**25.35**	**344**	*e*P	**P**	**22 25 12.8**	**+0.4**
BHPL	**Bhopal**	**25.41**	**323**	*e*P	**P**	**22 25 13.3**	**+0.6**
BHPL				IAmb	IAmb	22 25 15.1	
	comp=Z,103nm,1.5s						
PKIN	**Phulchoki**	**25.50**	**343**	*e*P	**P**	**22 25 13.8**	**+0.1**
	comp=Z,125nm,0.9s						
DMN	**Daman**	**25.61**	**342**	*e*P	**P**	**22 25 14.9**	**+0.2**
	comp=Z,83nm,0.8s						
GUN	**Gumba**	**25.67**	**344**	*e*P	**P**	**22 25 15.6**	**+0.3**
	comp=Z,236nm,0.9s						
KKN	**Kakani**	**25.73**	**342**	*e*P	**P**	**22 25 15.8**	**+0.1**
	comp=Z,112nm,0.9s						
BOM	**Bombay**	**25.73**	**309**	*ex*	P	22 25 23.7	+8.1
GKN	**Gorkha**	**26.13**	**341**	*e*P	**P**	**22 25 19.5**	**+0.2**
	comp=Z,225nm,0.9s						
GYA	**Guiyang**	**26.20**	**27**	⇑*i* P	**P**	**22 25 21.6**	**+1.7**
GYA				PP	**PnPn**	**22 26 04.3**	**+5.3**
GYA				PcP	**PcP**	**22 28 49.0**	**+2.3**
GYA				S	**S**	**22 29 51.3**	**+0.2**
GYA				SS	**SnSn**	**22 30 58.9**	**+8.0**
GYA				ScP	**ScP**	**22 32 26.3**	**+0.8**
GYA				pmax	pmax		
	comp=Z,40nm,0.8s						
GYA				pmax	pmax		
	comp=Z,180nm,5.8s						
GYA				LR	LR		
	comp=Z,3µm,17.4s						
GYA				LR	LR		
	comp=Z,3µm,18.0s						
GYA				LR	LR		
	comp=Z,3µm,17.8s						
KOLN	**Koldanda**	**26.26**	**339**	*e*P	**P**	**22 25 21.0**	**+0.4**
	comp=Z,98nm,0.7s						
MPSI	**Mapaga**	**26.28**	**96**	P	**P**	**22 25 21.0**	**+0.4**
	comp=Z,67nm,0.8s,comp=Z,2µm						
LSA	**Lhasa**	**26.44**	**355**	P	**P**	**22 25 24.4**	**+1.9**
LSA				pP	**pP**	**22 25 29.6**	**+0.6**
LSA				pmax	pmax		
	comp=Z,290nm,0.8s						
LSA				pmax	pmax		
	comp=Z,2µm,6.2s						
LSA				LR	LR		
	comp=Z,4µm,24.5s						
LSA				LR	LR		
	comp=Z,2µm,11.6s						
LSA				LR	LR		
	comp=Z,8µm,19.4s						
LSA	**Lhasa**	**26.44**	**355**	*e*P	**P**	**22 25 23.9**	**+1.4**
	comp=Z,434nm,0.8s						
LSA				LR	LR		
	comp=Z,6µm,21.0s						
LSA	**Lhasa**	**26.44**	**355**	*e*P	**P**	**22 25 23.9**	**+1.4**
LSA				pmax	pmax		
	comp=Z,435nm,0.8s						
LSA				MLR	MLR		
	comp=Z,6µm,21.0s						
TTSI	**Tana Toraja**	**26.78**	**103**	P	**P**	**22 25 27.6**	**+2.5**
PYUN	**Piuthan**	**26.78**	**339**	*e*P	**P**	**22 25 25.6**	**+0.4**
	comp=Z,202nm,1.0s						
KAPI	**Kappang**	**27.22**	**107**	*e*P	**P**	**22 25 28.4**	**-0.7**
	comp=Z,52nm,1.0s						
KAPI				LR	LR		
	comp=Z,4µm,20.0s						
KAPI	**Kappang**	**27.22**	**107**	P	**P**	**22 25 28.3**	**-0.8**
	SNR=11						
GZH	**Guangzhou**	**27.37**	**42**	P	**P**	**22 25 35.9**	**+5.6**
GZH				S	S	22 30 21.5	+12
BNSI	**Bone**	**27.39**	**106**	P	**P**	**22 25 33.1**	**+2.4**
APSI	**Ampana**	**28.18**	**98**	P	**P**	**22 25 39.3**	**+1.6**
	comp=Z,125nm,1.0s,comp=Z,2µm						
BSSI	**Bau Bau, Buton**	**28.27**	**109**	P	**P**	**22 25 37.9**	**-0.6**
	comp=Z,56nm,0.8s,comp=Z,2µm						
MRSI	**Marisa**	**28.29**	**95**	P	**P**	**22 25 38.4**	**-0.3**
	comp=Z,30nm,1.1s,comp=Z,954nm						
CD2	**Chengdu**	**29.11**	**18**	⇑P	**P**	**22 25 44.6**	**-1.2**
CD2				pP	pP	22 25 47.8	-4.5
CD2				S	**S**	**22 30 38.3**	**+1.7**
CD2				sS	pS	22 30 43.5	-0.7
CD2				pmax	pmax		
	comp=Z,70nm,0.7s						
CD2				pmax	pmax		
	comp=Z,840nm,7.0s						
CD2				LR	LR		
	comp=Z,33µm,9.7s						
CD2				LR	LR		
	comp=Z,27µm,11.9s						
CD2				LR	LR		
	comp=Z,48µm,9.9s						
LUWI	**Luwuk**	**29.30**	**98**	P	**P**	**22 25 48.4**	**+0.7**
	comp=Z,93nm,1.3s,comp=Z,2µm						
LUWI	**Luwuk**	**29.30**	**98**	*e*P	**P**	**22 25 47.3**	**-0.4**
	comp=Z,144nm,1.0s						
PAGZ	**Pagadian**	**29.83**	**80**	*e*P	P	22 25 44.8	-7.5
ENH	**Enshi**	**30.74**	**27**	*e*P	**P**	**22 25 58.9**	**-1.4**
	comp=Z,40nm,0.9s						
ENH				LR	LR		
	comp=Z,15µm,19.0s						
DDI	**Dehra Dun**	**30.77**	**333**	*e*P	**P**	**22 26 01.9**	**+1.3**
DDI				IAmb	IAmb	22 26 02.9	
	comp=Z,90nm,0.3s						
BUKP	**Musuan**	**31.48**	**80**	*e*P	**P**	**22 26 07.8**	**+0.8**
OCLP	**Ormoc**	**31.55**	**74**	*e*P	**P**	**22 26 07.1**	**-0.5**
SMLA	**Simla**	**31.86**	**332**	*e*P	**P**	**22 26 10.9**	**+0.8**
SMLA				IAmb	IAmb	22 26 18.6	
DAV	**Davao City (W)**	**31.91**	**82**	⇑*e*P	**P**	**22 26 10.9**	**+0.1**
DAV	**Davao City (W)**	**31.91**	**82**	PFAKE		22 26 20.0	+9.2
DAV				LR	LR		
	comp=Z,4µm,21.0s						
PLP	**Palo**	**31.93**	**74**	⇓*e*P	**P**	**22 26 07.4**	**-3.5**
QZH	**Quanzhou**	**32.21**	**46**	⇓*i* P	**P**	**22 26 15.0**	**+1.8**
QZH				pmax	pmax		
	comp=Z,1µm,7.1s						
QZH				LR	LR		
	comp=Z,6µm,13.1s						
QZH				LR	LR		
	comp=Z,22µm,10.2s						
QZH				LR	LR		
	comp=Z,24µm,10.3s						
MATI	**Mati**	**32.57**	**82**	*e*P	**P**	**22 26 15.2**	**-1.3**
BATI	**Baumata**	**32.63**	**114**	P	**P**	**22 26 14.2**	**-2.9**
SANI	**Sanana**	**32.64**	**99**	P	**P**	**22 26 17.5**	**+0.4**
	comp=Z,25nm,2.8s,comp=Z,2µm						
TWG	**Pinlang**	**32.85**	**51**	*e*P	**P**	**22 26 18.6**	**-0.2**
	comp=Z,358nm,1.4s						
SOEI	**Soe**	**33.01**	**113**	P	**P**	**22 26 21.6**	**+1.0**

MBWA LR LR
comp=Z,2µm,21.0s
MSAI Masohi 35.75 100 P **P** **22 26 43.5 -0.7**
comp=Z,19nm,0.4s,comp=Z,2µm
NIL Nilore 35.81 330 PFAKE 22 27 00.0 +16
NIL LR LR
comp=Z,2µm,19.0s
GTA Gaotai 36.43 8 ⇓P **P** **22 26 49.0 -0.8**
GTA pP pP 22 26 56.5 +0.1
GTA sP sP 22 27 00.4 +1.3
GTA S **S** **22 32 29.8 -0.7**
GTA sS sS 22 32 42.8 +1.5
GTA SS **SnSn** **22 34 57.9 -1.5**
GTA pmax pmax
comp=Z,31nm,1.2s
GTA pmax pmax
comp=Z,630nm,7.3s
GTA LR LR
comp=Z,5µm,10.9s
GTA LR LR
comp=Z,6µm,10.5s
GTA LR LR
comp=Z,4µm,11.4s
BNDI Bandanaira 36.92 102 P **P** **22 26 52.7 -1.5**
comp=Z,53nm,0.6s,comp=Z,2µm
NJ2 Nanjing 37.12 37 *e*P **P** **22 26 55.3 -0.3**
NJ2 PP **PnPn** **22 28 22.3 +1.5**
NJ2 S **S** **22 32 44.3 +3.5**
NJ2 sS **sS** **22 32 53.4 +1.7**
NJ2 pmax pmax
comp=Z,31nm,0.8s
NJ2 pmax pmax
comp=Z,850nm,5.1s
NJ2 LR LR
comp=Z,8µm,18.4s
NJ2 LR LR
comp=Z,11µm,19.5s
NJ2 LR LR
comp=Z,9µm,19.0s
SSE Sheshan 37.91 40 P **P** **22 27 04.3 +2.0**
SSE S **S** **22 32 54.9 +2.0**
SSE pmax pmax
comp=Z,26nm,1.0s
SSE pmax pmax
comp=Z,690nm,7.3s
SSE LR LR
comp=Z,10µm,10.8s
SSE LR LR
comp=Z,9µm,11.1s
MEEK Meekatharra 38.19 143 P **P** **22 27 05.0 +0.3**
baz=38,SNR=7.9
TIY Taiyuan 38.35 24 *e*P **P** **22 27 05.3 -0.7**
TIY S **S** **22 32 52.5 -7.1**
TIY pmax pmax
comp=Z,530nm,7.7s
TIY LR LR
comp=Z,16µm,11.4s
TIY LR LR
comp=Z,10µm,12.2s
TIY LR LR
comp=Z,20µm,12.7s
KBL Kabul 38.72 326 *e*P **P** **22 27 08.3 -1.0**
comp=Z,16nm,1.0s
KBL Kabul 38.72 326 *e*P **P** **22 27 08.3 -1.0**
KBL pmax pmax
comp=Z,16nm,1.0s
FAKI Fak Fak 38.95 99 P **P** **22 27 10.1 -1.2**
FAKI Fak Fak 38.95 99 *e*P **P** **22 27 09.8 -1.6**
comp=Z,50nm,0.8s
TIA Tai'an 39.27 30 P **P** **22 27 13.6 -0.1**
TIA S **S** **22 33 07.3 -6.0**
TIA pmax pmax
comp=Z,15nm,1.1s
TIA pmax pmax
comp=Z,710nm,6.6s
TIA LR LR
comp=Z,8µm,16.3s
TIA LR LR
comp=Z,10µm,11.0s
TIA LR LR
comp=Z,13µm,17.7s
WSAR Wadi Sarin 39.37 303 P **P** **22 27 15.6 +0.8**
comp=Z,5.3nm,1.0s,baz=153,slow=11,SNR=4.3
WSAR Wadi Sarin 39.37 303 P **P** **22 27 16.5 +1.8**
KNRA Kununurra 39.39 119 P **P** **22 27 13.0 -1.9**
baz=39,SNR=6.7
KSH Kashi 39.57 338 P **P** **22 27 14.6 -1.7**
KSH sP pP 22 27 22.4 -0.5
KSH PP **PnPn** **22 28 50.5 +0.1**
KSH PcP **PcP** **22 29 22.1 -1.4**
KSH S **S** **22 33 15.5 -2.5**
KSH pmax pmax
comp=Z,180nm,1.8s
KSH pmax pmax
comp=Z,2µm,4.4s
KSH LR LR
comp=Z,3µm,10.8s
KSH LR LR
comp=Z,2µm,8.3s
KSH LR LR
comp=Z,6µm,12.0s
BTO Baotou 40.00 19 *e*P **P** **22 27 18.3 -1.5**
HHC Hu-ho-hao-te 40.74 21 *e*P **P** **22 27 25.9 -0.1**
HHC pP pP 22 27 30.8 -1.9
HHC sP sP 22 27 33.4 -1.9
HHC PP **PP** **22 28 56.6 -3.5**
HHC S **S** **22 33 39.9 +4.4**
HHC ScS **ScS** **22 37 31.3 +0.9**
HHC pmax pmax
comp=Z,52nm,1.1s
HHC pmax pmax
comp=Z,420nm,5.8s
HHC LR LR
comp=Z,5µm,13.9s
HHC LR LR
comp=Z,5µm,14.7s
HHC LR LR
comp=Z,6µm,15.5s
WMQ Urumqi 40.78 353 P **P** **22 27 27.6 +1.4**
WMQ pP pP 22 27 31.6 -1.2
WMQ sP sP 22 27 34.8 -0.7
WMQ PP **PnPn** **22 29 05.8 +1.2**
WMQ PcP **PcP** **22 29 27.3 +0.1**
WMQ S **S** **22 33 38.3 +2.5**
WMQ SS **SS** **22 36 34.4 -2.8**
WMQ pmax pmax
comp=Z,130nm,0.9s
WMQ pmax pmax
comp=Z,2µm,5.7s
WMQ LR LR
comp=Z,6µm,29.5s
WMQ LR LR
comp=Z,10µm,23.1s
WMQ LR LR
comp=Z,6µm,32.1s
KDJ Kajisay 41.48 341 *e*P **P** **22 27 32.6 +0.5**
comp=Z,58nm,1.0s
SOHO SOHO 41.49 303 *i* P **P** **22 27 33.6 +1.3**
SNR=8.8
SHLS Shalkode 41.74 344⇑*i*P **P** **22 27 34.5 +0.3**
comp=Z,832nm,1.1s
SHLS *i* S **S** **22 33 50.3 0.0**
UZB Uzynbulak 41.85 344⇑*i*P **P** **22 27 35.9 +0.8**
comp=Z,434nm,1.0s
UZB *e*S **S** **22 33 53.4 +1.4**
BJT Baijiatuau 41.86 26 *e*P **P** **22 27 35.3 +0.2**
comp=Z,77nm,0.9s
BJT LR LR
comp=Z,7µm,19.0s
BJT Baijiatuau 41.86 26 *e*P **P** **22 27 35.3 +0.2**
BJT pmax pmax
comp=Z,77nm,0.9s
BJT MLR MLR
comp=Z,7µm,19.0s
BJI Beijing 41.88 26⇑*i*P **P** **22 27 35.8 +0.6**
BJI PP **PP** **22 29 13.6 +1.3**
BJI S **S** **22 33 58.3 +6.1**
BJI pmax pmax
comp=Z,100nm,1.0s
BJI pmax pmax
comp=Z,1µm,6.8s
BJI LR LR
comp=Z,7µm,21.7s
BJI LR LR
comp=Z,9µm,23.8s
BJI LR LR
comp=Z,8µm,29.4s
ULHL Ulahol 41.89 340 P **P** **22 27 35.7 +0.2**
SNR=54
SATY Saty 41.95 343⇑*i*P **P** **22 27 36.7 +0.9**
comp=Z,938nm,1.1s
SATY *e*S **S** **22 33 54.7 +1.3**
ZHN Zhinishke 42.04 343⇑*i*P **P** **22 27 37.4 +0.8**
comp=Z,266nm,1.1s
ZHN *e*S **S** **22 33 55.9 +1.1**
KZA Kyzart 42.08 339 P **P** **22 27 37.8 +0.5**
SNR=29
UOSS Minazif 42.10 304 P **P** **22 27 38.7 +1.5**
HATD Hatta, Dubai 42.11 304 *i* P **P** **22 27 38.9 +1.5**
SNR=6.4
ALNE Al Ain 42.11 303 *i* P **P** **22 27 39.2 +1.8**
SNR=8.1
KPKS Kokpek 42.24 344⇑*i*P **P** **22 27 38.9 +0.6**
comp=Z,522nm,1.0s
KPKS *e*S **S** **22 33 58.5 +0.8**
NWAO Narrogin (SRO) 42.27 150 P **P** **22 27 37.6 -0.9**
comp=Z,7.8nm,0.7s,baz=178,slow=6.9,SNR=5.3
NWAO Narrogin (SRO) 42.27 150 P **P** **22 27 37.6 -0.9**
NWAO LR LR
comp=Z,6µm,19.0s
NWAO Narrogin (SRO) 42.27 150 P **P** **22 27 37.6 -0.9**
NWAO MLR MLR
comp=Z,6µm,19.0s
MSFE Esma-Masafi 42.31 305 *i* P **P** **22 27 40.5 +1.5**
SNR=5.6
BANOM Banah 42.44 306 P **P** **22 27 40.6 +0.6**
BANOM Banah 42.44 306 P **P** **22 27 42.1 +2.1**
H01W3 Cape Leeuwin H 42.47 155 T T 23 12 57.3
baz=331,slow=75,SNR=3653
UCH Uchtor 42.47 339 P **P** **22 27 41.1 +0.6**
SNR=54
H01W2 Cape Leeuwin H 42.48 155 T T 23 12 55.2
baz=331,slow=75,SNR=3495
H01W1 Cape Leeuwin H 42.49 155 T T 23 12 55.6
baz=331,slow=75,SNR=3726
AAA Alma-Ata 42.54 342⇑*e*P **P** **22 27 41.9 +1.3**
comp=Z,268nm,1.9s
AAA Alma-Ata 42.54 342 *e*P **P** **22 27 41.0 +0.4**
AAA *e*S **S** **22 34 04.0 +2.1**
AAA pmax pmax
comp=Z,700nm,4.8s
AAA smax smax
comp=E,2µm,7.7s
AAA MLR MLR
comp=Z,1µm,18.0s
NAZ Nazwa, Dubai 42.57 304 P **P** **22 27 42.3 +1.3**
SHME Shamm 42.62 306 P **P** **22 27 43.6 +2.0**
AML Almayashu 42.69 338 P **P** **22 27 42.9 +0.6**
SNR=78
KBK Karagaybulak 42.70 339 P **P** **22 27 43.0 +1.0**
SNR=33
TKM2 Tokmak 2 42.71 340 P **P** **22 27 42.5 +0.4**
SNR=29
AAK Ala-Archa 42.84 339 P **P** **22 27 44.1 +0.8**
SNR=17
AAK Ala-Archa 42.84 339 *e*P **P** **22 27 44.0 +0.8**
comp=Z,156nm,1.9s
AAK LR LR
comp=Z,3µm,21.0s
AAK Ala-Archa 42.84 339 P **P** **22 27 44.2 +1.0**
SNR=42
AAK Ala-Archa 42.84 339 *i* P **P** **22 27 43.9 +0.8**
SNR=30
AAK Ala-Archa 42.84 339 *i* P **P** **22 27 43.8 +0.6**
AAK pmax pmax
comp=Z,78nm,2.8s
AJN Ajban 42.95 303 P **P** **22 27 45.3 +1.1**
FRU Bishkek 42.97 339 *e*P **P** **22 27 45.0 +0.9**
FRU *e*S **S** **22 34 09.0 +0.8**
FRU pmax pmax
comp=Z,160nm,2.1s
CHMS Chumysh 43.06 340 P **P** **22 27 45.3 +0.4**
SNR=6.4
EKS2 Erkin-Say 43.12 338 P **P** **22 27 46.1 +0.7**
SNR=51
KUU Kuty 43.33 342⇑*i*P **P** **22 27 46.8 -0.2**
comp=Z,331nm,1.1s
KUU *e*S **S** **22 34 13.8 +0.3**
USP Ospenovka 43.39 339 P **P** **22 27 47.9 +0.4**
SNR=58
KMBL Kambalda 43.59 144 P **P** **22 27 49.7 +0.5**
baz=44,SNR=4.4
DL2 Dalian 43.64 32⇑*i*P **P** **22 27 49.6 +0.1**
DL2 PP **PP** **22 29 33.9 +2.7**
DL2 S **S** **22 34 20.8 +2.8**
DL2 pmax pmax
comp=Z,42nm,0.9s
DL2 pmax pmax
comp=Z,1µm,7.7s
DL2 LR LR
comp=Z,8µm,11.2s
DL2 LR LR
comp=Z,5µm,11.6s
DL2 LR LR
comp=Z,10µm,15.4s
WRKA Warakurna 43.73 132 P **P** **22 27 49.9 -0.6**
baz=44,SNR=11
IUG Iuzhnay 44.18 335⇑*i*P **P** **22 27 54.4 +0.4**
comp=Z,733nm,0.8s
IUG *e*S **S** **22 34 27.0 +0.8**
DZA Taraz 44.26 336 *e*P **P** **22 27 54.4 -0.1**
comp=Z,286nm,0.7s
RER Riviere de l'E 44.43 235 PFAKE 22 28 10.0 +14
RER LR LR
comp=Z,18µm,22.0s
MK01 Makanchi Array 44.50 349 *e*P **P** **22 27 55.8 -0.5**
MK01 *e*sP **P** **22 27 56.3 0.0**
CHM Chimkent 44.51 334 *e*P **P** **22 27 57.0 +0.6**
comp=Z,264nm,1.7s
CHM *e*S **S** **22 34 31.8 +1.2**
CHM LR LR 22 49 06.9
comp=Z,1µm,11.3s
MK31 Makanchi Array 44.52 349 *e*P **P** **22 27 56.6 +0.2**
MK31 Makanchi Array 44.52 349 *e*P **P** **22 27 56.7 +0.2**
MKAR Makanchi Array 44.52 349 P **P** **22 27 56.8 +0.2**
comp=Z,82nm,0.9s,baz=161,slow=7.7,SNR=254
MKAR Makanchi Array 44.52 349 *e*P **P** **22 27 56.6 +0.1**
comp=Z,344nm,0.8s
MKAR Makanchi Array 44.52 349 *e*P **P** **22 27 56.6 +0.1**
MKAR pmax pmax
comp=Z,344nm,0.8s
MAKZ Makanchi 44.60 348 *e*P **P** **22 27 57.2 +0.1**
comp=Z,38nm,0.8s
MAKZ Makanchi 44.60 348 *e*P **P** **22 27 57.2 +0.1**
MAKZ pmax pmax
comp=Z,38nm,0.8s
ZSN Zaisan 44.72 351⇑*i*P **P** **22 27 59.2 +1.2**
comp=Z,230nm,1.1s
ZSN *e*S **S** **22 34 35.8 +2.2**
KK31 Karatay Array 44.77 336 *e*P **P** **22 27 58.8 +0.3**
KK31 Karatay Array 44.77 336 *e*P **P** **22 27 58.8 +0.3**
KKAR Karatay Array 44.77 336 *e*P **P** **22 27 58.8 +0.3**
KKAR Karatay Array 44.77 336 *e*P **P** **22 27 58.8 +0.3**
TJN Taejon 45.24 39⇑*e*P **P** **22 28 01.4 -0.9**
INCN Inchon 45.49 37 PFAKE 22 28 20.0 +16
INCN LR LR
comp=Z,13µm,20.0s
JNU Nakatsue 45.69 45 P **P** **22 28 05.7 -0.3**
comp=Z,15nm,0.8s,baz=218,slow=12,SNR=6.3
JNU Nakatsue 45.69 45 *e*P **P** **22 28 05.0 -1.0**
comp=Z,265nm,2.0s
SONM Songino Array 45.75 12 P **P** **22 28 06.6 +0.3**
comp=Z,38nm,0.8s,baz=194,slow=8.8,SNR=137
SONM PcP **PcP** **22 29 45.1 +1.2**
comp=Z,7.3nm,0.9s,baz=216,slow=4.5,SNR=2.9
SONM LR LR 22 50 22.4
comp=Z,5µm,18.0s,baz=188,slow=40
SONA1 Songino Array 45.77 12 *e*P **P** **22 28 05.3 -1.1**
SONA1 *e*sP **P** **22 28 05.8 -0.7**
ULN Ulaanbaatar 45.92 12 *e*P **P** **22 28 07.4 -0.3**
comp=Z,25nm,0.9s
ULN LR LR
comp=Z,5µm,19.0s
ULN Ulaanbaatar 45.92 12 P **P** **22 28 07.6 -0.1**
SNR=19
ULN Ulaanbaatar 45.92 12 *c* *i*P **P** **22 28 07.2 -0.5**
ULN pmax pmax
comp=Z,25nm,0.8s
WRA Warramunga Arr 46.02 122 P **P** **22 28 07.7 -1.1**
comp=Z,42nm,0.7s,baz=300,slow=8.9,SNR=211
WRAB Tennant Creek 46.02 122 *e*P **P** **22 28 07.8 -1.0**
comp=Z,61nm,0.8s
WRAB LR LR
comp=Z,3µm,20.0s
WRAB Tennant Creek 46.02 122 *e*P **P** **22 28 07.8 -1.0**
WRAB pmax pmax
comp=Z,61nm,0.8s
WRAB MLR MLR
comp=Z,3µm,20.0s
WB2 Warramunga Arr 46.03 122 *e*P **P** **22 28 07.8 -1.1**
KSAR Wonju Array Be 46.23 38 P **P** **22 28 09.1 -1.1**
KSAR Wonju Array Be 46.23 38 P **P** **22 28 09.1 -1.1**
KS01 Wonju Array Si 46.26 38 *e*P **P** **22 28 08.9 -1.4**
KS01 *e*sP **P** **22 28 09.4 -1.0**
KSRS Korea Array 46.26 38 P **P** **22 28 09.1 -1.3**
comp=Z,6.2nm,0.9s,baz=223,slow=9.0,SNR=16
DGZ Jazzator, Alta 46.61 354 *i* P **P** **22 28 14.0 +0.8**
GENI Genyem 46.74 97 P **P** **22 28 22.5 +7.9**
SNY Shenyang 46.79 31 ⇓P **P** **22 28 14.4 -0.1**
SNY S **S** **22 35 04.6 +1.0**
SNY pmax pmax
comp=Z,34nm,1.0s
SNY LR LR
comp=Z,6µm,21.4s
SNY LR LR
comp=Z,6µm,18.2s
SNY LR LR
comp=Z,12µm,15.7s
FORT Forrest 47.05 139 *e*P **P** **22 28 16.3 -0.4**
comp=Z,953nm,1.1s
AS31 Alice Springs 47.35 127 *e*P **P** **22 28 17.8 -1.4**
AS31 *e*sP **P** **22 28 18.1 -1.1**
ASAR Alice Springs 47.35 127 P **P** **22 28 18.2 -1.0**
comp=Z,19nm,0.8s,baz=297,slow=7.3,SNR=91
ASAR PcP **PcP** **22 29 50.3 +0.4**
comp=Z,4.2nm,0.8s,baz=297,slow=3.5,SNR=5.5
AS01 Alice Springs 47.39 126 *e*P **P** **22 28 16.8 -2.7**
AS01 *e*sP **P** **22 28 17.9 -1.7**
GEYT Alibeck 47.48 321 P **P** **22 28 20.7 +0.7**
comp=Z,33nm,0.8s,baz=145,slow=8.1,SNR=65
GYA0B ALIBECK ARRAY 47.48 321 *e*P **P** **22 28 21.2 +1.2**
comp=Z,38nm,0.8s
ZAK Zakamensk 47.67 8 *e*P **P** **22 28 19.3 -2.0**
ZAK pmax pmax
comp=Z,16nm,1.3s
HVS Khovu-Aksy 47.74 360 *d* *i*P **P** **22 28 22.1 +0.3**
HVS pmax pmax
comp=Z,75nm,1.0s
SEM Semipalatinsk 48.38 348⇑*i*P **P** **22 28 27.0 0.0**
comp=Z,420nm,1.1s
SEM *e*S **S** **22 35 26.7 +0.3**
SEM LR LR 22 51 50.6
comp=Z,2µm,14.2s
MOY Mondy 48.65 6 *e*P **P** **22 28 29.0 +0.1**
MOY pmax pmax
comp=Z,66nm,4.2s
KURBB Kurchatov Arra 48.95 347 P **P** **22 28 32.2 +1.2**
comp=Z,42nm,0.8s,baz=169,slow=6.7,SNR=123
TLY Talaya 48.99 8 LR LR 22 52 38.3
comp=Z,4µm,19.6s,baz=172,slow=40
TLY Talaya 48.99 8 *e*P **P** **22 28 32.6 +1.3**
comp=Z,19nm,0.9s
TLY LR LR
comp=Z,5µm,22.0s
TLY Talaya 48.99 8 P **P** **22 28 32.2 +0.8**
SNR=9.2
TLY Talaya 48.99 8*c* *i*P **P** **22 28 31.9 +0.5**
TLY *e*S **S** **22 35 35.2 +0.7**
TLY pmax pmax
comp=Z,21nm,1.3s
TLY MLR MLR
comp=Z,2µm,11.0s
KURK Kurchatov 49.01 347 *e*P **P** **22 28 31.8 +0.3**
comp=Z,536nm,1.1s
KURK LR LR
comp=Z,7µm,22.0s
KURK Kurchatov 49.01 347 *e*P **P** **22 28 31.8 +0.3**
KURK pmax pmax
comp=Z,536nm,1.1s
KURK MLR MLR
comp=Z,7µm,22.0s
CN2 Changchun 49.17 30 *e*P **P** **22 28 32.3 -0.6**
CN2 PP **PP** **22 30 26.6 -0.2**
CN2 *e*S **S** **22 35 36.5 -0.8**
CN2 pmax pmax
comp=Z,20nm,1.4s
CN2 pmax pmax
comp=Z,600nm,5.0s
CN2 LR LR
comp=Z,7µm,13.0s
CN2 LR LR
comp=Z,8µm,13.0s
CN2 LR LR
comp=Z,7µm,12.0s
IRK Irkutsk 49.63 8 *e*P **P** **22 28 35.7 -0.5**
IRK *e*S **S** **22 35 46.9 +3.5**
IRK pmax pmax
comp=Z,70nm,2.6s
BRZS Berezniki 49.90 342 *e*P **P** **22 28 38.7 +0.4**
comp=Z,29nm,1.1s
BRZS *e*S **S** **22 35 48.2 +0.9**
DAMY Dhamar 49.95 286 *e*P **P** **22 28 41.8 +2.2**
comp=Z,38nm,1.1s
RAYN Ar Rayn 50.78 298 *e*P **P** **22 28 46.4 +0.9**
comp=Z,56nm,1.4s
RAYN LR LR
comp=Z,8µm,20.0s
QIS Mount Isa 50.78 120 P **P** **22 28 44.6 -0.9**
baz=51,SNR=12
ABPO Ambohimpanom 50.83 242 *e*P **P** **22 28 48.2 +2.1**
comp=Z,110nm,1.9s
ABPO LR LR
comp=Z,2µm,22.0s
ABPO Ambohimpanom 50.83 242 *e*P **P** **22 28 48.2 +2.1**
ABPO pmax pmax
comp=Z,110nm,1.9s
ABPO MLR MLR
comp=Z,2µm,22.0s
HIA Hailar 50.93 22 *e*P **P** **22 28 46.1 -0.1**
comp=Z,51nm,0.8s
HIA LR LR
comp=Z,9µm,20.0s
HIA Hailar 50.93 22 *e*P **P** **22 28 46.1 -0.1**
HIA pmax pmax
comp=Z,51nm,0.8s
HIA MLR MLR
comp=Z,9µm,20.0s
ZAA0 Zalesovo Array 51.09 353 *e*P **P** **22 28 47.3 +0.1**
ZALV Zalesovo Beam 51.09 353 P **P** **22 28 47.4 +0.1**
comp=Z,74nm,0.8s,baz=180,slow=6.8,SNR=167
ZALV Zalesovo Beam 51.09 353 *e*P **P** **22 28 46.4 -0.8**
ZALV Zalesovo Beam 51.09 353 *e*P **P** **22 28 46.4 -0.8**
ATD Arta Tunnel 51.09 282 P **P** **22 28 49.4 +1.4**
comp=Z,8.6nm,0.8s,baz=202,slow=5.4,SNR=4.3
ATD LR LR 22 47 07.9
comp=Z,1µm,19.5s,baz=88,slow=32
INU Inuyama 51.19 46 *e*P **P** **22 28 47.3 -1.0**
comp=Z,48nm,0.9s
CIT Chita 51.35 16 *e*P **P** **22 28 49.6 +0.3**
CIT *e* 22 28 59.6
CIT *e* 22 29 04.4
MSHR Mys Shultsa 51.42 35*ce*P **P** **22 28 50.0 +0.1**
GUMO Guam 51.49 75 PFAKE 22 29 00.0 +9.1
GUMO LR LR
comp=Z,6µm,22.0s
MDJ Mudanjiang 51.88 32 P **P** **22 28 51.8 -1.5**
MDJ pP pP 22 28 57.3 -2.8
MDJ sP sP 22 28 59.8 -3.0
MDJ S **S** **22 36 18.6 +3.7**
MDJ sS sS 22 36 26.4 +0.3
MDJ pmax pmax
comp=Z,37nm,1.1s
MDJ pmax pmax
comp=Z,1µm,6.7s
MDJ LR LR
comp=Z,8µm,12.2s
MDJ LR LR
comp=Z,15µm,11.4s
MDJ LR LR
comp=Z,10µm,12.4s
MDJ Mudanjiang 51.88 32 *e*P **P** **22 28 53.9 +0.5**
comp=Z,38nm,1.2s
MDJ LR LR
comp=Z,6µm,20.0s
COEN Coen 51.88 110 *e*P **P** **22 28 52.8 -1.1**
comp=Z,38nm,1.4s
NVS Novosibirsk 52.16 352⇓*i*P **P** **22 28 55.1 -0.1**
NVS *e*S **S** **22 36 19.2 +0.9**

NVS pmax pmax
comp=Z,55nm,0.9s
NVS pmax pmax
comp=N,35nm,0.9s
NVS pmax pmax
comp=E,17nm,0.9s
NVS smax smax
comp=N,32nm,2.0s
NVS smax smax
comp=E,75nm,2.1s
VLA Vladivostok 52.17 35 *c* iP **P 22 28 55.6 +0.1**
VLA pmax pmax
comp=Z,81nm,1.7s
MAJO Matsushiro 52.61 45 *e*P **P 22 28 57.8 -1.1**
comp=Z,14nm,0.8s
MAJO LR LR
comp=E,6µm,20.0s
MAJO Matsushiro 52.61 45 *e*P **P 22 28 57.8 -1.1**
MAJO pmax pmax
comp=Z,14nm,0.8s
MAJO MLR MLR
comp=Z,6µm,20.0s
MAT Matsushiro 52.61 45 P **P 22 28 58.0 -1.0**
MAT S **S 22 36 32.0 +6.8**
MJB9 Matsu-Tunnel 52.61 45 *e*P **P 22 28 58.8 -0.2**
comp=Z,14nm,0.8s
MJAR Matsushiro Arr 52.61 45 P **P 22 28 58.9 0.0**
comp=Z,8.6nm,0.8s,baz=237,slow=7.4,SNR=24
MJAR PcP **PcP 22 30 09.7 +0.8**
comp=Z,5.8nm,0.9s,baz=245,slow=5.1,SNR=4.6
KRAR Krasnoyarsk 52.63 359⇓ *i* P **P 22 28 59.9 +1.2**
USRK Ussuriysk Ar. 52.91 34 P **P 22 29 00.5 -0.5**
comp=Z,18nm,0.9s,baz=240,slow=6.5,SNR=25
BVAR Borovoye Array 53.26 343 P **P 22 29 03.8 +0.4**
comp=Z,25nm,0.8s,baz=147,slow=8.0,SNR=126
BRVK Borovoye 53.32 343 *e*P **P 22 29 03.2 -0.6**
comp=Z,25nm,0.8s
BRVK LR LR
comp=Z,2µm,20.0s
BRVK Borovoye 53.32 343 P **P 22 29 03.7 -0.2**
SNR=20
BRVK Borovoye 53.32 343 *e*P **P 22 29 03.2 -0.6**
BRVK pmax pmax
comp=Z,25nm,0.8s
BRVK MLR MLR
comp=Z,2µm,20.0s
MTSU Mount Surprise 54.13 115 P **P 22 29 10.2 -0.2**
baz=54,SNR=13
ABKAR Akbulak array 54.14 333 *e*P **P 22 29 09.4 -0.6**
comp=Z,128nm,0.9s
PMG Port Moresby 54.66 104 P **P 22 29 13.9 -0.4**
comp=Z,12nm,0.7s,baz=294,slow=12,SNR=3.7
PMG Port Moresby 54.66 104 P **P 22 29 13.9 -0.4**
PMG LR LR
comp=Z,3µm,21.0s
PMG Port Moresby 54.66 104⇑ *e*P **P 22 29 13.0 -1.3**
PMG pmax pmax
comp=Z,110nm,1.2s
AAE Adis Abeba 54.94 279 *i* P **P 22 29 15.4 -1.3**
AAE *i* S **S 22 37 03.4 +5.4**
AAE Adis Abeba 54.94 279 *i* P **P 22 29 15.4 -1.3**
AAE *i* S **S 22 37 03.4 +5.4**
AKTO Aktyubinsk 55.86 333 P **P 22 29 21.1 -1.3**
comp=Z,8.2nm,1.1s,baz=131,slow=6.7,SNR=17
TEY Ternei 56.04 36 *e*P **P 22 29 20.8 -2.9**
TEY pmax pmax
comp=Z,22nm,1.0s
KLR Kul'dur 56.07 29 *c i*P **P 22 29 24.0 +0.1**
HTT Hallett 56.08 134 P **P 22 29 24.0 -0.2**
baz=56,SNR=4.9
AKT Akhty 56.10 319⇓ *i*P **P 22 29 24.5 +0.1**
AKT *e* 22 30 23.6
AKT pmax pmax
comp=Z,34nm,1.3s
PAF Port-aux-Franc 56.21 198 PFAKE 22 29 40.0 +15
PAF LR LR
comp=Z,7µm,19.0s
CTA Charters Tower 56.48 117 P **P 22 29 26.3 -1.0**
comp=Z,16nm,1.0s,baz=290,slow=9.4,SNR=10.0
CTAO Charters Tower 56.48 117 *e*P **P 22 29 25.7 -1.6**
CTAO *es*P **P 22 29 27.0 -0.3**
CTAO LR LR
comp=Z,3µm,19.0s
CTAO Charters Tower 56.48 117 *e*P **P 22 29 25.7 -1.6**
CTAO MLR MLR
comp=Z,3µm,19.0s
KMBO Kilima Mbogo 56.65 267 P **P 22 29 29.6 +0.7**
comp=Z,1.6nm,0.3s,baz=71,slow=13,SNR=5.8
KMBO Kilima Mbogo 56.65 267 *e*P **P 22 29 30.6 +1.7**
comp=Z,39nm,1.6s
KMBO LR LR
comp=Z,7µm,20.0s
KMBO Kilima Mbogo 56.65 267 P **P 22 29 30.3 +1.3**
SNR=6.3
KMBO Kilima Mbogo 56.65 267 *i* P **P 22 29 30.2 +1.2**
SNR=6.2
KMBO Kilima Mbogo 56.65 267 *e*P **P 22 29 30.6 +1.7**
KMBO pmax pmax
comp=Z,39nm,1.6s
KMBO MLR MLR
comp=Z,7µm,20.0s
BOD Bodaibo 56.73 13 *e*P **P 22 29 27.8 -0.6**
BOD pmax pmax
comp=Z,38nm,1.3s
MAK Makhachkala 56.99 321 *e*P **P 22 29 26.4 -4.1**
MAK *e* 22 31 33.8
MAK *e*S **S 22 37 15.3 -8.5**
MAK pmax pmax
comp=Z,93nm,1.0s
QLP Quilpie 57.03 125 P **P 22 29 31.3 +0.2**
baz=57,SNR=6.3
DDFL Dedoflistskaro 57.14 319 P **P 22 29 32.8 +1.1**
STKA Stephens Creek 57.26 131 P **P 22 29 32.1 -0.5**
comp=Z,18nm,0.7s,baz=307,slow=7.1,SNR=46
STKA Stephens Creek 57.26 131 P **P 22 29 32.1 -0.5**
baz=57,SNR=35
STKA Stephens Creek 57.26 131 *e*P **P 22 29 32.3 -0.4**
comp=Z,4.1nm,0.7s
STKA Stephens Creek 57.26 131 *e*P **P 22 29 32.3 -0.4**
STKA pmax pmax
comp=Z,4.0nm,0.7s
ZEA Zeya 57.34 23 *e*P **P 22 29 32.8 0.0**
ZEA *e*S **S 22 37 29.0 +1.0**
ZEA *e*PS **PnS 22 37 52.0 +12**
ZEA pmax pmax
comp=E,35nm,1.0s
ZEA pmax pmax
comp=Z,35nm,1.0s
ZEA pmax pmax
comp=Z,600nm,7.0s
ZEA pmax pmax
comp=N,300nm,6.0s
ZEA pmax pmax
comp=Z,800nm,8.0s
ZEA smax smax
comp=E,400nm,11.0s
ZEA smax smax
comp=N,600nm,8.0s
ZEA MLR MLR
comp=E,7µm,12.0s
ZEA MLR MLR
comp=Z,10µm,12.0s
ZEA MLR MLR
comp=N,7µm,11.0s
GNI Garni 57.47 317 P **P 22 29 35.4 +1.2**
comp=N,25nm,1.0s,baz=330,slow=8.1,SNR=18
GNI Garni 57.47 317 *e*P **P 22 29 33.9 -0.3**
comp=N,71nm,1.3s
GNI LR LR
comp=Z,2µm,22.0s
GNI Garni 57.47 317 P **P 22 29 34.4 +0.3**
SNR=18
GNI Garni 57.47 317 *i* P **P 22 29 34.2 0.0**
SNR=12
GNI Garni 57.47 317 *c i*P **P 22 29 34.3 +0.1**
GNI pmax pmax
comp=Z,303nm,2.5s
DGRG David-gareji 57.63 318 P **P 22 29 32.3 -2.9**
DGRG David-gareji 57.63 318 *e*P **P 22 29 32.3 -2.9**
TBLG Delisi 58.19 318 P **P 22 29 38.8 -0.3**
TBLG Delisi 58.19 318 *e*P **P 22 29 39.8 +0.7**
comp=Z,37nm,1.0s
TBLG Delisi 58.19 318 *e*P **P 22 29 38.7 -0.3**
GROC Groznyy 58.20 320 *e*P **P 22 29 36.9 -2.1**
GROC *e*S **S 22 37 37.3 -2.3**
GROC pmax pmax
comp=Z,69nm,2.3s
DUS Dusheti 58.38 319 P **P 22 29 36.6 -3.9**
DUS Dusheti 58.38 319 *e*P **P 22 29 36.5 -3.9**
ERM Erimo 58.56 42 *e*P **P 22 29 42.3 +0.8**
ERM LR LR
comp=Z,4µm,21.0s
ERM Erimo 58.56 42⇑ *e*P **P 22 29 42.4 +0.8**
ERM pmax pmax
comp=Z,15nm,0.9s
GUDG Gudauri 58.70 319 P **P 22 29 41.9 -1.0**
AKH Akhalkalaki 58.88 317 P **P 22 29 44.6 +0.5**
AKH Akhalkalaki 58.88 317 *e*P **P 22 29 45.0 +1.0**
comp=Z,16nm,1.0s
AKH Akhalkalaki 58.88 317 *e*P **P 22 29 44.5 +0.5**
CLNS Chul'man 58.90 19 *e*P **P 22 29 43.7 -0.1**
CLNS pmax pmax
comp=Z,23nm,1.2s
CLNS pmax pmax
comp=N,12nm,1.2s
CLNS pmax pmax
comp=E,9.0nm,1.1s
ASAJ Asahikawa 59.19 39 P **P 22 29 46.7 +0.8**
comp=E,22nm,0.8s,baz=271,slow=8.8,SNR=37
ASAJ Asahikawa 59.19 39 *e*P **P 22 29 46.4 +0.5**
comp=E,27nm,0.8s
ZEI Tsey 59.22 319 *e*P **P 22 29 44.4 -2.1**
ZEI pmax pmax
comp=Z,24nm,0.8s
GRNR Gornyy 59.37 30 *e*P **P 22 29 45.8 -1.3**
GRNR pmax pmax
comp=Z,84nm,1.0s
ONI Oni 59.43 319 P **P 22 29 47.3 -0.4**
ONI Oni 59.43 319 *e*P **P 22 29 47.3 -0.4**
SVE Sverdlovsk 59.57 340 *d i*P **P 22 29 48.1 -0.2**
SVE *e*S **S 22 37 55.1 -1.9**
SVE pmax pmax
comp=Z,67nm,1.1s
SVE MLR MLR
comp=Z,3µm,21.0s
NCK Nalchik 59.75 320⇓ *i*P **P 22 29 50.2 +0.4**
NCK pmax pmax
comp=Z,11nm,1.0s
ARU Arti 60.02 338 *e*P **P 22 29 50.5 -0.9**
comp=Z,134nm,1.9s
ARU LR LR
comp=Z,3µm,19.0s
ARU Arti 60.02 338 *c i*P **P 22 29 50.3 -1.1**
ARU 22 30 38.9
ARU 22 32 04.6
ARU *e*S **S 22 38 02.9 +0.2**
ARU 22 39 41.4
ARU pmax pmax
comp=Z,75nm,2.5s
ARU MLR MLR
comp=Z,2µm,20.0s
NEY Neytrino 60.20 319⇓ *e*P **P 22 29 54.1 +0.9**
NEY pmax pmax
comp=Z,5.0nm,1.0s
CMSA Cobar Meteorol 60.23 129 P **P 22 29 53.6 +0.3**
baz=60,SNR=25
KBZ Khabaz 60.31 320 P **P 22 29 53.4 -0.2**
comp=Z,12nm,0.9s,baz=168,slow=5.5,SNR=28
KIV Kislovodsk 60.54 320 *e*P **P 22 29 55.3 -0.1**
comp=Z,22nm,0.8s
KIV LR LR
comp=Z,1µm,19.0s
KIV Kislovodsk 60.54 320 *i* P **P 22 29 54.2 -1.1**
SNR=11
KIV Kislovodsk 60.54 320 *e*P **P 22 29 55.1 -0.3**
KIV *e* 22 32 08.9
KIV *e*S **S 22 38 10.6 +0.4**
KIV pmax pmax
comp=Z,29nm,1.0s
KIV MLR MLR
comp=Z,680nm,16.0s
YSS Yuzh-Sakhalins 60.69 36 *e*P **P 22 29 56.9 +0.8**
comp=Z,80nm,0.9s
YSS LR LR
comp=Z,3µm,19.0s
YSS Yuzh-Sakhalins 60.69 36 *e*P **P 22 29 56.5 +0.4**
YSS pmax pmax
comp=Z,107nm,1.0s
RMQ Roma 60.76 123 P **P 22 29 57.8 +0.8**
baz=61,SNR=10
GOF Gofitskoye 60.82 321⇑ *e*P **P 22 29 56.3 -0.8**
GOF pmax pmax
comp=Z,25nm,1.0s
YUK Yuzh-Kuril'sk 61.24 40 *c i*P **P 22 29 59.6 -0.3**
YUK *e* 22 32 13.7
YUK *e*PPP PPP 22 33 38.6
YUK *e*S **S 22 38 17.5 -1.3**
YUK *e*SS **SS 22 42 20.0 +0.7**
YUK pmax pmax
comp=Z,129nm,1.1s
YUK pmax pmax
comp=E,63nm,0.9s
YUK pmax pmax
comp=N,45nm,0.5s
YUK pmax pmax
comp=Z,192nm,1.8s
YUK MLR MLR
comp=Z,3µm,17.0s
YUK MLR MLR
comp=N,2µm,15.0s
YUK MLR MLR
comp=E,350nm,16.0s
MMAI Mount Meron Ar 61.94 306 P **P 22 30 07.0 +2.0**
comp=E,14nm,0.9s,baz=106,slow=9.2,SNR=19
MMAI LR LR 22 58 33.7
comp=E,3µm,19.5s,baz=115,slow=38
SOC Sochi 62.33 318 *e*P **P 22 30 06.3 -1.0**
SOC *e* 22 32 21.4
SOC *e*S **S 22 38 30.5 -2.1**
SOC pmax pmax
comp=Z,39nm,1.0s
TOO Toolangi 62.78 135 P **P 22 30 11.3 +0.8**
baz=63,SNR=5.1
NKL Nikolayevsk 62.91 30 *e*P **P 22 30 10.0 -0.9**
NKL *e* 22 32 26.0
NKL *e* 22 38 37.0
NKL pmax pmax
comp=E,13nm,1.0s
NKL pmax pmax
comp=Z,43nm,1.0s
NKL pmax pmax
comp=Z,1µm,6.0s
KUR Kuril'sk 63.05 40 *e*P **P 22 30 12.8 +0.7**
KUR S S 22 38 51.5 +10
KUR pmax pmax
comp=Z,1µm,5.6s
KUR MLR MLR
comp=Z,2µm,16.0s
KUR MLR MLR
comp=N,1µm,14.0s
MBAR Mbarara 63.11 268 PFAKE 22 30 30.0 +17
MBAR LR LR
comp=Z,466nm,22.0s
YNG Young 63.45 131 P **P 22 30 15.3 +0.4**
baz=64,SNR=5.3
CSS Mathiatis 64.11 307 *e*P **P 22 30 19.3 -0.1**
comp=Z,10nm,1.2s
CSS LR LR
comp=Z,1µm,20.0s
ANN Anapa 64.32 319 *e*P **P 22 30 17.2 -3.2**
ANN *e**PP **pP 22 30 26.2 -1.2**
ANN *e* 22 32 40.6
ANN *e*S **S 22 38 53.4 -4.0**
ANN pmax pmax
comp=Z,66nm,1.3s
CAN Canberra 64.32 132 P **P 22 30 20.3 -0.5**
comp=Z,3.4nm,0.6s
CAN LR LR
comp=Z,6µm,20.0s
CAN Canberra 64.32 132 P **P 22 30 20.3 -0.5**
CAN pmax pmax
comp=Z,3.0nm,0.6s
CAN MLR MLR
comp=Z,6µm,20.0s
YAK Yakutsk 64.50 18 *e*P **P 22 30 21.0 -0.3**
comp=Z,128nm,1.3s
YAK LR LR
comp=Z,6µm,20.0s
YAK Yakutsk 64.50 18 *c i*P **P 22 30 20.4 -0.9**
YAK *e*PPP PPP 22 34 13.7
YAK *e*S **S 22 38 58.0 -1.0**
YAK *i* *SS **sS 22 39 11.7 +1.3**
YAK *i* 22 40 12.0
YAK *i* SS **SS 22 43 00.3 -9.2**
YAK *i* SSS SSS 22 45 51.4
YAK pmax pmax
comp=Z,52nm,0.9s
YAK pmax pmax
comp=E,13nm,0.9s
YAK pmax pmax
comp=N,13nm,1.0s
YAK pmax pmax
comp=Z,96nm,2.5s
YAK pmax pmax
comp=N,39nm,2.2s
YAK pmax pmax
comp=E,64nm,2.4s
YAK smax smax
comp=N,588nm,7.6s
YAK smax smax
comp=E,456nm,7.1s
YAK MLR MLR
comp=Z,6µm,11.0s
YAK MLR MLR
comp=N,2µm,10.0s
YAK MLR MLR
comp=E,4µm,12.0s
ARMA Armidale 64.50 126 P **P 22 30 23.4 +1.3**
baz=65,SNR=6.6
ARMA Armidale 64.50 126 *e*P **P 22 30 20.2 -1.9**
comp=E,66nm,1.6s
VRH Novokhopyorsk 64.54 327 *e*P **P 22 30 20.0 -1.8**
VRH pmax pmax
comp=Z,20nm,0.9s
VRH MLR MLR
comp=Z,2µm,30.0s
BRTR Keskin Array B 65.22 313 P **P 22 30 26.6 -0.1**
comp=Z,9.5nm,0.9s,baz=129,slow=6.5,SNR=53
BR131 Keskin Array S 65.22 313 *e*P **P 22 30 26.5 -0.1**
ILGA Ilgaz 65.57 314 *e*P **P 22 30 29.7 +0.7**
comp=Z,28nm,0.8s
ANTO Ankara 65.88 312⇑ *i*P **P 22 30 30.6 -0.3**
ANTO Ankara 65.88 312 *e*P **P 22 30 31.2 +0.3**
comp=Z,24nm,0.9s
ANTO LR LR
comp=Z,1µm,20.0s
ANTO Ankara 65.88 312 *e*P **P 22 30 31.2 +0.3**
ANTO pmax pmax
comp=Z,24nm,0.9s
ANTO MLR MLR
comp=Z,1µm,20.0s
BR231 Keskin MP Arra 65.89 312 *e*P **P 22 30 31.9 +0.9**
VSR Storozhevoye 65.96 326 *e*P **P 22 30 28.8 -2.2**
VSR pmax pmax
comp=Z,10.0nm,1.0s
VSR MLR MLR
comp=Z,840nm,18.0s
TAU Tasmania Unive 66.56 140 PFAKE 22 30 50.0 +15
TAU LR LR
comp=Z,4µm,19.0s
SIM Simferopol' 66.57 318 *c e*P **P 22 30 34.6 -0.4**
SIM 22 30 59.0
SIM *e*S **S 22 39 26.0 +1.0**
SIM pmax pmax
comp=Z,39nm,0.8s
LPSR Galich'ya Gora 66.73 327 *e*P **P 22 30 34.7 -1.2**
LPSR pmax pmax
comp=Z,20nm,1.0s
ISP Isparta 67.03 310 PFAKE 22 30 50.0 +12
ISP LR LR
comp=Z,2µm,22.0s
ISP Isparta 67.03 310 *c i*P **P 22 30 37.9 -0.4**
ISP pmax pmax
comp=Z,24nm,1.0s
HNR Honiara 67.13 102 P **P 22 30 37.5 -1.6**
comp=Z,31nm,0.3s,baz=160,slow=5.0,SNR=6.3
HNR Honiara 67.13 102 *e*P **P 22 30 38.8 -0.3**
comp=Z,77nm,0.8s
HNR LR LR
comp=Z,1µm,22.0s
HNR Honiara 67.13 102 *e*P **P 22 30 38.8 -0.3**
HNR pmax pmax
comp=Z,77nm,0.8s
HNR MLR MLR
comp=Z,1µm,22.0s
LSZ Lusaka 67.43 252 P **P 22 30 41.3 +0.1**
comp=Z,3.9nm,0.8s,baz=80,slow=5.7,SNR=5.6
LSZ Lusaka 67.43 252 *e*P **P 22 30 42.1 +0.9**
comp=Z,47nm,1.6s
LSZ LR LR
comp=Z,10µm,19.0s
LSZ Lusaka 67.43 252 *e*P **P 22 30 42.1 +0.9**
LSZ pmax pmax
comp=Z,47nm,1.6s
LSZ MLR MLR
comp=Z,10µm,19.0s
MOS Moscow 68.85 330 *e*P **P 22 30 45.7 -3.5**
MOS *e* 22 31 09.8
MOS *e* 22 33 16.8
MOS pmax pmax
comp=Z,36nm,1.2s
MOS MLR MLR
comp=Z,2µm,20.0s
OBN Obninsk 69.11 329 *e*P **P 22 30 49.7 -1.1**
comp=Z,41nm,1.2s
OBN LR LR
comp=Z,3µm,21.0s
OBN Obninsk 69.11 329 *c i*P **P 22 30 49.4 -1.4**
OBN *i* 22 30 55.4
OBN *i* S **S 22 39 55.6 +0.6**
OBN *i* 22 40 18.2
OBN *i* SS **SS 22 44 19.5 -1.8**
OBN pmax pmax
comp=Z,77nm,2.5s
OBN MLR MLR
comp=Z,1µm,20.0s
KARP Karpathos 69.16 307 *e*P **P 22 30 52.9 +1.2**
comp=Z,41nm,1.0s
KARP Karpathos 69.16 307 P **P 22 30 51.2 -0.4**
SKR Severo-Kuril's 70.25 37 *e*P **P 22 30 54.1 -3.8**
SKR pmax pmax
comp=Z,1µm,4.2s
SKR pmax pmax
comp=Z,155nm,0.9s
SKR pmax pmax
comp=Z,400nm,5.6s
SKR MLR MLR
comp=Z,2µm,20.0s
SKR MLR MLR
comp=Z,2µm,17.0s
TIRR Tirgusor 70.29 316⇑ *i*P **P 22 30 58.3 -0.1**
TIRR Tirgusor 70.29 316 *e*P **P 22 30 58.2 -0.1**
comp=Z,26nm,1.0s
TIRR Tirgusor 70.29 316 *e*P **P 22 30 58.2 -0.1**
TIRR pmax pmax
comp=Z,26nm,1.0s
NPS Neapolis 70.35 306 P **P 22 31 01.3 +2.3**
CASY Casey 70.39 173 PFAKE 22 31 10.0 +12
CASY LR LR
comp=Z,385nm,20.0s
LAST Lasithi 70.44 306 P **P 22 31 00.4 +0.8**
KLMR Klimovskoe 70.46 335 *e*P **P 22 30 57.8 -1.3**
KLMR AMP 22 30 59.3
comp=Z,26nm,1.2s
KLMR LQ LQ 22 55 55.9
KLMR LQ LQ 22 55 55.9
KLMR LR LR 23 01 15.8
KLMR Klimovskoe 70.46 335 *e*P **P 22 30 57.7 -1.3**
KLMR pmax pmax
comp=Z,26nm,1.2s
CFR Carcaliu 70.67 317⇑ *i*P **P 22 31 00.2 -0.4**
SANT Santorini 70.67 307 PFAKE 22 31 10.0 +9.1
SANT LR LR
comp=Z,1µm,20.0s
PRD Provadia 70.68 315 P **P 22 31 00.6 -0.1**
KIS Kishinev 70.72 319⇑ *i*P **P 22 30 58.0 -2.9**
comp=Z,500nm,6.0s
KIS Kishinev 70.72 319 *i* PcP **PcP 22 31 20.0 -1.7**
KIS Kishinev 70.72 319 *e*PP PP 22 33 40.0 +2.3
KIS Kishinev 70.72 319 *e*PPP PPP 22 35 26.0
KIS Kishinev 70.72 319 *i* PS 22 40 24.0
KIS *i* ScS **SKiKP 22 40 38.0 -5.1**
KIS *e*SS SS 22 45 00.0 +14
KIS Kishinev 70.72 319 *c i*P **P 22 30 58.0 -2.9**
KIS *i* 22 31 20.0
KIS *e* 22 33 40.0
KIS *e*PPP PPP 22 35 26.0

KIS eS S 22 40 08.0 -6.2
KIS i 22 40 38.0
KIS pmax pmax
comp=Z,500nm,6.0s
IDI Anoya 70.94 306 P P **22 31 03.0 +0.4**
comp=Z,33nm,0.8s,baz=87,slow=8.5,SNR=22
IDI LR LR 23 05 29.7
comp=Z,916nm,21.2s,baz=98,slow=39
IDI Anoya 70.94 306⇑iP P **22 31 03.3 +0.7**
IDI Anoya 70.94 306 eP P **22 31 02.6 0.0**
comp=Z,30nm,0.7s
MA2 Magadan 71.04 27 eP P **22 31 02.3 -0.3**
comp=Z,22nm,0.9s
MA2 LR LR
comp=Z,4μm,19.0s
MA2 Magadan 71.04 27 eP P **22 31 02.3 -0.3**
MA2 pmax pmax
comp=Z,22nm,0.9s
MA2 MLR MLR
comp=Z,4μm,19.0s
JMB Yambol 71.08 314 P P **22 31 03.6 +0.4**
SORM Soroca 71.35 320‖iP P **22 31 04.2 -0.5**
GVD Gavdhos 71.51 306 P P **22 31 04.6 -1.4**
VAM Vamos 71.51 306 P P **22 31 07.0 +1.0**
RDO Rodhopi 71.56 312 P P **22 31 05.1 -1.0**
AKASG Malin Array Be 71.57 323 P P **22 31 04.7 -1.3**
comp=Z,7.3nm,0.9s,baz=88,slow=4.9,SNR=40
AKBB Malin Array Si 71.57 323 eP P **22 31 05.2 -0.8**
AKBB Malin Array Si 71.57 323 eP P **22 31 05.2 -0.8**
KIEV Kiev 71.58 323 eP P **22 31 05.2 -0.9**
comp=Z,19nm,1.0s
KIEV LR LR
comp=Z,1μm,20.0s
KIEV Kiev 71.58 323 i P P **22 31 04.7 -1.3**
SNR=8.0
KIEV Kiev 71.58 323c iP P **22 31 04.7 -1.3**
KIEV pmax pmax
comp=Z,17nm,0.9s
AK11 Malin Array Si 71.60 323 eP P **22 31 05.2 -0.9**
IMMV Iera Moni Meta 71.70 306 P P **22 31 06.3 -0.8**
LBTB Lobatse 71.74 242 P P **22 31 08.0 +0.3**
comp=Z,15nm,0.8s,baz=91,slow=6.6,SNR=18
LBTB Lobatse 71.74 242 eP P **22 31 07.1 -0.6**
comp=Z,16nm,0.8s
LBTB Lobatse 71.74 242 eP P **22 31 07.1 -0.6**
LBTB pmax pmax
comp=Z,16nm,0.8s
KDZ Kurdzhali 71.75 313 P P **22 31 07.1 -0.2**
VRI Vrincioaia 71.81 317⇑iP P **22 31 08.1 +0.5**
TIXI Tiksi 71.83 11 eP P **22 31 05.0 -2.1**
comp=Z,90nm,1.2s
TIXI LR LR
comp=Z,4μm,22.0s
TIXI Tiksi 71.83 11c iP P **22 31 06.0 -1.1**
TIXI pmax pmax
comp=Z,72nm,1.0s
PLOR Plostina 71.86 317⇑iP P **22 31 08.7 +0.8**
SGRR Singureni 71.92 316⇑iP P **22 31 08.4 +0.1**
PETK Petropavlovsk- 71.99 35 P P **22 31 08.2 -0.4**
comp=Z,5.0nm,1.0s,baz=180,slow=1.5,SNR=4.0
TESR Tescani 72.02 318⇑iP P **22 31 08.6 -0.2**
SECR 72.05 316⇑iP P **22 31 09.8 +0.8**
ZIMR 72.22 315⇑iP P **22 31 10.9 +0.8**
MLR Muntele Rosu 72.25 317 P P **22 31 10.6 +0.3**
comp=Z,5.9nm,0.9s,baz=64,slow=2.9,SNR=41
MLR Muntele Rosu 72.25 317⇑iP P **22 31 10.6 +0.3**
MLR Muntele Rosu 72.25 317 eP P **22 31 10.6 +0.3**
comp=Z,63nm,1.2s
MLR Muntele Rosu 72.25 317 eP P **22 31 10.6 +0.3**
MLR pmax pmax
comp=Z,63nm,1.2s
RZN Rozhen 72.27 313 P P **22 31 10.3 -0.4**
KAVA Kavala 72.28 312 P P **22 31 10.6 +0.1**
PET Petropavlovsk 72.51 35 eP P **22 31 11.1 -0.4**
comp=Z,45nm,1.2s
PET LR LR
comp=Z,6μm,19.0s
PET Petropavlovsk 72.51 35 eP P **22 31 10.8 -0.7**
PET eS S **22 40 31.7 -2.9**
PET pmax pmax
comp=Z,35nm,1.2s
PET pmax pmax
comp=Z,700nm,8.6s
PET pmax pmax
comp=Z,600nm,15.5s
PRAR RASCA 72.52 319⇑iP P **22 31 12.3 +0.5**
HUMR Humele 72.69 316⇑iP P **22 31 12.7 -0.1**
PAIG Paliouri 72.70 311 P P **22 31 12.2 -0.8**
DOPR Dopca 72.74 317⇑iP P **22 31 13.1 0.0**
TMCR Tamitsa 72.74 338 eP P **22 31 12.1 -0.6**
TMCR pmax pmax
comp=Z,34nm,1.1s
WAKE Wake Island 72.79 71 PFAKE 22 31 30.0 +16
WAKE LR LR
comp=Z,3μm,19.0s
NVR Nevrokopi 72.83 312 P P **22 31 12.9 -0.9**
BOSA Boshof 72.84 239 P P **22 31 14.2 0.0**
comp=Z,7.3nm,0.8s,baz=84,slow=6.7,SNR=12
BOSA Boshof 72.84 239 eP P **22 31 14.4 +0.1**
comp=Z,15nm,1.1s
BOSA Boshof 72.84 239 eP P **22 31 14.4 +0.1**
BOSA pmax pmax
comp=Z,15nm,1.1s
VOIR 72.85 317‖iP P **22 31 14.4 +0.5**
PGB Panagyurishte 72.85 314 P P **22 31 13.5 -0.4**
PLG Polygyros 72.96 311 P P **22 31 14.1 -0.5**
MMB Musomiste 72.98 312 P P **22 31 13.7 -1.0**
SRS Serrai 72.99 312 P P **22 31 14.0 -0.7**
SOH Sokhos 73.11 312 P P **22 31 14.7 -0.8**
ARR Arges 73.11 316⇑iP P **22 31 15.2 -0.2**
BURAR Bucovina Array 73.25 319⇑iP P **22 31 16.9 +0.7**
BUR04 Bucovina Ar. S 73.25 319 eP P **22 31 15.9 -0.3**
HORT Hortiatis 73.26 311 P P **22 31 15.5 -0.9**
BUR08 Bucovina Ar. S 73.26 319 eP P **22 31 17.1 +0.8**
SEY Seymchan 73.28 24 P P **22 31 15.7 -0.3**
comp=Z,13nm,0.9s,baz=210,slow=14,SNR=31
SEY Seymchan 73.28 24⇑iP P **22 31 15.2 -0.8**
KKB Krupnik 73.50 313 P P **22 31 17.2 -0.6**
KNT Kendrikon 73.51 312 P P **22 31 16.7 -1.1**
MICGM Minsk 73.53 326 e P **22 31 17.0 -0.6**
MNK Minsk 73.53 326 eP P **22 31 17.0 -0.6**
VTS Vitosha 73.55 313⇑iP P **22 31 18.0 -0.1**
VTS Vitosha 73.55 313 eP P **22 31 17.1 -1.0**
comp=Z,18nm,0.9s
VTS Vitosha 73.55 313 P P **22 31 17.2 -1.0**
VTS Vitosha 73.55 313 P P **22 31 18.1 -0.1**
VTS Vitosha 73.55 313 eP P **22 31 17.1 -1.0**
VTS pmax pmax
comp=Z,18nm,0.9s
KLV Kalavryta, Ach 73.56 309 P P **22 31 14.6 -3.6**
AGG Agios Georgios 73.58 310 eP P **22 31 18.1 -0.2**
AGG Agios Georgios 73.58 310 P P **22 31 16.1 -2.2**
AGG Agios Georgios 73.58 310 eP P **22 31 18.1 -0.2**
LIT Litokhoron 73.63 311 P P **22 31 17.0 -1.6**
ARCR ARCALIA 73.69 318⇑iP P **22 31 19.3 +0.6**
ANX Ano Chora 73.82 309 P P **22 31 19.4 -0.4**
GRG Griva 73.85 312 P P **22 31 17.8 -2.0**
DRO Drossia 73.89 308 P P **22 31 19.2 -0.9**
MAW Mawson 73.94 192 P P **22 31 21.1 +1.5**
comp=Z,8.7nm,0.9s,baz=300,slow=7.0,SNR=4.6
CJR Cluj-Napoca 74.11 318‖iP P **22 31 21.2 -0.1**
NACGM Naroch 74.27 326 eP P **22 31 20.0 -1.9**
NACGM eP P **22 31 20.0 -1.9**
NACGM ePcP **PcP** **22 31 40.0 +3.3**
NACGM ePsP 22 37 30.0
NACGM eS S **22 40 54.0 -0.5**
NACGM eSS SS 22 45 28.0 -12
NACGM eSSS SSS 22 48 34.0
PDO Prodromos 74.40 309 P P **22 31 22.7 -0.3**
IDID Didziasalis 74.41 327 eP P **22 31 22.8 0.0**
IDID IAmb IAmb 22 31 25.1
comp=Z,15nm,0.9s
LVV L'vov 74.53 321 eP P **22 31 23.8 +0.2**
IIGN Ignalina 74.70 327 eP P **22 31 24.4 -0.1**
IIGN IAmb IAmb 22 31 26.9
comp=Z,15nm,1.0s
DRGR 74.73 318⇑iP P **22 31 25.3 +0.4**
IZAR Zarasai 74.81 327 eP P **22 31 25.0 0.0**
IZAR IAmb IAmb 22 31 25.4
comp=Z,7.1nm,0.7s
LKD2 Lefkada island 74.83 309 P P **22 31 24.9 -0.7**
TRPA Tarpa 75.12 319⇑iP P **22 31 27.3 +0.3**
TRPA Tarpa 75.12 319⇑eP P **22 31 27.0 0.0**
DZM Mont Dzumac 75.24 114 eLR LR 22 54 39.5
comp=Z,4μm,22.1s
BZS Buzias 75.24 316⇑iP P **22 31 27.6 -0.2**
KWP Kalwaria Pacla 75.33 321 eP P **22 31 28.4 +0.2**
KWP Kalwaria Pacla 75.33 321 eP P **22 31 27.9 -0.2**
comp=Z,1μm,2.0s
KWP Kalwaria Pacla 75.33 321⇑eP P **22 31 28.4 +0.2**
SIRR Siria 75.34 317⇑iP P **22 31 29.2 +0.9**
VSU Vasula 75.38 330c iP P **22 31 27.1 -1.1**
VSU pmax pmax
comp=Z,100nm,1.1s
UZH Uzhgorod 75.38 319 eP P **22 31 27.7 -0.8**
UZH i 22 31 36.4
UZH e 22 34 16.2
UZH eS S **22 41 04.2 -3.0**
LVZ Lovozero 75.77 340 eP P **22 31 30.0 -0.4**
LVZ LR LR
comp=Z,3μm,19.0s
LVZ Lovozero 75.77 340⇑eP P **22 31 30.5 +0.1**
LVZ pmax pmax
comp=Z,13nm,0.9s
TIR Tirane 75.80 312 PFAKE 22 31 40.0 +9.0
TIR LR LR
comp=Z,2μm,22.0s
CRVS Cervenica-Dubn 75.97 320 eP P **22 31 32.4 +0.5**
CRVS Cervenica-Dubn 75.97 320 eP P **22 31 32.4 +0.5**
CRVS pmax pmax
comp=Z,110nm,2.0s
APA Apatity 76.04 340⇑iP P **22 31 29.2 -2.7**
APA pmax pmax
comp=Z,12nm,8.0s
APA MLR MLR
comp=Z,3μm,20.0s
SUW Suwalki 76.05 325 eP P **22 31 31.2 -1.0**
SUW Suwalki 76.05 325 eP P **22 31 30.7 -1.4**
SUW Suwalki 76.05 325⇑eP P **22 31 31.2 -1.0**
DIVS Divibare 76.12 315 eP P **22 31 32.7 -0.2**
STHS Stebnicka Huta 76.22 320 eP P **22 31 33.9 +0.6**
STHS Stebnicka Huta 76.22 320 eP P **22 31 33.9 +0.6**
STHS pmax pmax
comp=Z,13nm,0.9s
PDG Podgorica 76.40 313‖iP P **22 31 34.3 -0.1**
FIA1 FINESS Array S 76.63 333 eP P **22 31 35.0 -0.4**
FINES FINESS Array B 76.63 333 P P **22 31 34.9 -0.4**
comp=Z,16nm,0.9s,baz=103,slow=5.3,SNR=31
PSZ Piszkesteto 76.82 318⇑iP P **22 31 37.5 +0.7**
PSZ Piszkesteto 76.82 318⇑eP P **22 31 36.7 -0.1**
PSZ Piszkesteto 76.82 318 eP P **22 31 37.2 +0.4**
PSZ LR LR
comp=Z,1μm,20.0s
PSZ Piszkesteto 76.82 318 eP P **22 31 37.2 +0.4**
PSZ MLR MLR
comp=Z,1μm,20.0s
NIE Niedzica 76.82 320 eP P **22 31 37.2 +0.5**
NIE Niedzica 76.82 320⇑eP P **22 31 37.2 +0.5**
BEL Belsk 76.98 322 eP P **22 31 38.3 +0.8**
BEL Belsk 76.98 322 eP P **22 31 38.3 +0.8**
OJC Ojcow 77.29 321 eP P **22 31 38.9 -0.4**
OJC Ojcow 77.29 321 eP P **22 31 39.6 +0.3**
OJC Ojcow 77.29 321⇑eP P **22 31 38.9 -0.4**
LANS Liptovska Anna 77.31 320 eP P **22 31 40.0 +0.5**
LANS Liptovska Anna 77.31 320 eP P **22 31 40.0 +0.5**
BUD Budapest 77.33 318⇑eP P **22 31 39.4 -0.2**
MORH M¨‡r igy. Hung 77.39 317⇑eP P **22 31 39.8 -0.1**
SUR Sutherland 77.42 236 P P **22 31 39.3 -1.3**
comp=Z,0.8nm,0.8s,baz=191,slow=5.2,SNR=2.9
SUR Sutherland 77.42 236 P P **22 31 39.3 -1.3**
SUR LR LR
comp=Z,8μm,19.0s
VYHS Vyhne 77.61 319 eP P **22 31 41.4 +0.2**
VYHS Vyhne 77.61 319 eP P **22 31 41.4 +0.2**
VYHS pmax pmax
comp=Z,20nm,1.4s
CSKK Cs‡kako 77.82 318 eP P **22 31 42.9 +0.6**
SRO Srobarova 77.85 318 eP P **22 31 42.8 +0.3**
SRO Srobarova 77.85 318 eP P **22 31 42.8 +0.3**
KLNR Kaliningrad 77.88 325deP P **22 31 42.6 +0.2**
KLNR pmax pmax
comp=Z,82nm,0.9s
TIP Timpagrande 77.89 309 PFAKE 22 31 50.0 +7.0
TIP LR LR
comp=Z,1μm,22.0s
TSUM Tsumeb 78.05 250 PFAKE 22 32 00.0 +16
TSUM LR LR
comp=Z,7μm,19.0s
BLY Banja Luka 78.21 315⇑iP P **22 31 44.8 +0.3**
BLY Banja Luka 78.21 315 eP P **22 31 43.8 -0.8**
OKC Ostrava-Krasne 78.27 320 eP P **22 31 44.6 -0.2**
OKC eS S **22 41 34.9 -3.8**
OKC AMS AMS 23 14 40.0
comp=Z,900nm,19.5s
OKC Ostrava-Krasne 78.27 320 eP P **22 31 44.6 -0.2**
OKC e 22 41 34.9
OKC MLR MLR
comp=Z,900nm,19.5s
CEL Celeste 78.48 308 PFAKE 22 32 00.0 +14
CEL LR LR
comp=Z,952nm,22.0s
MODS Modra-Piesok 78.62 319 eP P **22 31 46.2 -0.6**
MODS Modra-Piesok 78.62 319 eP P **22 31 46.2 -0.6**
MODS pmax pmax
comp=Z,48nm,1.1s
MORC Moravsky Berou 78.65 320‖iP P **22 31 47.4 +0.5**
MORC Moravsky Berou 78.65 320 eP P **22 31 47.2 +0.2**
MORC Moravsky Berou 78.65 320 eP P **22 31 47.2 +0.2**
CUC Castrocucco 78.70 310 PFAKE 22 32 00.0 +13
CUC LR LR
comp=Z,794nm,21.0s
BEHE Becsehely 78.71 317⇑eP P **22 31 47.7 +0.4**
ZST Bratislava 78.71 318 eP P **22 31 46.6 -0.6**
ZST Bratislava 78.71 318 eP P **22 31 46.6 -0.6**
ZST pmax pmax
comp=Z,43nm,0.8s
SOP Sopron 79.01 318⇑eP P **22 31 49.1 +0.2**
KEV Kevo 79.07 341 PFAKE 22 32 00.0 +11
KEV LR LR
comp=Z,3μm,19.0s
TARA Tarawa 79.10 89 PFAKE 22 32 00.0 +10
TARA LR LR
comp=Z,138nm,19.0s
KRLC Kraliky 79.18 320 eP P **22 31 50.8 +1.0**
KRLC Kraliky 79.18 320 eP P **22 31 50.8 +1.0**
VRAC Vranov 79.20 319⇑iP P **22 31 50.4 +0.5**
GKP Gorka Klasztor 79.37 324 eP P **22 31 49.9 -0.8**
GKP Gorka Klasztor 79.37 324 eP P **22 31 49.9 -0.8**
WDD Wied Dalam 79.39 306 PFAKE 22 32 00.0 +8.8
WDD LR LR
comp=Z,1μm,20.0s
ARCES ARCESS Array B 79.49 341 P P **22 31 50.8 -0.2**
comp=Z,12nm,0.8s,baz=90,slow=4.9,SNR=23
ARCES ARCESS Array B 79.49 341 eP P **22 31 50.7 -0.4**
ARCES ARCESS Array B 79.49 341 eP P **22 31 50.7 -0.4**
ARE0 ARCESS Array S 79.49 341 eP P **22 31 51.4 +0.3**
CONA Conrad Observa 79.50 318 i P P **22 31 51.5 -0.3**
comp=Z,11nm,1.1s
DPC Dobruska-Polom 79.51 321 eP P **22 31 52.1 +0.5**
DPC epP **PcP** **22 31 59.6 0.0**
DPC eS S **22 41 51.1 -1.0**
DPC AMS AMS 23 21 20.0
comp=Z,2μm,19.2s
DPC Dobruska-Polom 79.51 321 eP P **22 31 52.1 +0.5**
DPC e 22 31 59.6
DPC e 22 41 51.1
DPC MLR MLR
comp=Z,2μm,19.2s
KSP Ksiaz 79.59 321 eP P **22 31 52.5 +0.5**
KSP Ksiaz 79.59 321⇑eP P **22 31 52.5 +0.5**
BOJS Bojanci 79.65 316 i P P **22 31 52.8 +0.4**
ARSA Arzberg 79.65 317 i P P **22 31 52.9 +0.5**
comp=Z,38nm,1.1s,SNR=17
UPC Upice 79.73 321 eP P **22 31 53.7 +0.9**
UPC ex x 22 41 08.1
UPC eS S **22 41 49.6 -4.7**
UPC AMS AMS 23 21 20.0
comp=Z,2μm,16.6s
UPC Upice 79.73 321 eP P **22 31 53.7 +0.9**
UPC e 22 41 49.6
UPC MLR MLR
comp=Z,2μm,16.6s
PERS Pernice 79.86 317 i P P **22 31 54.2 +0.6**
TREC Trest 79.91 319 eP P **22 31 54.0 +0.2**
TREC epP **pP** **22 31 59.9 -1.0**
TREC ex x 22 41 14.3
TREC AMS AMS 23 23 30.0
comp=Z,1μm,18.8s
TREC Trest 79.91 319 eP P **22 31 54.0 +0.2**
TREC e 22 31 59.9
TREC MLR MLR
comp=Z,1μm,18.8s
SOKA Soboth 79.92 317 i P P **22 31 54.3 +0.3**
comp=Z,51nm,1.0s,SNR=21
VISS Visnje 79.97 316 i P P **22 31 54.5 +0.4**
OBKA Obir 80.24 316 i P P **22 31 56.2 +0.4**
comp=Z,26nm,1.4s,SNR=7.9
GOPC GO Pecny, Ondr 80.44 320 eP P **22 31 57.2 +0.6**
GOPC ex x 22 41 18.6
GOPC eS S **22 42 01.6 -0.2**
GOPC AMS AMS 23 21 20.0
comp=Z,1μm,17.9s
GOPC GO Pecny, Ondr 80.44 320 eP P **22 31 57.2 +0.6**
GOPC e 22 42 01.6
GOPC MLR MLR
comp=Z,1μm,17.9s
JAVS Javornik 80.52 316 i P P **22 31 57.5 +0.3**
BILL Bilibino 80.52 21‖iP P **22 31 56.4 -0.2**
BILL e 22 32 01.7
BILL e 22 35 01.9
BILL i S S **22 42 10.8 +8.9**
BILL pmax pmax
comp=Z,28nm,1.4s
BILL MLR MLR
comp=Z,6μm,18.0s
CLTB Caltabellotta 80.55 307 PFAKE 22 32 10.0 +12
CLTB LR LR
comp=Z,603nm,19.0s
MOA Molln 80.56 318 i P P **22 31 56.8 -0.5**
comp=Z,12nm,1.1s
PRU Pruhonice 80.60 320 eP P **22 31 58.1 +0.6**
PRU epP **PcP** **22 32 04.9 +0.6**
PRU ex x 22 41 10.8
PRU eS S **22 42 05.2 +1.7**
PRU AMS AMS 23 21 30.0
comp=Z,1μm,16.1s
PRU Pruhonice 80.60 320 eP P **22 31 58.1 +0.6**
PRU e 22 32 04.9
PRU e 22 42 05.2
PRU MLR MLR
comp=Z,1μm,16.1s
PVCC Panska Ves 80.64 321 eP P **22 31 58.5 +0.8**
PVCC epP **sP** **22 32 06.5 -0.9**
PVCC ex x 22 41 21.9
PVCC AMS AMS 23 22 00.0
comp=Z,1μm,16.6s
PVCC Panska Ves 80.64 321 eP P **22 31 58.5 +0.8**
PVCC e 22 32 06.5
PVCC MLR MLR
comp=Z,1μm,16.6s
PRA Prague 80.68 320 eP P **22 31 58.8 +0.9**
PRA ex x 22 41 22.7
PRA eS S **22 42 07.3 +3.0**
PRA AMS AMS 23 19 10.0
comp=Z,900nm,16.5s
PRA Prague 80.68 320 eP P **22 31 58.8 +0.9**
PRA e 22 42 07.3
PRA MLR MLR
comp=Z,900nm,16.5s
AQU L'Aquila 80.71 312 eP P **22 31 58.7 +0.4**
AQU LR LR
comp=Z,1μm,21.0s
AQU L'Aquila 80.71 312 eP P **22 31 58.7 +0.4**
AQU MLR MLR
comp=Z,1μm,21.0s
MYKA Terra Mystica 80.87 317 i P P **22 31 58.8 -0.3**
comp=Z,19nm,1.1s
SYO Syowa Base 80.89 197‖eP P **22 32 00.1 +1.6**
SYO Syowa Base 80.89 197‖esP sP 22 32 11.0 +2.8
BSD Bornholm Skovb 80.98 325 i P P **22 32 00.1 +0.8**
BSD Bornholm Skovb 80.98 325 i P P **22 32 00.1 +0.8**
GEA0 GERESS Array S 81.03 319 eP P **22 31 59.3 -0.6**
GEC2 GERESS Array S 81.03 319 eP P **22 32 00.2 +0.2**
GEC2 GERESS Array S 81.03 319 eP P **22 32 00.2 +0.2**
GERES GERESS Array B 81.03 319 P P **22 32 00.2 +0.2**
comp=Z,18nm,0.8s,baz=98,slow=3.6,SNR=94
BRG Berggiesshubel 81.08 321 eP P **22 32 00.3 +0.3**
comp=Z,27nm,1.3s
BRG i 22 32 07.5
comp=Z,81nm,1.9s
BRG SKS S **22 42 06.0 -2.4**
BRG S **ScS** **22 42 27.0 +0.3**
comp=N,1μm,16.2s
comp=E,1μm,21.6s
comp=Z,1μm,15.8s
BRG Berggiesshubel 81.08 321 eP P **22 32 00.3 +0.3**
BRG i 22 32 07.5
BRG 22 42 06.0
BRG pmax pmax
comp=Z,27nm,1.3s
BRG pmax pmax
comp=Z,81nm,1.9s
BRG MLR MLR
comp=N,1μm,16.2s
BRG MLR MLR
comp=E,1μm,21.6s
BRG MLR MLR
comp=Z,1μm,15.8s
BRG Berggiesshubel 81.08 321 SS SS 22 47 16.0 -7.2
KBA Koelnbreinsper 81.12 317 i P P **22 31 60.0 -0.6**
comp=Z,13nm,1.2s
KHC Kasperske Hory 81.14 319 eP P **22 32 00.7 +0.3**
KHC epP **PcP** **22 32 06.7 0.0**
KHC ex x 22 32 43.0
KHC ex x 22 41 10.4
KHC eS S **22 42 09.9 +0.7**
KHC AMS AMS 23 20 40.0
comp=Z,1μm,16.3s
KHC Kasperske Hory 81.14 319 eP P **22 32 01.0 +0.5**
KHC Kasperske Hory 81.14 319 eP P **22 32 01.0 +0.5**
ABTA Abfaltersbach 81.66 317 i P P **22 32 02.8 -0.5**
comp=Z,14nm,1.0s,SNR=5.2
CLL Collm 81.71 321 eP P **22 32 03.0 -0.4**
comp=Z,14nm,1.2s
CLL ePcP **PcP** **22 32 08.0 -1.1**
CLL e 22 32 19.0
CLL ePP **PP** **22 35 06.0 -4.2**
CLL eS S **22 42 14.0 -0.9**
CLL eSS **ScS** **22 42 33.0 +1.2**
CLL eSP **SPn** **22 42 58.0 -3.2**
CLL ePPS PPS 22 43 22.0
CLL eSS SS 22 48 00.0 +27
CLL Lm MLR 23 17 00.0
comp=Z,1μm,21.0s
CLL Collm 81.71 321 eP P **22 32 02.9 -0.4**
CLL Collm 81.71 321 eP P **22 32 02.9 -0.4**
NKC Novy Kostel 81.97 320 eP P **22 32 03.3 -1.5**
NKC AMS AMS 23 23 00.0
comp=Z,2μm,16.8s
NKC Novy Kostel 81.97 320 eP P **22 32 03.3 -1.5**
NKC MLR MLR
comp=Z,2μm,16.8s
HFS Hagfors 82.26 330 P P **22 32 06.1 +0.1**
comp=Z,14nm,1.0s,baz=113,slow=6.7,SNR=13
WTTA Wattenberg 82.29 317 i P P **22 32 06.2 -0.5**
comp=Z,21nm,1.0s,SNR=6.3
WATA Walderalm 82.34 317 i P P **22 32 06.0 -0.9**
comp=Z,16nm,0.9s,SNR=8.8
COP Copenhagen 82.45 326 i P P 22 32 12.3 +5.2
COP Copenhagen 82.45 326 i P P 22 32 12.3 +5.2
MOTA Moosalm 82.66 317 i P P **22 32 07.8 -0.9**
comp=Z,21nm,0.8s,SNR=17
GRFO Grafenberg 82.72 320 eP P **22 32 09.7 +1.0**
GRFO Grafenberg 82.72 320 eP P **22 32 09.7 +1.0**
FETA Feichten 82.90 317 i P P **22 32 09.8 -0.1**
comp=Z,25nm,1.0s,SNR=9.9
RETA Reutte 82.90 317 i P P **22 32 09.6 -0.1**
comp=Z,25nm,1.0s,SNR=7.0
VLC Villacollemand 83.01 314 PFAKE 22 32 20.0 +10
VLC LR LR
comp=Z,1μm,20.0s
RPZ Rata Peaks 83.07 135 P P **22 32 10.3 -0.3**
comp=Z,18nm,0.8s,baz=213,slow=5.5,SNR=6.4
RPZ Rata Peaks 83.07 135 eP P **22 32 10.4 -0.2**
FUORN Ofenpass-Fuorn 83.20 316 eP P **22 32 12.2 +0.7**
DAVA Damuels 83.49 317 eP P **22 32 12.9 0.0**
comp=Z,29nm,1.1s,SNR=8.6
NB2 NORSAR Subarra 83.57 331 P P **22 32 12.0 -0.9**
comp=Z,18nm,1.1s,baz=97,slow=5.3
NB2 NORSAR Subarra 83.57 331 P P **22 32 12.0 -0.9**
baz=97,slow=5.3

NOA	NORSAR Array B	83.57	331	P	P	22 32 12.4	-0.5				
	comp=Z,6.9nm,0.8s,baz=94,slow=5.4,SNR=16										
KEST	Kesra	83.59	305	P	P	22 32 14.1	+0.5				
	comp=Z,20nm,0.8s,baz=326,slow=3.4,SNR=17										
KEST	Kesra	83.59	305	*e*P	P	22 32 14.6	+1.0				
VSL	Villasalto	83.62	309	PFAKE		22 32 30.0	+16				
VSL				LR	LR						
	comp=Z,811nm,21.0s										
OXZ	Oxford	83.70	134	*e*P	P	22 32 14.7	+0.9				
TUE	Stuetta	83.82	316	*e*P	P	22 32 14.9	+0.1				
TUE				LR	LR						
	comp=Z,767nm,19.0s										
THZ	Tophouse	84.06	132	*e*P	P	22 32 14.9	-0.9				
HSPB	Hornsund (broa	84.22	347	*e*P	P	22 32 17.6	+1.7				
HSPB				MLR	MLR						
	comp=N,4μm,27.4s										
KONO	Kongsberg	84.27	329	*e*P	P	22 32 17.0	+0.6				
KONO	Kongsberg	84.27	329	⇑*i*P	P	22 32 17.1	+0.7				
KONO				pmax	pmax						
	comp=Z,17nm,1.0s										
SPITS	Spitsbergen Ar	84.28	348	P	P	22 32 15.5	-0.7				
	comp=Z,6.2nm,0.7s,baz=350,slow=5.0,SNR=12										
MUD	Monsted U'grnd	84.33	326	*i* P	P	22 32 21.4	+4.7				
MUD	Monsted U'grnd	84.33	326	*i* P	P	22 32 21.4	+4.7				
BFO	Black Forest	84.56	318	*e*P	P	22 32 18.1	-0.1				
BFO				LR	LR						
	comp=Z,779nm,21.0s										
BFO	Black Forest	84.56	318	*i* P	P	22 32 18.7	+0.5				
SENIN	Lac Senin/Sane	85.24	316	*e*P	P	22 32 22.4	+0.5				
KBS	Kingsbay	85.28	349	PFAKE		22 32 30.0	+8.9				
KBS				LR	LR						
	comp=Z,3μm,21.0s										
SNZO	South Karori	85.32	132	PFAKE		22 32 30.0	+8.0				
SNZO				LR	LR						
	comp=Z,3μm,19.0s										
ECH	Echery	85.34	318	PFAKE		22 32 30.0	+7.9				
ECH				LR	LR						
	comp=Z,1μm,21.0s										
MSVF	Nonsavu	85.54	108	PFAKE		22 32 30.0	+6.3				
MSVF				LR	LR						
	comp=Z,1μm,19.0s										
BNI	Bardonecchia	85.67	315	*e*P	P	22 32 24.5	+0.5				
BNI				LR	LR						
	comp=Z,1μm,21.0s										
BNI	Bardonecchia	85.67	315	*e*P	P	22 32 24.5	+0.5				
BNI				MLR	MLR						
	comp=Z,1μm,21.0s										
FUNA	Funafuti	85.96	99	PFAKE		22 32 40.0	+14				
FUNA				LR	LR						
	comp=Z,6μm,19.0s										
WLF	Walferdange	86.01	319	⇑P	P	22 32 26.2	+0.8				
WLF	Walferdange	86.01	319	PFAKE		22 32 40.0	+15				
WLF				LR	LR						
	comp=Z,1μm,20.0s										
MEM	Membach	86.10	320	⇑P	P	22 32 25.0	-0.8				
BEBN	Eben Emael	86.31	321	⇑P	P	22 32 27.3	+0.6				
BKZ	Black Stump Fm	86.39	129	*e*P	P	22 32 26.6	-0.9				
BCLA	Clavier	86.55	320	⇑P	P	22 32 27.5	-0.5				
	comp=Z,11nm,1.7s										
URZ	Urewera	86.76	128	P	P	22 32 28.0	-1.2				
	comp=Z,12nm,0.8s,baz=303,slow=6.8,SNR=7.3										
URZ	Urewera	86.76	128	*e*P	P	22 32 28.3	-0.9				
DOU	Dourbes	87.01	320	⇑P	P	22 32 29.8	-0.5				
TAM	Tamanrasset	87.14	293	*e*P	P	22 32 33.3	+1.6				
TAM				LR	LR						
	comp=Z,2μm,22.0s										
TAM	Tamanrasset	87.14	293	*e*P	P	22 32 33.3	+1.6				
TAM				MLR	MLR						
	comp=Z,2μm,22.0s										
SSB	Saint Sauveur	87.18	315	*e*P	P	22 32 31.6	+0.4				
SSB				LR	LR						
	comp=Z,877nm,20.0s										
SSB	Saint Sauveur	87.18	315	*e*P	P	22 32 31.6	+0.4				
SSB				MLR	MLR						
	comp=Z,877nm,20.0s										
SNF	Seneffe	87.20	320	⇑P	P	22 32 32.9	+1.7				
MIDW	Midway	87.49	62	PFAKE		22 32 40.0	+7.0				
MIDW				LR	LR						
	comp=Z,3μm,19.0s										
VNDA	Vanda	88.49	168	P	P	22 32 37.2	+0.5				
	comp=Z,6.6nm,1.1s,baz=297,slow=5.0,SNR=14										
VNDA	Vanda	88.49	168	*e*P	P	22 32 37.5	+0.8				
VNDA	Vanda	88.49	168	*e*P	P	22 32 37.5	+0.8				
GAMB	Gambell	89.14	26	*e*P	P	22 32 40.1	+0.1				
SBA	Scott Base	89.59	168	*e*P	P	22 32 42.8	+0.9				
SBA				LR	LR						
	comp=Z,2μm,21.0s										
SBA	Scott Base	89.59	168	*e*P	P	22 32 42.8	+0.9				
SBA				MLR	MLR						
	comp=Z,2μm,21.0s										
RAO	Raoul Island	90.09	119	PFAKE		22 33 00.0	+15				
RAO				LR	LR						
	comp=Z,2μm,20.0s										
NVL	N'lazarevskaya	90.36	199	*e*P	P	22 32 47.0	+1.4				
NVL				pmax	pmax						
	comp=Z,8.0nm,0.6s										
TORD	Torodi Ar. Bea	91.29	283	P	P	22 32 51.5	+0.4				
	comp=Z,4.9nm,1.0s,baz=75,slow=4.7,SNR=16										
EKA	Eskdalemuir Ar	91.31	325	P	P	22 32 51.0	+0.6				
	comp=Z,4.7nm,0.9s,baz=109,slow=5.3,SNR=8.9										
EKA	Eskdalemuir Ar	91.31	325	P	P	22 32 51.0	+0.6				
ESK	Eskdalemuir	91.34	325	PFAKE		22 33 00.0	+9.5				
ESK				LR	LR						
	comp=Z,2μm,21.0s										
DAG	Danmarks Havn	91.90	348	*i* P	P	22 32 50.7	-2.0				
	comp=Z,17nm,1.4s										
DAG	Danmarks Havn	91.90	348	*i* P	P	22 32 50.7	-2.0				
DAG				pmax	pmax						
	comp=Z,17nm,1.4s										
QSPA	South Pole Qui	93.16	180	LR	LR	23 09 49.9					
	comp=Z,3μm,20.2s,baz=307,slow=32										
QSPA	South Pole Qui	93.16	180	PFAKE		22 33 10.0	+11				
QSPA				LR	LR						
	comp=Z,3μm,20.0s										
ES19	SONSECA Array	93.85	310	*e*P	P	22 33 03.4	+0.8				
ESDC	Sonseca Array	93.90	310	P	P	22 33 03.3	+0.5				
	comp=Z,1.8nm,0.7s,baz=60,slow=4.2,SNR=12										
PAB	San Pablo	94.21	310	PFAKE		22 33 20.0	+16				
PAB				LR	LR						
	comp=Z,902nm,21.0s										
SNAA	Sanae	95.13	198	P	P	22 33 08.9	+1.2				
	comp=Z,1.9nm,1.1s,baz=90,slow=9.1,SNR=2.1										
JOHN	Johnston Islan	95.49	73	PFAKE		22 33 20.0	+10				
JOHN				LR	LR						
	comp=Z,200nm,21.0s										
IM3	Indian Mountai	96.04	22	*e*P	P	22 33 11.9	0.0				
TOLK	Toolik Lake Re	96.43	19	P	P	22 33 14.1	+0.4				
	baz=296										
TOLK	Toolik Lake Re	96.43	19	*e*P	P	22 33 14.3	+0.6				
MTE	Manteigas	96.51	311	PFAKE		22 33 30.0	+15				
MTE				LR	LR						
	comp=Z,1μm,21.0s										
KOWA	Kowa	96.72	285	P	P	22 33 15.8	-0.3				
	comp=Z,2.4nm,0.9s,baz=121,slow=3.1,SNR=4.1										
RTC	Rabat Centre	96.99	305	PFAKE		22 33 30.0	+13				
RTC				LR	LR						
	comp=Z,5μm,20.0s										
BORG	Borgarnes	97.53	337	PFAKE		22 33 30.0	+11				
BORG				LR	LR						
	comp=Z,641nm,19.0s										
BPAW	Bear Paw Mtn.	97.86	24	*e*P	P	22 33 19.9	-0.3				
	comp=Z,3.1nm,1.4s										
DBIC	Dimbokro	98.17	277	LR	LR	23 15 53.6					
	comp=Z,2μm,20.2s,baz=69,slow=34										
COLA	College	98.75	22	PFAKE		22 33 40.0	+16				
COLA				LR	LR						
	comp=Z,2μm,20.0s										
ILAR	Eielson Array	99.16	22	P	Pdif	22 33 24.8	-1.3				
	comp=Z,1.0nm,0.9s,baz=295,slow=4.1,SNR=7.9										
ILAR				PP	PP	22 37 26.0	-2.2				
	comp=Z,1.7nm,0.9s,baz=300,slow=7.1,SNR=4.6										
KDAK	Kodiak Island	99.63	30	PFAKE		22 33 40.0	+12				
KDAK				LR	LR						
	comp=Z,1μm,20.0s										
SHEL	Horse Pasture	100.02	254	PFAKE		22 33 40.0	+9.1				
SHEL				LR	LR						
	comp=Z,3μm,20.0s										
EGAK	Eagle	101.26	21	PFAKE		22 33 50.0	+15				
EGAK				LR	LR						
	comp=Z,4μm,21.0s										
RES	Resolute Bay	102.03	2	*e*Pdif	Pdif	22 33 39.0	+0.4				
	comp=Z,6.7nm,0.9s										
RES	Resolute Bay	102.03	2	*e*P	Pdif	22 33 39.0	+0.4				
RES				pmax	pmax						
	comp=Z,7.0nm,0.9s										
SFJD	Kangerlussuaq	105.52	346	PFAKE		22 38 20.0					
SFJD				LR	LR						
	comp=Z,2μm,19.0s										
POHA	Pohakuloa	108.28	68	PFAKE		22 38 30.0					
POHA				LR	LR						
	comp=Z,2μm,19.0s										
ASCN	Ascension	108.38	263	PFAKE		22 38 30.0					
ASCN				LR	LR						
	comp=Z,3μm,21.0s										
WRAK	Wrangell Islan	109.76	25	PFAKE		22 38 30.0					
WRAK				LR	LR						
	comp=Z,3μm,19.0s										
CMLA	Cha da Macela	110.67	312	PFAKE		22 38 30.0					
CMLA				LR	LR						
	comp=Z,1μm,20.0s										
YKA	Yellowknife Ar	111.00	14	Pdiff	Pdif	22 34 19.8	+1.1				
	comp=Z,0.5nm,1.0s,baz=328,slow=4.4,SNR=6.2										
YKA				PKIKP	PKiKP	22 38 17.1	-0.8				
	comp=Z,0.6nm,1.0s,baz=326,slow=2.6,SNR=4.0										
YKA				PP	PP	22 38 56.0	+0.4				
	comp=Z,0.8nm,0.8s,baz=339,slow=7.7,SNR=3.9										
HOPE	Hope Point	115.06	210	PFAKE		22 38 40.0	+14				
HOPE				LR	LR						
	comp=Z,2μm,20.0s										
SACV	Santiago Islan	115.42	288	PFAKE		22 38 40.0	+12				
SACV				LR	LR						
	comp=Z,810nm,20.0s										
PPT2	Papeete2	116.37	108	*e*PS	PS	22 49 20.5	+1.8				
	comp=Z,495nm,25.2s										
PPT2	Papeete2	116.37	108	*e*LQ	LQ	23 08 48.9					
	comp=Z,2μm,35.2s										
PPT2				*e*LR	LR	23 13 44.3					
	comp=Z,1μm,23.8s										
PPT2	Papeete2	116.37	108	*e*LR	LR	22 33 38.0					
	comp=Z,245nm,26.8s										
PMSA	Palmer Station	116.54	190	PFAKE		22 38 40.0	+12				
PMSA				LR	LR						
	comp=Z,4μm,19.0s										
NLWA	Neilton Lookou	119.75	29	PFAKE		22 38 50.0	+15				
NLWA				LR	LR						
	comp=Z,2μm,20.0s										
FFC	Flin Flon	120.79	11	PFAKE		22 38 50.0	+13				
FFC				LR	LR						
	comp=Z,3μm,21.0s										
FFC	Flin Flon	120.79	11	*i* PKIKP	PKPdf	22 38 38.3	+1.4				
NEW	Newport	122.06	24	PKP	PKPdf	22 38 40.4	+0.7				
	comp=Z,2.5nm,0.8s,baz=107,slow=5.6,SNR=3.5										
NEW	Newport	122.06	24	P	PKPdf	22 38 40.2	+0.5				
	baz=323										
NEW	Newport	122.06	24	PKP	PKPdf	22 38 40.4	+0.7				
NEW				LR	LR						
	comp=Z,2μm,20.0s										
HAWA	Hanford	122.49	27	PFAKE		22 38 50.0	+10				
HAWA				LR	LR						
	comp=Z,2μm,20.0s										
J05D	Fort Rock, OR	123.99	30	P	PKPdf	22 38 43.8	+0.1				
	baz=316										
M02C	Callahan	124.48	33	P	PKPdf	22 38 44.7	+0.2				
	baz=314										
MSO	Missoula	124.49	23	P	PKPdf	22 38 44.2	-0.2				
	baz=326										
BMO	Blue Mountains	124.68	27	PFAKE		22 39 00.0	+15				
BMO				LR	LR						
	comp=Z,2μm,21.0s										
M04C	Macdoel	124.75	32	P	PKPdf	22 38 45.0	-0.1				
	baz=315										
N02D	Trinity Center	124.85	33	P	PKPdf	22 38 45.3	+0.1				
	baz=314										
EGMT	Eagleton	124.97	19	PFAKE		22 39 00.0	+15				
EGMT				LR	LR						
	comp=Z,3μm,22.0s										
WVOR	Wild Horse Val	125.91	29	PFAKE		22 39 00.0	+13				
WVOR				LR	LR						
	comp=Z,1μm,22.0s										
ULM	Lac du Bonnet	126.09	8	PKP	PKPdf	22 38 46.0	-1.2				
	comp=Z,3.4nm,0.8s,baz=14,slow=2.3,SNR=8.3										
ULM	Lac du Bonnet	126.09	8	PKIKP	PKPdf	22 38 46.0	-1.2				
TAOE	Nuku Hiva Isla	126.14	99	*e*LR	LR	23 18 16.0					
	comp=Z,1μm,26.6s										
DGMT	Dagmar	126.18	15	PFAKE		22 39 00.0	+12				
DGMT				LR	LR						
	comp=Z,4μm,21.0s										
EFI	East Falkland	126.29	201	PFAKE		22 39 00.0	+12				
EFI				LR	LR						
	comp=Z,3μm,22.0s										
BOZ	Bozeman (W)	126.40	22	P	PKPdf	22 38 48.1	-0.2				
	baz=328										
BOZ	Bozeman (W)	126.40	22	*e*PKPdf	PKPdf	22 38 48.3	+0.1				
BOZ				LR	LR						
	comp=Z,3μm,20.0s										
BOZ	Bozeman (W)	126.40	22	*e*PKIKP	PKPdf	22 38 48.3	+0.1				
HLID	Hailey	126.97	25	P	PKPdf	22 38 49.3	-0.1				
	baz=324										
HLID	Hailey	126.97	25	PFAKE		22 39 00.0	+11				
HLID				LR	LR						
	comp=Z,2μm,22.0s										
LAO	LASA Array	127.25	17	PFAKE		22 39 00.0	+10				
LAO				LR	LR						
	comp=Z,2μm,19.0s										
A33A	Warroad	127.44	8	P	PKPdf	22 38 50.0	+0.1				
	baz=348										
RLMT	Red Lodge	127.66	20	PFAKE		22 39 00.0	+9.3				
RLMT				LR	LR						
	comp=Z,3μm,20.0s										
LKWY	Lake	127.73	22	PFAKE		22 39 00.0	+9.1				
LKWY				LR	LR						
	comp=Z,2μm,19.0s										
AGMN	Agassiz Nation	128.00	8	PFAKE		22 39 00.0	+9.0				
AGMN				LR	LR						
	comp=Z,3μm,21.0s										
B35A	Bob, Littlefor	128.21	6	P	PKPdf	22 38 50.7	-0.7				
	baz=350										
EYMN	Ely	128.83	5	P	PKPdf	22 38 52.5	0.0				
	baz=353										
EYMN	Ely	128.83	5	PFAKE		22 39 00.0	+7.4				
EYMN				LR	LR						
	comp=Z,2μm,20.0s										
C35A	Jirik Farms, M	128.83	7	P	PKPdf	22 38 52.3	-0.2				
	baz=350										
RKT	Rikitea	128.91	117	*e*LR	LR	23 19 27.5					
	comp=Z,2μm,23.2s										
AHID	Auburn Hatcher	128.99	23	PFAKE		22 39 00.0	+6.7				
AHID				LR	LR						
	comp=Z,2μm,20.0s										
C40A	Isle Royale Na	129.00	3	P	PKPdf	22 38 53.0	+0.1				
	baz=356										
NVAR	Mina Array Bea	129.04	32	PKP	PKPdf	22 38 54.5	+0.9				
	comp=Z,1.7nm,1.0s,baz=306,slow=1.3,SNR=11										
PKME	Peaks-Kenny Pk	129.41	345	PFAKE		22 39 10.0	+16				
PKME				LR	LR						
	comp=Z,2μm,20.0s										
D35A	Remer	129.43	7	P	PKPdf	22 38 53.5	-0.3				
	baz=350										
BW06	Boulder Array	129.59	22	PFAKE		22 39 10.0	+16				
BW06				LR	LR						
	comp=Z,3μm,19.0s										
PDAR	Pinedale Array	129.59	22	PKP	PKPdf	22 38 54.2	-0.3				
	comp=Z,2.7nm,1.1s,baz=333,slow=1.7,SNR=12										
HWUT	Hardware Ranch	129.77	25	PFAKE		22 39 10.0	+15				
HWUT				LR	LR						
	comp=Z,2μm,22.0s										
D41A	Chassel	129.88	2	P	PKPdf	22 38 55.2	+0.6				
	baz=357										
E36A	McGregor	130.08	6	P	PKPdf	22 38 54.9	-0.1				
	baz=351										
E38A	The Farm, Brul	130.16	5	P	PKPdf	22 38 55.1	0.0				
	baz=353										
RSSD	Black Hills	130.23	17	P	PKPdf	22 38 55.8	+0.2				
	baz=336										
F33A	5 Mile Ranch,	130.33	9	P	PKPdf	22 38 55.6	+0.1				
	baz=347										
DUG	Dugway, Tooele	130.39	27	*e*PKPdf	PKPdf	22 38 56.8	+0.9				
DUG				LR	LR						
	comp=Z,2μm,19.0s										
DUG	Dugway, Tooele	130.39	27	*e*PKIKP	PKPdf	22 38 56.8	+0.9				
E39A	Mellen	130.46	4	P	PKPdf	22 38 55.3	-0.5				
	baz=354										
R11A	Troy Canyon, C	130.52	30	P	PKPdf	22 38 55.8	-0.5				
	baz=320										
PKM	Mcpherson Peak	130.69	37	P	PKPdf	22 38 56.7	0.0				
	baz=313										
F36A	Milaca	130.69	7	P	PKPdf	22 38 56.1	0.0				
	baz=350										
COWI	Conover	130.82	3	PFAKE		22 39 10.0	+14				
COWI				LR	LR						
	comp=Z,4μm,20.0s										
F44A	Big Bay de Noc	131.01	0	P	PKPdf	22 38 57.2	+0.4				
	baz=360										
F41A	Three Lakes	131.18	3	P	PKPdf	22 38 57.3	+0.1				
	baz=356										
LONY	Lake Ozonia	131.23	349	PFAKE		22 39 10.0	+13				
LONY				LR	LR						
	comp=Z,2μm,21.0s										
GLMI	Grayling	132.14	358	PFAKE		22 39 10.0	+11				
GLMI				LR	LR						
	comp=Z,2μm,20.0s										
H41A	Junction City	132.27	3	P	PKPdf	22 38 59.4	+0.2				
	baz=355										
ECSD	EROS Data Cent	132.33	10	P	PKPdf	22 38 59.5	+0.2				
	baz=346										
ECSD	EROS Data Cent	132.33	10	*e*PKPdf	PKPdf	22 38 59.1	-0.2				
ECSD				LR	LR						
	comp=Z,2μm,22.0s										
O20A	White River Ci	132.36	23	P	PKPdf	22 39 00.1	+0.3				
	baz=330										
O20A	White River Ci	132.36	23	*e*PKPdf	PKPdf	22 39 00.6	+0.9				
J38A	Wedel Dairy, R	133.32	6	P	PKPdf	22 39 01.4	+0.1				
	baz=351										
J39A	Decorah	133.39	5	P	PKPdf	22 39 01.5	+0.1				
	baz=352										
J41A	Loganville	133.49	4	P	PKPdf	22 39 02.2	+0.6				
	baz=355										
PFO	Pinyon Flats O	133.56	35	PFAKE		22 39 10.0	+7.9				
PFO				LR	LR						
	comp=Z,2μm,21.0s										
PFO	Pinyon Flats O	133.56	35	*i* PKIKP	PKPdf	22 39 05.1	+3.0				
ISCO	Idaho Springs	133.62	21	P	PKPdf	22 39 03.2	+0.9				
	baz=333										
ISCO	Idaho Springs	133.62	21	PFAKE		22 39 10.0	+7.7				
ISCO				LR	LR						
	comp=Z,2μm,20.0s										
OGNE	Ogallala	133.73	17	PFAKE		22 39 10.0	+7.8				
OGNE				LR	LR						
	comp=Z,3μm,22.0s										
BINY	Binghamton	133.84	349	P	PKPdf	22 39 02.8	+0.5				
	baz=14										
BINY	Binghamton	133.84	349	PFAKE		22 39 10.0	+7.8				
BINY				LR	LR						
	comp=Z,2μm,20.0s										
IRM	Iron Mountain	133.91	34	P	PKPdf	22 39 03.3	+0.7				
	baz=318										
JFWS	Jewell Farm	133.93	4	P	PKPdf	22 39 03.5	+1.1				
	baz=354										
JFWS	Jewell Farm	133.93	4	PFAKE		22 39 10.0	+7.6				
JFWS				LR	LR						
	comp=Z,2μm,21.0s										
L34A	Svendsen Farm,	134.08	11	P	PKPdf	22 39 03.2	+0.5				
	baz=346										
K41A	Shullsburg	134.23	4	P	PKPdf	22 39 03.9	+1.0				
	baz=354										
K43A	Burlington	134.24	2	P	PKPdf	22 39 03.6	+0.6				
	baz=357										
L39A	Vinton	134.56	6	P	PKPdf	22 39 03.5	-0.1				
	baz=352										
AAM	Ann Arbor	134.62	357	PFAKE		22 39 20.0	+16				
AAM				LR	LR						
	comp=Z,3μm,19.0s										
SCIA	State Center	134.63	7	PFAKE		22 39 20.0	+16				
SCIA				LR	LR						
	comp=Z,2μm,22.0s										
MVCO	Mesa Verde	134.75	25	PFAKE		22 39 20.0	+16				
MVCO				LR	LR						
	comp=Z,1μm,19.0s										
WUAZ	Wupatki	134.83	29	PFAKE		22 39 20.0	+16				
WUAZ				LR	LR						
	comp=Z,1μm,21.0s										
M39A	Webster	135.18	6	P	PKPdf	22 39 05.1	+0.4				
	baz=352										
SDCO	Great Sand Dun	135.48	22	PFAKE		22 39 20.0	+14				
SDCO				LR	LR						
	comp=Z,2μm,21.0s										
O56A	Blue Knob Stat	136.14	352	P	PKPdf	22 39 08.1	+1.5				
	baz=11										
HDIL	Hopedale	136.34	3	PFAKE		22 39 20.0	+13				
HDIL				LR	LR						
	comp=Z,2μm,20.0s										
CBKS	Cedar Bluff	136.35	15	PFAKE		22 39 20.0	+13				
CBKS				LR	LR						
	comp=Z,3μm,22.0s										
ACSO	Alum Creek Sta	136.65	356	P	PKPdf	22 39 08.3	+0.8				
	baz=4.6										
ACSO	Alum Creek Sta	136.65	356	PFAKE		22 39 20.0	+12				
ACSO				LR	LR						
	comp=Z,2μm,19.0s										
SPB	Sao Paulo	137.40	238	PFAKE		22 39 20.0	+11				
SPB				LR	LR						
	comp=Z,5μm,21.0s										
ANMO	Albuquerque	137.54	25	*e*PKPdf	PKPdf	22 39 10.3	+0.7				
ANMO				LR	LR						
	comp=Z,2μm,19.0s										
ANMO	Albuquerque	137.54	25	*e*PKIKP	PKPdf	22 39 10.3	+0.7				
TUC	Tucson	137.67	31	PFAKE		22 39 20.0	+10				
TUC				LR	LR						
	comp=Z,3μm,21.0s										
CBN	Corbin Frederi	137.96	350	PFAKE		22 39 20.0	+10				
CBN				LR	LR						
	comp=Z,2μm,19.0s										
Q45A	Warren Harvey,	138.05	2	P	PKPdf	22 39 10.7	+0.6				
	baz=357						

Z40A	**Long Farm, Mag**	**143.08**	**10**	P		PKPbc	22 39 17.2	+1.1	
	baz=348								
Z41A	**Richland Creek**	**143.18**	**9**	P		PKPbc	22 39 17.6	+1.2	
	baz=349								
NHSC	**New Hope**	**143.41**	**351**	PFAKE			22 39 30.0	+10	
NHSC				LR	LR				
	comp=Z,2μm,20.0s								
GOGA	**Godfrey**	**143.46**	**356**	PFAKE			22 39 30.0	+10	
GOGA				LR	LR				
	comp=Z,2μm,22.0s								
TXAR	**Lajitas Array**	**143.56**	**26**	PKP		PKPbc	22 39 18.3	+0.6	
	comp=Z,3.1nm,0.8s,baz=230,slow=0.4,SNR=21								
Z47A	**Carrollton**	**143.73**	**3**	P		PKPbc	22 39 18.9	+0.9	
	baz=357								
141A	**Papa Simpson,**	**143.80**	**10**	P		PKPbc	22 39 18.0	-0.2	
	baz=349								
143A	**Socs Landing,**	**143.93**	**7**	P		PKPbc	22 39 18.5	0.0	
	baz=351								
CPUP	**Villa Florida**	**144.00**	**228**	PKP		PKPbc	22 39 19.0	0.0	
	comp=Z,14nm,0.9s,baz=106,slow=3.0,SNR=30								
JCT	**Junction City**	**144.06**	**20**	*e*PKPdf		PKPbc	22 39 19.3	+0.2	
JCT				LR	LR				
	comp=Z,2μm,21.0s								
JCT	**Junction City**	**144.06**	**20**	*e*PKIKP		PKPbc	22 39 19.3	+0.2	
144A	**Alexander Plac**	**144.12**	**6**	P		PKPbc	22 39 19.4	+0.3	
	baz=353								
145A	**Houston Renfro**	**144.19**	**5**	P		PKPbc	22 39 19.3	-0.1	
	baz=354								
240A	**Hunter Patters**	**144.20**	**11**	P		**PKPab**	**22 39 19.2**	**+0.1**	
	baz=347								
146A	**Union**	**144.23**	**4**	P		**PKPab**	**22 39 19.3**	**+0.1**	
	baz=355								
154A	**Montrose**	**144.23**	**355**	P		**PKPab**	**22 39 18.8**	**-0.4**	
	baz=5.2								
147A	**Livingston**	**144.24**	**3**	P		**PKPab**	**22 39 19.2**	**0.0**	
	baz=356								
153A	**Fort Valley**	**144.24**	**357**	P		**PKPab**	**22 39 19.1**	**-0.1**	
	baz=3.9								
148A	**Greensboro**	**144.30**	**2**	P		**PKPab**	**22 39 19.1**	**-0.3**	
	baz=358								
149A	**Jones**	**144.36**	**1**	P		**PKPab**	**22 39 19.7**	**0.0**	
	baz=359								
241A	**Mo Tay, Goldon**	**144.37**	**10**	P		**PKPab**	**22 39 19.4**	**-0.2**	
	baz=348								
151A	**Opelika**	**144.43**	**359**	P		**PKPab**	**22 39 19.4**	**-0.5**	
	baz=1.4								
242A	**Grayson**	**144.46**	**9**	P		PKPbc	22 39 20.2	0.0	
	baz=350								
435B	**Jarrell**	**144.49**	**17**	P		**PKPab**	**22 39 19.3**	**-0.8**	
	baz=340								
VBMS	**Vicksburg**	**144.51**	**6**	P		PKPbc	22 39 20.6	+0.2	
	baz=352								
244A	**Avery, Jackson**	**144.67**	**7**	P		PKPbc	22 39 21.0	+0.1	
	baz=352,SNR=8.7								
243A	**Waterproof**	**144.73**	**8**	P		PKPbc	22 39 21.3	+0.2	
	baz=351								
256A	**Glennville**	**144.74**	**354**	P		**PKPdf**	**22 39 22.2**	**-0.1**	
	baz=7.3								
245A	**Little AP, Sta**	**144.76**	**5**	P		PKPbc	22 39 21.2	0.0	
	baz=354,SNR=6.8								
247A	**Quitman**	**144.84**	**4**	P		PKPbc	22 39 21.6	+0.1	
	baz=356,SNR=9.8								
248A	**Dixon Mills**	**144.84**	**2**	P		**PKPab**	**22 39 21.4**	**0.0**	
	baz=357								
246A	**Jackson Lee, B**	**144.84**	**4**	P		**PKPab**	**22 39 21.2**	**-0.2**	
	baz=355								
253A	**Americus**	**144.85**	**357**	P		**PKPab**	**22 39 20.9**	**-0.6**	
	baz=3.5								
251A	**Midway**	**144.86**	**359**	P		**PKPab**	**22 39 21.2**	**-0.3**	
	baz=1.3,SNR=21								
252A	**Lumpkin**	**144.94**	**358**	P		**PKPab**	**22 39 21.3**	**-0.4**	
	baz=2.4,SNR=11								
249A	**Camden**	**144.98**	**1**	P		**PKPab**	**22 39 21.8**	**-0.1**	
	baz=358,SNR=16								
250A	**Grady**	**144.99**	**0**	P		**PKPab**	**22 39 21.5**	**-0.5**	
	baz=360,SNR=7.5								
341A	**Kurthwood**	**145.00**	**10**	P		PKPbc	22 39 22.2	+0.2	
	baz=348,SNR=7.1								
342A	**Flagon Creek P**	**145.10**	**9**	P		**PKPdf**	**22 39 22.9**	**-0.1**	
	baz=349								
344A	**Westbrook Farm**	**145.25**	**7**	P		**PKPdf**	**22 39 23.5**	**+0.3**	
	baz=352,SNR=12								
343A	**Vidalia**	**145.30**	**8**	P		**PKPdf**	**22 39 23.4**	**+0.1**	
	baz=350								
TIGA	**Tifton**	**145.43**	**356**	P		**PKPdf**	**22 39 23.5**	**0.0**	
	baz=4.5,SNR=6.4								
TIGA	**Tifton**	**145.43**	**356**	*e*PKPdf		**PKPab**	**22 39 23.6**	**+0.1**	
346A	**Big Creek Wild**	**145.44**	**5**	P		**PKPab**	**22 39 23.8**	**+0.3**	
	baz=354,SNR=8.2								
352A	**Blakely**	**145.46**	**358**	P		**PKPbc**	**22 39 23.4**	**-0.1**	
	baz=2.1,SNR=9.9								
345A	**Thompson Farm,**	**145.46**	**6**	P		**PKPab**	**22 39 23.9**	**+0.2**	
	baz=353								
355A	**Pearson**	**145.47**	**355**	P		**PKPdf**	**22 39 23.6**	**0.0**	
	baz=5.8,SNR=7.6								
347A	**Saraland**	**145.49**	**3**	P		**PKPab**	**22 39 24.3**	**+0.6**	
	baz=356,SNR=18								
348A	**Jackson**	**145.51**	**3**	P		**PKPab**	**22 39 24.0**	**+0.2**	
	baz=357,SNR=6.9								
350A	**Dozier**	**145.54**	**0**	P		**PKPab**	**22 39 23.9**	**-0.1**	
	baz=360								
353A	**Camilla**	**145.56**	**357**	P		**PKPbc**	**22 39 23.9**	**0.0**	
	baz=3.4,SNR=11								
441A	**DeRidder**	**145.56**	**11**	P		**PKPab**	**22 39 24.4**	**+0.3**	
	baz=348								
349A	**Repton**	**145.60**	**1**	P		**PKPab**	**22 39 24.4**	**+0.2**	
	baz=358,SNR=20								
351A	**Pinckard**	**145.68**	**359**	P		**PKPbc**	**22 39 24.2**	**0.0**	
	baz=1.0,SNR=6.0								
442A	**Mamou**	**145.73**	**10**	P		**PKPab**	**22 39 25.0**	**+0.3**	
	baz=349								
HKT	**Hockley**	**145.75**	**15**	*e*PKPdf		**PKPbc**	**22 39 24.4**	**0.0**	
HKT	**Hockley**	**145.75**	**15**	*e*PKP2		**PKPbc**	**22 39 24.4**	**0.0**	
443A	**Delano Plantat**	**145.78**	**9**	P		**PKPab**	**22 39 25.0**	**+0.1**	
	baz=350								
BRAL	**Brewton**	**145.78**	**1**	P		**PKPbc**	**22 39 24.6**	**+0.1**	
	baz=358,SNR=8.8								
BRAL	**Brewton**	**145.78**	**1**	*e*PKPdf		**PKPab**	**22 39 25.4**	**+0.5**	
BRAL				LR	LR				
	comp=Z,2μm,19.0s								
444A	**Pine Grove**	**145.97**	**7**	P		**PKPbc**	**22 39 25.2**	**+0.1**	
	baz=352								
448A	**Bay Minette**	**145.99**	**2**	P		**PKPab**	**22 39 25.7**	**+0.1**	
	baz=357								
456A	**Hilliard**	**146.00**	**354**	P		**PKPbc**	**22 39 25.4**	**+0.2**	
	baz=7.3								
445A	**Amite**	**146.00**	**6**	P		**PKPab**	**22 39 25.6**	**-0.1**	
	baz=353								
457A	**Yulee**	**146.04**	**353**	P		**PKPbc**	**22 39 25.1**	**-0.2**	
	baz=8.2								
453A	**Whigham**	**146.06**	**357**	P		**PKPbc**	**22 39 25.5**	**+0.1**	
	baz=3.2,SNR=7.9								
455A	**Stateville**	**146.08**	**355**	P		**PKPbc**	**22 39 25.5**	**+0.1**	
	baz=5.6,SNR=9.5								
447A	**Lucedale**	**146.09**	**4**	P		**PKPbc**	**22 39 25.6**	**+0.1**	
	baz=356								
452A	**Marianna**	**146.10**	**358**	P		**PKPbc**	**22 39 25.1**	**-0.4**	
	baz=1.7								
454A	**Quitman**	**146.15**	**356**	P		**PKPbc**	**22 39 25.9**	**+0.2**	
	baz=4.5								
450A	**Crestview**	**146.16**	**1**	P		**PKPab**	**22 39 26.0**	**-0.3**	
	baz=359								
833A	**Chaparral WMA,**	**146.17**	**21**	P		**PKPab**	**22 39 26.3**	**-0.1**	
	baz=336								
449A	**Pace**	**146.19**	**2**	P		**PKPab**	**22 39 26.4**	**0.0**	
	baz=358								
541A	**Lake Charles**	**146.24**	**11**	P		**PKPab**	**22 39 26.6**	**0.0**	
	baz=347								
542A	**Morse**	**146.29**	**10**	P		**PKPab**	**22 39 26.6**	**-0.2**	
	baz=348								
451A	**Vernon**	**146.34**	**359**	P		**PKPab**	**22 39 26.9**	**-0.1**	
	baz=0.7								
543A	**St. Martinvill**	**146.44**	**9**	P		**PKPab**	**22 39 27.4**	**+0.1**	
	baz=350								
544A	**White Castle**	**146.51**	**8**	P		**PKPab**	**22 39 27.3**	**-0.4**	
	baz=351								
546A	**Slidell**	**146.56**	**5**	P		**PKPbc**	**22 39 27.2**	**+0.4**	
	baz=354								
557A	**Orange Park**	**146.66**	**353**	P		**PKPbc**	**22 39 27.0**	**-0.2**	
	baz=8.0								
555A	**McAlpin**	**146.69**	**355**	P		**PKPbc**	**22 39 27.6**	**+0.3**	
	baz=5.8,SNR=5.1								
553A	**Crawfordville**	**146.72**	**357**	P		**PKPbc**	**22 39 27.0**	**-0.4**	
	baz=3.1								
556A	**Lake Butler**	**146.75**	**354**	P		**PKPbc**	**22 39 27.6**	**+0.1**	
	baz=6.8								
554A	**Perry**	**146.78**	**356**	P		**PKPbc**	**22 39 27.6**	**+0.1**	
	baz=4.5								
552A	**Lynn Haven**	**146.81**	**359**	P		**PKPbc**	**22 39 28.1**	**+0.5**	
	baz=1.6								
657A	**Interlachen**	**147.10**	**353**	P		**PKPbc**	**22 39 28.5**	**+0.1**	
	baz=7.8								
658A	**Bunnell**	**147.19**	**352**	P		**PKPbc**	**22 39 28.9**	**+0.2**	
	baz=9.0								
645A	**Chauvin**	**147.23**	**7**	P		**PKPab**	**22 39 29.7**	**-0.7**	
	baz=352								
655A	**Horseshoe Beac**	**147.32**	**355**	P		**PKPbc**	**22 39 29.2**	**+0.2**	
	baz=5.3								
656A	**Willston**	**147.39**	**354**	P		**PKPbc**	**22 39 29.6**	**+0.3**	
	baz=6.7								
KVTX	**Kingsville**	**147.40**	**19**	PFAKE			22 39 40.0	+8.8	
KVTX				LR	LR				
	comp=Z,1μm,20.0s								
757A	**Oxford**	**147.76**	**353**	P		**PKPbc**	**22 39 30.3**	**0.0**	
	baz=7.6								
ANWB	**Willy Bob**	**148.18**	**312**	PFAKE			22 39 40.0	+5.4	
ANWB				LR	LR				
	comp=Z,2μm,20.0s								
858A	**St. Cloud**	**148.39**	**352**	P		**PKPbc**	**22 39 32.0**	**0.0**	
	baz=9.1								
857A	**Zephyrhills**	**148.45**	**353**	P		**PKPbc**	**22 39 31.8**	**-0.4**	
	baz=7.5								
859A	**Kempfer Cattle**	**148.47**	**351**	P		**PKPbc**	**22 39 32.4**	**+0.2**	
	baz=10.0								
DWPF	**Disney Wildern**	**148.50**	**352**	P		**PKPbc**	**22 39 32.4**	**+0.1**	
	baz=9.0								
BBGH	**Gun Hill**	**148.92**	**302**	PFAKE			22 39 40.0	+2.3	
BBGH				LR	LR				
	comp=Z,3μm,20.0s								
959A	**Okeechobee**	**148.99**	**351**	P		**PKPbc**	**22 39 33.5**	**0.0**	
	baz=10								
957A	**Wimauma**	**149.04**	**353**	P		**PKPbc**	**22 39 33.6**	**-0.1**	
	baz=7.6								
958A	**Wauchula**	**149.06**	**352**	P		**PKPbc**	**22 39 33.7**	**-0.1**	
	baz=8.5								
BAMF	**Morne Balai**	**149.35**	**306**	*e*P		**PKPbc**	**22 39 33.2**	**-1.7**	
060A	**Indiantown**	**149.38**	**350**	P		**PKPbc**	**22 39 34.5**	**-0.1**	
	baz=11								
ZAM	**Aeronautique**	**149.39**	**306**	*e*P		**PKPbc**	**22 39 36.5**	**+1.6**	
FDF	**Fort de France**	**149.40**	**306**	PFAKE			22 39 40.0	+0.3	
FDF				LR	LR				
	comp=Z,1μm,20.0s								
FDF	**Fort de France**	**149.40**	**306**	*e*P		**PKPbc**	**22 39 33.6**	**-1.3**	
059A	**Moore Haven**	**149.58**	**351**	P		**PKPbc**	**22 39 34.9**	**-0.2**	
	baz=9.8								
058A	**Arcadia**	**149.59**	**352**	P		**PKPbc**	**22 39 34.5**	**-0.6**	
	baz=8.5								
ZAIG	**Zacatecas**	**149.64**	**31**	*e*PKPbc		**PKPbc**	**22 39 36.7**	**+1.0**	
LCO	**Las Campanas**	**150.41**	**208**	*e*PKPdf		**PKPdf**	**22 39 32.0**	**-0.2**	
LCO				*e*PKPbc		**PKiKP**	**22 39 38.0**	**-0.1**	
LCO				*e*PKPab		**pPKPbc**	**22 39 44.3**	**-0.5**	
LCO				LR	LR				
	comp=Z,3μm,21.0s								
SJG	**San Juan**	**150.99**	**318**	PFAKE			22 39 40.0	+1.3	
SJG				LR	LR				
	comp=Z,2μm,20.0s								
GRGR	**Grenville**	**151.19**	**302**	PFAKE			22 39 40.0	+0.7	
GRGR				LR	LR				
	comp=Z,1μm,22.0s								
GRTK	**Grand Turk**	**151.31**	**330**	PFAKE			22 39 40.0	+0.7	
GRTK				LR	LR				
	comp=Z,2μm,20.0s								
SDDR	**Presa de Saban**	**153.47**	**327**	PFAKE			22 39 50.0	+5.7	
SDDR				LR	LR				
	comp=Z,2μm,21.0s								
PTGA	**Pitinga**	**153.63**	**275**	PFAKE			22 39 50.0	+5.2	
PTGA				LR	LR				
	comp=Z,14μm,20.0s								
GTBY	**Guantanamo Bay**	**154.52**	**335**	PFAKE			22 39 50.0	+3.5	
GTBY				LR	LR				
	comp=Z,2μm,21.0s								
SAML	**Samuel**	**156.39**	**255**	PFAKE			22 39 50.0	+9.2	
SAML				LR	LR				
	comp=Z,3μm,20.0s								
MTDJ	**Mount Denham**	**157.02**	**338**	PFAKE			22 39 50.0	+8.4	
MTDJ				LR	LR				
	comp=Z,2μm,20.0s								
LPAZ	**La Paz**	**157.97**	**233**	PKP		**PKPdf**	**22 39 43.4**	**-0.1**	
	comp=Z,2.1nm,0.9s,baz=30,slow=1.2,SNR=7.0								
LPAZ				PKPab		**PKPab**	**22 40 18.1**	**+1.5**	
	comp=Z,3.6nm,0.8s,baz=116,slow=7.7,SNR=7.0								
SDV	**Santo Domingo**	**160.33**	**308**	PFAKE			22 40 00.0	+14	
SDV				LR	LR				
	comp=Z,3μm,21.0s								
BCIP	**Isla Barro Col**	**166.13**	**333**	PFAKE			22 40 00.0	+9.0	
BCIP				LR	LR				
	comp=Z,3μm,22.0s								
JTS	**JuntasAbangare**	**166.51**	**355**	PFAKE			22 40 00.0	+8.6	
JTS				LR	LR				
	comp=Z,3μm,21.0s								
NNA	**Nana**	**167.26**	**226**	PFAKE			22 40 00.0	+8.0	
NNA				LR	LR				
	comp=Z,2μm,22.0s								
OTAV	**Otavalo**	**171.49**	**294**	PFAKE			22 40 10.0	+15	
OTAV				LR	LR				
	comp=Z,3μm,20.0s								

*ISCJB **20** 22:22:23.1±0.7,25°56.56N±0.06×109°97.97W±0.06,h10km, mb3.6/5,MS3.7/3,Error ellipse: s-maj=8.5km s-min=7.6km az=23.7*

*IDC **20** 22:22:23.5±0.9,25°59.59N×109°75.75W,h0km,mb3.7/4, mb1 3.8/8,mb1mx3.6/60,mbtmp3.6/8,ML3.9/4,MS3.8/6, Ms1 3.8/6,ms1mx3.4/53,Error ellipse: s-maj=22.0km s-min=11.1km az=105.0*

*NEIC **20** 22:22:24.4±0.6,25°50.50N×109°91.91W,h10km,mb3.8/3, MD4.3(MEX),Error ellipse: s-maj=10.0km s-min=7.6km az=70.0*

*MEX **20** 22:22:28.1±1.1,25°71.71N×109°96.96W,h4km±28km,MD4.3*

ISC 20 22:22:24.0±0.8,25°53.53N±0.05×109°99.99W±0.06,h10km,n33, σ2°08/37,mb3.6/5,MS3.7/3,Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LPIG	**La Paz**	**1.45**	**191**	Pg	**Pg**	**22 22 53.1**	**+1.3**
	30nm,0.3s,baz=302,slow=0.4,SNR=22						
LPIG				Lg	Lg	22 23 12.5	
	59nm,0.3s,baz=199,slow=17,SNR=14						
SLBS	**Sierra La Lagu**	**1.84**	**179**	*e*P	**Pg**	**22 22 59.8**	**+0.5**
GUYB	**Guaymas**	**2.48**	**342**	*e*P	Pn	22 22 58.3	-6.1
SRIG	**Santa Rosalia**	**2.69**	**312**	*e*P	**Pn**	**22 23 06.6**	**-0.7**
SRIG	**Santa Rosalia**	**2.69**	**312**	*e*Pn	**Pn**	**22 23 09.0**	**+1.7**
HSIG		**3.58**	**346**	*e*P	**Pn**	**22 23 19.8**	**+0.3**
HSIG		**3.58**	**346**	*e*Pn	**Pn**	**22 23 20.0**	**+0.5**
HSIG				S	**Sb**	**22 24 11.3**	**+0.4**
HPIG		**4.13**	**69**	*e*P	**Pn**	**22 23 28.1**	**+0.8**
HPIG				*e*S	**Sn**	**22 24 16.5**	**+0.7**
HPIG		**4.13**	**69**	*e*P	**Pn**	**22 23 28.1**	**+0.8**
HPIG				*e*S	**Sn**	**22 24 16.5**	**+0.7**
CGIG		**5.13**	**20**	*e*P	**Pn**	**22 23 42.6**	**+1.5**
CGIG				*e*S	**Sn**	**22 24 36.3**	**-4.2**
CGIG		**5.13**	**20**	*e*P	**Pn**	**22 23 42.6**	**+1.5**
CGIG				*e*S	**Sn**	**22 24 36.3**	**-4.2**
TXAR	**Lajitas Array**	**6.78**	**55**	Pn	**Pn**	**22 24 02.4**	**-1.2**
	0.7nm,0.3s,baz=229,slow=14,SNR=33						
TXAR				Sn	**Sn**	**22 25 16.9**	**-4.0**
	3.5nm,0.3s,baz=232,slow=23,SNR=9.2						
TXAR				Lg	Lg	22 25 53.1	
	3.9nm,0.3s,baz=200,slow=29,SNR=6.5						
TUC	**Tucson**	**6.79**	**354**	*e*Pn	**Pn**	**22 24 02.6**	**-1.1**
TUC				S	**Sb**	**22 25 48.7**	**+5.3**
214A	**Organ Pipe Nat**	**6.86**	**340**	*e*Pn	**Pn**	**22 24 05.6**	**+0.9**
214A				Sg	**Sg**	**22 26 03.1**	**-1.2**
121A	**Cookes Peak, D**	**7.24**	**15**	*e*Pn	**Pn**	**22 24 10.4**	**+0.4**
121A				S	**Sb**	**22 26 00.5**	**+4.2**
MNTX	**Cornudas Mount**	**7.36**	**32**	*e*Pn	**Pn**	**22 24 13.1**	**+1.6**
MNTX				S	Sb	22 26 09.7	+10
GLA	**Glamis**	**8.60**	**332**	*e*Pn	**Pn**	**22 24 29.8**	**+1.3**
WUAZ	**Wupatki**	**10.02**	**354**	*e*Pn	**Pn**	**22 24 50.2**	**+2.0**
SRU	**San Rafael Swe**	**13.55**	**358**	*e*Pn	**Pn**	**22 25 37.5**	**+1.1**
NVAR	**Mina Array Bea**	**14.66**	**333**	Pn	**P**	**22 25 55.9**	**-2.0**
	baz=159,slow=13,SNR=16						
HWUT	**Hardware Ranch**	**16.09**	**356**	*e*Pn	**P**	**22 26 12.2**	**-1.6**
	5.8nm,1.1s						
CMIG	**Matias Romero**	**16.38**	**118**	Pn	**Pn**	**22 26 10.9**	**-3.2**
	0.1nm,0.3s,baz=274,slow=14,SNR=1.9						
CMIG				LR	LR	22 32 39.1	
	comp=Z,308nm,21.0s,baz=260,slow=38						
MIAR	**Mount Ida**	**16.80**	**54**	*e*Pn	**Pn**	**22 26 20.3**	**+1.0**
	8.3nm,1.0s						
PDAR	**Pinedale Array**	**17.20**	**1**	P	**Pn**	**22 26 24.1**	**-0.4**
	0.1nm,0.3s,baz=146,slow=2.9,SNR=6.0						
PDAR				LR	LR	22 33 06.8	
	comp=Z,404nm,19.3s,baz=198,slow=38						
YBH	**Yreka Blue Hor**	**19.28**	**330**	LR	LR	22 34 15.3	
	comp=Z,125nm,18.3s,baz=162,slow=37						
APG	**El Apazote**	**21.07**	**116**	LR	LR	22 34 43.1	
	comp=Z,329nm,21.3s,baz=290,slow=35						
ECSD	**EROS Data Cent**	**21.18**	**28**	*e*P	**P**	**22 27 10.6**	**+1.1**
	7.2nm,1.1s						
NEW	**Newport**	**23.37**	**348**	LR	LR	22 36 53.1	
	comp=Z,191nm,19.9s,baz=194,slow=37						
TKL	**Tuckaleechee C**	**24.66**	**60**	LR	LR	22 38 13.4	
	comp=Z,287nm,19.4s,baz=242,slow=39						
ULM	**Lac du Bonnet**	**26.98**	**20**	P	**P**	**22 28 07.2**	**+1.4**
	0.6nm,0.4s,baz=180,slow=2.0,SNR=2.3						
YKA	**Yellowknife Ar**	**37.08**	**356**	P	**P**	**22 29 33.5**	**-0.6**
	0.3nm,0.9s,baz=176,slow=7.8,SNR=6.4						
SDV	**Santo Domingo**	**40.88**	**107**	P	**P**	**22 30 06.0**	**-0.7**
	2.2nm,0.5s,baz=349,slow=18,SNR=2.3						
ILAR	**Eielson Array**	**45.82**	**339**	P	**P**	**22 30 46.8**	**+1.1**
	0.6nm,0.8s,baz=143,slow=6.8,SNR=7.8						

*IDC **20** 22:28:55.4±0.3,3°23N×93°82E,h0km,mb5.1/60, mb1 5.1/63,mb1mx5.1/76,mbtmp5.1/63,ML4.7/2,MS5.4/37, Ms1 5.4/37,ms1mx5.2/62,Error ellipse: s-maj=9.9km s-min=7.7km az=34.0*

*MOS **20** 22:28:57.0±1.0,3°25N×93°79E,h22km,mb5.6/92, MS5.4/40,Error ellipse: s-maj=7.1km s-min=4.9km az=108.5*

*ISCJB **20** 22:28:57.5±0.7,3°22N±0°02×93°77E±0°02,h22km±5km, mb5.4/272,MS5.6/215,Error ellipse: s-maj=3.9km s-min=2.5km az=41.6*

*BJI **20** 22:28:58.5,3°25N×94°00E,h26km,mb5.2/67,mB5.9/48, Ms6.0/63,Ms7 5.8/60*

*GCMT **20** 22:28:59.2±0.1,3°15N×93°73E,h12km,MW5.8/122, Moment Tensor Solution. s72,c98; s122,c334; Duration: 20 Moment tensor: Scale 10^17 Nm; Mrr5.27±.07; Mθθ-0.47±.06; Mφφ-4.80±.06; Mrθ-0.13±.24; Mθφ4.68±.05; Mrφ0.64±.21; Best double couple: M06.57000×10^17 NP1:φ332.00000°,δ48.00000°, λ97.00000°. NP2:φ142.00000°,δ43.00000°,λ83.00000°. Principal axes: T 5.3180, Plg84.0000°, Azm299.0000°; N 2.4990, Plg5.0000°, Azm148.0000°; P -7.8210, Plg3.0000°, Azm57.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

*NEIC **20** 22:28:59.2±1.3,3°27N×93°82E,h22km±9km,mb5.6/131, MS5.7/146 Error ellipse: s-maj=4.6km s-min=3.0km az=46.0*

*DJA **20** 22:29:00.9±1.0,3°N±2°×9°4E±°,h18km±7km,M5.9/72, mb5.5/72,mB6.3/12,MLv5.8/16,Mw(mB)6.0/12*

ISC 20 22:28:58.8±0.4,3°25N±0°03×93°77E±0°04,h18km±1km, h19km:pP-P,n1080,σ1966/1004,mb5.5/283,MS5.7/217, 48C-34D,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MLSI	**Meulaboh, Aceh**	**2.82**	**69**	P	**Pn**	**22 29 41.7**	**-1.2**
TPTI		**3.41**	**90**	P	**Pn**	**22 29 50.2**	**-0.8**
LHMI	**Lhok Sumawe**	**3.73**	**58**	P	**Pn**	**22 29 55.7**	**+0.3**
LHMI	**Lhok Sumawe**	**3.73**	**58**	*e*Pn	**Pn**	**22 29 55.2**	**-0.2**
KCSI	**Kotacane, Aceh**	**4.00**	**86**	P	**Pn**	**22 30 00.9**	**+1.6**
GSI	**Gunungsitoli**	**4.27**	**117**	P	**Pn**	**22 30 03.0**	**+0.1**
GSI	**Gunungsitoli**	**4.27**	**117**	*e*Pn	**Pn**	**22 30 01.8**	**-1.0**
TSI	**Tuntungan**	**4.79**	**87**	P	**Pn**	**22 30 11.9**	**+1.8**
PSI	**Prapat**	**5.17**	**95**	Pn	**Pn**	**22 30 15.3**	**0.0**
	baz=285,slow=11						
PSI				Sn	**Sn**	**22 31 10.1**	**-4.5**
	baz=72,slow=20						
PBSI	**Pulau Batu**	**5.58**	**126**	P	**Pn**	**22 30 19.2**	**-1.7**
	9μm,0.9s,26nm						
MNSI	**Mandailing Nat**	**6.30**	**113**	P	**Pn**	**22 30 29.3**	**-1.5**
	726nm,0.6s,4.6nm						
PKDT	**Phuket**	**6.47**	**44**	P	**Pn**	**22 30 35.0**	**+1.8**
	151nm,1.0s,0.7nm						
SISI	**Saibi**	**7.00**	**130**	P	**Pn**	**22 30 40.0**	**-0.4**
	1μm,0.7s,6.5nm						
KULM	**Kulim**	**7.15**	**73**	*e*Pn	**Pn**	**22 30 41.2**	**-1.4**
IPM	**Ipoh**	**7.34**	**80**	*e*Pn	**Pn**	**22 30 44.2**	**-1.0**
TRTT	**Trang**	**7.45**	**52**	P	**Pn**	**22 30 48.1**	**+1.5**
	102nm,1.6s,0.6nm						
PPI	**Padang Panjang**	**7.58**	**119**	P	**Pn**	**22 30 47.5**	**-0.9**
BKNI	**Bangkinang**	**7.83**	**112**	P	**Pn**	**22 30 53.2**	**+1.4**
	1μm,1.2s,4.1nm						
BKNI	**Bangkinang**	**7.83**	**112**	*e*Pn	**Pn**	**22 30 51.6**	**-0.2**
SKLT	**Songkhla**	**7.85**	**60**	P	**Pn**	**22 30 54.1**	**+1.9**
	1μm,1.4s,4.4nm						
PDSI	**Padang**	**7.87**	**122**	P	**Pn**	**22 30 52.5**	**+0.1**
	275nm,0.7s,1.9nm						
PBA	**Port Blair**	**8.41**	**353**	*e*P	Pn	22 30 57.5	-2.3
SDSI	**Sungai Dareh**	**8.71**	**118**	P	**Pn**	**22 31 07.0**	**+3.0**
	0.3nm,0.8

MDRS **Chennai** 16.55 307 *e*P Pn 22 32 50.8 +0.8
MDRS IAmb IAmb 22 32 58.4
comp=Z,316nm,1.7s
UBPT Khong Chiam 16.60 43 P Pn 22 32 46.8 -4.0
comp=Z,316nm,1.5s
KSM Kuching 16.62 96 *e*Pn P 22 32 52.2 -1.1
comp=Z,594nm,1.1s
LEM Lembang 17.07 126 P P 22 32 59.8 +1.3
comp=Z,2.8nm,0.3s,baz=248,slow=4.9,SNR=20
PAYA Payao 17.08 20 P P 22 32 58.6 +0.1
comp=Z,48nm,1.0s
CMAI Chiengmai2 17.36 17 P P 22 33 03.3 +1.6
comp=Z,6µm,1.6s,comp=Z,241µm
SKHT Srikalahasti 17.36 308 *e*P P 22 33 01.8 +0.3
JCJI Jatiwangi 17.42 124 P P 22 33 04.8 +2.6
comp=Z,298nm,1.8s
TRD Trivandrum 17.51 288 *e*P Pn 22 33 02.5 +0.3
TRD IAmb IAmb 22 33 09.0
comp=Z,937nm,2.6s
VIS Vishakhapatnam 17.65 325 *e*P Pn 22 33 01.9 -1.9
VIS IAmb IAmb 22 33 07.2
comp=Z,70nm,0.4s
CHLP Challavanipeta 17.89 329 *e*P Pn 22 33 06.8 0.0
STKI Sintang 17.98 100 P P 22 33 10.3 +1.9
comp=Z,194nm,1.3s
XMIS Christmas Isla 18.06 139 *e*Pn P 22 33 09.5 +0.2
comp=Z,291nm,1.2s
PVM Polavaram 18.32 320 *e*P P 22 33 12.2 +0.2
KPJI Karang Pucung 18.43 125 P Pn 22 33 14.0 +0.6
comp=Z,102nm,1.1s
SBUM Sibu 18.45 92 *e*P Pn 22 33 13.8 +0.1
comp=Z,292nm,1.4s
ADKI Addanki 18.47 314 *e*P Pn 22 33 15.3 +1.4
BWNR Bhubaneshwar 18.63 336 *e*P Pn 22 33 16.4 +0.5
BWNR IAmb IAmb 22 33 19.6
comp=Z,8µm,4.9s
PBKI Pangkalan Bun 18.85 108 P Pn 22 33 20.7 +2.1
comp=Z,572nm,1.2s
RCLA Racherla 18.97 311 *e*P P 22 33 19.5 +0.2
NJS Nagarjunasagar 19.41 314 *e*P P 22 33 24.7 +0.6
SRLM Srisailam 19.42 312 *e*P P 22 33 24.6 +0.3
SMRI Semarang 19.54 122 P P 22 33 25.1 -0.4
comp=Z,580nm,0.9s
SMRI Semarang 19.54 122 *e*P P 22 33 24.8 -0.7
comp=Z,431nm,0.8s
URV Uravakonda 20.00 307 *e*P P 22 33 30.1 -0.5
UGM Wanagama 20.06 124 P Pn 22 33 33.6 +0.5
comp=Z,182nm,1.2s
UGM Wanagama 20.06 124 *e*P P 22 33 31.2 -0.1
comp=Z,284nm,1.2s
WOJI Wonogiri, Jawa 20.36 123 P Pn 22 33 35.6 -0.9
comp=Z,72nm,1.4s
HYB Hyderabad 20.52 314 *i*P Pn 22 33 39.0 +0.5
HYB Hyderabad 20.52 314 *e*P P 22 33 36.7 +0.5
HYB IAmb IAmb 22 33 44.5
comp=Z,379nm,1.7s
HYBB Hyderabad (bro 20.52 314 *e*P Pn 22 33 38.0 -0.5
BWJI Bawean 20.92 116 P Pn 22 33 45.1 +1.9
RPR Rampur 21.00 319 *e*P Pn 22 33 42.9 -1.2
PWJI Pagerwojo 21.19 122 P P 22 33 47.6 +4.1
comp=Z,61nm,1.1s
GRJI Gresik 21.23 118 P P 22 33 50.0 +6.0
MTKI Muara Teweh, K 21.53 101 P P 22 33 46.5 -0.6
comp=Z,429nm,1.7s
SRSP Sriramsagar 21.69 317 *e*P P 22 33 49.0 +0.2
BOK Bokaro 21.80 340 *e*P P 22 33 51.2 +1.2
BOK IAmb IAmb 22 33 56.6
comp=Z,399nm,0.5s
QIZ Qiongzhong 22.20 44 P P 22 33 55.0 +0.7
QIZ S S 22 37 57.4 -0.8
QIZ pmax pmax
comp=Z,61nm,2.6s
QIZ Qiongzhong 22.20 44 *e*P P 22 33 55.2 +0.9
comp=Z,448nm,1.5s
SHL Shillong 22.26 356 *e*P P 22 33 54.5 -0.6
SHL IAmb IAmb 22 34 01.7
comp=Z,111nm,0.6s
KLRI Killari 22.36 312 *e*P P 22 33 56.0 -0.1
KKM Kota Kinabalu 22.54 82 *e*P P 22 33 58.9 +0.7
comp=Z,137nm,0.8s
KKM LR LR
comp=Z,21µm,20.0s
NGP Nagpur 22.84 322 *e*P P 22 34 01.1 0.0
NGP IAmb IAmb 22 34 09.8
comp=Z,181nm,1.3s
GOA Goa 23.10 303 *e*P P 22 34 05.2 +1.4
GOA IAmb IAmb 22 34 12.0
comp=Z,516nm,2.0s
KBKI Kotabaru 23.31 106 P P 22 34 11.6 +5.6
KMI Kunming 23.40 21 P P 22 34 09.8 +2.8
KMI pP sP 22 34 18.3 +3.6
KMI PP **PnPn** 22 34 39.4 +5.9
KMI pmax pmax
comp=Z,160nm,2.0s
KMI LR LR
comp=Z,15µm,15.2s
KMI LR LR
comp=Z,18µm,12.2s
KMI LR LR
comp=Z,14µm,18.8s
JAGI Jajag, Banyuwa 23.43 120 P P 22 34 08.9 +1.7
comp=Z,74nm,1.3s
JAGI Jajag, Banyuwa 23.43 120 *e*P P 22 34 07.4 +0.2
comp=Z,211nm,1.5s
BKB Balikpapan 23.55 101 P P 22 34 12.5 +4.1
SMKI Samarinda 23.72 98 P P 22 34 15.0 +5.0
DGAR Diego Garcia 23.76 243 PFAKE 22 34 20.0 +10
DGAR LR LR
comp=Z,14µm,20.0s
H08S2 Diego Garcia H 23.83 243 T T 22 59 33.4
baz=63,slow=75,SNR=931
H08S3 Diego Garcia H 23.83 243 T T 22 59 10.8
baz=63,slow=75,SNR=972
H08S1 Diego Carcia H 23.85 243 T T 22 59 09.2
baz=63,slow=75,SNR=835
SGKI Sangatta, Kali 24.12 99 P P 22 34 17.4 +3.6
comp=Z,308nm,1.8s
SRBI Singaraja 24.18 118 P P 22 34 15.3 +1.0
comp=Z,109nm,1.2s
ODAN Odare 24.25 346 *e*P P 22 34 15.7 +0.5
comp=Z,739nm,1.7s
RAMN Ramite 24.54 344 *e*P P 22 34 18.4 +0.6
POO Poona 24.71 309 *e*P P 22 34 19.7 +0.5
POO IAmb IAmb 22 34 26.6
comp=Z,135nm,0.2s
MYLDM Lahad Datu 24.74 85 *e*P P 22 34 19.4 0.0
comp=Z,847nm,1.3s
JIRN Jiri 25.33 344 *e*P P 22 34 25.2 +0.2
BHPL Bhopal 25.40 323 *e*P P 22 34 25.8 +0.4
BHPL IAmb IAmb 22 34 31.2
comp=Z,47nm,0.8s
PKIN Phulchoki 25.48 343 *e*P P 22 34 27.2 +0.9
comp=Z,280nm,1.4s
DMN Daman 25.59 342 *e*P P 22 34 27.7 +0.4
comp=Z,196nm,1.0s
GUN Gumba 25.65 344 *e*P P 22 34 28.2 +0.2
comp=Z,259nm,1.0s
KKN Kakani 25.71 342 *e*P P 22 34 28.7 +0.3
comp=Z,271nm,1.2s
GKN Gorkha 26.11 341 *e*P P 22 34 32.0 +0.1
comp=Z,295nm,1.1s
GYA Guiyang 26.18 27⇑ *i*P P 22 34 32.8 +0.3
GYA pP sP 22 34 42.0 +1.6
GYA PP **PnPn** 22 35 16.8 +5.4
GYA PcP **PcP** 22 38 01.3 +1.8
GYA S S 22 39 02.6 -1.2
GYA sS sS 22 39 16.4 +3.3
GYA SS **SnSn** 22 40 10.8 +7.6
GYA ScP **ScP** 22 41 37.3 -1.3
GYA pmax pmax
comp=Z,40nm,0.8s
GYA pmax pmax
comp=Z,180nm,5.8s
GYA LR LR
comp=Z,3µm,17.4s
GYA LR LR
comp=Z,3µm,18.0s
GYA LR LR
comp=Z,2µm,17.8s
KOLN Koldanda 26.24 339 *e*P P 22 34 33.4 +0.2
comp=Z,159nm,1.1s
MPSI Mapaga 26.27 96 P P 22 34 34.4 +1.0
comp=Z,78nm,1.0s
LSA Lhasa 26.42 355 *e*P P 22 34 35.9 +0.8
LSA Lhasa 26.42 355 *i*P P 22 34 35.9 +0.8
SNR=96

LSA Lhasa 26.42 355 *e*P P 22 34 35.9 +0.8
PYUN Piuthan 26.76 338 *e*P P 22 34 38.3 +0.4
comp=Z,981nm,1.9s
TTSI Tana Toraja 26.78 103 P P 22 34 42.0 +4.1
MCO Taipa Grande 26.85 44 P P 22 34 43.0 +4.6
KAPI Kappang 27.23 107 *e*P P 22 34 41.4 -0.6
KAPI LR LR
comp=Z,10µm,21.0s
KAPI Kappang 27.23 107⇑ *e*P P 22 34 42.2 +0.2
KAPI pmax pmax
comp=Z,166nm,1.7s
BNSI Bone 27.39 106 P P 22 34 45.2 +1.7
comp=Z,100nm,1.7s
APSI Ampana 28.17 98 P P 22 34 54.4 +3.9
BSSI Bau Bau, Buton 28.27 109 P P 22 34 52.8 +1.5
comp=Z,142nm,1.6s
MRSI Marisa 28.29 95 P P 22 34 50.9 -0.6
comp=Z,76nm,1.2s
WBSI Waikabubak, Su 28.56 117 P P 22 34 54.2 +0.2
comp=Z,109nm,1.3s
TGY Tagaytay City 28.90 66 LR LR 22 47 35.1
comp=Z,10µm,18.3s,baz=252,slow=39
CD2 Chengdu 29.08 18 *e*P P 22 34 59.0 +0.6
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 Chengdu 29.08 18 P P 22 34 57.8 -0.6
CD2 pP pP 22 35 03.8 -0.2
CD2 sP sP 22 35 06.5 +0.2
CD2 S **S** 22 39 50.3 +0.9
CD2 pmax pmax
comp=Z,90nm,0.9s
CD2 pmax pmax
comp=Z,840nm,7.0s
CD2 LR LR
comp=Z,17µm,13.4s
CD2 LR LR
comp=Z,26µm,15.4s
CD2 LR LR
comp=Z,18µm,15.9s
LUWI Luwuk 29.30 98 P P 22 35 02.8 +2.3
comp=Z,141nm,0.9s,comp=Z,6µm
LUWI Luwuk 29.30 98 *e*P P 22 34 59.7 -0.8
comp=Z,198nm,1.1s
PAGZ Pagadian 29.82 80 *e*S P 22 35 08.8 +3.7
RCP Roxas 29.87 72⇑ *e*P P 22 35 06.8 +1.3
KMSI Cibinong 30.31 94 P P 22 35 18.9 +9.5
ENH Enshi 30.72 27 *e*P P 22 35 11.7 -1.2
comp=Z,31nm,0.7s
ENH LR LR
comp=Z,22µm,20.0s
MMRI Maumere 30.75 113 P P 22 35 13.8 +0.5
comp=Z,98nm,1.3s
MMRI Maumere 30.75 113 *e*P P 22 35 12.1 -1.1
comp=Z,331nm,1.7s
DDI Dehra Dun 30.76 333 *e*P P 22 35 13.5 +0.2
DDI IAmb IAmb 22 35 18.2
comp=Z,206nm,1.4s
CGP Cagayan de Oro 31.18 79 *e*P P 22 35 25.6 +8.4
BUKP Musuan 31.47 80 *e*S P 22 35 20.4 +0.7
OCLP Ormoc 31.54 74 *e*S P 22 35 24.5 +4.3
SMLA Simla 31.84 332 *e*P P 22 35 22.2 -0.5
SMLA IAmb IAmb 22 35 29.8
comp=Z,2µm,3.8s
DAV Davao City (W) 31.90 82 LR LR 22 49 49.6
comp=Z,11µm,20.9s,baz=250,slow=39
MATI Mati 32.56 82 *e*S P 22 35 26.1 -3.2
SANI Sanana 32.63 99 P P 22 35 31.4 +1.5
comp=Z,34nm,1.8s
BATI Baumata 32.64 115 P P 22 35 29.3 -0.7
comp=Z,44nm,0.6s,baz=322,slow=2.8,SNR=11
BATI Baumata 32.64 115 P P 22 35 29.6 -0.3
comp=Z,46nm,1.1s
TPUB Ta-pu 32.75 50 *e*P P 22 35 30.4 -0.4
comp=Z,180nm,1.8s
TWG Pinlang 32.83 51 *e*P P 22 35 35.9 +4.4
comp=Z,93nm,0.3s
SOEI Soe 33.02 113 P P 22 35 33.9 +0.5
comp=Z,118nm,1.0s
SOEI Soe 33.02 113 *e*P P 22 35 31.4 -2.0
comp=Z,470nm,1.7s
DHRM DHARAMSHALA 33.18 332 *e*P P 22 35 33.3 -1.5
DHRM IAmb IAmb 22 35 52.5
comp=Z,61nm,0.5s
SSLB Suanglung 33.26 50 *e*P P 22 35 34.6 -0.8
comp=Z,204nm,1.9s
YULB Yu-li 33.31 51 *e*P P 22 35 37.1 +1.4
comp=Z,54nm,1.0s
WHN Wuhan 33.40 33 ⇑P P 22 35 35.3 -1.0
WHN LR LR
comp=Z,43µm,14.9s
WHN LR LR
comp=Z,45µm,13.5s
WHN LR LR
comp=Z,75µm,13.1s
XAN Xi'an 33.73 23 P P 22 35 37.6 -1.7
XAN pP pP 22 35 45.3 +0.4
XAN sP sP 22 35 48.8 +1.6
XAN pmax pmax
comp=Z,76nm,1.0s
XAN LR LR
comp=Z,17µm,13.7s
XAN LR LR
comp=Z,10µm,15.7s
XAN LR LR
comp=Z,18µm,14.7s
LBMI Labuha 33.94 96 P P 22 35 44.3 +3.0
comp=Z,123nm,1.2s,comp=Z,5µm
LZH Lanzhou 33.97 15 *e*P P 22 35 40.6 -0.9
LZH pP pP 22 35 47.5 +0.3
LZH sP sP 22 35 51.4 +1.9
LZH PcP **PcP** 22 38 16.9 -2.7
LZH *e*S **S** 22 40 58.3 -7.6
LZH SS **SnSn** 22 43 10.9 -1.9
LZH pmax pmax
comp=Z,220nm,1.0s
LZH pmax pmax
comp=Z,910nm,5.3s
LZH LR LR
comp=Z,8µm,15.3s
LZH LR LR
comp=Z,9µm,13.8s
LZH LR LR
comp=Z,9µm,15.7s
YHNB Yeheng 34.07 49 PFAKE 22 35 50.0 +7.6
YHNB LR LR
comp=Z,19µm,19.0s
TATO Taipei 34.33 48 PFAKE 22 36 00.0 +15
TATO LR LR
comp=Z,11µm,21.0s
AAI Ambon 35.09 101 P P 22 35 52.5 +1.2
comp=Z,174nm,1.3s,comp=Z,3µm
MBWA Marble Bar 35.15 135 *e*P P 22 35 50.2 -1.5
comp=Z,116nm,1.0s
MBWA LR LR
comp=Z,8µm,20.0s
MBWA Marble Bar 35.15 135 P P 22 35 51.4 -0.3
SNR=6.8
MSAI Masohi 35.75 100 P P 22 35 57.4 +0.5
comp=Z,43nm,1.3s
NIL Nilore 35.80 330 *e*P P 22 35 56.5 -0.7
NIL LR LR
comp=Z,4µm,19.0s
NIL Nilore 35.80 330 *e*P P 22 35 56.5 -0.7
NIL MLR MLR
comp=Z,4µm,19.0s
GTA Gaotai 36.41 8 P P 22 36 01.8 -0.6
GTA pP sP 22 36 09.9 -0.5
GTA sP pP 22 36 14.5 +6.4
GTA PcP **PcP** 22 38 24.9 -1.7
GTA S **S** 22 41 44.5 +1.3
GTA pmax pmax
comp=Z,13nm,1.2s
GTA pmax pmax
comp=Z,820nm,5.6s
GTA LR LR
comp=Z,6µm,13.3s
GTA LR LR
comp=Z,7µm,15.7s
GTA LR LR
comp=Z,4µm,12.8s
BNDI Bandanaira 36.92 102 P P 22 36 18.2 +11
NJ2 Nanjing 37.10 37 *e*P P 22 36 07.8 -0.4
NJ2 pmax pmax
comp=Z,43nm,1.2s
NJ2 pmax pmax
comp=Z,820nm,4.2s

NJ2 LR LR
comp=Z,9µm,12.5s
NJ2 LR LR
comp=Z,26µm,18.4s
NJ2 LR LR
comp=Z,21µm,15.2s
SIJI Sorong 37.70 96 P P 22 36 12.0 -1.6
comp=Z,103nm,0.8s,baz=292,slow=5.2,SNR=20
FITZ Fitzroy Crossi 37.90 125 P P 22 36 13.4 -1.8
comp=Z,24nm,0.7s,baz=286,slow=4.9
MEEK Meekatharra 38.21 143 P P 22 36 17.2 -0.6
baz=38,SNR=27
TIY Taiyuan 38.33 24 *e*P P 22 36 19.5 +0.9
MORW Morawa 38.59 148 P P 22 36 20.7 -0.3
baz=39,SNR=3.3
KBL Kabul 38.70 326 *e*P P 22 36 21.3 -0.7
comp=Z,41nm,1.3s
KBL Kabul 38.70 326 *e*P P 22 36 21.3 -0.7
KBL pmax pmax
comp=Z,41nm,1.3s
FAKI Fak Fak 38.95 99 P P 22 36 22.8 -1.3
comp=Z,203nm,1.2s,comp=Z,3µm
FAKI Fak Fak 38.95 99 *e*P P 22 36 22.3 -1.8
comp=Z,143nm,1.0s
TIA Tai'an 39.25 30 P P 22 36 27.8 +1.5
TIA pmax pmax
comp=Z,18nm,1.3s
WSAR Wadi Sarin 39.36 303 P P 22 36 26.4 -1.1
comp=Z,3.0nm,1.0s,baz=146,slow=7.3,SNR=2.3
WSAR LR LR 22 52 36.0
comp=Z,5µm,18.2s,baz=134,slow=36
KNRA Kununurra 39.40 120 P P 22 36 25.8 -2.1
baz=39,SNR=12
KSH Kashi 39.55 338 P P 22 36 31.4 +2.5
KSH pP sP 22 36 39.3 +2.4
KSH PP **PnPn** 22 38 07.3 +4.4
KSH PcP **PcP** 22 38 40.0 +3.7
KSH S **S** 22 42 29.3 -1.5
KSH ScS **ScS** 22 46 31.0 -5.6
KSH pmax pmax
comp=Z,140nm,1.4s
KSH pmax pmax
comp=Z,2µm,6.5s
KSH LR LR
comp=Z,3µm,9.6s
KSH LR LR
comp=Z,3µm,11.6s
BIDO Bidbid 39.90 304 P P 22 36 34.6 +2.7
SNR=10
BLDU Ballidu 40.17 149 P P 22 36 35.0 +0.9
baz=40,SNR=6.1
MTN Manton Dam 40.41 114 P P 22 36 35.8 -0.4
baz=40,SNR=4.6
MTN Manton Dam 40.41 114 *e*P P 22 36 34.9 -1.4
comp=Z,193nm,1.6s
JOW Kunigami 40.49 51 P P 22 36 37.9 +1.1
comp=Z,37nm,0.9s,baz=256,slow=5.7,SNR=4.7
JOW LR LR 22 55 33.6
comp=Z,8µm,18.4s,baz=258,slow=40
JOW Kunigami 40.49 51 *e*P P 22 36 36.8 0.0
comp=Z,191nm,1.3s
KMPI Kaimana, Papua 40.50 99 P P 22 36 48.6 +12
HHC Hu-ho-hao-te 40.72 21 P P 22 36 42.1 +3.5
HHC pP sP 22 36 45.5 -1.1
HHC sP pP 22 36 51.3 +7.0
HHC S **S** 22 42 49.1 +0.8
HHC pmax pmax
comp=Z,120nm,1.0s
HHC pmax pmax
comp=Z,550nm,5.3s
HHC LR LR
comp=Z,2µm,14.4s
HHC LR LR
comp=Z,2µm,14.2s
HHC LR LR
comp=Z,3µm,14.8s
WMQ Urumqi 40.75 353 P P 22 36 40.3 +1.5
WMQ pP pP 22 36 44.3 -0.2
WMQ sP sP 22 36 54.4 +7.6
WMQ pmax pmax
comp=Z,230nm,1.9s
WMQ pmax pmax
comp=Z,2µm,5.5s
WMQ LR LR
comp=Z,5µm,28.9s
WMQ LR LR
comp=Z,10µm,25.3s
WMQ LR LR
comp=Z,10µm,27.7s
SFK Sufi-Kurgan 40.94 336 *i*P P 22 36 40.7 +0.1
SFK pmax pmax
comp=Z,153nm,1.8s
MUN Mundaring 41.02 150 P P 22 36 41.5 +0.5
baz=41,SNR=4.0
KDJ Kajisay 41.46 341 *e*P P 22 36 45.2 +0.5
comp=Z,75nm,0.9s
SOHO SOHO 41.48 303 *i*P P 22 36 46.4 +1.4
SNR=7.3
SHLS Shalkode 41.72 344 *e*P P 22 36 47.0 +0.1
comp=Z,369nm,1.3s
SHLS *e*S **S** 22 43 03.1 0.0
UZB Uzynbulak 41.83 344 *e*P P 22 36 48.5 +0.7
comp=Z,184nm,1.1s
UZB LR LR 22 56 14.8
comp=Z,1µm,12.3s
BJT Baijiatuau 41.84 26 *e*P P 22 36 48.2 +0.5
BJT LR LR
comp=Z,14µm,20.0s
BJT Baijiatuau 41.84 26 *e*P P 22 36 48.2 +0.5
BJT MLR MLR
comp=Z,14µm,20.0s
BJI Beijing 41.86 26⇓ *i*P P 22 36 48.4 +0.6
BJI S **S** 22 43 08.0 +3.0
BJI pmax pmax
comp=Z,140nm,1.3s
BJI LR LR
comp=Z,10µm,18.3s
BJI LR LR
comp=Z,6µm,17.2s
BJI LR LR
comp=Z,10µm,25.5s
ULHL Ulahol 41.87 340 P P 22 36 48.5 +0.4
SNR=36
PDGK Podgornoye 41.88 344 *i*P P 22 36 48.6 +0.5
PDGK pmax pmax
comp=Z,189nm,1.5s
SATY Saty 41.93 343 *e*P P 22 36 49.2 +0.7
comp=Z,440nm,1.1s
SATY *e*S **S** 22 43 07.7 +1.4
ZHN Zhinishke 42.02 343 *e*P P 22 36 49.9 +0.6
comp=Z,140nm,1.0s
KZA Kyzart 42.06 339 P P 22 36 50.5 +0.5
SNR=12
HATD Hatta, Dubai 42.10 304 *i*P P 22 36 50.6 +0.5
SNR=7.3
ASHO Ashiyiah 42.10 304 P P 22 36 52.8 +2.7
SNR=5.5
ASHO Ashiyiah 42.10 304 *i*P P 22 36 52.6 +2.5
SNR=6.4
ALNE Al Ain 42.11 303 *i*P P 22 36 52.0 +1.8
SNR=7.2
KPKS Kokpek 42.22 344 *e*P P 22 36 51.2 +0.4
comp=Z,180nm,0.7s
KPKS *e*S **S** 22 43 11.1 +0.7
NWAO Narrogin (SRO) 42.29 150 P P 22 36 51.7 +0.2
comp=Z,20nm,0.7s,baz=208,slow=8.4,SNR=13
NWAO Narrogin (SRO) 42.29 150 P P 22 36 51.9 +0.4
baz=42,SNR=9.4
NWAO P P 22 36 51.9 +0.4
baz=42,SNR=9.4
NWAO Narrogin (SRO) 42.29 150 *e*P P 22 36 52.2 +0.7
comp=Z,200nm,1.8s
NWAO LR LR
comp=Z,8µm,19.0s
NWAO Narrogin (SRO) 42.29 150 *e*P P 22 36 52.2 +0.7
NWAO pmax pmax
comp=Z,200nm,1.8s
NWAO MLR MLR
comp=Z,8µm,19.0s
MSFE Esma-Masafi 42.30 305 *i*P P 22 36 52.5 +0.8
SNR=6.1
UCH Uchtor 42.45 339 P P 22 36 53.8 +0.6
SNR=27
H01W3 Cape Leeuwin H 42.49 155 T T 23 22 14.8
baz=331,slow=76,SNR=143
H01W2 Cape Leeuwin H 42.50 155 T T 23 21 59.4
baz=331,slow=76,SNR=153

H01W1 Cape Leeuwin H 42.51 155 T T 23 22 27.3
baz=331,slow=76,SNR=144
AAA Alma-Ata 42.52 342 *e*P **P** **22 36 55.7 +2.5**
AAA *e*S **S** **22 43 18.1 +3.3**
AAA Alma-Ata 42.52 342 *e*P **P** **22 36 54.5 +1.3**
AAA *e*S **S** **22 43 14.0 -0.7**
AAA pmax pmax
comp=Z,1μm,3.9s
AAA smax smax
comp=N,4μm,15.6s
AAA MLR MLR
comp=Z,3μm,15.0s
NAZ Nazwa, Dubai 42.56 304 *i* P **P** **22 36 54.6 +0.9**
SNR=6.3
AML Almayashu 42.67 338 P **P** **22 36 55.6 +0.7**
SNR=35
KBK Karagaybulak 42.67 339 P **P** **22 36 55.8 +1.1**
SNR=25
TKM2 Tokmak 2 42.69 340 P **P** **22 36 55.0 +0.2**
SNR=17
TKM2 Tokmak 2 42.69 340 *i* P **P** **22 36 55.1 +0.3**
TKM2 pmax pmax
comp=Z,122nm,1.4s
AAK Ala-Archa 42.82 339 P **P** **22 36 56.0 +0.1**
SNR=25
AAK Ala-Archa 42.82 339 *e*P **P** **22 36 56.7 +0.8**
comp=Z,162nm,1.6s
AAK LR LR
comp=Z,5μm,20.0s
AAK Ala-Archa 42.82 339 P **P** **22 36 57.1 +1.3**
SNR=18
AAK Ala-Archa 42.82 339 *i* P **P** **22 36 56.8 +1.0**
SNR=33
AAK Ala-Archa 42.82 339⇑ *e*P **P** **22 36 57.2 +1.3**
AAK pmax pmax
comp=Z,10.0nm,1.0s
AJN Ajban 42.95 303 *i* P **P** **22 36 58.7 +1.8**
SNR=6.9
FRU Bishkek 42.95 339⇓ *e*P **P** **22 36 59.0 +2.3**
FRU *e*S **S** **22 43 30.0 +9.0**
FRU pmax pmax
comp=Z,280nm,1.9s
FRU MLR MLR
comp=E,5μm,15.0s
CHMS Chumysh 43.05 339 P **P** **22 37 02.0 +4.5**
SNR=9.5
EKS2 Erkin-Say 43.10 338 P **P** **22 36 58.6 +0.5**
SNR=19
KUU Kurty 43.31 342 *e*P **P** **22 36 59.5 -0.2**
comp=E,154nm,1.2s
USP Ospenovka 43.37 339 P **P** **22 36 60.0 -0.1**
SNR=27
MNAS Manas 43.43 337 *i* P **P** **22 37 00.5 -0.3**
MNAS pmax pmax
comp=Z,142nm,2.1s
KMBL Kambalda 43.61 144 P **P** **22 37 02.6 +0.4**
baz=44,SNR=8.7
DL2 Dalian 43.62 32⇑ *i*P **P** **22 37 05.9 +3.8**
DL2 *e*S **S** **22 43 35.8 +5.0**
DL2 pmax pmax
comp=Z,69nm,1.2s
DL2 pmax pmax
comp=Z,2μm,8.2s
DL2 LR LR
comp=Z,14μm,14.3s
DL2 LR LR
comp=Z,10μm,14.9s
DL2 LR LR
comp=Z,12μm,17.2s
WRKA Warakurna 43.75 132 P **P** **22 37 02.8 -0.6**
baz=44,SNR=26
IUG Iuzhnay 44.16 335 *e*P **P** **22 37 06.8 +0.2**
comp=Z,210nm,0.9s
DZA Taraz 44.24 336 *e*P **P** **22 37 06.9 -0.2**
RER Riviere de l'E 44.45 235 *e*P **P** **22 37 10.4 +1.2**
comp=Z,81nm,1.0s
RER LR LR
comp=Z,18μm,22.0s
MK01 Makanchi Array 44.48 349 *e*P **P** **22 37 08.6 -0.4**
CHM Chimkent 44.49 334 LR LR 22 58 28.1
comp=Z,2μm,17.3s
MK31 Makanchi Array 44.50 349 *e*P **P** **22 37 08.8 -0.3**
MK31 Makanchi Array 44.50 349 *i* P **P** **22 37 08.9 -0.2**
MK31 pmax pmax
comp=Z,57nm,0.7s
MKAR Makanchi Array 44.50 349 P **P** **22 37 09.1 -0.1**
comp=Z,45nm,0.6s,baz=168,slow=8.2,SNR=89
MKAR Makanchi Array 44.50 349 *e*P **P** **22 37 08.8 -0.4**
comp=Z,375nm,0.6s
MAKZ Makanchi 44.58 348 *e*P **P** **22 37 09.8 0.0**
MAKZ *ep*P **P** **22 37 10.2 +0.5**
MAKZ Makanchi 44.58 348 *e*P **P** **22 37 09.8 0.0**
ZSN Zaisan 44.70 351 *e*P **P** **22 37 11.8 +1.2**
comp=Z,99nm,1.1s
KK31 Karatay Array 44.75 336 *e*P **P** **22 37 11.3 +0.1**
KK31 Karatay Array 44.75 336 *i* P **P** **22 37 10.7 -0.5**
KK31 pmax pmax
comp=Z,31nm,0.7s
KKAR Karatay Array 44.75 336 *e*P **P** **22 37 11.3 +0.1**
KKAR Karatay Array 44.75 336 *e*P **P** **22 37 11.3 +0.1**
BTLS Baital 45.08 340 *e*P **P** **22 37 13.6 -0.2**
comp=Z,113nm,0.9s
BTLS LR LR 22 58 10.7
comp=Z,933nm,11.6s
INCN Inchon 45.47 37 PFAKE 22 37 30.0 +13
INCN LR LR
comp=Z,18μm,19.0s
JNU Nakatsue 45.67 45 P **P** **22 37 19.6 +0.9**
comp=Z,19nm,0.8s,baz=187,slow=6.0,SNR=4.3
JNU LR LR 22 59 00.3
comp=Z,11μm,18.7s,baz=249,slow=40
JNU Nakatsue 45.67 45 *e*P **P** **22 37 18.2 -0.5**
SONM Songino Array 45.73 12 P **P** **22 37 18.6 -0.4**
comp=Z,25nm,0.9s,baz=194,slow=8.0,SNR=48
SONA1 Songino Array 45.74 12 *e*P **P** **22 37 18.6 -0.5**
ULN Ulaanbaatar 45.90 12 *e*P **P** **22 37 19.7 -0.6**
comp=Z,50nm,1.2s
ULN LR LR
comp=Z,6μm,19.0s
ULN Ulaanbaatar 45.90 12 P **P** **22 37 20.1 -0.3**
SNR=16
ULN Ulaanbaatar 45.90 12 *e*P **P** **22 37 19.7 -0.6**
ULN pmax pmax
comp=Z,50nm,1.2s
ULN MLR MLR
comp=Z,6μm,19.0s
WRA Warramunga Arr 46.02 122 P **P** **22 37 19.9 -1.7**
comp=Z,143nm,1.0s,baz=299,slow=8.9,SNR=56
WRA LR LR 22 57 22.5
comp=Z,6μm,20.8s,baz=300,slow=37
WRAB Tennant Creek 46.03 122 *e*P **P** **22 37 19.7 -2.0**
comp=Z,170nm,0.9s
WRAB LR LR
comp=Z,7μm,20.0s
WRAB Tennant Creek 46.03 122 *ce*P **P** **22 37 20.1 -1.6**
WRAB pmax pmax
comp=Z,360nm,1.7s
WB2 Warramunga Arr 46.03 122 *e*P **P** **22 37 20.3 -1.4**
KSAR Wonju Array Be 46.21 38 P **P** **22 37 22.6 -0.2**
KSAR Wonju Array Be 46.21 38 P **P** **22 37 22.6 -0.2**
KS01 Wonju Array Si 46.24 38 *e*P **P** **22 37 22.4 -0.6**
KSRS Korea Array 46.24 38 P **P** **22 37 22.6 -0.5**
comp=Z,5.6nm,0.9s,baz=229,slow=8.0,SNR=13
KSRS LR LR 22 59 15.1
comp=Z,7μm,18.4s,baz=226,slow=39
DGZ Jazzator, Alta 46.59 354 *e*P **P** **22 37 26.4 +0.6**
DGZ pmax pmax
comp=Z,8.0nm,0.9s
GENI Genyem 46.74 97 P **P** **22 37 28.4 +1.0**
comp=Z,86nm,0.9s
SNY Shenyang 46.77 31 ⇑P **P** **22 37 29.6 +2.5**
SNY S **S** **22 44 15.8 -0.6**
SNY pmax pmax
comp=Z,51nm,1.6s
SNY LR LR
comp=Z,11μm,17.1s
SNY LR LR
comp=Z,5μm,12.5s
SNY LR LR
comp=Z,12μm,16.4s
FORT Forrest 47.06 139 P **P** **22 37 27.8 -1.8**
baz=47,SNR=5.9
FORT Forrest 47.06 139 *e*P **P** **22 37 28.7 -0.9**
comp=Z,3μm,1.3s
JAY Jayapura 47.26 96 P **P** **22 37 33.3 +1.8**
comp=Z,315nm,1.3s,comp=Z,8μm

AS31 Alice Springs 47.36 127 *e*P **P** **22 37 31.1 -1.0**
comp=Z,18nm,0.9s
ASAR Alice Springs 47.36 127 P **P** **22 37 30.4 -1.8**
comp=Z,46nm,0.8s,baz=303,slow=7.7,SNR=43
ASAR PcP **PcP** **22 39 03.6 +0.8**
comp=Z,12nm,0.8s,baz=300,slow=3.1,SNR=6.5
ASAR LR LR 22 57 26.3
comp=Z,4μm,21.6s,baz=310,slow=36
AS01 Alice Springs 47.40 127 *e*P **P** **22 37 30.6 -1.8**
GEYT Alibeck 47.46 321 P **P** **22 37 33.2 +0.5**
comp=Z,38nm,0.8s,baz=147,slow=8.3,SNR=32
GEYT LR LR 22 59 29.1
comp=Z,2μm,20.9s,baz=130,slow=39
GYA0B ALIBECK ARRAY 47.46 321 *e*P **P** **22 37 32.6 -0.1**
comp=Z,90nm,1.2s
ZAK Zakamensk 47.65 8 *e*P **P** **22 37 33.3 -0.7**
ZAK *e* 22 40 13.9
ZAK pmax pmax
comp=Z,27nm,1.7s
ZAK pmax pmax
comp=Z,13nm,1.3s
HVS Khovu-Aksy 47.72 360 *ce*P **P** **22 37 34.8 +0.3**
HVS *i* *PP **pP** **22 37 39.5 -0.8**
HVS *i* *SP **sP** **22 37 41.5 -1.0**
HVS pmax pmax
comp=Z,48nm,1.3s
SEM Semipalatinsk 48.36 348 *e*P **P** **22 37 39.5 -0.1**
comp=Z,243nm,0.7s
SEM *e*S **S** **22 44 39.6 +0.4**
OTUK Ortayu 48.46 341 *i* P **P** **22 37 40.5 +0.3**
OTUK pmax pmax
comp=Z,101nm,0.8s
MOY Mondy 48.62 6 *e*P **P** **22 37 44.0 +2.5**
MOY pmax pmax
comp=Z,83nm,3.6s
KURBB Kurchatov Arra 48.92 347 P **P** **22 37 43.9 +0.2**
comp=Z,41nm,0.8s,baz=172,slow=6.9,SNR=84
TLY Talaya 48.97 8 *e*P **P** **22 37 45.6 +1.6**
comp=Z,38nm,1.0s
TLY LR LR
comp=Z,6μm,19.0s
TLY Talaya 48.97 8 *e*P **P** **22 37 45.3 +1.3**
TLY pmax pmax
comp=Z,67nm,1.7s
TLY MLR MLR
comp=Z,4μm,14.0s
KURK Kurchatov 48.99 347 P **P** **22 37 43.9 -0.3**
KURK LR LR
comp=Z,7μm,22.0s
KURK Kurchatov 48.99 347 P **P** **22 37 43.9 -0.3**
KURK MLR MLR
comp=Z,7μm,22.0s
CN2 Changchun 49.15 30 *e*P **P** **22 37 48.4 +2.9**
CN2 PP **PP** **22 39 42.8 +3.4**
CN2 pmax pmax
comp=Z,30nm,0.7s
CN2 LR LR
comp=Z,8μm,15.0s
CN2 LR LR
comp=Z,12μm,15.0s
CN2 LR LR
comp=Z,11μm,14.0s
IRK Irkutsk 49.60 8 *e*P **P** **22 37 49.4 +0.5**
IRK *e*S **S** **22 44 53.2 -3.0**
IRK pmax pmax
comp=Z,160nm,3.2s
BRZS Berezniki 49.88 342 *e*P **P** **22 37 50.7 -0.3**
comp=Z,20nm,1.0s
DAMY Dhamar 49.95 286 *e*P **P** **22 37 54.5 +2.1**
comp=Z,214nm,1.7s
OPO Ambohidratompo 50.72 243 P **P** **22 37 59.0 +0.9**
comp=Z,10nm,1.0s,baz=56,slow=12,SNR=3.3
OPO LR LR 22 56 23.6
comp=Z,9μm,18.5s,baz=56,slow=32
RAYN Ar Rayn 50.77 298 *e*P **P** **22 37 58.7 +0.5**
comp=Z,80nm,1.4s
RAYN LR LR
comp=Z,5μm,19.0s
RAYN Ar Rayn 50.77 298⇑ *e*P **P** **22 37 59.2 +0.9**
RAYN pmax pmax
comp=Z,75nm,1.7s
QIS Mount Isa 50.79 120 P **P** **22 37 57.0 -1.4**
baz=51,SNR=14
ABPO Ambohimpanom 50.84 242 *e*P **P** **22 38 00.1 +1.1**
comp=Z,142nm,1.6s
ABPO LR LR
comp=Z,2μm,22.0s
ABPO Ambohimpanom 50.84 242 *e*P **P** **22 38 00.1 +1.1**
ABPO pmax pmax
comp=Z,142nm,1.6s
ABPO MLR MLR
comp=Z,2μm,22.0s
HIA Hailar 50.91 22 *e*P **P** **22 37 58.6 -0.3**
comp=Z,81nm,1.0s
HIA LR LR
comp=Z,15μm,19.0s
HIA Hailar 50.91 22 *d i*P **P** **22 37 58.7 -0.1**
HIA pmax pmax
comp=Z,26nm,0.8s
ZAA0 Zalesovo Array 51.06 353 *e*P **P** **22 37 59.8 -0.1**
comp=Z,210nm,1.4s
ZALV Zalesovo Beam 51.06 353 P **P** **22 37 59.8 -0.1**
comp=Z,37nm,0.6s,baz=183,slow=8.0,SNR=53
ZALV LR LR 23 03 10.9
comp=Z,3μm,18.1s,baz=174,slow=40
ZALV Zalesovo Beam 51.06 353 *e*P **P** **22 37 59.4 -0.5**
ZALV Zalesovo Beam 51.06 353 *e*P **P** **22 37 59.4 -0.5**
ATD Arta Tunnel 51.09 282 P **P** **22 38 00.4 -0.4**
comp=Z,16nm,1.1s,baz=309,slow=11,SNR=2.8
ATD LR LR 22 57 24.2
comp=Z,2μm,18.5s,baz=94,slow=33
INU Inuyama 51.17 46 *e*P **P** **22 38 00.4 -0.7**
comp=Z,93nm,1.1s
CIT Chita 51.33 16 *e*P **P** **22 38 06.0 +4.0**
CIT *e* 22 38 15.0
CIT *e* 22 39 20.6
CIT pmax pmax
comp=Z,173nm,1.7s
MSHR Mys Shultsa 51.40 35⇓ *i*P **P** **22 38 03.6 +1.0**
GUMO Guam 51.48 75 LR LR 22 58 46.9
comp=Z,5μm,21.8s,baz=250,slow=35
MDJ Mudanjiang 51.86 32 P **P** **22 38 05.4 -0.6**
MDJ pP sP 22 38 14.0 -0.1
MDJ sP pP 22 38 17.9 +6.1
MDJ S **S** **22 45 33.4 +5.7**
MDJ ScS **ScS** **22 47 49.3 -6.1**
MDJ pmax pmax
comp=Z,65nm,1.0s
MDJ pmax pmax
comp=Z,620nm,5.7s
MDJ LR LR
comp=Z,6μm,13.2s
MDJ LR LR
comp=Z,11μm,16.8s
MDJ LR LR
comp=Z,17μm,15.9s
MDJ Mudanjiang 51.86 32 *e*P **P** **22 38 06.5 +0.5**
comp=Z,62nm,1.1s
COEN Coen 51.89 110 P **P** **22 38 04.8 -1.9**
baz=52,SNR=6.9
COEN Coen 51.89 110 *e*P **P** **22 38 07.1 +0.4**
comp=Z,67nm,1.3s
NVS Novosibirsk 52.14 352 *e*P **P** **22 38 06.7 -1.2**
NVS *e*S **S** **22 45 34.2 +3.0**
NVS pmax pmax
comp=Z,224nm,2.1s
NVS pmax pmax
comp=N,71nm,1.5s
NVS pmax pmax
comp=E,29nm,1.5s
NVS smax smax
comp=N,63nm,2.4s
VLA Vladivostok 52.15 35⇓ *e*P **P** **22 38 08.7 +0.5**
VLA pmax pmax
comp=Z,15nm,0.7s
JHJ Hachijo jima 2 52.23 50 LR LR 23 01 33.4
comp=Z,3μm,19.2s,baz=238,slow=38
MAT Matsushiro 52.59 45 P **P** **22 38 09.9 -1.7**
MJB9 Matsu-Tunnel 52.59 45 *e*P **P** **22 38 14.8 +3.2**
comp=Z,52nm,1.3s
MAJO Matsushiro 52.59 45 *e*P **P** **22 38 12.1 +0.5**
comp=Z,51nm,1.3s
MAJO LR LR
comp=Z,9μm,19.0s
MAJO Matsushiro 52.59 45⇓ *e*P **P** **22 38 12.4 +0.8**
MAJO pmax pmax
comp=Z,108nm,2.0s
MJAR Matsushiro Arr 52.59 45 P **P** **22 38 11.5 -0.1**
comp=Z,7.5nm,1.0s,baz=232,slow=7.8,SNR=17
MJAR PcP **PcP** **22 39 21.8 0.0**
comp=Z,14nm,1.1s,baz=252,slow=5.3,SNR=5.5
MJAR LR LR 23 02 45.1
comp=Z,9μm,18.5s,baz=235,slow=39
KRAR Krasnoyarsk 52.61 359⇓ *e*P **P** **22 38 12.0 +0.7**
USRK Ussuriysk Ar. 52.89 34 P **P** **22 38 13.2 -0.4**
comp=Z,12nm,0.9s,baz=238,slow=6.1,SNR=15
USRK LR LR 23 03 36.0
comp=Z,12μm,18.9s,baz=208,slow=39
BVAR Borovoye Array 53.24 343 P **P** **22 38 15.6 -0.5**
comp=Z,17nm,0.7s,baz=142,slow=7.3,SNR=42
BVAR LR LR 23 01 47.4
comp=Z,4μm,21.4s,baz=154,slow=37
BRVK Borovoye 53.30 343 *e*P **P** **22 38 15.9 -0.6**
comp=Z,99nm,1.4s
BRVK LR LR
comp=Z,3μm,20.0s
BRVK Borovoye 53.30 343 P **P** **22 38 16.2 -0.3**
SNR=15
BRVK Borovoye 53.30 343 *ce*P **P** **22 38 15.6 -0.9**
BRVK pmax pmax
comp=Z,17nm,0.8s
ABKAR Akbulak array 54.12 333 *e*P **P** **22 38 21.7 -0.9**
comp=Z,385nm,1.1s
MTSU Mount Surprise 54.14 115 P **P** **22 38 22.3 -1.0**
baz=54,SNR=23
PMG Port Moresby 54.66 104 P **P** **22 38 25.1 -2.1**
comp=Z,31nm,0.9s,baz=264,slow=6.9,SNR=5.7
PMG LR LR 23 05 11.3
comp=Z,2μm,19.4s,baz=282,slow=40
PMG Port Moresby 54.66 104 *e*P **P** **22 38 25.6 -1.5**
comp=Z,42nm,1.0s
PMG Port Moresby 54.66 104⇓ *e*P **P** **22 38 27.6 +0.4**
PMG pmax pmax
comp=Z,182nm,1.1s
AKTO Aktyubinsk 55.84 333 P **P** **22 38 34.4 -0.6**
comp=Z,11nm,1.0s,baz=138,slow=8.4,SNR=6.0
AKTO Aktyubinsk 55.84 333 *i* P **P** **22 38 34.8 -0.2**
AKTO pmax pmax
comp=Z,48nm,1.4s
TEY Ternei 56.02 36 *e*P **P** **22 38 37.0 +0.6**
TEY pmax pmax
comp=Z,55nm,1.1s
KLR Kul'dur 56.05 29 P **P** **22 38 36.8 +0.3**
comp=Z,4.1nm,1.1s,baz=270,slow=7.6,SNR=38
KLR Kul'dur 56.05 29 *ce*P **P** **22 38 35.9 -0.7**
AKT Akhty 56.08 319 *e*P **P** **22 38 36.3 -0.8**
AKT *e* 22 39 39.1
AKT *e* 22 40 47.0
AKT pmax pmax
comp=Z,59nm,1.2s
HTT Hallett 56.09 134 P **P** **22 38 37.2 0.0**
baz=56,SNR=9.0
PAF Port-aux-Franc 56.23 198 PFAKE 22 38 50.0 +12
PAF LR LR
comp=Z,5μm,19.0s
CTAO Charters Tower 56.48 117 *e*P **P** **22 38 39.1 -1.1**
comp=Z,67nm,1.1s
CTAO LR LR
comp=Z,9μm,19.0s
CTAO Charters Tower 56.48 117 *e*P **P** **22 38 39.1 -1.1**
CTAO pmax pmax
comp=Z,67nm,1.1s
CTAO MLR MLR
comp=Z,9μm,19.0s
KMBO Kilima Mbogo 56.66 267 P **P** **22 38 42.6 +0.8**
comp=Z,19nm,1.1s,baz=77,slow=8.2,SNR=18
KMBO LR LR 23 00 33.2
comp=Z,7μm,18.3s,baz=84,slow=34
KMBO Kilima Mbogo 56.66 267 *e*P **P** **22 38 44.2 +2.4**
comp=Z,76nm,1.4s
KMBO Kilima Mbogo 56.66 267 P **P** **22 38 43.2 +1.3**
SNR=13
KMBO Kilima Mbogo 56.66 267 *i* P **P** **22 38 43.3 +1.5**
SNR=7.9
KMBO Kilima Mbogo 56.66 267 P **P** **22 38 42.6 +0.8**
KMBO pmax pmax
comp=Z,19nm,1.2s
KMBO MLR MLR
comp=Z,7μm,18.3s
BOD Bodaibo 56.70 13 *e*P **P** **22 38 40.5 -0.5**
BOD pmax pmax
comp=Z,84nm,1.4s
NAI Nairobi 57.12 266 *e*P **P** **22 38 47.0 +2.0**
comp=Z,87nm,1.4s
NAI Nairobi 57.12 266 *e*P **P** **22 38 47.0 +2.0**
NAI pmax pmax
comp=Z,87nm,1.4s
DDFL Dedoflistskaro 57.12 319 P **P** **22 38 45.6 +1.1**
STKA Stephens Creek 57.27 131 P **P** **22 38 44.1 -1.5**
comp=Z,30nm,0.7s,baz=315,slow=6.8,SNR=20
STKA Stephens Creek 57.27 131 P **P** **22 38 44.1 -1.5**
baz=57,SNR=11
STKA Stephens Creek 57.27 131 *e*P **P** **22 38 44.2 -1.4**
comp=Z,7.6nm,0.8s
STKA Stephens Creek 57.27 131 *e*P **P** **22 38 44.2 -1.4**
STKA pmax pmax
comp=Z,8.0nm,0.8s
ZEA Zeya 57.31 23 *e*P **P** **22 38 45.0 -0.4**
ZEA pmax pmax
comp=N,65nm,1.2s
ZEA pmax pmax
comp=E,50nm,1.2s
ZEA pmax pmax
comp=Z,71nm,1.2s
ZEA MLR MLR
comp=Z,13μm,14.0s
ZEA MLR MLR
comp=N,11μm,14.0s
GNI Garni 57.45 317 P **P** **22 38 46.9 0.0**
comp=N,32nm,1.1s,baz=349,slow=4.6,SNR=14
GNI LR LR 23 04 58.9
comp=N,2μm,20.7s,baz=109,slow=38
GNI Garni 57.45 317 *e*P **P** **22 38 47.3 +0.5**
comp=N,66nm,1.0s
GNI Garni 57.45 317 P **P** **22 38 47.5 +0.5**
SNR=18
GNI Garni 57.45 317 *i* P **P** **22 38 47.5 +0.5**
SNR=8.8
GNI Garni 57.45 317 *de*P **P** **22 38 47.4 +0.5**
GNI pmax pmax
comp=Z,500nm,2.5s
DGRG David-gareji 57.62 318 P **P** **22 38 47.3 -0.6**
DGRG David-gareji 57.62 318 *e*P **P** **22 38 47.3 -0.6**
TBLG Delisi 58.17 318 P **P** **22 38 50.9 -0.9**
TBLG Delisi 58.17 318 *e*P **P** **22 38 52.0 +0.2**
comp=Z,80nm,1.1s
TBLG Delisi 58.17 318 *e*P **P** **22 38 50.9 -0.9**
GROC Groznyy 58.18 320 *e*P **P** **22 38 51.1 -0.7**
GROC *e* 22 39 38.6
GROC pmax pmax
comp=Z,70nm,1.1s
ERM Erimo 58.54 42 *e*P **P** **22 38 53.9 -0.3**
comp=Z,116nm,1.6s
ERM LR LR
comp=Z,5μm,21.0s
ERM Erimo 58.54 42⇓ *e*P **P** **22 38 55.2 +0.9**
ERM pmax pmax
comp=Z,41nm,2.2s
GUDG Gudauri 58.68 319 P **P** **22 38 56.3 +0.8**
AKH Akhalkalaki 58.86 317 P **P** **22 38 58.0 +1.2**
AKH Akhalkalaki 58.86 317 *e*P **P** **22 38 57.8 +1.0**
comp=Z,152nm,2.0s
AKH Akhalkalaki 58.86 317 *e*P **P** **22 38 58.0 +1.2**
CLNS Chul'man 58.88 19 *e*P **P** **22 38 59.8 +3.4**
CLNS pmax pmax
comp=E,21nm,1.5s
CLNS pmax pmax
comp=Z,41nm,1.5s
CLNS pmax pmax
comp=N,29nm,1.4s
ASAJ Asahikawa 59.17 39 P **P** **22 38 58.7 +0.1**
comp=N,16nm,0.8s,baz=267,slow=11,SNR=22
ASAJ LR LR 23 04 26.2
comp=N,20nm,21.0s,baz=242,slow=36
ASAJ Asahikawa 59.17 39 *e*P **P** **22 38 58.7 +0.1**
comp=N,76nm,1.5s
ZEI Tsey 59.21 319 *e*P **P** **22 38 58.5 -0.7**
ZEI pmax pmax
comp=Z,28nm,0.9s
GRNR Gornyy 59.35 30 *e*P **P** **22 38 58.8 -1.0**
GRNR pmax pmax
comp=N,110nm,1.1s
GRNR pmax pmax

comp=E,110nm,1.1s
GRNR pmax pmax
comp=Z,110nm,1.1s
ONI Oni 59.41 319 P P 22 39 00.5 +0.1
ONI Oni 59.41 319 eP P 22 39 00.5 +0.1
SVE Sverdlovsk 59.55 340⇑ eP P 22 39 00.7 -0.3
SVE eS S 22 47 11.4 +1.5
SVE pmax pmax
comp=Z,154nm,1.8s
NCK Nalchik 59.73 320⇓ eP P 22 39 02.3 -0.3
NCK pmax pmax
comp=Z,7.0nm,0.6s
ARU Arti 59.99 338 eP P 22 39 02.7 -1.3
comp=Z,74nm,1.2s
ARU LR LR
comp=Z,3μm,19.0s
ARU Arti 59.99 338 *c i* P P 22 39 02.6 -1.5
ARU 22 39 49.9
ARU S S 22 47 16.1 +0.5
ARU pmax pmax
comp=Z,24nm,1.0s
ARU MLR MLR
comp=Z,3μm,21.0s
NEY Neytrino 60.19 319⇓ eP P 22 39 06.4 +0.5
NEY pmax pmax
comp=Z,1.0nm,0.8s
CMSA Cobar Meteorol 60.24 129 P P 22 39 05.2 -1.0
baz=60,SNR=49
KBZ Khabaz 60.29 320 P P 22 39 06.1 -0.2
comp=Z,25nm,1.1s,baz=139,slow=5.0,SNR=20
PcP PcP 22 39 52.2 +0.7
KBZ
comp=Z,7.7nm,0.8s,baz=71,slow=1.1,SNR=3.6
KBZ LR LR 23 08 22.2
comp=Z,1μm,20.5s,baz=102,slow=39
ASF Jabal al Asfar 60.49 305 P P 22 39 08.7 +0.7
comp=Z,12nm,1.1s,baz=30,slow=1.8,SNR=12
KIV Kislovodsk 60.53 320 eP P 22 39 07.8 -0.3
comp=Z,81nm,1.1s
KIV LR LR
comp=Z,2μm,20.0s
KIV Kislovodsk 60.53 320 P P 22 39 08.2 +0.1
SNR=19
KIV Kislovodsk 60.53 320 *i* P P 22 39 07.8 -0.3
SNR=9.1
KIV Kislovodsk 60.53 320 eP P 22 39 07.1 -1.0
KIV *e* 22 41 21.2
KIV pmax pmax
comp=Z,61nm,1.0s
KIV MLR MLR
comp=Z,2μm,16.0s
YSS Yuzh-Sakhalins 60.67 36 eP P 22 39 09.2 +0.4
comp=Z,252nm,1.3s
YSS LR LR
comp=Z,3μm,19.0s
YSS Yuzh-Sakhalins 60.67 36⇑ eP P 22 39 09.6 +0.8
YSS pmax pmax
comp=Z,175nm,1.0s
RMQ Roma 60.77 123 P P 22 39 10.0 +0.1
baz=61,SNR=29
GOF Gofitskoye 60.81 321⇑ eP P 22 39 11.3 +1.4
GOF pmax pmax
comp=Z,32nm,1.0s
YUK Yuzh-Kuril'sk 61.22 40⇓ eP P 22 39 12.7 +0.1
MMAI Mount Meron Ar 61.93 306 P P 22 39 19.3 +1.5
comp=Z,23nm,0.9s,baz=98,slow=7.4,SNR=18
SOC Sochi 62.31 318 eP P 22 39 18.2 -1.8
SOC *e**PP **pP 22 39 22.7 -3.3**
SOC *e**SP **sP 22 39 25.5 -2.7**
SOC *e* 22 41 35.1
SOC *e*PPP PPP 22 43 07.8
SOC eS S 22 47 43.3 -2.3
SOC pmax pmax
comp=Z,19nm,0.5s
EIDS Eidsvold 62.37 121 P P 22 39 20.3 -0.4
baz=62,SNR=4.7
EIDS Eidsvold 62.37 121 eP P 22 39 20.2 -0.6
comp=Z,26nm,1.0s
TYV Tymovskoe 62.64 33 eP P 22 39 14.4 -7.6
TYV eS S 22 47 38.1 -11
TYV pmax pmax
comp=Z,600nm,4.1s
TYV pmax pmax
comp=Z,58nm,1.6s
TYV smax smax
comp=E,13nm,1.9s
TYV smax smax
comp=E,800nm,7.2s
TYV MLR MLR
comp=E,11μm,17.0s
TYV MLR MLR
comp=Z,14μm,17.0s
TOO Toolangi 62.79 135 P P 22 39 23.5 0.0
baz=63,SNR=13
NKL Nikolayevsk 62.88 30 eP P 22 39 22.6 -1.0
NKL *e* 22 39 26.0
NKL MLR MLR
comp=Z,18μm,16.0s
NKL MLR MLR
comp=N,6μm,16.0s
NKL MLR MLR
comp=E,10μm,16.0s
KUR Kuril'sk 63.03 40 P P 22 39 27.5 +2.8
KUR S S 22 48 08.2 +14
KUR pmax pmax
comp=Z,212nm,1.5s
KUR pmax pmax
comp=Z,1μm,4.6s
KUR MLR MLR
comp=Z,4μm,14.0s
KUR MLR MLR
comp=E,1μm,9.0s
KUR MLR MLR
comp=N,2μm,12.0s
MBAR Mbarara 63.12 268 eP P 22 39 27.1 +0.9
comp=N,149nm,1.5s
MBAR LR LR
comp=Z,371nm,20.0s
MBAR Mbarara 63.12 268 eP P 22 39 27.1 +0.9
MBAR pmax pmax
comp=Z,149nm,1.5s
MBAR MLR MLR
comp=Z,371nm,20.0s
YNG Young 63.46 131 P P 22 39 27.4 -0.5
baz=64,SNR=11
CSS Mathiatis 64.10 307 eP P 22 39 32.1 -0.1
comp=Z,28nm,1.4s
CSS LR LR
comp=Z,1μm,20.0s
ANN Anapa 64.30 319 eP P 22 39 29.6 -3.6
ANN *e**PP **pP 22 39 36.9 -2.3**
ANN eS S 22 48 05.6 -4.8
ANN eSS SS 22 52 16.6 -3.7
ANN pmax pmax
comp=Z,50nm,1.2s
ANN MLR MLR
comp=E,2μm,20.0s
ANN MLR MLR
comp=Z,2μm,20.0s
ANN MLR MLR
comp=N,2μm,20.0s
CAN Canberra 64.33 132 eP P 22 39 34.1 +0.4
comp=N,55nm,1.1s
CAN LR LR
comp=Z,7μm,20.0s
CAN Canberra 64.33 132 eP P 22 39 34.1 +0.4
CAN pmax pmax
comp=Z,55nm,1.1s
CAN MLR MLR
comp=Z,7μm,20.0s
PATS Pohnpei 64.36 84 P P 22 39 33.7 -0.4
baz=64,SNR=4.1
PATS Pohnpei 64.36 84 eP P 22 39 33.3 -0.8
comp=Z,458nm,1.5s
YAK Yakutsk 64.47 18 P P 22 39 32.7 -1.3
comp=Z,23nm,0.4s,baz=178,slow=2.6,SNR=6.5
YAK Yakutsk 64.47 18 eP P 22 39 33.1 -0.8
comp=Z,118nm,1.1s
YAK LR LR
comp=Z,6μm,20.0s
YAK Yakutsk 64.47 18 eP P 22 39 32.2 -1.8
YAK *e**PP **sP 22 39 44.4 +2.3**
YAK *e* 22 42 01.3
YAK eS S 22 48 06.2 -5.6
YAK pmax pmax
comp=Z,60nm,1.0s
YAK pmax pmax
comp=N,15nm,1.1s
YAK pmax pmax
comp=E,25nm,1.3s
YAK pmax pmax
comp=Z,104nm,2.6s
YAK pmax pmax
comp=E,104nm,2.7s
YAK pmax pmax
comp=N,88nm,2.6s
YAK smax smax
comp=E,97nm,3.5s
ARMA Armidale 64.51 126 P P 22 39 35.5 +0.6
baz=64,SNR=10
ARMA Armidale 64.51 126 eP P 22 39 34.7 -0.3
comp=E,38nm,0.9s
VRH Novokhopyorsk 64.52 327 eP P 22 39 33.7 -0.8
VRH pmax pmax
comp=Z,20nm,1.0s
VRH MLR MLR
comp=Z,2μm,16.0s
BR131 Keskin Array S 65.20 313 eP P 22 39 38.2 -1.2
BRTR Keskin Array B 65.20 313 P P 22 39 38.5 -0.9
comp=Z,12nm,0.8s,baz=124,slow=5.2,SNR=36
BRTR LR LR 23 09 28.6
comp=Z,1μm,20.7s,baz=108,slow=37
ILGA Ilgaz 65.55 314 eP P 22 39 42.2 +0.5
comp=Z,130nm,1.2s
ANTO Ankara 65.87 312 *i* **P P 22 39 44.9 +1.3**
ANTO Ankara 65.87 312 eP P 22 39 43.5 -0.1
comp=Z,56nm,1.1s
ANTO LR LR
comp=Z,1μm,20.0s
ANTO Ankara 65.87 312 P P 22 39 43.7 +0.1
SNR=12
ANTO Ankara 65.87 312 eP P 22 39 43.5 -0.1
ANTO pmax pmax
comp=Z,56nm,1.1s
ANTO MLR MLR
comp=Z,1μm,20.0s
BR231 Keskin MP Arra 65.87 312 eP P 22 39 43.6 -0.1
VSR Storozhevoye 65.95 326 eP P 22 39 42.5 -1.3
VSR pmax pmax
comp=Z,9.0nm,0.7s
VSR MLR MLR
comp=Z,2μm,17.0s
SIM Simferopol' *c* **66.55 318** *c* **eP P 22 39 50.9 +3.1**
SIM pmax pmax
comp=Z,58nm,1.0s
TAU Tasmania Unive 66.58 140 PFAKE 22 40 00.0 +12
TAU LR LR
comp=Z,5μm,19.0s
LPSR Galich'ya Gora 66.71 327 eP P 22 39 50.4 +1.8
LPSR pmax pmax
comp=Z,30nm,1.0s
ISP Isparta 67.02 310 PFAKE 22 40 00.0 +8.9
ISP LR LR
comp=Z,2μm,22.0s
ISP Isparta 67.02 310 *d i* **P P 22 39 52.1 +1.0**
ISP pmax pmax
comp=Z,89nm,1.8s
HNR Honiara 67.13 102 P P 22 39 49.0 -3.0
HNR Honiara 67.13 102 P P 22 39 51.6 -0.4
comp=Z,52nm,0.3s,baz=220,slow=4.6,SNR=13
LSZ Lusaka 67.44 252 P P 22 39 53.8 -0.3
comp=Z,8.6nm,0.8s,baz=70,slow=6.2,SNR=17
LSZ Lusaka 67.44 252 eP P 22 39 54.3 +0.1
comp=Z,132nm,1.8s
LSZ LR LR
comp=Z,10μm,19.0s
LSZ Lusaka 67.44 252 P P 22 39 54.6 +0.5
SNR=11
MANT Manisa 68.69 310 eP P 22 40 01.8 +0.1
comp=Z,202nm,1.3s
MOS Moscow 68.83 330 eP P 22 40 02.9 +1.0
MOS *e* 22 40 23.4
MOS *e* 22 42 35.9
MOS pmax pmax
comp=Z,124nm,1.6s
MOS pmax pmax
comp=Z,600nm,3.3s
MOS MLR MLR
comp=Z,4μm,19.0s
MOS MLR MLR
comp=E,2μm,15.0s
OBN Obninsk 69.09 329 eP P 22 40 02.5 -1.0
comp=E,76nm,1.3s
OBN LR LR
comp=Z,3μm,21.0s
OBN Obninsk 69.09 329⇓ eP P 22 40 02.3 -1.2
OBN pmax pmax
comp=Z,150nm,2.5s
OBN MLR MLR
comp=Z,3μm,19.0s
KARP Karpathos 69.15 307 eP P 22 40 04.9 +0.5
comp=Z,76nm,1.2s
MIR Mirnyy 69.64 180⇓ *i* P 22 40 12.0 +5.3
MIR *i* 22 40 29.0
MIR pmax pmax
comp=Z,108nm,1.5s
MIR MLR MLR
comp=N,5μm,17.0s
MIR MLR MLR
comp=E,6μm,17.0s
MIR MLR MLR
comp=Z,4μm,17.0s
TLCR 70.20 317⇑ *i* **P P 22 40 11.6 +1.0**
SKR Severo-Kuril's 70.23 37⇓ eP P 22 40 12.6 +2.0
TIRR Tirgusor 70.28 316⇑ *i* **P P 22 40 11.1 0.0**
TIRR Tirgusor 70.28 316 eP P 22 40 10.7 -0.4
comp=Z,62nm,1.1s
TIRR Tirgusor 70.28 316 eP P 22 40 10.7 -0.4
TIRR pmax pmax
comp=Z,62nm,1.1s
CASY Casey 70.42 173 eP P 22 40 11.3 -0.1
comp=Z,84nm,1.3s
CASY LR LR
comp=Z,385nm,20.0s
KLMR Klimovskoe 70.44 335 eP P 22 40 10.5 -1.3
KLMR AMP 22 40 15.6
comp=Z,65nm,1.5s
KLMR eS S 22 49 21.5 -2.2
KLMR eS S 22 49 21.5 -2.2
KLMR Klimovskoe 70.44 335 eP P 22 40 10.4 -1.3
KLMR eS S 22 49 21.5 -2.2
KLMR pmax pmax
comp=Z,65nm,1.5s
CFR Carcaliu 70.66 317⇓ *i* **P P 22 40 12.8 -0.6**
PRD Provadia 70.66 315 P P 22 40 12.7 -0.8
SANT Santorini 70.66 307 PFAKE 22 40 30.0 +16
SANT LR LR
comp=Z,1μm,20.0s
HARR Harsova 70.67 316⇑ *i* **P P 22 40 12.9 -0.6**
KIS Kishinev 70.70 319 eP P 22 40 12.0 -1.7
comp=Z,800nm,3.0s
KIS eS S 22 49 26.0 -1.2
KIS Kishinev 70.70 319 eP P 22 40 12.0 -1.7
KIS *i* 22 40 15.0
KIS eS S 22 49 26.0 -1.2
KIS *e* 22 50 14.0
KIS pmax pmax
comp=Z,800nm,3.0s
IDI Anoyia 70.93 306 P P 22 40 15.5 +0.2
comp=Z,27nm,0.5s,baz=105,slow=11,SNR=16
IDI Anoyia 70.93 306 *i* **P P 22 40 15.6 +0.2**
IDI Anoyia 70.93 306 eP P 22 40 15.6 +0.2
comp=Z,111nm,1.3s
MA2 Magadan 71.02 27 P P 22 40 14.7 -0.6
comp=Z,26nm,0.9s,baz=246,slow=6.5,SNR=27
MA2 Magadan 71.02 27 eP P 22 40 15.1 -0.2
comp=Z,310nm,2.0s
MA2 LR LR
comp=Z,5μm,19.0s
MA2 Magadan 71.02 27 eP P 22 40 15.1 -0.2
MA2 pmax pmax
comp=Z,310nm,2.0s
MA2 MLR MLR
comp=Z,5μm,19.0s
JMB Yambol 71.07 314 P P 22 40 15.7 -0.3
SORM Soroca 71.33 320⇑ *i* **P P 22 40 16.3 -1.1**
AKASG Malin Array Be 71.56 323 P P 22 40 17.1 -1.7
comp=Z,7.4nm,0.9s,baz=88,slow=4.9,SNR=23
AKASG LR LR 23 15 46.4
comp=Z,1μm,19.0s,baz=90,slow=39
AKBB Malin Array Si 71.56 323 eP P 22 40 17.1 -1.6
comp=Z,33nm,1.2s
AKBB Malin Array Si 71.56 323 eP P 22 40 17.1 -1.6
AKBB pmax pmax
comp=Z,33nm,1.2s
KIEV Kiev 71.56 323 eP P 22 40 17.1 -1.7
comp=Z,32nm,1.2s
KIEV LR LR
comp=Z,1μm,20.0s
KIEV Kiev 71.56 323 *i* P P 22 40 17.1 -1.7
SNR=11
KIEV Kiev 71.56 323⇓ eP P 22 40 17.3 -1.5
KIEV pmax pmax
comp=Z,15nm,1.0s
AK11 Malin Array Si 71.58 323 eP P 22 40 17.1 -1.8
KDZ Kurdzhali 71.74 313 P P 22 40 19.9 -0.2
LBTB Lobatse 71.75 242 eP P 22 40 20.8 +0.2
comp=Z,34nm,0.9s
LBTB Lobatse 71.75 242 eP P 22 40 20.8 +0.2
LBTB pmax pmax
comp=Z,34nm,0.9s
VRI Vrincioaia 71.79 317⇑ *i* **P P 22 40 20.6 +0.3**
TIXI Tiksi 71.81 11 P P 22 40 18.2 -1.7
comp=Z,40nm,0.8s,baz=208,slow=2.2,SNR=29
TIXI Tiksi 71.81 11 PFAKE 22 40 30.0 +10
TIXI LR LR
comp=Z,6μm,22.0s
TIXI Tiksi 71.81 11 *c i* **P P 22 40 18.7 -1.1**
TIXI pmax pmax
comp=Z,40nm,0.9s
PLOR Plostina 71.84 317⇓ *i* **P P 22 40 21.4 +0.8**
PETK Petropavlovsk- 71.97 35 P P 22 40 21.1 -0.1
comp=Z,3.1nm,0.7s,baz=296,slow=1.7,SNR=5.4
PETK LR LR 23 14 59.5
comp=Z,5μm,18.2s,baz=246,slow=38
PETK Petropavlovsk- 71.97 35 eP P 22 40 22.3 +1.1
PETK Petropavlovsk- 71.97 35 eP P 22 40 22.3 +1.1
TESR Tescani 72.01 318⇓ *i* **P P 22 40 21.2 -0.4**
ZIMR 72.21 315⇑ *i* **P P 22 40 23.7 +0.9**
MLR Muntele Rosu 72.23 317 P P 22 40 23.6 +0.5
comp=Z,9.7nm,1.0s,baz=72,slow=4.4
MLR LR LR 23 18 42.0
comp=Z,344nm,18.3s,baz=88,slow=41
MLR Muntele Rosu 72.23 317⇓ *i* **P P 22 40 23.9 +0.8**
MLR Muntele Rosu 72.23 317 eP P 22 40 22.5 -0.6
comp=Z,199nm,1.4s
RZN Rozhen 72.26 313 P P 22 40 23.1 -0.3
PET Petropavlovsk 72.49 35 eP P 22 40 22.9 -1.4
comp=Z,76nm,1.3s
PET LR LR
comp=Z,6μm,19.0s
PET Petropavlovsk 72.49 35 eP P 22 40 23.2 -1.1
PET *e*S S 22 49 44.5 -3.1
PET pmax pmax
comp=Z,50nm,1.2s
PET pmax pmax
comp=Z,700nm,10.2s
PET pmax pmax
comp=Z,800nm,13.2s
PET MLR MLR
comp=Z,5μm,16.0s
PET MLR MLR
comp=Z,6μm,18.0s
PRAR RASCA 72.50 319⇑ *i* **P P 22 40 24.4 -0.1**
HUMR Humele 72.67 316⇑ *i* **P P 22 40 25.1 -0.5**
TMCR Tamitsa 72.72 338 eP P 22 40 24.1 -1.3
TMCR pmax pmax
comp=Z,56nm,0.8s
DOPR Dopca 72.72 317⇓ *i* **P P 22 40 25.8 -0.1**
WAKE Wake Island 72.78 71 PFAKE 22 40 40.0 +13
WAKE LR LR
comp=Z,3μm,19.0s
VOIR 72.83 317⇓ *i* **P P 22 40 26.0 -0.6**
PGB Panagyurishte 72.83 314 P P 22 40 26.0 -0.7
BOSA Boshof 72.86 239 P P 22 40 26.4 -0.8
comp=Z,16nm,1.0s,baz=94,slow=6.8,SNR=10
BOSA LR LR 23 10 28.9
comp=Z,7μm,18.7s,baz=66,slow=34
BOSA Boshof 72.86 239 eP P 22 40 27.2 0.0
comp=Z,122nm,1.7s
BOSA Boshof 72.86 239 eP P 22 40 27.2 0.0
BOSA pmax pmax
comp=Z,122nm,1.7s
MMB Musomiste 72.97 312 P P 22 40 27.0 -0.4
ARR Arges 73.10 316⇑ *i* **P P 22 40 27.6 -0.6**
BURAR Bucovina Array 73.23 319⇑ *i* **P P 22 40 29.3 +0.3**
BUR04 Bucovina Ar. S 73.23 319 eP P 22 40 27.9 -1.0
BUR08 Bucovina Ar. S 73.25 319 eP P 22 40 29.2 +0.1
SEY Seymchan 73.26 24 P P 22 40 27.8 -0.9
comp=Z,21nm,1.1s,baz=260,slow=7.7,SNR=25
SEY Seymchan 73.26 24⇑ eP P 22 40 28.7 0.0
KKB Krupnik 73.49 313 P P 22 40 29.8 -0.7
MICGM Minsk 73.52 326 eP P 22 40 28.0 -2.3
MICGM *e*LR LR 23 13 08.0
MNK Minsk 73.52 326 eP P 22 40 28.0 -2.3
VTS Vitosha 73.54 313⇑ *i* **P P 22 40 30.2 -0.7**
VTS Vitosha 73.54 313 eP P 22 40 30.1 -0.8
comp=Z,51nm,1.2s
VTS Vitosha 73.54 313 P P 22 40 30.2 -0.7
VTS Vitosha 73.54 313 eP P 22 40 30.1 -0.8
VTS pmax pmax
comp=Z,51nm,1.2s
AGG Agios Georgios 73.56 310 eP P 22 40 30.6 -0.4
comp=Z,166nm,1.8s
AGG Agios Georgios 73.56 310 eP P 22 40 30.6 -0.4
AGG pmax pmax
comp=Z,166nm,1.8s
ARCR ARCALIA 73.68 318⇓ *i* **P P 22 40 32.0 +0.5**
MAW Mawson 73.97 192 P P 22 40 32.3 -0.4
comp=Z,18nm,1.0s,baz=32,slow=7.8,SNR=7.3
MAW LR LR 23 09 06.8
comp=Z,3μm,18.2s,baz=10,slow=33
MAW Mawson 73.97 192 eP P 22 40 33.5 +0.9
comp=Z,7.8nm,1.1s
MAW Mawson 73.97 192 eP P 22 40 33.5 +0.9
MAW pmax pmax
comp=Z,8.0nm,1.1s
PUL Pulkovo 74.07 332⇑ eP P 22 40 34.5 +1.0
PUL pmax pmax
comp=Z,47nm,0.8s
CJR Cluj-Napoca 74.10 318⇑ *i* **P P 22 40 34.5 +0.5**
NACGM Naroch 74.25 326 eP P 22 40 33.0 -1.6
NACGM *e*PPP PPP 22 46 55.0
NACGM *e*PsP 22 46 02.0
NACGM eS S **22 50 08.0 +0.5**
NACGM *e*PS **PnS 22 50 36.0 -6.2**
NACGM eSS **SS 22 54 47.0 -6.2**
NACGM *e*SSS SSS 22 57 37.0
NACGM *e*LQ LQ 23 03 48.0
IDID Didziasalis 74.39 327 eP P 22 40 34.2 -1.2
IDID IAmb IAmb 22 40 40.4
comp=Z,28nm,1.1s
DEV Deva 74.40 317⇓ *i* **P P 22 40 35.6 -0.1**
LVV L'vov 74.52 321 eP P 22 40 36.3 0.0
IIGN Ignalina 74.69 327 eP P 22 40 35.8 -1.3
IIGN IAmb IAmb 22 40 42.1
comp=Z,28nm,1.2s
IZAR Zarasai 74.79 327 eP P 22 40 36.8 -1.0
IZAR IAmb IAmb 22 40 42.7
comp=Z,29nm,1.3s
TRPA Tarpa 75.10 319⇑ *i* **P P 22 40 39.8 +0.1**
TRPA Tarpa 75.10 319 *e*PKiKP **P P 22 40 39.7 0.0**
BZS Buzias 75.23 316⇑ *i* **P P 22 40 39.7 -0.8**
DZM Mont Dzumac 75.24 114 P P 22 40 40.7 -0.5
comp=Z,43nm,1.0s,baz=175,slow=0.2,SNR=7.0
DZM Mont Dzumac 75.24 114 eP P 22 40 38.9 -2.3
comp=Z,114nm,1.2s
KWP Kalwaria Pacla 75.31 321 eP P 22 40 40.6 -0.4
KWP *e* 22 40 44.3
KWP Kalwaria Pacla 75.31 321 eP P 22 40 40.6 -0.4
KWP *e* 22 40 44.3
SIRR Siria 75.32 317⇑ *i* **P P 22 40 41.5 +0.4**
VSU Vasula 75.36 330⇓ eP P 22 40 41.2 +0.2
VSU pmax pmax
comp=Z,79nm,0.9s
UZH Uzhgorod 75.37 319 eP P 22 40 43.0 +1.8
UZH *e* 22 40 51.6
UZH *e* 22 43 27.2
UZH *e*PPP PPP 22 45 19.2
UZH eS S **22 50 19.4 -0.8**
UZH *i* 22 51 16.0
UZH eSS SS **22 55 04.2 -6.3**
UZH MLR MLR
comp=N,2μm,17.0s
UZH MLR MLR
comp=E,2μm,17.0s
UZH MLR MLR

comp=Z,660nm,17.0s
LVZ Lovozero 75.75 340 *e*P **P** **22 40 44.0 +0.9**
comp=Z,150nm,1.8s
LVZ LR LR
comp=Z,3μm,19.0s
LVZ Lovozero 75.75 340 *e*P **P** **22 40 44.0 +0.9**
LVZ pmax pmax
comp=Z,150nm,1.8s
LVZ MLR MLR
comp=Z,3μm,19.0s
TIR Tirane 75.79 312 PFAKE 22 41 00.0 +16
TIR LR LR
comp=Z,2μm,22.0s
CRVS Cervenica-Dubn 75.96 320 *e*P **P** **22 40 46.2 +1.5**
CRVS Cervenica-Dubn 75.96 320 *e*P **P** **22 40 46.2 +1.5**
CRVS pmax pmax
comp=Z,88nm,1.6s
APA Apatity 76.02 340⇓ *i*P **P** **22 40 43.0 -1.6**
APA pmax pmax
comp=Z,14nm,0.8s
APA MLR MLR
comp=Z,3μm,14.0s
SUW Suwalki 76.03 325 *e*P **P** **22 40 44.0 -0.9**
SUW *e* 22 40 47.6
SUW Suwalki 76.03 325 *e*P **P** **22 40 43.5 -1.4**
comp=Z,213nm,1.2s
SUW Suwalki 76.03 325 *e*P **P** **22 40 44.0 -0.9**
SUW *e* 22 40 47.6
DIVS Divibare 76.11 315 *e*P **P** **22 40 44.3 -1.4**
comp=Z,32nm,1.2s
STHS Stebnicka Huta 76.20 320 *e*P **P** **22 40 47.0 +1.0**
STHS Stebnicka Huta 76.20 320 *e*P **P** **22 40 47.0 +1.0**
STHS pmax pmax
comp=Z,24nm,1.2s
PDG Podgorica 76.39 313⇑ *i*P **P** **22 40 46.5 -0.7**
TTG Podgorica 76.39 313 *e*P **P** **22 40 47.1 -0.1**
comp=Z,48nm,1.1s
TTG Podgorica 76.39 313 *e*P **P** **22 40 47.1 -0.1**
TTG pmax pmax
comp=Z,48nm,1.1s
FIA1 FINESS Array S 76.61 333 *e*P **P** **22 40 46.9 -1.1**
FINES FINESS Array B 76.61 333 P **P** **22 40 46.7 -1.3**
comp=Z,14nm,0.8s,baz=109,slow=4.9,SNR=21
FINES LR LR 23 17 41.4
comp=Z,2μm,20.6s,baz=110,slow=38
PSZ Piszkesteto 76.81 318⇓ *i*P **P** **22 40 49.8 +0.2**
PSZ Piszkesteto 76.81 318 *e*PKiKP **P** **22 40 49.6 0.0**
PSZ Piszkesteto 76.81 318 *e*P **P** **22 40 49.4 -0.2**
comp=Z,131nm,1.7s
PSZ LR LR
comp=Z,1μm,20.0s
PSZ Piszkesteto 76.81 318 *e*P **P** **22 40 49.4 -0.2**
PSZ pmax pmax
comp=Z,131nm,1.7s
PSZ MLR MLR
comp=Z,1μm,20.0s
NIE Niedzica 76.81 320 *e*P **P** **22 40 50.0 +0.5**
NIE *e* 22 40 53.3
NIE *e*S **S** **22 50 44.2 +8.1**
NIE Niedzica 76.81 320 *e*P **P** **22 40 50.0 +0.5**
NIE *e* 22 40 53.3
BEL Belsk 76.97 322 *e*P **P** **22 40 53.6 +3.4**
BEL Belsk 76.97 322 *e*P **P** **22 40 53.6 +3.4**
OJC Ojcow 77.27 321 *e*P **P** **22 40 51.7 -0.4**
OJC *e* 22 40 55.4
OJC *e*S **S** **22 50 48.4 +7.3**
OJC Ojcow 77.27 321 *e*P **P** **22 40 51.9 -0.2**
comp=Z,106nm,1.5s
OJC Ojcow 77.27 321 *e*P **P** **22 40 51.7 -0.4**
OJC *e* 22 40 55.4
OJC *e*S **S** **22 50 48.4 +7.3**
LANS Liptovska Anna 77.30 320 *e*P **P** **22 40 53.3 +1.0**
LANS Liptovska Anna 77.30 320 *e*P **P** **22 40 53.4 +1.1**
MORH M‡r¡gy, Hung 77.38 317 *e*PKiKP **P** **22 40 51.8 -0.9**
SUR Sutherland 77.43 236 *e*P **P** **22 40 57.9 +4.3**
comp=Z,122nm,1.6s
SUR LR LR
comp=Z,8μm,19.0s
VYHS Vyhne 77.60 319 *e*P **P** **22 40 54.5 +0.6**
VYHS *e*S **S** **22 50 47.1 +2.3**
VYHS Vyhne 77.60 319 *e*P **P** **22 40 54.6 +0.6**
VYHS pmax pmax
comp=Z,69nm,1.7s
SRO Srobarova 77.84 318 *e*P **P** **22 40 59.3 +4.1**
SRO Srobarova 77.84 318 *e*P **P** **22 40 59.3 +4.1**
KLNR Kaliningrad 77.86 325⇓ *e*P **P** **22 40 54.4 -0.8**
KLNR pmax pmax
comp=Z,67nm,1.2s
TIP Timpagrande 77.88 309 PFAKE 22 41 10.0 +14
TIP LR LR
comp=Z,1μm,19.0s
TSUM Tsumeb 78.06 250 *e*P **P** **22 41 01.4 +4.2**
comp=Z,28nm,1.5s
TSUM LR LR
comp=Z,7μm,19.0s
BLY Banja Luka 78.19 315⇑ *i*P **P** **22 40 56.6 -0.7**
BLY Banja Luka 78.19 315 *e*P **P** **22 40 57.1 -0.2**
comp=Z,110nm,1.5s
OKC Ostrava-Krasne 78.26 320 *e*P **P** **22 40 57.3 -0.2**
OKC *e*pP **pP** **22 41 01.7 -1.9**
OKC Ostrava-Krasne 78.26 320 *e*P **P** **22 40 57.3 -0.2**
OKC *e* 22 41 01.7
CEL Celeste 78.47 308 PFAKE 22 41 10.0 +11
CEL LR LR
comp=Z,860nm,19.0s
SMOL Smolenice 78.53 319 *e*P **P** **22 41 02.6 +3.5**
SMOL Smolenice 78.53 319 *e*P **P** **22 41 02.6 +3.5**
MODS Modra-Piesok 78.61 319 *e*P **P** **22 40 58.8 -0.7**
MODS *e*S **S** **22 50 56.7 +1.1**
MODS Modra-Piesok 78.61 319 *e*P **P** **22 40 58.8 -0.7**
MODS pmax pmax
comp=Z,182nm,1.4s
MORC Moravsky Berou 78.64 320⇑ *i*P **P** **22 40 58.8 -0.9**
MORC Moravsky Berou 78.64 320 *e*P **P** **22 40 59.8 +0.1**
comp=Z,755nm,1.9s
MORC Moravsky Berou 78.64 320 *e*P **P** **22 40 59.8 +0.1**
MORC pmax pmax
comp=Z,755nm,1.9s
CUC Castrocucco 78.69 310 PFAKE 22 41 10.0 +10
CUC LR LR
comp=Z,794nm,21.0s
ZST Bratislava 78.70 318 *e*P **P** **22 41 01.0 +1.0**
ZST Bratislava 78.70 318 *e*S S 22 51 05.6 +9.1
ZST Bratislava 78.70 318 *e*P **P** **22 41 01.0 +1.0**
ZST pmax pmax
comp=Z,73nm,1.0s
KEV Kevo 79.05 341 PFAKE 22 41 10.0 +8.5
KEV LR LR
comp=Z,3μm,19.0s
TARA Tarawa 79.10 89 PFAKE 22 41 10.0 +7.1
TARA LR LR
comp=Z,138nm,19.0s
KRLC Kraliky 79.17 320 *e*P **P** **22 41 02.7 +0.1**
KRLC *e*pP **pP** **22 41 06.9 -1.8**
KRLC Kraliky 79.17 320 *e*P **P** **22 41 02.7 +0.1**
KRLC *e* 22 41 06.9
VRAC Vranov 79.18 319⇑ *i*P **P** **22 41 02.6 -0.1**
WDD Wied Dalam 79.38 306 PFAKE 22 41 20.0 +16
WDD LR LR
comp=Z,1μm,20.0s
ARCES ARCESS Array B 79.47 341 P **P** **22 41 03.0 -0.8**
comp=Z,12nm,0.8s,baz=90,slow=5.5,SNR=20
ARCES ARCESS Array B 79.47 341 *e*P **P** **22 41 03.2 -0.5**
ARCES ARCESS Array B 79.47 341 *e*P **P** **22 41 03.3 -0.5**
ARE0 ARCESS Array S 79.47 341 *e*P **P** **22 41 04.2 +0.4**
comp=Z,42nm,1.2s
CONA Conrad Observa 79.49 318 *e*P **P** **22 41 04.2 -0.3**
comp=Z,33nm,1.3s
DPC Dobruska-Polom 79.50 321 *e*P **P** **22 41 04.2 -0.2**
DPC *e*pP **pP** **22 41 08.9 -1.6**
DPC Dobruska-Polom 79.50 321 *e*P **P** **22 41 04.2 -0.2**
DPC *e* 22 41 08.9
DPC Dobruska-Polom 79.50 321 *ex* **P** **22 41 03.7 -0.7**
KSP Ksiaz 79.58 321 *e*P **P** **22 41 05.3 +0.5**
KSP *e* 22 41 08.5
KSP *e*S S 22 51 16.2 +10
KSP Ksiaz 79.58 321 *e*P **P** **22 41 05.3 +0.5**
KSP *e* 22 41 08.5
KSP *e*S S 22 51 16.2 +10
VAE Valguarnera 79.58 307 P **P** **22 41 05.4 +0.2**
comp=Z,13nm,1.0s,baz=24,slow=20,SNR=3.0
BOJS Bojanci 79.64 316 *e*P **P** **22 41 04.4 -0.8**
ARSA Arzberg 79.64 317 *i*P **P** **22 41 05.7 +0.4**
comp=Z,90nm,1.3s,SNR=33

UPC Upice 79.71 321 *e*P **P** **22 41 05.5 0.0**
UPC Upice 79.71 321 *e*P **P** **22 41 05.5 0.0**
PERS Pernice 79.85 317 *i*P **P** **22 41 06.2 -0.2**
SOKA Soboth 79.91 317 *i*P **P** **22 41 07.1 +0.4**
comp=Z,107nm,1.2s,SNR=59
VISS Visnje 79.96 316 *i*P **P** **22 41 06.6 -0.4**
OBKA Obir 80.23 316 *i*P **P** **22 41 08.2 -0.3**
comp=Z,73nm,1.4s,SNR=11
GOPC GO Pecny, Ondr 80.42 320 *e*P **P** **22 41 10.7 +1.3**
GOPC *e*pP **pP** **22 41 13.6 -1.9**
GOPC GO Pecny, Ondr 80.42 320 *e*P **P** **22 41 10.7 +1.3**
GOPC *e* 22 41 13.6
BILL Bilibino 80.49 21 *d*/*i*P **P** **22 41 12.7 +3.3**
BILL *e* 22 44 10.8
BILL *i*S **S** **22 51 12.9 -1.9**
BILL *e*SS **SS** **22 56 29.4 +2.6**
BILL pmax pmax
comp=Z,35nm,1.4s
BILL MLR MLR
comp=Z,9μm,19.0s
JAVS Javornik 80.50 316 *i*P **P** **22 41 08.9 -1.1**
CLTB Caltabellotta 80.53 307 PFAKE 22 41 20.0 +10
CLTB LR LR
comp=Z,603nm,19.0s
MOA Molln 80.55 318 *i*P **P** **22 41 09.1 -1.0**
comp=Z,40nm,1.6s,SNR=13
PRU Pruhonice 80.59 320 *e*P **P** **22 41 10.2 0.0**
PRU *e*pP **pP** **22 41 14.4 -1.9**
PRU Pruhonice 80.59 320 *e*P **P** **22 41 10.2 0.0**
PRU *e* 22 41 14.4
PVCC Panska Ves 80.63 321 *e*P **P** **22 41 10.4 -0.1**
PVCC Panska Ves 80.63 321 *e*P **P** **22 41 10.4 -0.1**
AQU L'Aquila 80.69 312 *e*P **P** **22 41 11.6 +0.5**
comp=Z,147nm,1.3s
AQU LR LR
comp=Z,1μm,21.0s
AQU L'Aquila 80.69 312 *e*P **P** **22 41 11.6 +0.5**
AQU pmax pmax
comp=Z,147nm,1.3s
AQU MLR MLR
comp=Z,1μm,21.0s
DCZ Deep Cove 80.74 137 *e*P **P** **22 41 11.0 -0.1**
comp=Z,62nm,1.1s
MYKA Terra Mystica 80.86 317 *i*P **P** **22 41 11.8 -0.1**
comp=Z,94nm,1.4s,SNR=19
SYO Syowa Base 80.91 197⇑ *i*P **P** **22 41 10.6 -0.9**
SYO Syowa Base 80.91 197⇓ *i*PcP **PcP** **22 41 16.2 -1.8**
GEA0 GERESS Array S 81.02 319 *e*P **P** **22 41 12.0 -0.7**
GEC2 GERESS Array S 81.02 319 *e*P **P** **22 41 12.9 +0.2**
comp=Z,196nm,1.5s
GEC2 GERESS Array S 81.02 319 *e*P **P** **22 41 12.9 +0.2**
GEC2 pmax pmax
comp=Z,196nm,1.5s
GERES GERESS Array B 81.02 319 P **P** **22 41 12.9 +0.2**
comp=Z,16nm,0.7s,baz=97,slow=5.5,SNR=46
BRG Berggiesshubel 81.06 321 *e*P **P** **22 41 12.7 -0.1**
comp=Z,5.1nm,0.9s
BRG *i* 22 41 16.3
comp=Z,67nm,1.3s
BRG S S 22 51 32.0 +11
BRG Berggiesshubel 81.06 321 *e*P **P** **22 41 12.7 -0.1**
BRG *i* 22 41 16.3
BRG S S 22 51 32.0 +11
BRG pmax pmax
comp=Z,5.0nm,0.9s
BRG pmax pmax
comp=Z,67nm,1.3s
KBA Koelnbreinsper 81.10 317 *i*P **P** **22 41 12.1 -1.2**
comp=Z,43nm,1.5s,SNR=9.3
KHC Kasperske Hory 81.13 319 *e*P **P** **22 41 12.6 -0.6**
KHC *e*pP **pP** **22 41 16.6 -2.7**
KHC Kasperske Hory 81.13 319 *e*P **P** **22 41 12.2 -1.0**
comp=Z,9.8nm,1.0s
KHC Kasperske Hory 81.13 319 *e*P **P** **22 41 12.6 -0.6**
KHC *e* 22 41 16.6
WHZ Wether Hill Ro 81.39 137 *e*P **P** **22 41 17.0 +2.4**
comp=Z,55nm,1.3s
ABTA Abfaltersbach 81.64 317 *i*P **P** **22 41 15.3 -0.8**
comp=Z,31nm,1.3s,SNR=6.1
CLL Collm 81.69 321 *e*P **P** **22 41 15.0 -1.1**
comp=Z,10.0nm,1.4s
CLL *i*Pmax 22 41 19.1
comp=Z,55nm,1.6s
CLL *e*pP **PcP** **22 41 21.0 -0.9**
CLL *e*sP **sP** **22 41 27.0 +2.6**
CLL *e*PP **PP** **22 44 23.0 +0.1**
CLL *e*S **S** **22 51 24.0 -3.9**
CLL *e*SS **SS** **22 56 55.0 +10**
CLL LmV 23 27 00.0
comp=Z,2μm,18.8s
CLL Collm 81.69 321 *e*P **P** **22 41 15.7 -0.4**
comp=Z,35nm,1.3s
CLL Collm 81.69 321 *e*P **P** **22 41 15.0 -1.1**
CLL *i* 22 41 19.1
CLL *e*S **S** **22 51 24.0 -3.9**
CLL pmax pmax
comp=Z,55nm,1.6s
CLL MLR MLR
comp=Z,2μm,18.8s
NKC Novy Kostel 81.95 320 *e*P **P** **22 41 17.9 +0.4**
NKC Novy Kostel 81.95 320 *e*P **P** **22 41 17.9 +0.4**
FOZ Fox Glacier 82.16 135 *e*P **P** **22 41 17.7 -1.0**
comp=Z,51nm,1.7s
HFS Hagfors 82.24 330 P **P** **22 41 18.3 -0.5**
comp=Z,13nm,0.8s,baz=96,slow=7.4,SNR=8.5
WTTA Wattenberg 82.28 317 *i*P **P** **22 41 18.6 -0.9**
comp=Z,39nm,1.0s,SNR=6.4
LBZ Lake Benmore 82.60 135 *e*P **P** **22 41 20.6 -0.4**
comp=Z,44nm,1.1s
MOTA Moosalm 82.64 317 *i*P **P** **22 41 20.0 -1.4**
comp=Z,37nm,1.0s,SNR=6.8
GRFO Grafenberg 82.71 320 *e*P **P** **22 41 21.9 +0.4**
comp=Z,97nm,1.4s
GRFO Grafenberg 82.71 320 *e*P **P** **22 41 21.9 +0.4**
GRFO pmax pmax
comp=Z,97nm,1.4s
FETA Feichten 82.88 317 *i*P **P** **22 41 22.3 -0.4**
comp=Z,45nm,1.3s,SNR=7.3
RETA Reutte 82.88 317 *i*P **P** **22 41 21.4 -1.1**
comp=Z,69nm,1.5s,SNR=8.0
VLC Villacollemand 83.00 314 PFAKE 22 41 30.0 +6.9
VLC LR LR
comp=Z,2μm,20.0s
RPZ Rata Peaks 83.08 135 P **P** **22 41 22.3 -1.2**
comp=Z,45nm,0.9s,baz=62,slow=3.2,SNR=11
RPZ Rata Peaks 83.08 135 *e*P **P** **22 41 22.9 -0.6**
comp=Z,63nm,1.0s
FUORN Ofenpass-Fuorn 83.18 316 *e*P **P** **22 41 24.6 +0.3**
comp=Z,173nm,1.5s
DAVA Damuels 83.47 317 *i*P **P** **22 41 25.5 -0.2**
comp=Z,37nm,1.2s,SNR=7.4
NB2 NORSAR Subarra 83.56 331 P **P** **22 41 24.1 -1.6**
comp=Z,36nm,1.1s,baz=94,slow=5.3
NB2 NORSAR Subarra 83.56 331 P **P** **22 41 24.1 -1.6**
baz=94,slow=5.3
NOA NORSAR Array B 83.56 331 P **P** **22 41 24.4 -1.3**
comp=Z,21nm,1.1s,baz=95,slow=5.4,SNR=11
NOA PKKP **PKKPdf** **22 59 35.9 -1.4**
comp=Z,1.0nm,0.9s,baz=30,slow=2.0,SNR=3.3
NOA LR LR 23 21 04.5
comp=Z,1μm,21.1s,baz=90,slow=37
KEST Kesra 83.58 305 P **P** **22 41 27.1 +0.7**
comp=Z,27nm,0.9s,baz=315,slow=2.5,SNR=17
KEST Kesra 83.58 305 *e*P **P** **22 41 27.5 +1.1**
comp=Z,102nm,1.4s
VSL Villasalto 83.61 309 *e*P **P** **22 41 28.1 +1.7**
comp=Z,93nm,1.3s
VSL LR LR
comp=Z,811nm,21.0s
OXZ Oxford 83.71 134 *e*P **P** **22 41 26.8 +0.1**
comp=Z,34nm,1.0s
LTZ Lake Taylor 83.78 133 *e*P **P** **22 41 26.9 -0.3**
comp=Z,42nm,1.4s
TUE Stuetta 83.81 316 *e*P **P** **22 41 27.2 -0.3**
comp=Z,54nm,1.2s
TUE LR LR
comp=Z,1μm,20.0s
THZ Tophouse 84.07 132 *e*P **P** **22 41 27.5 -1.2**
comp=Z,194nm,1.8s
MQZ McQueen's Vall 84.22 134 *e*P **P** **22 41 31.8 +2.5**
comp=Z,61nm,1.3s
SPITS Spitsbergen Ar 84.26 348 LR LR 23 27 43.2
comp=Z,2μm,18.7s,baz=105,slow=42
KONO Kongsberg 84.26 329 *e*P **P** **22 41 31.2 +2.0**
comp=Z,93nm,1.4s
KONO Kongsberg 84.26 329 *c*/*i*P **P** **22 41 31.9 +2.7**

KONO pmax pmax
comp=Z,106nm,1.7s
BFO Black Forest 84.55 318 *e*P **P** **22 41 30.2 -0.8**
comp=Z,64nm,1.7s
BFO LR LR
comp=Z,893nm,21.0s
BFO Black Forest 84.55 318 *i*P **P** **22 41 31.9 +0.9**
KHZ Kahutara 84.64 133 *e*P **P** **22 41 34.0 +2.6**
comp=Z,84nm,1.4s
HIZ Hauiti 85.04 129 *e*P **P** **22 41 32.4 -1.3**
comp=Z,142nm,1.4s
SENIN Lac Senin/Sane 85.22 316 *e*P **P** **22 41 35.9 +1.2**
comp=Z,227nm,2.0s
KBS Kingsbay 85.25 349 PFAKE 22 41 40.0 +6.1
KBS LR LR
comp=Z,3μm,21.0s
ECH Echery 85.33 318 *e*P **P** **22 41 34.9 0.0**
comp=Z,23nm,1.1s
ECH LR LR
comp=Z,1μm,21.0s
ECH Echery 85.33 318 *e*P **P** **22 41 34.9 0.0**
ECH pmax pmax
comp=Z,23nm,1.1s
ECH MLR MLR
comp=Z,1μm,21.0s
SNZO South Karori 85.33 132 PFAKE 22 41 50.0 +15
SNZO LR LR
comp=Z,4μm,19.0s
MSVF Nonsavu 85.54 108 PFAKE 22 41 50.0 +13
MSVF LR LR
comp=Z,1μm,19.0s
BNI Bardonecchia 85.66 315 *e*P **P** **22 41 35.9 -0.9**
comp=Z,106nm,2.0s
BNI LR LR
comp=Z,1μm,19.0s
BNI Bardonecchia 85.66 315 *e*P **P** **22 41 35.9 -0.9**
BNI pmax pmax
comp=Z,106nm,2.0s
BNI MLR MLR
comp=Z,1μm,19.0s
WLF Walferdange 86.00 319⇑ P **P** **22 41 40.4 +2.2**
comp=Z,35nm,2.1s
WLF Walferdange 86.00 319 *e*P **P** **22 41 40.0 +1.9**
comp=Z,83nm,1.6s
WLF LR LR
comp=Z,1μm,20.0s
WLF Walferdange 86.00 319 *e*P **P** **22 41 40.0 +1.9**
WLF pmax pmax
comp=Z,83nm,1.6s
WLF MLR MLR
comp=Z,1μm,20.0s
MEM Membach 86.08 320⇑ P **P** **22 41 38.3 -0.2**
comp=Z,22nm,1.6s
BEBN Eben Emael 86.29 321⇑ P **P** **22 41 41.0 +1.5**
BKZ Black Stump Fm 86.40 129 *e*P **P** **22 41 39.2 -1.2**
comp=Z,58nm,1.1s
BFZ Birch Farm 86.40 131 *e*P **P** **22 41 39.1 -1.2**
comp=Z,217nm,1.8s
BCLA Clavier 86.53 320⇑ P **P** **22 41 43.9 +3.1**
comp=Z,14nm,1.6s
URZ Urewera 86.77 128 P **P** **22 41 40.0 -2.1**
comp=Z,41nm,0.9s,baz=308,slow=2.3,SNR=14
URZ LR LR 23 23 54.8
comp=Z,3μm,18.7s,baz=301,slow=38
URZ Urewera 86.77 128 *e*P **P** **22 41 40.8 -1.4**
comp=Z,85nm,1.1s
DOU Dourbes 87.00 320⇑ P **P** **22 41 43.3 +0.2**
TAM Tamanrasset 87.14 293 *e*P **P** **22 41 45.3 +0.8**
comp=Z,75nm,1.5s
TAM LR LR
comp=Z,2μm,22.0s
TAM Tamanrasset 87.14 293 *e*P **P** **22 41 45.3 +0.8**
TAM pmax pmax
comp=Z,75nm,1.5s
TAM MLR MLR
comp=Z,2μm,22.0s
SSB Saint Sauveur 87.17 315 *e*P **P** **22 41 44.4 +0.3**
comp=Z,35nm,1.3s
SSB LR LR
comp=Z,877nm,20.0s
SSB Saint Sauveur 87.17 315 *e*P **P** **22 41 44.4 +0.3**
SSB pmax pmax
comp=Z,35nm,1.3s
SSB MLR MLR
comp=Z,877nm,20.0s
SNF Seneffe 87.18 320⇑ P **P** **22 41 44.9 +1.0**
MIDW Midway 87.48 62 PFAKE 22 42 00.0 +14
MIDW LR LR
comp=Z,3μm,19.0s
VNDA Vanda 88.51 168 P **P** **22 41 49.2 -0.4**
comp=Z,14nm,1.0s,baz=298,slow=5.9,SNR=20
VNDA Vanda 88.51 168 *e*P **P** **22 41 49.5 -0.1**
comp=Z,73nm,1.5s
VNDA Vanda 88.51 168 *e*P **P** **22 41 49.6 -0.1**
VNDA pmax pmax
comp=Z,73nm,1.5s
GAMB Gambell 89.11 26 *e*P **P** **22 41 52.6 -0.2**
comp=Z,70nm,1.5s
SBA Scott Base 89.61 168 *e*P **P** **22 41 55.9 +1.0**
SBA LR LR
comp=Z,2μm,21.0s
SBA Scott Base 89.61 168 *e*P **P** **22 41 55.9 +1.0**
SBA MLR MLR
comp=Z,2μm,21.0s
RAO Raoul Island 90.10 119 LR LR 23 24 34.5
comp=Z,1μm,18.3s,baz=298,slow=37
NVL N'lazarevskaya 90.39 199 *e*P **P** **22 41 59.5 +0.9**
NVL pmax pmax
comp=Z,41nm,0.9s
TORD Torodi Ar. Bea 91.29 283 P **P** **22 42 04.6 +0.6**
comp=Z,8.9nm,1.0s,baz=74,slow=2.4,SNR=17
TORD PKKPbc **PKKPdf** **22 59 24.2 +1.1**
comp=Z,1.3nm,0.8s,baz=291,slow=2.2,SNR=6.9
TORD Torodi Ar. Bea 91.29 283 P **P** **22 42 04.6 +0.6**
TORD PKKPbc **PKKPdf** **22 59 24.2 +1.1**
EKA Eskdalemuir Ar 91.29 325 P **P** **22 42 03.3 +0.1**
comp=Z,6.9nm,0.9s,baz=84,slow=7.2,SNR=7.5
EKA LR LR 23 29 39.6
comp=Z,1μm,18.1s,baz=70,slow=40
ESK Eskdalemuir 91.32 325 PFAKE 22 42 10.0 +6.7
ESK LR LR
comp=Z,2μm,21.0s
QSPA South Pole Qui 93.19 180 P **P** **22 42 11.5 -0.3**
comp=Z,6.4nm,0.9s,baz=355,slow=7.1,SNR=11
ES19 SONSECA Array 93.84 310 *e*P **P** **22 42 15.7 +0.3**
ESDC Sonseca Array 93.89 310 P **P** **22 42 15.7 +0.1**
comp=Z,2.7nm,0.8s,baz=58,slow=4.3,SNR=10
PAB San Pablo 94.20 310 PFAKE 22 42 30.0 +13
PAB LR LR
comp=Z,931nm,19.0s
SNAA Sanae 95.15 198 P **P** **22 42 20.7 0.0**
comp=Z,2.7nm,1.0s,baz=352,slow=14,SNR=2.3
SNAA LR LR 23 18 23.1
comp=Z,2μm,21.3s,baz=86,slow=31
SNAA Sanae 95.15 198⇓ *e*P **P** **22 42 22.8 +2.1**
JOHN Johnston Islan 95.48 73 PFAKE 22 42 30.0 +6.8
JOHN LR LR
comp=Z,200nm,21.0s
IM3 Indian Mountai 96.02 22 *e*P **P** **22 42 24.2 -0.4**
TOLK Toolik Lake Re 96.41 19 *e*P **P** **22 42 26.9 +0.5**
MTE Manteigas 96.50 311 PFAKE 22 42 40.0 +12
MTE LR LR
comp=Z,1μm,21.0s
KOWA Kowa 96.72 285 P **P** **22 42 29.4 +0.5**
comp=Z,4.8nm,0.9s,baz=22,slow=4.1,SNR=4.0
KOWA Kowa 96.72 285 *e*P **P** **22 42 30.6 +1.6**
RTC Rabat Centre 96.98 305 PFAKE 22 42 40.0 +10
RTC LR LR
comp=Z,5μm,19.0s
SVW2 Sparrevohn 97.00 27 *e*P **P** **22 42 30.6 +1.4**
BORG Borgarnes 97.51 337 LR LR 23 30 56.7
comp=Z,830nm,18.3s,baz=78,slow=38
CAST Castle Rocks 97.67 24 *e*P **P** **22 42 31.5 -0.7**
BPAW Bear Paw Mtn. 97.84 24 *e*P **P** **22 42 32.7 -0.3**
MDM Murphy Dome 98.54 22 *e*P Pdif 22 42 39.5 +3.3
COLA College 98.72 22 PFAKE 22 42 50.0 +13
COLA LR LR
comp=Z,2μm,20.0s
MCK McKinley 98.81 24 *e*P Pdif 22 42 37.9 +0.5
MCK McKinley 98.81 24 *e*P Pdif 22 42 37.9 +0.5
ILAR Eielson Array 99.14 22 P **Pdif** **22 42 37.6 -1.1**
comp=Z,0.8nm,0.9s,baz=290,slow=4.8,SNR=4.0
ILAR PP **PP** **22 46 37.4 -3.5**
comp=Z,2.1nm,1.1s,baz=258,slow=4.4,SNR=4.2
ILAR PKKPbc **PKKPbc** **22 59 05.0 -1.5**
comp=Z,0.9nm,1.0s,baz=167,slow=1.7,SNR=5.7

KDAK **Kodiak Island** **99.61** **30** PFAKE 22 42 50.0 +9.0
KDAK LR LR
comp=Z,1µm,20.0s
SHEL **Horse Pasture** **100.03** **254** PFAKE 22 43 00.0 +16
SHEL LR LR
comp=Z,3µm,20.0s
EGAK **Eagle** **101.24** **21** PFAKE 22 43 00.0 +12
EGAK LR LR
comp=Z,4µm,21.0s
INK **Inuvik** **101.50** **16** P **Pdif** **22 42 47.0 -2.2**
comp=Z,1.0nm,1.0s,baz=285,slow=2.9,SNR=2.6
RES **Resolute Bay** **102.00** **2** *e*Pdif **Pdif** **22 42 51.9 +0.6**
comp=Z,13nm,1.1s
RES **Resolute Bay** **102.00** **2** *e*P **Pdif** **22 42 51.9 +0.6**
RES pmax pmax
comp=Z,13nm,1.1s
SFJD **Kangerlussuaq** **105.50** **346** PFAKE 22 47 30.0
SFJD LR LR
comp=Z,2µm,19.0s
POHA **Pohakuloa** **108.27** **68** PFAKE 22 47 40.0
POHA LR LR
comp=Z,2µm,19.0s
ASCN **Ascension** **108.39** **263** PFAKE 22 47 40.0
ASCN LR LR
comp=Z,3µm,21.0s
WRAK **Wrangell Islan** **109.74** **25** PFAKE 22 47 40.0
WRAK LR LR
comp=Z,3µm,19.0s
CMLA **Cha da Macela** **110.66** **312** PFAKE 22 47 40.0
CMLA LR LR
comp=Z,1µm,20.0s
YKA **Yellowknife Ar** **110.97** **14** Pdiff **Pdif** **22 43 32.6 +1.1**
comp=Z,0.3nm,0.8s,baz=314,slow=2.0,SNR=3.6
YKA PKiKP **PKiKP** **22 47 30.4 -0.3**
comp=Z,0.3nm,0.7s,baz=333,slow=2.2,SNR=5.0
YKA PP **PP** **22 48 03.9 -4.3**
comp=Z,0.5nm,0.8s,baz=332,slow=8.0,SNR=3.9
YKA PKKPbc **PKKPbc** **22 58 27.9 -2.6**
comp=Z,0.7nm,1.0s,baz=145,slow=3.1,SNR=7.6
HOPE **Hope Point** **115.09** **210** PFAKE 22 47 50.0 +11
HOPE LR LR
comp=Z,2µm,20.0s
SACV **Santiago Islan** **115.42** **288** PFAKE 22 47 50.0 +9.4
SACV LR LR
comp=Z,810nm,20.0s
PMSA **Palmer Station** **116.56** **190** PFAKE 22 47 50.0 +8.7
PMSA LR LR
comp=Z,4µm,19.0s
NLWA **Neilton Lookou** **119.72** **29** PFAKE 22 48 00.0 +12
NLWA LR LR
comp=Z,2µm,20.0s
SCHQ **Schefferville** **119.92** **347** PKP **PKPdf** **22 47 48.6 +0.5**
comp=Z,1.7nm,0.7s,baz=282,slow=2.5,SNR=3.7
SCHQ PP **PP** **22 49 12.9 +1.7**
comp=Z,4.9nm,1.0s,baz=36,slow=8.6,SNR=6.1
FFC **Flin Flon** **120.76** **11** *e*PKPdf **PKPdf** **22 47 49.4 -0.4**
FFC LR LR
comp=Z,3µm,21.0s
FFC **Flin Flon** **120.76** **11** *e*PKIKP **PKPdf** **22 47 49.4 -0.4**
FFC MLR MLR
comp=Z,3µm,21.0s
NEW **Newport** **122.04** **24** PFAKE 22 48 00.0 +7.5
NEW LR LR
comp=Z,2µm,20.0s
HAWA **Hanford** **122.47** **27** PFAKE 22 48 00.0 +6.7
HAWA LR LR
comp=Z,2µm,20.0s
BMO **Blue Mountains** **124.65** **27** *e*PKPdf **PKPdf** **22 47 59.4 +1.7**
BMO LR LR
comp=Z,2µm,21.0s
BMO **Blue Mountains** **124.65** **27** *e*PKIKP **PKPdf** **22 47 59.4 +1.7**
BMO MLR MLR
comp=Z,2µm,21.0s
EGMT **Eagleton** **124.94** **19** PFAKE 22 48 10.0 +12
EGMT LR LR
comp=Z,3µm,22.0s
MOD **Modoc Plateau** **125.44** **31** *e*PKPdf **PKPdf** **22 48 00.6 +1.2**
ULM **Lac du Bonnet** **126.06** **8** PKP **PKPdf** **22 47 59.1 -1.0**
comp=Z,3.0nm,0.8s,baz=342,slow=6.7,SNR=6.6
DGMT **Dagmar** **126.16** **15** PFAKE 22 48 10.0 +10
DGMT LR LR
comp=Z,4µm,21.0s
EFI **East Falkland** **126.31** **201** PFAKE 22 48 10.0 +10
EFI LR LR
comp=Z,3µm,22.0s
BOZ **Bozeman (W)** **126.38** **22** PFAKE 22 48 10.0 +9.0
BOZ LR LR
comp=Z,3µm,20.0s
MFID **Camas Ranch** **126.44** **27** *e*PKPdf **PKPdf** **22 48 01.2 +0.1**
HLID **Hailey** **126.94** **25** PFAKE 22 48 10.0 +7.8
HLID LR LR
comp=Z,2µm,22.0s
LAO **LASA Array** **127.23** **17** *e*PKPdf **PKPdf** **22 48 02.1 -0.4**
LAO LR LR
comp=Z,2µm,19.0s
PAHR **Pah Rah Range** **127.51** **32** *e*PKPdf **PKPdf** **22 48 04.0 +0.6**
RLMT **Red Lodge** **127.64** **20** PFAKE 22 48 10.0 +6.5
RLMT LR LR
comp=Z,3µm,20.0s
LKWY **Lake** **127.71** **22** PFAKE 22 48 20.0 +16
LKWY LR LR
comp=Z,2µm,19.0s
MDND **Maddock** **127.78** **11** P **PKPdf** **22 48 03.1 -0.4**
baz=343
AGMN **Agassiz Nation** **127.97** **8** PFAKE 22 48 20.0 +16
AGMN LR LR
comp=Z,3µm,21.0s
EYMN **Ely** **128.81** **5** PFAKE 22 48 20.0 +15
EYMN LR LR
comp=Z,2µm,20.0s
C36A **Pine Crest Far** **128.87** **6** P **PKPdf** **22 48 05.3 -0.2**
baz=352
D31A **Mcclaflin, Tow** **128.90** **10** P **PKPdf** **22 48 05.8 +0.2**
baz=345
AHID **Auburn Hatcher** **128.97** **23** PFAKE 22 48 20.0 +14
AHID LR LR
comp=Z,2µm,20.0s
C40A **Isle Royale Na** **128.98** **3** P **PKPdf** **22 48 06.3 +0.7**
baz=356
NVAR **Mina Array Bea** **129.02** **32** PKP **PKPdf** **22 48 06.2 -0.2**
comp=Z,1.7nm,0.8s,baz=303,slow=1.3,SNR=14
PKME **Peaks-Kenny Pk** **129.39** **345** PFAKE 22 48 20.0 +13
PKME LR LR
comp=Z,2µm,20.0s
BW06 **Boulder Array** **129.57** **22** *e*PKPdf **PKPdf** **22 48 07.3 -0.1**
BW06 LR LR
comp=Z,3µm,19.0s
PDAR **Pinedale Array** **129.57** **22** PKP **PKPdf** **22 48 07.5 +0.1**
comp=Z,2.9nm,0.9s,baz=356,slow=1.9,SNR=16
HWUT **Hardware Ranch** **129.75** **25** PFAKE 22 48 20.0 +12
HWUT LR LR
comp=Z,2µm,22.0s
DUG **Dugway, Tooele** **130.37** **27** *e*PKPdf **PKPdf** **22 48 10.2 +1.4**
DUG LR LR
comp=Z,2µm,19.0s
DUG **Dugway, Tooele** **130.37** **27** *e*PKIKP **PKPdf** **22 48 10.2 +1.4**
DUG MLR MLR
comp=Z,2µm,19.0s
E40A **Wakefield** **130.41** **3** P **PKPdf** **22 48 09.0 +0.5**
baz=355
E39A **Mellen** **130.43** **4** P **PKPdf** **22 48 08.7 +0.1**
baz=354
R11A **Troy Canyon, C** **130.50** **30** *e*PKPdf **PKPdf** **22 48 09.8 +0.7**
F35A **Swanville** **130.54** **8** P **PKPdf** **22 48 08.0 -0.7**
baz=349
COWI **Conover** **130.79** **3** PFAKE 22 48 20.0 +11
COWI LR LR
comp=Z,4µm,20.0s
G33A **Ortonville** **130.91** **10** P **PKPdf** **22 48 09.6 +0.1**
baz=346
F43A **Flat Rock, Esc** **131.12** **1** P **PKPdf** **22 48 09.1 -0.7**
baz=359
F41A **Three Lakes** **131.16** **3** P **PKPdf** **22 48 09.2 -0.7**
baz=356
LONY **Lake Ozonia** **131.21** **349** PFAKE 22 48 20.0 +10
LONY LR LR
comp=Z,2µm,21.0s
F45A **CMU Biological** **131.27** **359** P **PKPdf** **22 48 09.4 -0.7**
baz=0.9
GLMI **Grayling** **132.11** **358** PFAKE 22 48 20.0 +8.2
GLMI LR LR
comp=Z,2µm,20.0s
ECSD **EROS Data Cent** **132.30** **10** *e*PKPdf **PKPdf** **22 48 11.9 -0.2**
ECSD LR LR
comp=Z,2µm,22.0s
O20A **White River Ci** **132.33** **23** *e*PKPdf **PKPdf** **22 48 13.7 +1.1**

PFO **Pinyon Flats O** **133.54** **35** PFAKE 22 48 30.0 +15
PFO LR LR
comp=Z,2µm,21.0s
ISCO **Idaho Springs** **133.60** **21** PFAKE 22 48 30.0 +15
ISCO LR LR
comp=Z,2µm,20.0s
L32A **Elgin** **133.70** **12** P **PKPdf** **22 48 13.1 -1.7**
baz=344
OGNE **Ogallala** **133.70** **17** PFAKE 22 48 30.0 +15
OGNE LR LR
comp=Z,3µm,22.0s
BINY **Binghamton** **133.81** **349** PFAKE 22 48 30.0 +15
BINY LR LR
comp=Z,2µm,20.0s
JFWS **Jewell Farm** **133.90** **4** PFAKE 22 48 30.0 +15
JFWS LR LR
comp=Z,2µm,21.0s
L39A **Vinton** **134.53** **6** P **PKPdf** **22 48 15.1 -1.3**
baz=352
AAM **Ann Arbor** **134.60** **357** PFAKE 22 48 30.0 +14
AAM LR LR
comp=Z,3µm,19.0s
SCIA **State Center** **134.61** **7** PFAKE 22 48 30.0 +13
SCIA LR LR
comp=Z,2µm,22.0s
M54A **Oil Creek Stat** **135.05** **353** P **PKPdf** **22 48 17.7 +0.3**
baz=9.2
M40A **Post Highland** **135.29** **6** P **PKPdf** **22 48 17.7 -0.1**
baz=352
N36A **Muff Farm, Cla** **135.42** **9** P **PKPdf** **22 48 18.4 +0.3**
baz=348
SDCO **Great Sand Dun** **135.46** **22** PFAKE 22 48 30.0 +11
SDCO LR LR
comp=Z,2µm,21.0s
N40A **Mertquake, Sal** **135.80** **6** P **PKPdf** **22 48 19.1 +0.3**
baz=352
W18A **Petrified Fore** **135.91** **28** P **PKPdf** **22 48 18.5 -0.9**
baz=325
W18A **Petrified Fore** **135.91** **28** *e*PKPdf **PKPdf** **22 48 20.9 +1.5**
N45A **Kentland** **136.09** **1** P **PKPdf** **22 48 19.6 +0.3**
baz=358
HDIL **Hopedale** **136.31** **3** PFAKE 22 48 30.0 +10
HDIL LR LR
comp=Z,2µm,20.0s
CBKS **Cedar Bluff** **136.32** **15** PFAKE 22 48 30.0 +10
CBKS LR LR
comp=Z,3µm,22.0s
SFIN **Lafayette** **136.57** **1** P **PKPdf** **22 48 20.9 +0.7**
baz=359
ACSO **Alum Creek Sta** **136.62** **356** PFAKE 22 48 30.0 +10
ACSO LR LR
comp=Z,2µm,19.0s
O41A **Passleys Farm,** **136.63** **5** P **PKPdf** **22 48 20.6 +0.3**
baz=353
O45A **Potomac** **136.69** **2** P **PKPdf** **22 48 20.7 +0.3**
baz=358
P41A **Barry, Barry** **137.05** **5** P **PKPdf** **22 48 21.4 +0.3**
baz=353
P40A **Paris** **137.09** **7** P **PKPdf** **22 48 20.6 -0.6**
baz=351
SPB **Sao Paulo** **137.41** **238** PFAKE 22 48 30.0 +7.8
SPB LR LR
comp=Z,5µm,21.0s
Q38A **Cooks Store, C** **137.44** **9** P **PKPdf** **22 48 22.9 +1.0**
baz=349
Q39A **Willow Grove F** **137.45** **8** P **PKPdf** **22 48 23.4 +1.5**
baz=350
P47A **Martinsville** **137.47** **0** P **PKPdf** **22 48 23.0 +1.1**
baz=360
ANMO **Albuquerque** **137.52** **25** P **PKPdf** **22 48 23.9 +1.5**
baz=329
ANMO **Albuquerque** **137.52** **25** PFAKE 22 48 30.0 +7.6
ANMO LR LR
comp=Z,2µm,19.0s
Q40A **Laux Farm, Aux** **137.62** **7** P **PKPdf** **22 48 23.7 +1.5**
baz=351
TUC **Tucson** **137.65** **31** PFAKE 22 48 30.0 +7.4
TUC LR LR
comp=Z,3µm,21.0s
Q41A **Truxton** **137.75** **6** P **PKPdf** **22 48 23.1 +0.6**
baz=352
CBN **Corbin Frederi** **137.94** **350** PFAKE 22 48 30.0 +7.2
CBN LR LR
comp=Z,2µm,19.0s
Q45A **Warren Harvey,** **138.02** **2** P **PKPdf** **22 48 24.4 +1.5**
baz=357
R38A **Fenwick Farm,** **138.16** **9** P **PKPdf** **22 48 22.1 -1.1**
baz=348
R39A **Chumby, Stover** **138.16** **8** P **PKPdf** **22 48 22.6 -0.6**
baz=350
R42A **Luebbering** **138.46** **5** P **PKPdf** **22 48 23.5 -0.2**
baz=353
R45A **Skylar, Fairfi** **138.62** **2** P **PKPdf** **22 48 23.4 -0.6**
baz=357
R44A **Waltonville** **138.62** **3** P **PKPdf** **22 48 23.5 -0.6**
baz=356
R47A **Wooly Knot Far** **138.66** **0** P **PKPdf** **22 48 23.1 -1.0**
baz=360
S38A **Stockton** **138.70** **9** P **PKPdf** **22 48 23.6 -0.6**
baz=348
R46A **Gibon Southern** **138.72** **2** P **PKPdf** **22 48 23.1 -1.1**
baz=358
TRQA **Tornquist** **138.87** **210** PFAKE 22 48 40.0 +15
TRQA LR LR
comp=Z,3µm,20.0s
S41A **Jillco Farms,** **139.04** **7** P **PKPdf** **22 48 25.0 +0.1**
baz=352
BBSR **BB Station** **139.10** **332** PFAKE 22 48 40.0 +15
BBSR LR LR
comp=Z,1µm,21.0s
S44A **Carbondale** **139.16** **4** P **PKPdf** **22 48 24.4 -0.6**
baz=355
S45A **Carrier Mills** **139.22** **3** P **PKPdf** **22 48 24.9 -0.2**
baz=356
T38A **Diamond** **139.22** **10** P **PKPdf** **22 48 24.9 -0.3**
baz=348
S43A **Fulton Ridge,** **139.22** **5** P **PKPdf** **22 48 24.5 -0.7**
baz=354
S46A **Don Dixon Farm** **139.25** **2** P **PKPdf** **22 48 25.4 +0.2**
baz=358
T39A **Clever** **139.38** **9** P **PKPdf** **22 48 25.6 +0.1**
baz=349
T40A **Mansfield** **139.38** **8** P **PKPdf** **22 48 25.6 +0.1**
baz=350
AMTX **Amarillo** **139.38** **20** P **PKPdf** **22 48 27.3 +1.6**
baz=336
BLA **Blacksburg** **139.38** **353** PFAKE 22 48 40.0 +14
BLA LR LR
comp=Z,2µm,20.0s
T41A **Mountain View** **139.58** **7** P **PKPdf** **22 48 27.2 +1.3**
baz=351
T42A **Van Buren** **139.67** **6** P **PKPdf** **22 48 26.2 +0.1**
baz=352
T43A **Greenville** **139.69** **5** P **PKPdf** **22 48 22.9 -3.2**
baz=354
MSTX **Muleshoe** **139.82** **22** P **PKPdf** **22 48 23.5 -3.1**
baz=334
MSTX **Muleshoe** **139.82** **22** *e*PKPdf **PKPdf** **22 48 22.1 -4.5**
T46A **Princeton** **139.88** **2** P **PKPdf** **22 48 24.5 -1.9**
baz=357
U39A **Green Forest** **139.99** **9** P **PKPdf** **22 48 23.9 -2.8**
baz=349
TUL1 **Leonard** **140.03** **12** P **PKPdf** **22 48 24.3 -2.4**
baz=345
PLCA **Paso Flores** **140.10** **199** PKhKP PKPpre 22 48 21.4
comp=Z,3.9nm,1.0s,baz=225,slow=4.3,SNR=3.7
U40A **Yellville** **140.11** **8** P **PKPdf** **22 48 25.7 -1.1**
baz=350
U41A **Viola** **140.25** **7** P **PKPdf** **22 48 25.6 -1.5**
baz=351
U42A **Revenden** **140.32** **6** P **PKPdf** **22 48 25.6 -1.6**
baz=352
WMOK **Wichita Mounta** **140.41** **16** PFAKE 22 48 40.0 +13
WMOK LR LR
comp=Z,3µm,22.0s
V39A **Pettigrew** **140.50** **9** P **PKPdf** **22 48 26.3 -1.3**
baz=348
U47A **Clarksville** **140.50** **1** P **PKPdf** **22 48 25.2 -2.3**
baz=358
V40A **Witts Springs** **140.66** **8** P **PKPdf** **22 48 26.3 -1.6**
baz=350
MNTX **Cornudas Mount** **140.76** **26** P **PKPdf** **22 48 27.3 -0.9**
baz=329
MNTX **Cornudas Mount** **140.76** **26** *e*PKPdf **PKPdf** **22 48 25.9 -2.3**
MNTX LR LR
comp=Z,2µm,19.0s
CNNC **Cliffs of the** **140.92** **349** PFAKE 22 48 40.0 +12
CNNC LR LR
comp=Z,3µm,20.0s
TKL **Tuckaleechee C** **141.22** **357** PKP **PKPdf** **22 48 27.1 -1.8**
comp=Z,7.0nm,0.8s,baz=90,slow=1.0,SNR=4.7
W41B **Gary Mavity, V** **141.36** **8** P **PKPdf** **22 48 27.9 -1.3**
baz=350
CPCT **Cooper Cave** **141.47** **358** *e*PKPdf **PKPdf** **22 48 28.9 -0.4**
X39A **Fountain Ranch** **141.71** **11** P **PKPdf** **22 48 27.1 -2.7**
baz=347
MIAR **Mount Ida** **141.77** **10** P **PKPdf** **22 48 27.6 -2.3**
baz=348,SNR=12
MIAR **Mount Ida** **141.77** **10** *e*PKPdf **PKPdf** **22 48 27.1 -2.8**
MIAR LR LR
comp=Z,3µm,21.0s
MIAR **Mount Ida** **141.77** **10** *e*PKIKP **PKPdf** **22 48 27.1 -2.8**
MIAR MLR MLR
comp=Z,3µm,21.0s
W48A **Pulaski** **141.81** **1** P **PKPdf** **22 48 27.9 -2.0**
baz=359
X40A **Basin Creek Fa** **141.95** **9** P **PKPdf** **22 48 27.8 -2.5**
baz=349
X41A **Kaden, Bauxite** **141.99** **8** P **PKPdf** **22 48 26.3 -4.0**
baz=350
X42A **Stuttgart** **142.05** **7** P **PKPdf** **22 48 27.7 -2.7**
baz=351
ABTX **Abilene, Hawle** **142.12** **19** P **PKPdf** **22 48 28.5 -2.1**
baz=338
OXF **Oxford** **142.32** **4** P **PKPdf** **22 48 28.6 -2.2**
baz=355
X46A **Booneville** **142.33** **3** P **PKPdf** **22 48 28.8 -2.0**
baz=356
Y40A **Okolona** **142.34** **10** P **PKPdf** **22 48 28.6 -2.3**
baz=348
X47A **Russelville** **142.40** **2** P **PKPdf** **22 48 29.2 -1.8**
baz=357
X49A **Woodville** **142.44** **0** P **PKPdf** **22 48 29.3 -1.8**
baz=360
X48A **Hartselle** **142.49** **1** P **PKPdf** **22 48 29.4 -1.8**
baz=359
Y41A **Eaglette Beard** **142.58** **9** P **PKPdf** **22 48 29.1 -2.3**
baz=349
Y42A **Garnett, Star** **142.74** **8** P **PKPdf** **22 48 30.3 -1.3**
baz=351
Y43A **Makayla and Ka** **142.77** **6** P **PKPdf** **22 48 30.4 -1.3**
baz=352
Y46A **Houston** **142.98** **4** P **PKPdf** **22 48 30.2 -1.8**
baz=356
Y47A **UCPARC, Winfie** **143.01** **2** P **PKPdf** **22 48 30.6 -1.5**
baz=357
Y48A **Jasper** **143.02** **1** P PKPbc 22 48 29.9 +1.0
baz=358
Y50A **Piedmont** **143.05** **359** P PKPbc 22 48 29.6 +0.7
baz=0.7
Z40A **Long Farm, Mag** **143.06** **10** P PKPbc 22 48 29.6 +0.7
baz=348
Y49A **Blount Mountai** **143.09** **0** P PKPbc 22 48 29.3 +0.3
baz=360
Z41A **Richland Creek** **143.16** **9** P PKPbc 22 48 29.5 +0.3
baz=349
Z42A **Norrel Spur, H** **143.27** **8** P PKPbc 22 48 29.0 -0.5
baz=350
WHTX **Lake Whitney,** **143.36** **16** P PKPab 22 48 28.6 -0.1
baz=341
NHSC **New Hope** **143.39** **351** P PKPbc 22 48 29.5 -0.3
baz=10.0
NHSC **New Hope** **143.39** **351** PFAKE 22 48 40.0 +7.2
NHSC LR LR
comp=Z,2µm,20.0s
Z43A **Armstrong Fami** **143.43** **7** P PKPbc 22 48 30.8 +0.9
baz=352
Z45A **Winona** **143.43** **5** P PKPbc 22 48 30.5 +0.6
baz=354
GOGA **Godfrey** **143.44** **356** P PKPbc 22 48 31.0 +1.0
baz=4.5
GOGA **Godfrey** **143.44** **356** PFAKE 22 48 40.0 +7.1
GOGA LR LR
comp=Z,2µm,22.0s
Z44A **Pea Ridge, Bel** **143.45** **6** P PKPbc 22 48 30.6 +0.6
baz=353
TXAR **Lajitas Array** **143.54** **26** PKP PKPbc 22 48 30.9 +0.4
comp=Z,3.9nm,0.9s,baz=216,slow=1.3,SNR=12
Z48A **Northport** **143.55** **2** P PKPbc 22 48 30.9 +0.6
baz=358
140A **Cam and Jess,** **143.63** **10** P PKPbc 22 48 30.7 +0.2
baz=348
Z46A **Louisville** **143.66** **4** P PKPbc 22 48 30.3 -0.3
baz=355
Z50A **Ashland** **143.69** **360** P PKPbc 22 48 30.9 +0.1
baz=0.4
Z47A **Carrollton** **143.70** **3** P PKPbc 22 48 30.7 0.0
baz=357
Z49A **Columbiana** **143.75** **0** P PKPbc 22 48 31.1 +0.2
baz=359
141A **Papa Simpson,** **143.78** **10** P PKPbc 22 48 31.9 +0.9
baz=349
LRAL **Lakeview Retre** **143.90** **1** P PKPbc 22 48 32.0 +0.6
baz=359
LRAL **Lakeview Retre** **143.90** **1** *e*PKPdf **PKPdf** **22 48 34.1 +0.5**
143A **Socs Landing,** **143.91** **7** P PKPbc 22 48 32.1 +0.7
baz=351
142A **Monroe** **143.98** **8** P PKPbc 22 48 32.1 +0.5
baz=350
CPUP **Villa Florida** **144.03** **228** PKP **PKPab** **22 48 31.2 -0.2**
comp=Z,20nm,0.8s,baz=108,slow=3.5,SNR=31
JCT **Junction City** **144.04** **20** P **PKPab** **22 48 31.6 +0.2**
baz=336
JCT **Junction City** **144.04** **20** *e*PKPdf PKPbc 22 48 32.7 +0.8
JCT LR LR
comp=Z,2µm,21.0s
JCT **Junction City** **144.04** **20** *e*PKIKP PKPbc 22 48 32.7 +0.8
JCT MLR MLR
comp=Z,2µm,21.0s
144A **Alexander Plac** **144.09** **6** P PKPbc 22 48 32.0 0.0
baz=353
LPIG **La Paz** **144.11** **39** PKP **PKPdf** **22 48 35.1 +0.8**
comp=Z,16nm,0.4s,baz=98,slow=1.5,SNR=7.1
155A **Kite** **144.14** **355** P PKPbc 22 48 32.7 +0.6
baz=6.3
145A **Houston Renfro** **144.17** **5** P PKPbc 22 48 32.3 +0.1
baz=354
240A **Hunter Patters** **144.18** **11** P PKPbc 22 48 32.3 0.0
baz=347
146A **Union** **144.21** **4** P PKPbc 22 48 32.2 -0.1
baz=355
154A **Montrose** **144.21** **355** P **PKPab** **22 48 31.2 -0.7**
baz=5.2
147A **Livingston** **144.22** **3** P PKPbc 22 48 32.3 0.0
baz=356
153A **Fort Valley** **144.22** **357** P PKPbc 22 48 32.4 0.0
baz=4.0
148A **Greensboro** **144.27** **2** P **PKPab** **22 48 32.2 0.0**
baz=358
150A **Eclectic** **144.34** **360** P PKPbc 22 48 33.0 +0.3
baz=0.3
149A **Jones** **144.34** **1** P PKPbc 22 48 33.3 +0.6
baz=359
241A **Mo Tay, Goldon** **144.35** **10** P **PKPdf** **22 48 33.7 -0.8**
baz=348
151A **Opelika** **144.41** **359** P PKPbc 22 48 33.3 +0.3
baz=1.4,SNR=10
242A **Grayson** **144.43** **9** P PKPbc 22 48 33.6 +0.6
baz=350
435B **Jarrell** **144.46** **17** P **PKPdf** **22 48 34.4 -0.4**
baz=340
VBMS **Vicksburg** **144.49** **6** P **PKPdf** **22 48 34.9 +0.1**
baz=353
257A **Skidaway Islan** **144.62** **352** P **PKPdf** **22 48 35.9 +0.9**
baz=8.9
244A **Avery, Jackson** **144.64** **7** P PKPbc 22 48 34.1 +0.4
baz=352,SNR=13
243A **Waterproof** **144.71** **8** P **PKPdf** **22 48 34.7 -0.5**
baz=351
256A **Glennville** **144.72** **354** P PKPbc 22 48 34.0 0.0
baz=7.4
245A **Little AP, Sta** **144.74** **5** P **PKPdf** **22 48 34.9 -0.3**
baz=354
247A **Quitman** **144.81** **4** P PKPbc 22 48 34.4 +0.1
baz=356,SNR=5.9
248A **Dixon Mills** **144.82** **2** P PKPbc 22 48 34.5 +0.2
baz=357
246A **Jackson Lee, B** **144.82** **4** P PKPbc 22 48 34.6 +0.4
baz=355
253A **Americus** **144.82** **357** P PKPbc 22 48 34.5 +0.2
baz=3.5
251A **Midway** **144.84** **359** P **PKPab** **22 48 33.9 -0.3**
baz=1.3,SNR=26
252A **Lumpkin** **144.92** **358** P PKPbc 22 48 34.6 0.0
baz=2.5,SNR=25

249A	**Camden**	**144.96**	**1**	P		**PKPab**	**22 48 34.5**	**-0.2**
	baz=358,SNR=24							
250A	**Grady**	**144.96**	**0**	P		PKPbc	22 48 34.8	+0.1
	baz=360							
341A	**Kurthwood**	**144.98**	**10**	P		**PKPdf**	**22 48 35.3**	**-0.3**
	baz=348							
342A	**Flagon Creek P**	**145.08**	**9**	P		**PKPdf**	**22 48 35.5**	**-0.3**
	baz=349							
357A	**Townsend**	**145.22**	**353**	P		**PKPdf**	**22 48 36.2**	**+0.2**
	baz=8.2							
344A	**Westbrook Farm**	**145.22**	**7**	P		**PKPdf**	**22 48 36.0**	**-0.1**
	baz=352,SNR=16							
343A	**Vidalia**	**145.27**	**8**	P		**PKPdf**	**22 48 36.4**	**+0.3**
	baz=350							
356A	**Blackshear**	**145.39**	**354**	P		**PKPdf**	**22 48 36.4**	**+0.1**
	baz=7.1							
TIGA	**Tifton**	**145.41**	**356**	P		**PKPbc**	**22 48 36.2**	**0.0**
	baz=4.5,SNR=6.4							
TIGA	**Tifton**	**145.41**	**356**	*e*PKPbc		**PKPdf**	**22 48 36.5**	**+0.2**
346A	**Big Creek Wild**	**145.41**	**5**	P		**PKPab**	**22 48 36.4**	**+0.1**
	baz=354							
352A	**Blakely**	**145.44**	**358**	P		**PKPbc**	**22 48 36.2**	**-0.1**
	baz=2.2,SNR=19							
345A	**Thompson Farm,**	**145.44**	**6**	P		**PKPab**	**22 48 36.5**	**+0.1**
	baz=353							
355A	**Pearson**	**145.44**	**355**	P		**PKPab**	**22 48 37.0**	**+0.6**
	baz=5.8							
347A	**Saraland**	**145.47**	**3**	P		**PKPab**	**22 48 36.9**	**+0.3**
	baz=356,SNR=16							
348A	**Jackson**	**145.49**	**3**	P		**PKPab**	**22 48 37.1**	**+0.5**
	baz=357							
350A	**Dozier**	**145.52**	**0**	P		**PKPab**	**22 48 37.2**	**+0.5**
	baz=360							
353A	**Camilla**	**145.54**	**357**	P		**PKPdf**	**22 48 36.3**	**-0.2**
	baz=3.4,SNR=17							
441A	**DeRidder**	**145.54**	**11**	P		**PKPab**	**22 48 37.6**	**+0.7**
	baz=348							
349A	**Repton**	**145.58**	**1**	P		**PKPab**	**22 48 37.3**	**+0.3**
	baz=358,SNR=34							
351A	**Pinckard**	**145.66**	**359**	P		**PKPab**	**22 48 37.7**	**+0.4**
	baz=1.0							
442A	**Mamou**	**145.71**	**10**	P		**PKPab**	**22 48 38.7**	**+1.2**
	baz=349							
HKT	**Hockley**	**145.73**	**15**	*e*PKPbc		**PKPab**	**22 48 37.5**	**0.0**
HKT	**Hockley**	**145.73**	**15**	*e*PKP2		**PKPab**	**22 48 37.5**	**0.0**
443A	**Delano Plantat**	**145.76**	**9**	P		**PKPab**	**22 48 38.6**	**+0.9**
	baz=350							
BRAL	**Brewton**	**145.76**	**1**	P		**PKPab**	**22 48 37.7**	**+0.1**
	baz=358,SNR=6.1							
BRAL	**Brewton**	**145.76**	**1**	*e*PKPbc		**PKPab**	**22 48 38.3**	**+0.6**
BRAL				LR		LR		
	comp=Z,2µm,19.0s							
444A	**Pine Grove**	**145.95**	**7**	P		**PKPab**	**22 48 38.5**	**+0.2**
	baz=352							
448A	**Bay Minette**	**145.97**	**3**	P		**PKPab**	**22 48 38.9**	**+0.5**
	baz=357							
456A	**Hilliard**	**145.97**	**354**	P		**PKPab**	**22 48 40.0**	**+1.5**
	baz=7.4							
445A	**Amite**	**145.98**	**6**	P		**PKPab**	**22 48 39.5**	**+1.0**
	baz=353							
457A	**Yulee**	**146.02**	**353**	P		**PKPbc**	**22 48 38.3**	**+0.1**
	baz=8.2							
453A	**Whigham**	**146.03**	**357**	P		**PKPbc**	**22 48 38.4**	**+0.2**
	baz=3.3							
455A	**Stateville**	**146.06**	**355**	P		**PKPab**	**22 48 38.8**	**0.0**
	baz=5.6,SNR=8.4							
447A	**Lucedale**	**146.06**	**4**	P		**PKPab**	**22 48 38.6**	**-0.2**
	baz=356							
452A	**Marianna**	**146.07**	**358**	P		**PKPab**	**22 48 38.8**	**0.0**
	baz=1.8							
454A	**Quitman**	**146.13**	**356**	P		**PKPab**	**22 48 39.6**	**+0.6**
	baz=4.5							
450A	**Crestview**	**146.13**	**1**	P		**PKPab**	**22 48 39.2**	**+0.1**
	baz=359							
833A	**Chaparral WMA,**	**146.15**	**21**	P		**PKPab**	**22 48 39.3**	**+0.1**
	baz=336							
449A	**Pace**	**146.16**	**2**	P		**PKPab**	**22 48 39.5**	**+0.3**
	baz=358							
541A	**Lake Charles**	**146.21**	**11**	P		**PKPab**	**22 48 40.5**	**+1.1**
	baz=347							
542A	**Morse**	**146.26**	**10**	P		**PKPab**	**22 48 40.6**	**+1.0**
	baz=349							
451A	**Vernon**	**146.32**	**359**	P		**PKPbc**	**22 48 39.3**	**+0.3**
	baz=0.8,SNR=7.1							
543A	**St. Martinvill**	**146.41**	**9**	P		**PKPab**	**22 48 41.4**	**+1.3**
	baz=350							
544A	**White Castle**	**146.49**	**8**	P		**PKPab**	**22 48 41.1**	**+0.7**
	baz=351							
546A	**Slidell**	**146.54**	**5**	P		**PKPab**	**22 48 40.9**	**+0.3**
	baz=354							
557A	**Orange Park**	**146.64**	**353**	P		**PKPab**	**22 48 40.9**	**-0.1**
	baz=8.1							
555A	**McAlpin**	**146.67**	**355**	P		**PKPab**	**22 48 41.1**	**0.0**
	baz=5.8,SNR=9.9							
553A	**Crawfordville**	**146.70**	**357**	P		**PKPab**	**22 48 41.2**	**-0.1**
	baz=3.2							
556A	**Lake Butler**	**146.73**	**354**	P		**PKPab**	**22 48 40.8**	**-0.5**
	baz=6.8,SNR=6.6							
554A	**Perry**	**146.76**	**356**	P		**PKPab**	**22 48 42.0**	**+0.5**
	baz=4.5							
552A	**Lynn Haven**	**146.79**	**359**	P		**PKPab**	**22 48 41.3**	**-0.3**
	baz=1.6							
657A	**Interlachen**	**147.08**	**353**	P		**PKPab**	**22 48 42.7**	**0.0**
	baz=7.9							
658A	**Bunnell**	**147.16**	**352**	P		**PKPbc**	**22 48 41.7**	**+0.2**
	baz=9.0							
646A	**Port Sulphur**	**147.17**	**6**	P		**PKPbc**	**22 48 41.8**	**+0.3**
	baz=353							
645A	**Chauvin**	**147.21**	**7**	P		**PKPab**	**22 48 43.8**	**+0.5**
	baz=352							
655A	**Horseshoe Beac**	**147.30**	**355**	P		**PKPbc**	**22 48 42.2**	**+0.3**
	baz=5.4							
656A	**Willston**	**147.37**	**354**	P		**PKPbc**	**22 48 42.7**	**+0.6**
	baz=6.7							
KVTX	**Kingsville**	**147.38**	**19**	PFAKE			22 48 50.0	+6.0
KVTX				LR		LR		
	comp=Z,1µm,20.0s							
757A	**Oxford**	**147.74**	**353**	P		**PKPbc**	**22 48 43.6**	**+0.5**
	baz=7.7							
ANWB	**Willy Bob**	**148.16**	**312**	PFAKE			22 48 50.0	+2.6
ANWB				LR		LR		
	comp=Z,2µm,20.0s							
858A	**St. Cloud**	**148.37**	**352**	P		**PKPbc**	**22 48 45.3**	**+0.5**
	baz=9.2							
857A	**Zephyrhills**	**148.43**	**353**	P		**PKPbc**	**22 48 45.3**	**+0.4**
	baz=7.5							
859A	**Kempfer Cattle**	**148.45**	**351**	P		**PKPbc**	**22 48 45.7**	**+0.7**
	baz=10							
DWPF	**Disney Wildern**	**148.48**	**352**	P		**PKPbc**	**22 48 45.1**	**0.0**
	baz=9.0							
BBGH	**Gun Hill**	**148.91**	**302**	PFAKE			22 48 50.0	-0.5
BBGH				LR		LR		
	comp=Z,3µm,20.0s							
959A	**Okeechobee**	**148.97**	**351**	P		**PKPbc**	**22 48 45.9**	**-0.4**
	baz=10							
957A	**Wimauma**	**149.01**	**353**	P		**PKPbc**	**22 48 46.6**	**+0.1**
	baz=7.6							
958A	**Wauchula**	**149.04**	**352**	P		**PKPbc**	**22 48 46.3**	**-0.2**
	baz=8.6							
060A	**Indiantown**	**149.36**	**350**	P		**PKPbc**	**22 48 46.7**	**-0.7**
	baz=11							
ZAM	**Aeronautique**	**149.38**	**306**	*e*P		**PKPab**	**22 48 53.3**	**+0.9**
FDF	**Fort de France**	**149.39**	**306**	PFAKE			22 48 50.0	+2.2
FDF				LR		LR		
	comp=Z,1µm,20.0s							
FDF	**Fort de France**	**149.39**	**306**	*e*P		**PKPbc**	**22 48 47.1**	**-0.7**
059A	**Moore Haven**	**149.56**	**351**	P		**PKPbc**	**22 48 47.3**	**-0.5**
	baz=9.9							
058A	**Arcadia**	**149.56**	**352**	P		**PKPbc**	**22 48 47.3**	**-0.6**
	baz=8.6							
ZAIG	**Zacatecas**	**149.61**	**31**	*e*PKPbc		**PKPbc**	**22 48 48.6**	**0.0**
LCO	**Las Campanas**	**150.43**	**208**	*e*PKPdf		**PKPdf**	**22 48 45.8**	**+0.7**
LCO				*e*PKPbc		**PKPbc**	**22 48 49.3**	**-1.0**
LCO				LR		LR		
	comp=Z,3µm,21.0s							
SJG	**San Juan**	**150.97**	**318**	PFAKE			22 49 00.0	+1.2
SJG				LR		LR		
	comp=Z,2µm,20.0s							
GRGR	**Grenville**	**151.18**	**302**	PFAKE			22 49 00.0	+0.1
GRGR				LR		LR		
	comp=Z,1µm,19.0s							
GRTK	**Grand Turk**	**151.29**	**330**	PFAKE			22 49 00.0	0.0
GRTK				LR		LR		
	comp=Z,2µm,20.0s							
SDDR	**Presa de Saban**	**153.46**	**327**	PFAKE			22 49 00.0	+2.8
SDDR				LR		LR		
	comp=Z,2µm,21.0s							
GTBY	**Guantanamo Bay**	**154.50**	**335**	PFAKE			22 49 00.0	+0.7
GTBY				LR		LR		
	comp=Z,2µm,21.0s							
SAML	**Samuel**	**156.40**	**255**	*e*PKPdf		**PKPdf**	**22 48 56.5**	**+2.9**
SAML				LR		LR		
	comp=Z,3µm,20.0s							
MTDJ	**Mount Denham**	**157.00**	**338**	PFAKE			22 49 10.0	-14
MTDJ				LR		LR		
	comp=Z,2µm,20.0s							
LPAZ	**La Paz**	**157.99**	**233**	PKP		**PKPdf**	**22 48 55.2**	**-1.2**
	comp=Z,6.4nm,1.1s,baz=68,slow=5.4,SNR=6.2							
LPAZ				PKPab		**PKPab**	**22 49 29.2**	**-0.2**
	comp=Z,8.7nm,1.1s,baz=131,slow=3.4,SNR=6.0							
SDV	**Santo Domingo**	**160.32**	**308**	PKP		**PKPdf**	**22 48 59.0**	**+0.4**
	comp=Z,2.2nm,0.5s,baz=32,slow=4.0,SNR=4.9							
SDV				PKPab		**PKPab**	**22 49 38.8**	**-0.4**
	comp=Z,16nm,1.0s,baz=51,slow=6.5,SNR=6.1							
SDV	**Santo Domingo**	**160.32**	**308**	PKP		**PKPdf**	**22 48 59.0**	**+0.4**
SDV				PKPab		**PKPab**	**22 49 38.8**	**-0.4**
SDV				LR		LR		
	comp=Z,3µm,21.0s							
APG	**El Apazote**	**161.38**	**13**	PKP		**PKPdf**	**22 48 59.1**	**-0.7**
	comp=Z,3.1nm,0.8s,baz=207,slow=6.8,SNR=2.6							
APG				PKPab		**PKPab**	**22 49 43.3**	**-0.2**
	comp=Z,21nm,1.1s,baz=325,slow=6.4,SNR=12							
ROSC	**El Rosal**	**165.64**	**304**	PKP		**PKPdf**	**22 49 05.2**	**+1.1**
	comp=Z,4.9nm,0.4s,baz=271,slow=2.0,SNR=7.6							
BCIP	**Isla Barro Col**	**166.11**	**333**	PFAKE			22 49 10.0	+6.1
BCIP				LR		LR		
	comp=Z,3µm,22.0s							
JTS	**JuntasAbangare**	**166.48**	**355**	PFAKE			22 49 10.0	+5.8
JTS				LR		LR		
	comp=Z,3µm,21.0s							
NNA	**Nana**	**167.28**	**226**	PFAKE			22 49 20.0	+15
NNA				LR		LR		
	comp=Z,2µm,22.0s							
OTAV	**Otavalo**	**171.49**	**294**	PFAKE			22 49 20.0	+12
OTAV				LR		LR		
	comp=Z,3µm,20.0s							

*IDC **20** 22:29:20.8±3.8,5°.60S×149°.91E, h63km±33km, mb4.1/16, mb1 4.2/18, mb1mx4.0/54, mbtmp4.4/18, ML3.2/2, MS3.7/2, Ms1 3.7/2, ms1mx3.2/46, Error ellipse: s-maj=30.5km s-min=13.1km az=92.0*
*ISCJB **20** 22:29:27.2±0.7,5°.63S±0°.07×149°.5E±0°.1, h135km, mb4.1/15, Error ellipse: s-maj=21.5km s-min=8.3km az=18.0*

ISC 20 22:29:28.8±0.8, 5°.68S±0°.09×149°.6E±0°.2, h135km, n22, σ1°.42/20, mb4.2/15, New Britain region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.42**	**213**	P			Pn	22 30 28.3	-6.0
	29nm,0.3s,baz=45,slow=7.1,SNR=25								
PMG				S			**Sn**	**22 31 23.5**	**-1.8**
	22nm,0.3s,baz=176,slow=4.4,SNR=3.3								
HNR	**Honiara**	**10.91**	**111**	LR			LR	22 35 20.5	
	comp=Z,326nm,21.5s,baz=280,slow=34								
SIJI	**Sorong**	**18.91**	**284**	P			**P**	**22 33 37.7**	**-1.5**
	0.2nm,0.3s,baz=75,slow=7.8,SNR=6.7								
WRA	**Warramunga Arr**	**20.52**	**225**	P			**P**	**22 33 55.9**	**-0.8**
	34nm,0.7s,baz=51,slow=11,SNR=67								
ASAR	**Alice Springs**	**23.42**	**219**	P			**P**	**22 34 26.6**	**+0.7**
	9.7nm,0.6s,baz=52,slow=8.9,SNR=40								
STKA	**Stephens Creek**	**27.12**	**195**	P			**P**	**22 34 59.2**	**0.0**
	2.0nm,0.5s,baz=12,slow=12,SNR=6.1								
URZ	**Urewera**	**40.94**	**146**	LR			LR	22 52 20.0	
	comp=Z,101nm,19.1s,baz=60,slow=34								
JNU	**Nakatsue**	**42.48**	**336**	P			**P**	**22 37 10.5**	**-0.2**
	27nm,1.2s,baz=12,slow=6.0,SNR=4.3								
MJAR	**Matsushiro Arr**	**43.33**	**347**	P			**P**	**22 37 15.0**	**-2.5**
	1.1nm,0.7s,baz=169,slow=6.9,SNR=3.4								
ASAJ	**Asahikawa**	**49.97**	**353**	P			**P**	**22 38 08.2**	**-0.8**
	1.9nm,0.5s,baz=166,slow=12,SNR=4.3								
CMAR	**Chiang Mai Arr**	**55.40**	**297**	P			**P**	**22 38 51.5**	**+2.1**
	1.8nm,0.6s,baz=119,slow=5.7,SNR=4.3								
PETK	**Petropavlovsk-**	**58.96**	**6**	P			**P**	**22 39 13.6**	**-0.2**
	5.0nm,0.7s,baz=158,slow=5.7,SNR=11								
MA2	**Magadan**	**65.05**	**1**	P			**P**	**22 39 54.3**	**-0.1**
	2.0nm,0.5s,baz=174,slow=7.9,SNR=7.4								
SONM	**Songino Array**	**65.41**	**330**	P			**P**	**22 39 58.7**	**+1.6**
	12nm,1.0s,baz=142,slow=5.6,SNR=3.7								
SEY	**Seymchan**	**68.45**	**1**	P			**P**	**22 40 16.1**	**+0.2**
	0.7nm,0.3s,baz=195,slow=16,SNR=9.4								
VNDA	**Vanda**	**72.09**	**177**	P			**P**	**22 40 38.8**	**+0.9**
	1.4nm,0.6s,baz=336,slow=6.5,SNR=15								
MKAR	**Makanchi Array**	**78.91**	**320**	P			**P**	**22 41 19.2**	**+1.9**
	3.3nm,0.8s,baz=125,slow=7.6,SNR=4.7								
ILAR	**Eielson Array**	**84.18**	**23**	P			**P**	**22 41 42.0**	**-2.6**
	1.0nm,0.8s,baz=248,slow=5.5,SNR=8.4								
QSPA	**South Pole Qui**	**84.29**	**180**	P			**P**	**22 41 46.3**	**+1.0**
	3.1nm,0.7s,baz=308,slow=2.1,SNR=7.0								
BVAR	**Borovoye Array**	**88.04**	**324**	P			**P**	**22 42 04.3**	**+0.5**
	1.5nm,0.7s,baz=111,slow=7.9,SNR=3.0								
TORD	**Torodi Ar. Bea**	**147.51**	**286**	PKPbc			**PKPbc**	**22 48 57.2**	**-0.9**
	1.3nm,0.9s,baz=80,slow=3.0,SNR=5.0								
TORD	**Torodi Ar. Bea**	**147.51**	**286**	PKPbc			**PKPbc**	**22 48 57.2**	**-0.9**

*CSEM **20** 22:47:09.6, 45°.86N×15°.48E, h0km, ML0.4*

LJU 20 22:47:09.6, 45°.86N×15°.48E, h4km, ML0.4, 2D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CRES	**Cresnjev**	**0.04**	**201**	‖ *i*	Pg		Pg	22 47 10.8	0.0
CRES					*i* Sg		Sg	22 47 11.9	+0.4
	comp=Z,17nm,0.1s								
CRES	**Cresnjev**	**0.04**	**201**	‖ *i*	Pg		Pg	22 47 10.8	+0.1
CRES					*i* Sg		Sg	22 47 11.9	+0.4
	comp=Z,17nm,0.1s								
GCIS	**Gornji Cirnik**	**0.10**	**88**	*i*	Pg		Pg	22 47 11.7	-0.1
GCIS					*i* Sg		Sg	22 47 13.4	+0.2
	comp=Z,7.0nm,0.1s								
GCIS	**Gornji Cirnik**	**0.10**	**88**	*i*	Pg		Pg	22 47 11.6	-0.2
GCIS					*i* Sg		Sg	22 47 13.4	+0.2
	comp=Z,7.0nm,0.1s								
CESS	**Cesta pri Krsk**	**0.11**	**355**	*i*	Sg		Sg	22 47 13.4	0.0
	comp=Z,11nm,0.1s								
CESS	**Cesta pri Krsk**	**0.11**	**355**	*i*	Sg		Sg	22 47 13.4	0.0
	comp=Z,11nm,0.1s								
LEGS	**Legarje**	**0.14**	**307**	*i*	Pg		Pg	22 47 12.5	0.0
LEGS					*i* Sg		Sg	22 47 14.9	+0.5
LEGS	**Legarje**	**0.14**	**307**	*i*	Pg		Pg	22 47 12.5	+0.1
LEGS					*i* Sg		Sg	22 47 14.9	+0.6
GOLS	**Golise**	**0.18**	**35**	*i*	Pg		Pg	22 47 13.4	+0.2
GOLS					*i* Sg		Sg	22 47 16.3	+0.8
	comp=Z,3.0nm,0.1s								
GOLS	**Golise**	**0.18**	**35**	*i*	Pg		Pg	22 47 13.4	+0.3
GOLS					*i* Sg		Sg	22 47 16.3	+0.8
	comp=Z,3.0nm,0.1s								
DOBS	**Dobrina**	**0.29**	**359**	*i*	Pg		Pg	22 47 15.3	+0.2
DOBS					*i* Sg		Sg	22 47 19.6	+0.7
	comp=Z,2.0nm,0.1s								
DOBS	**Dobrina**	**0.29**	**359**	*i*	Pg		Pg	22 47 15.3	+0.1
DOBS					*i* Sg		Sg	22 47 19.6	+0.7
	comp=Z,2.0nm,0.1s								

*IDC **20** 22:49:49.9±1.2,3°.10N×93°.91E, h0km, mb3.9/10, mb1 4.0/11, mb1mx3.7/62, mbtmp3.9/11, ML3.8/1, Error ellipse: s-maj=45.4km s-min=19.3km az=52.0*
*ISCJB **20** 22:49:51.1±0.7,3°.2N±0°.1×94°.0E±0°.2, h18km, mb3.9/11, Error ellipse: s-maj=24.0km s-min=13.5km az=158.4*
*NEIC **20** 22:49:51.6±0.7,3°.19N×94°.00E, h10km, mb4.3/1, Error ellipse: s-maj=22.1km s-min=11.6km az=61.0*

ISC 20 22:49:52.9±0.9, 3°.2N±0°.1×94°.0E±0°.2, h18km, n20, σ0°.60/14, mb3.9/11, 1C, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**15.92**	**17**	Pn			**Pn**	**22 53 35.1**	**-1.1**
	0.1nm,0.3s,baz=210,slow=11,SNR=9.8								
H08S2	**Diego Garcia H**	**24.01**	**243**	T			T	23 19 56.0	
	baz=64,slow=76,SNR=16								
H08S3	**Diego Garcia H**	**24.01**	**243**	T			T	23 19 59.0	
	baz=64,slow=76,SNR=18								
H08S1	**Diego Carcia H**	**24.03**	**243**	T			T	23 19 53.0	
	baz=64,slow=76,SNR=9.9								
LSA	**Lhasa**	**26.50**	**354**	*e*P			**P**	**22 55 30.0**	**+0.1**
	4.5nm,0.7s								
H01W3	**Cape Leeuwin H**	**42.33**	**155**	T			T	23 42 51.2	
	baz=331,slow=76,SNR=14								
H01W2	**Cape Leeuwin H**	**42.35**	**155**	T			T	23 42 48.5	
	baz=331,slow=76,SNR=12								
H01W1	**Cape Leeuwin H**	**42.35**	**155**	T			T	23 42 52.7	
	baz=331,slow=76,SNR=15								
MKAR	**Makanchi Array**	**44.61**	**349**	P			**P**	**22 58 04.7**	**+0.5**
	2.8nm,0.7s,baz=164,slow=8.4,SNR=29								
SONM	**Songino Array**	**45.74**	**12**	P			**P**	**22 58 14.0**	**+0.8**
	1.3nm,0.8s,baz=190,slow=8.4,SNR=8.2								
WRA	**Warramunga Arr**	**45.79**	**122**	P			**P**	**22 58 14.0**	**0.0**
	1.4nm,1.0s,baz=303,slow=8.7,SNR=7.9								
ASAR	**Alice Springs**	**47.13**	**127**	P			**P**	**22 58 24.4**	**-0.1**
	0.6nm,0.7s,baz=299,slow=7.7,SNR=5.1								
GEYT	**Alibeck**	**47.66**	**321**	P			**P**	**22 58 28.6**	**+0.2**
	1.3nm,0.6s,baz=170,slow=8.8,SNR=3.9								
KURBB	**Kurchatov Arra**	**49.04**	**347**	P			**P**	**22 58 39.5**	**+0.8**
	1.8nm,0.8s,baz=170,slow=7.0,SNR=15								
KURK	**Kurchatov**	**49.10**	**347**	P			**P**	**22 58 39.5**	**+0.3**
ZALV	**Zalesovo Beam**	**51.15**	**353**	P			**P**	**22 58 55.0**	**+0.3**
	1.5nm,0.6s,baz=192,slow=5.4,SNR=7.7								
BVAR	**Borovoye Array**	**53.37**	**342**	P			**P**	**22 59 10.8**	**-0.4**
	1.0nm,0.7s,baz=162,slow=10.0,SNR=6.9								
BRTR	**Keskin Array B**	**65.42**	**313**	P			**P**	**23 00 34.0**	**-0.9**
	0.4nm,0.7s,baz=90,slow=3.7,SNR=3.8								
SYO	**Syowa Base**	**80.92**	**197**	‖ *eP*			**P**	**23 02 05.7**	**0.0**
GERES	**GERESS Array B**	**81.22**	**319**	P			**P**	**23 02 08.1**	**+0.1**
	0.6nm,0.7s,baz=77,slow=6.0,SNR=4.5								

*IDC **20** 22:56:21.4±0.8, 15°.91N×98°.52W, h0km, mb3.9/8, mb1 4.1/11, mb1mx3.9/43, mbtmp3.9/11, ML3.4/3, Error ellipse: s-maj=21.9km s-min=14.6km az=27.0*
*MEX **20** 22:56:23.0±0.8, 15°.89N×98°.62W, h10km, MD4.3*
*NEIC **20** 22:56:23.0±0.0, 15°.92N×98°.60W, h10km, mb4.5/93, MD4.3(MEX), After MEX.*
*ISCJB **20** 22:56:30.1±0.4, 16°.66N±0°.04×98°.07W±0°.03, h17km, mb4.5/93, Error ellipse: s-maj=6.2km s-min=3.8km az=10.2*

ISC 20 22:56:26.2±0.6, 16°.03N±0°.05×98°.47W±0°.05, h17km, n300, σ2°.39/290, mb4.5/95, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.49**	**42**	*i* P			**Pg**	**22 56 34.7**	**-1.4**
PNIG				*i* S			**Sb**	**22 56 43.5**	**+0.1**
PNIG	**Pinotepa**	**0.49**	**42**	*i* P			**Pg**	**22 56 34.7**	**-1.4**
PNIG				*i* S			**Sb**	**22 56 43.5**	**+0.1**
TLIG	**Tlapa**	**1.53**	**357**	*e*P			**Pn**	**22 56 49.0**	**-3.9**
TLIG				*e*S			**Sn**	**22 57 09.4**	**-3.1**
TLIG	**Tlapa**	**1.53**	**357**	*e*Pg			**Pn**	**22 56 49.3**	**-3.5**
TLIG				*e*S			**Sn**	**22 57 09.4**	**-3.1**
VHO	**Vista Hermosa**	**1.96**	**58**	*e*P			**Pn**	**22 56 57.2**	**-1.7**
VHO	**Vista Hermosa**	**1.96**	**58**	*e*P			**Pn**	**22 56 57.2**	**-1.7**
CAIG	**El Cayaco**	**2.00**	**301**	*e*P			Pn	22 56 51.6	-7.6
CAIG	**El Cayaco**	**2.00**	**301**	*e*P			Pn	22 56 51.6	-7.6
MEIG	**Mezcala**	**2.19**	**330**	*e*P			**Pn**	**22 56 57.5**	**-4.3**
MEIG	**Mezcala**	**2.19**	**330**	*e*P			**Pn**	**22 56 57.5**	**-4.3**
HUIG	**Huatulco**	**2.29**	**96**	*e*P			**Pn**	**22 57 00.4**	**-2.8**
HUIG	**Huatulco**	**2.29**	**96**	*e*P			**Pn**	**22 57 00.4**	**-2.8**
TPIG	**Tehuac#an**	**2.61**	**24**	*e*P			**Pn**	**22 57 05.9**	**-1.8**
TPIG	**Tehuac#an**	**2.61**	**24**	*e*P			**Pn**	**22 57 05.9**	**-1.8**
YAIG	**Yautepec**	**2.88**	**349**	*e*P			**Pn**	**22 57 09.5**	**-1.9**
YAIG	**Yautepec**	**2.88**	**349**	*e*P			**Pn**	**22 57 09.5**	**-1.9**
CMIG	**Matias Romero**	**3.60**	**72**	Pn			**Pn**	**22 57 19.1**	**-2.1**
	7.0nm,0.3s,baz=267,slow=9.9,SNR=120								
CMIG				Sn			**Sn**	**22 58 03.3**	**-0.1**
	12nm,0.3s,baz=70,slow=9.8,SNR=5.1								
CMIG				Lg			Lg	22 58 17.5	
	18nm,0.3s,baz=251,slow=13,SNR=8.6								
LVIG	**Laguna Verde**	**4.17**	**28**	*e*Pn			**Pn**	**22 57 25.5**	**-3.4**
MOIG	**Morelia**	**4.46**	**325**	*e*Pn			**Pn**	**22 57 35.5**	**+2.2**
JRQG	**Juriquilla Cam**	**5.02**	**338**	*e*Pg			**Pb**	**22 57 55.0**	**+1.3**
CCIG	**Comitan**	**6.09**	**87**	*e*Pn			**Pn**	**22 57 57.0**	**+1.4**
APG	**El Apazote**	**7.79**	**96**	Pn			**Pn**	**22 58 17.4**	**-1.5**
	0.3nm,0.3s,baz=14,slow=18,SNR=3.7								
APG				Sn			**Sn**	**22 59 45.1**	**-1.8**
	0.7nm,0.3s,baz=2.2,slow=18,SNR=2.6								
H06E1	**SOCORRO T-PHAS**	**12.20**	**285**	T			T	23 11 23.7	
	SNR=69								
H06S1	**S

	baz=200						
X47A	**Russelville**	20.74	25	P	P	23 01 03.1	-2.9
	baz=210						
U39A	**Green Forest**	20.76	11	P	P	23 01 04.0	-2.2
	baz=194						
Y49A	**Blount Mountai**	20.82	29	P	P	23 01 05.1	-1.8
	baz=214						
U40A	**Yellville**	20.86	13	P	P	23 01 05.3	-2.0
	baz=196,SNR=8.2						
X48A	**Hartselle**	21.03	27	P	P	23 01 06.5	-2.6
	baz=212						
PLAL	**Pickwick Lake**	21.05	24	eP	P	23 01 07.4	-2.0
	18nm,0.9s						
U41A	**Viola**	21.06	15	P	P	23 01 07.2	-2.3
	baz=198						
X18A	**Snowflake**	21.12	333	eP	P	23 01 11.1	+0.8
	15nm,1.2s						
U42A	**Revenden**	21.24	16	P	P	23 01 09.1	-2.3
	baz=200						
T38A	**Diamond**	21.25	9	P	P	23 01 10.4	-1.2
	baz=191						
T39A	**Clever**	21.40	11	P	P	23 01 12.5	-0.6
	baz=194						
X49A	**Woodville**	21.40	28	P	P	23 01 11.1	-2.0
	baz=214						
W47A	**Westpoint**	21.48	25	P	P	23 01 11.7	-2.3
	baz=210						
W18A	**Petrified Fore**	21.52	334	P	P	23 01 15.8	+1.1
	baz=150						
W18A	**Petrified Fore**	21.52	334	eP	P	23 01 17.8	+3.1
	14nm,1.2s						
W48A	**Pulaski**	21.66	26	P	P	23 01 13.9	-2.0
	baz=212						
T25A	**Trinidad**	21.68	347	P	P	23 01 17.0	+0.6
	baz=165,SNR=6.6						
T25A	**Trinidad**	21.68	347	eP	P	23 01 17.6	+1.2
	34nm,1.1s						
T40A	**Mansfield**	21.69	13	P	P	23 01 14.4	-1.9
	baz=196						
X16A	**Lo Mia Camp, P**	21.71	330	eP	P	23 01 20.1	+3.5
	22nm,1.0s						
MHTCO	**State Highway**	21.73	346	eP	P	23 01 18.1	+1.2
	10.0nm,1.1s						
V46A	**Holladay**	21.76	23	P	P	23 01 15.8	-1.1
	baz=208,SNR=8.4						
T41A	**Mountain View**	21.76	15	P	P	23 01 14.8	-2.2
	baz=198						
PBMO	**Poplar Bluff**	21.87	18	eP	P	23 01 18.4	+0.3
	21nm,0.8s						
S38A	**Stockton**	21.90	10	P	P	23 01 16.7	-1.7
	baz=192						
T42A	**Van Buren**	21.92	16	P	P	23 01 17.9	-0.8
	baz=200,SNR=9.3						
GOGA	**Godfrey**	21.98	35	P	P	23 01 17.7	-1.8
	baz=222						
GOGA	**Godfrey**	21.98	35	eP	P	23 01 18.2	-1.2
	18nm,1.4s						
155A	**Kite**	21.99	38	P	P	23 01 17.7	-1.8
	baz=225						
V47A	**Nunnelly**	22.01	24	P	P	23 01 18.1	-1.6
	baz=209						
S39A	**Bolivar**	22.06	11	P	P	23 01 18.1	-2.0
	baz=194,SNR=14						
Y14A	**Wickenburg**	22.13	326	eP	P	23 01 22.1	+1.1
	30nm,1.4s						
S40A	**Lebanon**	22.13	13	P	P	23 01 18.2	-2.7
	baz=196						
WVT	**Waverly**	22.16	23	P	P	23 01 19.9	-1.3
	baz=208						
WVT	**Waverly**	22.16	23	eP	P	23 01 20.9	-0.3
	21nm,0.9s						
SWET	**Sewanee**	22.16	28	eP	P	23 01 19.3	-2.1
	5.1nm,0.8s						
T43A	**Greenville**	22.19	18	P	P	23 01 18.7	-2.9
	baz=201						
S41A	**Jillco Farms,**	22.29	14	P	P	23 01 20.6	-2.1
	baz=197,SNR=8.1						
GLA	**Glamis**	22.50	322	P	P	23 01 26.8	+1.7
	baz=136,SNR=5.2						
GLA	**Glamis**	22.50	322	eP	P	23 01 30.4	+5.3
	29nm,1.2s						
SDCO	**Great Sand Dun**	22.51	345	P	P	23 01 24.7	-0.7
	baz=163,SNR=7.1						
SDCO	**Great Sand Dun**	22.51	345	eP	P	23 01 24.1	-1.3
GTBY	**Guantanamo Bay**	22.55	77	eP	P	23 01 28.4	+2.8
	77nm,1.1s						
WUAZ	**Wupatki**	22.58	332	P	P	23 01 26.8	+0.8
	baz=146,SNR=21						
WUAZ	**Wupatki**	22.58	332	eP	P	23 01 26.6	+0.7
	33nm,1.0s						
U47A	**Clarksville**	22.64	24	P	P	23 01 25.1	-1.3
	baz=209						
S42A	**Caledonia**	22.70	16	P	P	23 01 25.6	-1.4
	baz=200,SNR=16						
S43A	**Fulton Ridge,**	22.71	17	P	P	23 01 26.3	-0.8
	baz=202						
R39A	**Chumby, Stover**	22.71	11	P	P	23 01 25.4	-1.7
	baz=194						
R40A	**Maddies Statio**	22.84	13	P	P	23 01 27.2	-1.4
	baz=196,SNR=19						
CCM	**Cathedral Cave**	22.85	15	P	P	23 01 26.5	-2.1
	baz=198						
CCM	**Cathedral Cave**	22.85	15	eP	P	23 01 27.5	-1.1
	30nm,1.1s						
S22A	**4UR Ranch, Cre**	22.86	343	P	P	23 01 28.8	-0.3
	baz=159						
S22A	**4UR Ranch, Cre**	22.86	343	eP	P	23 01 31.4	+2.3
	21nm,1.4s						
MVCO	**Mesa Verde**	22.89	339	P	P	23 01 28.7	-0.6
	baz=155,SNR=6.0						
MVCO	**Mesa Verde**	22.89	339	eP	P	23 01 28.4	-1.0
	28nm,1.0s						
T46A	**Princeton**	22.94	22	P	P	23 01 28.3	-1.2
	baz=207						
U48A	**Cassie Pea, Po**	23.00	25	P	P	23 01 28.3	-1.9
	baz=211						
IKP	**In-Ko-Pah, Jac**	23.01	319	P	P	23 01 32.2	+1.8
	baz=132						
CPCT	**Cooper Cave**	23.02	30	eP	P	23 01 28.5	-1.9
PDMCI	**Parker Dam,Lak**	23.02	325	P	P	23 01 31.7	+1.3
	baz=139						
R41A	**Rosebud**	23.05	14	P	P	23 01 29.5	-1.2
	baz=198						
S44A	**Carbondale**	23.07	19	P	P	23 01 29.2	-1.6
	baz=203						
SIUC	**Southern Illin**	23.10	19	eP	P	23 01 30.4	-0.8
	21nm,0.9s						
R42A	**Luebbering**	23.18	15	P	P	23 01 30.5	-1.5
	baz=199						
T47A	**Sharon Grove**	23.19	24	P	P	23 01 29.9	-2.2
	baz=209,SNR=7.7						
Q38A	**Cooks Store, C**	23.24	10	P	P	23 01 30.6	-2.1
	baz=192						
S45A	**Carrier Mills**	23.27	20	P	P	23 01 31.1	-1.9
	baz=205						
R43A	**Red Bud**	23.41	17	P	P	23 01 32.6	-1.7
	baz=201						
Q39A	**Willow Grove F**	23.43	11	P	P	23 01 32.3	-2.3
	baz=194						
IRM	**Iron Mountain**	23.48	323	P	P	23 01 35.5	+0.5
	baz=137						
W13A	**Hualapai Mount**	23.48	327	eP	P	23 01 40.6	+5.3
	15nm,1.4s						
Q40A	**Laux Farm, Aux**	23.56	13	P	P	23 01 33.5	-2.3
	baz=196						
T48A	**Bowling Green**	23.57	25	P	P	23 01 33.8	-2.1
	baz=210						
Q41A	**Truxton**	23.71	14	P	P	23 01 35.0	-2.2
	baz=198						
U15A	**North Rim**	23.75	331	eP	P	23 01 42.5	+4.5
	12nm,1.1s						
PV01	**Paradox Valley**	23.75	340	eP	P	23 01 37.4	-0.6
Q42A	**Golden Eagle**	23.84	15	P	P	23 01 36.1	-2.4
	baz=199						
BELC	**Belle Mtn. Jos**	23.86	322	P	P	23 01 41.1	+2.2
	baz=185						
PV05	**Paradox Valley**	23.88	339	eP	P	23 01 44.0	+4.9
P39B	**Salisbury**	23.90	11	P	P	23 01 37.5	-1.6
	baz=194						
P38A	**Dawn**	23.91	9	P	P	23 01 36.4	-2.7
	baz=192						
P40A	**Paris**	24.08	12	P	P	23 01 38.7	-2.0
	baz=196						
PV10	**Paradox Valley**	24.13	339	eP	P	23 01 45.9	+4.3
GMRC	**Granite Mounta**	24.22	324	P	P	23 01 44.2	+2.0
	baz=137						
SMCO	**Snowmass**	24.24	344	eP	P	23 01 43.5	+0.8
	41nm,1.3s						
Q44A	**Meyer Farm, Va**	24.25	18	P	P	23 01 41.3	-1.0
	baz=203						
TZTN	**Tazewell**	24.36	30	P	P	23 01 43.3	-0.1
	baz=217						
KMSC	**Kings Mountain**	24.45	36	P	P	23 01 42.9	-1.3
	baz=223						
KNB	**Kanab**	24.48	331	eP	P	23 01 51.0	+6.3
	13nm,1.1s						
ISCO	**Idaho Springs**	24.49	347	P	P	23 01 44.7	-0.2
	baz=164						
ISCO	**Idaho Springs**	24.49	347	eP	P	23 01 44.6	-0.4
	33nm,1.4s						
Q45A	**Warren Harvey,**	24.52	20	P	P	23 01 43.7	-1.0
	baz=205						
P42A	**Winchester**	24.52	15	P	P	23 01 44.2	-0.6
	baz=199						
R47A	**Wooly Knot Far**	24.55	23	P	P	23 01 43.5	-1.6
	baz=209,SNR=8.9						
WCI	**Wyandotte Cave**	24.58	24	P	P	23 01 43.9	-1.4
	baz=209						
WCI	**Wyandotte Cave**	24.58	24	eP	P	23 01 43.9	-1.4
	55nm,1.4s						
PKCU	**Pink Cliffs**	24.60	333	eP	P	23 01 51.4	+5.4
	16nm,1.3s						
HEC	**Hector,Ludlow**	24.64	323	P	P	23 01 48.2	+2.1
	baz=136						
LCMT	**Little Creek M**	24.67	331	eP	P	23 01 52.5	+6.2
	5.4nm,1.0s						
O40A	**La Belle**	24.69	12	P	P	23 01 44.3	-1.9
	baz=196						
TUQ	**Turquoise Moun**	24.84	324	P	P	23 01 49.0	+1.1
	baz=137,SNR=7.1						
O41A	**Passleys Farm,**	24.90	14	P	P	23 01 46.2	-2.0
	baz=198						
BFSC	**Mount Baldy Ra**	25.03	320	P	P	23 01 47.8	-1.8
	baz=132						
MTPU	**Mount Pierson**	25.04	334	eP	P	23 01 50.7	+0.7
	23nm,1.2s						
Q47A	**Bedord North L**	25.15	23	P	P	23 01 50.0	-0.5
	baz=208						
CCUT	**Cedar City**	25.16	331	eP	P	23 01 54.2	+3.3
	6.5nm,1.1s						
SHPR	**Sheep Range**	25.22	327	eP	P	23 01 55.9	+4.5
	11nm,1.2s						
OTAV	**Otavalo**	25.23	127	eP	P	23 01 59.0	+7.1
	17nm,1.6s						
GSC	**Goldstone, Bar**	25.25	323	P	P	23 01 52.5	+1.0
	baz=135						
N39A	**Derby Farms, D**	25.30	11	P	P	23 01 49.4	-2.4
	baz=194						
SRU	**San Rafael Swe**	25.31	338	eP	P	23 01 53.3	+1.2
	11nm,1.1s						
MSU	**Marysvale**	25.44	334	eP	P	23 01 56.4	+3.0
O20A	**White River Ci**	25.48	342	P	P	23 01 54.4	+0.6
	baz=158						
O20A	**White River Ci**	25.48	342	eP	P	23 01 57.3	+3.6
	36nm,1.3s						
N23A	**Red Feather La**	25.61	347	P	P	23 01 57.3	+2.3
	baz=164,SNR=5.7						
N23A	**Red Feather La**	25.61	347	eP	P	23 01 59.5	+4.5
	14nm,1.1s						
EDW2	**Edwards Air Fo**	25.67	321	P	P	23 01 56.8	+1.5
	baz=133						
P18A	**Preston Nutter**	25.67	339	eP	P	23 01 56.4	+0.9
	31nm,1.5s						
P47A	**Martinsville**	25.70	22	P	P	23 01 55.0	-0.4
	baz=208						
P17A	**Butcher Ranch,**	25.71	338	eP	P	23 01 59.3	+3.5
	8.1nm,1.2s						
M38A	**Pleasantville**	25.71	9	P	P	23 01 54.7	-0.9
	baz=192						
TMUT	**Trail Mountain**	25.73	337	eP	P	23 02 00.4	+4.3
	68nm,1.4s						
O45A	**Potomac**	25.89	19	P	P	23 01 56.8	-0.3
	baz=204						
LRMC	**Laurel Mtn Rad**	25.89	322	P	P	23 01 59.5	+2.1
	baz=134						
M39A	**Webster**	25.94	11	P	P	23 01 57.0	-0.7
	baz=194						
FURC	**Furnace Creek,**	26.11	325	P	P	23 02 01.6	+2.4
	baz=137						
TPNV	**Topopah Spring**	26.13	326	P	P	23 02 01.1	+1.5
	baz=139,SNR=6.5						
TPNV	**Topopah Spring**	26.13	326	eP	P	23 02 04.5	+4.9
	15nm,1.2s						
M41A	**Milan**	26.17	14	P	P	23 02 00.2	+0.4
	baz=198						
MPMC	**Manual Prospec**	26.18	323	P	P	23 02 02.0	+2.0
	baz=135						
SCIA	**State Center**	26.19	9	P	P	23 01 59.6	-0.3
	baz=192						
SCIA	**State Center**	26.19	9	eP	P	23 01 59.4	-0.5
	39nm,1.0s						
SFIN	**Lafayette**	26.20	20	P	P	23 01 59.7	-0.4
	baz=206						
DAC	**Darwin (Calif)**	26.39	323	eP	P	23 02 06.2	+4.2
	5.6nm,1.0s						
O47A	**Sheridan**	26.39	22	P	P	23 02 01.0	-0.7
	baz=208						
L38A	**Oak Mood Farm,**	26.45	9	P	P	23 02 01.7	-0.6
	baz=192						
BLA	**Blacksburg**	26.47	34	P	P	23 02 00.4	-2.1
	baz=222						
MPU	**Maple Canyon**	26.51	337	eP	P	23 02 06.9	+3.9
	16nm,0.8s						
L39A	**Vinton**	26.60	11	P	P	23 02 03.5	0.0
	baz=194						
NLU	**North Lily Min**	26.63	336	eP	P	23 02 07.5	+3.4
	16nm,1.3s						
CWC	**Cottonwood Cre**	26.78	323	P	P	23 02 08.7	+3.2
	baz=135						
R11A	**Troy Canyon, C**	26.86	329	P	P	23 02 07.7	+1.6
	baz=142						
R11A	**Troy Canyon, C**	26.86	329	eP	P	23 02 10.1	+4.0
	3.3nm,1.1s						
VES	**Vestal, Richgr**	26.97	321	P	P	23 02 09.1	+2.1
	baz=132						
K37A	**Belmond**	26.97	8	P	P	23 02 05.8	-1.1
	baz=190						
DUG	**Dugway, Tooele**	27.13	335	P	P	23 02 11.8	+3.2
	baz=149						
DUG	**Dugway, Tooele**	27.13	335	eP	P	23 02 12.8	+4.2
	8.1nm,1.1s						
SMMC	**Simmler**	27.19	319	P	P	23 02 11.6	+2.5
	baz=130						
TCUT	**Toone Canyon**	27.40	338	eP	P	23 02 10.7	-0.4
	35nm,1.2s						
K22A	**Casper**	27.42	347	P	P	23 02 13.0	+1.9
	baz=163						
K22A	**Casper**	27.42	347	eP	P	23 02 14.4	+3.3
	14nm,1.1s						
J37A	**Redenius Farm,**	27.52	8	P	P	23 02 12.8	+1.0
	baz=190						
ECSD	**EROS Data Cent**	27.66	3	P	P	23 02 12.9	-0.3
	baz=184						
ECSD	**EROS Data Cent**	27.66	3	eP	P	23 02 16.1	+3.0
J38A	**Wendel Dairy, R**	27.68	9	P	P	23 02 13.9	+0.6
	baz=193						
JFWS	**Jewell Farm**	27.71	13	P	P	23 02 14.6	+1.1
	baz=197						
BGU	**Big Grassy Mou**	27.84	336	eP	P	23 02 17.8	+2.9
	10.0nm,1.4s						
SDV	**Santo Domingo**	28.07	101	P	P	23 02 17.1	-0.2
	1.0nm,0.3s,baz=315,slow=8.6,SNR=3.2						
SDV	**Santo Domingo**	28.07	101	eP	P	23 02 23.1	+5.8
MDPB	**Devils Postpil**	28.19	324	eP	P	23 02 23.8	+5.6
	14nm,1.2s						
J41A	**Loganville**	28.19	13	P	P	23 02 17.8	-0.1
	baz=198						
NV11	**Mina Array Sit**	28.25	326	eP	P	23 02 22.9	+4.3
	0.9nm,1.1s						
BW06	**Boulder Array**	28.29	343	P	P	23 02 20.9	+1.8
	baz=157						
BW06	**Boulder Array**	28.29	343	eP	P	23 02 22.2	+3.1
	16nm,1.3s						
PD31	**Pinedale Array**	28.29	343	eP	P	23 02 21.2	+2.2
PDAR	**Pinedale Array**	28.29	343	P	P	23 02 18.4	-0.7
	4.7nm,1.0s,baz=157,slow=4.8,SNR=10						
PDAR				PcP	PcP	23 05 29.0	-3.0
	0.2nm,0.6s,baz=187,slow=6.4,SNR=2.5						
NV01	**Mina Array Sit**	28.32	326	eP	P	23 02 22.5	+3.1
NVAR	**Mina Array Bea**	28.32	326	P	P	23 02 19.1	-0.3
	4.7nm,1.2s,baz=157,slow=9.1,SNR=5.4						
NVAR				PcP	PcP	23 05 30.6	-1.5
	0.9nm,0.9s,baz=134,slow=2.6,SNR=4.5						
WAKR	**Walker**	29.00	325	eP	P	23 02 29.8	+4.4
	7.2nm,1.2s						
LOHW	**Long Hollow**	29.37	342	eP	P	23 02 32.5	+3.9
	9.8nm,1.3s						
FXWY	**Fox Creek**	29.53	341	eP	P	23 02 34.1	+4.1
	4.4nm,1.0s						
MOOW	**Moose Ponds**	29.54	342	eP	P	23 02 32.7	+2.6
	3.5nm,1.1s						
RLMT	**Red Lodge**	30.40	345	eP	P	23 02 40.4	+2.7
	6.6nm,0.9s						
HLID	**Hailey**	30.62	337	P	P	23 02 41.3	+1.7
	baz=149						
ORV	**Oroville**	30.88	324	eP	P	23 02 47.6	+5.9
	7.9nm,1.3s						
MFID	**Camas Ranch**	31.05	335	eP	P	23 02 48.7	+5.4
	7.2nm,1.1s						
BOZ	**Bozeman (W)**	31.48	342	P	P	23 02 50.4	+3.3
	baz=156						
BOZ	**Bozeman (W)**	31.48	342	eP	P	23 02 51.6	+4.4
	5.5nm,1.2s						
WVOR	**Wild Horse Val**	31.49	331	eP	P	23 02 51.9	+4.6
	14nm,1.4s						
MDND	**Maddock**	31.75	359	P	P	23 02 49.7	+0.4
	baz=178						
MDND	**Maddock**	31.75	359	eP	P	23 02 52.4	+3.1
	62nm,1.2s						
C35A	**Jirik Farms, M**	31.80	6	P	P	23 02 49.5	-0.3
	baz=188						
MOD	**Modoc Plateau**	31.91	328	eP	P	23 02 55.5	+4.6
	7.1nm,1.1s						
C36A	**Pine Crest Far**	31.98	7	P	P	23 02 51.6	+0.3
	baz=190						
J08A	**Circle Bar Ran**	32.14	332	eP	P	23 02 57.1	+4.2
	16nm,1.1s						
AGMN	**Agassiz Nation**	32.26	3	P	P	23 02 53.0	-0.7
	baz=185						
AGMN	**Agassiz Nation**	32.26	3	eP	P	23 02 55.7	+2.0
	11nm,0.9s						
B35A	**Bob, Littlefor**	32.48	6	P	P	23 02 55.2	-0.5
	baz=189						
M04C	**Macdoel**	32.61	327	P	P	23 02 59.0	+1.8
	baz=135						
A33A	**Warroad**	32.92	4	P	P	23 02 59.1	-0.4
	baz=186						
MSO	**Missoula**	33.30	341	P	P	23 03 05.2	+2.1
	baz=152						
F10A	**Beach Ranch, E**	33.73	336	eP	P	23 03 10.3	+3.5
	8.7nm,0.9s						
J04D	**Umpqua Nationa**	33.79	328	P	P	23 03 11.2	+3.7
	baz=136						
G08A	**Pilot Rock**	33.88	334	eP	P	23 03 10.4	+2.3
	8.0nm,1.1s						
ULM	**Lac du Bonnet**	34.20	3	P	P	23 03 08.8	-1.9
	3.6nm,0.8s,baz=158,slow=5.0,SNR=2.5						
ULM	**Lac du Bonnet**	34.20	3	eP	P	23 03 11.7	+1.0
	5.4nm,0.9s						
KEBM	**Edson Butte**	34.70	326	eP	P	23 03 17.8	+2.5
	119nm,1.6s						
LTY	**Liberty**	36.16	334	eP	P	23 03 30.6	+2.9
	17nm,1.5s						
FFC	**Flin Flon**	38.72	357	eP	P	23 03 51.5	+2.3
	12nm,1.3s						
FCC	**Fort Churchill**	42.79	3	eP	P	23 04 22.9	+0.2
	14nm,1.5s						
LPAZ	**La Paz**	43.90	136	P	P	23 04 30.5	-2.4
	0.7nm,0.5s,baz=332,slow=11,SNR=3.7						
YKA	**Yellowknife Ar**	47.79	350	P	P	23 05 00.5	-1.8
	0.2nm,0.7s,baz=156,slow=7.5,SNR=12						
HYT	**Haines Junctio**	52.76	337	eP	P	23 05 44.2	+4.0
	19nm,1.5s						
BMRM	**Bremner River**	55.63	335	eP	P	23 06 04.8	+3.8
	27nm,1.6s						
EGAK	**Eagle**	56.58	340	eP	P	23 06 10.8	+3.1
	5.1nm,0.8s						
INK	**Inuvik**	56.81	345	eP	P	23 06 11.7	+2.4
	11nm,1.2s						
DOT	**Dot Lake**	56.92	338	P	P	23 06 08.7	-1.4
	2.1nm,0.4s						
RIDG	**Independ'e Rid**	57.26	337	eP	P	23 06 15.9	+3.4
	24nm,1.2s						
SML	**Sawmill**	57.60	335	eP	P	23 06 18.9	+3.9
	14nm,1.2s						
RC01	**Rabbit Creek A**	57.85	333	eP	P	23 06 20.9	+4.2
	22nm,1.6s						
CPUP	**Villa Florida**	58.07	136	P	P	23 06 15.6	-3.2
	1.4nm,0.8s,baz=3.3,slow=6.1,SNR=2.8						
IL1	**Eielson Array**	58.57	338	eP	P	23 06 24.7	+3.0
ILAR	**Eielson Array**	58.57	338	P	P	23 06 20.6	-1.1
	0.9nm,0.9s,baz=154,slow=4.6,SNR=1.6						
RND	**Reindeer**	58.60	336	eP	P	23 06 25.7	+3.7
	23nm,1.2s						
RES	**Resolute Bay**	58.70	1	eP	P	23 06 25.7	+3.3
	2.6nm,1.0s						
TRF	**Thorofe Moun**	59.19	336	eP	P	23 06 28.5	+2.3
	21nm,1.2s						
KTH	**Kantishna Hill**	59.49	336	eP	P	23 06 29.8	+1.6
	10nm,1.3s						
PPLA	**Purkeypile**	59.70	335	eP	P	23 06 27.5	-2.2
	19nm,1.3s						
BPAW	**Bear Paw Mtn.**	59.77	336	eP	P	23 06 33.1	+3.1
	8.3nm,1.2s						
CAST	**Castle Rocks**	59.89	335	eP	P	23 06 33.6	+2.7
	14nm,1.1s						
MLY	**Manley**	60.12	337	eP	P	23 06 35.6	+3.2
	14nm,1.2s						
SVW2	**Sparrevohn**	60.43	332	eP	P	23 06 38.1	+3.5
	9.1nm,1.0s						
COLD	**Coldfoot**	61.02	340	eP	P	23 06 41.8	+3.3
	7.4nm,1.3s						
TOLK	**Toolik Lake Re**	61.54	341	P	P	23 06 42.9	+0.8
	baz=122						
TOLK	**Toolik Lake Re**	61.54	341	eP	P	23 06 45.6	+3.5
	5.8nm,1.1s						
ES19	**SONSECA Array**	83.37	51	eP	P	23 08 56.0	+3.2
WRA	**Warramunga Arr**	129.78	257	PKP	PKPdf	23 15 32.7	-2.8
	1.2nm,1.0s,baz=87,slow=2.5,SNR=8.0						
WRA	**Warramunga Arr**	129.78	257	SKS2	PKPdf	23 15 32.3	-3.1
	1.5nm,1.1s,baz=87,slow=2.4,SNR=7.6						
ASAR	**Alice Springs**	130.37	252	PKP	PKPdf	23 15 32.9	-3.6
	0.3nm,0.7s,baz=105,slow=2.1,SNR=2.9						
ASAR	**Alice Springs**	130.37	252	SKS2	sPKiKP	23 15 50.4	+5.1
	0.7nm,1.0s,baz=116,slow=5.3,SNR=4.6						

CSEM ***20*** *22:57:32.9,38°.96N×43°.62E,h14km,ML2.5*
ATA ***20*** *22:57:32.0±1.6,38°.92N×43°.66E,h0km±6km,ML2.2, MW2.5*
DDA ***20*** *22:57:32.9,38°.96N×43°.62E,h14km,Ml2.5*
ISCJB ***20*** *22:57:33.7±0.6,38°.93N±0°.03×43°.63E±0°.06,h11km±4km, Error ellipse: s-maj=8.1km s-min=4.6km az=25.9*
ISC 20 22:57:31.1±1.8,38°.86N±0°.05×43°.77E±0°.07,h8km±11km, n20,σ1ᵗ15/34,Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
VMUR	**Van-Muradiye**	**0.20**	**310**	*i*	P		**Pg**	**22 57 35.5**	**+0.3**
VMUR				*i*	S		**Sg**	**22 57 37.9**	**-0.1**
VMUR	**Van-Muradiye**	**0.20**	**310**		P		**Pg**	**22 57 35.5**	**+0.3**
VMUR					S		**Sg**	**22 57 37.9**	**-0.1**
CLDR	**Caldiran**	**0.30**	**22**	*i*	P		**Pb**	**22 57 39.1**	**+0.1**
CLDR				*i*	S		**Sb**	**22 57 44.5**	**+0.2**
CLDR	**Caldiran**	**0.30**	**22**		P		**Pb**	**22 57 39.1**	**+0.1**
CLDR					S		**Sb**	**22 57 44.5**	**+0.2**
TVAN	**Van**	**0.44**	**221**	*i*	P		**Pn**	**22 57 42.2**	**-1.7**
TVAN				*i*	S		**Sb**	**22 57 49.5**	**+1.5**
TVAN	**Van**	**0.44**	**221**		P		**Pn**	**22 57 42

IGDI			IAML		22 57 57.7	
	comp=Z,2.0nm,0.2s					
EKAR	Karacoban	1.38 287	*e*P	Pg	22 57 58.4	+0.7
EKAR			*e*S	Sg	22 58 17.8	+2.2
EKAR			IAML		22 58 23.9	
	comp=Z,2.9nm,0.7s					
EKAR	Karacoban	1.38 287	*i* P	Pg	22 57 58.7	+1.0
EKAR	Karacoban	1.38 287	P	Pg	22 57 58.7	+1.0
EATA	Eleskirt	1.41 316	*e*P	Pb	22 57 57.6	-0.2
EATA			*e*S	Sg	22 58 19.1	+2.8
EATA			IAML		22 58 22.8	
	comp=Z,0.8nm,0.4s					

BJI ***20*** *23:14:24.7, 1˚.51N×93˚.24E, h28km, mb5.6/81, mB5.9/62, Ms5.7/90, Ms7 5.4/84*

IDC ***20*** *23:14:27.1±0.3, 2˚.16N×93˚.42E, h0km, mb5.6/61, mb1 5.6/64, mb1mx5.6/68, mbtmp5.6/64, ML5.3/3, MS5.1/3, Ms1 5.2/3, ms1mx4.7/11, Error ellipse: s-maj=9.1km s-min=7.6km az=32.0*

GCMT ***20*** *23:14:30.0±0.1, 2˚.22N×93˚.36E, h41km, MW5.9/139, Moment Tensor Solution. s130, c267; s139, c406; Duration: 28±1 Moment tensor: Scale 10^17 Nm; Mrr 5.35±.07; Mθθ 6.76±.05; Mφφ 1.40±.06; Mrθ 1.50±.06; Mθφ -2.63±.04; Mφr -3.44±.07; Best double couple: M0 7.68700×10^17 NP1:φs 103.00000°, δ56.00000°, λ132.00000°. NP2:φs 225.00000°, δ52.00000°, λ46.00000°. Principal axes: T 7.8200, Plg57.0000°, Azm71.0000°; N -0.2770, Plg33.0000°, Azm256.0000°; P -7.5530, Plg2.0000°, Azm164.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

MOS ***20*** *23:14:30.3±0.9, 2˚.19N×93˚.36E, h33km, mb6.1/112, MS5.3/64 Error ellipse: s-maj=6.1km s-min=4.3km az=108.1*

ISCJB ***20*** *23:14:31.1±0.4, 2˚.17N±0˚.02×93˚.39E±0˚.01, h37km±3km, mb5.8/361, MS5.5/206, Error ellipse: s-maj=3.1km s-min=2.1km az=34.4*

NEIC ***20*** *23:14:31.4±0.1, 2˚.16N×93˚.36E, h28km, mb5.9/194, ME5.6, MS5.5/160, MW5.7, MW5.9, MW5.8, Error ellipse: s-maj=4.4km s-min=3.1km az=209.0, Moment Tensor Solution. s30 Moment tensor: Scale 10^17 Nm; Mrr 2.76; Mθθ -3.71; Mφφ 0.94; Mrθ 0.49; Mθφ -0.03; Mφr -2.37; Best double couple: M0 4.10000×10^17 NP1:φs 120.00000°, δ59.00000°, λ131.00000°. NP2:φs 241.00000°, δ50.00000°, λ43.00000°. Principal axes: T 4.4100, Plg56.0000°, Azm85.0000°; N -0.6600, Plg34.0000°, Azm276.0000°; P -3.7500, Plg5.0000°, Azm182.0000°; Broadband fault plane solution: P waves. NP1:φs 90.00000°, δ35.00000°, λ90.00000°. NP2:φs 270.00000°, δ55.00000°, λ90.00000°. Principal axes: T Plg80.0000°, Azm180.0000°; N Plg0.0000°, Azm0.0000°; P Plg10.0000°, Azm360.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*

NEIC Felt [III] in Aceh Jaya and at Banda Aceh.

NEIC ***20*** *23:14:32.0±0.0, 1˚.92N×93˚.39E, h35km, Moment Tensor Solution. s33 Moment tensor: Scale 10^17 Nm; Mrr 5.14; Mθθ -4.28; Mφφ -0.86; Mrθ -1.39; Mθφ -2.44; Mφr -4.26; Best double couple: M0 7.00000×10^17 NP1:φs 218.00000°, δ65.00000°, λ67.00000°. NP2:φs 83.00000°, δ33.00000°, λ130.00000°. Principal axes: T 7.3500, Plg62.0000°, Azm91.0000°; N -0.8100, Plg20.0000°, Azm227.0000°; P -6.5500, Plg17.0000°, Azm324.0000°;*

DJA ***20*** *23:14:32.3±0.6, 2˚.N±2˚×93˚.3E±˚, h29km±5km, M6.2/102, mb6.1/102, mB6.4/63, MLv6.6/13, Mw(mB)6.2/63*

NEIC ***20*** *23:14:49.4±0.0, 2˚.54N×93˚.21E, h46km, Moment Tensor Solution. s33 Moment tensor: Scale 10^17 Nm; Mrr 7.15; Mθθ -7.82; Mφφ 0.66; Mrθ 0.09; Mθφ -2.74; Mφr -3.34; Best double couple: M0 8.70000×10^17 NP1:φs 231.00000°, δ53.00000°, λ59.00000°. NP2:φs 96.00000°, δ47.00000°, λ124.00000°. Principal axes: T 8.6500, Plg66.0000°, Azm80.0000°; N 0.0300, Plg24.0000°, Azm251.0000°; P -8.6700, Plg3.0000°, Azm342.0000°;*

ISC 20 23:14:32.0±0.4, 2˚.17N±0˚.03×93˚.38E±0˚.03, h33km±1km, h33km:pP-P, n2086, σ1§20/2198, mb5.9/373, MS5.5/222, 138C-35D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
MLSI	**Meulaboh, Aceh**	**3.67**	**55**	P	**Pn**	**23 15 28.1**	**+1.6**
TPTI		**3.95**	**74**	P	**Pn**	**23 15 31.6**	**+1.3**
GSI	**Gunungsitoli**	**4.29**	**102**	P	**Pn**	**23 15 36.8**	**+1.8**
GSI	**Gunungsitoli**	**4.29**	**102**	*e*Pn	**Pn**	**23 15 36.6**	**+1.7**
GSI				*e*Sn	**Sn**	**23 16 22.4**	**-1.5**
KCSI	**Kotacane, Aceh**	**4.59**	**73**	P	**Pn**	**23 15 42.5**	**+3.4**
LHMI	**Lhok Sumawe**	**4.68**	**49**	P	**Pn**	**23 15 43.1**	**+2.7**
LHMI	**Lhok Sumawe**	**4.68**	**49**	*e*Pn	**Pn**	**23 15 42.5**	**+2.2**
TSI	**Tuntungan** 14µm,0.9s,108µm43nm	**5.35**	**76**	P	**Pn**	**23 15 52.8**	**+3.3**
PBSI	**Pulau Batu** 39µm,0.8s,285µm115nm	**5.38**	**114**	P	**Pn**	**23 15 51.5**	**+1.5**
PSI	**Prapat**	**5.58**	**83**	*e*Pn	**Pn**	**23 15 54.5**	**+1.7**
PSI	**Prapat**	**5.58**	**83**	*e*P	**Pn**	**23 15 54.5**	**+1.7**
MNSI	**Mandailing Nat** 5µm,1.0s,105µm141nm	**6.35**	**102**	P	**Pn**	**23 16 05.6**	**+2.3**
SISI	**Saibi** 6µm,0.8s,53µm25nm	**6.69**	**121**	P	**Pn**	**23 16 08.5**	**+0.5**
PPI	**Padang Panjang**	**7.49**	**110**	P	**Pn**	**23 16 20.4**	**+1.4**
PKDT	**Phuket** 1µm,0.8s,15µm7.7nm	**7.53**	**41**	P	**Pn**	**23 16 19.9**	**+0.4**
PDSI	**Padang** 1µm,1.0s,31µm9.7nm	**7.72**	**113**	P	**Pn**	**23 16 22.6**	**+0.4**
BKNI	**Bangkinang** 4µm,1.0s,32µm23nm	**7.88**	**103**	P	**Pn**	**23 16 26.1**	**+1.7**
BKNI	**Bangkinang**	**7.88**	**103**	*e*Pn	**Pn**	**23 16 26.0**	**+1.7**
KULM	**Kulim**	**7.89**	**67**	*e*Pn	**Pn**	**23 16 25.9**	**+1.3**
IPM	**Ipoh**	**7.97**	**73**	*e*Pn	**Pn**	**23 16 26.9**	**+1.3**
PPSI	**Pulau Pagai** 10µm,0.8s,78µm	**8.25**	**126**	P	**Pn**	**23 16 29.4**	**0.0**
TRTT	**Trang** 424nm,1.0s,5µm1.5nm	**8.44**	**48**	P	**Pn**	**23 16 32.1**	**+0.1**
SDSI	**Sungai Dareh** 2.0nm,0.7s,33nm	**8.62**	**111**	P	**Pn**	**23 16 34.4**	**-0.1**
SKLT	**Songkhla** 2µm,0.7s,16µm6.1nm	**8.76**	**55**	P	**Pn**	**23 16 37.0**	**+0.6**
KRJI	**Kerinci** 31µm,0.8s,193µm	**9.13**	**118**	P	**Pn**	**23 16 43.0**	**+1.4**
RGRI	**Rengat** 2µm,0.9s,38µm	**9.30**	**106**	P	**Pn**	**23 16 45.4**	**+1.5**
PBA	**Port Blair**	**9.44**	**356**	*e*P	Pn	23 16 44.8	-1.0
MASI	**Maura Aman, Be** 7µm,0.8s,64µm	**10.31**	**121**	P	**Pn**	**23 16 58.6**	**+0.8**
MYKOM	**Kota Tinggi**	**10.47**	**92**	*e*Pn	**Pn**	**23 17 00.8**	**+0.9**
DGPR	**DIGLIPUR**	**10.94**	**358**	*e*P	**Pn**	**23 17 05.6**	**-0.7**
TPRI	**Tanjung Pinang** 408nm,0.9s,32µm	**11.21**	**96**	P	**Pn**	**23 17 10.9**	**+0.8**
MNAI	**Manna** 4µm,0.8s,49µm	**11.56**	**124**	P	**Pn**	**23 17 15.7**	**+0.8**
MNAI	**Manna**	**11.56**	**124**	*e*Pn	**Pn**	**23 17 16.0**	**+1.0**
PHET	**Kaeng Krachan** 184nm,0.9s,1µm	**12.33**	**30**	P	**Pn**	**23 17 27.4**	**+2.0**
MDSI	**Maura Dua** 2µm,0.8s,13µm	**12.66**	**122**	P	**Pn**	**23 17 30.0**	**+0.1**
LWLI	**Liwa** 3µm,0.8s,30µm	**12.84**	**124**	P	**Pn**	**23 17 32.4**	**-0.1**
SRDT	**SRDT** 408nm,1.0s	**13.36**	**25**	P	**Pn**	**23 17 40.3**	**+0.8**
KLI	**Kotabumi** 2µm,0.8s	**13.43**	**121**	P	**Pn**	**23 17 41.2**	**+0.8**
PPBI	**Pangkal Pinang** 2.6nm,0.8s,1µm	**13.46**	**109**	P	**Pn**	**23 17 42.1**	**+1.2**
KASI	**Kota Agung** 1µm,0.8s	**13.48**	**125**	P	**Pn**	**23 17 40.4**	**-0.7**
PALK	**Pallekele** 35nm,0.3s,baz=116,slow=11,SNR=182	**13.61**	**292**	Pn	**Pn**	**23 17 42.9**	**+0.1**
PALK				Sn	Sn	23 20 02.3	-11
PALK	**Pallekele** SNR=24 249nm,0.3s,baz=296,slow=20,SNR=17	**13.61**	**292**	P	**Pn**	**23 17 43.5**	**+0.7**
PALK	**Pallekele** SNR=22	**13.61**	**292**	*i* P	**Pn**	**23 17 42.7**	**-0.2**
PALK	**Pallekele**	**13.61**	**292**	*i* P	**Pn**	**23 17 43.3**	**+0.4**
CHBT	**CHBT** 1µm,0.9s,230µm	**13.75**	**40**	P	**Pn**	**23 17 47.1**	**+2.3**
BLSI	**Bandar Lampung** 866nm,0.9s	**14.02**	**122**	P	**Pn**	**23 17 49.0**	**+0.5**
NAYO	**Nakonayok**	**14.39**	**33**	P	**Pn**	**23 17 55.7**	**+2.2**
	213nm,0.9s						
COCO	**West Island**	**14.68**	**167**	*e*Pn	**Pn**	**23 17 57.7**	**+0.3**
COCO	**West Island** SNR=20	**14.68**	**167**	P	**Pn**	**23 17 57.1**	**-0.3**
COCO	**West Island**	**14.68**	**167**	*i* P	**Pn**	**23 17 58.8**	**+1.4**
CGJI	**Cibinong** 724nm,0.8s,7µm	**15.08**	**125**	P	**Pn**	**23 18 00.3**	**-2.5**
SBJI	**Serang**	**15.17**	**123**	P	**Pn**	**23 18 04.8**	**+0.8**
TNG	**Tangerang**	**15.63**	**122**	P	P	23 18 21.7	+7.9
TNG				P	P	23 18 22.0	+8.2
DBJI	**Dramaga**	**15.92**	**123**	P	**Pn**	**23 18 15.0**	**+1.3**
SKJI	**Sukabumi** 925nm,0.9s	**16.00**	**125**	P	**Pn**	**23 18 15.2**	**+0.4**
PBKT	**Sadao Pong** 557nm,0.9s,6µm	**16.14**	**27**	P	**Pn**	**23 18 16.2**	**-0.3**
PHIT	**Phitsanulok** 577nm,0.9s,4µm	**16.45**	**24**	P	**Pn**	**23 18 21.1**	**+0.7**
LEM	**Lembang** 4.6nm,0.3s,baz=260,slow=0.4,SNR=38	**16.79**	**122**	Pn	**Pn**	**23 18 25.2**	**+0.3**
LEM				Sn	**S**	**23 21 38.6**	**-2.2**
	5.2nm,0.3s,baz=156,slow=19,SNR=2.7						
KHON	**Khomkaen** 336nm,0.9s,3µm	**16.87**	**33**	P	**P**	**23 18 28.2**	**+0.6**
MDRS	**Chennai**	**16.91**	**310**	*e*P	**Pn**	**23 18 26.5**	**+0.2**
MDRS	comp=Z,650nm,0.6s			IAmb	IAmb	23 18 30.3	
KSM	**Kuching** comp=Z,386nm,0.9s	**16.94**	**92**	*e*Pn	**P**	**23 18 28.1**	**-0.3**
CM01	**Chiang Mai Arr**	**17.05**	**18**	*e*Pn	**Pn**	**23 18 27.3**	**-0.7**
CM31	**Chiang Mai Arr**	**17.08**	**18**	*e*Pn	**Pn**	**23 18 28.9**	**+0.5**
CMAR	**Chiang Mai Arr** comp=Z,3.5nm,0.3s,baz=216,slow=13,SNR=198	**17.08**	**18**	P	**Pn**	**23 18 28.6**	**+0.3**
CMAR				LR	LR	23 26 21.4	
	comp=Z,10µm,18.7s,baz=216,slow=42						
JCJI	**Jatiwangi** comp=Z,1µm,0.9s,comp=Z,14µm	**17.18**	**120**	P	**P**	**23 18 32.2**	**+1.2**
LAMP	**Lampang** comp=Z,284nm,0.7s,comp=Z,2µm	**17.37**	**20**	P	**P**	**23 18 33.0**	**-0.1**
CHTO	**Chiang Mai** comp=Z,4µm,1.1s,comp=Z,49µm	**17.41**	**18**	P	**Pn**	**23 18 32.4**	**-0.2**
CHTO	**Chiang Mai** comp=Z,2µm,1.3s	**17.41**	**18**	*e*Pn	**Pn**	**23 18 32.6**	**0.0**
CHTO	**Chiang Mai** SNR=263	**17.41**	**18**	P	**Pn**	**23 18 32.8**	**+0.2**
CHTO	**Chiang Mai**	**17.41**	**18**	*e*P	**Pn**	**23 18 32.6**	**0.0**
CHTO	comp=Z,2µm,1.3s			pmax	pmax		
CMMT	**Chiang Mai** comp=Z,982nm,1.1s,comp=Z,11µm	**17.41**	**18**	P	**Pn**	**23 18 31.3**	**-1.3**
TRD	**Trivandrum**	**17.51**	**292**	*e*P	**Pn**	**23 18 33.8**	**0.0**
TRD	comp=Z,414nm,1.1s			IAmb	IAmb	23 18 37.2	
XMIS	**Christmas Isla** comp=Z,512nm,1.0s	**17.53**	**136**	*e*Pn	**P**	**23 18 34.8**	**-0.1**
UBPT	**Khong Chiam** comp=Z,654nm,0.7s,comp=Z,15µm	**17.66**	**42**	P	**P**	**23 18 36.0**	**-0.3**
SKHT	**Srikalahasti**	**17.74**	**311**	*e*P	**P**	**23 18 37.8**	**+0.6**
SKNT	**Sakolnakorn** comp=Z,204nm,0.9s,comp=Z,3µm	**18.03**	**35**	P	**Pn**	**23 18 39.9**	**-0.3**
KPJI	**Karang Pucung** comp=Z,601nm,0.8s	**18.17**	**121**	P	**P**	**23 18 42.5**	**+0.6**
STKI	**Sintang** comp=Z,963nm,0.8s,comp=Z,23µm	**18.22**	**96**	P	**Pn**	**23 18 45.0**	**+2.5**
PAYA	**Payao** comp=Z,400nm,0.8s,comp=Z,2µm	**18.22**	**20**	P	**Pn**	**23 18 43.5**	**+0.9**
VIS	**Vishakhapatnam**	**18.33**	**328**	*i* P	**Pn**	**23 18 43.8**	**0.0**
VIS				IAmb	IAmb	23 18 47.9	
VIS				*i* x	x	23 21 56.8	
CMAI	**Chiengmai2** comp=Z,3µm,0.9s,comp=Z,101µm	**18.50**	**17**	P	**Pn**	**23 18 47.0**	**+1.0**
CHLP	**Challavanipeta**	**18.62**	**331**	*e*P	**Pn**	**23 18 48.4**	**+1.0**
SBUM	**Sibu** comp=Z,585nm,1.0s	**18.83**	**89**	*e*P	**Pn**	**23 18 51.3**	**+1.4**
PVM	**Polavaram**	**18.92**	**323**	*e*P	**Pn**	**23 18 52.6**	**+1.7**
PBKI	**Pangkalan Bun** comp=Z,1µm,1.0s,comp=Z,18µm	**18.92**	**105**	P	**Pn**	**23 18 53.2**	**+2.2**
ADKI	**Addanki**	**18.95**	**317**	*e*P	**Pn**	**23 18 53.1**	**+1.8**
SMRI	**Semarang** comp=Z,1µm,0.9s,comp=Z,26µm	**19.34**	**118**	P	**Pn**	**23 18 56.8**	**+0.7**
SMRI	**Semarang** comp=Z,1µm,0.8s	**19.34**	**118**	*e*P	**Pn**	**23 18 56.1**	**+0.1**
RCLA	**Racherla**	**19.40**	**314**	*e*P	**Pn**	**23 18 57.4**	**+0.6**
BWNR	**Bhubaneshwar**	**19.47**	**338**	*e*P	**P**	**23 18 56.6**	**+0.4**
BWNR	comp=Z,14µm,0.1s			IAmb	IAmb	23 19 03.4	
UGM	**Wanagama** comp=Z,515nm,0.8s	**19.82**	**121**	P	**Pn**	**23 19 02.2**	**+0.3**
UGM	**Wanagama** comp=Z,398nm,0.8s	**19.82**	**121**	*e*P	**P**	**23 19 00.7**	**+0.5**
SRLM	**Srisailam**	**19.87**	**315**	*e*P	**Pn**	**23 19 02.8**	**+0.3**
NJS	**Nagarjunasagar**	**19.90**	**317**	*e*P	**Pn**	**23 19 03.1**	**+0.4**
WOJI	**Wonogiri, Jawa** comp=Z,194nm,0.8s,comp=Z,4µm	**20.13**	**120**	P	Pn	23 19 04.7	-0.8
URV	**Uravakonda**	**20.35**	**309**	*e*P	Pn	23 19 07.7	-0.4
TBJI	**Tambak Boyo** comp=Z,527nm,0.9s,comp=Z,7µm	**20.49**	**116**	P	Pn	23 19 11.7	+2.1
PCJI	**Pacitan** comp=Z,327nm,0.9s	**20.52**	**120**	P	Pn	23 19 10.1	0.0
PWJI	**Pagerwojo** comp=Z,259nm,0.9s	**20.98**	**119**	P	Pn	23 19 15.2	-0.2
HYB	**Hyderabad**	**21.01**	**317**	*i* P	**P**	**23 19 17.0**	**+4.0**
HYB				*e*S	**S**	**23 23 06.0**	**+0.5**
HYB	**Hyderabad** comp=Z,956nm,1.2s	**21.01**	**317**	*e*P	**P**	**23 19 14.0**	**+0.9**
HYB				IAmb	IAmb	23 19 18.2	
HYBB	**Hyderabad (bro**	**21.01**	**317**	*e*P	**P**	**23 19 14.7**	**+1.6**
GRJI	**Gresik**	**21.10**	**115**	P	**P**	**23 19 20.5**	**+6.6**
RPR	**Rampur**	**21.57**	**321**	*e*P	**P**	**23 19 20.4**	**+1.5**
MTKI	**Muara Teweh, K** comp=Z,561nm,1.7s,comp=Z,12µm	**21.74**	**98**	P	**P**	**23 19 22.0**	**+1.2**
SRSP	**Sriramsagar**	**22.23**	**320**	*e*P	**P**	**23 19 27.6**	**+1.5**
BOK	**Bokaro**	**22.68**	**342**	*e*P	**P**	**23 19 33.1**	**+2.2**
BOK	comp=Z,1µm,1.1s			IAmb	IAmb	23 19 34.3	
KLRI	**Killari**	**22.82**	**315**	*e*P	**P**	**23 19 33.7**	**+1.4**
DGAR	**Diego Garcia**	**22.95**	**245**	PFAKE		23 19 40.0	+6.3
DGAR	comp=Z,7µm,22.0s			LR	LR		
H08S2	**Diego Garcia H**	**23.00**	**245**	P	**P**	**23 19 36.4**	**+2.4**
H08S2	baz=58,slow=76,SNR=6.3			T	T	23 43 32.3	
H08S3	**Diego Garcia H**	**23.01**	**245**	P	**P**	**23 19 36.4**	**+2.4**
H08S3	baz=58,slow=76,SNR=5.9			T	T	23 43 27.6	
H08S1	**Diego Carcia H**	**23.02**	**245**	P	**P**	**23 19 36.6**	**+2.4**
H08S1	baz=58,slow=76,SNR=6.7			T	T	23 43 28.7	
KKM	**Kota Kinabalu** comp=Z,865nm,0.8s	**23.10**	**80**	*e*P	**P**	**23 19 36.5**	**+1.1**
KKM	comp=Z,7µm,20.0s			LR	LR		
QIZ	**Qiongzhong**	**23.25**	**43**	P	**P**	**23 19 37.6**	**+0.9**
QIZ				S	**S**	**23 23 48.3**	**+1.4**
QIZ	comp=Z,190nm,0.8s			pmax	pmax		
QIZ	comp=Z,4µm,3.7s			pmax	pmax		
QIZ	comp=Z,11µm,20.4s			LR	LR		
QIZ	comp=Z,6µm,19.9s			LR	LR		
QIZ	comp=Z,8µm,25.1s			LR	LR		
QIZ	**Qiongzhong** comp=Z,261nm,1.0s	**23.25**	**43**	*e*P	**P**	**23 19 37.6**	**+0.9**
QIZ	comp=Z,8µm,22.0s			LR	LR		
JAGI	**Jajag, Banyuwa** comp=Z,227nm,0.8s	**23.26**	**117**	P	**P**	**23 19 36.9**	**0.0**
JAGI	**Jajag, Banyuwa** comp=Z,170nm,0.8s	**23.26**	**117**	*e*P	**P**	**23 19 35.3**	**-1.6**
SHL	**Shillong**	**23.30**	**357**	*e*P	**P**	**23 19 37.2**	**-0.1**
SHL				*ex*	x	23 23 53.0	
GOA	**Goa**	**23.38**	**306**	*e*P	**P**	**23 19 39.9**	**+1.9**
GOA	comp=Z,226nm,0.8s			IAmb	IAmb	23 19 42.4	
KBKI	**Kotabaru** comp=Z,319nm,0.9s,comp=Z,8µm	**23.42**	**103**	P	**P**	**23 19 40.3**	**+1.8**
NGP	**Nagpur**	**23.47**	**325**	*e*P	**P**	**23 19 39.3**	**+0.4**
NGP	comp=Z,1µm,2.2s			*ex*	x	23 20 00.2	
NGP				*ex*	x	23 23 55.1	
BKB	**Balikpapan** comp=Z,2µm,1.4s,comp=Z,41µm	**23.76**	**98**	P	**P**	**23 19 44.3**	**+2.6**
H08N1	**Diego Carcia H**	**23.88**	**249**	P	**P**	**23 19 41.1**	**-1.3**
H08N2	**Diego Garcia H**	**23.88**	**249**	P	**P**	**23 19 39.5**	**-3.0**
H08N3	**Diego Garcia H**	**23.90**	**249**	P	**P**	**23 19 38.8**	**-3.8**
SMKI	**Samarinda** comp=Z,324nm,0.9s,comp=Z,9µm	**23.97**	**96**	P	**P**	**23 19 46.4**	**+2.7**
SRBI	**Singaraja** comp=Z,312nm,0.8s,comp=Z,5µm	**24.04**	**115**	P	**P**	**23 19 45.0**	**+0.6**
SGKI	**Sangatta, Kali** comp=Z,1µm,0.9s,comp=Z,21µm	**24.37**	**96**	P	**P**	**23 19 48.6**	**+1.2**
KMI	**Kunming**	**24.54**	**21**	P	**P**	**23 19 51.3**	**+2.3**
KMI				pP	pP	23 19 57.8	-0.7
KMI				sP	sP	23 20 01.8	-0.6
KMI				PP	**PnPn**	**23 20 23.6**	**+2.7**
KMI				PcP	**PcP**	**23 23 28.4**	**+1.4**
KMI				S	**S**	**23 24 08.3**	**+0.4**
KMI	comp=Z,200nm,1.2s			pmax	pmax		
KMI	comp=Z,5µm,6.6s			pmax	pmax		
KMI	comp=Z,6µm,19.9s			LR	LR		
KMI	comp=Z,9µm,16.2s			LR	LR		
KMI	comp=Z,9µm,22.4s			LR	LR		
POO	**Poona**	**25.11**	**312**	*e*P	**P**	**23 19 56.1**	**+2.0**
POO	comp=Z,305nm,1.4s			IAmb	IAmb	23 19 58.3	
ODAN	**Odare** comp=Z,624nm,0.9s	**25.21**	**347**	*e*P	**P**	**23 19 56.8**	**+1.7**
MYLDM	**Lahad Datu** comp=Z,1µm,0.9s	**25.25**	**83**	*e*P	**P**	**23 19 56.5**	**+1.2**
RAMN	**Ramite** comp=Z,866nm,0.8s	**25.48**	**346**	*e*P	**P**	**23 19 59.8**	**+2.2**
TWSI	**Taliwang, Sumb** comp=Z,102nm,0.9s	**25.82**	**115**	P	**P**	**23 19 59.5**	**-1.0**
BHPL	**Bhopal**	**26.03**	**325**	*e*P	**P**	**23 20 04.7**	**+2.2**
BHPL	comp=Z,387nm,1.4s			IAmb	IAmb	23 20 08.0	
JIRN	**Jiri** comp=Z,743nm,0.8s	**26.26**	**345**	*e*P	**P**	**23 20 06.6**	**+1.8**
PKIN	**Phulchoki** comp=Z,346nm,0.8s	**26.39**	**344**	*e*P	**P**	**23 20 08.0**	**+2.1**
DMN	**Daman** comp=Z,433nm,0.8s	**26.50**	**343**	*e*P	**P**	**23 20 08.3**	**+1.4**
MPSI	**Mapaga** comp=Z,342nm,0.7s,comp=Z,4µm	**26.58**	**94**	P	**P**	**23 20 08.1**	**+0.7**
GUN	**Gumba** comp=Z,552nm,0.8s	**26.58**	**345**	*e*P	**P**	**23 20 09.3**	**+1.7**
KKN	**Kakani** comp=Z,542nm,0.8s	**26.62**	**344**	*e*P	**P**	**23 20 09.3**	**+1.4**
PLAI	**Plampang** comp=Z,161nm,0.8s	**26.66**	**115**	P	**P**	**23 20 06.3**	**-1.9**
TTSI	**Tana Toraja** comp=Z,147nm,0.7s,comp=Z,4µm	**26.94**	**101**	P	**P**	**23 20 12.4**	**+1.8**
GKN	**Gorkha** comp=Z,736nm,0.9s	**27.01**	**343**	*e*P	**P**	**23 20 13.0**	**+1.7**
KOLN	**Koldanda** comp=Z,317nm,0.8s	**27.12**	**341**	*e*P	**P**	**23 20 14.0**	**+1.7**
KAPI	**Kappang** comp=Z,328nm,0.8s	**27.30**	**105**	*e*P	**P**	**23 20 14.2**	**+0.3**
KAPI	comp=Z,6µm,21.0s			LR	LR		
KAPI	**Kappang** SNR=96	**27.30**	**105**	P	**P**	**23 20 15.0**	**+1.0**
GYA	**Guiyang**	**27.31**	**27⇑**	*i* P	**P**	**23 20 16.0**	**+2.0**
GYA				pP	pP	23 20 23.3	-0.1
GYA				PP	**PnPn**	**23 21 03.0**	**+4.3**
GYA				PcP	**PcP**	**23 23 35.4**	**+2.2**
GYA				S	**S**	**23 24 52.9**	**+1.2**
GYA				sS	sS	23 25 05.5	-1.8
GYA				ScP	**ScP**	**23 27 12.0**	**+0.6**
GYA				ScS	**ScS**	**23 31 02.3**	**-0.8**
GYA	comp=Z,40nm,0.8s			pmax	pmax		
GYA	comp=Z,210nm,6.8s			pmax	pmax		
GYA	comp=Z,5µm,17.4s			LR	LR		
GYA	comp=Z,5µm,18.0s			LR	LR		
GYA	comp=Z,5µm,17.8s			LR	LR		
ENPP	**El Nido**	**27.36**	**70**	*e*P	**P**	**23 20 14.7**	**+0.3**
LSA	**Lhasa**	**27.46**	**356**	P	**P**	**23 20 18.1**	**+2.4**
LSA	comp=Z,100nm,1.0s			pmax	pmax		
LSA	comp=Z,2µm,7.6s			pmax	pmax		
LSA	comp=Z,2µm,14.2s			LR	LR		
LSA	comp=Z,3µm,19.6s			LR	LR		
LSA	comp=Z,8µm,15.2s			LR	LR		
LSA	**Lhasa** comp=Z,728nm,0.7s	**27.46**	**356**	*e*P	**P**	**23 20 18.3**	**+2.6**
LSA	comp=Z,8µm,19.0s			LR	LR		
LSA	**Lhasa**	**27.46**	**356**	P	**P**	**23 20 18.0**	**+2.4**
LSA	**Lhasa**	**27.46**	**356**	*e*P	**P**	**23 20 18.3**	**+2.6**
LSA	comp=Z,728nm,0.7s			pmax	pmax		
LSA	comp=Z,8µm,19.0s			MLR	MLR		
BNSI	**Bone** comp=Z,415nm,1.4s	**27.50**	**104**	P	**P**	**23 20 16.9**	**+1.2**
DANN	**Dangsing**	**27.60**	**341**	*e*P	**P**	**23 20 18.6**	**+1.8**
PYUN	**Piuthan** comp=Z,471nm,0.9s	**27.62**	**340**	*e*P	**P**	**23 20 18.4**	**+1.5**
MCO	**Taipa Grande**	**27.89**	**43**	P	**P**	**23 20 21.0**	**+1.9**
BSSI	**Bau Bau, Buton** comp=Z,377nm,1.1s,comp=Z,6µm	**28.31**	**107**	P	**P**	**23 20 22.7**	**-0.2**
APSI	**Ampana** comp=Z,245nm,1.0s,comp=Z,3µm	**28.43**	**96**	P	**P**	**23 20 25.4**	**+1.4**
HKC	**Hong Kong Obse**	**28.44**	**44**	⇑P	**P**	**23 20 25.0**	**+1.1**
WBSI	**Waikabubak, Su** comp=Z,186nm,1.0s	**28.45**	**115**	P	**P**	**23 20 22.3**	**-1.9**
MRSI	**Marisa** comp=Z,378nm,0.8s,comp=Z,3µm	**28.61**	**93**	P	**P**	**23 20 25.6**	**0.0**
LUBP	**Lubang**	**28.94**	**65**	*e*P	**P**	**23 20 29.1**	**+0.6**
SJMP	**San Jose**	**29.32**	**68**	*e*P	**P**	**23 20 33.5**	**+1.7**
LUWI	**Luwuk** comp=Z,630nm,0.9s,comp=Z,6µm	**29.56**	**96**	P	**P**	**23 20 34.3**	**+0.2**
LUWI	**Luwuk** comp=Z,554nm,1.0s	**29.56**	**96**	*e*P	**P**	**23 20 34.0**	**0.0**
BOLP	**Bolinao**	**29.69**	**60**	*e*P	**P**	**23 20 35.7**	**+0.6**
TGY	**Tagaytay City** comp=Z,782nm,0.9s,baz=254,slow=3.4,SNR=18	**29.70**	**65**	P	**P**	**23 20 36.4**	**+1.1**
OTRP	**Odiongan**	**30.12**	**69**	*e*P	**P**	**23 20 39.9**	**+0.8**
GUIM	**Jordan**	**30.19**	**73**	*e*P	**P**	**23 20 39.8**	**+0.1**
PAGZ	**Pagadian**	**30.40**	**78**	*e*P	**P**	**23 20 42.7**	**+1.1**
RCP	**Roxas**	**30.58**	**71§**	*e*P	**P**	**23 20 44.3**	**+1.2**
KMSI	**Cibinong** comp=Z,525nm,0.7s,comp=Z,5µm	**30.64**	**93**	P	**P**	**23 20 47.5**	**+3.9**
MMRI	**Maumere** comp=Z,341nm,0.8s,comp=Z,4µm	**30.71**	**111**	P	**P**	**23 20 42.0**	**-2.2**
MMRI	**Maumere** comp=Z,1µm,1.8s	**30.71**	**111**	*e*P	**P**	**23 20 41.4**	**-2.8**
BALP	**Baler**	**30.88**	**62**	*e*P	**P**	**23 20 46.2**	**+0.5**
APYP	**Conner**	**31.48**

BUTP	**Butuan**	**32.77**	**77**	*e*P		**P**	**23 21 02.7 +0.3**
SANI	**Sanana**	**32.87**	**97**	P		**P**	**23 21 02.5 -0.8**
	comp=Z,208nm,1.8s,comp=Z,3µm						
SOEI	**Soe**	**32.97**	**112**	P		**P**	**23 21 01.6 -2.6**
SOEI	**Soe**	**32.97**	**112**	*e*P		**P**	**23 21 01.5 -2.8**
	comp=Z,297nm,0.8s						
MATI	**Mati**	**33.11**	**81**	*e*P		**P**	**23 21 05.0 -0.3**
BESP	**Borongan**	**33.14**	**72**	*e*P		**P**	**23 21 07.0 +1.5**
QZH	**Quanzhou**	**33.23**	**45**	⇑*i*P		**P**	**23 21 07.3 +1.1**
QZH				S		**S**	**23 26 25.4 +1.2**
QZH				LR	LR		
	comp=Z,9µm,19.1s						
QZH				LR	LR		
	comp=Z,2µm,16.5s						
QZH				LR	LR		
	comp=Z,7µm,20.5s						
TPUB	**Ta-pu**	**33.74**	**49**	*e*P		**P**	**23 21 11.9 +1.2**
	comp=Z,148nm,1.5s						
TWG	**Pinlang**	**33.81**	**50**	*e*P		**P**	**23 21 13.2 +1.9**
	comp=Z,331nm,1.4s						
DHRM	**DHARAMSHALA**	**33.96**	**334**	*e*P		**P**	**23 21 12.7 -0.1**
DHRM				IAmb	IAmb		23 21 26.3
	comp=Z,99nm,0.8s						
TNTI	**Ternate**	**34.01**	**92**	*e*P		**P**	**23 21 12.6 -0.6**
	comp=Z,148nm,1.1s						
LBMI	**Labuha**	**34.23**	**94**	P		**P**	**23 21 15.3 +0.2**
	comp=Z,2µm,0.8s,comp=Z,18µm						
SSLB	**Suanglung**	**34.26**	**49**	*e*P		**P**	**23 21 16.7 +1.5**
	comp=Z,113nm,1.3s						
YULB	**Yu-li**	**34.30**	**50**	*e*P		**P**	**23 21 17.1 +1.5**
	comp=Z,53nm,0.7s						
WHN	**Wuhan**	**34.51**	**33**	⇑*i*P		**P**	**23 21 18.8 +1.6**
WHN				S		**S**	**23 26 46.3 +2.4**
WHN				pmax	pmax		
	comp=Z,340nm,1.1s						
WHN				LR	LR		
	comp=Z,15µm,15.0s						
WHN				LR	LR		
	comp=Z,14µm,15.1s						
WHN				LR	LR		
	comp=Z,20µm,17.2s						
MBWA	**Marble Bar**	**34.69**	**133**	*e*P		**P**	**23 21 19.9 +1.0**
	comp=Z,55nm,0.7s						
MBWA				LR	LR		
	comp=Z,7µm,19.0s						
XAN	**Xi'an**	**34.87**	**23**	⇑P		**P**	**23 21 20.8 +0.4**
XAN				pP		pP	23 21 30.8 +0.8
XAN				sP		sP	23 21 35.8 +1.9
XAN				S		**S**	**23 26 45.5 -4.1**
XAN				pmax	pmax		
	comp=Z,290nm,0.8s						
XAN				pmax	pmax		
	comp=Z,2µm,8.0s						
XAN				LR	LR		
	comp=Z,3µm,19.5s						
XAN				LR	LR		
	comp=Z,7µm,15.3s						
XAN				LR	LR		
	comp=Z,6µm,20.6s						
NACB	**Ninganchiao**	**34.96**	**49**	*e*P		**P**	**23 21 22.1 +0.9**
	comp=Z,91nm,1.0s						
YHNB	**Yeheng**	**35.08**	**48**	*e*P		**P**	**23 21 24.1 +1.7**
	comp=Z,536nm,2.0s						
YHNB				LR	LR		
	comp=Z,7µm,21.0s						
LZH	**Lanzhou**	**35.11**	**15**	*e*P		**P**	**23 21 23.3 +0.7**
LZH				pP		pP	23 21 30.4 -1.7
LZH				sP		sP	23 21 33.5 -2.6
LZH				PP		**PP**	**23 22 43.0 +0.3**
LZH				PcP		**PcP**	**23 23 55.8 +2.0**
LZH				*e*S		**S**	**23 26 50.6 -2.8**
LZH				pmax	pmax		
	comp=Z,200nm,1.3s						
LZH				pmax	pmax		
	comp=Z,1µm,5.0s						
LZH				LR	LR		
	comp=Z,8µm,14.2s						
LZH				LR	LR		
	comp=Z,11µm,14.2s						
LZH				LR	LR		
	comp=Z,14µm,16.1s						
AAI	**Ambon**	**35.28**	**99**	P		**P**	**23 21 23.5 -0.7**
	comp=Z,1µm,0.8s,comp=Z,10µm						
TATO	**Taipei**	**35.34**	**48**	*e*P		**P**	**23 21 25.0 +0.5**
	comp=Z,995nm,1.9s						
TATO				LR	LR		
	comp=Z,6µm,20.0s						
MSAI	**Masohi**	**35.96**	**99**	P		**P**	**23 21 29.3 -0.7**
	comp=Z,409nm,0.7s,comp=Z,3µm						
YOJ	**Yonaguni jima**	**36.19**	**50**	*e*P		**P**	**23 21 32.1 +0.3**
	comp=Z,343nm,1.4s						
YOJ	**Yonaguni jima**	**36.19**	**50**	*e*P		**P**	**23 21 32.1 +0.3**
YOJ				pmax	pmax		
	comp=Z,343nm,1.4s						
NIL	**Nilore**	**36.54**	**331**	*e*P		**P**	**23 21 35.2 +0.4**
	comp=Z,184nm,0.7s						
NIL				LR	LR		
	comp=Z,6µm,20.0s						
NIL	**Nilore**	**36.54**	**331**	*e*P		**P**	**23 21 35.2 +0.4**
NIL				pmax	pmax		
	comp=Z,184nm,0.7s						
NIL				MLR	MLR		
	comp=Z,6µm,20.0s						
GTA	**Gaotai**	**37.52**	**8**	⇑P		**P**	**23 21 44.0 +0.9**
GTA				pP		pP	23 21 52.4 -0.3
GTA				sP		sP	23 21 56.9 +0.2
GTA				PcP		**PcP**	**23 24 02.1 +1.2**
GTA				S		**S**	**23 27 31.3 +1.1**
GTA				ScP		**ScP**	**23 27 41.1 -4.9**
GTA				PcS		**PcS**	**23 27 48.5 -1.1**
GTA				ScS		**ScS**	**23 31 52.6 -1.8**
GTA				pmax	pmax		
	comp=Z,79nm,1.5s						
GTA				pmax	pmax		
	comp=Z,2µm,7.7s						
GTA				LR	LR		
	comp=Z,3µm,19.5s						
GTA				LR	LR		
	comp=Z,4µm,19.0s						
GTA				LR	LR		
	comp=Z,4µm,18.5s						
MEEK	**Meekatharra**	**37.60**	**141**	P		**P**	**23 21 45.2 +1.4**
	baz=38,SNR=19						
MORW	**Morawa**	**37.90**	**147**	P		**P**	**23 21 48.7 +2.3**
	baz=38,SNR=4.7						
NJ2	**Nanjing**	**38.19**	**36**	*e*P		**P**	**23 21 49.8 +1.1**
NJ2				pP		**pP**	**23 21 54.1 -4.2**
NJ2				sP		**sP**	**23 21 58.5 -3.7**
NJ2				S		**S**	**23 27 43.3 +3.1**
NJ2				pmax	pmax		
	comp=Z,150nm,0.6s						
NJ2				LR	LR		
	comp=Z,9µm,19.5s						
NJ2				LR	LR		
	comp=Z,8µm,20.1s						
NJ2				LR	LR		
	comp=Z,8µm,16.3s						
SSE	**Sheshan**	**38.96**	**40**	P		**P**	**23 21 56.4 +1.2**
SSE				S		**S**	**23 27 48.8 -3.0**
SSE				pmax	pmax		
	comp=Z,47nm,1.2s						
SSE				pmax	pmax		
	comp=Z,920nm,11.1s						
SSE				LR	LR		
	comp=Z,3µm,19.2s						
SSE				LR	LR		
	comp=Z,3µm,19.2s						
SAUI	**Saumlaki**	**39.15**	**105**	P		**P**	**23 21 56.2 -0.8**
	comp=Z,322nm,0.8s						
SAUI	**Saumlaki**	**39.15**	**105**	*e*P		**P**	**23 21 55.6 -1.4**
	comp=Z,220nm,0.7s						
FAKI	**Fak Fak**	**39.19**	**97**	P		**P**	**23 21 56.6 -0.8**
	comp=Z,241nm,0.6s,comp=Z,6µm						
FAKI	**Fak Fak**	**39.19**	**97**	*e*P		**P**	**23 21 56.1 -1.3**
	comp=Z,197nm,0.9s						
KNRA	**Kununurra**	**39.23**	**118**	P		**P**	**23 21 56.6 -1.0**
	baz=39,SNR=43						
KBL	**Kabul**	**39.38**	**328**	*e*P		**P**	**23 21 59.5 +0.5**
	comp=Z,34nm,0.8s						
KBL	**Kabul**	**39.38**	**328**	*e*P		**P**	**23 21 59.5 +0.5**
KBL				pmax	pmax		
	comp=Z,34nm,0.8s						
TIY	**Taiyuan**	**39.46**	**24**	*e*P		**P**	**23 22 00.0 +0.6**
TIY				S		**S**	**23 27 55.5 -3.9**
TIY				pmax	pmax		
	comp=Z,59nm,1.0s						
TIY				pmax	pmax		
	comp=Z,910nm,6.3s						
TIY				LR	LR		
	comp=Z,4µm,12.2s						
TIY				LR	LR		
	comp=Z,5µm,15.6s						
TIY				LR	LR		
	comp=Z,8µm,19.8s						
BLDU	**Balliduu**	**39.47**	**148**	P		**P**	**23 21 60.0 +0.5**
	baz=40,SNR=4.2						
WSAR	**Wadi Sarin**	**39.64**	**305**	P		**P**	**23 22 03.5 +2.5**
	comp=Z,8.3nm,0.7s,baz=147,slow=8.6,SNR=12						
BIDO	**Bidbid**	**40.18**	**305**	P		**P**	**23 22 08.6 +3.1**
	SNR=9.3						
MUN	**Mundaring**	**40.28**	**149**	P		**P**	**23 22 07.8 +1.6**
	baz=40,SNR=8.0						
MTN	**Manton Dam**	**40.34**	**113**	P		**P**	**23 22 05.7 -1.2**
	baz=40,SNR=17						
MTN	**Manton Dam**	**40.34**	**113**	*e*P		**P**	**23 22 06.1 -0.8**
	comp=Z,244nm,1.5s						
TIA	**Tai'an**	**40.37**	**30**	P		**P**	**23 22 07.8 +0.9**
TIA				pmax	pmax		
	comp=Z,98nm,0.7s						
TIA				LR	LR		
	comp=Z,5µm,15.7s						
TIA				LR	LR		
	comp=Z,7µm,19.1s						
TIA				LR	LR		
	comp=Z,4µm,21.2s						
KSH	**Kashi**	**40.41**	**339**	P		**P**	**23 22 06.3 -1.0**
KSH				PP		**PnPn**	**23 23 42.8 -1.8**
KSH				PcP		**PcP**	**23 24 08.6 -1.4**
KSH				S		**S**	**23 28 08.3 -5.3**
KSH				pmax	pmax		
	comp=Z,70nm,0.8s						
KSH				pmax	pmax		
	comp=Z,3µm,5.7s						
KSH				LR	LR		
	comp=Z,5µm,11.5s						
KSH				LR	LR		
	comp=Z,9µm,17.3s						
KSH				LR	LR		
	comp=Z,5µm,13.0s						
KMPI	**Kaimana, Papua**	**40.72**	**98**	P		**P**	**23 22 10.2 +0.1**
	comp=Z,726nm,0.7s,comp=Z,7µm						
KLBR	**Kellerberrin**	**40.79**	**147**	P		**P**	**23 22 11.8 +1.4**
	baz=41,SNR=13						
HOQ	**Hoqain**	**40.88**	**304**	P		P	23 22 16.1 +4.8
	SNR=10.0						
BTO	**Baotou**	**41.12**	**19**	*e*P		**P**	**23 22 12.9 -0.2**
BTO				pmax	pmax		
	comp=Z,40nm,0.5s						
PALU	**Palau**	**41.26**	**81**	P		**P**	**23 22 13.9 -0.7**
	baz=41,SNR=10						
JOW	**Kunigami**	**41.47**	**51**	P		**P**	**23 22 16.1 +0.1**
	comp=Z,48nm,0.8s,baz=229,slow=4.5,SNR=5.8						
JOW	**Kunigami**	**41.47**	**51**	*e*P		**P**	**23 22 16.2 +0.1**
	comp=Z,214nm,1.3s						
NWAO	**Narrogin (SRO)**	**41.56**	**149**	P		**P**	**23 22 17.6 +0.9**
	baz=42,SNR=5.7						
NWAO				P		**P**	**23 22 17.6 +0.9**
	baz=42,SNR=5.7						
NWAO	**Narrogin (SRO)**	**41.56**	**149**	*e*P		**P**	**23 22 17.5 +0.9**
	comp=Z,38nm,0.8s						
NWAO				LR	LR		
	comp=Z,11µm,22.0s						
NWAO	**Narrogin (SRO)**	**41.56**	**149**	*e*P		**P**	**23 22 17.5 +0.8**
NWAO				pmax	pmax		
	comp=Z,38nm,0.8s						
NWAO				MLR	MLR		
	comp=Z,11µm,22.0s						
MRIV	**Mauritius Mete**	**41.67**	**236**	*e*P		**P**	**23 22 18.2 +0.4**
H01W3	**Cape Leeuwin H**	**41.69**	**154**	T		T	00 06 51.9
	baz=332,slow=76,SNR=24						
H01W2	**Cape Leeuwin H**	**41.70**	**154**	T		T	00 06 48.8
	baz=332,slow=76,SNR=16						
H01W1	**Cape Leeuwin H**	**41.71**	**154**	T		T	00 06 51.7
	baz=332,slow=76,SNR=17						
SOHO	**SOHO**	**41.76**	**305**	*i* P		**P**	**23 22 20.7 +2.3**
	SNR=6.1						
SFK	**Sufi-Kurgan**	**41.76**	**337**	*i* P		**P**	**23 22 19.1 +0.5**
SFK				pmax	pmax		
	comp=Z,150nm,0.9s						
WMQ	**Urumqi**	**41.78**	**354**	P		**P**	**23 22 19.4 +1.0**
WMQ				LR	LR		
	comp=Z,5µm,22.1s						
WMQ				LR	LR		
	comp=Z,6µm,20.7s						
WMQ				LR	LR		
	comp=Z,8µm,29.5s						
HHC	**Hu-ho-hao-te**	**41.86**	**21**	*e*P		**P**	**23 22 20.9 +1.7**
HHC				pP		pP	23 22 27.8 -1.1
HHC				sP		sP	23 22 30.9 -1.9
HHC				PP		**PP**	**23 23 59.0 +2.5**
HHC				S		**S**	**23 28 39.5 +4.3**
HHC				pmax	pmax		
	comp=Z,130nm,1.0s						
HHC				pmax	pmax		
	comp=Z,950nm,5.5s						
HHC				LR	LR		
	comp=Z,5µm,15.6s						
HHC				LR	LR		
	comp=Z,6µm,14.5s						
HHC				LR	LR		
	comp=Z,7µm,15.8s						
WHFO	**Wadi Hawf**	**41.88**	**295**	P		**P**	**23 22 21.5 +1.9**
	SNR=9.4						
KDJ	**Kajisay**	**42.35**	**342**	*e*P		**P**	**23 22 24.3 +1.0**
	comp=Z,115nm,0.9s						
ALNE	**Al Ain**	**42.37**	**304**	*i* P		**P**	**23 22 25.6 +2.1**
	SNR=25						
UOSS	**Minazif**	**42.38**	**306**	*e*P		**P**	**23 22 25.8 +2.2**
	comp=Z,29nm,0.9s						
UOSS	**Minazif**	**42.38**	**306**	P		**P**	**23 22 25.7 +2.2**
UOSS	**Minazif**	**42.38**	**306**	P		**P**	**23 22 25.4 +1.8**
ASHO	**Ashiyiah**	**42.39**	**305**	P		**P**	**23 22 25.5 +1.8**
HATD	**Hatta, Dubai**	**42.39**	**305**	P		**P**	**23 22 26.3 +2.7**
MSFE	**Esma-Masafi**	**42.60**	**306**	P		**P**	**23 22 27.9 +2.5**
SHLS	**Shalkode**	**42.65**	**345**	⇑*i*P		**P**	**23 22 26.4 +0.8**
	comp=Z,744nm,0.7s						
SHLS				*e*S		**S**	**23 28 46.6 -0.2**
BANOM	**Banah**	**42.75**	**307**	P		**P**	**23 22 28.8 +2.3**
ULHL	**Ulahl**	**42.75**	**341**	P		**P**	**23 22 27.3 +0.8**
	SNR=39						
UZB	**Uzynbulak**	**42.76**	**344**	⇑*i*P		**P**	**23 22 27.8 +1.3**
	comp=Z,372nm,0.7s						
UZB				*i* S		**S**	**23 28 49.7 +1.3**
PDGK	**Podgornoye**	**42.81**	**345**	*i* P		**P**	**23 22 28.7 +1.8**
PDGK				pmax	pmax		
	comp=Z,147nm,0.9s						
SATY	**Saty**	**42.84**	**344**	⇑*i*P		**P**	**23 22 28.5 +1.3**
	comp=Z,608nm,0.9s						
SATY				*i* S		**S**	**23 28 50.6 +0.9**
KZA	**Kyzart**	**42.93**	**340**	P		**P**	**23 22 29.3 +1.1**
	SNR=17						
SHME	**Shamm**	**42.93**	**307**	P		**P**	**23 22 30.4 +2.3**
ZHN	**Zhinishke**	**42.94**	**344**	*e*P		**P**	**23 22 29.1 +1.2**
	comp=Z,199nm,0.6s						
ZHN				*e*S		**S**	**23 28 52.3 +1.3**
KMBL	**Kambalda**	**42.98**	**143**	P		**P**	**23 22 29.5 +1.2**
	baz=43,SNR=7.1						
BJT	**Baijiatuau**	**42.98**	**26**	*e*P		**P**	**23 22 30.3 +2.2**
	comp=Z,291nm,0.7s						
BJT				LR	LR		
	comp=Z,6µm,22.0s						
BJT	**Baijiatuau**	**42.98**	**26**	*e*P		**P**	**23 22 30.3 +2.2**
BJT				pmax	pmax		
	comp=Z,291nm,0.7s						
BJT				MLR	MLR		
	comp=Z,6µm,22.0s						
BJI	**Beijing**	**43.00**	**26**	⇑*i*P		**P**	**23 22 30.3 +2.0**
BJI				S		**S**	**23 28 55.4 +3.8**
BJI				pmax	pmax		
	comp=Z,520nm,0.7s						
BJI				LR	LR		
	comp=Z,9µm,20.8s						
BJI				LR	LR		
	comp=Z,7µm,23.7s						
KPKS	**Kokpek**	**43.15**	**344**	*e*P		**P**	**23 22 30.7 +1.1**
	comp=Z,656nm,0.7s						
KPKS				*i* S		**S**	**23 28 54.9 +0.9**
AJN	**Ajban**	**43.22**	**304**	P		**P**	**23 22 32.6 +2.3**
UCH	**Uchtor**	**43.32**	**340**	P		**P**	**23 22 32.3 +0.9**
	SNR=41						
WRKA	**Warakurna**	**43.33**	**131**	P		**P**	**23 22 31.7 +0.4**
	baz=43,SNR=23						
AAA	**Alma-Ata**	**43.41**	**342**	*e*P		**P**	**23 22 34.0 +2.3**
AAA				*i* PP		**PP**	**23 24 15.2 +2.1**
RER	**Riviere de l'E**	**43.52**	**236**	*e*P		**P**	**23 22 34.9 +2.0**
	comp=Z,172nm,1.0s						
RER				LR	LR		
	comp=Z,7µm,21.0s						
AML	**Almayashu**	**43.52**	**339**	P		**P**	**23 22 34.0 +0.9**
	SNR=56						
KBK	**Karagaybulak**	**43.55**	**340**	P		**P**	**23 22 35.6 +2.7**
	SNR=20						
TKM2	**Tokmak 2**	**43.57**	**341**	P		**P**	**23 22 34.0 +0.8**
	SNR=28						
TKM2	**Tokmak 2**	**43.57**	**341**	*i* P		**P**	**23 22 33.5 +0.4**
TKM2				pmax	pmax		
	comp=Z,88nm,0.9s						
AAK	**Ala-Archa**	**43.69**	**340**	P		**P**	**23 22 35.8 +1.8**
	comp=Z,5.1nm,0.6s,baz=74,slow=2.3,SNR=26						
AAK				PcP		**PcP**	**23 24 21.5 +0.7**
	comp=Z,48nm,0.8s,baz=134,slow=5.6,SNR=4.4						
AAK				SKKS			23 53 44.1
	comp=Z,0.2nm,0.2s,baz=229,slow=9.3,SNR=2.0						
AAK	**Ala-Archa**	**43.69**	**340**	P		**P**	**23 22 35.1 +1.0**
	SNR=12						
AAK	**Ala-Archa**	**43.69**	**340**	*e*P		**P**	**23 22 35.0 +1.0**
	comp=Z,65nm,0.9s						
AAK				PcP		**PcP**	**23 24 21.5 +0.7**
AAK				LR	LR		
	comp=Z,5µm,21.0s						
AAK	**Ala-Archa**	**43.69**	**340**	P		**P**	**23 22 36.0 +2.0**
	SNR=30						
AAK	**Ala-Archa**	**43.69**	**340**	*i* P		**P**	**23 22 36.0 +2.0**
	SNR=16						
AAK	**Ala-Archa**	**43.69**	**340**	*c i*P		**P**	**23 22 35.4 +1.4**
AAK				pmax	pmax		
	comp=Z,69nm,4.0s						
AAK				MLR	MLR		
	comp=Z,5µm,21.0s						
FRU	**Bishkek**	**43.82**	**340**	*e*P		**P**	**23 22 34.0 -0.9**
FRU				*i*			23 22 46.0
FRU				*i*			23 24 27.0
FRU				*e*S		**S**	**23 29 00.0 -3.7**
FRU				pmax	pmax		
	comp=Z,100nm,2.4s						
FRU				MLR	MLR		
	comp=E,6µm,18.0s						
MZR	**Muzera**	**43.86**	**301**	P		**P**	**23 22 37.6 +2.1**
EKS2	**Erkin-Say**	**43.96**	**339**	P		**P**	**23 22 37.2 +1.1**
	SNR=32						
KUU	**Kurty**	**44.21**	**342**	⇑*i*P		**P**	**23 22 38.5 +0.4**
	comp=E,216nm,0.8s						
KUU				*i* PP		**PP**	**23 24 21.9 +0.4**
KUU				*i* S		**S**	**23 29 09.7 +0.3**
USP	**Ospenovka**	**44.24**	**340**	P		**P**	**23 22 39.1 +0.7**
	SNR=39						
MNAS	**Manas**	**44.27**	**338**	*i* P		**P**	**23 22 39.4 +0.7**
MNAS				pmax	pmax		
	comp=Z,53nm,0.9s						
DL2	**Dalian**	**44.73**	**32**	⇑*i*P		**P**	**23 22 43.5 +1.2**
DL2				PcP		**PcP**	**23 24 24.9 +0.7**
DL2				S		**S**	**23 29 17.0 0.0**
DL2				sS		**sS**	**23 29 36.8 +3.7**
DL2				SS		**ScS**	**23 32 30.8 -6.8**
DL2				pmax	pmax		
	comp=Z,180nm,0.9s						
DL2				pmax	pmax		
	comp=Z,2µm,10.2s						
DL2				LR	LR		
	comp=Z,3µm,17.6s						
DL2				LR	LR		
	comp=Z,4µm,16.7s						
DL2				LR	LR		
	comp=Z,4µm,21.1s						
IUG	**Iuzhnay**	**44.97**	**335**	⇑*e*P		**P**	**23 22 44.9 +0.7**
	comp=Z,471nm,0.8s						
IUG				LR	LR		23 43 16.6
	comp=Z,888nm,14.5s						
CHM	**Chimkent**	**45.29**	**335**	*e*P		**P**	**23 22 47.4 +0.7**
CHM				*e*S		**S**	**23 29 25.7 +0.6**
CHM				LR	LR		23 40 44.3
	comp=Z,1µm,16.5s						
MK01	**Makanchi Array**	**45.46**	**349**	*e*P		**P**	**23 22 48.7 +0.7**
MK31	**Makanchi Array**	**45.48**	**349**	*e*P		**P**	**23 22 48.9 +0.8**
MK31	**Makanchi Array**	**45.48**	**349**	*i* P		**P**	**23 22 48.1 0.0**
MK31				pmax	pmax		
	comp=Z,108nm,0.7s						
MKAR	**Makanchi Array**	**45.48**	**349**	P		**P**	**23 22 49.0 +0.8**
	comp=Z,40nm,0.5s,baz=171,slow=8.0,SNR=408						
MKAR				SKKS			23 53 36.6
	comp=Z,0.3nm,0.7s,baz=351,slow=4.5,SNR=2.7						
MKAR	**Makanchi Array**	**45.48**	**349**	*e*P		**P**	**23 22 48.9 +0.8**
	comp=Z,713nm,0.8s						
MKAR	**Makanchi Array**	**45.48**	**349**	*e*P		**P**	**23 22 48.9 +0.8**
MKAR				pmax	pmax		
	comp=Z,713nm,0.8s						
MAKZ	**Makanchi**	**45.55**	**349**	*e*P		**P**	**23 22 49.5 +0.8**
	comp=Z,70nm,0.9s						
MAKZ	**Makanchi**	**45.55**	**349**	*e*P		**P**	**23 22 49.5 +0.8**
MAKZ				pmax	pmax		
	comp=Z,70nm,0.9s						
KK31	**Karatay Array**	**45.57**	**337**	*e*P		**P**	**23 22 49.4 +0.5**
KK31	**Karatay Array**	**45.57**	**337**	*i* P		**P**	**23 22 49.5 +0.6**
KK31				pmax	pmax		
	comp=Z,71nm,0.8s						
KKAR	**Karatay Array**	**45.57**	**337**	*e*P		**P**	**23 22 49.4 +0.5**
KKAR	**Karatay Array**	**45.57**	**337**	*e*P		**P**	**23 22 49.4 +0.5**
ZSN	**Zaisan**	**45.70**	**352**	⇑*i*P		**P**	**23 22 51.8 +2.0**
	comp=Z,493nm,0.9s						
ZSN				*i* S		**S**	**23 29 33.4 +2.6**
ZSN				LR	LR		23 44 43.1
	comp=Z,562nm,13.7s						
WRA	**Warramunga Arr**	**45.80**	**121**	P		**P**	**23 22 50.9 -0.2**
	comp=Z,380nm,0.8s,baz=300,slow=8.7,SNR=1384						
WRA				SKKS			23 53 37.2
	comp=Z,0.6nm,1.0s,baz=270,slow=1.0,SNR=3.3						
WRA				P4KPbc			00 00 41.7
	comp=Z,0.6nm,0.9s,baz=309,slow=3.2,SNR=5.3						
WRAB	**Tennant Creek**	**45.81**	**121**	*e*P		**P**	**23 22 51.1 0.0**
	comp=Z,448nm,0.8s						
WRAB				LR	LR		
	comp=Z,3µm,20.0s						
WRAB	**Tennant Creek**	**45.81**	**121**	*e*P		**P**	**23 22 51.1 0.0**
WRAB				pmax	pmax		
	comp=Z,448nm,0.8s						
WRAB				MLR	MLR		
	comp=Z,3µm,20.0s						
WB2	**Warramunga Arr**	**45.81**	**121**	*e*P		**P**	**23 22 51.1 -0.1**
WB2				*e*S		**S**	**23 29 33.1 -0.1**
TJN	**Taejon**	**46.30**	**39**	*c i*P		**P**	**23 22 54.9 +0.2**
FORT	**Forrest**	**46.52**	**138**	P		**P**	**23 22 56.5 -0.1**
	baz=47,SNR=28						
FORT	**Forrest**	**46.52**	**138**	*e*P		**P**	**23 22 56.9 +0.3**
	comp=Z,2µm,0.8s						
INCN	**Inchon**	**46.56**	**37**	*e*P		**P**	**23 22 57.1 +0.3**
	comp=Z,137nm,1.2s						
INCN				LR	LR		
	comp=Z,5µm,19.0s						
JNU	**Nakatsue**	**46.70**	**45**	P		**P**	**23 22 58.2 +0.2**
	comp=Z,45nm,0.6s,baz=229,slow=3.0,SNR=24						
JNU	**Nakatsue**	**46.70**	**45**	*e*P		**P**	**23 22 58.5 +0.5**
	comp=Z,66nm,0.8s						
SONM	**Songino Array**	**46.86**	**12**	P		**P**	**23 23 00.0 +0.9**
	comp=Z,181nm,0.7s,baz=192,slow=8.7,SNR=657						
SONM				PcP		**PcP**	**23 24 31.8 +0.2**
	comp=Z,44nm,0.6s,baz=198,slow=9.0,SNR=9.0						
SONM				SKKS			23 53 48.3
	comp=Z,0.2nm,0.6s,baz=4.3,slow=19,SNR=3.2						
SONM	**Songino Array**	**46.86**	**12**	P		**P**	**23 23 00.0 +0.9**
SONM				PcP		**PcP**	**23 24 31.8 +0.2**
SONM	**Songino Array**	**46.86**	**12**	P		**P**	**23 23 00.0 +0.9**
SONM							23 24 31.8
SONA1	**Songino Array**	**46.87**	**12**	*e*P		**P**	**23 22 59.1 -0.1**
GENI	**Genyem**	**47.02**	**96**	P		**P**	**23 22 59.3 -1.4**
	comp=Z,367nm,0.8s,comp=Z,4µm						
ULN	**Ulaanbaatar**	**47.03**	**13**	*e*P		**P**	**23 23 01.1 +0.7**
	comp=Z,87nm,0.9s						
ULN				LR	LR		
	comp=Z,3µm,21.0s						
ULN	**Ulaanbaatar**	**47.03**	**13**	P		**P**	**23 23 01.4 +1.0**
	SNR=49						
ULN	**Ulaanbaatar**	**47.03**	**13**	*c i*P		**P**	**23 23 01.0 +0.6**
ULN				pmax	pmax

comp=Z,20nm,0.6s,baz=298,slow=3.3,SNR=8.8
ASAR LR LR 23 43 08.0
comp=Z,2µm,21.1s,baz=295,slow=37
ASAR SKKS 23 53 36.6
comp=Z,0.8nm,0.9s,baz=27,slow=3.1,SNR=4.0
ASAR P4KPbc 00 00 46.6
comp=Z,0.4nm,0.6s,baz=302,slow=4.2,SNR=4.5
ASAR Alice Springs 47.05 126 P **P** **23 23 00.4 -0.4**
ASAR PcP **PcP** **23 24 31.9 -0.8**
ASAR Alice Springs 47.05 126 P **P** **23 23 00.4 -0.4**
ASAR 23 24 32.0
AS31 Alice Springs 47.05 126 *e*P **P** **23 23 00.9 0.0**
comp=Z,17nm,0.8s
AS01 Alice Springs 47.09 125 *e*P **P** **23 23 00.5 -0.7**
KS15 Wonju Array Si 47.29 38 *e*P **P** **23 23 03.3 +0.8**
KSAR Wonju Array Be 47.29 38 P **P** **23 23 02.9 +0.4**
KSAR PcP **PcP** **23 24 33.7 +0.5**
KSAR Wonju Array Be 47.29 38 P **P** **23 23 02.9 +0.4**
KSAR 23 24 33.7
KS01 Wonju Array Si 47.32 38 *e*P **P** **23 23 02.6 -0.1**
KSRS Korea Array 47.33 38 P **P** **23 23 02.9 +0.1**
comp=Z,77nm,0.7s,baz=225,slow=8.3,SNR=164
KSRS PcP **PcP** **23 24 33.7 +0.4**
comp=Z,6.8nm,0.6s,baz=198,slow=3.9,SNR=5.8
JAY Jayapura 47.54 95 P **P** **23 23 04.2 -0.7**
comp=Z,628nm,0.8s
DGZ Jazzator, Alta 47.62 355 *i*P **P** **23 23 06.8 +1.8**
DGZ pmax pmax
comp=Z,81nm,1.7s
SNY Shenyang 47.89 30 ⇑P **P** **23 23 07.1 0.0**
SNY S **S** **23 30 02.5 +0.2**
SNY pmax pmax
comp=Z,160nm,1.7s
SNY LR LR
comp=Z,5µm,18.5s
SNY LR LR
comp=Z,5µm,18.5s
SNY LR LR
comp=Z,6µm,17.4s
GEYT Alibeck 48.06 322 P **P** **23 23 09.7 +1.2**
comp=Z,44nm,0.5s,baz=152,slow=8.5,SNR=97
GYA0B ALIBEK ARRAY 48.06 322 *e*P **P** **23 23 09.8 +1.2**
comp=Z,129nm,0.8s
ZAK Zakamensk 48.76 8 *e*P **P** **23 23 14.1 +0.3**
ZAK *e* 23 24 37.7
ZAK pmax pmax
comp=Z,65nm,1.5s
ZAK pmax pmax
comp=Z,50nm,1.1s
HVS Khovu-Aksy 48.79 0*d i*P **P** **23 23 15.1 +1.2**
HVS pmax pmax
comp=Z,259nm,0.9s
SEM Semipalatinsk 49.33 349⇑ *i*P **P** **23 23 18.8 +0.5**
comp=Z,1µm,1.7s
SEM *i* S **S** **23 30 23.4 +0.6**
SEM LR LR 23 45 05.4
comp=Z,2µm,17.0s
OTUK Ortayu 49.35 342 *i* P **P** **23 23 17.9 -0.3**
OTUK pmax pmax
comp=Z,125nm,0.8s
MOY Mondy 49.73 6 *e*P **P** **23 23 22.4 +1.2**
MOY pmax pmax
comp=Z,138nm,2.4s
DAMY Dhamar 49.88 287 *e*P **P** **23 23 25.2 +2.1**
comp=Z,370nm,1.6s
KURBB Kurchatov Arra 49.88 348 P **P** **23 23 22.8 +0.6**
comp=Z,72nm,0.7s,baz=171,slow=7.2,SNR=268
KURBB PcP **PcP** **23 24 42.6 +0.3**
comp=Z,42nm,0.8s,baz=176,slow=4.1,SNR=8.1
KURBB SKKS 23 53 47.6
comp=Z,0.5nm,0.7s,baz=288,slow=3.0,SNR=4.3
OPO Ambohidratompo 49.89 244 P **P** **23 23 24.2 +1.2**
comp=Z,21nm,0.7s,baz=72,slow=6.0,SNR=20
KURK Kurchatov 49.95 348 *e*P **P** **23 23 23.3 +0.6**
comp=Z,978nm,0.9s
KURK LR LR
comp=Z,6µm,20.0s
KURK Kurchatov 49.95 348 *e*P **P** **23 23 23.3 +0.6**
KURK pmax pmax
comp=Z,978nm,0.9s
KURK MLR MLR
comp=Z,6µm,20.0s
ABPO Ambohimpanom 50.00 243 *e*P **P** **23 23 24.9 +1.1**
comp=Z,72nm,1.0s
ABPO LR LR
comp=Z,772nm,21.0s
ABPO Ambohimpanom 50.00 243 *e*P **P** **23 23 24.9 +1.1**
ABPO pmax pmax
comp=Z,72nm,1.0s
ABPO MLR MLR
comp=Z,772nm,21.0s
TLY Talaya 50.08 8 P **P** **23 23 25.3 +1.6**
comp=Z,42nm,0.7s,baz=204,slow=6.7,SNR=50
TLY PcP **PcP** **23 24 42.9 -0.1**
comp=Z,13nm,0.5s,baz=212,slow=4.7,SNR=7.1
TLY Talaya 50.08 8 *e*P **P** **23 23 24.4 +0.7**
comp=Z,67nm,0.8s
TLY PcP **PcP** **23 24 42.9 -0.1**
TLY LR LR
comp=Z,3µm,21.0s
TLY Talaya 50.08 8 P **P** **23 23 25.7 +2.0**
SNR=50
TLY Talaya 50.08 8*c i*P **P** **23 23 25.4 +1.6**
TLY *e*S **S** **23 30 31.3 -1.5**
TLY pmax pmax
comp=Z,116nm,1.3s
TLY MLR MLR
comp=Z,2µm,14.0s
CN2 Changchun 50.27 30 *e*P **P** **23 23 25.6 +0.3**
CN2 *e*pP pP 23 23 35.6 +0.5
CN2 PcP **PcP** **23 24 43.8 -0.1**
CN2 *e*S **S** **23 30 35.5 -0.2**
CN2 pmax pmax
comp=Z,40nm,0.9s
CN2 pmax pmax
comp=Z,2µm,4.0s
CN2 LR LR
comp=Z,2µm,17.0s
CN2 LR LR
comp=Z,3µm,17.0s
CN2 LR LR
comp=Z,2µm,17.0s
QIS Mount Isa 50.61 119 P **P** **23 23 28.0 -0.2**
baz=51,SNR=54
IRK Irkutsk 50.72 9 *e*P **P** **23 23 29.2 +0.7**
IRK *e*S **S** **23 30 41.8 +0.1**
IRK pmax pmax
comp=Z,307nm,1.9s
RAYN Ar Rayn 50.94 299 *e*P **P** **23 23 31.6 +0.9**
comp=Z,51nm,0.8s
RAYN LR LR
comp=Z,9µm,20.0s
ATD Arta Tunnel 50.95 283 P **P** **23 23 32.6 +1.7**
comp=Z,79nm,1.0s,baz=80,slow=4.7,SNR=35
COEN Coen 51.89 110 P **P** **23 23 37.1 -0.9**
baz=52,SNR=21
COEN Coen 51.89 110 *e*P **P** **23 23 37.0 -0.9**
comp=Z,73nm,1.0s
HIA Hailar 52.05 22 *e*P **P** **23 23 39.5 +1.0**
comp=Z,104nm,0.7s
HIA LR LR
comp=Z,8µm,21.0s
HIA Hailar 52.05 22*c i*P **P** **23 23 39.4 +0.8**
HIA pmax pmax
comp=Z,125nm,0.8s
ZAA0 Zalesovo Array 52.08 354 *e*P **P** **23 23 39.4 +0.7**
comp=Z,292nm,1.2s
ZALV Zalesovo Beam 52.08 354 P **P** **23 23 39.4 +0.7**
comp=Z,107nm,0.4s,baz=181,slow=7.8,SNR=412
ZALV SKKS 23 53 43.7
comp=Z,0.4nm,0.4s,baz=346,slow=40,SNR=2.8
ZALV Zalesovo Beam 52.08 354 *e*P **P** **23 23 38.3 -0.4**
ZALV *e*S **S** **23 31 00.6 +0.3**
ZALV Zalesovo Beam 52.08 354 *e*P **P** **23 23 38.3 -0.4**
ZALV *e*S **S** **23 31 00.6 +0.3**
GUMO Guam 52.14 75 P **P** **23 23 39.8 +0.1**
comp=Z,86nm,0.4s,baz=187,slow=2.5,SNR=14
GUMO Guam 52.14 75 *e*P **P** **23 23 38.9 -0.8**
comp=Z,287nm,1.4s
GUMO LR LR
comp=Z,2µm,21.0s
INU Inuyama 52.20 46 *e*P **P** **23 23 39.5 -0.4**
comp=Z,194nm,0.9s
MSHR Mys Shultsa 52.50 35‖ *e*P **P** **23 23 42.6 +0.6**
CBIJ Chichi jima 52.86 57 *e*P **P** **23 23 44.3 -0.6**
comp=Z,273nm,0.7s

JCJ Chichijima 52.86 57 P **P** **23 23 44.8 -0.1**
comp=Z,286nm,0.7s,baz=243,slow=4.8,SNR=16
MDJ Mudanjiang 52.98 32 P **P** **23 23 44.8 -0.6**
MDJ pP pP 23 23 55.1 -0.2
MDJ sP sP 23 23 59.3 +0.1
MDJ S **S** **23 31 14.0 +1.1**
MDJ sS sS 23 31 32.3 +3.2
MDJ SS **SS** **23 34 54.5 +2.1**
MDJ pmax pmax
comp=Z,120nm,1.3s
MDJ pmax pmax
comp=Z,2µm,9.4s
MDJ LR LR
comp=Z,4µm,18.2s
MDJ LR LR
comp=Z,4µm,19.9s
MDJ LR LR
comp=Z,5µm,21.7s
MDJ Mudanjiang 52.98 32 *e*P **P** **23 23 46.8 +1.3**
comp=Z,149nm,1.4s
MDJ LR LR
comp=Z,4µm,21.0s
NVS Novosibirsk 53.15 353 *e*P **P** **23 23 47.0 +0.5**
NVS *e* 23 23 56.8
NVS *e*S **S** **23 31 09.8 -5.0**
NVS pmax pmax
comp=Z,262nm,1.7s
NVS pmax pmax
comp=N,175nm,1.6s
NVS pmax pmax
comp=E,79nm,1.5s
NVS smax smax
comp=N,153nm,1.9s
NVS smax smax
comp=E,251nm,2.1s
JHJ2 Mitsune 53.24 49 *e*P **P** **23 23 46.8 -0.8**
comp=E,461nm,1.2s
BBOO Buckleboo 53.25 135 P **P** **23 23 47.6 -0.1**
baz=53,SNR=20
BBOO Buckleboo 53.25 135 *e*P **P** **23 23 47.7 -0.1**
comp=Z,119nm,1.4s
VLA Vladivostok 53.26 35*c i*P **P** **23 23 48.8 +1.3**
VLA pmax pmax
comp=Z,279nm,1.4s
MJB9 Matsu-Tunnel 53.62 45 *e*P **P** **23 23 50.6 +0.2**
comp=Z,63nm,0.8s
MAJO Matsushiro 53.62 45 *e*P **P** **23 23 50.6 +0.1**
comp=Z,62nm,0.8s
MAJO LR LR
comp=Z,4µm,21.0s
MAJO Matsushiro 53.62 45*c i*P **P** **23 23 50.4 0.0**
MAJO pmax pmax
comp=Z,262nm,2.0s
MAT Matsushiro 53.62 45 P **P** **23 23 50.5 +0.1**
MAT S **S** **23 31 25.8 +3.8**
MJAR Matsushiro Arr 53.63 45 P **P** **23 23 50.5 +0.1**
comp=Z,48nm,0.7s,baz=239,slow=6.9,SNR=82
MJAR PcP **PcP** **23 24 56.3 -0.4**
comp=Z,40nm,1.1s,baz=244,slow=5.8,SNR=8.1
MJAR Matsushiro Arr 53.63 45 P **P** **23 23 50.5 +0.1**
MJAR PcP **PcP** **23 24 56.3 -0.4**
KRAR Krasnoyarsk 53.67 360⇑ *e*P **P** **23 23 51.8 +1.5**
USRK Ussuriysk Ar. 54.00 34 P **P** **23 23 53.5 +0.5**
comp=Z,44nm,0.8s,baz=243,slow=7.7,SNR=56
MTSU Mount Surprise 54.05 114 P **P** **23 23 53.9 +0.1**
baz=54,SNR=77
MANU Manus Island 54.14 94 *e*P **P** **23 23 54.4 -0.2**
comp=Z,164nm,0.8s
BVAR Borovoye Array 54.15 343 P **P** **23 23 53.6 -0.3**
comp=Z,33nm,0.7s,baz=145,slow=8.0,SNR=175
BRVK Borovoye 54.21 343 *e*P **P** **23 23 53.7 -0.6**
comp=Z,61nm,0.9s
BRVK LR LR
comp=Z,3µm,20.0s
BRVK Borovoye 54.21 343*de*P **P** **23 23 52.7 -1.6**
BRVK pmax pmax
comp=Z,54nm,0.9s
PMG Port Moresby 54.80 103 P **P** **23 23 59.3 0.0**
comp=Z,154nm,0.6s,baz=34,slow=3.3,SNR=47
PMG Port Moresby 54.80 103 *e*P **P** **23 23 59.1 -0.2**
comp=Z,176nm,0.7s
PMG LR LR
comp=Z,2µm,20.0s
AB31 Akbulak array 54.91 334 *i* P **P** **23 23 59.3 -0.2**
AB31 pmax pmax
comp=Z,104nm,0.8s
ABKAR Akbulak array 54.91 334 *e*P **P** **23 23 59.3 -0.2**
comp=Z,841nm,0.8s
HTT Hallett 55.63 134 P **P** **23 24 05.6 +0.6**
baz=56,SNR=16
KMBO Kilima Mbogo 56.21 267 P **P** **23 24 10.2 +0.4**
comp=Z,32nm,0.8s,baz=66,slow=11,SNR=44
KMBO PcP **PcP** **23 25 08.7 +1.3**
comp=Z,17nm,0.9s,baz=70,slow=6.0,SNR=3.8
KMBO Kilima Mbogo 56.21 267 *e*P **P** **23 24 11.0 +1.2**
comp=Z,67nm,1.0s
KMBO PcP **PcP** **23 25 08.7 +1.3**
KMBO LR LR
comp=Z,3µm,19.0s
KMBO Kilima Mbogo 56.21 267 P **P** **23 24 11.5 +1.7**
SNR=16
KMBO Kilima Mbogo 56.21 267 *i* P **P** **23 24 11.7 +1.9**
SNR=9.7
CTA Charters Tower 56.36 116 P **P** **23 24 10.4 0.0**
comp=Z,111nm,0.7s,baz=290,slow=8.7,SNR=129
CTAO Charters Tower 56.36 116 *e*P **P** **23 24 10.4 0.0**
comp=Z,132nm,0.8s
CTAO LR LR
comp=Z,3µm,22.0s
CTAO Charters Tower 56.36 116 *e*P **P** **23 24 10.4 0.0**
CTAO pmax pmax
comp=Z,132nm,0.8s
CTAO MLR MLR
comp=Z,3µm,22.0s
AKTO Aktyubinsk 56.62 334 P **P** **23 24 10.9 -0.9**
comp=Z,21nm,0.8s,baz=133,slow=7.8,SNR=52
AKTO PKP2bc 23 54 19.9
comp=Z,2.1nm,1.0s,baz=237,slow=0.9,SNR=4.0
AKT Akhty 56.65 320⇑ *i*P **P** **23 24 12.5 +0.2**
AKT *e* 23 25 09.9
AKT *e* 23 26 17.5
AKT *e*S **S** **23 31 59.6 -3.0**
AKT pmax pmax
comp=Z,85nm,1.0s
NAI Nairobi 56.67 267 *e*P **P** **23 24 14.6 +1.6**
comp=Z,82nm,0.9s
NAI Nairobi 56.67 267 *e*P **P** **23 24 14.6 +1.6**
NAI pmax pmax
comp=Z,82nm,0.9s
QLP Quilpie 56.76 124 P **P** **23 24 13.8 +0.6**
baz=57,SNR=33
STKA Stephens Creek 56.86 131 P **P** **23 24 13.8 0.0**
comp=Z,63nm,0.7s,baz=304,slow=7.1,SNR=110
STKA PKPPKP **P'P'df** **23 54 10.9 +4.3**
comp=Z,2.8nm,0.9s,baz=96,slow=6.0,SNR=3.7
STKA PKP2ab 23 54 34.3
comp=Z,2.1nm,0.9s,baz=87,slow=6.0,SNR=3.1
STKA Stephens Creek 56.86 131 P **P** **23 24 13.8 0.0**
baz=57,SNR=49
STKA Stephens Creek 56.86 131 *e*P **P** **23 24 13.8 0.0**
comp=Z,18nm,0.8s
STKA P'P' 23 54 10.9
STKA P'P'ab **P'P'ab** **23 54 34.3 -1.9**
TEY Ternei 57.12 35 *e*P **P** **23 24 13.0 -2.4**
TEY pmax pmax
comp=N,11nm,0.7s
TEY pmax pmax
comp=Z,34nm,0.8s
KLR Kul'dur 57.18 29 P **P** **23 24 16.6 +0.9**
comp=Z,8.6nm,0.9s,baz=245,slow=7.2,SNR=157
MAK Makhachkala 57.56 321 *e*P **P** **23 24 16.5 -2.0**
MAK *e* 23 26 27.0
MAK *e*S **S** **23 32 11.9 -2.4**
MAK *e*SS **SS** **23 36 02.1 -2.6**
MAK pmax pmax
comp=Z,69nm,0.9s
MAK MLR MLR
comp=Z,2µm,16.0s
DDFL Dedoflistskaro 57.67 319 P **P** **23 24 21.0 +1.5**
BOD Bodaibo 57.84 13‖ *i*P **P** **23 24 20.4 +0.2**
BOD *e*S **S** **23 32 17.2 -0.2**
BOD pmax pmax
comp=Z,250nm,1.5s
GNI Garni 57.97 317 P **P** **23 24 22.8 +1.1**
comp=Z,40nm,1.0s,baz=170,slow=3.4,SNR=47
GNI PKP2bc 23 54 16.0

comp=Z,0.9nm,0.4s,baz=8.8,slow=11,SNR=4.2
GNI Garni 57.97 317 *e*P **P** **23 24 22.8 +1.1**
comp=Z,164nm,1.1s
GNI ⇑*e* 23 54 16.0
GNI LR LR
comp=Z,2µm,19.0s
GNI Garni 57.97 317 P **P** **23 24 22.8 +1.1**
SNR=31
GNI Garni 57.97 317 *i* P **P** **23 24 22.8 +1.1**
SNR=43
GNI Garni 57.97 317*c i*P **P** **23 24 22.4 +0.7**
GNI pmax pmax
comp=Z,737nm,2.5s
CLDR Caldiran 58.08 316 *e*P P 23 24 16.9 -5.6
DGRG David-gareji 58.17 319 P **P** **23 24 23.3 +0.3**
DGRG David-gareji 58.17 319 *e*P **P** **23 24 23.2 +0.3**
TASB TASBURUN-IGDIR 58.23 317 *e*P **P** **23 24 23.2 -0.2**
ZEA Zeya 58.45 23 *e*P **P** **23 24 25.2 +0.6**
ZEA pmax pmax
comp=E,62nm,0.8s
ZEA pmax pmax
comp=N,77nm,1.0s
ZEA pmax pmax
comp=Z,150nm,1.0s
ZEA MLR MLR
comp=Z,6µm,16.0s
ZEA MLR MLR
comp=E,3µm,15.0s
ZEA MLR MLR
comp=N,4µm,16.0s
BTNK Botanikuri 58.66 319 P **P** **23 24 28.4 +2.1**
TBLG Delisi 58.72 319 P **P** **23 24 27.5 +0.7**
TBLG Delisi 58.72 319 *e*P **P** **23 24 25.3 -1.4**
TBLG Delisi 58.72 319 *e*P **P** **23 24 27.5 +0.7**
comp=N,178nm,1.2s
TBLG Delisi 58.72 319 *e*P **P** **23 24 27.4 +0.7**
GROC Groznyy 58.76 321 *e*P **P** **23 24 25.9 -1.0**
GROC *e* 23 25 16.0
GROC *e*S **S** **23 32 27.7 -2.3**
GROC pmax pmax
comp=Z,148nm,0.8s
AGRB Hanur-Agry 58.91 316 *e*P **P** **23 24 25.8 -2.5**
DUS Dusheti 58.91 319 P **P** **23 24 28.8 +0.6**
DUS Dusheti 58.91 319 *e*P **P** **23 24 28.7 +0.6**
GURO Guroymak-BITLI 59.15 315 *e*P **P** **23 24 29.6 -0.3**
GUDG Gudauri 59.24 320 P **P** **23 24 31.0 +0.4**
KARS Kars 59.32 317 *e*P **P** **23 24 31.8 +0.8**
ARPS Mount Arapiles 59.36 136 P **P** **23 24 31.9 +0.7**
baz=60,SNR=6.3
AKH Akhalkalaki 59.39 318 P **P** **23 24 32.5 +0.8**
AKH Akhalkalaki 59.39 318‖ *i*P **P** **23 24 33.5 +1.9**
AKH Akhalkalaki 59.39 318 *e*P **P** **23 24 33.2 +1.6**
comp=Z,58nm,1.0s
AKH Akhalkalaki 59.39 318 *e*P **P** **23 24 32.4 +0.8**
ERM Erimo 59.60 41 *e*P **P** **23 24 33.7 +0.9**
comp=Z,53nm,0.9s
ERM LR LR
comp=Z,2µm,19.0s
ERM Erimo 59.60 41*d i*P **P** **23 24 33.5 +0.7**
ERM pmax pmax
comp=Z,95nm,1.7s
ZEI Tsey 59.77 320 *e*P **P** **23 24 33.8 -0.4**
ZEI pmax pmax
comp=Z,74nm,0.9s
SENK Senkaya-Erzuru 59.78 317 *e*P **P** **23 24 35.9 +1.5**
VRTB Varto-Mus 59.81 315 *e*P **P** **23 24 30.0 -4.5**
CMSA Cobar Meteorol 59.87 129 P **P** **23 24 35.2 +0.4**
baz=60,SNR=243
ONI Oni 59.97 319 P **P** **23 24 36.2 +0.8**
ONI Oni 59.97 319 *e*P **P** **23 24 36.2 +0.8**
ASAJ Asahikawa 60.25 39 P **P** **23 24 37.7 +0.5**
comp=Z,64nm,0.7s,baz=259,slow=9.8,SNR=89
ASAJ Asahikawa 60.25 39 *e*P **P** **23 24 37.9 +0.7**
comp=Z,78nm,0.9s
DYBB Diyarbakir 60.27 313 *e*P **P** **23 24 35.6 -2.0**
BNGB Bing¶ll 60.29 314 *e*P **P** **23 24 35.6 -2.2**
NCK Nalchik 60.30 320*c i*P **P** **23 24 38.0 +0.4**
NCK pmax pmax
comp=Z,97nm,1.0s
SVE Sverdlovsk 60.42 340*d i*P **P** **23 24 37.9 -0.2**
SVE *e*S **S** **23 32 48.0 -2.9**
SVE *e* 23 36 43.9
SVE pmax pmax
comp=Z,289nm,1.5s
SVE MLR MLR
comp=Z,3µm,22.0s
GRNR Gornyy 60.47 30⇑ *i*P **P** **23 24 39.0 +0.4**
GRNR pmax pmax
comp=Z,290nm,1.0s
RMQ Roma 60.52 122 P **P** **23 24 40.8 +1.4**
baz=61,SNR=40
BCA Borcka 60.67 317 *e*P **P** **23 24 40.3 +0.2**
NEY Neytrino 60.75 320*ce*P **P** **23 24 42.2 +1.3**
NEY pmax pmax
comp=Z,19nm,0.7s
ASF Jabal al Asfar 60.79 306 P **P** **23 24 43.0 +1.8**
comp=Z,28nm,0.8s,baz=62,slow=5.8,SNR=53
ARU Arti 60.85 339 P **P** **23 24 40.0 -1.0**
comp=Z,35nm,0.7s,baz=127,slow=3.5,SNR=74
ARU PKP2bc 23 54 05.1
comp=Z,0.8nm,0.5s,baz=260,slow=17,SNR=2.7
ARU Arti 60.85 339 *e*P **P** **23 24 40.1 -1.0**
comp=Z,87nm,1.0s
ARU ⇑*e* 23 54 05.1
ARU LR LR
comp=Z,4µm,19.0s
ARU Arti 60.85 339*c i*P **P** **23 24 40.0 -1.0**
ARU 23 25 24.4
ARU 23 26 50.3
ARU *e*S **S** **23 32 54.2 -2.2**
ARU 23 34 24.3
ARU SS **SS** **23 36 58.8 +2.9**
ARU pmax pmax
comp=Z,176nm,1.7s
ARU MLR MLR
comp=Z,3µm,19.0s
KBZ Khabaz 60.86 320 P **P** **23 24 41.9 +0.5**
comp=Z,58nm,0.8s,baz=121,slow=6.9,SNR=115
KBZ PKP2bc 23 54 06.6
comp=Z,2.0nm,1.0s,baz=248,slow=1.1,SNR=3.6
URFA Urfa 61.05 312 *e*P **P** **23 24 42.2 -0.7**
KIV Kislovodsk 61.10 320 *e*P **P** **23 24 43.6 +0.5**
comp=Z,137nm,0.9s
KIV LR LR
comp=Z,1µm,20.0s
KIV Kislovodsk 61.10 320 P **P** **23 24 43.9 +0.7**
SNR=58
KIV Kislovodsk 61.10 320 *i* P **P** **23 24 43.9 +0.7**
SNR=50
KIV Kislovodsk 61.10 320 *e*P **P** **23 24 43.3 +0.2**
KIV *e* 23 26 58.5
KIV *e*S **S** **23 33 00.2 -0.1**
KIV *e*SS **SS** **23 37 02.0 +1.5**
KIV pmax pmax
comp=Z,137nm,1.0s
KIV pmax pmax
comp=Z,88nm,5.7s
CHOM Cayeli-Rize 61.10 317 *e*P **P** **23 24 44.3 +1.2**
PTK Pertek 61.18 314 *e*P **P** **23 24 43.9 0.0**
BAYT Ayd¯–ntepe-Bay 61.24 316 *e*P **P** **23 24 44.6 +0.3**
GOF Gofitskoye 61.40 322⇑ *e*P **P** **23 24 45.0 0.0**
GOF *e*S **S** **23 33 01.6 -2.2**
GOF pmax pmax
comp=Z,159nm,1.7s
MALT Malatya 61.66 313 *e*P **P** **23 24 47.9 +0.9**
KTUT Trabzon 61.74 316 *e*P **P** **23 24 47.2 -0.2**
YSS Yuzh-Sakhalins 61.76 36 *e*P **P** **23 24 48.1 +0.7**
comp=Z,232nm,1.0s
YSS LR LR
comp=Z,1µm,20.0s
YSS Yuzh-Sakhalins 61.76 36⇑ *i*P **P** **23 24 48.0 +0.6**
YSS *e* 23 24 56.2
YSS *e*S **S** **23 33 10.3 +2.0**
YSS pmax pmax
comp=Z,180nm,0.8s
YSS MLR MLR
comp=Z,2µm,18.0s
YSS MLR MLR
comp=N,1µm,20.0s
YSS MLR MLR
comp=E,1µm,21.0s
RCY Rachaya 62.04 307 *e*P **P** **23 24 52.2 +2.4**
SHBL Chebaa 62.07 307 *e*P **P** **23 24 52.0 +2.0**
GAZ Gaziantep 62.15 311 *e*P **P** **23 24 52.1 +1.8**
EIDS Eidsvold 62.16 120 P **P** **23 24 50.6 +0.1**

baz=62,SNR=60
EIDS Eidsvold 62.16 120 *e*P **P** 23 24 50.6 +0.1
comp=E,97nm,0.6s
HWQ Hawqa 62.19 308 *e*P **P** 23 24 52.4 +1.7
MMAI Mount Meron Ar 62.25 306 P **P** 23 24 52.8 +1.7
comp=E,32nm,0.7s,baz=100,slow=6.4,SNR=66
YUK Yuzh-Kuril'sk 62.29 40*c i*P **P** 23 24 51.3 +0.3
YUK *e* 23 27 06.8
YUK *e*S **S** 23 33 12.6 -2.4
YUK *e* 23 34 34.5
YUK pmax pmax
comp=Z,336nm,1.6s
YUK pmax pmax
comp=Z,763nm,1.6s
TOO Toolangi 62.31 135 P **P** 23 24 52.7 +1.4
baz=62,SNR=11
ESPY Espiye-Giresun 62.44 316 *e*P **P** 23 24 52.6 +0.5
DARE Darende-Malaty 62.44 313 *e*P **P** 23 24 53.9 +1.6
KMRS Kahramanmaras 62.50 312 *e*P **P** 23 24 54.1 +1.5
MBAR Mbarara 62.69 268 *e*P **P** 23 24 55.6 +1.2
comp=Z,374nm,1.5s
MBAR LR LR
comp=Z,812nm,22.0s
MBAR Mbarara 62.69 268 *e*P **P** 23 24 55.6 +1.2
MBAR pmax pmax
comp=Z,374nm,1.5s
MBAR MLR MLR
comp=Z,812nm,22.0s
SOC Sochi 62.86 319*c i*P **P** 23 24 53.7 -1.1
SOC *e**PP **pP** 23 25 03.6 -1.3
SOC *e*SP **sP** 23 25 07.2 -1.5
SOC *e*PPP PPP 23 28 47.6
SOC *e*S **S** 23 33 19.4 -2.8
SOC *e*SS **SS** 23 37 32.8 +5.0
SOC *e*SSS SSS 23 40 07.0
SOC pmax pmax
comp=Z,120nm,0.9s
YNG Young 63.05 130 P **P** 23 24 56.8 +0.5
baz=63,SNR=17
RSDY Resadiye-TOKAT 63.22 315 *e*P **P** 23 24 56.6 -0.8
SVSK Karacayir 63.28 314 *e*P **P** 23 24 59.4 +1.7
BNN Bunyan 63.74 313 *e*P **P** 23 24 59.3 -1.7
TOKT Tokat 63.75 314 *e*P **P** 23 25 00.2 -0.7
KARA Karaisali 63.81 311 *e*P **P** 23 25 01.9 +0.6
CAN Canberra 63.91 131 *e*P **P** 23 25 02.7 +0.6
comp=Z,78nm,0.8s
CAN LR LR
comp=Z,7μm,20.0s
CAN Canberra 63.91 131 *e*P **P** 23 25 02.7 +0.6
CAN pmax pmax
comp=Z,78nm,0.8s
CAN MLR MLR
comp=Z,7μm,20.0s
NKL Nikolayevsk 64.01 30 *i*P **P** 23 25 02.5 +0.3
NKL *e* 23 25 18.5
NKL pmax pmax
comp=N,43nm,1.0s
NKL pmax pmax
comp=E,33nm,1.0s
NKL pmax pmax
comp=Z,200nm,1.0s
KUR Kuril'sk 64.10 40 P **P** 23 25 03.0 0.0
KUR S **S** 23 33 40.2 +2.6
KUR pmax pmax
comp=Z,1μm,2.3s
KUR pmax pmax
comp=Z,374nm,2.0s
KUR MLR MLR
comp=Z,1μm,16.0s
KUR MLR MLR
comp=N,840nm,15.0s
KUR MLR MLR
comp=E,1μm,15.0s
CNB Canberra Magne 64.19 131 P **P** 23 25 04.4 +0.6
baz=64,SNR=12
ARMA Armidale 64.20 125 P **P** 23 25 05.7 +1.6
baz=64,SNR=66
ARMA Armidale 64.20 125 *e*P **P** 23 25 05.7 +1.6
comp=E,148nm,0.8s
KVT Kavak 64.38 315 *e*P **P** 23 25 04.4 -0.6
CSS Mathiatis 64.45 308 *e*P **P** 23 25 07.5 +2.0
CSS Mathiatis 64.45 308 *e*P **P** 23 25 06.0 +0.5
comp=E,102nm,1.6s
CSS LR LR
comp=Z,820nm,21.0s
CSS Mathiatis 64.45 308 P **P** 23 25 07.7 +2.2
CSS Mathiatis 64.45 308 P **P** 23 25 06.7 +1.2
MAMC Mammari 64.60 308 P **P** 23 25 07.7 +1.2
MILA Mila 64.72 133 P **P** 23 25 08.7 +1.3
baz=65,SNR=8.4
LEF Lefka 64.84 308 *e*P **P** 23 25 09.4 +1.4
ANN Anapa 64.86 319 *e*P P 23 25 02.4 -5.5
ANN *e**PP pP 23 25 13.6 -4.4
ANN *e*S S 23 33 37.9 -9.1
ANN pmax pmax
comp=Z,89nm,1.5s
ANN MLR MLR
comp=E,1μm,22.0s
ANN MLR MLR
comp=Z,2μm,22.0s
ANN MLR MLR
comp=N,1μm,22.0s
PATS Pohnpei 64.86 84 *e*P **P** 23 25 09.4 +0.9
comp=N,446nm,1.0s
TEKE Tekeli-Mersin 64.95 309 *e*P **P** 23 25 09.7 +0.9
CORM Corum 65.07 314 *e*P **P** 23 25 09.6 0.0
ALFC Alefka 65.08 308 P **P** 23 25 10.3 +0.6
DIKM Dikmen 65.14 315 *e*P **P** 23 25 09.6 -0.2
VRH Novokhopyorsk 65.21 327 *e*P **P** 23 25 09.0 -1.1
VRH pmax pmax
comp=Z,210nm,0.7s
VRH pmax pmax
comp=Z,210nm,0.7s
VRH MLR MLR
comp=Z,1μm,16.0s
SULT Sultanhani-AKS 65.26 311 *e*P **P** 23 25 11.1 +0.3
SNOP Sinop 65.30 316 *e*P **P** 23 25 10.3 -0.6
SERE Sereflikochisa 65.45 312 *e*P **P** 23 25 12.3 +0.2
YAK Yakutsk 65.61 18 P **P** 23 25 12.1 -0.4
comp=Z,231nm,0.7s,baz=310,slow=1.0,SNR=52
YAK Yakutsk 65.61 18 *e*P **P** 23 25 11.7 -0.8
comp=Z,498nm,1.0s
YAK LR LR
comp=Z,4μm,20.0s
YAK Yakutsk 65.61 18*ce*P **P** 23 25 12.1 -0.4
YAK *e**PP **pP** 23 25 22.3 -0.3
YAK *e* 23 25 46.8
YAK *e*S **S** 23 33 53.5 -2.1
YAK *e* 23 34 59.0
YAK *e*SS **SS** 23 38 09.5 -0.5
YAK pmax pmax
comp=Z,342nm,0.9s
YAK pmax pmax
comp=N,92nm,1.1s
YAK pmax pmax
comp=E,104nm,1.1s
YAK pmax pmax
comp=Z,1μm,10.5s
YAK pmax pmax
comp=N,1μm,10.5s
YAK pmax pmax
comp=E,633nm,10.5s
YAK smax smax
comp=E,925nm,3.4s
YAK smax smax
comp=N,290nm,2.4s
YAK MLR MLR
comp=Z,4μm,20.0s
YAK MLR MLR
comp=E,3μm,18.0s
YAK MLR MLR
comp=N,4μm,22.0s
BR131 Keskin Array S 65.65 313 *e*P **P** 23 25 13.2 -0.2
BRTR Keskin Array B 65.65 313 P **P** 23 25 13.2 -0.2
comp=N,43nm,0.7s,baz=130,slow=6.6,SNR=225
BRTR PKPPKP **P'P'df** 23 53 47.6 -5.8
comp=N,1.4nm,1.1s,baz=207,slow=5.0,SNR=4.8
BRTR PKP2bc 23 53 56.1
comp=N,1.1nm,1.1s,baz=238,slow=2.7,SNR=4.2
CANT Cankiri 65.94 314 *e*P **P** 23 25 14.9 -0.3
AFSR Af˙ar-Bala (A 65.97 313 *e*P **P** 23 25 14.3 -1.1
TAU Tasmania Unive 66.01 139 *e*P **P** 23 25 15.8 +0.4
comp=N,69nm,1.0s
TAU Tasmania Unive 66.01 139 *e*P **P** 23 25 15.8 +0.4
TAU pmax pmax
comp=Z,69nm,1.0s
ILGA Ilgaz 66.02 314 *e*P **P** 23 25 16.8 +1.0
comp=Z,126nm,1.0s
BZK Bozkurt 66.12 315 *e*P **P** 23 25 16.4 +0.2
LADK Ladik-KONYA 66.12 311 *e*P **P** 23 25 16.2 -0.2
ANTO Ankara 66.31 313 *e*P **P** 23 25 18.2 +0.6
ANTO Ankara 66.31 313⇑*i*P **P** 23 25 18.1 +0.5
ANTO Ankara 66.31 313 *e*P **P** 23 25 17.5 0.0
ANTO pmax pmax
comp=Z,108nm,0.7s
ANTO LR LR
comp=Z,2μm,22.0s
ANTO Ankara 66.31 313 P **P** 23 25 17.9 +0.3
SNR=24
ANTO Ankara 66.31 313 *e*P **P** 23 25 17.5 0.0
ANTO pmax pmax
comp=Z,108nm,0.7s
ANTO MLR MLR
comp=Z,2μm,22.0s
BR231 Keskin MP Arra 66.31 313 *e*P **P** 23 25 17.4 -0.2
LOD Lodumlu 66.34 313 *e*P **P** 23 25 16.3 -1.4
VSR Storozhevoye 66.62 326 P **P** 23 25 17.5 -1.7
VSR pmax pmax
comp=Z,130nm,0.6s
VSR pmax pmax
comp=Z,130nm,0.5s
VSR MLR MLR
comp=Z,2μm,19.0s
LSZ Lusaka 66.74 252 *e*P **P** 23 25 21.0 +0.2
comp=Z,65nm,0.8s
LSZ LR LR
comp=Z,3μm,20.0s
LSZ Lusaka 66.74 252 P **P** 23 25 21.4 +0.6
SNR=25
LSZ Lusaka 66.74 252 *e*P **P** 23 25 21.0 +0.2
LSZ pmax pmax
comp=Z,65nm,0.8s
LSZ MLR MLR
comp=Z,3μm,20.0s
VORR Voronezh 66.81 327 *e*P **P** 23 25 21.0 +0.6
VORR pmax pmax
comp=Z,250nm,1.4s
VORR pmax pmax
comp=Z,500nm,2.8s
VORR pmax pmax
comp=Z,500nm,1.6s
SUTC Sutluce-Ispart 66.96 310 *e*P **P** 23 25 22.8 +1.0
SIM Simferopol' 67.09 319*ce*P **P** 23 25 22.7 +0.4
SIM *e*S **S** 23 34 12.9 -1.4
SIM pmax pmax
comp=Z,280nm,0.8s
SIM MLR MLR
comp=Z,1μm,18.1s
NRIK Noril'sk 67.17 358 P **P** 23 25 22.8 +0.4
comp=Z,20nm,0.5s,baz=151,slow=2.6
BLWY Bulawayo 67.21 247 *i*S **P** 23 25 24.0 +0.3
BLWY Bulawayo 67.21 247 *i*S **P** 23 25 24.0 +0.3
HNR Honiara 67.30 101 *e*P **P** 23 25 23.0 -1.2
HNR Honiara 67.30 101 P **P** 23 25 24.2 0.0
comp=Z,655nm,0.7s,baz=214,slow=2.8,SNR=41
HNR Honiara 67.30 101 *e*P **P** 23 25 23.7 -0.5
comp=Z,735nm,0.8s
HNR LR LR
comp=Z,1μm,21.0s
LPSR Galich'ya Gora 67.40 327 *e*P **P** 23 25 23.6 -0.5
LPSR pmax pmax
comp=Z,230nm,0.8s
ISP Isparta 67.42 310 *e*P **P** 23 25 25.3 +0.6
comp=Z,1μm,0.3s
ISP LR LR
comp=Z,2μm,19.0s
ISP Isparta 67.42 310 P **P** 23 25 22.9 -1.8
ISP Isparta 67.42 310*c i*P **P** 23 25 24.2 -0.5
ISP pmax pmax
comp=Z,130nm,1.1s
KSL Kastellorizon 67.71 308 P **P** 23 25 26.2 -0.2
MIR Mirnyy 68.57 180⇓*i*P **P** 23 25 34.0 +2.9
MIR *e* 23 25 52.0
MIR *e*S **SKiKP** 23 35 20.0 -2.0
MIR pmax pmax
comp=Z,63nm,1.0s
MIR pmax pmax
comp=Z,5μm,12.0s
MIR MLR MLR
comp=N,1μm,17.0s
MIR MLR MLR
comp=Z,4μm,17.0s
ARG Arkhangelos 68.87 308 P **P** 23 25 34.6 +0.9
MANT Manisa 69.08 311 *e*P **P** 23 25 36.1 +0.8
comp=Z,299nm,0.8s
CASY Casey 69.40 173 *e*P **P** 23 25 38.0 +1.6
comp=Z,64nm,1.4s
CASY LR LR
comp=Z,695nm,20.0s
KARP Karpathos 69.48 307 *e*P **P** 23 25 37.6 +0.1
comp=Z,262nm,0.8s
KARP Karpathos 69.48 307 P **P** 23 25 38.9 +1.3
MOS Moscow 69.57 330 *e*P **P** 23 25 34.7 -2.9
MOS *e* 23 25 59.4
MOS *e* 23 28 08.0
MOS *e*S **S** 23 34 36.5 -6.8
MOS *e* 23 35 30.1
MOS pmax pmax
comp=Z,516nm,1.3s
MOS pmax pmax
comp=E,79nm,0.7s
MOS MLR MLR
comp=Z,4μm,21.0s
MOS MLR MLR
comp=E,3μm,20.0s
OBN Obninsk 69.81 329 *e*P **P** 23 25 37.2 -1.9
comp=E,169nm,0.7s
OBN LR LR
comp=Z,3μm,22.0s
OBN Obninsk 69.81 329*c i*P **P** 23 25 38.4 -0.7
OBN *i* 23 25 48.1
OBN *i* 23 26 01.3
OBN *e* 23 28 15.2
OBN *i*S **S** 23 34 40.8 -5.3
OBN pmax pmax
comp=Z,428nm,1.7s
OBN MLR MLR
comp=Z,2μm,20.0s
ZKR Zakros 70.15 307 P **P** 23 25 42.1 +0.5
EFOR EFORIE 70.53 316⇓*i*P **P** 23 25 44.4 +0.7
NPS Neapolis 70.66 307 P **P** 23 25 44.4 -0.4
TLCR 70.72 317⇓*i*P **P** 23 25 45.4 +0.5
LAST Lasithi 70.75 306 P **P** 23 25 46.4 +1.0
TIRR Tirgusor 70.78 317⇑*i*P **P** 23 25 45.6 +0.3
TIRR Tirgusor 70.78 317 *e*P **P** 23 25 45.3 0.0
comp=Z,100nm,0.8s
TIRR Tirgusor 70.78 317 *e*P **P** 23 25 45.3 0.0
TIRR pmax pmax
comp=Z,100nm,0.8s
LBTB Lobatse 70.91 243 *e*P **P** 23 25 46.7 +0.1
comp=Z,109nm,0.8s
LBTB Lobatse 70.91 243 *e*P **P** 23 25 46.7 +0.1
LBTB pmax pmax
comp=Z,109nm,0.8s
CHOS Chios island 70.97 310 P **P** 23 25 47.8 +1.1
PRK Paraskevi 71.00 311 P **P** 23 25 47.2 +0.5
CVDA Cernavoda 71.01 316⇓*i*P **P** 23 25 47.4 +0.8
SANT Santorini 71.01 308⇑*i*P **P** 23 25 47.0 +0.1
SANT Santorini 71.01 308 *e*P **P** 23 25 47.0 +0.1
comp=Z,229nm,0.7s
SANT LR LR
comp=Z,1μm,20.0s
APE Apeiranthos 71.09 308⇑*i*P **P** 23 25 47.9 +0.5
APE Apeiranthos 71.09 308*ce*P **P** 23 25 47.6 +0.2
APE pmax pmax
comp=Z,162nm,0.9s
PRD Provadia 71.14 315 P **P** 23 25 47.5 0.0
CFR Carcaliu 71.18 317⇑*i*P **P** 23 25 47.9 +0.3
HARR Harsova 71.18 317⇑*i*P **P** 23 25 48.1 +0.4
IDI Anoyia 71.25 307 P **P** 23 25 49.5 +1.1
comp=Z,283nm,0.6s,baz=94,slow=10.0,SNR=351
IDI LR LR 23 58 23.6
comp=Z,977nm,21.1s,baz=84,slow=37
IDI Anoyia 71.25 307⇓*i*P **P** 23 25 49.6 +1.2
IDI Anoyia 71.25 307 *e*P **P** 23 25 49.1 +0.7
comp=Z,318nm,0.6s
KLMR Klimovskoe 71.25 335 *e*P **P** 23 25 45.7 -2.1
KLMR AMP 23 25 48.4
comp=Z,76nm,0.8s
KLMR LQ LQ 23 53 43.6
KLMR LQ LQ 23 53 43.6
KLMR LR LR 23 57 46.5
KLMR Klimovskoe 71.25 335 *e*P **P** 23 25 45.7 -2.1
KLMR pmax pmax
comp=Z,76nm,0.8s
KIS Kishinev 71.26 319⇑*i*P **P** 23 25 46.0 -2.1
comp=Z,500nm,1.5s
KIS Kishinev 71.26 319 *i*S **S** 23 35 00.0 -3.4
KIS Kishinev 71.26 319⇑*i*P **P** 23 25 48.4 +0.3
KIS Kishinev 71.26 319*α i*P **P** 23 25 46.0 -2.1
KIS *e* 23 28 30.0
KIS *e* 23 30 15.0
KIS *e*S **S** 23 35 00.0 -3.4
KIS pmax pmax
comp=Z,500nm,1.5s
KIS pmax pmax
comp=Z,900nm,2.0s
SIVA Sivas 71.26 306 P **P** 23 25 49.5 +1.1
SKR Severo-Kuril's 71.32 37 *e*P **P** 23 25 48.4 0.0
SKR *e*S **S** 23 35 05.7 +1.7
SKR pmax pmax
comp=Z,3μm,2.8s
SKR pmax pmax
comp=Z,602nm,0.7s
SKR MLR MLR
comp=Z,2μm,19.0s
SKR MLR MLR
comp=Z,2μm,19.0s
JMB Yambol 71.54 314 P **P** 23 25 50.5 +0.6
ALN Alexandroupoli 71.55 312 P **P** 23 25 50.1 +0.1
AMRR Amara 71.57 317⇑*i*P **P** 23 25 51.4 +1.4
GVD Gavdhos 71.81 306 P **P** 23 25 52.5 +0.8
VAM Vamos 71.83 307 P **P** 23 25 52.7 +0.9
SMTH Samothraki Isl 71.83 312 P **P** 23 25 51.6 -0.1
SQRM Soroca 71.90 320⇑*i*P **P** 23 25 51.8 -0.2
LIA Limnos Island 71.96 311 P **P** 23 25 51.9 -0.6
BOSA Boshof 71.97 239 *i*P **P** 23 25 53.0 +0.1
BOSA *i* 23 25 53.2
baz=104,slow=6.9
BOSA Boshof 71.97 239 P **P** 23 25 52.7 -0.3
comp=Z,41nm,0.7s,baz=89,slow=5.2,SNR=127
BOSA Boshof 71.97 239 *e*P **P** 23 25 52.7 -0.3
comp=Z,265nm,1.5s
BOSA Boshof 71.97 239 *i*P **P** 23 25 53.0 +0.1
BOSA *i* 23 25 53.2
baz=104,slow=6.9
BOSA Boshof 71.97 239 *e*P **P** 23 25 52.7 -0.3
BOSA pmax pmax
comp=Z,265nm,1.5s
RDO Rodhopi 71.98 313 P **P** 23 25 52.4 -0.2
IMMV Iera Moni Meta 72.01 307 P **P** 23 25 53.9 +1.0
GRER 72.02 317⇑*i*P **P** 23 25 54.0 +1.2
ODBI Odobesti 72.07 318⇓*i*P **P** 23 25 54.6 +1.6
IAS Iasi 72.14 319⇑*i*P **P** 23 25 53.6 +0.2
MA2 Magadan 72.15 27 P **P** 23 25 53.4 +0.2
comp=Z,131nm,0.7s,baz=234,slow=5.5,SNR=131
MA2 Magadan 72.15 27 *e*P **P** 23 25 53.4 +0.2
comp=Z,180nm,0.8s
MA2 LR LR
comp=Z,2μm,20.0s
MA2 Magadan 72.15 27 *e*P **P** 23 25 53.4 +0.2
MA2 pmax pmax
comp=Z,180nm,0.8s
MA2 MLR MLR
comp=Z,2μm,20.0s
AKASG Malin Array Be 72.17 323 P **P** 23 25 52.7 -0.9
comp=Z,42nm,0.7s,baz=91,slow=4.8,SNR=145
AKASG SKKS 23 53 08.3
comp=Z,0.1nm,0.3s,baz=273,slow=3.6,SNR=3.4
AKBB Malin Array Si 72.17 323 *e*P **P** 23 25 52.8 -0.8
comp=Z,60nm,0.9s
AKBB Malin Array Si 72.17 323 *e*P **P** 23 25 52.8 -0.8
AKBB pmax pmax
comp=Z,60nm,0.9s
KIEV Kiev 72.18 323 *e*P **P** 23 25 52.8 -0.8
comp=Z,68nm,1.0s
KIEV LR LR
comp=Z,1μm,20.0s
KIEV Kiev 72.18 323 *i*P **P** 23 25 52.8 -0.8
SNR=36
KIEV Kiev 72.18 323*c i*P **P** 23 25 52.6 -1.0
KIEV pmax pmax
comp=Z,67nm,0.9s
KDZ Kurdzhali 72.18 313 P **P** 23 25 53.8 0.0
AK11 Malin Array Si 72.20 323 *e*P **P** 23 25 52.6 -1.1
ISR Istrita 72.25 317⇓*i*P **P** 23 25 55.1 +0.9
VRI Vrincioaia 72.32 318⇑*i*P **P** 23 25 55.6 +1.0
SULR 72.33 316⇑*i*P **P** 23 25 55.8 +1.2
PLOR Plostina 72.37 318⇑*i*P **P** 23 25 56.0 +1.1
SGRR Singureni 72.41 316⇓*i*P **P** 23 25 55.7 +0.6
PLAR PLOIESTI 72.55 317⇓*i*P **P** 23 25 56.5 +0.6
TESR Tescani 72.55 318⇑*i*P **P** 23 25 55.8 -0.1
SECR 72.55 317⇓*i*P **P** 23 25 57.2 +1.3
PTL Penteli 72.59 309 P **P** 23 25 56.0 -0.3
VLY Voula,Athens 72.60 309 P **P** 23 25 55.5 -0.9
ANKY Antikythira Is 72.63 307 P **P** 23 25 57.7 +1.1
ZIMR 72.69 315⇑*i*P **P** 23 25 57.7 +0.9
KAVA Kavala 72.70 312 P **P** 23 25 56.7 -0.2
RZN Rozhen 72.70 313 P **P** 23 25 57.1 -0.1
MLR Muntele Rosu 72.75 317 P **P** 23 25 57.7 +0.4
comp=Z,28nm,0.7s,baz=61,slow=1.7
MLR Muntele Rosu 72.75 317⇑*i*P **P** 23 25 58.1 +0.8
MLR Muntele Rosu 72.75 317 *e*P **P** 23 25 57.7 +0.4
comp=Z,462nm,1.4s
MLR Muntele Rosu 72.75 317 *e*P **P** 23 25 57.7 +0.4
MLR pmax pmax
comp=Z,462nm,1.4s
MAW Mawson 72.84 192 P **P** 23 25 58.6 +1.5
comp=Z,44nm,0.8s,baz=22,slow=6.2,SNR=31
MAW Mawson 72.84 192 P **P** 23 25 58.4 +1.3
baz=73,SNR=14
MAW Mawson 72.84 192 *e*P **P** 23 25 58.3 +1.3
comp=Z,12nm,0.9s
MAW Mawson 72.84 192 *e*P **P** 23 25 58.3 +1.2
MAW pmax pmax
comp=Z,12nm,0.9s
TIXI Tiksi 72.94 11 P **P** 23 25 57.1 -0.5
comp=Z,192nm,0.7s,baz=206,slow=3.9,SNR=3.9
TIXI Tiksi 72.94 11 *e*P **P** 23 25 56.9 -0.7
comp=Z,258nm,0.8s
TIXI LR LR
comp=Z,3μm,19.0s
TIXI Tiksi 72.94 11*c i*P **P** 23 25 57.0 -0.7
TIXI pmax pmax
comp=Z,295nm,0.8s
DID Didima 72.97 309 P **P** 23 25 57.4 -1.3
KRND KRANIDI 73.02 308 P **P** 23 25 58.2 -0.7
PRAR RASCA 73.06 319⇓*i*P **P** 23 25 59.2 +0.3
VLI Veliai 73.07 308 P **P** 23 25 58.8 -0.4
PEA0B Petropavlovsk- 73.08 35 *e*P **P** 23 25 58.4 -0.5
comp=Z,172nm,2.0s
PETK Petropavlovsk- 73.08 35 P **P** 23 25 58.0 -0.9
comp=Z,7.8nm,0.5s,baz=282,slow=1.5,SNR=51
PETK Petropavlovsk- 73.08 35 *e*P **P** 23 25 57.9 -0.9
PETK Petropavlovsk- 73.08 35 *e*P **P** 23 25 57.9 -0.9
PAIG Paliouri 73.10 311 P **P** 23 25 58.7 -0.6
HUMR Humele 73.17 316⇑*i*P **P** 23 25 59.8 +0.2
DOPR Dopca 73.25 318⇓*i*P **P** 23 25 59.9 -0.2
NVR Nevrokopi 73.26 313 P **P** 23 25 58.9 -1.4
GOLR 73.26 316⇑*i*P **P** 23 26 01.1 +1.0
LTK Loutraki 73.28 309 P **P** 23 25 58.8 -1.6
MTUR Matau 73.28 317⇓*i*P **P** 23 26 00.7 +0.3
PGB Panagyurishte 73.29 314 P **P** 23 26 00.1 -0.4
VOIR 73.35 317⇓*i*P **P** 23 26 00.6 -0.1
PLG Polygyros 73.36 312 P **P** 23 25 59.9 -1.0
LKR Lokris 73.37 310 P **P** 23 25 59.6 -1.3
MMB Musomiste 73.41 313 P **P** 23 26 00.5 -0.6
SRS Serrai 73.41 312 P **P** 23 26 00.3 -0.8
H11S3 WAKE ISLAND Hy 73.49 71 P **P** 23 25 59.4 -2.4
H11S1 WAKE ISLAND Hy 73.50 71 P **P** 23 25 59.4 -2.4
WAKE Wake Island 73.50 71 PFAKE 23 26 10.0 +8.0
WAKE LR LR
comp=Z,2μm,22.0s
H11S2 WAKE ISLAND Hy 73.50 71 P **P** 23 25 59.4 -2.4
SOH Sokhos 73.52 312 P **P** 23 26 01.2 -0.6
DYR Agios Nikonas 73.55 308 P **P** 23 26 02.5 +0.4
TMCR Tamitsa 73.57 338 *e*P **P** 23 26 01.4 -0.1
TMCR pmax pmax
comp=Z,182nm,1.4s
PET Petropavlovsk 73.59 35 *e*P **P** 23 26 01.2 -0.6
comp=Z,126nm,1.0s
PET LR LR
comp=Z,2μm,22.0s
PET Petropavlovsk 73.59 35*α i*P **P** 23 26 01.1 -0.8
PET *e*S **S** 23 35 27.2 -2.6

PET pmax pmax
comp=Z,2µm,17.1s
PET pmax pmax
comp=Z,144nm,0.9s
ARR Arges 73.61 317⇑ *i*P **P 23 26 02.1 -0.2**
VLX Vlachokerasia 73.62 308 P **P 23 26 02.0 -0.6**
HORT Hortiatis 73.67 312 P **P 23 26 02.1 -0.6**
DSF Desfina 73.69 309 P **P 23 26 01.8 -1.1**
GUR Goura 73.75 309 P **P 23 26 02.5 -0.8**
H11N1 WAKE ISLAND Hy 73.75 70 P **P 23 26 04.4 +1.1**
baz=248,slow=6.8,SNR=8.6
H11N2 WAKE ISLAND Hy 73.76 70 P **P 23 26 04.5 +1.2**
baz=248,slow=6.8,SNR=5.3
H11N3 WAKE ISLAND Hy 73.77 70 P **P 23 26 05.0 +1.6**
baz=248,slow=6.8,SNR=6.2
THE Thessaloniki 73.78 312 P **P 23 26 01.6 -1.6**
BURAR Bucovina Array 73.78 319⇑ *i*P **P 23 26 04.3 +1.0**
BUR04 Bucovina Ar. S 73.79 319 *e*P **P 23 26 03.8 +0.5**
BUR08 Bucovina Ar. S 73.80 319 *e*P **P 23 26 04.1 +0.7**
KLV Kalavryta, Ach 73.92 309 P **P 23 26 03.5 -0.7**
KNT Kendrikon 73.93 312 P **P 23 26 03.7 -0.5**
KKB Krupnik 73.93 313 P **P 23 26 03.6 -0.6**
ITM Ithomi 73.94 308 P **P 23 26 04.0 -0.4**
AGG Agios Georgios 73.95 310 *e*P **P 23 26 03.2 -1.2**
comp=Z,134nm,0.8s
AGG Agios Georgios 73.95 310 P **P 23 26 03.0 -1.4**
AGG Agios Georgios 73.95 310 *e*P **P 23 26 03.2 -1.2**
AGG pmax pmax
comp=Z,134nm,0.8s
MDB Medias 73.97 318⇓ *i*P **P 23 26 05.4 +1.1**
VTS Vitosha 73.99 314⇑ *i*P **P 23 26 04.5 -0.2**
VTS Vitosha 73.99 314 *e*P **P 23 26 03.8 -0.9**
comp=Z,270nm,1.6s
VTS Vitosha 73.99 314 P **P 23 26 04.3 -0.4**
VTS Vitosha 73.99 314 P **P 23 26 04.2 -0.4**
VTS Vitosha 73.99 314 *e*P **P 23 26 03.8 -0.9**
VTS pmax pmax
comp=Z,270nm,1.6s
LIT Litokhoron 74.03 311 P **P 23 26 04.0 -0.8**
PYL PYLOS 74.04 308 P **P 23 26 03.5 -1.4**
SERG Sergoula 74.05 309 P **P 23 26 04.1 -0.9**
EFP Efpalio 74.17 309 P **P 23 26 05.0 -0.6**
AMT Artemida-Makis 74.17 308 P **P 23 26 05.5 -0.2**
ANX Ano Chora 74.19 309 P **P 23 26 05.3 -0.6**
MICGM Minsk 74.19 327⇑ *i*P **P 23 26 04.0 -1.4**
MICGM PM 23 26 06.0
comp=Z,4.1nm,1.2s
MICGM *e*LR LR 23 57 40.0
MNK Minsk 74.19 327⇑ *i*P **P 23 26 04.0 -1.4**
MNK pmax pmax
comp=Z,4µm,1.2s
VAY Valandovo 74.20 312 P **P 23 26 04.8 -0.9**
VAY Valandovo 74.20 312 *e*P **P 23 26 05.0 -0.7**
ARCR ARCALIA 74.22 318⇑ *i*P **P 23 26 07.0 +1.3**
LOT Lotru 74.22 317⇑ *i*P **P 23 26 06.0 +0.1**
DRO Drossia 74.24 309 P **P 23 26 06.4 +0.3**
GRG Griva 74.26 312 P **P 23 26 05.5 -0.6**
THL Klokotos Trika 74.29 310 P **P 23 26 04.3 -2.0**
EVR Evrytania 74.33 310 P **P 23 26 06.0 -0.7**
SEY Seymchan 74.40 24 P **P 23 26 06.2 -0.2**
comp=Z,50nm,0.7s,baz=244,slow=5.7,SNR=120
SEY Seymchan 74.40 24*c* *i*P **P 23 26 06.4 0.0**
RLS Riolos of Patr 74.45 309 P **P 23 26 07.7 +0.5**
PVO Paravola 74.50 309 P **P 23 26 07.7 +0.2**
CJR Cluj-Napoca 74.63 318⇑ *i*P **P 23 26 09.1 +0.9**
PDO Prodromos 74.76 309 P **P 23 26 08.8 -0.2**
PUL Pulkovo 74.83 332⇓ *i*P **P 23 26 09.8 +0.8**
PUL pmax pmax
comp=Z,145nm,0.6s
DEV Deva 74.91 317⇓ *i*P **P 23 26 10.7 +0.9**
DSL Palaion Diasel 74.92 310 P **P 23 26 09.8 -0.2**
BMR Baia Mare 74.92 319⇑ *i*P **P 23 26 09.7 -0.1**
NACGM Naroch 74.93 327 *e*P **P 23 26 08.0 -1.6**
NACGM PM 23 26 11.0
comp=Z,0.7nm,1.0s
NACGM *e*PcP **PcP 23 26 23.0 -0.4**
NACGM *e*PPP PPP 23 30 48.0
NACGM *e*S **S 23 35 40.0 -4.8**
NACGM *e*SS SS 23 41 36.0 +62
NACGM *e*SSS SSS 23 44 36.0
BIA Bitola 75.07 312 *e*P **P 23 26 11.1 +0.2**
IDID Didziasalis 75.08 327 *e*P **P 23 26 10.8 +0.3**
IDID IAmb IAmb 23 26 12.7
comp=Z,65nm,0.9s
LVV L'vov 75.11 321 *e*P **P 23 26 10.7 -0.1**
LVV *e*S **S 23 35 43.7 -3.3**
LVV *e* 23 36 30.5
LVV *e* 23 40 42.3
LVV pmax pmax
comp=Z,450nm,1.5s
LVV MLR MLR
comp=N,2µm,16.0s
LVV MLR MLR
comp=E,2µm,16.0s
LVV MLR MLR
comp=Z,2µm,16.0s
VLS Valsamata 75.15 309 P **P 23 26 10.8 -0.5**
SKO Skopje 75.16 313 *e*P **P 23 26 10.4 -0.9**
NEST Nestorio 75.17 311 P **P 23 26 10.2 -1.3**
DZM Mont Dzumac 75.17 113 P **P 23 26 12.4 +0.5**
comp=Z,89nm,0.8s,baz=277,slow=6.2,SNR=21
DZM Mont Dzumac 75.17 113 *e*P **P 23 26 13.2 +1.3**
comp=Z,154nm,1.0s
KRUS Krusevo 75.19 312 *e*P **P 23 26 10.4 -1.2**
JAN Janina 75.19 310 P **P 23 26 11.8 +0.2**
LKD2 Lefkada island 75.20 309 P **P 23 26 11.4 -0.2**
DRGR 75.24 318⇑ *i*P **P 23 26 12.2 +0.4**
IIGN Ignalina 75.37 327 *e*P **P 23 26 12.5 +0.3**
IIGN IAmb IAmb 23 26 14.4
comp=Z,84nm,1.0s
OHR Ohrid 75.48 312 *e*P **P 23 26 12.4 -0.8**
IZAR Zarasai 75.48 327 *e*P **P 23 26 13.1 +0.3**
IZAR IAmb IAmb 23 26 14.7
comp=Z,51nm,0.7s
IGT Igoumenitsa 75.57 310 P **P 23 26 12.1 -1.6**
TRPA Tarpa 75.66 319⇑ *i*P **P 23 26 14.7 +0.7**
TRPA Tarpa 75.66 319⇓ *e*P **P 23 26 15.6 +1.6**
BZS Buzias 75.74 317⇑ *i*P **P 23 26 14.6 +0.1**
SIRR Siria 75.84 317⇓ *i*P **P 23 26 15.5 +0.4**
KWP Kalwaria Pacla 75.89 321 *e*P **P 23 26 15.8 +0.4**
KWP *e*S **S 23 35 53.7 -2.1**
KWP Kalwaria Pacla 75.89 321 *e*P **P 23 26 15.3 0.0**
comp=Z,3µm,1.4s
KWP Kalwaria Pacla 75.89 321 *e*P **P 23 26 15.8 +0.4**
KWP *e*S **S 23 35 53.7 -2.1**
UZH Uzhgorod 75.93 320*de*P **P 23 26 15.8 +0.3**
UZH *e* 23 26 26.4
UZH *i* 23 26 33.2
BANR Banloc 76.02 316⇓ *i*P **P 23 26 16.9 +0.8**
VSU Vasula 76.09 330*c* *i*P **P 23 26 15.5 -0.7**
VSU pmax pmax
comp=Z,591nm,1.2s
TIR Tirane 76.21 312 PFAKE 23 26 30.0 +13
TIR LR LR
comp=Z,2µm,20.0s
PVY Plav 76.35 313⇑ *i*P **P 23 26 17.4 -0.8**
IVA Berane 76.44 314⇑ *i*P **P 23 26 18.1 -0.6**
SUR Sutherland 76.51 236 *e*P **P 23 26 19.6 +0.2**
comp=Z,143nm,1.1s
SUR LR LR
comp=Z,4µm,19.0s
CRVS Cervenica-Dubn 76.53 320 *e*P **P 23 26 19.4 +0.4**
CRVS *e*S **S 23 36 00.8 -1.9**
CRVS Cervenica-Dubn 76.53 320 *e*P **P 23 26 19.4 +0.4**
CRVS pmax pmax
comp=Z,459nm,2.4s
DIVS Divibare 76.58 315 *e*P **P 23 26 19.3 -0.2**
comp=Z,149nm,1.7s
LVZ Lovozero 76.63 341 *e*P **P 23 26 18.3 -0.9**
comp=Z,42nm,0.7s
LVZ LR LR
comp=Z,3µm,19.0s
LVZ Lovozero 76.63 341*c* *i*P **P 23 26 18.8 -0.4**
LVZ pmax pmax
comp=Z,48nm,0.8s
SUW Suwalki 76.69 325 *e*P **P 23 26 19.3 -0.4**
SUW *e*S **S 23 36 00.5 -3.7**
SUW Suwalki 76.69 325 *e*P **P 23 26 19.3 -0.4**
comp=Z,434nm,0.9s
SUW Suwalki 76.69 325 *e*P **P 23 26 19.3 -0.4**
SUW pmax pmax
comp=Z,434nm,0.9s
KOME Kolasin 76.71 313⇑ *i*P **P 23 26 20.3 0.0**
ULC Ulcinj 76.77 313⇑ *i*P **P 23 26 20.0 -0.5**
STHS Stebnicka Huta 76.78 320 *e*P **P 23 26 21.0 +0.6**
STHS Stebnicka Huta 76.78 320 *e*P **P 23 26 21.0 +0.6**
STHS pmax pmax
comp=Z,80nm,0.9s
PDG Podgorica 76.83 313⇑ *i*P **P 23 26 20.7 -0.1**
TTG Podgorica 76.83 313⇑ *i*P **P 23 26 20.0 -0.8**
DRME Dracevica, Mon 76.85 313⇑ *i*P **P 23 26 20.7 -0.2**
PLE Pljevlja 76.89 314⇑ *i*P **P 23 26 21.4 +0.2**
APA Apatity 76.90 340⇓ *i*P **P 23 26 18.5 -2.1**
APA pmax pmax
comp=Z,34nm,0.9s
APA MLR MLR
comp=Z,3µm,19.0s
BUM Brajici-Budva 77.08 313⇑ *i*P **P 23 26 21.6 -0.7**
NKY Niksic 77.09 313⇑ *i*P **P 23 26 21.9 -0.5**
CEME Cevo 77.10 313⇑ *i*P **P 23 26 21.4 -1.0**
NKME Niksic 77.11 313⇑ *i*P **P 23 26 21.8 -0.6**
UPM Unac-Piva 77.21 314⇑ *i*P **P 23 26 22.5 -0.7**
TSUM Tsumeb 77.32 250 *e*P **P 23 26 24.4 +0.2**
comp=Z,38nm,0.9s
TSUM LR LR
comp=Z,2µm,20.0s
PSZ Piszkesteto 77.35 319⇑ *i*P **P 23 26 24.0 +0.3**
PSZ Piszkesteto 77.35 319⇓ *e*P **P 23 26 24.6 +0.9**
PSZ Piszkesteto 77.35 319 *e*P **P 23 26 23.8 +0.1**
comp=Z,84nm,1.0s
PSZ LR LR
comp=Z,1µm,19.0s
PSZ Piszkesteto 77.35 319 *e*P **P 23 26 23.8 +0.1**
PSZ pmax pmax
comp=Z,83nm,1.0s
PSZ MLR MLR
comp=Z,1µm,19.0s
NIE Niedzica 77.38 320 *e*P **P 23 26 24.5 +0.7**
NIE Niedzica 77.38 320 *e*P **P 23 26 24.5 +0.7**
FIA1 FINESS Array S 77.39 333 *e*P **P 23 26 22.9 -0.6**
comp=Z,96nm,0.9s
FINES FINESS Array B 77.39 333 P **P 23 26 22.9 -0.5**
comp=Z,44nm,0.6s,baz=100,slow=5.5,SNR=267
FINES PKiKP **PKiKP 23 32 03.4 -0.5**
comp=Z,1.3nm,0.5s,baz=96,slow=5.6,SNR=3.7
FINES FINESS Array B 77.39 333 P **P 23 26 22.9 -0.5**
FINES PKiKP **PKiKP 23 32 03.4 -0.5**
FINES FINESS Array B 77.39 333 P **P 23 26 23.0 -0.5**
HCY Herceg Novi 77.39 313⇑ *i*P **P 23 26 23.3 -0.7**
BRY Bratogost 77.43 313⇑ *i*P **P 23 26 23.7 -0.7**
BEL Belsk 77.58 323 *e*P **P 23 26 25.2 +0.4**
BEL *e*S **S 23 36 11.1 -2.9**
BEL Belsk 77.58 323 *e*P **P 23 26 25.2 +0.4**
BEL *e*S **S 23 36 11.1 -2.9**
BUD Budapest 77.85 318⇓ *e*P **P 23 26 27.3 +0.9**
OJC Ojcow 77.86 321 *e*P **P 23 26 26.6 +0.2**
OJC *e*S **S 23 36 14.6 -2.5**
OJC Ojcow 77.86 321 *e*P **P 23 26 26.6 +0.2**
comp=Z,128nm,1.0s
OJC Ojcow 77.86 321 *e*P **P 23 26 26.6 +0.2**
OJC pmax pmax
comp=Z,128nm,1.0s
LANS Liptovska Anna 77.86 320 *e*P **P 23 26 27.1 +0.6**
LANS Liptovska Anna 77.86 320 *e*P **P 23 26 27.1 +0.6**
MORH M˝ɜr˙igy, Hung 77.89 317⇑ *e*P **P 23 26 26.4 -0.2**
STON Ston 78.04 313 P **P 23 26 26.1 -1.4**
VYHS Vyhne 78.15 319 *e*P **P 23 26 28.6 +0.5**
VYHS *e*S **S 23 36 18.3 -2.1**
VYHS Vyhne 78.15 319 *e*P **P 23 26 28.6 +0.5**
VYHS *e*S **S 23 36 18.3 -2.1**
VYHS pmax pmax
comp=Z,140nm,1.5s
TIP Timpagrande 78.26 309⇑ *i*P **P 23 26 29.7 +0.7**
TIP Timpagrande 78.26 309 *e*P **P 23 26 29.9 +0.9**
comp=Z,174nm,1.4s
TIP LR LR
comp=Z,1µm,19.0s
CSKK Cs˙ɨkako 78.34 318⇓ *e*P **P 23 26 29.9 +0.8**
SRO Srobarova 78.38 318 *e*P **P 23 26 30.4 +1.1**
SRO Srobarova 78.38 318 *e*P **P 23 26 30.4 +1.1**
MATE Matera 78.48 311⇑ *i*P **P 23 26 30.2 +0.2**
KLNR Kaliningrad 78.52 325*c* *i*P **P 23 26 29.3 -0.6**
KLNR pmax pmax
comp=Z,392nm,0.7s
BLY Banja Luka 78.67 315⇑ *i*P **P 23 26 31.2 +0.2**
BLY Banja Luka 78.67 315 *e*P **P 23 26 31.0 0.0**
comp=Z,221nm,1.5s
CEL Celeste 78.83 308 *e*P **P 23 26 33.0 +0.9**
comp=Z,142nm,0.9s
CEL LR LR
comp=Z,985nm,20.0s
OKC Ostrava-Krasne 78.83 320⇑ *e*P **P 23 26 32.5 +0.7**
OKC *e*S **S 23 36 24.6 -3.0**
OKC AMS AMS 00 04 40.0
comp=Z,1µm,19.5s
OKC Ostrava-Krasne 78.83 320 *e*P **P 23 26 32.5 +0.7**
OKC *e*S **S 23 36 24.6 -3.0**
OKC MLR MLR
comp=Z,1µm,19.5s
CUC Castrocucco 79.08 310 *e*P **P 23 26 33.9 +0.5**
comp=Z,50nm,0.9s
CUC LR LR
comp=Z,1µm,22.0s
SMOL Smolenice 79.08 319 *e*P **P 23 26 33.6 +0.4**
SMOL Smolenice 79.08 319 *e*P **P 23 26 33.6 +0.4**
MODS Modra-Piesok 79.16 319 *e*P **P 23 26 33.5 -0.1**
MODS *e*pP **PcP 23 26 42.3 +0.4**
MODS *e*S **S 23 36 26.9 -4.3**
MODS Modra-Piesok 79.16 319 *e*P **P 23 26 33.5 -0.1**
MODS *e* 23 26 42.3
MODS *e*S **S 23 36 26.9 -4.3**
MODS pmax pmax
comp=Z,392nm,1.3s
BEHE Becsehely 79.21 317⇓ *e*P **P 23 26 35.6 +1.7**
MORC Moravsky Berou 79.21 320⇑ *i*P **P 23 26 34.5 +0.5**
MORC Moravsky Berou 79.21 320 *e*P **P 23 26 34.4 +0.5**
comp=Z,712nm,1.4s
MORC Moravsky Berou 79.21 320 *e*P **P 23 26 34.4 +0.5**
MORC pmax pmax
comp=Z,712nm,1.4s
ZST Bratislava 79.24 319 *e*P **P 23 26 33.7 -0.4**
ZST *e*pP **PcP 23 26 42.3 0.0**
ZST Bratislava 79.24 319 *e*P **P 23 26 33.7 -0.4**
ZST *e* 23 26 42.3
ZST pmax pmax
comp=Z,179nm,1.2s
TARA Tarawa 79.50 89 PFAKE 23 26 50.0 +14
TARA LR LR
comp=Z,110nm,20.0s
SOP Sopron 79.53 318⇓ *e*P **P 23 26 36.7 +1.1**
UDBI Udbina 79.65 315 P **P 23 26 36.1 -0.3**
WDD Wied Dalam 79.69 306 *e*P **P 23 26 37.5 +0.8**
comp=Z,154nm,0.7s
WDD LR LR
comp=Z,2µm,19.0s
KRLC Kraliky 79.74 320⇑ *e*P **P 23 26 37.4 +0.6**
KRLC *e*pP **PcP 23 26 47.0 -0.1**
KRLC Kraliky 79.74 320 *e*P **P 23 26 37.4 +0.6**
KRLC *e* 23 26 47.0
VRAC Vranov 79.75 320⇑ *i*P **P 23 26 37.0 +0.2**
SYO Syowa Base 79.77 197⇑ *e*P **P 23 26 35.2 -1.2**
SYO Syowa Base 79.77 197⇑ *e*PcP **PcP 23 26 42.8 -1.2**
VAE Valguarnera 79.92 308 P **P 23 26 40.0 +1.9**
comp=Z,69nm,0.9s,baz=61,slow=7.6,SNR=20
KEV Kevo 79.94 341 *e*P **P 23 26 37.0 -0.3**
comp=Z,65nm,1.2s
KEV LR LR
comp=Z,3µm,20.0s
KEV Kevo 79.94 341 *e*P **P 23 26 37.1 -0.3**
KEV pmax pmax
comp=Z,65nm,1.2s
KEV MLR MLR
comp=Z,3µm,20.0s
GKP Gorka Klasztor 79.98 324 *e*P **P 23 26 37.7 -0.2**
GKP *e*S **S 23 36 35.9 -3.7**
GKP Gorka Klasztor 79.98 324 *e*P **P 23 26 37.7 -0.2**
GKP *e*S **S 23 36 35.9 -3.7**
OZLJ Ozalj 79.99 316 P **P 23 26 38.2 +0.1**
CONA Conrad Observa 80.03 318 *e*P **P 23 26 38.7 +0.3**
comp=Z,69nm,1.3s
DPC Dobruska-Polom 80.08 321 *e*P **P 23 26 39.5 +0.9**
DPC *e*pP **pP 23 26 49.0 +0.1**
DPC *e*x x 23 26 56.4
DPC *e*S **S 23 36 41.2 +0.3**
DPC AMS AMS 00 04 40.0
comp=Z,1µm,20.4s
DPC Dobruska-Polom 80.08 321 *e*P **P 23 26 39.5 +0.9**
DPC *e* 23 26 49.0
DPC *e* 23 26 56.4
DPC *e*S **S 23 36 41.2 +0.3**
DPC MLR MLR
comp=Z,1µm,20.4s
BOJS Bojanci 80.13 316 *e*P **P 23 26 39.0 0.0**
ARSA Arzberg 80.16 317 *i*P **P 23 26 39.8 +0.7**
comp=Z,173nm,1.0s,SNR=89
KSP Ksiaz 80.17 321 *e*P **P 23 26 39.7 +0.7**
KSP *e*S **S 23 36 40.1 -1.6**
KSP Ksiaz 80.17 321 *e*P **P 23 26 39.7 +0.7**
KSP *e*S **S 23 36 40.1 -1.6**
DCZ Deep Cove 80.23 137 *e*P **P 23 26 40.2 +0.8**
comp=Z,118nm,1.4s
NVLJ Novalja 80.29 315 P **P 23 26 39.2 -0.6**
UPC Upice 80.30 321⇑ *e*P **P 23 26 40.5 +0.8**
UPC *e*pP **pP 23 26 50.2 +0.1**
UPC *e*x x 23 26 56.8
UPC *e*S **S 23 36 41.5 -1.6**
UPC AMS AMS 00 05 40.0
comp=Z,1µm,18.8s
UPC Upice 80.30 321 *e*P **P 23 26 40.5 +0.8**
UPC *e* 23 26 50.2
UPC *e* 23 26 56.8
UPC *e*S **S 23 36 41.5 -1.6**
UPC MLR MLR
comp=Z,1µm,18.8s
ARCES ARCESS Array B 80.35 341 P **P 23 26 39.5 -0.2**
comp=Z,35nm,0.8s,baz=90,slow=4.8,SNR=132
ARE0 ARCESS Array S 80.35 341 *e*P **P 23 26 39.6 0.0**
comp=Z,165nm,1.3s
ARE0 ARCESS Array S 80.35 341 *e*P **P 23 26 39.5 -0.1**
PERS Pernice 80.36 317 *i*P **P 23 26 40.4 +0.1**
SOKA Soboth 80.42 317 *i*P **P 23 26 41.2 +0.6**
comp=Z,169nm,1.1s,SNR=54
VISS Visnje 80.45 316 *e*P **P 23 26 40.9 +0.2**
TREC Trest 80.46 320⇑ *e*P **P 23 26 40.9 +0.2**
TREC *e*S **S 23 36 43.7 -1.2**
TREC AMS AMS 23 59 10.0
comp=Z,1µm,19.8s
TREC Trest 80.46 320 *e*P **P 23 26 40.9 +0.2**
TREC *e*S **S 23 36 43.7 -1.2**
TREC MLR MLR
comp=Z,1µm,19.8s
OBKA Obir 80.74 317 *i*P **P 23 26 42.8 +0.5**
comp=Z,82nm,1.0s,SNR=28
WHZ Wether Hill Ro 80.87 137 *e*P **P 23 26 43.5 +0.6**
comp=Z,105nm,1.6s
CLTB Caltabellotta 80.88 308 *e*P **P 23 26 43.6 +0.4**
comp=Z,110nm,1.0s
CLTB LR LR
comp=Z,612nm,22.0s
KTK1 Kautokeino 80.94 340 *e*P **P 23 26 42.3 -0.5**
GOPC GO Pecny, Ondr 80.99 320 *e*P **P 23 26 44.1 +0.6**
GOPC *e*pP **pP 23 26 53.5 -0.3**
GOPC *e*x x 23 27 00.8
GOPC AMS AMS 00 00 10.0
comp=Z,2µm,23.2s
GOPC GO Pecny, Ondr 80.99 320 *e*P **P 23 26 44.1 +0.6**
GOPC *e* 23 26 53.5
GOPC *e* 23 27 00.8
GOPC MLR MLR
comp=Z,2µm,23.2s
JAVS Javornik 81.00 316 *i*P **P 23 26 43.3 -0.4**
MOA Molln 81.08 318 *i*P **P 23 26 44.0 0.0**
comp=Z,78nm,1.6s,SNR=24
AQU L'Aquila 81.13 312 *e*P **P 23 26 44.8 +0.4**
comp=Z,691nm,1.7s
AQU LR LR
comp=Z,1µm,20.0s
AQU L'Aquila 81.13 312 *e*P **P 23 26 44.8 +0.4**
AQU pmax pmax
comp=Z,691nm,1.7s
AQU MLR MLR
comp=Z,1µm,20.0s
PRU Pruhonice 81.16 320⇑ *e*P **P 23 26 45.0 +0.6**
PRU *e*pP **pP 23 26 54.5 -0.2**
PRU *e*x x 23 27 01.6
PRU AMS AMS 23 59 50.0
comp=Z,1µm,22.2s
PRU Pruhonice 81.16 320 *e*P **P 23 26 45.0 +0.6**
PRU *e* 23 26 54.5
PRU *e* 23 27 01.6
PRU MLR MLR
comp=Z,1µm,22.2s
TRI Trieste 81.19 316 *e*P **P 23 26 44.7 +0.1**
comp=Z,32nm,0.6s
TRI Trieste 81.19 316 *e*P **P 23 26 44.7 +0.1**
TRI pmax pmax
comp=Z,32nm,0.6s
PVCC Panska Ves 81.21 321⇑ *e*P **P 23 26 45.3 +0.7**
PVCC AMS AMS 00 05 20.0
comp=Z,1µm,16.4s
PVCC Panska Ves 81.21 321 *e*P **P 23 26 45.3 +0.7**
PVCC MLR MLR
comp=Z,1µm,16.4s
PRA Prague 81.24 320 ⇑AMS AMS 00 03 50.0
comp=Z,1µm,20.6s
HAMF Hammerfest 81.31 342 *e*P **P 23 26 44.5 -0.1**
MYKA Terra Mystica 81.37 317 *i*P **P 23 26 46.0 +0.3**
comp=Z,189nm,1.7s,SNR=38
GEA0 GERESS Array S 81.57 319 *e*P **P 23 26 46.0 -0.6**
GEC2 GERESS Array S 81.57 319 *e*P **P 23 26 47.2 +0.4**
comp=Z,168nm,1.0s
GEC2 GERESS Array S 81.57 319 *e*P **P 23 26 47.2 +0.5**
GEC2 pmax pmax
comp=Z,168nm,1.0s
GERES GERESS Array B 81.57 319 P **P 23 26 47.1 +0.4**
comp=Z,47nm,0.7s,baz=97,slow=5.4,SNR=167
GERES PKKPbc **PKKPbc 23 45 20.6 -0.9**
comp=Z,0.2nm,0.3s,baz=341,slow=2.8,SNR=4.3
KBA Koelnbreinsper 81.62 317 *i*P **P 23 26 46.8 -0.3**
comp=Z,29nm,0.7s,SNR=23
BSD Bornholm Skovb 81.62 325⇑ *i*P **P 23 26 46.0 -0.7**
comp=Z,75nm,0.6s
BSD *i* 23 27 02.5
BSD Bornholm Skovb 81.62 325⇑ *i*P **P 23 26 46.0 -0.7**
BSD *i* 23 27 02.5
BSD pmax pmax
comp=Z,75nm,0.6s
BILL Bilibino 81.64 21*c* *i*P **P 23 26 45.9 -0.6**
BILL *e* 23 26 55.4
BILL *e* 23 29 56.8
BILL *e*S **S 23 36 53.1 -3.3**
BILL pmax pmax
comp=Z,27nm,0.9s
BILL MLR MLR
comp=Z,4µm,19.0s
BRG Berggiesshubel 81.65 321⇑ *i*P **P 23 26 47.6 +0.7**
comp=Z,236nm,1.5s
BRG *i* 23 27 04.0
comp=Z,61nm,0.9s
comp=N,1µm,18.3s
comp=E,995nm,18.1s
comp=Z,1µm,19.7s
BRG Berggiesshubel 81.65 321⇑ *i*P **P 23 26 47.6 +0.7**
BRG *i* 23 27 04.0
BRG pmax pmax
comp=Z,236nm,1.5s
BRG pmax pmax
comp=Z,61nm,0.9s
BRG MLR MLR
comp=N,1µm,18.3s
BRG MLR MLR
comp=E,995nm,18.1s
BRG MLR MLR
comp=Z,1µm,19.7s
KHC Kasperske Hory 81.68 319⇑ *e*P **P 23 26 47.4 +0.2**
KHC *e*S **S 23 36 56.1 -1.6**
KHC AMS AMS 00 07 30.0
comp=Z,900nm,16.2s
KHC Kasperske Hory 81.68 319 *e*P **P 23 26 47.4 +0.2**
comp=Z,111nm,1.9s
KHC Kasperske Hory 81.68 319 *e*P **P 23 26 47.4 +0.2**
KHC pmax pmax
comp=Z,111nm,1.9s
FOZ Fox Glacier 81.69 134 *e*P **P 23 26 46.7 -0.5**
comp=Z,128nm,1.9s
LBZ Lake Benmore 82.11 135 *e*P **P 23 26 49.0 -0.5**
comp=Z,66nm,1.0s
ABTA Abfaltersbach 82.16 317 *i*P **P 23 26 49.5 -0.3**
comp=Z,52nm,1.1s,SNR=21
CLL Collm 82.29 321⇑ *i*P **P 23 26 50.2 -0.1**
comp=Z,114nm,1.3s

CLL ePmax 23 26 53.0
CLL ePcP **PcP** **23 26 55.0 -0.5**
CLL epP **pP** **23 26 59.0 -1.6**
CLL i sPcP 23 27 06.7
comp=Z,71nm,1.0s
CLL eS **S** **23 37 00.0 -3.7**
CLL esS **ScS** **23 37 20.0 +0.7**
CLL Lm MLR 00 07 00.0
comp=N,700nm,21.2s
CLL Lm MLR 00 07 00.0
comp=E,1µm,21.4s
CLL Lm MLR 00 07 00.0
comp=Z,1µm,20.6s
CLL Collm 82.29 321 eP **P** **23 26 50.2 -0.1**
comp=Z,67nm,1.0s
CLL Collm 82.29 321 eP **P** **23 26 50.2 -0.1**
CLL pmax pmax
comp=Z,67nm,1.0s
NKC Novy Kostel 82.53 320⇑ eP **P** **23 26 52.4 +0.8**
NKC AMS AMS 00 08 10.0
comp=Z,2µm,21.8s
NKC Novy Kostel 82.53 320 eP **P** **23 26 52.4 +0.8**
NKC MLR MLR
comp=Z,2µm,21.8s
TRO Tromso 82.58 340 eP **P** **23 26 50.5 -0.9**
RPZ Rata Peaks 82.61 134 P **P** **23 26 51.9 -0.2**
comp=Z,79nm,0.8s,baz=246,slow=2.8,SNR=45
RPZ Rata Peaks 82.61 134 eP **P** **23 26 52.3 +0.2**
comp=Z,96nm,0.8s
SMY Shemya 82.65 37 eP **P** **23 26 52.1 0.0**
comp=Z,712nm,1.5s
SMY epP **pP** **23 27 01.7 -0.7**
SMY Shemya 82.65 37 eP **P** **23 26 52.1 0.0**
SMY e*PP **pP** **23 27 01.7 -0.7**
SMY pmax pmax
comp=Z,712nm,1.5s
WTTA Wattenberg 82.80 317 i P **P** **23 26 52.8 -0.4**
comp=Z,104nm,1.2s,SNR=28
WATA Walderalm 82.84 317 i P **P** **23 26 52.8 -0.7**
comp=Z,43nm,0.7s,SNR=33
HOPEN Hopen 82.93 347 eP **P** **23 26 52.9 -0.2**
HFS Hagfors 82.98 330 P **P** **23 26 53.5 -0.2**
comp=Z,34nm,0.6s,baz=121,slow=5.6,SNR=187
COP Copenhagen 83.10 326⇑ iP **P** **23 26 55.7 +1.3**
comp=Z,89nm,1.1s
COP Copenhagen 83.10 326⇑ iP **P** **23 26 55.7 +1.3**
COP pmax pmax
comp=Z,89nm,1.1s
MOTA Moosalm 83.17 317 i P **P** **23 26 54.4 -0.8**
comp=Z,63nm,0.8s,SNR=53
LLD Lille Linde 83.19 325 i P **P** **23 26 55.8 +1.0**
LLD i 23 27 11.8
LLD Lille Linde 83.19 325 i P **P** **23 26 55.8 +1.0**
LLD i 23 27 11.8
OXZ Oxford 83.25 134 eP **P** **23 26 55.2 -0.2**
comp=Z,251nm,1.5s
OUZ Omahuta 83.26 126 eP **P** **23 26 58.0 +2.3**
comp=Z,124nm,1.3s
GRFO Grafenberg 83.27 320 eP **P** **23 26 55.8 +0.4**
comp=Z,136nm,1.2s
GRFO Grafenberg 83.27 320 eP **P** **23 26 55.8 +0.4**
GRFO pmax pmax
comp=Z,136nm,1.2s
LTZ Lake Taylor 83.33 133 eP **P** **23 26 55.5 -0.4**
comp=Z,59nm,1.1s
FETA Feichten 83.40 317 i P **P** **23 26 56.4 +0.1**
comp=Z,96nm,1.4s,SNR=34
RETA Reutte 83.41 317 i P **P** **23 26 56.2 -0.1**
comp=Z,192nm,1.6s,SNR=38
VLC Villacollemand 83.46 314 PFAKE 23 27 10.0 +13
VLC LR LR
comp=Z,1µm,22.0s
STEI Steigen 83.54 338 eP **P** **23 26 56.5 +0.2**
MOR8 Moi Rana 83.55 336 eP **P** **23 26 55.6 -0.9**
THZ Tophouse 83.64 132 eP **P** **23 26 57.1 -0.4**
comp=Z,92nm,0.9s
FUORN Ofenpass-Fuorn 83.69 316 eP **P** **23 26 58.5 +0.5**
comp=Z,128nm,0.9s
CRLZ Canterbury Las 83.71 134 eP **P** **23 26 59.3 +1.6**
comp=Z,243nm,1.1s
BJO Bjornoya 83.71 345 eP **P** **23 26 58.2 +1.0**
MQZ McQueen's Vall 83.75 134 eP **P** **23 26 58.5 +0.5**
comp=Z,264nm,1.5s
KEST Kesra 83.89 306 P **P** **23 27 00.4 +1.4**
comp=Z,115nm,0.9s,baz=52,slow=0.8,SNR=95
KEST Kesra 83.89 306 eP **P** **23 27 00.4 +1.4**
comp=Z,220nm,0.8s
VSL Villasalto 83.99 309 eP **P** **23 27 00.1 +0.7**
comp=Z,97nm,0.9s
VSL epP **pP** **23 27 08.8 -0.9**
VSL LR LR
comp=Z,800nm,21.0s
DAVA Damuels 83.99 317 i P **P** **23 26 59.6 +0.2**
comp=Z,179nm,1.1s,SNR=47
NC405 NORSAR Array S 84.07 331 eP **P** **23 26 57.9 -1.4**
NC602 NORSAR Array S 84.11 331 eP **P** **23 26 58.9 -0.6**
NC602 NORSAR Array S 84.11 331 eP **P** **23 26 58.8 -0.7**
KONS Konsvik 84.13 337 eP **P** **23 26 58.9 -0.5**
KHZ Kahutara 84.20 133 eP **P** **23 27 00.1 -0.2**
comp=Z,129nm,1.3s
LOF Lofoten 84.20 338 eP **P** **23 26 55.7 -4.1**
NC303 NORSAR Array S 84.25 331 eP **P** **23 27 00.0 -0.2**
NB201 NORSAR Array S 84.27 331 eP **P** **23 26 59.0 -1.4**
NB2 NORSAR Subarra 84.30 331 P **P** **23 26 59.7 -0.8**
comp=Z,104nm,1.1s,baz=94,slow=5.3
NB2 NORSAR Subarra 84.30 331 P **P** **23 26 59.7 -0.8**
baz=94,slow=5.3
NOA NORSAR Array B 84.30 331 P **P** **23 26 59.6 -0.8**
comp=Z,29nm,0.8s,baz=96,slow=5.2,SNR=62
TUE Stuetta 84.31 316 eP **P** **23 27 01.0 -0.1**
comp=Z,204nm,1.6s
TUE LR LR
comp=Z,1µm,20.0s
NSS Namsos 84.35 335 eP **P** **23 27 00.2 -0.3**
OSL Oslo 84.44 330 eP **P** **23 27 01.8 +0.7**
NAO01 NORSAR Array S 84.44 331 eP **P** **23 27 01.0 -0.2**
NBO02 NORSAR Array S 84.48 331 eP **P** **23 27 00.9 -0.5**
NBO00 NORSAR Array S 84.52 331 eP **P** **23 27 01.5 -0.1**
STU Stuttgart 84.53 319 eP **P** **23 27 01.9 0.0**
comp=Z,39nm,0.8s
STU Stuttgart 84.53 319 eP **P** **23 27 01.9 0.0**
STU pmax pmax
comp=Z,39nm,0.8s
NC204 NORSAR Array S 84.55 331 eP **P** **23 27 01.6 -0.1**
HIZ Hauiti 84.68 129 eP **P** **23 27 03.9 +1.1**
comp=Z,307nm,1.3s
HIZ Hauiti 84.68 129 P **P** **23 27 04.5 +1.6**
SNZO South Karori 84.91 132 PFAKE 23 27 20.0 +16
SNZO LR LR
comp=Z,3µm,20.0s
TBLU Trondheim 84.96 333 eP **P** **23 27 01.2 -2.6**
KONO Kongsberg 84.98 330 eP **P** **23 27 04.1 +0.2**
comp=Z,257nm,1.4s
KONO Kongsberg 84.98 330 eP **P** **23 27 04.1 +0.2**
KONO Kongsberg 84.98 330*c* iP **P** **23 27 03.4 -0.5**
KONO pmax pmax
comp=Z,208nm,1.7s
MUD Monsted U'grnd 84.99 326⇑ iP **P** **23 27 04.4 +0.4**
comp=Z,182nm,1.3s
MUD Monsted U'grnd 84.99 326⇑ iP **P** **23 27 04.4 +0.4**
MUD pmax pmax
comp=Z,180nm,1.3s
BFO Black Forest 85.09 318 eP **P** **23 27 04.1 -0.6**
comp=Z,48nm,1.1s
BFO LR LR
comp=Z,728nm,19.0s
BFO Black Forest 85.09 318 i P **P** **23 27 04.6 -0.1**
TOZ Tahuroa Road 85.09 128 P **P** **23 27 06.6 +1.7**
HSPB Hornsund (broa 85.16 347 eP **P** **23 27 04.7 +0.2**
HSPB Hornsund (broa 85.16 347 eP **P** **23 27 04.3 -0.2**
HSPB 23 27 09.9 *e*
HSPB eS **S** **23 37 30.5 -1.2**
TWVZ Taurewa 85.19 129 P **P** **23 27 05.9 +0.3**
SPA0 Spitsbergen Ar 85.23 348 eP **P** **23 27 04.6 -0.3**
SPITS Spitsbergen Ar 85.23 348 P **P** **23 27 04.2 -0.6**
comp=Z,29nm,0.7s,baz=104,slow=6.1,SNR=45
COVZ Chateau Observ 85.29 129 P **P** **23 27 06.3 +0.3**
FWVZ Far West T-bar 85.30 129 P **P** **23 27 06.5 +0.2**
NGZ Ngauruhoe 85.33 129 P **P** **23 27 06.6 +0.3**
ABSA Djebel Ababsia 85.41 306 P **P** **23 27 07.8 +1.1**
DOMB Dombas 85.42 332 eP **P** **23 27 05.5 -0.6**
CMAH Djebel Manchou 85.47 306 P **P** **23 27 08.0 +1.1**
MOVZ Moawhango 85.48 130 P **P** **23 27 07.1 +0.2**
MSVF Nonsavu 85.58 108 eP **P** **23 27 09.0 +1.2**
comp=Z,65nm,1.0s

MSVF LR LR
comp=Z,2µm,19.0s
MSVF Nonsavu 85.58 108⇑ iP **P** **23 27 09.2 +1.3**
SENIN Lac Senin/Sane 85.73 316 eP **P** **23 27 08.4 +0.2**
comp=Z,343nm,1.8s
ECH Echery 85.87 318 eP **P** **23 27 08.1 -0.5**
comp=Z,35nm,0.9s
ECH LR LR
comp=Z,826nm,19.0s
ECH Echery 85.87 318 eP **P** **23 27 08.1 -0.5**
ECH pmax pmax
comp=Z,35nm,0.9s
ECH MLR MLR
comp=Z,826nm,19.0s
PNHZ Pukenui 85.88 130 P **P** **23 27 09.1 +0.3**
CAEH 'Ain El Ouahch 85.92 307 P **P** **23 27 10.3 +1.1**
BFZ Birch Farm 85.99 131 eP **P** **23 27 09.3 -0.1**
comp=Z,142nm,1.1s
BKZ Black Stump Fm 86.02 129 eP **P** **23 27 08.8 -0.7**
comp=Z,133nm,0.9s
CKFL Kef-Lekhel 86.03 306 P **P** **23 27 10.7 +0.9**
BNI Bardonecchia 86.14 315 eP **P** **23 27 10.0 -0.2**
comp=Z,45nm,0.8s
BNI LR LR
comp=Z,1µm,20.0s
BNI Bardonecchia 86.14 315 eP **P** **23 27 10.0 -0.2**
BNI pmax pmax
comp=Z,45nm,0.8s
BNI MLR MLR
comp=Z,1µm,20.0s
SNART Snartemo 86.14 328 eP **P** **23 27 10.1 +0.4**
MOL Molde 86.16 332 eP **P** **23 27 09.1 -0.6**
WTSB Winterswijk 86.19 322 eP **P** **23 27 10.9 +0.9**
comp=Z,98nm,1.0s
FUNA Funafuti 86.19 99 PFAKE 23 27 20.0 +9.2
FUNA LR LR
comp=Z,4µm,20.0s
CASM Ain Smara 86.21 306 P **P** **23 27 11.7 +1.1**
KBS Kingsbay 86.23 349 eP **P** **23 27 09.6 -0.2**
comp=Z,48nm,1.3s
KBS LR LR
comp=Z,4µm,21.0s
KBS Kingsbay 86.23 349 eP **P** **23 27 09.6 -0.2**
KBS pmax pmax
comp=Z,48nm,1.3s
KBS MLR MLR
comp=Z,4µm,21.0s
CTEI Djebel Teioual 86.28 306 P **P** **23 27 12.3 +1.2**
AKN Aaknes 86.39 332 eP **P** **23 27 11.4 +0.5**
URZ Urewera 86.41 128 P **P** **23 27 10.0 -1.4**
comp=Z,164nm,0.9s,baz=274,slow=3.2,SNR=85
URZ Urewera 86.41 128 eP **P** **23 27 10.4 -1.1**
comp=Z,231nm,1.0s
URZ Urewera 86.41 128 P **P** **23 27 10.6 -0.8**
ODD1 Odda 86.50 330 eP **P** **23 27 12.1 +0.6**
WLF Walferdange 86.56 319 iP **P** **23 27 13.0 +1.1**
WLF Walferdange 86.56 319 eP **P** **23 27 12.7 +0.8**
comp=Z,81nm,1.2s
WLF LR LR
comp=Z,978nm,20.0s
WLF Walferdange 86.56 319 eP **P** **23 27 12.7 +0.8**
WLF pmax pmax
comp=Z,81nm,1.2s
WLF MLR MLR
comp=Z,978nm,20.0s
BLS5 Blasjo 86.57 329 eP **P** **23 27 12.0 +0.2**
MEM Membach 86.66 320 iP **P** **23 27 12.3 -0.2**
comp=Z,45nm,1.1s
DFRA Djebel Bou Aff 86.71 306 P **P** **23 27 14.7 +1.6**
HGN Heimansgroeve 86.71 321 eP **P** **23 27 12.2 -0.4**
comp=Z,158nm,1.7s
HGN eX 23 27 29.3
HYA Hoyanger 86.75 331 eP **P** **23 27 12.6 +0.1**
RUGZ Raukumara Rang 86.83 128 P **P** **23 27 12.0 -1.7**
BEBN Eben Emael 86.87 321 iP **P** **23 27 13.3 -0.1**
STAV Stavanger 86.95 329 eP **P** **23 27 13.0 -0.6**
CKHR Kef el Ahmar 87.00 306 P **P** **23 27 15.8 +1.2**
SET Setif 87.09 306 P **P** **23 27 18.0 +3.0**
BCLA Clavier 87.11 320 iP **P** **23 27 14.2 -0.4**
comp=Z,21nm,1.4s
BER Bergen 87.15 330 eP **P** **23 27 15.7 +1.1**
KMY Karmoy 87.19 329 eP **P** **23 27 15.1 +0.4**
TAM Tamanrasset 87.19 293 eP **P** **23 27 17.4 +1.6**
comp=Z,128nm,1.0s
TAM LR LR
comp=Z,1µm,20.0s
TAM Tamanrasset 87.19 293 eP **P** **23 27 17.4 +1.6**
TAM pmax pmax
comp=Z,128nm,1.0s
TAM MLR MLR
comp=Z,1µm,20.0s
ASK Askoy 87.22 330 eP **P** **23 27 15.0 +0.1**
MXZ Matakaoa Point 87.29 128 eP **P** **23 27 15.8 +0.1**
comp=Z,260nm,1.8s
FOO Floro 87.31 331 eP **P** **23 27 15.3 0.0**
SUE Sulen 87.44 331 eP **P** **23 27 16.0 0.0**
VNDA Vanda 87.54 168 P **P** **23 27 16.4 +0.3**
comp=Z,25nm,1.1s,baz=291,slow=4.6,SNR=71
VNDA PKKPbc **PKKPdf** **23 45 05.2 +3.1**
comp=Z,2.4nm,0.9s,baz=95,slow=2.1,SNR=9.5
VNDA PKPPKP **P'P'df** **23 53 09.9 -1.9**
comp=Z,2.9nm,0.9s,baz=141,slow=0.8,SNR=11
VNDA Vanda 87.54 168 eP **P** **23 27 16.4 +0.3**
comp=Z,99nm,1.4s
VNDA PKKPbc **PKKPdf** **23 45 05.2 +3.1**
VNDA P'P' 23 53 09.9
VNDA Vanda 87.54 168 eP **P** **23 27 16.5 +0.3**
VNDA pmax pmax
comp=Z,99nm,1.4s
DOU Dourbes 87.56 320 iP **P** **23 27 16.6 -0.3**
comp=Z,28nm,1.2s
SSB Saint Sauveur 87.65 315 eP **P** **23 27 17.4 0.0**
comp=Z,43nm,0.8s
SSB LR LR
comp=Z,795nm,19.0s
SSB Saint Sauveur 87.65 315 eP **P** **23 27 17.4 0.0**
SSB pmax pmax
comp=Z,43nm,0.8s
SSB MLR MLR
comp=Z,795nm,19.0s
SNF Seneffe 87.76 320 iP **P** **23 27 17.6 -0.1**
MIDW Midway 88.33 62 PFAKE 23 27 30.0 +9.1
MIDW LR LR
comp=Z,1µm,22.0s
SBA Scott Base 88.64 168 eP **P** **23 27 22.6 +1.3**
comp=Z,70nm,0.9s
SBA LR LR
comp=Z,3µm,20.0s
SBA Scott Base 88.64 168 eP **P** **23 27 22.7 +1.3**
SBA pmax pmax
comp=Z,70nm,0.9s
SBA MLR MLR
comp=Z,3µm,20.0s
EMHD Djebel Mahouad 89.07 306 P **P** **23 27 26.2 +1.7**
NVL N'lazarevskaya 89.25 199 eP **P** **23 27 25.9 +1.6**
NVL eS **S** **23 38 14.6 +3.4**
NVL pmax pmax
comp=Z,127nm,0.6s
ATKA Atka Island 89.79 38 eP **P** **23 27 27.4 +0.2**
comp=Z,105nm,0.9s
RAO Raoul Island 89.92 119 PFAKE 23 27 40.0 +12
RAO LR LR
comp=Z,3µm,19.0s
WACR West Acre 89.96 323 eP **P** **23 27 27.9 -0.1**
WACR IAmb IAmb 23 27 29.6
comp=Z,145nm,0.9s
WACR IAMs_20 IAMs_20 00 11 35.9
comp=Z,2µm,20.1s
EBNR Beni Rached 90.22 306 P **P** **23 27 32.3 +2.6**
GAMB Gambell 90.25 26 eP **P** **23 27 29.0 -0.1**
comp=Z,70nm,0.9s
ECHA Ech Chlef 90.36 306 P **P** **23 27 32.5 +2.2**
ETRT Tiaret 90.45 305 P **P** **23 27 33.2 +2.3**
LMK Market Rasen 90.48 323 eP **P** **23 27 29.6 -0.8**
LMK IAmb IAmb 23 27 31.4
comp=Z,379nm,1.2s
LMK IAMs_20 IAMs_20 00 10 50.4
comp=Z,2µm,22.2s
EANR 'Ain N'Sour 90.58 306 P **P** **23 27 33.0 +1.6**
TORD Torodi Ar. Bea 91.15 283 P **P** **23 27 34.6 +0.2**
comp=Z,12nm,0.7s,baz=90,slow=5.0,SNR=66
TORD PKKPbc **PKKPbc** **23 44 56.5 -0.8**
comp=Z,1.4nm,0.8s,baz=315,slow=2.5,SNR=8.9
HPK Haverah Park 91.21 324 eP **P** **23 27 33.3 -0.5**
HPK IAmb IAmb 23 27 35.6
comp=Z,111nm,0.9s

HPK IAMs_20 IAMs_20 00 05 32.4
comp=Z,2µm,21.4s
LBWR Ladybower, Pea 91.32 323 eP **P** **23 27 34.3 -0.1**
LBWR IAmb IAmb 23 27 36.0
comp=Z,108nm,1.0s
LBWR IAMs_20 IAMs_20 00 11 17.4
comp=Z,2µm,18.5s
EDMD Edmundbyers 91.32 325 eP **P** **23 27 33.1 -1.3**
EDMD IAmb IAmb 23 27 35.9
comp=Z,88nm,1.0s
EDMD IAMs_20 IAMs_20 00 04 09.4
comp=Z,2µm,33.1s
SSW Stow on the Wo 91.53 322 eP **P** **23 27 35.5 +0.1**
SWN1 Swindon 91.54 321 eP **P** **23 27 35.1 -0.3**
SWN1 IAmb IAmb 23 27 37.3
comp=Z,200nm,1.0s
SWN1 IAMs_20 IAMs_20 00 13 02.7
comp=Z,2µm,22.1s
ESY Stoneypath 91.58 326 eP **P** **23 27 36.0 +0.5**
EDI Edinburgh 91.90 326 eP **P** **23 27 36.9 -0.1**
EDI IAmb IAmb 23 27 38.5
comp=Z,68nm,1.1s
EDI IAMs_20 IAMs_20 00 11 17.8
comp=Z,2µm,14.2s
ECK Cauldkaine Hil 91.95 325 eP **P** **23 27 37.8 +0.5**
EKA Eskdalemuir Ar 91.95 325 P **P** **23 27 37.0 -0.3**
comp=Z,16nm,0.7s,baz=99,slow=5.3,SNR=56
EKA Eskdalemuir Ar 91.95 325 P **P** **23 27 37.0 -0.3**
ESK Eskdalemuir 91.98 325 eP **P** **23 27 37.5 +0.1**
comp=Z,38nm,0.8s
ESK LR LR
comp=Z,2µm,20.0s
ESK Eskdalemuir 91.98 325 eP **P** **23 27 36.2 -1.2**
ESK IAmb IAmb 23 27 37.9
comp=Z,68nm,1.2s
ESK IAMs_20 IAMs_20 00 10 44.5
comp=Z,2µm,21.4s
ESK Eskdalemuir 91.98 325 eP **P** **23 27 37.5 +0.1**
ESK pmax pmax
comp=Z,38nm,0.8s
ESK MLR MLR
comp=Z,2µm,20.0s
OLDB Oldbury-Upon-S 92.00 322 eP **P** **23 27 37.9 +0.4**
OLDB IAmb IAmb 23 27 39.0
comp=Z,115nm,1.0s
OLDB IAMs_20 IAMs_20 00 13 04.3
comp=Z,2µm,18.3s
BHH Howats Hill 92.01 325 eP **P** **23 27 36.5 -1.0**
HLM1 Long Mynd 92.11 323 eP **P** **23 27 36.5 -1.6**
HLM1 IAmb IAmb 23 27 39.7
comp=Z,90nm,1.4s
HLM1 IAMs_20 IAMs_20 00 12 51.2
comp=Z,1µm,16.9s
QSPA South Pole Qui 92.11 180 P **P** **23 27 38.6 +0.7**
comp=Z,20nm,0.9s,baz=280,slow=1.2,SNR=29
QSPA PKKPbc **PKKPdf** **23 44 54.0 -0.5**
comp=Z,5.9nm,0.6s,baz=186,slow=1.1,SNR=16
QSPA South Pole Qui 92.11 180 eP **P** **23 27 38.0 +0.1**
comp=Z,150nm,1.0s
QSPA PKKPbc **PKKPdf** **23 44 54.0 -0.5**
QSPA LR LR
comp=Z,5µm,22.0s
MONM Monmouth 92.13 322 eP **P** **23 27 37.8 -0.3**
MONM IAmb IAmb 23 27 39.5
comp=Z,139nm,1.3s
MONM IAMs_20 IAMs_20 00 12 37.0
comp=Z,1µm,19.2s
HGH Gray Hill 92.16 322 eP **P** **23 27 37.6 -0.6**
MCH1 Michaelchurch 92.23 322 eP **P** **23 27 36.9 -1.7**
MCH1 IAmb IAmb 23 27 40.0
comp=Z,69nm,1.4s
MCH1 IAMs_20 IAMs_20 00 12 04.3
comp=Z,1µm,19.1s
FOEL Foel Wylfa 92.26 323 eP **P** **23 27 37.0 -1.8**
FOEL IAmb IAmb 23 27 39.5
comp=Z,52nm,1.0s
FOEL IAMs_20 IAMs_20 00 11 56.4
comp=Z,2µm,23.9s
DAG Danmarks Havn 92.85 348⇑ iP **P** **23 27 40.0 -1.0**
comp=Z,60nm,1.3s
DAG Danmarks Havn 92.85 348⇑ iP **P** **23 27 40.0 -1.0**
DAG pmax pmax
comp=Z,60nm,1.3s
GAL1 Galloway 92.90 325 eP **P** **23 27 41.3 -0.3**
GAL1 IAmb IAmb 23 27 44.1
comp=Z,46nm,1.5s
GAL1 IAMs_20 IAMs_20 00 11 14.1
comp=Z,904nm,19.9s
WLF1 Llynfaes 92.92 323 IAmb IAmb 23 27 43.6
comp=Z,169nm,1.2s
WLF1 IAMs_20 IAMs_20 00 03 32.8
comp=Z,3µm,32.2s
NIKH Nikolski High 92.96 37 eP **P** **23 27 41.1 -0.9**
comp=Z,128nm,1.0s
SNAA Sanae 94.01 198 P **P** **23 27 46.9 +0.3**
SNAA Sanae 94.01 198 P **P** **23 27 47.3 +0.8**
comp=Z,14nm,1.1s,baz=136,slow=3.7,SNR=25
SNAA PKKPbc **PKKPdf** **23 44 48.2 -2.4**
comp=Z,3.3nm,0.8s,baz=238,slow=4.7,SNR=9.6
SNAA Sanae 94.01 198 eP **P** **23 27 46.9 +0.3**
comp=Z,37nm,1.4s
SNAA PKKPbc **PKKPdf** **23 44 48.2 -2.4**
SNAA Sanae 94.01 198 ‖ iP **P** **23 27 47.9 +1.4**
ES19 SONSECA Array 94.22 310 eP **P** **23 27 48.4 +0.2**
UNV Unalaska Valle 94.23 36 eP **P** **23 27 47.8 +0.1**
comp=Z,59nm,1.0s
ESDC Sonseca Array 94.28 310 P **P** **23 27 49.2 +0.7**
comp=Z,7.3nm,0.7s,baz=60,slow=4.2,SNR=49
ESDC PKKPbc **PKKPbc** **23 44 49.8 -0.2**
comp=Z,0.6nm,0.7s,baz=254,slow=2.6,SNR=4.5
ESLA Sonseca Array 94.28 310 eP **P** **23 27 48.0 -0.4**
comp=Z,16nm,0.8s
PAB San Pablo 94.59 310 eP **P** **23 27 51.6 +1.7**
comp=Z,27nm,1.0s
PAB LR LR
comp=Z,1µm,21.0s
PAB San Pablo 94.59 310 eP **P** **23 27 51.6 +1.7**
PAB pmax pmax
comp=Z,27nm,1.0s
PAB MLR MLR
comp=Z,1µm,21.0s
VNA2 Neumayer--Watz 95.56 199 P **P** **23 27 54.0 +0.4**
baz=81,slow=3.9
VNA1 Neumayer--Stat 95.90 199 P **P** **23 27 56.3 +1.3**
SCO Scoresbysund 96.21 342 iP **P** **23 27 57.5 +1.0**
comp=Z,22nm,1.5s
SCO Scoresbysund 96.21 342 eP **P** **23 27 57.9 +1.5**
comp=Z,23nm,1.5s
SCO Scoresbysund 96.21 342 iP **P** **23 27 57.5 +1.0**
SCO pmax pmax
comp=Z,22nm,1.5s
VNA3 Neumayer Olymp 96.24 198 P **P** **23 27 57.7 +1.1**
MVO Moncorvo 96.41 312 eP **P** **23 27 59.6 +1.5**
KOWA Kowa 96.61 285 P **P** **23 28 01.2 +1.7**
comp=Z,24nm,0.8s,baz=83,slow=4.0,SNR=64
KOWA Kowa 96.61 285 eP **P** **23 28 00.4 +0.9**
comp=Z,59nm,0.8s
PBAR Barrancos 96.84 309 eP **P** **23 28 01.7 +1.6**
comp=Z,80nm,1.1s
MTE Manteigas 96.91 311 eP **P** **23 28 02.1 +1.7**
MTE Manteigas 96.91 311 PFAKE 23 28 10.0 +10
MTE LR LR
comp=Z,1µm,20.0s
IM3 Indian Mountai 97.16 22 eP **P** **23 27 59.9 -0.9**
PESTR Estremoz 97.17 309 eP **P** **23 27 59.6 -2.0**
RTC Rabat Centre 97.27 304 PFAKE 23 28 10.0 +7.8
RTC LR LR
comp=Z,3µm,20.0s
EVO Evora 97.55 309 eP Pdif 23 28 06.0 +2.7
TOLK Toolik Lake Re 97.55 19 P **P** **23 28 02.7 0.0**
baz=296
TOLK Toolik Lake Re 97.55 19 eP **P** **23 28 02.5 -0.1**
comp=Z,41nm,1.0s
KIC Kosan Boka 97.82 277 ePKP2 Pdif 23 28 05.7 +0.6
comp=Z,61nm,1.1s
DBIC Dimbokro 97.92 277 P **P** **23 28 05.0 -0.5**
comp=Z,7.7nm,0.7s,baz=64,slow=4.2,SNR=15
DBIC PKKPbc **PKKPbc** **23 44 39.0 -0.2**
comp=Z,2.6nm,0.7s,baz=235,slow=7.1,SNR=4.3
DBIC Dimbokro 97.92 277 eP Pdif 23 28 06.7 +1.2
comp=Z,94nm,1.9s
DBIC PKKPbc **PKKPbc** **23 44 39.0 -0.2**
DBIC Dimbokro 97.92 277 P **P** **23 28 05.0 -0.5**
DBIC pmax pmax
comp=Z,8.0nm,0.7s
DBIC pmax pmax

comp=Z,3.0nm,0.7s
COLD Coldfoot 97.95 21 *e*P Pdif 23 28 04.9 +0.4
comp=Z,1.1nm,1.0s
PNCL Nicolau / Gran 98.02 309 *e*P Pdif 23 28 06.4 +1.0
TIC Toumodi 98.08 277 *e*PKP2 Pdif 23 28 06.3 0.0
LIC Lamto 98.11 277 *e*PKP2 Pdif 23 28 06.9 +0.5
comp=Z,57nm,1.2s
SVW2 Sparrevohn 98.13 27 *e*P Pdif 23 28 06.1 +0.7
comp=Z,52nm,1.4s
BORG Borgarnes 98.34 337 PFAKE 23 28 20.0 +14
BORG LR LR
comp=Z,986nm,20.0s
MLY Manley 98.69 23 *e*P Pdif 23 28 07.9 +0.1
comp=Z,9.2nm,0.9s
CAST Castle Rocks 98.80 24 *e*P Pdif 23 28 08.6 +0.2
comp=Z,26nm,1.2s
PPLA Purkeypile 98.97 25 *e*P Pdif 23 28 10.0 +0.7
comp=Z,79nm,1.9s
BPAW Bear Paw Mtn. 98.98 24 *e*P **P 23 28 08.9 -0.2**
comp=Z,16nm,0.8s
KTH Kantishna Hill 99.23 24 *e*P **Pdif 23 28 11.2 +0.9**
comp=Z,8.2nm,1.0s
SHEL Horse Pasture 99.36 254 PFAKE 23 28 20.0 +8.1
SHEL LR LR
comp=Z,1µm,19.0s
SUMG Summit 99.49 347 *i* P **Pdif 23 28 11.9 +0.2**
comp=Z,24nm,1.3s
SUMG Summit 99.49 347 *e*P **Pdif 23 28 12.1 +0.4**
comp=Z,28nm,1.4s
SUMG Summit 99.49 347 *e*P **Pdif 23 28 12.1 +0.4**
SUMG pmax pmax
comp=Z,28nm,1.4s
TRF Thorofare Moun 99.53 24 *e*P **Pdif 23 28 11.7 -0.1**
comp=Z,9.5nm,0.8s
MDM Murphy Dome 99.68 22 *e*Pdif **Pdif 23 28 12.2 0.0**
comp=Z,8.8nm,0.9s
COLA College 99.86 22 PFAKE 23 28 20.0 +7.0
COLA LR LR
comp=Z,948nm,21.0s
MCK McKinley 99.95 24 *e*Pdif **Pdif 23 28 13.0 -0.5**
comp=Z,20nm,1.0s
MCK McKinley 99.95 24 *e*P **Pdif 23 28 13.0 -0.5**
MCK pmax pmax
comp=Z,20nm,1.0s
WRH Wood River Hil 99.95 23 *e*Pdif **Pdif 23 28 12.3 -1.1**
comp=Z,5.3nm,1.0s
RND Reindeer 100.13 24 *e*Pdif **Pdif 23 28 14.4 0.0**
RND Reindeer 100.13 24 *e*P **Pdif 23 28 14.4 0.0**
SUA Susitna One 100.16 26 *e*Pdif **Pdif 23 28 14.2 -0.4**
ILAR Eielson Array 100.28 22 P **Pdif 23 28 13.2 -1.7**
comp=Z,2.7nm,0.7s,baz=288,slow=4.4,SNR=26
ILAR PP **PP 23 32 21.1 +0.3**
comp=Z,3.3nm,0.9s,baz=317,slow=3.7,SNR=4.9
ILAR PKKPbc **PKKPbc 23 44 32.1 -2.3**
comp=Z,2.6nm,0.8s,baz=135,slow=2.7,SNR=14
ILAR SKKS 23 52 39.0
comp=Z,0.3nm,0.9s,baz=31,slow=2.1,SNR=4.2
ILAR Eielson Array 100.28 22 P **Pdif 23 28 13.2 -1.7**
ILAR PP **PP 23 32 21.1 +0.3**
ILAR PKKPbc **PKKPbc 23 44 32.1 -2.3**
KDAK Kodiak Island 100.73 30 P **Pdif 23 28 17.4 +0.4**
comp=Z,10nm,0.8s,baz=200,slow=3.8,SNR=7.9
KDAK PKKPbc **PKKPbc 23 44 29.8 -3.0**
comp=Z,5.0nm,0.8s,baz=323,slow=18,SNR=7.8
KDAK Kodiak Island 100.73 30 P **Pdif 23 28 17.4 +0.4**
KDAK PKKPbc **PKKPbc 23 44 29.8 -3.0**
KDAK LR LR
comp=Z,552nm,21.0s
KDAK Kodiak Island 100.73 30 *i* P **Pdif 23 28 18.2 +1.2**
RC01 Rabbit Creek A 100.76 26 *e*Pdif **Pdif 23 28 17.3 +0.2**
BRLK Bradley Lake 100.78 28 *e*Pdif **Pdif 23 28 16.5 -0.8**
DHY Denali Highway 100.88 24 *e*Pdif **Pdif 23 28 17.8 0.0**
RIDG Independ'e Rid 101.56 23 *e*Pdif **Pdif 23 28 20.0 -0.7**
SCRK Sand Creek 101.77 22 *e*Pdif **Pdif 23 28 21.5 -0.2**
DOT Dot Lake 101.91 23 *e*Pdif **Pdif 23 28 22.1 -0.1**
EGAK Eagle 102.38 21 PFAKE 23 28 40.0 +16
EGAK LR LR
comp=Z,2µm,20.0s
INK Inuvik 102.64 16 P **Pdif 23 28 24.9 -0.4**
comp=Z,2.8nm,0.5s,baz=344,slow=8.3,SNR=26
INK PKiKP **PKiKP 23 32 45.4 -0.6**
comp=Z,6.7nm,1.0s,baz=317,slow=2.8,SNR=4.7
INK PKKPbc **PKKPbc 23 44 23.2 -4.3**
comp=Z,6.8nm,0.9s,baz=158,slow=2.0,SNR=25
INK Inuvik 102.64 16 PKiKP **PKiKP 23 32 45.4 -0.6**
INK PKKPbc **PKKPbc 23 44 23.2 -4.3**
BMRM Bremner River 103.04 25 *e*Pdif **Pdif 23 28 27.7 +0.4**
RES Resolute Bay 103.09 2 Pdiff **Pdif 23 28 27.8 +0.6**
baz=348,slow=5.6
RES PKiKP **PKiKP 23 32 47.7 +1.0**
comp=Z,4.6nm,0.8s,baz=19,slow=4.8,SNR=5.4
RES PKKPbc **PKKPbc 23 44 22.5 -3.8**
comp=Z,1.0nm,0.9s,baz=204,slow=8.4,SNR=4.7
DAWY Dawson 103.42 21 *e*Pdif **Pdif 23 28 29.1 +0.1**
SFJD Kangerlussuaq 106.44 346 PP PP 23 33 10.0 +3.5
comp=Z,9.9nm,1.1s,baz=34,slow=9.5,SNR=3.3
SFJD Kangerlussuaq 106.44 346 PFAKE 23 33 00.0
SFJD LR LR
comp=Z,2µm,20.0s
ASCN Ascension 107.86 262 PFAKE 23 33 10.0
ASCN LR LR
comp=Z,1µm,20.0s
WRAK Wrangell Islan 110.88 25 PFAKE 23 33 10.0
WRAK LR LR
comp=Z,1µm,19.0s
CMLA Cha da Macela 111.09 312 PFAKE 23 33 10.0
CMLA LR LR
comp=Z,768nm,19.0s
YKA Yellowknife Ar 112.11 14 Pdiff **Pdif 23 29 08.9 +1.4**
comp=Z,1.5nm,0.7s,baz=327,slow=4.6,SNR=37
YKA PKiKP **PKiKP 23 33 01.9 -2.0**
comp=Z,2.2nm,0.8s,baz=337,slow=2.0,SNR=17
YKA PKKPbc **PKKPbc 23 43 54.8 -2.9**
comp=Z,2.1nm,0.7s,baz=148,slow=3.2,SNR=30
YKA PKKPab **PKKPab 23 44 03.4 -1.9**
comp=Z,1.9nm,0.8s,baz=109,slow=3.4,SNR=4.2
YKA SKKP 23 47 54.5
comp=Z,0.4nm,0.9s,baz=139,slow=4.3,SNR=2.9
YKA SKKS 23 52 20.9
comp=Z,0.2nm,0.8s,baz=132,slow=3.3,SNR=4.6
YKA Yellowknife Ar 112.11 14 Pdif **Pdif 23 29 08.9 +1.4**
YKA PKiKP **PKiKP 23 33 01.9 -2.0**
YKA PKKPbc **PKKPbc 23 43 54.9 -2.9**
YKA PKKPab **PKKPab 23 44 03.5 -1.9**
YKA Yellowknife Ar 112.11 14 P **Pdif 23 29 08.9 +1.4**
YKA *i* 23 33 01.9
FRB Frobisher Bay 112.88 351 PKiKP **PKiKP 23 33 04.2 -1.1**
comp=Z,9.6nm,0.7s,baz=10,slow=3.1,SNR=24
HOPE Hope Point 113.96 210 PFAKE 23 33 20.0
HOPE LR LR
comp=Z,1µm,21.0s
SACV Santiago Islan 115.38 288 PFAKE 23 33 20.0 +8.6
SACV LR LR
comp=Z,513nm,20.0s
PMSA Palmer Station 115.43 190 PFAKE 23 33 20.0 +10
PMSA LR LR
comp=Z,2µm,21.0s
FCC Fort Churchill 118.96 4 *e*PKPdf **PKPdf 23 33 15.8 -1.3**
FCC Fort Churchill 118.96 4 *e*PKiKP **PKPdf 23 33 15.8 -1.3**
LLLB Lillooet 119.40 25 *e*PKPdf **PKPdf 23 33 17.9 -0.4**
A04D Lummi Island 120.44 27 P **PKPdf 23 33 20.0 -0.2**
baz=317
NLWA Neilton Lookou 120.85 29 PFAKE 23 33 30.0 +8.8
NLWA LR LR
comp=Z,2µm,20.0s
SCHQ Schefferville 120.88 347 PKP **PKPdf 23 33 20.4 -0.6**
comp=Z,19nm,0.6s,baz=14,slow=2.7,SNR=15
SCHQ PKKPbc **PKKPab 23 43 24.9 -1.8**
comp=Z,6.9nm,0.7s,baz=199,slow=3.2,SNR=4.6
SCHQ Schefferville 120.88 347 *e*PKPdf **PKPdf 23 33 20.6 -0.4**
SCHQ PKKPbc **PKKPab 23 43 24.9 -1.8**
B05A Bryant 121.05 27 P **PKPdf 23 33 21.1 -0.3**
baz=318
B06A Marblemount 121.13 26 *e*PKPdf **PKPdf 23 33 21.6 0.0**
D05A Enumclaw 121.89 28 *e*PKPdf **PKPdf 23 33 24.4 +1.3**
FFC Flin Flon 121.89 10 *e*PKPdf **PKPdf 23 33 21.8 -1.1**
FFC LR LR
comp=Z,2µm,22.0s
FFC Flin Flon 121.89 10 *e*PKiKP **PKPdf 23 33 21.8 -1.1**
FFC MLR MLR
comp=Z,2µm,22.0s
B08A Colville Reser 122.19 25 *e*PKPdf **PKPdf 23 33 23.0 -0.7**
LON Longmire 122.29 28 *e*PKPdf **PKPdf 23 33 24.3 +0.3**
LON Longmire 122.29 28 *e*PKiKP **PKPdf 23 33 24.3 +0.3**
LTY Liberty 122.44 27 *e*PKPdf **PKPdf 23 33 23.2 -1.1**

G03D McMinnville, O 122.69 30 P **PKPdf 23 33 23.9 -0.8**
baz=315
C09A Chrisman Ranch 123.07 25 *e*PKPdf **PKPdf 23 33 25.4 0.0**
NEW Newport 123.18 24 PKP **PKPdf 23 33 24.9 -0.7**
comp=Z,7.3nm,0.9s,baz=170,slow=1.3,SNR=12
NEW Newport 123.18 24 P **PKPdf 23 33 25.2 -0.5**
baz=323
NEW Newport 123.18 24 *e*PKPdf **PKPdf 23 33 26.2 +0.6**
NEW LR LR
comp=Z,1µm,21.0s
NEW Newport 123.18 24 *e*PKiKP **PKPdf 23 33 26.3 +0.6**
NEW MLR MLR
comp=Z,1µm,21.0s
D08A Wollman Farm, 123.37 26 *e*PKPdf **PKPdf 23 33 26.0 0.0**
HAWA Hanford 123.61 27 PFAKE 23 33 40.0 +14
HAWA LR LR
comp=Z,1µm,21.0s
H04A Detroit Lake 123.61 30 *e*PKPdf **PKPdf 23 33 26.2 -0.4**
G05D Wamic, OR 123.63 29 P **PKPdf 23 33 26.5 -0.1**
baz=317
I03D Drain, OR 123.71 31 P **PKPdf 23 33 26.6 -0.1**
baz=314
E08A Dider Farm, El 123.74 26 *e*PKPdf **PKPdf 23 33 27.1 +0.4**
WALA Waterton Lakes 123.77 21 *e*PKPdf **PKPdf 23 33 27.2 +0.3**
F07A Phinny Hill Vi 123.80 27 *e*PKPdf **PKPdf 23 33 28.2 +1.4**
G06A Carlson Farm, 123.96 28 *e*PKPdf **PKPdf 23 33 26.9 -0.4**
I04A Tendick Farm, 124.13 31 P **PKPdf 23 33 26.9 -0.7**
baz=315,SNR=7.5
E09A Wood Farm, Sta 124.13 26 *e*PKPdf **PKPdf 23 33 28.3 +0.9**
I05D Terrebonne, OR 124.28 30 P **PKPdf 23 33 28.0 +0.2**
baz=317
L02D Cave Junction, 124.64 33 P **PKPdf 23 33 28.7 +0.2**
baz=313
J04D Umpqua Nationa 124.67 31 P **PKPdf 23 33 28.2 -0.6**
baz=315,SNR=11
HUMO Hull Mountain 124.67 32 *e*PKPdf **PKPdf 23 33 29.1 +0.5**
G08A Pilot Rock 124.70 27 *e*PKPdf **PKPdf 23 33 28.8 0.0**
PINE Pine Mountain 124.87 30 *e*PKPdf **PKPdf 23 33 29.9 +0.6**
F10A Beach Ranch, E 124.95 26 *e*PKPdf **PKPdf 23 33 28.8 -0.3**
J05D Fort Rock, OR 125.09 30 P **PKPdf 23 33 29.7 +0.1**
baz=316
K04D Chiloquin, OR 125.29 31 P **PKPdf 23 33 29.6 -0.4**
baz=315
I07A Izee 125.36 29 *e*PKPdf **PKPdf 23 33 31.6 +1.5**
YBH Yreka Blue Hor 125.41 33 PKP **PKPdf 23 33 29.9 -0.3**
comp=Z,2.8nm,0.9s,baz=350,slow=6.1,SNR=6.1
YBH Yreka Blue Hor 125.41 33 *e*PKPdf **PKPdf 23 33 30.9 +0.7**
YBH Yreka Blue Hor 125.41 33 *e*PKiKP **PKPdf 23 33 30.9 +0.7**
KHMM Horse Mountain 125.43 34 *e*PKPdf **PKPdf 23 33 31.9 +1.6**
M02C Callahan 125.57 33 P **PKPdf 23 33 30.6 +0.2**
baz=314,SNR=15
MSO Missoula 125.61 23 P **PKPdf 23 33 29.4 -1.0**
baz=326
MSO Missoula 125.61 23 *e*PKPdf **PKPdf 23 33 29.9 -0.6**
K05A Sumner Lake 125.67 31 *e*PKPdf **PKPdf 23 33 31.3 +0.5**
BMO Blue Mountains 125.79 27 *e*PKPdf **PKPdf 23 33 30.6 -0.2**
BMO LR LR
comp=Z,1µm,22.0s
BMO Blue Mountains 125.79 27 *e*PKiKP **PKPdf 23 33 30.6 -0.2**
BMO MLR MLR
comp=Z,1µm,22.0s
M04C Macdoel 125.84 32 P **PKPdf 23 33 30.5 -0.6**
baz=315,SNR=11
KMRM Mail Ridge 125.88 35 *e*PKPdf **PKPdf 23 33 32.8 +1.7**
N02D Trinity Center 125.94 33 P **PKPdf 23 33 31.1 -0.1**
baz=314,SNR=14
EGMT Eagleton 126.08 19 P **PKPdf 23 33 30.9 -0.4**
baz=331
EGMT Eagleton 126.08 19 PFAKE 23 33 40.0 +8.7
EGMT LR LR
comp=Z,1µm,20.0s
WDC Whiskeytown Da 126.30 34 *e*PKPdf **PKPdf 23 33 32.4 +0.6**
WDC Whiskeytown Da 126.30 34 *e*PKiKP **PKPdf 23 33 32.4 +0.6**
J08A Circle Bar Ran 126.39 29 *e*PKPdf **PKPdf 23 33 32.6 +0.6**
HRY Holter Researc 126.50 21 *e*PKPdf **PKPdf 23 33 32.9 +0.8**
MOD Modoc Plateau 126.56 31 *e*PKPdf **PKPdf 23 33 32.4 -0.1**
O03D Paynes Creek 126.90 33 P **PKPdf 23 33 31.9 -1.1**
baz=314
WVOR Wild Horse Val 127.01 29 *e*PKPdf **PKPdf 23 33 33.8 +0.5**
WVOR LR LR
comp=Z,963nm,22.0s
WVOR Wild Horse Val 127.01 29 *e*PKiKP **PKPdf 23 33 33.8 +0.5**
WVOR MLR MLR
comp=Z,963nm,22.0s
HOPS Hopland Field 127.07 35 *e*PKPdf **PKPdf 23 33 34.0 +0.7**
ULM Lac du Bonnet 127.18 7 PKP **PKPdf 23 33 32.7 -0.5**
comp=Z,39nm,0.8s,baz=360,slow=2.7,SNR=88
ULM PP **PP 23 35 28.7 -2.4**
comp=Z,5.9nm,0.9s,baz=352,slow=8.1,SNR=3.9
ULM SKKPbc SKKPbc 23 46 55.4 +3.6
comp=Z,3.0nm,0.8s,baz=169,slow=5.2,SNR=4.4
ULM Lac du Bonnet 127.18 7 *e*PKPdf **PKPdf 23 33 31.1 -2.1**
ULM PP **PP 23 35 28.7 -2.4**
DGMT Dagmar 127.29 15 P **PKPdf 23 33 33.0 -0.5**
baz=338
DGMT Dagmar 127.29 15 *e*PKPdf **PKPdf 23 33 34.8 +1.3**
DGMT LR LR
comp=Z,2µm,20.0s
DLMT Dillon 127.35 23 *e*PKPdf **PKPdf 23 33 34.4 +0.5**
GDXM Geysers 127.35 35 *e*PKPdf **PKPdf 23 33 34.9 +1.0**
BOZ Bozeman (W) 127.52 22 P **PKPdf 23 33 33.6 -0.5**
baz=328
BOZ Bozeman (W) 127.52 22 *e*PKPdf **PKPdf 23 33 34.2 0.0**
BOZ LR LR
comp=Z,2µm,22.0s
BOZ Bozeman (W) 127.52 22 *e*PKiKP **PKPdf 23 33 34.2 0.0**
BOZ MLR MLR
comp=Z,2µm,22.0s
MFID Camas Ranch 127.58 27 *e*PKPdf **PKPdf 23 33 33.9 -0.4**
ORV Oroville 127.58 34 *e*PKPdf **PKPdf 23 33 34.6 +0.3**
ORV Oroville 127.58 34 *e*PKiKP **PKPdf 23 33 34.6 +0.3**
MCMT McKenzie Canyo 127.69 23 *e*PKPdf **PKPdf 23 33 35.1 +0.4**
HLID Hailey 128.08 26 P **PKPdf 23 33 35.4 +0.1**
baz=324
HLID Hailey 128.08 26 *e*PKPdf **PKPdf 23 33 34.3 -1.1**
HLID LR LR
comp=Z,1µm,20.0s
QLMT Earthquake Lak 128.24 22 *e*PKPdf **PKPdf 23 33 36.6 +1.0**
AFDM Forest Hills D 128.30 34 *e*PKPdf **PKPdf 23 33 35.7 0.0**
LAO LASA Array 128.37 17 P **PKPdf 23 33 36.0 +0.4**
baz=335
LAO LASA Array 128.37 17 *e*PKPdf **PKPdf 23 33 36.6 +0.9**
LAO LR LR
comp=Z,2µm,20.0s
A32A Rocking H Ranc 128.40 8 P **PKPdf 23 33 34.5 -1.0**
baz=347
YHB Horse Butte 128.40 22 *e*PKPdf **PKPdf 23 33 36.4 +0.4**
YHH Holmes Hill 128.50 22 *e*PKPdf **PKPdf 23 33 36.3 0.0**
A33A Warroad 128.53 7 P **PKPdf 23 33 35.1 -0.7**
baz=349,SNR=43
YMR Madison River 128.55 22 *e*PKPdf **PKPdf 23 33 38.2 +1.9**
PAHR Pah Rah Range 128.63 32 *e*PKPdf **PKPdf 23 33 36.8 +0.4**
PQI Presque Isle 128.67 344 *e*PKPdf **PKPdf 23 33 36.3 +0.2**
RUBR Rubicon Trail 128.68 33 *e*PKPdf **PKPdf 23 33 38.3 +1.6**
B31A Grenbush Farm 128.70 9 P **PKPdf 23 33 34.8 -1.3**
baz=346
RLMT Red Lodge 128.78 20 P **PKPdf 23 33 36.4 -0.2**
baz=330
RLMT Red Lodge 128.78 20 *e*PKPdf **PKPdf 23 33 37.6 +0.9**
RLMT LR LR
comp=Z,2µm,20.0s
VCNR Virginia City 128.78 33 *e*PKPdf **PKPdf 23 33 37.4 +0.6**
YFT Old Faithful 128.79 22 *e*PKPdf **PKPdf 23 33 38.8 +2.1**
LKWY Lake 128.85 22 PFAKE 23 33 50.0 +13
LKWY LR LR
comp=Z,1µm,20.0s
RDG13 Poverty Ridge 128.89 36 *e*PKPdf **PKPdf 23 33 38.3 +1.3**
B32A Ashes, Strandq 128.90 8 P **PKPdf 23 33 35.4 -1.2**
baz=347
MDND Maddock 128.91 11 P **PKPdf 23 33 35.7 -0.9**
baz=343
MDND Maddock 128.91 11 *e*PKPdf **PKPdf 23 33 36.0 -0.6**
H17A Grant Village 128.93 22 P **PKPdf 23 33 37.9 +0.8**
baz=329
H17A Grant Village 128.93 22 *e*PKPdf **PKPdf 23 33 38.3 +1.3**
YPP Pitchstone Pla 128.95 22 *e*PKPdf **PKPdf 23 33 39.1 +2.0**
B34A Aery, Baudette 129.06 7 P **PKPdf 23 33 35.9 -1.0**
baz=350,SNR=16
AGMN Agassiz Nation 129.09 8 P **PKPdf 23 33 35.7 -1.2**
baz=348
AGMN Agassiz Nation 129.09 8 *e*PKPdf **PKPdf 23 33 36.1 -0.8**
AGMN LR LR
comp=Z,2µm,22.0s
B33A Robert and Kas 129.15 8 P **PKPdf 23 33 35.7 -1.3**
baz=348

BMN Battle Mountai 129.22 30 *e*PKPdf **PKPdf 23 33 38.2 +0.6**
BMN Battle Mountai 129.22 30 *e*PKiKP **PKPdf 23 33 38.2 +0.6**
IMW Indian Meadow 129.22 23 *e*PKPdf **PKPdf 23 33 38.5 +0.8**
YERR Yerington 129.23 33 *e*PKPdf **PKPdf 23 33 38.2 +0.5**
CMB Columbia Colle 129.26 35 *e*PKPdf **PKPdf 23 33 37.5 -0.1**
CMB Columbia Colle 129.26 35 *e*PKiKP **PKPdf 23 33 37.5 -0.1**
B35A Bob, Littlefor 129.29 6 P **PKPdf 23 33 36.2 -1.1**
baz=351,SNR=28
C31A Landman Farms, 129.30 10 P **PKPdf 23 33 36.2 -1.1**
baz=346
FXWY Fox Creek 129.40 23 *e*PKPdf **PKPdf 23 33 38.4 +0.4**
MOOW Moose Ponds 129.42 23 *e*PKPdf **PKPdf 23 33 38.2 +0.3**
C32A Crookston 129.46 9 P **PKPdf 23 33 36.3 -1.3**
baz=347
WAKR Walker 129.46 33 *e*PKPdf **PKPdf 23 33 38.9 +0.8**
TPAW Teton Pass 129.56 23 *e*PKPdf **PKPdf 23 33 39.0 +0.7**
LOHW Long Hollow 129.59 23 *e*PKPdf **PKPdf 23 33 38.8 +0.5**
C33A Trail 129.63 8 P **PKPdf 23 33 36.6 -1.3**
baz=348
SNOW Snow King Moun 129.66 23 *e*PKPdf **PKPdf 23 33 39.3 +0.9**
REDW Red Top Meadow 129.70 23 *e*PKPdf **PKPdf 23 33 38.3 -0.2**
C34A RKJ Ranch, Bem 129.85 7 P **PKPdf 23 33 37.3 -1.0**
baz=349,SNR=8.2
RYN Ryan 129.87 33 *e*PKPdf **PKPdf 23 33 39.9 +1.0**
EYMN Ely 129.90 4 P **PKPdf 23 33 37.8 -0.6**
baz=354
EYMN Ely 129.90 4 *e*PKPdf **PKPdf 23 33 37.9 -0.6**
EYMN LR LR
comp=Z,1µm,22.0s
C35A Jirik Farms, M 129.91 6 P **PKPdf 23 33 37.1 -1.4**
baz=350,SNR=14
C36A Pine Crest Far 129.98 5 P **PKPdf 23 33 37.6 -0.9**
baz=352,SNR=17
D31A Mcclaflin, Tow 130.02 10 P **PKPdf 23 33 37.6 -1.0**
baz=346
D32A Dogwood Acres, 130.05 9 P **PKPdf 23 33 37.4 -1.3**
baz=346
C40A Isle Royale Na 130.07 2 P **PKPdf 23 33 37.7 -1.0**
baz=357
AHID Auburn Hatcher 130.11 24 *e*PKPdf **PKPdf 23 33 39.5 +0.2**
AHID LR LR
comp=Z,2µm,21.0s
C39A Grand Marais 130.12 3 P **PKPdf 23 33 37.4 -1.5**
baz=356
NVAR Mina Array Bea 130.13 33 PKhKP PKPpre 23 33 25.8
comp=Z,0.6nm,0.6s,baz=277,slow=2.4,SNR=5.4
NVAR PKP **PKPdf 23 33 39.8 +0.3**
comp=Z,6.0nm,0.8s,baz=264,slow=2.0,SNR=19
NVAR PP **PP 23 35 51.1 -0.4**
comp=Z,1.3nm,0.7s,baz=262,slow=2.7,SNR=2.1
NVAR PKKP **PKKPdf 23 43 42.0 -0.4**
comp=Z,0.4nm,0.6s,baz=108,slow=4.8,SNR=4.5
NVAR SKKPbc SKKPbc 23 46 39.7 -1.6
comp=Z,1.1nm,0.9s,baz=134,slow=6.4,SNR=3.9
NVAR Mina Array Bea 130.13 33 PKP **PKPdf 23 33 39.8 +0.3**
NVAR PP **PP 23 35 51.1 -0.4**
NVAR PKKP **PKKPdf 23 43 42.0 -0.4**
C38A Sawbill Land. 130.15 4 P **PKPdf 23 33 37.8 -1.1**
baz=354
NV11 Mina Array Sit 130.21 33 *e*PKPdf **PKPdf 23 33 40.3 +0.8**
D33A AnnSam, Waubun 130.23 8 P **PKPdf 23 33 37.6 -1.5**
baz=348
HVU Hansel Valley 130.23 26 *e*PKPdf **PKPdf 23 33 40.0 +0.5**
HVU Hansel Valley 130.23 26 *e*PKiKP **PKPdf 23 33 40.0 +0.5**
MDPB Devils Postpil 130.28 34 *e*PKPdf **PKPdf 23 33 41.1 +1.3**
EMMW East Machias 130.29 342 *e*PKPdf **PKPdf 23 33 40.5 +1.2**
PKME Peaks-Kenny Pk 130.31 344 P **PKPdf 23 33 38.8 -0.4**
baz=23
PKME Peaks-Kenny Pk 130.31 344 *e*PKPdf **PKPdf 23 33 39.5 +0.2**
PKME LR LR
comp=Z,1µm,22.0s
D34A Park Rapids 130.37 8 P **PKPdf 23 33 38.1 -1.3**
baz=349,SNR=9.3
E31A Nome 130.47 10 P **PKPdf 23 33 38.1 -1.4**
baz=345
D35A Remer 130.52 7 P **PKPdf 23 33 38.5 -1.2**
baz=350,SNR=15
D36A Goodland 130.52 6 P **PKPdf 23 33 38.7 -0.9**
baz=351,SNR=8.3
E32A Braaten, Kindr 130.57 9 P **PKPdf 23 33 38.7 -1.1**
baz=346
D37A Cotton 130.61 5 P **PKPdf 23 33 39.1 -0.7**
baz=352
BW06 Boulder Array 130.71 22 P **PKPdf 23 33 39.4 -1.0**
baz=329
BW06 Boulder Array 130.71 22 *e*PKPdf **PKPdf 23 33 38.0 -2.4**
BW06 LR LR
comp=Z,2µm,21.0s
PDAR Pinedale Array 130.71 22 PKhKP PKPpre 23 33 34.1
comp=Z,3.3nm,0.5s,baz=85,slow=3.3,SNR=20
PDAR PKP **PKPdf 23 33 40.4 0.0**
comp=Z,12nm,0.9s,baz=341,slow=1.9,SNR=42
PDAR PP **PP 23 35 53.3 -1.6**
comp=Z,2.0nm,0.8s,baz=329,slow=1.1,SNR=2.9
PDAR SKKPbc SKKPbc 23 46 33.5 -6.0
comp=Z,0.1nm,0.4s,baz=120,slow=5.3,SNR=3.9
PDAR Pinedale Array 130.71 22 PKP **PKPdf 23 33 40.4 0.0**
PDAR PP **PP 23 35 53.3 -1.6**
BGU Big Grassy Mou 130.81 26 *e*PKPdf **PKPdf 23 33 41.1 +0.5**
E33A Westby DABS, E 130.83 9 P **PKPdf 23 33 39.2 -1.1**
baz=348
HWUT Hardware Ranch 130.89 25 *e*PKPdf **PKPdf 23 33 40.6 -0.1**
HWUT LR LR
comp=Z,1µm,22.0s
PAGB Antelope Grade 130.93 37 *e*PKPdf **PKPdf 23 33 43.4 +2.6**
E34A Wadena 130.94 8 P **PKPdf 23 33 39.5 -1.0**
baz=349,SNR=5.8
D41A Chassel 130.94 2 P **PKPdf 23 33 39.9 -0.5**
baz=358
E35A Pequot Lakes 130.99 7 P **PKPdf 23 33 39.5 -1.1**
baz=350,SNR=8.9
WVL Waterville 131.06 344 *e*PKPdf **PKPdf 23 33 40.1 -0.6**
F31A Hecla 131.07 11 P **PKPdf 23 33 39.7 -1.0**
baz=345
E36A McGregor 131.16 6 P **PKPdf 23 33 40.0 -0.9**
baz=351,SNR=18
TIN Tinemaha, Big 131.17 34 P **PKPdf 23 33 41.5 +0.2**
baz=316
E37A Wrenshall 131.20 5 P **PKPdf 23 33 40.2 -0.7**
baz=352
E38A The Farm, Brul 131.23 5 P **PKPdf 23 33 40.0 -1.0**
baz=354
F32A Veblen 131.26 10 P **PKPdf 23 33 40.1 -0.9**
baz=346
RSSD Black Hills 131.34 17 P **PKPdf 23 33 40.7 -0.8**
baz=337
TCUT Toone Canyon 131.36 25 *e*PKPdf **PKPdf 23 33 42.7 +1.0**
SMMC Simmler 131.36 37 P **PKPdf 23 33 42.2 +0.5**
baz=313
E44A Grand Marais A 131.41 359 P **PKPdf 23 33 40.7 -0.6**
baz=1.0
F33A 5 Mile Ranch, 131.43 9 P **PKPdf 23 33 40.5 -0.8**
baz=347
DUG Dugway, Tooele 131.50 27 P **PKPdf 23 33 41.7 -0.2**
baz=324
DUG Dugway, Tooele 131.50 27 *e*PKPdf **PKPdf 23 33 42.4 +0.5**
DUG LR LR
comp=Z,2µm,22.0s
DUG Dugway, Tooele 131.50 27 *e*PKiKP **PKPdf 23 33 42.4 +0.5**
DUG MLR MLR
comp=Z,2µm,22.0s
E40A Wakefield 131.50 3 P **PKPdf 23 33 41.1 -0.4**
baz=356
E41A Kenton 131.52 2 P **PKPdf 23 33 41.0 -0.6**
baz=357
E39A Mellen 131.53 4 P **PKPdf 23 33 41.1 -0.5**
baz=355
VES Vestal, Richgr 131.54 36 P **PKPdf 23 33 40.8 -1.1**
baz=314
E42A Champion 131.59 1 P **PKPdf 23 33 40.6 -1.1**
baz=358
R11A Troy Canyon, C 131.62 31 P **PKPdf 23 33 42.4 +0.2**
baz=320
R11A Troy Canyon, C 131.62 31 *e*PKPdf **PKPdf 23 33 42.5 +0.2**
F34A Alexandria 131.63 8 P **PKPdf 23 33 41.0 -0.8**
baz=348
E43A Lone Tree Farm 131.66 0 P **PKPdf 23 33 41.0 -0.8**
baz=360
F35A Swanville 131.66 7 P **PKPdf 23 33 40.9 -1.0**
baz=349,SNR=8.5
E45A Wooded Hills, 131.66 359 P **PKPdf 23 33 41.1 -0.7**
baz=2.0
GRAC Grapevine Rang 131.69 33 P **PKPdf 23 33 42.3 +0.1**
baz=317
CWC Cottonwood Cre 131.69 34 P **PKPdf 23 33 42.3 -0.1**
baz=316

G31A	Conde	131.69	11	P		PKPdf	23 33 41.0	-0.9	
	baz=344								
PKM	Mcpherson Peak	131.76	37	P		PKPdf	23 33 42.7	+0.1	
	baz=313								
JLU	Jordanelle	131.77	25	ePKPdf		PKPdf	23 33 43.6	+1.1	
FRNY	Flat Rock	131.77	348	ePKPdf		PKPdf	23 33 41.8	-0.2	
F36A	Milaca	131.78	6	P		PKPdf	23 33 41.4	-0.7	
	baz=351,SNR=21								
G32A	Webster	131.79	10	P		PKPdf	23 33 41.1	-1.0	
	baz=345								
F38A	Pierce - Schro	131.85	5	P		PKPdf	23 33 41.4	-0.8	
	baz=353								
COWI	Conover	131.88	2	ePKPdf		PKPdf	23 33 42.6	+0.3	
COWI				LR	LR				
	comp=Z,2µm,21.0s								
K22A	Casper	131.90	20	P		PKPdf	23 33 41.8	-0.8	
	baz=333								
LBNH	Lisbon	131.96	346	P		PKPdf	23 33 42.1	-0.4	
	baz=20								
LBNH	Lisbon	131.96	346	ePKPdf		PKPdf	23 33 42.9	+0.5	
LBNH	Lisbon	131.96	346	ePKIKP		PKPdf	23 33 42.9	+0.5	
F39A	Loretta	131.97	4	P		PKPdf	23 33 41.7	-0.7	
	baz=354								
F37A	Hinrichs Farm,	132.01	6	P		PKPdf	23 33 41.9	-0.5	
	baz=352,SNR=16								
F40A	Park Falls	132.01	3	P		PKPdf	23 33 41.8	-0.7	
	baz=355								
ISA	Isabella, Lake	132.02	35	P		PKPdf	23 33 42.6	-0.3	
	baz=315								
ISA	Isabella, Lake	132.02	35	ePKPdf		PKPdf	23 33 43.2	+0.3	
ISA	Isabella, Lake	132.02	35	ePKIKP		PKPdf	23 33 43.2	+0.3	
NLU	North Lily Min	132.03	26	ePKPdf		PKPdf	23 33 43.3	+0.3	
G33A	Ortonville	132.03	9	P		PKPdf	23 33 41.6	-1.0	
	baz=347								
F44A	Big Bay de Noc	132.06	360	P		PKPdf	23 33 42.3	-0.2	
	baz=0.3								
VT1	Waterbury	132.07	347	ePKPdf		PKPdf	23 33 43.0	+0.3	
DAC	Darwin (Calif)	132.08	34	ePKPdf		PKPdf	23 33 41.0	-2.2	
DAC	Darwin (Calif)	132.08	34	ePKIKP		PKPdf	23 33 41.0	-2.2	
G34A	Benson	132.11	9	P		PKPdf	23 33 42.1	-0.6	
	baz=348								
SBC	Santa Barbara	132.12	37	P		PKPdf	23 33 43.2	+0.2	
	baz=313								
MPU	Maple Canyon	132.17	26	ePKPdf		PKPdf	23 33 44.4	+1.2	
ARVC	Arvin	132.18	36	P		PKPdf	23 33 43.0	-0.1	
	baz=314								
LONY	Lake Ozonia	132.19	348	P		PKPdf	23 33 42.2	-0.7	
	baz=16								
LONY	Lake Ozonia	132.19	348	ePKPdf		PKPdf	23 33 42.2	-0.7	
LONY				LR	LR				
	comp=Z,1µm,21.0s								
F43A	Flat Rock, Esc	132.20	1	P		PKPdf	23 33 42.3	-0.5	
	baz=359								
PLVO	Plevna	132.23	351	ePKPdf		PKPdf	23 33 43.0	+0.1	
F46A	Macinaw City C	132.23	358	P		PKPdf	23 33 42.0	-0.8	
	baz=2.5								
F41A	Three Lakes	132.24	2	P		PKPdf	23 33 42.3	-0.6	
	baz=357								
F42A	Maple Grove Fa	132.25	1	P		PKPdf	23 33 42.1	-0.9	
	baz=358								
MPMC	Manual Prospec	132.30	34	P		PKPdf	23 33 44.1	+0.5	
	baz=316								
G35A	Watkins	132.30	8	P		PKPdf	23 33 42.5	-0.5	
	baz=349								
SUSD	Miller	132.30	12	P		PKPdf	23 33 42.1	-1.0	
	baz=343								
TPNV	Topopah Spring	132.32	32	P		PKPdf	23 33 43.8	+0.2	
	baz=318								
TPNV	Topopah Spring	132.32	32	ePKPdf		PKPdf	23 33 43.8	+0.2	
TPNV	Topopah Spring	132.32	32	ePKIKP		PKPdf	23 33 43.8	+0.2	
F45A	CMU Biological	132.34	359	P		PKPdf	23 33 42.6	-0.5	
	baz=1.5								
FURC	Furnace Creek,	132.35	33	P		PKPdf	23 33 43.7	+0.4	
	baz=317								
H31A	Wolsey	132.36	11	P		PKPdf	23 33 42.3	-0.9	
	baz=344								
G36A	St. Michael	132.37	7	P		PKPdf	23 33 42.8	-0.4	
	baz=350								
SCZ2	Santa Cruz Isl	132.47	38	P		PKPdf	23 33 43.4	-0.3	
	baz=313								
H33A	Prehn Over Nor	132.48	10	P		PKPdf	23 33 42.5	-0.9	
	baz=346								
SPMN	Marine on St.	132.49	6	P		PKPdf	23 33 42.8	-0.6	
	baz=352								
SPMN	Marine on St.	132.49	6	ePKPdf		PKPdf	23 33 44.0	+0.6	
H32A	Carlson Farm,	132.53	10	P		PKPdf	23 33 42.9	-0.7	
	baz=345								
HNH	Hanover	132.55	346	ePKPdf		PKPdf	23 33 44.3	+0.7	
G39A	Holcombe	132.57	4	P		PKPdf	23 33 42.9	-0.7	
	baz=354								
LRMC	Laurel Mtn Rad	132.60	35	P		PKPdf	23 33 44.3	+0.2	
	baz=316								
OSI	Osito Audit: C	132.60	37	P		PKPdf	23 33 43.9	-0.1	
	baz=314								
G38A	Ridgeland	132.63	5	P		PKPdf	23 33 42.5	-1.2	
	baz=353								
H34A	Spellman Lake,	132.65	9	P		PKPdf	23 33 43.2	-0.6	
	baz=348								
G40A	Rib Lake	132.66	3	P		PKPdf	23 33 43.2	-0.6	
	baz=355								
NCB	Newcomb	132.74	348	ePKPdf		PKPdf	23 33 43.7	-0.2	
BLG	Laguna Peak, P	132.74	37	P		PKPdf	23 33 44.2	-0.1	
	baz=313								
H35A	Sunnyside Ranc	132.76	8	P		PKPdf	23 33 43.2	-0.7	
	baz=349,SNR=16								
G42A	Mountain	132.76	2	P		PKPdf	23 33 43.3	-0.6	
	baz=358								
G42A	Mountain	132.76	2	ePKPdf		PKPdf	23 33 44.2	+0.3	
G41A	Antigo	132.77	2	P		PKPdf	23 33 43.0	-1.0	
	baz=357								
G43A	Wallace	132.77	1	P		PKPdf	23 33 43.1	-0.8	
	baz=359								
G43A	Wallace	132.77	1	ePKPdf		PKPdf	23 33 44.1	+0.2	
I31A	Royce, Wessing	132.78	12	P		PKPdf	23 33 43.3	-0.7	
	baz=344								
SADO	Sadowa	132.79	353	PKP		PKPdf	23 33 43.9	-0.1	
	comp=Z,24nm,0.7s,baz=356,slow=2.6,SNR=25								
SADO	Sadowa	132.79	353	ePKPdf		PKPdf	23 33 44.2	+0.3	
EDW2	Edwards Air Fo	132.84	36	P		PKPdf	23 33 44.4	-0.1	
	baz=315								
TMUT	Trail Mountain	132.95	26	ePKPdf		PKPdf	23 33 45.2	+0.4	
I32A	Karley and Nic	132.99	11	P		PKPdf	23 33 43.4	-1.0	
	baz=345								
H36A	Jessenland, He	133.00	7	P		PKPdf	23 33 43.9	-0.5	
	baz=350,SNR=9.2								
P17A	Butcher Ranch,	133.01	26	ePKPdf		PKPdf	23 33 46.0	+1.2	
SNCC	San Nicolas Is	133.04	39	P		PKPdf	23 33 44.6	-0.2	
	baz=312								
DECC	Green Verdugo	133.08	37	P		PKPdf	23 33 44.9	0.0	
	baz=314								
H38A	Maiden Rock	133.08	6	P		PKPdf	23 33 43.8	-0.7	
	baz=352								
SHOC	Shoshone, Teco	133.09	33	P		PKPdf	23 33 44.7	-0.2	
	baz=318								
I33A	Coleman	133.09	10	P		PKPdf	23 33 44.0	-0.6	
	baz=346								
H37A	Dierke Farm, C	133.11	6	P		PKPdf	23 33 43.9	-0.7	
	baz=351,SNR=5.3								
MSU	Marysvale	133.15	28	ePKPdf		PKPdf	23 33 45.9	+0.7	
MSU	Marysvale	133.15	28	ePKIKP		PKPdf	23 33 45.9	+0.7	
H39A	Augusta	133.17	5	P		PKPdf	23 33 44.0	-0.7	
	baz=354								
ACCN	Adirondack Com	133.17	347	ePKPdf		PKPdf	23 33 45.0	+0.2	
GLMI	Grayling	133.17	358	P		PKPdf	23 33 44.2	-0.5	
	baz=2.8								
GLMI	Grayling	133.17	358	ePKPdf		PKPdf	23 33 45.6	+0.8	
GLMI				LR	LR				
	comp=Z,2µm,20.0s								
GSC	Goldstone, Bar	133.23	34	P		PKPdf	23 33 45.2	0.0	
	baz=317								
GSC	Goldstone, Bar	133.23	34	ePKPdf		PKPdf	23 33 42.3	-2.9	
GSC	Goldstone, Bar	133.23	34	ePKIKP		PKPdf	23 33 42.3	-2.9	
SHPR	Sheep Range	133.24	32	ePKPdf		PKPdf	23 33 45.8	+0.5	
I34A	Hadley	133.25	9	P		PKPdf	23 33 44.5	-0.5	
	baz=347								
MWC	Mount Wilson	133.27	36	ePKPdf		PKPdf	23 33 47.9	+2.4	
MWC	Mount Wilson	133.27	36	ePKIKP		PKPdf	23 33 47.9	+2.4	
H40A	Chili	133.29	4	P		PKPdf	23 33 43.8	-1.1	
	baz=355								
H41A	Junction City	133.34	3	P		PKPdf	23 33 44.0	-1.0	
	baz=356								
H41A	Junction City	133.34	3	ePKPdf		PKPdf	23 33 44.4	-0.7	
CCUT	Cedar City	133.35	29	ePKPdf		PKPdf	23 33 46.5	+0.9	
WI04	River Road, Cl	133.36	2	ePKPdf		PKPdf	23 33 45.7	+0.6	
SRU	San Rafael Swe	133.40	26	ePKPdf		PKPdf	23 33 42.5	-3.1	
SRU	San Rafael Swe	133.40	26	ePKIKP		PKPdf	23 33 42.5	-3.1	
RRX	Edison Barstow	133.42	35	P		PKPdf	23 33 45.4	-0.1	
	baz=316								
ECSD	EROS Data Cent	133.43	10	P		PKPdf	23 33 44.5	-0.8	
	baz=346								
ECSD	EROS Data Cent	133.43	10	PFAKE			23 34 00.0	+15	
ECSD				LR	LR				
	comp=Z,1µm,21.0s								
J31A	Geddes	133.44	12	P		PKPdf	23 33 44.3	-1.0	
	baz=343								
SZCU	Shurtz Canyon	133.45	29	ePKPdf		PKPdf	23 33 47.2	+1.5	
O20A	White River Ci	133.47	23	P		PKPdf	23 33 45.1	-0.6	
	baz=330								
O20A	White River Ci	133.47	23	ePKPdf		PKPdf	23 33 45.0	-0.6	
FMP	Fort Macarthur	133.48	37	P		PKPdf	23 33 44.4	-1.2	
	baz=314								
HRV	Adam Dziewonsk	133.49	345	P		PKPdf	23 33 44.7	-0.7	
	baz=21								
HRV	Adam Dziewonsk	133.49	345	ePKPdf		PKPdf	23 33 46.1	+0.8	
HRV	Adam Dziewonsk	133.49	345	ePKIKP		PKPdf	23 33 46.1	+0.8	
BFSC	Mount Baldy Ra	133.49	36	P		PKPdf	23 33 45.3	-0.5	
	baz=315								
H42A	Shiocton	133.49	2	P		PKPdf	23 33 44.7	-0.6	
	baz=357								
H42A	Shiocton	133.49	2	ePKPdf		PKPdf	23 33 45.6	+0.3	
I36A	Fitzsimmons Fa	133.54	7	P		PKPdf	23 33 44.4	-1.0	
	baz=350								
J32A	Parkston	133.55	11	P		PKPdf	23 33 44.6	-0.9	
	baz=344								
H43A	Windswept, Lux	133.55	1	P		PKPdf	23 33 44.3	-1.1	
	baz=358								
I35A	Creekview Farm	133.57	8	P		PKPdf	23 33 44.4	-1.1	
	baz=348								
I37A	Lemond, Waseca	133.62	7	P		PKPdf	23 33 44.5	-1.0	
	baz=351,SNR=8.0								
CIS	Catalina Islan	133.62	38	P		PKPdf	23 33 46.1	+0.1	
	baz=314								
TUQ	Turquoise Moun	133.62	34	P		PKPdf	23 33 45.9	-0.2	
	baz=318								
N23A	Red Feather La	133.65	20	P		PKPdf	23 33 45.3	-0.8	
	baz=333								
I38A	Scanlan Farm,	133.71	6	P		PKPdf	23 33 44.5	-1.2	
	baz=352								
J33A	Davis	133.77	10	P		PKPdf	23 33 44.8	-1.1	
	baz=346								
TRY	Troy	133.79	347	ePKPdf		PKPdf	23 33 46.7	+0.7	
SCI2	San Clemente I	133.83	38	P		PKPdf	23 33 46.2	-0.1	
	baz=313								
HEC	Hector,Ludlow	133.83	34	P		PKPdf	23 33 46.9	+0.5	
	baz=317								
I41A	Arkdale	133.88	3	P		PKPdf	23 33 45.1	-0.9	
	baz=356								
QUA2	Belchertown	133.90	345	ePKPdf		PKPdf	23 33 47.1	+1.0	
BBRC	Big Bear Solar	133.91	35	P		PKPdf	23 33 46.1	-0.6	
	baz=316								
PKCU	Pink Cliffs	133.94	29	ePKPdf		PKPdf	23 33 48.9	+2.1	
I39A	Houston	133.97	5	P		PKPdf	23 33 44.9	-1.4	
	baz=353								
J34A	George	133.97	9	P		PKPdf	23 33 45.4	-0.9	
	baz=347								
I40A	Norwalk	134.00	4	P		PKPdf	23 33 45.1	-1.2	
	baz=354								
J35A	Milford	134.01	9	P		PKPdf	23 33 45.0	-1.3	
	baz=348								
K31A	O'Neill	134.08	12	P		PKPdf	23 33 45.6	-0.9	
	baz=343								
I42A	Draeger Farm,	134.10	2	P		PKPdf	23 33 45.1	-1.4	
	baz=357								
I43A	Langenfeld Bro	134.13	2	P		PKPdf	23 33 44.9	-1.6	
	baz=358								
J36A	Seneca 1, Swea	134.17	8	P		PKPdf	23 33 45.4	-1.3	
	baz=349,SNR=12								
K32A	Verdigre	134.21	12	P		PKPdf	23 33 45.6	-1.2	
	baz=344								
MURC	Murrieta	134.21	36	P		PKPdf	23 33 46.6	-0.4	
	baz=315								
GMRC	Granite Mounta	134.25	34	P		PKPdf	23 33 47.6	+0.4	
	baz=318								
J37A	Redenius Farm,	134.29	7	P		PKPdf	23 33 45.8	-1.1	
	baz=350,SNR=7.5								
J38A	Wedel Dairy, R	134.41	6	P		PKPdf	23 33 45.5	-1.6	
	baz=352,SNR=6.9								
K33A	Hardington	134.45	11	P		PKPdf	23 33 46.1	-1.1	
	baz=346								
J39A	Decorah	134.47	5	P		PKPdf	23 33 45.4	-1.8	
	baz=353,SNR=13								
J40A	Soldier Grove	134.49	4	P		PKPdf	23 33 45.6	-1.6	
	baz=354								
PV09	Paradox Valley	134.51	25	ePKPdf		PKPdf	23 33 45.9	-1.9	
K34A	Le Mars	134.53	10	P		PKPdf	23 33 46.1	-1.3	
	baz=347								
J41A	Loganville	134.56	3	P		PKPdf	23 33 46.0	-1.4	
	baz=355								
MMNY	Mt. Morris Dam	134.61	351	ePKPdf		PKPdf	23 33 47.9	+0.4	
J43A	Natural Harves	134.62	2	P		PKPdf	23 33 46.3	-1.2	
	baz=358								
BELC	Belle Mtn. Jos	134.62	35	P		PKPdf	23 33 48.3	+0.4	
	baz=317								
K35A	Storm Lake	134.64	9	P		PKPdf	23 33 46.1	-1.4	
	baz=348								
PFO	Pinyon Flats O	134.64	36	P		PKPdf	23 33 47.9	0.0	
	baz=316								
PFO	Pinyon Flats O	134.64	36	ePKPdf		PKPpre	23 33 43.3		
PFO				LR	LR				
	comp=Z,1µm,20.0s								
PFO	Pinyon Flats O	134.64	36	ePKIKP		PKPpre	23 33 43.3		
PFO				MLR	MLR				
	comp=Z,1µm,20.0s								
J42A	Columbus	134.66	3	P		PKPdf	23 33 46.1	-1.5	
	baz=356								
ISCO	Idaho Springs	134.74	21	P		PKPdf	23 33 47.3	-1.0	
	baz=333								
ISCO	Idaho Springs	134.74	21	PFAKE			23 34 00.0	+12	
ISCO				LR	LR				
	comp=Z,2µm,21.0s								
109C	Camp Elliot, M	134.77	37	P		PKPdf	23 33 47.6	-0.5	
	baz=315								
BINY	Binghamton	134.79	349	P		PKPdf	23 33 47.2	-0.7	
	baz=15								
BINY	Binghamton	134.79	349	ePKPdf		PKPdf	23 33 48.8	+0.9	
BINY				LR	LR				
	comp=Z,2µm,21.0s								
K37A	Belmond	134.82	7	P		PKPdf	23 33 46.4	-1.4	
	baz=350,SNR=7.4								
L33A	Hoskins	134.82	11	P		PKPdf	23 33 47.1	-0.9	
	baz=345								
L32A	Elgin	134.83	12	P		PKPdf	23 33 47.1	-0.9	
	baz=344								
NEE2	Needles Airpor	134.83	33	P		PKPdf	23 33 47.9	-0.2	
	baz=319								
K36A	Gilmore City	134.84	8	P		PKPdf	23 33 46.7	-1.2	
	baz=349,SNR=5.8								
OGNE	Ogallala	134.84	16	P		PKPdf	23 33 46.8	-1.3	
	baz=338								
OGNE	Ogallala	134.84	16	PFAKE			23 34 00.0	+12	
OGNE				LR	LR				
	comp=Z,1µm,20.0s								
PV05	Paradox Valley	134.88	25	ePKPdf		PKPdf	23 33 48.8	+0.4	
W13A	Hualapai Mount	134.97	32	ePKPdf		PKPdf	23 33 46.5	-2.2	
IRM	Iron Mountain	134.99	34	P		PKPdf	23 33 49.0	+0.5	
	baz=318								
JFWS	Jewell Farm	135.00	4	P		PKPdf	23 33 46.3	-1.9	
	baz=355								
JFWS	Jewell Farm	135.00	4	ePKPdf		PKPdf	23 33 46.8	-1.4	
JFWS				LR	LR				
	comp=Z,1µm,20.0s								
JFWS	Jewell Farm	135.00	4	ePKIKP		PKPdf	23 33 46.8	-1.4	
JFWS				MLR	MLR				
	comp=Z,1µm,20.0s								
K38A	Parkersburg	135.04	6	P		PKPdf	23 33 46.8	-1.5	
	baz=351,SNR=6.7								
K39A	Oelwein	135.07	5	P		PKPdf	23 33 46.7	-1.6	
	baz=353,SNR=6.3								
K40A	Colesburg	135.15	5	P		PKPdf	23 33 47.0	-1.4	
	baz=354,SNR=7.5								
MONP2	Monument Peak	135.17	36	P		PKPdf	23 33 49.4	+0.3	
	baz=315								
BAR	Barrett	135.17	37	ePKPdf		PKPdf	23 33 50.7	+1.9	
L34A	Svendsen Farm,	135.18	10	P		PKPdf	23 33 47.4	-1.2	
	baz=346								
L35A	Bielow Farm, R	135.18	9	P		PKPdf	23 33 47.4	-1.2	
	baz=347								
BC3	Big Chuckawall	135.19	35	P		PKPdf	23 33 49.3	+0.3	
	baz=317								
K41A	Shullsburg	135.30	4	P		PKPdf	23 33 47.2	-1.6	
	baz=355								
K43A	Burlington	135.30	2	P		PKPdf	23 33 47.7	-1.1	
	baz=358								
L36A	Harm Buss Farm	135.33	9	P		PKPdf	23 33 47.8	-1.0	
	baz=349								
BGNE	Belgrade	135.37	12	P		PKPdf	23 33 47.8	-1.2	
	baz=344								
M33A	Taylor Creek F	135.41	11	P		PKPdf	23 33 48.0	-1.1	
	baz=345								
L37A	Phoenix Point,	135.44	8	P		PKPdf	23 33 47.8	-1.3	
	baz=350								
PDMCI	Parker Dam,Lak	135.44	33	P		PKPdf	23 33 49.5	+0.2	
	baz=319								
PAL	Palisades	135.49	346	P		PKPdf	23 33 48.1	-1.0	
	baz=18								
PAL	Palisades	135.49	346	ePKPdf		PKPdf	23 33 49.6	+0.5	
PAL	Palisades	135.49	346	ePKIKP		PKPdf	23 33 49.6	+0.5	
SWSC	Sam W. Stewart	135.50	36	P		PKPdf	23 33 49.4	0.0	
	baz=316								
ERPA	Erie	135.51	353	P		PKPdf	23 33 48.1	-1.0	
	baz=9.5								
ERPA	Erie	135.51	353	ePKPdf		PKPdf	23 33 49.8	+0.6	
L38A	Oak Wood Farm,	135.52	7	P		PKPdf	23 33 48.1	-1.1	
	baz=351								
ODNJ	Ogdensburg	135.58	347	ePKPdf		PKPdf	23 33 49.1	-0.2	
M34A	Aspy Farms, Fr	135.59	11	P		PKPdf	23 33 48.2	-1.2	
	baz=346								
L39A	Vinton	135.64	6	P		PKPdf	23 33 48.0	-1.4	
	baz=352,SNR=7.3								
Y12C	Blythe	135.64	34	P		PKPdf	23 33 49.8	+0.1	
	baz=318								
Y12C	Blythe	135.64	34	ePKPdf		PKPdf	23 33 50.6	+1.0	
AAM	Ann Arbor	135.65	357	P		PKPdf	23 33 48.4	-1.0	
	baz=4.3								
AAM	Ann Arbor	135.65	357	PFAKE			23 34 00.0	+11	
AAM				LR	LR				
	comp=Z,2µm,20.0s								
Q24A	Divide	135.65	21	P		PKPdf	23 33 49.0	-1.0	
	baz=333								
CPNY	Central Park	135.70	346	ePKPdf		PKPdf	23 33 51.6	+2.0	
SCIA	State Center	135.72	7	P		PKPdf	23 33 48.4	-1.1	
	baz=351								
SCIA	State Center	135.72	7	ePKPdf		PKPdf	23 33 51.0	+1.5	
SCIA				LR	LR				
	comp=Z,2µm,21.0s								
L40A	Anamosa	135.77	5	P		PKPdf	23 33 48.5	-1.2	
	baz=354,SNR=8.2								
M35A	Neola	135.79	10	P		PKPdf	23 33 48.8	-0.9	
	baz=347								
L43A	Garden Prairie	135.81	2	P		PKPdf	23 33 48.5	-1.2	
	baz=357								
L41A	Preston	135.82	4	P		PKPdf	23 33 48.4	-1.4	
	baz=354								
L44A	Lake County Fo	135.84	1	P		PKPdf	23 33 48.7	-1.1	
	baz=358								
MVCO	Mesa Verde	135.86	25	P		PKPdf	23 33 49.4	-0.9	
	baz=328								
MVCO	Mesa Verde	135.86	25	ePKPdf		PKPdf	23 33 50.0	-0.3	
MVCO				LR	LR				
	comp=Z,1µm,20.0s								
WUAZ	Wupatki	135.93	29	P		PKPdf	23 33 50.5	+0.1	
	baz=323								
WUAZ	Wupatki	135.93	29	PFAKE			23 34 00.0	+10	
WUAZ				LR	LR				
	comp=Z,1µm,20.0s								
L42A	Oliver, Polo	135.94	3	P		PKPdf	23 33 48.5	-1.5	
	baz=356								
M36A	Felix, Anita	135.94	9	P		PKPdf	23 33 48.9	-1.2	
	baz=348								
GLA	Glamis	135.99	35	P		PKPdf	23 33 50.4	0.0	
	baz=317								
GLA	Glamis	135.99	35	ePKPdf		PKPdf	23 33 52.0	+1.6	
GLA	Glamis	135.99	35	ePKIKP		PKPdf	23 33 52.0	+1.6	
N59A	State Game Lan	135.99	348	P		PKPdf	23 33 49.7	-0.4	
	baz=16								
N59A	State Game Lan	135.99	348	ePKPdf		PKPdf	23 33 49.1	-1.1	
ALLY	Alegheny Colle	135.99	353	ePKPdf		PKPdf	23 33 51.3	+1.2	
M54A	Oil Creek Stat	136.06	352	P		PKPdf	23 33 49.8	-0.5	
	baz=10								
M54A	Oil Creek Stat	136.06	352	ePKPdf		PKPdf	23 33 50.6	+0.4	
S22A	4UR Ranch, Cre	136.09	23	P		PKPdf	23 33 50.4	-0.4	
	baz=330								
N33A	J Bar K, Exete	136.16	12	P		PKPdf	23 33 49.2	-1.3	
	baz=344								
M38A	Pleasantville	136.20	7	P		PKPdf	23 33 49.1	-1.4	
	baz=351,SNR=6.8								
LUPA	Lehigh Univers	136.21	348	ePKPdf		PKPdf	23 33 51.2	+0.7	
N34A	Lincoln	136.25	11	P		PKPdf	23 33 49.4	-1.3	
	baz=346								
M39A	Webster	136.26	6	P		PKPdf	23 33 49.3	-1.3	
	baz=352,SNR=7.7								
Y14A	Wickenburg	136.33	32	ePKPdf		PKPdf	23 33 51.9	+0.8	
N35A	Tabor	136.38	10	P		PKPdf	23 33 49.9	-1.0	
	baz=347								
M40A	Post Highland	136.40	5	P		PKPdf	23 33 49.8	-1.1	
	baz=353								
KSCO	Kaye Shedlock'	136.45	18	P		PKPdf	23 33 50.1	-1.1	
	baz=337								
M42A	Sheffield	136.48	3	P		PKPdf	23 33 49.9	-1.1	
	baz=356								
M41A	Milan	136.51	4	P		PKPdf	23 33 49.8	-1.2	
	baz=354								
SPB	Sao Paulo	136.51	237	ePKPdf		PKPdf	23 33 52.2	+0.7	
SPB				L

CBKS LR LR
comp=Z,2µm,21.0s
T25A Trinidad 137.54 21 P PKPdf 23 33 52.5 -0.9
baz=333
O40A La Belle 137.63 6 P PKPdf 23 33 52.1 -1.1
baz=352
SFIN Lafayette 137.65 1 P PKPdf 23 33 52.4 -0.8
baz=359
SDMD Soldier's Deli 137.65 349 ePKPdf PKPdf 23 33 53.8 +0.5
ACSO Alum Creek Sta 137.67 356 P PKPdf 23 33 52.4 -0.9
baz=5.4
ACSO Alum Creek Sta 137.67 356 ePKPdf PKPdf 23 33 52.7 -0.6
ACSO LR LR
comp=Z,1µm,22.0s
O43A Sugar Creek Fa 137.67 3 P PKPdf 23 33 52.4 -0.9
baz=356
O42A Bath 137.72 4 P PKPdf 23 33 52.2 -1.1
baz=355
O41A Passleys Farm, 137.73 5 P PKPdf 23 33 52.1 -1.3
baz=354
TRQA Tornquist 137.74 209 PFAKE 23 34 10.0 +17
TRQA LR LR
comp=Z,2µm,20.0s
O45A Potomac 137.77 1 P PKPdf 23 33 52.6 -0.8
baz=358
O47A Sheridan 137.79 359 P PKPdf 23 33 52.3 -1.2
baz=0.7
P37A Lathrop 137.84 9 P PKPdf 23 33 52.5 -1.1
baz=348
O44A Mansfield 137.84 2 P PKPdf 23 33 52.6 -0.9
baz=357
MCWV Mont Chateau 137.91 352 P PKPdf 23 33 53.1 -0.6
baz=10
MCWV Mont Chateau 137.91 352 ePKPdf PKPdf 23 33 54.6 +0.9
P38A Dawn 137.92 8 P PKPdf 23 33 53.0 -0.7
baz=350
214A Organ Pipe Nat 137.94 34 P PKPdf 23 33 53.8 -0.2
baz=319
214A Organ Pipe Nat 137.94 34 ePKPdf PKPpre 23 33 49.8
P41A Barry, Barry 138.16 5 P PKPdf 23 33 53.3 -0.9
baz=353
P39B Salisbury 138.16 7 P PKPdf 23 33 53.3 -0.9
baz=351
P40A Paris 138.20 6 P PKPdf 23 33 53.3 -0.9
baz=352
P43A Skaggs, Pawnee 138.30 3 P PKPdf 23 33 53.6 -0.8
baz=356
P42A Winchester 138.30 4 P PKPdf 23 33 53.5 -0.9
baz=354
P46A Rosedale 138.41 1 P PKPdf 23 33 54.2 -0.5
baz=359
P45A Graceland, Par 138.49 1 P PKPdf 23 33 54.0 -0.8
baz=358
Q37A Longview Farm, 138.52 9 P PKPdf 23 33 53.8 -1.1
baz=348
P44A Sand Creek, Wi 138.52 2 P PKPdf 23 33 53.8 -1.0
baz=357
P47A Martinsville 138.54 360 P PKPdf 23 33 53.5 -1.4
baz=0.6
Q38A Cooks Store, C 138.56 8 P PKPdf 23 33 53.5 -1.4
baz=350
Q39A Willow Grove F 138.57 7 P PKPdf 23 33 53.9 -1.0
baz=350
ANMO Albuquerque 138.65 25 P PKPdf 23 33 55.2 -0.3
baz=329
ANMO Albuquerque 138.65 25 PFAKE 23 34 10.0 +15
ANMO LR LR
comp=Z,1µm,22.0s
Q40A Laux Farm, Aux 138.73 6 P PKPdf 23 33 54.1 -1.1
baz=352
TUC Tucson 138.76 32 P PKPdf 23 33 55.9 +0.3
baz=322
TUC Tucson 138.76 32 PFAKE 23 34 10.0 +14
TUC LR LR
comp=Z,2µm,21.0s
LAZ Ladron 138.82 26 ePKPpre PKPpre 23 33 50.4
Q41A Truxton 138.85 5 P PKPdf 23 33 54.8 -0.6
baz=353
BLO Bloomington 138.86 360 ePKPdf PKPpre 23 33 50.6
BLO Bloomington 138.86 360 ePKIKP PKPpre 23 33 50.6
CBN Corbin Frederi 138.92 349 P PKPdf 23 33 54.9 -0.6
baz=14
CBN Corbin Frederi 138.92 349 PFAKE 23 34 10.0 +14
CBN LR LR
comp=Z,1µm,22.0s
PLCA Paso Flores 138.96 199 PKhKP PKPpre 23 33 46.5
comp=Z,11nm,1.1s,baz=272,slow=3.5,SNR=9.0
PLCA PKP PKPdf 23 33 56.7 +1.0
comp=Z,14nm,1.0s,baz=170,slow=2.0,SNR=9.1
Q42A Golden Eagle 138.96 5 P PKPdf 23 33 54.7 -0.9
baz=354
Q43A New Douglas 138.99 4 P PKPdf 23 33 54.8 -0.9
baz=355
Q46A CEJHS Indians, 139.00 1 P PKPdf 23 33 55.1 -0.6
baz=359
Q44A Meyer Farm, Va 139.07 3 P PKPdf 23 33 55.0 -0.8
baz=356
Q47A Bedord North L 139.09 360 P PKPdf 23 33 55.0 -0.9
baz=0.3
Q45A Warren Harvey, 139.11 2 P PKPdf 23 33 55.0 -0.9
baz=358
LPM Los Pinos Moun 139.12 26 ePKPdf PKPdf 23 33 57.0 +0.7
CVRD Centerville Ro 139.14 349 ePKPdf PKPdf 23 33 56.0 +0.1
IP04 Greensprings 139.16 350 ePKPdf PKPdf 23 33 57.0 +0.9
Y22D IRIS PASSCAL I 139.19 26 P PKPdf 23 33 55.8 -0.6
baz=328
IP03 Louisa 139.22 350 ePKPdf PKPdf 23 33 56.9 +0.8
IP01 Cuckoo 139.26 349 ePKPdf PKPdf 23 33 56.0 -0.2
R38A Fenwick Farm, 139.28 9 P PKPdf 23 33 54.9 -1.4
baz=349
R39A Chumby, Stover 139.28 8 P PKPdf 23 33 55.1 -1.1
baz=350
IP06 Yanceyville 139.30 350 ePKPdf PKPdf 23 33 56.9 +0.6
IP07 Quail 139.32 350 ePKPdf PKPdf 23 33 56.9 +0.5
IP05 Hopewell Churc 139.36 349 ePKPdf PKPdf 23 33 56.9 +0.6
R40A Maddies Statio 139.40 7 P PKPdf 23 33 55.3 -1.2
baz=351
R41A Rosebud 139.49 6 P PKPdf 23 33 55.4 -1.2
baz=353
R42A Luebbering 139.56 5 P PKPdf 23 33 55.7 -1.0
baz=354
R48A Northridge Ran 139.62 359 P PKPdf 23 33 55.8 -1.0
baz=1.2
R43A Red Bud 139.63 4 P PKPdf 23 33 55.8 -1.1
baz=355
R45A Skylar, Fairfi 139.71 2 P PKPdf 23 33 56.2 -0.8
baz=358
R44A Waltonville 139.72 3 P PKPdf 23 33 56.0 -1.0
baz=356
R47A Wooly Knot Far 139.73 360 P PKPdf 23 33 55.9 -1.2
baz=0.2
CCM Cathedral Cave 139.74 6 P PKPdf 23 33 56.1 -1.0
baz=353
WCI Wyandotte Cave 139.80 360 P PKPdf 23 33 56.3 -0.9
baz=0.6
R46A Gibon Southern 139.81 1 P PKPdf 23 33 56.4 -0.8
baz=359
S38A Stockton 139.82 9 P PKPdf 23 33 56.2 -1.1
baz=349
BBSR BB Station 139.85 331 ePKPdf PKPdf 23 33 58.4 +1.0
BBSR LR LR
comp=Z,924nm,19.0s
S39A Bolivar 139.85 8 P PKPdf 23 33 56.3 -1.0
baz=350
S40A Lebanon 140.05 7 P PKPdf 23 33 56.8 -0.9
baz=351
S42A Caledonia 140.07 5 P PKPdf 23 33 57.0 -0.7
baz=354
121A Cookes Peak, D 140.09 28 P PKPdf 23 33 58.0 -0.2
baz=326
121A Cookes Peak, D 140.09 28 ePKPdf PKPdf 23 33 58.1 0.0
S41A Jillco Farms, 140.15 6 P PKPdf 23 33 57.1 -0.7
baz=352
S44A Carbondale 140.26 3 P PKPdf 23 33 57.5 -0.5
baz=356
319A Douglas 140.28 31 ePKPdf PKPdf 23 33 56.9 -1.5
VWCC Virginia Weste 140.30 352 ePKPdf PKPdf 23 33 58.4 +0.2
S45A Carrier Mills 140.31 2 P PKPdf 23 33 57.4 -0.7
baz=357
S43A Fulton Ridge, 140.32 4 P PKPdf 23 33 57.4 -0.8
baz=355
S46A Don Dixon Farm 140.33 1 P PKPdf 23 33 56.9 -1.2
baz=358
T38A Diamond 140.34 10 P PKPdf 23 33 57.2 -1.0
baz=348
S48A Wiedeman Farm, 140.37 359 P PKPdf 23 33 57.3 -1.0
baz=0.9
BLA Blacksburg 140.39 352 P PKPdf 23 33 57.3 -1.0
baz=9.8
BLA Blacksburg 140.39 352 ePKPdf PKPdf 23 33 58.6 +0.2
BLA LR LR
comp=Z,1µm,20.0s
BLA Blacksburg 140.39 352 ePKIKP PKPdf 23 33 58.6 +0.2
BLA MLR MLR
comp=Z,1µm,20.0s
T40A Mansfield 140.49 7 P PKPdf 23 33 57.4 -1.1
baz=351
T39A Clever 140.50 9 P PKPdf 23 33 57.4 -1.1
baz=349
AMTX Amarillo 140.52 20 P PKPdf 23 33 57.8 -1.0
baz=336
T41A Mountain View 140.69 6 P PKPdf 23 33 58.1 -0.8
baz=352
T42A Van Buren 140.77 6 P PKPdf 23 33 58.0 -1.0
baz=353
T43A Greenville 140.79 5 P PKPdf 23 33 58.0 -1.0
baz=354
T44A Benton 140.84 4 P PKPdf 23 33 58.3 -0.8
baz=355
T48A Bowling Green 140.91 360 P PKPdf 23 33 58.3 -0.9
baz=0.4
T45A Paducah 140.96 3 P PKPdf 23 33 58.4 -0.9
baz=357
MSTX Muleshoe 140.96 22 P PKPdf 23 33 58.8 -0.8
baz=334
T46A Princeton 140.97 2 P PKPdf 23 33 59.0 -0.3
baz=358
T47A Sharon Grove 141.03 1 P PKPdf 23 33 58.7 -0.7
baz=359
U39A Green Forest 141.11 9 P PKPdf 23 33 58.6 -1.1
baz=349
TUL1 Leonard 141.16 12 P PKPdf 23 33 59.0 -0.7
baz=345
HSIG 141.20 35 ePKPdf PKPdf 23 34 00.9 +0.9
U40A Yellville 141.23 8 P PKPdf 23 33 59.1 -0.8
baz=350
U41A Viola 141.36 7 P PKPdf 23 33 59.1 -1.0
baz=352
TZTN Tazewell 141.37 356 P PKPdf 23 33 59.2 -0.9
baz=5.0
NCAT North Carolina 141.41 351 ePKPdf PKPdf 23 34 00.4 +0.2
U44A Portageville 141.41 4 P PKPdf 23 33 59.4 -0.7
baz=355
U42A Revenden 141.43 6 P PKPdf 23 33 59.1 -1.1
baz=353
U43A Rector 141.49 5 P PKPdf 23 33 59.0 -1.3
baz=354
U48A Cassie Pea, Po 141.51 360 P PKPdf 23 33 59.3 -1.0
baz=0.2
WMOK Wichita Mounta 141.55 16 P PKPdf 23 33 59.5 -1.0
baz=340
WMOK Wichita Mounta 141.55 16 PFAKE 23 34 10.0 +9.5
WMOK LR LR
comp=Z,1µm,21.0s
U47A Clarksville 141.58 1 P PKPdf 23 33 59.8 -0.7
baz=359
U44B Burton Farm, H 141.60 4 P PKPdf 23 33 59.9 -0.6
baz=356
V39A Pettigrew 141.62 9 P PKPdf 23 33 59.4 -1.2
baz=349
U45A Rockin P Farm, 141.62 3 P PKPdf 23 33 59.7 -0.8
baz=357
U46A Springville 141.64 2 P PKPdf 23 33 59.9 -0.7
baz=358
SRIG Santa Rosalia 141.67 38 ePKPdf PKPdf 23 34 02.3 +1.5
V40A Witts Springs 141.78 8 P PKPdf 23 33 59.9 -1.0
baz=350
WVT Waverly 141.88 2 P PKPdf 23 34 00.1 -0.9
baz=358
V41A Mountainview 141.88 7 P PKPdf 23 34 00.3 -0.7
baz=351
MNTX Cornudas Mount 141.89 26 P PKPdf 23 34 00.7 -0.5
baz=329
MNTX Cornudas Mount 141.89 26 PFAKE 23 34 10.0 +8.8
MNTX LR LR
comp=Z,1µm,20.0s
CNNC Cliffs of the 141.89 348 P PKPdf 23 34 00.6 -0.4
baz=14
CNNC Cliffs of the 141.89 348 PFAKE 23 34 10.0 +9.0
CNNC LR LR
comp=Z,2µm,21.0s
V42A Cord 141.96 6 P PKPdf 23 34 00.4 -0.8
baz=352
V43A Jonesboro 142.06 5 P PKPdf 23 34 00.9 -0.4
baz=354
V44A Blytheville 142.07 4 P PKPdf 23 34 00.9 -0.4
baz=355
V47A Nunnelly 142.19 1 P PKPdf 23 34 00.7 -0.9
baz=359
V46A Holladay 142.20 2 P PKPdf 23 34 00.8 -0.8
baz=358
V45A Humboldt 142.22 3 P PKPdf 23 34 00.8 -0.8
baz=356
W39A Magazine 142.22 10 P PKPdf 23 34 00.9 -0.7
baz=348
TKL Tuckaleechee C 142.27 356 PKhKP PKPpre 23 33 55.9
comp=Z,6.9nm,0.5s,baz=127,slow=4.2,SNR=18
TKL PKP PKPdf 23 34 01.8 +0.1
comp=Z,29nm,0.7s,baz=147,slow=3.2,SNR=20
TKL Tuckaleechee C 142.27 356 ePKPpre PKPpre 23 33 57.0
TKL PKP PKPdf 23 34 01.8 +0.1
W40A Ferguson Farm, 142.34 9 P PKPdf 23 34 00.8 -1.1
baz=350
W40A Ferguson Farm, 142.34 9 ePKPpre PKPpre 23 33 56.9
WHAR Wooly Hollow 142.35 8 ePKPpre PKPpre 23 33 56.5
W42A Bald Knob 142.47 7 P PKPdf 23 34 01.2 -0.9
baz=352
W41B Gary Mavity, V 142.47 8 P PKPdf 23 34 01.3 -0.8
baz=351
CPCT Cooper Cave 142.52 357 ePKPdf PKPpre 23 33 57.3
KMSC Kings Mountain 142.55 353 P PKPdf 23 34 01.4 -0.8
baz=8.7
W43A Forest City 142.74 6 P PKPdf 23 34 01.9 -0.6
baz=353
W47A Westpoint 142.76 1 P PKPdf 23 34 01.7 -0.9
baz=358
W44A Shelby Farms P 142.76 4 P PKPdf 23 34 01.8 -0.8
baz=355
W45A Hickory Valley 142.79 3 P PKPdf 23 34 01.8 -0.8
baz=356
SWET Sewanee 142.80 359 ePKPdf PKPpre 23 33 57.8
X39A Fountain Ranch 142.84 10 P PKPdf 23 34 02.2 -0.6
baz=348
W46A Michie 142.85 2 P PKPdf 23 34 01.7 -1.1
baz=357
UALR University of 142.85 8 ePKPdf PKPpre 23 33 59.3
W48A Pulaski 142.88 0 P PKPdf 23 34 02.2 -0.7
baz=360
MIAR Mount Ida 142.89 10 P PKPdf 23 34 02.4 -0.5
baz=348
MIAR Mount Ida 142.89 10 ePKPdf PKPpre 23 33 58.9
MIAR LR LR
comp=Z,1µm,20.0s
MIAR Mount Ida 142.89 10 ePKIKP PKPpre 23 33 58.9
MIAR MLR MLR
comp=Z,1µm,20.0s
CPUP Villa Florida 143.01 227 PKhKP PKPpre 23 33 59.1
comp=Z,13nm,0.8s,baz=118,slow=2.4,SNR=40
CPUP Villa Florida 143.01 227 ePKPpre PKPpre 23 33 59.4
PLAL Pickwick Lake 143.01 2 ePKPpre PKPpre 23 33 58.3
X40A Basin Creek Fa 143.07 9 P PKPdf 23 34 02.7 -0.5
baz=350
X41A Kaden, Bauxite 143.11 8 P PKPdf 23 34 02.7 -0.5
baz=350
X42A Stuttgart 143.16 7 P PKPdf 23 34 02.8 -0.5
baz=352
ABTX Abilene, Hawle 143.26 19 P PKPdf 23 34 03.2 -0.4
baz=338
ABTX Abilene, Hawle 143.26 19 ePKPdf PKPbc 23 34 00.3 -0.3
X43A Marvell 143.28 6 P PKPdf 23 34 03.1 -0.4
baz=353
X44A Crenshaw 143.37 5 P PKPdf 23 34 03.0 -0.7
baz=354
OXF Oxford 143.41 4 P PKPdf 23 34 03.0 -0.8
baz=355
OXF Oxford 143.41 4 ePKPdf PKPbc 23 34 00.9 0.0
OXF Oxford 143.41 4 ePKIKP PKPbc 23 34 00.9 0.0
X46A Booneville 143.42 3 P PKPdf 23 34 02.9 -0.8
baz=357
Y40A Okolona 143.46 9 P PKPdf 23 34 03.8 -0.1
baz=349
X47A Russellville 143.48 2 P PKPdf 23 34 02.9 -1.0
baz=358
X45A UM Field Stati 143.50 4 P PKPdf 23 34 03.4 -0.5
baz=355
X49A Woodville 143.51 360 P PKPdf 23 34 03.4 -0.5
baz=0.6
HODGE Hodges 143.56 354 ePKPdf PKPdf 23 34 02.9 -1.2
X48A Hartselle 143.57 1 P PKPdf 23 34 03.2 -0.9
baz=359
WLAR White Oak Lake 143.81 9 ePKPdf PKPbc 23 34 02.5 +0.4
Z40A Long Farm, Mag 144.18 10 P PKPbc 23 34 03.6 +0.4
baz=348
Z41A Richland Creek 144.28 9 P PKPbc 23 34 03.9 +0.4
baz=350
NHSC New Hope 144.38 351 P PKPbc 23 34 03.9 0.0
baz=11
NHSC New Hope 144.38 351 ePKPdf PKPbc 23 34 04.1 +0.2
NHSC LR LR
comp=Z,1µm,20.0s
Z42A Norrel Spur, H 144.39 8 P PKPbc 23 34 04.2 +0.3
baz=351
GOGA Godfrey 144.48 355 P PKPab 23 34 03.8 0.0
baz=5.5
GOGA Godfrey 144.48 355 ePKPdf PKPab 23 34 03.9 0.0
GOGA LR LR
comp=Z,1µm,20.0s
GOGA Godfrey 144.48 355 ePKIKP PKPab 23 34 03.9 0.0
GOGA MLR MLR
comp=Z,1µm,20.0s
CSU Charleston Sou 144.49 350 ePKPdf PKPbc 23 34 04.9 +0.7
WHTX Lake Whitney, 144.50 16 P PKPab 23 34 03.9 -0.2
baz=341
Z45A Winona 144.53 4 P PKPab 23 34 04.2 +0.1
baz=355
Z43A Armstrong Fami 144.54 7 P PKPbc 23 34 04.4 0.0
baz=352
Z44A Pea Ridge, Bel 144.56 6 P PKPbc 23 34 04.6 +0.2
baz=354
RGRS Roger Stewart 144.58 351 ePKPdf PKPbc 23 34 04.6 +0.2
GO05 HualaaØ 144.59 201 ePKPdf PKPbc 23 34 04.8 +0.2
Z48A Northport 144.63 1 P PKPab 23 34 03.7 -0.7
baz=358
TX31 Lajitas Ar. Si 144.67 26 ePKPdf PKPab 23 34 04.0 -0.9
TX31 ePKPdf PKPbc 23 34 04.3 -0.8
TXAR Lajitas Array 144.67 26 PKP PKPab 23 34 04.9 0.0
comp=Z,87nm,0.6s,baz=242,slow=0.9,SNR=527
TXAR PP PP 23 37 21.0 -0.8
comp=Z,3.1nm,0.9s,baz=324,slow=5.6,SNR=2.9
TXAR Lajitas Array 144.67 26 PKP PKPab 23 34 04.9 0.0
TXAR PP PP 23 37 21.0 -0.8
140A Cam and Jess, 144.75 10 P PKPbc 23 34 05.5 +0.5
baz=348
Z46A Louisville 144.75 3 P PKPab 23 34 04.9 0.0
baz=356
Z50A Ashland 144.76 359 P PKPab 23 34 04.5 -0.5
baz=1.3
Z47A Carrollton 144.79 2 P PKPab 23 34 04.1 -0.9
baz=358,SNR=96
Z49A Columbiana 144.82 360 P PKPab 23 34 04.3 -0.9
baz=0.2,SNR=144
141A Papa Simpson, 144.90 9 P PKPdf 23 34 06.0 -0.4
baz=349
LRAL Lakeview Retre 144.98 1 P PKPab 23 34 04.8 -0.9
baz=359,SNR=88
LRAL Lakeview Retre 144.98 1 ePKPdf PKPab 23 34 05.0 -0.8
143A Socs Landing, 145.02 7 P PKPbc 23 34 06.2 +0.3
baz=352
142A Monroe 145.10 8 P PKPab 23 34 06.5 +0.3
baz=351
155A Kite 145.17 354 P PKPbc 23 34 06.2 -0.2
baz=7.3
JCT Junction City 145.18 20 P PKPbc 23 34 06.2 -0.4
baz=337
JCT Junction City 145.18 20 ePKPbc PKPbc 23 34 05.8 -0.8
JCT LR LR
comp=Z,1µm,21.0s
JCT Junction City 145.18 20 ePKIKP PKPbc 23 34 05.8 -0.8
JCT MLR MLR
comp=Z,1µm,21.0s
LPIG La Paz 145.18 40 PKPbc PKPdf 23 34 07.1 0.0
comp=Z,189nm,0.9s,baz=314,slow=0.1,SNR=33
144A Alexander Plac 145.20 6 P PKPdf 23 34 07.0 0.0
baz=353
154A Montrose 145.24 355 P PKPbc 23 34 06.6 0.0
baz=6.2
145A Houston Renfro 145.27 5 P PKPdf 23 34 07.1 +0.1
baz=354
146A Union 145.30 4 P PKPdf 23 34 07.1 0.0
baz=356
147A Livingston 145.31 2 P PKPbc 23 34 06.6 -0.2
baz=357
240A Hunter Patters 145.31 11 P PKPdf 23 34 07.2 0.0
baz=348
148A Greensboro 145.36 1 P PKPbc 23 34 06.5 -0.5
baz=358,SNR=34
150A Eclectic 145.40 359 P PKPbc 23 34 06.7 -0.4
baz=1.1,SNR=132
149A Jones 145.42 0 P PKPbc 23 34 06.5 -0.7
baz=360,SNR=42
151A Opelika 145.47 358 P PKPbc 23 34 07.1 -0.2
baz=2.3,SNR=212
241A Mo Tay, Goldon 145.47 9 P PKPab 23 34 07.9 +0.4
baz=349
242A Grayson 145.55 8 P PKPab 23 34 08.2 +0.3
baz=350
VBMS Vicksburg 145.60 6 P PKPab 23 34 08.2 +0.2
baz=353
VBMS Vicksburg 145.60 6 ePKPdf PKPab 23 34 08.4 +0.4
435B Jarrell 145.60 17 P PKPdf 23 34 07.6 -0.1
baz=340
257A Skidaway Islan 145.62 352 P PKPbc 23 34 07.9 +0.1
baz=9.9
SLBS Sierra La Lagu 145.71 40 ePKPdf PKPab 23 34 09.3 +0.5
HPIG 145.72 31 ePKPdf PKPdf 23 34 08.4 +0.1
256A Glennville 145.74 353 P PKPbc 23 34 08.1 -0.1
baz=8.4
244A Avery, Jackson 145.75 6 P PKPab 23 34 08.6 0.0
baz=353
PEL Peldehue 145.76 204 ePKPdf PKPab 23 34 08.5 -0.2
PEL Peldehue 145.76 204 ePKP2 PKPab 23 34 08.5 -0.2
243A Waterproof 145.82 7 P PKPab 23 34 08.7 -0.1
baz=351
245A Little AP, Sta 145.84 5 P PKPab 23 34 08.9 0.0
baz=354
253A Americus 145.87 356 P PKPdf 23 34 08.3 +0.2
baz=4.5,SNR=18
251A Midway 145.90 358 P PKPbc 23 34 08.8 +0.1
baz=2.2,SNR=290
248A Dixon Mills 145.90 2 P PKPbc 23 34 08.8 +0.1
baz=358,SNR=62
247A Quitman 145.91 3 P PKPab 23 34 09.3 +0.1
baz=356
246A Jackson Lee, B 145.92 4 P PKPab 23 34 09.4 +0.2
baz=356
252A Lumpkin 145.97 357 P PKPbc 23 34 08.8 -0.2
baz=3.4,SNR=136
249A Camden 146.03 1 P PKPbc 23 34 09.1 0.0
baz=359,SNR=206
250A Grady 146.03 359 P PKPbc 23 34 08.8 -0.3
baz=0.7,SNR=80
341A Kurthwood 146.10 10 P PKPab 23 34 09.8 -0.2
baz=348
342A Flagon Creek P 146.20 9 P PKPab 23 34 10.4 +0.1
baz=350
357A Townsend 146.23 352 P PKPbc 23 34 09.8 +0.1
baz=9.3
344A Westbrook Farm 146.33 6 P PKPab 23 34 10.8 0.0
baz=353
343A Vidalia 146.39 8 P PKPab 23 34 10.9 -0.1
baz=351
356A Blackshear 146.41 353 P PKPbc 23 34 10.5 +0.2
baz=8.2
TIGA Tifton 146.45 355 P PKPbc 23 34 10.5 +0.1
baz=5.5,SNR=50
TIGA Tifton 146.45 355 ePKPdf PKPdf 23 34 09.6 +0.5
355A Pearson 146.47 354 P PKPab 23 34 11.0 -0.3
baz=6.9
352A Blakely 146.49 357 P PKPbc 23 34 10.6 +0.1
baz=3.1,SNR=7.1
346A Big Creek Wild 146.51 4 P PKPab 23 34 11.3 -0.2
baz=355
345A Thompson Farm, 146.54 5 P PKPab 23 34 11.5 -0.2
baz=354
347A Saraland 146.56 3 P PKPab 23 34 11.7 0.0
baz=357
348A Jackson 146.58 2 P PKPab 23 34 11.9 +0.1
baz=358
353A Camilla 146.59 356 P PKPbc 23 34 10.9 +0.1
baz=4.4,SNR=49
350A Dozier 146.59 360 P PKPbc 23 34 11.0 +0.2

baz=0.6,SNR=12
349A Repton 146.66 1 P **PKPab** 23 34 11.9 -0.1
baz=359
441A DeRidder 146.67 10 P **PKPab** 23 34 11.9 -0.2
baz=348
351A Pinckard 146.72 358 P **PKPbc** 23 34 11.4 +0.2
baz=1.9,SNR=35
442A Mamou 146.83 9 P **PKPab** 23 34 12.6 -0.2
baz=349
BRAL Brewton 146.84 1 *e*PKPdf **PKPbc** 23 34 10.8 -0.7
BRAL LR LR
comp=Z,1μm,20.0s
HKT Hockley 146.87 15 *e*PKPdf **PKPdf** 23 34 10.6 +0.9
HKT Hockley 146.87 15 *e*PKP2 **PKPdf** 23 34 10.6 +0.9
443A Delano Plantat 146.88 8 P **PKPab** 23 34 12.6 -0.3
baz=351
456A Hilliard 146.99 353 P **PKPbc** 23 34 12.4 +0.4
baz=8.5
457A Yulee 147.03 352 P **PKPbc** 23 34 12.5 +0.4
baz=9.3
444A Pine Grove 147.06 7 P **PKPab** 23 34 13.0 -0.6
baz=352
448A Bay Minette 147.06 2 P **PKPab** 23 34 12.9 -0.7
baz=358
453A Whigham 147.08 356 P **PKPbc** 23 34 12.5 +0.2
baz=4.3,SNR=38
445A Amite 147.09 6 P **PKPbc** 23 34 12.9 +0.6
baz=353
455A Stateville 147.09 354 P **PKPbc** 23 34 12.3 +0.1
baz=6.7,SNR=26
446A Poplarville 147.11 4 P **PKPbc** 23 34 12.8 +0.4
baz=355
452A Marianna 147.13 358 P **PKPbc** 23 34 12.5 +0.1
baz=2.7,SNR=20
447A Lucedale 147.16 3 P **PKPbc** 23 34 13.0 +0.6
baz=356
454A Quitman 147.17 355 P **PKPbc** 23 34 12.7 +0.2
baz=5.5,SNR=17
450A Crestview 147.21 360 P **PKPbc** 23 34 13.0 +0.4
baz=0.1,SNR=22
449A Pace 147.25 1 P **PKPbc** 23 34 13.5 +0.8
baz=359
833A Chaparral WMA, 147.29 21 P **PKPbc** 23 34 13.3 +0.4
baz=336
541A Lake Charles 147.34 11 P **PKPab** 23 34 14.0 -0.8
baz=348
451A Vernon 147.38 359 P **PKPbc** 23 34 13.6 +0.5
baz=1.7,SNR=37
542A Morse 147.39 10 P **PKPab** 23 34 14.3 -0.6
baz=349
543A St. Martinvill 147.53 8 P **PKPab** 23 34 14.8 -0.7
baz=350
544A White Castle 147.61 7 P **PKPbc** 23 34 14.6 +0.9
baz=352
546A Slidell 147.64 5 P **PKPbc** 23 34 14.7 +0.9
baz=354
557A Orange Park 147.65 352 P **PKPbc** 23 34 14.0 +0.2
baz=9.2
555A McAlpin 147.70 354 P **PKPbc** 23 34 14.2 +0.3
baz=6.9,SNR=25
553A Crawfordville 147.75 356 P **PKPbc** 23 34 14.1 0.0
baz=4.1,SNR=8.0
556A Lake Butler 147.75 353 P **PKPbc** 23 34 14.3 +0.2
baz=7.9,SNR=19
554A Perry 147.80 355 P **PKPbc** 23 34 14.3 0.0
baz=5.5,SNR=13
552A Lynn Haven 147.85 358 P **PKPbc** 23 34 14.9 +0.5
baz=2.5,SNR=18
657A Interlachen 148.09 352 P **PKPbc** 23 34 14.9 -0.1
baz=9.0,SNR=13
658A Bunnell 148.16 351 P **PKPbc** 23 34 14.9 -0.3
baz=10,SNR=5.1
H06N1 SOCORRO T-PHAS 148.20 48 PKPbc **PKPbc** 23 34 16.6 +1.0
646A Port Sulphur 148.27 5 P **PKPbc** 23 34 16.3 +0.8
baz=354
H06E1 SOCORRO T-PHAS 148.30 48 PKPbc **PKPbc** 23 34 15.3 -0.5
H06S1 SOCORRO T 148.30 48 PKPbc **PKPbc** 23 34 15.5 -0.4
645A Chauvin 148.32 7 P **PKPbc** 23 34 16.5 +0.8
baz=352
655A Horseshoe Beac 148.33 354 P **PKPbc** 23 34 15.7 0.0
baz=6.5,SNR=5.6
656A Williston 148.39 353 P **PKPbc** 23 34 16.1 +0.2
baz=7.8
KVTX Kingsville 148.52 19 *e*PKPbc **PKPab** 23 34 18.1 -1.4
KVTX LR LR
comp=Z,1μm,20.0s
ANWB Willy Bob 148.57 310 PFAKE 23 34 20.0 0.0
ANWB LR LR
comp=Z,1μm,22.0s
ANWB Willy Bob 148.57 310 *e*P **PKPbc** 23 34 15.5 -1.1
757A Oxford 148.75 352 P **PKPbc** 23 34 16.7 -0.1
baz=8.8,SNR=11
H05N1 Guadeloupe/Mar 148.77 307 PKPbc **PKPbc** 23 34 15.8 -1.3
BPA Boggy Peak 148.99 309 *e*P **PKPbc** 23 34 17.1 -0.7
BBGH Gun Hill 149.13 300 PFAKE 23 34 30.0 +7.6
BBGH LR LR
comp=Z,1μm,20.0s
MGG Marie-Galante 149.19 307 *e*P **PKPbc** 23 34 17.4 -0.8
MGG Marie-Galante 149.19 307 *e*P **PKPbc** 23 34 18.5 +0.3
LCO Las Campanas 149.30 208 *e*PKPdf **PKPdf** 23 34 14.5 +0.2
LCO LR LR
comp=Z,2μm,20.0s
SMRT St. Maarten 149.31 312 *e*PKPdf **PKPdf** 23 34 15.0 +0.9
SMRT St. Maarten 149.31 312 *e*P **PKPbc** 23 34 17.2 -1.3
GDHS Morne Mazeau, 149.35 308 *e*PKPdf **PKPdf** 23 34 15.0 +0.7
858A St. Cloud 149.37 351 P **PKPbc** 23 34 18.2 -0.2
baz=10
MBWH 149.42 309 *e*P **PKPdf** 23 34 13.8 -0.6
MDVC Dominica, Viel 149.43 306 *e*P **PKPbc** 23 34 18.9 +0.1
MLYT Lee's Yard 149.43 309 *e*P **PKPdf** 23 34 14.8 +0.4
857A Zephyrhills 149.44 352 P **PKPbc** 23 34 18.3 -0.2
baz=8.7,SNR=12
859A Kempfer Cattle 149.44 350 P **PKPbc** 23 34 18.5 0.0
baz=11,SNR=8.6
DWPF Disney Wildern 149.48 351 P **PKPbc** 23 34 18.3 -0.3
baz=10
DWPF Disney Wildern 149.48 351 *e*PKPbc **PKPbc** 23 34 19.3 +0.6
NEV Hard Times 149.48 310 *e*P **PKPbc** 23 34 19.5 +0.6
MDPO Dominica; Chan 149.49 306 *e*P **PKPbc** 23 34 19.1 +0.1
SKI Saint Kitts 149.49 310 *e*PKPbc **PKPbc** 23 34 18.9 -0.1
SKI Saint Kitts 149.49 310 *e*P **PKPbc** 23 34 19.4 +0.4
SKI Saint Kitts 149.49 310 *e*PKP2 **PKPbc** 23 34 18.9 -0.1
BBL Barber's Block 149.53 306 *e*P **PKPbc** 23 34 18.2 -0.9
BBL Barber's Block 149.53 306 *e*P **PKPbc** 23 34 19.0 -0.1
BSK Brimstone Hill 149.56 311 *e*P **PKPbc** 23 34 18.9 -0.3
DBCT Belle View Cho 149.57 306 *e*P **PKPbc** 23 34 21.3 +2.1
MDN Morne-Daniel 149.58 306 *e*P **PKPbc** 23 34 19.8 +0.6
H05S1 Guadeloupe/Mar 149.59 304 PKPbc **PKPbc** 23 34 18.8 -0.5
LPMF Morne Lapointe 149.62 304 *e*P **PKPdf** 23 34 15.1 +0.4
BAMF Morne Balai 149.65 305 *e*P **PKPbc** 23 34 19.9 +0.5
CXM Morne La Croix 149.67 305 *e*P **PKPbc** 23 34 17.9 -1.7
ZAM Aeronautique 149.68 304 *e*P **PKPdf** 23 34 15.8 +1.0
FDF Fort de France 149.69 304 *e*PKPdf **PKPdf** 23 34 15.2 +0.3
FDF LR LR
comp=Z,846nm,21.0s
FDF Fort de France 149.69 304 *e*P **PKPdf** 23 34 13.8 -1.1
FDF Fort de France 149.69 304 *e*P **PKPdf** 23 34 15.8 +0.9
PML Morne Lenard 149.70 305 *e*P **PKPbc** 23 34 20.0 +0.5
PCM Pelee Case Pet 149.70 305 *e*P **PKPbc** 23 34 19.6 0.0
PCM Pelee Case Pet 149.70 305 *e*P **PKPbc** 23 34 19.8 +0.3
SABA Saba 149.70 311 *e*PKPbc **PKPbc** 23 34 20.0 +0.5
SABA Saba 149.70 311 *e*P **PKPbc** 23 34 18.9 -0.5
TRMF Trois Ilets 149.71 304 *e*P **PKPdf** 23 34 16.1 +1.2
ABVI Anegada Island 149.79 314 *e*PKPdf **PKPdf** 23 34 16.2 +1.4
959A Okeechobee 149.96 350 P **PKPbc** 23 34 19.8 0.0
baz=12,SNR=5.3
957A Wimauma 150.03 352 P **PKPbc** 23 34 19.9 -0.1
baz=8.8,SNR=10
MCLT Moule a Chique 150.04 303 *e*P **PKPbc** 23 34 20.6 +0.3
958A Wauchula 150.04 351 P **PKPbc** 23 34 19.9 -0.2
baz=9.8,SNR=8.4
SLB Belfond 150.06 303 *e*P **PKPbc** 23 34 21.5 +1.0
060A Indiantown 150.34 349 P **PKPbc** 23 34 20.6 -0.2
baz=13
LNIG Linares 150.34 24 *e*PKPdf **PKPdf** 23 34 14.9 -0.7
SVCV St. Vincent, C 150.43 302 *e*P **PKPbc** 23 34 21.6 +0.3
SSV Crater Summit 150.44 302 *e*P **PKPbc** 23 34 21.3 -0.1
STVI Saint Thomas 150.49 315 *e*PKPbc **PKPbc** 23 34 20.9 -0.4
SVB Belmont 150.52 302 *e*PKPbc **PKPbc** 23 34 21.7 +0.2
SVB Belmont 150.52 302 *e*P **PKPbc** 23 34 21.6 +0.1
SVB Belmont 150.52 302 *e*P **PKPbc** 23 34 21.7 +0.1
059A Moore Haven 150.55 350 P **PKPbc** 23 34 20.9 -0.4
baz=11
058A Arcadia 150.57 351 P **PKPbc** 23 34 21.2 -0.1
baz=9.8,SNR=19
ZAIG Zacatecas 150.73 31 *e*PKPdf **PKPdf** 23 34 17.1 +0.4
CDVI St. Croix 150.74 313 *e*PKPbc **PKPbc** 23 34 21.4 -0.5
TOSP Speyside 150.81 298 *e*P **PKPbc** 23 34 23.5 +1.4
MTP Monte Pirata 151.08 315 *e*PKPdf **PKPdf** 23 34 18.7 +1.8
CBYP Canovanas 151.18 316 *e*PKPdf **PKPdf** 23 34 16.0 -1.2
059Z Ave Maria 151.22 350 P **PKPbc** 23 34 22.8 -0.1
baz=11,SNR=9.5
HUMP Col San Antoni 151.26 315 *e*PKPdf **PKPdf** 23 34 17.1 0.0
SIV San Ignacio 151.33 240 PKP **PKPdf** 23 34 17.4 0.0
comp=Z,5.9nm,0.9s,baz=103,slow=3.5,SNR=22
SIV PKPbc **PKPbc** 23 34 23.6 +0.2
comp=Z,65nm,0.6s,baz=121,slow=3.9,SNR=173
GRGR Grenville 151.41 300 *e*PKPdf **PKPdf** 23 34 19.2 +1.6
GRGR LR LR
comp=Z,816nm,19.0s
GRGR Grenville 151.41 300 *e*P **PKPdf** 23 34 15.5 -2.0
GRGR Grenville 151.41 300 *e*P **PKPbc** 23 34 24.7 +1.1
SJG San Juan 151.49 316 PFAKE 23 34 30.0 -2.0
SJG LR LR
comp=Z,1μm,21.0s
AOPR Arecibo Observ 151.74 317 *e*PKPbc **PKPbc** 23 34 23.1 -1.2
OBIP Obispado Ponce 151.85 316 *e*PKPdf **PKPdf** 23 34 18.0 -0.1
ICMP Isla Caja de M 151.90 316 *e*PKPdf **PKPdf** 23 34 18.8 +0.6
AGP Aguadilla 151.96 318 *e*PKPbc **PKPbc** 23 34 23.6 -1.2
AGP *e*PKPab **PKPab** 23 34 34.2 +0.3
GRTK Grand Turk 152.00 328 *e*PKPbc **PKPbc** 23 34 24.6 -0.2
GRTK LR LR
comp=Z,994nm,21.0s
MPR Mayaguez 152.10 317 *e*PKPbc **PKPbc** 23 34 24.7 -0.4
CRPR Cabo Rojo, PR 152.22 317 *e*PKPbc **PKPbc** 23 34 24.1 -1.2
PTGA Pitinga 153.31 273 PKP **PKPdf** 23 34 20.4 0.0
comp=Z,18nm,1.0s,baz=76,slow=2.0,SNR=20
PTGA PKPbc **PKiKP** 23 34 28.7 +0.6
comp=Z,44nm,0.7s,baz=92,slow=3.0,SNR=37
PTGA PKPab **pPKPbc** 23 34 39.1 +0.4
comp=Z,53nm,0.9s,baz=86,slow=4.8,SNR=17
JRQG Juriquilla Cam 153.53 30 *e*PKPdf **PKPdf** 23 34 22.6 +1.8
MOIG Morelia 154.00 33 *e*PKPab **PKPab** 23 34 43.8 +1.1
SDDR Presa de Saban 154.13 325 *e*PKPbc **PKPbc** 23 34 29.8 +0.2
SDDR LR LR
comp=Z,1μm,21.0s
PB01 IPOC Station P 154.89 220 *e*PKPdf **PKPdf** 23 34 23.1 +0.5
PB01 *e*PKPbc **pPKPdf** 23 34 32.4 -0.9
PCRV Puerto La Cruz 154.91 300 PKP **PKPdf** 23 34 20.9 -1.8
comp=Z,17nm,1.0s,baz=360,slow=10.0,SNR=2.9
PCRV PKPbc **PKPbc** 23 34 29.8 -1.6
comp=Z,13nm,0.5s,baz=228,slow=7.3,SNR=6.0
PCRV PKPab **sPKPbc** 23 34 46.0 +0.3
comp=Z,11nm,0.7s,baz=151,slow=3.2,SNR=4.2
GTBY Guantanamo Bay 155.30 333 PFAKE 23 34 30.0 +7.0
GTBY LR LR
comp=Z,1μm,22.0s
SAML Samuel 155.73 253 *e*PKPdf **PKPdf** 23 34 24.1 +0.3
SAML LR LR
comp=Z,1μm,20.0s
PB11 IPOC Station P 155.90 222 *e*PKPdf **PKPdf** 23 34 24.2 +0.2
LVIG Laguna Verde 156.21 23 *e*PKPab **PKPab** 23 34 51.9 0.0
MNMC Minye Minye 156.30 224 *e*PKPdf **PKPdf** 23 34 25.1 +0.4
LPAZ La Paz 157.02 231 PKP **PKPdf** 23 34 26.1 0.0
comp=Z,17nm,0.8s,baz=158,slow=0.7,SNR=55
LPAZ PKPab **PKPab** 23 34 56.4 0.0
comp=Z,21nm,0.8s,baz=242,slow=9.8,SNR=6.1
LPAZ La Paz 157.02 231 *e*PKPdf **PKPdf** 23 34 26.1 0.0
LPAZ PKPab **PKPab** 23 34 56.4 0.0
TLIG Tlapa 157.12 31 *e*PKPdf **PKPdf** 23 34 26.8 +1.2
TLIG *e*PKPab **PKPab** 23 34 57.1 +1.1
MTDJ Mount Denham 157.84 337 PFAKE 23 34 40.0 +14
MTDJ LR LR
comp=Z,1μm,21.0s
SDV Santo Domingo 160.64 305 PKP **PKPdf** 23 34 29.6 -0.4
comp=Z,14nm,1.0s,baz=130,slow=0.3,SNR=17
SDV PKPab **PKPab** 23 35 11.6 0.0
comp=Z,31nm,1.0s,baz=62,slow=2.1,SNR=14
SDV PP **PP** 23 38 56.2 +2.4
comp=Z,4.7nm,0.7s,baz=41,slow=7.9,SNR=2.7
SDV Santo Domingo 160.64 305 *e*PKPdf **PKPdf** 23 34 29.2 -0.8
SDV *e*PKPab **PKPab** 23 35 12.5 +0.9
SDV PP **PP** 23 38 56.2 +2.4
SDV LR LR
comp=Z,1μm,21.0s
SDV Santo Domingo 160.64 305 *e*P **PKPdf** 23 34 29.8 -0.2
CCIG Comitan 160.87 16 *e*PKPdf **PKPdf** 23 34 30.3 +0.2
CCIG *e*PKPab **PKPab** 23 35 11.7 -0.6
CODC Agust`n Codaz 162.20 313 *e*P **PKPdf** 23 34 29.4 -1.9
APG El Apazote 162.51 12 PKP **PKPdf** 23 34 31.1 -0.8
comp=Z,14nm,1.0s,baz=290,slow=5.0,SNR=14
APG PKPab **PKPab** 23 35 19.1 -0.4
comp=Z,41nm,0.9s,baz=328,slow=8.0,SNR=15
BARC Barichara 164.00 303 *e*P **PKPdf** 23 34 31.6 -1.7
BRRC Barranca, Sant 164.16 306 *e*P **PKPdf** 23 34 32.5 -0.7
RUSC La Rusia 164.28 301 *e*PKPdf **PKPdf** 23 34 32.0 -2.0
RUSC La Rusia 164.28 301 *e*P **PKPdf** 23 34 31.8 -2.2
MOTC Monteria, Cord 164.58 315 *e*P **PKPdf** 23 34 33.0 -0.6
ZARC Zaragoza, Cauc 164.83 309 *e*P **PKPdf** 23 34 32.6 -1.2
PTBC PUERTO BERRIO 165.09 306 *e*P **PKPdf** 23 34 32.7 -1.3
CHIC Chingaza 165.45 298 *e*P **PKPdf** 23 34 33.9 -1.0
CAPC Capurgana 165.83 319 *e*P **PKPdf** 23 34 34.6 -0.1
ROSC El Rosal 165.87 300 PKP **PKPdf** 23 34 34.8 -0.4
comp=Z,31nm,0.9s,baz=100,slow=2.2,SNR=32
ROSC PKPab **PKPab** 23 35 36.0 +1.2
comp=Z,17nm,0.9s,baz=178,slow=1.2,SNR=5.5
ROSC El Rosal 165.87 300 *e*PKPdf **PKPdf** 23 34 35.2 0.0
ROSC PKPab **PKPab** 23 35 36.0 +1.2
NORC Norcasia 165.97 303 *e*P **PKPdf** 23 34 33.7 -1.1
NNA Nana 166.25 224 PFAKE 23 34 50.0 +15
NNA LR LR
comp=Z,829nm,22.0s
BCIP Isla Barro Col 166.86 329 *e*PKPdf **PKPdf** 23 34 35.4 0.0
BCIP LR LR
comp=Z,1μm,22.0s
BCIP Isla Barro Col 166.86 329 *e*P **PKPdf** 23 34 34.8 -0.6
PRAC Prado 166.89 296 *e*PKPdf **PKPdf** 23 34 34.2 -1.3
PRAC *e*PKPab **PKPab** 23 35 38.9 -0.1
PRAC Prado 166.89 296 *e*P **PKPdf** 23 34 33.5 -2.1
JTS JuntasAbangare 167.51 352 PFAKE 23 34 50.0 +14
JTS LR LR
comp=Z,1μm,20.0s
YOTC Yotoco, Valle 168.04 301 *e*P **PKPdf** 23 34 34.8 -1.7
FLOC Florencia 168.41 289 *e*P **PKPdf** 23 34 35.2 -1.4
PCON Cinco Dias 168.84 294 *e*P **PKPdf** 23 34 37.7 +0.1
POPC Popayan, Colom 169.01 295 *e*P **PKPdf** 23 34 35.5 -1.8
SOTA Rioblanco 169.11 293 *e*P **PKPdf** 23 34 37.9 +0.3
GCUF Volcan Galeras 170.13 290 *e*P **PKPdf** 23 34 35.0 -3.3
ATAH Atahualpa 170.43 239 PKP **PKPdf** 23 34 38.7 +0.4
comp=Z,8.0nm,0.9s,baz=225,slow=1.2,SNR=12
ATAH PKPab **PKPab** 23 35 56.7 +1.6
comp=Z,4.6nm,0.7s,baz=131,slow=22,SNR=3.8
ATAH PP **PP** 23 39 44.9 -0.2
comp=Z,5.7nm,0.7s,baz=189,slow=2.9,SNR=4.5
CMBC Cumbal 170.68 289 *e*P **PKPdf** 23 34 33.2 -5.3
OTAV Otavalo 171.49 286 *e*PKPdf **PKPdf** 23 34 38.7 -0.2
OTAV *e*PKPab **PKPab** 23 36 01.2 +1.3
OTAV LR LR
comp=Z,1μm,20.0s
OTAV Otavalo 171.49 286 *e*P **PKPdf** 23 34 38.4 -0.5

*IDC **20** 23:14:43.7±0.4,2.2'21N×93.3'46E,h0km,mb5.7/30, mb1 5.7/30,mb1mx5.3/67,mbtmp5.6/30,Error ellipse: s-maj=17.5km s-min=11.0km az=40.0*
*ISCJB **20** 23:14:46.9±0.4,2.2'24N±0.1'09×93.2'50E±0.1'09,h33km, mb5.7/31,MS5.0/1,Error ellipse: s-maj=16.0km s-min=9.2km az=41.9*

ISC 20 23:14:48.9±0.4,2.2'2N±0.1'1×93.3'46E±0.1'09,h35km,n88, o0891/86,mb5.7/31,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BOM	**Bombay**	**26.15**	**311**	*ex*		**P**	**23 20 21.2**	**+1.1**
BOM					AMb	AMB	23 20 24.0	
comp=Z,340nm,0.6s								
WSAR	**Wadi Sarin**	**39.69**	**305**	P		**P**	**23 22 18.8**	**+0.7**
comp=Z,29nm,0.8s,baz=173,slow=11,SNR=12								
AAA	**Alma-Ata**	**43.40**	**342**	*e*P		**P**	**23 22 44.2**	**-4.1**
AAA					pmax	pmax		
comp=Z,1μm,5.9s								
AAA					MLR	MLR		
comp=Z,2μm,20.0s								
AAK	**Ala-Archa**	**43.68**	**340**	PcP		**PcP**	**23 24 37.1**	**-0.3**
comp=Z,49nm,1.0s,baz=135,slow=2.9,SNR=5.0								
AAK Ala-Archa 43.68 340 PcP **PcP** 23 24 37.1 -0.3
MKAR Makanchi Array 45.46 349 P **P** 23 23 04.2 -0.4
comp=Z,90nm,0.7s,baz=173,slow=7.9,SNR=10
WRA Warramunga Arr 45.75 121 P **P** 23 23 08.0 +0.7
comp=Z,71nm,0.7s,baz=306,slow=8.2,SNR=8.9
SONM Songino Array 46.80 12 PcP **PcP** 23 24 49.7 +1.6
comp=Z,34nm,0.9s,baz=195,slow=4.3,SNR=3.4
SONM Songino Array 46.80 12 **PcP** 23 24 49.7 +1.6
SONM Songino Array 46.80 12 PcP **PcP** 23 24 49.7 +1.6
ASAR Alice Springs 47.00 126 P **P** 23 23 16.8 -0.4
comp=Z,54nm,1.1s,baz=297,slow=7.2,SNR=11
ASAR PcP **PcP** 23 24 49.8 +0.6
comp=Z,25nm,0.7s,baz=300,slow=2.9,SNR=5.6
ASAR Alice Springs 47.00 126 **PcP** 23 24 49.8 +0.6
ASAR Alice Springs 47.00 126 PcP **PcP** 23 24 49.8 +0.6
GEYT Alibeck 48.08 322 P **P** 23 23 25.6 +0.2
comp=Z,120nm,0.7s,baz=148,slow=8.5,SNR=17
OPO Ambohidratompo 49.98 244 P **P** 23 23 39.4 -1.0
comp=Z,40nm,0.6s,baz=52,slow=5.1,SNR=21
ATD Arta Tunnel 51.02 283 P **P** 23 23 48.1 0.0
comp=Z,50nm,0.9s,baz=85,slow=11,SNR=8.4
MJAR Matsushiro Arr 53.54 45 PcP **PcP** 23 25 13.3 +0.4
comp=Z,29nm,0.9s,baz=249,slow=4.1,SNR=6.2
MJAR Matsushiro Arr 53.54 45 PcP **PcP** 23 25 13.3 +0.4
PMG Port Moresby 54.72 103 P **P** 23 24 14.6 -0.7
comp=Z,133nm,0.8s,baz=288,slow=6.2,SNR=10
KMBO Kilima Mbogo 56.30 267 P **P** 23 24 27.1 +0.1
comp=Z,17nm,0.6s,baz=72,slow=11,SNR=13
CTA Charters Tower 56.30 116 P **P** 23 24 26.8 +0.1
comp=Z,77nm,0.9s,baz=283,slow=9.7,SNR=10
STKA Stephens Creek 56.83 131 P **P** 23 24 30.1 -0.1
comp=Z,27nm,0.7s,baz=299,slow=5.5,SNR=7.6
ASF Jabal al Asfar 60.84 306 P **P** 23 24 59.0 +0.8
comp=Z,50nm,0.7s,baz=62,slow=5.6,SNR=24
YSS Yuzh-Sakhalins 61.68 36 *e*SP **P** 23 25 02.5 -1.0
MMAI Mount Meron Ar 62.29 306 P **P** 23 25 09.2 +1.2
comp=Z,32nm,0.7s,baz=97,slow=7.5,SNR=15
YAK Yakutsk 65.55 18 P **P** 23 25 28.9 +0.2
comp=Z,246nm,0.8s,baz=136,slow=1.9,SNR=11
BRTR Keskin Array B 65.68 313 P **P** 23 25 29.9 -0.3
comp=Z,54nm,0.8s,baz=135,slow=7.6,SNR=16
KLMR Klimovskoe 71.25 335 *e* **P** 23 26 04.0 -0.4
KLMR Klimovskoe 71.25 335 *e*PcP **P** 23 26 04.1 -0.4
KIS Kishinev 71.28 319 *i* **P** 23 26 04.0 -0.9
KIS Kishinev 71.28 319 *i* PcP **P** 23 26 04.0 -0.9
BOSA Boshof 72.07 239 P **P** 23 26 08.9 -1.3
comp=Z,32nm,0.6s,baz=87,slow=5.4,SNR=11
AKASG Malin Array Be 72.19 323 P **P** 23 26 09.4 -0.9
comp=Z,31nm,0.8s,baz=97,slow=4.7,SNR=10
MAW Mawson 72.89 192 P **P** 23 26 14.8 +0.8
comp=Z,40nm,0.8s,baz=337,slow=3.4,SNR=10.0
STHS Stebnicka Huta 76.80 320 *es*P **P** 23 26 36.5 -0.6
STHS Stebnicka Huta 76.80 320 *e* **P** 23 26 36.5 -0.6
FINES FINESS Array B 77.39 333 P **P** 23 26 40.0 -0.2
comp=Z,64nm,0.7s,baz=105,slow=6.7,SNR=19
FINES PKiKP **PKiKP** 23 32 20.8 +0.3
comp=Z,4.5nm,0.8s,baz=104,slow=4.4,SNR=4.5
FINES FINESS Array B 77.39 333 PKiKP **PKiKP** 23 32 20.8 +0.3
VYHS Vyhne 78.18 319 *e* **P** 23 26 45.0 +0.2
VYHS Vyhne 78.18 319 *es*P **P** 23 26 45.0 +0.2
OKC Ostrava-Krasne 78.86 320 *ex* **P** 23 26 48.9 +0.4
OKC Ostrava-Krasne 78.86 320 *e* **P** 23 26 48.9 +0.4
MODS Modra-Piesok 79.18 319 *e* **P** 23 26 50.1 -0.3
MODS Modra-Piesok 79.18 319 *es*P **P** 23 26 50.1 -0.3
ZST Bratislava 79.27 319 *es*P **P** 23 26 50.1 -0.7
ZST Bratislava 79.27 319 *e* **P** 23 26 50.1 -0.7
ARCES ARCESS Array B 80.34 341 P **P** 23 26 56.3 +0.1
comp=Z,53nm,0.8s,baz=116,slow=5.5,SNR=19
GERES GERESS Array B 81.59 319 P **P** 23 27 03.9 +0.4
comp=Z,88nm,0.8s,baz=93,slow=5.3,SNR=22
RPZ Rata Peaks 82.57 134 P **P** 23 27 08.3 -0.3
comp=Z,73nm,0.8s,baz=339,slow=4.3,SNR=11
KEST Kesra 83.93 306 P **P** 23 27 16.6 +0.7
comp=Z,214nm,0.8s,baz=254,slow=2.5,SNR=24
NOA NORSAR Array B 84.31 331 P **P** 23 27 16.9 -0.3
comp=Z,51nm,0.8s,baz=95,slow=5.3,SNR=19
SPITS Spitsbergen Ar 85.20 348 P **P** 23 27 21.2 -0.1
comp=Z,47nm,0.8s,baz=120,slow=10,SNR=12
WTSB Winterswijk 86.21 322 *e*X **P** 23 27 27.0 +0.2
TORD Torodi Ar. Bea 91.22 283 P **P** 23 27 51.2 -0.1
comp=Z,16nm,0.8s,baz=87,slow=5.7,SNR=15
EKA Eskdalemuir Ar 91.97 325 P **P** 23 27 54.2 +0.3
comp=Z,38nm,0.8s,baz=102,slow=5.4,SNR=22
QSPA South Pole Qui 92.16 180 P **P** 23 27 55.5 +0.8
comp=Z,28nm,0.9s,baz=296,slow=1.7,SNR=13
QSPA PKKPbc **PKKPdf** 23 45 10.8 -0.2
comp=Z,5.6nm,0.7s,baz=134,slow=1.4,SNR=6.5
QSPA South Pole Qui 92.16 180 PKKPbc PKKPbc 23 45 10.8 -3.1
SNAA Sanae 94.08 198 PKKPbc PKKPbc 23 45 04.3 -4.0
comp=Z,3.1nm,0.8s,baz=7.1,slow=1.2,SNR=5.8
SNAA Sanae 94.08 198 PKKPbc PKKPbc 23 45 04.3 -4.0
ESDC Sonseca Array 94.31 310 P **P** 23 28 05.8 +0.5
comp=Z,18nm,0.8s,baz=59,slow=4.3,SNR=29
KOWA Kowa 96.69 285 P **P** 23 28 17.4 +0.9
comp=Z,51nm,0.7s,baz=87,slow=6.5,SNR=24
ILAR Eielson Array 100.20 22 PP PP 23 32 36.5 -0.4
comp=Z,2.7nm,0.7s,baz=308,slow=8.2,SNR=4.7
ILAR PKKPbc **PKKPbc** 23 44 48.5 -2.7
comp=Z,3.0nm,0.8s,baz=163,slow=2.9,SNR=12
ILAR Eielson Array 100.20 22 PP PP 23 32 36.5 -0.4
ILAR PKKPbc **PKKPbc** 23 44 48.5 -2.7
KDAK Kodiak Island 100.66 30 PKKPbc PKKPbc 23 44 47.2 -2.4
comp=Z,3.0nm,0.6s,baz=174,slow=18,SNR=4.1
KDAK Kodiak Island 100.66 30 PKKPbc PKKPbc 23 44 47.2 -2.4
INK Inuvik 102.58 16 PKKPbc PKKPbc 23 44 41.0 -3.3
comp=Z,5.9nm,0.7s,baz=133,slow=2.4,SNR=15
INK Inuvik 102.58 16 PKKPbc PKKPbc 23 44 41.0 -3.3
YKA Yellowknife Ar 112.05 14 PKKPbc PKKPbc 23 44 11.7 -2.9
comp=Z,3.0nm,0.7s,baz=149,slow=3.5,SNR=15
YKA PKKP **PKKPdf** 23 44 33.2 -0.2
comp=Z,1.7nm,0.8s,baz=143,slow=3.4,SNR=5.5
YKA Yellowknife Ar 112.05 14 **PKKPdf** 23 44 33.3 -0.2
YKA Yellowknife Ar 112.05 14 PKKPbc PKKPbc 23 44 11.7 -2.9
YKA PKKP **PKKPdf** 23 44 33.2 -0.2
FRB Frobisher Bay 112.85 351 PKKP **PKiKP** 23 33 21.2 -0.6
comp=Z,13nm,0.8s,baz=21,slow=3.9,SNR=14
SCHQ Schefferville 120.86 347 PKP **PKPdf** 23 33 37.3 -0.2
comp=Z,20nm,0.7s,baz=41,slow=1.4,SNR=10
SCHQ Schefferville 120.86 347 PKP **PKPdf** 23 33 37.3 -0.2
NEW Newport 123.11 24 PKP **PKPdf** 23 33 42.3 +0.2
comp=Z,9.5nm,0.8s,baz=251,slow=1.5,SNR=7.9
NEW Newport 123.11 24 **PKPdf** 23 33 42.3 +0.2
NEW Newport 123.11 24 PKP **PKPdf** 23 33 42.3 +0.2
ULM Lac du Bonnet 127.12 8 PKP **PKPdf** 23 33 49.5 -0.1
comp=Z,32nm,0.8s,baz=352,slow=3.8,SNR=17
ULM Lac du Bonnet 127.12 8 PKP **PKPdf** 23 33 49.5 -0.1
NVAR Mina Array Bea 130.05 33 PKP **PKPdf** 23 33 57.8 +1.9
comp=Z,8.0nm,0.9s,baz=314,slow=2.5,SNR=9.1
NVAR Mina Array Bea 130.05 33 PKP **PKPdf** 23 33 57.8 +1.9
PDAR Pinedale Array 130.64 22 PKP **PKPdf** 23 33 57.9 +1.0
comp=Z,10nm,0.8s,baz=46,slow=2.3,SNR=11
PDAR Pinedale Array 130.64 22 PKP **PKPdf** 23 33 57.9 +1.0
SADO Sadowa 132.76 353 PKP **PKPdf** 23 34 01.1 +0.6
comp=Z,19nm,0.7s,baz=329,slow=3.0,SNR=8.0
SADO Sadowa 132.76 353 PKP **PKPdf** 23 34 01.1 +0.6
TXAR Lajitas Array 144.60 26 PKP **PKPdf** 23 34 22.3 -0.5
comp=Z,82nm,0.8s,baz=297,slow=3.4,SNR=14
TXAR Lajitas Array 144.60 26 PKP **PKPdf** 23 34 22.3 -0.5
LPAZ La Paz 157.11 231 PKP **PKPdf** 23 34 43.4 +0.6
comp=Z,15nm,0.7s,baz=190,slow=1.0,SNR=11
LPAZ PKPab **PKPab** 23 35 13.2 -0.1
comp=Z,37nm,0.8s,baz=97,slow=5.8,SNR=9.5
LPAZ La Paz 157.11 231 PKP **PKPdf** 23 34 43.4 +0.6
LPAZ PKPab **PKPab** 23 35 13.2 -0.1

*CSEM **20** 23:18:26.3±0.1,67.83N×20.24E,h2km,ML1.6,Error ellipse: s-maj=3.0km s-min=2.8km az=16.0,Mining explosion.*
*HEL **20** 23:18:27.1±0.1,67.83N×20.22E,h0km,ML1.7, ML1.6(UPP),Explosion*

UPP 20 23:18:26.7±0.0,67.83N×20.20E,h0km,ML1.6,Sweden

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.14**	**22**	P		Pg	23 18 29.6	+0.2
KUA				S		Sg	23 18 31.4	+0.3
KUA	**Kurravaara**	**0.14**	**22**	P		Pg	23 18 29.5	+0.2
KUA				S		Sg	23 18 31.4	+0.3
KUA	**Kurravaara**	**0.14**

NIKU	**Nikkaluokta**	**0.44**	**276**	P	Pg	23	18	35.2	0.0
NIKU	**Nikkaluokta**	**0.44**	**276**	*i* P	Pg	23	18	35.2	0.0
LANU	**Lannavaara**	**0.71**	**71**	P	Pg	23	18	40.1	-0.2
LANU	**Lannavaara**	**0.71**	**71**	P	Pg	23	18	40.1	-0.2
LANU	**Lannavaara**	**0.71**	**71**	*e*P	Pg	23	18	40.0	-0.3
DUNU	**Dundret**	**0.72**	**169**	P	Pg	23	18	40.2	-0.3
DUNU	**Dundret**	**0.72**	**169**	P	Pg	23	18	40.2	-0.3
DUNU	**Dundret**	**0.72**	**169**	*i* P	Pg	23	18	40.2	-0.3
MASU	**Masugnsbyn**	**0.78**	**118**	P	Pg	23	18	41.4	-0.2
MASU	**Masugnsbyn**	**0.78**	**118**	P	Pg	23	18	41.4	-0.2
MASU	**Masugnsbyn**	**0.78**	**118**	*i* P	Pg	23	18	41.4	-0.2
SALU	**Saltoluokta**	**0.79**	**236**	P	Pg	23	18	41.6	-0.2
SALU	**Saltoluokta**	**0.79**	**236**	P	Pg	23	18	41.6	-0.2
SALU	**Saltoluokta**	**0.79**	**236**	*i* P	Pg	23	18	41.6	-0.2
KIF	**Kilpisjarvi**	**1.20**	**10**	*e*Pb	Pg	23	18	49.6	-0.1
KIF				*e*SG	Sg	23	19	05.7	+0.4
KIF	**Kilpisjarvi**	**1.20**	**10**	*e*PB	Pg	23	18	49.6	-0.1
	baz=179								
KIF				MSG		23	19	04.7	
	comp=Z,11nm,0.2s								
KIF				*e*SB	Sg	23	19	05.7	+0.4
PAJU	**Pajala**	**1.38**	**124**	P	Pg	23	18	52.1	-1.1
PAJU	**Pajala**	**1.38**	**124**	P	Pg	23	18	52.1	-1.1
PAJU	**Pajala**	**1.38**	**124**	*e*P	Pg	23	18	52.1	-1.1
HEF	**Hetta**	**1.42**	**64**	*e*Pg	Pn	23	18	52.8	-0.9
HEF	**Hetta**	**1.42**	**64**	*e*PG	Pn	23	18	52.8	-1.0
	baz=243								
HEF				MSG		23	19	08.6	
	comp=Z,5.9nm,0.2s								
HEF				*e*SN	Sn	23	19	15.9	+2.8
ERTU	**Ertsjaerv**	**1.50**	**148**	P	Pn	23	18	53.9	-0.8
ERTU	**Ertsjaerv**	**1.50**	**148**	P	Pn	23	18	53.9	-0.9
ERTU				*e*Sn	Sn	23	19	15.1	+0.2
ERTU	**Ertsjaerv**	**1.50**	**148**	*e*PG	Pn	23	18	54.0	-0.8
ERTU				*e*SN	Sn	23	19	15.1	+0.2
KALU	**Kalix**	**2.34**	**146**	*e*Pb	Pn	23	19	07.4	+1.1
KALU	**Kalix**	**2.34**	**146**	*e*Sg	Sb	23	19	39.1	+0.1
KALU	**Kalix**	**2.34**	**146**	*e*PB	Pn	23	19	07.4	+1.1
	baz=330								
KALU				*e*SG	Sb	23	19	39.1	+0.2
TOF	**Tornio**	**2.39**	**135**	*e*Pb	Pn	23	19	08.4	+1.4
TOF	**Tornio**	**2.39**	**135**	*e*PB	Pn	23	19	08.4	+1.4
	baz=329								
TOF				MSG		23	19	35.8	
	comp=Z,2.6nm,0.2s								
TOF				*e*SG	Sb	23	19	40.3	-0.2
SGF	**Sodankyl**	**2.45**	**96**	*e*Pb	Pn	23	19	08.9	+1.1
SGF	**Sodankyl**	**2.45**	**96**	*e*PB	Pn	23	19	08.9	+1.1
	baz=272								
RNF	**Rovaniemi**	**2.57**	**116**	*e*Pb	Pn	23	19	11.3	+1.8
RNF	**Rovaniemi**	**2.57**	**116**	*e*PB	Pn	23	19	11.3	+1.8
RNF				*e*SG	Sb	23	19	45.1	-0.6

CSEM 20 23:18:28.8±0.3, 67°.69N×20°.83E, h1km, ML1.4, Error ellipse: s-maj=14.0km s-min=5.4km az=37.0, Mining explosion., Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.32**	**325**	P	Pg	23 18 35.9	+0.9
KUA				S	Sg	23 18 37.9	-1.3
NIKU	**Nikkaluokta**	**0.70**	**285**	P	Pg	23 18 42.0	-0.3

*CSEM **20** 23:24:44.4, 51°.34N×16°.13E, h0km*

PRU 20 23:24:42.4, 51°.40N×16°.16E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.56**	**171**	*i* Pg	Pg	23 24 53.2	0.0
KSP				*e*Sg	Sg	23 25 01.1	+0.6
UPC	**Upice**	**0.90**	**186**	*e*PG	Pg	23 24 59.3	-0.3
UPC				*e*SG	Sg	23 25 12.0	+0.8
	comp=Z,38nm,0.3s						
UPC	**Upice**	**0.90**	**186**	Pg	Pg	23 24 59.3	-0.3
UPC				Sg	Sg	23 25 12.0	+0.8
	38nm,0.3s						
DPC	**Dobruska-Polom**	**1.06**	**174**	*e*PG	Pg	23 25 02.1	-0.5
DPC				*e*SG	Sg	23 25 17.1	+0.8
	comp=Z,12nm,0.3s						
DPC	**Dobruska-Polom**	**1.06**	**174**	Pg	Pg	23 25 02.1	-0.5
DPC				Sg	Sg	23 25 17.1	+0.8
	12nm,0.3s						
PVCC	**Panska Ves**	**1.33**	**230**	*e*PG	Pg	23 25 07.9	0.0
PVCC				*e*SG	Sg	23 25 25.3	+0.2
	comp=Z,60nm,0.2s						
PVCC	**Panska Ves**	**1.33**	**230**	Pg	Pg	23 25 07.9	0.0
PVCC				Sg	Sg	23 25 25.3	+0.2
	60nm,0.2s						
KRLC	**Kraliky**	**1.38**	**163**	*e*PG	Pg	23 25 08.1	-0.8
KRLC	**Kraliky**	**1.38**	**163**	Pg	Pg	23 25 08.1	-0.8
BRG	**Berggiesshubel**	**1.49**	**250**	PG	Pn	23 25 10.3	-0.2
BRG				SG	Sn	23 25 30.8	+0.2
	17nm,0.4s						
GOPC	**GO Pecny, Ondr**	**1.73**	**211**	*e*PG	Pb	23 25 14.6	-0.4
GOPC				*e*SG	Sb	23 25 37.2	0.0
	comp=Z,8.0nm,0.4s						
GOPC	**GO Pecny, Ondr**	**1.73**	**211**	Pg	Pb	23 25 14.6	-0.4
GOPC				Sg	Sb	23 25 37.2	0.0
	8.0nm,0.4s						
PRU	**Pruhonice**	**1.75**	**217**	*e*PG	Pb	23 25 14.7	-0.6
PRU				*e*SG	Sb	23 25 38.1	+0.3
	comp=Z,11nm,0.4s						
PRU	**Pruhonice**	**1.75**	**217**	Pg	Pb	23 25 14.7	-0.6
PRU				Sg	Sb	23 25 38.1	+0.3
	11nm,0.4s						
CLL	**Collm**	**1.98**	**269**	*e*Pg	Pn	23 25 18.0	+0.8
CLL				*e*Sg	Sg	23 25 46.0	0.0
	comp=Z,7.0nm,0.6s						
CLL				*e*		23 25 52.0	
OKC	**Ostrava-Krasne**	**2.01**	**140**	*e*PG	Pb	23 25 19.8	0.0
OKC				*e*SG	Sb	23 25 44.7	-0.7
	comp=Z,6.7nm,0.4s						
OKC	**Ostrava-Krasne**	**2.01**	**140**	Pg	Pb	23 25 19.8	0.0
OKC				Sg	Sb	23 25 44.7	-0.7
	comp=Z,6.7nm,0.4s						
TREC	**Trest**	**2.15**	**192**	*e*PG	Pb	23 25 22.2	0.0
TREC				*e*SG	Sb	23 25 50.4	+1.0
	comp=Z,5.2nm,0.2s						
TREC	**Trest**	**2.15**	**192**	Pg	Pb	23 25 22.2	0.0
TREC				Sg	Sb	23 25 50.4	+1.0
	comp=Z,5.2nm,0.2s						
NKC	**Novy Kostel**	**2.63**	**245**	*e*PN	Pn	23 25 25.5	-0.6
NKC				*e*PG	Pg	23 25 31.8	-0.9
NKC				*e*SG	Sg	23 26 05.9	-0.9
	comp=Z,12nm,0.3s						
NKC	**Novy Kostel**	**2.63**	**245**	Pn	Pn	23 25 25.5	-0.6
KHC	**Kasperske Hory**	**2.81**	**217**	*e*PN	Pn	23 25 28.1	-0.5
KHC				*e*PG	Pb	23 25 33.5	0.0
KHC				*e*SG	Sb	23 26 10.5	+2.0
	comp=Z,2.9nm,0.3s						
KHC	**Kasperske Hory**	**2.81**	**217**	Pn	Pn	23 25 28.1	-0.5

*ISK **20** 23:27:30.9, 37°.77N×30°.51E, h8km, ML2.6/3*
*CSEM **20** 23:27:31.6±0.2, 37°.77N×30°.53E, h5km, ML2.6, Error ellipse: s-maj=3.9km s-min=2.9km az=80.0*
*DDA **20** 23:27:31.5, 37°.75N×30°.57E, h7km, Ml2.6*

ISC 20 23:27:31.5±1.0, 37°.77N±0°.02×30°.53E±0°.02, h5km±6km, n21, σ0s60/42, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ISP	**Isparta**	**0.06**	**350**	PG	**Pg**	**23 27 32.9**	**-0.2**
ISP				SG	**Sg**	**23 27 34.4**	**+0.2**
ISP	**Isparta**	**0.06**	**350**	*i* Pg	**Pg**	**23 27 32.9**	**-0.2**
ISP				*e*Sg	**Sg**	**23 27 34.4**	**+0.2**
BAGO	**Egridir - ISPA**	**0.30**	**42**	*i* P	**Pg**	**23 27 37.4**	**0.0**
BAGO				*i* S	**Sg**	**23 27 42.3**	**+0.9**
BCK	**Bucak**	**0.31**	**172**	PG	**Pg**	**23 27 37.7**	**+0.1**
BCK				SG	**Sg**	**23 27 42.6**	**+1.0**
BCK	**Bucak**	**0.31**	**172**	*e*Pg	**Pg**	**23 27 37.7**	**+0.1**
BCK				*e*Sg	**Sg**	**23 27 42.6**	**+1.0**
BRDR	**BURDUR-Merkez**	**0.38**	**259**	*i* P	**Pg**	**23 27 39.3**	**+0.4**
BRDR				*i* S	**Sb**	**23 27 46.1**	**-0.9**
BRDR	**BURDUR-Merkez**	**0.38**	**259**	P	**Pg**	**23 27 39.3**	**+0.4**
BRDR				S	**Sb**	**23 27 46.1**	**-0.9**
SUTC	**Sutluce-Ispart**	**0.47**	**128**	PG	**Pg**	**23 27 40.8**	**+0.2**
SUTC				SG	**Sb**	**23 27 48.1**	**-1.5**
SUTC	**Sutluce-Ispart**	**0.47**	**128**	*e*Pg	**Pg**	**23 27 40.8**	**+0.2**
SUTC				*e*Sg	**Sb**	**23 27 48.1**	**-1.5**
KZIL	**AFYON_Kizioren**	**0.58**	**328**	*i* P	**Pg**	**23 27 42.8**	**+0.1**
KZIL				*i* S	**Sb**	**23 27 52.6**	**-0.2**
KZIL	**AFYON_Kizioren**	**0.58**	**328**	P	**Pg**	**23 27 42.8**	**+0.1**
KZIL				S	**Sb**	**23 27 52.6**	**-0.2**
KORT	**Korkueli**	**0.78**	**191**	PG	**Pg**	**23 27 46.5**	**0.0**
KORT				SG	**Sb**	**23 27 57.7**	**-0.8**
KORT	**Korkueli**	**0.78**	**191**	*e*Pg	**Pg**	**23 27 46.5**	**0.0**
KORT				*e*Sg	**Sb**	**23 27 57.7**	**-0.8**
SHUT	**Suhut-Afyon**	**0.78**	**1**	PG	**Pg**	**23 27 46.5**	**-0.1**
SHUT				SG	**Sg**	**23 27 57.6**	**+0.8**
SHUT	**Suhut-Afyon**	**0.78**	**1**	*e*Pg	**Pg**	**23 27 46.5**	**-0.1**
SHUT				*e*Sg	**Sg**	**23 27 57.6**	**+0.8**
DOGA	**KONYA_Doganhis**	**0.96**	**69**	*i* P	**Pg**	**23 27 50.1**	**+0.2**
DOGA				*i* S	**Sb**	**23 28 03.3**	**-0.4**
DOGA	**KONYA_Doganhis**	**0.96**	**69**	P	**Pg**	**23 27 50.1**	**+0.2**
DOGA				S	**Sb**	**23 28 03.3**	**-0.4**
BOLV	**Bolvadin**	**1.00**	**19**	*i* P	**Pg**	**23 27 51.0**	**+0.2**
BOLV				*i* S	**Sn**	**23 28 06.5**	**-0.4**
BOLV	**Bolvadin**	**1.00**	**19**	P	**Pg**	**23 27 51.0**	**+0.2**
BOLV				S	**Sn**	**23 28 06.5**	**-0.4**
KHAL	**Karahalli**	**1.02**	**306**	*i* P	**Pg**	**23 27 50.6**	**-0.5**
KHAL				*i* S	**Sn**	**23 28 07.8**	**+0.6**
KHAL	**Karahalli**	**1.02**	**306**	P	**Pg**	**23 27 50.6**	**-0.5**
KHAL				S	**Sn**	**23 28 07.8**	**+0.6**

RSNC 20 23:32:39.3±0.9, 6°.74N×73°.16W, h142km±8km, ML1.9, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.15**	**191**	*e*P	Pn	23 32 58.5	-0.4
BARC				*i*		23 32 58.8	
	comp=Z,26nm,0.1s						
BARC				*e*S	Sn	23 33 13.2	-0.5
BRRC	**Barranca, Sant**	**0.66**	**304**	*e*P	Pn	23 33 00.4	-0.4
BRRC				*e*S	Sn	23 33 16.8	-0.2
BRRC				*i*		23 33 19.1	
	comp=Z,21nm,0.3s						
PAMC	**Pamplona, Colo**	**0.75**	**37**	*e*P	Pn	23 33 01.5	-0.4
PAMC				*e*S	Sn	23 33 18.3	-0.8
RUSC	**La Rusia**	**0.84**	**175**	*e*P	Pn	23 33 02.4	-0.2
RUSC				*e*S	Sn	23 33 20.5	+0.2
RUSC				*i*		23 33 22.2	
	comp=Z,8.3nm,0.3s						
PTBC	**PUERTO BERRIO,**	**1.31**	**261**	*e*P	Pn	23 33 05.6	-0.7
PTBC				*e*S	Sn	23 33 25.5	-1.3
PTBC				*i*		23 33 27.1	
	comp=Z,7.6nm,0.3s						
ZARC	**Zaragoza, Cauc**	**1.85**	**294**	*e*S	Sn	23 33 37.7	+0.3
ZARC				*i*		23 33 43.6	
	comp=Z,14nm,0.4s						
NORC	**Norcasia**	**2.07**	**236**	*e*S	Sn	23 33 41.4	-0.6
CHIC	**Chingaza**	**2.17**	**195**	*e*P	Pn	23 33 15.8	-0.7

*IDC **20** 23:32:48.3±3.0, 36°.15N×70°.32E, h178km±26km, mb3.4/14, mb1 3.4/20, mb1mx3.2/76, mbtmp3.9/20, Error ellipse: s-maj=20.0km s-min=13.6km az=178.0*
*ISCJB **20** 23:32:51.3±0.3, 36°.50N±0°.03×70°.35E±0°.05, h204km, mb3.5/13, Error ellipse: s-maj=5.6km s-min=4.0km az=171.1*
*NNC **20** 23:32:55.8±3.2, 36°.80N×70°.24E, h177km±46km, mb3.2, mpv4.3, Error ellipse: s-maj=29.8km s-min=24.8km az=39.0*

ISC 20 23:32:52.0±0.6, 36°.50N±0°.05×70°.30E±0°.06, h204km, n49, σ1s45/61, mb3.6/13, 4C-9D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**2.97**	**153**	P	**Pn**	**23 33 42.3**	**+0.5**
CEP				S	**S**	**23 34 19.0**	**-1.0**
CHCP	**Chirah Chowk**	**3.73**	**138**	P	**Pn**	**23 33 51.6**	**+0.9**
THW	**Thamme Wali**	**3.88**	**162**	P	**Pn**	**23 33 52.9**	**+0.3**
SFK	**Sufi-Kurgan**	**4.32**	**35**	⇓P	**Pn**	**23 33 58.2**	**0.0**
	16nm,0.4s						
SFK				⇑S	**S**	**23 34 48.2**	**-1.6**
	69nm,0.4s						
SARP	**Sargodha**	**4.97**	**156**	P	**Pn**	**23 34 05.8**	**-0.4**
AML	**Almayashu**	**6.21**	**24**	P	**Pn**	**23 34 21.8**	**-0.6**
	SNR=188						
MNAS	**Manas**	**6.22**	**15**	⇓P	**Pn**	**23 34 22.3**	**0.0**
	8.0nm,0.4s						
MNAS				⇑S	**S**	**23 35 30.3**	**-3.3**
	34nm,0.6s						
UCH	**Uchtor**	**6.59**	**28**	P	**Pn**	**23 34 27.1**	**-0.3**
	SNR=72						
KK31	**Karatay Array**	**6.60**	**1**	⇓P	**Pn**	**23 34 26.8**	**-0.3**
	3.8nm,0.4s,baz=174,slow=12,SNR=30						
KK31				⇓S	**S**	**23 35 38.2**	**-4.1**
	11nm,0.5s,baz=184,slow=26						
EKS2	**Erkin-Say**	**6.72**	**22**	P	**Pn**	**23 34 28.7**	**0.0**
	SNR=14						
KZA	**Kyart**	**6.77**	**33**	P	**Pn**	**23 34 28.7**	**-0.9**
	SNR=15						
AAK	**Ala-Archa**	**6.94**	**27**	P	**Pn**	**23 34 31.6**	**+0.1**
	7.1nm,0.3s,baz=188,slow=5.9,SNR=110						
AAK				S	**S**	**23 35 47.2**	**-3.2**
	1.8nm,0.3s,baz=321,slow=19,SNR=10						
AAK	**Ala-Archa**	**6.94**	**27**	⇓P	**Pn**	**23 34 31.3**	**-0.3**
	15nm,0.5s						
AAK				⇑S	**S**	**23 35 48.5**	**-2.0**
	17nm,0.6s						
AAK	**Ala-Archa**	**6.94**	**27**	P	**Pn**	**23 34 31.4**	**-0.1**
	SNR=35						
KBK	**Karagaybulak**	**7.12**	**29**	P	**Pn**	**23 34 34.1**	**+0.2**
	SNR=17						
CHMS	**Chumysh**	**7.34**	**26**	P	**Pn**	**23 34 36.4**	**-0.3**
	SNR=14						
ULHL	**Ulahol**	**7.36**	**37**	P	**Pn**	**23 34 36.6**	**-0.5**
	SNR=16						
USP	**Ospenovka**	**7.49**	**24**	P	**Pn**	**23 34 38.2**	**-0.4**
	SNR=24						
TKM2	**Tokmak 2**	**7.60**	**31**	⇓P	**Pn**	**23 34 40.0**	**-0.3**
	42nm,0.6s						
TKM2				⇓S	**S**	**23 36 03.8**	**-2.5**
	7.5nm,0.9s						
TKM2	**Tokmak 2**	**7.60**	**31**	P	**Pn**	**23 34 39.9**	**-0.3**
	SNR=63						
GEYT	**Alibeck**	**9.82**	**282**	P	**Pn**	**23 35 07.1**	**-1.9**
	0.4nm,0.3s,baz=108,slow=9.4,SNR=6.8						
GEYT				S	**S**	**23 36 58.0**	**-1.0**
	0.3nm,0.3s,baz=113,slow=15,SNR=3.3						
PYUN	**Piuthan**	**13.60**	**124**	*e*P	**Pn**	**23 35 55.5**	**-1.6**
	11nm,0.4s						
MKAR	**Makanchi Array**	**13.63**	**37**	P	**Pn**	**23 35 56.8**	**-0.3**
	0.2nm,0.3s,baz=220,slow=13,SNR=10						
MKAR				S	**S**	**23 38 31.4**	**+2.9**
	baz=243,slow=19,SNR=1.7						
KOLN	**Koldanda**	**14.22**	**124**	*e*P	**Pn**	**23 36 03.2**	**-1.6**
	8.3nm,0.5s						
GKN	**Gorkha**	**14.78**	**121**	*e*P	**Pn**	**23 36 11.8**	**+0.2**
	12nm,0.3s						
AB31	**Akbulak array**	**14.82**	**333**	⇓P	**P**	**23 36 14.2**	**+1.7**
	1.0nm,0.4s						
KURBB	**Kurchatov Arra**	**15.31**	**20**	P	**P**	**23 36 18.7**	**+0.8**
	0.1nm,0.3s,baz=207,slow=10,SNR=4.0						
KKN	**Kakani**	**15.36**	**120**	*e*P	**P**	**23 36 19.0**	**+0.1**
	18nm,0.4s						
PKIN	**Phulchoki**	**15.57**	**121**	*e*P	**Pn**	**23 36 21.2**	**-0.1**
	31nm,0.5s						
GUN	**Gumba**	**15.71**	**119**	*e*P	**Pn**	**23 36 24.4**	**+1.4**
	12nm,0.3s						
AKTO	**Aktyubinsk**	**16.51**	**331**	P	**Pn**	**23 36 33.0**	**+0.9**
	0.4nm,0.3s,baz=145,slow=10,SNR=14						
AKTO				S	**S**	**23 39 33.4**	**0.0**
	0.1nm,0.3s,baz=269,slow=18,SNR=2.4						
AKTO	**Aktyubinsk**	**16.51**	**331**	⇑P	**Pn**	**23 36 32.5**	**+0.4**
	7.1nm,0.8s						
BVA0	**Borovoye Array**	**16.53**	**0**	⇓P	**Pn**	**23 36 35.3**	**+3.1**
	1.9nm,0.9s,baz=163,slow=9.6,SNR=7.7						
BVAR	**Borovoye Array**	**16.53**	**0**	P	**Pn**	**23 36 32.6**	**+0.3**
	0.3nm,0.3s,baz=165,slow=11,SNR=7.5						
BVAR				S	**S**	**23 39 32.3**	**-1.4**
	0.1nm,0.3s,baz=155,slow=14,SNR=3.6						
ZALV	**Zalesovo Beam**	**20.16**	**25**	P	**P**	**23 37 11.0**	**+0.5**
	2.9nm,0.3s,baz=215,slow=11,SNR=24						
ZALV				S	**S**	**23 40 43.5**	**-1.8**
	0.6nm,0.5s,baz=230,slow=18,SNR=3.0						
ARU	**Arti**	**21.46**	**342**	P	**P**	**23 37 26.4**	**+2.2**
	2.5nm,0.6s,baz=123,slow=7.2,SNR=5.0						
SONM	**Songino Array**	**28.80**	**55**	P	**P**	**23 38 32.8**	**+1.7**
	0.3nm,0.5s,baz=270,slow=7.2,SNR=2.1						
AKASG	**Malin Array Be**	**32.51**	**309**	P	**P**	**23 39 05.0**	**+1.7**
	0.2nm,0.4s,baz=82,slow=7.6,SNR=3.7						
FINES	**FINESS Array B**	**37.17**	**326**	P	**P**	**23 39 43.6**	**+0.5**
	2.0nm,0.7s,baz=133,slow=11,SNR=7.5						
ARCES	**ARCESS Array B**	**40.94**	**338**	P	**P**	**23 40 15.4**	**+1.3**
	2.7nm,0.7s,baz=113,slow=7.7,SNR=16						
HFS	**Hagfors**	**42.72**	**322**	P	**P**	**23 40 30.4**	**+1.7**
	1.2nm,0.7s,baz=83,slow=12,SNR=4.0						
NB2	**NORSAR Subarra**	**44.05**	**323**	P	**P**	**23 40 39.7**	**+0.4**
	comp=Z,2.6nm,1.0s,baz=98,slow=7.9						
NOA	**NORSAR Array B**	**44.05**	**323**	P	**P**	**23 40 39.9**	**+0.6**
	comp=Z,1.4nm,0.8s,baz=97,slow=7.9,SNR=5.4						
TIXI	**Tiksi**	**45.99**	**22**	P	**P**	**23 40 54.7**	**+0.3**
	comp=Z,2.4nm,0.6s,baz=266,slow=2.8,SNR=6.3						
SPITS	**Spitsbergen Ar**	**47.37**	**347**	P	**P**	**23 41 06.3**	**+1.3**
	comp=Z,2.5nm,0.8s,baz=112,slow=19,SNR=4.4						
TORD	**Torodi Ar. Bea**	**65.15**	**268**	P	**P**	**23 43 09.8**	**-1.7**
	comp=Z,0.6nm,0.6s,baz=46,slow=4.7,SNR=8.2						
KOWA	**Kowa**	**69.00**	**273**	P	**P**	**23 43 35.0**	**-0.7**
	comp=Z,0.9nm,0.6s,baz=44,slow=8.6,SNR=5.6						
WRA	**Warramunga Arr**	**82.47**	**121**	P	**P**	**23 44 49.6**	**-2.2**
	comp=Z,0.7nm,0.9s,baz=319,slow=5.1,SNR=4.7						
ASAR	**Alice Springs**	**84.72**	**124**	P	**P**	**23 45 01.9**	**-1.4**
	comp=Z,0.4nm,0.6s,baz=310,slow=5.1,SNR=5.0						

*IDC **20** 23:35:42.8±2.0, 2°.78N×92°.75E, h0km, mb3.6/4, mb1 3.9/6, mb1mx3.4/67, mbtmp3.8/6, ML4.1/2, Error ellipse: s-maj=55.6km s-min=28.1km az=52.0*
*ISCJB **20** 23:35:45.1±1.4, 2°.8N±0°.2×92°.6E±0°.1, h33km, mb3.7/4, Error ellipse: s-maj=26.2km s-min=19.8km az=17.1*

ISC 20 23:35:47.3±1.5, 2°.8Nkm±0°.2×92°.7E±0°.2, h35km, n6, σ0s95/6, mb3.7/4, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**12.72**	**291**	P	**Pn**	**23 38 45.5**	**-0.4**
	1.6nm,0.3s,baz=114,slow=9.2,SNR=2.2						
PALK				Sn	Sn	23 40 58.2	-8.3
	0.5nm,0.3s,baz=118,slow=4.8,SNR=2.4						
CMAR	**Chiang Mai Arr**	**16.75**	**21**	Pn	**Pn**	**23 39 38.4**	**-1.1**
	0.2nm,0.3s,baz=220,slow=11,SNR=2.2						
MKAR	**Makanchi Array**	**44.76**	**350**	P	**P**	**23 43 58.3**	**+0.8**
	0.9nm,0.8s,baz=170,slow=8.0,SNR=5.9						
SONM	**Songino Array**	**46.43**	**13**	P	**P**	**23 44 11.1**	**+0.3**
	0.3nm,0.4s,baz=177,slow=10,SNR=2.2						
WRA	**Warramunga Arr**	**46.72**	**121**	P	**P**	**23 44 13.2**	**-0.2**
	0.4nm,0.4s,baz=298,slow=8.7,SNR=6.3						
ZALV	**Zalesovo Beam**	**51.41**	**354**	P	**P**	**23 44 49.5**	**+0.7**
	0.8nm,0.4s,baz=175,slow=7.3,SNR=5.3						

*DDA **20** 23:43:44.2, 38°.39N×39°.24E, h7km, Ml2.6*
*ISK **20** 23:43:44.0, 38°.39N×39°.23E, h6km, ML2.3/5*
*CSEM **20** 23:43:44.3±0.2, 38°.40N×39°.25E, h5km, ML2.6, Error ellipse: s-maj=4.1km s-min=3.2km az=8.0*

ISC 20 23:43:43.7±1.0, 38°.39N±0°.03×39°.28E±0°.02, h13km±8km, n28, σ0s49/48, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELZG	**Elazig**	**0.25**	**295**	*i* P	**Pb**	**23 43 49.7**	**-0.5**
ELZG				*i* S	**Sg**	**23 43 53.0**	**+0.1**
ELZG	**Elazig**	**0.25**	**295**	P	**Pb**	**23 43 49.7**	**-0.5**
ELZG				S	**Sg**	**23 43 53.0**	**+0.1**
PTK	**Pertek**	**0.51**	**10**	PG	**Pb**	**23 43 54.5**	**-0.1**
PTK				SG	**Sb**	**23 44 02.4**	**+0.4**
PTK	**Pertek**	**0.51**	**10**	*e*Pg	**Pb**	**23 43 54.5**	**-0.1**
PTK				*e*Sg	**Sb**	**23 44 02.4**	**+0.4**
MALT	**Malatya**	**0.67**	**264**	PG	**Pg**	**23 43 56.6**	**-0.2**
MALT				SG	**Sg**	**23 44 06.0**	**+0.3**
MALT	**Malatya**	**0.67**	**264**	*e*Pg	**Pg**	**23 43 56.6**	**-0.2**
MALT				*e*Sg	**Sg**	**23 44 06.0**	**+0.3**
TNCL	**Tunceli-Merkez**	**0.75**	**16**	*i* P	**Pb**	**23 43 59.1**	**+0.3**
TNCL	**Tunceli-Merkez**	**0.75**	**16**	P	**Pb**	**23 43 59.1**	**+0.3**
DYBB	**Diyarbakir**	**0.81**	**122**	PG	**Pn**	**23 44 00.7**	**-0.2**
DYBB				SG	**Sn**	**23 44 12.7**	**-0.1**
DIYA	**Diyarbakir**	**0.81**	**125**	*i* P	**Pn**	**23 44 00.8**	**-0.1**
DIYA				*i* S	**Sn**	**23 44 12.4**	**-0.5**
DIYA	**Diyarbakir**	**0.81**	**125**	P	**Pn**	**23 44 00.8**	**-0.1**
DIYA				S	**Sn**	**23 44 12.4**	**-0.5**
HANI	**Diyarbakir_Han**	**0.88**	**88**	*i* P	**Pn**	**23 44 01.6**	**-0.3**
HANI				*i* S	**Sn**	**23 44 14.6**	**0.0**
HANI	**Diyarbakir_Han**	**0.88**	**88**	P	**Pn**	**23 44 01.6**	**

PS08	**TAPS Pump Stn8**	**2.37**	**48**	P	**Pn**	**23 57 00.8**	**-0.7**
PAX	**Paxson**	**2.47**	**89**	*e*Pn	**Pn**	**23 57 02.6**	**-0.4**
PAX				*e*Sn	**Sn**	**23 57 32.9**	**-0.6**
IL1	**Eielson Array**	**2.49**	**43**	*e*Pn	**Pn**	**23 57 01.7**	**-1.3**
ILAR	**Eielson Array**	**2.49**	**43**	P	**Pn**	**23 57 02.4**	**-0.7**
	18nm,0.3s,baz=224,slow=13,SNR=1196						
ILAR				S	**Sn**	**23 57 30.9**	**-3.0**
	12nm,0.3s,baz=229,slow=17,SNR=9.5						
ILB	**Eielson Array**	**2.49**	**43**	*e*Pn	**Pn**	**23 57 02.3**	**-0.7**
GLM	**Gilmore Dome**	**2.50**	**36**	P	**Pn**	**23 57 03.0**	**-0.3**
SLKM	**Skilak Lake**	**2.54**	**175**	P	**Pn**	**23 57 03.3**	**-0.5**
RDT	**Redoubt**	**2.56**	**197**	P	**Pn**	**23 57 03.4**	**-0.6**
DFR	**Drift River**	**2.58**	**200**	P	**Pn**	**23 57 03.8**	**-0.6**
NCT	**North Crescent**	**2.65**	**202**	P	**Pn**	**23 57 05.2**	**0.0**
PS11	**TAPS Pump St11**	**2.68**	**108**	P	**Pn**	**23 57 05.6**	**+0.2**
RDWB	**Redoubt West**	**2.71**	**201**	P	**Pn**	**23 57 05.6**	**-0.4**
HARP	**HAARP**	**2.71**	**101**	*e*Pn	**Pn**	**23 57 05.9**	**0.0**
KLU	**Klutina**	**2.78**	**121**	*e*Pn	**Pn**	**23 57 05.8**	**-1.1**
KLU				*e*Sn	**Sn**	**23 57 39.3**	**-1.4**
RIDG	**Independ'e Rid**	**2.81**	**72**	*e*Pn	**Pn**	**23 57 06.9**	**-0.4**
RIDG				*e*Sn	**Sn**	**23 57 38.6**	**-2.7**
JPK	**Jack Peak**	**2.82**	**132**	P	**Pn**	**23 57 06.1**	**-1.3**
VLZ	**Valdez**	**2.86**	**129**	P	**Pn**	**23 57 06.2**	**-1.6**
VMT	**TAPS TI Valdez**	**2.88**	**130**	P	**Pn**	**23 57 06.5**	**-1.5**
PS06	**TAPS Pump Stn6**	**2.89**	**9**	P	**Pn**	**23 57 07.9**	**-0.2**
SVW2	**Sparrevohn**	**2.94**	**231**	*e*Pn	**Pn**	**23 57 07.9**	**-0.9**
DIV	**Divide**	**3.06**	**126**	*e*Pn	**Pn**	**23 57 08.9**	**-1.6**
DIV				*e*Sn	**Sn**	**23 57 44.9**	**-2.2**
DOT	**Dot Lake**	**3.14**	**75**	*e*Pn	**Pn**	**23 57 10.6**	**-0.9**
ILW	**Iliamna West**	**3.16**	**201**	P	**Pn**	**23 57 11.7**	**-0.2**
IM3	**Indian Mountai**	**3.22**	**339**	*e*Pn	**Pn**	**23 57 11.3**	**-1.2**
SCRK	**Sand Creek**	**3.24**	**70**	*e*Pn	**Pn**	**23 57 12.0**	**-0.9**
BRLK	**Bradley Lake**	**3.27**	**180**	*e*Pn	**Pn**	**23 57 12.9**	**-0.2**
MENT	**Mentasta**	**3.27**	**88**	*e*Pn	**Pn**	**23 57 12.7**	**-0.5**
HOM	**Homer**	**3.39**	**187**	*e*Pn	**Pn**	**23 57 15.4**	**+0.7**
HOM				*e*Sn	**Sn**	**23 57 54.1**	**-0.6**
PRP	**Porcupine Dome**	**3.43**	**41**	P	**Pn**	**23 57 14.6**	**-0.7**
EYAK	**Cordova Ski Ar**	**3.48**	**133**	*e*Pn	**Pn**	**23 57 15.3**	**-0.5**
EYAK				*e*Sn	**Sn**	**23 57 56.8**	**+0.1**
BMRM	**Bremner River**	**3.61**	**122**	*e*Pn	**Pn**	**23 57 16.1**	**-1.5**
BMRM				*e*Sn	**Sn**	**23 57 57.7**	**-2.1**
VRDI	**Verde Repeater**	**3.93**	**114**	P	**Pn**	**23 57 20.6**	**-1.4**
RAGM	**Ragged Mountai**	**3.96**	**129**	*e*Pn	**Pn**	**23 57 21.4**	**-0.9**
MCARA	**McCarthy VSAT**	**4.03**	**111**	P	**Pn**	**23 57 22.8**	**-0.4**
BCA3	**Beaver Creek A**	**4.14**	**85**	P	**Pn**	**23 57 23.7**	**-1.0**
MID	**Middleton Isla**	**4.22**	**147**	*e*Pn	**Pn**	**23 57 25.1**	**-0.5**
MID				*e*Sn	**Sn**	**23 58 08.7**	**-5.5**
COLD	**Coldfoot**	**4.24**	**4**	*e*Pn	**Pn**	**23 57 25.6**	**-0.2**
FYU	**Fort Yukon**	**4.30**	**32**	*e*Pn	**Pn**	**23 57 26.2**	**-0.5**
CDD	**Cape Douglas**	**4.32**	**199**	P	**Pn**	**23 57 26.6**	**-0.4**
NICHA	**Nichawak Mount**	**4.32**	**127**	P	**Pn**	**23 57 26.0**	**-1.1**
PTPK	**Patty Peak**	**4.36**	**111**	P	**Pn**	**23 57 27.1**	**-0.7**
KHIT	**Khitrov Hills**	**4.46**	**122**	P	**Pn**	**23 57 27.4**	**-1.5**
BALM	**Baldy**	**4.49**	**113**	*e*Pn	**Pn**	**23 57 28.3**	**-1.1**
BALM				*e*Sn	**Sn**	**23 58 18.7**	**-2.1**
GRIN	**Grindle Hills**	**4.53**	**124**	P	**Pn**	**23 57 29.0**	**-0.8**
KIAG	**Kiagna River**	**4.54**	**114**	P	**Pn**	**23 57 28.6**	**-1.4**
EGAK	**Eagle**	**4.64**	**63**	*e*Pn	**Pn**	**23 57 30.6**	**-0.6**
ISLE	**Juniper Island**	**4.72**	**117**	P	**Pn**	**23 57 30.9**	**-1.6**
BARN	**Barnard Glacie**	**4.77**	**110**	P	**Pn**	**23 57 32.7**	**-0.5**
KULT	**Kultieth River**	**4.78**	**122**	P	**Pn**	**23 57 31.9**	**-1.3**
KAHC	**Katmai Hardscr**	**4.83**	**207**	P	**Pn**	**23 57 33.2**	**-0.6**
BAGL	**Bagley Icefiel**	**4.89**	**117**	P	**Pn**	**23 57 33.4**	**-1.1**
KARR	**Katmai Rainbow**	**4.91**	**204**	P	**Pn**	**23 57 34.7**	**-0.2**
CTGM	**Chitina Glacie**	**4.95**	**110**	P	**Pn**	**23 57 35.0**	**-0.6**
MESA	**MESA**	**5.13**	**120**	P	**Pn**	**23 57 35.7**	**-2.3**
BM3	**Burnt Mountain**	**5.14**	**28**	P	**Pn**	**23 57 37.3**	**-0.7**
LOGN	**Logan Glacier**	**5.16**	**111**	P	**Pn**	**23 57 37.6**	**-0.8**
KABU	**Katmai Buttres**	**5.23**	**206**	P	**Pn**	**23 57 39.9**	**+0.6**
DAWY	**Dawson**	**5.25**	**73**	*e*Pn	**Pn**	**23 57 38.8**	**-0.6**
KDAK	**Kodiak Island**	**5.32**	**190**	P	**Pn**	**23 57 38.6**	**-1.8**
	2.3nm,0.3s,baz=46,slow=8.2,SNR=76						
KDAK				S	**Sn**	**23 58 35.2**	**-5.4**
	10nm,0.3s,baz=272,slow=22,SNR=15						
KDAK	**Kodiak Island**	**5.32**	**190**	*e*Pn	**Pn**	**23 57 39.1**	**-1.3**
KDAK				S	**Sn**	**23 58 35.2**	**-5.4**
SAMH	**Samovar Hills**	**5.63**	**116**	P	**Pn**	**23 57 44.0**	**-0.6**
TOLK	**Toolik Lake Re**	**5.67**	**5**	P	**Pn**	**23 57 46.4**	**+1.4**
	baz=186						
TOLK				S	**Sn**	**23 58 50.0**	**+1.0**
	baz=186						
TOLK	**Toolik Lake Re**	**5.67**	**5**	*e*Pn	**Pn**	**23 57 46.6**	**+1.6**
OHAK	**Old Harbor**	**5.94**	**193**	*e*Pn	**Pn**	**23 57 47.5**	**-1.1**
HYT	**Haines Junctio**	**6.69**	**103**	*e*Pn	**Pn**	**23 57 57.1**	**-1.7**
RDOG	**Red Dog Mine**	**7.09**	**321**	P	**Pn**	**23 58 04.4**	**+0.3**
PLBC	**Pleasant Camp**	**7.86**	**110**	P	**Pn**	**23 58 13.6**	**-0.8**
WHY	**Whitehorse**	**7.93**	**100**	*e*Pn	**Pn**	**23 58 14.7**	**-0.8**
SKAG	**Skagway**	**8.30**	**108**	*e*Pn	**Pn**	**23 58 19.8**	**-0.5**
INK	**Inuvik**	**8.89**	**46**	P	**Pn**	**23 58 28.0**	**-0.3**
	0.4nm,0.3s,baz=248,slow=15,SNR=18						
INK	**Inuvik**	**8.89**	**46**	*e*Pn	**Pn**	**23 58 28.4**	**+0.1**
BESE	**Bessie Mountai**	**9.00**	**112**	*e*Pn	**Pn**	**23 58 28.9**	**-0.9**
GAMB	**Gambell**	**9.36**	**284**	*e*Pn	**Pn**	**23 58 35.2**	**+0.7**
YKA	**Yellowknife Ar**	**16.48**	**76**	P	**Pn**	**00 00 06.2**	**-0.1**
	0.4nm,0.3s,baz=286,slow=9.9,SNR=23						
YKA				PcP	**PcP**	**00 04 49.4**	**+0.2**
	0.0nm,0.3s,baz=283,slow=1.3,SNR=4.6						
YKA				ScP	**ScP**	**00 08 12.1**	**+0.8**
	0.1nm,0.3s,baz=295,slow=2.2,SNR=8.1						
RES	**Resolute Bay**	**22.22**	**36**	P	**P**	**00 01 08.1**	**-0.4**
	0.6nm,0.4s,baz=240,slow=14,SNR=7.6						
NEW	**Newport**	**23.73**	**113**	P	**P**	**00 01 24.3**	**+1.3**
	1.7nm,0.5s,baz=338,slow=8.5,SNR=2.7						
NEW	**Newport**	**23.73**	**113**	P	**P**	**00 01 24.2**	**+1.2**
	baz=321						
SEY	**Seymchan**	**25.07**	**295**	P	**P**	**00 01 34.0**	**-1.0**
	3.0nm,0.8s,baz=82,slow=9.5,SNR=9.8						
MSO	**Missoula**	**26.20**	**111**	P	**P**	**00 01 46.2**	**+0.7**
	baz=322						
N02D	**Trinity Center**	**27.66**	**130**	P	**P**	**00 02 00.0**	**+1.5**
	baz=332						
BOZ	**Bozeman (W)**	**28.16**	**110**	P	**P**	**00 02 03.7**	**+0.8**
	baz=322						
TIXI	**Tiksi**	**29.71**	**321**	P	**P**	**00 02 15.8**	**-0.4**
	0.6nm,0.4s,baz=63,slow=2.3,SNR=2.5						
PDAR	**Pinedale Array**	**31.32**	**111**	P	**P**	**00 02 33.0**	**+2.0**
	2.2nm,0.8s,baz=317,slow=6.3,SNR=17						
PDAR				pP	**pP**	**00 03 00.5**	**+1.5**
	0.4nm,0.5s,baz=302,slow=6.8,SNR=3.2						
PDAR				PcP	**PcP**	**00 05 21.9**	**+0.2**
	0.3nm,0.5s,baz=259,slow=0.9,SNR=4.0						
NVAR	**Mina Array Bea**	**31.49**	**126**	P	**P**	**00 02 34.8**	**+2.2**
	1.0nm,0.7s,baz=316,slow=8.5,SNR=12						
NVAR				pP	**pP**	**00 03 03.0**	**+2.4**
	1.9nm,0.7s,baz=315,slow=8.4,SNR=10						
NVAR				PcP	**PcP**	**00 05 22.7**	**+0.5**
	0.7nm,0.6s,baz=289,slow=3.5,SNR=5.7						
ULM	**Lac du Bonnet**	**31.76**	**88**	P	**P**	**00 02 35.0**	**+0.5**
	1.4nm,0.4s,baz=298,slow=6.6,SNR=6.4						
ULM				PcP	**PcP**	**00 05 22.6**	**+0.2**
	1.5nm,0.7s,baz=303,slow=5.5,SNR=3.7						
ULM	**Lac du Bonnet**	**31.76**	**88**	*e*P	**P**	**00 02 34.0**	**-0.5**
	2.5nm,0.6s						
DUG	**Dugway, Tooele**	**32.10**	**117**	P	**P**	**00 02 36.9**	**-0.9**
	baz=328						
R11A	**Troy Canyon, C**	**32.59**	**122**	P	**P**	**00 02 43.0**	**+0.9**
	baz=331						
RSSD	**Black Hills**	**32.64**	**103**	P	**P**	**00 02 43.1**	**+0.6**
	baz=322						
K22A	**Casper**	**32.72**	**107**	P	**P**	**00 02 43.6**	**+0.5**
	baz=324						
TPNV	**Topopah Spring**	**33.56**	**125**	P	**P**	**00 02 50.1**	**-0.4**
	baz=332						
B34A	**Aery, Baudette**	**33.59**	**89**	P	**P**	**00 02 50.9**	**+0.5**
	baz=317						
P18A	**Preston Nutter**	**33.63**	**115**	*e*P	**P**	**00 02 52.7**	**+1.5**
	4.7nm,0.9s						
B35A	**Bob, Littlefor**	**34.10**	**88**	P	**P**	**00 02 54.9**	**0.0**
	baz=317						
LRMC	**Laurel Mtn Rad**	**34.34**	**128**	P	**P**	**00 02 58.4**	**+1.2**
	baz=334						
C35A	**Jirik Farms, M**	**34.47**	**89**	P	**P**	**00 02 57.3**	**-0.7**
	baz=318						
FRB	**Frobisher Bay**	**34.50**	**51**	P	**P**	**00 02 58.1**	**0.0**
	0.9nm,0.4s,baz=308,slow=12,SNR=4.7						
GSC	**Goldstone, Bar**	**34.82**	**127**	P	**P**	**00 03 02.7**	**+1.4**
	baz=334						
D35A	**Remer**	**34.89**	**90**	P	**P**	**00 03 01.9**	**+0.2**
	baz=318						
H32A	**Carlson Farm,**	**35.31**	**96**	P	**P**	**00 03 06.4**	**+1.1**
	baz=321						
EYMN	**Ely**	**35.42**	**87**	P	**P**	**00 03 07.1**	**+0.9**
	baz=317						
E36A	**McGregor**	**35.68**	**90**	P	**P**	**00 03 09.2**	**+0.8**
	baz=319						
C38A	**Sawbill Land.**	**35.69**	**87**	P	**P**	**00 03 09.2**	**+0.6**
	baz=318						
GMRC	**Granite Mounta**	**35.70**	**126**	P	**P**	**00 03 10.6**	**+1.8**
	baz=333						
F36A	**Milaca**	**36.05**	**91**	P	**P**	**00 03 12.6**	**+1.0**
	baz=319						
C39A	**Grand Marais**	**36.14**	**86**	P	**P**	**00 03 12.4**	**+0.1**
	baz=318						
ECSD	**EROS Data Cent**	**36.28**	**96**	P	**P**	**00 03 13.9**	**+0.3**
	baz=321						
MVCO	**Mesa Verde**	**36.41**	**115**	P	**P**	**00 03 16.4**	**+1.4**
	baz=329						
S22A	**4UR Ranch, Cre**	**36.65**	**113**	P	**P**	**00 03 18.8**	**+1.7**
	baz=328,SNR=6.0						
WUAZ	**Wupatki**	**36.70**	**120**	P	**P**	**00 03 19.3**	**+1.8**
	baz=331,SNR=6.3						
F38A	**Pierce - Schro**	**36.73**	**89**	P	**P**	**00 03 18.3**	**+0.9**
	baz=319						
H36A	**Jessenland, He**	**36.85**	**93**	P	**P**	**00 03 19.8**	**+1.5**
	baz=320						
SPMN	**Marine on St.**	**36.87**	**91**	P	**P**	**00 03 19.3**	**+0.8**
	baz=320						
MONP2	**Monument Peak**	**37.12**	**128**	P	**P**	**00 03 22.1**	**+1.1**
	baz=335						
F39A	**Loretta**	**37.20**	**89**	P	**P**	**00 03 21.6**	**+0.3**
	baz=319						
I37A	**Lemond, Waseca**	**37.52**	**93**	P	**P**	**00 03 24.8**	**+0.7**
	baz=321						
H39A	**Augusta**	**37.98**	**90**	P	**P**	**00 03 28.0**	**+0.1**
	baz=320						
G40A	**Rib Lake**	**38.02**	**89**	P	**P**	**00 03 28.3**	**+0.1**
	baz=320						
K36A	**Gilmore City**	**38.12**	**95**	P	**P**	**00 03 29.4**	**+0.3**
	baz=322						
K37A	**Belmond**	**38.39**	**94**	P	**P**	**00 03 31.9**	**+0.6**
	baz=322						
SPITS	**Spitsbergen Ar**	**38.82**	**4**	P	**P**	**00 03 34.7**	**+0.1**
	1.3nm,0.5s,baz=346,slow=10,SNR=14						
L38A	**Oak Wood Farm,**	**39.19**	**94**	P	**P**	**00 03 38.5**	**+0.5**
	baz=322						
J40A	**Soldiers Grove**	**39.22**	**91**	P	**P**	**00 03 38.7**	**+0.5**
	baz=321						
J41A	**Loganville**	**39.57**	**90**	P	**P**	**00 03 41.8**	**+0.6**
	baz=321						
L39A	**Vinton**	**39.64**	**93**	P	**P**	**00 03 42.3**	**+0.5**
	baz=322						
L40A	**Anamosa**	**40.05**	**93**	P	**P**	**00 03 45.0**	**0.0**
	baz=322						
M39A	**Webster**	**40.08**	**94**	P	**P**	**00 03 45.9**	**+0.5**
	baz=323						
N39A	**Derby Farms, D**	**40.41**	**95**	P	**P**	**00 03 48.3**	**+0.2**
	baz=323,SNR=5.8						
O40A	**La Belle**	**41.30**	**95**	P	**P**	**00 03 55.5**	**+0.2**
	baz=324						
MSTX	**Muleshoe**	**41.58**	**111**	P	**P**	**00 03 58.6**	**+0.8**
	baz=329						
Q39A	**Willow Grove F**	**41.67**	**97**	P	**P**	**00 03 58.8**	**+0.4**
	baz=325						
P40A	**Paris**	**41.70**	**96**	P	**P**	**00 03 59.0**	**+0.3**
	baz=324						
R38A	**Fenwick Farm,**	**41.95**	**99**	P	**P**	**00 04 00.2**	**-0.5**
	baz=325						
Q40A	**Laux Farm, Aux**	**42.12**	**96**	P	**P**	**00 04 01.8**	**-0.3**
	baz=324						
R39A	**Chumby, Stover**	**42.23**	**98**	P	**P**	**00 04 03.0**	**0.0**
	baz=325,SNR=5.4						
S38A	**Stockton**	**42.40**	**99**	P	**P**	**00 04 04.0**	**-0.4**
	baz=326						
MNTX	**Cornudas Mount**	**42.45**	**116**	P	**P**	**00 04 06.7**	**+1.8**
	baz=331						
KLR	**Kul'dur**	**42.49**	**289**	P	**P**	**00 04 04.1**	**-0.8**
	0.1nm,0.5s,baz=24,slow=8.2,SNR=5.3						
Q41A	**Truxton**	**42.53**	**96**	P	**P**	**00 04 05.6**	**+0.2**
	baz=324						
R40A	**Maddies Statio**	**42.60**	**97**	P	**P**	**00 04 05.6**	**-0.4**
	baz=325						
S39A	**Bolivar**	**42.62**	**99**	P	**P**	**00 04 04.6**	**-1.5**
	baz=325						
WMOK	**Wichita Mounta**	**42.65**	**106**	P	**P**	**00 04 07.0**	**+0.5**
	baz=328						
Q42A	**Golden Eagle**	**42.88**	**95**	P	**P**	**00 04 08.8**	**+0.6**
	baz=324						
R41A	**Rosebud**	**43.00**	**96**	P	**P**	**00 04 07.6**	**-1.6**
	baz=325						
S40A	**Lebanon**	**43.06**	**98**	P	**P**	**00 04 09.0**	**-0.7**
	baz=325						
T39A	**Clever**	**43.14**	**99**	P	**P**	**00 04 09.6**	**-0.7**
	baz=326						
Q43A	**New Douglas**	**43.24**	**94**	P	**P**	**00 04 11.5**	**+0.4**
	baz=324						
S41A	**Jillco Farms,**	**43.41**	**97**	P	**P**	**00 04 12.5**	**0.0**
	baz=325,SNR=6.5						
T40A	**Mansfield**	**43.42**	**98**	P	**P**	**00 04 12.3**	**-0.3**
	baz=326						
R43A	**Red Bud**	**43.67**	**95**	P	**P**	**00 04 14.0**	**-0.6**
	baz=325						
S42A	**Caledonia**	**43.70**	**96**	P	**P**	**00 04 14.2**	**-0.6**
	baz=325						
O47A	**Sheridan**	**43.80**	**90**	P	**P**	**00 04 15.2**	**-0.4**
	baz=324						
P46A	**Rosedale**	**43.83**	**91**	P	**P**	**00 04 15.4**	**-0.4**
	baz=324						
T41A	**Mountain View**	**43.85**	**98**	P	**P**	**00 04 15.5**	**-0.5**
	baz=326,SNR=5.1						
U40A	**Yellville**	**43.93**	**99**	P	**P**	**00 04 16.1**	**-0.6**
	baz=326						
Q45A	**Warren Harvey,**	**43.98**	**93**	P	**P**	**00 04 17.3**	**+0.3**
	baz=324						
V39A	**Pettigrew**	**44.00**	**100**	P	**P**	**00 04 16.9**	**-0.4**
	baz=327,SNR=6.8						
T42A	**Van Buren**	**44.17**	**97**	P	**P**	**00 04 18.0**	**-0.6**
	baz=326,SNR=5.2						
S43A	**Fulton Ridge,**	**44.19**	**96**	P	**P**	**00 04 18.1**	**-0.6**
	baz=325						
P47A	**Martinsville**	**44.36**	**91**	P	**P**	**00 04 20.0**	**0.0**
	baz=324						
V40A	**Wits Springs**	**44.40**	**100**	P	**P**	**00 04 20.1**	**-0.3**
	baz=326,SNR=7.9						
T43A	**Greenville**	**44.49**	**96**	P	**P**	**00 04 20.6**	**-0.5**
	baz=326						
U42A	**Revenden**	**44.66**	**98**	P	**P**	**00 04 21.8**	**-0.7**
	baz=326						
V41A	**Mountainview**	**44.72**	**99**	P	**P**	**00 04 22.0**	**-1.0**
	baz=326,SNR=5.3						
Q47A	**Bedord North L**	**44.73**	**91**	P	**P**	**00 04 23.1**	**+0.1**
	baz=324						
S45A	**Carrier Mills**	**44.78**	**94**	P	**P**	**00 04 23.2**	**-0.1**
	baz=325						
W40A	**Ferguson Farm,**	**44.80**	**100**	P	**P**	**00 04 23.1**	**-0.4**
	baz=327						
R46A	**Gibon Southern**	**44.83**	**93**	P	**P**	**00 04 23.7**	**0.0**
	baz=325						
X39A	**Fountain Ranch**	**44.90**	**102**	P	**P**	**00 04 24.2**	**-0.2**
	baz=327						
U43A	**Rector**	**45.02**	**97**	P	**P**	**00 04 25.5**	**+0.2**
	baz=326						
V42A	**Cord**	**45.05**	**98**	P	**P**	**00 04 24.6**	**-0.9**
	baz=326						
MIAR	**Mount Ida**	**45.11**	**101**	P	**P**	**00 04 26.6**	**+0.5**
	baz=327						
R47A	**Wooly Knot Far**	**45.21**	**92**	P	**P**	**00 04 27.1**	**+0.3**
	baz=325						
TXAR	**Lajitas Array**	**45.23**	**115**	P	**P**	**00 04 28.7**	**+1.5**
	2.1nm,0.7s,baz=326,slow=5.7,SNR=15						
TXAR				pP	**pP**	**00 04 58.1**	**+1.5**
	0.5nm,0.6s,baz=336,slow=8.3,SNR=2.4						
TXAR				PcP	**PcP**	**00 06 05.5**	**+0.6**
	0.6nm,0.6s,baz=306,slow=3.0,SNR=3.6						
WCI	**Wyandotte Cave**	**45.37**	**92**	P	**P**	**00 04 27.5**	**-0.5**
	baz=325						
T46A	**Princeton**	**45.61**	**94**	P	**P**	**00 04 30.3**	**+0.4**
	baz=325						
M54A	**Oil Creek Stat**	**45.75**	**83**	P	**P**	**00 04 31.2**	**+0.2**
	baz=323						
JCT	**Junction City**	**45.85**	**111**	P	**P**	**00 04 33.0**	**+1.0**
	baz=330						
S48A	**Wiedeman Farm,**	**45.94**	**92**	P	**P**	**00 04 32.7**	**+0.1**
	baz=325,SNR=6.0						
T47A	**Sharon Grove**	**46.01**	**93**	P	**P**	**00 04 33.7**	**+0.6**
	baz=325,SNR=5.6						
T48A	**Bowling Green**	**46.24**	**93**	P	**P**	**00 04 35.4**	**+0.5**
	baz=325						
U47A	**Clarksville**	**46.38**	**94**	P	**P**	**00 04 36.3**	**+0.3**
	baz=326						
WVT	**Waverly**	**46.39**	**95**	P	**P**	**00 04 36.6**	**+0.6**
	baz=326						
V46A	**Holladay**	**46.53**	**95**	P	**P**	**00 04 37.4**	**+0.3**
	baz=326						
U48A	**Cassie Pea, Po**	**46.66**	**93**	P	**P**	**00 04 39.0**	**+0.8**
	baz=326,SNR=7.2						
V47A	**Nunnelly**	**46.78**	**95**	P	**P**	**00 04 39.3**	**+0.1**
	baz=326						
OXF	**Oxford**	**47.02**	**97**	P	**P**	**00 04 41.7**	**+0.7**
	baz=327,SNR=10.0						
V48A	**Smith Brothers**	**47.17**	**94**	P	**P**	**00 04 42.7**	**+0.5**
	baz=326						
W47A	**Westpoint**	**47.23**	**95**	P	**P**	**00 04 43.2**	**+0.6**
	baz=326						
O56A	**Blue Knob Stat**	**47.24**	**83**	P	**P**	**00 04 42.7**	**+0.1**
	baz=324						
X46A	**Booneville**	**47.35**	**97**	P	**P**	**00 04 44.1**	**+0.5**
	baz=327,SNR=13						
Y45A	**Yeager Farm, C**	**47.50**	**98**	P	**P**	**00 04 45.1**	**+0.5**
	baz=327						
W48A	**Pulaski**	**47.62**	**95**	P	**P**	**00 04 46.2**	**+0.6**
	baz=326						
ARCES	**ARCESS Array B**	**47.70**	**2**	P	**P**	**00 04 45.3**	**-0.5**
	2.1nm,0.9s,baz=8.8,slow=8.7,SNR=5.1						
Y46A	**Houston**	**47.79**	**97**	P	**P**	**00 04 48.1**	**+1.1**
	baz=327,SNR=15						
TZTN	**Tazewell**	**48.00**	**90**	P	**P**	**00 04 49.3**	**+0.7**
	baz=326						
X48A	**Hartselle**	**48.14**	**95**	P	**P**	**00 04 49.9**	**+0.3**
	baz=327						
Y47A	**UCPARC, Winfie**	**48.23**	**96**	P	**P**	**00 04 51.1**	**+0.7**
	baz=327						
X49A	**Woodville**	**48.42**	**94**	P	**P**	**00 04 52.1**	**+0.4**
	baz=327,SNR=7.7						
Y48A	**Jasper**	**48.53**	**96**	P	**P**	**00 04 52.9**	**+0.3**
	baz=327						
TKL	**Tuckaleechee C**	**48.63**	**91**	P	**P**	**00 04 54.0**	**+0.6**
	6.2nm,0.6s,baz=22,slow=1.4,SNR=15						
Z47A	**Carrollton**	**48.72**	**97**	P	**P**	**00 04 54.8**	**+0.7**
	baz=327						
Z48A	**Northport**	**48.81**	**96**	P	**P**	**00 04 54.2**	**-0.5**
	baz=327						
Y50A	**Piedmont**	**49.20**	**94**	P	**P**	**00 04 58.4**	**+0.7**
	baz=327,SNR=7.7						
Z49A	**Columbiana**	**49.42**	**96**	P	**P**	**00 04 59.8**	**+0.4**
	baz=327						
Z50A	**Ashland**	**49.65**	**95**	P	**P**	**00 05 01.7**	**+0.5**
	baz=327,SNR=13						
149A	**Jones**	**49.81**	**96**	P	**P**	**00 05 02.9**	**+0.6**
	baz=328,SNR=6.3						
SONM	**Songino Array**	**53.85**	**306**	P	**P**	**00 05 33.5**	**+1.2**
	1.7nm,0.7s,baz=28,slow=5.7,SNR=13						
NOA	**NORSAR Array B**	**55.52**	**10**	P	**P**	**00 05 44.4**	**+0.4**
	0.4nm,0.7s,baz=322,slow=8.4,SNR=2.4						
ZALV	**Zalesovo Beam**	**55.53**	**324**	P	**P**	**00 05 43.6**	**-0.5**
	1.3nm,0.5s,baz=21,slow=6.8,SNR=6.7						
ZALV				pP	**pP**	**00 06 13.8**	**-0.8**
	0.6nm,0.5s,baz=34,slow=0.5,SNR=2.2						
FINES	**FINESS Array B**	**55.83**	**2**	P	**P**	**00 05 44.5**	**-1.6**
	1.6nm,0.8s,baz=4.5,slow=7.1,SNR=3.7						
HFS	**Hagfors**	**56.61**	**9**	P	**P**	**00 05 51.6**	**-0.1**
	0.8nm,0.6s,baz=356,slow=6.2,SNR=5.2						
ARU	**Arti**	**58.71**	**341**	P	**P**	**00 06 06.4**	**0.0**
	1.5nm,0.5s,baz=14,slow=4.2,SNR=4.5						
EKA	**Eskdalemuir Ar**	**59.34**	**21**	P	**P**	**00 06 09.7**	**-1.1**
	0.6nm,0.6s,baz=335,slow=5.2,SNR=4.3						
CMIG	**Matias Romero**	**59.74**	**113**	P	**P**	**00 06 14.1**	**+0.1**
	1.8nm,0.6s,baz=332,slow=9.8,SNR=3.4						
BVAR	**Borovoye Array**	**59.86**	**333**	P	**P**	**00 06 13.8**	**-0.5**
	0.8nm,0.6s,baz=23,slow=5.6,SNR=8.2						
BVAR				pP	**pP**	**00 06 45.0**	**-0.3**
	0.6nm,0.5s,baz=43,slow=6.7,SNR=3.7						
KURK	**Kurchatov**	**60.09**	**326**	P	**P**	**00 06 15.1**	**-0.8**
KURBB	**Kurchatov Arra**	**60.20**	**326**	P	**P**	**00 06 15.1**	**-1.6**
	0.5nm,0.5s,baz=29,slow=6.8,SNR=4.1						
OBN	**Obninsk**	**62.06**	**355**	P	**P**	**00 06

KHAL				*i* S	**Sb**	**00 09 13.4**	**-0.1**
KHAL	**Karahalli**	**0.80**	**159**	P	**Pb**	**00 09 02.6**	**+0.1**
KHAL				S	**Sb**	**00 09 13.4**	**-0.1**
AKHS	**Akhisar**	**1.06**	**257**	*i* P	**Pg**	**00 09 06.2**	**-0.3**
AKHS				*i* S	**Sg**	**00 09 19.6**	**-0.6**
AKHS	**Akhisar**	**1.06**	**257**	P	**Pg**	**00 09 06.2**	**-0.3**
AKHS				S	**Sg**	**00 09 19.6**	**-0.6**
BALB	**Balikesir**	**1.10**	**298**	PN	**Pb**	**00 09 07.7**	**+0.3**
BALB	**Balikesir**	**1.10**	**298**	*e*Pn	**Pb**	**00 09 07.7**	**+0.3**
STEP	**BALIKESIR_Sava**	**1.13**	**283**	*i* P	**Pb**	**00 09 08.1**	**+0.2**
STEP				*i* S	**Sn**	**00 09 23.9**	**+0.1**
STEP	**BALIKESIR_Sava**	**1.13**	**283**	P	**Pb**	**00 09 08.1**	**+0.2**
STEP				S	**Sn**	**00 09 24.0**	**+0.1**
MDNY	**Mudanya-Bursa**	**1.26**	**351**	PN	**Pn**	**00 09 10.2**	**+0.2**
MDNY	**Mudanya-Bursa**	**1.26**	**351**	*e*Pn	**Pn**	**00 09 10.2**	**+0.2**
KCTX	**Karacabey (Bur**	**1.29**	**333**	PN	**Pn**	**00 09 10.6**	**+0.2**
KCTX	**Karacabey (Bur**	**1.29**	**333**	*e*Pn	**Pn**	**00 09 10.6**	**+0.2**
ADVT	**Abdulvahap**	**1.39**	**19**	PN	**Pn**	**00 09 12.0**	**+0.2**
ADVT	**Abdulvahap**	**1.39**	**19**	*e*Pn	**Pn**	**00 09 12.0**	**+0.2**
YLV	**Yalova**	**1.45**	**7**	PN	**Pn**	**00 09 13.1**	**+0.3**
YLV	**Yalova**	**1.45**	**7**	*e*Pn	**Pn**	**00 09 13.1**	**+0.3**
ARMT	**Armutlu**	**1.45**	**352**	PN	**Pn**	**00 09 13.2**	**+0.5**
ARMT	**Armutlu**	**1.45**	**352**	*e*Pn	**Pn**	**00 09 13.2**	**+0.5**
AYDB	**Zeytinkoy-Aydi**	**1.53**	**220**	PN	**Pn**	**00 09 13.9**	**+0.1**
AYDB	**Zeytinkoy-Aydi**	**1.53**	**220**	*e*Pn	**Pn**	**00 09 13.9**	**+0.1**
GULT	**Gulveren**	**1.69**	**39**	PN	**Pn**	**00 09 16.2**	**+0.2**
GULT	**Gulveren**	**1.69**	**39**	*e*Pn	**Pn**	**00 09 16.2**	**+0.2**
SILT	**Sile**	**2.06**	**11**	PN	**Pn**	**00 09 21.8**	**+0.7**
SILT	**Sile**	**2.06**	**11**	*e*Pn	**Pn**	**00 09 21.8**	**+0.7**
CTKS	**Kestanelik-??a**	**2.16**	**347**	PN	**Pn**	**00 09 23.3**	**+0.9**
CTKS	**Kestanelik-??a**	**2.16**	**347**	*e*Pn	**Pn**	**00 09 23.3**	**+0.9**

IDC 21 00:14:38.5±4.6,**2°45N**×**90°30E**,**h0**km,**mb3.4**/4,**mb1 3.5**/4, **mb1mx3.1**/68,**mbtmp3.4**/4,**Error ellipse: s-maj=163.6km s-min=31.0km az=57.0,Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**44.72**	**352**	P	P	00 22 53.0	-0.5
	0.4nm,0.7s,baz=157,slow=9.9,SNR=4.7						
SONM	**Songino Array**	**47.31**	**15**	P	P	00 23 14.5	+0.4
	0.5nm,0.5s,baz=183,slow=9.7,SNR=3.8						
WRA	**Warramunga Arr**	**48.60**	**119**	P	P	00 23 24.2	-0.2
	0.3nm,0.7s,baz=296,slow=8.6,SNR=5.0						
KURBB	**Kurchatov Arra**	**49.03**	**350**	P	P	00 23 27.0	-0.1
	0.3nm,0.6s,baz=148,slow=8.8,SNR=3.4						

IDC 21 00:23:55.6±*1.7,41°.34N*×*141°.73E,h0*km*,mb3.5/6, mb1 3.6/7,mb1mx3.3/62,mbtmp3.5/7,ML3.1/1,Error ellipse: s-maj=44.7km s-min=25.5km az=76.0*

ISCJB 21 00:24:02.5±*0.5,41°.55N*±*0°.04*×*142°.02E*±*0°.07,h76*km*±*5*km*, *mb3.4/6,Error ellipse: s-maj=9.8km s-min=5.8km az=30.4*

JMA 21 00:24:03.1±*0.1,41°.57N*×*142°.06E,h65*km*±*2*km*,M3.0*

ISC 21 00:24:03.3±1.0,**41°.56N**±0°.05×**142°.03E**±0°.05,**h67**km±10km, **n23,**σ**0°.59/23,mb3.5/6,Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOT	**Ohata**	**0.76**	**257**	P	**Pn**	**00 24 18.7**	**0.0**
JOT				*e*S	**Sn**	**00 24 30.6**	**+0.6**
JKB	**Kayabe**	**0.82**	**294**	P	**Pn**	**00 24 19.0**	**-0.4**
JEM	**Erimo**	**0.96**	**61**	P	**Pn**	**00 24 20.3**	**-0.8**
JTM	**Tenmabayashi**	**1.06**	**224**	P	**Pn**	**00 24 23.0**	**+0.6**
JTM				*e*S	**Sn**	**00 24 37.0**	**+0.4**
JNB	**Noboribetsu**	**1.18**	**321**	P	**Pn**	**00 24 23.3**	**-0.6**
JNB				*e*S	**Sn**	**00 24 38.7**	**-0.6**
JSR	**Shiriuchi**	**1.21**	**269**	P	**Pn**	**00 24 24.8**	**+0.4**
JANG	**Nango**	**1.24**	**199**	P	**Pn**	**00 24 24.9**	**+0.1**
JANG				*e*S	**Sn**	**00 24 40.8**	**-0.1**
JBT2	**Biratori 2**	**1.25**	**11**	P	**Pn**	**00 24 24.8**	**-0.1**
JCH	**Churui**	**1.45**	**43**	P	**Pn**	**00 24 27.7**	**+0.2**
JCH				*e*S	**Sn**	**00 24 46.5**	**+0.8**
JOSM	**Okushiri--Mats**	**1.98**	**286**	P	**Pn**	**00 24 34.7**	**+0.1**
ASAJ	**Asahikawa**	**2.59**	**9**	Pn	**Pn**	**00 24 44.3**	**+1.3**
	2.2nm,0.3s,baz=157,slow=10,SNR=6.1						
ASAJ				Sn	**Sn**	**00 25 14.1**	**+0.7**
	1.2nm,0.3s,baz=198,slow=20,SNR=8.4						
SONM	**Songino Array**	**25.93**	**296**	P	**P**	**00 29 29.1**	**-0.2**
	0.4nm,0.8s,baz=102,slow=8.1,SNR=2.7						
H11N2	**WAKE ISLAND Hy**	**30.32**	**128**	T	T	01 02 35.9	
	baz=321,slow=76,SNR=6.1						
H11N1	**WAKE ISLAND Hy**	**30.33**	**128**	T	T	01 02 36.5	
	baz=321,slow=76,SNR=6.3						
H11N3	**WAKE ISLAND Hy**	**30.34**	**128**	T	T	01 02 37.6	
	baz=321,slow=76,SNR=9.3						
H11S1	**WAKE ISLAND Hy**	**31.16**	**130**	T	T	01 03 40.4	
	baz=323,slow=76,SNR=6.5						
H11S3	**WAKE ISLAND Hy**	**31.16**	**130**	T	T	01 03 40.4	
	baz=323,slow=76,SNR=7.3						
H11S2	**WAKE ISLAND Hy**	**31.18**	**130**	T	T	01 03 40.4	
	baz=323,slow=76,SNR=5.9						
ZALV	**Zalesovo Beam**	**39.35**	**308**	P	**P**	**00 31 25.4**	**-0.4**
	0.4nm,0.3s,baz=83,slow=6.9,SNR=2.8						
MKAR	**Makanchi Array**	**42.27**	**298**	P	**P**	**00 31 50.5**	**+0.5**
	0.2nm,0.4s,baz=80,slow=7.9,SNR=2.6						
KURBB	**Kurchatov Arra**	**43.72**	**304**	P	**P**	**00 32 01.9**	**+0.3**
	0.3nm,0.4s,baz=80,slow=8.7,SNR=3.6						
WRA	**Warramunga Arr**	**61.60**	**188**	P	**P**	**00 34 13.3**	**-0.4**
	0.5nm,1.1s,baz=4.8,slow=6.9,SNR=3.4						
FINES	**FINESS Array B**	**65.06**	**332**	P	**P**	**00 34 35.9**	**-0.3**
	3.1nm,1.1s,baz=46,slow=5.5,SNR=3.5						

ISN 21 00:55:04.1±*0.3,32°.63N*×*46°.55E,h0*km*,ML3.8*

IDC 21 00:55:04.8±*1.1,32°.54N*×*46°.93E,h0*km*,mb3.8/14, mb1 3.8/19,mb1mx3.7/62,mbtmp3.8/19,ML2.9/2,Error ellipse: s-maj=23.9km s-min=15.6km az=166.0*

ISCJB 21 00:55:05.5±*0.5,32°.40N*±*0°.05×46°.92E*±*0°.05,h20*km*, *mb3.8/16,Error ellipse: s-maj=7.4km s-min=5.5km az=158.4*

NEIC 21 00:55:06.4±*0.5,32°.50N*×*47°.02E,h10*km*,mb4.0/4, MN3.8(TEH),Error ellipse: s-maj=8.0km s-min=7.6km az=88.0*

CSEM 21 00:55:07.1±*0.3,32°.53N*×*46°.94E,h15*km*,ML3.8,Error ellipse: s-maj=8.0km s-min=6.5km az=6.0*

TEH 21 00:55:07.5,32°.56N×*46°.77E,h5*km*,ML3.8*

THR 21 00:55:07.7±*0.6,32°.85N*×*46°.97E,h14*km±*9*km*,ML3.5*

ISC 21 00:55:08.2±0.5,**32°.55N**±0°.05×**46°.90E**±0°.03,**h20**km,**n76,** σ**1°28/79,mb3.9**/16,**9C-2D,Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKFM	**Kafar-mosalman**	**1.25**	**39**	*e*Pg	**Pb**	**00 55 30.4**	**-0.7**
IKFM				*e*Sg	**Sn**	**00 55 49.0**	**+2.2**
IKFM				*e*AMB	AMB	00 55 54.8	
	comp=E,99nm,0.3s						
IKFM	**Kafar-mosalman**	**1.25**	**39**	*e*Pg	**Pb**	**00 55 30.4**	**-0.7**
IKFM				*e*Sg	**Sn**	**00 55 49.0**	**+2.2**
SHGR	**Shooshtar-Gavs**	**1.67**	**105**	*e*Pg	**Pb**	**00 55 39.0**	**+0.8**
SHGR				*e*Sg	**Sb**	**00 56 01.7**	**+2.9**
SHGR	**Shooshtar-Gavs**	**1.67**	**105**	*e*Pg	**Pb**	**00 55 39.0**	**+0.8**
SHGR				*e*Sg	**Sb**	**00 56 01.7**	**+2.9**
SHGR				AML	AML	00 56 05.6	
	comp=E,1μm,0.5s						
SHGR				AML	AML	00 56 05.8	
	comp=N,2μm,0.6s						
IKOM	**Komasi**	**1.70**	**17**	*e*Pg	**Pb**	**00 55 38.3**	**-0.5**
IKOM				*e*AMB	AMB	00 56 03.0	
	comp=Z,21μm,0.5s						
IKOM	**Komasi**	**1.70**	**17**	Pg	**Pb**	**00 55 38.3**	**-0.5**
IKOM	**Komasi**	**1.70**	**17**	*e*Pg	**Pb**	**00 55 38.3**	**-0.5**
IGHG	**Ghaleghazi**	**1.79**	**351**	eAMB	AMB	00 56 12.2	
	comp=Z,14μm,0.3s						
IVIS	**Veis**	**1.97**	**359**	*e*Pn	**Pn**	**00 55 41.0**	**+0.4**
IVIS				*e*AMB	AMB	00 56 13.2	
	comp=Z,5μm,0.3s						
IVIS	**Veis**	**1.97**	**359**	Pn	**Pn**	**00 55 40.9**	**+0.4**
IVIS	**Veis**	**1.97**	**359**	Pn	**Pn**	**00 55 40.9**	**+0.4**
BHD	**Baghdad**	**2.24**	**289**	*e*Pg	**Pb**	**00 55 47.0**	**-0.9**
	baz=109,SNR=9.0						
BHD				*e*Sg	**Sb**	**00 56 17.0**	**+1.8**
	SNR=9.0						
ILIN	**Lien**	**2.36**	**1**	*e*Pn	**Pn**	**00 55 47.1**	**+1.1**
ILIN				*e*AMB	AMB	00 56 30.2	
	comp=Z,2μm,0.4s						
ILIN	**Lien**	**2.36**	**1**	Pn	**Pn**	**00 55 47.1**	**+1.1**
ILIN	**Lien**	**2.36**	**1**	*e*Pn	**Pn**	**00 55 47.1**	**+1.1**
SNGE	**Sanandaj**	**2.56**	**8**	*e*Pn	**Pn**	**00 55 46.5**	**-2.2**
SNGE				AML	AML	00 56 30.7	
	comp=E,165nm,0.6s						
SNGE				AML	AML	00 56 38.9	
	comp=N,168nm,0.6s						
KHMZ	**Khomeyn**	**2.83**	**64**	*e*Pn	**Pn**	**00 55 52.4**	**0.0**
KHMZ	**Khomeyn**	**2.83**	**64**	*e*Pn	**Pn**	**00 55 52.4**	**0.0**
KHMZ				*e*Sg	**Sb**	**00 56 30.9**	**-1.4**
KHMZ				AML	AML	00 56 39.5	
	comp=N,136nm,0.5s						
KHMZ				AML	AML	00 56 50.3	
	comp=E,122nm,0.6s						
HAGD	**Aghdareh**	**2.94**	**39**	*e*Pn	**Pn**	**00 55 55.4**	**+1.5**
HAGD				*e*AMB	AMB	00 56 38.1	
	comp=Z,99nm,0.2s						
HAGD	**Aghdareh**	**2.94**	**39**	*e*Pn	**Pn**	**00 55 55.4**	**+1.5**
HKZM	**Kohzaman**	**3.27**	**30**	*e*Pn	**Pn**	**00 56 00.4**	**+1.8**
HKZM				*e*AMB	AMB	00 56 55.4	
	comp=Z,99nm,0.4s						
HKZM	**Kohzaman**	**3.27**	**30**	*e*Pn	**Pn**	**00 56 00.4**	**+1.8**
ASAO	**Ashtian**	**3.28**	**52**	*e*Pn	**Pn**	**00 55 58.0**	**-0.7**
QAM	**Ghamsar**	**3.99**	**71**	*e*Pn	**Pn**	**00 56 10.5**	**+2.1**
QAM				*e*AMB	AMB	00 57 03.7	
	comp=Z,2μm,0.2s						
GHVR	**GHOM**	**4.14**	**61**	*e*Pn	**Pn**	**00 56 09.7**	**-0.7**
GHVR	**GHOM**	**4.14**	**61**	*e*Pn	**Pn**	**00 56 09.7**	**-0.7**
GHVR				AML	AML	00 57 09.2	
	comp=N,41nm,0.5s						
GHVR				AML	AML	00 57 09.5	
	comp=E,53nm,0.6s						
GNI	**Garni**	**7.78**	**348**	Pn	**Pn**	**00 57 02.9**	**+2.5**
	comp=E,0.1nm,0.3s,baz=182,slow=17,SNR=2.9						
ASF	**Jabal al Asfar**	**8.47**	**270**	Lg	Lg	00 59 43.0	
	comp=E,0.1nm,0.3s,baz=323,slow=20,SNR=3.1						
RAYN	**Ar Rayn**	**9.08**	**188**	*e*Pn	**Pn**	**00 57 17.6**	**-0.6**
	comp=E,16nm,1.1s						
RAYN	**Ar Rayn**	**9.08**	**188**	*e*Pn	**Pn**	**00 57 17.6**	**-0.6**
	comp=E,16nm,1.1s						
MMAI	**Mount Meron Ar**	**9.69**	**276**	Lg	Lg	01 00 22.5	
	comp=E,0.3nm,0.3s,baz=105,slow=32,SNR=3.6						
GEYT	**Ailbeck**	**10.62**	**57**	Pn	**Pn**	**00 57 39.1**	**-0.2**
	comp=E,0.2nm,0.3s,baz=253,slow=15,SNR=2.6						
EIL	**Elat**	**10.64**	**257**	Lg	Lg	01 00 54.3	
	comp=E,0.2nm,0.3s,baz=50,slow=16,SNR=3.0						
BRTR	**Keskin Array B**	**12.88**	**307**	Pn	**Pn**	**00 58 13.5**	**+3.3**
	comp=E,0.0nm,0.3s,baz=106,slow=11,SNR=2.5						
WSAR	**Wadi Sarin**	**13.90**	**129**	Pn	**Pn**	**00 58 21.9**	**-2.3**
	comp=E,0.7nm,0.3s,baz=336,slow=11,SNR=11						
IDI	**Anoyia**	**18.47**	**285**	*e*P	**Pn**	**00 59 23.7**	**+0.8**
	comp=E,3.7nm,0.4s						
IDI	**Anoyia**	**18.47**	**285**	*e*P	**Pn**	**00 59 23.7**	**+0.8**
	comp=E,3.7nm,0.4s						
ABKAR	**Akbulak array**	**19.33**	**27**	*e*P	**P**	**00 59 31.8**	**-0.3**
	comp=E,2.1nm,0.8s						
ABKAR	**Akbulak array**	**19.33**	**27**	*e*P	**P**	**00 59 31.8**	**-0.3**
	comp=E,2.1nm,0.8s						
AKTO	**Aktyubinsk**	**19.67**	**21**	P	**P**	**00 59 35.1**	**-0.7**
	comp=E,0.3nm,0.3s,baz=188,slow=12,SNR=5.1						
MLR	**Muntele Rosu**	**20.71**	**315**	P	**P**	**00 59 48.0**	**+0.7**
	comp=E,0.4nm,0.9s,baz=139,slow=9.0,SNR=2.4						
MLR	**Muntele Rosu**	**20.71**	**315**	P	**P**	**00 59 48.0**	**+0.7**
MLR	**Muntele Rosu**	**20.71**	**315**	P	**P**	**00 59 48.0**	**+0.7**
SORM	**Soroca**	**20.94**	**323**	↑*i*P	**P**	**00 59 47.9**	**-1.7**
SORM	**Soroca**	**20.94**	**323**	↑*i*P	**P**	**00 59 47.9**	**-1.7**
VOIR		**21.23**	**314**	↓*i*P	**P**	**00 59 53.4**	**+0.6**
VOIR		**21.23**	**314**	↓*i*P	**P**	**00 59 53.4**	**+0.6**
DOPR	**Dopca**	**21.29**	**315**	↑*i*P	**P**	**00 59 54.1**	**+0.7**
DOPR	**Dopca**	**21.29**	**315**	↑*i*P	**P**	**00 59 54.1**	**+0.7**
KKAR	**Karatay Array**	**21.35**	**54**	*e*P	**P**	**00 59 54.4**	**+0.3**
	comp=E,6.7nm,1.0s						
KKAR	**Karatay Array**	**21.35**	**54**	*e*P	**P**	**00 59 54.4**	**+0.3**
	comp=E,6.7nm,1.0s						
ARR	**Arges**	**21.45**	**313**	↑*i*P	**P**	**00 59 55.5**	**+0.4**
ARR	**Arges**	**21.45**	**313**	↑*i*P	**P**	**00 59 55.5**	**+0.4**
NIL	**Nilore**	**22.09**	**80**	*e*P	**P**	**01 00 01.5**	**-0.6**
	comp=E,8.2nm,0.7s						
NIL	**Nilore**	**22.09**	**80**	*e*P	**P**	**01 00 01.5**	**-0.6**
	comp=E,8.2nm,0.7s						
BURAR	**Bucovina Array**	**22.29**	**319**	↑*i*P	**P**	**01 00 07.8**	**+3.6**
AKASG	**Malin Array Be**	**22.34**	**329**	P	**P**	**01 00 05.0**	**+0.4**
	comp=E,0.5nm,0.4s,baz=139,slow=9.5,SNR=7.8						
DRGR		**23.31**	**315**	↑*i*P	**P**	**01 00 14.2**	**-0.6**
DRGR		**23.31**	**315**	↑*i*P	**P**	**01 00 14.2**	**-0.6**
AAK	**Ala-Archa**	**23.98**	**57**	P	**P**	**01 00 22.0**	**+0.6**
	comp=E,1.5nm,0.7s,baz=214,slow=8.8,SNR=5.7						
AAK	**Ala-Archa**	**23.98**	**57**	P	**P**	**01 00 22.0**	**+0.6**
ARU	**Arti**	**25.21**	**15**	P	**P**	**01 00 31.6**	**-0.7**
	comp=E,1.9nm,0.6s,baz=201,slow=8.1,SNR=4.3						
BVAR	**Borovoye Array**	**26.54**	**33**	P	**P**	**01 00 44.1**	**-0.3**
	comp=E,2.3nm,0.7s,baz=225,slow=7.3,SNR=20						
BVAR				PcP	**PcP**	**01 04 08.9**	**+0.3**
	comp=E,0.2nm,0.4s,baz=204,slow=3.2,SNR=3.4						
KURBB	**Kurchatov Arra**	**29.44**	**43**	P	**P**	**01 01 10.5**	**+0.2**
	comp=E,0.9nm,0.7s,baz=249,slow=9.2,SNR=7.7						
KURK	**Kurchatov**	**29.54**	**43**	P	**P**	**01 01 10.5**	**-0.6**
KURK	**Kurchatov**	**29.54**	**43**	P	**P**	**01 01 10.5**	**-0.6**
MKAR	**Makanchi Array**	**30.44**	**52**	P	**P**	**01 01 19.6**	**+0.2**
	comp=E,1.0nm,0.8s,baz=249,slow=9.5,SNR=11						
FINES	**FINESS Array B**	**31.91**	**341**	P	**P**	**01 01 31.1**	**-0.8**
	comp=E,0.7nm,0.5s,baz=148,slow=9.0,SNR=8.1						
ZALV	**Zalesovo Beam**	**34.34**	**40**	P	**P**	**01 01 52.4**	**-0.9**
	comp=E,2.0nm,0.6s,baz=254,slow=10,SNR=9.1						
HFS	**Hagfors**	**35.19**	**332**	P	**P**	**01 01 59.9**	**-0.7**
	comp=E,1.2nm,0.5s,baz=115,slow=10.0,SNR=6.0						
TORD	**Torodi Ar. Bea**	**45.52**	**256**	P	**P**	**01 03 26.5**	**-0.1**
	comp=E,0.8nm,0.8s,baz=57,slow=7.9,SNR=6.7						
SPITS	**Spitsbergen Ar**	**47.62**	**352**	P	**P**	**01 03 42.9**	**+0.6**
	comp=E,7.7nm,1.1s,baz=116,slow=6.6,SNR=4.9						
KOWA	**Kowa**	**49.54**	**261**	P	**P**	**01 03 58.3**	**+0.4**
	comp=E,1.0nm,0.8s,baz=64,slow=9.4,SNR=3.4						
ILAR	**Eielson Array**	**82.40**	**6**	P	**P**	**01 07 27.3**	**-1.2**
	comp=E,0.2nm,0.6s,baz=332,slow=3.3,SNR=4.4						
YKA	**Yellowknife Ar**	**84.12**	**351**	P	**P**	**01 07 35.7**	**-1.7**
	comp=E,0.2nm,0.7s,baz=21,slow=5.4,SNR=3.9						

IDC 21 00:57:32.4±2.4,**2°46N**×**90°00E**,**h0**km,**mb3.4**/3,**mb1 3.6**/4, **mb1mx3.2**/67,**mbtmp3.5**/4,**ML3.4**/1,**Error ellipse: s-maj=68.1km s-min=32.1km az=46.0,North Indian Ocean**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**10.42**	**298**	Pn	Pn	01 00 02.4	-0.9
	0.3nm,0.3s,baz=114,slow=13,SNR=2.5						
PALK				Sn	Sn	01 01 47.4	-13
	0.4nm,0.3s,baz=295,slow=3.4,SNR=3.3						
MKAR	**Makanchi Array**	**44.67**	**352**	P	P	01 05 48.2	+1.2
	0.1nm,0.5s,baz=177,slow=10,SNR=2.3						
SONM	**Songino Array**	**47.37**	**15**	P	P	01 06 07.3	-1.1
	0.5nm,0.4s,baz=199,slow=7.6,SNR=4.8						
WRA	**Warramunga Arr**	**48.87**	**119**	P	P	01 06 20.3	-0.1
	0.2nm,0.5s,baz=294,slow=8.7,SNR=3.6						

ISCJB 21 01:05:22.6±*0.8,3°.68N*±*0°.07*×*127°.61E*±*0°.08,h150*km*, mb3.8/6,Error ellipse: s-maj=12.9km s-min=8.6km az=144.8*

IDC 21 01:05:23.5±*4.1,3°.59N*×*127°.45E,h141km±43km,mb3.5/6, mb1 3.7/7,mb1mx3.2/55,mbtmp3.9/7,Error ellipse: s-maj=105.4km s-min=15.6km az=68.0*

DJA 21 01:05:32.6±*0.7,3°.N*±*6°*×*12°.7E*±*°,h10km,M4.0/6,mB5.1/2, mb3.9/2,MLv4.0/6,Mw(mB)4.5/2*

ISC 21 01:05:24.2±0.9,**3°.63N**±0°.09×**127°.63E**±0°.09,**h150**km,**n14,** σ**1°20/15,mb3.9**/6,**Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**2.10**	**272**	P	**Pn**	**01 06 02.4**	**+1.9**
SGSI				S	**Sn**	**01 06 26.1**	**-2.2**
LBMI	**Labuha**	**4.24**	**182**	P	**Pn**	**01 06 29.5**	**+1.9**
LBMI				S	**Sn**	**01 07 15.4**	**-1.6**
KMSI	**Cibinong**	**4.74**	**230**	P	**Pn**	**01 06 34.2**	**0.0**
SIJI	**Sorong**	**5.76**	**141**	P	**Pn**	**01 06 47.7**	**0.0**
	1.4nm,0.3s,baz=256,slow=22,SNR=4.8						
SIJI				S	Sn	01 07 41.6	-11
	9.3nm,0.3s,baz=182,slow=23,SNR=13						
SANI	**Sanana**	**5.87**	**196**	P	**Pn**	**01 06 50.6**	**+1.4**
WRA	**Warramunga Arr**	**24.33**	**165**	P	**P**	**01 10 28.4**	**+0.2**
	1.9nm,0.4s,baz=343,slow=10,SNR=50						
ASAR	**Alice Springs**	**27.81**	**168**	P	**P**	**01 10 60.0**	**+0.4**
	2.7nm,0.4s,baz=354,slow=8.1,SNR=54						
ASAR				PcP	**PcP**	**01 14 11.9**	**-0.2**
	0.4nm,0.6s,baz=344,slow=3.1,SNR=3.9						
STKA	**Stephens Creek**	**37.72**	**160**	P	**P**	**01 12 25.7**	**+0.2**
	2.2nm,0.5s,baz=329,slow=8.7,SNR=9.4						
H11S3	**WAKE ISLAND Hy**	**40.95**	**66**	T	T	01 56 23.0	
	baz=253,slow=74,SNR=3.3						
H11S2	**WAKE ISLAND Hy**	**40.97**	**66**	T	T	01 56 24.5	
	baz=253,slow=74,SNR=6.5						
H11S1	**WAKE ISLAND Hy**	**40.97**	**66**	T	T	01 56 31.3	
	baz=253						
MKAR	**Makanchi Array**	**58.15**	**325**	P	**P**	**01 15 02.5**	**+0.2**
	0.5nm,0.5s,baz=122,slow=7.6,SNR=6.9						
KURBB	**Kurchatov Arra**	**62.31**	**327**	P	**P**	**01 15 30.3**	**-0.2**
	0.4nm,0.5s,baz=127,slow=5.9,SNR=5.7						
KURBB				PcP	**PcP**	**01 16 08.2**	**-0.6**
	0.4nm,0.6s,baz=127,slow=6.0,SNR=3.9						
BVAR	**Borovoye Array**	**67.90**	**327**	P	**P**	**01 16 06.2**	**-0.3**
	0.3nm,0.5s,baz=142,slow=7.3,SNR=2.8						

ISCJB 21 01:14:39.6±*0.5,44°.51S*±*0°.08×81°.7W*±*0°.2,h10km, mb4.2/13,MS5.0/2,Error ellipse: s-maj=15.8km s-min=11.2km az=8.3*

IDC 21 01:14:39.5±*0.9,44°.35S*×*81°.98W,h0km,mb4.1/8, mb1 4.4/9,mb1mx4.2/37,mbtmp4.1/9,ML3.8/1,MS5.1/3, Ms1 5.1/3,ms1mx4.6/36,Error ellipse: s-maj=31.9km s-min=19.7km az=101.0*

NEIC 21 01:14:41.4±*0.5,44°.42S*×*82°.00W,h10km,mb4.4/7,Error ellipse: s-maj=14.6km s-min=11.9km az=132.0*

ISC 21 01:14:41.1±0.8,**44°.5S**±0°.1×**81°.9W**±0°.1,**h10**km,**n27,** σ**1§10/20,mb4.3**/13,**West Chile Rise**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**9.13**	**70**	Pn	**Pn**	**01 16 52.3**	**-0.5**
	0.2nm,0.3s,baz=263,slow=13,SNR=5.4						
PLCA				LR	LR	01 19 59.2	
	comp=Z,10μm,19.4s,baz=298,slow=35						
TRQA	**Tornquist**	**16.24**	**74**	*e*Pn	**P**	**01 18 33.1**	**+0.8**
	45nm,1.2s						
LCO	**Las Campanas**	**17.79**	**34**	*e*Pn	**P**	**01 18 50.8**	**+1.1**
	9.8nm,0.7s						
CPUP	**Villa Florida**	**26.79**	**56**	P	**P**	**01 20 21.6**	**+0.3**
	7.2nm,0.9s,baz=225,slow=8.3,SNR=8.7						
CPUP				LR	LR	01 30 57.5	
	comp=Z,5μm,19.3s,baz=144,slow=36						
RPN	**Rapa Nui**	**28.02**	**299**	LR	LR	01 28 30.1	
	comp=Z,3μm,19.5s,baz=144,slow=30						
LPAZ	**La Paz**	**30.38**	**27**	P	**P**	**01 20 54.0**	**+0.1**
	6.4nm,1.1s,baz=172,slow=7.0,SNR=8.1						
SAML	**Samuel**	**38.91**	**30**	*e*P	**P**	**01 22 06.7**	**-0.1**
	5.3nm,1.1s						
VNA3	**Neumayer Olymp**	**43.00**	**153**	P	**P**	**01 22 38.6**	**-1.5**
VNA2	**Neumayer--Watz**	**43.76**	**153**	P	**P**	**01 22 45.5**	**-0.7**
	baz=280,slow=8.2						
SNAA	**Sanae**	**45.15**	**154**	P	**P**	**01 22 54.4**	**-3.0**
SNAA	**Sanae**	**45.15**	**154**	P	**P**	**01 22 57.4**	**0.0**
	6.6nm,1.2s,baz=190,slow=5.5,SNR=3.8						
QSPA	**South Pole Qui**	**45.79**	**180**	P	**P**	**01 23 03.9**	**+1.3**
	1.7nm,1.0s,baz=156,slow=10.0,SNR=2.3						
VNDA	**Vanda**	**52.25**	**194**	P	**P**	**01 23 52.4**	**+0.7**
	1.4nm,1.1s,baz=118,slow=9.0,SNR=4.1						
TXAR	**Lajitas Array**	**76.09**	**340**	P	**P**	**01 26 26.9**	**-1.8**
	0.5nm,0.7s,baz=163,slow=9.1,SNR=4.0						
LAZ	**Ladron**	**81.79**	**339**	*e*P	**P**	**01 27 00.3**	**+

KMPI **Kaimana, Papua** 2.05 198 P Pb 01 17 29.4 -0.8
FAKI **Fak Fak** 2.40 240 P Pb 01 17 35.0 -1.3
FAKI S Sb 01 18 04.4 -1.1
FAKI **Fak Fak** 2.40 240 *e*Pn Pn 01 17 32.8 +1.3
FAKI *e*Sn Sn 01 18 00.6 +0.4
SIJI **Sorong** 3.16 285 Pn Pn 01 17 41.0 -1.0
1µm,0.3s,baz=79,slow=10,SNR=411
SIJI Sn Sn 01 18 19.9 +0.9
6µm,0.3s,baz=305,slow=22,SNR=6.8
SIJI Lg Lg 01 18 31.9
2µm,0.3s,baz=126,slow=19,SNR=3.7
MSAI **Masohi** 5.63 253 P Pn 01 18 17.7 +1.7
5µm,0.9s,42µm126µm39nm
MSAI S Sn 01 19 23.4 +3.5
5µm,0.9s,42µm126µm39nm
GENI **Genyem** 5.91 99 P Pn 01 18 19.3 -0.4
6µm,0.7s,125µm638µm49nm
GENI S Sn 01 19 27.1 +0.4
6µm,0.7s,125µm638µm49nm
JAY **Jayapura** 6.43 97 P Pn 01 18 24.6 -2.4
14µm,0.9s,218µm113nm
JAY **Jayapura** 6.43 97 P Pn 01 18 26.3 -0.7
AAI **Ambon** 6.43 252 P Pn 01 18 28.3 +1.3
17µm,0.8s,159µm428µm98nm
AAI **Ambon** 6.43 252 P Pn 01 18 28.4 +1.4
LBMI **Labuha** 6.90 279 P Pn 01 18 33.8 +0.4
8µm,1.1s,129µm667µm104nm
LBMI S Sn 01 19 53.9 +2.7
8µm,1.1s,129µm667µm104nm
SAUI **Saumlaki** 6.93 206 P Pn 01 18 35.3 +1.5
7µm,1.4s,116µm959µm78nm
SAUI **Saumlaki** 6.93 206 *e*Pn Pn 01 18 36.0 +2.1
TNTI **Ternate** 7.37 289 *e*Pn Pn 01 18 40.2 +0.3
SANI **Sanana** 8.34 267 P Pn 01 18 52.3 -0.8
3µm,0.9s,30µm234µm
PALU **Palau** 8.98 1 P Pn 01 18 59.9 -2.1
baz=9.2,SNR=44
I39PW **PALAU INFRASON** 9.17 1 *i* 02 11 30.0
baz=186,slow=317,SNR=0.5
SGSI **Sangihe** 10.29 301 P Pn 01 19 24.6 +4.7
KMSI **Cibinong** 10.58 282 P Pn 01 19 25.9 +2.0
5µm,1.1s,45µm3µm
MTN **Manton Dam** 11.52 196 P Pn 01 19 36.1 -0.7
baz=12,SNR=497
MTN **Manton Dam** 11.52 196 *e*Pn Pn 01 19 35.7 -1.0
LUWI **Luwuk** 11.57 273 P Pn 01 19 36.4 -1.0
6µm,1.3s,69µm158µm
LUWI **Luwuk** 11.57 273 *e*Pn Pn 01 19 35.8 -1.6
MATI **Mati** 11.77 317 *e*P Pn 01 19 39.6 -0.5
GSPH **General Santos** 12.14 310⇑ *i*P Pn 01 19 46.5 +1.1
DAV **Davao City (W)** 12.33 315 Pn Pn 01 19 49.9 +2.1
91nm,0.3s,baz=105,slow=3.4,SNR=20
DAV **Davao City (W)** 12.33 315 P Pn 01 19 47.0 -0.8
DAV **Davao City (W)** 12.33 315 *e*Pn Pn 01 19 51.3 +3.5
48µm,1.7s
MRSI **Marisa** 12.57 280 P Pn 01 19 51.9 +0.8
1µm,1.3s,17µm141µm
BIPH **Bislig** 12.62 321⇑ *i*P Pn 01 19 56.7 +4.9
KCP **Kidapawan** 12.63 313⇓ *e*P Pn 01 19 54.1 +2.0
APSI **Ampana** 12.69 273 P Pn 01 19 52.4 -0.4
6µm,1.3s,80µm141µm
SOEI **Soe** 12.81 231 P Pn 01 19 57.2 +2.7
3µm,1.4s,58µm288µm
SOEI **Soe** 12.81 231 *e*Pn Pn 01 19 54.4 -0.1
SOEI *e*Sn Sn 01 22 14.0 -2.5
MANU **Manus Island** 13.04 92 *e*Pn Pn 01 19 57.6 0.0
BUKP **Musuan** 13.26 316 *e*P Pn 01 20 03.5 +3.0
CTBH **Cotabato--PC H** 13.40 311⇑ *e*P Pn 01 20 04.2 +1.7
BATI **Baumata** 13.55 231 Pn Pn 01 20 03.4 -1.2
24nm,0.3s,baz=174,slow=1.4,SNR=38
BATI Sn Sn 01 22 33.2 -1.4
26nm,0.3s,baz=24,slow=19,SNR=3.9
BATI LR LR 01 25 58.6
comp=Z,306µm,21.6s,baz=34,slow=40
BATI **Baumata** 13.55 231 P Pn 01 20 04.6 0.0
974nm,0.9s,20µm102µm
BUTP **Butuan** 13.69 321 *e*P Pn 01 20 09.2 +2.7
MMRI **Maumere** 13.87 240 P Pn 01 20 11.5 +2.7
5µm,1.5s,73µm183µm
MMRI **Maumere** 13.87 240 *e*Pn Pn 01 20 11.0 +2.1
EDFI **Ende, Flores** 14.39 240 P P 01 20 19.7 -3.2
4µm,1.7s,59µm148µm
SCPH **Surigao** 14.40 323⇓ *e*P Pn 01 20 18.3 +2.2
BNSI **Bone** 14.45 259 P Pn 01 20 18.0 +1.2
3µm,1.4s,44µm84µm
PAGZ **Pagadian** 14.46 311 *e*P P 01 20 20.2 -3.2
BSSI **Bau Bau, Buton** 14.49 252 P Pn 01 20 18.2 +0.9
3µm,1.1s,42µm
TTSI **Tana Toraja** 14.55 264 P Pn 01 20 19.0 +0.8
5µm,1.4s,64µm
MPSI **Mapaga** 14.56 278 P Pn 01 20 18.9 +0.5
824nm,1.4s,18µm195µm
PMG **Port Moresby** 14.89 121 Pn Pn 01 20 18.8 -3.9
baz=292,slow=12,SNR=10
PMG LR LR 01 27 39.1
comp=Z,407µm,19.8s,baz=294,slow=44
PMG **Port Moresby** 14.89 121 *e*Pn Pn 01 20 23.4 +0.6
2µm,1.1s
KAPI **Kappang** 14.91 257 *e*Pn Pn 01 20 23.1 0.0
3µm,1.4s
KNRA **Kununurra** 14.94 201 P Pn 01 20 20.8 -2.6
baz=15,SNR=244
COEN **Coen** 15.00 145 P Pn 01 20 20.8 -3.5
baz=15,SNR=135
COEN **Coen** 15.00 145 *e*Pn Pn 01 20 20.1 -4.2
4µm,1.5s
IPIL **Ipil** 15.04 309 *e*P Pn 01 20 25.1 +0.4
MSLP **Maasin** 15.06 321 *e*P Pn 01 20 25.8 +0.7
SNPH **Sibulan** 15.56 315⇓ *e*P P 01 20 35.1 -0.7
LLP **Lapu-Lapu** 15.77 319⇓ *e*P Pn 01 20 35.4 +1.1
LLP *e*S S 01 23 40.1 -2.7
PLP **Palo** 15.80 324⇓ *e*P Pn 01 20 35.4 +0.7
OCLP **Ormoc** 15.93 323 *e*P P 01 20 41.9 +2.1
BASI **Baing, Sumba** 16.07 238 P P 01 20 40.6 -0.8
3µm,1.0s,38µm
SGKI **Sangatta, Kali** 16.75 274 P P 01 20 51.8 +2.8
WBSI **Waikabubak, Su** 16.82 241 P Pn 01 20 47.6 -0.1
3µm,1.0s,43µm109µm
GUIM **Jordan** 16.91 317 *e*P P 01 20 52.5 +1.7
CNP **Catarman** 17.06 326 *e*P Pn 01 20 49.6 -1.2
SMKI **Samarinda** 17.16 274 P P 01 20 57.7 +4.2
MYLDM **Lahad Datu** 17.22 293 *e*P P 01 20 54.5 +0.4
9µm,1.5s
BKB **Balikpapan** 17.43 271 P P 01 20 59.3 +2.9
3µm,1.2s,61µm167µm
JAP **San Jose, Anti** 17.45 315⇓ *e*P P 01 21 00.2 +3.6
RCP **Roxas** 17.49 319⇓ *e*P P 01 20 57.6 +0.5
PLAI **Plampang** 17.93 246 P P 01 21 02.2 +0.2
3µm,0.9s,40µm94µm
RABL **Rabaul** 17.99 98 *e*Pn P 01 21 03.0 +0.3
6µm,1.2s
WRAB **Tennant Creek** 18.13 180 *e*Pn Pn 01 21 01.2 -2.7
4µm,1.4s
WRAB *e*Sn Sn 01 24 25.6 -0.1
WRAB **Tennant Creek** 18.13 180 *d i*P Pn 01 21 01.4 -2.6
WRAB pmax pmax
comp=Z,396nm,1.7s
WRAB MLR MLR
comp=Z,643µm,16.0s
I07AU **WARRAMUNGA INF** 18.13 180 *i* 03 15 10.0
baz=0.8,slow=310,SNR=0.9
WRA **Warramunga Arr** 18.14 180 P Pn 01 21 01.0 -3.1
comp=Z,11nm,0.3s,baz=0.2,slow=11,SNR=118
WRA S Sn 01 24 17.0 -9.0
comp=Z,8.9nm,0.3s,baz=360,slow=22,SNR=5.2
WRA LR LR 01 29 10.1
comp=Z,424µm,18.8s,baz=0.0,slow=40
WRA **Warramunga Arr** 18.14 180 P Pn 01 21 01.0 -3.1
WRA S Sn 01 24 17.0 -9.0
KBKI **Kotabaru** 18.21 265 P P 01 21 07.0 +1.9
comp=Z,2µm,1.2s,comp=Z,38µmcomp=Z,92µm
PVCP **Virac** 18.23 327 *e*P Pn 01 21 04.3 -1.0
GUMO **Guam** 18.44 34 P P 01 21 05.5 -2.1
comp=Z,4.6nm,0.3s,baz=192,slow=7.1,SNR=14
GUMO LR LR 01 26 38.2
comp=Z,71µm,20.6s,baz=216,slow=32
GUMO **Guam** 18.44 34 *e*P P 01 21 05.7 -1.9
comp=Z,5µm,1.5s
GUMO **Guam** 18.44 34 *e*P P 01 21 05.7 -1.9
GUMO pmax pmax
comp=Z,5µm,1.5s
OTRP **Odiongan** 18.55 319 *e*P Pn 01 21 11.3 +2.1
TWSI **Taliwang, Sumb** 18.71 247 P Pn 01 21 11.4 +0.2
comp=Z,1µm,1.1s,comp=Z,18µm
AUQP **San Andres** 18.87 323 *e*P Pn 01 21 23.3 +10
MTSU **Mount Surprise** 19.06 150 P P 01 21 12.8 -1.6
baz=19,SNR=198
SJMP **San Jose** 19.23 317 *e*P Pn 01 21 17.6 +0.3
MTKI **Muara Teweh, K** 19.44 272 P Pn 01 21 20.7 +0.8
comp=Z,3µm,1.6s,comp=Z,56µmcomp=Z,114µm
QIS **Mount Isa** 19.45 165 P P 01 21 17.4 -1.2
baz=19,SNR=318
BATP **Bataraza** 19.49 303 *e*P Pn 01 21 23.6 +3.1
BOAC **Boac** 19.49 321 *e*P Pn 01 21 21.2 +0.8
BBKI **Banjar Baru** 19.54 264 P Pn 01 21 27.7 +6.6
BUSP **Coron** 19.55 314 *e*P Pn 01 21 22.6 +1.4
ENPP **El Nido** 19.59 311 *e*P P 01 21 20.5 +0.2
ENPP *e*S Sn 01 25 02.1 +1.0
KKM **Kota Kinabalu** 19.65 293 *e*P P 01 21 21.4 +0.3
comp=Z,5µm,1.7s
SRBI **Singaraja** 20.06 251 P Pn 01 21 27.4 +0.1
comp=Z,1µm,2.2s,comp=Z,39µm
LQP **Lukban** 20.18 322⇑ *e*P P 01 21 26.0 -0.8
DNP **Denpasar** 20.25 249 P Pn 01 21 31.8 +2.3
comp=Z,4µm,0.9s,comp=Z,71µm
IGBI **Denpasar** 20.35 249 P Pn 01 21 31.4 +0.7
comp=Z,5µm,1.0s,comp=Z,72µmcomp=Z,136µm
TGY **Tagaytay City** 20.55 320 P Pn 01 21 32.0 -1.1
comp=Z,1µm,1.0s,baz=225,slow=3.2,SNR=19
TGY S S 01 25 16.4 -3.3
comp=Z,176nm,0.3s,baz=163,slow=20,SNR=1.5
LUBP **Lubang** 20.73 318 *e*P P 01 21 32.4 -0.2
LUBP *e*S S 01 25 23.5 +0.4
ABJI **Asem Bagus** 20.91 252 P Pn 01 21 39.4 +2.2
JAGI **Jajag, Banyuwa** 21.18 251 P P 01 21 39.3 +1.8
comp=Z,2µm,1.0s,comp=Z,31µmcomp=Z,88µm
JAGI **Jajag, Banyuwa** 21.18 251 *e*P P 01 21 37.8 +0.3
comp=Z,4µm,1.6s
JAGI *e*S S 01 25 32.8 +0.7
JAGI LR LR
comp=Z,83µm,20.0s
BALP **Baler** 21.42 324 *e*P P 01 21 38.9 -1.2
PCPH **Palayan** 21.57 323⇑ *e*P P 01 21 42.1 +0.5
CTA **Charters Tower** 21.68 148 P P 01 21 42.2 -0.7
comp=Z,61nm,0.5s,baz=326,slow=12,SNR=54
CTA S S 01 25 44.0 +2.0
comp=Z,61nm,1.1s,baz=241,slow=19,SNR=1.8
CTAO **Charters Tower** 21.68 148 *e*P P 01 21 42.7 -0.2
comp=Z,12µm,2.0s
CTAO *e*S S 01 25 42.8 +0.8
CTAO LR LR
comp=Z,282µm,18.0s
CTAO **Charters Tower** 21.68 148 *e*P P 01 21 42.7 -0.2
CTAO *e*S S 01 25 42.8 +0.8
CTAO MLR MLR
comp=Z,282µm,18.0s
GMJI **Gumukmas** 21.79 252 P P 01 21 46.3 +2.2
comp=Z,1µm,1.3s,comp=Z,28µm
AS01 **Alice Springs** 21.84 181 *e*P P 01 21 42.3 -2.3
AS31 **Alice Springs** 21.84 181 *e*P P 01 21 43.6 -1.1
comp=Z,603nm,0.9s
ASAR **Alice Springs** 21.85 181 P P 01 21 43.5 -1.1
comp=Z,513nm,0.6s,baz=4.6,slow=12,SNR=773
ASAR S S 01 25 42.5 -2.6
comp=Z,454nm,0.9s,baz=5.5,slow=23,SNR=8.2
ASAR LR LR 01 31 27.3
comp=Z,383µm,20.6s,baz=3.5,slow=40
ASAR P3KP 01 56 12.4
comp=Z,1.5nm,0.9s,baz=238,slow=0.9,SNR=3.2
CAUP **Cauayan** 22.25 327 *e*P P 01 21 51.1 +2.1
GRJI **Gresik** 22.38 256 P P 01 21 53.8 +3.3
comp=Z,1µm,1.1s,comp=Z,14µmcomp=Z,2µm
SCZP **Santa Cruz** 22.46 321 *e*P P 01 21 50.2 -1.0
SBUM **Sibu** 22.48 280 *e*P P 01 21 52.9 +1.4
comp=Z,6µm,2.0s
PBKI **Pangkalan Bun** 22.66 267 P P 01 21 56.2 +2.8
comp=Z,6µm,1.2s,comp=Z,63µmcomp=Z,59µm
STKI **Sintang** 22.91 274 P P 01 21 58.9 +2.8
comp=Z,313nm,1.5s,comp=Z,35µmcomp=Z,67µm
BOLP **Bolinao** 22.91 322 *e*P P 01 21 55.1 -1.0
TBJI **Tambak Boyo** 22.98 257 P P 01 21 58.8 +2.1
comp=Z,2µm,1.3s,comp=Z,33µmcomp=Z,50µm
PWJI **Pagerwojo** 23.29 254 P P 01 21 59.9 0.0
comp=Z,654nm,1.2s,comp=Z,17µm
APYP **Conner** 23.32 327 *e*P P 01 21 58.8 -1.3
ABRA **Dolores** 23.44 326 *e*P P 01 21 59.6 -1.7
NGJI **Ngawi** 23.47 255 P P 01 22 04.1 +2.4
comp=Z,2µm,1.0s,comp=Z,46µm
WRKA **Wakukurna** 23.93 194 P P 01 22 05.0 -1.0
baz=24,SNR=916
PCJI **Pacitan** 23.93 254 P P 01 22 06.3 +0.2
comp=Z,1µm,1.2s,comp=Z,26µm
MBWA **Marble Bar** 24.02 215 *e*P P 01 22 06.7 -0.1
comp=Z,7µm,1.6s
MBWA LR LR
comp=Z,198µm,21.0s
MBWA **Marble Bar** 24.02 215 P P 01 22 06.8 -0.1
SNR=97
WOJI **Wonogiri, Jawa** 24.09 255 P P 01 22 07.8 +0.2
comp=Z,960nm,1.3s,comp=Z,18µm
KSM **Kuching** 24.22 277 *e*P P 01 22 08.9 +0.1
comp=Z,4µm,1.3s
KSM LR LR
comp=Z,132µm,20.0s
SMRI **Semarang** 24.39 257 P P 01 22 11.6 +1.2
comp=Z,5µm,1.0s,comp=Z,98µm
SMRI **Semarang** 24.39 257 *e*P P 01 22 11.5 +1.1
comp=Z,5µm,1.0s
UGM **Wanagama** 24.50 255 P P 01 22 14.1 +2.7
comp=Z,2µm,1.6s,comp=Z,42µm
UGM **Wanagama** 24.50 255 *e*P P 01 22 12.9 +1.5
comp=Z,4µm,1.4s
PATS **Pohnpei** 25.40 70 P P 01 22 19.9 +0.4
baz=25,SNR=10
PATS **Pohnpei** 25.40 70 *e*P P 01 22 20.0 +0.4
comp=Z,6µm,2.0s
KPJI **Karang Pucung** 25.91 257 P P 01 22 24.7 +0.5
comp=Z,2µm,1.5s,comp=Z,50µm
JCJI **Jatiwangi** 26.41 259 P P 01 22 32.3 +3.6
comp=Z,2µm,0.9s,comp=Z,54µm
QLP **Quilpie** 26.52 160 P P 01 22 28.7 -0.8
baz=26,SNR=52
HNR **Honiara** 26.62 108 *e*P P 01 22 29.0 -1.6
HNR **Honiara** 26.62 108 P P 01 22 29.6 -1.0
comp=Z,695nm,0.9s,baz=200,slow=2.8,SNR=25
HNR S S 01 27 10.3 +5.9
comp=Z,54nm,0.5s,baz=330,slow=20,SNR=2.0
HNR LR LR 01 33 53.9
comp=Z,100µm,20.3s,baz=270,slow=38
HNR **Honiara** 26.62 108 *e*P P 01 22 29.9 -0.7
comp=Z,1µm,1.0s
HNR S S 01 27 10.3 +5.9
HNR **Honiara** 26.62 108 *e*P P 01 22 29.9 -0.7
HNR S S 01 27 10.3 +5.9
HNR pmax pmax
comp=Z,1µm,1.0s
LEM **Lembang** 27.11 258 P P 01 22 37.1 +2.0
comp=Z,187nm,0.8s,baz=31,slow=8.0,SNR=12
LEM S S 01 27 22.8 +10
comp=Z,65nm,0.8s,baz=60,slow=20,SNR=2.5
LEM LR LR 01 35 23.4
comp=Z,196µm,19.6s,baz=74,slow=41
TWG **Pinlang** 27.58 333 *e*P P 01 22 39.1 0.0
comp=Z,1µm,1.6s
YULB **Yu-li** 27.98 334 *e*P P 01 22 41.4 -1.2
comp=Z,854nm,1.9s
PPBI **Pangkal Pinang** 28.17 269 P P 01 22 47.7 +3.1
comp=Z,1.8nm,0.8s,comp=Z,978nm
SKJI **Sukabumi** 28.17 258 P P 01 22 48.4 +3.9
comp=Z,1µm,2.0s,comp=Z,20µm
TPUB **Ta-pu** 28.20 333 *e*P P 01 22 41.9 -2.7
comp=Z,777nm,1.5s
YOJ **Yonaguni jima** 28.23 338 *e*P P 01 22 44.0 -0.8
comp=Z,295nm,1.1s
YOJ **Yonaguni jima** 28.23 338 *e*P P 01 22 44.0 -0.8
YOJ pmax pmax
comp=Z,295nm,1.1s
RMQ **Roma** 28.29 152 P P 01 22 45.8 +0.4
baz=28,SNR=35
SBJI **Serang** 28.46 260 P P 01 22 54.8 +7.7
SSLB **Suanglung** 28.47 334 *e*P P 01 22 45.5 -1.6
comp=Z,393nm,1.2s
NACB **Ninganchiao** 28.53 335 *e*P P 01 22 46.2 -1.3
comp=Z,1µm,1.8s
EIDS **Eidsvold** 28.55 147 P P 01 22 48.1 +0.4
baz=28,SNR=29
EIDS **Eidsvold** 28.55 147 *e*P P 01 22 47.2 -0.5
comp=Z,1µm,1.6s
JOW **Kunigami** 28.95 349 P P 01 22 48.7 -2.6
comp=Z,83nm,1.1s,baz=113,slow=7.7,SNR=2.8
JOW S S 01 27 37.2 -3.7
comp=Z,15nm,0.8s,baz=59,slow=19,SNR=1.7
JOW LR LR 01 33 44.6
comp=Z,89µm,19.7s,baz=163,slow=35
JOW **Kunigami** 28.95 349 *e*P P 01 22 52.5 +1.2
comp=Z,429nm,1.2s
JOW S S 01 27 37.2 -3.7
CGJI **Cibinong** 28.96 259 P P 01 22 50.6 -0.9
comp=Z,460nm,0.9s,comp=Z,9µm
MEEK **Meekatharra** 29.03 210 P P 01 22 52.6 +0.5
baz=29,SNR=25
YHNB **Yeheng** 29.06 335 *e*P P 01 22 54.4 +2.0
comp=Z,1µm,1.8s
YHNB LR LR
comp=Z,198µm,21.0s
TATO **Taipei** 29.29 336 *e*P P 01 22 54.5 +0.3
comp=Z,862nm,1.4s
TATO LR LR
comp=Z,125µm,22.0s
FORT **Forrest** 29.53 191 P P 01 22 56.1 -0.2
baz=30,SNR=44
FORT **Forrest** 29.53 191 *e*P P 01 22 56.2 -0.2
comp=Z,17µm,0.9s
KLI **Kotabumi** 29.58 263 P P 01 22 59.8 +2.7
comp=Z,730nm,1.5s,comp=Z,11µm
JCJ **Chichijima** 29.61 14 P P 01 22 54.7 -2.4
comp=Z,101nm,0.9s,baz=195,slow=12,SNR=2.7
JCJ LR LR 01 32 27.4
comp=Z,70µm,20.0s,baz=192,slow=32
CBIJ **Chichi jima** 29.61 14 *e*P P 01 22 55.4 -1.7
comp=Z,1µm,1.6s
XMIS **Christmas Isla** 29.79 252 *e*P P 01 22 59.0 +0.1
comp=Z,560nm,0.9s
TPRI **Tanjung Pinang** 29.91 275 P P 01 23 03.4 +3.5
comp=Z,481nm,1.1s
KASI **Kota Agung** 30.00 262 P P 01 23 02.0 +1.2
comp=Z,436nm,0.9s,comp=Z,7µm
MDSI **Maura Dua** 30.22 264 P P 01 23 02.8 0.0
comp=Z,365nm,0.9s,comp=Z,8µm
LWLI **Liwa** 30.39 263 P P 01 23 05.8 +1.5
QZH **Quanzhou** 30.56 331⇑ *i*P P 01 23 04.1 -1.4
QZH S S 01 27 59.6 -6.5
QZH pmax pmax
comp=Z,140nm,1.6s
QZH pmax pmax
comp=Z,3µm,7.3s
QZH LR LR
comp=Z,38µm,14.1s
QZH LR LR
comp=Z,54µm,19.7s
QZH LR LR
comp=Z,96µm,18.5s
MYKOM **Kota Tinggi** 30.66 276 *e*P P 01 23 06.0 -0.7
comp=Z,779nm,1.0s
STKA **Stephens Creek** 30.80 168 P P 01 23 06.2 -1.4
comp=Z,144nm,0.9s,baz=341,slow=8.7,SNR=62
STKA S S 01 28 03.1 -6.6
comp=Z,53nm,0.9s,baz=103,slow=17,SNR=1.6
STKA **Stephens Creek** 30.80 168 P P 01 23 06.4 -1.1
baz=31,SNR=64
STKA **Stephens Creek** 30.80 168 *e*P P 01 23 06.5 -1.1
comp=Z,104nm,1.2s
STKA S S 01 28 03.1 -6.6
STKA **Stephens Creek** 30.80 168 *e*P P 01 23 06.5 -1.1
STKA S S 01 28 03.1 -6.6
STKA pmax pmax
comp=Z,104nm,1.2s
HKC **Hong Kong Obse** 30.91 322 ⇑P P 01 23 09.0 +0.3
BBOO **Buckleboo** 31.00 177 P P 01 23 08.4 -1.0
baz=31,SNR=52
BBOO **Buckleboo** 31.00 177 *e*P P 01 23 08.0 -1.3
comp=Z,1µm,1.6s
MCO **Taipa Grande** 31.17 321 P P 01 23 14.0 +3.1
MNAI **Manna** 31.43 264 *e*P P 01 23 12.7 -0.8
comp=Z,2µm,1.2s
CMSA **Cobar Meteorol** 31.57 161 P P 01 23 13.6 -0.7
baz=32,SNR=101
QIZ **Qiongzhong** 31.67 312 P P 01 23 16.6 +1.2
QIZ S S 01 28 27.3 +3.7
QIZ pmax pmax
comp=Z,110nm,0.8s
QIZ pmax pmax
comp=Z,3µm,3.3s
QIZ LR LR
comp=Z,72µm,13.3s
QIZ LR LR
comp=Z,58µm,21.1s
QIZ LR LR
comp=Z,77µm,34.9s
QIZ **Qiongzhong** 31.67 312 *e*P P 01 23 15.5 0.0
comp=Z,2µm,1.9s
QIZ LR LR
comp=Z,62µm,20.0s
KSI **Kapahiang** 31.75 266 P P 01 23 17.1 +0.8
KMBL **Kambalda** 31.77 200 P P 01 23 16.4 +0.3
baz=32,SNR=61
HTT **Hallett** 31.86 173 P P 01 23 16.0 -1.0
baz=32,SNR=60
GZH **Guangzhou** 32.01 322⇑ *i*P P 01 23 19.3 +1.0
GZH PP PnPn 01 24 25.1 +1.1
GZH S S 01 28 33.3 +4.5
GZH pmax pmax
comp=Z,4µm,6.5s
RGRI **Rengat** 32.01 272 P P 01 23 26.7 +8.2
MASI **Maura Aman, Be** 32.09 267 P P 01 23 20.1 +0.9
MORW **Morawa** 32.32 211 P P 01 23 21.6 +0.6
baz=32,SNR=31
KRJI **Kerinci** 32.84 269 P P 01 23 27.6 +1.6
SDSI **Sungai Dareh** 32.89 271 P P 01 23 28.3 +2.0
ARMA **Armidale** 32.95 152 P P 01 23 26.4 -0.2
baz=33,SNR=82
ARMA **Armidale** 32.95 152 *e*P P 01 23 26.8 +0.2
comp=Z,342nm,1.0s
UBPT **Khong Chiam** 33.15 302 P P 01 23 27.3 -1.1
comp=Z,421nm,2.1s,comp=Z,10µm
BLDU **Ballidu** 33.26 208 P P 01 23 29.9 +0.7
baz=33,SNR=144
BKNI **Bangkinang** 33.34 273 P P 01 23 31.4 +1.2
BKNI **Bangkinang** 33.34 273 *e*P P 01 23 30.1 -0.1
comp=Z,1µm,1.1s
KLBR **Kellerberrin** 33.60 206 P P 01 23 31.8 -0.4
baz=34,SNR=118
IPM **Ipoh** 33.83 281 *e*P P 01 23 34.2 -0.2
comp=Z,323nm,0.8s
PDSI **Padang** 33.86 271 P P 01 23 34.8 +0.1
PPI **Padang Panjang** 33.94 272 P P 01 23 35.7 +0.3
PPSI **Pulau Pagai** 34.30 268 P P 01 23 46.1 +7.6
KULM **Kulim** 34.34 282 *e*P P 01 23 37.9 -1.0
comp=Z,282nm,0.9s
KULM LR LR
comp=Z,80µm,20.0s
MUN **Mundaring** 34.63 208 P P 01 23 41.6 +0.5
baz=35,SNR=14
SKLT **Songkhla** 34.76 285 P P 01 23 42.5 0.0
comp=Z,438nm,1.3s,comp=Z,6µm
JNU **Nakatsue** 34.78 355 P P 01 23 40.4 -2.0
comp=Z,288nm,0.9s,baz=194,slow=3.7,SNR=33
JNU S S 01 29 08.5 -3.2
comp=Z,8.2nm,0.9s,baz=252,slow=19,SNR=1.6
JNU **Nakatsue** 34.78 355 *e*P P 01 23 40.9 -1.5
comp=Z,499nm,1.0s
JNU S S 01 29 08.5 -3.2
MNSI **Mandailing Nat** 34.83 274 P P 01 23 43.6 +0.5
SSE **Sheshan** 34.92 340 P P 01 23 44.1 +0.5
SSE S S 01 29 14.3 +0.5
SSE pmax pmax
comp=Z,160nm,1.0s
SSE pmax pmax
comp=Z,2µm,6.1s
SSE LR LR
comp=Z,6µm,17.4s
SSE LR LR
comp=Z,4µm,17.4s
NWAO **Narrogin (SRO)** 34.97 206 S S 01 29 11.6 -3.0
comp=Z,96nm,0.9s,baz=201,slow=15,SNR=2.0
NWAO LR LR 01 40 52.6
comp=Z,131µm,18.3s,baz=260,slow=41
NWAO **Narrogin (SRO)** 34.97 206 P P 01 23 44.6 +0.6
baz=35,SNR=29
NWAO P P 01 23 44.6 +0.6
baz=35,SNR=29
NWAO **Narrogin (SRO)** 34.97 206 *e*P P 01 23 44.7 +0.6
comp=Z,302nm,1.0s
NWAO S S 01 29 11.6 -3.0
NWAO **Narrogin (SRO)** 34.97 206 P P 01 23 44.0 0.0
SNR=13
NWAO **Narrogin (SRO)** 34.97 206 *e*P P 01 23 44.7 +0.6
NWAO S S 01 29 11.6 -3.0
NWAO pmax pmax
comp=Z,302nm,1.0s

YNG Young 35.00 159 P **P** **01 23 45.0 +0.7**
baz=35,SNR=18
JHJ2 Mitsune 35.01 8 *e*P **P** **01 23 42.5 -1.8**
comp=Z,2μm,1.9s
JHJ Hachijo jima 2 35.01 8 LR LR 01 34 38.6
comp=Z,115μm,19.9s,baz=188,slow=31
MGCD Mangrove Creek 35.09 155 P **P** **01 23 46.0 +0.9**
baz=35,SNR=6.4
SKNT Sakolnakorn 35.21 303 P **P** **01 23 45.3 -1.0**
comp=Z,287nm,1.1s,comp=Z,6μm
SISI Saibi 35.22 270 P **P** **01 23 46.7 +0.2**
ARPS Mount Arapiles 35.59 170 P **P** **01 23 48.9 -0.4**
baz=36,SNR=131
SRAK Srakaew 35.59 297 P P 01 23 44.2 -5.4
comp=Z,824nm,0.8s,comp=Z,7μm
RIV Riverview 35.64 156 P **P** **01 23 49.1 -0.7**
baz=36,SNR=5.9
PSI Prapat 35.67 277 *e*P **P** **01 23 49.5 -1.0**
comp=Z,793nm,1.0s
PSI Prapat 35.67 277 *e*P **P** **01 23 49.5 -1.0**
PSI pmax pmax
comp=Z,793nm,1.0s
TRTT Trang 35.81 286 P **P** **01 23 50.5 -1.1**
comp=Z,196nm,1.2s,comp=Z,3μm
KHON Khomkaen 35.90 301 P **P** **01 23 52.7 +0.5**
comp=Z,212nm,0.9s,comp=Z,2μm
TSI Tuntungan 36.11 278 P **P** **01 23 56.5 +2.4**
comp=Z,955nm,1.2s,comp=Z,14μm
CAN Canberra 36.13 159 *e*P **P** **01 23 55.8 +1.7**
comp=Z,306nm,1.2s
CAN LR LR
comp=Z,155μm,20.0s
CAN Canberra 36.13 159 *e*P **P** **01 23 55.8 +1.7**
CAN pmax pmax
comp=Z,306nm,1.2s
CAN MLR MLR
comp=Z,155μm,20.0s
CNB Canberra Magne 36.26 159 P **P** **01 23 56.9 +1.7**
baz=36,SNR=17
NAYO Nakonayok 36.35 297 P **P** **01 23 55.7 -0.4**
comp=Z,201nm,2.0s,comp=Z,5μm
CHAI Chaiyaphum 36.42 300 P **P** **01 23 55.8 -0.9**
comp=Z,174nm,0.7s
RKGY Rocky Gully 36.53 204 P **P** **01 23 58.2 +0.8**
baz=37,SNR=39
NJ2 Nanjing 36.63 338 *e*P **P** **01 23 59.1 +0.9**
NJ2 pP **pP** **01 24 01.4 -4.2**
NJ2 sP **sP** **01 24 03.9 -4.7**
NJ2 S **S** **01 29 34.8 -5.1**
NJ2 pmax pmax
comp=Z,140nm,1.2s
NJ2 pmax pmax
comp=Z,5μm,7.6s
NJ2 LR LR
comp=Z,63μm,18.4s
NJ2 LR LR
comp=Z,64μm,14.6s
NJ2 LR LR
comp=Z,79μm,19.5s
GSI Gunungsitoli 36.86 274 P **P** **01 23 59.9 -0.7**
GSI Gunungsitoli 36.86 274 *e*P **P** **01 23 59.3 -1.3**
comp=Z,1μm,1.2s
INU Inuyama 36.94 4 *e*P **P** **01 23 58.4 -2.4**
comp=Z,259nm,1.2s
PKDT Phuket 37.13 285 P **P** **01 24 02.3 -0.5**
comp=Z,185nm,1.1s,comp=Z,3μm
TOO Toolangi 37.15 165 P **P** **01 24 02.9 +0.2**
baz=37,SNR=43
DZM Mont Dzumac 37.23 125 P **P** **01 24 03.6 -0.1**
comp=Z,209nm,1.2s,baz=332,slow=6.5,SNR=20
DZM S **S** **01 29 49.2 -0.4**
comp=Z,10nm,1.0s,baz=119,slow=13,SNR=1.6
DZM LR LR 01 39 48.5
comp=Z,63μm,21.7s,baz=310,slow=37
DZM Mont Dzumac 37.23 125 *e*P **P** **01 24 04.5 +0.8**
comp=Z,802nm,1.5s
DZM *e*S **S** **01 29 46.5 -3.1**
comp=Z,91μm,31.5s
DZM *e*LR LR 01 33 59.9
comp=Z,225μm,28.8s
DZM Mont Dzumac 37.23 125 *e*P **P** **01 24 03.2 -0.4**
comp=Z,637nm,1.5s
DZM S **S** **01 29 49.2 -0.4**
WHN Wuhan 37.28 331⇑ *i*P **P** **01 24 05.0 +1.1**
WHN sP **sP** **01 24 18.5 +4.3**
WHN S **S** **01 29 56.5 +6.5**
WHN LR LR
comp=Z,34μm,10.1s
WHN LR LR
comp=Z,134μm,15.9s
WHN LR LR
comp=Z,119μm,16.3s
PHET Kaeng Krachan 37.36 294 P **P** **01 24 04.5 -0.2**
comp=Z,186nm,1.0s,comp=Z,1μm
TPTI 37.45 278 P **P** **01 24 02.9 -2.7**
comp=Z,697nm,1.2s,comp=Z,10μm
PBKT Sadao Pong 37.59 300 P **P** **01 24 05.2 -1.4**
comp=Z,249nm,1.0s,comp=Z,5μm
MILA Mila 37.76 160 P **P** **01 24 10.2 +2.3**
baz=38,SNR=8.0
LHMI Lhok Sumawe 37.96 281 P **P** **01 24 10.9 +1.0**
LHMI Lhok Sumawe 37.96 281 *e*P **P** **01 24 10.2 +0.4**
comp=Z,2μm,1.1s
WAKE Wake Island 37.99 55 PFAKE 01 24 20.0 +10
WAKE LR LR
comp=Z,62μm,22.0s
H01W1 Cape Leeuwin H 38.00 207 P **P** **01 24 14.4 +4.8**
baz=54,slow=8.1,SNR=13
H01W3 Cape Leeuwin H 38.00 207 P **P** **01 24 13.2 +3.6**
baz=54,slow=8.1,SNR=14
H01W2 Cape Leeuwin H 38.01 207 P **P** **01 24 13.1 +3.4**
baz=54,slow=8.1,SNR=9.3
MJAR Matsushiro Arr 38.21 5 P **P** **01 24 08.2 -3.5**
comp=Z,37nm,0.7s,baz=188,slow=9.0,SNR=50
MJAR S **S** **01 30 08.2 +4.3**
comp=Z,1.0nm,0.3s,baz=323,slow=22,SNR=2.4
MJAR ScS **ScS** **01 34 31.5 +9.5**
comp=Z,6.1nm,0.9s,baz=180,slow=2.4,SNR=4.3
MJAR LR LR 01 36 33.2
comp=Z,84μm,21.6s,baz=185,slow=31
MAJO Matsushiro 38.21 5 *e*P **P** **01 24 10.8 -0.9**
comp=Z,99nm,0.8s
MAJO LR LR
comp=Z,89μm,20.0s
MAJO Matsushiro 38.21 5*de*P **P** **01 24 08.0 -3.7**
MAJO pmax pmax
comp=Z,62nm,0.8s
MAJO MLR MLR
comp=Z,37μm,16.0s
MAT Matsushiro 38.21 5 P **P** **01 24 08.3 -3.4**
MAT S **S** **01 29 58.6 -5.4**
MJB9 Matsu-Tunnel 38.22 5 *e*P **P** **01 24 08.6 -3.1**
comp=Z,112nm,0.9s
PHIT Phitsanulok 38.34 301 P **P** **01 24 13.5 +0.5**
comp=Z,183nm,0.9s,comp=Z,2μm
MLSI Meulaboh, Aceh 38.35 279 P **P** **01 24 13.0 -0.2**
TJN Taejon 38.43 351⇑ *e*P **P** **01 24 11.7 -1.7**
COCO West Island 38.59 253 *e*P **P** **01 24 14.7 -0.4**
comp=Z,2μm,1.1s
COCO LR LR
comp=Z,72μm,22.0s
COCO West Island 38.59 253 *e*P **P** **01 24 14.7 -0.4**
COCO pmax pmax
comp=Z,2μm,1.1s
COCO MLR MLR
comp=Z,72μm,22.0s
GYA Guiyang 38.68 318⇑ *i*P **P** **01 24 15.1 -0.8**
GYA pP pP 01 24 22.8 -0.5
GYA PP **PnPn** **01 25 50.3 +3.4**
GYA PcP **PcP** **01 26 30.0 +2.3**
GYA S **S** **01 30 12.8 +1.2**
GYA sS pS 01 30 21.4 +1.3
GYA SS **SnSn** **01 32 54.0 -6.9**
GYA ScS **ScS** **01 34 25.8 +0.5**
GYA pmax pmax
comp=Z,130nm,1.2s
GYA pmax pmax
comp=Z,3μm,9.0s
GYA LR LR
comp=Z,68μm,19.2s
GYA LR LR
comp=Z,63μm,22.0s
GYA LR LR
comp=Z,79μm,23.3s
TARA Tarawa 38.71 86 *e*P **P** **01 24 16.8 +0.6**
comp=Z,1μm,1.3s
TARA LR LR
comp=Z,5μm,21.0s
KS15 Wonju Array Si 39.40 352 *e*P **P** **01 24 23.4 +1.9**
KSAR Wonju Array Be 39.40 352 P **P** **01 24 19.8 -1.7**
KSAR PcP **PcP** **01 26 30.3 +0.7**
KSAR Wonju Array Be 39.40 352 P **P** **01 24 19.8 -1.7**
KSAR 01 26 30.3
KSRS Korea Array 39.40 352 P **P** **01 24 19.8 -1.7**
comp=Z,29nm,0.9s,baz=170,slow=9.9,SNR=29
KSRS PcP **PcP** **01 26 30.3 +0.7**
comp=Z,12nm,0.9s,baz=181,slow=3.7,SNR=2.3
KSRS LR LR 01 39 32.1
comp=Z,44μm,20.4s,baz=165,slow=35
KS01 Wonju Array Si 39.43 352 *e*P **P** **01 24 20.1 -1.7**
LAMP Lampang 39.60 302 P **P** **01 24 23.2 -0.3**
comp=Z,116nm,0.9s,comp=Z,914nm
INCN Inchon 39.63 350 *e*P **P** **01 24 22.8 -0.7**
INCN LR LR
comp=Z,58μm,20.0s
ENH Enshi 39.64 325 *e*P **P** **01 24 23.0 -0.8**
comp=Z,157nm,1.0s
ENH LR LR
comp=Z,68μm,19.0s
PAYA Payao 39.78 303 P **P** **01 24 24.3 -0.8**
comp=Z,268nm,0.8s,comp=Z,2μm
CM01 Chiang Mai Arr 40.12 301 *e*P **P** **01 24 26.4 -1.5**
CM31 Chiang Mai Arr 40.15 302 *e*P **P** **01 24 28.4 +0.3**
CMAR Chiang Mai Arr 40.15 302 P **P** **01 24 27.3 -0.9**
comp=Z,67nm,0.9s,baz=122,slow=6.8,SNR=109
CMAR ScP **ScP** **01 30 22.1 +1.9**
comp=Z,29nm,1.0s,baz=140,slow=2.5,SNR=8.5
CMAR ScS ScS 01 34 52.7 +19
comp=Z,8.4nm,0.8s,baz=130,slow=2.8,SNR=4.8
CMAR LR LR 01 42 45.8
comp=Z,25μm,19.0s,baz=146,slow=39
CMAR PKPPKP **P'P'df** **01 56 46.0 -6.5**
comp=Z,1.4nm,0.5s,baz=272,slow=2.4,SNR=5.7
CMMT Chiang Mai 40.30 302 P **P** **01 24 27.5 -1.9**
comp=Z,311nm,2.2s,comp=Z,8μm
CHTO Chiang Mai 40.31 302 P **P** **01 24 28.5 -0.9**
comp=Z,1μm,1.0s,comp=Z,33μm
CHTO Chiang Mai 40.31 302 *e*P **P** **01 24 28.9 -0.5**
comp=Z,184nm,0.8s
CHTO *e*ScP **ScP** **01 30 21.3 +0.5**
CHTO LR LR
comp=Z,47μm,19.0s
CHTO Chiang Mai 40.31 302 P **P** **01 24 29.0 -0.5**
SNR=124
CHTO Chiang Mai 40.31 302 *e*P **P** **01 24 28.9 -0.5**
CHTO pmax pmax
comp=Z,184nm,0.8s
CHTO MLR MLR
comp=Z,47μm,19.0s
KMI Kunming 40.58 313 P **P** **01 24 32.8 +0.9**
KMI pP pP 01 24 38.0 -1.3
KMI PP **PnPn** **01 26 09.0 -0.6**
KMI PcP **PcP** **01 26 35.1 +1.2**
KMI S **S** **01 30 41.4 +1.1**
KMI sS pS 01 30 50.0 +1.0
KMI SS **SS** **01 33 36.1 -4.7**
KMI pmax pmax
comp=Z,180nm,1.2s
KMI pmax pmax
comp=Z,4μm,7.1s
KMI LR LR
comp=Z,45μm,17.6s
KMI LR LR
comp=Z,30μm,15.5s
KMI LR LR
comp=Z,67μm,19.6s
CMAI Chiengmai2 40.73 304 P **P** **01 24 32.4 -0.7**
comp=Z,1μm,1.7s,comp=Z,65μm
TIA Tai'an 40.98 339 P **P** **01 24 34.4 -0.3**
TIA S **S** **01 30 45.1 -0.4**
TIA pmax pmax
comp=Z,84nm,1.0s
TIA pmax pmax
comp=Z,3μm,4.2s
TIA LR LR
comp=Z,46μm,19.1s
TIA LR LR
comp=Z,31μm,17.6s
TIA LR LR
comp=Z,102μm,21.1s
NFK Norfolk Island 42.01 134 P **P** **01 24 45.5 +2.3**
baz=42,SNR=7.4
DL2 Dalian 42.06 345 P **P** **01 24 44.0 +0.5**
DL2 S **S** **01 31 02.0 +0.6**
DL2 pmax pmax
comp=Z,190nm,1.2s
DL2 pmax pmax
comp=Z,4μm,6.0s
DL2 LR LR
comp=Z,118μm,20.6s
DL2 LR LR
comp=Z,195μm,19.6s
DL2 LR LR
comp=Z,95μm,20.8s
MOO Moorlands 42.18 166 P **P** **01 24 45.6 +1.1**
baz=42,SNR=7.4
TAU Tasmania Unive 42.65 166 *e*P **P** **01 24 49.1 +0.9**
comp=Z,133nm,1.0s
TAU LR LR
comp=Z,267μm,19.0s
TAU Tasmania Unive 42.65 166 *e*P **P** **01 24 49.1 +0.9**
TAU pmax pmax
comp=Z,133nm,1.0s
TAU MLR MLR
comp=Z,267μm,19.0s
XAN Xi'an 42.83 328 P **P** **01 24 48.8 -1.1**
XAN sP pP 01 24 56.1 -1.2
XAN PcP **PcP** **01 26 42.0 +1.1**
XAN S **S** **01 31 10.4 -2.6**
XAN SS SS 01 34 13.6 -11
XAN pmax pmax
comp=Z,120nm,1.3s
XAN pmax pmax
comp=Z,5μm,6.2s
XAN LR LR
comp=Z,49μm,27.7s
XAN LR LR
comp=Z,50μm,26.9s
XAN LR LR
comp=Z,63μm,22.4s
PBA Port Blair 43.40 289 *e*P P 01 24 53.3 -1.5
CD2 Chengdu 43.55 321⇑ *i*P **P** **01 24 55.4 -0.4**
CD2 pP pP 01 25 00.4 -2.9
CD2 PP **PcP** **01 26 41.0 -2.4**
CD2 S **S** **01 31 24.8 +1.0**
CD2 sS pS 01 31 33.3 +0.8
CD2 pmax pmax
comp=Z,460nm,0.7s
CD2 pmax pmax
comp=Z,7μm,4.8s
CD2 LR LR
comp=Z,68μm,21.4s
CD2 LR LR
comp=Z,72μm,15.4s
CD2 LR LR
comp=Z,76μm,17.4s
DGPR DIGLIPUR 43.64 291 *e*P **P** **01 24 55.2 -1.4**
TIY Taiyuan 44.14 335 *e*P **P** **01 25 01.0 +0.6**
TIY PP **PP** **01 26 44.1 +0.5**
TIY S **S** **01 31 30.6 -1.5**
TIY pmax pmax
comp=Z,240nm,0.8s
TIY pmax pmax
comp=Z,3μm,4.7s
TIY LR LR
comp=Z,31μm,13.7s
TIY LR LR
comp=Z,12μm,11.7s
TIY LR LR
comp=Z,25μm,18.8s
MSHR Mys Shultsa 44.16 357*de*P **P** **01 24 59.8 -0.7**
ERM Erimo 44.24 9 *e*P **P** **01 25 03.0 +2.0**
comp=Z,161nm,1.1s
ERM LR LR
comp=Z,40μm,22.0s
ERM Erimo 44.24 9*c i*P **P** **01 25 00.7 -0.3**
ERM pmax pmax
comp=Z,227nm,3.0s
ERM MLR MLR
comp=Z,28μm,19.0s
SNY Shenyang 44.40 349⇓ P **P** **01 25 01.5 -0.9**
SNY S **S** **01 31 35.0 -0.6**
SNY pmax pmax
comp=Z,200nm,2.1s
SNY pmax pmax
comp=Z,3μm,6.1s
SNY LR LR
comp=Z,51μm,19.8s
SNY LR LR
comp=Z,97μm,19.4s
SNY LR LR
comp=Z,65μm,19.6s
VLA Vladivostok 44.66 357*de*P **P** **01 25 04.4 0.0**
VLA pmax pmax
comp=Z,534nm,2.1s
VLA MLR MLR
comp=Z,36μm,18.0s
BJT Baijiatuau 44.72 340 *e*P **P** **01 25 04.4 -0.5**
comp=Z,2μm,1.4s
BJT LR LR
comp=Z,69μm,19.0s
BJT Baijiatuau 44.72 340 *e*P **P** **01 25 04.4 -0.5**
BJT pmax pmax
comp=Z,2μm,1.4s
BJT MLR MLR
comp=Z,69μm,19.0s
BJI Beijing 44.73 340⇑ *i*P **P** **01 25 04.3 -0.8**
BJI PP **PP** **01 26 52.9 +3.1**
BJI S **S** **01 31 40.8 +0.3**
BJI sS **sS** **01 31 54.8 +2.0**
BJI pmax pmax
comp=Z,1μm,1.6s
BJI pmax pmax
comp=Z,5μm,4.5s
FUNA Funafuti 45.17 100 *e*P **P** **01 25 09.5 +0.5**
comp=Z,2μm,1.8s
FUNA LR LR
comp=Z,44μm,19.0s
USRK Ussuriysk Ar. 45.74 358 P **P** **01 25 11.1 -1.9**
comp=Z,67nm,0.8s,baz=169,slow=6.7,SNR=39
USRK LR LR 01 43 06.7
comp=Z,27μm,19.1s,baz=168,slow=35
USRK PKPPKP **P'P'df** **01 56 39.2 -3.5**
comp=Z,0.7nm,0.5s,baz=253,slow=2.0,SNR=4.8
MSVF Nonsavu 45.79 113 *e*P **P** **01 25 15.5 +1.6**
comp=Z,3μm,1.4s
MSVF LR LR
comp=Z,58μm,22.0s
MSVF Nonsavu 45.79 113*c i*P **P** **01 25 15.8 +1.9**
MSVF pmax pmax
comp=Z,2μm,1.3s
CN2 Changchun 45.99 351 *e*P **P** **01 25 13.1 -1.8**
CN2 *e*S **S** **01 31 55.8 -2.7**
CN2 pmax pmax
comp=Z,2μm,5.0s
CN2 LR LR
comp=Z,35μm,20.0s
CN2 LR LR
comp=Z,87μm,20.0s
CN2 LR LR
comp=Z,40μm,20.0s
ASAJ Asahikawa 46.20 8 P **P** **01 25 15.4 -1.3**
comp=Z,44nm,0.7s,baz=238,slow=15,SNR=39
ASAJ LR LR 01 42 44.6
comp=Z,137nm,20.6s,baz=207,slow=34
ASAJ Asahikawa 46.20 8 *e*P **P** **01 25 15.3 -1.4**
comp=Z,169nm,1.1s
MDJ Mudanjiang 46.30 355 P **P** **01 25 13.8 -3.6**
MDJ PP **PP** **01 27 05.1 -1.3**
MDJ S **S** **01 32 05.6 +2.6**
MDJ sS sS 01 32 16.8 +1.5
MDJ pmax pmax
comp=Z,240nm,1.0s
MDJ pmax pmax
comp=Z,1μm,6.7s
MDJ LR LR
comp=Z,25μm,15.3s
MDJ LR LR
comp=Z,57μm,15.9s
MDJ LR LR
comp=Z,71μm,23.1s
MDJ Mudanjiang 46.30 355 *e*P **P** **01 25 16.1 -1.3**
comp=Z,198nm,0.8s
MDJ LR LR
comp=Z,55μm,21.0s
TEY Ternei 46.57 2 *e*P **P** **01 25 16.6 -2.9**
TEY *e*S S 01 32 20.0 +13
TEY pmax pmax
comp=Z,5μm,5.0s
TEY pmax pmax
comp=N,34nm,1.0s
TEY pmax pmax
comp=Z,43nm,1.0s
TEY MLR MLR
comp=Z,24μm,13.0s
YUK Yuzh-Kuril'sk 46.68 11*c i*P **P** **01 25 20.3 -0.1**
YUK *e* 01 27 09.2
YUK *e*PPP PPP 01 27 55.2
YUK *i* S **S** **01 32 07.8 -0.7**
YUK *e* 01 35 16.1
YUK *e*SSS SSS 01 36 31.5
YUK pmax pmax
comp=Z,1μm,1.5s
YUK pmax pmax
comp=Z,1μm,1.5s
YUK pmax pmax
comp=E,179nm,1.0s
YUK pmax pmax
comp=N,240nm,0.7s
YUK MLR MLR
comp=N,13μm,18.0s
YUK MLR MLR
comp=E,16μm,18.0s
LZH Lanzhou 47.11 326⇑ P **P** **01 25 24.4 +0.2**
LZH pP pP 01 25 30.3 -1.4
LZH sP sP 01 25 34.3 -0.3
LZH PP **PP** **01 27 15.0 -0.2**
LZH S **S** **01 32 14.8 -0.5**
LZH sS pS 01 32 25.4 +1.2
LZH SS **SS** **01 35 35.3 -7.4**
LZH pmax pmax
comp=E,740nm,1.3s
LZH pmax pmax
comp=E,9μm,5.6s
LZH LR LR
comp=E,71μm,16.4s
LZH LR LR
comp=E,82μm,17.1s
LZH LR LR
comp=E,110μm,19.9s
HHC Hu-ho-hao-te 47.15 336 *e*P **P** **01 25 25.1 +0.8**
HHC sP sP 01 25 33.5 -1.2
HHC S **S** **01 32 15.3 -0.2**
HHC sS pS 01 32 23.8 -0.6
HHC pmax pmax
comp=E,130nm,1.0s
HHC pmax pmax
comp=E,4μm,6.1s
HHC LR LR
comp=E,51μm,16.7s
HHC LR LR
comp=E,33μm,16.5s
HHC LR LR
comp=E,40μm,16.7s
BTO Baotou 47.58 335 *e*P **P** **01 25 27.6 0.0**
BTO pmax pmax
comp=E,63nm,1.6s
KUR Kuril'sk 48.25 13 *e*P **P** **01 25 32.5 -0.1**
KUR *e*S **S** **01 32 29.0 -1.7**
KUR *e*SSS SSS 01 37 11.9
KUR pmax pmax
comp=Z,3μm,6.0s
KUR pmax pmax
comp=N,2μm,6.1s
KUR pmax pmax
comp=E,1μm,6.5s
KUR pmax pmax
comp=Z,678nm,1.6s
KUR pmax pmax
comp=E,399nm,1.9s
KUR pmax pmax
comp=N,268nm,1.3s
KUR MLR MLR
comp=Z,9μm,15.0s
KUR MLR MLR
comp=N,12μm,18.0s
YSS Yuzh-Sakhalins 49.01 8 *e*P **P** **01 25 37.9 -0.5**
comp=N,2μm,2.0s
YSS LR LR

comp=Z,63µm,22.0s
YSS Yuzh-Sakhalins 49.01 8k iP P 01 25 37.0 -1.4
YSS e*SP pP 01 25 44.3 -1.6
YSS e 01 25 51.4
YSS e 01 26 59.5
YSS e 01 27 30.1
YSS eS S 01 32 39.0 -2.4
YSS eSS SS 01 36 07.0 -5.7
YSS eSSS SSS 01 37 22.0
YSS pmax pmax
comp=Z,60nm,1.3s
YSS pmax pmax
comp=Z,3µm,7.0s
YSS pmax pmax
comp=N,1µm,4.0s
YSS pmax pmax
comp=E,900nm,4.0s
YSS smax smax
comp=E,10µm,7.0s
SHL Shillong 49.18 306 eP P 01 25 39.5 -0.9
OUZ Omahuta 49.43 137 eP P 01 25 45.5 +3.7
comp=E,815nm,1.7s
OUZ Omahuta 49.43 137 P P 01 25 44.9 +3.1
WCZ Waipu Caves 50.33 137 P P 01 25 51.3 +2.6
KLR Kul'dur 50.77 358 P P 01 25 50.3 -1.5
comp=E,5.5nm,0.7s,baz=198,slow=3.4,SNR=62
KLR S S 01 33 02.4 -3.6
comp=E,0.3nm,0.9s,baz=307,slow=20,SNR=1.4
KLR Kul'dur 50.77 358d iP P 01 25 51.1 -0.7
MKAZ Moumakai 51.52 138 P P 01 25 59.8 +2.2
LSA Lhasa 51.70 311 P P 01 26 00.6 +0.9
LSA S S 01 33 22.3 +1.9
LSA pmax pmax
comp=E,170nm,1.2s
LSA pmax pmax
comp=E,2µm,8.3s
LSA LR LR
comp=E,10µm,18.3s
LSA LR LR
comp=E,4µm,17.2s
LSA LR LR
comp=E,24µm,18.3s
LSA Lhasa 51.70 311 eP P 01 25 59.6 0.0
comp=E,1µm,1.5s
LSA LR LR
comp=Z,31µm,21.0s
LSA Lhasa 51.70 311 P P 01 26 00.3 +0.7
LSA Lhasa 51.70 311 eP P 01 25 59.7 0.0
LSA pmax pmax
comp=Z,1µm,1.5s
LSA MLR MLR
comp=Z,31µm,21.0s
KUZ Kuaotunu 51.70 137 P P 01 26 00.8 +1.9
GTA Gaotai 51.72 326 P P 01 25 58.8 -0.4
GTA pP sP 01 26 08.6 -1.1
GTA sP pP 01 26 11.8 +5.0
GTA PcP PcP 01 27 10.8 -1.7
GTA ScP ScP 01 31 10.3 +2.4
GTA S S 01 33 19.5 -0.2
GTA sS sS 01 33 36.1 +4.0
GTA ScS ScS 01 35 47.8 -0.5
GTA SS SS 01 36 54.8 -1.7
GTA pmax pmax
comp=Z,3µm,7.4s
GTA LR LR
comp=Z,35µm,17.6s
GTA LR LR
comp=Z,26µm,14.3s
GTA LR LR
comp=Z,43µm,16.2s
HIZ Hauiti 52.11 140 eP P 01 26 04.3 +2.3
comp=Z,1µm,1.4s
HIZ Hauiti 52.11 140 P P 01 26 01.5 -0.4
FOZ Fox Glacier 52.26 148 P P 01 26 06.1 +3.1
DCZ Deep Cove 52.27 151 eP P 01 26 04.5 +1.5
comp=Z,272nm,1.2s
GRNR Gornyy 52.30 2 eP P 01 26 01.5 -1.6
GRNR i 01 29 02.2
GRNR pmax pmax
comp=Z,50nm,1.0s
HIA Hailar 52.30 348 eP P 01 26 03.6 +0.3
comp=Z,422nm,1.7s
HIA LR LR
comp=Z,72µm,21.0s
HIA Hailar 52.30 348 eP P 01 26 03.6 +0.3
HIA pmax pmax
comp=Z,422nm,1.7s
HIA MLR MLR
comp=Z,72µm,21.0s
BWNR Bhubaneshwar 52.31 297 eP P 01 26 03.9 +0.2
BWNR IAmb IAmb 01 26 08.1
comp=Z,1µm,2.2s
PYZ Puysegur Point 52.56 152 eP P 01 26 08.9 +3.7
comp=Z,202nm,1.1s
MLZ Mavora Lakes 52.67 150 eP P 01 26 08.8 +2.8
comp=Z,252nm,1.4s
WKZ Wanaka 52.74 149 eP P 01 26 09.1 +2.5
comp=Z,548nm,1.2s
THZ Tophouse 52.84 144 eP P 01 26 08.1 +0.6
comp=Z,113nm,0.9s
TYV Tymovskoe 52.84 7 eP P 01 26 05.6 -1.5
TYV eS S 01 33 34.9 +0.6
TYV pmax pmax
comp=Z,109nm,1.0s
TYV pmax pmax
comp=Z,5µm,6.4s
TYV smax smax
comp=E,22nm,1.7s
TYV smax smax
comp=E,13µm,8.0s
DUWZ D'Urville Isla 52.86 143 P P 01 26 08.7 +1.2
WHZ Wether Hill Ro 52.96 151 eP P 01 26 10.5 +2.3
comp=E,313nm,1.4s
RAO Raoul Island 53.02 126 PFAKE 01 26 20.0 +11
RAO LR LR
comp=Z,38µm,19.0s
LBZ Lake Benmore 53.04 148 eP P 01 26 09.2 +0.4
comp=Z,422nm,1.2s
LBZ Lake Benmore 53.04 148 P P 01 26 08.8 0.0
RPZ Rata Peaks 53.05 147 S S 01 33 32.6 -4.9
comp=Z,1.6nm,0.4s,baz=336,slow=18,SNR=2.2
RPZ LR LR 01 49 12.8
comp=Z,114µm,18.5s,baz=306,slow=36
RPZ Rata Peaks 53.05 147 eP P 01 26 09.2 +0.3
comp=Z,284nm,1.1s
RPZ S S 01 33 32.6 -4.9
LTZ Lake Taylor 53.12 146 eP P 01 26 09.9 +0.4
comp=Z,619nm,1.4s
LTZ Lake Taylor 53.12 146 P P 01 26 07.5 -2.0
OXZ Oxford 53.34 146 eP P 01 26 10.7 -0.3
comp=Z,87nm,1.0s
CHLP Challavanipeta 53.34 295 eP P 01 26 10.6 -0.8
ODAN Odare 53.38 306 eP P 01 26 11.8 -0.1
comp=Z,620nm,0.8s
BOK Bokaro 53.44 301 eP P 01 26 13.5 +1.4
URZ Urewera 53.45 138 S S 01 33 39.2 -3.8
comp=Z,3.2nm,0.9s,baz=172,slow=7.1,SNR=1.9
URZ LR LR 01 49 14.6
comp=Z,87µm,18.8s,baz=312,slow=36
URZ Urewera 53.45 138 eP P 01 26 11.8 -0.1
comp=Z,532nm,1.2s
URZ S S 01 33 39.2 -3.8
URZ Urewera 53.45 138 P P 01 26 09.0 -2.9
BKZ Black Stump Fm 53.53 140 eP P 01 26 12.5 -0.1
comp=Z,517nm,1.3s
BKZ Black Stump Fm 53.53 140 P P 01 26 09.0 -3.6
RTZ Ruatahuna 53.55 139 P P 01 26 13.6 +0.8
KHZ Kahutara 53.61 144 eP P 01 26 14.6 +1.5
comp=Z,157nm,1.0s
HAZ Te Kaha 53.63 137 P P 01 26 13.6 +0.3
SNZO South Karori 53.64 143 eP P 01 26 14.9 +1.7
comp=Z,469nm,1.3s
SNZO LR LR
comp=Z,165µm,20.0s
TSZ Takapari Road 53.69 141 P P 01 26 10.8 -2.8
KRHZ Kereru 53.72 140 P P 01 26 14.7 +0.8
ODZ Otahua Downs 53.73 149 eP P 01 26 16.3 +2.5
comp=Z,214nm,1.2s
MWZ Matawai 53.76 138 P P 01 26 13.6 -0.7
RAGZ Rawiri 53.77 138 P P 01 26 14.7 +0.3
VIS Vishakhapatnam 53.79 293 i P P 01 26 14.4 -0.3
VIS IAMs_20 IAMs_20 01 52 26.8
comp=Z,38µm,9.9s
MRZ Mangatainoka R 53.79 142 P P 01 26 14.0 -0.4
CRLZ Canterbury Las 53.82 146 eP P 01 26 17.9 +3.4
comp=Z,746nm,1.8s
MXZ Matakaoa Point 53.89 137 eP P 01 26 17.9 +2.8
PKGZ Pakihiroa 53.90 137 P P 01 26 17.0 +1.7
MQZ McQueen's Vall 53.92 146 eP P 01 26 17.6 +2.4
comp=Z,289nm,1.2s
KNTN Kanton 53.92 92 eP P 01 26 19.6 +3.8
comp=Z,470nm,1.2s
SYZ Scrubby Hill 54.00 151 P P 01 26 17.7 +1.9
RAMN Ramite 54.06 305 eP P 01 26 15.8 -1.1
comp=Z,2µm,1.6s
WMGZ Waiomatatini S 54.09 137 P P 01 26 15.9 -0.8
KAHZ Kahuranaki 54.12 140 P P 01 26 18.2 +1.2
BFZ Birch Farm 54.22 141 eP P 01 26 18.2 +0.7
comp=Z,190nm,1.1s
BFZ Birch Farm 54.22 141 P P 01 26 17.0 -0.5
PALK Pallekele 54.23 280 eP P 01 26 17.2 -1.0
comp=Z,246nm,1.2s
PALK Pallekele 54.23 280 P P 01 26 16.8 -1.3
SNR=14
PALK Pallekele 54.23 280 i P P 01 26 16.9 -1.3
SNR=28
PALK Pallekele 54.23 280 i P P 01 26 17.8 -0.3
PXZ Pawanui 54.24 140 P P 01 26 15.8 -1.9
CNGZ Carnagh Statio 54.30 138 P P 01 26 20.4 +2.3
AFI Afiamalu 54.63 106 P P 01 26 21.6 +0.6
comp=Z,498nm,1.2s,baz=253,slow=6.1,SNR=27
AFI LR LR 01 48 23.9
comp=Z,43µm,21.7s,baz=280,slow=35
AFI Afiamalu 54.63 106 eP P 01 26 23.2 +2.2
comp=Z,952nm,1.3s
AFI Afiamalu 54.63 106 eP P 01 26 23.2 +2.2
AFI pmax pmax
comp=Z,952nm,1.3s
JIRN Jiri 54.68 306 eP P 01 26 20.7 -0.8
ULN Ulaanbaatar 54.79 338 eP P 01 26 22.1 +0.3
comp=Z,592nm,1.6s
ULN LR LR
comp=Z,42µm,21.0s
ULN Ulaanbaatar 54.79 338 P P 01 26 22.5 +0.8
SNR=237
ULN Ulaanbaatar 54.79 338c iP P 01 26 22.3 +0.6
ULN pmax pmax
comp=Z,443nm,1.7s
ULN MLR MLR
comp=Z,30µm,19.0s
NKL Nikolayevsk 54.91 5 i P P 01 26 21.0 -1.2
NKL i S S 01 34 01.0 -1.2
NKL pmax pmax
comp=N,86nm,1.0s
NKL pmax pmax
comp=Z,270nm,1.0s
NKL pmax pmax
comp=N,2µm,5.0s
NKL pmax pmax
comp=E,500nm,5.0s
NKL pmax pmax
comp=Z,4µm,5.0s
NKL smax smax
comp=N,3µm,9.0s
NKL smax smax
comp=E,14µm,9.0s
SONM Songino Array 55.02 337 P P 01 26 22.6 -0.7
comp=E,13nm,0.7s,baz=158,slow=7.5,SNR=43
SONM LR LR 01 49 28.9
comp=E,39µm,20.5s,baz=145,slow=36
SONM PKPPKP P'P'df 01 56 15.6 -15
comp=E,1.1nm,0.9s,baz=288,slow=1.4,SNR=4.5
SONM PKP2bc 01 56 39.3
comp=E,3.0nm,1.1s,baz=343,slow=1.5,SNR=6.4
SONA1 Songino Array 55.02 337 eP P 01 26 22.7 -0.7
GUN Gumba 55.03 306 eP P 01 26 23.3 -0.8
MIDW Midway 55.05 54 eP P 01 26 24.5 +0.8
comp=E,152nm,0.9s
MIDW LR LR
comp=Z,32µm,19.0s
PVM Polavaram 55.24 292 eP P 01 26 24.5 -0.7
PKIN Phulchoki 55.29 306 eP P 01 26 26.3 +0.5
SKR Severo-Kuril's 55.41 17 eP P 01 26 25.2 -0.6
SKR eS S 01 34 07.4 -1.6
SKR eSS SS 01 39 53.0
SKR pmax pmax
comp=Z,3µm,5.5s
SKR pmax pmax
comp=Z,2µm,6.3s
SKR pmax pmax
comp=Z,246nm,1.6s
SKR smax smax
comp=N,10µm,12.1s
SKR smax smax
comp=E,20µm,12.3s
SKR MLR MLR
comp=Z,19µm,16.0s
KKN Kakani 55.47 306 eP P 01 26 27.0 -0.1
DMN Daman 55.54 305 eP P 01 26 26.9 -0.7
comp=Z,351nm,1.0s
MDRS Chennai 55.61 287 eP P 01 26 27.7 -0.3
MDRS IAmb IAmb 01 26 32.8
comp=Z,196nm,0.9s
GKN Gorkha 56.08 306 eP P 01 26 31.4 +0.1
SKHT Srikalahasti 56.25 288 eP P 01 26 31.4 -1.1
CIT Chita 56.33 345 eP P 01 26 32.8 +0.2
CIT e 01 26 51.6
CIT e 01 28 38.0
CIT eS S 01 34 21.6 +0.2
CIT pmax pmax
comp=Z,994nm,2.0s
MCQ Macquarie Isla 56.37 163 P P 01 26 32.6 -0.1
baz=56,SNR=3.8
MCQ Macquarie Isla 56.37 163 eP P 01 26 32.2 -0.5
comp=Z,608nm,1.2s
MCQ Macquarie Isla 56.37 163 eP P 01 26 32.2 -0.5
MCQ pmax pmax
comp=Z,608nm,1.2s
ADKI Addanki 56.45 290 eP P 01 26 33.0 -1.0
KOLN Koldanda 56.83 305 eP P 01 26 35.7 -1.1
comp=Z,663nm,0.9s
NIUE Niue 57.21 112 P P 01 26 38.7 -0.7
baz=57,SNR=4.7
NJS Nagarjunasagar 57.23 291 eP P 01 26 38.1 -1.4
RCLA Racherla 57.32 289 eP P 01 26 38.9 -1.3
PYUN Piuthan 57.45 305 eP P 01 26 40.2 -1.0
SRLM Srisailam 57.51 290 eP P 01 26 40.4 -1.2
RPR Rampur 57.78 293 eP P 01 26 42.4 -1.1
PEA0B Petropavlovsk- 58.01 16 eP P 01 26 43.4 -1.0
comp=Z,380nm,1.2s
PETK Petropavlovsk- 58.01 16 P P 01 26 42.7 -1.7
comp=Z,56nm,0.9s,baz=178,slow=4.0,SNR=37
PETK LR LR 01 47 03.5
comp=Z,25µm,21.4s,baz=203,slow=31
PETK PKP2ab 01 56 47.4
comp=Z,4.8nm,1.0s,baz=29,slow=6.6,SNR=3.6
TRD Trivandrum 58.07 281 eP P 01 26 46.0 +0.5
HYB Hyderabad 58.12 292 i P P 01 26 46.0 +0.1
comp=Z,150nm,1.0s
HYB eS S 01 34 42.0 -4.2
HYB LR LR
comp=Z,19nm,24.0s
HYB Hyderabad 58.12 292 eP P 01 26 43.9 -2.0
HYB IAmb IAmb 01 26 51.2
comp=Z,232nm,1.0s
HYBB Hyderabad (bro 58.12 292 eP P 01 26 44.7 -1.2
PET Petropavlovsk 58.21 17 eP P 01 26 44.6 -1.1
comp=Z,406nm,1.3s
PET LR LR
comp=Z,31µm,22.0s
PET Petropavlovsk 58.21 17d iP P 01 26 44.5 -1.2
PET eS S 01 34 41.3 -4.7
PET pmax pmax
comp=Z,3µm,7.3s
PET pmax pmax
comp=Z,2µm,7.0s
PET pmax pmax
comp=Z,261nm,1.3s
ZAK Zakamensk 58.28 337 eP P 01 26 45.8 -0.7
ZAK pmax pmax
comp=Z,179nm,1.9s
JOHN Johnston Islan 58.32 69 PFAKE 01 27 00.0 +13
JOHN LR LR
comp=Z,4µm,22.0s
NGP Nagpur 58.60 296 eP P 01 26 48.2 -0.9
NGP IAmb IAmb 01 26 53.0
comp=Z,1µm,2.6s
NGP ex x 01 34 36.1
NGP ex x 01 54 21.6
comp=Z,23µm,18.1s
SRSP Sriramsagar 58.67 293 eP P 01 26 48.4 -1.2
URV Uravakonda 58.81 289 eP P 01 26 49.0 -1.7
CLNS Chul'man 58.84 354 eP P 01 26 49.9 -0.2
CLNS e*PP sP 01 27 01.4 +0.7
CLNS e 01 27 38.2
CLNS e 01 28 56.0
CLNS eS S 01 34 55.0 +0.8
CLNS eSSS SSS 01 41 12.5
CLNS pmax pmax
comp=N,93nm,1.2s
CLNS pmax pmax
comp=Z,123nm,1.1s
CLNS pmax pmax
comp=E,60nm,1.1s
CLNS pmax pmax
comp=N,44nm,1.1s
CLNS pmax pmax
comp=E,24nm,1.0s
CLNS pmax pmax
comp=Z,28nm,1.0s
CLNS smax smax
comp=N,4µm,13.3s
CLNS smax smax
comp=E,6µm,10.8s
CLNS MLR MLR
comp=N,20µm,19.0s
CLNS MLR MLR
comp=Z,23µm,19.0s
CLNS MLR MLR
comp=E,18µm,23.0s
TLY Talaya 59.19 338 P P 01 26 52.5 -0.1
comp=E,25nm,0.7s,baz=166,slow=5.5,SNR=17
TLY Talaya 59.19 338 eP P 01 26 54.1 +1.5
comp=E,386nm,1.7s
TLY LR LR
comp=Z,37µm,21.0s
TLY Talaya 59.19 338 P P 01 26 53.8 +1.2
SNR=68
TLY Talaya 59.19 338 eP P 01 26 53.3 +0.7
TLY e 01 27 37.6
TLY e 01 29 06.1
TLY eS S 01 34 54.2 -4.6
TLY eSS SS 01 38 53.2 -0.4
TLY pmax pmax
comp=Z,280nm,2.2s
TLY MLR MLR
comp=Z,19µm,16.0s
IRK Irkutsk 59.41 339 eP P 01 26 54.2 0.0
IRK eS S 01 35 01.3 -0.4
IRK pmax pmax
comp=Z,731nm,2.2s
KLRI Killari 60.09 292 eP P 01 26 57.4 -2.1
MOY Mondy 60.19 337 eP P 01 26 59.4 -0.2
MOY pmax pmax
comp=Z,800nm,2.2s
CTZ Chatham Island 60.33 141 P P 01 27 00.3 -0.3
BHPL Bhopal 60.62 298 eP P 01 27 02.0 -1.0
BHPL IAmb IAmb 01 27 05.9
comp=Z,258nm,1.6s
BOD Bodaibo 61.52 348⇑ iP P 01 27 07.7 -0.7
BOD pmax pmax
comp=Z,440nm,1.8s
WMQ Urumqi 61.54 323 P P 01 27 08.8 -0.1
WMQ sP pP 01 27 17.3 +0.7
WMQ PP PP 01 29 26.3 +1.7
WMQ S S 01 35 31.3 +1.9
WMQ ScS SKKSac 01 36 49.9 -9.2
WMQ SS SS 01 39 30.4 -0.5
WMQ pmax pmax
comp=Z,480nm,1.5s
WMQ pmax pmax
comp=Z,4µm,4.5s
WMQ LR LR
comp=Z,63µm,20.7s
WMQ LR LR
comp=Z,46µm,22.9s
WMQ LR LR
comp=Z,50µm,34.3s
DGAR Diego Garcia 61.89 263 eP P 01 27 13.7 +1.9
comp=Z,1µm,1.2s
DGAR LR LR
comp=Z,12µm,20.0s
DGAR Diego Garcia 61.89 263 P P 01 27 14.5 +2.7
SNR=12
DGAR Diego Garcia 61.89 263‖ eP P 01 27 13.7 +1.9
GOA Goa 62.17 288 eP P 01 27 12.7 -0.9
GOA IAmb IAmb 01 27 20.7
comp=Z,247nm,1.1s
DDI Dehra Dun 62.28 306 eP P 01 27 14.8 +0.7
DDI eP pP 01 27 15.8 -6.1
MA2 Magadan 62.44 9 P P 01 27 13.4 -1.1
comp=Z,70nm,0.9s,baz=179,slow=6.9,SNR=29
MA2 LR LR 01 51 34.9
comp=Z,30µm,21.2s,baz=195,slow=34
MA2 PKPPKP P'P'df 01 56 20.0 +1.3
comp=Z,1.8nm,0.2s,baz=12,slow=3.3,SNR=3.6
MA2 Magadan 62.44 9 eP P 01 27 13.5 -1.1
comp=Z,244nm,1.0s
MA2 P'P' 01 56 20.0
MA2 Magadan 62.44 9 eP P 01 27 14.0 -0.6
MA2 pmax pmax
comp=Z,150nm,1.3s
MA2 MLR MLR
comp=Z,22µm,19.6s
POO Poona 62.73 292 eP P 01 27 18.3 +1.0
POO IAmb IAmb 01 27 21.1
comp=Z,640nm,1.9s
POO IAMs_20 IAMs_20 01 58 36.3
comp=Z,32µm,21.6s
HVS Khovu-Aksy 62.92 333⇓ iP P 01 27 18.3 +0.2
HVS pmax pmax
comp=Z,225nm,1.0s
HVS MLR MLR
comp=Z,49µm,16.0s
SMLA Simla 63.27 306 eP P 01 27 21.0 +0.3
H08N1 Diego Carcia H 63.29 264 P P 01 27 20.1 -0.7
baz=120,slow=3.5,SNR=21
H08N2 Diego Garcia H 63.30 264 P P 01 27 20.8 0.0
baz=120,slow=3.5,SNR=22
H08N3 Diego Garcia H 63.31 264 P P 01 27 20.2 -0.7
baz=120,slow=3.5,SNR=21
SMY Shemya 63.65 26 eP P 01 27 23.9 +1.2
comp=Z,1µm,1.7s
SMY Shemya 63.65 26 eP P 01 27 23.9 +1.2
SMY pmax pmax
comp=Z,1µm,1.7s
YAK Yakutsk 63.65 358 P P 01 27 21.8 -0.8
YAK Yakutsk 63.65 358 eP P 01 27 21.8 -0.8
comp=Z,591nm,0.7s
YAK LR LR
comp=Z,28µm,20.0s
YAK Yakutsk 63.65 358 eP P 01 27 22.1 -0.4
YAK e*PP pP 01 27 29.1 -1.2
YAK e 01 27 57.9
YAK eS S 01 35 54.2 -0.9
YAK e 01 37 15.6
YAK pmax pmax
comp=Z,437nm,0.9s
YAK pmax pmax
comp=N,49nm,1.0s
YAK pmax pmax
comp=E,41nm,1.0s
YAK smax smax
comp=E,4µm,5.7s
YAK smax smax
comp=N,1µm,4.4s
DHRM DHARAMSHALA 64.34 307 eP P 01 27 27.1 -0.9
DHRM IAmb IAmb 01 27 31.6
comp=Z,233nm,0.6s
DGZ Jazzator, Alta 65.09 328 eP P 01 27 32.1 -0.4
DGZ pmax pmax
comp=Z,84nm,1.5s
ZSN Zaisan 65.20 325⇑ iP P 01 27 35.0 +2.0
comp=Z,180nm,1.5s
ZSN i S S 01 36 20.4 +5.5
ZSN LR LR 01 54 52.4
comp=Z,2µm,12.2s
SEY Seymchan 65.88 9 P P 01 27 35.6 -1.4
comp=Z,87nm,0.9s,baz=190,slow=5.1,SNR=57
SEY LR LR 01 53 35.0
comp=Z,28µm,21.6s,baz=193,slow=34
SEY PKPPKP P'P'df 01 56 13.1 0.0
comp=Z,1.9nm,0.8s,baz=143,slow=1.4,SNR=3.6
SEY Seymchan 65.88 9‖ eP P 01 27 36.3 -0.8
MK01 Makanchi Array 66.33 324 eP P 01 27 38.5 -1.8
MK31 Makanchi Array 66.35 324 eP P 01 27 40.0 -0.5
MK31 Makanchi Array 66.35 324 eP P 01 27 40.0 -0.5

MKAR Makanchi Array 66.35 324 P **P** **01 27 39.6 -0.9**
comp=Z,49nm,0.6s,baz=114,slow=8.1,SNR=150
MKAR S **S** **01 36 19.9 -9.0**
comp=Z,17nm,0.6s,baz=112,slow=7.3,SNR=5.4
MKAR PKPPKP **P'P'df** **01 56 12.1 -1.6**
comp=Z,1.8nm,0.8s,baz=284,slow=1.6,SNR=5.6
MKAR LR LR 01 56 20.0
comp=Z,22µm,21.4s,baz=125,slow=36
MKAR Makanchi Array 66.35 324 *eP* **P** **01 27 40.0 -0.5**
comp=Z,874nm,1.0s
MKAR S **S** **01 36 19.9 -9.0**
MKAR P'P' 01 56 12.1
MKAR Makanchi Array 66.35 324 *eP* **P** **01 27 40.0 -0.5**
MKAR S **S** **01 36 20.0 -9.0**
MKAR pmax pmax
comp=Z,874nm,1.0s
SHLS Shalkode 66.36 319⇑ *iP* **P** **01 27 39.9 -0.9**
comp=Z,1µm,1.1s
SHLS *iS* **S** **01 36 29.2 -0.2**
PDGK Podgornoye 66.42 319 *iP* **P** **01 27 40.5 -0.6**
PDGK pmax pmax
comp=Z,210nm,1.1s
MAKZ Makanchi 66.54 324 *eP* **P** **01 27 41.2 -0.5**
MAKZ Makanchi 66.54 324 *eP* **P** **01 27 41.2 -0.5**
CASY Casey 66.62 190 *eP* **P** **01 27 41.0 -0.8**
comp=Z,189nm,1.3s
CASY LR LR
comp=Z,15µm,20.0s
KRAR Krasnoyarsk 66.64 336⇑ *eP* **P** **01 27 43.7 +1.6**
UZB Uzynbulak 66.64 319⇑ *eP* **P** **01 27 41.7 -0.9**
comp=Z,716nm,0.8s
UZB *iS* **S** **01 36 34.1 +1.2**
PRZ Przheval'sk 66.76 318 P **P** **01 27 44.3 +0.9**
RAR Rarotonga 66.96 112 P **P** **01 27 45.6 +0.8**
comp=Z,120nm,1.2s,baz=260,slow=4.2,SNR=8.7
RAR LR LR 01 55 09.4
comp=Z,10µm,19.8s,baz=278,slow=34
RAR Rarotonga 66.96 112 *eP* **P** **01 27 46.2 +1.4**
comp=Z,547nm,1.6s
RAR Rarotonga 66.96 112 *eP* **P** **01 27 46.2 +1.4**
RAR pmax pmax
comp=Z,547nm,1.6s
KPKS Kokpek 67.01 319 *iP* **P** **01 27 44.1 -0.7**
comp=Z,1µm,0.7s
KPKS *iS* **S** **01 36 38.6 +1.5**
SATY Saty 67.01 319 *eP* **P** **01 27 44.4 -0.5**
comp=Z,2µm,0.8s
SATY *iS* **S** **01 36 39.3 +2.0**
ZHN Zhinishke 67.04 319 *eP* **P** **01 27 44.2 -0.9**
comp=Z,500nm,0.8s
ZHN *eS* **S** **01 36 38.6 +1.0**
NIL Nilore 67.22 308 *eP* **P** **01 27 46.2 -0.2**
comp=Z,1µm,1.3s
NIL LR LR
comp=Z,14µm,19.0s
NIL Nilore 67.22 308 *eP* **P** **01 27 46.2 -0.2**
NIL pmax pmax
comp=Z,1µm,1.3s
NIL MLR MLR
comp=Z,14µm,19.0s
KSH Kashi 67.22 314 P **P** **01 27 47.1 +0.8**
KSH sP pP 01 27 55.0 +0.9
KSH PcP **PcP** **01 28 14.4 +0.2**
KSH S **S** **01 36 43.5 +3.5**
KSH SS **SS** **01 40 56.8 -3.1**
KSH pmax pmax
comp=Z,970nm,1.4s
KSH pmax pmax
comp=Z,5µm,3.1s
KSH LR LR
comp=Z,14µm,12.9s
KSH LR LR
comp=Z,11µm,14.7s
KSH LR LR
comp=Z,33µm,15.4s
KDJ Kajisay 67.43 317 *eP* **P** **01 27 47.5 -0.2**
comp=Z,182nm,1.0s
KDJ Kajisay 67.43 317 P **P** **01 27 47.5 -0.2**
BHJ Bhuj 67.55 296 *eP* **P** **01 27 48.5 -0.1**
BHJ IAmb IAmb 01 27 52.6
comp=Z,67nm,1.0s
NRN Naryn 67.95 316 P **P** **01 27 50.7 -0.5**
AAA Alma-Ata 68.06 318 *eP* **P** **01 27 52.7 +1.3**
comp=Z,521nm,1.0s
AAA *eS* **S** **01 36 52.6 +2.9**
AAA LR LR 01 57 25.0
comp=Z,4µm,15.5s
AAA Alma-Ata 68.06 318 *eP* **P** **01 27 52.4 +0.9**
AAA *eS* **S** **01 36 50.7 +0.9**
AAA pmax pmax
comp=Z,2µm,4.4s
AAA smax smax
comp=E,11µm,11.0s
ULHL Ulahoi 68.11 317 P **P** **01 27 54.5 +2.5**
SNR=30
XMAS Kiritimati 68.32 87 *eP* **P** **01 27 56.0 +2.4**
comp=E,940nm,1.5s
KEKH Kekaha 68.47 66 *eP* **P** **01 27 57.1 +2.8**
comp=E,481nm,1.4s
KZA Kyzart 68.72 317 P **P** **01 27 56.5 +0.4**
SNR=80
KUU Kurty 68.73 319 *eP* **P** **01 27 54.6 -0.9**
comp=E,275nm,1.3s
KUU *iS* **S** **01 36 58.6 +1.0**
TKM2 Tokmak 2 68.82 318 P **P** **01 27 56.2 -0.3**
SNR=74
TKM2 Tokmak 2 68.82 318 *iP* **P** **01 27 56.0 -0.4**
TKM2 pmax pmax
comp=Z,150nm,1.1s
ZALV Zalesovo Beam 68.90 331 P **P** **01 27 55.4 -0.9**
comp=Z,29nm,0.6s,baz=118,slow=6.4,SNR=43
ZALV PKP2bc 01 56 04.0
comp=Z,2.2nm,0.8s,baz=298,slow=3.2,SNR=7.3
ZALV LR LR 01 58 18.1
comp=Z,13µm,20.3s,baz=141,slow=36
ATKA Atka Island 68.90 31 *eP* **P** **01 27 56.1 -0.3**
comp=Z,287nm,1.0s
KBK Karagaybulak 69.16 317 P **P** **01 28 01.0 +2.5**
SNR=28
SFK Sufi-Kurgan 69.18 314 *iP* **P** **01 27 58.6 -0.1**
SFK pmax pmax
comp=Z,200nm,1.0s
UCH Uchtor 69.29 317 P **P** **01 27 59.3 -0.4**
SNR=60
SEM Semipalatinsk 69.35 326 *eP* **P** **01 27 58.9 -0.6**
comp=Z,528nm,1.7s
SEM *eS* **S** **01 37 06.3 +1.2**
SEM LR LR 02 00 31.1
comp=Z,9µm,16.8s
CHMS Chumysh 69.42 317 P **P** **01 28 04.2 +4.3**
SNR=22
FRU Bishkek 69.45 317 *eP* **P** **01 28 00.0 -0.1**
FRU *i* 01 28 10.0
FRU *eS* S 01 36 56.0 -10
FRU pmax pmax
comp=Z,160nm,2.0s
AAK Ala-Archa 69.46 317 P **P** **01 27 59.7 -0.6**
comp=Z,16nm,0.8s,baz=78,slow=5.4,SNR=28
AAK Ala-Archa 69.46 317 P **P** **01 28 02.9 +2.5**
SNR=33
AAK Ala-Archa 69.46 317 *eP* **P** **01 28 00.1 -0.2**
comp=Z,142nm,1.1s
AAK LR LR
comp=Z,26µm,20.0s
AAK Ala-Archa 69.46 317 P **P** **01 28 02.2 +1.9**
SNR=69
AAK Ala-Archa 69.46 317 *iP* **P** **01 27 60.0 -0.4**
SNR=52
AAK Ala-Archa 69.46 317 *cP* **P** **01 28 01.1 +0.8**
AAK pmax pmax
comp=Z,88nm,1.6s
AAK MLR MLR
comp=Z,24µm,18.0s
USP Ospenovka 69.70 318 P **P** **01 28 01.3 -0.3**
SNR=66
AML Almayashu 69.81 316 P **P** **01 28 02.4 -0.4**
SNR=100
KIP Kipapa 69.92 67 *eP* **P** **01 28 05.0 +1.7**
comp=Z,298nm,0.8s
KIP LR LR
comp=Z,46µm,22.0s
KIP Kipapa 69.92 67⇑ *eP* **P** **01 28 03.3 -0.1**
KIP pmax pmax
comp=Z,2µm,0.9s
EKS2 Erkin-Say 69.96 317 P **P** **01 28 03.5 +0.1**
SNR=70

OPA Opana 69.97 66 *eP* **P** **01 28 05.2 +1.5**
comp=Z,410nm,1.3s
OPA Opana 69.97 66 *eP* **P** **01 28 05.2 +1.5**
OPA pmax pmax
comp=Z,410nm,1.3s
NVS Novosibirsk 70.17 331 *eP* **P** **01 28 03.5 -0.7**
NVS *eS* **S** **01 37 19.7 +5.6**
NVS pmax pmax
comp=N,254nm,2.0s
NVS pmax pmax
comp=Z,640nm,2.0s
NVS pmax pmax
comp=E,440nm,2.1s
NVS smax smax
comp=N,15nm,1.6s
NVS smax smax
comp=E,131nm,1.9s
KURK Kurchatov 70.40 326 *eP* **P** **01 28 04.6 -1.1**
comp=E,1µm,0.9s
KURK Kurchatov 70.40 326 *eP* **P** **01 28 04.6 -1.1**
KURK pmax pmax
comp=Z,1µm,0.9s
KURBB Kurchatov Arra 70.41 326 P **P** **01 28 04.6 -1.1**
comp=Z,34nm,0.8s,baz=120,slow=5.4,SNR=108
BTLS Baital 70.69 319 LR LR 02 01 19.8
comp=Z,5µm,15.5s
MNAS Manas 70.77 316 *iP* **P** **01 28 08.1 -0.2**
MNAS pmax pmax
comp=Z,529nm,1.6s
KBL Kabul 70.82 307 *eP* **P** **01 28 08.1 -0.8**
comp=Z,211nm,1.1s
KBL Kabul 70.82 307 *eP* **P** **01 28 08.1 -0.8**
KBL pmax pmax
comp=Z,211nm,1.1s
MIR Mirnyy 70.89 196⇓ *iP* **P** **01 28 10.0 +1.7**
MIR *e* 01 28 20.0
MIR pmax pmax
comp=Z,273nm,2.0s
MIR pmax pmax
comp=Z,3µm,5.0s
KHLH Kahului Airpor 71.30 67 *eP* **P** **01 28 14.4 +2.7**
comp=Z,375nm,1.0s
HLK Haleakala 71.44 68 *eP* **P** **01 28 15.8 +2.8**
comp=Z,374nm,1.1s
KHLU Kahalu'u 71.59 69 *eP* **P** **01 28 15.6 +1.9**
comp=Z,543nm,1.3s
MHA Mahukona 71.67 68 *eP* **P** **01 28 16.8 +2.8**
MHA Mahukona 71.67 68 *eP* **P** **01 28 16.8 +2.8**
HPAH Hawaii Prepara 71.83 68 *eP* **P** **01 28 17.3 +2.1**
comp=Z,443nm,1.4s
MLOA Mauna Loa Obse 71.88 69 *eP* **P** **01 28 17.7 +1.9**
comp=Z,307nm,1.0s
POHA Pohakuloa 71.95 69 *eP* **P** **01 28 16.8 +0.8**
comp=Z,327nm,1.0s
POHA LR LR
comp=Z,25µm,20.0s
MLH Mauna Loa 72.05 69 *eP* **P** **01 28 18.7 +2.1**
comp=Z,548nm,1.2s
MLH Mauna Loa 72.05 69 *eP* **P** **01 28 18.7 +2.1**
MLH pmax pmax
comp=Z,548nm,1.2s
PAF Port-aux-Franc 72.08 218 PFAKE 01 28 30.0 +14
PAF LR LR
comp=Z,41µm,20.0s
NIKH Nikolski High 72.10 32 *eP* **P** **01 28 16.0 0.0**
comp=Z,648nm,1.7s
PUH Pauahi 72.19 69 *eP* **P** **01 28 19.4 +2.1**
comp=Z,802nm,1.5s
STCH Stem Cracks 72.27 69 *eP* **P** **01 28 20.2 +2.5**
comp=Z,282nm,0.9s
KK31 Karatay Array 72.36 316 *eP* **P** **01 28 17.1 -0.7**
KK31 Karatay Array 72.36 316 *iP* **P** **01 28 17.0 -0.7**
KK31 pmax pmax
comp=Z,188nm,1.0s
KKAR Karatay Array 72.36 316 *eP* **P** **01 28 17.1 -0.7**
KKAR Karatay Array 72.36 316 *eP* **P** **01 28 17.1 -0.7**
IUG Iuzhnay 72.37 315 *eP* **P** **01 28 18.0 0.0**
comp=Z,620nm,0.9s
IUG *iS* **S** **01 37 41.7 +1.3**
IUG LR LR 02 00 10.8
comp=Z,8µm,18.9s
HULD Heiheiahulu Di 72.42 69 *eP* **P** **01 28 21.0 +2.5**
comp=Z,405nm,1.2s
CHM Chimkent 72.73 315 LR LR 02 01 08.1
comp=Z,9µm,20.1s
OTUK Ortayu 73.02 322 P **P** **01 28 20.8 -0.8**
OTUK pmax pmax
comp=Z,361nm,1.3s
BILL Bilibino 73.03 12*d* *iP* **P** **01 28 20.5 -0.7**
BILL *i* 01 28 38.9
BILL *i* 01 30 59.8
BILL *iS* **S** **01 37 41.4 -5.3**
BILL pmax pmax
comp=Z,29nm,1.0s
BILL MLR MLR
comp=Z,19µm,19.0s
TIXI Tiksi 73.30 358 P **P** **01 28 21.4 -1.3**
comp=Z,59nm,0.9s,baz=156,slow=5.9,SNR=47
TIXI Tiksi 73.30 358 *eP* **P** **01 28 21.9 -0.8**
comp=Z,173nm,1.2s
TIXI LR LR
comp=Z,41µm,19.0s
TIXI Tiksi 73.30 358*d* *iP* **P** **01 28 21.4 -1.3**
TIXI pmax pmax
comp=Z,206nm,1.5s
TIXI MLR MLR
comp=Z,21µm,17.0s
BRZS Berezniki 73.50 324 *eP* **P** **01 28 22.4 -2.0**
comp=Z,75nm,1.4s
BRZS *iS* **S** **01 37 52.9 +0.2**
UNV Unalaska Valle 73.75 32 *eP* **P** **01 28 25.6 -0.1**
comp=Z,484nm,1.0s
AKUT Akutan 74.27 32 *eP* **P** **01 28 29.4 +0.8**
comp=Z,3µm,1.9s
FALS False Pass 75.82 32 *eP* **P** **01 28 37.2 -0.4**
comp=Z,591nm,0.9s
BVA0 Borovoye Array 76.00 326 *iP* **P** **01 28 37.6 -1.2**
BVA0 pmax pmax
comp=Z,318nm,1.4s
BVAR Borovoye Array 76.00 326 P **P** **01 28 37.7 -1.1**
comp=Z,18nm,0.6s,baz=120,slow=7.0,SNR=90
BVAR LR LR 02 03 45.2
comp=Z,13µm,20.6s,baz=111,slow=37
BRVK Borovoye 76.07 326 *eP* **P** **01 28 38.3 -0.9**
comp=Z,452nm,1.4s
BRVK LR LR
comp=Z,15µm,19.0s
BRVK Borovoye 76.07 326 P **P** **01 28 40.0 +0.8**
SNR=162
BRVK Borovoye 76.07 326*cP* **P** **01 28 37.8 -1.4**
BRVK pmax pmax
comp=Z,19nm,1.1s
BRVK MLR MLR
comp=Z,22µm,20.0s
PPT Papeete 76.24 108 P **P** **01 28 40.8 0.0**
comp=Z,155nm,1.1s,baz=238,slow=9.5,SNR=2.4
PPT LR LR 02 01 27.2
comp=Z,8µm,18.1s,baz=272,slow=35
PAE Paea 76.24 108 *eP* **P** **01 28 43.9 +3.1**
comp=Z,18nm,1.0s
PPT2 Papeete2 76.24 108 *eP* **P** **01 28 44.0 +3.1**
comp=Z,248nm,1.5s
PPT2 *eS* **S** **01 38 21.7 -2.8**
comp=Z,34µm,27.0s
PPT2 Papeete2 76.24 108 *eLQ* LQ 01 48 54.3
comp=Z,133µm,36.0s
PPT2 *eLR* LR 01 52 04.1
comp=Z,35µm,26.2s
PPTF Pamatai, Papee 76.25 108 *eP* **P** **01 28 44.4 +3.4**
comp=Z,285nm,1.2s
GAMB Gambell 76.42 22 *eP* **P** **01 28 40.4 -0.5**
comp=Z,930nm,1.9s
TIAR Tiarei 76.46 108 *eP* **P** **01 28 45.2 +3.1**
comp=Z,68nm,1.1s
TVO Taravao 76.56 108 *eP* **P** **01 28 45.9 +3.2**
comp=Z,97nm,1.4s
MRIV Mauritius Mete 77.06 250 *eP* **P** **01 28 45.2 -0.2**
WBK Wadi Bani Khal 77.15 294 P **P** **01 28 47.3 +1.4**
SNR=21
VNDA Vanda 77.20 174 P **P** **01 28 44.7 -0.3**
comp=Z,19nm,0.7s,baz=320,slow=6.1,SNR=44
VNDA LR LR 02 03 06.4
comp=Z,121µm,18.2s,baz=348,slow=36
VNDA Vanda 77.20 174 *eP* **P** **01 28 44.8 -0.3**
comp=Z,78nm,0.8s
VNDA Vanda 77.20 174 *eP* **P** **01 28 44.8 -0.3**
VNDA pmax pmax
comp=Z,78nm,0.8s
WSAR Wadi Sarin 77.54 294 P **P** **01 28 46.9 -1.2**
comp=Z,158nm,1.4s,baz=145,slow=6.0,SNR=22
WSAR S **S** **01 38 34.2 -4.3**
comp=Z,4.7nm,0.9s,baz=118,slow=17,SNR=1.5
WSAR LR LR 02 05 17.3
comp=Z,5µm,21.7s,baz=114,slow=38
WSAR Wadi Sarin 77.54 294 P **P** **01 28 48.0 -0.1**
NRIK Noril'sk 77.55 345 LR LR 02 02 53.5
comp=Z,16µm,21.8s,baz=241,slow=36
SDPT Sand Point 77.56 32 *eP* **P** **01 28 47.9 +0.4**
comp=Z,1µm,1.2s
PMOR Pomariorio Ree 77.76 105 *eP* **P** **01 28 52.4 +3.0**
comp=Z,684nm,1.4s
JMDO Jabal Madar 77.92 293 P **P** **01 28 52.3 +2.0**
SNR=19
VAH Vaihoa 78.03 105 *eP* **P** **01 28 53.9 +3.0**
comp=Z,257nm,1.3s
SBA Scott Base 78.03 173 *eP* **P** **01 28 50.6 +0.9**
comp=Z,206nm,1.3s
SBA LR LR
comp=Z,47µm,20.0s
SBA Scott Base 78.03 173 *eP* **P** **01 28 50.6 +0.9**
SBA pmax pmax
comp=Z,206nm,1.3s
SBA MLR MLR
comp=Z,47µm,20.0s
BIDO Bidbid 78.04 294 P **P** **01 28 50.4 -0.4**
SNR=74
SMDO Samad 78.05 294 P **P** **01 28 54.7 +3.6**
SNR=24
RER Riviere de l'E 78.74 249 *eP* **P** **01 28 58.1 +3.2**
comp=Z,411nm,0.9s
RER LR LR
comp=Z,23µm,21.0s
HOQ Hoqain 78.79 294 P **P** **01 28 56.1 +1.1**
SNR=44
BSY Bisya 78.79 293 P **P** **01 28 59.7 +4.7**
SNR=38
CHGN Chignik 78.99 32 *eP* **P** **01 28 56.1 +0.7**
comp=Z,276nm,1.2s
ARQ Araqi 79.48 294 P **P** **01 29 01.4 +2.6**
SNR=70
SOHO SOHO 79.56 295 *iP* **P** **01 28 58.0 -1.2**
SNR=178
SHAO Shalim 79.78 289 P **P** **01 29 02.2 +1.7**
SNR=7.8
SHAO Shalim 79.78 289 *iP* **P** **01 29 01.2 +0.7**
SNR=17
MDH Madha 79.91 296 *iP* **P** **01 29 01.4 +0.3**
SNR=7.4
UOSS Minazif 79.95 296 *eP* **P** **01 29 00.3 -1.0**
comp=Z,182nm,1.0s
UOSS Minazif 79.95 296 P **P** **01 29 00.5 -0.8**
UOSS Minazif 79.95 296 *iP* **P** **01 29 01.4 +0.1**
SNR=68
BANOM Banah 79.98 297 P **P** **01 29 01.6 +0.1**
SNR=26
BANOM Banah 79.98 297 *iP* **P** **01 29 02.9 +1.4**
SNR=52
HATD Hatta, Dubai 80.00 295 *iP* **P** **01 29 00.7 -0.9**
SNR=82
MSFE Esma-Masafi 80.04 296 *iP* **P** **01 29 02.4 +0.5**
SNR=61
ASHO Ashiyiah 80.05 295 P **P** **01 29 01.6 -0.3**
SNR=40
ASHO Ashiyiah 80.05 295 *iP* **P** **01 29 01.0 -0.9**
SNR=48
SHME Shamm 80.13 297 *iP* **P** **01 29 01.7 -0.6**
SNR=28
GEYT Alibeck 80.18 309 P **P** **01 29 02.3 -0.1**
comp=Z,76nm,1.1s,baz=128,slow=2.4,SNR=57
GEYT S **S** **01 39 03.4 -2.8**
comp=Z,4.5nm,0.9s,baz=68,slow=8.1,SNR=2.1
GEYT LR LR 02 07 07.0
comp=Z,15µm,22.0s,baz=105,slow=38
GYA0B ALIBECK ARRAY 80.18 309 *eP* **P** **01 29 02.4 0.0**
comp=Z,372nm,1.1s
ALNE Al Ain 80.26 295 *iP* **P** **01 29 03.1 +0.1**
SNR=56
NAZ Nazwa, Dubai 80.44 296 P **P** **01 29 03.0 -0.9**
NAZ Nazwa, Dubai 80.44 296 *iP* **P** **01 29 05.0 +1.0**
SNR=47
NAZ *iP* **P** **01 29 06.0 +2.0**
SNR=38
UMQ Umm Al-Quwin 80.50 296 *iP* **P** **01 29 04.1 -0.1**
SNR=17
AJN Ajban 81.01 295 *iP* **P** **01 29 07.4 +0.4**
SNR=35
RBK Rabkut 81.09 288 P **P** **01 29 10.4 +2.8**
SNR=14
AB31 Akbulak array 81.13 320 *iP* **P** **01 29 06.5 -0.6**
AB31 pmax pmax
comp=Z,223nm,1.2s
ABKAR Akbulak array 81.13 320 *eP* **P** **01 29 05.9 -1.3**
MAW Mawson 81.43 202 P **P** **01 29 08.9 +0.6**
comp=Z,105nm,1.1s,baz=24,slow=3.8,SNR=11
MAW S **S** **01 39 14.9 -3.0**
comp=Z,3.3nm,0.7s,baz=149,slow=12,SNR=1.7
MAW LR LR 02 03 10.2
comp=Z,65µm,19.4s,baz=67,slow=34
MAW Mawson 81.43 202 P **P** **01 29 10.0 +1.7**
baz=81,SNR=12
MAW Mawson 81.43 202 *eP* **P** **01 29 08.4 0.0**
MAW S **S** **01 39 14.9 -3.0**
WHFO Wadi Hawf 81.53 288 P **P** **01 29 11.5 +1.5**
SNR=15
OHAK Old Harbor 81.96 32 *eP* **P** **01 29 10.7 -0.6**
comp=Z,700nm,1.5s
SVW2 Sparrevohn 81.97 27 *eP* **P** **01 29 11.2 -0.1**
KDAK Kodiak Island 82.48 31 P **P** **01 29 13.5 -0.5**
comp=Z,222nm,0.9s,baz=37,slow=1.7,SNR=41
KDAK S **S** **01 39 27.9 -1.1**
comp=Z,9.6nm,0.9s,baz=262,slow=7.1,SNR=1.9
KDAK LR LR 02 03 38.9
comp=Z,14µm,20.1s,baz=245,slow=34
KDAK Kodiak Island 82.48 31 *eP* **P** **01 29 14.2 +0.2**
comp=Z,333nm,0.9s
KDAK S **S** **01 39 27.9 -1.1**
KDAK Kodiak Island 82.48 31 *iP* **P** **01 29 14.0 0.0**
SVE Sverdlovsk 82.54 328*ceP* **P** **01 29 15.7 +1.3**
SVE *e* 01 32 23.1
SVE *e*PPP PPP 01 34 12.2
SVE *eS* **S** **01 39 27.6 -2.2**
SVE *e*SS **SS** **01 44 46.1 -5.3**
SVE pmax pmax
comp=Z,277nm,1.7s
SVE MLR MLR
comp=Z,22µm,22.0s
AKTO Aktyubinsk 82.60 321 P **P** **01 29 13.8 -1.0**
comp=Z,14nm,0.8s,baz=94,slow=6.6,SNR=31
AKTO S **S** **01 39 27.0 -3.7**
comp=Z,5.1nm,1.1s,baz=162,slow=20,SNR=2.0
AKTO LR LR 02 07 49.5
comp=Z,20µm,21.1s,baz=103,slow=37
AKTO Aktyubinsk 82.60 321 *iP* **P** **01 29 14.7 -0.2**
AKTO pmax pmax
comp=Z,300nm,1.5s
HOM Homer 83.44 29 *eP* **P** **01 29 19.4 +0.4**
ARU Arti 83.56 327 P **P** **01 29 18.3 -1.4**
comp=Z,30nm,1.0s,baz=130,slow=2.4,SNR=19
ARU Arti 83.56 327 *eP* **P** **01 29 18.3 -1.4**
ARU LR LR
comp=Z,29µm,21.0s
ARU Arti 83.56 327*d* *iP* **P** **01 29 18.4 -1.3**
ARU 01 32 30.6
ARU *e*S **S** **01 39 39.2 -0.9**
ARU SS **SS** **01 44 59.6 -6.9**
ARU SSS SSS 01 48 32.1
ARU pmax pmax
comp=Z,148nm,2.5s
ARU MLR MLR
comp=Z,28µm,22.0s
BRLK Bradley Lake 83.84 29 *eP* **P** **01 29 20.8 -0.3**
PPLA Purkeypile 84.03 26 *eP* **P** **01 29 21.1 -1.0**
CAST Castle Rocks 84.22 26 *eP* **P** **01 29 22.4 -0.5**
IM3 Indian Mountai 84.25 23 *eP* **P** **01 29 21.9 -1.1**
SUA Susitna One 84.32 28 *eP* **P** **01 29 22.3 -1.3**
RC01 Rabbit Creek A 84.70 28 *eP* **P** **01 29 23.9 -1.4**
KTH Kantishna Hill 84.75 26 *eP* **P** **01 29 23.7 -2.0**
BPAW Bear Paw Mtn. 84.86 25 *eP* **P** **01 29 26.0 -0.2**
TRF Thorofare Moun 85.01 26 *eP* **P** **01 29 25.5 -1.5**
PMR Palmer 85.10 28 *eP* **P** **01 29 25.9 -1.5**
PMR Palmer 85.10 28 *eP* **P** **01 29 25.9 -1.5**
MLY Manley 85.20 24 *eP* **P** **01 29 27.2 -0.7**
TAOE Nuku Hiva Isla 85.33 99 *eS* **S** **01 39 56.6 -3.0**

	comp=Z,18μm,29.2s								
TAOE					*e*SS	**SS**	**01 45 26.1**	**-8.6**	
	comp=Z,7μm,25.2s								
TAOE					*e*LQ	LQ	01 52 38.3		
	comp=Z,45μm,33.4s								
TAOE					*e*LR	LR	01 56 12.9		
	comp=Z,34μm,27.0s								
SML	**Sawmill**	**85.52**	**28**	*e*P		**P**	**01 29 28.5**	**-1.0**	
SML	**Sawmill**	**85.52**	**28**	*e*P		**P**	**01 29 28.5**	**-1.0**	
RND	**Reindeer**	**85.62**	**26**	*e*P		**P**	**01 29 28.4**	**-1.7**	
RND	**Reindeer**	**85.62**	**26**	*e*P		**P**	**01 29 28.4**	**-1.7**	
MCK	**McKinley**	**85.66**	**26**	*e*P		**P**	**01 29 29.2**	**-1.0**	
	comp=Z,2μm,1.7s								
MCK	**McKinley**	**85.66**	**26**	*e*P		**P**	**01 29 29.2**	**-1.0**	
MCK					pmax	pmax			
	comp=Z,2μm,1.7s								
COLD	**Coldfoot**	**85.96**	**22**	*e*P		**P**	**01 29 31.8**	**+0.3**	
SCM	**Sheep Creek Mo**	**85.99**	**28**	*e*P		**P**	**01 29 31.2**	**-0.7**	
SCM	**Sheep Creek Mo**	**85.99**	**28**	*e*P		**P**	**01 29 31.2**	**-0.7**	
MID	**Middleton Isla**	**86.03**	**30**	*e*P		**P**	**01 29 29.8**	**-2.2**	
MID	**Middleton Isla**	**86.03**	**30**	*e*P		**P**	**01 29 29.8**	**-2.2**	
WRH	**Wood River Hil**	**86.18**	**25**	*e*P		**P**	**01 29 31.2**	**-1.5**	
DHY	**Denali Highway**	**86.21**	**27**	*e*P		**P**	**01 29 32.3**	**-0.8**	
MDM	**Murphy Dome**	**86.22**	**25**	*e*P		**P**	**01 29 32.6**	**-0.3**	
CCB	**Clear Creek Bu**	**86.34**	**25**	*e*P		**P**	**01 29 31.7**	**-1.7**	
COLA	**College**	**86.36**	**25**	*e*P		**P**	**01 29 34.1**	**+0.6**	
COLA					LR	LR			
	comp=Z,14μm,21.0s								
COLA	**College**	**86.36**	**25**	*e*P		**P**	**01 29 34.1**	**+0.6**	
COLA					MLR	MLR			
	comp=Z,14μm,21.0s								
EYAK	**Cordova Ski Ar**	**86.51**	**29**	*e*P		**P**	**01 29 35.1**	**+0.7**	
TOLK	**Toolik Lake Re**	**86.53**	**21**	P		**P**	**01 29 34.5**	**+0.1**	
	baz=256								
TOLK	**Toolik Lake Re**	**86.53**	**21**	*e*P		**P**	**01 29 35.0**	**+0.6**	
KLU	**Klutina**	**86.59**	**28**	*e*P		**P**	**01 29 34.7**	**-0.2**	
DIV	**Divide**	**86.60**	**29**	*e*P		**P**	**01 29 34.5**	**-0.4**	
HDA	**Harding Lake**	**86.65**	**25**	*e*P		**P**	**01 29 34.8**	**-0.2**	
ABPO	**Ambohimpanom**	**86.71**	**251**	*e*P		**P**	**01 29 36.1**	**-0.3**	
	comp=Z,216nm,1.0s								
ABPO					LR	LR			
	comp=Z,7μm,22.0s								
ABPO	**Ambohimpanom**	**86.71**	**251**	*e*P		**P**	**01 29 36.2**	**-0.3**	
ABPO					pmax	pmax			
	comp=Z,216nm,1.0s								
ABPO					MLR	MLR			
	comp=Z,7μm,22.0s								
ILAR	**Eielson Array**	**86.75**	**25**	P		**P**	**01 29 34.2**	**-1.2**	
	comp=Z,42nm,0.8s,baz=263,slow=4.2,SNR=92								
ILAR					S	**S**	**01 40 03.6**	**-7.8**	
	comp=Z,2.0nm,1.1s,baz=247,slow=4.7,SNR=2.5								
ILAR					PKKP	**PKKPdf**	**01 47 20.9**	**-5.4**	
	comp=Z,1.7nm,1.1s,baz=346,slow=2.9,SNR=5.1								
ILAR					PKPPKP	**P'P'df**	**01 55 32.8**	**-4.1**	
	comp=Z,0.9nm,1.0s,baz=95,slow=1.0,SNR=3.8								
ILAR					LR	LR	02 04 34.6		
	comp=Z,9μm,20.6s,baz=262,slow=33								
ILB	**Eielson Array**	**86.75**	**25**	*e*P		**P**	**01 29 34.5**	**-1.0**	
OPO	**Ambohidratompo**	**86.75**	**252**	LR		LR	02 04 26.0		
	comp=Z,13μm,21.3s,baz=84,slow=33								
RAGM	**Ragged Mountai**	**87.01**	**29**	*e*P		**P**	**01 29 38.9**	**+2.0**	
PAX	**Paxson**	**87.05**	**27**	*e*P		**P**	**01 29 37.1**	**0.0**	
	comp=Z,1μm,1.7s								
PAX	**Paxson**	**87.05**	**27**	*e*P		**P**	**01 29 37.1**	**0.0**	
PAX					pmax	pmax			
	comp=Z,1μm,1.7s								
HARP	**HAARP**	**87.10**	**27**	*e*P		**P**	**01 29 38.2**	**+0.9**	
BMRM	**Bremner River**	**87.13**	**29**	*e*P		**P**	**01 29 37.4**	**-0.1**	
RIDG	**Independ'e Rid**	**87.45**	**26**	*e*P		**P**	**01 29 38.6**	**-0.4**	
FYU	**Fort Yukon**	**87.74**	**23**	*e*P		**P**	**01 29 42.1**	**+1.9**	
DOT	**Dot Lake**	**87.78**	**26**	*e*P		**P**	**01 29 40.2**	**-0.4**	
	comp=Z,412nm,1.1s								
MENT	**Mentasta**	**87.83**	**27**	*e*P		**P**	**01 29 41.0**	**+0.2**	
SCRK	**Sand Creek**	**87.86**	**26**	*e*P		**P**	**01 29 41.2**	**+0.2**	
BALM	**Baldy**	**88.23**	**29**	*e*P		**P**	**01 29 43.3**	**+0.4**	
BALM	**Baldy**	**88.23**	**29**	*e*P		**P**	**01 29 43.3**	**+0.4**	
QSPA	**South Pole Qui**	**88.25**	**180**	P		**P**	**01 29 42.0**	**-0.8**	
	comp=Z,34nm,0.6s,baz=32,slow=4.4,SNR=15								
QSPA					S	**SKSac**	**01 40 04.5**	**-5.4**	
	comp=Z,6.4nm,1.1s,baz=112,slow=16,SNR=2.0								
QSPA					LR	LR	02 09 52.8		
	comp=Z,136μm,18.6s,baz=1.0,slow=36								
AKT	**Akhty**	**88.55**	**311**	⇑ *i* P		**P**	**01 29 45.6**	**+0.8**	
AKT				*e*			01 33 18.6		
AKT				*e*PPP		PPP	01 35 06.7		
AKT				*e*S		**SKSac**	**01 40 11.0**	**-1.8**	
AKT				*e*			01 40 34.6		
AKT				pmax		pmax			
	comp=Z,48nm,0.9s								
MAK	**Makhachkala**	**88.81**	**313**	*e*P		**P**	**01 29 42.1**	**-3.7**	
MAK				*e*			01 33 11.2		
MAK				*e*PPP		PPP	01 35 10.7		
MAK				*e*S		**SKSac**	**01 40 08.9**	**-5.0**	
MAK				*e*SS		**SS**	**01 46 27.5**	**+3.3**	
MAK				pmax		pmax			
	comp=Z,794nm,2.2s								
MAK				pmax		pmax			
	comp=Z,249nm,1.2s								
MAK				smax		smax			
	comp=E,13μm,8.1s								
EGAK	**Eagle**	**89.18**	**25**	*e*P		**P**	**01 29 47.0**	**0.0**	
	comp=E,195nm,1.3s								
EGAK					LR	LR			
	comp=Z,19μm,22.0s								
RAYN	**Ar Rayn**	**89.58**	**293**	*e*P		**P**	**01 29 49.1**	**-0.8**	
	comp=Z,214nm,1.1s								
RAYN					LR	LR			
	comp=Z,22μm,21.0s								
DDFL	**Dedoflistskaro**	**89.76**	**311**	P		P	01 29 55.4	+5.0	
DAWY	**Dawson**	**89.88**	**26**	*e*P		**P**	**01 29 50.9**	**+0.5**	
	comp=Z,220nm,1.1s								
RKT	**Rikitea**	**89.99**	**113**	*e*P		**P**	**01 29 55.6**	**+3.8**	
	comp=Z,235nm,1.2s								
RKT	**Rikitea**	**89.99**	**113**	*e*PP		PP	01 33 26.0	+1.0	
	comp=Z,2μm,28.0s								
RKT				*e*S		**S**	**01 40 40.9**	**-2.9**	
	comp=Z,17μm,31.2s								
RKT				*e*SS		**SS**	**01 46 38.0**	**-4.3**	
	comp=Z,15μm,34.2s								
RKT				*e*LQ		LQ	01 54 36.2		
	comp=Z,37μm,40.8s								
RKT				*e*LR		LR	01 58 20.9		
	comp=Z,32μm,37.8s								
GROC	**Groznyy**	**90.07**	**313**	*e*P		**P**	**01 29 52.2**	**+0.5**	
GROC				*e*			01 33 24.2		
GROC				*e*S		**SKSac**	**01 40 19.3**	**-2.1**	
GROC				*e*PS		**PnS**	**01 41 45.8**	**-6.9**	
GROC				pmax		pmax			
	comp=Z,140nm,1.5s								
SYO	**Syowa Base**	**90.13**	**201**	⇑ *i* P		**P**	**01 29 52.4**	**+1.0**	
SYO	**Syowa Base**	**90.13**	**201**	⇓ *e*PcP		**PcP**	**01 29 55.4**	**+2.8**	
DGRG	**David-gareji**	**90.32**	**311**	P		**P**	**01 29 49.7**	**-3.3**	
DGRG	**David-gareji**	**90.32**	**311**	*e*P		**P**	**01 29 49.7**	**-3.3**	
DAMY	**Dhamar**	**90.35**	**284**	*e*P		**P**	**01 29 53.6**	**-0.4**	
	comp=Z,135nm,1.0s								
HYT	**Haines Junctio**	**90.57**	**29**	*e*P		**P**	**01 29 54.7**	**+0.9**	
BTNK	**Botanikuri**	**90.76**	**311**	P		**P**	**01 29 57.9**	**+2.9**	
GNI	**Garni**	**90.76**	**310**	P		**P**	**01 29 56.7**	**+1.5**	
	comp=Z,111nm,0.9s,baz=249,slow=3.2,SNR=9.1								
GNI					S	**SKSac**	**01 40 24.8**	**-1.1**	
	comp=Z,2.3nm,0.8s,baz=345,slow=19,SNR=1.6								
GNI	**Garni**	**90.76**	**310**	*e*P		**P**	**01 29 56.1**	**+0.9**	
	comp=Z,515nm,1.2s								
GNI					S	**SKSac**	**01 40 24.8**	**-1.1**	
GNI					LR	LR			
	comp=Z,14μm,21.0s								
GNI	**Garni**	**90.76**	**310**	P		**P**	**01 29 58.2**	**+3.0**	
	SNR=24								
GNI	**Garni**	**90.76**	**310**	*i* P		**P**	**01 29 57.3**	**+2.1**	
	SNR=15								
GNI	**Garni**	**90.76**	**310**	*c i* P		**P**	**01 29 57.7**	**+2.5**	
GNI				pmax		pmax			
	comp=Z,94nm,1.6s								
GNI					MLR	MLR			
	comp=Z,55μm,23.0s								
TBLG	**Delisi**	**90.81**	**312**	P		**P**	**01 29 58.1**	**+2.9**	
TBLG	**Delisi**	**90.81**	**312**	*e*P		**P**	**01 29 57.8**	**+2.6**	
TBLG	**Delisi**	**90.81**	**312**	*e*P		**P**	**01 29 57.8**	**+2.6**	
DUS	**Dusheti**	**90.84**	**312**	P		**P**	**01 29 59.4**	**+3.9**	
DUS	**Dusheti**	**90.84**	**312**	*e*P		**P**	**01 29 59.3**	**+3.9**	
ZEI	**Tsey**	**91.45**	**313**	*e*P		**P**	**01 29 54.5**	**-3.9**	
ZEI				pmax		pmax			
	comp=Z,70nm,1.0s								
SKAG	**Skagway**	**91.62**	**31**	*e*P		**P**	**01 30 00.6**	**+2.1**	
	comp=Z,320nm,1.5s								
NCK	**Nalchik**	**91.68**	**313**	⇓ *e*P		**P**	**01 29 57.1**	**-2.2**	
AKH	**Akhalkalaki**	**91.73**	**311**	P		P	01 30 08.0	+8.2	
AKH	**Akhalkalaki**	**91.73**	**311**	*e*P		**P**	**01 30 01.3**	**+1.6**	
AKH	**Akhalkalaki**	**91.73**	**311**	*e*P		**P**	**01 30 01.3**	**+1.6**	
ONI	**Oni**	**91.78**	**312**	P		**P**	**01 30 00.6**	**+0.8**	
ONI	**Oni**	**91.78**	**312**	*e*P		**P**	**01 30 00.5**	**+0.8**	
ATD	**Arta Tunnel**	**91.78**	**281**	P		**P**	**01 30 00.5**	**+0.1**	
	comp=Z,56nm,0.9s,baz=48,slow=2.6,SNR=22								
ATD					LR	LR	02 09 19.3		
	comp=Z,6μm,21.8s,baz=94,slow=34								
WHY	**Whitehorse**	**91.86**	**30**	*e*P		**P**	**01 30 01.1**	**+1.3**	
BESE	**Bessie Mountai**	**91.86**	**32**	*e*P		**P**	**01 30 02.5**	**+2.7**	
GOF	**Gofitskoye**	**92.09**	**315**	⇑ *e*P		**P**	**01 30 01.1**	**0.0**	
GOF				*e*S		**SKSac**	**01 40 34.2**	**+1.3**	
GOF				pmax		pmax			
	comp=Z,85nm,1.3s								
GOF				smax		smax			
	comp=N,131nm,1.7s								
KBZ	**Khabaz**	**92.19**	**314**	P		**P**	**01 30 01.9**	**+0.3**	
	comp=N,6.3nm,0.8s,baz=220,slow=0.8,SNR=9.2								
NEY	**Neytrino**	**92.32**	**313**	⇓ *e*P		**P**	**01 30 04.9**	**+2.5**	
NEY				pmax		pmax			
	comp=Z,5.0nm,0.9s								
KVAR	**Kislovodsk Arr**	**92.34**	**314**	P		**P**	**01 30 02.3**	**-0.1**	
	comp=Z,9.5nm,1.1s,baz=180,slow=2.2,SNR=5.5								
KIV	**Kislovodsk**	**92.35**	**314**	*e*P		**P**	**01 30 05.1**	**+2.7**	
	comp=Z,29nm,1.0s								
KIV					LR	LR			
	comp=Z,21μm,22.0s								
KIV	**Kislovodsk**	**92.35**	**314**	P		**P**	**01 30 07.1**	**+4.7**	
	SNR=15								
KIV	**Kislovodsk**	**92.35**	**314**	*i* P		**P**	**01 30 04.9**	**+2.5**	
	SNR=17								
KIV	**Kislovodsk**	**92.35**	**314**	*e*P		**P**	**01 30 04.6**	**+2.2**	
KIV				*e*			01 33 46.0		
KIV				*e*PPP		PPP	01 35 45.3		
KIV				*e*			01 40 37.1		
KIV				*e*SS		SS	01 47 20.9	+5.4	
KIV				pmax		pmax			
	comp=Z,16nm,1.0s								
KIV				MLR		MLR			
	comp=Z,18μm,20.0s								
INK	**Inuvik**	**92.36**	**22**	P		**P**	**01 30 01.1**	**-0.7**	
	comp=Z,31nm,1.1s,baz=287,slow=3.1,SNR=52								
INK					S	**SKSac**	**01 40 32.6**	**-0.7**	
	comp=Z,0.6nm,0.5s,baz=94,slow=19,SNR=5.1								
INK					PKKP	**PKKPdf**	**01 47 13.8**	**-2.6**	
	comp=Z,5.1nm,0.7s,baz=68,slow=4.3,SNR=12								
INK	**Inuvik**	**92.36**	**22**	*e*P		**P**	**01 30 00.5**	**-1.3**	
	comp=Z,109nm,1.3s								
INK					S	**SKSac**	**01 40 32.6**	**-0.7**	
INK					PKKP	**PKKPdf**	**01 47 13.8**	**-2.6**	
INK	**Inuvik**	**92.36**	**22**	*e*P		**P**	**01 30 00.5**	**-1.3**	
INK					S	**SKSac**	**01 40 32.7**	**-0.7**	
INK							01 47 13.8		
INK				pmax		pmax			
	comp=Z,109nm,1.3s								
VRH	**Novokhopyorsk**	**92.94**	**321**	*e*P		**P**	**01 30 06.5**	**+1.7**	
VRH				*e*			01 33 48.6		
VRH				*e*S		**SKSac**	**01 40 33.0**	**-4.3**	
VRH				pmax		pmax			
	comp=Z,40nm,1.4s								
VRH				smax		smax			
	comp=E,850nm,2.4s								
VRH				MLR		MLR			
	comp=Z,17μm,19.0s								
WRAK	**Wrangell Islan**	**93.25**	**34**	*e*P		**P**	**01 30 06.6**	**+0.5**	
	comp=Z,129nm,1.2s								
WRAK					LR	LR			
	comp=Z,13μm,20.0s								
KLMR	**Klimovskoe**	**93.82**	**331**	*e*P		**P**	**01 30 06.1**	**-2.5**	
KLMR				*e*PP		**PP**	**01 33 50.7**	**-3.4**	
KLMR				*e*S		**SKSac**	**01 40 39.7**	**-2.0**	
KLMR				*e*S		**SKSac**	**01 40 39.7**	**-2.0**	
KLMR				*e*SS		**SS**	**01 47 42.9**	**+7.5**	
KLMR				*e*SS		**SS**	**01 47 42.9**	**+7.5**	
KLMR				LQ		LQ	02 03 44.8		
KLMR				LQ		LQ	02 03 44.8		
KLMR				LR		LR	02 10 40.9		
KLMR				AMP			02 11 48.3		
	comp=Z,3μm,17.7s								
KLMR				AMP			02 11 48.3		
	comp=Z,3μm,17.7s								
KLMR	**Klimovskoe**	**93.82**	**331**	*e*P		**P**	**01 30 06.1**	**-2.5**	
KLMR				*e*			01 33 50.6		
KLMR				*e*S		**SKSac**	**01 40 39.6**	**-2.1**	
KLMR				*e*SS		**SS**	**01 47 42.9**	**+7.5**	
KLMR				MLR		MLR			
	comp=Z,3μm,18.0s								
TMCR	**Tamitsa**	**94.27**	**334**	*e*P		**P**	**01 30 11.9**	**+1.3**	
TMCR				pmax		pmax			
	comp=Z,107nm,1.1s								
DLBC	**Dease Lake**	**94.40**	**32**	*e*P		**P**	**01 30 14.3**	**+2.7**	
	comp=Z,96nm,1.3s								
VORR	**Voronezh**	**94.50**	**322**	*e*P		**P**	**01 30 12.0**	**0.0**	
VORR				pmax		pmax			
	comp=Z,250nm,1.2s								
SOC	**Sochi**	**94.50**	**313**	*e*P		**P**	**01 30 09.1**	**-3.1**	
SOC				*e*PPP		PPP	01 36 00.2		
SOC				*e*S		**SKSac**	**01 40 42.8**	**-3.4**	
SOC				*e*SS		**SS**	**01 47 47.0**	**+0.9**	
SOC				*e*SSS		SSS	01 51 29.1		
SOC				MLR		MLR			
	comp=Z,13μm,21.0s								
VSR	**Storozhevoye**	**94.55**	**321**	*e*P		**P**	**01 30 12.0**	**-0.2**	
VSR				pmax		pmax			
	comp=Z,8.0nm,1.5s								
VSR				smax		smax			
	comp=N,1μm,5.4s								
VSR				MLR		MLR			
	comp=Z,16μm,19.0s								
LPSR	**Galich'ya Gora**	**94.62**	**322**	*e*P		**P**	**01 30 12.7**	**+0.2**	
LPSR				*e*			01 33 59.9		
LPSR				*e*S		**SKSac**	**01 40 46.1**	**-0.3**	
LPSR				pmax		pmax			
	comp=Z,30nm,1.1s								
LPSR				smax		smax			
	comp=E,390nm,2.5s								
LPSR				MLR		MLR			
	comp=Z,13μm,17.0s								
ANKE	**Ethiopia-Afar**	**94.80**	**279**	*e*P		**P**	**01 30 18.5**	**+3.8**	
ANKE				*e*S		S	01 41 12.5	-16	
ANKE	**Ethiopia-Afar**	**94.80**	**279**	*e*P		**P**	**01 30 18.5**	**+3.8**	
ANKE				*e*S		S	01 41 12.5	-16	
MOS	**Moscow**	**95.17**	**326**	*e*P		**P**	**01 30 13.9**	**-1.1**	
MOS				*e*			01 30 24.2		
MOS				*i*			01 34 01.1		
MOS				*e*PPP		PPP	01 36 15.1		
MOS				*i*			01 40 47.6		
MOS				*e*			01 41 16.6		
MOS				*i* PS		**PS**	**01 42 42.4**	**-6.4**	
MOS				pmax		pmax			
	comp=Z,74nm,1.1s								
MOS				pmax		pmax			
	comp=Z,400nm,3.1s								
MOS				MLR		MLR			
	comp=N,7μm,20.0s								
MOS				MLR		MLR			
	comp=E,17μm,20.0s								
MOS				MLR		MLR			
	comp=Z,25μm,20.0s								
LVZ	**Lovozero**	**95.21**	**338**	*e*P		**P**	**01 30 16.3**	**+1.4**	
	comp=Z,50nm,1.1s								
LVZ					LR	LR			
	comp=Z,3μm,19.0s								
LVZ	**Lovozero**	**95.21**	**338**	⇓ *e*P		**P**	**01 30 14.7**	**-0.2**	
LVZ				pmax		pmax			
	comp=Z,81nm,2.3s								
AAE	**Adis Abeba**	**95.75**	**279**	*e*P		**P**	**01 30 18.1**	**-0.8**	
AAE				*i* S		**S**	**01 41 30.7**	**-5.4**

MICGM eLR LR 02 14 20.0
MICGM LRM MLR 02 17 14.0
comp=E,20nm,20.0s
MICGM LRM MLR 02 17 16.0
comp=Z,22nm,18.0s
MNK Minsk 100.89 325 *e*P **Pdif 01 30 51.0 +10**
MNK *e* 01 41 20.0
N02D Trinity Center 100.90 49 P **Pdif 01 30 42.6 +1.4**
baz=277,SNR=14
J04D Umpqua Nationa 101.04 46 P **Pdif 01 30 43.1 +1.1**
baz=278,SNR=8.5
YKA Yellowknife Ar 101.12 26 P **Pdif 01 30 41.0 -0.5**
comp=Z,11nm,1.1s,baz=292,slow=4.5,SNR=48
YKA PP **PP 01 34 51.7 +1.6**
comp=Z,5.9nm,1.1s,baz=288,slow=7.3,SNR=4.8
YKA PKKP **PKKPbc 01 46 50.9 -3.9**
comp=Z,1.2nm,0.6s,baz=113,slow=2.8,SNR=14
YKA PKPPKP **P'P'df 01 55 11.5 +1.5**
comp=Z,0.2nm,0.7s,baz=133,slow=2.2,SNR=3.9
G05D Wamic, OR 101.30 44 P **Pdif 01 30 45.1 +2.3**
baz=279
IDID Didziasalis 101.34 326 *e*P **Pdif 01 30 45.1 +2.4**
IDID IAmb IAmb 01 31 02.6
comp=Z,7.2nm,0.9s
NACGM Naroch 101.42 326 *e*P **Pdif 01 30 44.0 +0.9**
NACGM *e*PP **PP 01 34 52.0 -0.6**
NACGM *e*PPP PPP 01 37 14.0
NACGM *e*SKS 01 41 20.0
NACGM *e*SKKS **SKKSac 01 41 56.0 -1.4**
NACGM *e*S **Sdif 01 42 30.0 +8.2**
NACGM *e*PS **PS 01 43 50.0 -6.4**
NACGM *e*SS **SS 01 49 18.0 -4.6**
NACGM *e*SSS SSS 01 54 06.0
NACGM *e*LQ LQ 02 05 29.0
NACGM eLR LR 02 12 50.0
NACGM LRM MLR 02 19 14.0
comp=Z,40nm,20.0s
NACGM Naroch 101.42 326 *e* **PP 01 34 49.0 -3.6**
I05D Terrebonne, OR 101.42 45 P **Pdif 01 30 45.0 +1.6**
baz=279
M04C Macdoel 101.44 48 P **Pdif 01 30 45.5 +1.8**
baz=278,SNR=8.2
IZAR Zarasai 101.51 327 *e*P **Pdif 01 30 43.6 +0.1**
IZAR IAmb IAmb 01 30 58.5
comp=Z,20nm,1.3s
IIGN Ignalina 101.62 326 *e*P **Pdif 01 30 43.0 -0.9**
IIGN IAmb IAmb 01 30 57.7
comp=Z,8.3nm,1.1s
RES Resolute Bay 101.64 12 Pdiff **Pdif 01 30 43.6 -0.1**
comp=Z,17nm,0.9s,baz=295,slow=4.7,SNR=26
J05D Fort Rock, OR 101.66 46 P **Pdif 01 30 46.8 +2.2**
baz=279,SNR=19
O03D Paynes Creek 101.67 49 P **Pdif 01 30 46.0 +1.4**
baz=278,SNR=10
SNAA Sanae 101.77 193 P **Pdif 01 30 45.4 +0.9**
SNAA Sanae 101.77 193 Pdiff **Pdif 01 30 45.4 +0.9**
comp=Z,6.2nm,1.0s,baz=224,slow=9.2,SNR=7.0
SNAA Sanae 101.77 193 *e*Pdif **Pdif 01 30 45.6 +1.2**
comp=Z,1μm,1.1s
SNAA Sanae 101.77 193 *e*P **Pdif 01 30 45.6 +1.2**
SNAA pmax pmax
comp=Z,1μm,1.1s
KIS Kishinev 101.79 318 *e*P **Pdif 01 30 55.0 +10**
KIS Kishinev 101.79 318 *e*PKP **PP 01 34 49.0 -6.7**
KIS Kishinev 101.79 318 *e*PP **PKiKP 01 35 07.0 -1.1**
KIS *i* SKS 01 41 22.0
KIS LRM MLR 02 22 40.0
comp=Z,18μm,24.0s
SORM Soroca 101.89 319 ⇓*i*P **Pdif 01 30 47.8 +2.5**
SORM Soroca 101.89 319 ⇓P **Pdif 01 30 47.8 +2.5**
ISP Isparta 101.93 308 PFAKE 01 31 00.0 +14
ISP LR LR
comp=Z,9μm,20.0s
TLCR 102.11 316 ⇓*i*P **Pdif 01 30 47.1 +0.7**
TLCR 102.11 316 ⇓P **Pdif 01 30 47.1 +0.7**
HAWA Hanford 102.33 43 *e*Pdif **Pdif 01 30 50.1 +2.8**
comp=Z,38nm,1.5s
HAWA LR LR
comp=Z,20μm,22.0s
SAO San Andreas Ge 102.41 53 *e*Pdif **Pdif 01 30 48.6 +0.7**
comp=Z,37nm,1.4s
SAO San Andreas Ge 102.41 53 *e*P **Pdif 01 30 48.6 +0.7**
SAO pmax pmax
comp=Z,37nm,1.4s
TIRR Tirgusor 102.52 315 ⇑*i*P **Pdif 01 30 49.0 +0.8**
TIRR Tirgusor 102.52 315 *e*Pdif **Pdif 01 30 48.6 +0.4**
comp=Z,19nm,1.2s
TIRR Tirgusor 102.52 315 *e*P **Pdif 01 30 48.6 +0.4**
TIRR pmax pmax
comp=Z,19nm,1.2s
MOD Modoc Plateau 102.56 48 *e*Pdif **Pdif 01 30 50.2 +1.5**
comp=Z,59nm,1.4s
CFR Carcaliu 102.58 316 ⇓*i*P **Pdif 01 30 50.1 +1.6**
CFR Carcaliu 102.58 316 ⇓*i*P **PKiKP 01 35 14.8 +5.2**
CFR Carcaliu 102.58 316 ⇓P **Pdif 01 30 50.1 +1.6**
HARR Harsova 102.81 315 ⇓*i*P **Pdif 01 30 54.0 +4.5**
HARR Harsova 102.81 315 ⇓*i*P PKiKP 01 35 29.0 +19
HARR Harsova 102.81 315 ⇓P **Pdif 01 30 54.0 +4.5**
CMB Columbia Colle 103.07 51 *e*Pdif **Pdif 01 30 52.0 +1.1**
comp=Z,217nm,1.4s
CMB Columbia Colle 103.07 51 *e*P **Pdif 01 30 52.0 +1.1**
CMB pmax pmax
comp=Z,217nm,1.4s
ODBI Odobesti 103.22 317 ⇑*i*P **Pdif 01 30 56.9 +5.6**
VNA2 Neumayer--Watz 103.31 192 P **Pdif 01 30 51.2 0.0**
baz=133,slow=4.0
TESR Tescani 103.35 317 ⇓*i*P **Pdif 01 30 52.2 +0.3**
TESR Tescani 103.35 317 ⇓*i*P PKiKP 01 35 22.6 +12
VRI Vrincioaia 103.42 317 ⇓*i*P **Pdif 01 30 55.3 +3.0**
VRI Vrincioaia 103.42 317 ⇓*i*P **PKiKP 01 35 18.0 +6.8**
VRI Vrincioaia 103.42 317 ⇓P **Pdif 01 30 55.3 +3.0**
PRAR RASCA 103.45 318 ⇑*i*P **Pdif 01 31 05.1 +13**
PRD Provadia 103.46 314 *i*P PP 01 35 17.1 +8.8
PLOR Plostina 103.48 317 ⇑*i*P **Pdif 01 30 53.8 +1.3**
PLOR Plostina 103.48 317 ⇑*i*P **Pdif 01 30 53.8 +1.3**
DAG Danmarks Havn 103.51 354 *i*P **PP 01 35 01.3 -6.3**
VNA3 Neumayer Olymp 103.52 191 P **Pdif 01 30 53.7 +1.5**
NEW Newport 103.56 41 Pdiff **Pdif 01 30 53.5 +0.7**
comp=Z,1.6nm,0.6s,baz=288,slow=5.8,SNR=5.8
NEW PP **PP 01 35 06.4 -2.5**
comp=Z,3.9nm,0.9s,baz=325,slow=5.8,SNR=3.1
NEW Newport 103.56 41 P **Pdif 01 30 54.8 +2.0**
baz=283
NEW Newport 103.56 41 Pdif **Pdif 01 30 53.5 +0.7**
NEW PP **PP 01 35 06.4 -2.5**
NEW LR LR
comp=Z,25μm,22.0s
NEW Newport 103.56 41 P **Pdif 01 30 53.5 +0.7**
NEW 01 35 06.4
NEW MLR MLR
comp=Z,25μm,22.0s
MBAR Mbarara 103.56 269 PFAKE 01 31 10.0 +16
MBAR LR LR
comp=Z,1μm,21.0s
PAHR Pah Rah Range 103.59 50 *e*Pdif **Pdif 01 30 54.5 +1.2**
comp=Z,95nm,1.4s
SUW Suwalki 103.68 325 *e*Pdiff **Pdif 01 30 55.0 +1.9**
SUW *e*PP PKiKP 01 35 20.1 +8.8
SUW *e*SKSac **SKSac 01 41 31.9 +0.4**
SUW *e*SS **SS 01 49 53.2 -0.6**
SUW LMZ LR 02 19 05.5
comp=Z,18μm,23.4s
SUW Suwalki 103.68 325 *e*P **Pdif 01 30 55.0 +1.9**
SUW *e* 01 41 31.9
SUW *e*SS SS 01 49 53.2 -0.6
SUW MLR MLR
comp=Z,18μm,23.4s
WVOR Wild Horse Val 103.69 47 *e*Pdif **Pdif 01 30 54.1 +0.5**
comp=Z,18nm,1.0s
WVOR LR LR
comp=Z,18μm,20.0s
WVOR Wild Horse Val 103.69 47 *e*P **Pdif 01 30 54.1 +0.5**
WVOR pmax pmax
comp=Z,18nm,1.0s
WVOR MLR MLR
comp=Z,18μm,20.0s
ISR Istrita 103.70 316 ⇑*i*P PP 01 35 22.0 +12
SMMC Simmler 103.76 54 P **Pdif 01 30 56.5 +2.5**
baz=278
PKM Mcpherson Peak 103.97 55 P **Pdif 01 30 56.8 +1.6**
baz=278
MLR Muntele Rosu 104.04 317 Pdiff **Pdif 01 30 55.5 +0.3**
comp=Z,2.0nm,1.0s,baz=65,slow=2.4,SNR=8.0
MLR PP **PP 01 35 17.8 +5.1**
comp=Z,5.9nm,1.0s,baz=65,slow=9.2,SNR=4.9
MLR PKKPbc **PKKPdf 01 46 51.7 -3.1**
comp=Z,0.5nm,0.8s,baz=215,slow=6.4,SNR=3.8
MLR Muntele Rosu 104.04 317 ⇓*i*P **Pdif 01 30 58.0 +2.9**
MLR Muntele Rosu 104.04 317 ⇓*i*P **PP 01 35 15.5 +2.8**
BURAR Bucovina Array 104.06 319 ⇑*i*P **Pdif 01 30 56.0 +0.8**
BURAR Bucovina Array 104.06 319 ⇑P **Pdif 01 30 56.0 +0.8**
BMO Blue Mountains 104.17 44 *e*Pdif **Pdif 01 30 57.7 +2.0**
comp=Z,52nm,1.8s
BMO LR LR
comp=Z,23μm,21.0s
BMO Blue Mountains 104.17 44 *e*P **Pdif 01 30 57.7 +2.0**
BMO pmax pmax
comp=Z,52nm,1.8s
BMO MLR MLR
comp=Z,23μm,21.0s
JMB Yambol 104.19 313 P **PP 01 35 20.8 +7.0**
SCZ2 Santa Cruz Isl 104.23 55 P **Pdif 01 30 57.6 +1.5**
baz=278
LVV L'vov 104.30 321 *e*P **Pdif 01 30 58.1 +2.1**
LVV *e* 01 35 22.2
LVV *e* 01 41 36.9
LVV *e*S **Sdif 01 42 45.1 -0.9**
LVV *e* 01 44 22.0
LVV MLR MLR
comp=N,4μm,19.0s
LVV MLR MLR
comp=Z,6μm,19.0s
VES Vestal, Richgr 104.42 54 P **Pdif 01 30 59.2 +2.3**
baz=279
SNCC San Nicolas Is 104.42 56 P **Pdif 01 30 58.3 +1.4**
baz=278
NVAR Mina Array Bea 104.63 51 Pdiff **Pdif 01 30 59.1 +1.1**
comp=Z,9.5nm,0.9s,baz=261,slow=5.2,SNR=43
NVAR PP **PP 01 35 20.3 +2.8**
comp=Z,2.2nm,0.9s,baz=257,slow=8.0,SNR=3.7
VOIR 104.66 317 ⇑*i*P **Pdif 01 31 01.7 +3.8**
VOIR 104.66 317 ⇑P **Pdif 01 31 01.7 +3.8**
ARVC Arvin 104.73 54 P **Pdif 01 30 59.4 +1.1**
baz=279
ARCR ARCALIA 104.76 318 ⇓*i*P **PP 01 35 20.4 +2.6**
HUMR Humele 104.91 316 ⇑*i*P **Pdif 01 31 02.0 +3.1**
ISA Isabella, Lake 104.94 54 P **Pdif 01 31 00.7 +1.3**
baz=279,SNR=7.6
ISA Isabella, Lake 104.94 54 *e*Pdif **Pdif 01 31 00.6 +1.3**
comp=Z,62nm,1.8s
ISA Isabella, Lake 104.94 54 *e*P **Pdif 01 31 00.6 +1.3**
ISA pmax pmax
comp=Z,62nm,1.8s
ARR Arges 104.97 317 ⇓*i*P **Pdif 01 31 03.2 +4.0**
ARR Arges 104.97 317 ⇑*i*P **PP 01 35 26.7 +7.2**
LSZ Lusaka 105.09 254 Pdiff **Pdif 01 31 02.4 +2.0**
comp=Z,3.3nm,0.8s,baz=114,slow=5.3,SNR=3.8
LSZ Lusaka 105.09 254 *e*Pdif **Pdif 01 31 02.1 +1.7**
LSZ *e*PKP **PKiKP 01 35 16.1 +0.9**
LSZ LR LR
comp=Z,21μm,22.0s
BMN Battle Mountai 105.10 49 *e*Pdif **Pdif 01 31 01.6 +1.6**
comp=Z,41nm,1.5s
BMN Battle Mountai 105.10 49 *e*P **Pdif 01 31 01.6 +1.6**
BMN pmax pmax
comp=Z,41nm,1.5s
CWC Cottonwood Cre 105.13 53 P **Pdif 01 31 01.8 +1.6**
baz=279
KWP Kalwaria Pacla 105.17 321 *e*Pdiff **Pdif 01 30 59.1 -0.8**
KWP *e*PP **PP 01 35 24.2 +3.3**
KWP *e*SKSac **SKSac 01 41 40.0 +1.3**
KWP *e*SS **SKKPbc 01 50 24.0 +0.2**
KWP LMZ LR 02 18 28.4
comp=Z,26μm,24.2s
KWP Kalwaria Pacla 105.17 321 *e*P **Pdif 01 30 59.1 -0.8**
KWP *e* 01 35 24.2
KWP *e* 01 41 40.0
KWP *e*SS SS 01 50 24.0 +9.4
KWP MLR MLR
comp=Z,26μm,24.2s
KDZ Kurdzhali 105.20 313 P **PP 01 35 24.7 +3.4**
DECC Green Verdugo 105.26 55 P **Pdif 01 31 03.0 +2.3**
baz=279
CIS Catalina Islan 105.32 56 P **Pdif 01 31 01.4 +0.4**
baz=278
PASC Pasadena Art C 105.40 55 *e*Pdif **Pdif 01 31 03.7 +2.4**
comp=Z,26nm,1.0s
EDW2 Edwards Air Fo 105.45 54 P **Pdif 01 31 03.7 +2.1**
baz=279,SNR=18
MWC Mount Wilson 105.50 55 *e*Pdif **Pdif 01 31 04.2 +2.2**
comp=Z,54nm,1.1s
MWC Mount Wilson 105.50 55 *e*P **Pdif 01 31 04.2 +2.2**
MWC pmax pmax
comp=Z,55nm,1.1s
MFID Camas Ranch 105.51 45 *e*Pdif **Pdif 01 31 02.8 +1.1**
comp=Z,25nm,1.1s
LOT Lotru 105.54 317 ⇑*i*P **Pdif 01 31 04.4 +2.6**
DAC Darwin (Calif) 105.55 53 *e*Pdif **Pdif 01 31 03.8 +1.7**
comp=Z,13nm,1.6s
DAC Darwin (Calif) 105.55 53 *e*P **Pdif 01 31 03.8 +1.7**
DAC pmax pmax
comp=Z,13nm,1.6s
LRMC Laurel Mtn Rad 105.61 54 P **Pdif 01 31 04.7 +2.4**
baz=279,SNR=9.1
GRAC Grapevine Rang 105.61 52 P **Pdif 01 31 04.2 +2.0**
baz=280
MPMC Manual Prospec 105.67 53 P **Pdif 01 31 05.0 +2.4**
baz=280,SNR=13
TRPA Tarpa 105.68 320 ⇓*i*P **Pdif 01 31 08.8 +6.6**
BEL Belsk 105.70 324 *e*Pdiff **Pdif 01 31 14.6 +12**
BEL *e*PP **PP 01 35 29.1 +4.5**
BEL *e*SKSac **SKSac 01 41 42.6 +1.8**
BEL *e*SP **SP 01 44 33.8 -4.0**
BEL *e*SS **SKKPbc 01 50 26.6 +4.2**
BEL *e*SSS SSS 01 54 38.9
BEL LME 02 09 28.1
comp=Z,37μm,31.1s
BEL Belsk 105.70 324 *e*P **Pdif 01 31 14.6 +12**
BEL *e* 01 35 29.1
BEL *e* 01 41 42.6
BEL *e*SP SP 01 44 33.8 -4.1
BEL *e*SS **SKKPbc 01 50 26.6 +4.2**
RZN Rozhen 105.70 313 P **PP 01 35 27.0 +1.7**
UZH Uzhgorod 105.71 320 *e*P **Pdif 01 31 05.7 +3.4**
UZH *i* 01 41 44.1
UZH *e*S **Sdif 01 42 54.1 -3.7**
BFSC Mount Baldy Ra 105.82 55 P **Pdif 01 31 05.3 +2.0**
baz=279
BOSA Boshof 105.85 240 Pdiff **Pdif 01 31 05.2 +1.6**
comp=Z,7.3nm,1.1s,baz=98,slow=7.1,SNR=3.9
BOSA PKKP **PKKPbc 01 46 40.5 +0.7**
comp=Z,5.9nm,1.1s,baz=330,slow=1.5,SNR=4.3
BOSA PKKPab **PKKPab 01 46 58.3 +1.9**
comp=Z,6.3nm,0.8s,baz=259,slow=3.6,SNR=8.9
DRGR 105.92 318 ⇓*i*P **Pdif 01 31 06.5 +3.1**
DRGR 105.92 318 ⇑*i*P **PP 01 35 33.3 +6.8**
DRGR 105.92 318 ⇓P **Pdif 01 31 06.5 +3.1**
PGB Panagyurishte 105.92 314 P **PP 01 35 28.7 +2.0**
MSO Missoula 105.99 42 P **Pdif 01 31 04.3 +0.5**
FURC Furnace Creek, 106.10 53 P **Pdif 01 31 06.8 +2.5**
baz=280,SNR=11
STHS Stebnicka Huta 106.15 321 *e*PDIFF **Pdif 01 31 08.5 +4.2**
STHS Stebnicka Huta 106.15 321 *e*P **Pdif 01 31 08.5 +4.2**
SANT Santorini 106.15 307 ⇓*i*P **PP 01 35 33.9 +5.3**
SANT Santorini 106.15 307 PFAKE 01 35 30.0
SANT LR LR
comp=Z,8μm,22.0s
CRVS Cervenica-Dubn 106.16 321 *e*PDIFF **Pdif 01 31 08.1 +3.8**
CRVS Cervenica-Dubn 106.16 321 *e*P **Pdif 01 31 08.1 +3.8**
CRVS *e* 01 41 41.5
CRVS *e*SS SS 01 50 32.3 +4.2
HFS Hagfors 106.28 333 Pdiff **Pdif 01 31 06.3 +1.7**
comp=Z,3.6nm,0.6s,baz=56,slow=3.6,SNR=13
HFS PKKP **PKKPbc 01 46 37.6 -1.8**
comp=Z,2.0nm,0.7s,baz=163,slow=1.5,SNR=9.4
MURC Murrieta 106.30 56 P **Pdif 01 31 06.9 +1.5**
baz=279
GSC Goldstone, Bar 106.34 54 P **Pdif 01 31 07.9 +2.4**
baz=280,SNR=12
GSC Goldstone, Bar 106.34 54 *e*Pdif **Pdif 01 31 08.0 +2.4**
comp=Z,45nm,1.5s
GSC Goldstone, Bar 106.34 54 *e*P **Pdif 01 31 08.0 +2.4**
GSC pmax pmax
comp=Z,45nm,1.5s
MMB Musomiste 106.45 313 P **PP 01 35 32.6 +2.0**
HLID Hailey 106.48 45 P **Pdif 01 31 07.6 +1.4**
baz=284
HLID Hailey 106.48 45 *e*Pdif **Pdif 01 31 08.5 +2.4**
comp=Z,9.7nm,1.1s
HLID LR LR
comp=Z,21μm,20.0s
109C Camp Elliot, M 106.48 56 P **Pdif 01 31 07.5 +1.4**
baz=279
TPNV Topopah Spring 106.50 52 P **Pdif 01 31 08.5 +2.2**
baz=281,SNR=32
VTS Vitosha 106.60 314 P **PP 01 35 35.2 +3.4**
SHOC Shoshone, Teco 106.66 53 P **Pdif 01 31 08.6 +1.7**
baz=280,SNR=9.0
NIE Niedzica 106.74 321 *e*Pdiff **Pdif 01 31 10.9 +4.0**
NIE *e*PP **PP 01 35 30.3 -2.1**
NIE *e*SKSac **SKSac 01 41 47.1 +1.4**
NIE *e*SP **SP 01 44 45.6 -3.1**
NIE *e*SS **SS 01 50 45.8 +10**
NIE LMN 02 09 50.4
comp=Z,45μm,38.7s
NIE Niedzica 106.74 321 *e*P **Pdif 01 31 10.9 +4.0**
NIE *e* 01 35 30.3
NIE *e* 01 41 47.1
NIE *e*SP SP 01 44 45.6 -3.1
NIE *e*SS **SS 01 50 45.8 +10**
R11A Troy Canyon, C 106.75 50 P **Pdif 01 31 09.4 +1.9**
baz=282
R11A Troy Canyon, C 106.75 50 *e*Pdif **Pdif 01 31 09.0 +1.6**
comp=Z,40nm,1.5s
IDI Anoyia 106.80 306 PKKP **PKKPbc 01 46 40.7 +3.7**
comp=Z,11nm,0.9s,baz=326,slow=7.3,SNR=4.3
OJC Ojcow 106.80 322 *e*Pdiff **Pdif 01 31 10.8 +3.7**
OJC *e*PP **PP 01 35 29.7 -3.0**
OJC *e*SKSac **SKSac 01 41 45.7 -0.2**
OJC *e*SS **SS 01 50 41.4 +4.7**
OJC LME 02 09 40.1
comp=Z,24μm,36.3s
OJC Ojcow 106.80 322 *e*P **Pdif 01 31 10.8 +3.7**
OJC *e* 01 35 29.7
OJC *e* 01 41 45.7
OJC *e*SS SS 01 50 41.4 +4.7
HEC Hector,Ludlow 106.80 54 P **Pdif 01 31 10.3 +2.6**
baz=280
KKB Krupnik 106.86 313 P **PP 01 35 34.9 +1.4**
KULLO Kullorsuaq 106.88 3 *i*P **PP 01 35 31.9 -0.6**
PFO Pinyon Flats O 106.90 55 P **Pdif 01 31 09.7 +1.6**
baz=280,SNR=5.5
PFO Pinyon Flats O 106.90 55 *e*Pdif **Pdif 01 31 09.2 +1.1**
comp=Z,18nm,1.3s
PFO LR LR
comp=Z,28μm,20.0s
PFO Pinyon Flats O 106.90 55 *e*P **Pdif 01 31 09.3 +1.1**
PFO pmax pmax
comp=Z,18nm,1.3s
PFO MLR MLR
comp=Z,28μm,20.0s
NB2 NORSAR Subarra 106.94 335 P **Pdif 01 31 08.6 +1.0**
comp=Z,26nm,1.4s,baz=62,slow=4.6
NB2 NORSAR Subarra 106.94 335 P **Pdif 01 31 08.6 +1.0**
baz=62,slow=4.6
NOA NORSAR Array B 106.94 335 Pdiff **Pdif 01 31 07.6 0.0**
comp=Z,2.0nm,0.7s,baz=63,slow=4.6,SNR=9.6
NOA PKiKP **PKiKP 01 35 19.8 +2.6**
comp=Z,3.5nm,1.0s,baz=67,slow=4.7,SNR=3.1
NOA PKKP **PKKPbc 01 46 36.0 -1.4**
comp=Z,3.3nm,0.8s,baz=76,slow=3.2,SNR=8.3
BZS Buzias 106.96 317 ⇑*i*P **Pdif 01 31 08.9 +1.0**
BZS Buzias 106.96 317 ⇓*i*P PP 01 35 49.2 +15
BZS Buzias 106.96 317 ⇑P **Pdif 01 31 09.0 +1.0**
TUQ Turquoise Moun 107.03 53 P **Pdif 01 31 11.6 +3.0**
baz=280,SNR=6.0
MONP2 Monument Peak 107.05 56 P **Pdif 01 31 10.4 +1.5**
baz=279,SNR=8.9
BELC Belle Mtn. Jos 107.22 55 P **Pdif 01 31 11.3 +1.8**
baz=280,SNR=8.3
MCMT McKenzie Canyo 107.25 43 *e*Pdif **Pdif 01 31 12.0 +2.4**
comp=Z,3.9nm,1.1s
LRM Limekiln Ridge 107.26 42 *e*Pdif **Pdif 01 31 11.6 +2.0**
comp=Z,24nm,1.3s
GKP Gorka Klasztor 107.27 326 *e*Pdiff **Pdif 01 31 15.0 +5.9**
GKP *e*PP **PP 01 35 33.0 -3.0**
GKP *e*SKSac **SKSac 01 41 48.9 +1.2**
GKP *e*SP **SP 01 44 51.6 -2.3**
GKP *e*SS SS 01 50 56.5 +14
GKP LME 02 15 04.4
comp=Z,90μm,20.0s
GKP Gorka Klasztor 107.27 326 *e*P **Pdif 01 31 15.0 +5.9**
GKP *e* 01 35 33.0
GKP *e* 01 41 48.9
GKP *e*SP SP 01 44 51.6 -2.3
GKP *e*SS SS 01 50 56.5 +14
LANS Liptovska Anna 107.34 321 *e*PDIFF **Pdif 01 31 13.7 +4.1**
LANS *e* 01 34 47.5
LANS Liptovska Anna 107.34 321 *e*P **Pdif 01 31 13.7 +4.1**
IKP In-Ko-Pah, Jac 107.35 56 P **Pdif 01 31 12.3 +2.2**
baz=280
GMRC Granite Mounta 107.36 54 P **Pdif 01 31 12.5 +2.4**
baz=280,SNR=11
PSZ Piszkesteto 107.44 320 *e*PKP **PKiKP 01 35 18.9 +0.3**
PSZ LR LR
comp=Z,19μm,20.0s
SWSC Sam W. Stewart 107.56 56 P **Pdif 01 31 12.5 +1.6**
baz=280
BC3 Big Chuckawall 107.72 55 P **Pdif 01 31 13.5 +1.7**
baz=280,SNR=7.8
LDFC Landfair 107.75 54 *e*Pdif **Pdif 01 31 14.0 +2.1**
comp=Z,60nm,1.4s
BOZ Bozeman (W) 107.87 42 P **Pdif 01 31 14.7 +2.5**
baz=287
BOZ Bozeman (W) 107.87 42 *e*Pdif **Pdif 01 31 13.5 +1.3**
comp=Z,9.3nm,1.2s
BOZ LR LR
comp=Z,21μm,22.0s
BOZ Bozeman (W) 107.87 42 *e*P **Pdif 01 31 13.5 +1.3**
BOZ pmax pmax
comp=Z,9.0nm,1.2s
BOZ MLR MLR
comp=Z,21μm,22.0s
IRM Iron Mountain 107.89 55 P **Pdif 01 31 15.3 +2.9**
baz=280,SNR=12
OKC Ostrava-Krasne 107.93 322 *e*SP SP 01 44 59.2 -1.7
OKC *e*SS **SS 01 50 54.1 +2.1**
OKC AMS AMS 02 25 50.0
comp=Z,16μm,19.4s
VYHS Vyhne 107.94 321 *e*PDIFF **Pdif 01 31 15.8 +3.5**
VYHS *e*SS SS 01 50 35.4 -17
VYHS *e*L L 02 24 45.0
VYHS Vyhne 107.94 321 *e*P **Pdif 01 31 15.8 +3.5**
HVU Hansel Valley 108.09 46 *e*Pdif **Pdif 01 31 14.5 +1.2**
comp=Z,18nm,1.1s
HVU Hansel Valley 108.09 46 *e*P **Pdif 01 31 14.5 +1.2**
HVU pmax pmax
comp=Z,18nm,1.1s
BGU Big Grassy Mou 108.11 47 *e*Pdif **Pdif 01 31 13.6 +0.2**
comp=Z,12nm,1.4s
MORC Moravsky Berou 108.32 322 ⇑*i*P **Pdif 01 31 18.1 +4.1**
MORC Moravsky Berou 108.32 322 *e*Pdif **Pdif 01 31 14.3 +0.3**
comp=Z,22nm,1.1s
MORC Moravsky Berou 108.32 322 ⇑P **Pdif 01 31 18.1 +4.1**
EGMT Eagleton 108.37 40 PFAKE 01 35 30.0
EGMT LR LR
comp=Z,17μm,22.0s
DUG Dugway, Tooele 108.44 48 P **Pdif 01 31 16.5 +1.6**
baz=284
DUG Dugway, Tooele 108.44 48 *e*Pdif **Pdif 01 31 16.7 +1.8**
comp=Z,17nm,1.2s
DUG LR LR
comp=Z,17μm,21.0s
DUG Dugway, Tooele 108.44 48 *e*P **Pdif 01 31 16.7 +1.8**
DUG pmax pmax
comp=Z,17nm,1.2s
DUG MLR MLR
comp=Z,17μm,21.0s
Y12C Blythe 108.47 55 P **Pdif 01 31 17.2 +2.3**
baz=281
SRO Sobarova 108.49 320 *e*PP PP 01 35 48.3 +3.1
CCUT Cedar City 108.63 51 *e*Pdif **Pdif 01 31 18.3 +2.4**
comp=Z,34nm,1.3s
PDMCI Parker Dam,Lak 108.68 54 P **Pdif 01 31 17.9 +2.1**
baz=281
KRLC Kraliky 108.68 323 *e*PDIFF **Pdif 01 31 19.6 +4.0**
KRLC *e*PKP **PKiKP 01 35 23.2 +2.4**
KRLC *e*SS SS 01 51 06.8 +4.7
KRLC Kraliky 108.68 323 *i*P **Pdif 01 31 19.6 +4.0**
KRLC *e*SS SS 01 51 06.8 +4.7
KSP Ksiaz 108.69 324 *e*Pdiff **Pdif 01 31 20.1 +4.6**
KSP *e*PP PP 01 35 57.8 +11
KSP *e*SKSac **SKSac 01 41 57.1 +3.1**
KSP *e*SP **SP 01 45 06.0 -2.6**

KSP eSS SS 01 51 18.7 +16
KSP LMN 02 11 49.2
comp=Z,37µm,30.5s
KSP Ksiaz 108.69 324 *e*P **Pdif** **01 31 20.1 +4.6**
KSP *e* 01 41 57.1
KSP eSP SP 01 45 06.0 -2.6
KSP eSS SS 01 51 18.7 +16
YFT Old Faithful 108.74 43 *e*Pdif **Pdif** **01 31 17.7 +1.5**
comp=Z,22nm,1.2s
SUR Sutherland 108.77 235 *e*PKP **PKiKP** **01 35 19.9 -1.8**
SUR LR LR
comp=Z,20µm,19.0s
PHP Peshkopia 108.82 314 *i* P **PP** **01 35 53.1 +5.2**
KBN Korca 108.84 312 *i* P PP 01 35 30.9 -17
DPC Dobruska-Polom 108.86 323 *e*PDIFF **Pdif** **01 31 20.8 +4.5**
DPC *ex* x 01 31 28.4
DPC *e*PKP **PKiKP** **01 35 24.2 +3.1**
DPC *ex* x 01 35 57.9
DPC eSP SP 01 45 07.3 -3.0
DPC eSS **SS** **01 51 11.8 +7.3**
DPC AMS AMS 02 26 20.0
comp=Z,22µm,21.5s
DPC Dobruska-Polom 108.86 323 *i* P **Pdif** **01 31 20.8 +4.5**
DPC eSP SP 01 45 07.3 -3.0
DPC eSS **SS** **01 51 11.8 +7.3**
DPC MLR MLR
comp=Z,22µm,21.5s
BCI Bajram Curri 108.91 314 *i* P PP 01 36 03.1 +15
H17A Grant Village 108.93 43 P **Pdif** **01 31 20.0 +2.9**
baz=287
H17A Grant Village 108.93 43 *e*Pdif **Pdif** **01 31 18.4 +1.3**
comp=Z,21nm,1.5s
MODS Modra-Piesok 108.96 321 *e*PP PP 01 35 58.9 +10
MODS *e* 01 45 07.8
MODS eSS SS 01 51 08.5 +2.5
MODS *e*L L 02 29 51.0
UPC Upice 108.98 324 *e*PP PP 01 35 51.8 +3.1
UPC eSP SP 01 45 07.0 -4.5
UPC eSS **SS** **01 51 11.2 +5.1**
UPC AMS AMS 02 29 30.0
comp=Z,18µm,19.3s
LKWY Lake 109.00 43 PFAKE 01 35 30.0
LKWY LR LR
comp=Z,13µm,21.0s
HWUT Hardware Ranch 109.01 46 *e*Pdif **Pdif** **01 31 18.6 +1.1**
comp=Z,223nm,1.8s
HWUT LR LR
comp=Z,25µm,21.0s
AHID Auburn Hatcher 109.03 45 *e*Pdif **Pdif** **01 31 19.2 +1.7**
AHID LR LR
comp=Z,16µm,20.0s
NLU North Lily Min 109.05 48 *e*Pdif **Pdif** **01 31 19.0 +1.3**
VRAC Vranov 109.06 322 Pdiff **Pdif** **01 31 21.3 +4.0**
comp=Z,3.6nm,0.8s,baz=62,slow=5.7,SNR=4.7
VRAC PKiKP **PKiKP** **01 35 22.2 +0.7**
comp=Z,3.5nm,0.9s,baz=46,slow=7.1,SNR=3.2
VRAC Vranov 109.06 322 ⇑*i* P **Pdif** **01 31 22.4 +5.1**
PUK Puka 109.12 314 *i* P PP 01 36 01.2 +11
TCUT Toone Canyon 109.25 47 *e*PKP **PKiKP** **01 35 22.6 +1.2**
MSU Marysvale 109.32 50 *e*Pdif **Pdif** **01 31 20.5 +1.6**
MSU Marysvale 109.32 50 *e*P **Pdif** **01 31 20.5 +1.6**
TIR Tirane 109.32 313 PFAKE 01 35 30.0
TIR LR LR
comp=Z,20µm,22.0s
TIR Tirane 109.32 313 *i* P PP 01 35 31.9 -20
JLU Jordanelle 109.35 47 *e*Pdif **Pdif** **01 31 20.5 +1.4**
MPU Maple Canyon 109.36 48 *e*Pdif **Pdif** **01 31 20.1 +1.1**
RLMT Red Lodge 109.60 42 P **Pdif** **01 31 19.6 -0.5**
baz=288
RLMT Red Lodge 109.60 42 PFAKE 01 35 30.0
RLMT LR LR
comp=Z,18µm,21.0s
SRN Sarande 109.61 312 *i* P PP 01 35 34.1 -19
TREC Trest 109.74 322 *e*PP PP 01 35 57.7 +3.4
TREC eSP SP 01 45 17.5 -1.9
TREC AMS AMS 02 27 40.0
comp=Z,19µm,20.5s
PVCC Panska Ves 109.83 324 *e*PDIFF **Pdif** **01 31 27.0 +6.4**
PVCC *e*PP **PP** **01 35 55.7 +0.9**
PVCC eSP SP 01 45 17.1 -3.0
PVCC eSS **SS** **01 51 21.9 +4.5**
PVCC AMS AMS 02 25 10.0
comp=Z,15µm,19.7s
PVCC Panska Ves 109.83 324 *i* P **Pdif** **01 31 27.0 +6.4**
PVCC *e* 01 35 55.7
PVCC eSP SP 01 45 17.1 -3.0
PVCC eSS **SS** **01 51 21.9 +4.5**
PVCC MLR MLR
comp=Z,15µm,19.7s
TMUT Trail Mountain 109.86 49 *e*Pdif **Pdif** **01 31 22.5 +1.1**
GOPC GO Pecny, Ondr 109.94 323 *e*PDIFF **Pdif** **01 31 26.5 +5.4**
GOPC *e*PKP **PKiKP** **01 35 25.4 +2.3**
GOPC eSP SP 01 45 18.0 -3.2
GOPC eSS **SS** **01 51 29.7 +11**
GOPC AMS AMS 02 30 10.0
comp=Z,24µm,19.6s
GOPC GO Pecny, Ondr 109.94 323 *i* P **Pdif** **01 31 26.5 +5.4**
GOPC eSP SP 01 45 18.0 -3.2
GOPC eSS **SS** **01 51 29.7 +11**
GOPC MLR MLR
comp=Z,24µm,19.6s
CONA Conrad Observa 110.00 321 *ep*PKiKP **PKiKP** **01 35 26.3 +2.9**
comp=Z,9.6nm,1.0s
PRU Pruhonice 110.05 323 *e*PDIFF **Pdif** **01 31 25.5 +3.9**
PRU *e*PKP **PKiKP** **01 35 25.9 +2.6**
PRU eSP SP 01 45 19.1 -3.2
PRU eSS **SS** **01 51 28.3 +7.8**
PRU AMS AMS 02 27 00.0
comp=Z,20µm,19.4s
PRU Pruhonice 110.05 323 *i* P **Pdif** **01 31 25.5 +3.9**
PRU eSP SP 01 45 19.1 -3.2
PRU eSS **SS** **01 51 28.3 +7.8**
PRU MLR MLR
comp=Z,20µm,19.4s
BRG Berggiesshubel 110.06 324 *e*PDIFF **Pdif** **01 31 25.1 +3.5**
comp=Z,15nm,1.6s
BRG *i* 01 31 33.8
comp=Z,22nm,1.2s
BRG *i* PP **PP** **01 36 02.5 +6.0**
comp=Z,79nm,1.7s
BRG PKS PKSdf 01 38 38.0 -22
BRG SKS **SKSac** **01 41 58.0 -1.7**
BRG SDIFF **Sdif** **01 43 45.0 +11**
BRG PS **PS** **01 45 21.0 -5.1**
BRG SS **SS** **01 51 22.0 +1.5**
comp=N,16µm,18.8s
comp=E,15µm,17.5s
comp=Z,19µm,17.8s
BRG Berggiesshubel 110.06 324 *e*P **Pdif** **01 31 25.1 +3.5**
BRG *i* 01 36 02.5
BRG 01 41 58.0
BRG PS **PS** **01 45 21.0 -5.1**
BRG SS SS 01 51 22.0 +1.5
BRG pmax pmax
comp=Z,15nm,1.6s
BRG MLR MLR
comp=N,16µm,18.8s
BRG MLR MLR
comp=E,15µm,17.5s
BRG MLR MLR
comp=Z,19µm,17.8s
PRA Prague 110.09 323 *e*SP SP 01 45 20.6 -2.0
PRA eSS **SS** **01 51 24.0 +3.1**
PRA AMS AMS 02 27 10.0
comp=Z,17µm,19.4s
BW06 Boulder Array 110.12 45 PFAKE 01 35 40.0
BW06 LR LR
comp=Z,23µm,22.0s
PDAR Pinedale Array 110.12 45 Pdiff **Pdif** **01 31 25.5 +3.1**
comp=Z,0.2nm,0.4s,baz=262,slow=6.1,SNR=4.0
PDAR PKiKP **PKiKP** **01 35 24.0 0.0**
comp=Z,2.4nm,1.0s,baz=180,slow=1.5,SNR=4.5
PDAR PKKP **PKKPbc** **01 46 27.7 +0.7**
comp=Z,1.0nm,0.8s,baz=100,slow=4.0,SNR=3.7
214A Organ Pipe Nat 110.22 57 P **Pdif** **01 31 25.9 +3.1**
baz=281
214A Organ Pipe Nat 110.22 57 *e*Pdif **Pdif** **01 31 24.8 +2.0**
FFC Flin Flon 110.22 31 *e*Pdif **Pdif** **01 31 24.2 +2.0**
FFC LR LR
comp=Z,27µm,21.0s
FFC Flin Flon 110.22 31 *e*P **Pdif** **01 31 24.3 +2.0**
FFC MLR MLR
comp=Z,27µm,21.0s
SRU San Rafael Swe 110.43 49 *e*Pdif **Pdif** **01 31 25.7 +1.9**
SRU San Rafael Swe 110.43 49 *e*P **Pdif** **01 31 25.7 +1.9**
CLL Collm 110.43 325 *e*Pdif **Pdif** **01 31 22.0 -1.2**
CLL *ep*Pdif **pPdif** **01 31 26.0 -5.2**
CLL *e* 01 31 35.0
comp=Z,40nm,1.7s
CLL *e*PKiKP **PKiKP** **01 35 23.0 -1.0**
CLL *e*PP **PP** **01 35 57.0 -2.1**
CLL *i* 01 36 09.3
comp=Z,247nm,2.4s
CLL *e*(PPP) 01 38 36.0
CLL *e*PPPP 01 40 05.0
CLL eSKSac **SKSac** **01 42 06.0 +4.8**
CLL *e*Sdif **Sdif** **01 43 42.0 +4.9**
CLL *e*SP **SP** **01 45 25.0 -0.7**
CLL *e* 01 45 44.0
CLL *e*PPS PPS 01 46 35.0
CLL *i* PKKPdf **PKKPab** **01 46 37.8 +2.4**
comp=Z,21nm,1.6s
CLL *e*PPS PPS 01 46 40.0
CLL *es*PKKPdf 01 46 48.0
CLL *e*SS **SS** **01 51 27.0 +1.6**
CLL *e*SSS SSS 01 55 30.0
CLL *e*SSSS 01 58 42.0
CLL *e* 02 02 18.0
CLL LmH 02 17 00.0
comp=N,54µm,18.7s
CLL LmH 02 17 00.0
comp=E,63µm,20.3s
CLL Lmax 02 23 00.0
CLL LmV 02 23 00.0
comp=Z,30µm,19.8s
CLL Collm 110.43 325 *e*P **Pdif** **01 31 22.0 -1.2**
CLL *e* 01 35 23.0
CLL *e* 01 35 57.0
CLL *i* 01 46 37.8
CLL MLR MLR
comp=Z,30µm,19.8s
ARSA Arzberg 110.46 320 PKiKP **PKiKP** **01 35 25.8 +1.6**
comp=Z,8.5nm,1.3s
WUAZ Wupatki 110.65 53 P **Pdif** **01 31 28.0 +3.2**
baz=283
WUAZ Wupatki 110.65 53 *e*Pdif **Pdif** **01 31 26.7 +1.9**
WUAZ LR LR
comp=Z,25µm,21.0s
KHC Kasperske Hory 110.96 323 *e*PDIFF **Pdif** **01 31 29.7 +4.0**
KHC *ex* x 01 31 38.1
KHC *e*PKP **PKiKP** **01 35 27.5 +2.4**
KHC eSP SP 01 45 28.2 -2.7
KHC eSS **SS** **01 51 38.6 +5.8**
KHC *e*PKPPKP **P'P'df** **01 54 50.0 -2.0**
KHC AMS AMS 02 19 50.0
comp=Z,27µm,24.0s
KHC Kasperske Hory 110.96 323 *i* P **Pdif** **01 31 29.7 +4.0**
KHC *e* 01 35 27.5
KHC eSP SP 01 45 28.2 -2.7
KHC eSS **SS** **01 51 38.6 +5.8**
KHC MLR MLR
comp=Z,27µm,24.0s
SOKA Soboth 110.98 320 *ep*PKiKP **PKiKP** **01 35 29.9 +4.6**
comp=Z,12nm,0.9s
GERES GERESS Array B 111.00 322 Pdiff **Pdif** **01 31 29.9 +3.9**
comp=Z,0.7nm,0.7s,baz=71,slow=6.3,SNR=8.7
GERES PKiKP **PKiKP** **01 35 24.8 -0.5**
comp=Z,2.7nm,0.5s,baz=72,slow=1.5,SNR=19
GERES PP **PP** **01 35 56.2 -7.3**
comp=Z,6.4nm,0.9s,baz=94,slow=1.7,SNR=5.7
GERES PKKP **PKKPbc** **01 46 26.4 +2.3**
comp=Z,0.8nm,0.7s,baz=202,slow=2.1,SNR=3.0
MOA Molln 111.03 321 *ep*PKiKP **PKiKP** **01 35 28.4 +3.1**
comp=Z,14nm,1.1s
LAO LASA Array 111.08 40 *e*PKP **PKiKP** **01 35 26.8 +1.4**
LAO LR LR
comp=Z,15µm,20.0s
NKC Novy Kostel 111.19 324 *e*SP SP 01 45 32.0 -0.8
NKC AMS AMS 02 23 30.0
comp=Z,25µm,24.4s
OBKA Obir 111.35 320 *ep*PKiKP **PKiKP** **01 35 28.6 +2.6**
comp=Z,21nm,1.4s
DGMT Dagmar 111.67 38 P **PKiKP** **01 35 29.4 +2.9**
baz=294
DGMT Dagmar 111.67 38 PFAKE 01 35 40.0
DGMT LR LR
comp=Z,17µm,22.0s
FCC Fort Churchill 111.77 25 *e*PKP **PKiKP** **01 35 27.0 +0.8**
FCC Fort Churchill 111.77 25 *e*PKIKP **PKiKP** **01 35 27.0 +0.8**
TUC Tucson 111.83 56 P **Pdif** **01 31 31.2 +1.2**
baz=282
TUC P **PKiKP** **01 35 29.7 +2.4**
baz=282
TUC Tucson 111.83 56 *e*Pdif **Pdif** **01 31 31.1 +1.1**
TUC *e*PKP **PKiKP** **01 35 28.6 +1.3**
TUC LR LR
comp=Z,28µm,21.0s
TUC Tucson 111.83 56 *e*P **Pdif** **01 31 31.1 +1.1**
TUC *e* 01 35 28.6
TUC MLR MLR
comp=Z,28µm,21.0s
O20A White River Ci 111.84 47 P **Pdif** **01 31 31.7 +1.6**
baz=287
O20A P **PKiKP** **01 35 29.1 +1.8**
baz=287
O20A White River Ci 111.84 47 *e*Pdif **Pdif** **01 31 30.9 +0.8**
O20A *e*PKP **PKiKP** **01 35 28.9 +1.6**
PV04 Paradox Valley 111.84 49 *e*Pdif **Pdif** **01 31 31.6 +1.5**
PV04 *e*PKP **PKiKP** **01 35 27.6 +0.3**
MYKA Terra Mystica 111.89 320 *ep*PKiKP **PKiKP** **01 35 29.5 +2.5**
comp=Z,8.6nm,0.9s
KBA Koelnbreinsper 111.91 321 *ep*PKiKP **PKiKP** **01 35 29.7 +2.5**
comp=Z,6.9nm,0.6s
W18A Petrified Fore 112.04 53 P **Pdif** **01 31 32.0 +1.0**
baz=284
W18A Petrified Fore 112.04 53 *e*Pdif **Pdif** **01 31 31.9 +0.9**
GRFO Grafenberg 112.14 324 *e*PKP **PKiKP** **01 35 29.0 +1.7**
GRFO Grafenberg 112.14 324 *e*PKIKP **PKiKP** **01 35 29.0 +1.7**
PV01 Paradox Valley 112.16 49 *e*Pdif **Pdif** **01 31 33.6 +2.0**
PV01 *e*PKP **PKiKP** **01 35 29.8 +1.8**
TIP Timpagrande 112.21 312 ⇓*i*P **Pdif** **01 31 41.2 +10**
TIP Timpagrande 112.21 312 ⇓*i*P **PKiKP** **01 35 32.6 +4.8**
TIP Timpagrande 112.21 312 *e*PKP **PKiKP** **01 35 28.4 +0.6**
TIP LR LR
comp=Z,17µm,22.0s
K22A Casper 112.28 44 P **Pdif** **01 31 34.4 +2.5**
baz=290
K22A Casper 112.28 44 *e*PKP **PKiKP** **01 35 29.1 +1.1**
PMSA Palmer Station 112.33 172 *e*PKP **PKiKP** **01 35 28.0 +0.8**
PMSA LR LR
comp=Z,31µm,20.0s
RPN Rapa Nui 112.46 120 PFAKE 01 35 40.0
RPN LR LR
comp=Z,8µm,21.0s
MVCO Mesa Verde 112.47 50 P **Pdif** **01 31 36.8 +3.8**
baz=286
MVCO Mesa Verde 112.47 50 *e*Pdif **Pdif** **01 31 34.5 +1.5**
MVCO *e*PKP **PKiKP** **01 35 29.5 +0.9**
MVCO LR LR
comp=Z,25µm,20.0s
ABTA Abfaltersbach 112.56 321 *e*PKiKP **PKiKP** **01 35 28.4 +0.1**
comp=Z,13nm,0.7s
CUC Castrocucco 112.66 313 *e*PKP **PKiKP** **01 35 29.6 +1.0**
CUC LR LR
comp=Z,11µm,20.0s
WTTA Wattenberg 112.90 322 *e*PKiKP **PKiKP** **01 35 29.3 +0.2**
comp=Z,16nm,0.5s
WATA Walderalm 112.91 322 *ep*PKiKP **PKiKP** **01 35 31.8 +2.8**
comp=Z,5.6nm,0.3s
CEL Celeste 113.12 311 PFAKE 01 35 40.0
CEL LR LR
comp=Z,9µm,21.0s
MOTA Moosalm 113.20 322 *e*PKiKP **PKiKP** **01 35 29.4 -0.1**
comp=Z,13nm,0.7s,SNR=13
N23A Red Feather La 113.27 46 P **Pdif** **01 31 40.7 +4.2**
baz=289
RETA Reutte 113.35 322 *i* PKiKP **PKiKP** **01 35 29.4 -0.4**
comp=Z,11nm,1.3s
RSSD Black Hills 113.46 42 P **Pdif** **01 31 40.9 +3.7**
baz=292
RSSD P **PKiKP** **01 35 30.5 +0.2**
baz=292
RSSD Black Hills 113.46 42 *e*PKP **PKiKP** **01 35 29.9 -0.4**
RSSD Black Hills 113.46 42 *e*PKIKP **PKiKP** **01 35 29.9 -0.4**
FETA Feichten 113.57 322 *e*PKiKP **PKiKP** **01 35 32.1 +1.8**
comp=Z,32nm,1.3s
S22A 4UR Ranch, Cre 113.59 49 P **Pdif** **01 31 42.2 +4.1**
baz=287
S22A P **PKiKP** **01 35 32.7 +1.8**
baz=287
AQU L'Aquila 113.61 316 *e*PKP **PKiKP** **01 35 30.0 -0.4**
AQU LR LR
comp=Z,14µm,20.0s
AQU L'Aquila 113.61 316 *e*PKIKP **PKiKP** **01 35 30.0 -0.4**
AQU MLR MLR
comp=Z,14µm,20.0s
ISCO Idaho Springs 113.86 47 P **PKiKP** **01 35 33.3 +2.0**
baz=289
ISCO Idaho Springs 113.86 47 *e*PKP **PKiKP** **01 35 33.0 +1.7**
ISCO LR LR
comp=Z,23µm,21.0s
ISCO Idaho Springs 113.86 47 *e*PKIKP **PKiKP** **01 35 33.0 +1.7**
ISCO MLR MLR
comp=Z,23µm,21.0s
DAVA Damuels 113.98 322 *e*PKiKP **PKiKP** **01 35 31.7 +0.7**
comp=Z,41nm,1.2s,SNR=13
121A Cookes Peak, D 114.25 55 P **Pdif** **01 31 44.0 +3.1**
baz=284
121A Cookes Peak, D 114.25 55 *e*Pdif **Pdif** **01 31 42.9 +2.0**
121A *e*PKP **PKiKP** **01 35 33.5 +1.5**
LAZ Ladron 114.29 53 *e*Pdif **Pdif** **01 31 43.1 +2.0**
LAZ *e*PKP **PKiKP** **01 35 33.6 +1.5**
BFO Black Forest 114.45 324 PFAKE 01 35 40.0 +8.2
BFO LR LR
comp=Z,14µm,20.0s
TSUM Tsumeb 114.55 248 *e*PKP PKPdf 01 35 32.3 -0.6
TSUM LR LR
comp=Z,18µm,21.0s
SDCO Great Sand Dun 114.59 49 P **Pdif** **01 31 45.3 +2.8**
baz=288
SDCO P **PKiKP** **01 35 33.2 +0.5**
baz=288
SDCO Great Sand Dun 114.59 49 *e*Pdif **Pdif** **01 31 44.1 +1.6**
SDCO *e*PKP **PKiKP** **01 35 33.9 +1.2**
SDCO LR LR
comp=Z,29µm,19.0s
BORG Borgarnes 114.66 349 PFAKE 01 35 40.0 +8.4
BORG LR LR
comp=Z,7µm,22.0s
TUE Stuetta 114.66 321 *e*PKP PKPdf 01 35 32.6 +0.1
TUE LR LR
comp=Z,29µm,22.0s
MEM Membach 114.68 327 ||PKP PKPdf 01 35 32.4 +0.3
ANMO Albuquerque 114.68 52 P **Pdif** **01 31 45.9 +3.1**
baz=286
ANMO P **PKiKP** **01 35 34.6 +1.8**
baz=286
ANMO Albuquerque 114.68 52 *e*Pdif **Pdif** **01 31 44.5 +1.7**
ANMO *e*PKP **PKiKP** **01 35 35.4 +2.5**
ANMO LR LR
comp=Z,21µm,20.0s
ANMO Albuquerque 114.68 52 *d*PKIKP PKPdf 01 35 35.1 +2.2
MDND Maddock 114.72 37 *e*PKP PKPdf 01 35 33.5 +1.2
LPM Los Pinos Moun 114.72 53 *e*PKP PKPdf 01 35 33.9 +1.0
SFJD Kangerlussuaq 114.73 2 PKKPab PKKPab 01 46 17.4 +1.4
comp=Z,5.3nm,0.8s,baz=164,slow=8.0,SNR=3.8
SFJD Kangerlussuaq 114.73 2 *i* P PKPdf 01 35 30.2 -1.5
SFJD *e* 01 46 15.5
SFJD Kangerlussuaq 114.73 2 PKKPab PKKPab 01 46 17.4 +1.4
SFJD LR LR
comp=Z,11µm,21.0s
SFJD Kangerlussuaq 114.73 2 *e*PKIKP PKPdf 01 35 30.2 -1.5
BEBN Eben Emael 114.76 327 ⇑PKP PKPdf 01 35 34.9 +2.7
WDD Wied Dalam 114.88 309 PFAKE 01 35 40.0 +7.1
WDD LR LR
comp=Z,7µm,21.0s
VLC Villacollemand 114.96 319 PFAKE 01 35 40.0 +7.1
VLC LR LR
comp=Z,20µm,22.0s
WLF Walferdange 115.07 326 ⇑PKP **PKPdf** **01 35 37.7 +4.8**
WLF Walferdange 115.07 326 PFAKE 01 35 40.0 +7.1
WLF LR LR
comp=Z,22µm,20.0s
BCLA Clavier 115.16 327 ⇑PKP PKPdf 01 35 44.0 +11
ECH Echery 115.19 324 PFAKE 01 35 50.0 +17
ECH LR LR
comp=Z,13µm,20.0s
CLTB Caltabellotta 115.35 311 PFAKE 01 35 50.0 +16
CLTB LR LR
comp=Z,10µm,21.0s
T25A Trinidad 115.61 49 P **Pdif** **01 31 52.7 +5.7**
baz=289
T25A P **PKPdf** **01 35 36.3 +1.7**
baz=289
SNF Seneffe 115.67 327 ⇑PKP **PKPdf** **01 35 36.9 +2.9**
ULM Lac du Bonnet 115.68 33 PKP **PKPdf** **01 35 33.3 -0.7**
comp=Z,6.3nm,0.8s,baz=290,slow=3.9,SNR=8.9
ULM PKKPab **PKKPab** **01 46 10.8 -1.3**
comp=Z,13nm,1.1s,baz=136,slow=3.5,SNR=6.5
DOU Dourbes 115.72 327 ⇑PKP **PKPdf** **01 35 35.3 +1.2**
FRB Frobisher Bay 115.84 11 PKKPbc PKKPbc 01 46 08.2 +0.2
comp=Z,7.2nm,1.1s,baz=153,slow=2.1,SNR=3.7
C31A Landman Farms, 115.86 36 P **PKPdf** **01 35 35.1 +0.7**
baz=299
A32A Rocking H Ranc 116.02 35 P **PKPdf** **01 35 35.1 +0.3**
baz=301
OGNE Ogallala 116.02 45 P **PKPdf** **01 35 36.6 +1.5**
baz=292
OGNE Ogallala 116.02 45 *e*PKPdf **PKPdf** **01 35 36.3 +1.2**
OGNE LR LR
comp=Z,30µm,21.0s
KPL Plockton 116.09 337 *e*P **PKPdf** **01 35 37.3 +2.7**
KPL IAMs_20 IAMs_20 02 25 05.9
comp=Z,26µm,22.0s
D31A Mcclaflin, Tow 116.22 37 P **PKPdf** **01 35 36.2 +1.0**
baz=299
B32A Ashes, Strandq 116.26 35 P **PKPdf** **01 35 36.2 +0.9**
baz=300
E31A Nome 116.35 37 P **PKPdf** **01 35 36.2 +0.8**
baz=298
EKA Eskdalemuir Ar 116.43 334 PKP **PKPdf** **01 35 35.0 -0.3**
comp=Z,1.1nm,0.5s,baz=16,slow=2.9,SNR=13
EKA PKKPbc **PKKPbc** **01 46 04.8 -0.9**
comp=Z,2.6nm,0.8s,baz=245,slow=2.7,SNR=4.7
MNTX Cornudas Mount 116.43 55 P **Pdif** **01 31 53.5 +3.1**
baz=286
MNTX P **PKiKP** **01 35 36.9 +0.8**
baz=286
MNTX Cornudas Mount 116.43 55 *e*Pdif **Pdif** **01 31 52.1 +1.7**
MNTX *e*PKP **PKiKP** **01 35 36.4 +0.3**
MNTX LR LR
comp=Z,15µm,21.0s
ESK Eskdalemuir 116.46 334 *e*PKPdf **PKPdf** **01 35 35.7 +0.3**
ESK LR LR
comp=Z,21µm,21.0s
ESK Eskdalemuir 116.46 334 *e*PKIKP **PKPdf** **01 35 35.7 +0.3**
ESK MLR MLR
comp=Z,21µm,21.0s
A33A Warroad 116.63 34 P **PKPdf** **01 35 36.1 +0.2**
baz=302
AGMN Agassiz Nation 116.70 35 P **PKPdf** **01 35 36.5 +0.4**
baz=301
AGMN Agassiz Nation 116.70 35 *e*PKPdf **PKPdf** **01 35 36.7 +0.7**
AGMN LR LR
comp=Z,33µm,22.0s
KESW Keswick, Cumbr 116.89 334 *e*P **PKPdf** **01 35 38.9 +2.7**
KESW IAMs_20 IAMs_20 02 23 33.0
comp=Z,21µm,18.5s
BNI Bardonecchia 116.97 321 *e*PKPdf **PKPdf** **01 35 37.0 +0.1**
BNI LR LR
comp=Z,37µm,22.0s
BNI Bardonecchia 116.97 321 *e*PKIKP **PKPdf** **01 35 37.0 +0.1**
BNI MLR MLR
comp=Z,37µm,22.0s
C33A Trail 117.02 36 P **PKPdf** **01 35 37.4 +0.7**
baz=301
GDL2 Guadalupe Moun 117.13 54 *e*PKPdf **PKPdf** **01 35 40.1 +2.6**
G32A Webster 117.21 39 P **PKPdf** **01 35 36.7 -0.4**
baz=298
B34A Aery, Baudette 117.29 34 P **PKPdf** **01 35 37.1 -0.1**
baz=302
VSL Villasalto 117.49 314 PFAKE 01 35 50.0 +12
VSL LR LR
comp=Z,8µm,20.0s
E33A Westby DABS, E 117.52 37 P **PKPdf** **01 35 38.1 +0.4**
baz=300
K31A O'Neill 117.58 42 P **PKPdf** **01 35 38.6 +0.6**
baz=296
H32A Carlson Farm, 117.60 39 P **PKPdf** **01 35 38.0 0.0**
baz=298
F33A 5 Mile Ranch, 117.67 38 P **PKPdf** **01 35 38.5 +0.5**
baz=299
D34A Park Rapids 117.70 36 P **PKPdf** **01 35 38.5 +0.5**
baz=301
J32A Parkston 117.85 41 P **PKPdf** **01 35 39.2 +0.8**

baz=297
B35A **Bob, Littlefor** 117.88 34 P PKPdf 01 35 38.2 -0.1
baz=303
MSTX **Muleshoe** 117.88 52 P PKPdf 01 35 40.0 +1.1
baz=288
MSTX **Muleshoe** 117.88 52 *e*PKPdf PKPdf 01 35 38.9 -0.1
G33A **Ortonville** 117.89 38 P PKPdf 01 35 38.9 +0.5
baz=299
H33A **Prehn Over Nor** 117.95 39 P PKPdf 01 35 39.5 +0.9
baz=298
K32A **Verdigre** 118.08 41 P PKPdf 01 35 39.4 +0.5
baz=296
C35A **Jirik Farms, M** 118.09 35 P PKPdf 01 35 38.8 0.0
baz=302
HLM1 **Long Mynd** 118.13 332 *e*P PKPdf 01 35 41.4 +2.7
HLM1 IAMs_20 IAMs_20 02 23 16.1
comp=Z,21µm,25.4s
SSB **Saint Sauveur** 118.19 322 *e*PKPdf PKPdf 01 35 39.0 -0.1
SSB LR LR
comp=Z,10µm,20.0s
SSB **Saint Sauveur** 118.19 322 *e*PKIKP PKPdf 01 35 39.0 -0.1
SSB MLR MLR
comp=Z,10µm,20.0s
I33A **Coleman** 118.21 40 P PKPdf 01 35 39.4 +0.3
baz=298
SWN1 **Swindon** 118.24 331 *e*P PKPdf 01 35 41.0 +2.1
SWN1 IAMs_20 IAMs_20 02 26 11.3
comp=Z,35µm,22.4s
STRD **Stroud** 118.25 331 *e*P PKPdf 01 35 40.9 +1.9
STRD IAMs_20 IAMs_20 02 27 20.0
comp=Z,30µm,24.7s
LLW **Llanuwchllyn** 118.28 333 *e*P PKPdf 01 35 41.4 +2.5
WLF1 **Llynfaes** 118.32 333 *e*P PKPdf 01 35 40.8 +1.8
WLF1 IAMs_20 IAMs_20 02 31 19.2
comp=Z,33µm,18.4s
L32A **Elgin** 118.35 42 P PKPdf 01 35 39.6 +0.1
baz=296
G34A **Benson** 118.36 38 P PKPdf 01 35 40.1 +0.7
baz=300
D35A **Remer** 118.37 35 P PKPdf 01 35 39.7 +0.4
baz=302
AMTX **Amarillo** 118.44 51 *e*PKPdf PKPdf 01 35 40.5 +0.6
E35A **Pequot Lakes** 118.44 36 P PKPdf 01 35 39.6 +0.1
baz=302
J33A **Davis** 118.45 40 P PKPdf 01 35 38.9 -0.7
baz=298
CBKS **Cedar Bluff** 118.47 46 P PKPdf 01 35 40.7 +0.9
baz=293
CBKS **Cedar Bluff** 118.47 46 *e*PKPdf PKPdf 01 35 38.8 -1.0
CBKS LR LR
comp=Z,24µm,19.0s
CBKS **Cedar Bluff** 118.47 46 *e*PKIKP PKPdf 01 35 38.8 -1.0
CBKS MLR MLR
comp=Z,24µm,19.0s
ECSD **EROS Data Cent** 118.48 40 P PKPdf 01 35 39.4 -0.2
baz=298
ECSD **EROS Data Cent** 118.48 40 *e*PKPdf PKPdf 01 35 39.6 -0.1
ECSD LR LR
comp=Z,16µm,20.0s
TXAR **Lajitas Array** 118.49 57 PKP PKPdf 01 35 39.3 -0.9
comp=Z,2.5nm,0.8s,baz=236,slow=1.2,SNR=9.1
TXAR PKKPab **PKKPab** 01 46 02.6 +2.5
comp=Z,2.9nm,0.9s,baz=108,slow=4.1,SNR=3.7
BGNE **Belgrade** 118.51 43 P PKPdf 01 35 38.8 -1.0
baz=296
BGNE **Belgrade** 118.51 43 *e*PKPdf PKPdf 01 35 40.7 +0.9
MCH1 **Michaelchurch** 118.52 332 *e*P PKPdf 01 35 41.7 +2.3
MCH1 IAMs_20 IAMs_20 02 28 12.7
comp=Z,31µm,22.1s
F35A **Swanville** 118.70 37 P PKPdf 01 35 40.5 +0.5
baz=301
C36A **Pine Crest Far** 118.70 34 P PKPdf 01 35 39.7 -0.3
baz=304
D36A **Goodland** 118.83 35 P PKPdf 01 35 40.4 +0.2
baz=303
KEST **Kesra** 118.90 310 PKP PKPdf 01 35 41.1 +0.3
comp=Z,21nm,1.0s,baz=87,slow=0.8,SNR=17
G35A **Watkins** 119.08 37 P PKPdf 01 35 40.8 +0.1
baz=301
C37A **Embarrass** 119.09 34 P PKPdf 01 35 40.2 -0.5
baz=304
M33A **Taylor Creek F** 119.09 42 P PKPdf 01 35 41.2 +0.3
baz=297
J34A **George** 119.11 40 P PKPdf 01 35 41.5 +0.6
baz=298
H35A **Sunnyside Ranc** 119.13 38 P PKPdf 01 35 41.5 +0.7
baz=300
E36A **McGregor** 119.14 36 P PKPdf 01 35 41.4 +0.6
baz=302
D37A **Cotton** 119.27 35 P PKPdf 01 35 40.8 -0.3
baz=304
K34A **Le Mars** 119.31 41 P PKPdf 01 35 41.9 +0.6
baz=298
EYMN **Ely** 119.35 34 P PKPdf 01 35 41.7 +0.5
baz=305
EYMN **Ely** 119.35 34 *e*PKPdf PKPdf 01 35 41.2 0.0
EYMN LR LR
comp=Z,31µm,22.0s
L34A **Svendsen Farm,** 119.45 42 P PKPdf 01 35 42.1 +0.5
baz=298
I35A **Creekview Farm** 119.46 39 P PKPdf 01 35 41.9 +0.4
baz=300
G36A **St. Michael** 119.52 37 P PKPdf 01 35 42.1 +0.6
baz=302
J35A **Milford** 119.55 40 P PKPdf 01 35 42.2 +0.5
baz=299
C38A **Sawbill Land.** 119.60 34 P PKPdf 01 35 42.4 +0.7
baz=305
H36A **Jessenland, He** 119.75 38 P PKPdf 01 35 42.8 +0.8
baz=301
K35A **Storm Lake** 119.85 40 P PKPdf 01 35 42.7 +0.4
baz=299
F37A **Hinrichs Farm,** 119.93 36 P PKPdf 01 35 43.2 +0.8
baz=303
L35A **Bielow Farm, R** 119.94 41 P PKPdf 01 35 43.2 +0.7
baz=298
I36A **Fitzsimmons Fa** 119.98 38 P PKPdf 01 35 43.2 +0.7
baz=301
CMAH **Djebel Manchou** 120.02 312 P PKPdf 01 35 43.9 +1.0
E38A **The Farm, Brul** 120.07 35 P PKPdf 01 35 42.8 +0.2
baz=304
SPMN **Marine on St.** 120.09 37 P PKPdf 01 35 43.4 +0.7
baz=302
SPMN **Marine on St.** 120.09 37 *e*PKPdf PKPdf 01 35 43.1 +0.4
ABSA **Djebel Ababsia** 120.11 312 P PKPdf 01 35 44.3 +1.2
M35A **Neola** 120.14 42 P PKPdf 01 35 43.6 +0.7
baz=298
C39A **Grand Marais** 120.17 33 P PKPdf 01 35 43.4 +0.6
baz=306
F38A **Pierce - Schro** 120.24 36 P PKPdf 01 35 42.9 -0.1
baz=304
I37A **Lemond, Waseca** 120.36 38 P PKPdf 01 35 43.8 +0.5
baz=301
K36A **Gilmore City** 120.39 40 P PKPdf 01 35 43.8 +0.5
baz=300
N35A **Tabor** 120.45 42 P PKPdf 01 35 44.0 +0.4
baz=298
CKFL **Kef-Lekhel** 120.63 312 P PKPdf 01 35 47.2 +3.0
J37A **Redenius Farm,** 120.63 39 P PKPdf 01 35 44.5 +0.7
baz=301
C40A **Isle Royale Na** 120.64 33 P PKPdf 01 35 43.3 -0.4
baz=307
G38A **Ridgeland** 120.69 36 P PKPdf 01 35 43.3 -0.6
baz=303
H38A **Maiden Rock** 120.70 37 P PKPdf 01 35 43.7 -0.2
baz=303
WMOK **Wichita Mounta** 120.72 50 P PKPdf 01 35 45.4 +1.2
baz=292
WMOK **Wichita Mounta** 120.72 50 *e*PKPdf PKPdf 01 35 45.1 +0.9
WMOK LR LR
comp=Z,18µm,20.0s
WMOK **Wichita Mounta** 120.72 50 *e*PKIKP PKPdf 01 35 45.2 +0.9
WMOK MLR MLR
comp=Z,18µm,20.0s
E39A **Mellen** 120.77 35 P PKPdf 01 35 45.1 +1.2
baz=305
ABTX **Abilene, Hawle** 120.80 53 P PKPdf 01 35 45.8 +1.4
baz=290
ABTX **Abilene, Hawle** 120.80 53 *e*PKPdf PKPdf 01 35 45.6 +1.1
F39A **Loretta** 120.82 35 P PKPdf 01 35 44.5 +0.4
baz=304
K37A **Belmond** 120.85 40 P PKPdf 01 35 44.5 +0.2
baz=300
CTEI **Djebel Teioual** 120.99 312 P PKPdf 01 35 48.0 +3.1
I38A **Scanlan Farm,** 121.01 38 P PKPdf 01 35 45.1 +0.6
baz=302
ZAIG **Zacatecas** 121.02 64 *e*PKPdf PKPdf 01 35 47.7 +2.2

E40A **Wakefield** 121.10 34 P PKPdf 01 35 45.6 +1.0
baz=306
DFRA **Djebel Bou Aff** 121.19 312 P PKPdf 01 35 49.5 +4.3
M37A **Trindle Farm,** 121.25 41 P PKPdf 01 35 46.1 +1.1
baz=299
F40A **Park Falls** 121.28 35 P PKPdf 01 35 44.5 -0.5
baz=305
H39A **Augusta** 121.30 37 P PKPdf 01 35 45.8 +0.8
baz=304
J38A **Wedel Dairy, R** 121.30 39 P PKPdf 01 35 45.9 +0.8
baz=302
JCT **Junction City** 121.37 55 P PKPdf 01 35 45.9 +0.3
baz=289
JCT **Junction City** 121.37 55 *e*PKPdf PKPdf 01 35 45.9 +0.3
JCT LR LR
comp=Z,26µm,21.0s
JCT **Junction City** 121.37 55 *e*PKIKP PKPdf 01 35 45.9 +0.3
JCT MLR MLR
comp=Z,26µm,21.0s
D41A **Chassel** 121.48 33 P PKPdf 01 35 46.0 +0.7
baz=307
SCIA **State Center** 121.55 40 PFAKE 01 36 00.0 +14
SCIA LR LR
comp=Z,16µm,21.0s
L38A **Oak Wood Farm,** 121.60 40 P PKPdf 01 35 46.3 +0.6
baz=301
I39A **Houston** 121.60 38 P PKPdf 01 35 45.7 +0.1
baz=303
G40A **Rib Lake** 121.61 36 P PKPdf 01 35 45.9 +0.2
baz=305
E41A **Kenton** 121.61 34 P PKPdf 01 35 46.1 +0.5
baz=307
SET **Setif** 121.68 312 P PKPdf 01 35 50.0 +3.8
COWI **Conover** 121.73 34 *e*PKPdf PKPdf 01 35 46.5 +0.6
COWI LR LR
comp=Z,28µm,21.0s
J39A **Decorah** 121.77 38 P PKPdf 01 35 46.2 +0.2
baz=302
O37A **Wolfen Farm, M** 121.78 42 P PKPdf 01 35 46.6 +0.5
baz=298
M38A **Pleasantville** 121.81 41 P PKPdf 01 35 46.7 +0.6
baz=300
H40A **Chili** 121.86 36 P PKPdf 01 35 46.8 +0.7
baz=304
P37A **Lathrop** 121.92 43 P PKPdf 01 35 46.9 +0.5
baz=298
F41A **Three Lakes** 121.96 35 P PKPdf 01 35 47.2 +0.9
baz=306
K39A **Oelwein** 121.99 39 P PKPdf 01 35 46.1 -0.3
baz=302
I40A **Norwalk** 122.13 37 P PKPdf 01 35 47.9 +1.2
baz=304
Q37A **Longview Farm,** 122.18 44 P PKPdf 01 35 47.8 +0.9
baz=298
E42A **Champion** 122.21 33 P PKPdf 01 35 47.5 +0.7
baz=308
L39A **Vinton** 122.22 39 P PKPdf 01 35 47.4 +0.6
baz=302
G41A **Antigo** 122.23 35 P PKPdf 01 35 47.4 +0.6
baz=306
O38A **Galt** 122.26 42 P PKPdf 01 35 48.4 +1.4
baz=299
H41A **Junction City** 122.30 36 P PKPdf 01 35 47.9 +1.0
baz=305
J40A **Soldiers Grove** 122.33 38 P PKPdf 01 35 47.4 +0.3
baz=303
833A **Chaparral WMA,** 122.37 57 P PKPdf 01 35 48.4 +0.8
baz=288
M39A **Webster** 122.44 40 P PKPdf 01 35 48.5 +1.2
baz=301
K40A **Colesburg** 122.46 39 P PKPdf 01 35 47.6 +0.3
baz=303
P38A **Dawn** 122.46 43 P PKPdf 01 35 46.9 -0.5
baz=299
F42A **Maple Grove Fa** 122.50 34 P PKPdf 01 35 47.8 +0.5
baz=307
TUL1 **Leonard** 122.51 48 P PKPdf 01 35 48.6 +0.9
baz=295
TUL1 **Leonard** 122.51 48 *e*PKPdf PKPdf 01 35 47.6 0.0
N39A **Derby Farms, D** 122.53 41 P PKPdf 01 35 48.3 +0.8
baz=300
G42A **Mountain** 122.64 35 P PKPdf 01 35 48.6 +1.0
baz=306
Q38A **Cooks Store, C** 122.71 43 P PKPdf 01 35 48.5 +0.6
baz=298
L40A **Anamosa** 122.75 39 P PKPdf 01 35 48.4 +0.6
baz=302
E43A **Lone Tree Farm** 122.75 33 P PKPdf 01 35 49.1 +1.4
baz=308
WHTX **Lake Whitney,** 122.75 53 P PKPdf 01 35 49.2 +1.0
baz=291
J41A **Loganville** 122.79 37 P PKPdf 01 35 48.5 +0.6
baz=304
O39A **Kirksville** 122.81 42 P PKPdf 01 35 48.2 +0.1
baz=300
R38A **Fenwick Farm,** 122.88 44 P PKPdf 01 35 48.4 +0.1
baz=298
JFWS **Jewell Farm** 122.89 38 P PKPdf 01 35 48.1 -0.1
baz=304
JFWS **Jewell Farm** 122.89 38 *e*PKPdf PKPdf 01 35 47.0 -1.2
JFWS LR LR
comp=Z,24µm,22.0s
JFWS **Jewell Farm** 122.89 38 *e*PKIKP PKPdf 01 35 47.0 -1.2
JFWS MLR MLR
comp=Z,24µm,22.0s
M40A **Post Highland** 122.90 40 P PKPdf 01 35 48.7 +0.5
baz=302
F43A **Flat Rock, Esc** 122.99 34 P PKPdf 01 35 49.2 +1.0
baz=308
H42A **Shiocton** 123.01 35 P PKPdf 01 35 48.2 -0.1
baz=306
K41A **Shullsburg** 123.03 38 P PKPdf 01 35 48.6 +0.2
baz=303
G43A **Wallace** 123.05 34 P PKPdf 01 35 49.6 +1.2
baz=307
P39B **Salisbury** 123.05 43 P PKPdf 01 35 49.2 +0.7
baz=299
Q39A **Willow Grove F** 123.11 43 P PKPdf 01 35 49.0 +0.3
baz=299
T38A **Diamond** 123.12 46 P PKPdf 01 35 49.2 +0.4
baz=297
N40A **Mertquake, Sal** 123.13 41 P PKPdf 01 35 49.4 +0.8
baz=301
S38A **Stockton** 123.13 45 P PKPdf 01 35 49.1 +0.3
baz=297
I42A **Draeger Farm,** 123.15 36 P PKPdf 01 35 48.8 +0.2
baz=305
L41A **Preston** 123.19 39 P PKPdf 01 35 48.3 -0.4
baz=303
O40A **La Belle** 123.33 41 P PKPdf 01 35 49.9 +0.9
baz=300
J42A **Columbus** 123.35 37 P PKPdf 01 35 49.6 +0.6
baz=305
R39A **Chumby, Stover** 123.42 44 P PKPdf 01 35 49.4 +0.1
baz=298
H43A **Windswept, Lux** 123.47 35 P PKPdf 01 35 49.8 +0.6
baz=307
EMHD **Djebel Mahouad** 123.48 313 P PKPdf 01 35 52.8 +3.2
P40A **Paris** 123.51 42 P PKPdf 01 35 50.1 +0.7
baz=300
S39A **Bolivar** 123.51 45 P PKPdf 01 35 49.2 -0.3
baz=298
M41A **Milan** 123.54 40 P PKPdf 01 35 49.6 +0.2
baz=302
N41A **Harden Midland** 123.69 40 P PKPdf 01 35 50.1 +0.4
baz=302
L42A **Oliver, Polo** 123.75 39 P PKPdf 01 35 50.7 +0.9
baz=304
Q40A **Laux Farm, Aux** 123.75 43 P PKPdf 01 35 49.7 -0.2
baz=300
T39A **Clever** 123.78 45 P PKPdf 01 35 50.0 0.0
baz=297
KVTX **Kingsville** 123.87 58 PFAKE 01 36 00.0 +10
KVTX LR LR
comp=Z,11µm,19.0s
R40A **Maddies Statio** 123.96 44 P PKPdf 01 35 50.0 -0.3
baz=299
O41A **Passleys Farm,** 123.98 41 P PKPdf 01 35 50.1 -0.2
baz=301
F45A **OMU Biological** 123.99 33 P PKPdf 01 35 50.5 +0.3
baz=310
U39A **Green Forest** 124.00 46 P PKPdf 01 35 50.2 -0.2
baz=297
P41A **Barry, Barry** 124.09 42 P PKPdf 01 35 51.0 +0.5
baz=301
V39A **Pettigrew** 124.12 47 P PKPdf 01 35 50.6 -0.2
baz=296
S40A **Lebanon** 124.13 44 P PKPdf 01 35 49.9 -0.8

baz=298
N42A **Yates City** 124.16 40 P PKPdf 01 35 50.9 +0.3
baz=303
SCHQ **Schefferville** 124.28 15 PKP PKPdf 01 35 49.8 -0.6
comp=Z,5.4nm,0.6s,baz=355,slow=3.9,SNR=6.2
W39A **Magazine** 124.30 48 P PKPdf 01 35 51.2 +0.1
baz=296
T40A **Mansfield** 124.33 45 P PKPdf 01 35 50.7 -0.4
baz=298
F46A **Macinaw City C** 124.34 32 P PKPdf 01 35 51.3 +0.5
baz=310
Q41A **Truxton** 124.34 42 P PKPdf 01 35 50.9 -0.1
baz=300
X39A **Fountain Ranch** 124.35 48 P PKPdf 01 35 52.4 +1.2
baz=295
U40A **Yellville** 124.46 46 P PKPdf 01 35 51.0 -0.4
baz=297
R41A **Rosebud** 124.57 43 P PKPdf 01 35 51.2 -0.3
baz=300
P42A **Winchester** 124.61 41 P PKPdf 01 35 51.8 +0.3
baz=302
S41A **Jillco Farms,** 124.66 44 P PKPdf 01 35 52.5 +0.8
baz=299
V40A **Witts Springs** 124.73 46 P PKPdf 01 35 51.4 -0.5
baz=297
MIAR **Mount Ida** 124.73 48 P PKPdf 01 35 52.8 +0.9
baz=296
MIAR **Mount Ida** 124.73 48 *e*PKPdf PKPdf 01 35 52.4 +0.5
MIAR LR LR
comp=Z,24µm,20.0s
MIAR **Mount Ida** 124.73 48 *e*PKIKP PKPdf 01 35 52.4 +0.5
MIAR MLR MLR
comp=Z,24µm,20.0s
HDIL **Hopedale** 124.78 40 *e*PKPdf PKPdf 01 35 52.1 +0.3
HDIL LR LR
comp=Z,14µm,19.0s
HKT **Hockley** 124.78 54 *e*PKPdf PKPdf 01 35 54.2 +2.2
HKT **Hockley** 124.78 54 *e*PKIKP PKPdf 01 35 54.2 +2.2
CCM **Cathedral Cave** 124.78 43 P PKPdf 01 35 52.2 +0.3
baz=300
CCM **Cathedral Cave** 124.78 43 *e*PKPdf PKPdf 01 35 51.5 -0.4
CCM **Cathedral Cave** 124.78 43 *e*PKIKP PKPdf 01 35 51.5 -0.4
W40A **Ferguson Farm,** 124.83 47 P PKPdf 01 35 52.8 +0.7
baz=297
Q42A **Golden Eagle** 124.83 42 P PKPdf 01 35 52.1 +0.1
baz=301
O43A **Sugar Creek Fa** 124.91 40 P PKPdf 01 35 53.4 +1.3
baz=303
T41A **Mountain View** 124.91 45 P PKPdf 01 35 52.3 +0.1
baz=299
R42A **Luebbering** 124.98 43 P PKPdf 01 35 52.6 +0.3
baz=300
GLMI **Grayling** 125.02 33 *e*PKPdf PKPdf 01 35 52.6 +0.4
GLMI LR LR
comp=Z,16µm,20.0s
P43A **Skaggs, Pawnee** 125.12 41 P PKPdf 01 35 52.8 +0.3
baz=302
U41A **Viola** 125.13 45 P PKPdf 01 35 52.9 +0.2
baz=298
Y40A **Okolona** 125.18 49 P PKPdf 01 35 53.5 +0.7
baz=296
V41A **Mountainview** 125.22 46 P PKPdf 01 35 52.2 -0.6
baz=298
S42A **Caledonia** 125.23 43 P PKPdf 01 35 53.7 +0.9
baz=300
X40A **Basin Creek Fa** 125.31 48 P PKPdf 01 35 55.0 +2.0
baz=296
Q43A **New Douglas** 125.38 42 P PKPdf 01 35 53.2 +0.2
baz=302
T42A **Van Buren** 125.39 44 P PKPdf 01 35 53.0 -0.1
baz=299
W41B **Gary Mavity, V** 125.44 47 P PKPdf 01 35 53.8 +0.6
baz=297
UALR **University of** 125.55 47 *e*PKPdf PKPdf 01 35 53.8 +0.4
R43A **Red Bud** 125.56 42 P PKPdf 01 35 54.2 +0.8
baz=301
U42A **Revenden** 125.61 45 P PKPdf 01 35 54.2 +0.7
baz=299
Y41A **Eaglette Beard** 125.74 48 P PKPdf 01 35 54.8 +1.0
baz=296
V42A **Cord** 125.76 46 P PKPdf 01 35 54.7 +0.9
baz=298
EFI **East Falkland** 125.80 171 PFAKE 01 36 10.0 +17
EFI LR LR
comp=Z,30µm,21.0s
P44A **Sand Creek, Wi** 125.80 41 P PKPdf 01 35 53.8 0.0
baz=303
S43A **Fulton Ridge,** 125.83 43 P PKPdf 01 35 54.7 +0.7
baz=301
Q44A **Meyer Farm, Va** 125.85 41 P PKPdf 01 35 54.3 +0.4
baz=302
Z41A **Richland Creek** 125.87 49 P PKPdf 01 35 55.6 +1.4
baz=296
T43A **Greenville** 125.92 44 P PKPdf 01 35 54.6 +0.5
baz=300
141A **Papa Simpson,** 126.06 50 P PKPdf 01 35 56.6 +2.1
baz=295
TAM **Tamanrasset** 126.11 297 *e*PKPdf PKPdf 01 35 55.1 0.0
TAM LR LR
comp=Z,8µm,21.0s
TAM **Tamanrasset** 126.11 297 *e*PKIKP PKPdf 01 35 55.1 0.0
TAM MLR MLR
comp=Z,8µm,21.0s
M46A **Old House Fiel** 126.13 37 P PKPdf 01 35 55.9 +1.5
baz=306
X42A **Stuttgart** 126.17 47 P PKPdf 01 35 56.0 +1.3
baz=297
SFIN **Lafayette** 126.27 39 *e*PKPdf PKPdf 01 35 54.5 -0.2
S44A **Carbondale** 126.32 43 P PKPdf 01 35 56.0 +1.2
baz=301
SIUC **Southern Illin** 126.34 43 *e*PKPdf PKPdf 01 35 56.2 +1.4
P45A **Graceland, Par** 126.34 40 P PKPdf 01 35 55.7 +0.9
baz=304
Y42A **Garnett, Star** 126.38 48 P PKPdf 01 35 56.4 +1.3
baz=297
V43A **Jonesboro** 126.38 45 P PKPdf 01 35 55.2 +0.2
baz=299
341A **Kurthwood** 126.38 52 P PKPdf 01 35 56.7 +1.5
baz=294
T44A **Benton** 126.40 44 P PKPdf 01 35 55.6 +0.6
baz=301
Q45A **Warren Harvey,** 126.42 41 P PKPdf 01 35 55.2 +0.2
baz=303
ESDC **Sonseca Array** 126.48 320 PKP PKPdf 01 35 55.4 +0.2
comp=Z,2.3nm,0.6s,baz=14,slow=2.8,SNR=16
ESDC PP PP 01 37 58.8 +8.3
comp=Z,2.8nm,0.8s,baz=35,slow=5.9,SNR=3.2
Z42A **Norrel Spur, H** 126.50 49 P PKPdf 01 35 56.2 +0.9
baz=296
OLIL **Olney** 126.54 41 *e*PKPdf PKPdf 01 35 55.7 +0.5
P46A **Rosedale** 126.63 40 P PKPdf 01 35 56.2 +0.8
baz=304
R45A **Skylar, Fairfi** 126.66 42 P PKPdf 01 35 56.1 +0.6
baz=303
GNAR **Gosnell** 126.66 45 *e*PKPdf PKPdf 01 35 57.2 +1.6
S45A **Carrier Mills** 126.79 42 P PKPdf 01 35 56.9 +1.1
baz=302
PAB **San Pablo** 126.80 320 *e*PKPdf PKPdf 01 35 55.4 -0.5
PAB LR LR
comp=Z,15µm,21.0s
PAB **San Pablo** 126.80 320 *e*PKIKP PKPdf 01 35 55.4 -0.5
PAB MLR MLR
comp=Z,15µm,21.0s
PBRG **Braganca** 126.93 324 *e*PKPdf PKPdf 01 35 59.0 +3.0
143A **Socs Landing,** 127.17 49 P PKPdf 01 35 57.4 +0.8
baz=296
AAM **Ann Arbor** 127.17 35 *e*PKPdf PKPdf 01 35 57.0 +0.7
AAM LR LR
comp=Z,19µm,20.0s
AAM **Ann Arbor** 127.17 35 *e*PKIKP PKPdf 01 35 57.0 +0.7
AAM MLR MLR
comp=Z,19µm,20.0s
R46A **Gibon Southern** 127.21 41 P PKPdf 01 35 57.5 +0.9
baz=303
USIN **University of** 127.25 42 *e*PKPdf PKPdf 01 35 56.9 +0.3
X44A **Crenshaw** 127.28 47 P PKPdf 01 35 58.1 +1.4
baz=299
P47A **Martinsville** 127.30 39 P PKPdf 01 35 57.7 +1.0
baz=305
BLO **Bloomington** 127.32 40 *e*PKPdf PKPdf 01 35 57.3 +0.6
BLO **Bloomington** 127.32 40 *e*PKIKP PKPdf 01 35 57.3 +0.6
S46A **Don Dixon Farm** 127.36 42 P PKPdf 01 35 57.6 +0.8
baz=303
MVO **Moncorvo** 127.49 324 *e*PKPdf PKPdf 01 35 57.9 +0.8
MVO **Moncorvo** 127.49 324 *e*LQ LQ 02 09 28.1
MVO *e*LR LR 02 17 45.5
comp=Z,14µm,18.0s

Q47A	Bedord North L	127.52	40	P	PKPdf	01 35 58.1	+1.0
	baz=305						
V45A	Humboldt	127.52	45	P	PKPdf	01 35 57.8	+0.5
	baz=300						
T46A	Princeton	127.59	43	P	PKPdf	01 35 58.1	+0.8
	baz=302						
Z44A	Pea Ridge, Bel	127.64	48	P	PKPdf	01 35 58.9	+1.4
	baz=298						
W45A	Hickory Valley	127.65	45	P	PKPdf	01 35 57.9	+0.4
	baz=300						
PGAV	Gavieira, Arco	127.71	325	ePKPdf	PKPdf	01 36 01.3	+3.8
PGAV	Gavieira, Arco	127.71	325	eLQ	LQ	02 09 28.1	
PGAV				eLR	LR	02 17 10.5	
	comp=Z,17µm,20.0s						
U46A	Springville	127.75	44	P	PKPdf	01 35 57.6	-0.1
	baz=302						
OXF	Oxford	127.81	46	P	PKPdf	01 35 58.4	+0.6
	baz=299						
OXF	Oxford	127.81	46	ePKPdf	PKPdf	01 35 58.1	+0.3
OXF	Oxford	127.81	46	ePKIKP	PKPdf	01 35 58.1	+0.3
R47A	Wooly Knot Far	127.81	41	P	PKPdf	01 35 57.8	+0.2
	baz=304						
POLO	Lamas de Olo	127.81	324	ePKPdf	PKPdf	01 35 58.9	+1.2
PVRL	Vila Real	127.83	324	ePKPdf	PKPdf	01 35 58.6	+0.9
X45A	UM Field Stati	127.86	46	P	PKPdf	01 35 59.0	+1.1
	baz=299						
SADO	Sadowa	127.92	30	ePKPdf	PKPdf	01 35 57.1	-0.6
244A	Avery, Jackson	128.00	50	P	PKPdf	01 35 59.2	+1.0
	baz=296						
WCI	Wyandotte Cave	128.00	41	P	PKPdf	01 35 58.1	0.0
	baz=305						
WCI	Wyandotte Cave	128.00	41	ePKPdf	PKPdf	01 35 57.6	-0.5
WCI	Wyandotte Cave	128.00	41	ePKIKP	PKPdf	01 35 57.6	-0.5
Y45A	Yeager Farm, C	128.02	47	P	PKPdf	01 35 59.3	+1.1
	baz=299						
V46A	Holladay	128.08	44	P	PKPdf	01 35 58.2	-0.1
	baz=301						
WVT	Waverly	128.11	44	P	PKPdf	01 35 58.9	+0.6
	baz=302						
Z45A	Winona	128.14	48	P	PKPdf	01 36 00.1	+1.6
	baz=298						
T47A	Sharon Grove	128.15	42	P	PKPdf	01 35 58.7	+0.3
	baz=303						
R48A	Northridge Ran	128.18	40	P	PKPdf	01 35 59.3	+0.9
	baz=305						
344A	Westbrook Farm	128.22	50	P	PKPdf	01 36 00.2	+1.5
	baz=296						
W46A	Michie	128.24	45	P	PKPdf	01 35 59.2	+0.6
	baz=301						
MTE	Manteigas	128.27	323	ePKPdf	PKPdf	01 35 59.7	+1.1
MTE	Manteigas	128.27	323	eLQ	LQ	02 13 48.8	
MTE				eLR	LR	02 18 09.2	
	comp=Z,15µm,18.0s						
MTE	Manteigas	128.27	323	ePKPdf	PKPdf	01 35 59.9	+1.3
MTE				LR	LR		
	comp=Z,17µm,20.0s						
PVIS	Viseu	128.28	324	ePKPdf	PKPdf	01 36 00.1	+1.5
PVIS				iP	PKSab	01 39 18.5	+0.6
U47A	Clarksville	128.32	43	P	PKPdf	01 35 59.9	+1.2
	baz=302						
145A	Houston Renfro	128.32	49	P	PKPdf	01 36 00.7	+1.9
	baz=298						
X46A	Booneville	128.38	46	P	PKPdf	01 36 00.0	+1.1
	baz=300						
PTO	Porto	128.43	324	ePKPdf	PKPdf	01 36 02.0	+3.2
S48A	Wiedeman Farm,	128.48	41	P	PKPdf	01 35 59.0	+0.1
	baz=304						
V47A	Nunnelly	128.48	44	P	PKPdf	01 35 59.0	-0.1
	baz=302						
Y46A	Houston	128.51	47	P	PKPdf	01 35 59.8	+0.7
	baz=299						
T48A	Bowling Green	128.56	42	P	PKPdf	01 36 00.3	+1.1
	baz=304						
PCBR	Castelo Branco	128.58	322	ePKPdf	PKPdf	01 35 58.9	-0.2
W47A	Westpoint	128.73	44	P	PKPdf	01 36 00.0	+0.5
	baz=301						
PMRV	Marv??o	128.77	322	ePKPdf	PKPdf	01 36 00.3	+0.8
PMRV				iP	PKSab	01 39 20.3	+0.2
PMRV	Marv??o	128.77	322	eLQ	LQ	02 10 01.6	
PMRV				eLR	LR	02 19 15.1	
	comp=Z,16µm,20.0s						
Z46A	Louisville	128.78	47	P	PKPdf	01 36 01.4	+1.7
	baz=299						
U48A	Cassie Pea, Po	128.79	43	P	PKPdf	01 36 00.9	+1.3
	baz=303						
345A	Thompson Farm,	128.83	50	P	PKPdf	01 36 01.0	+1.2
	baz=296						
ACSO	Alum Creek Sta	128.87	37	P	PKPdf	01 36 00.5	+0.8
	baz=309						
ACSO	Alum Creek Sta	128.87	37	ePKPdf	PKPdf	01 35 59.9	+0.2
ACSO				LR	LR		
	comp=Z,18µm,22.0s						
X47A	Russelville	128.92	45	P	PKPdf	01 36 00.2	+0.3
	baz=301						
V48A	Smith Brothers	129.01	44	P	PKPdf	01 36 00.4	+0.3
	baz=302						
PCAS	Casmilo, Conde	129.06	323	ePKPdf	PKPdf	01 36 03.5	+3.5
346A	Big Creek Wild	129.22	50	P	PKPdf	01 36 02.7	+2.1
	baz=297						
Y47A	UCPARC, Winfie	129.23	46	P	PKPdf	01 36 00.2	-0.3
	baz=300						
PESTR	Estremoz	129.24	322	ePKPdf	PKPdf	01 36 02.7	+2.3
W48A	Pulaski	129.25	44	P	PKPdf	01 36 00.7	+0.1
	baz=302						
PTOM	Tomar	129.28	323	ePKPdf	PKPdf	01 35 59.4	-1.1
PTOM				iP	SKPbc	01 39 24.2	+3.6
CMIG	Matias Romero	129.28	69	PKP	PKPdf	01 36 01.3	+0.3
	comp=Z,18nm,1.1s,baz=345,slow=3.0,SNR=2.5						
PBAR	Barrancos	129.30	321	ePKPdf	PKPdf	01 36 02.0	+1.5
PBAR				iP	SKPbc	01 39 23.1	+2.4
PMTG	Montargil	129.51	322	ePKPdf	PKPdf	01 36 02.3	+1.4
PMTG				iP	SKPbc	01 39 21.7	+0.3
X48A	Hartselle	129.53	45	P	PKPdf	01 36 01.7	+0.6
	baz=301						
247A	Quitman	129.56	49	P	PKPdf	01 36 03.4	+2.2
	baz=298						
446A	Poplarville	129.57	50	P	PKPdf	01 36 03.4	+2.2
	baz=297						
ALMR	Almeirim	129.67	322	ePP	PP	01 38 11.3	+0.1
ALMR				AMS	AMS	02 26 19.1	
	comp=E,24µm,22.6s						
ALMR	Almeirim	129.67	322	ePKPdf	PKPdf	01 36 04.8	+3.6
EVO	Evora	129.70	321	ePKPdf	PKPdf	01 36 03.3	+2.0
EVO				iP	SKPbc	01 39 23.7	+1.6
Z48A	Northport	129.71	47	P	PKPdf	01 36 02.0	+0.5
	baz=300						
Y48A	Jasper	129.72	46	P	PKPdf	01 36 02.5	+1.0
	baz=301						
SWET	Sewanee	129.90	44	ePKPdf	PKPdf	01 36 01.3	-0.5
PBEJ	Beja	129.92	321	ePKPdf	PKPdf	01 36 04.4	+2.7
PBEJ				iP	SKPbc	01 39 24.7	+1.8
347A	Saraland	129.92	49	P	PKPdf	01 36 02.8	+0.9
	baz=298						
M54A	Oil Creek Stat	129.93	33	P	PKPdf	01 36 02.3	+0.7
	baz=313						
X49A	Woodville	130.00	45	P	PKPdf	01 36 03.2	+1.2
	baz=302						
N54A	Moraine State	130.12	34	P	PKPdf	01 36 03.9	+1.8
	baz=313						
PVAQ	Vaqueiros	130.19	320	ePKPdf	PKPdf	01 36 05.6	+3.3
PVAQ				iP	SKPbc	01 39 25.7	+1.8
PVAQ	Vaqueiros	130.19	320	eLR	LR	02 16 42.8	
	comp=E,10µm,20.0s						
248A	Dixon Mills	130.20	48	P	PKPdf	01 36 03.2	+0.8
	baz=299						
LONY	Lake Ozonia	130.20	27	P	PKPdf	01 36 03.6	+1.5
	baz=321						
LONY	Lake Ozonia	130.20	27	ePKPdf	PKPdf	01 36 01.3	-0.8
LONY				LR	LR		
	comp=Z,11µm,20.0s						
PMAFR	Mafra	130.22	323	ePKPdf	PKPdf	01 36 01.9	-0.4
PCVE	Castro Verde	130.26	321	ePKPdf	PKPdf	01 36 03.2	+0.8
PCVE				iP	SKPbc	01 39 25.8	+1.7
PNCL	Nicolau / Gran	130.28	321	ePKPdf	PKPdf	01 36 04.5	+2.1
PNCL				iP	SKPbc	01 39 25.9	+1.8
LRAL	Lakeview Retre	130.28	47	P	PKPdf	01 36 03.9	+1.3
	baz=300						
LRAL	Lakeview Retre	130.28	47	ePKPdf	PKPdf	01 36 02.9	+0.4
Y49A	Blount Mountai	130.28	45	P	PKPdf	01 36 03.9	+1.3
	baz=302						
LIS	Lisbon	130.29	322	ePP	PP	01 38 15.4	+0.1
LIS				AMS	AMS	02 26 35.4	
	comp=E,28µm,23.3s						
PMST	Lisbon--Monsan	130.30	322	iP	SKPbc	01 39 26.6	+2.4
PBDV	Barranco-do-Ve	130.43	320	ePKPdf	PKPdf	01 36 06.0	+3.3
PBDV				iP	SKPbc	01 39 27.1	+2.3
FRNY	Flat Rock	130.47	26	ePKPdf	PKPdf	01 36 01.8	-0.8
Z49A	Columbiana	130.54	46	P	PKPdf	01 36 04.1	+1.1
	baz=301						
149A	Jones	130.65	47	P	PKPdf	01 36 04.7	+1.5
	baz=300						
249A	Camden	130.71	48	P	PKPdf	01 36 05.2	+1.9
	baz=299						
CPCT	Cooper Cave	130.74	43	ePKPdf	PKPdf	01 36 03.7	+0.4
Y50A	Piedmont	130.75	45	P	PKPdf	01 36 04.9	+1.5
	baz=302						
PTEO	Sao Teotonio	130.75	321	ePKPdf	PKPdf	01 36 05.5	+2.2
PTEO				iP	SKPbc	01 39 28.0	+2.1
TZTN	Tazewell	130.76	41	P	PKPdf	01 36 05.1	+1.7
	baz=306						
TZTN	Tazewell	130.76	41	ePKPdf	PKPdf	01 36 02.9	-0.5
MORF	Marmelete	130.85	321	ePKPdf	PKPdf	01 36 03.3	-0.3
MORF				ePP	PP	01 38 19.1	+0.1
MORF				AMS	AMS	02 29 41.8	
	comp=N,34µm,19.4s						
MORF	Marmelete	130.85	321	ePKPdf	PKPdf	01 36 05.4	+1.8
MORF				iP	SKPbc	01 39 27.3	+1.0
Z50A	Ashland	130.94	46	P	PKPdf	01 36 05.0	+1.1
	baz=302						
349A	Repton	130.96	49	P	PKPdf	01 36 05.2	+1.3
	baz=299						
PFVI	Vila Bisbo	131.06	321	ePKPdf	PKPdf	01 36 08.3	+4.4
MCWV	Mont Chateau	131.08	35	P	PKPdf	01 36 05.5	+1.7
	baz=312						
TKL	Tuckaleechee C	131.12	42	PKP	PKPdf	01 36 04.7	+0.6
	comp=N,23nm,0.9s,baz=171,slow=3.8,SNR=16						
BRAL	Brewton	131.16	49	ePKPdf	PKPdf	01 36 03.3	-0.9
BRAL				eSKPbc	SKPab	01 39 29.9	+2.0
BRAL				LR	LR		
	comp=Z,16µm,21.0s						
250A	Grady	131.34	47	P	PKPdf	01 36 06.1	+1.5
	baz=300						
BINY	Binghamton	131.37	30	P	PKPdf	01 36 05.8	+1.4
	baz=318						
BINY	Binghamton	131.37	30	ePKPdf	PKPdf	01 36 05.0	+0.7
BINY				eSKPbc	SKPab	01 39 29.2	+0.8
BINY				LR	LR		
	comp=Z,22µm,21.0s						
O56A	Blue Knob Stat	131.39	34	P	PKPdf	01 36 06.3	+1.7
	baz=314						
SSPA	Standing Stone	131.50	33	P	PKPdf	01 36 06.5	+1.9
	baz=315						
SSPA	Standing Stone	131.50	33	ePKPdf	PKPdf	01 36 04.6	0.0
ACCN	Adirondack Com	131.58	27	ePKPdf	PKPdf	01 36 05.6	+0.9
ACCN				eSKPbc	SKPab	01 39 30.0	+0.7
LBNH	Lisbon	131.67	25	P	PKPdf	01 36 06.8	+2.0
	baz=324						
151A	Opelika	131.75	46	P	PKPdf	01 36 07.6	+2.2
	baz=302						
TORD	Torodi Ar. Bea	131.76	286	PKP	PKPdf	01 36 06.4	+0.6
	comp=Z,19nm,0.8s,baz=55,slow=1.9,SNR=30						
TORD				PP	PP	01 38 30.5	+4.3
	comp=Z,19nm,1.0s,baz=77,slow=3.3,SNR=5.3						
TORD				SKPbc	SKPbc	01 39 29.6	-0.6
	comp=Z,47nm,1.0s,baz=80,slow=3.5,SNR=9.1						
PKME	Peaks-Kenny Pk	131.88	22	P	PKPdf	01 36 07.6	+2.5
	baz=328						
PKME	Peaks-Kenny Pk	131.88	22	ePKPdf	PKPdf	01 36 05.7	+0.5
PKME				eSKPbc	SKPab	01 39 30.6	+0.1
PKME				LR	LR		
	comp=Z,18µm,20.0s						
251A	Midway	131.91	47	P	PKPdf	01 36 07.6	+2.0
	baz=301						
CCIG	Comitan	132.03	70	ePKPdf	PKPdf	01 36 06.9	+0.4
PLCA	Paso Flores	132.07	154	PKP	PKPdf	01 36 06.4	+0.5
	comp=Z,19nm,0.7s,baz=245,slow=1.9,SNR=29						
351A	Pinckard	132.18	48	P	PKPdf	01 36 08.6	+2.4
	baz=300						
BLA	Blacksburg	132.33	38	P	PKPdf	01 36 08.3	+1.9
	baz=310						
BLA	Blacksburg	132.33	38	ePKPdf	PKPdf	01 36 05.6	-0.8
BLA				LR	LR		
	comp=Z,17µm,22.0s						
BLA	Blacksburg	132.33	38	ePKIKP	PKPdf	01 36 05.6	-0.8
BLA				MLR	MLR		
	comp=Z,17µm,22.0s						
451A	Vernon	132.40	49	P	PKPdf	01 36 09.5	+2.9
	baz=300						
N59A	State Game Lan	132.42	31	P	PKPdf	01 36 08.0	+1.6
	baz=318						
252A	Lumpkin	132.45	47	P	PKPdf	01 36 09.1	+2.4
	baz=302						
352A	Blakely	132.58	47	P	PKPdf	01 36 09.3	+2.4
	baz=301						
VWCC	Virginia Weste	132.58	38	ePKPdf	PKPdf	01 36 08.0	+1.2
GOGA	Godfrey	132.60	44	P	PKPdf	01 36 09.7	+2.8
	baz=304						
GOGA	Godfrey	132.60	44	ePKPpre	PKPpre	01 35 58.3	
GOGA				ePKPdf	PKiKP	01 36 07.9	-0.2
GOGA				LR	LR		
	comp=Z,21µm,20.0s						
452A	Marianna	132.71	48	P	PKPdf	01 36 10.3	+3.1
	baz=300						
153A	Fort Valley	132.75	45	P	PKPdf	01 36 09.7	+2.4
	baz=303						
SDMD	Soldier's Deli	132.94	33	ePKPdf	PKPdf	01 36 09.4	+2.0
552A	Lynn Haven	132.98	49	P	PKPdf	01 36 10.5	+2.8
	baz=300						
KMSC	Kings Mountain	133.03	41	P	PKPdf	01 36 10.2	+2.5
	baz=307						
KMSC	Kings Mountain	133.03	41	ePKPdf	PKPdf	01 36 09.2	+1.5
353A	Camilla	133.17	47	P	PKPdf	01 36 10.7	+2.7
	baz=302						
BRNJ	Basking Ridge	133.21	30	ePKPdf	PKPdf	01 36 07.4	-0.4
HRV	Adam Dziewonsk	133.22	26	P	PKPdf	01 36 10.5	+2.7
	baz=323						
HRV	Adam Dziewonsk	133.22	26	ePKPdf	PKPdf	01 36 09.4	+1.6
HRV				eSKPbc	SKPbc	01 39 34.6	+0.1
HRV	Adam Dziewonsk	133.22	26	ePKIKP	PKPdf	01 36 09.4	+1.6
154A	Montrose	133.29	45	P	PKPdf	01 36 10.7	+2.5
	baz=304						
PAL	Palisades	133.29	29	P	PKPdf	01 36 10.5	+2.6
	baz=320						
PAL	Palisades	133.29	29	ePKPdf	PKPdf	01 36 08.0	0.0
PAL	Palisades	133.29	29	ePKIKP	PKPdf	01 36 08.0	0.0
453A	Whigham	133.35	48	P	PKPdf	01 36 10.9	+2.5
	baz=301						
CPNY	Central Park	133.43	30	ePKPdf	PKPdf	01 36 09.0	+0.7
CPNY				eSKPbc	SKPab	01 39 37.7	+0.4
CBN	Corbin Frederi	133.48	35	P	PKPdf	01 36 11.1	+2.7
	baz=314						
CBN	Corbin Frederi	133.48	35	ePKPdf	PKPdf	01 36 10.3	+1.9
CBN				LR	LR		
	comp=Z,18µm,19.0s						
254A	Abbeville	133.52	46	P	PKPdf	01 36 11.1	+2.4
	baz=303						
TIGA	Tifton	133.58	46	P	PKPdf	01 36 11.8	+3.0
	baz=302						
TIGA	Tifton	133.58	46	ePKPdf	PKPdf	01 36 10.5	+1.7
553A	Crawfordville	133.60	48	P	PKPdf	01 36 11.3	+2.5
	baz=300						
155A	Kite	133.73	44	P	PKPdf	01 36 11.8	+2.8
	baz=304						
APG	El Apazote	133.88	71	PKP	PKPdf	01 36 11.2	+1.2
	comp=Z,15nm,0.9s,baz=298,slow=6.0,SNR=16						
454A	Quitman	133.93	47	P	PKPdf	01 36 12.6	+3.2
	baz=302						
NHSC	New Hope	135.02	42	ePKPdf	PKPdf	01 36 11.3	-0.1
NHSC				LR	LR		
	comp=Z,18µm,20.0s						
CNNC	Cliffs of the	135.17	38	ePKPdf	PKPdf	01 36 12.0	+0.3
CNNC				LR	LR		
	comp=Z,22µm,20.0s						
SHEL	Horse Pasture	136.83	244	PFAKE		01 36 30.0	+15
SHEL				LR	LR		
	comp=Z,7µm,21.0s						
KOWA	Kowa	136.94	289	PKhKP	PKPpre	01 36 05.7	
	comp=Z,5.6nm,0.9s,baz=80,slow=4.8,SNR=8.6						
KOWA				PKP	PKPdf	01 36 16.0	+0.5
	comp=Z,12nm,0.9s,baz=77,slow=2.0,SNR=10						
KOWA				SKPbc	SKPbc	01 39 47.8	+0.7
	comp=Z,42nm,1.0s,baz=87,slow=5.4,SNR=7.1						
TRQA	Tornquist	137.67	161	ePKPdf	PKPdf	01 36 16.4	0.0
TRQA				LR	LR		
	comp=Z,26µm,19.0s						
KIC	Kosan Boka	138.92	278	ePKIKP	PKPpre	01 36 10.5	
	comp=Z,414nm,1.9s						
PMAR	Madeira	138.97	322	ePKPdf	PKPdf	01 36 18.1	-1.0
DBIC	Dimbokro	139.00	278	PKhKP	PKPpre	01 36 11.2	
	comp=Z,7.8nm,0.7s,baz=87,slow=3.1,SNR=16						
DBIC				PKP	PKPdf	01 36 19.5	+0.1
	comp=Z,23nm,0.8s,baz=79,slow=3.8,SNR=13						
DBIC				SKPbc	SKPbc	01 39 53.1	+0.1
	comp=Z,15nm,1.1s,baz=28,slow=7.6,SNR=5.8						
TIC	Toumodi	139.17	278	ePKIKP	PKPpre	01 36 11.2	
LIC	Lamto	139.21	278	ePKIKP	PKPpre	01 36 10.6	
	comp=Z,277nm,1.7s						
BART	Pico Bartolome	139.44	335	ePKPdf	PKPdf	01 36 19.7	+0.1
PGRA	Graciosa	139.48	339	ePKPdf	PKPdf	01 36 19.9	+0.3
CMLA	Cha da Macela	139.60	335	ePKPdf	PKPdf	01 36 19.7	-0.1
CMLA	Cha da Macela	139.60	335	PFAKE		01 36 30.0	+10
CMLA				LR	LR		
	comp=Z,9µm,22.0s						
PSET	Sete Cidades	139.64	335	ePKPdf	PKPdf	01 36 20.7	+0.8
ROSA	Rosais	139.84	339	ePKPdf	PKPdf	01 36 20.3	+0.1
PSMN	Pico do Norte,	140.05	334	ePKPdf	PKPdf	01 36 21.2	+0.5
JTS	JuntasAbangare	140.06	76	PKhKP	PKPpre	01 36 16.6	
	comp=Z,23nm,0.9s,baz=267,slow=6.5,SNR=7.7						
JTS				PKP	PKPdf	01 36 22.1	+0.8
	comp=Z,23nm,0.9s,baz=257,slow=4.5,SNR=8.6						
JTS	JuntasAbangare	140.06	76	ePKPpre	PKPpre	01 36 15.6	
JTS				ePKPdf	PKPdf	01 36 21.7	+0.4
JTS				LR	LR		
	comp=Z,19µm,20.0s						
PICO	Pico	140.10	339	ePKPdf	PKPdf	01 36 21.5	+0.7
PCAN	Candelaria	140.16	339	ePKPdf	PKPdf	01 36 21.4	+0.6
LCO	Las Campanas	141.19	144	ePKPpre	PKPpre	01 36 17.8	
LCO				LR	LR		
	comp=Z,17µm,20.0s						
MAPC	Malpelo	144.05	86	eP	PKPdf	01 36 27.4	-1.0
BBSR	BB Station	144.62	28	ePKPdf	PKPdf	01 36 29.1	+0.2
BBSR				LR	LR		
	comp=Z,9µm,21.0s						
MCJ	Malvern	144.68	61	iP	PKPdf	01 36 30.1	+0.6
MTDJ	Mount Denham	144.69	60	ePKPdf	PKPdf	01 36 29.2	-0.3
MTDJ				LR	LR		
	comp=Z,12µm,22.0s						
BBJ	Bamboo Saint A	144.86	60	iP	PKPdf	01 36 30.7	+0.9
PCJ	Portland Cotta	145.22	61	iP	PKPab	01 36 30.0	0.0
BCIP	Isla Barro Col	145.22	76	ePKPbc	PKPbc	01 36 29.7	-0.4
BCIP				LR	LR		
	comp=Z,23µm,22.0s						
BCIP	Isla Barro Col	145.22	76	eP	PKPbc	01 36 30.0	0.0
STH	Stony Hill	145.38	60	i PA	PKPbc	01 36 33.4	+2.9
GWJ	Greenwich	145.45	60	iP	PKPab	01 36 31.8	+0.7
HOJ	Hope	145.46	60	iP	PKPab	01 36 33.3	+2.3
GTBY	Guantanamo Bay	146.00	56	ePKPbc	PKPab	01 36 33.9	+1.1
GTBY				LR	LR		
	comp=Z,10µm,21.0s						
NNA	Nana	146.19	115	ePKPbc	PKPab	01 36 33.7	-0.1
NNA	Nana	146.19	115	ePKP2	PKPab	01 36 33.7	-0.1
ATAH	Atahualpa	146.19	105	PKPbc	PKPab	01 36 34.6	+0.2
	comp=Z,186nm,1.0s,baz=274,slow=2.6,SNR=34						
OTAV	Otavalo	147.20	92	ePKPbc	PKPab	01 36 38.6	+0.2
OTAV				LR	LR		
	comp=Z,15µm,19.0s						
OTAV	Otavalo	147.20	92	eP	PKPbc	01 36 37.3	+0.7
H10S2	ASCENSION HYDR	147.31	251	PKPbc	PKPab	01 36 38.5	+0.7
	baz=35,slow=4.3,SNR=4.3						
H10S1	ASCENSION HYDR	147.32	251	PKPbc	PKPab	01 36 39.4	+1.5
	baz=35,slow=4.3,SNR=6.5						
H10S3	ASCENSION HYDR	147.33	251	PKPbc	PKPab	01 36 39.1	+1.2
	baz=35,slow=4.3,SNR=7.9						
ASCN	Ascension	147.34	253	ePKPbc	PKPbc	01 36 35.8	-0.6
ASCN				LR	LR		
	comp=Z,13nm,21.0s						
H10N1	ASCENSION HYDR	147.47	253	PKPbc	PKPab	01 36 38.6	+0.1
	baz=93,slow=4.9,SNR=22						
H10N2	ASCENSION HYDR	147.49	253	PKPbc	PKPab	01 36 38.2	-0.3
	baz=93,slow=4.9,SNR=11						
H10N3	ASCENSION HYDR	147.50	253	PKPbc	PKPab	01 36 39.4	+0.9
	baz=93,slow=4.9,SNR=12						
GRGC	Isla de Gorgon	147.51	87	eP	PKPbc	01 36 37.3	+0.4
CAPC	Capurgana	147.73	77	eP	PKPab	01 36 39.3	-0.5
CMBC	Cumbal	147.85	91	eP	PKPbc	01 36 39.3	+0.9
MALC	Bahia Malaga	148.30	85	eP	PKPbc	01 36 39.3	+0.3
GRTK	Grand Turk	148.34	50	ePKPdf	PKPdf	01 36 35.6	+0.1
GRTK				ePKPbc	PKiKP	01 36 40.3	-0.2
GRTK				LR	LR		
	comp=Z,12µm,21.0s						
GCUF	Volcan Galeras	148.34	90	eP	PKPab	01 36 42.0	-0.9
BBTS	Babate	148.47	296	PKPbc	PKPbc	01 36 39.1	-0.2
	comp=Z,67nm,0.7s,baz=92,slow=2.2,SNR=18						
CRUC	La Cruz	148.74	90	eP	PKPab	01 36 43.3	-1.1
SOTA	Rioblanco	149.08	89	eP	PKPbc	01 36 43.3	+1.6
YOTC	Yotoco, Valle	149.29	85	eP	PKPdf	01 36 39.3	+1.9
PCON	Cinco Dias	149.29	88	eP	PKPab	01 36 46.0	-0.9
MOTC	Monteria, Cord	149.34	76	eP	PKPbc	01 36 40.7	-1.0
SDDR	Presa de Saban	149.59	54	ePKPbc	PKPbc	01 36 40.3	-1.9
SDDR				LR	LR		
	comp=Z,12µm,20.0s						
HELC	Santa Helena	149.90	81	eP	PKPbc	01 36 46.0	+2.5
CPUP	Villa Florida	149.95	159	PKP	PKPdf	01 36 37.8	-0.2
	comp=Z,17nm,1.0s,baz=235,slow=1.1,SNR=18						
CPUP				PKPbc	PKPbc	01 36 42.8	0.0
	comp=Z,72nm,0.9s,baz=202,slow=1.4,SNR=28						
FLOC	Florencia	150.04	90	eP	PKPbc	01 36 44.0	+0.5
ANIL	Santa Ana	150.19	84	eP	PKPbc	01 36 42.0	-2.2
RREF	El Recreo	150.21	83	eP	PKPbc	01 36 46.0	+1.4
TOLC	Tolima	150.27	84	eP	PKPdf	01 36 41.3	+2.1
ZARC	Zaragoza, Cauc	150.36	78	eP	PKPdf	01 36 40.0	+1.1
NORC	Norcasia	150.62	82	eP	P

SAML				*e*PKPab	**PKPab**	**01 37 31.8**	**+2.0**
SAML				LR	LR		
	comp=Z,23μm,21.0s						
PCM	**Pelee Case Pet**	**159.87**	**49**	*e*P	**PKPdf**	**01 36 54.3**	**+2.5**
CXM	**Morne La Croix**	**159.90**	**49**	*e*P	**PKPdf**	**01 36 54.3**	**+2.4**
BAMF	**Morne Balai**	**159.92**	**49**	*e*P	**PKPdf**	**01 36 54.2**	**+2.3**
FDF	**Fort de France**	**159.97**	**49**	*e*PKPdf	**PKPdf**	**01 36 51.9**	**0.0**
FDF				LR	LR		
	comp=Z,15μm,22.0s						
FDF	**Fort de France**	**159.97**	**49**	*e*P	**PKPdf**	**01 36 53.9**	**+2.0**
FDF	**Fort de France**	**159.97**	**49**	*e*P	**PKPdf**	**01 36 54.6**	**+2.6**
FDF	**Fort de France**	**159.97**	**49**	*e*PKIKP	**PKPdf**	**01 36 51.9**	**0.0**
FDF				MLR	MLR		
	comp=Z,15μm,22.0s						
ZAM	**Aeronautique**	**160.16**	**49**	*e*P	**PKPdf**	**01 36 53.3**	**+1.3**
BIM	**Bigot**	**160.16**	**49**	*e*P	**PKPdf**	**01 36 54.8**	**+2.7**
LPMF	**Morne Lapointe**	**160.20**	**49**	*e*P	**PKPdf**	**01 36 53.5**	**+1.4**
MCLT	**Moule a Chique**	**160.75**	**51**	*e*P	**PKPdf**	**01 36 53.0**	**+0.2**
SVB	**Belmont**	**160.77**	**53**	*e*P	**PKPdf**	**01 36 53.8**	**+1.0**
SSV	**Crater Summit**	**160.78**	**52**	*e*P	**PKPdf**	**01 36 59.7**	**+6.8**
SVCV	**St. Vincent, C**	**160.85**	**52**	*e*P	PKPdf	01 37 05.8	+13
GRSS	**Sisters**	**161.01**	**56**	*e*P	**PKPdf**	**01 36 50.9**	**-2.2**
GRGR	**Grenville**	**161.07**	**56**	PFAKE		01 37 00.0	+6.9
GRGR				LR	LR		
	comp=Z,14μm,22.0s						
GRGR	**Grenville**	**161.07**	**56**	*e*P	**PKPdf**	**01 36 51.5**	**-1.6**
TRN	**Trinidad (W)**	**162.03**	**60**	*e*P	PKPab	01 37 25.4	-15
BBGH	**Gun Hill**	**162.16**	**50**	PFAKE		01 37 10.0	+16
BBGH				LR	LR		
	comp=Z,21μm,21.0s						
BBGH	**Gun Hill**	**162.16**	**50**	*e*P	**PKPdf**	**01 36 57.5**	**+3.3**
TBH	**Brigand Hill**	**162.39**	**60**	*e*P	**PKPdf**	**01 36 59.5**	**+4.9**
TOSP	**Speyside**	**162.44**	**56**	*e*P	**PKPdf**	**01 36 58.2**	**+3.7**
PTGA	**Pitinga**	**165.51**	**99**	PKP	**PKPdf**	**01 36 57.8**	**+0.4**
	comp=Z,30nm,1.1s,baz=9.1,slow=0.6,SNR=18						
PTGA				PKPab	**PKPab**	**01 37 57.2**	**+1.4**
	comp=Z,42nm,1.0s,baz=277,slow=2.9,SNR=8.0						
PTGA	**Pitinga**	**165.51**	**99**	PKP	**PKPdf**	**01 36 57.8**	**+0.4**
PTGA				PKPab	**PKPab**	**01 37 57.2**	**+1.4**
PTGA				LR	LR		
	comp=Z,16μm,20.0s						

*ISCJB **21** 01:19:26.6±0.3,35°.27S±0°.06×16°.13W±0°.06,h12km, mb4.8/33,MS5.2/6,Error ellipse: s-maj=9.3km s-min=7.6km az=168.1*

*IDC **21** 01:19:26.8±0.5,35°.33S×16°.22W,h0km,mb4.5/16, mb1 4.6/16,mb1mx4.4/49,mbtmp4.5/16,MS5.2/5, Ms1 5.2/5,ms1mx4.8/43,Error ellipse: s-maj=16.7km s-min=14.5km az=159.0*

*NEIC **21** 01:19:28.5±0.3,35°.23S×16°.18W,h10km,mb5.0/22,Error ellipse: s-maj=11.9km s-min=7.9km az=170.0*

*GCMT **21** 01:19:28.5±0.2,35°.39S×15°.85W,h19km±1km,MW5.8/95, Moment Tensor Solution. s46,c70; s95,c219; Duration: 1s8 Moment tensor: Scale 10^17Nm; Mrr-0.62±.14; Mθθ-1.95±.13; Mφφ2.57±.12; Mrθ-0.23±.28; Mθφ4.52±.10; Mφr1.19±.29; Best double couple: M◎5.19900×10^17 NP1:φs167.00000°,δ88.00000°,λ-166.00000°. NP2: φs77.00000°,δ76.00000°,λ-2.00000°. Principal axes: T 5.4950, Plg8.0000°, Azm301.0000°; N -0.5900, Plg76.0000°, Azm174.0000°; P -4.9030, Plg11.0000°, Azm33.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

ISC 21 01:19:28.7±0.4,35°.33S±0°.09×16°.11W±0°.07,h12km,n72, σ1s47/65,mb5.0/33,MS5.1/6,1C,Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
H09N1	**TRISTAN DA CUN**	**3.53**	**121**	Pn		**Pn**	**01 20 19.9**	**-3.4**
H09N1				Sn		Sn	01 20 51.6	-13
H09N1				T		T	01 23 48.6	
	SNR=72							
SHEL	**Horse Pasture**	**21.41**	**28**	*e*P		**P**	**01 24 15.8**	**-0.7**
H10S2	**ASCENSION HYDR**	**26.28**	**3**	T		T	01 52 29.6	
	baz=182,slow=75,SNR=452							
H10S3	**ASCENSION HYDR**	**26.29**	**3**	T		T	01 52 30.0	
	baz=182,slow=75,SNR=525							
H10S1	**ASCENSION HYDR**	**26.30**	**3**	T		T	01 52 30.9	
	baz=182,slow=75,SNR=440							
H10N1	**ASCENSION HYDR**	**27.40**	**4**	T		T	01 53 58.9	
	baz=180,slow=73,SNR=90							
H10N3	**ASCENSION HYDR**	**27.40**	**3**	T		T	01 54 00.9	
	baz=180,slow=73,SNR=757							
H10N2	**ASCENSION HYDR**	**27.41**	**3**	T		T	01 53 54.5	
	baz=180,slow=73,SNR=155							
SUR	**Sutherland**	**30.69**	**95**	*e*P		**P**	**01 25 43.5**	**-0.1**
TSUM	**Tsumeb**	**33.79**	**71**	*e*P		**P**	**01 26 10.3**	**-0.4**
BOSA	**Boshof**	**35.53**	**91**	P		**P**	**01 26 24.4**	**-1.2**
	24nm,0.9s,baz=249,slow=8.1,SNR=37							
BOSA				LR		LR	01 37 53.2	
	comp=Z,4μm,20.4s,baz=242,slow=31							
BOSA	**Boshof**	**35.53**	**91**	*e*P		**P**	**01 26 24.6**	**-1.2**
	35nm,0.9s							
VNA2	**Neumayer--Watz**	**35.96**	**175**	P		**P**	**01 26 29.0**	**+0.2**
	baz=351,slow=12							
VNA3	**Neumayer Olymp**	**36.14**	**176**	P		**P**	**01 26 31.3**	**+0.9**
CPUP	**Villa Florida**	**36.30**	**273**	P		**P**	**01 26 30.8**	**-1.4**
	6.2nm,1.2s,baz=168,slow=9.3,SNR=4.7							
CPUP				LR		LR	01 40 19.6	
	comp=Z,3μm,18.6s,baz=120,slow=35							
CPUP	**Villa Florida**	**36.30**	**273**	*e*P		**P**	**01 26 34.0**	**+1.9**
	22nm,1.6s							
TRQA	**Tornquist**	**36.59**	**252**	*e*P		**P**	**01 26 35.0**	**+0.4**
	9.7nm,1.0s							
SNAA	**Sanae**	**37.07**	**173**	P		**P**	**01 26 41.2**	**+2.9**
SNAA	**Sanae**	**37.07**	**173**	P		**P**	**01 26 37.3**	**-0.9**
	2.5nm,0.9s,baz=353,slow=8.1,SNR=4.4							
SNAA	**Sanae**	**37.07**	**173**	*e*P		**P**	**01 26 40.6**	**+2.4**
	41nm,1.8s							
LBTB	**Lobatse**	**37.26**	**86**	P		**P**	**01 26 40.1**	**-0.4**
	12nm,0.8s,baz=231,slow=7.5,SNR=19							
LBTB	**Lobatse**	**37.26**	**86**	*e*P		**P**	**01 26 40.1**	**-0.4**
	50nm,1.2s							
LIC	**Lamto**	**42.63**	**16**	*e*P		**P**	**01 27 23.2**	**-1.8**
	78nm,1.0s							
PLCA	**Paso Flores**	**42.64**	**246**	P		**P**	**01 27 23.5**	**-1.5**
	2.3nm,0.8s,baz=135,slow=8.6,SNR=2.3							
PLCA				LR		LR	01 44 09.7	
	comp=Z,2μm,19.0s,baz=108,slow=35							
KIC	**Kosan Boka**	**42.83**	**17**	*e*P		**P**	**01 27 26.1**	**-0.5**
	142nm,1.2s							
TIC	**Toumodi**	**43.04**	**16**	*e*P		**P**	**01 27 24.9**	**-3.4**
DBIC	**Dimbokro**	**43.10**	**16**	P		**P**	**01 27 28.0**	**-0.8**
	14nm,0.8s,baz=178,slow=8.7,SNR=7.9							
DBIC	**Dimbokro**	**43.10**	**16**	*e*P		**P**	**01 27 26.1**	**-2.8**
	75nm,1.6s							
LSZ	**Lusaka**	**44.31**	**75**	P		**P**	**01 27 39.3**	**+0.5**
	6.8nm,1.0s,baz=206,slow=5.6,SNR=12							
LSZ	**Lusaka**	**44.31**	**75**	*e*P		**P**	**01 27 39.5**	**+0.7**
	45nm,1.4s							
SIV	**San Ignacio**	**44.43**	**284**	P		**P**	**01 27 39.7**	**0.0**
	6.6nm,1.0s,baz=121,slow=9.3,SNR=13							
SIV				LR		LR	01 43 59.6	
	comp=Z,4μm,21.2s,baz=150,slow=33							
SYO	**Syowa Base**	**45.33**	**155**	*e*P		**P**	**01 27 46.2**	**+0.1**
LCO	**Las Campanas**	**46.15**	**262**	*e*P		**P**	**01 27 53.1**	**-0.4**
	11nm,1.1s							
PB11	**IPOC Station P**	**49.38**	**274**	*e*P		**P**	**01 28 17.6**	**-0.9**
	55nm,1.3s							
LPAZ	**La Paz**	**49.93**	**278**	P		**P**	**01 28 20.8**	**-2.4**
	1.2nm,0.6s,baz=145,slow=7.9,SNR=5.9							
LPAZ	**La Paz**	**49.93**	**278**	*e*P		**P**	**01 28 21.3**	**-1.9**
	5.5nm,1.0s							
SAML	**Samuel**	**50.27**	**290**	*e*P		**P**	**01 28 25.1**	**0.0**
	12nm,1.1s							
KOWA	**Kowa**	**50.86**	**15**	*e*P		**P**	**01 28 29.1**	**-0.4**
	16nm,0.8s							
TORD	**Torodi Ar. Bea**	**51.08**	**23**	P		**P**	**01 28 30.3**	**-0.8**
	22nm,0.9s,baz=199,slow=8.2,SNR=52							
TORD				LR		LR	01 45 22.3	
	comp=Z,4μm,21.8s,baz=190,slow=30							
PTGA	**Pitinga**	**53.35**	**300**	*e*P		**P**	**01 28 48.8**	**+0.7**
	27nm,1.5s							
MAW	**Mawson**	**53.73**	**152**	P		**P**	**01 28 51.3**	**+1.1**
	8.2nm,1.0s,baz=291,slow=8.6,SNR=3.3							
QSPA	**South Pole Qui**	**54.92**	**180**	P		**P**	**01 28 59.7**	**+0.6**
	11nm,1.1s,baz=187,slow=4.5,SNR=10							
KMBO	**Kilima Mbogo**	**60.06**	**68**	*e*P		**P**	**01 29 35.4**	**-0.8**
	1.2nm,0.5s							
TAM	**Tamanrasset**	**61.34**	**23**	*e*P		**P**	**01 29 45.0**	**+0.6**
	13nm,1.0s							
PRAC	**Prado**	**67.30**	**292**	*e*P		**P**	**01 30 22.5**	**-1.1**
	39nm,1.5s							
RUSC	**La Rusia**	**67.38**	**295**	*e*P		**P**	**01 30 23.0**	**-1.7**
	7.3nm,1.1s							
SDV	**Santo Domingo**	**67.63**	**300**	*e*P		**P**	**01 30 25.5**	**-0.4**
	26nm,1.4s							
OTAV	**Otavalo**	**67.84**	**287**	*e*P		**P**	**01 30 26.7**	**-0.9**
	14nm,1.3s							
HELC	**Santa Helena**	**69.39**	**294**	*e*P		**P**	**01 30 35.4**	**-1.8**
	15nm,1.0s							
BCIP	**Isla Barro Col**	**74.56**	**293**	*e*P		**P**	**01 31 05.9**	**-1.8**
	23nm,1.2s							
KEST	**Kesra**	**74.58**	**21**	P		**P**	**01 31 08.1**	**+0.7**
	15nm,0.9s,baz=219,slow=0.9,SNR=9.7							
ESDC	**Sonseca Array**	**75.47**	**10**	P		**P**	**01 31 13.0**	**+0.6**
	4.5nm,1.0s,baz=178,slow=6.0,SNR=11							
ES19	**SONSECA Array**	**75.51**	**10**	*e*P		**P**	**01 31 12.9**	**+0.3**
JTS	**JuntasAbangare**	**79.15**	**291**	*e*P		**P**	**01 31 33.3**	**-0.3**
	19nm,1.1s							
EKA	**Eskdalemuir Ar**	**90.98**	**7**	P		**P**	**01 32 32.7**	**+0.7**
	1.7nm,0.7s,baz=203,slow=5.2,SNR=3.4							
AKASG	**Malin Array Be**	**94.52**	**27**	P		**P**	**01 32 50.3**	**+1.8**
	0.4nm,0.5s,baz=225,slow=4.1,SNR=2.8							
H01W2	**Cape Leeuwin H**	**96.10**	**141**	T		T	03 20 21.9	
	baz=220,slow=75,SNR=94							
H01W3	**Cape Leeuwin H**	**96.12**	**141**	T		T	03 20 30.8	
	baz=220,slow=75,SNR=100							
H01W1	**Cape Leeuwin H**	**96.12**	**141**	T		T	03 20 23.5	
	baz=220,slow=75,SNR=120							
WMQ	**Urumqi**	**122.58**	**57**	*e*PKP		**PKPdf**	**01 38 21.0**	**-2.9**
YKA	**Yellowknife A**	**124.47**	**326**	PKP		**PKPdf**	**01 38 26.1**	**-0.7**
	0.6nm,0.7s,baz=107,slow=2.0,SNR=6.3							
CD2	**Chengdu**	**130.11**	**77**	PKP		**PKPdf**	**01 38 38.4**	**-0.3**
GYA	**Guiyang**	**130.69**	**84**	*e*Pdif		**Pdif**	**01 35 30.0**	**-0.5**
GYA				PKP		**PKPdf**	**01 38 38.9**	**-1.1**
GYA				PP		**PP**	**01 40 59.4**	**+3.7**
GYA				AMB		AMB		
	comp=Z,120nm,7.9s							
LZH	**Lanzhou**	**131.94**	**71**	*e*PKP		**PKPdf**	**01 38 43.0**	**+0.9**
LZH				sPKP			01 38 47.6	
LZH				LR		LR		
	comp=N,170nm,17.9s							
LZH				LR		LR		
	comp=E,170nm,18.0s							
LZH				LR		LR		
	comp=Z,220nm,20.1s							
HHC	**Hu-ho-hao-te**	**138.96**	**66**	*e*PKP		**PKPdf**	**01 38 56.8**	**+1.8**
CN2	**Changchun**	**149.41**	**62**	*e*PKPbc		**PKPdf**	**01 39 13.5**	**+0.6**
KSAR	**Wonju Array Be**	**151.05**	**75**	PKPbc		**PKPbc**	**01 39 22.6**	**+1.1**
KSRS	**Korea Array**	**151.08**	**75**	PKPbc		**PKPbc**	**01 39 22.6**	**+1.1**
	2.4nm,0.8s,baz=239,slow=3.3,SNR=6.0							
SEY	**Seymchan**	**151.46**	**11**	PKPbc		**PKPbc**	**01 39 21.2**	**-0.4**
	2.9nm,0.7s,baz=27,slow=2.3,SNR=3.2							
KLR	**Kul'dur**	**152.70**	**49**	PKPbc		**PKPbc**	**01 39 27.0**	**+2.2**
	0.4nm,0.8s,baz=315,slow=1.8,SNR=4.8							
USRK	**Ussuriysk Ar.**	**154.06**	**60**	PKPbc		**PKPbc**	**01 39 28.6**	**+0.7**
	1.9nm,0.8s,baz=77,slow=8.6,SNR=3.0							
MJAR	**Matsushiro Arr**	**159.19**	**79**	PKPab		**PKPab**	**01 40 05.9**	**+2.0**
	13nm,1.1s,baz=262,slow=5.3,SNR=11							

*IDC **21** 01:24:35.6±0.6,1°.64S×134°.47E,h0km,mb4.5/14, mb1 4.6/15,mb1mx4.3/61,mbtmp4.5/15,ML4.4/2,Error ellipse: s-maj=23.8km s-min=14.0km az=69.0*

*NEIC **21** 01:24:37.1±0.3,1°.63S×134°.45E,h10km,mb4.7/11,Error ellipse: s-maj=8.5km s-min=5.8km az=98.0*

*ISCJB **21** 01:24:38.0±0.4,1°.65S±0°.06×134°.42E±0°.08,h29km, mb4.5/24,Error ellipse: s-maj=11.1km s-min=8.0km az=10.4*

ISC 21 01:24:39.9±0.5,1°.64S±0°.07×134°.42E±0°.08,h29km,n51, σ0s73/52,mb4.5/24,Iriian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
FAKI	**Fak Fak**	**2.51**	**240**	*e*Pn		**Pn**	**01 25 19.7**	**+0.9**
SIJI	**Sorong**	**3.24**	**284**	Pn		**Pn**	**01 25 27.7**	**-1.2**
	6.3nm,0.3s,baz=140,slow=23,SNR=5.2							
SIJI				Pg		**Pb**	**01 25 37.4**	**+0.5**
	91nm,0.3s,baz=85,slow=16,SNR=20							
SOEI	**Soe**	**12.92**	**231**	*e*Pn		**Pn**	**01 27 41.6**	**-0.2**
WRA	**Warramunga Arr**	**18.19**	**180**	P		**P**	**01 28 50.4**	**-0.1**
	2.8nm,0.3s,baz=4.3,slow=11,SNR=4.8							
WRA	**Warramunga Arr**	**18.19**	**180**	P		**P**	**01 28 50.4**	**-0.1**
KKM	**Kota Kinabalu**	**19.71**	**293**	*e*P		**P**	**01 29 06.9**	**-0.6**
	56nm,1.0s							
ASAR	**Alice Springs**	**21.90**	**181**	P		**P**	**01 29 30.8**	**-0.1**
	27nm,0.7s,baz=5.0,slow=9.9,SNR=3.3							
ASAR	**Alice Springs**	**21.90**	**181**	P		**P**	**01 29 30.8**	**-0.1**
KSM	**Kuching**	**24.30**	**277**	*e*P		**P**	**01 29 55.5**	**+0.3**
	22nm,0.7s							
STKA	**Stephens Creek**	**30.83**	**168**	P		**P**	**01 30 53.2**	**-0.2**
	40nm,0.9s,baz=347,slow=10,SNR=2.5							
STKA	**Stephens Creek**	**30.83**	**168**	P		**P**	**01 30 53.2**	**-0.2**
JNU	**Nakatsue**	**34.74**	**355**	*e*P		**P**	**01 31 28.2**	**+0.5**
	4.3nm,0.7s							
MJAR	**Matsushiro Arr**	**38.15**	**5**	P		**P**	**01 31 55.9**	**-0.9**
	1.2nm,0.4s,baz=187,slow=9.3,SNR=3.2							
MJAR	**Matsushiro Arr**	**38.15**	**5**	P		**P**	**01 31 55.9**	**-0.9**
MAJO	**Matsushiro**	**38.15**	**5**	*e*P		**P**	**01 31 55.9**	**-0.9**
	4.6nm,0.6s							
CMAR	**Chiang Mai Arr**	**40.21**	**301**	P		**P**	**01 32 14.3**	**+0.1**
	1.9nm,0.4s,baz=125,slow=7.8,SNR=3.7							
CMAR	**Chiang Mai Arr**	**40.21**	**301**	P		**P**	**01 32 14.3**	**+0.1**
BJT	**Baijiatuau**	**44.70**	**340**	*e*P		**P**	**01 32 50.5**	**+0.1**
	19nm,0.8s							
USRK	**Ussuriysk Ar.**	**45.69**	**358**	P		**P**	**01 32 58.1**	**-0.1**
	3.1nm,0.6s,baz=193,slow=8.9,SNR=5.0							
ASAJ	**Asahikawa**	**46.14**	**8**	P		**P**	**01 33 02.3**	**+0.6**
	1.5nm,0.3s,baz=237,slow=12,SNR=3.6							
ASAJ	**Asahikawa**	**46.14**	**8**	*e*P		**P**	**01 33 01.8**	**0.0**
	1.1nm,0.4s							
KLR	**Kul'dur**	**50.72**	**358**	P		**P**	**01 33 37.4**	**+0.4**
	0.4nm,0.7s,baz=174,slow=6.2,SNR=7.8							
KLR	**Kul'dur**	**50.72**	**358**	P		**P**	**01 33 37.4**	**+0.4**
URZ	**Urewera**	**53.42**	**138**	P		**P**	**01 33 55.8**	**-1.4**
	9.8nm,1.2s,baz=193,slow=23,SNR=2.9							
URZ	**Urewera**	**53.42**	**138**	P		**P**	**01 33 55.8**	**-1.4**
SONM	**Songino Array**	**55.01**	**337**	P		**P**	**01 34 09.5**	**+0.7**
	4.8nm,1.1s,baz=161,slow=6.1,SNR=3.0							
SONM	**Songino Array**	**55.01**	**337**	P		**P**	**01 34 09.5**	**+0.7**
YAK	**Yakutsk**	**63.61**	**358**	*e*P		**P**	**01 35 08.5**	**+0.7**
MKAR	**Makanchi Array**	**66.36**	**324**	P		**P**	**01 35 26.4**	**+0.2**
	4.1nm,0.7s,baz=106,slow=8.1,SNR=6.8							
MKAR	**Makanchi Array**	**66.36**	**324**	P		**P**	**01 35 26.4**	**+0.2**
KURK	**Kurchatov**	**70.41**	**326**	P		**P**	**01 35 51.1**	**-0.2**
KURBB	**Kurchatov Arra**	**70.42**	**326**	P		**P**	**01 35 51.1**	**-0.3**
	3.5nm,0.8s,baz=119,slow=5.8,SNR=4.8							
KKAR	**Karatay Array**	**72.39**	**316**	*e*P		**P**	**01 36 01.6**	**-1.9**
	3.7nm,0.7s							
BVAR	**Borovoye Array**	**76.01**	**326**	P		**P**	**01 36 24.0**	**-0.4**
	1.8nm,0.7s,baz=106,slow=5.2,SNR=3.3							
BVAR	**Borovoye Array**	**76.01**	**326**	P		**P**	**01 36 24.0**	**-0.4**
GAMB	**Gambell**	**76.33**	**22**	*e*P		**P**	**01 36 26.4**	**+0.5**
	15nm,1.5s							
VNDA	**Vanda**	**77.25**	**174**	P		**P**	**01 36 30.5**	**-0.4**
	4.3nm,1.0s,baz=323,slow=6.6,SNR=4.9							
VNDA	**Vanda**	**77.25**	**174**	P		**P**	**01 36 30.5**	**-0.4**
GEYT	**Alibeck**	**80.23**	**309**	P		**P**	**01 36 48.6**	**+0.5**
	2.2nm,0.8s,baz=72,slow=4.7,SNR=2.4							
PMR	**Palmer**	**85.01**	**28**	*e*P		**P**	**01 37 12.3**	**-0.1**
	6.5nm,1.0s							
SML	**Sawmill**	**85.43**	**28**	*e*P		**P**	**01 37 14.2**	**-0.4**
	2.2nm,0.8s							
DIV	**Divide**	**86.51**	**29**	*e*P		**P**	**01 37 20.4**	**+0.4**
ILAR	**Eielson Array**	**86.66**	**25**	P		**P**	**01 37 21.1**	**+0.5**
	1.8nm,0.7s,baz=259,slow=4.3,SNR=5.8							
ILAR	**Eielson Array**	**86.66**	**25**	P		**P**	**01 37 21.1**	**+0.5**
DOT	**Dot Lake**	**87.69**	**26**	*e*P		**P**	**01 37 26.7**	**+1.1**
DAMY	**Dhamar**	**90.43**	**284**	*e*P		**P**	**01 37 39.8**	**-0.1**
	9.6nm,0.8s							
KIV	**Kislovodsk**	**92.38**	**314**	*e*P		**P**	**01 37 47.8**	**-0.3**
CPUP	**Villa Florida**	**149.96**	**159**	PKPbc		**PKPbc**	**01 44 28.8**	**+0.4**
	13nm,1.1s,baz=227,slow=2.0,SNR=5.5							
CPUP	**Villa Florida**	**149.96**	**159**	PKPbc		**PKPbc**	**01 44 28.8**	**+0.4**
LPAZ	**La Paz**	**151.48**	**130**	PKPbc		**PKPbc**	**01 44 34.8**	**+1.8**
	6.4nm,0.7s,baz=244,slow=2.5,SNR=10							
LPAZ	**La Paz**	**151.48**	**130**	PKPbc		**PKPbc**	**01 44 34.8**	**+1.8**

*MOS **21** 01:25:09.6±1.3,1°.71S×134°.19E,h20km,mb5.6/49,Error ellipse: s-maj=17.6km s-min=8.7km az=99.1*

*IDC **21** 01:25:09.2±0.3,1°.69S×134°.31E,h0km,mb5.1/41, mb1 5.2/44,mb1mx5.0/65,mbtmp5.1/44,ML5.4/3,MS6.1/1, Ms1 6.1/1,ms1mx4.8/59,Error ellipse: s-maj=12.2km s-min=9.1km az=68.0*

*BJI **21** 01:25:10.9,1°.73S×134°.57E,h23km,mb5.4/58,mB5.8/9, Ms5.5/7,Ms7 5.4/7*

*ISCJB **21** 01:25:12.4±0.1,1°.65S±0°.02×134°.29E±0°.02,h24km, mb5.5/179,MS5.8/2,Error ellipse: s-maj=3.1km s-min=2.9km az=171.9*

*GCMT **21** 01:25:13.2±0.2,1°.62S×134°.27E,h12km,MW6.0/120, Moment Tensor Solution. s10,c10; s120,c241; Duration: 2s5 Moment tensor: Scale 10^18Nm; Mrr-0.30±.03; Mθθ-0.38±.03; Mφφ0.68±.03; Mrθ-0.35±.10; Mθφ1.11±.02; Mφr0.37±.09; Best double couple: M◎1.35600×10^18 NP1:φs170.00000°,δ75.00000°, λ-158.00000°. NP2:φs74.00000°,δ69.00000°, λ-16.00000°. Principal axes: T 1.3900, Plg4.0000°, Azm301.0000°; N -0.0680, Plg64.0000°, Azm202.0000°; P -1.3220, Plg26.0000°, Azm33.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

*NEIC **21** 01:25:13.2±2.5,1°.64S×134°.20E,h17km±15km,mb5.6/87 Error ellipse: s-maj=6.0km s-min=4.7km az=49.0*

NEIC Felt [IV] at Ransiki and [III] at Manokwari.

*DJA **21** 01:25:14.1±0.3,2°.5S±2°×13°4E±°,h10km,M6.0/55,mB5.4/2, mb5.7/55,MLv6.2/8,Mw(mB)4.8/2*

ISC 21 01:25:14.1±0.2,1°.70S±0°.03×134°.24E±0°.04,h24km,n555, σ1s158/566,mb5.5/179,11C-11D,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
KMPI	**Kaimana, Papua**	**2.02**	**195**	P		**Pb**	**01 25 50.5**	**+0.3**
FAKI	**Fak Fak**	**2.33**	**239**	P		**Pb**	**01 25 53.1**	**-2.3**
FAKI	**Fak Fak**	**2.33**	**239**	*e*Pn		**Pn**	**01 25 51.9**	**+1.0**
FAKI				*e*Sn		**Sn**	**01 26 20.7**	**+1.9**
SIJI	**Sorong**	**3.08**	**285**	Pn		**Pn**	**01 26 00.8**	**-0.6**
	348nm,0.3s,baz=268,slow=22,SNR=20							
SIJI				Pg		**Pb**	**01 26 06.6**	**-1.7**
	831nm,0.3s,baz=102,slow=16,SNR=15							
SIJI				Sn		**Sn**	**01 26 38.1**	**+0.6**
	2μm,0.3s,baz=237,slow=22,SNR=9.8							
SIJI				Lg		Lg	01 26 48.7	
	2μm,0.3s,baz=314,slow=18,SNR=7.5							
MSAI	**Masohi**	**5.55**	**253**	P		**Pn**	**01 26 37.0**	**+1.7**
GENI	**Genyem**	**5.99**	**99**	P		**Pn**	**01 26 42.8**	**+1.5**
AAI	**Ambon**	**6.35**	**252**	P		**Pn**	**01 26 47.3**	**+1.0**
LBMI	**Labuha**	**6.82**	**279**	P		**Pn**	**01 26 53.1**	**+0.4**
SAUI	**Saumlaki**	**6.89**	**205**	*e*Pn		**Pn**	**01 26 58.1**	**+4.3**
TNTI	**Ternate**	**7.30**	**290**	*e*Pn		**Pn**	**01 26 58.4**	**-0.9**
SANI	**Sanana**	**8.25**	**267**	P		**Pn**	**01 27 09.9**	**-2.5**
KMSI	**Cibinong**	**10.50**	**282**	P		**Pn**	**01 27 47.4**	**+4.1**
LUWI	**Luwuk**	**11.48**	**273**	*e*Pn		**Pn**	**01 27 56.4**	**-0.3**
MTN	**Manton Dam**	**11.49**	**195**	*e*Pn		**Pn**	**01 27 55.8**	**-1.1**
MRSI	**Marisa**	**12.48**	**280**	P		**Pn**	**01 28 13.9**	**+3.5**
APSI	**Ampana**	**12.61**	**273**	P		**Pn**	**01 28 15.8**	**+3.6**
SOEI	**Soe**	**12.74**	**231**	P		**Pn**	**01 28 16.5**	**+2.5**
SOEI	**Soe**	**12.74**	**231**	*e*Pn		**Pn**	**01 28 15.7**	**+1.6**
SOEI				*e*Sn		**Sn**	**01 30 37.2**	**+1.9**
BATI	**Baumata**	**13.49**	**231**	Pn		**Pn**	**01 28 24.0**	**-0.2**
	27nm,0.3s,baz=152,slow=4.2,SNR=10.0							
BATI				Sn		**Sn**	**01 30 52.9**	**-0.5**
	10nm,0.3s,baz=114,slow=19,SNR=4.8							
BATI	**Baumata**	**13.49**	**231**	P		**Pn**	**01 28 25.5**	**+1.4**
MMRI	**Maumere**	**13.79**	**240**	P		**Pn**	**01 28 32.6**	**-3.9**
MMRI	**Maumere**	**13.79**	**240**	*e*Pn		**Pn**	**01 28 29.5**	**+1.2**

baz=33,SNR=7.8
ARMA Armidale 32.98 152 *e*P P 01 31 47.4 -0.1
comp=Z,238nm,1.6s
UBPT Khong Chiam 33.08 302 P P 01 31 49.6 +1.3
comp=Z,914nm,0.9s
BKNI Bangkinang 33.26 273 P P 01 31 57.8 +7.9
KLBR Kellerberrin 33.56 206 P P 01 31 51.6 -0.7
baz=34,SNR=6.8
IPM Ipoh 33.75 281 *e*P P 01 31 54.5 +0.3
comp=Z,41nm,0.7s
PDSI Padang 33.78 271 P P 01 31 58.0 +3.5
comp=Z,164nm,0.8s
PPI Padang Panjang 33.86 272 P P 01 31 58.3 +3.1
KULM Kulim 34.26 282 *e*P P 01 31 58.0 -0.6
comp=Z,81nm,1.0s
SKLT Songkhla 34.68 285 P P 01 32 05.4 +3.1
comp=Z,140nm,1.1s
MNSI Mandailing Nat 34.74 274 P P 01 32 06.9 +4.1
comp=Z,74nm,1.0s
JNU Nakatsue 34.78 355 P P 01 31 59.9 -3.0
comp=Z,66nm,1.1s,baz=172,slow=6.6,SNR=9.4
JNU Nakatsue 34.78 355 *e*P P 01 31 59.8 -3.1
comp=Z,176nm,1.3s
SISI Saibi 35.14 270 P P 01 32 12.9 +6.6
SKNT Sakolnakorn 35.14 303 P P 01 32 07.4 +1.2
comp=Z,102nm,1.0s
SRAK Srakaew 35.52 297 P P 01 32 06.9 -2.6
PSI Prapat 35.59 277 *e*P P 01 32 10.1 -0.2
comp=Z,179nm,1.2s
PSI Prapat 35.59 277 *e*P P 01 32 10.1 -0.2
PSI pmax pmax
comp=Z,179nm,1.2s
TRTT Trang 35.74 286 P P 01 32 12.9 +1.5
comp=Z,51nm,0.9s
CAN Canberra 36.16 159 *e*P P 01 32 16.2 +1.4
comp=Z,74nm,1.3s
CAN Canberra 36.16 159 *e*P P 01 32 16.2 +1.4
CAN pmax pmax
comp=Z,74nm,1.3s
NAYO Nakonayok 36.28 297 P P 01 32 18.3 +2.3
comp=Z,290nm,1.6s,comp=Z,13μm
CHAI Chaiyaphum 36.35 300 P P 01 32 16.5 -0.1
comp=Z,29nm,0.7s,comp=Z,340nm
RKGY Rocky Gully 36.49 204 P P 01 32 19.9 +2.3
baz=37,SNR=4.9
NJ2 Nanjing 36.60 338 *e*P P 01 32 19.3 +0.8
NJ2 pmax pmax
comp=Z,64nm,1.0s
GSI Gunungsitoli 36.78 274 P P 01 32 26.1 +5.8
comp=Z,168nm,1.1s
GSI Gunungsitoli 36.78 274 *e*P P 01 32 20.0 -0.3
comp=Z,230nm,1.3s
INU Inuyama 36.95 4 *e*P P 01 32 23.5 +2.1
comp=Z,33nm,1.1s
PKDT Phuket 37.05 285 P P 01 32 25.4 +2.8
comp=Z,93nm,1.0s
TOO Toolangi 37.17 165 P P 01 32 23.6 +0.3
baz=37,SNR=5.2
WHN Wuhan 37.25 331 ⇓P P 01 32 26.5 +2.5
PHET Kaeng Krachan 37.29 294 P P 01 32 26.8 +2.2
comp=Z,30nm,1.2s,comp=Z,267nm
DZM Mont Dzumac 37.29 125 *e*P P 01 32 26.9 +2.2
comp=Z,44nm,1.2s
TPTI 37.37 278 P P 01 32 28.8 +3.5
comp=Z,149nm,1.5s
PBKT Sadao Pong 37.52 300 P P 01 32 32.7 +6.2
comp=Z,57nm,2.6s
LHMI Lhok Sumawe 37.88 281 P P 01 32 34.1 +4.4
comp=Z,358nm,0.9s
LHMI Lhok Sumawe 37.88 281 *e*P P 01 32 30.2 +0.5
comp=Z,305nm,0.9s
MJAR Matsushiro Arr 38.23 5 P P 01 32 30.3 -2.0
comp=Z,8.5nm,0.8s,baz=189,slow=9.3,SNR=11
MAJO Matsushiro 38.23 5 *e*P P 01 32 32.9 +0.6
comp=Z,24nm,1.0s
MAJO Matsushiro 38.23 5 *e*P P 01 32 32.9 +0.6
MAJO pmax pmax
comp=Z,23nm,1.0s
MAT Matsushiro 38.23 5 P P 01 32 32.4 +0.1
MJB9 Matsu-Tunnel 38.23 5 *e*P P 01 32 32.9 +0.6
comp=Z,24nm,1.0s
SRDT SRDT 38.26 296 P P 01 32 34.4 +1.6
comp=Z,167nm,1.4s,comp=Z,16μm
PHIT Phitsanulok 38.27 301 P P 01 32 39.0 +6.1
comp=Z,49nm,1.2s,comp=Z,565nm
MLSI Meulaboh, Aceh 38.27 279 P P 01 32 35.6 +2.6
comp=Z,707nm,1.0s
TJN Taejon 38.42 351 ⇓*e*P P 01 32 33.5 -0.3
GYA Guiyang 38.63 318 ⇓*i*P P 01 32 37.3 +1.4
GYA pP sP 01 32 46.4 +0.2
GYA PP **PnPn** 01 34 10.8 +4.1
GYA PcP **PcP** 01 34 51.0 +2.9
GYA S **S** 01 38 32.6 +1.3
GYA SS **SnSn** 01 41 14.8 -5.4
GYA pmax pmax
comp=Z,30nm,0.8s
GYA pmax pmax
comp=Z,130nm,5.4s
GYA LR LR
comp=Z,3μm,17.8s
GYA LR LR
comp=Z,3μm,18.0s
GYA LR LR
comp=Z,2μm,17.4s
NANT Nan 38.76 303 P P 01 32 42.0 +5.0
comp=Z,22nm,1.0s,comp=Z,219nm
KSAR Wonju Array Be 39.39 352 P P 01 32 40.4 -1.6
KSAR Wonju Array Be 39.39 352 P P 01 32 40.4 -1.6
KSRS Korea Array 39.40 352 P P 01 32 40.4 -1.6
comp=Z,12nm,0.8s,baz=173,slow=8.9,SNR=13
KS01 Wonju Array Si 39.42 352 *e*P P 01 32 43.2 +1.0
LAMP Lampang 39.53 302 P P 01 32 45.9 +2.5
comp=Z,30nm,1.1s,comp=Z,279nm
ENH Enshi 39.60 325 *e*P P 01 32 43.0 -0.9
comp=Z,503nm,2.1s
PAYA Payao 39.71 303 P P 01 32 46.1 +1.1
comp=Z,43nm,1.2s,comp=Z,366nm
CM01 Chiang Mai Arr 40.05 302 *e*P P 01 32 45.0 -2.8
CM31 Chiang Mai Arr 40.08 302 *e*P P 01 32 48.9 +0.8
CMAR Chiang Mai Arr 40.08 302 P P 01 32 46.4 -1.6
comp=Z,21nm,1.0s,baz=128,slow=7.0,SNR=13
CMMT Chiang Mai 40.24 302 P P 01 32 50.4 +1.1
comp=Z,192nm,0.7s
CHTO Chiang Mai 40.24 302 P P 01 32 51.5 +2.1
comp=Z,616nm,1.1s
CHTO Chiang Mai 40.24 302 *e*P P 01 32 49.8 +0.4
comp=Z,82nm,1.1s
CHTO Chiang Mai 40.24 302 *e*P P 01 32 49.8 +0.4
CHTO pmax pmax
comp=Z,82nm,1.1s
KMI Kunming 40.52 313 P P 01 32 54.1 +2.2
KMI pP sP 01 33 01.8 -0.3
KMI sP pP 01 33 05.3 +6.1
KMI pmax pmax
comp=Z,42nm,1.2s
CMAI Chiengmai2 40.66 304 P P 01 32 59.9 +6.9
DL2 Dalian 42.04 345 P P 01 33 04.3 +0.5
DL2 pmax pmax
comp=Z,47nm,1.0s
XAN Xi'an 42.79 328 P P 01 33 11.3 +1.2
XAN sP pP 01 33 18.0 +0.6
XAN pmax pmax
comp=Z,78nm,1.2s
PBA Port Blair 43.32 289 *e*P P 01 33 15.2 +0.5
CD2 Chengdu 43.50 321 P P 01 33 15.8 -0.1
CD2 S **S** 01 39 45.4 +1.8
DGPR DIGLIPUR 43.56 291 *e*P P 01 33 16.3 -0.2
MSHR Mys Shultsa 44.16 357 ⇓*e*P P 01 33 20.9 0.0
SNY Shenyang 44.39 349 ⇓P P 01 33 25.8 +3.0
SNY pmax pmax
comp=Z,74nm,2.2s
BJT Baijiatuan 44.69 340 *e*P P 01 33 20.9 -4.3
BJT Baijiatuan 44.69 340 *e*P P 01 33 21.0 -4.3
BJI Beijing 44.71 340 ⇑*i*P P 01 33 23.4 -1.9
BJI pmax pmax
comp=Z,280nm,1.1s
USRK Ussuriysk Ar. 45.74 358 P P 01 33 31.4 -2.1
comp=Z,14nm,0.8s,baz=189,slow=8.0,SNR=17
MSVF Nonsavu 45.86 113 *e*P P 01 33 34.7 -0.3
comp=Z,100nm,1.2s
MSVF Nonsavu 45.86 113 *e*P P 01 33 34.7 -0.3
MSVF pmax pmax
comp=Z,100nm,1.2s
CN2 Changchun 45.98 351 *e*P P 01 33 33.8 -1.6
CN2 pmax pmax
comp=Z,20nm,1.5s

ASAJ Asahikawa 46.22 8 P P 01 33 36.6 -0.7
comp=Z,18nm,0.7s,baz=218,slow=7.7,SNR=9.1
ASAJ Asahikawa 46.22 8 *e*P P 01 33 37.4 +0.2
comp=Z,34nm,1.0s
MDJ Mudanjiang 46.30 355 P P 01 33 32.9 -5.0
MDJ sP pP 01 33 44.4 -0.9
MDJ PP **PP** 01 35 24.6 -2.3
MDJ S **S** 01 40 27.9 +4.4
MDJ sS sS 01 40 41.6 +5.9
MDJ pmax pmax
comp=Z,53nm,0.8s
MDJ pmax pmax
comp=Z,2μm,7.5s
MDJ Mudanjiang 46.30 355 *e*P P 01 33 34.9 -2.9
LZH Lanzhou 47.07 326 ⇑P P 01 33 46.6 +2.3
LZH pP sP 01 33 55.3 +0.7
LZH sP pP 01 33 58.8 +7.1
LZH PP **PP** 01 35 37.3 +2.0
LZH pmax pmax
comp=Z,200nm,1.3s
LZH pmax pmax
comp=Z,550nm,5.5s
LZH LR LR
comp=Z,5μm,16.9s
LZH LR LR
comp=Z,4μm,15.7s
LZH LR LR
comp=Z,6μm,19.2s
HHC Hu-ho-hao-te 47.12 336 *e*P P 01 33 45.6 +1.1
HHC S **S** 01 40 34.4 -1.2
HHC pmax pmax
comp=Z,90nm,1.1s
HHC pmax pmax
comp=Z,120nm,6.2s
HHC LR LR
comp=Z,2μm,15.9s
HHC LR LR
comp=Z,2μm,14.3s
HHC LR LR
comp=Z,3μm,14.9s
YSS Yuzh-Sakhalins 49.03 8 *e*P P 01 33 59.0 0.0
comp=Z,64nm,0.9s
YSS Yuzh-Sakhalins 49.03 8 *e*P P 01 33 59.2 +0.2
YSS pmax pmax
comp=Z,60nm,1.4s
SHL Shillong 49.12 306 *e*P P 01 33 59.9 -0.5
SHL IAmb IAmb 01 34 05.9
comp=Z,126nm,1.4s
OUZ Omahuta 49.48 137 P P 01 34 05.5 +2.8
KLR Kul'dur 50.77 358 P P 01 34 10.1 -2.1
comp=Z,3.4nm,0.9s,baz=177,slow=6.6,SNR=18
LSA Lhasa 51.64 311 *e*P P 01 34 18.8 -0.9
comp=Z,49nm,0.7s
LSA Lhasa 51.64 311 P P 01 34 22.0 +2.3
LSA Lhasa 51.64 311 *e*P P 01 34 18.8 -0.9
LSA pmax pmax
comp=Z,49nm,0.7s
GTA Gaotai 51.67 326 ⇓P P 01 34 21.8 +2.4
GTA pP sP 01 34 29.9 +0.1
GTA sP pP 01 34 33.8 +6.9
GTA pmax pmax
comp=Z,43nm,1.2s
JCZ Jackson Bay 52.13 149 P P 01 34 24.3 +1.6
TOZ Tahuroa Road 52.14 139 P P 01 34 24.4 +1.6
HIZ Hauiti 52.16 140 *e*P P 01 34 25.3 +2.5
comp=Z,72nm,1.1s
BWNR Bhubaneshwar 52.24 297 *e*P P 01 34 23.8 0.0
BWNR IAmb IAmb 01 34 30.6
comp=Z,53nm,0.9s
HIA Hailar 52.29 348 *e*P P 01 34 22.3 -1.4
HIA Hailar 52.29 348 *e*P P 01 34 22.3 -1.4
DCZ Deep Cove 52.31 151 *e*P P 01 34 26.8 +3.0
comp=Z,51nm,1.1s
TYV Tymovskoe 52.85 7 *e*P P 01 34 21.7 -6.0
TYV *e*S S 01 41 46.1 -9.0
TYV pmax pmax
comp=Z,15nm,1.5s
TYV smax smax
comp=N,8.0nm,1.7s
THZ Tophouse 52.88 144 *e*P P 01 34 29.2 +1.0
comp=N,115nm,1.9s
THZ Tophouse 52.88 144 P P 01 34 27.5 -0.8
RPZ Rata Peaks 53.09 147 P P 01 34 27.6 -2.1
comp=N,12nm,0.6s,baz=333,slow=6.8,SNR=9.4
RPZ Rata Peaks 53.09 147 *e*P P 01 34 30.4 +0.7
comp=N,71nm,1.4s
LTZ Lake Taylor 53.16 145 *e*P P 01 34 34.3 +4.1
comp=N,48nm,1.2s
CHLP Challavanipeta 53.27 295 *e*P P 01 34 29.5 -1.9
ODAN Odare 53.31 306 *e*P P 01 34 31.2 -0.7
comp=N,409nm,1.3s
TCW Tory Channel 53.36 143 P P 01 34 29.9 -1.8
BOK Bokaro 53.37 301 *e*P P 01 34 32.1 +0.1
URZ Urewera 53.50 138 P P 01 34 31.0 -1.8
comp=N,12nm,0.7s,baz=297,slow=2.3,SNR=3.0
URZ Urewera 53.50 138 *e*P P 01 34 36.1 +3.3
comp=N,49nm,1.1s
URZ Urewera 53.50 138 P P 01 34 30.9 -1.9
BKZ Black Stump Fm 53.58 139 *e*P P 01 34 37.5 +4.1
comp=N,39nm,0.8s
BKZ Black Stump Fm 53.58 139 P P 01 34 30.4 -3.0
RTZ Ruatahuna 53.60 139 P P 01 34 32.2 -1.4
KHZ Kahutara 53.66 144 P P 01 34 30.7 -3.1
HAZ Te Kaha 53.68 137 P P 01 34 34.5 +0.4
VIS Vishakhapatnam 53.71 293 *e*P P 01 34 34.4 -0.3
TSZ Takapari Road 53.74 141 P P 01 34 35.7 +1.2
ODZ Otahua Downs 53.76 149 *e*P P 01 34 38.1 +3.6
comp=N,22nm,1.0s
ODZ Otahua Downs 53.76 149 P P 01 34 37.7 +3.1
KRHZ Kereru 53.77 140 P P 01 34 33.3 -1.4
MWZ Matawai 53.81 138 P P 01 34 31.8 -3.3
RAGZ Rawiri 53.83 138 P P 01 34 32.7 -2.6
PKGZ Pakihiroa 53.95 137 P P 01 34 34.4 -1.8
RAMN Ramite 53.99 305 *e*P P 01 34 36.2 -0.7
comp=N,289nm,1.2s
WMGZ Waiomatatini S 54.15 137 P P 01 34 36.6 -0.9
PALK Pallekele 54.15 280 P P 01 34 37.4 -0.6
comp=N,13nm,0.8s,baz=118,slow=4.6,SNR=5.6
PALK Pallekele 54.15 280 *e*P P 01 34 37.1 -0.9
comp=N,85nm,1.4s
PALK Pallekele 54.15 280 P P 01 34 38.4 +0.4
PALK Pallekele 54.15 280 P P 01 34 37.4 -0.6
PALK pmax pmax
comp=Z,21nm,1.0s
KAHZ Kahuranaki 54.17 140 P P 01 34 35.1 -2.6
BFZ Birch Farm 54.27 141 P P 01 34 34.2 -4.2
PXZ Pawanui 54.30 140 P P 01 34 35.8 -2.7
CNGZ Carnagh Statio 54.35 138 P P 01 34 37.9 -1.1
JIRN Jiri 54.61 306 *e*P P 01 34 41.8 +0.2
comp=Z,296nm,1.3s
ULN Ulaanbaatar 54.77 338 *e*P P 01 34 42.0 0.0
comp=Z,251nm,1.8s
ULN Ulaanbaatar 54.77 338 *de*P P 01 34 43.4 +1.4
ULN pmax pmax
comp=Z,197nm,2.5s
NKL Nikolayevsk 54.92 5 *e*P P 01 34 44.0 +1.2
GUN Gumba 54.97 306 *e*P P 01 34 44.3 +0.2
comp=Z,94nm,0.7s
SONM Songino Array 54.99 337 P P 01 34 43.3 -0.3
comp=Z,15nm,1.1s,baz=155,slow=6.7,SNR=11
PVM Polavaram 55.16 292 *e*P P 01 34 44.0 -1.2
PKIN Phulchoki 55.22 306 *e*P P 01 34 45.7 -0.1
comp=Z,87nm,1.2s
KKN Kanni 55.40 306 *e*P P 01 34 47.2 +0.1
comp=Z,101nm,1.0s
DMN Daman 55.47 305 *e*P P 01 34 47.6 0.0
comp=Z,874nm,2.1s
MDRS Chennai 55.53 287 *e*P P 01 34 47.4 -0.5
MDRS IAmb IAmb 01 34 50.5
comp=Z,41nm,1.0s
GKN Gorkha 56.01 306 *e*P P 01 34 51.6 +0.2
comp=Z,270nm,1.3s
SKHT Srikalahasti 56.17 288 *e*P P 01 34 52.0 -0.5
CIT Chita 56.31 345 *e*P P 01 34 48.4 -4.5
ADKI Addanki 56.37 290 *e*P P 01 34 52.7 -1.2
KOLN Koldanda 56.77 305 *e*P P 01 34 57.4 +0.6
comp=Z,305nm,1.4s
DANN Dangsing 56.86 306 *e*P P 01 34 59.1 +1.5
comp=Z,30nm,1.0s
NJS Nagarjunasagar 57.15 291 *e*P P 01 34 58.7 -0.7
RCLA Racherla 57.24 290 *e*P P 01 34 59.1 -1.0
PYUN Piuthan 57.39 305 *e*P P 01 35 02.9 +1.7
comp=Z,444nm,1.0s
SRLM Srisailam 57.44 290 *e*P P 01 35 00.6 -1.0
RPR Rampur 57.71 294 *e*P P 01 35 02.2 -1.2

TRD Trivandrum 57.99 281 *e*P P 01 35 05.1 -0.3
PEA0B Petropavlovsk- 58.04 16 *e*P P 01 35 06.8 +1.7
comp=Z,217nm,1.5s
PETK Petropavlovsk- 58.04 16 P P 01 35 04.7 -0.4
comp=Z,18nm,1.0s,baz=196,slow=2.3,SNR=8.8
PETK Petropavlovsk- 58.04 16 *e*P P 01 35 05.8 +0.8
PETK Petropavlovsk- 58.04 16 *e*P P 01 35 05.9 +0.8
HYB Hyderabad 58.05 292 *i*P P 01 35 07.0 +1.2
HYB Hyderabad 58.05 292 *e*P P 01 35 04.7 -1.1
HYBB Hyderabad (bro 58.05 292 *e*P P 01 35 04.5 -1.3
PET Petropavlovsk 58.24 17 *e*P P 01 35 06.6 +0.2
comp=Z,312nm,2.0s
PET Petropavlovsk 58.24 17 *e*P P 01 35 06.4 0.0
PET pmax pmax
comp=Z,61nm,2.0s
ZAK Zakamensk 58.26 337 *e*P P 01 35 05.1 -1.7
ZAK pmax pmax
comp=Z,47nm,1.6s
NGP Nagpur 58.53 296 *e*P P 01 35 07.7 -1.4
NGP IAmb IAmb 01 35 16.3
comp=Z,108nm,1.5s
SRSP Sriramsagar 58.60 293 *e*P P 01 35 09.2 -0.4
URV Uravakonda 58.74 289 *e*P P 01 35 08.9 -1.8
CLNS Chul'man 58.84 354 *e*P P 01 35 11.6 +1.0
CLNS pmax pmax
comp=Z,43nm,1.0s
CLNS pmax pmax
comp=N,38nm,1.0s
CLNS pmax pmax
comp=E,23nm,1.1s
TLY Talaya 59.16 338 *e*P P 01 35 14.0 +1.1
TLY Talaya 59.16 338 *e*P P 01 35 15.5 +2.6
TLY pmax pmax
comp=Z,51nm,1.9s
KLRI Killari 60.01 292 *e*P P 01 35 18.1 -1.4
MOY Mondy 60.16 337 *e*P P 01 35 19.5 -0.4
MOY pmax pmax
comp=Z,224nm,2.4s
BHPL Bhopal 60.55 298 *e*P P 01 35 21.9 -1.1
BHPL IAmb IAmb 01 35 24.0
comp=Z,32nm,0.6s
WMQ Urumqi 61.49 323 P P 01 35 29.9 +0.8
WMQ pP sP 01 35 40.5 +0.9
WMQ sP pP 01 35 42.9 +6.2
WMQ pmax pmax
comp=Z,130nm,0.9s
BOD Bodaibo 61.51 348 *e*P P 01 35 28.8 0.0
BOD pmax pmax
comp=Z,151nm,1.7s
GOA Goa 62.10 288 *e*P P 01 35 32.9 -0.7
DDI Dehra Dun 62.21 306 *e*P P 01 35 33.8 -0.4
MA2 Magadan 62.46 9 P P 01 35 35.0 -0.2
comp=Z,21nm,1.0s,baz=189,slow=9.0,SNR=8.9
MA2 Magadan 62.46 9 *e*P P 01 35 36.1 +0.9
comp=Z,279nm,1.9s
MA2 Magadan 62.46 9⇑*e*P P 01 35 34.7 -0.5
POO Poona 62.66 292 *e*P P 01 35 38.0 +0.7
H08N1 Diego Carcia H 63.20 264 P P 01 35 40.2 -0.5
baz=112,slow=3.7,SNR=3.6
SMLA Simla 63.21 306 *e*P P 01 35 41.4 +0.7
H08N2 Diego Garcia H 63.22 264 P P 01 35 40.3 -0.5
baz=112,slow=3.7,SNR=4.8
H08N3 Diego Garcia H 63.23 264 P P 01 35 41.0 +0.2
baz=112,slow=3.7,SNR=3.0
YAK Yakutsk 63.66 358 *e*P P 01 35 41.3 -1.7
comp=Z,198nm,0.9s
YAK Yakutsk 63.66 358 *e*P P 01 35 40.8 -2.2
YAK *e**PP **pP** 01 35 48.4 -2.3
YAK *e*S **S** 01 44 10.8 -4.8
YAK *e**SS **sS** 01 44 35.3 +7.1
YAK pmax pmax
comp=Z,192nm,0.9s
YAK pmax pmax
comp=N,47nm,1.0s
YAK pmax pmax
comp=E,9.0nm,0.9s
YAK smax smax
comp=N,2μm,10.2s
YAK smax smax
comp=E,4μm,10.6s
YAK MLR MLR
comp=Z,16μm,17.0s
YAK MLR MLR
comp=N,15μm,19.0s
YAK MLR MLR
comp=E,7μm,16.0s
DHRM DHARAMSHALA 64.28 307 *e*P P 01 35 45.7 -2.4
ZSN Zaisan 65.16 325 *e*P P 01 35 54.9 +1.6
comp=E,84nm,1.3s
SEY Seymchan 65.90 9 P P 01 35 56.0 -1.7
comp=E,51nm,0.9s,baz=183,slow=7.3
SEY Seymchan 65.90 9*ce*P P 01 35 57.1 -0.6
MK01 Makanchi Array 66.28 324 *e*P P 01 35 59.8 -0.8
MK31 Makanchi Array 66.30 324 *e*P P 01 36 00.2 -0.5
MK31 Makanchi Array 66.30 324 *i*P P 01 35 59.9 -0.8
MK31 pmax pmax
comp=Z,47nm,0.8s
MKAR Makanchi Array 66.30 324 P P 01 35 59.2 -1.4
comp=Z,28nm,0.7s,baz=112,slow=7.4,SNR=27
MKAR Makanchi Array 66.30 324 *e*P P 01 36 00.1 -0.6
comp=Z,217nm,0.8s
MKAR Makanchi Array 66.30 324 *e*P P 01 36 00.1 -0.6
MKAR pmax pmax
comp=Z,217nm,0.8s
SHLS Shalkode 66.31 319 *e*P P 01 36 00.3 -0.7
comp=Z,807nm,1.6s
SHLS *e*S **S** 01 44 47.9 -1.4
SHLS LR LR 02 05 34.1
comp=Z,3μm,14.6s
PDGK Podgornoye 66.37 319 *i*P P 01 35 59.6 -1.7
PDGK pmax pmax
comp=Z,76nm,1.3s
UZB Uzynbulak 66.59 319 *e*P P 01 36 03.6 +0.8
comp=Z,502nm,1.0s
KPKS Kokpek 66.96 319 *e*P P 01 36 05.4 +0.4
comp=Z,870nm,1.7s
KPKS *e*S **S** 01 44 57.8 +0.8
SATY Saty 66.96 319 *e*P P 01 36 05.4 +0.4
comp=Z,1μm,0.9s
SATY *e*S **S** 01 44 57.8 +0.6
NIL Nilore 67.16 308 *e*P P 01 36 06.7 +0.3
NIL Nilore 67.16 308 *e*P P 01 36 06.7 +0.3
KSH Kashi 67.17 314 P P 01 36 05.6 -0.9
KSH pP pP 01 36 12.9 -1.2
KSH pmax pmax
comp=Z,130nm,1.1s
KSH LR LR
comp=Z,2μm,9.8s
KSH LR LR
comp=Z,1μm,8.5s
KDJ Kajisay 67.38 317 *e*P P 01 36 09.4 +1.6
comp=Z,38nm,0.8s
KDJ Kajisay 67.38 317 P P 01 36 09.5 +1.6
KDJ pmax pmax
comp=Z,38nm,0.9s
NRN Naryn 67.90 316 P P 01 36 13.1 +1.8
NRN pmax pmax
comp=Z,38nm,1.3s
AAA Alma-Ata 68.01 318 *e*P P 01 36 11.5 -0.1
AAA LR LR 02 07 05.3
comp=Z,3μm,19.2s
KUU Kurty 68.67 319 *e*P P 01 36 16.6 +0.8
comp=Z,287nm,1.4s
KUU *e*S **S** 01 45 19.1 +1.6
TKM2 Tokmak 2 68.77 318 *i*P P 01 36 17.2 +0.6
TKM2 pmax pmax
comp=Z,70nm,1.7s
ZAA0 Zalesovo Array 68.86 331 *e*P P 01 36 15.0 -1.6
ZALV Zalesovo Beam 68.86 331 P P 01 36 14.8 -1.8
comp=Z,16nm,0.8s,baz=119,slow=6.5,SNR=11
ZALV Zalesovo Beam 68.86 331 *e*P P 01 36 14.6 -2.1
ZALV Zalesovo Beam 68.86 331 *e*P P 01 36 14.6 -2.1
ATKA Atka Island 68.95 31 *e*P P 01 36 18.5 +1.4
comp=Z,120nm,1.0s
SFK Sufi-Kurgan 69.12 314 *i*P P 01 36 18.1 -0.8
SFK pmax pmax
comp=Z,30nm,0.7s
SEM Semipalatinsk 69.31 326 *e*P P 01 36 19.4 -0.4
comp=Z,239nm,1.3s
AAK Ala-Archa 69.41 317 P P 01 36 21.3 +0.9
comp=Z,14nm,1.0s,baz=144,slow=7.7,SNR=8.6
AAK Ala-Archa 69.41 317 *e*P P 01 36 20.2 -0.3
comp=Z,41nm,1.2s
AAK Ala-Archa 69.41 317 P P 01 36 22.5 +2.0
AAK Ala-Archa 69.41 317 P P 01 36 22.9 +2.4

AAK pmax pmax
comp=Z,36nm,1.1s
KIP Kipapa 70.00 67 *e*P **P 01 36 26.1 +1.7**
comp=Z,111nm,0.9s
KIP Kipapa 70.00 67 *i*P **P 01 36 26.4 +2.1**
NVS Novosibirsk 70.14 331 *e*P **P 01 36 24.2 -0.3**
NVS pmax pmax
comp=Z,58nm,1.1s
NVS pmax pmax
comp=N,24nm,1.0s
NVS pmax pmax
comp=E,15nm,0.8s
KURK Kurchatov 70.36 326 P **P 01 36 24.4 -1.6**
KURK Kurchatov 70.36 326 P **P 01 36 24.4 -1.6**
KURBB Kurchatov Arra 70.37 326 P **P 01 36 24.4 -1.6**
comp=E,36nm,1.0s,baz=120,slow=5.1,SNR=17
KBL Kabul 70.76 307 *e*P **P 01 36 29.6 +0.6**
comp=E,43nm,1.0s
KBL Kabul 70.76 307 *e*P **P 01 36 29.6 +0.6**
KBL pmax pmax
comp=Z,43nm,1.0s
KK31 Karatay Array 72.30 316 *e*P **P 01 36 38.4 +0.5**
KK31 Karatay Array 72.30 316 *i*P **P 01 36 37.7 -0.2**
KK31 pmax pmax
comp=Z,35nm,0.9s
KKAR Karatay Array 72.30 316 *e*P **P 01 36 36.5 -1.3**
KKAR Karatay Array 72.30 316 *e*P **P 01 36 36.6 -1.3**
IUG luzhnay 72.32 315 *e*P **P 01 36 39.5 +1.3**
comp=Z,594nm,1.0s
IUG *i*S **S 01 46 02.5 +2.3**
IUG LR LR 02 08 38.6
comp=Z,6µm,20.4s
CHM Chimkent 72.67 315 *e*P **P 01 36 40.9 +0.8**
OTUK Ortayu 72.97 322 P **P 01 36 41.8 0.0**
OTUK pmax pmax
comp=Z,97nm,1.3s
BILL Bilibino 73.06 12 *i*P **P 01 36 40.4 -1.4**
BILL *i* 01 36 59.6
BILL *i* 01 39 23.6
BILL pmax pmax
comp=Z,18nm,1.2s
TIXI Tiksi 73.31 358 P **P 01 36 40.9 -2.3**
comp=Z,14nm,0.9s,baz=207,slow=1.5,SNR=7.0
TIXI Tiksi 73.31 358 *e*P **P 01 36 41.5 -1.7**
comp=Z,38nm,1.2s
TIXI Tiksi 73.31 358 *ce*P **P 01 36 44.4 +1.2**
TIXI pmax pmax
comp=Z,40nm,1.3s
BRZS Berezniki 73.45 324 *e*P **P 01 36 45.1 +0.5**
comp=Z,49nm,1.1s
UNV Unalaska Valle 73.80 32 *e*P **P 01 36 45.6 -0.8**
comp=Z,88nm,1.0s
AKUT Akutan 74.31 32 *e*P **P 01 36 49.2 -0.2**
comp=Z,78nm,0.7s
FALS False Pass 75.86 32 *e*P **P 01 36 57.0 -1.4**
comp=Z,74nm,0.7s
BVAR Borovoye Array 75.96 326 P **P 01 36 57.7 -1.3**
comp=Z,13nm,0.7s,baz=124,slow=7.0,SNR=16
BRVK Borovoye 76.03 326 *e*P **P 01 36 58.6 -0.8**
comp=Z,47nm,1.0s
BRVK Borovoye 76.03 326↓ *e*P **P 01 37 00.9 +1.5**
BRVK pmax pmax
comp=Z,22nm,1.0s
GAMB Gambell 76.45 22 *e*P **P 01 37 00.6 -0.9**
comp=Z,55nm,1.2s
MRIV Mauritius Mete 76.98 250 *e*P **P 01 37 07.3 +1.9**
VNDA Vanda 77.21 174 P **P 01 37 03.2 -2.5**
comp=Z,4.7nm,0.7s,baz=321,slow=6.2,SNR=8.0
VNDA Vanda 77.21 174 *e*P **P 01 37 05.0 -0.6**
comp=Z,16nm,1.0s
VNDA Vanda 77.21 174 *e*P **P 01 37 05.0 -0.6**
VNDA pmax pmax
comp=Z,16nm,1.0s
WSAR Wadi Sarin 77.47 294 P **P 01 37 07.2 -1.0**
comp=Z,23nm,0.9s,baz=147,slow=5.3,SNR=15
SDPT Sand Point 77.61 32 *e*P **P 01 37 07.0 -1.3**
comp=Z,228nm,1.0s
BIDO Bidbid 77.96 294 P **P 01 37 11.0 +0.1**
SNR=15
SBA Scott Base 78.03 173 *e*P **P 01 37 11.0 +0.8**
comp=Z,46nm,1.5s
SBA Scott Base 78.03 173 *e*P **P 01 37 11.0 +0.8**
SBA pmax pmax
comp=Z,46nm,1.5s
HOQ Hoqain 78.71 294 P **P 01 37 15.4 +0.3**
SNR=10.0
SOHO SOHO 79.49 295 *i*P **P 01 37 18.1 -1.2**
SNR=13
UOSS Minazif 79.88 296 *e*P **P 01 37 20.9 -0.5**
comp=Z,46nm,0.9s
UOSS Minazif 79.88 296 P **P 01 37 19.7 -1.8**
BANOM Banah 79.91 297 P **P 01 37 21.9 +0.3**
SNR=7.2
BANOM Banah 79.91 297 *i*P **P 01 37 21.6 0.0**
SNR=12
HATD Hatta, Dubai 79.93 295 *i*P **P 01 37 21.6 -0.1**
SNR=7.2
MSFE Esma-Masafi 79.97 296 *i*P **P 01 37 22.0 +0.1**
SNR=11
ASHO Ashiyiah 79.98 295 P **P 01 37 22.0 0.0**
SNR=5.1
SHME Shamm 80.06 297 *i*P **P 01 37 21.2 -1.2**
SNR=7.0
GEYT Alibeck 80.12 309 P **P 01 37 21.6 -1.0**
comp=Z,31nm,0.9s,baz=127,slow=3.6,SNR=18
GYA0B ALIBECK ARRAY 80.12 309 *e*P **P 01 37 23.7 +1.2**
comp=Z,46nm,0.8s
ALNE Al Ain 80.19 295 *i*P **P 01 37 22.3 -0.9**
SNR=12
AJN Ajban 80.94 295 P **P 01 37 27.7 +0.7**
AB31 Akbulak array 81.08 320 P **P 01 37 24.9 -2.4**
AB31 pmax pmax
comp=Z,23nm,0.8s
ABKAR Akbulak array 81.08 320 *e*P **P 01 37 26.1 -1.2**
comp=Z,21nm,0.7s
MAW Mawson 81.40 202 P **P 01 37 29.4 +0.8**
comp=Z,4.9nm,0.7s,baz=91,slow=2.2,SNR=4.4
MAW Mawson 81.40 202 P **P 01 37 30.2 +1.6**
baz=81,SNR=5.5
MAW Mawson 81.40 202 *e*P P 01 37 34.4 +5.8
comp=Z,7.7nm,1.1s
OHAK Old Harbor 82.01 32 *e*P **P 01 37 31.6 -0.5**
comp=Z,262nm,1.8s
SVW2 Sparrevohn 82.02 27 *e*P **P 01 37 33.9 +1.8**
comp=Z,52nm,1.2s
SVE Sverdlovsk 82.50 328 *e*P **P 01 37 35.7 +1.1**
SVE pmax pmax
comp=Z,95nm,2.0s
KDAK Kodiak Island 82.53 31 P **P 01 37 34.1 -0.6**
comp=Z,29nm,0.7s,baz=301,slow=5.0,SNR=11
KDAK Kodiak Island 82.53 31 *e*P **P 01 37 35.4 +0.7**
comp=Z,320nm,1.8s
KDAK Kodiak Island 82.53 31 *i*P **P 01 37 35.2 +0.5**
AKTO Aktyubinsk 82.56 321 P **P 01 37 34.7 -0.4**
comp=Z,8.5nm,0.8s,baz=79,slow=6.4,SNR=9.8
ARU Arti 83.52 327 P **P 01 37 40.2 +0.2**
comp=Z,9.2nm,0.5s,baz=101,slow=7.3,SNR=6.5
ARU Arti 83.52 327 *e*P **P 01 37 40.2 +0.2**
comp=Z,178nm,1.6s
ARU Arti 83.52 327 *d i*P **P 01 37 40.8 +0.9**
ARU 01 40 52.8
ARU S **S 01 48 01.8 +1.6**
ARU SS **SS 01 53 25.6 -0.9**
ARU pmax pmax
comp=Z,132nm,1.7s
BRLK Bradley Lake 83.88 29 *e*P **P 01 37 42.0 +0.2**
PPLA Purkeypile 84.07 26 *e*P **P 01 37 43.0 +0.1**
comp=Z,31nm,1.1s
CAST Castle Rocks 84.26 26 *e*P **P 01 37 44.7 +1.1**
SUA Susitna One 84.36 28 *e*P **P 01 37 44.8 +0.5**
comp=Z,38nm,0.9s
RC01 Rabbit Creek A 84.75 28 *e*P **P 01 37 43.4 -2.7**
KTH Kantishna Hill 84.80 26 *e*P **P 01 37 45.6 -0.8**
comp=Z,91nm,1.3s
BPAW Bear Paw Mtn. 84.91 25 *e*P **P 01 37 47.2 +0.4**
comp=Z,17nm,1.4s
TRF Thorofare Moun 85.05 26 *e*P **P 01 37 48.9 +1.1**
comp=Z,153nm,1.7s
PMR Palmer 85.14 28 *e*P **P 01 37 45.9 -2.1**
comp=Z,62nm,1.2s
PMR Palmer 85.14 28 *e*P **P 01 37 45.9 -2.1**
PMR pmax pmax
comp=Z,62nm,1.2s
SML Sawmill 85.56 28 *e*P **P 01 37 49.0 -1.1**
comp=Z,24nm,1.1s
SML Sawmill 85.56 28 *e*P **P 01 37 49.1 -1.1**
SML pmax pmax
comp=Z,24nm,1.1s
MCK McKinley 85.70 26 *e*P **P 01 37 51.8 +0.9**
comp=Z,143nm,1.2s
MCK McKinley 85.70 26 *e*P **P 01 37 51.8 +0.9**
MCK pmax pmax
comp=Z,143nm,1.2s
COLD Coldfoot 85.99 22 *e*P **P 01 37 52.0 -0.2**
SCM Sheep Creek Mo 86.03 28 *e*P **P 01 37 52.5 -0.1**
SCM Sheep Creek Mo 86.03 28 *e*P **P 01 37 52.5 -0.1**
WRH Wood River Hil 86.22 25 *e*P **P 01 37 53.8 +0.4**
comp=Z,129nm,1.4s
DHY Denali Highway 86.25 27 *e*P **P 01 37 55.0 +1.2**
CCB Clear Creek Bu 86.38 25 *e*P **P 01 37 54.0 -0.1**
COLA College 86.40 25 *e*P **P 01 37 53.4 -0.8**
comp=Z,190nm,2.0s
COLA College 86.40 25 *e*P **P 01 37 53.4 -0.8**
COLA pmax pmax
comp=Z,190nm,2.0s
KLU Klutina 86.63 28 *e*P **P 01 37 56.9 +1.3**
DIV Divide 86.64 29 *e*P **P 01 37 54.9 -0.7**
comp=Z,148nm,1.1s
OPO Ambohidratompo 86.67 252 P **P 01 37 57.6 +0.8**
comp=Z,34nm,0.9s,baz=63,slow=6.8,SNR=7.0
HDA Harding Lake 86.69 25 *e*P **P 01 37 56.5 +0.8**
ILAR Eielson Array 86.79 25 P **P 01 37 54.3 -1.9**
comp=Z,6.0nm,0.6s,baz=260,slow=4.5,SNR=16
ILB Eielson Array 86.79 25 *e*P **P 01 37 55.5 -0.7**
RAGM Ragged Mountai 87.06 29 *e*P **P 01 37 59.8 +2.2**
PAX Paxson 87.09 27 *e*P **P 01 37 57.9 +0.1**
comp=Z,27nm,0.9s
PAX Paxson 87.09 27 *e*P **P 01 37 57.9 +0.1**
PAX pmax pmax
comp=Z,27nm,0.9s
HARP HAARP 87.14 27 *e*P **P 01 38 00.0 +2.1**
BMRM Bremner River 87.18 29 *e*P **P 01 37 59.5 +1.3**
RIDG Independ'e Rid 87.49 26 *e*P **P 01 38 01.4 +1.7**
DOT Dot Lake 87.82 26 *e*P **P 01 38 00.6 -0.6**
comp=Z,45nm,0.9s
MENT Mentasta 87.87 27 *e*P **P 01 38 03.8 +2.3**
comp=Z,43nm,1.4s
QSPA South Pole Qui 88.24 180 P **P 01 38 01.3 -2.0**
comp=Z,5.8nm,0.5s,baz=325,slow=2.9,SNR=9.6
QSPA South Pole Qui 88.24 180 *e*P **P 01 38 00.7 -2.5**
BALM Baldy 88.28 29 *e*P **P 01 38 05.5 +1.9**
BALM Baldy 88.28 29 *e*P **P 01 38 05.5 +1.9**
AKT Akhty 88.49 311 *e*P **P 01 38 05.2 +0.2**
AKT *e* 01 41 33.6
AKT pmax pmax
comp=Z,51nm,1.2s
EGAK Eagle 89.22 25 *e*P **P 01 38 07.4 -0.3**
comp=Z,19nm,1.0s
RAYN Ar Rayn 89.51 293 *e*P **P 01 38 07.7 -2.4**
comp=Z,47nm,1.0s
DAWY Dawson 89.92 26 *e*P **P 01 38 08.7 -2.4**
comp=Z,18nm,1.0s
SYO Syowa Base 90.10 201↑ *e*P **P 01 38 12.2 +0.5**
DAMY Dhamar 90.27 284 *e*P **P 01 38 14.6 +0.4**
comp=Z,19nm,0.7s
GNI Garni 90.70 310 P **P 01 38 14.1 -1.3**
comp=Z,11nm,1.2s,baz=326,slow=7.3,SNR=1.9
GNI Garni 90.70 310 *e*P **P 01 38 16.1 +0.7**
comp=Z,108nm,1.1s
GNI Garni 90.70 310↓ *e*P **P 01 38 16.3 +0.9**
GNI pmax pmax
comp=Z,82nm,1.5s
ZEI Tsey 91.39 313 *e*P **P 01 38 17.9 -0.7**
ZEI pmax pmax
comp=Z,16nm,1.0s
ATD Arta Tunnel 91.70 281 P **P 01 38 21.0 +0.5**
comp=Z,9.5nm,0.9s,baz=323,slow=6.4,SNR=4.2
NEY Neytrino 92.26 313↓ *e*P **P 01 38 24.8 +2.2**
NEY pmax pmax
comp=Z,4.0nm,1.1s
KIV Kislovodsk 92.29 314 *e*P **P 01 38 22.9 +0.3**
comp=Z,19nm,1.2s
KIV Kislovodsk 92.29 314 *e*P **P 01 38 21.3 -1.3**
KIV pmax pmax
comp=Z,8.0nm,1.0s
INK Inuvik 92.40 22 P **P 01 38 20.8 -1.6**
comp=Z,4.8nm,0.9s,baz=249,slow=2.6,SNR=4.9
INK Inuvik 92.40 22 *e*P **P 01 38 21.4 -1.0**
comp=Z,21nm,1.2s
INK Inuvik 92.40 22 *e*P **P 01 38 21.4 -1.0**
INK pmax pmax
comp=Z,21nm,1.2s
KLMR Klimovskoe 93.78 331 *e*P **P 01 38 27.8 -1.2**
KLMR AMP 01 38 32.7
comp=Z,41nm,1.3s
KLMR *e*PP **PP 01 42 12.0 -2.3**
KLMR Klimovskoe 93.78 331 *e*P **P 01 38 27.8 -1.2**
KLMR *e* 01 42 11.9
KLMR pmax pmax
comp=Z,41nm,1.3s
TMCR Tamitsa 94.23 334 *e*P **P 01 38 30.9 0.0**
TMCR pmax pmax
comp=Z,16nm,1.0s
OBN Obninsk 95.78 325↑ *i*P **P 01 38 37.8 -0.4**
OBN pmax pmax
comp=Z,40nm,1.5s
KMBO Kilima Mbogo 96.95 269 *e*P **P 01 38 46.1 +1.3**
comp=Z,3.2nm,0.8s
KMBO Kilima Mbogo 96.95 269 *e*P **P 01 38 46.1 +1.3**
KMBO pmax pmax
comp=Z,3.0nm,0.8s
SPITS Spitsbergen Ar 97.19 349 P Pdif 01 38 44.5 +0.2
comp=Z,14nm,1.0s,baz=54,slow=7.5,SNR=3.5
ARCES ARCESS Array B 98.08 340 P Pdif 01 38 48.5 +0.1
comp=Z,6.1nm,0.7s,baz=75,slow=5.0,SNR=8.5
MMAI Mount Meron Ar 98.34 303 P Pdif 01 38 51.1 +0.6
comp=Z,1.7nm,0.8s,baz=93,slow=6.3,SNR=2.4
BRTR Keskin Array B 99.24 310 P **Pdif 01 38 51.9 -2.5**
comp=Z,2.0nm,1.0s,baz=95,slow=3.2,SNR=3.0
CSS Mathiatis 99.91 305 *e*Pdif **Pdif 01 38 57.8 +0.4**
comp=Z,3.0nm,1.0s
FINES FINESS Array B 100.11 332 P **Pdif 01 38 55.7 -1.8**
comp=Z,5.9nm,1.0s,baz=102,slow=4.6,SNR=3.8
VSU Vasula 100.55 329↓ *e*P **Pdif 01 38 58.7 -0.9**
VSU pmax pmax
comp=Z,73nm,1.2s
AKASG Malin Array Be 100.80 321 P **Pdif 01 38 59.2 -1.7**
comp=Z,2.6nm,0.8s,baz=66,slow=4.2,SNR=4.4
YKA Yellowknife Ar 101.16 26 P **Pdif 01 39 00.7 -1.5**
comp=Z,1.7nm,0.9s,baz=290,slow=4.5,SNR=4.8
YKA PKiKP **PKiKP 01 43 27.1 +0.2**
comp=Z,0.5nm,0.7s,baz=290,slow=1.8,SNR=4.3
RES Resolute Bay 101.67 12 *e*Pdif **Pdif 01 39 04.2 0.0**
RES Resolute Bay 101.67 12 *e*P **Pdif 01 39 04.2 0.0**
KIS Kishinev 101.74 318 *e*P **Pdif 01 39 00.0 -5.2**
UZH Uzhgorod 105.66 320 *e*P **Pdif 01 39 24.7 +2.1**
PSZ Piszkesteto 107.40 320 *e*PKP **PKiKP 01 43 39.5 +0.5**
PDAR Pinedale Array 110.18 45 PKiKP **PKiKP 01 43 43.4 -1.2**
comp=Z,0.4nm,0.7s,baz=48,slow=1.3,SNR=2.8
CLL Collm 110.38 325 *e*PKiKP **PKiKP 01 43 46.0 +1.6**
CLL Collm 110.38 325 *e*PKiKP **PKiKP 01 43 46.0 +1.6**
ARSA Arzberg 110.41 320 *i*PKiKP **PKiKP 01 43 45.6 +1.0**
comp=Z,3µm,10.1s
GERES GERESS Array B 110.95 322 PKiKP **PKiKP 01 43 44.3 -1.4**
comp=Z,2.4nm,0.8s,baz=96,slow=1.0,SNR=16
OBKA Obir 111.30 320 *ep*PKiKP **PKiKP 01 43 48.8 +2.4**
comp=Z,16nm,1.7s
FCC Fort Churchill 111.81 25 *e*PKP **PKiKP 01 43 46.4 -0.4**
FCC Fort Churchill 111.81 25 *e*PKIKP **PKiKP 01 43 46.4 -0.4**
MYKA Terra Mystica 111.84 320 *i*PKiKP **PKiKP 01 43 48.9 +1.5**
comp=Z,2µm,11.1s
KBA Koelnbreinsper 111.86 321 PKiKP **PKiKP 01 43 48.3 +0.8**
comp=Z,934nm,7.0s
ABTA Abtaltersbach 112.51 321 *i*PKiKP **PKiKP 01 43 50.1 +1.5**
comp=Z,8.5nm,1.0s
WTTA Wattenberg 112.85 321 *e*PKiKP **PKiKP 01 43 48.5 -0.9**
comp=Z,9.5nm,0.7s
WATA Walderalm 112.86 322 *e*PKiKP **PKiKP 01 43 50.3 +0.9**
comp=Z,2.7nm,0.4s
MOTA Moosalm 113.15 322 *e*PKiKP **PKiKP 01 43 50.4 +0.5**
comp=Z,10.0nm,0.9s
FETA Feichten 113.52 322 *i*PKiKP **PKiKP 01 43 51.3 +0.6**
comp=Z,11nm,1.0s
DAVA Damuels 113.93 322 *e*PKiKP **PKiKP 01 43 51.9 +0.4**
comp=Z,8.1nm,0.7s
ULM Lac du Bonnet 115.73 33 PKP **PKPdf 01 43 53.6 -1.0**
comp=Z,2.4nm,0.6s,baz=281,slow=3.2,SNR=5.7
FRB Frobisher Bay 115.86 11 PKP **PKPdf 01 43 53.5 -0.9**
comp=Z,2.4nm,0.8s,baz=11,slow=4.8,SNR=3.8
EKA Eskdalemuir Ar 116.40 334 PKP **PKPdf 01 43 55.2 -0.5**
comp=Z,0.5nm,0.5s,baz=8.9,slow=3.3,SNR=6.7
MNTX Cornudas Mount 116.51 55 *e*PKPdf **PKPdf 01 43 58.1 +1.4**
BNI Bardonecchia 116.92 321 *e*PKPdf **PKPdf 01 43 57.9 +0.7**
BNI Bardonecchia 116.92 321 *e*PKIKP **PKPdf 01 43 57.9 +0.7**
SSB Saint Sauveur 118.14 322 *e*PKPdf **PKPdf 01 44 00.6 +1.1**
SSB Saint Sauveur 118.14 322 *e*PKIKP **PKPdf 01 44 00.6 +1.1**
TXAR Lajitas Array 118.56 57 PKP **PKPdf 01 43 59.7 -1.1**
comp=Z,0.7nm,0.7s,baz=251,slow=2.8,SNR=2.4
H34A Spellman Lake, 118.62 39 P **PKPdf 01 43 58.5 -1.8**
baz=299
KEST Kesra 118.84 310 PKP **PKPdf 01 43 59.5 -1.6**
comp=Z,5.9nm,0.9s,baz=52,slow=3.0,SNR=5.1
H35A Sunnyside Ranc 119.19 38 P **PKPdf 01 44 00.3 -1.2**
baz=300
K35A Storm Lake 119.91 40 P **PKPdf 01 44 01.5 -1.5**
baz=299
L35A Bielow Farm, R 119.99 41 P **PKPdf 01 44 01.0 -2.1**
baz=298
C39A Grand Marais 120.22 33 P **PKPdf 01 44 02.0 -1.3**
baz=306
C40A Isle Royale Na 120.69 33 P **PKPdf 01 44 03.1 -1.1**
baz=307
F39A Loretta 120.88 35 P **PKPdf 01 44 02.5 -2.2**
baz=304
E40A Wakefield 121.15 34 P **PKPdf 01 44 04.1 -1.1**
baz=306
F40A Park Falls 121.33 35 P **PKPdf 01 44 04.3 -1.3**
baz=305
H39A Augusta 121.35 37 P **PKPdf 01 44 04.2 -1.4**
baz=304
JCT Junction City 121.44 55 *e*PKPdf **PKPdf 01 44 05.3 -0.9**
JCT Junction City 121.44 55 *e*PKIKP **PKPdf 01 44 05.3 -0.9**
I39A Houston 121.66 38 P **PKPdf 01 44 04.3 -1.9**
baz=303
J39A Decorah 121.82 38 P **PKPdf 01 44 05.1 -1.5**
baz=302
H40A Chili 121.91 36 P **PKPdf 01 44 04.8 -1.9**
baz=304
K40A Colesburg 122.51 38 P **PKPdf 01 44 06.0 -1.9**
baz=303
P38A Dawn 122.52 43 P **PKPdf 01 44 06.3 -1.7**
baz=299
Q39A Willow Grove F 123.17 43 P **PKPdf 01 44 07.3 -2.0**
baz=299
R39A Chumby, Stover 123.48 44 P **PKPdf 01 44 08.4 -1.5**
baz=298
S39A Bolivar 123.58 45 P **PKPdf 01 44 08.2 -1.9**
baz=298
L42A Oliver, Polo 123.81 38 P **PKPdf 01 44 09.0 -1.4**
baz=304
Q40A Laux Farm, Aux 123.81 43 P **PKPdf 01 44 08.8 -1.8**
baz=300
T39A Clever 123.84 45 P **PKPdf 01 44 09.3 -1.4**
baz=297
R40A Maddies Statio 124.02 44 P **PKPdf 01 44 08.2 -2.8**
baz=299
Q41A Truxton 124.40 42 P **PKPdf 01 44 09.6 -2.0**
baz=300
R41A Rosebud 124.63 43 P **PKPdf 01 44 10.1 -2.0**
baz=300
P42A Winchester 124.67 41 P **PKPdf 01 44 10.1 -2.0**
baz=302
ESDC Sonseca Array 126.43 320 PKP **PKPdf 01 44 14.0 -1.6**
comp=Z,0.7nm,0.6s,baz=31,slow=1.6,SNR=7.7
WCI Wyandotte Cave 128.06 41 *e*PKPdf **PKPdf 01 44 18.5 -0.2**
WCI Wyandotte Cave 128.06 41 *e*PKIKP **PKPdf 01 44 18.5 -0.2**
TKL Tuckaleechee C 131.18 42 PKP **PKPdf 01 44 23.3 -1.4**
comp=Z,3.5nm,0.7s,baz=324,slow=5.9,SNR=6.4
TORD Torodi Ar, Bea 131.69 286 PKP **PKPdf 01 44 24.3 -1.9**
comp=Z,2.7nm,0.8s,baz=79,slow=1.7,SNR=11
TORD SKPbc **SKPbc 01 47 50.0 -0.4**
comp=Z,4.2nm,0.9s,baz=79,slow=4.0,SNR=9.6
PLCA Paso Flores 132.10 155 PKP **PKPdf 01 44 25.3 -1.1**
comp=Z,2.6nm,1.0s,baz=353,slow=4.5,SNR=2.7
DBIC Dimbokro 138.92 278 PKhKP PKPpre 01 44 33.1
comp=Z,5.5nm,0.8s,baz=42,slow=4.3,SNR=4.3
DBIC PKP **PKPdf 01 44 37.1 -2.6**
comp=Z,5.5nm,0.8s,baz=44,slow=3.9,SNR=4.1
JTS JuntasAbangare 140.14 76 *e*PKPdf **PKPdf 01 44 42.6 +0.7**
JTS JuntasAbangare 140.14 76 *e*PKIKP **PKPdf 01 44 42.7 +0.7**
LCO Las Campanas 141.23 144 *e*PKPdf **PKPdf 01 44 43.7 -0.1**
BCIP Isla Barro Col 145.30 76 *e*PKPbc **PKPbc 01 44 50.0 -0.8**
BCIP Isla Barro Col 145.30 76 *e*P **PKPbc 01 44 46.4 -4.4**
NNA Nana 146.26 115 *e*PKPbc **PKPab 01 44 55.0 +0.4**
NNA Nana 146.26 115 *e*PKP2 **PKPab 01 44 55.0 +0.4**
ASCN Ascension 147.25 253 *e*PKPbc **PKPab 01 44 58.0 -0.4**
OTAV Otavalo 147.28 92 *e*PKPbc **PKPbc 01 44 57.3 -0.1**
OTAV Otavalo 147.28 92 *e*P **PKPab 01 44 59.0 -0.2**
CAPC Capurgana 147.81 77 *e*P **PKPdf 01 44 55.0 -0.3**
BBTS Babate 148.39 296 PKPbc **PKPbc 01 44 59.5 -0.1**
comp=Z,62nm,0.9s,baz=105,slow=1.5,SNR=7.6
GCUF Volcan Galeras 148.42 90 *e*P **PKPbc 01 44 59.0 -1.5**
SOTA Rioblanco 149.17 89 *e*P **PKPbc 01 45 03.0 +0.6**
YOTC Yotoco, Valle 149.37 85 *e*P **PKPdf 01 44 59.0 +1.0**
PCON Cinco Dias 149.38 88 *e*P **PKPbc 01 45 05.0 +2.0**
MOTC Monteria, Cord 149.42 76 *e*P **PKPdf 01 44 59.7 +1.8**
SDDR Presa de Saban 149.66 54 *e*PKPbc **PKPbc 01 45 02.1 -0.7**
CPUP Villa Florida 149.98 159 PKPbc **PKPbc 01 45 02.6 -0.8**
comp=Z,20nm,1.0s,baz=196,slow=2.8,SNR=8.8
HELC Santa Helena 149.98 81 *e*P **PKPdf 01 45 01.7 +2.4**
FLOC Florencia 150.12 90 *e*P **PKPdf 01 45 01.0 +1.9**
GUYC Guyana, Colomb 150.22 82 *e*P **PKPbc 01 45 03.6 -1.3**
RREF El Recreo 150.30 83 *e*P **PKPbc 01 45 04.3 -1.0**
TOLC Tolima 150.35 84 *e*P **PKPbc 01 45 04.3 -0.7**
ZARC Zaragoza, Cauc 150.44 78 *e*P **PKPdf 01 45 01.7 +2.1**
PRAC Prado 150.84 85 *e*P **PKPbc 01 45 04.3 -1.6**
PTBC PUERTO BERRIO, 150.99 80 *e*P **PKPbc 01 45 05.7 -0.5**
CODC Agust'›n Codaz 151.29 72 *e*P **PKPdf 01 45 03.0 +2.2**
ROSC El Rosal 151.32 83 PKPbc **PKPbc 01 45 06.4 -1.1**
comp=Z,38nm,0.7s,baz=149,slow=14,SNR=13
ROSC El Rosal 151.32 83 *e*P **PKPbc 01 45 05.7 -1.8**
LPAZ La Paz 151.58 130 PKPbc **PKPbc 01 45 08.1 -0.1**
comp=Z,13nm,0.6s,baz=260,slow=3.9,SNR=19
BRRC Barranca, Sant 151.63 78 *e*P **PKPbc 01 45 05.7 -2.0**
OCAC Ocana 151.80 76 *e*P **PKPbc 01 45 05.7 -2.6**
CHIC Chingaza 151.92 83 *e*P **PKPbc 01 45 06.3 -2.5**
VILC Villavicencio, 152.00 84 *e*P **PKPbc 01 45 07.0 -1.7**
URIC Uribia, Colomb 152.15 68 *e*P **PKPbc 01 45 07.0 -1.8**
BARC Barichara 152.23 79 *e*P **PKPbc 01 45 06.3 -3.0**
PAMC Pamplona, Colo 152.58 77 *e*P **PKPbc 01 45 07.6 -2.7**
SDV Santo Domingo 154.24 73 PKP **PKPdf 01 45 04.5 -0.9**
comp=Z,6.9nm,0.8s,baz=297,slow=4.1,SNR=4.4
SDV PKPbc **pPKPdf 01 45 12.9 -0.6**
comp=Z,6.5nm,0.7s,baz=225,slow=1.4,SNR=4.2
SDV Santo Domingo 154.24 73 *e*PKPdf **PKPdf 01 45 06.9 +1.5**
SDV *e*PKPbc **PKiKP 01 45 14.8 +1.2**
SDV *e*PKPab **PKPab 01 45 27.6 +0.1**
SAML Samuel 159.67 122 *e*PKPab **PKPab 01 45 52.5 +1.9**

CSEM ***21*** *01:26:52.8±0.8,32.32N×46.87E,h5km,ML3.7, Error ellipse: s-maj=18.8km s-min=8.7km az=18.0*
ISN ***21*** *01:26:53.1±0.3,32.60N×46.53E,h0km,ML3.7*

TEH 21 01:26:55.9,32.42N×46.94E,h4km,ML3.7,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
IKFM	**Kafar-mosalman**	**1.34**	**34**	*e*Pg	Pn		01 27 19.5	-1.9
IKFM				*e*AMB	AMB		01 27 46.0	
	comp=Z,99nm,0.3s							
IKFM	**Kafar-mosalman**	**1.34**	**34**	*e*Pg	Pn		01 27 19.5	-1.9
SHGR	**Shooshtar-Gavs**	**1.61**	**101**	*e*Pg	Pn		01 27 25.2	+0.1
SHGR				*e*Sg	Sb		01 27 46.8	0.0
IKOM	**Komasi**	**1.81**	**15**	*e*Pn	Pn		01 27 27.4	-0.7
IKOM				*e*AMB	AMB		01 27 54.8	
	comp=Z,9µm,0.4s							
IKOM	**Komasi**	**1.81**	**15**	*e*Pn	Pn		01 27 27.4	-0.7
IGHG	**Ghaleghazi**	**1.93**	**351**	*e*AMB	AMB		01 28 01.9	
	comp=Z,13µm,0.4s							
IVIS	**Veis**	**2.10**	**358**	*e*Pn	Pn		01 27 31.8	-0.2
IVIS				*e*Sg	Sb		01 28 01.8	+0.6
IVIS				*e*AMB	AMB		01 28 03.8	
	comp=Z,4µm,0.2s							
IVIS	**Veis**	**2.10**	**358**	*e*Pn	Pn		01 27 31.8	-0.2
IVIS				*e*Sg	Sb		01 28 01.8	+0.6
BHD	**Baghdad**	**2.32**	**292**	*e*Pg	Pn		01 27 36.0	+1.1
	baz=110,SNR=9.0							
BHD				*e*Sg	Sb		01 28 06.0	-1.3
	SNR=9.0							
ILIN	**Lien**	**2.49**	**0**	*e*Pn	Pn		01 27 36.9	-0.6
ILIN				*e*AMB	AMB		01 28 19.5	
	comp=Z,3µm,0.3s							
ILIN	**Lien**	**2.49**	**0**	*e*Pn	Pn		01 27 36.9	-0.6
SNGE	**Sanandaj**	**2.69**	**7**	*e*Pn	Pn		01 27 38.7	-1.5
SNGE				*e*Sg	Sb		01 28 15.9	-2.2
ASAO	**Ashtian**	**3.34**	**50**	*e*Pn	Pn		01 27 47.4	-1.8

HKZM	**Kohzaman**	**3.37**	**28**	*e*Pn	Pn	01 27 48.8	-0.8
HKZM				*e*AMB	AMB	01 28 53.1	
	comp=Z,99nm,0.6s						
HKZM	**Kohzaman**	**3.37**	**28**	*e*Pn	Pn	01 27 48.8	-0.8
QAM	**Ghamsar**	**4.00**	**69**	*e*Pn	Pn	01 27 58.5	+0.2
QAM				*e*AMB	AMB	01 29 37.1	
	comp=Z,682nm,0.3s						
GHVR	**GHOM**	**4.18**	**59**	*e*Pn	Pn	01 27 59.2	-1.4

*CSEM **21** 01:27:12.9, 42°.96N × 12°.88E, h11 km ± 1 km, **MD1.5/3***
ROM 21 01:27:12.9 ± 0.3, 42°.96N × 12°.88E, h11 km ± 1 km, MD1.5/3, Error ellipse: s-maj=6.1 km s-min=1.5 km az=72.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CESI	**CESI - Serrava**	**0.05**	**26**	Pg	Pg	01 27 15.6	+0.5
CESI				Sg	Sg	01 27 16.8	+0.2
CESI	**CESI - Serrava**	**0.05**	**26**	Pg	Pg	01 27 15.6	+0.5
CESI				Sg	Sg	01 27 16.8	+0.2
NRCA	**Norcia**	**0.22**	**127**	Pg	Pb	01 27 18.3	-0.7
NRCA				Sg	Sg	01 27 21.8	+1.2
NRCA	**Norcia**	**0.22**	**127**	Pg	Pb	01 27 18.3	-0.7
NRCA				Sg	Sg	01 27 21.8	+1.2
SNTG	**Esanatoglia**	**0.29**	**9**	Pg	Pg	01 27 19.3	+0.4
SNTG				Sg	Sb	01 27 24.2	-1.0
SNTG	**Esanatoglia**	**0.29**	**9**	Pg	Pg	01 27 19.3	+0.4
SNTG				Sg	Sb	01 27 24.2	-1.0
CING	**Cingoli**	**0.47**	**29**	Pg	Pg	01 27 22.4	+0.2
CING				Sg	Sb	01 27 29.8	-0.5
CING	**Cingoli**	**0.47**	**29**	Pg	Pg	01 27 22.4	+0.2
CING				Sg	Sb	01 27 29.8	-0.5

*DJA **21** 01:31:26.0 ± 1.1, 1°.5 S × 13°.5 E ± °, h53 km ± 10 km, M5.5/7, mb5.2/5, MLv5.6/7*
*IDC **21** 01:31:26.4 ± 0.4, 1°.63S × 134°.33E, h0 km, mb4.6/25, mb1 4.7/28, mb1mx4.6/60, mbtmp4.7/28, ML4.5/3, Error ellipse: s-maj=16.1km s-min=10.7km az=67.0*
*ISCJB **21** 01:31:28.7 ± 0.3, 1°.66S ± 0°.04 × 134°.40E ± 0°.04, h29 km, mb4.7/46, Error ellipse: s-maj=6.0km s-min=5.0km az=146.2*
*NEIC **21** 01:31:28.3 ± 2.8, 1°.62S × 134°.41E, h13 km ± 17 km, mb4.8/21, Error ellipse: s-maj=6.5km s-min=5.3km az=53.0*
ISC 21 01:31:30.5 ± 0.4, 1°.67S ± 0°.04 × 134°.39E ± 0°.06, h29 km, n95, σ1§14/100, mb4.7/45, 1C, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMPI	**Kaimana, Papua**	**2.09**	**199**	P	Pb	**01 32 05.7**	**-2.1**
KMPI				S	Sb	**01 32 36.7**	**+3.3**
FAKI	**Fak Fak**	**2.47**	**240**	P	Pb	**01 32 11.2**	**-3.1**
FAKI	**Fak Fak**	**2.47**	**240**	*e*Pn	Pn	**01 32 08.6**	**-0.3**
FAKI				*e*Sn	Sn	**01 32 37.7**	**-0.4**
SIJI	**Sorong**	**3.22**	**284**	Pn	Pn	**01 32 15.5**	**-3.7**
	38nm,0.3s,baz=280,slow=20,SNR=3.3						
SIJI				Pg	Pb	**01 32 27.3**	**+0.3**
	194nm,0.3s,baz=75,slow=16,SNR=18						
SIJI				Sn	Sn	**01 32 58.6**	**+2.0**
	101nm,0.3s,baz=257,slow=23,SNR=2.6						
SIJI				Lg	Lg	01 33 08.0	
	235nm,0.3s,baz=326,slow=21,SNR=12						
MSAI	**Masohi**	**5.70**	**253**	P	Pn	**01 32 54.3**	**+1.0**
AAI	**Ambon**	**6.50**	**252**	P	Pn	**01 33 05.1**	**+0.8**
LBMI	**Labuha**	**6.96**	**278**	P	Pn	**01 33 09.3**	**-1.3**
SANI	**Sanana**	**8.40**	**267**	P	Pn	**01 33 29.4**	**-1.0**
BATI	**Baumata**	**13.62**	**231**	Pn	Pn	**01 34 39.9**	**-2.0**
	5.4nm,0.3s,baz=31,slow=5.9,SNR=3.6						
MMRI	**Maumere**	**13.93**	**240**	*e*Pn	Pn	**01 34 47.8**	**+1.7**
PMG	**Port Moresby**	**14.85**	**122**	*e*Pn	Pn	**01 34 57.0**	**-1.6**
WRA	**Warramunga Arr**	**18.16**	**180**	P	P	**01 35 39.5**	**-1.3**
	1.3nm,0.3s,baz=0.4,slow=12,SNR=4.1						
KKM	**Kota Kinabalu**	**19.70**	**293**	*e*P	Pn	**01 35 58.9**	**-0.5**
	24nm,0.8s						
JAGI	**Jajag, Banyuwa**	**21.25**	**251**	*e*P	P	**01 36 14.1**	**-0.5**
	66nm,1.0s						
CTA	**Charters Tower**	**21.67**	**148**	P	P	**01 36 19.5**	**+0.5**
	36nm,0.8s,baz=326,slow=11,SNR=2.5						
ASAR	**Alice Springs**	**21.87**	**181**	P	P	**01 36 21.8**	**+0.6**
	44nm,0.7s,baz=9.9,slow=9.8,SNR=10.0						
ASAR				S	S	**01 40 21.2**	**-0.3**
	23nm,1.1s,baz=3.3,slow=23,SNR=7.9						
KSM	**Kuching**	**24.28**	**277**	*e*P	P	**01 36 46.3**	**+0.7**
SMRI	**Semarang**	**24.46**	**257**	*e*P	P	**01 36 49.1**	**+1.8**
STKA	**Stephens Creek**	**30.80**	**168**	P	P	**01 37 43.9**	**0.0**
	28nm,1.0s,baz=357,slow=11,SNR=4.0						
UBPT	**Khong Chiam**	**33.19**	**302**	P	P	**01 38 07.6**	**+2.5**
IPM	**Ipoh**	**33.89**	**281**	*e*P	P	**01 38 11.0**	**-0.2**
	26nm,0.8s						
KULM	**Kulim**	**34.40**	**282**	*e*P	P	**01 38 14.8**	**-0.8**
	36nm,1.3s						
JNU	**Nakatsue**	**34.76**	**355**	P	P	**01 38 17.4**	**-1.2**
	16nm,0.9s,baz=220,slow=6.2,SNR=3.7						
JNU	**Nakatsue**	**34.76**	**355**	*e*P	P	**01 38 17.6**	**-0.9**
	9.1nm,0.9s						
NAYO	**Nakonayok**	**36.40**	**297**	P	P	**01 38 34.4**	**+1.6**
	104nm,2.6s						
CHAI	**Chaiyaphum**	**36.47**	**300**	P	P	**01 38 33.8**	**+0.4**
	7.4nm,0.9s						
GSI	**Gunungsitoli**	**36.93**	**274**	*e*P	P	**01 38 35.3**	**-2.1**
	23nm,0.8s						
PHET	**Kaeng Krachan**	**37.41**	**294**	P	P	**01 38 43.2**	**+1.8**
	10nm,1.1s						
MJAR	**Matsushiro Arr**	**38.18**	**5**	P	P	**01 38 46.9**	**-0.7**
	1.0nm,0.4s,baz=183,slow=7.3,SNR=4.2						
KSAR	**Wonju Array Be**	**39.38**	**352**	P	P	**01 38 58.5**	**+0.8**
KSRS	**Korea Array**	**39.39**	**352**	P	P	**01 38 58.5**	**+0.8**
	3.1nm,1.0s,baz=161,slow=9.0,SNR=4.1						
LAMP	**Lampang**	**39.64**	**302**	P	P	**01 39 01.9**	**+1.8**
CMAR	**Chiang Mai Arr**	**40.20**	**301**	P	P	**01 39 05.5**	**+0.8**
	11nm,0.9s,baz=128,slow=7.0,SNR=14						
CMAR				PcP	PcP	**01 41 10.4**	**+1.7**
	3.1nm,0.4s,baz=107,slow=1.9,SNR=7.6						
CHTO	**Chiang Mai**	**40.35**	**302**	*e*P	P	**01 39 05.7**	**-0.3**
	6.3nm,0.8s						
BJT	**Baijiatuan**	**44.72**	**340**	*e*P	P	**01 39 41.6**	**+0.5**
	34nm,0.8s						
BJI	**Beijing**	**44.73**	**340**	PKP	P	**01 39 41.5**	**+0.2**
USRK	**Ussuriysk Ar.**	**45.72**	**358**	P	P	**01 39 50.3**	**+1.3**
	4.9nm,0.8s,baz=196,slow=5.4,SNR=6.6						
ASAJ	**Asahikawa**	**46.17**	**8**	P	P	**01 39 53.1**	**+0.5**
	2.5nm,0.3s,baz=218,slow=16,SNR=4.7						
ASAJ	**Asahikawa**	**46.17**	**8**	*e*P	P	**01 39 53.4**	**+0.8**
	2.8nm,0.8s						
YSS	**Yuzh-Sakhalins**	**48.98**	**8**	*e*P	P	**01 40 14.4**	**0.0**
KLR	**Kul'dur**	**50.75**	**358**	P	P	**01 40 27.8**	**0.0**
	0.8nm,0.9s,baz=170,slow=7.9,SNR=4.2						
URZ	**Urewera**	**53.42**	**138**	P	P	**01 40 48.7**	**+0.8**
	8.2nm,0.8s,baz=62,slow=1.4,SNR=5.5						
RAMN	**Ramite**	**54.10**	**305**	*e*P	P	**01 40 52.6**	**-0.8**
	25nm,0.7s						
JIRN	**Jiri**	**54.72**	**306**	*e*P	P	**01 40 57.2**	**-0.8**
	22nm,0.7s						
ULN	**Ulaanbaatar**	**54.80**	**338**	*e*P	P	**01 40 57.9**	**-0.1**
	11nm,1.2s						
SONM	**Songino Array**	**55.02**	**337**	P	P	**01 40 59.1**	**-0.5**
	3.7nm,1.1s,baz=142,slow=7.5,SNR=4.6						
GUN	**Gumba**	**55.07**	**306**	*e*P	P	**01 41 00.6**	**+0.1**
	35nm,0.9s						
KOLN	**Koldanda**	**56.87**	**305**	*e*P	P	**01 41 12.9**	**-0.4**
	16nm,0.7s						
PYUN	**Piuthan**	**57.49**	**305**	*e*P	P	**01 41 17.5**	**-0.2**
	79nm,1.0s						
PETK	**Petropavlovsk-**	**57.97**	**16**	P	P	**01 41 20.6**	**+0.3**
	5.9nm,0.8s,baz=220,slow=3.8,SNR=7.0						
YAK	**Yakutsk**	**63.63**	**358**	*e*P	P	**01 41 58.6**	**0.0**
SEY	**Seymchan**	**65.85**	**9**	P	P	**01 42 12.8**	**-0.2**
	14nm,1.2s,baz=158,slow=7.1,SNR=4.4						
MKAR	**Makanchi Array**	**66.37**	**324**	P	P	**01 42 16.1**	**-0.6**
	8.5nm,0.6s,baz=115,slow=8.0,SNR=23						
NIL	**Nilore**	**67.26**	**308**	*e*P	P	**01 42 22.8**	**+0.1**
ZALV	**Zalesovo Beam**	**68.91**	**331**	P	P	**01 42 30.9**	**-1.7**
	4.0nm,0.8s,baz=104,slow=6.3,SNR=6.4						
AAK	**Ala-Archa**	**69.49**	**317**	*e*P	P	**01 42 37.0**	**+0.3**
	1.9nm,0.6s						
KURK	**Kurchatov**	**70.42**	**326**	P	P	**01 42 42.3**	**+0.3**
KURBB	**Kurchatov Arra**	**70.43**	**326**	P	P	**01 42 42.3**	**+0.2**
	9.9nm,0.9s,baz=119,slow=5.7,SNR=17						
KKAR	**Karatay Array**	**72.38**	**316**	*e*P	P	**01 42 54.1**	**+0.1**
	5.7nm,0.7s						
TIXI	**Tiksi**	**73.28**	**358**	P	P	**01 42 59.1**	**+0.3**
	5.1nm,0.8s,baz=162,slow=2.1,SNR=6.5						
TIXI	**Tiksi**	**73.28**	**358**	*e*P	P	**01 42 58.2**	**-0.5**
	2.8nm,0.7s						
BVAR	**Borovoye Array**	**76.02**	**326**	P	P	**01 43 13.3**	**-1.7**
	3.7nm,0.7s,baz=108,slow=7.7,SNR=9.0						
BRVK	**Borovoye**	**76.09**	**326**	*e*P	P	**01 43 15.1**	**-0.3**
	15nm,0.8s						
GAMB	**Gambell**	**76.37**	**22**	*e*P	P	**01 43 17.1**	**+0.4**
	11nm,1.4s						
VNDA	**Vanda**	**77.22**	**174**	P	P	**01 43 22.0**	**+0.6**
	5.0nm,0.8s,baz=325,slow=5.9,SNR=14						
WSAR	**Wadi Sarin**	**77.59**	**294**	P	P	**01 43 24.4**	**-0.2**
	8.7nm,1.0s,baz=79,slow=8.5,SNR=3.9						
SBA	**Scott Base**	**78.05**	**173**	*e*P	P	**01 43 26.9**	**+1.0**
	5.7nm,0.9s						
GEYT	**Alibeck**	**80.22**	**309**	P	P	**01 43 39.6**	**+0.9**
	4.9nm,0.7s,baz=174,slow=1.5,SNR=10						
ABKAR	**Akbulak array**	**81.16**	**320**	*e*P	P	**01 43 42.1**	**-1.3**
	3.3nm,0.7s						
ARU	**Arti**	**83.58**	**327**	P	P	**01 43 54.7**	**-1.2**
	1.7nm,0.3s,baz=267,slow=22,SNR=3.5						
ARU	**Arti**	**83.58**	**327**	*e*P	P	**01 43 55.3**	**-0.6**
KTH	**Kantishna Hill**	**84.70**	**26**	*e*P	P	**01 44 01.1**	**-0.5**
	16nm,1.4s						
TRF	**Thorofare Moun**	**84.96**	**26**	*e*P	P	**01 44 02.1**	**-0.9**
PMR	**Palmer**	**85.05**	**28**	*e*P	P	**01 44 02.7**	**-0.5**
	4.6nm,0.7s						
SML	**Sawmill**	**85.47**	**28**	*e*P	P	**01 44 05.4**	**0.0**
MCK	**McKinley**	**85.61**	**26**	*e*P	P	**01 44 05.6**	**-0.4**
COLD	**Coldfoot**	**85.91**	**22**	*e*P	P	**01 44 08.7**	**+1.2**
	3.3nm,0.9s						
DIV	**Divide**	**86.55**	**29**	*e*P	P	**01 44 11.8**	**+1.0**
ILAR	**Eielson Array**	**86.70**	**25**	P	P	**01 44 11.2**	**-0.2**
	1.3nm,0.7s,baz=259,slow=4.8,SNR=11						
PAX	**Paxson**	**87.00**	**27**	*e*P	P	**01 44 13.2**	**+0.2**
BMRM	**Bremner River**	**87.08**	**29**	*e*P	P	**01 44 13.2**	**-0.2**
	18nm,1.1s						
DOT	**Dot Lake**	**87.73**	**26**	*e*P	P	**01 44 16.4**	**0.0**
QSPA	**South Pole Qui**	**88.27**	**180**	P	P	**01 44 19.3**	**+0.2**
	5.7nm,0.8s,baz=329,slow=0.5,SNR=12						
RAYN	**Ar Rayn**	**89.64**	**293**	*e*P	P	**01 44 26.0**	**-0.4**
SYO	**Syowa Base**	**90.18**	**201**	*e*X	P	**01 44 26.0**	**-1.8**
ARCES	**ARCESS Array B**	**98.10**	**340**	P	Pdif	01 45 03.8	-0.4
	2.5nm,0.8s,baz=81,slow=5.8,SNR=4.6						
GERES	**GERESS Array B**	**111.02**	**323**	PKiKP	**PKiKP**	**01 50 01.1**	**-0.3**
	0.5nm,0.5s,baz=98,slow=2.0,SNR=3.9						
ESDC	**Sonseca Array**	**126.50**	**320**	PKP	**PKPdf**	**01 50 31.8**	**+0.4**
	0.4nm,0.5s,baz=41,slow=3.4,SNR=3.6						
TORD	**Torodi Ar. Bea**	**131.82**	**286**	PKP	**PKPdf**	**01 50 42.3**	**+0.2**
	3.0nm,0.8s,baz=68,slow=2.2,SNR=5.5						
PLCA	**Pasos Flores**	**132.06**	**154**	PKP	**PKPdf**	**01 50 43.8**	**+1.8**
	3.5nm,0.8s,baz=180,slow=1.7,SNR=4.8						
BBTS	**Babate**	**148.52**	**296**	PKPbc	**PKPbc**	**01 51 16.0**	**+0.4**
	24nm,0.8s,baz=2.3,slow=0.6,SNR=5.1						
CPUP	**Villa Florida**	**149.95**	**159**	PKPbc	**PKPbc**	**01 51 19.8**	**+0.9**
	20nm,1.1s,baz=212,slow=1.9,SNR=3.1						
ROSC	**El Rosal**	**151.17**	**83**	PKPbc	**PKPbc**	**01 51 23.3**	**+0.6**
	10nm,0.6s,baz=121,slow=7.5,SNR=6.1						
LPAZ	**La Paz**	**151.49**	**130**	PKPbc	**PKPbc**	**01 51 25.5**	**+1.9**
	15nm,0.7s,baz=247,slow=1.5,SNR=26						
SDV	**Santo Domingo**	**154.09**	**73**	*e*PKPbc	**PKPbc**	**01 51 28.9**	**-0.1**

*IDC **21** 01:36:09.2 ± 1.4, 1°.71S × 134°.65E, h0 km, mb4.0/4, mb1 4.4/6, mb1mx3.8/56, mbtmp4.2/6, ML4.0/2, Error ellipse: s-maj=34.8km s-min=25.0km az=64.0*
ISC 21 01:36:13.7 ± 1.2, 1°.8S ± 0°.1 × 134°.5E ± 0°.1, h29 km, n6, σ0§69/8, mb4.1/4, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**3.35**	**285**	Pn	Pn	**01 37 04.5**	**+0.4**
	23nm,0.3s,baz=165,slow=24,SNR=3.4						
SIJI				Pg	Pb	**01 37 12.5**	**+0.1**
	51nm,0.3s,baz=77,slow=13,SNR=5.1						
SIJI				Sn	Sb	**01 37 52.0**	**-0.7**
	40nm,0.3s,baz=278,slow=18,SNR=2.0						
SIJI				Lg	Lg	01 38 09.4	
	60nm,0.3s,baz=251,slow=23,SNR=2.3						
WRA	**Warramunga Arr**	**18.08**	**180**	P	Pn	**01 40 22.9**	**-0.1**
	0.5nm,0.3s,baz=0.4,slow=12,SNR=3.4						
ASAR	**Alice Springs**	**21.79**	**181**	P	P	**01 41 03.5**	**0.0**
	6.0nm,0.7s,baz=7.7,slow=11,SNR=4.0						
MKAR	**Makanchi Array**	**66.50**	**324**	P	P	**01 47 00.6**	**-0.2**
	1.0nm,0.8s,baz=125,slow=7.2,SNR=3.8						
KURBB	**Kurchatov Arra**	**70.55**	**326**	P	P	**01 47 27.1**	**+1.1**
	1.6nm,0.9s,baz=118,slow=5.7,SNR=4.1						
ILAR	**Eielson Array**	**86.72**	**25**	P	P	**01 48 54.0**	**-0.7**
	1.6nm,1.0s,baz=246,slow=3.2,SNR=3.3						

*IDC **21** 01:38:57.4 ± 1.3, 1°.71S × 134°.33E, h0 km, mb4.0/5, mb1 4.4/8, mb1mx3.9/54, mbtmp4.2/8, ML4.4/3, Error ellipse: s-maj=25.7km s-min=20.6km az=46.0*
*ISCJB **21** 01:38:59.9 ± 0.9, 1°.74S ± 0°.10 × 134°.25E ± 0°.10, h29 km, mb4.0/5, Error ellipse: s-maj=16.1km s-min=11.1km az=44.0*
ISC 21 01:39:01.9 ± 1.2, 1°.8S ± 0°.1 × 134°.3E ± 0°.1, h29 km, n8, σ1§01/10, mb4.2/5, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**3.15**	**286**	Pn	Pn	**01 39 49.8**	**+0.2**
	40nm,0.3s,baz=262,slow=20,SNR=7.3						
SIJI				Pg	Pb	**01 39 58.7**	**+1.5**
	431nm,0.3s,baz=197,slow=22,SNR=19						
SIJI				Sn	Sn	**01 40 24.0**	**-2.1**
	135nm,0.3s,baz=142,slow=22,SNR=6.2						
SIJI				Lg	Lg	01 40 36.8	
	136nm,0.3s,baz=311,slow=23,SNR=4.4						
BATI	**Baumata**	**13.49**	**231**	Pn	Pn	**01 42 11.7**	**+0.1**
	4.5nm,0.3s,baz=192,slow=3.6,SNR=4.2						
WRA	**Warramunga Arr**	**18.08**	**180**	P	Pn	**01 43 10.7**	**-0.4**
	0.9nm,0.3s,baz=2.0,slow=12,SNR=5.5						
ASAR	**Alice Springs**	**21.79**	**181**	P	P	**01 43 51.7**	**0.0**
	5.9nm,0.6s,baz=4.2,slow=11,SNR=4.9						
CMAR	**Chiang Mai Arr**	**40.15**	**302**	P	P	**01 46 35.6**	**-0.1**
	1.9nm,0.4s,baz=119,slow=6.6,SNR=4.4						
SEY	**Seymchan**	**65.94**	**9**	P	P	**01 49 45.0**	**0.0**
	1.9nm,0.9s,baz=196,slow=7.2,SNR=4.0						
MKAR	**Makanchi Array**	**66.37**	**324**	P	P	**01 49 48.1**	**-0.1**
	0.6nm,0.6s,baz=110,slow=6.3,SNR=4.2						
KURBB	**Kurchatov Arra**	**70.44**	**326**	P	P	**01 50 13.1**	**-0.3**
	1.1nm,0.8s,baz=118,slow=5.4,SNR=3.8						

IDC 21 01:42:14.0 ± 2.0, 1°.50S × 134°.76E, h0 km, mb3.7/2, mb1 4.1/4, mb1mx3.5/53, mbtmp3.9/4, ML3.9/2, Error ellipse: s-maj=44.4km s-min=25.1km az=60.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**3.55**	**280**	Pn	Pn	01 43 10.8	+0.4
	19nm,0.3s,baz=182,slow=23,SNR=6.6						
SIJI				Pg	Pb	01 43 18.1	+0.4
	99nm,0.3s,baz=240,slow=21,SNR=16						
SIJI				Sn	Sn	01 43 45.1	-7.9
	35nm,0.3s,baz=330,slow=23,SNR=3.5						
WRA	**Warramunga Arr**	**18.33**	**181**	P	Pn	01 46 29.1	-0.8
	0.3nm,0.3s,baz=0.3,slow=12,SNR=4.0						
ASAR	**Alice Springs**	**22.05**	**182**	P	P	01 47 10.6	+0.1
	3.2nm,0.6s,baz=8.6,slow=11,SNR=5.6						
MKAR	**Makanchi Array**	**66.45**	**324**	P	P	01 53 05.5	+0.2
	0.3nm,0.6s,baz=105,slow=7.3,SNR=3.0						

*IDC **21** 01:42:59.1 ± 0.9, 1°.59S × 134°.40E, h0 km, mb4.1/7, mb1 4.3/9, mb1mx3.9/52, mbtmp4.2/9, ML4.1/2, Error ellipse: s-maj=23.5km s-min=17.4km az=37.0*
*ISCJB **21** 01:43:01.6 ± 0.4, 1°.70S ± 0°.06 × 134°.31E ± 0°.06, h29 km, mb4.1/15, Error ellipse: s-maj=8.7km s-min=7.8km az=37.0*
*NEIC **21** 01:43:01.9 ± 5.3, 1°.67S × 134°.25E, h18 km ± 33 km, mb4.3/7, Error ellipse: s-maj=13.7km s-min=8.0km az=221.0*
ISC 21 01:43:03.3 ± 0.6, 1°.72S ± 0°.09 × 134°.30E ± 0°.08, h29 km, n30, σ1§08/31, mb4.2/15, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**2.37**	**240**	*e*Pn	Pn	**01 43 40.2**	**0.0**
SIJI	**Sorong**	**3.15**	**285**	Pn	Pn	**01 43 52.7**	**+1.7**
	18nm,0.3s,baz=165,slow=23,SNR=2.1						
SIJI				Sn	Sn	**01 44 29.1**	**+1.6**
	37nm,0.3s,baz=107,slow=20,SNR=2.1						
SIJI				Lg	Lg	01 44 41.9	
	57nm,0.3s,baz=143,slow=23,SNR=10						

KAPI	**Kappang**	**14.89**	**257**	*e*Pn	Pn	**01 46 31.2**	**-0.7**
COEN	**Coen**	**15.00**	**145**	*e*Pn	Pn	**01 46 34.4**	**+1.0**
WRAB	**Tennant Creek**	**18.11**	**180**	*e*Pn	P	**01 47 13.3**	**+0.3**
WRA	**Warramunga Arr**	**18.11**	**180**	P	P	**01 47 13.1**	**0.0**
	0.8nm,0.3s,baz=0.6,slow=12,SNR=5.6						
KKM	**Kota Kinabalu**	**19.64**	**293**	*e*P	P	**01 47 28.5**	**-1.4**
JAGI	**Jajag, Banyuwa**	**21.15**	**251**	*e*P	P	**01 47 44.9**	**-1.3**
ASAR	**Alice Springs**	**21.82**	**181**	P	P	**01 47 53.8**	**+0.4**
	8.0nm,0.7s,baz=8.0,slow=12,SNR=6.2						
MBWA	**Marble Bar**	**23.98**	**215**	*e*P	P	**01 48 15.2**	**-0.3**
KSM	**Kuching**	**24.20**	**277**	*e*P	P	**01 48 17.6**	**0.0**
	7.2nm,0.4s						
KULM	**Kulim**	**34.33**	**282**	*e*P	P	**01 49 47.5**	**-0.2**
	2.9nm,0.4s						
CMAR	**Chiang Mai Arr**	**40.15**	**302**	P	P	**01 50 36.7**	**-0.4**
	1.2nm,0.4s,baz=132,slow=6.7,SNR=2.8						
USRK	**Ussuriysk Ar.**	**45.76**	**358**	P	P	**01 51 20.0**	**-2.1**
	1.1nm,0.4s,baz=266,slow=36,SNR=3.0						
KLR	**Kul'dur**	**50.79**	**358**	P	P	**01 51 59.9**	**-1.0**
	0.1nm,0.7s,baz=198,slow=6.4,SNR=3.2						
MKAR	**Makanchi Array**	**66.35**	**324**	P	P	**01 53 49.3**	**-0.1**
	2.0nm,0.9s,baz=113,slow=7.9,SNR=8.4						
KURK	**Kurchatov**	**70.41**	**326**	P	P	**01 54 15.4**	**+0.7**
KURBB	**Kurchatov Arra**	**70.42**	**326**	P	P	**01 54 15.4**	**+0.7**
	3.2nm,1.0s,baz=123,slow=4.9,SNR=3.1						
BVAR	**Borovoye Array**	**76.01**	**326**	P	P	**01 54 48.6**	**+0.9**
	1.4nm,0.8s,baz=108,slow=3.2,SNR=2.3						
GAMB	**Gambell**	**76.45**	**22**	*e*P	P	**01 54 50.1**	**+0.1**
	1.4nm,0.8s						
ABKAR	**Akbulak array**	**81.14**	**320**	*e*P	P	**01 55 16.5**	**+0.5**
	1.0nm,0.8s						
KTH	**Kantishna Hill**	**84.78**	**26**	*e*P	P	**01 55 35.3**	**+0.5**
	12nm,1.4s						
SML	**Sawmill**	**85.55**	**28**	*e*P	P	**01 55 37.6**	**-0.9**
	1.1nm,0.9s						
COLD	**Coldfoot**	**85.98**	**22**	*e*P	P	**01 55 41.0**	**+0.4**
	1.5nm,0.6s						
DIV	**Divide**	**86.63**	**29**	*e*P	P	**01 55 44.8**	**+0.8**
ILAR	**Eielson Array**	**86.78**	**25**	P	P	**01 55 44.5**	**0.0**
	1.2nm,0.9s,baz=273,slow=3.5,SNR=6.2						
CPUP	**Villa Florida**	**149.94**	**159**	PKPbc	**PKPbc**	**02 02 51.0**	**-0.6**
	1.9nm,0.9s,baz=210,slow=6.5,SNR=3.7						
LPAZ	**La Paz**	**151.52**	**130**	PKPbc	**PKPbc**	**02 02 59.0**	**+2.6**
	1.7nm,0.8s,baz=312,slow=2.2,SNR=5.7						
SDV	**Santo Domingo**	**154.19**	**73**	*e*PKPbc	**PKPbc**	**02 03 00.0**	**-1.9**
SAML	**Samuel**	**159.61**	**122**	*e*PKPdf	**PKPdf**	**02 03 01.7**	**+1.3**

IDC 21 01:48:48.4 ± 1.4, 1°.78S × 134°.37E, h0 km, mb3.7/3, mb1 4.0/5, mb1mx3.6/54, mbtmp3.9/5, ML3.9/2, Error ellipse: s-maj=31.6km s-min=19.3km az=42.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**3.23**	**286**	Pn	Pn	01 49 38.8	-1.6
	16nm,0.3s,baz=78,slow=14,SNR=2.8						
SIJI				Pg	Pb	01 49 46.8	+0.1
	28nm,0.3s,baz=92,slow=10,SNR=6.0						
SIJI				Lg	Lg	01 50 31.5	
	34nm,0.3s,baz=75,slow=20,SNR=3.2						
WRA	**Warramunga Arr**	**18.05**	**180**	P	Pn	01 53 00.8	0.0
	0.4nm,0.3s,baz=0.5,slow=11,SNR=5.5						
ASAR	**Alice Springs**	**21.76**	**181**	P	P	01 53 40.8	-1.0
	5.7nm,0.6s,baz=7.4,slow=11,SNR=10						
MKAR	**Makanchi Array**	**66.45**	**324**	P	P	01 59 38.7	-1.0
	0.3nm,0.6s,baz=106,slow=8.1,SNR=2.7						
KURBB	**Kurchatov Arra**	**70.51**	**326**	P	P	02 00 06.8	+1.8
	0.6nm,0.8s,baz=116,slow=5.1,SNR=3.4						

*IDC **21** 01:49:18.6 ± 1.2, 1°.88S × 134°.14E, h0 km, mb3.9/4, mb1 4.2/6, mb1mx3.7/54, mbtmp4.0/6, ML4.1/2, Error ellipse: s-maj=30.5km s-min=19.2km az=36.0*
*ISCJB **21** 01:49:20.7 ±

ellipse: s-maj=17.9km s-min=10.0km az=78.0
NEIC ***21*** *02:01:17.7±0.3, 1°.69S×134°.63E, h10km, mb4.6/22, Error ellipse: s-maj=8.7km s-min=5.7km az=90.0*
ISCJB ***21*** *02:01:18.8±0.3, 1°.75S±0°.04×134°.62E±0°.05, h29km, mb4.3/40, MS3.9/1, Error ellipse: s-maj=7.2km s-min=5.2km az=26.3*
BJI ***21*** *02:01:23.2, 1°.11S×135°.16E, h35km, mb4.6/12, mB4.5/3, Ms4.7/2, Ms7 4.6/2*
DJA ***21*** *02:01:25.4±0.3, 2°.2S×13°.4E±°, h10km, M4.7/6, mb4.8/6, MLv4.7/6*

ISC 21 02:01:20.6±0.5, 1°.63S±0°.04×134°.61E±0°.06, h29km, n72, σ19 83/76, mb4.4/40, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KMPI	**Kaimana, Papua**	**2.21**	**204**	P		**Pb**		**02 02 00.8**	**+0.9**
KMPI				S		**Sb**		**02 02 28.0**	**+1.1**
FAKI	**Fak Fak**	**2.68**	**241**	P		**Pn**		**02 02 04.5**	**+2.7**
FAKI				S		**Sn**		**02 02 34.4**	**+1.0**
FAKI	**Fak Fak**	**2.68**	**241**	*e*Pn		**Pb**		**02 02 01.3**	**-0.5**
FAKI				*e*Pg		**Pb**		**02 02 10.9**	**+2.9**
SIJI	**Sorong**	**3.42**	**283**	Pn		**Pn**		**02 02 09.2**	**-2.9**
	30nm,0.3s,baz=87,slow=17,SNR=4.3								
SIJI				Pg		**Pb**		**02 02 20.2**	**-0.4**
	53nm,0.3s,baz=87,slow=14,SNR=7.2								
SIJI				Sn		**Sn**		**02 02 48.2**	**-3.5**
	56nm,0.3s,baz=11,slow=22,SNR=5.8								
SIJI				Lg		Lg		02 03 01.2	
	101nm,0.3s,baz=154,slow=21,SNR=8.4								
MSAI	**Masohi**	**5.92**	**253**	P		**Pn**		**02 02 46.4**	**0.0**
MSAI				S		**Sn**		**02 03 48.8**	**-4.6**
AAI	**Ambon**	**6.72**	**252**	P		**Pn**		**02 02 54.7**	**-2.7**
LBMI	**Labuha**	**7.17**	**278**	P		Pn		02 03 10.4	+6.8
SANI	**Sanana**	**8.62**	**267**	P		**Pn**		**02 03 19.3**	**-4.2**
MTN	**Manton Dam**	**11.66**	**197**	*e*Pn		**Pn**		**02 04 03.1**	**-2.1**
APSI	**Ampana**	**12.97**	**273**	P		**Pn**		**02 04 20.8**	**-2.3**
SOEI	**Soe**	**13.07**	**231**	*e*Pn		**Pn**		**02 04 24.8**	**+0.2**
BATI	**Baumata**	**13.82**	**231**	Pn		**Pn**		**02 04 33.7**	**-1.0**
	0.7nm,0.3s,baz=96,slow=10,SNR=2.5								
BATI				Sn		**Sn**		**02 07 06.4**	**-0.9**
	1.9nm,0.3s,baz=49,slow=18,SNR=3.4								
BNSI	**Bone**	**14.74**	**259**	P		**P**		**02 04 53.9**	**+1.0**
BSSI	**Bau Bau, Buton**	**14.78**	**252**	P		**P**		**02 04 54.6**	**+1.2**
MPSI	**Mapaga**	**14.84**	**277**	P		P		02 05 00.1	+6.1
TTSI	**Tana Toraja**	**14.84**	**264**	P		**P**		**02 04 57.0**	**+2.9**
COEN	**Coen**	**14.89**	**146**	*e*Pn		**Pn**		**02 04 45.3**	**-4.0**
KAPI	**Kappang**	**15.20**	**257**	*e*Pn		**P**		**02 04 56.5**	**-1.7**
	24nm,1.3s								
WRAB	**Tennant Creek**	**18.19**	**181**	*e*Pn		**Pn**		**02 05 28.6**	**-2.5**
	13nm,0.7s								
WB2	**Warramunga Arr**	**18.20**	**181**	*e*Pn		**P**		**02 05 31.9**	**+0.5**
	16nm,0.9s								
WRA	**Warramunga Arr**	**18.20**	**181**	P		**Pn**		**02 05 28.7**	**-2.6**
	0.9nm,0.3s,baz=1.9,slow=12,SNR=13								
WRA				S		**Sn**		**02 08 55.2**	**+1.4**
	0.2nm,0.3s,baz=7.1,slow=21,SNR=4.1								
CTA	**Charters Tower**	**21.59**	**149**	P		**P**		**02 06 08.0**	**-0.3**
	1.6nm,0.5s,baz=334,slow=13,SNR=3.8								
CTAO	**Charters Tower**	**21.59**	**149**	*e*P		**P**		**02 06 05.9**	**-2.4**
AS01	**Alice Springs**	**21.91**	**182**	*e*P		**P**		**02 06 10.7**	**-1.0**
AS31	**Alice Springs**	**21.92**	**182**	*e*P		**P**		**02 06 11.5**	**-0.2**
	33nm,1.8s								
ASAR	**Alice Springs**	**21.92**	**182**	P		**P**		**02 06 11.1**	**-0.7**
	10nm,0.7s,baz=5.9,slow=12,SNR=16								
ASAR				S		**S**		**02 10 11.1**	**-1.5**
	4.6nm,1.0s,baz=5.6,slow=24,SNR=5.8								
MBWA	**Marble Bar**	**24.23**	**216**	*e*P		**P**		**02 06 33.3**	**-1.8**
KSM	**Kuching**	**24.49**	**277**	*e*P		**P**		**02 06 37.5**	**-0.1**
	47nm,1.3s								
KPJI	**Karang Pucung**	**26.21**	**257**	P		**P**		**02 06 57.0**	**+3.9**
EIDS	**Eidsvold**	**28.45**	**147**	*e*P		**P**		**02 07 10.8**	**-2.3**
	3.0nm,0.6s								
STKA	**Stephens Creek**	**30.80**	**168**	P		**P**		**02 07 33.3**	**-0.6**
	0.9nm,0.5s,baz=343,slow=12,SNR=3.0								
PSI	**Prapat**	**35.94**	**277**	P		**P**		**02 08 17.8**	**-1.4**
	6.6nm,0.8s,baz=138,slow=7.0,SNR=4.0								
MJAR	**Matsushiro Arr**	**38.12**	**5**	P		**P**		**02 08 35.7**	**-1.5**
	0.7nm,0.4s,baz=184,slow=6.9,SNR=4.5								
CMAR	**Chiang Mai Arr**	**40.36**	**301**	P		**P**		**02 08 55.0**	**-1.1**
	0.9nm,0.3s,baz=129,slow=7.1,SNR=3.1								
KMI	**Kunming**	**40.74**	**313**	P		**P**		**02 09 03.6**	**+4.1**
KMI				pmax		pmax			
	comp=Z,10.0nm,0.5s								
CD2	**Chengdu**	**43.68**	**320**	*e*P		**P**		**02 09 24.6**	**+1.4**
USRK	**Ussuriysk Ar.**	**45.69**	**357**	P		**P**		**02 09 38.2**	**-0.6**
	2.1nm,0.7s,baz=62,slow=7.5,SNR=4.1								
HHC	**Hu-ho-hao-te**	**47.20**	**336**	*e*P		P		02 09 56.5	+5.5
HHC				pmax		pmax			
	comp=Z,10.0nm,1.1s								
HHC				pmax		pmax			
	comp=Z,12nm,6.1s								
LZH	**Lanzhou**	**47.22**	**326**	*e*P		P		02 09 55.9	+4.7
LZH				pP		sP		02 10 06.0	+2.5
LZH				sP		pP		02 10 09.8	+10
LZH				pmax		pmax			
	comp=Z,18nm,1.2s								
LZH				pmax		pmax			
	comp=Z,43nm,6.5s								
LZH				LR		LR			
	comp=N,92nm,16.0s								
LZH				LR		LR			
	comp=E,78nm,15.4s								
LZH				LR		LR			
	comp=Z,110nm,18.7s								
KLR	**Kul'dur**	**50.72**	**358**	P		**P**		**02 10 17.6**	**0.0**
	0.2nm,0.6s,baz=176,slow=4.0,SNR=8.4								
GTA	**Gaotai**	**51.82**	**326**	*e*P		P		02 10 32.1	+5.8
GTA				pP		sP		02 10 40.3	+1.7
GTA				sP		pP		02 10 44.6	+9.5
GTA				pmax		pmax			
	comp=Z,7.0nm,0.9s								
PALK	**Pallekele**	**54.50**	**280**	*e*P		**P**		**02 10 48.0**	**+1.6**
	18nm,1.1s								
SONM	**Songino Array**	**55.07**	**337**	P		**P**		**02 10 49.3**	**-0.7**
	0.3nm,0.5s,baz=155,slow=10,SNR=2.6								
WMQ	**Urumqi**	**61.65**	**323**	P		**P**		**02 11 38.9**	**+2.9**
WMQ				pP		sP		02 11 47.8	-0.6
WMQ				sP		pP		02 11 53.3	+8.3
WMQ				pmax		pmax			
	comp=Z,9.0nm,0.7s								
MK01	**Makanchi Array**	**66.44**	**324**	*e*P		**P**		**02 12 09.1**	**+1.8**
MK31	**Makanchi Array**	**66.46**	**324**	*e*P		P		02 12 12.8	+5.3
MKAR	**Makanchi Array**	**66.46**	**324**	P		**P**		**02 12 07.3**	**-0.2**
	0.6nm,0.6s,baz=117,slow=7.5,SNR=8.6								
ZALV	**Zalesovo Beam**	**68.98**	**331**	P		**P**		**02 12 22.6**	**-0.5**
	0.3nm,0.3s,baz=104,slow=4.8,SNR=2.3								
KURK	**Kurchatov**	**70.51**	**326**	P		**P**		**02 12 32.2**	**-0.4**
KURBB	**Kurchatov Arra**	**70.51**	**326**	P		**P**		**02 12 32.2**	**-0.5**
	0.8nm,0.6s,baz=118,slow=4.9,SNR=3.5								
BVAR	**Borovoye Array**	**76.11**	**326**	P		**P**		**02 13 06.3**	**+0.7**
	0.5nm,0.7s,baz=117,slow=8.3,SNR=2.6								
GAMB	**Gambell**	**76.25**	**22**	*e*P		**P**		**02 13 07.2**	**+1.1**
	2.5nm,0.9s								
VNDA	**Vanda**	**77.24**	**174**	P		**P**		**02 13 13.1**	**+1.5**
	0.5nm,0.9s,baz=318,slow=7.4,SNR=2.6								
GEYT	**Alibeck**	**80.36**	**309**	P		**P**		**02 13 30.0**	**+0.4**
	0.9nm,0.5s,baz=82,slow=13,SNR=2.2								
ABKAR	**Akbulak array**	**81.26**	**320**	*e*P		**P**		**02 13 35.0**	**+1.0**
	1.2nm,0.8s								
KTH	**Kantishna Hill**	**84.57**	**26**	*e*P		**P**		**02 13 51.1**	**+0.1**
	3.5nm,0.9s								
PMR	**Palmer**	**84.91**	**28**	*e*P		**P**		**02 13 53.1**	**+0.5**
	2.7nm,0.6s								
MLY	**Manley**	**85.03**	**24**	*e*P		**P**		**02 13 54.9**	**+1.7**
	4.9nm,1.0s								
SML	**Sawmill**	**85.33**	**28**	*e*P		**P**		**02 13 55.1**	**+0.3**
	1.5nm,0.8s								
RND	**Reindeer**	**85.44**	**26**	*e*P		**P**		**02 13 55.9**	**+0.5**
	8.2nm,1.0s								
MCK	**McKinley**	**85.48**	**26**	*e*P		**P**		**02 13 57.0**	**+1.5**
	10.0nm,1.2s								
MCK				*e*pP		**PcP**		**02 14 00.3**	**+1.9**
DHY	**Denali Highway**	**86.03**	**27**	*e*P		**P**		**02 13 59.9**	**+1.5**
	6.3nm,1.0s								
CCB	**Clear Creek Bu**	**86.16**	**25**	*e*P		**P**		**02 13 59.4**	**+0.7**
	14nm,1.7s								
ILAR	**Eielson Array**	**86.57**	**25**	P		**P**		**02 14 00.7**	**-0.1**
	1.3nm,1.0s,baz=246,slow=5.8,SNR=8.0								
BMRM	**Bremner River**	**86.94**	**29**	*e*P		**P**		**02 14 03.4**	**+0.6**
	9.9nm,1.1s								
DOT	**Dot Lake**	**87.59**	**26**	*e*P		**P**		**02 14 05.7**	**-0.2**
	8.1nm,1.1s								
DAWY	**Dawson**	**89.70**	**26**	*e*P		**P**		**02 14 16.6**	**+0.8**
	1.7nm,0.9s								
RAYN	**Ar Rayn**	**89.82**	**293**	*e*P		**P**		**02 14 16.4**	**-0.8**
	8.2nm,1.5s								
DAMY	**Dhamar**	**90.61**	**284**	*e*P		**P**		**02 14 20.9**	**-0.5**
	4.5nm,0.7s								
TORD	**Torodi Ar. Bea**	**132.02**	**286**	PKP		**PKPdf**		**02 20 33.9**	**+1.4**
	0.4nm,0.8s,baz=91,slow=1.9,SNR=5.4								
CPUP	**Villa Florida**	**149.91**	**158**	PKPbc		**PKPbc**		**02 21 09.6**	**+0.7**
	2.0nm,0.9s,baz=238,slow=2.4,SNR=4.5								
LPAZ	**La Paz**	**151.34**	**129**	PKPbc		**PKPbc**		**02 21 16.0**	**+2.7**
	3.8nm,1.0s,baz=264,slow=4.1,SNR=8.5								

IDC 21 02:12:17.5±1.8, 1°.13S×134°.64E, h0km, mb3.4/2, mb1 3.6/4, mb1mx3.4/53, mbtmp3.4/4, ML3.3/2, Error ellipse: s-maj=31.9km s-min=21.4km az=31.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**3.38**	**274**	Pn		Pn		02 13 12.4	+0.8
	3.1nm,0.3s,baz=18,slow=19,SNR=3.1								
SIJI				Pg		Pg		02 13 23.2	+0.8
	12nm,0.3s,baz=144,slow=22,SNR=6.3								
SIJI				Sn		Sn		02 13 52.5	0.0
	10nm,0.3s,baz=322,slow=19,SNR=3.8								
SIJI				Lg		Lg		02 14 04.9	
	25nm,0.3s,baz=5.1,slow=24,SNR=6.7								
WRA	**Warramunga Arr**	**18.70**	**181**	P		Pn		02 16 38.1	+0.1
	0.1nm,0.3s,baz=360,slow=12,SNR=5.3								
ASAR	**Alice Springs**	**22.42**	**182**	P		P		02 17 17.8	-0.2
	0.8nm,0.5s,baz=5.5,slow=12,SNR=5.3								
MKAR	**Makanchi Array**	**66.08**	**323**	P		P		02 23 06.3	-0.2
	0.2nm,0.5s,baz=99,slow=9.2,SNR=3.6								

IDC ***21*** *02:16:14.9±0.6, 1°.69S×134°.39E, h0km, mb4.1/16, mb1 4.2/19, mb1mx4.1/52, mbtmp4.1/19, ML4.3/3, Error ellipse: s-maj=17.1km s-min=12.0km az=61.0*
NEIC ***21*** *02:16:16.9±4.2, 1°.72S×134°.43E, h12km±26km, mb4.5/26, Error ellipse: s-maj=10.3km s-min=5.7km az=225.0*
ISCJB ***21*** *02:16:17.5±0.3, 1°.76S±0°.03×134°.45E±0°.04, h29km, mb4.4/47, MS5.0/2, Error ellipse: s-maj=6.1km s-min=4.8km az=11.5*
DJA ***21*** *02:16:21.4±0.3, 1°.5±2°×13°4E±°, h10km, M4.9/17, mB5.9/1, mb4.9/17, MLv5.0/9, Mw(mB)5.5/1*

ISC 21 02:16:19.4±0.4, 1°.65S±0°.04×134°.42E±0°.05, h29km, n91, σ19 82/94, mb4.5/47, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
RKPI	**Ransiki, Papua**	**0.28**	**299**	P		**Pb**		**02 16 23.6**	**-2.9**
RKPI				S		**Sb**		**02 16 24.9**	**-6.4**
KMPI	**Kaimana, Papua**	**2.12**	**200**	P		**Pb**		**02 16 57.7**	**+0.5**
FAKI	**Fak Fak**	**2.51**	**240**	P		**Pb**		**02 17 00.1**	**-3.8**
FAKI	**Fak Fak**	**2.51**	**240**	*e*Pn		**Pn**		**02 16 57.1**	**-1.2**
FAKI				*e*Pg		**Pb**		**02 17 05.2**	**+1.4**
FAKI				*e*Sn		**Sn**		**02 17 28.1**	**+0.1**
FAKI				*e*Sg		**Sb**		**02 17 37.6**	**+3.3**
SIJI	**Sorong**	**3.25**	**284**	Pn		**Pn**		**02 17 07.2**	**-1.3**
	38nm,0.3s,baz=101,slow=23,SNR=23								
SIJI				Pg		**Pb**		**02 17 15.0**	**-1.4**
	244nm,0.3s,baz=74,slow=17,SNR=61								
SIJI				Sn		**Sn**		**02 17 42.9**	**-3.4**
	164nm,0.3s,baz=288,slow=23,SNR=9.1								
SIJI				Lg		Lg		02 17 56.1	
	123nm,0.3s,baz=327,slow=23,SNR=15								
MSAI	**Masohi**	**5.74**	**253**	P		**Pn**		**02 17 44.2**	**+1.5**
GENI	**Genyem**	**5.82**	**99**	P		Pb		02 17 52.4	-7.7
JAY	**Jayapura**	**6.34**	**98**	P		Pn		02 17 59.4	+8.5
AAI	**Ambon**	**6.54**	**252**	P		**Pn**		**02 17 55.4**	**+1.7**
SANI	**Sanana**	**8.44**	**267**	P		**Pn**		**02 18 20.7**	**+0.9**
MTN	**Manton Dam**	**11.59**	**196**	*e*Pn		**Pn**		**02 19 01.1**	**-1.9**
MTN				*e*Sn		**Sn**		**02 21 05.6**	**-5.9**
APSI	**Ampana**	**12.79**	**273**	P		**Pn**		**02 19 20.4**	**+1.0**
SOEI	**Soe**	**12.92**	**231**	P		**Pn**		**02 19 24.0**	**+2.7**
SOEI	**Soe**	**12.92**	**231**	*e*Pn		**Pn**		**02 19 21.8**	**+0.6**
BATI	**Baumata**	**13.66**	**231**	Pn		**Pn**		**02 19 28.4**	**-2.9**
	1.7nm,0.3s,baz=331,slow=19,SNR=4.3								
BATI				Sn		**Sn**		**02 22 03.1**	**+0.9**
	4.3nm,0.3s,baz=298,slow=15,SNR=3.0								
MMRI	**Maumere**	**13.98**	**240**	P		**Pn**		**02 19 38.1**	**+2.5**
MMRI	**Maumere**	**13.98**	**240**	*e*Pn		**Pn**		**02 19 35.8**	**+0.2**
BNSI	**Bone**	**14.55**	**259**	P		**P**		**02 19 52.9**	**+3.2**
TTSI	**Tana Toraja**	**14.66**	**264**	P		**P**		**02 19 53.9**	**+3.0**
COEN	**Coen**	**14.98**	**145**	*e*Pn		**Pn**		**02 19 46.5**	**-2.8**
KAPI	**Kappang**	**15.02**	**257**	*e*Pn		**Pn**		**02 19 49.0**	**-0.8**
	13nm,0.9s								
WRAB	**Tennant Creek**	**18.17**	**180**	*e*Pn		**Pn**		**02 20 26.9**	**-2.8**
	14nm,0.9s								
WB2	**Warramunga Arr**	**18.18**	**180**	*e*Pn		**Pn**		**02 20 27.8**	**-2.0**
	42nm,1.5s								
WRA	**Warramunga Arr**	**18.18**	**180**	P		**Pn**		**02 20 27.3**	**-2.5**
	1.0nm,0.3s,baz=360,slow=13,SNR=13								
WRA				S		Sn		02 23 39.4	-13
	0.2nm,0.3s,baz=5.2,slow=22,SNR=5.3								
FITZ	**Fitzroy Crossi**	**18.48**	**207**	P		**P**		**02 20 31.3**	**-1.9**
	baz=224,slow=0.0								
FITZ				S		Sn		02 23 47.8	-11
	baz=180,slow=20								
TWSI	**Taliwang, Sumb**	**18.83**	**247**	P		Pn		02 20 44.3	+6.6
JAGI	**Jajag, Banyuwa**	**21.29**	**251**	*e*P		**P**		**02 21 02.3**	**-1.6**
	24nm,0.8s								
CTA	**Charters Tower**	**21.67**	**149**	P		**P**		**02 21 08.8**	**+0.8**
	3.7nm,0.6s,baz=316,slow=11,SNR=7.2								
CTAO	**Charters Tower**	**21.67**	**149**	*e*P		**P**		**02 21 11.6**	**+3.7**
	134nm,1.4s								
AS01	**Alice Springs**	**21.89**	**181**	*e*P		**P**		**02 21 09.2**	**-1.1**
AS31	**Alice Springs**	**21.89**	**181**	*e*P		**P**		**02 21 09.8**	**-0.5**
	6.5nm,0.7s								
ASAR	**Alice Springs**	**21.89**	**181**	P		**P**		**02 21 09.6**	**-0.7**
	9.5nm,0.6s,baz=8.4,slow=11,SNR=50								
MBWA	**Marble Bar**	**24.11**	**215**	*e*P		**P**		**02 21 32.1**	**-0.7**
	35nm,1.1s								
KSM	**Kuching**	**24.31**	**277**	*e*P		**P**		**02 21 35.0**	**+0.2**
	34nm,1.1s								
SMRI	**Semarang**	**24.50**	**257**	P		**P**		**02 21 38.2**	**+1.7**
	115nm,0.8s								
SMRI	**Semarang**	**24.50**	**257**	*e*P		**P**		**02 21 35.9**	**-0.6**
	107nm,1.0s								
KPJI	**Karang Pucung**	**26.02**	**257**	P		**P**		**02 21 51.4**	**+1.1**
	68nm,1.2s								
EIDS	**Eidsvold**	**28.54**	**147**	*e*P		**P**		**02 22 13.4**	**+0.7**
	10nm,1.1s								
MDSI	**Maura Dua**	**30.33**	**264**	P		P		02 22 33.1	+4.3
	12nm,0.8s								
STKA	**Stephens Creek**	**30.82**	**168**	P		**P**		**02 22 30.8**	**-2.1**
	3.4nm,0.6s,baz=347,slow=11,SNR=5.9								
ARMA	**Armidale**	**32.94**	**152**	*e*P		**P**		**02 22 52.1**	**+0.5**
	12nm,1.0s								
NJ2	**Nanjing**	**36.62**	**338**	*e*P		**P**		**02 23 24.1**	**+0.8**
NJ2				pmax		pmax			
	comp=Z,15nm,0.5s								
CMAR	**Chiang Mai Arr**	**40.21**	**301**	P		**P**		**02 23 53.5**	**-0.3**
	comp=Z,1.1nm,0.4s,baz=126,slow=6.9,SNR=7.5								
CHTO	**Chiang Mai**	**40.37**	**302**	*e*P		**P**		**02 23 54.3**	**-0.8**
	comp=Z,3.2nm,0.8s								
KMI	**Kunming**	**40.62**	**313**	P		**P**		**02 23 58.1**	**+0.8**
KMI				pmax		pmax			
	comp=Z,25nm,0.6s								
CD2	**Chengdu**	**43.58**	**321**	*e*P		**P**		**02 24 22.0**	**+0.9**
BJT	**Baijiatuan**	**44.71**	**340**	*e*P		**P**		**02 24 30.6**	**+0.7**
	comp=Z,7.8nm,0.6s								
BJI	**Beijing**	**44.72**	**340**	*e*P		**P**		**02 24 30.0**	**0.0**
BJI				pmax		pmax			
	comp=Z,11nm,1.0s								
USRK	**Ussuriysk Ar.**	**45.70**	**358**	P		**P**		**02 24 36.9**	**-0.8**
	comp=Z,1.1nm,0.6s,baz=186,slow=4.3,SNR=2.5								
LZH	**Lanzhou**	**47.13**	**326**	*e*P		**P**		**02 24 51.0**	**+1.6**
LZH				pP		pP		02 24 55.6	-2.5
LZH				sP		sP		02 24 58.1	-3.5
LZH				*e*PP		**PP**		**02 26 42.3**	**+1.8**
LZH				pmax		pmax			
	comp=Z,20nm,1.3s								
LZH				pmax		pmax			
	comp=Z,68nm,6.6s								
LZH				LR		LR			
	comp=N,280nm,16.0s								
LZH				LR		LR			
	comp=E,280nm,15.7s								
LZH				LR		LR			
	comp=Z,350nm,19.0s								
HHC	**Hu-ho-hao-te**	**47.15**	**336**	*e*P		**P**		**02 24 52.6**	**+3.3**
HHC				pmax		pmax			
	comp=Z,15nm,1.0s								
HHC				pmax		pmax			
	comp=Z,22nm,6.0s								
GTA	**Gaotai**	**51.74**	**326**	*e*P		P		02 25 30.3	+5.9
GTA				pP		sP		02 25 37.3	+0.6
GTA				sP		pP		02 25 40.1	+6.8
GTA				pmax		pmax			
	comp=Z,6.0nm,1.1s								
ULN	**Ulaanbaatar**	**54.79**	**338**	*e*P		**P**		**02 25 47.3**	**+0.6**
	comp=Z,1.1nm,0.5s								
SONM	**Songino Array**	**55.01**	**337**	P		**P**		**02 25 49.4**	**+1.0**
	comp=Z,0.5nm,0.8s,baz=141,slow=5.5,SNR=3.2								
PETK	**Petropavlovsk-**	**57.94**	**16**	P		**P**		**02 26 07.9**	**-1.0**
	comp=Z,1.2nm,0.7s,baz=157,slow=7.8,SNR=2.2								
WMQ	**Urumqi**	**61.56**	**323**	P		**P**		**02 26 37.0**	**+2.9**
WMQ				LR		LR			
	comp=N,5μm,18.1s								
WMQ				LR		LR			
	comp=E,4μm,20.1s								
WMQ				LR		LR			
	comp=Z,3μm,20.1s								
MK01	**Makanchi Array**	**66.35**	**324**	*e*P		**P**		**02 27 05.8**	**+0.2**
MK31	**Makanchi Array**	**66.37**	**324**	*e*P		**P**		**02 27 06.3**	**+0.6**
MKAR	**Makanchi Array**	**66.37**	**324**	P		**P**		**02 27 06.2**	**+0.5**
	comp=Z,1.7nm,0.7s,baz=119,slow=8.5,SNR=15								
MKAR	**Makanchi Array**	**66.37**	**324**	*e*P		**P**		**02 27 06.3**	**+0.6**
	comp=Z,11nm,0.8s								
MAKZ	**Makanchi**	**66.56**	**324**	*e*P		**P**		**02 27 07.2**	**+0.3**
	comp=Z,7.1nm,1.2s								
KSH	**Kashi**	**67.27**	**314**	P		P		02 27 18.4	+6.8
ZALV	**Zalesovo Beam**	**68.91**	**331**	P		**P**		**02 27 20.2**	**-1.2**
	comp=Z,1.1nm,0.6s,baz=103,slow=6.4,SNR=3.2								
AAK	**Ala-Archa**	**69.49**	**317**	*e*P		**P**		**02 27 27.0**	**+1.4**
	comp=Z,1.1nm,0.6s								
KURK	**Kurchatov**	**70.42**	**326**	P		**P**		**02 27 31.2**	**+0.4**
KURBB	**Kurchatov Arra**	**70.43**	**326**	P		**P**		**02 27 31.2**	**+0.3**
	comp=Z,1.9nm,0.9s,baz=118,slow=5.7,SNR=12								
KK31	**Karatay Array**	**72.39**	**316**	*e*P		**P**		**02 27 43.4**	**+0.4**
KKAR	**Karatay Array**	**72.39**	**316**	*e*P		**P**		**02 27 43.4**	**+0.4**
	comp=Z,4.0nm,1.0s								
BVAR	**Borovoye Array**	**76.02**	**326**	P		**P**		**02 28 04.3**	**+0.4**
	comp=Z,1.5nm,0.9s,baz=116,slow=5.3,SNR=3.4								
BRVK	**Borovoye**	**76.09**	**326**	*e*P		**P**		**02 28 04.1**	**-0.2**
	comp=Z,6.0nm,0.8s								
VNDA	**Vanda**	**77.24**	**174**	P		**P**		**02 28 09.9**	**-0.5**
	comp=Z,0.6nm,0.6s,baz=323,slow=5.8,SNR=6.1								
GEYT	**Alibeck**	**80.23**	**309**	P		**P**		**02 28 27.9**	**+0.3**
	comp=Z,2.4nm,0.8s,baz=81,slow=8.9,SNR=3.6								
ABKAR	**Akbulak array**	**81.16**	**320**	*e*P		**P**		**02 28 32.1**	**-0.2**
	comp=Z,2.5nm,0.9s								
AKTO	**Aktyubinsk**	**82.63**	**321**	P		**P**		**02 28 41.1**	**+1.1**
	comp=Z,1.5nm,0.7s,baz=246,slow=3.7,SNR=5.4								
ARU	**Arti**	**83.58**	**327**	P		**P**		**02 28 45.8**	**+1.1**
	comp=Z,1.1nm,0.3s,baz=94,slow=15,SNR=3.0								
IM3	**Indian Mountai**	**84.17**	**23**	*e*P		**P**		**02 28 50.8**	**+3.2**
RC01	**Rabbit Creek A**	**84.61**	**28**	*e*P		**P**		**02 28 51.0**	**+1.1**
	comp=Z,3.7nm,0.7s								
PMR	**Palmer**	**85.01**	**28**	*e*P		**P**		**02 28 51.8**	**-0.1**
	comp=Z,2.5nm,0.8s								
SML	**Sawmill**	**85.43**	**28**	*e*P		**P**		**02 28 55.7**	**+1.6**
	comp=Z,1.0nm,0.8s								
MCK	**McKinley**	**85.57**	**26**	*e*P		**P**		**02 28 54.9**	**+0.1**
	comp=Z,3.9nm,1.0s								
COLD	**Coldfoot**	**85.87**	**22**	*e*P		**P**		**02 28 56.7**	**+0.6**
	comp=Z,1.5nm,0.5s								
DIV

*IDC **21** 02:24:16.7±0.8, 1°.72S×134°.38E, h0km, mb3.8/7, mb1 4.0/9, mb1mx3.8/52, mbtmp3.8/9, ML3.8/2, MS4.1/1, Ms1 4.1/1, ms1mx3.4/52, Error ellipse: s-maj=25.2km s-min=15.1km az=52.0*

*ISCJB **21** 02:24:18.5±0.7, 1°.78S±0°.07×134°.41E±0°.09, h29km, mb3.8/8, MS4.1/1, Error ellipse: s-maj=13.4km s-min=8.6km az=147.7*

*NEIC **21** 02:24:18.1±0.5, 1°.77S×134°.38E, h10km, mb4.2/1, Error ellipse: s-maj=15.9km s-min=7.8km az=82.0*

ISC 21 02:24:20.9±0.9, 1°.8S±0°.1×134°.4E±0°.1, h29km, n18, σ0§83/18, mb3.9/8, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**2.40**	**242**	*e*	Pn		**Pn**	**02 24 57.8**	**-0.5**
SIJI	**Sorong**	**3.24**	**286**		Pn		**Pn**	**02 25 08.6**	**-1.2**
	28nm,0.3s,baz=121,slow=12,SNR=4.1								
SIJI					Pg		**Pb**	**02 25 18.6**	**+0.9**
	90nm,0.3s,baz=96,slow=14,SNR=8.6								
SIJI					Sn		**Sn**	**02 25 47.4**	**0.0**
	32nm,0.3s,baz=319,slow=19,SNR=3.7								
SIJI					Lg		Lg	02 25 59.1	
	37nm,0.3s,baz=229,slow=19,SNR=9.3								
WRAB	**Tennant Creek**	**18.04**	**180**	*e*	Pn		**Pn**	**02 28 28.4**	**-1.2**
WRA	**Warramunga Arr**	**18.04**	**180**		P		**Pn**	**02 28 29.1**	**-0.6**
	0.2nm,0.3s,baz=0.3,slow=12,SNR=5.0								
FITZ	**Fitzroy Crossi**	**18.34**	**207**		P		**Pn**	**02 28 32.6**	**-0.6**
	baz=32,slow=0.9								
ASAR	**Alice Springs**	**21.75**	**181**		P		**P**	**02 29 10.9**	**+0.6**
	4.5nm,0.7s,baz=8.7,slow=11,SNR=7.9								
STKA	**Stephens Creek**	**30.70**	**168**		P		**P**	**02 30 33.2**	**-0.1**
	2.4nm,0.8s,baz=0.0,slow=12,SNR=3.1								
CMAR	**Chiang Mai Arr**	**40.24**	**302**		P		**P**	**02 31 56.8**	**+1.3**
	1.0nm,0.3s,baz=128,slow=5.9,SNR=2.9								
KLR	**Kul'dur**	**50.87**	**358**		LR		LR	02 52 29.5	
	comp=Z,211nm,21.0s,baz=320,slow=33								
SONM	**Songino Array**	**55.12**	**337**		P		**P**	**02 33 49.7**	**-1.0**
	0.6nm,0.9s,baz=149,slow=3.0,SNR=3.0								
MKAR	**Makanchi Array**	**66.45**	**324**		P		**P**	**02 35 07.4**	**-0.4**
	0.2nm,0.5s,baz=108,slow=9.3,SNR=3.4								
KURK	**Kurchatov**	**70.51**	**326**		P		**P**	**02 35 32.7**	**-0.2**
KURBB	**Kurchatov Arra**	**70.51**	**326**		P		**P**	**02 35 32.7**	**-0.3**
	0.6nm,0.6s,baz=121,slow=4.7,SNR=2.8								
BVAR	**Borovoye Array**	**76.11**	**326**		P		**P**	**02 36 05.6**	**-0.3**
	0.3nm,0.6s,baz=109,slow=3.5,SNR=3.2								
BRVK	**Borovoye**	**76.18**	**326**	*e*	P		**P**	**02 36 06.0**	**-0.4**
	0.7nm,0.4s								
TORD	**Torodi Ar. Bea**	**131.84**	**286**		PKhKP		PKPpre	02 43 33.5	
	0.3nm,0.8s,baz=50,slow=2.8,SNR=2.8								
CPUP	**Villa Florida**	**149.85**	**159**		PKPbc		**PKPbc**	**02 44 10.3**	**+1.2**
	1.0nm,0.8s,baz=180,slow=3.0,SNR=2.9								
LPAZ	**La Paz**	**151.43**	**130**		PKPbc		**PKPbc**	**02 44 14.7**	**+0.8**
	0.8nm,0.6s,baz=358,slow=0.9,SNR=4.1								

*ATH **21** 02:25:43.0, 40°.93N×19°.32E, h8km±1km, ML2.6/8, Error ellipse: s-maj=2.9km s-min=1.5km az=127.0*

*CSEM **21** 02:25:46.9±0.3, 40°.71N×19°.44E, h2km, ML2.6, Error ellipse: s-maj=8.1km s-min=3.8km az=65.0*

*THE **21** 02:25:46.0, 40°.82N×19°.46E, h3km±1km, ML2.5/4, Error ellipse: s-maj=2.0km s-min=1.0km az=132.0*

*TIR **21** 02:25:46.5, 40°.70N×19°.69E, h1km, Md3.1/6*

*BEO **21** 02:25:48.9±0.4, 40°.77N×19°.75E, h0km*

ISC 21 02:25:47.8±1.2, 40°.73N±0°.02×19°.54E±0°.03, h5km±10km, n78, σ1§57/121, Albania

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.67**	**22**	*e*	Pn		**Pg**	**02 26 00.3**	**-0.3**
TIR	**Tirane**	**0.67**	**22**	*i*	Pg		**Pg**	**02 26 00.3**	**-0.3**
TIR				*i*	Sg		**Sn**	**02 26 14.0**	**-0.7**
	baz=12								
TIR	**Tirane**	**0.67**	**22**	*i*	PG		**Pg**	**02 26 00.3**	**-0.3**
TIR				*i*	SG		**Sn**	**02 26 14.0**	**-0.7**
SRN	**Sarande**	**0.92**	**157**	*i*	Pg		**Pg**	**02 26 02.6**	**-2.8**
SRN				*i*	Sg		**Sb**	**02 26 18.5**	**-0.1**
SRN	**Sarande**	**0.92**	**157**	*i*	PG		**Pg**	**02 26 02.6**	**-2.8**
SRN				*i*	SG		**Sb**	**02 26 18.5**	**-0.1**
KBN	**Korca**	**0.96**	**96**	*i*	Pg		**Pg**	**02 26 03.0**	**-3.1**
	baz=94								
KBN				*i*	Sg		**Sg**	**02 26 16.4**	**-2.2**
	baz=94								
KBN	**Korca**	**0.96**	**96**	*i*	PG		**Pg**	**02 26 03.0**	**-3.1**
KBN				*i*	SG		**Sg**	**02 26 16.4**	**-2.2**
KASA	**Kassiopi**	**1.03**	**162**		P		**Pg**	**02 26 06.8**	**-0.6**
KASA					S		**Sn**	**02 26 23.7**	**+0.2**
KASA	**Kassiopi**	**1.03**	**162**		P		**Pg**	**02 26 06.8**	**-0.6**
KASA					S		**Sn**	**02 26 24.0**	**+0.5**
OHR	**Ohrid**	**1.03**	**68**	*i*	Pn		**Pg**	**02 26 04.3**	**-3.2**
KEK	**Kerkira**	**1.03**	**169**		P		**Pg**	**02 26 07.3**	**-0.3**
KEK					S		**Sn**	**02 26 24.0**	**+0.3**
KEK					AML		AML	02 26 24.4	
	comp=N,282μm,0.6s								
KEK					AML		AML	02 26 26.4	
	comp=E,396μm,0.5s								
KEK	**Kerkira**	**1.03**	**169**		P		**Pg**	**02 26 07.2**	**-0.3**
KEK					S		**Sn**	**02 26 23.5**	**-0.2**
KEK	**Kerkira**	**1.03**	**169**		P		**Pg**	**02 26 07.1**	**-0.5**
KEK					S		**Sn**	**02 26 23.5**	**-0.2**
PHP	**Peshkopia**	**1.18**	**35**	*i*	Pg		**Pg**	**02 26 11.3**	**+1.0**
PHP				*i*	Sg		**Sn**	**02 26 31.4**	**+4.1**
	baz=165								
PHP	**Peshkopia**	**1.18**	**35**	*i*	PG		**Pg**	**02 26 11.3**	**+1.0**
PHP				*i*	SG		**Sn**	**02 26 31.4**	**+4.1**
NEST	**Nestorio**	**1.20**	**105**		P		**Pb**	**02 26 10.1**	**-0.8**
NEST					S		**Sn**	**02 26 29.5**	**+1.7**
NEST					AML		AML	02 26 32.8	
	comp=E,234μm,0.3s								
NEST					AML		AML	02 26 32.9	
	comp=N,248μm,0.7s								
NEST	**Nestorio**	**1.20**	**105**		P		**Pb**	**02 26 10.0**	**-0.9**
NEST					S		**Sn**	**02 26 28.6**	**+0.8**
NEST	**Nestorio**	**1.20**	**105**		P		**Pb**	**02 26 10.0**	**-0.9**
NEST					S		**Sn**	**02 26 28.6**	**+0.8**
SGD	**Sagiada**	**1.24**	**154**		P		**Pb**	**02 26 11.2**	**-0.4**
SGD	**Sagiada**	**1.24**	**154**		P		**Pn**	**02 26 11.0**	**-0.7**
SGD	**Sagiada**	**1.24**	**154**		P		**Pn**	**02 26 11.0**	**-0.7**
PENT	**Pentalofos**	**1.33**	**113**		P		**Pn**	**02 26 12.7**	**-0.4**
PENT					S		**Sg**	**02 26 34.1**	**+3.4**
PENT	**Pentalofos**	**1.33**	**113**		P		**Pn**	**02 26 11.7**	**-1.4**
PENT	**Pentalofos**	**1.33**	**113**		P		**Pn**	**02 26 12.6**	**-0.5**
PENT					S		**Sg**	**02 26 34.0**	**+3.4**
PUK	**Puka**	**1.34**	**11**	*i*	Pn		**Pb**	**02 26 13.3**	**-0.1**
PUK				*i*	Sn		**Sg**	**02 26 33.1**	**+2.2**
PUK	**Puka**	**1.34**	**11**	*i*	PN		**Pb**	**02 26 13.3**	**-0.1**
PUK				*i*	SN		**Sg**	**02 26 33.1**	**+2.2**
IGT	**Igoumenitsa**	**1.34**	**153**		P		**Pn**	**02 26 11.9**	**-1.2**
IGT					S		**Sg**	**02 26 34.5**	**+3.6**
IGT					AML		AML	02 26 35.5	
	comp=N,276μm,0.9s								
IGT					AML		AML	02 26 37.9	
	comp=E,293μm,0.6s								
IGT	**Igoumenitsa**	**1.34**	**153**		P		**Pn**	**02 26 12.5**	**-0.6**
IGT					S		**Sg**	**02 26 32.4**	**+1.5**
IGT	**Igoumenitsa**	**1.34**	**153**		P		**Pn**	**02 26 12.5**	**-0.6**
IGT					S		**Sg**	**02 26 32.4**	**+1.5**
BIA	**Bitola**	**1.39**	**77**	*i*	Pn		**Pn**	**02 26 12.4**	**-1.4**
FNA	**Florina**	**1.40**	**87**		P		**Pn**	**02 26 11.3**	**-2.7**
FNA					S		**Sg**	**02 26 33.7**	**+1.0**
FNA					AML		AML	02 26 38.7	
	comp=E,620μm,0.5s								
FNA					AML		AML	02 26 39.2	
	comp=N,683μm,0.8s								
FNA	**Florina**	**1.40**	**87**		P		**Pn**	**02 26 11.8**	**-2.2**
FNA					S		**Sg**	**02 26 33.3**	**+0.5**
FNA	**Florina**	**1.40**	**87**		P		**Pn**	**02 26 11.8**	**-2.2**
FNA					S		**Sg**	**02 26 33.9**	**+1.1**
KRUS	**Krusevo**	**1.45**	**63**	*e*	Pn		**Pn**	**02 26 13.0**	**-1.6**
JAN	**Janina**	**1.47**	**136**		P		**Pg**	**02 26 15.8**	**-0.1**
JAN					S		**Sg**	**02 26 39.4**	**+4.4**
JAN					AML		AML	02 26 40.8	
	comp=E,295μm,0.7s								
JAN					AML		AML	02 26 44.2	
	comp=N,343μm,0.4s								
JAN	**Janina**	**1.47**	**136**		P		**Pg**	**02 26 15.6**	**-0.3**
JAN					S		**Sg**	**02 26 39.2**	**+4.2**
KPRO	**Kipourio**	**1.60**	**118**		P		**Pg**	**02 26 18.6**	**+0.3**
KPRO					S		**Sg**	**02 26 41.0**	**+1.9**
KPRO					AML		AML	02 26 49.6	
	comp=E,238μm,0.9s								
KPRO					AML		AML	02 26 51.1	
	comp=N,332μm,0.6s								
KPRO	**Kipourio**	**1.60**	**118**		P		**Pb**	**02 26 17.8**	**0.0**
KPRO					S		**Sg**	**02 26 41.4**	**+2.3**
PDG	**Podgorica**	**1.71**	**353**	*e*	Pg		**Pn**	**02 26 18.6**	**+0.4**
PDG				*e*	Sg		**Sg**	**02 26 42.8**	**0.0**
PDG	**Podgorica**	**1.71**	**353**	*e*	Pg		**Pn**	**02 26 18.6**	**+0.4**
PDG				*e*	Sg		**Sg**	**02 26 42.8**	**0.0**
KZN	**Kozani**	**1.76**	**103**		P		**Pb**	**02 26 19.6**	**-0.8**
KZN					S		**Sg**	**02 26 43.8**	**-0.4**
KZN					AML		AML	02 26 48.2	
	comp=E,192μm,0.8s								
KZN					AML		AML	02 26 49.8	
	comp=N,262μm,0.9s								
KZN	**Kozani**	**1.76**	**103**		P		**Pb**	**02 26 19.3**	**-1.2**
KZN					S		**Sg**	**02 26 44.5**	**+0.3**
SKO	**Skopje**	**1.90**	**48**	*e*	Pn		Pn	02 26 14.1	-6.7
DSL	**Palaion Diasel**	**1.99**	**142**		P		**Pn**	**02 26 21.8**	**-0.3**
DSL					S		**Sg**	**02 26 53.3**	**+1.5**
DSL					AML		AML	02 27 01.6	
	comp=E,134μm,0.8s								
DSL					AML		AML	02 27 02.5	
	comp=N,154μm,1.4s								
DSL	**Palaion Diasel**	**1.99**	**142**		P		**Pn**	**02 26 22.3**	**+0.2**
DSL					S		**Sg**	**02 26 52.6**	**+0.8**
LKD2	**Lefkada island**	**2.12**	**156**		P		**Pn**	**02 26 23.8**	**0.0**
LKD2	**Lefkada island**	**2.12**	**156**		P		**Pn**	**02 26 24.2**	**+0.3**
GRG	**Griva**	**2.19**	**83**		P		**Pn**	**02 26 24.7**	**-0.1**
GRG	**Griva**	**2.19**	**83**		P		**Pn**	**02 26 24.4**	**-0.4**
THL	**Klokotos Trika**	**2.23**	**121**		P		**Pn**	**02 26 26.1**	**+0.8**
THL					S		**Sb**	**02 26 56.8**	**+0.5**
THL	**Klokotos Trika**	**2.23**	**121**		P		**Pn**	**02 26 26.0**	**+0.8**
THL					S		**Sb**	**02 26 57.1**	**+0.8**
STON	**Ston**	**2.54**	**328**	*e*	Pn		**Pn**	**02 26 26.5**	**-3.1**
STON					Sn		**Sn**	**02 26 59.6**	**-1.4**
STON	**Ston**	**2.54**	**328**	*e*	Pn		**Pn**	**02 26 26.5**	**-3.1**
STON					Sn		**Sn**	**02 26 59.5**	**-1.4**
SJES	**Sjenica**	**2.55**	**7**	*e*	Pn		**Pn**	**02 26 30.3**	**+0.4**
SJES	**Sjenica**	**2.55**	**7**	*e*	Pn		**Pn**	**02 26 30.3**	**+0.4**
KNT	**Kendrikon**	**2.58**	**79**		P		**Pn**	**02 26 28.6**	**-1.6**
KNT	**Kendrikon**	**2.58**	**79**		P		**Pn**	**02 26 29.0**	**-1.2**
SELS	**Selova**	**2.76**	**25**	*e*	Pn		**Pn**	**02 26 33.1**	**+0.5**
BBLS	**Lazići**	**3.14**	**358**	*e*	Pn		**Pn**	**02 26 38.8**	**+0.9**
BBLS	**Lazići**	**3.14**	**358**	*e*	Pn		**Pn**	**02 26 38.8**	**+0.9**
GRUS	**Gruza**	**3.28**	**15**	*e*	Pn		**Pn**	**02 26 40.3**	**+0.6**
GRUS	**Gruza**	**3.28**	**15**	*e*	Pn		**Pn**	**02 26 40.3**	**+0.6**
DIVS	**Divibare**	**3.38**	**6**	*e*	Pn		**Pn**	**02 26 42.9**	**+1.6**
DIVS	**Divibare**	**3.38**	**6**	*e*	Pn		**Pn**	**02 26 42.9**	**+1.6**
ZAPS	**Zavoj**	**3.44**	**41**	*e*	Pn		**Pn**	**02 26 40.9**	**-1.1**
ZAPS	**Zavoj**	**3.44**	**41**	*e*	Pn		**Pn**	**02 26 40.9**	**-1.1**
TRUS	**Trudelj**	**3.55**	**10**	*e*	Pn		**Pn**	**02 26 45.2**	**+1.7**
TRUS	**Trudelj**	**3.55**	**10**	*e*	Pn		**Pn**	**02 26 45.2**	**+1.7**
ZAGS	**Zajecar**	**3.67**	**32**	*e*	Pn		**Pn**	**02 26 45.6**	**+0.4**
ZAGS	**Zajecar**	**3.67**	**32**	*e*	Pn		**Pn**	**02 26 45.6**	**+0.4**
TEKS	**Tekeris**	**3.82**	**360**	*e*	Pn		**Pn**	**02 26 48.1**	**+0.9**
TEKS	**Tekeris**	**3.82**	**360**	*e*	Pn		**Pn**	**02 26 48.1**	**+0.9**
KUBS	**Kucevo**	**4.01**	**23**	*e*	Pn		**Pn**	**02 26 48.9**	**-0.9**
KUBS	**Kucevo**	**4.01**	**23**	*e*	Pn		**Pn**	**02 26 48.9**	**-0.9**
UDBI	**Udbina**	**4.71**	**325**	*e*	Pn		**Pn**	**02 26 59.7**	**+0.2**
UDBI					Sn		**Sn**	**02 27 54.7**	**+0.2**
UDBI	**Udbina**	**4.71**	**325**	*e*	Pn		**Pn**	**02 26 59.6**	**+0.2**
UDBI					Sn		**Sn**	**02 27 54.6**	**+0.2**
NVLJ	**Novalja**	**5.15**	**320**	*i*	Pn		**Pn**	**02 27 04.6**	**-0.9**
NVLJ					Sn		**Sn**	**02 28 03.8**	**-1.4**
NVLJ	**Novalja**	**5.15**	**320**	*i*	Pn		**Pn**	**02 27 04.5**	**-0.9**
NVLJ					Sn		**Sn**	**02 28 03.8**	**-1.4**

*ISN **21** 02:39:11.0±3.1, 32°.46N×46°.94E, h15km, ML4.9*

*ISCJB **21** 02:39:11.8±0.6, 32°.37N±0°.02×47°.02E±0°.02, h12km±4km, mb4.5/128, MS4.8/2, Error ellipse: s-maj=3.1km s-min=2.3km az=21.4*

*IDC **21** 02:39:12.0±0.4, 32°.54N×47°.07E, h0km, mb4.3/42, mb1 4.3/50, mb1mx4.2/70, mbtmp4.2/50, ML3.7/6, MS4.6/1, Ms1 4.6/1, ms1mx3.8/69, Error ellipse: s-maj=10.7km s-min=8.7km az=173.0*

*TEH **21** 02:39:12.0, 32°.47N×47°.06E, h6km, ML4.9*

*SGS **21** 02:39:12.5, 32°.92N×47°.17E, h28km*

*CSEM **21** 02:39:13.4±0.1, 32°.41N×47°.03E, h10km, mb4.7/46, Error ellipse: s-maj=4.2km s-min=2.9km az=26.0*

*NEIC **21** 02:39:13.2±0.2, 32°.41N×47°.05E, h10km, mb4.6/38, ML4.9(THR), MN4.9(TEH), Error ellipse: s-maj=4.9km s-min=3.5km az=194.0*

*OMAN **21** 02:39:14.1±99.0, 32°.43N×47°.06E, h14km, Error ellipse: s-maj=41.4km s-min=17.8km az=264.0*

*GII **21** 02:39:14.8±0.0, 32°.43N×47°.06E, h14km*

*MOS **21** 02:39:14.8±1.1, 32°.38N×47°.04E, h35km, mb4.8/55, Error ellipse: s-maj=5.3km s-min=3.8km az=111.1*

*THR **21** 02:39:15.1±0.4, 32°.39N×46°.97E, h40km±5km, ML4.9*

*DSN **21** 02:39:17.7±0.6, 32°.30N×47°.32E, h27km, mb5.9/14, Error ellipse: s-maj=15.9km s-min=5.2km az=54.0*

ISC 21 02:39:16.2±1.0, 32°.44N±0°.03×47°.02E±0°.03, h30km±7km, n508, σ1§42/551, mb4.6/129, 27C-16D, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
IKFM	**Kafar-mosalman**	**1.28**	**33**	*e*	Pg		**Pn**	**02 39 36.1**	**-2.0**
IKFM					eAMB		AMB	02 40 18.3	
	comp=Z,99nm,0.7s								
IKFM	**Kafar-mosalman**	**1.28**	**33**	*e*	Pg		**Pn**	**02 39 36.1**	**-2.0**
SHGR	**Shooshtar-Gavs**	**1.54**	**102**		Pg		**Pb**	**02 39 43.0**	**-1.2**
SHGR					Sg		**Sb**	**02 40 04.0**	**+0.7**
SHGR	**Shooshtar-Gavs**	**1.54**	**102**		Pg		**Pb**	**02 39 43.0**	**-1.2**
SHGR					Sg		**Sb**	**02 40 04.0**	**+0.7**
SHGR	**Shooshtar-Gavs**	**1.54**	**102**	*e*	Pg		**Pb**	**02 39 43.6**	**-0.5**
SHGR				*e*	Sg		**Sb**	**02 40 04.7**	**+1.4**
SHGR					AML		AML	02 40 09.8	
	comp=N,33μm,0.6s								
SHGR					AML		AML	02 40 09.9	
	comp=E,22μm,0.4s								
IKOM	**Komasi**	**1.78**	**13**	*e*	Pn		**Pn**	**02 39 45.7**	**+0.7**
IKOM				*e*	Sg		**Sb**	**02 40 11.4**	**+1.5**
IKOM					eAMB		AMB	02 40 14.5	
	comp=Z,74μm,0.3s								
IKOM	**Komasi**	**1.78**	**13**		Pn		**Pn**	**02 39 45.7**	**+0.7**
IKOM					Sg		**Sb**	**02 40 11.4**	**+1.3**
IKOM	**Komasi**	**1.78**	**13**	*e*	Pn		**Pn**	**02 39 45.7**	**+0.7**
IKOM				*e*	Sg		**Sb**	**02 40 11.4**	**+1.3**
IGHG	**Ghaleghazi**	**1.92**	**349**	*e*	Pn		**Pn**	**02 39 48.0**	**+0.9**
IGHG					eAMB		AMB	02 40 20.2	
	comp=Z,63μm,0.3s								
IGHG	**Ghaleghazi**	**1.92**	**349**		Pn		**Pn**	**02 39 47.9**	**+0.9**
IGHG	**Ghaleghazi**	**1.92**	**349**		Pn		**Pn**	**02 39 47.9**	**+0.9**
IVIS	**Veis**	**2.08**	**356**	*e*	Pn		**Pn**	**02 39 50.0**	**+0.8**
IVIS					eAMB		AMB	02 40 23.9	
	comp=Z,47μm,0.3s								
IVIS	**Veis**	**2.08**	**356**		Pn		**Pn**	**02 39 49.9**	**+0.8**
IVIS	**Veis**	**2.08**	**356**	*e*	Pn		**Pn**	**02 39 50.0**	**+0.8**
BHD	**Baghdad**	**2.37**	**291**	*e*	Pg		**Pn**	**02 39 50.5**	**-2.5**
	baz=110,SNR=9.0								
BHD					*e*Sg		**Sb**	**02 40 25.0**	**-2.0**
	SNR=9.0								
ILIN	**Lien**	**2.47**	**359**	*e*	Pn		**Pn**	**02 39 55.5**	**+0.8**
ILIN					eAMB		AMB	02 40 34.5	
	comp=Z,22μm,0.3s								
ILIN	**Lien**	**2.47**	**359**		Pn		**Pn**	**02 39 55.4**	**+0.8**
ILIN	**Lien**	**2.47**	**359**		Pn		**Pn**	**02 39 55.4**	**+0.8**
SNGE	**Sanandaj**	**2.66**	**6**		Pn		**Pn**	**02 39 58.0**	**+0.8**
SNGE	**Sanandaj**	**2.66**	**6**		Pn		**Pn**	**02 39 58.0**	**+0.8**
SNGE	**Sanandaj**	**2.66**	**6**	*e*	Pn		**Pn**	**02 39 58.3**	**+1.1**
KHMZ	**Khomeyn**	**2.79**	**62**		Pn		**Pn**	**02 39 59.0**	**+0.1**
KHMZ	**Khomeyn**	**2.79**	**62**		Pn		**Pn**	**02 39 59.0**	**+0.1**
KHMZ	**Khomeyn**	**2.79**	**62**	*e*	Pn		**Pn**	**02 39 59.9**	**+1.0**
KHMZ					AML		AML	02 40 58.4	
	comp=E,1μm,0.7s								
HAGD	**Aghdareh**	**2.96**	**36**	*e*	Pn		**Pn**	**02 40 02.3**	**+0.9**
HAGD					eAMB		AMB	02 40 52.7	
	comp=Z,99nm,0.4s								
HAGD	**Aghdareh**	**2.96**	**36**	*e*	Pn		**Pn**	**02 40 02.3**	**+0.9**
ASAO	**Ashtian**	**3.27**	**49**		Pn		**Pn**	**02 40 06.0**	**+0.3**
ASAO	**Ashtian**	**3.27**	**49**		Pn		**Pn**	**02 40 06.0**	**+0.3**
ASAO	**Ashtian**	**3.27**	**49**	*e*	Pn		**Pn**	**02 40 06.7**	**+1.0**
HKZM	**Kohzaman**	**3.32**	**28**	*e*	AMB		AMB	02 40 49.9	
	comp=Z,99nm,0.3s								
HKZM					*e*Pn		**Pn**	**02 40 07.8**	**+1.5**
IKLH	**Kolahrood**	**3.93**	**76**	*e*	Pn		**Pn**	**02 40 16.2**	**+1.4**
IKLH					*e*AMB		AMB	02 41 33.5	
	comp=Z,59μm,0.5s								
IKLH	**Kolahrood**	**3.93**	**76**		Pn		**Pn**	**02 40 16.2**	**+1.4**
IKLH	**Kolahrood**	**3.93**	**76**	*e*	Pn		**Pn**	**02 40 16.2**	**+1.4**
QAM	**Ghamsar**	**3.94**	**69**	*e*	Pn		**Pn**	**02 40 16.2**	**+1.5**
QAM					eAMB		AMB	02 41 21.0	
	comp=Z,12μm,0.2s								
GHVR	**GHOM**	**4.11**	**59**	*e*	Pn		**Pn**	**02 40 17.9**	**+0.9**
GHVR	**GHOM**	**4.11**	**59**	*e*	Pn		**Pn**	**02 40 17.9**	**+0.9**
IGAR	**Gharneh**	**4.25**	**89**	*e*	Pn		**Pn**	**02 40 19.8**	**+0.8**
IGAR					eAMB		AMB	02 41 40.1	
	comp=Z,24μm,0.5s								
KFJS		**4.32**	**169**		P		**Pn**	**02 40 22.8**	**+3.0**
KFJS					S		**Sn**	**02 41 12.7**	**+3.6**
IZEF	**Zefreh**	**4.50**	**83**	*e*	Pn		**Pn**	**02 40 23.5**	**+0.9**
IZEF					eAMB		AMB	02 41 57.1	
	comp=Z,73μm,1.0s								
IZEF	**Zefreh**	**4.50**	**83**		Pn		**Pn**	**02 40 23.4**	**+0.9**
IZEF	**Zefreh**	**4.50**	**83**		Pn		**Pn**	**02 40 23.4**	**+0.9**
IRAM	**Ramesheh**	**4.59**	**96**	*e*	Pn		**Pn**	**02 40 24.4**	**+0.6**
IRAM					eAMB		AMB	02 42 06.8	
	comp=Z,13μm,0.5s								
IRAM	**Ramesheh**	**4.59**	**96**		Pn		**Pn**	**02 40 24.3**	**+0.5**
IRAM	**Ramesheh**	**4.59**	**96**		Pn		**Pn**	**02 40 24.3**	**+0.5**
THKV	**Tehran--Karaj**	**4.71**	**42**	*e*	Pn		**Pn**	**02 40 26.5**	**+1.1**
THKV	**Tehran--Karaj**	**4.71**	**42**	*e*	Pn		**Pn**	**02 40 26.5**	**+1.1**
AHBU	**AHRAM**	**5.13**	**133**	*e*	Pn		**Pn**	**02 40 31.1**	**+0.2**
IDMV	**Damavand**	**5.21**	**52**	*e*	Pn		**Pn**	**02 40 32.1**	**-0.2**
IDMV					eAMB		AMB	02 42 17.3	
	comp=Z,86μm,1.3s								
IDMV	**Damavand**	**5.21**	**52**		Pn		**Pn**	**02 40 32.1**	**-0.2**
IDMV	**Damavand**	**5.21**	**52**	*e*	Pn		**Pn**	**02 40 32.1**	**-0.2**
ANAR	**Anarak**	**5.70**	**81**	*e*	Pn		**Pn**	**02 40 39.7**	**+0.8**
ANAR					eAMB		AMB	02 42 30.1	
	comp=Z,99nm,0.6s								
ANAR	**Anarak**	**5.70**	**81**	*e*	Pn		**Pn**	**02 40 39.7**	**+0.8**
SIRT	**Sirnak**	**6.29**	**325**	*e*	PG		**Pn**	**02 40 46.1**	**-0.9**
VANB	**Van**	**6.82**	**335**	*e*	PG		**Pn**	**02 40 53.1**	**-1.1**
BOQSS		**6.87**	**162**		P		**Pn**	**02 40 55.8**	**+1.0**
BOQSS					S		**Sn**	**02 42 13.5**	**+1.5**
CLDR	**Calderan**	**7.15**	**340**	*e*	PG		**Pn**	**02 40 58.5**	**0.0**
GURO	**Guroymak-BITLI**	**7.33**	**328**	*e*	PG		**Pn**	**02 40 58.5**	**-0.8**
MAZI	**Maziday**	**7.36**	**315**	*e*	PG		Pn	02 41 07.9	+6.2
DYBB	**Diyarbakir**	**7.87**	**316**	*e*	PG		**Pn**	**02 41 11.1**	**+2.5**
GNI	**Garni**	**7.91**	**347**		Pn		**Pn**	**02 41 09.7**	**+0.4**
	comp=Z,0.3nm,0.3s,baz=122,slow=19,SNR=2.4								
GNI					Sn		**Sn**	**02 42 35.7**	**-2.1**
	comp=Z,0.3nm,0.3s,baz=195,slow=13,SNR=3.1								
GNI					Lg		Lg	02 43 30.2	
	comp=Z,0.3nm,0.3s,baz=37,slow=15,SNR=1.7								
GNI	**Garni**	**7.91**	**347**	*e*	Pn		**Pn**	**02 41 06.6**	**-2.7**
GNI					Sn		**Sn**	**02 42 35.7**	**-2.1**
GNI					Lg		Lg	02 43 30.2	
GNI	**Garni**	**7.91**	**347**	*e*	P		**Pn**	**02 41 11.7**	**+2.4**
	comp=Z,34nm,1.7s								
GNI	**Garni**	**7.91**	**347

SNR=11
CSS Mathiatis 11.68 286 *e*Pn **Pn** 02 42 00.2 -0.6
CSS Mathiatis 11.68 286 *e*Pn **Pn** 02 42 00.2 -0.6
KBZ Khabaz 11.72 345 Pn Pn 02 42 07.1 +5.8
comp=Z,0.1nm,0.3s,baz=161,slow=11,SNR=5.4
KBZ Sn **Sn** **02 44 03.8 -7.3**
comp=Z,0.1nm,0.3s,baz=83,slow=8.1,SNR=2.3
KBZ Lg Lg 02 45 19.9
comp=Z,0.1nm,0.3s,baz=198,slow=6.4,SNR=2.1
SOHO SOHO 11.77 132 P **Pn** **02 42 01.0 -1.1**
SNR=22
SOHO SOHO 11.77 132 *i* P **Pn** **02 42 00.1 -2.0**
SNR=12
KVAR Kislovodsk Arr 11.99 345 Pn **Pn** **02 42 08.2 +3.2**
baz=137,slow=12,SNR=12
KIV Kislovodsk 11.99 345 *e*Pn **Pn** **02 42 03.0 -2.0**
KIV Kislovodsk 11.99 345 *e*P **Pn** **02 42 07.8 +2.8**
comp=Z,12nm,1.1s
KIV Kislovodsk 11.99 345 *i* P **Pn** **02 42 09.6 +4.5**
SNR=5.5
KIV Kislovodsk 11.99 345 *e*P **Pn** **02 42 07.8 +2.8**
KIV pmax pmax
comp=Z,12nm,1.1s
ARQ Araqi 12.36 135 P **Pn** **02 42 09.9 -0.2**
SNR=14
ARQ Araqi 12.36 135 P **Pn** **02 42 09.9 -0.2**
SNR=14
GOF Gofitskoye 12.97 347⇑ *e*P **P** **02 42 28.6 0.0**
GOF pmax pmax
comp=Z,32nm,1.4s
BR131 Keskin Array S 13.03 308 *e*Pn **Pn** **02 42 21.5 +2.2**
BR131 Keskin Array S 13.03 308 *e*Pn **Pn** **02 42 21.5 +2.2**
BRTR Keskin Array B 13.03 308 Pn **Pn** **02 42 20.9 +1.6**
comp=Z,0.1nm,0.3s,baz=126,slow=12,SNR=13
BRTR Lg Lg 02 46 16.4
comp=Z,0.0nm,0.3s,baz=209,slow=41,SNR=2.0
BSY Bisya 13.21 134 P **Pn** **02 42 20.7 -1.1**
SNR=8.6
BSYO Bisya 13.25 134 P **Pn** **02 42 20.7 -1.6**
SNR=8.6
WSAR Wadi Sarin 13.76 129 Pn **Pn** **02 42 26.2 -3.1**
comp=Z,6.7nm,0.3s,baz=317,slow=9.7,SNR=30
WSAR Sn **Sn** **02 44 52.4 -8.6**
comp=Z,4.2nm,0.3s,baz=176,slow=20,SNR=11
JMDO Jabal Madar 14.04 133 P **Pn** **02 42 32.5 -0.7**
SNR=5.2
ISP Isparta 14.52 296 *e*Pn **Pn** **02 42 41.0 +1.3**
ISP Isparta 14.52 296 *e*Pn **Pn** **02 42 41.0 +1.3**
ISP Isparta 14.52 296⇑ *e*P **Pn** **02 42 41.0 +1.3**
SHAO Shalim 16.32 150 P **Pn** **02 43 01.1 -2.1**
DAMY Dhamar 17.95 188 *e*Pn **Pn** **02 43 21.1 -2.8**
comp=Z,26nm,1.0s
APE Apeiranthos 18.24 291⇑ *i*P **P** **02 43 27.2 +0.1**
APE Apeiranthos 18.24 291 P **P** **02 43 27.2 +0.1**
APE Apeiranthos 18.24 291 P **P** **02 43 27.2 +0.1**
KBL Kabul 18.49 77 *e*P **P** **02 43 29.8 -0.2**
comp=Z,84nm,1.4s
KBL Kabul 18.49 77 *e*P **P** **02 43 29.8 -0.2**
comp=Z,84nm,1.4s
KBL Kabul 18.49 77 *e*P **P** **02 43 29.8 -0.2**
KBL pmax pmax
comp=Z,84nm,1.4s
IDI Anoyia 18.59 285 P **Pn** **02 43 31.8 +0.4**
comp=Z,1.6nm,0.3s,baz=67,slow=10,SNR=21
IDI Anoyia 18.59 285⇑ *i*P **Pn** **02 43 32.0 +0.6**
IDI Anoyia 18.59 285 *e*P **Pn** **02 43 31.6 +0.2**
comp=Z,29nm,0.8s
IDI Anoyia 18.59 285 *e*P **Pn** **02 43 31.6 +0.2**
comp=Z,29nm,0.8s
PRD Provadia 18.81 310 P **Pn** **02 43 34.9 +1.0**
TIRR Tirgusor 18.83 315⇓ *i*P **Pn** **02 43 33.8 -0.3**
TIRR Tirgusor 18.83 315 *e*P **P** **02 43 32.1 -1.3**
comp=Z,27nm,1.5s
TIRR Tirgusor 18.83 315 *e*P **P** **02 43 32.1 -1.3**
comp=Z,27nm,1.5s
TIRR Tirgusor 18.83 315 *e*P **P** **02 43 32.1 -1.3**
TIRR pmax pmax
comp=Z,27nm,1.5s
TLCR 19.00 317⇓ *i*P **P** **02 43 35.0 -0.3**
VRH Novokhopyorsk 19.15 350 *e*P **P** **02 43 35.0 -1.8**
comp=Z,10.0nm,0.6s
VRH Novokhopyorsk 19.15 350 *e*P **P** **02 43 35.0 -1.8**
VRH pmax pmax
comp=Z,10.0nm,0.6s
HARR Harsova 19.24 315⇑ *i*P **P** **02 43 38.1 +0.2**
AB31 Akbulak array 19.39 26 *i* P **P** **02 43 39.4 -0.1**
comp=Z,11nm,0.9s
AB31 Akbulak array 19.39 26 *i* P **P** **02 43 39.4 -0.1**
AB31 pmax pmax
comp=Z,11nm,0.9s
ABKAR Akbulak array 19.39 26 *e*P **P** **02 43 39.2 -0.3**
comp=Z,5.0nm,0.5s
ABKAR Akbulak array 19.39 26 *e*P **P** **02 43 39.2 -0.3**
comp=Z,5.0nm,0.5s
CFR Carcaliu 19.39 316⇑ *i*P **P** **02 43 39.5 -0.1**
CFR Carcaliu 19.39 316 P **P** **02 43 39.5 -0.1**
CFR Carcaliu 19.39 316 P **P** **02 43 39.5 -0.1**
VSR Storozhevoye 19.63 345 *e*P **P** **02 43 40.6 -1.5**
comp=Z,50nm,1.3s
VSR Storozhevoye 19.63 345 *e*P **P** **02 43 40.6 -1.5**
VSR pmax pmax
comp=Z,50nm,1.3s
AKTK Aktyubinsk 19.74 21 *i* P **P** **02 43 42.7 -0.6**
comp=Z,29nm,1.6s
AKTO Aktyubinsk 19.74 21 P **P** **02 43 42.5 -0.8**
comp=Z,0.8nm,0.3s,baz=205,slow=11,SNR=12
AKTO S **S** **02 47 21.0 -3.1**
comp=Z,0.1nm,0.3s,baz=135,slow=19,SNR=2.2
AKTO Aktyubinsk 19.74 21 *i* P **P** **02 43 42.7 -0.6**
AKTO pmax pmax
comp=Z,29nm,1.6s
RZN Rozhen 20.00 304 P **Pn** **02 43 48.4 0.0**
VRI Vrincioaia 20.60 316⇑ *i*P **P** **02 43 53.2 +0.5**
VRI Vrincioaia 20.60 316⇑ *i*P **P** **02 43 53.2 +0.5**
VRI Vrincioaia 20.60 316 P Pn 02 43 57.1 +2.0
SRS Serrai 20.62 301 P Pn 02 43 54.5 -0.9
comp=Z,14nm,1.2s
SRS Serrai 20.62 301 P Pn 02 43 54.5 -0.9
SRS pmax pmax
comp=Z,14nm,1.2s
PLOR Plostina 20.63 316⇑ *i*P **P** **02 43 54.1 +0.9**
SOH Sokhos 20.71 301 P Pn 02 43 57.2 +0.7
SOH pmax pmax
comp=Z,10.0nm,1.9s
MLR Muntele Rosu 20.86 315 P **P** **02 43 56.6 +1.0**
comp=Z,1.6nm,0.9s,baz=97,slow=4.1,SNR=13
MLR S Sn 02 47 53.2 +0.3
comp=Z,0.3nm,0.7s,baz=183,slow=18,SNR=1.6
MLR Muntele Rosu 20.86 315⇑ *i*P **P** **02 43 56.9 +1.2**
MLR Muntele Rosu 20.86 315 *e*P Pn 02 43 57.8 -0.4
comp=Z,25nm,1.2s
MLR S Sn 02 47 53.2 +0.3
THE Thessaloniki 20.94 300 P Pn 02 43 58.0 -1.1
comp=Z,34nm,0.9s
THE Thessaloniki 20.94 300 P Pn 02 43 58.0 -1.1
THE pmax pmax
comp=Z,34nm,0.9s
HUMR Humele 20.98 311⇓ *i*P **P** **02 43 57.4 +0.5**
LPSR Galich'ya Gora 20.98 346 *e*P **P** **02 43 55.0 -1.8**
LPSR pmax pmax
comp=Z,120nm,0.9s
TESR Tescani 21.00 318⇑ *i*P **P** **02 43 57.0 -0.1**
AGG Agios Georgios 21.06 295 *e*P **P** **02 43 59.0 +1.2**
comp=Z,139nm,1.2s
AGG Agios Georgios 21.06 295 *e*P **P** **02 43 59.0 +1.2**
comp=Z,139nm,1.2s
AGG Agios Georgios 21.06 295 *e*P **P** **02 43 59.0 +1.2**
AGG pmax pmax
comp=Z,139nm,1.2s
SORM Soroca 21.09 323⇓ *i*P **P** **02 43 56.5 -1.5**
SORM Soroca 21.09 323 P **P** **02 43 56.5 -1.5**
SORM Soroca 21.09 323 P **P** **02 43 56.5 -1.5**
LIT Litokhoron 21.16 298 P **P** **02 44 02.4 +3.5**
LIT pmax pmax
comp=Z,29nm,1.8s
ATD Arta Tunnel 21.16 191 P **P** **02 44 00.6 +1.5**
comp=Z,2.1nm,0.3s,baz=352,slow=9.3,SNR=3.2
ATD S Sn 02 48 04.5 +4.0
comp=Z,2.6nm,0.3s,baz=126,slow=19,SNR=2.2
ATD Lg Lg 02 50 33.0
comp=Z,2.8nm,0.3s,baz=229,slow=19,SNR=2.9
KKB Krupnik 21.21 303 P **P** **02 43 58.5 -0.9**
KK31 Karatay Array 21.34 53 *e*P **P** **02 44 00.5 -0.2**
KK31 Karatay Array 21.34 53 *e*P **P** **02 44 00.5 -0.2**
KK31 Karatay Array 21.34 53 *i* P **P** **02 44 02.0 +1.3**
KK31 pmax pmax
comp=Z,27nm,1.1s
KKAR Karatay Array 21.34 53 *e*P **P** **02 44 00.0 -0.7**
comp=Z,11nm,0.6s
KKAR Karatay Array 21.34 53 *e*P **P** **02 44 00.0 -0.7**
comp=Z,11nm,0.6s
KKAR Karatay Array 21.34 53 *e*P **P** **02 44 00.0 -0.7**
KKAR pmax pmax
comp=Z,11nm,0.6s
VTS Vitosha 21.37 305⇓ *i*P **P** **02 44 01.3 0.0**
VTS Vitosha 21.37 305 *e*P **P** **02 44 01.1 0.0**
comp=Z,19nm,1.5s
VTS Vitosha 21.37 305 P **P** **02 44 02.4 +1.2**
VTS Vitosha 21.37 305 *e*P **P** **02 44 01.2 0.0**
comp=Z,19nm,1.5s
VTS Vitosha 21.37 305 *e*P **P** **02 44 01.2 0.0**
VTS pmax pmax
comp=Z,19nm,1.5s
VOIR 21.37 314⇑ *i*P **P** **02 44 02.2 +1.0**
VOIR 21.37 314 P **P** **02 44 02.0 +0.8**
comp=Z,45nm,1.2s
VOIR 21.37 314 P **P** **02 44 02.0 +0.8**
VOIR pmax pmax
comp=Z,45nm,1.2s
DOPR Dopca 21.44 315⇑ *i*P **P** **02 44 02.8 +1.0**
GRG Griva 21.44 300 P **P** **02 44 04.6 +2.7**
comp=Z,24nm,0.7s
GRG Griva 21.44 300 P **P** **02 44 04.6 +2.7**
GRG pmax pmax
comp=Z,24nm,0.7s
ARR Arges 21.59 313⇑ *i*P **P** **02 44 04.1 +0.6**
PRAR RASCA 21.73 319⇓ *i*P **P** **02 44 04.6 -0.3**
NIL Nilore 22.01 80 *e*P **P** **02 44 07.5 -0.5**
comp=Z,314nm,1.5s
NIL Nilore 22.01 80 *e*P **P** **02 44 07.5 -0.5**
comp=Z,314nm,1.5s
NIL Nilore 22.01 80 *e*P **P** **02 44 07.5 -0.5**
NIL pmax pmax
comp=Z,314nm,1.5s
FNA Florina 22.15 299 P **P** **02 44 09.8 +0.3**
comp=Z,21nm,0.6s
FNA Florina 22.15 299 P **P** **02 44 09.8 +0.3**
FNA pmax pmax
comp=Z,21nm,0.6s
LOT Lotru 22.17 313⇓ *i*P **P** **02 44 09.6 -0.2**
BIA Bitola 22.24 300 *e*P **P** **02 44 11.1 +0.5**
BURAR Bucovina Array 22.44 319⇓ *i*P **P** **02 44 13.2 +0.6**
BURAR Bucovina Array 22.44 319 P **P** **02 44 13.1 +0.5**
BUR04 Bucovina Ar. S 22.44 319 *e*P **P** **02 44 12.4 -0.2**
BUR04 Bucovina Ar. S 22.44 319 *e*P **P** **02 44 12.4 -0.2**
BUR08 Bucovina Ar. S 22.46 319 *e*P **P** **02 44 13.1 +0.2**
BUR08 Bucovina Ar. S 22.46 319 *e*P **P** **02 44 13.1 +0.2**
ZAGS Zajecar 22.48 307 *e*P **P** **02 44 11.7 -1.2**
AKASG Malin Array Be 22.48 329 P **P** **02 44 10.9 -2.0**
comp=Z,3.0nm,0.6s,baz=137,slow=9.5,SNR=20
AKASG PcP **PcP** **02 48 06.5 +0.3**
comp=Z,0.5nm,0.3s,baz=105,slow=2.2,SNR=3.9
AKBB Malin Array Si 22.48 329 *e*P **P** **02 44 13.4 +0.5**
comp=Z,8.3nm,0.8s
AKBB Malin Array Si 22.48 329 *e*P **P** **02 44 13.4 +0.5**
comp=Z,8.3nm,0.8s
AKBB Malin Array Si 22.48 329 *e*P **P** **02 44 13.4 +0.5**
AKBB pmax pmax
comp=Z,8.0nm,0.8s
KIEV Kiev 22.48 329 *e*P **P** **02 44 12.5 -0.4**
comp=Z,7.6nm,0.8s
KIEV Kiev 22.48 329 *e*P **P** **02 44 12.6 -0.3**
comp=Z,13nm,1.3s
KIEV Kiev 22.48 329 *i* P **P** **02 44 16.5 +3.6**
SNR=6.2
KIEV Kiev 22.48 329⇓ *e*P **P** **02 44 12.6 -0.3**
KIEV pmax pmax
comp=Z,13nm,1.3s
AK11 Malin Array Si 22.49 329 *e*P **P** **02 44 13.0 0.0**
AK11 Malin Array Si 22.49 329 *e*P **P** **02 44 13.0 0.0**
MNAS Manas 22.50 56 *i* P **P** **02 44 13.0 -0.4**
comp=Z,53nm,1.4s
MNAS Manas 22.50 56 *i* P **P** **02 44 13.0 -0.4**
MNAS pmax pmax
comp=Z,53nm,1.4s
OHR Ohrid 22.65 300 *e*P **P** **02 44 17.1 +2.2**
AML Almayashu 23.24 58 P **P** **02 44 21.5 +0.2**
SNR=5.8
TIR Tirane 23.39 300⇑ *i*P **P** **02 44 22.0 -0.4**
TIR Tirane 23.39 300 *e*P **P** **02 44 21.8 -0.6**
comp=Z,23nm,0.6s
TIR Tirane 23.39 300 *e*P **P** **02 44 21.8 -0.6**
comp=Z,23nm,0.6s
TIR Tirane 23.39 300 *e*P **P** **02 44 21.8 -0.6**
TIR pmax pmax
comp=Z,23nm,0.6s
EKS2 Erkin-Say 23.45 57 P **P** **02 44 25.0 +1.9**
SNR=7.9
DRGR 23.46 315⇓ *i*P **P** **02 44 23.0 0.0**
DRGR 23.46 315 P **P** **02 44 22.8 -0.2**
comp=Z,54nm,1.1s
DRGR 23.46 315 P **P** **02 44 22.8 -0.2**
DRGR pmax pmax
comp=Z,54nm,1.1s
GRUS Gruza 23.53 307 *e*P **P** **02 44 24.5 +0.8**
OBN Obninsk 23.84 345 P **P** **02 44 25.0 -1.4**
comp=Z,11nm,0.5s,baz=123,slow=16,SNR=10
OBN S **S** **02 48 39.4 -0.8**
comp=Z,8.4nm,0.4s,baz=197,slow=19,SNR=3.2
OBN Obninsk 23.84 345 *e*P **P** **02 44 24.6 -1.8**
comp=Z,74nm,1.5s
OBN S **S** **02 48 39.4 -0.8**
OBN Obninsk 23.84 345 *i* P **P** **02 44 26.3 -0.1**
OBN *i* 02 44 56.5
OBN pmax pmax
comp=Z,52nm,1.4s
AAK Ala-Archa 23.95 57 P **P** **02 44 27.8 -0.1**
comp=Z,4.5nm,0.7s,baz=233,slow=12,SNR=11
AAK Ala-Archa 23.95 57 *e*P **P** **02 44 27.4 -0.5**
comp=Z,20nm,1.4s
AAK Ala-Archa 23.95 57 *e*P **P** **02 44 27.4 -0.5**
comp=Z,20nm,1.4s
AAK Ala-Archa 23.95 57 *i* P **P** **02 44 28.2 +0.3**
SNR=8.2
AAK Ala-Archa 23.95 57 *e i*P **P** **02 44 28.4 +0.5**
AAK pmax pmax
comp=Z,21nm,1.7s
DIVS Divibare 24.09 307 *e*P **P** **02 44 29.4 +0.3**
FRU Bishkek 24.09 57 *e*P **P** **02 44 28.5 -0.6**
comp=Z,110nm,2.2s
FRU *e*S **S** **02 48 46.0 +1.3**
FRU Bishkek 24.09 57 *e*P **P** **02 44 28.5 -0.6**
FRU *e*S **S** **02 48 46.0 +1.3**
FRU pmax pmax
comp=Z,110nm,2.2s
PDG Podgorica 24.10 302⇓ *i*P **P** **02 44 29.2 +0.1**
PDG Podgorica 24.10 302⇓ *i*P **P** **02 44 29.2 +0.1**
USP Ospenovka 24.14 56 P **P** **02 44 31.4 +1.9**
SNR=6.5
MOS Moscow 24.20 347 *e*P **P** **02 44 28.0 -1.9**
MOS *e*S **S** **02 48 46.3 +0.2**
MOS pmax pmax
comp=Z,46nm,1.3s
TRPA Tarpa 24.23 317⇑ *i*P **P** **02 44 30.4 +0.2**
TRPA Tarpa 24.23 317⇑ *i*P **P** **02 44 30.4 +0.2**
KBK Karagaybulak 24.28 57 P **P** **02 44 32.6 +1.6**
SNR=7.2
KZA Kyzart 24.35 59 P **P** **02 44 32.9 +1.0**
SNR=10
LVV L'vov 24.36 322 *e*P **P** **02 44 32.0 +0.6**
LVV L'vov 24.36 322 *e*P **P** **02 44 32.0 +0.6**
KSH Kashi 24.40 65 P **P** **02 44 30.3 -1.7**
KSH sP pP 02 44 36.3 -4.5
KSH PP **PnPn** **02 45 03.9 +0.9**
KSH S **S** **02 48 43.8 -6.2**
KSH SS **SnSn** **02 49 37.9 +3.2**
KSH pmax pmax
comp=Z,70nm,0.8s
KSH LR LR
comp=N,590nm,8.0s
KSH LR LR
comp=E,770nm,8.3s
KSH LR LR
comp=Z,2µm,12.4s
BBLS Lazići 24.41 306 *e*P **P** **02 44 32.4 +0.3**
TEKS Tekeris 24.56 307 *e*P **P** **02 44 33.6 +0.3**
UZH Uzhgorod 24.63 318 *e*P **P** **02 44 35.7 +1.8**
UZH Uzhgorod 24.63 318 *e*P **P** **02 44 35.7 +1.8**
UZH *e* 02 44 45.7
NRN Naryn 24.75 60 P **P** **02 44 36.6 +1.2**
NRN Naryn 24.75 60 P **P** **02 44 36.6 +1.2**
OTUK Ortayu 24.77 43 P **P** **02 44 34.7 -0.5**
comp=Z,19nm,1.5s
OTUK Ortayu 24.77 43 P **P** **02 44 34.7 -0.5**
OTUK pmax pmax
comp=Z,19nm,1.5s
TKM2 Tokmak 2 24.81 57 P **P** **02 44 36.6 +0.8**
SNR=18
TKM2 Tokmak 2 24.81 57 *i* P **P** **02 44 36.6 +0.8**
comp=Z,45nm,1.6s
TKM2 Tokmak 2 24.81 57 *i* P **P** **02 44 36.6 +0.8**
TKM2 pmax pmax
comp=Z,45nm,1.6s
KWP Kalwaria Pacla 24.95 321 *e*P **P** **02 44 37.6 +0.8**
KWP Kalwaria Pacla 24.95 321 *e*P **P** **02 44 37.2 +0.4**
comp=Z,469nm,1.5s
KWP Kalwaria Pacla 24.95 321 *e*P **P** **02 44 37.2 +0.4**
comp=Z,469nm,1.5s
KWP Kalwaria Pacla 24.95 321 *e*P **P** **02 44 37.2 +0.4**
KWP pmax pmax
comp=Z,469nm,1.5s
ULHL Ulahol 25.10 59 P **P** **02 44 39.1 +0.6**
SNR=13
CRVS Cervenica-Dubn 25.25 318 *e*P **P** **02 44 39.8 +0.4**
comp=Z,10.0nm,1.3s
CRVS Cervenica-Dubn 25.25 318 *e*P **P** **02 44 39.8 +0.4**
CRVS Cervenica-Dubn 25.25 318 *e*P **P** **02 44 39.8 +0.4**
CRVS pmax pmax
comp=Z,10.0nm,1.3s
ARU Arti 25.29 15 P **P** **02 44 39.3 -0.5**
comp=Z,3.1nm,0.3s,baz=208,slow=6.5,SNR=18
ARU Arti 25.29 15 *e*P **P** **02 44 38.4 -1.4**
comp=Z,22nm,1.1s
ARU Arti 25.29 15 *c i*P **P** **02 44 39.1 -0.6**
ARU **02 45 17.1**
ARU S **S** **02 49 04.9 +1.3**
ARU SS **SnSn** **02 49 59.0 +3.0**
ARU pmax pmax
comp=Z,37nm,1.7s
STON Ston 25.32 303 P **P** **02 44 39.1 -1.0**
STON Ston 25.32 303 *i* P **P** **02 44 39.1 -1.0**
TIP Timpagrande 25.37 294⇓ *i*P **P** **02 44 41.8 +1.1**
TIP Timpagrande 25.37 294 *e*P **P** **02 44 41.2 +0.5**
comp=Z,18nm,0.6s
TIP Timpagrande 25.37 294 *e*P **P** **02 44 41.2 +0.5**
comp=Z,18nm,0.6s
STHS Stebnicka Huta 25.64 319 *e*P **P** **02 44 43.7 +0.7**
comp=Z,4.0nm,0.7s
STHS Stebnicka Huta 25.64 319 *e*P **P** **02 44 43.7 +0.7**
STHS Stebnicka Huta 25.64 319 *e*P **P** **02 44 43.7 +0.7**
STHS pmax pmax
comp=Z,4.0nm,0.7s
PSZ Piszkesteto 25.68 315 *e*P **P** **02 44 43.8 +0.4**
comp=Z,9.8nm,1.1s
PSZ Piszkesteto 25.68 315 *e*P **P** **02 44 43.8 +0.4**
comp=Z,9.8nm,1.1s
PSZ Piszkesteto 25.68 315 *e*P **P** **02 44 43.8 +0.4**
PSZ pmax pmax
comp=Z,10.0nm,1.1s
MORH M¯ŧr¡gy, Hung 25.74 311⇑ *e*S **P** **02 44 44.4 +0.5**
KDJ Kajisay 25.76 59 *e*P **P** **02 44 46.0 +1.6**
comp=Z,97nm,1.9s
KDJ Kajisay 25.76 59 P **P** **02 44 46.0 +1.6**
KDJ pmax pmax
comp=Z,97nm,1.9s
MICGM Minsk 25.90 334 *e* **P** **02 44 46.0 +0.8**
MNK Minsk 25.90 334 *e*P **P** **02 44 46.0 +0.8**
SVE Sverdlovsk 26.14 17 *e*P **P** **02 44 47.3 -0.1**
SVE pmax pmax
comp=Z,22nm,1.5s
NIE Niedzica 26.16 318 *e*P **P** **02 44 49.9 +2.1**
NIE Niedzica 26.16 318 *e*P **P** **02 44 49.9 +2.1**
CUC Castrocucco 26.18 296 *e*P **P** **02 44 49.0 +0.9**
comp=Z,7.1nm,0.4s
LANS Liptovska Anna 26.50 317 *e*P **P** **02 44 52.4 +1.5**
LANS Liptovska Anna 26.50 317 *e*P **P** **02 44 52.4 +1.5**
BRVK Borovoye 26.55 32 *e*P **P** **02 44 50.6 -0.6**
comp=Z,13nm,1.1s
BRVK Borovoye 26.55 32⇑ *e*P **P** **02 44 50.9 -0.3**
BRVK pmax pmax
comp=Z,13nm,1.7s
VYHS Vyhne 26.57 315 *e*P **P** **02 44 53.4 +2.0**
VYHS Vyhne 26.57 315 *e*P **P** **02 44 53.4 +2.0**
VYHS pmax pmax
comp=Z,6.0nm,1.5s
BVA0 Borovoye Array 26.58 32 P **P** **02 44 50.7 -0.7**
BVA0 pmax pmax
comp=Z,13nm,0.9s
BVAR Borovoye Array 26.58 32 P **P** **02 44 51.5 0.0**
comp=Z,2.8nm,0.3s,baz=227,slow=8.6,SNR=33
BVAR PcP **PcP** **02 48 15.7 +0.5**
comp=Z,0.6nm,0.4s,baz=159,slow=2.8,SNR=6.5
NACGM Naroch 26.62 334 *e* **P** **02 44 52.0 +0.3**
PRZ Przheval'sk 26.72 59 P P 02 44 44.3 -8.7
PRZ pmax pmax
comp=Z,11nm,1.2s
OJC Ojcow 26.85 319 *e*P **P** **02 44 54.0 0.0**
OJC Ojcow 26.85 319 *e*P **P** **02 44 54.6 +0.6**
comp=Z,15nm,1.0s
OJC Ojcow 26.85 319 *e*P **P** **02 44 54.6 +0.6**
OJC pmax pmax
comp=Z,15nm,1.0s
IDID Didziasalis 26.95 334 *e*P **P** **02 44 55.1 +0.4**
IDID IAmb IAmb 02 44 57.1
UDBI Udbina 27.11 305 P **P** **02 44 55.5 -1.0**
VAE Valguarnera 27.11 290 P **P** **02 44 59.1 +2.6**
comp=Z,9.3nm,0.9s,baz=7,slow=16,SNR=3.2
IIGN Ignalina 27.16 334 *e*P **P** **02 44 56.9 +0.2**
IIGN IAmb IAmb 02 45 05.5
comp=Z,9.4nm,0.5s
IZAR Zarasai 27.46 334 *e*P **P** **02 44 59.8 +0.5**
IZAR IAmb IAmb 02 45 04.2
comp=Z,11nm,1.2s
PDGK Podgornoye 27.67 58 *i* P **P** **02 45 01.2 -0.4**
PDGK pmax pmax
comp=Z,20nm,1.5s
MORC Moravsky Berou 27.91 317 P **P** **02 45 05.7 +2.2**
MORC pmax pmax
comp=Z,19nm,2.4s
CONA Conrad Observa 28.15 312 P **P** **02 45 07.7 +2.0**
comp=Z,5.7nm,1.5s
CONA Conrad Observa 28.15 312 *e*pP **P** **02 45 07.7 +2.0**
comp=Z,5.7nm,1.5s
VRAC Vranov 28.26 316 P **P** **02 45 06.8 +0.2**
comp=Z,1.2nm,0.5s,baz=104,slow=8.0,SNR=4.3
OBKA Obir 28.50 309 P **P** **02 45 09.9 +1.0**
comp=Z,6.4nm,0.9s
OBKA Obir 28.50 309 *e*P **P** **02 45 09.9 +1.0**
comp=Z,6.4nm,0.9s
KLMR Klimovskoe 28.85 352 *e*P **P** **02 45 11.1 -0.5**
KLMR AMP **02 45 12.2**
comp=Z,12nm,1.3s
KLMR Klimovskoe 28.85 352 *e*P **P** **02 45 11.1 -0.5**
KLMR pmax pmax
comp=Z,12nm,1.3s
DPC Dobruska-Polom 28.87 317 *e*P **P** **02 45 12.0 0.0**
DPC Dobruska-Polom 28.87 317 *e*P **P** **02 45 12.0 0.0**
KSP Ksiaz 29.11 318 P **P** **02 45 18.0 +3.9**
KSP pmax pmax
comp=Z,7.0nm,2.6s
MOA Molln 29.12 312 *e*P **P** **02 45 14.7 +0.4**
comp=Z,3.2nm,0.8s
KLNR Kaliningrad 29.16 327⇑ *e*P **P** **02 45 14.7 +0.3**
KLNR pmax pmax
comp=Z,70nm,1.5s
KURBB Kurchatov Arra 29.45 43 P **P** **02 45 17.1 0.0**
comp=Z,2.0nm,0.6s,baz=248,slow=9.4,SNR=11
KURBB PcP **PcP** **02 48 22.5 +0.3**
comp=Z,0.3nm,0.4s,baz=240,slow=3.5,SNR=3.2
KBA Koelnbreinsper 29.47 310 P **P** **02 45 16.7 -0.8**
comp=Z,3.4nm,0.7s
KBA Koelnbreinsper 29.47 310 *e*P **P** **02 45 16.7 -0.8**
comp=Z,3.4nm,0.7s
KURK Kurchatov 29.55 42 *e*P **P** **02 45 17.7 -0.3**
comp=Z,57nm,1.0s
KURK PcP **PcP** **02 48 22.6 +0.1**
KURK Kurchatov 29.55 42 *e*P **P** **02 45 17.7 -0.3**
KURK **02 48 22.6**
KURK pmax pmax
comp=Z,57nm,1.0s
GERES GERESS Array B 29.82 313 P **P** **02 45 20.3 -0.3**
comp=Z,0.6nm,0.5s,baz=102,slow=8.3,SNR=8.8
GERES PcP **PcP** **02 48 24.2 +0.8**
comp=Z,0.8nm,0.6s,baz=142,slow=2.5,SNR=6.8
ABTA Abfaltersbach 29.92 309 P **P** **02 45 22.4 +1.0**
comp=Z,4.2nm,1.0s

ABTA	Abfaltersbach	29.92	309	*eP*	P	02 45 22.4	+1.0
	comp=Z,4.2nm,1.0s						
KHC	Kasperske Hory	30.00	314	*eP*	P	02 45 26.2	+4.1
KHC	Kasperske Hory	30.00	314	*eP*	P	02 45 26.2	+4.1
MAKZ	Makanchi	30.23	51	*eP*	P	02 45 25.7	+1.6
	comp=Z,8.5nm,1.3s						
MAKZ	Makanchi	30.23	51	*eP*	P	02 45 25.7	+1.6
MAKZ				pmax	pmax		
	comp=Z,9.0nm,1.3s						
MK01	Makanchi Array	30.43	52	*eP*	P	02 45 25.5	-0.4
MK31	Makanchi Array	30.43	52	*eP*	P	02 45 26.1	+0.1
MK31	Makanchi Array	30.43	52	*i* P	P	02 45 25.7	-0.2
MK31				pmax	pmax		
	comp=Z,4.0nm,0.6s						
MKAR	Makanchi Array	30.43	52	P	P	02 45 26.0	+0.2
	comp=Z,2.2nm,0.4s,baz=249,slow=7.3,SNR=30						
MKAR				PcP	PcP	02 48 25.0	+0.1
	comp=Z,0.5nm,0.6s,baz=266,slow=3.4,SNR=3.2						
MKAR	Makanchi Array	30.43	52	*eP*	P	02 45 26.1	+0.2
	comp=Z,28nm,0.6s						
MKAR				PcP	PcP	02 48 25.0	+0.1
MKAR	Makanchi Array	30.43	52	*eP*	P	02 45 26.1	+0.2
MKAR						02 48 25.0	
MKAR				pmax	pmax		
	comp=Z,28nm,0.6s						
VLC	Villacollemand	30.80	303	*eP*	P	02 45 29.2	0.0
	comp=Z,19nm,1.0s						
MOTA	Moosalm	31.01	309	P	P	02 45 30.4	-0.7
	comp=Z,5.3nm,0.5s						
MOTA	Moosalm	31.01	309	*i* P	P	02 45 30.4	-0.7
	comp=Z,5.3nm,0.5s						
FETA	Feichten	31.17	309	P	P	02 45 33.0	+0.5
	comp=Z,8.3nm,1.3s						
FETA	Feichten	31.17	309	*eP*	P	02 45 33.0	+0.5
	comp=Z,8.3nm,1.3s						
CLL	Collm	31.18	317	*eP*	P	02 45 33.0	+0.6
CLL	Collm	31.18	317	*eP*	P	02 45 33.0	+0.6
KEST	Kesra	31.25	287	P	P	02 45 35.5	+2.2
	comp=Z,7.7nm,0.8s,baz=20,slow=6.5,SNR=13						
KEST				PcP	PcP	02 48 28.5	+1.2
	comp=Z,1.5nm,0.5s,baz=79,slow=2.2,SNR=3.8						
KEST	Kesra	31.25	287	*eP*	P	02 45 36.0	+2.7
	comp=Z,20nm,1.4s						
KEST				PcP	PcP	02 48 28.5	+1.2
RETA	Reutte	31.27	309	P	P	02 45 32.8	-0.5
	comp=Z,2.3nm,0.5s						
RETA	Reutte	31.27	309	*i* P	P	02 45 32.8	-0.5
	comp=Z,2.3nm,0.5s						
PYUN	Piuthan	31.27	88	*eP*	P	02 45 33.9	+0.2
GRF	Grafenberg Arr	31.64	314	P	P	02 45 38.3	+1.8
GRF				pmax	pmax		
	comp=Z,50nm,2.0s						
GRFO	Grafenberg	31.64	314	*eP*	P	02 45 38.5	+2.0
	comp=Z,40nm,1.9s						
GRFO	Grafenberg	31.64	314	*eP*	P	02 45 38.5	+2.0
GRFO				pmax	pmax		
	comp=Z,40nm,1.9s						
DAVA	Damuels	31.80	309	*i* P	P	02 45 37.6	-0.5
	comp=Z,7.3nm,0.6s						
DANN	Dangsing	31.85	88	*eP*	P	02 45 39.9	+1.0
KOLN	Koldanda	31.88	89	*eP*	P	02 45 39.1	0.0
TUE	Stuetta	31.96	307	*eP*	P	02 45 41.4	+1.8
	comp=Z,11nm,1.2s						
FIA1	FINESS Array S	32.04	341	*eP*	P	02 45 38.7	-1.1
FINES	FINESS Array B	32.04	341	P	P	02 45 39.4	-0.5
	comp=Z,3.2nm,0.6s,baz=146,slow=9.2,SNR=41						
HYB	Hyderabad	32.12	110	*i* P	P	02 45 43.0	+1.9
GKN	Gorkha	32.69	88	*eP*	P	02 45 46.2	+0.1
DMN	Daman	33.20	88	*eP*	P	02 45 51.0	+0.3
KKN	Kakani	33.30	88	*eP*	P	02 45 51.7	+0.2
SENIN	Lac Senin/Sane	33.33	306	*eP*	P	02 45 51.4	-0.2
	comp=Z,18nm,1.5s						
PKIN	Phulchoki	33.46	88	*eP*	P	02 45 53.1	+0.1
BNI	Bardonecchia	33.55	304	*eP*	P	02 45 53.0	-0.4
	comp=Z,26nm,1.3s						
BNI	Bardonecchia	33.55	304	*eP*	P	02 45 53.0	-0.4
BNI				pmax	pmax		
	comp=Z,26nm,1.3s						
LPG	La Plagne	33.56	305	*eP*	P	02 45 53.1	-0.6
LPG				pmax	pmax		
	comp=Z,8.0nm,0.7s						
LPL	La Plagne	33.58	305	*eP*	P	02 45 53.8	0.0
LPL				pmax	pmax		
	comp=Z,9.0nm,0.6s						
WMQ	Urumqi	33.64	58	P	P	02 45 55.3	+1.2
WMQ				LR	LR		
	comp=N,5μm,17.1s						
WMQ				LR	LR		
	comp=E,3μm,17.1s						
WMQ				LR	LR		
	comp=Z,2μm,20.9s						
GUN	Gumba	33.77	87	*eP*	P	02 45 56.1	+0.3
NVS	Novosibirsk	33.89	38	*eP*	P	02 45 56.7	+0.7
NVS				*eS*	S	02 51 20.5	+2.1
NVS				pmax	pmax		
	comp=Z,19nm,1.6s						
NVS				pmax	pmax		
	comp=N,10.0nm,1.9s						
NVS				smax	smax		
	comp=E,32nm,2.6s						
JIRN	Jiri	34.11	88	*eP*	P	02 45 59.0	+0.3
CABF	La Chapelle	34.20	307	*eP*	P	02 45 58.5	-0.5
CABF				pmax	pmax		
	comp=Z,16nm,0.7s						
ZALV	Zalesovo Beam	34.35	40	P	P	02 45 59.8	-0.3
	comp=Z,2.5nm,0.4s,baz=248,slow=9.0,SNR=13						
ZALV				PcP	PcP	02 48 35.2	-0.2
	comp=Z,0.6nm,0.3s,baz=285,slow=5.9,SNR=2.6						
ZALV	Zalesovo Beam	34.35	40	*eP*	P	02 46 00.1	0.0
ZALV						02 48 35.3	
RAMN	Ramite	34.67	89	*eP*	P	02 46 03.2	-0.3
	comp=Z,61nm,1.0s						
VIVF	Saint-Julien-l	34.94	303	*eP*	P	02 46 05.3	0.0
VIVF				pmax	pmax		
	comp=Z,16nm,1.4s						
HFS	Hagfors	35.33	332	P	P	02 46 08.2	-0.2
	comp=Z,6.1nm,0.4s,baz=119,slow=9.0,SNR=76						
ODAN	Odare	35.37	88	*eP*	P	02 46 09.3	-0.2
	comp=Z,19nm,0.6s						
NB2	NORSAR Subarra	36.86	332	P	P	02 46 20.4	-1.2
	comp=Z,1.8nm,0.7s,baz=124,slow=8.6						
NOA	NORSAR Array B	36.86	332	P	P	02 46 20.8	-0.8
	comp=Z,0.9nm,0.5s,baz=124,slow=9.1,SNR=5.6						
TAM	Tamanrasset	37.81	266	*eP*	P	02 46 31.5	+1.3
	comp=Z,20nm,1.3s						
TAM	Tamanrasset	37.81	266	*eP*	P	02 46 31.5	+1.3
	comp=Z,20nm,1.3s						
TAM	Tamanrasset	37.81	266	*eP*	P	02 46 31.5	+1.3
TAM				pmax	pmax		
	comp=Z,20nm,1.3s						
HVS	Khovu-Aksy	38.73	47‖	*eP*	P	02 46 39.2	+1.6
HVS				pmax	pmax		
	comp=Z,11nm,1.0s						
ARCES	ARCESS Array B	39.06	348	P	P	02 46 39.5	-0.6
	comp=Z,0.8nm,0.6s,baz=157,slow=9.8,SNR=11						
ARCES				PcP	PcP	02 48 49.9	+0.5
	comp=Z,0.9nm,0.6s,baz=157,slow=2.7,SNR=3.1						
SHL	Shillong	39.60	88	*eP*	P	02 46 44.0	-1.3
PALK	Pallekele	40.08	121	P	P	02 46 50.2	+1.1
	comp=Z,7.6nm,1.0s,baz=297,slow=12,SNR=2.3						
PALK	Pallekele	40.08	121	*eP*	P	02 46 47.0	-2.1
	comp=Z,6.9nm,0.7s						
PALK	Pallekele	40.08	121	*eP*	P	02 46 47.0	-2.1
PALK				pmax	pmax		
	comp=Z,7.0nm,0.7s						
ES19	SONSECA Array	41.33	295	*eP*	P	02 46 59.9	+0.6
ES19	SONSECA Array	41.33	295	*eP*	P	02 46 59.9	+0.6
ESDC	Sonseca Array	41.38	295	P	P	02 46 59.8	+0.1
	comp=Z,0.8nm,0.5s,baz=75,slow=8.4,SNR=12						
ESDC				PcP	PcP	02 48 58.8	+1.3
	comp=Z,0.4nm,0.4s,baz=48,slow=3.1,SNR=4.4						
EKA	Eskdalemuir Ar	41.62	319	P	P	02 47 00.8	-0.5
	comp=Z,1.1nm,0.4s,baz=106,slow=8.0,SNR=21						
EKA				PcP	PcP	02 48 59.0	+1.1
	comp=Z,0.7nm,0.6s,baz=104,slow=6.1,SNR=3.5						
GTA	Gaotai	42.80	65	*eP*	P	02 47 11.6	+0.2
GTA				pP	pP	02 47 16.0	-4.4
GTA				sP	sP	02 47 18.6	-5.4
GTA				pmax	pmax		
	comp=Z,7.0nm,1.3s						
PBRG	Braganca	43.26	298	*eP*	P	02 47 15.3	+0.4
PBRG	Braganca	43.26	298	*eP*	P	02 47 15.3	+0.4
MVO	Moncorvo	43.54	297	*eP*	P	02 47 17.7	+0.5
MVO	Moncorvo	43.54	297	*eP*	P	02 47 17.7	+0.5
PBAR	Barrancos	43.97	293	*eP*	P	02 47 20.7	+0.1
PBAR	Barrancos	43.97	293	*eP*	P	02 47 20.7	+0.1
PMRV	Marv??o	44.04	295	*eP*	P	02 47 21.7	+0.5
PMRV	Marv??o	44.04	295	*eP*	P	02 47 21.7	+0.5
PESTR	Estremoz	44.28	294	*eP*	P	02 47 22.9	-0.2
PESTR	Estremoz	44.28	294	*eP*	P	02 47 22.9	-0.2
PGAV	Gavieira, Arco	44.38	299	*eP*	P	02 47 24.9	+0.9
TLY	Talaya	44.98	47	P	P	02 47 28.6	0.0
	comp=Z,1.0nm,0.3s,baz=223,slow=18,SNR=3.0						
TLY	Talaya	44.98	47	*eP*	P	02 47 28.9	+0.4
TLY				pmax	pmax		
	comp=Z,6.0nm,1.9s						
TORD	Torodi Ar. Bea	45.59	256	P	P	02 47 33.8	0.0
	comp=Z,3.8nm,0.5s,baz=68,slow=7.5,SNR=116						
TORD				PP	PP	02 49 25.2	+4.4
	comp=Z,2.4nm,1.0s,baz=52,slow=6.0,SNR=3.5						
LZH	Lanzhou	46.54	69	*eP*	P	02 47 41.3	+0.1
LZH				pP	pP	02 47 46.5	-3.8
LZH				sP	sP	02 47 48.1	-5.9
LZH				*e*PP	PP	02 49 30.5	-0.3
LZH				pmax	pmax		
	comp=Z,21nm,1.3s						
LZH				pmax	pmax		
	comp=Z,67nm,6.4s						
LZH				LR	LR		
	comp=N,310nm,16.0s						
LZH				LR	LR		
	comp=E,300nm,15.6s						
LZH				LR	LR		
	comp=Z,370nm,19.0s						
SONM	Songino Array	46.79	53	P	P	02 47 43.1	+0.2
	comp=Z,0.6nm,0.4s,baz=289,slow=10,SNR=8.1						
SONM				PcP	PcP	02 49 14.8	-1.1
	comp=Z,2.2nm,1.2s,baz=266,slow=7.1,SNR=2.9						
SONA1	Songino Array	46.79	53	*eP*	P	02 47 43.4	+0.3
ULN	Ulaanbaatar	47.23	53	*eP*	P	02 47 46.6	+0.2
	comp=Z,33nm,1.8s						
ULN	Ulaanbaatar	47.23	53	P	P	02 47 46.9	+0.4
	SNR=7.1						
ULN	Ulaanbaatar	47.23	53	*ce*P	P	02 47 46.6	+0.2
ULN				pmax	pmax		
	comp=Z,14nm,1.4s						
SPITS	Spitsbergen Ar	47.75	352	P	P	02 47 50.0	+0.1
	comp=Z,1.3nm,0.4s,baz=131,slow=7.2,SNR=22						
SPITS				PcP	PcP	02 49 19.4	+0.8
	comp=Z,0.4nm,0.4s,baz=122,slow=7.0,SNR=3.0						
CD2	Chengdu	47.82	76	*eP*	P	02 47 49.5	-1.6
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CHTO	Chiang Mai	48.31	93	P	P	02 47 56.1	+1.1
	comp=Z,241nm,2.0s						
CHTO	Chiang Mai	48.31	93	*eP*	P	02 47 55.8	+0.8
	comp=Z,41nm,1.8s						
CHTO	Chiang Mai	48.31	93	*eP*	P	02 47 55.8	+0.8
CHTO				pmax	pmax		
	comp=Z,41nm,1.8s						
CMAR	Chiang Mai Arr	48.47	94	P	P	02 47 55.7	-0.6
	comp=Z,1.8nm,0.5s,baz=286,slow=7.5,SNR=6.5						
CMAR				PcP	PcP	02 49 24.0	+1.9
	comp=Z,1.0nm,0.3s,baz=266,slow=3.6,SNR=2.9						
CM01	Chiang Mai Arr	48.50	94	*eP*	P	02 47 55.8	-0.7
KMI	Kunming	48.92	84	P	P	02 48 00.3	+0.4
KMI				pmax	pmax		
	comp=Z,14nm,0.7s						
KOWA	Kowa	49.62	261	P	P	02 48 05.5	+0.3
	comp=Z,5.4nm,0.6s,baz=59,slow=7.6,SNR=35						
KOWA	Kowa	49.62	261	*eP*	P	02 48 05.6	+0.4
	comp=Z,6.9nm,0.8s						
OPO	Ambohidratompo	50.72	180	P	P	02 48 14.3	+0.9
	comp=Z,1.8nm,0.4s,baz=353,slow=7.9,SNR=3.9						
LSZ	Lusaka	50.76	204	*eP*	P	02 48 11.7	-2.0
	comp=Z,8.5nm,1.1s						
LSZ	Lusaka	50.76	204	*eP*	P	02 48 11.7	-2.0
LSZ				pmax	pmax		
	comp=Z,9.0nm,1.1s						
HHC	Hu-ho-hao-te	51.42	61	*eP*	P	02 48 19.8	+1.2
HHC				pmax	pmax		
	comp=Z,20nm,1.1s						
HHC				pmax	pmax		
	comp=Z,28nm,6.3s						
PHET	Kaeng Krachan	51.74	99	P	P	02 48 23.6	+2.5
	comp=Z,6.0nm,0.8s,comp=Z,225nm						
NAYO	Nakonayok	52.45	97	P	P	02 48 27.4	+1.1
	comp=Z,16nm,0.8s						
SRAK	Srakaew	53.21	97	P	P	02 48 36.6	+4.7
	comp=Z,58nm,0.7s						
DBIC	Dimbokro	54.54	254	P	P	02 48 41.8	+0.1
	comp=Z,2.3nm,0.5s,baz=29,slow=7.1,SNR=9.7						
KIC	Kosan Boka	54.62	253	*eP*	P	02 48 42.3	0.0
	comp=Z,24nm,1.0s						
TIC	Toumodi	54.69	254	*eP*	P	02 48 42.6	-0.2
LIC	Lamto	54.94	253	*eP*	P	02 48 44.6	0.0
	comp=Z,46nm,1.3s						
HIA	Hailar	55.40	49‖	*i*P	P	02 48 49.1	+1.6
HIA				pmax	pmax		
	comp=Z,21nm,1.4s						
KULM	Kulim	56.76	107	*eP*	P	02 48 56.6	-1.1
	comp=Z,12nm,0.8s						
TIXI	Tiksi	57.02	22	P	P	02 48 58.1	-0.5
	comp=Z,0.9nm,0.3s,baz=243,slow=2.8,SNR=6.3						
TIXI				PcP	PcP	02 49 53.6	+0.1
	comp=Z,1.2nm,0.4s,baz=314,slow=5.6,SNR=2.3						
TIXI	Tiksi	57.02	22	*eP*	P	02 48 57.9	-0.7
	comp=Z,14nm,1.8s						
TIXI				PcP	PcP	02 49 53.6	+0.1
TIXI	Tiksi	57.02	22‖	*eP*	P	02 48 58.3	-0.3
TIXI				pmax	pmax		
	comp=Z,6.0nm,1.7s						
IPM	Ipoh	57.53	107	*eP*	P	02 49 01.0	-2.2
	comp=Z,8.6nm,0.4s						
ZEA	Zeya	59.02	43	*eP*	P	02 49 13.8	+0.8
NJ2	Nanjing	59.61	69	*eP*	P	02 49 17.1	-0.3
NJ2				pmax	pmax		
	comp=Z,12nm,0.6s						
KLR	Kul'dur	62.99	47	P	P	02 49 38.8	-1.2
	comp=Z,0.1nm,0.5s,baz=301,slow=3.4,SNR=4.4						
KLR	Kul'dur	62.99	47‖	*i*P	P	02 49 39.7	-0.3
SFJD	Kangerlussuaq	63.47	334	P	P	02 49 41.2	-1.6
	comp=Z,2.2nm,0.4s,baz=81,slow=13,SNR=3.8						
BOSA	Boshof	64.15	201	P	P	02 49 49.1	+1.2
	comp=Z,3.4nm,0.6s,baz=7.1,slow=5.7,SNR=19						
KSAR	Wonju Array Be	64.53	61	P	P	02 49 49.7	-0.6
KSAR	Wonju Array Be	64.53	61	P	P	02 49 49.7	-0.6
KSRS	Korea Array	64.55	60	P	P	02 49 49.7	-0.8
	comp=Z,1.8nm,0.5s,baz=283,slow=6.8,SNR=8.5						
USRK	Ussuriysk Ar.	64.90	52	P	P	02 49 51.3	-1.3
	comp=Z,2.7nm,0.5s,baz=282,slow=5.0,SNR=5.7						
SEY	Seymchan	68.14	28‖	*eP*	P	02 50 13.1	+0.1
KKM	Kota Kinabalu	69.23	96	*eP*	P	02 50 19.5	-1.2
	comp=Z,9.9nm,0.6s						
BILL	Bilibino	70.17	20	*eP*	P	02 50 23.2	-2.3
BILL				*i*		02 50 46.4	
BILL				pmax	pmax		
	comp=Z,2.0nm,1.3s						
RES	Resolute Bay	70.26	350	*eP*	P	02 50 24.9	-1.0
	comp=Z,0.9nm,0.7s						
RES	Resolute Bay	70.26	350	*eP*	P	02 50 24.9	-1.0
RES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
YSS	Yuzh-Sakhalins	70.67	46	*eP*	P	02 50 25.3	-3.6
YSS				*e*		02 50 37.4	
ASAJ	Asahikawa	71.87	49	P	P	02 50 35.3	-0.9
	comp=Z,1.8nm,0.3s,baz=318,slow=12,SNR=3.3						
MJAR	Matsushiro Arr	72.40	58	P	P	02 50 39.6	0.0
	comp=Z,0.7nm,0.4s,baz=311,slow=3.4,SNR=4.7						
SCHQ	Schefferville	76.25	327	P	P	02 51 01.8	+0.1
	comp=Z,4.4nm,0.6s,baz=60,slow=7.9,SNR=3.8						
INK	Inuvik	79.56	0	P	P	02 51 19.1	-0.6
	comp=Z,0.5nm,0.4s,baz=22,slow=9.5,SNR=6.4						
INK	Inuvik	79.56	0	*eP*	P	02 51 18.2	-1.5
	comp=Z,1.4nm,0.7s						
INK	Inuvik	79.56	0	*eP*	P	02 51 18.3	-1.5
INK				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ILAR	Eielson Array	82.50	6	P	P	02 51 34.7	-0.8
	comp=Z,0.4nm,0.8s,baz=324,slow=4.3,SNR=4.7						
FCC	Fort Churchill	83.53	341	*eP*	P	02 51 41.1	+0.2
	comp=Z,6.2nm,1.2s						
FCC	Fort Churchill	83.53	341	*eP*	P	02 51 41.1	+0.2
FCC				pmax	pmax		
	comp=Z,6.0nm,1.2s						
YKA	Yellowknife Ar	84.25	352	P	P	02 51 44.1	-0.4
	comp=Z,0.8nm,0.6s,baz=9.3,slow=5.1,SNR=24						
BATI	Baumata	84.36	106	P	P	02 51 47.0	+1.1
	comp=Z,7.8nm,0.3s,baz=300,slow=8.1,SNR=2.6						
SIJI	Sorong	85.60	94	P	P	02 51 53.5	+1.3
	comp=Z,7.7nm,0.3s,baz=342,slow=9.6,SNR=2.9						
FFC	Flin Flon	89.17	343	*eP*	P	02 52 08.6	-0.1
	comp=Z,2.3nm,0.5s						
FFC	Flin Flon	89.17	343	*eP*	P	02 52 08.6	-0.1
FFC				pmax	pmax		
	comp=Z,2.0nm,0.5s						
ULM	Lac du Bonnet	91.35	337	P	P	02 52 18.4	-0.5
	comp=Z,0.8nm,0.4s,baz=66,slow=4.0,SNR=3.0						
ASAR	Alice Springs	99.84	112	P	Pdif	02 52 57.3	-0.8
	comp=Z,0.4nm,0.8s,baz=354,slow=8.4,SNR=3.2						
NVAR	Mina Array Bea	108.18	348	PKiKP	PKiKP	02 57 43.9	+2.2
	comp=Z,0.1nm,0.3s,baz=100,slow=1.0,SNR=3.7						
LPAZ	La Paz	119.60	269	PKP	PKPdf	02 58 04.8	+0.5
	comp=Z,0.4nm,0.4s,baz=90,slow=2.0,SNR=2.8						
QSPA	South Pole Qui	122.28	180	PKP	PKPdf	02 58 07.5	+0.2
	comp=Z,1.9nm,0.5s,baz=226,slow=1.4,SNR=5.5						
PLCA	Paso Flores	130.12	242	PKP	PKPdf	02 58 23.9	+0.7
	comp=Z,1.9nm,0.9s,baz=22,slow=5.4,SNR=4.5						

*IDC **21** 02:40:08.9±1.3, 1°.67S×134°.36E, h0km, mb3.7/3, mb1 4.0/6, mb1mx3.6/57, mbtmp3.9/6, ML4.0/2, Error ellipse: s-maj=30.9km s-min=17.6km az=45.0*

*ISCJB **21** 02:40:10.3±0.8, 1°.58S±0°.07×134°.46E±0°.06, h29km, mb3.9/6, Error ellipse: s-maj=11.5km s-min=7.4km az=31.8*

*NEIC **21** 02:40:10.3±0.5, 1°.67S×134°.51E, h10km, mb4.4/1, Error ellipse: s-maj=11.2km s-min=8.0km az=217.0*

*DJA **21** 02:40:12.3±0.7, 2°.5±3°×13°.4E±°, h10km, M4.2/3, MLv4.2/3*

ISC 21 02:40:12.2±0.8, 1°.65S±0°.06×134°.39E±0°.07, h29km, n22, σ2s36/26, mb3.8/6, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RKPI	Ransiki, Papua	0.26	303	P	Pb	02 40 15.4	-3.5
RKPI				S	Sb	02 40 17.5	-6.0
KMPI	Kaimana, Papua	2.11	199	P	Pb	02 40 47.6	-2.2
FAKI	Fak Fak	2.49	239	P	Pn	02 40 52.1	+1.4
FAKI				S	Sb	02 41 22.5	-3.9
FAKI	Fak Fak	2.49	239	*e*Pn	Pn	02 40 51.5	+0.8
FAKI				*e*Sn	Sn	02 41 21.1	+1.0
SIJI	Sorong	3.22	284	Pn	Pn	02 40 59.2	-1.6
	29nm,0.3s,baz=229,slow=22,SNR=9.2						
SIJI				Pg	Pb	02 41 09.8	+1.1
	84nm,0.3s,baz=52,slow=16,SNR=12						
SIJI				Sn	Sn	02 41 37.3	-1.0
	60nm,0.3s,baz=158,slow=23,SNR=7.8						
SIJI				Lg	Lg	02 41 51.0	
	54nm,0.3s,baz=330,slow=23,SNR=12						
MSAI	Masohi	5.71	253	P	Pn	02 41 35.8	+0.7
PMG	Port Moresby	14.85	122	*e*Pn	Pn	02 43 38.3	-2.0
WRAB	Tennant Creek	18.17	180	*e*Pn	P	02 44 23.0	+0.4
WRA	Warramunga Arr	18.18	180	P	P	02 44 23.3	+0.6
	0.4nm,0.3s,baz=0.1,slow=11,SNR=12						
WRA				S	Sn	02 47 32.8	-12
	0.1nm,0.3s,baz=5.1,slow=20,SNR=3.4						
FITZ	Fitzroy Crossi	18.47	207	P	Pn	02 44 26.5	+0.4
	baz=90,slow=20						
JAGI	Jajag, Banyuwa	21.26	251	*e*P	P	02 44 57.7	+1.3
ASAR	Alice Springs	21.89	181	P	P	02 45 03.5	+0.5
	2.2nm,0.6s,baz=6.1,slow=10,SNR=11						
ASAR				S	S	02 48 59.2	-4.4
	1.7nm,0.9s,baz=5.9,slow=23,SNR=7.1						
KSM	Kuching	24.28	277	*e*P	P	02 45 29.4	+2.2
	3.0nm,0.8s						
STKA	Stephens Creek	30.83	168	P	P	02 46 25.6	-0.1
	1.6nm,0.9s,baz=331,slow=13,SNR=2.4						
KULM	Kulim	34.40	282	*e*P	P	02 46 59.8	+2.5
	1.9nm,0.4s						
GSI	Gunungsitoli	36.93	274	*e*P	P	02 47 21.1	+2.2
MKAR	Makanchi Array	66.35	324	P	P	02 50 59.4	+1.1
	0.2nm,0.5s,baz=115,slow=7.8,SNR=3.8						
KURK	Kurchatov	70.40	326	P	P	02 51 29.7	+6.1
KURBB	Kurchatov Arra	70.41	326	P	P	02 51 29.7	+6.1
	0.5nm,0.7s,baz=120,slow=5.4,SNR=4.4						
TORD	Torodi Ar. Bea	131.82	286	PKP	PKPdf	02 59 24.5	+0.8
	0.2nm,0.8s,baz=147,slow=2.9,SNR=2.3						
OTAV	Otavalo	147.13	92	*e*PKPbc	PKPbc	02 59 54.8	+0.6
LPAZ	La Paz	151.50	130	PKPbc	PKPbc	03 00 07.8	+2.5
	0.6nm,0.6s,baz=5.3,slow=0.9,SNR=3.6						

IDC 21 02:53:25.0±2.9, 0°.24S×135°.10E, h0km, mb3.7/2, mb1 3.9/4, mb1mx3.5/54, mbtmp3.8/4, ML3.5/2, Error ellipse: s-maj=50.9km s-min=21.1km az=8.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	Sorong	3.88	261	Pn	Pn	02 54 28.1	+2.1
	2.8nm,0.3s,baz=307,slow=20,SNR=1.7						
SIJI				Pg	Pg	02 54 37.6	-1.9
	7.2nm,0.3s,baz=222,slow=22,SNR=6.1						
SIJI				Sn	Sn	02 55 13.0	+0.7
	14nm,0.3s,baz=91,slow=20,SNR=5.1						
SIJI				Lg	Lg	02 55 25.6	
	15nm,0.3s,baz=164,slow=18,SNR=5.4						
WRA	Warramunga Arr	19.60	182	P	P	02 57 53.9	-1.1
	0.2nm,0.3s,baz=0.2,slow=11,SNR=11						
FITZ	Fitzroy Crossi	20.04	207	P	P	02 57 59.5	-0.2
	1.9nm,0.6s,baz=58,slow=11						
ASAR	Alice Springs	23.32	183	P	P	02 58 35.9	+1.0

*ISK **21** 02:59:45.9, 39.°50N × 38.°42E, h15km, ML2.2/5*
*CSEM **21** 02:59:46.4±0.2, 39.°48N × 38.°38E, h10km, ML2.5, Error ellipse: s-maj=4.3km s-min=3.2km az=168.0*
*DDA **21** 02:59:46.7, 39.°45N × 38.°39E, h7km, Ml2.5*

ISC 21 02:59:46.2±1.1, 39.49N±0.°03 × 38.39E±0.°02, h9km±10km, n26, σ0.°57/43, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HEKM	**Malatya_Hekimh**	**0.69**	**209**	*i* P	**Pg**	**02 59 59.7**	**+0.1**
HEKM				*i* S	**Sb**	**03 00 09.4**	**-0.8**
HEKM	**Malatya_Hekimh**	**0.69**	**209**	P	**Pg**	**02 59 59.7**	**+0.1**
HEKM				S	**Sb**	**03 00 09.4**	**-0.8**
CUKAN	**kangal_SIVAS**	**0.73**	**257**	*i* P	**Pg**	**02 59 59.5**	**-0.9**
CUKAN				*i* S	**Sg**	**03 00 10.2**	**+0.3**
CUKAN	**kangal_SIVAS**	**0.73**	**257**	P	**Pg**	**02 59 59.5**	**-0.9**
CUKAN				S	**Sg**	**03 00 10.2**	**+0.3**
EZC	**Erzincan**	**0.79**	**70**	*e*Pg	**Pn**	**03 00 05.7**	**+2.0**
KELT	**Kelkit**	**0.94**	**45**	*i* P	**Pn**	**03 00 05.6**	**-0.2**
KELT				*i* S	**Sn**	**03 00 18.8**	**-0.7**
KELT	**Kelkit**	**0.94**	**45**	P	**Pn**	**03 00 05.6**	**-0.2**
KELT				S	**Sn**	**03 00 18.8**	**-0.7**
TNCL	**Tunceli-Merkez**	**0.97**	**112**	*i* P	**Pb**	**03 00 05.3**	**+0.1**
TNCL				*i* S	**Sb**	**03 00 18.8**	**+0.6**
TNCL	**Tunceli-Merkez**	**0.97**	**112**	P	**Pb**	**03 00 05.3**	**+0.1**
TNCL				S	**Sb**	**03 00 18.8**	**+0.6**
PTK	**Pertek**	**0.98**	**127**	PG	**Pg**	**03 00 05.0**	**-0.1**
PTK				SG	**Sb**	**03 00 18.8**	**+0.2**
PTK	**Pertek**	**0.98**	**127**	*e*Pg	**Pg**	**03 00 05.0**	**-0.1**
PTK				*e*Sg	**Sb**	**03 00 18.8**	**+0.2**
ERZN	**Erzincan**	**1.04**	**84**	PG	**Pg**	**03 00 05.7**	**-0.5**
ERZN				SG	**Sg**	**03 00 20.1**	**+0.4**
ELZG	**Elazig**	**1.09**	**154**	*i* P	**Pn**	**03 00 07.6**	**-0.2**
ELZG				*i* S	**Sg**	**03 00 21.4**	**0.0**
ELZG	**Elazig**	**1.09**	**154**	P	**Pn**	**03 00 07.6**	**-0.2**
ELZG				S	**Sg**	**03 00 21.4**	**0.0**
DARE	**Darende-Malaty**	**1.15**	**218**	PN	**Pg**	**03 00 08.4**	**+0.1**
DARE	**Darende-Malaty**	**1.15**	**218**	*e*Pn	**Pg**	**03 00 08.4**	**+0.1**
SVSK	**Karacayir**	**1.15**	**292**	PN	**Pg**	**03 00 08.8**	**+0.4**
SVSK	**Karacayir**	**1.15**	**292**	*e*Pn	**Pg**	**03 00 08.8**	**+0.4**
MALT	**Malatya**	**1.17**	**178**	PN	**Pb**	**03 00 08.3**	**-0.3**
MALT	**Malatya**	**1.17**	**178**	*e*Pn	**Pb**	**03 00 08.3**	**-0.3**
AKCD	**Akcadag**	**1.24**	**197**	*i* P	**Pg**	**03 00 10.4**	**+0.3**
AKCD				*i* S	**Sn**	**03 00 26.7**	**-0.1**
AKCD	**Akcadag**	**1.24**	**197**	P	**Pg**	**03 00 10.4**	**+0.3**
AKCD				S	**Sn**	**03 00 26.7**	**-0.1**
CUALT	**Altinyayla-SIV**	**1.28**	**261**	*i* P	**Pg**	**03 00 11.0**	**+0.2**
CUALT				*i* S	**Sn**	**03 00 28.5**	**+0.8**
CUALT	**Altinyayla-SIV**	**1.28**	**261**	P	**Pg**	**03 00 11.0**	**+0.2**
CUALT				S	**Sn**	**03 00 28.5**	**+0.8**
BAYT	**Ayd¯–ntepe-Bay**	**1.63**	**56**	PN	**Pn**	**03 00 14.4**	**-0.8**
BAYT	**Ayd¯–ntepe-Bay**	**1.63**	**56**	*e*Pn	**Pn**	**03 00 14.4**	**-0.8**

*IDC **21** 03:00:55.3±1.4, 1.°81S × 134.°41E, h0km, mb3.4/2, mb1 4.0/5, mb1mx3.5/52, mbtmp3.7/5, ML3.7/2, Error ellipse: s-maj=28.2km s-min=18.1km az=29.0*
*ISCJB **21** 03:00:58.8±1.4, 1.°9S±0.°1 × 134.°2E±0.°1, h30km, mb3.6/2, Error ellipse: s-maj=22.2km s-min=10.9km az=41.4*

ISC 21 03:00:59.8±1.3, 1.°9S±0.°1 × 134.°3E±0.°1, h30km, n6, σ1.°32/8, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**3.18**	**288**		**Pn**	**03 01 46.5**	**-1.2**
	7.1nm,0.3s,baz=218,slow=23,SNR=8.2						
SIJI				Pg	**Pb**	**03 01 57.0**	**+1.4**
	20nm,0.3s,baz=98,slow=15,SNR=7.4						
SIJI				Sn	**Sn**	**03 02 23.9**	**-0.9**
	4.1nm,0.3s,baz=319,slow=19,SNR=2.2						
SIJI				Lg	Lg	03 02 38.4	
	15nm,0.3s,baz=314,slow=23,SNR=5.8						
WRA	**Warramunga Arr**	**17.97**	**180**	P	**Pn**	**03 05 07.8**	**+0.2**
	0.2nm,0.3s,baz=0.4,slow=12,SNR=5.5						
FITZ	**Fitzroy Crossi**	**18.24**	**207**	P	**P**	**03 05 11.3**	**+0.6**
	baz=10.0,slow=19						
ASAR	**Alice Springs**	**21.68**	**181**	P	**P**	**03 05 48.3**	**0.0**
	2.2nm,0.7s,baz=9.5,slow=12,SNR=4.7						
ILAR	**Eielson Array**	**86.91**	**25**	P	**P**	**03 13 42.4**	**+0.9**
	0.2nm,0.7s,baz=250,slow=5.3,SNR=2.9						
LPAZ	**La Paz**	**151.44**	**130**	PKPab	**PKPab**	**03 20 59.0**	**-1.8**
	0.7nm,0.7s,baz=214,slow=7.3,SNR=3.5						

*IDC **21** 03:02:50.8±1.1, 3.°10N × 93.°93E, h0km, mb3.8/10, mb1 3.9/12, mb1mx3.6/65, mbtmp3.7/12, ML3.0/1, Error ellipse: s-maj=38.4km s-min=15.6km az=48.0*
*ISCJB **21** 03:02:51.5±0.8, 3.°1N±0.°1 × 93.°90E±0.°08, h18km, mb3.8/10, Error ellipse: s-maj=18.7km s-min=8.9km az=28.1*

ISC 21 03:02:53.5±1.1, 3.°1N±0.°2 × 93.°9E±0.°1, h18km, n18, σ0.°45/13, mb3.9/10, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**5.02**	**93**	Pn	**Pn**	**03 04 07.5**	**-0.6**
	0.6nm,0.3s,baz=45,slow=1.4,SNR=2.5						
PSI				Sn	**Sn**	**03 05 06.5**	**+0.6**
	1.2nm,0.3s,baz=128,slow=19,SNR=2.7						
CMAR	**Chiang Mai Arr**	**16.07**	**18**	Pn	**Pn**	**03 06 39.0**	**+0.4**
	baz=210,slow=12,SNR=2.0						
H08S2	**Diego Garcia H**	**23.86**	**243**	T	T	03 33 20.9	
	baz=63,slow=75,SNR=46						
H08S3	**Diego Garcia H**	**23.87**	**243**	T	T	03 33 20.9	
	baz=63,slow=75,SNR=53						
H08S1	**Diego Carcia H**	**23.88**	**243**	T	T	03 33 22.0	
	baz=63,slow=75,SNR=43						
H01W3	**Cape Leeuwin H**	**42.27**	**155**	T	T	03 56 16.3	
	baz=332,slow=76,SNR=8.2						
H01W2	**Cape Leeuwin H**	**42.28**	**155**	T	T	03 56 17.3	
	baz=332,slow=76,SNR=8.3						
H01W1	**Cape Leeuwin H**	**42.28**	**155**	T	T	03 56 11.9	
	baz=332,slow=76,SNR=8.6						
MKAR	**Makanchi Array**	**44.71**	**349**	P	**P**	**03 11 05.7**	**+0.1**
	0.9nm,0.5s,baz=168,slow=9.4,SNR=12						
WRA	**Warramunga Arr**	**45.81**	**122**	P	**P**	**03 11 14.8**	**0.0**
	0.9nm,0.6s,baz=300,slow=8.9,SNR=5.9						
SONM	**Songino Array**	**45.88**	**12**	P	**P**	**03 11 14.3**	**-0.7**
	0.2nm,0.4s,baz=185,slow=6.9,SNR=2.4						
ASAR	**Alice Springs**	**47.15**	**126**	P	**P**	**03 11 25.2**	**0.0**
	0.9nm,0.9s,baz=278,slow=8.5,SNR=4.4						
GEYT	**Alibeck**	**47.69**	**321**	P	**P**	**03 11 29.2**	**+0.1**
	1.2nm,0.5s,baz=123,slow=10,SNR=2.9						
KURBB	**Kurchatov Arra**	**49.13**	**347**	P	**P**	**03 11 40.0**	**0.0**
	0.3nm,0.4s,baz=170,slow=6.9,SNR=5.6						
ZALV	**Zalesovo Beam**	**51.26**	**353**	P	**P**	**03 11 56.4**	**+0.4**
	1.2nm,0.4s,baz=171,slow=10,SNR=4.0						
BVAR	**Borovoye Array**	**53.45**	**343**	P	**P**	**03 12 11.8**	**-0.6**
	0.4nm,0.6s,baz=130,slow=10,SNR=3.3						
STKA	**Stephens Creek**	**57.05**	**131**	P	**P**	**03 12 38.8**	**+0.1**
	1.1nm,0.7s,baz=312,slow=17,SNR=2.0						
GERES	**GERESS Array B**	**81.24**	**319**	P	**P**	**03 15 09.1**	**+0.5**
	0.2nm,0.4s,baz=75,slow=5.3,SNR=3.3						

IDC 21 03:03:35.0±1.4, 2.°05S × 134.°16E, h0km, mb3.7/2, mb1 3.9/4, mb1mx3.5/49, mbtmp3.7/4, ML3.8/2, Error ellipse: s-maj=39.4km s-min=17.9km az=40.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**3.12**	**292**	Pn	Pn	03 04 23.7	-1.8
	8.7nm,0.3s,baz=223,slow=23,SNR=8.1						
SIJI				Pg	Pg	03 04 33.8	-1.1
	34nm,0.3s,baz=59,slow=18,SNR=12						
SIJI				Sn	Sn	03 05 02.9	-0.6
	10nm,0.3s,baz=307,slow=20,SNR=3.6						
SIJI				Lg	Lg	03 05 14.5	
	54nm,0.3s,baz=167,slow=23,SNR=8.6						
WRA	**Warramunga Arr**	**17.79**	**179**	P	Pn	03 07 44.5	+0.3
	0.3nm,0.3s,baz=359,slow=13,SNR=9.4						
ASAR	**Alice Springs**	**21.49**	**181**	P	P	03 08 26.5	+1.0
	1.9nm,0.6s,baz=7.7,slow=11,SNR=10.0						
MKAR	**Makanchi Array**	**66.54**	**324**	P	P	03 14 28.2	+1.3
	0.5nm,0.6s,baz=114,slow=8.2,SNR=5.8						
LPAZ	**La Paz**	**151.42**	**130**	PKPbc	PKPbc	03 23 31.1	-1.6
	0.3nm,0.4s,baz=188,slow=7.1,SNR=3.0						

*ISCJB **21** 03:06:29.0±0.5, 39.°08N±0.°03 × 33.°83E±0.°03, h1km±13km, Error ellipse: s-maj=4.8km s-min=4.4km az=38.6*
*ISK **21** 03:06:28.6, 39.°09N × 33.°78E, h4km, ML2.5/5*

*CSEM **21** 03:06:29.1±0.2, 39.°08N × 33.°82E, h5km, ML2.5, Error ellipse: s-maj=3.2km s-min=3.0km az=162.0*
*DDA **21** 03:06:29.1, 39.°04N × 33.°81E, h7km, Ml2.3*

ISC 21 03:06:29.2±1.1, 39.°08N±0.°02 × 33.°81E±0.°02, h6km±13km, n20, σ0.°34/36, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SERE	**Sereflikochisa**	**0.24**	**235**	PG	**Pg**	**03 06 33.9**	**0.0**
SERE				SG	**Sg**	**03 06 37.3**	**+0.3**
SERE	**Sereflikochisa**	**0.24**	**235**	*e*Pg	**Pg**	**03 06 33.9**	**0.0**
SERE				*e*Sg	**Sg**	**03 06 37.3**	**+0.3**
AKSY	**AKSARAY - Alti**	**0.43**	**185**	*i* P	**Pg**	**03 06 37.2**	**-0.4**
AKSY				*i* S	**Sg**	**03 06 42.7**	**-0.5**
AKSY	**AKSARAY - Alti**	**0.43**	**185**	P	**Pg**	**03 06 37.2**	**-0.4**
AKSY				S	**Sg**	**03 06 42.7**	**-0.5**
AFSR	**Af¯ar-Bala (A**	**0.68**	**303**	PG	**Pg**	**03 06 41.9**	**-0.4**
AFSR				SG	**Sg**	**03 06 51.8**	**+0.6**
AFSR	**Af¯ar-Bala (A**	**0.68**	**303**	*e*Pg	**Pg**	**03 06 41.9**	**-0.4**
AFSR				*e*Sg	**Sg**	**03 06 51.8**	**+0.6**
CDAG	**Cicekdag**	**0.69**	**38**	*i* P	**Pg**	**03 06 42.7**	**+0.1**
CDAG				*i* S	**Sg**	**03 06 51.8**	**+0.2**
CDAG	**Cicekdag**	**0.69**	**38**	P	**Pg**	**03 06 42.7**	**+0.1**
CDAG				S	**Sg**	**03 06 51.8**	**+0.2**
KKUL	**Konya-Kulu**	**0.70**	**278**	*i* P	**Pg**	**03 06 42.6**	**-0.1**
KKUL				*i* S	**Sb**	**03 06 53.8**	**-0.1**
KKUL	**Konya-Kulu**	**0.70**	**278**	P	**Pg**	**03 06 42.6**	**-0.1**
KKUL				S	**Sb**	**03 06 53.8**	**-0.1**
BBAL	**Bala**	**0.71**	**311**	*i* P	**Pg**	**03 06 42.2**	**-0.6**
BBAL				*i* S	**Sb**	**03 06 54.2**	**+0.1**
BBAL	**Bala**	**0.71**	**311**	P	**Pg**	**03 06 42.2**	**-0.6**
BBAL				S	**Sb**	**03 06 54.2**	**+0.1**
AVNS	**Nevsehir-Avano**	**0.85**	**108**	*i* P	**Pg**	**03 06 45.6**	**0.0**
AVNS				*i* S	**Sb**	**03 06 57.9**	**-0.4**
AVNS	**Nevsehir-Avano**	**0.85**	**108**	P	**Pg**	**03 06 45.6**	**0.0**
AVNS				S	**Sb**	**03 06 57.9**	**-0.4**
SULT	**Sultanhani-AKS**	**0.91**	**195**	PG	**Pg**	**03 06 46.9**	**+0.2**
SULT				SG	**Sb**	**03 07 00.3**	**+0.4**
SULT	**Sultanhani-AKS**	**0.91**	**195**	*e*Pg	**Pg**	**03 06 46.9**	**+0.2**
SULT				*e*Sg	**Sb**	**03 07 00.3**	**+0.4**
CORM	**Corum**	**1.27**	**30**	PN	**Pb**	**03 06 53.4**	**-0.2**
CORM	**Corum**	**1.27**	**30**	*e*Pn	**Pb**	**03 06 53.4**	**-0.2**
YOZ	**Yozgat**	**1.29**	**64**	PN	**Pb**	**03 06 54.2**	**+0.1**
YOZ	**Yozgat**	**1.29**	**64**	*e*Pn	**Pb**	**03 06 54.2**	**+0.1**

MEX 21 03:07:01.0±0.5, 16.°46N × 98.°50W, h20km±25km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.36**	**101**	*i* P	Pb	03 07 07.5	-1.3
PNIG				*e*S	Sb	03 07 12.3	-1.8
TLIG	**Tlapa**	**1.10**	**357**	*e*P	Pn	03 07 18.0	-3.4
TLIG				*e*S	Sb	03 07 30.9	-4.4
CAIG	**El Cayaco**	**1.79**	**289**	*e*P	Pn	03 07 28.4	-2.4
VHO	**Vista Hermosa**	**1.80**	**70**	*e*P	Pn	03 07 28.9	-2.1

*IDC **21** 03:13:45.9±0.6, 27.°56N × 128.°61E, h0km, mb4.0/24, mb1 4.1/27, mb1mx4.0/67, mbtmp4.0/27, ML3.6/3, Error ellipse: s-maj=19.0km s-min=11.1km az=101.0*
*ISCJB **21** 03:13:51.1±0.3, 27.°47N±0.°04 × 128.°66E±0.°05, h54km±2km, mb4.1/39, Error ellipse: s-maj=9.1km s-min=3.4km az=38.8*
*NEIC **21** 03:13:51.1±0.6, 27.°53N × 128.°70E, h39km±5km, mb4.3/14, Error ellipse: s-maj=6.8km s-min=4.9km az=125.0*
*JMA **21** 03:13:52.0, 27.°47N × 128.°63E, h43km, M4.0*
JMA Felt II J1.

ISC 21 03:13:51.3±0.7, 27.°42N±0.°04 × 128.°70E±0.°04, h43km±6km, n84, σ1.°03/90, mb4.2/39, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JOKE	**Okinoerabujima**	**0.13**	**242**	P	**Pn**	**03 13 59.0**	**+0.5**
JOKE				S	**Sn**	**03 14 03.9**	**+0.3**
JTK	**Tokunoshima**	**0.42**	**31**	P	**Pn**	**03 14 02.9**	**+0.7**
JTK				S	**Sn**	**03 14 08.7**	**+0.4**
JOW	**Kunigami**	**0.70**	**213**	Pn	**Pn**	**03 14 05.6**	**+0.6**
	506nm,0.3s,baz=261,slow=15,SNR=887						
JOW				Sn	**Sn**	**03 14 15.8**	**+1.2**
	2µm,0.3s,baz=229,slow=19,SNR=82						
JOW	**Kunigami**	**0.70**	**213**	P	**Pn**	**03 14 05.5**	**+0.6**
JOW				S	**Sn**	**03 14 15.4**	**+0.7**
JIH	**Iheya**	**0.76**	**240**	P	**Pn**	**03 14 06.0**	**+0.3**
JIH				S	**Sn**	**03 14 16.3**	**+0.3**
JAMN	**Amaminishikomi**	**0.92**	**27**	P	**Pn**	**03 14 08.4**	**+0.6**
JAMN				S	**Sn**	**03 14 20.0**	**+0.2**
JNTH	**Nagotoyohara**	**1.09**	**214**	P	**Pn**	**03 14 11.3**	**+1.2**
JAM	**Amami Oshima**	**1.27**	**39**	P	**Pn**	**03 14 14.0**	**+1.4**
JAM				S	**Sn**	**03 14 30.1**	**+1.7**
JZK	**Kikaishima**	**1.43**	**51**	P	**Pn**	**03 14 17.2**	**+2.4**
JZK				S	**Sn**	**03 14 36.4**	**+3.9**
JJT3	**Tamagusuku3**	**1.52**	**213**	P	**Pn**	**03 14 17.9**	**+1.9**
JJT3				S	**Sn**	**03 14 37.4**	**+2.8**
JAGN	**Aguni-jima**	**1.55**	**238**	P	**Pn**	**03 14 17.1**	**+0.7**
JAGN				S	**Sn**	**03 14 35.6**	**+0.4**
JTAJ	**Takarajima**	**1.78**	**14**	P	**Pn**	**03 14 20.0**	**+0.4**
JTAJ				S	**Sn**	**03 14 40.7**	**-0.3**
JKE	**Kume jima 2**	**2.03**	**238**	P	**Pn**	**03 14 24.1**	**+1.0**
JNN	**Nakanoshima**	**2.62**	**23**	P	**Pn**	**03 14 31.9**	**+0.7**
JNN				S	**Sn**	**03 15 02.5**	**+0.8**
JMZ	**Minamidaito 2**	**2.76**	**125**	P	**Pn**	**03 14 32.6**	**-0.5**
JMZ				*e*S	**Sn**	**03 15 02.6**	**-2.7**
JYAK	**Yakushimahirau**	**3.22**	**29**	P	**Pn**	**03 14 40.7**	**+1.3**
JYAK				*e*S	**Sn**	**03 15 17.4**	**+0.9**
JNU	**Nakatsue**	**5.98**	**18**	Pn	**Pn**	**03 15 17.7**	**+0.3**
	baz=184,slow=15,SNR=2.2						
JNU	**Nakatsue**	**5.98**	**18**	*e*Pn	Pn	03 15 21.9	+4.5
	14nm,0.8s						
YHNB	**Yeheng**	**7.14**	**249**	*e*Pn	**Pn**	**03 15 34.9**	**+1.6**
KSAR	**Wonju Array Be**	**10.01**	**356**	Pn	**Pn**	**03 16 10.9**	**-1.6**
KSRS	**Korea Array**	**10.02**	**356**	Pn	**Pn**	**03 16 10.9**	**-1.7**
	0.3nm,0.3s,baz=174,slow=14,SNR=2.9						
JHJ	**Hachijo jima 2**	**11.13**	**57**	Pn	**Pn**	**03 16 28.1**	**+0.3**
	6.3nm,0.3s,baz=242,slow=18,SNR=3.1						
MAJO	**Matsushiro**	**12.15**	**39**	*e*Pn	**Pn**	**03 16 39.2**	**-2.6**
ASAJ	**Asahikawa**	**20.07**	**30**	P	**P**	**03 18 20.9**	**0.0**
	0.3nm,0.3s,baz=215,slow=12,SNR=3.0						
SONM	**Songino Array**	**26.80**	**325**	P	**P**	**03 19 26.8**	**-0.6**
	0.5nm,0.5s,baz=139,slow=9.6,SNR=2.8						
CHTO	**Chiang Mai**	**28.62**	**259**	*e*P	**P**	**03 19 44.3**	**+0.5**
	3.5nm,0.5s						
CMAR	**Chiang Mai Arr**	**28.76**	**258**	P	**P**	**03 19 46.0**	**+0.9**
	1.5nm,0.4s,baz=57,slow=7.0,SNR=6.5						
PETK	**Petropavlovsk-**	**33.46**	**32**	P	**P**	**03 20 26.0**	**-0.1**
	2.1nm,0.8s,baz=198,slow=3.0,SNR=4.3						
H11N2	**WAKE ISLAND Hy**	**35.73**	**94**	T	T	03 58 21.5	
	baz=290,slow=74,SNR=56						
H11N1	**WAKE ISLAND Hy**	**35.73**	**94**	T	T	03 58 27.1	
	baz=290,slow=74,SNR=22						
H11N3	**WAKE ISLAND Hy**	**35.74**	**94**	T	T	03 58 22.8	
	baz=290,slow=74,SNR=34						
H11S3	**WAKE ISLAND Hy**	**35.97**	**96**	T	T	03 58 55.8	
	baz=292,slow=75,SNR=10						
H11S1	**WAKE ISLAND Hy**	**35.98**	**96**	T	T	03 58 53.9	
	baz=292,slow=75,SNR=14						
H11S2	**WAKE ISLAND Hy**	**35.99**	**96**	T	T	03 58 55.7	
	baz=292,slow=75,SNR=17						
ODAN	**Odare**	**36.65**	**279**	*e*P	**P**	**03 20 54.1**	**-0.1**
	18nm,0.5s						
JIRN	**Jiri**	**37.56**	**280**	*e*P	**P**	**03 21 02.4**	**+0.4**
	9.2nm,0.4s						
GUN	**Gumba**	**37.79**	**281**	*e*P	**P**	**03 21 04.6**	**+0.7**
	8.6nm,0.4s						
PKIN	**Phulchoki**	**38.27**	**281**	*e*P	**P**	**03 21 07.9**	**0.0**
	8.3nm,0.4s						
KKN	**Kakani**	**38.33**	**281**	*e*P	**P**	**03 21 08.3**	**-0.1**
	5.4nm,0.3s						
GKN	**Gorkha**	**38.85**	**281**	*e*P	**P**	**03 21 12.9**	**+0.2**
	17nm,0.5s						
KOLN	**Koldanda**	**39.80**	**281**	*e*P	**P**	**03 21 20.9**	**+0.3**
	8.3nm,0.5s						
PYUN	**Piuthan**	**40.27**	**282**	*e*P	**P**	**03 21 25.1**	**+0.5**
	18nm,0.8s						
MKAR	**Makanchi Array**	**41.07**	**311**	P	**P**	**03 21 30.4**	**-0.3**
	0.4nm,0.5s,baz=94,slow=8.3,SNR=6.2						
ZALV	**Zalesovo Beam**	**41.56**	**322**	P	**P**	**03 21 33.6**	**-1.0**
	0.8nm,0.4s,baz=141,slow=7.3,SNR=2.8						
KURK	**Kurchatov**	**44.25**	**316**	*e*P	**P**	**03 21 55.6**	**-0.8**
KURBB	**Kurchatov Arra**	**44.29**	**316**	P	**P**	**03 21 56.4**	**-0.3**
	2.8nm,0.4s,baz=102,slow=9.0,SNR=24						
AAK	**Ala-Archa**	**46.15**	**304**	*e*P	**P**	**03 22 11.8**	**0.0**
	1.1nm,0.4s						
WRAB	**Tennant Creek**	**47.39**	**173**	*e*P	**P**	**03 22 21.7**	**+0.3**
WRA	**Warramunga Arr**	**47.40**	**173**	P	**P**	**03 22 22.3**	**+0.8**
	0.7nm,0.5s,baz=353,slow=8.4,SNR=7.0						
BVAR	**Borovoye Array**	**49.67**	**318**	P	**P**	**03 22 38.7**	**0.0**
	2.2nm,0.7s,baz=91,slow=9.8,SNR=9.1						
BRVK	**Borovoye**	**49.74**	**318**	*e*P	**P**	**03 22 38.6**	**-0.5**
	8.8nm,0.7s						
ASAR	**Alice Springs**	**51.04**	**174**	P	**P**	**03 22 50.6**	**+1.3**
	0.3nm,0.5s,baz=9.2,slow=12,SNR=6.4						
ABKAR	**Akbulak array**	**56.15**	**313**	*e*P	**P**	**03 23 25.5**	**-0.9**
	3.6nm,1.0s						
ARU	**Arti**	**56.72**	**321**	*e*P	**P**	**03 23 29.1**	**-1.4**
AKTO	**Aktyubinsk**	**57.30**	**314**	P	**P**	**03 23 34.3**	**-0.4**
	1.1nm,0.6s,baz=91,slow=13,SNR=4.5						
MCK	**McKinley**	**62.43**	**30**	*e*P	**P**	**03 24 10.4**	**+0.8**
	1.3nm,0.6s						
ILAR	**Eielson Array**	**63.19**	**29**	P	**P**	**03 24 15.5**	**+0.8**
	0.5nm,0.8s,baz=291,slow=7.0,SNR=7.5						
DOT	**Dot Lake**	**64.59**	**30**	*e*P	**P**	**03 24 23.9**	**0.0**
INK	**Inuvik**	**67.63**	**23**	*e*P	**P**	**03 24 43.1**	**-0.1**
	1.1nm,0.8s						
SPITS	**Spitsbergen Ar**	**67.75**	**348**	P	**P**	**03 24 43.5**	**-0.4**
	3.2nm,0.8s,baz=26,slow=6.9,SNR=6.0						
KBZ	**Khabaz**	**68.73**	**309**	P	**P**	**03 24 50.1**	**-0.5**
	2.9nm,0.8s,baz=167,slow=0.9,SNR=6.7						
KIV	**Kislovodsk**	**68.81**	**309**	*e*P	**P**	**03 24 50.5**	**-0.7**
	8.4nm,1.0s						
ARCES	**ARCESS Array B**	**69.05**	**338**	P	**P**	**03 24 51.8**	**-0.4**
	1.8nm,0.8s,baz=81,slow=8.0,SNR=6.2						
FINES	**FINESS Array B**	**72.03**	**330**	P	**P**	**03 25 10.2**	**-0.3**
	1.3nm,0.4s,baz=67,slow=5.4,SNR=25						
RAYN	**Ar Rayn**	**73.83**	**288**	*e*P	**P**	**03 25 22.3**	**+0.4**
	4.5nm,1.1s						
RES	**Resolute Bay**	**74.30**	**11**	*e*P	**P**	**03 25 23.6**	**-0.1**
	3.2nm,0.8s						
AKASG	**Malin Array Be**	**74.90**	**319**	P	**P**	**03 25 26.8**	**-0.7**
	0.3nm,0.2s,baz=56,slow=6.3,SNR=6.1						
KIEV	**Kiev**	**74.91**	**319**	*e*P	**P**	**03 25 26.6**	**-1.0**
	2.2nm,0.8s						
BRTR	**Keskin Array B**	**76.64**	**308**	P	**P**	**03 25 37.5**	**-0.4**
	1.6nm,0.7s,baz=104,slow=5.2,SNR=4.0						
YKA	**Yellowknife Ar**	**77.27**	**25**	P	**P**	**03 25 41.6**	**+0.8**
	1.0nm,0.9s,baz=298,slow=5.7,SNR=14						
ASF	**Jabal al Asfar**	**77.35**	**300**	P	**P**	**03 25 42.8**	**+0.9**
	1.8nm,0.5s,baz=114,slow=2.9,SNR=4.4						
HFS	**Hagfors**	**77.96**	**332**	P	**P**	**03 25 44.2**	**-0.5**
	1.7nm,0.5s,baz=64,slow=6.6,SNR=11						
MMAI	**Mount Meron Ar**	**78.14**	**301**	P	**P**	**03 25 47.3**	**+1.0**
	0.5nm,0.6s,baz=68,slow=13,SNR=3.2						
NB2	**NORSAR Subarra**	**78.43**	**334**	P	**P**	**03 25 46.5**	**-0.8**
	comp=Z,2.3nm,0.6s,baz=50,slow=5.6						
NOA	**NORSAR Array B**	**78.43**	**334**	P	**P**	**03 25 46.9**	**-0.5**
	comp=Z,4.0nm,0.8s,baz=51,slow=5.5,SNR=14						
MLR	**Muntele Rosu**	**79.19**	**316**	P	**P**	**03 25 52.3**	**+0.4**
	comp=Z,0.5nm,0.8s,baz=166,slow=4.2,SNR=5.1						
MORC	**Moravsky Berou**	**81.91**	**322**	*e*P	**P**	**03 26 05.8**	**-0.5**
	comp=Z,4.4nm,0.8s						
CLL	**Collm**	**83.41**	**325**	*i* P	**P**	**03 26 14.1**	**+0.1**
	comp=Z,4.0nm,0.8s						
NEW	**Newport**	**84.40**	**38**	*e*P	**P**	**03 26 18.1**	**-1.1**
	comp=Z,1.2nm,0.7s						
GERES	**GERESS Array B**	**84.50**	**323**	P	**P**	**03 26 19.7**	**-0.1**
	comp=Z,0.5nm,0.6s,baz=54,slow=6.8,SNR=5.4						
**FCC

MKAR	**Makanchi Array**	**66.35**	**324**	P	**P**	**03 33 02.1**	**-0.1**
	0.2nm,0.5s,baz=132,slow=6.0,SNR=2.8						
KURBB	**Kurchatov Arra**	**70.41**	**326**	P	**P**	**03 33 27.5**	**+0.1**
	0.2nm,0.2s,baz=122,slow=5.7,SNR=2.7						
LPAZ	**La Paz**	**151.48**	**129**	PKPbc	**PKPbc**	**03 42 11.1**	**+1.7**
	0.6nm,0.4s,baz=214,slow=2.6,SNR=5.2						

*SOME **21** 03:22:45.5, 40.70N × 74.03E, h0km*
*NNC **21** 03:22:46.7 ± 1.5, 40.68N × 73.79E, h2km ± 21km, mb2.6, mpv2.2, Error ellipse: s-maj=25.6km s-min=14.9km az=93.0*
*KRNET **21** 03:22:47.7 ± 0.1, 40.80N × 73.91E, h12km, mb2.2*
ISC 21 03:22:46.3 ± 1.3, **40.71N** ± 0.04 × **73.89E** ± 0.03, **h2**km ± 12km, **n20**, σ **0**9**70/37, 19C-15D, Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
SFK	**Sufi-Kurgan**	**0.75**	**203**	⇑P			**Pg**	**03 23 00.5**	**-0.2**
	0.9nm,0.3s								
SFK				⇓S			**Sg**	**03 23 10.4**	**0.0**
	22nm,0.4s								
ARSB	**Arslanbob**	**0.93**	**312**	⇓*i*P			**Pg**	**03 23 04.6**	**+0.5**
ARSB	baz=7.0			⇓*i*S			**Sg**	**03 23 17.1**	**+1.0**
	baz=7.0								
AML	**Almayashu**	**1.43**	**354**	⇓*i*P			**Pn**	**03 23 12.4**	**-1.4**
AML	baz=53			⇓*i*S			**Sg**	**03 23 32.2**	**-0.2**
	baz=53								
UCH	**Uchtor**	**1.59**	**17**	⇓*i*P			**Pn**	**03 23 16.2**	**+0.2**
UCH	baz=18			⇓*i*S			**Sn**	**03 23 36.8**	**-0.6**
	baz=18								
KZA	**Kyzart**	**1.71**	**36**	⇑*i*P			**Pn**	**03 23 18.2**	**+0.6**
KZA	baz=38			⇑*i*S			**Sn**	**03 23 40.3**	**0.0**
	baz=38								
NRN	**Naryn**	**1.75**	**65**	⇑*i*P			**Pb**	**03 23 19.4**	**0.0**
NRN	baz=68			⇑*i*S			**Sg**	**03 23 42.8**	**+0.2**
	baz=68								
ARK	**Arkit**	**1.82**	**308**	⇑*i*P			**Pb**	**03 23 20.1**	**-0.3**
ARK	baz=5.0			⇑*i*S			**Sb**	**03 23 44.0**	**+0.3**
	baz=5.0								
AAK	**Ala-Archa**	**1.98**	**13**	⇑P			**Pn**	**03 23 21.4**	**+0.3**
AAK	0.6nm,0.4s			⇓S			**Sb**	**03 23 47.9**	**-0.6**
	1.8nm,0.4s								
AAK	**Ala-Archa**	**1.98**	**13**	⇑*i*P			**Pb**	**03 23 23.7**	**+0.4**
AAK	baz=13			⇑*i*S			**Sb**	**03 23 48.3**	**-0.2**
	baz=13								
MNAS	**Manas**	**2.06**	**330**	⇓Pn			**Pn**	**03 23 22.7**	**+0.5**
MNAS	2.0nm,0.9s			⇓Lg			Lg	03 23 52.6	
	19nm,0.5s								
MNAS	**Manas**	**2.06**	**330**	⇑*i*P			**Pb**	**03 23 24.4**	**-0.2**
MNAS	baz=29			⇑*i*S			**Sb**	**03 23 50.2**	**-0.6**
	baz=29								
MRKS	**Merke**	**2.10**	**346**	*e*P			**Pb**	**03 23 24.7**	**-0.5**
MRKS	7.0nm,0.8s			*e*S			**Sb**	**03 23 53.0**	**+1.3**
	8.5nm,0.3s								
KBK	**Karagaybulak**	**2.10**	**22**	⇑*i*P			**Pb**	**03 23 25.2**	**-0.1**
KBK	baz=23			⇑*i*S			**Sb**	**03 23 53.2**	**+1.2**
	baz=23								
ULHL	**Ulahol**	**2.34**	**48**	⇑*i*P			**Pb**	**03 23 29.2**	**-0.2**
ULHL	baz=50			⇑*i*S			**Sb**	**03 23 59.0**	**+0.1**
	baz=50								
BTK	**Batken**	**2.44**	**256**	⇓*e*P			**Pb**	**03 23 31.5**	**+0.6**
BTK	baz=53			⇓*i*S			**Sg**	**03 24 03.8**	**-0.7**
	baz=53								
TKM2	**Tokmak 2**	**2.55**	**29**	⇑Pn			**Pb**	**03 23 33.7**	**+0.7**
TKM2	0.6nm,0.5s			⇑Lg			Lg	03 24 07.4	
	4.5nm,0.6s								
TKM2	**Tokmak 2**	**2.55**	**29**	⇓*i*P			**Pb**	**03 23 33.6**	**+0.6**
TKM2	baz=30			⇓*i*S			**Sb**	**03 24 05.8**	**+0.8**
	baz=30								
KST	**Kastek**	**2.80**	**33**	*e*P			**Pb**	**03 23 37.5**	**+0.3**
KST	0.9nm,0.4s			*e*S			**Sg**	**03 24 14.7**	**-1.7**
	3.5nm,0.4s								
DGS	**Degeres**	**2.90**	**28**	*e*P			**Pb**	**03 23 39.3**	**+0.5**
DGS	0.9nm,0.4s			*e*S			**Sg**	**03 24 18.2**	**-1.2**
	4.3nm,0.5s								
KK31	**Karatay Array**	**3.48**	**315**	⇓Pn			**Pn**	**03 23 40.9**	**-0.6**
KK31	0.6nm,0.5s,baz=128,slow=16,SNR=4.0			⇑Lg			Lg	03 24 37.3	
	1.3nm,0.3s,baz=125,slow=26,SNR=8.6								

IDC 21 03:22:47.9 ± 14.0, **35.95N** × **71.38E, h186**km ± 140km, **mb3.1**/5, **mb1 3.2**/7, **mb1mx2.8**/63, **mbtmpg3.7**/7, **Error ellipse: s-maj=67.5km s-min=54.5km az=157.0, Pakistan**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
BVAR	**Borovoye Array**	**17.09**	**358**	P		P		03 26 35.0	+0.5
	0.2nm,0.3s,baz=172,slow=11,SNR=3.0								
AKTO	**Aktyubinsk**	**17.41**	**330**	P		P		03 26 37.9	-0.1
	0.8nm,0.3s,baz=139,slow=11,SNR=8.4								
ZALV	**Zalesovo Beam**	**20.29**	**23**	P		P		03 27 09.0	-0.1
	0.6nm,0.4s,baz=242,slow=11,SNR=2.5								
FINES	**FINESS Array B**	**38.12**	**326**	P		P		03 29 48.2	-0.3
	1.7nm,0.9s,baz=129,slow=11,SNR=3.4								
ARCES	**ARCESS Array B**	**41.77**	**338**	P		P		03 30 18.4	-0.1
	1.5nm,0.9s,baz=115,slow=8.1,SNR=4.2								
TORD	**Torodi Ar. Bea**	**66.02**	**269**	P		P		03 33 14.5	-0.2
	0.1nm,0.4s,baz=48,slow=5.3,SNR=4.8								
KOWA	**Kowa**	**69.91**	**274**	P		P		03 33 39.3	+0.3
	0.4nm,0.5s,baz=70,slow=12,SNR=2.7								

*IDC **21** 03:25:25.3 ± 0.9, 1.86S × 134.34E, h0km, mb3.8/6, mb1 3.9/8, mb1mx3.7/54, mbtmpg3.8/8, ML4.0/2, Error ellipse: s-maj=21.6km s-min=11.6km az=61.0*
*NEIC **21** 03:25:26.8 ± 0.6, 1.81S × 134.39E, h10km, mb4.2/1, Error ellipse: s-maj=13.8km s-min=10.1km az=65.0*
*ISCJB **21** 03:25:27.9 ± 0.7, 1.83S ± 0.06 × 134.38E ± 0.06, h29km, mb3.9/7, Error ellipse: s-maj=10.5km s-min=7.1km az=138.6*
*DJA **21** 03:25:27.6 ± 0.7, 1°S ± 2' × 13°4E ± °, h10km, M4.3/6, mb4.5/1, MLv4.2/6*
ISC 21 03:25:28.1 ± 0.8, **1.65S** ± 0.05 × **134.35E** ± 0.07, **h29**km, **n22**, σ **2**9**47/28, mb3.9/7, Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
RKPI	**Ransiki, Papua**	**0.22**	**309**	P		P	**Pb**	**03 25 30.8**	**-3.7**
RKPI				S		S	**Sb**	**03 25 32.0**	**-6.8**
KMPI	**Kaimana, Papua**	**2.10**	**198**	P		P	**Pb**	**03 26 05.0**	**-0.5**
FAKI	**Fak Fak**	**2.45**	**239**	P		P	**Pn**	**03 26 07.6**	**+1.5**
FAKI				S		S	**Sb**	**03 26 38.0**	**-3.2**
FAKI	**Fak Fak**	**2.45**	**239**	*e*Pn		P	**Pn**	**03 26 06.4**	**+0.3**
FAKI				*e*Sn		S	**Sn**	**03 26 34.8**	**-0.3**
SIJI	**Sorong**	**3.18**	**284**	Pn		P	**Pn**	**03 26 15.4**	**-0.8**
	22nm,0.3s,baz=80,slow=23,SNR=8.8								
SIJI				Pg		P	**Pb**	**03 26 24.4**	**+0.5**
	42nm,0.3s,baz=75,slow=12,SNR=10								
SIJI				Sn		S	**Sn**	**03 26 56.4**	**+3.2**
	17nm,0.3s,baz=307,slow=20,SNR=2.8								
SIJI				Lg		S	Lg	03 27 08.9	
	24nm,0.3s,baz=294,slow=20,SNR=4.9								
MSAI	**Masohi**	**5.67**	**253**	P		P	**Pn**	**03 26 51.6**	**+1.1**
KAPI	**Kappang**	**14.95**	**257**	*e*Pn		P	**Pn**	**03 28 58.4**	**+0.9**
WRAB	**Tennant Creek**	**18.17**	**180**	*e*Pn		P	**P**	**03 29 37.8**	**-0.7**
	29nm,1.4s								
WRA	**Warramunga Arr**	**18.18**	**180**	P		P	**P**	**03 29 37.4**	**-1.2**
	0.5nm,0.3s,baz=0.5,slow=12,SNR=11								
WRA				S		S	**Sn**	**03 32 55.1**	**-5.7**
	baz=5.0,slow=23,SNR=3.0								
FITZ	**Fitzroy Crossi**	**18.45**	**207**	P		P	**Pn**	**03 29 42.0**	**+0.2**
	baz=31,slow=12								
CTA	**Charters Tower**	**21.71**	**148**	P		P	**P**	**03 30 18.0**	**+0.9**
	2.1nm,0.7s,baz=332,slow=12,SNR=2.5								
ASAR	**Alice Springs**	**21.89**	**181**	P		P	**P**	**03 30 18.1**	**-0.9**
	3.6nm,0.7s,baz=7.1,slow=11,SNR=9.9								
ASAR				S		S		03 34 19.6	+0.1
	0.8nm,0.9s,baz=5.6,slow=24,SNR=3.3								
MBWA	**Marble Bar**	**24.07**	**215**	*e*P		P		**03 30 41.0**	**-0.1**
KSM	**Kuching**	**24.23**	**277**	*e*P		P		**03 30 44.5**	**+1.7**
	6.7nm,0.4s								
STKA	**Stephens Creek**	**30.83**	**168**	P		P		**03 31 41.5**	**-0.2**
	1.5nm,0.8s,baz=5.4,slow=12,SNR=3.0								
MKAR	**Makanchi Array**	**66.33**	**324**	P		P		**03 36 15.7**	**+1.6**
	0.6nm,0.5s,baz=114,slow=8.3,SNR=6.5								
KURK	**Kurchatov**	**70.38**	**326**	P		P		**03 36 42.9**	**+3.5**
KURBB	**Kurchatov Arra**	**70.39**	**326**	P		P		**03 36 42.9**	**+3.5**
	0.7nm,0.8s,baz=120,slow=5.9,SNR=4.4								
BVAR	**Borovoye Array**	**75.98**	**326**	P		P		03 37 17.0	+4.6
	0.3nm,0.5s,baz=142,slow=7.3,SNR=2.9								
TORD	**Torodi Ar. Bea**	**131.78**	**286**	PKP		**PKPdf**		**03 44 40.2**	**+0.6**
	0.4nm,0.9s,baz=86,slow=2.2,SNR=2.6								
CPUP	**Villa Florida**	**149.98**	**159**	PKPbc		**PKPbc**		**03 45 16.4**	**-0.2**
	0.9nm,0.7s,baz=154,slow=2.6,SNR=3.2								
LPAZ	**La Paz**	**151.53**	**130**	PKPbc		**PKPbc**		**03 45 22.2**	**+0.9**
	0.6nm,0.6s,baz=207,slow=2.3,SNR=3.3								

IDC 21 03:26:09.3 ± 8.2, **19.99S** × **179.35W, h602**km ± 100km, **mb2.8**/5, **mb1 3.1**/5, **mb1mx2.8**/46, **mbtmpg3.8**/5, **Error ellipse: s-maj=165.7km s-min=37.2km az=155.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
CTA	**Charters Tower**	**32.28**	**264**	P		P		03 31 51.2	+0.6
	1.0nm,0.3s,baz=77,slow=14,SNR=2.5								
ASAR	**Alice Springs**	**43.40**	**256**	P		P		03 33 20.1	-0.4
	0.8nm,0.5s,baz=92,slow=7.9,SNR=6.3								
WRA	**Warramunga Arr**	**43.42**	**262**	P		P		03 33 20.4	-0.3
	0.3nm,0.3s,baz=97,slow=7.4,SNR=7.8								
NVAR	**Mina Array Bea**	**81.53**	**44**	P		P		03 37 25.6	+0.1
	0.4nm,0.7s,baz=226,slow=7.3,SNR=3.4								
ILAR	**Eielson Array**	**88.11**	**13**	P		P		03 37 55.9	-0.5
	0.6nm,0.9s,baz=222,slow=5.3,SNR=4.4								
FINES	**FINESS Array B**	**134.92**	**343**	PKP		PKPdf		03 44 20.4	0.0
	2.0nm,1.0s,baz=317,slow=7.6,SNR=2.9								
BRTR	**Keskin Array B**	**145.56**	**312**	PKPbc		PKPbc		03 44 41.3	-0.6
	0.4nm,0.5s,baz=64,slow=3.4,SNR=3.2								

*IDC **21** 03:38:28.5 ± 2.0, 1.57S × 134.50E, h0km, mb3.4/2, mb1 3.7/4, mb1mx3.4/50, mbtmpg3.5/4, ML3.4/2, MS4.0/1, Ms1 4.0/1, ms1mx3.5/31, Error ellipse: s-maj=37.1km s-min=19.5km az=38.0*
*ISCJB **21** 03:38:30.5 ± 1.4, 1.65S ± 0.1 × 134.51E ± 0.09, h29km, mb3.5/2, Error ellipse: s-maj=15.7km s-min=11.2km az=26.7*
*DJA **21** 03:38:32.5 ± 1.2, 1°S ± 4' × 13°4E ± °, h10km, M3.7/4, MLv3.7/4*
ISC 21 03:38:32.7 ± 1.7, **1.66S** ± 0.1 × **134.4E** ± 0.1, **h29**km, **n7**, σ **2**9**29/9, Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
RKPI	**Ransiki, Papua**	**0.23**	**282**	P		P	Pb	03 38 35.0	-4.2
RKPI				S		S	**Sb**	**03 38 38.9**	**-4.7**
FAKI	**Fak Fak**	**2.54**	**238**	P		P	**Pn**	**03 39 12.9**	**+0.8**
FAKI				S		S	**Sn**	**03 39 43.4**	**+1.3**
SIJI	**Sorong**	**3.21**	**282**	Pn		P	**Pn**	**03 39 21.2**	**-0.1**
	3.3nm,0.3s,baz=272,slow=23,SNR=5.3								
SIJI				Pg		P	**Pb**	**03 39 29.8**	**+0.7**
	13nm,0.3s,baz=93,slow=17,SNR=25								
SIJI				Sn		S	**Sn**	**03 40 00.4**	**+1.8**
	8.2nm,0.3s,baz=323,slow=20,SNR=3.5								
SIJI				Lg		S	Lg	03 40 12.4	
	30nm,0.3s,baz=277,slow=14,SNR=9.9								
BATI	**Baumata**	**13.70**	**231**	LR		LR		03 47 02.3	
	comp=Z,681nm,20.1s,baz=199,slow=37								
WRA	**Warramunga Arr**	**18.27**	**180**	P		P	**Pn**	**03 42 43.5**	**-0.8**
	0.1nm,0.3s,baz=1.5,slow=12,SNR=9.4								
ASAR	**Alice Springs**	**21.98**	**181**	P		P	**P**	**03 43 23.7**	**-0.9**
	1.5nm,0.7s,baz=10,slow=11,SNR=15								
MKAR	**Makanchi Array**	**66.29**	**324**	P		P	**P**	**03 49 19.7**	**+1.2**
	0.2nm,0.5s,baz=116,slow=6.7,SNR=4.0								

*ISN **21** 03:46:03.8 ± 3.2, 32.43N × 47.05E, h15km, ML3.7*
*TEH **21** 03:46:05.8, 32.45N × 47.08E, h10km, ML3.7*
*IDC **21** 03:46:06.0 ± 0.8, 32.50N × 47.07E, h0km, mb3.9/12, mb1 3.9/16, mb1mx3.6/64, mbtmpg3.9/16, ML3.7/4, MS4.1/1, Ms1 4.1/1, ms1mx3.4/57, Error ellipse: s-maj=20.0km s-min=14.4km az=153.0*
*ISCJB **21** 03:46:06.7 ± 0.4, 32.36N ± 0.04 × 46.97E ± 0.04, h20km, mb3.9/14, Error ellipse: s-maj=6.5km s-min=4.9km az=175.3*
*NEIC **21** 03:46:07.5 ± 0.4, 32.43N × 47.03E, h10km, mb4.0/3, MN3.7(TEH), Error ellipse: s-maj=6.5km s-min=5.4km az=197.0*
*CSEM **21** 03:46:07.3 ± 0.2, 32.44N × 47.00E, h10km, ML3.7, Error ellipse: s-maj=5.9km s-min=5.3km az=33.0*
ISC 21 03:46:08.9 ± 0.6, **32.40N** ± 0.05 × **47.04E** ± 0.05, **h20**km, **n66**, σ **1**9**01/71, mb4.0**/14, **Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
IKFM	**Kafar-mosalman**	**1.31**	**31**	*e*Pg			**Pn**	**03 46 30.9**	**-1.2**
IKFM				*e*AMB			AMB	03 46 54.3	
	comp=Z,99nm,0.2s								
IKFM	**Kafar-mosalman**	**1.31**	**31**	*e*Pg			**Pn**	**03 46 30.9**	**-1.2**
SHGR	**Shooshtar-Gavs**	**1.52**	**101**	Pg			**Pb**	**03 46 37.0**	**+0.7**
SHGR	**Shooshtar-Gavs**	**1.52**	**101**	*e*Pg			**Pb**	**03 46 37.1**	**+0.7**
IVIS	**Veis**	**2.13**	**356**	*e*Pn			**Pn**	**03 46 43.9**	**+0.4**
IVIS				*e*Sg			**Sb**	**03 47 14.7**	**+1.8**
IVIS				*e*AMB			AMB	03 47 20.5	
	comp=Z,6μm,0.3s								
IVIS	**Veis**	**2.13**	**356**	Pn			**Pn**	**03 46 43.9**	**+0.4**
IVIS				Sg			**Sb**	**03 47 14.6**	**+1.7**
IVIS	**Veis**	**2.13**	**356**	*e*Pn			**Pn**	**03 46 43.9**	**+0.4**
IVIS				*e*Sg			**Sb**	**03 47 14.7**	**+1.8**
ILIN	**Lien**	**2.52**	**358**	*e*Pn			**Pn**	**03 46 49.3**	**+0.4**
ILIN				*e*AMB			AMB	03 46 53.5	
	comp=Z,3μm,0.1s								
ILIN	**Lien**	**2.52**	**358**	Pn			**Pn**	**03 46 49.3**	**+0.4**
ILIN	**Lien**	**2.52**	**358**	*e*Pn			**Pn**	**03 46 49.3**	**+0.4**
SNGE	**Sanandaj**	**2.70**	**5**	Pn			**Pn**	**03 46 52.0**	**+0.6**
SNGE				Sg			**Sb**	**03 47 31.0**	**+1.6**
SNGE	**Sanandaj**	**2.70**	**5**	Pn			**Pn**	**03 46 52.0**	**+0.6**
SNGE				*e*Sg			**Sb**	**03 47 31.8**	**+2.4**
KHMZ	**Khomeyn**	**2.79**	**61**	Pn			**Pn**	**03 46 53.0**	**+0.4**
KHMZ	**Khomeyn**	**2.79**	**61**	Pn			**Pn**	**03 46 53.0**	**+0.4**
HAGD	**Aghdareh**	**2.98**	**35**	*e*Pn			**Pn**	**03 46 55.6**	**+0.3**
HAGD				*e*AMB			AMB	03 47 05.7	
	comp=Z,99nm,0.1s								
HAGD	**Aghdareh**	**2.98**	**35**	*e*Pn			**Pn**	**03 46 55.6**	**+0.3**
ASAO	**Ashtian**	**3.29**	**48**	Pn			**Pn**	**03 47 00.0**	**+0.5**
ASAO	**Ashtian**	**3.29**	**48**	Pn			**Pn**	**03 47 00.0**	**+0.5**
HKZM	**Kohzaman**	**3.35**	**27**	*e*Pn			**Pn**	**03 47 01.1**	**+0.7**
HKZM				*e*AMB			AMB	03 47 43.9	
	comp=Z,99nm,0.3s								
HKZM	**Kohzaman**	**3.35**	**27**	*e*Pn			**Pn**	**03 47 01.1**	**+0.7**
IKLH	**Kolahrood**	**3.93**	**75**	*e*AMB			AMB	03 47 26.4	
	comp=Z,705nm,0.2s								
IKLH				*e*Pn			**Pn**	**03 47 09.1**	**+0.8**
QAM	**Ghamsar**	**3.93**	**69**	*e*AMB			AMB	03 47 53.9	
	comp=Z,2μm,0.0s								
QAM				*e*Pn			**Pn**	**03 47 09.8**	**+1.5**
GHVR	**GHOM**	**4.12**	**59**	Pn			**Pn**	**03 47 11.0**	**+0.3**
GHVR	**GHOM**	**4.12**	**59**	Pn			**Pn**	**03 47 11.0**	**+0.3**
IZEF	**Zefreh**	**4.49**	**82**	*e*Pn			**Pn**	**03 47 16.4**	**+0.4**
IZEF				*e*AMB			AMB	03 47 36.2	
	comp=Z,396nm,0.3s								
IZEF	**Zefreh**	**4.49**	**82**	Pn			**Pn**	**03 47 16.3**	**+0.3**
IZEF	**Zefreh**	**4.49**	**82**	*e*Pn			**Pn**	**03 47 16.4**	**+0.4**
IRAM	**Ramesheh**	**4.57**	**96**	*e*Pn			**Pn**	**03 47 17.2**	**+0.1**
IRAM				*e*AMB			AMB	03 48 13.6	
	comp=Z,298nm,0.2s								
IRAM	**Ramesheh**	**4.57**	**96**	Pn			**Pn**	**03 47 17.1**	**0.0**
IRAM	**Ramesheh**	**4.57**	**96**	*e*Pn			**Pn**	**03 47 17.2**	**+0.1**
CHTH	**Charan**	**4.87**	**43**	Pn			**Pn**	**03 47 22.0**	**+0.7**
CHTH	**Charan**	**4.87**	**43**	Pn			**Pn**	**03 47 22.0**	**+0.7**
IKAZ	**Kazeroun**	**4.87**	**121**	*e*Pn			**Pn**	**03 47 22.0**	**+0.6**
IKAZ				*e*AMB			AMB	03 48 20.8	
	comp=Z,2μm,0.4s								
IKAZ	**Kazeroun**	**4.87**	**121**	Pn			**Pn**	**03 47 21.9**	**+0.6**
IKAZ	**Kazeroun**	**4.87**	**121**	Pn			**Pn**	**03 47 21.9**	**+0.6**
IPAR	**Pars**	**5.75**	**115**	*e*Pn			**Pn**	**03 47 34.3**	**+1.0**
IPAR				*e*AMB			AMB	03 48 50.3	
	comp=Z,296nm,0.3s								
IPAR	**Pars**	**5.75**	**115**	Pn			**Pn**	**03 47 34.3**	**+1.0**
IPAR	**Pars**	**5.75**	**115**	*e*Pn			**Pn**	**03 47 34.3**	**+1.0**
ISRV	**Sarvestan**	**6.02**	**118**	*e*Pn			**Pn**	**03 47 38.4**	**+1.2**
ISRV				*e*AMB			AMB	03 49 04.5	
	comp=Z,423nm,0.2s								
ISRV	**Sarvestan**	**6.02**	**118**	Pn			**Pn**	**03 47 38.4**	**+1.2**
ISRV	**Sarvestan**	**6.02**	**118**	*e*Pn			**Pn**	**03 47 38.4**	**+1.2**
ASF	**Jabal al Asfar**	**8.59**	**271**	Pn			**Pn**	**03 48 10.8**	**-1.4**
	comp=Z,0.6nm,0.3s,baz=91,slow=13,SNR=3.9								
ASF				Sn			**Sn**	**03 49 48.2**	**-0.4**
	comp=Z,0.5nm,0.3s,baz=37,slow=20,SNR=2.8								
ASF				Lg			Lg	03 50 44.3	
	comp=Z,0.3nm,0.3s,baz=17,slow=19,SNR=3.1								
RAYN	**Ar Rayn**	**8.95**	**189**	*e*Pn			**Pn**	**03 48 16.8**	**-0.3**
	comp=Z,8.6nm,0.8s								
RAYN	**Ar Rayn**	**8.95**	**189**	*e*Pn			**Pn**	**03 48 16.8**	**-0.3**
	comp=Z,8.6nm,0.8s								
MMAI	**Mount Meron Ar**	**9.83**	**277**	Pn			**Pn**	**03 48 30.9**	**+1.8**
	comp=Z,0.3nm,0.3s,baz=65,slow=14,SNR=2.5								
MMAI				Lg			Lg	03 51 24.7	
	comp=Z,0.7nm,0.3s,baz=92,slow=35,SNR=3.5								
GEYT	**Alibeck**	**10.61**	**56**	LR			LR	03 53 26.7	
	comp=Z,1μm,20.4s,baz=250,slow=42								
WSAR	**Wadi Sarin**	**13.71**	**129**	Pn			**Pn**	**03 49 20.6**	**-1.7**
	comp=Z,0.6nm,0.3s,baz=322,slow=13,SNR=7.3								
WSAR				Sn			Sn	03 51 44.5	-10
	comp=Z,0.3nm,0.3s,baz=165,slow=16,SNR=3.3								
ABKAR	**Akbulak array**	**19.42**	**26**	*e*P			**P**	**03 50 32.7**	**-1.0**
	comp=Z,0.9nm,0.4s								
ABKAR	**Akbulak array**	**19.42**	**26**	*e*P			**P**	**03 50 32.7**	**-1.0**
	comp=Z,0.9nm,0.4s								
AKTO	**Aktyubinsk**	**19.77**	**21**	P			**P**	**03 50 36.0**	**-1.6**
	comp=Z,0.4nm,0.3s,baz=196,slow=15,SNR=6.0								
KKAR	**Karatay Array**	**21.34**	**53**	*e*P			**P**	**03 50 52.9**	**-1.8**
	comp=Z,5.8nm,0.8s								
KKAR	**Karatay Array**	**21.34**	**53**	*e*P			**P**	**03 50 52.9**	**-1.8**
	comp=Z,5.8nm,0.8s								
BRVK	**Borovoye**	**26.58**	**32**	*e*P			**P**	**03 51 44.2**	**-1.3**
	comp=Z,12nm,0.8s								
BVAR	**Borovoye Array**	**26.60**	**32**	P			**P**	**03 51 45.0**	**-0.8**
	comp=Z,1.7nm,0.5s,baz=235,slow=6.5,SNR=11								
KURBB	**Kurchatov Arra**	**29.47**	**43**	P			**P**	**03 52 11.2**	**-0.1**
	comp=Z,0.6nm,0.6s,baz=246,slow=9.3,SNR=3.7								
KURK	**Kurchatov**	**29.57**	**42**	*e*P			**P**	**03 52 09.9**	**-2.3**
MKAR	**Makanchi Array**	**30.44**	**51**	P			**P**	**03 52 19.6**	**-0.5**
	comp=Z,0.9nm,0.6s,baz=247,slow=9.5,SNR=8.3								
FINES	**FINESS Array B**	**32.09**	**341**	P			**P**	**03 52 33.4**	**-0.9**
	comp=Z,1.0nm,0.5s,baz=138,slow=9.2,SNR=7.2								
ZALV	**Zalesovo Beam**	**34.38**	**40**	P			**P**	**03 52 53.4**	**-0.9**
	comp=Z,0.6nm,0.3s,baz=256,slow=10,SNR=2.5								
HFS	**Hagfors**	**35.38**	**332**	P			**P**	**03 53 02.4**	**-0.5**
	comp=Z,1.1nm,0.5s,baz=141,slow=9.3,SNR=8.9								
EKA	**Eskdalemuir Ar**	**41.67**	**319**	P			**P**	**03 53 55.0**	**-0.9**
	comp=Z,0.4nm,0.5s,baz=104,slow=8.8,SNR=3.3								
TORD	**Torodi Ar. Bea**	**45.60**	**256**	P			**P**	**03 54 28.2**	**+0.2**
	comp=Z,0.4nm,0.4s,baz=66,slow=7.5,SNR=25								
SPITS	**Spitsbergen Ar**	**47.79**	**352**	P			**P**	**03 54 43.9**	**-0.5**
	comp=Z,4.7nm,0.9s,baz=128,slow=9.3,SNR=4.4								
CMAR	**Chiang Mai Arr**	**48.45**	**94**	P			**P**	**03 54 50.7**	**+0.5**
	comp=Z,1.0nm,0.3s,baz=293,slow=4.6,SNR=2.4								
KOWA	**Kowa**	**49.64**	**261**	P			**P**	**03 54 59.9**	**+0.6**
	comp=Z,0.3nm,0.3s,baz=51,slow=8.8,SNR=3.6								
BOSA	**Boshof**	**64.11**	**201**	P			**P**	**03 56 42.8**	**+0.9**
	comp=Z,0.9nm,0.6s,baz=25,slow=9.9,SNR=2.7								

*IDC **21** 03:47:24.3 ± 1.4, 1.32S × 134.61E, h0km, mb3.4/3, mb1 3.7/6, mb1mx3.4/57, mbtmpg3.5/6, ML3.4/2, Error ellipse: s-maj=25.8km s-min=18.6km az=24.0*
*ISCJB **21** 03:47:26.8 ± 1.1, 1.45S ± 0.1 × 134.60E ± 0.09, h29km, mb3.4/3, Error ellipse: s-maj=16.0km s-

comp=Z,0.3nm,0.6s,baz=164,slow=5.2,SNR=2.5
NVAR Mina Array Bea 84.61 322 P P 04 00 15.8 -0.1
comp=Z,0.4nm,0.8s,baz=157,slow=5.8,SNR=2.9
WRA Warramunga Arr 123.91 205 PKP PKPdf 04 06 40.2 -0.8
comp=Z,0.3nm,0.5s,baz=168,slow=1.8,SNR=5.3
KURBB Kurchatov Arra 149.17 44 PKPbc PKPbc 04 07 29.5 -0.8
comp=Z,1.0nm,0.7s,baz=295,slow=3.0,SNR=6.2
ZALV Zalesovo Beam 150.84 34 PKPbc PKPbc 04 07 33.8 -0.4
comp=Z,1.1nm,0.4s,baz=278,slow=2.2,SNR=3.3

*IDC **21** 03:48:08.6±1.0, 1.°63S×134.°33E, h0km, mb3.4/5, mb1 3.8/7, mb1mx3.6/55, mbtmp3.6/7, ML3.8/1, Error ellipse: s-maj=55.7km s-min=20.9km az=90.0*
ISC 21 03:48:12.9±0.9, 1.°7S±0.°1×134.°2E±0.°1, h29km, n11, σ1§37/11, mb3.6/5, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**2.99**	**285**	Sn	**Sb**	**03 49 41.2**	**-0.4**
	baz=33,slow=9.3,SNR=2.1						
SIJI				Lg	Lg	03 49 52.1	
	24nm,0.3s,baz=334,slow=23,SNR=6.1						
WRA	**Warramunga Arr**	**18.17**	**179**	P	**Pn**	**03 52 23.6**	**+0.4**
	0.3nm,0.3s,baz=360,slow=12,SNR=10						
FITZ	**Fitzroy Crossi**	**18.35**	**207**	P	**P**	**03 52 24.7**	**-0.5**
	baz=35,slow=2.4						
ASAR	**Alice Springs**	**21.88**	**181**	P	**P**	**03 53 02.5**	**-1.1**
	3.9nm,0.7s,baz=9.0,slow=11,SNR=7.3						
KLR	**Kul'dur**	**50.73**	**358**	P	**P**	**03 57 09.6**	**-0.4**
	0.1nm,0.6s,baz=164,slow=2.1,SNR=4.8						
MKAR	**Makanchi Array**	**66.22**	**324**	P	**P**	**03 58 58.5**	**+0.4**
	0.3nm,0.6s,baz=128,slow=7.3,SNR=3.0						
KURBB	**Kurchatov Arra**	**70.29**	**326**	P	**P**	**03 59 24.4**	**+0.9**
	0.2nm,0.7s,baz=111,slow=5.1,SNR=2.9						
ILAR	**Eielson Array**	**86.79**	**25**	P	**P**	**04 00 52.3**	**-1.9**
	0.4nm,0.9s,baz=249,slow=5.0,SNR=3.0						
YKA	**Yellowknife Ar**	**101.16**	**26**	P	**Pdif**	**04 02 00.5**	**+0.2**
	0.1nm,0.4s,baz=265,slow=6.1,SNR=3.1						
TORD	**Torodi Ar. Bea**	**131.59**	**286**	PKP	**PKPdf**	**04 07 26.7**	**+2.8**
	0.3nm,0.6s,baz=78,slow=2.1,SNR=6.7						
LPAZ	**La Paz**	**151.67**	**130**	PKPbc	**PKPbc**	**04 08 07.5**	**+1.1**
	0.7nm,0.7s,baz=296,slow=1.9,SNR=3.7						

*ISK **21** 03:50:34.8, 39.°97N×27.°70E, h17km, ML2.5/13*
*ISCJB **21** 03:50:35.4±0.4, 40.°00N±0.°02×27.°74E±0.°04, h11km±3km, Error ellipse: s-maj=4.7km s-min=3.6km az=15.7*
*CSEM **21** 03:50:35.4±0.1, 39.°98N×27.°72E, h13km±1km, ML2.5, Error ellipse: s-maj=2.2km s-min=1.8km az=98.0*
*DDA **21** 03:50:35.4, 39.°98N×27.°70E, h7km, Ml2.6*
ISC 21 03:50:35.6±0.8, 39.°98N±0.°02×27.°70E±0.°02, h15km±5km, n46, σ0§36/66, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GONE	**Gonen-Balikesi**	**0.07**	**350**	PG	**Pg**	**03 50 38.6**	**0.0**
GONE				SG	**Sg**	**03 50 40.9**	**+0.3**
GONE	**Gonen-Balikesi**	**0.07**	**350**	*e*Pg	**Pg**	**03 50 38.6**	**0.0**
GONE				*e*Sg	**Sg**	**03 50 40.9**	**+0.3**
BALY	**Balya**	**0.24**	**195**	*i* P	**Pg**	**03 50 40.4**	**-0.6**
BALY				*i* S	**Sg**	**03 50 44.6**	**0.0**
BALY	**Balya**	**0.24**	**195**	P	**Pg**	**03 50 40.4**	**-0.6**
BALY				S	**Sg**	**03 50 44.6**	**0.0**
BALB	**Balikesir**	**0.36**	**158**	PG	**Pg**	**03 50 42.8**	**-0.2**
BALB				SG	**Sg**	**03 50 47.6**	**-0.4**
BALB	**Balikesir**	**0.36**	**158**	*e*Pg	**Pg**	**03 50 42.8**	**-0.2**
BALB				*e*Sg	**Sg**	**03 50 47.6**	**-0.4**
EDC	**Edincik**	**0.39**	**18**	PG	**Pg**	**03 50 43.3**	**-0.2**
EDC				SG	**Sg**	**03 50 49.1**	**+0.2**
EDC	**Edincik**	**0.39**	**18**	*e*Pg	**Pg**	**03 50 43.3**	**-0.2**
EDC				*e*Sg	**Sg**	**03 50 49.1**	**+0.2**
KRBG	**Karabiga-Canak**	**0.52**	**323**	PG	**Pg**	**03 50 45.6**	**-0.3**
KRBG	**Karabiga-Canak**	**0.52**	**323**	*e*Pg	**Pg**	**03 50 45.6**	**-0.3**
KCTX	**Karacabey (Bur**	**0.58**	**60**	PG	**Pg**	**03 50 46.4**	**-0.6**
KCTX	**Karacabey (Bur**	**0.58**	**60**	*e*Pg	**Pg**	**03 50 46.4**	**-0.6**
STEP	**BALIKESIR_Sava**	**0.60**	**179**	*i* P	**Pg**	**03 50 47.4**	**0.0**
STEP				*i* S	**Sb**	**03 50 56.3**	**+0.3**
STEP	**BALIKESIR_Sava**	**0.60**	**179**	P	**Pg**	**03 50 47.4**	**0.0**
STEP				S	**Sb**	**03 50 56.3**	**+0.3**
DURS	**Dursunbey**	**0.70**	**122**	*i* P	**Pg**	**03 50 49.2**	**-0.1**
DURS				*i* S	**Sg**	**03 50 58.5**	**-0.1**
DURS	**Dursunbey**	**0.70**	**122**	P	**Pg**	**03 50 49.2**	**-0.1**
DURS				S	**Sg**	**03 50 58.5**	**-0.1**
RKY	**Sarkoy-Tekirda**	**0.82**	**331**	PG	**Pg**	**03 50 51.2**	**-0.3**
RKY	**Sarkoy-Tekirda**	**0.82**	**331**	*e*Pg	**Pg**	**03 50 51.2**	**-0.3**
LPK	**Lapseki**	**0.82**	**299**	PG	**Pg**	**03 50 50.6**	**-1.0**
LPK	**Lapseki**	**0.82**	**299**	*e*Pg	**Pg**	**03 50 50.6**	**-1.0**
BAYC	**CANAKKALE_Bayr**	**0.92**	**256**	*i* P	**Pn**	**03 50 53.7**	**-0.2**
BAYC				*i* S	**Sb**	**03 51 05.8**	**+0.6**
BAYC	**CANAKKALE_Bayr**	**0.92**	**256**	P	**Pn**	**03 50 53.7**	**-0.2**
BAYC				S	**Sb**	**03 51 05.8**	**+0.6**
SBT3	**Marmara-Eregli**	**0.93**	**13**	PG	**Pg**	**03 50 53.6**	**0.0**
SBT3	**Marmara-Eregli**	**0.93**	**13**	*e*Pg	**Pg**	**03 50 53.6**	**0.0**
MDNY	**Mudanya-Bursa**	**0.99**	**66**	PG	**Pg**	**03 50 54.5**	**-0.2**
MDNY	**Mudanya-Bursa**	**0.99**	**66**	*e*Pg	**Pg**	**03 50 54.5**	**-0.2**
AYVA	**Ayvalik**	**1.03**	**230**	*i* P	**Pb**	**03 50 54.8**	**-0.2**
AYVA				*i* S	**Sn**	**03 51 10.0**	**+0.5**
AYVA	**Ayvalik**	**1.03**	**230**	P	**Pb**	**03 50 54.8**	**-0.2**
AYVA				S	**Sn**	**03 51 10.0**	**+0.5**
ARMT	**Armutlu**	**1.06**	**56**	PG	**Pb**	**03 50 55.2**	**-0.5**
ARMT	**Armutlu**	**1.06**	**56**	*e*Pg	**Pb**	**03 50 55.2**	**-0.5**
AKHS	**Akhisar**	**1.10**	**175**	*i* P	**Pb**	**03 50 56.3**	**+0.1**
AKHS				*i* S	**Sn**	**03 51 11.9**	**+0.6**
AKHS	**Akhisar**	**1.10**	**175**	P	**Pb**	**03 50 56.3**	**+0.1**
AKHS				S	**Sn**	**03 51 11.9**	**+0.6**
DEMI	**Demirci**	**1.22**	**140**	*i* P	**Pn**	**03 50 58.1**	**0.0**
DEMI				*i* S	**Sn**	**03 51 14.5**	**+0.2**
DEMI	**Demirci**	**1.22**	**140**	P	**Pn**	**03 50 58.1**	**0.0**
DEMI				S	**Sn**	**03 51 14.5**	**+0.2**
BUY	**Buyukada**	**1.39**	**51**	PN	**Pn**	**03 51 00.3**	**-0.1**
BUY	**Buyukada**	**1.39**	**51**	*e*Pn	**Pn**	**03 51 00.3**	**-0.1**
CTKS	**Kestanelik-??a**	**1.40**	**26**	PN	**Pn**	**03 51 00.5**	**0.0**
CTKS	**Kestanelik-??a**	**1.40**	**26**	*e*Pn	**Pn**	**03 51 00.5**	**0.0**
YLV	**Yalova**	**1.41**	**65**	PN	**Pn**	**03 51 00.4**	**-0.3**
YLV	**Yalova**	**1.41**	**65**	*e*Pn	**Pn**	**03 51 00.4**	**-0.3**
BGKT	**Bogazkoy**	**1.45**	**34**	PN	**Pn**	**03 51 01.1**	**-0.1**
BGKT	**Bogazkoy**	**1.45**	**34**	*e*Pn	**Pn**	**03 51 01.1**	**-0.1**
TVSB	**Tavsanli**	**1.46**	**111**	PN	**Pn**	**03 51 00.9**	**-0.5**
TVSB	**Tavsanli**	**1.46**	**111**	*e*Pn	**Pn**	**03 51 00.9**	**-0.5**
SILT	**Sile**	**1.89**	**51**	PN	**Pn**	**03 51 07.4**	**+0.2**
SILT	**Sile**	**1.89**	**51**	*e*Pn	**Pn**	**03 51 07.4**	**+0.2**

DJA 21 03:51:18.2±1.3, 2.°S±4.°×13.°4E±1.°3, h21km±6km, M3.7/5, MLv3.7/5, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RKPI	**Ransiki, Papua**	**0.20**	**270**	P	Pb	03 51 24.7	+0.6
RKPI				S	Sb	03 51 22.6	-5.7
KMPI	**Kaimana, Papua**	**2.24**	**198**	P	Pn	03 51 54.8	+0.7
FAKI	**Fak Fak**	**2.55**	**237**	P	Pn	03 51 58.6	+0.3

*DJA **21** 03:55:03.8±1.2, 2.°S±4.°×13.°4E±.°, h10km, M4.4/4, MLv4.4/4*
*IDC **21** 03:55:04.2±1.4, 1.°76S×134.°39E, h0km, mb3.7/3, mb1 3.9/5, mb1mx3.5/54, mbtmp3.8/5, ML3.8/2, Error ellipse: s-maj=33.5km s-min=17.5km az=45.0*
*ISCJB **21** 03:55:05.2±1.1, 1.°62S±0.°09×134.°46E±0.°07, h30km, mb3.8/3, Error ellipse: s-maj=14.5km s-min=8.1km az=35.0*
ISC 21 03:55:07.4±1.1, 1.°69S±0.°08×134.°38E±0.°09, h30km, n9, σ2§02/13, mb3.8/3, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RKPI	**Ransiki, Papua**	**0.27**	**312**	P	**Pb**	**03 55 11.0**	**-3.5**
RKPI				S	**Sb**	**03 55 17.0**	**-2.3**
FAKI	**Fak Fak**	**2.45**	**240**	P	**Pn**	**03 55 45.1**	**-0.3**
FAKI				S	**Sb**	**03 56 17.6**	**-3.1**
SIJI	**Sorong**	**3.22**	**285**	Pn	**Pn**	**03 55 56.5**	**+0.6**
	9.8nm,0.3s,baz=262,slow=23,SNR=12						
SIJI				Pg	**Pb**	**03 56 06.4**	**+2.5**
	11nm,0.3s,baz=180,slow=23,SNR=7.1						
SIJI				Sn	**Sn**	**03 56 34.4**	**+1.1**
	16nm,0.3s,baz=113,slow=11,SNR=4.0						
SIJI				Lg	Lg	03 56 48.1	
	41nm,0.3s,baz=252,slow=20,SNR=9.0						
WRA	**Warramunga Arr**	**18.14**	**180**	P	**P**	**03 59 17.6**	**+0.2**
	0.3nm,0.3s,baz=352,slow=12,SNR=11						
FITZ	**Fitzroy Crossi**	**18.42**	**207**	P	**P**	**03 59 19.5**	**-1.0**
	baz=32,slow=4.1						
CTA	**Charters Tower**	**21.66**	**148**	P	**P**	**03 59 56.6**	**+0.9**
	0.9nm,0.2s,baz=0.0,slow=15,SNR=2.2						
ASAR	**Alice Springs**	**21.85**	**181**	P	**P**	**03 59 57.6**	**-0.2**
	2.4nm,0.7s,baz=5.9,slow=11,SNR=11						
MKAR	**Makanchi Array**	**66.38**	**324**	P	**P**	**04 05 55.5**	**+1.9**
	0.5nm,0.5s,baz=132,slow=7.5,SNR=3.1						
TORD	**Torodi Ar. Bea**	**131.82**	**286**	PKP	**PKPdf**	**04 14 19.3**	**+0.5**
	0.1nm,0.4s,baz=80,slow=2.8,SNR=2.8						

*NEIC **21** 03:55:40.8±2.5, 1.°07N×95.°58E, h4km±15km, mb4.5/12, Error ellipse: s-maj=7.3km s-min=4.6km az=220.0*
*IDC **21** 03:55:40.2±0.5, 1.°04N×95.°56E, h0km, mb4.2/33, mb1 4.2/36, mb1mx4.1/69, mbtmp4.1/36, ML3.9/3, Error ellipse: s-maj=14.7km s-min=11.1km az=37.0*
*ISCJB **21** 03:55:43.5±0.3, 1.°09N±0.°04×95.°63E±0.°03, h33km, mb4.2/45, Error ellipse: s-maj=5.9km s-min=4.2km az=23.9*
*DJA **21** 03:55:45.8±0.4, 1.°N±3.°×9.°6E±.°, h10km, M4.7/13, mb4.8/13, mB5.4/4, MLv4.5/12, Mw(mB)4.8/4*
ISC 21 03:55:45.9±0.4, 1.°17N±0.°06×95.°62E±0.°05, h35km, n104, σ1§31/95, mb4.3/45, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSI	**Gunungsitoli**	**1.96**	**86**	P	**Pn**	**03 56 15.4**	**-1.3**
GSI				S	**Sn**	**03 56 38.4**	**-1.7**
GSI	**Gunungsitoli**	**1.96**	**86**	*e*Pn	**Pn**	**03 56 15.6**	**-1.1**
TPTI		**2.60**	**37**	P	**Pn**	**03 56 23.4**	**-2.1**
PBSI	**Pulau Batu**	**2.92**	**115**	P	**Pn**	**03 56 31.1**	**+1.2**
MLSI	**Meulaboh, Aceh**	**3.18**	**14**	P	**Pn**	**03 56 32.1**	**-1.3**
PSI	**Prapat**	**3.68**	**344**	Pn	**Pn**	**03 56 38.8**	**-1.7**
	3.4nm,0.3s,baz=265,slow=7.3,SNR=11						
PSI				Sn	**Sn**	**03 57 21.9**	**-0.8**
	6.3nm,0.3s,baz=114,slow=19,SNR=4.3						
TSI	**Tuntungan**	**3.75**	**52**	P	Pn	03 56 53.2	+12
MNSI	**Mandailing Nat**	**3.98**	**95**	P	**Pn**	**03 56 43.6**	**-0.8**
LHMI	**Lhok Sumawe**	**4.25**	**18**	P	**Pn**	**03 56 48.0**	**-0.1**
LHMI	**Lhok Sumawe**	**4.25**	**18**	*e*Pn	**Pn**	**03 56 47.0**	**-1.1**
SISI	**Saibi**	**4.26**	**126**	P	**Pn**	**03 56 46.8**	**-1.6**
PPI	**Padang Panjang**	**5.04**	**109**	P	**Pn**	**03 56 58.3**	**-0.8**
PDSI	**Padang**	**5.26**	**113**	P	**Pn**	**03 57 04.3**	**+2.1**
	52nm,0.7s,26µm0.7nm						
IPM	**Ipoh**	**6.32**	**59**	*e*Pn	**Pn**	**03 57 15.5**	**-1.2**
	33nm,0.8s						
KULM	**Kulim**	**6.48**	**51**	*e*Pn	**Pn**	**03 57 17.1**	**-1.8**
	39nm,0.9s						
KRJI	**Kerinci**	**6.68**	**119**	P	**Pn**	**03 57 22.9**	**+1.2**
	428nm,0.9s,1.6nm						
PKDT	**Phuket**	**7.21**	**22**	P	**Pn**	**03 57 32.6**	**+3.8**
	49nm,0.8s,0.2nm						
TRTT	**Trang**	**7.77**	**31**	P	**Pn**	**03 57 33.9**	**-2.6**
	16nm,0.9s,0.1nm						
MASI	**Maura Aman, Be**	**7.88**	**123**	P	Pn	03 57 49.7	+12
SURT	**Suratani**	**8.36**	**22**	P	**Pn**	**03 57 42.1**	**-2.6**
	22nm,1.0s,0.1nm						
MNAI	**Manna**	**9.16**	**127**	*e*Pn	**Pn**	**03 57 53.7**	**-2.0**
MDSI	**Maura Dua**	**10.23**	**123**	P	**Pn**	**03 58 09.3**	**-1.1**
	34nm,0.7s,1µm						
SRAK	**Srakaew**	**14.26**	**26**	P	P	03 59 17.6	+5.4
CHAI	**Chaiyaphum**	**15.93**	**23**	P	**P**	**03 59 31.7**	**+0.9**
	8.9nm,0.7s						
PALK	**Pallekele**	**16.06**	**293**	Pn	**Pn**	**03 59 28.9**	**-0.3**
	0.5nm,0.3s,baz=116,slow=7.7,SNR=2.6						
PALK				Sn	Sn	04 02 12.0	-14
	1.3nm,0.3s,baz=118,slow=6.1,SNR=4.1						
PALK	**Pallekele**	**16.06**	**293**	*e*Pn	**Pn**	**03 59 27.1**	**-2.1**
PBKT	**Sadao Pong**	**16.19**	**19**	P	**P**	**03 59 33.3**	**-0.3**
	44nm,0.8s,1µm						
PHIT	**Phitsanulok**	**16.61**	**16**	P	**P**	**03 59 39.2**	**+0.9**
	58nm,0.8s,560nm						
CMAR	**Chiang Mai Arr**	**17.49**	**11**	P	**P**	**03 59 49.1**	**+1.0**
	0.3nm,0.3s,baz=195,slow=11,SNR=34						
LAMP	**Lampang**	**17.69**	**13**	P	**P**	**03 59 52.3**	**+2.0**
	5.7nm,0.9s						
CHTO	**Chiang Mai**	**17.84**	**10**	P	**P**	**03 59 53.0**	**+1.1**
	50nm,1.4s						
CHTO	**Chiang Mai**	**17.84**	**10**	*e*Pn	**Pn**	**03 59 49.9**	**-1.5**
	18nm,1.2s						
CMMT	**Chiang Mai**	**17.84**	**10**	P	**P**	**03 59 51.9**	**0.0**
	12nm,1.4s,626nm						
BBKI	**Banjar Baru**	**19.76**	**104**	P	**Pn**	**04 00 21.0**	**+6.3**
KKM	**Kota Kinabalu**	**21.11**	**76**	*e*P	**P**	**04 00 27.0**	**-0.9**
	25nm,0.9s						
SHL	**Shillong**	**24.52**	**352**	*e*P	**P**	**04 01 03.0**	**+0.5**
H08S2	**Diego Garcia H**	**24.67**	**249**	T	T	04 26 32.3	
	baz=71						
H08S3	**Diego Garcia H**	**24.67**	**249**	T	T	04 26 26.9	
	baz=71						
H08S1	**Diego Carcia H**	**24.69**	**249**	T	T	04 26 33.0	
	baz=71						
SOEI	**Soe**	**30.52**	**111**	P	P	04 02 01.7	+5.4
	66nm,0.6s						
XAN	**Xi'an**	**34.99**	**19**	P	**P**	**04 02 35.0**	**-0.1**
XAN				pP	pP	04 02 42.3	-2.9
XAN				pmax	pmax		
	comp=Z,8.0nm,1.1s						
FITZ	**Fitzroy Crossi**	**35.20**	**124**	P	**P**	**04 02 35.6**	**-1.5**
	baz=143,slow=20						
FAKI	**Fak Fak**	**36.84**	**96**	*e*P	**P**	**04 02 51.0**	**-0.2**
GTA	**Gaotai**	**38.25**	**5**	*e*P	**P**	**04 03 04.3**	**+1.4**
GTA				pP	pP	04 03 08.3	-4.8
GTA	**Gaotai**	**38.25**	**5**	*e*P	P	04 03 11.1	+8.2
GTA				sP	pP	04 03 11.3	-1.8
GTA				pP	sP	04 03 14.5	-2.8
GTA				sP	sP	04 03 17.1	-0.2
GTA				pmax	pmax		
	comp=Z,3.0nm,1.1s						
GTA				pmax	pmax		
	comp=Z,14nm,1.1s						
NIL	**Nilore**	**38.52**	**329**	*e*P	**P**	**04 03 04.4**	**-0.7**
	comp=Z,15nm,0.6s						
H01W3	**Cape Leeuwin H**	**39.84**	**156**	T	T	04 46 23.8	
	baz=334,slow=76,SNR=7.8						
H01W2	**Cape Leeuwin H**	**39.85**	**156**	T	T	04 46 24.8	
	baz=334,slow=76,SNR=6.8						
H01W1	**Cape Leeuwin H**	**39.85**	**156**	T	T	04 46 35.0	
	baz=334,slow=76,SNR=9.0						
WRA	**Warramunga Arr**	**43.37**	**121**	P	**P**	**04 03 44.9**	**-0.4**
	comp=Z,6.6nm,0.9s,baz=299,slow=9.0,SNR=13						
WRA				PcP	**PcP**	**04 05 32.7**	**-0.9**
	comp=Z,1.7nm,0.8s,baz=302,slow=2.8,SNR=4.0						
WRAB	**Tennant Creek**	**43.37**	**121**	*e*P	**P**	**04 03 44.2**	**-1.0**
	comp=Z,9.3nm,1.3s						
ASAR	**Alice Springs**	**44.65**	**126**	P	**P**	**04 03 55.1**	**-0.4**
	comp=Z,2.3nm,0.8s,baz=295,slow=7.3,SNR=7.2						
ASAR				PcP	**PcP**	**04 05 37.4**	**-0.5**
	comp=Z,1.2nm,0.7s,baz=297,slow=3.4,SNR=4.8						
AAK	**Ala-Archa**	**45.42**	**338**	P	**P**	**04 04 03.5**	**+2.0**
	comp=Z,0.8nm,0.4s,baz=176,slow=15,SNR=2.9						
AAK	**Ala-Archa**	**45.42**	**338**	*e*P	**P**	**04 04 02.3**	**+0.7**
	comp=Z,4.6nm,1.1s						
KSAR	**Wonju Array Be**	**46.75**	**36**	P	**P**	**04 04 12.8**	**+1.0**
KSRS	**Korea Array**	**46.78**	**36**	P	**P**	**04 04 12.8**	**+0.8**
	comp=Z,1.5nm,0.6s,baz=230,slow=8.1,SNR=3.7						
MKAR	**Makanchi Array**	**46.91**	**347**	P	**P**	**04 04 13.8**	**+0.8**
	comp=Z,2.9nm,0.7s,baz=161,slow=8.8,SNR=18						
KKAR	**Karatay Array**	**47.40**	**335**	*e*P	**P**	**04 04 17.1**	**+0.2**
	comp=Z,0.5nm,0.3s						
SONM	**Songino Array**	**47.41**	**10**	P	**P**	**04 04 18.6**	**+1.6**
	comp=Z,1.2nm,0.8s,baz=189,slow=8.4,SNR=4.4						
GEYT	**Alibeck**	**50.24**	**321**	P	**P**	**04 04 38.9**	**+0.2**
	comp=Z,3.4nm,0.7s,baz=149,slow=6.9,SNR=5.6						
TLY	**Taya**	**50.78**	**6**	P	**P**	**04 04 43.2**	**+0.5**
	comp=Z,1.0nm,0.6s,baz=232,slow=17,SNR=3.0						
KURBB	**Kurchatov Arra**	**51.37**	**346**	P	**P**	**04 04 47.6**	**+0.7**
	comp=Z,0.8nm,0.6s,baz=167,slow=7.2,SNR=6.7						
KURK	**Kurchatov**	**51.43**	**346**	*e*P	**P**	**04 04 48.5**	**+1.1**
OPO	**Ambohidratompo**	**51.48**	**245**	P	**P**	**04 04 48.4**	**-0.1**
	comp=Z,2.4nm,0.7s,baz=73,slow=11,SNR=2.2						
PMG	**Port Moresby**	**52.39**	**103**	*e*P	**P**	**04 04 55.1**	**-0.2**
	comp=Z,6.4nm,0.5s						
ZALV	**Zalesovo Beam**	**53.36**	**352**	P	**P**	**04 05 02.3**	**+0.7**
	comp=Z,3.1nm,0.4s,baz=188,slow=7.1,SNR=9.7						
RAYN	**Ar Rayn**	**53.38**	**299**	*e*P	**P**	**04 05 02.7**	**+0.2**
	comp=Z,4.3nm,1.0s						
USRK	**Ussuriysk Ar.**	**53.62**	**32**	P	**P**	**04 05 04.7**	**+0.9**
	comp=Z,3.8nm,0.8s,baz=240,slow=8.0,SNR=3.5						
CTA	**Charters Tower**	**53.91**	**116**	P	**P**	**04 05 06.2**	**-0.1**
	comp=Z,5.9nm,0.8s,baz=299,slow=9.0,SNR=8.1						
CTAO	**Charters Tower**	**53.91**	**116**	*e*P	**P**	**04 05 05.0**	**-1.4**
STKA	**Stephens Creek**	**54.52**	**131**	P	**P**	**04 05 10.7**	**+0.2**
	comp=Z,8.2nm,0.9s,baz=298,slow=5.1,SNR=8.6						
BVAR	**Borovoye Array**	**55.77**	**342**	P	**P**	**04 05 18.9**	**-0.4**
	comp=Z,1.5nm,0.5s,baz=144,slow=9.7,SNR=8.1						
BRVK	**Borovoye**	**55.84**	**342**	*e*P	**P**	**04 05 18.9**	**-0.8**
ABKAR	**Akbulak array**	**56.81**	**333**	*e*P	**P**	**04 05 25.9**	**-0.8**
	comp=Z,5.4nm,0.8s						
KLR	**Kul'dur**	**57.00**	**27**	P	**P**	**04 05 29.6**	**+1.5**
	comp=Z,0.2nm,0.5s,baz=218,slow=12,SNR=7.7						
KMBO	**Kilima Mbogo**	**58.41**	**268**	P	**P**	**04 05 38.8**	**-0.2**
	comp=Z,1.3nm,0.6s,baz=61,slow=19,SNR=3.0						
KMBO	**Kilima Mbogo**	**58.41**	**268**	*e*P	**P**	**04 05 38.5**	**-0.5**
	comp=Z,2.1nm,0.8s						
EIDS	**Eidsvold**	**59.72**	**120**	*e*P	**P**	**04 05 46.6**	**-1.0**
	comp=Z,3.3nm,0.7s						
KBZ	**Khabaz**	**63.07**	**320**	P	**P**	**04 06 09.2**	**-0.6**
	comp=Z,1.4nm,0.6s,baz=78,slow=10,SNR=4.4						
MMAI	**Mount Meron Ar**	**64.64**	**306**	P	**P**	**04 06 21.9**	**+1.4**
	comp=Z,1.4nm,0.6s,baz=98,slow=10,SNR=5.3						
BRTR	**Keskin Array B**	**67.97**	**313**	P	**P**	**04 06 41.1**	**-0.7**
	comp=Z,1.6nm,0.7s,baz=134,slow=7.1,SNR=12						
MA2	**Magadan**	**72.05**	**26**	P	**P**	**04 07 06.2**	**0.0**
	comp=Z,1.4nm,0.4s,baz=212,slow=9.5,SNR=3.0						
PETK	**Petropavlovsk-**	**72.64**	**34**	P	**P**	**04 07 09.7**	**-0.2**
	comp=Z,1.0nm,0.6s,baz=238,slow=4.6,SNR=1.8						
BOSA	**Boshof**	**73.39**	**240**	P	**P**	**04 07 13.6**	**-1.4**
	comp=Z,1.3nm,0.6s,baz=102,slow=1.9,SNR=3.8						
TIXI	**Tiksi**	**73.50**	**10**	*e*P	**P**	**04 07 14.7**	**+0.1**
	comp=Z,4.4nm,0.8s						
IDI	**Anoyia**	**73.64**	**306**	P	**P**	**04 07 15.0**	**-1.3**
	comp=Z,4.1nm,0.7s,baz=90,slow=8.1,SNR=3.5						
AKASG	**Malin Array Be**	**74.32**	**323**	P	**P**	**04 07 18.9**	**-1.0**
	comp=Z,0.2nm,0.3s,baz=91,slow=5.0,SNR=4.9						
SEY	**Seymchan**	**74.41**	**23**	P	**P**	**04 07 20.4**	**+0.3**
	comp=Z,3.4nm,0.9s,baz=267,slow=2.9,SNR=7.3						
MLR	**Muntele Rosu**	**75.01**	**317**	P	**P**	**04 07 23.9**	**-0.1**
	comp=Z,0.4nm,0.6s,baz=104,slow=4.2,SNR=5.5						
FINES	**FINESS Array B**	**79.30**	**333**	P	**P**	**04 07 47.3**	**-0.4**
	comp=Z,0.7nm,0.5s,baz=115,slow=6.7,SNR=4.9						
VYHS	**Vyhne**	**80.38**	**319**	*e*P	**P**	**04 07 55.0**	**+1.2**
ARCES	**ARCESS Array B**	**82.03**	**340**	P	**P**	**04 08 02.3**	**+0.2**
	comp=Z,1.5nm,0.8s,baz=90,slow=5.0,SNR=6.8						
VAE	**Valguarnera**	**82.31**	**308**	P	**P**	**04 08 04.2**	**-0.2**
	comp=Z,6.3nm,0.4s,baz=37,slow=5.1,SNR=1.8						
GERES	**GERESS Array B**	**83.80**	**319**	P	**P**	**04 08 11.7**	**-0.2**
	comp=Z,0.6nm,0.7s,baz=116,slow=9.1,SNR=5.7						
HFS	**Hagfors**	**84.96**	**330**	P	**P**	**04 08 17.5**	**+0.1**
	comp=Z,1.2nm,0.5s,baz=125,slow=7.6,SNR=12						
TORD	**Torodi Ar. Bea**	**93.56**	**283**	P	**P**	**04 08 59.2**	**+0.1**
	comp=Z,0.4nm,0.7s,baz=95,slow=4.8,SNR=6.7						
ULM	**Lac du Bonnet**	**127.84**	**9**	PKP	**PKPdf**	**04 14 46.9**	**-1.1**
	comp=Z,2.1nm,0.8s,baz=240,slow=3.6,SNR=3.9						
NVAR	**Mina Array Bea**	**129.72**	**35**	PKP	**PKPdf**	**04 14 51.5**	**-0.8**
	comp=Z,0.3nm,0.6s,baz=270,slow=0.4,SNR=4.0						
PDAR	**Pinedale Array**	**130.74**	**24**	PKP	**PKPdf**	**04 14 54.1**	**+0

NJ2					smax	smax		
	comp=E,90nm,1.1s							
NJ2					LR	LR		
	comp=N,3μm,11.9s							
NJ2					LR	LR		
	comp=E,2μm,11.9s							
NJ2					LR	LR		
	comp=Z,3μm,10.8s							
MJAR	**Matsushiro Arr**	**13.11**	**43**	Pn		**P**	**04 03 19.9**	**-4.4**
	comp=Z,0.5nm,0.3s,baz=262,slow=28,SNR=9.0							
USRK	**Ussuriysk Ar.**	**17.23**	**12**	Pn		**P**	**04 04 12.8**	**+2.8**
	comp=Z,0.2nm,0.3s,baz=142,slow=7.3,SNR=2.8							
HHC	**Hu-ho-hao-te**	**18.55**	**320**	*e*P		**Pn**	**04 04 28.3**	**+3.5**
HHC				pmax	pmax			
	comp=Z,9.0nm,1.0s							
HHC				pmax	pmax			
	comp=Z,12nm,6.1s							
LZH	**Lanzhou**	**21.55**	**299**	*e*P		**P**	**04 04 57.3**	**-0.2**
LZH				pP			04 05 01.9	
LZH				sP			04 05 04.5	
LZH				*e*PP		PnPn	04 06 10.3	+53
LZH				pmax	pmax			
	comp=Z,22nm,1.0s							
LZH				pmax	pmax			
	comp=Z,73nm,6.2s							
LZH				LR	LR			
	comp=N,300nm,13.5s							
LZH				LR	LR			
	comp=E,290nm,14.0s							
LZH				LR	LR			
	comp=Z,350nm,17.0s							
KLR	**Kul'dur**	**22.10**	**8**	P		**P**	**04 05 03.4**	**+0.3**
	comp=Z,0.6nm,1.0s,baz=198,slow=8.0,SNR=13							
GTA	**Gaotai**	**25.64**	**305**	*e*P		**P**	**04 05 36.3**	**-1.4**
GTA				pP			04 05 40.8	
GTA				sP			04 05 43.3	
GTA				pmax	pmax			
	comp=Z,6.0nm,1.5s							
SONM	**Songino Array**	**26.03**	**327**	P		**P**	**04 05 39.8**	**-1.5**
	comp=Z,7.6nm,0.8s,baz=143,slow=10,SNR=11							
TLY	**Talaya**	**30.01**	**330**	*e*P		**P**	**04 06 17.2**	**+0.6**
	comp=Z,2.1nm,0.8s							
MA2	**Magadan**	**36.06**	**20**	*e*P		**P**	**04 07 08.9**	**-0.4**
GSI	**Gunungsitoli**	**38.39**	**233**	*e*P		P	04 07 23.5	-6.0
MKAR	**Makanchi Array**	**40.01**	**311**	P		**P**	**04 07 44.7**	**+1.8**
	comp=Z,5.1nm,1.0s,baz=104,slow=9.7,SNR=3.6							
ZALV	**Zalesovo Beam**	**40.71**	**322**	P		**P**	**04 07 50.2**	**+1.7**
	comp=Z,2.5nm,0.7s,baz=113,slow=8.2,SNR=4.3							
KURK	**Kurchatov**	**43.28**	**316**	P		**P**	**04 08 08.6**	**-1.0**
KURBB	**Kurchatov Arra**	**43.32**	**316**	P		**P**	**04 08 08.6**	**-1.2**
	comp=Z,1.1nm,0.7s,baz=108,slow=8.5,SNR=6.3							
AAK	**Ala-Archa**	**44.98**	**304**	*e*P		**P**	**04 08 22.6**	**-1.0**
	comp=Z,0.9nm,0.4s							
BRVK	**Borovoye**	**48.81**	**318**	*e*P		**P**	**04 08 53.4**	**+0.3**
ABKAR	**Akbulak array**	**55.12**	**313**	*e*P		**P**	**04 09 39.8**	**-0.4**
	comp=Z,1.3nm,0.7s							
AKTO	**Aktyubinsk**	**56.30**	**314**	P		**P**	**04 09 47.8**	**-0.9**
	comp=Z,0.6nm,0.5s,baz=88,slow=10,SNR=2.5							
DOT	**Dot Lake**	**65.32**	**29**	*e*P		**P**	**04 10 49.6**	**-0.3**
KIV	**Kislovodsk**	**67.72**	**309**	*e*P		**P**	**04 11 04.5**	**-1.3**
KIEV	**Kiev**	**74.01**	**319**	*e*P		**P**	**04 11 41.5**	**-2.2**
	comp=Z,3.5nm,0.9s							
YKA	**Yellowknife Ar**	**77.90**	**25**	P		**P**	**04 12 05.6**	**-0.1**
	comp=Z,0.9nm,1.0s,baz=305,slow=5.7,SNR=9.4							
SUMG	**Summit**	**79.81**	**356**	*e*P		**P**	**04 12 16.4**	**-0.1**
	comp=Z,4.4nm,1.0s							
MOD	**Modoc Plateau**	**87.17**	**44**	*e*P		**P**	**04 12 53.8**	**-0.9**
	comp=Z,2.5nm,1.0s							

IDC 21 04:04:37.6±2.1,1°.63S×134°.49E,h0km,mb3.5/2, mb1 3.8/4,mb1mx3.4/53,mbtmp3.6/4,ML3.7/2,MS4.1/1, Ms1 4.1/1,ms1mx3.7/28,Error ellipse: s-maj=38.4km s-min=19.0km az=36.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**3.31**	**283**	Pn	Pn	04 05 31.5	+0.8
	6.7nm,0.3s,baz=120,slow=20,SNR=3.7						
SIJI				Pg	Pg	04 05 39.5	-1.6
	34nm,0.3s,baz=79,slow=23,SNR=12						
SIJI				Sn	Sn	04 06 10.0	-0.8
	12nm,0.3s,baz=155,slow=23,SNR=3.4						
SIJI				Lg	Lg	04 06 21.6	
	26nm,0.3s,baz=148,slow=22,SNR=9.9						
WRA	**Warramunga Arr**	**18.20**	**180**	P	P	04 08 52.3	0.0
	0.3nm,0.3s,baz=360,slow=11,SNR=12						
CTA	**Charters Tower**	**21.65**	**149**	LR	LR	04 18 28.4	
	comp=Z,533nm,20.3s,baz=166,slow=38						
ASAR	**Alice Springs**	**21.91**	**181**	P	P	04 09 32.3	-0.4
	1.2nm,0.7s,baz=5.1,slow=10,SNR=6.4						
MKAR	**Makanchi Array**	**66.39**	**324**	P	P	04 15 28.4	-0.2
	0.4nm,0.7s,baz=110,slow=6.3,SNR=3.5						

*KRNET **21** 04:11:58.6±0.1,41°.15N×71°.85E,h5km,mb2.3*
*NNC **21** 04:12:02.5±3.8,41°.23N×72°.00E,h9km±21km,mb2.7, mpv2.2,Error ellipse: s-maj=18.7km s-min=7.9km az=60.0*
ISC 21 04:11:59.3±1.3,41°.17N±0°.03×71°.86E±0°.04,h8km±11km, n15,σ1°8/28,22C-8D,Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ARK	**Arkit**	**0.64**	**7**	⇓*e*P	**Pg**	**04 12 10.8**	**-0.8**
	baz=9.0						
ARK				⇓*i*S	**Sg**	**04 12 20.1**	**+0.1**
	baz=9.0						
ARSB	**Arslanbob**	**0.86**	**79**	⇑*e*P	**Pg**	**04 12 15.1**	**-0.7**
	baz=78						
ARSB				⇑*i*S	**Sb**	**04 12 27.7**	**-0.6**
	baz=78						
TOKL	**Toktogul**	**1.08**	**44**	⇑*i*P	**Pg**	**04 12 19.6**	**-0.5**
	baz=44						
TOKL				⇑*i*S	**Sn**	**04 12 35.1**	**-1.1**
	baz=44						
BTK	**Batken**	**1.36**	**216**	⇑*e*P	**Pn**	**04 12 24.1**	**-0.7**
	baz=16						
BTK				⇑*i*S	**Sb**	**04 12 43.4**	**+0.6**
	baz=16						
MNAS	**Manas**	**1.41**	**20**	⇑P	**Pg**	**04 12 26.6**	**+0.3**
	1.2nm,0.5s						
MNAS				⇓S	**Sg**	**04 12 44.7**	**+0.2**
	4.7nm,0.4s						
MNAS	**Manas**	**1.41**	**20**	⇓*e*P	**Pn**	**04 12 25.7**	**+0.3**
	baz=20						
MNAS				⇓*i*S	**Sg**	**04 12 45.7**	**+1.2**
	baz=20						
AML	**Almayashu**	**1.68**	**54**	⇑*e*P	**Pg**	**04 12 32.3**	**+0.8**
	baz=54						
AML				⇑*i*S	**Sg**	**04 12 55.0**	**+1.7**
	baz=54						
SFK	**Sufi-Kurgan**	**1.70**	**132**	⇑Pn	**Pb**	**04 12 31.0**	**+0.1**
	0.8nm,0.5s						
SFK				⇑Sn	**Sg**	**04 12 54.8**	**+0.9**
	2.2nm,0.3s						
SFK	**Sufi-Kurgan**	**1.70**	**132**	⇑*i*P	**Pn**	**04 12 30.0**	**+0.5**
	baz=31						
SFK				⇑*i*S	**Sg**	**04 12 53.8**	**-0.1**
	baz=31						
KK31	**Karatay Array**	**2.18**	**333**	⇓Pn	**Pn**	**04 12 37.8**	**+1.8**
	0.7nm,0.4s,baz=144,slow=15,SNR=17						
KK31				⇑Sn	**Sb**	**04 13 06.4**	**+0.1**
	1.3nm,0.3s,baz=142,slow=26,SNR=9.9						
UCH	**Uchtor**	**2.25**	**61**	⇓*e*P	**Pb**	**04 12 40.8**	**+0.3**
	baz=61						
UCH				⇓*e*S	**Sg**	**04 13 10.1**	**-1.6**
	baz=61						
AAK	**Ala-Archa**	**2.45**	**52**	⇑Pn	**Pb**	**04 12 43.1**	**-0.7**
	1.1nm,0.4s						
AAK				⇑Lg	Lg	04 13 16.9	
	2.4nm,0.4s						
KZA	**Kyzart**	**2.70**	**69**	⇑*e*P	**Pb**	**04 12 48.0**	**-0.1**
	baz=69						
KZA				⇑*e*S	**Sb**	**04 13 22.2**	**+0.7**
	baz=69						
USP	**Ospenovka**	**2.87**	**42**	⇑*e*P	**Pb**	**04 12 48.9**	**-2.0**
	baz=42						
USP				⇑*e*S	**Sb**	**04 13 24.6**	**-1.6**
	baz=42						
TKM2	**Tokmak 2**	**3.29**	**57**	⇑Pn	**Pn**	**04 12 53.6**	**+2.2**
	1.0nm,0.8s						
TKM2				⇑Lg	Lg	04 13 41.4	
	1.5nm,0.6s						

*IDC **21** 04:24:13.1±0.8,0°.56S×132°.02E,h0km,mb3.9/9, mb1 4.0/11,mb1mx3.8/48,mbtmp3.9/11,ML4.1/1,Error ellipse: s-maj=16.0km s-min=11.3km az=155.0*
*NEIC **21** 04:24:15.0±0.5,0°.64S×131°.87E,h10km,mb4.0/1,Error ellipse: s-maj=19.6km s-min=7.3km az=68.0*
*ISCJB **21** 04:24:16.1±0.6,0°.58S±0°.06×131°.92E±0°.08,h31km, mb3.9/9,Error ellipse: s-maj=11.8km s-min=7.2km az=157.8*
*DJA **21** 04:24:20.6±1.6,1°.S±5°×13°.2E±°,h19km±14km,M4.6/6, MLv4.6/6*
ISC 21 04:24:18.2±0.7,0°.59S±0°.07×132°.07E±0°.06,h31km,n24, σ1°30/26,mb3.8/9,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**0.85**	**251**	Pg	Pn	04 24 28.9	-5.2
	baz=67,slow=13						
SIJI				Lg	Lg	04 24 40.5	
	baz=150,slow=20						
RKPI	**Ransiki, Papua**	**2.30**	**114**	P	**Pb**	**04 24 58.7**	**-0.3**
RKPI				S	**Sb**	**04 25 28.3**	**+1.2**
FAKI	**Fak Fak**	**2.32**	**176**	P	**Pn**	**04 24 55.3**	**+1.0**
FAKI				S	**Sn**	**04 25 21.1**	**-0.8**
FAKI	**Fak Fak**	**2.32**	**176**	*e*Pn	**Pn**	**04 24 53.5**	**-0.9**
FAKI				*e*Pg	**Pb**	**04 25 01.4**	**+1.9**
KMPI	**Kaimana, Papua**	**3.46**	**152**	P	**Pn**	**04 25 12.1**	**+2.1**
MSAI	**Masohi**	**4.17**	**229**	P	**Pn**	**04 25 20.1**	**+0.4**
LBMI	**Labuha**	**4.57**	**269**	P	**Pn**	**04 25 27.9**	**+2.7**
AAI	**Ambon**	**4.95**	**231**	P	**Pn**	**04 25 30.1**	**-0.3**
APSI	**Ampana**	**10.42**	**268**	P	Pn	04 26 55.9	+10
COEN	**Coen**	**17.24**	**141**	*e*Pn	**Pn**	**04 28 16.9**	**+0.1**
FITZ	**Fitzroy Crossi**	**18.51**	**200**	P	**P**	**04 28 29.6**	**-2.6**
	baz=42,slow=12						
WRAB	**Tennant Creek**	**19.36**	**174**	*e*P	**P**	**04 28 40.2**	**-1.2**
	9.0nm,0.9s						
WRA	**Warramunga Arr**	**19.36**	**174**	P	**P**	**04 28 40.9**	**-0.6**
	0.6nm,0.3s,baz=351,slow=11,SNR=34						
WRA				S	S	04 32 02.8	-16
	0.1nm,0.3s,baz=358,slow=23,SNR=5.0						
ASAR	**Alice Springs**	**23.01**	**176**	P	**P**	**04 29 20.1**	**-0.7**
	4.2nm,0.7s,baz=355,slow=10,SNR=44						
ASAR				S	**S**	**04 33 29.9**	**+0.5**
	0.4nm,0.5s,baz=359,slow=28,SNR=3.5						
MBWA	**Marble Bar**	**23.73**	**210**	*e*P	**P**	**04 29 26.3**	**-1.5**
CTA	**Charters Tower**	**23.84**	**145**	P	**P**	**04 29 29.4**	**+0.5**
	0.9nm,0.5s,baz=333,slow=12,SNR=2.9						
CMAR	**Chiang Mai Arr**	**37.66**	**302**	P	**P**	**04 31 30.6**	**-0.2**
	1.0nm,0.3s,baz=123,slow=5.3,SNR=4.1						
SONM	**Songino Array**	**53.15**	**339**	P	**P**	**04 33 34.3**	**+1.0**
	0.4nm,0.3s,baz=146,slow=8.2,SNR=2.5						
MKAR	**Makanchi Array**	**64.13**	**324**	P	**P**	**04 34 48.2**	**-1.5**
	0.4nm,0.4s,baz=116,slow=8.2,SNR=6.5						
KURK	**Kurchatov**	**68.24**	**327**	P	**P**	**04 35 14.5**	**-1.4**
KURBB	**Kurchatov Arra**	**68.24**	**327**	P	**P**	**04 35 14.5**	**-1.4**
	0.6nm,0.6s,baz=128,slow=5.8,SNR=5.8						
BVAR	**Borovoye Array**	**73.83**	**326**	P	**P**	**04 35 48.9**	**-0.9**
	0.7nm,0.6s,baz=129,slow=5.9,SNR=4.0						
VNDA	**Vanda**	**78.54**	**174**	P	**P**	**04 36 16.4**	**+0.3**
	0.5nm,0.7s,baz=314,slow=5.4,SNR=4.2						
QSPA	**South Pole Qui**	**89.35**	**180**	P	**P**	**04 37 11.7**	**+0.2**
	1.5nm,0.8s,baz=122,slow=1.7,SNR=3.8						

*IDC **21** 04:29:24.3±2.1,1°.66S×134°.48E,h0km,mb3.5/2, mb1 3.9/5,mb1mx3.6/50,mbtmp3.7/5,ML3.8/2,Error ellipse: s-maj=36.7km s-min=19.1km az=42.0*
*ISCJB **21** 04:29:25.9±1.3,1°.49S±0°.08×134°.45E±0°.08,h29km, mb3.6/2,Error ellipse: s-maj=12.8km s-min=8.9km az=138.1*
*DJA **21** 04:29:28.2±0.7,2°.S±2°×13°.4E±°,h10km,M4.0/5,MLv4.0/5*
ISC 21 04:29:27.9±1.6,1°.54S±0°.09×134°.4E±0°.1,h29km,n8, σ1°92/13,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RKPI	**Ransiki, Papua**	**0.25**	**277**	P	**Pb**	**04 29 32.4**	**-2.1**
RKPI				S	**Sb**	**04 29 35.1**	**-4.0**
KMPI	**Kaimana, Papua**	**2.23**	**199**	P	**Pn**	**04 30 03.4**	**+0.6**
KMPI				S	**Sn**	**04 30 31.3**	**+1.9**
FAKI	**Fak Fak**	**2.57**	**238**	P	**Pn**	**04 30 09.0**	**+1.5**
FAKI				S	**Sn**	**04 30 38.4**	**+0.6**
SIJI	**Sorong**	**3.23**	**282**	Pn	**Pn**	**04 30 17.8**	**+1.2**
	9.6nm,0.3s,baz=163,slow=19,SNR=5.2						
SIJI				Pg	**Pb**	**04 30 26.5**	**+2.0**
	32nm,0.3s,baz=218,slow=22,SNR=8.7						
SIJI				Sn	**Sn**	**04 30 54.0**	**-0.1**
	21nm,0.3s,baz=288,slow=20,SNR=6.0						
SIJI				Lg	Lg	04 31 07.1	
	14nm,0.3s,baz=309,slow=21,SNR=4.2						
WRA	**Warramunga Arr**	**18.29**	**180**	P	**Pn**	**04 33 38.3**	**-1.4**
	0.3nm,0.3s,baz=3.0,slow=12,SNR=4.6						
FITZ	**Fitzroy Crossi**	**18.58**	**207**	P	**P**	**04 33 42.3**	**-0.4**
	baz=40,slow=13						
ASAR	**Alice Springs**	**22.00**	**181**	P	**P**	**04 34 19.3**	**-0.6**
	2.6nm,0.7s,baz=6.8,slow=10,SNR=9.8						
MKAR	**Makanchi Array**	**66.28**	**324**	P	**P**	**04 40 15.1**	**+1.4**
	0.2nm,0.5s,baz=107,slow=7.2,SNR=2.9						

*IDC **21** 04:38:15.2±0.8,9°.15N×126°.27E,h0km,mb3.9/9, mb1 4.0/9,mb1mx3.6/57,mbtmp3.8/9,Error ellipse: s-maj=52.6km s-min=19.3km az=69.0*
*MAN **21** 04:38:22.9°.26N×126°.44E,h7km,mb4.9,ML3.8,MS3.8*
ISC 21 04:38:17.5±1.8,9°.36N±0°.04×126°.66E±0°.07,h10km±11km, n26,σ1°64/27,mb4.0/9,4C-2D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BUTP	**Butuan**	**1.10**	**249**	*e*P	**Pg**	**04 38 38.5**	**-0.2**
BUTP				*e*S	**Sb**	**04 38 53.8**	**+0.8**
SCPH	**Surigao**	**1.23**	**290**	⇑*e*P	**Pg**	**04 38 41.4**	**+0.2**
SCPH				*e*S	**Sn**	**04 38 58.7**	**+1.3**
MSLP	**Maasin**	**1.94**	**294**	*e*P	**Pb**	**04 38 53.3**	**+0.4**
CGP	**Cagayan de Oro**	**2.14**	**245**	⇑*e*P	**Pn**	**04 38 54.4**	**+1.1**
CGP				*i*S	**Sn**	**04 39 19.9**	**0.0**
BUKP	**Musuan**	**2.16**	**227**	*e*P	**Pb**	**04 38 55.7**	**-1.0**
BUKP				*e*S	**Sb**	**04 39 23.2**	**-0.4**
PLP	**Palo**	**2.44**	**317**	⇓*e*P	**Pb**	**04 39 00.3**	**-1.2**
PLP				*i*S	**Sg**	**04 39 34.3**	**-1.7**
DAV	**Davao City (W)**	**2.52**	**205**	Sn	**Sn**	**04 39 27.7**	**-1.5**
	134nm,0.3s,baz=256,slow=7.5,SNR=3.5						
DMPH	**Davao City--Mi**	**2.54**	**207**	⇑*e*P	**Pg**	**04 39 07.8**	**+1.7**
DMPH				*e*S	**Sb**	**04 39 36.8**	**+2.4**
TBP	**Tagbilaran**	**2.78**	**277**	*e*P	**Pn**	**04 39 03.7**	**+1.6**
LLP	**Lapu-Lapu**	**2.82**	**290**	⇓*e*P	**Pb**	**04 39 05.9**	**-2.1**
LLP				*i*S	**Sb**	**04 39 42.6**	**0.0**
RCP	**Roxas**	**4.43**	**300**	⇑*e*P	**Pn**	**04 39 29.4**	**+4.6**
WRA	**Warramunga Arr**	**30.08**	**165**	P	**P**	**04 44 25.8**	**-1.5**
	0.3nm,0.6s,baz=348,slow=9.2,SNR=3.2						
ASAR	**Alice Springs**	**33.58**	**168**	P	**P**	**04 44 56.1**	**-1.9**
	0.2nm,0.3s,baz=354,slow=7.0,SNR=3.6						
H11S3	**WAKE ISLAND Hy 39.82**	**72**		T	T	05 28 57.8	
	baz=262,slow=75,SNR=15						
H11S1	**WAKE ISLAND Hy 39.83**	**72**		T	T	05 28 58.3	
	baz=262,slow=75,SNR=9.8						
H11S2	**WAKE ISLAND Hy 39.83**	**72**		T	T	05 28 54.3	
	baz=262,slow=75,SNR=9.4						
H11N1	**WAKE ISLAND Hy 40.18**	**71**		T	T	05 29 37.8	
	baz=266,slow=74,SNR=12						
H11N2	**WAKE ISLAND Hy 40.19**	**71**		T	T	05 29 32.1	
	baz=266,slow=74,SNR=9.8						
H11N3	**WAKE ISLAND Hy 40.20**	**71**		T	T	05 29 39.2	
	baz=266,slow=74,SNR=9.6						
MKAR	**Makanchi Array**	**52.98**	**323**	P	**P**	**04 47 33.7**	**-0.7**
	1.4nm,0.7s,baz=121,slow=8.0,SNR=16						
KURBB	**Kurchatov Arra**	**57.04**	**326**	P	**P**	**04 48 02.3**	**-1.3**
	1.0nm,0.5s,baz=123,slow=7.0,SNR=7.6						
BVAR	**Borovoye Array**	**62.63**	**326**	P	**P**	**04 48 40.8**	**-1.2**
	0.6nm,0.6s,baz=123,slow=10,SNR=5.6						
ILAR	**Eielson Array**	**80.09**	**26**	P	**P**	**04 50 28.9**	**+1.6**
	0.5nm,1.1s,baz=260,slow=5.1,SNR=3.7						
ARCES	**ARCESS Array B**	**85.18**	**340**	P	**P**	**04 50 53.0**	**-0.8**
	1.2nm,0.6s,baz=64,slow=5.5,SNR=6.3						
FINES	**FINESS Array B**	**86.87**	**332**	P	**P**	**04 51 01.6**	**-0.7**
	3.3nm,1.0s,baz=29,slow=4.4,SNR=3.8						
YKA	**Yellowknife Ar**	**94.42**	**24**	P	**P**	**04 51 38.4**	**+0.8**
	0.3nm,0.7s,baz=300,slow=4.2,SNR=6.3						

MAN 21 04:44:49,13°.61N×120°.48E,h45km,mb4.1,ML2.9,MS2.6, 1C,Mindoro

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LUBP	**Lubang**	**0.26**	**298**	*e*P	Pn	04 45 00.1	+2.8
LUBP				*e*S	Sn	04 45 07.0	+3.8
TGY	**Tagaytay City**	**0.66**	**42**	⇑*e*P	Pn	04 45 03.4	+1.3
TGY				*i*S	Sn	04 45 14.8	+3.3
SJMP	**San Jose**	**1.30**	**151**	*e*P	Pn	04 45 12.6	+1.9
SJMP				*e*S	Sn	04 45 29.6	+2.7
BOAC	**Boac**	**1.33**	**96**	*e*P	Pn	04 45 12.3	+1.2
BOAC				*e*S	Sn	04 45 29.5	+1.8
BUSP	**Coron**	**1.62**	**190**	*e*P	Pn	04 45 16.6	+1.4
BUSP				*e*S	Sn	04 45 36.1	+1.3
BALP	**Baler**	**2.37**	**26**	*e*P	Pn	04 45 27.4	+2.0
ENPP	**El Nido**	**2.60**	**204**	*e*P	Pn	04 45 29.5	+0.9

*IDC **21** 04:48:52.7±1.9,60°.30S×23°.19W,h0km,mb3.8/2, mb1 3.9/3,mb1mx3.6/29,mbtmp3.8/3,ML3.7/1,Error ellipse: s-maj=60.2km s-min=42.9km az=45.0*
ISC 21 04:48:53.8±1.1,60°.5S±0°.2×23°.3W±0°.3,h10km,n8,σ2°69/9, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VNA1	**Neumayer--Stat**	**11.87**	**155**	P	**Pn**	**04 51 44.9**	**+2.2**
VNA3	**Neumayer Olymp**	**12.07**	**159**	P	**Pn**	**04 51 47.0**	**+1.4**
VNA3				S	Sn	04 53 52.2	-7.9
VNA2	**Neumayer--Watz**	**12.26**	**155**	P	**Pn**	**04 51 51.1**	**+3.0**
	baz=315,slow=14						
VNA2				S	**Sn**	**04 54 00.7**	**-3.9**
SNAA	**Sanae**	**13.81**	**152**	P	**Pn**	**04 52 11.3**	**+1.9**
SNAA				S	Sn	04 54 24.7	-18
SNAA	**Sanae**	**13.81**	**152**	Pn	**Pn**	**04 52 12.0**	**+2.7**
	0.4nm,0.3s,baz=318,slow=15,SNR=15						
LPAZ	**La Paz**	**54.62**	**304**	P	**P**	**04 58 23.0**	**-0.1**
	0.5nm,0.4s,baz=124,slow=4.1,SNR=5.3						
TORD	**Torodi Ar. Bea**	**76.09**	**25**	P	**P**	**05 00 40.8**	**-0.6**
	0.5nm,0.6s,baz=196,slow=6.3,SNR=5.7						
YKA	**Yellowknife Ar**	**140.81**	**313**	PKP	**PKPdf**	**05 08 21.0**	**-1.1**
	0.1nm,0.5s,baz=132,slow=1.8,SNR=3.3						

*ISN **21** 04:59:36.5±1.3,32°.47N×47°.05E,h15km,ML2.9*
TEH 21 04:59:36.3,32°.41N×47°.09E,h8km,ML2.9,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IKFM	**Kafar-mosalman**	**1.28**	**30**	*e*Pg	Pg	05 00 02.0	+1.2
IKFM				*e*Sg	Sn	05 00 20.3	+2.6
IKFM				*e*AMB	AMB	05 00 26.3	
	comp=Z,99nm,0.5s						
IKOM	**Komasi**	**1.79**	**11**	*e*Pn	Pg	05 00 10.9	+0.2
IKOM				*e*AMB	AMB	05 00 38.0	
	comp=Z,3μm,0.4s						
IGHG	**Ghaleghazi**	**1.96**	**347**	*e*Pn	Pg	05 00 13.3	-0.6
IGHG				*e*AMB	AMB	05 00 52.7	
	comp=Z,2μm,0.5s						
IVIS	**Veis**	**2.12**	**355**	*e*Pn	Pb	05 00 15.4	+0.4
IVIS				*e*AMB	AMB	05 00 53.4	
	comp=Z,675nm,0.2s						
ILIN	**Lien**	**2.50**	**358**	*e*Pn	Pb	05 00 20.0	-1.6
ILIN				*e*AMB	AMB	05 01 00.1	
	comp=Z,328nm,0.2s						
HAGD	**Aghdareh**	**2.95**	**35**	*e*Pn	Pb	05 00 27.3	-1.9
HAGD				*e*AMB	AMB	05 00 34.6	
	comp=Z,99nm,0.0s						
HKZM	**Kohzaman**	**3.32**	**27**	*e*Pn	Pb	05 00 34.0	-1.6
HKZM				*e*AMB	AMB	05 01 14.4	
	comp=Z,99nm,0.4s						
IKLH	**Kolahrood**	**3.88**	**75**	*e*Pn	Pn	05 00 40.2	+3.7
IKLH				*e*AMB	AMB	05 01 56.9	
	comp=Z,186nm,0.2s						
IZEF	**Zefreh**	**4.44**	**82**	*e*Pn	Pn	05 00 46.9	+2.6
IZEF				*e*AMB	AMB	05 01 09.8	
	comp=Z,72nm,0.2s						
IRAM	**Ramesheh**	**4.53**	**96**	*e*Pn	Pn	05 00 48.6	+3.2
IRAM				*e*AMB	AMB	05 01 51.7	
	comp=Z,78nm,0.2s						

*SJA **21** 05:14:30.8±0.3,36°.52S×73°.15W,h45km±142km,ML4.4, MW3.8*
*ISCJB **21** 05:14:36.1±0.4,36°.35S±0°.03×72°.63W±0°.06,h64km±4km, mb3.9/6,Error ellipse: s-maj=8.5km s-min=4.0km az=21.9*
*GUC **21** 05:14:37.0±0.5,36°.35S×72°.71W,h63km±2km,ML4.0*
*NEIC **21** 05:14:37.0±0.0,36°.35S×72°.71W,h63km,mb4.0/7, ML4.0(GUC),After GUC.*
NEIC Felt [III] at Cauquenes and Longavi and [II] at Pencahue and San Clemente.
*IDC **21** 05:14:43.7±4.7,36°.65S×71°.72W,h142km±71km,mb3.5/4, mb1 3.5/6,mb1mx3.2/38,mbtmp3.8/6,Error ellipse: s-maj=82.0km s-min=33.4km az=125.0*
ISC 21 05:14:37.2±0.8,36°.32S±0°.04×72°.65W±0°.06,h55km±8km, n42,σ1°53/59,mb3.9/6,4D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
COCH	**Cobquecura**	**0.22**	**329**	*e*P	**Pn**	**05 14 46.8**	**+0.6**
COCH				*e*S	**Sn**	**05 14 53.9**	**+1.3**
COCH				IAML		05 14 55.3	
	comp=E,6μm,0.3s						
CCHI	**Chillan**	**0.54**	**121**	*e*P	**Pn**	**05 14 49.8**	**+0.6**
CCHI				*e*S	**Sn**	**05 14 59.0**	**+1.1**
CCHI				IAML		05 15 00.5	
	comp=E,24μm,0.7s						
CCSP	**San Pedro de C**	**0.64**	**215**	⇓*e*P	**Pn**

VCA				*i* S		**Sn**	05 18 08.9	**-2.0**
VCA				IAML			05 18 15.4	
	comp=Z,28nm,0.4s							
TRQA	**Tornquist**	**8.69**	**105**	*e*Pn		**Pn**	**05 16 41.1**	**+0.9**
CYA	**Choya**	**9.76**	**38**	*i* P		**Pn**	**05 16 50.5**	**-4.4**
CYA				IAML			05 16 53.7	
	comp=Z,9.1nm,0.5s							
CHRN	**Cochrane**	**10.92**	**180**	*e*Pn		**Pn**	**05 17 10.0**	**-0.6**
PB04	**IPOC Station P**	**14.11**	**10**	*e*Pn		**P**	**05 18 01.6**	**+1.1**
PB01	**IPOC Station P**	**15.47**	**11**	*e*Pn		**P**	**05 18 17.1**	**+1.5**
	comp=Z,25nm,0.8s							
CPUP	**Villa Florida**	**16.43**	**57**	P		**Pn**	**05 18 20.6**	**-3.5**
	comp=Z,0.1nm,0.3s,baz=235,slow=12,SNR=2.3							
PB11	**IPOC Station P**	**16.71**	**10**	*e*Pn		**P**	**05 18 29.1**	**-0.3**
	comp=Z,12nm,0.8s							
MNMC	**Minye Minye**	**17.34**	**10**	*e*Pn		**P**	**05 18 38.1**	**+1.7**
	comp=Z,9.3nm,0.9s							
LPAZ	**La Paz**	**20.36**	**13**	P		Pn	05 19 11.4	-0.9
	comp=Z,3.0nm,0.7s,baz=195,slow=8.5,SNR=14							
SIV	**San Ignacio**	**22.72**	**30**	P		**P**	**05 19 33.3**	**-1.3**
	comp=Z,3.4nm,0.6s,baz=199,slow=8.9,SNR=29							
PTGA	**Pitinga**	**37.32**	**21**	P		**P**	**05 21 42.3**	**-1.9**
	comp=Z,1.6nm,0.3s,baz=190,slow=10.0,SNR=3.0							
RUSC	**La Rusia**	**41.99**	**359**	*e*P		**P**	**05 22 24.3**	**+0.7**
	comp=Z,2.1nm,1.2s							
TEIG	**Tepich**	**58.15**	**343**	*e*P		**P**	**05 24 26.6**	**+1.2**
	comp=Z,0.3nm,0.8s							
TXAR	**Lajitas Array**	**71.53**	**332**	P		**P**	**05 25 52.9**	**+0.5**
	comp=Z,0.2nm,0.5s,baz=149,slow=7.2,SNR=3.2							
TX31	**Lajitas Ar. Si**	**71.53**	**332**	*e*P		**P**	**05 25 53.3**	**+0.9**
MHTCO	**State Highway**	**78.89**	**334**	*e*P		**P**	**05 26 35.5**	**+0.9**
	comp=Z,14nm,1.8s							

DJA 21 05:19:18.8±0.8,2°S±3°×13°4E±°,h10km,M4.1/5,MLv4.1/5, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RKPI	**Ransiki, Papua**	**0.15**	**281**	P	Pg	05 19 22.4	+0.1
RKPI				S	Sg	05 19 26.0	+1.4
KMPI	**Kaimana, Papua**	**2.20**	**197**	P	Pn	05 19 54.8	-0.6
FAKI	**Fak Fak**	**2.49**	**237**	P	Pn	05 19 59.5	+0.1
FAKI				S	Sn	05 20 31.0	+1.1

IDC 21 05:19:57.9±2.0,1°56S×134°43E,h0km,mb3.9/2, mb1 4.2/4,mb1mx3.7/53,mbtmp4.0/4,ML3.7/2,Error ellipse: s-maj=36.6km s-min=19.7km az=38.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**3.24**	**282**	Pn	Pn	05 20 49.8	-0.2
	5.2nm,0.3s,baz=282,slow=24,SNR=3.3						
SIJI				Sn	Sn	05 21 29.1	-0.2
	47nm,0.3s,baz=212,slow=22,SNR=17						
SIJI				Lg	Lg	05 21 40.6	
	64nm,0.3s,baz=334,slow=23,SNR=11						
WRA	**Warramunga Arr**	**18.27**	**180**	P	Pn	05 24 12.7	-0.4
	0.3nm,0.3s,baz=0.8,slow=12,SNR=10						
ASAR	**Alice Springs**	**21.98**	**181**	P	P	05 24 53.5	-0.3
	6.6nm,0.7s,baz=8.5,slow=11,SNR=17						
MKAR	**Makanchi Array**	**66.30**	**324**	P	P	05 30 48.8	+0.5
	0.5nm,0.7s,baz=117,slow=6.9,SNR=4.2						

*ISN **21** 05:25:04.4±2.5,32°.43N×47°.04E,h0km±12km,ml4.6*
*SGS **21** 05:25:06.6,33°.07N×47°.02E,h51km*
*TEH **21** 05:25:06.7,32°.42N×47°.05E,h10km,ML4.6*
*IDC **21** 05:25:06.2±0.4,32°.45N×47°.11E,h0km,mb4.4/37, mb1 4.4/47,mb1mx4.4/64,mbtmp4.4/47,ML4.3/7,MS4.2/28, Ms1 4.2/28,ms1mx4.0/62,Error ellipse: s-maj=11.5km s-min=8.8km az=180.0*
*GCMT **21** 05:25:08.4±0.5,32°.54N×46°.75E,h19km±2km,MW5.2/58, Moment Tensor Solution. s18,c21; s58,c92; Duration: 1s0 Moment tensor: Scale 10^16Nm; Mrr=4.77±.65; Mθθ=-3.10±.38; Mφφ=1.67±.38; Mrθ=0.77±.64; Mrφ=3.18±.21; Mθφ=-5.36±1.04; Best double couple: Mw=5.2(600×10^16 NP1:φs=156.00000°,δ69.00000°,λ114.00000°. NP2: φs=285.00000°,δ31.00000°,λ43.00000°. Principal axes: T 7.8810, Plg59.0000°, Azm100.0000°; N -0.7110, Plg22.0000°, Azm328.0000°; P -7.1700, Plg21.0000°, Azm229.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **21** 05:25:08.4±0.2,32°.41N×47°.05E,h10km,mb5.0/83, ML4.5(THR),MN4.6(TEH) Error ellipse: s-maj=4.2km s-min=3.0km az=9.0*
*THR **21** 05:25:09.4±0.5,32°.40N×46°.96E,h31km±6km,ML4.5*
*CSEM **21** 05:25:09.8±0.1,32°.41N×47°.04E,h20km,mb4.9/86,Error ellipse: s-maj=3.8km s-min=2.7km az=21.0*
*ISCJB **21** 05:25:10.2±0.3,32°.40N±0°.02×47°.06E±0°.02,h39km±2km, mb4.7/166,MS4.2/36,Error ellipse: s-maj=2.9km s-min=2.2km az=14.0*
*MOS **21** 05:25:10.2±1.0,32°.43N×47°.07E,h38km,mb4.9/70,Error ellipse: s-maj=5.2km s-min=3.4km az=112.0*
*DSN **21** 05:25:11.5±0.6,32°.75N×47°.76E,h27km,mb6.1/9,Error ellipse: s-maj=14.9km s-min=5.3km az=53.0*
*OMAN **21** 05:25:11.4±5.6,32°.47N×47°.16E,h40km,Error ellipse: s-maj=102.9km s-min=33.0km az=79.0*
*BJI **21** 05:25:11.0,32°.50N×47°.10E,h46km,mb4.8/37,mB5.0/27, Ms4.7/24,Ms7 4.4/23*
*GII **21** 05:25:12.8±0.8,32°.47N×47°.08E,h35km*
ISC 21 05:25:12.1±0.4,32°46N±0°03×47°05E±0°03,h38km±1km, n659,σ1°43/687,mb4.8/166,MS4.2/36,29C-22D,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IKFM	**Kafar-mosalman**	**1.25**	**32**	*e*Pg	Pn	**05 25 31.1**	**-1.9**
IKFM				*e*Sg	Sn	**05 25 51.1**	**+2.5**
IKFM				*e*AMB	AMB	05 25 58.0	
	comp=Z,99nm,0.5s						
SHGR	**Shooshtar-Gavs**	**1.52**	**103**	Pg	Pn	**05 25 38.0**	**+1.3**
SHGR	**Shooshtar-Gavs**	**1.52**	**103**	*e*Pg	Pn	**05 25 38.0**	**+1.3**
SHGR	**Shooshtar-Gavs**	**1.52**	**103**	*e*Pg	Pn	**05 25 38.0**	**+1.3**
SHGR				AML	AML	05 26 06.6	
	comp=N,7μm,0.5s						
SHGR				AML	AML	05 26 12.8	
	comp=E,6μm,0.6s						
IKOM	**Komasi**	**1.75**	**12**	*e*Pn	Pn	**05 25 41.0**	**+0.9**
IKOM				*e*AMB	AMB	05 26 07.8	
	comp=Z,21μm,0.5s						
IKOM	**Komasi**	**1.75**	**12**	Pn	Pn	**05 25 41.0**	**+0.9**
IKOM	**Komasi**	**1.75**	**12**	*e*Pn	Pn	**05 25 41.0**	**+0.9**
AHWZ	**Ahwaz**	**1.76**	**129**	*e*Pn	Pn	05 25 46.0	+6.0
IVIS	**Veis**	**2.07**	**355**	*e*Pn	Pn	**05 25 44.5**	**+0.1**
IVIS				*e*AMB	AMB	05 26 23.9	
	comp=Z,76μm,0.3s						
IVIS	**Veis**	**2.07**	**355**	*e*Pn	Pn	**05 25 44.5**	**+0.1**
BHD	**Baghdad**	**2.39**	**290**	*e*Pn	Pn	**05 25 47.0**	**-1.7**
	SNR=3.0						
BHD				*e*Sn	Sn	**05 26 16.0**	**-0.7**
	SNR=3.0						
ILIN	**Lien**	**2.45**	**358**	*e*Pn	Pn	**05 25 50.9**	**+1.1**
ILIN				*e*AMB	AMB	05 26 32.2	
	comp=Z,47μm,0.4s						
ILIN	**Lien**	**2.45**	**358**	Pn	Pn	**05 25 50.9**	**+1.1**
ILIN	**Lien**	**2.45**	**358**	*e*Pn	Pn	**05 25 50.9**	**+1.1**
SNGE	**Sanandaj**	**2.64**	**5**	Pn	Pn	**05 25 53.0**	**+0.7**
SNGE	**Sanandaj**	**2.64**	**5**	*e*Pn	Pn	**05 25 53.5**	**+1.2**
SNGE	**Sanandaj**	**2.64**	**5**	*e*Pn	Pn	**05 25 53.5**	**+1.2**
SNGE				AML	AML	05 26 42.1	
	comp=N,2μm,0.7s						
SNGE				AML	AML	05 26 42.9	
	comp=E,2μm,0.6s						
KHMZ	**Khomeyn**	**2.75**	**62**	Pn	Pn	**05 25 55.0**	**+1.1**
KHMZ	**Khomeyn**	**2.75**	**62**	Pn	Pn	**05 25 55.0**	**+1.1**
KHMZ	**Khomeyn**	**2.75**	**62**	*e*Pn	Pn	**05 25 55.1**	**+1.3**
KHMZ				AML	AML	05 26 42.9	
	comp=N,1μm,0.7s						
HAGD	**Aghdareh**	**2.93**	**36**	*e*Pn	Pn	**05 25 56.9**	**+0.6**
HAGD				*e*AMB	AMB	05 26 53.6	
	comp=Z,99nm,0.6s						
HAGD	**Aghdareh**	**2.93**	**36**	*e*Pn	Pn	**05 25 56.9**	**+0.6**
ASAO	**Ashtian**	**3.24**	**49**	Pn	Pn	**05 26 01.0**	**+0.4**
ASAO	**Ashtian**	**3.24**	**49**	*e*Pn	Pn	**05 26 02.0**	**+1.4**
ASAO	**Ashtian**	**3.24**	**49**	*e*Pn	Pn	**05 26 02.0**	**+1.4**
ASAO				AML	AML	05 26 57.6	
	comp=E,622nm,0.7s						
HKZM	**Kohzaman**	**3.29**	**27**	*e*Pn	Pn	**05 26 02.7**	**+1.4**
HKZM				*e*AMB	AMB	05 26 56.3	
	comp=Z,99nm,0.5s						
HKZM	**Kohzaman**	**3.29**	**27**	*e*Pn	Pn	**05 26 02.7**	**+1.4**
IRAZ	**Razeghan**	**3.79**	**38**	*e*Pn	Pn	**05 26 08.8**	**+0.7**
IRAZ				*e*AMB	AMB	05 27 19.1	
	comp=Z,13μm,0.4s						
IRAZ	**Razeghan**	**3.79**	**38**	Pn	Pn	**05 26 08.8**	**+0.7**
IRAZ	**Razeghan**	**3.79**	**38**	*e*Pn	Pn	**05 26 08.8**	**+0.7**
IKLH	**Kolahrood**	**3.90**	**76**	*e*Pn	Pn	**05 26 10.5**	**+0.8**
IKLH				*e*AMB	AMB	05 27 34.5	
	comp=Z,7μm,0.4s						
IKLH	**Kolahrood**	**3.90**	**76**	Pn	Pn	**05 26 10.5**	**+0.8**
IKLH	**Kolahrood**	**3.90**	**76**	*e*Pn	Pn	**05 26 10.5**	**+0.8**
QAM	**Ghamsar**	**3.90**	**69**	*e*Pn	Pn	**05 26 11.1**	**+1.4**
QAM				*e*AMB	AMB	05 27 16.4	
	comp=Z,9μm,0.2s						
IR5	**Iran Long-Peri**	**4.02**	**46**	*e*Pn	Pn	**05 26 12.3**	**+1.1**
IR5				*e*AMB	AMB	05 27 31.2	
	comp=E,15μm,0.9s						
IR5	**Iran Long-Peri**	**4.02**	**46**	*e*Pn	Pn	**05 26 12.3**	**+1.1**
GHVR	**GHOM**	**4.08**	**59**	Pn	Pn	**05 26 13.0**	**+1.1**
GHVR	**GHOM**	**4.08**	**59**	Pn	Pn	**05 26 13.0**	**+1.1**
GHVR	**GHOM**	**4.08**	**59**	*e*Pn	Pn	**05 26 13.1**	**+1.2**
IGAR	**Gharneh**	**4.22**	**89**	*e*Pn	Pn	**05 26 14.6**	**+0.6**
IGAR				*e*AMB	AMB	05 27 45.1	
	comp=Z,6μm,0.5s						
KFJS		**4.33**	**170**	P	Pn	**05 26 16.8**	**+1.5**
KFJS				S	Sn	**05 27 09.2**	**+4.6**
IMHD	**Mahdasht**	**4.40**	**42**	*e*Pn	Pn	**05 26 17.6**	**+1.1**
IMHD				*e*AMB	AMB	05 27 39.9	
	comp=Z,8μm,0.5s						
IMHD	**Mahdasht**	**4.40**	**42**	Pn	Pn	**05 26 17.5**	**+1.1**
IMHD	**Mahdasht**	**4.40**	**42**	Pn	Pn	**05 26 17.5**	**+1.1**
ZNJK	**Zanjan**	**4.41**	**17**	Pn	Pn	**05 26 17.0**	**+0.3**
ZNJK	**Zanjan**	**4.41**	**17**	*e*Pn	Pn	**05 26 17.6**	**+0.9**
ZNJK	**Zanjan**	**4.41**	**17**	*e*Pn	Pn	**05 26 17.6**	**+0.9**
IZEF	**Zefreh**	**4.47**	**83**	*e*Pn	Pn	**05 26 18.0**	**+0.4**
IZEF				*e*AMB	AMB	05 27 45.0	
	comp=Z,4μm,0.4s						
IZEF	**Zefreh**	**4.47**	**83**	Pn	Pn	**05 26 17.9**	**+0.4**
IZEF	**Zefreh**	**4.47**	**83**	*e*Pn	Pn	**05 26 18.0**	**+0.4**
IRAM	**Ramesheh**	**4.57**	**97**	*e*Pn	Pn	**05 26 18.4**	**-0.4**
IRAM				*e*AMB	AMB	05 28 12.9	
	comp=Z,3μm,0.5s						
IRAM	**Ramesheh**	**4.57**	**97**	Pn	Pn	**05 26 18.4**	**-0.4**
IRAM	**Ramesheh**	**4.57**	**97**	*e*Pn	Pn	**05 26 18.4**	**-0.4**
IVRN	**Varamin**	**4.64**	**56**	*e*Pn	Pn	**05 26 20.8**	**+1.1**
IVRN				*e*AMB	AMB	05 27 45.7	
	comp=Z,9μm,0.6s						
IVRN	**Varamin**	**4.64**	**56**	Pn	Pn	**05 26 20.8**	**+1.1**
IVRN	**Varamin**	**4.64**	**56**	*e*Pn	Pn	**05 26 20.8**	**+1.1**
THKV	**Tehran--Karaj**	**4.68**	**42**	Pn	Pn	**05 26 21.0**	**+0.6**
THKV	**Tehran--Karaj**	**4.68**	**42**	Pn	Pn	**05 26 21.0**	**+0.6**
THKV	**Tehran--Karaj**	**4.68**	**42**	*e*Pn	Pn	**05 26 21.9**	**+1.5**
IGZV	**Ghazvin**	**4.71**	**33**	*e*Pn	Pn	**05 26 20.6**	**-0.2**
IGZV				*e*AMB	AMB	05 27 58.4	
	comp=Z,8μm,0.7s						
IGZV	**Ghazvin**	**4.71**	**33**	Pn	Pn	**05 26 20.5**	**-0.2**
IGZV	**Ghazvin**	**4.71**	**33**	Pn	Pn	**05 26 20.5**	**-0.2**
CHTH	**Charan**	**4.82**	**43**	Pn	Pn	**05 26 23.0**	**+0.7**
CHTH	**Charan**	**4.82**	**43**	Pn	Pn	**05 26 23.0**	**+0.7**
CHTH	**Charan**	**4.82**	**43**	*e*Pn	Pn	**05 26 23.6**	**+1.3**
IKAZ	**Kazeroun**	**4.90**	**122**	*e*Pn	Pn	**05 26 23.5**	**0.0**
IKAZ				*e*AMB	AMB	05 27 26.8	
	comp=Z,12μm,0.4s						
IKAZ	**Kazeroun**	**4.90**	**122**	Pn	Pn	**05 26 23.4**	**0.0**
IKAZ	**Kazeroun**	**4.90**	**122**	*e*Pn	Pn	**05 26 23.5**	**0.0**
AHBU	**AHRAM**	**5.12**	**133**	*e*Pn	Pn	**05 26 26.4**	**+0.2**
IDMV	**Damavand**	**5.17**	**52**	*e*Pn	Pn	**05 26 26.6**	**-0.6**
IDMV				*e*AMB	AMB	05 28 14.1	
	comp=Z,6μm,0.6s						
IDMV	**Damavand**	**5.17**	**52**	Pn	Pn	**05 26 26.6**	**-0.6**
IDMV	**Damavand**	**5.17**	**52**	*e*Pn	Pn	**05 26 26.6**	**-0.6**
IBST	**Bostanabad**	**5.23**	**359**	*e*Pn	Pn	**05 26 28.3**	**+0.4**
IBST				*e*AMB	AMB	05 28 02.5	
	comp=Z,2μm,0.4s						
IBST	**Bostanabad**	**5.23**	**359**	Pn	Pn	**05 26 28.3**	**+0.4**
IBST	**Bostanabad**	**5.23**	**359**	*e*Pn	Pn	**05 26 28.3**	**+0.4**
ASYS		**5.47**	**206**	P	Pn	**05 26 31.2**	**+0.1**
IFIR	**Firoozkooh**	**5.70**	**55**	*e*Pn	Pn	**05 26 33.9**	**-0.5**
IFIR				*e*AMB	AMB	05 26 43.4	
	comp=Z,718nm,0.2s						
IFIR	**Firoozkooh**	**5.70**	**55**	Pn	Pn	**05 26 33.9**	**-0.5**
IFIR	**Firoozkooh**	**5.70**	**55**	*e*Pn	Pn	**05 26 33.9**	**-0.5**
IHRS	**Heris**	**5.84**	**360**	*e*Pn	Pn	**05 26 37.3**	**+0.9**
IHRS				*e*AMB	AMB	05 28 39.7	
	comp=Z,3μm,0.5s						
IHRS	**Heris**	**5.84**	**360**	Pn	Pn	**05 26 37.2**	**+0.9**
IHRS	**Heris**	**5.84**	**360**	*e*Pn	Pn	**05 26 37.3**	**+0.9**
ISRV	**Sarvestan**	**6.04**	**119**	*e*Pn	Pn	**05 26 38.6**	**-0.7**
ISRV				*e*AMB	AMB	05 29 16.2	
	comp=Z,8μm,1.0s						
ISRV	**Sarvestan**	**6.04**	**119**	Pn	Pn	**05 26 38.5**	**-0.7**
ISRV	**Sarvestan**	**6.04**	**119**	Pn	Pn	**05 26 38.5**	**-0.7**
IMRD	**Marand**	**6.34**	**350**	*e*Pn	Pn	**05 26 44.1**	**+1.0**
IMRD				*e*AMB	AMB	05 27 42.3	
	comp=Z,3μm,0.4s						
IMRD	**Marand**	**6.34**	**350**	Pn	Pn	**05 26 44.0**	**+1.0**
IMRD	**Marand**	**6.34**	**350**	*e*Pn	Pn	**05 26 44.1**	**+1.0**
GRMI	**Germi**	**6.37**	**6**	Pn	Pn	**05 26 44.0**	**+0.5**
GRMI	**Germi**	**6.37**	**6**	*e*Pn	Pn	**05 26 44.5**	**+1.0**
GRMI	**Germi**	**6.37**	**6**	*e*Pn	Pn	**05 26 44.5**	**+1.0**
BOOSS		**6.87**	**162**	P	Pn	**05 26 51.4**	**+1.1**
MAKU	**Maku**	**7.14**	**345**	P	Pn	**05 26 54.0**	**-0.1**
MAKU	**Maku**	**7.14**	**345**	P	Pn	**05 26 54.0**	**-0.1**
MAKU	**Maku**	**7.14**	**345**	*e*P	Pn	**05 26 54.7**	**+0.6**
GNI	**Garni**	**7.90**	**347**	Pn	Pn	**05 27 05.5**	**+1.0**
	comp=Z,2.7nm,0.3s,baz=156,slow=18,SNR=1.8						
GNI				Lg	Lg	05 29 27.8	
	comp=Z,1.4nm,0.3s,baz=114,slow=18,SNR=2.0						
GNI				LR	LR	05 30 07.6	
	comp=Z,673nm,19.7s,baz=162,slow=38						
GNI	**Garni**	**7.90**	**347**	*e*Pn	Pn	**05 27 06.0**	**+1.5**
GNI				Lg	Lg	05 29 27.8	
GNI	**Garni**	**7.90**	**347**	*e*Pn	Pn	**05 27 06.0**	**+1.5**
GNI	**Garni**	**7.90**	**347**	*e*P	Pn	**05 27 06.4**	**+1.9**
GNI				Lg	Lg	05 29 27.8	
GNI	**Garni**	**7.90**	**347**	*i*eP	Pn	**05 27 06.4**	**+1.9**
SHRO	**Shahrood**	**8.21**	**62**	*e*P	Pn	**05 27 10.2**	**+1.5**
SHRO	**Shahrood**	**8.21**	**62**	*e*Pn	Pn	**05 27 10.1**	**+1.4**
SLWS		**8.26**	**157**	P	Pn	**05 27 07.7**	**-1.6**
TABS	**Tabas**	**8.53**	**79**	P	Pn	**05 27 14.0**	**+0.9**
TABS	**Tabas**	**8.53**	**79**	P	Pn	**05 27 14.0**	**+0.9**
TABS	**Tabas**	**8.53**	**79**	*e*P	Pn	**05 27 14.8**	**+1.7**
ASF	**Jabal al Asfar**	**8.60**	**271**	Pn	Pn	**05 27 12.2**	**-1.9**
	comp=Z,2.8nm,0.3s,baz=25,slow=2.5,SNR=15						
ASF				Sn	Sn	**05 28 45.5**	**-4.4**
	comp=Z,0.8nm,0.3s,baz=111,slow=19,SNR=5.3						
ASF				Lg	Lg	05 29 40.1	
	comp=Z,4.0nm,0.3s,baz=53,slow=23,SNR=3.1						
ASF				LR	LR	05 31 34.0	
	comp=Z,1μm,18.3s,baz=43,slow=45						
RAYN	**Ar Rayn**	**9.01**	**189**	*e*Pn	Pn	**05 27 18.0**	**-1.7**
RAYN				*e*Sn	Sn	**05 28 59.4**	**-0.5**
RAYN	**Ar Rayn**	**9.01**	**189**	P	Pn	**05 27 18.0**	**-1.7**
RAYN				S	Sn	**05 28 59.4**	**-0.5**
RAYN	**Ar Rayn**	**9.01**	**189**	P	Pn	**05 27 18.0**	**-1.7**
RAYN				S	Sn	**05 28 59.4**	**-0.5**
AKT	**Akhty**	**9.02**	**3**	*e*P	Pn	**05 27 22.1**	**+2.3**
	comp=Z,6.0nm,0.8s						
AKT				*e*S	Sn	**05 29 01.9**	**+1.8**
	comp=Z,43nm,2.0s						
AKT	**Akhty**	**9.02**	**3**	*e*P	Pn	**05 27 22.1**	**+2.3**
AKT				*e*S	Sn	**05 29 01.9**	**+1.8**
AKT				pmax	pmax		
	comp=Z,6.0nm,0.8s						
AKT				MLR	MLR		
	comp=Z,43nm,2.0s						
BTHS		**9.02**	**157**	P	Pn	**05 27 20.0**	**+0.2**
AKH	**Akhalkalaki**	**9.38**	**343**	*e*Pn	Pn	**05 27 27.2**	**+2.5**
AKH	**Akhalkalaki**	**9.38**	**343**	*e*P	Pn	**05 27 27.2**	**+2.5**
AKH	**Akhalkalaki**	**9.38**	**343**	*e*P	Pn	**05 27 27.2**	**+2.5**
TBLG	**Delisi**	**9.44**	**349**	*e*Pn	Pn	**05 27 28.2**	**+2.8**
TBLG				*e*Sn	Sn	**05 29 11.0**	**+0.8**
TBLG	**Delisi**	**9.44**	**349**	*e*P	Pn	**05 27 28.2**	**+2.8**
TBLG				*e*S	Sn	**05 29 11.0**	**+0.8**
TBLG	**Delisi**	**9.44**	**349**	*e*P	Pn	**05 27 28.2**	**+2.8**
TBLG				*e*		05 29 11.0	
HMDT	**Nahal Hemdat**	**9.75**	**272**	Pn	Pn	**05 27 32.0**	**+2.2**
MMA0B	**Mount Meron ar**	**9.83**	**276**	Pn	Pn	**05 27 32.5**	**+1.6**
MMAI	**Mount Meron Ar**	**9.83**	**276**	Pn	Pn	**05 27 30.0**	**-0.9**
	comp=Z,1.1nm,0.3s,baz=86,slow=17,SNR=3.6						
MMAI				Lg	Lg	05 30 20.4	
	comp=Z,4.0nm,0.3s,baz=85,slow=32,SNR=3.9						
MMAI				LR	LR	05 32 04.8	
	comp=Z,890nm,20.6s,baz=115,slow=42						
MMLI	**Mount Malkishu**	**9.83**	**273**	Pn	Pn	**05 27 32.7**	**+1.8**
DSI	**Dead Sea**	**9.95**	**268**	Pn	Pn	**05 27 33.9**	**+1.4**
MZDA	**Masada**	**10.01**	**267**	Pn	Pn	**05 27 35.2**	**+2.0**
SLTI	**Sal'it**	**10.17**	**272**	Pn	Pn	**05 27 36.7**	**+1.3**
SHME	**Shamm**	**10.18**	**127**	P	Pn	**05 27 32.6**	**-3.1**
OFRI	**'Ofer**	**10.19**	**274**	Pn	Pn	**05 27 37.8**	**+2.0**
ZFRI	**Zfri**	**10.31**	**263**	Pn	Pn	**05 27 38.7**	**+1.2**
AMAZ	**Amatzia**	**10.35**	**268**	Pn	Pn	**05 27 39.5**	**+1.5**
BANOM	**Banah**	**10.37**	**127**	*i* P	Pn	**05 27 34.2**	**-4.1**
	SNR=25						
BANOM				S	Sn	**05 29 27.4**	**-5.9**
MAK	**Makhachkala**	**10.49**	**2**	*e*P	Pn	**05 27 38.0**	**-1.8**
MAK				*e*S	Sn	**05 29 34.4**	**-1.5**
MAK				pmax	pmax		
	comp=Z,27nm,0.3s						
MAK				MLR	MLR		
	comp=Z,2μm,14.0s						
PRNI	**Paran**	**10.51**	**262**	Pn	Pn	**05 27 40.7**	**+0.5**
GEYT	**Alibeck**	**10.57**	**56**	Pn	Pn	**05 27 41.4**	**+0.4**
	comp=Z,1.0nm,0.3s,baz=235,slow=7.0,SNR=5.2						
GEYT				LR	LR	05 32 29.7	
	comp=Z,4μm,18.4s,baz=230,slow=42						
GYA0B	**ALIBECK ARRAY**	**10.57**	**56**	*e*Pn	Pn	**05 27 42.6**	**+1.7**
GYA0B	**ALIBECK ARRAY**	**10.57**	**56**	*e*Pn	Pn	**05 27 42.6**	**+1.7**
HRFI	**Mount Harif**	**10.57**	**260**	Pn	Pn	**05 27 42.9**	**+1.9**
NAZ	**Nazwa, Dubai**	**10.60**	**132**	P	Pn	**05 27 39.8**	**-1.7**
	SNR=13						
NAZ	**Nazwa, Dubai**	**10.60**	**132**	*i* P	Pn	**05 27 39.8**	**-1.7**
	SNR=13						
ZEI	**Tsey**	**10.61**	**347**	*e*P	Pn	05 27 46.3	+4.7
ZEI				pmax	pmax		
	comp=Z,17nm,1.5s						
MSFE	**Esma-Masafi**	**10.66**	**129**	P	Pn	**05 27 40.2**	**-2.1**
	SNR=8.1						
MSFE	**Esma-Masafi**	**10.66**	**129**	*i* P	Pn	**05 27 39.9**	**-2.4**
	SNR=8.0						
MBRI	**Mt Berech**	**10.74**	**259**	Pn	Pn	**05 27 45.0**	**+1.6**
EIL	**Elat**	**10.74**	**258**	Pn	Pn	**05 27 42.8**	**-0.6**
	comp=Z,1.7nm,0.3s,baz=68,slow=7.9,SNR=11						
EIL				Lg	Lg	05 30 58.8	
	comp=Z,2.2nm,0.3s,baz=74,slow=18,SNR=3.0						
EIL				LR	LR	05 32 45.6	
	comp=Z,2μm,20.9s,baz=77,slow=43						
EIL	**Elat**	**10.74**	**258**	Pn	Pn	**05 27 42.3**	**-1.1**
KRMI	**Paran Flat**	**10.80**	**261**	Pn	Pn	**05 27 44.9**	**+0.7**
KZIT	**Kziot**	**10.89**	**265**	Pn	Pn	**05 27 47.3**	**+1.9**
UOSS	**Minazif**	**10.98**	**131**	*e*Pn	Pn	**05 27 44.3**	**-2.3**
UOSS	**Minazif**	**10.98**	**131**	*e*Pn	Pn	**05 27 44.3**	**-2.3**
UOSS	**Minazif**	**10.98**	**131**	*i* P	Pn	**05 27 44.0**	**-2.5**
	SNR=7.2						
MZR	**Muzera**	**11.00**	**147**	P	Pn	**05 27 45.8**	**-1.1**
HATD	**Hatta, Dubai**	**11.02**	**131**	P	Pn	**05 27 45.1**	**-2.0**
	SNR=12						
HATD	**Hatta, Dubai**	**11.02**	**131**	*i* P	Pn	**05 27 45.1**	**-2.0**
	SNR=12						
ASHO	**Ashiyiah**	**11.07**	**132**	P	Pn	**05 27 45.6**	**-2.3**
	SNR=34						
ASHO	**Ashiyiah**	**11.07**	**132**	P	Pn	**05 27 45.6**	**-2.3**
	SNR=34						
ASHO	**Ashiyiah**	**11.07**	**132**	*i* P	Pn	**05 27 45.1**	**-2.8**
	SNR=34						
SHRT	**Shahrakht**	**11.17**	**80**	Pn	Pn	**05 27 51.0**	**+1.7**
SHRT	**Shahrakht**	**11.17**	**80**	Pn	Pn	**05 27 51.0**	**+1.7**
SHRT	**Shahrakht**	**11.17**	**80**	*e*Pn	Pn	**05 27 51.4**	**+2.2**
NEY	**Neytrino**	**11.30**	**344**	*e*P	Pn	**05 27 50.1**	**-1.0**
NEY	**Ne

SANT	**Santorini**	**18.23**	**288**	*e*P		**Pn**	**05 29 23.6**	**+1.4**
	comp=Z,284nm,1.4s							
KBL	**Kabul**	**18.45**	**78**	*e*P		**Pn**	**05 29 25.9**	**+0.8**
	comp=Z,40nm,1.4s							
KBL	**Kabul**	**18.45**	**78**	*e*P		**Pn**	**05 29 25.9**	**+0.8**
	comp=Z,40nm,1.4s							
KBL	**Kabul**	**18.45**	**78**	*e*P		**Pn**	**05 29 25.9**	**+0.8**
KBL					pmax	pmax		
	comp=Z,40nm,1.4s							
IDI	**Anoyia**	**18.61**	**285**	P		**P**	**05 29 26.2**	**-0.2**
	comp=Z,2.2nm,0.3s,baz=94,slow=14,SNR=19							
IDI					LR	LR	05 40 19.0	
	comp=Z,310nm,18.1s,baz=93,slow=49							
IDI	**Anoyia**	**18.61**	**285**	⇓*i*P		**Pn**	**05 29 27.8**	**+0.9**
IDI	**Anoyia**	**18.61**	**285**	*e*P		**Pn**	**05 29 26.8**	**-0.1**
	comp=Z,71nm,1.2s							
IDI	**Anoyia**	**18.61**	**285**	*e*P		**Pn**	**05 29 26.8**	**-0.1**
	comp=Z,71nm,1.2s							
PRD	**Provadia**	**18.82**	**310**	P		**Pn**	**05 29 29.7**	**+0.5**
TIRR	**Tirgusor**	**18.83**	**315**	⇑*i*P		**Pn**	**05 29 29.8**	**+0.5**
TIRR	**Tirgusor**	**18.83**	**315**	*e*P		**P**	**05 29 28.8**	**+0.2**
	comp=Z,73nm,1.9s							
TIRR	**Tirgusor**	**18.83**	**315**	*e*P		**P**	**05 29 28.8**	**+0.2**
	comp=Z,73nm,1.9s							
TIRR	**Tirgusor**	**18.83**	**315**	*e*P		**P**	**05 29 28.8**	**+0.2**
TIRR					pmax	pmax		
	comp=Z,73nm,1.9s							
VRH	**Novokhopyorsk**	**19.14**	**350**	*e*P		**P**	**05 29 29.7**	**-2.1**
VRH					pmax	pmax		
	comp=Z,30nm,0.9s							
HARR	**Harsova**	**19.25**	**315**	⇓*i*P		**Pn**	**05 29 34.0**	**-0.3**
AB31	**Akbulak array**	**19.36**	**26**	*i* P		**P**	**05 29 34.2**	**-0.1**
	comp=Z,28nm,0.8s							
AB31	**Akbulak array**	**19.36**	**26**	*i* P		**P**	**05 29 34.2**	**-0.1**
AB31					pmax	pmax		
	comp=Z,28nm,0.8s							
ABKAR	**Akbulak array**	**19.36**	**26**	*e*P		**P**	**05 29 34.3**	**0.0**
	comp=Z,178nm,0.8s							
ABKAR	**Akbulak array**	**19.36**	**26**	*e*P		**P**	**05 29 34.3**	**0.0**
	comp=Z,178nm,0.8s							
CFR	**Carcaliu**	**19.40**	**316**	⇓*i*P		**P**	**05 29 34.7**	**0.0**
CFR	**Carcaliu**	**19.40**	**316**	P		**P**	**05 29 34.9**	**+0.2**
	comp=Z,16nm,1.1s							
CFR	**Carcaliu**	**19.40**	**316**	P		**P**	**05 29 34.9**	**+0.2**
CFR					pmax	pmax		
	comp=Z,16nm,1.1s							
VSR	**Storozhevoye**	**19.62**	**345**	*e*P		**P**	**05 29 35.4**	**-1.7**
	comp=Z,10.0nm,0.4s							
VSR	**Storozhevoye**	**19.62**	**345**	*e*P		**P**	**05 29 35.4**	**-1.7**
VSR					*e*S	**S**	**05 33 12.3**	**-4.0**
VSR					pmax	pmax		
	comp=Z,10.0nm,0.4s							
VSR					smax	smax		
	comp=N,70nm,1.0s							
AKTK	**Aktyubinsk**	**19.71**	**21**	*i* P		**P**	**05 29 36.5**	**-1.6**
	comp=N,18nm,1.0s							
AKTO	**Aktyubinsk**	**19.71**	**21**	P		**P**	**05 29 37.1**	**-1.0**
	comp=N,0.7nm,0.3s,baz=200,slow=12,SNR=11							
AKTO					LR	LR	05 39 38.1	
	comp=N,1µm,18.4s,baz=216,slow=44							
AKTO	**Aktyubinsk**	**19.71**	**21**	*i* P		**P**	**05 29 36.5**	**-1.6**
AKTO					pmax	pmax		
	comp=Z,18nm,1.0s							
RZN	**Rozhen**	**20.02**	**304**	P		**P**	**05 29 41.3**	**-0.5**
VORR	**Voronezh**	**20.04**	**346**	*e*P		**Pn**	**05 29 43.0**	**-0.6**
	comp=Z,250nm,1.0s							
VORR	**Voronezh**	**20.04**	**346**	*e*P		**Pn**	**05 29 43.0**	**-0.6**
VORR					pmax	pmax		
	comp=Z,250nm,1.0s							
KIS	**Kishinev**	**20.12**	**321**	*e*P		**P**	**05 29 43.0**	**+0.4**
KIS					*e*S	**S**	**05 33 23.0**	**-3.4**
KIS	**Kishinev**	**20.12**	**321**	*i* PcP		**PcP**	**05 33 50.0**	**-6.5**
KIS					LRM	MLR	05 39 42.0	
	comp=Z,500nm,16.0s							
KIS	**Kishinev**	**20.12**	**321**	*e*P		**P**	**05 29 43.0**	**+0.4**
KIS	**Kishinev**	**20.12**	**321**	*e*P		**P**	**05 29 43.0**	**+0.4**
KIS					*e*S	**S**	**05 33 23.0**	**-3.4**
KIS					*i*		05 33 50.0	
KIS					MLR	MLR		
	comp=Z,500nm,14.0s							
KIS					MLR	MLR		
	comp=Z,500nm,16.0s							
ISR	**Istrita**	**20.31**	**314**	⇑*i*P		Pn	05 29 46.5	-0.5
VRI	**Vrincioaia**	**20.60**	**316**	⇑*i*P		**P**	**05 29 48.7**	**+0.8**
VRI	**Vrincioaia**	**20.60**	**316**	P		Pn	05 29 49.4	-0.9
	comp=Z,130nm,1.4s							
VRI	**Vrincioaia**	**20.60**	**316**	P		Pn	05 29 49.4	-0.9
VRI					pmax	pmax		
	comp=Z,130nm,1.4s							
SRS	**Serrai**	**20.64**	**301**	P		**P**	**05 29 49.4**	**+1.1**
	comp=Z,22nm,1.4s							
SRS	**Serrai**	**20.64**	**301**	P		**P**	**05 29 49.4**	**+1.1**
SRS					pmax	pmax		
	comp=Z,22nm,1.4s							
PLOR	**Plostina**	**20.64**	**316**	⇓*i*P		Pn	05 29 49.7	-1.1
PLOR	**Plostina**	**20.64**	**316**	P		Pn	05 29 49.6	-1.2
PLOR	**Plostina**	**20.64**	**316**	P		Pn	05 29 49.6	-1.2
MMB	**Musomiste**	**20.68**	**303**	P		**P**	**05 29 47.1**	**-1.7**
PGB	**Panagyurishte**	**20.71**	**306**	P		**P**	**05 29 49.3**	**+0.2**
SOH	**Sokhos**	**20.72**	**300**	P		**P**	**05 29 50.4**	**+1.1**
	comp=Z,12nm,0.7s							
SOH	**Sokhos**	**20.72**	**300**	P		**P**	**05 29 50.4**	**+1.1**
SOH					pmax	pmax		
	comp=Z,12nm,0.7s							
MLR	**Muntele Rosu**	**20.87**	**315**	P		**P**	**05 29 52.0**	**+1.2**
	comp=Z,1.5nm,0.8s,baz=151,slow=2.3,SNR=8.8							
MLR	**Muntele Rosu**	**20.87**	**315**	⇑*i*P		Pn	05 29 52.2	-1.3
MLR	**Muntele Rosu**	**20.87**	**315**	*e*P		**P**	**05 29 51.1**	**+0.2**
	comp=Z,37nm,1.1s							
MLR	**Muntele Rosu**	**20.87**	**315**	*e*P		**P**	**05 29 51.1**	**+0.2**
	comp=Z,37nm,1.1s							
MLR	**Muntele Rosu**	**20.87**	**315**	*e*P		**P**	**05 29 51.1**	**+0.2**
MLR					pmax	pmax		
	comp=Z,37nm,1.1s							
THE	**Thessaloniki**	**20.96**	**300**	P		**P**	**05 29 52.5**	**+0.8**
	comp=Z,50nm,1.1s							
THE	**Thessaloniki**	**20.96**	**300**	P		**P**	**05 29 52.5**	**+0.8**
THE					pmax	pmax		
	comp=Z,50nm,1.1s							
LPSR	**Galich'ya Gora**	**20.97**	**346**	*e*P		**P**	**05 29 49.7**	**-2.1**
LPSR					*e*S	**S**	**05 33 37.8**	**-5.4**
LPSR					pmax	pmax		
	comp=Z,70nm,0.7s							
LPSR					smax	smax		
	comp=E,90nm,1.1s							
HUMR	**Humele**	**20.99**	**311**	⇓*i*P		**P**	**05 29 52.6**	**+0.6**
TESR	**Tescani**	**21.01**	**318**	⇓*i*P		**P**	**05 29 52.4**	**+0.1**
AGG	**Agios Georgios**	**21.07**	**295**	*e*P		**P**	**05 29 53.4**	**+0.3**
	comp=E,477nm,1.9s							
AGG	**Agios Georgios**	**21.07**	**295**	*e*P		**P**	**05 29 53.4**	**+0.3**
	comp=E,477nm,1.9s							
AGG	**Agios Georgios**	**21.07**	**295**	*e*P		**P**	**05 29 53.4**	**+0.3**
AGG					pmax	pmax		
	comp=Z,477nm,1.9s							
SORM	**Soroca**	**21.09**	**323**	⇑*i*P		**P**	**05 29 54.0**	**+0.9**
SORM	**Soroca**	**21.09**	**323**	P		**P**	**05 29 54.0**	**+0.9**
SORM	**Soroca**	**21.09**	**323**	P		**P**	**05 29 54.0**	**+0.9**
LIT	**Litokhoron**	**21.18**	**298**	P		**P**	**05 29 57.8**	**+3.7**
LIT					pmax	pmax		
	comp=Z,34nm,1.2s							
ATD	**Arta Tunnel**	**21.19**	**191**	P		**P**	**05 29 56.4**	**+2.0**
	comp=Z,2.7nm,0.3s,baz=22,slow=11,SNR=2.6							
ATD					LR	LR	05 38 46.0	
	comp=Z,886nm,18.8s,baz=1.0,slow=39							
KKB	**Krupnik**	**21.23**	**303**	P		**P**	**05 29 54.0**	**-0.7**
MTUR	**Matau**	**21.27**	**313**	⇓*i*P		**P**	**05 29 56.3**	**+1.1**
KK31	**Karatay Array**	**21.30**	**53**	*e*P		**P**	**05 29 54.7**	**-0.8**
KK31	**Karatay Array**	**21.30**	**53**	*e*P		**P**	**05 29 54.7**	**-0.8**
KK31	**Karatay Array**	**21.30**	**53**	*i* P		**P**	**05 29 54.4**	**-1.0**
KK31					pmax	pmax		
	comp=Z,20nm,0.8s							
KKAR	**Karatay Array**	**21.30**	**53**	*e*P		**P**	**05 29 54.5**	**-1.0**
KKAR	**Karatay Array**	**21.30**	**53**	*e*P		**P**	**05 29 54.5**	**-1.0**
KKAR	**Karatay Array**	**21.30**	**53**	*e*P		**P**	**05 29 54.5**	**-1.0**
VOIR		**21.38**	**314**	⇑*i*P		**P**	**05 29 57.4**	**+1.1**
VOIR		**21.38**	**314**	P		**P**	**05 29 56.9**	**+0.6**
VOIR		**21.38**	**314**	P		**P**	**05 29 56.9**	**+0.6**
VTS	**Vitosha**	**21.38**	**305**	⇑*i*P		**P**	**05 29 57.2**	**+0.7**
VTS	**Vitosha**	**21.38**	**305**	*e*P		**P**	**05 29 56.2**	**-0.2**
	comp=Z,14nm,1.2s							
VTS	**Vitosha**	**21.38**	**305**	*e*P		**P**	**05 29 56.2**	**-0.2**
	comp=Z,14nm,1.2s							
VTS	**Vitosha**	**21.38**	**305**	*e*P		**P**	**05 29 56.3**	**-0.2**
VTS					pmax	pmax		
	comp=Z,14nm,1.2s							
DOPR	**Dopca**	**21.45**	**315**	⇓*i*P		**P**	**05 29 58.0**	**+1.0**
GRG	**Griva**	**21.45**	**300**	P		**P**	**05 29 58.6**	**+1.5**
	comp=Z,30nm,0.8s							
GRG	**Griva**	**21.45**	**300**	P		**P**	**05 29 58.6**	**+1.5**
GRG					pmax	pmax		
	comp=Z,30nm,0.8s							
ARR	**Arges**	**21.60**	**313**	⇑*i*P		**P**	**05 29 59.5**	**+0.8**
PRAR	**RASCA**	**21.74**	**319**	⇓*i*P		**P**	**05 30 00.8**	**+0.8**
DZA	**Taraz**	**21.79**	**55**	*e*P		**P**	**05 30 00.8**	**+0.2**
NIL	**Nilore**	**21.98**	**80**	*e*P		**P**	**05 30 03.5**	**+0.7**
	comp=Z,42nm,1.0s							
NIL	**Nilore**	**21.98**	**80**	*e*P		**P**	**05 30 03.5**	**+0.7**
	comp=Z,42nm,1.0s							
NIL	**Nilore**	**21.98**	**80**	*e*P		**P**	**05 30 03.5**	**+0.7**
NIL					pmax	pmax		
	comp=Z,42nm,1.0s							
FNA	**Florina**	**22.16**	**299**	P		**P**	**05 30 00.6**	**-4.2**
FNA					pmax	pmax		
	comp=Z,7.0nm,0.8s							
LOT	**Lotru**	**22.18**	**313**	⇓*i*P		**P**	**05 30 05.0**	**+0.1**
BIA	**Bitola**	**22.26**	**300**	*e*P		**P**	**05 30 09.7**	**+3.9**
KRUS	**Krusevo**	**22.40**	**301**	*i* P		**P**	**05 30 11.2**	**+3.8**
BURAR	**Bucovina Array**	**22.44**	**319**	⇑*i*P		**P**	**05 30 08.0**	**+0.2**
BURAR	**Bucovina Array**	**22.44**	**319**	P		**P**	**05 30 07.9**	**+0.2**
BUR04	**Bucovina Ar. S**	**22.45**	**319**	*e*P		**P**	**05 30 07.4**	**-0.4**
BUR04	**Bucovina Ar. S**	**22.45**	**319**	*e*P		**P**	**05 30 07.4**	**-0.4**
MNAS	**Manas**	**22.47**	**56**	*i* P		**P**	**05 30 06.6**	**-1.5**
	comp=Z,40nm,1.2s							
MNAS	**Manas**	**22.47**	**56**	*i* P		**P**	**05 30 06.6**	**-1.5**
MNAS					pmax	pmax		
	comp=Z,40nm,1.2s							
BUR08	**Bucovina Ar. S**	**22.47**	**319**	*e*P		**P**	**05 30 08.3**	**+0.3**
BUR08	**Bucovina Ar. S**	**22.47**	**319**	*e*P		**P**	**05 30 08.3**	**+0.3**
AKASG	**Malin Array Be**	**22.48**	**329**	P		**P**	**05 30 06.8**	**-1.2**
	comp=Z,4.4nm,0.6s,baz=137,slow=9.6,SNR=21							
AKASG					PcP	**PcP**	**05 34 01.3**	**+0.3**
	comp=Z,0.6nm,0.4s,baz=75,slow=2.6,SNR=4.2							
AKBB	**Malin Array Si**	**22.48**	**329**	*e*P		**P**	**05 30 08.1**	**+0.1**
	comp=Z,18nm,0.7s							
AKBB	**Malin Array Si**	**22.48**	**329**	*e*P		**P**	**05 30 08.1**	**+0.1**
	comp=Z,18nm,0.7s							
AKBB	**Malin Array Si**	**22.48**	**329**	*e*P		**P**	**05 30 08.1**	**+0.1**
AKBB					pmax	pmax		
	comp=Z,18nm,0.7s							
KIEV	**Kiev**	**22.48**	**329**	*e*P		**P**	**05 30 07.3**	**-0.6**
	comp=Z,18nm,0.7s							
KIEV	**Kiev**	**22.48**	**329**	*e*P		**P**	**05 30 08.1**	**+0.1**
	comp=Z,20nm,1.1s							
KIEV	**Kiev**	**22.48**	**329**	*i* P		**P**	**05 30 08.9**	**+0.9**
	SNR=6.5							
KIEV	**Kiev**	**22.48**	**329**	⇑*e*P		**P**	**05 30 08.1**	**+0.1**
KIEV					pmax	pmax		
	comp=Z,20nm,1.1s							
AK11	**Malin Array Si**	**22.49**	**329**	*e*P		**P**	**05 30 07.1**	**-0.9**
AK11	**Malin Array Si**	**22.49**	**329**	*e*P		**P**	**05 30 07.1**	**-0.9**
OHR	**Ohrid**	**22.67**	**300**	*e*P		**P**	**05 30 10.3**	**+0.2**
HERR	**Herculane**	**22.79**	**310**	⇓*i*P		**P**	**05 30 10.9**	**-0.4**
AML	**Almayashu**	**23.21**	**58**	P		**P**	**05 30 16.0**	**-0.1**
	SNR=16							
TIR	**Tirane**	**23.41**	**300**	*i* P		**P**	**05 30 18.5**	**+0.9**
TIR	**Tirane**	**23.41**	**300**	*e*P		**P**	**05 30 17.7**	**+0.1**
	comp=Z,51nm,0.9s							
TIR	**Tirane**	**23.41**	**300**	*e*P		**P**	**05 30 17.7**	**+0.1**
	comp=Z,51nm,0.9s							
TIR	**Tirane**	**23.41**	**300**	*e*P		**P**	**05 30 17.7**	**+0.1**
TIR					pmax	pmax		
	comp=Z,51nm,0.9s							
DRGR		**23.46**	**315**	⇑*i*P		**P**	**05 30 17.8**	**-0.3**
BZS	**Buzias**	**23.61**	**311**	⇑*i*P		**P**	**05 30 19.1**	**-0.4**
UCH	**Uchtor**	**23.82**	**58**	P		**P**	**05 30 26.3**	**+4.2**
	SNR=11							
OBN	**Obninsk**	**23.82**	**345**	P		**P**	**05 30 21.1**	**-0.2**
	comp=Z,11nm,0.3s,baz=166,slow=4.2,SNR=8.7							
OBN					LR	LR	05 41 19.5	
	comp=Z,497nm,18.9s,baz=150,slow=41							
OBN	**Obninsk**	**23.82**	**345**	*e*P		**P**	**05 30 20.7**	**-0.6**
	comp=Z,124nm,1.4s							
OBN	**Obninsk**	**23.82**	**345**	*e*P		**P**	**05 30 20.7**	**-0.6**
	comp=Z,124nm,1.4s							
OBN	**Obninsk**	**23.82**	**345**	⇑*i*P		**P**	**05 30 20.2**	**-1.1**
OBN					*i* S	**S**	**05 34 32.8**	**-1.6**
OBN					pmax	pmax		
	comp=Z,55nm,1.2s							
OBN					MLR	MLR		
	comp=Z,438nm,18.0s							
AAK	**Ala-Archa**	**23.92**	**57**	P		**P**	**05 30 23.1**	**+0.5**
	comp=Z,5.2nm,0.9s,baz=237,slow=11,SNR=13							
AAK					LR	LR	05 41 21.8	
	comp=Z,646nm,21.9s,baz=264,slow=41							
AAK	**Ala-Archa**	**23.92**	**57**	P		**P**	**05 30 24.3**	**+1.7**
	SNR=6.0							
AAK	**Ala-Archa**	**23.92**	**57**	*e*P		**P**	**05 30 22.4**	**-0.2**
	comp=Z,8.4nm,0.9s							
AAK	**Ala-Archa**	**23.92**	**57**	*e*P		**P**	**05 30 22.9**	**+0.3**
	comp=Z,11nm,1.1s							
AAK	**Ala-Archa**	**23.92**	**57**	*i* P		**P**	**05 30 16.1**	**-6.5**
	SNR=6.9							
AAK	**Ala-Archa**	**23.92**	**57**	⇑*e*P		**P**	**05 30 22.9**	**+0.3**
AAK					pmax	pmax		
	comp=Z,11nm,1.1s							
FRU	**Bishkek**	**24.06**	**57**	*i* P		**P**	**05 30 24.0**	**+0.2**
	comp=Z,75nm,2.1s							
FRU	**Bishkek**	**24.06**	**57**	⇓*i*P		**P**	**05 30 24.0**	**+0.2**
FRU					*e*S	**S**	**05 34 39.5**	**+0.9**
FRU					pmax	pmax		
	comp=Z,75nm,2.1s							
DIVS	**Divibare**	**24.10**	**307**	*e*P		**P**	**05 30 24.5**	**+0.3**
	comp=Z,19nm,1.2s							
DIVS	**Divibare**	**24.10**	**307**	*e*P		**P**	**05 30 24.5**	**+0.3**
	comp=Z,19nm,1.2s							
USP	**Ospenovka**	**24.10**	**56**	P		**P**	**05 30 26.2**	**+2.0**
	SNR=11							
PDG	**Podgorica**	**24.12**	**302**	⇓*i*P		**P**	**05 30 24.7**	**+0.5**
TTG	**Podgorica**	**24.12**	**302**	*e*P		**P**	**05 30 24.5**	**+0.3**
	comp=Z,47nm,1.3s							
TTG	**Podgorica**	**24.12**	**302**	*e*P		**P**	**05 30 24.5**	**+0.3**
TTG					pmax	pmax		
	comp=Z,47nm,1.3s							
MOS	**Moscow**	**24.19**	**347**	*e*P		**P**	**05 30 25.0**	**+0.2**
	comp=Z,200nm,1.8s							
MOS	**Moscow**	**24.19**	**347**	*e*P		**P**	**05 30 25.0**	**+0.2**
MOS					*e*S	**S**	**05 34 42.2**	**+1.9**
MOS					pmax	pmax		
	comp=Z,50nm,1.0s							
MOS					pmax	pmax		
	comp=Z,200nm,1.8s							
MOS					smax	smax		
	comp=N,700nm,4.8s							
TRPA	**Tarpa**	**24.24**	**317**	⇑*i*P		**P**	**05 30 25.3**	**0.0**
KBK	**Karagaybulak**	**24.24**	**57**	P		**P**	**05 30 26.9**	**+1.2**
	SNR=8.3							
KZA	**Kyzart**	**24.31**	**59**	P		**P**	**05 30 27.6**	**+1.1**
	SNR=13							
LVV	**L'vov**	**24.37**	**322**	*e*P		**P**	**05 30 23.3**	**-3.2**
LVV					*e*S	**S**	**05 34 37.0**	**-6.3**
LVV					MLR	MLR		
	comp=N,110nm,11.0s							
LVV					MLR	MLR		
	comp=E,110nm,11.0s							
LVV					MLR	MLR		
	comp=Z,100nm,11.0s							
KSH	**Kashi**	**24.37**	**65**	P		**P**	**05 30 24.3**	**-2.4**
KSH					sP	sP	05 30 40.3	-1.6
KSH					PP	**PnPn**	**05 30 59.5**	**+1.6**
KSH					S	S	05 34 31.6	-12
KSH					SS	**SnSn**	**05 35 24.8**	**-4.2**
KSH					pmax	pmax		
	comp=Z,50nm,0.9s							
KSH					LR	LR		
	comp=Z,2µm,12.9s							
KSH					LR	LR		
	comp=Z,3µm,15.9s							
KSH					LR	LR		
	comp=Z,3µm,17.1s							
UZH	**Uzhgorod**	**24.64**	**318**	*e*P		**P**	**05 30 32.7**	**+3.8**
UZH					*e*		05 30 41.1	
UZH					*e*		05 31 15.9	
UZH					*e*S	**S**	**05 34 49.5**	**+1.8**
NRN	**Naryn**	**24.71**	**61**	P		**P**	**05 30 30.5**	**+0.4**
	comp=Z,24nm,1.1s							
NRN	**Naryn**	**24.71**	**61**	P		**P**	**05 30 30.5**	**+0.4**
NRN					pmax	pmax		
	comp=Z,24nm,1.1s							
TKM2	**Tokmak 2**	**24.77**	**57**	P		**P**	**05 30 31.6**	**+1.1**
	SNR=22							
KWP	**Kalwaria Pacla**	**24.96**	**321**	*e*P		**P**	**05 30 32.5**	**+0.6**
KWP	**Kalwaria Pacla**	**24.96**	**321**	*e*P		**P**	**05 30 31.8**	**0.0**
	comp=Z,909nm,1.7s							
KWP	**Kalwaria Pacla**	**24.96**	**321**	*e*P		**P**	**05 30 31.8**	**0.0**
	comp=Z,909nm,1.7s							
KWP	**Kalwaria Pacla**	**24.96**	**321**	*e*P		**P**	**05 30 31.8**	**0.0**
CRVS	**Cervenica-Dubn**	**25.25**	**318**	*e*P		**P**	**05 30 34.8**	**+0.3**
	comp=Z,16nm,1.3s							
CRVS	**Cervenica-Dubn**	**25.25**	**318**	*e*P		**P**	**05 30 34.8**	**+0.3**
CRVS	**Cervenica-Dubn**	**25.25**	**318**	*e*P		**P**	**05 30 34.8**	**+0.3**
CRVS					pmax	pmax		
	comp=Z,16nm,1.3s							
ARU	**Arti**	**25.26**	**15**	P		**P**	**05 30 34.0**	**-0.5**
	comp=Z,7.0nm,0.5s,baz=196,slow=4.7,SNR=11							
ARU					LR	LR	05 42 59.6	
	comp=Z,432nm,20.6s,baz=132,slow=42							
ARU	**Arti**	**25.26**	**15**	*e*P		**P**	**05 30 34.0**	**-0.5**
	comp=Z,31nm,0.9s							
ARU	**Arti**	**25.26**	**15**	*d i*P		**P**	**05 30 34.2**	**-0.3**
ARU							05 31 12.1	
ARU					S	**S**	**05 34 59.4**	**+1.9**
ARU					SS	**SnSn**	**05 35 52.1**	**+1.7**
TIP	**Timpagrande**	**25.39**	**294**	⇓*i*P		**P**	**05 30 36.6**	**+0.6**
TIP	**Timpagrande**	**25.39**	**294**	*e*P		**P**	**05 30 36.5**	**+0.6**
	comp=Z,61nm,1.4s							
TIP	**Timpagrande**	**25.39**	**294**	*e*P		**P**	**05 30 36.5**	**+0.6**
	comp=Z,61nm,1.4s							
KUU	**Kurty**	**25.56**	**55**	*e*P		**P**	**05 30 37.4**	**0.0**
	comp=Z,115nm,1.3s							
KUU					LR	LR	05 42 13.4	
	comp=Z,86nm,11.1s							
MATE	**Matera**	**25.62**	**297**	⇑*i*P		**P**	**05 30 37.7**	**-0.2**
STHS	**Stebnicka Huta**	**25.64**	**319**	*e*P		**P**	**05 30 39.3**	**+1.3**
	comp=Z,10.0nm,0.8s							
STHS	**Stebnicka Huta**	**25.64**	**319**	*e*P		**P**	**05 30 39.3**	**+1.3**
STHS	**Stebnicka Huta**	**25.64**	**319**	*e*P		**P**	**05 30 39.3**	**+1.3**
STHS					pmax	pmax		
	comp=Z,10.0nm,0.8s							
PSZ	**Piszkesteto**	**25.68**	**315**	⇑*e*P		**P**	**05 30 39.9**	**+1.4**
PSZ	**Piszkesteto**	**25.68**	**315**	*e*P		**P**	**05 30 39.2**	**+0.7**
	comp=Z,11nm,0.7s							
PSZ	**Piszkesteto**	**25.68**	**315**	*e*P		**P**	**05 30 39.2**	**+0.7**
	comp=Z,11nm,0.7s							
PSZ	**Piszkesteto**	**25.68**	**315**	*e*P		**P**	**05 30 39.2**	**+0.7**
PSZ					pmax	pmax		
	comp=Z,11nm,0.7s							
KDJ	**Kajisay**	**25.72**	**59**	*e*P		**P**	**05 30 39.2**	**+0.1**
	comp=Z,24nm,1.0s							
KDJ	**Kajisay**	**25.72**	**59**	*e*P		**P**	**05 30 39.2**	**+0.1**
	comp=Z,24nm,1.0s							
KDJ	**Kajisay**	**25.72**	**59**	P		**P**	**05 30 39.2**	**+0.1**
KDJ					pmax	pmax		
	comp=Z,24nm,1.0s							
MORH	**M^tr¡gy, Hung**	**25.75**	**310**	⇑*e*P		**P**	**05 30 39.2**	**+0.2**
MORH	**M^tr¡gy, Hung**	**25.75**	**310**	⇑*e*P		**P**	**05 30 39.2**	**+0.2**
AAA	**Alma-Ata**	**25.78**	**57**	LR		LR	05 41 46.8	
	comp=Z,142nm,15.9s							
CEL	**Celeste**	**25.99**	**292**	*e*P		**P**	**05 30 43.5**	**+2.1**
	comp=Z,56nm,0.9s							
CEL	**Celeste**	**25.99**	**292**	*e*P		**P**	**05 30 43.5**	**+2.1**
	comp=Z,56nm,0.9s							
TARG	**Taragay, Kyrgy**	**26.10**	**60**	*e*P		**P**	**05 30 43.1**	**+0.3**
	comp=Z,47nm,1.6s							
TARG	**Taragay, Kyrgy**	**26.10**	**60**	*e*P		**P**	**05 30 43.1**	**+0.3**
	comp=Z,47nm,1.6s							
SVE	**Sverdlovsk**	**26.11**	**17**	⇑*i*P		**P**	**05 30 42.2**	**0.0**
SVE					*e*S	**S**	**05 35 12.1**	**+1.2**
SVE					pmax	pmax		
	comp=Z,18nm,0.8s							
SVE					MLR	MLR		
	comp=Z,902nm,23.0s							
NIE	**Niedzica**	**26.17**	**318**	*e*P		**P**	**05 30 45.8**	**+3.0**
NIE	**Niedzica**	**26.17**	**318**	*e*P		**P**	**05 30 45.8**	**+3.0**
CUC	**Castrocucco**	**26.20**	**296**	*e*P		**P**	**05 30 44.8**	**+1.5**
	comp=Z,17nm,0.8s							
CUC	**Castrocucco**	**26.20**	**296**	*e*P		**P**	**05 30 44.8**	**+1.5**
	comp=Z,17nm,0.8s							
LANS	**Liptovska Anna**	**26.51**	**317**	*e*P		**P**	**05 30 46.4**	**+0.5**
LANS	**Liptovska Anna**	**26.51**	**317**	*e*P		**P**	**05 30 46.4**	**+0.5**
BRVK	**Borovoye**	**26.52**	**32**	*e*P		**P**	**05 30 45.5**	**-0.5**
	comp=Z,26nm,0.8s		

comp=Z,300nm,16.5s
DPC Dobruska-Polom 28.88 317 eP P 05 31 06.9 -0.2
DPC MLR MLR
comp=Z,300nm,16.5s
TREC Trest 28.92 315 AMS AMS 05 46 00.0
comp=Z,400nm,12.6s
UPC Upice 29.12 317 AMS AMS 05 44 40.0
comp=Z,300nm,13.5s
MOA Molln 29.13 311 P P **05 31 09.4 0.0**
comp=Z,13nm,1.6s
MOA Molln 29.13 311 eP P 05 31 09.4 0.0
comp=Z,13nm,1.6s
KLNR Kaliningrad 29.16 327⇑ eP P 05 31 11.4 +2.0
KLNR pmax pmax
comp=Z,30nm,0.8s
VSU Vasula 29.41 338⇑ eP P 05 31 11.0 -0.6
VSU pmax pmax
comp=Z,37nm,1.0s
KURBB Kurchatov Arra 29.42 43 P P **05 31 11.9 +0.1**
comp=Z,5.8nm,0.9s,baz=249,slow=9.3,SNR=10
KBA Koelnbreinsper 29.48 310 P P **05 31 12.9 +0.3**
comp=Z,14nm,1.3s
KBA Koelnbreinsper 29.48 310 eP P 05 31 12.9 +0.3
comp=Z,14nm,1.3s
KURK Kurchatov 29.52 42 P P **05 31 11.9 -0.8**
KURK Kurchatov 29.52 42 P P **05 31 11.9 -0.8**
PRU Pruhonice 29.76 316 AMS AMS 05 45 40.0
comp=Z,400nm,15.9s
GEA0 GERESS Array S 29.83 313 eP P 05 31 15.4 -0.2
GERES GERESS Array B 29.83 313 P P **05 31 15.3 -0.4**
comp=Z,0.5nm,0.5s,baz=99,slow=8.2,SNR=4.5
GERES PcP **PcP 05 34 18.2 0.0**
comp=Z,0.7nm,0.6s,baz=132,slow=2.8,SNR=6.0
KHC Kasperske Hory 30.01 314 eP P 05 31 20.5 +3.4
KHC *ex* x 05 31 38.0
KHC AMS AMS 05 47 10.0
comp=Z,400nm,14.5s
KHC Kasperske Hory 30.01 314 eP P 05 31 20.5 +3.4
KHC *e* 05 31 38.0
KHC MLR MLR
comp=Z,400nm,14.5s
MAKZ Makanchi 30.20 51 eP P 05 31 17.6 -1.2
comp=Z,21nm,1.7s
MAKZ Makanchi 30.20 51 eP P 05 31 17.6 -1.2
comp=Z,21nm,1.7s
MAKZ Makanchi 30.20 51 eP P 05 31 17.6 -1.2
MAKZ pmax pmax
comp=Z,21nm,1.7s
SEM Semipalatinsk 30.33 44 eP P 05 31 19.7 -0.5
comp=Z,72nm,0.7s
MK31 Makanchi Array 30.40 52 eP P 05 31 20.6 0.0
MK31 Makanchi Array 30.40 52 *i* P P 05 31 20.0 -0.6
MK31 pmax pmax
comp=Z,11nm,0.7s
MKAR Makanchi Array 30.40 52 P P **05 31 20.6 0.0**
comp=Z,5.2nm,0.7s,baz=248,slow=7.7,SNR=37
MKAR PcP **PcP 05 34 18.8 -0.8**
comp=Z,0.8nm,0.8s,baz=231,slow=3.1,SNR=4.2
MKAR LR LR 05 45 20.9
comp=Z,755nm,18.9s,baz=254,slow=40
MKAR Makanchi Array 30.40 52 eP P 05 31 20.6 0.0
comp=Z,64nm,0.7s
MKAR PcP **PcP 05 34 18.8 -0.8**
MKAR Makanchi Array 30.40 52 eP P 05 31 20.6 0.0
MKAR 05 34 18.8
MKAR pmax pmax
comp=Z,64nm,0.7s
MK01 Makanchi Array 30.40 52 eP P 05 31 20.6 0.0
BRG Berggiesshubel 30.47 317 eP P 05 31 25.1 +4.0
comp=Z,4.6nm,1.1s
comp=N,176nm,14.1s
comp=E,162nm,14.7s
comp=Z,350nm,13.7s
BRG Berggiesshubel 30.47 317 eP P 05 31 25.1 +4.0
BRG pmax pmax
comp=Z,5.0nm,1.1s
BRG MLR MLR
comp=N,176nm,14.1s
BRG MLR MLR
comp=E,162nm,14.7s
BRG MLR MLR
comp=Z,350nm,13.7s
WATA Walderalm 30.70 309 P P **05 31 22.5 -0.9**
comp=Z,4.0nm,0.5s
WATA Walderalm 30.70 309 *i* P P 05 31 22.5 -0.9
comp=Z,4.0nm,0.5s
MOTA Moosalm 31.02 309 P P **05 31 25.3 -0.9**
comp=Z,3.2nm,0.4s
MOTA Moosalm 31.02 309 eP P 05 31 25.3 -0.9
comp=Z,3.2nm,0.4s
FETA Feichten 31.18 308 P P **05 31 27.5 -0.1**
comp=Z,7.4nm,1.4s
FETA Feichten 31.18 308 eP P 05 31 27.5 -0.1
comp=Z,7.4nm,1.4s
CLL Collm 31.19 317 eP P 05 31 27.0 -0.4
comp=Z,6.0nm,1.2s
CLL LmV 05 38 00.0
comp=Z,200nm,21.0s
CLL Lm MLR 05 47 00.0
comp=N,200nm,20.0s
CLL Lm MLR 05 47 00.0
comp=E,200nm,20.5s
CLL Lm MLR 05 47 00.0
comp=Z,300nm,18.5s
CLL Collm 31.19 317 eP P 05 31 27.0 -0.4
CLL pmax pmax
comp=Z,6.0nm,1.2s
CLL MLR MLR
comp=Z,300nm,18.5s
PYUN Piuthan 31.24 88 eP P 05 31 28.4 -0.1
comp=Z,24nm,0.6s
KEST Kesra 31.27 287 P P **05 31 29.5 +1.0**
comp=Z,10nm,0.7s,baz=322,slow=1.3,SNR=12
KEST Kesra 31.27 287 eP P 05 31 29.7 +1.2
comp=Z,24nm,1.3s
KEST Kesra 31.27 287 eP P 05 31 29.7 +1.2
comp=Z,24nm,1.3s
GRFO Grafenberg 31.65 314 eP P 05 31 31.5 0.0
comp=Z,18nm,1.2s
GRFO Grafenberg 31.65 314 eP P 05 31 31.5 0.0
comp=Z,18nm,1.2s
GRFO Grafenberg 31.65 314 eP P 05 31 31.5 0.0
GRFO pmax pmax
comp=Z,18nm,1.2s
DAVA Damuels 31.81 309 P P **05 31 32.5 -0.6**
comp=Z,6.9nm,0.6s
DAVA Damuels 31.81 309 *i* P P 05 31 32.5 -0.6
comp=Z,6.9nm,0.6s
DANN Dangsing 31.82 88 eP P 05 31 34.5 +0.9
comp=Z,12nm,0.9s
KOLN Koldanda 31.86 89 eP P 05 31 33.7 -0.1
comp=Z,14nm,0.7s
FIA1 FINESS Array S 32.03 341 eP P 05 31 34.3 -0.5
FINES FINESS Array B 32.03 341 P P **05 31 34.0 -0.7**
comp=Z,4.4nm,0.7s,baz=150,slow=9.2,SNR=22
FINES LR LR 05 45 55.9
comp=Z,471nm,20.3s,baz=138,slow=39
FINES FINESS Array B 32.03 341 P P **05 31 34.0 -0.7**
HYB Hyderabad 32.10 110 *i* P P 05 31 37.0 +1.1
GKN Gorkha 32.66 88 eP P 05 31 40.8 -0.1
comp=Z,44nm,0.6s
DMN Daman 33.18 88 eP P 05 31 45.3 -0.2
comp=Z,103nm,1.1s
KKN Kakani 33.27 88 eP P 05 31 46.4 +0.2
comp=Z,81nm,0.7s
SENIN Lac Senin/Sane 33.34 306 eP P 05 31 46.2 -0.5
comp=Z,41nm,1.8s
SENIN Lac Senin/Sane 33.34 306 eP P 05 31 46.2 -0.5
comp=Z,41nm,1.8s
PKIN Phulchoki 33.43 88 eP P 05 31 47.4 -0.3
comp=Z,50nm,0.9s
BNI Bardonecchia 33.56 304 eP P 05 31 48.1 -0.4
comp=Z,53nm,1.6s
BNI Bardonecchia 33.56 304 eP P 05 31 48.1 -0.4
comp=Z,53nm,1.6s
BNI Bardonecchia 33.56 304 eP P 05 31 48.1 -0.4
BNI pmax pmax
comp=Z,53nm,1.6s
LPG La Plagne 33.58 305 eP P 05 31 48.6 -0.2
LPG pmax pmax
comp=Z,11nm,0.6s
LPL La Plagne 33.59 305 eP P 05 31 48.1 -0.8
LPL pmax pmax
comp=Z,20nm,0.9s
WMQ Urumqi 33.60 58 P P **05 31 49.8 +1.0**
WMQ pP pP 05 31 58.8 -0.7
WMQ sP sP 05 32 11.3 +7.3
WMQ pmax pmax
comp=Z,22nm,1.5s
WMQ pmax pmax
comp=Z,130nm,4.5s
WMQ LR LR
comp=Z,1μm,23.1s
WMQ LR LR
comp=Z,710nm,21.9s
WMQ LR LR
comp=Z,830nm,30.9s
GUN Gumba 33.74 87 eP P 05 31 50.6 +0.1
comp=Z,117nm,0.9s
HINF Hinteralfeld 33.92 309 eP P 05 31 51.3 -0.2
HINF pmax pmax
comp=Z,15nm,1.3s
JIRN Jiri 34.08 88 eP P 05 31 53.6 +0.2
comp=Z,79nm,0.7s
CABF La Chapelle 34.21 306 eP P 05 31 53.4 -0.6
CABF pmax pmax
comp=Z,30nm,1.0s
HAU Haudompre 34.30 309 eP P 05 31 54.1 -0.6
HAU pmax pmax
comp=Z,7.0nm,0.9s
ZALV Zalesovo Beam 34.32 40 P P **05 31 54.1 -0.7**
comp=Z,4.5nm,0.6s,baz=259,slow=10,SNR=8.2
ZALV LR LR 05 49 11.3
comp=Z,240nm,18.3s,baz=248,slow=42
ZALV Zalesovo Beam 34.32 40 eP P 05 31 54.5 -0.3
ZALV Zalesovo Beam 34.32 40 eP P 05 31 54.5 -0.3
DGZ Jazzator, Alta 34.47 48 eP P 05 31 56.6 +0.2
DGZ pmax pmax
comp=Z,2.0nm,0.8s
RAMN Ramite 34.65 89 eP P 05 31 57.7 -0.5
comp=Z,45nm,0.9s
VIVF Saint-Julien-l 34.95 303 eP P 05 32 00.8 +0.4
VIVF pmax pmax
comp=Z,13nm,1.4s
OUL Oulu 35.13 345 eP P 05 32 06.0 +4.4
OUL pmax pmax
comp=Z,14nm,1.0s
HFS Hagfors 35.33 332 P P **05 32 03.1 -0.3**
comp=Z,4.5nm,0.5s,baz=127,slow=9.2,SNR=47
NC405 NORSAR Array S 36.70 332 eP P 05 32 13.6 -1.5
NB2 NORSAR Subarra 36.85 332 P P **05 32 15.4 -1.1**
comp=Z,8.3nm,1.2s,baz=125,slow=9.3
NOA NORSAR Array B 36.85 332 P P **05 32 15.6 -0.9**
comp=Z,1.1nm,0.6s,baz=125,slow=8.5,SNR=4.7
NOA LR LR 05 48 44.9
comp=Z,189nm,21.5s,baz=115,slow=38
NC303 NORSAR Array S 36.90 332 eP P 05 32 15.4 -1.4
NC204 NORSAR Array S 37.17 332 eP P 05 32 18.5 -0.7
TAM Tamanrasset 37.84 266 eP P 05 32 25.7 +0.3
comp=Z,85nm,1.9s
TAM Tamanrasset 37.84 266 eP P 05 32 25.7 +0.3
TAM pmax pmax
comp=Z,85nm,1.9s
FLN La Foliniere 38.91 309 eP P 05 32 34.3 +0.4
FLN pmax pmax
comp=Z,65nm,1.6s
ARCES ARCESS Array B 39.05 348 P P **05 32 34.5 -0.4**
comp=Z,1.1nm,0.7s,baz=158,slow=9.7,SNR=2.1
KRAR Krasnoyarsk 39.39 39⇑ eP P 05 32 39.0 +1.2
SHL Shillong 39.58 88 eP P 05 32 38.0 -2.0
PALK Pallekele 40.06 121 eP P 05 32 45.4 +1.4
comp=Z,37nm,1.5s
PALK Pallekele 40.06 121 eP P 05 32 45.4 +1.4
PALK pmax pmax
comp=Z,37nm,1.5s
ES19 SONSECA Array 41.35 295 eP P 05 32 54.2 -0.2
ES19 SONSECA Array 41.35 295 eP P 05 32 54.2 -0.2
ESDC Sonseca Array 41.40 295 P P **05 32 54.6 -0.2**
comp=Z,1.9nm,0.6s,baz=74,slow=8.4,SNR=12
ESDC PcP **PcP 05 34 53.1 +0.7**
comp=Z,0.5nm,0.4s,baz=43,slow=3.2,SNR=4.7
ESLA Sonseca Array 41.40 295 eP P 05 32 54.9 +0.1
comp=Z,12nm,1.3s
ESLA Sonseca Array 41.40 295 eP P 05 32 54.9 +0.1
comp=Z,12nm,1.3s
EKA Eskdalemuir Ar 41.63 319 P P **05 32 55.9 -0.5**
comp=Z,3.3nm,0.7s,baz=106,slow=8.3,SNR=14
ESK Eskdalemuir 41.65 319 eP P 05 32 56.6 +0.1
comp=Z,38nm,1.6s
ESK Eskdalemuir 41.65 319 eP P 05 32 56.7 +0.1
ESK pmax pmax
comp=Z,38nm,1.6s
PAB San Pablo 41.71 295 eP P 05 32 57.6 +0.2
comp=Z,14nm,1.3s
PAB San Pablo 41.71 295 eP P 05 32 57.6 +0.2
comp=Z,14nm,1.3s
PAB San Pablo 41.71 295 eP P 05 32 57.6 +0.2
PAB pmax pmax
comp=Z,14nm,1.3s
GTA Gaotai 42.77 65 P P **05 33 05.8 -0.3**
GTA pP pP 05 33 17.0 +0.1
GTA sP sP 05 33 22.5 +1.1
GTA PcP **PcP 05 34 58.8 +1.8**
GTA S **S 05 39 27.3 -0.3**
GTA pmax pmax
comp=Z,4.0nm,0.9s
GTA pmax pmax
comp=Z,60nm,5.2s
GTA LR LR
comp=Z,460nm,19.5s
GTA LR LR
comp=Z,360nm,17.6s
GTA LR LR
comp=Z,430nm,17.1s
DSB Dublin 43.15 315 eP P 05 33 08.6 -0.1
comp=Z,22nm,1.1s
PBRG Braganca 43.28 298 eP P 05 33 10.2 +0.2
MOY Mondy 43.30 47 eP P 05 33 11.9 +1.8
PBAR Barrancos 43.98 293 eP P 05 33 15.7 0.0
PMRV Marv??o 44.06 295 eP P 05 33 14.8 -1.5
POLO Lamas de Olo 44.11 298 eP P 05 33 17.5 +0.7
PGAV Gavieira, Arco 44.39 299 eP P 05 33 19.9 +0.8
PVAQ Vaqueiros 44.65 292 eP P 05 33 22.6 +1.6
ZAK Zakamensk 44.67 49 eP P 05 33 21.0 -0.1
ZAK *e* 05 35 02.8
ZAK pmax pmax
comp=Z,5.0nm,1.6s
PCVE Castro Verde 44.86 293 eP P 05 33 22.8 +0.1
TLY Talaya 44.94 47 eP P 05 33 25.1 +1.9
TLY pmax pmax
comp=Z,10.0nm,1.8s
TLY MLR MLR
comp=Z,143nm,17.0s
PMST Lisbon--Monsan 45.55 294 eP P 05 33 25.6 -2.5
TORD Torodi Ar. Bea 45.62 256 P P **05 33 28.8 -0.2**
comp=Z,6.8nm,0.7s,baz=69,slow=7.2,SNR=51
TORD PcP **PcP 05 35 07.0 +0.1**
comp=Z,1.2nm,0.9s,baz=43,slow=4.8,SNR=2.1
TORD LR LR 05 53 37.4
comp=Z,467nm,20.7s,baz=20,slow=38
LZH Lanzhou 46.51 69 eP P 05 33 37.3 +1.4
LZH pP pP 05 33 48.9 +2.0
LZH sP sP 05 33 53.5 +2.1
LZH *e*PP **PP 05 35 27.0 +1.5**
LZH pmax pmax
comp=Z,25nm,1.3s
LZH pmax pmax
comp=Z,96nm,6.5s
LZH LR LR
comp=Z,390nm,15.2s
LZH LR LR
comp=Z,370nm,14.7s
LZH LR LR
comp=Z,440nm,18.3s
SONM Songino Array 46.75 53 P P **05 33 37.1 -0.6**
comp=Z,1.3nm,0.5s,baz=268,slow=9.1,SNR=9.0
SONM LR LR 05 55 15.2
comp=Z,396nm,20.2s,baz=273,slow=39
SONA1 Songino Array 46.76 53 eP P 05 33 37.2 -0.5
ULN Ulaanbaatar 47.19 53 eP P 05 33 41.6 +0.4
comp=Z,47nm,1.9s
ULN Ulaanbaatar 47.19 53*c* *i*P P 05 33 40.6 -0.5
ULN pmax pmax
comp=Z,20nm,1.7s
SPA0 Spitsbergen Ar 47.73 352 eP P 05 33 45.0 +0.2
SPITS Spitsbergen Ar 47.73 352 P P **05 33 44.9 +0.2**
comp=Z,2.8nm,0.6s,baz=151,slow=9.1,SNR=14
CHTO Chiang Mai 48.28 93 P P **05 33 49.5 -0.3**
comp=Z,51nm,1.6s
CHTO Chiang Mai 48.28 93 eP P 05 33 49.1 -0.7
comp=Z,30nm,1.6s
CHTO Chiang Mai 48.28 93 eP P 05 33 49.1 -0.7
CHTO pmax pmax
comp=Z,30nm,1.6s
CMMT Chiang Mai 48.29 93 P P **05 33 48.4 -1.4**
comp=Z,11nm,1.6s
CMAR Chiang Mai Arr 48.44 94 P P **05 33 50.5 -0.5**
comp=Z,2.5nm,0.6s,baz=293,slow=8.9,SNR=12
CMAR PcP **PcP 05 35 16.8 -0.1**
comp=Z,1.4nm,0.7s,baz=295,slow=4.9,SNR=4.0
KMI Kunming 48.89 84 P P **05 33 54.3 -0.3**
KMI pmax pmax
comp=Z,13nm,0.8s
KOWA Kowa 49.66 261 P P **05 34 00.4 +0.1**
comp=Z,6.1nm,0.7s,baz=60,slow=12,SNR=21
KOWA LR LR 05 57 47.4
comp=Z,495nm,18.1s,baz=44,slow=40
KOWA Kowa 49.66 261 eP P 05 34 00.4 +0.1
comp=Z,35nm,1.5s
NANT Nan 49.77 92 P P **05 34 01.3 +0.1**
comp=Z,4.7nm,0.9s,comp=Z,1μm
LSZ Lusaka 50.79 204 LR LR 05 56 06.3
comp=Z,392nm,20.1s,baz=14,slow=37
LSZ Lusaka 50.79 204 eP P 05 34 10.2 +1.3
comp=Z,42nm,1.9s
LSZ Lusaka 50.79 204 eP P 05 34 10.2 +1.3
LSZ pmax pmax
comp=Z,42nm,1.9s
BOD Bodaibo 51.07 39 eP P 05 34 09.2 -1.2
BOD pmax pmax
comp=Z,17nm,1.6s
HHC Hu-ho-hao-te 51.39 61 eP P 05 34 13.9 +0.7
HHC sP sP 05 34 29.6 +0.8
HHC S **S 05 41 28.6 -1.7**
HHC sS sS 05 41 46.8 -1.8
HHC pmax pmax
comp=Z,19nm,0.9s
HHC pmax pmax
comp=Z,91nm,4.6s
HHC LR LR
comp=Z,390nm,16.1s
HHC LR LR
comp=Z,650nm,15.5s
HHC LR LR
comp=Z,650nm,15.3s
GYA Guiyang 51.68 80 eP P 05 34 14.3 -1.3
GYA pmax pmax
comp=Z,10.0nm,1.0s
PHET Kaeng Krachan 51.72 99 P P **05 34 16.0 +0.1**
comp=Z,8.0nm,0.7s
NAYO Nakonayok 52.42 97 P P **05 34 23.4 +2.3**
comp=Z,10nm,1.0s
SCO Scoresbysund 52.78 337 eP P 05 34 24.1 +1.2
comp=Z,30nm,1.9s
SCO Scoresbysund 52.78 337 eP P 05 34 24.1 +1.2
SCO pmax pmax
comp=Z,30nm,1.9s
SRAK Srakaew 53.18 97 P P **05 34 30.0 +3.3**
comp=Z,58nm,0.8s
DBIC Dimbokro 54.57 254 P P **05 34 36.1 -0.8**
comp=Z,4.2nm,0.7s,baz=19,slow=8.5,SNR=7.9
DBIC LR LR 06 00 38.2
comp=Z,470nm,18.8s,baz=30,slow=39
DBIC Dimbokro 54.57 254 eP P 05 34 36.7 -0.2
comp=Z,50nm,1.8s
DBIC Dimbokro 54.57 254 eP P 05 34 36.7 -0.2
DBIC pmax pmax
comp=Z,50nm,1.8s
KIC Kosan Boka 54.66 253 eP P 05 34 36.8 -0.7
comp=Z,81nm,1.5s
TIC Toumodi 54.72 254 eP P 05 34 37.4 -0.6
LIC Lamto 54.97 253 eP P 05 34 39.2 -0.5
comp=Z,33nm,0.8s
HIA Hailar 55.36 49⇓ *i*P P 05 34 42.6 +0.4
HIA pmax pmax
comp=Z,13nm,1.0s
GSI Gunungsitoli 56.67 113 eP P 05 34 52.6 +0.7
comp=Z,14nm,0.8s
PSI Prapat 56.82 110 P P **05 34 52.4 -0.8**
comp=Z,4.8nm,0.4s,baz=270,slow=5.1,SNR=4.0
PSI Prapat 56.82 110 eP P 05 34 53.6 +0.5
comp=Z,47nm,1.9s
PSI Prapat 56.82 110 eP P 05 34 53.6 +0.5
PSI pmax pmax
comp=Z,47nm,1.9s
TIXI Tiksi 56.99 22 eP P 05 34 52.5 -0.8
comp=Z,6.4nm,1.1s
TIXI Tiksi 56.99 22⇑ eP P 05 34 53.4 0.0
TIXI pmax pmax
comp=Z,7.0nm,2.3s
NJ2 Nanjing 59.58 69 eP P 05 35 12.1 0.0
NJ2 pmax pmax
comp=Z,12nm,0.6s
LBTB Lobatse 60.71 202 eP P 05 35 21.5 +1.6
comp=Z,6.6nm,0.8s
LBTB Lobatse 60.71 202 eP P 05 35 21.5 +1.6
LBTB pmax pmax
comp=Z,7.0nm,0.8s
KLR Kul'dur 62.96 47⇑ eP P 05 35 33.8 -0.9
NRS Narsarsuaq 63.29 327 eP P 05 35 36.9 +0.3
comp=Z,14nm,1.1s
NRS Narsarsuaq 63.29 327 eP P 05 35 36.9 +0.3
NRS pmax pmax
comp=Z,14nm,1.1s
SFJD Kangerlussuaq 63.46 334 P P **05 35 37.6 -0.1**
comp=Z,2.4nm,0.5s,baz=135,slow=1.4,SNR=3.9
SFJD Kangerlussuaq 63.46 334 eP P 05 35 37.8 +0.1
comp=Z,4.2nm,0.8s
SFJD Kangerlussuaq 63.46 334 eP P 05 35 37.8 +0.1
SFJD pmax pmax
comp=Z,4.0nm,0.8s
BOSA Boshof 64.17 201 P P **05 35 43.6 +0.7**
comp=Z,4.9nm,0.7s,baz=5.1,slow=7.5,SNR=20
BOSA Boshof 64.17 201 eP P 05 35 44.1 +1.1
comp=Z,67nm,1.9s
TULEG Thule 64.35 346 eP P 05 35 43.2 -0.3
comp=Z,38nm,2.0s
KSAR Wonju Array Be 64.50 61 P P **05 35 44.0 -1.0**
KSAR Wonju Array Be 64.50 61 P P **05 35 44.0 -1.0**
KSRS Korea Array 64.52 61 P P **05 35 44.0 -1.1**
comp=Z,2.6nm,0.6s,baz=286,slow=6.3,SNR=8.8
IVI Ivigtut 64.53 328 eP P 05 35 44.5 -0.3
comp=Z,34nm,1.5s
USRK Ussuriysk Ar. 64.86 52 P P **05 35 45.9 -1.5**
comp=Z,4.5nm,0.6s,baz=281,slow=7.3,SNR=7.4
USRK LR LR 06 07 06.3
comp=Z,280nm,19.9s,baz=277,slow=39
MSHR Mys Shultsa 64.90 54 eP P 05 35 46.4 -1.1
SEY Seymchan 68.11 28⇑ *i*P P 05 36 07.8 +0.1
MA2 Magadan 69.03 32⇓ eP P 05 36 14.0 +0.4
MA2 pmax pmax
comp=Z,9.0nm,1.8s
SUR Sutherland 69.09 204 eP P 05 36 16.1 +1.7
comp=Z,46nm,1.5s
BILL Bilibino 70.14 20 *i* P P 05 36 18.5 -1.7
BILL *i* 05 36 40.0
BILL pmax pmax
comp=Z,4.0nm,1.2s
BILL MLR MLR
comp=Z,355nm,22.0s
YSS Yuzh-Sakhalins 70.63 46 eP P 05 36 19.0 -4.6
FRB Frobisher Bay 71.58 335 P P **05 36 28.9 -0.1**
ASAJ Asahikawa 71.84 49 P P **05 36 29.8 -1.2**
comp=Z,5.2nm,0.8s,baz=319,slow=11,SNR=5.9
MJAR Matsushiro Arr 72.37 58 P P **05 36 34.3 0.0**
comp=Z,0.8nm,0.3s,baz=299,slow=5.4,SNR=6.4
MJAR LR LR 06 10 41.6
comp=Z,127nm,20.7s,baz=290,slow=38
PETK Petropavlovsk- 75.73 36 LR LR 06 15 06.3
comp=Z,185nm,18.2s,baz=297,slow=40
SCHQ Schefferville 76.25 327 P P **05 36 56.8 +0.2**
comp=Z,5.6nm,0.6s,baz=38,slow=9.0,SNR=5.0
TOLK Toolik Lake Re 78.45 6 eP P 05 37 09.3 +0.7
comp=Z,9.7nm,0.9s
INK Inuvik 79.54 0 eP P 05 37 14.2 -0.3
comp=Z,16nm,1.8s
INK Inuvik 79.54 0 eP P 05 37 14.2 -0.3
INK pmax pmax
comp=Z,17nm,1.8s
IM3 Indian Mountai 80.57 8 eP P 05 37 19.9 -0.3
MLY Manley 81.84 8 eP P 05 37 27.4 +0.4
comp=Z,18nm,2.0s
MDM Murphy Dome 82.17 7 eP P 05 37 29.0 +0.4
comp=Z,22nm,1.6s
IL1 Eielson Array 82.47 6 eP P 05 37 29.4 -0.9
ILAR Eielson Array 82.47 6 P P **05 37 29.6 -0.7**
comp=Z,0.6nm,0.8s,baz=344,slow=3.2,SNR=6.6
BPAW Bear Paw Mtn. 82.71 8 eP P 05 37 30.7 -0.8
comp=Z,18nm,1.5s
EGAK Eagle 82.87 4 eP P 05 37 32.7 +0.4

	comp=Z,19nm,1.6s								
CAST	**Castle Rocks**	**83.24**	**9**	*e*P		**P**	**05 37 34.3**	**0.0**
	comp=Z,4.4nm,0.9s								
KTH	**Kantishna Hill**	**83.25**	**8**	*e*P		**P**	**05 37 35.0**	**+0.6**
	comp=Z,19nm,1.7s								
TRF	**Thorofare Moun**	**83.42**	**8**	*e*P		**P**	**05 37 36.0**	**+0.6**
	comp=Z,37nm,2.0s								
SCRK	**Sand Creek**	**83.49**	**5**	*e*P		**P**	**05 37 36.2**	**+0.5**
	comp=Z,19nm,1.5s								
FCC	**Fort Churchill**	**83.52**	**341**	*e*P		**P**	**05 37 36.4**	**+0.7**
FCC	**Fort Churchill**	**83.52**	**341**	*e*P		**P**	**05 37 36.4**	**+0.7**
FCC					pmax	pmax			
	comp=Z,8.0nm,1.1s								
RND	**Reindeer**	**83.62**	**7**	*e*P		**P**	**05 37 35.8**	**-0.5**
	comp=Z,4.7nm,1.3s								
RND	**Reindeer**	**83.62**	**7**	*e*P		**P**	**05 37 35.8**	**-0.5**
RND					pmax	pmax			
	comp=Z,5.0nm,1.3s								
RIDG	**Independ'e Rid**	**83.66**	**5**	*e*P		**P**	**05 37 36.4**	**-0.1**
	comp=Z,20nm,1.8s								
DAWY	**Dawson**	**83.67**	**3**	*e*P		**P**	**05 37 36.1**	**-0.4**
	comp=Z,13nm,1.5s								
PPLA	**Purkeypile**	**83.73**	**9**	*e*P		**P**	**05 37 36.7**	**-0.2**
	comp=Z,27nm,1.8s								
DOT	**Dot Lake**	**83.81**	**5**	*e*P		**P**	**05 37 37.6**	**+0.4**
	comp=Z,8.0nm,0.8s								
YKA	**Yellowknife Ar**	**84.23**	**352**	P		**P**	**05 37 38.8**	**-0.5**
	comp=Z,1.2nm,0.8s,baz=14,slow=5.5,SNR=20								
MENT	**Mentasta**	**84.54**	**5**	*e*P		**P**	**05 37 41.6**	**+0.7**
	comp=Z,5.3nm,1.0s								
SML	**Sawmill**	**85.24**	**7**	*e*P		**P**	**05 37 44.4**	**-0.1**
	comp=Z,14nm,1.2s								
SML	**Sawmill**	**85.24**	**7**	*e*P		**P**	**05 37 44.4**	**-0.1**
SML					pmax	pmax			
	comp=Z,14nm,1.2s								
SUA	**Susitna One**	**85.30**	**8**	*e*P		**P**	**05 37 44.8**	**-0.1**
	comp=Z,36nm,2.0s								
LBNH	**Lisbon**	**85.59**	**321**	*e*P		**P**	**05 37 48.1**	**+1.6**
	comp=Z,9.1nm,0.9s								
LBNH	**Lisbon**	**85.59**	**321**	*e*P		**P**	**05 37 48.1**	**+1.6**
LBNH					pmax	pmax			
	comp=Z,9.0nm,0.9s								
KLU	**Klutina**	**85.79**	**6**	*e*P		**P**	**05 37 48.2**	**+0.9**
	comp=Z,11nm,1.1s								
BALM	**Baldy**	**86.52**	**5**	*e*P		**P**	**05 37 51.0**	**0.0**
	comp=Z,24nm,1.6s								
BALM	**Baldy**	**86.52**	**5**	*e*P		**P**	**05 37 51.0**	**0.0**
BALM					pmax	pmax			
	comp=Z,24nm,1.6s								
HYT	**Haines Junctio**	**86.98**	**2**	*e*P		**P**	**05 37 53.0**	**-0.2**
	comp=Z,32nm,1.7s								
RAGM	**Ragged Mountai**	**86.99**	**6**	*e*P		**P**	**05 37 54.0**	**+0.8**
	comp=Z,34nm,1.5s								
PLVO	**Plevna**	**87.68**	**324**	*e*P		**P**	**05 37 56.6**	**-0.2**
	comp=Z,32nm,1.6s								
FFC	**Flin Flon**	**89.16**	**343**	*e*P		**P**	**05 38 02.7**	**-0.8**
	comp=Z,13nm,1.5s								
FFC	**Flin Flon**	**89.16**	**343**	*e*P		**P**	**05 38 02.7**	**-0.8**
FFC					pmax	pmax			
	comp=Z,13nm,1.5s								
ULM	**Lac du Bonnet**	**91.35**	**337**	P		**P**	**05 38 13.1**	**-0.7**
	comp=Z,1.7nm,0.7s,baz=11,slow=3.1,SNR=3.4								
ULM	**Lac du Bonnet**	**91.35**	**337**	*e*P		**P**	**05 38 14.5**	**+0.7**
	comp=Z,19nm,1.9s								
TKL	**Tuckaleechee C**	**98.05**	**322**	P		Pdif	05 38 45.0	+0.2
	comp=Z,4.4nm,1.0s,baz=29,slow=7.8,SNR=2.2								
WRA	**Warramunga Arr**	**98.25**	**108**	P		**P**	**05 38 45.3**	**-0.5**
	comp=Z,0.5nm,0.9s,baz=318,slow=3.7,SNR=3.2								
ASAR	**Alice Springs**	**99.82**	**112**	P		**Pdif**	**05 38 52.2**	**-0.6**
	comp=Z,0.4nm,0.7s,baz=312,slow=5.1,SNR=4.9								
CPUP	**Villa Florida**	**115.09**	**254**	PKP		**PKPdf**	**05 43 48.8**	**-0.6**
	comp=Z,0.9nm,0.7s,baz=315,slow=2.9,SNR=2.8								
LPAZ	**La Paz**	**119.63**	**269**	PKP		**PKPdf**	**05 43 58.8**	**-0.4**
	comp=Z,1.0nm,0.8s,baz=179,slow=5.7,SNR=4.3								
QSPA	**South Pole Qui**	**122.30**	**180**	PKP		**PKPdf**	**05 44 00.7**	**-1.4**
	comp=Z,3.0nm,0.7s,baz=41,slow=0.8,SNR=6.9								
PB11	**IPOC Station P**	**122.51**	**266**	*e*PKPdf		**PKPdf**	**05 44 05.0**	**+0.9**
TRQA	**Tornquist**	**123.06**	**243**	*e*PKPdf		**PKPdf**	**05 44 05.3**	**+0.9**
HPAH	**Hawaii Prepara**	**123.45**	**26**	*e*PKPdf		**PKPdf**	**05 44 03.8**	**-2.1**

CSEM ***21*** *05:27:08.1,43.38N×13.20E,h7km,MD1.8/5*

ROM 21 05:27:08.1±0.1, 43.38N×13.20E, h7km, Md1.8/5, Ml1.1/4, Error ellipse: s-maj=1.8km s-min=1.1km az=46.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CING	**Cingoli**	**0.00**	**190**	Pg	Pg	05 27 09.7	+0.2
CING				Sg	Sg	05 27 10.7	+0.3
CING	**Cingoli**	**0.00**	**190**	Pg	Pg	05 27 09.7	+0.2
CING				Sg	Sg	05 27 10.7	+0.3
ARVD	**Arcevia**	**0.22**	**303**	Pg	Pg	05 27 13.4	+0.9
ARVD				Sg	Sg	05 27 17.2	+1.7
ARVD	**Arcevia**	**0.22**	**303**	Pg	Pg	05 27 13.4	+0.9
ARVD				Sg	Sg	05 27 17.2	+1.7
SNTG	**Esanatoglia**	**0.22**	**237**	Pg	Pg	05 27 13.4	+0.8
SNTG				Sg	Sg	05 27 17.2	+1.6
SNTG	**Esanatoglia**	**0.22**	**237**	Pg	Pg	05 27 13.4	+0.8
SNTG				Sg	Sg	05 27 17.2	+1.6
CESI	**CESI - Serrava**	**0.43**	**210**	Pg	Pg	05 27 17.1	+0.6
	5.0nm,0.4s						
CESI	**CESI - Serrava**	**0.43**	**210**	Pg	Pg	05 27 17.1	+0.6
	5.0nm,0.4s						
PIEI	**Pieia**	**0.51**	**288**	Pg	Pg	05 27 18.4	+0.5
PIEI				Sg	Sb	05 27 26.5	-0.4
	43nm,1.7s						
PIEI	**Pieia**	**0.51**	**288**	Pg	Pg	05 27 18.4	+0.5
PIEI				Sg	Sb	05 27 26.5	-0.4
	43nm,1.7s						
NRCA	**Norcia**	**0.55**	**186**	Pg	Pg	05 27 19.2	+0.5
	12nm,0.2s						
NRCA	**Norcia**	**0.55**	**186**	Pg	Pg	05 27 19.2	+0.5
	12nm,0.2s						
GUMA	**Gualdo di Mace**	**0.63**	**120**	Pg	Pg	05 27 15.8	-4.4
GUMA				Sg	Sg	05 27 21.8	-6.5
	66nm,0.3s						
GUMA	**Gualdo di Mace**	**0.63**	**120**	Pg	Pg	05 27 15.8	-4.4
GUMA				Sg	Sg	05 27 21.8	-6.5
	66nm,0.3s						

IDC ***21*** *05:28:03.9±2.1,1.41S×134.63E,h0km,mb3.4/2, mb1 3.7/4,mb1mx3.4/54,mbtmp3.5/4,ML3.4/2, Error ellipse: s-maj=37.2km s-min=20.1km az=35.0*

ISCJB ***21*** *05:28:09.0±1.0,1.32S±0.08×134.22E±0.07,h29km, mb3.4/2, Error ellipse: s-maj=12.1km s-min=9.9km az=142.4*

DJA ***21*** *05:28:10.8±0.4,1°S±2°×13°4E±°,h12km±2km,M4.3/6, mB5.0/1,mb4.4/2,MLv4.2/6,Mw(mB)4.3/1*

ISC 21 05:28:10.0±0.9, 1.53S±0.06×134.15E±0.06, h29km, n10, σ2s75/15, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RKPI	**Ransiki, Papua**	**0.03**	**64**	P	**Pb**	**05 28 13.0**	**-1.9**
RKPI				S	**Sb**	**05 28 16.8**	**-1.4**
KMPI	**Kaimana, Papua**	**2.17**	**192**	P	**Pb**	**05 28 47.7**	**-0.8**
KMPI				S	**Sb**	**05 29 16.1**	**+1.1**
FAKI	**Fak Fak**	**2.35**	**234**	P	**Pn**	**05 28 49.8**	**+3.2**
FAKI				S	**Sb**	**05 29 20.3**	**+0.1**
SIJI	**Sorong**	**2.95**	**283**	Pn	**Pb**	**05 28 59.4**	**-2.5**
	5.1nm,0.3s,baz=92,slow=15,SNR=7.2						
SIJI				Pg	Pn	05 29 07.6	+13
	20nm,0.3s,baz=93,slow=14,SNR=19						
SIJI				Sn	**Sb**	**05 29 37.8**	**+0.2**
	7.1nm,0.3s,baz=94,slow=11,SNR=3.6						
SIJI				Lg	Lg	05 29 49.3	
	17nm,0.3s,baz=152,slow=23,SNR=15						
MSAI	**Masohi**	**5.52**	**251**	P	**Pn**	**05 29 33.4**	**+3.2**
GENI	**Genyem**	**6.11**	**100**	P	**Pn**	**05 29 40.9**	**+2.5**
AAI	**Ambon**	**6.32**	**250**	P	**Pn**	**05 29 44.4**	**+3.1**
WRA	**Warramunga Arr**	**18.30**	**179**	P	**P**	**05 32 20.6**	**-1.3**
	0.1nm,0.3s,baz=2.5,slow=11,SNR=7.8						
WRA				S	**Sn**	**05 35 39.6**	**-6.1**
	0.0nm,0.3s,baz=3.7,slow=22,SNR=2.8						
ASAR	**Alice Springs**	**22.01**	**181**	P	**P**	**05 33 00.7**	**-1.4**
	1.9nm,0.9s,baz=7.8,slow=11,SNR=9.8						
MKAR	**Makanchi Array**	**66.11**	**324**	P	**P**	**05 38 54.5**	**-0.1**
	0.2nm,0.6s,baz=121,slow=5.6,SNR=2.4						

ISCJB ***21*** *05:33:59.4±0.6,18.10S±0.07×178.08W±0.06,*

h610km±8km,mb4.5/94,Error ellipse: s-maj=11.9km s-min=5.8km az=147.0

IDC ***21*** *05:33:59.8±1.2,17.98S×178.08W,h593km±13km, mb3.6/20,mb1 3.8/21,mb1mx3.6/45,mbtmp4.5/21,Error ellipse: s-maj=16.1km s-min=9.3km az=153.0*

NEIC ***21*** *05:34:00.5±0.5,18.06S×178.07W,h607km±5km,mb4.5/74, Error ellipse: s-maj=7.9km s-min=4.4km az=145.0*

ISC 21 05:34:00.7±0.7, 18.04S±0.09×178.05W±0.07, h607km±7km, n216, σ0s90/221, mb4.5/94, 11C-14D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.73**	**274**	*e*P	**P**	**05 35 25.9**	**+1.0**
AFI	**Afiamalu**	**7.30**	**57**	P	**P**	**05 35 52.7**	**-1.2**
	2.9nm,0.3s,baz=203,slow=7.7,SNR=4.0						
AFI				S	**S**	**05 37 23.3**	**-3.1**
	1.1nm,0.3s,baz=176,slow=14,SNR=3.5						
AFI	**Afiamalu**	**7.30**	**57**	*e*P	**P**	**05 35 53.2**	**-0.7**
DZM	**Mont Dzumac**	**15.11**	**252**	*e*P	**P**	**05 37 12.7**	**+3.0**
	26nm,1.1s						
THZ	**Tophouse**	**24.88**	**196**	*e*P	**P**	**05 38 36.0**	**-1.3**
	12nm,1.1s						
PPT	**Papeete**	**27.10**	**93**	P	**P**	**05 38 57.3**	**+0.2**
	16nm,0.5s,baz=64,slow=9.0,SNR=6.2						
PPTF	**Pamatai, Papee**	**27.11**	**93**	*e*P	**P**	**05 38 57.4**	**+0.1**
	107nm,1.3s						
FOZ	**Fox Glacier**	**27.40**	**199**	*e*P	**P**	**05 38 58.5**	**-0.8**
	29nm,1.3s						
EIDS	**Eidsvold**	**29.55**	**250**	*e*P	**P**	**05 39 17.5**	**-0.7**
	34nm,1.7s						
DCZ	**Deep Cove**	**30.00**	**201**	*e*P	**P**	**05 39 21.8**	**+0.1**
	102nm,2.0s						
CTA	**Charters Tower**	**33.77**	**261**	P	**P**	**05 39 53.4**	**-0.7**
	6.8nm,0.6s,baz=91,slow=11,SNR=14						
CTAO	**Charters Tower**	**33.77**	**261**	*e*P	**P**	**05 39 53.7**	**-0.4**
	7.3nm,0.6s						
CAN	**Canberra**	**33.90**	**233**	*e*P	**P**	**05 39 55.3**	**+0.3**
	113nm,1.9s						
PMG	**Port Moresby**	**34.82**	**280**	P	**P**	**05 40 03.2**	**+0.4**
	31nm,0.8s,baz=74,slow=9.1,SNR=8.4						
PMG	**Port Moresby**	**34.82**	**280**	*e*P	**P**	**05 40 03.9**	**+1.0**
	32nm,0.9s						
COEN	**Coen**	**37.45**	**270**	*e*P	**P**	**05 40 25.0**	**+0.5**
	24nm,0.8s						
MANU	**Manus Island**	**37.47**	**291**	*e*P	**P**	**05 40 26.0**	**+1.3**
	89nm,0.2s						
STKA	**Stephens Creek**	**38.87**	**241**	P	**P**	**05 40 35.9**	**+0.2**
	6.7nm,0.7s,baz=70,slow=8.9,SNR=12						
STKA				PcP	**PcP**	**05 42 30.1**	**-0.6**
	1.6nm,0.6s,baz=162,slow=17,SNR=2.9						
WAKE	**Wake Island**	**40.02**	**337**	*e*P	**P**	**05 40 44.9**	**0.0**
	385nm,1.6s						
BBOO	**Buckdeboo**	**43.64**	**241**	*e*P	**P**	**05 41 12.9**	**-0.4**
	88nm,1.8s						
WB2	**Warramunga Arr**	**44.94**	**260**	*e*P	**P**	**05 41 22.2**	**-1.1**
	9.9nm,0.6s						
WB2				*e*PcP	**PcP**	**05 42 51.3**	**-0.1**
WRAB	**Tennant Creek**	**44.94**	**260**	*e*P	**P**	**05 41 22.6**	**-0.8**
	12nm,1.0s						
WRA	**Warramunga Arr**	**44.95**	**260**	P	**P**	**05 41 22.6**	**-0.9**
	8.5nm,0.6s,baz=95,slow=6.9,SNR=175						
WRA				PcP	**PcP**	**05 42 51.1**	**-0.4**
	2.2nm,0.7s,baz=91,slow=3.8,SNR=6.9						
WRA				ScP	**ScP**	**05 45 48.5**	**+1.7**
	0.3nm,0.9s,baz=93,slow=5.0,SNR=3.1						
WRA				S	**S**	**05 47 14.1**	**-4.9**
	2.5nm,0.8s,baz=98,slow=13,SNR=11						
AS01	**Alice Springs**	**45.04**	**254**	*e*P	**P**	**05 41 23.4**	**-0.8**
AS01				*e*PcP	**PcP**	**05 42 51.3**	**-0.5**
AS31	**Alice Springs**	**45.09**	**254**	*e*P	**P**	**05 41 23.9**	**-0.6**
	5.8nm,0.6s						
AS31				*e*PcP	**PcP**	**05 42 51.5**	**-0.4**
ASAR	**Alice Springs**	**45.09**	**254**	P	**P**	**05 41 23.9**	**-0.6**
	24nm,0.8s,baz=88,slow=8.3,SNR=180						
ASAR				PcP	**PcP**	**05 42 51.4**	**-0.5**
	3.3nm,0.5s,baz=104,slow=3.9,SNR=14						
ASAR				S	**S**	**05 47 18.0**	**-2.9**
	4.4nm,1.0s,baz=89,slow=15,SNR=19						
MTN	**Manton Dam**	**49.14**	**268**	*e*P	**P**	**05 41 53.8**	**-1.1**
	18nm,0.8s						
FORT	**Forrest**	**50.26**	**245**	*e*P	**P**	**05 42 01.8**	**-1.0**
	437nm,0.9s						
SOEI	**Soe**	**56.42**	**270**	*e*P	**P**	**05 42 47.6**	**+0.9**
	35nm,0.8s						
MBWA	**Marble Bar**	**58.38**	**256**	*e*P	**P**	**05 42 58.8**	**-0.9**
	17nm,1.3s						
VNDA	**Vanda**	**60.34**	**185**	P	**P**	**05 43 13.0**	**+1.3**
	0.5nm,0.4s,baz=353,slow=5.0,SNR=8.0						
VNDA	**Vanda**	**60.34**	**185**	*e*P	**P**	**05 43 15.8**	**+4.1**
	9.7nm,1.8s						
CASY	**Casey**	**66.16**	**205**	*e*P	**P**	**05 43 48.5**	**-0.5**
	42nm,1.8s						
JAGI	**Jajag, Banyuwa**	**66.38**	**268**	*e*P	**P**	**05 43 49.7**	**-1.6**
	43nm,1.2s						
MJAR	**Matsushiro Arr**	**68.22**	**323**	P	**P**	**05 44 01.6**	**-0.5**
	7.0nm,0.6s,baz=166,slow=6.2,SNR=16						
MAJO	**Matsushiro**	**68.22**	**323**	*e*P	**P**	**05 44 01.9**	**-0.2**
	9.4nm,0.6s						
MAT	**Matsushiro**	**68.22**	**323**	P	**P**	**05 44 01.8**	**-0.3**
MJB9	**Matsu-Tunnel**	**68.23**	**323**	*e*P	**P**	**05 44 02.1**	**0.0**
	9.5nm,0.6s						
UGM	**Wanagama**	**69.99**	**268**	*e*P	**P**	**05 44 12.6**	**-0.6**
	756nm,2.0s						
ATKA	**Atka Island**	**70.03**	**3**	*e*P	**P**	**05 44 11.9**	**-0.5**
	52nm,1.0s						
ASAJ	**Asahikawa**	**71.56**	**331**	P	**P**	**05 44 22.6**	**+1.0**
	5.3nm,0.4s,baz=180,slow=4.0,SNR=8.2						
ASAJ	**Asahikawa**	**71.56**	**331**	*e*P	**P**	**05 44 23.3**	**+1.7**
	7.1nm,0.8s						
YULB	**Yu-li**	**72.13**	**303**	*e*P	**P**	**05 44 24.5**	**-0.9**
	104nm,1.8s						
UNV	**Unalaska Valle**	**72.28**	**7**	*e*P	**P**	**05 44 24.9**	**-0.6**
	83nm,1.6s						
SSLB	**Suanglung**	**72.60**	**303**	*e*P	**P**	**05 44 26.9**	**-1.2**
	102nm,2.0s						
TPUB	**Ta-pu**	**72.62**	**302**	*e*P	**P**	**05 44 27.4**	**-0.9**
	24nm,0.8s						
KSM	**Kuching**	**73.05**	**277**	*e*P	**P**	**05 44 31.6**	**+0.7**
	25nm,0.9s						
PEA0B	**Petropavlovsk-**	**73.90**	**345**	*e*P	**P**	**05 44 35.0**	**+0.2**
	45nm,1.5s						
PETK	**Petropavlovsk-**	**73.90**	**345**	P	**P**	**05 44 34.4**	**-0.4**
	10nm,0.7s,baz=127,slow=8.4,SNR=16						
PETK	**Petropavlovsk-**	**73.90**	**345**	*e*P	**P**	**05 44 34.6**	**-0.2**
KSRS	**Korea Array**	**75.03**	**318**	P	**P**	**05 44 42.1**	**+0.6**
	1.8nm,0.7s,baz=131,slow=6.4,SNR=4.9						
OHAK	**Old Harbor**	**77.78**	**13**	*e*P	**P**	**05 44 56.1**	**+0.1**
	123nm,1.8s						
YBH	**Yreka Blue Hor**	**78.41**	**39**	P	**P**	**05 45 00.8**	**+0.9**
	0.8nm,0.6s,baz=180,slow=3.0,SNR=3.8						
YBH	**Yreka Blue Hor**	**78.41**	**39**	*e*P	**P**	**05 45 01.5**	**+1.6**
	11nm,1.6s						
KDAK	**Kodiak Island**	**78.45**	**14**	*e*P	**P**	**05 44 59.5**	**0.0**
	140nm,2.0s						
DAC	**Darwin (Calif)**	**78.59**	**46**	*e*P	**P**	**05 45 00.0**	**-1.1**
	2.2nm,0.8s						
NV01	**Mina Array Sit**	**79.28**	**44**	*e*P	**P**	**05 45 06.2**	**+1.5**
NVAR	**Mina Array Bea**	**79.28**	**44**	P	**P**	**05 45 05.2**	**+0.4**
	0.5nm,0.7s,baz=222,slow=9.2,SNR=6.3						
113A	**Mohawk Valley,**	**79.51**	**51**	*e*P	**P**	**05 45 05.7**	**-0.1**
	4.7nm,1.3s						
MOD	**Modoc Plateau**	**79.97**	**40**	*e*P	**P**	**05 45 09.0**	**+0.8**
	2.1nm,0.8s						
K05A	**Summer Lake**	**80.09**	**39**	*e*P	**P**	**05 45 09.6**	**+0.8**
	42nm,1.9s						
BRLK	**Bradley Lake**	**80.63**	**14**	*e*P	**P**	**05 45 10.7**	**-0.3**
	10nm,1.9s						
SVW2	**Sparrevohn**	**80.91**	**11**	*e*P	**P**	**05 45 11.9**	**-0.5**
	12nm,1.5s						
GAMB	**Gambell**	**81.70**	**3**	*e*P	**P**	**05 45 16.9**	**+0.6**
	30nm,1.8s						
SUA	**Susitna One**	**82.19**	**13**	*e*P	**P**	**05 45 18.7**	**-0.4**
	8.3nm,0.6s						
PMR	**Palmer**	**82.65**	**13**	*e*P	**P**	**05 45 20.6**	**-0.5**
	13nm,1.4s						
RAGM	**Ragged Mountai**	**82.68**	**16**	*e*P	**P**	**05 45 21.6**	**+0.2**
	21nm,1.3s						
SML	**Sawmill**	**83.02**	**14**	*e*P	**P**	**05 45 22.9**	**-0.2**
	20nm,1.6s						
BMRM	**Bremner River**	**83.19**	**16**	*e*P	**P**	**05 45 23.9**	**-0.1**
	10nm,0.9s						
PPLA	**Purkeypile**	**83.20**	**12**	*e*P	**P**	**05 45 22.9**	**-1.1**
	16nm,1.6s						
SCM	**Sheep Creek Mo**	**83.28**	**14**	*e*P	**P**	**05 45 24.2**	**-0.2**
	12nm,0.6s						
CAST	**Castle Rocks**	**83.69**	**11**	*e*P	**P**	**05 45 24.9**	**-1.4**
	10nm,0.7s						
KTH	**Kantishna Hill**	**84.04**	**12**	*e*P	**P**	**05 45 27.1**	**-1.1**
	6.0nm,0.8s						
TRF	**Thorofare Moun**	**84.07**	**12**	*e*P	**P**	**05 45 27.7**	**-0.8**
	16nm,0.8s						
PSI	**Prapat**	**84.24**	**275**	P	**P**	**05 45 29.5**	**-0.9**
	8.3nm,0.7s,baz=115,slow=5.3,SNR=6.7						
PSI	**Prapat**	**84.24**	**275**	*e*P	**P**	**05 45 29.8**	**-0.6**
	9.3nm,0.7s						
RND	**Reindeer**	**84.33**	**13**	*e*P	**P**	**05 45 30.1**	**+0.6**
DHY	**Denali Highway**	**84.35**	**13**	*e*P	**P**	**05 45 29.4**	**-0.4**
	17nm,1.6s						
BPAW	**Bear Paw Mtn.**	**84.52**	**12**	*e*P	**P**	**05 45 31.0**	**+0.6**
	14nm,1.9s						
MCK	**McKinley**	**84.60**	**13**	*e*P	**P**	**05 45 30.4**	**-0.4**
	14nm,1.2s						
PAX	**Paxson**	**84.70**	**14**	*e*P	**P**	**05 45 31.0**	**-0.4**
	22nm,2.0s						
HYT	**Haines Junctio**	**85.07**	**19**	*e*P	**P**	**05 45 33.2**	**-0.1**
	6.9nm,1.1s						
MENT	**Mentasta**	**85.09**	**15**	*e*P	**P**	**05 45 33.1**	**-0.1**
	16nm,0.2s						
MLY	**Manley**	**85.41**	**11**	*e*P	**P**	**05 45 33.8**	**-0.9**
	6.1nm,1.4s						
WRH	**Wood River Hil**	**85.43**	**13**	*e*P	**P**	**05 45 34.0**	**-0.7**
	11nm,1.2s						
RIDG	**Independ'e Rid**	**85.50**	**14**	*e*P	**P**	**05 45 35.6**	**+0.4**
	10.0nm,1.4s						
DOT	**Dot Lake**	**85.61**	**14**	*e*P	**P**	**05 45 35.7**	**0.0**
	12nm,1.0s						
CCB	**Clear Creek Bu**	**85.64**	**13**	*e*P	**P**	**05 45 34.8**	**-1.0**
	16nm,1.2s						
IM3	**Indian Mountai**	**85.76**	**10**	*e*P	**P**	**05 45 36.0**	**-0.3**
WHY	**Whitehorse**	**85.77**	**20**	*e*P	**P**	**05 45 37.1**	**+0.5**
	18nm,1.7s						
TX31	**Lajitas Ar. Si**	**85.78**	**57**	*e*P	**P**	**05 45 39.2**	**+1.9**
TXAR	**Lajitas Array**	**85.78**	**57**	P	**P**	**05 45 38.4**	**+1.0**
	1.0nm,0.8s,baz=226,slow=7.5,SNR=12						
DLBC	**Dease Lake**	**85.82**	**23**	*e*P	**P**	**05 45 37.0**	**+0.2**
	31nm,1.8s						
MDM	**Murphy Dome**	**85.83**	**12**	*e*P	**P**	**05 45 35.8**	**-0.9**
	29nm,1.8s						
COLA	**College**	**85.83**	**12**	*e*P	**P**	**05 45 36.2**	**-0.4**
	8.5nm,0.6s						
SCRK	**Sand Creek**	**85.91**	**14**	*e*P	**P**	**05 45 37.0**	**-0.2**
	3.9nm,1.0s						
IL1	**Eielson Array**	**85.94**	**13**	*e*P	**P**	**05 45 36.2**	**-1.0**
ILAR	**Eielson Array**	**85.94**	**13**	P	**P**	**05 45 36.4**	**-0.8**
	2.1nm,0.4s,baz=219,slow=4.8,SNR=52						
ILB	**Eielson Array**	**85.94**	**13**	*e*P	**P**	**05 45 36.5**	**-0.7**
XAN	**Xi'an**	**86.62**	**307**	P	**P**	**05 45 42.3**	**+1.1**
XAN				pP	PcP	05 45 49.4	+6.7
XAN				pmax	pmax		
	comp=Z,12nm,1.2s						
DAWY	**Dawson**	**87.12**	**16**	*e*P	**P**	**05 45 42.9**	**+0.1**
	comp=Z,21nm,2.0s						
PDAR	**Pinedale Array**	**87.21**	**43**	P	**P**	**05 45 44.2**	**+0.2**
	comp=Z,0.4nm,0.6s,baz=252,slow=4.2,SNR=4.9						
PDAR	**Pinedale Array**	**87.21**	**43**	*e*P	**P**	**05 45 44.6**	**+0.6**
EGAK	**Eagle**	**87.26**	**15**	*e*P	**P**	**05 45 43.8**	**+0.4**
	comp=Z,3.9nm,0.8s						
COLD	**Coldfoot**	**87.48**	**10**	*e*P	**P**	**05 45 44.7**	**+0.3**
	comp=Z,5.2nm,0.9s						
HHC	**Hu-ho-hao-te**	**87.61**	**314**	*e*P	**P**	**05 45 47.3**	**+1.5**
HHC				pmax	pmax		
	comp=Z,11nm,1.3s						
HHC				pmax	pmax		
	comp=Z,15nm,7.6s						
FYU	**Fort Yukon**	**87.84**	**13**	*e*P	**P**	**05 45 45.5**	**-0.6**
	comp=Z,33nm,1.9s						
KMI	**Kunming**	**88.20**	**297**	P	**P**	**05 45 49.1**	**+0.1**
KMI				pmax	pmax		
	comp=Z,11nm,0.5s						
CMAR	**Chiang Mai Arr**	**89.26**	**290**	P	**P**	**05 45 54.8**	**+1.0**
	comp=Z,3.0nm,0.8s,baz=112,slow=3.1,SNR=17						
LZH	**Lanzhou**	**91.25**	**308**	↑P	**P**	**05 46 03.9**	**+1.1**
LZH				pP	pP	05 48 10.5	-3.4
LZH				sP	sP	05 49 09.3	-4.8
LZH				PP	**PP**	**05 49 55.0**	**+3.5**
LZH				pmax	pmax		
	comp=Z,21nm,1.5s						
LZH				pmax	pmax		
	comp=Z,85nm,9.6s						
INK	**Inuvik**	**91.93**	**15**	*e*P	**P**	**05 46 04.3**	**-0.6**
	comp=Z,3.0nm,0.8s						
ULN	**Ulaanbaatar**	**93.48**	**319**	*e*P	**P**	**05 46 12.

MLR	**Muntele Rosu**	**146.13**	**329**	PKPbc	**PKPbc**	**05 52 33.7**	**-0.5**
	comp=Z,1.5nm,0.7s,baz=351,slow=7.1,SNR=10						
MLR	**Muntele Rosu**	**146.13**	**329**	⇑*iP*	**PKPbc**	**05 52 33.9**	**-0.3**
MLR	**Muntele Rosu**	**146.13**	**329**	*e*PKPbc	**PKPbc**	**05 52 33.9**	**-0.2**
CJR	**Cluj-Napoca**	**146.30**	**333**	⇓*iP*	**PKPbc**	**05 52 34.1**	**-0.4**
MMAI	**Mount Meron Ar**	**146.51**	**303**	PKPbc	**PKPbc**	**05 52 35.5**	**0.0**
	comp=Z,7.5nm,0.6s,baz=57,slow=5.3,SNR=16						
PRU	**Pruhonice**	**146.56**	**345**	*e*PKP	**PKPbc**	**05 52 35.1**	**+0.1**
PRU				*ex*	x	05 52 38.2	
VOIR		**146.60**	**330**	⇓*iP*	**PKPbc**	**05 52 34.8**	**-0.6**
DRGR		**146.61**	**334**	⇑*iP*	**PKPbc**	**05 52 35.5**	**+0.1**
VRAC	**Vranov**	**146.64**	**342**	⇓*iP*	**PKPbc**	**05 52 35.6**	**+0.3**
VYHS	**Vyhne**	**146.67**	**339**	*e*PKP	**PKPbc**	**05 52 35.9**	**+0.5**
VYHS				*e*		05 52 39.0	
PSZ	**Piszkesteto**	**146.79**	**338**	⇑*iP*	**PKPbc**	**05 52 35.0**	**-0.8**
ARR	**Arges**	**146.85**	**330**	⇓*iP*	**PKPbc**	**05 52 36.7**	**+0.7**
MODS	**Modra-Piesok**	**147.28**	**341**	*e*PKP	**PKPbc**	**05 52 36.8**	**-0.2**
KHC	**Kasperske Hory**	**147.59**	**346**	*e*PKP	**PKPbc**	**05 52 38.1**	**+0.3**
KHC				*ex*	**PKPab**	**05 52 42.8**	**+0.6**
KHC				*ep*PKP	pPKPdf	05 54 40.0	-15
KHC	**Kasperske Hory**	**147.59**	**346**	*e*PKPbc	**PKPbc**	**05 52 38.0**	**+0.1**
EIL	**Elat**	**147.79**	**297**	PKPbc	**PKPbc**	**05 52 40.1**	**+1.2**
	comp=Z,5.3nm,0.8s,baz=292,slow=4.2,SNR=3.8						
GEC2	**GERESS Array S**	**147.83**	**345**	*e*PKPbc	**PKPbc**	**05 52 38.5**	**0.0**
GERES	**GERESS Array B**	**147.83**	**345**	PKPbc	**PKPbc**	**05 52 38.3**	**-0.2**
	comp=Z,1.1nm,0.5s,baz=23,slow=3.3,SNR=3.9						
GEA0	**GERESS Array S**	**147.84**	**345**	*e*PKPbc	**PKPbc**	**05 52 38.3**	**-0.2**
BZS	**Buzias**	**148.01**	**334**	⇓*iP*	**PKPbc**	**05 52 38.8**	**-0.1**
CONA	**Conrad Observa**	**148.10**	**342**	*e*PKiKP	**PKPbc**	**05 52 39.7**	**+0.5**
	comp=Z,13nm,1.2s						
ISP	**Isparta**	**148.18**	**314**	⇑*iP*	**PKPbc**	**05 52 38.9**	**-0.9**
ISP	**Isparta**	**148.18**	**314**	*eP*	**PKPbc**	**05 52 38.8**	**-1.0**
	comp=Z,5.6nm,0.7s						
MOA	**Molln**	**148.61**	**344**	*i* PKiKP	**PKPbc**	**05 52 40.4**	**0.0**
	comp=Z,6.0nm,1.2s						
MANT	**Manisa**	**149.14**	**317**	*e*PKPbc	**PKPbc**	**05 52 41.7**	**-0.5**
BFO	**Black Forest**	**149.35**	**352**	*e*PKPbc	**PKPbc**	**05 52 41.8**	**-0.4**
SOKA	**Soboth**	**149.47**	**342**	*e*PKPbc	**PKPbc**	**05 52 42.2**	**-0.4**
	comp=Z,8.2nm,1.1s,SNR=4.5						
KBA	**Koelnbreinsper**	**149.56**	**345**	*i* PKiKP	**PKPbc**	**05 52 42.6**	**-0.3**
	comp=Z,4.6nm,0.6s						
VTS	**Vitosha**	**149.59**	**328**	⇑*iP*	**PKPbc**	**05 52 43.1**	**0.0**
VTS	**Vitosha**	**149.59**	**328**	*e*PKPbc	**PKPbc**	**05 52 43.2**	**+0.2**
WATA	**Walderalm**	**149.74**	**347**	*i* PKiKP	**PKPbc**	**05 52 43.1**	**-0.2**
	comp=Z,4.5nm,0.5s						
RETA	**Reutte**	**149.76**	**348**	*i* PKiKP	**PKPbc**	**05 52 43.2**	**0.0**
	comp=Z,2.4nm,0.5s						
OBKA	**Obir**	**149.76**	**343**	*e*PKPbc	**PKPbc**	**05 52 42.5**	**-0.8**
	comp=Z,4.3nm,0.9s						
WTTA	**Wattenberg**	**149.79**	**347**	*i* PKiKP	**PKPbc**	**05 52 43.5**	**+0.1**
	comp=Z,8.2nm,0.6s,SNR=4.8						
MOTA	**Moosalm**	**149.83**	**348**	*i* PKiKP	**PKPbc**	**05 52 43.2**	**-0.3**
	comp=Z,6.9nm,0.9s						
MYKA	**Terra Mystica**	**149.90**	**344**	*i* PKPbc	**PKPbc**	**05 52 42.8**	**-0.7**
	comp=Z,5.7nm,0.6s						
DIVS	**Divibare**	**149.92**	**334**	*e*PKPbc	**PKPbc**	**05 52 43.1**	**-0.6**
ABTA	**Abfaltersbach**	**150.08**	**345**	*i* PKPbc	**PKPbc**	**05 52 43.5**	**-0.5**
	comp=Z,13nm,0.6s,SNR=13						
DAVA	**Damuels**	**150.12**	**349**	*e*PKiKP	**PKPbc**	**05 52 44.3**	**+0.1**
	comp=Z,18nm,1.2s,SNR=5.0						
LJU	**Ljubljana**	**150.19**	**342**	*i* PKPbc	**PKPbc**	**05 52 44.2**	**0.0**
FETA	**Feichten**	**150.21**	**348**	*i* PKiKP	**PKPbc**	**05 52 44.6**	**+0.2**
	comp=Z,6.5nm,0.8s						
CRNS	**Crni Vrh**	**150.24**	**343**	*i* PKPbc	**PKPbc**	**05 52 43.8**	**-0.5**
BOJS	**Bojanci**	**150.46**	**341**	*i* PKPbc	**PKPbc**	**05 52 45.2**	**+0.4**
FUORN	**Ofenpass-Fuorn**	**150.69**	**348**	*e*PKPbc	**PKPbc**	**05 52 45.8**	**+0.2**
SENIN	**Lac Senin/Sane**	**151.41**	**352**	*e*PKPbc	**PKPbc**	**05 52 47.3**	**0.0**
KARP	**Karpathos**	**151.66**	**313**	*e*PKPbc	**PKPbc**	**05 52 47.4**	**-0.5**
AGG	**Agios Georgios**	**152.60**	**341**	*e*PKPbc	**PKPbc**	**05 52 48.8**	**-1.0**
BNI	**Bardonecchia**	**152.78**	**353**	*e*PKPbc	**PKPbc**	**05 52 50.8**	**+0.6**
IDI	**Anoyia**	**153.36**	**315**	PKPbc	**PKPbc**	**05 52 52.0**	**+0.4**
	comp=Z,12nm,1.0s,baz=321,slow=11,SNR=3.7						
ESDC	**Sonseca Array**	**157.84**	**12**	PKPab	**PKPab**	**05 53 25.5**	**-0.5**
	comp=Z,0.1nm,0.3s,baz=343,slow=7.0,SNR=4.5						

*ISN **21** 05:40:25.6±0.3,32.°51N×47.°06E,h0km,ML3.6*
*CSEM **21** 05:40:25.3±0.7,32.°41N×46.°78E,h10km,ML3.6,Error ellipse: s-maj=22.4km s-min=10.7km az=16.0*

TEH 21 05:40:25.2,32.°40N×47.°02E,h9km,ML3.6,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKFM	**Kafar-mosalman**	**1.32**	**31**	*e*Pg	Pg	05 40 51.0	+0.5
IKFM				*e*AMB	AMB	05 41 18.4	
	comp=Z,99nm,0.2s						
IKFM	**Kafar-mosalman**	**1.32**	**31**	*e*Pg	Pg	05 40 51.0	+0.5
SHGR	**Shooshtar-Gavs**	**1.54**	**100**	*e*Pg	Pg	05 40 56.9	+2.3
IKOM	**Komasi**	**1.82**	**13**	*e*Pn	Pg	05 40 59.6	-0.5
IKOM				*e*AMB	AMB	05 41 26.5	
	comp=Z,7μm,0.4s						
IKOM	**Komasi**	**1.82**	**13**	*e*Pn	Pg	05 40 59.6	-0.5
IVIS	**Veis**	**2.13**	**356**	*e*Pn	Pb	05 41 04.2	+0.2
IVIS				*e*AMB	AMB	05 41 42.2	
	comp=Z,1μm,0.3s						
BHD	**Baghdad**	**2.39**	**292**	*e*Pn	Pn	05 41 03.0	-1.5
	SNR=5.0						
ILIN	**Lien**	**2.51**	**359**	*e*AMB	AMB	05 41 51.4	
	comp=Z,1μm,0.3s						
ILIN				*e*Pn	Pb	05 41 09.6	-1.1
SNGE	**Sanandaj**	**2.70**	**6**	*e*Pn	Pb	05 41 12.7	-1.1
SNGE				*e*Sg	Sb	05 41 48.1	+0.9
KHMZ	**Khomeyn**	**2.80**	**61**	*e*Pn	Pb	05 41 13.3	-2.3
HAGD	**Aghdareh**	**2.99**	**36**	*e*Pn	Pn	05 41 15.7	+2.6
HAGD	**Aghdareh**	**2.99**	**36**	*e*Pn	Pn	05 41 15.7	+2.6
ASAO	**Ashtian**	**3.30**	**49**	*e*Pn	Pn	05 41 19.7	+2.4
HKZM	**Kohzaman**	**3.36**	**27**	*e*AMB	AMB	05 42 06.9	
	comp=Z,99nm,0.4s						
IKLH	**Kolahrood**	**3.94**	**75**	*e*Pn	Pn	05 41 30.0	+3.8
IKLH				*e*AMB	AMB	05 42 46.2	
	comp=Z,1μm,0.5s						
IKLH	**Kolahrood**	**3.94**	**75**	*e*Pn	Pn	05 41 30.0	+3.8
GHVR	**GHOM**	**4.13**	**59**	*e*Pn	Pn	05 41 30.6	+2.0
IZEF	**Zefreh**	**4.50**	**82**	*e*Pn	Pn	05 41 37.0	+3.1
IZEF				*e*AMB	AMB	05 43 10.2	
	comp=Z,423nm,0.5s						
IZEF	**Zefreh**	**4.50**	**82**	*e*Pn	Pn	05 41 37.0	+3.1
IKAZ	**Kazeroun**	**4.89**	**121**	*e*Pn	Pn	05 41 41.9	+2.6
IKAZ				*e*AMB	AMB	05 42 45.3	
	comp=Z,1μm,0.2s						
IKAZ	**Kazeroun**	**4.89**	**121**	*e*Pn	Pn	05 41 41.9	+2.6

*IDC **21** 05:43:34.8±0.5,0.°56S×67.°28E,h0km,mb4.1/26, mb1 4.2/26,mb1mx4.1/70,mbtmp4.1/26,MS4.1/32, Ms1 4.1/32,ms1mx3.9/62,Error ellipse: s-maj=15.4km s-min=12.9km az=158.0*
*ISCJB **21** 05:43:36.0±0.3,0.°53S±0.°06×67.°26E±0.°05,h19km, mb4.4/46,MS4.1/32,Error ellipse: s-maj=9.1km s-min=7.5km az=158.2*
*NEIC **21** 05:43:36.5±0.2,0.°56S×67.°25E,h10km,mb4.8/28,Error ellipse: s-maj=7.2km s-min=5.9km az=163.0*

ISC 21 05:43:38.1±0.5,0.°6S±0.°1×67.°25E±0.°8,h19km,n106, σ1°11/80,mb4.5/46,MS4.2/32,Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08N2	**Diego Garcia H**	**6.82**	**147**	T	T	05 52 06.6	
	baz=327,slow=75,SNR=775						
H08N3	**Diego Garcia H**	**6.83**	**147**	T	T	05 52 07.7	
	baz=327,slow=75,SNR=1019						
H08N1	**Diego Carcia H**	**6.84**	**147**	T	T	05 51 59.9	
	baz=327,slow=75,SNR=930						
PALK	**Pallekele**	**15.52**	**60**	*e*Pn	**Pn**	**05 47 14.3**	**-1.9**
	19nm,1.0s						
HYB	**Hyderabad**	**21.07**	**31**	*i* P	**P**	**05 48 24.0**	**+2.6**
WSAR	**Wadi Sarin**	**25.12**	**341**	LR	LR	05 57 36.8	
	comp=Z,310nm,18.0s,baz=170,slow=34						
OPO	**Ambohidratompo**	**26.60**	**227**	LR	LR	05 57 31.4	
	comp=Z,1μm,18.2s,baz=30,slow=31						
ATD	**Arta Tunnel**	**27.07**	**297**	LR	LR	05 58 53.6	
	comp=Z,110nm,19.0s,baz=82,slow=34						
KMBO	**Kilima Mbogo**	**30.00**	**269**	P	**P**	**05 49 46.1**	**-0.1**
	0.7nm,0.3s,baz=46,slow=9.1,SNR=3.5						
KMBO				LR	LR	05 59 42.0	
	comp=Z,487nm,20.7s,baz=94,slow=32						
KMBO	**Kilima Mbogo**	**30.00**	**269**	*eP*	**P**	**05 49 46.1**	**-0.1**
	3.0nm,1.0s						
PSI	**Prapat**	**31.84**	**84**	LR	LR	06 00 39.8	
	comp=Z,758nm,20.1s,baz=284,slow=32						
SHL	**Shillong**	**35.25**	**41**	*eP*	**P**	**05 50 31.9**	**0.0**
	22nm,1.1s						
CM31	**Chiang Mai Arr**	**36.44**	**57**	*eP*	**P**	**05 50 41.9**	**-0.2**
CMAR	**Chiang Mai Arr**	**36.44**	**57**	P	**P**	**05 50 41.9**	**-0.2**
	1.1nm,0.3s,baz=248,slow=9.6,SNR=9.7						
CMAR				LR	LR	06 04 27.1	
	comp=Z,354nm,19.3s,baz=233,slow=34						
CHTO	**Chiang Mai**	**36.61**	**57**	*eP*	**P**	**05 50 44.8**	**+1.3**
	20nm,1.4s						
LSA	**Lhasa**	**37.77**	**35**	*eP*	**P**	**05 50 55.0**	**+1.3**
	21nm,1.1s						
KSH	**Kashi**	**40.70**	**10**	P	**P**	**05 51 15.0**	**-2.7**
LSZ	**Lusaka**	**41.24**	**247**	P	**P**	**05 51 22.3**	**-0.2**
	15nm,0.7s,baz=73,slow=7.9,SNR=42						
LSZ	**Lusaka**	**41.24**	**247**	*eP*	**P**	**05 51 23.2**	**+0.7**
	20nm,0.8s						
KDJ	**Kajisay**	**43.45**	**11**	*eP*	**P**	**05 51 41.4**	**+1.2**
	16nm,1.1s						
AAK	**Ala-Archa**	**43.52**	**8**	P	**P**	**05 51 40.8**	**+0.1**
	1.9nm,0.6s,baz=190,slow=10,SNR=7.0						
AAK	**Ala-Archa**	**43.52**	**8**	*eP*	**P**	**05 51 42.3**	**+1.6**
	8.5nm,1.1s						
MMAI	**Mount Meron Ar**	**44.92**	**321**	LR	LR	06 08 57.1	
	comp=Z,195nm,19.5s,baz=90,slow=34						
LBTB	**Lobatse**	**46.99**	**236**	P	**P**	**05 52 08.2**	**-0.3**
	4.3nm,0.8s,baz=62,slow=8.8,SNR=7.0						
LBTB	**Lobatse**	**46.99**	**236**	*eP*	**P**	**05 52 09.1**	**+0.6**
	8.4nm,0.9s						
BOSA	**Boshof**	**48.84**	**231**	P	**P**	**05 52 22.6**	**-0.2**
	6.6nm,1.1s,baz=66,slow=7.2,SNR=6.0						
BOSA				LR	LR	06 11 06.2	
	comp=Z,492nm,18.3s,baz=48,slow=34						
MAKZ	**Makanchi**	**48.93**	**13**	*eP*	**P**	**05 52 22.6**	**-0.4**
	16nm,1.4s						
MK01	**Makanchi Array**	**48.97**	**14**	*eP*	**P**	**05 52 22.9**	**-0.4**
MK31	**Makanchi Array**	**48.99**	**14**	*eP*	**P**	**05 52 23.1**	**-0.5**
MK32	**Makanchi Array**	**48.99**	**14**	*eP*	**P**	**05 52 22.9**	**-0.6**
MKAR	**Makanchi Array**	**48.99**	**14**	P	**P**	**05 52 22.9**	**-0.6**
	0.7nm,0.7s,baz=188,slow=6.3,SNR=6.5						
MKAR				LR	LR	06 13 14.0	
	comp=Z,94nm,21.5s,baz=196,slow=36						
MKAR	**Makanchi Array**	**48.99**	**14**	*eP*	**P**	**05 52 22.9**	**-0.6**
	18nm,1.0s						
KBZ	**Khabaz**	**49.20**	**337**	P	**P**	**05 52 25.6**	**+0.5**
	3.5nm,0.9s,baz=156,slow=9.8,SNR=6.4						
ABKAR	**Akbulak array**	**50.05**	**354**	*eP*	**P**	**05 52 31.8**	**+0.3**
	41nm,1.0s						
BRTR	**Keskin Array B**	**50.52**	**326**	LR	LR	06 13 51.4	
	comp=Z,148nm,18.9s,baz=123,slow=36						
AKTO	**Akkubinsk**	**51.44**	**352**	P	**P**	**05 52 41.2**	**-0.8**
	4.0nm,1.0s,baz=170,slow=8.5,SNR=7.4						
KURBB	**Kurchatov Arra**	**51.91**	**9**	P	**P**	**05 52 45.2**	**-0.2**
	3.9nm,0.9s,baz=208,slow=7.2,SNR=8.4						
KURK	**Kurchatov**	**52.02**	**9**	*eP*	**P**	**05 52 46.4**	**+0.2**
	16nm,1.1s						
TSUM	**Tsumeb**	**52.06**	**246**	*eP*	**P**	**05 52 48.4**	**+1.1**
	17nm,1.1s						
BVAR	**Borovoye Array**	**53.48**	**2**	P	**P**	**05 52 57.3**	**+0.2**
	0.5nm,0.5s,baz=180,slow=5.8,SNR=5.0						
BRVK	**Borovoye**	**53.51**	**2**	*eP*	**P**	**05 52 58.0**	**+0.7**
	5.5nm,1.3s						
H01W3	**Cape Leeuwin H**	**55.41**	**133**	T	T	06 52 54.3	
	baz=299,slow=75,SNR=9.0						
H01W2	**Cape Leeuwin H**	**55.42**	**133**	T	T	06 52 47.5	
	baz=299,slow=75,SNR=9.2						
H01W1	**Cape Leeuwin H**	**55.43**	**133**	T	T	06 52 54.1	
	baz=299,slow=75,SNR=8.9						
ZAA0	**Zalesovo Array**	**56.27**	**12**	*eP*	**P**	**05 53 16.3**	**-0.9**
	6.3nm,0.9s						
ZALV	**Zalesovo Beam**	**56.27**	**12**	P	**P**	**05 53 16.4**	**-0.8**
	1.9nm,0.6s,baz=216,slow=5.9,SNR=7.3						
ZAA1	**Zalesovo Array**	**56.27**	**12**	*eP*	**P**	**05 53 16.4**	**-0.9**
AGG	**Agios Georgios**	**56.97**	**319**	*eP*	**P**	**05 53 20.4**	**-2.1**
	72nm,1.4s						
ARU	**Arti**	**57.27**	**354**	*eP*	**P**	**05 53 24.3**	**0.0**
	13nm,1.2s						
DAV	**Davao City (W)**	**58.67**	**81**	LR	LR	06 22 44.7	
	comp=Z,74nm,18.1s,baz=344,slow=40						
SONA0	**Songino Array**	**59.00**	**30**	*eP*	**P**	**05 53 36.8**	**0.0**
SONM	**Songino Array**	**59.00**	**30**	P	**P**	**05 53 36.7**	**0.0**
	3.1nm,1.0s,baz=224,slow=7.2,SNR=14						
SONM				LR	LR	06 19 14.0	
	comp=Z,934nm,18.3s,baz=260,slow=36						
SONA1	**Songino Array**	**59.01**	**30**	*eP*	**P**	**05 53 37.3**	**+0.4**
TLY	**Talaya**	**60.45**	**25**	LR	LR	06 19 54.0	
	comp=Z,224nm,18.2s,baz=218,slow=36						
TLY	**Talaya**	**60.45**	**25**	*eP*	**P**	**05 53 47.6**	**+1.1**
	11nm,1.2s						
AKASG	**Malin Array Be**	**60.46**	**333**	P	**P**	**05 53 45.7**	**-0.8**
	0.2nm,0.3s,baz=123,slow=6.2,SNR=5.6						
AKBB	**Malin Array Si**	**60.46**	**333**	*eP*	**P**	**05 53 45.7**	**-0.8**
	3.1nm,0.8s						
CRVS	**Cervenica-Dubn**	**63.10**	**328**	*eP*	**P**	**05 54 07.9**	**+3.5**
KEST	**Kesra**	**64.77**	**310**	LR	LR	06 22 32.0	
	comp=Z,157nm,18.7s,baz=232,slow=36						
TORD	**Torodi Ar. Bea**	**66.38**	**285**	P	**P**	**05 54 26.7**	**+0.3**
	1.2nm,1.0s,baz=103,slow=5.0,SNR=5.8						
TORD				LR	LR	06 23 31.4	
	comp=Z,190nm,18.5s,baz=115,slow=36						
TOA1	**Torodi Ar. Sit**	**66.38**	**285**	*eP*	**P**	**05 54 26.7**	**+0.3**
MAW	**Mawson**	**66.96**	**182**	LR	LR	06 17 40.5	
	comp=Z,188nm,20.4s,baz=54,slow=30						
GERES	**GERESS Array B**	**67.37**	**325**	LR	LR	06 26 04.2	
	comp=Z,32nm,18.5s,baz=108,slow=38						
KS15	**Wonju Array Si**	**67.41**	**49**	*eP*	**P**	**05 54 32.3**	**-0.2**
KSAR	**Wonju Array Be**	**67.41**	**49**	P	**P**	**05 54 32.3**	**-0.2**
KSRS	**Korea Array**	**67.44**	**49**	P	**P**	**05 54 32.3**	**-0.4**
	0.4nm,0.3s,baz=234,slow=4.2,SNR=2.9						
KSRS				LR	LR	06 26 09.1	
	comp=Z,233nm,18.2s,baz=220,slow=38						
WRA	**Warramunga Arr**	**68.30**	**111**	P	**P**	**05 54 38.6**	**+0.1**
	4.2nm,0.8s,baz=284,slow=6.0,SNR=24						
WR1	**Warramunga Arr**	**68.30**	**111**	*eP*	**P**	**05 54 38.6**	**+0.1**
	7.4nm,0.8s						
WRAB	**Tennant Creek**	**68.31**	**111**	*eP*	**P**	**05 54 39.0**	**+0.4**
	6.8nm,0.8s						
WB2	**Warramunga Arr**	**68.31**	**111**	*eP*	**P**	**05 54 38.6**	**0.0**
	6.5nm,0.8s						
ASAR	**Alice Springs**	**68.44**	**115**	P	**P**	**05 54 39.3**	**-0.1**
	3.5nm,0.8s,baz=285,slow=6.1,SNR=21						
AS31	**Alice Springs**	**68.44**	**115**	*eP*	**P**	**05 54 39.3**	**-0.1**
	1.5nm,1.0s						
JNU	**Nakatsue**	**68.45**	**54**	LR	LR	06 25 19.5	
	comp=Z,177nm,20.5s,baz=298,slow=37						
AS01	**Alice Springs**	**68.48**	**115**	*eP*	**P**	**05 54 39.8**	**+0.1**
FIA0	**FINESS Array S**	**69.34**	**340**	*eP*	**P**	**05 54 42.7**	**-1.5**
FIA1	**FINESS Array S**	**69.34**	**340**	*eP*	**P**	**05 54 42.3**	**-1.8**
FINES	**FINESS Array B**	**69.34**	**340**	P	**P**	**05 54 42.7**	**-1.5**
	2.6nm,0.9s,baz=152,slow=5.6,SNR=4.4						
SENIN	**Lac Senin/Sane**	**70.16**	**320**	*eP*	**P**	**05 54 49.6**	**-0.3**
	7.6nm,1.0s						
KOWA	**Kowa**	**72.03**	**285**	P	**P**	**05 55 02.3**	**+0.8**
	1.3nm,0.8s,baz=82,slow=7.4,SNR=3.1						
KOWA				LR	LR	06 24 59.3	
	comp=Z,105nm,19.1s,baz=90,slow=34						
DBIC	**Dimbokro**	**72.31**	**277**	P	**P**	**05 55 03.6**	**+0.4**
	3.6nm,0.9s,baz=75,slow=8.7,SNR=5.3						
DBIC				LR	LR	06 25 42.2	
	comp=Z,115nm,19.3s,baz=58,slow=35						
DBIC	**Dimbokro**	**72.31**	**277**	*eP*	**P**	**05 55 02.2**	**-1.0**
	7.4nm,1.0s						
USRK	**Ussuriysk Ar.**	**72.55**	**43**	P	**P**	**05 55 07.9**	**+3.8**
	4.4nm,1.0s,baz=235,slow=7.3,SNR=5.1						
HFS	**Hagfors**	**73.23**	**335**	P	**P**	**05 55 06.8**	**-0.9**
	2.9nm,0.6s,baz=146,slow=6.2,SNR=8.0						
HFS				LR	LR	06 27 41.0	
	comp=Z,88nm,21.1s,baz=118,slow=36						
KLR	**Kul'dur**	**74.06**	**38**	LR	LR	06 30 47.9	
	comp=Z,13nm,18.8s,slow=38						
NB200	**NORSAR Array S**	**74.75**	**335**	*eP*	**P**	**05 55 16.1**	**-0.6**
NOA	**NORSAR Array B**	**74.75**	**335**	P	**P**	**05 55 16.0**	**-0.6**
	0.9nm,0.9s,baz=124,slow=5.2,SNR=2.5						
NOA				LR	LR	06 29 31.2	
	comp=Z,50nm,20.8s,baz=110,slow=37						
MAJO	**Matsushiro**	**75.12**	**52**	*eP*	**P**	**05 55 17.5**	**-1.8**
MJAR	**Matsushiro Arr**	**75.12**	**52**	P	**P**	**05 55 17.5**	**-1.8**
	0.5nm,0.3s,baz=260,slow=6.7,SNR=3.0						
ESDC	**Sonseca Array**	**75.99**	**311**	P	**P**	**05 55 24.2**	**-0.1**
	0.3nm,0.5s,baz=84,slow=5.8,SNR=4.8						
STKA	**Stephens Creek**	**76.41**	**123**	P	**P**	**05 55 26.4**	**-0.4**
	1.9nm,0.8s,baz=236,slow=7.6,SNR=2.7						
STKA				LR	LR	06 25 23.8	
	comp=Z,65nm,20.5s,baz=280,slow=33						
STKA	**Stephens Creek**	**76.41**	**123**	*eP*	**P**	**05 55 26.4**	**-0.4**
	1.0nm,1.1s						
GUMO	**Guam**	**78.10**	**76**	LR	LR	06 26 39.3	
	comp=Z,74nm,21.9s,baz=156,slow=33						
PMG	**Port Moresby**	**79.94**	**99**	LR	LR	06 31 36.0	
	comp=Z,96nm,20.0s,baz=280,slow=36						
SNAA	**Sanae**	**83.26**	**197**	LR	LR	06 25 32.3	
	comp=Z,171nm,19.8s,baz=0.5,slow=30						
BBTS	**Babate**	**84.14**	**285**	LR	LR	06 34 47.9	
	comp=Z,187nm,18.0s,baz=78,slow=36						
QSPA	**South Pole Qui**	**89.40**	**180**	LR	LR	06 31 30.2	
	comp=Z,194nm,20.2s,baz=263,slow=32						
HNR	**Honiara**	**92.56**	**99**	LR	LR	06 41 45.6	
	comp=Z,30nm,18.1s,baz=216,slow=38						
DZM	**Mont Dzumac**	**98.30**	**112**	LR	LR	06 38 14.6	
	comp=Z,76nm,18.8s,baz=225,slow=33						
YKA	**Yellowknife Ar**	**118.23**	**1**	PKP	**PKPdf**	**06 02 22.7**	**-1.1**
	0.1nm,0.6s,baz=340,slow=2.2,SNR=3.8						
AIN	**Ainahou**	**134.19**	**63**	*e*PKPdf	**PKPdf**	**06 02 55.8**	**0.0**
PDAR	**Pinedale Array**	**137.91**	**356**	PKP	**PKPdf**	**06 03 01.4**	**-0.8**
	0.5nm,0.8s,baz=72,slow=4.8,SNR=4.6						
PHWY	**Pilot Hill**	**138.94**	**352**	*e*PKPdf	**PKPdf**	**06 03 03.3**	**-0.9**
NVAR	**Mina Array Bea**	**141.99**	**7**	PKP	**PKPdf**	**06 03 10.7**	**+1.0**
	0.2nm,0.5s,baz=76,slow=3.8,SNR=3.2						
MHTCO	**State Highway**	**142.88**	**349**	*e*PKPdf	**PKPdf**	**06 03 09.0**	**-2.3**
TX31	**Lajitas Ar. Si**	**150.13**	**344**	*e*PKPbc	**PKPbc**	**06 03 29.1**	**+0.5**
TXAR	**Lajitas Array**	**150.13**	**344**	PKPbc	**PKPbc**	**06 03 28.4**	**-0.2**
	1.0nm,0.7s,baz=66,slow=2.8,SNR=14						

*CSEM **21** 05:50:03.0,39.°08N×44.°13E,h7km,ML2.7*
*DDA **21** 05:50:03.0,39.°08N×44.°13E,h7km,Ml2.7*
*ATA **21** 05:50:04.2±1.3,39.°13N×44.°05E,h14km±14km,ML3.0, MW2.8*

ISC 21 05:50:03.4±1.8,39.°09N±0.°04×44.°12E±0.°06,h3km±10km, n21,σ0°77/38,Iran-Armenia-Azerbaijan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLDR	**Caldiran**	**0.17**	**290**	PG	**Pg**	**05 50 06.3**	**-0.5**
CLDR				SG	**Sg**	**05 50 09.2**	**+0.2**
CLDR	**Caldiran**	**0.17**	**290**	*i* P	**Pg**	**05 50 06.2**	**-0.5**
CLDR				*i* S	**Sg**	**05 50 10.0**	**+1.0**
CLDR	**Caldiran**	**0.17**	**290**	P	**Pg**	**05 50 06.2**	**-0.5**
CLDR				S	**Sg**	**05 50 10.0**	**+1.0**
VMUR	**Van-Muradiye**	**0.44**	**257**	*i* P	**Pg**	**05 50 11.8**	**0.0**
VMUR				*i* S	**Sb**	**05 50 19.3**	**-1.6**
VMUR	**Van-Muradiye**	**0.44**	**257**	P	**Pg**	**05 50 11.8**	**0.0**
VMUR				S	**Sb**	**05 50 19.3**	**-1.6**
DYDN	**Diyadin**	**0.56**	**324**	*eP*	**Pg**	**05 50 14.3**	**0.0**
DYDN				*eS*	**Sb**	**05 50 23.2**	**-1.5**
DYDN				IAML		05 50 27.0	
	comp=Z,77nm,0.5s						
DYDN	**Diyadin**	**0.56**	**324**	*i* P	**Pg**

	comp=Z,99nm,0.2s							
IKOM	**Komasi**	**1.82**	**9**	*e*Pn	Pn	06 07 30.3	+0.4	
IKOM				*e*Sg	Sb	06 07 55.4	+0.5	
IKOM				*e*AMB	AMB	06 07 56.8		
	comp=Z,8μm,0.4s							
IGHG	**Ghaleghazi**	**2.02**	**346**	*e*AMB	AMB	06 08 07.7		
	comp=Z,2μm,0.2s							
IVIS	**Veis**	**2.17**	**353**	*e*Pn	Pn	06 07 34.1	-0.5	
IVIS				*e*AMB	AMB	06 08 08.6		
	comp=Z,1μm,0.2s							
ILIN	**Lien**	**2.55**	**356**	*e*Pn	Pn	06 07 39.9	-0.1	
ILIN				*e*AMB	AMB	06 08 17.3		
	comp=Z,1μm,0.4s							

ISN ***21*** *06:13:25.6±3.5, 32.°42N×47.°09E, h10km±23km, ML4.5*
IDC ***21*** *06:13:25.0±0.4, 32.°50N×47.°11E, h0km, mb4.6/39, mb1 4.6/48, mb1mx4.5/65, mbtmp4.5/48, ML4.1/8, MS3.7/20, Ms1 3.7/20, ms1mx3.4/62, Error ellipse: s-maj=11.3km s-min=8.8km az=172.0*
TEH ***21*** *06:13:25.5, 32.°43N×47.°10E, h10km, ML4.5*
ISCJB ***21*** *06:13:26.7±0.7, 32.°40N±0.°02×47.°04E±0.°02, h21km±5km, mb4.7/178, MS3.9/19, Error ellipse: s-maj=3.2km s-min=2.3km az=22.3*
NEIC ***21*** *06:13:27.0±0.2, 32.°42N×47.°09E, h10km, mb4.9/84, ML4.5(THR), MN4.5(TEH), Error ellipse: s-maj=3.8km s-min=2.9km az=20.0*
CSEM ***21*** *06:13:26.8±0.1, 32.°41N×47.°08E, h10km, mb4.8/99, Error ellipse: s-maj=4.0km s-min=2.8km az=20.0*
SGS ***21*** *06:13:27.9, 32.°83N×46.°95E, h52km*
BJI ***21*** *06:13:27.7, 32.°40N×47.°10E, h28km, mb4.8/37, mB4.9/23, Ms4.6/15, MS7 4.3/14*
MOS ***21*** *06:13:28.8±1.1, 32.°55N×47.°13E, h33km, mb5.0/74, Error ellipse: s-maj=5.4km s-min=3.1km az=113.5*
THR ***21*** *06:13:28.6±0.5, 32.°42N×47.°04E, h38km±6km, ML4.5*
GII ***21*** *06:13:28.8±0.9, 32.°47N×47.°08E, h35km*
DSN ***21*** *06:13:30.6±0.8, 32.°58N×47.°66E, h27km, mb6.0/10, Error ellipse: s-maj=21.0km s-min=7.4km az=52.0*
ISC 21 06:13:29.5±0.9, 32.°49N±0.°03×47.°07E±0.°03, h26km±6km, n609, σ1§37/637, mb4.8/178, MS3.8/19, 24C-23D, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IKFM	**Kafar-mosalman**	**1.22**	**32**	*e*Pg	**Pn**	**06 13 49.6**	**-1.2**
IKFM				*e*AMB	AMB	06 14 35.6	
	comp=Z,99nm,0.9s						
SHGR	**Shooshtar-Gavs**	**1.51**	**104**	*e*Pg	**Pb**	**06 13 56.3**	**-0.6**
SHGR	**Shooshtar-Gavs**	**1.51**	**104**	*e*Pg	**Pb**	**06 13 56.3**	**-0.6**
SHGR				AML	AML	06 14 21.1	
	comp=E,8μm,0.5s						
SHGR				AML	AML	06 14 21.8	
	comp=N,7μm,0.4s						
IKOM	**Komasi**	**1.72**	**12**	*e*Pn	**Pb**	**06 13 59.3**	**-1.3**
IKOM				*e*AMB	AMB	06 14 26.0	
	comp=Z,27μm,0.4s						
IKOM	**Komasi**	**1.72**	**12**	Pn	**Pb**	**06 13 59.2**	**-1.3**
IKOM	**Komasi**	**1.72**	**12**	*e*Pn	**Pb**	**06 13 59.3**	**-1.3**
IGHG	**Ghaleghazi**	**1.88**	**347**	*e*Pn	**Pb**	**06 14 01.7**	**-1.6**
IGHG				*e*AMB	AMB	06 14 43.2	
	comp=Z,9μm,0.3s						
IGHG	**Ghaleghazi**	**1.88**	**347**	Pn	**Pb**	**06 14 01.7**	**-1.6**
IGHG	**Ghaleghazi**	**1.88**	**347**	*e*Pn	**Pb**	**06 14 01.7**	**-1.6**
IVIS	**Veis**	**2.04**	**355**	*e*Pn	**Pn**	**06 14 03.3**	**+1.1**
IVIS				*e*AMB	AMB	06 14 41.6	
	comp=Z,44μm,0.3s						
IVIS	**Veis**	**2.04**	**355**	Pn	**Pn**	**06 14 03.3**	**+1.1**
IVIS	**Veis**	**2.04**	**355**	*e*Pn	**Pn**	**06 14 03.3**	**+1.1**
BHD	**Baghdad**	**2.40**	**290**	*e*Pn	**Pn**	**06 14 03.0**	**-4.0**
	SNR=54						
BHD				*e*Sn	**Sn**	**06 14 36.0**	**+0.5**
	SNR=5.0						
ILIN	**Lien**	**2.42**	**358**	*e*AMB	AMB	06 14 52.0	
	comp=Z,29μm,0.2s						
ILIN				*e*Pn	**Pn**	**06 14 08.9**	**+1.3**
SNGE	**Sanandaj**	**2.61**	**5**	*e*Pn	**Pn**	**06 14 11.5**	**+1.4**
SNGE	**Sanandaj**	**2.61**	**5**	*e*Pn	**Pn**	**06 14 11.5**	**+1.4**
SNGE				AML	AML	06 14 56.3	
	comp=E,1μm,0.5s						
SNGE				AML	AML	06 15 01.7	
	comp=N,1μm,0.6s						
KHMZ	**Khomeyn**	**2.72**	**62**	*e*Pn	**Pn**	**06 14 13.0**	**+1.3**
KHMZ	**Khomeyn**	**2.72**	**62**	*e*Pn	**Pn**	**06 14 13.0**	**+1.3**
HAGD	**Aghdareh**	**2.90**	**36**	*e*Pn	**Pn**	**06 14 15.3**	**+1.2**
HAGD				*e*AMB	AMB	06 14 21.6	
	comp=Z,99nm,0.3s						
HAGD	**Aghdareh**	**2.90**	**36**	*e*Pn	**Pn**	**06 14 15.3**	**+1.2**
ASAO	**Ashtian**	**3.21**	**49**	*e*Pn	**Pn**	**06 14 19.8**	**+1.3**
ASAO	**Ashtian**	**3.21**	**49**	*e*Pn	**Pn**	**06 14 19.8**	**+1.3**
HKZM	**Kohzaman**	**3.26**	**27**	*e*Pn	**Pn**	**06 14 21.1**	**+2.0**
HKZM				*e*AMB	AMB	06 15 07.5	
	comp=Z,99nm,0.5s						
HKZM	**Kohzaman**	**3.26**	**27**	*e*Pn	**Pn**	**06 14 21.1**	**+2.0**
QAM	**Ghamsar**	**3.88**	**70**	*e*Pn	**Pn**	**06 14 29.1**	**+1.5**
QAM				*e*AMB	AMB	06 14 43.5	
	comp=Z,7μm,0.1s						
IKLH	**Kolahrood**	**3.88**	**76**	*e*Pn	**Pn**	**06 14 28.9**	**+1.2**
IKLH				*e*AMB	AMB	06 15 51.3	
	comp=Z,9μm,0.4s						
IKLH	**Kolahrood**	**3.88**	**76**	Pn	**Pn**	**06 14 28.8**	**+1.1**
IKLH	**Kolahrood**	**3.88**	**76**	Pn	**Pn**	**06 14 28.8**	**+1.1**
IGAR	**Gharneh**	**4.20**	**90**	*e*Pn	**Pn**	**06 14 32.3**	**+0.2**
IGAR				*e*AMB	AMB	06 15 25.0	
	comp=Z,4μm,0.2s						
KFJS		**4.35**	**170**	P	**Pn**	**06 14 34.9**	**+0.9**
KFJS				S	**Sn**	**06 15 25.3**	**+1.4**
IZEF	**Zefreh**	**4.45**	**83**	*e*Pn	**Pn**	**06 14 35.9**	**+0.4**
IZEF				*e*AMB	AMB	06 14 52.2	
	comp=Z,3μm,0.3s						
IZEF	**Zefreh**	**4.45**	**83**	Pn	**Pn**	**06 14 35.8**	**+0.3**
IZEF	**Zefreh**	**4.45**	**83**	*e*Pn	**Pn**	**06 14 35.9**	**+0.4**
IRAM	**Ramesheh**	**4.55**	**97**	*e*Pn	**Pn**	**06 14 36.3**	**-0.6**
IRAM				*e*AMB	AMB	06 15 39.8	
	comp=Z,2μm,0.2s						
IRAM	**Ramesheh**	**4.55**	**97**	Pn	**Pn**	**06 14 36.3**	**-0.6**
IRAM	**Ramesheh**	**4.55**	**97**	*e*Pn	**Pn**	**06 14 36.3**	**-0.6**
THKV	**Tehran--Karaj**	**4.65**	**42**	*e*Pn	**Pn**	**06 14 39.3**	**+1.1**
THKV	**Tehran--Karaj**	**4.65**	**42**	*e*Pn	**Pn**	**06 14 39.3**	**+1.1**
AHBU	**AHRAM**	**5.13**	**134**	*e*Pn	**Pn**	**06 14 44.5**	**-0.1**
IBST	**Bostanabad**	**5.20**	**358**	*e*Pn	**Pn**	**06 14 47.2**	**+1.4**
IBST				*e*AMB	AMB	06 16 21.3	
	comp=Z,2μm,0.6s						
IBST	**Bostanabad**	**5.20**	**358**	Pn	**Pn**	**06 14 47.2**	**+1.4**
IBST	**Bostanabad**	**5.20**	**358**	*e*Pn	**Pn**	**06 14 47.2**	**+1.4**
ASYS		**5.50**	**206**	P	**Pn**	**06 14 49.3**	**-0.5**
IPAR	**Pars**	**5.76**	**116**	*e*Pn	**Pn**	**06 14 53.9**	**+0.3**
IPAR				*e*AMB	AMB	06 16 02.5	
	comp=Z,2μm,0.2s						
IPAR	**Pars**	**5.76**	**116**	Pn	**Pn**	**06 14 53.9**	**+0.3**
IPAR	**Pars**	**5.76**	**116**	*e*Pn	**Pn**	**06 14 53.9**	**+0.3**
IHRS	**Heris**	**5.82**	**360**	*e*Pn	**Pn**	**06 14 56.2**	**+2.0**
IHRS				*e*AMB	AMB	06 16 37.1	
	comp=Z,2μm,0.4s						
IHRS	**Heris**	**5.82**	**360**	Pn	**Pn**	**06 14 56.2**	**+2.0**
IHRS	**Heris**	**5.82**	**360**	*e*Pn	**Pn**	**06 14 56.2**	**+2.0**
ISRV	**Sarvestan**	**6.04**	**119**	*e*Pn	**Pn**	**06 14 57.4**	**-0.1**
ISRV				*e*AMB	AMB	06 16 22.1	
	comp=Z,4μm,0.4s						
ISRV	**Sarvestan**	**6.04**	**119**	Pn	**Pn**	**06 14 57.3**	**-0.2**
ISRV	**Sarvestan**	**6.04**	**119**	*e*Pn	**Pn**	**06 14 57.4**	**-0.1**
IMRD	**Marand**	**6.31**	**350**	*e*Pn	**Pn**	**06 15 02.4**	**+1.4**
IMRD				*e*AMB	AMB	06 16 10.8	
	comp=Z,2μm,0.4s						
IMRD	**Marand**	**6.31**	**350**	Pn	**Pn**	**06 15 02.4**	**+1.4**
IMRD	**Marand**	**6.31**	**350**	*e*Pn	**Pn**	**06 15 02.4**	**+1.4**
GRMI	**Germi**	**6.34**	**6**	*e*Pn	**Pn**	**06 15 02.9**	**+1.5**
GRMI	**Germi**	**6.34**	**6**	*e*Pn	**Pn**	**06 15 02.9**	**+1.5**
BOQSS		**6.90**	**162**	P	**Pn**	**06 15 09.4**	**+0.5**
BOQSS				S	**Sn**	**06 16 24.4**	**-2.2**
GNI	**Garni**	**7.87**	**347**	Pn	**Pn**	**06 15 22.3**	**0.0**
	baz=164,slow=18,SNR=2.0						
GNI				Sn	**Sn**	**06 16 47.9**	**-2.8**
	baz=257,slow=1.7,SNR=3.7						
GNI				Lg	Lg	06 17 30.0	
	comp=Z,2.1nm,0.3s,baz=346,slow=17,SNR=2.3						
GNI	**Garni**	**7.87**	**347**	*i* P	**Pn**	**06 15 18.9**	**-3.5**
SLWS		**8.28**	**157**	P	**Pn**	**06 15 27.3**	**-0.6**
ASF	**Jabal al Asfar**	**8.62**	**271**	Pn	**Pn**	**06 15 30.6**	**-2.0**
	comp=Z,6.2nm,0.3s,baz=36,slow=3.4,SNR=52						
ASF				Lg	Lg	06 18 05.2	
	comp=Z,3.0nm,0.3s,baz=151,slow=20,SNR=4.3						
AKT	**Akhty**	**8.99**	**3**	*e*P	**Pn**	**06 15 39.0**	**+1.3**
	comp=Z,53nm,2.0s						
AKT	**Akhty**	**8.99**	**3**	*e*P	**Pn**	**06 15 39.0**	**+1.3**
AKT				*e*S	**Sn**	**06 17 16.3**	**-1.8**
AKT				pmax	pmax		
	comp=Z,11nm,0.3s						
AKT				MLR	MLR		
	comp=Z,53nm,2.0s						
RAYN	**Ar Rayn**	**9.04**	**189**	*e*Pn	**Pn**	**06 15 35.8**	**-2.6**
RAYN	**Ar Rayn**	**9.04**	**189**	P	**Pn**	**06 15 35.8**	**-2.6**
RAYN	**Ar Rayn**	**9.04**	**189**	P	**Pn**	**06 15 35.8**	**-2.6**
BTHS		**9.04**	**157**	P	**Pn**	**06 15 38.4**	**0.0**
AKH	**Akhalkalaki**	**9.35**	**343**	*e*Pn	**Pn**	**06 15 43.3**	**+0.6**
AKH	**Akhalkalaki**	**9.35**	**343**	*e*P	**Pn**	**06 15 43.3**	**+0.6**
AKH	**Akhalkalaki**	**9.35**	**343**	*e*P	**Pn**	**06 15 43.3**	**+0.6**
TBLG	**Delisi**	**9.41**	**349**	*e*Pn	**Pn**	**06 15 44.5**	**+1.2**
TBLG	**Delisi**	**9.41**	**349**	*e*P	**Pn**	**06 15 44.6**	**+1.2**
TBLG	**Delisi**	**9.41**	**349**	*e*P	**Pn**	**06 15 44.6**	**+1.2**
KSHT	**Keshet**	**9.50**	**276**	Pn	**Pn**	**06 15 43.9**	**-0.7**
HMDT	**Nahal Hemdat**	**9.77**	**272**	Pn	**Pn**	**06 15 47.7**	**-0.6**
MMAI	**Mount Meron Ar**	**9.84**	**276**	Pn	**Pn**	**06 15 48.9**	**-0.5**
	comp=Z,2.2nm,0.3s,baz=86,slow=14,SNR=12						
MMAI				Lg	Lg	06 18 42.6	
	comp=Z,4.3nm,0.3s,baz=93,slow=30,SNR=3.6						
MMAI				LR	LR	06 20 30.1	
	comp=Z,191nm,18.2s,baz=60,slow=43						
MMLI	**Mount Malkishu**	**9.84**	**273**	Pn	**Pn**	**06 15 48.8**	**-0.5**
DSI	**Dead Sea**	**9.97**	**268**	Pn	**Pn**	**06 15 49.9**	**-1.1**
HNTI	**Hanita**	**10.03**	**277**	Pn	**Pn**	**06 15 51.3**	**-0.6**
SHME	**Shamm**	**10.19**	**127**	P	**Pn**	**06 15 50.2**	**-3.9**
BANOM	**Banah**	**10.38**	**127**	*i* P	**Pn**	**06 15 54.0**	**-2.7**
	SNR=14						
BANOM				S	**Sn**	**06 17 44.6**	**-7.6**
MAK	**Makhachkala**	**10.46**	**2**	*e*P	**Pn**	**06 15 56.6**	**-1.1**
	comp=Z,31nm,0.3s						
MAK				*e*S	**Sn**	**06 17 53.2**	**-0.7**
	comp=Z,426nm,15.0s						
MAK	**Makhachkala**	**10.46**	**2**	*e*P	**Pn**	**06 15 56.6**	**-1.1**
MAK				*e*S	**Sn**	**06 17 53.2**	**-0.7**
MAK				pmax	pmax		
	comp=Z,31nm,0.3s						
MAK				MLR	MLR		
	comp=Z,426nm,15.0s						
ONI	**Oni**	**10.48**	**345**	P	**Pn**	**06 16 01.0**	**+2.9**
ONI	**Oni**	**10.48**	**345**	*e*P	**Pn**	**06 16 01.0**	**+2.9**
GEYT	**Alibeck**	**10.54**	**56**	Pn	**Pn**	**06 15 59.3**	**+0.5**
	comp=Z,0.5nm,0.3s,baz=264,slow=13,SNR=11						
GYA0B	**ALIBECK ARRAY**	**10.54**	**56**	*e*Pn	**Pn**	**06 15 59.3**	**+0.5**
GYA0B	**ALIBECK ARRAY**	**10.54**	**56**	*e*Pn	**Pn**	**06 15 59.3**	**+0.5**
ZEI	**Tsey**	**10.58**	**347**	*e*P	**Pn**	**06 16 04.1**	**+4.5**
ZEI				pmax	pmax		
	comp=Z,6.0nm,0.8s						
HRFI	**Mount Harif**	**10.59**	**260**	Pn	**Pn**	**06 15 59.0**	**-0.5**
NAZ	**Nazwa, Dubai**	**10.61**	**133**	P	**Pn**	**06 15 57.8**	**-2.0**
	SNR=10						
NAZ	**Nazwa, Dubai**	**10.61**	**133**	*i* P	**Pn**	**06 15 57.8**	**-2.0**
	SNR=10						
MSFE	**Esma-Masafi**	**10.67**	**129**	*i* P	**Pn**	**06 15 57.6**	**-3.0**
	SNR=10						
GROC	**Groznyy**	**10.74**	**355**	*e*P	**Pn**	**06 16 05.4**	**+3.9**
GROC				*e*S	**Sn**	**06 18 04.2**	**+3.3**
GROC	**Groznyy**	**10.74**	**355**	*e*P	**Pn**	**06 16 05.4**	**+3.9**
GROC				*e*S	**Sn**	**06 18 04.2**	**+3.3**
MBRI	**Mt Berech**	**10.76**	**259**	Pn	**Pn**	**06 16 00.5**	**-1.4**
EIL	**Elat**	**10.77**	**258**	Pn	**Pn**	**06 16 00.5**	**-1.4**
	comp=Z,4.1nm,0.3s,baz=50,slow=8.7,SNR=25						
EIL				Lg	Lg	06 19 13.9	
	comp=Z,3.1nm,0.3s,baz=131,slow=11,SNR=3.2						
EIL				LR	LR	06 21 00.8	
	comp=Z,324nm,21.8s,baz=68,slow=42						
EIL	**Elat**	**10.77**	**258**	Pn	**Pn**	**06 16 00.1**	**-1.8**
KRMI	**Paran Flat**	**10.82**	**261**	Pn	**Pn**	**06 16 00.0**	**-2.8**
UOSS	**Minazif**	**10.98**	**131**	*e*Pn	**Pn**	**06 16 02.7**	**-2.2**
UOSS	**Minazif**	**10.98**	**131**	*e*Pn	**Pn**	**06 16 02.7**	**-2.2**
UOSS	**Minazif**	**10.98**	**131**	*i* P	**Pn**	**06 16 02.3**	**-2.6**
	SNR=10						
MZR	**Muzera**	**11.02**	**147**	P	**Pn**	**06 16 04.5**	**-0.9**
HATD	**Hatta, Dubai**	**11.02**	**132**	P	**Pn**	**06 16 03.3**	**-2.2**
	SNR=18						
HATD	**Hatta, Dubai**	**11.02**	**132**	*i* P	**Pn**	**06 16 03.3**	**-2.2**
	SNR=18						
ASHO	**Ashiyiah**	**11.08**	**132**	P	**Pn**	**06 16 04.0**	**-2.3**
	SNR=32						
ASHO	**Ashiyiah**	**11.08**	**132**	*i* P	**Pn**	**06 16 04.0**	**-2.3**
	SNR=32						
NEY	**Neytrino**	**11.28**	**344**	*i* P	**Pn**	**06 16 10.5**	**+1.5**
NEY	**Neytrino**	**11.28**	**344**	*i* P	**Pn**	**06 16 10.5**	**+1.5**
NCK	**Nalchik**	**11.32**	**347**	*i* P	**Pn**	**06 16 09.3**	**-0.2**
NCK	**Nalchik**	**11.32**	**347**	*i* P	**Pn**	**06 16 09.3**	**-0.2**
KBZ	**Khabaz**	**11.69**	**345**	Pn	**Pn**	**06 16 17.3**	**+2.8**
	comp=Z,0.1nm,0.3s,baz=164,slow=8.9,SNR=6.7						
CSS	**Mathiatis**	**11.70**	**286**	*e*Pn	**Pn**	**06 16 17.1**	**+2.3**
CSS	**Mathiatis**	**11.70**	**286**	*e*Pn	**Pn**	**06 16 17.1**	**+2.3**
SOHO	**SOHO**	**11.77**	**133**	*i* P	**Pn**	**06 16 12.9**	**-2.9**
	SNR=8.8						
KVAR	**Kislovodsk Arr**	**11.95**	**345**	Pn	**Pn**	**06 16 19.7**	**+1.6**
	baz=165,slow=19,SNR=3.2						
KVAR				LR	LR	06 21 44.8	
	comp=Z,188nm,21.3s,baz=235,slow=42						
KIV	**Kislovodsk**	**11.95**	**345**	*e*Pn	**Pn**	**06 16 20.8**	**+2.6**
KIV	**Kislovodsk**	**11.95**	**345**	*e*P	**Pn**	**06 16 19.2**	**+1.0**
	comp=Z,54nm,9.0s						
KIV	**Kislovodsk**	**11.95**	**345**	*e*Pn	**Pn**	**06 16 20.8**	**+2.6**
KIV	**Kislovodsk**	**11.95**	**345**	*e*P	**Pn**	**06 16 19.2**	**+1.0**
KIV				pmax	pmax		
	comp=Z,15nm,1.1s						
KIV				MLR	MLR		
	comp=Z,54nm,9.0s						
SOC	**Sochi**	**12.49**	**335**	*e*P	**Pn**	**06 16 27.8**	**+2.3**
	comp=Z,184nm,11.0s						
SOC				*e*S	**Sn**	**06 18 47.4**	**+3.7**
SOC	**Sochi**	**12.49**	**335**	*e*P	**Pn**	**06 16 27.8**	**+2.3**
SOC				*e*		06 18 47.4	
SOC				pmax	pmax		
	comp=Z,10.0nm,0.5s						
SOC				MLR	MLR		
	comp=Z,184nm,11.0s						
GOF	**Gofitskoye**	**12.93**	**347**	*e*P	**P**	**06 16 42.2**	**+0.3**
GOF				pmax	pmax		
	comp=Z,56nm,1.2s						
BR131	**Keskin Array S**	**13.03**	**307**	*e*Pn	**Pn**	**06 16 33.1**	**0.0**
BR131	**Keskin Array S**	**13.03**	**307**	*e*Pn	**Pn**	**06 16 33.1**	**0.0**
BRTR	**Keskin Array B**	**13.03**	**307**	Pn	**Pn**	**06 16 34.5**	**+1.5**
	comp=Z,0.1nm,0.3s,baz=122,slow=12,SNR=16						
WSAR	**Wadi Sarin**	**13.75**	**129**	Pn	**Pn**	**06 16 38.8**	**-4.1**
	comp=Z,5.3nm,0.3s,baz=331,slow=10,SNR=33						
WSAR				LR	LR	06 22 46.8	
	comp=Z,272nm,18.5s,baz=310,slow=41						
ISP	**Isparta**	**14.54**	**296**	*e*Pn	**Pn**	**06 16 54.3**	**+0.7**
ISP	**Isparta**	**14.54**	**296**	*e*Pn	**Pn**	**06 16 54.3**	**+0.7**
ISP	**Isparta**	**14.54**	**296**	*e*P	**Pn**	**06 16 54.3**	**+0.7**
MANT	**Manisa**	**16.21**	**297**	*e*Pn	**Pn**	**06 17 13.4**	**-2.3**
	comp=Z,439nm,1.2s						
MANT	**Manisa**	**16.21**	**297**	*e*Pn	**Pn**	**06 17 13.4**	**-2.3**
	comp=Z,439nm,1.2s						
KARP	**Karpathos**	**16.79**	**286**	*e*Pn	**Pn**	**06 17 22.5**	**-0.3**
	comp=Z,24nm,0.8s						
KARP	**Karpathos**	**16.79**	**286**	*e*Pn	**Pn**	**06 17 22.5**	**-0.3**
	comp=Z,24nm,0.8s						
DAMY	**Dhamar**	**18.00**	**188**	*e*Pn	**Pn**	**06 17 37.6**	**-0.6**
	comp=Z,20nm,0.9s						
SANT	**Santorini**	**18.24**	**288**	*i* P	**Pn**	**06 17 40.1**	**-0.7**
SANT	**Santorini**	**18.24**	**288**	*e*P	**P**	**06 17 40.8**	**0.0**
	comp=Z,177nm,1.2s						
SANT	**Santorini**	**18.24**	**288**	*e*P	**P**	**06 17 40.8**	**0.0**
	comp=Z,177nm,1.2s						
APE	**Apeiranthos**	**18.27**	**290**	*i* P	**Pn**	**06 17 40.7**	**-0.4**
APE	**Apeiranthos**	**18.27**	**290**	P	**Pn**	**06 17 40.7**	**-0.4**
APE	**Apeiranthos**	**18.27**	**290**	P	**Pn**	**06 17 40.7**	**-0.4**
KBL	**Kabul**	**18.43**	**78**	*e*P	**Pn**	**06 17 43.8**	**+0.5**
	comp=Z,20nm,0.8s						
KBL	**Kabul**	**18.43**	**78**	*e*P	**Pn**	**06 17 43.8**	**+0.5**
	comp=Z,20nm,0.8s						
KBL	**Kabul**	**18.43**	**78**	*e*P	**Pn**	**06 17 43.8**	**+0.5**
KBL				pmax	pmax		
	comp=Z,20nm,0.8s						
IDI	**Anoyia**	**18.62**	**285**	P	**P**	**06 17 45.1**	**0.0**
	comp=Z,2.5nm,0.3s,baz=58,slow=12,SNR=21						
IDI	**Anoyia**	**18.62**	**285**	*i* P	**Pn**	**06 17 45.4**	**-0.1**
IDI	**Anoyia**	**18.62**	**285**	*e*P	**P**	**06 17 45.1**	**0.0**
	comp=Z,44nm,0.8s						
IDI	**Anoyia**	**18.62**	**285**	*e*P	**P**	**06 17 45.1**	**0.0**
	comp=Z,44nm,0.8s						
PRD	**Provadia**	**18.81**	**310**	P	**Pn**	**06 17 48.6**	**+1.0**
TIRR	**Tirgusor**	**18.82**	**315**	*i* P	**P**	**06 17 46.9**	**-0.2**
TIRR	**Tirgusor**	**18.82**	**315**	*e*P	**P**	**06 17 46.8**	**-0.3**
	comp=Z,57nm,1.8s						
TIRR	**Tirgusor**	**18.82**	**315**	*e*P	**P**	**06 17 46.8**	**-0.3**
	comp=Z,57nm,1.8s						
TIRR	**Tirgusor**	**18.82**	**315**	*e*P	**P**	**06 17 46.8**	**-0.3**
TIRR				pmax	pmax		
	comp=Z,57nm,1.8s						
VRH	**Novokhopyorsk**	**19.11**	**350**	*e*P	**P**	**06 17 48.6**	**-1.6**
	comp=Z,20nm,0.7s						
VRH	**Novokhopyorsk**	**19.11**	**350**	*e*P	**P**	**06 17 48.6**	**-1.6**
VRH				pmax	pmax		
	comp=Z,20nm,0.7s						
HARR	**Harsova**	**19.24**	**315**	*i* P	**Pn**	**06 17 52.9**	**+0.2**
AB31	**Akbulak array**	**19.32**	**26**	*e*P	**P**	**06 17 51.8**	**-0.8**
	comp=Z,16nm,0.8s						
AB31	**Akbulak array**	**19.32**	**26**	*ce*P	**P**	**06 17 51.8**	**-0.8**
AB31				pmax	pmax		
	comp=Z,16nm,0.8s						
ABKAR	**Akbulak array**	**19.32**	**26**	*e*P	**P**	**06 17 52.3**	**-0.3**
	comp=Z,131nm,0.6s						
ABKAR	**Akbulak array**	**19.32**	**26**	*e*P	**P**	**06 17 52.3**	**-0.3**
	comp=Z,131nm,0.6s						
CFR	**Carcaliu**	**19.39**	**316**	*i* P	**P**	**06 17 53.1**	**-0.2**
CFR	**Carcaliu**	**19.39**	**316**	P	**Pn**	**06 17 54.0**	**-0.5**
	comp=Z,15nm,1.0s						
CFR	**Carcaliu**	**19.39**	**316**	P	**Pn**	**06 17 54.0**	**-0.5**
CFR				pmax	pmax		
	comp=Z,15nm,1.0s						
VSR	**Storozhevoye**	**19.59**	**345**	*e*P	**P**	**06 17 54.7**	**-0.8**
	comp=Z,10.0nm,0.4s						
VSR	**Storozhevoye**	**19.59**	**345**	*e*P	**P**	**06 17 54.7**	**-0.8**
VSR				*e*S	**S**	**06 21 30.7**	**-4.4**
VSR				pmax	pmax		
	comp=Z,10.0nm,0.4s						
VSR				smax	smax		
	comp=N,70nm,1.2s						
AKTK	**Aktyubinsk**	**19.68**	**21**	*i* P	**P**	**06 17 54.9**	**-1.5**
	comp=N,1.4nm,0.3s,baz=195,slow=16,SNR=18						
AKTO	**Aktyubinsk**	**19.68**	**21**	P	**P**	**06 17 55.7**	**-0.7**
	comp=N,1.4nm,0.3s,baz=195,slow=16,SNR=18						
AKTO				LR	LR	06 27 56.8	
	comp=N,195nm,19.3s,baz=211,slow=44						
AKTO	**Aktyubinsk**	**19.68**	**21**	*i* P	**P**	**06 17 54.9**	**-1.5**
AKTO				pmax	pmax		
	comp=Z,15nm,0.8s						
VORR	**Voronezh**	**20.01**	**346**	P	Pn	06 18 01.0	-0.9
	comp=Z,250nm,1.2s						
VORR	**Voronezh**	**20.01**	**346**	P	Pn	06 18 01.0	-0.9
VORR				pmax	pmax		
	comp=Z,250nm,1.2s						
KIS	**Kishinev**	**20.10**	**321**	*e*P	**P**	**06 18 01.0**	**-0.1**
KIS				*e*S	**S**	**06 21 43.0**	**-2.5**
KIS	**Kishinev**	**20.10**	**321**	*e*PcP	Sn	06 21 54.0	+5.6
KIS	**Kishinev**	**20.10**	**321**	*e*P	**P**	**06 18 01.0**	**-0.1**
KIS	**Kishinev**	**20.10**	**321**	*e*P	**P**	**06 18 01.0**	**-0.1**
KIS				*e*S	**S**	**06 21 43.0**	**-2.5**
ISR	**Istrita**	**20.30**	**314**	*i* P	Pn	06 18 04.9	-0.5
ISR	**Istrita**	**20.30**	**314**	P	Pn	06 18 05.9	+0.5
	comp=Z,35nm,1.3s						
ISR	**Istrita**	**20.30**	**314**	P	Pn	06 18 05.9	+0.5
ISR				pmax	pmax		
	comp=Z,35nm,1.3s						
VRI	**Vrincioaia**	**20.59**	**316**	*i* P	**P**	**06 18 06.7**	**+0.3**
VRI	**Vrincioaia**	**20.59**	**316**	P	Pn	06 18 08.0	-0.8
	comp=Z,157nm,1.1s						
VRI	**Vrincioaia**	**20.59**	**316**	P	Pn	06 18

BURAR **Bucovina Array** 22.43 319 ⇓ *i*P P 06 18 26.3 0.0
BURAR **Bucovina Array** 22.43 319 P P 06 18 26.2 0.0
BUR04 **Bucovina Ar. S** 22.43 319 *e*P P 06 18 26.5 +0.2
BUR04 **Bucovina Ar. S** 22.43 319 *e*P P 06 18 26.5 +0.2
MNAS **Manas** 22.44 56 *i* P P 06 18 25.3 -1.2
comp=Z,43nm,1.4s
MNAS **Manas** 22.44 56 *i* P P 06 18 25.3 -1.2
MNAS pmax pmax
comp=Z,43nm,1.4s
BUR08 **Bucovina Ar. S** 22.46 319 *e*P P 06 18 26.1 -0.4
BUR08 **Bucovina Ar. S** 22.46 319 *e*P P 06 18 26.1 -0.4
AKASG **Malin Array Be** 22.46 329 P P 06 18 23.9 -2.5
comp=Z,3.8nm,0.5s,baz=135,slow=9.7,SNR=16
AKASG PcP **PcP** 06 22 20.6 +0.6
comp=Z,0.3nm,0.4s,baz=91,slow=2.5,SNR=4.8
AKASG ScP **ScP** 06 25 56.4 +0.5
comp=Z,1.0nm,0.6s,baz=90,slow=2.9,SNR=6.3
AKBB **Malin Array Si** 22.46 329 *e*P P 06 18 26.8 +0.3
comp=Z,12nm,0.8s
AKBB **Malin Array Si** 22.46 329 *e*P P 06 18 26.8 +0.3
comp=Z,12nm,0.8s
AKBB **Malin Array Si** 22.46 329 *e*P P 06 18 26.8 +0.3
AKBB pmax pmax
comp=Z,12nm,0.8s
KIEV **Kiev** 22.46 329 *e*P P 06 18 26.8 +0.3
comp=Z,12nm,0.7s
KIEV **Kiev** 22.46 329 *e*P P 06 18 26.8 +0.3
comp=Z,12nm,0.7s
KIEV **Kiev** 22.46 329 *i* P P 06 18 27.5 +1.1
SNR=7.3
KIEV **Kiev** 22.46 329 *i* P P 06 18 26.0 -0.5
KIEV pmax pmax
comp=Z,12nm,1.0s
AK11 **Malin Array Si** 22.47 329 *e*P P 06 18 26.8 +0.2
AK11 **Malin Array Si** 22.47 329 *e*P P 06 18 26.8 +0.2
ZAGS **Zajecar** 22.48 307 ⇓ *i*P P 06 18 26.5 -0.2
ARCR **ARCALIA** 22.63 317 ⇓ *i*P P 06 18 28.9 +0.6
SELS **Selova** 23.03 305 ⇓ *i*P P 06 18 30.9 -1.7
KUBS **Kucevo** 23.08 308 *e*P P 06 18 31.1 -1.9
AML **Almayashu** 23.18 58 P P 06 18 34.3 -0.2
SNR=37
EKS2 **Erkin-Say** 23.39 57 P P 06 18 36.6 +0.3
SNR=26
DRGR 23.45 315 ⇓ *i*P P 06 18 36.5 -0.3
DRGR 23.45 315 P P 06 18 36.5 -0.3
comp=Z,61nm,0.9s
DRGR 23.45 315 P P 06 18 36.5 -0.3
DRGR pmax pmax
comp=Z,61nm,0.9s
UCH **Uchtor** 23.79 58 P P 06 18 42.3 +1.8
SNR=11
OBN **Obninsk** 23.80 345 P P 06 18 41.0 +1.1
comp=Z,20nm,0.5s,baz=320,slow=22,SNR=12
OBN LR LR 06 29 48.4
comp=Z,127nm,19.2s,baz=137,slow=41
OBN **Obninsk** 23.80 345 P P 06 18 41.0 +1.1
OBN **Obninsk** 23.80 345 *i* P P 06 18 39.9 0.0
OBN pmax pmax
comp=Z,76nm,1.2s
OBN MLR MLR
comp=Z,102nm,18.0s
TRUS **Trudelj** 23.86 307 *e*P P 06 18 40.1 -0.5
AAK **Ala-Archa** 23.89 57 P P 06 18 41.7 +0.6
comp=Z,11nm,0.6s,baz=243,slow=6.4,SNR=26
AAK LR LR 06 29 37.9
comp=Z,170nm,18.4s,baz=258,slow=41
AAK **Ala-Archa** 23.89 57 P P 06 18 43.1 +1.9
SNR=13
AAK **Ala-Archa** 23.89 57 *e*P P 06 18 42.6 +1.5
comp=Z,12nm,0.8s
AAK **Ala-Archa** 23.89 57 *e*P P 06 18 42.6 +1.5
comp=Z,12nm,0.8s
AAK **Ala-Archa** 23.89 57 *i* P P 06 18 38.7 -2.5
SNR=21
AAK **Ala-Archa** 23.89 57 *ce*P P 06 18 39.1 -2.0
AAK pmax pmax
comp=Z,11nm,0.7s
FRU **Bishkek** 24.03 57 *e*P P 06 18 43.0 +0.7
comp=Z,55nm,2.1s
FRU **Bishkek** 24.03 57 *e*P P 06 18 43.0 +0.7
FRU *e* 06 18 56.0
FRU pmax pmax
comp=Z,55nm,2.1s
USP **Ospenovka** 24.07 56 P P 06 18 43.0 +0.3
SNR=22
DIVS **Divibare** 24.10 307 *e*P P 06 18 42.7 -0.2
comp=Z,23nm,1.4s
DIVS **Divibare** 24.10 307 *e*P P 06 18 42.7 -0.2
comp=Z,23nm,1.4s
PDG **Podgorica** 24.11 302 ⇓ *i*P P 06 18 43.3 +0.3
TTG **Podgorica** 24.11 302 *e*P P 06 18 43.4 +0.4
comp=Z,103nm,1.7s
TTG **Podgorica** 24.11 302 *e*P P 06 18 43.4 +0.4
comp=Z,103nm,1.7s
TTG **Podgorica** 24.11 302 *e*P P 06 18 43.4 +0.4
TTG pmax pmax
comp=Z,103nm,1.7s
MOS **Moscow** 24.17 347 *e*P P 06 18 41.7 -1.6
MOS *e*S S 06 22 58.3 -1.3
MOS pmax pmax
comp=Z,200nm,1.9s
MOS pmax pmax
comp=Z,52nm,1.1s
CHMS **Chumysh** 24.17 56 P P 06 18 44.0 +0.4
SNR=9.3
KBK **Karagaybulak** 24.21 57 P P 06 18 46.4 +2.2
SNR=17
KZA **Kyzart** 24.28 59 P P 06 18 46.1 +1.0
SNR=17
KSH **Kashi** 24.34 65 P P 06 18 43.5 -1.8
KSH sP sP 06 18 56.4 +0.1
KSH S S 06 22 55.8 -7.3
KSH pmax pmax
comp=Z,75nm,0.7s
KSH pmax pmax
comp=Z,270nm,2.9s
KSH LR LR
comp=Z,370nm,6.8s
KSH LR LR
comp=Z,260nm,4.6s
LVV **L'vov** 24.35 322 *e*P P 06 18 45.6 +0.5
BBLS **Lazići** 24.42 306 ⇓ *i*P P 06 18 46.0 +0.1
FGSL **Fruska Gora** 24.59 309 ⇑ *i*P P 06 18 48.5 +1.1
UZH **Uzhgorod** 24.63 318 *e*P P 06 18 48.7 +1.1
UZH *e* 06 18 52.9
UZH *e* 06 19 06.7
UZH *e*S S 06 23 04.5 -2.7
TKM2 **Tokmak 2** 24.75 57 P P 06 18 49.8 +0.7
SNR=32
BRY **Bratogost** 24.75 303 P P 06 18 48.6 -0.4
BRY **Bratogost** 24.75 303 P P 06 18 48.6 -0.4
KWP **Kalwaria Pacla** 24.94 321 *e*P P 06 18 50.4 -0.1
KWP **Kalwaria Pacla** 24.94 321 *e*P P 06 18 51.2 +0.7
comp=Z,311nm,1.1s
KWP **Kalwaria Pacla** 24.94 321 *e*P P 06 18 51.2 +0.7
comp=Z,311nm,1.1s
KWP **Kalwaria Pacla** 24.94 321 *e*P P 06 18 50.4 -0.1
ULHL **Ulahol** 25.04 59 P P 06 18 54.5 +2.7
SNR=12
ARU **Arti** 25.23 15 P P 06 18 52.5 -0.5
comp=Z,14nm,0.6s,baz=196,slow=5.7,SNR=24
ARU ScP **ScP** 06 26 03.3 0.0
comp=Z,1.1nm,0.3s,baz=170,slow=4.7,SNR=4.1
ARU LR LR 06 31 25.7
comp=Z,104nm,19.1s,baz=102,slow=43
ARU **Arti** 25.23 15 *e*P P 06 18 52.3 -0.7
comp=Z,51nm,1.3s
ARU ScP **ScP** 06 26 03.3 0.0
ARU **Arti** 25.23 15 *i* P P 06 18 52.7 -0.3
comp=Z,42nm,1.2s
ARU S S 06 23 17.6 +0.8
ARU ScP **ScP** 06 26 03.3 0.0
ARU **Arti** 25.23 15 *d i*P P 06 18 52.7 -0.3
ARU 06 19 26.4
ARU S S 06 23 17.6 +0.8
ARU SS **SnSn** 06 24 13.0 +4.6
ARU pmax pmax
comp=Z,42nm,1.2s
CRVS **Cervenica-Dubn** 25.24 318 *e*P P 06 18 53.7 +0.5
CRVS **Cervenica-Dubn** 25.24 318 *e*P P 06 18 53.7 +0.5
CRVS pmax pmax
comp=Z,9.0nm,1.0s
TIP **Timpagrande** 25.39 294 ⇑ *i*P P 06 18 54.5 -0.2
TIP **Timpagrande** 25.39 294 *e*P P 06 18 56.0 +1.3
comp=Z,23nm,0.6s
TIP **Timpagrande** 25.39 294 ⇑ *i*P P 06 18 54.5 -0.2
MATE **Matera** 25.62 297 ⇑ *i*P P 06 18 56.0 -0.7
STHS **Stebnicka Huta** 25.63 319 *e*P P 06 18 58.9 +2.2
STHS **Stebnicka Huta** 25.63 319 *e*P P 06 18 58.9 +2.2
STHS pmax pmax
comp=Z,9.0nm,1.1s
PSZ **Piszkesteto** 25.67 315 ⇑ *i*P P 06 18 57.9 +0.7
PSZ **Piszkesteto** 25.67 315 ⇓ *e*P P 06 18 58.9 +1.8
PSZ **Piszkesteto** 25.67 315 *e*P P 06 18 59.0 +1.8
comp=Z,7.9nm,0.8s
PSZ **Piszkesteto** 25.67 315 ⇑ *i*P P 06 18 57.9 +0.7
PSZ **Piszkesteto** 25.67 315 *e*P P 06 18 59.0 +1.8
PSZ pmax pmax
comp=Z,8.0nm,0.8s
KDJ **Kajisay** 25.70 59 *e*P P 06 18 58.4 +0.8
comp=Z,40nm,0.9s
KDJ **Kajisay** 25.70 59 *e*P P 06 18 58.4 +0.8
comp=Z,40nm,0.9s
KDJ **Kajisay** 25.70 59 P P 06 18 58.4 +0.8
KDJ pmax pmax
comp=Z,40nm,0.9s
MORH **M"ar'igy, Hung** 25.74 310 ⇑ *e*P P 06 18 57.9 +0.2
TARG **Taragay, Kyrgy** 26.07 60 *e*P P 06 19 02.5 +1.2
comp=Z,27nm,0.7s
TARG **Taragay, Kyrgy** 26.07 60 *e*P P 06 19 02.5 +1.2
comp=Z,27nm,0.7s
SVE **Sverdlovsk** 26.08 17 ⇓ *e*P P 06 19 01.1 +0.4
SVE pmax pmax
comp=Z,40nm,1.1s
NIE **Niedzica** 26.16 318 *e*P P 06 19 04.0 +2.5
NIE **Niedzica** 26.16 318 *e*P P 06 19 04.0 +2.5
CUC **Castrocucco** 26.20 295 *e*P P 06 19 04.3 +2.2
comp=Z,17nm,0.7s
CUC **Castrocucco** 26.20 295 *e*P P 06 19 04.3 +2.2
comp=Z,17nm,0.7s
BLY **Banja Luka** 26.21 306 ⇓ *i*P P 06 19 01.8 -0.2
BRVK **Borovoye** 26.49 32 *e*P P 06 19 04.3 -0.1
comp=Z,12nm,0.8s
BRVK **Borovoye** 26.49 32 *e*P P 06 19 04.3 -0.1
comp=Z,12nm,0.8s
BRVK **Borovoye** 26.49 32 *ce*P P 06 19 04.4 0.0
BRVK pmax pmax
comp=Z,20nm,1.2s
LANS **Liptovska Anna** 26.50 317 *e*P P 06 19 05.4 +0.8
LANS **Liptovska Anna** 26.50 317 *e*P P 06 19 05.4 +0.8
BVAR **Borovoye Array** 26.51 32 P P 06 19 04.4 -0.2
comp=Z,12nm,0.5s,baz=224,slow=8.4,SNR=61
BVAR PcP **PcP** 06 22 30.7 +1.8
comp=Z,2.1nm,0.7s,baz=222,slow=1.9,SNR=5.9
BVAR ScP **ScP** 06 26 07.3 +0.2
comp=Z,2.5nm,0.8s,baz=202,slow=1.6,SNR=8.6
BVAR LR LR 06 32 02.6
comp=Z,248nm,19.8s,baz=232,slow=42
VYHS **Vyhne** 26.57 315 *e*P P 06 19 07.9 +2.7
VYHS **Vyhne** 26.57 315 *e*P P 06 19 07.9 +2.7
VYHS pmax pmax
comp=Z,6.0nm,1.6s
NACGM **Naroch** 26.59 333 *e* P 06 19 05.0 -0.3
PRZ **Przheval'sk** 26.65 59 P P 06 19 06.3 0.0
PRZ pmax pmax
comp=Z,13nm,0.7s
OJC **Ojcow** 26.84 319 *e*P P 06 19 07.5 -0.2
OJC **Ojcow** 26.84 319 *e*P P 06 19 07.8 +0.2
comp=Z,14nm,1.1s
OJC **Ojcow** 26.84 319 *e*P P 06 19 07.5 -0.2
IDID **Didziasalis** 26.92 334 *e*P P 06 19 10.6 +2.3
IDID IAmb IAmb 06 19 15.4
comp=Z,8.4nm,0.8s
VAE **Valguarnera** 27.14 290 P P 06 19 11.2 +0.7
comp=Z,22nm,0.9s,baz=117,slow=8.2,SNR=3.9
IIGN **Ignalina** 27.14 334 *e*P P 06 19 12.8 +2.5
IIGN IAmb IAmb 06 19 21.3
comp=Z,13nm,0.7s
IZAR **Zarasai** 27.43 334 *e*P P 06 19 15.2 +2.3
IZAR IAmb IAmb 06 19 18.8
comp=Z,10nm,0.7s
IZAR **Zarasai** 27.43 334 *e*P P 06 19 15.2 +2.3
SNR=28
MODS **Modra-Piesok** 27.45 314 *e*P P 06 19 13.4 +0.2
MODS **Modra-Piesok** 27.45 314 *e*P P 06 19 13.4 +0.2
MODS pmax pmax
comp=Z,22nm,1.5s
MORC **Moravsky Berou** 27.90 317 ⇑ *i*P P 06 19 16.9 -0.3
MORC **Moravsky Berou** 27.90 317 *e*P P 06 19 17.0 -0.3
comp=Z,54nm,1.4s
MORC **Moravsky Berou** 27.90 317 *e*P P 06 19 17.0 -0.3
comp=Z,54nm,1.4s
MORC **Moravsky Berou** 27.90 317 *e*P P 06 19 17.0 -0.3
MORC pmax pmax
comp=Z,54nm,1.4s
ARSA **Arzberg** 28.12 311 P P 06 19 19.3 +0.1
comp=Z,3.3nm,0.8s
ARSA **Arzberg** 28.12 311 *e*P P 06 19 19.3 +0.1
comp=Z,3.3nm,0.8s
CONA **Conrad Observa** 28.15 312 P P 06 19 20.3 +0.8
comp=Z,8.7nm,1.4s
CONA **Conrad Observa** 28.15 312 *e*P P 06 19 20.3 +0.8
comp=Z,8.7nm,1.4s
VRAC **Vranov** 28.25 315 P P 06 19 20.6 +0.2
comp=Z,1.6nm,0.5s,baz=116,slow=8.6,SNR=6.3
OBKA **Obir** 28.51 309 P P 06 19 23.9 +1.2
comp=Z,22nm,1.7s
OBKA **Obir** 28.51 309 *e*P P 06 19 23.9 +1.2
comp=Z,22nm,1.7s
KLMR **Klimovskoe** 28.80 352 *e*P P 06 19 25.9 +0.9
KLMR AMP 06 19 26.8
comp=Z,13nm,1.0s
KLMR **Klimovskoe** 28.80 352 *e*P P 06 19 25.9 +0.9
KLMR pmax pmax
comp=Z,13nm,1.0s
DPC **Dobruska-Polom** 28.86 317 *e*P P 06 19 26.2 +0.4
DPC **Dobruska-Polom** 28.86 317 *e*P P 06 19 26.2 +0.4
DPC **Dobruska-Polom** 28.86 317 *e*P P 06 19 26.2 +0.4
MOA **Molln** 29.12 311 *e*P P 06 19 28.1 0.0
comp=Z,5.7nm,0.8s
KURBB **Kurchatov Arra** 29.39 43 P P 06 19 30.3 -0.1
comp=Z,8.5nm,0.8s,baz=247,slow=9.3,SNR=15
KURBB PcP **PcP** 06 22 36.5 +0.5
comp=Z,1.4nm,0.7s,baz=241,slow=2.8,SNR=4.5
KURBB ScP **ScP** 06 26 15.6 -0.3
comp=Z,1.9nm,0.9s,baz=252,slow=4.2,SNR=6.5
KBA **Koelnbreinsper** 29.47 310 P P 06 19 31.9 +0.6
comp=Z,8.4nm,1.9s
KBA **Koelnbreinsper** 29.47 310 *e*P P 06 19 31.9 +0.6
comp=Z,8.4nm,1.9s
KBA **Koelnbreinsper** 29.47 310 P P 06 19 35.2 +3.8
KURK **Kurchatov** 29.48 43 *e*P P 06 19 31.3 +0.1
comp=Z,92nm,0.9s
KURK PcP **PcP** 06 22 36.5 +0.3
KURK ScP **ScP** 06 26 15.6 -0.6
KURK **Kurchatov** 29.48 43 *e*P P 06 19 31.3 +0.1
comp=Z,92nm,0.9s
KURK **Kurchatov** 29.48 43 *e*P P 06 19 31.3 +0.1
KURK 06 22 36.5
KURK 06 26 15.6
KURK pmax pmax
comp=Z,92nm,0.9s
GERES **GERESS Array B** 29.82 313 P P 06 19 33.7 -0.7
comp=Z,0.2nm,0.4s,baz=119,slow=14,SNR=4.3
GERES PcP **PcP** 06 22 36.8 -0.5
comp=Z,1.1nm,0.7s,baz=106,slow=2.9,SNR=5.7
ABTA **Abfaltersbach** 29.92 309 P P 06 19 35.9 +0.6
comp=Z,6.6nm,1.3s
ABTA **Abfaltersbach** 29.92 309 *e*P P 06 19 35.9 +0.6
comp=Z,6.6nm,1.3s
KHC **Kasperske Hory** 30.00 314 *e*P P 06 19 37.0 +1.1
KHC **Kasperske Hory** 30.00 314 *e*P P 06 19 37.0 +1.1
MK31 **Makanchi Array** 30.37 52 *e*P P 06 19 39.2 +0.1
MK31 **Makanchi Array** 30.37 52 *ce*P P 06 19 37.9 -1.2
MK31 pmax pmax
comp=Z,13nm,0.6s
MKAR **Makanchi Array** 30.37 52 P P 06 19 39.1 0.0
comp=Z,17nm,0.8s,baz=248,slow=8.8,SNR=82
MKAR LR LR 06 33 29.1
comp=Z,98nm,18.2s,baz=240,slow=40
MK01 **Makanchi Array** 30.37 52 *e*P P 06 19 39.3 +0.1
BRG **Berggiesshubel** 30.46 317 *e*(P) P 06 19 39.2 -0.6
comp=Z,3.3nm,1.2s
BRG **Berggiesshubel** 30.46 317 *e*P P 06 19 39.2 -0.6
BRG pmax pmax
comp=Z,3.0nm,1.2s
WATA **Walderalm** 30.70 309 P P 06 19 41.9 -0.3
comp=Z,3.8nm,0.5s
WATA **Walderalm** 30.70 309 *e*P P 06 19 41.9 -0.3
comp=Z,3.8nm,0.5s
MOTA **Moosalm** 31.01 309 P P 06 19 44.4 -0.5
comp=Z,9.8nm,0.9s
MOTA **Moosalm** 31.01 309 *e*P P 06 19 44.4 -0.5
comp=Z,9.8nm,0.9s
VSL **Villasalto** 31.12 294 *e*P P 06 19 46.4 +0.5
comp=Z,24nm,0.9s
VSL **Villasalto** 31.12 294 *e*P P 06 19 46.4 +0.5
comp=Z,24nm,0.9s
CLL **Collm** 31.18 317 *e*P P 06 19 45.0 -1.2
comp=Z,5.0nm,1.1s
CLL LmV 06 35 00.0
comp=Z,100nm,18.2s
CLL **Collm** 31.18 317 *e*P P 06 19 45.0 -1.2
CLL pmax pmax
comp=Z,5.0nm,1.1s
PYUN **Piuthan** 31.23 89 *e*P P 06 19 47.1 0.0
comp=Z,75nm,0.7s
KEST **Kesra** 31.28 286 P P 06 19 48.3 +1.0
comp=Z,14nm,0.8s,baz=321,slow=1.3,SNR=18
GRA1 **Grafenberg Arr** 31.64 314 P P 06 19 49.9 -0.4
comp=Z,11nm,0.8s
GRF **Grafenberg Arr** 31.64 314 P P 06 19 49.9 -0.4
GRF pmax pmax
comp=Z,11nm,0.8s
DAVA **Damuels** 31.80 309 P P 06 19 50.9 -1.0
comp=Z,14nm,0.9s
DAVA **Damuels** 31.80 309 *e*P P 06 19 50.9 -1.0
comp=Z,14nm,0.9s
DANN **Dangsing** 31.80 88 *e*P P 06 19 53.0 +0.7
comp=Z,21nm,0.9s
KOLN **Koldanda** 31.84 89 *e*P P 06 19 52.2 -0.3
comp=Z,35nm,0.9s
FIA1 **FINESS Array S** 32.01 341 *e*P P 06 19 52.8 -0.5
comp=Z,32nm,1.4s
FINES **FINESS Array B** 32.01 341 P P 06 19 52.6 -0.8
comp=Z,8.3nm,0.9s,baz=139,slow=10,SNR=12
FINES LR LR 06 34 50.8
comp=Z,113nm,19.9s,baz=162,slow=40
HYB **Hyderabad** 32.10 110 *i* P P 06 19 56.0 +1.3
TMCR **Tamitsa** 32.20 353 *e*P P 06 19 53.8 -1.1
TMCR pmax pmax
comp=Z,14nm,1.2s
GKN **Gorkha** 32.65 88 *e*P P 06 19 59.4 -0.1
comp=Z,173nm,0.9s
DMN **Daman** 33.16 88 *e*P P 06 20 04.0 -0.2
comp=Z,122nm,0.9s
DIX **Grande Dixence** 33.21 306 P P 06 20 03.9 -0.5
KKN **Kakani** 33.25 88 *e*P P 06 20 04.9 0.0
comp=Z,70nm,0.6s
SENIN **Lac Senin/Sane** 33.34 306 *e*P P 06 20 05.4 0.0
comp=Z,11nm,0.9s
SENIN **Lac Senin/Sane** 33.34 306 *e*P P 06 20 05.4 0.0
comp=Z,11nm,0.9s
PKIN **Phulchoki** 33.42 88 *e*P P 06 20 06.2 -0.2
comp=Z,63nm,0.7s
BNI **Bardonecchia** 33.56 304 *e*P P 06 20 07.2 -0.1
comp=Z,22nm,1.0s
BNI **Bardonecchia** 33.56 304 *e*P P 06 20 07.2 -0.1
comp=Z,22nm,1.0s
BNI **Bardonecchia** 33.56 304 *e*P P 06 20 07.2 -0.1
BNI pmax pmax
comp=Z,22nm,1.0s
LPG **La Plagne** 33.57 305 *e*P P 06 20 07.6 0.0
LPG pmax pmax
comp=Z,33nm,1.2s
WMQ **Urumqi** 33.58 58 P P 06 20 10.3 +2.9
WMQ pP sP 06 20 19.4 +0.9
WMQ sP pP 06 20 23.4 +8.2
WMQ pmax pmax
comp=Z,29nm,0.7s
WMQ pmax pmax
comp=Z,190nm,5.1s
WMQ LR LR
comp=Z,400nm,10.5s
WMQ LR LR
comp=Z,580nm,14.3s
WMQ LR LR
comp=Z,650nm,19.9s
LPL **La Plagne** 33.59 305 *e*P P 06 20 06.8 -0.8
comp=Z,26nm,1.0s
LPL **La Plagne** 33.59 305 *e*P P 06 20 06.8 -0.8
LPL pmax pmax
comp=Z,26nm,1.0s
GUN **Gumba** 33.72 87 *e*P P 06 20 09.2 0.0
comp=Z,212nm,0.8s
CDF **Champ du Feu** 33.77 310 *e*P P 06 20 08.4 -0.6
comp=Z,12nm,1.3s
CDF **Champ du Feu** 33.77 310 *e*P P 06 20 08.4 -0.6
CDF pmax pmax
comp=Z,12nm,1.3s
ECH **Echery** 33.80 310 *e*P P 06 20 09.6 +0.3
comp=Z,13nm,1.2s
ECH **Echery** 33.80 310 *e*P P 06 20 09.6 +0.3
comp=Z,13nm,1.2s
ECH **Echery** 33.80 310 *e*P P 06 20 09.6 +0.3
ECH pmax pmax
comp=Z,13nm,1.2s
HINF **Hinteralfeld** 33.92 309 *e*P P 06 20 12.1 +1.8
HINF pmax pmax
comp=Z,37nm,1.7s
JIRN **Jiri** 34.06 88 *e*P P 06 20 12.1 0.0
comp=Z,215nm,0.8s
CABF **La Chapelle** 34.20 306 *e*P P 06 20 12.3 -0.5
comp=Z,25nm,0.9s
CABF **La Chapelle** 34.20 306 *e*P P 06 20 12.3 -0.5
CABF pmax pmax
comp=Z,25nm,0.9s
HAU **Haudompre** 34.29 309 *e*P P 06 20 12.2 -1.3
HAU pmax pmax
comp=Z,14nm,1.1s
ZAA0 **Zalesovo Array** 34.29 40 *e*P P 06 20 14.1 +0.7
comp=Z,9.0nm,0.7s
ZALV **Zalesovo Beam** 34.29 40 P P 06 20 12.7 -0.6
comp=Z,10nm,0.7s,baz=256,slow=9.0,SNR=18
ZALV LR LR 06 35 24.1
comp=Z,52nm,20.9s,baz=125,slow=38
ZALV **Zalesovo Beam** 34.29 40 *e*P P 06 20 13.8 +0.4
ZALV **Zalesovo Beam** 34.29 40 *e*P P 06 20 13.8 +0.4
RAMN **Ramite** 34.63 89 *e*P P 06 20 16.2 -0.7
comp=Z,88nm,0.8s
KMBO **Kilima Mbogo** 34.70 197 P P 06 20 18.3 +0.7
comp=Z,0.9nm,0.3s,baz=31,slow=16,SNR=3.5
OUL **Oulu** 35.11 345 P P 06 20 22.9 +2.7
OUL pmax pmax
comp=Z,16nm,1.0s
HFS **Hagfors** 35.31 332 P P 06 20 21.6 -0.5
comp=Z,4.3nm,0.5s,baz=132,slow=10.0,SNR=39
ODAN **Oddare** 35.33 88 *e*P P 06 20 22.4 -0.5
comp=Z,29nm,0.8s
AVF **Avril sur Loir** 36.09 306 *e*P P 06 20 28.7 -0.3
AVF pmax pmax
comp=Z,39nm,1.6s
NC405 **NORSAR Array S** 36.68 332 *e*P P 06 20 32.8 -1.0
KONO **Kongsberg** 36.76 329 *e*P P 06 20 35.4 +0.9
comp=Z,16nm,1.2s
KONO **Kongsberg** 36.76 329 *e*P P 06 20 35.4 +0.9
KONO pmax pmax
comp=Z,16nm,1.2s
NB2 **NORSAR Subarra** 36.84 332 P P 06 20 33.7 -1.5
comp=Z,2.1nm,0.8s,baz=125,slow=8.6
NOA **NORSAR Array B** 36.84 332 P P 06 20 34.1 -1.1
comp=Z,1.5nm,0.8s,baz=125,slow=8.2,SNR=5.6
NC303 **NORSAR Array S** 36.88 332 *e*P P 06 20 35.3 -0.2
NBO02 **NORSAR Array S** 36.98 331 *e*P P 06 20 35.9 -0.5
NC204 **NORSAR Array S** 37.15 332 *e*P P 06 20 36.9 -1.0
LSA **Lhasa** 37.65 82 *e*P P 06 20 46.1 +3.1
comp=Z,22nm,1.1s
LSA **Lhasa** 37.65 82 *e*P P 06 20 46.1 +3.1
comp=Z,22nm,1.1s
LSA **Lhasa** 37.65 82 *e*P P 06 20 46.1 +3.1
LSA pmax pmax
comp=Z,21nm,1.1s
TAM **Tamanrasset** 37.85 266 *e*P P 06 20 45.2 +0.8
comp=Z,23nm,1.2s
TAM **Tamanrasset** 37.85 266 *e*P P 06 20 45.2 +0.8
TAM pmax pmax
comp=Z,23nm,1.2s
FLN **La Foliniere** 38.90 309 *e*P P 06 20 53.2 +0.5
FLN pmax pmax
comp=Z,36nm,1.4s
ARCES **ARCESS Array B** 39.03 348 P P 06 20 53.3 -0.2
comp=Z,2.2nm,0.7s,baz=165,slow=9.4,SNR=8.5
ARCES ScP **S** 06 26 50.5 -0.2
comp=Z,3.3nm,0.8s,baz=158,slow=3.5,SNR=12
ARCES **ARCESS Array B** 39.03 348 *e*P P 06 20 54.4 +0.9
ARCES ScP **S** 06 26 50.5 -0.2
ARCES **ARCESS Array B** 39.03 348 *e*P P 06 20 54.4 +0.9
ARCES 06 26 50.5

GRR	**Gorron**	**39.11**	**308**	*e*P		**P**	**06 20 54.3**	**-0.2**
GRR				pmax	pmax				
	comp=Z,44nm,1.3s								
SJPF	**Ste Jean**	**39.13**	**300**	*e*P		**P**	**06 20 54.3**	**-0.4**
SJPF				pmax	pmax				
	comp=Z,86nm,2.0s								
SHL	**Shillong**	**39.56**	**88**	*e*P		**P**	**06 20 57.0**	**-1.7**
ES19	**SONSECA Array**	**41.35**	**295**	*e*P		**P**	**06 21 13.3**	**+0.1**
ES19	**SONSECA Array**	**41.35**	**295**	*e*P		**P**	**06 21 13.3**	**+0.1**
ESDC	**Sonseca Array**	**41.40**	**295**	P	P	**P**	**06 21 13.6**	**0.0**
	comp=Z,2.1nm,0.7s,baz=74,slow=8.3,SNR=16								
ESLA	**Sonseca Array**	**41.40**	**295**	*e*P		**P**	**06 21 14.6**	**+0.9**
	comp=Z,23nm,1.8s								
ESLA	**Sonseca Array**	**41.40**	**295**	*e*P		**P**	**06 21 14.6**	**+0.9**
	comp=Z,23nm,1.8s								
EKA	**Eskdalemuir Ar**	**41.62**	**319**	P		**P**	**06 21 14.7**	**-0.4**
	comp=Z,10nm,0.9s,baz=108,slow=8.2,SNR=11								
EKA				ScP		**ScP**	**06 27 01.1**	**+1.0**
	comp=Z,0.6nm,0.5s,baz=110,slow=6.1,SNR=4.8								
PAB	**San Pablo**	**41.71**	**295**	*e*P		**P**	**06 21 16.5**	**+0.3**
	comp=Z,11nm,1.2s								
PAB	**San Pablo**	**41.71**	**295**	*e*P		**P**	**06 21 16.5**	**+0.3**
	comp=Z,11nm,1.2s								
PAB	**San Pablo**	**41.71**	**295**	*e*P		**P**	**06 21 16.5**	**+0.3**
PAB				pmax	pmax				
	comp=Z,11nm,1.2s								
GTA	**Gaotai**	**42.74**	**65**	*e*P		**P**	**06 21 24.8**	**+0.1**
GTA				pP	pP		06 21 33.0	+0.3
GTA				sP	sP		06 21 37.5	+1.6
GTA				S		**S**	**06 27 45.1**	**-1.9**
GTA				pmax	pmax				
	comp=Z,7.0nm,0.9s								
GTA				pmax	pmax				
	comp=Z,93nm,5.4s								
GTA				LR	LR				
	comp=Z,250nm,19.0s								
GTA				LR	LR				
	comp=Z,520nm,17.1s								
GTA				LR	LR				
	comp=Z,180nm,18.5s								
DSB	**Dublin**	**43.13**	**315**	*e*P		**P**	**06 21 28.3**	**+0.8**
	comp=Z,160nm,2.0s								
PBRG	**Braganca**	**43.27**	**298**	*e*P		**P**	**06 21 29.1**	**+0.2**
PBAR	**Barrancos**	**43.99**	**293**	*e*P		**P**	**06 21 33.5**	**-1.1**
PMRV	**Marv??o**	**44.06**	**295**	*e*P		**P**	**06 21 34.9**	**-0.3**
POLO	**Lamas de Olo**	**44.11**	**298**	*e*P		**P**	**06 21 35.8**	**+0.2**
PGAV	**Gavieira, Arco**	**44.39**	**299**	*e*P		**P**	**06 21 38.9**	**+1.0**
ZAK	**Zakamensk**	**44.64**	**49**	*e*P		**P**	**06 21 38.7**	**-1.1**
ZAK				pmax	pmax				
	comp=Z,3.0nm,1.6s								
PVAQ	**Vaqueiros**	**44.65**	**292**	*e*P		**P**	**06 21 39.8**	**-0.1**
PCVE	**Castro Verde**	**44.86**	**293**	*e*P		**P**	**06 21 39.6**	**-2.0**
TLY	**Talaya**	**44.91**	**47**	*e*P		**P**	**06 21 41.7**	**-0.1**
TLY				pmax	pmax				
	comp=Z,2.0nm,0.6s								
PNCL	**Nicolau / Gran**	**45.16**	**293**	*e*P		**P**	**06 21 44.2**	**+0.3**
TORD	**Torodi Ar. Bea**	**45.65**	**256**	P		**P**	**06 21 47.2**	**-0.8**
	comp=Z,8.7nm,0.6s,baz=55,slow=8.1,SNR=98								
TORD				ScP		**ScP**	**06 27 19.0**	**+1.8**
	comp=Z,0.7nm,0.9s,baz=37,slow=3.6,SNR=3.7								
TORD				LR	LR		06 41 55.2		
	comp=Z,141nm,18.4s,baz=240,slow=37								
LZH	**Lanzhou**	**46.48**	**69**	*e*P		**P**	**06 21 55.6**	**+1.0**
LZH				pP	sP		06 22 05.8	0.0
LZH				sP	pP		06 22 09.5	+6.8
LZH				*e*PP		**PP**	**06 23 45.0**	**+1.1**
LZH				pmax	pmax				
	comp=Z,24nm,1.2s								
LZH				pmax	pmax				
	comp=Z,95nm,6.3s								
LZH				LR	LR				
	comp=Z,400nm,14.2s								
LZH				LR	LR				
	comp=Z,380nm,14.5s								
LZH				LR	LR				
	comp=Z,440nm,17.8s								
SONM	**Songino Array**	**46.72**	**53**	P		**P**	**06 21 55.6**	**-0.7**
	comp=Z,1.9nm,0.6s,baz=284,slow=9.8,SNR=7.1								
SONM				PcP		**PcP**	**06 23 29.8**	**+0.3**
	comp=Z,1.2nm,0.7s,baz=238,slow=4.5,SNR=3.7								
SONA1	**Songino Array**	**46.73**	**53**	*e*P		**P**	**06 21 56.3**	**-0.1**
ULN	**Ulaanbaatar**	**47.16**	**53**	*e*P		**P**	**06 21 59.9**	**+0.1**
	comp=Z,13nm,0.8s								
ULN	**Ulaanbaatar**	**47.16**	**53**	*ce*P		**P**	**06 22 00.1**	**+0.3**
ULN				pmax	pmax				
	comp=Z,14nm,0.8s								
SPITS	**Spitsbergen Ar**	**47.71**	**352**	P		**P**	**06 22 03.2**	**-0.2**
	comp=Z,7.8nm,0.7s,baz=123,slow=5.3,SNR=16								
CHTO	**Chiang Mai**	**48.27**	**93**	P		**P**	**06 22 10.3**	**+1.7**
	comp=Z,55nm,1.2s								
CHTO	**Chiang Mai**	**48.27**	**93**	*e*P		**P**	**06 22 08.2**	**-0.3**
	comp=Z,8.8nm,0.8s								
CHTO	**Chiang Mai**	**48.27**	**93**	*e*P		**P**	**06 22 08.2**	**-0.3**
CHTO				pmax	pmax				
	comp=Z,9.0nm,0.8s								
CMMT	**Chiang Mai**	**48.27**	**93**	P		**P**	**06 22 09.2**	**+0.6**
	comp=Z,13nm,1.1s								
CMAR	**Chiang Mai Arr**	**48.43**	**94**	P		**P**	**06 22 09.2**	**-0.6**
	comp=Z,4.2nm,0.6s,baz=294,slow=8.6,SNR=15								
CMAR				PcP		**PcP**	**06 23 35.5**	**-0.4**
	comp=Z,1.6nm,0.3s,baz=290,slow=5.1,SNR=4.5								
CMAR				PP		**PP**	**06 24 04.6**	**+2.1**
	comp=Z,1.4nm,0.4s,baz=300,slow=9.9,SNR=4.5								
CM01	**Chiang Mai Arr**	**48.46**	**94**	*e*P		**P**	**06 22 09.8**	**-0.2**
KMI	**Kunming**	**48.87**	**84**	P		**P**	**06 22 14.9**	**+1.5**
KMI				pmax	pmax				
	comp=Z,19nm,0.9s								
LAMP	**Lampang**	**48.98**	**93**	P		**P**	**06 22 16.5**	**+2.5**
	comp=Z,5.5nm,1.0s								
KOWA	**Kowa**	**49.67**	**261**	P		**P**	**06 22 18.9**	**-0.4**
	comp=Z,12nm,0.7s,baz=56,slow=13,SNR=40								
KOWA				LR		LR	06 44 40.4		
	comp=Z,99nm,19.8s,baz=40,slow=38								
KOWA	**Kowa**	**49.67**	**261**	*e*P		**P**	**06 22 19.2**	**-0.2**
	comp=Z,12nm,0.8s								
NANT	**Nan**	**49.76**	**92**	P		**P**	**06 22 22.8**	**+2.8**
	comp=Z,8.1nm,0.9s								
PHIT	**Phitsanulok**	**50.26**	**94**	P		**P**	**06 22 26.7**	**+2.9**
	comp=Z,14nm,0.9s								
OPO	**Ambohidratompo**	**50.77**	**180**	LR		LR	06 43 13.1		
	comp=Z,198nm,21.6s,baz=2.0,slow=35								
LSZ	**Lusaka**	**50.82**	**204**	*e*P		**P**	**06 22 28.9**	**+1.0**
	comp=Z,5.7nm,0.8s								
LSZ	**Lusaka**	**50.82**	**204**	*e*P		**P**	**06 22 29.0**	**+1.0**
LSZ				pmax	pmax				
	comp=Z,6.0nm,0.8s								
PBKT	**Sadao Pong**	**51.02**	**95**	P		**P**	**06 22 30.1**	**+0.6**
	comp=Z,21nm,1.1s								
BOD	**Bodaibo**	**51.04**	**39**	*e*P		**P**	**06 22 27.5**	**-1.6**
BOD				pmax	pmax				
	comp=Z,9.0nm,1.1s								
HHC	**Hu-ho-hao-te**	**51.36**	**61**	*e*P		**P**	**06 22 33.6**	**+1.7**
HHC				sP	sP		06 22 44.0	+0.8
HHC				S		**S**	**06 29 52.9**	**+3.1**
HHC				pmax	pmax				
	comp=Z,22nm,1.1s								
HHC				pmax	pmax				
	comp=Z,88nm,6.6s								
HHC				LR	LR				
	comp=Z,720nm,16.5s								
HHC				LR	LR				
	comp=Z,700nm,15.9s								
HHC				LR	LR				
	comp=Z,850nm,16.1s								
GYA	**Guiyang**	**51.66**	**80⇑**	*i*P		**P**	**06 22 33.3**	**-1.0**
GYA				pP	sP		06 22 46.4	+0.8
GYA				PP		**PP**	**06 24 34.8**	**+2.9**
GYA				S		**S**	**06 29 52.0**	**-2.3**
GYA				pmax	pmax				
	comp=Z,20nm,0.8s								
PHET	**Kaeng Krachan**	**51.71**	**99**	P		**P**	**06 22 35.2**	**+0.5**
	comp=Z,15nm,0.8s								
NAYO	**Nakonayok**	**52.41**	**97**	P		**P**	**06 22 41.5**	**+1.6**
	comp=Z,16nm,0.9s,comp=Z,626nm								
SCO	**Scoresbysund**	**52.76**	**337**	*e*P		**P**	**06 22 42.8**	**+1.1**
	comp=Z,12nm,1.4s								
SCO	**Scoresbysund**	**52.76**	**337**	*e*P		**P**	**06 22 42.8**	**+1.1**
SCO				pmax	pmax				
	comp=Z,12nm,1.4s								
DAG	**Danmarks Havn**	**53.11**	**345**	*i*P		**P**	**06 22 43.7**	**-0.5**
DAG	**Danmarks Havn**	**53.11**	**345**	*e*P		**P**	**06 22 43.7**	**-0.5**
SRAK	**Srakaew**	**53.17**	**97**	P		**P**	**06 22 49.0**	**+3.5**
	comp=Z,105nm,0.9s,comp=Z,902nm								
SKNT	**Sakolnakorn**	**53.37**	**92**	P		**P**	**06 22 48.0**	**+1.0**
	comp=Z,15nm,1.0s								
DBIC	**Dimbokro**	**54.60**	**254**	P		**P**	**06 22 55.1**	**-0.9**
	comp=Z,8.8nm,0.8s,baz=20,slow=7.5,SNR=12								
DBIC				LR		LR	06 47 30.8		
	comp=Z,124nm,19.1s,baz=38,slow=37								
DBIC	**Dimbokro**	**54.60**	**254**	*e*P		**P**	**06 22 55.4**	**-0.6**
	comp=Z,8.3nm,0.8s								
DBIC	**Dimbokro**	**54.60**	**254**	*e*P		**P**	**06 22 55.4**	**-0.6**
DBIC				pmax	pmax				
	comp=Z,8.0nm,0.8s								
KIC	**Kosan Boka**	**54.68**	**253**	*e*P		**P**	**06 22 55.6**	**-1.0**
	comp=Z,40nm,0.9s								
TIC	**Toumodi**	**54.74**	**254**	*e*P		**P**	**06 22 55.9**	**-1.1**
BJI	**Beijing**	**54.97**	**61⇑**	*i*P		**P**	**06 22 56.5**	**-1.8**
BJI				pmax	pmax				
	comp=Z,13nm,0.9s								
LIC	**Lamto**	**54.99**	**253**	*e*P		**P**	**06 22 57.7**	**-1.1**
	comp=Z,52nm,0.8s								
HIA	**Hailar**	**55.33**	**49**	*i*P		**P**	**06 22 59.9**	**-1.0**
HIA				pmax	pmax				
	comp=Z,24nm,1.1s								
KCSI	**Kotacane, Aceh**	**55.47**	**110**	P		P	06 23 10.7	+8.5
SKLT	**Songkhla**	**55.63**	**105**	P		**P**	**06 23 03.9**	**+0.5**
	comp=Z,32nm,1.0s								
GSI	**Gunungsitoli**	**56.67**	**113**	*e*P		**P**	**06 23 10.6**	**-0.3**
	comp=Z,25nm,0.9s								
KULM	**Kulim**	**56.73**	**107**	*e*P		**P**	**06 23 09.6**	**-1.7**
	comp=Z,19nm,0.7s								
PSI	**Prapat**	**56.81**	**110**	P		**P**	**06 23 13.3**	**+1.3**
	comp=Z,7.3nm,0.7s,baz=310,slow=7.9,SNR=6.8								
PSI	**Prapat**	**56.81**	**110**	*e*P		**P**	**06 23 10.7**	**-1.3**
	comp=Z,38nm,1.5s								
PSI	**Prapat**	**56.81**	**110**	*e*P		**P**	**06 23 10.7**	**-1.3**
PSI				pmax	pmax				
	comp=Z,38nm,1.5s								
TIXI	**Tiksi**	**56.96**	**22**	*e*P		**P**	**06 23 11.6**	**-0.5**
	comp=Z,5.0nm,1.1s								
TIXI	**Tiksi**	**56.96**	**22**	*e*P		**P**	**06 23 12.1**	**0.0**
TIXI				pmax	pmax				
	comp=Z,4.0nm,1.0s								
IPM	**Ipoh**	**57.50**	**107**	*e*P		**P**	**06 23 16.2**	**-0.5**
	comp=Z,26nm,0.8s								
SUMG	**Summit**	**58.02**	**339**	*i*P		**P**	**06 23 19.8**	**-0.3**
	comp=Z,13nm,1.0s								
SUMG	**Summit**	**58.02**	**339**	*e*P		**P**	**06 23 21.0**	**+0.9**
	comp=Z,11nm,0.9s								
SUMG	**Summit**	**58.02**	**339**	*i*P		**P**	**06 23 19.8**	**-0.3**
SUMG				pmax	pmax				
	comp=Z,13nm,1.0s								
NJ2	**Nanjing**	**59.56**	**69**	*e*P		**P**	**06 23 32.4**	**+1.5**
NJ2				pmax	pmax				
	comp=Z,10.0nm,0.5s								
BBTS	**Babate**	**60.13**	**269**	P		**P**	**06 23 34.8**	**-0.2**
	comp=Z,10nm,0.5s,baz=166,slow=3.6,SNR=3.7								
PDSI	**Padang**	**60.30**	**112**	P		**P**	**06 23 39.5**	**+3.3**
	comp=Z,59nm,1.0s,comp=Z,21µm								
LBTB	**Lobatse**	**60.74**	**202**	*e*P		**P**	**06 23 40.2**	**+1.2**
	comp=Z,8.2nm,0.8s								
LBTB	**Lobatse**	**60.74**	**202**	*e*P		**P**	**06 23 40.2**	**+1.2**
LBTB				pmax	pmax				
	comp=Z,8.0nm,0.8s								
KLR	**Kul'dur**	**62.93**	**47**	P		**P**	**06 23 52.2**	**-1.2**
	comp=Z,0.3nm,0.6s,baz=297,slow=8.9,SNR=11								
KLR	**Kul'dur**	**62.93**	**47**	*i*P		**P**	**06 23 52.1**	**-1.3**
NRS	**Narsarsuaq**	**63.27**	**327**	*e*P		**P**	**06 23 55.1**	**-0.4**
	comp=Z,29nm,1.3s								
NRS	**Narsarsuaq**	**63.27**	**327**	*e*P		**P**	**06 23 55.1**	**-0.4**
NRS				pmax	pmax				
	comp=Z,29nm,1.3s								
BOSA	**Boshof**	**64.21**	**201**	P		**P**	**06 24 02.0**	**-0.1**
	comp=Z,7.7nm,0.7s,baz=14,slow=6.5,SNR=17								
BOSA				LR		LR	06 51 44.1		
	comp=Z,51nm,18.9s,baz=23,slow=36								
BOSA	**Boshof**	**64.21**	**201**	*e*P		**P**	**06 24 02.5**	**+0.5**
	comp=Z,8.4nm,0.8s								
BOSA	**Boshof**	**64.21**	**201**	*e*P		**P**	**06 24 02.6**	**+0.5**
BOSA				pmax	pmax				
	comp=Z,8.0nm,0.8s								
KS01	**Wonju Array Si**	**64.46**	**61**	*e*P		**P**	**06 24 02.8**	**-0.9**
KSAR	**Wonju Array Be**	**64.47**	**61**	P		**P**	**06 24 02.5**	**-1.2**
KSAR	**Wonju Array Be**	**64.47**	**61**	P		**P**	**06 24 02.6**	**-1.2**
KSAR	**Wonju Array Be**	**64.47**	**61**	P		**P**	**06 24 02.6**	**-1.2**
KSRS	**Korea Array**	**64.49**	**61**	P		**P**	**06 24 02.5**	**-1.4**
	comp=Z,3.4nm,0.6s,baz=284,slow=6.7,SNR=9.0								
TPUB	**Ta-pu**	**64.52**	**78**	*e*P		**P**	**06 24 04.5**	**+0.2**
	comp=Z,24nm,0.9s								
YHNB	**Yeheng**	**64.54**	**76**	*e*P		**P**	**06 24 05.1**	**+0.6**
	comp=Z,241nm,1.9s								
YHNB	**Yeheng**	**64.54**	**76**	*e*P		**P**	**06 24 05.1**	**+0.6**
	comp=Z,241nm,1.9s								
USRK	**Ussuriysk Ar.**	**64.83**	**52**	P		**P**	**06 24 04.0**	**-2.0**
	comp=Z,10nm,0.7s,baz=310,slow=4.6,SNR=13								
USRK				LR		LR	06 57 36.2		
	comp=Z,85nm,18.1s,baz=289,slow=41								
YULB	**Yu-li**	**65.03**	**77**	*e*P		**P**	**06 24 08.3**	**+0.7**
	comp=Z,90nm,1.9s								
NKL	**Nikolayevsk**	**66.75**	**41**	*e*P		**P**	**06 24 16.8**	**-1.4**
SEY	**Seymchan**	**68.08**	**28**	*ce*P		**P**	**06 24 25.9**	**-0.6**
JNU	**Nakatsue**	**68.45**	**64**	LR		LR	06 58 49.6		
	comp=Z,55nm,18.2s,baz=117,slow=40								
TYV	**Tymovskoe**	**68.81**	**43**	*e*P		P	06 24 41.4	+10
TYV				pmax	pmax				
	comp=Z,300nm,3.0s								
TYV				pmax	pmax				
	comp=Z,19nm,1.1s								
MA2	**Magadan**	**69.00**	**32⇑**	*e*P		**P**	**06 24 32.3**	**0.0**
SUR	**Sutherland**	**69.12**	**204**	*e*P		**P**	**06 24 34.5**	**+0.9**
	comp=Z,90nm,1.8s								
BILL	**Bilibino**	**70.11**	**20**	*i*P		**P**	**06 24 39.0**	**0.0**
BILL				*i*			06 24 44.9		
BILL				*i*			06 24 54.9		
BILL				*i*			06 25 02.2		
BILL				pmax	pmax				
	comp=Z,4.0nm,1.1s								
RES	**Resolute Bay**	**70.22**	**350**	*e*P		**P**	**06 24 39.8**	**+0.3**
	comp=Z,3.1nm,1.0s								
RES	**Resolute Bay**	**70.22**	**350**	*e*P		**P**	**06 24 39.8**	**+0.3**
RES				pmax	pmax				
	comp=Z,3.0nm,1.0s								
YSS	**Yuzh-Sakhalins**	**70.60**	**46**	*e*P		**P**	**06 24 41.8**	**-0.6**
YSS				pmax	pmax				
	comp=Z,20nm,1.1s								
ASAJ	**Asahikawa**	**71.81**	**49**	P		**P**	**06 24 48.2**	**-1.5**
	comp=Z,4.3nm,0.4s,baz=278,slow=14,SNR=5.2								
MJAR	**Matsushiro Arr**	**72.34**	**58**	P		**P**	**06 24 51.9**	**-1.2**
	comp=Z,1.4nm,0.7s,baz=323,slow=2.9,SNR=3.5								
ERM	**Erimo**	**73.16**	**51**	*e*P		**P**	**06 24 59.4**	**+1.6**
	comp=Z,20nm,1.1s								
ERM	**Erimo**	**73.16**	**51**	*e*P		**P**	**06 24 59.4**	**+1.6**
ERM				pmax	pmax				
	comp=Z,20nm,1.1s								
PETK	**Petropavlovsk-**	**75.70**	**36**	*e*P		**P**	**06 25 13.8**	**+1.4**
PETK	**Petropavlovsk-**	**75.70**	**36**	*e*P		**P**	**06 25 13.8**	**+1.4**
SCHQ	**Schefferville**	**76.24**	**327**	P		**P**	**06 25 15.2**	**-0.2**
	comp=Z,11nm,0.8s,baz=57,slow=8.6,SNR=8.5								
SCHQ	**Schefferville**	**76.24**	**327**	*e*P		**P**	**06 25 16.0**	**+0.5**
	comp=Z,15nm,0.9s								
TOLK	**Toolik Lake Re**	**78.42**	**6**	*e*P		**P**	**06 25 27.7**	**+0.2**
	comp=Z,16nm,0.9s								
INK	**Inuvik**	**79.51**	**0**	*e*P		**P**	**06 25 32.5**	**-0.8**
	comp=Z,7.1nm,1.4s								
INK	**Inuvik**	**79.51**	**0**	*e*P		**P**	**06 25 32.5**	**-0.8**
INK				pmax	pmax				
	comp=Z,7.0nm,1.4s								
COLD	**Coldfoot**	**79.73**	**7**	*e*P		**P**	**06 25 34.8**	**+0.2**
	comp=Z,4.7nm,0.9s								
IM3	**Indian Mountai**	**80.53**	**8**	*e*P		**P**	**06 25 38.2**	**-0.7**
MLY	**Manley**	**81.81**	**8**	*e*P		**P**	**06 25 45.6**	**-0.2**
	comp=Z,4.5nm,0.8s								
MDM	**Murphy Dome**	**82.14**	**7**	*e*P		**P**	**06 25 46.8**	**-0.8**
	comp=Z,9.8nm,1.1s								
IL1	**Eielson Array**	**82.44**	**6**	*e*P		**P**	**06 25 49.1**	**0.0**
ILAR	**Eielson Array**	**82.44**	**6**	P		**P**	**06 25 48.5**	**-0.6**
	comp=Z,1.8nm,0.9s,baz=330,slow=3.8,SNR=15								
WRH	**Wood River Hil**	**82.63**	**7**	*e*P		**P**	**06 25 51.5**	**+1.5**
	comp=Z,3.5nm,1.2s								
BPAW	**Bear Paw Mtn.**	**82.68**	**8**	*e*P		**P**	**06 25 50.5**	**+0.2**
	comp=Z,8.6nm,1.1s								
EGAK	**Eagle**	**82.84**	**4**	*e*P		**P**	**06 25 50.4**	**-0.7**
	comp=Z,6.1nm,1.0s								
CAST	**Castle Rocks**	**83.21**	**9**	*e*P		**P**	**06 25 53.0**	**-0.1**
	comp=Z,6.7nm,0.9s								
KTH	**Kantishna Hill**	**83.22**	**8**	*e*P		**P**	**06 25 53.8**	**+0.5**
	comp=Z,5.5nm,0.9s								
SCRK	**Sand Creek**	**83.46**	**5**	*e*P		**P**	**06 25 54.6**	**+0.1**
	comp=Z,6.8nm,0.9s								
FCC	**Fort Churchill**	**83.50**	**341**	*e*P		**P**	**06 25 54.8**	**+0.2**
	comp=Z,6.6nm,0.8s								
FCC	**Fort Churchill**	**83.50**	**341**	*e*P		**P**	**06 25 54.8**	**+0.2**
FCC				pmax	pmax				
	comp=Z,7.0nm,0.8s								
RIDG	**Independ'e Rid**	**83.63**	**5**	*e*P		**P**	**06 25 56.0**	**+0.7**
	comp=Z,8.7nm,1.2s								
DAWY	**Dawson**	**83.63**	**3**	*e*P		**P**	**06 25 55.5**	**+0.2**
	comp=Z,5.6nm,1.4s								
PPLA	**Purkeypile**	**83.70**	**9**	*e*P		**P**	**06 25 57.2**	**+1.5**
	comp=Z,16nm,1.6s								
DOT	**Dot Lake**	**83.78**	**5**	*e*P		**P**	**06 25 56.0**	**0.0**
	comp=Z,15nm,1.0s								
YKA	**Yellowknife Ar**	**84.20**	**352**	P		**P**	**06 25 57.4**	**-0.8**
	comp=Z,2.3nm,0.8s,baz=15,slow=5.2,SNR=25								
SML	**Sawmill**	**85.21**	**7**	*e*P		**P**	**06 26 03.6**	**+0.3**
	comp=Z,7.0nm,0.9s								
SML	**Sawmill**	**85.21**	**7**	*e*P		**P**	**06 26 03.6**	**+0.3**
SML				pmax	pmax				
	comp=Z,7.0nm,0.9s								
SUA	**Susitna One**	**85.26**	**8**	*e*P		**P**	**06 26 03.8**	**+0.1**
	comp=Z,4.9nm,0.8s								
KLU	**Klutina**	**85.76**	**6**	*e*P		**P**	**06 26 06.4**	**+0.3**
	comp=Z,12nm,1.0s								
PLVO	**Plevna**	**87.67**	**324**	*e*P		**P**	**06 26 16.4**	**+0.7**
	comp=Z,10.0nm,0.9s								
FFC	**Flin Flon**	**89.14**	**343**	*e*P		**P**	**06 26 22.4**	**0.0**
	comp=Z,6.8nm,0.8s								
FFC	**Flin Flon**	**89.14**	**343**	*e*P		**P**	**06 26 22.4**	**0.0**
FFC				pmax	pmax				
	comp=Z,7.0nm,0.8s								
ULM	**Lac du Bonnet**	**91.33**	**337**	P		**P**	**06 26 32.7**	**-0.1**
	comp=Z,3.7nm,0.9s,baz=352,slow=5.2,SNR=6.2								
ULM	**Lac du Bonnet**	**91.33**	**337**	*e*P		**P**	**06 26 32.6**	**-0.1**
	comp=Z,5.0nm,1.0s								
ULM	**Lac du Bonnet**	**91.33**	**337**	*e*P		**P**	**06 26 32.6**	**-0.1**
ULM				pmax	pmax				
	comp=Z,5.0nm,1.0s								
TKL	**Tuckaleechee C**	**98.04**	**322**	P		Pdif	06 27 04.2	+0.5
	comp=Z,1.9nm,0.7s,baz=12,slow=9.1,SNR=2.9								
WRA	**Warramunga Arr**	**98.24**	**108**	P		**P**	**06 27 04.6**	**-0.2**
	comp=Z,0.6nm,0.9s,baz=319,slow=4.1,SNR=4.2								
ASAR	**Alice Springs**	**99.82**	**112**	P		**Pdif**	**06 27 12.6**	**+0.8**
	comp=Z,0.6nm,0.9s,baz=302,slow=5.3,SNR=4.0								
ASAR				PP		**PP**	**06 31 17.7**	**+0.8**
	comp=Z,0.5nm,0.8s,baz=308,slow=6.2,SNR=4.8								
QSPA	**South Pole Qui**	**122.33**	**180**	PKP		**PKPdf**	**06 32 20.2**	**-1.1**
	comp=Z,8.0nm,0.9s,baz=195,slow=0.4,SNR=7.2								
TRQA	**Tornquist**	**123.09**	**243**	*e*PKPdf		**PKPdf**	**06 32 24.8**	**+1.2**

*ISCJB **21** 06:15:01.8±2.1, 27.47N±0.04×126.91E±0.04, h6km±14km, mb3.6/10, MS3.7/5, Error ellipse: s-maj=7.4km s-min=5.6km az=41.8*
*JMA **21** 06:15:02.1±0.4, 27.50N×126.88E, h16km±4km, M3.6*
*IDC **21** 06:15:02.1±0.8, 27.41N×127.01E, h0km, mb3.6/9, mb1 3.7/9, mb1mx3.5/64, mbtmp3.6/9, MS3.7/5, Ms1 3.7/5, ms1mx3.0/59, Error ellipse: s-maj=32.1km s-min=13.5km az=49.0*
ISC 21 06:15:02.5±2.0, 27.44N±0.05×126.97E±0.06, h5km±13km, n26, σ0s79/26, mb3.8/10, MS3.7/5, Northwest of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JAGN	**Aguni-jima**	**0.88**	**164**	P		**Pb**	**06 15 20.1**	**-0.2**
JAGN				*e*S		**Sb**	**06 15 33.1**	**+0.8**
JIH	**Iheya**	**0.97**	**114**	P		**Pb**	**06 15 21.8**	**-0.1**
JIH				S		**Sb**	**06 15 35.7**	**+0.7**
JKE	**Kume jima 2**	**1.12**	**189**	P		**Pg**	**06 15 23.4**	**-0.6**
JKE				*e*S		**Sn**	**06 15 39.7**	**-0.9**
JOW	**Kunigami**	**1.31**	**117**	Pn		**Pn**	**06 15 27.1**	**-0.4**
	121nm,0.3s,baz=113,slow=8.4,SNR=113							
JOW				Sn		**Sg**	**06 15 45.6**	**+1.0**
	89nm,0.3s,baz=119,slow=24,SNR=6.5							
JOW	**Kunigami**	**1.31**	**117**	P		**Pb**	**06 15 27.3**	**-0.3**
JOW				*e*S		**Sg**	**06

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKFM	**Kafar-mosalman**	**1.34**	**32**	*e*Pg	**Pn**	**06 43 39.5**	**-0.7**
IKFM				*e*AMB	AMB	06 44 02.0	
	comp=Z,99nm,0.2s						
IKFM	**Kafar-mosalman**	**1.34**	**32**	*e*Pg	**Pn**	**06 43 39.5**	**-0.7**
IKOM	**Komasi**	**1.83**	**14**	*e*Pn	**Pn**	**06 43 48.2**	**+1.1**
IKOM				*e*AMB	AMB	06 44 22.6	
	comp=Z,10μm,0.2s						
IKOM	**Komasi**	**1.83**	**14**	*e*Pn	**Pn**	**06 43 48.2**	**+1.1**
IGHG	**Ghaleghazi**	**1.96**	**350**	*e*Pn	**Pn**	**06 43 50.6**	**+1.6**
IGHG				*e*Sg	**Sb**	**06 44 17.4**	**+1.4**
IGHG				*e*AMB	AMB	06 44 28.2	
	comp=Z,7μm,0.3s						
IGHG	**Ghaleghazi**	**1.96**	**350**	*e*Pn	**Pn**	**06 43 50.6**	**+1.6**
IGHG				*e*Sg	**Sb**	**06 44 17.4**	**+1.4**
IVIS	**Veis**	**2.13**	**357**	*e*Pn	**Pn**	**06 43 52.3**	**+1.1**
IVIS				*e*AMB	AMB	06 44 26.1	
	comp=Z,4μm,0.2s						
IVIS	**Veis**	**2.13**	**357**	*e*Pn	**Pn**	**06 43 52.3**	**+1.1**
BHD	**Baghdad**	**2.37**	**292**	*e*Pn	**Pn**	**06 43 54.0**	**-0.4**
	SNR=5.0						
BHD				*e*Sn	**Sn**	**06 44 24.0**	**+1.2**
	SNR=5.0						
ILIN	**Lien**	**2.52**	**359**	*e*Pn	**Pn**	**06 43 58.7**	**+2.0**
ILIN				*e*AMB	AMB	06 44 36.7	
	comp=Z,2μm,0.3s						
ILIN	**Lien**	**2.52**	**359**	*e*Pn	**Pn**	**06 43 58.7**	**+2.0**
HAGD	**Aghdareh**	**3.01**	**36**	*e*AMB	AMB	06 44 13.0	
	comp=Z,99nm,0.1s						
HAGD				*e*Pn	**Pn**	**06 44 04.4**	**+0.9**
HKZM	**Kohzaman**	**3.37**	**28**	*e*Pn	**Pn**	**06 44 10.2**	**+1.7**
HKZM				*e*AMB	AMB	06 44 56.0	
	comp=Z,99nm,0.2s						
HKZM	**Kohzaman**	**3.37**	**28**	*e*Pn	**Pn**	**06 44 10.2**	**+1.7**
IKLH	**Kolahrood**	**3.97**	**75**	*e*Pn	**Pn**	**06 44 17.9**	**+1.2**
IKLH				*e*AMB	AMB	06 45 34.7	
	comp=Z,1μm,0.4s						
IKLH	**Kolahrood**	**3.97**	**75**	*e*Pn	**Pn**	**06 44 17.9**	**+1.2**
IZEF	**Zefreh**	**4.53**	**82**	*e*Pn	**Pn**	**06 44 25.2**	**+0.8**
IZEF				*e*AMB	AMB	06 45 59.2	
	comp=Z,543nm,0.4s						
IZEF	**Zefreh**	**4.53**	**82**	*e*Pn	**Pn**	**06 44 25.2**	**+0.8**
IRAM	**Ramesheh**	**4.61**	**96**	*e*Pn	**Pn**	**06 44 26.5**	**+1.0**
IRAM				*e*AMB	AMB	06 46 11.3	
	comp=Z,558nm,0.4s						
IRAM	**Ramesheh**	**4.61**	**96**	*e*Pn	**Pn**	**06 44 26.5**	**+1.0**
IKAZ	**Kazeroun**	**4.91**	**121**	*e*Pn	**Pn**	**06 44 30.7**	**+1.1**
IKAZ				*e*AMB	AMB	06 45 33.3	
	comp=Z,2μm,0.3s						
IKAZ	**Kazeroun**	**4.91**	**121**	*e*Pn	**Pn**	**06 44 30.7**	**+1.1**
ISRV	**Sarvestan**	**6.06**	**118**	*e*Pn	**Pn**	**06 44 47.7**	**+2.3**
ISRV				*e*AMB	AMB	06 46 06.6	
	comp=Z,610nm,0.4s						
ISRV	**Sarvestan**	**6.06**	**118**	*e*Pn	**Pn**	**06 44 47.7**	**+2.3**
ATD	**Arta Tunnel**	**21.11**	**191**	LR	LR	06 57 22.6	
	comp=Z,34nm,18.5s,baz=22,slow=40						
AKASG	**Malin Array Be**	**22.51**	**330**	P	**P**	**06 48 14.3**	**-0.6**
	comp=Z,0.2nm,0.4s,baz=133,slow=10,SNR=2.5						
BVAR	**Borovoye Array**	**26.63**	**32**	P	**P**	**06 48 51.5**	**-2.3**
	comp=Z,0.4nm,0.4s,baz=235,slow=11,SNR=3.9						
MKAR	**Makanchi Array**	**30.48**	**52**	P	**P**	**06 49 27.3**	**-0.9**
	comp=Z,0.3nm,0.5s,baz=246,slow=7.8,SNR=3.6						
FINES	**FINESS Array B**	**32.08**	**341**	P	**P**	**06 49 40.8**	**-1.2**
	comp=Z,1.3nm,1.0s,baz=125,slow=16,SNR=2.5						
HFS	**Hagfors**	**35.36**	**332**	P	**P**	**06 50 10.4**	**-0.2**
	comp=Z,0.8nm,0.5s,baz=119,slow=8.4,SNR=7.1						
TORD	**Torodi Ar. Bea**	**45.56**	**256**	P	**P**	**06 51 36.2**	**+0.8**
	comp=Z,0.3nm,0.5s,baz=68,slow=7.2,SNR=7.4						
KLR	**Kul'dur**	**63.04**	**47**	LR	LR	07 21 07.4	
	comp=Z,14nm,18.7s,baz=175,slow=36						
YKA	**Yellowknife Ar**	**84.29**	**352**	P	**P**	**06 55 45.8**	**-0.9**
	comp=Z,0.1nm,0.5s,baz=6.8,slow=5.1,SNR=4.4						

*ISCJB **21** 06:44:09.7±0.4,39.°10N±0.°03×29.°11E±0.°03,h6km±5km, Error ellipse: s-maj=4.8km s-min=4.2km az=157.1*
*ISK **21** 06:44:09.1,39.°10N×29.°15E,h5km,ML2.8/15*
*DDA **21** 06:44:09.6,39.°11N×29.°11E,h7km,Ml2.7*
*CSEM **21** 06:44:09.7±0.1,39.°11N×29.°13E,h5km,ML2.8, Error ellipse: s-maj=2.1km s-min=1.6km az=117.0*

ISC 21 06:44:09.9±0.9,39.°11N±0.°02×29.°12E±0.°02,h10km±6km, n50,σ0°39/62,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIMA	**Simav-Kutahya**	**0.11**	**259**	PG	**Pg**	**06 44 12.5**	**-0.2**
SIMA				SG	**Sg**	**06 44 14.7**	**+0.1**
SIMA	**Simav-Kutahya**	**0.11**	**259**	*e*Pg	**Pg**	**06 44 12.5**	**-0.2**
SIMA				*e*Sg	**Sg**	**06 44 14.7**	**+0.1**
GDZ	**Gediz**	**0.28**	**93**	*i* P	**Pg**	**06 44 15.3**	**-0.2**
GDZ				*i* S	**Sg**	**06 44 19.9**	**+0.5**
GDZ	**Gediz**	**0.28**	**93**	P	**Pg**	**06 44 15.4**	**-0.2**
GDZ				S	**Sg**	**06 44 19.9**	**+0.5**
DEMI	**Demirci**	**0.32**	**259**	*i* P	**Pg**	**06 44 16.4**	**+0.1**
DEMI				*i* S	**Sg**	**06 44 20.5**	**-0.1**
DEMI	**Demirci**	**0.32**	**259**	P	**Pg**	**06 44 16.4**	**+0.1**
DEMI				S	**Sg**	**06 44 20.5**	**-0.1**
TVSB	**Tavsanli**	**0.43**	**37**	PG	**Pg**	**06 44 17.8**	**-0.6**
TVSB	**Tavsanli**	**0.43**	**37**	*e*Pg	**Pg**	**06 44 17.8**	**-0.6**
KULA	**Kula-Manisa**	**0.69**	**212**	PG	**Pg**	**06 44 22.9**	**-0.3**
KULA				SG	**Sg**	**06 44 32.3**	**0.0**
KULA	**Kula-Manisa**	**0.69**	**212**	*e*Pg	**Pg**	**06 44 22.9**	**-0.3**
KULA				*e*Sg	**Sg**	**06 44 32.3**	**0.0**
DURS	**Dursunbey**	**0.70**	**315**	*i* P	**Pg**	**06 44 23.0**	**-0.5**
DURS	**Dursunbey**	**0.70**	**315**	P	**Pg**	**06 44 23.0**	**-0.5**
MANT	**Manisa**	**0.75**	**216**	*i* P	**Pg**	**06 44 24.5**	**0.0**
MANT				*i* S	**Sg**	**06 44 33.7**	**-0.7**
MANT	**Manisa**	**0.75**	**216**	P	**Pg**	**06 44 24.5**	**0.0**
KHAL	**Karahalli**	**0.79**	**158**	*i* P	**Pb**	**06 44 25.8**	**0.0**
KHAL				*i* S	**Sb**	**06 44 36.2**	**-0.4**
KHAL	**Karahalli**	**0.79**	**158**	P	**Pb**	**06 44 25.8**	**0.0**
KHAL				S	**Sb**	**06 44 36.2**	**-0.4**
ORLT	**Orhaneli**	**0.96**	**350**	PG	**Pg**	**06 44 28.2**	**-0.1**
ORLT	**Orhaneli**	**0.96**	**350**	*e*Pg	**Pg**	**06 44 28.2**	**-0.1**
BALB	**Balikesir**	**1.10**	**299**	PN	**Pn**	**06 44 31.4**	**0.0**
BALB	**Balikesir**	**1.10**	**299**	*e*Pn	**Pn**	**06 44 31.4**	**0.0**
CAVI	**Cavuskoy**	**1.23**	**27**	PN	**Pg**	**06 44 32.9**	**-0.6**
CAVI	**Cavuskoy**	**1.23**	**27**	*e*Pn	**Pg**	**06 44 32.9**	**-0.6**
SHUT	**Suhut-Afyon**	**1.25**	**116**	PN	**Pg**	**06 44 33.0**	**-0.8**
SHUT	**Suhut-Afyon**	**1.25**	**116**	*e*Pn	**Pg**	**06 44 33.0**	**-0.8**
MDNY	**Mudanya-Bursa**	**1.28**	**352**	PN	**Pb**	**06 44 34.3**	**+0.3**
MDNY	**Mudanya-Bursa**	**1.28**	**352**	*e*Pn	**Pb**	**06 44 34.3**	**+0.3**
BORA	**Eskisehir**	**1.29**	**53**	*i* P	**Pb**	**06 44 34.4**	**+0.1**
BORA				*i* S	**Sn**	**06 44 52.4**	**+0.9**
BORA	**Eskisehir**	**1.29**	**53**	P	**Pb**	**06 44 34.4**	**+0.1**
KCTX	**Karacabey (Bur**	**1.30**	**333**	PN	**Pg**	**06 44 34.5**	**-0.4**
KCTX	**Karacabey (Bur**	**1.30**	**333**	*e*Pn	**Pg**	**06 44 34.5**	**-0.4**
GEMT	**Gemlik**	**1.33**	**2**	PN	**Pg**	**06 44 35.1**	**-0.3**
GEMT	**Gemlik**	**1.33**	**2**	*e*Pn	**Pg**	**06 44 35.1**	**-0.3**
ADVT	**Abdulvahap**	**1.41**	**20**	PN	**Pb**	**06 44 36.1**	**-0.2**
ADVT	**Abdulvahap**	**1.41**	**20**	*e*Pn	**Pb**	**06 44 36.1**	**-0.2**
GONE	**Gonen-Balikesi**	**1.45**	**311**	PN	**Pb**	**06 44 36.9**	**-0.2**
GONE	**Gonen-Balikesi**	**1.45**	**311**	*e*Pn	**Pb**	**06 44 36.9**	**-0.2**
ARMT	**Armutlu**	**1.47**	**352**	PN	**Pb**	**06 44 37.2**	**-0.2**
ARMT	**Armutlu**	**1.47**	**352**	*e*Pn	**Pb**	**06 44 37.2**	**-0.2**
YLV	**Yalova**	**1.47**	**7**	PN	**Pn**	**06 44 37.0**	**+0.4**
YLV	**Yalova**	**1.47**	**7**	*e*Pn	**Pn**	**06 44 37.0**	**+0.4**
AYDB	**Zeytinkoy-Aydi**	**1.51**	**220**	PN	**Pb**	**06 44 37.9**	**-0.1**
AYDB	**Zeytinkoy-Aydi**	**1.51**	**220**	*e*Pn	**Pb**	**06 44 37.9**	**-0.1**
EDC	**Edincik**	**1.57**	**322**	PN	**Pb**	**06 44 38.7**	**-0.4**
EDC	**Edincik**	**1.57**	**322**	*e*Pn	**Pb**	**06 44 38.7**	**-0.4**
GULT	**Gulveren**	**1.71**	**39**	PN	**Pn**	**06 44 40.2**	**+0.4**
GULT	**Gulveren**	**1.71**	**39**	*e*Pn	**Pn**	**06 44 40.2**	**+0.4**
BUY	**Buyukada**	**1.75**	**360**	PN	**Pn**	**06 44 41.0**	**+0.7**
BUY	**Buyukada**	**1.75**	**360**	*e*Pn	**Pn**	**06 44 41.0**	**+0.7**
HRT	**Hereke**	**1.77**	**14**	PN	**Pn**	**06 44 40.9**	**+0.3**
HRT	**Hereke**	**1.77**	**14**	*e*Pn	**Pn**	**06 44 40.9**	**+0.3**

*ISK **21** 06:47:55.6,39.°12N×29.°16E,h5km,ML2.4/8*
*ISCJB **21** 06:47:56.2±0.5,39.°10N±0.°03×29.°13E±0.°04,h6km±6km, Error ellipse: s-maj=6.1km s-min=4.3km az=157.4*
*DDA **21** 06:47:56.4,39.°08N×29.°12E,h7km,Ml2.6*
*CSEM **21** 06:47:56.4±0.2,39.°11N×29.°12E,h8km,ML2.4, Error ellipse: s-maj=5.1km s-min=3.7km az=132.0*

ISC 21 06:47:56.3±0.9,39.°11N±0.°03×29.°13E±0.°02,h8km±8km, n30,σ0°46/42,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIMA	**Simav-Kutahya**	**0.11**	**258**	PG	**Pg**	**06 47 59.0**	**+0.1**
SIMA				SG	**Sg**	**06 48 00.9**	**+0.1**
SIMA	**Simav-Kutahya**	**0.11**	**258**	*e*Pg	**Pg**	**06 47 59.0**	**+0.1**
SIMA				*e*Sg	**Sg**	**06 48 00.9**	**+0.1**
GDZ	**Gediz**	**0.28**	**94**	*i* P	**Pg**	**06 48 01.8**	**-0.1**
GDZ				*i* S	**Sg**	**06 48 06.4**	**+0.8**
GDZ	**Gediz**	**0.28**	**94**	P	**Pg**	**06 48 01.8**	**-0.1**
GDZ				S	**Sg**	**06 48 06.4**	**+0.8**
DEMI	**Demirci**	**0.33**	**259**	*i* P	**Pg**	**06 48 02.7**	**0.0**
DEMI				*i* S	**Sg**	**06 48 06.9**	**-0.2**
DEMI	**Demirci**	**0.33**	**259**	P	**Pg**	**06 48 02.7**	**0.0**
DEMI				S	**Sg**	**06 48 06.9**	**-0.2**
TVSB	**Tavsanli**	**0.43**	**37**	PG	**Pg**	**06 48 04.1**	**-0.6**
TVSB				SG	**Sg**	**06 48 09.8**	**-0.6**
TVSB	**Tavsanli**	**0.43**	**37**	*e*Pg	**Pg**	**06 48 04.1**	**-0.6**
TVSB				*e*Sg	**Sg**	**06 48 09.8**	**-0.6**
KULA	**Kula-Manisa**	**0.69**	**212**	PG	**Pg**	**06 48 09.7**	**0.0**
KULA	**Kula-Manisa**	**0.69**	**212**	*e*Pg	**Pg**	**06 48 09.7**	**0.0**
DURS	**Dursunbey**	**0.71**	**315**	*i* P	**Pb**	**06 48 10.6**	**-0.4**
DURS				*i* S	**Sb**	**06 48 22.0**	**+1.1**
DURS	**Dursunbey**	**0.71**	**315**	P	**Pb**	**06 48 10.6**	**-0.4**
DURS				S	**Sb**	**06 48 22.0**	**+1.1**
MANT	**Manisa**	**0.76**	**216**	*i* P	**Pg**	**06 48 11.0**	**+0.1**
MANT				*i* S	**Sg**	**06 48 20.0**	**-0.8**
MANT	**Manisa**	**0.76**	**216**	P	**Pg**	**06 48 11.0**	**+0.1**
MANT				S	**Sg**	**06 48 20.0**	**-0.8**
KHAL	**Karahalli**	**0.79**	**159**	*i* P	**Pn**	**06 48 13.8**	**-0.1**
KHAL	**Karahalli**	**0.79**	**159**	P	**Pn**	**06 48 13.8**	**-0.1**
BALB	**Balikesir**	**1.10**	**299**	PN	**Pn**	**06 48 18.1**	**0.0**
BALB	**Balikesir**	**1.10**	**299**	*e*Pn	**Pn**	**06 48 18.1**	**0.0**
CAVI	**Cavuskoy**	**1.23**	**27**	PN	**Pb**	**06 48 19.3**	**-0.5**
CAVI	**Cavuskoy**	**1.23**	**27**	*e*Pn	**Pb**	**06 48 19.3**	**-0.5**
BORA	**Eskisehir**	**1.28**	**53**	*i* P	**Pg**	**06 48 21.3**	**+0.3**
BORA	**Eskisehir**	**1.28**	**53**	P	**Pg**	**06 48 21.3**	**+0.3**
KCTX	**Karacabey (Bur**	**1.30**	**333**	PN	**Pg**	**06 48 21.2**	**-0.1**
KCTX	**Karacabey (Bur**	**1.30**	**333**	*e*Pn	**Pg**	**06 48 21.2**	**-0.1**
YLV	**Yalova**	**1.47**	**7**	PN	**Pn**	**06 48 23.3**	**0.0**
YLV	**Yalova**	**1.47**	**7**	*e*Pn	**Pn**	**06 48 23.3**	**0.0**
ARMT	**Armutlu**	**1.47**	**352**	PN	**Pn**	**06 48 23.6**	**+0.4**
ARMT	**Armutlu**	**1.47**	**352**	*e*Pn	**Pn**	**06 48 23.6**	**+0.4**
GULT	**Gulveren**	**1.70**	**39**	PN	**Pn**	**06 48 26.4**	**-0.1**
GULT	**Gulveren**	**1.70**	**39**	*e*Pn	**Pn**	**06 48 26.4**	**-0.1**

*NIED **21** 06:54:00,40.°90N×145.°10E,h5km,Mw4.1 Best double couple: M0 1.48000×10^15 NP1:φ=238.00000°,δ=43.00000°, λ=-96.00000°. NP2:φ=66.00000°,δ=48.00000°,λ=-84.00000°.*
*BJI **21** 06:54:03.6,41.°05N×145.°13E,h20km,mb4.3/19,mB4.8/13, Ms4.1/5, Ms7 3.9/4*
*JMA **21** 06:54:03.9±0.2,40.°90N×145.°14E,h67km±2km,M3.9*
*IDC **21** 06:54:03.2±0.6,40.°90N×144.°99E,h0km,mb3.9/22, mb1 4.1/26,mb1mx3.9/74,mbtmp3.9/26,ML3.1/3,MS2.6/3, Ms1 2.6/3,ms1mx2.4/69,Error ellipse: s-maj=15.5km s-min=13.8km az=134.0*
*ISCJB **21** 06:54:04.3±1.0,40.°96N±0.°02×144.°86E±0.°03,h13km±6km, mb4.3/60,MS3.2/1,Error ellipse: s-maj=4.2km s-min=3.8km az=40.5*
*MOS **21** 06:54:05.3±1.3,40.°95N×144.°97E,h23km,mb4.4/20,Error ellipse: s-maj=9.8km s-min=6.0km az=90.0*
*NEIC **21** 06:54:06.3±2.4,40.°92N×144.°87E,h15km±15km,mb4.6/24, Error ellipse: s-maj=6.2km s-min=4.3km az=130.0*

ISC 21 06:54:07.3±2.4,40.°95N±0.°04×144.°99E±0.°05,h24km±17km, n146,σ1°69/162,mb4.3/60,2D,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERM	**Erimo**	**1.74**	**308**	*e*Pn	**Pn**	**06 54 34.4**	**-1.6**
ERM				*e*Sn	**Sn**	**06 54 54.9**	**-2.6**
ERM	**Erimo**	**1.74**	**308**	*d* P	**Pn**	**06 54 34.4**	**-1.6**
JEM	**Erimo**	**1.74**	**308**	P	**Pn**	**06 54 34.1**	**-1.9**
JEM				*e*S	**Sn**	**06 54 55.0**	**-2.5**
JAK	**Akkeshi**	**2.06**	**354**	P	**Pn**	**06 54 37.8**	**-2.5**
JAK				*e*S	**Sn**	**06 55 02.0**	**-3.2**
JCH	**Churui**	**2.06**	**324**	P	**Pn**	**06 54 38.6**	**-1.8**
JCH				*e*S	**Sn**	**06 55 02.8**	**-2.6**
JOB	**Onbets**	**2.13**	**337**	*e*S	**Sn**	**06 55 05.5**	**-1.6**
JNBK	**Urakawa-nobuka**	**2.14**	**309**	P	**Pn**	**06 54 40.3**	**-1.2**
JNBK				*e*S	**Sn**	**06 55 06.6**	**-0.7**
NEM2	**Nemuro 2**	**2.48**	**13**	P	Pn	06 54 43.2	-2.9
NEM2				*e*S	**Sn**	**06 55 11.0**	**-4.6**
JAR	**Ashorobuto**	**2.51**	**339**	P	**Pn**	**06 54 44.9**	**-1.8**
JAR				*e*S	**Sn**	**06 55 13.3**	**-3.3**
JNK	**Nakash**	**2.64**	**356**	P	Pn	06 54 45.3	-3.1
JNK				*e*S	**Sn**	**06 55 15.1**	**-4.6**
JBT2	**Biratori 2**	**2.68**	**314**	P	**Pn**	**06 54 48.1**	**-0.9**
JBT2				*e*S	**Sn**	**06 55 20.1**	**-0.6**
JANG	**Nango**	**2.71**	**259**	P	Pn	06 54 46.5	-2.8
JFR	**Furan**	**2.84**	**322**	P	**Pn**	**06 54 49.6**	**-1.6**
JFR				*e*S	**Sn**	**06 55 20.7**	**-4.0**
JRA	**Rausu**	**2.99**	**2**	P	**Pn**	**06 54 50.8**	**-2.3**
JRA				*e*S	**Sn**	**06 55 23.7**	**-4.5**
JOT	**Ohata**	**3.01**	**280**	P	**Pn**	**06 54 51.5**	**-1.9**
JOT				*e*S	**Sn**	**06 55 25.3**	**-3.4**
JKB	**Kayabe**	**3.12**	**289**	P	**Pn**	**06 54 53.7**	**-1.3**
JKB				*e*S	**Sn**	**06 55 27.9**	**-3.6**
JTKR	**Abashiri--Toko**	**3.12**	**345**	P	**Pn**	**06 54 53.2**	**-1.8**
JTKR				*e*S	**Sn**	**06 55 29.1**	**-2.4**
YUK	**Yuzh-Kuril'sk**	**3.15**	**11**	*e*P	**Pn**	**06 54 53.1**	**-2.3**
YUK				*e*S	**Sn**	**06 55 28.6**	**-3.5**
YUK				pmax	pmax		
	comp=Z,159nm,0.2s						
YUK				smax	smax		
	comp=N,440nm,0.3s						
YUK				smax	smax		
	comp=E,790nm,0.6s						
JOM	**Ohasama**	**3.19**	**244**	P	**Pn**	**06 54 53.7**	**-2.3**
JOM				*e*S	**Sn**	**06 55 28.8**	**-4.5**
SHO	**Shikotan**	**3.22**	**24**	*e*P	Pn	06 54 53.0	-3.3
SHO				*e*S	**Sn**	**06 55 28.3**	**-5.6**
SHO				pmax	pmax		
	comp=N,19nm,0.3s						
SHO				pmax	pmax		
	comp=E,24nm,0.3s						
SHO				pmax	pmax		
	comp=Z,44nm,0.3s						
SHO				smax	smax		
	comp=N,59nm,0.3s						
SHO				smax	smax		
	comp=E,241nm,0.3s						
JEW	**Eniwo**	**3.25**	**307**	P	**Pn**	**06 54 56.1**	**-0.7**
JEW				*e*S	**Sn**	**06 55 33.5**	**-1.2**
JKK2	**Kamakawa 2**	**3.36**	**331**	P	**Pn**	**06 54 56.5**	**-1.8**
JMK	**Ichinoseki**	**3.52**	**237**	P	**Pn**	**06 54 58.2**	**-2.3**
JMK				*e*S	**Sn**	**06 55 36.8**	**-4.5**
ASAJ	**Asahikawa**	**3.62**	**332**	Pn	**Pn**	**06 55 00.9**	**-1.1**
	comp=E,2.0nm,0.3s,baz=205,slow=14,SNR=8.8						
ASAJ				Sn	**Sn**	**06 55 43.2**	**-0.7**
	comp=E,3.0nm,0.3s,baz=160,slow=15,SNR=8.0						
KUR	**Kuril'sk**	**4.77**	**25**	*e*P	**Pn**	**06 55 16.5**	**-1.1**
KUR				*i* S	**Sn**	**06 56 09.3**	**-2.8**
KUR				pmax	pmax		
	comp=E,37nm,0.5s						
KUR				pmax	pmax		
	comp=Z,44nm,0.5s						
KUR				smax	smax		
	comp=E,103nm,0.3s						
KUR				smax	smax		
	comp=N,80nm,0.4s						
YSS	**Yuzh-Sakhalins**	**6.21**	**346**	*e*P	Pn	06 55 42.7	+5.2
MJA0	**Matsu Arr-Jizo**	**6.87**	**232**	*e*P	**Pn**	**06 55 49.4**	**+2.9**
MJA0				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MAJO	**Matsushiro**	**6.89**	**232**	*e*Pn	**Pn**	**06 55 45.5**	**-1.3**
MAJO	**Matsushiro**	**6.89**	**232**	*i* P	**Pn**	**06 55 46.6**	**-0.2**
MAT	**Matsushiro**	**6.89**	**232**	P	**Pn**	**06 55 46.3**	**-0.5**
MAT				*e*S	**Sn**	**06 57 02.4**	**-2.1**
MJAR	**Matsushiro Arr**	**6.89**	**232**	Pn	**Pn**	**06 55 45.2**	**-1.6**
	comp=Z,0.8nm,0.3s,baz=37,slow=10,SNR=7.7						
MJAR				Sn	**Sn**	**06 57 04.6**	**+0.1**
	comp=Z,0.4nm,0.3s,baz=83,slow=31,SNR=2.8						
MJAR				LR	LR	06 58 30.3	
	comp=Z,32nm,18.8s,baz=45,slow=39						
MJB9	**Matsu-Tunnel**	**6.89**	**233**	*e*Pn	**Pn**	**06 55 46.0**	**-0.8**
USRK	**Ussuriysk Ar.**	**10.13**	**293**	Pn	**Pn**	**06 56 31.3**	**+0.1**
	comp=Z,0.2nm,0.3s,baz=108,slow=11,SNR=6.7						
KLR	**Kul'dur**	**12.48**	**316**	Pn	**Pn**	**06 57 02.9**	**-0.4**
	comp=Z,0.0nm,0.3s,baz=132,slow=16,SNR=5.9						
KLR				LR	LR	07 02 25.1	
	comp=Z,9.4nm,18.0s,baz=136,slow=40						
KLR	**Kul'dur**	**12.48**	**316**	*i* P	**Pn**	**06 57 06.1**	**+2.8**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZEA	**Zeya**	**17.49**	**323**	*e*P	Pn	06 57 58.8	-11
ZEA				pmax	pmax		
	comp=Z,14nm,1.2s						
MA2	**Magadan**	**18.99**	**9**	P	**P**	**06 58 26.4**	**-0.5**
	comp=Z,0.4nm,0.3s,baz=164,slow=20,SNR=2.4						
SEY	**Seymchan**	**22.45**	**9**	P	**P**	**06 59 03.1**	**-1.2**
	comp=Z,2.4nm,0.8s,baz=186,slow=13,SNR=14						
SEY	**Seymchan**	**22.45**	**9**	*i* P	**P**	**06 59 05.3**	**+1.0**
YAK	**Yakutsk**	**23.04**	**341**	*i* P	**P**	**06 59 11.4**	**+0.9**
YAK				pmax	pmax		
	comp=Z,11nm,0.5s						
HHC	**Hu-ho-hao-te**	**25.18**	**281**	*e*P	**P**	**06 59 30.5**	**-0.5**
HHC				pmax	pmax		
	comp=Z,8.0nm,1.0s						
HHC				pmax	pmax		
	comp=Z,110nm,5.1s						
ULN	**Ulaanbaatar**	**27.76**	**297**	*e*P	**P**	**06 59 55.0**	**+0.9**
	comp=Z,6.1nm,1.2s						
ULN	**Ulaanbaatar**	**27.76**	**297**	*i* P	**P**	**06 59 54.7**	**+0.5**
ULN				pmax	pmax		
	comp=Z,7.0nm,1.3s						
SONA1	**Songino Array**	**28.19**	**297**	*e*P	**P**	**06 59 57.9**	**-0.2**
SONM	**Songino Array**	**28.20**	**297**	P	**P**	**06 59 57.6**	**-0.5**
	comp=Z,1.0nm,0.6s,baz=98,slow=9.1,SNR=8.0						
SONM	**Songino Array**	**28.20**	**297**	*e*P	**P**	**07 00 00.7**	**+2.6**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.6s						
H11N2	**WAKE ISLAND Hy**	**28.22**	**132**	T	T	07 29 25.9	
	baz=324,slow=75,SNR=32						
H11N1	**WAKE ISLAND Hy**	**28.23**	**132**	T	T	07 29 26.4	
	baz=324,slow=75,SNR=37						
H11N3	**WAKE ISLAND Hy**	**28.24**	**132**	T	T	07 29 28.0	
	baz=324,slow=75,SNR=32						
H11S1	**WAKE ISLAND Hy**	**29.10**	**134**	T	T	07 30 30.9	
	baz=325,slow=74,SNR=23						
H11S3	**WAKE ISLAND Hy**	**29.10**	**134**	T	T	07 30 30.4	
	baz=325,slow=74,SNR=18						
H11S2	**WAKE ISLAND Hy**	**29.12**	**134**	T	T	07 30 30.6	
	baz=325,slow=74,SNR=22						
BILL	**Bilibino**	**29.49**	**16**	*i* P	**P**	**07 00 08.3**	**-0.9**
BILL				*i*		07 01 08.5	
BILL				pmax	pmax		
	comp=Z,2.0nm,1.0s						
TLY	**Talaya**	**30.12**	**305**	*e*P	**P**	**07 00 18.7**	**+3.7**
TLY				pmax	pmax		
	comp=Z,2.0nm,0.9s						
ZAK	**Zakamensk**	**30.28**	**302**	*e*P	**P**	**07 00 15.1**	**-1.4**
ZAK				pmax	pmax		
	comp=Z,2.0nm,0.7s						
TIXI	**Tiksi**	**31.81**	**350**	*i* P	**P**	**07 00 30.9**	**+1.3**
TIXI				pmax	pmax		
	comp=Z,5.0nm,2.4s						
LZH	**Lanzhou**	**32.34**	**275**	*e*P	**P**	**07 00 34.3**	**-0.6**
LZH				pP	pP	07 00 42.8	+0.8
LZH				sP	sP	07 00 46.5	+1.5
LZH				*e*PP	**PnPn**	**07 01 41.5**	**-0.1**
LZH				pmax	pmax		
	comp=Z,22nm,1.2s						
LZH				pmax	pmax		
	comp=Z,76nm,5.3s						
LZH				LR	LR		
	comp=Z,320nm,13.2s						
LZH				LR	LR		
	comp=Z,330nm,13.5s						
LZH				LR	LR		
	comp=Z,400nm,16.9s						
GTA	**Gaotai**	**34.26**	**283**	*e*P	**P**	**07 00 52.1**	**+0.6**
GTA				pP

BVAR	Borovoye Array	50.07	311	P		P	07 02 59.7	-0.3	
	comp=Z,1.3nm,0.6s,baz=72,slow=9.8,SNR=6.6								
BRVK	Borovoye	50.12	311	*i* P		P	07 02 59.7	-0.6	
BRVK				pmax	pmax				
	comp=Z,3.0nm,0.9s								
AAK	Ala-Archa	51.15	297	*i* P		P	07 03 06.3	-2.2	
AAK				pmax	pmax				
	comp=Z,1.0nm,0.9s								
ARU	Arti	55.31	318	P		P	07 03 38.3	-0.4	
	comp=Z,0.9nm,0.3s,baz=88,slow=5.5,SNR=3.6								
ARU	Arti	55.31	318	*d* P		P	07 03 38.4	-0.2	
ARU				S		S	07 11 21.9	+0.9	
ARU				SS		SS	07 15 01.4	-3.5	
ARU				pmax	pmax				
	comp=Z,7.0nm,1.7s								
ABKAR	Akbulak array	57.58	309	*e*P		P	07 03 55.2	+0.3	
	comp=Z,17nm,0.8s								
RES	Resolute Bay	58.10	16	P		P	07 03 58.2	+0.1	
	comp=Z,3.7nm,0.8s,baz=308,slow=8.0,SNR=22								
RES	Resolute Bay	58.10	16	*e*P		P	07 03 58.5	+0.4	
	comp=Z,4.1nm,0.8s								
RES	Resolute Bay	58.10	16	*e*P		P	07 03 58.5	+0.4	
RES				pmax	pmax				
	comp=Z,4.0nm,0.8s								
YKA	Yellowknife Ar	59.02	32	P		P	07 04 04.5	-0.2	
	comp=Z,0.4nm,0.8s,baz=303,slow=6.6,SNR=9.4								
YKA	Yellowknife Ar	59.02	32	*e*P		P	07 04 05.0	+0.3	
WRAB	Tennant Creek	61.37	191	*e*P		P	07 04 22.1	+0.8	
	comp=Z,12nm,1.4s								
WRAB	Tennant Creek	61.37	191	*i* P		P	07 04 21.1	-0.2	
WRAB				pmax	pmax				
	comp=Z,1.0nm,0.6s								
WB2	Warramunga Arr	61.38	191	*e*P		P	07 04 20.8	-0.5	
	comp=Z,15nm,1.5s								
WRA	Warramunga Arr	61.38	191	P		P	07 04 20.1	-1.2	
	comp=Z,1.4nm,0.8s,baz=8.9,slow=6.8,SNR=10								
WRA	Warramunga Arr	61.38	191	*e*P		P	07 04 19.7	-1.6	
WRA				pmax	pmax				
	comp=Z,1.0nm,0.8s								
AS01	Alice Springs	65.10	191	*e*P		P	07 04 47.0	+1.0	
ASAR	Alice Springs	65.11	191	P		P	07 04 45.6	-0.4	
	comp=Z,0.6nm,0.6s,baz=9.5,slow=5.3,SNR=8.2								
ASAR	Alice Springs	65.11	191	*e*P		P	07 04 46.3	+0.3	
ASAR				pmax	pmax				
	comp=Z,1.0nm,0.6s								
PALK	Pallekele	65.92	258	*i* P		P	07 04 52.3	+0.8	
OBN	Obninsk	66.62	324	*i* P		P	07 04 56.7	+1.3	
OBN				pmax	pmax				
	comp=Z,5.0nm,0.9s								
FIA1	FINESS Array S	66.63	333	*e*P		P	07 04 55.7	+0.3	
	comp=Z,54nm,1.6s								
FINES	FINESS Array B	66.63	333	P		P	07 04 55.0	-0.3	
	comp=Z,1.4nm,0.7s,baz=52,slow=7.5,SNR=6.6								
FINES	FINESS Array B	66.63	333	*e*P		P	07 04 55.3	-0.1	
FINES				pmax	pmax				
	comp=Z,1.0nm,0.7s								
KVN	Kaiserville	70.20	55	*e*P		P	07 05 19.5	+1.2	
	comp=Z,8.2nm,1.9s								
KVN	Kaiserville	70.20	55	*e*P		P	07 05 19.5	+1.2	
KVN				pmax	pmax				
	comp=Z,8.0nm,1.9s								
KIV	Kislovodsk	70.43	312	*e*P		P	07 05 19.4	-0.1	
KIV				pmax	pmax				
	comp=Z,9.0nm,1.0s								
NV01	Mina Array Sit	70.45	56	*e*P		P	07 05 20.6	+0.7	
NVAR	Mina Array Bea	70.45	56	P		P	07 05 20.1	+0.1	
	comp=Z,0.5nm,0.7s,baz=303,slow=7.1,SNR=6.1								
KBZ	Khabaz	70.45	311	P		P	07 05 20.1	+0.6	
	comp=Z,3.6nm,1.0s,baz=13,slow=4.1,SNR=8.1								
NOA	NORSAR Array B	71.62	338	P		P	07 05 26.5	+0.1	
	comp=Z,2.0nm,1.0s,baz=36,slow=6.1,SNR=3.7								
NOA	NORSAR Array B	71.62	338	*e*P		P	07 05 27.3	+0.9	
NOA				pmax	pmax				
	comp=Z,2.0nm,1.0s								
HFS	Hagfors	71.64	337	P		P	07 05 26.1	-0.3	
	comp=Z,1.2nm,0.8s,baz=29,slow=6.8,SNR=3.3								
AKASG	Malin Array Be	72.87	323	P		P	07 05 33.5	-0.5	
	comp=Z,1.4nm,0.5s,baz=45,slow=6.1,SNR=9.7								
PDAR	Pinedale Array	72.95	48	P		P	07 05 34.7	-0.3	
	comp=Z,0.3nm,0.6s,baz=258,slow=4.2,SNR=3.6								
PDAR	Pinedale Array	72.95	48	*e*P		P	07 05 35.4	+0.4	
BUR08	Bucovina Ar. S	76.91	323	*e*P		P	07 05 58.6	+1.0	
BUR04	Bucovina Ar. S	76.92	323	*e*P		P	07 05 57.9	+0.3	
CLL	Collm	79.04	332	*e*P		P	07 06 08.0	-1.1	
	comp=Z,4.0nm,1.0s								
CLL	Collm	79.04	332	*e*P		P	07 06 08.0	-1.1	
CLL				pmax	pmax				
	comp=Z,4.0nm,1.0s								
GERES	GERESS Array B	80.79	330	P		P	07 06 19.0	+0.1	
	comp=Z,0.2nm,0.3s,baz=47,slow=6.2,SNR=4.0								
GERES	GERESS Array B	80.79	330	*e*P		P	07 06 20.2	+1.4	
TX31	Lajitas Ar. Si	85.55	55	*e*P		P	07 06 44.2	+0.5	
TXAR	Lajitas Array	85.55	55	P		P	07 06 43.8	+0.1	
	comp=Z,0.9nm,0.9s,baz=300,slow=2.8,SNR=8.4								
TXAR	Lajitas Array	85.55	55	*e*P		P	07 06 44.5	+0.7	
TXAR				pmax	pmax				
	comp=Z,1.0nm,0.9s								
SNAA	Sanae	145.31	197	PKPbc		PKPbc	07 13 40.6	-1.1	
	comp=Z,5.0nm,1.0s,baz=172,slow=4.8,SNR=7.4								
SNAA	Sanae	145.31	197	*e*PKPbc		PKPbc	07 13 41.2	-0.5	
SIV	San Ignacio	146.43	50	PKPbc		PKPdf	07 13 46.0	+0.7	
	comp=Z,4.2nm,0.8s,baz=338,slow=2.4,SNR=23								

IDC 21 06:59:34.7±2.5, 6.70N×74.03W, h95km±20km, mb3.7/1, mb1 3.5/3, mb1mx3.0/44, mbtmp3.8/3, MS3.0/1, Ms1 3.0/1, ms1mx2.4/44, Error ellipse: s-maj=41.8km s-min=19.9km az=131.0, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ROSC	El Rosal	1.88	189	P	Pn	07 00 06.0	+0.2
	4.4nm,0.3s,baz=359,slow=13,SNR=30						
ROSC				S	Sn	07 00 46.0	+16
	17nm,0.3s,baz=19,slow=22,SNR=16						
SDV	Santo Domingo	4.00	57	P	Pn	07 00 32.9	-1.1
	2.3nm,0.3s,baz=240,slow=7.7,SNR=11						
SDV				S	Sn	07 01 23.7	+3.8
	9.4nm,0.3s,baz=185,slow=21,SNR=7.8						
PCRV	Puerto La Cruz	9.91	69	P	Pn	07 01 54.8	+0.6
	0.5nm,0.3s,baz=313,slow=5.6,SNR=2.3						
PCRV				S	Sn	07 03 47.4	+3.7
	0.3nm,0.3s,baz=302,slow=13,SNR=2.4						
CMIG	Matias Romero	22.85	299	LR	LR	07 14 43.8	
	comp=Z,39nm,21.8s,baz=194,slow=40						
SIV	San Ignacio	25.94	150	P	P	07 04 58.0	-0.4
	1.6nm,0.7s,baz=325,slow=8.9,SNR=13						
ASAR	Alice Springs	148.31	235	PKPbc	PKPbc	07 19 10.9	-0.1
	0.2nm,0.5s,baz=117,slow=3.3,SNR=3.1						
WRA	Warramunga Arr	149.49	242	PKPbc	PKPbc	07 19 13.4	-0.6
	0.3nm,0.9s,baz=106,slow=2.8,SNR=4.9						

*TAP **21** 07:09:51.0, 21.68N×122.03E, h16km, ML3.2, D*
*JMA **21** 07:09:53.0±0.3, 21.84N×122.04E, h0km, M3.8*
ISC 21 07:09:51.9±2.0, 21.74N±0.08×121.88E±0.04, h1km±11km, n51, σ0°97/68, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LAY	Lan-yu	0.42	315	P	Pb	07 10 02.5	+0.3
LAY	baz=309			S	Sb	07 10 10.7	+1.6
	baz=309						
TWK1	Hengchun	1.01	282	*e*P	Pn	07 10 12.1	-1.2
	baz=283						
TWH	Lutao	1.03	339	P	Pg	07 10 10.8	-1.0
	baz=333						
TWH				*e*S	Sg	07 10 26.2	+1.1
	baz=333						
HEN	Hengchun	1.09	284	*e*S	Sn	07 10 32.4	+2.4
	baz=298						
EAST	Anshuo	1.15	304	*e*P	Pg	07 10 13.0	-1.0
	baz=303						
ECL	Taimali	1.21	315	*e*P	Pg	07 10 14.9	-0.2
	baz=298						
ECL				*e*S	Sg	07 10 30.7	0.0
	baz=298						
TWGBT	Beinan	1.30	326	*e*P	Pn	07 10 16.5	-0.7
	baz=305						
TWG	Pinlang	1.31	325	*e*P	Pn	07 10 16.8	-0.6
	baz=305						
TWG				*e*S	Sg	07 10 35.5	+1.6
	baz=305						
SCZT	Fangliau	1.32	299	*e*P	Pn	07 10 16.2	-1.4
	baz=308						
SSPT	Xinbi	1.42	302	*e*P	Pg	07 10 18.6	-0.5
	baz=310						
CHKT	Chengkung	1.43	341	*e*S	Sn	07 10 36.6	-1.9
	baz=337						
MASBT	Mashibuluo	1.44	307	*e*P	Pg	07 10 19.2	-0.4
	baz=306						
SSD	Sandimen	1.52	311	*e*P	Pb	07 10 20.0	-1.0
	baz=310						
FULB	Fuli	1.55	340	*e*P	Pn	07 10 19.1	-1.6
	baz=336						
FULB				*e*S	Sn	07 10 40.1	-1.3
	baz=336						
SLGT	Liugui	1.69	318	*e*P	Pg	07 10 23.9	-0.4
	baz=316						
TWF1	Yuli	1.69	342	*e*P	Pn	07 10 21.2	-1.4
	baz=338						
TWF1				*e*S	Sn	07 10 44.1	-0.8
	baz=338						
YULB	Yu-li	1.73	342	*e*P	Pn	07 10 22.2	-0.9
	baz=339						
YULB				*e*S	Sn	07 10 45.5	-0.4
	baz=339						
HGSD	Ruisui	1.79	347	*e*P	Pn	07 10 22.5	-1.5
	baz=343						
SGST	Jiashian	1.79	318	*e*P	Pb	07 10 25.4	-0.2
	baz=322						
EHY	Hungye	1.83	344	*e*P	Pn	07 10 24.1	-0.4
	baz=341						
EHY				*e*S	Sn	07 10 48.5	+0.2
	baz=341						
WTP	Ta-pu	1.90	322	*e*P	Pb	07 10 27.3	-0.2
	baz=321						
WTP				*e*S	Sg	07 10 54.2	+1.3
	baz=321						
CHN1	Nanshi	1.90	319	*e*P	Pg	07 10 27.8	-0.6
	baz=318						
TPUB	Ta-pu	1.93	324	*e*P	Pb	07 10 27.2	-0.8
	baz=322						
EGFH	Guangfu	1.96	348	*e*S	Sn	07 10 50.0	-1.6
	baz=357						
TWK	Hsinying	1.99	320	*e*P	Pb	07 10 28.6	-0.3
	baz=319						
CHN4	Tsaushan	1.99	324	P	Pb	07 10 29.2	+0.2
	baz=322						
ALS	Alishan	2.02	331	*e*P	Pb	07 10 29.4	-0.3
	baz=341						
ESL	Shilin	2.10	349	*e*S	Sn	07 10 54.9	-0.2
	baz=346						
CHN5	Tsauling	2.15	329	*e*P	Pb	07 10 30.9	-0.9
	baz=310						
CHN5				*e*S	Sb	07 11 00.3	+1.3
	baz=310						
SSLB	Suanglung	2.21	338	*e*P	Pn	07 10 30.0	+0.3
	baz=335						
SMLT	Sun Moon Lake	2.31	337	*e*P	Pb	07 10 33.0	-1.6
	baz=345						
TYC	Yuchr	2.35	337	*e*P	Pn	07 10 32.8	+1.2
	baz=344						
CHGB	Renai	2.40	344	*e*P	Pn	07 10 33.2	+0.7
	baz=354						
CHGB				*e*S	Sn	07 11 03.7	+1.0
	baz=354						
NACB	Ninganchiao	2.43	354	*e*P	Pn	07 10 31.9	-1.0
	baz=2.0						
NACB				*e*S	Sn	07 11 02.0	-1.2
	baz=2.0						
DPDB	Guoxing	2.44	339	*e*P	Pn	07 10 34.0	+0.9
	baz=350						
TDCB	Techi	2.58	345	*e*P	Pn	07 10 35.5	+0.4
	baz=354						
NANB	Nanao	2.68	358	*e*P	Pn	07 10 36.1	0.0
	baz=355						
NNSB	Datong	2.71	350	*e*P	Pn	07 10 36.4	-0.4
	baz=348						
NNSH	Datong	2.71	350	*e*P	Pn	07 10 36.6	-0.1
	baz=359						
PHUB	P'eng-hu	2.76	310	*e*S	Sn	07 11 11.8	+0.4
	baz=298						
EOS1	EOS1	2.80	5	*e*P	Pn	07 10 37.9	0.0
	baz=2.0						
YOJ	Yonaguni jima	2.90	21	*e*P	Pn	07 10 39.1	-0.2
	baz=18						
YOJ	Yonaguni jima	2.90	21	*e*S	Sn	07 11 15.8	+1.0
HATJ	Hateruma jima	2.91	37	S	Sn	07 11 14.5	-0.5
NWLT	Wulai	3.04	354	*e*P	Pn	07 10 42.0	+0.8
	baz=352						
IRIF	Iriomote-Funau	3.10	33	P	Pn	07 10 43.1	+1.2
IRIF				*e*S	Sn	07 11 19.2	-0.4
JKRS	Kuro-shima	3.17	38	P	Pn	07 10 43.7	+0.8
JKRS				S	Sn	07 11 21.4	0.0
TIPB	Shuangxi	3.22	359	*e*P	Pn	07 10 43.5	-0.1
	baz=7.0						
JIJ	Ishigaki jima	3.34	38	P	Pn	07 10 45.5	+0.2
JIJ				*e*S	Sn	07 11 24.2	-1.5
JISG	Ishigakijimahi	3.61	38	P	Pn	07 10 49.3	+0.3
JISG				S	Sn	07 11 31.1	-1.2
JTJ	Tarama	3.88	41	P	Pn	07 10 53.8	+1.0
JTJ				*e*S	Sn	07 11 38.9	-0.1

*IDC **21** 07:12:13.8±0.4, 29.34S×176.14W, h0km, mb4.6/20, mb1 4.7/22, mb1mx4.7/40, mbtmp4.6/22, ML3.5/2, MS4.0/21, Ms1 4.0/21, ms1mx3.7/41, Error ellipse: s-maj=15.9km s-min=14.6km az=152.0*
*NEIC **21** 07:12:14.3±1.9, 29.66S×176.21W, h7km±11km, mb4.9/124, Error ellipse: s-maj=5.8km s-min=3.9km az=141.0*
*WEL **21** 07:12:14.5±0.8, 30°S×17°EW, h33km, ML5.2/2*
*ISCJB **21** 07:12:16.1±0.1, 29.80S±0.02×176.21W±0.04, h28km, mb4.9/136, MS4.1/21, Error ellipse: s-maj=5.8km s-min=1.9km az=32.7*
*MOS **21** 07:12:17.3±0.9, 29.44S×176.21W, h28km, mb5.1/31, Error ellipse: s-maj=10.7km s-min=8.8km az=61.8*
*BJI **21** 07:12:17.2, 29.83S×176.29W, h26km, mb5.2/9, mB5.2/2, Ms4.9/3, Ms7 4.6/3*
ISC 21 07:12:17.7±0.3, 29.68S±0.05×176.13W±0.06, h28km, n423, σ1°29/407, mb4.9/136, MS4.0/21, 6C-1D, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GLKZ	Green Lake	1.62	284	P	Pn	07 12 44.4	+0.1
RAO	Raoul Island	1.62	285	Pn	Pn	07 12 44.2	-0.1
	1μm,0.3s,baz=264,slow=22,SNR=30						
RAO	Raoul Island	1.62	285	*e*Pn	Pn	07 12 44.4	+0.1
RAO	Raoul Island	1.62	285	*e*P	Pn	07 12 44.4	+0.1
RIZ	Raoul Island	1.63	285	P	Pn	07 12 43.6	-0.9
RIZ	Raoul Island	1.63	285	S	Sb	07 13 06.2	-1.0
MXZ	Matakaoa Point	9.13	209	*e*Pn	Pn	07 14 28.2	+0.7
MXZ	Matakaoa Point	9.13	209	P	Pn	07 14 24.8	-2.7
MXZ	Matakaoa Point	9.13	209	S	Sn	07 16 08.7	-0.6
WMGZ	Waiomatatini S	9.30	208	P	Pn	07 14 28.1	-1.8
WMGZ	Waiomatatini S	9.30	208	S	Sn	07 16 15.8	+2.2
PKGZ	Pakihiroa	9.50	209	P	Pn	07 14 30.1	-2.6
PKGZ	Pakihiroa	9.50	209	S	Sn	07 16 18.4	-0.2
HAZ	Te Kaha	9.52	211	P	Pn	07 14 30.6	-2.3
HAZ	Te Kaha	9.52	211	S	Sn	07 16 21.1	+2.2
PUZ	Puketiti	9.58	208	P	Pn	07 14 31.0	-2.8
PUZ	Puketiti	9.58	208	S	Sn	07 16 21.1	+0.5
RUGZ	Raukumara Rang	9.74	210	P	Pn	07 14 33.9	-2.0
RUGZ	Raukumara Rang	9.74	210	S	Sn	07 16 25.4	+1.0
TWGZ	Tauwhareparae	9.79	208	P	Pn	07 14 34.0	-2.6
TWGZ	Tauwhareparae	9.79	208	S	Sn	07 16 26.8	+1.3
KUZ	Kuaotunu	9.81	222	P	Pn	07 14 42.5	+5.6
TKGZ	Te Karaka	10.06	208	P	Pn	07 14 37.5	-2.8
TKGZ	Te Karaka	10.06	208	S	Sn	07 16 32.1	-0.2
MWZ	Matawai	10.11	210	P	Pn	07 14 38.3	-2.7
MWZ	Matawai	10.11	210	S	Sn	07 16 33.3	-0.4
WCZ	Waiau Caves	10.16	230	P	Pn	07 14 46.7	+5.0
URZ	Urewera	10.23	211	Pn	Pn	07 14 39.7	-3.0
	1.5nm,0.3s,baz=164,slow=4.2,SNR=9.7						
URZ				Sn	Sn	07 16 35.0	-1.4
	3.6nm,0.3s,baz=172,slow=19,SNR=11						
URZ	Urewera	10.23	211	P	Pn	07 14 39.9	-2.7
URZ	Urewera	10.23	211	S	Sn	07 16 34.5	-1.9
OUZ	Omahuta	10.29	235	*e*Pn	Pn	07 14 49.1	+5.7
OUZ	Omahuta	10.29	235	P	Pn	07 14 48.7	+5.3
RAGZ	Rawiri	10.29	210	P	Pn	07 14 40.7	-2.8
RAGZ	Rawiri	10.29	210	S	Sn	07 16 37.4	-0.7
RIGZ	Rimuhau	10.33	208	P	Pn	07 14 41.4	-2.6
RIGZ	Rimuhau	10.33	208	S	Sn	07 16 38.6	-0.2
MKAZ	Moumakai	10.38	222	P	Pn	07 14 46.6	+2.0
SNGZ	Shannon Statio	10.57	209	P	Pn	07 14 48.3	+1.0
SNGZ	Shannon Statio	10.57	209	S	Sn	07 16 44.4	-0.2
RTZ	Ruatahuna	10.58	211	P	Pn	07 14 44.1	-3.4
TOZ	Tahuroa Road	10.63	219	P	Pn	07 14 49.4	+1.4
MHGZ	Mahia Peninsul	10.66	206	P	Pn	07 14 45.4	-3.0
MHGZ	Mahia Peninsul	10.66	206	S	Sn	07 16 45.9	-0.8
MTHZ	Maungataniwha	10.84	211	S	Sn	07 16 51.1	-0.3
MTHZ	Maungataniwha	10.84	211	P	Pn	07 14 46.2	-4.8
WHHZ	Waihua	10.86	209	P	Pn	07 14 46.0	-5.2
NMHZ	Naumai	11.06	210	P	Pn	07 14 53.7	-0.3
NMHZ	Naumai	11.06	210	P	Sn	07 16 56.5	-0.2
BKZ	Black Stump Fm	11.25	211	*e*Pn	Pn	07 14 53.8	-2.9
BKZ	Black Stump Fm	11.25	211	P	Pn	07 14 53.8	-2.9
BKZ	Black Stump Fm	11.25	211	S	Sn	07 16 58.9	-2.6
KWHZ	Kaweka Forest	11.50	210	P	Pn	07 14 55.9	-4.0
HIZ	Hauiti	11.55	218	*e*Pn	Pn	07 15 01.9	+1.2
HIZ	Hauiti	11.55	218	P	Pn	07 15 02.8	+2.2
KAHZ	Kahuranaki	11.61	208	P	Pn	07 14 56.3	-5.2
BHHZ	Black Hill Sta	11.71	211	P	Pn	07 15 01.0	-1.9
FWVZ	Far West T-bar	11.76	213	P	Pn	07 15 03.6	-0.1
PXZ	Pawanui	11.82	207	P	Pn	07 15 01.1	-3.3
TSZ	Takapari Road	12.22	210	P	Pn	07 15 06.6	-3.2
BFZ	Birch Farm	12.62	208	*e*Pn	Pn	07 15 13.8	-1.5
MSVF	Nonsavu	13.03	335	*i* P	Pn	07 15 20.3	-0.7
SNZO	South Karori	13.79	210	*e*Pn	Pn	07 15 29.0	-2.2
SNZO				*e*Sn	Sn	07 17 55.4	-8.0
THZ	Tophouse	14.98	213	*e*Pn	Pn	07 15 46.9	-0.5
THZ				*e*Sn	Sn	07 18 25.4	-7.0
KHZ	Kahutara	15.20	210	*e*Pn	Pn	07 15 46.9	-3.4
	98nm,0.8s						
KHZ				*e*Sn	Sn	07 18 29.5	-8.1
LTZ	Lake Taylor	16.06	212	*e*Pn	Pn	07 16 00.1	-1.4
	18nm,0.6s						
AFI	Afiamalu	16.20	15	Sn	Sn	07 18 38.5	-24
	2.0nm,0.3s,baz=335,slow=11,SNR=3.9						
AFI	Afiamalu	16.20	15	*e*Pn	Pn	07 16 01.8	-1.6
	82nm,1.4s						
AFI				Sn	Sn	07 18 38.5	-24
AFI	Afiamalu	16.20	15	*e*P	Pn	07 16 01.8	-1.6
AFI				pmax	pmax		
	comp=Z,83nm,1.4s						
CRLZ	Canterbury Las	16.53	210	*e*Pn	Pn	07 16 05.9	-1.5
	comp=Z,59nm,1.4s						
OXZ	Oxford	16.59	212	*e*Pn	Pn	07 16 06.4	-1.8
	comp=Z,43nm,0.6s						
OXZ				*e*Sn	Sn	07 18 59.5	-12
MQZ	McQueen's Vall	16.62	210	*e*Pn	Pn	07 16 06.2	-2.4
	comp=Z,57nm,1.6s						
RAR	Rarotonga	16.99	64	Pn	Pn	07 16 11.8	-1.5
	comp=Z,1.9nm,0.3s,baz=232,slow=12,SNR=3.5						
RAR				LR	LR	07 20 50.4	
	comp=Z,420nm,19.5s,baz=273,slow=31						
RPZ	Rata Peaks	17.35	213	P	Pn	07 16 15.7	-2.0
	comp=Z,1.9nm,0.3s,baz=34,slow=2.9,SNR=15						
RPZ				S	Sn	07 19 17.1	-13
	comp=Z,0.7nm,0.3s,baz=162,slow=20,SNR=4.0						
RPZ	Rata Peaks	17.35	213	*e*Pn	Pn	07 16 16.1	-1.6
	comp=Z,18nm,0.8s						
RPZ				S	Sn	07 19 17.1	-13
DZM	Mont Dzumac	17.41	292	P	Pn	07 16 18.1	-0.6
	comp=Z,0.2nm,0.3s,baz=139,slow=20,SNR=2.0						
DZM				LR	LR	07 21 39.3	
	comp=Z,428nm,19.5s,baz=102,slow=33						
DZM	Mont Dzumac	17.41	292	*e*LR	LR	07 20 22.2	
	comp=Z,1μm,27.7s						
DZM	Mont Dzumac	17.41	292	*e*Pn	Pn	07 16 19.1	+0.4
	comp=Z,64nm,1.4s						
FOZ	Fox Glacier	17.81	215	*e*Pn	Pn	07 16 22.1	-1.3
	comp=Z,13nm,0.7s						
LBZ	Lake Benmore	18.26	213	*e*P	Pn	07 16 28.4	-0.6
	comp=Z,14nm,0.9s						
ODZ	Oahuka Downs	18.56	211	*e*P	P	07 16 31.6	-0.5
	comp=Z,18nm,0.7s						
WKZ	Wanaka	19.15	214	*e*P	P	07 16 38.1	-0.7
	comp=Z,56nm,1.4s						
MLZ	Mavora Lakes	19.98	214	*e*P	P	07 16 47.4	-0.4
	comp=Z,23nm,1.0s						
WHZ	Wether Hill Ro	20.44	213	*e*P	P	07 16 52.9	+0.1
	comp=Z,23nm,1.1s						
DCZ	Deep Cove	20.53	215	*e*P	P	07 16 52.3	-1.4
	comp=Z,25nm,1.1s						
PPT2	Papeete2	27.06	70	*e*LQ	LQ	07 23 09.1	
	comp=Z,370nm,25.2s						
PPT2				*e*LR	LR	07 24 22.9	
	comp=Z,563nm,27.0s						
PPT	Papeete	27.07	70	LR	LR	07 27 30.1	
	comp=Z,240nm,18.0s,baz=240,slow=34						
ARMA	Armidale	27.88	260	*e*P	P	07 18 08.1	+2.8
	comp=Z,53nm,1.8s						
HNR	Honiara	30.11	307	LR	LR	07 29 44.1	
	comp=Z,89nm,18.6s,baz=161,slow=35						
CTAO	Charters Tower	35.31	277	*e*P	P	07 19 10.9	+0.4
	comp=Z,10nm,0.8s						
CTAO	Charters Tower	35.31	277	*e*P	P	07 19 10.9	+0.4
CTAO				pmax	pmax		
	comp=Z,10.0nm,0.8s						
STKA	Stephens Creek	36.23	256	P	P	07 19 19.5	+1.2
	comp=Z,9.8nm,0.6s,baz=96,slow=11,SNR=30						
STKA				LR	LR	07 33 40.3	
	comp=Z,255nm,18.4s,baz=47,slow=35						
STKA	Stephens Creek	36.23	256	*e*P	P	07 19 19.2	+0.9
	comp=Z,4.2nm,0.8s						
STKA	Stephens Creek	36.23	256	*e*P	P	07 19 19.2	+0.9
STKA				pmax	pmax		
	comp=Z,4.0nm,0.8s						
RKT	Rikitea	37.29	90	*e*LR	LR	07 29 16.3	
	comp=Z,528nm,30.8s						
TAOE	Nuku Hiva Isla

baz=166,slow=4.7
PLCA Paso Flores 81.80 132 LR LR 07 53 56.8
comp=Z,65nm,18.4s,baz=255,slow=30
NIKH Nikolski High 82.54 4 eP P 07 24 36.6 -0.8
comp=Z,24nm,0.8s
ASAJ Asahikawa 82.57 331 P P 07 24 37.1 -0.7
comp=Z,1.2nm,0.3s,baz=200,slow=12,SNR=3.8
LPIG La Paz 82.78 57 LR LR 07 56 30.4
comp=Z,161nm,18.0s,baz=214,slow=32
UNV Unalaska Valle 83.59 6 eP P 07 24 42.3 -0.5
comp=Z,24nm,1.2s
MWC Mount Wilson 83.94 45 eP P 07 24 46.3 +0.9
comp=Z,13nm,1.3s
MWC Mount Wilson 83.94 45 eP P 07 24 46.3 +0.9
MWC pmax pmax
comp=Z,13nm,1.3s
MURC Murrieta 84.06 46 P P 07 24 46.4 +0.6
baz=228,SNR=5.2
ARVC Arvin 84.07 44 P P 07 24 46.9 +1.1
baz=227
MONP2 Monument Peak 84.08 47 P P 07 24 46.4 +0.2
baz=229
IKP In-Ko-Pah, Jac 84.12 47 P P 07 24 46.8 +0.6
baz=229
BFSC Mount Baldy Ra 84.19 45 P P 07 24 47.1 +0.5
baz=228
VES Vestal, Richgr 84.40 43 P P 07 24 47.6 +0.2
baz=227
EDW2 Edwards Air Fo 84.42 45 P P 07 24 48.2 +0.6
baz=228,SNR=5.7
SWSC Sam W. Stewart 84.51 47 P P 07 24 48.7 +0.6
baz=229
PFO Pinyon Flats O 84.53 46 P P 07 24 49.0 +0.7
baz=229
PFO Pinyon Flats O 84.53 46 eP P 07 24 49.0 +0.7
comp=Z,7.9nm,1.1s
PFO Pinyon Flats O 84.53 46 eP P 07 24 49.0 +0.7
PFO pmax pmax
comp=Z,8.0nm,1.1s
XPFO Piæon Flat 84.53 46 eP P 07 24 49.0 +0.7
comp=Z,8.3nm,1.1s
ISA Isabella, Lake 84.65 44 P P 07 24 49.3 +0.6
baz=228,SNR=6.1
ISA Isabella, Lake 84.65 44 eP P 07 24 49.1 +0.3
comp=Z,7.4nm,1.2s
ISA Isabella, Lake 84.65 44 eP P 07 24 49.1 +0.3
ISA pmax pmax
comp=Z,7.0nm,1.2s
BBRC Big Bear Solar 84.67 46 P P 07 24 49.7 +0.6
baz=229
YSS Yuzh-Sakhalins 84.82 333 eP P 07 24 49.0 -0.2
YSS pmax pmax
comp=Z,7.0nm,1.0s
KSRS Korea Array 84.87 319 P P 07 24 50.5 +0.8
comp=Z,2.4nm,0.8s,baz=135,slow=5.9,SNR=5.9
KSAR Wonju Array Be 84.88 319 P P 07 24 50.5 +0.7
KSAR Wonju Array Be 84.88 319 P P 07 24 50.5 +0.7
LRMC Laurel Mtn Rad 85.00 44 P P 07 24 51.2 +0.5
baz=228,SNR=5.5
BELC Belle Mtn. Jos 85.07 46 P P 07 24 51.5 +0.5
baz=229,SNR=8.4
CMB Columbia Colle 85.15 41 eP P 07 24 51.7 +0.5
comp=Z,8.4nm,0.9s
CMB Columbia Colle 85.15 41 eP P 07 24 51.7 +0.5
CMB pmax pmax
comp=Z,8.0nm,0.9s
BC3 Big Chuckawall 85.19 47 P P 07 24 52.8 +1.2
baz=230,SNR=11
GLA Glamis 85.20 48 P P 07 24 52.7 +1.1
baz=230
HEC Hector,Ludlow 85.40 45 P P 07 24 53.1 +0.5
baz=229
CWC Cottonwood Cre 85.41 43 P P 07 24 53.0 +0.3
baz=228
GSC Goldstone, Bar 85.42 45 P P 07 24 53.3 +0.6
baz=229,SNR=5.9
GSC Goldstone, Bar 85.42 45 eP P 07 24 53.4 +0.7
comp=Z,9.3nm,1.1s
AFDM Forest Hills D 85.45 40 eP P 07 24 53.0 +0.4
comp=Z,7.7nm,1.1s
MPMC Manual Prospec 85.51 44 P P 07 24 53.6 +0.4
baz=228,SNR=7.0
PETK Petropavlovsk- 85.53 345 P P 07 24 52.0 -0.7
comp=Z,2.7nm,0.7s,baz=112,slow=9.3,SNR=7.8
PETK LR LR 07 58 00.2
comp=Z,42nm,19.7s,baz=166,slow=32
PETK Petropavlovsk- 85.53 345 eP P 07 24 52.5 -0.1
PETK Petropavlovsk- 85.53 345 eP P 07 24 52.6 -0.1
ORV Oroville 85.58 39 eP P 07 24 53.6 +0.3
comp=Z,6.8nm,1.0s
ORV Oroville 85.58 39 eP P 07 24 53.6 +0.3
ORV pmax pmax
comp=Z,7.0nm,1.0s
DAC Darwin (Calif) 85.59 44 eP P 07 24 54.3 +0.7
comp=Z,5.5nm,1.2s
DAC Darwin (Calif) 85.59 44 eP P 07 24 54.3 +0.7
DAC pmax pmax
comp=Z,6.0nm,1.2s
IRM Iron Mountain 85.71 47 P P 07 24 54.7 +0.6
baz=230,SNR=10
WDC Whiskeytown Da 85.74 38 eP P 07 24 54.6 +0.6
comp=Z,15nm,1.0s
WDC Whiskeytown Da 85.74 38 eP P 07 24 54.6 +0.6
WDC pmax pmax
comp=Z,15nm,1.0s
MLAC Mammoth, Mammo 85.76 42 P P 07 24 54.7 +0.2
baz=227
GMRC Granite Mounta 85.79 46 P P 07 24 55.2 +0.6
baz=229
214A Organ Pipe Nat 85.83 50 P P 07 24 55.1 +0.4
baz=231
214A Organ Pipe Nat 85.83 50 eP P 07 24 54.7 0.0
comp=Z,43nm,1.3s
Y12C Blythe 85.84 47 P P 07 24 55.3 +0.6
baz=230
N02D Trinity Center 85.93 38 P P 07 24 55.4 +0.3
baz=224,SNR=6.1
O03D Paynes Creek 85.94 39 P P 07 24 54.9 -0.3
baz=225
WAKR Walker 86.01 41 eP P 07 24 56.5 +0.8
comp=Z,12nm,1.2s
TUQ Turquoise Moun 86.05 45 P P 07 24 56.4 +0.5
baz=229,SNR=5.8
M02C Callahan 86.15 37 P P 07 24 56.6 +0.5
baz=224,SNR=6.2
FURC Furnace Creek, 86.16 44 P P 07 24 56.9 +0.8
baz=228
GRAC Grapevine Rang 86.20 43 P P 07 24 57.1 +0.7
baz=228,SNR=5.9
LDFC Landfair 86.33 46 eP P 07 24 58.4 +1.2
comp=Z,26nm,1.1s
BEKR Beckworth 86.43 40 eP P 07 24 57.9 +0.2
comp=Z,7.4nm,1.2s
VCNR Virginia City 86.43 40 eP P 07 24 58.3 +0.6
comp=Z,7.2nm,1.0s
PDMCI Parker Dam,Lak 86.44 47 P P 07 24 58.6 +1.0
baz=230,SNR=5.7
YERR Yerington 86.45 41 eP P 07 24 58.2 +0.4
comp=Z,10nm,1.2s
YBH Yreka Blue Hor 86.47 37 eP P 07 24 58.0 +0.3
comp=Z,7.9nm,1.1s
YBH Yreka Blue Hor 86.47 37 eP P 07 24 58.0 +0.3
YBH pmax pmax
comp=Z,8.0nm,1.1s
NV01 Mina Array Sit 86.61 42 eP P 07 24 58.8 +0.1
NVAR Mina Array Bea 86.61 42 P P 07 24 58.7 0.0
comp=Z,4.4nm,0.8s,baz=222,slow=8.4,SNR=39
NVAR LR LR 07 58 28.8
comp=Z,100nm,18.6s,baz=93,slow=32
RYN Ryan 86.62 41 eP P 07 24 58.9 +0.3
comp=Z,4.9nm,1.1s
NV11 Mina Array Sit 86.70 42 eP P 07 24 59.7 +0.7
comp=Z,0.5nm,1.0s
TPNV Topopah Spring 86.84 44 P P 07 25 00.1 +0.3
baz=229,SNR=8.9
TPNV Topopah Spring 86.84 44 eP P 07 25 00.3 +0.5
comp=Z,6.1nm,0.9s
TPNV Topopah Spring 86.84 44 eP P 07 25 00.3 +0.5
TPNV pmax pmax
comp=Z,6.0nm,0.9s
PAHR Pah Rah Range 86.86 40 eP P 07 25 00.1 +0.4
comp=Z,4.9nm,0.9s
Y14A Wickenburg 86.94 48 eP P 07 25 01.2 +1.0
comp=Z,12nm,1.0s
M04C Macdoel 86.97 37 P P 07 25 00.6 +0.4
baz=225
HUMO Hull Mountain 86.97 36 eP P 07 25 01.0 +1.0
comp=Z,23nm,1.6s

PSI Prapat 86.99 275 P P 07 25 00.5 -0.5
comp=Z,2.5nm,0.3s,baz=135,slow=7.1,SNR=4.5
NJ2 Nanjing 87.02 310 eP P 07 25 00.8 +0.3
W13A Hualapai Mount 87.11 47 eP P 07 25 02.3 +1.1
comp=Z,7.2nm,1.1s
KVN Kaiserville 87.15 41 eP P 07 25 01.8 +0.5
comp=Z,6.9nm,0.9s
KVN Kaiserville 87.15 41 eP P 07 25 01.8 +0.5
KVN pmax pmax
comp=Z,7.0nm,0.9s
SHPR Sheep Range 87.22 45 eP P 07 25 02.8 +1.2
comp=Z,13nm,1.6s
TUC Tucson 87.40 50 P P 07 25 03.2 +0.8
baz=232
TUC Tucson 87.40 50 eP P 07 25 03.5 +1.0
comp=Z,11nm,1.0s
TUC Tucson 87.40 50 eP P 07 25 03.5 +1.0
comp=Z,11nm,1.0s
TUC Tucson 87.40 50 eP P 07 25 03.5 +1.0
TUC pmax pmax
comp=Z,11nm,1.0s
USRK Ussuriysk Ar. 87.47 325 P P 07 25 01.7 -0.7
comp=Z,3.3nm,0.8s,baz=114,slow=1.9,SNR=4.2
HPIG 87.83 57 eP P 07 25 04.6 -0.2
comp=Z,4.3nm,0.7s
ZAIG Zacatecas 87.83 62 eP P 07 25 05.8 +0.8
comp=Z,2.6nm,0.9s
319A Douglas 87.85 52 eP P 07 25 05.3 +0.6
comp=Z,6.3nm,0.8s
J04D Umpqua Nationa 87.86 36 P P 07 25 04.8 +0.2
baz=225
MOD Modoc Plateau 87.87 38 eP P 07 25 04.8 +0.2
comp=Z,5.0nm,0.9s
K05A Summer Lake 88.13 37 eP P 07 25 06.3 +0.4
comp=Z,16nm,1.3s
X16A Lo Mia Camp, P 88.25 48 eP P 07 25 07.8 +1.1
comp=Z,7.2nm,0.9s
J05D Fort Rock, OR 88.34 37 P P 07 25 06.4 -0.4
baz=225
BMN Battle Mountai 88.58 41 eP P 07 25 08.3 +0.3
comp=Z,17nm,1.7s
BMN Battle Mountai 88.58 41 eP P 07 25 08.3 +0.3
BMN pmax pmax
comp=Z,17nm,1.7s
OHAK Old Harbor 88.69 12 eP P 07 25 08.1 +0.3
comp=Z,29nm,1.3s
LCMT Little Creek M 88.72 45 eP P 07 25 09.9 +1.2
comp=Z,6.9nm,0.9s
PINE Pine Mountain 88.85 36 eP P 07 25 10.0 +0.8
comp=Z,12nm,1.1s
U15A North Rim 88.95 46 eP P 07 25 11.1 +1.1
comp=Z,12nm,0.8s
WUAZ Wupatki 88.97 48 P P 07 25 10.6 +0.6
baz=232
WUAZ Wupatki 88.97 48 eP P 07 25 10.8 +0.9
comp=Z,11nm,1.0s
KNB Kanab 88.99 46 eP P 07 25 11.4 +1.4
comp=Z,10nm,0.9s
CCUT Cedar City 88.99 45 eP P 07 25 11.4 +1.4
comp=Z,6.0nm,1.0s
I05D Terrebonne, OR 89.03 36 P P 07 25 10.5 +0.6
baz=225
WVOR Wild Horse Val 89.13 39 eP P 07 25 10.8 +0.3
comp=Z,4.1nm,1.0s
WVOR Wild Horse Val 89.13 39 eP P 07 25 10.8 +0.3
WVOR pmax pmax
comp=Z,4.0nm,1.0s
E03A Lebam 89.50 33 eP P 07 25 13.1 +1.2
comp=Z,27nm,0.9s
121A Cookes Peak, D 89.56 52 P P 07 25 13.1 +0.3
baz=234
G05D Wamic, OR 89.67 35 P P 07 25 13.1 +0.2
baz=225
W18A Petrified Fore 89.79 49 P P 07 25 14.8 +0.9
baz=233
W18A Petrified Fore 89.79 49 eP P 07 25 14.9 +1.1
comp=Z,11nm,1.0s
J08A Circle Bar Ran 89.85 38 eP P 07 25 14.2 +0.3
comp=Z,27nm,2.0s
NLWA Neilton Lookou 89.97 32 eP P 07 25 14.9 +0.7
comp=Z,33nm,1.3s
MTPU Mount Pierson 90.03 45 eP P 07 25 15.2 +0.1
comp=Z,6.0nm,0.9s
TCRU Three Creeks R 90.22 45 eP P 07 25 16.3 +0.4
comp=Z,3.5nm,1.0s
MSU Marysvale 90.32 45 eP P 07 25 17.7 +1.4
LON Longmire 90.49 34 eP P 07 25 16.8 +0.2
comp=Z,4.9nm,0.8s
LON Longmire 90.49 34 eP P 07 25 16.8 +0.2
LON pmax pmax
comp=Z,5.0nm,0.8s
TX31 Lajitas Ar. Si 90.63 56 eP P 07 25 18.0 +0.2
TXAR Lajitas Array 90.63 56 P P 07 25 17.8 0.0
comp=Z,2.2nm,0.9s,baz=212,slow=5.9,SNR=18
D05A Enumclaw 90.72 34 eP P 07 25 18.6 +1.0
comp=Z,46nm,1.3s
MNTX Cornudas Mount 90.74 54 P P 07 25 18.3 +0.1
baz=235
MNTX Cornudas Mount 90.74 54 eP P 07 25 18.3 +0.1
comp=Z,7.6nm,1.3s
G08A Pilot Rock 90.91 36 eP P 07 25 19.2 +0.5
comp=Z,16nm,1.1s
DUG Dugway, Tooele 90.99 43 P P 07 25 19.6 +0.3
baz=231
LAZ Ladron 91.09 51 eP P 07 25 21.0 +1.1
KLR Kul'dur 91.25 329 P P 07 25 19.4 -0.6
comp=Z,0.1nm,0.6s,baz=37,slow=3.1,SNR=4.7
E07A Sunnyside 91.32 35 eP P 07 25 21.4 +0.9
comp=Z,22nm,0.8s
MFID Camas Ranch 91.33 39 eP P 07 25 20.4 -0.3
comp=Z,4.8nm,1.0s
HAWA Hanford 91.37 35 eP P 07 25 21.5 +0.8
comp=Z,13nm,1.0s
TMUT Trail Mountain 91.40 45 eP P 07 25 22.0 +0.6
comp=Z,7.6nm,0.9s
LTY Liberty 91.40 34 eP P 07 25 21.1 +0.2
comp=Z,6.2nm,0.9s
B05A Bryant 91.43 33 P P 07 25 21.2 +0.3
baz=225
A04D Lummi Island 91.47 32 P P 07 25 22.0 +1.0
baz=224
BMO Blue Mountains 91.48 37 eP P 07 25 21.4 +0.1
comp=Z,3.8nm,1.0s
BMO Blue Mountains 91.48 37 eP P 07 25 21.4 +0.1
BMO pmax pmax
comp=Z,4.0nm,1.0s
SRU San Rafael Swe 91.71 45 eP P 07 25 23.2 +0.6
comp=Z,7.3nm,0.9s
SRU San Rafael Swe 91.71 45 eP P 07 25 23.3 +0.6
SRU pmax pmax
comp=Z,7.0nm,0.9s
ANMO Albuquerque 91.86 50 P P 07 25 24.0 +0.5
baz=235
ANMO Albuquerque 91.86 50 eP P 07 25 23.8 +0.4
comp=Z,3.9nm,0.9s
ANMO Albuquerque 91.86 50c iP P 07 25 23.9 +0.4
ANMO pmax pmax
comp=Z,5.0nm,1.0s
SPUT South Promonto 91.90 43 eP P 07 25 23.7 +0.2
comp=Z,8.3nm,1.3s
PV05 Paradox Valley 91.98 47 eP P 07 25 25.0 +1.0
HVU Hansel Valley 92.01 42 eP P 07 25 24.4 +0.5
comp=Z,3.7nm,0.8s
HVU Hansel Valley 92.01 42 eP P 07 25 24.4 +0.5
HVU pmax pmax
comp=Z,4.0nm,0.8s
D08A Wollman Farm, 92.13 35 eP P 07 25 24.7 +0.5
comp=Z,15nm,0.8s
HLID Hailey 92.20 40 P P 07 25 25.1 +0.3
baz=230
HLID Hailey 92.20 40 eP P 07 25 25.4 +0.6
comp=Z,5.6nm,1.0s
PV09 Paradox Valley 92.20 46 eP P 07 25 25.4 +0.2
F10A Beach Ranch, E 92.27 37 eP P 07 25 24.4 -0.6
comp=Z,14nm,1.0s
PV01 Paradox Valley 92.34 47 eP P 07 25 25.9 +0.2
GYA Guiyang 92.61 299 eP P 07 25 28.3 +1.2
GYA pmax pmax
comp=Z,10.0nm,1.0s
B08A Colville Reser 92.82 34 eP P 07 25 26.7 -0.7
comp=Z,3.4nm,0.8s
C09A Chrisman Ranch 92.96 35 eP P 07 25 28.0 0.0
comp=Z,19nm,1.5s
MA2 Magadan 93.04 344 iP P 07 25 26.6 -1.5
MA2 pmax pmax
comp=Z,1.0nm,0.9s
SUA Susitna One 93.13 12 eP P 07 25 28.4 -0.2

comp=Z,9.2nm,0.9s
S22A 4UR Ranch, Cre 93.23 48 P P 07 25 30.4 +0.5
baz=235
S22A 4UR Ranch, Cre 93.23 48 eP P 07 25 30.3 +0.4
comp=Z,3.3nm,0.8s
PMR Palmer 93.54 13 eP P 07 25 30.4 +0.1
comp=Z,5.8nm,1.0s
PMR Palmer 93.54 13 eP P 07 25 30.4 +0.1
PMR pmax pmax
comp=Z,6.0nm,1.0s
APG El Apazote 93.62 75 P P 07 25 32.1 0.0
comp=Z,5.8nm,0.9s,baz=0.5,slow=6.1,SNR=6.3
APG LR LR 08 00 45.0
comp=Z,65nm,18.0s,baz=273,slow=31
O20A White River Ci 93.73 45 P P 07 25 31.2 -0.8
baz=234
MSTX Muleshoe 93.83 53 P P 07 25 32.0 -0.5
baz=237
MSTX Muleshoe 93.83 53 eP P 07 25 32.4 -0.1
comp=Z,5.9nm,0.9s
NEW Newport 93.84 35 P P 07 25 32.3 +0.2
baz=228
MCMT McKenzie Canyo 93.88 40 eP P 07 25 33.1 +0.5
BMRM Bremner River 93.91 15 eP P 07 25 33.1 +1.0
comp=Z,6.9nm,1.2s
SMCO Snowmass 93.97 47 eP P 07 25 33.7 +0.3
comp=Z,3.4nm,0.9s
JCT Junction City 94.07 57 P P 07 25 33.1 -0.5
baz=238
SDCO Great Sand Dun 94.09 49 P P 07 25 33.5 -0.3
baz=235
REDW Red Top Meadow 94.10 42 eP P 07 25 34.0 +0.3
comp=Z,7.6nm,1.0s
SCM Sheep Creek Mo 94.11 13 eP P 07 25 33.4 +0.3
comp=Z,8.0nm,0.7s
SCM Sheep Creek Mo 94.11 13 eP P 07 25 33.4 +0.3
SCM pmax pmax
comp=Z,8.0nm,0.7s
TPAW Teton Pass 94.12 41 eP P 07 25 34.3 +0.4
comp=Z,3.3nm,0.8s
FXWY Fox Creek 94.17 41 eP P 07 25 34.3 +0.3
comp=Z,3.0nm,0.8s
SNOW Snow King Moun 94.22 42 eP P 07 25 34.8 +0.6
comp=Z,6.6nm,0.8s
DLMT Dillon 94.35 39 eP P 07 25 35.1 +0.4
comp=Z,6.9nm,1.1s
IMW Indian Meadow 94.38 41 eP P 07 25 35.4 +0.4
comp=Z,6.3nm,1.1s
LOHW Long Hollow 94.40 42 eP P 07 25 34.9 -0.1
comp=Z,4.1nm,1.1s
T25A Trinidad 94.47 50 P P 07 25 35.3 -0.2
baz=236
PDAR Pinedale Array 94.50 43 P P 07 25 34.6 -0.9
comp=Z,1.2nm,0.9s,baz=197,slow=4.5,SNR=7.0
PDAR LR LR 08 06 21.8
comp=Z,70nm,18.1s,baz=266,slow=34
QLMT Earthquake Lak 94.67 40 eP P 07 25 37.4 +1.1
CMAR Chiang Mai Arr 94.71 288 P P 07 25 37.9 +1.1
comp=Z,1.7nm,0.3s,baz=92,slow=4.5,SNR=6.5
CAST Castle Rocks 94.73 11 eP P 07 25 34.8 -1.0
comp=Z,6.9nm,1.1s
YMR Madison River 94.83 41 eP P 07 25 38.6 +1.6
comp=Z,7.3nm,1.0s
H17A Grant Village 94.89 41 P P 07 25 38.8 +1.5
baz=233
H17A Grant Village 94.89 41 eP P 07 25 38.9 +1.6
comp=Z,5.8nm,1.1s
KMI Kunming 94.96 296 P P 07 25 40.0 +2.0
KMI pmax pmax
comp=Z,10.0nm,0.6s
YHH Holmes Hill 94.97 40 eP P 07 25 39.3 +1.6
comp=Z,5.8nm,1.1s
BOZ Bozeman (W) 95.03 40 P P 07 25 38.0 +0.2
baz=232
BOZ Bozeman (W) 95.03 40 eP P 07 25 37.9 +0.1
comp=Z,7.1nm,1.0s
BOZ Bozeman (W) 95.03 40 eP P 07 25 37.9 +0.1
BOZ pmax pmax
comp=Z,7.0nm,1.0s
TRF Thorofare Moun 95.05 11 eP P 07 25 37.1 -0.3
comp=Z,7.8nm,1.0s
RND Reindeer 95.26 12 eP P 07 25 38.1 -0.2
comp=Z,8.8nm,1.0s
RND Reindeer 95.26 12 eP P 07 25 38.1 -0.2
RND pmax pmax
comp=Z,9.0nm,1.0s
ABTX Abilene, Hawle 95.32 55 P P 07 25 38.5 -0.7
baz=238
MCK McKinley 95.55 12 eP P 07 25 39.6 +0.1
comp=Z,9.2nm,1.2s
MCK McKinley 95.55 12 eP P 07 25 39.6 +0.1
MCK pmax pmax
comp=Z,9.0nm,1.2s
SEY Seymchan 95.66 346 iP P 07 25 39.0 -1.0
JTS JuntasAbangare 96.02 82 LR LR 08 01 47.5
comp=Z,82nm,18.1s,baz=340,slow=31
K22A Casper 96.24 44 P P 07 25 42.8 -0.6
baz=235
K22A Casper 96.24 44 eP P 07 25 44.2 +0.8
comp=Z,3.6nm,0.8s
WRH Wood River Hil 96.38 12 eP P 07 25 42.9 -0.3
comp=Z,6.7nm,0.8s
DOT Dot Lake 96.41 14 eP P 07 25 43.5 0.0
comp=Z,9.1nm,0.9s
MLY Manley 96.45 11 eP P 07 25 42.8 -0.8
comp=Z,2.4nm,0.9s
HDA Harding Lake 96.53 12 eP P 07 25 43.4 -0.5
comp=Z,6.7nm,1.0s
CCB Clear Creek Bu 96.59 12 eP P 07 25 43.6 -0.6
comp=Z,3.8nm,0.8s
COLA College 96.79 12 eP P 07 25 44.6 -0.4
comp=Z,7.3nm,0.8s
COLA College 96.79 12 iP P 07 25 44.4 -0.7
COLA pmax pmax
comp=Z,7.0nm,0.9s
MDM Murphy Dome 96.80 12 eP P 07 25 44.5 -0.7
comp=Z,4.4nm,0.9s
IL1 Eielson Array 96.87 12 eP P 07 25 44.5 -1.0
ILAR Eielson Array 96.87 12 P P 07 25 44.5 -0.9
comp=Z,2.8nm,1.0s,baz=220,slow=5.3,SNR=20
ILB Eielson Array 96.87 12 eP P 07 25 44.8 -0.7
IM3 Indian Mountai 96.90 9 eP P 07 25 45.5 -0.1
HHC Hu-ho-hao-te 96.91 313 eP P 07 25 48.6 +2.2
HHC sP sP 07 25 58.9 +0.2
HHC S S 07 37 10.8 +3.9
HHC sS sS 07 37 20.6 -1.5
HHC pmax pmax
comp=Z,12nm,1.1s
HHC pmax pmax
comp=Z,35nm,8.4s
HHC LR LR
comp=Z,210nm,18.2s
HHC LR LR
comp=Z,110nm,16.9s
LPAZ La Paz 96.94 113 P P 07 25 49.3 +1.5
comp=Z,1.3nm,0.8s,baz=185,slow=3.0,SNR=6.0
LPAZ LR LR 08 03 31.4
comp=Z,50nm,18.1s,baz=212,slow=32
HIA Hailar 97.09 324 iP P 07 25 46.8 -0.1
HIA pmax pmax
comp=Z,3.0nm,0.8s
BILL Bilibino 98.30 353 iP P 07 25 48.9 -3.0
BILL pmax pmax
comp=Z,2.0nm,1.0s
RSSD Black Hills 98.57 44 P P 07 25 53.5 -0.5
baz=237
RSSD Black Hills 98.57 44 eP P 07 25 53.9 0.0
comp=Z,5.0nm,0.8s
RSSD Black Hills 98.57 44 eP P 07 25 53.9 0.0
RSSD pmax pmax
comp=Z,5.0nm,0.8s
CPUP Villa Florida 99.14 127 LR LR 08 05 45.0
comp=Z,32nm,19.3s,baz=230,slow=32
LZH Lanzhou 99.60 306 eP Pdif 07 25 59.3 +0.6
LZH pP sP 07 26 12.5 +1.5
LZH sP pP 07 26 17.8 +10
LZH pmax pmax
comp=Z,18nm,1.4s
LZH LR LR
comp=Z,190nm,17.5s
LZH LR LR
comp=Z,280nm,19.7s
INK Inuvik 102.66 15 P Pdif 07 26 10.7 -0.5
comp=Z,0.7nm,0.9s,baz=207,slow=2.5,SNR=3.5
YKA Yellowknife Ar 104.10 25 PKiKP PKiKP 07 30 34.0 -0.7
comp=Z,0.2nm,0.6s,baz=247,slow=1.5,SNR=8.9
YKA PKKPbc PKKPbc 07 42 07.8 -0.5

comp=Z,0.2nm,0.7s,baz=44,slow=2.9,SNR=5.0
WMQ Urumqi 114.06 308 PKP PKPdf 07 30 54.5 +0.4
ABPO Ambohimpanom 116.05 226 *i* PKIKP **PKPdf** **07 30 56.6 -2.3**
MK01 Makanchi Array 118.54 310 *e*PKPdf **PKPdf** **07 31 02.0 -0.6**
MK31 Makanchi Array 118.55 310 *e*PKPdf **PKPdf** **07 31 02.1 -0.5**
MK31 Makanchi Array 118.55 310 *e*PKIKP **PKPdf** **07 31 02.1 -0.5**
MKAR Makanchi Array 118.55 310 PKP **PKPdf** **07 31 01.9 -0.8**
comp=Z,1.1nm,0.8s,baz=243,slow=0.3,SNR=9.3
MKAR Makanchi Array 118.55 310 *e*PKPdf **PKPdf** **07 31 02.1 -0.5**
MKAR Makanchi Array 118.55 310 *e*PKIKP **PKPdf** **07 31 02.1 -0.5**
KURK Kurchatov 121.72 314 PKP **PKPdf** **07 31 07.9 -0.6**
KURK Kurchatov 121.72 314 PKIKP **PKPdf** **07 31 07.9 -0.6**
KURBB Kurchatov Arra 121.76 314 PKP **PKPdf** **07 31 07.9 -0.7**
comp=Z,1.9nm,0.7s,baz=98,slow=1.9,SNR=11
PKME Peaks-Kenny Pk 121.78 53 *e*PKPdf **PKPdf** **07 31 08.9 +0.2**
TULEG Thule 122.65 15 *e*PKPdf **PKPdf** **07 31 08.9 -0.7**
AAK Ala-Archa 123.06 304 *i* PKIKP **PKPdf** **07 31 11.1 -0.5**
KK31 Karatay Array 126.03 304 *e*PKPdf **PKPdf** **07 31 16.9 -0.2**
KK31 Karatay Array 126.03 304 *e*PKIKP **PKPdf** **07 31 16.9 -0.2**
KKAR Karatay Array 126.03 304 *e*PKPdf **PKPdf** **07 31 17.0 -0.1**
KKAR Karatay Array 126.03 304 *e*PKIKP **PKPdf** **07 31 17.0 -0.1**
BVAR Borovoye Array 127.02 316 PKP **PKPdf** **07 31 18.8 +0.2**
comp=Z,1.9nm,0.6s,baz=96,slow=3.0,SNR=13
BRVK Borovoye 127.08 316*c**e* PKIKP **PKPdf** **07 31 18.7 0.0**
SPITS Spitsbergen Ar 131.09 357 PKP **PKPdf** **07 31 25.6 -0.1**
comp=Z,3.1nm,0.7s,baz=333,slow=8.1,SNR=6.0
ARU Arti 133.56 321 *e*PKIKP **PKPdf** **07 31 30.3 -0.6**
AKTO Aktyubinsk 134.81 313 PKP **PKPdf** **07 31 33.5 +0.1**
comp=Z,1.2nm,0.5s,baz=310,slow=3.0,SNR=4.3
KEV Kevo 137.76 348 *e*PKPdf **PKPdf** **07 31 38.8 +0.5**
KEV Kevo 137.76 348 *e*PKIKP **PKPdf** **07 31 38.8 +0.5**
ARCES ARCESS Array B 138.22 349 PKP **PKPdf** **07 31 38.8 -0.5**
comp=Z,1.8nm,0.7s,baz=85,slow=2.6,SNR=9.1
ARCES ARCESS Array B 138.22 349 *e*PKPdf **PKPdf** **07 31 39.1 -0.1**
ARCES ARCESS Array B 138.22 349 *e*PKIKP **PKPdf** **07 31 39.1 -0.1**
FIA1 FINESS Array S 145.00 342 *e*PKPbc **PKPbc** **07 31 50.1 -0.8**
FINES FINESS Array B 145.00 342 PKP **PKPbc** **07 31 50.0 -0.9**
comp=Z,6.8nm,0.6s,baz=76,slow=3.0,SNR=40
OBN Obninsk 145.48 327 PKPbc **PKPdf** **07 31 51.5 -1.0**
comp=Z,21nm,0.4s,baz=97,slow=6.9,SNR=7.0
OBN Obninsk 145.48 327 *i* PKP2 **PKPdf** **07 31 51.0 -1.5**
OBN *i* 07 35 15.2
OBN pmax pmax
comp=Z,18nm,0.9s
ZEI Tsey 145.48 303 *i* PKIKP **PKPdf** **07 31 52.9 -0.4**
ZEI pmax pmax
comp=Z,9.0nm,0.7s
GOF Gofitskoye 145.66 307⇑ *e*PKIKP **PKPbc** **07 31 53.6 0.0**
KBZ Khabaz 146.04 305 PKPbc **PKPbc** **07 31 54.5 -0.2**
comp=Z,3.0nm,0.7s,baz=96,slow=5.1,SNR=9.7
KIV Kislovodsk 146.15 306 *i* PKP2 **PKPab** **07 31 56.3 +0.4**
KIV pmax pmax
comp=Z,6.0nm,1.1s
VSU Vasula 147.20 338 *e*PKP2 **PKPbc** **07 31 56.9 -0.7**
NC303 NORSAR Array S 148.06 353 *e*PKPbc **PKPbc** **07 31 59.8 -0.2**
NC204 NORSAR Array S 148.07 354 *e*PKPbc **PKPbc** **07 31 59.6 -0.4**
NC405 NORSAR Array S 148.13 353 *e*PKPbc **PKPbc** **07 31 59.7 -0.4**
NB201 NORSAR Array S 148.24 353 *e*PKPbc **PKPbc** **07 31 59.1 -1.3**
NB2 NORSAR Subarra 148.25 353 PKP **PKPbc** **07 31 59.9 -0.6**
comp=Z,9.8nm,0.9s,baz=8.7,slow=2.9
NOA NORSAR Array B 148.25 353 PKPbc **PKPbc** **07 31 59.8 -0.6**
comp=Z,5.6nm,0.8s,baz=14,slow=4.4,SNR=17
NBO02 NORSAR Array S 148.28 354 *e*PKPbc **PKPbc** **07 32 00.1 -0.4**
NBO00 NORSAR Array S 148.31 354 *e*PKPbc **PKPbc** **07 32 00.4 -0.2**
NAO01 NORSAR Array S 148.48 353 *e*PKPbc **PKPbc** **07 31 60.0 -1.1**
NAO01 *e*PKPab **PKPab** **07 32 04.3 -0.1**
NC602 NORSAR Array S 148.52 353 *e*PKPbc **PKPbc** **07 32 00.7 -0.4**
KONO Kongsberg 149.78 354 *e*PKPbc **PKPbc** **07 32 04.5 +0.2**
KONO Kongsberg 149.78 354 *e*PKP2 **PKPbc** **07 32 04.5 +0.2**
AKASG Malin Array Be 151.68 325 PKPbc **PKPbc** **07 32 08.7 -0.3**
comp=Z,12nm,0.6s,baz=45,slow=2.9,SNR=36
AKASG PKPab **PKPab** **07 32 17.4 -0.4**
comp=Z,4.7nm,0.6s,baz=43,slow=3.0,SNR=8.2
AKBB Malin Array Si 151.68 325 *e*PKPbc **PKPbc** **07 32 08.8 -0.2**
KIEV Kiev 151.69 325 *e*PKPbc **PKPbc** **07 32 08.7 -0.4**
KIEV Kiev 151.69 325 *e*PKIKP **PKPbc** **07 32 08.7 -0.4**
AK11 Malin Array Si 151.72 325 *e*PKPbc **PKPbc** **07 32 09.1 -0.1**
MMAI Mount Meron Ar 152.92 285 PKPbc **PKPbc** **07 32 13.8 +1.2**
comp=Z,3.7nm,0.6s,baz=67,slow=4.8,SNR=6.5
BRTR Keskin Array B 153.66 300 PKPbc **PKPbc** **07 32 14.1 0.0**
comp=Z,1.0nm,0.9s,baz=145,slow=4.5,SNR=4.3
BRTR PKPab **sPKPbc** **07 32 26.4 -0.2**
comp=Z,1.5nm,0.8s,baz=90,slow=2.5,SNR=5.5
EKA Eskdalemuir Ar 153.87 9 PKPbc **PKPbc** **07 32 12.6 -1.2**
comp=Z,1.4nm,0.7s,baz=29,slow=1.6,SNR=5.5
EKA PKPab **sPKPbc** **07 32 26.1 -0.1**
comp=Z,2.7nm,0.8s,baz=347,slow=2.9,SNR=5.0
DPC Dobruska-Polom 157.32 339 *e*PKPAB **PKPab** **07 32 42.1 +0.2**
DPC Dobruska-Polom 157.32 339 *e*PKP2 **PKPab** **07 32 42.1 +0.2**
CLL Collm 157.34 345⇑ *i* PKPab **PKPab** **07 32 41.1 -0.8**
comp=Z,6.0nm,0.9s
CLL Collm 157.34 345⇑ *i* PKP2 **PKPab** **07 32 41.1 -0.8**
CLL pmax pmax
comp=Z,6.0nm,0.9s
BRG Berggiesshubel 157.52 343 *e*PKP **PKPab** **07 32 41.6 -1.1**
comp=Z,1.7nm,0.5s
BRG Berggiesshubel 157.52 343 *e*PKP2 **PKPab** **07 32 41.6 -1.1**
BRG pmax pmax
comp=Z,2.0nm,0.5s
KHC Kasperske Hory 159.21 342 *e*PKPAB **PKPab** **07 32 49.8 -0.3**
KHC Kasperske Hory 159.21 342 *e*PKP2 **PKPab** **07 32 49.8 -0.3**
GERES GERESS Array B 159.43 341 PKPab **PKPab** **07 32 50.2 -1.0**
comp=Z,0.3nm,0.4s,baz=20,slow=4.3,SNR=3.4
TORD Torodi Ar. Bea 163.43 173 PKPab **PKPab** **07 33 10.7 +1.4**
comp=Z,4.1nm,0.7s,baz=190,slow=4.3,SNR=24
ESDC Sonseca Array 168.13 31 PKPab **PKPab** **07 33 28.4 -1.2**
comp=Z,0.2nm,0.4s,baz=314,slow=5.0,SNR=4.7

NIED ***21*** *07:12:00.40˚.90N×145˚.10E,h5km,Mw4.2 Best double couple: M₀2.32000×10¹⁵ NP1:φ₀252.00000°,δ28.00000°, λ-87.00000°. NP2:φ₀68.00000°,δ63.00000°,λ-92.00000°.*
IDC ***21*** *07:12:56.5±0.7,40˚.92N×144˚.96E,h0km,mb4.1/23, mb1 4.2/26,mb1mx4.1/68,mbtmp4.1/26,ML3.2/3,MS3.4/18, Ms1 3.4/18,ms1mx3.1/68,Error ellipse: s-maj=18.2km s-min=14.2km az=166.0*
JMA ***21*** *07:12:57.4±0.1,40˚.91N×145˚.11E,h65km±2km,M4.1*
ISCJB ***21*** *07:12:57.2±1.0,40˚.98N±0˚.02×144˚.87E±0˚.03,h10km±6km, mb4.3/61,MS3.6/19,Error ellipse: s-maj=4.3km s-min=3.7km az=157.0*
BJI ***21*** *07:12:59.7,41˚.08N×144˚.79E,h24km,mb4.5/21,mB4.9/12, Ms4.0/5,Ms7 3.8/5*
MOS ***21*** *07:13:00.3±0.9,41˚.07N×144˚.86E,h31km,mb4.8/16,Error ellipse: s-maj=9.8km s-min=5.8km az=98.4*
NEIC ***21*** *07:13:01.0±1.6,40˚.93N×144˚.84E,h26km±11km,mb4.6/24, Error ellipse: s-maj=6.3km s-min=4.2km az=148.0*
ISC 21 07:12:58.8±2.7,40˚.95N±0˚.04×145˚.01E±0˚.05,h13km±16km, n153,σ1§65/168,mb4.3/61,MS3.6/20,8C,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ERM	**Erimo**	**1.75**	**308**	*e*Pn		**Pn**	**07 13 27.9**	**-1.0**
ERM				*e*Sn		**Sn**	**07 13 48.7**	**-2.3**
ERM	**Erimo**	**1.75**	**308**	*ce*P		**Pn**	**07 13 27.7**	**-1.1**
ERM				pmax	pmax			
comp=Z,126nm,1.7s								
JEM	**Erimo**	**1.75**	**308**	P		**Pn**	**07 13 27.5**	**-1.3**
JEM				*e*S		**Sn**	**07 13 48.9**	**-2.1**
JAK	**Akkeshi**	**2.06**	**354**	P		**Pn**	**07 13 31.0**	**-2.1**
JAK				*e*S		**Sn**	**07 13 55.7**	**-2.9**
JCH	**Churui**	**2.07**	**324**	P		**Pn**	**07 13 31.9**	**-1.3**
JCH				*e*S		**Sn**	**07 13 56.2**	**-2.7**
JOB	**Onbets**	**2.14**	**336**	P		**Pn**	**07 13 32.9**	**-1.3**
JOB				*e*S		**Sn**	**07 13 58.9**	**-1.7**
JNBK	**Urakawa-nobuka**	**2.15**	**309**	P		**Pn**	**07 13 33.7**	**-0.6**
JNBK				*e*S		**Sn**	**07 13 59.3**	**-1.6**
NEM2	**Nemuro 2**	**2.48**	**12**	P		**Pn**	**07 13 36.5**	**-2.3**
NEM2				*e*S		**Sn**	**07 14 05.2**	**-3.6**
JAR	**Ashorobuto**	**2.52**	**339**	P		**Pn**	**07 13 37.4**	**-2.0**
JAR				*e*S		**Sn**	**07 14 07.4**	**-2.6**
JNK	**Nakash**	**2.64**	**355**	P		**Pn**	**07 13 38.6**	**-2.5**
JNK				*e*S		**Sn**	**07 14 08.5**	**-4.5**
JBT2	**Biratori 2**	**2.69**	**314**	P		**Pn**	**07 13 41.0**	**-0.8**
JBT2				*e*S		**Sn**	**07 14 14.1**	**-0.1**
JANG	**Nango**	**2.72**	**259**	P		**Pn**	**07 13 39.9**	**-2.3**
JANG				*e*S		**Sn**	**07 14 10.9**	**-4.0**
JFR	**Furan**	**2.85**	**322**	P		**Pn**	**07 13 42.6**	**-1.4**
JFR				*e*S		**Sn**	**07 14 15.0**	**-3.2**
JRA	**Rausu**	**2.99**	**2**	P		**Pn**	**07 13 44.0**	**-1.8**
JRA				*e*S		**Sn**	**07 14 17.4**	**-4.1**
JTM	**Tenmabayashi**	**2.99**	**268**	P		**Pn**	**07 13 44.4**	**-1.5**
JTM				*e*S		**Sn**	**07 14 18.0**	**-3.6**
JOT	**Ohata**	**3.02**	**280**	P		**Pn**	**07 13 44.7**	**-1.6**
JOT				*e*S		**Sn**	**07 14 18.6**	**-3.7**
JTKR	**Abashiri--Toko**	**3.13**	**345**	P		**Pn**	**07 13 46.6**	**-1.1**
JTKR				*e*S		**Sn**	**07 14 23.3**	**-1.6**
JKB	**Kayabe**	**3.13**	**289**	P		**Pn**	**07 13 46.7**	**-1.1**
JKB				*e*S		**Sn**	**07 14 22.4**	**-2.7**
YUK	**Yuzh-Kuril'sk**	**3.15**	**11**	*e*P		**Pn**	**07 13 46.6**	**-1.4**
YUK				*e*S		**Sn**	**07 14 21.2**	**-4.2**
YUK				pmax	pmax			
comp=Z,258nm,0.2s								
YUK				smax	smax			
comp=N,488nm,0.4s								
YUK				smax	smax			
comp=E,790nm,0.5s								
JOM	**Ohasama**	**3.21**	**244**	P		**Pn**	**07 13 47.0**	**-1.8**
JOM				*e*S		**Sn**	**07 14 22.9**	**-4.0**
SHO	**Shikotan**	**3.21**	**24**	*e*P		**Pn**	**07 13 46.3**	**-2.7**
SHO				*e*S		**Sn**	**07 14 21.5**	**-5.6**
SHO				pmax	pmax			
comp=E,34nm,0.3s								
SHO				pmax	pmax			
comp=Z,29nm,0.3s								
SHO				pmax	pmax			
comp=N,74nm,0.6s								
SHO				smax	smax			
comp=E,251nm,0.3s								
SHO				smax	smax			
comp=N,93nm,0.2s								
JEW	**Eniwo**	**3.26**	**307**	P		**Pn**	**07 13 49.8**	**+0.2**
JEW				*e*S		**Sn**	**07 14 27.1**	**-1.1**
JKK2	**Kamakawa 2**	**3.37**	**331**	P		**Pn**	**07 13 50.4**	**-0.7**
JKK2				*e*S		**Sn**	**07 14 31.9**	**+1.0**
ASAJ	**Asahikawa**	**3.63**	**331**	P		**Pn**	**07 13 53.5**	**-1.2**
comp=N,3.2nm,0.3s,baz=190,slow=15,SNR=11								
ASAJ				Sn		**Sn**	**07 14 36.2**	**-1.2**
comp=N,3.8nm,0.3s,baz=62,slow=31,SNR=11								
ASAJ	**Asahikawa**	**3.63**	**331**	*e*Pn		**Pn**	**07 13 54.5**	**-0.2**
ASAJ				Sn		**Sn**	**07 14 36.2**	**-1.2**
KUR	**Kuril'sk**	**4.77**	**25**	*e*P		**Pn**	**07 14 09.5**	**-0.8**
KUR				*e*S		**Sn**	**07 15 00.8**	**-4.5**
KUR				pmax	pmax			
comp=Z,65nm,0.4s								
KUR				pmax	pmax			
comp=N,31nm,0.2s								
KUR				smax	smax			
comp=N,79nm,0.1s								
KUR				smax	smax			
comp=E,126nm,0.1s								
YSS	**Yuzh-Sakhalins**	**6.22**	**346**	*e*P		**Pn**	**07 14 32.3**	**+2.1**
YSS				MLR	MLR			
comp=Z,400nm,16.0s								
YSS				MLR	MLR			
comp=E,300nm,12.0s								
MJAR	**Matsushiro Arr**	**6.90**	**233**	Pn		**Pn**	**07 14 38.9**	**-0.8**
comp=E,0.6nm,0.3s,baz=42,slow=11,SNR=14								
MJAR				LR		LR	07 17 42.6	
comp=E,106nm,19.2s,baz=50,slow=42								
MAJO	**Matsushiro**	**6.90**	**233**	*e*Pn		**Pn**	**07 14 39.0**	**-0.7**
MAJO	**Matsushiro**	**6.90**	**233**	*i* P		**Pn**	**07 14 41.0**	**+1.4**
MAT	**Matsushiro**	**6.90**	**233**	P		**Pn**	**07 14 39.7**	**+0.1**
MAT				S		**Sn**	**07 15 55.6**	**-2.4**
MJB9	**Matsu-Tunnel**	**6.90**	**233**	*e*Pn		**Pn**	**07 14 39.6**	**0.0**
JHJ	**Hachijo jima 2**	**8.86**	**210**	LR		LR	07 18 32.0	
comp=E,102nm,21.7s,baz=286,slow=38								
USRK	**Ussuriysk Ar.**	**10.14**	**293**	Pn		**Pn**	**07 15 23.1**	**-0.8**
comp=E,0.3nm,0.3s,baz=107,slow=13,SNR=9.5								
KLR	**Kul'dur**	**12.49**	**316**	Pn		**Pn**	**07 15 55.4**	**-0.7**
comp=E,0.0nm,0.3s,baz=121,slow=15,SNR=6.7								
PETK	**Petropavlovsk-**	**14.90**	**31**	LR		LR	07 22 08.7	
comp=E,28nm,20.6s,baz=259,slow=37								
ZEA	**Zeya**	**17.50**	**323**	*e*P		**Pn**	**07 17 00.5**	**-1.8**
ZEA				pmax	pmax			
comp=Z,15nm,1.0s								
MA2	**Magadan**	**18.99**	**9**	*i* P		**Pn**	**07 17 21.0**	**+0.4**
HIA	**Hailar**	**19.61**	**304**	*i* P		**P**	**07 17 25.5**	**-1.2**
HIA				pmax	pmax			
comp=Z,3.0nm,0.7s								
SEY	**Seymchan**	**22.45**	**9**	P		**P**	**07 17 56.5**	**-0.7**
comp=Z,4.7nm,1.0s,baz=193,slow=8.5,SNR=20								
SEY	**Seymchan**	**22.45**	**9**	*ce*P		**P**	**07 17 56.9**	**-0.3**
NJ2	**Nanjing**	**22.76**	**255**	*e*P		**P**	**07 18 01.3**	**+0.6**
YAK	**Yakutsk**	**23.05**	**341**	LR		LR	07 27 34.0	
comp=Z,75nm,18.7s,baz=96,slow=38								
HHC	**Hu-ho-hao-te**	**25.20**	**281**	*e*P		**P**	**07 18 24.4**	**+0.3**
HHC				pmax	pmax			
comp=Z,20nm,1.0s								
HHC				pmax	pmax			
comp=Z,160nm,5.2s								
BOD	**Bodaibo**	**25.98**	**321**	*e*P		**P**	**07 18 29.7**	**-1.2**
BOD				pmax	pmax			
comp=Z,8.0nm,1.1s								
ULN	**Ulaanbaatar**	**27.77**	**297**	*e*P		**P**	**07 18 47.2**	**-0.2**
comp=Z,10nm,1.1s								
ULN	**Ulaanbaatar**	**27.77**	**297**	*ce*P		**P**	**07 18 48.3**	**+1.0**
ULN				pmax	pmax			
comp=Z,16nm,1.7s								
SONA1	**Songino Array**	**28.20**	**297**	*e*P		**P**	**07 18 50.9**	**-0.3**
SONM	**Songino Array**	**28.21**	**297**	P		**P**	**07 18 51.3**	**0.0**
comp=Z,4.7nm,1.1s,baz=89,slow=8.5,SNR=21								
SONM				LR		LR	07 30 10.8	
comp=Z,53nm,20.6s,baz=127,slow=37								
H11N2	**WAKE ISLAND Hy**	**28.21**	**132**	T		T	07 48 20.2	
baz=323,slow=75,SNR=52								
H11N1	**WAKE ISLAND Hy**	**28.22**	**132**	T		T	07 48 18.0	
baz=323,slow=75,SNR=81								
H11N3	**WAKE ISLAND Hy**	**28.23**	**132**	T		T	07 48 21.3	
baz=323,slow=75,SNR=67								
H11S1	**WAKE ISLAND Hy**	**29.09**	**134**	T		T	07 49 24.8	
baz=325,slow=76,SNR=55								
H11S3	**WAKE ISLAND Hy**	**29.09**	**134**	T		T	07 49 25.4	
baz=325,slow=76,SNR=66								
H11S2	**WAKE ISLAND Hy**	**29.11**	**134**	T		T	07 49 24.4	
baz=325,slow=76,SNR=84								
BILL	**Bilibino**	**29.49**	**16**	*i* P		**P**	**07 19 00.8**	**-1.4**
BILL				*i*			07 19 11.9	
BILL				pmax	pmax			
comp=Z,5.0nm,1.1s								
TLY	**Talaya**	**30.14**	**305**	LR		LR	07 32 25.4	
comp=Z,58nm,18.1s,baz=114,slow=39								
TLY	**Talaya**	**30.14**	**305**	*e*P		**P**	**07 19 12.2**	**+4.0**
TLY				pmax	pmax			
comp=Z,6.0nm,0.9s								
TLY				MLR	MLR			
comp=Z,52nm,16.0s								
ZAK	**Zakamensk**	**30.29**	**302**	*e*P		P	07 19 01.0	-8.7
ZAK				pmax	pmax			
comp=Z,3.0nm,1.7s								
TIXI	**Tiksi**	**31.82**	**350**	LR		LR	07 33 14.3	
comp=Z,69nm,18.1s,baz=129,slow=38								
TIXI	**Tiksi**	**31.82**	**350**	*ce*P		**P**	**07 19 23.0**	**+0.3**
TIXI				pmax	pmax			
comp=Z,4.0nm,2.5s								
LZH	**Lanzhou**	**32.35**	**275**	*e*P		**P**	**07 19 28.3**	**+0.3**
LZH				pP		pP	07 19 37.3	+5.3
LZH				sP		PP	07 19 40.8	-60
LZH				*e*PP		**PnPn**	**07 20 35.5**	**+1.0**
LZH				pmax	pmax			
comp=Z,23nm,1.3s								
LZH				pmax	pmax			
comp=Z,75nm,5.2s								
LZH				LR	LR			
comp=Z,330nm,13.0s								
LZH				LR	LR			
comp=Z,340nm,13.6s								
LZH				LR	LR			
comp=Z,380nm,16.8s								
GTA	**Gaotai**	**34.27**	**283**	*e*P		**P**	**07 19 45.3**	**+0.6**
GTA				pP		pP	07 19 54.9	+6.2
GTA				sP		sP	07 19 59.0	+8.7
GTA				S		**S**	**07 25 09.6**	**-1.9**
GTA				SS		**SnSn**	**07 27 21.5**	**+1.2**
GTA				pmax	pmax			
comp=Z,6.0nm,1.3s								
GTA				pmax	pmax			
comp=Z,80nm,5.9s								
GTA				LR	LR			
comp=Z,160nm,18.1s								
GTA				LR	LR			
comp=Z,340nm,22.3s								
GTA				LR	LR			
comp=Z,64nm,17.6s								
CD2	**Chengdu**	**34.59**	**266**	*e*P		**P**	**07 19 46.0**	**-1.5**
CD2				pmax	pmax			
comp=Z,10.0nm,0.5s								
KMI	**Kunming**	**38.39**	**259**	P		**P**	**07 20 20.6**	**+0.5**
KMI				pmax	pmax			
comp=Z,15nm,0.6s								
SVW2	**Sparrevohn**	**40.72**	**40**	*e*P		**P**	**07 20 41.0**	**+2.1**
comp=Z,5.8nm,1.0s								
ZALV	**Zalesovo Beam**	**41.48**	**309**	P		**P**	**07 20 45.3**	**+0.1**
comp=Z,2.3nm,0.8s,baz=84,slow=7.6,SNR=3.6								
ZALV				LR		LR	07 39 34.6	
comp=Z,45nm,18.3s,baz=58,slow=38								
ZALV	**Zalesovo Beam**	**41.48**	**309**	*e*P		**P**	**07 20 44.4**	**-0.8**
ZALV	**Zalesovo Beam**	**41.48**	**309**	*e*P		**P**	**07 20 44.4**	**-0.8**
WMQ	**Urumqi**	**41.71**	**294**	P		**P**	**07 20 48.6**	**+1.3**
WMQ				pmax	pmax			
comp=Z,15nm,1.5s								
WMQ				pmax	pmax			
comp=Z,120nm,3.7s								
IM3	**Indian Mountai**	**41.85**	**33**	*e*P		**P**	**07 20 49.0**	**+0.9**
PPLA	**Purkeypile**	**42.36**	**37**	*e*P		**P**	**07 20 54.8**	**+2.4**
comp=Z,18nm,1.5s								
CAST	**Castle Rocks**	**42.42**	**36**	*e*P		**P**	**07 20 54.8**	**+2.1**
comp=Z,4.1nm,0.8s								
KTH	**Kantishna Hill**	**42.94**	**36**	*e*P		**P**	**07 20 58.5**	**+1.5**
comp=Z,11nm,1.0s								
MLY	**Manley**	**43.05**	**34**	*e*P		**P**	**07 20 59.1**	**+1.3**
comp=Z,4.4nm,1.1s								
BRLK	**Bradley Lake**	**43.07**	**42**	*e*P		**P**	**07 21 00.7**	**+2.6**
comp=Z,89nm,2.0s								
COLD	**Coldfoot**	**43.37**	**31**	*e*P		**P**	**07 21 01.7**	**+1.3**
comp=Z,3.3nm,1.2s								
TOLK	**Toolik Lake Re**	**43.70**	**29**	*e*P		**P**	**07 21 04.7**	**+1.5**
comp=Z,6.9nm,1.4s								
MDM	**Murphy Dome**	**44.11**	**34**	*e*P		**P**	**07 21 08.0**	**+1.6**
comp=Z,17nm,1.4s								
SML	**Sawmill**	**44.19**	**39**	*e*P		**P**	**07 21 08.2**	**+1.1**
comp=Z,18nm,1.2s								
SML	**Sawmill**	**44.19**	**39**	*e*P		**P**	**07 21 08.2**	**+1.1**
SML				pmax	pmax			
comp=Z,18nm,1.2s								
CCB	**Clear Creek Bu**	**44.30**	**35**	*e*P		**P**	**07 21 10.6**	**+2.7**
comp=Z,6.3nm,1.3s								
MK01	**Makanchi Array**	**44.53**	**299**	*e*P		**P**	**07 21 09.6**	**-0.4**
MK31	**Makanchi Array**	**44.53**	**299**	*e*P		**P**	**07 21 09.9**	**-0.1**
MK31	**Makanchi Array**	**44.53**	**299**	*e*P		**P**	**07 21 09.9**	**-0.1**
MKAR	**Makanchi Array**	**44.53**	**299**	P		**P**	**07 21 09.6**	**-0.5**
comp=Z,1.5nm,0.8s,baz=84,slow=8.8,SNR=12								
MKAR				LR		LR	07 41 09.5	
comp=Z,33nm,19.9s,baz=108,slow=38								
MKAR	**Makanchi Array**	**44.53**	**299**	*e*P		**P**	**07 21 09.9**	**-0.1**
comp=Z,14nm,0.9s								
MKAR	**Makanchi Array**	**44.53**	**299**	*e*P		**P**	**07 21 09.9**	**-0.1**
MKAR				pmax	pmax			
comp=Z,14nm,0.9s								
IL1	**Eielson Array**	**44.69**	**34**	*e*P		**P**	**07 21 11.2**	**+0.2**
ILAR	**Eielson Array**	**44.69**	**34**	P		**P**	**07 21 11.6**	**+0.5**
comp=Z,2.1nm,0.9s,baz=259,slow=6.1,SNR=22								
ILB	**Eielson Array**	**44.69**	**34**	*e*P		**P**	**07 21 11.8**	**+0.8**
CMAR	**Chiang Mai Arr**	**45.23**	**254**	P		**P**	**07 21 15.7**	**-0.2**
comp=Z,1.4nm,0.3s,baz=76,slow=7.7,SNR=3.4								
FYU	**Fort Yukon**	**45.32**	**32**	*e*P		**P**	**07 21 17.7**	**+1.8**
comp=Z,29nm,1.7s								
KURK	**Kurchatov**	**45.83**	**306**	P		**P**	**07 21 20.6**	**+0.4**
KURK	**Kurchatov**	**45.83**	**306**	P		**P**	**07 21 20.6**	**+0.4**
KURBB	**Kurchatov Arra**	**45.91**	**306**	P		**P**	**07 21 20.6**	**-0.2**
comp=Z,2.1nm,0.6s,baz=78,slow=8.7,SNR=11								
SCRK	**Sand Creek**	**46.00**	**35**	*e*P		**P**	**07 21 22.3**	**+0.8**
comp=Z,32nm,2.0s								
EGAK	**Eagle**	**47.13**	**34**	*e*P		**P**	**07 21 30.4**	**+0.1**
comp=Z,16nm,1.7s								
HYT	**Haines Junctio**	**49.49**	**39**	*e*P		**P**	**07 21 50.0**	**+1.3**
comp=Z,14nm,1.1s								
INK	**Inuvik**	**49.62**	**29**	P		**P**	**07 21 49.8**	**+0.4**
comp=Z,1.7nm,0.8s,baz=306,slow=6.1,SNR=9.7								
INK	**Inuvik**	**49.62**	**29**	*e*P		**P**	**07 21 50.6**	**+1.3**
comp=Z,6.8nm,1.4s								
INK	**Inuvik**	**49.62**	**29**	*e*P		**P**	**07 21 50.6**	**+1.3**
INK				pmax	pmax			
comp=Z,7.0nm,1.4s								
BVAR	**Borovoye Array**	**50.08**	**311**	P		**P**	**07 21 52.7**	**-0.5**
comp=Z,1.8nm,0.8s,baz=95,slow=9.1,SNR=7.0								
BVAR				LR		LR	07 43 59.1	
comp=Z,36nm,19.7s,baz=74,slow=37								
BRVK	**Borovoye**	**50.13**	**311**	*i* P		**P**	**07 21 53.2**	**-0.3**
BRVK				pmax	pmax			
comp=Z,2.0nm,1.0s								
AAK	**Ala-Archa**	**51.17**	**297**	*i* P		**P**	**07 22 00.9**	**-0.8**
AAK				pmax	pmax			
comp=Z,2.0nm,1.2s								
KSH	**Kashi**	**51.44**	**293**	P		**P**	**07 22 07.1**	**+3.4**
KSH				S		**S**	**07 29 25.1**	**+1.8**
ARU	**Arti**	**55.32**	**318**	P		**P**	**07 22 31.5**	**-0.4**
comp=

CLL				Lm	MLR	08 03 00.0	
	comp=Z,100nm,20.0s						
CLL	**Collm**	**79.04**	**332**	*eP*	**P**	**07 25 02.0**	**-0.4**
CLL				pmax	pmax		
	comp=Z,5.0nm,0.9s						
BRG	**Berggiesshubel**	**79.06**	**331**	*eP*	**P**	**07 25 03.0**	**+0.5**
	comp=Z,2.0nm,0.6s						
BRG	**Berggiesshubel**	**79.06**	**331**	*eP*	**P**	**07 25 03.0**	**+0.5**
BRG				pmax	pmax		
	comp=Z,2.0nm,0.6s						
ANMO	**Albuquerque**	**79.95**	**52**	*ceP*	**P**	**07 25 10.0**	**+2.1**
ANMO				pmax	pmax		
	comp=Z,2.0nm,2.5s						
KHC	**Kasperske Hory**	**80.61**	**330**	*eP*	**P**	**07 25 11.0**	**0.0**
KHC	**Kasperske Hory**	**80.61**	**330**	*eP*	**P**	**07 25 11.0**	**0.0**
GERES	**GERESS Array B**	**80.80**	**330**	P	**P**	**07 25 11.8**	**-0.3**
	comp=Z,0.7nm,0.7s,baz=24,slow=4.8,SNR=5.8						
GERES				LR	LR	08 04 35.1	
	comp=Z,63nm,18.5s,baz=64,slow=38						
BFO	**Black Forest**	**83.19**	**333**	*ceP*	**P**	**07 25 26.1**	**+1.5**
TX31	**Lajitas Ar. Si**	**85.54**	**55**	*eP*	**P**	**07 25 37.6**	**+0.7**
TXAR	**Lajitas Array**	**85.54**	**55**	P	**P**	**07 25 37.2**	**+0.3**
	comp=Z,3.2nm,1.1s,baz=304,slow=2.9,SNR=8.4						
TKL	**Tuckaleechee C**	**91.58**	**38**	LR	LR	08 11 50.8	
	comp=Z,80nm,18.0s,baz=318,slow=39						
SNAA	**Sanae**	**145.31**	**197**	PKPbc	**PKPbc**	**07 32 33.5**	**-1.5**
	comp=Z,4.2nm,0.9s,baz=134,slow=2.6,SNR=8.6						
SNAA	**Sanae**	**145.31**	**197**	*e*PKPbc	**PKPbc**	**07 32 34.5**	**-0.4**
SNAA	**Sanae**	**145.31**	**197**	*e*PKIKP	**PKPbc**	**07 32 34.5**	**-0.4**
SIV	**San Ignacio**	**146.42**	**50**	PKPbc	**PKPdf**	**07 32 39.4**	**+0.8**
	comp=Z,5.2nm,0.9s,baz=346,slow=2.8,SNR=26						

NIED ***21*** *07:40:00,36.40N×141.80E,h11km,Mw4.1 Best double couple: M0 1.45000×10^15 NP1:φ,δ,λ 194.00000°,18.00000°, 84.00000°. NP2:φ,δ,λ 20.00000°,72.00000°,92.00000°.*

IDC ***21*** *07:40:26.8±0.7,36.28N×141.93E,h0km,mb3.8/21, mb1 4.0/26,mb1mx3.9/70,mbtmp3.9/26,ML3.7/5,MS3.4/8, Ms1 3.4/8,ms1mx2.9/67, Error ellipse: s-maj=17.0km s-min=15.3km az=123.0*

ISCJB ***21*** *07:40:28.0±0.3,36.31N±0.03×141.98E±0.04,h19km, mb4.1/35,MS3.4/5, Error ellipse: s-maj=4.5km s-min=3.7km az=30.6*

NEIC ***21*** *07:40:31.3±1.2,36.26N×141.92E,h30km±9km,mb4.3/15, Error ellipse: s-maj=4.9km s-min=4.1km az=106.0*

JMA ***21*** *07:40:31.2±0.1,36.38N×141.78E,h61km±3km,M3.6*

ISC 21 07:40:29.3±0.5,36.26N±0.04×142.04E±0.06,h19km,n82, σ1s54/84,mb4.0/35,MS3.4/5,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CHOJ	**Chosi**	**1.11**	**240**	P	**Pn**	**07 40 49.6**	**-0.2**
CHOJ				S	**Sn**	**07 41 03.8**	**-0.7**
JHO	**Hitachi**	**1.24**	**287**	P	**Pn**	**07 40 49.3**	**-2.3**
ONAJ	**Iwakimizuishiy**	**1.31**	**310**	*e*S	**Sn**	**07 41 04.7**	**-4.9**
JFK	**Kawauchi**	**1.45**	**320**	P	**Pn**	**07 40 52.8**	**-1.7**
JFT	**Otama**	**1.86**	**313**	P	**Pn**	**07 40 58.5**	**-1.6**
JFT				S	**Sn**	**07 41 18.9**	**-4.2**
JMM	**Marumori**	**1.89**	**328**	P	**Pn**	**07 40 58.9**	**-1.6**
BSO3	**Boso 3**	**1.92**	**221**	P	**Pn**	**07 41 01.0**	**+0.3**
JAG	**Ashikaga**	**2.10**	**275**	P	**Pn**	**07 41 02.0**	**-1.4**
JFY	**Yanaizu**	**2.20**	**302**	P	**Pn**	**07 41 03.1**	**-1.7**
MJAR	**Matsushiro Arr**	**3.10**	**276**	Pn	**Pn**	**07 41 16.5**	**-0.8**
	8.8nm,0.3s,baz=115,slow=7.6,SNR=66						
MJAR				Sn	**Sn**	**07 41 52.9**	**-1.0**
	3.0nm,0.3s,baz=76,slow=14,SNR=6.1						
MJAR				LR	LR	07 42 32.0	
	comp=Z,277nm,21.1s,baz=115,slow=42						
MAJO	**Matsushiro**	**3.11**	**276**	*e*Pn	**Pn**	**07 41 17.1**	**-0.2**
MAJO				*e*Sn	**Sn**	**07 41 52.9**	**-1.0**
MAT	**Matsushiro**	**3.11**	**276**	P	**Pn**	**07 41 17.1**	**-0.2**
MAT				S	**Sn**	**07 41 54.0**	**+0.1**
MJB9	**Matsu-Tunnel**	**3.11**	**276**	*e*Pn	**Pn**	**07 41 17.2**	**-0.1**
JHJ2	**Mitsune**	**3.64**	**211**	*e*Pn	**Pn**	**07 41 25.6**	**+1.0**
JHJ2				*e*Sn	**Sn**	**07 42 08.1**	**+1.1**
JHJ	**Hachijo jima 2**	**3.64**	**211**	Pn	**Pn**	**07 41 25.3**	**+0.6**
	32nm,0.3s,baz=84,slow=21,SNR=3.3						
JHJ				Sn	**Sn**	**07 42 07.4**	**+0.3**
	65nm,0.3s,baz=252,slow=20,SNR=4.9						
INU	**Inuyama**	**4.18**	**259**	*e*Pn	**Pn**	**07 41 32.7**	**+0.6**
ERM	**Erimo**	**5.81**	**8**	*e*Pn	**Pn**	**07 41 55.9**	**+1.5**
ERM				*e*Sn	**Sn**	**07 43 01.5**	**+0.9**
ASAJ	**Asahikawa**	**7.86**	**3**	Pn	**Pn**	**07 42 23.0**	**+0.4**
	0.9nm,0.3s,baz=214,slow=12,SNR=9.4						
ASAJ				Sn	**Sn**	**07 43 48.0**	**-3.0**
	0.4nm,0.3s,baz=72,slow=20,SNR=2.6						
CBIJ	**Chichi jima**	**9.14**	**179**	*e*Pn	**Pn**	**07 42 39.8**	**-0.3**
CBIJ				Sn	**Sn**	**07 44 15.9**	**-6.5**
JCJ	**Chichijima**	**9.14**	**179**	Pn	**Pn**	**07 42 39.8**	**-0.4**
	4.9nm,0.3s,baz=36,slow=19,SNR=4.4						
JCJ				Sn	**Sn**	**07 44 15.9**	**-6.5**
	3.3nm,0.3s,baz=348,slow=20,SNR=2.8						
USRK	**Ussuriysk Ar.**	**11.04**	**319**	LR	LR	07 47 17.6	
	comp=Z,194nm,18.2s,baz=124,slow=38						
KSRS	**Korea Array**	**11.38**	**280**	Pn	**Pn**	**07 43 10.5**	**-0.2**
	0.1nm,0.3s,baz=91,slow=15,SNR=3.0						
KSRS				LR	LR	07 47 25.1	
	comp=Z,138nm,19.7s,baz=67,slow=37						
KSAR	**Wonju Array Be**	**11.41**	**280**	Pn	**Pn**	**07 43 10.5**	**-0.6**
MA2	**Magadan**	**24.01**	**11**	LR	LR	07 55 54.0	
	comp=Z,27nm,18.5s,baz=294,slow=39						
YAK	**Yakutsk**	**26.94**	**347**	LR	LR	07 57 15.0	
	comp=Z,100nm,19.8s,baz=64,slow=38						
H11N2	**WAKE ISLAND Hy**	**27.32**	**120**	T	T	08 14 46.3	
	baz=312,slow=75,SNR=24						
H11N1	**WAKE ISLAND Hy**	**27.33**	**120**	T	T	08 14 54.0	
	baz=312,slow=75,SNR=17						
H11N3	**WAKE ISLAND Hy**	**27.34**	**120**	T	T	08 14 52.2	
	baz=312,slow=75,SNR=18						
SEY	**Seymchan**	**27.46**	**10**	P	**P**	**07 46 14.6**	**+0.8**
	0.4nm,0.3s,baz=178,slow=16,SNR=3.3						
ENH	**Enshi**	**27.78**	**267**	*eP*	**P**	**07 46 17.0**	**-0.1**
	6.9nm,1.0s						
H11S1	**WAKE ISLAND Hy**	**28.02**	**123**	T	T	08 15 45.0	
	baz=314,slow=75,SNR=17						
H11S3	**WAKE ISLAND Hy**	**28.02**	**123**	T	T	08 15 44.7	
	baz=314,slow=75,SNR=13						
H11S2	**WAKE ISLAND Hy**	**28.03**	**123**	T	T	08 15 43.5	
	baz=314,slow=75,SNR=12						
SONA1	**Songino Array**	**28.64**	**305**	*eP*	**P**	**07 46 25.9**	**+1.3**
SONA0	**Songino Array**	**28.64**	**305**	*eP*	**P**	**07 46 24.4**	**-0.3**
SONM	**Songino Array**	**28.64**	**305**	P	**P**	**07 46 24.4**	**-0.3**
	3.6nm,0.8s,baz=108,slow=9.9,SNR=15						
TLY	**Talaya**	**31.22**	**312**	P	**P**	**07 46 47.4**	**0.0**
	0.9nm,0.3s,baz=124,slow=6.4,SNR=3.6						
TLY				LR	LR	07 59 50.6	
	comp=Z,59nm,19.1s,baz=116,slow=37						
CMAR	**Chiang Mai Arr**	**41.80**	**257**	P	**P**	**07 48 17.9**	**0.0**
	0.8nm,0.3s,baz=46,slow=5.2,SNR=4.0						
CMAR				LR	LR	08 07 32.5	
	comp=Z,152nm,18.1s,baz=159,slow=39						
CM01	**Chiang Mai Arr**	**41.81**	**257**	*eP*	**P**	**07 48 18.8**	**+0.8**
ZAA1	**Zalesovo Array**	**42.81**	**313**	*eP*	**P**	**07 48 25.5**	**-0.1**
ZAA0	**Zalesovo Array**	**42.81**	**313**	*eP*	**P**	**07 48 24.7**	**-0.9**
	2.5nm,0.8s						
ZALV	**Zalesovo Beam**	**42.81**	**313**	P	**P**	**07 48 25.5**	**-0.1**
	1.0nm,0.5s,baz=93,slow=5.9,SNR=6.1						
ZALV	**Zalesovo Beam**	**42.81**	**313**	*eP*	**P**	**07 48 25.2**	**-0.4**
MK01	**Makanchi Array**	**44.96**	**303**	*eP*	**P**	**07 48 42.6**	**-0.4**
MK31	**Makanchi Array**	**44.96**	**303**	*eP*	**P**	**07 48 42.8**	**-0.3**
MK32	**Makanchi Array**	**44.96**	**303**	*eP*	**P**	**07 48 42.7**	**-0.4**
MKAR	**Makanchi Array**	**44.96**	**303**	P	**P**	**07 48 42.7**	**-0.4**
	2.6nm,0.9s,baz=92,slow=9.5,SNR=16						
MKAR	**Makanchi Array**	**44.96**	**303**	*eP*	**P**	**07 48 42.9**	**-0.2**
	10nm,0.7s						
KURK	**Kurchatov**	**46.81**	**309**	*eP*	**P**	**07 48 56.9**	**-0.7**
	6.9nm,1.2s						
KURBB	**Kurchatov Arra**	**46.88**	**309**	P	**P**	**07 48 57.7**	**-0.4**
	2.3nm,0.7s,baz=84,slow=7.8,SNR=11						
TARG	**Taragay, Kyrgy**	**49.20**	**297**	*eP*	**P**	**07 49 17.3**	**+0.6**
	2.6nm,0.8s						
HDA	**Harding Lake**	**49.86**	**32**	*eP*	**P**	**07 49 23.5**	**+2.5**
	15nm,1.1s						
ILAR	**Eielson Array**	**49.88**	**32**	P	**P**	**07 49 22.0**	**+1.0**
	0.3nm,0.9s,baz=263,slow=5.9,SNR=3.6						
ILB	**Eielson Array**	**49.88**	**32**	*eP*	**P**	**07 49 22.0**	**+1.0**
BVAR	**Borovoye Array**	**51.47**	**313**	P	**P**	**07 49 33.3**	**+0.1**
	0.5nm,0.5s,baz=62,slow=10.0,SNR=4.8						
INK	**Inuvik**	**54.85**	**27**	P	**P**	**07 49 59.2**	**+1.4**
	0.4nm,0.7s,baz=292,slow=5.0,SNR=3.5						
INK	**Inuvik**	**54.85**	**27**	*eP*	**P**	**07 49 58.3**	**+0.5**
	1.3nm,1.2s						
WR1	**Warramunga Arr**	**56.37**	**189**	*eP*	**P**	**07 50 09.6**	**+0.3**
	4.1nm,1.0s						
WRA	**Warramunga Arr**	**56.37**	**189**	P	**P**	**07 50 09.6**	**+0.3**
	0.3nm,0.4s,baz=6.0,slow=7.7,SNR=5.0						
ARU	**Arti**	**57.27**	**319**	*eP*	**P**	**07 50 15.5**	**+0.1**
	3.3nm,0.9s						
ABKAR	**Akbulak array**	**58.83**	**311**	*eP*	**P**	**07 50 25.8**	**-0.5**
	10nm,0.7s						
AS31	**Alice Springs**	**60.09**	**189**	*eP*	**P**	**07 50 36.0**	**+0.6**
	1.0nm,1.1s						
ASAR	**Alice Springs**	**60.09**	**189**	P	**P**	**07 50 36.0**	**+0.6**
	0.3nm,0.8s,baz=18,slow=10,SNR=3.6						
RES	**Resolute Bay**	**63.22**	**14**	*eP*	**P**	**07 50 56.7**	**+0.9**
	3.7nm,1.4s						
YKA	**Yellowknife Ar**	**64.22**	**30**	P	**P**	**07 51 03.6**	**+1.0**
	0.4nm,0.8s,baz=301,slow=7.1,SNR=4.8						
LHI	**Lord Howe Isla**	**69.29**	**164**	*eP*	**P**	**07 51 35.5**	**+0.4**
	286nm,1.3s						
FIA0	**FINESS Array S**	**69.73**	**333**	*eP*	**P**	**07 51 37.6**	**0.0**
FINES	**FINESS Array B**	**69.73**	**333**	P	**P**	**07 51 37.6**	**0.0**
	4.0nm,0.9s,baz=34,slow=10,SNR=6.1						
NVAR	**Mina Array Bea**	**75.05**	**53**	P	**P**	**07 52 11.1**	**+1.0**
	0.3nm,0.7s,baz=313,slow=6.0,SNR=2.8						
NC204	**NORSAR Array S**	**75.05**	**338**	*eP*	**P**	**07 52 10.2**	**+0.8**
NB2	**NORSAR Subarra**	**75.09**	**338**	P	**P**	**07 52 10.0**	**+0.3**
	comp=Z,0.6nm,0.7s,baz=39,slow=6.2						
NB200	**NORSAR Array S**	**75.09**	**338**	*eP*	**P**	**07 52 09.9**	**+0.2**
NOA	**NORSAR Array B**	**75.09**	**338**	P	**P**	**07 52 09.9**	**+0.2**
	comp=Z,1.0nm,0.9s,baz=38,slow=5.8,SNR=4.2						
NOA				LR	LR	08 28 26.9	
	comp=Z,25nm,19.1s,baz=80,slow=38						
AKASG	**Malin Array Be**	**75.22**	**323**	P	**P**	**07 52 09.2**	**-1.3**
	comp=Z,1.3nm,0.6s,baz=50,slow=5.9,SNR=9.5						
PFO	**Pinyon Flats O**	**79.05**	**56**	*eP*	**P**	**07 52 33.2**	**+0.7**
	comp=Z,1.4nm,1.0s						
XPFO	**Piæon Flat**	**79.05**	**56**	*eP*	**P**	**07 52 33.5**	**+0.9**
	comp=Z,1.7nm,1.1s						
BR101	**Keskin Array S**	**79.74**	**312**	*eP*	**P**	**07 52 36.5**	**+0.2**
BRTR	**Keskin Array B**	**79.74**	**312**	P	**P**	**07 52 36.5**	**+0.2**
	comp=Z,0.6nm,0.6s,baz=86,slow=8.8,SNR=3.7						
GERES	**GERESS Array B**	**83.64**	**329**	P	**P**	**07 52 56.2**	**-0.3**
	comp=Z,0.4nm,0.5s,baz=51,slow=8.7,SNR=5.0						
EKA	**Eskdalemuir Ar**	**84.03**	**341**	P	**P**	**07 52 58.7**	**+0.4**
	comp=Z,0.4nm,0.5s,baz=44,slow=6.2,SNR=2.6						
DAMY	**Dhamar**	**87.53**	**286**	*eP*	**P**	**07 53 15.3**	**-1.4**
	comp=Z,30nm,1.5s						
TXAR	**Lajitas Array**	**90.19**	**53**	P	**P**	**07 53 29.9**	**+1.1**
	comp=Z,0.4nm,0.9s,baz=345,slow=12,SNR=4.7						

IDC 21 07:42:17.9±1.8,1.80S×134.26E,h0km,mb3.2/2, mb1 3.5/4,mb1mx3.2/51,mbtmp3.3/4,ML3.6/2,Error ellipse: s-maj=36.7km s-min=18.2km az=39.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**3.13**	**287**	Pn	Pn	07 43 07.7	-0.8
	6.3nm,0.3s,baz=31,slow=19,SNR=17						
SIJI				Pg	Pb	07 43 15.4	+0.8
	10nm,0.3s,baz=84,slow=13,SNR=12						
SIJI				Sn	Sn	07 43 46.8	+0.1
	7.0nm,0.3s,baz=90,slow=20,SNR=4.4						
SIJI				Lg	Lg	07 43 57.6	
	11nm,0.3s,baz=325,slow=21,SNR=6.6						
WRA	**Warramunga Arr**	**18.04**	**180**	P	Pn	07 46 30.3	+0.1
	0.2nm,0.3s,baz=360,slow=12,SNR=11						
ASAR	**Alice Springs**	**21.74**	**181**	P	P	07 47 11.1	0.0
	0.8nm,0.6s,baz=7.9,slow=11,SNR=9.8						
MKAR	**Makanchi Array**	**66.39**	**324**	P	P	07 53 09.0	+0.2
	0.2nm,0.6s,baz=120,slow=5.7,SNR=2.6						

IDC 21 08:00:46.9±1.2,10.44N×91.72E,h0km,mb3.7/5, mb1 3.9/5,mb1mx3.5/62,mbtmp3.7/5,MS3.5/3,Ms1 3.5/3, ms1mx2.8/63,Error ellipse: s-maj=49.2km s-min=23.8km az=57.0,Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H08S3	**Diego Garcia H**	**26.24**	**228**	T	T	08 33 28.6	
	baz=47,slow=75,SNR=28						
H08S2	**Diego Garcia H**	**26.25**	**228**	T	T	08 33 27.2	
	baz=47,slow=75,SNR=24						
H08S1	**Diego Garcia H**	**26.26**	**228**	T	T	08 33 31.6	
	baz=47,slow=75,SNR=26						
MKAR	**Makanchi Array**	**37.11**	**349**	P	P	08 07 59.3	+0.1
	0.5nm,0.8s,baz=172,slow=6.7,SNR=4.5						
SONM	**Songino Array**	**39.28**	**16**	P	P	08 08 17.0	-0.6
	0.6nm,0.5s,baz=186,slow=7.1,SNR=4.4						
WRA	**Warramunga Arr**	**51.69**	**126**	P	P	08 09 56.0	-0.2
	1.6nm,0.7s,baz=305,slow=8.5,SNR=15						
ASAR	**Alice Springs**	**53.38**	**130**	P	P	08 10 08.6	-0.1
	1.0nm,0.8s,baz=305,slow=6.5,SNR=8.2						
MMAI	**Mount Meron Ar**	**56.22**	**303**	LR	LR	08 38 37.5	
	comp=Z,26nm,18.1s,baz=130,slow=40						
IDI	**Anoyia**	**55.15**	**304**	LR	LR	08 44 26.2	
	comp=Z,19nm,21.9s,baz=88,slow=40						
KEST	**Kesra**	**77.83**	**304**	LR	LR	08 54 27.2	
	comp=Z,58nm,18.7s,baz=278,slow=41						
TORD	**Torodi Ar. Bea**	**87.69**	**283**	P	P	08 13 38.0	-0.3
	0.4nm,0.7s,baz=62,slow=3.9,SNR=2.8						
TXAR	**Lajitas Array**	**137.77**	**20**	PKP	PKPdf	08 20 15.7	+1.5
	0.1nm,0.6s,baz=339,slow=2.2,SNR=2.3						

IDC ***21*** *08:11:26.8±0.9,1.56S×134.43E,h0km,mb3.8/5, mb1 4.1/7,mb1mx3.7/47,mbtmp3.9/7,ML3.8/2,MS3.2/1, Ms1 3.2/1,ms1mx2.5/49, Error ellipse: s-maj=25.2km s-min=16.3km az=39.0*

ISCJB ***21*** *08:11:29.3±0.8,1.42S±0.06×134.46E±0.06,h29km, mb3.9/5, Error ellipse: s-maj=9.3km s-min=8.8km az=169.9*

DJA ***21*** *08:11:31.1±0.7,1°S±2'×13°4E±°,h10km,M4.2/6,mb4.2/1, MLv4.2/6*

ISC 21 08:11:30.4±0.9,1.50S±0.06×134.25E±0.09,h29km,n12, σ2s12/17,mb3.9/5,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RKPI	**Ransiki, Papua**	**0.07**	**261**	P	**Pb**	**08 11 32.9**	**-2.6**
RKPI				S	**Sb**	**08 11 35.3**	**-3.6**
KMPI	**Kaimana, Papua**	**2.22**	**194**	P	**Pb**	**08 12 09.0**	**-0.8**
KMPI				S	**Sb**	**08 12 36.8**	**0.0**
FAKI	**Fak Fak**	**2.45**	**235**	P	**Pn**	**08 12 10.4**	**+2.0**
FAKI				S	**Sb**	**08 12 43.0**	**-0.5**
SIJI	**Sorong**	**3.05**	**282**	Pn	**Pn**	**08 12 18.2**	**+1.5**
	4.9nm,0.3s,baz=242,slow=21,SNR=16						
SIJI				Pg	Pb	08 12 29.4	+5.3
	22nm,0.3s,baz=74,slow=13,SNR=26						
SIJI				Sn	**Sb**	**08 12 58.2**	**-2.6**
	7.3nm,0.3s,baz=74,slow=24,SNR=3.8						
SIJI				Lg	Lg	08 13 09.8	
	24nm,0.3s,baz=159,slow=18,SNR=9.6						
SIJI				LR	LR	08 13 43.5	
	comp=Z,317nm,18.7s,baz=7.5,slow=42						
MSAI	**Masohi**	**5.62**	**251**	P	**Pn**	**08 12 54.8**	**+2.7**
WRA	**Warramunga Arr**	**18.33**	**180**	P	**P**	**08 15 41.1**	**-1.5**
	0.4nm,0.3s,baz=0.9,slow=12,SNR=16						
CTA	**Charters Tower**	**21.89**	**148**	P	**P**	**08 16 20.9**	**-0.3**
	3.3nm,0.8s,baz=336,slow=12,SNR=5.4						
ASAR	**Alice Springs**	**22.04**	**181**	P	**P**	**08 16 21.5**	**-1.4**
	6.2nm,0.8s,baz=7.8,slow=11,SNR=39						
ASAR				S	**S**	**08 20 21.8**	**-2.8**
	3.8nm,1.1s,baz=7.6,slow=22,SNR=9.1						
MKAR	**Makanchi Array**	**66.15**	**324**	P	**P**	**08 22 17.5**	**+2.3**
	0.7nm,0.6s,baz=115,slow=7.7,SNR=8.9						
KURBB	**Kurchatov Arra**	**70.21**	**326**	P	**P**	**08 22 42.5**	**+1.9**
	0.6nm,0.3s,baz=118,slow=7.5,SNR=8.6						
ILAR	**Eielson Array**	**86.60**	**25**	P	**P**	**08 24 11.3**	**+0.5**
	0.5nm,0.7s,baz=244,slow=4.5,SNR=8.7						
LPAZ	**La Paz**	**151.70**	**130**	PKPbc	**PKPbc**	**08 31 25.1**	**+1.1**
	0.9nm,0.8s,baz=220,slow=2.2,SNR=3.8						

ISN ***21*** *08:13:22.7±3.1,32.51N×46.94E,h15km,ML3.2*

TEH 21 08:13:22.6,32.54N×46.92E,h10km,ML3.2,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IKFM	**Kafar-mosalman**	**1.25**	**38**	*e*Pg	Pg	08 13 47.5	+0.8
IKFM				*e*AMB	AMB	08 14 11.8	
	comp=Z,99nm,0.2s						
IKOM	**Komasi**	**1.71**	**17**	*e*Pn	Pg	08 13 55.4	0.0
IKOM				*e*AMB	AMB	08 14 26.8	
	comp=Z,4μm,0.2s						
IVIS	**Veis**	**1.99**	**358**	*e*Pn	Pb	08 13 59.0	+0.1
IVIS				*e*AMB	AMB	08 14 32.7	
	comp=Z,1μm,0.2s						
IDHR	**Dehrash**	**2.20**	**348**	*e*Pn	Pb	08 14 02.3	-0.4
IDHR				*e*AMB	AMB	08 14 41.5	
	comp=Z,3μm,0.2s						
HAGD	**Aghdareh**	**2.94**	**38**	*e*Pn	Pn	08 14 12.1	+2.6
HAGD				*e*AMB	AMB	08 15 01.8	
	comp=Z,99nm,0.2s						
HKZM	**Kohzaman**	**3.28**	**30**	*e*Pn	Pb	08 14 18.1	-2.9
HKZM				*e*AMB	AMB	08 14 58.3	
	comp=Z,99nm,0.5s						
IKLH	**Kolahrood**	**3.99**	**77**	*e*Pn	Pn	08 14 27.4	+3.3
IKLH				*e*AMB	AMB	08 14 43.1	
	comp=Z,238nm,0.2s						
IZEF	**Zefreh**	**4.57**	**84**	*e*Pn	Pn	08 14 34.9	+2.8
IZEF				*e*AMB	AMB	08 14 59.2	
	comp=Z,102nm,0.2s						

IDC 21 08:17:16.9±1.8,1.71S×134.43E,h0km,mb3.5/2, mb1 3.8/4,mb1mx3.4/47,mbtmp3.6/4,ML3.5/2,Error ellipse: s-maj=35.0km s-min=18.5km az=38.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**3.27**	**285**	Pn	Pn	08 18 09.1	-0.4
	3.8nm,0.3s,baz=177,slow=23,SNR=15						
SIJI				Pg	Pb	08 18 17.6	+1.7
	6.0nm,0.3s,baz=163,slow=22,SNR=8.0						
SIJI				Sn	Sn	08 18 48.5	-0.7
	3.3nm,0.3s,baz=308,slow=19,SNR=3.4						
SIJI				Lg	Lg	08 19 00.3	
	7.0nm,0.3s,baz=288,slow=20,SNR=4.9						
WRA	**Warramunga Arr**	**18.12**	**180**	P	Pn	08 21 30.4	+0.1
	0.2nm,0.3s,baz=0.4,slow=12,SNR=8.4						
ASAR	**Alice Springs**	**21.83**	**181**	P	P	08 22 10.4	-0.7
	1.9nm,0.7s,baz=9.2,slow=11,SNR=16						
MKAR	**Makanchi Array**	**66.43**	**324**	P	P	08 28 08.4	+0.4
	0.3nm,0.7s,baz=104,slow=6.1,SNR=3.3						

ISK ***21*** *08:22:06.9,39.85N×27.56E,h6km,ML3.4/49*

DDA ***21*** *08:22:07.0,39.84N×27.59E,h12km,Ml3.6*

CSEM ***21*** *08:22:07.4±0.1,39.84N×27.57E,h5km,ML3.6, Error ellipse: s-maj=1.4km s-min=1.3km az=166.0*

ISCJB ***21*** *08:22:07.1±0.3,39.85N±0.01×27.57E±0.02,h4km±3km, Error ellipse: s-maj=2.4km s-min=2.2km az=16.2*

ATH ***21*** *08:22:08.1,39.87N×27.42E,h16km±2km,ML3.0/6, Error ellipse: s-maj=3.9km s-min=1.7km az=261.0*

THE ***21*** *08:22:09.2,39.78N×27.44E,h2km±1km,ML3.1/4, Error ellipse: s-maj=1.7km s-min=1.0km az=155.0*

ISC 21 08:22:07.6±0.8,39.84N±0.01×27.57E±0.01,h10km±5km, n169,σ0s61/220,7C,Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BALY	**Balya**	**0.11**	**158**	*i* P	**Pg**	**08 22 10.1**	**-0.3**
BALY				*i* S	**Sg**	**08 22 12.2**	**-0.2**
BALY	**Balya**	**0.11**	**158**	P	**Pg**	**08 22 10.1**	**-0.3**
BALY				S	**Sg**	**08 22 12.2**	**-0.2**
GONE	**Gonen-Balikesi**	**0.22**	**24**	PG	**Pg**	**08 22 12.8**	**+0.5**
GONE	**Gonen-Balikesi**	**0.22**	**24**	*e*Pg	**Pg**	**08 22 12.8**	**+0.5**
BALB	**Balikesir**	**0.32**	**130**	PG	**Pg**	**08 22 13.8**	**-0.1**
BALB				SG	**Sg**	**08 22 18.3**	**+0.2**
BALB	**Balikesir**	**0.32**	**130**	*e*Pg	**Pg**	**08 22 13.8**	**-0.1**
BALB				*e*Sg	**Sg**	**08 22 18.3**	**+0.2**
STEP	**BALIKESIR_Sava**	**0.48**	**166**	*i* P	**Pg**	**08 22 16.9**	**-0.1**
STEP				*i* S	**Sg**	**08 22 23.7**	**+0.4**
STEP	**BALIKESIR_Sava**	**0.48**	**166**	P	**Pg**	**08 22 16.9**	**-0.1**
STEP				S	**Sg**	**08 22 23.7**	**+0.4**
EDC	**Edincik**	**0.55**	**24**	PG	**Pg**	**08 22 18.4**	**0.0**
EDC				SG	**Sg**	**08 22 26.1**	**+0.4**
EDC	**Edincik**	**0.55**	**24**	*e*Pg	**Pg**	**08 22 18.4**	**0.0**
EDC				*e*Sg	**Sg**	**08 22 26.

GEMT	**Gemlik**	**1.38**	**64**	*e*Pn	**Pn**	**08 22 33.2**	**+0.4**
ENEZ	**Enez**	**1.40**	**310**	PN	**Pn**	**08 22 33.5**	**+0.4**
ENEZ	**Enez**	**1.40**	**310**	P	**Pb**	**08 22 34.1**	**+0.3**
ENEZ				S	**Sg**	**08 22 53.2**	**+0.5**
ENEZ	**Enez**	**1.40**	**310**	*e*Pn	**Pn**	**08 22 33.5**	**+0.4**
ENEZ	**Enez**	**1.40**	**310**	P	**Pb**	**08 22 34.1**	**+0.3**
ENEZ				S	**Sg**	**08 22 53.2**	**+0.5**
SIGR	**SIGRI**	**1.47**	**245**	PN	**Pn**	**08 22 34.4**	**+0.4**
SIGR	**SIGRI**	**1.47**	**245**	P	**Pn**	**08 22 33.3**	**-0.7**
SIGR				S	**Sn**	**08 22 51.5**	**-1.8**
SIGR				AML	AML	08 22 56.9	
	comp=N,1502µm,0.3s						
SIGR				AML	AML	08 22 57.8	
	comp=E,1165µm,0.5s						
SIGR	**SIGRI**	**1.47**	**245**	P	**Pn**	**08 22 33.6**	**-0.4**
SIGR				S	**Sn**	**08 22 53.0**	**-0.2**
SIGR	**SIGRI**	**1.47**	**245**	P	**Pn**	**08 22 33.7**	**-0.3**
SIGR	**SIGRI**	**1.47**	**245**	*e*Pn	**Pn**	**08 22 34.4**	**+0.4**
SIGR				S	**Sn**	**08 22 53.0**	**-0.2**
SLVT	**Silivri**	**1.47**	**19**	PN	**Pn**	**08 22 34.4**	**+0.3**
SLVT	**Silivri**	**1.47**	**19**	*e*Pn	**Pn**	**08 22 34.4**	**+0.3**
KRBN	**Karaburun**	**1.48**	**213**	PN	**Pb**	**08 22 34.7**	**-0.3**
KRBN	**Karaburun**	**1.48**	**213**	*e*Pn	**Pb**	**08 22 34.7**	**-0.3**
BLCB	**Balcova**	**1.51**	**196**	PN	**Pb**	**08 22 35.4**	**-0.3**
BLCB	**Balcova**	**1.51**	**196**	*e*Pn	**Pb**	**08 22 35.4**	**-0.3**
TVSB	**Tavsanli**	**1.51**	**104**	PN	**Pn**	**08 22 34.2**	**-0.6**
TVSB	**Tavsanli**	**1.51**	**104**	*e*Pn	**Pn**	**08 22 34.2**	**-0.6**
IZI	**Iznik**	**1.54**	**71**	PN	**Pn**	**08 22 35.6**	**+0.4**
IZI	**Iznik**	**1.54**	**71**	*e*Pn	**Pn**	**08 22 35.6**	**+0.4**
BUY	**Buyukada**	**1.56**	**49**	PN	**Pn**	**08 22 35.9**	**+0.6**
BUY	**Buyukada**	**1.56**	**49**	*i* P	**Pb**	**08 22 36.2**	**-0.2**
BUY				*i* S	**Sg**	**08 22 57.3**	**-0.4**
BUY	**Buyukada**	**1.56**	**49**	*e*Pn	**Pn**	**08 22 35.9**	**+0.6**
BUY	**Buyukada**	**1.56**	**49**	P	**Pb**	**08 22 36.2**	**-0.2**
BUY				S	**Sg**	**08 22 57.3**	**-0.4**
YLV	**Yalova**	**1.56**	**62**	PN	**Pn**	**08 22 35.3**	**-0.1**
YLV	**Yalova**	**1.56**	**62**	*e*Pn	**Pn**	**08 22 35.3**	**-0.1**
CTKS	**Kestenalik-??a**	**1.57**	**27**	PN	**Pn**	**08 22 35.5**	**+0.1**
CTKS	**Kestenalik-??a**	**1.57**	**27**	*e*Pn	**Pn**	**08 22 35.5**	**+0.1**
ALN	**Alexandroupoli**	**1.57**	**313**	PN	**Pn**	**08 22 35.6**	**+0.2**
ALN	**Alexandroupoli**	**1.57**	**313**	P	**Pn**	**08 22 35.8**	**+0.4**
ALN				S	**Sn**	**08 22 55.5**	**-0.3**
ALN				AML	AML	08 22 58.8	
	comp=N,1003µm,0.3s						
ALN				AML	AML	08 22 59.2	
	comp=E,1161µm,0.4s						
ALN	**Alexandroupoli**	**1.57**	**313**	P	**Pn**	**08 22 35.8**	**+0.4**
ALN				S	**Sg**	**08 22 57.8**	**-0.3**
ALN	**Alexandroupoli**	**1.57**	**313**	P	**Pn**	**08 22 35.8**	**+0.4**
ALN				S	**Sn**	**08 22 55.7**	**-0.1**
KULA	**Kula-Manisa**	**1.57**	**147**	PN	**Pn**	**08 22 36.1**	**+0.5**
KULA	**Kula-Manisa**	**1.57**	**147**	*e*Pn	**Pn**	**08 22 36.1**	**+0.5**
BGKT	**Bogazkoy**	**1.62**	**34**	PN	**Pn**	**08 22 36.0**	**-0.2**
BGKT	**Bogazkoy**	**1.62**	**34**	*e*Pn	**Pn**	**08 22 36.0**	**-0.2**
GDZ	**Gediz**	**1.66**	**116**	*i* P	**Pn**	**08 22 37.4**	**+0.6**
GDZ				*i* S	**Sn**	**08 22 58.8**	**+0.5**
GDZ	**Gediz**	**1.66**	**116**	P	**Pn**	**08 22 37.4**	**+0.6**
GDZ				S	**Sn**	**08 22 58.8**	**+0.5**
URLA	**Izmir**	**1.66**	**207**	PN	**Pn**	**08 22 37.3**	**+0.5**
URLA	**Izmir**	**1.66**	**207**	*i* P	**Pn**	**08 22 37.1**	**+0.3**
URLA				*i* S	**Sg**	**08 23 01.2**	**+0.2**
URLA	**Izmir**	**1.66**	**207**	*e*Pn	**Pn**	**08 22 37.3**	**+0.5**
URLA				S	**Sg**	**08 23 01.2**	**+0.2**
ISK	**Istanbul-Kandi**	**1.67**	**43**	PN	**Pn**	**08 22 37.4**	**+0.6**
ISK	**Istanbul-Kandi**	**1.67**	**43**	*e*Pn	**Pn**	**08 22 37.4**	**+0.6**
SMTH	**Samothraki Isl**	**1.68**	**293**	P	**Pn**	**08 22 36.5**	**-0.5**
SMTH				S	**Sb**	**08 22 59.5**	**-0.3**
SMTH				AML	AML	08 23 03.0	
	comp=N,1410µm,0.2s						
SMTH				AML	AML	08 23 03.2	
	comp=E,1293µm,0.2s						
SMTH	**Samothraki Isl**	**1.68**	**293**	P	**Pn**	**08 22 37.2**	**+0.2**
SMTH				S	**Sb**	**08 23 00.1**	**+0.3**
SMTH	**Samothraki Isl**	**1.68**	**293**	P	**Pn**	**08 22 37.2**	**+0.2**
SMTH				S	**Sn**	**08 22 59.2**	**+0.6**
CTYL	**Yalikoy Yolu**	**1.72**	**18**	PN	**Pn**	**08 22 38.1**	**+0.6**
CTYL	**Yalikoy Yolu**	**1.72**	**18**	*e*Pn	**Pn**	**08 22 38.1**	**+0.6**
KIYI	**Yal¯–koy-Catal**	**1.73**	**19**	PN	**Pn**	**08 22 38.1**	**+0.4**
KIYI	**Yal¯–koy-Catal**	**1.73**	**19**	*e*Pn	**Pn**	**08 22 38.1**	**+0.4**
ADVT	**Abdulvahap**	**1.77**	**70**	PN	**Pn**	**08 22 38.9**	**+0.7**
ADVT	**Abdulvahap**	**1.77**	**70**	*e*Pn	**Pn**	**08 22 38.9**	**+0.7**
CAVI	**Cavuskoy**	**1.78**	**78**	PN	**Pn**	**08 22 39.1**	**+0.7**
CAVI	**Cavuskoy**	**1.78**	**78**	*e*Pn	**Pn**	**08 22 39.1**	**+0.7**
PHSR	**Pinarhisar**	**1.79**	**359**	PN	**Pn**	**08 22 38.7**	**+0.2**
PHSR	**Pinarhisar**	**1.79**	**359**	*e*Pn	**Pn**	**08 22 38.7**	**+0.2**
KLYT	**Kilyos**	**1.80**	**38**	PN	**Pn**	**08 22 39.3**	**+0.7**
KLYT	**Kilyos**	**1.80**	**38**	*e*Pn	**Pn**	**08 22 39.3**	**+0.7**
LIA	**Limnos Island**	**1.83**	**272**	P	**Pn**	**08 22 39.1**	**0.0**
LIA				S	**Sn**	**08 23 03.2**	**+0.8**
LIA				AML	AML	08 23 11.8	
	comp=E,261µm,0.4s						
LIA				AML	AML	08 23 13.9	
	comp=N,368µm,0.5s						
LIA	**Limnos Island**	**1.83**	**272**	P	**Pn**	**08 22 39.4**	**+0.3**
LIA				S	**Sn**	**08 23 02.9**	**+0.6**
CHOS	**Chios island**	**1.87**	**219**	PN	**Pn**	**08 22 40.3**	**+0.6**
CHOS	**Chios island**	**1.87**	**219**	P	**Pb**	**08 22 42.4**	**+0.6**
CHOS	**Chios island**	**1.87**	**219**	P	**Pn**	**08 22 38.9**	**-0.8**
CHOS	**Chios island**	**1.87**	**219**	P	**Pn**	**08 22 38.9**	**-0.8**
CHOS	**Chios island**	**1.87**	**219**	*e*Pn	**Pn**	**08 22 40.3**	**+0.6**
HRT	**Hereke**	**1.88**	**58**	PN	**Pn**	**08 22 40.5**	**+0.7**
HRT	**Hereke**	**1.88**	**58**	*e*Pn	**Pn**	**08 22 40.5**	**+0.7**
AYDB	**Zeytinkoy-Aydi**	**1.91**	**172**	PN	**Pn**	**08 22 40.5**	**+0.2**
AYDB	**Zeytinkoy-Aydi**	**1.91**	**172**	*e*Pn	**Pn**	**08 22 40.5**	**+0.2**
RDO	**Rodhopi**	**2.02**	**311**	P	**Pn**	**08 22 42.5**	**+1.1**
RDO				S	**Sb**	**08 23 08.6**	**-1.0**
RDO				AML	AML	08 23 15.8	
	comp=E,200µm,0.2s						
RDO				AML	AML	08 23 16.5	
	comp=N,208µm,0.3s						
RDO	**Rodhopi**	**2.02**	**311**	P	**Pn**	**08 22 42.5**	**+0.8**
RDO	**Rodhopi**	**2.02**	**311**	P	**Pn**	**08 22 42.5**	**+0.8**
RDO				S	**Sn**	**08 23 08.1**	**+1.1**
SILT	**Sile**	**2.05**	**50**	PN	**Pn**	**08 22 42.8**	**+0.7**
SILT	**Sile**	**2.05**	**50**	*e*Pn	**Pn**	**08 22 42.8**	**+0.7**
GCAM	**G?zelcaml?**	**2.15**	**187**	PN	**Pn**	**08 22 44.3**	**+0.8**
GCAM	**G?zelcaml?**	**2.15**	**187**	*e*Pn	**Pn**	**08 22 44.3**	**+0.8**
SMG	**Samos**	**2.21**	**195**	P	**Pn**	**08 22 45.1**	**+0.9**
SMG	**Samos**	**2.21**	**195**	P	**Pn**	**08 22 45.8**	**+1.6**
SPNC	**Sapanca-Adapaz**	**2.26**	**67**	PN	**Pn**	**08 22 45.8**	**+0.8**
SPNC	**Sapanca-Adapaz**	**2.26**	**67**	*e*Pn	**Pn**	**08 22 45.8**	**+0.8**
SAUV	**Serdivan-Sakar**	**2.29**	**66**	PN	**Pn**	**08 22 46.5**	**+1.1**
SAUV	**Serdivan-Sakar**	**2.29**	**66**	*e*Pn	**Pn**	**08 22 46.5**	**+1.1**
GULT	**Gulveren**	**2.34**	**74**	PN	**Pn**	**08 22 47.3**	**+1.2**
GULT	**Gulveren**	**2.34**	**74**	*e*Pn	**Pn**	**08 22 47.3**	**+1.2**
ESKT	**Eskisehir**	**2.55**	**96**	PN	**Pn**	**08 22 49.9**	**+0.8**
ESKT	**Eskisehir**	**2.55**	**96**	*e*Pn	**Pn**	**08 22 49.9**	**+0.8**
KAVA	**Kavala**	**2.60**	**297**	P	**Pn**	**08 22 50.5**	**+0.9**
KAVA	**Kavala**	**2.60**	**297**	P	**Pn**	**08 22 50.5**	**+0.9**
SHUT	**Suhut-Afyon**	**2.65**	**118**	PN	**Pn**	**08 22 51.4**	**+0.9**
SHUT	**Suhut-Afyon**	**2.65**	**118**	*e*Pn	**Pn**	**08 22 51.4**	**+0.9**
MDUB	**Mudurnu**	**2.85**	**76**	PN	**Pn**	**08 22 54.3**	**+1.1**
MDUB	**Mudurnu**	**2.85**	**76**	*e*Pn	**Pn**	**08 22 54.3**	**+1.1**
VTS	**Vitosha**	**4.28**	**311**	⇑*i* P	**Pn**	**08 23 14.5**	**+1.6**
VTS	**Vitosha**	**4.28**	**311**	⇑*i* P	**Pn**	**08 23 14.5**	**+1.6**
TIRR	**Tirgusor**	**4.66**	**7**	⇑*i* P	**Pn**	**08 23 17.9**	**+0.1**
TIRR	**Tirgusor**	**4.66**	**7**	⇑*i* P	**Pn**	**08 23 17.9**	**+0.1**
CFR	**Carcaliu**	**5.35**	**4**	⇑*i* P	**Pn**	**08 23 27.1**	**-0.3**
CFR	**Carcaliu**	**5.35**	**4**	⇑*i* P	**Pn**	**08 23 27.1**	**-0.3**
MLR	**Muntele Rosu**	**5.77**	**349**	⇑*i* P	**Pn**	**08 23 36.2**	**+2.9**

*ATA **21** 08:25:54.4±1.4, 38˚.02N×42˚.56E, h9km±27km, ML3.2, MW3.0*
*CSEM **21** 08:25:56.7±0.3, 38˚.10N×42˚.55E, h10km, ML2.9, Error ellipse: s-maj=7.2km s-min=5.4km az=132.0*
*ISK **21** 08:25:56.7, 38˚.08N×42˚.43E, h18km, ML2.6/7*
*DDA **21** 08:25:56.6, 38˚.08N×42˚.60E, h7km, ML2.9*

ISC 21 08:25:56.5±1.1, 38˚.08N±0˚.02×42˚.54E±0˚.02, h5km±10km, n36, σ1§08/57, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GEVA	**Gevas**	**0.47**	**60**	*i* P	**Pg**	**08 26 05.0**	**-0.5**
GEVA				*e*S	**Sg**	**08 26 12.1**	**+0.3**
GEVA				IAML		08 26 13.8	
	comp=N,174nm,0.6s						
GEVA	**Gevas**	**0.47**	**60**	*i* P	**Pg**	**08 26 05.1**	**-0.5**
GEVA				*i* S	**Sg**	**08 26 12.1**	**+0.3**
GEVA	**Gevas**	**0.47**	**60**	P	**Pg**	**08 26 05.1**	**-0.5**
GEVA				S	**Sg**	**08 26 12.1**	**+0.3**
SRTM	**Siirt_Merkez**	**0.50**	**260**	*i* P	**Pg**	**08 26 07.1**	**+1.0**
SRTM				*i* S	**Sb**	**08 26 15.7**	**+0.4**
SRTM	**Siirt_Merkez**	**0.50**	**260**	P	**Pg**	**08 26 07.1**	**+1.0**
SRTM				S	**Sb**	**08 26 15.7**	**+0.4**
SIRT	**Sirnak**	**0.58**	**188**	PG	**Pg**	**08 26 08.4**	**+0.8**
SIRT				SG	**Sb**	**08 26 17.2**	**-0.5**
SIRT	**Sirnak**	**0.58**	**188**	*e*Pg	**Pg**	**08 26 08.4**	**+0.8**
SIRT				*e*Sg	**Sb**	**08 26 17.2**	**-0.5**
SIRN	**S¯–rnak**	**0.59**	**190**	*i* P	**Pg**	**08 26 08.6**	**+0.8**
SIRN				*i* S	**Sb**	**08 26 17.3**	**-0.6**
SIRN	**S¯–rnak**	**0.59**	**190**	P	**Pg**	**08 26 08.6**	**+0.8**
SIRN				S	**Sb**	**08 26 17.3**	**-0.6**
GURO	**Guroymak-BITLI**	**0.62**	**320**	PG	**Pg**	**08 26 08.4**	**-0.1**
GURO				SG	**Sg**	**08 26 16.7**	**+0.2**
GURO	**Guroymak-BITLI**	**0.62**	**320**	*e*Pg	**Pg**	**08 26 08.4**	**-0.1**
GURO				*e*Sg	**Sg**	**08 26 16.7**	**+0.2**
VANB	**Van**	**0.84**	**52**	PG	**Pn**	**08 26 14.4**	**-0.7**
VANB	**Van**	**0.84**	**52**	*e*Pg	**Pn**	**08 26 14.4**	**-0.7**
BTMN	**Batman**	**1.02**	**260**	*i* P	**Pn**	**08 26 17.6**	**+0.1**
BTMN				*i* S	**Sn**	**08 26 32.9**	**+0.6**
BTMN	**Batman**	**1.02**	**260**	P	**Pn**	**08 26 17.6**	**+0.1**
BTMN				S	**Sn**	**08 26 32.9**	**+0.6**
SVAN	**Silvan-Diyarba**	**1.06**	**274**	PG	**Pg**	**08 26 15.9**	**-1.0**
SVAN	**Silvan-Diyarba**	**1.06**	**274**	*e*Pg	**Pg**	**08 26 15.9**	**-1.0**
EKAR	**Karacoban**	**1.24**	**343**	*e*P	**Pn**	**08 26 18.4**	**-2.2**
EKAR				*e*S	**Sn**	**08 26 39.3**	**+1.5**
EKAR				IAML		08 26 58.6	
	comp=Z,22nm,0.8s						
EKAR	**Karacoban**	**1.24**	**343**	*i* P	**Pn**	**08 26 19.7**	**-1.0**
EKAR				*i* S	**Sn**	**08 26 41.2**	**+3.4**
EKAR	**Karacoban**	**1.24**	**343**	P	**Pn**	**08 26 19.7**	**-1.0**
TUTA	**Tutak**	**1.34**	**9**	*e*P	**Pb**	**08 26 22.0**	**-0.2**
TUTA				IAML		08 26 52.1	
	comp=Z,20nm,0.4s						
TUTA	**Tutak**	**1.34**	**9**	*i* P	**Pg**	**08 26 22.3**	**+0.1**
TUTA				*i* S	**Sg**	**08 26 40.5**	**+0.9**
TUTA	**Tutak**	**1.34**	**9**	P	**Pg**	**08 26 22.3**	**+0.1**
TUTA				S	**Sg**	**08 26 40.5**	**+0.9**
AGRB	**Hanur-Agry**	**1.54**	**13**	PN	**Pn**	**08 26 23.9**	**-0.9**
AGRB	**Hanur-Agry**	**1.54**	**13**	*e*Pn	**Pn**	**08 26 23.9**	**-0.9**
MARD	**Mardin**	**1.59**	**242**	*i* P	**Pb**	**08 26 26.3**	**-0.1**
MARD				*i* S	**Sg**	**08 26 47.9**	**+0.3**
HANI	**Diyarbakir_Han**	**1.72**	**282**	*i* P	**Pb**	**08 26 28.2**	**-0.4**
HANI				*i* S	**Sg**	**08 26 51.6**	**-0.1**
HANI	**Diyarbakir_Han**	**1.72**	**282**	P	**Pb**	**08 26 28.2**	**-0.4**
HANI				S	**Sg**	**08 26 51.6**	**-0.1**
BNGB	**Bing¯¶l**	**1.72**	**303**	PN	**Pn**	**08 26 25.7**	**-1.5**
MAZI	**Mazidag**	**1.77**	**250**	PN	**Pn**	**08 26 26.3**	**-1.6**
MAZI	**Mazidag**	**1.77**	**250**	*e*Pn	**Pn**	**08 26 26.3**	**-1.6**
EATA	**Eleskirt**	**1.78**	**359**	*e*P	**Pg**	**08 26 30.4**	**-0.3**
EATA				*e*S	**Sg**	**08 26 56.4**	**+2.6**
EATA				IAML		08 27 00.4	
	comp=Z,3.0nm,0.4s						
BINT	**Bingol**	**1.80**	**297**	*e*Pn	**Pn**	**08 26 25.7**	**-2.6**
DIY	**Diyarbakir**	**1.84**	**265**	*e*Pn	**Pn**	**08 26 27.7**	**-1.1**
DYBB	**Diyarbakir**	**1.90**	**267**	PN	**Pn**	**08 26 27.7**	**-1.9**
ERZM	**Erzurum**	**2.04**	**334**	*e*P	**Pn**	**08 26 32.7**	**+0.9**

*CSEM **21** 08:41:29.2, 38˚.92N×43˚.58E, h8km, ML2.7*
*DDA **21** 08:41:29.2, 38˚.92N×43˚.58E, h8km, Ml2.7*

ISC 21 08:41:28.8±1.2, 38˚.91N±0˚.03×43˚.61E±0˚.04, h15km±6km, n11, σ0§33/20, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VMUR	**Van-Muradiye**	**0.08**	**339**	*i* P	**Pg**	**08 41 31.8**	**-0.3**
VMUR				*i* S	**Sg**	**08 41 34.6**	**+0.3**
VMUR	**Van-Muradiye**	**0.08**	**339**	P	**Pg**	**08 41 31.8**	**-0.3**
VMUR				S	**Sg**	**08 41 34.6**	**+0.3**
CLDR	**Caldiran**	**0.33**	**46**	*e*PG	**Pg**	**08 41 35.3**	**-0.5**
CLDR				*e*SG	**Sb**	**08 41 42.0**	**+0.1**
CLDR	**Caldiran**	**0.33**	**46**	*i* P	**Pg**	**08 41 35.7**	**-0.1**
CLDR				*i* S	**Sb**	**08 41 42.0**	**+0.1**
CLDR	**Caldiran**	**0.33**	**46**	P	**Pg**	**08 41 35.7**	**-0.1**
CLDR				S	**Sb**	**08 41 42.0**	**+0.1**
VANB	**Van**	**0.36**	**209**	*e*PG	**Pg**	**08 41 35.9**	**-0.3**
TVAN	**Van**	**0.41**	**203**	*i* P	**Pg**	**08 41 37.0**	**-0.2**
TVAN				*i* S	**Sb**	**08 41 44.4**	**+0.2**
TVAN	**Van**	**0.41**	**203**	P	**Pg**	**08 41 37.0**	**-0.2**
TVAN				S	**Sb**	**08 41 44.4**	**+0.2**
TUTA	**Tutak**	**0.79**	**309**	*i* P	**Pg**	**08 41 43.8**	**-0.4**
TUTA				*i* S	**Sb**	**08 41 55.5**	**+0.4**
TUTA	**Tutak**	**0.79**	**309**	P	**Pg**	**08 41 43.8**	**-0.4**
TUTA				S	**Sb**	**08 41 55.5**	**+0.4**
AGRB	**Hanur-Agry**	**0.82**	**324**	*e*PG	**Pg**	**08 41 44.4**	**-0.4**

IDC 21 08:44:41.6±1.7, 1˚.65N×127˚.40E, h0km, mb3.3/3, mb1 3.5/4, mb1mx3.3/58, mbtmp3.4/4, ML3.0/1, MS3.6/1, Ms1 3.6/1, ms1mx2.8/22, Error ellipse: s-maj=50.7km s-min=20.5km az=43.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**4.60**	**123**	Pn	Pn	08 45 54.4	+1.8
	0.6nm,0.3s,baz=252,slow=22,SNR=1.3						
SIJI				Pg	Pb	08 46 06.4	+3.1
	1.0nm,0.3s,baz=188,slow=16,SNR=3.4						
SIJI				Sn	Sn	08 46 51.2	+4.4
	0.1nm,0.3s,baz=183,slow=24,SNR=2.0						
SIJI				Lg	Lg	08 47 04.6	
	1.8nm,0.3s,baz=158,slow=23,SNR=3.0						
WRA	**Warramunga Arr**	**22.51**	**163**	P	P	08 49 42.4	-0.8
	0.7nm,0.6s,baz=340,slow=11,SNR=22						
ASAR	**Alice Springs**	**25.95**	**166**	P	P	08 50 17.0	+1.0
	0.1nm,0.3s,baz=341,slow=11,SNR=4.1						
ASAR				LR	LR	09 00 25.4	
	comp=Z,136nm,21.2s,baz=360,slow=36						
MKAR	**Makanchi Array**	**59.64**	**326**	P		08 54 47.1	-0.5
	0.2nm,0.4s,baz=128,slow=7.4,SNR=2.1						

*NIED **21** 08:45:00, 23˚.30N×123˚.80E, h23km, Mw4.1 Best double couple: M0 1.82000×10^15 NP1:φ§135.00000°, δ§56.00000°, λ4.00000°. NP2:φ§43.00000°, δ§87.00000°, λ146.00000°.*
*NEIC **21** 08:45:50.3±2.6, 23˚.28N×123˚.73E, h18km±14km, mb4.7/39, Error ellipse: s-maj=14.5km s-min=5.2km az=165.0*
*ISCJB **21** 08:45:50.5±1.1, 23˚.27N±0˚.04×123˚.76E±0˚.02, h32km±7km, mb4.5/65, MS3.7/11, Error ellipse: s-maj=6.2km s-min=3.3km az=158.6*
*BJI **21** 08:45:50.2, 23˚.37N×123˚.74E, h28km, mb4.4/31, mB4.6/15, ML4.2/2, Ms3.9/7, Ms7 3.7/6*
*JMA **21** 08:45:51.5±0.2, 23˚.32N×123˚.81E, h54km±3km, M4.2*
*IDC **21** 08:45:59.5±2.5, 24˚.31N×123˚.62E, h47km±24km, mb4.0/24, mb1 4.1/27, mb1mx3.9/69, mbtmp4.2/27, ML3.5/3, MS3.5/10, Ms1 3.5/10, ms1mx3.0/67, Error ellipse: s-maj=15.6km s-min=15.1km az=160.0*

ISC 21 08:45:49.1±1.8, 23˚.32N±0˚.06×123˚.78E±0˚.04, h10km±10km, n117, σ1§67/135, mb4.5/65, MS3.7/12, 1C, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HATJ	**Hateruma jima**	**0.74**	**2**	P	**Pn**	**08 46 05.8**	**+0.2**
HATJ				S	**Sn**	**08 46 16.4**	**-0.4**
JKRS	**Kuro-shima**	**0.94**	**13**	P	**Pn**	**08 46 08.9**	**+0.5**
JKRS				S	**Sn**	**08 46 21.5**	**-0.4**
IRIF	**Iriomote-Funau**	**1.01**	**357**	P	**Pn**	**08 46 09.9**	**+0.5**
IRIF				S	**Sn**	**08 46 22.9**	**-0.8**
JIJ	**Ishigaki jima**	**1.09**	**18**	P	**Pg**	**08 46 10.6**	**+0.4**
JIJ				S	**Sn**	**08 46 24.6**	**-1.1**
YOJ	**Yonaguni jima**	**1.34**	**328**	P	**Pg**	**08 46 14.6**	**-0.2**
YOJ				S	**Sg**	**08 46 31.4**	**-0.9**
YOJ	**Yonaguni jima**	**1.34**	**328**	*e*Pn	**Pg**	**08 46 14.7**	**-0.2**
YOJ				*e*Sn	**Sg**	**08 46 31.6**	**-0.7**
JISG	**Ishigakijimahi**	**1.35**	**21**	P	**Pn**	**08 46 14.1**	**0.0**
JISG				S	**Sb**	**08 46 30.8**	**-1.1**
JYNG	**Yonagunijimaku**	**1.36**	**326**	P	**Pb**	**08 46 14.8**	**+0.1**
JYNG				S	**Sn**	**08 46 31.3**	**-1.0**
JTJ	**Tarama**	**1.56**	**32**	P	**Pn**	**08 46 17.2**	**+0.3**
JTJ				S	**Sb**	**08 46 36.8**	**-1.2**
JIRB	**Irabujima**	**1.97**	**40**	P	**Pn**	**08 46 22.6**	**+0.1**
JIRB				S	**Sn**	**08 46 46.4**	**-0.9**
JMJ	**Miyako jima 2**	**2.03**	**43**	P	**Pn**	**08 46 24.1**	**+0.7**
JMJ				S	**Sn**	**08 46 48.4**	**-0.4**
JOGS	**Gusukube**	**2.07**	**46**	P	**Pn**	**08 46 24.3**	**+0.4**
JOGS				S	**Sn**	**08 46 49.4**	**-0.3**
JIKM	**Ikemajima**	**2.09**	**40**	P	**Pn**	**08 46 24.3**	**+0.2**
JIKM				S	**Sn**	**08 46 49.5**	**-0.7**
NACB	**Ninganchiao**	**2.18**	**294**	*e*Pn	**Pn**	**08 46 24.4**	**-1.0**
NACB				*e*Sn	**Sn**	**08 46 49.0**	**-3.4**
YULB	**Yu-li**	**2.29**	**272**	*e*Pn	**Pn**	**08 46 25.8**	**-1.1**
YULB				*e*Sn	**Sn**	**08 46 53.5**	**-1.6**
TWG	**Pinlang**	**2.54**	**259**	*e*Pn	**Pn**	**08 46 29.4**	**-1.0**
YHNB	**Yeheng**	**2.58**	**302**	*e*Pn	**Pn**	**08 46 32.1**	**+1.1**
YHNB				*e*Sn	**Sn**	**08 47 01.3**	**-1.1**
SSLB	**Suanglung**	**2.64**	**281**	*e*Pn	**Pn**	**08 46 31.6**	**-0.2**
SSLB				*e*Sn	**Sn**	**08 47 02.1**	**-1.8**
TATO	**Taipei**	**2.67**	**309**	*e*Pn	**Pn**	**08 46 34.2**	**+2.1**
TATO				*e*Sn	**Sn**	**08 47 05.0**	**+0.5**
TPUB	**Ta-pu**	**2.90**	**270**	*e*Pn	**Pn**	**08 46 36.6**	**+1.3**
TPUB				*e*Sn	**Sn**	**08 47 11.3**	**+1.0**
QZH	**Quanzhou**	**5.01**	**290**	⇑*i* Pn	**Pn**	**08 47 04.4**	**+0.1**
QZH				Sn	**Sn**	**08 47 55.8**	**-6.5**
QZH				smax	smax		
	comp=N,120nm,0.6s						
QZH				smax	smax		
	comp=E,71nm,0.6s						
JOW	**Kunigami**	**5.37**	**48**	P	**Pn**	**08 47 08.7**	**-0.6**
	2.9nm,0.3s,baz=295,slow=18,SNR=3.6						
JOW				S	**Sn**	**08 48 05.2**	**-6.0**
	5.4nm,0.3s,baz=144,slow=19,SNR=3.2						
NJ2	**Nanjing**	**9.73**	**334**	*e*P	**Pn**	**08 48 10.0**	**+0.8**
NJ2				pmax	pmax		
	comp=Z,19nm,0.5s						
KS15	**Wonju Array Si**	**14.52**	**13**	*e*Pn	**P**	**08 49 19.5**	**-1.8**
KSAR	**Wonju Array Be**	**14.52**	**13**	P	**Pn**	**08 49 11.0**	**-3.6**
KSRS	**Korea Array**	**14.53**	**13**	P	**Pn**	**08 49 11.0**	**-3.8**
	0.2nm,0.3s,baz=201,slow=20,SNR=3.1						
KSRS				LR	LR	08 54 31.5	
	comp=Z,52nm,19.1s,baz=182,slow=38						
GYA	**Guiyang**	**15.85**	**285**	P	**Pn**	**08 49 31.8**	**-0.7**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
BJI	**Beijing**	**17.87**	**341**	P	**P**	**08 49 59.8**	**+1.4**
BJI				pmax	pmax		
	comp=Z,16nm,0.7s						
MAT	**Matsushiro**	**18.14**	**40**	P	**P**	**08 50 02.9**	**+1.4**
MJAR	**Matsushiro Arr**	**18.14**	**40**	P	**P**	**08 50 01.5**	**+0.1**
	0.4nm,0.3s,baz=226,slow=9.6,SNR=14						
KMI	**Kunming**	**19.28**	**280**	P	**Pn**	**08 50 15.3**	**0.0**
KMI				pmax	pmax		
	comp=Z,9.0nm,0.6s						
CD2	**Chengdu**	**19.35**	**297**	*e*P	**P**	**08 50 14.4**	**-0.4**
CD2				pmax	pmax		
	comp=Z,20nm,0.5s						
CD2				pmax	pmax		
	comp=Z,120nm,5.0s						
HHC	**Hu-ho-hao-te**	**20.28**	**332**	*e*P	Pn	08

GEYT	**Alibeck**	**57.28**	**301**	P		**P**	**08 55 37.6**	**+0.4**
	1.3nm,0.4s,baz=75,slow=7.6,SNR=4.5							
GYA0B	**ALIBECK ARRAY**	**57.28**	**301**	*eP*		**P**	**08 55 35.6**	**-1.6**
	4.6nm,0.5s							
IM3	**Indian Mountai**	**65.89**	**26**	*eP*		**P**	**08 56 35.4**	**+0.6**
CAST	**Castle Rocks**	**66.81**	**29**	*eP*		**P**	**08 56 42.0**	**+1.3**
	2.3nm,0.9s							
PPLA	**Parkeypile**	**66.82**	**30**	*eP*		**P**	**08 56 42.3**	**+1.4**
	32nm,1.8s							
COLD	**Coldfoot**	**67.21**	**25**	*eP*		**P**	**08 56 46.5**	**+3.4**
	2.4nm,1.4s							
BPAW	**Bear Paw Mtn.**	**67.22**	**28**	*eP*		**P**	**08 56 44.7**	**+1.4**
	18nm,2.0s							
MLY	**Manley**	**67.22**	**27**	*eP*		**P**	**08 56 44.8**	**+1.5**
	16nm,2.0s							
SUA	**Susitna One**	**67.66**	**31**	*eP*		**P**	**08 56 47.1**	**+0.8**
	5.5nm,1.0s							
KBZ	**Khabaz**	**67.87**	**309**	P		**P**	**08 56 47.9**	**+0.2**
	3.0nm,0.8s,baz=88,slow=5.1,SNR=8.5							
RND	**Reindeer**	**68.25**	**29**	*eP*		**P**	**08 56 50.4**	**+0.5**
	28nm,2.0s							
MDM	**Murphy Dome**	**68.29**	**27**	*eP*		**P**	**08 56 50.8**	**+0.7**
	3.0nm,0.8s							
PMR	**Palmer**	**68.41**	**31**	*eP*		**P**	**08 56 51.3**	**+0.6**
	6.3nm,1.4s							
WRH	**Wood River Hil**	**68.42**	**28**	*eP*		**P**	**08 56 51.8**	**+0.9**
	2.1nm,0.9s							
SML	**Sawmill**	**68.75**	**31**	*eP*		**P**	**08 56 53.3**	**+0.4**
	24nm,1.8s							
IL1	**Eielson Array**	**68.89**	**27**	*eP*		**P**	**08 56 54.7**	**+1.0**
ILAR	**Eielson Array**	**68.89**	**27**	P		**P**	**08 56 53.3**	**-0.5**
	0.5nm,0.5s,baz=271,slow=6.9,SNR=12							
DHY	**Denali Highway**	**68.97**	**29**	*eP*		**P**	**08 56 55.5**	**+1.0**
	6.0nm,1.3s							
SCM	**Sheep Creek Mo**	**69.21**	**30**	*eP*		**P**	**08 56 56.7**	**+0.8**
	33nm,1.8s							
KLU	**Klutina**	**69.94**	**31**	*eP*		**P**	**08 57 01.2**	**+0.8**
	23nm,2.0s							
RIDG	**Independ'e Rid**	**69.96**	**28**	*eP*		**P**	**08 57 00.5**	**0.0**
	11nm,1.6s							
EYAK	**Cordova Ski Ar**	**70.22**	**32**	*eP*		**P**	**08 57 01.7**	**-0.3**
	19nm,1.6s							
SCRK	**Sand Creek**	**70.28**	**28**	*eP*		**P**	**08 57 02.6**	**0.0**
	7.3nm,1.6s							
DOT	**Dot Lake**	**70.32**	**28**	*eP*		**P**	**08 57 03.2**	**+0.5**
	22nm,1.9s							
SPITS	**Spitsbergen Ar**	**70.83**	**348**	P		**P**	**08 57 04.9**	**-0.7**
	10nm,1.1s,baz=103,slow=3.1,SNR=5.5							
SPITS				LR		LR	09 31 44.6	
	comp=Z,36nm,18.5s,baz=280,slow=39							
EGAK	**Eagle**	**71.28**	**27**	*eP*		**P**	**08 57 09.0**	**+0.5**
	8.2nm,1.7s							
DAWY	**Dawson**	**72.22**	**27**	*eP*		**P**	**08 57 15.1**	**+0.9**
	15nm,1.9s							
INK	**Inuvik**	**73.13**	**22**	*eP*		**P**	**08 57 19.8**	**+0.4**
	8.4nm,1.8s							
FIA1	**FINESS Array S**	**73.38**	**330**	*eP*		**P**	**08 57 21.0**	**0.0**
	22nm,1.5s							
FINES	**FINESS Array B**	**73.39**	**330**	P		**P**	**08 57 20.7**	**-0.4**
	1.5nm,0.7s,baz=29,slow=4.4,SNR=9.0							
FINES				LR		LR	09 33 49.4	
	comp=Z,39nm,19.1s,baz=29,slow=40							
AKASG	**Malin Array Be**	**75.09**	**319**	P		**P**	**08 57 30.3**	**-0.9**
	2.4nm,0.5s,baz=60,slow=6.4,SNR=9.2							
AKBB	**Malin Array Si**	**75.09**	**319**	*eP*		**P**	**08 57 30.6**	**-0.6**
	3.5nm,0.5s							
KIEV	**Kiev**	**75.10**	**319**	*eP*		**P**	**08 57 30.6**	**-0.7**
	3.4nm,0.5s							
WHY	**Whitehorse**	**75.31**	**30**	*eP*		**P**	**08 57 33.6**	**+1.1**
	16nm,1.8s							
BRTR	**Keskin Array B**	**75.60**	**307**	P		**P**	**08 57 33.9**	**-0.7**
	2.2nm,0.8s,baz=75,slow=6.1,SNR=9.6							
BUR04	**Bucovina Ar. S**	**78.63**	**317**	*eP*		**P**	**08 57 51.5**	**+0.1**
RES	**Resolute Bay**	**79.12**	**10**	P		**P**	**08 57 54.1**	**+0.7**
	2.0nm,0.8s,baz=327,slow=7.8,SNR=14							
RES	**Resolute Bay**	**79.12**	**10**	*eP*		**P**	**08 57 55.6**	**+2.2**
	2.2nm,0.9s							
HFS	**Hagfors**	**79.47**	**331**	P		**P**	**08 57 55.0**	**-0.6**
	1.8nm,0.7s,baz=52,slow=9.3,SNR=3.9							
HFS				LR		LR	09 36 53.7	
	comp=Z,37nm,19.6s,baz=72,slow=39							
NC405	**NORSAR Array S**	**79.84**	**333**	*eP*		**P**	**08 57 57.1**	**-0.5**
NB2	**NORSAR Subarra**	**80.09**	**333**	P		**P**	**08 57 58.2**	**-0.8**
	comp=Z,1.1nm,0.7s,baz=55,slow=5.3							
NOA	**NORSAR Array B**	**80.09**	**333**	P		**P**	**08 57 57.7**	**-1.3**
	comp=Z,1.0nm,0.8s,baz=55,slow=5.3,SNR=3.9							
NOA				LR		LR	09 37 21.6	
	comp=Z,44nm,18.5s,baz=65,slow=39							
NC204	**NORSAR Array S**	**80.16**	**333**	*eP*		**P**	**08 57 59.1**	**-0.2**
YKA	**Yellowknife Ar**	**82.83**	**23**	P		**P**	**08 58 13.3**	**-0.1**
	comp=Z,0.4nm,0.6s,baz=307,slow=5.0,SNR=15							
GERES	**GERESS Array B**	**85.01**	**321**	P		**P**	**08 58 24.4**	**-0.6**
	comp=Z,1.1nm,0.7s,baz=100,slow=3.0,SNR=5.6							
ILULI	**Ilulissat**	**87.66**	**358**	*eP*		**P**	**08 58 38.4**	**+0.9**
	comp=Z,4.8nm,0.7s							

*IDC **21** 08:48:01.2±0.9, 1.°76S×134.°48E, h0km, mb3.8/6, mb1 4.1/8, mb1mx3.8/51, mbtmp4.0/8, ML4.3/2, MS3.5/10, Ms1 3.5/10, ms1mx3.2/48, Error ellipse: s-maj=20.3km s-min=12.1km az=58.0*

*ISCJB **21** 08:48:03.5±0.0, 1.°48S±0.°08×134.°59E±0.°06, h29km, mb3.8/6, MS3.5/8, Error ellipse: s-maj=11.6km s-min=8.6km az=9.7*

*DJA **21** 08:48:07.7±0.8, 1.°S±2.°×13.°4E±.°, h10km, M4.7/6, mb4.8/3, mB5.0/3, MLv4.6/6, Mw(mB)4.3/3*

ISC 21 08:48:05.1±0.8, 1.°52S±0.°06×134.°47E±0.°07, h29km, n24, σ2°23/21, mb3.8/6, MS3.5/8, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RKPI	**Ransiki, Papua**	**0.29**	**271**	P	**Pb**	**08 48 09.9**	**-2.5**
RKPI				S	**Sb**	**08 48 13.6**	**-3.7**
KMPI	**Kaimana, Papua**	**2.26**	**200**	P	**Pb**	**08 48 45.8**	**+0.4**
KMPI				S	**Sb**	**08 49 15.2**	**+2.2**
FAKI	**Fak Fak**	**2.62**	**238**	P	**Pn**	**08 48 47.5**	**+2.0**
FAKI				S	**Sb**	**08 49 20.0**	**-3.2**
SIJI	**Sorong**	**3.26**	**281**	Pn	**Pn**	**08 48 54.0**	**-0.4**
	57nm,0.3s,baz=107,slow=6.9,SNR=64						
SIJI				Pg	**Pb**	**08 49 03.3**	**+0.9**
	99nm,0.3s,baz=37,slow=20,SNR=22						
SIJI				Sn	**Sn**	**08 49 34.6**	**+2.3**
	27nm,0.3s,baz=117,slow=12,SNR=3.7						
SIJI				Lg	Lg	08 49 48.0	
	98nm,0.3s,baz=231,slow=21,SNR=8.1						
SIJI				LR	LR	08 50 20.8	
	comp=Z,912nm,21.3s,baz=68,slow=42						
MSAI	**Masohi**	**5.82**	**252**	P	**Pn**	**08 49 32.8**	**+3.2**
AAI	**Ambon**	**6.63**	**251**	P	**Pn**	**08 49 43.5**	**+2.9**
PMG	**Port Moresby**	**14.86**	**122**	LR	LR	08 58 48.4	
	comp=Z,343nm,18.2s,baz=272,slow=44						
WRA	**Warramunga Arr**	**18.32**	**180**	P	**Pn**	**08 52 13.9**	**-3.3**
	0.9nm,0.3s,baz=360,slow=11,SNR=22						
CTA	**Charters Tower**	**21.76**	**149**	P	**P**	**08 52 54.2**	**-0.4**
	1.9nm,0.4s,baz=328,slow=13,SNR=3.1						
ASAR	**Alice Springs**	**22.03**	**181**	P	**P**	**08 52 56.1**	**-1.3**
	6.1nm,0.7s,baz=7.0,slow=12,SNR=62						
ASAR				S	**S**	**08 56 56.6**	**-2.5**
	3.9nm,1.0s,baz=3.2,slow=20,SNR=8.4						
STKA	**Stephens Creek**	**30.94**	**168**	P	**P**	**08 54 18.1**	**-1.6**
	1.1nm,0.6s,baz=343,slow=12,SNR=3.7						
JNU	**Nakatsue**	**34.62**	**355**	LR	LR	09 09 09.7	
	comp=Z,18nm,18.7s,baz=117,slow=36						
JHJ	**Hachijo jima 2**	**34.81**	**8**	LR	LR	09 05 48.7	
	comp=Z,113nm,21.8s,baz=298,slow=30						
MJAR	**Matsushiro Arr**	**38.02**	**5**	LR	LR	09 08 13.3	
	comp=Z,82nm,19.8s,baz=220,slow=32						
KSRS	**Korea Array**	**39.24**	**352**	LR	LR	09 12 33.1	
	comp=Z,38nm,18.9s,baz=175,slow=37						
CMAR	**Chiang Mai Arr**	**40.18**	**301**	P	**P**	**08 55 40.5**	**+1.3**
	0.7nm,0.2s,baz=125,slow=7.8,SNR=4.0						
USRK	**Ussuriysk Ar.**	**45.57**	**358**	LR	LR	09 12 11.5	
	comp=Z,47nm,21.6s,baz=183,slow=32						
PETK	**Petropavlovsk-**	**57.80**	**16**	LR	LR	09 18 36.1	
	comp=Z,24nm,21.5s,baz=212,slow=32						
MKAR	**Makanchi Array**	**66.29**	**324**	P	**P**	**08 58 52.4**	**+1.5**
	0.3nm,0.4s,baz=112,slow=8.4,SNR=4.3						
RAR	**Rarotonga**	**66.90**	**112**	LR	LR	09 28 00.9	
	comp=Z,45nm,18.8s,baz=110,slow=36						
VNDA	**Vanda**	**77.37**	**174**	LR	LR	09 34 06.1	
	comp=Z,71nm,18.3s,baz=336,slow=36						
ILAR	**Eielson Array**	**86.53**	**25**	P	**P**	**09 00 45.9**	**+0.7**
	0.2nm,0.6s,baz=246,slow=4.9,SNR=4.1						
CPUP	**Villa Florida**	**150.06**	**158**	PKPbc	**PKPbc**	**09 07 53.6**	**-0.2**
	1.3nm,0.7s,baz=198,slow=3.2,SNR=2.6						
LPAZ	**La Paz**	**151.52**	**129**	PKPbc	**PKPbc**	**09 07 59.2**	**+0.9**
	0.6nm,0.6s,baz=258,slow=4.5,SNR=3.0						

IDC 21 08:54:38.2±2.0, 6.°54S×129.°83E, h0km, mb3.7/2, mb1 3.7/4, mb1mx3.3/57, mbtmp3.6/4, ML3.7/2, Error ellipse: s-maj=144.9km s-min=31.0km az=69.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.02**	**162**	Pn	Pn	08 57 58.9	+0.6
	0.5nm,0.3s,baz=345,slow=12,SNR=11						
WRA				Sn	Sn	09 00 26.5	-8.3
	0.3nm,0.3s,baz=340,slow=20,SNR=4.7						
ASAR	**Alice Springs**	**17.47**	**167**	Pn	Pn	08 58 43.0	-0.5
	0.1nm,0.3s,baz=343,slow=9.0,SNR=4.9						
ASAR				Sn	Sn	09 01 49.8	-9.0
	0.1nm,0.3s,baz=347,slow=24,SNR=3.8						
MKAR	**Makanchi Array**	**67.75**	**327**	P	P	09 05 37.8	0.0
	0.4nm,0.6s,baz=128,slow=7.8,SNR=5.3						
KURBB	**Kurchatov Arra**	**72.03**	**328**	P	P	09 06 04.0	0.0
	0.4nm,0.4s,baz=119,slow=5.0,SNR=3.3						

*DJA **21** 08:58:45.0±1.9, 2.°N±5.°×9.°2E±.°, h16km±18km, M5.3/13, mB5.8/8, mb5.2/13, MLv5.4/10, Mw(mB)5.3/8*

*ISCJB **21** 08:58:46.5±0.8, 1.°95N±0.°07×92.°44E±0.°07, h10km, mb3.7/5, Error ellipse: s-maj=10.4km s-min=9.0km az=38.6*

*IDC **21** 08:58:46.8±1.3, 1.°99N×92.°38E, h0km, mb3.6/5, mb1 3.8/7, mb1mx3.4/72, mbtmp3.7/7, ML3.9/1, Error ellipse: s-maj=44.3km s-min=23.5km az=41.0*

ISC 21 08:58:48.3±1.0, 1.°97N±0.°09×92.°44E±0.°09, h10km, n25, σ1°18/24, mb3.8/5, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLSI	**Meulaboh, Aceh**	**4.57**	**60**	P	**Pn**	**08 59 57.3**	**-0.2**
TPTI		**4.91**	**75**	P	**Pn**	**09 00 02.0**	**-0.2**
GSI	**Gunungsitoli**	**5.18**	**97**	P	**Pn**	**09 00 07.2**	**+1.3**
LHMI	**Lhok Sumawe**	**5.54**	**54**	P	**Pn**	**09 00 09.4**	**-1.5**
LHMI				S	**Sn**	**09 01 16.5**	**+1.8**
KCSI	**Kotacane, Aceh**	**5.55**	**74**	P	**Pn**	**09 00 10.9**	**-0.1**
PBSI	**Pulau Batu**	**6.18**	**109**	P	**Pn**	**09 00 21.2**	**+1.6**
TSI	**Tuntungan**	**6.31**	**76**	P	**Pn**	**09 00 21.9**	**+0.5**
PSI	**Prapat**	**6.53**	**83**	Pn	**Pn**	**09 00 25.2**	**+0.6**
	2.5nm,0.3s,baz=302,slow=9.8,SNR=8.8						
PSI				Sn	Sn	09 01 31.4	-8.0
	5.7nm,0.3s,baz=150,slow=22,SNR=6.4						
MNSI	**Mandailing Nat**	**7.24**	**99**	P	**Pn**	**09 00 34.8**	**+0.6**
SISI	**Saibi**	**7.42**	**119**	P	**Pn**	**09 00 38.0**	**+1.4**
PPI	**Padang Panjang**	**8.32**	**107**	P	**Pn**	**09 00 49.2**	**+0.2**
PDSI	**Padang**	**8.52**	**110**	P	**Pn**	**09 00 51.7**	**-0.1**
SDSI	**Sungai Dareh**	**9.44**	**108**	P	**Pn**	**09 01 05.9**	**+1.4**
KRJI	**Kerinci**	**9.88**	**114**	P	**Pn**	**09 01 11.3**	**+0.7**
MASI	**Maura Aman, Be**	**11.04**	**117**	P	**Pn**	**09 01 25.5**	**-0.9**
MASI				S	**Sn**	**09 03 27.1**	**-2.9**
CMAR	**Chiang Mai Arr**	**17.58**	**21**	Pn	**Pn**	**09 02 54.4**	**+0.8**
	baz=213,slow=13,SNR=4.1						
H01W3	**Cape Leeuwin H**	**41.93**	**153**	T	T	09 51 22.9	
	baz=329						
H01W2	**Cape Leeuwin H**	**41.94**	**153**	T	T	09 51 37.9	
	baz=329						
H01W1	**Cape Leeuwin H**	**41.95**	**153**	T	T	09 51 26.7	
	baz=329						
MKAR	**Makanchi Array**	**45.51**	**350**	P	**P**	**09 07 07.0**	**-1.0**
	0.5nm,0.5s,baz=153,slow=8.2,SNR=7.2						
WRA	**Warramunga Arr**	**46.51**	**120**	P	**P**	**09 07 16.4**	**+0.1**
	0.9nm,0.9s,baz=301,slow=8.4,SNR=4.0						
GEYT	**Alibeck**	**47.65**	**323**	P	**P**	**09 07 25.7**	**+0.8**
	1.0nm,0.5s,baz=101,slow=7.5,SNR=2.7						
ASAR	**Alice Springs**	**47.70**	**125**	P	**P**	**09 07 26.5**	**+1.0**
	0.1nm,0.5s,baz=299,slow=6.9,SNR=2.6						
TORD	**Torodi Ar. Bea**	**90.28**	**283**	P	**P**	**09 11 49.8**	**-0.4**
	0.3nm,0.6s,baz=97,slow=4.7,SNR=2.8						
TXAR	**Lajitas Array**	**145.26**	**25**	PKPbc	**PKPbc**	**09 18 25.8**	**-1.1**
	0.6nm,0.6s,baz=296,slow=0.4,SNR=9.3						

*ISCJB **21** 08:59:04.8±1.1, 1.°49S±0.°08×134.°41E±0.°06, h30km, mb3.6/2, Error ellipse: s-maj=11.6km s-min=8.5km az=16.4*

*DJA **21** 08:59:05.6±0.4, 2.°S±2.°×13.°4E±.°, h10km, M4.0/5, MLv4.0/5*

*IDC **21** 08:59:05.7±1.4, 2.°08S×134.°19E, h0km, mb3.6/2, mb1 3.9/4, mb1mx3.4/56, mbtmp3.7/4, ML3.8/2, Error ellipse: s-maj=37.5km s-min=17.2km az=40.0*

ISC 21 08:59:06.5±1.4, 1.°6S±0.°1×134.°39E±0.°09, h30km, n10, σ2°26/13, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RKPI	**Ransiki, Papua**	**0.21**	**284**	P	Pb	08 59 09.8	-3.1
RKPI				S	**Sb**	**08 59 12.6**	**-4.7**
KMPI	**Kaimana, Papua**	**2.19**	**198**	P	**Pn**	**08 59 41.5**	**+0.5**
KMPI				S	**Sn**	**09 00 08.9**	**+1.8**
FAKI	**Fak Fak**	**2.52**	**238**	P	**Pn**	**08 59 46.1**	**+0.6**
FAKI				S	**Sn**	**09 00 16.9**	**+1.6**
SIJI	**Sorong**	**3.19**	**282**	Pn	**Pn**	**08 59 55.4**	**+0.7**
	6.4nm,0.3s,baz=187,slow=22,SNR=17						
SIJI				Pg	**Pb**	**09 00 04.2**	**+1.5**
	27nm,0.3s,baz=77,slow=16,SNR=29						
SIJI				Sn	**Sn**	**09 00 33.2**	**+1.4**
	18nm,0.3s,baz=155,slow=23,SNR=5.9						
SIJI				Lg	Lg	09 00 43.8	
	22nm,0.3s,baz=132,slow=19,SNR=6.1						
MSAI	**Masohi**	**5.73**	**252**	P	**Pn**	**09 00 30.2**	**+0.5**
GENI	**Genyem**	**5.87**	**100**	P	**Pn**	**09 00 33.1**	**+1.6**
WRA	**Warramunga Arr**	**18.27**	**180**	P	**Pn**	**09 03 14.5**	**-3.4**
	0.5nm,0.3s,baz=0.4,slow=12,SNR=12						
ASAR	**Alice Springs**	**21.98**	**181**	P	**P**	**09 03 57.1**	**-1.2**
	1.6nm,0.6s,baz=7.3,slow=11,SNR=19						
MKAR	**Makanchi Array**	**66.28**	**324**	P	P	09 09 59.5	+7.4
	0.4nm,0.6s,baz=117,slow=8.2,SNR=3.4						
LPAZ	**La Paz**	**151.56**	**129**	PKPbc	**PKPbc**	**09 19 01.2**	**+1.6**
	0.4nm,0.4s,baz=225,slow=4.3,SNR=2.6						

*IDC **21** 08:59:03.8±3.8, 2.°21N×92.°56E, h0km, mb4.0/5, mb1 4.1/5, mb1mx3.5/70, mbtmp4.0/5, Error ellipse: s-maj=154.7km s-min=23.3km az=60.0*

*ISCJB **21** 08:59:24.9±1.7, 3.°7N±0.°4×96.°1E±0.°5, h50km, mb4.0/5, Error ellipse: s-maj=81.8km s-min=14.1km az=143.1*

ISC 21 08:59:27.0±2.5, 3.°8N±0.°4×96.°2E±0.°6, h50km, n13, σ1°95/10, mb4.0/5, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ODAN	**Odare**	**24.45**	**341**	*eP*	**P**	**09 04 38.9**	**-2.7**
RAMN	**Ramite**	**24.81**	**339**	*eP*	**P**	**09 04 41.6**	**-3.2**
	36nm,0.6s						
GUN	**Gumba**	**25.94**	**339**	*eP*	**P**	**09 04 55.3**	**+0.1**
DMN	**Daman**	**25.96**	**337**	*eP*	**P**	**09 04 54.6**	**-0.7**
	51nm,0.7s						
GKN	**Gorkha**	**26.50**	**337**	*eP*	**P**	**09 05 01.5**	**+1.5**
KOLN	**Koldanda**	**26.72**	**335**	*eP*	**P**	**09 05 02.3**	**+0.2**
	24nm,0.5s						
PYUN	**Piuthan**	**27.27**	**334**	*eP*	**P**	**09 05 08.4**	**+1.4**
	22nm,0.5s						
WRA	**Warramunga Arr**	**44.25**	**124**	P	**P**	**09 07 33.1**	**+1.3**
	1.2nm,0.6s,baz=300,slow=8.6,SNR=4.7						
MKAR	**Makanchi Array**	**44.52**	**346**	P	P	09 07 22.8	-11
	1.3nm,0.5s,baz=171,slow=9.2,SNR=10						
SONM	**Songino Array**	**44.76**	**10**	P	**P**	**09 07 36.5**	**+0.9**
	1.3nm,0.5s,baz=194,slow=8.7,SNR=6.3						
ASAR	**Alice Springs**	**45.74**	**128**	P	**P**	**09 07 42.3**	**-1.5**
	0.3nm,0.4s,baz=297,slow=7.5,SNR=6.6						
ZALV	**Zalesovo Beam**	**50.87**	**351**	P	P	09 08 13.9	-8.8
	2.0nm,0.3s,baz=167,slow=6.1,SNR=5.9						
TXAR	**Lajitas Array**	**141.95**	**29**	PKPbc	PKPdf	09 18 43.5	-11
	0.5nm,0.4s,baz=57,slow=0.5,SNR=12						

*UPP **21** 09:01:27.5±2.1, 57.°64N×22.°19E, h0km, ML1.7*

*CSEM **21** 09:01:28.6±0.2, 57.°72N×22.°12E, h1km, ML1.9, Error ellipse: s-maj=6.2km s-min=4.4km az=160.0, Mining explosion.*

HEL 21 09:01:28.7, 57.°66N×22.°02E, h0km, ML1.6, Explosion, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLIT	**Slitere, Latvi**	**0.15**	**100**	*eP*	Pg	09 01 32.0	+0.5
	SNR=90						
SLIT				*eS*	Sg	09 01 35.1	+1.7
	3μm,0.5s,SNR=90						
MTSE	**Matsula**	**1.43**	**41**	*eP*	Pn	09 01 54.0	-1.8
	SNR=90						
MTSE				*eS*	Sg	09 02 12.1	-2.4
MTSE	**Matsula**	**1.43**	**41**	*eP*	Pn	09 01 54.0	-1.8
MTSE				*eS*	Sg	09 02 12.1	-2.4
PBUR	**Paburg˜**	**1.64**	**182**	*eP*	Pn	09 01 58.8	+0.1
	SNR=90						
PBUR				*eS*	Sg	09 02 21.6	+0.4
	SNR=90						
GOTU	**Gotland**	**1.85**	**272**	P	Pn	09 02 01.3	-0.4
GOTU				S	Sb	09 02 27.3	+0.2
GOTU	**Gotland**	**1.85**	**272**	*eP*	Pn	09 02 01.3	-0.4
GOTU				*eS*	Sb	09 02 27.3	+0.2
GOTU	**Gotland**	**1.85**	**272**	*eP*	Pn	09 02 01.3	-0.4
GOTU				*eS*	Sb	09 02 27.3	+0.2
NYNU	**Nynaeshamn**	**2.51**	**304**	P	Pn	09 02 10.7	-0.1
NYNU	**Nynaeshamn**	**2.51**	**304**	*eP*	Pn	09 02 10.6	-0.1
NYNU	**Nynaeshamn**	**2.51**	**304**	*eP*	Pn	09 02 10.7	-0.1
VSU	**Vasula**	**2.63**	**70**	*eP*	Pn	09 02 12.8	+0.4
VSU				*eSg*	Sb	09 02 49.4	-0.1
VSU	**Vasula**	**2.63**	**70**	*eP*	Pn	09 02 12.8	+0.4
VSU				*eSG*	Sb	09 02 49.4	-0.1
NRTU	**Norrtaelje**	**2.69**	**320**	P	Pn	09 02 12.9	-0.3
NRTU				S	Sn	09 02 47.7	+1.3
NRTU	**Norrtaelje**	**2.69**	**320**	*eP*	Pn	09 02 12.9	-0.3
NRTU				*eS*	Sn	09 02 47.7	+1.3
NRTU	**Norrtaelje**	**2.69**	**320**	*eP*	Pn	09 02 12.9	-0.3
NRTU				*eS*	Sn	09 02 47.7	+1.3
BYXU	**Byxelkrok**	**2.73**	**264**	P	Pn	09 02 13.7	0.0
BYXU	**Byxelkrok**	**2.73**	**264**	*eP*	Pn	09 02 13.7	0.0
BYXU	**Byxelkrok**	**2.73**	**264**	*eP*	Pn	09 02 13.7	0.0
ARBE	**Arbavere**	**2.74**	**48**	*ePb*	Pn	09 02 15.7	+1.8
ARBE				*eSg*	Sb	09 02 51.6	-1.0
ARBE	**Arbavere**	**2.74**	**48**	*ePB*	Pn	09 02 15.7	+1.9
ARBE				*eSG*	Sb	09 02 51.6	-1.0
MEF	**Metsahovi**	**2.85**	**25**	*ePb*	Pn	09 02 17.4	+2.0
MEF				*eSg*	Sb	09 02 54.4	-1.3
	57nm,2.1s						
MEF	**Metsahovi**	**2.85**	**25**	*ePB*	Pn	09 02 17.4	+2.0
MEF				*eSG*	Sb	09 02 54.4	-1.3
MEF				MSG		09 02 56.9	
	comp=Z,2.1nm,0.1s						
ASPU	**Aespoe**	**2.93**	**268**	P	Pn	09 02 17.1	+0.7
ASPU	**Aespoe**	**2.93**	**268**	*eP*	Pn	09 02 17.1	+0.6
ASPU	**Aespoe**	**2.93**	**268**	*eP*	Pn	09 02 17.1	+0.7
VIKU	**Vikbolandet**	**2.95**	**289**	P	Pn	09 02 17.2	+0.5
VIKU	**Vikbolandet**	**2.95**	**289**	*eP*	Pn	09 02 17.2	+0.5
VIKU	**Vikbolandet**	**2.95**	**289**	*eP*	Pn	09 02 17.2	+0.5
GRAU	**Graesoe**	**3.23**	**328**	P	Pn	09 02 20.3	-0.3
GRAU	**Graesoe**	**3.23**	**328**	*eP*	Pn	09 02 20.3	-0.3
GRAU	**Graesoe**	**3.23**	**328**	*eP*	Pn	09 02 20.3	-0.3
ESKU	**Eskilstuna**	**3.35**	**300**	P	Pn	09 02 22.3	+0.1
ESKU	**Eskilstuna**	**3.35**	**300**	*eP*	Pn	09 02 22.3	0.0
ESKU	**Eskilstuna**	**3.35**	**300**	*eP*	Pn	09 02 22.3	+0.1
BACU	**Backbrunna**	**3.38**	**313**	P	Pn	09 02 22.4	-0.2
BACU	**Backbrunna**	**3.38**	**313**	*eP*	Pn	09 02 22.4	-0.2
BACU	**Backbrunna**	**3.38**	**313**	*eP*	Pn	09 02 22.4	-0.2
RAF	**Rauma**	**3.38**	**358**	*eP*	Pn	09 02 23.2	+0.5
RAF	**Rauma**	**3.38**	**358**	*eP*	Pn	09 02 23.2	+0.5
RAF				MSG		09 03 17.5	
	comp=Z,1.0nm,0.2s						
LNKU	**Linkoeping**	**3.52**	**282**	P	Pn	09 02 25.1	+0.5
LNKU	**Linkoeping**	**3.52**	**282**	*eP*	Pn	09 02 25.1	+0.5
LNKU	**Linkoeping**	**3.52**	**282**	*eP*	Pn	09 02 25.1	+0.5
EKSU	**Eksjoe**	**3.62**	**272**	P	Pn	09 02 26.3	+0.4
EKSU	**Eksjoe**	**3.62**	**272**	*eP*	Pn	09 02 26.3	+0.4
EKSU	**Eksjoe**	**3.62**	**272**	*eP*	Pn	09 02 26.3	+0.4
FIA0	**FINESS Array S**	**4.32**	**27**	*eP*	Pn	09 02 35.1	-0.5
**FI

IZEF					*e*AMB	AMB	09 25 49.8	
	comp=Z,67nm,0.3s							

NIED ***21*** *09:24:00,37.˝10N×140.˚80E,h8km,Mw3.5 Best double couple: M₀1.89000×10¹⁴ NP1:φ₀32.00000°,δ34.00000°, λ-72.00000°. NP2:φ₀190.00000°,δ58.00000°, λ-102.00000°.*

ISCJB ***21*** *09:24:13.3±0.6,37.˝05N±0.˚03×140.˚78E±0.˚06,h24km±3km, mb3.7/4,Error ellipse: s-maj=7.8km s-min=4.8km az=21.3*

JMA ***21*** *09:24:14.5,37.˝05N×140.˚66E,h9km±1km,M3.5 Broadband fault plane solution: P waves. NP1: φ₀219.00000°,δ71.00000°,λ-96.00000°. NP2:φ₀56.00000°, δ19.00000°,λ-74.00000°. Principal axes: T Plg26.0000°, Azm313.0000°; N Plg5.0000°, Azm220.0000°; P Plg63.0000°, Azm120.0000°;*

JMA Felt II J1.

IDC ***21*** *09:24:18.2±2.6,37.˝11N×140.˚77E,h54km±23km,mb3.4/4, mb1 3.5/7,mb1mx3.2/67,mbtmp3.5/7,ML2.9/3 Error ellipse: s-maj=23.6km s-min=12.2km az=122.0*

ISC 21 09:24:14.2±0.9,37.˚05N±0.˚03×140.˚71E±0.˚04,h15km±6km, n22,σ0°86/25,mb3.8/4,7C,Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ONAJ	**Iwakimizuishiy**	**0.09**	**54**	⇑P	**Pg**	**09 24 17.5**	**0.0**
ONAJ				S	**Sg**	**09 24 19.6**	**-0.1**
JFK	**Kawauchi**	**0.34**	**23**	⇑P	**Pg**	**09 24 21.5**	**+0.2**
JFK				S	**Sb**	**09 24 26.6**	**-0.7**
JHO	**Hitachi**	**0.45**	**194**	⇑P	**Pg**	**09 24 22.9**	**-0.3**
JHO				*e*S	**Sg**	**09 24 29.0**	**-0.3**
JFT	**Otama**	**0.55**	**328**	⇑P	**Pg**	**09 24 25.0**	**-0.2**
JFT				*e*S	**Sg**	**09 24 32.4**	**-0.2**
JSB	**Shiboa**	**0.63**	**263**	⇑P	**Pg**	**09 24 26.7**	**0.0**
JSB				*e*S	**Sg**	**09 24 35.1**	**0.0**
JMM	**Marumori**	**0.82**	**5**	⇑P	**Pg**	**09 24 29.7**	**-0.4**
JFY	**Yanaizu**	**0.88**	**294**	⇑P	**Pb**	**09 24 30.6**	**-0.5**
JFY				S	**Sg**	**09 24 41.5**	**-1.2**
JYT	**Yasato**	**0.92**	**207**	*e*S	**Sb**	**09 24 43.2**	**-0.5**
MJAR	**Matsushiro Arr**	**2.07**	**257**	P	**Pn**	**09 24 49.6**	**+1.3**
	13nm,0.3s,baz=75,slow=14,SNR=50						
MJAR				S	**Sb**	**09 25 17.1**	**+0.2**
	14nm,0.3s,baz=87,slow=26,SNR=16						
MAT	**Matsushiro**	**2.07**	**257**	P	**Pn**	**09 24 49.9**	**+1.5**
MAT				S	**Sb**	**09 25 17.4**	**+0.5**
ASAJ	**Asahikawa**	**7.21**	**11**	P	**Pn**	**09 26 00.8**	**+2.0**
	0.4nm,0.3s,baz=237,slow=11,SNR=3.7						
ASAJ				S	**Sn**	**09 27 20.5**	**+0.1**
	0.1nm,0.3s,baz=53,slow=20,SNR=2.1						
USRK	**Ussuriysk Ar.**	**9.74**	**320**	P	**Pn**	**09 26 34.9**	**+1.3**
	0.1nm,0.3s,baz=134,slow=12,SNR=2.2						
H11N2	**WAKE ISLAND Hy**	**28.64**	**120**	T	T	09 59 55.7	
	baz=313,slow=75,SNR=37						
H11N1	**WAKE ISLAND Hy**	**28.65**	**120**	T	T	10 00 00.2	
	baz=313,slow=75,SNR=36						
H11N3	**WAKE ISLAND Hy**	**28.66**	**120**	T	T	10 00 04.2	
	baz=313,slow=75,SNR=39						
H11S1	**WAKE ISLAND Hy**	**29.34**	**122**	T	T	10 00 51.5	
	baz=314,slow=76,SNR=26						
H11S3	**WAKE ISLAND Hy**	**29.35**	**122**	T	T	10 00 48.3	
	baz=314,slow=76,SNR=13						
H11S2	**WAKE ISLAND Hy**	**29.36**	**122**	T	T	10 00 49.3	
	baz=314,slow=76,SNR=14						
MKAR	**Makanchi Array**	**43.63**	**302**	P	**P**	**09 32 17.0**	**-0.8**
	0.2nm,0.5s,baz=84,slow=7.5,SNR=2.9						
KURBB	**Kurchatov Arra**	**45.55**	**308**	P	**P**	**09 32 31.6**	**-1.5**
	0.5nm,0.5s,baz=80,slow=9.1,SNR=2.9						
WRA	**Warramunga Arr**	**57.00**	**187**	P	**P**	**09 33 59.1**	**-0.1**
	1.5nm,0.6s,baz=2.8,slow=7.3,SNR=32						
ASAR	**Alice Springs**	**60.73**	**187**	P	**P**	**09 34 25.0**	**-0.1**
	0.5nm,0.7s,baz=12,slow=6.8,SNR=7.8						

ISN ***21*** *09:32:52.9±3.2,32.˚48N×47.˚06E,h15km*

TEH 21 09:32:55.2,32.˚48N×47.˚06E,h13km,ML3.1,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IKFM	**Kafar-mosalman**	**1.23**	**32**	*e*Pg	Pg	09 33 20.1	+1.1
IKFM				*e*Sg	Sg	09 33 37.8	+2.8
IKFM				*e*AMB	AMB	09 33 41.5	
	comp=Z,99nm,0.2s						
IKOM	**Komasi**	**1.73**	**12**	*e*Pn	Pg	09 33 28.1	-0.4
IKOM				*e*AMB	AMB	09 33 54.9	
	comp=Z,3μm,0.2s						
IVIS	**Veis**	**2.05**	**355**	*e*Pn	Pb	09 33 32.3	-0.1
IVIS				*e*AMB	AMB	09 34 06.0	
	comp=Z,1μm,0.2s						
IDHR	**Dehrash**	**2.29**	**346**	*e*Pn	Pb	09 33 35.4	-1.0
IDHR				*e*AMB	AMB	09 34 13.8	
	comp=Z,2μm,0.2s						
HAGD	**Aghdareh**	**2.91**	**36**	*e*Pn	Pb	09 33 44.6	-2.5
HAGD				*e*AMB	AMB	09 34 36.4	
	comp=Z,99nm,0.2s						
IKLH	**Kolahrood**	**3.89**	**76**	*e*Pn	Pn	09 33 58.1	+3.2
IKLH				*e*AMB	AMB	09 34 13.1	
	comp=Z,268nm,0.2s						
IZEF	**Zefreh**	**4.46**	**83**	*e*AMB	AMB	09 34 20.7	
	comp=Z,152nm,0.3s						
IZEF				*e*Pn	Pn	09 34 05.9	+3.1
IRAM	**Ramesheh**	**4.56**	**97**	*e*AMB	AMB	09 34 27.8	
	comp=Z,100nm,0.3s						
IRAM				*e*Pn	Pn	09 34 06.7	+2.6

MOS 21 09:50:24.0±3.5,51.˚71N×96.˚14E,h10km,mb4.4/1,Error ellipse: s-maj=9.8km s-min=5.8km az=98.4, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ORL	**Orlik**	**2.41**	**68**	*e*Pn	Pb	09 51 07.1	-0.4
ORL				*e*		09 51 39.0	
ORL				pmax	pmax		
	comp=Z,51nm,0.4s						
ORL				smax	smax		
	comp=N,207nm,0.5s						
MOY	**Mondy**	**3.02**	**89**	*e*PN	Pb	09 51 17.9	0.0
MOY				*e*		09 51 58.8	
MOY				pmax	pmax		
	comp=Z,41nm,0.5s						
MOY				smax	smax		
	comp=N,447nm,0.7s						
ARS	**Arshan**	**3.91**	**84**	*e*PN	Pb	09 51 34.4	+1.5
ARS				*e*		09 52 26.3	
ARS				pmax	pmax		
	comp=Z,38nm,0.5s						
ARS				smax	smax		
	comp=E,537nm,0.8s						
TLY	**Talaya**	**4.67**	**87**	*e*PN	Pb	09 51 47.8	+1.9
TLY				*e*		09 52 48.6	
TLY				pmax	pmax		
	comp=Z,6.0nm,0.4s						
ZAK	**Zakamensk**	**4.70**	**104**	*e*PN	Pn	09 51 27.4	-7.6
ZAK				*e*		09 51 48.6	
ZAK				*e*		09 52 49.0	
ZAK				pmax	pmax		
	comp=Z,12nm,0.4s						
ZAK				smax	smax		
	comp=N,95nm,1.1s						
IRK	**Irkutsk**	**5.05**	**81**	*e*PN	Pb	09 51 55.7	+3.2
IRK				*e*		09 52 59.7	
IRK				pmax	pmax		
	comp=Z,268nm,0.1s						
IRK				smax	smax		
	comp=N,229nm,0.5s						
OGRR	**Ongureny**	**7.23**	**70**	*e*P	Pn	09 52 12.8	+3.2
OGRR				pmax	pmax		
	comp=Z,5.0nm,0.5s						

DJA 21 10:01:37.7±0.4,1.˚S±2.˚×13.˚4E±.˚,h10km,M4.2/7,mB5.2/1, mb4.5/1,MLv4.0/7,Mw(mB)4.6/1,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RKPI	**Ransiki, Papua**	**0.03**	**167**	P	Pg	10 01 39.2	-0.4
RKPI				S	Sg	10 01 41.1	+0.2
KMPI	**Kaimana, Papua**	**2.22**	**192**	P	Pb	10 02 16.3	-1.6
KMPI				S	Sn	10 02 42.6	+0.6
FAKI	**Fak Fak**	**2.39**	**233**	P	Pn	10 02 16.1	-0.9
FAKI				S	Sn	10 02 47.0	+0.6
MSAI	**Masohi**	**5.55**	**250**	P	Pn	10 03 00.6	+0.1
GENI	**Genyem**	**6.09**	**101**	P	Pn	10 03 08.4	+0.5

IDC ***21*** *10:05:47.3±0.9,47.˚04N×155.˚44E,h0km,mb3.6/9, mb1 3.7/11,mb1mx3.5/77,mbtmp3.5/11,ML2.7/3,MS2.7/1, Ms1 2.7/1,ms1mx2.1/70,Error ellipse: s-maj=26.3km s-min=17.0km az=131.0*

ISCJB ***21*** *10:05:48.2±0.8,47.˚1N±0.˚1×155.˚4E±0.˚2,h18km,mb3.8/10, Error ellipse: s-maj=19.7km s-min=11.5km az=140.8*

ISC 21 10:05:49.7±0.9,46.˚9N±0.˚1×155.˚4E±0.˚1,h18km,n14, σ2°09/14,mb3.7/10,East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PETK	**Petropavlovsk-**	**6.36**	**13**	Pn	**Pn**	**10 07 19.9**	**-2.6**
	0.2nm,0.3s,baz=188,slow=15,SNR=9.9						
PETK				Sn	**Sn**	**10 08 40.1**	**+5.4**
	0.1nm,0.3s,baz=182,slow=13,SNR=2.6						
ASAJ	**Asahikawa**	**9.39**	**257**	Pn	**Pn**	**10 08 04.5**	**+0.5**
	0.2nm,0.3s,baz=90,slow=20,SNR=3.3						
MA2	**Magadan**	**12.96**	**350**	LR	LR	10 13 25.0	
	comp=Z,35nm,18.8s,baz=160,slow=36						
KLR	**Kul'dur**	**15.93**	**287**	Pn	**P**	**10 09 34.8**	**-1.6**
	0.0nm,0.3s,baz=80,slow=11,SNR=2.2						
TIXI	**Tiksi**	**27.75**	**342**	P	**P**	**10 11 35.9**	**-0.9**
	0.4nm,0.2s,baz=124,slow=11,SNR=2.8						
ILAR	**Eielson Array**	**35.44**	**39**	P	**P**	**10 12 43.4**	**-1.0**
	0.3nm,0.8s,baz=260,slow=8.7,SNR=5.0						
INK	**Inuvik**	**40.67**	**33**	P	**P**	**10 13 28.4**	**+0.1**
	1.2nm,0.8s,baz=286,slow=7.1,SNR=6.1						
DAV	**Davao City (W)**	**47.20**	**222**	P	**P**	**10 14 23.6**	**+2.2**
	213nm,0.3s,baz=94,slow=13,SNR=2.5						
MKAR	**Makanchi Array**	**48.22**	**298**	P	**P**	**10 14 28.6**	**-0.5**
	0.1nm,0.3s,baz=66,slow=3.6,SNR=3.7						
YKA	**Yellowknife Ar**	**49.85**	**37**	P	**P**	**10 14 40.7**	**-0.6**
	0.2nm,0.8s,baz=296,slow=6.8,SNR=4.0						
FINES	**FINESS Array B**	**64.52**	**336**	P	**P**	**10 16 24.1**	**-0.9**
	0.8nm,0.6s,baz=25,slow=6.3,SNR=4.1						
HFS	**Hagfors**	**68.81**	**341**	P	**P**	**10 16 53.4**	**+1.0**
	0.4nm,0.4s,baz=53,slow=7.4,SNR=3.7						
ASAR	**Alice Springs**	**72.90**	**201**	P	**P**	**10 17 18.1**	**+0.5**
	0.6nm,0.7s,baz=18,slow=5.3,SNR=7.9						
TXAR	**Lajitas Array**	**76.05**	**62**	P	**P**	**10 17 36.2**	**0.0**
	0.2nm,0.8s,baz=257,slow=3.6,SNR=2.6						

IDC ***21*** *10:18:49.4±1.3,36.˚42N×141.˚12E,h0km,mb3.6/3, mb1 3.7/7,mb1mx3.4/74,mbtmp3.8/7,ML3.6/4,MS2.9/2, Ms1 2.9/2,ms1mx2.3/60,Error ellipse: s-maj=25.4km s-min=19.4km az=101.0*

ISCJB ***21*** *10:18:52.4±0.8,36.˚42N±0.˚03×141.˚20E±0.˚07, h38km±11km,mb3.6/3,MS3.2/1,Error ellipse: s-maj=9.2km s-min=5.4km az=7.8*

JMA ***21*** *10:18:54.6±0.1,36.˚48N×141.˚00E,h46km±1km,M3.2*

ISC 21 10:18:52.7±1.7,36.˚45N±0.˚04×141.˚14E±0.˚06,h24km±13km, n20,σ1°916/28,mb3.3/3,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JHO	**Hitachi**	**0.49**	**290**	P	**Pn**	**10 19 04.1**	**0.0**
JHO				S	**Sb**	**10 19 10.6**	**+1.2**
ONAJ	**Iwakimizuishiy**	**0.71**	**337**	P	**Pn**	**10 19 07.1**	**-0.1**
JYT	**Yasato**	**0.79**	**254**	P	**Pn**	**10 19 08.1**	**-0.2**
JYT				S	**Sb**	**10 19 17.7**	**-0.4**
JFK	**Kawauchi**	**0.94**	**347**	P	**Pn**	**10 19 10.3**	**-0.1**
JFK				S	**Sb**	**10 19 21.6**	**-0.8**
JSB	**Shiboa**	**1.11**	**298**	P	**Pn**	**10 19 12.8**	**+0.1**
JFT	**Otama**	**1.25**	**329**	P	**Pb**	**10 19 15.5**	**0.0**
JFT				S	**Sn**	**10 19 30.3**	**-0.3**
JAG	**Ashikaga**	**1.36**	**270**	P	**Pn**	**10 19 15.9**	**-0.2**
JAG				S	**Sn**	**10 19 29.5**	**-3.9**
JMM	**Marumori**	**1.44**	**349**	P	**Pn**	**10 19 17.6**	**+0.3**
JMM				S	**Sn**	**10 19 35.0**	**-0.4**
JFY	**Yanaizu**	**1.49**	**310**	P	**Pn**	**10 19 18.3**	**+0.3**
JKT	**Katashina**	**1.55**	**282**	P	**Pn**	**10 19 19.3**	**+0.4**
MJAR	**Matsushiro Arr**	**2.36**	**273**	P	**Pn**	**10 19 30.4**	**+0.5**
	8.8nm,0.3s,baz=99,slow=13,SNR=74						
MJAR				Sn	**Sn**	**10 20 00.1**	**+1.9**
	7.6nm,0.3s,baz=125,slow=23,SNR=7.1						
MAT	**Matsushiro**	**2.36**	**273**	P	**Pn**	**10 19 30.9**	**+0.9**
MAT				S	**Sn**	**10 19 59.0**	**+0.8**
JHJ	**Hachijo jima 2**	**3.50**	**199**	Pn	**Pn**	**10 19 45.4**	**-0.2**
	16nm,0.3s,baz=66,slow=20,SNR=3.3						
JHJ				Sn	**Sn**	**10 20 26.9**	**+0.6**
	9.5nm,0.3s,baz=50,slow=18,SNR=2.9						
ASAJ	**Asahikawa**	**7.74**	**8**	Pn	**Pn**	**10 20 44.7**	**+0.9**
	0.4nm,0.3s,baz=211,slow=19,SNR=3.4						
JNU	**Nakatsue**	**9.07**	**252**	LR	LR	10 24 35.8	
	comp=Z,50nm,19.3s,baz=117,slow=38						
JCJ	**Chichijima**	**9.37**	**174**	Pn	**Pn**	**10 21 04.7**	**-1.5**
	4.2nm,0.3s,baz=311,slow=20,SNR=3.7						
JCJ				Sn	**Sn**	**10 22 52.0**	**+1.2**
	4.1nm,0.3s,baz=274,slow=19,SNR=2.5						
MKAR	**Makanchi Array**	**44.24**	**303**	P	**P**	**10 27 00.4**	**+0.4**
	0.2nm,0.4s,baz=86,slow=9.5,SNR=3.1						
KURBB	**Kurchatov Arra**	**46.19**	**308**	P	**P**	**10 27 14.0**	**-1.4**
	1.0nm,0.2s,baz=84,slow=7.7,SNR=4.1						
ILAR	**Eielson Array**	**50.11**	**32**	P	**P**	**10 27 46.6**	**+1.2**
	0.3nm,0.9s,baz=246,slow=6.8,SNR=2.9						
SFJD	**Kangerlussuaq**	**76.49**	**5**	LR	LR	11 06 59.8	
	comp=Z,11nm,18.1s,baz=316,slow=38						

IDC 21 10:23:37.2±1.8,6.˚77S×129.˚85E,h0km,mb3.8/2, mb1 4.1/5,mb1mx3.6/51,mbtmp4.0/5,ML4.2/3,Error ellipse: s-maj=49.2km s-min=27.6km az=64.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**7.00**	**240**	Pn	Pn	10 25 22.4	+1.3
	10nm,0.3s,baz=69,slow=5.4,SNR=6.5						
BATI				Sn	Sn	10 26 27.9	-14
	7.5nm,0.3s,baz=75,slow=19,SNR=6.4						
WRA	**Warramunga Arr**	**13.80**	**162**	Pn	Pn	10 26 55.0	+0.7
	1.1nm,0.3s,baz=339,slow=13,SNR=55						
WRA				Sn	Sn	10 29 13.4	-15
	0.8nm,0.3s,baz=336,slow=22,SNR=9.3						
ASAR	**Alice Springs**	**17.25**	**167**	Pn	Pn	10 27 39.5	-0.2
	0.7nm,0.3s,baz=340,slow=9.2,SNR=52						
ASAR				Sn	Sn	10 30 38.0	-14
	0.5nm,0.3s,baz=346,slow=26,SNR=6.6						
STKA	**Stephens Creek**	**27.28**	**158**	P	P	10 29 23.1	-0.4
	1.5nm,0.8s,baz=312,slow=14,SNR=4.3						
MKAR	**Makanchi Array**	**67.95**	**327**	P	P	10 34 37.9	-0.1
	0.2nm,0.3s,baz=118,slow=7.2,SNR=4.0						

DJA 21 11:04:25.6±0.7,1.˚S±2.˚×13.˚4E±.˚,h10km,M4.1/5,MLv4.1/5, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RKPI	**Ransiki, Papua**	**0.07**	**244**	P	Pg	11 04 28.4	+0.6
RKPI				S	Sg	11 04 30.3	+0.9
KMPI	**Kaimana, Papua**	**2.23**	**194**	P	Pn	11 05 02.5	-0.2
KMPI				S	Sn	11 05 31.1	+0.8
FAKI	**Fak Fak**	**2.45**	**234**	P	Pn	11 05 05.5	-0.2
FAKI				S	Sn	11 05 36.6	+0.9

BJI ***21*** *11:04:25.0,2.˚81N×93.˚75E,h10km,mb5.0/61,mB5.2/44, Ms5.0/53,Ms7.4/50*

IDC ***21*** *11:04:28.7±0.3,3.˚25N×93.˚72E,h0km,mb4.8/43, mb1 4.8/46,mb1mx4.7/67,mbtmp4.8/46,ML4.4/3,MS4.1/28, Ms1 4.1/28,ms1mx3.8/73,Error ellipse: s-maj=12.2km s-min=9.2km az=34.0*

ISCJB ***21*** *11:04:29.4±0.9,3.˚31N±0.˚02×93.˚74E±0.˚02,h13km±5km, mb5.0/160,MS4.4/48,Error ellipse: s-maj=4.6km s-min=3.1km az=33.9*

GCMT ***21*** *11:04:30.4±0.4,3.˚42N×93.˚58E,h12km,MW4.9/63, Moment Tensor Solution. s20,c21; s63,c87; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr2.30±.09; Mθθ-0.65±.09; Mφφ-1.65±.09; Mrθ-1.91±.43; Mθφ0.90±.07; Mφr0.02±.29; Best double couple: M₀2.86100×10¹⁶ NP1:φ₀301.00000°,δ64.00000°,λ65.00000°. NP2: φ₀167.00000°,δ36.00000°,λ130.00000°. Principal axes: T 3.2690, Plg63.0000°, Azm170.0000°; N -0.8130, Plg22.0000°, Azm312.0000°; P -2.4520, Plg15.0000°, Azm49.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***21*** *11:04:30.4±0.1,3.˚27N×93.˚72E,h10km,mb5.2/52 Error ellipse: s-maj=5.0km s-min=3.2km az=213.0*

MOS ***21*** *11:04:33.1±0.9,3.˚38N×93.˚79E,h40km,mb5.4/62, MS4.9/4,Error ellipse: s-maj=6.7km s-min=3.8km az=116.2*

DJA ***21*** *11:04:35.9±0.4,3.˚N±2.˚×9.˚4E±.˚,h37km±4km,M4.9/34, mb5.1/34,mB5.4/14,MLv5.0/4,Mw(mB)4.8/14*

ISC 21 11:04:32.5±0.6,3.˚26N±0.˚04×93.˚70E±0.˚04,h22km±4km, h23km:pP-P,n593,σ1°52/608,mb5.1/168,MS4.3/49, 35C-7D,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MLSI	**Meulaboh, Aceh**	**2.88**	**70**	P	**Pn**	**11 05 17.2**	**+0.2**
TPTI		**3.47**	**90**	P	**Pn**	**11 05 24.8**	**-0.4**
LHMI	**Lhok Sumawe**	**3.78**	**59**	P	**Pn**	**11 05 31.1**	**+1.6**
LHMI	**Lhok Sumawe**	**3.78**	**59**	*e*Pn	**Pn**	**11 05 29.7**	**+0.2**
GSI	**Gunungsitoli**	**4.33**	**117**	P	**Pn**	**11 05 37.1**	**+0.1**
GSI	**Gunungsitoli**	**4.33**	**117**	*e*Pn	**Pn**	**11 05 35.7**	**-1.3**
GSI				*e*Sn	**Sn**	**11 06 24.9**	**-2.0**
TSI	**Tuntungan**	**4.86**	**87**	P	**Pn**	**11 05 45.4**	**+1.1**
PSI	**Prapat**	**5.23**	**95**	Pn	**Pn**	**11 05 49.7**	**+0.2**
	5.1nm,0.3s,baz=273,slow=9.5,SNR=74						
PSI				Sn	**Sn**	**11 06 49.1**	**-0.2**
	9.4nm,0.3s,baz=350,slow=14,SNR=4.2						
PBSI	**Pulau Batu**	**5.63**	**126**	P	**Pn**	**11 05 54.7**	**-0.3**
MNSI	**Mandailing Nat**	**6.36**	**112**	P	**Pn**	**11 06 05.3**	**+0.3**
PKDT	**Phuket**	**6.51**	**45**	P	**Pn**	**11 06 05.9**	**-1.2**
	86nm,1.3s						
SISI	**Saibi**	**7.05**	**130**	P	**Pn**	**11 06 13.3**	**-1.1**
KULM	**Kulim**	**7.22**	**74**	*e*Pn	**Pn**	**11 06 16.8**	**+0.1**
IPM	**Ipoh**	**7.41**	**80**	*e*Pn	**Pn**	**11 06 18.9**	**-0.5**
TRTT	**Trang**	**7.50**	**52**	P	**Pn**	**11 06 19.1**	**-1.5**
	49nm,1.3s,511nm0.2nm						
BKNI	**Bangkinang**	**7.89**	**112**	P	**Pn**	**11 06 26.5**	**+0.5**
BKNI	**Bangkinang**	**7.89**	**112**	*e*Pn	**Pn**	**11 06 25.3**	**-0.7**
SKLT	**Songkhla**	**7.91**	**60**	P	**Pn**	**11 06 24.9**	**-1.3**
	217nm,1.0s,2μm0.6nm						
PDSI	**Padang**	**7.92**	**121**	P	**Pn**	**11 06 26.5**	**0.0**
PBA	**Port Blair**	**8.40**	**354**	*e*P	Pn	11 06 28.2	-4.7
KRJI	**Kerinci**	**9.40**	**124**	P	**Pn**	**11 06 48.1**	**+1.3**
DGPR	**DIGLIPUR**	**9.89**	**356**	*e*P	**Pn**	**11 06 50.7**	**-2.6**
MYKOM	**Kota Tinggi**	**10.24**	**98**	*e*Pn	**Pn**	**11 06 58.2**	**0.0**
MASI	**Maura Aman, Be**	**10.64**	**127**	P	**Pn**	**11 07 06.0**	**+2.3**
TPRI	**Tanjung Pinang**	**11.06**	**102**	P	**Pn**	**11 07 10.3**	**+0.8**
PHET	**Kaeng Krachan**	**11.24**	**31**	P	Pn	11 07 18.0	+6.1
MNAI	**Manna**	**11.95**	**129**	*e*Pn	**Pn**	**11 07 20.4**	**-1.2**
SRDT	**SRDT**	**12.25**	**26**	P	**Pn**	**11 07 26.2**	**+0.5**
	37nm,1.4s,2μm						
MDSI	**Maura Dua**	**12.99**	**126**	P	**Pn**	**11 07 35.9**	**0.0**
	60nm,0.9s						
LWLI	**Liwa**	**13.21**	**128**	P	**Pn**	**11 07 40.5**	**+1.5**
PALK	**Pallekele**	**13.54**	**288**	Pn	**Pn**	**11 07 47.5**	**+4.0**
PALK	**Pallekele**	**13.54**	**288**	P	**Pn**	**11 07 47.5**	**+4.0**
KASI	**Kota Agung**	**13.87**	**129**	P	**Pn**	**11 07 50.1**	**+2.2**
	97nm,1.0s						
CHAI	**Chaiyaphum**	**14.98**	**32**	P	**Pn**	**11 08 03.3**	**+0.3**
	20nm,1.1s,188nm						
PBKT	**Sadao Pong**	**15.03**	**28**	P	**Pn**	**11 08 01.8**	**-1.9**
	84nm,0.8s,793nm						
PHIT	**Phitsanulok**	**15.33**	**25**	P	**Pn**	**11 08 06.5**	**-1.2**
	73nm,1.1s,666nm						
SBJI	**Serang**	**15.52**	**127**	P	**Pn**	**11 08 12.3**	**+2.2**
COCO	**West Island**	**15.66**	**169**	*e*Pn	**P**	**11 08 14.6**	**-1.2**
	142nm,0.8s						
COCO	**West Island**	**15.66**	**169**	*e*P	**P**	**11 08 14.6**	**-1.2**
COCO				pmax	pmax		
	comp=Z,142nm,0.8s						
CM01	**Chiang Mai Arr**	**15.92**	**18**	*e*Pn	**Pn**	**11 08 12.5**	**-2.8**
CM01				*es*P	**P**	**11 08 13.3**	**-5.5**
CM31	**Chiang Mai Arr**	**15.95**	**18**	*e*P	**Pn**	**11 08 14.5**	**-1.2**
CMAR	**Chiang Mai Arr**	**15.95**	**18**	Pn	**Pn**	**11 08 14.2**	**-1.6**
	comp=Z,0.4nm,0.3s,baz=212,slow=13,SNR=72						
CMAR				LR	LR	11 15 23.7	
	comp=Z,504nm,18.9s,baz=204,slow=41						
LAMP	**Lampang**	**16.24**	**21**	P	**Pn**	**11 08 20.0**	**+0.6**
	comp=Z,48nm,0.9s,comp=Z,350nm						
CHTO	**Chiang Mai**	**16.29**	**18**	P	**Pn**	**11 08 17.9**	**-2.1**
	comp=Z,268nm,1.4s,comp=Z,4μm						
CHTO	**Chiang Mai**	**16.29**	**18**	*e*Pn	**Pn**	**11 08 17.8**	**-2.2**
	comp=Z,67nm,0.9s						
CHTO	**Chiang Mai**	**16.29**	**18**	*e*P	**Pn**	**11 08 17.8**	**-2.2**
CHTO				pmax	pmax		
	comp=Z,67nm,0.9s						
CMMT	**Chiang Mai**	**16.29**	**18**	P	**Pn**	**11 08 16.9**	**-3.1**
	comp=Z,79nm,1.6s,comp=Z,870nm						
SKJI	**Sukabumi**	**16.39**	**128**	P	**P**	**11 08 25.5**	**+1.5**
	comp=Z,212nm,1.3s,comp=Z,3μm						
MDRS	**Chennai**	**16.49**	**307**	*e*P	**Pn**	**11 08 21.9**	**-0.7**
MDRS				IAmb	IAmb	11 08 27.9	
	comp=Z,45nm,0.4s						
UBPT	**Khong Chiam**	**16.65**	**43**	P	**Pn**	**11 08 24.0**	**-0.5**
	comp=Z,145nm,1.4s						
KSM	**Kuching**	**16.68**	**96**	*e*Pn	**Pn**	**11 08 25.0**	**0.0**
	comp=Z,194nm,1.2s						
SKNT	**Sakolnakorn**	**16.96**	**36**	P	**Pn**	**11 08 26.8**	**-1.7**
	comp=Z,41nm,1.4s						
PAYA	**Payao**	**17.10**	**20**	P	**P**	**11 08 31.0**	**-0.9**
	comp=Z,36nm,0.9s,comp=Z,366nm						
LEM	**Lembang**	**17.13**	**126**	P	**Pn**	**11 08 30.2**	**-0.6**
	comp=Z,3.8nm,0.3s,baz=34,slow=21,

KMI LR LR
comp=Z,2μm,10.5s
KMI LR LR
comp=Z,2μm,10.5s
H08S2 Diego Garcia H 23.77 243 T T 11 34 43.1
baz=63,slow=75,SNR=887
H08S3 Diego Garcia H 23.77 243 T T 11 34 40.5
baz=63,slow=75,SNR=1090
H08S1 Diego Garcia H 23.79 243 T T 11 34 40.6
baz=63,slow=75,SNR=792
SRBI Singaraja 24.23 118 P **P 11 09 52.1 +4.1**
comp=Z,35nm,1.5s
ODAN Odare 24.23 346 *eP* **P 11 09 48.2 0.0**
comp=Z,228nm,1.5s
RAMN Ramite 24.52 345 *eP* **P 11 09 51.3 +0.5**
POO Poona 24.66 309 *eP* **P 11 09 53.1 +1.2**
POO IAmb IAmb 11 09 55.2
comp=Z,14nm,0.6s
MYLDM Lahad Datu 24.80 85 *eP* **P 11 09 54.3 +1.1**
comp=Z,226nm,1.3s
JIRN Jiri 25.30 344 *eP* **P 11 09 58.3 +0.3**
comp=Z,122nm,0.9s
BHPL Bhopal 25.35 323 *eP* **P 11 09 58.2 +0.1**
BHPL IAmb IAmb 11 09 59.9
comp=Z,50nm,1.1s
PKIN Phulchoki 25.45 343 *eP* **P 11 09 59.7 +0.5**
DMN Daman 25.57 342 *eP* **P 11 10 00.3 0.0**
comp=Z,34nm,0.8s
GUN Gumba 25.63 344 *eP* **P 11 10 01.1 +0.2**
comp=Z,141nm,1.1s
KKN Kakani 25.69 343 *eP* **P 11 10 01.3 0.0**
comp=Z,89nm,1.2s
GKN Gorkha 26.08 342 *eP* **P 11 10 05.0 +0.2**
comp=Z,136nm,1.0s
GYA Guiyang 26.20 27⇑ *iP* **P 11 10 04.9 -1.0**
GYA PP **PnPn 11 10 50.8 +5.8**
GYA S **S 11 14 38.0 +1.0**
GYA SS **SnSn 11 15 46.3 +9.4**
GYA ScP **ScP 11 17 13.8 +2.5**
GYA pmax pmax
comp=Z,30nm,0.9s
GYA pmax pmax
comp=Z,130nm,5.2s
GYA LR LR
comp=Z,1μm,17.8s
GYA LR LR
comp=Z,1μm,18.0s
GYA LR LR
comp=Z,1μm,17.4s
KOLN Koldanda 26.21 339 *eP* **P 11 10 06.3 +0.2**
comp=Z,42nm,0.7s
MPSI Mapaga 26.34 96 P **P 11 10 10.4 +3.3**
comp=Z,42nm,0.9s,comp=Z,827nm
LSA Lhasa 26.41 355 *eP* **P 11 10 09.8 +1.7**
comp=Z,174nm,0.8s
LSA Lhasa 26.41 355 P **P 11 10 08.3 +0.2**
LSA Lhasa 26.41 355 *eP* **P 11 10 09.8 +1.7**
LSA pmax pmax
comp=Z,174nm,0.8s
DANN Dangsing 26.69 340 *eP* **P 11 10 11.0 +0.5**
PYUN Piuthan 26.73 339 *eP* **P 11 10 11.1 +0.3**
comp=Z,181nm,1.2s
TTSI Tana Toraja 26.84 103 P P 11 10 23.6 +12
APSI Ampana 28.24 98 P P 11 10 32.6 +8.4
MRSI Marisa 28.36 95 P **P 11 10 25.6 +0.4**
comp=Z,21nm,1.0s
TGY Tagaytay City 28.96 67 P **P 11 10 31.1 +0.4**
comp=Z,128nm,0.3s,baz=311,slow=9.3,SNR=2.6
TGY LR LR 11 22 30.8
comp=Z,424nm,18.5s,baz=249,slow=37
CD2 Chengdu 29.10 18 P **P 11 10 31.5 -0.2**
CD2 pP pP 11 10 34.6 -3.8
CD2 S **S 11 15 24.9 +2.5**
CD2 sS pS 11 15 30.1 -0.1
CD2 pmax pmax
comp=Z,80nm,0.5s
CD2 pmax pmax
comp=Z,150nm,5.8s
CD2 LR LR
comp=Z,910nm,12.4s
CD2 LR LR
comp=Z,2μm,16.4s
CD2 LR LR
comp=Z,1μm,14.9s
LUWI Luwuk 29.37 98 P P 11 10 43.5 +9.3
LUWI Luwuk 29.37 98 *eP* **P 11 10 34.2 0.0**
comp=Z,76nm,1.1s
ENH Enshi 30.74 27 *eP* **P 11 10 45.2 -1.0**
comp=Z,16nm,0.8s
SMLA Simla 31.81 332 *eP* **P 11 10 55.5 0.0**
SMLA IAmb IAmb 11 10 56.3
comp=Z,21nm,0.7s
DAV Davao City (W) 31.96 82 LR LR 11 25 30.0
comp=Z,453nm,18.1s,baz=330,slow=40
BATI Baumata 32.70 114 LR LR 11 26 01.5
comp=Z,519nm,18.1s,baz=275,slow=40
SOEI Soe 33.08 113 P **P 11 11 10.3 +3.2**
comp=Z,60nm,1.3s
SOEI Soe 33.08 113 *eP* **P 11 11 07.2 +0.1**
comp=Z,85nm,1.2s
DHRM DHARAMSHALA 33.15 332 *eP* **P 11 11 06.2 -1.4**
WHN Wuhan 33.43 34 ⇓P **P 11 11 10.0 +0.2**
WHN pmax pmax
comp=Z,70nm,1.1s
WHN LR LR
comp=Z,3μm,12.6s
WHN LR LR
comp=Z,3μm,10.7s
WHN LR LR
comp=Z,5μm,11.1s
XAN Xi'an 33.75 23 P **P 11 11 11.4 -1.2**
XAN sP pP 11 11 17.3 -2.1
XAN PP **PnPn 11 12 23.4 -1.8**
XAN PcP **PcP 11 13 52.5 +0.6**
XAN S **S 11 16 30.8 -4.3**
XAN ScS **ScS 11 21 35.8 -1.2**
XAN pmax pmax
comp=Z,45nm,1.0s
XAN pmax pmax
comp=Z,210nm,4.7s
XAN LR LR
comp=Z,530nm,10.6s
XAN LR LR
comp=Z,1μm,11.6s
XAN LR LR
comp=Z,890nm,10.2s
LZH Lanzhou 33.98 15 *eP* **P 11 11 13.5 -1.3**
LZH pP pP 11 11 16.5 -5.0
LZH sP sP 11 11 18.5 -5.8
LZH *e*PP **PnPn 11 12 28.5 +0.3**
LZH *e*S **S 11 16 37.4 -1.5**
LZH pmax pmax
comp=Z,48nm,1.2s
LZH pmax pmax
comp=Z,260nm,6.1s
LZH LR LR
comp=Z,850nm,12.8s
LZH LR LR
comp=Z,2μm,13.5s
LZH LR LR
comp=Z,2μm,15.0s
MBWA Marble Bar 35.20 135 *eP* **P 11 11 22.6 -2.6**
comp=Z,39nm,1.3s
NIL Nilore 35.76 330 *eP* **P 11 11 29.7 -0.3**
comp=Z,86nm,0.9s
NIL Nilore 35.76 330 *eP* **P 11 11 29.7 -0.3**
NIL pmax pmax
comp=Z,86nm,0.9s
MSAI Masohi 35.81 100 P P 11 11 40.0 +9.4
GTA Gaotai 36.41 8 ⇑P **P 11 11 35.3 -0.3**
GTA pP pP 11 11 40.3 -2.1
GTA sP sP 11 11 43.9 -1.3
GTA S **S 11 17 16.3 +0.3**
GTA sS sS 11 17 26.6 -0.7
GTA SS **SnSn 11 19 41.5 -3.4**
GTA pmax pmax
comp=Z,17nm,1.3s
GTA pmax pmax
comp=Z,130nm,5.7s
GTA LR LR
comp=Z,280nm,11.2s
GTA LR LR
comp=Z,350nm,11.4s
GTA LR LR
comp=Z,300nm,10.9s
NJ2 Nanjing 37.13 37 *eP* **P 11 11 42.8 +1.2**
NJ2 S **S 11 17 34.8 +7.9**
NJ2 pmax pmax
comp=Z,12nm,0.5s
NJ2 LR LR
comp=Z,3μm,10.8s
NJ2 LR LR
comp=Z,2μm,11.9s
NJ2 LR LR
comp=Z,4μm,9.8s
SIJI Sorong 37.77 96 P **P 11 11 46.6 -0.8**
comp=Z,31nm,0.8s,baz=304,slow=6.8,SNR=17
FAKI Fak Fak 39.01 99 *eP* **P 11 11 57.8 0.0**
comp=Z,48nm,1.0s,comp=Z,606nm
FAKI Fak Fak 39.01 99 *eP* **P 11 11 56.5 -1.4**
comp=Z,39nm,0.9s
KSH Kashi 39.52 338 P **P 11 12 00.0 -1.8**
KSH pP pP 11 12 04.1 -4.6
KSH PP **PnPn 11 13 35.3 -0.5**
KSH S **S 11 18 02.0 -1.2**
KSH SS **SS 11 20 47.5 -11**
KSH pmax pmax
comp=Z,44nm,1.3s
KSH pmax pmax
comp=Z,380nm,6.4s
KSH LR LR
comp=Z,630nm,13.6s
KSH LR LR
comp=Z,670nm,9.7s
KSH LR LR
comp=Z,940nm,8.8s
JOW Kunigami 40.54 51 LR LR 11 28 55.7
comp=Z,393nm,21.5s,baz=251,slow=36
HHC Hu-ho-hao-te 40.74 21 *eP* **P 11 12 12.3 +0.4**
HHC sP pP 11 12 19.1 +0.3
HHC S **S 11 18 23.6 +2.3**
HHC sS sS 11 18 31.9 -0.8
HHC pmax pmax
comp=Z,40nm,1.0s
HHC pmax pmax
comp=Z,130nm,5.8s
HHC LR LR
comp=Z,630nm,13.4s
HHC LR LR
comp=Z,690nm,13.4s
HHC LR LR
comp=Z,1μm,13.3s
WMQ Urumqi 40.74 353 P **P 11 12 13.3 +1.5**
WMQ pP sP 11 12 20.8 -0.6
WMQ sP pP 11 12 24.6 +5.9
WMQ pmax pmax
comp=Z,98nm,1.9s
WMQ pmax pmax
comp=Z,580nm,3.7s
WMQ LR LR
comp=Z,490nm,11.5s
WMQ LR LR
comp=Z,450nm,15.3s
WMQ LR LR
comp=Z,250nm,24.1s
TARG Taragay, Kyrgy 40.87 342 *eP* **P 11 12 13.8 +0.4**
comp=Z,43nm,1.3s
NRN Naryn 41.20 340 P **P 11 12 15.8 -0.2**
PRZ Przheval'sk 41.38 343 P **P 11 12 18.8 +1.6**
KDJ Kajisay 41.43 341 *eP* **P 11 12 18.2 +0.6**
comp=Z,47nm,1.1s
KDJ Kajisay 41.43 341 P **P 11 12 18.3 +0.6**
ULHL Ulahol 41.84 340 P **P 11 12 21.4 +0.3**
SNR=16
BJI Beijing 41.89 26⇑ *iP* **P 11 12 22.1 +0.9**
BJI pmax pmax
comp=Z,67nm,1.2s
BJI LR LR
comp=Z,980nm,10.5s
BJI LR LR
comp=Z,590nm,11.0s
KZA Kyzart 42.03 339 P **P 11 12 23.4 +0.5**
SNR=17
HATD Hatta, Dubai 42.04 304 P **P 11 12 24.3 +1.6**
ALNE Al Ain 42.05 303 P **P 11 12 24.4 +1.6**
UCH Uchtor 42.43 339 P **P 11 12 26.4 +0.3**
SNR=28
H01W3 Cape Leeuwin H 42.52 155 T T 11 58 03.3
baz=331,slow=76,SNR=62
H01W2 Cape Leeuwin H 42.53 155 T T 11 58 00.9
baz=331,slow=76,SNR=73
H01W1 Cape Leeuwin H 42.54 155 T T 11 58 09.4
baz=331,slow=76,SNR=66
AML Almayashu 42.65 338 P **P 11 12 28.5 +0.7**
SNR=48
KBK Karagaybulak 42.65 340 P **P 11 12 28.7 +1.1**
SNR=9.6
TKM2 Tokmak 2 42.66 340 P **P 11 12 28.2 +0.4**
SNR=24
AAK Ala-Archa 42.79 339 P **P 11 12 29.5 +0.7**
SNR=12
AAK Ala-Archa 42.79 339 *eP* **P 11 12 29.4 +0.6**
comp=Z,23nm,1.1s
AAK Ala-Archa 42.79 339 P **P 11 12 29.2 +0.5**
SNR=18
AAK Ala-Archa 42.79 339 *i* P **P 11 12 29.5 +0.7**
SNR=18
AAK Ala-Archa 42.79 339*c i*P **P 11 12 28.8 +0.1**
AAK pmax pmax
comp=Z,23nm,1.3s
FRU Bishkek 42.92 339 *eP* **P 11 12 29.5 -0.1**
FRU *e* 11 12 42.5
FRU pmax pmax
comp=Z,67nm,2.0s
EKS2 Erkin-Say 43.07 338 P **P 11 12 31.9 +0.9**
SNR=8.5
USP Ospenovka 43.34 340 P **P 11 12 33.4 +0.4**
SNR=14
MNAS Manas 43.40 337 *i* P **P 11 12 33.4 -0.3**
MNAS pmax pmax
comp=Z,40nm,1.4s
MK01 Makanchi Array 44.46 349 *eP* **P 11 12 42.1 +0.1**
MK31 Makanchi Array 44.48 349 *eP* **P 11 12 42.4 +0.3**
MK31 Makanchi Array 44.48 349 *i* P **P 11 12 41.9 -0.2**
MK31 pmax pmax
comp=Z,74nm,1.2s
MKAR Makanchi Array 44.48 349 P **P 11 12 42.5 +0.3**
comp=Z,37nm,0.9s,baz=162,slow=8.4,SNR=171
MKAR LR LR 11 33 45.4
comp=Z,146nm,20.4s,baz=178,slow=40
MKAR Makanchi Array 44.48 349 *eP* **P 11 12 42.4 +0.3**
comp=Z,168nm,0.8s
MKAR Makanchi Array 44.48 349 *eP* **P 11 12 42.4 +0.3**
MKAR pmax pmax
comp=Z,168nm,0.8s
MAKZ Makanchi 44.56 349 *eP* **P 11 12 42.9 +0.2**
comp=Z,39nm,1.2s
MAKZ Makanchi 44.56 349 *eP* **P 11 12 42.9 +0.2**
MAKZ pmax pmax
comp=Z,39nm,1.2s
KK31 Karatay Array 44.72 336 *eP* **P 11 12 44.0 -0.1**
KK31 Karatay Array 44.72 336 *i* P **P 11 12 43.6 -0.5**
KK31 pmax pmax
comp=Z,18nm,0.7s
KKAR Karatay Array 44.72 336 *eP* **P 11 12 44.0 -0.1**
KKAR Karatay Array 44.72 336 *eP* **P 11 12 44.0 -0.1**
TJN Taejon 45.25 39 *i* P **P 11 12 47.8 -0.6**
JNU Nakatsue 45.71 45 LR LR 11 34 29.9
comp=Z,419nm,18.6s,baz=298,slow=39
SONM Songino Array 45.74 12 P **P 11 12 52.1 -0.1**
comp=Z,17nm,0.8s,baz=194,slow=8.9,SNR=83
SONM PcP **PcP 11 14 30.5 +0.7**
comp=Z,5.2nm,0.9s,baz=183,slow=4.4,SNR=3.7
SONM LR LR 11 34 42.8
comp=Z,194nm,18.7s,baz=198,slow=40
SONA1 Songino Array 45.75 12 *eP* **P 11 12 51.9 -0.4**
ULN Ulaanbaatar 45.91 13 *eP* **P 11 12 53.2 -0.3**
comp=Z,11nm,0.9s
ULN Ulaanbatar 45.91 13 P **P 11 12 53.1 -0.5**
SNR=6.3
ULN Ulaanbaatar 45.91 13*ce*P **P 11 12 53.4 -0.2**
ULN pmax pmax
comp=Z,25nm,1.7s
WRA Warramunga Arr 46.08 122 P **P 11 12 54.6 -0.6**
comp=Z,34nm,1.0s,baz=300,slow=8.8,SNR=93
WRA PcP **PcP 11 14 31.3 -0.1**
comp=Z,4.5nm,1.0s,baz=307,slow=3.1,SNR=3.9
WRAB Tennant Creek 46.09 122 *eP* **P 11 12 54.8 -0.4**
comp=Z,73nm,1.3s
WRAB Tennant Creek 46.09 122*ce*P **P 11 12 55.0 -0.3**
WRAB pmax pmax
comp=Z,85nm,1.7s
WB2 Warramunga Arr 46.09 122 *eP* **P 11 12 54.8 -0.5**
WB2 *e*PcP **PcP 11 14 31.3 -0.2**
KSAR Wonju Array Be 46.24 38 P **P 11 12 56.2 +0.1**
KSAR Wonju Array Be 46.24 38 P **P 11 12 56.3 +0.1**
KS01 Wonju Array Si 46.27 38 *eP* **P 11 12 56.0 -0.4**
KSRS Korea Array 46.28 38 P **P 11 12 56.2 -0.2**
comp=Z,4.3nm,0.9s,baz=226,slow=8.5,SNR=6.9
KSRS LR LR 11 34 23.9
comp=Z,239nm,19.3s,baz=232,slow=39
DGZ Jazzator, Alta 46.58 354 *i* P **P 11 12 59.7 +0.9**
DGZ pmax pmax
comp=Z,12nm,1.0s
ASAR Alice Springs 47.42 127 P **P 11 13 05.0 -0.7**
comp=Z,13nm,0.9s,baz=295,slow=8.1,SNR=58
ASAR PcP **PcP 11 14 36.0 -0.1**
comp=Z,5.8nm,0.8s,baz=300,slow=3.8,SNR=9.0
AS31 Alice Springs 47.42 127 *eP* **P 11 13 05.1 -0.6**
comp=Z,6.9nm,1.3s
GEYT Alibeck 47.42 321 P **P 11 13 06.1 +0.7**
comp=Z,25nm,0.8s,baz=148,slow=8.7,SNR=39
GYA0B ALIBECK ARRAY 47.42 321 *eP* **P 11 13 06.2 +0.7**
comp=Z,35nm,0.9s
AS01 Alice Springs 47.45 126 *eP* **P 11 13 05.0 -0.9**
AS01 *e*PcP **PcP 11 14 36.0 -0.2**
ZAK Zakamensk 47.65 8 *eP* **P 11 13 06.7 -0.4**
ZAK pmax pmax
comp=Z,9.0nm,1.6s
HVS Khovu-Aksy 47.71 360 *eP* **P 11 13 07.4 -0.2**
HVS pmax pmax
comp=Z,36nm,0.7s
OTUK Ortayu 48.43 341 P **P 11 13 12.3 -0.8**
OTUK pmax pmax
comp=Z,46nm,0.9s
MOY Mondy 48.63 6 *eP* **P 11 13 15.0 +0.3**
KURBB Kurchatov Arra 48.91 347 P **P 11 13 17.3 +0.7**
comp=Z,17nm,0.7s,baz=170,slow=6.9,SNR=101
TLY Talaya 48.97 8 *eP* **P 11 13 17.9 +0.7**
comp=Z,8.7nm,1.1s
TLY Talaya 48.97 8 P **P 11 13 18.3 +1.1**
TLY Talaya 48.97 8 *eP* **P 11 13 17.6 +0.4**
TLY pmax pmax
comp=Z,20nm,1.8s
TLY MLR MLR
comp=Z,110nm,12.0s
KURK Kurchatov 48.97 347 P **P 11 13 17.3 +0.2**
KURK Kurchatov 48.97 347 P **P 11 13 17.3 +0.2**
CN2 Changchun 49.18 30 *eP* **P 11 13 18.6 -0.3**
CN2 *e*S **S 11 20 25.3 +2.1**
CN2 pmax pmax
comp=Z,10.0nm,0.5s
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=Z,400nm,19.0s
CN2 LR LR
comp=Z,600nm,19.0s
CN2 LR LR
comp=Z,500nm,20.0s
IRK Irkutsk 49.61 9 *eP* **P 11 13 21.1 -0.9**
IRK pmax pmax
comp=Z,47nm,2.7s
DAMY Dhamar 49.88 286 *eP* **P 11 13 27.4 +2.3**
comp=Z,93nm,1.5s
OPO Ambohidratompo 50.66 243 LR LR 11 31 22.1
comp=Z,262nm,19.1s,baz=97,slow=32
RAYN Ar Rayn 50.71 298 *eP* **P 11 13 31.7 +0.7**
comp=Z,38nm,1.3s
RAYN Ar Rayn 50.71 298 P **P 11 13 31.7 +0.7**
ABPO Ambohimpanom 50.79 242 *i* P **P 11 13 33.9 +2.2**
HIA Hailar 50.93 22 *eP* **P 11 13 32.6 +0.5**
comp=Z,39nm,1.1s
HIA Hailar 50.93 22 *eP* **P 11 13 32.6 +0.5**
HIA pmax pmax
comp=Z,39nm,1.1s
ATD Arta Tunnel 51.03 282 P **P 11 13 34.4 +0.9**
comp=Z,13nm,1.0s,baz=333,slow=12,SNR=4.0
ATD LR LR 11 31 55.3
comp=Z,51nm,21.5s,baz=26,slow=32
ZAA0 Zalesovo Array 51.05 353 *eP* **P 11 13 33.3 +0.4**
ZALV Zalesovo Beam 51.05 353 P **P 11 13 33.3 +0.4**
comp=Z,24nm,0.6s,baz=185,slow=7.3,SNR=57
ZALV LR LR 11 38 08.2
comp=Z,80nm,18.4s,baz=85,slow=40
ZALV Zalesovo Beam 51.05 353 *eP* **P 11 13 33.1 +0.3**
MSHR Mys Shultsa 51.43 35 *i* P **P 11 13 35.7 -0.2**
GUMO Guam 51.54 75 LR LR 11 34 17.8
comp=Z,158nm,21.8s,baz=264,slow=35
MDJ Mudanjiang 51.89 32 P **P 11 13 37.8 -1.5**
MDJ pP pP 11 13 40.8 -5.6
MDJ PcP **PcP 11 14 47.4 -4.6**
MDJ PP **PP 11 15 36.5 -0.9**
MDJ S **S 11 21 06.0 +5.1**
MDJ sS sS 11 21 11.3 -1.1
MDJ pmax pmax
comp=Z,22nm,1.3s
MDJ pmax pmax
comp=Z,260nm,3.3s
MDJ LR LR
comp=Z,380nm,11.2s
MDJ LR LR
comp=Z,1μm,10.7s
MDJ LR LR
comp=Z,1μm,11.6s
NVS Novosibirsk 52.12 352 *eP* **P 11 13 40.6 -0.3**
NVS *e*S **S 11 21 06.3 +2.6**
NVS pmax pmax
comp=N,23nm,1.0s
NVS pmax pmax
comp=E,11nm,1.0s
NVS pmax pmax
comp=Z,38nm,1.0s
NVS smax smax
comp=N,10.0nm,1.7s
NVS smax smax
comp=E,13nm,1.7s
VLA Vladivostok 52.19 35 *i* P **P 11 13 40.8 -0.8**
VLA pmax pmax
comp=Z,15nm,1.1s
JHJ Hachijo jima 2 52.27 50 LR LR 11 37 56.9
comp=Z,174nm,18.5s,baz=292,slow=38
KRAR Krasnoyarsk 52.60 359 *i* P **P 11 13 43.8 -0.6**
MAJO Matsushiro 52.63 45 *i* P **P 11 13 44.2 -0.9**
MAJO pmax pmax
comp=Z,7.0nm,0.9s
MAT Matsushiro 52.63 45 P **P 11 13 44.9 -0.2**
MJAR Matsushiro Arr 52.63 45 P **P 11 13 45.1 +0.1**
comp=Z,1.7nm,0.7s,baz=238,slow=5.7,SNR=9.1
MJAR PcP **PcP 11 14 55.0 0.0**
comp=Z,5.2nm,1.1s,baz=257,slow=4.2,SNR=4.8
MJAR LR LR 11 37 54.7
comp=Z,383nm,19.8s,baz=250,slow=38
USRK Ussuriysk Ar. 52.92 34 P **P 11 13 47.1 +0.1**
comp=Z,5.2nm,0.8s,baz=226,slow=5.0,SNR=10.0
USRK LR LR 11 39 13.8
comp=Z,498nm,18.7s,baz=208,slow=39
BVA0 Borovoye Array 53.21 343 *i* P **P 11 13 48.0 -1.0**
BVA0 pmax pmax
comp=Z,24nm,1.0s
BVAR Borovoye Array 53.21 343 P **P 11 13 48.7 -0.4**
comp=Z,15nm,0.8s,baz=142,slow=7.3,SNR=75
BRVK Borovoye 53.27 343 *eP* **P 11 13 49.1 -0.4**
comp=Z,35nm,1.2s
BRVK Borovoye 53.27 343 P **P 11 13 48.9 -0.6**
SNR=15
BRVK Borovoye 53.27 343*ce*P **P 11 13 48.8 -0.6**
BRVK pmax pmax
comp=Z,33nm,1.2s
LKRN Lenkeran, Azer 53.97 317 P **P 11 13 54.8 0.0**
AB31 Akbulak array 54.09 333 *i* P **P 11 13 54.8 -0.7**
AB31 pmax pmax
comp=Z,29nm,1.1s
ABKAR Akbulak array 54.09 333 *eP* **P 11 13 55.0 -0.5**
comp=Z,130nm,1.0s
AKTO Aktyubinsk 55.81 333 P **P 11 14 07.1 -0.8**
comp=Z,5.5nm,1.0s,baz=131,slow=8.8,SNR=20
AKTO Aktyubinsk 55.81 333 *i* P **P 11 14 05.3 -2.6**
AKTO pmax pmax
comp=Z,20nm,1.3s
KLR Kul'dur 56.08 29*c i*P **P 11 14 10.0 +0.1**
MNGR Mingechevir, A 56.11 318 P **P 11 14 10.3 0.0**
SEKA Sheki 56.25 319 P **P 11 14 10.8 -0.6**
NAX Nakhchivan 56.45 316 P **P 11 14 12.7 -0.1**
CTA Charters Tower 56.54 117 P **P 11 14 13.5 -0.1**
comp=Z,6.5nm,1.0s,baz=299,slow=10,SNR=8.0
CTAO Charters Tower 56.54 117 *eP* **P 11 14 13.6 -0.1**
comp=Z,22nm,1.3s

Sta	Name	Dist	Az	Phase	ISC phase	Time	Res
CTAO	Charters Tower	56.54	117	eP	P	11 14 13.6	-0.1
CTAO				pmax	pmax		
	comp=Z,22nm,1.3s						
GANJ	Ganja	56.56	318	P	P	11 14 13.5	0.0
KMBO	Kilima Mbogo	56.59	267	P	P	11 14 15.3	+0.8
	comp=Z,2.6nm,0.5s,baz=35,slow=7.9,SNR=6.0						
KMBO				LR	LR	11 36 07.6	
	comp=Z,211nm,18.5s,baz=94,slow=34						
BOD	Bodaibo	56.72	13	eP	P	11 14 13.7	-0.5
BOD				pmax	pmax		
	comp=Z,24nm,1.6s						
ZKTA	Zakatala	56.84	319	P	P	11 14 15.4	-0.1
STKA	Stephens Creek	57.32	131	P	P	11 14 18.6	-0.5
	comp=Z,8.4nm,0.7s,baz=316,slow=5.7,SNR=18						
STKA	Stephens Creek	57.32	131	eP	P	11 14 18.9	-0.1
	comp=Z,2.7nm,0.8s						
STKA	Stephens Creek	57.32	131	eP	P	11 14 19.0	-0.1
STKA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
ZEA	Zeya	57.33	23	eP	P	11 14 17.7	-1.0
ZEA				pmax	pmax		
	comp=N,24nm,1.0s						
ZEA				pmax	pmax		
	comp=Z,26nm,1.0s						
ZEA				MLR	MLR		
	comp=E,400nm,12.0s						
ZEA				MLR	MLR		
	comp=Z,600nm,12.0s						
ZEA				MLR	MLR		
	comp=N,500nm,13.0s						
GNI	Garni	57.40	317	P	P	11 14 20.3	+0.6
	comp=N,12nm,0.4s,baz=200,slow=12,SNR=7.9						
GNI	Garni	57.40	317	P	P	11 14 21.2	+1.6
	SNR=6.3						
GNI	Garni	57.40	317	ceP	P	11 14 19.5	-0.2
GNI				pmax	pmax		
	comp=Z,94nm,1.2s						
TBLG	Delisi	58.13	318	eP	P	11 14 25.1	+0.6
	comp=Z,36nm,1.1s						
TBLG	Delisi	58.13	318	eP	P	11 14 25.2	+0.6
TBLG				pmax	pmax		
	comp=Z,36nm,1.1s						
GROC	Groznyy	58.14	320	eP	P	11 14 23.2	-1.4
GROC				e		11 15 12.6	
GROC				e		11 16 31.6	
GROC				pmax	pmax		
	comp=Z,47nm,1.1s						
ZEI	Tsey	59.16	319	eP	P	11 14 31.0	-1.0
ZEI				pmax	pmax		
	comp=Z,14nm,0.8s						
ASAJ	Asahikawa	59.21	39	P	P	11 14 32.6	+0.7
	comp=Z,5.0nm,0.8s,baz=273,slow=11,SNR=10						
ASAJ	Asahikawa	59.21	39	eP	P	11 14 32.5	+0.5
	comp=Z,17nm,1.2s						
GRNR	Gornyy	59.38	30	eP	P	11 14 32.1	-1.0
GRNR				pmax	pmax		
	comp=Z,36nm,1.1s						
SVE	Sverdlovsk	59.53	340	d iP	P	11 14 33.6	-0.4
SVE				pmax	pmax		
	comp=Z,55nm,1.3s						
ARU	Arti	59.97	338	LR	LR	11 42 05.3	
	comp=Z,126nm,20.4s,baz=129,slow=38						
ARU	Arti	59.97	338	eP	P	11 14 35.6	-1.4
	comp=Z,26nm,1.1s						
ARU	Arti	59.97	338	c iP	P	11 14 35.8	-1.2
ARU						11 15 21.7	
ARU						11 16 46.6	
ARU				S	S	11 22 49.3	+1.3
ARU				SS	SS	11 26 36.8	-8.0
ARU				pmax	pmax		
	comp=Z,41nm,1.7s						
NEY	Neytrino	60.14	319	eP	P	11 14 39.0	+0.3
NEY				pmax	pmax		
	comp=Z,1.0nm,0.9s						
KBZ	Khabaz	60.25	320	P	P	11 14 37.6	-1.5
	comp=Z,9.2nm,0.9s,baz=108,slow=6.6,SNR=19						
ASF	Jabal al Asfar	60.43	305	P	P	11 14 42.1	+1.4
	comp=Z,8.8nm,1.0s,baz=30,slow=3.2,SNR=15						
KVAR	Kislovodsk Arr	60.48	320	LR	LR	11 45 17.0	
	comp=Z,35nm,18.0s,slow=40						
KIV	Kislovodsk	60.48	320	eP	P	11 14 41.1	+0.2
	comp=Z,28nm,1.0s						
KIV	Kislovodsk	60.48	320	P	P	11 14 41.0	0.0
	SNR=9.0						
KIV	Kislovodsk	60.48	320	i P	P	11 14 40.7	-0.2
	SNR=5.2						
KIV	Kislovodsk	60.48	320	eP	P	11 14 40.5	-0.4
KIV				pmax	pmax		
	comp=Z,29nm,1.1s						
YSS	Yuzh-Sakhalins	60.70	36	eP	P	11 14 42.9	+0.7
	comp=Z,63nm,1.1s						
YSS	Yuzh-Sakhalins	60.70	36⇑	eP	P	11 14 42.3	+0.1
YSS				e		11 15 00.2	
YSS				pmax	pmax		
	comp=Z,40nm,1.2s						
YSS				MLR	MLR		
	comp=Z,300nm,15.0s						
YSS				MLR	MLR		
	comp=E,400nm,12.0s						
GOF	Gofitskoye	60.76	321⇑	eP	P	11 14 41.8	-0.9
EIL	Elat	61.41	302	LR	LR	11 39 59.9	
	comp=E,115nm,20.5s,baz=65,slow=35						
MMAI	Mount Meron Ar	61.87	306	P	P	11 14 52.5	+1.9
	comp=E,8.1nm,0.8s,baz=102,slow=11,SNR=14						
MMAI				LR	LR	11 43 11.9	
	comp=E,112nm,20.1s,baz=140,slow=38						
SOC	Sochi	62.27	318	eP	P	11 14 50.7	-2.1
SOC				e		11 17 09.8	
SOC				eS	S	11 23 17.3	-0.4
SOC				eSS	SS	11 27 19.4	-1.9
SOC				pmax	pmax		
	comp=Z,33nm,1.1s						
TYV	Tymovskoe	62.67	33	eP	P	11 14 47.1	-8.3
TYV				pmax	pmax		
	comp=Z,9.0nm,1.4s						
TYV				pmax	pmax		
	comp=Z,100nm,2.7s						
NKL	Nikolayevsk	62.91	30	eP	P	11 14 56.2	-0.7
NKL				pmax	pmax		
	comp=E,6.0nm,1.0s						
NKL				pmax	pmax		
	comp=Z,21nm,1.0s						
NKL				MLR	MLR		
	comp=N,600nm,12.0s						
NKL				MLR	MLR		
	comp=E,500nm,12.0s						
NKL				MLR	MLR		
	comp=Z,1µm,12.0s						
CSS	Mathiatis	64.05	307	eP	P	11 15 05.8	+0.9
	comp=Z,11nm,1.3s						
ANN	Anapa	64.26	319	eP	P	11 15 05.0	-1.0
ANN				pmax	pmax		
	comp=Z,47nm,1.6s						
VRH	Novokhopyorsk	64.48	327	eP	P	11 15 05.4	-2.0
VRH				pmax	pmax		
	comp=Z,20nm,1.3s						
YAK	Yakutsk	64.49	18	LR	LR	11 46 20.1	
	comp=Z,183nm,18.2s,baz=264,slow=39						
YAK	Yakutsk	64.49	18	eP	P	11 15 06.4	-0.7
	comp=Z,77nm,1.3s						
YAK	Yakutsk	64.49	18	eP	P	11 15 06.1	-1.1
YAK				e*PP	pP	11 15 15.3	+1.0
YAK				e		11 17 34.5	
YAK				ePPP	PPP	11 18 59.3	
YAK				eS	S	11 23 42.0	-2.8
YAK				e*SS	sS	11 23 55.1	-1.5
YAK				e		11 24 54.8	
YAK				eSS	SS	11 27 49.6	-5.7
YAK				pmax	pmax		
	comp=Z,34nm,1.0s						
YAK				pmax	pmax		
	comp=N,12nm,1.3s						
YAK				pmax	pmax		
	comp=E,15nm,1.4s						
YAK				pmax	pmax		
	comp=Z,40nm,2.5s						
YAK				pmax	pmax		
	comp=N,15nm,2.3s						
YAK				pmax	pmax		
	comp=E,62nm,3.0s						
YAK				smax	smax		
	comp=N,30nm,3.4s						
YAK				smax	smax		
	comp=E,43nm,3.6s						
YAK				MLR	MLR		
	comp=Z,391nm,13.0s						
YAK				MLR	MLR		
	comp=E,257nm,13.0s						
YAK				MLR	MLR		
	comp=N,374nm,14.0s						
BRTR	Keskin Array B	65.15	313	P	P	11 15 11.4	-0.7
	comp=N,4.8nm,0.9s,baz=134,slow=7.0,SNR=26						
BRTR				LR	LR	11 45 16.1	
	comp=N,54nm,18.9s,baz=92,slow=38						
BR131	Keskin Array S	65.15	313	eP	P	11 15 12.0	-0.2
VSR	Storozhevoye	65.91	326	eP	P	11 15 14.2	-2.4
VSR				pmax	pmax		
	comp=Z,10.0nm,1.3s						
NRIK	Noril'sk	66.10	358	P	P	11 15 17.3	-0.2
	comp=Z,3.6nm,0.3s,baz=332,slow=19						
SIM	Simferopol'	66.51	318	ceP	P	11 15 20.7	+0.1
SIM				pmax	pmax		
	comp=Z,26nm,0.9s						
LPSR	Galich'ya Gora	66.67	327	eP	P	11 15 19.7	-1.8
LPSR				pmax	pmax		
	comp=Z,20nm,0.9s						
HNR	Honiara	67.19	102	LR	LR	11 49 10.9	
	comp=Z,40nm,18.8s,baz=240,slow=40						
LSZ	Lusaka	67.38	252	eP	P	11 15 27.6	+0.7
	comp=Z,40nm,1.5s						
LSZ	Lusaka	67.38	252	P	P	11 15 27.6	+0.7
	SNR=6.2						
LSZ	Lusaka	67.38	252	eP	P	11 15 27.6	+0.7
LSZ				pmax	pmax		
	comp=Z,40nm,1.5s						
MOS	Moscow	68.80	330	eP	P	11 15 32.1	-2.7
MOS				e		11 15 40.1	
MOS				pmax	pmax		
	comp=Z,100nm,1.8s						
MOS				pmax	pmax		
	comp=Z,60nm,1.2s						
OBN	Obninsk	69.05	329	i P	P	11 15 34.0	-2.4
OBN				i		11 15 58.1	
OBN				pmax	pmax		
	comp=Z,20nm,1.4s						
OBN				MLR	MLR		
	comp=Z,73nm,18.0s						
KARP	Karpathos	69.10	307	eP	P	11 15 38.1	+1.0
	comp=Z,35nm,1.1s						
TIRR	Tirgusor	70.23	316⇓	iP	P	11 15 43.6	-0.4
TIRR	Tirgusor	70.23	316	eP	P	11 15 43.5	-0.4
	comp=Z,19nm,1.0s						
TIRR	Tirgusor	70.23	316	eP	P	11 15 43.5	-0.4
TIRR				pmax	pmax		
	comp=Z,19nm,1.0s						
KLMR	Klimovskoe	70.41	335	eP	P	11 15 43.3	-1.4
KLMR				AMP		11 15 44.6	
	comp=Z,24nm,1.5s						
KLMR				ePcP	PcP	11 16 07.1	+1.1
KLMR				eS	S	11 24 59.4	+3.4
KLMR				eS	S	11 24 59.4	+3.4
KLMR	Klimovskoe	70.41	335	eP	P	11 15 43.3	-1.4
KLMR				e		11 16 07.0	
KLMR				eS	S	11 24 59.3	+3.3
KLMR				pmax	pmax		
	comp=Z,24nm,1.5s						
CASY	Casey	70.43	173	eP	P	11 15 45.9	+1.3
	comp=Z,29nm,1.3s						
CFR	Carcaliu	70.61	317⇓	iP	P	11 15 45.7	-0.5
CFR	Carcaliu	70.61	317	P	P	11 15 45.6	-0.6
KIS	Kishinev	70.66	319	eP	P	11 15 45.0	-1.5
KIS	Kishinev	70.66	319	eP	P	11 15 45.0	-1.5
KIS				e		11 16 10.0	
IDI	Anoyia	70.87	306	P	P	11 15 49.0	+0.9
	comp=Z,22nm,1.0s,baz=100,slow=8.4,SNR=4.2						
IDI	Anoyia	70.87	306⇑	iP	P	11 15 48.8	+0.7
IDI	Anoyia	70.87	306	eP	P	11 15 48.9	+0.8
MA2	Magadan	71.04	27	eP	P	11 15 48.5	0.0
	comp=Z,54nm,1.6s						
MA2	Magadan	71.04	27	eP	P	11 15 48.6	0.0
MA2				pmax	pmax		
	comp=Z,54nm,1.6s						
SORM	Soroca	71.29	320⇑	iP	P	11 15 49.5	-0.8
SORM	Soroca	71.29	320	P	P	11 15 49.4	-0.8
AKASG	Malin Array Be	71.51	323	P	P	11 15 50.2	-1.4
	comp=Z,2.1nm,0.7s,baz=88,slow=5.0,SNR=32						
AKBB	Malin Array Si	71.51	323	eP	P	11 15 50.2	-1.3
AKBB	Malin Array Si	71.51	323	eP	P	11 15 50.3	-1.3
KIEV	Kiev	71.52	323	eP	P	11 15 50.1	-1.4
	comp=Z,8.2nm,0.9s						
KIEV	Kiev	71.52	323	i P	P	11 15 50.2	-1.4
	SNR=5.7						
KIEV	Kiev	71.52	323	i P	P	11 15 49.2	-2.4
AK11	Malin Array Si	71.54	323	eP	P	11 15 50.5	-1.2
LBTB	Lobatse	71.70	242	P	P	11 15 53.8	+0.4
	comp=Z,13nm,1.1s,baz=93,slow=7.1,SNR=12						
LBTB	Lobatse	71.70	242	eP	P	11 15 53.8	+0.4
	comp=Z,34nm,1.4s						
LBTB	Lobatse	71.70	242	eP	P	11 15 53.8	+0.4
LBTB				pmax	pmax		
	comp=Z,35nm,1.4s						
VRI	Vrincioaia	71.75	317⇑	iP	P	11 15 53.8	+0.6
VRI	Vrincioaia	71.75	317	P	P	11 15 53.7	+0.6
PLOR	Plostina	71.79	317⇑	iP	P	11 15 54.2	+0.7
PLOR	Plostina	71.79	317	P	P	11 15 54.2	+0.7
TIXI	Tiksi	71.81	11	eP	P	11 15 52.1	-0.8
	comp=Z,92nm,1.4s						
TIXI	Tiksi	71.81	11	ceP	P	11 15 52.2	-0.8
TIXI				pmax	pmax		
	comp=Z,88nm,1.7s						
TESR	Tescani	71.96	318⇑	iP	P	11 15 53.9	-0.5
PETK	Petropavlovsk-	72.00	35	LR	LR	11 50 29.0	
	comp=Z,158nm,18.2s,baz=247,slow=38						
MLR	Muntele Rosu	72.18	317	P	P	11 15 55.8	-0.1
	comp=Z,6.2nm,1.1s,baz=59,slow=5.9,SNR=22						
MLR	Muntele Rosu	72.18	317⇑	iP	P	11 15 56.5	+0.6
MLR	Muntele Rosu	72.18	317	eP	P	11 15 56.0	+0.1
	comp=Z,77nm,1.4s						
MLR	Muntele Rosu	72.18	317	eP	P	11 15 56.0	+0.1
MLR				pmax	pmax		
	comp=Z,77nm,1.4s						
DOPR	Dopca	72.68	317⇓	iP	P	11 15 58.3	-0.4
TMCR	Tamitsa	72.69	338	eP	P	11 15 57.5	-0.8
TMCR				pmax	pmax		
	comp=Z,18nm,0.6s						
BOSA	Boshof	72.81	239	P	P	11 15 59.5	-0.5
	comp=Z,10nm,1.1s,baz=82,slow=7.1,SNR=7.8						
BOSA				LR	LR	11 45 46.0	
	comp=Z,165nm,19.2s,baz=55,slow=34						
BOSA	Boshof	72.81	239	eP	P	11 16 00.1	+0.1
	comp=Z,24nm,1.4s						
BOSA	Boshof	72.81	239	eP	P	11 16 00.1	+0.1
BOSA				pmax	pmax		
	comp=Z,24nm,1.4s						
ARR	Arges	73.05	317⇓	iP	P	11 16 00.5	-0.5
BURAR	Bucovina Array	73.18	319⇑	iP	P	11 16 02.3	+0.5
BURAR	Bucovina Array	73.18	319	P	P	11 16 02.2	+0.5
BUR04	Bucovina Ar. S	73.19	319	eP	P	11 16 01.1	-0.7
BUR08	Bucovina Ar. S	73.20	319	eP	P	11 16 02.2	+0.3
SEY	Seymchan	73.28	24	ceP	P	11 16 01.7	-0.2
VTS	Vitosha	73.49	313⇑	iP	P	11 16 03.3	-0.5
VTS	Vitosha	73.49	313	eP	P	11 16 03.2	-0.5
	comp=Z,17nm,1.0s						
VTS	Vitosha	73.49	313	eP	P	11 16 03.2	-0.5
VTS				pmax	pmax		
	comp=Z,17nm,1.0s						
MAW	Mawson	73.96	192	P	P	11 16 05.7	0.0
	comp=Z,5.4nm,0.9s,baz=28,slow=12,SNR=3.3						
NACGM	Naroch	74.21	326	e	P	11 16 07.0	-0.5
IDID	Didziasalis	74.36	327	eP	P	11 16 08.1	-0.3
IDID				IAmb	IAmb	11 16 09.5	
	comp=Z,17nm,1.2s						
LVV	L'vov	74.47	321	eP	P	11 16 09.2	0.0
IIGN	Ignalina	74.65	327	eP	P	11 16 09.8	-0.2
IIGN				IAmb	IAmb	11 16 11.2	
	comp=Z,8.0nm,0.9s						
DRGR		74.67	318⇓	iP	P	11 16 10.4	0.0
DRGR		74.67	318	P	P	11 16 10.3	-0.1
IZAR	Zarasai	74.75	327	eP	P	11 16 10.3	-0.3
IZAR				IAmb	IAmb	11 16 12.2	
	comp=Z,5.7nm,0.7s						
TRPA	Tarpa	75.06	319⇑	iP	P	11 16 12.9	+0.4
TRPA	Tarpa	75.06	319⇑	eP	P	11 16 12.6	+0.1
BZS	Buzias	75.18	316⇑	iP	P	11 16 13.2	-0.1
BZS	Buzias	75.18	316	P	P	11 16 13.1	-0.2
KWP	Kalwaria Pacla	75.27	321	eP	P	11 16 13.9	+0.1
KWP	Kalwaria Pacla	75.27	321	eP	P	11 16 13.8	+0.1
	comp=Z,531nm,1.6s						
KWP	Kalwaria Pacla	75.27	321	eP	P	11 16 13.8	+0.1
KWP				pmax	pmax		
	comp=Z,531nm,1.6s						
SIRR	Siria	75.27	317⇑	iP	P	11 16 14.3	+0.4
UZH	Uzhgorod	75.32	319	eP	P	11 16 14.3	+0.2
UZH				e		11 16 21.7	
VSU	Vasula	75.33	330	ceP	P	11 16 13.4	-0.5
VSU				pmax	pmax		
	comp=Z,73nm,1.7s						
CRVS	Cervenica-Dubn	75.92	320	eP	P	11 16 18.1	+0.6
CRVS	Cervenica-Dubn	75.92	320	eP	P	11 16 18.2	+0.7
CRVS				pmax	pmax		
	comp=Z,30nm,1.6s						
SUW	Suwalki	75.99	325	eP	P	11 16 16.8	-1.0
SUW	Suwalki	75.99	325	eP	P	11 16 17.2	-0.6
SUW	Suwalki	75.99	325	eP	P	11 16 16.8	-1.0
DIVS	Divibare	76.06	315	eP	P	11 16 17.9	-0.6
STHS	Stebnicka Huta	76.16	320	eP	P	11 16 20.0	+1.1
STHS	Stebnicka Huta	76.16	320	eP	P	11 16 20.0	+1.1
STHS				pmax	pmax		
	comp=Z,9.0nm,0.9s						
FIA1	FINESS Array S	76.58	333	eP	P	11 16 20.1	-0.9
FINES	FINESS Array B	76.58	333	P	P	11 16 20.1	-0.9
	comp=Z,7.1nm,0.8s,baz=97,slow=7.7,SNR=20						
PSZ	Piszkesteto	76.76	318⇑	iP	P	11 16 22.1	-0.3
PSZ	Piszkesteto	76.76	318⇑	eP	P	11 16 21.9	-0.5
PSZ	Piszkesteto	76.76	318	eP	P	11 16 22.6	+0.2
PSZ	Piszkesteto	76.76	318	eP	P	11 16 22.6	+0.2
NIE	Niedzica	76.76	320	eP	P	11 16 22.8	+0.5
NIE	Niedzica	76.76	320	eP	P	11 16 22.8	+0.5
BEL	Belsk	76.92	322	eP	P	11 16 23.4	+0.3
BEL	Belsk	76.92	322	eP	P	11 16 23.4	+0.3
OJC	Ojcow	77.23	321	eP	P	11 16 25.2	+0.3
OJC	Ojcow	77.23	321	eP	P	11 16 25.0	+0.1
OJC	Ojcow	77.23	321	eP	P	11 16 25.0	+0.1
MORH	Mˆ‡rˆ¡gy, Hung	77.33	317⇑	eP	P	11 16 25.0	-0.5
VYHS	Vyhne	77.55	319	eP	P	11 16 26.7	-0.1
VYHS				e		11 16 35.4	
VYHS	Vyhne	77.55	319	eP	P	11 16 26.7	-0.1
VYHS				e		11 16 35.4	
VYHS				pmax	pmax		
	comp=Z,13nm,1.3s						
BLY	Banja Luka	78.14	315	eP	P	11 16 30.3	+0.2
OKC	Ostrava-Krasne	78.21	320	eP	P	11 16 30.5	+0.1
OKC				ePCP	pP	11 16 38.8	+1.1
OKC	Ostrava-Krasne	78.21	320	eP	P	11 16 30.5	+0.1
OKC				e		11 16 38.8	
MODS	Modra-Piesok	78.56	319	eP	P	11 16 31.1	-1.3
MODS				e		11 16 41.1	
MODS	Modra-Piesok	78.56	319	eP	P	11 16 31.1	-1.3
MODS				e		11 16 41.1	
MODS				pmax	pmax		
	comp=Z,58nm,1.2s						
MORC	Moravsky Berou	78.59	320⇑	iP	P	11 16 33.0	+0.4
MORC	Moravsky Berou	78.59	320	eP	P	11 16 32.1	-0.4
MORC	Moravsky Berou	78.59	320	eP	P	11 16 32.1	-0.4
ZST	Bratislava	78.65	318	eP	P	11 16 32.3	-0.5
ZST	Bratislava	78.65	318	eP	P	11 16 32.3	-0.5
ZST				pmax	pmax		
	comp=Z,38nm,0.9s						
SOP	Sopron	78.95	318	P	P	11 16 35.4	+0.9
KOGS	Kog	79.00	317	i P	P	11 16 34.7	-0.1
KRLC	Kraliky	79.12	320	eP	P	11 16 36.1	+0.6
KRLC	Kraliky	79.12	320	eP	P	11 16 36.1	+0.6
ARCES	ARCESS Array B	79.44	341	P	P	11 16 36.0	-0.7
	comp=Z,8.5nm,0.9s,baz=94,slow=6.2,SNR=14						
ARCES	ARCESS Array B	79.44	341	eP	P	11 16 36.5	-0.3
ARCES	ARCESS Array B	79.44	341	eP	P	11 16 36.5	-0.3
CONA	Conrad Observa	79.44	318	i P	P	11 16 37.2	-0.1
	comp=Z,15nm,1.3s						
DPC	Dobruska-Polom	79.45	321	eP	P	11 16 37.8	+0.6
DPC				ePCP	PcP	11 16 46.1	+0.8
DPC	Dobruska-Polom	79.45	321	eP	P	11 16 37.8	+0.6
DPC				e		11 16 46.1	
KSP	Ksiaz	79.53	321	eP	P	11 16 38.3	+0.7
KSP	Ksiaz	79.53	321	eP	P	11 16 38.3	+0.7
ARSA	Arzberg	79.59	317	i P	P	11 16 38.4	+0.4
	comp=Z,40nm,1.3s,SNR=15						
UPC	Upice	79.67	321	eP	P	11 16 39.1	+0.7
UPC				ePCP	PcP	11 16 46.9	+0.8
UPC	Upice	79.67	321	eP	P	11 16 39.1	+0.7
UPC				e		11 16 46.9	
SOKA	Soboth	79.86	317	i P	P	11 16 39.9	+0.3
	comp=Z,48nm,1.3s,SNR=16						
LJU	Ljubljana	80.15	316	eP	P	11 16 41.4	+0.3
OBKA	Obir	80.18	316	i P	P	11 16 41.6	+0.3
	comp=Z,25nm,1.2s,SNR=5.7						
GOPC	GO Pecny, Ondr	80.38	320	eP	P	11 16 42.2	0.0
GOPC	GO Pecny, Ondr	80.38	320	eP	P	11 16 42.2	0.0
MOA	Molln	80.50	318	i P	P	11 16 42.8	-0.2
	comp=Z,14nm,1.6s,SNR=6.1						
BILL	Bilibino	80.51	21	c iP	P	11 16 42.0	-0.6
BILL				pmax	pmax		
	comp=Z,11nm,1.4s						
BILL				MLR	MLR		
	comp=Z,357nm,16.0s						
GORS	Gorjuse	80.54	316	i P	P	11 16 43.1	-0.2
PRU	Pruhonice	80.54	320	eP	P	11 16 43.3	+0.2
PRU				ex	x	11 16 51.9	
PRU	Pruhonice	80.54	320	eP	P	11 16 43.3	+0.2
PRU				e		11 16 51.9	
PVCC	Panska Ves	80.58	321	eP	P	11 16 43.9	+0.6
PVCC				ePCP	pP	11 16 50.8	+0.2
PVCC	Panska Ves	80.58	321	eP	P	11 16 43.9	+0.6
PVCC				e		11 16 50.8	
AQU	L'Aquila	80.64	312	eP	P	11 16 44.5	+0.6
AQU	L'Aquila	80.64	312	eP	P	11 16 44.5	+0.6
CADS	Cadrg	80.71	316	i P	P	11 16 43.8	-0.4
MYKA	Terra Mystica	80.81	317	i P	P	11 16 44.6	-0.2
	comp=Z,33nm,1.4s,SNR=8.9						
SYO	Syowa Base	80.90	197⇑	ePcP	PcP	11 16 52.4	+1.4
GEC2	GERESS Array S	80.97	319	eP	P	11 16 45.8	+0.2
GEC2	GERESS Array S	80.97	319	eP	P	11 16 45.8	+0.2
GERES	GERESS Array B	80.97	319	P	P	11 16 46.0	+0.5
	comp=Z,14nm,0.8s,baz=97,slow=5.5,SNR=94						
BRG	Berggiesshubel	81.02	321	eP	P	11 16 45.7	+0.1
	comp=Z,15nm,1.0s						
BRG				i		11 16 53.9	
	comp=Z,22nm,1.4s						
	comp=N,112nm,15.8s						
	comp=E,107nm,16.5s						
	comp=Z,213nm,14.6s						
BRG	Berggiesshubel	81.02	321	eP	P	11 16 45.7	+0.1
BRG				i		11 16 53.9	
BRG				pmax	pmax		
	comp=Z,15nm,1.0s						
BRG				MLR	MLR		
	comp=N,112nm,15.8s						
BRG				MLR	MLR		
	comp=E,107nm,16.5s						
BRG				MLR	MLR		
	comp=Z,213nm,14.6s						
KBA	Koelnbreinsper	81.05	317	i P	P	11 16 45.5	-0.6
	comp=Z,14nm,1.3s						
KBA	Koelnbreinsper	81.05	317	P	P	11 16 45.9	-0.2
KHC	Kasperske Hory	81.08	319	eP	P	11 16 46.0	-0.1
KHC				ePCP	pP	11 16 54.3	+0.9
KHC	Kasperske Hory	81.08	319	eP	P	11 16 45.6	-0.4
KHC	Kasperske Hory	81.08	319	eP	P	11 16 45.7	-0.4
WET	Wettzell	81.54	319	P	P	11 16 48.8	+0.3
ABTA	Abfaltersbach	81.60	317	i P	P	11 16 48.4	-0.5
	comp=Z,15nm,1.2s,SNR=5.8						
CLL	Collm	81.65	321	i P	P	11 16 48.5	-0.5
	comp=Z,15nm,1.3s						
CLL				i		11 16 57.2	
	comp=Z,11nm,1.2s						
CLL				i		11 17 02.9	
CLL				LV		12 03 00.0	
	comp=Z,100nm,20.2s						
CLL	Collm	81.65	321	eP	P	11 16 48.5	-0.5
CLL	Collm	81.65	321	i P	P	11 16 48.5	-0.5
CLL				i		11 16 57.2	
CLL				i		11 17 02.9	
CLL				pmax	pmax		
	comp=Z,15nm,1.3s						
NKC	Novy Kostel	81.91	320	eP	P	11 16 50.9	+0.5
NKC	Novy Kostel	81.91	320	eP	P	11 16 50.9	+0.5
HFS	Hagfors	82.21	330	P	P	11 16 51.4	-0.3
	comp=Z,14nm,1.1s,baz=111,slow=7.9,SNR=9.2						
WTTA	Wattenberg	82.23	317	i P	P	11 16 51.7	-0.6
	comp=Z,11nm,0.7s,SNR=5.0						
WATA	Walderalm	82.28	317	i P	P	11 16 51.7	-0.9
	comp=Z,9.4nm,0.8s						
MOTA	Moosalm	82.60	317	i P	P	11 16 53.4	-0.9
	comp=Z,14nm,0.8s,SNR=9.0						
FETA	Feichten	82.83	317	i P	P	11 16 54.9	-0.6

comp=Z,21nm,1.4s
RETA Reutte 82.84 317 *i* P **P 11 16 55.0 -0.4**
comp=Z,16nm,0.8s,SNR=7.1
FUORN Ofenpass-Fuorn 83.14 316 *e*P **P 11 16 57.8 +0.6**
DAVA Damuels 83.43 317 *i* P **P 11 16 58.5 0.0**
comp=Z,28nm,1.1s,SNR=5.4
NB2 NORSAR Subarra 83.52 331 P **P 11 16 57.4 -1.2**
comp=Z,20nm,1.2s,baz=93,slow=5.6
NB2 NORSAR Subarra 83.52 331 P **P 11 16 57.4 -1.2**
baz=93,slow=5.6
NOA NORSAR Array B 83.52 331 P **P 11 16 57.3 -1.2**
comp=Z,6.7nm,0.9s,baz=94,slow=5.5,SNR=9.5
KEST Kesra 83.53 305 P **P 11 17 00.2 +1.0**
comp=Z,14nm,0.9s,baz=333,slow=1.1,SNR=11
TUE Stuetta 83.76 316 *e*P **P 11 17 00.4 +0.1**
KONO Kongsberg 84.22 329 *e*P **P 11 17 01.8 -0.3**
KONO pmax pmax
comp=Z,50nm,2.5s
SPITS Spitsbergen Ar 84.24 348 P **P 11 17 01.4 -0.5**
comp=Z,8.5nm,1.1s,baz=154,slow=4.3,SNR=8.5
SPITS LR LR 12 02 39.5
comp=Z,64nm,18.2s,baz=80,slow=41
BFO Black Forest 84.50 318 *e*P **P 11 17 03.5 -0.3**
comp=Z,7.9nm,1.3s
BFO Black Forest 84.50 318 *ce*P **P 11 17 04.2 +0.4**
SENIN Lac Senin/Sane 85.18 316 *e*P **P 11 17 07.5 0.0**
ECH Echery 85.28 318 *e*P **P 11 17 07.7 0.0**
ECH Echery 85.28 318 *e*P **P 11 17 07.7 0.0**
BKZ Black Stump Fm 86.45 129 *e*P **P 11 17 13.2 -0.6**
URZ Urewera 86.82 128 *e*P **P 11 17 14.8 -0.8**
TAM Tamanrasset 87.08 293 *e*P **P 11 17 19.0 +1.7**
TAM Tamanrasset 87.08 293 *e*P **P 11 17 19.0 +1.7**
VNDA Vanda 88.53 168 P **P 11 17 22.5 -0.4**
comp=Z,5.3nm,1.2s,baz=273,slow=3.7,SNR=7.0
VNDA Vanda 88.53 168 *e*P **P 11 17 23.3 +0.4**
VNDA Vanda 88.53 168 *e*P **P 11 17 23.3 +0.4**
GAMB Gambell 89.14 26 *e*P **P 11 17 26.4 +0.5**
comp=Z,45nm,1.7s
SBA Scott Base 89.63 168 *e*P **P 11 17 29.9 +1.9**
SBA Scott Base 89.63 168 *e*P **P 11 17 29.9 +1.9**
TOA0 Torodi Ar. Sit 91.22 283 *e*P **P 11 17 37.5 +0.7**
TORD Torodi Ar. Bea 91.22 283 P **P 11 17 36.8 0.0**
comp=Z,3.6nm,1.1s,baz=52,slow=2.6,SNR=17
TORD PP **PP 11 21 17.6 +3.6**
comp=Z,0.8nm,1.0s,baz=77,slow=3.2,SNR=3.7
EKA Eskdalemuir Ar 91.25 325 P **P 11 17 34.6 -1.5**
comp=Z,3.0nm,0.8s,baz=86,slow=5.1,SNR=7.2
ES19 SONSECA Array 93.78 310 *e*P **P 11 17 48.6 +0.4**
ESDC Sonseca Array 93.84 310 P **P 11 17 48.8 +0.3**
comp=Z,1.4nm,0.7s,baz=64,slow=4.4,SNR=8.7
IM3 Indian Mountai 96.04 22 *e*P **P 11 17 57.7 -0.1**
TOLK Toolik Lake Re 96.43 19 P **P 11 17 59.9 +0.2**
baz=296
TOLK Toolik Lake Re 96.43 19 *e*P **P 11 18 00.3 +0.6**
KOWA Kowa 96.65 285 P **P 11 18 02.7 +0.9**
comp=Z,0.8nm,0.3s,baz=142,slow=7.0,SNR=4.1
BPAW Bear Paw Mtn. 97.86 24 *e*P Pdif 11 18 06.5 +0.3
DBIC Dimbokro 98.11 277 LR LR 12 00 30.5
comp=Z,87nm,20.4s,baz=207,slow=34
ILAR Eielson Array 99.16 22 P **Pdif 11 18 09.7 -2.3**
comp=Z,0.5nm,0.8s,baz=216,slow=5.4,SNR=4.3
INK Inuvik 101.52 16 P **Pdif 11 18 22.0 -0.3**
comp=Z,1.2nm,1.0s,baz=340,slow=4.0
INK Inuvik 101.52 16 P **Pdif 11 18 22.0 -0.3**
RES Resolute Bay 102.00 2 *e*Pdif **Pdif 11 18 24.4 0.0**
comp=Z,2.8nm,0.9s
RES Resolute Bay 102.00 2 *e*P **Pdif 11 18 24.4 0.0**
RES pmax pmax
comp=Z,3.0nm,0.9s
YKA Yellowknife Ar 110.98 14 PKiKP **PKiKP 11 23 02.8 -1.0**
comp=Z,0.2nm,0.7s,baz=304,slow=2.1,SNR=3.9
YKA PP **PP 11 23 40.6 -0.9**
comp=Z,0.2nm,0.7s,baz=337,slow=6.5,SNR=4.0
YKA PKKPbc **PKKPbc 11 34 00.2 -3.3**
comp=Z,0.2nm,0.8s,baz=153,slow=3.3,SNR=3.9
YKA PKKPab **PKKPab 11 34 09.6 -2.8**
comp=Z,0.1nm,0.7s,baz=146,slow=4.4,SNR=4.0
YKA PKKP **PKKPdf 11 34 19.3 -1.5**
comp=Z,0.5nm,1.0s,baz=143,slow=4.7,SNR=5.5
FFC Flin Flon 120.77 11 *e*PKPdf **PKPdf 11 23 21.9 -0.9**
FFC Flin Flon 120.77 11 *e*PKiKP **PKPdf 11 23 21.9 -0.9**
MSO Missoula 124.49 23 P **PKPdf 11 23 29.8 -0.6**
baz=326,SNR=6.1
M04C Macdoel 124.76 32 P **PKPdf 11 23 30.9 -0.1**
baz=315
EGMT Eagleton 124.96 19 P **PKPdf 11 23 30.8 -0.4**
baz=331
EGMT Eagleton 124.96 19 *e*PKPdf **PKPdf 11 23 31.2 0.0**
ULM Lac du Bonnet 126.07 8 PKP **PKPdf 11 23 32.5 -0.7**
comp=Z,2.7nm,0.7s,baz=349,slow=3.6,SNR=4.8
HLID Hailey 126.97 25 P **PKPdf 11 23 35.5 +0.2**
baz=324
LAO LASA Array 127.24 17 P **PKPdf 11 23 36.2 +0.6**
baz=335
B34A Aery, Baudette 127.95 7 P **PKPdf 11 23 36.8 0.0**
baz=349
C31A Landman Farms, 128.18 10 P **PKPdf 11 23 36.8 -0.5**
baz=345
B35A Bob, Littlefor 128.19 6 P **PKPdf 11 23 36.6 -0.6**
baz=351
EYMN Ely 128.81 4 P **PKPdf 11 23 38.2 -0.2**
baz=353
C40A Isle Royale Na 128.98 2 P **PKPdf 11 23 38.8 +0.1**
baz=356
NVAR Mina Array Bea 129.05 32 PKP **PKPdf 11 23 39.6 +0.2**
comp=Z,0.9nm,0.8s,baz=304,slow=1.3,SNR=8.2
BW06 Boulder Array 129.59 22 P **PKPdf 11 23 39.1 -1.3**
baz=329
PDAR Pinedale Array 129.59 22 PKP **PKPdf 11 23 40.6 +0.2**
comp=Z,1.2nm,0.9s,baz=343,slow=1.5,SNR=11
E36A McGregor 130.06 6 P **PKPdf 11 23 40.6 -0.3**
baz=351
ALFO Alfred 130.28 350 P **PKPdf 11 23 41.4 +0.1**
baz=15
E39A Mellen 130.43 4 P **PKPdf 11 23 42.0 +0.4**
baz=354
R11A Troy Canyon, C 130.53 30 P **PKPdf 11 23 42.7 +0.4**
baz=320
F36A Milaca 130.67 7 P **PKPdf 11 23 40.5 -1.5**
baz=350
ECSD EROS Data Cent 132.31 10 P **PKPdf 11 23 44.3 -0.9**
baz=346
ECSD EROS Data Cent 132.31 10 *e*PKPdf **PKPdf 11 23 44.2 -1.0**
O20A White River Ci 132.35 23 P **PKPdf 11 23 46.0 +0.3**
baz=330
ANMO Albuquerque 137.54 25 P **PKPdf 11 23 55.3 -0.2**
baz=329
ANMO Albuquerque 137.54 25 *e*PKPdf **PKPdf 11 23 55.8 +0.3**
ANMO Albuquerque 137.54 25 *e*PKiKP **PKPdf 11 23 55.8 +0.3**
S39A Bolivar 138.74 8 P **PKPdf 11 23 56.8 -0.6**
baz=349
T42A Van Buren 139.67 6 P **PKPdf 11 23 58.7 -0.4**
baz=353
T43A Greenville 139.69 5 P **PKPdf 11 23 58.5 -0.7**
baz=354
TKL Tuckaleechee C 141.22 357 PKP **PKPdf 11 24 00.5 -1.4**
comp=Z,2.8nm,0.8s,baz=269,slow=8.6,SNR=3.1
X39A Fountain Ranch 141.72 10 P **PKPdf 11 23 57.9 -5.0**
baz=347
MIAR Mount Ida 141.78 10 P **PKPdf 11 23 57.6 -5.4**
baz=348
MIAR Mount Ida 141.78 10 *e*PKPdf **PKPdf 11 23 58.2 -4.8**
MIAR Mount Ida 141.78 10 *e*PKiKP **PKPdf 11 23 58.2 -4.8**
ABTX Abilene, Hawle 142.14 19 *e*PKPdf **PKPdf 11 24 02.4 -1.3**
TXAR Lajitas Array 143.56 26 PKP **PKPbc** 11 24 04.1 +0.4
comp=Z,2.0nm,0.9s,baz=174,slow=1.5,SNR=20
Z49A Columbiana 143.75 0 P PKPab 11 24 03.1 -0.1
baz=360
CPUP Villa Florida 143.98 228 PKP PKPbc 11 24 04.9 0.0
comp=Z,11nm,0.9s,baz=115,slow=3.6,SNR=22
JCT Junction City 144.06 20 P **PKPab 11 24 04.1 -0.4**
baz=337
JCT Junction City 144.06 20 *e*PKPdf PKPbc 11 24 04.9 -0.2
JCT *e*PP **PP 11 27 20.0 +0.2**
JCT Junction City 144.06 20 *e*PKiKP PKPbc 11 24 04.9 -0.2
JCT *e* 11 27 20.0
LPIG La Paz 144.15 39 PKP **PKPab 11 24 04.8 -0.2**
comp=Z,12nm,0.4s,baz=226,slow=1.0,SNR=2.9
146A Union 144.21 4 P PKPbc 11 24 05.7 +0.4
baz=355
150A Eclectic 144.33 360 P **PKPab 11 24 05.2 -0.2**
baz=0.4
149A Jones 144.34 1 P **PKPab 11 24 04.5 -1.0**
baz=359
241A Mo Tay, Goldon 144.35 10 P PKPbc 11 24 06.4 +0.5
baz=349
242A Grayson 144.44 9 P PKPbc 11 24 06.3 +0.2
baz=350
435B Jarrell 144.48 17 P **PKPab 11 24 05.4 -0.7**
baz=340
VBMS Vicksburg 144.49 6 P PKPbc 11 24 06.6 +0.3
baz=353
244A Avery, Jackson 144.65 6 P PKPbc 11 24 07.1 +0.3
baz=352,SNR=7.5
245A Little AP, Sta 144.74 5 P PKPbc 11 24 07.5 +0.4
baz=354
247A Quitman 144.81 3 P PKPbc 11 24 07.8 +0.5
baz=356,SNR=7.1
248A Dixon Mills 144.82 2 P PKPbc 11 24 07.8 +0.4
baz=358
251A Midway 144.83 359 P **PKPab 11 24 07.3 -0.1**
baz=1.5,SNR=13
254A Abbeville 144.87 356 P PKPbc 11 24 07.6 +0.1
baz=5.2
252A Lumpkin 144.91 358 P PKPbc 11 24 07.7 0.0
baz=2.7,SNR=8.3
249A Camden 144.95 1 P **PKPab 11 24 07.7 -0.1**
baz=358,SNR=5.8
250A Grady 144.96 360 P **PKPab 11 24 07.6 -0.2**
SNR=6.0
341A Kurthwood 144.98 10 P PKPbc 11 24 08.2 +0.3
baz=348
342A Flagon Creek P 145.08 9 P **PKPdf 11 24 09.1 +0.2**
baz=350
344A Westbrook Farm 145.22 7 P **PKPdf 11 24 09.4 +0.3**
baz=352,SNR=9.3
TIGA Tifton 145.40 356 P **PKPbc 11 24 09.1 -0.1**
baz=4.7,SNR=5.3
346A Big Creek Wild 145.41 5 P **PKPdf 11 24 09.6 +0.2**
baz=354,SNR=6.4
352A Blakely 145.43 358 P **PKPbc 11 24 09.3 0.0**
baz=2.4,SNR=7.9
355A Pearson 145.43 355 P **PKPdf 11 24 09.5 +0.1**
baz=6.0,SNR=7.6
345A Thompson Farm, 145.44 6 P **PKPdf 11 24 10.1 +0.6**
baz=353,SNR=6.9
347A Saraland 145.47 3 P **PKPab 11 24 10.0 +0.4**
baz=356,SNR=10
348A Jackson 145.49 2 P **PKPab 11 24 10.1 +0.4**
baz=357
350A Dozier 145.51 0 P **PKPab 11 24 09.7 -0.1**
baz=360
353A Camilla 145.53 357 P **PKPab 11 24 09.8 -0.1**
baz=3.6,SNR=5.1
349A Repton 145.57 1 P **PKPab 11 24 10.2 +0.2**
baz=358,SNR=16
351A Pinckard 145.65 359 P **PKPbc 11 24 10.0 0.0**
baz=1.2,SNR=7.4
HKT Hockley 145.74 15 *e*PKPdf **PKPbc 11 24 10.3 0.0**
HKT Hockley 145.74 15 *e*PKP2 **PKPbc 11 24 10.3 0.0**
BRAL Brewton 145.76 1 P **PKPbc 11 24 10.4 0.0**
baz=359
BRAL Brewton 145.76 1 *e*PKPbc **PKPab 11 24 11.4 +0.7**
443A Delano Plantat 145.77 8 P **PKPab 11 24 11.0 +0.3**
baz=350
444A Pine Grove 145.95 7 P **PKPab 11 24 11.7 +0.3**
baz=352
448A Bay Minette 145.97 2 P **PKPab 11 24 11.6 +0.1**
baz=357
445A Amite 145.98 6 P **PKPab 11 24 11.5 0.0**
baz=353
446A Poplarville 146.01 5 P **PKPbc 11 24 11.4 +0.2**
baz=354
453A Whigham 146.03 357 P **PKPab 11 24 11.6 -0.1**
baz=3.5
455A Stateville 146.05 355 P **PKPbc 11 24 11.5 +0.2**
baz=5.8,SNR=6.0
447A Lucedale 146.06 4 P **PKPab 11 24 11.9 +0.1**
baz=356
450A Destview 146.13 0 P **PKPbc 11 24 11.8 +0.2**
baz=359
449A Pace 146.16 1 P **PKPbc 11 24 11.6 0.0**
baz=358
833A Chaparral WMA, 146.17 21 P **PKPab 11 24 12.2 -0.2**
baz=336
557A Orange Park 146.63 353 P **PKPbc 11 24 13.1 +0.1**
baz=8.2
ZAIG Zacatecas 149.64 31 *e*PKPdf **PKPdf 11 24 17.5 +0.4**
SJG San Juan 150.93 318 PKPbc **PKPbc 11 24 23.6 -0.9**
comp=Z,5.0nm,0.2s,baz=317,slow=17,SNR=3.0
SIV San Ignacio 152.15 241 PKP **PKPdf 11 24 19.1 -1.6**
comp=Z,0.5nm,0.7s,baz=238,slow=2.5,SNR=3.7
SIV PKPbc **PKPbc 11 24 26.5 -0.9**
comp=Z,3.5nm,1.0s,baz=124,slow=2.9,SNR=12
PTGA Pitinga 153.57 275 PKPbc **PKPbc 11 24 29.5 -1.1**
comp=Z,1.7nm,0.4s,baz=100,slow=7.2,SNR=5.6
SAML Samuel 156.34 255 *e*PKPdf **PKPdf 11 24 25.9 -0.8**
SAML *e*PKPab **PKPab 11 24 55.1 +0.2**
LPAZ La Paz 157.94 233 PKPab **PKPab 11 25 02.5 +0.1**
comp=Z,1.6nm,0.7s,baz=106,slow=3.7,SNR=4.0
SDV Santo Domingo 160.27 308 PKPab **PKPab 11 25 08.6 -3.4**
comp=Z,2.3nm,0.4s,baz=18,slow=9.6,SNR=7.2
APG El Apazote 161.39 13 PKPab **PKPab 11 25 15.0 -1.6**
comp=Z,7.9nm,1.1s,baz=342,slow=12,SNR=4.9

*IDC **21** 11:10:47.8±0.9, 3.°03N×93.°76E, h0km, mb4.0/15, mb1 4.1/17, mb1mx3.9/68, mbtmp4.0/17, ML4.0/2, MS3.9/1, Ms1 3.9/1, ms1mx2.9/73, Error ellipse: s-maj=31.3km s-min=16.9km az=43.0*
*ISCJB **21** 11:10:49.5±0.4, 3.°18N±0.°06×93.°75E±0.°04, h18km, mb4.3/27, MS4.3/2, Error ellipse: s-maj=8.6km s-min=5.7km az=22.3*
*NEIC **21** 11:10:50.1±0.4, 3.°20N×93.°74E, h10km, mb4.6/5, Error ellipse: s-maj=8.9km s-min=5.0km az=211.0*
*BJI **21** 11:10:53.7, 3.°76N×93.°32E, h6km, mb4.5/18, mB4.9/14, Ms4.7/12, Ms7 4.4/11*
ISC 21 11:10:51.5±0.6, 3.°19N±0.°07×93.°82E±0.°06, h18km, n63, σ1°74/59, mb4.2/27, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LHMI	**Lhok Sumawe**	**3.71**	**57**	*e*Pn	**Pn**	**11 11 47.3**	**-0.7**
LHMI				*e*Sn	**Sn**	**11 12 33.5**	**+2.2**
GSI	**Gunungsitoli**	**4.19**	**117**	*e*Pn	**Pn**	**11 11 56.3**	**+1.7**
PSI	**Prapat**	**5.11**	**94**	Pn	**Pn**	**11 12 08.0**	**+0.7**
	2.5nm,0.3s,baz=304,slow=9.5,SNR=9.0						
PSI				Sn	**Sn**	**11 13 00.3**	**-5.6**
	0.9nm,0.3s,baz=162,slow=19,SNR=2.0						
PSI	**Prapat**	**5.11**	**94**	*e*Pn	**Pn**	**11 12 09.6**	**+2.3**
PSI				Sn	**Sn**	**11 13 00.3**	**-5.6**
KULM	**Kulim**	**7.12**	**73**	*e*Pn	**Pn**	**11 12 34.4**	**-0.5**
IPM	**Ipoh**	**7.30**	**80**	*e*Pn	**Pn**	**11 12 39.8**	**+2.5**
BKNI	**Bangkinang**	**7.75**	**111**	*e*Pn	**Pn**	**11 12 44.8**	**+1.2**
PALK	**Pallekele**	**13.68**	**288**	*e*Pn	**Pn**	**11 14 03.6**	**-1.2**
COCO	**West Island**	**15.57**	**169**	*e*Pn	**P**	**11 14 34.6**	**+0.1**
	149nm,1.4s						
CM01	**Chiang Mai Arr**	**15.95**	**18**	*e*Pn	**Pn**	**11 14 34.5**	**-0.6**
CM31	**Chiang Mai Arr**	**15.98**	**18**	*e*Pn	**Pn**	**11 14 35.1**	**-0.5**
CMAR	**Chiang Mai Arr**	**15.98**	**18**	Pn	**Pn**	**11 14 36.0**	**+0.5**
	0.4nm,0.3s,baz=209,slow=11,SNR=5.0						
KSM	**Kuching**	**16.56**	**96**	*e*Pn	**Pn**	**11 14 43.7**	**+0.7**
	37nm,1.1s						
SMRI	**Semarang**	**19.46**	**122**	*e*P	**Pn**	**11 15 22.9**	**+4.2**
	52nm,0.8s						
KKM	**Kota Kinabalu**	**22.50**	**82**	*e*P	**P**	**11 15 50.0**	**-0.4**
	1.3nm,0.3s						
KMI	**Kunming**	**23.43**	**21**	P	**P**	**11 16 02.3**	**+2.2**
KMI				pmax	pmax		
	comp=Z,20nm,0.5s						
H08S2	**Diego Garcia H**	**23.85**	**243**	T	T	11 41 14.2	
	baz=63,slow=75,SNR=385						
H08S3	**Diego Garcia H**	**23.85**	**243**	T	T	11 40 55.5	
	baz=63,slow=75,SNR=354						
H08S1	**Diego Carcia H**	**23.87**	**243**	T	T	11 40 44.2	
	baz=63,slow=75,SNR=386						
LSA	**Lhasa**	**26.48**	**355**	P	**P**	**11 16 28.9**	**+0.4**
	28nm,1.0s						
CD2	**Chengdu**	**29.12**	**18**	P	**P**	**11 16 52.0**	**+0.5**
CD2				S	**S**	**11 21 44.8**	**+2.0**
CD2				pmax	pmax		
	comp=Z,150nm,5.8s						
CD2				LR	LR		
	comp=N,2μm,11.3s						
CD2				LR	LR		
	comp=E,2μm,10.7s						
CD2				LR	LR		
	comp=Z,3μm,10.7s						
LZH	**Lanzhou**	**34.02**	**15**	*e*P	**P**	**11 17 35.1**	**+0.4**
LZH				pP	pP	11 17 38.3	-1.9
LZH				pmax	pmax		
	comp=Z,24nm,1.1s						
LZH				pmax	pmax		
	comp=Z,76nm,5.4s						
LZH				LR	LR		
	comp=N,380nm,12.9s						
LZH				LR	LR		
	comp=E,370nm,13.3s						
LZH				LR	LR		
	comp=Z,430nm,16.5s						
GTA	**Gaotai**	**36.46**	**8**	*e*P	P	11 18 02.3	+6.7
GTA				pmax	pmax		
	comp=Z,8.0nm,1.1s						
NJ2	**Nanjing**	**37.11**	**37**	*e*P	**P**	**11 18 00.4**	**-0.7**
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.5s						
KSH	**Kashi**	**39.62**	**338**	P	**P**	**11 18 18.8**	**-3.5**
HHC	**Hu-ho-hao-te**	**40.76**	**21**	*e*P	**P**	**11 18 34.4**	**+2.7**
HHC				pmax	pmax		
	comp=Z,25nm,1.0s						
HHC				pmax	pmax		
	comp=Z,74nm,5.4s						
WMQ	**Urumqi**	**40.82**	**353**	P	**P**	**11 18 31.3**	**-0.8**
WMQ				pmax	pmax		
	comp=Z,18nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,400nm,6.1s						
WMQ				LR	LR		
	comp=Z,420nm,14.5s						
WMQ				LR	LR		
	comp=Z,470nm,15.5s						
WMQ				LR	LR		
	comp=Z,160nm,22.1s						
KDJ	**Kajisay**	**41.53**	**341**	*e*P	**P**	**11 18 37.7**	**-0.4**
	comp=Z,4.6nm,1.0s						
H01W3	**Cape Leeuwin H**	**42.41**	**155**	T	T	12 03 50.8	
	baz=331,slow=75,SNR=78						
H01W2	**Cape Leeuwin H**	**42.42**	**155**	T	T	12 03 51.9	
	baz=331,slow=75,SNR=92						
H01W1	**Cape Leeuwin H**	**42.43**	**155**	T	T	12 03 48.2	
	baz=331,slow=75,SNR=72						
MK01	**Makanchi Array**	**44.55**	**349**	*e*P	**P**	**11 19 02.3**	**0.0**
MK31	**Makanchi Array**	**44.57**	**349**	*e*P	**P**	**11 19 02.7**	**+0.2**
MKAR	**Makanchi Array**	**44.57**	**349**	P	**P**	**11 19 03.0**	**+0.5**
	comp=Z,3.1nm,0.6s,baz=164,slow=8.3,SNR=14						
MKAR	**Makanchi Array**	**44.57**	**349**	*e*P	**P**	**11 19 02.7**	**+0.2**
	comp=Z,24nm,0.6s						
SONM	**Songino Array**	**45.78**	**12**	P	**P**	**11 19 11.8**	**-0.3**
	comp=Z,2.2nm,0.8s,baz=195,slow=10,SNR=4.3						
WRA	**Warramunga Arr**	**45.95**	**122**	P	**P**	**11 19 12.6**	**-1.2**
	comp=Z,2.0nm,0.9s,baz=302,slow=8.7,SNR=9.2						
WRAB	**Tennant Creek**	**45.95**	**122**	*e*P	**P**	**11 19 13.2**	**-0.6**
	comp=Z,1.8nm,0.4s						
WB2	**Warramunga Arr**	**45.96**	**122**	*e*P	**P**	**11 19 16.0**	**+2.1**
ASAR	**Alice Springs**	**47.28**	**127**	P	**P**	**11 19 22.6**	**-1.7**
	comp=Z,0.9nm,0.6s,baz=294,slow=7.7,SNR=6.7						
AS01	**Alice Springs**	**47.32**	**127**	*e*P	**P**	**11 19 24.6**	**+0.1**
GEYT	**Alibeck**	**47.55**	**321**	P	**P**	**11 19 26.2**	**+0.1**
	comp=Z,2.2nm,0.7s,baz=127,slow=9.5,SNR=4.2						
KURBB	**Kurchatov Arra**	**48.99**	**347**	P	**P**	**11 19 37.3**	**+0.3**
	comp=Z,2.2nm,0.7s,baz=171,slow=7.2,SNR=10						
KURK	**Kurchatov**	**49.06**	**347**	P	**P**	**11 19 37.3**	**-0.2**
ZAA0	**Zalesovo Array**	**51.13**	**353**	*e*P	**P**	**11 19 52.2**	**-1.0**
	comp=Z,11nm,1.4s						
ZALV	**Zalesovo Beam**	**51.13**	**353**	P	**P**	**11 19 53.1**	**0.0**
	comp=Z,2.4nm,0.6s,baz=186,slow=7.4,SNR=5.5						
BVAR	**Borovoye Array**	**53.31**	**343**	P	**P**	**11 20 08.9**	**-0.5**
	comp=Z,0.8nm,0.6s,baz=126,slow=7.3,SNR=4.8						
ABKAR	**Akbulak array**	**54.20**	**333**	*e*P	**P**	**11 20 14.8**	**-1.2**
	comp=Z,1.1nm,0.7s						
AKTO	**Aktyubinsk**	**55.92**	**333**	LR	LR	11 47 36.2	
	comp=Z,95nm,18.2s,baz=139,slow=39						
KBZ	**Khabaz**	**60.37**	**320**	P	**P**	**11 20 59.2**	**-0.5**
	comp=Z,0.7nm,0.5s,baz=117,slow=6.3,SNR=3.3						
BRTR	**Keskin Array B**	**65.28**	**313**	P	**P**	**11 21 31.9**	**-0.9**
	comp=Z,1.0nm,0.8s,baz=121,slow=6.6,SNR=4.7						
TIXI	**Tiksi**	**71.86**	**11**	*e*P	**P**	**11 22 12.2**	**-0.7**
SEY	**Seymchan**	**73.30**	**24**	P	**P**	**11 22 22.1**	**+0.4**
	comp=Z,0.3nm,0.3s,baz=0.0,slow=20,SNR=2.8						
FINES	**FINESS Array B**	**76.69**	**333**	P	**P**	**11 22 41.5**	**+0.2**
	comp=Z,1.7nm,0.9s,baz=111,slow=7.6,SNR=3.2						
ARCES	**ARCESS Array B**	**79.54**	**341**	P	**P**	**11 22 57.6**	**+0.6**
	comp=Z,2.4nm,1.0s,baz=76,slow=3.8,SNR=2.9						
DPC	**Dobruska-Polom**	**79.58**	**321**	*e*P	**P**	**11 23 00.4**	**+2.8**
GEA0	**GERESS Array S**	**81.10**	**319**	*e*P	**P**	**11 23 05.7**	**-0.2**
GERES	**GERESS Array B**	**81.10**	**319**	P	**P**	**11 23 06.3**	**+0.4**
	comp=Z,1.0nm,0.6s,baz=110,slow=5.3,SNR=6.7						
KHC	**Kasperske Hory**	**81.21**	**319**	*e*P	**P**	**11 23 09.6**	**+3.2**
CLL	**Collm**	**81.78**	**321**	*e*P	**P**	**11 23 10.0**	**+0.7**
TORD	**Torodi Ar. Bea**	**91.35**	**283**	P	**P**	**11 23 56.7**	**-0.4**
	comp=Z,0.4nm,0.8s,baz=108,slow=4.4,SNR=2.4						
TXAR	**Lajitas Array**	**143.57**	**26**	PKP	**PKPdf**	**11 30 25.7**	**-0.4**
	comp=Z,0.3nm,0.8s,baz=343,slow=1.9,SNR=2.6						
CPUP	**Villa Florida**	**144.02**	**227**	PKP	**PKPab**	**11 30 23.8**	**-0.4**
	comp=Z,1.2nm,0.7s,baz=45,slow=8.6,SNR=3.4						

*IDC **21** 11:18:11.3±2.1, 1.°62S×134.°49E, h0km, mb3.4/2, mb1 3.6/4, mb1mx3.3/56, mbtmp3.5/4, ML3.5/2, Error ellipse: s-maj=36.6km s-min=18.7km az=37.0*
*DJA **21** 11:18:14.8±0.9, 2.°5S×13.°4E±1.°0, h10km, M3.9/4, MLv3.9/4*
ISC 21 11:18:14.4±1.2, 1.°60S±0.°07×134.°19E±0.°08, h29km, n7, σ2°38/9, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RKPI	**Ransiki, Papua**	**0.09**	**352**	P	**Pb**	**11 18 18.1**	**-1.5**
RKPI				S	**Sb**	**11 18 20.5**	**-2.6**
KMPI	**Kaimana, Papua**	**2.10**	**193**	P	**Pb**	**11 18 50.4**	**-1.5**
FAKI	**Fak Fak**	**2.34**	**236**	P	**Pb**	**11 18 54.1**	**-1.9**
SIJI	**Sorong**	**3.01**	**284**	Pn	**Pb**	**11 19 04.6**	**-2.8**
	3.2nm,0.3s,baz=233,slow=23,SNR=9.7						
SIJI				Pg	Pn	11 19 13.0	+13
	9.0nm,0.3s,baz=138,slow=12,SNR=12						
SIJI				Sn	**Sb**	**11 19 45.6**	**+1.9**
	5.1nm,0.3s,baz=108,slow=23,SNR=5.8						
SIJI				Lg	Lg	11 19 54.8	
	12nm,0.3s,baz=319,slow=22,SNR=10						
WRA	**Warramunga Arr**	**18.23**	**180**	P	**Pn**	**11 22 25.8**	**+0.3**
	0.2nm,0.3s,baz=0.7,slow=12,SNR=11						
ASAR	**Alice Springs**	**21.94**	**181**	P	**P**	**11 23 06.2**	**+0.4**
	0.8nm,0.5s,baz=7.6,slow=12,SNR=11						
MKAR	**Makanchi Array**	**66.19**	**324**	P	**P**	**11 29 02.4**	**+2.9**
	0.3nm,0.6s,baz=111,slow=7.3,SNR=3.1						

*ISCJB **21** 11:19:59.0±0.6, 1.°69S±0.°07×134.°38E±0.°07, h10km, mb4.0/7, MS3.8/2, Error ellipse: s-maj=12.8km s-min=6.5km az=42.1*
*NEIC **21** 11:20:00.8±0.5, 1.°75S×134.°27E, h10km, mb4.4/2, Error ellipse: s-maj=19.4km s-min=8.1km az=58.0*
*IDC **21** 11:20:02.5±3.7, 1.°89S×134.°22E, h23km±22km, mb3.8/7, mb1 4.0/9, mb1mx3.7/54, mbtmp4.0/9, ML4.0/2, MS3.7/3, Ms1 3.7/3, ms1mx3.1/53, Error ellipse: s-maj=23.7km s-min=11.4km az=80.0*
*DJA **21** 11:20:03.4±1.1, 1.°S±6°×13°5E±°, h26km±8km, M4.6/7, mB6.5/1, mb4.5/5, MLv4.6/7, Mw(mB)6.2/1*
ISC 21 11:20:00.4±0.7, 1.°71S±0.°06×134.°39E±0.°07, h10km, n27, σ2°16/25, mb4.1/7, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RKPI	**Ransiki, Papua**	**0.29**	**314**	P	**Pg**	**11 20 03.9**	**-2.4**
RKPI				S	**Sb**	**11 20 15.1**	**+2.5**
KMPI	**Kaimana, Papua**	**2.05**	**199**	P	Pg	11 20 48.4	+8.5
KMPI				S	Sg	11 21 18.3	+12
FAKI	**Fak Fak**	**2.45**	**241**	P	**Pg**	**11 20 49.8**	**+2.4**
SIJI	**Sorong**	**3.23**	**285**	Pn	**Pn**	**11 20 50.4**	**-0.9**
	15nm,0.3s,baz=91,slow=23,SNR=11						
SIJI				Pg	**Pg**	**11 20 59.5**	**-2.9**
	34nm,0.3s,baz=89,slow=13,SNR=12						
SIJI				Sn	**Sn**	**11 21 29.4**	**-0.5**
	41nm,0.3s,baz=13,slow=24,SNR=8.1						
SIJI				Lg	Lg	11 21 42.1	
	55nm,0.3s,baz=154,slow=20,SNR=8.4						
MSAI	**Masohi**	**5.69**	**253**	P	Pb	11 21 33.2	-6.

PMG	**Port Moresby**	**14.83**	**122**	*e*Pn	**Pn**	**11 23 31.7**	**+1.3**
COEN	**Coen**	**14.95**	**145**	*e*Pn	**Pn**	**11 23 32.8**	**+0.7**
WRAB	**Tennant Creek**	**18.11**	**180**	*e*P	**P**	**11 24 12.8**	**+0.1**
	15nm,1.1s						
WRA	**Warramunga Arr**	**18.12**	**180**	P	**Pn**	**11 24 09.1**	**-3.4**
	0.6nm,0.3s,baz=360,slow=11,SNR=16						
WRA				S	**Sn**	**11 27 30.2**	**-4.6**
	0.1nm,0.3s,baz=7.8,slow=22,SNR=3.5						
CTA	**Charters Tower**	**21.64**	**148**	P	**P**	**11 24 52.0**	**+0.8**
	5.6nm,0.8s,baz=330,slow=12,SNR=9.6						
CTAO	**Charters Tower**	**21.64**	**148**	*e*P	**P**	**11 24 51.9**	**+0.8**
	45nm,1.0s						
ASAR	**Alice Springs**	**21.83**	**181**	P	**P**	**11 24 52.3**	**-0.9**
	7.1nm,0.9s,baz=7.0,slow=10,SNR=17						
ASAR				S	**S**	**11 28 51.8**	**-2.9**
	2.1nm,0.9s,baz=2.7,slow=21,SNR=5.4						
STKI	**Sintang**	**22.97**	**274**	P	**P**	**11 25 07.5**	**+2.0**
CMAR	**Chiang Mai Arr**	**40.22**	**302**	P	**P**	**11 27 36.8**	**-0.8**
	2.2nm,0.9s,baz=130,slow=6.8,SNR=7.2						
SONM	**Songimo Array**	**55.06**	**337**	P	**P**	**11 29 34.3**	**+1.7**
	1.3nm,1.1s,baz=142,slow=7.3,SNR=3.8						
MKAR	**Makanchi Array**	**66.40**	**324**	P	**P**	**11 30 50.3**	**+0.5**
	1.3nm,0.7s,baz=139,slow=6.8,SNR=4.8						
AAK	**Ala-Archa**	**69.51**	**317**	LR	LR	12 03 45.8	
	comp=Z,107nm,21.4s,baz=230,slow=38						
KURK	**Kurchatov**	**70.45**	**326**	P	**P**	**11 31 14.2**	**-0.9**
KURBB	**Kurchatov Arra**	**70.46**	**326**	P	**P**	**11 31 14.2**	**-0.9**
	1.3nm,0.9s,baz=119,slow=6.1,SNR=6.9						
PPT	**Papeete**	**76.17**	**108**	LR	LR	12 02 57.4	
	comp=Z,26nm,19.2s,baz=267,slow=34						
ILAR	**Eielson Array**	**86.74**	**25**	P	**P**	**11 32 44.5**	**0.0**
	0.3nm,0.7s,baz=262,slow=6.2,SNR=3.7						
TORD	**Torodi Ar. Bea**	**131.83**	**286**	PKP	**PKPdf**	**11 39 16.3**	**+1.2**
	0.4nm,0.7s,baz=73,slow=2.5,SNR=2.8						

*TIR **21** 11:20:13.0, 42˚.45N×18˚.65E, h5km, Md3.5/4*
*IASPEI **21** 11:20:18.6±0.9, 42˚.34N±0˚.02×18˚.92E±0˚.02, h5km±6km, Error ellipse: s-maj=3.3km s-min=2.2km az=51.1, GT5 selection from ISC bulletin GT5 identified by Bond˚jr and McLaughlin (2009) selection criteria Bond˚jr and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009*
*CSEM **21** 11:20:18.5±0.2, 42˚.35N×18˚.92E, h2km, ML3.1/6, Error ellipse: s-maj=4.0km s-min=3.1km az=48.0*
*PDG **21** 11:20:18.8±0.1, 42˚.35N×18˚.92E, h3km, MD2.7/3, ML2.6/11, Error ellipse: s-maj=0.2km s-min=0.3km az=0.0*
*BEO **21** 11:20:22.2±0.4, 42˚.38N×19˚.36E, h10km±4km*

ISC 21 11:20:18.6±1.0, 42˚.36N±0˚.01×18˚.93E±0˚.02, h2km±8km, n79, σ1s65/154, 15C-20D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
BUM	**Brajici-Budva**	**0.06**	**206**	↑	*i*Pg	**Pg**	**11 20 19.7**	**-0.2**
BUM					*e*Sg	**Sg**	**11 20 20.8**	**+0.1**
BUM	**Brajici-Budva**	**0.06**	**206**	↑	*i*Pg	**Pg**	**11 20 19.7**	**-0.2**
BUM					*e*Sg	**Sg**	**11 20 20.8**	**+0.1**
CEME	**Cevo**	**0.19**	**358**	↑	*i*Pg	**Pg**	**11 20 22.8**	**+0.4**
CEME					*e*Sg	**Sg**	**11 20 26.1**	**+1.2**
CEME	**Cevo**	**0.19**	**358**	↑	*i*Pg	**Pg**	**11 20 22.8**	**+0.4**
CEME					*e*Sg	**Sg**	**11 20 26.1**	**+1.2**
DRME	**Dracevica, Mon**	**0.25**	**131**	↓	*i*Pg	**Pg**	**11 20 23.4**	**-0.1**
DRME					*e*Sg	**Sg**	**11 20 27.9**	**+1.1**
DRME	**Dracevica, Mon**	**0.25**	**131**	↓	*i*Pg	**Pg**	**11 20 23.3**	**-0.2**
DRME					*e*Sg	**Sg**	**11 20 27.9**	**+1.1**
PDG	**Podgorica**	**0.25**	**73**		*e*Pg	**Pg**	**11 20 23.8**	**+0.3**
PDG					*e*Sg	**Sg**	**11 20 27.7**	**+0.9**
	1μm,0.3s							
PDG					*e*Sg	**Sg**	**11 20 27.7**	**+0.9**
	977nm,0.3s							
PDG	**Podgorica**	**0.25**	**73**	↑	*i*P	**Pg**	**11 20 23.8**	**+0.3**
PDG					S	**Sg**	**11 20 28.0**	**+1.2**
PDG	**Podgorica**	**0.25**	**73**	↓	*i*Pg	**Pg**	**11 20 23.6**	**+0.1**
PDG					*e*Sg	**Sg**	**11 20 27.8**	**+0.9**
TTG	**Podgorica**	**0.25**	**73**	↓	*i*Pg	**Pg**	**11 20 23.6**	**+0.1**
TTG					*e*Sg	**Sg**	**11 20 27.8**	**+0.9**
HCY	**Herceg Novi**	**0.34**	**286**	↓	*i*Pg	**Pg**	**11 20 25.3**	**+0.2**
HCY					*e*Sg	**Sg**	**11 20 30.4**	**+1.0**
HCY	**Herceg Novi**	**0.34**	**286**	↓	*i*Pg	**Pg**	**11 20 25.3**	**+0.2**
HCY					*e*Sg	**Sg**	**11 20 30.4**	**+1.0**
NKME	**Niksic**	**0.41**	**3**	↓	*i*Pg	**Pg**	**11 20 26.6**	**0.0**
NKME					*e*Sg	**Sg**	**11 20 33.6**	**+1.6**
NKME	**Niksic**	**0.41**	**3**	↓	*i*Pg	**Pg**	**11 20 26.6**	**0.0**
NKME					*e*Sg	**Sg**	**11 20 33.6**	**+1.6**
ULC	**Ulcinj**	**0.46**	**149**	↑	*i*Pg	**Pg**	**11 20 27.3**	**-0.1**
ULC					*e*Sg	**Sg**	**11 20 34.5**	**+1.2**
ULC	**Ulcinj**	**0.46**	**149**	↑	*i*Pg	**Pg**	**11 20 27.3**	**-0.1**
ULC					*e*Sg	**Sg**	**11 20 34.5**	**+1.2**
NKY	**Niksic**	**0.46**	**6**	↓	*i*Pg	**Pg**	**11 20 27.6**	**+0.1**
NKY					*e*Sg	**Sg**	**11 20 35.1**	**+1.6**
NKY	**Niksic**	**0.46**	**6**	↓	*i*Pg	**Pg**	**11 20 27.6**	**+0.1**
NKY					*e*Sg	**Sg**	**11 20 35.1**	**+1.6**
TREB	**Trebinje**	**0.56**	**310**	↓	*i*Pg	**Pg**	**11 20 29.3**	**-0.1**
TREB					*e*Sg	**Sg**	**11 20 37.7**	**+1.0**
BRY	**Bratogost**	**0.62**	**332**	↓	*i*Pg	**Pg**	**11 20 30.2**	**-0.3**
BRY					*e*Sg	**Sb**	**11 20 40.3**	**-1.1**
BRY	**Bratogost**	**0.62**	**332**	↓	*i*Pg	**Pg**	**11 20 30.2**	**-0.3**
BRY					*e*Sg	**Sb**	**11 20 40.3**	**-1.1**
KOME	**Kolasin**	**0.66**	**41**	↓	*i*Pg	**Pg**	**11 20 31.1**	**-0.2**
KOME					*e*Sg	**Sb**	**11 20 41.8**	**-0.8**
KOME	**Kolasin**	**0.66**	**41**	↓	*i*Pg	**Pg**	**11 20 31.1**	**-0.2**
KOME					*e*Sg	**Sb**	**11 20 41.8**	**-0.8**
PUK	**Puka**	**0.78**	**113**		*i*Pg	**Pg**	**11 20 34.1**	**+0.5**
PUK					*i*Sg	**Sn**	**11 20 48.4**	**-0.6**
	baz=113							
PUK	**Puka**	**0.78**	**113**		*i*PG	**Pg**	**11 20 34.1**	**+0.5**
PUK					*i*SG	**Sn**	**11 20 48.4**	**-0.6**
PVY	**Plav**	**0.80**	**72**	↓	*i*Pg	**Pg**	**11 20 33.9**	**-0.1**
PVY					*e*Sg	**Sb**	**11 20 46.5**	**-0.1**
BCI	**Bajram Curri**	**0.84**	**89**		*i*Pg	**Pg**	**11 20 34.9**	**+0.1**
BCI					*i*Sg	**Sb**	**11 20 47.8**	**0.0**
BCI	**Bajram Curri**	**0.84**	**89**		*i*PG	**Pg**	**11 20 34.9**	**+0.1**
BCI					*i*SG	**Sb**	**11 20 47.8**	**0.0**
UPM	**Unac-Piva**	**0.85**	**359**	↑	*i*Pg	**Pg**	**11 20 34.6**	**-0.3**
UPM					*e*Sg	**Sb**	**11 20 48.1**	**0.0**
UPM	**Unac-Piva**	**0.85**	**359**	↑	*i*Pg	**Pg**	**11 20 35.2**	**+0.3**
UPM	**Unac-Piva**	**0.85**	**359**		P	**Pg**	**11 20 48.1**	**0.0**
UPM					*e*Sg	**Sb**	**11 20 48.1**	**0.0**
BEY	**Berane**	**0.88**	**54**	↑	*i*Pg	**Pg**	**11 20 36.4**	**-0.1**
BEY	**Berane**	**0.88**	**54**		P	**Pb**	**11 20 36.5**	**-0.2**
BEY					*e*Sg	**Sb**	**11 20 49.4**	**+0.5**
IVA	**Berane**	**0.88**	**54**	↑	*i*Pg	**Pg**	**11 20 35.4**	**-0.1**
IVA					*e*Sg	**Sb**	**11 20 49.4**	**+0.5**
PLE	**Pljevlja**	**1.03**	**19**	↓	*i*Pg	**Pg**	**11 20 38.2**	**-0.2**
PLE					*e*Sg	**Sn**	**11 20 54.7**	**-0.6**
PEJK	**Peje**	**1.04**	**73**		P	**Pb**	**11 20 39.2**	**-0.2**
PEJK					S	**Sn**	**11 20 56.0**	**+0.6**
STON	**Ston**	**1.04**	**300**		*i*Pg	**Pg**	**11 20 36.7**	**-2.0**
STON					Sg	**Sn**	**11 20 53.4**	**-2.0**
STON	**Ston**	**1.04**	**300**		*i*Pg	**Pg**	**11 20 36.6**	**-2.0**
STON					*e*Sg	**Sb**	**11 20 52.8**	**-0.7**
SJES	**Sjenica**	**1.19**	**40**		*e*Pg	**Pb**	**11 20 40.3**	**-1.7**
SJES					*e*Sg	**Sb**	**11 20 53.9**	**-3.9**
	109nm,0.6s							
SJES					*e*Sg	**Sb**	**11 20 54.0**	**-3.9**
	141nm,0.9s							
TIR	**Tirane**	**1.23**	**145**		*e*Pg	**Pn**	**11 20 41.2**	**-1.6**
TIR					*e*Sg	**Sb**	**11 20 57.3**	**-1.4**
	79nm,0.8s							
TIR					*e*Sg	**Sg**	**11 20 58.1**	**+0.1**
	75nm,0.6s							
TIR	**Tirane**	**1.23**	**145**	↓	*i*P	**Pg**	**11 20 45.4**	**+3.3**
TIR					S	**Sn**	**11 21 04.1**	**+4.2**
TIR	**Tirane**	**1.23**	**145**		*e*Pg	**Pn**	**11 20 41.2**	**-1.6**
TIR	**Tirane**	**1.23**	**145**	↓	*i*P	**Pg**	**11 20 45.4**	**+3.3**
TIR					*e*Sg	**Sb**	**11 20 57.3**	**-1.4**
	79nm,0.8s							
TIR	**Tirane**	**1.23**	**145**		*i*PG	**Pb**	**11 20 42.0**	**-0.4**
PHP	**Peshkopia**	**1.31**	**120**		*i*Pg	**Pn**	**11 20 42.8**	**-1.2**
PHP	**Peshkopia**	**1.31**	**120**		*i*PG	**Pn**	**11 20 42.8**	**-1.2**
PHP					*i*SG	**Sg**	**11 21 06.4**	**+5.7**
IVAS	**Ivanjica**	**1.52**	**36**		*e*Pg	**Pn**	**11 20 46.3**	**-0.5**
IVAS					*e*Sg	**Sn**	**11 21 03.8**	**-3.4**
	31nm,0.4s							
IVAS					*e*Sg	**Sb**	**11 21 04.6**	**-2.6**
	72nm,0.5s							
IVAS	**Ivanjica**	**1.52**	**36**		*e*Pg	**Pn**	**11 20 46.3**	**-0.5**
IVAS					*e*Sg	**Sn**	**11 21 03.8**	**-3.4**
	31nm,0.4s,baz=5.0							
BBLS	**Lazići**	**1.55**	**13**		*e*Pg	**Pg**	**11 20 49.1**	**+0.7**
BBLS					*e*Sg	**Sg**	**11 21 09.2**	**+0.7**
	87nm,0.7s							
BBLS					*e*Sg	**Sb**	**11 21 09.7**	**+1.5**
	98nm,0.8s							
BBLS	**Lazići**	**1.55**	**13**		*e*Pn	**Pg**	**11 20 48.4**	**0.0**
BBLS	**Lazići**	**1.55**	**13**		*e*Pg	**Pg**	**11 20 49.1**	**+0.7**
BBLS					*e*Sg	**Sg**	**11 21 09.2**	**+0.7**
	87nm,0.7s							
HAPS	**Han Pijesak,Bl**	**1.73**	**1**		*e*Pn	**Pb**	**11 20 50.6**	**-0.6**
HAPS					*e*Sn	**Sb**	**11 21 13.1**	**-0.3**
SELS	**Selova**	**1.83**	**61**		*e*Pg	**Pn**	**11 20 50.6**	**-0.5**
SELS					*e*Sg	**Sn**	**11 21 10.7**	**-4.2**
	20nm,0.6s							
SELS					*e*Sg	**Sb**	**11 21 11.1**	**-5.1**
	46nm,0.8s							
DIVS	**Divibare**	**1.91**	**24**		*e*Pg	**Pb**	**11 20 53.7**	**-0.5**
DIVS					*e*Sg	**Sb**	**11 21 18.3**	**-0.2**
	29nm,1.0s							
DIVS					*e*Sg	**Sg**	**11 21 18.7**	**-1.2**
	18nm,0.6s							
DIVS	**Divibare**	**1.91**	**24**		*e*Pn	**Pn**	**11 20 52.6**	**+0.3**
DIVS	**Divibare**	**1.91**	**24**		*e*Pg	**Pb**	**11 20 53.7**	**-0.5**
DIVS					*e*Sn	**Sb**	**11 21 17.7**	**-0.8**
DIVS					*e*Sg	**Sb**	**11 21 18.3**	**-0.2**
	29nm,1.0s							
KRUS	**Krusevo**	**1.99**	**119**		*e*Pn	**Pb**	**11 20 55.4**	**-0.2**
GRUS	**Gruza**	**2.02**	**40**		*e*Pg	**Pb**	**11 20 55.2**	**-0.8**
GRUS					*e*Sg	**Sn**	**11 21 18.5**	**-0.9**
	17nm,0.6s							
GRUS					*e*Sg	**Sn**	**11 21 19.7**	**+0.3**
	28nm,1.1s							
GRUS	**Gruza**	**2.02**	**40**		*e*Pg	**Pb**	**11 20 55.2**	**-0.8**
GRUS					*e*Sg	**Sn**	**11 21 19.7**	**+0.3**
	28nm,1.1s,baz=3.0							
TRUS	**Trudelj**	**2.16**	**30**		*e*Pg	**Pb**	**11 20 57.3**	**-1.1**
TRUS					*e*Sg	**Sb**	**11 21 25.5**	**-0.1**
	22nm,0.8s							
TRUS					*e*Sg	**Sb**	**11 21 25.6**	**-0.1**
	18nm,0.9s							
TRUS	**Trudelj**	**2.16**	**30**		*e*Pg	**Pb**	**11 20 57.3**	**-1.1**
TRUS					*e*Sg	**Sb**	**11 21 25.5**	**-0.1**
	22nm,0.8s							
TEKS	**Tekeris**	**2.24**	**11**		*e*Pg	**Pb**	**11 21 00.5**	**+0.7**
TEKS					*e*Sg	**Sg**	**11 21 30.9**	**+0.4**
	19nm,1.0s							
TEKS					*e*Sg	**Sb**	**11 21 31.9**	**+4.0**
	11nm,0.6s							
TEKS	**Tekeris**	**2.24**	**11**		*e*Pn	**Pb**	**11 20 57.9**	**-1.9**
TEKS	**Tekeris**	**2.24**	**11**		*e*Pg	**Pb**	**11 21 00.5**	**+0.7**
TEKS					*e*Sn	**Sn**	**11 21 25.6**	**+0.7**
TEKS					*e*Sg	**Sg**	**11 21 30.9**	**+0.4**
	19nm,1.0s							
BLY	**Banja Luka**	**2.71**	**333**	↓	*i*P	**Pb**	**11 21 07.3**	**-0.5**
BLY	**Banja Luka**	**2.71**	**333**		S	**Sb**	**11 21 42.4**	**+1.0**
BLY	**Banja Luka**	**2.71**	**333**		*e*Pn	**Pn**	**11 21 04.6**	**+1.4**
BLY					*e*Sn	**Sn**	**11 21 37.9**	**+1.4**
ZAGS	**Zajecar**	**2.83**	**58**		*e*Pg	**Pb**	**11 21 07.7**	**-2.1**
ZAGS					*e*Sg	**Sb**	**11 21 43.2**	**-1.6**
	4.2nm,0.7s							
ZAGS					*e*Sg	**Sn**	**11 21 43.5**	**+4.1**
	18nm,0.7s							
KUBS	**Kucevo**	**2.87**	**43**		*e*Pg	**Pb**	**11 21 08.6**	**-2.0**
ZAPS	**Zavoj**	**2.88**	**70**		*e*Pg	**Pb**	**11 21 07.9**	**-2.8**
ZAPS					*e*Sg	**Sb**	**11 21 43.4**	**-2.9**
	4.8nm,0.6s							
ZAPS					*e*Sg	**Sb**	**11 21 43.4**	**-2.9**
	6.1nm,0.4s							
UDBI	**Udbina**	**3.17**	**314**		*e*Pn	**Pb**	**11 21 13.1**	**-2.5**
UDBI	**Udbina**	**3.17**	**314**		*e*Pn	**Pb**	**11 21 13.1**	**-2.5**
VTS	**Vitosha**	**3.17**	**84**	↑	*i*P	**Pb**	**11 21 13.0**	**-2.8**
VTS	**Vitosha**	**3.17**	**84**	↑	*i*P	**Pb**	**11 21 13.0**	**-2.8**
VTS					S	**Sn**	**11 21 50.0**	**+1.8**
NVLJ	**Novalja**	**3.69**	**308**		*e*Pn	**Pn**	**11 21 17.4**	**+0.8**
NVLJ					Sn	**Sn**	**11 22 02.7**	**+2.0**
NVLJ	**Novalja**	**3.69**	**308**		*e*Pn	**Pn**	**11 21 17.4**	**+0.8**
NVLJ					Sn	**Sn**	**11 22 02.6**	**+2.0**
BZS	**Buzias**	**3.79**	**30**	↑	*i*P	**Pn**	**11 21 21.4**	**+3.3**
BZS	**Buzias**	**3.79**	**30**		S	**Sn**	**11 22 07.2**	**+3.9**
BZS	**Buzias**	**3.79**	**30**	↑	*i*P	**Pn**	**11 21 21.4**	**+3.3**

MAN 21 11:29:56, 9.27N×126.18E, h6km, mb3.9, ML2.7, MS2.2, 1C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
BUTP	**Butuan**	**0.63**	**242**		*e*P	Pb	11 30 09.2	-0.2
BUTP					*e*S	Sn	11 30 24.4	+2.6
SCPH	**Surigao**	**0.85**	**307**	↑	*e*P	Pb	11 30 13.4	+0.3
SCPH					*e*S	Sn	11 30 28.0	+0.7
CGP	**Cagayan de Oro**	**1.68**	**241**		*e*P	Sg	11 30 52.0	+2.0
BUKP	**Musuan**	**1.77**	**219**		*e*P	Pn	11 30 27.5	+0.3

*ISCJB **21** 11:31:48.9±0.5, 39˚.12N±0˚.03×29˚.15E±0˚.04, h9km±4km, Error ellipse: s-maj=5.5km s-min=4.4km az=150.6*
*CSEM **21** 11:31:48.9±0.1, 39˚.12N×29˚.16E, h8km, ML2.1, Error ellipse: s-maj=2.7km s-min=2.1km az=121.0*
*ISK **21** 11:31:48.3, 39˚.12N×29˚.18E, h6km, ML2.1/5*
*DDA **21** 11:31:48.9, 39˚.11N×29˚.16E, h7km, Ml2.6*

ISC 21 11:31:49.0±0.9, 39.12N±0˚.03×29.16E±0˚.02, h10km±7km, n22, σ0s40/36, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SIMA	**Simav-Kutahya**	**0.14**	**255**		PG	**Pg**	**11 31 51.9**	**-0.3**
SIMA					SG	**Sg**	**11 31 54.6**	**+0.1**
SIMA	**Simav-Kutahya**	**0.14**	**255**		*e*Pg	**Pg**	**11 31 51.9**	**-0.3**
SIMA					*e*Sg	**Sg**	**11 31 54.6**	**+0.1**
GDZ	**Gediz**	**0.26**	**97**		*i*P	**Pg**	**11 31 54.3**	**0.0**
GDZ					*i*S	**Sg**	**11 31 58.3**	**+0.6**
GDZ	**Gediz**	**0.26**	**97**		P	**Pg**	**11 31 54.3**	**0.0**
GDZ					S	**Sg**	**11 31 58.3**	**+0.6**
DEMI	**Demirci**	**0.35**	**257**		*i*P	**Pg**	**11 31 56.2**	**+0.2**
DEMI					*i*S	**Sg**	**11 32 00.6**	**0.0**
DEMI	**Demirci**	**0.35**	**257**		P	**Pg**	**11 31 56.2**	**+0.2**
DEMI					S	**Sg**	**11 32 00.6**	**0.0**
TVSB	**Tavsanli**	**0.41**	**36**		PG	**Pg**	**11 31 56.5**	**-0.5**
TVSB					SG	**Sg**	**11 32 02.3**	**-0.1**
TVSB	**Tavsanli**	**0.41**	**36**		*e*Pg	**Pg**	**11 31 56.5**	**-0.5**
TVSB					*e*Sg	**Sg**	**11 32 02.3**	**-0.1**
DURS	**Dursunbey**	**0.71**	**312**		*i*P	**Pg**	**11 32 03.0**	**+0.2**
DURS					*i*S	**Sb**	**11 32 13.1**	**-0.4**
DURS	**Dursunbey**	**0.71**	**312**		P	**Pg**	**11 32 03.0**	**+0.2**
DURS					S	**Sb**	**11 32 13.1**	**-0.4**
KULA	**Kula-Manisa**	**0.72**	**213**		PG	**Pg**	**11 32 02.6**	**-0.3**
KULA	**Kula-Manisa**	**0.72**	**213**		*e*Pg	**Pg**	**11 32 02.6**	**-0.3**
MANT	**Manisa**	**0.78**	**217**		*i*P	**Pg**	**11 32 04.1**	**0.0**
MANT					*i*S	**Sg**	**11 32 13.8**	**-0.6**
MANT	**Manisa**	**0.78**	**217**		P	**Pg**	**11 32 04.1**	**0.0**
MANT					S	**Sg**	**11 32 13.8**	**-0.6**
KHAL	**Karahalli**	**0.79**	**161**		*i*P	**Pb**	**11 32 05.0**	**+0.1**
KHAL					*i*S	**Sb**	**11 32 15.3**	**-0.5**
KHAL	**Karahalli**	**0.79**	**161**		P	**Pb**	**11 32 05.0**	**+0.1**
KHAL					S	**Sb**	**11 32 15.3**	**-0.5**
CAVI	**Cavuskoy**	**1.20**	**26**		PN	**Pg**	**11 32 11.5**	**-0.6**
CAVI	**Cavuskoy**	**1.20**	**26**		*e*Pn	**Pg**	**11 32 11.5**	**-0.6**
YLV	**Yalova**	**1.45**	**7**		PN	**Pn**	**11 32 15.9**	**+0.5**
YLV	**Yalova**	**1.45**	**7**		*e*Pn	**Pn**	**11 32 15.9**	**+0.5**
ARMT	**Armutlu**	**1.46**	**351**		PN	**Pn**	**11 32 16.0**	**+0.6**
ARMT	**Armutlu**	**1.46**	**351**		*e*Pn	**Pn**	**11 32 16.0**	**+0.6**

*ISCJB **21** 11:32:01.9±0.5, 37˚.14N±0˚.03×37˚.16E±0˚.04, h0km, Error ellipse: s-maj=4.4km s-min=3.8km az=13.1*
*ISK **21** 11:32:01.0, 37˚.14N×37˚.16E, h9km, ML2.1/6*
*CSEM **21** 11:32:01.6±0.3, 37˚.16N×37˚.16E, h1km, ML2.1, Error ellipse: s-maj=7.4km s-min=6.6km az=67.0, Suspected Mining explosion.*
*DDA **21** 11:32:02.4, 37˚.10N×37˚.16E, h7km, Ml2.9, Suspected Mining explosion.*

ISC 21 11:32:01.2±0.8, 37.11N±0˚.03×37.16E±0˚.03, h0km, n23, σ0s66/37, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
GAZ	**Gaziantep**	**0.08**	**34**		PG	**Pg**	**11 32 03.2**	**+0.5**
GAZ					SG	**Sg**	**11 32 04.8**	**+1.1**
GAZ	**Gaziantep**	**0.08**	**34**		*e*Pg	**Pg**	**11 32 03.2**	**+0.5**
GAZ					*e*Sg	**Sg**	**11 32 04.8**	**+1.1**
KUZU	**Kuzuini**	**0.34**	**191**		*i*P	**Pb**	**11 32 09.6**	**-0.5**
KUZU					*i*S	**Sb**	**11 32 16.2**	**+0.1**
KUZU	**Kuzuini**	**0.34**	**191**		P	**Pb**	**11 32 09.6**	**-0.5**
KUZU					S	**Sb**	**11 32 16.2**	**+0.1**
KMRS	**Kahramanmaras**	**0.45**	**333**		PG	**Pg**	**11 32 09.7**	**-0.1**
KMRS					SG	**Sg**	**11 32 16.0**	**+0.4**
KMRS	**Kahramanmaras**	**0.45**	**333**		*e*Pg	**Pg**	**11 32 09.7**	**-0.1**
KMRS					*e*Sg	**Sg**	**11 32 16.0**	**+0.4**
ANDN	**Andirin**	**0.80**	**306**		*i*P	**Pb**	**11 32 17.9**	**-0.2**
ANDN					*i*S	**Sb**	**11 32 30.1**	**+0.6**
ANDN	**Andirin**	**0.80**	**306**		P	**Pb**	**11 32 17.9**	**-0.2**
ANDN					S	**Sb**	**11 32 30.1**	**+0.6**
KOZT	**Kozan**	**1.12**	**290**		PN	**Pb**	**11 32 22.8**	**-0.7**
KOZT	**Kozan**	**1.12**	**290**		*e*Pn	**Pb**	**11 32 22.8**	**-0.7**
SURC	**SANLIURFA_SURC**	**1.19**	**101**		*i*P	**Pb**	**11 32 24.7**	**+0.1**
SURC					*i*S	**Sn**	**11 32 42.3**	**+0.3**
SURC	**SANLIURFA_SURC**	**1.19**	**101**		P	**Pb**	**11 32 24.7**	**+0.1**
SURC					S	**Sn**	**11 32 42.3**	**+0.3**
ELBS	**KAHRAMANMARAS**	**1.22**	**359**		*i*P	**Pb**	**11 32 25.1**	**0.0**
ELBS					*i*S	**Sn**	**11 32 42.9**	**+0.1**
ELBS	**KAHRAMANMARAS**	**1.22**	**359**		P	**Pb**	**11 32 25.1**	**0.0**
ELBS					S	**Sn**	**11 32 42.9**	**+0.1**
YAYL	**Yayladag**	**1.36**	**219**		PN	**Pn**	**11 32 27.2**	**-0.4**
YAYL	**Yayladag**	**1.36**	**219**		*i*P	**Pn**	**11 32 27.1**	**-0.4**
YAYL					*i*S	**Sn**	**11 32 47.5**	**+1.1**
YAYL	**Yayladag**	**1.36**	**219**		*e*Pn	**Pn**	**11 32 27.2**	**-0.4**
YAYL					S	**Sn**	**11 32 47.5**	**+1.1**
URFA	**Urfa**	**1.37**	**75**		PN	**Pg**	**11 32 26.8**	**-0.6**
URFA	**Urfa**	**1.37**	**75**		*e*Pn	**Pg**	**11 32 26.8**	**-0.6**
DARE	**Darende-Malaty**	**1.48**	**10**		PN	**Pn**	**11 32 27.9**	**-1.3**
DARE	**Darende-Malaty**	**1.48**	**10**		*e*Pn	**Pn**	**11 32 27.9**	**-1.3**
MALT	**Malatya**	**1.57**	**40**		PN	**Pn**	**11 32 29.5**	**-0.9**
MALT	**Malatya**	**1.57**	**40**		*e*Pn	**Pn**	**11 32 29.5**	**-0.9**

*MOS **21** 11:36:01.4±1.0, 14˚.56S×71˚.39W, h81km, mb5.5/73, Error ellipse: s-maj=8.5km s-min=4.9km az=102.4*
*ISCJB **21** 11:36:01.1±0.6, 14˚.69S±0˚.02×71˚.51W±0˚.03, h86km±5km, mb5.3/350, Error ellipse: s-maj=4.9km s-min=3.1km az=138.6*
*IDC **21** 11:36:02.7±0.5, 14˚.75S×71˚.44W, h87km±3km, mb4.9/36, mb1 5.0/37, mb1mx5.0/44, mbtmp5.2/37, MS3.9/11, Ms1 3.9/11, ms1mx3.6/39, Error ellipse: s-maj=13.1km s-min=9.0km az=68.0*
*BJI **21** 11:36:03.2, 14˚.80S×71˚.50W, h106km, mB5.3/21*
*GCMT **21** 11:36:05.4±0.1, 14˚.93S×71˚.79W, h136km, MW5.4/120, Moment Tensor Solution. s103,c157; s120,c230; Duration: 1s2 Moment tensor: Scale 10^{17}Nm; M_{rr}1.06±.02; $M_{\theta\theta}$-0.56±.02; $M_{\phi\phi}$-0.50±.03; $M_{r\theta}$0.12±.02; $M_{\theta\phi}$0.80±.02; $M_{\phi r}$-0.72±.02; Best double couple: $M_0$1.41900×10^{17} NP1:ϕ_s154.00000°,δ62.00000°, λ113.00000°. NP2:ϕ_s293.00000°,δ36.00000°,λ55.00000°. Principal axes: T 1.3630, Plg66.0000°, Azm105.0000°; N 0.1070, Plg20.0000°, Azm323.0000°; P -1.4750, Plg14.0000°, Azm228.0000°; nsta1 refers to body waves, cutoff=40s. ns

	comp=Z,408nm,1.8s										
RUSC	**La Rusia**	**20.64**	**355**	*e*P		**P**		**11 40 37.1**	**+0.2**		
HELC	**Santa Helena**	**21.26**	**349**	*e*P		**P**		**11 40 43.8**	**+0.4**		
	comp=Z,146nm,0.7s										
HELC				*e*S		**S**		**11 44 35.8**	**+2.7**		
HELC	**Santa Helena**	**21.26**	**349**	*e*P		**P**		**11 40 43.4**	**+0.1**		
BARC	**Barichara**	**21.34**	**355**	*e*P		**P**		**11 40 43.7**	**-0.4**		
PTBC	**PUERTO BERRIO,**	**21.43**	**352**	*e*P		**P**		**11 40 42.7**	**-2.0**		
SOLC	**Bahia Solano**	**21.73**	**344**	*e*P		**P**		**11 40 51.0**	**+3.1**		
BRRC	**Barranca, Sant**	**21.90**	**354**	*e*P		**P**		**11 40 48.2**	**-1.5**		
PAMC	**Pamplona, Colo**	**22.05**	**357**	*e*P		**P**		**11 40 51.3**	**-0.5**		
ZARC	**Zaragoza, Cauc**	**22.42**	**351**	*e*P		**P**		**11 40 54.1**	**-1.0**		
OCAC	**Ocana**	**22.98**	**355**	*e*P		**P**		**11 41 01.4**	**+0.6**		
SDV	**Santo Domingo**	**23.56**	**2**	P		**P**		**11 41 05.9**	**-0.3**		
	comp=Z,99nm,0.8s,baz=198,slow=6.7,SNR=74										
SDV				S		**S**		**11 45 10.5**	**-1.1**		
	comp=Z,11nm,0.9s,baz=103,slow=19,SNR=3.1										
SDV	**Santo Domingo**	**23.56**	**2**	*e*P		**P**		**11 41 05.9**	**-0.3**		
	comp=Z,137nm,0.8s										
SDV				S		**S**		**11 45 10.6**	**-1.1**		
SDV	**Santo Domingo**	**23.56**	**2**	*e*P		**P**		**11 41 06.2**	**+0.1**		
MOTC	**Monteria, Cord**	**23.81**	**350**	*e*P		**P**		**11 41 07.0**	**-1.2**		
CAPC	**Capurgana**	**24.02**	**346**	*e*P		**P**		**11 41 09.5**	**-0.6**		
SPB	**Sao Paulo**	**24.27**	**115**	*e*P		**P**		**11 41 13.0**	**+0.6**		
	comp=Z,318nm,1.0s										
TRQA	**Tornquist**	**24.62**	**162**	*e*P		**P**		**11 41 14.8**	**-0.6**		
	comp=Z,64nm,1.3s										
TRQA	**Tornquist**	**24.62**	**162**	P		**P**		**11 41 17.5**	**+2.1**		
TRQA				pmax		pmax					
	comp=Z,56nm,1.5s										
CODC	**Agust`›n Codaz**	**24.67**	**355**	*e*P		**P**		**11 41 12.4**	**-3.5**		
BCIP	**Isla Barro Col**	**25.24**	**340**	*e*P		**P**		**11 41 23.0**	**+1.9**		
	comp=Z,154nm,1.0s										
BCIP	**Isla Barro Col**	**25.24**	**340**	*e*P		**P**		**11 41 17.7**	**-3.4**		
PLCA	**Paso Flores**	**25.83**	**178**	P		**P**		**11 41 26.1**	**-0.3**		
	comp=Z,15nm,0.7s,baz=28,slow=10,SNR=29										
PLCA				PcP		**PcP**		**11 44 53.5**	**+0.7**		
	comp=Z,9.8nm,0.8s,baz=358,slow=3.3,SNR=7.4										
PLCA	**Paso Flores**	**25.83**	**178**	*e*P		**P**		**11 41 26.1**	**-0.3**		
	comp=Z,233nm,1.5s										
PLCA				PcP		**PcP**		**11 44 53.5**	**+0.7**		
PLCA	**Paso Flores**	**25.83**	**178**	*e*P		**P**		**11 41 26.1**	**-0.3**		
PLCA								11 44 53.5			
PLCA				pmax		pmax					
	comp=Z,233nm,1.5s										
HDC	**Heredia**	**27.67**	**332**	*e*P		**P**		**11 41 45.3**	**+2.2**		
	comp=Z,168nm,1.2s										
JTS	**JuntasAbangare**	**28.31**	**331**	P		**P**		**11 41 50.5**	**+1.8**		
	comp=Z,10nm,0.9s,baz=209,slow=5.8,SNR=8.4										
GRGR	**Grenville**	**28.48**	**20**	*e*P		P		11 41 44.0	-6.2		
	comp=Z,546nm,1.0s										
SVB	**Belmont**	**29.68**	**20**	*e*P		**P**		**11 42 00.6**	**-0.2**		
	comp=Z,211nm,0.8s										
SVB	**Belmont**	**29.68**	**20**	*e*P		**P**		**11 42 00.8**	**0.0**		
MCLT	**Moule a Chique**	**30.19**	**21**	*e*P		**P**		**11 42 04.9**	**-0.5**		
ZAM	**Aeronautique**	**30.96**	**20**	*e*P		**P**		**11 42 11.4**	**-0.8**		
LPMF	**Morne Lapointe**	**30.99**	**20**	*e*P		**P**		**11 42 11.2**	**-1.1**		
FDF	**Fort de France**	**31.07**	**20**	*e*P		**P**		**11 42 11.9**	**-1.3**		
CXM	**Morne La Croix**	**31.14**	**19**	*e*P		**P**		**11 42 13.9**	**+0.1**		
BAMF	**Morne Balai**	**31.15**	**20**	*e*P		**P**		**11 42 13.8**	**-0.1**		
CRPR	**Cabo Rojo, PR**	**32.89**	**8**	*e*P		**P**		**11 42 28.3**	**-0.7**		
	comp=Z,228nm,1.2s										
OBIP	**Obispado Ponce**	**33.00**	**8**	*e*P		**P**		**11 42 29.3**	**-0.6**		
	comp=Z,57nm,1.0s										
CDVI	**St. Croix**	**33.02**	**12**	*e*P		**P**		**11 42 26.3**	**-3.8**		
	comp=Z,58nm,0.7s										
SKI	**Saint Kitts**	**33.08**	**15**	*e*P		**P**		**11 42 30.6**	**0.0**		
	comp=Z,298nm,0.9s										
SKI	**Saint Kitts**	**33.08**	**15**	*e*P		**P**		**11 42 30.7**	**0.0**		
SKI				pmax		pmax					
	comp=Z,298nm,0.9s										
MPR	**Mayaguez**	**33.09**	**8**	*e*P		**P**		**11 42 30.5**	**-0.2**		
	comp=Z,116nm,1.3s										
SJG	**San Juan**	**33.13**	**9**	P		**P**		**11 42 30.1**	**-0.9**		
	comp=Z,28nm,0.9s,baz=184,slow=5.9,SNR=8.3										
SJG				S		**S**		**11 47 39.6**	**-2.1**		
	comp=Z,7.7nm,0.3s,baz=62,slow=23,SNR=7.2										
SJG	**San Juan**	**33.13**	**9**	*e*P		**P**		**11 42 30.2**	**-0.8**		
	comp=Z,46nm,0.9s										
SJG				S		**S**		**11 47 39.6**	**-2.1**		
SJG	**San Juan**	**33.13**	**9**	*e*P		**P**		**11 42 30.3**	**-0.8**		
SJG				S		**S**		**11 47 39.6**	**-2.1**		
SJG				pmax		pmax					
	comp=Z,46nm,0.9s										
LGNH	**LÖogne**	**33.13**	**358**	*e*P		**P**		**11 42 30.6**	**-0.5**		
	comp=Z,85nm,1.2s										
SEUS	**St. Eustatius**	**33.17**	**15**	*e*P		**P**		**11 42 30.1**	**-1.3**		
	comp=Z,118nm,0.8s										
HUMP	**Col San Antoni**	**33.21**	**10**	*e*P		**P**		**11 42 29.7**	**-2.0**		
	comp=Z,52nm,1.2s										
MTP	**Monte Pirata**	**33.22**	**10**	*e*P		**P**		**11 42 30.7**	**-1.1**		
	comp=Z,59nm,0.9s										
SABA	**Saba**	**33.23**	**14**	*e*P		**P**		**11 42 31.3**	**-0.7**		
	comp=Z,130nm,0.9s										
AOPR	**Arecibo Observ**	**33.27**	**8**	*e*P		**P**		**11 42 31.6**	**-0.8**		
	comp=Z,69nm,1.0s										
CBYP	**Canovanas**	**33.34**	**10**	*e*P		**P**		**11 42 31.7**	**-1.3**		
	comp=Z,106nm,0.8s										
CBYP				*e*PcP		**PcP**		**11 45 12.9**	**+0.6**		
MTDJ	**Mount Denham**	**33.38**	**349**	*e*P		**P**		**11 42 34.4**	**+1.0**		
SDDR	**Presa de Saban**	**33.59**	**0**	*e*P		**P**		**11 42 35.3**	**+0.2**		
	comp=Z,28nm,0.9s										
ANWB	**Willy Bob**	**33.66**	**17**	*e*P		**P**		**11 42 33.3**	**-2.3**		
	comp=Z,174nm,0.8s										
ANWB	**Willy Bob**	**33.66**	**17**	*e*P		**P**		**11 42 32.1**	**-3.5**		
SMRT	**St. Maarten**	**33.69**	**14**	*e*P		**P**		**11 42 34.2**	**-1.7**		
	comp=Z,141nm,0.6s										
APG	**El Apazote**	**35.09**	**327**	P		**P**		**11 42 48.1**	**-0.2**		
	comp=Z,16nm,0.8s,baz=169,slow=3.0,SNR=13										
RCBR	**Riachuelo**	**36.05**	**79**	PcP		**PcP**		**11 45 19.0**	**-1.3**		
	comp=Z,161nm,1.1s,baz=288,slow=0.9,SNR=3.4										
RCBR	**Riachuelo**	**36.05**	**79**	*e*P		**P**		**11 42 58.3**	**+1.9**		
	comp=Z,58nm,0.9s										
RCBR				PcP		**PcP**		**11 45 19.0**	**-1.3**		
RPN	**Rapa Nui**	**37.29**	**245**	LR		LR		11 54 33.9			
	comp=Z,558nm,20.1s,baz=96,slow=30										
EFI	**East Falkland**	**38.31**	**167**	*i* P		**P**		**11 43 14.7**	**-0.2**		
EFI				pmax		pmax					
	comp=Z,66nm,1.1s										
CMIG	**Matias Romero**	**39.24**	**323**	P		**P**		**11 43 22.9**	**-0.2**		
	comp=Z,7.4nm,0.9s,baz=118,slow=4.9,SNR=9.2										
CMIG				PcP		**PcP**		**11 45 30.1**	**+0.1**		
	comp=Z,9.4nm,0.9s,baz=104,slow=2.8,SNR=3.8										
TLIG	**Tlapa**	**41.84**	**319**	*e*pP		**pP**		**11 44 08.8**	**-3.1**		
TLIG				*e*PcP		**PcP**		**11 45 39.8**	**+1.3**		
059Z	**Ave Maria**	**42.05**	**347**	P		**P**		**11 43 47.3**	**+1.3**		
	baz=166										
060A	**Indiantown**	**42.49**	**348**	P		**P**		**11 43 50.6**	**+1.0**		
	baz=167										
059A	**Moore Haven**	**42.59**	**347**	P		**P**		**11 43 51.3**	**+0.9**		
	baz=166										
058A	**Arcadia**	**42.82**	**346**	P		**P**		**11 43 53.2**	**+0.9**		
	baz=165										
959A	**Okeechobee**	**43.07**	**348**	P		**P**		**11 43 55.3**	**+1.0**		
	baz=167										
859A	**Kempfer Cattle**	**43.59**	**348**	P		**P**		**11 43 59.6**	**+1.1**		
	baz=167,SNR=5.5										
DWPF	**Disney Wildern**	**43.75**	**347**	P		**P**		**11 44 00.9**	**+1.2**		
	baz=166										
DWPF	**Disney Wildern**	**43.75**	**347**	*e*P		**P**		**11 44 01.4**	**+1.6**		
	comp=Z,76nm,0.8s										
757A	**Oxford**	**44.70**	**347**	P		**P**		**11 44 08.1**	**+0.8**		
	baz=165										
658A	**Bunnell**	**44.99**	**348**	P		**P**		**11 44 10.5**	**+0.9**		
	baz=167										
MOIG	**Morelia**	**45.07**	**319**	*e*P		**P**		**11 44 11.4**	**+0.7**		
656A	**Willston**	**45.21**	**346**	P		**P**		**11 44 12.3**	**+0.9**		
	baz=165										
557A	**Orange Park**	**45.66**	**348**	P		**P**		**11 44 15.3**	**+0.4**		
	baz=166										
556A	**Lake Butler**	**45.79**	**347**	P		**P**		**11 44 16.8**	**+0.9**		
	baz=165										
553A	**Crawfordville**	**46.46**	**344**	P		**P**		**11 44 21.8**	**+0.6**		
	baz=163										
356A	**Blackshear**	**47.01**	**347**	P		**P**		**11 44 26.2**	**+0.8**		
	baz=166										
355A	**Pearson**	**47.18**	**347**	P		**P**		**11 44 27.1**	**+0.4**		
	baz=165										
BBSR	**BB Station**	**47.36**	**8**	*e*P		**P**		**11 44 27.6**	**-0.5**		
	comp=Z,35nm,0.7s										
257A	**Skidaway Islan**	**47.42**	**349**	P		**P**		**11 44 29.1**	**+0.6**		
	baz=168										
353A	**Camilla**	**47.51**	**345**	P		**P**		**11 44 29.4**	**+0.1**		
	baz=163										
256A	**Glennville**	**47.59**	**348**	P		**P**		**11 44 30.7**	**+0.8**		
	baz=166										
449A	**Pace**	**47.78**	**342**	P		**P**		**11 44 31.5**	**+0.1**		
	baz=159										
351A	**Pinckard**	**47.80**	**344**	P		**P**		**11 44 31.9**	**+0.4**		
	baz=162										
352A	**Blakely**	**47.81**	**344**	P		**P**		**11 44 31.7**	**+0.1**		
	baz=162,SNR=6.1										
254A	**Abbeville**	**47.86**	**346**	P		**P**		**11 44 32.3**	**+0.3**		
	baz=165										
LNIG	**Linares**	**48.01**	**325**	*e*P		**P**		**11 44 32.9**	**-0.4**		
	comp=Z,50nm,1.0s										
BRAL	**Brewton**	**48.12**	**342**	P		**P**		**11 44 34.0**	**+0.1**		
	baz=160										
BRAL	**Brewton**	**48.12**	**342**	*e*P		**P**		**11 44 34.4**	**+0.5**		
	comp=Z,172nm,1.4s										
350A	**Dozier**	**48.14**	**343**	P		**P**		**11 44 34.4**	**+0.2**		
	baz=161										
253A	**Americus**	**48.17**	**346**	P		**P**		**11 44 34.3**	**0.0**		
	baz=164										
RGRS	**Roger Stewart**	**48.18**	**350**	*e*P		**P**		**11 44 35.2**	**+0.7**		
	comp=Z,1µm,0.7s										
ZAIG	**Zacatecas**	**48.21**	**320**	*e*P		**P**		**11 44 36.0**	**+0.8**		
ZAIG				*e*pP		**pP**		**11 44 57.9**	**-5.1**		
CSU	**Charleston Sou**	**48.24**	**350**	*e*P		**P**		**11 44 35.9**	**+1.0**		
252A	**Lumpkin**	**48.26**	**345**	P		**P**		**11 44 34.7**	**-0.3**		
	baz=163,SNR=10										
447A	**Lucedale**	**48.27**	**340**	P		**P**		**11 44 34.9**	**-0.2**		
	baz=158										
349A	**Repton**	**48.33**	**342**	P		**P**		**11 44 35.4**	**-0.2**		
	baz=160,SNR=8.6										
155A	**Kite**	**48.33**	**348**	P		**P**		**11 44 36.0**	**+0.4**		
	baz=166,SNR=7.1										
NHSC	**New Hope**	**48.38**	**350**	P		**P**		**11 44 36.8**	**+0.9**		
	baz=169,SNR=28										
NHSC	**New Hope**	**48.38**	**350**	*e*P		**P**		**11 44 37.0**	**+1.0**		
	comp=Z,462nm,0.9s										
154A	**Montrose**	**48.46**	**347**	P		**P**		**11 44 36.8**	**+0.2**		
	baz=155,SNR=15										
446A	**Poplarville**	**48.51**	**339**	P		**P**		**11 44 37.0**	**0.0**		
	baz=157										
251A	**Midway**	**48.52**	**344**	P		**P**		**11 44 36.6**	**-0.4**		
	baz=162,SNR=25										
250A	**Grady**	**48.65**	**343**	P		**P**		**11 44 37.5**	**-0.5**		
	baz=161,SNR=15										
153A	**Fort Valley**	**48.66**	**346**	P		**P**		**11 44 38.4**	**+0.3**		
	baz=164										
445A	**Amite**	**48.79**	**338**	P		**P**		**11 44 39.4**	**+0.3**		
	baz=156										
347A	**Saraland**	**48.80**	**340**	P		**P**		**11 44 39.0**	**-0.2**		
	baz=158,SNR=7.1										
249A	**Camden**	**48.89**	**342**	P		**P**		**11 44 39.5**	**-0.4**		
	baz=160										
151A	**Opelika**	**48.91**	**344**	P		**P**		**11 44 39.5**	**-0.5**		
	baz=162,SNR=10										
346A	**Big Creek Wild**	**49.09**	**340**	P		**P**		**11 44 41.3**	**-0.1**		
	baz=157										
150A	**Eclectic**	**49.17**	**344**	P		**P**		**11 44 41.5**	**-0.5**		
	baz=161,SNR=15										
248A	**Dixon Mills**	**49.19**	**342**	P		**P**		**11 44 41.7**	**-0.5**		
	baz=159,SNR=9.0										
345A	**Thompson Farm,**	**49.21**	**339**	P		**P**		**11 44 42.2**	**-0.2**		
	baz=156										
GOGA	**Godfrey**	**49.31**	**347**	P		**P**		**11 44 42.6**	**-0.4**		
	baz=165,SNR=13										
GOGA	**Godfrey**	**49.31**	**347**	*e*P		**P**		**11 44 43.0**	**-0.1**		
	comp=Z,30nm,0.9s										
GOGA	**Godfrey**	**49.31**	**347**	*e*P		**P**		**11 44 43.0**	**-0.1**		
GOGA				pmax		pmax					
	comp=Z,30nm,0.9s										
149A	**Jones**	**49.38**	**343**	P		**P**		**11 44 42.8**	**-0.8**		
	baz=160,SNR=17										
247A	**Quitman**	**49.42**	**341**	P		**P**		**11 44 43.4**	**-0.5**		
	baz=158,SNR=8.8										
344A	**Westbrook Farm**	**49.59**	**338**	P		**P**		**11 44 45.1**	**-0.1**		
	baz=155,SNR=6.7										
148A	**Greensboro**	**49.65**	**342**	P		**P**		**11 44 44.8**	**-0.8**		
	baz=160,SNR=6.0										
JSC	**Jenkinsville**	**49.71**	**349**	*e*P		**P**		**11 44 46.5**	**+0.4**		
	comp=Z,66nm,0.9s										
JSC	**Jenkinsville**	**49.71**	**349**	*e*P		**P**		**11 44 46.5**	**+0.4**		
JSC				pmax		pmax					
	comp=Z,66nm,0.9s										
Z50A	**Ashland**	**49.76**	**344**	P		**P**		**11 44 46.0**	**-0.5**		
	baz=162,SNR=38										
245A	**Little AP, Sta**	**49.82**	**339**	P		**P**		**11 44 46.6**	**-0.4**		
	baz=156,SNR=8.6										
LRAL	**Lakeview Retre**	**49.85**	**343**	P		**P**		**11 44 46.4**	**-0.7**		
	baz=160,SNR=19										
LRAL	**Lakeview Retre**	**49.85**	**343**	*e*P		**P**		**11 44 46.5**	**-0.6**		
	comp=Z,44nm,1.0s										
Z49A	**Columbiana**	**49.87**	**343**	P		**P**		**11 44 46.5**	**-0.8**		
	baz=161,SNR=20										
147A	**Livingston**	**49.89**	**341**	P		**P**		**11 44 46.6**	**-0.9**		
	baz=159,SNR=6.2										
146A	**Union**	**50.10**	**341**	P		**P**		**11 44 48.5**	**-0.5**		
	baz=158,SNR=5.4										
244A	**Avery, Jackson**	**50.11**	**339**	P		**P**		**11 44 48.5**	**-0.6**		
	baz=156,SNR=5.3										
342A	**Flagon Creek P**	**50.11**	**337**	P		**P**		**11 44 49.5**	**+0.3**		
	baz=154,SNR=9.1										
CNNC	**Cliffs of the**	**50.15**	**353**	P		**P**		**11 44 49.5**	**+0.2**		
	baz=172										
CNNC	**Cliffs of the**	**50.15**	**353**	*e*P		**P**		**11 44 50.4**	**+1.0**		
	comp=Z,70nm,0.9s										
VBMS	**Vicksburg**	**50.21**	**339**	P		**P**		**11 44 49.1**	**-0.7**		
	baz=156										
VBMS	**Vicksburg**	**50.21**	**339**	*e*P		**P**		**11 44 49.9**	**0.0**		
	comp=Z,110nm,1.4s										
243A	**Waterproof**	**50.25**	**338**	P		**P**		**11 44 50.4**	**+0.2**		
	baz=155										
Y50A	**Piedmont**	**50.31**	**345**	P		**P**		**11 44 49.9**	**-0.8**		
	baz=162,SNR=13										
Z47A	**Carrollton**	**50.31**	**342**	P		**P**		**11 44 49.9**	**-0.8**		
	baz=159,SNR=10.0										
Z48A	**Northport**	**50.33**	**342**	P		**P**		**11 44 49.9**	**-0.8**		
	baz=160,SNR=23										
HKT	**Hockley**	**50.33**	**332**	*e*P		**P**		**11 44 51.6**	**+0.8**		
HKT				*e*pP		pP		11 45 08.1	-11		
HKT	**Hockley**	**50.33**	**332**	*e*P		**P**		**11 44 51.6**	**+0.8**		
HKT				*e**PP		pP		11 45 08.1	-11		
PAULI	**Pauline**	**50.34**	**349**	*e*P		**P**		**11 44 51.7**	**+0.9**		
	comp=Z,21nm,0.9s										
145A	**Houston Renfro**	**50.36**	**340**	P		**P**		**11 44 50.5**	**-0.6**		
	baz=157										
341A	**Kurthwood**	**50.40**	**336**	P		**P**		**11 44 51.7**	**+0.3**		
	baz=152										
Y49A	**Blount Mountai**	**50.46**	**344**	P		**P**		**11 44 50.8**	**-1.0**		
	baz=161,SNR=11										
KMSC	**Kings Mountain**	**50.56**	**350**	P		**P**		**11 44 52.8**	**+0.4**		
	baz=168,SNR=31										
KMSC	**Kings Mountain**	**50.56**	**350**	*e*P		**P**		**11 44 52.9**	**+0.4**		
	comp=Z,84nm,0.8s										
Z46A	**Louisville**	**50.58**	**341**	P		**P**		**11 44 52.4**	**-0.3**		
	baz=158,SNR=6.8										
242A	**Grayson**	**50.66**	**337**	P		**P**		**11 44 53.1**	**-0.2**		
	baz=154										
833A	**Chaparral WMA,**	**50.70**	**328**	P		**P**		**11 44 53.4**	**-0.4**		
	baz=144,SNR=6.3										
BG3	**Lake Jocassee**	**50.72**	**348**	*e*P		**P**		**11 44 54.3**	**+0.6**		
	comp=Z,46nm,1.3s										
Y48A	**Jasper**	**50.72**	**343**	P		**P**		**11 44 52.5**	**-1.2**		
	baz=160,SNR=11										
Y47A	**UCPARC, Winfie**	**50.91**	**342**	P		**P**		**11 44 54.2**	**-0.9**		
	baz=160,SNR=32										
241A	**Mo Tay, Goldon**	**50.92**	**336**	P		**P**		**11 44 55.4**	**+0.1**		
	baz=153										
143A	**Socs Landing,**	**50.96**	**338**	P		**P**		**11 44 54.6**	**-0.9**		
	baz=155										
Z45A	**Winona**	**50.98**	**340**	P		**P**		**11 44 55.2**	**-0.4**		
	baz=157,SNR=9.1										
142A	**Monroe**	**51.02**	**338**	P		**P**		**11 44 55.3**	**-0.7**		
	baz=154										
X49A	**Woodville**	**51.05**	**344**	P		**P**		**11 44 55.2**	**-1.0**		
	baz=162,SNR=13										
Z44A	**Pea Ridge, Bel**	**51.14**	**340**	P		**P**		**11 44 56.3**	**-0.5**		
	baz=156										
Y46A	**Houston**	**51.19**	**341**	P		**P**		**11 44 56.0**	**-1.3**		
	baz=158,SNR=13										
X48A	**Hartselle**	**51.19**	**343**	P		**P**		**11 44 56.3**	**-1.0**		
	baz=161,SNR=21										
NCAT	**North Carolina**	**51.23**	**351**	*e*P		**P**		**11 44 57.5**	**0.0**		
	comp=Z,87nm,0.9s										
Y45A	**Yeager Farm, C**	**51.39**	**341**	P		**P**		**11 44 58.0**	**-0.7**		
	baz=158										
141A	**Papa Simpson,**	**51.43**	**337**	P		**P**		**11 44 59.1**	**+0.1**		
	baz=153										
X47A	**Russelville**	**51.48**	**343**	P		**P**		**11 44 58.1**	**-1.3**		
	baz=160,SNR=16										
CPCT	**Cooper Cave**	**51.50**	**346**	*e*P		**P**		**11 44 59.0**	**-0.5**		
CPCT				*e*PcP		**PcP**		**11 46 12.1**	**0.0**		
TKL	**Tuckaleechee C**	**51.54**	**347**	P		**P**		**11 44 58.9**	**-1.0**		
	comp=Z,28nm,1.0s,baz=164,slow=9.4,SNR=18										
TKL	**Tuckaleechee C**	**51.54**	**347**	*e*P		**P**		**11 44 59.2**	**-0.5**		
	comp=Z,79nm,1.3s										
TKL	**Tuckaleechee C**	**51.54**	**347**	*e*P		**P**		**11 44 59.3**	**-0.5**		
TKL				pmax		pmax					
	comp=Z,79nm,1.3s										
SWET	**Sewanee**	**51.62**	**345**	*e*P		**P**		**11 44 59.4**	**-1.0**		
	comp=Z,7.7nm,0.9s										
SWET				*e*PcP		**PcP**		**11 46 12.4**	**-0.3**		
Z42A	**Norrel Spur, H**	**51.67**	**338**	P		**P**		**11 44 60.0**	**-0.8**		
	baz=155										
Y44A	**Strider, Charl**	**51.70**	**340**	P		**P**		**11 44 59.8**	**-1.2**		
	baz=157										
140A	**Cam and Jess,**	**51.72**	**336**	P		**P**		**11 45 01.6**	**+0.4**		
	baz=152,SNR=6.1										
X46A	**Booneville**	**51.73**	**342**	P		**P**		**11 44 59.8**	**-1.4**		
	baz=159,SNR=9.1										
W48A	**Pulaski**	**51.81**	**344**	P		**P**		**11 45 01.0**	**-0.9**		
	baz=161,SNR=22										
435B	**Jarrell**	**51.84**	**331**	P		**P**		**11 45 01.8**	**-0.4**		
	baz=147										
X45A	**UM Field Stati**	**51.86**	**341**	P		**P**		**11 45 00.6**	**-1.6**		
	baz=158										
Y43A	**Makayla and Ka**	**51.89**	**339**	P		**P**		**11 45 01.8**	**-0.6**		
	baz=156										
OXF	**Oxford**	**51.94**	**341**	P		**P**		**11 45 01.0**	**-1.8**		
	baz=158,SNR=5.8										
OXF	**Oxford**	**51.94**	**341**	*e*P		**P**		**11 45 02.3**	**-0.5**		
	comp=Z,74nm,1.1s										
OXF	**Oxford**	**51.94**	**341**	*e*P		**P**		**11 45 02.3**	**-0.5**		
OXF				pmax		pmax					
	comp=Z,74nm,1.1s										
Z41A	**Richland Creek**	**51.97**	**337**	P		**P**		**11 45 03.0**	**-0.1**		
	baz=154,SNR=6.8										
PLAL	**Pickwick Lake**	**51.98**	**343**	*e*P		**P**		**11 45 01.7**	**-1.4**		
	comp=Z,37nm,0.9s										
W47A	**Westpoint**	**52.09**	**343**	P		**P**		**11 45 02.6**	**-1.4**		
	baz=160,SNR=14										
Y42A	**Garnett, Star**	**52.12**	**338**	P		**P**		**11 45 03.6**	**-0.5**		
	baz=155										
X44A	**Crenshaw**	**52.17**	**340**	P		**P**		**11 45 03.6**	**-0.8**		
	baz=157										
Z40A	**Long Farm, Mag**	**52.20**	**337**	P		**P**		**11 45 05.0**	**+0.3**		
	baz=153,SNR=5.1										
W46A	**Michie**	**52.21**	**342**	P		**P**		**11 45 02.7**	**-2.1**		
	baz=159										
TZTN	**Tazewell**	**52.34**	**348**	P		**P**		**11 45 05.2**	**-0.5**		
	baz=165,SNR=9.9										
TZTN	**Tazewell**	**52.34**	**348**	*e*P		**P**		**11 45 05.0**	**-0.8**		
	comp=Z,82nm,1.4s										
V48A	**

baz=154,SNR=17
W40A Ferguson Farm, 53.80 338 *e*P P 11 45 16.4 -0.1
comp=Z,97nm,1.0s
TX31 Lajitas Ar. Si 53.80 325 *e*P P 11 45 16.0 -0.7
U44A Portageville 53.87 342 P P 11 45 16.0 -0.9
baz=158
U43A Rector 53.97 341 P P 11 45 16.5 -1.1
baz=157,SNR=7.0
S48A Wiedeman Farm, 53.97 346 P P 11 45 16.2 -1.5
baz=163,SNR=37
V41A Mountainview 54.01 339 P P 11 45 16.9 -1.1
baz=155,SNR=35
W39A Magazine 54.06 337 P P 11 45 18.2 -0.2
baz=153,SNR=27
SDMD Soldier's Deli 54.18 355 *e*P P 11 45 19.8 +0.7
SDMD *e*PcP PcP 11 46 23.5 +1.3
LPIG La Paz 54.19 315 P P 11 45 19.2 -0.4
comp=Z,13nm,0.6s,baz=96,slow=3.0,SNR=3.3
U42A Revenden 54.22 340 P P 11 45 18.1 -1.3
baz=156,SNR=29
V40A Witts Springs 54.26 339 P P 11 45 18.9 -0.9
baz=154,SNR=16
ABTX Abilene, Hawle 54.34 331 P P 11 45 20.0 -0.5
baz=146,SNR=20
ABTX Abilene, Hawle 54.34 331 *e*P P 11 45 20.3 -0.2
comp=Z,70nm,0.8s
PBMO Poplar Bluff 54.35 341 *e*P P 11 45 19.4 -1.0
comp=Z,55nm,0.9s
T44A Benton 54.38 342 P P 11 45 19.5 -1.1
baz=158
S46A Don Dixon Farm 54.41 344 P P 11 45 19.7 -1.2
baz=161,SNR=30
U41A Viola 54.44 340 P P 11 45 19.8 -1.3
baz=156,SNR=30
WCI Wyandotte Cave 54.57 346 P P 11 45 21.0 -1.0
baz=162
WCI Wyandotte Cave 54.57 346 *e*P P 11 45 21.0 -1.0
comp=Z,65nm,0.8s
WCI Wyandotte Cave 54.57 346 *e*P P 11 45 21.0 -1.0
WCI pmax pmax
comp=Z,65nm,0.8s
V39A Pettigrew 54.59 338 P P 11 45 21.5 -0.7
baz=154,SNR=44
PSUB Penn St. - Bra 54.59 356 *e*P P 11 45 21.6 -0.4
comp=Z,20nm,0.9s
T43A Greenville 54.59 342 P P 11 45 21.0 -1.1
baz=158,SNR=34
R48A Northridge Ran 54.63 346 P P 11 45 21.6 -0.9
baz=163,SNR=7.0
S45A Carrier Mills 54.64 343 P P 11 45 21.7 -0.8
baz=160,SNR=13
USIN University of 54.66 344 *e*P P 11 45 21.7 -1.0
comp=Z,124nm,0.8s
R47A Wooly Knot Far 54.69 345 P P 11 45 21.6 -1.2
baz=162,SNR=22
MVL Millersville 54.72 355 *e*P P 11 45 23.1 +0.1
comp=Z,32nm,1.0s
MCWV Mont Chateau 54.75 352 P P 11 45 24.0 +0.7
baz=170,SNR=64
MCWV Mont Chateau 54.75 352 *e*P P 11 45 24.2 +0.9
comp=Z,231nm,0.8s
U40A Yellville 54.77 339 P P 11 45 22.5 -1.0
baz=154,SNR=26
T42A Van Buren 54.79 341 P P 11 45 22.1 -1.5
baz=157,SNR=26
S44A Carbondale 54.85 343 P P 11 45 23.2 -0.8
baz=159,SNR=34
SIUC Southern Illin 54.86 343 *e*P P 11 45 23.4 -0.7
comp=Z,167nm,0.7s
R46A Gibon Southern 54.86 345 P P 11 45 22.7 -1.4
baz=161,SNR=14
S43A Fulton Ridge, 54.97 342 P P 11 45 23.6 -1.3
baz=158,SNR=15
PAGS Pennsylvania G 54.98 355 *e*P P 11 45 25.1 +0.2
comp=Z,14nm,1.0s
U39A Green Forest 55.01 338 P P 11 45 24.1 -1.1
baz=154,SNR=19
T41A Mountain View 55.02 340 P P 11 45 23.9 -1.4
baz=156,SNR=22
HHAR Hobbs 55.09 338 *e*P P 11 45 25.0 -0.8
comp=Z,93nm,1.4s
R45A Skylar, Fairfi 55.14 344 P P 11 45 25.1 -0.9
baz=160,SNR=30
O56A Blue Knob Stat 55.20 353 P P 11 45 27.0 +0.4
baz=172,SNR=28
O56A Blue Knob Stat 55.20 353 *e*P P 11 45 27.1 +0.6
comp=Z,89nm,0.9s
LUPA Lehigh Univers 55.25 356 *e*P P 11 45 27.0 +0.2
comp=Z,2.1nm,1.3s
Q47A Bedord North L 55.27 346 P P 11 45 25.8 -1.3
baz=162,SNR=13
BRNJ Basking Ridge 55.29 357 *e*P P 11 45 27.3 +0.2
comp=Z,15nm,0.7s
R44A Waltonville 55.31 343 P P 11 45 26.4 -1.0
baz=159,SNR=31
T40A Mansfield 55.37 340 P P 11 45 26.7 -1.1
baz=155
S42A Caledonia 55.38 341 P P 11 45 26.2 -1.6
baz=157,SNR=15
TUL1 Leonard 55.46 336 P P 11 45 27.9 -0.5
baz=151,SNR=19
TUL1 Leonard 55.46 336 *e*P P 11 45 28.1 -0.4
comp=Z,77nm,1.1s
SSPA Standing Stone 55.49 354 P P 11 45 28.6 0.0
baz=172
SSPA Standing Stone 55.49 354 *e*P P 11 45 28.9 +0.3
comp=Z,46nm,1.1s
OLIL Olney 55.50 344 *e*P P 11 45 27.4 -1.2
comp=Z,38nm,0.8s
S41A Jillco Farms, 55.51 340 P P 11 45 27.5 -1.3
baz=156,SNR=32
BLO Bloomington 55.52 346 *e*P P 11 45 27.9 -0.9
BLO *e*PcP PcP 11 46 27.9 +0.5
BLO Bloomington 55.52 346 *e*P P 11 45 27.9 -0.9
BLO *e* 11 46 27.9
T39A Clever 55.55 339 P P 11 45 28.0 -1.1
baz=154,SNR=13
PAL Palisades 55.58 358 P P 11 45 28.4 -0.8
baz=177
R43A Red Bud 55.58 342 P P 11 45 28.5 -0.8
baz=158,SNR=28
N59A State Game Lan 55.59 356 P P 11 45 29.1 -0.3
baz=175
N59A State Game Lan 55.59 356 *e*P P 11 45 29.6 +0.2
comp=Z,11nm,0.8s
Q45A Warren Harvey, 55.67 344 P P 11 45 28.5 -1.4
baz=160,SNR=9.2
ODNJ Ogdensburg 55.69 357 *e*P P 11 45 29.8 -0.1
comp=Z,13nm,0.9s
WMOK Wichita Mounta 55.70 333 P P 11 45 29.2 -1.1
baz=148,SNR=19
WMOK Wichita Mounta 55.70 333 *e*P P 11 45 29.2 -1.1
comp=Z,41nm,0.8s
WMOK Wichita Mounta 55.70 333 *e*P P 11 45 29.2 -1.1
WMOK pmax pmax
comp=Z,41nm,0.8s
P47A Martinsville 55.76 346 P P 11 45 29.3 -1.2
baz=163,SNR=16
S40A Lebanon 55.77 340 P P 11 45 29.6 -1.1
baz=155,SNR=25
CCM Cathedral Cave 55.78 341 P P 11 45 29.5 -1.2
baz=157
CCM Cathedral Cave 55.78 341 *e*P P 11 45 29.5 -1.2
comp=Z,82nm,0.8s
CCM Cathedral Cave 55.78 341 *e*P P 11 45 29.5 -1.2
CCM pmax pmax
comp=Z,82nm,0.8s
SACV Santiago Islan 55.79 60 *e*P P 11 45 31.7 +0.5
comp=Z,35nm,0.8s
ACSO Alum Creek Sta 55.80 349 P P 11 45 30.2 -0.6
baz=167,SNR=9.9
ACSO Alum Creek Sta 55.80 349 *e*P P 11 45 30.7 -0.1
comp=Z,85nm,1.0s
R42A Luebbering 55.84 342 P P 11 45 30.3 -0.9
baz=157,SNR=30
YLE Yale 55.86 359 *e*P P 11 45 31.5 +0.3
comp=Z,95nm,1.1s
T38A Diamond 55.89 338 P P 11 45 30.7 -0.8
baz=153,SNR=30
Q44A Meyer Farm, Va 55.91 343 P P 11 45 30.2 -1.3
baz=160,SNR=23
SLM Saint Louis 56.01 342 *e*P P 11 45 31.8 -0.5
comp=Z,54nm,0.8s
SLM Saint Louis 56.01 342 *e*P P 11 45 31.8 -0.5
SLM pmax pmax
comp=Z,54nm,0.8s
R41A Rosebud 56.04 341 P P 11 45 31.5 -1.1
baz=157,SNR=48

N54A Moraine State 56.05 352 P P 11 45 33.3 +0.7
baz=170,SNR=71
N54A Moraine State 56.05 352 *e*P P 11 45 33.4 +0.7
comp=Z,275nm,0.9s
P46A Rosedale 56.11 345 P P 11 45 31.5 -1.5
baz=162,SNR=8.8
S39A Bolivar 56.13 339 P P 11 45 32.2 -1.0
baz=154,SNR=48
Q43A New Douglas 56.13 343 P P 11 45 32.0 -1.1
baz=159,SNR=12
P45A Graceland, Par 56.16 345 P P 11 45 31.8 -1.6
baz=161,SNR=15
S38A Stockton 56.28 339 P P 11 45 33.1 -1.2
baz=154,SNR=12
R40A Maddies Statio 56.32 340 P P 11 45 33.3 -1.2
baz=156,SNR=45
P44A Sand Creek, Wi 56.33 344 P P 11 45 33.0 -1.5
baz=160,SNR=12
Q42A Golden Eagle 56.35 342 P P 11 45 33.8 -1.0
baz=158,SNR=27
GDL2 Guadalupe Moun 56.39 326 *e*P P 11 45 35.3 0.0
BRYW Bryant College 56.45 360 *e*P P 11 45 35.5 +0.1
comp=Z,94nm,0.9s
O47A Sheridan 56.45 346 P P 11 45 33.9 -1.5
baz=163,SNR=15
M54A Oil Creek Stat 56.55 353 P P 11 45 36.1 0.0
baz=170,SNR=44
M54A Oil Creek Stat 56.55 353 *e*P P 11 45 36.6 +0.5
comp=Z,286nm,0.9s
MNTX Cornudas Mount 56.55 325 P P 11 45 35.0 -1.3
baz=140,SNR=32
MNTX Cornudas Mount 56.55 325 *e*P P 11 45 35.1 -1.3
comp=Z,28nm,1.1s
R39A Chumby, Stover 56.59 340 P P 11 45 35.3 -1.2
baz=155,SNR=22
Q41A Truxton 56.60 342 P P 11 45 35.5 -0.9
baz=157,SNR=30
P43A Skaggs, Pawnee 56.74 343 P P 11 45 36.3 -1.2
baz=159,SNR=15
ALLY Alegheny Colle 56.75 352 *e*P P 11 45 37.9 +0.4
comp=Z,388nm,0.8s
R38A Fenwick Farm, 56.78 339 P P 11 45 36.4 -1.3
baz=154,SNR=18
SFIN Lafayette 56.80 346 P P 11 45 36.2 -1.7
baz=162,SNR=9.9
SFIN Lafayette 56.80 346 *e*P P 11 45 36.2 -1.7
comp=Z,40nm,0.6s
O45A Potomac 56.84 345 P P 11 45 36.3 -1.8
baz=161,SNR=16
BINY Binghamton 56.88 356 P P 11 45 38.7 +0.2
baz=175,SNR=9.2
BINY Binghamton 56.88 356 *e*P P 11 45 38.7 +0.2
comp=Z,38nm,0.8s
Q40A Laux Farm, Aux 56.90 341 P P 11 45 37.5 -1.1
baz=156,SNR=15
WES Weston 56.91 0 *e*P P 11 45 38.3 -0.3
comp=Z,85nm,1.7s
WES Weston 56.91 0 *e*P P 11 45 38.3 -0.3
WES pmax pmax
comp=Z,85nm,1.7s
P42A Winchester 56.92 343 P P 11 45 37.4 -1.3
baz=158,SNR=22
O44A Mansfield 56.93 344 P P 11 45 37.5 -1.3
baz=160
MSTX Muleshoe 56.95 329 P P 11 45 38.3 -1.0
baz=143,SNR=21
MSTX Muleshoe 56.95 329 *e*P P 11 45 38.4 -0.8
comp=Z,77nm,1.2s
HRV Adam Dziewonsk 57.03 360 P P 11 45 39.2 -0.3
baz=180
HRV Adam Dziewonsk 57.03 360 *e*P P 11 45 39.7 +0.2
comp=Z,66nm,1.0s
HRV Adam Dziewonsk 57.03 360 *e*P P 11 45 39.7 +0.2
HRV pmax pmax
comp=Z,66nm,1.0s
AMTX Amarillo 57.16 330 P P 11 45 39.6 -1.0
baz=145
AMTX Amarillo 57.16 330 *e*P P 11 45 40.0 -0.7
AMTX *e*PcP PcP 11 46 34.6 +0.6
ERPA Erie 57.19 352 P P 11 45 40.9 +0.3
baz=170,SNR=32
ERPA Erie 57.19 352 *e*P P 11 45 41.1 +0.5
comp=Z,467nm,0.8s
P41A Barry, Barry 57.21 342 P P 11 45 39.5 -1.3
baz=157,SNR=25
N46A Monticello 57.21 346 P P 11 45 39.1 -1.7
baz=162
Q39A Willow Grove F 57.23 340 P P 11 45 39.7 -1.2
baz=155,SNR=27
O43A Sugar Creek Fa 57.28 344 P P 11 45 39.6 -1.7
baz=160
TRY Troy 57.30 358 *e*P P 11 45 41.5 +0.2
comp=Z,45nm,0.9s
N45A Kentland 57.35 346 P P 11 45 39.8 -2.0
baz=162
Q38A Cooks Store, C 57.37 340 P P 11 45 41.1 -0.8
baz=154,SNR=30
P40A Paris 57.38 341 P P 11 45 40.8 -1.2
baz=156,SNR=25
O42A Bath 57.41 343 P P 11 45 40.7 -1.4
baz=159,SNR=11
N44A Piper City 57.45 345 P P 11 45 40.6 -1.9
baz=161
HDIL Hopedale 57.53 344 P P 11 45 41.4 -1.6
baz=160,SNR=8.7
HDIL Hopedale 57.53 344 *e*P P 11 45 41.5 -1.6
HDIL *e*PcP PcP 11 46 36.1 +0.9
O41A Passleys Farm, 57.56 342 P P 11 45 41.8 -1.5
baz=158,SNR=21
P39B Salisbury 57.56 341 P P 11 45 42.0 -1.3
baz=156,SNR=17
MMNY Mt. Morris Dam 57.57 354 *e*P P 11 45 43.6 +0.4
comp=Z,188nm,1.6s
Q37A Longview Farm, 57.58 339 P P 11 45 42.3 -1.1
baz=154
M46A Old House Fiel 57.61 347 P P 11 45 42.2 -1.4
baz=163
SRIG Santa Rosalia 57.62 317 *e*P P 11 45 43.5 -0.4
SRIG *e*PcP PcP 11 46 35.7 -0.1
N43A Stutzman Famil 57.85 344 P P 11 45 44.0 -1.2
baz=160,SNR=8.9
O40A La Belle 57.87 342 P P 11 45 44.1 -1.3
baz=157,SNR=12
HSIG 57.93 319 *e*P P 11 45 45.8 -0.2
HSIG *e*PcP PcP 11 46 37.3 +0.2
AAM Ann Arbor 57.93 349 P P 11 45 45.0 -0.9
baz=166
AAM Ann Arbor 57.93 349 *e*P P 11 45 44.9 -0.9
comp=Z,57nm,1.1s
AAM Ann Arbor 57.93 349 *e*P P 11 45 44.9 -0.9
AAM pmax pmax
comp=Z,57nm,1.1s
P38A Dawn 57.94 340 P P 11 45 44.6 -1.3
baz=155,SNR=16
ACCN Adirondack Com 57.95 358 *e*P P 11 45 46.4 +0.5
comp=Z,15nm,0.8s
N42A Yates City 57.98 343 P P 11 45 44.7 -1.5
baz=159,SNR=13
FFD Franklin Falls 58.00 360 *e*P P 11 45 46.7 +0.5
comp=Z,22nm,0.9s
MEDO Medina 58.05 354 P P 11 45 46.5 -0.1
baz=172,SNR=8.1
N41A Harden Midland 58.10 343 P P 11 45 45.6 -1.4
baz=158,SNR=14
TYNO Tyneside 58.14 353 P P 11 45 47.3 +0.1
baz=170,SNR=25
STCO Saint Catharin 58.17 353 P P 11 45 47.7 +0.3
baz=171,SNR=16
P37A Lathrop 58.19 339 P P 11 45 46.3 -1.3
baz=154,SNR=22
O39A Kirksville 58.19 341 P P 11 45 46.5 -1.2
baz=156
M43A Waltham Townsh 58.27 345 P P 11 45 46.4 -1.8
baz=160,SNR=13
N40A Mertquake, Sal 58.48 342 P P 11 45 48.1 -1.5
baz=157,SNR=8.5
M42A Sheffield 58.49 344 P P 11 45 47.9 -1.8
baz=159
121A Cookes Peak, D 58.52 324 P P 11 45 50.5 +0.2
baz=138,SNR=21
121A Cookes Peak, D 58.52 324 *e*P P 11 45 50.3 0.0
comp=Z,34nm,0.9s
NCB Newcomb 58.55 358 *e*P P 11 45 50.3 +0.2
comp=Z,12nm,0.9s
M41A Milan 58.63 343 P P 11 45 49.0 -1.7
baz=158,SNR=14
O37A Wolven Farm, M 58.63 340 P P 11 45 49.6 -1.1
baz=154

ACTO Acton 58.67 353 P P 11 45 50.8 -0.1
baz=170,SNR=11
N39A Derby Farms, D 58.75 341 P P 11 45 50.1 -1.5
baz=156,SNR=6.9
LBNH Lisbon 58.77 360 P P 11 45 51.6 0.0
baz=180,SNR=7.7
LBNH Lisbon 58.77 360 *e*P P 11 45 52.1 +0.5
comp=Z,40nm,1.0s
LBNH Lisbon 58.77 360 *e*P P 11 45 52.1 +0.5
LBNH pmax pmax
comp=Z,40nm,1.0s
WLVO Wesleyville 58.80 354 P P 11 45 51.7 0.0
baz=172,SNR=10
N38A Joes South For 58.90 341 P P 11 45 51.2 -1.4
baz=155
PKRO Pickering 58.91 354 P P 11 45 52.8 +0.2
baz=171,SNR=14
L43A Garden Prairie 58.91 345 P P 11 45 51.4 -1.2
baz=160,SNR=14
M40A Post Highland 58.94 342 P P 11 45 51.4 -1.4
baz=157,SNR=18
L42A Oliver, Polo 58.98 344 P P 11 45 51.6 -1.5
baz=159,SNR=6.2
BNM Barren Site 59.10 326 *e*P P 11 45 54.1 -0.2
WVL Waterville 59.12 1 *e*P P 11 45 54.4 +0.5
comp=Z,38nm,1.2s
N37A Lee Faris, Mou 59.19 340 P P 11 45 53.4 -1.2
baz=154,SNR=8.2
M39A Webster 59.20 342 P P 11 45 53.1 -1.5
baz=157,SNR=7.8
LONY Lake Ozonia 59.22 357 P P 11 45 54.4 -0.3
baz=176,SNR=9.7
LONY Lake Ozonia 59.22 357 *e*P P 11 45 54.6 0.0
comp=Z,19nm,0.9s
LPM Los Pinos Moun 59.22 326 *e*P P 11 45 55.0 -0.2
L41A Preston 59.27 344 P P 11 45 53.4 -1.7
baz=159,SNR=16
BASO Ashfield 59.28 351 P P 11 45 54.7 -0.4
baz=169,SNR=10.0
K43A Burlington 59.30 346 P P 11 45 54.0 -1.3
baz=161,SNR=6.0
DELO Deloro Mine 59.31 355 P P 11 45 55.0 -0.3
baz=173,SNR=11
O35A Humboldt 59.33 338 P P 11 45 53.8 -1.8
baz=152
FRNY Flat Rock 59.40 358 *e*P P 11 45 56.2 +0.4
comp=Z,27nm,1.0s
L40A Anamosa 59.46 343 P P 11 45 54.7 -1.7
baz=158,SNR=12
BRCO Bruce Peninsul 59.48 352 P P 11 45 56.3 -0.2
baz=169,SNR=10
N36A Muff Farm, Cla 59.49 339 P P 11 45 55.8 -0.8
baz=154,SNR=21
CBKS Cedar Bluff 59.55 335 P P 11 45 56.9 -0.2
baz=148,SNR=10
CBKS Cedar Bluff 59.55 335 *e*P P 11 45 57.2 0.0
comp=Z,68nm,0.9s
CBKS Cedar Bluff 59.55 335 *e*P P 11 45 57.2 0.0
CBKS pmax pmax
comp=Z,68nm,0.9s
LAZ Ladron 59.56 326 *e*P P 11 45 57.6 +0.1
ANMO Albuquerque 59.61 327 P P 11 45 57.6 -0.2
baz=140
ANMO Albuquerque 59.61 327 *e*P P 11 45 57.5 -0.4
comp=Z,13nm,0.8s
ANMO Albuquerque 59.61 327 *ce*P P 11 45 57.0 -0.8
ANMO pmax pmax
comp=Z,47nm,2.6s
K42A Prairie Point, 59.62 345 P P 11 45 56.4 -1.1
baz=160,SNR=21
SADO Sadowa 59.71 354 *e*P P 11 45 57.8 -0.2
comp=Z,176nm,0.8s
K41A Shullsburg 59.71 344 P P 11 45 56.6 -1.5
baz=159,SNR=9.3
M37A Trindle Farm, 59.72 340 P P 11 45 57.2 -1.0
baz=155,SNR=7.1
L39A Vinton 59.74 342 P P 11 45 56.6 -1.7
baz=157,SNR=9.6
N35A Tabor 59.77 339 P P 11 45 57.3 -1.3
baz=153,SNR=7.1
PLVO Plevna 59.79 355 P P 11 45 58.4 -0.2
baz=174,SNR=5.5
PLVO Plevna 59.79 355 *e*P P 11 45 58.9 +0.3
comp=Z,136nm,1.9s
BMRO Meriville Lake 59.79 352 P P 11 45 58.2 -0.4
baz=169,SNR=11
PKME Peaks-Kenny Pk 59.82 2 P P 11 45 58.9 +0.1
baz=182,SNR=8.6
PKME Peaks-Kenny Pk 59.82 2 *e*P P 11 45 59.3 +0.5
comp=Z,54nm,0.9s
BANO Bancroft 59.84 355 P P 11 45 58.5 -0.4
baz=173,SNR=11
J43A Natural Starves 59.96 346 P P 11 45 58.7 -1.1
baz=161,SNR=12
JFWS Jewell Farm 59.98 344 P P 11 45 58.9 -1.1
baz=159,SNR=11
JFWS Jewell Farm 59.98 344 *e*P P 11 45 58.8 -1.1
comp=Z,42nm,0.7s
JFWS Jewell Farm 59.98 344 *e*P P 11 45 58.8 -1.1
JFWS pmax pmax
comp=Z,42nm,0.7s
M36A Felix, Anita 60.01 340 P P 11 45 59.3 -0.9
baz=154,SNR=10
K40A Colesburg 60.03 343 P P 11 45 58.8 -1.4
baz=158,SNR=15
L38A Oak Wood Farm, 60.04 342 P P 11 45 58.7 -1.6
baz=156,SNR=9.5
N34A Lincoln 60.05 338 P P 11 45 59.3 -1.1
baz=152,SNR=7.5
J42A Columbus 60.08 345 P P 11 45 59.5 -1.1
baz=160,SNR=10
TUC Tucson 60.11 322 P P 11 46 01.0 -0.3
baz=135
TUC Tucson 60.11 322 *e*P P 11 46 00.9 -0.3
comp=Z,40nm,1.4s
TUC Tucson 60.11 322 *e*P P 11 46 00.9 -0.3
TUC pmax pmax
comp=Z,40nm,1.4s
ALFO Alfred 60.24 357 P P 11 46 01.4 -0.1
baz=176,SNR=10
K39A Oelwein 60.24 343 P P 11 46 00.0 -1.7
baz=157,SNR=9.3
RKT Rikitea 60.25 252 *e*S S 11 54 13.6 +6.3
comp=Z,652nm,26.5s
RKT *e*LR LR 12 04 11.7
comp=Z,294nm,35.2s
L37A Phoenix Point, 60.27 341 P P 11 46 00.4 -1.5
baz=155
T25A Trinidad 60.28 330 P P 11 46 02.5 +0.1
baz=143,SNR=24
T25A Trinidad 60.28 330 *e*P P 11 46 02.5 +0.1
comp=Z,41nm,1.0s
N33A J Bar K, Exete 60.31 337 P P 11 46 01.6 -0.6
baz=151
M35A Neola 60.32 339 P P 11 46 01.3 -1.0
baz=153,SNR=9.5
J41A Loganville 60.34 345 P P 11 46 01.3 -1.1
baz=159,SNR=19
I43A Langenfeld Bro 60.38 346 P P 11 46 01.4 -1.2
baz=161,SNR=11
MHTCO State Highway 60.41 330 *e*P P 11 46 03.5 +0.2
comp=Z,32nm,1.0s
KLBO Killbear Provi 60.41 353 P P 11 46 02.5 -0.3
baz=170,SNR=28
PEMO Pembroke 60.43 355 P P 11 46 02.6 -0.3
baz=174,SNR=14
K38A Parkersburg 60.45 342 P P 11 46 01.8 -1.3
baz=156
TOBO Tobermory, Bru 60.45 352 P P 11 46 02.2 -0.8
baz=169
L36A Harm Buss Farm 60.55 340 P P 11 46 02.7 -1.1
baz=154
GLMI Grayling 60.55 349 P P 11 46 02.7 -1.1
baz=165
GLMI Grayling 60.55 349 *e*P P 11 46 03.1 -0.7
comp=Z,49nm,0.8s
GLMI *e*PcP PcP 11 46 47.5 +0.4
I42A Draeger Farm, 60.56 346 P P 11 46 03.0 -0.9
baz=161,SNR=8.6
I42A Draeger Farm, 60.56 346 *e*P P 11 46 03.2 -0.7
comp=Z,65nm,1.1s
J40A Soldiers Grove 60.56 344 P P 11 46 02.8 -1.1
baz=159,SNR=29
M34A Aspy Farms, Fr 60.66 339 P P 11 46 03.8 -0.8
baz=152,SNR=11
J39A Decorah 60.77 343 P P 11 46 03.9 -1.4
baz=158,SNR=25
TRQ Mont Tremblant 60.81 358 *e*P P 11 46 05.6 0.0

K37A	**Belmond**	60.82	341	P		P	11 46	04.1	-1.6
	baz=155,SNR=6.5								
L35A	**Bielow Farm, R**	60.84	340	P		P	11 46	05.0	-0.9
	baz=153,SNR=24								
H43A	**Windswept, Lux**	60.85	347	P		P	11 46	04.8	-1.0
	baz=162,SNR=6.2								
H43A	**Windswept, Lux**	60.85	347	*e*P		P	11 46	05.2	-0.6
	comp=Z,63nm,0.8s								
I41A	**Arkdale**	60.96	345	P		P	11 46	05.5	-1.1
	baz=160,SNR=9.9								
K36A	**Gilmore City**	60.96	341	P		P	11 46	05.7	-0.9
	baz=154,SNR=15								
KSCO	**Kaye Shedlock'**	60.96	333	P		P	11 46	06.9	+0.1
	baz=145,SNR=15								
KSCO	**Kaye Shedlock'**	60.96	333	*e*P		P	11 46	07.0	+0.1
	comp=Z,76nm,0.9s								
J38A	**Wedel Dairy, R**	60.98	343	P		P	11 46	05.2	-1.5
	baz=157,SNR=6.0								
I40A	**Norwalk**	60.99	344	P		P	11 46	05.8	-1.0
	baz=159,SNR=16								
L34A	**Svendsen Farm,**	61.00	339	P		P	11 46	05.8	-1.1
	baz=152,SNR=15								
H42A	**Shiocton**	61.06	346	P		P	11 46	06.2	-1.0
	baz=161,SNR=15								
H42A	**Shiocton**	61.06	346	*e*P		P	11 46	06.5	-0.7
	comp=Z,99nm,0.8s								
H42A				*e*PcP		PcP	11 46	52.2	+3.0
214A	**Organ Pipe Nat**	61.10	320	P		P	11 46	07.9	+0.1
	baz=133,SNR=25								
214A	**Organ Pipe Nat**	61.10	320	*e*P		P	11 46	08.0	+0.1
	comp=Z,248nm,1.3s								
BGNE	**Belgrade**	61.15	337	P		P	11 46	07.4	-0.5
	baz=150,SNR=9.0								
BGNE	**Belgrade**	61.15	337	*e*P		P	11 46	07.7	-0.3
	comp=Z,149nm,0.9s								
I39A	**Houston**	61.20	344	P		P	11 46	07.0	-1.2
	baz=158,SNR=18								
X18A	**Snowflake**	61.22	324	*e*P		P	11 46	09.1	+0.4
X18A				*ep*P		pP	11 46	26.9	-11
X18A				*e*PcP		sP	11 46	51.2	+0.5
WI04	**River Road, Cl**	61.23	346	*e*P		P	11 46	08.0	-0.4
	comp=Z,44nm,0.7s								
WI03	**Lunz Road, Cli**	61.24	346	*e*P		P	11 46	08.2	-0.3
	comp=Z,60nm,0.8s								
PQI	**Presque Isle**	61.28	3	*e*P		P	11 46	08.8	+0.1
	comp=Z,38nm,1.0s								
K35A	**Storm Lake**	61.29	340	P		P	11 46	08.1	-0.7
	baz=154,SNR=6.0								
J37A	**Redenius Farm,**	61.29	342	P		P	11 46	07.5	-1.4
	baz=156,SNR=7.1								
SDCO	**Great Sand Dun**	61.29	330	P		P	11 46	09.2	0.0
	baz=142,SNR=112								
SDCO	**Great Sand Dun**	61.29	330	*e*P		P	11 46	09.3	0.0
	comp=Z,48nm,0.8s								
H41A	**Junction City**	61.43	345	P		P	11 46	08.7	-1.0
	baz=160,SNR=7.2								
H41A	**Junction City**	61.43	345	*e*P		P	11 46	09.1	-0.6
	comp=Z,72nm,1.4s								
L33A	**Hoskins**	61.49	338	P		P	11 46	09.3	-0.9
	baz=152								
F46A	**Macinaw City C**	61.49	349	P		P	11 46	09.2	-0.9
	baz=165,SNR=5.5								
K34A	**Le Mars**	61.54	340	P		P	11 46	09.6	-1.0
	baz=153,SNR=5.2								
F45A	**CMU Biological**	61.55	349	P		P	11 46	09.3	-1.2
	baz=165								
J36A	**Seneca 1, Swea**	61.55	341	P		P	11 46	09.3	-1.2
	baz=155,SNR=7.5								
G43A	**Wallace**	61.58	347	P		P	11 46	09.5	-1.1
	baz=162,SNR=5.6								
G43A	**Wallace**	61.58	347	*e*P		P	11 46	09.9	-0.8
	comp=Z,32nm,0.9s								
I38A	**Scanlan Farm,**	61.60	343	P		P	11 46	10.0	-0.8
	baz=157,SNR=39								
H40A	**Chili**	61.62	345	P		P	11 46	10.0	-1.0
	baz=159,SNR=17								
BBTS	**Babate**	61.70	64	P		P	11 46	13.3	+1.2
	comp=Z,40nm,0.7s,baz=267,slow=1.8,SNR=12								
G42A	**Mountain**	61.73	346	P		P	11 46	10.7	-1.0
	baz=161,SNR=14								
G42A	**Mountain**	61.73	346	*e*P		P	11 46	10.8	-0.8
	comp=Z,147nm,1.5s								
K33A	**Hardington**	61.78	339	P		P	11 46	11.3	-0.8
	baz=152								
J35A	**Milford**	61.85	341	P		P	11 46	11.3	-1.3
	baz=154								
G41A	**Antigo**	61.87	346	P		P	11 46	11.8	-0.9
	baz=161,SNR=9.1								
I37A	**Lemond, Waseca**	61.88	342	P		P	11 46	11.8	-1.0
	baz=156,SNR=8.6								
H39A	**Augusta**	61.90	344	P		P	11 46	11.8	-1.1
	baz=158,SNR=8.5								
S22A	**4UR Ranch, Cre**	61.95	329	P		P	11 46	13.7	0.0
	baz=141,SNR=29								
S22A	**4UR Ranch, Cre**	61.95	329	*e*P		P	11 46	13.8	0.0
	comp=Z,19nm,0.9s								
F44A	**Big Bay de Noc**	62.00	348	P		P	11 46	12.3	-1.2
	baz=164,SNR=5.3								
F43A	**Flat Rock, Esc**	62.01	348	P		P	11 46	12.2	-1.4
	baz=163,SNR=8.8								
J34A	**George**	62.03	340	P		P	11 46	12.9	-0.9
	baz=153,SNR=9.0								
I36A	**Fitzsimmons Fa**	62.07	342	P		P	11 46	12.8	-1.3
	baz=155,SNR=5.7								
Q24A	**Divide**	62.09	331	P		P	11 46	14.5	-0.2
	baz=143,SNR=12								
Q24A	**Divide**	62.09	331	*e*P		P	11 46	15.0	+0.4
	comp=Z,37nm,1.0s								
E45A	**Wooded Hills,**	62.13	349	P		P	11 46	13.7	-0.7
	baz=165,SNR=9.4								
H38A	**Maiden Rock**	62.17	343	P		P	11 46	13.8	-0.9
	baz=157,SNR=7.2								
G40A	**Rib Lake**	62.17	345	P		P	11 46	13.6	-1.1
	baz=160								
K32A	**Verdigre**	62.17	338	P		P	11 46	13.7	-1.1
	baz=151								
I35A	**Creekview Farm**	62.22	341	P		P	11 46	14.1	-1.0
	baz=154								
113A	**Mohawk Valley,**	62.25	320	*e*P		P	11 46	15.4	0.0
H37A	**Dierke Farm, C**	62.26	343	P		P	11 46	14.5	-0.8
	baz=156,SNR=8.1								
OGNE	**Ogallala**	62.30	334	P		P	11 46	15.6	-0.1
	baz=146,SNR=6.4								
OGNE	**Ogallala**	62.30	334	*e*P		P	11 46	16.2	+0.5
	comp=Z,63nm,0.9s								
F41A	**Three Lakes**	62.35	346	P		P	11 46	15.1	-0.8
	baz=161,SNR=24								
J33A	**Davis**	62.40	339	P		P	11 46	15.5	-0.7
	baz=152,SNR=15								
MVCO	**Mesa Verde**	62.40	327	P		P	11 46	16.5	-0.2
	baz=139,SNR=21								
MVCO	**Mesa Verde**	62.40	327	*e*P		P	11 46	16.5	-0.2
	comp=Z,62nm,1.4s								
K31A	**O'Neill**	62.43	338	P		P	11 46	16.3	-0.2
	baz=150,SNR=10								
G39A	**Holcombe**	62.44	344	P		P	11 46	15.1	-1.4
	baz=158,SNR=11								
E43A	**Lone Tree Farm**	62.50	348	P		P	11 46	15.9	-1.0
	baz=163,SNR=11								
G38A	**Ridgeland**	62.51	344	P		P	11 46	15.8	-1.1
	baz=158,SNR=14								
E44A	**Grand Marais A**	62.52	349	P		P	11 46	16.3	-0.7
	baz=164								
H36A	**Jessenland, He**	62.55	342	P		P	11 46	16.7	-0.5
	baz=156,SNR=19								
Y14A	**Wickenburg**	62.58	322	*e*P		P	11 46	17.9	+0.1
ECSD	**EROS Data Cent**	62.65	340	P		P	11 46	17.2	-0.7
	baz=152,SNR=45								
ECSD	**EROS Data Cent**	62.65	340	*e*P		P	11 46	17.3	-0.7
	comp=Z,86nm,1.4s								
I34A	**Hadley**	62.67	340	P		P	11 46	17.4	-0.7
	baz=153								
COWI	**Conover**	62.70	346	*e*P		P	11 46	17.5	-0.7
	comp=Z,30nm,0.8s								
COWI				*e*PcP		PcP	11 46	56.5	+0.7
WUAZ	**Wupatki**	62.73	324	P		P	11 46	19.2	+0.4
	baz=136,SNR=28								
WUAZ	**Wupatki**	62.73	324	*e*P		P	11 46	19.4	+0.5
	comp=Z,65nm,1.2s								
E42A	**Champion**	62.74	347	P		P	11 46	17.5	-0.9
	baz=162,SNR=14								
J32A	**Parkston**	62.75	339	P		P	11 46	17.6	-1.0
	baz=151,SNR=14								
F40A	**Park Falls**	62.76	345	P		P	11 46	17.8	-0.8
	baz=160,SNR=27								
SPMN	**Marine on St.**	62.82	343	P		P	11 46	18.1	-0.9
	baz=157,SNR=20								
SPMN	**Marine on St.**	62.82	343	*e*P		P	11 46	18.1	-0.9
	comp=Z,75nm,1.1s								
H35A	**Sunnyside Ranc**	62.94	341	P		P	11 46	19.0	-0.8
	baz=155,SNR=43								
F39A	**Loretta**	62.96	345	P		P	11 46	19.0	-0.9
	baz=159,SNR=20								
ISCO	**Idaho Springs**	62.97	331	P		P	11 46	20.4	-0.1
	baz=143,SNR=24								
ISCO	**Idaho Springs**	62.97	331	*e*P		P	11 46	20.4	-0.1
	comp=Z,18nm,0.8s								
ISCO	**Idaho Springs**	62.97	331	*e*P		P	11 46	20.4	-0.1
ISCO				pmax		pmax			
	comp=Z,18nm,0.8s								
I33A	**Coleman**	62.99	340	P		P	11 46	19.7	-0.4
	baz=152,SNR=13								
E41A	**Kenton**	63.00	346	P		P	11 46	19.2	-1.0
	baz=161,SNR=7.8								
G36A	**St. Michael**	63.10	343	P		P	11 46	20.0	-0.9
	baz=156,SNR=5.5								
GLA	**Glamis**	63.10	320	P		P	11 46	21.3	+0.1
	baz=132								
GLA	**Glamis**	63.10	320	*e*P		P	11 46	21.8	+0.6
	comp=Z,70nm,1.7s								
GLA				*e*PcP		PcP	11 46	58.5	+0.7
GLA	**Glamis**	63.10	320	*e*P		P	11 46	21.8	+0.6
GLA				*e*			11 46	58.5	
GLA				pmax		pmax			
	comp=Z,70nm,1.7s								
SMCO	**Snowmass**	63.13	330	*e*P		P	11 46	21.9	+0.2
	comp=Z,23nm,0.8s								
PV01	**Paradox Valley**	63.14	328	*e*P		P	11 46	21.8	+0.2
I32A	**Karley and Nic**	63.19	339	P		P	11 46	20.9	-0.6
	baz=152,SNR=7.3								
E40A	**Wakefield**	63.20	346	P		P	11 46	21.1	-0.4
	baz=160,SNR=41								
H34A	**Spellman Lake,**	63.20	341	P		P	11 46	20.9	-0.7
	baz=154,SNR=19								
F37A	**Hinrichs Farm,**	63.23	344	P		P	11 46	20.9	-0.8
	baz=157,SNR=9.0								
F38A	**Pierce - Schro**	63.24	344	P		P	11 46	21.1	-0.7
	baz=158,SNR=26								
E39A	**Mellen**	63.30	345	P		P	11 46	21.5	-0.6
	baz=159,SNR=26								
G35A	**Watkins**	63.30	342	P		P	11 46	21.5	-0.7
	baz=155,SNR=8.5								
PV05	**Paradox Valley**	63.37	327	*e*P		P	11 46	23.2	+0.1
Y12C	**Blythe**	63.38	320	P		P	11 46	23.2	+0.3
	baz=132,SNR=7.4								
Y12C	**Blythe**	63.38	320	*e*P		P	11 46	23.7	+0.8
Y12C				*es*P		pP	11 46	54.6	+2.5
D41A	**Chassel**	63.48	347	P		P	11 46	22.8	-0.5
	baz=162,SNR=19								
PV04	**Paradox Valley**	63.50	328	*e*P		P	11 46	23.4	-0.5
PDMCI	**Parker Dam,Lak**	63.52	321	P		P	11 46	24.2	+0.4
	baz=133,SNR=5.6								
H33A	**Prehn Over Nor**	63.53	340	P		P	11 46	23.3	-0.4
	baz=153,SNR=26								
PV10	**Paradox Valley**	63.56	328	*e*P		P	11 46	24.0	-0.3
PV10				*es*P		PcP	11 47	00.3	+0.5
I31A	**Royce, Wessing**	63.57	338	P		P	11 46	23.6	-0.4
	baz=151,SNR=7.6								
H32A	**Carlson Farm,**	63.60	340	P		P	11 46	23.7	-0.5
	baz=152,SNR=10								
F36A	**Milaca**	63.61	343	P		P	11 46	23.3	-0.8
	baz=156,SNR=54								
SWSC	**Sam W. Stewart**	63.64	319	P		P	11 46	25.0	+0.4
	baz=131,SNR=6.4								
IKP	**In-Ko-Pah, Jac**	63.65	319	P		P	11 46	25.6	+0.8
	baz=131,SNR=13								
G34A	**Benson**	63.67	341	P		P	11 46	23.8	-0.8
	baz=154								
PV09	**Paradox Valley**	63.70	328	*e*P		P	11 46	25.4	0.0
E38A	**The Farm, Brul**	63.76	345	P		P	11 46	24.3	-0.9
	baz=158,SNR=17								
G33A	**Ortonville**	63.89	341	P		P	11 46	25.2	-0.8
	baz=153,SNR=13								
BC3	**Big Chuckawall**	63.89	320	P		P	11 46	26.7	+0.2
	baz=132,SNR=23								
U15A	**North Rim**	63.91	324	*e*P		P	11 46	26.6	0.0
F35A	**Swanville**	63.91	342	P		P	11 46	25.5	-0.7
	baz=155,SNR=28								
H31A	**Wolsey**	63.94	339	P		P	11 46	25.8	-0.6
	baz=151								
E37A	**Wrenshall**	63.94	344	P		P	11 46	25.6	-0.8
	baz=158								
N23A	**Red Feather La**	63.99	331	P		P	11 46	27.0	-0.1
	baz=143,SNR=11								
N23A	**Red Feather La**	63.99	331	*e*P		P	11 46	27.2	+0.1
	comp=Z,20nm,0.9s								
MONP2	**Monument Peak**	64.00	319	P		P	11 46	27.3	0.0
	baz=131,SNR=17								
BAR	**Barrett**	64.03	318	*e*P		P	11 46	27.5	+0.3
	comp=Z,34nm,0.9s								
IRM	**Iron Mountain**	64.03	320	P		P	11 46	27.5	+0.3
	baz=132,SNR=25								
F34A	**Alexandria**	64.06	342	P		P	11 46	26.8	-0.4
	baz=154,SNR=12								
PHWY	**Pilot Hill**	64.09	332	*e*P		P	11 46	28.3	+0.4
	comp=Z,15nm,0.8s								
E36A	**McGregor**	64.13	343	P		P	11 46	27.2	-0.4
	baz=157,SNR=44								
G32A	**Webster**	64.29	340	P		P	11 46	28.1	-0.6
	baz=152								
F33A	**5 Mile Ranch,**	64.42	341	P		P	11 46	28.8	-0.6
	baz=153,SNR=34								
C40A	**Isle Royale Na**	64.42	347	P		P	11 46	28.8	-0.7
	baz=161,SNR=22								
109C	**Camp Elliot, M**	64.44	318	P		P	11 46	30.2	+0.3
	baz=130,SNR=6.2								
CPE	**Camp Elliot**	64.44	318	*e*P		P	11 46	30.2	+0.3
	comp=Z,45nm,1.2s								
BELC	**Belle Mtn. Jos**	64.46	320	P		P	11 46	30.5	+0.3
	baz=131,SNR=11								
TPFO	**Pinon Flats**	64.49	319	P		P	11 46	30.7	+0.3
	baz=131								
E35A	**Pequot Lakes**	64.49	343	P		P	11 46	29.4	-0.6
	baz=155,SNR=13								
XPFO	**Piæon Flat**	64.49	319	*e*P		P	11 46	30.9	+0.5
	comp=Z,37nm,1.3s								
O20A	**White River Ci**	64.49	329	P		P	11 46	30.5	+0.1
	baz=140,SNR=19								
O20A	**White River Ci**	64.49	329	*e*P		P	11 46	30.6	+0.3
	comp=Z,35nm,0.9s								
PFO	**Pinyon Flats O**	64.49	319	P		P	11 46	30.8	+0.5
	baz=131,SNR=13								
PFO	**Pinyon Flats O**	64.49	319	*e*P		P	11 46	30.9	+0.5
	comp=Z,34nm,1.3s								
PFO	**Pinyon Flats O**	64.49	319	*e*P		P	11 46	30.9	+0.5
PFO				pmax		pmax			
	comp=Z,34nm,1.3s								
D37A	**Cotton**	64.50	344	P		P	11 46	29.5	-0.5
	baz=158,SNR=24								
G31A	**Conde**	64.50	339	P		P	11 46	29.3	-0.7
	baz=151								
C39A	**Grand Marais**	64.55	346	P		P	11 46	29.4	-0.9
	baz=160,SNR=40								
KNB	**Kanab**	64.62	324	*e*P		P	11 46	32.2	+0.9
	comp=Z,80nm,1.2s								
KNB	**Kanab**	64.62	324	*e*P		P	11 46	32.2	+0.9
KNB				pmax		pmax			
	comp=Z,80nm,1.2s								
LDFC	**Landfair**	64.63	321	*e*P		P	11 46	32.2	+0.9
	comp=Z,29nm,0.8s								
PKCU	**Pink Cliffs**	64.64	325	*e*P		P	11 46	32.6	+1.1
	comp=Z,47nm,1.5s								
E34A	**Wadena**	64.68	342	P		P	11 46	30.8	-0.3
	baz=155,SNR=20								
F32A	**Veblen**	64.71	340	P		P	11 46	30.7	-0.6
	baz=152								
D36A	**Goodland**	64.71	344	P		P	11 46	30.5	-0.8
	baz=157,SNR=11								
C38A	**Sawbill Land.**	64.72	345	P		P	11 46	30.3	-1.2
	baz=159,SNR=16								
GMRC	**Granite Mounta**	64.77	321	P		P	11 46	32.6	+0.4
	baz=132,SNR=32								
LCMT	**Little Creek M**	64.86	324	*e*P		P	11 46	33.2	+0.5
	comp=Z,40nm,1.4s								
D35A	**Remer**	64.87	343	P		P	11 46	31.6	-0.8
	baz=156,SNR=6.7								
SRU	**San Rafael Swe**	64.88	327	*e*P		P	11 46	32.9	0.0
	comp=Z,27nm,0.9s								
SRU	**San Rafael Swe**	64.88	327	*e*P		P	11 46	32.9	0.0
SRU				pmax		pmax			
	comp=Z,27nm,0.9s								
E33A	**Westby DABS, E**	64.92	342	P		P	11 46	31.9	-0.8
	baz=154,SNR=13								
MURC	**Murrieta**	64.95	319	P		P	11 46	33.6	+0.3
	baz=130,SNR=6.1								
C37A	**Embarrass**	64.96	345	P		P	11 46	32.3	-0.7
	baz=158,SNR=25								
EYMN	**Ely**	64.99	345	P		P	11 46	32.3	-0.9
	baz=159,SNR=31								
EYMN	**Ely**	64.99	345	*e*P		P	11 46	32.3	-0.9
	comp=Z,56nm,0.8s								
MTPU	**Mount Pierson**	65.00	325	*e*P		P	11 46	34.1	+0.2
	comp=Z,31nm,1.3s								
F31A	**Hecla**	65.07	340	P		P	11 46	33.4	-0.3
	baz=151,SNR=39								
P18A	**Preston Nutter**	65.12	328	*e*P		P	11 46	34.8	+0.2
	comp=Z,45nm,1.1s								
C36A	**Pine Crest Far**	65.16	344	P		P	11 46	33.8	-0.5
	baz=157,SNR=43								
SZCU	**Shurtz Canyon**	65.18	324	*e*P		P	11 46	35.5	+0.6
	comp=Z,48nm,1.4s								
D34A	**Park Rapids**	65.20	342	P		P	11 46	33.8	-0.8
	baz=155,SNR=12								
BBRC	**Big Bear Solar**	65.21	319	P		P	11 46	35.9	+0.7
	baz=131,SNR=18								
HEC	**Hector,Ludlow**	65.21	320	P		P	11 46	35.6	+0.6
	baz=131,SNR=20								
CCUT	**Cedar City**	65.30	324	*e*P		P	11 46	36.7	+0.9
	comp=Z,25nm,0.8s								
MSU	**Marysvale**	65.33	326	*e*P		P	11 46	36.3	+0.4
MSU	**Marysvale**	65.33	326	*e*P		P	11 46	36.3	+0.4
E32A	**Braaten, Kindr**	65.33	341	P		P	11 46	34.9	-0.5
	baz=153								
TUQ	**Turquoise Moun**	65.36	321	P		P	11 46	36.3	+0.3
	baz=132,SNR=26								
TMUT	**Trail Mountain**	65.38	327	*e*P		P	11 46	36.4	+0.1
	comp=Z,12nm,0.8s								
C35A	**Jirik Farms, M**	65.41	343	P		P	11 46	34.8	-1.1
	baz=156,SNR=15								
SCI2	**San Clemente I**	65.44	317	P		P	11 46	36.6	+0.2
	baz=129								
D33A	**AnnSam, Waubun**	65.44	342	P		P	11 46	35.3	-0.8
	baz=154,SNR=8.5								
E31A	**Nome**	65.56	340	P		P	11 46	36.5	-0.4
	baz=152,SNR=11								
CIS	**Catalina Islan**	65.61	318	P		P	11 46	37.7	+0.2
	baz=129,SNR=5.0								
SHPR	**Sheep Range**	65.62	322	*e*P		P	11 46	38.4	+0.7
	comp=Z,41nm,1.1s								
C34A	**RKJ Ranch, Bem**	65.63	343	P		P	11 46	36.6	-0.7
	baz=155,SNR=11								
K22A	**Casper**	65.64	332	P		P	11 46	37.6	-0.1
	baz=142,SNR=17								
K22A	**Casper**	65.64	332	*e*P		P	11 46	37.9	+0.2
	comp=Z,34nm,1.0s								
RRX	**Edison Barstow**	65.65	320	P		P	11 46	38.2	+0.5
	baz=131								
BFSC	**Mount Baldy Ra**	65.66	319	P		P	11 46	37.9	0.0
	baz=130,SNR=14								
FMP	**Fort Macarthur**	65.73	318	P		P	11 46	38.3	+0.1
	baz=129								
RSSD	**Black Hills**	65.76	335	P		P	11 46	38.5	+0.1
	baz=145								
RSSD	**Black Hills**	65.76	335	*e*P		P	11 46	38.2	-0.3
	comp=Z,100nm,1.8s								
RSSD	**Black Hills**	65.76	335	*e*P		P	11 46	38.2	-0.3
RSSD				pmax		pmax			
	comp=Z,100nm,1.8s								
D32A	**Dogwood Acres,**	65.80	341	P		P	11 46	37.9	-0.5
	baz=153,SNR=7.8								
GSC	**Goldstone, Bar**	65.81	320	P		P	11 46	39.4	+0.5
	baz=131,SNR=19								
GSC	**Goldstone, Bar**	65.81	320	*e*P		P	11 46	39.3	+0.4
	comp=Z,38nm,1.1s								
GSC	**Goldstone, Bar**	65.81	320	*e*P		P	11 46	39.3	+0.4
GSC				pmax		pmax			
	comp=Z,38nm,1.1s								
SHOC	**Shoshone, Teco**	65.88	321	P		P	11 46	39.3	+0.1
	baz=132,SNR=21								
MWC	**Mount Wilson**	65.90	319	*e*P		P	11 46	40.3	+0.7
MWC				*ep*P		PcP	11 47	10.0	+0.5
MWC	**Mount Wilson**	65.90	319	*e*P		P	11 46	40.3	+0.7
MWC				*e**PP		PcP	11 47	10.0	+0.5
D31A	**Mcclaflin, Tow**	65.94	341	P		P	11 46	39.0	-0.3
	baz=152								
B35A	**Bob, Littlefor**	65.95	344	P		P	11 46	38.5	-0.8
	baz=156,SNR=24								
PASC	**Pasadena Art C**	65.95	319	*e*P		P	11 46	40.2	+0.5
	comp=Z,88nm,1.6s								
C33A	**Trail**	65.98	342	P		P	11 46	38.8	-0.7
	baz=154,SNR=6.6								
DECC	**Green Verdugo**	66.10	319	P		P	11 46	40.9	+0.3
	baz=130								
MPU	**Maple Canyon**	66.13	327	*e*P		P	11 46	41.1	+0.2
	comp=Z,43nm,1.2s								
SNCC	**San Nicolas Is**	66.24	317	P		P	11 46	41.8	+0.2
	baz=128								
C32A	**Crookston**	66.26	342	P		P	11 46	41.1	-0.2
	baz=154								
EDW2	**Edwards Air Fo**	66.28	319	P		P	11 46	41.8	0.0
	baz=130,SNR=18								
B34A	**Aery, Baudette**	66.31	343	P		P	11 46	41.1	-0.6
	baz=156,SNR=29

comp=Z,30nm,1.3s
PD31 Pinedale Array 67.14 330 *e*P P **11 46 47.1 -0.2**
PDAR Pinedale Array 67.14 330 P P **11 46 46.6 -0.7**
comp=Z,6.2nm,0.8s,baz=141,slow=5.7,SNR=48
PDAR pP **PcP 11 47 08.1 -6.5**
comp=Z,2.1nm,0.7s,baz=107,slow=9.9,SNR=3.3
PDAR sP **pP 11 47 18.9 +2.1**
comp=Z,30nm,1.3s,baz=144,slow=5.3,SNR=4.0
PDAR PKPPKP **P'P'df 12 15 14.8 +2.7**
comp=Z,0.2nm,0.3s,baz=245,slow=3.1,SNR=4.7
PDAR Pinedale Array 67.14 330 *e*P P **11 46 46.0 -1.3**
PDAR pP **PcP 11 47 08.1 -6.5**
PDAR sP **pP 11 47 18.9 +2.1**
PDAR P'P' 12 15 14.8
VNA3 Neumayer Olymp 67.15 162 P P **11 46 47.5 +0.7**
A32A Rocking H Ranc 67.23 342 P P **11 46 46.6 -0.9**
baz=154,SNR=6.6
HWUT Hardware Ranch 67.26 328 *e*P P **11 46 47.7 -0.4**
comp=Z,54nm,1.4s
MDND Maddock 67.26 340 P P **11 46 48.0 +0.3**
baz=150,SNR=29
MDND Maddock 67.26 340 *e*P P **11 46 48.2 +0.5**
comp=Z,391nm,1.1s
GRAC Grapevine Rang 67.27 321 P P **11 46 48.7 +0.6**
baz=131
TAOE Nuku Hiva Isla 67.29 266 *e*LR LR 12 07 27.4
comp=Z,510nm,27.4s
CWC Cottonwood Cre 67.34 321 P P **11 46 49.0 +0.3**
baz=130
VNA1 Neumayer--Stat 67.36 161 P P **11 46 49.3 +1.3**
PKM Mcpherson Peak 67.45 318 P P **11 46 49.7 +0.3**
baz=129,SNR=15
A31A Linda, St. Vin 67.45 342 P P **11 46 48.1 -0.8**
baz=153
SPUT South Promonto 67.49 328 *e*P P **11 46 49.4 -0.1**
comp=Z,47nm,1.3s
BGU Big Grassy Mou 67.52 327 *e*P P **11 46 49.7 0.0**
comp=Z,266nm,1.1s
VES Vestal, Richgr 67.58 320 P P **11 46 50.2 +0.3**
baz=130,SNR=17
VNA2 Neumayer--Watz 67.72 161 P P **11 46 51.0 +0.7**
baz=268,slow=5.5
CMLA Cha da Macela 67.78 38 *i*P P **11 46 52.9 +1.8**
SMMC Simmler 67.83 319 P P **11 46 52.3 +0.8**
baz=129,SNR=8.8
TIN Tinemaha, Big 67.83 321 P P **11 46 52.3 +0.6**
baz=131
AHID Auburn Hatcher 67.89 330 *e*P P **11 46 51.8 -0.2**
comp=Z,27nm,0.8s
RCTC Rector, Farmer 67.97 320 P P **11 46 52.5 +0.1**
baz=130,SNR=8.6
HVU Hansel Valley 68.00 328 *e*P P **11 46 52.5 -0.2**
comp=Z,26nm,0.8s
HVU Hansel Valley 68.00 328 *e*P P **11 46 52.5 -0.2**
HVU pmax pmax
comp=Z,26nm,0.8s
REDW Red Top Meadow 68.21 330 *e*P P **11 46 54.0 -0.1**
comp=Z,72nm,1.5s
SNOW Snow King Moun 68.24 330 *e*P P **11 46 54.4 +0.2**
comp=Z,18nm,0.8s
PAGB Antelope Grade 68.25 319 *e*P P **11 46 55.2 +1.1**
comp=Z,41nm,1.0s
ULM Lac du Bonnet 68.25 343 P P **11 46 53.0 -0.7**
comp=Z,62nm,0.9s,baz=151,slow=5.9,SNR=65
ULM PKP2bc 12 15 09.7
comp=Z,7.3nm,1.1s,baz=243,slow=6.8,SNR=5.7
ULM Lac du Bonnet 68.25 343 *e*P P **11 46 53.1 -0.7**
comp=Z,96nm,1.0s
ULM ⇑*e* 12 15 09.7
ULM Lac du Bonnet 68.25 343 *e*P P **11 46 53.1 -0.7**
ULM pmax pmax
comp=Z,96nm,1.0s
LOHW Long Hollow 68.28 330 *e*P P **11 46 54.4 0.0**
comp=Z,17nm,0.8s
TPAW Teton Pass 68.35 330 *e*P P **11 46 55.0 0.0**
comp=Z,17nm,0.8s
MOOW Moose Ponds 68.45 330 *e*P P **11 46 55.4 -0.1**
comp=Z,20nm,1.1s
FXWY Fox Creek 68.50 330 *e*P P **11 46 55.8 -0.1**
comp=Z,22nm,0.9s
MLAC Mammoth, Mammo 68.57 321 P P **11 46 56.9 +0.5**
baz=130,SNR=6.8
ELK Elko 68.58 326 P P **11 46 58.6 +2.2**
comp=Z,10nm,0.9s,baz=163,slow=3.2,SNR=43
IMW Indian Meadow 68.65 330 *e*P P **11 46 57.1 +0.2**
comp=Z,92nm,1.5s
NV11 Mina Array Sit 68.68 322 *e*P P **11 46 57.5 +0.5**
comp=Z,2.6nm,1.4s
MDPB Devils Postpil 68.72 321 *e*P P **11 46 58.3 +0.9**
comp=Z,28nm,0.9s
MDPB *e*pP **PcP 11 47 22.3 +0.9**
LAO LASA Array 68.74 335 P P **11 46 57.2 +0.1**
baz=144,SNR=14
LAO LASA Array 68.74 335 *e*P P **11 46 57.3 +0.3**
comp=Z,68nm,1.2s
NV01 Mina Array Sit 68.77 322 *e*P P **11 46 57.1 -0.5**
NVAR Mina Array Bea 68.77 322 P P **11 46 58.0 +0.4**
comp=Z,9.8nm,0.9s,baz=149,slow=7.0,SNR=83
NVAR pP **PcP 11 47 20.9 -0.6**
comp=Z,9.6nm,0.7s,baz=137,slow=4.5,SNR=14
NVAR sP **pP 11 47 29.7 +2.6**
comp=Z,6.9nm,0.9s,baz=153,slow=6.3,SNR=5.0
NVAR PKP2bc 12 15 09.1
comp=Z,3.2nm,1.0s,baz=268,slow=2.6,SNR=17
NVAR LR LR 12 15 45.4
comp=Z,62nm,21.0s,baz=238,slow=35
RLMT Red Lodge 68.81 332 P P **11 46 57.9 +0.2**
baz=141,SNR=33
RLMT Red Lodge 68.81 332 *e*P P **11 46 58.0 +0.2**
comp=Z,56nm,1.3s
H17A Grant Village 68.86 331 P P **11 46 58.8 +0.8**
baz=139,SNR=13
H17A Grant Village 68.86 331 *e*P P **11 46 59.2 +1.1**
comp=Z,39nm,1.4s
YPP Pitchstone Pla 68.87 331 *e*P P **11 46 59.0 +0.8**
comp=Z,48nm,1.8s
PMPB Monarch Peak 68.90 319 *e*P P **11 46 59.9 +1.7**
comp=Z,35nm,0.8s
YFT Old Faithful 69.02 331 *e*P P **11 47 01.1 +2.0**
comp=Z,39nm,1.2s
RYN Ryan 69.03 322 *e*P P **11 46 59.5 +0.4**
comp=Z,24nm,1.1s
LIC Lamto 69.07 77 *e*P P **11 46 58.4 -1.3**
comp=Z,52nm,1.0s
TIC Toumodi 69.21 77 *e*P P **11 46 59.2 -1.4**
YMR Madison River 69.25 331 *e*P P **11 47 01.5 +1.1**
comp=Z,46nm,0.9s
YHH Holmes Hill 69.28 331 *e*P P **11 47 01.5 +0.8**
comp=Z,30nm,1.0s
SNAA Sanae 69.35 162 P P **11 47 01.0 +0.4**
SNAA Sanae 69.35 162 P P **11 47 01.0 +0.4**
comp=Z,40nm,0.9s,baz=287,slow=5.3,SNR=60
SNAA PKP2bc 12 15 06.0
comp=Z,5.1nm,1.1s,baz=36,slow=7.7,SNR=3.7
SNAA Sanae 69.35 162 *e*P P **11 47 00.9 +0.4**
comp=Z,65nm,1.0s
SNAA ⇑*e* 12 15 06.0
SNAA Sanae 69.35 162 *c i*P P **11 47 01.0 +0.4**
DBIC Dimbokro 69.37 77 P P **11 47 00.6 -1.0**
comp=Z,17nm,0.7s,baz=233,slow=6.3,SNR=30
DBIC Dimbokro 69.37 77 *e*P P **11 47 00.6 -1.0**
comp=Z,20nm,0.8s
DBIC Dimbokro 69.37 77 *e*P P **11 47 00.6 -1.0**
DBIC pmax pmax
comp=Z,20nm,0.8s
KIC Kosan Boka 69.38 77 *e*P P **11 47 00.6 -1.0**
comp=Z,56nm,0.7s
DGMT Dagmar 69.41 337 P P **11 47 01.8 +0.7**
baz=146,SNR=31
DGMT Dagmar 69.41 337 *e*P P **11 47 01.8 +0.7**
comp=Z,126nm,0.9s
YHB Horse Butte 69.42 331 *e*P P **11 47 02.4 +1.0**
comp=Z,46nm,0.9s
BMN Battle Mountai 69.46 324 *e*P P **11 47 02.4 +0.6**
comp=Z,23nm,1.4s
BMN Battle Mountai 69.46 324 *e*P P **11 47 02.4 +0.6**
BMN pmax pmax
comp=Z,23nm,1.4s
SCHQ Schefferville 69.48 3 P P **11 47 01.0 -0.3**
comp=Z,22nm,0.8s,baz=162,slow=5.3,SNR=12
WAKR Walker 69.49 322 *e*P P **11 47 03.1 +1.1**
comp=Z,39nm,1.2s
GCMT Greycliff 69.51 332 *e*P P **11 47 02.2 +0.3**
QLMT Earthquake Lak 69.59 331 *e*P P **11 47 04.0 +1.5**
YERR Yerington 69.68 322 *e*P P **11 47 04.1 +0.9**
comp=Z,92nm,1.4s
CMB Columbia Colle 69.77 321 *e*P P **11 47 03.7 +0.1**
comp=Z,15nm,1.1s
CMB Columbia Colle 69.77 321 *e*P P **11 47 03.7 +0.1**
CMB pmax pmax
comp=Z,15nm,1.1s
HLID Hailey 70.12 328 P P **11 47 06.4 +0.6**
baz=136,SNR=36
HLID Hailey 70.12 328 *e*P P **11 47 06.2 +0.4**
comp=Z,27nm,1.1s
VCNR Virginia City 70.13 322 *e*P P **11 47 06.9 +0.9**
comp=Z,37nm,0.9s
PAHR Pah Rah Range 70.23 323 *e*P P **11 47 07.4 +0.9**
comp=Z,66nm,0.9s
RDG13 Poverty Ridge 70.24 319 *e*P P **11 47 07.2 +0.7**
comp=Z,17nm,1.0s
BOZ Bozeman (W) 70.25 331 P P **11 47 06.7 +0.1**
baz=139,SNR=42
BOZ Bozeman (W) 70.25 331 *e*P P **11 47 06.6 +0.1**
comp=Z,38nm,1.2s
BOZ Bozeman (W) 70.25 331 *e*P P **11 47 06.6 +0.1**
BOZ pmax pmax
comp=Z,38nm,1.2s
MCMT McKenzie Canyo 70.26 330 *e*P P **11 47 07.2 +0.5**
RUBR Rubicon Trail 70.27 322 *e*P P **11 47 08.3 +1.4**
comp=Z,37nm,1.2s
DLMT Dillon 70.53 331 *e*P P **11 47 08.5 +0.3**
comp=Z,39nm,1.3s
AFDM Forest Hills D 70.70 321 *e*P P **11 47 09.4 +0.2**
comp=Z,26nm,1.2s
MFID Camas Ranch 70.75 327 *e*P P **11 47 10.1 +0.6**
comp=Z,78nm,1.0s
LRM Limekiln Ridge 70.81 331 *e*P P **11 47 10.2 +0.3**
BEKR Beckworth 70.91 322 *e*P P **11 47 11.2 +0.6**
comp=Z,35nm,1.3s
HRY Holter Researc 71.18 332 *e*P P **11 47 12.6 +0.6**
EGMT Eagleton 71.27 334 P P **11 47 12.5 0.0**
baz=141,SNR=29
EGMT Eagleton 71.27 334 *e*P P **11 47 12.4 0.0**
comp=Z,53nm,1.0s
ORV Oroville 71.40 321 *e*P P **11 47 14.2 +0.8**
comp=Z,92nm,1.2s
ORV Oroville 71.40 321 *e*P P **11 47 14.2 +0.8**
ORV pmax pmax
comp=Z,92nm,1.2s
WVOR Wild Horse Val 71.59 325 *e*P P **11 47 14.9 +0.3**
comp=Z,37nm,1.4s
WVOR Wild Horse Val 71.59 325 *e*P P **11 47 14.9 +0.3**
WVOR pmax pmax
comp=Z,37nm,1.4s
O03D Paynes Creek 72.04 322 P P **11 47 16.6 -0.7**
baz=129,SNR=11
J08A Circle Bar Ran 72.12 326 *e*P P **11 47 17.8 0.0**
comp=Z,17nm,1.0s
MOD Modoc Plateau 72.18 324 *e*P P **11 47 18.5 +0.3**
comp=Z,52nm,0.9s
MSO Missoula 72.25 331 P P **11 47 19.0 +0.7**
baz=137,SNR=42
MSO Missoula 72.25 331 *e*P P **11 47 19.1 +0.7**
comp=Z,58nm,1.3s
BMO Blue Mountains 72.51 328 *e*P P **11 47 19.9 -0.1**
comp=Z,19nm,0.9s
BMO Blue Mountains 72.51 328 *e*P P **11 47 19.9 -0.1**
BMO pmax pmax
comp=Z,19nm,0.9s
WDC Whiskeytown Da 72.66 322 *e*P P **11 47 19.7 -1.2**
comp=Z,9.1nm,0.7s
WDC Whiskeytown Da 72.66 322 *e*P P **11 47 19.7 -1.2**
WDC pmax pmax
comp=Z,9.0nm,0.7s
KOWA Kowa 72.76 69 P P **11 47 21.5 -0.5**
comp=Z,17nm,0.9s,baz=245,slow=5.7,SNR=26
KOWA LR LR 12 18 59.3
comp=Z,131nm,18.8s,baz=218,slow=35
KOWA Kowa 72.76 69 *e*P P **11 47 21.3 -0.6**
comp=Z,23nm,0.9s
M04C Macdoel 72.99 323 P P **11 47 23.0 0.0**
baz=129,SNR=9.5
N02D Trinity Center 73.00 322 P P **11 47 22.2 -0.7**
baz=128,SNR=7.6
K05A Summer Lake 73.05 324 *e*P P **11 47 24.3 +0.9**
comp=Z,71nm,1.4s
JTMT Jette 73.07 331 *e*P P **11 47 24.0 +0.7**
comp=Z,42nm,1.3s
KMRM Mail Ridge 73.15 321 *e*P P **11 47 25.4 +1.5**
comp=Z,62nm,1.2s
I07A Izee 73.16 326 *e*P P **11 47 24.7 +0.8**
comp=Z,93nm,2.0s
F10A Beach Ranch, E 73.24 329 *e*P P **11 47 25.1 +0.8**
comp=Z,24nm,0.9s
M02C Callahan 73.35 322 P P **11 47 24.7 -0.3**
baz=128,SNR=9.0
K04D Chiloquin, OR 73.47 324 P P **11 47 26.2 +0.5**
baz=129
YBH Yreka Blue Hor 73.47 322 P P **11 47 24.6 -1.1**
comp=Z,12nm,0.9s,baz=131,slow=4.8,SNR=35
YBH LR LR 12 19 21.9
comp=Z,32nm,20.6s,baz=128,slow=35
YBH Yreka Blue Hor 73.47 322 *e*P P **11 47 24.9 -0.8**
comp=Z,20nm,1.0s
YBH Yreka Blue Hor 73.47 322 *e*P P **11 47 24.9 -0.8**
YBH pmax pmax
comp=Z,20nm,1.0s
KHMM Horse Mountain 73.56 321 *e*P P **11 47 27.6 +1.2**
comp=Z,39nm,1.2s
J05D Fort Rock, OR 73.60 324 P P **11 47 27.0 +0.5**
baz=130,SNR=21
G08A Pilot Rock 73.67 327 *e*P P **11 47 27.2 +0.3**
comp=Z,19nm,1.0s
PINE Pine Mountain 73.76 325 *e*P P **11 47 28.4 +0.9**
comp=Z,48nm,1.0s
WALA Waterton Lakes 73.86 332 *e*P P **11 47 28.2 +0.3**
comp=Z,38nm,1.0s
NVL N'lazarevskaya 73.90 160⇑*i*P P **11 47 26.1 -1.6**
NVL pmax pmax
comp=Z,115nm,1.0s
FFC Flin Flon 73.96 342 *e*P P **11 47 27.7 -0.4**
comp=Z,22nm,0.9s
FFC Flin Flon 73.96 342 *e*P P **11 47 27.7 -0.4**
FFC pmax pmax
comp=Z,22nm,0.9s
J04D Umpqua Nationa 74.06 324 P P **11 47 29.7 +0.4**
baz=129,SNR=16
E09A Wood Farm, Sta 74.08 328 *e*P P **11 47 29.4 +0.3**
comp=Z,40nm,1.0s
HUMO Huh Mountain 74.16 323 *e*P P **11 47 28.8 -0.8**
comp=Z,60nm,1.9s
L02D Cave Junction, 74.26 322 P P **11 47 30.6 +0.4**
baz=128,SNR=7.7
I05D Terrebonne, OR 74.33 325 P P **11 47 31.5 +0.9**
baz=130,SNR=22
G06A Carlson Farm, 74.52 326 *e*P P **11 47 33.0 +1.2**
comp=Z,26nm,1.0s
G06A *e*PcP **PcP 11 47 50.6 +5.0**
E08A Dider Farm, El 74.53 328 *e*P P **11 47 32.2 +0.5**
comp=Z,23nm,1.0s
PPT2 Papeete2 74.57 256 *e*S S **11 57 04.8 +5.8**
comp=Z,332nm,30.2s
I04A Tendick Farm, 74.58 324 P P **11 47 32.0 -0.1**
baz=129
HAWA Hanford 74.70 328 *e*P P **11 47 33.8 +1.1**
comp=Z,45nm,1.0s
NEW Newport 74.78 330 P P **11 47 32.8 -0.4**
comp=Z,5.8nm,1.0s,baz=130,slow=7.6,SNR=7.9
NEW Newport 74.78 330 P P **11 47 32.9 -0.2**
baz=134,SNR=6.8
NEW Newport 74.78 330 *e*P P **11 47 33.0 -0.2**
comp=Z,11nm,1.1s
NEW Newport 74.78 330 *e*P P **11 47 33.0 -0.1**
NEW pmax pmax
comp=Z,11nm,1.1s
D08A Wollman Farm, 74.84 329 *e*P P **11 47 34.5 +1.1**
comp=Z,108nm,1.8s
G05D Wamic, OR 74.89 326 P P **11 47 35.1 +1.3**
baz=130,SNR=10
H04A Detroit Lake 75.02 325 *e*P P **11 47 34.7 +0.2**
comp=Z,52nm,1.3s
C09A Chrisman Ranch 75.02 329 *e*P P **11 47 34.9 +0.4**
comp=Z,42nm,1.1s
I03D Drain, OR 75.05 324 P P **11 47 35.2 +0.5**
baz=128,SNR=5.6
KEBM Edson Butte 75.12 323 *e*P P **11 47 37.2 +2.0**
comp=Z,111nm,1.2s
QSPA South Pole Qui 75.34 180 P P **11 47 36.9 +0.7**
comp=Z,53nm,1.0s,baz=158,slow=5.6,SNR=76
QSPA South Pole Qui 75.34 180 *e*P P **11 47 36.9 +0.7**
comp=Z,117nm,1.3s
COR Corvallis 75.58 325 *e*P P **11 47 39.1 +1.4**
comp=Z,86nm,1.1s
COR Corvallis 75.58 325 *e*P P **11 47 39.1 +1.4**
COR pmax pmax
comp=Z,86nm,1.1s
FCC Fort Churchill 75.62 348 *e*P P **11 47 37.8 +0.2**
FCC Fort Churchill 75.62 348 *e*P P **11 47 37.8 +0.2**
LTY Liberty 75.86 328 *e*P P **11 47 40.0 +0.6**
comp=Z,51nm,1.2s
B08A Colville Reser 75.92 329 *e*P P **11 47 39.7 +0.1**
comp=Z,28nm,1.0s
G03D McMinnville, O 75.94 325 P P **11 47 40.5 +0.8**
baz=128
LON Longmire 76.13 327 *e*P P **11 47 41.0 +0.1**
comp=Z,15nm,1.0s
LON Longmire 76.13 327 *e*P P **11 47 41.0 +0.1**
LON pmax pmax
comp=Z,15nm,1.0s
F04D Rainier, OR 76.35 326 P P **11 47 42.8 +0.7**
baz=129
D05A Enumclaw 76.50 327 *e*P P **11 47 43.5 +0.6**
comp=Z,104nm,1.0s
E03A Lebam 76.94 326 *e*P P **11 47 46.8 +1.5**
comp=Z,67nm,1.0s
B06A Marblemount 77.10 328 *e*P P **11 47 46.7 +0.5**
comp=Z,56nm,0.9s
B05A Bryant 77.25 328 P P **11 47 47.0 0.0**
baz=130,SNR=21
TOA0 Torodi Ar. Sit 77.54 73 *e*P P **11 47 48.6 -0.8**
TORD Torodi Ar. Bea 77.54 73 P P **11 47 48.5 -0.9**
comp=Z,38nm,0.8s,baz=253,slow=4.9,SNR=119
TORD PP **PP 11 50 38.3 -7.7**
comp=Z,7.3nm,1.0s,baz=253,slow=6.3,SNR=3.9
TORD S S **11 57 26.8 -4.6**
comp=Z,1.6nm,0.8s,baz=264,slow=11,SNR=9.2
NLWA Neilton Lookou 77.62 327 *e*P P **11 47 50.5 +1.3**
comp=Z,74nm,1.0s
A04D Lummi Island 77.85 328 P P **11 47 51.1 +0.7**
baz=130,SNR=16
IVI Ivigtut 78.01 11 *e*P P **11 47 50.9 0.0**
PGC Sidney 78.19 328 *e*P P **11 47 53.6 +1.4**
PFVI Vita Bisbo 78.30 46 *e*P P **11 47 54.5 +1.3**
FRB Frobisher Bay 78.35 1 P P **11 47 52.4 -0.3**
FRB pmax pmax
comp=Z,106nm,1.3s
MORF Marmelete 78.51 46 *e*P P **11 47 54.9 +0.5**
MORF AMb AMB 11 47 59.5
comp=Z,82nm,1.9s
MORF Marmelete 78.51 46 *e*P P **11 47 55.5 +1.1**
comp=Z,86nm,1.6s
NRS Narsarsuaq 78.51 13 P P **11 47 53.8 +0.1**
NRS pmax pmax
comp=Z,58nm,0.9s
PTEO Sao Teotonio 78.57 46 *e*P P **11 47 56.7 +2.1**
comp=Z,105nm,1.4s
LLLB Lillooet 78.66 330 *e*P P **11 47 55.0 +0.1**
PNCL Nicolau / Gran 78.98 46 *e*P P **11 47 58.2 +1.4**
comp=Z,55nm,1.1s
PBDV Barranco-do-Ve 78.98 47 *e*P P **11 47 58.5 +1.6**
comp=Z,58nm,1.7s
PCVE Castro Verde 79.09 46 *e*P P **11 47 58.9 +1.4**
comp=Z,58nm,1.6s
PVAQ Vaqueiros 79.21 47 *e*P P **11 47 59.6 +1.5**
comp=Z,35nm,1.3s
PBEJ Beja 79.40 46 *e*P P **11 48 00.4 +1.2**
comp=Z,44nm,1.5s
ALMR Almeirim 79.45 45 *e*P P **11 48 01.0 +1.6**
EVO Evora 79.54 46 *e*P P **11 48 00.8 +0.9**
comp=Z,27nm,1.4s
PMTG Montargil 79.65 45 *e*P P **11 48 01.3 +0.8**
comp=Z,57nm,1.4s
PTOM Tomar 79.78 44 *e*P P **11 48 02.0 +0.8**
PCAS Casmilo, Conde 79.94 44 *e*P P **11 48 03.1 +1.1**
PESTR Estremoz 79.99 45 *e*P P **11 48 03.5 +1.2**
comp=Z,47nm,1.8s
PESTR Estremoz 79.99 45 *e*P P **11 48 03.6 +1.3**
PBAR Barrancos 80.05 46 *e*P P **11 48 03.7 +1.1**
comp=Z,74nm,1.6s
PMRV Marv??o 80.39 45 *e*P P **11 48 04.8 +0.3**
PCBR Castelo Branco 80.52 45 *e*P P **11 48 05.7 +0.6**
PVIS Viseu 80.66 44 *e*P P **11 48 06.8 +0.9**
MTE Manteigas 80.74 44 *e*P P **11 48 07.2 +0.8**
MTE Manteigas 80.74 44 *e*P P **11 48 07.2 +0.8**
POLO Lamas de Olo 81.04 43 *e*P P **11 48 08.1 +0.1**
PVRL Vila Real 81.05 43 *e*P P **11 48 08.8 +0.8**
PCAB Cabril 81.05 43 *e*P P **11 48 09.0 +1.0**
MVO Moncorvo 81.45 44 *e*P P **11 48 10.7 +0.6**
SBA Scott Base 81.93 190 *e*P P **11 48 13.2 +1.3**
SBA Scott Base 81.93 190 *e*P P **11 48 13.3 +1.3**
PBRG Braganca 81.94 43 *e*P P **11 48 13.2 +0.5**
comp=Z,70nm,1.6s
PAB San Pablo 82.54 46 *e*P P **11 48 17.0 +1.1**
PAB San Pablo 82.54 46 *e*P P **11 48 17.0 +1.1**
BBB Bella Bella 82.70 329 P P **11 48 16.6 +0.3**
comp=Z,44nm,0.9s,baz=191,slow=3.0,SNR=7.3
BBB Bella Bella 82.70 329 *e*P P **11 48 17.5 +1.2**
ESDC Sonseca Array 82.86 46 P P **11 48 18.3 +0.8**
comp=Z,20nm,0.8s,baz=253,slow=5.0,SNR=83
ESLA Sonseca Array 82.86 46 *e*P P **11 48 18.4 +0.8**
ES19 SONSECA Array 82.92 46 *e*P P **11 48 18.3 +0.5**
VNDA Vanda 82.98 190 P P **11 48 18.5 +1.1**
comp=Z,16nm,0.8s,baz=129,slow=4.7,SNR=73
VNDA LR LR 12 19 14.5
comp=Z,94nm,20.2s,baz=128,slow=31
SFJD Kangerlussuaq 83.01 8 P P **11 48 17.0 -0.6**
comp=Z,17nm,0.8s,baz=191,slow=6.2,SNR=9.5
SFJD Kangerlussuaq 83.01 8⇑*i*P P **11 48 16.9 -0.6**
comp=Z,20nm,0.8s
SFJD Kangerlussuaq 83.01 8 *e*P P **11 48 17.1 -0.5**
SFJD Kangerlussuaq 83.01 8⇑*i*P P **11 48 16.9 -0.6**
SFJD pmax pmax
comp=Z,20nm,0.8s
WIN Windhoek 83.13 111 P P **11 48 20.3 +0.8**
SYO Syowa Base 83.57 160⇓*i*P P **11 48 19.4 -1.2**
SYO Syowa Base 83.57 160⇓*i*PcP **PcP 11 48 24.4 -0.2**
TAM Tamanrasset 84.07 65 *e*P P **11 48 24.4 +0.2**
TAM Tamanrasset 84.07 65 *e*P P **11 48 24.4 +0.2**
SUR Sutherland 84.08 122 *e*P P **11 48 25.8 +1.6**
YKA Yellowknife Ar 84.11 341 P P **11 48 23.0 -0.3**
comp=Z,52nm,0.8s,baz=135,slow=5.1,SNR=922
YKA sP **pP 11 48 55.8 +1.9**
comp=Z,12nm,0.8s,baz=134,slow=5.2,SNR=2.7
YKA PKKPbc **PKKPbc 12 06 37.2 -2.8**
comp=Z,0.6nm,1.0s,baz=275,slow=1.9,SNR=5.7
YKA PKPPKP **P'P'df 12 14 41.7 +0.7**
comp=Z,1.0nm,1.3s,baz=334,slow=2.4,SNR=3.6
TSUM Tsumeb 84.35 108 *e*P P **11 48 26.3 +0.6**
ILULI Ilulissat 85.04 7 *i*P P **11 48 27.6 -0.2**
comp=Z,74nm,1.1s
ILULI Ilulissat 85.04 7 *e*P P **11 48 27.5 -0.2**
ILULI Ilulissat 85.04 7 *i*P P **11 48 27.6 -0.2**
ILULI pmax pmax
comp=Z,75nm,1.1s
DIB Dawson Inlet, 85.48 328 *e*P P **11 48 31.7 +1.4**
ETSF Etsaut 86.54 44 *e*P P **11 48 36.4 +0.5**
ETSF pmax pmax
comp=Z,28nm,1.4s
DLBC Dease Lake 87.19 333 *e*P P **11 48 39.3 +0.6**
EPF Esparros 87.20 44 *e*P P **11 48 38.9 -0.2**
EPF pmax pmax
comp=Z,19nm,1.0s
BORG Borgarnes 87.91 19 P P **11 48 43.6 +1.8**
comp=Z,38nm,1.1s,baz=219,slow=5.9,SNR=4.2
BORG LR LR 12 25 10.2
comp=Z,56nm,20.8s,baz=354,slow=34
GRR Gorron 88.58 39 *e*P P 11 48 38.9 -6.5
GRR pmax pmax
comp=Z,15nm,0.8s
MTLF Montolieu 88.59 44 *e*P P **11 48 44.4 -1.2**
MTLF pmax pmax
comp=Z,26nm,1.1s
BOSA Boshof 88.75 119 P P **11 48 47.3 +0.3**
comp=Z,45nm,0.9s,baz=253,slow=3.9,SNR=60
BOSA LR LR 12 24 49.8
comp=Z,89nm,21.9s,baz=337,slow=33
RJF Les Rejaudoux 88.86 42 *e*P P **11 48 45.4 -1.4**
RJF pmax pmax
comp=Z,34nm,1.0s
FLN La Foliniere 88.96 39 *e*P P **11 48 45.7 -1.5**
FLN pmax pmax
comp=Z,63nm,1.4s
CAF Calviac 89.07 43 *e*P P **11 48 46.6 -1.3**
CAF pmax pmax
comp=Z,21nm,0.9s
BESE Bessie Mountai 89.41 332 *e*P P **11 48 50.5 +1.4**
KULLO Kullorsuaq 89.66 4⇑*i*P P **11 48 50.5 +0.6**
comp=Z,138nm,1.0s
KULLO Kullorsuaq 89.66 4⇑*i*P P **11 48 50.5 +0.6**

KULLO pmax pmax
comp=Z,140nm,1.0s
TCF Toulx Ste Croi 89.68 42 *eP* **P 11 48 49.1 -1.6**
TCF pmax pmax
comp=Z,21nm,1.0s
SUMG Summit 89.88 9⇑ *iP* **P 11 48 52.7 +1.2**
comp=Z,70nm,0.9s
SUMG Summit 89.88 9 *eP* **P 11 48 52.6 +1.1**
SUMG Summit 89.88 9⇑ *iP* **P 11 48 52.7 +1.2**
SUMG pmax pmax
comp=Z,70nm,0.9s
LBTB Lobatse 90.04 116 *eP* **P 11 48 53.8 +0.7**
LBTB Lobatse 90.04 116 *eP* **P 11 48 53.8 +0.7**
SKAG Skagway 90.06 333 *eP* **P 11 48 52.9 +0.8**
BGF Bois d'Agland 90.19 42 *eP* **P 11 48 51.6 -1.4**
BGF pmax pmax
comp=Z,42nm,0.9s
EKA Eskdalemuir Ar 90.23 32 P **P 11 48 52.0 -1.0**
comp=Z,7.8nm,0.9s,baz=237,slow=5.9,SNR=12
EKA Eskdalemuir Ar 90.23 32 P **P 11 48 52.0 -1.0**
WHY Whitehorse 90.47 334 *eP* **P 11 48 54.3 +0.1**
RES Resolute Bay 90.53 354 P **P 11 48 54.6 +0.7**
comp=Z,19nm,0.8s,baz=174,slow=12,SNR=16
AVF Avril sur Loir 90.59 42 *eP* **P 11 48 53.2 -1.7**
AVF pmax pmax
comp=Z,23nm,1.0s
VIVF Saint-Julien-l 90.78 44 *eP* **P 11 48 55.2 -0.7**
VIVF pmax pmax
comp=Z,20nm,1.1s
SSB Saint Sauveur 90.84 43 *eP* **P 11 48 55.8 -0.3**
SSB Saint Sauveur 90.84 43 *eP* **P 11 48 55.8 -0.3**
TULEG Thule 91.18 1 *eP* **P 11 48 57.3 +0.4**
KEST Kesra 91.25 53 P **P 11 48 58.3 0.0**
comp=Z,4.4nm,0.9s,baz=226,slow=3.5,SNR=4.7
KEST LR LR 12 30 07.5
comp=Z,96nm,20.1s,baz=173,slow=36
MAW Mawson 91.39 164 P **P 11 48 58.7 +0.5**
comp=Z,30nm,1.0s,baz=239,slow=5.7,SNR=15
MAW Mawson 91.39 164 *eP* **P 11 48 59.2 +1.0**
MAW Mawson 91.39 164 *eP* **P 11 48 59.2 +1.0**
ORIF Oris-en-Rattie 91.61 44 *eP* **P 11 48 59.3 -0.5**
ORIF pmax pmax
comp=Z,23nm,0.9s
SCO Scoresbysund 91.62 15⇑ *iP* **P 11 49 00.3 +1.2**
comp=Z,18nm,0.9s
SCO Scoresbysund 91.62 15 ***eP* **P 11 48 59.7 +0.6
SCO Scoresbysund 91.62 15⇑ *iP* **P 11 49 00.3 +1.2**
SCO pmax pmax
comp=Z,18nm,0.9s
HYT Haines Junctio 91.67 333 *eP* **P 11 49 00.0 +0.3**
MBDF Montbardon 92.15 44 *eP* **P 11 49 02.8 +0.4**
MBDF pmax pmax
comp=Z,30nm,1.4s
CABF La Chapelle 92.30 42 *eP* **P 11 49 01.7 -1.2**
CABF pmax pmax
comp=Z,12nm,0.9s
LPL La Plagne 92.37 44 *eP* **P 11 49 02.9 -0.6**
LPL pmax pmax
comp=Z,22nm,0.9s
LPG La Plagne 92.38 44 *eP* **P 11 49 03.1 -0.5**
LPG pmax pmax
comp=Z,24nm,0.9s
DOU Dourbes 92.53 39 ⇑P **P 11 49 03.1 -0.7**
comp=Z,11nm,1.4s
GIVF Givet 92.67 39 *eP* **P 11 49 03.2 -1.2**
GIVF pmax pmax
comp=Z,21nm,1.0s
HAU Haudompre 92.92 41 *eP* **P 11 49 04.1 -1.6**
HINF Hinteralfeld 93.18 41 *eP* **P 11 49 05.1 -1.8**
HINF pmax pmax
comp=Z,9.0nm,1.0s
ECH Echery 93.50 41 *eP* **P 11 49 07.5 -0.9**
ECH Echery 93.50 41 *eP* **P 11 49 07.5 -0.9**
INK Inuvik 93.87 341 P **P 11 49 09.8 +0.4**
comp=Z,32nm,1.0s,baz=104,slow=4.7,SNR=100
INK sP **pP 11 49 42.5 +2.0**
comp=Z,13nm,1.1s,baz=141,slow=4.7,SNR=3.9
INK Inuvik 93.87 341 *eP* **P 11 49 09.4 -0.1**
INK sP **pP 11 49 42.5 +2.0**
DAWY Dawson 93.93 336 *eP* **P 11 49 09.6 -0.4**
SLE Schleitheim 94.22 42 P **P 11 49 11.5 -0.2**
TUE Stuetta 94.40 43 *eP* **P 11 49 12.4 -0.4**
BUG Bochum--Univer 94.57 38 P **P 11 49 14.4 +1.3**
BMRM Bremner River 94.88 332 *eP* **P 11 49 14.2 -0.2**
EGAK Eagle 94.93 336 *eP* **P 11 49 14.3 -0.2**
DAVA Damuels 94.98 42 *eP* **P 11 49 15.0 -0.4**
comp=Z,21nm,1.0s
FUORN Ofenpass-Fuorn 95.05 43 *eP* **P 11 49 15.8 0.0**
LSZ Lusaka 95.15 107 *eP* **P 11 49 18.9 +2.1**
LSZ Lusaka 95.15 107 *eP* **P 11 49 18.9 +2.1**
MENT Mentasta 95.24 334 *eP* **P 11 49 15.4 -0.6**
EYAK Cordova Ski Ar 95.25 331 *eP* **P 11 49 15.9 -0.1**
FETA Feichten 95.47 43 *eP* **P 11 49 17.2 -0.3**
comp=Z,8.7nm,0.9s
DIV Divide 95.47 332 *eP* **P 11 49 16.8 -0.4**
RETA Reutte 95.61 42 *iP* **P 11 49 17.7 -0.4**
comp=Z,19nm,1.2s,SNR=5.1
DOT Dot Lake 95.65 335 *eP* **P 11 49 17.6 -0.2**
SCRK Sand Creek 95.74 335 *eP* **P 11 49 18.2 -0.2**
MOTA Moosalm 95.80 43 *iP* **P 11 49 18.4 -0.7**
comp=Z,15nm,0.9s,SNR=8.2
PAX Paxson 95.99 334 *eP* **P 11 49 18.6 -0.9**
PAX Paxson 95.99 334 *eP* **P 11 49 18.6 -0.9**
RIDG Independ'e Rid 96.00 335 *eP* **P 11 49 19.4 -0.1**
WATA Walderalm 96.11 43 *iP* **P 11 49 20.1 -0.4**
comp=Z,25nm,1.2s,SNR=6.6
WTTA Wattenberg 96.13 43 *iP* **P 11 49 20.5 0.0**
comp=Z,17nm,0.9s,SNR=6.2
DAG Danmarks Havn 96.46 11⇑ *iP* **P 11 49 20.9 -0.3**
comp=Z,4.3nm,0.9s
DAG Danmarks Havn 96.46 11⇑ *iP* **P 11 49 20.9 -0.3**
DAG pmax pmax
comp=Z,4.0nm,0.9s
ABTA Abfaltersbach 96.58 44 *iP* **P 11 49 22.2 -0.3**
comp=Z,24nm,1.1s,SNR=9.3
GRB1 Grafenberg Arr 96.69 41 P **P 11 49 23.7 +0.8**
GRB1 pmax pmax
comp=Z,23nm,1.0s
DHY Denali Highway 96.84 334 *eP* **P 11 49 23.0 -0.5**
SML Sawmill 96.86 332 *eP* **P 11 49 22.7 -0.7**
comp=Z,9.3nm,0.8s
SML Sawmill 96.86 332 *eP* **P 11 49 22.7 -0.7**
SML pmax pmax
comp=Z,9.0nm,0.8s
URZ Urewera 96.99 228 PKKPbc PKKPbc 12 06 03.8 -1.9
comp=Z,4.2nm,0.8s,baz=320,slow=7.9,SNR=3.2
HDA Harding Lake 97.11 335 *eP* **P 11 49 23.8 -0.6**
FYU Fort Yukon 97.17 337 *eP* Pdif 11 49 25.0 +0.4
IL1 Eielson Array 97.20 335 *eP* **P 11 49 22.3 -2.5**
ILAR Eielson Array 97.20 335 P **P 11 49 23.9 -0.9**
comp=Z,4.1nm,0.8s,baz=149,slow=3.2,SNR=59
ILAR sP **pP 11 49 57.3 +1.5**
comp=Z,1.4nm,1.0s,baz=141,slow=3.3,SNR=2.4
ILAR PP **PP 11 53 16.8 -6.0**
comp=Z,1.0nm,0.9s,baz=113,slow=7.2,SNR=6.0
ILB Eielson Array 97.20 335 *eP* **P 11 49 24.1 -0.7**
KBA Koelnbreinsper 97.21 43 *iP* **P 11 49 24.6 -0.9**
comp=Z,8.2nm,0.8s
KBA Koelnbreinsper 97.21 43 P **P 11 49 25.0 -0.5**
KBA pmax pmax
comp=Z,15nm,1.0s
RC01 Rabbit Creek A 97.28 331 *eP* **P 11 49 24.7 -0.5**
MYKA Terra Mystica 97.30 44 *iP* **P 11 49 25.5 -0.2**
comp=Z,8.8nm,0.8s
NKC Novy Kostel 97.40 40 *eP* Pdif 11 49 26.7 +0.6
NKC Novy Kostel 97.40 40 *eP* Pdif 11 49 26.7 +0.6
WET Wettzell 97.40 41 P **P 11 49 26.1 0.0**
WET pmax pmax
comp=Z,12nm,1.1s
BRLK Bradley Lake 97.44 330 *eP* **P 11 49 25.5 -0.5**
CCB Clear Creek Bu 97.53 335 *eP* **P 11 49 25.8 -0.5**
RND Reindeer 97.58 334 *eP* **P 11 49 26.3 -0.3**
RND Reindeer 97.58 334 *eP* **P 11 49 26.3 -0.3**
WRH Wood River Hil 97.59 335 *eP* **P 11 49 26.1 -0.5**
COLA College 97.63 335 *eP* **P 11 49 26.5 -0.2**
COLA College 97.63 335 *eP* **P 11 49 26.5 -0.2**
KDAK Kodiak Island 97.74 328 P **P 11 49 27.0 -0.3**
comp=Z,7.6nm,1.0s,baz=98,slow=8.6,SNR=4.8
KDAK Kodiak Island 97.74 328 *eP* Pdif 11 49 28.5 +1.1
MDM Murphy Dome 97.81 335 *eP* **P 11 49 27.0 -0.6**
KHC Kasperske Hory 97.85 41 *e*PDIFF **P 11 49 28.0 -0.1**
KHC Kasperske Hory 97.85 41 *eP* Pdif 11 49 28.2 0.0
KHC Kasperske Hory 97.85 41 *iP* **P 11 49 28.0 -0.1**
SUA Susitna One 97.85 332 *eP* **P 11 49 27.5 -0.5**

GERES GERESS Array B 97.86 42 P **P 11 49 27.8 -0.4**
comp=Z,4.1nm,0.8s,baz=242,slow=2.9,SNR=27
GERES PKKPbc **PKKPbc 12 06 03.0 -1.3**
comp=Z,0.9nm,0.6s,baz=90,slow=2.0,SNR=4.6
OBKA Obir 97.88 44 *i* PcP **P 11 49 28.0 -0.4**
comp=Z,6.6nm,0.8s
CLL Collm 98.00 39 *e*Pdif Pdif 11 49 29.0 +0.3
comp=Z,11nm,1.0s
CLL *e* 11 49 41.0
CLL *e*PPS PPS 12 03 18.0
CLL LmV 12 35 00.0
comp=Z,100nm,19.8s
CLL Collm 98.00 39 *eP* Pdif 11 49 29.1 +0.5
CLL Collm 98.00 39 *eP* Pdif 11 49 29.2 +0.5
MOA Molln 98.00 43 *e*Pdiff **P 11 49 28.4 -0.4**
comp=Z,9.5nm,0.8s,SNR=6.6
TRF Thorofare Moun 98.21 334 *eP* **P 11 49 29.1 -0.5**
BRG Berggiesshubel 98.47 40 PDIFF Pdif 11 49 31.0 +0.1
comp=Z,19nm,1.4s
BRG Berggiesshubel 98.47 40 P Pdif 11 49 31.0 +0.2
BRG pmax pmax
comp=Z,19nm,1.4s
KTH Kantishna Hill 98.52 334 *eP* **P 11 49 30.3 -0.5**
RPZ Rata Peaks 98.56 221 PKKPbc PKKPbc 12 06 01.3 -0.3
comp=Z,5.7nm,0.7s,baz=288,slow=3.2,SNR=2.6
RPZ PKKP **PKKPdf 12 06 04.7 +0.8**
comp=Z,5.7nm,0.7s,baz=0.0,slow=5.1,SNR=5.4
PRU Pruhonice 98.65 41 *e*PDIFF Pdif 11 49 32.0 +0.3
PRU Pruhonice 98.65 41 *i* P Pdif 11 49 32.0 +0.3
BPAW Bear Paw Mtn. 98.69 334 *eP* **P 11 49 30.7 -0.9**
ARSA Arzberg 98.70 43 *e*Pdiff **P 11 49 31.4 -0.6**
comp=Z,5.0nm,0.8s
GOPC GO Pecny, Ondr 98.79 41 *e*PDIFF Pdif 11 49 34.1 +1.8
GOPC GO Pecny, Ondr 98.79 41 *i* P Pdif 11 49 34.1 +1.8
MLY Manley 98.85 335 *eP* **P 11 49 31.6 -0.7**
PPLA Purkeypile 98.89 333 *eP* **P 11 49 32.2 -0.4**
CAST Castle Rocks 98.98 333 *eP* **P 11 49 31.7 -1.1**
CONA Conrad Observa 99.06 43 *e*Pdiff **Pdif 11 49 33.4 -0.2**
comp=Z,4.7nm,0.9s
COLD Coldfoot 99.24 337 *eP* **Pdif 11 49 34.5 +0.6**
NB2 NORSAR Subarra 99.31 29 P **Pdif 11 49 34.6 +0.2**
comp=Z,1.1nm,0.7s,baz=248,slow=6.9
NOA NORSAR Array B 99.31 29 P **Pdif 11 49 35.2 +0.8**
comp=Z,1.0nm,0.8s,baz=248,slow=7.0,SNR=4.4
NOA LR LR 12 31 38.1
comp=Z,46nm,18.4s,baz=235,slow=34
TOLK Toolik Lake Re 99.41 339 P **Pdif 11 49 34.6 -0.1**
baz=106
UPC Upice 99.68 40 *e*PDIFF **Pdif 11 49 36.6 +0.3**
UPC Upice 99.68 40 *i* P **Pdif 11 49 36.6 +0.3**
DPC Dobruska-Polom 99.85 41 *e*PDIFF **Pdif 11 49 37.6 +0.6**
DPC Dobruska-Polom 99.85 41 *i* P **Pdif 11 49 37.6 +0.6**
HFS Hagfors 100.31 30 P **Pdif 11 49 38.7 -0.1**
comp=Z,2.0nm,0.8s,baz=276,slow=5.5,SNR=3.5
VYHS Vyhne 101.12 43 *eP* **Pdif 11 49 42.7 0.0**
VYHS Vyhne 101.12 43 *e*PDIFF **Pdif 11 49 42.7 0.0**
SPITS Spitsbergen Ar 103.95 12 Pdiff **Pdif 11 49 55.8 +1.1**
comp=Z,8.4nm,1.0s,baz=251,slow=9.0,SNR=3.0
BUR04 Bucovina Ar. S 105.25 44 *e*Pdif **Pdif 11 50 01.8 +0.6**
ARCES ARCESS Array B 106.20 21 PKKPbc PKKPbc 12 05 37.1 -3.2
comp=Z,2.8nm,0.9s,baz=47,slow=6.6,SNR=4.3
FINES FINESS Array B 106.48 30 PKKPbc PKKPbc 12 05 37.6 -1.6
comp=Z,1.9nm,0.7s,baz=103,slow=4.3,SNR=10
FINES PKKP **PKKPab 12 05 51.9 -0.2**
comp=Z,1.0nm,0.7s,baz=151,slow=3.2,SNR=4.1
AKASG Malin Array Be 108.06 41 PKiKP **PKiKP 11 54 19.5 -0.2**
comp=Z,2.9nm,0.8s,baz=273,slow=2.8,SNR=9.8
AKASG PP **PP 11 54 41.6 -2.6**
comp=Z,0.2nm,0.4s,baz=268,slow=6.3,SNR=5.4
BRTR Keskin Array B 110.85 53 PKiKP **PKiKP 11 54 25.8 +0.2**
comp=Z,2.8nm,0.9s,baz=198,slow=2.5,SNR=12
BRTR PP **PP 11 54 58.1 -6.9**
comp=Z,1.4nm,0.9s,baz=324,slow=7.1,SNR=3.9
MMAI Mount Meron Ar 111.92 60 PKiKP **PKiKP 11 54 28.5 +0.8**
comp=Z,1.3nm,0.4s,baz=191,slow=0.7,SNR=5.4
OBN Obninsk 112.32 36 *i* PKiKP **PKiKP 11 54 26.8 -0.8**
OBN pmax pmax
comp=Z,7.0nm,0.7s
KLMR Klimovskoe 113.02 30 *e*PKiKP **PKiKP 11 54 29.3 +0.5**
KLMR AMP 11 54 30.7
comp=Z,11nm,1.1s
KLMR Klimovskoe 113.02 30 *i* PKiKP **PKiKP 11 54 29.3 +0.5**
KLMR pmax pmax
comp=Z,11nm,1.1s
ASF Jabal al Asfar 113.13 61 PKiKP **PKiKP 11 54 31.0 +0.9**
comp=Z,7.9nm,0.9s,baz=222,slow=1.4,SNR=10
ASF Jabal al Asfar 113.13 61 PKiKP **PKiKP 11 54 31.0 +0.9**
BILL Bilibino 115.45 339 *i* PKiKP **PKPdf 11 54 33.3 0.0**
BILL *i* 11 54 54.5
BILL pmax pmax
comp=Z,3.0nm,1.1s
KIV Kislovodsk 117.47 48 *i* PKiKP **PKPdf 11 54 38.7 +0.6**
KIV pmax pmax
comp=Z,9.0nm,1.1s
KVAR Kislovodsk Arr 117.48 48 PKP **PKPdf 11 54 38.8 +0.7**
comp=Z,3.8nm,0.4s,baz=272,slow=4.2,SNR=3.7
NEY Neytrino 117.57 49 *e*PKiKP **PKPdf 11 54 38.4 0.0**
GOF Gofitskoye 117.61 47⇑ *e*PKiKP **PKPdf 11 54 38.8 +0.7**
KBZ Khabaz 117.65 48 PKP **PKPdf 11 54 39.5 +1.3**
comp=Z,18nm,0.8s,baz=216,slow=2.9,SNR=48
KBZ SKP 11 58 06.4
comp=Z,3.1nm,0.8s,baz=344,slow=1.5,SNR=5.2
KBZ PKKPbc **PKKPbc 12 04 57.3 -4.1**
comp=Z,2.5nm,1.1s,baz=126,slow=2.5,SNR=3.8
ZEI Tsey 118.48 49 *i* PKiKP **PKPdf 11 54 40.5 +0.3**
ZEI pmax pmax
comp=Z,8.0nm,0.6s
GNI Garni 119.37 52 PKP **PKPdf 11 54 42.8 +0.9**
comp=Z,16nm,0.3s,baz=66,slow=20,SNR=3.8
GNI Garni 119.37 52*c i* PKiKP **PKPdf 11 54 42.6 +0.7**
GNI pmax pmax
comp=Z,22nm,0.5s
NAX Nakhchivan 120.03 53 PKiKP **PKPdf 11 54 42.8 -0.3**
RAYN Ar Rayn 120.21 71 *e*PKPdf **PKPdf 11 54 44.6 +0.8**
GANJ Ganja 120.52 51 PKiKP **PKPdf 11 54 43.7 -0.2**
ZKTA Zakatala 120.62 50 PKiKP **PKPdf 11 54 43.9 -0.2**
MNGR Mingechevir, A 121.08 51 PKiKP **PKPdf 11 54 44.8 -0.1**
SEKA Sheki 121.11 51 PKiKP **PKPdf 11 54 45.0 -0.1**
TIXI Tiksi 121.89 353 PKP **PKPdf 11 54 45.5 -0.1**
comp=Z,6.6nm,0.8s,baz=35,slow=1.5,SNR=22
TIXI PKKPbc **PKKPab 12 04 43.2 -0.6**
comp=Z,1.5nm,0.7s,baz=86,slow=2.0,SNR=6.2
TIXI Tiksi 121.89 353*c i* PKiKP **PKPdf 11 54 45.2 -0.4**
TIXI pmax pmax
comp=Z,8.0nm,0.9s
LKRN Lenkeran, Azer 122.63 53 PKiKP **PKPdf 11 54 47.8 -0.2**
SEY Seymchan 123.03 338 PKP **PKPdf 11 54 48.7 +0.7**
comp=Z,10.0nm,0.7s,baz=112,slow=2.0,SNR=37
SEY PKKPbc **PKKPab 12 04 40.0 +0.9**
comp=Z,6.2nm,0.8s,baz=233,slow=4.4,SNR=20
SEY Seymchan 123.03 338*c i* PKiKP **PKPdf 11 54 49.0 +1.0**
STKA Stephens Creek 123.79 214 PKP **PKPdf 11 54 50.3 -0.2**
comp=Z,6.7nm,0.7s,baz=131,slow=2.3,SNR=18
ARU Arti 123.83 31 *e*PKPdf **PKPdf 11 54 50.6 +0.8**
ARU Arti 123.83 31 *i* PKiKP **PKPdf 11 54 50.5 +0.8**
ARU 11 56 32.9
ARU 12 01 53.6
PET Petropavlovsk 125.26 325 *e*PKiKP **PKPdf 11 54 51.7 -0.8**
MA2 Magadan 125.68 335 PKP **PKPdf 11 54 52.7 -0.5**
comp=Z,4.6nm,0.9s,baz=135,slow=2.4,SNR=11
MA2 Magadan 125.68 335 *e*PKPdf **PKPdf 11 54 53.1 -0.1**
MA2 Magadan 125.68 335 *e*PKiKP **PKPdf 11 54 53.1 -0.1**
PETK Petropavlovsk- 125.74 326 PKP **PKPdf 11 54 53.9 +0.3**
comp=Z,12nm,0.9s,baz=96,slow=7.0,SNR=12
AKTO Aktyubinsk 126.05 38 PKP **PKPdf 11 54 55.2 +1.1**
comp=Z,18nm,0.8s,baz=299,slow=1.5,SNR=46
ABKAR Akbulak array 127.66 38 *e*PKPdf **PKPdf 11 54 58.5 +1.2**
CTA Charters Tower 129.23 228 PKP **PKPdf 11 55 01.7 +0.4**
comp=Z,17nm,1.0s,baz=145,slow=2.0,SNR=18
CTAO Charters Tower 129.23 228 *e*PKPdf **PKPdf 11 55 01.5 +0.3**
CTAO *e*SKPdf **SKiKP 11 58 28.7 +1.6**
CTAO Charters Tower 129.23 228 *e*PKiKP **PKPdf 11 55 01.5 +0.3**
GEYT Alibeck 129.99 53 PKP **PKPdf 11 55 03.4 +1.2**
comp=Z,7.8nm,0.8s,baz=270,slow=4.4,SNR=14
GEYT SKP 11 58 17.1
comp=Z,4.2nm,0.9s,baz=262,slow=5.1,SNR=5.8
YAK Yakutsk 130.50 347 PKP **PKPdf 11 55 02.3 +0.1**
YAK Yakutsk 130.50 347 *e*PKPdf **PKPdf 11 55 02.5 +0.2**
YAK Yakutsk 130.50 347 *e*PKiKP **PKPdf 11 55 01.7 -0.6**
YAK pmax pmax
comp=Z,43nm,1.2s
YAK pmax pmax
comp=E,2.0nm,1.0s
YAK pmax pmax
comp=N,3.0nm,1.2s

BRVK Borovoye 131.37 30 *e*PKPdf **PKPdf 11 55 05.2 +1.0**
BRVK Borovoye 131.37 30*c i* PKiKP **PKPdf 11 55 05.3 +1.0**
BRVK pmax pmax
comp=Z,19nm,1.2s
BVAR Borovoye Array 131.44 30 PKP **PKPdf 11 55 05.3 +0.9**
comp=Z,9.8nm,1.0s,baz=270,slow=2.3,SNR=25
WSAR Wadi Sarin 132.26 72 PKP **PKPdf 11 55 07.3 +0.5**
comp=Z,16nm,0.8s,baz=271,slow=4.3,SNR=12
ASAR Alice Springs 134.42 213 PKHKP PKPpre 11 54 56.6
comp=Z,1.0nm,0.9s,baz=158,slow=2.5,SNR=6.0
ASAR PKP **PKPdf 11 55 09.9 -1.1**
comp=Z,7.4nm,0.7s,baz=133,slow=1.2,SNR=12
ASAR SKP 11 58 29.6
comp=Z,1.7nm,0.8s,baz=136,slow=4.5,SNR=4.8
ASAR PKKP **PKKPdf 12 04 55.9 -0.6**
comp=Z,0.6nm,0.7s,baz=354,slow=1.5,SNR=5.8
PMG Port Moresby 134.79 240 PKP **PKPdf 11 55 12.4 +0.6**
comp=Z,6.8nm,0.8s,baz=248,slow=16,SNR=3.6
NVS Novosibirsk 135.48 21 *e*PKIKP **PKPdf 11 55 09.7 -2.2**
NVS *e* 11 57 46.5
NVS pmax pmax
comp=N,7.0nm,1.5s
NVS pmax pmax
comp=E,13nm,1.5s
NVS pmax pmax
comp=Z,39nm,1.5s
ZALV Zalesovo Beam 136.75 20 PKhKP PKPpre 11 55 06.9
comp=Z,6.3nm,0.6s,baz=276,slow=2.8,SNR=13
ZALV PKP **PKiKP 11 55 15.6 -0.5**
comp=Z,53nm,0.8s,baz=290,slow=2.6,SNR=33
ZALV SKP 11 58 39.4
comp=Z,3.9nm,0.7s,baz=309,slow=4.6,SNR=4.8
KURK Kurchatov 136.80 28 PKPpre PKPpre 11 55 05.5
KURK PKP **PKiKP 11 55 16.2 -0.1**
KURK Kurchatov 136.80 28 PKHKP PKPpre 11 55 05.5
KURK 11 55 16.2
KURBB Kurchatov Arra 136.83 28 PKhKP PKPpre 11 55 05.5
comp=Z,1.0nm,0.3s,baz=314,slow=3.0,SNR=7.1
KURBB PKP **PKiKP 11 55 16.2 -0.1**
comp=Z,11nm,0.9s,baz=310,slow=2.6,SNR=23
BOD Bodaibo 136.88 356 *e*PKHKP PKPpre 11 55 00.7
BOD pmax pmax
comp=Z,12nm,1.3s
KKAR Karatay Array 136.96 41 *e*PKPdf **PKPdf 11 55 16.6 +1.5**
KKAR Karatay Array 136.96 41 *e*PKIKP **PKPdf 11 55 16.6 +1.5**
YSS Yuzh-Sakhalins 137.15 326 *e*PKIKP **PKPdf 11 55 14.9 -0.3**
YSS pmax pmax
comp=Z,20nm,2.6s
WRA Warramunga Arr 137.15 217 PKhKP PKPpre 11 55 03.2
comp=Z,2.4nm,0.9s,baz=138,slow=3.1,SNR=16
WRA PKP **PKPdf 11 55 15.8 -0.3**
comp=Z,14nm,0.8s,baz=145,slow=1.8,SNR=44
WRA SKP 11 58 38.5
comp=Z,4.4nm,0.8s,baz=137,slow=2.6,SNR=8.5
WRAB Tennant Creek 137.15 217 *e*PKPdf **PKPdf 11 55 16.1 0.0**
WRAB Tennant Creek 137.15 217*c i* PKIKP **PKPdf 11 55 16.4 +0.3**
WRAB pmax pmax
comp=Z,26nm,1.2s
KRAR Krasnoyarsk 137.16 13 *i* PKIKP **PKPdf 11 55 15.1 +0.2**
ZEA Zeya 138.47 343 *e*PKIKP **PKPdf 11 55 17.2 -0.3**
ZEA pmax pmax
comp=Z,20nm,1.0s
ASAJ Asahikawa 138.89 322 PKhKP PKPpre 11 55 07.3
comp=Z,1.9nm,0.8s,baz=18,slow=3.2,SNR=4.1
ASAJ PKP **PKiKP 11 55 19.8 -0.9**
comp=Z,10nm,0.9s,baz=26,slow=6.5,SNR=9.7
FRU Bishkek 139.68 39 *i* PKIKP **PKPdf 11 55 21.0 +0.9**
FRU pmax pmax
comp=Z,37nm,2.1s
ERM Erimo 139.70 319*c i* PKIKP **PKPdf 11 55 21.0 +0.9**
ERM pmax pmax
comp=Z,27nm,1.2s
AAK Ala-Archa 139.71 40 *e*PKPdf **PKPdf 11 55 22.0 +1.7**
AAK Ala-Archa 139.71 40 *e*PKIKP **PKPdf 11 55 22.0 +1.7**
KLR Kul'dur 140.77 336 PKhKP PKPpre 11 55 13.9
comp=Z,0.4nm,0.8s,baz=89,slow=3.7,SNR=10
KLR PKP **PKPdf 11 55 22.7 +0.9**
comp=Z,1.0nm,1.0s,baz=36,slow=3.6,SNR=12
KLR PP **PP 11 58 19.6 -2.8**
comp=Z,0.5nm,1.1s,baz=21,slow=8.4,SNR=6.8
KLR Kul'dur 140.77 336 *i* PKIKP **PKPdf 11 55 21.6 -0.2**
DGZ Jazzator, Alta 141.18 22 *i* PKIKP **PKPdf 11 55 22.4 -0.3**
MKAR Makanchi Array 141.31 29 PKhKP PKPpre 11 55 17.8
comp=Z,12nm,0.7s,baz=331,slow=2.9,SNR=31
MKAR PKP **PKPdf 11 55 23.8 +0.9**
comp=Z,8.3nm,0.7s,baz=7.6,slow=2.0,SNR=11
MKAR SKP 11 58 53.5
comp=Z,5.0nm,0.9s,baz=336,slow=2.7,SNR=6.2
MKAR SKKPbc SKKPbc 12 07 00.3 -14
comp=Z,2.5nm,1.1s,baz=127,slow=9.3,SNR=5.0
HVS Khovu-Aksy 141.84 15 *i* PKIKP **PKPdf 11 55 23.5 -0.3**
KSH Kashi 142.32 43 PKP **PKPdf 11 55 24.6 -0.5**
MOY Mondy 142.74 8 *e*PKIKP **PKPdf 11 55 22.6 -2.8**
MOY pmax pmax
comp=Z,30nm,1.9s
NIL Nilore 143.00 53 *e*PKPdf **PKPdf 11 55 23.4 -2.8**
NIL Nilore 143.00 53 *e*PKIKP **PKPdf 11 55 23.5 -2.8**
TLY Talaya 143.02 5 *e*PKPdf PKPbc 11 55 23.6 +0.8
TLY Talaya 143.02 5 *e*PKIKP PKPbc 11 55 23.1 +0.2
TLY pmax pmax
comp=Z,42nm,2.0s
GENI Genyem 144.23 244 PKP PKPbc 11 55 28.2 +0.7
ZAK Zakamensk 144.27 6 *e*PKIKP **PKPdf 11 55 27.6 -0.5**
ZAK pmax pmax
comp=Z,61nm,1.2s
HIA Hailar 144.44 347 *e*PKPdf PKPbc 11 55 27.3 +0.2
HIA Hailar 144.44 347 *e*PKIKP PKPbc 11 55 27.3 +0.2
USRK Ussuriysk Ar. 144.57 330 PKP PKPbc 11 55 27.6 0.0
comp=Z,62nm,0.8s,baz=51,slow=2.3,SNR=68
GUMO Guam 144.79 273 PKP **PKPab 11 55 28.4 -0.7**
comp=Z,152nm,0.9s,baz=198,slow=20,SNR=6.3
MDJ Mudanjiang 145.34 333 PKPbc **PKPdf 11 55 27.4 -2.6**
MDJ Mudanjiang 145.34 333 *e*PKPdf **PKPdf 11 55 29.7 -0.3**
MJAR Matsushiro Arr 145.84 315 PKPbc **PKPdf 11 55 31.4 +0.2**
comp=Z,141nm,0.9s,baz=116,slow=0.4,SNR=215
MAJO Matsushiro 145.84 315 *e*PKPdf **PKPdf 11 55 31.3 +0.2**
MAJO Matsushiro 145.84 315 *i* PKIKP **PKPdf 11 55 30.4 -0.8**
MAT Matsushiro 145.84 315 PKP **PKPdf 11 55 31.3 +0.1**
WMQ Urumqi 146.05 27 PKPbc **PKPab 11 55 33.0 -0.1**
WMQ pPKP pPKPdf 11 55 57.3 -6.4
WMQ sPKP 11 56 06.5
WMQ LR LR
comp=Z,170nm,29.3s
WMQ LR LR
comp=Z,170nm,20.9s
WMQ LR LR
comp=Z,190nm,37.5s
MSHR Mys Shultsa 146.18 329*c i* PKP2 **PKPab 11 55 33.6 +0.1**
ULN Ulaanbaatar 147.02 2 *e*PKPdf **PKPdf 11 55 34.0 +1.0**
ULN *e*PKPbc **PKPab 11 55 36.5 -0.3**
ULN Ulaanbaatar 147.02 2*c i* PKP2 **PKPdf 11 55 34.0 +1.0**
ULN pmax pmax
comp=Z,199nm,1.7s
SONM Songino Array 147.03 3 PKP **PKPdf 11 55 34.0 +1.0**
comp=Z,70nm,0.8s,baz=312,slow=1.6,SNR=144
SONM PKPbc **PKPbc 11 55 35.9 +0.8**
comp=Z,70nm,0.8s,baz=319,slow=1.7,SNR=150
SONM SKP 11 58 57.2
comp=Z,2.0nm,0.8s,baz=331,slow=1.8,SNR=4.0
CN2 Changchun 147.71 337 *e*PKPbc **PKPbc 11 55 36.0 -0.9**
SAUI Saumlaki 148.03 226 PKP **PKPbc 11 55 40.2 +1.5**
FAKI Fak Fak 150.65 235 PKP **PKPdf 11 55 42.0 +2.3**
FAKI Fak Fak 150.65 235 *e*PKPdf **PKPdf 11 55 40.1 +0.5**
FAKI *e*PKPbc **PKPbc 11 55 45.0 -0.2**
BATI Baumata 150.98 212 PKPbc **PKPbc 11 55 46.9 +0.9**
comp=Z,93nm,0.9s,baz=198,slow=2.0,SNR=17
BATI Baumata 150.98 212 PKP **PKPbc 11 55 47.0 +1.0**
SOEI Soe 151.04 213 PKP **PKPbc 11 55 47.0 +0.8**
SOEI Soe 151.04 213 *e*PKPbc **PKPbc 11 55 47.4 +1.2**
HYB Hyderabad 151.08 81 *i* PKP **PKPdf 11 55 41.0 +0.8**
KSRS Korea Array 151.64 326 PKP **PKPdf 11 55 41.5 +1.1**
comp=Z,14nm,1.0s,baz=37,slow=1.0,SNR=20
KSRS PKPbc **PKiKP 11 55 47.3 +0.1**
comp=Z,78nm,0.8s,baz=22,slow=1.7,SNR=77
KSAR Wonju Array Be 151.67 326 PKP **PKPdf 11 55 41.5 +1.0**
KSAR PKPbc **PKiKP 11 55 47.3 +0.1**
KSAR Wonju Array Be 151.67 326 PKiKP **PKPdf 11 55 41.5 +1.0**
PALK Pallekele 151.68 102 *e*PKPdf **PKPdf 11 55 41.0 -0.3**
PALK *e*PKPbc **PKiKP 11 55 48.5 +0.5**
PALK *e*PKPab **PKPab 11 55 57.8 +1.0**
PALK Pallekele 151.68 102 *e*PKIKP **PKPdf 11 55 41.0 -0.3**
PALK *e* 11 55 57.8
SIJI Sorong 152.65 237 PKPbc **PKPbc 11 55 49.6 -0.2**
baz=14,slow=12
SIJI PKPab **PKPab 11 56 01.6 +0.8**

	baz=60,slow=4.4								
JNU	**Nakatsue**	**152.75**	**316**	PKPbc	**PKPbc**	**11 55 48.4**	**-1.1**
	comp=Z,34nm,0.9s,baz=87,slow=6.7,SNR=7.2								
JNU				PKPab	**PKPab**	**11 55 59.8**	**-0.9**
	comp=Z,20nm,0.8s,baz=230,slow=7.7,SNR=3.8								
WBSI	**Waikabubak, Su**	**153.43**	**204**	PKP	**PKPbc**	**11 55 53.5**	**+2.0**
HHC	**Hu-ho-hao-te**	**153.93**	**355**	*e*PKPbc	**PKPdf**	**11 55 42.5**	**-1.4**
HHC				PP	**PP**	**11 59 39.3**	**+0.1**
HHC				SKS	**SKSdf**	**12 02 41.0**	**+1.1**
HHC				SS	**SS**	**12 19 10.4**	**+4.0**
HHC				AMB	AMB		
	comp=Z,75nm,8.6s								
HHC				LR	LR		
	comp=Z,200nm,19.4s								
HHC				LR	LR		
	comp=Z,150nm,16.2s								
HHC				LR	LR		
	comp=Z,170nm,19.1s								
BJI	**Beijing**	**154.00**	**347**	PKPbc	**PKPdf**	**11 55 44.8**	**+1.0**
BJI				LR	LR		
	comp=Z,380nm,14.9s								
GTA	**Gaotai**	**154.32**	**16**	⇑PKPbc	**PKPdf**	**11 55 45.6**	**+1.1**
GTA				pPKP	PKPab	11 56 07.3	+0.1
GTA				PP	**PP**	**11 59 45.5**	**+3.9**
TWSI	**Taliwang, Sumb**	**155.18**	**200**	PKP	**PKPdf**	**11 55 47.2**	**+1.0**
KAPI	**Kappang**	**157.39**	**210**	*e*PKPdf	**PKPdf**	**11 55 49.6**	**+0.6**
KAPI				*e*PKPab	**pPKPdf**	**11 56 21.6**	**0.0**
LSA	**Lhasa**	**158.16**	**44**	*e*PKPdf	**PKPdf**	**11 55 51.2**	**+1.0**
LSA	**Lhasa**	**158.16**	**44**	*e*PKIKP	**PKPdf**	**11 55 51.2**	**+1.0**
LZH	**Lanzhou**	**158.40**	**10**	*e*PKP	**PKPdf**	**11 55 49.8**	**-0.1**
LZH				pPKP	pPKPdf	11 56 15.6	-6.8
LZH				sPKP		11 56 25.5	
LZH				*e*PP	**PP**	**12 00 07.8**	**+3.7**
LZH				SKKS		12 06 43.1	
LZH				AMB	AMB		
	comp=Z,400nm,9.5s								
LZH				LR	LR		
	comp=Z,430nm,18.6s								
LZH				LR	LR		
	comp=Z,510nm,18.5s								
LZH				LR	LR		
	comp=Z,690nm,20.1s								
LEM	**Lembang**	**158.48**	**177**	PKP	**PKPdf**	**11 55 51.3**	**+0.7**
	comp=Z,14nm,0.3s,baz=175,slow=4.3,SNR=6.5								
LEM				PKPab	**PKPab**	**11 56 27.1**	**+1.5**
	comp=Z,45nm,0.7s,baz=161,slow=22,SNR=7.7								
MDSI	**Maura Dua**	**160.34**	**167**	PKP	**PKPdf**	**11 55 52.2**	**-0.4**
NJ2	**Nanjing**	**160.43**	**333**	*e*PKP	**PKPdf**	**11 55 51.8**	**-0.3**
XAN	**Xi'an**	**160.86**	**359**	PKP	**PKPdf**	**11 55 53.4**	**+0.8**
MPSI	**Mapaga**	**161.76**	**219**	PKP	**PKPdf**	**11 55 55.5**	**+1.4**
CD2	**Chengdu**	**163.39**	**15**	PKP	**PKPdf**	**11 55 53.8**	**-1.5**
ENH	**Enshi**	**164.59**	**357**	*e*PKPdf	**PKPdf**	**11 55 55.3**	**-1.1**
KSM	**Kuching**	**166.63**	**188**	*e*PKPdf	**PKPdf**	**11 55 58.6**	**+0.2**
GYA	**Guiyang**	**168.28**	**8**	*e*PKP	**PKPdf**	**11 55 58.3**	**-1.1**
GYA				pPKP	pPKPdf	11 56 24.0	-8.0
GYA				sPKP		11 56 33.6	
GYA				PKPab	**PKPab**	**11 57 09.4**	**+1.1**
GYA				PKS	**PKSdf**	**11 59 29.6**	**-2.6**
GYA				PP	**PP**	**12 00 58.8**	**+2.8**
GYA				AMB	AMB		
	comp=Z,140nm,8.2s								
CMAI	**Chiengmai2**	**169.60**	**59**	P	**PKPdf**	**11 56 04.9**	**+4.4**
	comp=Z,106nm,0.4s,comp=Z,31μm								
CHTO	**Chiang Mai**	**169.98**	**65**	P	**PKPdf**	**11 56 01.0**	**+0.5**
	comp=Z,53nm,1.3s								
CHTO	**Chiang Mai**	**169.98**	**65**	*e*PKPdf	**PKPdf**	**11 56 00.4**	**-0.2**
CHTO				*e*PKPab	**PKPab**	**11 57 16.0**	**-0.2**
CHTO	**Chiang Mai**	**169.98**	**65**	*e*PKIKP	**PKPdf**	**11 56 00.4**	**-0.2**
CHTO				*e*		11 57 16.0	
CMMT	**Chiang Mai**	**169.98**	**65**	P	**PKPdf**	**11 55 59.9**	**-0.7**
	comp=Z,15nm,1.0s								
CMAR	**Chiang Mai Arr**	**170.10**	**67**	PKP	**PKPdf**	**11 56 01.0**	**+0.4**
	comp=Z,4.2nm,0.9s,baz=292,slow=2.0,SNR=25								
CMAR				PKPab	**PKPab**	**11 57 16.6**	**-0.2**
	comp=Z,4.2nm,0.8s,baz=282,slow=5.7,SNR=11								
PAYA	**Payao**	**170.55**	**60**	P	**PKPdf**	**11 56 01.7**	**+0.8**
LAMP	**Lampang**	**170.69**	**65**	P	**PKPdf**	**11 56 01.7**	**+0.8**
	comp=Z,5.8nm,1.1s								
SRDT	**SRDT**	**170.86**	**92**	P	**PKPdf**	**11 56 00.9**	**-0.2**
PHIT	**Phitsanulok**	**171.83**	**72**	P	**PKPdf**	**11 56 02.4**	**+0.9**
	comp=Z,13nm,1.0s								
PBKT	**Sadao Pong**	**172.49**	**76**	P	**PKPdf**	**11 56 01.0**	**-0.8**
	comp=Z,25nm,1.2s,comp=Z,2μm								
NAYO	**Nakonayok**	**172.98**	**93**	P	**PKPdf**	**11 56 02.5**	**+0.4**
	comp=Z,15nm,0.8s								

IDC 21 11:39:41.3±1.2, 51°40N×82°14E, h0km, mb1 2.2/3, mb1mx2.2/77, mbtmp2.2/3, ML1.9/3, Error ellipse: s-maj=14.2km s-min=10.8km az=116.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KURBB	**Kurchatov Arra**	**2.41**	**253**	Pn	Pn	11 40 20.8	-1.1
	0.3nm,0.3s,baz=71,slow=18,SNR=9.0						
KURBB				Sn	Sn	11 40 53.7	+1.6
	0.4nm,0.3s,baz=73,slow=34,SNR=14						
I46RU	**ZALESOVO INFRA**	**3.03**	**32**	*i*		11 58 20.0	
	baz=212,slow=326,SNR=1.1						
ZALV	**Zalesovo Beam**	**3.03**	**32**	Pn	Pn	11 40 31.7	+1.2
	0.3nm,0.3s,baz=218,slow=9.1,SNR=3.7						
ZALV				Pg	Pb	11 40 37.3	+1.2
	0.4nm,0.3s,baz=224,slow=15,SNR=8.0						
ZALV				Sn	Sn	11 41 08.4	+1.0
	0.3nm,0.3s,baz=215,slow=22,SNR=5.6						
ZALV				Lg	Lg	11 41 16.0	
	0.5nm,0.3s,baz=226,slow=23,SNR=3.5						
MKAR	**Makanchi Array**	**4.61**	**179**	Pn	Pn	11 40 53.8	+1.6
	0.2nm,0.3s,baz=6.6,slow=12,SNR=6.5						
MKAR				Pg	Pb	11 41 02.0	-1.0
	0.2nm,0.3s,baz=21,slow=12,SNR=2.5						
MKAR				Sn	Sn	11 41 45.4	-1.2
	0.1nm,0.3s,baz=6.9,slow=25,SNR=3.5						
MKAR				Lg	Lg	11 42 01.9	
	0.2nm,0.3s,baz=11,slow=29,SNR=4.9						

DJA 21 11:41:36.8±0.7, 1°S±3°×13°4E±°, h10km, M3.9/5, MLv3.9/5, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RKPI	**Ransiki, Papua**	**0.05**	**244**	P	Pg	11 41 38.8	0.0
RKPI				S	Sg	11 41 41.0	+0.8
KMPI	**Kaimana, Papua**	**2.22**	**193**	P	Pn	11 42 13.6	-0.1
FAKI	**Fak Fak**	**2.43**	**234**	P	Pn	11 42 16.7	+0.1
FAKI				S	Sn	11 42 46.9	+0.5

*DJA **21** 11:53:14.6±0.4, 8°N±6°×9°2E±°, h345km±15km, M4.8/6, mb4.4/6, mB4.8/3, MLv5.0/1, Mw(mB)4.0/3*
*BJI **21** 11:53:53.5, 3.°10N×92.°90E, h20km, mb4.7/12, mB4.8/9, Ms4.5/4, Ms7 4.2/4*
*IDC **21** 11:53:54.0±0.9, 3.°39N×93.°01E, h0km, mb4.1/15, mb1 4.2/17, mb1mx3.9/72, mbtmp4.1/17, ML4.1/2, Error ellipse: s-maj=32.6km s-min=16.0km az=41.0*
*NEIC **21** 11:53:55.0±0.4, 3.°34N×93.°00E, h10km, mb4.6/9, Error ellipse: s-maj=9.2km s-min=4.7km az=209.0*
*ISCJB **21** 11:53:56.5±0.4, 3.°31N±0.°05×93.°02E±0.°04, h33km, mb4.4/29, MS4.1/2, Error ellipse: s-maj=8.2km s-min=4.6km az=32.0*

ISC 21 11:53:58.7±0.5, 3°35N±0.°07×93°04E±0.°06, h35km, n70, σ1§65/68, mb4.4/29, 1C, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MLSI	**Meulaboh, Aceh**	**3.48**	**75**	P	**Pn**	**11 54 46.8**	**-3.5**
TPTI		**4.13**	**91**	P	**Pn**	**11 55 00.2**	**+0.9**
	57nm,0.8s,2μm0.4nm						
LHMI	**Lhok Sumawe**	**4.32**	**64**	*e*Pn	**Pn**	**11 55 01.9**	**0.0**
KCSI	**Kotacane, Aceh**	**4.72**	**88**	P	**Pn**	**11 55 03.0**	**-4.5**
GSI	**Gunungsitoli**	**4.96**	**114**	P	**Pn**	**11 55 11.1**	**+0.3**
GSI	**Gunungsitoli**	**4.96**	**114**	*e*Pn	**Pn**	**11 55 11.0**	**+0.2**
GSI				*e*Sn	**Sn**	**11 56 08.6**	**+1.6**
TSI	**Tuntungan**	**5.51**	**88**	P	Pn	11 55 12.1	-6.2
PSI	**Prapat**	**5.90**	**95**	Pn	**Pn**	**11 55 25.1**	**+1.4**
	6.3nm,0.3s,baz=297,slow=9.1,SNR=26						
PSI				Sn	**Sn**	**11 56 26.6**	**-3.6**
	2.9nm,0.3s,baz=265,slow=4.2,SNR=5.2						
PSI	**Prapat**	**5.90**	**95**	*e*Pn	**Pn**	**11 55 24.8**	**+1.0**
PSI				*e*Sn	**Sn**	**11 56 29.3**	**-0.9**
MNSI	**Mandailing Nat**	**7.01**	**111**	P	**Pn**	**11 55 39.9**	**+1.0**
KULM	**Kulim**	**7.83**	**75**	*e*Pn	**Pn**	**11 55 50.5**	**+0.4**
IPM	**Ipoh**	**8.04**	**82**	*e*Pn	**Pn**	**11 55 53.5**	**+0.4**
SKLT	**Songkhla**	**8.44**	**63**	P	**Pn**	**11 56 00.0**	**+1.4**
BKNI	**Bangkinang**	**8.54**	**110**	P	**Pn**	**11 55 56.8**	**-3.1**
BKNI	**Bangkinang**	**8.54**	**110**	*e*Pn	**Pn**	**11 55 55.4**	**-4.5**
PDSI	**Padang**	**8.54**	**120**	P	**Pn**	**11 56 04.5**	**+4.6**
PDSI	**Padang**	**8.54**	**120**	PKP	Pn	11 56 10.3	+10
PALK	**Pallekele**	**12.89**	**288**	*e*Pn	**Pn**	**11 56 58.0**	**-1.5**
PALK				*e*Sn	Sn	11 59 08.5	-13
CM31	**Chiang Mai Arr**	**16.09**	**21**	*e*Pn	**Pn**	**11 57 42.1**	**-0.3**
CM31				*e*Sn	**Sn**	**12 00 41.5**	**+1.7**
CMAR	**Chiang Mai Arr**	**16.09**	**21**	Pn	**Pn**	**11 57 40.5**	**-1.9**
	0.2nm,0.3s,baz=212,slow=14,SNR=5.9						
KSM	**Kuching**	**17.35**	**96**	*e*Pn	**Pn**	**11 57 56.2**	**-2.1**
	16nm,0.9s						
HMDM	**Hanimaadhoo**	**20.07**	**281**	*e*P	**P**	**11 58 24.7**	**-4.5**
	2.7nm,0.9s						
H08S2	**Diego Garcia H**	**23.23**	**242**	T	T	12 23 09.5	
	baz=64						
H08S3	**Diego Garcia H**	**23.23**	**242**	T	T	12 22 56.9	
	baz=64						
KKM	**Kota Kinabalu**	**23.25**	**83**	*e*P	**P**	**11 59 03.2**	**-0.1**
	29nm,1.2s						
H08S1	**Diego Garcia H**	**23.25**	**242**	T	T	12 23 03.0	
	baz=64						
KMI	**Kunming**	**23.57**	**22**	P	**P**	**11 59 07.5**	**+1.0**
KMI				pmax	pmax		
	comp=Z,14nm,0.5s						
MYLDM	**Lahad Datu**	**25.45**	**85**	*e*P	**P**	**11 59 22.4**	**-1.2**
	13nm,0.8s						
LSA	**Lhasa**	**26.27**	**356**	*e*P	**P**	**11 59 31.9**	**+0.6**
	12nm,0.6s						
CD2	**Chengdu**	**29.22**	**19**	*e*P	**P**	**11 59 58.0**	**+0.7**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,120nm,5.0s						
LZH	**Lanzhou**	**34.07**	**16**	*e*P	**P**	**12 00 42.9**	**+2.9**
LZH				pP	pP	12 00 51.3	+1.2
LZH				sP	sP	12 00 54.8	+0.4
LZH				*e*PP	**PP**	**12 01 58.3**	**+0.7**
LZH				pmax	pmax		
	comp=Z,21nm,1.3s						
LZH				pmax	pmax		
	comp=Z,76nm,5.2s						
LZH				LR	LR		
	comp=N,350nm,12.8s						
LZH				LR	LR		
	comp=E,370nm,13.2s						
LZH				LR	LR		
	comp=Z,420nm,16.8s						
NIL	**Nilore**	**35.36**	**331**	*e*P	**P**	**12 00 50.7**	**-0.3**
	27nm,0.7s						
MBWA	**Marble Bar**	**35.74**	**134**	*e*P	**P**	**12 00 54.6**	**+0.2**
	23nm,0.8s						
GTA	**Gaotai**	**36.42**	**9**	*e*P	**P**	**12 01 01.8**	**+1.7**
GTA				pP	pP	12 01 08.9	-1.4
GTA				sP	sP	12 01 12.3	-2.2
GTA				pmax	pmax		
	comp=Z,5.0nm,1.6s						
NJ2	**Nanjing**	**37.46**	**37**	*e*P	**P**	**12 01 09.5**	**+0.6**
NJ2				pmax	pmax		
	comp=Z,31nm,0.8s						
WMQ	**Urumqi**	**40.58**	**354**	P	**P**	**12 01 35.3**	**+0.3**
HHC	**Hu-ho-hao-te**	**40.89**	**22**	*e*P	**P**	**12 01 40.3**	**+2.6**
HHC				pmax	pmax		
	comp=Z,20nm,1.0s						
HHC				pmax	pmax		
	comp=Z,55nm,5.6s						
HHC				LR	LR		
	comp=Z,130nm,15.1s						
H01W3	**Cape Leeuwin H**	**42.89**	**154**	T	T	12 48 13.4	
	baz=186,slow=76,SNR=5.6						
H01W2	**Cape Leeuwin H**	**42.90**	**154**	T	T	12 48 12.1	
	baz=186,slow=76,SNR=5.9						
H01W1	**Cape Leeuwin H**	**42.90**	**154**	T	T	12 48 13.0	
	baz=186,slow=76,SNR=6.1						
MK01	**Makanchi Array**	**44.25**	**349**	*e*P	**P**	**12 02 04.9**	**+0.1**
MK31	**Makanchi Array**	**44.27**	**349**	*e*P	**P**	**12 02 04.5**	**-0.4**
MKAR	**Makanchi Array**	**44.27**	**349**	P	**P**	**12 02 05.3**	**+0.4**
	1.7nm,0.6s,baz=167,slow=8.3,SNR=10.0						
KK31	**Karatay Array**	**44.37**	**336**	*e*P	**P**	**12 02 05.2**	**-0.5**
KKAR	**Karatay Array**	**44.37**	**336**	*e*P	**P**	**12 02 05.1**	**-0.6**
SONM	**Songino Array**	**45.79**	**13**	P	**P**	**12 02 17.4**	**+0.3**
	0.7nm,0.6s,baz=192,slow=8.9,SNR=6.2						
SONM				PcP	**PcP**	**12 03 55.4**	**+1.2**
	0.9nm,0.6s,baz=197,slow=3.8,SNR=3.6						
ULN	**Ulaanbaatar**	**45.96**	**13**	*e*P	**P**	**12 02 18.7**	**+0.3**
	0.9nm,0.5s						
WRA	**Warramunga Arr**	**46.69**	**121**	P	**P**	**12 02 25.1**	**+0.6**
	2.8nm,0.6s,baz=298,slow=8.8,SNR=29						
WRAB	**Tennant Creek**	**46.70**	**121**	*e*P	**P**	**12 02 22.9**	**-1.6**
	2.3nm,0.4s						
WB2	**Warramunga Arr**	**46.70**	**121**	*e*P	**P**	**12 02 24.9**	**+0.3**
GEYT	**Alibeck**	**46.94**	**322**	P	**P**	**12 02 27.0**	**+0.8**
	2.1nm,0.7s,baz=120,slow=8.7,SNR=3.3						
ASAR	**Alice Springs**	**48.00**	**126**	P	**P**	**12 02 35.4**	**+0.7**
	1.6nm,0.8s,baz=299,slow=7.4,SNR=11						
KURBB	**Kurchatov Arra**	**48.67**	**348**	P	**P**	**12 02 39.8**	**+0.4**
	1.3nm,0.6s,baz=166,slow=6.8,SNR=6.4						
KURK	**Kurchatov**	**48.74**	**348**	P	**P**	**12 02 39.8**	**-0.1**
ZALV	**Zalesovo Beam**	**50.89**	**354**	P	**P**	**12 02 56.5**	**+0.5**
	1.9nm,0.4s,baz=187,slow=7.6,SNR=5.3						
ZALV	**Zalesovo Beam**	**50.89**	**354**	*e*P	**P**	**12 02 55.8**	**-0.3**
BVAR	**Borovoye Array**	**52.93**	**343**	P	**P**	**12 03 11.0**	**-0.4**
	1.9nm,0.7s,baz=114,slow=6.6,SNR=7.0						
ABKAR	**Akbulak array**	**53.72**	**334**	*e*P	**P**	**12 03 16.9**	**-0.3**
	4.0nm,0.6s						
KBZ	**Khabaz**	**59.75**	**320**	P	**P**	**12 04 02.1**	**+1.9**
	0.6nm,0.3s,baz=129,slow=6.5,SNR=2.1						
BRTR	**Keskin Array B**	**64.61**	**313**	P	**P**	**12 04 33.3**	**+0.3**
	0.4nm,0.4s,baz=90,slow=5.8,SNR=2.9						
AKASG	**Malin Array Be**	**71.04**	**323**	P	**P**	**12 05 12.3**	**-0.8**
	0.7nm,0.5s,baz=94,slow=5.0,SNR=4.2						
MA2	**Magadan**	**71.26**	**27**	P	**P**	**12 05 14.7**	**+0.4**
	0.6nm,0.2s,baz=261,slow=19,SNR=3.9						
MLR	**Muntele Rosu**	**71.67**	**317**	P	**P**	**12 05 17.7**	**+0.5**
	0.5nm,0.6s,baz=172,slow=7.6,SNR=4.8						
TIXI	**Tiksi**	**71.85**	**11**	P	**P**	**12 05 17.7**	**+0.1**
	4.4nm,0.6s,baz=241,slow=2.9,SNR=16						
TIXI	**Tiksi**	**71.85**	**11**	*e*P	**P**	**12 05 17.1**	**-0.5**
	5.0nm,0.7s						
BUR04	**Bucovina Ar. S**	**72.69**	**319**	*e*P	**P**	**12 05 23.4**	**+0.2**
GEA0	**GERESS Array S**	**80.47**	**319**	*e*P	**P**	**12 06 06.2**	**-1.0**
GERES	**GERESS Array B**	**80.47**	**319**	P	**P**	**12 06 07.5**	**+0.3**
	1.2nm,0.7s,baz=104,slow=6.2,SNR=9.0						
SYO	**Syowa Base**	**80.79**	**197**	⇑*e*P	**P**	**12 06 08.7**	**+0.4**
TXAR	**Lajitas Array**	**143.77**	**25**	PKhKP	PKPpre	12 13 27.8	
	0.3nm,0.8s,baz=338,slow=1.0,SNR=4.8						
TXAR				PKP	**PKPdf**	**12 13 30.9**	**-0.1**
	0.3nm,0.8s,baz=225,slow=0.4,SNR=4.9						

MAN 21 11:55:56, 10°38N×123°39E, h1km, mb4.4, ML3.2, MS3.0, 2C, Cebu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LLP	**Lapu-Lapu**	**0.57**	**97**	*e*P	Pg	11 56 07.7	+0.7
GUIM	**Jordan**	**0.82**	**287**	*e*P	Pb	11 56 12.7	-0.5
GUIM				*e*S	Sg	11 56 23.3	+0.8
RCP	**Roxas**	**1.33**	**332**	⇑*e*P	Pb	11 56 23.1	+1.3
RCP				*e*S	Sn	11 56 41.2	+1.1
JAP	**San Jose, Anti**	**1.46**	**284**	⇑*e*P	Pg	11 56 29.0	+4.9
MSLP	**Maasin**	**1.47**	**100**	*e*P	Pn	11 56 23.8	+0.2
MSLP				*e*S	Sn	11 56 45.3	+1.8

*DJA **21** 12:00:55.4±1.2, 2°S±4°×13°4E±°, h11km±5km, M4.2/7, mB4.9/1, mb4.4/2, MLv4.1/7, Mw(mB)4.2/1*
*IDC **21** 12:00:56.4±1.8, 2.°06S×134.°02E, h0km, mb3.6/3, mb1 3.8/5, mb1mx3.4/55, mbtmp3.7/5, ML3.7/2, Error ellipse: s-maj=43.8km s-min=21.1km az=55.0*

ISC 21 12:00:57.9±1.3, 1°55S±0.°07×134°3E±0.°1, h25km, n10, σ2§73/12, mb3.7/3, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RKPI	**Ransiki, Papua**	**0.25**	**344**	P	Pb	12 00 59.9	-4.3
RKPI				S	**Sb**	**12 01 05.2**	**-3.3**
KMPI	**Kaimana, Papua**	**1.97**	**196**	P	**Pb**	**12 01 31.8**	**-1.4**
FAKI	**Fak Fak**	**2.31**	**240**	P	**Pb**	**12 01 36.0**	**-2.9**
SIJI	**Sorong**	**3.10**	**286**	Pn	**Pn**	**12 01 44.4**	**-1.0**
	11nm,0.3s,baz=260,slow=23,SNR=11						
SIJI				Pg	**Pb**	**12 01 50.7**	**-1.8**
	15nm,0.3s,baz=3.4,slow=22,SNR=8.2						
SIJI				Sn	**Sn**	**12 02 24.4**	**+2.6**
	13nm,0.3s,baz=299,slow=19,SNR=2.8						
SIJI				Lg	Lg	12 02 37.8	
	22nm,0.3s,baz=313,slow=22,SNR=6.5						
BNDI	**Bandanaira**	**5.13**	**237**	P	**Pn**	**12 02 15.2**	**+1.9**
MSAI	**Masohi**	**5.54**	**253**	P	**Pn**	**12 02 20.4**	**+1.5**
WRA	**Warramunga Arr**	**18.08**	**180**	P	**Pn**	**12 05 06.0**	**-1.6**
	0.2nm,0.3s,baz=358,slow=11,SNR=18						
ASAR	**Alice Springs**	**21.79**	**181**	P	**P**	**12 05 46.5**	**-1.8**
	2.1nm,0.7s,baz=7.2,slow=12,SNR=17						
MKAR	**Makanchi Array**	**66.35**	**324**	P	**P**	**12 11 48.0**	**+3.3**
	0.4nm,0.7s,baz=126,slow=6.9,SNR=4.0						
KURBB	**Kurchatov Arra**	**70.41**	**326**	P	**P**	**12 12 13.5**	**+3.5**
	0.2nm,0.3s,baz=119,slow=7.7,SNR=2.0						

*ATA **21** 12:11:13.1±1.5, 38.°74N×43.°35E, h7km±57km, ML2.8, MW2.8*
*ISK **21** 12:11:13.7, 38.°72N×43.°17E, h21km, ML2.4/4*
*CSEM **21** 12:11:14.3±0.2, 38.°68N×43.°22E, h30km, ML2.4, Error ellipse: s-maj=6.0km s-min=4.8km az=141.0*
*ISCJB **21** 12:11:15.2±0.6, 38.°69N±0.°04×43.°20E±0.°05, h27km±6km, Error ellipse: s-maj=7.1km s-min=5.9km az=39.9*
*DDA **21** 12:11:15.2, 38.°74N×43.°20E, h7km, Ml2.8*

ISC 21 12:11:14.6±0.9, 38°68N±0.°04×43°25E±0.°03, h32km±7km, n26, σ1§12/45, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VANB	**Van**	**0.14**	**129**	PG	**Pb**	**12 11 20.9**	**+0.2**
VANB				SG	**Sb**	**12 11 25.4**	**+0.6**
VANB	**Van**	**0.14**	**129**	*e*Pg	**Pb**	**12 11 20.9**	**+0.2**
VANB				*e*Sg	**Sb**	**12 11 25.4**	**+0.6**
TVAN	**Van**	**0.19**	**142**	*i* P	**Pb**	**12 11 20.9**	**-0.4**
TVAN				*i* S	**Sb**	**12 11 25.8**	**0.0**
TVAN	**Van**	**0.19**	**142**	P	**Pb**	**12 11 20.9**	**-0.4**
TVAN				S	**Sb**	**12 11 25.8**	**0.0**
VMUR	**Van-Muradiye**	**0.40**	**39**	*i* P	**Pn**	**12 11 23.7**	**-0.7**
VMUR				*i* S	**Sn**	**12 11 30.5**	**-0.4**
VMUR	**Van-Muradiye**	**0.40**	**39**	P	**Pn**	**12 11 23.7**	**-0.7**
VMUR				S	**Sn**	**12 11 30.5**	**-0.4**
GEVA	**Gevas**	**0.40**	**203**	*i* P	**Pb**	**12 11 23.3**	**-0.5**
GEVA				*e*S	**Sb**	**12 11 30.4**	**+0.3**
GEVA				IAML		12 11 35.1	
	comp=Z,66nm,0.4s						
GEVA	**Gevas**	**0.40**	**203**	*i* P	**Pb**	**12 11 23.3**	**-0.5**
GEVA				*i* S	**Sb**	**12 11 30.4**	**+0.3**
GEVA	**Gevas**	**0.40**	**203**	P	**Pb**	**12 11 23.3**	**-0.5**
GEVA				S	**Sb**	**12 11 30.4**	**+0.3**
ADCV	**BITLIS_Adilcev**	**0.43**	**287**	*i* P	**Pb**	**12 11 23.1**	**-1.2**
ADCV				*i* S	**Sb**	**12 11 29.5**	**-1.4**
ADCV	**BITLIS_Adilcev**	**0.43**	**287**	P	**Pb**	**12 11 23.1**	**-1.2**
ADCV				S	**Sb**	**12 11 29.5**	**-1.4**
CLDR	**Caldiran**	**0.69**	**48**	PG	**Pb**	**12 11 28.1**	**-0.4**
CLDR				SG	**Sn**	**12 11 38.9**	**+0.6**
CLDR	**Caldiran**	**0.69**	**48**	*i* P	**Pb**	**12 11 27.8**	**-0.7**
CLDR				*i* S	**Sn**	**12 11 38.7**	**+0.4**
CLDR	**Caldiran**	**0.69**	**48**	P	**Pb**	**12 11 27.8**	**-0.7**
CLDR	**Caldiran**	**0.69**	**48**	*e*Pg	**Pb**	**12 11 28.1**	**-0.4**
CLDR				S	**Sn**	**12 11 38.7**	**+0.4**
TUTA	**Tutak**	**0.80**	**335**	*i* P	**Pn**	**12 11 29.2**	**-0.7**
TUTA				*e*S	**Sn**	**12 11 39.8**	**-1.0**
TUTA				IAML		12 11 43.7	
	comp=Z,54nm,0.2s						
TUTA	**Tutak**	**0.80**	**335**	*i* P	**Pn**	**12 11 29.2**	**-0.7**
TUTA	**Tutak**	**0.80**	**335**	P	**Pn**	**12 11 29.2**	**-0.7**
AGRB	**Hanur-Agry**	**0.92**	**347**	PG	**Pn**	**12 11 31.0**	**-0.5**
AGRB	**Hanur-Agry**	**0.92**	**347**	*e*Pg	**Pn**	**12 11 31.0**	**-0.5**
GURO	**Guroymak-BITLI**	**0.97**	**263**	PG	**Pb**	**12 11 31.6**	**-1.4**
GURO	**Guroymak-BITLI**	**0.97**	**263**	*e*Pg	**Pb**	**12 11 31.6**	**-1.4**
EKAR	**Karacoban**	**1.09**	**302**	*e*P	**Pn**	**12 11 35.4**	**+1.4**
EKAR				*e*S	**Sn**	**12 11 52.9**	**+4.8**
EKAR				IAML		12 11 56.4	
	comp=Z,8.7nm,0.4s						
EATA	**Eleskirt**	**1.32**	**334**	*i* P	**Pb**	**12 11 38.8**	**-0.2**
EATA				*e*S	**Sb**	**12 11 57.8**	**+2.0**
EATA				IAML		12 11 58.9	
	comp=Z,3.1nm,0.5s						
EATA	**Eleskirt**	**1.32**	**334**	*i* P	**Pb**	**12 11 38.8**	**-0.2**
EATA				*i* S	**Sb**	**12 11 56.8**	**+1.1**
EATA	**Eleskirt**	**1.32**	**334**	P	**Pb**	**12 11 38

PET					smax	smax			
	comp=E,800nm,0.5s								
PET					smax	smax			
	comp=E,1μm,0.5s								
UGLR	**Uglovaya**	**1.01**	**311**	*eP*		**Pn**	**12 17 54.6**	**+1.1**
UGLR				*eS*		**Sn**	**12 18 09.3**	**+1.5**
UGLR	**Uglovaya**	**1.01**	**311**	PN		**Pn**	**12 17 54.6**	**+1.1**
UGLR				S		**Sn**	**12 18 09.3**	**+1.5**
SDLR	**Sedlovina**	**1.03**	**315**	*eP*		**Pn**	**12 17 54.6**	**+0.9**
SDLR				*eS*		**Sn**	**12 18 09.0**	**+0.7**
SDLR	**Sedlovina**	**1.03**	**315**	PN		**Pn**	**12 17 54.6**	**+0.9**
SDLR				S		**Sn**	**12 18 09.0**	**+0.7**
SMAR	**Somma**	**1.05**	**312**	*eP*		**Pn**	**12 17 55.3**	**+1.1**
SMAR	**Somma**	**1.05**	**312**	PN		**Pn**	**12 17 55.3**	**+1.1**
AVH	**Avacha**	**1.08**	**311**	*eP*		**Pn**	**12 17 55.9**	**+1.4**
AVH				*eS*		**Sn**	**12 18 10.3**	**+0.6**
AVH	**Avacha**	**1.08**	**311**	PN		**Pn**	**12 17 55.9**	**+1.4**
AVH				S		**Sn**	**12 18 10.3**	**+0.6**
KRER	**Koryakskii**	**1.10**	**313**	*i* P		**Pn**	**12 17 56.1**	**+1.2**
KRER				*eS*		**Sn**	**12 18 10.5**	**+0.2**
KRER	**Koryakskii**	**1.10**	**313**	PN		**Pn**	**12 17 56.1**	**+1.2**
KRER				S		**Sn**	**12 18 10.5**	**+0.2**
KOK	**Koryaka**	**1.15**	**310**	*eP*		**Pn**	**12 17 57.0**	**+1.6**
KOK	**Koryaka**	**1.15**	**310**	PN		**Pn**	**12 17 57.0**	**+1.6**
MTVR	**Mutnovka**	**1.17**	**267**	*eP*		**Pn**	**12 17 57.3**	**+1.6**
MTVR				*eS*		**Sn**	**12 18 13.3**	**+1.4**
MTVR	**Mutnovka**	**1.17**	**267**	PN		**Pn**	**12 17 57.3**	**+1.6**
MTVR				S		**Sn**	**12 18 13.3**	**+1.4**
KRX	**Arik**	**1.19**	**313**	*eP*		**Pn**	**12 17 57.0**	**+1.1**
KRX				*eS*		**Sn**	**12 18 13.6**	**+1.3**
KRX	**Arik**	**1.19**	**313**	PN		**Pn**	**12 17 57.0**	**+1.1**
KRX				S		**Sn**	**12 18 13.6**	**+1.3**
KRMR	**Karymshinskiy**	**1.23**	**283**	*eP*		**Pn**	**12 17 57.5**	**+1.2**
KRMR				*eS*		**Sn**	**12 18 13.5**	**+0.5**
KRMR	**Karymshinskiy**	**1.23**	**283**	PN		**Pn**	**12 17 57.5**	**+1.2**
KRMR				S		**Sn**	**12 18 13.5**	**+0.5**
ASAK	**Asacha**	**1.35**	**263**	*i* P		**Pn**	**12 18 00.3**	**+2.1**
ASAK				*eS*		**Sn**	**12 18 19.0**	**+2.7**
ASAK	**Asacha**	**1.35**	**263**	PN		**Pn**	**12 18 00.3**	**+2.1**
ASAK				S		**Sn**	**12 18 19.0**	**+2.7**
KDTR	**Khodutka, Kamc**	**1.45**	**240**	*eP*		**Pn**	**12 18 01.2**	**+1.8**
KDTR				*eS*		**Sg**	**12 18 19.9**	**+0.2**
KII	**Karymskiy**	**1.53**	**346**	*eP*		**Pn**	**12 18 01.7**	**+1.1**
KII				*eS*		**Sg**	**12 18 20.4**	**-1.7**
KII	**Karymskiy**	**1.53**	**346**	PN		**Pn**	**12 18 01.7**	**+1.1**
KII				S		**Sg**	**12 18 20.4**	**-1.7**
PETK	**Petropavlovsk-**	**1.55**	**292**	Pn		**Pb**	**12 18 02.3**	**+0.3**
	comp=E,37nm,0.3s,baz=106,slow=15,SNR=376								
PETK					Sn		**Sn**	**12 18 23.1**	**+2.0**
	comp=E,38nm,0.3s,baz=71,slow=18,SNR=21								
GNL	**Ganaly**	**1.73**	**312**	*eP*		**Pg**	**12 18 05.8**	**-0.3**
GNL				*eS*		**Sg**	**12 18 29.2**	**+0.8**
GNL	**Ganaly**	**1.73**	**312**	PN		**Pg**	**12 18 05.8**	**-0.3**
GNL				S		**Sg**	**12 18 29.2**	**+0.8**
MIPR	**Malaya Ipel'ka**	**2.06**	**263**	*eP*		**Pb**	**12 18 11.2**	**+0.6**
MIPR				*eS*		**Sg**	**12 18 37.7**	**-1.6**
MIPR	**Malaya Ipel'ka**	**2.06**	**263**	PN		**Pb**	**12 18 11.2**	**+0.6**
MIPR				S		**Sg**	**12 18 37.7**	**-1.6**
PAU	**Pauzhetka**	**2.31**	**243**	*eP*		**Pn**	**12 18 13.7**	**+2.5**
PAU				*eS*		**Sn**	**12 18 41.8**	**+2.1**
PAU	**Pauzhetka**	**2.31**	**243**	PN		**Pn**	**12 18 13.7**	**+2.5**
PAU				S		**Sn**	**12 18 41.8**	**+2.1**
KZV	**Kizimen**	**2.56**	**3**	*eP*		**Pn**	**12 18 16.6**	**+1.8**
KZV				*eS*		**Sn**	**12 18 46.3**	**+0.1**
KZV	**Kizimen**	**2.56**	**3**	PN		**Pn**	**12 18 16.6**	**+1.8**
KZV				S		**Sn**	**12 18 46.3**	**+0.1**
TUMR	**Tumrok**	**2.73**	**1**	*eP*		**Pn**	**12 18 19.7**	**+2.6**
TUMR				*eS*		**Sn**	**12 18 52.5**	**+2.2**
TUMR	**Tumrok**	**2.73**	**1**	PN		**Pn**	**12 18 19.7**	**+2.6**
TUMR				S		**Sn**	**12 18 52.5**	**+2.2**
SKR	**Severo-Kuril's**	**3.11**	**234**	*eP*		**Pn**	**12 18 24.1**	**+1.9**
SKR				*eS*		**Sn**	**12 19 01.4**	**+1.9**
SKR	**Severo-Kuril's**	**3.11**	**234**	PN		**Pn**	**12 18 24.1**	**+1.9**
SKR				S		**Sn**	**12 19 01.4**	**+1.9**
KMNR	**Kamenistaya**	**3.20**	**1**	*eP*		**Pn**	**12 18 26.7**	**+3.1**
KMNR	**Kamenistaya**	**3.20**	**1**	PN		**Pn**	**12 18 26.7**	**+3.1**
BZMR	**Bezymyannaya**	**3.39**	**4**	*eP*		**Pn**	**12 18 28.7**	**+2.5**
BZMR	**Bezymyannaya**	**3.39**	**4**	PN		**Pn**	**12 18 28.7**	**+2.5**
KIRR	**Kirishev**	**3.40**	**2**	*eP*		**Pn**	**12 18 29.5**	**+3.1**
KIRR	**Kirishev**	**3.40**	**2**	PN		**Pn**	**12 18 29.5**	**+3.1**
KPT	**Kopyto**	**3.41**	**1**	*eP*		**Pn**	**12 18 29.4**	**+2.9**
KPT	**Kopyto**	**3.41**	**1**	PN		**Pn**	**12 18 29.4**	**+2.9**
BZWR	**Bezymyannyi-We**	**3.42**	**4**	*eP*		**Pn**	**12 18 29.1**	**+2.5**
BZWR	**Bezymyannyi-We**	**3.42**	**4**	PN		**Pn**	**12 18 29.1**	**+2.5**
ESO	**Esso**	**3.47**	**347**	*eP*		**Pn**	**12 18 29.4**	**+2.2**
ESO	**Esso**	**3.47**	**347**	PN		**Pn**	**12 18 29.4**	**+2.2**
ZLN	**Zelenaya**	**3.49**	**7**	*eP*		**Pn**	**12 18 29.7**	**+2.2**
ZLN	**Zelenaya**	**3.49**	**7**	PN		**Pn**	**12 18 29.7**	**+2.2**
KOZ	**Kozyrevsk**	**3.51**	**358**	*eP*		**Pn**	**12 18 29.6**	**+1.9**
KOZ	**Kozyrevsk**	**3.51**	**358**	PN		**Pn**	**12 18 29.6**	**+1.9**
LGNR	**Loginova**	**3.55**	**5**	*eP*		**Pn**	**12 18 32.0**	**+3.5**
LGNR	**Loginova**	**3.55**	**5**	PN		**Pn**	**12 18 32.0**	**+3.5**
CIRR	**Tsirk**	**3.58**	**6**	*eP*		**Pn**	**12 18 29.6**	**+0.7**
CIRR	**Tsirk**	**3.58**	**6**	PN		**Pn**	**12 18 29.6**	**+0.7**
KRSR	**Krestovskiy**	**3.67**	**4**	*eP*		**Pn**	**12 18 32.7**	**+2.6**
KRSR	**Krestovskiy**	**3.67**	**4**	PN		**Pn**	**12 18 32.7**	**+2.6**
KLY	**Klyuchi**	**3.77**	**5**	*eP*		**Pn**	**12 18 34.6**	**+3.3**
KLY	**Klyuchi**	**3.77**	**5**	PN		**Pn**	**12 18 34.6**	**+3.3**
KBTR	**Krutoberegovo**	**3.99**	**22**	*eP*		**Pn**	**12 18 37.1**	**+2.8**
KBTR				*eS*		**Sn**	**12 19 23.2**	**+2.1**
KBTR	**Krutoberegovo**	**3.99**	**22**	PN		**Pn**	**12 18 37.1**	**+2.8**
KBTR				S		**Sn**	**12 19 23.2**	**+2.1**
SMKR	**Semkarok**	**4.11**	**11**	*eP*		**Pn**	**12 18 39.5**	**+3.5**
SMKR	**Semkarok**	**4.11**	**11**	PN		**Pn**	**12 18 39.5**	**+3.5**
SRKR	**Sorokina**	**4.15**	**8**	*eP*		**Pn**	**12 18 39.5**	**+2.9**
SRKR	**Sorokina**	**4.15**	**8**	PN		**Pn**	**12 18 39.5**	**+2.9**
BKI	**Bering**	**4.37**	**50**	*eP*		**Pn**	**12 18 40.3**	**+0.8**
BKI				*eS*		**Sn**	**12 19 27.2**	**-3.3**
BKI	**Bering**	**4.37**	**50**	PN		**Pn**	**12 18 40.3**	**+0.8**
ASAJ	**Asahikawa**	**14.35**	**241**	Pn		**Pn**	**12 20 55.1**	**-1.1**
	comp=E,0.3nm,0.3s,baz=52,slow=17,SNR=5.0								
MJAR	**Matsuhiro Arr**	**22.22**	**233**	P		**P**	**12 22 28.8**	**-1.0**
	comp=E,2.5nm,0.6s,baz=43,slow=7.0,SNR=9.4								
H11N2	**WAKE ISLAND Hy**	**33.19**	**168**	T		T	12 59 48.2		
	baz=352,slow=76,SNR=47								
H11N3	**WAKE ISLAND Hy**	**33.21**	**168**	T		T	12 59 51.7		
	baz=352,slow=76,SNR=28								
H11N1	**WAKE ISLAND Hy**	**33.21**	**168**	T		T	12 59 54.6		
	baz=352,slow=76,SNR=47								
H11S1	**WAKE ISLAND Hy**	**34.37**	**169**	T		T	13 01 33.9		
	baz=354								
H11S3	**WAKE ISLAND Hy**	**34.39**	**169**	T		T	13 01 45.0		
	baz=354								
H11S2	**WAKE ISLAND Hy**	**34.39**	**169**	T		T	13 01 30.2		
	baz=354								
SPITS	**Spitsbergen Ar**	**47.66**	**350**	P		**P**	**12 26 07.6**	**-1.4**
	comp=E,6.4nm,0.9s,baz=35,slow=11,SNR=7.5								
SPITS	**Spitsbergen Ar**	**47.66**	**350**	P		**P**	**12 26 07.6**	**-1.4**
SPITS				pmax		pmax			
	comp=Z,7.0nm,1.0s								
KURK	**Kurchatov**	**48.02**	**302**	P		**P**	**12 26 09.8**	**-2.3**
KURK				pmax		pmax			
	comp=Z,1.0nm,0.4s								
KURBB	**Kurchatov Arra**	**48.12**	**302**	P		P	12 26 09.8	-3.0	
	comp=Z,0.6nm,0.4s,baz=60,slow=7.4,SNR=3.8								
MKAR	**Makanchi Array**	**48.39**	**296**	P		P	12 26 12.1	-3.0	
	comp=Z,0.5nm,0.5s,baz=55,slow=5.6,SNR=5.4								
FINES	**FINESS Array B**	**60.61**	**337**	P		**P**	**12 27 42.5**	**-1.1**
	comp=Z,5.7nm,1.2s,baz=46,slow=11,SNR=6.5								
AKASG	**Malin Array Be**	**69.07**	**329**	P		P	12 28 35.5	-3.3	
	comp=Z,0.5nm,0.3s,baz=28,slow=6.8,SNR=3.4								

*DDA **21** 12:18:55.2,38˙30N×26˙52E,h22km,Ml2.8*
*ISCJB **21** 12:18:56.9±0.4,38˙31N±0˙02×26˙60E±0˙03,h10km±3km, Error ellipse: s-maj=4.9km s-min=3.2km az=140.7*
*CSEM **21** 12:18:56.9±0.1,38˙32N×26˙61E,h10km,ML2.6, Error ellipse: s-maj=3.3km s-min=2.1km az=45.0*
*ISK **21** 12:18:56.7,38˙32N×26˙63E,h5km,ML2.6/6*
*ATH **21** 12:18:56.7,38˙30N×26˙52E,h29km±2km, ML2.1/4, Error ellipse: s-maj=3.3km s-min=1.2km az=229.0*
ISC 21 12:18:56.5±0.8,38˙34N±0˙02×26˙63E±0˙02,h11km±4km, n38,σ0°50/60,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URLA	**Izmir**	**0.03**	**299**	PG	**Pg**	**12 18 58.3**	**-0.3**
URLA	**Izmir**	**0.03**	**299**	*i* P	**Pg**	**12 18 58.5**	**-0.1**
URLA				*i* S	**Sg**	**12 19 01.2**	**+1.1**
URLA	**Izmir**	**0.03**	**299**	*e*Pg	**Pg**	**12 18 58.3**	**-0.3**
URLA	**Izmir**	**0.03**	**299**	P	**Pg**	**12 18 58.5**	**-0.1**
URLA				S	**Sg**	**12 19 01.2**	**+1.1**
ZEY	**˜zmir**	**0.15**	**224**	*i* P	**Pg**	**12 18 59.6**	**-0.2**
ZEY				*i* S	**Sg**	**12 19 02.7**	**+0.5**
KRBN	**Karaburun**	**0.26**	**346**	PG	**Pb**	**12 19 02.7**	**-0.5**
KRBN				SG	**Sb**	**12 19 07.3**	**-0.3**
KRBN	**Karaburun**	**0.26**	**346**	*e*Pg	**Pb**	**12 19 02.7**	**-0.5**
KRBN				*e*Sg	**Sb**	**12 19 07.3**	**-0.3**
BLCB	**Balcova**	**0.33**	**83**	PG	**Pb**	**12 19 03.8**	**-0.5**
BLCB				SG	**Sb**	**12 19 09.5**	**-0.1**
BLCB	**Balcova**	**0.33**	**83**	*e*Pg	**Pb**	**12 19 03.8**	**-0.5**
BLCB				*e*Sg	**Sb**	**12 19 09.5**	**-0.1**
GMLD	**Gumuldur**	**0.35**	**140**	PG	**Pg**	**12 19 03.9**	**+0.4**
GMLD	**Gumuldur**	**0.35**	**140**	*e*Pg	**Pg**	**12 19 03.9**	**+0.4**
DGB	**˜zmir**	**0.35**	**146**	*i* P	**Pg**	**12 19 03.8**	**+0.2**
DGB				*i* S	**Sg**	**12 19 08.7**	**+0.5**
FOCM	**Fo˜ša**	**0.38**	**12**	PG	**Pb**	**12 19 05.0**	**-0.2**
FOCM	**Fo˜ša**	**0.38**	**12**	*e*Pg	**Pb**	**12 19 05.0**	**-0.2**
CHOS	**Chios island**	**0.46**	**276**	PG	**Pg**	**12 19 06.3**	**+0.8**
CHOS	**Chios island**	**0.46**	**276**	P	**Pg**	**12 19 05.3**	**-0.2**
CHOS				S	**Sg**	**12 19 10.6**	**-1.0**
CHOS				AML	AML	12 19 12.9	
	comp=N,491μm,0.2s						
CHOS				AML	AML	12 19 13.7	
	comp=E,503μm,0.2s						
CHOS	**Chios island**	**0.46**	**276**	P	**Pg**	**12 19 05.3**	**-0.2**
CHOS	**Chios island**	**0.46**	**276**	*e*Pg	**Pg**	**12 19 06.3**	**+0.8**
CHOS				S	**Sg**	**12 19 11.1**	**-0.4**
SMG	**Samos**	**0.66**	**166**	P	**Pb**	**12 19 09.9**	**-0.1**
SMG				S	**Sb**	**12 19 18.9**	**-0.2**
SMG				AML	AML	12 19 21.0	
	comp=N,530μm,0.3s						
SMG				AML	AML	12 19 21.0	
	comp=E,376μm,0.3s						
SMG	**Samos**	**0.66**	**166**	P	**Pb**	**12 19 09.8**	**-0.1**
SMG				S	**Sb**	**12 19 19.0**	**-0.1**
DKL	**Dikili**	**0.76**	**16**	PG	**Pn**	**12 19 12.2**	**-0.9**
DKL	**Dikili**	**0.76**	**16**	*e*Pg	**Pn**	**12 19 12.2**	**-0.9**
GCAM	**G?zelcaml?**	**0.80**	**143**	PG	**Pb**	**12 19 12.2**	**-0.2**
GCAM	**G?zelcaml?**	**0.80**	**143**	*e*Pg	**Pb**	**12 19 12.2**	**-0.2**
PSRA	**Psara**	**0.86**	**284**	P	**Pb**	**12 19 13.8**	**+0.3**
PSRA				S	**Sg**	**12 19 24.3**	**-0.1**
PSRA	**Psara**	**0.86**	**284**	P	**Pb**	**12 19 13.1**	**-0.4**
PSRA				S	**Sg**	**12 19 24.0**	**-0.4**
PRK	**Paraskevi**	**0.94**	**343**	P	**Pn**	**12 19 15.7**	**-0.1**
PRK				S	**Sn**	**12 19 29.8**	**+0.6**
PRK				AML	AML	12 19 30.5	
	comp=E,250μm,0.4s						
PRK				AML	AML	12 19 31.1	
	comp=N,550μm,0.4s						
PRK	**Paraskevi**	**0.94**	**343**	P	**Pn**	**12 19 15.6**	**-0.1**
PRK				S	**Sn**	**12 19 29.5**	**+0.3**
SIGR	**SIGRI**	**1.06**	**325**	PG	**Pg**	**12 19 17.8**	**+0.9**
SIGR	**SIGRI**	**1.06**	**325**	P	**Pb**	**12 19 16.9**	**+0.1**
SIGR				S	**Sb**	**12 19 30.8**	**+0.1**
SIGR				AML	AML	12 19 33.7	
	comp=N,105μm,0.3s						
SIGR				AML	AML	12 19 34.5	
	comp=E,178μm,0.4s						
SIGR	**SIGRI**	**1.06**	**325**	P	**Pb**	**12 19 16.9**	**+0.1**
SIGR	**SIGRI**	**1.06**	**325**	*e*Pg	**Pg**	**12 19 17.8**	**+0.9**
SIGR				S	**Sg**	**12 19 31.3**	**+0.7**
AYDB	**Zeytinkoy-Aydi**	**1.07**	**111**	PG	**Pn**	**12 19 17.5**	**-0.1**
AYDB	**Zeytinkoy-Aydi**	**1.07**	**111**	*e*Pg	**Pn**	**12 19 17.5**	**-0.1**
AYDN	**Tasoluk**	**1.20**	**124**	*i* P	**Pg**	**12 19 20.1**	**+0.5**
AYDN				*i* S	**Sg**	**12 19 34.9**	**-0.2**
AYDN	**Tasoluk**	**1.20**	**124**	P	**Pg**	**12 19 20.1**	**+0.5**
AYDN				S	**Sg**	**12 19 34.9**	**-0.2**
BAYC	**CANAKKALE_Bayr**	**1.40**	**357**	*i* P	**Pn**	**12 19 21.4**	**-0.6**
BAYC				*i* S	**Sg**	**12 19 41.6**	**+0.1**
BAYC	**CANAKKALE_Bayr**	**1.40**	**357**	P	**Pn**	**12 19 21.4**	**-0.6**
BAYC				S	**Sg**	**12 19 41.6**	**+0.1**

*IDC **21** 12:36:04.5±0.5,21˙80S×170˙31E,h0km,mb4.7/24, mb1 4.8/28,mb1mx4.7/43,mbtmp4.8/28, ML4.5/4, MS4.5/37, Ms1 4.5/37,ms1mx4.5/41, Error ellipse: s-maj=13.4km s-min=12.9km az=101.0*
*MOS **21** 12:36:09.9±1.5,21˙74S×170˙15E,h36km,mb5.2/23, MS5.0/7, Error ellipse: s-maj=9.1km s-min=8.5km az=165.3*
*BJI **21** 12:36:10.1,21˙69S×170˙27E,h39km,mb4.9/42,mB5.3/27, Ms5.1/21,Ms7 4.8/17*
*ISCJB **21** 12:36:10.7±0.2,21˙89S±0˙03×170˙29E±0˙04,h51km, mb5.0/95,MS4.7/45, Error ellipse: s-maj=5.4km s-min=3.6km az=155.8*
*WEL **21** 12:36:11.0,21˙83S×170˙18E,h42km*
*GCMT **21** 12:36:11.0±0.2,21˙82S×170˙26E,h14km,MW5.3/112, Moment Tensor Solution. s83,c126; s112,c207; Duration: 1s1 Moment tensor: Scale 10¹⁷Nm; Mrr-0.52±.02; Mθθ0.30±.02; Mφφ0.21±.02; Mrθ0.09±.04; Mrφ1.00±.02; Mθφ-0.06±.04; Best double couple: M₀1.02200×10¹⁷ NP1:ϕ₁269.00000°,δ75.00000°, λ-16.00000°. NP2:ϕ₂3.00000°,δ75.00000°,λ-165.00000°. Principal axes: T 1.2590, Plg1.0000°, Azm316.0000°; N -0.4730, Plg69.0000°, Azm48.0000°; P -0.7850, Plg21.0000°, Azm226.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **21** 12:36:11.0±0.7,21˙83S×170˙18E,h42km±7km,mb5.2/47 Error ellipse: s-maj=5.7km s-min=4.3km az=54.0*
ISC 21 12:36:11.9±0.3,21˙94S±0˙05×170˙30E±0˙04,h51km,n323, σ1s88/320,mb5.0/95,MS4.6/46,19C-9D,Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**3.58**	**267**	Pn	**Pn**	**12 37 01.4**	**-3.6**
	70nm,0.3s,baz=126,slow=5.0,SNR=64						
DZM				Sn	**Sn**	**12 37 40.7**	**-5.4**
	239nm,0.3s,baz=312,slow=22,SNR=16						
DZM				LR	LR	12 38 13.5	
	comp=Z,4μm,21.5s,baz=88,slow=36						
DZM	**Mont Dzumac**	**3.58**	**267**	*e*Pn	**Pn**	**12 37 01.5**	**-3.6**
	292nm,0.2s						
DZM				*e*Sn	**Sn**	**12 37 40.9**	**-5.2**
	1μm,0.3s						
DZM	**Mont Dzumac**	**3.58**	**267**	*e*Pn	**Pn**	**12 37 01.4**	**-3.6**
DZM				*e*Sn	**Sn**	**12 37 42.0**	**-4.1**
MSVF	**Nonsavu**	**8.41**	**62**	*e*Pn	**Pn**	**12 38 12.3**	**+0.9**
MSVF	**Nonsavu**	**8.41**	**62**	*i* P	**Pn**	**12 38 10.7**	**-1.4**
RAO	**Raoul Island**	**12.88**	**127**	LR	LR	12 43 03.5	
	comp=Z,6μm,21.8s,baz=305,slow=32						
OUZ	**Omahuta**	**13.54**	**168**	*e*Pn	**Pn**	**12 39 21.9**	**+0.5**
LHI	**Lord Howe Isla**	**13.84**	**224**	*e*Pn	**Pn**	**12 39 26.4**	**+1.0**
GRZ	**Great Barrier**	**14.95**	**164**	P	**Pn**	**12 39 40.3**	**+0.1**
ABAZ	**Army Bay**	**15.13**	**166**	P	**Pn**	**12 39 44.0**	**+1.6**
RVAZ	**Riverhead Bore**	**15.24**	**167**	P	**P**	**12 39 49.0**	**+1.1**
WIAZ	**Waiheke Island**	**15.39**	**165**	P	**Pn**	**12 39 45.2**	**-0.5**
WTAZ	**Waiatarua**	**15.40**	**167**	P	**P**	**12 39 50.7**	**+1.1**
KUZ	**Kuaotunu**	**15.49**	**163**	P	**Pn**	**12 39 47.4**	**+0.3**
ETAZ	**East Tamaki Re**	**15.49**	**166**	P	**Pn**	**12 39 47.7**	**+0.6**
KBAZ	**Karaka Road Bo**	**15.62**	**166**	P	**P**	**12 39 52.8**	**+0.8**
MKAZ	**Moumakai**	**15.69**	**165**	P	**Pn**	**12 39 50.8**	**+1.2**
HNR	**Honiara**	**15.92**	**320**	Pn	**Pn**	**12 39 49.1**	**-3.6**
	5.0nm,0.3s,baz=294,slow=6.1,SNR=6.8						
HNR				LR	LR	12 45 06.2	
	comp=Z,4μm,21.4s,baz=128,slow=34						
TOZ	**Tahuroa Road**	**16.37**	**165**	P	**P**	**12 39 59.5**	**-0.8**
HIZ	**Hauiti**	**16.98**	**168**	*e*Pn	**Pn**	**12 40 06.2**	**+0.4**
	172nm,1.2s						
MXZ	**Matakaoa Point**	**17.04**	**158**	*e*Pn	**P**	**12 40 08.1**	**+0.3**
	97nm,1.3s						
URZ	**Urewera**	**17.29**	**162**	P	**Pn**	**12 40 10.0**	**+0.2**
	0.6nm,0.3s,baz=14,slow=6.1,SNR=39						
URZ				LR	LR	12 45 26.6	
	comp=Z,3μm,18.8s,baz=344,slow=32						
URZ	**Urewera**	**17.29**	**162**	*e*Pn	**P**	**12 40 10.5**	**-0.1**
	222nm,1.2s						
EIDS	**Eidsvold**	**17.93**	**255**	P	**P**	**12 40 19.4**	**+1.7**
	baz=18,SNR=16						
EIDS	**Eidsvold**	**17.93**	**255**	*e*P	**Pn**	**12 40 16.4**	**-1.3**
	45nm,1.0s						
BKZ	**Black Stump Fm**	**17.97**	**164**	*e*Pn	**Pn**	**12 40 18.9**	**+0.8**
	249nm,1.5s						
ARMA	**Armidale**	**18.74**	**239**	P	**Pn**	**12 40 28.4**	**+0.8**
	baz=19,SNR=7.1						
ARMA	**Armidale**	**18.74**	**239**	*e*P	**P**	**12 40 26.2**	**-0.6**
	110nm,1.4s						
AFI	**Afiamalu**	**18.82**	**68**	P	**P**	**12 40 26.0**	**-1.7**
	0.6nm,0.3s,baz=266,slow=14,SNR=2.7						
AFI				LR	LR	12 46 40.6	
	comp=Z,662nm,18.4s,baz=220,slow=34						
AFI	**Afiamalu**	**18.82**	**68**	*e*P	**Pn**	**12 40 29.0**	**+0.4**
	119nm,1.1s						
AFI	**Afiamalu**	**18.82**	**68**	*e*P	**Pn**	**12 40 29.0**	**+0.4**
AFI				pmax	pmax		
	comp=Z,119nm,1.1s						
BFZ	**Birch Farm**	**19.36**	**166**	*e*P	**P**	**12 40 33.1**	**-0.1**
	comp=Z,201nm,1.1s						
SNZO	**South Karori**	**19.67**	**170**	*e*P	**Pn**	**12 40 38.8**	**+0.4**
	comp=Z,304nm,1.3s						
THZ	**Tophouse**	**19.89**	**174**	*e*P	**P**	**12 40 40.2**	**+1.1**
	comp=Z,102nm,1.0s						
RMQ	**Roma**	**20.15**	**253**	P	Pn	12 40 43.9	-0.4
	baz=20,SNR=64						
MGCD	**Mangrove Creek**	**20.34**	**232**	P	Pn	12 40 46.3	-0.2
	baz=20,SNR=13						
KHZ	**Kahutara**	**20.60**	**173**	*e*P	**P**	**12 40 47.4**	**+0.7**
	comp=Z,151nm,1.1s						
RIV	**Riverview**	**20.61**	**231**	P	Pn	12 40 49.3	-0.3
	baz=21,SNR=13						
RIV	**Riverview**	**20.61**	**231**	P	Pn	12 40 49.5	-0.1
RIV				pmax	pmax		
	comp=Z,391nm,1.0s						
LTZ	**Lake Taylor**	**20.85**	**176**	*e*P	**P**	**12 40 49.7**	**+0.2**
	comp=Z,89nm,1.0s						
OXZ	**Oxford**	**21.38**	**177**	*e*P	**P**	**12 40 55.4**	**+0.3**
	comp=Z,99nm,1.0s						
FOZ	**Fox Glacier**	**21.54**	**181**	*e*P	**P**	**12 40 57.4**	**+0.6**
	comp=Z,222nm,1.4s						
CRLZ	**Canterbury Las**	**21.66**	**175**	*e*P	**P**	**12 40 59.2**	**+1.1**
	comp=Z,108nm,1.3s						
RPZ	**Rata Peaks**	**21.73**	**179**	P	**P**	**12 40 59.5**	**+0.7**
	comp=Z,71nm,1.0s,baz=33,slow=5.0,SNR=20						
RPZ				LR	LR	12 48 52.3	
	comp=Z,2μm,18.9s,baz=354,slow=35						
RPZ	**Rata Peaks**	**21.73**	**179**	*e*P	**P**	**12 40 59.7**	**+0.8**
	comp=Z,97nm,1.0s						
MQZ	**McQueen's Vall**	**21.80**	**175**	*e*P	**P**	**12 41 00.7**	**+1.1**
	comp=Z,56nm,1.1s						
LBZ	**Lake Benmore**	**22.39**	**180**	*e*P	**P**	**12 41 07.9**	**+1.9**
	comp=Z,71nm,1.4s						
CTA	**Charters Tower**	**22.51**	**270**	P	**P**	**12 41 07.3**	**-0.2**
	comp=Z,11nm,0.8s,baz=92,slow=11,SNR=15						
CTA				LR	LR	12 49 14.6	
	comp=Z,1μm,18.5s,baz=93,slow=35						
CTAO	**Charters Tower**	**22.51**	**270**	*e*P	**P**	**12 41 08.0**	**+0.4**
	comp=Z,122nm,1.8s						
CTAO	**Charters Tower**	**22.51**	**270**	*e*P	**P**	**12 41 08.0**	**+0.4**
CTAO				pmax	pmax		
	comp=Z,122nm,1.8s						
CNB	**Canberra Magne**	**22.64**	**229**	P	**P**	**12 41 09.9**	**+1.1**
	baz=23,SNR=32						
YNG	**Young**	**22.85**	**233**	P	**P**	**12 41 11.9**	**+0.9**
	baz=23,SNR=17						
WKZ	**Wanaka**	**22.85**	**182**	*e*P	**P**	**12 41 11.7**	**+0.8**
	comp=Z,120nm,1.2s						
CAN	**Canberra**	**22.90**	**230**	*e*P	**P**	**12 41 11.7**	**+0.2**
	comp=Z,120nm,1.2s						
CAN	**Canberra**	**22.90**	**230**	*e*P	**P**	**12 41 11.7**	**+0.2**
CAN				pmax	pmax		
	comp=Z,120nm,1.2s		

NLAI Namlea 45.84 288 P **P** **12 44 32.2 +2.8**
comp=Z,74nm,1.2s,comp=Z,1μm
BATI Baumata 46.13 277 P **P** **12 44 30.1 -1.7**
comp=Z,22nm,0.9s,baz=103,slow=14,SNR=2.6
BATI LR LR 13 03 05.1
comp=Z,2μm,21.9s,baz=145,slow=35
BATI Baumata 46.13 277 P **P** **12 44 36.0 +4.3**
LBMI Labuha 46.74 291 P **P** **12 44 39.4 +3.0**
comp=Z,59nm,1.2s,comp=Z,956nm
MBWA Marble Bar 46.86 261 *e*P **P** **12 44 34.9 -2.4**
comp=Z,31nm,0.9s
MEEK Meekatharra 47.09 254 P **P** **12 44 38.3 -0.8**
baz=47,SNR=6.4
SANI Sanana 47.38 288 P **P** **12 44 41.2 -0.2**
KLBR Kellerberrin 47.51 247 P **P** **12 44 41.6 -0.6**
baz=48,SNR=7.9
NWAO Narrogin (SRO) 47.92 245 P **P** **12 44 44.5 -0.9**
comp=Z,34nm,0.8s,baz=337,slow=6.7,SNR=14
NWAO Narrogin (SRO) 47.92 245 P **P** **12 44 45.0 -0.4**
baz=48,SNR=8.3
NWAO P **P** **12 44 45.0 -0.4**
baz=48,SNR=8.3
NWAO Narrogin (SRO) 47.92 245 *e*P **P** **12 44 44.5 -0.9**
comp=Z,50nm,1.0s
NWAO Narrogin (SRO) 47.92 245 *e*P **P** **12 44 44.5 -0.9**
NWAO pmax pmax
comp=Z,50nm,1.0s
BLDU Ballidu 48.44 248 P **P** **12 44 48.6 -0.9**
baz=48,SNR=7.3
BASI Baing, Sumba 48.98 276 P P 12 45 09.3 +16
MORW Morawa 49.13 250 P **P** **12 44 54.7 -0.1**
baz=49,SNR=5.5
TAOE Nuku Hiva Isla 49.31 83 *e*LR LR 12 58 54.9
comp=Z,1μm,27.6s
WBSI Waikabubak, Su 50.27 276 P **P** **12 45 06.1 +2.4**
comp=Z,96nm,1.2s
RKT Rikitea 50.31 102 *e*S **S** **12 52 09.6 -3.6**
comp=Z,361nm,29.0s
RKT *e*LQ LQ 12 56 48.7
comp=Z,805nm,29.5s
RKT *e*LR LR 12 59 25.0
comp=Z,1μm,31.8s,baz=268
KMSI Cibinong 50.39 290 P P 12 45 16.0 +12
LUWI Luwuk 50.69 288 P **P** **12 45 09.5 +2.8**
comp=Z,98nm,1.0s,comp=Z,2μm
LUWI Luwuk 50.69 288 *e*P **P** **12 45 04.6 -2.1**
comp=Z,92nm,1.0s
BNSI Bone 51.61 282 P **P** **12 45 16.3 +2.6**
comp=Z,37nm,1.1s
TTSI Tana Toraja 52.44 284 P **P** **12 45 24.1 +4.3**
MPSI Mapaga 53.87 287 P **P** **12 45 32.3 +2.0**
comp=Z,27nm,0.9s
SRBI Singaraja 54.68 276 P P 12 45 43.7 +7.4
VNDA Vanda 55.78 182 P **P** **12 45 44.0 +0.8**
comp=Z,9.7nm,1.2s,baz=15,slow=7.4,SNR=10
VNDA LR LR 13 06 41.4
comp=Z,519nm,18.9s,baz=20,slow=33
VNDA Vanda 55.78 182 *e*P **P** **12 45 45.5 +2.2**
comp=Z,34nm,1.5s
VNDA Vanda 55.78 182 *e*P **P** **12 45 45.5 +2.2**
VNDA pmax pmax
comp=Z,34nm,1.5s
SBA Scott Base 55.99 181 *e*P **P** **12 45 45.9 +1.1**
comp=Z,46nm,1.1s
SBA Scott Base 55.99 181 *e*P **P** **12 45 45.9 +1.1**
SBA pmax pmax
comp=Z,46nm,1.1s
RCP Roxas 57.31 301⇑ *e*P **P** **12 45 55.1 +0.1**
CASY Casey 58.07 204 *e*P **P** **12 45 59.3 -0.3**
CASY *ep*P **pP** **12 46 07.8 -5.9**
NGJI Ngawi 58.41 275 P P 12 46 15.5 +13
WOJI Wonogiri, Jawa 58.74 274 P **P** **12 46 08.8 +3.7**
comp=Z,25nm,0.9s
KKM Kota Kinabalu 59.81 291 *e*P **P** **12 46 11.7 -0.9**
comp=Z,74nm,1.3s
KPJI Karang Pucung 60.76 274 P **P** **12 46 22.1 +3.1**
STKI Sintang 61.30 283 P **P** **12 46 25.9 +3.3**
JHJ Hachijo jima 2 62.01 331 LR LR 13 10 09.9
comp=Z,372nm,21.7s,baz=97,slow=33
LEM Lembang 62.16 274 P **P** **12 46 29.1 +0.4**
comp=Z,52nm,0.9s,baz=123,slow=12,SNR=9.8
LEM LR LR 13 14 07.1
comp=Z,576nm,19.4s,baz=106,slow=37
KSM Kuching 62.95 284 *e*P **P** **12 46 33.9 +0.2**
comp=Z,22nm,1.0s
KSM *e*PP **PP** **12 48 51.6 -1.1**
JOW Kunigami 63.28 318 LR LR 13 10 31.3
comp=Z,327nm,21.9s,baz=134,slow=33
MIR Mirnyy 65.02 206 *e*P **P** **12 46 49.0 +2.5**
MIR *e* 12 47 01.0
MIR pmax pmax
comp=Z,63nm,1.0s
MJAR Matsushiro Arr 65.59 332 P **P** **12 46 48.3 -2.2**
comp=Z,5.3nm,1.0s,baz=170,slow=7.7,SNR=8.1
MJAR LR LR 13 12 35.2
comp=Z,214nm,21.7s,baz=155,slow=34
MAJO Matsushiro 65.59 332 *i* P **P** **12 46 49.1 -1.4**
MAJO pmax pmax
comp=Z,12nm,1.1s
MAT Matsushiro 65.59 332 P **P** **12 46 48.4 -2.1**
MAT S **S** **12 55 33.4 +1.2**
JNU Nakatsue 66.43 324 P **P** **12 46 54.6 -1.4**
comp=Z,11nm,1.0s,baz=59,slow=5.9,SNR=2.4
JNU LR LR 13 15 28.8
comp=Z,175nm,18.9s,baz=118,slow=36
QSPA South Pole Qui 68.13 180 P **P** **12 47 06.7 +0.2**
comp=Z,18nm,0.9s,baz=42,slow=2.9,SNR=20
QSPA LR LR 13 13 24.1
comp=Z,284nm,18.4s,baz=32,slow=33
QSPA South Pole Qui 68.13 180 *e*P **P** **12 47 06.8 +0.2**
comp=Z,37nm,1.0s
ASAJ Asahikawa 70.46 339 P **P** **12 47 18.8 -2.1**
comp=Z,1.7nm,0.6s,baz=203,slow=7.7,SNR=4.1
KSRS Korea Array 71.28 326 P **P** **12 47 23.8 -2.2**
comp=Z,3.3nm,0.9s,baz=131,slow=5.3,SNR=5.8
KSRS LR LR 13 15 58.5
comp=Z,258nm,20.9s,baz=142,slow=34
KSAR Wonju Array Be 71.29 325 P **P** **12 47 23.8 -2.3**
KSAR Wonju Array Be 71.29 325 P **P** **12 47 23.8 -2.3**
RPN Rapa Nui 72.13 113 LR LR 13 11 14.5
comp=Z,537nm,21.8s,baz=242,slow=29
IPM Ipoh 72.61 282 *e*P **P** **12 47 34.5 -0.1**
comp=Z,12nm,0.7s
NJ2 Nanjing 72.83 316 *e*P **P** **12 47 36.3 +0.9**
NJ2 pmax pmax
comp=Z,14nm,0.5s
YSS Yuzh-Sakhalins 72.94 341 *i* P **P** **12 47 34.7 -1.0**
YSS pmax pmax
comp=Z,6.0nm,1.0s
PSI Prapat 73.85 280 P **P** **12 47 42.8 +0.8**
comp=Z,21nm,1.2s,baz=184,slow=7.8,SNR=11
PSI LR LR 13 19 05.2
comp=Z,526nm,21.7s,baz=140,slow=35
PSI Prapat 73.85 280 *e*P **P** **12 47 43.2 +1.2**
comp=Z,28nm,1.2s
PSI Prapat 73.85 280 *e*P **P** **12 47 43.2 +1.2**
PSI pmax pmax
comp=Z,28nm,1.2s
SKLT Songkhla 74.10 285 P P 12 47 49.4 +6.1
comp=Z,24nm,1.2s
GSI Gunungsitoli 74.50 278 *e*P **P** **12 47 48.4 +2.8**
comp=Z,50nm,1.1s
USRK Ussuriysk Ar. 74.58 332 P **P** **12 47 45.1 -0.3**
comp=Z,4.2nm,1.0s,baz=149,slow=5.9,SNR=4.8
USRK LR LR 13 17 49.6
comp=Z,286nm,20.7s,baz=143,slow=34
PETK Petropavlovsk- 75.53 352 P **P** **12 47 50.2 -0.4**
comp=Z,3.4nm,0.8s,baz=177,slow=7.4,SNR=5.1
PETK LR LR 13 18 54.6
comp=Z,221nm,18.2s,baz=160,slow=34
PETK Petropavlovsk- 75.53 352 *e*P **P** **12 47 50.0 -0.7**
PETK *ep*P **PcP** **12 48 01.0 -2.4**
PETK Petropavlovsk- 75.53 352 *e*P **P** **12 47 50.0 -0.7**
PETK *e**PP **PcP** **12 48 01.0 -2.4**
SKNT Sakolnakorn 75.57 295 P **P** **12 47 53.5 +1.8**
comp=Z,14nm,1.4s
MDJ Mudanjiang 75.95 331 P **P** **12 47 55.8 +2.5**
MDJ pmax pmax
comp=Z,9.0nm,1.6s
MDJ pmax pmax
comp=Z,250nm,5.1s
MAW Mawson 76.32 202 P **P** **12 47 55.9 +0.8**
comp=Z,6.9nm,1.0s,baz=146,slow=9.3,SNR=4.4
MAW LR LR 13 19 34.1
comp=Z,206nm,18.1s,baz=74,slow=34
NAYO Nakonayok 76.61 292 P **P** **12 48 01.8 +4.2**
comp=Z,35nm,1.3s

TIA Tai'an 76.61 318 P **P** **12 47 56.6 -0.6**
TIA pmax pmax
comp=Z,19nm,0.9s
CN2 Changchun 77.27 328 *e*P **P** **12 48 02.0 +1.3**
CN2 *e*S **S** **12 57 47.6 +1.0**
CN2 pmax pmax
comp=Z,20nm,1.0s
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=Z,300nm,25.0s
CN2 LR LR
comp=Z,200nm,25.0s
CN2 LR LR
comp=Z,400nm,23.0s
PBKT Sadao Pong 77.93 293 P **P** **12 48 07.8 +2.8**
comp=Z,13nm,2.8s
GYA Guiyang 78.17 305 *e*P **P** **12 48 07.0 +0.7**
GYA pP pP 12 48 19.6 -1.3
GYA PP **PP** **12 51 06.3 +2.6**
GYA S **S** **12 57 58.4 +1.0**
GYA SKS **SKSac** **12 58 13.0 -3.8**
GYA sS SKKSac 12 58 17.8 0.0
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,120nm,5.9s
GRNR Gornyy 78.31 339 *e*P **P** **12 48 05.0 -1.4**
GRNR pmax pmax
comp=Z,26nm,1.0s
SRDT SRDT 78.53 291 P **P** **12 48 11.8 +3.4**
comp=Z,27nm,1.1s
PHIT Phitsanulok 78.69 294 P **P** **12 48 13.3 +4.1**
comp=Z,12nm,1.0s,comp=Z,227nm
KLR Kul'dur 78.72 335 *i* P **P** **12 48 08.7 0.0**
NANT Nan 79.18 295 P **P** **12 48 14.0 +2.1**
comp=Z,5.1nm,0.7s
BJI Beijing 79.65 321⇑ *i* P **P** **12 48 16.0 +2.1**
BJI S **S** **12 58 17.6 +5.3**
BJI pmax pmax
comp=Z,13nm,0.8s
BJI LR LR
comp=Z,230nm,11.8s
BJI LR LR
comp=Z,380nm,16.1s
LAMP Lampang 79.95 295 P **P** **12 48 18.8 +2.7**
comp=Z,6.5nm,0.8s
PAYA Payao 80.14 295 P **P** **12 48 20.7 +3.6**
comp=Z,5.6nm,1.2s
CM01 Chiang Mai Arr 80.48 294 *e*P **P** **12 48 19.8 +0.9**
CMAR Chiang Mai Arr 80.51 294 P **P** **12 48 20.4 +1.3**
comp=Z,7.4nm,1.0s,baz=129,slow=3.9,SNR=17
KMI Kunming 80.53 302 P **P** **12 48 22.6 +3.2**
KMI pmax pmax
comp=Z,31nm,0.7s
XAN Xi'an 80.65 312 P **P** **12 48 19.6 0.0**
XAN pP PcP 12 48 29.8 +3.5
XAN pmax pmax
comp=Z,19nm,1.2s
XAN pmax pmax
comp=Z,140nm,5.1s
CMMT Chiang Mai 80.66 295 P **P** **12 48 20.8 +0.9**
comp=Z,20nm,1.6s,comp=Z,364nm
CHTO Chiang Mai 80.67 295 P **P** **12 48 21.9 +2.0**
comp=Z,170nm,1.0s,comp=Z,2μm
CHTO Chiang Mai 80.67 295 *e*P **P** **12 48 21.1 +1.2**
comp=Z,18nm,1.0s
CHTO Chiang Mai 80.67 295 *e*P **P** **12 48 21.1 +1.2**
CHTO pmax pmax
comp=Z,18nm,1.0s
CMAI Chiengmai2 81.09 296 P **P** **12 48 26.3 +3.9**
comp=Z,166nm,0.9s
SYO Syowa Base 82.63 196‖ *e*X **P** **12 48 25.4 -4.0**
SYO Syowa Base 82.63 196‖ *e*X **P** **12 48 31.1 +1.7**
CD2 Chengdu 82.65 307 *e*P **P** **12 48 30.5 +0.3**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
MA2 Magadan 82.78 350 *i* P **P** **12 48 29.8 -0.3**
MA2 pmax pmax
comp=Z,1.0nm,1.0s
HHC Hu-ho-hao-te 82.90 319 *e*P **P** **12 48 33.3 +1.9**
HHC pP pP 12 48 44.8 -1.3
HHC S **S** **12 58 51.0 +4.7**
HHC sS pS 12 59 05.3 +0.5
HHC pmax pmax
comp=Z,25nm,1.4s
HHC pmax pmax
comp=Z,110nm,8.0s
HHC LR LR
comp=Z,400nm,17.4s
HHC LR LR
comp=Z,350nm,17.6s
HHC LR LR
comp=Z,400nm,18.0s
ZEA Zeya 84.01 336 *e*P **P** **12 48 37.0 +0.4**
ZEA pmax pmax
comp=Z,40nm,1.8s
LZH Lanzhou 85.26 312 *e*P **P** **12 48 43.9 +0.4**
LZH pP pP 12 48 55.1 -3.2
LZH sP sP 12 48 59.3 -4.7
LZH PP **PP** **12 52 05.0 +2.9**
LZH SKS **S** **12 59 02.9 -7.4**
LZH *e*S **SKKSac** **12 59 11.5 +0.5**
LZH sS pS 12 59 26.4 -2.5
LZH pmax pmax
comp=Z,45nm,1.4s
LZH pmax pmax
comp=Z,240nm,5.7s
LZH LR LR
comp=Z,540nm,17.0s
LZH LR LR
comp=Z,550nm,17.1s
LZH LR LR
comp=Z,720nm,19.2s
SEY Seymchan 85.77 352 *i* P **P** **12 48 45.9 +0.7**
NVL N'lazarevskaya 86.31 187 *e*P **P** **12 48 47.5 -0.5**
NVL pmax pmax
comp=Z,19nm,1.0s
SNAA Sanae 86.52 182 P **P** **12 48 48.9 -0.3**
SNAA Sanae 86.52 182 P **P** **12 48 48.6 -0.5**
comp=Z,21nm,1.1s,baz=188,slow=5.5,SNR=15
SNAA LR LR 13 26 50.9
comp=Z,344nm,18.1s,baz=179,slow=35
SNAA Sanae 86.52 182 *e*P **P** **12 48 48.6 -0.5**
comp=Z,28nm,1.1s
SNAA Sanae 86.52 182 *i* P **P** **12 48 49.2 +0.1**
VNA3 Neumayer Olymp 87.07 180 P **P** **12 48 51.9 +0.1**
VNA2 Neumayer--Watz 87.37 181 P **P** **12 48 52.5 -0.7**
baz=176,slow=3.3
VNA1 Neumayer--Stat 87.66 180 P **P** **12 48 54.7 +0.1**
YBH Yreka Blue Hor 88.55 44 LR LR 13 22 43.7
comp=Z,138nm,19.5s,baz=252,slow=32
ULN Ulaanbaatar 89.61 323 *e*P **P** **12 49 03.6 -0.5**
comp=Z,3.5nm,0.9s
ULN Ulaanbaatar 89.61 323 *i* P **P** **12 49 04.9 +0.7**
ULN pmax pmax
comp=Z,9.0nm,1.2s
GTA Gaotai 89.69 313 P **P** **12 49 07.1 +2.4**
GTA pP pP 12 49 15.8 -3.8
GTA sP sP 12 49 20.1 -5.2
GTA S **S** **12 59 57.3 +4.8**
GTA pmax pmax
comp=Z,8.0nm,1.5s
GTA pmax pmax
comp=Z,180nm,4.6s
GTA LR LR
comp=Z,190nm,20.9s
GTA LR LR
comp=Z,130nm,20.0s
GTA LR LR
comp=Z,250nm,22.8s
LPIG La Paz 89.70 64 LR LR 13 19 27.9
comp=Z,197nm,21.8s,baz=215,slow=29
BILL Bilibino 89.76 358 *i* P **P** **12 49 02.4 -1.8**
BILL *i* 12 49 14.5
BILL *i* 12 52 39.3
BILL pmax pmax
comp=Z,4.0nm,1.0s
BILL MLR MLR
comp=Z,205nm,18.0s
NV01 Mina Array Sit 89.85 48 *e*P **P** **12 49 05.5 -0.2**
NVAR Mina Array Bea 89.85 48 P **P** **12 49 05.1 -0.5**
comp=Z,1.6nm,1.0s,baz=224,slow=6.3,SNR=6.4
NVAR LR LR 13 25 19.1
comp=Z,153nm,18.2s,baz=90,slow=33
SONM Songino Array 89.96 323 P **P** **12 49 05.2 -0.6**
comp=Z,3.3nm,0.9s,baz=136,slow=5.2,SNR=13
SONM LR LR 13 29 59.3
comp=Z,198nm,19.3s,baz=117,slow=36
SONA1 Songino Array 89.96 323 *e*P **P** **12 49 05.0 -0.9**
COLA College 92.33 17 *i* P **P** **12 49 17.7 +1.5**
COLA pmax pmax
comp=Z,1.0nm,0.9s
ILAR Eielson Array 92.51 17 P **P** **12 49 17.3 +0.2**
comp=Z,0.5nm,0.8s,baz=236,slow=4.5,SNR=6.7
ILAR LR LR 13 25 48.2
comp=Z,186nm,20.8s,baz=249,slow=32
ZAK Zakamensk 93.05 324 *e*P **P** **12 49 21.0 +1.0**
ZAK pmax pmax
comp=Z,4.0nm,1.3s
TLY Talaya 93.53 325 *i* P **P** **12 49 22.7 +0.6**
TLY pmax pmax
comp=Z,2.0nm,0.9s
PLCA Paso Flores 95.87 138 LR LR 13 22 43.2
comp=Z,234nm,21.7s,baz=270,slow=29
BNM Barren Site 96.59 56 *e*P **P** **12 49 36.9 +0.1**
ANMO Albuquerque 97.02 55 *i* P **P** **12 49 37.2 -1.5**
ANMO pmax pmax
comp=Z,3.0nm,1.0s
TX31 Lajitas Ar. Si 97.18 61 *e*P Pdif 12 49 40.9 +1.4
TXAR Lajitas Array 97.18 61 LR LR 13 24 37.8
comp=Z,284nm,20.9s,baz=0.0,slow=30
PDAR Pinedale Array 97.72 47 LR LR 13 30 53.8
comp=Z,56nm,18.2s,baz=282,slow=34
WMQ Urumqi 99.77 313 P **Pdif** **12 49 50.8 +0.1**
WMQ pmax pmax
comp=Z,13nm,0.7s
WMQ LR LR
comp=Z,340nm,18.7s
WMQ LR LR
comp=Z,360nm,11.9s
WMQ LR LR
comp=Z,390nm,25.5s
YKA Yellowknife Ar 102.60 27 PKiKP **PKiKP** **12 54 22.7 -0.7**
comp=Z,0.2nm,0.7s,baz=238,slow=1.4,SNR=3.7
MKAR Makanchi Array 104.34 315 Pdiff **Pdif** **12 50 12.4 +1.5**
comp=Z,0.4nm,0.7s,baz=72,slow=9.5,SNR=3.1
MKAR PP **PKiKP** **12 54 28.3 +1.1**
comp=Z,0.6nm,0.9s,baz=108,slow=9.3,SNR=3.0
ARCES ARCESS Array B 127.92 345 PKP **PKPdf** **12 55 10.4 -0.9**
comp=Z,2.0nm,0.8s,baz=113,slow=1.2,SNR=3.9
KLMR Klimovskoe 128.37 332 *e*PKPdf **PKPdf** **12 55 13.5 +1.1**
KLMR AMP 12 55 27.7
comp=Z,10.0nm,1.5s
KLMR Klimovskoe 128.37 332 *e*PKiKP **PKPdf** **12 55 13.4 +1.1**
KLMR pmax pmax
comp=Z,10.0nm,1.5s
KIV Kislovodsk 131.77 310 *i* PKiKP **PKPdf** **12 55 20.5 +1.0**
KIV pmax pmax
comp=Z,4.0nm,0.9s
OBN Obninsk 132.28 326 *i* PKiKP **PKPdf** **12 55 20.2 +0.3**
OBN pmax pmax
comp=Z,3.0nm,0.8s
AKASG Malin Array Be 138.24 323 PKP **PKPdf** **12 55 31.6 +0.3**
comp=Z,0.3nm,0.3s,baz=64,slow=3.8,SNR=2.8
HFS Hagfors 138.42 343 PKP **PKPdf** **12 55 32.1 +0.8**
comp=Z,1.4nm,0.8s,baz=66,slow=14,SNR=2.1
MLR Muntele Rosu 142.63 318‖ *i*P **PKPdf** **12 55 42.0 +2.4**
MLR Muntele Rosu 142.63 318‖ PKiKP **PKPdf** **12 55 42.0 +2.4**
UZH Uzhgorod 143.16 324⇑ *i*PKiKP **PKPdf** **12 55 47.1 +6.9**
VOIR 143.21 318‖ *i*P **PKPdf** **12 55 41.8 +1.3**
VOIR 143.21 318‖ PKiKP **PKPdf** **12 55 41.8 +1.3**
CRVS Cervenica-Dubn 143.45 325 *e*PKP **PKPdf** **12 55 44.0 +3.3**
CRVS Cervenica-Dubn 143.45 325 *e*PKiKP **PKPdf** **12 55 44.1 +3.3**
NIE Niedzica 143.74 326 *e*PKP PKPbc 12 55 39.3 +0.4
NIE Niedzica 143.74 326 *e*PKiKP PKPbc 12 55 39.3 +0.4
DRGR 143.94 321⇑ *i*P PKPbc 12 55 40.4 +0.7
DRGR 143.94 321⇑ PKiKP PKPbc 12 55 40.4 +0.7
OKC Ostrava-Krasne 144.55 329 AMS AMS 13 55 40.0
comp=Z,400nm,23.4s
KSP Ksiaz 144.72 331 *e*PKP **PKPdf** **12 55 43.9 +1.0**
KSP Ksiaz 144.72 331 *e*PKiKP **PKPdf** **12 55 43.9 +1.0**
PSZ Piszkesteto 144.87 325⇑ *i*P **PKPdf** **12 55 44.8 +1.5**
PSZ Piszkesteto 144.87 325⇑ *e*PKPbc **PKPdf** **12 55 44.6 +1.3**
PSZ Piszkesteto 144.87 325 ⇑PKiKP **PKPdf** **12 55 44.8 +1.5**
MORC Moravsky Berou 144.88 329⇑ *i*P **PKPdf** **12 55 44.7 +1.5**
MORC Moravsky Berou 144.88 329 ⇑PKiKP **PKPdf** **12 55 44.7 +1.5**
KRLC Kraliky 145.03 330 *e*PKP **PKPdf** **12 55 43.6 +0.1**
KRLC Kraliky 145.03 330 *e*PKiKP **PKPdf** **12 55 43.6 +0.1**
DPC Dobruska-Polom 145.05 331 *e*PKP **PKPbc** **12 55 43.0 0.0**
DPC *ex* x 12 55 50.2
DPC AMS AMS 14 01 20.0
comp=Z,300nm,20.2s
DPC Dobruska-Polom 145.05 331 *e*PKiKP **PKPbc** **12 55 43.0 0.0**
DPC *e* 12 55 50.2
DPC MLR MLR
comp=Z,300nm,20.2s
VYHS Vyhne 145.07 326 *e*PKP **PKPdf** **12 55 43.4 -0.2**
VYHS *e* 12 55 45.1
VYHS *e* 12 55 50.4
VYHS Vyhne 145.07 326 *e*PKiKP **PKPdf** **12 55 43.4 -0.2**
VYHS *e* 12 55 50.4
UPC Upice 145.08 331 *e*PKP **PKPbc** **12 55 42.9 -0.1**
UPC AMS AMS 13 57 00.0
comp=Z,400nm,22.0s
UPC Upice 145.08 331 *e*PKiKP **PKPbc** **12 55 42.9 -0.1**
UPC MLR MLR
comp=Z,400nm,22.0s
BZS Buzias 145.21 320⇑ *i*P **PKPdf** **12 55 45.4 +1.5**
BZS Buzias 145.21 320 ⇑PKiKP **PKPdf** **12 55 45.4 +1.5**
VRAC Vranov 145.65 329‖ *i*P **PKPab** **12 55 45.5 +0.2**
VRAC Vranov 145.65 329‖ PKiKP **PKPab** **12 55 45.5 +0.2**
VTS Vitosha 145.69 315⇑ *i*P **PKPab** **12 55 48.6 +2.8**
VTS Vitosha 145.69 315 ⇑PKiKP **PKPab** **12 55 48.6 +2.8**
PVCC Panska Ves 145.71 332 *e*PKP **PKPab** **12 55 46.9 +1.5**
PVCC *ex* x 12 55 51.8
PVCC AMS AMS 13 57 40.0
comp=Z,400nm,29.2s
PVCC Panska Ves 145.71 332 *e*PKiKP **PKPab** **12 55 46.9 +1.5**
PVCC MLR MLR
comp=Z,400nm,29.2s
BRG Berggiesshubel 145.72 333 *e*PKP **PKPdf** **12 55 44.3 -0.3**
comp=Z,2.9nm,0.7s
BRG *i* 12 55 46.6
comp=Z,42nm,1.1s
BRG *i* 12 55 51.8
comp=Z,32nm,1.0s
BRG *e*PKPPKP 13 13 58.3
comp=Z,9.7nm,1.4s
BRG Berggiesshubel 145.72 333 *e*PKiKP **PKPdf** **12 55 44.3 -0.3**
BRG *i* 12 55 46.6
BRG *i* 12 55 51.8
BRG pmax pmax
comp=Z,3.0nm,0.7s
CLL Collm 145.77 334 *i* PKPdf **PKPbc** **12 55 45.0 -0.1**
CLL *i* PKPbc **PKPab** **12 55 45.9 +0.3**
CLL comp=Z,41nm,1.1s *i* 12 55 52.0
comp=Z,30nm,1.0s
CLL *e*(SS) 13 17 24.0
CLL *e* 13 20 12.0
CLL *e*SSS SSS 13 23 24.0
CLL *e* 13 28 54.0
CLL Collm 145.77 334 *i* PKP2 **PKPab** **12 55 45.9 +0.3**
CLL pmax pmax
comp=Z,41nm,1.1s
SMOL Smolenice 145.78 327 *e*PKP **PKPab** **12 55 48.0 +2.3**
SMOL *e* 12 55 53.5
SMOL Smolenice 145.78 327 *e*PKP2 **PKPab** **12 55 48.0 +2.3**
MODS Modra-Piesok 145.94 327 *e*PKP **PKPab** **12 55 46.6 +0.2**
MODS Modra-Piesok 145.94 327 *e*PKP2 **PKPab** **12 55 46.6 +0.2**
GOPC GO Pecny, Ondr 146.06 331 *e*PKP **PKPab** **12 55 47.2 +0.4**
GOPC *ex* x 12 55 53.7
GOPC AMS AMS 13 57 30.0
comp=Z,400nm,16.5s
GOPC GO Pecny, Ondr 146.06 331 *e*PKP2 **PKPab** **12 55 47.2 +0.4**
GOPC MLR MLR
comp=Z,400nm,16.5s
PRU Pruhonice 146.11 332 *e*PKP **PKPab** **12 55 47.3 +0.4**
PRU *ex* x 12 55 53.2
PRU AMS AMS 13 57 30.0
comp=Z,500nm,25.8s
PRU Pruhonice 146.11 332 *e*PKP2 **PKPab** **12 55 47.3 +0.4**
PRU MLR MLR
comp=Z,500nm,25.8s
TREC Trest 146.18 330 *e*PKP **PKPab** **12 55 48.7 +1.4**
TREC *ex* x 12 55 53.2
TREC Trest 146.18 330 *e*PKP2 **PKPab** **12 55 48.7 +1.4**
EKA Eskdalemuir Ar 146.29 353 PKPbc **PKPdf** **12 55 45.5 +0.1**
comp=Z,6.7nm,0.8s,baz=350,slow=2.3,SNR=11

MORH	**M¨ţr¨ıgy, Hung**	**146.58**	**323**	⇑*e*PKPdf	**PKPab**	**12 55 49.4**	**+0.5**
VAY	**Valandovo**	**146.68**	**313**	*e*P	**PKPab**	**12 55 49.9**	**+0.5**
NKC	**Novy Kostel**	**146.82**	**334**	*e*PKP	**PKPab**	**12 55 50.7**	**+1.0**
NKC				*ex*	x	12 55 55.9	
NKC	**Novy Kostel**	**146.82**	**334**	*e*PKP2	**PKPab**	**12 55 50.7**	**+1.0**
CONA	**Conrad Observa**	**146.95**	**328**	*e*PKiKP	**PKiKP**	**12 55 51.1**	**-0.3**
	comp=Z,17nm,1.1s						
IDI	**Anoyia**	**147.02**	**301**	PKPbc	**PKPbc**	**12 55 48.7**	**-0.8**
	comp=Z,9.4nm,0.8s,baz=59,slow=12,SNR=2.9						
SKO	**Skopje**	**147.15**	**315**	*e*P	**PKPab**	**12 55 51.8**	**+0.5**
KHC	**Kasperske Hory**	**147.17**	**331**	*e*PKP	**PKPab**	**12 55 50.9**	**-0.2**
KHC				*ep*PKP	**pPKPdf**	**12 55 57.6**	**-5.0**
KHC				AMS	AMS	13 59 40.0	
	comp=Z,600nm,26.4s						
KHC	**Kasperske Hory**	**147.17**	**331**	*e*PKP2	**PKPab**	**12 55 50.9**	**-0.2**
KHC				MLR	MLR		
	comp=Z,600nm,26.4s						
GERES	**GERESS Array B**	**147.32**	**331**	PKPbc	**PKPbc**	**12 55 49.3**	**-0.6**
	comp=Z,12nm,0.8s,baz=48,slow=2.0,SNR=40						
KRUS	**Krusevo**	**147.55**	**314**	*e*P	**PKPbc**	**12 55 51.8**	**+1.0**
MOA	**Molln**	**147.78**	**329**	*i* PKiKP	**PKiKP**	**12 55 53.2**	**+0.2**
	comp=Z,10nm,1.2s						
PHP	**Peshkopia**	**147.94**	**315**	*i* PG	**PKPbc**	**12 55 51.2**	**-0.5**
KBN	**Korca**	**148.20**	**313**	*i* PG	**PKPdf**	**12 55 49.8**	**+0.6**
KBN				*i* SG	**PKPab**	**12 55 57.5**	**+2.0**
SOKA	**Soboth**	**148.21**	**327**	*e*PKiKP	**PKiKP**	**12 55 53.5**	**-0.6**
	comp=Z,13nm,1.0s						
BLY	**Banja Luka**	**148.28**	**322**	⇓*i* P	**PKPbc**	**12 55 53.9**	**+1.4**
PDG	**Podgorica**	**148.33**	**317**	⇑*i* P	**PKPab**	**12 55 55.0**	**-0.9**
OBKA	**Obir**	**148.57**	**327**	*i* PKiKP	**PKiKP**	**12 55 54.6**	**-0.2**
	comp=Z,9.1nm,1.3s						
KBA	**Koelnbreinsper**	**148.76**	**329**	*e*PKiKP	**PKiKP**	**12 55 54.7**	**-0.6**
	comp=Z,13nm,1.0s,SNR=6.4						
MEM	**Membach**	**148.84**	**341**	⇑PKP	**PKPbc**	**12 55 54.2**	**+0.5**
LJU	**Ljubljana**	**148.90**	**326**	*i* PKPbc	**PKPbc**	**12 55 55.6**	**+1.5**
MYKA	**Terra Mystica**	**148.94**	**328**	*e*PKiKP	**PKPbc**	**12 55 54.8**	**+0.6**
	comp=Z,9.2nm,0.8s						
GBRS	**Gornja Briga**	**149.09**	**325**	*i* PKPbc	**PKPbc**	**12 55 56.3**	**+1.7**
WATA	**Walderalm**	**149.40**	**331**	*i* PKiKP	**PKiKP**	**12 55 56.6**	**0.0**
	comp=Z,10nm,0.9s						
ABTA	**Abfaltersbach**	**149.40**	**329**	*e*PKiKP	**PKiKP**	**12 55 56.0**	**-0.5**
	comp=Z,13nm,1.0s						
WTTA	**Wattenberg**	**149.43**	**331**	*e*PKiKP	**PKPbc**	**12 55 55.7**	**+0.2**
	comp=Z,11nm,1.1s						
MOTA	**Moosalm**	**149.60**	**331**	*e*PKiKP	**PKPbc**	**12 55 55.8**	**-0.1**
	comp=Z,26nm,1.2s,SNR=7.8						
WLF	**Walferdange**	**149.62**	**339**	⇑PKP	**PKPbc**	**12 55 57.4**	**+1.7**
DOU	**Dourbes**	**149.72**	**342**	⇑PKP	**PKPbc**	**12 55 55.3**	**-0.6**
BFO	**Black Forest**	**149.97**	**336**	*i* PKP2	**PKPbc**	**12 55 58.4**	**+1.7**
FETA	**Feichten**	**150.01**	**331**	*e*PKPbc	**PKPbc**	**12 55 55.9**	**-1.1**
	comp=Z,16nm,1.0s						
DAVA	**Damuels**	**150.18**	**333**	*e*PKPbc	**PKPbc**	**12 55 56.4**	**-0.9**
	comp=Z,29nm,1.4s						
ESDC	**Sonseca Array**	**161.65**	**346**	PKPab	**PKPab**	**12 56 52.0**	**-0.5**
	comp=Z,0.2nm,0.4s,baz=28,slow=4.1,SNR=3.9						
DBIC	**Dimbokro**	**164.11**	**198**	PKPab	**PKPab**	**12 57 04.6**	**+0.8**
	comp=Z,9.7nm,0.9s,baz=124,slow=5.0,SNR=12						
TORD	**Torodi Ar. Bea**	**166.06**	**233**	PKP	**PKPdf**	**12 56 10.9**	**-1.2**
	comp=Z,0.9nm,1.0s,baz=164,slow=2.3,SNR=3.2						
TORD				PKPab	**PKPab**	**12 57 11.8**	**-0.8**
	comp=Z,2.5nm,1.0s,baz=109,slow=4.2,SNR=7.1						
KOWA	**Kowa**	**170.84**	**217**	PKPab	**PKPab**	**12 57 33.3**	**-0.3**
	comp=Z,2.2nm,0.7s,baz=132,slow=8.0,SNR=8.2						

*IDC **21** 12:39:19.4±1.2,2˚.59N×93˚.10E, h0km, mb3.8/8, mb1 4.0/10, mb1mx3.7/65, mbtmp3.8/10, ML4.2/2, Error ellipse: s-maj=38.9km s-min=17.3km az=51.0*
*ISCJB **21** 12:39:20.6±0.7,2˚.62N±0˚.08×93˚.12E±0˚.05, h21km, mb4.0/11, Error ellipse: s-maj=12.2km s-min=6.8km az=22.7*
*NEIC **21** 12:39:20.2±0.7,2˚.56N×93˚.01E, h10km, mb4.3/1, Error ellipse: s-maj=14.4km s-min=8.7km az=209.0*

ISC 21 12:39:22.2±0.8, 2˚.6N±0˚.1×93˚.04E±0˚.07, h21km, n22, σ1§68/24, mb3.9/11, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
GSI	**Gunungsitoli**	**4.72**	**106**	*e*Pn		**Pn**	**12 40 32.5**	**+0.3**
GSI				*e*Sn		**Sn**	**12 41 24.9**	**-1.6**
PSI	**Prapat**	**5.88**	**88**	Pn		**Pn**	**12 40 48.3**	**0.0**
	5.6nm,0.3s,baz=286,slow=5.6,SNR=16							
PSI				Sn		**Sn**	**12 41 54.9**	**-0.3**
	baz=191,slow=19,SNR=1.4							
KULM	**Kulim**	**8.04**	**71**	*e*Pn		**Pn**	**12 41 18.7**	**+0.9**
	14nm,0.4s							
KULM				*e*Sn		**Sn**	**12 42 47.8**	**-0.4**
IPM	**Ipoh**	**8.18**	**77**	*e*Pn		**Pn**	**12 41 17.3**	**-2.5**
	15nm,0.4s							
PALK	**Pallekele**	**13.12**	**291**	*e*Pn		**Pn**	**12 42 25.3**	**-2.3**
PALK				*e*Sn		Sn	12 44 37.0	-16
CMAR	**Chiang Mai Arr**	**16.75**	**20**	Pn		**Pn**	**12 43 15.8**	**0.0**
	0.3nm,0.3s,baz=217,slow=15,SNR=4.0							
CHTO	**Chiang Mai**	**17.09**	**19**	*e*Pn		**P**	**12 43 21.0**	**-0.6**
	1.6nm,1.1s							
KSM	**Kuching**	**17.30**	**93**	*e*Pn		**Pn**	**12 43 21.9**	**-0.7**
	1.2nm,0.3s							
HYB	**Hyderabad**	**20.45**	**317**	*i* P		P	12 43 48.0	-11
KAPI	**Kappang**	**27.75**	**106**	*e*P		**P**	**12 45 15.4**	**+5.7**
	65nm,1.3s							
MRSI	**Marisa**	**28.97**	**94**	P		**P**	**12 45 19.4**	**-1.2**
	14nm,1.3s,1μm							
MKAR	**Makanchi Array**	**44.97**	**350**	P		**P**	**12 47 36.3**	**+0.4**
	0.5nm,0.6s,baz=185,slow=7.1,SNR=4.2							
WRA	**Warramunga Arr**	**46.33**	**121**	P		**P**	**12 47 46.8**	**-0.3**
	1.4nm,0.5s,baz=301,slow=8.7,SNR=12							
WRAB	**Tennant Creek**	**46.33**	**121**	*e*P		**P**	**12 47 47.0**	**-0.2**
	1.5nm,0.5s							
SONM	**Songino Array**	**46.48**	**12**	P		**P**	**12 47 49.7**	**+1.7**
	0.8nm,0.6s,baz=187,slow=10,SNR=4.4							
ASAR	**Alice Springs**	**47.59**	**126**	P		**P**	**12 47 56.5**	**-0.5**
	0.5nm,0.7s,baz=297,slow=7.2,SNR=6.7							
KURBB	**Kurchatov Arra**	**49.37**	**348**	P		**P**	**12 48 10.0**	**-0.1**
	0.4nm,0.6s,baz=169,slow=7.7,SNR=2.6							
KURK	**Kurchatov**	**49.43**	**348**	P		**P**	**12 48 10.0**	**-0.6**
ZALV	**Zalesovo Beam**	**51.59**	**354**	P		**P**	**12 48 27.7**	**+0.8**
	0.6nm,0.3s,baz=178,slow=8.8,SNR=2.8							
STKA	**Stephens Creek**	**57.42**	**131**	P		**P**	**12 49 09.6**	**0.0**
	2.0nm,0.6s,baz=309,slow=6.5,SNR=3.7							
GERES	**GERESS Array B**	**81.00**	**319**	P		**P**	**12 51 37.6**	**+2.0**
	0.2nm,0.3s,baz=148,slow=5.8,SNR=3.1							
TXAR	**Lajitas Array**	**144.41**	**26**	PKP		**PKPdf**	**12 58 57.1**	**-0.8**
	0.2nm,0.5s,baz=259,slow=0.5,SNR=6.1							

*ISCJB **21** 13:01:32.9±0.4, 1˚.11N±0˚.05×91˚.96E±0˚.03, h10km, mb4.3/30, MS4.1/6, Error ellipse: s-maj=8.1km s-min=4.0km az=16.3*
*IDC **21** 13:01:32.5±0.8, 1˚.01N×91˚.85E, h0km, mb4.0/18, mb1 4.2/20, mb1mx3.9/64, mbtmp4.1/20, ML3.6/2, MS4.1/5, Ms1 4.1/5, ms1mx3.3/72, Error ellipse: s-maj=27.9km s-min=15.0km az=38.0*
*NEIC **21** 13:01:34.3±0.6, 1˚.14N×91˚.88E, h10km, mb4.4/5, Error ellipse: s-maj=13.2km s-min=6.5km az=196.0*
*DJA **21** 13:01:38.3±0.5, 1˚.N±6˚×9˚.2E±˚, h10km, M5.1/19, mb5.2/19, mB5.6/11, MLv5.1/4, Mw(mB)5.1/11*

ISC 21 13:01:34.3±0.6, 1˚.07N±0˚.07×91˚.94E±0˚.06, h10km, n120, σ2§93/105, mb4.4/36, MS4.3/7, 2C-4D, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MLSI	**Meulaboh, Aceh**	**5.47**	**54**	P		**Pn**	**13 02 56.5**	**+0.5**
	386nm,0.7s,8μm3.4nm							
GSI	**Gunungsitoli**	**5.64**	**88**	P		**Pn**	**13 02 59.0**	**+0.7**
	319nm,0.7s,4μm1.1nm							
GSI	**Gunungsitoli**	**5.64**	**88**	*e*Pn		**Pn**	**13 02 59.0**	**+0.7**
GSI				*e*Sn		**Sn**	**13 04 05.9**	**+2.7**
TPTI		**5.67**	**67**	P		**Pn**	**13 02 58.9**	**+0.2**
	381nm,0.4s,8μm1.8nm							
TPTI				S		**Sn**	**13 03 57.1**	**-6.8**
	381nm,0.4s,8μm1.8nm							
PBSI	**Pulau Batu**	**6.44**	**100**	P		**Pn**	**13 03 10.0**	**+0.7**
	443nm,0.8s,6μm							
PBSI				S		**Sn**	**13 04 16.6**	**-6.2**
	443nm,0.8s,6μm							
LHMI	**Lhok Sumawe**	**6.49**	**50**	P		**Pn**	**13 03 11.6**	**+1.7**
	237nm,0.8s,7μm							
LHMI	**Lhok Sumawe**	**6.49**	**50**	*e*Pn		**Pn**	**13 03 11.3**	**+1.4**
LHMI				Sn		**Sn**	**13 04 22.3**	**-1.7**
TSI	**Tuntungan**	**7.04**	**70**	P		**Pn**	**13 03 20.6**	**+3.0**
	296nm,0.6s,6μm							
PSI	**Prapat**	**7.19**	**76**	Pn		**Pn**	**13 03 20.1**	**+0.4**
	5.5nm,0.3s,baz=293,slow=8.6,SNR=34							
PSI				Sn		**Sn**	**13 04 34.4**	**-7.1**
	4.1nm,0.3s,baz=292,slow=19,SNR=1.7							
PSI				LR		LR	13 06 24.8	
	comp=Z,2μm,20.7s,baz=262,slow=40							
SISI	**Saibi**	**7.53**	**108**	P		**Pn**	**13 03 23.2**	**-1.1**
	147nm,0.8s							
MNSI	**Mandailing Nat**	**7.64**	**92**	P		**Pn**	**13 03 26.5**	**+0.7**
	274nm,0.4s,6μm							
PDSI	**Padang**	**8.74**	**103**	P		**Pn**	**13 03 40.8**	**-0.2**
	100nm,0.6s							
BKNI	**Bangkinang**	**9.13**	**95**	P		Pn	13 03 57.3	+11
PKDT	**Phuket**	**9.30**	**43**	P		**Pn**	**13 03 48.0**	**-0.6**
	60nm,1.0s,0.2nm							
KULM	**Kulim**	**9.65**	**64**	*e*Pn		**Pn**	**13 03 52.6**	**-0.8**
IPM	**Ipoh**	**9.69**	**69**	*e*Pn		**Pn**	**13 03 54.0**	**+0.1**
KRJI	**Kerinci**	**10.02**	**108**	P		**Pn**	**13 04 00.1**	**+1.5**
	460nm,0.7s,6μm							
TRTT	**Trang**	**10.24**	**49**	P		**Pn**	**13 04 00.4**	**-1.1**
	34nm,1.0s,400nm0.1nm							
SURT	**Suratani**	**10.39**	**41**	P		**Pn**	**13 04 07.3**	**+3.7**
	17nm,1.1s							
PBA	**Port Blair**	**10.55**	**4**	*e*P		Pn	13 04 00.4	-5.3
SKLT	**Songkhla**	**10.56**	**55**	P		**Pn**	**13 04 05.8**	**-0.1**
	93nm,0.7s,974nm							
MYKOM	**Kota Tinggi**	**11.93**	**86**	*e*Pn		**Pn**	**13 04 25.0**	**+0.4**
DQPR	**DIGLIPUR**	**12.07**	**5**	*e*P		**Pn**	**13 04 25.8**	**-0.8**
PALK	**Pallekele**	**12.79**	**299**	*e*Pn		**Pn**	**13 04 34.2**	**-2.2**
NAYO	**Nakonayok**	**16.10**	**35**	P		P	13 05 34.8	+10
MDRS	**Chennai**	**16.62**	**316**	*e*P		**Pn**	**13 05 25.6**	**-2.0**
MDRS						IAmb	IAmb	13 05 28.2
	comp=Z,16nm,0.7s							
TRD	**Trivandrum**	**16.65**	**297**	*e*P		**Pn**	**13 05 25.3**	**-2.7**
CHAI	**Chaiyaphum**	**17.76**	**33**	P		P	13 05 52.0	+9.3
	comp=Z,4.8nm,0.9s,comp=Z,112nm							
PBKT	**Sadao Pong**	**17.79**	**30**	P		**P**	**13 05 44.8**	**+1.8**
	comp=Z,15nm,1.2s,comp=Z,608nm							
PHIT	**Phitsanulok**	**18.06**	**27**	P		**P**	**13 05 52.0**	**+6.0**
	comp=Z,13nm,1.1s							
KSM	**Kuning**	**18.37**	**89**	*e*Pn		**P**	**13 05 52.2**	**+2.8**
	comp=Z,26nm,0.7s							
CM01	**Chiang Mai Arr**	**18.57**	**21**	*e*Pn		**P**	**13 05 49.1**	**-2.6**
VIS	**Vishakhapatnam**	**18.59**	**333**	*e*P		**P**	**13 05 49.6**	**-2.2**
VIS				*i* x		x	13 09 07.1	
CMAR	**Chiang Mai Arr**	**18.60**	**21**	P		**Pn**	**13 05 52.5**	**+0.4**
	comp=Z,0.0nm,0.3s,baz=217,slow=13,SNR=20							
LAMP	**Lampang**	**18.92**	**23**	P		Pn	13 06 08.4	+12
	comp=Z,4.4nm,0.8s							
CHTO	**Chiang Mai**	**18.93**	**21**	P		Pn	13 06 06.0	+10
	comp=Z,36nm,1.0s							
CMMT	**Chiang Mai**	**18.93**	**21**	P		Pn	13 06 04.9	+8.7
	comp=Z,13nm,1.3s							
STKI	**Sintang**	**19.56**	**93**	P		**Pn**	**13 06 05.5**	**+1.6**
	comp=Z,61nm,1.2s							
CMAI	**Chiengmai2**	**20.00**	**20**	P		**Pn**	**13 06 13.9**	**+4.8**
	comp=Z,54nm,1.0s							
BWNR	**Bhubaneshwar**	**20.03**	**343**	*e*P		**P**	**13 06 07.2**	**-0.3**
BWNR						IAmb	IAmb	13 06 13.6
	comp=Z,31nm,1.0s							
SBUM	**Sibu**	**20.32**	**86**	*e*P		Pn	13 06 12.3	-0.5
	comp=Z,26nm,1.1s							
HYB	**Hyderabad**	**20.91**	**322**	*i* P		**P**	**13 06 18.0**	**+0.7**
HYB	**Hyderabad**	**20.91**	**322**	*ex*		**P**	**13 06 13.2**	**-4.1**
HYB						IAmb	IAmb	13 06 19.4
	comp=Z,25nm,1.4s							
H08S2	**Diego Garcia H**	**21.24**	**246**	T		T	13 28 11.2	
	baz=65,slow=75,SNR=9.4							
H08S3	**Diego Garcia H**	**21.24**	**246**	T		T	13 28 15.5	
	baz=65,slow=75,SNR=11							
H08S1	**Diego Garcia H**	**21.26**	**246**	T		T	13 28 17.4	
	baz=65,slow=75,SNR=11							
GOA	**Goa**	**22.91**	**310**	*e*P		**P**	**13 06 38.8**	**+0.2**
GOA						IAmb	IAmb	13 06 44.4
	comp=Z,74nm,1.8s							
BOK	**Bokaro**	**23.34**	**346**	*e*P		**P**	**13 06 41.2**	**-1.8**
BOK						IAmb	IAmb	13 06 49.0
	comp=Z,12nm,0.6s							
NGP	**Nagpur**	**23.59**	**329**	*e*P		**P**	**13 06 43.6**	**-1.9**
NGP						IAmb	IAmb	13 06 49.1
	comp=Z,15nm,1.3s							
POO	**Poona**	**24.83**	**315**	*e*P		**P**	**13 06 57.0**	**-0.1**
ODAN	**Odare**	**26.01**	**351**	*e*P		**P**	**13 07 09.3**	**+1.3**
KMI	**Kunming**	**26.09**	**23**	P		**P**	**13 07 10.0**	**+1.3**
KMI						pmax	pmax	
	comp=Z,10.0nm,0.5s							
BHPL	**Bhopal**	**26.16**	**328**	*e*P		**P**	**13 07 10.0**	**+0.9**
RAMN	**Ramite**	**26.24**	**349**	*e*P		**P**	**13 07 11.7**	**+1.7**
JIRN	**Jiri**	**27.01**	**349**	*e*P		**P**	**13 07 18.3**	**+1.2**
GUN	**Gumba**	**27.31**	**348**	*e*P		**P**	**13 07 20.4**	**+0.6**
KKN	**Kakani**	**27.33**	**347**	*e*P		**P**	**13 07 20.5**	**+0.7**
GKN	**Gorkha**	**27.68**	**346**	*e*P		**P**	**13 07 23.8**	**+0.9**
KOLN	**Koldanda**	**27.73**	**344**	*e*P		**P**	**13 07 24.4**	**+1.0**
PYUN	**Piuthan**	**28.21**	**343**	*e*P		**P**	**13 07 28.6**	**+0.9**
SMLA	**Simla**	**33.01**	**336**	*e*P		**P**	**13 08 10.7**	**+1.0**
DHRM	**DHARAMSHALA**	**34.34**	**336**	*e*P		**P**	**13 08 21.2**	**-0.5**
LZH	**Lanzhou**	**36.55**	**16**	*e*P		**P**	**13 08 42.1**	**+1.5**
LZH					pP	sP	13 08 46.8	+1.9
LZH					sP	pP	13 08 49.3	+5.6
LZH					*e*PP	**PP**	**13 10 05.3**	**+1.4**
LZH					pmax	pmax		
	comp=Z,20nm,1.3s							
LZH					pmax	pmax		
	comp=Z,65nm,5.4s							
LZH					LR	LR		
	comp=N,290nm,13.5s							
LZH					LR	LR		
	comp=E,280nm,13.7s							
LZH					LR	LR		
	comp=Z,350nm,17.0s							
GTA	**Gaotai**	**38.83**	**10**	P		**P**	**13 09 00.8**	**+1.0**
GTA					pP	sP	13 09 05.9	+1.8
GTA					sP	pP	13 09 09.3	+6.4
GTA					S	**S**	**13 14 57.4**	**-0.3**
GTA					sS	sS	13 15 04.0	+1.2
GTA					pmax	pmax		
	comp=Z,4.0nm,1.0s							
GTA					pmax	pmax		
	comp=Z,200nm,5.5s							
GTA					LR	LR		
	comp=N,110nm,15.7s							
GTA					LR	LR		
	comp=E,130nm,15.2s							
GTA					LR	LR		
	comp=Z,160nm,17.6s							
WSAR	**Wadi Sarin**	**39.12**	**307**	P		**P**	**13 09 03.3**	**+1.0**
	comp=Z,2.9nm,0.8s,baz=124,slow=3.6,SNR=2.5							
NJ2	**Nanjing**	**39.93**	**37**	*e*P		**P**	**13 09 08.3**	**-0.6**
NJ2						pmax	pmax	
	comp=Z,14nm,0.5s							
KSH	**Kashi**	**40.95**	**341**	P		**P**	**13 09 21.1**	**+3.7**
H01W3	**Cape Leeuwin H**	**41.37**	**152**	T		T	13 53 48.1	
	baz=326,slow=75,SNR=4.2							
H01W2	**Cape Leeuwin H**	**41.38**	**152**	T		T	13 53 53.3	
	baz=326,slow=75,SNR=5.6							
H01W1	**Cape Leeuwin H**	**41.38**	**152**	T		T	13 53 49.1	
	baz=326,slow=75,SNR=3.8							
WMQ	**Urumqi**	**42.73**	**355**	P		**P**	**13 09 32.6**	**+0.7**
WMQ						LR	LR	
	comp=N,290nm,39.3s							
WMQ						LR	LR	
	comp=E,440nm,29.9s							
WMQ						LR	LR	
	comp=Z,510nm,29.9s							
KDJ	**Kajisay**	**42.98**	**344**	*e*P		**P**	**13 09 34.5**	**+0.5**
	comp=Z,3.4nm,0.9s							
HHC	**Hu-ho-hao-te**	**43.41**	**22**	*e*P		**P**	**13 09 38.1**	**+0.7**
HHC						pmax	pmax	
	comp=Z,15nm,1.0s							
HHC						pmax	pmax	
	comp=Z,36nm,6.4s							
AAK	**Ala-Archa**	**44.25**	**342**	LR		LR	13 28 27.8	
	comp=Z,126nm,20.1s,baz=130,slow=36							
MK01	**Makanchi Array**	**46.29**	**351**	*e*P		**P**	**13 10 00.1**	**-0.1**
MK31	**Makanchi Array**	**46.31**	**351**	*e*P		**P**	**13 09 58.0**	**-2.4**
MKAR	**Makanchi Array**	**46.31**	**351**	P		**P**	**13 10 00.3**	**0.0**
	comp=Z,2.4nm,0.7s,baz=169,slow=8.7,SNR=21							
WRA	**Warramunga Arr**	**46.50**	**119**	P		**P**	**13 10 02.3**	**0.0**
	comp=Z,1.4nm,0.6s,baz=296,slow=8.6,SNR=25							
ASAR	**Alice Springs**	**47.60**	**124**	P		**P**	**13 10 10.8**	**-0.1**
	comp=Z,0.7nm,1.0s,baz=300,slow=7.7,SNR=4.2							
GEYT	**Alibeck**	**48.08**	**324**	P		**P**	**13 10 13.9**	**-0.4**
	comp=Z,1.7nm,0.5s,baz=151,slow=9.9,SNR=4.0							
SONM	**Songino Array**	**48.24**	**13**	P		**P**	**13 10 16.8**	**+1.2**
	comp=Z,2.8nm,0.8s,baz=192,slow=8.9,SNR=15							
SONA1	**Songino Array**	**48.25**	**13**	*e*P		**P**	**13 10 13.8**	**-1.8**
KURBB	**Kurchatov Arra**	**50.67**	**349**	P		**P**	**13 10 33.7**	**-0.2**
	comp=Z,3.2nm,0.7s,baz=174,slow=7.2,SNR=25							
KURK	**Kurchatov**	**50.74**	**349**	P		**P**	**13 10 33.7**	**-0.7**
ZAA0	**Zalesovo Array**	**53.03**	**355**	*e*P		**P**	**13 10 50.8**	**-0.6**
	comp=Z,6.1nm,1.2s							
ZALV	**Zalesovo Beam**	**53.03**	**355**	P		**P**	**13 10 51.1**	**-0.3**
	comp=Z,3.2nm,0.4s,baz=178,slow=7.0,SNR=16							
ZALV				LR		LR	13 35 56.6	
	comp=Z,166nm,21.2s,baz=68,slow=39							
ZALV	**Zalesovo Beam**	**53.03**	**355**	*e*P		**P**	**13 10 51.0**	**-0.4**
BVAR	**Borovoye Array**	**54.80**	**344**	P		**P**	**13 11 03.4**	**-0.9**
	comp=Z,0.9nm,0.6s,baz=140,slow=7.0,SNR=5.4							
ABKAR	**Akbulak array**	**55.28**	**335**	*e*P		**P**	**13 11 05.7**	**-2.2**
STKA	**Stephens Creek**	**57.25**	**130**	P		**P**	**13 11 21.9**	**-0.4**
	comp=Z,3.4nm,0.8s,baz=4.1,slow=9.4,SNR=3.9							
KBZ	**Khabaz**	**60.80**	**321**	P		**P**	**13 11 44.8**	**-1.9**
	comp=Z,0.4nm,0.4s,baz=166,slow=8.3,SNR=2.5							
ASAJ	**Asahikawa**	**62.01**	**39**	P		**P**	**13 11 55.5**	**+0.6**
	comp=Z,1.4nm,0.7s,baz=253,slow=14,SNR=3.0							
BRTR	**Keskin Array B**	**65.36**	**314**	P		**P**	**13 12 17.1**	**-0.3**
	comp=Z,1.1nm,0.6s,baz=131,slow=7.0,SNR=3.7							
VRI	**Vrincioaia**	**72.17**	**318**	⇑*i* P		**P**	**13 13 00.9**	**+1.4**
AKASG	**Malin Array Be**	**72.20**	**324**	P		**P**	**13 12 58.0**	**-1.5**
	comp=Z,1.0nm,0.6s,baz=90,slow=5.4,SNR=5.3							
AKASG	**Malin Array Be**	**72.20**	**324**	P		**P**	**13 12 58.0**	**-1.5**
PLOR	**Plostina**	**72.22**	**318**	⇓*i* P		**P**	**13 13 01.4**	**+1.6**
TESR	**Tescani**	**72.42**	**319**	⇓*i* P		**P**	**13 13 05.4**	**+4.4**
MLR	**Muntele Rosu**	**72.59**	**318**	P		**P**	**13 13 02.8**	**+0.6**
	comp=Z,0.8nm,0.7s,baz=178,slow=2.5,SNR=5.1							
MLR	**Muntele Rosu**	**72.59**	**318**	⇑*i* P		**P**	**13 13 03.3**	**+1.1**
VOIR		**73.17**	**317**	⇓*i* P		P	13 13 14.9	+9.3
BURAR	**Bucovina Array**	**73.68**	**320**	⇓*i* P		**P**	**13 13 10.0**	**+1.4**
BUR04	**Bucovina Ar. S**	**73.69**	**320**	*e*P		**P**	**13 13 08.9**	**+0.4**
TIXI	**Tiksi**	**74.29**	**11**	*e*P		**P**	**13 13 10.9**	**-0.6**
	comp=Z,2.1nm,0.8s							
FINES	**FINESS Array B**	**77.72**	**333**	P		**P**	**13 13 29.9**	**-1.3**
	comp=Z,3.3nm,1.1s,baz=99,slow=7.2,SNR=3.5							
FINES				LR		LR	13 50 41.5	
	comp=Z,153nm,21.8s,baz=35,slow=38							
ARSA	**Arzberg**	**80.01**	**318**	*i* PcP		P	13 13 49.9	+5.7
	comp=Z,4.3nm,0.7s							
DPC	**Dobruska-Polom**	**80.02**	**321**	*e*P		**P**	**13 13 44.3**	**+0.1**
DPC				*ep*P		**sP**	**13 13 50.0**	**+1.3**
DPC				*ex*		x	13 13 55.8	
ARCES	**ARCESS Array B**	**80.91**	**341**	P		**P**	**13 13 48.8**	**+0.2**
	comp=Z,1.5nm,0.8s,baz=69,slow=6.6,SNR=4.5							
MOA	**Molln**	**80.94**	**318**	*i* PcP		P	13 13 54.3	+5.1
	comp=Z,4.6nm,1.0s							
MYKA	**Terra Mystica**	**81.19**	**317**	*i* P		**P**	**13 13 54.2**	**+3.6**
	comp=Z,6.3nm,0.8s							
KBA	**Koelnbreinsper**	**81.45**	**317**	*i* PcP		P	13 13 57.0	+4.9
	comp=Z,5.5nm,1.2s							
GEA0	**GERESS Array S**	**81.46**	**319**	*e*P		**P**	**13 13 52.7**	**+0.8**
GERES	**GERESS Array B**	**81.46**	**319**	P		**P**	**13 13 52.4**	**+0.4**
	comp=Z,1.9nm,0.7s,baz=115,slow=6.3,SNR=21							
KHC	**Kasperske Hory**	**81

LMEL	**Las Melosas**	**1.67**	**74**	⇑*i*P		**Pn**	**13 23 28.8 +0.4**	
LMEL				*i* S		**Sn**	**13 23 50.4 0.0**	
LMEL				IAML			13 23 52.9	
	comp=N,2μm,0.5s							
PEL	**Peldehue**	**1.69**	**46**	*e*P		**Pn**	**13 23 28.8 +0.3**	
PEL				*i* S		**Sb**	**13 23 51.1 -0.4**	
FCH	**Farellones**	**1.83**	**57**	⇑*i*P		**Pn**	**13 23 31.2 +0.5**	
FCH				*i* S		**Sn**	**13 23 55.2 +0.6**	
FCH				IAML			13 24 02.0	
	comp=N,533nm,0.3s							
COCH	**Cobquecura**	**1.87**	**196**	*e*P		**Pn**	**13 23 30.7 -0.2**	
COCH				*i* S		**Sn**	**13 23 54.6 -0.5**	
CCHI	**Chillan**	**2.27**	**179**	*e*P		**Pn**	**13 23 36.7 +0.4**	
CCHI				*e*S		**Sn**	**13 24 04.8 -0.1**	
CCHI				IAML			13 24 14.5	
	comp=N,1μm,0.5s							
AUSP	**Uspallata**	**3.12**	**48**	*e*P		**Pb**	**13 23 51.9 -2.3**	
AUSP				*e*S		**Sg**	**13 24 39.9 +1.9**	
RTLS	**Leoncito**	**3.47**	**44**	*e*P		**Pb**	**13 23 56.9 -3.3**	
RTLS				*e*S		**Sg**	**13 24 48.8 -0.7**	
RTLS				IAML			13 24 54.5	
	comp=Z,64nm,0.6s							
RTCV	**Cerro Valdivia**	**3.89**	**52**	*e*P		**Pn**	**13 24 01.5 +2.7**	
RTCV				*e*S		**Sb**	**13 24 56.6 +1.7**	
RTLL	**Cerro Villicun**	**4.30**	**47**	*e*P		**Pn**	**13 24 07.4 +3.1**	
RTLL				*e*S		**Sb**	**13 25 06.5 +0.1**	
RTLL				IAML			13 25 13.7	
	comp=Z,69nm,0.5s							
AMOG	**MOGNA**	**4.57**	**43**	*e*P		**Pn**	**13 24 11.3 +3.2**	
AMOG				*e*S		**Sb**	**13 25 13.4 -1.0**	
ACAN	**Cantantal**	**4.62**	**65**	*e*P		**Pn**	**13 24 10.2 +1.4**	
AROD	**Rodeo**	**4.72**	**29**	*e*P		**Pn**	**13 24 13.1 +2.6**	
AROD				*e*S		**Sb**	**13 25 18.4 -0.7**	
AGUA	**GUANDACOL**	**5.74**	**34**	*e*P		**Pn**	**13 24 25.7 +1.5**	
VCA	**Vinchina**	**6.51**	**32**	*e*P		**Pn**	**13 24 37.6 +2.8**	
VCA				IAML			13 26 13.2	
	comp=Z,31nm,0.5s							
TCA	**Tanti**	**7.01**	**67**	*e*P		**Pn**	**13 24 41.8 +0.1**	

BJI ***21*** *13:23:35.7, 1°.34N× 121°.25E, h53km, mb5.0/45, mB5.0/31, Ms4.3/20, Ms7 4.1/20*

MOS ***21*** *13:23:36.3±0.8, 1°.73N× 121°.03E, h41km, mb5.2/35, Error ellipse: s-maj=10.7km s-min=5.7km az=108.6*

ISCJB ***21*** *13:23:37.1±0.1, 1°.85N±0°.02× 121°.08E±0°.02, h41km, mb4.8/106, MS3.8/30, Error ellipse: s-maj=3.1km s-min=2.6km az=22.1*

NEIC ***21*** *13:23:39.6±0.6, 1°.70N× 120°.97E, h56km±5km, mb4.6/25, Error ellipse: s-maj=5.8km s-min=4.2km az=55.0*

GCMT ***21*** *13:23:39.6±0.3, 1°.92N× 120°.80E, h68km±4km, MW4.9/64, Moment Tensor Solution. s15,c16; s64,c94; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr 0.53±.20; Mθθ -1.22±.14; Mϕϕ 0.68±.17; Mrθ -1.40±.08; Mθϕ -1.88±.10; Mϕr -0.23±.12; Best double couple: Mo 2.48800× 10^16 NP1 ϕs 280.00000°, δ 88.00000°, λ 147.00000°. NP2: ϕs 12.00000°, δ 57.00000°, λ 3.00000°. Principal axes: T 2.0890, Plg 25.0000°, Azm 231.0000°; N 0.7930, Plg 56.0000°, Azm 97.0000°; P -2.8870, Plg 21.0000°, Azm 331.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

IDC ***21*** *13:23:39.3±2.3, 1°.68N× 121°.04E, h52km±21km, mb4.4/38, mb1 4.4/41, mb1mx4.3/64, mbtmp4.6/41, ML4.5/3, MS3.9/25, Ms1 3.9/25, ms1mx3.7/61 Error ellipse: s-maj=13.3km s-min=9.2km az=78.0*

DJA ***21*** *13:23:40.2±0.2, 2°N±2°× 12°1E±°, h50km±3km, M4.9/43, mb5.0/43, mB5.3/15, MLv5.3/7, Mw(mB)4.7/15*

ISC 21 13:23:38.9±0.3, 1°.82N±0°.03× 121°.03E±0°.04, h41km, n258, σ1§51/271, mb4.8/106, MS3.8/30, 10C-9D, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MRSI	**Marisa**	**1.61**	**146**	P		**Pn**	**13 24 05.5**	**+0.6**
MPSI	**Mapaga**	**1.86**	**218**	P		**Pn**	**13 24 08.4**	**+0.1**
APSI	**Ampana**	**2.78**	**167**	P		**Pn**	**13 24 21.5**	**+0.5**
KMSI	**Cibinong**	**3.20**	**113**	P		**Pn**	**13 24 27.4**	**+0.7**
LUWI	**Luwuk**	**3.33**	**149**	P		**Pn**	**13 24 29.0**	**+0.5**
LUWI	**Luwuk**	**3.33**	**149**	*e*Pn		**Pn**	**13 24 29.4**	**+0.9**
LUWI				*e*Sn		**Sn**	**13 24 50.8**	**+1.6**
SGKI	**Sangatta, Kali**	**4.15**	**236**	P		Pn	13 24 34.6	-5.2
MYLDM	**Lahad Datu**	**4.19**	**323**	*e*Pn		**Pn**	**13 24 42.1**	**+1.8**
SMKI	**Samarinda**	**4.44**	**240**	P		**Pn**	**13 24 44.4**	**+0.7**
SGSI	**Sangihe**	**4.86**	**67**	P		**Pn**	**13 24 49.6**	**+0.1**
TTSI	**Tana Toraja**	**4.98**	**194**	P		**Pn**	**13 24 51.6**	**+0.4**
BKB	**Balikpapan**	**5.14**	**234**	P		**Pn**	**13 24 52.3**	**-1.1**
ZCP	**Zamboanga City**	**5.18**	**12**	⇑*i*P		**Pn**	**13 24 54.4**	**+0.4**
ZCP				*i* S		**Sn**	**13 25 50.5**	**-2.1**
IPIL	**Ipil**	**6.12**	**14**	*e*P		**Pn**	**13 25 06.9**	**0.0**
IPIL				*e*S		**Sn**	**13 26 13.6**	**-2.1**
BNSI	**Bone**	**6.25**	**189**	P		**Pn**	**13 25 09.3**	**+0.7**
SANI	**Sanana**	**6.27**	**128**	P		**Pn**	**13 25 09.6**	**+0.7**
KKM	**Kota Kinabalu**	**6.38**	**311**	*e*Pn		**Pn**	**13 25 11.5**	**+0.9**
KKM				*e*Sn		**Sn**	**13 26 20.4**	**-1.8**
TNTI	**Ternate**	**6.42**	**99**	Pn		**Pn**	**13 25 12.8**	**+1.8**
TNTI				*e*Sn		**Sn**	**13 26 24.2**	**+1.2**
PAGZ	**Pagadian**	**6.43**	**21**	*e*P		**Pn**	**13 25 11.4**	**+0.3**
MTKI	**Muara Teweh, K** 744nm,0.8s,10μm3.0nm	**6.72**	**246**	P		**Pn**	**13 25 13.3**	**-1.8**
DAV	**Davao City (W)** 48nm,0.3s,baz=101,slow=2.5,SNR=5.9	**6.91**	**41**	P		**Pn**	**13 25 18.7**	**+1.0**
DAV				S		**Sn**	**13 26 37.1**	**+2.0**
	55nm,0.3s,baz=243,slow=23,SNR=8.0							
DAV				LR		LR	13 27 55.2	
	comp=Z,2μm,20.7s,baz=188,slow=36							
LBMI	**Labuha** 139nm,1.0s,1μm1.0nm	**6.91**	**111**	P		Pn	13 25 22.8	+5.0
KBKI	**Kotabaru** 74nm,0.6s,984nm0.5nm	**7.04**	**224**	P		**Pn**	**13 25 18.5**	**-0.9**
BUKP	**Musuan**	**7.24**	**34**	*e*P		**Pn**	**13 25 21.7**	**-0.5**
BUKP				*e*S		**Sn**	**13 26 40.9**	**-2.2**
CGP	**Cagayan de Oro**	**7.53**	**29**	⇑*e*P		**Pn**	**13 25 27.6**	**+1.4**
CGP				*e*S		**Sn**	**13 26 50.6**	**+0.2**
NLAI	**Namlea** 111nm,1.1s,3μm0.8nm	**7.88**	**130**	P		**Pn**	**13 25 32.1**	**+1.1**
BSSI	**Bau Bau, Buton**	**7.93**	**184**	P		Pn	13 25 42.8	+11
SBUM	**Sibu**	**8.83**	**274**	*e*Pn		**Pn**	**13 25 43.9**	**-0.2**
GUIM	**Jordan**	**8.88**	**10**	*e*P		**Pn**	**13 25 46.8**	**+2.0**
GUIM				*e*S		**Sn**	**13 27 21.7**	**-2.0**
MSAI	**Masohi**	**9.41**	**123**	P		Pn	13 26	+14
ENPP	**El Nido**	**9.46**	**350**	*e*P		**Pn**	**13 25 53.4**	**+0.7**
ENPP				*e*S		**Sn**	**13 27 34.4**	**-3.4**
STKI	**Sintang** 130nm,1.2s	**9.71**	**260**	P		**Pn**	**13 25 57.5**	**+1.3**
PBKI	**Pangkalan Bun** 197nm,0.8s,2μm	**10.38**	**244**	P		**Pn**	**13 26 03.7**	**-1.7**
SJMP	**San Jose**	**10.57**	**0**	*e*P		**Pn**	**13 26 10.2**	**+2.3**
SIJI	**Sorong** 0.9nm,0.3s,baz=305,slow=9.4,SNR=19	**10.57**	**105**	P		**Pn**	**13 26 08.7**	**+0.7**
KSM	**Kuching**	**10.73**	**268**	*e*Pn		**Pn**	**13 26 09.2**	**-0.8**
FAKI	**Fak Fak**	**12.16**	**113**	P		**P**	**13 26 44.2**	**+2.7**
TGY	**Tagaytay City** comp=Z,541nm,21.0s,baz=176,slow=35	**12.21**	**360**	LR		LR	13 30 49.5	
BATI	**Baumata** comp=Z,1μm,19.4s,baz=320,slow=42	**12.23**	**168**	LR		LR	13 32 07.6	
BATI	**Baumata**	**12.23**	**168**	P		**P**	**13 26 44.7**	**+2.5**
JAGI	**Jajag, Banyuwa**	**12.31**	**214**	P		**P**	**13 26 45.0**	**+1.9**
TBJI	**Tambak Boyo**	**12.56**	**227**	P		**P**	**13 26 48.6**	**+2.8**
GMJI	**Gumukmas**	**12.56**	**217**	P		**P**	**13 26 49.3**	**+3.4**
NGJI	**Ngawi** 94nm,1.1s	**13.21**	**226**	P		**Pn**	**13 26 46.8**	**+2.8**
PWJI	**Pagerwojo** 236nm,0.9s	**13.43**	**223**	P		**Pn**	**13 26 48.9**	**+1.9**
SMRI	**Semarang**	**13.76**	**230**	P		P	13 27 05.2	+5.9
WOJI	**Wonogiri, Jawa** 72nm,1.7s	**13.92**	**226**	P		**Pn**	**13 26 55.3**	**+1.6**
PCJI	**Pacitan** 276nm,1.0s	**13.98**	**225**	P		**Pn**	**13 26 57.2**	**+2.6**
UGM	**Wanagama**	**14.26**	**227**	P		**P**	**13 27 07.0**	**+2.2**
KPJI	**Karang Pucung** 191nm,0.9s	**15.12**	**233**	P		**P**	**13 27 12.4**	**-1.9**
JCJI	**Jatiwangi**	**15.18**	**237**	P		**P**	**13 27 13.4**	**-1.6**
PPBI	**Pangkal Pinang** 0.5nm,0.8s,156nm	**15.41**	**255**	P		**P**	**13 27 17.2**	**-0.4**
LEM	**Lembang** 1.8nm,0.3s,baz=103,slow=12,SNR=9.2	**15.91**	**237**	P		**Pn**	**13 27 20.0**	**-0.2**
LEM				LR		LR	13 34 47.8	
	comp=Z,650nm,18.3s,baz=35,slow=42							
LEM	**Lembang** 689nm,1.0s	**15.91**	**237**	P		**Pn**	**13 27 20.4**	**+0.2**
APYP	**Conner**	**15.94**	**1**	*e*P		**P**	**13 27 24.9**	**+1.4**
DBJI	**Dramaga**	**16.51**	**240**	P		**Pn**	**13 27 28.2**	**+0.6**
SBJI	**Serang** 236nm,1.7s,4μm	**16.84**	**242**	P		**P**	**13 27 34.7**	**+1.2**
SKJI	**Sukabumi** 286nm,1.3s,3μm	**16.90**	**239**	P		**P**	**13 27 35.1**	**+1.0**
MYKOM	**Kota Tinggi** 48nm,1.0s	**17.17**	**270**	*e*Pn		**Pn**	**13 27 35.5**	**-0.5**
BLSI	**Bandar Lampung**	**17.31**	**246**	P		**P**	**13 27 40.5**	**+1.8**
CGJI	**Cibinong** 115nm,0.8s,2μm	**17.45**	**241**	P		**P**	**13 27 40.9**	**+0.6**
MTN	**Manton Dam** 32nm,1.2s	**17.68**	**146**	*e*Pn		**Pn**	**13 27 41.9**	**-0.3**
MDSI	**Maura Dua** 50nm,1.2s	**17.97**	**250**	P		**Pn**	**13 27 45.2**	**-0.6**
KASI	**Kota Agung** 198nm,1.0s	**18.05**	**246**	P		**P**	**13 27 48.0**	**+1.1**
LWLI	**Liwa** 112nm,0.8s,3μm	**18.27**	**248**	P		**Pn**	**13 27 52.0**	**+2.5**
MASI	**Maura Aman, Be**	**19.42**	**255**	P		**Pn**	**13 28 08.5**	**+5.1**
KRJI	**Kerinci**	**19.95**	**259**	P		Pn	13 28 17.4	+7.7
BKNI	**Bangkinang**	**20.04**	**266**	P		Pn	13 28 12.6	+1.9
IPM	**Ipoh** 29nm,1.0s	**20.15**	**278**	*e*P		**P**	**13 28 06.9**	**-3.0**
KULM	**Kulim** 22nm,1.0s	**20.63**	**280**	*e*P		**P**	**13 28 15.2**	**+0.1**
PDSI	**Padang** 62nm,1.2s	**20.75**	**263**	P		**P**	**13 28 17.0**	**+0.6**
TPUB	**Ta-pu** 40nm,1.0s	**21.36**	**359**	*e*P		**P**	**13 28 26.3**	**+3.5**
YULB	**Yu-li** 21nm,0.9s	**21.45**	**1**	*e*P		**P**	**13 28 23.8**	**0.0**
MNSI	**Mandailing Nat** 69nm,0.9s	**21.47**	**268**	P		**P**	**13 28 24.0**	**-0.1**
SSLB	**Suanglung** 25nm,0.9s	**21.84**	**360**	*e*P		**P**	**13 28 27.2**	**-0.8**
PSI	**Prapat** 17nm,0.9s,baz=90,slow=2.5,SNR=12	**22.11**	**273**	P		**P**	**13 28 30.1**	**-1.0**
PSI	**Prapat** 33nm,1.1s	**22.11**	**273**	*e*P		**P**	**13 28 28.6**	**-2.6**
SISI	**Saibi** 134nm,0.9s	**22.16**	**262**	P		**P**	**13 28 31.4**	**-0.2**
TSI	**Tuntungan** 63nm,1.5s	**22.50**	**275**	P		**P**	**13 28 38.0**	**+2.7**
SKNT	**Sakolnakorn** 10.0nm,1.2s	**22.54**	**313**	P		**P**	**13 28 35.0**	**-0.6**
MBWA	**Marble Bar** 32nm,0.9s	**22.87**	**183**	*e*P		**P**	**13 28 36.2**	**-2.8**
NAYO	**Nakonayok** 14nm,1.0s	**23.10**	**304**	P		**P**	**13 28 42.3**	**+0.9**
CHAI	**Chaiyaphum** 4.7nm,1.1s	**23.41**	**308**	P		**P**	**13 28 45.0**	**+0.5**
GSI	**Gunungsitoli** 120nm,1.2s	**23.45**	**269**	P		**P**	**13 28 43.5**	**-1.4**
GSI	**Gunungsitoli** 55nm,0.9s	**23.45**	**269**	*e*P		**P**	**13 28 40.6**	**-4.4**
TPTI		**23.87**	**274**	P		**P**	**13 28 49.6**	**+0.7**
PBKT	**Sadao Pong** 15nm,1.0s	**24.59**	**308**	P		**P**	**13 28 54.7**	**-0.7**
MLSI	**Meulaboh, Aceh** 86nm,1.0s	**24.71**	**276**	P		**P**	**13 28 56.5**	**-0.1**
WRAB	**Tennant Creek** 8.1nm,0.7s	**25.26**	**149**	*e*P		**P**	**13 28 59.5**	**-2.0**
WRAB	**Tennant Creek**	**25.26**	**149**	*ce*P		**P**	**13 29 00.4**	**-1.1**
WRAB	comp=Z,39nm,1.7s				pmax	pmax		
WRA	**Warramunga Arr**	**25.26**	**150**	P		**P**	**13 28 59.0**	**-2.5**
	comp=Z,15nm,0.8s,baz=327,slow=11,SNR=116							
WRA					LR	LR	13 39 42.3	
	comp=Z,184nm,21.3s,baz=320,slow=38							
WRA	**Warramunga Arr**	**25.26**	**150**	P		**P**	**13 28 59.0**	**-2.5**
WB2	**Warramunga Arr** comp=Z,19nm,0.8s	**25.27**	**149**	*e*P		**P**	**13 28 59.9**	**-1.7**
PHIT	**Phitsanulok** comp=Z,10nm,1.1s	**25.38**	**308**	P		**P**	**13 29 03.3**	**+0.8**
JOW	**Kunigami** comp=Z,475nm,21.6s,baz=206,slow=34	**25.82**	**15**	LR		LR	13 38 31.2	
GUMO	**Guam** comp=Z,209nm,21.7s,baz=222,slow=33	**26.32**	**62**	LR		LR	13 37 59.8	
CMAR	**Chiang Mai Arr** comp=Z,1.0nm,0.5s,baz=137,slow=7.6,SNR=13	**27.25**	**309**	P		**P**	**13 29 19.3**	**-0.2**
CMAR					LR	LR	13 42 54.0	
	comp=Z,251nm,18.2s,baz=149,slow=42							
CMMT	**Chiang Mai** comp=Z,14nm,1.6s	**27.45**	**309**	P		**P**	**13 29 20.8**	**-0.5**
CHTO	**Chiang Mai** comp=Z,62nm,1.6s	**27.45**	**309**	P		**P**	**13 29 21.8**	**+0.5**
AS31	**Alice Springs** comp=Z,1.4nm,0.7s	**28.26**	**154**	*e*P		**P**	**13 29 27.0**	**-1.4**
ASAR	**Alice Springs** comp=Z,3.2nm,0.7s,baz=344,slow=14,SNR=39	**28.26**	**154**	P		**P**	**13 29 26.6**	**-1.9**
ASAR					PcP	**PcP**	**13 32 40.1**	**-1.1**
	comp=Z,1.2nm,0.7s,baz=333,slow=1.7,SNR=5.4							
ASAR					LR	LR	13 41 10.8	
	comp=Z,174nm,20.1s,baz=336,slow=37							
AS01	**Alice Springs**	**28.28**	**154**	*e*P		**P**	**13 29 26.3**	**-2.3**
PMG	**Port Moresby** comp=Z,154nm,21.0s,baz=298,slow=39	**28.32**	**114**	LR		LR	13 42 05.0	
KMI	**Kunming**	**29.12**	**324**	P		**P**	**13 29 38.5**	**+2.1**
KMI					pP	sP	13 29 51.9	-0.6
KMI					sP	pP	13 29 58.0	+10
KMI					S	**S**	**13 34 25.3**	**-0.6**
KMI	comp=Z,23nm,1.0s				pmax	pmax		
KMI	comp=Z,130nm,6.2s				pmax	pmax		
KMI	comp=Z,190nm,15.6s				LR	LR		
KMI	comp=Z,170nm,21.8s				LR	LR		
KMI	comp=Z,310nm,18.7s				LR	LR		
NJ2	**Nanjing**	**30.14**	**356**	*e*P		**P**	**13 29 45.0**	**0.0**
NJ2	comp=Z,12nm,0.7s				pmax	pmax		
JNU	**Nakatsue** comp=Z,200nm,21.3s,baz=117,slow=34	**32.48**	**15**	LR		LR	13 42 19.8	
CTA	**Charters Tower** comp=Z,1.4nm,0.7s,baz=36,slow=19,SNR=3.3	**32.95**	**133**	P		**P**	**13 30 09.1**	**-0.8**
CD2	**Chengdu**	**33.23**	**332**	⇓P		**P**	**13 30 12.6**	**+0.3**
CD2					S	**S**	**13 35 31.0**	**+1.3**
CD2	comp=Z,50nm,0.5s				pmax	pmax		
CD2	comp=Z,310nm,19.9s				LR	LR		
CD2	comp=Z,340nm,17.4s				LR	LR		
XAN	**Xi'an**	**34.00**	**342**	P		**P**	**13 30 19.3**	**+0.4**
XAN					pP	sP	13 30 33.0	-2.1
XAN					sP	pP	13 30 38.8	+8.6
XAN					PP	**PnPn**	**13 31 33.3**	**+0.3**
XAN					PcP	**PcP**	**13 32 58.0**	**+1.7**
XAN					S	**S**	**13 35 37.0**	**-4.4**
XAN	comp=Z,19nm,1.2s				pmax	pmax		
XAN	comp=Z,300nm,15.5s				LR	LR		
XAN	comp=Z,310nm,20.1s				LR	LR		
NWAO	**Narrogin (SRO)** comp=Z,29nm,0.8s,baz=162,slow=5.7,SNR=3.3	**34.74**	**186**	P		**P**	**13 30 22.8**	**-2.5**
JHJ	**Hachijo jima 2** comp=Z,137nm,18.6s,baz=272,slow=36	**35.77**	**27**	LR		LR	13 45 03.4	
KSAR	**Wonju Array Be**	**36.01**	**9**	P		**P**	**13 30 37.9**	**+1.8**
KSAR	**Wonju Array Be**	**36.01**	**9**	P		**P**	**13 30 37.9**	**+1.8**
KSRS	**Korea Array** comp=Z,5.5nm,0.8s,baz=187,slow=8.6,SNR=13	**36.02**	**9**	P		**P**	**13 30 37.9**	**+1.6**
KSRS					LR	LR	13 44 26.3	
	comp=Z,179nm,21.4s,baz=194,slow=34							
LZH	**Lanzhou**	**37.63**	**337**	*e*P		**P**	**13 30 51.6**	**+1.4**
LZH					pP	sP	13 31 05.4	-1.0
LZH					sP	pP	13 31 11.3	+10
LZH					*e*PP	**PnPn**	**13 32 22.8**	**+4.9**
LZH	comp=Z,26nm,1.3s				pmax	pmax		
LZH	comp=Z,82nm,5.2s				pmax	pmax		
LZH	comp=Z,370nm,13.2s				LR	LR		
LZH	comp=Z,380nm,13.5s				LR	LR		
LZH	comp=Z,440nm,16.8s				LR	LR		
MAT	**Matsushiro**	**38.03**	**23**	P		**P**	**13 30 51.8**	**-1.5**
MJAR	**Matsushiro Arr** comp=Z,5.4nm,0.8s,baz=196,slow=9.4,SNR=16	**38.03**	**23**	P		**P**	**13 30 52.3**	**-1.0**
MJAR					LR	LR	13 49 59.2	
	comp=Z,41nm,18.0s,baz=190,slow=41							
BJI	**Beijing**	**38.30**	**354**	*e*P		**P**	**13 30 56.4**	**+0.9**
BJI	comp=Z,20nm,1.1s				pmax	pmax		
STKA	**Stephens Creek** comp=Z,13nm,0.9s,baz=326,slow=11,SNR=14	**38.78**	**152**	P		**P**	**13 30 58.2**	**-1.4**
STKA					LR	LR	13 49 40.8	
	comp=Z,68nm,18.7s,baz=352,slow=40							
STKA	**Stephens Creek** comp=Z,3.4nm,0.9s	**38.78**	**152**	*e*P		**P**	**13 30 57.7**	**-2.0**
HHC	**Hu-ho-hao-te**	**39.79**	**349**	*e*P		**P**	**13 31 11.8**	**+3.7**
HHC					S	**S**	**13 37 14.3**	**+4.7**
HHC					SS	**SS**	**13 40 07.5**	**+0.7**
HHC	comp=Z,26nm,1.0s				pmax	pmax		
HHC	comp=Z,60nm,5.6s				pmax	pmax		
HHC	comp=Z,800nm,14.7s				LR	LR		
HHC	comp=Z,740nm,15.7s				LR	LR		
HHC	comp=Z,910nm,14.5s				LR	LR		
BTO	**Baotou**	**39.88**	**347**	*e*P		**P**	**13 31 08.8**	**0.0**
HNR	**Honiara** comp=Z,98nm,18.9s,baz=326,slow=39	**40.34**	**107**	LR		LR	13 49 54.9	
ODAN	**Odare**	**40.76**	**311**	*e*P		**P**	**13 31 16.8**	**+0.3**
RAMN	**Ramite**	**41.40**	**310**	*e*P		**P**	**13 31 22.5**	**+0.7**
JIRN	**Jiri** comp=Z,36nm,0.6s	**42.08**	**311**	*e*P		**P**	**13 31 26.9**	**-0.6**
GTA	**Gaotai**	**42.12**	**335**	⇓P		**P**	**13 31 28.5**	**+1.1**
GTA					pP	sP	13 31 44.4	+0.7
GTA					sP	pP	13 31 52.8	+14
GTA					PP	**PP**	**13 33 08.8**	**+3.4**
GTA					S	**S**	**13 37 46.0**	**+1.6**
GTA					sS	sS	13 38 12.6	+9.1
GTA					SS	**SS**	**13 40 51.8**	**-1.4**
GTA	comp=Z,43nm,1.1s				pmax	pmax		
GTA	comp=Z,150nm,5.3s				pmax	pmax		
GTA	comp=Z,130nm,15.7s				LR	LR		
GTA	comp=Z,160nm,18.1s				LR	LR		
GTA	comp=Z,220nm,18.5s				LR	LR		
GUN	**Gumba** comp=Z,45nm,0.8s	**42.45**	**311**	*e*P		**P**	**13 31 30.8**	**+0.3**
PKIN	**Phulchoki** comp=Z,19nm,0.6s	**42.64**	**310**	*e*P		**P**	**13 31 32.9**	**+0.9**
KKN	**Kakani** comp=Z,22nm,0.9s	**42.84**	**310**	*e*P		**P**	**13 31 33.6**	**+0.1**
DMN	**Daman**	**42.88**	**310**	*e*P		**P**	**13 31 34.1**	**+0.2**
USRK	**Ussuriysk Ar.** comp=Z,5.8nm,0.6s,baz=200,slow=6.7,SNR=11	**43.31**	**11**	P		**P**	**13 31 37.7**	**+1.0**
USRK					LR	LR	13 48 39.0	
	comp=Z,162nm,21.4s,baz=146,slow=34							
GKN	**Gorkha** comp=Z,56nm,0.9s	**43.44**	**310**	*e*P		**P**	**13 31 38.4**	**+0.1**
KOLN	**Koldanda** comp=Z,50nm,0.7s	**44.12**	**309**	*e*P		**P**	**13 31 44.2**	**+0.4**
PYUN	**Piuthan** comp=Z,134nm,1.0s	**44.75**	**309**	*e*P		**P**	**13 31 49.4**	**+0.5**
CAN	**Canberra** comp=Z,21nm,0.6s	**45.27**	**147**	*e*P		**P**	**13 31 52.0**	**-0.7**
CAN	**Canberra** comp=Z,21nm,0.6s	**45.27**	**147**	*e*P		**P**	**13 31 52.0**	**-0.7**
CAN					pmax	pmax		
ASAJ	**Asahikawa** comp=Z,5.4nm,0.7s,baz=233,slow=11,SNR=12	**46.26**	**21**	P		**P**	**13 32 00.7**	**+0.5**
ASAJ	**Asahikawa** comp=Z,20nm,1.4s	**46.26**	**21**	*e*P		**P**	**13 32 00.1**	**-0.2**
ULN	**Ulaanbaatar** comp=Z,13nm,0.8s	**47.44**	**347**	*e*P		**P**	**13 32 08.4**	**-1.2**
ULN	**Ulaanbaatar** comp=Z,21nm,1.2s	**47.44**	**347**	*ce*P		**P**	**13 32 10.4**	**+0.8**
ULN					pmax	pmax		
SONM	**Songino Array** comp=Z,9.2nm,0.8s,baz=164,slow=8.9,SNR=52	**47.56**	**347**	P		**P**	**13 32 11.2**	**+0.7**
SONM					PcP	**PcP**	**13 33 39.1**	**-0.9**
	comp=Z,3.5nm,0.8s,baz=164,slow=3.7,SNR=5.7							
SONM					LR	LR	13 54 09.2	
	comp=Z,167nm,18.8s,baz=171,slow=38							
SONA1	**Songino Array**	**47.57**	**347**	*e*P		**P**	**13 32 10.8**	**+0.2**
KLR	**Kul'dur** comp=Z,0.5nm,0.6s,baz=200,slow=4.3,SNR=20	**48.12**	**9**	P		**P**	**13 32 14.8**	**+0.1**
KLR					LR	LR	13 53 48.9	
	comp=Z,8.4nm,20.0s,baz=197,slow=38							
KLR	**Kul'dur**	**48.12**	**9**	*d*P		**P**	**13 32 14.6**	**-0.1**
YSS	**Yuzh-Sakhalins** comp=Z,12nm,1.2s	**48.77**	**20**	*i* P		**P**	**13 32 18.5**	**-1.2**
YSS					pmax	pmax		
GRNR	**Gornyy** comp=Z,52nm,1.0s	**50.48**	**13**	*e*P		**P**	**13 32 33.0**	**+0.3**
GRNR					pmax	pmax		
ZAK	**Zakamensk** comp=Z,10.0nm,1.0s	**50.68**	**345**	*e*P		**P**	**13 32 34.6**	**+0.3**
ZAK					pmax	pmax		
WMQ	**Urumqi** comp=Z,14nm,0.7s	**51.23**	**329**	P		**P**	**13 32 39.8**	**+1.2**
WMQ					pmax	pmax		
WMQ	comp=Z,390nm,9.3s				pmax	pmax		
WMQ	comp=Z,300nm,6.9s				LR	LR		
WMQ	comp=Z,140nm,6.1s				LR	LR		
WMQ	comp=Z,220nm,29.9s				LR	LR		
TLY	**Talaya** comp=Z,19nm,0.7s,baz=174,slow=5.8,SNR=14	**51.79**	**346**	P		**P**	**13 32 43.6**	**+1.0**
TLY	**Talaya**	**51.79**	**346**	*e*P		**P**	**13 32 43.6**	**+1.0**
TLY	comp=Z,31nm,0.9s				pmax	pmax		
TLY	comp=Z,74nm,15.0s				MLR	MLR		
ZEA	**Zeya** comp=Z,31nm,0.8s	**52.00**	**5**	*e*P		**P**	**13 32 43.0**	**-1.0**
ZEA					pmax	pmax		
MOY	**Mondy**	**52.45**	**344**	*e*P		**P**	**13 32 48.4**	**+0.9**
MOY	comp=Z,28nm,1.5s				pmax	pmax		
HVS	**Khovu-Aksy** comp=Z,28nm,1.0s	**54.27**	**339**	*i* P		**P**	**13 33 01.3**	**+0.4**
HVS					pmax	pmax		
CLNS	**Chul'man**	**54.94**	**3**	*e*P		**P**	**13 33 06.4**	**+0.8**
CLNS	comp=Z,40nm,0.8s				pmax	pmax		
CLNS	comp=N,29nm,0.9s				pmax	pmax		
CLNS	comp=E,13nm,0.9s				pmax	pmax		
KSH	**Kashi** comp=E,26nm,0.8s	**55.52**	**318**

comp=Z,6.9nm,0.8s
AAK Ala-Archa 58.09 321 *d* iP **P 13 33 29.0 +0.6**
AAK pmax pmax
comp=Z,6.0nm,0.9s
AML Almayashu 58.34 320 P **P 13 33 31.3 +0.8**
SNR=12
PETK Petropavlovsk- 59.44 25 P **P 13 33 38.1 +0.7**
comp=Z,9.7nm,0.8s,baz=185,slow=3.6,SNR=13
PETK LR LR 13 59 13.7
comp=Z,63nm,20.8s,baz=227,slow=36
PETK Petropavlovsk- 59.44 25 *e*P **P 13 33 37.7 +0.3**
ZALV Zalesovo Beam 59.86 336 P **P 13 33 40.0 -0.2**
comp=Z,2.1nm,0.5s,baz=123,slow=5.5,SNR=16
ZALV Zalesovo Beam 59.86 336 *e*P **P 13 33 39.7 -0.6**
KURBB Kurchatov Arra 60.42 330 P **P 13 33 44.1 0.0**
comp=Z,11nm,1.1s,baz=132,slow=6.8,SNR=25
KURBB PP **PP 13 35 59.3 +1.6**
comp=Z,1.1nm,0.9s,baz=130,slow=8.7,SNR=4.5
YAK Yakutsk 60.42 5 P **P 13 33 44.0 +0.1**
YAK LR LR 13 59 40.9
comp=Z,76nm,20.5s,baz=246,slow=36
YAK Yakutsk 60.42 5 *e*P **P 13 33 43.7 -0.2**
YAK *e**PP **pP 13 33 57.1 +1.2**
YAK *e* 13 34 29.6
YAK *e* 13 35 53.1
YAK *e*S **S 13 41 54.9 -0.9**
YAK *e**SS **pS 13 42 09.5 -0.7**
YAK *e* 13 43 28.6
YAK *e*SS **SS 13 45 47.9 -6.3**
YAK *e*SSS SSS 13 48 35.7
YAK pmax pmax
comp=Z,63nm,0.9s
YAK pmax pmax
comp=N,18nm,1.1s
YAK pmax pmax
comp=E,5.0nm,0.9s
YAK pmax pmax
comp=Z,73nm,4.2s
YAK pmax pmax
comp=N,95nm,5.2s
YAK pmax pmax
comp=E,88nm,4.6s
YAK smax smax
comp=N,70nm,4.0s
YAK smax smax
comp=E,50nm,3.8s
KURK Kurchatov 60.43 330 P **P 13 33 44.1 -0.1**
KURK PP **PP 13 35 59.3 +1.5**
KURK Kurchatov 60.43 330 P **P 13 33 44.1 -0.1**
KURK 13 35 59.3
KURK pmax pmax
comp=Z,11nm,1.1s
NVS Novosibirsk 61.15 336 *e*P P 13 33 44.2 -4.8
NVS pmax pmax
comp=N,9.0nm,1.5s
NVS pmax pmax
comp=E,13nm,1.5s
NVS pmax pmax
comp=Z,14nm,1.5s
MA2 Magadan 62.04 17 P **P 13 33 56.0 +1.0**
comp=Z,43nm,0.9s,baz=207,slow=6.7,SNR=102
MA2 LR LR 13 59 44.6
comp=Z,70nm,21.2s,baz=208,slow=35
MA2 Magadan 62.04 17 *e*P **P 13 33 55.8 +0.8**
MA2 Magadan 62.04 17 *e*P **P 13 33 55.8 +0.8**
SEY Seymchan 65.26 15 P **P 13 34 16.7 +0.6**
comp=Z,11nm,1.2s,baz=217,slow=7.1,SNR=16
SEY Seymchan 65.26 15 *ce*P **P 13 34 16.9 +0.8**
BVAR Borovoye Array 65.92 329 P **P 13 34 20.6 0.0**
comp=Z,2.2nm,0.6s,baz=125,slow=9.1,SNR=17
BRVK Borovoye 65.99 329 *ce*P **P 13 34 20.8 -0.3**
BRVK pmax pmax
comp=Z,23nm,1.7s
GEYT Alibeck 67.72 310 P **P 13 34 32.7 +0.2**
comp=Z,5.9nm,0.9s,baz=152,slow=4.7,SNR=8.6
TIXI Tiksi 69.91 3 P **P 13 34 44.4 -0.9**
comp=Z,9.9nm,0.8s,baz=160,slow=5.5,SNR=35
TIXI Tiksi 69.91 3 *e*P **P 13 34 44.2 -1.1**
comp=Z,13nm,0.8s
TIXI Tiksi 69.91 3 *i* P **P 13 34 44.2 -1.1**
TIXI pmax pmax
comp=Z,16nm,0.9s
ABKAR Akbulak array 70.10 322 *e*P **P 13 34 46.8 -0.2**
AKTO Aktyubinsk 71.68 323 P **P 13 34 56.6 0.0**
comp=Z,9.6nm,0.8s,baz=99,slow=7.2,SNR=33
SVE Sverdlovsk 72.67 330 *e*P **P 13 35 02.5 +0.2**
SVE pmax pmax
comp=Z,29nm,1.4s
BILL Bilibino 72.91 16 *i* P **P 13 35 02.0 -1.5**
BILL *i* 13 35 18.9
BILL pmax pmax
comp=Z,3.0nm,1.0s
ARU Arti 73.57 329 *d* iP **P 13 35 06.9 -0.7**
ARU 13 35 22.6
ARU S **SKiKP 13 44 35.0 +0.3**
ARU pmax pmax
comp=Z,30nm,1.7s
LKRN Lenkeran, Azer 75.05 310 P **P 13 35 15.3 -1.3**
SEKA Sheki 76.67 312 P **P 13 35 24.2 -1.7**
MNGR Mingechevir, A 76.68 311 P **P 13 35 24.7 -1.2**
ZKTA Zakatala 77.16 312 P **P 13 35 27.4 -1.2**
GANJ Ganja 77.23 311 P **P 13 35 27.7 -1.3**
NAX Nakhchivan 77.65 310 P **P 13 35 30.1 -1.4**
GNI Garni 78.36 311 *i* P **P 13 35 35.5 0.0**
ZEI Tsey 79.33 313 *e*P **P 13 35 38.2 -2.6**
ZEI pmax pmax
comp=Z,13nm,0.7s
NCK Nalchik 79.64 314 *i* P **P 13 35 42.4 +0.1**
NCK pmax pmax
comp=Z,12nm,0.9s
KBZ Khabaz 80.17 314 P **P 13 35 44.9 -0.2**
comp=Z,9.1nm,0.8s,baz=131,slow=3.7,SNR=28
NEY Neytrino 80.24 313 *i* P **P 13 35 45.6 -0.1**
NEY pmax pmax
comp=Z,2.0nm,0.9s
KIV Kislovodsk 80.35 314 *e*P **P 13 35 45.4 -0.8**
KIV pmax pmax
comp=Z,9.0nm,1.1s
VRH Novokhopyorsk 81.89 321 *e*P **P 13 35 52.8 -1.2**
VRH pmax pmax
comp=Z,20nm,0.6s
VNDA Vanda 82.31 172 P **P 13 35 54.4 -1.3**
comp=Z,1.9nm,0.8s,baz=312,slow=6.0,SNR=8.2
VNDA LR LR 14 13 30.0
comp=Z,61nm,18.1s,baz=334,slow=36
VNDA Vanda 82.31 172 *e*P **P 13 35 54.8 -1.0**
comp=Z,3.3nm,0.9s
VNDA Vanda 82.31 172 *e*P **P 13 35 54.8 -1.0**
VNDA pmax pmax
comp=Z,3.0nm,0.9s
VSR Storozhevoye 83.48 321 *e*P **P 13 36 00.4 -2.0**
VSR pmax pmax
comp=Z,20nm,0.7s
LPSR Galich'ya Gora 83.76 323 *e*P **P 13 36 03.2 -0.5**
LPSR pmax pmax
comp=Z,20nm,1.0s
ASF Jabal al Asfar 84.07 302 P **P 13 36 06.4 +0.5**
comp=Z,8.5nm,0.9s,baz=340,slow=1.6,SNR=12
ANN Anapa 84.18 315 *e*P **P 13 36 04.9 -1.1**
ANN pmax pmax
comp=Z,59nm,1.3s
KLMR Klimovskoe 84.28 331 *e*P **P 13 36 05.0 -1.2**
KLMR AMP 13 36 06.1
comp=Z,41nm,0.9s
KLMR Klimovskoe 84.28 331 *e*P **P 13 36 04.9 -1.2**
KLMR pmax pmax
comp=Z,41nm,0.9s
TMCR Tamitsa 85.31 334 *e*P **P 13 36 10.5 -0.8**
TMCR pmax pmax
comp=Z,17nm,0.9s
OBN Obninsk 85.34 325 *d* iP **P 13 36 10.1 -1.5**
OBN *i* 13 36 25.2
OBN pmax pmax
comp=Z,26nm,0.9s
MMAI Mount Meron Ar 85.35 303 P **P 13 36 12.9 +0.6**
comp=Z,5.7nm,0.9s,baz=81,slow=9.2,SNR=5.3
IM3 Indian Mountai 86.39 24 *e*P **P 13 36 16.9 +0.2**
KDAK Kodiak Island 86.54 32 P **P 13 36 17.4 -0.1**
comp=Z,4.5nm,0.8s,baz=235,slow=12,SNR=3.2
BRTR Keskin Array B 86.84 310 P **P 13 36 18.6 -1.0**
comp=Z,8.2nm,0.8s,baz=124,slow=6.2,SNR=38
CAST Castle Rocks 86.98 27 *e*P **P 13 36 19.7 0.0**
comp=Z,2.5nm,0.7s
MLY Manley 87.61 25 *e*P **P 13 36 22.6 -0.1**
comp=Z,3.7nm,0.9s

COLD Coldfoot 87.86 23 *e*P **P 13 36 24.2 +0.4**
comp=Z,2.6nm,0.9s
MCK McKinley 88.40 26 *e*P **P 13 36 25.4 -1.0**
comp=Z,4.8nm,0.9s
MCK McKinley 88.40 26 *e*P **P 13 36 25.4 -1.0**
MCK pmax pmax
comp=Z,5.0nm,0.9s
SYO Syowa Base 88.61 201⇑ *e*P **P 13 36 24.9 -2.3**
WRH Wood River Hil 88.75 26 *e*P **P 13 36 26.9 -1.1**
comp=Z,4.2nm,0.9s
ILAR Eielson Array 89.26 25 P **P 13 36 28.3 -2.1**
comp=Z,0.8nm,0.7s,baz=248,slow=4.9,SNR=12
AKASG Malin Array Be 89.75 321 P **P 13 36 30.9 -2.0**
comp=Z,1.3nm,0.7s,baz=70,slow=4.5,SNR=11
AKASG Malin Array Be 89.75 321 P **P 13 36 31.0 -2.0**
AKBB Malin Array Si 89.75 321 *e*P **P 13 36 31.5 -1.5**
comp=Z,4.9nm,0.9s
AKBB Malin Array Si 89.75 321 *e*P **P 13 36 31.5 -1.5**
AKBB pmax pmax
comp=Z,5.0nm,0.9s
KIEV Kiev 89.77 321 *i* P **P 13 36 29.6 -3.4**
KIEV pmax pmax
comp=Z,3.0nm,0.9s
ARCES ARCESS Array B 90.25 340 P **P 13 36 34.6 -0.4**
comp=Z,3.6nm,1.0s,baz=61,slow=5.8,SNR=3.6
SORM Soroca 90.45 318⇓ *i* P **P 13 36 34.7 -1.6**
FINES FINESS Array B 90.79 331 P **P 13 36 35.8 -1.8**
comp=Z,2.3nm,0.6s,baz=84,slow=5.9,SNR=10
SPITS Spitsbergen Ar 91.22 348 P **P 13 36 38.1 -1.3**
comp=Z,10nm,1.0s,baz=128,slow=19,SNR=4.7
SPITS LR LR 14 21 37.6
comp=Z,59nm,20.1s,baz=95,slow=38
VRI Vrincioaia 91.71 316⇓ *i* iP **P 13 36 42.0 -0.3**
TESR Tescani 91.72 316⇓ *i* iP **P 13 36 40.4 -1.9**
QSPA South Pole Qui 91.74 180 P **P 13 36 40.9 -1.2**
comp=Z,3.5nm,0.6s,baz=306,slow=3.3,SNR=14
MLR Muntele Rosu 92.29 315 P **P 13 36 44.9 -0.2**
comp=Z,0.5nm,0.6s,baz=140,slow=7.9,SNR=4.5
MLR Muntele Rosu 92.29 315⇑ *i* P **P 13 36 43.9 -1.2**
BURAR Bucovina Array 92.60 318⇑ *i* P **P 13 36 46.0 -0.4**
INK Inuvik 94.00 21 P **P 13 36 51.5 -0.7**
comp=Z,1.1nm,0.6s,baz=296,slow=5.5,SNR=9.1
CRVS Cervenica-Dubn 94.93 319 *e*P **P 13 36 56.6 -0.4**
CRVS Cervenica-Dubn 94.93 319 *e*P **P 13 36 56.6 -0.4**
BOSA Boshof 95.94 242 LR LR 14 16 27.4
comp=Z,50nm,18.4s,baz=346,slow=33
TORD Torodi Ar. Bea 118.03 286 PKP **PKPdf 13 42 20.3 -2.1**
comp=Z,1.1nm,0.7s,baz=60,slow=1.5,SNR=9.0
TXAR Lajitas Array 127.23 50 PKP **PKPdf 13 42 39.1 -0.7**
comp=Z,0.4nm,0.8s,baz=214,slow=3.1,SNR=4.4
CMLA Cha da Macela 129.92 325 *i* PKIKP **PKPdf 13 42 47.0 +2.4**

NIED ***21*** *13:31:00,39˚.70N×142˚.30E,h11km,Mw3.6 Best double couple: M₀3.32000×10¹⁴ NP1:φs308.00000˚,δ46.00000˚, λ14.00000˚. NP2:φs208.00000˚,δ80.00000˚,λ135.00000˚.*
ISCJB ***21*** *13:31:17.4±1.3,39˚.74N±0˚.04×142˚.32E±0˚.09,h21km±9km, mb3.5/6,Error ellipse: s-maj=11.8km s-min=6.0km az=1.9*
JMA ***21*** *13:31:18.2±0.1,39˚.74N×142˚.26E,h23km±1km,M3.8*
IDC ***21*** *13:31:22.7±2.4,39˚.68N×142˚.31E,h63km±22km,mb3.2/6, mb1 3.3/9,mb1mx3.1/67,mbtmp3.5/9,Error ellipse: s-maj=26.8km s-min=14.1km az=104.0*
ISC 21 13:31:17.4±1.8,39˚.73N±0˚.04×142˚.28E±0˚.07,h8km±11km, n24,σ1°56/28,mb3.6/6,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
JTH	**Tanohata**	**0.38**	**304**	P		**Pb**	**13 31 26.0**	**-0.4**
JTH				*e*S		**Sb**	**13 31 31.6**	**-0.9**
MIYJ	**Miyakonagasawa**	**0.38**	**247**	P		**Pb**	**13 31 26.2**	**-0.2**
MIYJ				S		**Sb**	**13 31 31.6**	**-0.9**
JKZ	**Kuzumaki**	**0.77**	**290**	P		**Pg**	**13 31 32.5**	**+0.2**
JKZ				*e*S		**Sg**	**13 31 42.4**	**0.0**
OFUJ	**Ofunato**	**0.80**	**216**	P		**Pg**	**13 31 33.0**	**+0.2**
OFUJ				*e*S		**Sg**	**13 31 43.2**	**0.0**
JOM	**Ohasama**	**0.80**	**252**	P		**Pg**	**13 31 33.2**	**+0.4**
JOM				*e*S		**Sg**	**13 31 43.6**	**+0.3**
JANG	**Nango**	**0.87**	**318**	P		**Pg**	**13 31 33.4**	**-0.8**
JANG				*e*S		**Sg**	**13 31 44.0**	**-1.5**
JMK	**Ichinoseki**	**1.13**	**227**	P		**Pg**	**13 31 38.4**	**-0.6**
JMK				*e*S		**Sg**	**13 31 52.9**	**-0.8**
JRG	**Rokugo**	**1.31**	**256**	P		**Pb**	**13 31 42.2**	**-0.1**
JRG				*e*S		**Sb**	**13 31 59.2**	**0.0**
JAH	**Hinai**	**1.34**	**291**	P		**Pn**	**13 31 42.0**	**-0.4**
JAH				*e*S		**Sb**	**13 31 59.6**	**-0.5**
ASAJ	**Asahikawa**	**4.39**	**3**	P		**Pn**	**13 32 25.8**	**+1.4**
	1.3nm,0.3s,baz=202,slow=12,SNR=15							
ASAJ				S		**Sn**	**13 33 18.9**	**+3.2**
	0.4nm,0.3s,baz=128,slow=19,SNR=2.9							
MJAR	**Matsushiro Arr**	**4.52**	**227**	P		**Pn**	**13 32 29.1**	**+3.0**
	0.6nm,0.3s,baz=38,slow=10,SNR=10							
KSRS	**Korea Array**	**11.46**	**263**	P		**Pn**	**13 34 05.0**	**+3.7**
	0.2nm,0.3s,baz=69,slow=14,SNR=3.0							
H11N2	**WAKE ISLAND Hy**	**29.07**	**126**	T		T	14 07 46.6	
	baz=319,slow=75,SNR=187							
H11N1	**WAKE ISLAND Hy**	**29.07**	**126**	T		T	14 07 52.9	
	baz=319,slow=75,SNR=241							
H11N3	**WAKE ISLAND Hy**	**29.08**	**126**	T		T	14 07 48.3	
	baz=319,slow=75,SNR=205							
H11S1	**WAKE ISLAND Hy**	**29.87**	**128**	T		T	14 08 48.9	
	baz=320,slow=76,SNR=34							
H11S3	**WAKE ISLAND Hy**	**29.87**	**128**	T		T	14 08 46.1	
	baz=320,slow=76,SNR=19							
H11S2	**WAKE ISLAND Hy**	**29.88**	**128**	T		T	14 08 47.4	
	baz=320,slow=76,SNR=25							
ZALV	**Zalesovo Beam**	**40.65**	**310**	P		**Pn**	**13 38 56.1**	**-1.6**
	0.6nm,0.4s,baz=98,slow=8.9,SNR=2.7							
MKAR	**Makanchi Array**	**43.31**	**20**	P		**Pn**	**13 39 18.2**	**-1.5**
	0.4nm,0.6s,baz=81,slow=8.2,SNR=4.1							
KURBB	**Kurchatov Arra**	**44.92**	**306**	P		**Pn**	**13 39 31.8**	**-0.6**
	0.5nm,0.5s,baz=80,slow=8.6,SNR=3.7							
ILAR	**Eielson Array**	**46.87**	**34**	P		**Pn**	**13 39 46.9**	**-0.7**
	0.2nm,0.6s,baz=265,slow=7.0,SNR=2.6							
WRA	**Warramunga Arr**	**59.82**	**189**	P		**Pn**	**13 41 19.9**	**-3.4**
	0.6nm,0.3s,baz=185,slow=22,SNR=20							
ASAR	**Alice Springs**	**63.55**	**189**	P		**Pn**	**13 41 47.8**	**-0.6**
	0.2nm,0.6s,baz=9.8,slow=6.0,SNR=4.5							

ISK ***21*** *13:34:00.3,39˚.09N×29˚.17E,h5km,ML2.3/11*
ISCJB ***21*** *13:34:01.2±0.4,39˚.08N±0˚.03×29˚.16E±0˚.03,h5km±5km, Error ellipse: s-maj=4.5km s-min=3.6km az=159.3*
DDA ***21*** *13:34:01.2,39˚.07N×29˚.16E,h7km,Ml2.6*
CSEM ***21*** *13:34:01.2±0.1,39˚.09N×29˚.16E,h8km,ML2.3,Error ellipse: s-maj=2.9km s-min=2.4km az=130.0*
ISC 21 13:34:01.3±0.9,39˚.10N±0˚.02×29˚.15E±0˚.02,h7km±7km, n40,σ0°38/60,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
SIMA	**Simav-Kutahya**	**0.13**	**265**	P	G	**Pg**	**13 34 03.9**	**-0.2**
SIMA				S	G	**Sg**	**13 34 06.2**	**+0.1**
SIMA	**Simav-Kutahya**	**0.13**	**265**	*e*P	g	**Pg**	**13 34 03.9**	**-0.2**
SIMA				*e*S	g	**Sg**	**13 34 06.2**	**+0.1**
GDZ	**Gediz**	**0.26**	**92**	*i* P		**Pg**	**13 34 06.6**	**+0.3**
GDZ				*i* S		**Sg**	**13 34 10.7**	**+0.9**
GDZ	**Gediz**	**0.26**	**92**	P	P	**Pg**	**13 34 06.6**	**+0.3**
GDZ				S		**Sg**	**13 34 10.6**	**+0.9**
DEMI	**Demirci**	**0.34**	**261**	*i* P		**Pg**	**13 34 08.2**	**+0.2**
DEMI				*i* S		**Sg**	**13 34 12.9**	**+0.3**
DEMI	**Demirci**	**0.34**	**261**	P		**Pg**	**13 34 08.2**	**+0.2**
DEMI				S		**Sg**	**13 34 12.9**	**+0.3**
TVSB	**Tavsanli**	**0.43**	**34**	PG		**Pg**	**13 34 09.2**	**-0.4**
TVSB				SG		**Sg**	**13 34 14.9**	**-0.3**
TVSB	**Tavsanli**	**0.43**	**34**	*e*Pg		**Pg**	**13 34 09.2**	**-0.4**
TVSB				*e*Sg		**Sg**	**13 34 14.9**	**-0.3**
KULA	**Kula-Manisa**	**0.70**	**214**	PG		**Pg**	**13 34 14.5**	**-0.2**
KULA				SG		**Sg**	**13 34 23.6**	**-0.1**
KULA	**Kula-Manisa**	**0.70**	**214**	*e*Pg		**Pg**	**13 34 14.5**	**-0.2**
KULA				*e*Sg		**Sg**	**13 34 23.6**	**-0.1**
DURS	**Dursunbey**	**0.73**	**314**	*i* P		**Pg**	**13 34 14.9**	**-0.4**
DURS				*i* S		**Sb**	**13 34 27.4**	**+0.8**
DURS	**Dursunbey**	**0.73**	**314**	P		**Pg**	**13 34 14.9**	**-0.4**
DURS				S		**Sb**	**13 34 27.4**	**+0.8**
MANT	**Manisa**	**0.76**	**218**	*i* P		**Pg**	**13 34 16.0**	**0.0**
MANT				*i* S		**Sg**	**13 34 25.6**	**-0.3**
MANT	**Manisa**	**0.76**	**218**	P		**Pg**	**13 34 16.0**	**0.0**
MANT				S		**Sg**	**13 34 25.6**	**-0.3**
KHAL	**Karahalli**	**0.77**	**160**	*i* P		**Pb**	**13 34 17.3**	**+0.2**
KHAL				*i* S		**Sb**	**13 34 27.1**	**-0.7**
KHAL	**Karahalli**	**0.77**	**160**	P		**Pb**	**13 34 17.3**	**+0.2**
KHAL				S		**Sb**	**13 34 27.1**	**-0.7**
BALB	**Balikesir**	**1.13**	**299**	PN		**Pg**	**13 34 22.7**	**-0.2**
BALB	**Balikesir**	**1.13**	**299**	*e*Pn		**Pg**	**13 34 22.7**	**-0.2**
STEP	**BALIKESIR_Sava**	**1.15**	**285**	*i* P		**Pn**	**13 34 24.0**	**+0.2**
STEP				*i* S		**Sn**	**13 34 40.0**	**+0.2**
STEP	**BALIKESIR_Sava**	**1.15**	**285**	P		**Pn**	**13 34 24.0**	**+0.2**
STEP				S		**Sn**	**13 34 40.0**	**+0.2**
SHUT	**Suhut-Afyon**	**1.22**	**116**	PN		**Pg**	**13 34 24.0**	**-0.6**
SHUT	**Suhut-Afyon**	**1.22**	**116**	*e*Pn		**Pg**	**13 34 24.0**	**-0.6**
CAVI	**Cavuskoy**	**1.23**	**25**	PN		**Pb**	**13 34 24.2**	**-0.6**
CAVI	**Cavuskoy**	**1.23**	**25**	*e*Pn		**Pb**	**13 34 24.2**	**-0.6**
BORA	**Eskisehir**	**1.27**	**52**	*i* P		**Pg**	**13 34 25.9**	**+0.3**
BORA				*i* S		**Sn**	**13 34 43.5**	**+0.5**
BORA	**Eskisehir**	**1.27**	**52**	P		**Pg**	**13 34 26.0**	**+0.3**
BORA				S		**Sn**	**13 34 43.5**	**+0.5**
MDNY	**Mudanya-Bursa**	**1.29**	**351**	PN		**Pn**	**13 34 25.4**	**-0.3**
MDNY	**Mudanya-Bursa**	**1.29**	**351**	*e*Pn		**Pn**	**13 34 25.4**	**-0.3**
KCTX	**Karacabey (Bur**	**1.32**	**332**	PN		**Pn**	**13 34 26.2**	**0.0**
KCTX	**Karacabey (Bur**	**1.32**	**332**	*e*Pn		**Pn**	**13 34 26.2**	**0.0**
ADVT	**Abdulvahap**	**1.41**	**18**	PN		**Pn**	**13 34 27.3**	**-0.1**
ADVT	**Abdulvahap**	**1.41**	**18**	*e*Pn		**Pn**	**13 34 27.3**	**-0.1**
YLV	**Yalova**	**1.48**	**6**	PN		**Pn**	**13 34 28.3**	**-0.1**
YLV	**Yalova**	**1.48**	**6**	*e*Pn		**Pn**	**13 34 28.3**	**-0.1**
ARMT	**Armutlu**	**1.48**	**351**	PN		**Pn**	**13 34 28.3**	**-0.1**
ARMT	**Armutlu**	**1.48**	**351**	*e*Pn		**Pn**	**13 34 28.3**	**-0.1**
AYDB	**Zeytinkoy-Aydi**	**1.52**	**221**	PN		**Pn**	**13 34 28.9**	**0.0**
AYDB	**Zeytinkoy-Aydi**	**1.52**	**221**	*e*Pn		**Pn**	**13 34 28.9**	**0.0**
EDC	**Edincik**	**1.60**	**322**	PN		**Pn**	**13 34 30.1**	**+0.2**
EDC	**Edincik**	**1.60**	**322**	*e*Pn		**Pn**	**13 34 30.1**	**+0.2**

ECX ***21*** *13:37:16.3±0.6,32˚.21N×115˚.27W,h8km,MD3.0,ML3.1*
MEX ***21*** *13:37:16.8±0.5,32˚.29N×115˚.14W,h13km±40km,MD3.7*
ISC 21 13:37:15.1±1.1,32˚.21N±0˚.02×115˚.25W±0˚.03,h19km±2km, n31,σ0°78/50,3C-6D,California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
CPBX	**Cerro Prieto**	**0.21**	**346**	*e*P		**Pb**	**13 37 19.6**	**-0.2**
CPBX				*e*S		**Sg**	**13 37 23.7**	**-0.2**
CPBX				⇑*e*			13 37 26.4	
CPBX				IAML			13 37 26.4	
	comp=N,10µm,0.2s							
EMSC	**East Mesa**	**0.57**	**23**⇑ *i* P			**Pg**	**13 37 26.9**	**+0.4**
SGL	**Mount Signal**	**0.59**	**317**⇓ *i* P			**Pb**	**13 37 27.0**	**+0.2**
COA	**Coachella**	**0.66**	**9**⇓ *i* P			**Pb**	**13 37 28.1**	**+0.2**
YMD	**Yuma Desert**	**0.68**	**60**⇓ *i* P			**Pb**	**13 37 28.4**	**+0.1**
YUH	**Yuha Desert**	**0.72**	**307**⇓ *i* P			**Pb**	**13 37 28.8**	**-0.2**
COK	**Cook Ranch**	**0.75**	**327**⇓ *i* P			**Pb**	**13 37 29.8**	**+0.2**
ECBX	**El Chinero**	**0.76**	**167**	*e*P		**Pb**	**13 37 29.6**	**-0.1**
ECBX				*e*S		**Sb**	**13 37 40.1**	**+0.6**
RMX	**La Rumorosa**	**0.81**	**299**⇑ *e*P			**Pb**	**13 37 29.7**	**-0.9**
RMX				*e*S		**Sb**	**13 37 39.4**	**-1.7**
RMX				IAML			13 37 41.5	
	comp=E,712nm,0.1s							
RMX				*e*			13 37 41.5	
IKP	**In-Ko-Pah, Jac**	**0.85**	**301**	P		**Pb**	**13 37 31.1**	**-0.2**
	baz=127,SNR=49							
IKP				S		**Sb**	**13 37 42.5**	**+0.1**
	baz=127							
SWSC	**Sam W. Stewart**	**0.87**	**327**	P		**Pb**	**13 37 30.6**	**-1.0**
	baz=152,SNR=32							
SWSC				S		**Sg**	**13 37 43.8**	**+0.2**
	baz=152							
GLA	**Glamis**	**0.91**	**23**	P		**Pb**	**13 37 31.6**	**-0.7**
	baz=202,SNR=26							
GLA				S		**Sb**	**13 37 43.4**	**-0.6**
	baz=202							
SPIG	**San Pedro Mart**	**1.18**	**189**	*i* P		**Pn**	**13 37 36.7**	**-0.2**
SPIG				*e*S		**Sb**	**13 37 51.5**	**-0.6**
SPIG	**San Pedro Mart**	**1.18**	**189**	*e*P		**Pn**	**13 37 36.6**	**-0.3**
SPIG				*e*S		**Sn**	**13 37 52.9**	**+0.3**
SPX	**San Pedro Mart**	**1.18**	**189**	*e*P		**Pn**	**13 37 36.7**	**-0.2**
SPX				*e*S		**Sn**	**13 37 52.9**	**+0.3**
MONP2	**Monument Peak**	**1.20**	**305**	P		**Pb**	**13 37 37.7**	**+0.3**
	baz=129,SNR=39							
MONP2				S		**Sn**	**13 37 53.3**	**+0.3**
	baz=129							
CBX	**Cerro Bola**	**1.21**	**275**	*e*P		**Pn**	**13 37 37.0**	**-0.1**
CBX				*e*S		**Sb**	**13 37 53.1**	**+0.4**
CBX	**Cerro Bola**	**1.21**	**275**	*e*P		**Pn**	**13 37 37.0**	**-0.1**
CBX				*e*S		**Sb**	**13 37 52.9**	**+0.3**
CBX				⇓*e*			13 37 54.3	
CBX				IAML			13 37 54.3	
	comp=N,617nm,0.4s							
TJIG	**Tijuana**	**1.23**	**281**	*e*P		**Pn**	**13 37 37.0**	**-0.3**
ECNX	**Esteban Cantu**	**1.28**	**245**	*e*P		**Pn**	**13 37 38.2**	**+0.1**
ECNX				*e*S		**Sb**	**13 37 55.4**	**+0.7**
BAR	**Barrett**	**1.29**	**291**	*e*P		**Pn**	**13 37 38.2**	**0.0**
PBX	**Punta Banda**	**1.34**	**250**	*e*P		**Pn**	**13 37 38.9**	**0.0**
PBX				*e*S		**Sb**	**13 37 57.1**	**+0.6**
BC3	**Big Chuckawall**	**1.45**	**353**	P		**Pn**	**13 37 39.5**	**-0.9**
	baz=174,SNR=56							
Y12C	**Blythe**	**1.65**	**21**	P		**Pb**	**13 37 45.5**	**+0.6**
	baz=201,SNR=7.5							
Y12C				S		**Sg**	**13 38 07.6**	**-0.8**
	baz=201							
109C	**Camp Elliot, M**	**1.71**	**294**	P		**Pb**	**13 37 45.5**	**-0.4**
	baz=116,SNR=8.1							
109C				S		**Sb**	**13 38 07.9**	**+0.9**
	baz=116							
PFO	**Pinyon Flats O**	**1.73**	**324**	P		**Pn**	**13 37 43.3**	**-1.0**
	baz=146,SNR=14							
PFO				S		**Sb**	**13 38 09.5**	**+1.7**
	baz=146							
IRM	**Iron Mountain**	**1.94**	**2**	P		**Pn**	**13 37 48.4**	**+1.3**
	baz=183,SNR=32							
214A	**Organ Pipe Nat**	**2.08**	**96**	P		**Pn**	**13 37 48.3**	**-0.8**
	baz=275,SNR=18							
MURC	**Murrieta**	**2.15**	**311**	Pb		**Pb**	**13 37 54.6**	**+1.2**
	baz=132							
MURC				Sb		**Sg**	**13 38 22.6**	**-1.6**
	baz=132							
PDMCI	**Parker Dam,Lak**	**2.28**	**24**	Pb		**Pb**	**13 37 57.4**	**+1.8**
	baz=204							
PDMCI				Sb		**Sg**	**13 38 26.7**	**-1.8**
	baz=204							
GMRC	**Granite Mounta**	**2.59**	**352**	Pg		**Pg**	**13 38 05.1**	**+0.3**
	baz=173,SNR=6.6							

IDC ***21*** *13:41:01.2±1.2,39˚.10S×176˚.54E,h76km±9km,mb3.6/2, mb1 3.9/3,mb1mx3.4/38,mbtmp3.9/3,MS3.3/2,Ms1 3.3/2, ms1mx2.8/32,Error ellipse: s-maj=38.5km s-min=13.2km az=127.0*
ISCJB ***21*** *13:41:02.8±0.3,38˚.80S±0˚.02×176˚.32E±0˚.03,h93km±2km, mb3.9/2,Error ellipse: s-maj=3.6km s-min=2.8km az=25.6*
NEIC ***21*** *13:41:04.5±0.0,38˚.73S×176˚.30E,h81km,ML4.3(WEL), After WEL.*
WEL ***21*** *13:41:04.4,38˚.75S±0˚.7×17˚.6E±˚,h78km±1km,ML4.1/44*
ISC 21 13:41:03.4±0.8,38˚.79S±0˚.03×176˚.30E±0˚.03,h90km±4km, n266,σ1°06/268,1C,North Island

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
MRHZ	**Matea Rd**	**0.10**	**113**	P		**Pn**	**13 41 15.8**	**-0.5**
MRHZ	**Matea Rd**	**0.10**	**113**	S		**

RATZ	Rangitukua	0.41	260	P	Pn	13 41 17.6	0.0	
RATZ	Rangitukua	0.41	260	S	Sn	13 41 28.2	0.0	
MTHZ	Maungataniwha	0.43	98	P	Pn	13 41 17.7	0.0	
MTHZ	Maungataniwha	0.43	98	S	Sn	13 41 28.2	-0.2	
WATZ	Wairara	0.45	281	P*	Pn	13 41 17.7	-0.1	
WATZ	Wairara	0.45	281	P	Pn	13 41 17.7	-0.1	
WATZ	Wairara	0.45	281	S	Sn	13 41 27.8	-0.7	
GRRZ	Galatos Road	0.47	342	P	Pn	13 41 17.8	-0.2	
KUTZ	Kaahu Road	0.48	309	P*	Pn	13 41 17.8	-0.2	
KUTZ	Kaahu Road	0.48	309	P	Pn	13 41 17.9	-0.2	
HSRZ	Hossack Road	0.48	355	P	Pn	13 41 17.7	-0.4	
HSRZ	Hossack Road	0.48	355	S	Sn	13 41 28.5	-0.5	
RRRZ	Republican Roa	0.49	21	P*	Pn	13 41 17.4	-0.7	
RRRZ	Republican Roa	0.49	21	P	Pn	13 41 17.5	-0.7	
MUGZ	Murupara	0.49	50	P	Pn	13 41 17.4	-0.7	
NMHZ	Naumai	0.50	127	Pn	Pn	13 41 19.2	+0.9	
NMHZ				Sn	Sn	13 41 30.7	+1.3	
NMHZ	Naumai	0.50	127	P	Pn	13 41 19.2	+0.9	
KATZ	Kakaramea	0.50	249	P*	Pn	13 41 18.6	+0.2	
KATZ	Kakaramea	0.50	249	P	Pn	13 41 18.6	+0.2	
HLRZ	Highlands Stat	0.54	5	P	Pn	13 41 18.6	-0.1	
RTZ	Ruatahuna	0.56	72	P	Pn	13 41 18.6	-0.3	
RTZ	Ruatahuna	0.56	72	S	Sn	13 41 29.4	-0.9	
TARZ	Mount Tarawera	0.58	17	P*	Pn	13 41 18.5	-0.5	
TARZ	Mount Tarawera	0.58	17	P	Pn	13 41 18.5	-0.5	
KRVZ	Karewarewa	0.59	239	P*	Pn	13 41 19.5	+0.4	
KRVZ	Karewarewa	0.59	239	P	Pn	13 41 19.6	+0.4	
OTVZ	Oturere	0.61	233	P*	Pn	13 41 19.4	0.0	
UTU	Utuhina	0.62	353	P*	Pn	13 41 19.1	-0.1	
UTU	Utuhina	0.62	353	P	Pn	13 41 19.1	-0.1	
RAHZ	Arahi	0.63	101	P	Pn	13 41 20.0	+0.7	
KWHZ	Kaweka Forest	0.64	171	P	Pn	13 41 20.3	+0.9	
KWHZ	Kaweka Forest	0.64	171	S	Sn	13 41 32.4	+1.1	
WTVZ	West Tongariro	0.64	240	P*	Pn	13 41 20.0	+0.5	
WTVZ	West Tongariro	0.64	240	P	Pn	13 41 20.1	+0.5	
NGZ	Ngauruhoe	0.66	235	P*	Pn	13 41 20.4	+0.7	
NGZ	Ngauruhoe	0.66	235	P	Pn	13 41 20.5	+0.7	
MKRZ	Makatiti	0.67	12	P*	Pn	13 41 19.6	-0.1	
MKRZ	Makatiti	0.67	12	P	Pn	13 41 19.7	-0.1	
TUVZ	Tukino	0.69	226	P*	Pn	13 41 20.8	+0.8	
TUVZ	Tukino	0.69	226	P	Pn	13 41 20.9	+0.8	
TUVZ	Tukino	0.69	226	S	Sn	13 41 32.6	+0.2	
OMRZ	Omania	0.69	5	P*	Pn	13 41 19.4	-0.5	
OMRZ	Omania	0.69	5	P	Pn	13 41 19.4	-0.5	
NGRZ	Ngongotaha	0.70	353	P	Pn	13 41 19.8	-0.2	
COVZ	Chateau Observ	0.71	235	P	Pn	13 41 20.8	+0.6	
COVZ	Chateau Observ	0.71	235	S	Sn	13 41 33.2	+0.5	
BHHZ	Black Hill Sta	0.72	195	P*	Pn	13 41 20.9	+0.7	
BHHZ				S*	Sn	13 41 32.8	+0.1	
BHHZ	Black Hill Sta	0.72	195	P	Pn	13 41 21.0	+0.7	
BHHZ	Black Hill Sta	0.72	195	S	Sn	13 41 33.0	+0.3	
ARHZ	Aropaoanui	0.72	131	Pn	Pn	13 41 21.0	+0.9	
ARHZ	Aropaoanui	0.72	131	P	Pn	13 41 21.0	+0.9	
MCHZ	McNeill Hill	0.72	154	Pn	Pn	13 41 21.5	+1.4	
MCHZ	McNeill Hill	0.72	154	P	Pn	13 41 21.6	+1.4	
TWVZ	Taurewa	0.72	247	P*	Pn	13 41 20.8	+0.5	
TWVZ	Taurewa	0.72	247	P	Pn	13 41 20.8	+0.5	
TWVZ	Taurewa	0.72	247	S	Sn	13 41 32.8	-0.1	
WHVZ	Whangaehu Hut	0.73	228	P*	Pn	13 41 21.2	+0.7	
WHVZ	Whangaehu Hut	0.73	228	P	Pn	13 41 21.4	+0.8	
WHVZ	Whangaehu Hut	0.73	228	S	Sn	13 41 33.4	+0.1	
FWVZ	Far West T-bar	0.74	231	P*	Pn	13 41 20.9	+0.3	
FWVZ	Far West T-bar	0.74	231	P	Pn	13 41 21.3	+0.7	
MOVZ	Moawhango	0.74	214	P*	Pn	13 41 21.1	+0.6	
MOVZ	Moawhango	0.74	214	P	Pn	13 41 21.1	+0.6	
DRZ	Dome Shelter	0.74	230	P*	Pn	13 41 21.5	+0.8	
DRZ	Dome Shelter	0.74	230	P	Pn	13 41 21.5	+0.8	
TLZ	Tolley Road	0.75	308	P*	Pn	13 41 20.0	-0.6	
TLZ	Tolley Road	0.75	308	P	Pn	13 41 20.7	+0.1	
WNVZ	Wahianoa	0.76	225	P*	Pn	13 41 21.5	+0.8	
EDRZ	Edgecumbe	0.77	27	P*	Pn	13 41 20.0	-0.7	
EDRZ	Edgecumbe	0.77	27	P	Pn	13 41 20.0	-0.7	
TRVZ	Turoa	0.77	229	P*	Pn	13 41 21.3	+0.4	
TRVZ	Turoa	0.77	229	P	Pn	13 41 21.7	+0.8	
KARZ	Kaharoa	0.77	357	P*	Pn	13 41 20.4	-0.3	
KARZ	Kaharoa	0.77	357	P	Pn	13 41 20.4	-0.3	
WHHZ	Waihua	0.79	111	P	Pn	13 41 21.7	+0.9	
LIRZ	Lichensteins R	0.79	5	P*	Pn	13 41 20.6	-0.3	
LIRZ	Lichensteins R	0.79	5	P	Pn	13 41 20.6	-0.3	
SNGZ	Shannon Statio	0.82	89	Pn	Pn	13 41 21.6	+0.5	
SNGZ	Shannon Statio	0.82	89	P	Pn	13 41 21.6	+0.5	
URZ	Urewera	0.83	50	P	Pn	13 41 20.6	-0.7	
	1µm,0.3s,baz=241,slow=7.2,SNR=9352							
URZ				S	Sn	13 41 33.2	-1.5	
	703nm,0.3s,baz=43,slow=18,SNR=65							
URZ				LR	LR	13 41 50.1		
	comp=Z,316nm,19.7s,baz=50,slow=52							
URZ	Urewera	0.83	50	P*	Pn	13 41 20.1	-1.2	
URZ	Urewera	0.83	50	P	Pn	13 41 20.8	-0.5	
URZ	Urewera	0.83	50	S	Sn	13 41 33.1	-1.5	
KRHZ	Kereru	0.85	176	P	Pn	13 41 22.5	+1.0	
MARZ	Manawahe	0.86	20	P*	Pn	13 41 21.0	-0.6	
MARZ	Manawahe	0.86	20	P	Pn	13 41 21.0	-0.6	
MTVZ	Mangateitei	0.87	227	P*	Pn	13 41 22.8	+1.0	
MTVZ	Mangateitei	0.87	227	P	Pn	13 41 22.8	+1.0	
PKVZ	Pokaka	0.89	236	P*	Pn	13 41 22.8	+0.9	
PKVZ	Pokaka	0.89	236	P	Pn	13 41 22.8	+0.9	
RAGZ	Rawiri	0.93	72	P*	Pn	13 41 22.4	0.0	
RAGZ	Rawiri	0.93	72	P	Pn	13 41 22.4	0.0	
RAGZ	Rawiri	0.93	72	P	Pn	13 41 22.4	0.0	
OPRZ	Ohinepanea	0.97	12	P*	Pn	13 41 21.9	-0.9	
OPRZ	Ohinepanea	0.97	12	P	Pn	13 41 22.2	-0.6	
KMRZ	Kaimai	0.99	344	P	Pn	13 41 23.0	0.0	
CKHZ	Cape Kidnapper	1.05	145	Pn	Pn	13 41 24.9	+1.1	
CKHZ	Cape Kidnapper	1.05	145	P	Pn	13 41 24.9	+1.1	
TGRZ	Tauranga	1.06	359	P*	Pn	13 41 23.7	-0.2	
TGRZ	Tauranga	1.06	359	P	Pn	13 41 23.7	-0.2	
MWZ	Matawai	1.07	65	P*	Pn	13 41 23.5	-0.4	
MWZ	Matawai	1.07	65	P	Pn	13 41 23.8	-0.2	
WHRZ	Whale Island	1.08	30	P	Pn	13 41 23.6	-0.4	
KAHZ	Kahuranaki	1.10	156	Pn	Pn	13 41 25.2	+1.0	
KAHZ	Kahuranaki	1.10	156	P	Pn	13 41 25.3	+1.0	
KNZ	Kokohu	1.10	102	Pn	Pn	13 41 24.8	+0.6	
KNZ	Kokohu	1.10	102	P	Pn	13 41 25.1	+0.8	
PNHZ	Pukenui	1.12	184	Pn	Pn	13 41 25.3	+0.7	
PNHZ	Pukenui	1.12	184	P	Pn	13 41 25.3	+0.7	
RIGZ	Rimuhau	1.15	86	P	Pn	13 41 25.1	+0.1	
HIZ	Hauiti	1.16	284	Pn	Pn	13 41 25.4	+0.4	
HIZ	Hauiti	1.16	284	P	Pn	13 41 25.7	+0.7	
TOZ	Tahuroa Road	1.23	329	P*	Pn	13 41 26.0	+0.2	
TOZ	Tahuroa Road	1.23	329	P	Pn	13 41 26.1	+0.2	
VRZ	Vera Road	1.24	254	P*	Pn	13 41 26.5	+0.5	
VRZ	Vera Road	1.24	254	P	Pn	13 41 27.0	+1.1	
PRGZ	Paritu Road	1.25	96	Pn	Pn	13 41 26.4	+0.3	
PRGZ	Paritu Road	1.25	96	P	Pn	13 41 26.4	+0.3	
TKGZ	Te Karaka	1.27	74	Pn	Pn	13 41 26.7	+0.4	
TKGZ	Te Karaka	1.27	74	P	Pn	13 41 26.5	+0.2	
WPHZ	Waipukurau	1.27	175	Pn	Pn	13 41 27.0	+0.6	
WPHZ	Waipukurau	1.27	175	P	Pn	13 41 27.0	+0.6	
TSZ	Takapari Road	1.29	191	Pn	Pn	13 41 27.2	+0.6	
TSZ	Takapari Road	1.29	191	P	Pn	13 41 27.2	+0.6	
MHGZ	Mahia Peninsul	1.31	106	Pn	Pn	13 41 27.6	+0.9	
MHGZ	Mahia Peninsul	1.31	106	P	Pn	13 41 27.6	+0.9	
PXZ	Pawanui	1.31	161	P	Pn	13 41 27.4	+0.6	
RUGZ	Raukumara Rang	1.37	53	P	Pn	13 41 27.0	-0.6	
WAZ	Wanganui	1.40	226	Pn	Pn	13 41 29.3	+1.4	
WAZ	Wanganui	1.40	226	P	Pn	13 41 29.7	+1.7	
WIZ	White Island	1.45	29	P*	Pn	13 41 27.9	-0.6	
WIZ	White Island	1.45	29	P	Pn	13 41 28.0	-0.6	
TWGZ	Tauwhareparae	1.46	66	Pn	Pn	13 41 29.4	+0.6	
TWGZ	Tauwhareparae	1.46	66	P	Pn	13 41 29.2	+0.5	
PRHZ	Porangahau	1.49	170	Pn	Pn	13 41 27.4	-1.7	
PRHZ	Porangahau	1.49	170	P	Pn	13 41 29.5	+0.4	
DVHZ	Dannevirke	1.51	184	Pn	Pn	13 41 29.4	+0.1	
DVHZ	Dannevirke	1.51	184	P	Pn	13 41 29.4	+0.1	
CNGZ	Carnagh Statio	1.53	79	Pn	Pn	13 41 30.3	+0.8	
CNGZ	Carnagh Statio	1.53	79	P	Pn	13 41 30.3	+0.8	
HAZ	Te Kaha	1.56	49	P	Pn	13 41 29.2	-0.8	
MHEZ	Mangahewa	1.56	259	P	Pn	13 41 31.9	+1.9	
OHWZ	Ohakea	1.60	208	P	Pn	13 41 31.8	+1.4	
LREZ	Lake Rotokare	1.61	245	P	Pn	13 41 32.5	+1.8	
POWZ	Post Office Ro	1.65	194	Pn	Pn	13 41 31.5	+0.4	
POWZ	Post Office Ro	1.65	194	P	Pn	13 41 31.4	+0.3	
PKGZ	Pakihiroa	1.67	58	P	Pn	13 41 31.8	+0.4	
ANWZ	Angora Road	1.67	175	P	Pn	13 41 31.7	+0.4	
DREZ	Durham Road	1.68	256	P	Pn	13 41 33.3	+1.9	
PUZ	Puketiti	1.70	66	Pn	Pn	13 41 31.7	-0.1	
PUZ	Puketiti	1.70	66	P	Pn	13 41 31.7	-0.1	
PREZ	Palmer Road	1.75	251	Pn	Pn	13 41 34.5	+2.1	
PREZ	Palmer Road	1.75	251	P	Pn	13 41 34.5	+2.1	
PRWZ	Pori Road	1.78	188	Pn	Pn	13 41 33.1	+0.4	
PRWZ	Pori Road	1.78	188	P	Pn	13 41 33.1	+0.4	
NEZ	North Egmont	1.78	254	Pn	Pn	13 41 34.8	+2.0	
PKE	Pukeiti	1.84	257	Pn	Pn	13 41 35.1	+1.6	
PKE	Pukeiti	1.84	257	P	Pn	13 41 35.2	+1.6	
KHEZ	Kahui Hut	1.84	254	Pn	Pn	13 41 35.4	+1.7	
BFZ	Birch Farm	1.89	181	Pn	Pn	13 41 33.9	-0.3	
BFZ	Birch Farm	1.89	181	P	Pn	13 41 33.9	-0.3	
MKAZ	Moumakai	1.91	332	P	Pn	13 41 34.9	+0.4	
WMGZ	Waiomatatini S	1.93	60	Pn	Pn	13 41 34.7	0.0	
WMGZ	Waiomatatini S	1.93	60	P	Pn	13 41 34.7	0.0	
MRZ	Mangatainoka R	1.94	196	Pn	Pn	13 41 34.6	-0.2	
MRZ	Mangatainoka R	1.94	196	P	Pn	13 41 34.7	-0.2	
NWEZ	Newall Road	1.95	255	Pn	Pn	13 41 36.4	+1.4	
NMEZ	Namu Road	1.98	251	Pn	Pn	13 41 37.0	+1.7	
NMEZ	Namu Road	1.98	251	P	Pn	13 41 37.0	+1.7	
TIWZ	Tintock	2.00	189	Pn	Pn	13 41 35.5	-0.2	
TIWZ	Tintock	2.00	189	P	Pn	13 41 35.5	-0.2	
MXZ	Matakaoa Point	2.01	53	Pn	Pn	13 41 35.9	+0.2	
MXZ	Matakaoa Point	2.01	53	P	Pn	13 41 35.9	+0.2	
KBAZ	Karaka Road Bo	2.03	326	Pn	Pn	13 41 37.1	+1.1	
KBAZ	Karaka Road Bo	2.03	326	P	Pn	13 41 37.2	+1.1	
KUZ	Kuaotunu	2.10	347	Pn	Pn	13 41 36.8	-0.1	
KUZ	Kuaotunu	2.10	347	P	Pn	13 41 37.1	+0.2	
CPWZ	Castlepoint	2.11	182	Pn	Pn	13 41 37.4	+0.3	
CPWZ	Castlepoint	2.11	182	P	Pn	13 41 37.5	+0.3	
ETAZ	East Tamaki Re	2.13	329	Pn	Pn	13 41 37.9	+0.6	
ETAZ	East Tamaki Re	2.13	329	P	Pn	13 41 38.0	+0.6	
AWAZ	Awhitu Peninsu	2.17	322	P	Pn	13 41 38.5	+0.7	
HOWZ	Holdsworth Sta	2.19	196	Pn	Pn	13 41 37.4	-0.7	
HOWZ	Holdsworth Sta	2.19	196	P	Pn	13 41 37.4	-0.7	
OGWZ	Otaki Gorge	2.20	203	Pn	Pn	13 41 37.9	-0.3	
OGWZ	Otaki Gorge	2.20	203	P	Pn	13 41 37.9	-0.3	
WIAZ	Waiheke Island	2.20	335	P	Pn	13 41 38.8	+0.5	
HBAZ	Herne Bay Bore	2.30	327	P	Pn	13 41 40.8	+1.2	
WTAZ	Waiatarua	2.30	323	P	Pn	13 41 40.6	+0.9	
KIW	Kapiti Island	2.32	207	Pn	Pn	13 41 39.4	-0.5	
KIW	Kapiti Island	2.32	207	P	Pn	13 41 39.4	-0.5	
TMWZ	Te Maipa	2.33	188	Pn	Pn	13 41 39.3	-0.7	
TMWZ	Te Maipa	2.33	188	P	Pn	13 41 39.3	-0.7	
RVAZ	Riverhead Bore	2.44	326	P	Pn	13 41 42.3	+1.0	
MTW	Mount Morrison	2.44	194	Pn	Pn	13 41 40.4	-1.1	
MTW	Mount Morrison	2.44	194	P	Pn	13 41 40.3	-1.1	
ABAZ	Army Bay	2.48	332	P	Pn	13 41 43.0	+1.1	
CAW	Cannon Point	2.50	202	Pn	Pn	13 41 41.2	-1.0	
CAW	Cannon Point	2.50	202	P	Pn	13 41 41.2	-1.0	
GRZ	Great Barrier	2.62	345	P	Pn	13 41 44.4	+0.5	
TRWZ	Traveller	2.64	190	Pn	Pn	13 41 43.1	-1.0	
TRWZ	Traveller	2.64	190	P	Pn	13 41 43.1	-1.0	
PAWZ	Paruwai Farm	2.67	194	Pn	Pn	13 41 43.2	-1.3	
PAWZ	Paruwai Farm	2.67	194	P	Pn	13 41 43.3	-1.3	
DUWZ	D'Urville Isla	2.71	222	Pn	Pn	13 41 44.4	-0.7	
DUWZ	D'Urville Isla	2.71	222	P	Pn	13 41 44.4	-0.7	
MSWZ	Moikau Station	2.74	197	Pn	Pn	13 41 44.0	-1.4	
MSWZ	Moikau Station	2.74	197	P	Pn	13 41 44.1	-1.4	
WEL	Wellington	2.75	205	Pn	Pn	13 41 44.5	-1.0	
BHW	Baring Head	2.83	202	P	Pn	13 41 45.1	-1.5	
TCW	Tory Channel	2.87	212	P	Pn	13 41 46.1	-1.1	
PLWZ	Palliser	2.88	196	P	Pn	13 41 45.8	-1.7	
TUWZ	Tuamarina	3.19	214	Pn	Pn	13 41 50.1	-1.4	
TUWZ	Tuamarina	3.19	214	P	Pn	13 41 50.0	-1.4	
NNZ	Nelson	3.30	222	Pn	Pn	13 41 51.3	-1.6	
NNZ	Nelson	3.30	222	P	Pn	13 41 51.3	-1.6	
CMWZ	Cape Campbell	3.35	208	P	Pn	13 41 52.6	-1.1	
BSWZ	Blackbirch Sta	3.46	212	Pn	Pn	13 41 53.4	-1.6	
BSWZ	Blackbirch Sta	3.46	212	P	Pn	13 41 53.5	-1.6	
QRZ	Quartz Range	3.54	234	Pn	Pn	13 41 55.1	-1.1	
QRZ	Quartz Range	3.54	234	P	Pn	13 41 55.1	-1.1	
THZ	Tophouse	3.94	220	Pn	Pn	13 41 59.9	-1.8	
THZ	Tophouse	3.94	220	P	Pn	13 41 60.0	-1.7	
KHZ	Kahutara	4.18	209	P	Pn	13 42 02.5	-2.4	
DSZ	Denniston Nort	4.53	228	Pn	Pn	13 42 07.4	-2.2	
DSZ	Denniston Nort	4.53	228	P	Pn	13 42 07.4	-2.2	
CRLZ	Canterbury Las	5.52	209	Pn	Pn	13 42 20.1	-2.9	
WVZ	Waitaha Valley	6.00	223	Pn	Pn	13 42 27.9	-1.7	
RPZ	Rata Peaks	6.30	217	P	Pn	13 42 31.3	-2.5	
	2.0nm,0.3s,baz=6.8,slow=1.3,SNR=13							
RPZ				S	Sn	13 43 38.2	-6.1	
	10nm,0.3s,baz=48,slow=17,SNR=12							
RPZ				LR	LR	13 45 20.4		
	comp=Z,162nm,21.7s,baz=284,slow=42							
FOZ	Fox Glacier	6.80	224	Pn	Pn	13 42 38.4	-2.1	
LBZ	Lake Benmore	7.22	217	Pn	Pn	13 42 43.0	-3.2	
CTZ	Chatham Island	7.27	135	Pn	Pn	13 42 46.4	-0.5	
ODZ	Otahua Downs	7.53	212	Pn	Pn	13 42 46.1	-4.3	
TUZ	Tuapeka	8.69	212	Pn	Pn	13 43 02.8	-3.4	
SYZ	Scrubby Hill	9.36	212	Pn	Pn	13 43 12.8	-2.5	
ASAR	Alice Springs	38.90	280	P	P	13 48 21.8	+1.4	
	2.3nm,0.8s,baz=119,slow=7.9,SNR=29							
WRA	Warramunga Arr	40.69	285	P	P	13 48 36.3	+1.1	
	0.8nm,0.7s,baz=128,slow=6.2,SNR=8.1							
SYO	Syowa Base	67.84	195	*eP*	P	13 51 50.8	-0.6	
SNAA	Sanae	69.84	180	LR	LR	14 22 49.2		
	comp=Z,41nm,18.4s,baz=180,slow=36							
KBZ	Khabaz	144.99	293	PKPbc	PKPbc	14 00 28.7	-0.5	
	2.4nm,0.8s,baz=255,slow=1.0,SNR=6.2							
ARCES	ARCESS Array B	145.49	342	PKPbc	PKPdf	14 00 29.6	-0.2	
	3.3nm,0.9s,baz=52,slow=4.7,SNR=5.7							
FINES	FINESS Array B	150.82	331	PKPbc	PKPdf	14 00 43.6	+4.9	
	2.9nm,0.9s,baz=48,slow=3.0,SNR=16							
TORD	Torodi Ar. Bea	154.01	192	PKPbc	PKPbc	14 00 52.4	-0.6	
	0.4nm,0.6s,baz=106,slow=1.4,SNR=5.5							

GUC 21 13:55:10.0±0.5, 36°90S×73°85W, h38km±2km, ML3.5, 1C,
Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCSP	San Pedro de C	0.59	85	*eP*	Pn	13 55 21.1	-1.0
CCSP				*i* S	Sn	13 55 29.9	-0.5
CCSP				IAML		13 55 35.8	
	comp=N,5µm,0.4s						
COCH	Cobquecura	1.15	48	*i* P	Pn	13 55 29.8	+0.4
COCH				*eS*	Sn	13 55 44.5	+0.6
CCHI	Chillan	1.45	79	*eP*	Pn	13 55 34.4	+0.7
CCHI				*eS*	Sn	13 55 53.0	+1.5
CCHI				IAML		13 56 14.0	
	comp=N,1µm,0.6s						
TMU	Temuco	2.08	152	*eP*	Pn	13 55 43.2	+0.8
TMU				*i* S	Sn	13 56 08.8	+1.8
TMU				IAML		13 56 21.6	
	comp=N,610nm,0.5s						
GO05	HualaæØ	2.44	40	*eP*	Pn	13 55 48.4	+1.1
GO05				*eS*	Sn	13 56 17.0	+1.0
GO05				IAML		13 56 45.3	
	comp=E,227nm,0.8s						

IDC ***21*** *13:57:10.0±0.2, 1.4°27S×143°95E, h131km±20km, mb3.7/16, mb1 3.9/19, mb1mx3.7/48, mbtmp4.2/19, Error ellipse: s-maj=19.4km s-min=9.8km az=89.0*
ISCJB ***21*** *13:57:10.5±0.4, 4°24S±0°05×143°93E±0°08, h150km, mb3.9/17, Error ellipse: s-maj=10.9km s-min=7.5km az=2.7*
NEIC ***21*** *13:57:11.4±1.4, 4°37S×143°89E, h119km±30km, mb4.2/4, Error ellipse: s-maj=23.3km s-min=16.6km az=79.0*
ISC 21 13:57:11.7±0.5, 4°31S±0°06×143°96E±0°10, h150km, n30,
σ1s18/30, mb4.0/17, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MANU	Manus Island	4.08	57	*eP*	Pn	13 58 13.1	0.0
PMG	Port Moresby	5.97	148	P	Pn	13 58 37.0	-1.1
	15nm,0.3s,baz=340,slow=6.8,SNR=64						
PMG				S	Sn	13 59 42.4	-3.3
	6.8nm,0.3s,baz=120,slow=22,SNR=5.3						
PMG	Port Moresby	5.97	148	*eP*	Pn	13 58 37.8	-0.4
SIJI	Sorong	13.13	285	P	Pn	14 00 11.2	-1.6
	0.9nm,0.3s,baz=81,slow=11,SNR=7.2						
CTA	Charters Tower	15.84	172	P	P	14 00 47.4	0.0
	0.2nm,0.3s,baz=7.1,slow=13,SNR=7.3						
WRAB	Tennant Creek	18.13	210	*eP*	Pn	14 01 13.4	-0.8
	7.4nm,0.6s						
WB2	Warramunga Arr	18.14	210	*eP*	Pn	14 01 13.3	-1.0
WRA	Warramunga Arr	18.14	210	P	Pn	14 01 13.3	-1.1
	1.3nm,0.3s,baz=32,slow=11,SNR=91						
SOEI	Soe	20.27	253	*eP*	Pn	14 01 37.7	-1.8
	16nm,0.8s						
AS01	Alice Springs	21.53	206	*eP*	P	14 01 49.8	+0.5
AS31	Alice Springs	21.55	206	*eP*	P	14 01 50.2	+0.8
	2.2nm,0.6s						
ASAR	Alice Springs	21.55	206	P	P	14 01 50.2	+0.8
	3.9nm,0.6s,baz=33,slow=10.0,SNR=89						
ASAR				S	S	14 05 40.5	+1.6
	1.3nm,0.9s,baz=20,slow=22,SNR=5.4						
EIDS	Eidsvold	22.02	163	*eP*	P	14 01 56.6	+2.3
	15nm,1.0s						
STKA	Stephens Creek	27.51	184	P	P	14 02 44.6	+0.4
	2.5nm,0.3s,baz=350,slow=9.5,SNR=3.7						
URZ	Urewera	45.30	143	P	P	14 05 16.1	+1.4
	1.7nm,0.3s,baz=276,slow=1.4,SNR=7.0						
RPZ	Rata Peaks	45.96	153	P	P	14 05 21.3	+1.5
	4.8nm,0.5s,baz=345,slow=2.3,SNR=5.7						
USRK	Ussuriysk Ar.	49.48	349	P	P	14 05 46.2	-0.6
	1.6nm,0.6s,baz=146,slow=42,SNR=2.7						
PETK	Petropavlovsk-	58.37	10	P	P	14 06 51.7	+0.5
	2.5nm,0.5s,baz=163,slow=6.9,SNR=20						
SONM	Songino Array	61.49	332	P	P	14 07 13.6	+0.9
	0.5nm,0.5s,baz=115,slow=41,SNR=3.7						
SEY	Seymchan	67.37	4	P	P	14 07 49.8	-0.6
	0.7nm,0.7s,baz=149,slow=8.0,SNR=5.0						
VNDA	Vanda	73.78	176	P	P	14 08 29.6	+0.5
	0.8nm,0.6s,baz=323,slow=7.3,SNR=5.7						
MKAR	Makanchi Array	74.29	321	P	P	14 08 32.5	-0.1
	1.1nm,0.8s,baz=90,slow=6.1,SNR=6.4						
ZALV	Zalesovo Beam	75.99	328	P	P	14 08 41.7	-0.5
	1.5nm,0.6s,baz=116,slow=6.3,SNR=5.4						
KURBB	Kurchatov Arra	78.08	324	P	P	14 08 54.0	+0.1
	0.5nm,0.8s,baz=108,slow=5.9,SNR=4.0						
MAW	Mawson	82.64	202	P	P	14 09 18.9	+0.9
	1.6nm,0.4s,baz=80,slow=6.1,SNR=5.7						
BVAR	Borovoye Array	83.64	324	P	P	14 09 23.7	+0.3
	2.2nm,0.5s,baz=120,slow=6.5,SNR=14						
ILAR	Eielson Array	85.15	24	P	P	14 09 29.1	-1.6
	1.1nm,0.8s,baz=248,slow=4.6,SNR=7.3						
YKA	Yellowknife Ar	99.09	27	P	Pdif	14 10 36.0	+0.6
	0.0nm,0.4s,baz=268,slow=3.9,

baz=37,SNR=12
WRKA Warakurna 37.77 254 P **P** **14 18 36.2 +0.6**
baz=38,SNR=6.5
KNRA Kununurra 38.17 269 P **P** **14 18 39.2 +0.2**
baz=38,SNR=6.2
PPT2 Papeete2 39.60 95 *e*LR LR 14 29 39.5
63nm,22.2s
GUMO Guam 40.05 322 LR LR 14 32 26.9
comp=Z,96nm,20.8s,baz=136,slow=32
SIJI Sorong 40.88 292 P **P** **14 19 01.4 -0.1**
10nm,0.9s,baz=89,slow=8.1,SNR=4.9
MEEK Meekatharra 46.49 251 P **P** **14 19 47.0 +0.4**
baz=47,SNR=11
VNDA Vanda 58.56 182 LR LR 14 42 32.7
comp=Z,68nm,21.6s,baz=360,slow=32
LEM Lembang 60.46 273 P **P** **14 21 29.4 -0.1**
30nm,0.7s,baz=25,slow=5.0,SNR=8.5
MJAR Matsushiro Arr 62.37 333 P **P** **14 21 41.1 -0.6**
2.3nm,0.9s,baz=169,slow=7.0,SNR=3.6
MAJO Matsushiro 62.37 333 *e*P **P** **14 21 41.1 -0.6**
JNU Nakatsue 63.23 325 P **P** **14 21 49.2 +1.7**
17nm,1.1s,baz=58,slow=9.5,SNR=2.9
ASAJ Asahikawa 67.28 340 P **P** **14 22 14.4 +1.0**
5.9nm,0.8s,baz=61,slow=1.5,SNR=10
QSPA South Pole Qui 70.96 180 P **P** **14 22 35.8 -0.4**
4.4nm,0.8s,baz=319,slow=2.8,SNR=7.9
QSPA LR LR 14 52 14.9
comp=Z,55nm,18.2s,baz=336,slow=35
PETK Petropavlovsk- 72.52 353 P **P** **14 22 46.7 +1.2**
1.8nm,0.9s,baz=161,slow=9.2,SNR=3.0
PETK LR LR 14 49 11.7
comp=Z,89nm,20.3s,baz=158,slow=31
PEA1 Petropavlovsk- 72.53 353 *e*P **P** **14 22 46.7 +1.2**
CMAR Chiang Mai Arr 77.95 294 P **P** **14 23 18.4 +1.0**
0.8nm,0.4s,baz=125,slow=4.5,SNR=4.8
MAW Mawson 78.36 202 P **P** **14 23 18.4 -0.5**
3.3nm,0.9s,baz=89,slow=21,SNR=3.6
MAW LR LR 14 54 16.5
comp=Z,94nm,19.1s,baz=160,slow=33
MA2 Magadan 79.74 351 LR LR 14 54 05.6
comp=Z,41nm,20.4s,baz=157,slow=32
SONA0 Songino Array 86.78 323 *e*P **P** **14 24 03.4 +0.3**
SONM Songino Array 86.78 323 P **P** **14 24 03.4 +0.3**
6.2nm,0.8s,baz=143,slow=5.5,SNR=29
SONA1 Songino Array 86.78 323 *e*P **P** **14 24 03.0 -0.1**
YBH Yreka Blue Hor 87.57 44 LR LR 14 55 07.2
comp=Z,53nm,21.4s,baz=255,slow=30
NVAR Mina Array Bea 89.11 49 P **P** **14 24 13.5 -1.1**
0.6nm,0.9s,baz=230,slow=8.2,SNR=3.7
SNAA Sanae 89.28 183 P **P** **14 24 12.5 -2.1**
2.6nm,0.7s,baz=104,slow=4.2,SNR=8.3
LPIG La Paz 89.84 65 LR LR 14 55 41.2
comp=Z,44nm,21.7s,baz=234,slow=30
VNA3 Neumayer Olymp 89.89 181 P **P** **14 24 15.9 -1.6**
VNA2 Neumayer--Watz 90.18 181 P **P** **14 24 17.8 -1.0**
baz=148,slow=3.7
ILAR Eielson Array 90.25 17 P **P** **14 24 17.8 -1.2**
0.5nm,0.8s,baz=245,slow=5.1,SNR=7.2
PDAR Pinedale Array 96.91 47 LR LR 15 00 28.6
comp=Z,102nm,21.3s,baz=81,slow=30
PLCA Paso Flores 99.00 139 LR LR 14 58 56.2
comp=Z,40nm,21.6s,baz=56,slow=29
YKA Yellowknife Ar 100.79 27 P **Pdif** **14 25 06.9 -0.1**
0.2nm,0.6s,baz=250,slow=5.0,SNR=3.5
MKAR Makanchi Array 101.25 316 P **Pdif** **14 25 10.2 +0.7**
0.5nm,0.6s,baz=85,slow=7.2,SNR=4.4
SPITS Spitsbergen Ar 119.39 354 PKP **PKPdf** **14 30 06.2 -1.1**
3.0nm,0.7s,baz=31,slow=6.7,SNR=5.4
BOSA Boshof 120.84 218 PKP **PKPdf** **14 30 11.6 -0.1**
1.0nm,0.3s,baz=194,slow=2.2,SNR=5.3
ARCES ARCESS Array B 124.79 345 PKP **PKPdf** **14 30 16.9 -0.9**
1.0nm,0.5s,baz=93,slow=2.6,SNR=10
FINES FINESS Array B 130.24 338 PKP **PKPdf** **14 30 30.2 +1.8**
0.6nm,0.5s,baz=82,slow=2.9,SNR=5.3
DPC Dobruska-Polom 141.84 331 *e*PKPpre PKPpre 14 30 44.6
DPC *e*PKPdf **PKPdf** **14 30 49.3 -1.0**
EKA Eskdalemuir Ar 143.29 352 PKP PKPbc 14 30 49.7 -0.1
0.5nm,0.3s,baz=358,slow=2.4,SNR=12
NKC Novy Kostel 143.60 334 *e*PKPdf PKPbc 14 30 50.9 0.0
CONA Conrad Observa 143.73 329 *e*PKPdf **PKPdf** **14 30 52.3 -1.6**
9.2nm,1.3s
KHC Kasperske Hory 143.95 332 *e*PKPpre PKPpre 14 30 52.2
KHC *e*PKPdf **PKiKP** **14 30 56.3 -1.3**
GERES GERESS Array B 144.10 332 PKP PKPbc 14 30 52.5 0.0
2.7nm,0.8s,baz=29,slow=3.0,SNR=14
ARSA Arzberg 144.36 328 *e*PKPdf PKPbc 14 30 53.2 -0.1
6.4nm,1.0s
MOA Molln 144.56 330 *e*PKPdf **PKPdf** **14 30 54.3 -0.9**
20nm,1.0s,SNR=6.0
SOKA Soboth 145.00 328 *e*PKPab **PKPab** **14 30 54.9 -0.6**
8.2nm,0.6s,SNR=7.2
BLY Banja Luka 145.10 324 *e*PKPbc **PKPdf** **14 30 55.9 -0.3**
OBKA Obir 145.36 328 *i* PKPdf **PKPdf** **14 30 56.3 -0.4**
7.8nm,0.7s
KBA Koelnbreinsper 145.55 330 *e*PKPab **PKPbc** **14 30 56.8 -0.5**
12nm,0.9s,SNR=6.4
MYKA Terra Mystica 145.72 329 *i* PKPdf **PKPdf** **14 30 56.7 -0.6**
10nm,1.1s
WATA Walderalm 146.18 332 *e*PKPbc **PKPbc** **14 30 58.3 -0.9**
15nm,1.2s
ABTA Abfaltersbach 146.18 330 *i* PKPdf **PKPdf** **14 30 58.0 -0.1**
12nm,1.0s
WTTA Wattenberg 146.21 331 *i* PKPab **PKPbc** **14 30 58.9 -0.4**
4.0nm,0.5s
MOTA Moosalm 146.38 332 *e*PKPbc **PKPdf** **14 30 58.6 +0.1**
4.0nm,0.4s,SNR=7.0
RETA Reutte 146.43 333 *i* PKPbc **PKPbc** **14 30 59.3 -0.5**
7.0nm,1.1s
WLF Walferdange 146.43 339 *e*PKPdf **PKPbc** **14 30 59.2 -0.5**
FETA Feichten 146.80 332 *e*PKPbc **PKPbc** **14 31 00.7 -0.3**
11nm,1.0s
DAVA Damuels 146.96 333 *i* PKPbc **PKPbc** **14 31 01.1 -0.4**
9.0nm,0.7s
FUORN Ofenpass-Fuorn 147.31 332 *e*PKPbc **PKPbc** **14 31 02.6 0.0**
TUE Stuetta 147.82 333 *e*PKPbc **PKPbc** **14 31 03.4 -0.5**
BNI Bardonecchia 150.09 334 *e*PKPbc **PKPbc** **14 31 09.8 +0.1**
TORD Torodi Ar. Bea 166.16 247 PKP **PKPdf** **14 31 23.5 -1.2**
1.5nm,1.0s,baz=351,slow=1.8,SNR=6.1
TORD PKPab **PKPab** **14 32 25.3 -0.2**
2.9nm,1.0s,baz=110,slow=2.9,SNR=9.5
TOA1 Torodi Ar. Sit 166.16 247 *e*PKPdf **PKPdf** **14 31 23.5 -1.2**
TOA1 *e*PKPab **PKPab** **14 32 25.3 -0.3**

*ISCJB **21** 14:14:08.1±0.7,31°.26N±0°.08×115°.90W±0°.05,h10km±8km, Error ellipse: s-maj=14.3km s-min=4.3km az=25.7*
*ECX **21** 14:14:09.1±0.6,31°.23N×115°.91W,h5km,MD2.3,ML2.4*
*MEX **21** 14:14:09.7±0.3,31°.11N×115°.87W,h34km±71km,MD3.5*
ISC 21 14:14:07.9±1.2,31°.22N±0°.10×115°.93W±0°.06,h19km±4km, n15,σ0s33/23,3C,Baja California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZAX	**El Zacaton**	**0.41**	**314**	*e*P	**Pg**	**14 14 16.3**	**-0.3**
ZAX				*e*S	**Sg**	**14 14 22.3**	**-0.1**
ZAX				⇑*e*		14 14 23.2	
ZAX				IAML		14 14 23.2	
	comp=N,490nm,0.2s						
SPIG	**San Pedro Mart**	**0.43**	**114**	*i* P	**Pg**	**14 14 17.1**	**+0.1**
SPIG				*e*S	**Sg**	**14 14 22.7**	**-0.3**
SPIG	**San Pedro Mart**	**0.43**	**114**	*e*P	**Pg**	**14 14 16.8**	**-0.2**
SPIG				*e*S	**Sg**	**14 14 22.9**	**-0.2**
SPX	**San Pedro Mart**	**0.43**	**114**	⇑*e*P	**Pg**	**14 14 17.1**	**+0.1**
SPX				*e*S	**Sg**	**14 14 22.9**	**-0.2**
ECNX	**Esteban Cantu**	**0.72**	**307**	*e*P	**Pb**	**14 14 21.9**	**0.0**
ECNX				*e*S	**Sg**	**14 14 31.8**	**+0.1**
ECBX	**El Chinero**	**0.79**	**71**	*e*P	**Pb**	**14 14 22.9**	**0.0**
ECBX				*e*S	**Sb**	**14 14 33.0**	**-0.3**
ECBX				IAML		14 14 34.9	
	comp=E,160nm,0.3s						
ECBX				*e*		14 14 34.9	
PBX	**Punta Banda**	**0.86**	**307**	*e*P	**Pb**	**14 14 24.2**	**0.0**
CBX	**Cerro Bola**	**1.26**	**330**	*e*P	**Pn**	**14 14 30.7**	**+0.1**
CBX	**Cerro Bola**	**1.26**	**330**	*e*P	**Pn**	**14 14 30.9**	**+0.4**
CBX				*e*S	**Sn**	**14 14 47.4**	**+0.4**
CBX				⇑*e*		14 14 48.7	
CBX				IAML		14 14 48.7	
	comp=N,65nm,0.3s						
CPBX	**Cerro Prieto**	**1.30**	**24**	*e*P	**Pn**	**14 14 31.7**	**+0.6**
TJIG	**Tijuana**	**1.36**	**332**	*e*P	**Pn**	**14 14 32.4**	**+0.4**
RMX	**La Rumorosa**	**1.38**	**355**	*e*P	**Pn**	**14 14 32.5**	**+0.2**
RMX				*e*S	**Sn**	**14 14 49.6**	**-0.6**
IKP	**In-Ko-Pah, Jac**	**1.43**	**354**	*e*P	**Pb**	**14 14 34.4**	**+0.4**
BAR	**Barrett**	**1.58**	**337**	*e*P	**Pb**	**14 14 36.2**	**-0.4**
SDRC	**San Diego Road**	**1.74**	**330**	*e*P	**Pb**	**14 14 38.8**	**-0.4**

*IDC **21** 14:18:29.6±1.1,3°.48N×92°.56E,h0km,mb3.9/15, mb1 4.0/17,mb1mx3.8/69,mbtmp4.0/17,ML4.2/2,MS3.5/2, Ms1 3.6/2,ms1mx2.8/56,Error ellipse: s-maj=34.9km s-min=17.5km az=44.0*
*NEIC **21** 14:18:30.6±0.4,3°.39N×92°.50E,h10km,mb4.5/2,Error ellipse: s-maj=10.4km s-min=5.2km az=204.0*
*ISCJB **21** 14:18:31.7±0.5,3°.45N±0°.07×92°.61E±0°.04,h24km, mb4.0/17,MS3.6/1,Error ellipse: s-maj=10.5km s-min=4.3km az=19.0*
*DJA **21** 14:18:43.6±3.2,4°N±5°×9°3E±1°0,h28km±28km,M4.5/7, mb4.5/7,mb5.1/5,MLv4.6/4,Mw(mB)4.5/5*
ISC 21 14:18:33.9±0.7,3°.57N±0°.08×92°.58E±0°.05,h24km,n72, σ2s04/69,mb4.1/17,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLSI	**Meulaboh, Aceh**	**3.88**	**80**	P	**Pn**	**14 19 32.7**	**+0.7**
TPTI		**4.60**	**94**	P	**Pn**	**14 19 43.0**	**+1.0**
LHMI	**Lhok Sumawe**	**4.65**	**69**	P	**Pb**	**14 19 54.2**	**-0.7**
LHMI	**Lhok Sumawe**	**4.65**	**69**	*e*Pn	**Pn**	**14 19 42.4**	**-0.3**
LHMI				*e*Sn	**Sn**	**14 20 37.2**	**+1.2**
KCSI	**Kotacane, Aceh**	**5.18**	**90**	P	**Pn**	**14 19 50.8**	**+0.8**
GSI	**Gunungsitoli**	**5.47**	**114**	P	**Pn**	**14 19 57.1**	**+3.1**
GSI	**Gunungsitoli**	**5.47**	**114**	*e*Pn	**Pn**	**14 19 52.0**	**-2.0**
GSI				*e*Sn	**Sn**	**14 20 50.8**	**-5.4**
TSI	**Tuntungan**	**5.97**	**90**	P	**Pn**	**14 20 01.9**	**+1.1**
PSI	**Prapat**	**6.38**	**97**	Pn	**Pn**	**14 20 06.5**	**-0.1**
	6.1nm,0.3s,baz=306,slow=4.5,SNR=24						
PSI				Sn	**Sn**	**14 21 16.1**	**-2.6**
	4.9nm,0.3s,baz=243,slow=11,SNR=3.3						
PSI	**Prapat**	**6.38**	**97**	*e*Pn	**Pn**	**14 20 06.5**	**-0.1**
PSI				*e*Sn	**Sn**	**14 21 15.5**	**-3.2**
PKDT	**Phuket**	**7.16**	**53**	P	**Pn**	**14 20 17.8**	**+0.7**
MNSI	**Mandailing Nat**	**7.51**	**111**	P	**Pn**	**14 20 23.5**	**+1.5**
SISI	**Saibi**	**8.12**	**127**	P	**Pn**	**14 20 34.1**	**+3.8**
KULM	**Kulim**	**8.22**	**78**	*e*Pn	**Pn**	**14 20 31.8**	**0.0**
KULM				*e*Sn	**Sn**	**14 21 56.5**	**-7.6**
TRTT	**Trang**	**8.25**	**59**	P	**Pn**	**14 20 31.7**	**-0.4**
	18nm,0.8s,0.1nm						
IPM	**Ipoh**	**8.47**	**84**	*e*Pn	**Pn**	**14 20 34.8**	**-0.4**
IPM				*e*Sn	**Sn**	**14 22 11.7**	**+1.5**
SKLT	**Songkhla**	**8.77**	**66**	P	**Pn**	**14 20 38.9**	**-0.3**
	34nm,0.9s,781nm0.1nm						
PALK	**Pallekele**	**12.39**	**288**	*e*Pn	**Pn**	**14 21 26.3**	**-2.6**
PALK				*e*Sn	Sn	14 23 34.4	-12
MDSI	**Maura Dua**	**14.08**	**125**	P	**Pn**	**14 21 55.0**	**+3.0**
	18nm,0.7s,846nm						
PBKT	**Sadao Pong**	**15.33**	**32**	P	**P**	**14 22 15.6**	**+2.3**
	9.2nm,0.8s						
CHAI	**Chaiyaphum**	**15.36**	**36**	P	**P**	**14 22 15.3**	**+1.6**
	4.2nm,0.9s						
PHIT	**Phitsanulok**	**15.57**	**29**	P	**P**	**14 22 20.1**	**+4.0**
	9.8nm,0.9s						
CMAR	**Chiang Mai Arr**	**16.06**	**22**	Pn	**Pn**	**14 22 19.1**	**+0.9**
	0.3nm,0.3s,baz=218,slow=13,SNR=16						
CMAR				LR	LR	14 28 39.9	
	comp=Z,123nm,18.1s,baz=232,slow=38						
KHON	**Khomkaen**	**16.20**	**38**	P	**P**	**14 22 24.9**	**+1.8**
	14nm,0.9s						
CHTO	**Chiang Mai**	**16.38**	**22**	P	P	14 22 35.6	+11
	50nm,1.1s						
CMMT	**Chiang Mai**	**16.38**	**22**	P	P	14 22 34.5	+9.4
	11nm,1.0s						
SKNT	**Sakolnakorn**	**17.40**	**39**	P	**Pn**	**14 22 35.3**	**+0.1**
HYB	**Hyderabad**	**19.46**	**316**	*i* P	**Pn**	**14 23 01.0**	**+0.6**
HYB				*e*S	**S**	**14 26 35.0**	**-2.9**
H08S2	**Diego Garcia H**	**22.93**	**241**	T	T	14 47 20.8	
	baz=60						
H08S3	**Diego Garcia H**	**22.93**	**241**	T	T	14 47 04.1	
	baz=60						
H08S1	**Diego Carcia H**	**22.95**	**241**	T	T	14 47 20.9	
	baz=60						
BBKI	**Banjar Baru**	**23.31**	**107**	P	**P**	**14 23 44.2**	**+3.8**
RAMN	**Ramite**	**23.95**	**347**	*e*P	**P**	**14 23 48.9**	**+2.2**
JIRN	**Jiri**	**24.73**	**346**	*e*P	**P**	**14 23 55.7**	**+1.8**
PKIN	**Phulchoki**	**24.84**	**345**	*e*P	**P**	**14 23 57.6**	**+2.7**
GUN	**Gumba**	**25.04**	**346**	*e*P	**P**	**14 23 58.0**	**+1.2**
KKN	**Kakani**	**25.08**	**345**	*e*P	**P**	**14 23 59.6**	**+2.7**
GKN	**Gorkha**	**25.46**	**343**	*e*P	**P**	**14 24 01.5**	**+1.2**
KOLN	**Koldanda**	**25.55**	**341**	*e*P	**P**	**14 24 04.6**	**+3.4**
PYUN	**Piuthan**	**26.06**	**340**	*e*P	**P**	**14 24 09.1**	**+3.3**
H01W3	**Cape Leeuwin H**	**43.28**	**154**	T	T	15 13 49.0	
	baz=329						
H01W2	**Cape Leeuwin H**	**43.29**	**154**	T	T	15 13 44.6	
	baz=329						
H01W1	**Cape Leeuwin H**	**43.30**	**154**	T	T	15 13 49.9	
	baz=329						
MK01	**Makanchi Array**	**43.95**	**350**	*e*P	**P**	**14 26 39.4**	**+0.4**
MK32	**Makanchi Array**	**43.98**	**350**	*e*P	**P**	**14 26 40.0**	**+0.7**
MKAR	**Makanchi Array**	**43.98**	**350**	P	**P**	**14 26 40.0**	**+0.7**
	2.0nm,0.7s,baz=166,slow=8.9,SNR=18						
SONA0	**Songino Array**	**45.68**	**13**	*e*P	**P**	**14 26 53.7**	**+0.8**
SONM	**Songino Array**	**45.68**	**13**	P	**P**	**14 26 53.7**	**+0.8**
	0.3nm,0.5s,baz=200,slow=9.1,SNR=3.5						
JNU	**Nakatsue**	**46.29**	**46**	LR	LR	14 49 09.4	
	comp=Z,64nm,18.1s,baz=118,slow=40						
GEYT	**Alibeck**	**46.49**	**322**	P	**P**	**14 26 59.1**	**-0.3**
	1.3nm,0.6s,baz=161,slow=9.2,SNR=3.5						
WRA	**Warramunga Arr**	**47.19**	**121**	P	**P**	**14 27 03.5**	**-1.6**
	0.9nm,0.7s,baz=299,slow=8.7,SNR=10						
WR1	**Warramunga Arr**	**47.20**	**121**	*e*P	**P**	**14 27 03.5**	**-1.6**
	4.9nm,0.9s						
KURBB	**Kurchatov Arra**	**48.37**	**348**	P	**P**	**14 27 13.9**	**+0.2**
	2.0nm,0.8s,baz=172,slow=7.1,SNR=18						
KURK	**Kurchatov**	**48.44**	**348**	*e*P	**P**	**14 27 13.9**	**-0.3**
ASAR	**Alice Springs**	**48.50**	**126**	P	**P**	**14 27 15.6**	**+0.4**
	0.6nm,0.8s,baz=297,slow=8.0,SNR=4.5						
ZAA0	**Zalesovo Array**	**50.62**	**354**	*e*P	**P**	**14 27 31.7**	**+0.9**
	3.0nm,0.6s						
ZALV	**Zalesovo Beam**	**50.62**	**354**	P	**P**	**14 27 31.1**	**+0.3**
	2.8nm,0.5s,baz=187,slow=8.4,SNR=11						
ZALV	**Zalesovo Beam**	**50.62**	**354**	*e*P	**P**	**14 27 31.7**	**+0.8**
ZAA1	**Zalesovo Array**	**50.63**	**354**	*e*P	**P**	**14 27 31.1**	**+0.2**
BVAR	**Borovoye Array**	**52.59**	**343**	P	**P**	**14 27 45.3**	**-0.4**
	1.1nm,0.9s,baz=142,slow=4.9,SNR=5.5						
USRK	**Ussuriysk Ar.**	**53.30**	**35**	P	**P**	**14 27 49.4**	**-1.6**
	3.6nm,0.7s,baz=140,slow=41,SNR=3.8						
ABKAR	**Akbulak array**	**53.32**	**334**	*e*P	**P**	**14 27 50.5**	**-0.5**
BR101	**Keskin Array S**	**64.12**	**313**	*e*P	**P**	**14 29 06.1**	**-0.5**
BRTR	**Keskin Array B**	**64.12**	**313**	P	**P**	**14 29 06.1**	**-0.5**
	0.2nm,0.4s,baz=336,slow=9.8,SNR=3.2						
TIXI	**Tiksi**	**71.73**	**11**	P	**P**	**14 29 53.4**	**-0.2**
	1.0nm,0.3s,baz=274,slow=5.9						
PETK	**Petropavlovsk-**	**72.39**	**35**	P	**P**	**14 29 57.3**	**-0.7**
	1.6nm,0.8s,baz=241,slow=21,SNR=3.8						
PEA1	**Petropavlovsk-**	**72.39**	**35**	*e*P	**P**	**14 29 57.3**	**-0.7**
FIA0	**FINESS Array S**	**75.80**	**333**	*e*P	**P**	**14 30 16.5**	**-1.2**
FINES	**FINESS Array B**	**75.80**	**333**	P	**P**	**14 30 16.5**	**-1.2**
	1.2nm,0.9s,baz=101,slow=7.2,SNR=3.3						
GERES	**GERESS Array B**	**80.01**	**319**	P	**P**	**14 30 41.9**	**+0.4**
	0.8nm,0.8s,baz=110,slow=6.1,SNR=4.9						
HFS	**Hagfors**	**81.39**	**330**	P	**P**	**14 30 48.9**	**+0.4**
	0.8nm,0.7s,baz=83,slow=12,SNR=2.6						
TXAR	**Lajitas Array**	**143.76**	**24**	PKP	PKPbc	14 38 05.8	+0.4
	0.1nm,0.5s,baz=196,slow=2.6,SNR=3.5						

JMA 21 14:29:05.4±0.1,43°.32N×144°.01E,h138km±1km,M2.0, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAR	**Ashorobuto**	**0.18**	**263**	P	Pn	14 29 24.4	+0.3
JAR				*e*S	Sn	14 29 38.4	+0.1
JOB	**Onbets**	**0.44**	**197**	P	Pn	14 29 25.2	+0.2
JOB				*e*S	Sn	14 29 40.2	+0.3
JNK	**Nakash**	**0.58**	**63**	P	Pn	14 29 25.7	-0.1
JAK	**Akkeshi**	**0.60**	**123**	P	Pn	14 29 25.8	-0.1
JAK				*e*S	Sn	14 29 41.0	-0.4
JTKR	**Abashiri--Toko**	**0.66**	**354**	P	Pn	14 29 26.3	+0.1
JTKR				*e*S	Sn	14 29 41.8	-0.4
JMP	**Maruseppu**	**0.83**	**326**	P	Pn	14 29 27.5	-0.1
JMP				*e*S	Sn	14 29 43.9	-0.7
JCH	**Churui**	**0.85**	**214**	P	Pn	14 29 27.4	-0.3
JCH				*e*S	Sn	14 29 43.8	-0.9
JRA	**Rausu**	**1.02**	**52**	P	Pn	14 29 29.5	+0.4
JFR	**Furan**	**1.05**	**262**	P	Pn	14 29 30.0	+0.6
JFR				*e*S	Sn	14 29 48.1	+0.4
NEM2	**Nemuro 2**	**1.27**	**87**	P	Pn	14 29 31.0	-0.5
NEM2				*e*S	Sn	14 29 49.6	-1.8
JNBK	**Urakawa-nobuka**	**1.39**	**222**	P	Pn	14 29 32.4	-0.5

*NIED **21** 14:29:00,42°.50N×142°.20E,h92km,Mw4.6 Best double couple: M₀8.30000×10¹⁵ NP1:ϕs166.00000°,δ48.00000°, λ26.00000°. NP2:ϕs58.00000°,δ71.00000°,λ135.00000°.*
*BJI **21** 14:29:31.8,42°.43N×142°.78E,h94km,mb4.8/49,mB5.0/31*
*MOS **21** 14:29:34.8±0.9,42°.60N×142°.25E,h85km,mb4.9/89,Error ellipse: s-maj=5.7km s-min=3.9km az=103.9*
*NEIC **21** 14:29:36.9±0.4,42°.62N×142°.23E,h90km±3km,mb4.8/165, Error ellipse: s-maj=4.3km s-min=2.8km az=161.0*
NEIC Felt at Aomori and Misawa, Honshu. Recorded [3 JMA] in southwestern Hokkaido.
*JMA **21** 14:29:36.8±0.2,42°.51N×142°.30E,h104km±2km,M4.5 Broadband fault plane solution: P waves. NP1: ϕs48.00000°,δ59.00000°,λ141.00000°. NP2: ϕs161.00000°,δ57.00000°,λ38.00000°. Principal axes: T Plg48.0000°, Azm14.0000°; N Plg42.0000°, Azm196.0000°; P Plg1.0000°, Azm105.0000°;*
JMA Felt III J1.
*ISCJB **21** 14:29:36.4±0.2,42°.54N±0°.02×142°.26E±0°.02, h102km±1km,mb4.7/274 Error ellipse: s-maj=3.8km s-min=2.2km az=163.8*
*IDC **21** 14:29:37.9±0.5,42°.57N×142°.34E,h103km±3km,mb4.5/42, mb1 4.6/47,mb1mx4.5/69,mbtmp4.8/47,MS3.3/15, Ms1 3.3/15,ms1mx3.0/67,Error ellipse: s-maj=8.7km s-min=6.5km az=116.0*
*SKHL **21** 14:29:37.2±0.4,42°.50N×142°.30E,h102km±3km,mb5.6/8, mshа6.5/3*
ISC 21 14:29:37.2±0.4,42°.52N±0°.04×142°.33E±0°.03,h101km±3km, h101km:pP-P,n848,σ1s01/912,mb4.8/277,33C-27D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JBT2	**Biratori 2**	**0.26**	**6**	⇑P	**Pn**	**14 29 51.6**	**-0.2**
JBT2				*e*S	**Sn**	**14 30 02.4**	**-0.3**
JNBK	**Urakawa-nobuka**	**0.40**	**127**	⇑P	**Pn**	**14 29 52.6**	**+0.1**
JNBK				*e*S	**Sn**	**14 30 04.7**	**+0.9**
JFR	**Furan**	**0.67**	**17**	⇑P	**Pn**	**14 29 54.3**	**-0.3**
JFR				*e*S	**Sn**	**14 30 07.5**	**0.0**
JEW	**Eniwo**	**0.72**	**297**	⇓P	**Pn**	**14 29 54.7**	**-0.2**
JEW				*e*S	**Sn**	**14 30 08.1**	**-0.1**
JCH	**Churui**	**0.77**	**83**	⇓P	**Pn**	**14 29 55.4**	**0.0**
JCH				*e*S	**Sn**	**14 30 08.7**	**-0.3**
ERM	**Erimo**	**0.80**	**129**	*e*P	**Pn**	**14 29 55.8**	**+0.2**
ERM	**Erimo**	**0.80**	**129**	*e*Pn	**Pn**	**14 29 55.9**	**+0.3**
ERM	**Erimo**	**0.80**	**129**	*de*PN	**Pn**	**14 29 55.8**	**+0.2**
ERM				pmax	pmax		
	comp=Z,12μm,1.0s						
JEM	**Erimo**	**0.80**	**129**	⇑P	**Pn**	**14 29 55.8**	**+0.2**
JNB	**Noboribetsu**	**0.95**	**267**	⇓P	**Pn**	**14 29 56.2**	**-1.0**
JNB				*e*S	**Sn**	**14 30 10.6**	**-1.7**
JAB	**Ashibetsu**	**0.99**	**356**	⇓P	**Pn**	**14 29 58.2**	**+0.6**
JAB				*e*S	**Sn**	**14 30 14.1**	**+1.2**
JKB	**Kayabe**	**1.15**	**237**	⇑P	**Pn**	**14 29 58.5**	**-0.9**
JKB				*e*S	**Sn**	**14 30 14.0**	**-2.1**
JOB	**Onbets**	**1.18**	**70**	⇓P	**Pn**	**14 30 00.2**	**+0.5**
JOB				*e*S	**Sn**	**14 30 17.3**	**+0.7**
JAR	**Ashorobuto**	**1.31**	**53**	⇓P	**Pn**	**14 30 01.2**	**-0.1**
JAR				*e*S	**Sn**	**14 30 19.0**	**-0.5**
JKK2	**Kamakawa 2**	**1.39**	**13**	⇑P	**Pn**	**14 30 02.6**	**+0.4**
JOT	**Ohata**	**1.48**	**220**	⇑P	**Pn**	**14 30 02.4**	**-0.9**
JOT				*e*S	**Sn**	**14 30 21.0**	**-2.1**
JSK	**Shakotan**	**1.59**	**302**	⇓P	**Pn**	**14 30 04.4**	**-0.3**
ASAJ	**Asahikawa**	**1.61**	**7**	P	**Pn**	**14 30 05.4**	**+0.5**
	comp=Z,115nm,0.3s,baz=208,slow=13,SNR=1284						
ASAJ				S	**Sn**	**14 30 25.6**	**-0.3**
	comp=Z,80nm,0.3s,baz=270,slow=20,SNR=28						
JAK	**Akkeshi**	**1.81**	**74**	⇓P	**Pn**	**14 30 07.0**	**-0.4**
JTKR	**Abashiri--Toko**	**1.85**	**38**	⇓P	**Pn**	**14 30 08.5**	**+0.6**
JTKR				*e*S	**Sn**	**14 30 32.9**	**+1.5**
YUK	**Yuzh-Kuril'sk**	**2.99**	**58**	*i* P	**Pn**	**14 30 23.7**	**+0.9**
YUK				AMB	AMB	14 30 24.9	
	comp=Z,890nm,0.3s						
YUK				*i* S	**Sn**	**14 30 58.3**	**+0.3**
YUK				A	A	14 31 01.7	
	comp=Z,1μm,0.3s						
YUK				A	A	14 31 01.7	
	comp=Z,2μm,0.3s						
YUK	**Yuzh-Kuril'sk**	**2.99**	**58**	*d* iPN	**Pn**	**14 30 23.8**	**+0.9**
YUK				*i* S	**Sn**	**14 30 58.7**	**+0.7**
YUK				pmax	pmax		
	comp=Z,886nm,0.2s						
YUK				pmax	pmax		
	comp=N,168nm,0.1s						
YUK				pmax	pmax		
	comp=E,309nm,0.1s						
YUK				smax	smax		
	comp=E,1μm,0.3s						
YUK				smax	smax		
	comp=N,2μm,0.4s						
SHO	**Shikotan**	**3.56**	**66**	*e*P	**Pn**	**14 30 29.3**	**-1.1**
SHO				AMB	AMB	14 30 30.1	
	comp=N,556nm,0.3s						
SHO				*i* S	**Sn**	**14 31 08.2**	**-3.4**
SHO				A	A	14 31 10.4	
	comp=N,570nm,0.3s						
SHO				A	A	14 31 10.4	
	comp=N,2μm,0.3s						
SHO	**Shikotan**	**3.56**	**66**	*d* iPN	**Pn**	**14 30 29.0**	**-1.4**
SHO				*i* S	**Sn**	**14 31 08.2**	**-

comp=Z,122nnm,0.7s
MJB9 Matsu-Tunnel 6.76 209 *e*Pn **Pn** **14 31 13.7 -0.2**
MAJO Matsushiro 6.76 209 *e*P **Pn** **14 31 13.4 -0.5**
MAJO Matsushiro 6.76 209 *e*Pn **Pn** **14 31 13.7 -0.2**
MAJO Matsushiro 6.76 209 *d i*PN **Pn** **14 31 13.4 -0.5**
MAT Matsushiro 6.76 209 P **Pn** **14 31 13.0 -0.9**
MAT S **Sn** **14 32 31.2 +1.8**
MJAR Matsushiro Arr 6.76 209 P **Pn** **14 31 13.4 -0.5**
comp=Z,7.4nm,0.3s,baz=19,slow=13,SNR=86
MJAR LR LR 14 34 19.0
comp=Z,79nm,21.8s,baz=60,slow=41
VLA Vladivostok 7.70 278 *d i*PN **Pn** **14 31 27.6 +1.1**
USRK Ussuriysk Ar. 7.72 286 P **Pn** **14 31 27.8 +1.0**
comp=Z,2.3nm,0.3s,baz=88,slow=17,SNR=28
USRK S **Sn** **14 32 55.1 +2.5**
baz=92,slow=28,SNR=5.2
USRK LR LR 14 34 17.8
comp=Z,210nm,21.9s,baz=75,slow=36
MSHR Mys Shultsa 8.25 274 *de*PN **Pn** **14 31 35.1 +1.1**
INU Inuyama 8.27 212 *e*Pn **Pn** **14 31 33.5 -0.8**
TYV Tymovskoe 8.35 1 *i*P **Pn** **14 31 35.9 +0.6**
TYV Tymovskoe 8.35 1 *e*PN **Pn** **14 31 35.8 +0.5**
TYV *e*S **Sn** **14 33 10.4 +2.6**
TYV pmax pmax
comp=Z,46nm,1.2s
TYV smax smax
comp=N,21nm,1.6s
GRNR Gornyy 9.19 336 *e*PN **Pn** **14 31 46.8 0.0**
GRNR pmax pmax
comp=Z,31nm,1.0s
JHJ Hachijo jima 2 9.60 193 P Pn 14 31 47.6 -4.8
comp=Z,59nm,0.3s,baz=79,slow=21,SNR=14
JHJ S Sn 14 33 28.4 -10
comp=Z,105nm,0.3s,baz=34,slow=22,SNR=11
JHJ2 Mitsune 9.60 193 *e*Pn **Pn** **14 31 48.7 -3.7**
KLR Kul'dur 9.97 316 P **Pn** **14 31 58.1 +0.8**
comp=Z,0.1nm,0.3s,baz=125,slow=14,SNR=50
KLR Kul'dur 9.97 316 *c i*PN **Pn** **14 31 57.6 +0.3**
NKL Nikolayevsk 10.70 355 *e*PN **Pn** **14 32 08.0 +0.8**
NKL pmax pmax
comp=N,69nm,1.2s
NKL pmax pmax
comp=Z,110nm,1.2s
KSRS Korea Array 12.15 250 P **Pn** **14 32 26.9 +0.2**
comp=Z,0.6nm,0.3s,baz=59,slow=14,SNR=10
KSRS S Sn 14 34 49.6 +9.4
comp=Z,1.0nm,0.3s,baz=75,slow=24,SNR=9.3
KSRS LR LR 14 37 03.0
comp=Z,49nm,18.3s,baz=60,slow=36
KSAR Wonju Array Be 12.18 250 P **Pn** **14 32 26.9 -0.3**
KSAR Wonju Array Be 12.18 250 PN **Pn** **14 32 26.9 -0.3**
CN2 Changchun 12.39 282 *e*P **Pn** **14 32 30.3 +0.3**
CN2 *e*S **Sn** **14 34 45.9 -0.3**
CN2 pmax pmax
comp=Z,10.0nm,0.7s
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=Z,200nm,18.0s
CN2 LR LR
comp=Z,300nm,18.0s
CN2 LR LR
comp=Z,300nm,20.0s
PEA0B Petropavlovsk- 14.76 39 *e*Pn **Pn** **14 32 58.2 -2.4**
PETK Petropavlovsk- 14.76 39 P **Pn** **14 32 58.9 -1.8**
comp=Z,3.1nm,0.3s,baz=219,slow=9.0,SNR=78
PETK Petropavlovsk- 14.76 39 *e*Pn **Pn** **14 32 57.7 -2.9**
ZEA Zeya 15.04 323 *e*P **P** **14 33 06.0 -1.1**
ZEA pmax pmax
comp=Z,29nm,0.6s
ZEA MLR MLR
comp=Z,300nm,11.0s
ZEA MLR MLR
comp=N,300nm,13.0s
PET Petropavlovsk 15.16 40 *e*P **Pn** **14 33 04.0 -1.6**
PET Petropavlovsk 15.16 40 *e*Pn **Pn** **14 33 03.6 -2.1**
comp=N,18nm,0.5s
PET Petropavlovsk 15.16 40 *i*P **Pn** **14 33 04.7 -0.9**
PET pmax pmax
comp=Z,11nm,0.8s
CBIJ Chichi jima 15.39 180 *e*Pn **Pn** **14 33 05.8 -2.9**
comp=Z,116nm,0.9s
JCJ Chichijima 15.39 180 P **Pn** **14 33 05.3 -3.5**
comp=Z,30nm,0.3s,baz=272,slow=20,SNR=17
JCJ S Sn 14 35 43.4 -15
comp=Z,23nm,0.3s,baz=282,slow=22,SNR=6.7
MA2 Magadan 17.86 14 P **P** **14 33 36.6 -1.5**
comp=Z,6.6nm,0.3s,baz=201,slow=9.3,SNR=93
MA2 LR LR 14 40 20.1
comp=Z,47nm,19.3s,baz=177,slow=36
MA2 Magadan 17.86 14 *e*P **P** **14 33 36.5 -1.7**
comp=Z,121nm,0.8s
MA2 Magadan 17.86 14 *e*P **P** **14 33 36.4 -1.7**
MA2 pmax pmax
comp=Z,91nm,0.9s
CLNS Chul'man 18.16 328 *e*P **P** **14 33 41.0 -0.5**
CLNS pmax pmax
comp=Z,19nm,0.8s
CLNS pmax pmax
comp=N,10.0nm,0.9s
CLNS pmax pmax
comp=E,9.0nm,0.8s
BJI Beijing 19.79 272 *e*P **P** **14 33 59.3 0.0**
BJI pmax pmax
comp=E,18nm,1.0s
YAK Yakutsk 20.94 343 P **P** **14 34 08.7 -2.9**
YAK Yakutsk 20.94 343 *e*P **P** **14 34 08.2 -3.4**
comp=E,85nm,0.7s
YAK Yakutsk 20.94 343 *e*P **P** **14 34 08.1 -3.4**
YAK *e**PP **pP** **14 34 34.2 +3.3**
YAK *e*S **S** **14 37 53.4 -5.6**
YAK *e* 14 38 13.4
YAK pmax pmax
comp=Z,43nm,1.0s
YAK pmax pmax
comp=N,13nm,1.0s
YAK pmax pmax
comp=E,4.0nm,1.0s
YAK smax smax
comp=N,47nm,1.4s
YAK smax smax
comp=E,53nm,1.4s
SEY Seymchan 21.29 13 P **P** **14 34 13.4 -1.9**
comp=E,25nm,0.6s,baz=193,slow=7.0,SNR=154
SEY Seymchan 21.29 13 *ce*P **P** **14 34 13.8 -1.4**
NJ2 Nanjing 21.34 248 *e*P **P** **14 34 16.1 +0.1**
NJ2 pmax pmax
comp=E,15nm,0.6s
HHC Hu-ho-hao-te 22.98 276 *e*P **P** **14 34 32.9 -0.3**
HHC pP pP 14 34 53.9 +0.7
HHC S **S** **14 38 34.9 -0.8**
HHC sS sS 14 39 09.8 -2.3
HHC pmax pmax
comp=E,50nm,0.8s
HHC pmax pmax
comp=E,150nm,4.0s
HHC LR LR
comp=E,1μm,11.3s
HHC LR LR
comp=E,1μm,12.4s
HHC LR LR
comp=E,1μm,11.9s
BOD Bodaibo 23.49 320 *e*P P 14 34 26.0 -12
BOD pmax pmax
comp=Z,8.0nm,1.1s
ULN Ulaanbaatar 25.28 294 *e*P **P** **14 34 54.6 +0.5**
ULN Ulaanbaatar 25.28 294 *e*P **P** **14 34 53.9 -0.3**
comp=Z,6.7nm,0.9s
ULN Ulaanbaatar 25.28 294 *ce*P **P** **14 34 54.6 +0.5**
ULN pmax pmax
comp=Z,7.0nm,1.0s
SONA1 Songino Array 25.71 294 *e*P **P** **14 34 56.8 -1.2**
SONM Songino Array 25.72 294 P **P** **14 34 58.2 +0.1**
comp=Z,6.2nm,0.8s,baz=88,slow=8.2,SNR=27
SONM PcP **PcP** **14 38 25.7 +0.2**
comp=Z,1.0nm,0.7s,baz=110,slow=3.4,SNR=3.6
TLY Talaya 27.59 303 P **P** **14 35 15.1 +0.4**
comp=Z,8.6nm,0.7s,baz=82,slow=3.9,SNR=12
TLY Talaya 27.59 303 *e*P **P** **14 35 15.5 +0.8**
TLY Talaya 27.59 303 *e*P **P** **14 35 14.5 -0.3**
comp=Z,10nm,0.7s
TLY Talaya 27.59 303 *e*P **P** **14 35 15.1 +0.4**
TLY pmax pmax
comp=Z,11nm,0.8s
BILL Bilibino 28.59 19 *i*P **P** **14 35 22.1 -1.3**
BILL *e* 14 35 54.8
BILL *i* 14 36 18.2
BILL pmax pmax
comp=Z,2.0nm,1.0s
GUMO Guam 28.91 175 LR LR 14 48 53.8
comp=Z,13nm,18.1s,baz=48,slow=40
MOY Mondy 29.24 303 *e*P **P** **14 35 30.0 +0.5**
MOY pmax pmax
comp=Z,21nm,2.0s
TIXI Tiksi 29.95 352 P **P** **14 35 32.3 -3.0**
comp=Z,3.0nm,0.5s,baz=138,slow=5.9,SNR=21
TIXI Tiksi 29.95 352 *e*P **P** **14 35 32.5 -2.8**
TIXI pmax pmax
comp=Z,3.0nm,0.6s
LZH Lanzhou 30.27 271 *e*P **P** **14 35 39.8 +1.0**
LZH pP pP 14 35 59.3 -2.1
LZH sP sP 14 36 10.8 -2.3
LZH *e*PP **PnPn** **14 36 41.3 +0.3**
LZH pmax pmax
comp=Z,26nm,1.3s
LZH pmax pmax
comp=Z,93nm,4.9s
LZH LR LR
comp=Z,380nm,13.0s
LZH LR LR
comp=Z,380nm,13.3s
LZH LR LR
comp=Z,430nm,16.9s
GTA Gaotai 32.01 279 *e*P **P** **14 35 55.0 +1.0**
GTA pP pP 14 36 16.3 -0.4
GTA sP sP 14 36 27.6 -0.8
GTA PcP **PcP** **14 38 43.3 +1.8**
GTA S **S** **14 41 00.1 +1.8**
GTA sS sS 14 41 36.8 -0.9
GTA ScP **ScP** **14 42 17.0 +1.4**
GTA PcS **PcS** **14 42 27.6 +1.2**
GTA SS **SnSn** **14 42 59.8 +1.6**
GTA pmax pmax
comp=Z,5.0nm,0.9s
GTA pmax pmax
comp=Z,100nm,4.9s
GTA LR LR
comp=Z,84nm,11.4s
GTA LR LR
comp=Z,130nm,12.4s
GTA LR LR
comp=Z,190nm,10.5s
CD2 Chengdu 32.75 262 *e*P **P** **14 36 00.0 -0.5**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,120nm,5.0s
HVS Khovu-Aksy 33.82 302 *e*P **P** **14 36 09.0 -0.6**
HVS Khovu-Aksy 33.82 302 *i*P **P** **14 36 09.0 -0.6**
HVS pmax pmax
comp=Z,9.0nm,0.9s
KMI Kunming 36.79 255 P **P** **14 36 36.1 +0.6**
KMI pmax pmax
comp=Z,12nm,0.7s
DGZ Jazzator, Alta 37.98 300 *i*P **P** **14 36 46.4 +1.2**
DGZ pmax pmax
comp=Z,10.0nm,0.9s
ZAA0 Zalesovo Array 38.93 307 *e*P **P** **14 36 53.1 +0.2**
comp=Z,24nm,0.6s
ZAA0 *e*PcP **PcP** **14 39 02.4 +1.0**
ZALV Zalesovo Beam 38.93 307 P **P** **14 36 53.4 +0.5**
comp=Z,25nm,0.6s,baz=87,slow=7.3,SNR=88
ZALV PcP **PcP** **14 39 02.0 +0.6**
comp=Z,9.1nm,0.7s,baz=101,slow=2.3,SNR=9.7
ZALV ScP **ScP** **14 42 41.1 +0.8**
comp=Z,1.7nm,0.6s,baz=120,slow=3.6,SNR=6.7
ZALV Zalesovo Beam 38.93 307 *e*P **P** **14 36 53.0 +0.1**
ZALV PcP **PcP** **14 39 02.0 +0.6**
ZALV ScP **ScP** **14 42 41.1 +0.8**
ZALV Zalesovo Beam 38.93 307 *e*P **P** **14 36 53.0 +0.1**
ZALV 14 39 02.0
ZALV 14 42 41.1
WMQ Urumqi 39.25 291 P **P** **14 36 56.6 +0.8**
WMQ pP pP 14 37 19.5 +0.5
WMQ sP sP 14 37 30.8 +0.2
WMQ pmax pmax
comp=Z,52nm,0.9s
WMQ pmax pmax
comp=Z,300nm,5.1s
WMQ LR LR
comp=Z,150nm,21.3s
WMQ LR LR
comp=Z,170nm,26.1s
WMQ LR LR
comp=Z,82nm,24.5s
NVS Novosibirsk 39.74 309 *e*P **P** **14 37 00.2 +0.6**
NVS *e*S **S** **14 42 53.8 -1.8**
NVS pmax pmax
comp=N,10.0nm,1.3s
NVS pmax pmax
comp=E,24nm,1.3s
NVS pmax pmax
comp=Z,23nm,1.3s
NVS smax smax
comp=N,5.0nm,1.6s
NVS smax smax
comp=E,13nm,1.6s
SVW2 Sparrevohn 40.83 41 *e*P **P** **14 37 09.7 +1.2**
comp=E,22nm,1.3s
IM3 Indian Mountai 41.63 34 *e*P **P** **14 37 14.5 -0.5**
IM3 *e*PcP **PcP** **14 39 11.4 +1.5**
MK01 Makanchi Array 42.02 297 *e*P **P** **14 37 18.4 0.0**
MK31 Makanchi Array 42.02 297 *e*P **P** **14 37 18.6 +0.2**
MK31 Makanchi Array 42.02 297 *i*P **P** **14 37 18.4 0.0**
MK31 pmax pmax
comp=Z,16nm,0.5s
MKAR Makanchi Array 42.02 297 P **P** **14 37 19.0 +0.6**
comp=Z,14nm,0.5s,baz=82,slow=9.9,SNR=140
MKAR pP **pP** **14 37 42.5 +0.6**
comp=Z,6.1nm,0.8s,baz=53,slow=15,SNR=4.1
MKAR PcP **PcP** **14 39 12.1 +0.6**
comp=Z,3.4nm,0.6s,baz=67,slow=2.8,SNR=7.5
MKAR ScP **ScP** **14 42 52.8 +0.2**
comp=Z,1.1nm,0.8s,baz=67,slow=9.3,SNR=3.9
MKAR Makanchi Array 42.02 297 *e*P **P** **14 37 18.6 +0.2**
comp=Z,165nm,0.6s
MKAR pP **pP** **14 37 42.5 +0.6**
MKAR PcP **PcP** **14 39 12.1 +0.6**
MKAR ScP **ScP** **14 42 52.8 +0.2**
MKAR Makanchi Array 42.02 297 *e*P **P** **14 37 18.6 +0.2**
MKAR *PP **pP** **14 37 42.5 +0.6**
MKAR 14 39 12.1
MKAR pmax pmax
comp=Z,165nm,0.6s
MAKZ Makanchi 42.22 297 *e*P **P** **14 37 19.8 -0.3**
comp=Z,22nm,0.7s
MAKZ Makanchi 42.22 297 *e*P **P** **14 37 19.8 -0.3**
MAKZ pmax pmax
comp=Z,22nm,0.7s
PPLA Purkeypile 42.35 38 *e*P **P** **14 37 22.7 +1.7**
comp=Z,15nm,0.8s
CAST Castle Rocks 42.37 37 *e*P **P** **14 37 22.4 +1.3**
comp=Z,29nm,0.7s
KDAK Kodiak Island 42.66 46 P **P** **14 37 23.5 +0.1**
comp=Z,11nm,0.7s,baz=268,slow=4.5,SNR=10
KDAK PcP **PcP** **14 39 14.2 +0.8**
comp=Z,5.0nm,0.7s,baz=180,slow=13,SNR=3.3
KDAK Kodiak Island 42.66 46 *e*P **P** **14 37 23.3 -0.1**
KDAK Kodiak Island 42.66 46 *i*P **P** **14 37 23.3 -0.1**
BPAW Bear Paw Mtn. 42.83 36 *e*P **P** **14 37 25.6 +0.8**
comp=Z,14nm,0.7s
KTH Kantishna Hill 42.88 37 *e*P **P** **14 37 26.3 +1.1**
comp=Z,49nm,0.9s
MLY Manley 42.89 35 *e*P **P** **14 37 25.9 +0.6**
comp=Z,8.7nm,0.7s
COLD Coldfoot 43.07 32 *e*P **P** **14 37 26.1 -0.5**
comp=Z,15nm,1.0s
SUA Susitna One 43.13 40 *e*P **P** **14 37 27.3 0.0**
comp=Z,20nm,0.7s
TRF Thorofare Moun 43.17 37 *e*P **P** **14 37 27.2 -0.5**
comp=Z,16nm,0.7s
KURK Kurchatov 43.28 304 P **P** **14 37 29.6 +1.0**
KURK pP **pP** **14 37 53.4 +1.3**
KURK S **S** **14 43 47.6 -0.5**
KURK Kurchatov 43.28 304 P **P** **14 37 29.6 +1.0**
KURK *PP **pP** **14 37 53.4 +1.3**
KURK S **S** **14 43 47.6 -0.5**
TOLK Toolik Lake Re 43.32 30 P **P** **14 37 28.4 -0.3**
baz=269
TOLK Toolik Lake Re 43.32 30 *e*P **P** **14 37 28.4 -0.3**
comp=Z,43nm,1.5s
KURBB Kurchatov Arra 43.36 304 P **P** **14 37 29.6 +0.4**
comp=Z,79nm,0.7s,baz=75,slow=8.8,SNR=246
KURBB pP **pP** **14 37 53.4 +0.6**
comp=Z,18nm,0.7s,baz=75,slow=8.5,SNR=4.6
KURBB PcP **PcP** **14 39 16.4 +0.5**
comp=Z,5.0nm,0.7s,baz=86,slow=3.3,SNR=4.3
KURBB S **S** **14 43 47.6 -1.6**
comp=Z,0.7nm,0.7s,baz=82,slow=14,SNR=5.4
CHTO Chiang Mai 43.55 251 *e*P P 14 37 25.5 -5.6
comp=Z,3.3nm,0.8s
CHTO Chiang Mai 43.55 251 *e*P P 14 37 25.5 -5.5
CHTO pmax pmax
comp=Z,3.0nm,0.8s
MCK McKinley 43.75 37 *e*P **P** **14 37 31.9 -0.3**
MCK McKinley 43.75 37 *e*P **P** **14 37 31.9 -0.3**
comp=Z,22nm,0.8s
MCK McKinley 43.75 37 *e*P **P** **14 37 31.9 -0.3**
MCK pmax pmax
comp=Z,22nm,0.8s
CMAR Chiang Mai Arr 43.79 250 P **P** **14 37 33.8 +0.8**
comp=Z,0.8nm,0.4s,baz=47,slow=7.6,SNR=5.0
CMAR LR LR 14 55 26.8
comp=Z,33nm,18.9s,baz=45,slow=35
RND Reindeer 43.82 37 *e*P **P** **14 37 32.5 -0.2**
comp=Z,20nm,0.8s
RND Reindeer 43.82 37 *e*P **P** **14 37 32.6 -0.2**
RND pmax pmax
comp=Z,20nm,0.8s
PMR Palmer 43.89 40 *e*P **P** **14 37 32.9 -0.3**
comp=Z,14nm,0.7s
PMR Palmer 43.89 40 *e*P **P** **14 37 32.9 -0.3**
PMR pmax pmax
comp=Z,14nm,0.7s
MDM Murphy Dome 43.96 35 *e*P **P** **14 37 34.4 +0.5**
comp=Z,25nm,0.9s
WRH Wood River Hil 44.06 36 *e*P **P** **14 37 34.9 +0.3**
comp=Z,20nm,1.0s
COLA College 44.13 35 *e*P **P** **14 37 35.7 +0.7**
COLA College 44.13 35 *e*P **P** **14 37 35.8 +0.7**
comp=Z,45nm,0.6s
COLA College 44.13 35 *e*P **P** **14 37 35.8 +0.7**
COLA pmax pmax
comp=Z,45nm,0.6s
CCB Clear Creek Bu 44.17 35 *e*P **P** **14 37 35.3 -0.1**
comp=Z,8.8nm,0.7s
SML Sawmill 44.24 40 *e*P **P** **14 37 37.0 +0.9**
comp=Z,32nm,0.7s
SML Sawmill 44.24 40 *e*P **P** **14 37 37.0 +0.9**
SML pmax pmax
comp=Z,32nm,0.7s
DHY Denali Highway 44.52 38 *e*P **P** **14 37 38.7 +0.2**
comp=Z,28nm,0.6s
ILAR Eielson Array 44.55 35 P **P** **14 37 38.6 +0.2**
comp=Z,21nm,0.8s,baz=269,slow=6.5,SNR=153
ILAR ScP **ScP** **14 43 01.7 -0.9**
comp=Z,0.1nm,0.6s,baz=263,slow=4.6,SNR=4.2
ILB Eielson Array 44.55 35 *e*P **P** **14 37 37.8 -0.7**
IL1 Eielson Array 44.55 35 *e*P **P** **14 37 38.2 -0.3**
HDA Harding Lake 44.56 36 *e*P **P** **14 37 38.7 +0.1**
comp=Z,18nm,0.5s
SCM Sheep Creek Mo 44.71 39 *e*P **P** **14 37 40.1 +0.2**
comp=Z,24nm,0.8s
SCM Sheep Creek Mo 44.71 39 *e*P **P** **14 37 40.1 +0.2**
SCM pmax pmax
comp=Z,24nm,0.8s
PDGK Podgornoye 45.03 293 P **P** **14 37 42.6 -0.2**
PDGK pmax pmax
comp=Z,12nm,0.8s
FYU Fort Yukon 45.06 33 *e*P **P** **14 37 43.5 +1.0**
comp=Z,30nm,0.7s
PAX Paxson 45.40 38 *e*P **P** **14 37 46.2 +0.9**
comp=Z,5.3nm,0.7s
PAX Paxson 45.40 38 *e*P **P** **14 37 46.2 +0.9**
PAX pmax pmax
comp=Z,5.0nm,0.7s
KLU Klutina 45.42 40 *e*P **P** **14 37 46.0 +0.5**
comp=Z,23nm,0.7s
DIV Divide 45.56 40 *e*P **P** **14 37 45.3 -1.3**
comp=Z,26nm,0.7s
RIDG Independ'e Rid 45.56 37 *e*P **P** **14 37 46.3 -0.3**
comp=Z,17nm,0.8s
HARP HAARP 45.63 38 *e*P **P** **14 37 47.3 +0.2**
comp=Z,46nm,0.7s
EYAK Cordova Ski Ar 45.67 41 *e*P **P** **14 37 47.7 +0.3**
comp=Z,22nm,0.7s
SCRK Sand Creek 45.90 36 *e*P **P** **14 37 49.2 -0.1**
comp=Z,36nm,0.6s
DOT Dot Lake 45.92 37 *e*P **P** **14 37 48.5 -0.9**
comp=Z,52nm,0.6s
BMRM Bremner River 46.15 40 *e*P **P** **14 37 51.7 +0.5**
comp=Z,20nm,0.9s
MENT Mentasta 46.19 38 *e*P **P** **14 37 52.5 +1.0**
comp=Z,15nm,0.8s
TARG Taragay, Kyrgy 46.80 292 *e*P **P** **14 37 57.5 +0.4**
comp=Z,15nm,0.7s
EGAK Eagle 46.98 35 *e*P **P** **14 37 57.4 -0.2**
comp=Z,30nm,0.8s
ODAN Odare 47.00 269 *e*P **P** **14 37 59.8 +1.3**
comp=Z,21nm,0.4s
KDJ Kajisay 47.06 293 *e*P **P** **14 37 59.0 +0.3**
comp=Z,16nm,0.6s
KDJ Kajisay 47.06 293 P **P** **14 37 59.1 +0.3**
KDJ pmax pmax
comp=Z,16nm,0.7s
BALM Baldy 47.21 40 *e*P **P** **14 37 59.2 -0.4**
comp=Z,16nm,0.6s
BALM Baldy 47.21 40 *e*P **P** **14 37 59.2 -0.4**
BALM pmax pmax
comp=Z,16nm,0.6s
JIRN Jiri 47.44 271 *e*P **P** **14 38 02.9 +0.8**
comp=Z,35nm,0.4s
RAMN Ramite 47.53 270 *e*P **P** **14 38 03.2 +0.5**
comp=Z,60nm,0.6s
GUN Gumba 47.53 271 *e*P **P** **14 38 03.6 +0.8**
comp=Z,100nm,0.4s
BVA0 Borovoye Array 47.54 309 P **P** **14 38 01.6 -0.5**
BVA0 pmax pmax
comp=Z,22nm,0.6s
BVAR Borovoye Array 47.54 309 P **P** **14 38 02.8 +0.7**
comp=Z,27nm,0.5s,baz=74,slow=8.4,SNR=193
BVAR PcP **PcP** **14 39 30.9 +0.4**
comp=Z,6.5nm,0.7s,baz=104,slow=3.0,SNR=5.3
BVAR ScP **ScP** **14 43 16.0 +0.8**
comp=Z,0.9nm,0.8s,baz=81,slow=8.9,SNR=4.1
BVAR S **S** **14 44 47.6 -1.7**
comp=Z,0.3nm,0.5s,baz=235,slow=46,SNR=5.5
BRVK Borovoye 47.59 309 *e*P **P** **14 38 03.4 +0.9**
BRVK Borovoye 47.59 309 *e*P **P** **14 38 01.9 -0.5**
comp=Z,25nm,0.6s
BRVK Borovoye 47.59 309 *ce*P **P** **14 38 03.4 +0.9**
BRVK pmax pmax
comp=Z,57nm,1.7s
TKM2 Tokmak 2 47.82 294 P **P** **14 38 05.7 +1.0**
SNR=59
DAWY Dawson 47.87 35 *e*P **P** **14 38 03.2 -1.3**
comp=Z,4.7nm,0.7s
OTUK Ortayu 47.94 302 P **P** **14 38 05.6 +0.3**
OTUK pmax pmax
comp=Z,17nm,0.9s
KKN Kakani 48.04 271 *e*P **P** **14 38 07.2 +0.6**
comp=Z,19nm,0.5s
PKIN Phulchoki 48.07 271 *e*P **P** **14 38 07.7 +0.8**
comp=Z,28nm,0.6s
NRN Naryn 48.16 292 P **P** **14 38 07.6 +0.2**
NRN pmax pmax
comp=Z,9.0nm,1.5s
DMN Daman 48.27 271 *e*P **P** **14 38 08.9 +0.5**
comp=Z,18nm,0.5s
KBK Karagaybulak 48.37 294 P **P** **14 38 09.6 +0.7**
SNR=43
KZA Kyzart 48.40 294 P **P** **14 38 10.8 +1.4**
SNR=23
GKN Gorkha 48.40 272 *e*P **P** **14 38 09.7 +0.4**
USP Ospenovka 48.42 295 P **P** **14 38 09.6 +0.5**
SNR=16
FRU Bishkek 48.52 295 *e*P **P** **14 38 09.5 -0.3**
AAK Ala-Archa 48.68 295 S S 14 44 54.1 -12
AAK Ala-Archa 48.68 295 *e*P **P** **14 38 11.4 +0.2**
AAK Ala-Archa 48.68 295 P **P** **14 38 11.7 +0.4**
SNR=13
AAK Ala-Archa 48.68 295 *e*P **P** **14 38 11.4 +0.2**
comp=Z,12nm,0.4s
AAK Ala-Archa 48.68 295 *i*P **P** **14 38 11.5 +0.3**
SNR=16
AAK Ala-Archa 48.68 295 *c i*P **P** **14 38 11.4 +0.2**
AAK pmax pmax
comp=Z,6.0nm,0.8s

UCH **Uchtor** 48.83 294 P **P** 14 38 13.5 +0.7
SNR=8.1
DANN **Dangsing** 48.86 273 *e*P **P** 14 38 13.7 +0.8
KSH **Kashi** 48.99 290 P **P** 14 38 18.3 +4.7
KSH S **S** 14 45 15.8 +5.4
KSH pmax pmax
comp=Z,15nm,0.3s
KSH pmax pmax
comp=Z,250nm,5.7s
KSH LR LR
comp=Z,950nm,5.9s
KSH LR LR
comp=Z,420nm,4.0s
EKS2 **Erkin-Say** 49.15 295 P **P** 14 38 15.3 +0.5
SNR=13
INK **Inuvik** 49.23 29 P **P** 14 38 15.1 +0.4
comp=Z,11nm,0.5s,baz=298,slow=7.3,SNR=78
INK **Inuvik** 49.23 29 *e*P **P** 14 38 15.0 +0.2
comp=Z,12nm,0.6s
INK **Inuvik** 49.23 29 *e*P **P** 14 38 15.0 +0.2
INK pmax pmax
comp=Z,12nm,0.6s
KOLN **Koldanda** 49.29 272 *e*P **P** 14 38 16.8 +0.6
comp=Z,22nm,0.4s
AML **Almayashu** 49.43 294 P **P** 14 38 18.1 +0.9
SNR=19
PYUN **Piuthan** 49.56 273 *e*P **P** 14 38 18.8 +0.6
comp=Z,30nm,0.7s
MNAS **Manas** 50.08 295 P **P** 14 38 22.2 +0.4
MNAS pmax pmax
comp=Z,40nm,0.8s
SFK **Sufi-Kurgan** 50.48 292 P **P** 14 38 25.0 0.0
SFK pmax pmax
comp=Z,29nm,0.8s
WHY **Whitehorse** 50.82 39 *e*P **P** 14 38 26.4 -0.8
comp=Z,8.6nm,0.8s
KK31 **Karatay Array** 51.14 297 *e*P **P** 14 38 29.7 +0.1
KK31 **Karatay Array** 51.14 297 *i*P **P** 14 38 29.5 -0.1
KK31 pmax pmax
comp=Z,9.0nm,0.6s
KKAR **Karatay Array** 51.14 297 *e*P **P** 14 38 29.7 +0.1
KKAR **Karatay Array** 51.14 297 *e*P **P** 14 38 29.7 +0.1
SVE **Sverdlovsk** 51.59 316 *d*i P **P** 14 38 33.6 +0.8
SVE pmax pmax
comp=Z,52nm,0.9s
ARU **Arti** 52.81 316 LR LR 15 02 32.8
comp=Z,38nm,21.0s,baz=72,slow=37
ARU **Arti** 52.81 316 *e*P **P** 14 38 42.1 +0.3
ARU **Arti** 52.81 316 *e*P **P** 14 38 41.2 -0.6
comp=Z,42nm,1.0s
ARU **Arti** 52.81 316 *c*i P **P** 14 38 41.9 +0.1
ARU *PP **pP** 14 39 05.4 -0.7
ARU 14 39 48.2
ARU 14 40 39.1
ARU S **S** 14 46 04.2 +2.0
ARU SS **SS** 14 49 35.4 -6.1
ARU pmax pmax
comp=Z,58nm,1.2s
DZET **Dzherino** 54.24 293 P **P** 14 38 52.5 -0.2
DZET pmax pmax
comp=Z,21nm,0.5s
AB31 **Akbulak array** 55.05 308 *i*P **P** 14 38 58.4 +0.2
AB31 pmax pmax
comp=Z,15nm,0.5s
SPITS **Spitsbergen Ar** 55.29 348 P **P** 14 38 59.3 -0.2
comp=Z,11nm,0.6s,baz=60,slow=6.8,SNR=35
PSI **Prapat** 55.31 237 P **P** 14 39 01.6 +1.0
comp=Z,1.5nm,0.3s,baz=45,slow=13,SNR=2.5
KBS **Kingsbay** 55.38 350 *e*P **P** 14 39 01.1 +0.9
KBS **Kingsbay** 55.38 350 *e*P **P** 14 39 00.8 +0.6
comp=Z,33nm,0.8s
KBS **Kingsbay** 55.38 350 *e*P **P** 14 39 00.7 +0.5
KBS **Kingsbay** 55.38 350 *e*P **P** 14 39 00.8 +0.6
KBS pmax pmax
comp=Z,33nm,0.8s
AKTO **Aktyubinsk** 55.63 310 P **P** 14 39 02.5 +0.2
comp=Z,7.7nm,0.6s,baz=67,slow=12,SNR=35
HSPB **Hornsund (broa** 56.24 347 *e*P **P** 14 39 06.8 +0.5
RES **Resolute Bay** 57.13 15 P **P** 14 39 12.3 -0.2
comp=Z,30nm,0.6s,baz=305,slow=7.1,SNR=109
RES **Resolute Bay** 57.13 15 *e*P **P** 14 39 12.3 -0.2
comp=Z,31nm,0.7s
RES **Resolute Bay** 57.13 15 *e*P **P** 14 39 12.3 -0.2
RES pmax pmax
comp=Z,31nm,0.7s
BJO **Bjornoya** 57.32 344 *e*P **P** 14 39 14.2 +0.3
LVZ **Lovozero** 57.43 335 *d*i P **P** 14 39 14.5 -0.4
LVZ pmax pmax
comp=Z,10.0nm,0.5s
TMCR **Tamitsa** 58.31 330 *e*P **P** 14 39 20.6 -0.4
TMCR pmax pmax
comp=Z,35nm,0.9s
KEV **Kevo** 58.59 338 *e*P **P** 14 39 22.8 0.0
comp=Z,18nm,0.7s
KEV **Kevo** 58.59 338 *e*P **P** 14 39 22.8 0.0
KEV pmax pmax
comp=Z,18nm,0.7s
YKA **Yellowknife Ar** 58.75 32 P **P** 14 39 24.4 +0.4
comp=Z,8.0nm,0.8s,baz=305,slow=6.6,SNR=168
HAMF **Hammerfest** 58.89 340 *e*P **P** 14 39 24.4 -0.5
ARCES **ARCESS Array B** 59.13 339 P **P** 14 39 26.7 +0.1
comp=Z,5.2nm,0.5s,baz=44,slow=7.2,SNR=34
ARCES **ARCESS Array B** 59.13 339 *e*P **P** 14 39 25.1 -1.6
ARE0 **ARCESS Array S** 59.13 339 *e*P **P** 14 39 26.7 +0.1
KLMR **Klimovskoe** 59.54 326 *e*P **P** 14 39 27.9 -1.6
KLMR AMP 14 39 29.9
comp=Z,36nm,1.2s
KLMR **Klimovskoe** 59.54 326 *e*P **P** 14 39 27.8 -1.7
KLMR pmax pmax
comp=Z,36nm,1.2s
TULEG **Thule** 59.58 8 *e*P **P** 14 39 28.7 -0.8
comp=Z,71nm,0.8s
KTK1 **Kautokeino** 60.09 339 *e*P **P** 14 39 33.4 +0.2
SGF **Sodankyl** 60.19 336 *e*P **P** 14 39 33.9 0.0
SGF pmax pmax
comp=Z,33nm,1.0s
DAG **Danmarks Havn** 60.38 355⇑ *i*P **P** 14 39 34.7 -0.3
comp=Z,20nm,0.7s
DAG **Danmarks Havn** 60.38 355⇑ *i*P **P** 14 39 34.7 -0.3
DAG pmax pmax
comp=Z,20nm,0.7s
HEF **Hetta** 60.38 338 *e*P **P** 14 39 35.3 +0.1
MSF **Maaselka** 60.39 334 *e*P **P** 14 39 36.2 +0.9
MSF pmax pmax
comp=Z,24nm,0.9s
KIF **Kilpisjarvi** 60.74 339 *e*P **P** 14 39 37.2 -0.4
TRO **Tromso** 60.77 340 *e*P **P** 14 39 37.7 -0.1
JOF **Joensuu** 61.49 331 P **P** 14 39 42.9 +0.2
JOF pmax pmax
comp=Z,37nm,0.8s
LLLB **Lillooet** 61.87 46 *e*P **P** 14 39 47.0 +1.4
comp=Z,6.6nm,0.8s
GEYT **Alibeck** 61.89 297 *e*P **P** 14 39 46.3 +0.3
comp=Z,17nm,0.7s,baz=29,slow=3.4,SNR=37
GEYT LR LR 15 07 17.5
comp=Z,34nm,19.7s,baz=90,slow=36
GYA0B **ALIBECK ARRAY** 61.89 297 *e*P **P** 14 39 46.4 +0.5
comp=Z,18nm,0.8s
KULLO **Kullorsuaq** 62.46 6 *i*P **P** 14 39 48.4 -0.7
comp=Z,38nm,0.8s
KULLO **Kullorsuaq** 62.46 6 *i*P **P** 14 39 48.4 -0.7
KULLO pmax pmax
comp=Z,38nm,0.8s
A04D **Lummi Island** 62.47 48 P **P** 14 39 50.9 +1.4
baz=304
WRA **Warramunga Arr** 62.58 188 P **P** 14 39 50.6 +0.1
comp=Z,1.5nm,0.6s,baz=7.4,slow=6.9,SNR=26
WRA pP **pP** 14 40 15.8 +0.2
comp=Z,6.8nm,0.7s,baz=4.5,slow=6.7,SNR=14
B05A **Bryant** 63.07 48 P **P** 14 39 54.2 +0.7
baz=305,SNR=5.7
LOF **Lofoten** 63.20 341 *e*P **P** 14 39 54.4 +0.3
MOS **Moscow** 63.31 322 *e*P **P** 14 39 51.9 -3.1
MOS *e* 14 40 18.3
VRH **Novokhopyorsk** 64.04 317 *e*P **P** 14 39 58.7 -1.1
VRH pmax pmax
comp=Z,20nm,0.7s
OBN **Obninsk** 64.17 322 *e*P **P** 14 40 00.6 0.0
OBN **Obninsk** 64.17 322 *i*P **P** 14 40 00.6 0.0
OBN *i* 14 40 35.9
OBN pmax pmax
comp=Z,19nm,0.8s
FIA1 **FINESS Array S** 64.31 331 *e*P **P** 14 40 01.3 -0.2
FINES **FINESS Array B** 64.31 331 P **P** 14 40 01.3 -0.2
comp=Z,33nm,0.5s,baz=53,slow=7.1,SNR=351

VAF **Ylistaro** 64.36 334 P **P** 14 40 03.4 +1.6
MOR8 **Moi Rana** 64.48 339 *e*P **P** 14 40 01.1 -1.4
B08A **Colville Reser** 64.52 47 *e*P **P** 14 40 03.3 +0.1
comp=Z,5.5nm,0.8s
LPSR **Galich'ya Gora** 64.59 319 *e*P **P** 14 40 03.6 +0.2
LPSR pmax pmax
comp=Z,20nm,0.6s
I03D **Drain, OR** 64.97 53 P **P** 14 40 07.7 +1.6
baz=306
H04A **Detroit Lake** 65.07 52 *e*P **P** 14 40 07.6 +0.8
comp=Z,12nm,0.9s
SUMG **Summit** 65.20 0⇑ *i*P **P** 14 40 08.3 +0.7
comp=Z,27nm,0.7s
SUMG **Summit** 65.20 0 *e*P **P** 14 40 08.1 +0.5
comp=Z,29nm,0.8s
SUMG **Summit** 65.20 0⇑ *i*P **P** 14 40 08.3 +0.7
SUMG pmax pmax
comp=Z,27nm,0.7s
G05D **Wamic, OR** 65.25 51 P **P** 14 40 09.8 +1.9
baz=306
VSR **Storozhevoye** 65.31 318 *e*P **P** 14 40 07.7 -0.4
VSR pmax pmax
comp=Z,20nm,0.6s
I04A **Tendick Farm,** 65.46 52 P **P** 14 40 10.5 +1.2
baz=306
HAWA **Hanford** 65.57 49 *e*P **P** 14 40 08.6 -1.3
comp=Z,8.2nm,0.8s
L02D **Cave Junction,** 65.72 54 P **P** 14 40 12.3 +1.4
baz=306
NEW **Newport** 65.76 46 P **P** 14 40 10.9 -0.3
comp=Z,6.6nm,0.9s,baz=311,slow=6.7,SNR=10
NEW LR LR 15 08 09.7
comp=Z,44nm,18.6s,baz=60,slow=35
NEW **Newport** 65.76 46 P **P** 14 40 11.8 +0.6
baz=307,SNR=6.2
NEW **Newport** 65.76 46 *e*P **P** 14 40 11.4 +0.2
comp=Z,6.7nm,0.8s
NEW **Newport** 65.76 46 *e*P **P** 14 40 11.4 +0.2
NEW pmax pmax
comp=Z,7.0nm,0.8s
I05D **Terrebonne, OR** 65.77 51 P **P** 14 40 11.9 +0.7
baz=306
J04D **Umpqua Nationa** 65.97 53 P **P** 14 40 14.1 +1.3
baz=307
VSU **Vasula** 66.11 329 *ce*P **P** 14 40 13.1 0.0
VSU pmax pmax
comp=Z,98nm,0.7s
ASAR **Alice Springs** 66.31 188 P **P** 14 40 15.8 +1.0
comp=Z,0.7nm,0.7s,baz=1.9,slow=5.5,SNR=9.9
ASAR pP **pP** 14 40 41.2 +1.1
comp=Z,3.3nm,0.6s,baz=86,slow=8.0,SNR=24
NSS **Namsos** 66.41 339 *e*P **P** 14 40 14.5 -0.5
J05D **Fort Rock, OR** 66.45 52 P **P** 14 40 17.2 +1.4
baz=307
YBH **Yreka Blue Hor** 66.50 54 P **P** 14 40 16.1 0.0
comp=Z,3.9nm,1.0s,baz=332,slow=1.3,SNR=8.8
YBH **Yreka Blue Hor** 66.50 54 *e*P **P** 14 40 16.3 +0.2
comp=Z,3.8nm,0.9s
YBH **Yreka Blue Hor** 66.50 54 *e*P **P** 14 40 16.3 +0.2
YBH pmax pmax
comp=Z,4.0nm,0.9s
M02C **Callahan** 66.62 55 P **P** 14 40 18.6 +1.8
baz=307
SCO **Scoresbysund** 66.73 354 *i*P **P** 14 40 17.2 +0.3
SCO **Scoresbysund** 66.73 354 *e*P **P** 14 40 17.6 +0.7
comp=Z,8.4nm,1.0s
SCO **Scoresbysund** 66.73 354 *i*P **P** 14 40 17.2 +0.3
SEKA **Sheki** 66.92 305 P **P** 14 40 17.0 -1.7
WALA **Watton Lakes** 66.95 44 *e*P **P** 14 40 19.6 +0.8
comp=Z,9.0nm,0.9s
N02D **Trinity Center** 66.96 55 P **P** 14 40 20.0 +1.0
baz=307
M04C **Macdoel** 67.00 54 P **P** 14 40 20.6 +1.4
baz=307
MNGR **Mingechevir, A** 67.25 305 P **P** 14 40 19.4 -1.3
LKRN **Lenkeran, Azer** 67.44 302 P **P** 14 40 20.7 -1.2
NCK **Nalchik** 67.66 309 *i*P **P** 14 40 23.8 +0.6
NCK pmax pmax
comp=Z,14nm,0.9s
GANJ **Ganja** 67.78 305 P **P** 14 40 22.8 -1.3
MOD **Modoc Plateau** 67.84 53 *e*P **P** 14 40 26.0 +1.4
comp=Z,3.0nm,0.8s
TBLU **Trondheim** 67.89 339 *e*P **P** 14 40 22.4 -2.0
KIV **Kislovodsk** 67.89 310 *e*P **P** 14 40 25.9 +1.1
KIV **Kislovodsk** 67.89 310 *e*P **P** 14 40 25.6 +0.8
comp=Z,40nm,0.8s
KIV **Kislovodsk** 67.89 310 *i*P **P** 14 40 25.4 +0.6
SNR=5.1
KIV **Kislovodsk** 67.89 310 *e*P **P** 14 40 25.9 +1.1
KIV pmax pmax
comp=Z,56nm,1.1s
KBZ **Khabaz** 67.91 309 P **P** 14 40 25.5 +0.7
comp=Z,15nm,0.8s,baz=55,slow=4.4,SNR=38
ZEI **Tsey** 67.91 308 *e*P **P** 14 40 24.4 -0.7
ZEI pmax pmax
comp=Z,12nm,0.9s
O03D **Paynes Creek** 67.92 55 P **P** 14 40 25.6 +0.6
baz=308
J08A **Circle Bar Ran** 68.01 51 *e*P **P** 14 40 27.1 +1.5
comp=Z,6.9nm,0.9s
DZM **Mont Dzumac** 68.02 156 LR LR 15 06 13.1
comp=Z,28nm,21.9s,baz=187,slow=32
IZAR **Zarasai** 68.18 327 *e*P **P** 14 40 26.6 +0.4
IZAR IAmb IAmb 14 40 27.6
comp=Z,12nm,0.6s
IDID **Didziasalis** 68.29 326 *e*P **P** 14 40 27.2 +0.3
IDID IAmb IAmb 14 40 28.5
comp=Z,11nm,0.6s
NEY **Neytrino** 68.31 309 *i*P **P** 14 40 28.4 +0.9
NEY pmax pmax
comp=Z,2.0nm,0.9s
MSO **Missoula** 68.34 46 P **P** 14 40 28.6 +1.0
baz=310
IIGN **Ignalina** 68.47 327 *e*P **P** 14 40 28.5 +0.4
IIGN IAmb IAmb 14 40 29.7
comp=Z,16nm,0.7s
ORV **Oroville** 68.55 56 *e*P **P** 14 40 29.2 +0.3
comp=Z,4.3nm,0.8s
ORV **Oroville** 68.55 56 *e*P **P** 14 40 29.2 +0.3
ORV pmax pmax
comp=Z,4.0nm,0.8s
NACGM **Naroch** 68.56 326 *e* **P** 14 40 28.0 -0.6
FFC **Flin Flon** 68.74 34 *e*P **P** 14 40 30.4 +0.6
FFC **Flin Flon** 68.74 34 *e*P **P** 14 40 29.3 -0.5
comp=Z,11nm,0.8s
FFC **Flin Flon** 68.74 34 *e*P **P** 14 40 29.3 -0.5
FFC pmax pmax
comp=Z,11nm,0.8s
FCC **Fort Churchill** 68.80 28 *e*P **P** 14 40 30.1 0.0
FCC **Fort Churchill** 68.80 28 *e*P **P** 14 40 30.1 0.0
comp=Z,8.8nm,0.6s
FCC **Fort Churchill** 68.80 28 *e*P **P** 14 40 30.1 0.0
FCC pmax pmax
comp=Z,9.0nm,0.6s
BEKR **Beckworth** 69.05 55 *e*P **P** 14 40 32.2 0.0
comp=Z,5.4nm,0.8s
NAX **Nakhchivan** 69.19 304 P **P** 14 40 31.6 -1.4
AFDM **Forest Hills D** 69.25 56 *e*P **P** 14 40 34.5 +1.2
comp=Z,8.6nm,1.3s
HFS **Hagfors** 69.39 335 P **P** 14 40 33.8 0.0
comp=Z,33nm,0.6s,baz=46,slow=6.2,SNR=192
NB2 **NORSAR Subarra** 69.41 337 P **P** 14 40 33.7 -0.2
comp=Z,34nm,0.7s,baz=37,slow=6.5
NB2 **NORSAR Subarra** 69.41 337 P **P** 14 40 33.7 -0.2
baz=37,slow=6.5
NOA **NORSAR Array B** 69.41 337 P **P** 14 40 33.8 -0.2
comp=Z,30nm,0.7s,baz=36,slow=6.2,SNR=136
HRY **Holter Researc** 69.53 45 *e*P **P** 14 40 35.7 +0.8
EGMT **Eagleton** 69.73 43 P **P** 14 40 36.9 +0.8
baz=312,SNR=16
EGMT **Eagleton** 69.73 43 *e*P **P** 14 40 36.1 0.0
comp=Z,21nm,0.9s
PAHR **Pah Rah Range** 69.74 54 *e*P **P** 14 40 37.8 +1.4
comp=Z,5.0nm,0.9s
LRM **Limekiln Ridge** 69.78 46 *e*P **P** 14 40 37.6 +0.9
SOC **Sochi** 69.80 311 *e*P **P** 14 40 35.8 -0.7
SOC *e* 14 43 10.2
SOC *e*PPP PPP 14 44 54.3
SOC *e*S **S** 14 49 37.3 -0.3
SOC *e*SSS SSS 14 57 21.1
SOC pmax pmax
comp=Z,12nm,0.8s
DLMT **Dillon** 70.00 46 *e*P **P** 14 40 39.5 +1.6
comp=Z,12nm,0.8s
HLID **Hailey** 70.18 49 P **P** 14 40 40.1 +1.1
baz=310,SNR=8.7

HLID **Hailey** 70.18 49 *e*P **P** 14 40 40.4 +1.3
comp=Z,3.8nm,0.9s
CMB **Columbia Colle** 70.18 56 *e*P **P** 14 40 40.4 +1.4
comp=Z,6.0nm,0.9s
CMB **Columbia Colle** 70.18 56 *e*P **P** 14 40 40.4 +1.4
CMB pmax pmax
comp=Z,6.0nm,0.9s
BANOM **Banah** 70.19 287 *i*P **P** 14 40 39.6 +0.4
SNR=7.8
WSAR **Wadi Sarin** 70.19 284 P **P** 14 40 40.0 +0.7
comp=Z,3.9nm,0.8s,baz=22,slow=2.0,SNR=4.9
MCMT **McKenzie Canyo** 70.22 47 *e*P **P** 14 40 40.1 +0.7
ANN **Anapa** 70.27 313 *e*P **P** 14 40 38.7 -0.6
ANN pmax pmax
comp=Z,30nm,0.9s
YERR **Yerington** 70.28 55 *e*P **P** 14 40 41.2 +1.4
comp=Z,12nm,1.1s
BOZ **Bozeman (W)** 70.36 46 P **P** 14 40 41.1 +0.9
baz=311,SNR=22
BOZ **Bozeman (W)** 70.36 46 *e*P **P** 14 40 41.1 +0.9
BOZ **Bozeman (W)** 70.36 46 *e*P **P** 14 40 41.1 +0.9
comp=Z,12nm,0.8s
BOZ **Bozeman (W)** 70.36 46 *e*P **P** 14 40 41.1 +0.9
BOZ pmax pmax
comp=Z,12nm,0.8s
SFJD **Kangerlussuaq** 70.37 5 P **P** 14 40 39.8 +0.2
comp=Z,10nm,0.8s,baz=328,slow=1.7,SNR=4.5
SFJD **Kangerlussuaq** 70.37 5 *i*P **P** 14 40 39.4 -0.1
SFJD **Kangerlussuaq** 70.37 5 *e*P **P** 14 40 39.9 +0.3
comp=Z,21nm,1.2s
SFJD **Kangerlussuaq** 70.37 5 *e*P **P** 14 40 39.4 -0.1
AKASG **Malin Array Be** 70.42 322 P **P** 14 40 40.0 -0.2
comp=Z,13nm,0.7s,baz=44,slow=6.2,SNR=68
AKASG pP **pP** 14 41 06.7 +1.0
comp=Z,3.3nm,0.7s,baz=40,slow=7.0,SNR=2.1
AKBB **Malin Array Si** 70.42 322 *e*P **P** 14 40 39.9 -0.2
comp=Z,17nm,0.8s
AKBB **Malin Array Si** 70.42 322 *e*P **P** 14 40 39.9 -0.2
AKBB pmax pmax
comp=Z,17nm,0.8s
KIEV **Kiev** 70.43 322 *e*P **P** 14 40 39.9 -0.3
KIEV **Kiev** 70.43 322 *e*P **P** 14 40 39.5 -0.7
comp=Z,17nm,0.8s
KIEV **Kiev** 70.43 322 *i*P **P** 14 40 39.9 -0.3
SNR=15
KIEV **Kiev** 70.43 322 *c*i P **P** 14 40 39.9 -0.3
KIEV pmax pmax
comp=Z,18nm,0.8s
AK11 **Malin Array Si** 70.46 322 *e*P **P** 14 40 40.3 -0.1
WAKR **Walker** 70.46 55 *e*P **P** 14 40 42.7 +1.8
comp=Z,5.3nm,0.9s
BMN **Battle Mountai** 70.57 53 *e*P **P** 14 40 43.3 +1.8
comp=Z,8.8nm,1.3s
BMN **Battle Mountai** 70.57 53 *e*P **P** 14 40 43.3 +1.8
BMN pmax pmax
comp=Z,9.0nm,1.3s
MSFE **Esma-Masafi** 70.64 287 P **P** 14 40 42.3 +0.3
UOSS **Minazif** 70.86 287 *e*P **P** 14 40 43.8 +0.5
comp=Z,16nm,0.7s
UOSS **Minazif** 70.86 287 P **P** 14 40 43.7 +0.5
RYN **Ryan** 70.94 55 *e*P **P** 14 40 45.4 +1.6
comp=Z,6.3nm,1.0s
HATD **Hatta, Dubai** 70.99 286 *i*P **P** 14 40 44.6 +0.5
SNR=6.5
KONO **Kongsberg** 71.01 337 *ce*P **P** 14 40 44.8 +1.2
KONO pmax pmax
comp=Z,59nm,2.5s
ASHO **Ashiyiah** 71.13 286 P **P** 14 40 45.3 +0.3
SOHO **SOHO** 71.14 286 P **P** 14 40 45.4 +0.5
YHB **Horse Butte** 71.15 46 *e*P **P** 14 40 45.2 +0.1
comp=Z,13nm,0.9s
NV01 **Mina Array Sit** 71.20 55 *e*P **P** 14 40 45.6 +0.2
NVAR **Mina Array Bea** 71.20 55 P **P** 14 40 46.7 +1.3
comp=Z,4.4nm,0.7s,baz=289,slow=5.9,SNR=44
MDPB **Devils Postpil** 71.23 56 *e*P **P** 14 40 47.4 +1.7
comp=Z,5.8nm,1.0s
GCMT **Greycliff** 71.27 45 *e*P **P** 14 40 47.1 +1.6
NV11 **Mina Array Sit** 71.29 55 *e*P **P** 14 40 47.1 +1.2
comp=Z,0.4nm,0.9s
YHH **Holmes Hill** 71.31 46 *e*P **P** 14 40 47.2 +1.2
comp=Z,5.5nm,1.0s
YMR **Madison River** 71.33 46 *e*P **P** 14 40 47.8 +1.7
comp=Z,10.0nm,1.0s
MLAC **Mammoth, Mammo** 71.38 56 P **P** 14 40 48.5 +1.9
baz=310
YFT **Old Faithful** 71.54 46 *e*P **P** 14 40 50.5 +3.0
comp=Z,11nm,1.1s
YPP **Pitchstone Pla** 71.68 46 *e*P **P** 14 40 50.8 +2.5
comp=Z,2.3nm,0.7s
H17A **Grant Village** 71.72 46 P **P** 14 40 50.9 +2.4
baz=312,SNR=12
H17A **Grant Village** 71.72 46 *e*P **P** 14 40 51.2 +2.7
comp=Z,12nm,1.0s
ALNE **Al Ain** 71.74 286 *i*P **P** 14 40 48.9 +0.3
SNR=7.8
IMW **Indian Meadow** 71.86 47 *e*P **P** 14 40 51.1 +1.7
comp=Z,6.5nm,0.8s
RLMT **Red Lodge** 71.92 45 P **P** 14 40 50.6 +1.0
baz=313,SNR=6.7
RLMT **Red Lodge** 71.92 45 *e*P **P** 14 40 50.8 +1.2
comp=Z,4.7nm,0.8s
FXWY **Fox Creek** 71.98 47 *e*P **P** 14 40 51.7 +1.6
comp=Z,15nm,1.4s
MOOW **Moose Ponds** 72.06 47 *e*P **P** 14 40 52.2 +1.7
comp=Z,9.5nm,1.1s
TPAW **Teton Pass** 72.12 47 *e*P **P** 14 40 52.7 +1.8
comp=Z,13nm,1.3s
LOHW **Long Hollow** 72.23 47 *e*P **P** 14 40 53.0 +1.5
comp=Z,2.4nm,0.8s
SNOW **Snow King Moun** 72.25 47 *e*P **P** 14 40 53.7 +2.1
comp=Z,4.7nm,0.8s
HVU **Hansel Valley** 72.25 49 *e*P **P** 14 40 52.9 +1.3
comp=Z,6.6nm,1.0s
HVU **Hansel Valley** 72.25 49 *e*P **P** 14 40 52.9 +1.3
HVU pmax pmax
comp=Z,7.0nm,1.0s
REDW **Red Top Meadow** 72.26 47 *e*P **P** 14 40 53.5 +1.8
comp=Z,4.7nm,0.8s
BORG **Borgarnes** 72.31 353 P **P** 14 40 52.2 +1.0
comp=Z,7.7nm,0.8s,baz=180,slow=5.1,SNR=4.6
LAO **LASA Array** 72.41 42 P **P** 14 40 53.1 +0.9
baz=314
CWC **Cottonwood Cre** 72.61 56 P **P** 14 40 54.6 +0.8
baz=310
SORM **Soroca** 72.62 320⇓ *i*P **P** 14 40 53.3 -0.1
SORM **Soroca** 72.62 320 P **P** 14 40 53.3 -0.1
BGU **Big Grassy Mou** 72.67 50 *e*P **P** 14 40 55.8 +1.7
comp=Z,3.0nm,0.8s
GRAC **Grapevine Rang** 72.69 56 P **P** 14 40 55.6 +1.5
baz=311,SNR=13
ISA **Isabella, Lake** 72.87 57 P **P** 14 40 55.4 +0.1
baz=310
R11A **Troy Canyon, C** 72.88 54 P **P** 14 40 56.2 +0.8
baz=311,SNR=12
R11A **Troy Canyon, C** 72.88 54 *e*P **P** 14 40 56.4 +1.0
comp=Z,3.3nm,0.8s
DAC **Darwin (Calif)** 73.02 56 *e*P **P** 14 40 57.2 +1.0
comp=Z,5.4nm,1.0s
DAC **Darwin (Calif)** 73.02 56 *e*P **P** 14 40 57.2 +1.0
DAC pmax pmax
comp=Z,5.0nm,1.0s
HWUT **Hardware Ranch** 73.05 49 *e*P **P** 14 40 57.6 +1.3
comp=Z,13nm,1.1s
KIS **Kishinev** 73.20 319 *e*P **P** 14 40 56.0 -0.8
KIS **Kishinev** 73.20 319 *e*P **P** 14 40 56.0 -0.8
MPMC **Manual Prospec** 73.22 56 P **P** 14 40 58.4 +1.0
baz=311,SNR=7.4
BEL **Belsk** 73.25 326 *e*P **P** 14 40 57.7 +0.6
BEL **Belsk** 73.25 326 *e*P **P** 14 40 57.7 +0.6
DUG **Dugway, Tooele** 73.28 51 P **P** 14 40 59.0 +1.3
baz=312,SNR=11
DUG **Dugway, Tooele** 73.28 51 *e*P **P** 14 40 59.0 +1.3
comp=Z,9.9nm,0.8s
DUG **Dugway, Tooele** 73.28 51 *e*P **P** 14 40 59.0 +1.3
DUG pmax pmax
comp=Z,10.0nm,0.8s
FURC **Furnace Creek,** 73.34 56 P **P** 14 40 59.0 +1.2
baz=311,SNR=14
BW06 **Boulder Array** 73.36 47 P **P** 14 40 58.9 +0.7
baz=313,SNR=8.1
BW06 **Boulder Array** 73.36 47 *e*P **P** 14 40 58.9 +0.7
comp=Z,17nm,1.3s
PD31 **Pinedale Array** 73.36 47 *e*P **P** 14 40 58.9 +0.6
PDAR **Pinedale Array** 73.36 47 P **P** 14 40 58.9 +0.6
comp=Z,5.1nm,0.6s,baz=251,slow=1.5,SNR=51
PDAR **Pinedale Array** 73.36 47 *e*P **P** 14 40 58.2 0.0
LVV **L'vov** 73.38 323 *e*P **P** 14 40 58.5 +0.6

TPNV **Topopah Spring** 73.40 55 P P 14 40 59.5 +1.1
baz=311,SNR=14
TPNV **Topopah Spring** 73.40 55 eP P 14 40 59.7 +1.2
comp=Z,12nm,0.9s
TPNV **Topopah Spring** 73.40 55 eP P 14 40 59.7 +1.2
TPNV pmax pmax
comp=Z,12nm,0.9s
TCUT **Toone Canyon** 73.46 49 eP P 14 41 00.5 +1.6
comp=Z,19nm,0.8s
LRMC **Laurel Mtn Rad** 73.48 57 P P 14 40 59.1 +0.2
baz=311
EDW2 **Edwards Air Fo** 73.67 58 P P 14 41 01.0 +1.1
baz=311
JLU **Jordanelle** 73.78 50 eP P 14 41 02.3 +1.5
comp=Z,18nm,1.5s
MZR **Muzera** 74.02 287 P P 14 41 02.3 +0.2
STKA **Stephens Creek** 74.03 181 LR LR 15 15 41.9
comp=Z,19nm,20.2s,baz=196,slow=37
MPU **Maple Canyon** 74.08 50 eP P 14 41 04.0 +1.6
comp=Z,11nm,0.8s
KWP **Kalwaria Pacla** 74.10 324 eP P 14 41 03.0 +0.9
KWP **Kalwaria Pacla** 74.10 324 eP P 14 41 03.0 +0.9
GSC **Goldstone, Bar** 74.14 57 P P 14 41 03.7 +1.0
baz=311
BFSC **Mount Baldy Ra** 74.30 58 P P 14 41 04.3 +0.6
baz=311
SHPR **Sheep Range** 74.35 55 eP P 14 41 05.5 +1.5
comp=Z,8.0nm,0.9s
CIS **Catalina Islan** 74.37 59 P P 14 41 04.8 +0.9
baz=311
BUR08 **Bucovina Ar. S** 74.45 321 eP P 14 41 04.8 +0.5
BUR04 **Bucovina Ar. S** 74.46 321 eP P 14 41 04.7 +0.4
BURAR **Bucovina Array** 74.46 321 ⇓iP P 14 41 04.7 +0.3
BURAR **Bucovina Array** 74.46 321 P P 14 41 04.7 +0.3
ULM **Lac du Bonnet** 74.56 34 P P 14 41 04.3 -0.5
comp=Z,5.9nm,0.8s,baz=303,slow=7.8,SNR=8.4
ULM **Lac du Bonnet** 74.56 34 eP P 14 41 04.9 +0.1
comp=Z,8.2nm,0.8s
ULM **Lac du Bonnet** 74.56 34 eP P 14 41 04.9 +0.1
ULM pmax pmax
comp=Z,8.0nm,0.8s
TESR **Tescani** 74.59 320 ⇓iP P 14 41 04.9 -0.1
TUQ **Turquoise Moun** 74.59 56 P P 14 41 06.5 +1.1
baz=312,SNR=9.5
CCUT **Cedar City** 74.73 53 eP P 14 41 08.0 +1.7
comp=Z,3.5nm,0.9s
MDND **Maddock** 74.73 38 P P 14 41 07.2 +1.4
baz=318
HEC **Hector,Ludlow** 74.74 57 P P 14 41 07.0 +0.9
baz=312,SNR=5.6
MSU **Marysvale** 74.78 52 eP P 14 41 08.5 +2.0
MSU **Marysvale** 74.78 52 eP P 14 41 08.5 +2.0
TMUT **Trail Mountain** 74.80 50 eP P 14 41 08.3 +1.5
comp=Z,7.6nm,0.9s
CFR **Carcaliu** 74.83 318 ⇓iP P 14 41 06.6 +0.3
CFR **Carcaliu** 74.83 318 P P 14 41 06.6 +0.3
OJC **Ojcow** 74.89 326 eP P 14 41 07.2 +0.6
OJC **Ojcow** 74.89 326 eP P 14 41 07.3 +0.6
comp=Z,21nm,0.8s
OJC **Ojcow** 74.89 326 eP P 14 41 07.3 +0.6
OJC pmax pmax
comp=Z,21nm,0.8s
STHS **Stebnicka Huta** 74.89 325 eP P 14 41 07.6 +0.9
STHS **Stebnicka Huta** 74.89 325 eP P 14 41 07.6 +0.9
STHS pmax pmax
comp=Z,6.0nm,0.7s
VRI **Vrincioaia** 75.02 319 ⇓iP P 14 41 09.3 +1.8
VRI **Vrincioaia** 75.02 319 P P 14 41 11.5 +4.0
VRI pmax pmax
comp=Z,89nm,1.9s
K22A **Casper** 75.06 45 P P 14 41 08.2 +0.2
baz=315
K22A **Casper** 75.06 45 eP P 14 41 08.8 +0.8
comp=Z,6.7nm,1.0s
MTPU **Mount Pierson** 75.09 52 eP P 14 41 10.3 +1.9
comp=Z,7.7nm,0.8s
P18A **Preston Nutter** 75.12 50 eP P 14 41 10.1 +1.6
comp=Z,9.8nm,1.0s
LCMT **Little Creek M** 75.16 53 eP P 14 41 10.4 +1.8
comp=Z,4.7nm,0.9s
B31A **Greenbush Farm** 75.18 37 P P 14 41 08.4 +0.1
baz=319
GMRC **Granite Mounta** 75.18 56 P P 14 41 09.4 +0.6
baz=312,SNR=6.3
CRVS **Cervenica-Dubn** 75.19 324 eP P 14 41 08.8 +0.4
CRVS **Cervenica-Dubn** 75.19 324 eP P 14 41 08.8 +0.4
CRVS pmax pmax
comp=Z,5.0nm,0.9s
NIE **Niedzica** 75.29 325 eP P 14 41 10.1 +1.1
NIE **Niedzica** 75.29 325 eP P 14 41 10.1 +1.1
TRPA **Tarpa** 75.29 323 ⇓iP P 14 41 09.8 +0.8
RSSD **Black Hills** 75.31 43 P P 14 41 09.6 +0.2
baz=316
RSSD **Black Hills** 75.31 43 eP P 14 41 10.1 +0.7
comp=Z,7.3nm,0.8s
RSSD **Black Hills** 75.31 43 eP P 14 41 10.1 +0.7
RSSD pmax pmax
comp=Z,7.0nm,0.8s
A32A **Rocking H Ranc** 75.31 36 P P 14 41 08.7 -0.4
baz=319
SRU **San Rafael Swe** 75.32 50 eP P 14 41 10.7 +1.1
comp=Z,18nm,0.7s
SRU **San Rafael Swe** 75.32 50 eP P 14 41 10.7 +1.1
SRU pmax pmax
comp=Z,18nm,0.7s
RWWY **Rawlins** 75.37 46 eP P 14 41 10.8 +0.9
comp=Z,11nm,0.9s
KNB **Kanab** 75.41 53 eP P 14 41 12.0 +1.9
comp=Z,5.2nm,1.0s
KNB **Kanab** 75.41 53 eP P 14 41 12.0 +1.9
KNB pmax pmax
comp=Z,5.0nm,1.0s
PFO **Pinyon Flats O** 75.46 58 P P 14 41 11.2 +0.8
baz=312
TPFO **Pinon Flats** 75.47 58 P P 14 41 11.2 +0.8
baz=312
BELC **Belle Mtn. Jos** 75.49 57 P P 14 41 10.7 +0.1
baz=312
MLR **Muntele Rosu** 75.67 319 P P 14 41 12.0 +0.6
comp=Z,0.7nm,0.5s,baz=347,slow=13,SNR=5.3
MLR **Muntele Rosu** 75.67 319 ⇓iP P 14 41 12.9 +1.5
MLR **Muntele Rosu** 75.67 319 eP P 14 41 12.1 +0.7
comp=Z,4.7nm,0.8s
MLR **Muntele Rosu** 75.67 319 eP P 14 41 12.1 +0.7
MLR pmax pmax
comp=Z,5.0nm,0.8s
B32A **Ashes, Strandq** 75.69 36 P P 14 41 11.0 -0.3
baz=319
BR131 **Keskin Array S** 75.76 311 eP P 14 41 12.6 +0.5
BRTR **Keskin Array B** 75.76 311 P P 14 41 12.4 +0.4
comp=Z,2.7nm,0.7s,baz=96,slow=3.3,SNR=14
BRTR LR LR 15 18 35.9
comp=Z,15nm,18.4s,baz=77,slow=39
A33A **Warroad** 75.77 35 P P 14 41 11.7 0.0
baz=320
KSP **Ksiaz** 75.82 328 eP P 14 41 12.4 +0.5
KSP **Ksiaz** 75.82 328 eP P 14 41 12.4 +0.5
LANS **Liptovska Anna** 75.85 325 eP P 14 41 13.7 +1.5
LANS **Liptovska Anna** 75.85 325 eP P 14 41 13.7 +1.5
O20A **White River Ci** 75.89 48 P P 14 41 13.4 +0.6
baz=314,SNR=5.8
O20A **White River Ci** 75.89 48 eP P 14 41 13.8 +1.0
comp=Z,15nm,1.3s
IRM **Iron Mountain** 75.92 57 P P 14 41 13.8 +0.9
baz=312,SNR=5.1
AGMN **Agassiz Nation** 76.05 36 P P 14 41 12.9 -0.4
baz=320,SNR=5.3
AGMN **Agassiz Nation** 76.05 36 eP P 14 41 12.6 -0.7
comp=Z,8.6nm,0.9s
VOIR 76.14 320 ⇓iP P 14 41 15.1 +1.1
VOIR 76.14 320 P P 14 41 15.1 +1.1
MORC **Moravsky Berou** 76.16 327 ⇑iP P 14 41 14.9 +0.9
MORC **Moravsky Berou** 76.16 327 eP P 14 41 14.8 +0.8
comp=Z,47nm,1.0s
MORC **Moravsky Berou** 76.16 327 eP P 14 41 14.8 +0.8
MORC pmax pmax
comp=Z,47nm,1.0s
B33A **Robert and Kas** 76.19 36 P P 14 41 14.2 +0.1
baz=320
UPC **Upice** 76.19 328 eP P 14 41 14.9 +0.8
UPC **Upice** 76.19 328 eP P 14 41 14.9 +0.8
DPC **Dobruska-Polom** 76.19 328 eP P 14 41 15.1 +0.9
DPC **Dobruska-Polom** 76.19 328 eP P 14 41 15.1 +0.9
DRGR 76.22 322 ⇑iP P 14 41 15.2 +0.8
DRGR 76.22 322 P P 14 41 15.2 +0.8
KRLC **Kraliky** 76.23 327 eP P 14 41 15.3 +0.9
KRLC **Kraliky** 76.23 327 eP P 14 41 15.3 +0.9
IKP **In-Ko-Pah, Jac** 76.32 58 P P 14 41 15.5 +0.2
baz=312
ARR **Arges** 76.39 320 ⇑iP P 14 41 17.0 +1.6
B34A **Aery, Baudette** 76.43 35 P P 14 41 15.3 -0.2
baz=321
D32A **Dogwood Acres,** 76.43 37 P P 14 41 15.2 -0.2
baz=319
PDMCI **Parker Dam,Lak** 76.44 56 P P 14 41 16.5 +0.7
baz=313,SNR=8.3
E31A **Nome** 76.47 38 P P 14 41 15.8 0.0
baz=319
C33A **Trail** 76.50 36 P P 14 41 15.5 -0.4
baz=320
PV09 **Paradox Valley** 76.53 50 eP P 14 41 18.1 +1.5
N23A **Red Feather La** 76.61 46 P P 14 41 18.1 +1.2
baz=315,SNR=6.4
N23A **Red Feather La** 76.61 46 eP P 14 41 18.5 +1.5
comp=Z,20nm,1.4s
PSZ **Piszkesteto** 76.61 324 ⇑iP P 14 41 17.6 +1.0
PSZ **Piszkesteto** 76.61 324 eP P 14 41 17.7 +1.1
comp=Z,10nm,1.0s
PSZ **Piszkesteto** 76.61 324 eP P 14 41 17.7 +1.1
PSZ pmax pmax
comp=Z,10.0nm,1.0s
VYHS **Vyhne** 76.62 325 eP P 14 41 17.2 +0.7
VYHS **Vyhne** 76.62 325 eP P 14 41 17.3 +0.7
VYHS pmax pmax
comp=Z,6.0nm,1.4s
PV10 **Paradox Valley** 76.67 50 eP P 14 41 18.8 +1.5
BRG **Berggiesshubel** 76.70 329 eP P 14 41 16.8 -0.1
comp=Z,10nm,1.1s
BRG **Berggiesshubel** 76.70 329 eP P 14 41 16.8 -0.1
BRG pmax pmax
comp=Z,10.0nm,1.1s
CLL **Collm** 76.70 330 eP P 14 41 17.7 +0.8
CLL **Collm** 76.70 330 iP P 14 41 16.9 0.0
comp=Z,18nm,1.2s
CLL epP pP 14 41 42.0 -0.8
CLL **Collm** 76.70 330 eP P 14 41 16.8 -0.1
comp=Z,11nm,0.8s
CLL **Collm** 76.70 330 iP P 14 41 16.9 0.0
CLL e*PP pP 14 41 42.0 -0.8
CLL pmax pmax
comp=Z,18nm,1.2s
F31A **Hecla** 76.83 39 P P 14 41 17.8 0.0
baz=319
PV05 **Paradox Valley** 76.84 50 eP P 14 41 19.6 +1.3
VRAC **Vranov** 76.91 327 ⇓iP P 14 41 19.0 +0.8
VRAC **Vranov** 76.91 327 P P 14 41 19.0 +0.8
B35A **Bob, Littlefor** 76.92 35 P P 14 41 18.1 -0.1
baz=321,SNR=8.1
PV01 **Paradox Valley** 77.10 50 eP P 14 41 21.1 +1.3
GOPC **GO Pecny, Ondr** 77.14 328 eP P 14 41 20.3 +0.8
GOPC ex x 14 41 24.3
GOPC **GO Pecny, Ondr** 77.14 328 eP P 14 41 20.3 +0.8
GOPC e 14 41 24.3
PRU **Pruhonice** 77.18 328 eP P 14 41 20.4 +0.8
PRU **Pruhonice** 77.18 328 eP P 14 41 20.4 +0.8
SMCO **Snowmass** 77.26 48 eP P 14 41 21.9 +1.1
comp=Z,7.6nm,0.8s
D34A **Park Rapids** 77.27 36 P P 14 41 19.9 -0.3
baz=320
WUAZ **Wupatki** 77.28 53 P P 14 41 21.9 +1.2
baz=314,SNR=7.9
WUAZ **Wupatki** 77.28 53 eP P 14 41 22.6 +1.9
comp=Z,7.7nm,0.9s
C35A **Jirik Farms, M** 77.32 35 P P 14 41 20.3 -0.2
baz=321
G31A **Conde** 77.33 39 P P 14 41 20.8 +0.2
baz=319
E33A **Westby DABS, E** 77.36 37 P P 14 41 20.5 -0.2
baz=320
MODS **Modra-Piesok** 77.36 326 eP P 14 41 20.7 0.0
MODS **Modra-Piesok** 77.36 326 eP P 14 41 20.7 0.0
MODS pmax pmax
comp=Z,10.0nm,1.2s
ISCO **Idaho Springs** 77.56 47 P P 14 41 23.3 +0.9
baz=316,SNR=7.2
ISCO **Idaho Springs** 77.56 47 eP P 14 41 23.7 +1.3
comp=Z,5.3nm,0.9s
ISCO **Idaho Springs** 77.56 47 eP P 14 41 23.7 +1.3
ISCO pmax pmax
comp=Z,5.0nm,0.9s
BZS **Buzias** 77.60 322 ⇑iP P 14 41 22.4 +0.3
113A **Mohawk Valley,** 77.70 57 eP P 14 41 24.2 +1.3
F33A **5 Mile Ranch,** 77.74 38 P P 14 41 22.8 0.0
baz=320
C36A **Pine Crest Far** 77.76 35 P P 14 41 22.8 -0.2
baz=322
D35A **Remer** 77.77 36 P P 14 41 22.4 -0.6
baz=321
MVCO **Mesa Verde** 77.78 50 P P 14 41 24.7 +1.2
baz=315,SNR=5.1
MVCO **Mesa Verde** 77.78 50 eP P 14 41 25.0 +1.5
comp=Z,7.1nm,0.8s
C37A **Embarrass** 78.05 34 P P 14 41 24.6 0.0
baz=322,SNR=5.2
D36A **Goodland** 78.08 35 P P 14 41 24.6 -0.1
baz=322
EYMN **Ely** 78.17 34 P P 14 41 25.0 -0.2
baz=323
EYMN **Ely** 78.17 34 eP P 14 41 25.4 +0.2
comp=Z,12nm,0.9s
G33A **Ortonville** 78.17 38 P P 14 41 25.3 +0.1
baz=320,SNR=5.2
EKA **Eskdalemuir Ar** 78.20 341 P P 14 41 25.5 +0.3
comp=Z,5.2nm,0.6s,baz=24,slow=5.0,SNR=27
KHC **Kasperske Hory** 78.24 328 eP P 14 41 26.3 +0.7
KHC ex x 14 41 30.5
KHC ex x 14 41 52.5
KHC **Kasperske Hory** 78.24 328 eP P 14 41 26.4 +0.8
comp=Z,4.1nm,1.0s
KHC **Kasperske Hory** 78.24 328 eP P 14 41 26.4 +0.8
KHC pmax pmax
comp=Z,4.0nm,1.0s
CONA **Conrad Observa** 78.30 326 eP P 14 41 27.1 +1.1
comp=Z,8.1nm,1.3s
S22A **4UR Ranch, Cre** 78.35 49 P P 14 41 27.7 +1.0
baz=315,SNR=8.6
S22A **4UR Ranch, Cre** 78.35 49 eP P 14 41 28.6 +1.8
comp=Z,6.5nm,0.9s
D37A **Cotton** 78.40 35 P P 14 41 26.0 -0.5
baz=322
Q24A **Divide** 78.41 47 P P 14 41 27.7 +0.6
baz=316
H33A **Prehn Over Nor** 78.42 39 P P 14 41 26.8 +0.2
baz=320,SNR=8.2
GEC2 **GERESS Array S** 78.42 328 eP P 14 41 27.2 +0.6
comp=Z,5.5nm,1.1s
GEC2 **GERESS Array S** 78.42 328 eP P 14 41 27.3 +0.6
GEC2 pmax pmax
comp=Z,6.0nm,1.1s
GERES **GERESS Array B** 78.42 328 P P 14 41 26.9 +0.1
comp=Z,1.9nm,0.7s,baz=28,slow=6.0,SNR=15
GERES pP pP 14 41 53.3 +0.6
comp=Z,1.2nm,0.8s,baz=20,slow=4.3,SNR=3.3
GEA0 **GERESS Array S** 78.43 328 eP P 14 41 26.9 +0.1
C38A **Sawbill Land.** 78.44 34 P P 14 41 26.4 -0.3
baz=323,SNR=6.5
G34A **Benson** 78.49 38 P P 14 41 27.0 0.0
baz=320
WET **Wettzell** 78.50 329 P P 14 41 28.9 +1.9
WET pmax pmax
comp=Z,10.0nm,1.2s
W18A **Petrified Fore** 78.52 53 P P 14 41 29.0 +1.4
baz=314
E36A **McGregor** 78.55 36 P P 14 41 27.1 -0.2
baz=322
OGNE **Ogallala** 78.62 44 P P 14 41 28.2 +0.3
baz=317
214A **Organ Pipe Nat** 78.84 57 P P 14 41 30.0 +0.7
baz=314
J32A **Parkston** 78.89 40 P P 14 41 29.4 +0.1
baz=319
K31A **O'Neill** 79.02 41 P P 14 41 30.4 +0.3
baz=319
G35A **Watkins** 79.03 37 P P 14 41 29.8 -0.1
baz=321
ASF **Jabal al Asfar** 79.05 304 P P 14 41 31.5 +1.1
comp=Z,5.3nm,0.8s,baz=18,slow=4.6,SNR=7.9
SDCO **Great Sand Dun** 79.09 48 P P 14 41 31.5 +0.7
baz=316,SNR=9.2
SDCO **Great Sand Dun** 79.09 48 eP P 14 41 31.6 +0.7
comp=Z,8.3nm,1.2s
ECSD **EROS Data Cent** 79.20 39 P P 14 41 30.9 -0.1
baz=320,SNR=12
ECSD **EROS Data Cent** 79.20 39 eP P 14 41 31.1 +0.1
comp=Z,13nm,0.9s
E38A **The Farm, Brul** 79.21 35 P P 14 41 30.2 -0.7
baz=323
RAYN **Ar Rayn** 79.25 292 eP P 14 41 31.8 +0.2
comp=Z,9.1nm,0.7s
RAYN **Ar Rayn** 79.25 292 P P 14 41 31.8 +0.2
RAYN pmax pmax
comp=Z,9.0nm,0.7s
H35A **Sunnyside Ranc** 79.28 38 P P 14 41 31.1 -0.2
baz=321
J33A **Davis** 79.35 40 P P 14 41 30.9 -0.8
baz=320
MMAI **Mount Meron Ar** 79.38 305 P P 14 41 33.0 +0.9
comp=Z,9.7nm,0.7s,baz=50,slow=7.7,SNR=24
MMAI LR LR 15 21 01.0
comp=Z,34nm,18.1s,baz=45,slow=39
DIVS **Divibare** 79.51 322 eP P 14 41 32.8 +0.1
comp=Z,4.3nm,0.6s
F38A **Pierce - Schro** 79.58 35 P P 14 41 33.2 +0.3
baz=323,SNR=6.6
SOKA **Soboth** 79.64 326 eP P 14 41 33.7 +0.4
comp=Z,13nm,1.0s,SNR=6.6
E39A **Mellen** 79.80 34 P P 14 41 33.9 -0.2
baz=323,SNR=7.4
TUC **Tucson** 79.84 55 P P 14 41 36.0 +1.2
baz=314
TUC **Tucson** 79.84 55 eP P 14 41 36.3 +1.6
comp=Z,3.0nm,0.9s
TUC **Tucson** 79.84 55 eP P 14 41 36.3 +1.6
TUC pmax pmax
comp=Z,3.0nm,0.9s
SCHQ **Schefferville** 79.88 17 P P 14 41 34.7 +0.3
comp=Z,3.0nm,0.6s,baz=7.4,slow=3.7,SNR=5.1
SCHQ LR LR 15 22 31.3
comp=Z,51nm,18.4s,baz=332,slow=40
OBKA **Obir** 79.97 326 iP P 14 41 35.4 +0.3
comp=Z,6.7nm,0.7s
KBA **Koelnbreinsper** 80.00 327 eP P 14 41 35.7 +0.3
comp=Z,11nm,0.9s
E40A **Wakefield** 80.02 34 P P 14 41 35.7 +0.3
baz=324,SNR=12
F39A **Loretta** 80.02 35 P P 14 41 35.3 -0.1
baz=323
T25A **Trinidad** 80.13 48 P P 14 41 36.8 +0.5
baz=317,SNR=9.5
T25A **Trinidad** 80.13 48 eP P 14 41 37.2 +0.9
comp=Z,12nm,0.9s
G38A **Ridgeland** 80.22 36 P P 14 41 35.5 -0.9
baz=323
H37A **Dierke Farm, C** 80.22 37 P P 14 41 36.4 0.0
baz=322
K34A **Le Mars** 80.25 40 P P 14 41 36.8 +0.2
baz=320
F40A **Park Falls** 80.35 34 P P 14 41 36.9 -0.2
baz=324
E41A **Kenton** 80.39 33 P P 14 41 37.1 -0.2
baz=324
G39A **Holcombe** 80.42 35 P P 14 41 37.2 -0.3
baz=323
I37A **Lemond, Waseca** 80.45 37 P P 14 41 37.9 +0.3
baz=322
WATA **Walderalm** 80.48 329 iP P 14 41 38.4 +0.5
comp=Z,9.8nm,1.0s
WTTA **Wattenberg** 80.52 328 eP P 14 41 38.6 +0.4
comp=Z,8.1nm,0.8s
LAZ **Ladron** 80.55 52 eP P 14 41 40.5 +1.9
ANMO **Albuquerque** 80.55 51 P P 14 41 39.7 +1.0
baz=316
ANMO **Albuquerque** 80.55 51 eP P 14 41 40.1 +1.5
comp=Z,5.4nm,0.9s
ANMO **Albuquerque** 80.55 51 ceP P 14 41 40.0 +1.4
ANMO pmax pmax
comp=Z,6.0nm,1.0s
J36A **Seneca 1, Swea** 80.56 38 P P 14 41 38.3 0.0
baz=321
MOTA **Moosalm** 80.66 329 eP P 14 41 39.2 +0.3
comp=Z,16nm,0.9s,SNR=9.2
RETA **Reutte** 80.67 329 eP P 14 41 39.4 +0.5
comp=Z,18nm,1.2s,SNR=5.5
E42A **Champion** 80.83 33 P P 14 41 39.7 0.0
baz=325
H39A **Augusta** 80.85 36 P P 14 41 40.0 +0.2
baz=323
BFO **Black Forest** 80.86 331 eP P 14 41 39.8 0.0
comp=Z,8.3nm,1.0s
BFO **Black Forest** 80.86 331 iP P 14 41 40.6 +0.8
I38A **Scanlan Farm,** 80.91 37 P P 14 41 39.9 -0.2
baz=323
F41A **Three Lakes** 80.92 34 P P 14 41 40.2 0.0
baz=324
J37A **Redenius Farm,** 80.94 38 P P 14 41 40.1 -0.2
baz=322
BNM **Barren Site** 81.02 52 eP P 14 41 42.9 +1.7
K36A **Gilmore City** 81.05 39 P P 14 41 40.9 0.0
baz=322,SNR=9.0
FETA **Feichten** 81.07 329 iP P 14 41 41.5 +0.4
comp=Z,6.6nm,0.9s
PDG **Podgorica** 81.14 321 ⇑iP P 14 41 41.7 +0.4
TTG **Podgorica** 81.14 321 eP P 14 41 41.8 +0.5
comp=Z,20nm,0.8s
TTG **Podgorica** 81.14 321 eP P 14 41 41.8 +0.5
TTG pmax pmax
comp=Z,20nm,0.8s
CDF **Champ du Feu** 81.17 332 eP P 14 41 41.2 -0.3
CDF pmax pmax
comp=Z,19nm,1.2s
DAVA **Damuels** 81.17 329 iP P 14 41 42.0 +0.4
comp=Z,13nm,0.8s
H40A **Chili** 81.28 35 P P 14 41 42.1 0.0
baz=324
K37A **Belmond** 81.32 38 P P 14 41 42.3 0.0
baz=322,SNR=6.6
L36A **Harm Buss Farm** 81.37 39 P P 14 41 42.7 +0.1
baz=321
M35A **Neola** 81.38 40 P P 14 41 42.3 -0.3
baz=321
ECH **Echery** 81.38 332 eP P 14 41 42.2 -0.3
comp=Z,7.0nm,1.0s
ECH **Echery** 81.38 332 eP P 14 41 42.2 -0.3
ECH pmax pmax
comp=Z,7.0nm,1.0s
I39A **Houston** 81.41 36 P P 14 41 42.1 -0.7
baz=323
121A **Cookes Peak, D** 81.49 53 P P 14 41 45.1 +1.4
baz=316
FUORN **Ofenpass-Fuorn** 81.58 329 eP P 14 41 44.6 +0.7
comp=Z,16nm,0.8s
G42A **Mountain** 81.60 34 P P 14 41 43.5 -0.2
baz=325
F43A **Flat Rock, Esc** 81.62 33 P P 14 41 43.4 -0.4
baz=326
J39A **Decorah** 81.74 37 P P 14 41 44.2 -0.3
baz=323
L37A **Phoenix Point,** 81.77 39 P P 14 41 43.0 -1.7
baz=322
F44A **Big Bay de Noc** 81.80 32 P P 14 41 44.6 -0.1
baz=326
HINF **Hinteralfeld** 81.82 331 eP P 14 41 44.7 -0.2
HINF pmax pmax
comp=Z,8.0nm,1.2s
HAU **Haudompre** 81.84 332 eP P 14 41 44.3 -0.7
HAU pmax pmax
comp=Z,12nm,1.2s
TUE **Stuetta** 82.05 329 eP P 14 41 46.9 +0.6
J40A **Soldiers Grove** 82.11 36 P P 14 41 45.6 -0.9
baz=324
L38A **Oak Wood Farm,** 82.13 38 P P 14 41 46.1 -0.4
baz=322
K39A **Oelwein** 82.16 37 P P 14 41 46.2 -0.5
baz=323
J41A **Loganville** 82.45 36 P P 14 41 47.8 -0.4
baz=324
I42A **Draeger Farm,** 82.50 35 P P 14 41 48.8 +0.4
baz=325
H43A **Windswept, Lux** 82.50 34 P P 14 41 48.5 0.0
baz=325
K40A **Colesburg** 82.50 37 P P 14 41 47.8 -0.7
baz=323
L39A **Vinton** 82.57 38 P P 14 41 48.7 -0.1
baz=323,SNR=8.8
M38A **Pleasantville** 82.59 39 P P 14 41 49.4 +0.5
baz=322
F46A **Macinaw City C** 82.61 31 P P 14 41 49.3 +0.3
baz=327
N37A **Lee Faris, Mou** 82.63 40 P P 14 41 49.7 +0.5
baz=322

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
J42A	Columbus	82.87	35	P	P	14 41 50.1	-0.4
	baz=325						
SENIN	Lac Senin/Sane	82.90	330	eP	P	14 41 51.2	+0.4
	comp=Z,7.3nm,0.8s						
K41A	Shullsburg	82.94	36	P	P	14 41 50.4	-0.3
	baz=324						
L40A	Anamosa	82.97	37	P	P	14 41 50.3	-0.6
	baz=323						
M39A	Webster	83.01	38	P	P	14 41 50.6	-0.5
	baz=323						
J43A	Natural Harves	83.12	35	P	P	14 41 51.8	+0.1
	baz=325						
O37A	Wolven Farm, M	83.12	40	P	P	14 41 51.7	0.0
	baz=322						
K42A	Prairie Point,	83.22	36	P	P	14 41 51.4	-0.8
	baz=324						
L41A	Preston	83.28	37	P	P	14 41 52.0	-0.5
	baz=324						
N39A	Derby Farms, D	83.33	39	P	P	14 41 52.7	-0.1
	baz=323						
M40A	Post Highland	83.37	38	P	P	14 41 53.0	0.0
	baz=323						
LDF	La Druitiere	83.43	336	eP	P	14 41 52.4	-0.8
LDF				pmax	pmax		
	comp=Z,55nm,1.8s						
P37A	Lathrop	83.48	41	P	P	14 41 53.5	-0.1
	baz=322						
MNTX	Cornudas Mount	83.51	53	P	P	14 41 54.8	+0.9
	baz=317,SNR=6.9						
MNTX	Cornudas Mount	83.51	53	eP	P	14 41 55.0	+1.1
	comp=Z,5.3nm,1.0s						
SSF	Saint Saulge	83.63	333	eP	P	14 41 53.9	-0.3
SSF				pmax	pmax		
	comp=Z,11nm,0.9s						
MATE	Matera	83.72	322⇑	iP	P	14 41 54.9	+0.1
IDI	Anoyia	83.77	313	P	P	14 41 54.5	-0.7
	comp=Z,11nm,0.6s,baz=27,slow=11,SNR=12						
LPL	La Plagne	83.83	330	eP	P	14 41 55.6	0.0
LPL				pmax	pmax		
	comp=Z,8.0nm,0.8s						
LPG	La Plagne	83.84	330	eP	P	14 41 55.8	+0.1
LPG				pmax	pmax		
	comp=Z,10.0nm,0.8s						
P38A	Dawn	83.84	40	P	P	14 41 55.7	+0.2
	baz=322,SNR=5.6						
AVF	Avril sur Loir	83.92	333	eP	P	14 41 55.4	-0.3
AVF				pmax	pmax		
	comp=Z,15nm,0.7s						
O40A	La Belle	84.23	39	P	P	14 41 57.4	+0.1
	baz=323						
P39B	Salisbury	84.32	40	P	P	14 41 58.1	+0.2
	baz=323						
Q38A	Cooks Store, C	84.32	40	P	P	14 41 57.9	0.0
	baz=322,SNR=5.7						
N42A	Yates City	84.49	37	P	P	14 41 58.6	-0.1
	baz=324						
Q39A	Willow Grove F	84.56	40	P	P	14 41 59.3	+0.2
	baz=323,SNR=13						
P40A	Paris	84.62	39	P	P	14 41 59.5	+0.1
	baz=323,SNR=6.9						
ORIF	Oris-en-Rattie	84.65	331	eP	P	14 41 59.5	-0.1
ORIF				pmax	pmax		
	comp=Z,15nm,1.0s						
O41A	Passleys Farm,	84.69	38	P	P	14 41 59.9	+0.2
	baz=324						
TCF	Toulx Ste Croi	84.73	333	eP	P	14 41 59.7	-0.2
TCF				pmax	pmax		
	comp=Z,19nm,1.3s						
N43A	Stutzman Famil	84.79	37	P	P	14 42 00.3	+0.1
	baz=325						
R38A	Fenwick Farm,	84.79	41	P	P	14 41 59.8	-0.5
	baz=322						
TIP	Timpagrande	84.87	321⇑	iP	P	14 42 01.0	+0.3
M44A	Midewin, Midew	84.91	36	P	P	14 42 00.5	-0.3
	baz=325						
P41A	Barry, Barry	84.96	38	P	P	14 42 01.0	0.0
	baz=324						
WMOK	Wichita Mounta	84.96	46	P	P	14 42 01.5	+0.3
	baz=320						
WMOK	Wichita Mounta	84.96	46	eP	P	14 42 01.8	+0.6
	comp=Z,9.1nm,1.2s						
WMOK	Wichita Mounta	84.96	46	eP	P	14 42 01.8	+0.6
WMOK				pmax	pmax		
	comp=Z,9.0nm,1.2s						
Q40A	Laux Farm, Aux	85.03	39	P	P	14 42 01.6	+0.1
	baz=323						
R39A	Chumby, Stover	85.11	41	P	P	14 42 01.8	0.0
	baz=323,SNR=7.6						
VIVF	Saint-Julien-l	85.14	331	eP	P	14 42 02.0	+0.1
VIVF				pmax	pmax		
	comp=Z,11nm,1.0s						
MFF	Saint Martin d	85.21	335	eP	P	14 42 02.4	+0.2
MFF				pmax	pmax		
	comp=Z,20nm,1.0s						
N44A	Piper City	85.36	36	P	P	14 42 03.1	+0.1
	baz=325						
P42A	Winchester	85.36	38	P	P	14 42 03.0	-0.1
	baz=324						
PEMO	Pembroke	85.38	27	P	P	14 42 02.7	-0.3
	baz=332						
Q41A	Truxton	85.46	39	P	P	14 42 03.8	+0.2
	baz=324,SNR=7.6						
S39A	Bolivar	85.47	41	P	P	14 42 03.1	-0.6
	baz=322,SNR=6.2						
R40A	Maddies Statio	85.50	40	P	P	14 42 03.8	0.0
	baz=323,SNR=10						
T38A	Diamond	85.51	42	P	P	14 42 03.8	-0.1
	baz=322,SNR=11						
TUL1	Leonard	85.63	44	P	P	14 42 04.5	0.0
	baz=321						
TUL1	Leonard	85.63	44	eP	P	14 42 05.5	+1.0
	comp=Z,9.9nm,0.8s						
TRQ	Mont Tremblant	85.75	25	eP	P	14 42 05.1	+0.1
R41A	Rosebud	85.91	39	P	P	14 42 06.0	+0.1
	baz=324,SNR=7.9						
S40A	Lebanon	85.94	41	P	P	14 42 05.9	0.0
	baz=323,SNR=5.3						
T39A	Clever	85.97	42	P	P	14 42 06.2	+0.1
	baz=322						
CAF	Calviac	85.98	333	eP	P	14 42 06.7	+0.6
CAF				pmax	pmax		
	comp=Z,16nm,0.8s						
O45A	Potomac	85.98	36	P	P	14 42 06.4	+0.3
	baz=326,SNR=6.4						
PLVO	Plevna	86.00	27	P	P	14 42 05.4	-0.7
	baz=332						
ABTX	Abilene, Hawle	86.09	48	P	P	14 42 07.0	+0.1
	baz=319						
SFIN	Lafayette	86.15	36	P	P	14 42 07.3	+0.3
	baz=326						
CCM	Cathedral Cave	86.17	40	P	P	14 42 07.2	+0.2
	baz=324						
CCM	Cathedral Cave	86.17	40	eP	P	14 42 07.3	+0.2
	comp=Z,13nm,0.8s						
CCM	Cathedral Cave	86.17	40	eP	P	14 42 07.3	+0.2
CCM				pmax	pmax		
	comp=Z,13nm,0.8s						
ALFO	Alfred	86.18	25	P	P	14 42 06.7	-0.3
	baz=334						
R42A	Luebbering	86.20	39	P	P	14 42 07.3	0.0
	baz=324						
P44A	Sand Creek, Wi	86.23	37	P	P	14 42 07.3	-0.1
	baz=325						
TX31	Lajitas Ar. Si	86.24	53	eP	P	14 42 08.4	+0.7
TXAR	Lajitas Array	86.24	53	P	P	14 42 08.8	+1.1
	comp=Z,3.8nm,0.6s,baz=293,slow=3.8,SNR=48						
DELO	Deloro Mine	86.27	27	P	P	14 42 06.9	-0.6
	baz=332						
HHAR	Hobbs	86.27	42	eP	P	14 42 07.9	+0.2
	comp=Z,13nm,1.2s						
T40A	Mansfield	86.28	41	P	P	14 42 07.1	-0.6
	baz=323						
S41A	Jillco Farms,	86.31	40	P	P	14 42 07.7	-0.1
	baz=323,SNR=6.3						
U39A	Green Forest	86.42	42	P	P	14 42 08.3	-0.1
	baz=322,SNR=11						
PPT	Papeete	86.50	118	LR	LR	15 14 51.2	
	comp=Z,30nm,21.1s,baz=350,slow=31						
Q44A	Meyer Farm, Va	86.51	38	P	P	14 42 08.7	-0.1
	baz=325						
P45A	Graceland, Par	86.57	36	P	P	14 42 09.2	+0.2
	baz=326						
S42A	Caledonia	86.61	39	P	P	14 42 09.6	+0.3
	baz=324,SNR=7.5						
P46A	Rosedale	86.73	36	P	P	14 42 09.7	-0.1
	baz=326						
T41A	Mountain View	86.73	40	P	P	14 42 09.8	-0.1
	baz=323,SNR=8.8						
U40A	Yellville	86.75	42	P	P	14 42 10.0	0.0
	baz=323,SNR=15						
V39A	Pettigrew	86.77	42	P	P	14 42 10.0	-0.1
	baz=322						
Q45A	Warren Harvey,	86.91	37	P	P	14 42 11.0	+0.3
	baz=325						
R44A	Waltonville	87.02	38	P	P	14 42 11.4	+0.1
	baz=325						
T42A	Van Buren	87.06	40	P	P	14 42 11.5	0.0
	baz=324,SNR=8.3						
S43A	Fulton Ridge,	87.11	39	P	P	14 42 11.8	+0.1
	baz=324,SNR=7.0						
V40A	Witts Springs	87.20	42	P	P	14 42 11.8	-0.4
	baz=323						
W39A	Magazine	87.21	43	P	P	14 42 12.5	+0.3
	baz=322						
U41A	Viola	87.22	41	P	P	14 42 12.2	-0.1
	baz=323,SNR=5.3						
P47A	Martinsville	87.24	36	P	P	14 42 12.3	0.0
	baz=326						
MTLF	Montolieu	87.33	332	eP	P	14 42 13.0	+0.4
MTLF				pmax	pmax		
	comp=Z,4.0nm,0.7s						
R45A	Skylar, Fairfi	87.34	38	P	P	14 42 13.0	+0.2
	baz=325						
S44A	Carbondale	87.39	38	P	P	14 42 13.4	+0.4
	baz=325,SNR=12						
SIUC	Southern Illin	87.39	38	eP	P	14 42 13.6	+0.6
	comp=Z,31nm,0.8s						
T43A	Greenville	87.40	39	P	P	14 42 13.3	+0.2
	baz=324,SNR=5.6						
U42A	Revenden	87.54	41	P	P	14 42 13.8	0.0
	baz=324						
V41A	Mountainview	87.55	41	P	P	14 42 13.8	-0.1
	baz=323,SNR=5.5						
W40A	Ferguson Farm,	87.57	42	P	P	14 42 14.2	+0.3
	baz=323						
X39A	Fountain Ranch	87.58	44	P	P	14 42 14.3	+0.2
	baz=322						
PBMO	Poplar Bluff	87.58	40	eP	P	14 42 14.5	+0.5
	comp=Z,18nm,0.8s						
JCT	Junction City	87.62	50	P	P	14 42 14.7	+0.4
	baz=319						
Q47A	Bedord North L	87.63	36	P	P	14 42 14.5	+0.3
	baz=326,SNR=5.6						
S45A	Carrier Mills	87.71	38	P	P	14 42 14.8	+0.2
	baz=325						
T44A	Benton	87.73	39	P	P	14 42 15.3	+0.7
	baz=325						
R46A	Gibon Southern	87.75	37	P	P	14 42 15.2	+0.4
	baz=326						
MIAR	Mount Ida	87.82	43	P	P	14 42 15.6	+0.4
	baz=322						
MIAR	Mount Ida	87.82	43	eP	P	14 42 15.7	+0.5
	comp=Z,9.7nm,0.9s						
MIAR	Mount Ida	87.82	43	eP	P	14 42 15.7	+0.5
MIAR				pmax	pmax		
	comp=Z,10.0nm,0.9s						
WHAR	Wooly Hollow	87.88	42	eP	P	14 42 16.0	+0.6
	comp=Z,12nm,0.8s						
U43A	Rector	87.92	40	P	P	14 42 15.5	-0.1
	baz=324						
ACSO	Alum Creek Sta	87.98	33	P	P	14 42 16.2	+0.4
	baz=328						
ACSO	Alum Creek Sta	87.98	33	eP	P	14 42 16.6	+0.8
	comp=Z,18nm,0.8s						
W41B	Gary Mavity, V	87.99	42	P	P	14 42 16.2	+0.3
	baz=323						
R47A	Wooly Knot Far	88.12	36	P	P	14 42 16.6	+0.1
	baz=326						
M54A	Oil Creek Stat	88.17	30	P	P	14 42 17.4	+0.7
	baz=330						
X40A	Basin Creek Fa	88.24	43	P	P	14 42 18.1	+1.0
	baz=323						
WCI	Wyandotte Cave	88.28	36	P	P	14 42 17.6	+0.4
	baz=326						
R48A	Northridge Ran	88.32	36	P	P	14 42 17.8	+0.4
	baz=327						
N54A	Moraine State	88.53	31	P	P	14 42 18.9	+0.6
	baz=330						
T46A	Princeton	88.54	38	P	P	14 42 19.2	+0.7
	baz=326,SNR=8.0						
ETSF	Etsaut	88.65	334	eP	P	14 42 19.7	+0.7
ETSF				pmax	pmax		
	comp=Z,6.0nm,0.6s						
S48A	Wiedeman Farm,	88.86	36	P	P	14 42 20.3	+0.3
	baz=327						
T47A	Sharon Grove	88.94	37	P	P	14 42 20.9	+0.5
	baz=326,SNR=7.5						
WVT	Waverly	89.32	38	P	P	14 42 22.5	+0.4
	baz=326						
V46A	Holladay	89.46	39	P	P	14 42 23.1	+0.2
	baz=326						
SSPA	Standing Stone	89.59	29	P	P	14 42 23.5	+0.1
	baz=332						
SSPA	Standing Stone	89.59	29	eP	P	14 42 24.0	+0.6
	comp=Z,12nm,0.9s						
U48A	Cassie Pea, Po	89.59	37	P	P	14 42 23.8	+0.4
	baz=326						
O56A	Blue Knob Stat	89.66	30	P	P	14 42 24.4	+0.7
	baz=331,SNR=7.6						
O56A	Blue Knob Stat	89.66	30	eP	P	14 42 24.5	+0.7
	comp=Z,19nm,0.8s						
MCWV	Mont Chateau	89.71	31	P	P	14 42 24.8	+0.8
	baz=330						
V47A	Nunnelly	89.71	38	P	P	14 42 24.2	+0.2
	baz=326						
OXF	Oxford	89.90	40	P	P	14 42 25.4	+0.4
	baz=325						
N59A	State Game Lan	90.09	28	P	P	14 42 26.2	+0.4
	baz=333,SNR=7.0						
N59A	State Game Lan	90.09	28	eP	P	14 42 26.8	+1.0
	comp=Z,19nm,0.9s						
V48A	Smith Brothers	90.11	38	P	P	14 42 25.9	+0.1
	baz=326						
W47A	Westpoint	90.15	39	P	P	14 42 26.2	+0.1
	baz=326						
W48A	Pulaski	90.55	38	P	P	14 42 27.9	-0.1
	baz=326						
Y46A	Houston	90.68	40	P	P	14 42 28.5	-0.1
	baz=325						
TZTN	Tazewell	90.88	35	P	P	14 42 29.5	0.0
	baz=328						
Z50A	Ashland	92.58	39	P	P	14 42 37.4	0.0
	baz=327						
ES19	SONSECA Array	92.62	335	eP	P	14 42 37.6	+0.1
ESDC	Sonseca Array	92.66	335	P	P	14 42 37.3	-0.4
	comp=Z,1.7nm,0.7s,baz=23,slow=4.4,SNR=11						
TORD	Torodi Ar. Bea	113.86	317	PKiKP	PKiKP	14 48 04.0	-0.5
	comp=Z,0.7nm,0.5s,baz=5.8,slow=2.0,SNR=7.4						
TORD				PP	PP	14 48 54.2	-4.1
	comp=Z,2.3nm,0.9s,baz=15,slow=8.5,SNR=7.9						
KOWA	Kowa	115.38	324	PKP	PKPdf	14 48 06.6	-0.9
	comp=Z,1.3nm,0.5s,baz=50,slow=6.6,SNR=6.1						
KOWA				PP	PP	14 49 06.3	-2.5
	comp=Z,4.1nm,0.8s,baz=19,slow=7.9,SNR=9.3						
VNDA	Vanda	120.38	175	PKP	PKPdf	14 48 16.1	+1.0
	comp=Z,0.9nm,0.7s,baz=323,slow=4.9,SNR=4.5						
SDV	Santo Domingo	120.64	39	PKP	PKPdf	14 48 17.9	+0.1
	comp=Z,3.1nm,0.4s,baz=9.5,slow=6.1,SNR=6.6						
DBIC	Dimbokro	122.65	320	PKP	PKPdf	14 48 20.7	-0.7
	comp=Z,2.0nm,0.5s,baz=279,slow=2.4,SNR=4.9						
DBIC				PP	PP	14 49 56.6	-2.4
	comp=Z,3.2nm,0.9s,baz=2.0,slow=7.1,SNR=3.9						
QSPA	South Pole Qui	132.25	180	PKP	PKPdf	14 48 38.5	+0.3
	comp=Z,1.8nm,0.6s,baz=326,slow=0.6,SNR=4.0						
LPAZ	La Paz	143.10	54	PKP	PKPdf	14 49 00.9	+0.6
	comp=Z,1.6nm,0.6s,baz=163,slow=3.0,SNR=4.3						
SNAA	Sanae	146.18	199	PKPbc	PKPab	14 49 05.6	+0.2
	comp=Z,2.2nm,0.6s,baz=181,slow=8.2,SNR=9.4						
SNAA				pPKPbc	pPKPab	14 49 33.8	+1.3
	comp=Z,5.0nm,1.0s,baz=201,slow=7.3,SNR=4.1						

IDC 21 14:38:10.2±2.0, 6°.86S×129°.87E, h127km±23km, mb3.2/1, mb1 3.2/5, mb1mx2.9/55, mbtmp3.6/5, Error ellipse: s-maj=29.9km s-min=14.4km az=118.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	Sorong	6.11	13	P	Pn	14 39 40.0	+1.8
	0.7nm,0.3s,baz=150,slow=23,SNR=11						
SIJI				S	Sn	14 40 45.7	-1.3
	1.9nm,0.3s,baz=210,slow=23,SNR=8.9						
BATI	Baumata	6.98	241	P	Pn	14 39 51.8	+1.8
	2.2nm,0.3s,baz=68,slow=5.4,SNR=3.0						
BATI				S	Sn	14 41 07.6	-0.4
	1.6nm,0.3s,baz=22,slow=19,SNR=4.7						
WRA	Warramunga Arr	13.71	162	P	Pn	14 41 17.9	-1.7
	0.2nm,0.3s,baz=338,slow=14,SNR=5.4						
WRA				S	Sn	14 43 36.6	-14
	0.4nm,0.3s,baz=329,slow=23,SNR=8.3						
ASAR	Alice Springs	17.16	167	P	P	14 42 01.6	-0.5
	0.1nm,0.3s,baz=349,slow=9.9,SNR=4.4						
ASAR				S	Sn	14 45 05.8	-8.2
	0.1nm,0.3s,baz=325,slow=23,SNR=4.4						
MKAR	Makanchi Array	68.03	327	P	P	14 48 56.2	+0.2
	0.2nm,0.4s,baz=125,slow=7.8,SNR=4.1						

IDC 21 14:47:32.7±2.0, 6°.31S×130°.20E, h0km, mb3.8/1, mb1 4.0/4, mb1mx3.5/52, mbtmp3.8/4, ML4.0/3, MS2.8/1, Ms1 2.8/1, ms1mx2.2/46, Error ellipse: s-maj=55.4km s-min=30.3km az=77.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	Baumata	7.54	239	Pn	Pn	14 49 24.4	+0.5
	2.7nm,0.3s,baz=319,slow=20,SNR=6.0						
BATI				Sn	Sn	14 50 35.0	-15
	2.3nm,0.3s,baz=336,slow=20,SNR=5.4						
WRA	Warramunga Arr	14.14	164	Pn	Pn	14 50 54.7	+0.2
	0.5nm,0.3s,baz=346,slow=13,SNR=18						
WRA				Sn	Sn	14 53 17.6	-15
	0.6nm,0.3s,baz=332,slow=22,SNR=9.4						
ASAR	Alice Springs	17.62	169	P	Pn	14 51 39.4	-0.5
	0.8nm,0.3s,baz=348,slow=11,SNR=83						
ASAR				S	Sn	14 54 38.3	-19
	0.1nm,0.3s,baz=348,slow=27,SNR=3.9						
KSRS	Korea Array	43.59	357	LR	LR	15 11 13.3	
	comp=Z,12nm,21.0s,baz=155,slow=33						
MKAR	Makanchi Array	67.76	327	P	P	14 58 32.3	0.0
	0.5nm,0.5s,baz=121,slow=8.0,SNR=7.6						

MAN 21 15:18:49, 10°.25N×123°.38E, h1km, mb4.4, ML3.2, MS3.0, 2C-1D, Cebu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LLP	Lapu-Lapu	0.58	84⇑	eP	Pg	15 19 00.7	+0.5
LLP				eS	Sb	15 19 10.4	-0.4
GUIM	Jordan	0.86	296	eP	Pg	15 19 05.8	+0.3
GUIM				eS	Sg	15 19 15.9	-0.7
SNPH	Sibulan	0.92	189⇓	iP	Pb	15 19 08.1	+0.3
SNPH				i S	Sn	15 19 22.8	-0.1
RCP	Roxas	1.44	335⇑	eP	Pn	15 19 16.2	-0.1
RCP				eS	Sn	15 19 37.2	+1.4
OCLP	Ormoc	1.45	57	eP	Pn	15 19 15.6	-0.8
MSLP	Maasin	1.46	95	eP	Pn	15 19 16.4	-0.2
MSLP				eS	Sn	15 19 38.0	+1.6

*DJA **21** 15:26:54.7±0.5, 5°S±5°×13°4E±°, h405km±9km, M4.4/9, mb4.3/6, mB4.7/6, MLv4.7/9, Mw(mB)4.0/6*
*NEIC **21** 15:27:20.9±0.5, 6°.69S×129°.82E, h35km, mb4.2/1, Error ellipse: s-maj=16.8km s-min=8.2km az=68.0*
*ISCJB **21** 15:27:26.7±0.3, 7°.06S±0°.04×129°.60E±0°.05, h100km, mb4.1/14, Error ellipse: s-maj=8.0km s-min=4.6km az=160.8*
*IDC **21** 15:27:26.8±3.0, 6°.96S×129°.71E, h82km±26km, mb3.9/14, mb1 4.0/18, mb1mx3.8/50, mbtmp4.3/18, MS3.4/4, Ms1 3.4/4, ms1mx2.8/49, Error ellipse: s-maj=24.1km s-min=12.3km az=56.0*
ISC 21 15:27:28.2±0.5, 7°.07S±0°.05×129°.63E±0°.06, h100km, n59, σ2s.08/54, mb4.2/14, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	Saumlaki	1.89	119	P	Pn	15 28 01.1	+1.7
SAUI	Saumlaki	1.89	119	P	Pn	15 28 05.2	+5.8
AAI	Ambon	3.65	337	P	Pn	15 28 23.1	+0.4
	237nm,0.7s,2μm0.8nm						
AAI	Ambon	3.65	337	P	Pn	15 28 26.9	+4.2
	237nm,0.7s,2μm						
MSAI	Masohi	3.76	349	P	Pn	15 28 17.2	-7.0
	83nm,0.7s,869nm0.3nm						
MSAI	Masohi	3.76	349	P	Pn	15 28 29.5	+5.3
	83nm,0.7s,862nm						
NLAI	Namlea	4.56	326	P	Pn	15 28 36.2	+1.2
	70nm,1.2s,1μm0.2nm						
NLAI	Namlea	4.56	326	P	Pn	15 28 40.5	+5.5
	70nm,1.2s,1μm						
FAKI	Fak Fak	4.88	33	Pn	Pn	15 28 22.4	-17
FAKI				Sn	Sn	15 29 18.8	-16
MTN	Manton Dam	5.93	166	ePn	Pn	15 28 56.0	+2.4
SOEI	Soe	5.94	243	P	Pn	15 28 56.9	+3.2
	144nm,0.8s,2μm						
SANI	Sanana	6.16	324	P	Pn	15 28 52.3	-4.4
SANI	Sanana	6.16	324	P	Pn	15 29 02.2	+5.5
SIJI	Sorong	6.37	15	S	Sn	15 30 12.9	+1.9
	2.8nm,0.3s,baz=41,slow=19,SNR=3.8						
BATI	Baumata	6.67	242	P	Pn	15 29 05.6	+1.9
	34nm,0.3s,baz=69,slow=5.9,SNR=62						
BATI				S	Sn	15 30 17.4	-0.8
	23nm,0.3s,baz=108,slow=20,SNR=14						
BATI				LR	LR	15 31 56.8	
	comp=Z,263nm,20.4s,baz=66,slow=40						
WRAB	Tennant Creek	13.59	161	ePn	Pn	15 30 35.3	-1.5
WRAB				Sn	Sn	15 33 07.5	+1.1
WRA	Warramunga Arr	13.59	161	P	Pn	15 30 35.3	-1.6
	1.1nm,0.3s,baz=341,slow=14,SNR=154						
WRA				S	Sn	15 32 55.1	-11
	4.0nm,0.3s,baz=331,slow=24,SNR=12						
WR1	Warramunga Arr	13.59	161	ePn	Pn	15 30 35.3	-1.6
WB2	Warramunga Arr	13.60	161	ePn	Pn	15 30 34.6	-2.3
AS31	Alice Springs	17.01	166	ePn	P	15 31 19.9	-0.3
	5.6nm,0.3s						
ASAR	Alice Springs	17.01	166	P	Pn	15 31 19.6	-0.4
	1.0nm,0.3s,baz=345,slow=14,SNR=57						
ASAR				S	Sn	15 34 19.3	-10
	1.0nm,0.3s,baz=351,slow=26,SNR=8.4						
AS01	Alice Springs	17.02	166	ePn	P	15 31 21.4	+1.1
PMG	Port Moresby	17.51	99	P	P	15 31 23.0	-2.8
	0.3nm,0.3s,baz=324,slow=19,SNR=2.0						
CTA	Charters Tower	20.68	130	P	Pn	15 32 01.1	-2.5
	0.6nm,0.4s,baz=191,slow=5.2,SNR=2.5						
LEM	Lembang	21.85	269	P	P	15 32 08.9	-4.1
	6.8nm,0.4s,baz=308,slow=19,SNR=2.8						
STKA	Stephens Creek	27.09	157	P	P	15 33 03.6	+1.9
	4.5nm,0.6s,baz=325,slow=8.8,SNR=14						
STKA				LR	LR	15 45 40.7	
	comp=Z,98nm,18.5s,baz=11,slow=40						
NWAO	Narrogin (SRO)	28.19	202	P	P	15 33 12.6	+1.3
	11nm,0.9s,baz=282,slow=9.2,SNR=8.3						
HNR	Honiara	30.09	97	LR	LR	15 45 15.3	
	comp=Z,52nm,19.5s,baz=192,slow=36						
PSI	Prapat	32.17	287	P	P	15 33 47.1	+0.1
	16nm,0.8s,baz=134,slow=6.2,SNR=17						
CMAR	Chiang Mai Arr	39.49	310	P	P	15 34 49.9	+0.7
	2.0nm,0.7s,baz=136,slow=6.7,SNR=17						
CMAR				PcP	PcP	15 36 56.1	+0.9
	1.0nm,0.8s,baz=155,slow=2.7,SNR=6.2						
ODAN	Odare	53.02	311	eP	P	15 36 35.4	0.0
	20nm,0.5s						
RAMN	Ramite	53.66	311	eP	P	15 36 40.3	+0.2
	63nm,0.6s						
JIRN	Jiri	54.35	311	eP	P	15 36 45.2	-0.1
	26nm,0.6s						
GUN	Gumba	54.72	311	eP	P	15 36 47.5	-0.4
	49nm,0.7s						
PKIN	Phulchoki	54.90	311	eP	P	15 36 49.1	0.0
	14nm,0.6s						
KKN	Kakani	55.10	311	eP	P	15 36 50.5	0.0
DMN	Daman	55.13	311	eP	P	15 36 50.8	0.0
GKN	Gorkha	55.70	311	eP	P	15 36 54.3	-0.4
	36nm,0.7s						
KOLN	Koldanda	56.36	310	eP	P	15 36 59.2	-0.3
PYUN	Piuthan	56.99	310	eP	P	15 37 03.6	-0.3
	55nm,0.9s						
SONM	Songino Array	58.39	342	P	P	15 37 14.5	+1.2
	0.6nm,0.6s,baz=150,slow=6.7,SNR=3.7						
MK32	Makanchi Array	68.08	327	eP	P	15 38 17.6	+0.5
MKAR	Makanchi Array	68.08	327	P	P	15 38 17.6	+0.5
	5.5nm,0.7s,baz=128,slow=7.6,SNR=33						
ZALV	Zalesovo Beam	71.48	334	P	P	15 38 36.2	-1.6
	0.9nm,0.6s,baz=94,slow=6.4,SNR=4.9						
ZALV	Zalesovo Beam	71.48	334	eP	P	15 38 34.2	-3.6
KURBB	Kurchatov Arra	72.37	329	P	P	15 38 43.6	+0.4
	2.6nm,0.6s,baz=129,slow=5.1,SNR=29						
KURK	Kurchatov	72.38	329	eP	P	15 38 42.0	-1.2
VNDA	Vanda	72.43	173	P	P	15 38 43.5	+0.4
	0.8nm,0.7s,baz=328,slow=7.4,SNR=3.7						

VNDA			LR	LR	16 09 21.0	
	comp=Z,38nm,19.2s,baz=150,slow=35					
MAW	**Mawson**	**74.75 201**	P	**P**	**15 38 57.9**	**+1.0**
	2.5nm,0.6s,baz=82,slow=5.7,SNR=6.4					
BVAR	**Borovoye Array**	**77.92 328**	P	**P**	**15 39 15.6**	**+0.5**
	0.9nm,0.7s,baz=173,slow=3.6,SNR=5.0					
GEYT	**Alibeck**	**79.97 310**	P	**P**	**15 39 28.1**	**+1.4**
	0.7nm,0.5s,baz=64,slow=9.8,SNR=3.0					
ABKAR	**Akbulak array**	**82.33 322**	*e*P	**P**	**15 39 37.7**	**-1.2**
AKTO	**Aktyubinsk**	**83.90 322**	P	**P**	**15 39 47.0**	**+0.1**
	2.1nm,0.8s,baz=104,slow=4.2,SNR=6.1					
RAYN	**Ar Rayn**	**87.43 294**	*e*P	**P**	**15 40 04.6**	**-0.5**
TXAR	**Lajitas Array**	**125.28 59**	PKP	**PKPdf**	**15 46 19.1**	**+1.1**
	0.2nm,0.6s,baz=260,slow=1.6,SNR=3.1					
TORD	**Torodi Ar. Bea**	**128.46 281**	PKP	**PKPdf**	**15 46 24.2**	**-0.1**
	0.7nm,0.7s,baz=86,slow=1.9,SNR=4.8					
BBTS	**Babate**	**145.95 286**	PKPbc	**PKPab**	**15 46 57.2**	**-0.7**
	16nm,0.7s,baz=146,slow=3.6,SNR=4.4					
CPUP	**Villa Florida**	**146.12 169**	PKPbc	**PKPab**	**15 46 58.0**	**-0.2**
	6.7nm,0.9s,baz=151,slow=2.7,SNR=12					
LPAZ	**La Paz**	**150.89 143**	PKPbc	**PKPbc**	**15 47 12.7**	**+1.8**
	4.2nm,0.9s,baz=9.9,slow=1.4,SNR=8.2					

MEX 21 15:31:31.2±0.6, 16°41N×98°27W, h20km±12km, MD3.9,
Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.13**	**96**	*i* P	Pb	15 31 34.3	+0.3
PNIG				*e*S	Sg	15 31 37.6	-0.8
TLIG	**Tlapa**	**1.19**	**346**	*e*P	Pn	15 31 49.5	-3.3
ACX	**Acapulco**	**1.59**	**287**	*e*P	Pn	15 31 57.6	-0.7
VHO	**Vista Hermosa**	**1.61**	**66**	*e*P	Pn	15 31 55.9	-2.9
CAIG	**El Cayaco**	**2.02**	**289**	*e*P	Pn	15 32 02.5	-1.7
HUIG	**Huatulco**	**2.17**	**107**	*e*P	Pn	15 32 04.2	-2.0

*JMA **21** 15:45:04.4±0.2, 24°59N×122°20E, h78km±3km, M2.8*
*TAP **21** 15:45:04.8, 24°64N×122°21E, h74km, ML3.8, C*
ISC 21 15:45:02.7±1.1, 24°51N±0°02×122°26E±0°02, h6km±10km,
n104, σ1§52/187, 2C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWC	**Suao**	**0.39**	**285**	P	**Pn**	**15 45 16.7**	**+1.8**
	baz=264						
TWC				*e*S	**Sb**	**15 45 25.1**	**+6.8**
	baz=264						
ENAH	**Nanao**	**0.41**	**262**	P	**Pn**	**15 45 17.6**	**+2.4**
	baz=243						
ENAH				*e*S	**Sb**	**15 45 27.5**	**+8.5**
	baz=243						
EGS		**0.45**	**318**	*e*P	**Pn**	**15 45 16.5**	**+0.8**
	baz=305						
NANB	**Nanao**	**0.47**	**260**	P	**Pn**	**15 45 18.1**	**+2.1**
	baz=243						
NANB				S	**Sb**	**15 45 27.9**	**+7.2**
	baz=243						
ENA	**Nanau**	**0.48**	**261**	*i* P	**Pn**	**15 45 18.2**	**+2.1**
	baz=243						
ENA				*e*S	**Sb**	**15 45 28.1**	**+7.2**
	baz=243						
NTC	**Toucheng**	**0.52**	**311**	P	**Pn**	**15 45 17.3**	**+0.6**
	baz=301						
NTC				S	**Sn**	**15 45 26.2**	**+0.3**
	baz=301						
ILA	**Ilan**	**0.53**	**299**	P	**Pn**	**15 45 18.0**	**+1.2**
	baz=286						
ILA				S	**Sn**	**15 45 27.5**	**+1.3**
	baz=286						
TWB1	**Santiao Chiao**	**0.56**	**334**	*e*P	**Pn**	**15 45 17.4**	**+0.2**
	baz=329						
TWB1				*e*S	**Sn**	**15 45 26.6**	**-0.2**
	baz=329						
TWE	**Neicheng**	**0.58**	**292**	P	**Pn**	**15 45 18.5**	**+1.0**
	baz=279						
TWE				*e*S	**Sn**	**15 45 28.0**	**+0.6**
	baz=279						
TIPB	**Shuangxi**	**0.61**	**319**	⇑*i* P	**Pn**	**15 45 17.0**	**-0.9**
	baz=313						
TIPB				*i* S	**Sb**	**15 45 26.3**	**+1.7**
	baz=313						
JYNG	**Yonagunijimaku**	**0.63**	**95**	P	**Pn**	**15 45 20.1**	**+2.0**
JYNG				S	**Sn**	**15 45 31.1**	**+2.6**
ENTT	**Nioudou**	**0.65**	**282**	P	**Pn**	**15 45 19.6**	**+1.2**
	baz=272						
ENTT				*e*S	**Sn**	**15 45 30.3**	**+1.3**
	baz=272						
YOJ	**Yonaguni jima**	**0.68**	**94**	P	**Pn**	**15 45 20.6**	**+1.7**
	baz=103						
YOJ				S	**Sn**	**15 45 32.3**	**+2.4**
	baz=103						
YOJ	**Yonaguni jima**	**0.68**	**94**	P	**Pn**	**15 45 20.6**	**+1.7**
YOJ				S	**Sn**	**15 45 32.0**	**+2.1**
NACB	**Ninganchiao**	**0.69**	**241**	P	**Pn**	**15 45 20.0**	**+0.9**
	baz=223						
NACB				S	**Sn**	**15 45 31.5**	**+1.4**
	baz=223						
NWF	**Wu-fen Shan**	**0.71**	**322**	⇑*i* P	**Pn**	**15 45 19.3**	**-0.1**
	baz=311						
NWF				S	**Sn**	**15 45 29.2**	**-1.5**
	baz=311						
WFSB	**Wu-fen Shan**	**0.71**	**322**	P	**Pn**	**15 45 19.2**	**-0.1**
	baz=311						
WFSB				S	**Sn**	**15 45 29.2**	**-1.4**
	baz=311						
NWLT	**Wulai**	**0.74**	**291**	*e*P	**Pn**	**15 45 20.2**	**+0.4**
	baz=291						
NWLT				*e*S	**Sn**	**15 45 30.7**	**-0.7**
	baz=291						
TWD	**Chiawan**	**0.74**	**235**	P	**Pn**	**15 45 20.8**	**+1.1**
	baz=219						
TWD				S	**Sn**	**15 45 33.0**	**+1.6**
	baz=219						
HWA	**Hwalien**	**0.80**	**229**	P	**Pn**	**15 45 21.8**	**+1.3**
	baz=211						
HWA				*e*S	**Sn**	**15 45 35.4**	**+2.7**
	baz=211						
NNSB	**Datong**	**0.80**	**265**	P	**Pn**	**15 45 21.4**	**+0.7**
	baz=249						
NNSB				*e*S	**Sn**	**15 45 33.6**	**+0.5**
	baz=249						
NNSH	**Datong**	**0.80**	**265**	P	**Pn**	**15 45 21.3**	**+0.6**
	baz=249						
NNSH				*e*S	**Sn**	**15 45 33.8**	**+0.8**
	baz=249						
NNS	**Nan Shan**	**0.81**	**265**	P	**Pn**	**15 45 21.5**	**+0.7**
	baz=249						
NNS				*e*S	**Sn**	**15 45 33.9**	**+0.6**
	baz=249						
YHNB	**Yeheng**	**0.82**	**282**	*e*P	**Pn**	**15 45 21.5**	**+0.5**
	baz=272						
YHNB				S	**Sn**	**15 45 33.4**	**-0.1**
	baz=272						
TATO	**Taipei**	**0.84**	**304**	P	**Pn**	**15 45 20.5**	**-0.6**
	baz=296						
TATO				*e*S	**Sb**	**15 45 31.4**	**0.0**
	baz=296						
ENLB	**Shoufeng**	**0.85**	**225**	*e*P	**Pn**	**15 45 22.5**	**+1.2**
	baz=216						
ENLB				*e*S	**Sn**	**15 45 35.5**	**+1.5**
	baz=216						
YM07	**YM07**	**0.88**	**319**	*e*S	**Sg**	**15 45 31.3**	**+0.2**
	baz=307						
YM10	**YM10**	**0.91**	**316**	*e*P	**Pn**	**15 45 21.6**	**-0.4**
	baz=303						
YM10				*e*S	**Sb**	**15 45 32.7**	**-0.5**
	baz=303						
YM05	**YM05**	**0.91**	**316**	*e*P	**Pn**	**15 45 21.4**	**-0.7**
	baz=303						
YM05				*e*S	**Sb**	**15 45 32.8**	**-0.5**
	baz=303						
YM08	**YM08**	**0.91**	**318**	*e*S	**Sg**	**15 45 32.4**	**+0.3**
	baz=305						
YM04	**YM04**	**0.92**	**314**	*e*P	**Pb**	**15 45 21.3**	**+0.2**
	baz=303						
YM04				*e*S	**Sb**	**15 45 33.0**	**-0.7**
	baz=303						
YM03	**YM03**	**0.94**	**316**	*e*P	**Pn**	**15 45 21.8**	**-0.7**
	baz=303						
YM03				*e*S	**Sb**	**15 45 33.4**	**-0.7**
	baz=303						
TWS1	**Kuangyinshan**	**0.97**	**308**	P	**Pb**	**15 45 22.1**	**+0.3**
	baz=307						
TWS1				*e*S	**Sb**	**15 45 34.8**	**-0.1**
	baz=307						
TWY	**Chenhua**	**0.97**	**322**	*e*P	**Pb**	**15 45 22.2**	**+0.2**
	baz=311						
TWY				*e*S	**Sb**	**15 45 34.7**	**-0.4**
	baz=311						
WHF	**Hehuan Shan**	**0.98**	**249**	P	**Pn**	**15 45 24.0**	**+0.6**
	baz=240						
WHF				*e*S	**Sn**	**15 45 37.8**	**0.0**
	baz=240						
NTST	**Danshui**	**0.99**	**312**	P	**Pb**	**15 45 22.4**	**+0.2**
	baz=306						
NTST				*e*S	**Sg**	**15 45 34.7**	**+0.3**
	baz=306						
TWT	**Tachien**	**1.02**	**256**	*e*P	**Pn**	**15 45 24.8**	**+1.1**
	baz=240						
TWT				*e*S	**Sn**	**15 45 39.1**	**+0.6**
	baz=240						
ESL	**Shilin**	**1.02**	**228**	*e*P	**Pn**	**15 45 23.8**	**+0.2**
	baz=229						
ESL				*e*S	**Sb**	**15 45 37.5**	**+0.9**
	baz=229						
TDCB	**Techi**	**1.04**	**256**	*e*P	**Pn**	**15 45 24.8**	**+0.9**
	baz=240						
TDCB				*e*S	**Sn**	**15 45 38.4**	**-0.5**
	baz=240						
NCU	**National Centr**	**1.08**	**295**	*e*P	**Pn**	**15 45 24.2**	**-0.2**
	baz=289						
NCU				*e*S	**Sb**	**15 45 38.5**	**+0.3**
	baz=289						
NCUH	**Zhongli**	**1.08**	**295**	*e*P	**Pn**	**15 45 24.2**	**-0.2**
	baz=289						
NCUH				*e*S	**Sb**	**15 45 38.1**	**-0.1**
	baz=289						
CHGB	**Renai**	**1.09**	**246**	*e*P	**Pn**	**15 45 25.5**	**+0.8**
	baz=230						
CHGB				*e*S	**Sn**	**15 45 40.2**	**0.0**
	baz=230						
EGFH	**Guangfu**	**1.13**	**223**	*e*P	**Pn**	**15 45 25.1**	**+0.1**
	baz=225						
EGFH				*e*S	**Sn**	**15 45 40.7**	**-0.2**
	baz=225						
OWD	**Renai**	**1.13**	**241**	*e*P	**Pn**	**15 45 26.1**	**+0.9**
	baz=228						
NSTT	**Nanjuang**	**1.15**	**276**	*e*P	**Pn**	**15 45 25.4**	**-0.1**
	baz=269						
NSTT				*e*S	**Sb**	**15 45 40.2**	**-0.1**
	baz=269						
SBCB	**Hsinchu**	**1.20**	**284**	*e*P	**Pn**	**15 45 25.8**	**-0.1**
	baz=278						
SBCB				*e*S	**Sg**	**15 45 40.9**	**-0.2**
	baz=278						
HSN	**Hsinchu**	**1.21**	**284**	*e*S	**Sg**	**15 45 41.2**	**-0.4**
	baz=280						
HGSD	**Ruisui**	**1.27**	**217**	*e*P	**Pn**	**15 45 27.5**	**+0.5**
	baz=223						
DPDB	**Guoxing**	**1.31**	**249**	*e*P	**Pb**	**15 45 28.7**	**+1.0**
	baz=243						
DPDB				*e*S	**Sn**	**15 45 45.2**	**-0.2**
	baz=243						
EHY	**Hungye**	**1.32**	**221**	*e*P	**Pg**	**15 45 27.7**	**-0.2**
	baz=223						
NMLH	**Miaoli**	**1.34**	**272**	*e*P	**Pb**	**15 45 28.0**	**-0.2**
	baz=265						
NMLH				*e*S	**Sg**	**15 45 45.2**	**-0.5**
	baz=265						
IRIF	**Iriomote-Funau**	**1.35**	**97**	P	**Pg**	**15 45 28.6**	**0.0**
IRIF				*e*S	**Sn**	**15 45 47.1**	**+0.7**
TWQ1	**Liyutan**	**1.37**	**264**	*e*P	**Pn**	**15 45 28.2**	**-0.2**
	baz=257						
TWQ1				*e*S	**Sg**	**15 45 45.7**	**-0.9**
	baz=257						
SMLT	**Sun Moon Lake**	**1.39**	**244**	*e*P	**Pg**	**15 45 29.9**	**+0.5**
	baz=230						
SMLT				*e*S	**Sn**	**15 45 47.9**	**+0.4**
	baz=230						
SSLB	**Suanglung**	**1.39**	**239**	*e*P	**Pg**	**15 45 30.5**	**+1.1**
	baz=229						
SSLB				*e*S	**Sn**	**15 45 48.1**	**+0.6**
	baz=229						
TYC	**Yuchr**	**1.42**	**245**	*e*P	**Pg**	**15 45 30.6**	**+0.8**
	baz=239						
TYC				*e*S	**Sn**	**15 45 49.0**	**+1.0**
	baz=239						
YULB	**Yu-li**	**1.42**	**219**	*e*P	**Pn**	**15 45 28.5**	**-0.5**
	baz=222						
YULB				*e*S	**Sb**	**15 45 46.7**	**-1.2**
	baz=222						
TWF1	**Yuli**	**1.45**	**218**	*e*P	**Pn**	**15 45 29.2**	**-0.3**
	baz=221						
TWF1				*e*S	**Sb**	**15 45 47.4**	**-1.5**
	baz=221						
HATJ	**Hateruma jima**	**1.48**	**107**	P	**Pg**	**15 45 31.4**	**+0.4**
WJS	**Zhushan**	**1.56**	**244**	*e*P	**Pg**	**15 45 32.3**	**-0.2**
	baz=251						
WJS				*e*S	**Sg**	**15 45 52.4**	**-0.4**
	baz=251						
YUS	**Yu-Shan**	**1.57**	**230**	*e*P	**Pb**	**15 45 32.4**	**0.0**
	baz=217						
YUS				*e*S	**Sn**	**15 45 52.0**	**-0.4**
	baz=217						
WNT	**Mingjian**	**1.57**	**247**	*e*P	**Pg**	**15 45 33.1**	**+0.3**
	baz=253						
WNT				*e*S	**Sb**	**15 45 52.5**	**+0.2**
	baz=253						
FULB	**Fuli**	**1.58**	**214**	*e*P	**Pb**	**15 45 31.8**	**-0.5**
	baz=219						
FULB				*e*S	**Sn**	**15 45 52.0**	**0.0**
	baz=219						
WCHH	**Zhanghua**	**1.61**	**255**	*e*S	**Sn**	**15 45 51.2**	**-1.6**
	baz=260						
JKRS	**Kuro-shima**	**1.62**	**99**	P	**Pb**	**15 45 32.6**	**-0.3**
JKRS				*e*S	**Sb**	**15 45 53.1**	**-0.5**
CHKT	**Chengkung**	**1.62**	**211**	*e*P	**Pn**	**15 45 31.8**	**-0.1**
	baz=198						
CHKT				*e*S	**Sn**	**15 45 50.8**	**-2.4**
	baz=198						
ALS	**Alishan**	**1.66**	**234**	*e*P	**Pg**	**15 45 34.4**	**-0.2**
	baz=220						
ALS				*e*S	**Sg**	**15 45 56.0**	**-0.1**
	baz=220						
CHN5	**Tsauling**	**1.71**	**238**	*e*P	**Pb**	**15 45 34.0**	**-0.5**
	baz=244						
CHN5				*e*S	**Sb**	**15 45 56.4**	**0.0**
	baz=244						
JIJ	**Ishigaki jima**	**1.72**	**94**	P	**Pn**	**15 45 33.3**	**+0.1**
JIJ				*e*S	**Sn**	**15 45 55.3**	**-0.2**
ELDTW	**Lidau**	**1.74**	**221**	*e*P	**Pn**	**15 45 33.2**	**-0.4**
	baz=220						
ELDTW				*e*S	**Sn**	**15 45 54.7**	**-1.4**
	baz=220						
WGK	**Gukeng**	**1.75**	**243**	*e*P	**Pb**	**15 45 34.7**	**-0.6**
	baz=248						
WGK				*e*S	**Sb**	**15 45 57.6**	**0.0**
	baz=248						
WDLH	**Douliu**	**1.77**	**243**	*e*P	**Pb**	**15 45 34.8**	**-0.8**
	baz=250						
WDLH				*e*S	**Sb**	**15 45 58.1**	**0.0**
	baz=250						
RLNB	**Erlin**	**1.84**	**251**	*e*P	**Pn**	**15 45 34.9**	**0.0**
	baz=256						
RLNB				*e*S	**Sn**	**15 45 57.4**	**-1.1**
	baz=256						
JISG	**Ishigakijimahi**	**1.87**	**87**	P	**Pn**	**15 45 35.3**	**+0.1**
JISG				*e*S	**Sb**	**15 46 00.0**	**-0.9**
CHN2	**Minshiung**	**1.90**	**240**	*e*S	**Sb**	**15 46 01.6**	**-0.2**
	baz=246						
CHN4	**Tsaushan**	**1.91**	**233**	*e*P	**Pb**	**15 45 37.3**	**-0.7**
	baz=229						
CHN4				*e*S	**Sb**	**15 46 02.6**	**+0.4**
	baz=229						
TPUB	**Ta-pu**	**1.92**	**232**	*e*P	**Pb**	**15 45 37.3**	**-0.8**
	baz=227						
TPUB				*e*S	**Sb**	**15 46 01.7**	**-0.6**
	baz=227						
WTCT	**Ta-ch'eng**	**1.92**	**251**	*e*S	**Sn**	**15 45 59.2**	**-1.2**
	baz=255						
STYT	**Tauyuan**	**1.92**	**226**	*e*P	**Pb**	**15 45 37.7**	**-0.5**
	baz=221						
STYT				*e*S	**Sb**	**15 46 01.8**	**-0.6**
	baz=221						
TWH	**Lutao**	**1.93**	**202**	*e*P	**Pn**	**15 45 35.9**	**-0.1**
	baz=198						
TWH				*e*S	**Sn**	**15 45 59.0**	**-1.7**
	baz=198						
CHY	**Chiayi**	**1.96**	**239**	*e*P	**Pn**	**15 45 36.6**	**+0.1**
	baz=246						
CHY				*e*S	**Sn**	**15 46 01.7**	**+0.3**
	baz=246						
WTP	**Ta-pu**	**1.96**	**231**	*e*P	**Pb**	**15 45 38.4**	**-0.5**
	baz=226						
WTP				*e*S	**Sb**	**15 46 03.7**	**0.0**
	baz=226						
TWGBT	**Beinan**	**2.00**	**213**	*e*P	**Pn**	**15 45 36.8**	**-0.3**
	baz=210						
TWG	**Pinlang**	**2.00**	**213**	*e*P	**Pn**	**15 45 36.5**	**-0.6**
	baz=209						
TWG				*e*S	**Sn**	**15 46 00.2**	**-2.3**
	baz=209						
TTN	**Taitung**	**2.02**	**211**	*e*S	**Sn**	**15 46 03.6**	**+0.6**
	baz=213						
TWK	**Hsinying**	**2.04**	**233**	*e*P	**Pn**	**15 45 38.3**	**+0.7**
	baz=229						
TWK				*e*S	**Sb**	**15 46 05.0**	**-0.9**
	baz=229						
WSF	**Szhu**	**2.06**	**246**	*e*P	**Pn**	**15 45 38.2**	**+0.4**
	baz=241						
WSF				*e*S	**Sn**	**15 46 03.3**	**-0.5**
	baz=241						
CHN1	**Nanshi**	**2.06**	**231**	*e*P	**Pb**	**15 45 39.5**	**-1.0**
	baz=226						
CHN1				*e*S	**Sb**	**15 46 05.8**	**-0.7**
	baz=226						
WLGB	**Puzi**	**2.07**	**241**	*e*S	**Sn**	**15 46 04.7**	**+0.6**
	baz=236						
SGST	**Jiashian**	**2.09**	**228**	P	**Pb**	**15 45 40.1**	**-1.0**
	baz=223						
SGST				S	**Sn**	**15 46 06.0**	**+1.2**
	baz=223						
SLGT	**Liugui**	**2.11**	**225**	*e*P	**Pb**	**15 45 40.6**	**-0.8**
	baz=220						
SLGT				*e*S	**Sb**	**15 46 07.1**	**-0.9**
	baz=220						
CHN8	**Yiju**	**2.20**	**239**	*e*S	**Sn**	**15 46 07.7**	**+0.3**
	baz=234						
JTJ	**Tarama**	**2.23**	**86**	P	**Pn**	**15 45 40.9**	**+0.8**
JTJ				*e*S	**Sn**	**15 46 08.4**	**+0.4**
ECL	**Taimali**	**2.25**	**213**	*e*P	**Pn**	**15 45 40.1**	**-0.4**
	baz=208						
ECL				*e*S	**Sn**	**15 46 05.9**	**-2.7**
	baz=208						
MASBT	**Mashibuluo**	**2.41**	**219**	*e*P	**Pn**	**15 45 44.2**	**+1.5**
	baz=229						
MASBT				*e*S	**Sn**	**15 46 13.9**	**+1.4**
	baz=229						
EAST	**Anshuo**	**2.48**	**212**	*e*P	**Pn**	**15 45 43.9**	**+0.2**
	baz=202						
SSPT	**Xinbi**	**2.54**	**218**	*e*P	**Pb**	**15 45 46.7**	**-2.1**
	baz=216						
VWUC	**VWUC**	**2.60**	**281**	P	**Pn**	**15 45 43.4**	**-1.9**
	baz=277						
PNG	**Penghu**	**2.65**	**250**	*e*P	**Pn**	**15 45 44.5**	**-1.4**
	baz=246						
PNG				*e*S	**Sn**	**15 46 14.8**	**-3.5**
	baz=246						
PHUB	**P'eng-hu**	**2.65**	**249**	*e*P	**Pn**	**15 45 44.7**	**-1.3**
	baz=245						
PHUB				*e*S	**Sn**	**15 46 14.6**	**-3.9**
	baz=245						
MATB	**Ma-tsu**	**2.66**	**308**	*e*P	**Pn**	**15 45 43.8**	**-2.4**
	baz=305						
JIRB	**Irabujima**	**2.67**	**83**	*e*S	**Sn**	**15 46 17.9**	**-1.0**
WDGT	**Dungji**	**2.69**	**243**	*e*P	**Pn**	**15 45 46.1**	**-0.4**
	baz=239						
WDGT				*e*S	**Sn**	**15 46 17.5**	**-1.9**
	baz=239						
JIKM	**Ikemajima**	**2.75**	**81**	*e*S	**Sn**	**15 46 21.2**	**+0.3**

IDC 21 15:47:20.3±1.4, 3°70S×87°08E, h0km, mb3.6/6, mb1 3.7/6,
mb1mx3.4/74, mbtmp3.6/6, Error ellipse: s-maj=45.5km
s-min=24.5km az=53.0, South Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**24.93**	**28**	P	P	15 52 45.0	-0.4
	0.4nm,0.5s,baz=215,slow=11,SNR=3.5						
WRA	**Warramunga Arr**	**48.79**	**113**	P	P	15 56 07.6	+0.1
	0.8nm,1.0s,baz=289,slow=8.7,SNR=3.0						
ASAR	**Alice Springs**	**49.34**	**118**	P	P	15 56 11.6	-0.2
	0.6nm,0.9s,baz=294,slow=7.0,SNR=3.3						
KURBB	**Kurchatov Arra**	**54.61**	**353**	P	P	15 56 50.4	0.0
	0.4nm,0.7s,baz=177,slow=5.6,SNR=3.7						
ZALV	**Zalesovo Beam**	**57.47**	**358**	P	P	15 57 11.3	+0.4
	0.9nm,0.6s,baz=187,slow=7.3,SNR=5.4						
TORD	**Torodi Ar. Bea**	**86.34**	**283**	P	P	16 00 04.8	-0.3
	0.6nm,0.9s,baz=80,slow=4.7,SNR=3.6						

*IDC **21** 15:52:24.5±0.5, 12°97N×57°90W, h0km, mb4.0/26,*
mb1 4.2/28, mb1mx4.1/55, mbtmp4.0/28, ML3.0/2, MS3.3/23,
Ms1 3.3/23, ms1mx3.1/48, Error ellipse: s-maj=13.3km
s-min=12.4km az=164.0
*ISCJB **21** 15:52:26.8±0.3, 13°33N±0°03×58°03W±0°02, h10km,*
mb4.2/43, MS3.4/22, Error ellipse: s-maj=3.9km
s-min=2.9km az=14.1
*NEIC **21** 15:52:26.5±0.3, 13°18N×57°88W, h10km, mb4.6/19,*
MD4.9(TRN), Error ellipse: s-maj=6.0km s-min=5.1km
az=212.0
*TRN **21** 15:52:27.2, 13°20N×57°88W, h99km, MD4.7*
ISC 21 15:52:26.4±0.4, 13°22N±0°04×57°87W±0°04, h10km, n291,
σ1§78/320, mb4.3/43, MS3.4/22, 5C-1D, North Atlantic
Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBSP	**Saint Philip**	**1.55**	**266**	*i* P	**Pb**	**15 52 54.9**	**-0.3**
BBSP				*e*S	**Sb**	**15 53 14.8**	**0.0**
BBSP	**Saint Philip**	**1.55**	**266**	*i* P	**Pb**	**15 52 54.9**	**-0.3**
BBSP				*e*S	**Sb**	**15 53 14.8**	**0.0**
BBGH	**Gun Hill**	**1.64**	**267**	*e*Pn	**Pb**	**15 52 57.1**	**+0.3**
BBGH				*e*S	**Sb**	**15 53 17.8**	**+0.2**
BBGH	**Gun Hill**	**1.64**	**267**	⇑*i* P	**Pb**	**15 52 56.8**	**0.0**
BBGH				*e*S	**Sb**	**15 53 17.8**	**+0.2**
MCLT	**Moule a Chique**	**3.02**	**280**	*e*P	**Pn**	**15 53 15.5**	**+1.1**
MCLT				*e*S	**Sn**	**15 53 49.4**	**-1.3**
MCLT	**Moule a Chique**	**3.02**	**280**	*e*P	**Pn**	**15 53 15.5**	**+1.1**
MCLT				*e*S	**Sn**	**15 53 49.4**	**-1.3**
SLW	**Petit Monier**	**3.08**	**285**	*e*P	**Pn**	**15 53 14.4**	**-0.8**
SLW				*e*S	**Sn**	**15 53 48.4**	**-3.8**
H05S1	**Guadeloupe/Mar**	**3.12**	**293**	Pn	**Pn**	**15 53 14.9**	**-0.7**
H05S1				Sn	**Sn**	**15 53 51.8**	**-1.1**
SLB	**Belfond**	**3.14**	**281**	*e*P	**Pn**	**15 53 17.7**	**+1.7**
SLB				*e*S	**Sn**	**15 53 52.8**	**-0.8**
SLB	**Belfond**	**3.14**	**281**	*e*P	**Pn**	**15 53 17.0**	**+1.0**
SLB				*e*S	**Sn**	**15 53 52.8**	**-0.8**
SVCV	**St. Vincent, C**	**3.19**	**271**	*e*P	**Pn**	**15 53 16.1**	**-0.4**
SVCV				*e*S	**Sn**	**15 53 52.3**	**-2.4**
SFAN	**Fancy Village**	**3.22**	**273**	*e*P	**Pn**	**15 53 17.5**	**+0.5**
SFAN				*e*S	**Sn**	**15 53 54.6**	**-0.8**
SFAN	**Fancy Village**	**3.22**	**273**	*e*P	**Pn**	**15 53 17.5**	**+0.5**
SFAN				*e*S	**Sn**	**15 53 54.6**	**-0.8**
TOSP	**Speyside**	**3.23**	**234**	*i* P	**Pn**	**15 53 17.9**	**+0.8**
TOSP				*e*S	**Sn**	**15 53 53.5**	**-2.2**
TOSP	**Speyside**	**3.23**	**234**	⇓*i* P	**Pn**	**15 53 17.9**	**+0.8**
TOSP				*e*S	**Sn**	**15 53 53.5**	**-2.2**
SSV	**Crater Summit**	**3.23**	**272**	*e*P	**Pn**	**15 53 18.5**	**+1.2**
SSV	**Crater Summit**	**3.23**	**272**	*e*P	**Pn**	**15 53 18.5**	**+1.2**
SVV	**Soufriere Volc**	**3.26**	**272**	*e*P	**Pn**	**15 53 19.6**	**+2.0**
SVV				*e*S	**Sn**	**15 53 54.0**	**-2.4**
SVV	**Soufriere Volc**	**3.26**	**272**	*e*P	**Pn**	**15 53 19.6**	**+2.0**
SVV				*e*S	**Sn**	**15 53 54.0**	**-2.4**
LPMF	**Morne Lap

GRGR eS **Sn** 15 54 08.6 -2.4
DLPL La Plaine 3.88 303 *i* P **Pn** 15 53 26.1 -0.1
DLPL eS **Sn** 15 54 10.1 -1.9
DLPL La Plaine 3.88 303 ⇑ *i* P **Pn** 15 53 26.1 -0.1
DLPL eS **Sn** 15 54 10.1 -1.9
DSTT Stowe 3.89 302 *e*P **Pn** 15 53 27.5 +1.3
DSTT Stowe 3.89 302 *e*P **Pn** 15 53 27.5 +1.3
DSHT Scott's Head 3.93 301 *e*P **Pn** 15 53 28.1 +1.3
DSHT eS **Sn** 15 54 09.8 -3.2
DSHT Scott's Head 3.93 301 *e*P **Pn** 15 53 28.1 +1.3
DSHT eS **Sn** 15 54 09.8 -3.2
DBCT Belle View Cho 3.93 302 *e*P **Pn** 15 53 28.0 +1.1
DBCT eS **Sn** 15 54 10.8 -2.4
DBCT Belle View Cho 3.93 302 *e*P **Pn** 15 53 28.0 +1.1
DBCT eS **Sn** 15 54 10.8 -2.4
MDN Morne-Daniel 4.00 302 *e*P **Pn** 15 53 28.6 +0.9
MDN eS **Sn** 15 54 12.4 -2.3
MDN Morne-Daniel 4.00 302 *e*P **Pn** 15 53 28.6 +0.9
MDN eS **Sn** 15 54 12.4 -2.3
TBH Brigand Hill 4.15 229 *e*P **Pn** 15 53 32.4 +2.6
TBH eS **Sn** 15 54 13.9 -4.4
TBH Brigand Hill 4.15 229 *e*P **Pn** 15 53 32.4 +2.6
TBH eS **Sn** 15 54 13.9 -4.4
MDMP Dominica, Moor 4.16 305 *e*P **Pn** 15 53 29.5 -0.5
MDMP Dominica, Moor 4.16 305 eS **Sn** 15 54 16.6 -2.1
MDVC Dominica, Viel 4.17 305 *e*P **Pn** 15 53 29.6 -0.5
MDVC Dominica, Viel 4.17 305 eS **Sn** 15 54 16.8 -2.1
BBL Barber's Block 4.17 304 *e*P **Pn** 15 53 30.1 0.0
BBL eS **Sn** 15 54 16.8 -2.2
BBL Barber's Block 4.17 304 *e*P **Pn** 15 53 30.1 0.0
MDPO Dominica; Chan 4.18 304 *e*P **Pn** 15 53 29.8 -0.5
MDPO Dominica; Chan 4.18 304 eS **Sn** 15 54 17.3 -1.9
MDPV Dominica, Penn 4.19 305 *e*P **Pn** 15 53 30.0 -0.3
MDPV Dominica, Penn 4.19 305 eS **Sn** 15 54 17.1 -2.3
MGG Marie-Galante 4.28 309 *e*P **Pn** 15 53 31.1 -0.5
MGG eS **Sn** 15 54 18.0 -3.5
MGG Marie-Galante 4.28 309 *e*P **Pn** 15 53 31.1 -0.5
TRN Trinidad (W) 4.30 234 *e*P **Pn** 15 53 33.9 +2.0
TRN eS **Sn** 15 54 17.9 -4.3
TRN Trinidad (W) 4.30 234 *e*P **Pn** 15 53 32.4 +0.5
DEG La Desirade 4.35 315 *e*P **Pn** 15 53 31.8 -0.8
DEG eS **Sn** 15 54 21.4 -2.1
DEG La Desirade 4.35 315 *e*P **Pn** 15 53 31.8 -0.8
H05N1 Guadeloupe/Mar 4.35 315 Pn **Pn** 15 53 31.9 -0.7
H05N1 Sn **Sn** 15 54 21.7 -1.8
SFG Saint Francois 4.41 314 ⇑ *i* P **Pn** 15 53 33.1 -0.2
TBG Guadaloupe-3 4.49 306 *e*P **Pn** 15 53 33.7 -0.8
TBG Guadaloupe-3 4.49 306 eS **Sn** 15 54 23.5 -3.3
TPP Pointe-a-Pierr 4.54 231 *e*P **Pn** 15 53 35.0 -0.2
TPP eS **Sn** 15 54 23.6 -4.5
TPP Pointe-a-Pierr 4.54 231 *e*P **Pn** 15 53 35.0 -0.2
SSG Sans Toucher 4.66 308 ⇑ *i* P **Pn** 15 53 36.4 -0.5
SEG Port Louis 4.72 312 *e*P **Pn** 15 53 37.9 +0.2
LZG Guadaloupe-1 4.76 308 *e*P **Pn** 15 53 37.9 -0.3
GDHS Morne Mazeau, 4.83 309 *e*Pn **Pn** 15 53 38.9 -0.4
GDHS eS **Sn** 15 54 31.8 -3.6
BPA Boggy Peak 5.41 315 *e*P **Pn** 15 53 46.9 -0.3
BPA eS **Sn** 15 54 44.6 -4.9
BPA Boggy Peak 5.41 315 *e*P **Pn** 15 53 46.9 -0.3
MLYT Lee's Yard 5.43 310 *e*P **Pn** 15 53 46.7 -0.7
MLYT Lee's Yard 5.43 310 eS **Sn** 15 54 45.5 -4.6
ANWB Willy Bob 5.81 320 *e*Pn **Pn** 15 53 50.5 -2.1
ANWB eS **Sn** 15 54 55.1 -4.3
ANWB Willy Bob 5.81 320 *e*P **Pn** 15 53 51.4 -1.2
NEV Hard Times 5.97 311 *e*P **Pn** 15 53 55.3 +0.4
NEV eS **Sn** 15 54 58.2 -5.2
NEV Hard Times 5.97 311 *e*P **Pn** 15 53 55.3 +0.4
NVBH Bath Hotel, Ne 6.00 311 *e*P **Pn** 15 53 55.8 +0.6
NVBH Bath Hotel, Ne 6.00 311 eS **Sn** 15 54 59.2 -4.8
NVRH Round Hill, Ne 6.03 311 *e*P **Pn** 15 53 56.0 +0.3
NVRH Round Hill, Ne 6.03 311 eS **Sn** 15 54 59.3 -5.5
SKI Saint Kitts 6.22 312 *e*Pn **Pn** 15 53 57.8 -0.6
SKI eS **Sn** 15 55 04.9 -4.7
SKI Saint Kitts 6.22 312 *e*P **Pn** 15 53 57.6 -0.8
BSK Brimstone Hill 6.31 311 *e*P **Pn** 15 53 59.5 0.0
BSK eS **Sn** 15 55 07.1 -4.5
BSK Brimstone Hill 6.31 311 *e*P **Pn** 15 53 59.5 0.0
SEUS St. Eustatius 6.50 311 *e*Pn **Pn** 15 54 02.3 +0.1
SEUS eS **Sn** 15 55 12.1 -4.4
SEUS St. Eustatius 6.50 311 *e*P **Pn** 15 54 01.7 -0.5
SABA Saba 6.78 311 *e*Pn **Pn** 15 54 05.9 -0.1
SABA eS **Sn** 15 55 17.7 -5.6
SABA Saba 6.78 311 *e*P **Pn** 15 54 05.0 -0.9
SMRT St. Maarten 6.94 314 *e*Pn **Pn** 15 54 07.0 -1.2
SMRT eS **Sn** 15 55 20.8 -6.4
SMRT St. Maarten 6.94 314 *e*P **Pn** 15 54 07.0 -1.2
CDVI St. Croix 8.03 305 *e*Pn **Pn** 15 54 21.7 -1.4
ABVI Anegada Island 8.28 312 *e*Pn **Pn** 15 54 26.2 -0.3
STVI Saint Thomas 8.51 308 *e*Pn **Pn** 15 54 29.2 -0.5
MTP Monte Pirata 8.84 304 *e*Pn **Pn** 15 54 34.3 0.0
HUMP Col San Antoni 9.11 303 *e*Pn **Pn** 15 54 37.5 -0.4
CBYP Canovanas 9.18 304 *e*Pn **Pn** 15 54 38.1 -0.9
SJG San Juan 9.33 302 Pn **Pn** 15 54 41.3 +0.2
12nm,0.3s,baz=119,slow=11,SNR=24
SJG Sn **Sn** 15 56 25.9 -0.3
1.3nm,0.3s,baz=24,slow=19,SNR=1.8
SJG LR LR 15 59 05.5
comp=Z,131nm,20.8s,baz=120,slow=42
ICMP Isla Caja de M 9.54 300 *e*Pn **Pn** 15 54 44.2 +0.3
OBIP Obispado Ponce 9.68 301 *e*Pn **Pn** 15 54 45.5 -0.3
AOPR Arecibo Observ 9.95 302 *e*Pn **Pn** 15 54 49.8 +0.2
CRPR Cabo Rojo, PR 10.09 299 *e*Pn **Pn** 15 54 51.1 -0.3
MPR Mayaguez 10.21 300 *e*Pn **Pn** 15 54 54.1 +1.1
AGP Aguadilla 10.30 301 *e*Pn **Pn** 15 54 55.2 +0.9
SDV Santo Domingo 13.24 252 Pn **Pn** 15 55 32.8 -2.0
0.5nm,0.3s,baz=0.6,slow=14,SNR=4.6
SDV Sn Sn 15 57 50.4 -12
2.7nm,0.3s,baz=271,slow=17,SNR=4.2
SDV LR LR 16 01 57.3
comp=Z,86nm,19.7s,baz=74,slow=44
SDV Santo Domingo 13.24 252 *e*Pn **Pn** 15 55 33.3 -1.5
PTGA Pitinga 14.02 189 Pn Pn 15 55 39.6 -5.6
10.0nm,0.3s,baz=21,slow=20,SNR=44
PTGA Sn Sn 15 58 05.7 -15
4.6nm,0.3s,baz=270,slow=20,SNR=6.3
PTGA Pitinga 14.02 189 *e*Pn Pn 15 55 38.9 -6.4
PTGA Sn Sn 15 58 05.7 -15
SDDR Presa de Saban 14.10 296 *e*Pn **Pn** 15 55 46.5 +0.1
PAMC Pamplona, Colo 15.71 250 *e*P **P** 15 56 16.1 +3.6
OCAC Ocana 15.96 253 *e*P **P** 15 56 16.1 +1.1
BARC Barichara 16.45 248 *e*P **P** 15 56 23.4 +2.9
RUSC La Rusia 16.67 246 *e*Pn **P** 15 56 28.8 +5.7
6.1nm,0.8s
RUSC La Rusia 16.67 246 *e*P **P** 15 56 26.7 +3.6
PTBC PUERTO BERRIO, 17.63 249 *e*P **P** 15 56 32.7 -0.6
ROSC El Rosal 18.24 244 P **Pn** 15 56 37.8 -2.5
1.5nm,0.3s,baz=139,slow=20,SNR=1.9
NORC Norcasia 18.40 247 *e*P **Pn** 15 56 41.3 -0.6
HELC Santa Helena 18.74 250 *e*P **Pn** 15 56 47.3 +0.9
GUYC Guyana, Colomb 19.02 247 *e*P **Pn** 15 56 50.6 +0.8
RREF El Recreo 19.12 246 *e*P **Pn** 15 56 51.3 +0.1
PRAC Prado 19.28 242 *e*P **Pn** 15 56 53.3 +0.7
YOTC Yotoco, Valle 20.42 245 *e*P **P** 15 57 01.9 -2.2
SOTA Rioblanco 21.57 241 *e*P **P** 15 57 17.9 +1.1
BCIP Isla Barro Col 21.92 262 *e*P **P** 15 57 20.7 +0.7
16nm,0.8s
BCIP Isla Barro Col 21.92 262 *e*P **P** 15 57 19.9 -0.2
SAML Samuel 22.65 194 *e*P **P** 15 57 26.9 -1.0
21nm,0.8s
JTS JuntasAbangare 26.66 267 P **P** 15 58 06.4 +0.6
1.9nm,0.4s,baz=67,slow=20,SNR=3.9
JTS LR LR 16 11 32.2
comp=Z,30nm,18.0s,baz=129,slow=43
SIV San Ignacio 29.20 186 P **P** 15 58 26.3 -2.0
2.3nm,0.7s,baz=15,slow=9.6,SNR=13
SIV LR LR 16 11 50.2
comp=Z,62nm,18.1s,baz=12,slow=40
LPAZ La Paz 31.03 199 P **P** 15 58 43.3 -1.8
2.1nm,0.6s,baz=13,slow=8.9,SNR=7.6
LPAZ La Paz 31.03 199 *e*P **P** 15 58 43.4 -1.8
3.0nm,0.7s
APG El Apazote 31.64 277 P **P** 15 58 51.5 +1.2
12nm,0.8s,baz=78,slow=17,SNR=7.9
TKL Tuckaleechee C 32.30 318 LR LR 16 12 33.8
comp=Z,44nm,21.2s,baz=143,slow=37
LRAL Lakeview Retre 33.08 311 P **P** 15 59 02.4 0.0
baz=120
X49A Woodville 33.36 314 P **P** 15 59 06.5 +1.6
baz=123
Z48A Northport 33.65 312 P **P** 15 59 08.5 +1.0
baz=120
N54A Moraine State 33.73 329 P **P** 15 59 10.3 +2.3
baz=139
Z47A Carrollton 33.94 311 P **P** 15 59 10.7 +0.7
baz=119
M54A Oil Creek Stat 33.98 330 P **P** 15 59 11.3 +1.0
baz=140
X47A Russelville 34.44 313 P **P** 15 59 16.1 +1.8
baz=121
W47A Westpoint 34.64 314 P **P** 15 59 17.4 +1.5
baz=122
Y46A Houston 34.85 311 P **P** 15 59 19.0 +1.2
baz=119
V47A Nunnelly 34.89 315 P **P** 15 59 18.8 +0.7
baz=123
U47A Clarksville 35.07 316 P **P** 15 59 21.2 +1.5
baz=124
WVT Waverly 35.27 316 P **P** 15 59 22.7 +1.4
baz=123
WVT Waverly 35.27 316 *e*P **P** 15 59 22.9 +1.5
18nm,1.4s
ALFO Alfred 35.37 339 P **P** 15 59 24.0 +1.8
baz=151
X45A UM Field Stati 35.50 312 P **P** 15 59 25.2 +1.8
baz=119
OXF Oxford 35.55 312 P **P** 15 59 25.1 +1.2
baz=119
OXF Oxford 35.55 312 *e*P **P** 15 59 25.3 +1.5
27nm,0.8s
PB01 IPOC Station P 35.91 199 *e*P **P** 15 59 25.8 -1.4
17nm,1.0s
SADO Sadowa 36.30 334 P **P** 15 59 31.4 +1.3
8.9nm,0.6s,baz=172,slow=7.5,SNR=7.4
R45A Skylar, Fairfi 36.76 318 P **P** 15 59 35.5 +1.3
baz=125
S43A Fulton Ridge, 37.56 316 P **P** 15 59 41.9 +0.9
baz=122
V42A Cord 37.59 313 P **P** 15 59 42.8 +1.5
baz=118,SNR=7.0
Y41A Eaglette Beard 37.64 309 P **P** 15 59 43.3 +1.7
baz=115
P44A Sand Creek, Wi 37.65 320 P **P** 15 59 43.6 +1.9
baz=126
U42A Revenden 37.75 314 P **P** 15 59 43.8 +1.3
baz=119,SNR=5.4
W41B Gary Mavity, V 37.92 311 P **P** 15 59 45.7 +1.6
baz=117
WHAR Wooly Hollow 38.01 311 *e*P **P** 15 59 46.2 +1.4
7.1nm,1.0s
X40A Basin Creek Fa 38.06 310 P **P** 15 59 46.7 +1.4
baz=115
V41A Mountainview 38.13 312 P **P** 15 59 46.8 +0.9
baz=118,SNR=8.0
N44A Piper City 38.14 322 P **P** 15 59 47.3 +1.5
baz=128
S42A Caledonia 38.15 316 P **P** 15 59 46.9 +1.0
baz=121
Y40A Okolona 38.20 309 P **P** 15 59 48.3 +1.9
baz=114
U41A Viola 38.23 313 P **P** 15 59 47.7 +1.1
baz=118,SNR=9.6
P43A Skaggs, Pawnee 38.32 319 P **P** 15 59 49.1 +1.8
baz=125
R42A Luebbering 38.41 316 P **P** 15 59 49.3 +1.2
baz=122
T41A Mountain View 38.45 314 P **P** 15 59 49.7 +1.1
baz=119,SNR=10
CCM Cathedral Cave 38.60 316 P **P** 15 59 50.9 +1.2
baz=121
V40A Witts Springs 38.63 312 P **P** 15 59 51.5 +1.4
baz=117
S41A Jillco Farms, 38.70 315 P **P** 15 59 51.3 +0.7
baz=120,SNR=6.8
P42A Winchester 38.82 319 P **P** 15 59 52.8 +1.3
baz=124
U40A Yellville 38.90 313 P **P** 15 59 53.2 +0.9
baz=117
M43A Waltham Townsh 39.02 322 P **P** 15 59 54.4 +1.2
baz=127
T40A Mansfield 39.03 314 P **P** 15 59 54.9 +1.5
baz=119
X39A Fountain Ranch 39.03 309 P **P** 15 59 54.6 +1.2
baz=114
W39A Magazine 39.07 310 P **P** 15 59 55.7 +1.9
baz=115
S40A Lebanon 39.23 314 P **P** 15 59 55.2 +0.1
baz=119
V39A Pettigrew 39.24 311 P **P** 15 59 56.5 +1.2
baz=116
CPUP Villa Florida 39.32 179 P **P** 15 59 52.4 -3.4
1.3nm,0.6s,baz=3.2,slow=6.6,SNR=4.4
CPUP LR LR 16 17 33.7
comp=Z,30nm,18.2s,baz=3.0,slow=39
U39A Green Forest 39.36 312 P **P** 15 59 57.1 +0.9
baz=117,SNR=8.6
R40A Maddies Statio 39.41 316 P **P** 15 59 57.7 +1.1
baz=120
O41A Passleys Farm, 39.45 319 P **P** 15 59 56.7 -0.1
baz=124
S39A Bolivar 39.85 314 P **P** 16 00 01.0 +0.8
baz=118,SNR=7.9
R39A Chumby, Stover 39.95 315 P **P** 16 00 02.0 +1.0
baz=119,SNR=5.7
S38A Stockton 40.23 314 P **P** 16 00 04.2 +0.8
baz=118,SNR=5.1
T38A Diamond 40.24 313 P **P** 16 00 04.2 +0.8
baz=117
L41A Preston 40.33 322 P **P** 16 00 04.7 +0.6
baz=126
R38A Fenwick Farm, 40.49 314 P **P** 16 00 06.2 +0.7
baz=118
I42A Draeger Farm, 40.51 325 P **P** 16 00 06.7 +1.2
baz=130
Q38A Cooks Store, C 40.66 316 P **P** 16 00 07.9 +1.0
baz=119
J41A Loganville 40.81 324 P **P** 16 00 09.2 +1.1
baz=128
N39A Derby Farms, D 40.90 319 P **P** 16 00 10.1 +1.2
baz=122
K40A Colesburg 41.08 322 P **P** 16 00 11.1 +0.8
baz=126
L39A Vinton 41.27 321 P **P** 16 00 13.0 +1.1
baz=124
N38A Joes South For 41.33 318 P **P** 16 00 13.5 +1.1
baz=122
P37A Lathrop 41.46 316 P **P** 16 00 14.3 +0.8
baz=119
K39A Oelwein 41.53 322 P **P** 16 00 14.1 0.0
baz=125
H40A Chili 41.80 325 P **P** 16 00 17.3 +1.2
baz=128
SCHQ Schefferville 42.10 352 LR LR 16 15 44.1
comp=Z,30nm,20.4s,baz=299,slow=33
JCT Junction City 42.25 301 P **P** 16 00 20.3 +0.1
baz=105
JCT Junction City 42.25 301 *e*P **P** 16 00 20.7 +0.5
5.3nm,0.8s
F40A Park Falls 42.46 327 P **P** 16 00 23.7 +2.1
baz=130
E40A Wakefield 42.68 327 P **P** 16 00 24.7 +1.4
baz=130
WMOK Wichita Mounta 42.69 307 P **P** 16 00 23.8 +0.2
baz=110
WMOK Wichita Mounta 42.69 307 *e*P **P** 16 00 22.7 -0.9
3.6nm,0.8s
ABTX Abilene, Hawle 42.70 304 P **P** 16 00 24.1 +0.3
baz=107
ABTX Abilene, Hawle 42.70 304 *e*P **P** 16 00 23.9 +0.1
6.9nm,0.8s
F39A Loretta 42.89 326 P **P** 16 00 26.3 +1.2
baz=129
E39A Mellen 42.99 327 P **P** 16 00 27.3 +1.4
baz=130
D37A Cotton 44.48 326 P **P** 16 00 37.5 -0.4
baz=128
ECSD EROS Data Cent 44.99 320 P **P** 16 00 42.9 +0.8
baz=121
TXAR Lajitas Array 45.28 298 P **P** 16 00 45.9 +1.3
1.1nm,0.6s,baz=115,slow=7.9,SNR=17
TXAR LR LR 16 26 00.0
comp=Z,8.0nm,18.5s,baz=0.0,slow=44
TX31 Lajitas Ar. Si 45.28 298 *e*P **P** 16 00 44.6 -0.1
MSTX Muleshoe 45.60 305 P **P** 16 00 47.7 +0.6
baz=106
MSTX Muleshoe 45.60 305 *e*P **P** 16 00 48.1 +1.0
16nm,0.9s
AGMN Agassiz Nation 47.02 326 P **P** 16 00 58.6 +0.7
3.3nm,0.6s
A33A Warroad 47.14 327 P **P** 16 00 59.7 +0.9
baz=126
MNTX Cornudas Mount 47.19 301 P **P** 16 01 00.5 +1.0
baz=102
MNTX Cornudas Mount 47.19 301 *e*P **P** 16 01 00.8 +1.2
7.1nm,0.8s
H10N3 ASCENSION HYDR 47.89 113 T T 16 53 03.6
baz=298
H10N2 ASCENSION HYDR 47.90 113 T T 16 52 42.8
baz=298
H10N1 ASCENSION HYDR 47.91 113 T T 16 53 02.6
baz=298
ULM Lac du Bonnet 48.17 328 P **P** 16 01 07.2 +0.4
1.5nm,0.6s,baz=130,slow=9.1,SNR=2.9
BNM Barren Site 48.74 304 *e*P **P** 16 01 11.9 +0.2
ANMO Albuquerque 48.79 305 P **P** 16 01 13.5 +1.4
baz=104
SDCO Great Sand Dun 48.79 309 P **P** 16 01 12.9 +0.8
baz=107
Q24A Divide 48.90 311 P **P** 16 01 13.1 +0.1
baz=108
121A Cookes Peak, D 49.35 302 P **P** 16 01 17.8 +1.3
baz=101
LPIG La Paz 50.59 290 LR LR 16 25 41.4
comp=Z,18nm,18.1s,baz=10.0,slow=39
TUC Tucson 51.81 301 P **P** 16 01 35.6 +0.7
baz=99
TUC Tucson 51.81 301 *e*P **P** 16 01 37.1 +2.2
4.0nm,0.9s
KOWA Kowa 52.20 82 P **P** 16 01 38.1 +0.2
5.7nm,0.7s,baz=280,slow=7.6,SNR=14
KOWA LR LR 16 20 33.1
comp=Z,67nm,20.8s,baz=216,slow=32
KOWA Kowa 52.20 82 *e*P **P** 16 01 38.0 0.0
7.1nm,0.8s
DBIC Dimbokro 52.54 92 P **P** 16 01 40.0 -0.5
2.0nm,0.7s,baz=223,slow=10,SNR=3.1
DBIC LR LR 16 21 48.2
comp=Z,14nm,18.9s,baz=256,slow=34
WUAZ Wupatki 52.84 305 P **P** 16 01 43.9 +1.2
baz=101
FCC Fort Churchill 52.88 337 *e*P **P** 16 01 42.8 +0.6
6.4nm,0.9s
BW06 Boulder Array 53.24 314 P **P** 16 01 45.7 +0.1
baz=108
PDAR Pinedale Array 53.24 314 P **P** 16 01 46.0 +0.4
0.8nm,0.7s,baz=108,slow=9.6,SNR=8.8
PDAR LR LR 16 28 08.2
comp=Z,14nm,19.3s,baz=99,slow=40
PDAR Pinedale Array 53.24 314 *e*P **P** 16 01 45.6 +0.1
RLMT Red Lodge 53.79 317 P **P** 16 01 49.6 +0.1
baz=110
SFJD Kangerlussuaq 53.94 4 LR LR 16 22 40.9
comp=Z,15nm,19.7s,baz=185,slow=34
ESDC Sonseca Array 54.04 50 P **P** 16 01 52.4 +1.2
0.1nm,0.3s,baz=290,slow=22,SNR=4.0
DUG Dugway, Tooele 54.93 310 P **P** 16 01 57.5 -0.3
baz=103
PLCA Paso Flores 54.95 192 P **P** 16 01 54.7 -3.0
2.3nm,0.9s,baz=24,slow=6.0,SNR=3.8
PLCA LR LR 16 26 08.5
comp=Z,42nm,18.2s,baz=46,slow=37
EGMT Eagleton 55.11 320 P **P** 16 01 58.7 -0.1
baz=111
BGU Big Grassy Mou 55.26 311 *e*P **P** 16 02 00.5 +0.4
3.5nm,0.6s
IRM Iron Mountain 55.69 302 P **P** 16 02 05.2 +2.0
baz=97
BC3 Big Chuckawall 55.88 302 P **P** 16 02 06.2 +1.4
baz=97
MONP2 Monument Peak 56.61 301 P **P** 16 02 11.1 +1.0
baz=96
R11A Troy Canyon, C 56.67 307 P **P** 16 02 10.9 +0.6
baz=100
HLID Hailey 56.88 314 P **P** 16 02 12.3 +0.5
baz=104
TPNV Topopah Spring 56.97 306 P **P** 16 02 13.2 +0.7
baz=98
BORG Borgarnes 57.25 18 LR LR 16 20 39.0
comp=Z,35nm,21.5s,baz=354,slow=30
MPMC Manual Prospec 57.84 304 P **P** 16 02 19.0 +0.3
baz=97
TORD Torodi Ar. Bea 57.87 83 P **P** 16 02 18.3 -0.6
2.1nm,0.7s,baz=284,slow=6.4,SNR=14
TORD LR LR 16 24 31.1
comp=Z,49nm,19.6s,baz=250,slow=33
NVAR Mina Array Bea 58.79 307 P **P** 16 02 26.7 +1.4
0.5nm,0.7s,baz=94,slow=6.5,SNR=5.3
NVAR LR LR 16 31 35.6
comp=Z,31nm,20.0s,baz=276,slow=40
NEW Newport 59.88 318 P **P** 16 02 32.8 +0.4
baz=105
YBH Yreka Blue Hor 62.57 310 P **P** 16 02 50.5 -0.4
0.8nm,0.9s,baz=97,slow=17,SNR=2.1
YBH LR LR 16 33 48.9
comp=Z,25nm,18.0s,baz=113,slow=40
YKA Yellowknife Ar 63.30 334 P **P** 16 02 54.9 -0.2
0.8nm,0.6s,baz=106,slow=7.6,SNR=18
KEST Kesra 63.96 57 LR LR 16 27 30.1
comp=Z,27nm,19.3s,baz=322,slow=33
CLL Collm 67.84 40 *e*P **P** 16 03 26.0 +1.2
CLL *i* 16 03 37.3
comp=Z,9.0nm,1.2s
CLL *e*PP **PP** 16 05 48.0 -6.2
CLL *e*PPP PPP 16 07 36.0
KHC Kasperske Hory 67.98 42 *e*P P 16 03 38.8 +13
GERES GERESS Array B 68.04 43 P **P** 16 03 25.4 -0.8
comp=Z,0.6nm,0.7s,baz=230,slow=6.1,SNR=4.4
GERES LR LR 16 26 40.0
comp=Z,22nm,21.2s,baz=222,slow=30
VAE Valguarnera 68.07 55 LR LR 16 27 52.8
comp=Z,32nm,19.1s,baz=328,slow=31
BRG Berggiesshubel 68.38 40 *e*P P 16 03 40.5 +12
comp=Z,3.9nm,0.9s
NOA NORSAR Array B 68.42 29 P **P** 16 03 31.1 +2.7
comp=Z,0.5nm,0.8s,baz=259,slow=7.3,SNR=2.6
NOA LR LR 16 28 11.6
comp=Z,35nm,21.4s,baz=250,slow=31
HFS Hagfors 69.46 30 P **P** 16 03 37.0 +2.3
comp=Z,2.2nm,1.0s,baz=258,slow=4.1,SNR=3.0
HFS LR LR 16 28 54.1
comp=Z,26nm,19.7s,baz=148,slow=31
UPC Upice 69.66 41 *e*P P 16 03 48.9 +13
DPC Dobruska-Polom 69.85 41 *e*P P 16 03 49.8 +12
KSP Ksiaz 69.86 41 *e*P P 16 03 50.3 +13
MODS Modra-Piesok 70.38 43 *e*P P 16 03 50.6 +10
VYHS Vyhne 71.42 43 *e*P P 16 03 59.3 +12
OJC Ojcow 72.08 41 *e*P P 16 04 03.8 +13
NIE Niedzica 72.39 42 *e*P P 16 04 06.7 +14
INK Inuvik 72.50 338 P **P** 16 03 53.1 +0.2
comp=Z,1.4nm,0.9s,baz=92,slow=3.6,SNR=2.3
KWP Kalwaria Pacla 73.96 42 *e*P P 16 04 15.8 +14
ARCES ARCESS Array B 75.39 21 P **P** 16 04 13.0 +3.1
comp=Z,3.0nm,0.9s,baz=268,slow=8.1,SNR=3.0
ARCES ARCESS Array B 75.39 21 P **P** 16 04 13.0 +3.1
FINES FINESS Array B 75.60 30 P **P** 16 04 13.0 +1.7
comp=Z,1.1nm,0.6s,baz=304,slow=3.4,SNR=7.1
ILAR Eielson Array 77.73 334 P **P** 16 04 23.4 +0.2
comp=Z,0.5nm,0.8s,baz=99,slow=4.1,SNR=6.6
AKASG Malin Array Be 78.07 40 P **P** 16 04 25.8 +0.4
comp=Z,0.1nm,0.2s,baz=285,slow=4.6,SNR=2.7
TRF Thorofare Moun 79.36 333 *e*P **P** 16 04 32.8 +0.3
comp=Z,20nm,1.4s
KLMR Klimovskoe 82.13 29 *e*P **P** 16 04 49.7 +2.6
KLMR AMP 16 04 59.9
comp=Z,6.0nm,1.0s
BRTR Keskin Array B 82.83 51 P **P** 16 04 53.8 +2.4
comp=Z,0.6nm,0.6s,baz=251,slow=3.8,SNR=4.2
LZH Lanzhou 128.00 19 *e*PKP **PKPdf** 16 11 32.6 -0.8
LZH sPKP 16 11 39.3
LZH LR LR
comp=N,100nm,18.3s
LZH LR LR
comp=E,110nm,18.0s
LZH LR LR
comp=Z,150nm,20.1s
CMAR Chiang Mai Arr 141.09 37 PKP **PKPdf** 16 11 57.2 -0.9
comp=Z,0.3nm,0.7s,baz=292,slow=3.8,SNR=3.4

ISCJB ***21*** *15:57:12.7±0.4,40°.57N±0°.03×30°.32E±0°.04,h9km±5km, Error ellipse: s-maj=5.7km s-min=4.5km az=147.5*
CSEM ***21*** *15:57:12.6±0.1,40°.58N×30°.35E,h10km,ML2.1, Error ellipse: s-maj=2.6km s-min=2.4km az=31.0*
DDA ***21*** *15:57:12.8,40°.58N×30°.36E,h7km,Md2.5*
ISK ***21*** *15:57:12.4,40°.59N×30°.33E,h10km,ML2.1/10*
ISC 21 15:57:12.7±0.8,40°.57N±0°.02×30°.34E±0.02,h11km±5km, n38,σ1°02/51,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GEYV	**SAKARYA_Geyve**	**0.09**	**201**	*i* P	**Pg**	**15 57 15.2**	**-0.2**
GEYV	**SAKARYA_Geyve**	**0.09**	**201**	P	**Pg**	**15 57 15.2**	**-0.2**
SPNC	**Sapanca-Adapaz**	**0.12**	**348**	PG	**Pg**	**15 57 15.3**	**-0.4**
SPNC				SG	**Sg**	**15 57 17.5**	**-0.4**
SPNC	**Sapanca-Adapaz**	**0.12**	**348**	*e*Pg	**Pg**	**15 57 15.3**	**-0.4**
SPNC				*e*Sg	**Sg**	**15 57 17.5**	**-0.4**
SAUV	**Serdivan-Sakar**	**0.17**	**357**	PG	**Pg**	**15 57 16.0**	**-0.5**
SAUV				SG	**Sg**	**15 57 19.1**	**-0.1**
SAUV	**Serdivan-Sakar**	**0.17**	**357**	*e*Pg	**Pg**	**15 57 16.0**	**-0.5**
SAUV				*e*Sg	**Sg**	**15 57 19.1**	**-0.1**
GULT	**Gulveren**	**0.19**	**136**	PG	**Pg**	**15 57 16.9**	**-0.1**
GULT				SG	**Sg**	**15 57 20.9**	**+1.0**
GULT	**Gulveren**	**0.19**	**136**	*e*Pg	**Pg**	**15 57 16.9**	**-0.1**
GULT				*e*Sg	**Sg**	**15 57 20.9**	**+1.0**
ADVT	**Abdulvahap**	**0.48**	**253**	PG	**Pg**	**15 57 22.2**	**+0.1**
ADVT	**Abdulvahap**	**0.48**	**253**	*e*Pg	**Pg**	**15 57 22.2**	**+0.1**
SAHE	**Sakarya_HENDEK**	**0.48**	**54**	*i* P	**Pg**	**15 57 22.0**	**-0.2**
SAHE				*i* S	**Sb**	**15 57 29.5**	**-0.8**
SAHE	**Sakarya_HENDEK**	**0.48**	**54**	P	**Pg**	**15 57 22.0**	**-0.2**
SAHE				S	**Sb**	**15 57 29.5**	**-0.8**
BTAS	**Taskesti**	**0.50**	**90**	*i* P	**Pg**	**15 57 22.2**	**-0.4**
BTAS				*i* S	**Sb**	**15 57 33.3**	**+2.4**
BTAS	**Taskesti**	**0.50**	**90**	P	**Pg**	**15 57 22.2**	**-0.4**
BTAS				S	**Sb**	**15 57 33.3**	**+2.4**
CAVI	**Cavuskoy**	**0.53**	**226**	PG	**Pg**	**15 57 23.4**	**+0.3**
CAVI	**Cavuskoy**	**0.53**	**226**	*e*Pg	**Pg**	**15 57 23.4**	**+0.3**
KAND	**Kocaeli-Kandir**	**0.53**	**348**	*i* P	**Pg**	**15 57 23.0**	**-0.2**
KAND				*i* S	**Sb**	**15 57 32.5**	**+0.7**
KAND	**Kocaeli-Kandir**	**0.53**	**348**	P	**Pg**	**15 57 23.0**	**-0.2**
KAND				S	**Sb**	**15 57 32.5**	**+0.7**
HRT	**Hereke**	**0.57**	**296**	PG	**Pg**	**15 57 23.6**	**-0.2**
HRT	**Hereke**	**0.57**	**296**	*e*Pg	**Pg**	**15 57 23.6**	**-0.2**
MDUB	**Mudurnu**	**0.66**	**98**	PG	**Pg**	**15 57 24.9**	**-0.7**
MDUB	**Mudurnu**	**0.66**	**98**	*e*Pg	**Pg**	**15 57 24.9**	**-0.7**
BORA	**Eskisehir**	**0.70**	**173**	*i* P	**Pb**	**15 57 26.9**	**+0.1**
BORA				*i* S	**Sg**	**15 57 29.9**	**-5.5**
BORA	**Eskisehir**	**0.70**	**173**	P	**Pb**	**15 57 27.0**	**+0.1**
YLV	**Yalova**	**0.74**	**270**	PG	**Pg**	**15 57 26.9**	**-0.1**
YLV	**Yalova**	**0.74**	**270**	*e*Pg	**Pg**	**15 57 26.9**	**-0.1**
SILT	**Sile**	**0.79**	**318**	PG	**Pg**	**15 57 27.7**	**-0.2**
SILT	**Sile**	**0.79**	**318**	*e*Pg	**Pg**	**15 57 27.7**	**-0.2**
ARMT	**Armutlu**	**1.13**	**270**	PN	**Pb**	**15 57 34.0**	**-0.2**
ARMT	**Armutlu**	**1.13**	**270**	*e*Pn	**Pb**	**15 57 34.0**	**-0.2**
KLYT	**Kilyos**	**1.20**	**305**	PN	**Pn**	**15 57 35.4**	**+0.1**
KLYT	**Kilyos**	**1.20**	**305**	*e*Pn	**Pn**	**15 57 35.4**	**+0.1**
TVSB	**Tavsanli**	**1.31**	**211**	PN	**Pn**	**15 57 37.3**	**+0.3**
TVSB	**Tavsanli**	**1.31**	**211**	*e*Pn	**Pn**	**15 57 37.3**	**+0.3**
BGKT	**Bogazkoy**	**1.33**	**298**	PN	**Pn**	**15 57 37.5**	**+0.3**
BGKT	**Bogazkoy**	**1.33**	**298**	*e*Pn	**Pn**	**15 57 37.5**	**+0.3**
CTKS	**Kestanelik-??a**	**1.54**	**296**	PN	**Pn**	**15 57 40.5**	**+0.4**
CTKS	**Kestanelik-??a**	**1.54**	**296**	*e*Pn	**Pn**	**15 57 40.5**	**+0.4**

*SJA **21** 16:00:28.7±0.6,24°.27S×67°.23W,h185km±7km,ML2.9, MW3.3*
*IDC **21** 16:00:28.9±2.4,24°.26S×67°.01W,h166km±20km,mb3.5/10, mb1 3.6/13,mb1mx3.5/39,mbtmp3.9/13,Error ellipse: s-maj=23.3km s-min=14.2km az=60.0*
*ISCJB **21** 16:00:30.0±0.6,24°.34S±0°.04×67°.05W±0°.09,h195km±6km, mb3.5/10,Error ellipse: s-maj=13.3km s-min=6.8km az=9.8*

ISC 21 16:00:30.1±0.9,24°.28S±0°.05×67°.18W±0°.09,h180km±8km, n30,σ1s16/37,mb3.7/10,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AZAP	**Zapla**	**1.93**	**89**	*e*P	**Pn**	**16 01 07.0**	**+0.3**
AZAP				IAML		16 01 07.7	
	comp=Z,94nm,0.6s						
AZAP				*e*S	**Sn**	**16 01 35.5**	**+0.5**
HJA	**Humahuaca**	**1.94**	**57**	*e*P	**Pn**	**16 01 07.4**	**+0.4**
HJA				IAML		16 01 09.4	
	comp=Z,48nm,0.5s						
HJA				*e*S	**Sn**	**16 01 35.9**	**+0.5**
FSA	**Cafayete**	**2.12**	**150**	*e*P	**Pn**	**16 01 09.0**	**+0.3**
FSA				IAML		16 01 09.3	
	comp=Z,27nm,0.3s						
FSA				*e*S	**Sn**	**16 01 38.4**	**-0.4**
ASTB	**Santa Barbara**	**2.51**	**83**	*e*P	**Pn**	**16 01 13.2**	**+0.1**
ASTB				*e*S	**Sn**	**16 01 46.8**	**+0.3**
YJA	**Yavi**	**2.59**	**36**	*e*P	**Pn**	**16 01 14.6**	**+0.2**
YJA				IAML		16 01 21.9	
	comp=Z,7.4nm,0.6s						
YJA				*e*S	**Sn**	**16 01 49.3**	**+0.6**
ALOL	**LOMAS DE OLMED**	**2.96**	**82**	*e*P	**Pn**	**16 01 18.4**	**+0.1**
ALOL				*e*S	**Sn**	**16 01 55.1**	**-0.7**
AHML	**Horco Molle**	**3.00**	**147**	*e*P	**Pn**	**16 01 18.9**	**+0.1**
AHML				IAML		16 01 20.4	
	comp=Z,38nm,0.8s						
AHML				*e*S	**Sn**	**16 01 55.8**	**-1.0**
VCA	**Vinchina**	**4.53**	**192**	*e*P	**Pn**	**16 01 38.1**	**-0.1**
VCA				IAML		16 02 54.9	
	comp=Z,11nm,0.4s						
APLL	**PUNTA DE LOS L**	**6.12**	**175**	*e*P	**Pn**	**16 01 58.1**	**-0.6**
APLL				IAML		16 01 59.9	
	comp=Z,16nm,0.2s						
LPAZ	**La Paz**	**8.00**	**353**	P	**Pn**	**16 02 23.9**	**-0.2**
	comp=Z,1.2nm,0.3s,baz=166,slow=6.5,SNR=19						
LPAZ				S	**Sn**	**16 03 50.1**	**-4.1**
	comp=Z,0.2nm,0.3s,baz=107,slow=19,SNR=4.1						
CPUP	**Villa Florida**	**9.14**	**105**	P	**Pn**	**16 02 36.5**	**-1.8**
	comp=Z,0.1nm,0.3s,baz=276,slow=12,SNR=3.8						
PLCA	**Paso Flores**	**16.65**	**189**	P	**Pn**	**16 04 14.3**	**+1.2**
	comp=Z,0.1nm,0.3s,baz=32,slow=13,SNR=2.3						
SNAA	**Sanae**	**59.14**	**161**	P	**P**	**16 10 10.0**	**-1.4**
	comp=Z,0.9nm,0.7s,baz=324,slow=8.7,SNR=3.5						
TXAR	**Lajitas Array**	**63.81**	**325**	P	**P**	**16 10 44.3**	**+1.0**
	comp=Z,0.2nm,0.5s,baz=148,slow=5.3,SNR=3.2						
DBIC	**Dimbokro**	**68.04**	**72**	P	**P**	**16 11 09.4**	**-1.1**
	comp=Z,2.2nm,1.0s,baz=258,slow=3.6,SNR=3.2						
KOWA	**Kowa**	**72.70**	**65**	P	**P**	**16 11 38.9**	**+0.2**
	comp=Z,0.7nm,0.5s,baz=277,slow=8.1,SNR=2.7						
TORD	**Torodi Ar. Bea**	**76.82**	**69**	P	**P**	**16 12 02.1**	**-0.3**
	comp=Z,0.6nm,0.5s,baz=269,slow=6.1,SNR=7.9						
PDAR	**Pinedale Array**	**77.31**	**329**	P	**P**	**16 12 06.0**	**+1.2**
	comp=Z,0.3nm,0.5s,baz=135,slow=7.3,SNR=3.6						
ULM	**Lac du Bonnet**	**78.44**	**342**	P	**P**	**16 12 10.5**	**-0.1**
	comp=Z,1.3nm,0.5s,baz=154,slow=9.3,SNR=4.6						
NVAR	**Mina Array Bea**	**78.66**	**321**	P	**P**	**16 12 13.5**	**+1.2**
	comp=Z,0.4nm,0.7s,baz=150,slow=6.3,SNR=4.1						
SCHQ	**Schefferville**	**78.79**	**0**	P	**P**	**16 12 12.3**	**0.0**
	comp=Z,2.2nm,0.8s,baz=255,slow=16,SNR=3.4						
YKA	**Yellowknife Ar**	**94.33**	**340**	P	**P**	**16 13 29.3**	**+0.9**
	comp=Z,0.5nm,0.5s,baz=130,slow=4.5,SNR=18						
ASAR	**Alice Springs**	**128.14**	**205**	PKP	**PKPdf**	**16 19 16.0**	**+0.5**
	comp=Z,0.8nm,0.7s,baz=134,slow=1.7,SNR=9.2						
WRA	**Warramunga Arr**	**131.31**	**207**	PKP	**PKPdf**	**16 19 22.8**	**+1.2**
	comp=Z,0.5nm,0.4s,baz=157,slow=1.8,SNR=25						
PETK	**Petropavlovsk-**	**135.73**	**322**	PKP	**PKPdf**	**16 19 28.6**	**-0.1**
	comp=Z,1.5nm,0.8s,baz=77,slow=3.8,SNR=4.5						
BVAR	**Borovoye Array**	**137.11**	**37**	PKP	**PKPdf**	**16 19 32.8**	**+1.5**
	comp=Z,0.2nm,0.5s,baz=336,slow=3.2,SNR=2.5						
KURBB	**Kurchatov Arra**	**142.70**	**36**	PKP	**PKPdf**	**16 19 38.8**	**-2.7**
	comp=Z,0.5nm,0.3s,baz=305,slow=3.3,SNR=3.5						
ZALV	**Zalesovo Beam**	**143.71**	**28**	PKP	PKPbc	16 19 41.3	+0.1
	comp=Z,1.1nm,0.5s,baz=296,slow=4.9,SNR=6.8						
MKAR	**Makanchi Array**	**146.84**	**40**	PKPbc	**PKPbc**	**16 19 50.4**	**-0.6**
	comp=Z,1.7nm,0.6s,baz=328,slow=2.6,SNR=14						
KLR	**Kul'dur**	**151.01**	**334**	PKPbc	**PKPbc**	**16 20 02.0**	**+0.7**
	comp=Z,0.2nm,0.7s,baz=97,slow=2.8,SNR=5.5						

*ISCJB **21** 16:04:36.2±0.7,4°.16S±0°.09×152°.30E±0°.10,h150km, mb3.8/10,Error ellipse: s-maj=15.6km s-min=9.7km az=36.6*
*IDC **21** 16:04:37.9±4.0,4°.19S×152°.34E,h154km±37km,mb3.4/9, mb1 3.5/11,mb1mx3.3/46,mbtmp3.9/11,Error ellipse: s-maj=24.7km s-min=17.1km az=29.0*

ISC 21 16:04:37.5±0.8,4°.2S±0°.1×152°.3E±0°.1,h150km,n13, σ1s82/15,mb3.8/10,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.27**	**224**	P	**Pn**	**16 06 22.1**	**+1.0**
	1.1nm,0.3s,baz=54,slow=19,SNR=4.1						
PMG				S	**Sn**	**16 07 42.1**	**-0.4**
	1.5nm,0.3s,baz=41,slow=11,SNR=3.7						
CTA	**Charters Tower**	**16.86**	**200**	P	**Pn**	**16 08 25.9**	**+1.3**
	0.1nm,0.3s,baz=19,slow=18,SNR=3.1						
SIJI	**Sorong**	**21.27**	**278**	P	**P**	**16 09 13.5**	**+1.2**
	3.4nm,0.4s,baz=80,slow=18,SNR=3.7						
DZM	**Mont Dzumac**	**22.44**	**144**	P	**P**	**16 09 25.4**	**+1.2**
	10.0nm,0.9s,baz=240,slow=20,SNR=5.4						
WRA	**Warramunga Arr**	**23.48**	**227**	P	**P**	**16 09 34.0**	**+0.2**
	3.6nm,0.3s,baz=52,slow=9.6,SNR=165						
WRA				S	**S**	**16 13 31.1**	**-5.2**
	0.9nm,0.8s,baz=46,slow=16,SNR=4.2						
ASAR	**Alice Springs**	**26.27**	**221**	P	**P**	**16 09 58.7**	**-0.3**
	0.3nm,0.3s,baz=57,slow=8.8,SNR=29						
RAR	**Rarotonga**	**49.47**	**114**	P	**P**	**16 13 12.4**	**-0.5**
	18nm,0.6s,baz=341,slow=6.6,SNR=4.1						
CMAR	**Chiang Mai Arr**	**57.18**	**295**	P	**P**	**16 14 11.0**	**+1.8**
	0.8nm,0.5s,baz=119,slow=5.9,SNR=7.8						
MKAR	**Makanchi Array**	**79.55**	**319**	P	**P**	**16 16 28.1**	**+0.2**
	0.2nm,0.5s,baz=87,slow=8.3,SNR=3.9						
ZALV	**Zalesovo Beam**	**80.39**	**326**	P	**P**	**16 16 30.5**	**-1.5**
	0.3nm,0.3s,baz=101,slow=7.5,SNR=2.3						
ILAR	**Eielson Array**	**81.80**	**22**	P	**P**	**16 16 38.6**	**-0.7**
	0.2nm,0.8s,baz=231,slow=7.2,SNR=3.6						
BVAR	**Borovoye Array**	**88.47**	**323**	P	**P**	**16 17 12.4**	**-0.4**
	0.4nm,0.4s,baz=101,slow=7.5,SNR=3.6						
TORD	**Torodi Ar. Bea**	**149.65**	**289**	PKPbc	**PKPbc**	**16 24 09.8**	**-0.6**
	0.8nm,0.3s,baz=86,slow=1.9,SNR=8.6						

*IDC **21** 16:11:16.3±1.8,2°.98N×93°.55E,h0km,mb3.7/6,mb1 3.8/7, mb1mx3.4/67,mbtmp3.6/7,ML3.4/1,Error ellipse: s-maj=60.5km s-min=27.9km az=57.0*

ISC 21 16:11:19.5±1.7,3°.1N±0°.2×93°.7E±0°.3,h17km,n13,σ0s54/7, mb3.7/6,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**16.07**	**18**	Pn	**P**	**16 15 07.8**	**-0.4**
	0.1nm,0.3s,baz=211,slow=9.3,SNR=5.8						
H08S2	**Diego Garcia H**	**23.75**	**243**	T	T	16 41 24.2	
	baz=63,slow=75,SNR=90						
H08S3	**Diego Garcia H**	**23.75**	**243**	T	T	16 41 25.4	
	baz=63,slow=75,SNR=92						
H08S1	**Diego Carcia H**	**23.76**	**243**	T	T	16 41 24.2	
	baz=63,slow=75,SNR=86						
H01W3	**Cape Leeuwin H**	**42.39**	**155**	T	T	17 04 26.8	
	baz=331,slow=76,SNR=10.0						
H01W2	**Cape Leeuwin H**	**42.40**	**155**	T	T	17 04 28.6	
	baz=331,slow=76,SNR=12						
H01W1	**Cape Leeuwin H**	**42.41**	**155**	T	T	17 04 29.2	
	baz=331,slow=76,SNR=11						
MKAR	**Makanchi Array**	**44.62**	**349**	P	**P**	**16 19 31.5**	**+0.5**
	1.4nm,0.8s,baz=168,slow=8.4,SNR=8.0						
SONM	**Songino Array**	**45.86**	**12**	P	**P**	**16 19 41.3**	**+0.3**
	0.2nm,0.3s,baz=188,slow=2.9,SNR=2.9						
WRA	**Warramunga Arr**	**45.98**	**122**	P	**P**	**16 19 42.4**	**+0.1**
	0.5nm,0.7s,baz=302,slow=8.8,SNR=5.8						
KURBB	**Kurchatov Arra**	**49.04**	**347**	P	**P**	**16 20 06.0**	**+0.5**
	0.4nm,0.5s,baz=163,slow=6.8,SNR=2.9						
ZALV	**Zalesovo Beam**	**51.18**	**353**	P	**P**	**16 20 21.2**	**-0.6**
	0.6nm,0.4s,baz=187,slow=5.9,SNR=4.0						
GERES	**GERESS Array B**	**81.09**	**319**	P	**P**	**16 23 33.8**	**-0.3**
	0.2nm,0.2s,baz=101,slow=2.0,SNR=5.4						

*NNC **21** 16:14:13.7±5.1,40°.03N×75°.14E,h0km,mb2.5,mpv2.3, Error ellipse: s-maj=39.4km s-min=17.6km az=141.0*

KRNET 21 16:14:16.7±0.1,39°.26N×72°.29E,mb2.1,10C-9D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**1.20**	**51**	⇑P	Pg	16 14 38.3	-1.4
	0.8nm,0.3s						
SFK				⇑S	Sg	16 14 54.5	-0.7
	8.2nm,0.4s						
SFK	**Sufi-Kurgan**	**1.20**	**51**	⇓*i*P	Pg	16 14 39.2	-0.5
	baz=50						
SFK				⇓*i*S	Sg	16 14 55.5	+0.3
	baz=50						
BTK	**Batken**	**1.39**	**305**	⇑*i*P	Pg	16 14 42.6	-0.7
	baz=5.0						
BTK				⇑*i*S	Sg	16 15 01.2	-0.2
	baz=5.0						
ARSB	**Arslanbob**	**2.13**	**14**	⇓*i*P	Pn	16 14 54.0	+0.3
	baz=14						
ARSB				⇓*i*S	Sb	16 15 22.1	-1.1
	baz=14						
AML	**Almayashu**	**3.06**	**20**	⇑*i*P	Pb	16 15 09.6	-2.7
	baz=20						
AML				⇑*i*S	Sb	16 15 48.0	-2.3
	baz=20						
MNAS	**Manas**	**3.23**	**3**	⇓Pg	Pn	16 15 10.6	+1.8
	0.6nm,0.5s						
MNAS				⇑Lg	Lg	16 15 57.5	
	2.4nm,1.0s						
MNAS	**Manas**	**3.23**	**3**	⇓*i*P	Pn	16 15 10.0	+1.2
	baz=3.0						
MNAS				⇓*i*S	Sn	16 15 48.6	+0.6
	baz=3.0						
AAK	**Ala-Archa**	**3.76**	**26**	⇑Pg	Pn	16 15 00.3	-16
	0.7nm,0.8s						
AAK				⇓Lg	Lg	16 15 40.6	
	0.5nm,0.5s						
KK31	**Karatay Array**	**4.07**	**341**	⇑Pn	Pn	16 15 21.8	+1.6
	0.3nm,0.4s,baz=146,slow=12,SNR=4.5						
KK31				⇑Sn	Sb	16 16 21.4	+2.5
	0.8nm,0.7s,baz=347,slow=81,SNR=4.7						
KK31				⇓Lg	Lg	16 16 41.0	
	0.3nm,0.3s,baz=249,slow=37,SNR=4.9						

*ISCJB **21** 16:16:50.7±0.5,40°.39N±0°.06×140°.8E±0°.2,h134km±5km, mb3.6/8,Error ellipse: s-maj=21.0km s-min=7.6km az=18.5*
*JMA **21** 16:16:52.0±0.1,40°.33N×140°.76E,h128km±1km,M2.9*
*IDC **21** 16:16:53.1±2.1,40°.58N×140°.47E,h124km±20km,mb3.4/9, mb1 3.3/10,mb1mx3.1/60,mbtmp3.7/10,Error ellipse: s-maj=45.3km s-min=15.9km az=122.0*

ISC 21 16:16:51.4±0.8,40°.36N±0°.06×140°.9E±0°.1,h131km±7km, n19,σ1s02/24,mb3.7/8,Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAH	**Hinai**	**0.24**	**224**	P	**Pn**	**16 17 09.7**	**+0.2**
JAH				S	**Sn**	**16 17 22.8**	**-0.3**
JTM	**Tenmabayashi**	**0.46**	**21**	P	**Pn**	**16 17 10.9**	**+0.5**
JTM				*e*S	**Sn**	**16 17 25.0**	**+0.2**
JANG	**Nango**	**0.51**	**88**	P	**Pn**	**16 17 11.3**	**+0.7**
JANG				S	**Sn**	**16 17 25.5**	**+0.3**
JOM	**Ohasama**	**0.95**	**159**	P	**Pn**	**16 17 14.1**	**+0.1**
JRG	**Rokugo**	**0.98**	**190**	P	**Pn**	**16 17 14.7**	**+0.5**
JOT	**Ohata**	**1.03**	**8**	P	**Pn**	**16 17 15.7**	**+1.0**
JMK	**Ichinoseki**	**1.44**	**168**	P	**Pn**	**16 17 18.9**	**0.0**
JYK	**Kaneyama**	**1.49**	**195**	P	**Pn**	**16 17 19.5**	**0.0**
JYK				S	**Sn**	**16 17 40.1**	**-0.8**
ASAJ	**Asahikawa**	**3.97**	**18**	P	**Pn**	**16 17 51.3**	**+0.6**
	0.6nm,0.3s,baz=203,slow=15,SNR=11						
ASAJ				S	**Sn**	**16 18 36.1**	**-0.6**
	1.1nm,0.3s,baz=240,slow=20,SNR=5.9						
MJAR	**Matsushiro Arr**	**4.34**	**209**	P	**Pn**	**16 17 58.2**	**+2.5**
	0.3nm,0.3s,baz=14,slow=10,SNR=6.1						
MA2	**Magadan**	**20.22**	**15**	P	**P**	**16 21 16.0**	**+0.2**
	0.7nm,0.3s,baz=156,slow=18						
SEY	**Seymchan**	**23.64**	**13**	P	**P**	**16 21 51.9**	**+1.7**
	0.3nm,0.4s,baz=138,slow=15						
SONM	**Songino Array**	**25.68**	**298**	P	**P**	**16 22 06.4**	**-2.8**
	0.3nm,0.4s,baz=99,slow=9.3,SNR=2.5						
ZALV	**Zalesovo Beam**	**39.41**	**309**	P	**P**	**16 24 08.3**	**+0.3**
	1.1nm,0.3s,baz=87,slow=7.4,SNR=4.6						
MKAR	**Makanchi Array**	**42.05**	**299**	P	**P**	**16 24 30.0**	**+0.1**
	1.0nm,0.7s,baz=89,slow=9.2,SNR=6.9						
KURBB	**Kurchatov Arra**	**43.67**	**305**	P	**P**	**16 24 42.6**	**-0.2**
	1.7nm,0.5s,baz=81,slow=8.6,SNR=11						
BVAR	**Borovoye Array**	**48.05**	**310**	P	**P**	**16 25 17.6**	**+0.4**
	0.8nm,0.4s,baz=77,slow=7.6,SNR=8.4						
FINES	**FINESS Array B**	**65.68**	**331**	P	**P**	**16 27 21.1**	**0.0**
	3.1nm,0.9s,baz=42,slow=8.9,SNR=6.0						
AKASG	**Malin Array Bc**	**71.41**	**321**	P	**P**	**16 27 56.7**	**-0.3**
	0.3nm,0.4s,baz=46,slow=6.7,SNR=3.8						

*ISK **21** 16:18:33.3,38°.93N×43°.75E,h10km,ML3.0/10*
*CSEM **21** 16:18:33.7±0.3,38°.94N×43°.75E,h10km,ML3.0,Error ellipse: s-maj=6.2km s-min=3.6km az=117.0*
*DDA **21** 16:18:33.2,38°.90N×43°.77E,h5km,Ml3.0*
*ATA **21** 16:18:33.1±1.6,38°.91N×43°.65E,h7km±30km,ML3.5, MW3.5*
*ISCJB **21** 16:18:34.2±0.6,38°.92N±0°.03×43°.75E±0°.04,h11km±3km, Error ellipse: s-maj=6.2km s-min=3.6km az=29.2*

ISC 21 16:18:33.5±0.9,38°.92N±0°.02×43°.77E±0°.03,h11km±6km, n62,σ1s07/90,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VMUR	**Van-Muradiye**	**0.17**	**296**	*i* P	**Pg**	**16 18 37.2**	**-0.1**
VMUR				*i* S	**Sg**	**16 18 40.2**	**+0.1**
VMUR	**Van-Muradiye**	**0.17**	**296**	P	**Pg**	**16 18 37.2**	**-0.1**
VMUR				S	**Sg**	**16 18 40.2**	**+0.1**
CLDR	**Caldiran**	**0.26**	**27**	PG	**Pg**	**16 18 38.7**	**-0.2**
CLDR				SG	**Sg**	**16 18 43.1**	**+0.6**
CLDR	**Caldiran**	**0.26**	**27**	*i* P	**Pg**	**16 18 38.6**	**-0.3**
CLDR				*i* S	**Sg**	**16 18 44.2**	**+1.7**
CLDR	**Caldiran**	**0.26**	**27**	*e*Pg	**Pg**	**16 18 38.7**	**-0.2**
CLDR				*e*Sg	**Sg**	**16 18 43.1**	**+0.6**
CLDR				S		16 18 44.2	
ERCV	**ERCIS-VAN**	**0.35**	**287**	PG	**Pg**	**16 18 40.5**	**0.0**
ERCV				SG	**Sb**	**16 18 46.0**	**-1.5**
ERCV	**ERCIS-VAN**	**0.35**	**287**	*e*Pg	**Pg**	**16 18 40.5**	**0.0**
ERCV				*e*Sg	**Sb**	**16 18 46.0**	**-1.5**
VANB	**Van**	**0.44**	**223**	PG	**Pb**	**16 18 43.6**	**+0.3**
VANB				SG	**Sb**	**16 18 50.9**	**+1.0**
VANB	**Van**	**0.44**	**223**	*e*Pg	**Pb**	**16 18 43.6**	**+0.3**
VANB				*e*Sg	**Sb**	**16 18 50.9**	**+1.0**
TVAN	**Van**	**0.48**	**216**	*i* P	**Pb**	**16 18 43.6**	**-0.5**
TVAN				*i* S	**Sb**	**16 18 52.4**	**+1.2**
TVAN	**Van**	**0.48**	**216**	P	**Pb**	**16 18 43.6**	**-0.5**
DYDN	**Diyadin**	**0.63**	**355**	*e*P	**Pg**	**16 18 45.4**	**-0.3**
DYDN				*e*S	**Sb**	**16 18 55.5**	**-0.1**
DYDN				IAML		16 18 58.7	
	comp=Z,177nm,0.8s						
DYDN	**Diyadin**	**0.63**	**355**	*i* P	**Pg**	**16 18 45.7**	**-0.1**
DYDN				*i* S	**Sb**	**16 18 56.1**	**+0.6**
DYDN	**Diyadin**	**0.63**	**355**	P	**Pg**	**16 18 45.7**	**-0.1**
GEVA	**Gevas**	**0.82**	**223**	*i* P	**Pg**	**16 18 49.0**	**-0.3**
GEVA				*e*S	**Sg**	**16 18 58.8**	**-1.3**
GEVA				IAML		16 19 13.0	
	comp=Z,94nm,0.5s						
GEVA	**Gevas**	**0.82**	**223**	*i* P	**Pg**	**16 18 49.1**	**-0.1**
GEVA				*i* S	**Sg**	**16 18 59.1**	**-0.9**
GEVA	**Gevas**	**0.82**	**223**	P	**Pg**	**16 18 49.2**	**-0.1**
GEVA				S	**Sg**	**16 18 59.1**	**-0.9**
ADCV	**BITLIS_Adilcev**	**0.82**	**263**	*i* P	**Pb**	**16 18 49.3**	**-0.6**
ADCV				*i* S	**Sg**	**16 18 59.8**	**-0.3**
ADCV	**BITLIS_Adilcev**	**0.82**	**263**	P	**Pb**	**16 18 49.3**	**-0.6**
ADCV				S	**Sg**	**16 18 59.8**	**-0.3**
TUTA	**Tutak**	**0.89**	**304**	*i* P	**Pg**	**16 18 50.2**	**-0.4**
TUTA				*e*S	**Sb**	**16 19 02.0**	**-1.0**
TUTA				IAML		16 19 05.9	
	comp=Z,293nm,0.2s						
TUTA	**Tutak**	**0.89**	**304**	*i* P	**Pg**	**16 18 50.2**	**-0.4**
TUTA				*i* S	**Sb**	**16 19 01.9**	**-1.0**
TUTA	**Tutak**	**0.89**	**304**	P	**Pg**	**16 18 50.2**	**-0.4**
TUTA				S	**Sb**	**16 19 02.0**	**-1.0**
AGRB	**Hanur-Agry**	**0.89**	**318**	PG	**Pg**	**16 18 50.2**	**-0.5**
AGRB	**Hanur-Agry**	**0.89**	**318**	*e*Pg	**Pg**	**16 18 50.2**	**-0.5**
IGDI	**IGDIR**	**0.98**	**14**	*e*P	**Pb**	**16 18 52.4**	**-0.1**
IGDI				*e*S	**Sn**	**16 19 08.6**	**+1.4**
IGDI				IAML		16 19 13.9	
	comp=Z,71nm,0.6s						
IGDI	**IGDIR**	**0.98**	**14**	*i* P	**Pb**	**16 18 52.6**	**+0.1**
IGDI				*i* S	**Sn**	**16 19 07.9**	**+0.7**
TASB	**TASBURUN-IGDIR**	**1.13**	**19**	PN	**Pn**	**16 18 55.1**	**-0.2**
TASB	**TASBURUN-IGDIR**	**1.13**	**19**	*e*Pn	**Pn**	**16 18 55.1**	**-0.2**
EATA	**Eleskirt**	**1.37**	**314**	*i* P	**Pb**	**16 18 58.8

MAT	**Matsushiro**	**2.97 279**	P	**Pn**	**16 22 31.9**	**+1.5**
MAT			S	**Sb**	**16 23 08.8**	**-3.8**
MJB9	**Matsu-Tunnel**	**2.97 279**	*e*Pn	**Pn**	**16 22 32.1**	**+1.7**
JHJ2	**Mitsune**	**3.45 210**	*e*Pn	**Pn**	**16 22 38.4**	**+1.3**
JHJ	**Hachijo jima 2**	**3.46 210**	Pn	**Pn**	**16 22 38.3**	**+1.1**
	19nm,0.3s,baz=335,slow=22,SNR=9.1					
JHJ			Sn	**Sn**	**16 23 16.7**	**-1.8**
	26nm,0.3s,baz=73,slow=19,SNR=4.2					
INU	**Inuyama**	**4.01 260**	*e*Pn	**Pn**	**16 22 47.5**	**+2.8**
ERM	**Erimo**	**5.96 9**	*e*Pn	**Pn**	**16 23 11.3**	**-0.1**
ASAJ	**Asahikawa**	**7.96 4**	Pn	**Pn**	**16 23 39.1**	**-0.2**
	0.6nm,0.3s,baz=213,slow=16,SNR=9.8					
ASAJ			Sn	**Sn**	**16 25 06.2**	**-3.8**
	0.5nm,0.3s,baz=114,slow=33,SNR=6.0					
CBIJ	**Chichi jima**	**9.02 178**	*e*Pn	**Pn**	**16 23 54.8**	**+1.3**
CBIJ			*e*Sn	**Sn**	**16 25 28.3**	**-7.2**
JCJ	**Chichijima**	**9.02 178**	Pn	**Pn**	**16 23 54.8**	**+1.2**
	4.6nm,0.3s,baz=72,slow=20,SNR=3.8					
JCJ			Sn	**Sn**	**16 25 28.3**	**-7.2**
	3.7nm,0.3s,baz=278,slow=19,SNR=2.9					
USRK	**Ussuriysk Ar.**	**11.03 320**	Pn	**Pn**	**16 24 24.9**	**+3.9**
	0.1nm,0.3s,baz=128,slow=9.3,SNR=2.4					
USRK			LR	LR	16 28 26.2	
	comp=Z,262nm,19.3s,baz=128,slow=37					
KSRS	**Korea Array**	**11.25 281**	Pn	**Pn**	**16 24 28.3**	**+4.3**
	0.1nm,0.3s,baz=96,slow=13,SNR=5.0					
KSRS			LR	LR	16 28 48.9	
	comp=Z,157nm,18.1s,baz=91,slow=38					
KSAR	**Wonju Array Be**	**11.28 281**	Pn	**Pn**	**16 24 28.3**	**+3.9**
KLR	**Kul'dur**	**15.03 334**	Pn	**Pn**	**16 25 15.1**	**-0.5**
	0.0nm,0.3s,baz=133,slow=19,SNR=3.0					
KLR			LR	LR	16 31 04.3	
	comp=Z,111nm,18.4s,baz=136,slow=37					
MA2	**Magadan**	**24.16 11**	P	**P**	**16 27 00.2**	**+0.7**
	0.8nm,0.4s,baz=191,slow=9.2,SNR=6.1					
MA2			LR	LR	16 36 14.2	
	comp=Z,30nm,19.1s,baz=240,slow=36					
YAK	**Yakutsk**	**27.02 347**	P	**P**	**16 27 26.7**	**+1.4**
YAK			LR	LR	16 38 42.0	
	comp=Z,82nm,18.0s,baz=236,slow=38					
YAK	**Yakutsk**	**27.02 347**	*e*P	**P**	**16 27 22.9**	**-2.5**
	14nm,0.9s					
H11N2	**WAKE ISLAND Hy**	**27.39 120**	T	T	16 56 08.5	
	baz=312,slow=75,SNR=8.3					
H11N1	**WAKE ISLAND Hy**	**27.40 120**	T	T	16 56 09.5	
	baz=312,slow=75,SNR=7.4					
H11N3	**WAKE ISLAND Hy**	**27.41 120**	T	T	16 56 06.5	
	baz=312,slow=75,SNR=7.0					
SEY	**Seymchan**	**27.60 10**	P	**P**	**16 27 32.5**	**+2.0**
	0.3nm,0.3s,baz=234,slow=17,SNR=2.9					
ENH	**Enshi**	**27.62 267**	*e*P	**P**	**16 27 28.8**	**-2.3**
	14nm,0.8s					
H11S1	**WAKE ISLAND Hy**	**28.08 122**	T	T	16 56 58.2	
	baz=314,slow=75,SNR=19					
H11S3	**WAKE ISLAND Hy**	**28.08 122**	T	T	16 56 59.2	
	baz=314,slow=75,SNR=15					
H11S2	**WAKE ISLAND Hy**	**28.10 122**	T	T	16 57 01.5	
	baz=314,slow=75,SNR=14					
SONA1	**Songino Array**	**28.58 305**	*e*P	**P**	**16 27 38.2**	**-1.5**
SONA0	**Songino Array**	**28.58 305**	*e*P	**P**	**16 27 40.2**	**+0.6**
SONM	**Songino Array**	**28.58 305**	P	**P**	**16 27 40.2**	**+0.6**
	3.8nm,0.8s,baz=105,slow=8.8,SNR=14					
CM31	**Chiang Mai Arr**	**41.62 257**	*e*P	**P**	**16 29 29.8**	**-2.1**
CMAR	**Chiang Mai Arr**	**41.62 257**	P	**P**	**16 29 32.8**	**+0.9**
	0.7nm,0.8s,baz=53,slow=5.5,SNR=4.6					
CMAR			LR	LR	16 47 33.3	
	comp=Z,66nm,18.1s,baz=220,slow=37					
ZAA0	**Zalesovo Array**	**42.78 313**	*e*P	**P**	**16 29 40.7**	**-0.2**
	2.7nm,0.8s					
ZAA1	**Zalesovo Array**	**42.78 313**	*e*P	**P**	**16 29 41.0**	**+0.1**
ZAA1			*e*PcP	**PcP**	**16 31 33.0**	**+0.8**
ZALV	**Zalesovo Beam**	**42.78 313**	P	**P**	**16 29 41.0**	**+0.1**
	3.3nm,0.7s,baz=95,slow=5.7,SNR=14					
ZALV			PcP	**PcP**	**16 31 33.0**	**+0.8**
	0.9nm,0.6s,baz=134,slow=6.2,SNR=3.3					
ZALV	**Zalesovo Beam**	**42.78 313**	*e*P	**P**	**16 29 39.5**	**-1.5**
ZALV			PcP	**PcP**	**16 31 33.0**	**+0.8**
MK01	**Makanchi Array**	**44.89 303**	*e*P	**P**	**16 29 57.4**	**-0.7**
MK31	**Makanchi Array**	**44.90 303**	*e*P	**P**	**16 29 56.6**	**-1.5**
MK32	**Makanchi Array**	**44.90 303**	*e*P	**P**	**16 29 58.7**	**+0.6**
MKAR	**Makanchi Array**	**44.90 303**	P	**P**	**16 29 58.7**	**+0.6**
	2.1nm,0.7s,baz=92,slow=11,SNR=12					
MKAR			LR	LR	16 49 11.9	
	comp=Z,71nm,20.8s,baz=144,slow=37					
KURK	**Kurchatov**	**46.76 309**	*e*P	**P**	**16 30 11.6**	**-1.1**
	6.0nm,0.8s					
KURK			*e*PcP	**PcP**	**16 31 46.4**	**+0.5**
KURBB	**Kurchatov Arra**	**46.83 309**	P	**P**	**16 30 13.7**	**+0.4**
	3.2nm,0.7s,baz=81,slow=7.5,SNR=32					
KURBB			PcP	**PcP**	**16 31 46.4**	**+0.2**
	0.2nm,0.4s,baz=87,slow=7.7,SNR=2.6					
ILAR	**Eielson Array**	**50.06 32**	P	**P**	**16 30 39.6**	**+1.7**
	0.6nm,0.8s,baz=263,slow=6.4,SNR=7.2					
ILB	**Eielson Array**	**50.06 32**	*e*P	**P**	**16 30 37.3**	**-0.7**
BVAR	**Borovoye Array**	**51.44 313**	P	**P**	**16 30 49.4**	**+0.9**
	1.5nm,0.8s,baz=64,slow=6.6,SNR=9.9					
BVAR			PcP	**PcP**	**16 32 03.3**	**+0.4**
	0.7nm,0.8s,baz=99,slow=4.5,SNR=2.5					
INK	**Inuvik**	**55.02 27**	P	**P**	**16 31 15.5**	**+0.8**
	0.9nm,0.7s,baz=306,slow=2.5,SNR=6.3					
WR1	**Warramunga Arr**	**56.23 189**	*e*P	**P**	**16 31 24.0**	**+0.1**
	5.5nm,1.1s					
WRA	**Warramunga Arr**	**56.23 189**	P	**P**	**16 31 24.0**	**+0.1**
	1.5nm,0.9s,baz=6.2,slow=7.0,SNR=11					
ASAR	**Alice Springs**	**59.95 188**	P	**P**	**16 31 49.9**	**0.0**
	0.3nm,0.5s,baz=16,slow=12,SNR=6.2					
YKA	**Yellowknife Ar**	**64.41 30**	P	**P**	**16 32 20.4**	**+1.1**
	0.3nm,0.7s,baz=302,slow=6.6,SNR=5.3					
FIA0	**FINESS Array S**	**69.77 333**	*e*P	**P**	**16 32 53.2**	**-0.2**
FINES	**FINESS Array B**	**69.77 333**	P	**P**	**16 32 53.2**	**-0.2**
	1.4nm,0.8s,baz=64,slow=3.2,SNR=6.3					
HFS	**Hagfors**	**75.05 336**	LR	LR	17 09 09.5	
	comp=Z,56nm,18.0s,baz=78,slow=38					
NB2	**NORSAR Subarra**	**75.15 338**	P	**P**	**16 33 26.2**	**+0.6**
	comp=Z,0.9nm,0.7s,baz=40,slow=5.9					
NB200	**NORSAR Array S**	**75.15 338**	*e*P	**P**	**16 33 26.1**	**+0.6**
NOA	**NORSAR Array B**	**75.15 338**	P	**P**	**16 33 26.1**	**+0.6**
	2.1nm,0.8s,baz=39,slow=5.7,SNR=6.1					
NOA			LR	LR	17 09 55.0	
	comp=Z,37nm,18.4s,baz=40,slow=38					
AKASG	**Malin Array Be**	**75.22 323**	P	**P**	**16 33 26.6**	**+0.4**
	comp=Z,0.9nm,0.7s,baz=44,slow=5.7,SNR=11					
NVAR	**Mina Array Bea**	**75.24 53**	P	**P**	**16 33 28.8**	**+1.9**
	comp=Z,0.1nm,0.4s,baz=289,slow=5.6,SNR=2.9					
PDAR	**Pinedale Array**	**78.04 46**	P	**P**	**16 33 43.2**	**+0.6**
	comp=Z,0.4nm,0.7s,baz=281,slow=6.1,SNR=3.3					
BR101	**Keskin Array S**	**79.71 312**	*e*P	**P**	**16 33 53.1**	**+1.4**
BRTR	**Keskin Array B**	**79.71 312**	P	**P**	**16 33 53.1**	**+1.4**
	comp=Z,0.7nm,0.7s,baz=35,slow=7.8,SNR=4.4					
MLR	**Muntele Rosu**	**80.30 320**	LR	LR	17 12 47.1	
	comp=Z,19nm,18.6s,baz=46,slow=38					
GERES	**GERESS Array B**	**83.66 328**	P	**P**	**16 34 12.6**	**+0.3**
	comp=Z,0.4nm,0.7s,baz=30,slow=6.2,SNR=4.1					
TXAR	**Lajitas Array**	**90.39 53**	P	**P**	**16 34 44.6**	**-0.8**
	comp=Z,0.3nm,0.8s,baz=298,slow=2.7,SNR=4.6					

MEX 21 16:25:00.2±0.6, 14°.61N×92°.13W, h84km±9km, MD3.6, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
THIG		**0.32**	**335**	*e*P	Pn	16 25 12.4	-0.7
PCIG		**1.51**	**316**	*e*P	Pn	16 25 24.4	-1.4
CCIG	**Comitan**	**1.66**	**360**	*e*P	Pn	16 25 27.1	-0.8

TRN 21 16:30:17.1, 14°.00N×60°.55W, h3km, MD3.7, 1C, Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SLW	**Petit Monier**	**0.38**	**274**	*e*P	Pn	16 30 30.1	+0.6
MCLT	**Moule a Chique**	**0.47**	**233**	⇑*i*P	Pn	16 30 31.8	+1.0
MCLT				*e*S	Sb	16 30 40.5	+5.0
LPMF	**Morne Lapointe**	**0.70**	**325**	*e*P	Pn	16 30 34.1	+0.1
TRMF	**Trois Ilets**	**0.72**	**318**	*e*P	Pn	16 30 34.8	+0.5
ZAM	**Aeronautique**	**0.74**	**321**	*e*P	Pn	16 30 34.9	+0.4
SSV	**Crater Summit**	**0.91**	**223**	*e*P	Pn	16 30 39.6	+2.6
SSV				*e*S	Sn	16 30 52.8	+2.2
SVCV	**St. Vincent, C**	**0.92**	**219**	*e*P	Pn	16 30 38.5	+1.5
SVCV				*e*S	Sn	16 30 53.9	+3.1
SVV	**Soufriere Volc**	**0.93**	**224**	*e*P	Pn	16 30 40.0	+2.8
SVV				*e*S	Sn	16 30 54.6	+3.5
FDF	**Fort de France**	**0.94**	**322**	*e*P	Pn	16 30 39.4	+2.2
FDF				*e*S	Sn	16 30 52.8	+1.5
SVB	**Belmont**	**0.99**	**224**	*e*P	Pn	16 30 39.7	+1.7
SVB				*e*S	Sn	16 30 56.4	+3.8
PML	**Morne Lenard**	**0.99**	**322**	*e*P	Pn	16 30 39.1	+1.0
BAMF	**Morne Balai**	**1.00**	**325**	*e*P	Pn	16 30 39.2	+1.0
CXM	**Morne La Croix**	**1.01**	**324**	*e*P	Pn	16 30 39.4	+1.0
PCM	**Pelee Case Pet**	**1.04**	**322**	*e*P	Pn	16 30 38.6	0.0
PCM	**Pelee Case Pet**	**1.04**	**322**	*e*P	Pn	16 30 39.5	+0.9
DLPL	**La Plaine**	**1.49**	**333**	*e*P	Pg	16 30 47.4	+1.7
DLPL				*e*S	Sg	16 31 08.9	+3.8
BBL	**Barber's Block**	**1.76**	**330**	*e*P	Pg	16 30 51.3	+0.4
BBL				*e*S	Sg	16 31 14.9	+1.1
MDMP	**Dominica, Moor**	**1.80**	**332**	*e*P	Pb	16 30 50.8	+0.1
MDMP				*e*S	Sg	16 31 16.0	+1.1
MDPO	**Dominica; Chan**	**1.80**	**331**	*e*P	Pb	16 30 50.8	+0.1
MDPO				*e*S	Sg	16 31 15.9	+1.0
MDVC	**Dominica, Viel**	**1.81**	**333**	*e*P	Pg	16 30 52.3	+0.5
MDVC				*e*S	Sg	16 31 17.1	+1.8
MDPV	**Dominica, Penn**	**1.83**	**333**	*e*P	Pg	16 30 52.5	+0.3
MDPV				*e*S	Sg	16 31 16.8	+0.9

*SOME **21** 16:40:12.5, 40°.83N×77°.70E, h0km*
*KRNET **21** 16:40:13.8±0.1, 40°.84N×77°.72E, h15km, mb2.9*
*NNC **21** 16:40:14.4±2.2, 40°.84N×77°.69E, h0km, mb3.5, mpv3.2, Error ellipse: s-maj=19.7km s-min=11.1km az=155.0*

ISC 21 16:40:13.5±1.9, 40°.84N±0°.07×77°.66E±0°.04, h5km±12km, n43, σ1§48/69, 23C-14D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TARG	**Taragay, Kyrgy**	**0.89**	**7**	⇓*i*P	Pg	**16 40 30.7**	**0.0**
	baz=4.0						
TARG				⇓*i*S	Sg	**16 40 43.0**	**+0.7**
	baz=4.0						
KDJ	**Kajisay**	**1.33**	**345**	⇑*i*P	Pn	**16 40 39.0**	**0.0**
	baz=43						
KDJ				⇑*i*S	Sg	**16 40 57.4**	**+1.0**
	baz=43						
NRN	**Naryn**	**1.39**	**296**	⇑*i*P	Pg	**16 40 40.6**	**+0.5**
	baz=94						
NRN				⇑*i*S	Sg	**16 41 00.2**	**+2.1**
	baz=94						
PRZ	**Przheval'sk**	**1.73**	**18**	⇑*e*P	Pb	**16 40 45.8**	**-0.1**
	baz=17						
PRZ				⇑*e*S	Sb	**16 41 08.7**	**+0.7**
	baz=17						
ULHL	**Ulahol**	**1.76**	**323**	P	Pg	**16 40 47.6**	**+0.3**
	SNR=6.6						
ULHL	**Ulahol**	**1.76**	**323**	⇑*i*P	Pg	**16 40 47.1**	**-0.1**
	baz=22						
ULHL				⇑*i*S	Sg	**16 41 11.2**	**+1.1**
	baz=22						
KZA	**Kyzart**	**2.19**	**305**	P	Pg	**16 40 55.0**	**-0.5**
	SNR=55						
KZA	**Kyzart**	**2.19**	**305**	⇓*i*P	Pb	**16 40 54.3**	**+0.4**
	baz=5.0						
KZA				⇓*i*S	Sg	**16 41 23.8**	**-0.1**
	baz=5.0						
TNSS	**Tian-Shan**	**2.26**	**347**	*e*P	Pb	**16 40 55.7**	**+0.7**
	54nm,0.3s						
TNSS				*e*S	Sg	**16 41 27.1**	**+1.1**
	54nm,0.5s						
SATY	**Saty**	**2.28**	**14**	*e*P	Pb	**16 40 55.7**	**+0.4**
	25nm,0.2s						
SATY				*e*S	Sg	**16 41 26.9**	**0.0**
	88nm,0.6s						
IZV	**Izvestkoviy**	**2.33**	**341**	*e*P	Pb	**16 40 56.9**	**+0.8**
	44nm,0.5s						
IZV				*e*S	Sg	**16 41 29.2**	**+1.0**
	74nm,0.5s						
ZHN	**Zhinishke**	**2.39**	**14**	*e*P	Pb	**16 40 57.6**	**+0.5**
	13nm,0.1s						
ZHN				*e*S	Sg	**16 41 30.0**	**-0.4**
	126nm,0.3s						
KNDC	**Almaty**	**2.43**	**348**	⇓Pn	Pb	**16 40 58.7**	**+1.0**
	13nm,0.5s						
KNDC				⇑Lg	Lg	16 41 31.6	
	124nm,0.6s						
MTBS	**Maitube**	**2.46**	**339**	*e*P	Pb	**16 40 59.3**	**+0.9**
	16nm,0.3s						
MTBS				*e*S	Sg	**16 41 32.8**	**+0.2**
	44nm,0.6s						
UZB	**Uzynbulak**	**2.52**	**23**	*e*P	Pb	**16 40 59.0**	**-0.3**
	5.4nm,0.3s						
UZB				*e*S	Sb	**16 41 32.5**	**+1.9**
	37nm,0.3s						
KST	**Kastek**	**2.54**	**331**	*e*P	Pb	**16 41 01.0**	**+1.3**
	10nm,0.4s						
KST				*e*S	Sg	**16 41 35.8**	**+0.8**
	16nm,0.6s						
TKM2	**Tokmak 2**	**2.58**	**324**	⇓Pg	Pb	**16 41 01.5**	**+1.0**
	5.5nm,0.6s						
TKM2				⇑Lg	Lg	16 41 37.6	
	11nm,0.7s						
TKM2	**Tokmak 2**	**2.58**	**324**	P	Pg	**16 41 02.0**	**-1.0**
	SNR=13						
KURS	**Kuram**	**2.67**	**8**	*e*P	Pb	**16 41 02.6**	**+0.8**
	1.9nm,0.3s						
KURS				*e*S	Sg	**16 41 38.4**	**-0.9**
	20nm,0.6s						
SHLS	**Shalkode**	**2.67**	**30**	*e*P	Pg	**16 41 05.9**	**+1.1**
	17nm,0.2s						
SHLS				*e*S	Sg	**16 41 44.2**	**+4.8**
	64nm,0.3s						
KBK	**Karagaybulak**	**2.72**	**313**	P	Pg	**16 41 05.2**	**-0.4**
	SNR=16						
KBK	**Karagaybulak**	**2.72**	**313**	⇓*i*P	Pb	**16 41 00.9**	**-1.9**
	baz=12						
KBK				⇓*i*S	Sb	**16 41 36.1**	**-0.4**
	baz=12						
KPKS	**Kokpek**	**2.73**	**16**	*e*P	Pb	**16 41 03.3**	**+0.4**
	31nm,0.3s						
KPKS				*e*S	Sg	**16 41 39.5**	**-1.7**
	91nm,0.4s						
UCH	**Uchtor**	**2.74**	**301**	P	Pg	**16 41 05.2**	**-0.8**
	SNR=13						
UCH	**Uchtor**	**2.74**	**301**	⇑*i*P	Pb	**16 41 01.0**	**-2.2**
	baz=1.0						
UCH				⇑*i*S	Sb	**16 41 36.8**	**-0.5**
	baz=1.0						
PDGK	**Podgornoye**	**2.83**	**28**	⇑Pn	Pn	**16 41 01.2**	**+1.6**
	10nm,0.6s						
PDGK				⇑Lg	Lg	16 41 42.6	
	118nm,0.8s						
PDGK	**Podgornoye**	**2.83**	**28**	⇓*i*P	Pb	**16 41 02.1**	**-2.6**
	baz=27						
PDGK				⇓*e*S	Sb	**16 41 37.2**	**-2.5**
	baz=27						
AAK	**Ala-Archa**	**2.97**	**308**	⇓Pg	Pg	**16 41 09.0**	**-1.4**
	13nm,0.6s						
AAK				⇓Lg	Lg	16 41 48.9	
	32nm,1.0s						
AAK	**Ala-Archa**	**2.97**	**308**	P	Pg	**16 41 09.1**	**-1.4**
	SNR=26						
AAK	**Ala-Archa**	**2.97**	**308**	⇑*i*P	Pb	**16 41 06.4**	**-0.6**
	baz=8.0						
AAK				⇑*i*S	Sb	**16 41 45.7**	**+2.0**
	baz=8.0						
CHKK	**Chushkaly**	**3.05**	**351**	*e*P	Pb	**16 41 09.1**	**+0.8**
	8.6nm,0.3s						
CHKK				*e*S	Sg	**16 41 49.4**	**-2.1**
	49nm,0.3s						
CHMS	**Chumysh**	**3.06**	**316**	P	Pg	**16 41 10.7**	**-1.3**
	SNR=22						
KUU	**Kurty**	**3.20**	**343**	*e*P	Pb	**16 41 11.7**	**+0.8**
	3.6nm,0.4s						
KUU				*e*S	Sg	**16 41 54.5**	**-1.8**
	17nm,0.5s						
AML	**Almayashu**	**3.25**	**295**	P	Pg	**16 41 14.8**	**-0.8**
	SNR=9.3						
SFK	**Sufi-Kurgan**	**3.28**	**257**	⇑Pg	Pb	**16 41 12.9**	**+0.5**
	2.7nm,0.5s						
SFK				⇑Lg	Lg	16 41 59.7	
	12nm,0.4s						
MNBS	**Baschi**	**3.28**	**9**	*e*P	Pb	**16 41 13.0**	**+0.8**
	4.7nm,0.4s						
MNBS				*e*S	Sg	**16 41 56.6**	**-2.3**
	38nm,0.5s						
ARXS	**Arharly**	**3.37**	**2**	*e*P	Pb	**16 41 14.6**	**+0.8**
	4.8nm,0.3s						
ARXS				*e*S	Sg	**16 41 59.1**	**-2.6**
	79nm,0.4s						
USP	**Ospenovka**	**3.38**	**317**	P	Pb	**16 41 16.0**	**+2.1**
	SNR=7.1						
EKS2	**Erkin-Say**	**3.43**	**303**	P	Pg	**16 41 18.4**	**-0.8**
	SNR=8.8						
MRKS	**Merke**	**3.82**	**301**	*e*P	Pb	**16 41 23.8**	**+2.3**
	2.1nm,0.1s						
MRKS				*e*S	Sg	**16 42 15.5**	**-0.7**
	7.9nm,0.4s						
MNAS	**Manas**	**4.20**	**295**	⇑Pg	Pb	**16 41 31.0**	**+3.0**
	1.3nm,0.5s						
MNAS				⇑Lg	Lg	16 42 26.1	
	4.6nm,0.6s						
KK31	**Karatay Array**	**5.79**	**295**	⇓Pg	Pg	**16 42 01.0**	**-3.3**
	1.3nm,0.7s,baz=119,slow=16,SNR=7.3						
KK31				⇑Lg	Lg	16 43 16.4	
	0.9nm,0.4s,baz=107,slow=26,SNR=5.8						
MK31	**Makanchi Array**	**6.83**	**28**	⇑Pn	Pn	**16 41 53.0**	**-1.3**
	0.3nm,0.3s						
MK31				⇓Sn	Sn	**16 43 12.2**	**-0.1**
	0.3nm,0.4s						
MK31				⇑Lg	Lg	16 43 49.1	
	1.1nm,0.6s						

DJA 21 16:42:45.4±0.4, 1°.3S±4°.3×113°.4E±°, h120km±4km, M3.3/5, mB4.3/1, mb3.9/3, MLv3.1/5, Mw(mB)3.4/1, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RKPI	**Ransiki, Papua**	**0.13**	**181**	P	Pn	16 43 02.3	+0.4
RKPI				S	Sn	16 43 16.0	+1.7
KMPI	**Kaimana, Papua**	**2.32**	**192**	P	Pn	16 43 22.7	-0.2
KMPI				S	Sn	16 43 52.2	+0.6
FAKI	**Fak Fak**	**2.46**	**232**	P	Pn	16 43 25.0	+0.3
FAKI				S	Sn	16 43 55.4	+0.5
MSAI	**Masohi**	**5.60**	**249**	P	Pn	16 44 05.6	-0.9
	6.3nm,0.7s,377nm						
GENI	**Genyem**	**6.10**	**101**	P	Pn	16 44 13.4	+0.1
AAI	**Ambon**	**6.40**	**249**	P	Pn	16 44 17.1	-0.2
JAY	**Jayapura**	**6.62**	**100**	P	Pn	16 44 20.1	-0.2

WEL 21 16:43:32.0±1.4, 46°S±4°×167°E±1°.0, h12km±4km, ML3.5/7, ML3.5/2, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PYZ	**Puysegur Point**	**0.25**	**146**	P	Pb	16 43 38.7	+0.3
PYZ	**Puysegur Point**	**0.25**	**146**	S	Sg	16 43 43.3	+2.6
DCZ	**Deep Cove**	**0.69**	**44**	P	Pg	16 43 45.3	0.0
DCZ	**Deep Cove**	**0.69**	**44**	S	Sb	16 43 54.8	-0.4
WHZ	**Wether Hill Ro**	**1.03**	**87**	P	Pb	16 43 51.7	0.0
WHZ	**Wether Hill Ro**	**1.03**	**87**	S	Sn	16 44 06.3	-0.1
MLZ	**Mavora Lakes**	**1.29**	**63**	P	Pb	16 43 56.5	+0.3
APZ	**The Paps**	**1.36**	**130**	P	Pn	16 43 55.6	-1.2
APZ	**The Paps**	**1.36**	**130**	S	Sb	16 44 12.6	-2.0
MSZ	**Milford Sound**	**1.64**	**39**	P	Pn	16 44 00.3	-0.4
SYZ	**Scrubby Hill**	**1.93**	**108**	P	Pn	16 44 05.2	+0.7
SYZ	**Scrubby Hill**	**1.93**	**108**	S	Sb	16 44 30.2	-0.9
EAZ	**Earnscleugh**	**2.12**	**71**	P	Pb	16 44 09.3	-0.9
WKZ	**Wanaka**	**2.12**	**58**	P	Pb	16 44 09.7	-0.5
TUZ	**Tuapeka**	**2.20**	**91**	P	Pn	16 44 09.1	+0.9
TUZ	**Tuapeka**	**2.20**	**91**	S	Sb	16 44 37.7	-1.1
JCZ	**Jackson Bay**	**2.50**	**42**	P	Pb	16 44 15.0	-1.9
HHSZ	**Highcliff Hill**	**2.88**	**90**	P	Pn	16 44 20.0	+2.4
LBZ	**Lake Benmore**	**3.06**	**60**	P	Pn	16 44 20.9	+0.8
ODZ	**Otahua Downs**	**3.07**	**74**	P	Pn	16 44 19.9	-0.3
FOZ	**Fox Glacier**	**3.40**	**46**	P	Pn	16 44 27.6	+2.9
RPZ	**Rata Peaks**	**3.95**	**57**	P	Pn	16 44 32.8	+0.4
RPZ	**Rata Peaks**	**3.95**	**57**	P	Pn	16 44 32.8	+0.4
WVZ	**Waitaha Valley**	**4.20**	**48**	P	Pn	16 44 38.8	+3.1
WVZ	**Waitaha Valley**	**4.20**	**48**	P	Pn	16 44 38.9	+3.2
OXZ	**Oxford**	**4.76**	**58**	P	Pn	16 44 44.6	+1.1
INZ	**Inchbonnie**	**4.81**	**49**	P	Pn	16 44 46.1	+2.0
MQZ	**McQueen's Vall**	**4.94**	**65**	P	Pn	16 44 46.5	+0.7
LTZ	**Lake Taylor**	**5.23**	**55**	P	Pn	16 44 51.7	+1.8
DSZ	**Denniston Nort**	**5.71**	**44**	P	Pn	16 44 58.1	+1.5

DJA 21 16:48:15.9±0.6, 9°.7N±4°.1×112°.3E±°, h59km±65km, M4.2/7, mB5.4/1, mb4.0/7, MLv4.3/5, Mw(mB)4.9/1, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SGSI	**Sangihe**	**5.36**	**154**	P	Pn	16 49 33.4	0.0
SGSI				S	Sn	16 50 34.6	+0.7
KMSI	**Cibinong**	**7.96**	**174**	P	Pn	16 50 09.1	+0.1
	17nm,0.6s,0.2nm						
KMSI				S	Sn	16 51 38.5	+0.8
	17nm,0.6s,0.2nm						
MRSI	**Marisa**	**8.12**	**189**	P	Pn	16 50 10.8	-0.3
	5.3nm,1.3s						
MPSI	**Mapaga**	**8.79**	**202**	P	Pn	16 50 20.3	-0.1
	5.9nm,1.1s						
APSI	**Ampana**	**9.52**	**189**	P	Pn	16 50 30.4	0.0
LUWI	**Luwuk**	**9.54**	**183**	P	Pn	16 50 30.8	+0.2
	32nm,1.0s						
LBMI	**Labuha**	**10.09**	**155**	P	Pn	16 50 33.2	-4.9
**

STKA	**Stephens Creek**	**34.62**	**157**	P		**P**	**17 10 23.6**	**+0.5**
	1.2nm,0.3s,baz=318,slow=8.4,SNR=13								
STKA	**Stephens Creek**	**34.62**	**157**	*eP*		**P**	**17 10 23.7**	**+0.6**
	2.8nm,1.3s								
PETK	**Petropavlovsk-**	**58.93**	**21**	*eP*		**P**	**17 13 34.3**	**+2.0**
BKZ	**Black Stump Fm**	**59.80**	**137**	*eP*		**P**	**17 13 39.1**	**+0.5**
	26nm,1.8s								
MK01	**Makanchi Array**	**60.66**	**326**	*eP*		**P**	**17 13 44.5**	**+0.1**
MK31	**Makanchi Array**	**60.68**	**327**	*eP*		**P**	**17 13 44.5**	**-0.1**
MK32	**Makanchi Array**	**60.68**	**327**	*eP*		**P**	**17 13 44.7**	**+0.2**
MKAR	**Makanchi Array**	**60.68**	**327**	P		**P**	**17 13 44.7**	**+0.2**
	0.4nm,0.4s,baz=124,slow=7.3,SNR=8.9								
MKAR	**Makanchi Array**	**60.68**	**327**	*eP*		**P**	**17 13 44.5**	**-0.1**
	7.0nm,0.7s								
MAKZ	**Makanchi**	**60.87**	**326**	*eP*		**P**	**17 13 46.9**	**+1.2**
	3.2nm,0.6s								
KURBB	**Kurchatov Arra**	**64.94**	**328**	P		**P**	**17 14 13.5**	**+0.8**
	0.5nm,0.8s,baz=132,slow=6.2,SNR=3.4								
KURK	**Kurchatov**	**64.94**	**329**	*eP*		**P**	**17 14 13.5**	**+0.8**

JMA 21 17:10:24.1±0.1, 36.65N×137.97E, h18km±1km, M0.6, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MAT	**Matsushiro**	**0.22**	**119**	P		Pg	17 10 29.0	-0.3
MAT				S		Sb	17 10 32.3	-0.6
MAT	**Matsushiro**	**0.22**	**119**	P		Pg	17 10 28.9	-0.4
MAT				S		Sb	17 10 32.2	-0.7
JNG	**Nsakai**	**0.26**	**157**	P		Pg	17 10 29.9	-0.2
JNG				S		Sg	17 10 33.6	-0.6

*IDC **21** 17:20:51.1±4.5, 16.75S×175.11W, h0km, mb4.3/4, mb1 4.4/4, mb1mx3.8/42, mbtmp4.3/4, Error ellipse: s-maj=149.4km s-min=88.9km az=164.0*
*NEIC **21** 17:21:59.8±1.8, 17.50S×177.01W, h603km±9km, mb4.5/16, Error ellipse: s-maj=34.4km s-min=13.1km az=71.0*

ISC 21 17:22:02.7±3.1, 17.65S±0.2×177.40W±0.4, h600km, n24, σ1§03/25, mb4.4/19, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MSVF	**Nonsavu**	**4.31**	**268**	*eP*		**P**	**17 23 31.0**	**+0.5**
LHI	**Lord Howe Isla**	**25.41**	**233**	*eP*		**P**	**17 26 44.3**	**-0.1**
	320nm,1.3s							
THZ	**Tophouse**	**25.46**	**197**	*eP*		**P**	**17 26 44.2**	**-0.7**
	10nm,1.2s							
OXZ	**Oxford**	**27.15**	**197**	*eP*		**P**	**17 26 58.0**	**-1.6**
	44nm,1.8s							
EIDS	**Eidsvold**	**30.25**	**250**	*eP*		**P**	**17 27 26.6**	**-0.1**
	25nm,1.5s							
ARMA	**Armidale**	**30.90**	**240**	*eP*		**P**	**17 27 32.5**	**+0.2**
	61nm,1.9s							
CTA	**Charters Tower**	**34.42**	**260**	P		**P**	**17 28 01.6**	**-0.4**
	1.1nm,0.8s,baz=98,slow=10,SNR=6.5							
CTA	**Charters Tower**	**34.42**	**260**	*eP*		**P**	**17 28 01.6**	**-0.4**
CTAO	**Charters Tower**	**34.42**	**260**	*eP*		**P**	**17 28 01.9**	**-0.1**
	7.2nm,1.3s							
CAN	**Canberra**	**34.63**	**233**	*eP*		**P**	**17 28 03.7**	**+0.1**
	75nm,2.0s							
COEN	**Coen**	**38.04**	**270**	*eP*		**P**	**17 28 32.8**	**+1.1**
	19nm,1.5s							
STKA	**Stephens Creek**	**39.59**	**241**	P		**P**	**17 28 44.3**	**+0.3**
	2.5nm,0.7s,baz=88,slow=11,SNR=5.7							
STKA	**Stephens Creek**	**39.59**	**241**	*eP*		**P**	**17 28 44.6**	**+0.6**
	6.2nm,1.6s							
BBOO	**Buckleboo**	**44.37**	**241**	*eP*		**P**	**17 29 21.7**	**+0.3**
	78nm,1.7s							
WB2	**Warramunga Arr**	**45.60**	**259**	*eP*		**P**	**17 29 30.9**	**-0.1**
	20nm,1.8s							
WRAB	**Tennant Creek**	**45.60**	**259**	*eP*		**P**	**17 29 30.5**	**-0.4**
	22nm,1.8s							
WR1	**Warramunga Arr**	**45.61**	**259**	*eP*		**P**	**17 29 31.0**	**0.0**
	18nm,1.5s							
WRA	**Warramunga Arr**	**45.61**	**259**	P		**P**	**17 29 31.0**	**0.0**
	1.3nm,0.5s,baz=96,slow=7.4,SNR=32							
AS01	**Alice Springs**	**45.73**	**254**	*eP*		**P**	**17 29 32.0**	**+0.1**
AS31	**Alice Springs**	**45.77**	**254**	*eP*		**P**	**17 29 32.7**	**+0.5**
	1.9nm,0.5s							
ASAR	**Alice Springs**	**45.77**	**254**	P		**P**	**17 29 32.5**	**+0.3**
	5.6nm,0.6s,baz=86,slow=8.8,SNR=96							
ASAR				PcP		**PcP**	**17 31 00.8**	**+3.7**
	0.5nm,0.8s,baz=111,slow=3.5,SNR=3.2							
GUMO	**Guam**	**48.43**	**307**	*eP*		**P**	**17 29 50.2**	**-1.9**
	158nm,1.1s							
MTN	**Manton Dam**	**49.74**	**268**	*eP*		**P**	**17 30 02.4**	**+0.5**
	41nm,1.5s							
LUWI	**Luwuk**	**60.98**	**279**	*eP*		**P**	**17 31 19.2**	**-0.5**
	35nm,1.0s							

*ISCJB **21** 17:24:18.6±1.4, 0.5N±0.1×127.28E±0.09, h10km, mb3.6/3, Error ellipse: s-maj=16.1km s-min=13.2km az=12.1*
*DJA **21** 17:24:21.0±0.7, 0.7N±8.1×127.7E±1.1, h164km±9km, M3.9/6, mb3.9/2, MLv3.9/6*
*IDC **21** 17:24:21.2±1.9, 0.45N×127.65E, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.4/53, mbtmp3.7/3, Error ellipse: s-maj=156.1km s-min=27.5km az=67.0*

ISC 21 17:24:21.9±1.2, 0.4N±0.1×127.2E±0.1, h10km, n10, σ2§34/10, mb3.6/3, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LBMI	**Labuha**	**1.06**	**164**	P		Pn	17 24 47.9	+5.1
LBMI				S		Sn	17 25 08.6	+11
SANI	**Sanana**	**2.71**	**207**	P		**Pn**	**17 25 04.6**	**-0.9**
SANI				S		**Sn**	**17 25 40.1**	**+1.7**
KMSI	**Cibinong**	**3.23**	**273**	P		**Pn**	**17 25 11.1**	**-1.6**
NLAI	**Namlea**	**3.60**	**182**	P		Pn	17 25 09.4	-8.4
LUWI	**Luwuk**	**4.65**	**252**	P		**Pn**	**17 25 32.3**	**0.0**
APSI	**Ampana**	**5.70**	**257**	P		**Pn**	**17 25 42.7**	**-4.0**
	50nm,1.3s,0.2nm							
FAKI	**Fak Fak**	**6.02**	**123**	P		**Pn**	**17 25 48.4**	**-2.7**
WRA	**Warramunga Arr**	**21.38**	**161**	P		**P**	**17 29 09.4**	**-0.4**
	1.3nm,0.4s,baz=341,slow=11,SNR=42							
ASAR	**Alice Springs**	**24.78**	**165**	P		**P**	**17 29 45.1**	**+1.0**
	2.1nm,0.8s,baz=338,slow=9.9,SNR=16							
ASAR				PcP		**PcP**	**17 33 20.4**	**-0.5**
	0.2nm,0.6s,baz=356,slow=2.3,SNR=4.1							
MKAR	**Makanchi Array**	**60.57**	**326**	P		**P**	**17 34 35.4**	**+2.6**
	0.3nm,0.6s,baz=131,slow=8.3,SNR=3.5							

*ISCJB **21** 17:37:47.1±1.0, 36.42N±0.05×70.4E±0.1, h150km, Error ellipse: s-maj=13.3km s-min=6.0km az=160.9*
*NNC **21** 17:37:53.9±5.8, 36.96N×70.52E, h0km, mb3.7, mpv3.3, Error ellipse: s-maj=45.7km s-min=19.6km az=1.0*

ISC 21 17:37:47.5±1.6, 36.41N±0.09×70.43E±0.09, h150km, n17, σ1§61/23, 3C-6D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DZET	**Dzherino**	**2.71**	**332**	⇓P		**Pn**	**17 38 34.0**	**+2.7**
	9.7nm,0.5s							
DZET				S		**Sn**	**17 39 03.7**	**-1.5**
	28nm,0.5s							
SFK	**Sufi-Kurgan**	**4.33**	**33**	⇓Pn		**Pn**	**17 38 54.8**	**+2.5**
	2.7nm,0.3s							
SFK				⇑Sn		**Sn**	**17 39 44.4**	**+1.7**
	31nm,0.4s							
AML	**Almayashu**	**6.25**	**23**	P		**Pn**	**17 39 18.9**	**+1.1**
	SNR=51							
MNAS	**Manas**	**6.28**	**14**	⇓Pn		**Pn**	**17 39 19.0**	**+1.0**
	1.0nm,0.5s							
MNAS				⇓Sn		**Sn**	**17 40 26.1**	**-2.6**
	18nm,1.0s							
UCH	**Uchtor**	**6.62**	**27**	P		**Pn**	**17 39 23.7**	**+1.0**
	SNR=20							
KK31	**Karatay Array**	**6.69**	**0**	⇑Pn		**Pn**	**17 39 23.5**	**+0.2**
	0.2nm,0.3s,baz=181,slow=13,SNR=15							
KK31				⇑Sn		**Sn**	**17 40 37.2**	**-1.2**
	1.0nm,0.3s,baz=190,slow=26,SNR=4.9							
EKS2	**Erkin-Say**	**6.76**	**21**	P		**Pn**	**17 39 26.0**	**+1.7**
	SNR=9.9							
KZA	**Kyzart**	**6.78**	**32**	P		**Pn**	**17 39 25.4**	**+0.5**
	SNR=6.2							
AAK	**Ala-Archa**	**6.97**	**26**	Pn		**Pn**	**17 39 28.3**	**+1.2**
AAK	2.0nm,0.5s					Sn	**17 40 42.9**	**-2.4**
	5.6nm,0.6s							
AAK	**Ala-Archa**	**6.97**	**26**	P		**Pn**	**17 39 28.9**	**+1.7**
	SNR=6.7							
TKM2	**Tokmak 2**	**7.62**	**30**	⇓Pn		**Pn**	**17 39 37.2**	**+1.2**
	5.4nm,0.5s							
TKM2				⇓Sn		**Sn**	**17 41 01.9**	**+0.8**
	1.0nm,0.5s							
TKM2	**Tokmak 2**	**7.62**	**30**	P		**Pn**	**17 39 36.6**	**+0.6**
	SNR=16							
GKN	**Gorkha**	**14.64**	**121**	*eP*		**P**	**17 41 08.1**	**-1.8**
	4.7nm,0.3s							
KKN	**Kakani**	**15.22**	**120**	*eP*		**P**	**17 41 15.2**	**-1.2**
	4.1nm,0.4s							
PKIN	**Phulchoki**	**15.43**	**121**	*eP*		**P**	**17 41 18.5**	**-0.3**
	9.4nm,0.5s							
GUN	**Gumba**	**15.57**	**119**	*eP*		**P**	**17 41 20.2**	**-0.2**
	3.8nm,0.4s							
JIRN	**Jiri**	**15.94**	**119**	*eP*		**P**	**17 41 24.2**	**-0.3**
	14nm,0.4s							

MAN 21 17:46:56, 6.95N×125.10E, h32km, mb4.2, ML3.0, MS2.7, 1C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KCP	**Kidapawan**	**0.06**	**349**	⇑*iP*		Pb	17 47 02.8	+1.3
KCP				*i* S		Sb	17 47 05.2	-0.1
DMPH	**Davao City--Mi**	**0.42**	**72**	⇓*eP*		Pn	17 47 07.6	+1.7
DMPH				*i* S		Sn	17 47 15.1	+2.5
BUKP	**Musuan**	**0.92**	**358**	*eP*		Pb	17 47 14.3	+0.8
BUKP				*eS*		Sb	17 47 25.8	+0.3

TRN 21 17:48:54.9, 18.01N×61.56W, h24km, MD3.9, 2C, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ANWB	**Willy Bob**	**0.40**	**213**	⇑*iP*		Pn	17 49 05.0	-0.3
ANWB				*eS*		Sn	17 49 13.0	+0.9
BPA	**Boggy Peak**	**1.00**	**197**	*eP*		Pb	17 49 14.4	+0.8
BPA				*eS*		Sn	17 49 29.1	+2.2
NEV	**Hard Times**	**1.30**	**228**	*eP*		Pb	17 49 19.5	+0.8
NEV				*eS*		Sb	17 49 37.7	+2.7
SKI	**Saint Kitts**	**1.31**	**239**	*eP*		Pb	17 49 18.9	0.0
SKI				*eS*		Sb	17 49 37.9	+2.5
MBWH		**1.40**	**206**	⇑*iP*		Pb	17 49 20.0	-0.4
MLYT	**Lee's Yard**	**1.42**	**205**	*eP*		Pb	17 49 20.7	0.0
MLYT				*eS*		Sb	17 49 40.8	+2.5
SEUS	**St. Eustatius**	**1.45**	**249**	*eP*		Pb	17 49 21.4	+0.2
SEUS				*eS*		Sb	17 49 41.3	+2.0
SEG	**Port Louis**	**1.60**	**178**	*eP*		Pn	17 49 21.6	-0.2
SABA	**Saba**	**1.65**	**257**	*eP*		Pb	17 49 23.7	-1.0
SABA				*eS*		Sb	17 49 45.1	0.0
LZG	**Guadaloupe-1**	**1.87**	**186**	*eP*		Pn	17 49 26.9	+1.3
SSG	**Sans Toucher**	**1.91**	**183**	*eP*		Pb	17 49 27.8	-1.5
MGG	**Marie-Galante**	**2.09**	**174**	*eP*		Pb	17 49 30.5	-1.8
MGG	**Marie-Galante**	**2.09**	**174**	*e*		Pb	17 49 42.4	+10
MGG				*eS*		Sb	17 49 56.9	-0.9
TBG	**Guadaloupe-3**	**2.15**	**182**	*eP*		Pb	17 49 31.8	-1.4
TBG				*eS*		Sn	17 49 57.0	+1.8
MDVC	**Dominica, Viel**	**2.39**	**176**	*eS*		Sn	17 50 03.4	+2.2
MDMP	**Dominica, Moor**	**2.41**	**177**	*eP*		Pn	17 49 35.0	+2.2
MDMP				*eS*		Sn	17 50 03.2	+1.6
MDPO	**Dominica; Chan**	**2.42**	**178**	*eP*		Pb	17 49 35.6	-2.3
MDPO				*eS*		Sn	17 50 04.2	+2.2
BBL	**Barber's Block**	**2.47**	**178**	*eP*		Pb	17 49 36.8	-2.0
DLPL	**La Plaine**	**2.68**	**174**	*eP*		Pb	17 49 39.8	-2.5
PCM	**Pelee Case Pet**	**3.19**	**174**	*eP*		Pn	17 49 45.0	+1.2
PCM	**Pelee Case Pet**	**3.19**	**174**	*eP*		Pn	17 49 45.2	+1.5
BAMF	**Morne Balai**	**3.20**	**173**	*eP*		Pn	17 49 45.9	+2.0
CXM	**Morne La Croix**	**3.20**	**173**	*eP*		Pn	17 49 45.4	+1.5
FDF	**Fort de France**	**3.28**	**173**	*eP*		Pn	17 49 47.1	+2.1
FDF				*eS*		Sn	17 50 24.8	+1.5

MAN 21 17:52:50, 17.02N×121.60E, h59km, mb4.2, ML3.0, MS2.7, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CAUP	**Cauayan**	**0.23**	**109**	*eP*		Pn	17 53 00.9	+1.4
CAUP				*eS*		Sn	17 53 10.1	+3.7
APYP	**Conner**	**0.91**	**338**	*eP*		Pn	17 53 08.4	+1.6
APYP				*eS*		Sn	17 53 21.6	+2.5
ABRA	**Dolores**	**1.05**	**307**	*eP*		Pn	17 53 10.3	+1.5
ABRA				*eS*		Sn	17 53 24.1	+1.4
BALP	**Baler**	**1.27**	**181**	*eP*		Pn	17 53 13.3	+1.7
BALP				*eS*		Sn	17 53 29.3	+1.6

*IDC **21** 17:58:04.3±0.6, 38.58N×66.35E, h0km, mb4.1/23, mb1 4.2/33, mb1mx4.1/72, mbtmp4.1/33, ML3.7/8, MS3.0/16, Ms1 3.0/16, ms1mx2.8/66, Error ellipse: s-maj=13.3km s-min=7.9km az=165.0*
*NNC **21** 17:58:05.6±1.1, 38.93N×66.29E, h0km, mb4.9, mpv4.8, Error ellipse: s-maj=11.4km s-min=6.9km az=19.0*
*NEIC **21** 17:58:06.3±0.3, 38.83N×66.33E, h10km, mb4.8/42, Error ellipse: s-maj=6.0km s-min=3.7km az=178.0*
*BJI **21** 17:58:06.4, 38.82N×66.51E, h15km, mb4.4/24, mB4.7/17, Ms4.0/10, Ms7 3.8/8*
*MOS **21** 17:58:07.5±1.4, 38.91N×66.34E, h28km, mb4.5/17, Error ellipse: s-maj=5.5km s-min=4.5km az=61.5*
*ISCJB **21** 17:58:07.4±0.2, 38.77N±0.03×66.38E±0.02, h33km, mb4.4/69, MS3.4/14, Error ellipse: s-maj=3.6km s-min=2.5km az=9.4*

ISC 21 17:58:09.3±0.3, 38.81N±0.04×66.30E±0.03, h35km, n246, σ2§06/277, mb4.4/69, MS3.2/14, 24C-18D, Southeastern Uzbekistan

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DZET	**Dzherino**	**1.97**	**89**	⇑P		**Pn**	**17 58 41.5**	**+1.2**
	357nm,0.3s							
DZET				⇑S		**Sn**	**17 59 05.1**	**+1.1**
	3µm,0.3s							
DZET	**Dzherino**	**1.97**	**89**	PN		**Pn**	**17 58 41.5**	**+1.2**
DZET				S		**Sn**	**17 59 05.5**	**+1.6**
DZET				pmax	pmax			
	comp=Z,357nm,0.3s							
DZET				smax	smax			
	comp=N,3µm,0.3s							
TAS	**Tashkent**	**3.40**	**41**	⇓Pn		**Pn**	**17 59 00.9**	**+1.0**
	comp=N,153nm,0.3s							
TAS				⇑Lg		Lg	17 59 49.9	
	comp=N,670nm,0.4s							
TAS	**Tashkent**	**3.40**	**41**	PN		**Pn**	**17 59 00.9**	**+1.0**
TAS				pmax	pmax			
	comp=Z,153nm,0.3s							
KK31	**Karatay Array**	**5.34**	**35**	⇑Pn		**Pn**	**17 59 26.6**	**+0.1**
	comp=Z,17nm,0.3s,baz=220,slow=15,SNR=760							
KK31				⇓Lg		Lg	18 00 56.6	
	comp=Z,117nm,0.6s,baz=222,slow=30,SNR=6.3							
KK31	**Karatay Array**	**5.34**	**35**	*e*Pn		**Pn**	**17 59 26.0**	**-0.5**
KK31				*e*Sn		**Sn**	**18 00 21.7**	**-5.1**
KK31				*e*Lg		Lg	18 00 56.2	
KK31	**Karatay Array**	**5.34**	**35**	PN		**Pn**	**17 59 26.6**	**+0.1**
KK31				pmax	pmax			
	comp=Z,17nm,0.3s							
KKAR	**Karatay Array**	**5.34**	**35**	*e*Pn		**Pn**	**17 59 26.2**	**-0.3**
KKAR				*e*Sn		**Sn**	**18 00 22.0**	**-4.8**
KKAR				*e*Lg		Lg	18 00 56.6	
KKAR	**Karatay Array**	**5.34**	**35**	*e*PN		**Pn**	**17 59 26.2**	**-0.3**
SFK	**Sufi-Kurgan**	**5.71**	**76**	⇑Pn		**Pn**	**17 59 32.6**	**+0.9**
	comp=Z,37nm,0.5s							
SFK				⇑Sn		**Sn**	**18 00 40.2**	**+4.1**
	comp=Z,89nm,0.5s							
SFK				⇑Lg		Lg	18 01 08.9	
	comp=Z,357nm,0.9s							
SFK	**Sufi-Kurgan**	**5.71**	**76**	PN		**Pn**	**17 59 32.6**	**+0.9**
SFK				S		**Sn**	**18 00 40.2**	**+4.1**
SFK				pmax	pmax			
	comp=Z,37nm,0.5s							
SFK				smax	smax			
	comp=N,89nm,0.5s							
MNAS	**Manas**	**5.98**	**50**	⇑Pn		**Pn**	**17 59 36.1**	**+0.7**
	comp=N,63nm,0.4s							
MNAS				⇓Lg		Lg	18 01 14.7	
	comp=N,80nm,0.8s							
MNAS	**Manas**	**5.98**	**50**	PN		**Pn**	**17 59 36.7**	**+1.3**
MNAS				pmax	pmax			
	comp=Z,63nm,0.4s							
GEYT	**Alibeck**	**6.49**	**265**	Pn		**Pn**	**17 59 40.9**	**-1.5**
	comp=Z,2.0nm,0.3s,baz=93,slow=10,SNR=36							
GEYT				Sn		**Sn**	**18 00 54.0**	**-1.2**
	comp=Z,11nm,0.3s,baz=70,slow=13,SNR=3.6							
GEYT				Lg		Lg	18 01 37.9	
	comp=Z,7.5nm,0.3s,baz=101,slow=20,SNR=2.9							
GYA0B	**ALIBECK ARRAY**	**6.49**	**265**	*e*Pn		**Pn**	**17 59 40.3**	**-2.1**
GYA0B				*e*Sn		**Sn**	**18 00 50.8**	**-4.4**
AML	**Almayashu**	**6.54**	**57**	P		**Pn**	**17 59 43.6**	**+0.2**
	SNR=143							
CEP	**Cherat**	**6.73**	**136**	P		**Pn**	**17 59 46.5**	**+0.8**
EKS2	**Erkin-Say**	**6.86**	**54**	P		**Pn**	**17 59 48.4**	**+0.9**
	SNR=118							
UCH	**Uchtor**	**7.13**	**59**	P		**Pn**	**17 59 51.8**	**+0.3**
	SNR=63							
AAK	**Ala-Archa**	**7.30**	**56**	Pn		**Pn**	**17 59 54.6**	**+1.0**
	comp=Z,27nm,0.3s,baz=212,slow=7.5,SNR=230							
AAK				Sn		**Sn**	**18 01 18.2**	**+2.9**
	comp=Z,4.5nm,0.3s,baz=165,slow=19,SNR=2.0							
AAK				Lg		Lg	18 01 58.7	
	comp=Z,2.6nm,0.3s,baz=176,slow=11,SNR=3.7							
AAK				LR		LR	18 02 29.9	
	comp=Z,23nm,21.5s,baz=254,slow=36							
AAK	**Ala-Archa**	**7.30**	**56**	⇑Pn		**Pn**	**17 59 54.4**	**+0.8**
	comp=Z,28nm,0.4s							
AAK				⇓Lg		Lg	18 01 57.0	
	comp=Z,32nm,0.7s							
AAK	**Ala-Archa**	**7.30**	**56**	P		**Pn**	**17 59 54.6**	**+1.0**
	SNR=117							
AAK	**Ala-Archa**	**7.30**	**56**	*e*Pn		**Pn**	**17 59 54.0**	**+0.4**
AAK				*e*Sn		**Sn**	**18 01 18.2**	**+2.9**
AAK				*e*Lg		Lg	18 01 58.7	
AAK				*e*			18 02 29.9	
AAK	**Ala-Archa**	**7.30**	**56**	*e*P		**Pn**	**17 59 54.4**	**+0.8**
THW	**Thamme Wali**	**7.46**	**142**	P		**Pn**	**17 59 55.5**	**-0.1**
FRU1	**Bishkek**	**7.47**	**55**	P		**Pn**	**17 59 57.0**	**+1.2**
FRU	**Bishkek**	**7.48**	**55**	⇓*iP*		**Pn**	**17 59 56.5**	**+0.6**
FRU				*e*S		**Sn**	**18 01 22.0**	**+2.6**
FRU				pmax	pmax			
	comp=Z,120nm,0.9s							
FRU				pmax	pmax			
	comp=E,410nm,1.9s							
KZA	**Kyzart**	**7.56**	**62**	P		**Pn**	**17 59 58.0**	**+0.6**
	SNR=82							
KBK	**Karagaybulak**	**7.61**	**57**	P		**Pn**	**17 59 58.9**	**+1.2**
	SNR=68							
NIL	**Nilore**	**7.62**	**130**	*e*Pn		**Pn**	**17 59 58.4**	**+0.6**
NIL				*e*Sn		**Sn**	**18 01 17.9**	**-5.1**
NIL	**Nilore**	**7.62**	**130**	*e*P		**Pn**	**17 59 58.4**	**+0.6**
NIL				*e*			18 01 17.9	
CHCP	**Chirah Chowk**	**7.62**	**130**	P		**Pn**	**17 59 58.2**	**+0.3**
USP	**Ospenovka**	**7.63**	**52**	P		**Pn**	**17 59 58.4**	**+0.4**
	SNR=11							
CHMS	**Chumysh**	**7.64**	**54**	P		**Pn**	**17 59 59.0**	**+0.8**
	SNR=57							
NRN	**Naryn**	**7.88**	**68**	*e*Pn		**Pn**	**18 00 00.2**	**-1.5**
NRN				*e*Sn		**Sn**	**18 01 28.8**	**-1.0**
NRN	**Naryn**	**7.88**	**68**	*e*P		**Pn**	**18 00 00.2**	**-1.5**
NRN				*e*			18 01 28.8	
TKM2	**Tokmak 2**	**8.15**	**57**	⇓Pn		**Pn**	**18 00 05.6**	**+0.3**
	comp=E,18nm,0.4s							
TKM2				⇓Lg		Lg	18 02 21.1	
	comp=E,47nm,1.0s							
TKM2	**Tokmak 2**	**8.15**	**57**	P		**Pn**	**18 00 06.0**	**+0.7**
	SNR=7.2							
TKM2	**Tokmak 2**	**8.15**	**57**	P		**Pn**	**18 00 05.6**	**+0.3**
TKM2				pmax	pmax			
	comp=Z,18nm,0.4s							
ULHL	**Ulahol**	**8.31**	**62**	P		**Pn**	**18 00 08.0**	**+0.6**
	SNR=17							
SARP	**Sargodha**	**8.62**	**141**	P		**Pn**	**18 00 10.2**	**-1.3**
KDJ	**Kajisay**	**8.93**	**65**	*e*Pn		**Pn**	**18 00 15.9**	**0.0**
KDJ				*e*Sn		Sn	18 01 45.9	-9.4
KDJ	**Kajisay**	**8.93**	**65**	P		**Pn**	**18 00 15.9**	**0.0**
TARG	**Taragay, Kyrgy**	**9.26**	**68**	*e*Pn		**Pn**	**18 00 19.9**	**-0.8**
OTUK	**Ortayu**	**10.39**	**23**	⇑Pn		**Pn**	**18 00 34.6**	**-1.2**
	comp=Z,5.1nm,0.4s							
OTUK				⇑Sn		**Sn**	**18 02 28.6**	**-2.4**
	comp=Z,15nm,0.8s							
OTUK				⇓Lg		Lg	18 03 30.3	
	comp=Z,20nm,0.8s							
OTUK	**Ortayu**	**10.39**	**23**	P		**Pn**	**18 00 34.6**	**-1.2**
OTUK				S		**Sn**	**18 02 28.6**	**-2.4**
OTUK				pmax	pmax			
	comp=Z,5.0nm,0.4s							
OTUK				smax	smax			
	comp=N,15nm,0.8s							
DHRM	**DHARAMSHALA**	**10.45**	**126**	*e*P		**Pn**	**18 00 34.2**	**-2.6**
DHRM				*e*S		**Sn**	**18 02 25.9**	**-6.8**
DHRM				IAML			18 02 29.9	
	comp=N,165nm,0.2s							
DHRM				IAML			18 02 33.6	
	comp=E,305nm,0.3s							
PDGK	**Podgornoye**	**10.93**	**61**	⇑Pn		**Pn**	**18 00 42.6**	**-0.7**
	comp=E,16nm,0.9s							
PDGK				⇑Lg		Lg	18 03 50.6	
	comp=E,21nm,1.2s							
PDGK	**Podgornoye**	**10.93**	**61**	P		**Pn**	**18 00 42.6**	**-0.7**
PDGK				pmax	pmax			
	comp=Z,16nm,0.9s							
AB31	**Akbulak array**	**11.39**	**338**	⇓Pn		**Pn**	**18 00 47.2**	**-2.2**
	comp=Z,2.0nm,0.3s							
AB31				⇑Sn		**Sn**	**18 02 56.4**	**+1.0**
	comp=Z,3.1nm,0.4s							
AB31				⇑Lg		Lg	18 04 00.8	
	comp=Z,23nm,0.7s,baz=142,slow=

BRVK					‖Lg	Lg	18 05 40.4		
	comp=N,30nm,1.0s								
BRVK	**Borovoye**	**14.51**	**10**	*e*Pn	**Pn**	**18 01 29.2**	**-2.8**		
BRVK	**Borovoye**	**14.51**	**10**	*de*P	**Pn**	**18 01 29.4**	**-2.6**		
BRVK				pmax	pmax				
	comp=Z,13nm,0.6s								
KURBB	**Kurchatov Arra**	**14.64**	**32**	Pn	**Pn**	**18 01 30.1**	**-3.6**		
	comp=Z,0.1nm,0.3s,baz=224,slow=12,SNR=22								
KURBB				Lg	Lg	18 05 53.1			
	comp=Z,0.1nm,0.3s,baz=214,slow=28,SNR=6.0								
KURK	**Kurchatov**	**14.75**	**32**	*e*Pn	Pn	18 01 30.1	-5.0		
KURK	**Kurchatov**	**14.75**	**32**	*e*P	Pn	18 01 30.1	-5.0		
NAX	**Nakhchivan**	**16.18**	**278**	P	**Pn**	**18 01 53.2**	**-0.8**		
GNI	**Garni**	**16.70**	**281**	LR	LR	18 09 45.8			
	comp=Z,49nm,20.4s,baz=90,slow=42								
GNI	**Garni**	**16.70**	**281**	*e*Pn	**Pn**	**18 01 59.8**	**-0.9**		
	comp=Z,6.8nm,0.8s								
GNI	**Garni**	**16.70**	**281**	*i* P	**P**	**18 02 02.1**	**-0.6**		
GNI				pmax	pmax				
	comp=Z,9.0nm,1.0s								
TBLG	**Delisi**	**16.71**	**287**	*e*Pn	**Pn**	**18 01 58.8**	**-1.8**		
	comp=Z,8.1nm,0.7s								
TBLG	**Delisi**	**16.71**	**287**	*e*P	**Pn**	**18 01 58.8**	**-1.8**		
TBLG				pmax	pmax				
	comp=Z,8.0nm,0.7s								
WMQ	**Urumqi**	**16.82**	**66**	P	**P**	**18 02 03.4**	**-0.5**		
ZEI	**Tsey**	**17.41**	**290**	*e*P	**P**	**18 02 11.3**	**+0.8**		
ZEI				pmax	pmax				
	comp=Z,5.0nm,0.9s								
PYUN	**Piuthan**	**17.52**	**123**	*e*P	**Pn**	**18 02 08.2**	**-2.9**		
	comp=Z,44nm,0.4s								
AKH	**Akhalkalaki**	**17.63**	**286**	*e*Pn	**Pn**	**18 02 09.0**	**-3.3**		
	comp=Z,8.6nm,1.1s								
AKH	**Akhalkalaki**	**17.63**	**286**	*e*P	**Pn**	**18 02 09.0**	**-3.3**		
AKH				pmax	pmax				
	comp=Z,9.0nm,1.1s								
NCK	**Nalchik**	**17.71**	**293**	*i* P	**P**	**18 02 14.9**	**+1.2**		
NCK				pmax	pmax				
	comp=Z,5.0nm,0.7s								
DANN	**Dangsing**	**17.87**	**120**	*e*P	**Pn**	**18 02 12.8**	**-2.6**		
KOLN	**Koldanda**	**18.14**	**122**	*e*P	**Pn**	**18 02 15.4**	**-3.3**		
	comp=Z,32nm,0.5s								
BHPL	**Bhopal**	**18.19**	**145**	*e*P	**Pn**	**18 02 17.3**	**-1.8**		
BHPL				*ex*	x	18 05 14.8			
KBZ	**Khabaz**	**18.24**	**293**	Pn	**P**	**18 02 17.6**	**-1.9**		
	comp=Z,0.2nm,0.3s,baz=100,slow=12,SNR=4.1								
KBZ				Sn	Sn	18 05 31.2	-11		
	comp=Z,0.2nm,0.3s,baz=76,slow=19,SNR=2.5								
KBZ				LR	LR	18 11 09.1			
	comp=Z,56nm,19.3s,baz=87,slow=43								
ARU	**Arti**	**18.36**	**346**	Pn	**P**	**18 02 18.5**	**-2.2**		
	comp=Z,0.0nm,0.3s,baz=123,slow=3.7,SNR=5.6								
ARU				Sn	**Sn**	**18 05 36.6**	**-8.1**		
	comp=Z,0.0nm,0.3s,baz=150,slow=20,SNR=3.5								
ARU				LR	LR	18 08 56.1			
	comp=Z,48nm,19.6s,baz=106,slow=35								
ARU	**Arti**	**18.36**	**346**	*e*P	**P**	**18 02 18.5**	**-2.2**		
	comp=Z,5.5nm,0.9s								
ARU				Sn	**Sn**	**18 05 36.6**	**-8.1**		
ARU	**Arti**	**18.36**	**346**	*d* P	**P**	**18 02 19.5**	**-1.2**		
ARU				S	**Sn**	**18 05 44.4**	**-0.4**		
ARU				pmax	pmax				
	comp=Z,8.0nm,1.2s								
GOF	**Gofitskoye**	**18.36**	**297**‖	*e*P	**P**	**18 02 16.9**	**-3.9**		
KVAR	**Kislovodsk Arr**	**18.42**	**294**	Pn	**P**	**18 02 19.3**	**-2.3**		
	baz=102,slow=14,SNR=2.4								
KVAR				Sn	**Sn**	**18 05 36.2**	**-10**		
	baz=12,slow=7.2,SNR=3.0								
KVAR				LR	LR	18 11 13.4			
	comp=Z,78nm,20.5s,baz=63,slow=42								
KIV	**Kislovodsk**	**18.43**	**294**	*e*P	**P**	**18 02 19.1**	**-2.5**		
	comp=Z,11nm,0.6s								
KIV	**Kislovodsk**	**18.43**	**294**	*e*P	**P**	**18 02 21.2**	**-0.4**		
KIV				*e*S	**Sn**	**18 05 47.0**	**+0.3**		
KIV				pmax	pmax				
	comp=Z,9.0nm,1.0s								
KIV				MLR	MLR				
	comp=Z,49nm,14.0s								
DGZ	**Jazzator, Alta**	**18.58**	**47**	*i* P	**P**	**18 02 22.2**	**-1.1**		
DGZ				pmax	pmax				
	comp=Z,4.0nm,0.5s								
GKN	**Gorkha**	**18.69**	**120**	*e*P	**P**	**18 02 21.9**	**-2.8**		
	comp=Z,79nm,0.7s								
DMN	**Daman**	**19.26**	**120**	*e*P	**P**	**18 02 29.9**	**-1.2**		
	comp=Z,32nm,0.5s								
KKN	**Kakani**	**19.26**	**119**	*e*P	**P**	**18 02 29.4**	**-1.6**		
	comp=Z,44nm,0.5s								
PKIN	**Phulchoki**	**19.48**	**119**	*e*P	**P**	**18 02 31.6**	**-1.9**		
	comp=Z,46nm,0.4s								
GUN	**Gumba**	**19.60**	**118**	*e*P	**P**	**18 02 33.6**	**-1.3**		
	comp=Z,67nm,0.6s								
NVS	**Novosibirsk**	**19.70**	**30**	*e*P	**P**	**18 02 35.7**	**+0.4**		
NVS				pmax	pmax				
	comp=N,7.0nm,0.8s								
NVS				pmax	pmax				
	comp=Z,8.0nm,0.8s								
ZAA0	**Zalesovo Array**	**19.72**	**34**	*e*P	**P**	**18 02 34.3**	**-1.3**		
	comp=Z,9.1nm,1.0s								
ZALV	**Zalesovo Beam**	**19.72**	**34**	P	**P**	**18 02 35.2**	**-0.3**		
	comp=Z,2.6nm,0.3s,baz=232,slow=11,SNR=44								
ZALV				LR	LR	18 10 47.9			
	comp=Z,25nm,19.0s,baz=82,slow=38								
ZALV	**Zalesovo Beam**	**19.72**	**34**	*e*P	**P**	**18 02 34.6**	**-1.0**		
ZAA1	**Zalesovo Array**	**19.72**	**34**	*e*P	**P**	**18 02 35.2**	**-0.3**		
JIRN	**Jiri**	**19.97**	**118**	*e*P	**P**	**18 02 38.1**	**-0.8**		
	comp=Z,78nm,0.4s								
RAMN	**Ramite**	**20.70**	**119**	*e*P	**P**	**18 02 45.9**	**-0.8**		
	comp=Z,98nm,0.7s								
NGP	**Nagpur**	**20.74**	**144**	*e*P	**P**	**18 02 46.2**	**-0.7**		
ODAN	**Odare**	**21.30**	**118**	*e*P	**P**	**18 02 53.0**	**-0.2**		
	comp=Z,44nm,0.7s								
BOK	**Bokaro**	**22.38**	**126**	*e*P	**P**	**18 03 04.0**	**-0.6**		
LSA	**Lhasa**	**22.41**	**106**	*e*P	**P**	**18 03 04.6**	**-0.7**		
	comp=Z,5.8nm,0.8s								
LSA	**Lhasa**	**22.41**	**106**	*e*P	**P**	**18 03 04.6**	**-0.7**		
LSA				pmax	pmax				
	comp=Z,6.0nm,0.8s								
HVS	**Khovu-Aksy**	**22.82**	**48**	*i* P	**P**	**18 03 11.2**	**+2.1**		
HVS				pmax	pmax				
	comp=Z,12nm,1.0s								
RAYN	**Ar Rayn**	**23.35**	**235**	*e*P	**P**	**18 03 15.6**	**+1.0**		
	comp=Z,8.4nm,0.7s								
RAYN	**Ar Rayn**	**23.35**	**235**	P	**P**	**18 03 15.6**	**+1.0**		
RAYN				pmax	pmax				
	comp=Z,8.0nm,0.7s								
BR101	**Keskin Array S**	**25.23**	**282**	*e*P	**P**	**18 03 33.7**	**+1.7**		
BR131	**Keskin Array S**	**25.23**	**282**	*e*P	**P**	**18 03 33.6**	**+1.6**		
BRTR	**Keskin Array B**	**25.23**	**282**	P	**P**	**18 03 33.7**	**+1.7**		
	comp=Z,2.5nm,0.7s,baz=100,slow=8.9,SNR=14								
BRTR				LR	LR	18 13 32.5			
	comp=Z,5.6nm,21.8s,baz=104,slow=37								
SHL	**Shillong**	**25.26**	**114**	*e*P	**P**	**18 03 32.0**	**-0.4**		
SHL	**Shillong**	**25.26**	**114**	*e*P	**P**	**18 03 31.3**	**-1.1**		
	comp=Z,11nm,1.0s								
SHL	**Shillong**	**25.26**	**114**	*e*P	**P**	**18 03 31.3**	**-1.1**		
SHL				pmax	pmax				
	comp=Z,11nm,1.0s								
OBN	**Obninsk**	**25.75**	**319**	LR	LR	18 15 15.0			
	comp=Z,54nm,18.3s,baz=89,slow=40								
OBN	**Obninsk**	**25.75**	**319**	*e*P	**P**	**18 03 36.6**	**+0.2**		
	comp=Z,11nm,0.8s								
OBN	**Obninsk**	**25.75**	**319**	*i* P	**P**	**18 03 36.8**	**+0.4**		
OBN				pmax	pmax				
	comp=Z,5.0nm,0.9s								
GTA	**Gaotai**	**25.93**	**78**	P	**P**	**18 03 39.5**	**+1.1**		
GTA				pP	pP	18 03 46.6	-1.7		
GTA				sP	sP	18 03 50.1	-2.5		
GTA				S	**S**	**18 08 06.0**	**-0.3**		
GTA				sS	sS	18 08 17.8	-5.1		
GTA				SS	**SnSn**	**18 09 10.1**	**+5.7**		
GTA				pmax	pmax				
	comp=Z,4.0nm,1.4s								
GTA				pmax	pmax				
	comp=Z,48nm,6.7s								
GTA				LR	LR				
	comp=Z,120nm,7.6s								
GTA				LR	LR				
	comp=Z,120nm,10.0s								
GTA				LR	LR				
	comp=Z,97nm,10.9s								
MOY	**Mondy**	**27.32**	**51**	*e*P	**P**	**18 03 52.7**	**+1.9**		
AKASG	**Malin Array Be**	**28.59**	**307**	P	**P**	**18 04 02.8**	**+1.0**		
	comp=Z,0.3nm,0.4s,baz=82,slow=7.7,SNR=11								
AKBB	**Malin Array Si**	**28.59**	**307**	*e*P	**P**	**18 04 01.9**	**0.0**		
	comp=Z,3.0nm,0.8s								
AKBB	**Malin Array Si**	**28.59**	**307**	*e*P	**P**	**18 04 01.9**	**0.0**		
	comp=Z,3.0nm,0.8s								
KIEV	**Kiev**	**28.59**	**307**	*e*P	**P**	**18 04 02.0**	**+0.1**		
	comp=Z,3.1nm,0.7s								
KIEV	**Kiev**	**28.59**	**307**	*i* P	**P**	**18 04 01.6**	**-0.3**		
KIEV				pmax	pmax				
	comp=Z,2.0nm,1.0s								
AK11	**Malin Array Si**	**28.62**	**307**	*e*P	**P**	**18 04 02.2**	**0.0**		
TLY	**Talaya**	**28.93**	**51**	*i* P	**P**	**18 04 03.7**	**-1.3**		
TLY				pmax	pmax				
	comp=Z,2.0nm,0.9s								
LZH	**Lanzhou**	**29.80**	**83**	*e*P	**P**	**18 04 13.3**	**+0.3**		
LZH				pP	pP	18 04 20.0	-3.0		
LZH				sP	sP	18 04 23.3	-4.0		
LZH				*e*PP	**PnPn**	**18 05 09.5**	**+0.2**		
LZH				pmax	pmax				
	comp=Z,23nm,1.1s								
LZH				pmax	pmax				
	comp=Z,87nm,5.0s								
LZH				LR	LR				
	comp=Z,340nm,12.7s								
LZH				LR	LR				
	comp=Z,350nm,13.2s								
LZH				LR	LR				
	comp=Z,400nm,16.7s								
SONA0	**Songino Array**	**30.24**	**59**	*e*P	**P**	**18 04 17.4**	**+0.7**		
SONM	**Songino Array**	**30.24**	**59**	P	**P**	**18 04 17.4**	**+0.7**		
	comp=Z,1.5nm,0.5s,baz=269,slow=9.2,SNR=6.4								
SONA1	**Songino Array**	**30.25**	**59**	*e*P	**P**	**18 04 17.2**	**+0.4**		
MLR	**Muntele Rosu**	**30.41**	**296**	P	**P**	**18 04 20.8**	**+2.5**		
	comp=Z,0.3nm,0.6s,baz=134,slow=18,SNR=2.5								
MLR				LR	LR	18 20 48.6			
	comp=Z,8.1nm,18.1s,baz=69,slow=45								
ULN	**Ulaanbaatar**	**30.68**	**59**	*e*P	**P**	**18 04 20.8**	**+0.1**		
	comp=Z,3.7nm,0.8s								
ULN	**Ulaanbaatar**	**30.68**	**59**	*de*P	**P**	**18 04 20.5**	**-0.2**		
ULN				pmax	pmax				
	comp=Z,12nm,2.5s								
BUR04	**Bucovina Ar. S**	**30.90**	**300**	*e*P	**P**	**18 04 24.0**	**+1.4**		
CD2	**Chengdu**	**31.56**	**93**	*e*P	**P**	**18 04 28.0**	**-0.5**		
CD2				pmax	pmax				
	comp=Z,10.0nm,0.5s								
CD2				pmax	pmax				
	comp=Z,120nm,5.0s								
FIA1	**FINESS Array S**	**33.48**	**326**	*e*P	**P**	**18 04 45.3**	**+0.5**		
	comp=Z,36nm,1.8s								
FIA0	**FINESS Array S**	**33.48**	**326**	*e*P	**P**	**18 04 46.1**	**+1.2**		
FIA0	**FINESS Array S**	**33.48**	**326**	*e*P	**P**	**18 04 46.1**	**+1.2**		
FINES	**FINESS Array B**	**33.48**	**326**	P	**P**	**18 04 46.1**	**+1.2**		
	comp=Z,1.0nm,0.5s,baz=124,slow=9.6,SNR=15								
FINES				LR	LR	18 19 14.8			
	comp=Z,43nm,20.2s,baz=110,slow=38								
KMI	**Kunming**	**33.56**	**103**	P	**P**	**18 04 48.0**	**+1.8**		
KMI				pmax	pmax				
	comp=Z,7.0nm,0.6s								
LVZ	**Lovozero**	**33.96**	**339**	*ce*P	**P**	**18 04 52.5**	**+3.5**		
LVZ				pmax	pmax				
	comp=Z,72nm,2.5s								
APA	**Apatity**	**34.09**	**338**	‖ *i* P	P	18 04 56.0	+5.9		
HHC	**Hu-ho-hao-te**	**34.53**	**72**	*e*P	**P**	**18 04 56.4**	**+2.1**		
HHC				pP	pP	18 05 02.8	-1.7		
HHC				S	**S**	**18 10 25.4**	**+4.6**		
HHC				pmax	pmax				
	comp=Z,38nm,0.9s								
HHC				pmax	pmax				
	comp=Z,110nm,4.8s								
HHC				LR	LR				
	comp=Z,520nm,13.1s								
HHC				LR	LR				
	comp=Z,630nm,13.3s								
HHC				LR	LR				
	comp=Z,610nm,13.0s								
CMAR	**Chiang Mai Arr**	**34.83**	**116**	P	**P**	**18 04 56.0**	**-0.9**		
	comp=Z,1.1nm,0.7s,baz=293,slow=7.6,SNR=7.6								
CMAR				LR	LR	18 23 45.6			
	comp=Z,38nm,18.0s,baz=225,slow=44								
BOD	**Bodaibo**	**36.03**	**42**	*e*P	**P**	**18 05 06.5**	**-0.4**		
BOD				pmax	pmax				
	comp=Z,4.0nm,0.8s								
ARA0	**ARCESS Array S**	**37.59**	**338**	*e*P	**P**	**18 05 21.9**	**+1.9**		
ARCES	**ARCESS Array B**	**37.59**	**338**	P	**P**	**18 05 21.9**	**+1.9**		
	comp=Z,3.5nm,0.5s,baz=125,slow=8.3,SNR=21								
ARCES	**ARCESS Array B**	**37.59**	**338**	*e*P	**P**	**18 05 22.0**	**+1.9**		
ARCES	**ARCESS Array B**	**37.59**	**338**	*e*P	**P**	**18 05 22.0**	**+1.9**		
ARE0	**ARCESS Array A**	**37.59**	**338**	*e*P	**P**	**18 05 21.8**	**+1.7**		
	comp=Z,27nm,1.3s								
BJI	**Beijing**	**38.14**	**72**	*e*P	**P**	**18 05 22.5**	**-2.5**		
GERES	**GERESS Array B**	**38.55**	**303**	P	**P**	**18 05 30.3**	**+1.8**		
	comp=Z,0.1nm,0.3s,baz=67,slow=7.6,SNR=2.4								
GERES				PcP	**PcP**	**18 07 40.9**	**+0.3**		
	comp=Z,0.4nm,0.4s,baz=94,slow=2.9,SNR=4.5								
CLL	**Collm**	**38.83**	**307**	*e*P	**P**	**18 05 31.0**	**+0.3**		
CLL	**Collm**	**38.83**	**307**	*e*P	**P**	**18 05 31.0**	**+0.3**		
HFS	**Hagfors**	**38.94**	**321**	P	**P**	**18 05 33.0**	**+1.5**		
	comp=Z,5.6nm,0.6s,baz=94,slow=10,SNR=20								
HFS				LR	LR	18 22 12.7			
	comp=Z,36nm,20.8s,baz=92,slow=37								
HFS	**Hagfors**	**38.94**	**321**	P	**P**	**18 05 33.0**	**+1.5**		
NC405	**NORSAR Array S**	**40.05**	**322**	*e*P	**P**	**18 05 40.3**	**-0.4**		
NC602	**NORSAR Array S**	**40.08**	**321**	*e*P	**P**	**18 05 41.4**	**+0.4**		
NC303	**NORSAR Array S**	**40.23**	**322**	*e*P	**P**	**18 05 43.3**	**+1.1**		
NB2	**NORSAR Subarra**	**40.28**	**322**	P	**P**	**18 05 43.5**	**+0.8**		
	comp=Z,2.1nm,0.6s,baz=98,slow=8.6								
NB200	**NORSAR Array S**	**40.28**	**322**	*e*P	**P**	**18 05 43.5**	**+0.8**		
NOA	**NORSAR Array B**	**40.28**	**322**	P	**P**	**18 05 43.5**	**+0.8**		
	comp=Z,2.4nm,0.7s,baz=98,slow=8.2,SNR=11								
NOA				LR	LR	18 24 31.5			
	comp=Z,26nm,19.3s,baz=80,slow=39								
NAO01	**NORSAR Array S**	**40.41**	**322**	*e*P	**P**	**18 05 44.8**	**+1.1**		
NBO02	**NORSAR Array S**	**40.45**	**322**	*e*P	**P**	**18 05 44.9**	**+0.8**		
NBO00	**NORSAR Array S**	**40.49**	**322**	*e*P	**P**	**18 05 45.2**	**+0.8**		
NC204	**NORSAR Array S**	**40.53**	**322**	*e*P	**P**	**18 05 45.8**	**+1.0**		
KONO	**Kongsberg**	**40.93**	**320**	*e*P	**P**	**18 05 48.8**	**+0.8**		
	comp=Z,30nm,1.4s								
KONO	**Kongsberg**	**40.93**	**320**	*e*P	**P**	**18 05 48.8**	**+0.8**		
KONO				pmax	pmax				
	comp=Z,30nm,1.4s								
NJ2	**Nanjing**	**42.86**	**82**	*e*P	**P**	**18 06 05.3**	**+1.2**		
YAK	**Yakutsk**	**44.31**	**37**	P	**P**	**18 06 16.2**	**+0.8**		
	comp=Z,12nm,0.6s,baz=90,slow=0.9,SNR=11								
YAK	**Yakutsk**	**44.31**	**37**	*e*P	**P**	**18 06 16.0**	**+0.6**		
	comp=Z,16nm,0.7s								
YAK	**Yakutsk**	**44.31**	**37**	*e*P	**P**	**18 06 15.5**	**+0.1**		
YAK				*e**PP	**pP**	**18 06 19.1**	**-6.6**		
YAK				*e*		18 07 58.2			
YAK				*e*S	**S**	**18 12 49.6**	**+2.8**		
YAK				*e**SS	**sS**	**18 13 05.3**	**+1.5**		
YAK				*e*SS	**SS**	**18 16 00.0**	**-5.6**		
YAK				*e*SSS	SSS	18 16 47.2			
YAK				pmax	pmax				
	comp=Z,12nm,0.9s								
YAK				pmax	pmax				
	comp=E,4.0nm,1.1s								
YAK				pmax	pmax				
	comp=N,1.0nm,1.0s								
YAK				smax	smax				
	comp=N,34nm,4.0s								
YAK				smax	smax				
	comp=E,38nm,3.5s								
YAK				MLR	MLR				
	comp=Z,48nm,17.0s								
YAK				MLR	MLR				
	comp=N,66nm,20.0s								
SPA0	**Spitsbergen Ar**	**44.40**	**347**	*e*P	**P**	**18 06 17.8**	**+1.9**		
SPITS	**Spitsbergen Ar**	**44.40**	**347**	P	**P**	**18 06 18.0**	**+2.0**		
	comp=N,1.6nm,0.4s,baz=96,slow=7.6,SNR=16								
SPITS	**Spitsbergen Ar**	**44.40**	**347**	P	**P**	**18 06 18.0**	**+2.0**		
KEST	**Kesra**	**44.80**	**285**	P	**P**	**18 06 22.2**	**+2.4**		
	comp=N,5.0nm,0.7s,baz=13,slow=14,SNR=4.7								
KEST	**Kesra**	**44.80**	**285**	*e*P	**P**	**18 06 22.9**	**+3.0**		
	comp=N,8.1nm,1.0s								
TIXI	**Tiksi**	**45.08**	**23**	*e*P	**P**	**18 06 22.8**	**+1.3**		
	comp=N,9.2nm,0.6s								
TIXI				*e*PcP	**PcP**	**18 08 01.9**	**+0.3**		
TIXI	**Tiksi**	**45.08**	**23**	*ce*P	**P**	**18 06 22.5**	**+1.1**		
TIXI				pmax	pmax				
	comp=Z,8.0nm,0.6s								
KBS	**Kingsbay**	**45.54**	**347**	*e*P	**P**	**18 06 27.0**	**+2.0**		
	comp=Z,90nm,1.8s								
KBS	**Kingsbay**	**45.54**	**347**	*e*P	**P**	**18 06 27.0**	**+2.0**		
KBS				pmax	pmax				
	comp=Z,90nm,1.8s								
IPM	**Ipoh**	**46.48**	**128**	*e*P	**P**	**18 06 32.2**	**-0.9**		
	comp=Z,4.4nm,0.9s								
KLR	**Kul'dur**	**46.83**	**55**	P	**P**	**18 06 36.0**	**+0.5**		
	comp=Z,0.1nm,0.6s,baz=299,slow=17,SNR=3.2								
KLR	**Kul'dur**	**46.83**	**55**	*i* P	**P**	**18 06 35.5**	**0.0**		
GSI	**Gunungsitoli**	**47.02**	**135**	*e*P	**P**	**18 06 37.4**	**0.0**		
	comp=Z,45nm,1.8s								
KSAR	**Wonju Array Be**	**47.64**	**71**	P	**P**	**18 06 42.5**	**+0.5**		
KSAR	**Wonju Array Be**	**47.64**	**71**	P	**P**	**18 06 42.5**	**+0.5**		
KSRS	**Korea Array**	**47.66**	**71**	P	**P**	**18 06 42.5**	**+0.4**		
	comp=Z,1.3nm,0.6s,baz=185,slow=32,SNR=5.5								
EKA	**Eskdalemuir Ar**	**48.02**	**314**	P	**P**	**18 06 45.8**	**+1.2**		
	comp=Z,1.0nm,0.6s,baz=90,slow=8.5,SNR=8.8								
ESK	**Eskdalemuir**	**48.05**	**314**	*i* P	**P**	**18 06 43.0**	**-1.9**		
SSLB	**Suanglung**	**48.37**	**91**	*e*P	**P**	**18 06 48.9**	**+1.1**		
	comp=Z,60nm,2.0s								
ESDC	**Sonseca Array**	**53.09**	**295**	P	**P**	**18 07 24.7**	**+1.4**		
	comp=Z,0.6nm,0.6s,baz=59,slow=7.4,SNR=6.2								
BORG	**Borgarnes**	**54.71**	**328**	LR	LR	18 34 19.3			
	comp=Z,13nm,18.6s,baz=319,slow=40								
MA2	**Magadan**	**54.85**	**38**‖	*e*P	**P**	**18 07 36.0**	**+0.3**		
MA2				pmax	pmax				
	comp=Z,2.0nm,0.9s								
BILL	**Bilibino**	**58.16**	**26**	*i* P	**P**	**18 08 00.5**	**+1.3**		
BILL				*i*		18 08 09.5			
BILL				*i*		18 10 08.2			
BILL				pmax	pmax				
	comp=Z,3.0nm,1.1s								
TOA1	**Torodi Ar. Sit**	**62.13**	**265**	*e*P	**P**	**18 08 27.4**	**+0.4**		
TOA0	**Torodi Ar. Sit**	**62.13**	**265**	*e*P	**P**	**18 08 26.2**	**-0.9**		
TORD	**Torodi Ar. Bea**	**62.13**	**265**	P	**P**	**18 08 27.4**	**+0.4**		
	comp=Z,1.8nm,0.7s,baz=44,slow=6.0,SNR=10								
KOWA	**Kowa**	**65.79**	**269**	P	**P**	**18 08 51.6**	**+0.5**		
	comp=Z,4.8nm,0.6s,baz=59,slow=9.3,SNR=15								
TOLK	**Toolik Lake Re**	**69.58**	**13**	*e*P	**P**	**18 09 15.9**	**+1.6**		
	comp=Z,4.3nm,0.6s								
COLD	**Coldfoot**	**70.70**	**14**	*e*P	**P**	**18 09 22.8**	**+1.7**		
	comp=Z,2.0nm,0.6s								
IM3	**Indian Mountai**	**71.05**	**16**	*e*P	**P**	**18 09 24.3**	**+1.0**		
INK	**Inuvik**	**72.17**	**8**	P	**P**	**18 09 31.3**	**+1.4**		
	comp=Z,1.5nm,0.6s,baz=346,slow=5.6,SNR=8.0								
INK	**Inuvik**	**72.17**	**8**	*e*P	**P**	**18 09 31.8**	**+1.9**		
	comp=Z,2.1nm,0.6s								
INK	**Inuvik**	**72.17**	**8**	*e*P	**P**	**18 09 31.8**	**+1.9**		
INK				pmax	pmax				
	comp=Z,2.0nm,0.6s								
SOEI	**Soe**	**72.34**	**119**	*e*P	**P**	**18 09 32.6**	**+0.8**		
	comp=Z,14nm,1.0s								
MLY	**Manley**	**72.51**	**16**	*e*P	**P**	**18 09 32.6**	**+0.5**		
	comp=Z,10nm,1.7s								
IL1	**Eielson Array**	**73.52**	**14**	*e*P	**P**	**18 09 38.3**	**+0.3**		
ILAR	**Eielson Array**	**73.52**	**14**	P	**P**	**18 09 38.1**	**+0.2**		
	comp=Z,0.5nm,0.9s,baz=287,slow=1.4,SNR=4.2								
ILB	**Eielson Array**	**73.52**	**14**	*e*P	**P**	**18 09 37.7**	**-0.3**		
CAST	**Castle Rocks**	**73.62**	**17**	*e*P	**P**	**18 09 40.2**	**+1.5**		
	comp=Z,21nm,1.9s								
KTH	**Kantishna Hill**	**73.77**	**16**	*e*P	**P**	**18 09 41.1**	**+1.6**		
	comp=Z,15nm,1.5s								
TRF	**Thorofare Moun**	**73.99**	**16**	*e*P	**P**	**18 09 41.4**	**+0.4**		
	comp=Z,31nm,2.0s								
LBTB	**Lobatse**	**74.05**	**218**	*e*P	**P**	**18 09 42.9**	**+1.3**		
	comp=Z,14nm,1.4s								
LBTB	**Lobatse**	**74.05**	**218**	*e*P	**P**	**18 09 42.9**	**+1.3**		
LBTB				pmax	pmax				
	comp=Z,14nm,1.4s								
PPLA	**Purkeypile**	**74.05**	**17**	*e*P	**P**	**18 09 41.9**	**+0.5**		
	comp=Z,35nm,1.8s								
SCRK	**Sand Creek**	**74.78**	**13**	*e*P	**P**	**18 09 46.8**	**+1.3**		
	comp=Z,12nm,1.8s								
RIDG	**Independ'e Rid**	**74.83**	**14**	*e*P	**P**	**18 09 46.5**	**+0.7**		
	comp=Z,17nm,1.6s								
DHY	**Denali Highway**	**74.94**	**15**	*e*P	**P**	**18 09 48.2**	**+1.7**		
	comp=Z,18nm,1.8s								

SONM	**Songino Array**	**47.30**	**11**	P	**P**	**18 20 04.6**	**-0.4**
	0.5nm,0.4s,baz=181,slow=12,SNR=2.5							
KURBB	**Kurchatov Arra**	**50.87**	**347**	P	**P**	**18 20 33.0**	**+0.9**
	0.2nm,0.3s,baz=170,slow=7.3,SNR=4.2							
ZALV	**Zalesovo Beam**	**52.95**	**353**	P	**P**	**18 20 49.8**	**+2.2**
	0.6nm,0.3s,baz=172,slow=6.9,SNR=3.8							
BVAR	**Borovoye Array**	**55.21**	**342**	P	**P**	**18 21 04.4**	**+0.3**
	0.2nm,0.5s,baz=94,slow=5.9,SNR=2.4							
TXAR	**Lajitas Array**	**144.71**	**28**	PKP	**PKPdf**	**18 31 09.0**	**+0.2**
	0.2nm,0.4s,baz=32,slow=0.8,SNR=5.4							

*CSEM **21** 18:24:16.9±0.1, 39.°12N×29.°17E, h2km, ML2.4, Error ellipse: s-maj=3.4km s-min=1.8km az=130.0*
*ISK **21** 18:24:16.6, 39.°11N×29.°17E, h6km, ML2.4/12*
*DDA **21** 18:24:18.0, 39.°09N×29.°07E, h6km, Ml2.8*

ISC 21 18:24:17.1±1.0, 39.°10N±0.°03×29.°16E±0.°03, h8km±8km, n43, σ0968/62, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SIMA	**Simav-Kutahya**	**0.14**	**262**	PG		**Pg**	**18 24 20.3**	**+0.2**
SIMA				SG		**Sg**	**18 24 22.3**	**+0.1**
SIMA	**Simav-Kutahya**	**0.14**	**262**	*e*Pg		**Pg**	**18 24 20.3**	**+0.2**
SIMA				*e*Sg		**Sg**	**18 24 22.3**	**+0.1**
DEMI	**Demirci**	**0.35**	**260**	*i* P		**Pg**	**18 24 24.1**	**+0.1**
DEMI				*i* S		**Sg**	**18 24 28.5**	**-0.1**
DEMI	**Demirci**	**0.35**	**260**	P		**Pg**	**18 24 24.1**	**+0.1**
DEMI				S		**Sg**	**18 24 28.5**	**-0.1**
TVSB	**Tavsanli**	**0.42**	**34**	PG		**Pg**	**18 24 24.9**	**-0.3**
TVSB				SG		**Sg**	**18 24 30.6**	**-0.1**
TVSB	**Tavsanli**	**0.42**	**34**	*e*Pg		**Pg**	**18 24 24.9**	**-0.3**
TVSB				*e*Sg		**Sg**	**18 24 30.6**	**-0.1**
KULA	**Kula-Manisa**	**0.71**	**214**	PG		**Pg**	**18 24 30.7**	**0.0**
KULA	**Kula-Manisa**	**0.71**	**214**	*e*Pg		**Pg**	**18 24 30.7**	**0.0**
DURS	**Dursunbey**	**0.73**	**313**	*i* P		**Pn**	**18 24 37.7**	**+3.9**
DURS				*i* S		**Sn**	**18 24 45.4**	**+0.3**
MANT	**Manisa**	**0.77**	**218**	*i* P		**Pg**	**18 24 32.0**	**+0.1**
MANT				*i* S		**Sg**	**18 24 41.7**	**-0.3**
MANT	**Manisa**	**0.77**	**218**	P		**Pg**	**18 24 32.0**	**+0.1**
MANT				S		**Sg**	**18 24 41.7**	**-0.3**
ORLT	**Orhaneli**	**0.96**	**348**	PG		**Pg**	**18 24 35.6**	**0.0**
ORLT	**Orhaneli**	**0.96**	**348**	*e*Pg		**Pg**	**18 24 35.6**	**0.0**
AKHS	**Akhisar**	**1.07**	**258**	*i* P		**Pg**	**18 24 37.8**	**+0.1**
AKHS				*i* S		**Sg**	**18 24 51.8**	**+0.2**
AKHS	**Akhisar**	**1.07**	**258**	P		**Pg**	**18 24 37.8**	**+0.1**
AKHS				S		**Sg**	**18 24 51.8**	**+0.2**
BALB	**Balikesir**	**1.13**	**299**	PN		**Pn**	**18 24 39.4**	**+0.2**
BALB	**Balikesir**	**1.13**	**299**	*e*Pn		**Pn**	**18 24 39.4**	**+0.2**
STEP	**BALIKESIR_Sava**	**1.15**	**284**	*i* P		**Pn**	**18 24 39.5**	**0.0**
STEP				*i* S		**Sb**	**18 24 54.7**	**+0.3**
STEP	**BALIKESIR_Sava**	**1.15**	**284**	P		**Pn**	**18 24 39.5**	**0.0**
STEP				S		**Sb**	**18 24 54.7**	**+0.3**
CAVI	**Cavuskoy**	**1.22**	**25**	PN		**Pb**	**18 24 40.3**	**-0.1**
CAVI	**Cavuskoy**	**1.22**	**25**	*e*Pn		**Pb**	**18 24 40.3**	**-0.1**
MDNY	**Mudanya-Bursa**	**1.28**	**350**	PN		**Pg**	**18 24 41.7**	**0.0**
MDNY	**Mudanya-Bursa**	**1.28**	**350**	*e*Pn		**Pg**	**18 24 41.7**	**0.0**
KCTX	**Karacabey (Bur**	**1.32**	**332**	PN		**Pg**	**18 24 42.3**	**0.0**
KCTX	**Karacabey (Bur**	**1.32**	**332**	*e*Pn		**Pg**	**18 24 42.3**	**0.0**
BALY	**Balya**	**1.35**	**299**	*i* P		**Pn**	**18 24 41.4**	**-1.0**
BALY				*i* S		**Sb**	**18 24 59.2**	**-1.0**
BALY	**Balya**	**1.35**	**299**	P		**Pn**	**18 24 41.3**	**-1.0**
BALY				S		**Sb**	**18 24 59.2**	**-1.0**
ADVT	**Abdulvahap**	**1.40**	**18**	PN		**Pb**	**18 24 43.4**	**-0.1**
ADVT	**Abdulvahap**	**1.40**	**18**	*e*Pn		**Pb**	**18 24 43.4**	**-0.1**
YLV	**Yalova**	**1.47**	**6**	PN		**Pb**	**18 24 44.5**	**-0.2**
YLV	**Yalova**	**1.47**	**6**	*e*Pn		**Pb**	**18 24 44.5**	**-0.2**
ARMT	**Armutlu**	**1.48**	**351**	PN		**Pb**	**18 24 44.7**	**-0.1**
ARMT	**Armutlu**	**1.48**	**351**	*e*Pn		**Pb**	**18 24 44.7**	**-0.1**
AYDB	**Zeytinkoy-Aydi**	**1.52**	**221**	PN		**Pb**	**18 24 45.4**	**-0.3**
AYDB	**Zeytinkoy-Aydi**	**1.52**	**221**	*e*Pn		**Pb**	**18 24 45.4**	**-0.3**
EDC	**Edincik**	**1.59**	**322**	PN		**Pn**	**18 24 46.2**	**+0.6**
EDC	**Edincik**	**1.59**	**322**	*e*Pn		**Pn**	**18 24 46.2**	**+0.6**
GULT	**Gulveren**	**1.69**	**38**	PN		**Pn**	**18 24 47.5**	**+0.5**
GULT	**Gulveren**	**1.69**	**38**	*e*Pn		**Pn**	**18 24 47.5**	**+0.5**
AYDN	**Tasoluk**	**1.76**	**215**	*i* P		**Pb**	**18 24 48.9**	**-0.7**
AYDN				*i* S		**Sg**	**18 25 13.9**	**+0.4**
AYDN	**Tasoluk**	**1.76**	**215**	P		**Pb**	**18 24 48.9**	**-0.7**
AYDN				S		**Sg**	**18 25 13.9**	**+0.4**
BAYC	**CANAKKALE_Bayr**	**2.12**	**288**	*i* P		**Pg**	**18 24 58.1**	**+0.4**
BAYC				*i* S		**Sg**	**18 25 23.9**	**-1.4**
BAYC	**CANAKKALE_Bayr**	**2.12**	**288**	P		**Pg**	**18 24 58.1**	**+0.4**
BAYC				S		**Sg**	**18 25 23.9**	**-1.4**

NEIC 21 18:35:22.0±0.0, 43.°52S×172.°83E, h14km, ML4.3(WEL), After WEL., South Island

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CRLZ	**Canterbury Las**	**0.16**	**249**	*e*Pg		Pg	18 35 26.1	+0.2
CRLZ				*e*Sg		Sg	18 35 28.1	-0.5
MQZ	**McQueen's Vall**	**0.23**	**214**	*e*Pg		Pg	18 35 26.6	-0.4
MQZ				*e*Sg		Sg	18 35 30.1	-0.3
OXZ	**Oxford**	**0.61**	**288**	*e*Pg		Pg	18 35 33.1	-0.8
OXZ				*e*Pn		Pn	18 35 41.7	+5.4
LTZ	**Lake Taylor**	**0.84**	**331**	*e*Pg		Pg	18 35 37.6	-0.8
LTZ				*e*Sg		Sg	18 35 49.1	-0.2
KHZ	**Kahutara**	**1.22**	**26**	*e*Pn		Pn	18 35 43.4	-1.2
KHZ				*e*Sn		Sb	18 36 00.0	-0.3
RPZ	**Rata Peaks**	**1.30**	**261**	*e*Pn		Pb	18 35 46.3	0.0
RPZ				*e*Sn		Sg	18 36 04.0	-0.1
RPZ				*e*			18 36 16.1	
THZ	**Tophouse**	**1.75**	**2**	*e*Pn		Pn	18 35 49.7	-2.4
LBZ	**Lake Benmore**	**2.10**	**245**	*e*Pn		Pn	18 35 53.7	-3.1
LBZ				*e*Lg		Lg	18 36 29.7	
ODZ	**Otahua Downs**	**2.19**	**225**	*e*Pn		Pn	18 35 57.1	-0.9
ODZ				*e*Lg		Lg	18 36 32.6	

IDC 21 18:44:19.2±520.0, 37.°78N×73.°18W, h0km, Error ellipse: s-maj=221.1km s-min=129.3km az=84.0, Off east coast of United States

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
I51GB	**BERMUDA INFRAS**	**8.80**	**125**	*i*			19 40 30.0	
	baz=312,slow=325,SNR=0.8							
I42PT	**GRACIOSA ISLAN**	**35.14**	**74**	*i*			22 21 30.0	
	baz=282,slow=322,SNR=1.0							
I18DK	**QAANAAQ INFRAS**	**39.84**	**1**	*i*			22 44 50.0	
	baz=185,slow=336,SNR=0.8							

*IDC **21** 18:58:16.8±1.4, 27.°35N×54.°44E, h0km, mb3.6/11, mb1 3.7/14, mb1mx3.5/67, mbtmp3.7/14, ML3.7/2, MS2.8/2, Ms1 2.8/2, ms1mx2.3/65, Error ellipse: s-maj=27.6km s-min=18.8km az=169.0*
*TEH **21** 18:58:16.3, 27.°26N×54.°49E, h10km, ML3.4*
*THR **21** 18:58:17.3±0.3, 27.°29N×54.°63E, h14km, ML3.5*
*CSEM **21** 18:58:18.7±0.3, 27.°41N×54.°55E, h10km, ML3.5, Error ellipse: s-maj=13.9km s-min=6.9km az=45.0*
*OMAN **21** 18:58:19.2±99.0, 27.°40N×54.°52E, h16km±999km, Error ellipse: s-maj=1931.0km s-min=131.4km az=275.0*
*ISCJB **21** 18:58:19.4±0.3, 27.°29N±0.°03×54.°45E±0.°03, h25km, mb3.6/11, Error ellipse: s-maj=4.4km s-min=4.0km az=159.8*
*DSN **21** 18:58:21.4±2.8, 27.°14N×54.°46E, h15km, ML3.6/6, Error ellipse: s-maj=30.8km s-min=6.9km az=138.0*

ISC 21 18:58:20.4±0.6, 27.°28N±0.°04×54.°54E±0.°03, h25km, n58, σ1§29/64, mb3.5/11, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
GENO	**Geno**	**1.46**	**85**	*e*Pn		**Pn**	**18 58 45.6**	**+0.2**
GENO				*e*Sg		**Sb**	**18 59 07.2**	**+1.9**
GENO				eAMB		AMB	18 59 13.1	
	comp=Z,13μm,0.4s							
GHIR	**Ghir-Karzin**	**1.70**	**306**	*e*Pg		**Pn**	**18 58 49.5**	**+0.9**
GHIR				*e*Sg		**Sb**	**18 59 13.2**	**+1.2**
GHIR	**Ghir-Karzin**	**1.70**	**306**	*e*Pg		**Pn**	**18 58 49.5**	**+0.9**
GHIR				*e*Sg		**Sb**	**18 59 13.2**	**+1.2**
GHIR				AML		AML	18 59 16.8	
	comp=E,569nm,0.4s							
GHIR				AML		AML	18 59 20.7	
	comp=N,837nm,0.4s							
NIAN	**Nian**	**2.06**	**82**	*e*Pn		**Pn**	**18 58 54.3**	**+0.8**
NIAN				eAMB		AMB	18 59 47.5	
	comp=Z,5μm,0.3s							
BANOM	**Banah**	**2.08**	**130**	Pn		**Pn**	**18 58 54.7**	**+0.9**
	SNR=12							
BANOM	**Banah**	**2.08**	**130**	P		**Pn**	**18 58 54.7**	**+0.9**
	SNR=12							
BANOM	**Banah**	**2.08**	**130**	*e*P		**Pn**	**18 58 54.3**	**+0.5**
	SNR=12							
KHSK	**Kohestak**	**2.31**	**103**	*e*Pn		**Pn**	**18 58 58.1**	**+1.3**
KHSK				*e*AMB		AMB	18 59 39.7	
	comp=Z,4μm,0.1s							
ISRV	**Sarvestan**	**2.44**	**329**	*e*Pn		**Pn**	**18 58 59.1**	**+0.1**
ISRV				*e*Sg		**Sb**	**18 59 38.1**	**+4.6**
ISRV				*e*AMB		AMB	18 59 42.4	
	comp=Z,4μm,0.3s							
NAZ	**Nazwa, Dubai**	**2.50**	**156**	P		**Pn**	**18 59 02.0**	**+2.5**
	SNR=6.9							
NAZ	**Nazwa, Dubai**	**2.50**	**156**	P		**Pn**	**18 59 01.2**	**+1.6**
	SNR=6.9							
NAZ	**Nazwa, Dubai**	**2.50**	**156**	*e*P		**Pn**	**18 59 01.2**	**+1.6**
	SNR=6.9							
MDH	**Madha**	**2.53**	**141**	*e*P		**Pn**	**18 59 01.5**	**+1.5**
	SNR=10							
UOSS	**Minazif**	**2.77**	**147**	Pn		**Pn**	**18 59 04.6**	**+1.4**
	SNR=6.5							
UOSS	**Minazif**	**2.77**	**147**	P		**Pn**	**18 59 04.6**	**+1.4**
	SNR=6.5							
UOSS	**Minazif**	**2.77**	**147**	P		**Pn**	**18 59 03.7**	**+0.5**
HATD	**Hatta, Dubai**	**2.84**	**149**	P		**Pn**	**18 59 06.1**	**+1.9**
HATD	**Hatta, Dubai**	**2.84**	**149**	P		**Pn**	**18 59 06.1**	**+1.9**
IPAR	**Pars**	**2.86**	**333**	*e*Pn		**Pn**	**18 59 06.0**	**+1.2**
IPAR				*e*AMB		AMB	19 00 16.5	
	comp=N,4μm,0.4s							
ASHO	**Ashiyiah**	**2.93**	**152**	Pn		**Pn**	**18 59 06.7**	**+1.2**
	SNR=12							
ASHO	**Ashiyiah**	**2.93**	**152**	P		**Pn**	**18 59 06.7**	**+1.2**
	SNR=12							
ASHO	**Ashiyiah**	**2.93**	**152**	P		**Pn**	**18 59 06.7**	**+1.2**
	SNR=12							
ASHO	**Ashiyiah**	**2.93**	**152**	*e*P		**Pn**	**18 59 06.7**	**+1.2**
	SNR=12							
NGRK	**Negar Kerman**	**3.04**	**39**	*e*Pn		**Pn**	**18 59 07.3**	**0.0**
NGRK				*e*AMB		AMB	19 00 11.2	
	comp=Z,99nm,0.2s							
KRBR	**Kerman**	**3.32**	**36**	*e*Pn		**Pn**	**18 59 10.4**	**-0.7**
KRBR	**Kerman**	**3.32**	**36**	*e*Pn		**Pn**	**18 59 10.4**	**-0.7**
KRBR				AML		AML	19 00 08.8	
	comp=E,73nm,0.6s							
KRBR				AML		AML	19 00 09.9	
	comp=N,65nm,0.5s							
ALNE	**Al Ain**	**3.40**	**161**	P		**Pn**	**18 59 11.9**	**0.0**
IKAZ	**Kazeroun**	**3.44**	**317**	*e*Pn		**Pn**	**18 59 12.3**	**-0.4**
IKAZ				*e*AMB		AMB	19 00 11.3	
	comp=Z,2μm,0.2s							
KHGB	**Koh Gabri**	**3.52**	**28**	*e*Pn		**Pn**	**18 59 14.7**	**+0.9**
KHGB				*e*AMB		AMB	19 00 08.9	
	comp=Z,99nm,0.4s							
CHMN	**Cheshme madani**	**3.68**	**45**	*e*Pn		**Pn**	**18 59 17.9**	**+1.8**
CHMN				*e*AMB		AMB	19 00 04.9	
	comp=Z,99nm,0.4s							
IMEH	**Mehriz**	**4.09**	**1**	*e*Pn		**Pn**	**18 59 23.3**	**+1.7**
IMEH				*e*AMB		AMB	19 00 32.9	
	comp=Z,358nm,0.3s							
SLWS		**4.29**	**236**	P		**Pn**	**18 59 24.5**	**+0.4**
MZR	**Muzera**	**4.37**	**193**	*i* P		**Pn**	**18 59 25.4**	**+0.1**
	SNR=9.3							
MZR				S		**Sn**	**19 00 15.2**	**-0.2**
IBAF	**Bafgh**	**4.38**	**12**	*e*Pn		**Pn**	**18 59 26.5**	**+0.9**
IBAF				*e*AMB		AMB	18 59 56.0	
	comp=Z,260nm,0.2s							
BTHS		**4.63**	**227**	P		**Pn**	**18 59 28.4**	**-0.5**
ISAD	**Sadrabad**	**4.67**	**351**	*e*Pn		**Pn**	**18 59 30.5**	**+0.8**
ISAD				*e*AMB		AMB	19 01 07.0	
	comp=Z,364nm,0.4s							
BOQSS		**4.83**	**254**	P		**Pn**	**18 59 32.2**	**+0.6**
BOQSS				S		**Sn**	**19 00 27.6**	**+0.9**
IRAM	**Ramesheh**	**4.88**	**338**	*e*Pn		**Pn**	**18 59 33.3**	**+0.8**
IRAM				*e*AMB		AMB	19 01 01.9	
	comp=Z,259nm,0.4s							
WSAR	**Wadi Sarin**	**5.47**	**136**	Pn		**Pn**	**18 59 41.3**	**+0.9**
	comp=Z,1.2nm,0.3s,baz=321,slow=7.9,SNR=30							
WSAR				Sn		**Sn**	**19 00 40.8**	**-1.9**
	comp=Z,1.0nm,0.3s,baz=39,slow=18,SNR=3.4							
IGAR	**Gharneh**	**5.54**	**338**	*e*Pn		Pn	18 59 37.0	-4.6
IGAR				*e*AMB		AMB	19 00 45.1	
	comp=Z,267nm,0.2s							
CHBR	**Chabahar**	**5.59**	**106**	*e*Pn		**Pn**	**18 59 41.1**	**-0.9**
CHBR	**Chabahar**	**5.59**	**106**	*e*Pn		**Pn**	**18 59 41.1**	**-0.9**
IZEF	**Zefreh**	**5.91**	**342**	*e*Pn		**Pn**	**18 59 45.9**	**-0.7**
IZEF				*e*AMB		AMB	19 01 02.4	
	comp=Z,104nm,0.3s							
GNI	**Garni**	**15.19**	**330**	Pn		**Pn**	**19 01 53.3**	**0.0**
	comp=Z,0.2nm,0.3s,baz=101,slow=11,SNR=1.9							
GNI				LR		LR	19 08 33.4	
	comp=Z,40nm,20.0s,baz=132,slow=41							
MMAI	**Mount Meron Ar**	**17.50**	**294**	P		**Pn**	**19 02 22.3**	**-0.5**
	comp=Z,0.5nm,0.3s,baz=100,slow=9.4,SNR=3.6							
MMAI				LR		LR	19 09 31.1	
	comp=Z,24nm,18.9s,baz=195,slow=39							
BRTR	**Keskin Array B**	**21.33**	**311**	P		**P**	**19 03 05.2**	**-0.6**
	comp=Z,3.3nm,0.7s,baz=131,slow=12,SNR=26							
AAK	**Ala-Archa**	**22.33**	**42**	P		**P**	**19 03 16.5**	**+0.1**
	comp=Z,0.7nm,0.5s,baz=248,slow=11,SNR=5.3							
AKTO	**Aktyubinsk**	**23.27**	**6**	P		**P**	**19 03 26.1**	**+0.1**
	comp=Z,0.5nm,0.4s,baz=108,slow=6.4,SNR=2.9							
BVAR	**Borovoye Array**	**28.29**	**20**	P		**P**	**19 04 13.1**	**+1.3**
	comp=Z,0.4nm,0.5s,baz=209,slow=9.1,SNR=2.4							
MKAR	**Makanchi Array**	**29.26**	**41**	P		**P**	**19 04 22.2**	**+1.8**
	comp=Z,0.5nm,0.6s,baz=240,slow=6.3,SNR=5.4							
ZALV	**Zalesovo Beam**	**34.71**	**32**	P		**P**	**19 05 07.2**	**-0.9**
	comp=Z,1.5nm,0.5s,baz=238,slow=9.6,SNR=7.8							
FINES	**FINESS Array B**	**39.12**	**339**	P		**P**	**19 05 43.9**	**-1.6**
	comp=Z,1.3nm,0.9s,baz=141,slow=9.6,SNR=7.8							
HFS	**Hagfors**	**42.97**	**331**	P		**P**	**19 06 16.2**	**-1.0**
	comp=Z,0.6nm,0.6s,baz=105,slow=11,SNR=4.2							
ESDC	**Sonseca Array**	**49.55**	**300**	P		**P**	**19 07 10.2**	**+0.8**
	comp=Z,0.2nm,0.5s,baz=70,slow=8.5,SNR=3.8							
TORD	**Torodi Ar. Bea**	**51.19**	**265**	P		**P**	**19 07 20.7**	**-1.3**
	comp=Z,0.7nm,0.6s,baz=64,slow=8.1,SNR=7.2							
TIXI	**Tiksi**	**59.43**	**21**	P		**P**	**19 08 19.0**	**-1.5**
	comp=Z,0.2nm,0.3s,baz=296,slow=9.8,SNR=1.7							

*ISCJB **21** 19:09:23.8±0.7, 39.°14N±0.°07×29.°12E±0.°05, h10km, Error ellipse: s-maj=10.2km s-min=4.3km az=155.9*
*DDA **21** 19:09:27.2, 39.°25N×29.°50E, h7km, Ml2.6*

ISC 21 19:09:27.1±1.1, 39.°13N±0.°05×29.°20E±0.°04, h10km, n7, σ3§27/10, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SIMA	**Simav-Kutahya**	**0.17**	**253**	PG		Pg	19 09 27.2	-3.7
SIMA				SG		**Sg**	**19 09 28.9**	**-4.6**
GDZ	**Gediz**	**0.23**	**101**	*i* P		**Pg**	**19 09 29.8**	**-2.0**
GDZ				*i* S		**Sg**	**19 09 34.1**	**-0.9**
TVSB	**Tavsanli**	**0.38**	**33**	PG		**Pg**	**19 09 32.1**	**-2.5**
TVSB				SG		**Sg**	**19 09 37.8**	**-1.8**
DEMI	**Demirci**	**0.39**	**257**	*i* P		Pg	19 09 30.8	-3.9
DEMI				*i* S		**Sg**	**19 09 35.0**	**-4.9**
DURS	**Dursunbey**	**0.73**	**310**	*i* P		**Pb**	**19 09 43.9**	**+2.0**
DURS				*i* S		**Sg**	**19 09 51.9**	**+1.1**
KULA	**Kula-Manisa**	**0.75**	**214**	*e*PG		Pg	19 09 37.4	-4.1
MANT	**Manisa**	**0.81**	**218**	*i* P		**Pn**	**19 09 48.0**	**+3.2**
MANT				*i* S		**Sg**	**19 09 53.4**	**-0.1**

*IDC **21** 19:14:12.3±1.8, 35.°67N×140.°38E, h52km±17km, mb3.3/7, mb1 3.5/9, mb1mx3.2/68, mbtmp3.6/9, ML3.4/2, MS2.5/1, Ms1 2.5/1, ms1mx2.1/26, Error ellipse: s-maj=18.4km s-min=7.3km az=68.0*
*ISCJB **21** 19:14:14.1±0.5, 35.°59N±0.°04×140.°08E±0.°06, h83km±4km, mb3.5/7, Error ellipse: s-maj=8.7km s-min=5.3km az=157.3*
*JMA **21** 19:14:15.2±0.2, 35.°66N×140.°07E, h70km±2km, M3.3 Broadband fault plane solution: P waves. NP1: ϕs=217.00000°, δ83.00000°, λ-94.00000°. NP2: ϕs=67.00000°, δ8.00000°, λ-61.00000°. Principal axes: T Plg38.0000°, Azm311.0000°; N Plg4.0000°, Azm218.0000°; P Plg52.0000°, Azm123.0000°;*
JMA Felt I J1.

ISC 21 19:14:14.7±0.8, 35.°67N±0.°05×140.°14E±0.°06, h73km±7km, n25, σ1§35/35, mb3.5/7, 2C-6D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JCN	**Nagara**	**0.25**	**169**	⇑P		**Pn**	**19 14 26.8**	**+0.8**
JCN				S		**Sn**	**19 14 35.7**	**+1.5**
TOK	**Tokyo**	**0.31**	**274**	⇓P		**Pn**	**19 14 27.1**	**+0.9**
TOK				S		**Sn**	**19 14 36.2**	**+1.5**
BSO3	**Boso 3**	**0.92**	**161**	⇑P		**Pn**	**19 14 32.3**	**+0.2**
BSO3				*e*X			19 14 45.6	
JAG	**Ashikaga**	**0.94**	**324**	⇓P		**Pn**	**19 14 33.1**	**+0.5**
JAG				S		**Sn**	**19 14 46.0**	**0.0**
JOD2	**Odawara 2**	**0.95**	**245**	⇓P		**Pn**	**19 14 32.2**	**-0.6**
JOD2				S		**Sn**	**19 14 44.2**	**-2.0**
JRY	**Ryogami san**	**1.06**	**289**	⇓P		**Pn**	**19 14 34.8**	**+0.6**
JRY				*e*S		**Sn**	**19 14 49.3**	**+0.5**
JIM2	**Oshima 3**	**1.11**	**212**	P		**Pn**	**19 14 33.8**	**-1.0**
JIM2				S		**Sn**	**19 14 47.8**	**-2.0**
BSO1	**Boso 1**	**1.22**	**146**	P		**Pn**	**19 14 35.9**	**+0.3**
BSO1				X			19 14 52.2	
JKT	**Katashina**	**1.31**	**327**	P		**Pn**	**19 14 38.0**	**+0.6**
JKT				S		**Sn**	**19 14 55.1**	**+0.6**
JYN	**Shimob**	**1.31**	**263**	⇓P		**Pn**	**19 14 37.3**	**-0.1**
JYN				S		**Sn**	**19 14 53.5**	**-0.9**
JIZS	**Izushimoda**	**1.40**	**228**	⇓P		**Pn**	**19 14 38.0**	**-0.5**
JIZS				S		**Sn**	**19 14 54.7**	**-1.7**
MJAR	**Matsushiro Arr**	**1.79**	**300**	P		**Pn**	**19 14 44.4**	**+0.8**
	12nm,0.3s,baz=125,slow=18,SNR=57							
MJAR				S		**Sn**	**19 15 06.1**	**+0.5**
	18nm,0.3s,baz=130,slow=45,SNR=11							
MAT	**Matsushiro**	**1.79**	**300**	P		**Pn**	**19 14 44.7**	**+1.0**
MAT				S		**Sn**	**19 15 06.8**	**+1.1**
JHJ	**Hachijo jima 2**	**2.56**	**187**	P		**Pn**	**19 14 53.1**	**-0.9**
	19nm,0.3s,baz=113,slow=22,SNR=7.3							
JHJ				S		**Sn**	**19 15 22.2**	**-1.9**
	59nm,0.3s,baz=43,slow=19,SNR=9.4							
JHJ				LR		LR	19 15 36.1	
	comp=Z,95nm,20.2s,baz=294,slow=32							
ASAJ	**Asahikawa**	**8.65**	**12**	P		**Pn**	**19 16 15.1**	**-1.8**
	0.4nm,0.3s,baz=203,slow=9.0,SNR=8.8							
ASAJ				S		**Sn**	**19 17 48.6**	**-4.2**
	0.1nm,0.3s,baz=168,slow=9.3,SNR=2.3							
H11N2	**WAKE ISLAND Hy**	**28.39**	**117**	T		T	19 49 46.2	
	baz=308							
H11N1	**WAKE ISLAND Hy**	**28.40**	**117**	T		T	19 49 38.5	
	baz=308,slow=74							
H11N3	**WAKE ISLAND Hy**	**28.41**	**117**	T		T	19 49 50.3	
	baz=308,slow=74							
TIXI	**Tiksi**	**36.53**	**354**	P		**P**	**19 21 12.4**	**-0.3**
	0.2nm,0.4s,baz=189,slow=13,SNR=2.6							
MKAR	**Makanchi Array**	**43.99**	**303**	P		**P**	**19 22 14.8**	**+0.1**
	0.5nm,0.7s,baz=85,slow=10,SNR=5.5							
KURBB	**Kurchatov Arra**	**46.04**	**309**	P		**P**	**19 22 32.1**	**+1.3**
	0.4nm,0.4s,baz=87,slow=7.5,SNR=4.5							
WRA	**Warramunga Arr**	**55.58**	**187**	P		**P**	**19 23 42.9**	**+0.2**
	0.3nm,0.5s,baz=1.8,slow=7.6,SNR=5.7							
ASAR	**Alice Springs**	**59.31**	**187**	P		**P**	**19 24 09.0**	**+0.1**
	0.4nm,0.9s,baz=21,slow=12,SNR=2.6							
FINES	**FINESS Array B**	**69.54**	**332**	P		**P**	**19 25 16.7**	**+1.5**
	1.5nm,0.8s,baz=9.5,slow=5.8,SNR=4.2							
NVAR	**Mina Array Bea**	**76.63**	**52**	P		**P**	**19 25 56.1**	**-1.7**
	0.1nm,0.4s,baz=289,slow=2.8,SNR=3.3							

*IDC **21** 19:16:49.4±1.0, 5.°84S×150.°27E, h0km, mb3.8/7, mb1 4.1/8, mb1mx3.7/45, mbtmp3.8/8, ML1.8/1, MS3.1/3, Ms1 3.1/3, ms1mx2.6/43, Error ellipse: s-maj=60.8km s-min=20.2km az=122.0*
*NEIC **21** 19:16:55.0±1.4, 6.°49S×150.°78E, h46km±13km, mb4.2/6, Error ellipse: s-maj=21.8km s-min=9.3km az=125.0*

ISC 21 19:16:56.0±0.7, 6.°2S±0.°1×150.°5E±0.°2, h48km, n23, σ1§90/28, mb3.6/7, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
RABL	**Rabaul**	**2.60**	**39**	*e*Pn

ADCV				*i* S		**Sb**	**19 23 48.9**	**+0.8**
ADCV	**BITLIS_Adilcev**	**0.61**	**280**	P		**Pn**	**19 23 40.6**	**-0.7**
ADCV				S		**Sb**	**19 23 48.9**	**+0.8**
TUTA	**Tutak**	**0.87**	**323**	*e*P		**Pb**	**19 23 43.7**	**-0.5**
TUTA				*e*S		**Sn**	**19 23 56.1**	**-1.1**
TUTA				IAML			19 23 57.8	
	comp=Z,20nm,0.2s							
TUTA	**Tutak**	**0.87**	**323**	*i* P		**Pb**	**19 23 43.9**	**-0.4**
TUTA				*i* S		**Sn**	**19 23 56.2**	**-1.0**
TUTA	**Tutak**	**0.87**	**323**	P		**Pb**	**19 23 43.9**	**-0.4**
TUTA				S		**Sn**	**19 23 56.2**	**-1.0**
AGRB	**Hanur-Agry**	**0.95**	**336**	*e*PG		**Pb**	**19 23 44.9**	**-0.7**
IGDI	**IGDIR**	**1.25**	**21**	*e*P		**Pb**	**19 23 51.9**	**+1.3**
IGDI				*e*S		**Sn**	**19 24 11.6**	**+5.4**
IGDI				IAML			19 24 13.8	
	comp=Z,1.8nm,0.4s							
EATA	**Eleskirt**	**1.39**	**326**	*e*P		**Pb**	**19 23 52.4**	**-0.8**
EATA				*e*S		**Sb**	**19 24 12.8**	**+2.1**

NIED ***21*** *19:30:00,37.50N×141.80E,h35km,Mw3.4 Best double couple: M₀1.57000×10¹⁴ NP1:φs212.00000°,δ25.00000°, λ47.00000°. NP2:φs78.00000°,δ72.00000°,λ108.00000°.*

JMA 21 19:30:34.5±0.1,37.50N×141.76E,h38km±3km,M3.6, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**0.72**	**260**	P	Pn	19 30 48.3	+0.1
JFK				S	Sn	19 30 57.7	-0.3
JMM	**Marumori**	**0.85**	**296**	P	Pn	19 30 50.2	+0.3
JMM				S	Sn	19 31 01.1	-0.1
ONAJ	**Iwakimizuishiy**	**0.86**	**243**	P	Pn	19 30 50.1	-0.1
ONAJ				S	Sn	19 31 00.9	-0.7
JIO	**Ouri**	**1.01**	**341**	P	Pn	19 30 52.3	+0.2
JIO				S	Sn	19 31 04.5	-0.5
JFT	**Otama**	**1.13**	**271**	P	Pn	19 30 54.9	+1.1
JFT				S	Sn	19 31 09.1	+1.0
JOU	**Okura**	**1.22**	**315**	P	Pn	19 30 56.1	+1.0
JMK	**Ichinoseki**	**1.51**	**344**	P	Pn	19 30 59.8	+0.8
JMK				*e*S	Sn	19 31 18.8	+1.4
JYK	**Kaneyama**	**1.79**	**322**	P	Pn	19 31 03.9	+1.0
MAT	**Matsushiro**	**3.00**	**252**	P	Pn	19 31 23.2	+3.7
MAT				S	Sn	19 32 00.9	+6.7

SJA ***21*** *19:39:20.6±0.6,32.51S×72.12W,h16km±26km,ML3.1, MW3.3*

GUC ***21*** *19:39:26.3±0.5,31.91S×71.32W,h38km±3km,ML3.0*

ISC 21 19:39:23.4±2.6,32.13S±0.04×71.8W±0.1,h7km±18km,n12, σ1§84/22,1C,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PEL	**Peldehue**	**1.35**	**139**	*e*P	**Pg**	**19 39 49.9**	**+0.6**
PEL				*i* S	**Sg**	**19 40 07.2**	**+0.8**
FCH	**Farellones**	**1.71**	**135**	⇑P	**Pb**	**19 39 55.4**	**-0.1**
FCH				*i* S	**Sg**	**19 40 17.4**	**-1.2**
ANTU	**Antumapu**	**1.71**	**147**	*e*S	**Sg**	**19 40 18.4**	**-0.1**
ANTU				IAML		19 40 24.4	
	comp=E,234nm,0.3s						
AUSP	**Uspallata**	**2.00**	**93**	*e*P	**Pg**	**19 40 01.6**	**-0.3**
AUSP				*e*S	**Sg**	**19 40 31.3**	**+3.4**
RTLS	**Leoncito**	**2.11**	**82**	*e*P	**Pg**	**19 40 03.9**	**0.0**
RTLS				IAML		19 40 37.4	
	comp=Z,50nm,0.5s						
GO04	**Tololo Observa**	**2.12**	**23**	*e*P	**Pn**	**19 40 00.6**	**+1.2**
GO04				*e*S	**Sb**	**19 40 29.7**	**+0.9**
LMEL	**Las Melosas**	**2.15**	**143**	*e*P	**Pb**	**19 40 01.8**	**-1.0**
LMEL				*i* S	**Sb**	**19 40 29.3**	**-0.5**
LMEL				IAML		19 40 37.5	
	comp=N,170nm,0.2s						
RTCV	**Cerro Valdivia**	**2.74**	**85**	*e*P	**Pb**	**19 40 12.1**	**-0.7**
RTCV				*e*S	**Sg**	**19 40 49.8**	**-1.6**
AROD	**Rodeo**	**2.76**	**45**	*e*P	**Pb**	**19 40 14.2**	**+0.9**
AROD				*e*S	**Sg**	**19 40 55.0**	**+2.8**
AMOG	**MOGNA**	**3.02**	**68**	*e*P	**Pb**	**19 40 16.8**	**-0.8**
AMOG				*e*S	**Sg**	**19 40 58.7**	**-1.8**
AGUA	**GUANDACOL**	**3.85**	**48**	*e*P	**Pb**	**19 40 29.6**	**-2.1**
AGUA				*e*S	**Sb**	**19 41 20.2**	**+1.6**
VCA	**Vinchina**	**4.56**	**43**	*e*P	**Pb**	**19 40 39.5**	**-4.5**
VCA				*e*S	**Sb**	**19 41 38.3**	**-0.9**
VCA				IAML		19 41 49.9	
	comp=Z,17nm,0.4s						

ISCJB ***21*** *19:51:30.7±0.4,36.27N±0.04×70.97E±0.05,h100km, mb3.8/10,Error ellipse: s-maj=6.3km s-min=4.6km az=143.0*

IDC ***21*** *19:51:32.1±3.5,36.26N×71.08E,h109km±28km,mb3.2/8, mb1 3.3/14,mb1mx3.0/75,mbtmp3.6/14,Error ellipse: s-maj=29.9km s-min=18.2km az=161.0*

BJI ***21*** *19:51:36.3,36.66N×71.01E,h123km,mb4.3/10,mB4.7/4*

NNC ***21*** *19:51:37.9±1.8,36.65N×71.00E,h123km±20km,mb3.2, mpv3.9,Error ellipse: s-maj=15.5km s-min=7.8km az=168.0*

ISC 21 19:51:32.1±0.7,36.31N±0.07×70.99E±0.06,h100km,n39, σ1§91/49,mb3.9/10,9C-7D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZET	**Dzherino**	**3.03**	**326**	⇓P	**Pn**	**19 52 21.7**	**+3.3**
	11nm,0.3s						
DZET				⇓S	**Sn**	**19 52 54.9**	**+1.0**
	25nm,0.4s						
SFK	**Sufi-Kurgan**	**4.19**	**27**	⇑P	**Pn**	**19 52 36.8**	**+2.7**
	14nm,0.3s						
SFK				⇑S	**Sn**	**19 53 22.3**	**+0.2**
	19nm,0.3s						
AML	**Almayashu**	**6.18**	**19**	P	**Pn**	**19 53 01.9**	**+0.7**
	SNR=28						
MNAS	**Manas**	**6.28**	**10**	⇑P	**Pn**	**19 53 03.0**	**+0.8**
	7.3nm,0.7s						
MNAS				⇑S	**Sn**	**19 54 10.4**	**-2.2**
	21nm,0.7s						
UCH	**Uchtor**	**6.51**	**24**	P	**Pn**	**19 53 06.9**	**+1.3**
	SNR=16						
EKS2	**Erkin-Say**	**6.70**	**18**	P	**Pn**	**19 53 09.2**	**+1.3**
	SNR=27						
KK31	**Karatay Array**	**6.79**	**357**	⇓P	**Pn**	**19 53 10.2**	**+1.1**
	5.9nm,0.4s,baz=187,slow=16,SNR=99						
KK31				⇓S	**Sn**	**19 54 25.7**	**+0.8**
	1.5nm,0.3s,baz=182,slow=20,SNR=5.1						
AAK	**Ala-Archa**	**6.87**	**22**	P	**Pn**	**19 53 12.4**	**+2.1**
	3.0nm,0.3s,baz=175,slow=6.3,SNR=38						
AAK				S	**Sn**	**19 54 25.3**	**-1.8**
	0.7nm,0.3s,baz=202,slow=19,SNR=11						
AAK	**Ala-Archa**	**6.87**	**22**	⇑P	**Pn**	**19 53 11.5**	**+1.1**
	2.5nm,0.3s						
AAK				⇓S	**Sn**	**19 54 25.8**	**-1.3**
	11nm,0.8s						
AAK	**Ala-Archa**	**6.87**	**22**	P	**Pn**	**19 53 12.5**	**+2.1**
	SNR=14						
CHMS	**Chumysh**	**7.28**	**22**	P	**Pn**	**19 53 17.8**	**+2.0**
	SNR=7.0						
TKM2	**Tokmak 2**	**7.50**	**27**	⇓P	**Pn**	**19 53 21.0**	**+2.1**
	3.5nm,0.4s						
TKM2				⇑S	**Sn**	**19 54 41.3**	**-1.0**
	3.3nm,0.8s						
TKM2	**Tokmak 2**	**7.50**	**27**	P	**Pn**	**19 53 23.3**	**+4.4**
	SNR=13						
GEYT	**Alibeck**	**10.41**	**283**	P	**Pn**	**19 54 00.5**	**+2.1**
	0.2nm,0.3s,baz=90,slow=14,SNR=5.2						
GEYT				S	**Sn**	**19 55 52.7**	**-0.3**
	0.4nm,0.3s,baz=102,slow=13,SNR=3.9						
PYUN	**Piuthan**	**13.04**	**126**	*e*P	**Pn**	**19 54 32.9**	**-0.8**
MKAR	**Makanchi Array**	**13.45**	**35**	P	**Pn**	**19 54 39.3**	**+0.5**
	0.0nm,0.3s,baz=230,slow=11,SNR=2.3						
KOLN	**Koldanda**	**13.66**	**125**	*e*P	**Pn**	**19 54 41.6**	**-0.2**
GKN	**Gorkha**	**14.21**	**122**	*e*P	**Pn**	**19 54 47.9**	**-1.0**
DMN	**Daman**	**14.78**	**122**	*e*P	**Pn**	**19 54 55.1**	**-1.2**
KKN	**Kakani**	**14.79**	**121**	*e*P	**Pn**	**19 54 55.1**	**-1.2**
WMQ	**Urumqi**	**14.81**	**54**	P	**P**	**19 54 58.0**	**-1.7**
PKIN	**Phulchoki**	**15.00**	**121**	*e*P	**Pn**	**19 54 58.8**	**-0.3**
	3.7nm,0.3s						
AB31	**Akbulak array**	**15.24**	**331**	⇑P	**Pn**	**19 55 02.0**	**+0.3**
	0.9nm,0.5s,baz=144,slow=13,SNR=18						
AB31				⇓S	**Sn**	**19 57 45.1**	**-4.9**
	0.3nm,0.3s						
KURBB	**Kurchatov Arra**	**15.30**	**18**	P	**Pn**	**19 55 02.6**	**+0.2**
	0.0nm,0.3s,baz=211,slow=9.0,SNR=4.3						
JIRN	**Jiri**	**15.50**	**120**	*e*P	**Pn**	**19 55 04.4**	**-1.1**
	6.6nm,0.3s						
BVAR	**Borovoye Array**	**16.72**	**359**	P	**Pn**	**19 55 20.4**	**+0.3**
	0.2nm,0.3s,baz=166,slow=10,SNR=4.4						
AKTO	**Aktyubinsk**	**16.94**	**330**	P	**Pn**	**19 55 23.2**	**+0.4**
	0.3nm,0.3s,baz=140,slow=6.6,SNR=5.4						
AKTO	**Aktyubinsk**	**16.94**	**330**	⇑P	**Pn**	**19 55 23.4**	**+0.7**
	4.7nm,1.1s						
AKTO				⇑S	**Sn**	**19 58 32.1**	**+1.3**
	0.8nm,0.8s						
ZALV	**Zalesovo Beam**	**20.09**	**24**	P	**P**	**19 55 57.0**	**-0.5**
	1.4nm,0.5s,baz=230,slow=11,SNR=7.8						
LZH	**Lanzhou**	**26.45**	**81**	*e*P	**P**	**19 57 02.8**	**+3.0**
LZH				pP	pP	19 57 27.0	+5.0
LZH				sP	sP	19 57 40.5	+6.9
LZH				*e*PP	**PnPn**	**19 57 51.8**	**+6.0**
LZH				pmax	pmax		
	comp=Z,17nm,1.1s						
LZH				pmax	pmax		
	comp=Z,43nm,5.0s						
KMI	**Kunming**	**29.36**	**103**	P	P	19 57 31.4	+5.4
KMI				pmax	pmax		
	comp=Z,7.0nm,0.5s						
HHC	**Hu-ho-hao-te**	**31.84**	**69**	*e*P	**P**	**19 57 48.6**	**+1.1**
HHC				pmax	pmax		
	comp=Z,23nm,0.9s						
HHC				pmax	pmax		
	comp=Z,71nm,4.5s						
FINES	**FINESS Array B**	**37.64**	**326**	P	**P**	**19 58 36.5**	**-0.5**
	1.7nm,1.0s,baz=118,slow=12,SNR=4.3						
ARCES	**ARCESS Array B**	**41.31**	**338**	P	**P**	**19 59 08.0**	**+0.5**
	1.7nm,1.0s,baz=124,slow=9.0,SNR=3.0						
HFS	**Hagfors**	**43.21**	**322**	P	**P**	**19 59 22.8**	**-0.1**
	1.0nm,0.6s,baz=99,slow=9.5,SNR=4.4						
NOA	**NORSAR Array B**	**44.53**	**323**	P	**P**	**19 59 33.4**	**0.0**
	0.4nm,0.5s,baz=95,slow=7.9,SNR=3.0						
TORD	**Torodi Ar. Bea**	**65.71**	**269**	P	**P**	**20 02 05.0**	**-1.4**
	0.2nm,0.4s,baz=43,slow=6.0,SNR=3.3						
YKA	**Yellowknife Ar**	**81.43**	**3**	P	**P**	**20 03 36.8**	**-0.8**
	0.1nm,0.5s,baz=351,slow=5.5,SNR=4.2						
WRA	**Warramunga Arr**	**81.90**	**122**	P	**P**	**20 03 38.7**	**-2.0**
	0.3nm,1.0s,baz=330,slow=5.4,SNR=3.2						

MEX 21 20:00:09.4±0.3,16.28N×98.31W,h1km,MD3.8,Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.21**	**58**	*i* P	Pg	20 00 13.2	-0.1
PNIG				*e*S	Sg	20 00 16.3	+0.2
TLIG	**Tlapa**	**1.29**	**349**	*e*P	Pg	20 00 31.0	-3.3
VHO	**Vista Hermosa**	**1.70**	**62**	*e*P	Pn	20 00 37.4	-3.0
CAIG	**El Cayaco**	**2.02**	**292**	*e*P	Pn	20 00 43.3	-1.3
MEIG	**Mezcala**	**2.06**	**323**	*e*P	Pn	20 00 39.7	-5.5

ISCJB ***21*** *20:01:00.8±0.3,56.63N±0.05×158.22W±0.08,h95km±4km, mb3.4/11,Error ellipse: s-maj=10.2km s-min=4.0km az=140.9*

IDC ***21*** *20:01:01.3±2.9,56.73N×158.26W,h82km±24km,mb3.3/11, mb1 3.4/14,mb1mx3.2/78,mbtmp3.5/14,Error ellipse: s-maj=28.5km s-min=15.5km az=13.0*

NEIC ***21*** *20:01:03.2±0.0,56.50N×158.17W,h84km,ML3.0(AEIC), After AEIC.*

ISC 21 20:01:01.6±0.8,56.60N±0.07×158.13W±0.05,h91km±8km, n62,σ1§69/80,mb3.5/11,Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AZAC	**Aniakchak**	**0.30**	**349**	P	**Pn**	**20 01 16.1**	**+0.8**
CHGN	**Chignik**	**0.34**	**208**	P	**Pn**	**20 01 15.1**	**-0.2**
CHGN				S	**Sn**	**20 01 24.6**	**-0.8**
VNHG	**Veniaminof 1**	**0.69**	**237**	P	**Pn**	**20 01 17.8**	**-0.3**
VNSG	**Veniaminof 6**	**0.71**	**229**	P	**Pn**	**20 01 17.7**	**-0.7**
VNSG				S	**Sn**	**20 01 29.3**	**-1.6**
SDPT	**Sand Point**	**1.82**	**227**	*e*Pn	**Pn**	**20 01 30.4**	**-1.0**
SDPT				*e*Sn	**Sn**	**20 01 49.6**	**-4.5**
KABU	**Katmai Buttres**	**2.28**	**41**	P	**Pn**	**20 01 40.2**	**+2.7**
PS4A	**Pavlof South-4**	**2.44**	**241**	P	**Pn**	**20 01 39.1**	**-0.5**
KAHC	**Katmai Hardscr**	**2.66**	**38**	P	**Pn**	**20 01 45.1**	**+2.6**
OHAK	**Old Harbor**	**2.73**	**75**	P	**Pn**	**20 01 44.7**	**+1.3**
OHAK				S	**Sn**	**20 02 15.5**	**0.0**
KDAK	**Kodiak Island**	**3.24**	**66**	P	**Pn**	**20 01 51.8**	**+1.5**
	7.0nm,0.3s,baz=214,slow=3.9,SNR=191						
KDAK				S	**Sn**	**20 02 27.3**	**-0.6**
	5.6nm,0.3s,baz=227,slow=23,SNR=25						
KDAK	**Kodiak Island**	**3.24**	**66**	P	**Pn**	**20 01 51.8**	**+1.5**
KDAK				S	**Sn**	**20 02 27.7**	**-0.2**
FALS	**False Pass**	**3.46**	**242**	*e*Pn	**Pn**	**20 01 51.5**	**-1.7**
FALS				*e*Sn	**Sn**	**20 02 34.9**	**+1.7**
HOM	**Homer**	**4.61**	**46**	*e*Pn	**Pn**	**20 02 10.6**	**+1.9**
SVW2	**Sparrevohn**	**4.70**	**15**	*e*Pn	**Pn**	**20 02 11.3**	**+1.2**
BRLK	**Bradley Lake**	**4.98**	**47**	P	**Pn**	**20 02 15.7**	**+1.9**
SUA	**Susitna One**	**6.19**	**35**	P	**Pn**	**20 02 32.8**	**+2.5**
RC01	**Rabbit Creek A**	**6.26**	**41**	*e*Pn	**Pn**	**20 02 32.6**	**+1.4**
RC01				*e*Sn	**Sn**	**20 03 41.2**	**0.0**
SKT	**Skwentna**	**6.37**	**29**	*e*Pn	**Pn**	**20 02 34.2**	**+1.5**
PPLA	**Purkeypile**	**6.99**	**23**	*e*Pn	Pn	20 02 45.5	+4.2
GHO	**Glory Hole Cre**	**7.02**	**39**	*e*Pn	**Pn**	**20 02 42.6**	**+1.1**
GHO				*e*Sn	**Sn**	**20 03 57.7**	**-2.0**
SML	**Sawmill**	**7.25**	**40**	*e*Pn	**Pn**	**20 02 43.9**	**-0.7**
SML				*e*Sn	**Sn**	**20 04 02.2**	**-3.0**
CAST	**Castle Rocks**	**7.48**	**21**	*e*Pn	Pn	20 02 51.4	+3.6
EYAK	**Cordova Ski Ar**	**7.58**	**53**	*e*Pn	**Pn**	**20 02 52.1**	**+2.9**
EYAK				*e*Sn	**Sn**	**20 04 11.6**	**-1.8**
SCM	**Sheep Creek Mo**	**7.63**	**42**	P	**Pn**	**20 02 52.5**	**+2.7**
DIV	**Divide**	**7.85**	**50**	*e*Pn	**Pn**	**20 02 55.1**	**+2.2**
KTH	**Kantishna Hill**	**7.85**	**24**	*e*Pn	**Pn**	**20 02 54.9**	**+2.1**
TRF	**Thorofare Moun**	**7.91**	**26**	*e*Pn	**Pn**	**20 02 55.4**	**+1.6**
KLU	**Klutina**	**7.97**	**47**	P	**Pn**	**20 02 57.5**	**+2.9**
RAGM	**Ragged Mountai**	**8.00**	**56**	*e*Pn	**Pn**	**20 02 55.4**	**+0.4**
RND	**Reindeer**	**8.25**	**30**	P	**Pn**	**20 03 00.5**	**+2.1**
BMRM	**Bremner River**	**8.27**	**52**	*e*Pn	**Pn**	**20 03 00.8**	**+2.1**
BMRM				*e*Sn	**Sn**	**20 04 28.1**	**-2.3**
BPAW	**Bear Paw Mtn.**	**8.31**	**22**	*e*Pn	**Pn**	**20 03 01.5**	**+2.4**
DHY	**Denali Highway**	**8.45**	**35**	*e*Pn	**Pn**	**20 03 00.9**	**-0.2**
DHY				*e*Sn	**Sn**	**20 04 33.2**	**-1.5**
MCK	**McKinley**	**8.49**	**29**	*e*Pn	**Pn**	**20 03 01.6**	**0.0**
MCK				*e*Sn	**Sn**	**20 04 35.8**	**+0.3**
PAX	**Paxson**	**9.02**	**40**	*e*Pn	**Pn**	**20 03 11.5**	**+2.7**
MLY	**Manley**	**9.19**	**20**	*e*Pn	**Pn**	**20 03 12.9**	**+1.8**
WRH	**Wood River Hil**	**9.31**	**28**	*e*Pn	**Pn**	**20 03 13.3**	**+0.7**
BALM	**Baldy**	**9.31**	**55**	*e*Pn	**Pn**	**20 03 15.3**	**+2.5**
BALM				*e*Sn	**Sn**	**20 04 52.9**	**-2.7**
CCB	**Clear Creek Bu**	**9.52**	**28**	*e*Pn	**Pn**	**20 03 15.9**	**+0.4**
HDA	**Harding Lake**	**9.56**	**30**	*e*Pn	**Pn**	**20 03 16.0**	**-0.2**
MENT	**Mentasta**	**9.64**	**43**	*e*Pn	**Pn**	**20 03 15.8**	**-1.4**
IM3	**Indian Mountai**	**9.65**	**11**	*e*Pn	**Pn**	**20 03 18.7**	**+1.5**
MDM	**Murphy Dome**	**9.67**	**26**	*e*Pn	**Pn**	**20 03 17.5**	**-0.1**
RIDG	**Independ'e Rid**	**9.73**	**37**	*e*Pn	**Pn**	**20 03 19.2**	**+0.7**
IL1	**Eielson Array**	**9.86**	**29**	*e*Pn	**Pn**	**20 03 20.8**	**+0.6**
IL1				*e*Sn	**Sn**	**20 05 09.4**	**+0.5**
ILAR	**Eielson Array**	**9.86**	**29**	P	**Pn**	**20 03 20.4**	**+0.3**
	0.1nm,0.3s,baz=225,slow=11,SNR=5.3						
ILAR				S	**Sn**	**20 05 10.6**	**+1.7**
	0.2nm,0.3s,baz=220,slow=28,SNR=5.2						
ILB	**Eielson Array**	**9.86**	**29**	*e*Pn	**Pn**	**20 03 20.8**	**+0.6**
ILB				*e*Sn	**Sn**	**20 05 08.3**	**-0.6**
DOT	**Dot Lake**	**9.94**	**39**	*e*Pn	**Pn**	**20 03 21.6**	**+0.4**
DOT				*e*Sn	**Sn**	**20 05 09.8**	**-1.1**
SCRK	**Sand Creek**	**10.18**	**38**	*e*Pn	**Pn**	**20 03 25.0**	**+0.4**
INK	**Inuvik**	**16.19**	**34**	P	**Pn**	**20 04 43.2**	**+0.1**
	0.2nm,0.3s,baz=235,slow=4.6,SNR=3.6						
INK				S	**S**	**20 07 44.5**	**-4.8**
	0.0nm,0.3s,baz=221,slow=18,SNR=3.0						
INK	**Inuvik**	**16.19**	**34**	*e*Pn	**P**	**20 04 44.0**	**-0.6**
YKA	**Yellowknife Ar**	**22.47**	**57**	P	**P**	**20 05 54.2**	**+1.4**
	0.2nm,0.4s,baz=272,slow=9.7,SNR=6.9						
SEY	**Seymchan**	**25.15**	**305**	P	**P**	**20 06 16.1**	**-1.6**
	0.4nm,0.4s,baz=75,slow=21,SNR=4.9						
PETK	**Petropavlovsk-**	**25.33**	**281**	P	**P**	**20 06 19.8**	**+0.3**
	0.7nm,0.5s,baz=60,slow=12,SNR=5.7						
NVAR	**Mina Array Bea**	**31.86**	**108**	P	**P**	**20 07 19.1**	**+1.1**
	1.0nm,0.7s,baz=311,slow=8.2,SNR=8.6						
TXAR	**Lajitas Array**	**46.63**	**102**	P	**P**	**20 09 22.5**	**+2.0**
	0.4nm,0.5s,baz=294,slow=5.9,SNR=7.1						
HFS	**Hagfors**	**63.43**	**5**	P	**P**	**20 11 20.6**	**-0.3**
	0.8nm,0.6s,baz=15,slow=6.3,SNR=2.3						
BVAR	**Borovoye Array**	**63.73**	**330**	P	**P**	**20 11 23.3**	**+0.3**
	0.3nm,0.4s,baz=41,slow=13,SNR=3.0						
MKAR	**Makanchi Array**	**65.31**	**319**	P	**P**	**20 11 32.7**	**-0.7**
	0.4nm,0.7s,baz=28,slow=6.5,SNR=3.0						
EKA	**Eskdalemuir Ar**	**66.58**	**15**	P	**P**	**20 11 41.8**	**+0.4**
	0.3nm,0.4s,baz=342,slow=4.5,SNR=4.9						
CMAR	**Chiang Mai Arr**	**81.68**	**291**	P	**P**	**20 13 08.9**	**-0.8**
	0.6nm,0.7s,baz=5.8,slow=4.7,SNR=4.5						
BRTR	**Keskin Array B**	**83.53**	**351**	P	**P**	**20 13 19.1**	**-0.1**
	0.2nm,0.5s,baz=317,slow=7.9,SNR=2.7						

IDC ***21*** *20:02:53.8±1.1,1.66S×134.42E,h0km,mb3.7/6, mb1 4.0/9,mb1mx3.7/53,mbtmp3.8/9,ML3.9/3,Error ellipse: s-maj=23.7km s-min=16.2km az=40.0*

NEIC ***21*** *20:02:55.2±0.6,1.71S×134.50E,h10km,mb4.1/7,Error ellipse: s-maj=11.6km s-min=8.3km az=68.0*

ISCJB ***21*** *20:02:56.2±0.6,1.77S±0.06×134.43E±0.05,h29km, mb3.8/10,Error ellipse: s-maj=8.9km s-min=6.9km az=42.7*

ISC 21 20:02:58.1±0.8,1.76S±0.07×134.41E±0.07,h29km,n24, σ1§49/30,mb3.8/10,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FAKI	**Fak Fak**	**2.45**	**242**	*e*Pn	**Pn**	**20 03 36.3**	**+0.2**
FAKI				*e*Sn	**Sn**	**20 04 07.2**	**+2.1**
SIJI	**Sorong**	**3.26**	**286**	Pn	**Pn**	**20 03 46.7**	**-0.7**
	10nm,0.3s,baz=101,slow=18,SNR=86						
SIJI				Pg	**Pb**	**20 03 54.6**	**-0.7**
	55nm,0.3s,baz=102,slow=6.1,SNR=57						
SIJI				Sn	**Sn**	**20 04 24.9**	**-0.4**
	21nm,0.3s,baz=128,slow=19,SNR=7.5						
SIJI				Lg	Lg	20 04 34.9	
	58nm,0.3s,baz=128,slow=20,SNR=9.9						
MTN	**Manton Dam**	**11.48**	**196**	*e*Pn	**Pn**	**20 05 41.0**	**+0.8**
MTN				*e*Sn	**Sn**	**20 07 43.0**	**-4.5**
SOEI	**Soe**	**12.84**	**231**	*e*Pn	**Pn**	**20 06 01.2**	**+2.4**
BATI	**Baumata**	**13.58**	**231**	Pn	**Pn**	**20 06 09.5**	**+0.5**
	0.9nm,0.3s,baz=72,slow=1.5,SNR=6.8						
BATI				Sn	**Sn**	**20 08 37.9**	**-1.1**
	0.8nm,0.3s,baz=43,slow=19,SNR=2.9						
COEN	**Coen**	**14.90**	**145**	*e*Pn	**Pn**	**20 06 25.3**	**-1.7**
WRAB	**Tennant Creek**	**18.06**	**180**	*e*Pn	**Pn**	**20 07 06.4**	**-0.7**
	20nm,1.6s						
WB2	**Warramunga Arr**	**18.07**	**180**	*e*Pn	**Pn**	**20 07 05.6**	**-1.6**
WR1	**Warramunga Arr**	**18.07**	**180**	*e*Pn	**Pn**	**20 07 06.5**	**-0.7**
	15nm,1.4s						
WR1				*e*Sn	Sn	20 10 17.9	-10
WRA	**Warramunga Arr**	**18.07**	**180**	P	**Pn**	**20 07 06.5**	**-0.7**
	0.5nm,0.3s,baz=1.0,slow=12,SNR=28						
WRA				S	Sn	20 10 17.9	-10
	0.1nm,0.3s,baz=356,slow=23,SNR=4.0						
CTA	**Charters Tower**	**21.59**	**148**	P	**P**	**20 07 49.0**	**+3.3**
	3.9nm,0.9s,baz=306,slow=9.9,SNR=5.7						
CTAO	**Charters Tower**	**21.59**	**148**	*e*P	**P**	**20 07 47.1**	**+1.4**
	3.1nm,0.8s						
AS01	**Alice Springs**	**21.78**	**181**	*e*P	**P**	**20 07 48.1**	**+0.3**
AS31	**Alice Springs**	**21.78**	**181**	*e*P	**P**	**20 07 47.7**	**-0.1**
	2.2nm,0.8s						
ASAR	**Alice Springs**	**21.78**	**181**	P	**P**	**20 07 48.9**	**+1.0**
	4.1nm,0.7s,baz=5.6,slow=11,SNR=47						
ASAR				S	**S**	**20 11 47.6**	**+0.2**
	1.0nm,1.0s,baz=4.9,slow=27,SNR=4.3						
MBWA	**Marble Bar**	**24.01**	**216**	*e*P	**P**	**20 08 12.4**	**+1.8**
	40nm,1.6s						
KSM	**Kuching**	**24.31**	**277**	*e*P	**P**	**20 08 12.3**	**-1.1**
	10nm,1.0s						
STKA	**Stephens Creek**	**30.72**	**168**	P	**P**	**20 09 11.0**	**+0.3**
	2.6nm,0.9s,baz=346,slow=5.7,SNR=3.3						
STKA	**Stephens Creek**	**30.72**	**168**	*e*P	**P**	**20 09 11.0**	**+0.3**
	7.1nm,1.6s						
MK32	**Makanchi Array**	**66.45**	**324**	*e*P	**P**	**20 13 45.3**	**+0.4**
MKAR	**Makanchi Array**	**66.45**	**324**	P	**P**	**20 13 45.3**	**+0.4**
	0.5nm,0.6s,baz=115,slow=6.9,SNR=5.1						
KURBB	**Kurchatov Arra**	**70.51**	**326**	P	**P**	**20 14 09.8**	**-0.4**
	0.3nm,0.6s,baz=119,slow=5.9,SNR=2.6						
**BVA

SERG				S	Sg	20 09 48.0	+0.4		
SERG				AML	AML	20 09 48.1			
	comp=E,1943µm,0.2s								
SERG				AML	AML	20 09 48.2			
	comp=N,1432µm,0.1s								
SERG	**Sergoula**	**0.14**	**335**	P	Pg	20 09 45.4	-0.1		
SERG				S	Sg	20 09 47.8	+0.2		
EFP	**Efpalio**	**0.22**	**308**	P	Pg	20 09 46.8	-0.2		
EFP				S	Sg	20 09 51.1	+1.1		
EFP				AML	AML	20 09 51.4			
	comp=E,360µm,0.2s								
EFP				AML	AML	20 09 51.9			
	comp=N,338µm,0.2s								
EFP	**Efpalio**	**0.22**	**308**	P	Pg	20 09 46.9	-0.1		
EFP				S	Sg	20 09 50.7	+0.7		
KLV	**Kalavryta, Ach**	**0.25**	**176**	P	Pg	20 09 47.0	-0.4		
KLV				S	Sg	20 09 51.0	+0.3		
KLV	**Kalavryta, Ach**	**0.25**	**176**	P	Pg	20 09 47.2	-0.2		
KLV				S	Sg	20 09 51.0	+0.3		
DSF	**Desfina**	**0.34**	**69**	P	Pg	20 09 48.9	-0.2		
DSF				S	Sg	20 09 54.0	+0.4		
DSF				AML	AML	20 09 55.4			
	comp=N,246µm,0.1s								
DSF				AML	AML	20 09 55.4			
	comp=E,149µm,0.2s								
DSF	**Desfina**	**0.34**	**69**	P	Pg	20 09 49.0	-0.1		
DSF				S	Sg	20 09 53.9	+0.3		
ANX	**Ano Chora**	**0.34**	**332**	P	Pg	20 09 49.2	-0.1		
ANX				AML	AML	20 09 54.9			
	comp=N,410µm,0.3s								
ANX				S	Sg	20 09 55.0	+1.1		
ANX				AML	AML	20 09 55.4			
	comp=E,350µm,0.3s								
ANX	**Ano Chora**	**0.34**	**332**	P	Pg	20 09 49.2	-0.1		
ANX				S	Sg	20 09 54.6	+0.7		
GUR	**Goura**	**0.39**	**154**	P	Pg	20 09 50.0	-0.1		
GUR				S	Sg	20 09 56.2	+1.0		
GUR				AML	AML	20 09 57.5			
	comp=E,91µm,0.2s								
GUR				AML	AML	20 09 59.0			
	comp=N,104µm,0.3s								
GUR	**Goura**	**0.39**	**154**	P	Pg	20 09 50.0	-0.1		
GUR				S	Sg	20 09 55.9	+0.6		
DRO	**Drossia**	**0.47**	**225**	P	Pg	20 09 51.6	0.0		
DRO				S	Sg	20 09 58.5	+0.7		
DRO				AML	AML	20 10 01.4			
	comp=N,130µm,0.3s								
DRO				AML	AML	20 10 03.1			
	comp=E,176µm,0.3s								
DRO	**Drossia**	**0.47**	**225**	P	Pg	20 09 51.6	0.0		
DRO				S	Sg	20 09 58.3	+0.5		
PVO	**Paravola**	**0.58**	**305**	P	Pg	20 09 53.9	+0.3		
PVO	**Paravola**	**0.58**	**305**	P	Pg	20 09 53.7	+0.1		
PROD	**Prodromos**	**0.61**	**93**	P	Pg	20 09 54.7	+0.5		
PROD	**Prodromos**	**0.61**	**93**	P	Pg	20 09 54.4	+0.2		
EVR	**Evrytania**	**0.68**	**338**	P	Pg	20 09 55.1	-0.4		
EVR				S	Sg	20 10 04.2	-0.1		
EVR				AML	AML	20 10 06.9			
	comp=E,95µm,0.2s								
EVR				AML	AML	20 10 07.2			
	comp=N,75µm,0.2s								
EVR	**Evrytania**	**0.68**	**338**	P	Pg	20 09 55.2	-0.3		
EVR				S	Sg	20 10 04.5	+0.2		
AGG	**Agios Georgios**	**0.75**	**12**	P	Pg	20 09 56.5	-0.4		
AGG	**Agios Georgios**	**0.75**	**12**	P	Pg	20 09 56.6	-0.3		
PDO	**Prodromos**	**0.80**	**293**	P	Pg	20 09 58.1	+0.2		
PDO				S	Sg	20 10 08.3	-0.1		
PDO				AML	AML	20 10 14.9			
	comp=N,70µm,0.4s								
PDO				AML	AML	20 10 15.3			
	comp=E,50µm,0.3s								
PDO	**Prodromos**	**0.80**	**293**	P	Pg	20 09 57.9	0.0		
PDO				S	Sg	20 10 08.6	+0.2		
AMT	**Artemida-Makis**	**0.82**	**204**	P	Pg	20 09 57.9	-0.4		
AMT				S	Sb	20 10 10.2	-0.1		
AMT	**Artemida-Makis**	**0.82**	**204**	P	Pg	20 09 58.0	-0.3		
AMT				S	Sb	20 10 09.9	-0.4		

*CSEM **21** 20:10:41.5±0.1,40.°24N×25.°23E,h12km,ML1.5,Error ellipse: s-maj=2.8km s-min=2.4km az=71.0*
*ISK **21** 20:10:41.9,40.°22N×25.°31E,h22km,ML2.3/8*
*DDA **21** 20:10:44.4,40.°17N×25.°43E,h7km,Ml2.4*
ATH 21 20:10:41.0,40.°24N×25.°25E,h25km±1km,ML1.5/7,Error ellipse: s-maj=1.7km s-min=0.8km az=86.0,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
SMTH	**Samothraki Isl**	**0.31**	**44**	P	Pb	20 10 48.4	+0.1	
SMTH				S	Sb	20 10 52.3	-1.0	
SMTH				AML	AML	20 10 53.0		
	comp=E,77µm,0.2s							
SMTH				AML	AML	20 10 53.6		
	comp=N,114µm,0.2s							
SMTH	**Samothraki Isl**	**0.31**	**44**	P	Pb	20 10 48.4	+0.1	
SMTH				S	Sb	20 10 53.0	-0.3	
LIA	**Limnos Island**	**0.35**	**188**	P	Pb	20 10 49.2	+0.4	
LIA				S	Sb	20 10 53.6	-0.4	
LIA				AML	AML	20 10 54.3		
	comp=E,281µm,0.2s							
LIA				AML	AML	20 10 54.6		
	comp=N,219µm,0.2s							
LIA	**Limnos Island**	**0.35**	**188**	P	Pb	20 10 49.0	+0.2	
LIA				S	Sb	20 10 54.1	0.0	
GADA	**Gvkgeada**	**0.50**	**96**	PG	Pb	20 10 51.7	+0.4	
GADA				SG	Sb	20 10 58.8	+0.6	
GADA	**Gvkgeada**	**0.50**	**96**	*e*Pg	Pb	20 10 51.7	+0.4	
EFSA	**Agios Efstrati**	**0.73**	**196**	P	Pn	20 10 56.0	+0.3	
EFSA				S	Sn	20 11 05.7	-0.3	
EFSA	**Agios Efstrati**	**0.73**	**196**	P	Pn	20 10 55.7	0.0	
EFSA				S	Sn	20 11 05.8	-0.2	
BOZC	**Bozcaada**	**0.74**	**123**	PG	Pn	20 10 55.9	+0.1	
BOZC				SG	Sn	20 11 06.0	-0.2	
BOZC	**Bozcaada**	**0.74**	**123**	*i* P	Pn	20 10 56.2	+0.4	
BOZC				*i* S	Sn	20 11 06.2	-0.1	
BOZC	**Bozcaada**	**0.74**	**123**	*e*Pg	Pn	20 10 55.9	+0.1	
BOZC				*e*Sg	Sn	20 11 06.0	-0.2	
ENEZ	**Enez**	**0.85**	**54**	PG	Pn	20 10 58.4	+1.1	
ENEZ				SG	Sn	20 11 10.7	+1.7	
ENEZ	**Enez**	**0.85**	**54**	*e*Pg	Pn	20 10 58.4	+1.1	
ALN	**Alexandroupoli**	**0.89**	**43**	PG	Pn	20 10 59.3	+1.4	
ALN	**Alexandroupoli**	**0.89**	**43**	P	Pn	20 10 58.6	+0.6	
ALN				S	Sn	20 11 11.4	+1.3	
ALN				AML	AML	20 11 13.3		
	comp=N,32µm,0.4s							
ALN				AML	AML	20 11 14.1		
	comp=E,31µm,0.5s							
ALN	**Alexandroupoli**	**0.89**	**43**	P	Pn	20 10 58.5	+0.6	
ALN				S	Sn	20 11 11.2	+1.2	
ALN	**Alexandroupoli**	**0.89**	**43**	*e*Pg	Pn	20 10 59.3	+1.4	
EZN	**Ezine**	**0.93**	**116**	PG	Pb	20 10 59.3	+0.9	
EZN	**Ezine**	**0.93**	**116**	*e*Pg	Pb	20 10 59.3	+0.9	
RDO	**Rodhopi**	**0.93**	**14**	P	Pb	20 10 59.6	+1.1	
RDO				S	Sn	20 11 11.4	+0.5	
RDO				AML	AML	20 11 16.0		
	comp=N,32µm,0.2s							
RDO				AML	AML	20 11 16.4		
	comp=E,29µm,0.2s							
RDO	**Rodhopi**	**0.93**	**14**	P	Pb	20 10 59.2	+0.8	
RDO				S	Sn	20 11 11.7	+0.8	
KAVA	**Kavala**	**0.94**	**324**	P	Pb	20 10 59.9	+1.3	
KAVA				S	Sn	20 11 12.6	+1.5	
KAVA	**Kavala**	**0.94**	**324**	P	Pb	20 10 59.5	+0.9	
KAVA				S	Sn	20 11 12.4	+1.3	
GELI	**Tayfur-Gelibol**	**0.95**	**80**	PG	Pb	20 10 59.8	+1.0	
GELI	**Tayfur-Gelibol**	**0.95**	**80**	*e*Pg	Pb	20 10 59.8	+1.0	
ERIK	**Erikli-Kesan**	**1.06**	**66**	PG	Pb	20 11 01.4	+0.8	
ERIK	**Erikli-Kesan**	**1.06**	**66**	*e*Pg	Pb	20 11 01.4	+0.8	
BAYC	**CANAKKALE_Bayr**	**1.12**	**116**	*i* P	Pb	20 11 02.8	+1.1	
BAYC				*i* S	Sb	20 11 17.9	+2.1	
BAYC	**CANAKKALE_Bayr**	**1.12**	**116**	P	Pb	20 11 02.8	+1.1	
BAYC				S	Sb	20 11 17.9	+2.1	
SIGR	**SIGRI**	**1.13**	**155**	PN	Pb	20 11 02.5	+0.6	
SIGR	**SIGRI**	**1.13**	**155**	P	Pb	20 11 02.6	+0.6	
SIGR				S	Sb	20 11 18.7	+2.5	
SIGR				AML	AML	20 11 18.9		
	comp=E,84µm,0.6s							
SIGR				AML	AML	20 11 19.5		
	comp=N,146µm,0.8s							
SIGR	**SIGRI**	**1.13**	**155**	P	Pb	20 11 02.6	+0.7	
SIGR				S	Sb	20 11 18.6	+2.4	
LPK	**Lapseki**	**1.17**	**83**	PN	Pb	20 11 02.7	+0.2	

LPK	**Lapseki**	**1.17**	**83**	*e*Pn	Pb	20 11 02.7	+0.2		
KESN	**Edirne-Kesan**	**1.24**	**62**	*i* P	Pb	20 11 06.6	+2.6		
KESN				*i* S	Sb	20 11 23.6	+3.9		
KESN	**Edirne-Kesan**	**1.24**	**62**	P	Pb	20 11 06.6	+2.7		
KESN				S	Sb	20 11 23.6	+4.0		
PAIG	**Paliouri**	**1.24**	**256**	P	Pn	20 11 03.1	+0.4		
PAIG	**Paliouri**	**1.24**	**256**	P	Pb	20 11 03.8	0.0		
PRK	**Paraskevi**	**1.27**	**141**	P	Pb	20 11 05.5	+1.2		
PRK				S	Sb	20 11 22.3	+2.1		
PRK				AML	AML	20 11 24.2			
	comp=E,103µm,0.6s								
PRK				AML	AML	20 11 26.8			
	comp=N,88µm,0.4s								
PRK	**Paraskevi**	**1.27**	**141**	P	Pb	20 11 05.3	+1.0		
PRK				S	Sb	20 11 22.4	+2.2		
NVR	**Nevrokopi**	**1.52**	**317**	P	Pb	20 11 08.3	-0.3		
NVR				S	Sb	20 11 29.1	+1.6		
NVR				AML	AML	20 11 32.5			
	comp=E,15µm,0.5s								
NVR				AML	AML	20 11 33.2			
	comp=N,21µm,0.2s								
NVR	**Nevrokopi**	**1.52**	**317**	P	Pb	20 11 08.5	-0.1		
NVR				S	Sb	20 11 29.0	+1.5		
SRS	**Serrai**	**1.53**	**305**	P	Pb	20 11 08.2	-0.5		
SRS	**Serrai**	**1.53**	**305**	P	Pb	20 11 08.5	-0.2		
KRBG	**Karabiga-Canak**	**1.58**	**84**	PN	Pb	20 11 08.7	-0.7		
KRBG	**Karabiga-Canak**	**1.58**	**84**	*e*Pn	Pb	20 11 08.7	-0.7		

*ISCJB **21** 20:15:59.4±0.4,73.°06N±0.°04×6.°1E±0.°2,h11km,mb3.5/16, MS3.2/20,Error ellipse: s-maj=8.1km s-min=6.0km az=5.2*
*IDC **21** 20:15:59.7±0.6,72.°99N×5.92E,h0km,mb3.6/15, mb1 3.7/22,mb1mx3.6/69,mbtmp3.6/22,ML3.5/7,MS3.3/27, Ms1 3.3/27,ms1mx3.1/62,Error ellipse: s-maj=15.0km s-min=11.2km az=47.0*
*NAO **21** 20:16:01.0±2.0,73.°03N×6.°42E,ML3.1*
*BER **21** 20:16:03.3±2.6,73.°04N×6.°09E,h15km±72km, ML3.1(NAO)*
ISC 21 20:16:01.4±0.6,73.°02N±0.°07×6.°20E±0.°07,h11km,n55, σ1s95/47,mb3.6/16,MS3.2/20,Greenland Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
BJO	**Bjornoya**	**3.94**	**62**	*e*P	**Pn**	**20 17 01.0**		**-0.7**
HSPB	**Hornsund (broa**	**4.67**	**27**	*e*P	**Pn**	**20 17 10.7**		**-1.1**
HSP	**Hornsund**	**4.68**	**27**	Pn	**Pn**	**20 17 10.6**		**-1.3**
JMIC	**Jan Mayen**	**4.99**	**253**	Pn	**Pn**	**20 17 14.5**		**-1.7**
	12nm,0.3s,baz=76,slow=4.2,SNR=4.1							
JMIC				LR	LR	20 18 39.1		
	comp=Z,124nm,18.4s,baz=76,slow=32							
SPA0	**Spitsbergen Ar**	**5.76**	**21**	Pn	**Pn**	**20 17 26.6**		**-0.2**
	baz=224,slow=16							
SPA0	**Spitsbergen Ar**	**5.76**	**21**	Pn	**Pn**	**20 17 26.6**		**-0.2**
	baz=224,slow=16							
SPITS	**Spitsbergen Ar**	**5.76**	**21**	Pn	**Pn**	**20 17 26.6**		**-0.2**
	baz=220,slow=15,SNR=67							
SPITS				LR	LR	20 19 20.6		
	comp=Z,152nm,18.9s,baz=230,slow=34							
HOPEN	**Hopen**	**6.05**	**46**	*e*P	**Pn**	**20 17 30.4**		**-0.2**
KBS	**Kingsbay**	**6.10**	**10**	Pn	**Pn**	**20 17 31.6**		**+0.2**
KBS	**Kingsbay**	**6.10**	**10**	*e*P	**Pn**	**20 17 31.2**		**-0.2**
ARA0	**ARCESS Array S**	**7.10**	**110**	Pn	**Pn**	**20 17 45.8**		**+0.6**
	baz=321,slow=14							
ARA0				Sn	**Sn**	**20 19 01.5**		**-4.2**
	baz=305,slow=22							
ARA0	**ARCESS Array S**	**7.10**	**110**	Pn	**Pn**	**20 17 45.8**		**+0.6**
	baz=321,slow=14							
ARA0				Sn	**Sn**	**20 19 01.5**		**-4.2**
	baz=305,slow=22							
ARCES	**ARCESS Array B**	**7.10**	**110**	Pn	**Pn**	**20 17 46.1**		**+1.0**
	0.7nm,0.3s,baz=318,slow=13,SNR=19							
ARCES				Sn	**Sn**	**20 19 01.6**		**-4.1**
	0.4nm,0.3s,baz=313,slow=23,SNR=3.1							
NB2	**NORSAR Subarra**	**12.18**	**168**	Pn	**Pn**	**20 18 56.2**		**+1.5**
	baz=347,slow=14							
NB2	**NORSAR Subarra**	**12.18**	**168**	Pn	**Pn**	**20 18 56.2**		**+1.5**
	baz=347,slow=14							
NOA	**NORSAR Array B**	**12.18**	**168**	Pn	**Pn**	**20 18 55.6**		**+0.9**
	0.3nm,0.3s,baz=349,slow=14,SNR=4.3							
NOA				LR	LR	20 23 22.2		
	comp=Z,68nm,19.6s,baz=350,slow=36							
NRA0	**NORESS Array S**	**12.50**	**168**	Pn	**Pn**	**20 18 60.0**		**+0.9**
	baz=352,slow=14							
NRA0	**NORESS Array S**	**12.50**	**168**	Pn	**Pn**	**20 18 60.0**		**+0.9**
	baz=352,slow=14							
BORG	**Borgarnes**	**12.78**	**244**	LR	LR	20 22 36.3		
	comp=Z,54nm,19.0s,baz=193,slow=31							
HFS	**Hagfors**	**13.26**	**163**	Pn	**Pn**	**20 19 09.9**		**+0.6**
	baz=358,slow=14							
HFS	**Hagfors**	**13.26**	**163**	Pn	**Pn**	**20 19 09.6**		**+0.3**
	0.4nm,0.3s,baz=346,slow=15,SNR=15							
HFS				LR	LR	20 23 56.3		
	comp=Z,141nm,18.9s,baz=352,slow=36							
HFS	**Hagfors**	**13.26**	**163**	Pn	**Pn**	**20 19 09.9**		**+0.6**
	baz=358,slow=14							
FIA0	**FINESS Array S**	**13.81**	**137**	Pn	**Pn**	**20 19 17.8**		**+1.0**
	baz=340,slow=11							
FIA0	**FINESS Array S**	**13.81**	**137**	Pn	**Pn**	**20 19 17.8**		**+1.0**
	baz=340,slow=11							
FINES	**FINESS Array B**	**13.81**	**137**	Pn	**Pn**	**20 19 16.3**		**-0.5**
	0.2nm,0.3s,baz=349,slow=11,SNR=11							
FINES				LR	LR	20 24 18.1		
	comp=Z,143nm,19.6s,baz=348,slow=36							
EKA	**Eskdalemuir Ar**	**18.17**	**197**	P	**Pn**	**20 20 14.1**		**+0.8**
	baz=0.8,slow=11,SNR=2.8							
SFJD	**Kangerlussuaq**	**19.59**	**281**	LR	LR	20 27 05.8		
	comp=Z,111nm,19.1s,baz=48,slow=34							
OBN	**Obninsk**	**21.87**	**129**	LR	LR	20 29 21.0		
	comp=Z,80nm,21.8s,baz=270,slow=37							
BRG	**Berggiesshubel**	**22.48**	**167**	*e*P	P	20 21 09.0		+8.6
	8.4nm,1.4s							
VRAC	**Vranov**	**24.23**	**163**	P	**P**	**20 21 17.6**		**-0.3**
	1.6nm,0.5s,baz=0.0,slow=12,SNR=2.5							
VRAC				LR	LR	20 30 57.1		
	comp=Z,58nm,20.5s,baz=342,slow=37							
GERES	**GERESS Array B**	**24.48**	**168**	P	**P**	**20 21 21.8**		**+1.5**
	0.6nm,0.7s,baz=355,slow=11,SNR=5.4							
GERES				LR	LR	20 31 10.0		
	comp=Z,43nm,19.7s,baz=72,slow=37							
AKASG	**Malin Array Be**	**24.54**	**143**	P	**P**	**20 21 21.9**		**+1.2**
	0.9nm,0.6s,baz=345,slow=9.8,SNR=5.6							
AKASG				LR	LR	20 30 52.8		
	comp=Z,138nm,18.7s,baz=345,slow=36							
RES	**Resolute Bay**	**24.98**	**322**	LR	LR	20 31 26.6		
	comp=Z,81nm,20.2s,baz=68,slow=37							
ARU	**Arti**	**26.56**	**100**	P	**P**	**20 21 40.3**		**+1.4**
	0.8nm,0.4s,baz=309,slow=6.5,SNR=2.6							
ARU				LR	LR	20 32 17.8		
	comp=Z,26nm,19.7s,baz=120,slow=37							
FRB	**Frobisher Bay**	**27.07**	**289**	LR	LR	20 31 00.7		
	comp=Z,53nm,20.0s,baz=357,slow=33							
AKTO	**Aktyubinsk**	**31.68**	**107**	LR	LR	20 35 54.2		
	comp=Z,64nm,20.2s,baz=332,slow=38							
BVAR	**Borovoye Array**	**32.96**	**92**	P	**P**	**20 22 38.0**		**+2.4**
	0.5nm,0.6s,baz=322,slow=11,SNR=3.6							
BVAR				PP	**PP**	**20 23 51.2**		**+1.3**
	0.7nm,0.7s,baz=334,slow=12,SNR=3.0							
KBZ	**Khabaz**	**33.98**	**129**	LR	LR	20 36 41.5		
	comp=Z,63nm,20.3s,baz=26,slow=36							
SCHQ	**Schefferville**	**33.98**	**278**	LR	LR	20 34 57.7		
	comp=Z,51nm,20.5s,baz=52,slow=34							
BRTR	**Keskin Array B**	**35.94**	**143**	P	**P**	**20 23 00.4**		**-1.3**
	0.3nm,0.7s,baz=346,slow=11,SNR=2.3							
BRTR				LR	LR	20 38 43.1		
	comp=Z,28nm,20.5s,baz=38,slow=38							
ZALV	**Zalesovo Beam**	**36.36**	**78**	P	**P**	**20 23 03.6**		**-1.3**
	0.3nm,0.4s,baz=339,slow=7.7,SNR=2.1							
ZALV				LR	LR	20 41 44.9		
	comp=Z,25nm,19.8s,baz=80,slow=42							
KURBB	**Kurchatov Arra**	**37.47**	**86**	P	**P**	**20 23 14.8**		**+0.5**
	0.7nm,0.8s,baz=335,slow=7.2,SNR=6.2							
KURBB				PP	**PnPn**	**20 24 49.1**		**+8.7**
	1.1nm,1.1s,baz=328,slow=10,SNR=3.0							
GNI	**Garni**	**37.81**	**129**	LR	LR	20 39 02.2		
	comp=Z,49nm,20.7s,baz=351,slow=36							
YKA	**Yellowknife Ar**	**39.04**	**321**	P	**P**	**20 23 27.3**		**-0.2**
	0.4nm,0.8s,baz=15,slow=8.4,SNR=6.2							
YKA				PcP	**PcP**	**20 25 35.8**		**-1.3**
	0.3nm,0.8s,baz=20,slow=2.5,SNR=4.7							
ILAR	**Eielson Array**	**41.30**	**343**	P	**P**	**20 23 46.4**		**+0.2**
	0.4nm,0.8s,baz=13,slow=5.7,SNR=4.5							
MKAR	**Makanchi Array**	**42.01**	**85**	P	**P**	**20 23 52.0**		**-0.3**
	0.4nm,0.8s,baz=353,slow=8.7,SNR=2.3							
MKAR				LR	LR	20 45 20.5		
	comp=Z,29nm,18.4s,baz=219,slow=42							
GEYT	**Alibeck**	**43.24**	**115**	P	**P**	**20 24 02.6**		**+0.3**
	1.3nm,0.5s,baz=326,slow=7.0,SNR=5.8							
ULM	**Lac du Bonnet**	**46.10**	**299**	LR	LR	20 43 33.7		
	comp=Z,65nm,18.7s,baz=22,slow=36							
PDAR	**Pinedale Array**	**56.45**	**307**	P	**P**	**20 25 43.2**		**+0.3**
	1.4nm,0.9s,baz=38,slow=6.0,SNR=8.3							
PDAR				LR	LR	20 50 38.6		
	comp=Z,19nm,20.7s,baz=57,slow=37							
TORD	**Torodi Ar. Bea**	**59.90**	**185**	P	**P**	**20 26 06.4**		**-0.7**
	0.4nm,0.9s,baz=358,slow=7.8,SNR=2.2							
YBH	**Yreka Blue Hor**	**60.28**	**318**	LR	LR	20 52 15.6		
	comp=Z,44nm,18.1s,baz=358,slow=36							
KSRS	**Korea Array**	**62.88**	**50**	LR	LR	20 58 37.9		
	comp=Z,8.2nm,18.1s,baz=230,slow=41							
TXAR	**Lajitas Array**	**67.75**	**297**	P	**P**	**20 26 58.1**		**-0.7**
	0.5nm,0.9s,baz=38,slow=4.6,SNR=4.6							
TXAR				LR	LR	20 56 23.0		
	comp=Z,47nm,18.0s,baz=0.0,slow=36							
CMAR	**Chiang Mai Arr**	**73.29**	**82**	LR	LR	21 05 45.7		
	comp=Z,19nm,18.3s,baz=150,slow=41							
ASAR	**Alice Springs**	**123.11**	**60**	PKP	**PKPdf**	**20 34 56.6**		**-0.8**
	0.3nm,0.9s,baz=13,slow=1.7,SNR=3.7							

*ISK **21** 20:27:33.7,39.°11N×29.°17E,h6km,ML2.1/7*
*ISCJB **21** 20:27:34.5±0.5,39.°11N±0.°03×29.°14E±0.°04,h8km±4km, Error ellipse: s-maj=5.9km s-min=4.4km az=146.6*
*CSEM **21** 20:27:34.5±0.1,39.°11N×29.°15E,h8km,ML2.1,Error ellipse: s-maj=2.7km s-min=2.0km az=115.0*
*DDA **21** 20:27:34.4,39.°10N×29.°13E,h7km,Ml2.5*
ISC 21 20:27:34.6±0.9,39.°11N±0.°03×29.°15E±0.°02,h9km±7km, n26,σ0s37/39,Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
SIMA	**Simav-Kutahya**	**0.13**	**260**	PG	**Pg**	**20 27 37.4**		**-0.2**
SIMA				SG	**Sg**	**20 27 39.7**		**0.0**
SIMA	**Simav-Kutahya**	**0.13**	**260**	*e*Pg	**Pg**	**20 27 37.4**		**-0.2**
SIMA				*e*Sg	**Sg**	**20 27 39.7**		**0.0**
GDZ	**Gediz**	**0.26**	**94**	*i* P	**Pg**	**20 27 40.1**		**+0.2**
GDZ				*i* S	**Sg**	**20 27 44.0**		**+0.6**
GDZ	**Gediz**	**0.26**	**94**	P	**Pg**	**20 27 40.1**		**+0.2**
GDZ				S	**Sg**	**20 27 44.0**		**+0.6**
DEMI	**Demirci**	**0.34**	**259**	*i* P	**Pg**	**20 27 41.8**		**+0.4**
DEMI				*i* S	**Sg**	**20 27 46.1**		**+0.2**
DEMI	**Demirci**	**0.34**	**259**	P	**Pg**	**20 27 41.8**		**+0.4**
DEMI				S	**Sg**	**20 27 46.1**		**+0.2**
TVSB	**Tavsanli**	**0.42**	**35**	PG	**Pg**	**20 27 42.3**		**-0.5**
TVSB				SG	**Sg**	**20 27 48.1**		**-0.3**
TVSB	**Tavsanli**	**0.42**	**35**	*e*Pg	**Pg**	**20 27 42.3**		**-0.5**
TVSB				*e*Sg	**Sg**	**20 27 48.1**		**-0.3**
KULA	**Kula-Manisa**	**0.70**	**213**	PG	**Pg**	**20 27 47.8**		**-0.4**
KULA	**Kula-Manisa**	**0.70**	**213**	*e*Pg	**Pg**	**20 27 47.8**		**-0.4**
DURS	**Dursunbey**	**0.72**	**314**	*i* P	**Pb**	**20 27 49.3**		**-0.1**
DURS				*i* S	**Sn**	**20 28 03.2**		**+1.0**
DURS	**Dursunbey**	**0.72**	**314**	P	**Pb**	**20 27 49.3**		**-0.1**
MANT	**Manisa**	**0.77**	**217**	*i* P	**Pg**	**20 27 49.3**		**-0.1**
MANT				*i* S	**Sg**	**20 27 59.1**		**-0.4**
MANT	**Manisa**	**0.77**	**217**	P	**Pg**	**20 27 49.3**		**-0.1**
MANT				S	**Sg**	**20 27 59.1**		**-0.4**
KHAL	**Karahalli**	**0.78**	**160**	*i* P	**Pb**	**20 27 50.5**		**+0.1**
KHAL				*i* S	**Sb**	**20 28 00.5**		**-0.7**
KHAL	**Karahalli**	**0.78**	**160**	P	**Pb**	**20 27 50.5**		**+0.1**
KHAL				S	**Sb**	**20 28 00.5**		**-0.7**
MDNY	**Mudanya-Bursa**	**1.28**	**351**	PN	**Pn**	**20 27 58.7**		**+0.1**
MDNY	**Mudanya-Bursa**	**1.28**	**351**	*e*Pn	**Pn**	**20 27 58.7**		**+0.1**
KCTX	**Karacabey (Bur**	**1.31**	**332**	PN	**Pn**	**20 27 59.2**		**+0.1**
KCTX	**Karacabey (Bur**	**1.31**	**332**	*e*Pn	**Pn**	**20 27 59.2**		**+0.1**
YLV	**Yalova**	**1.47**	**7**	PN	**Pn**	**20 28 01.3**		**0.0**
YLV	**Yalova**	**1.47**	**7**	*e*Pn	**Pn**	**20 28 01.3**		**0.0**
ARMT	**Armutlu**	**1.47**	**351**	PN	**Pn**	**20 28 01.5**		**+0.2**
ARMT	**Armutlu**	**1.47**	**351**	*e*Pn	**Pn**	**20 28 01.5**		**+0.2**
AYDB	**Zeytinkoy-Aydi**	**1.52**	**221**	PN	**Pn**	**20 28 02.2**		**+0.1**
AYDB	**Zeytinkoy-Aydi**	**1.52**	**221

comp=E,577nm,0.5s
TLL **Tololo Astrono** **1.21 282** ⇓*i*P **Pb** **20 41 43.6 -0.7**
TLL *i*S **Sb** **20 41 59.9 +0.4**
RTLL Cerro Villicun **1.23 138** *e*P **Pb** **20 41 43.5 -1.1**
RTLL *e*S **Sb** **20 42 00.7 +0.7**
RTLL IAML 20 42 02.4
comp=Z,194nm,0.3s
RTLL Cerro Villicun **1.23 138** ⇑*i*P **Pb** **20 41 44.3 -0.2**
RTLL *i*S **Sb** **20 42 00.7 +0.7**
RTLL IAML 20 42 01.2
comp=N,381nm,0.3s
AGUA GUANDACOL **1.24 42** *e*P **Pb** **20 41 43.7 -1.0**
AGUA *e*S **Sb** **20 42 02.1 +1.9**
RTLS Leoncito **1.38 175** *e*P **Pb** **20 41 47.0 -0.3**
RTLS *e*S **Sb** **20 42 06.8 +2.1**
RTLS IAML 20 42 12.0
comp=Z,54nm,0.3s
RTCV Cerro Valdivia **1.63 152** *e*P **Pb** **20 41 50.4 -1.0**
RTCV *e*S **Sb** **20 42 13.0 +1.4**
LCO Las Campanas **1.78 322** *i*P **Pb** **20 41 53.5 -0.5**
LCO *i*S **Sb** **20 42 16.9 +0.9**
LCO IAML 20 42 17.3
comp=E,288nm,0.2s
VCA Vinchina **1.99 33** *e*P **Pb** **20 41 57.2 -0.3**
VCA *e*S **Sb** **20 42 24.6 +2.6**
VCA IAML 20 42 28.7
comp=Z,104nm,0.4s
GO03 Copiap **2.90 346** ⇓*i*P **Pn** **20 42 08.6 +1.6**
GO03 *i*S **Sb** **20 42 44.6 -3.4**
GO03 IAML 20 42 48.8
comp=N,35nm,0.3s

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*ISK **21** 20:49:40.5, 38°.44N×39°.16E, h27km, ML2.0/3*
*DDA **21** 20:49:41.8, 38°.33N×39°.21E, h7km, Ml2.5*
*CSEM **21** 20:49:41.1±0.3, 38°.38N×39°.25E, h10km, ML2.5, Error ellipse: s-maj=8.0km s-min=6.9km az=162.0*

ISC 21 20:49:41.5±1.0, **38°.37N**±0°.03×**39°.23E**±0°.02, **h11**km±8km, **n19**, σ0**°95**/31, **Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ELZG	**Elazig**	**0.23**	**303**	*i* P		**Pg**	**20 49 46.4 -0.1**
ELZG				*i* S		**Sg**	**20 49 50.5 +0.8**
ELZG	**Elazig**	**0.23**	**303**	P		**Pg**	**20 49 46.3 -0.1**
ELZG				S		**Sg**	**20 49 50.5 +0.8**
PTK	**Pertek**	**0.53**	**14**	PG		**Pg**	**20 49 51.2 -0.8**
PTK				SG		**Sg**	**20 49 59.0 -0.1**
PTK	**Pertek**	**0.53**	**14**	*e*Pg		**Pg**	**20 49 51.2 -0.8**
PTK				*e*Sg		**Sg**	**20 49 59.0 -0.1**
MALT	**Malatya**	**0.63**	**265**	PG		**Pg**	**20 49 53.0 -0.8**
MALT	**Malatya**	**0.63**	**265**	*e*Pg		**Pg**	**20 49 53.0 -0.8**
TNCL	**Tunceli-Merkez**	**0.78**	**18**	*i* P		**Pn**	**20 49 59.6 +1.0**
TNCL				*i* S		**Sb**	**20 50 08.2 +0.4**
DYBB	**Diyarbakir**	**0.83**	**120**	PG		**Pb**	**20 49 57.8 -0.2**
DIYA	**Diyarbakir**	**0.83**	**122**	*i* P		Pn	20 50 09.8 +11
DIYA				*i* S		**Sn**	**20 50 12.4 +0.9**
DIY	**Diyarbakir**	**0.92**	**121**	*e*Pg		**Pg**	**20 49 57.8 -1.4**
HANI	**Diyarbakir_Han**	**0.92**	**87**	*i* P		**Pg**	**20 49 58.5 -0.7**
HANI				*i* S		**Sg**	**20 50 11.1 -0.2**
HANI	**Diyarbakir_Han**	**0.92**	**87**	P		**Pg**	**20 49 58.5 -0.7**
HANI				S		**Sg**	**20 50 11.1 -0.2**
URFA	**Urfa**	**0.98**	**199**	PG		**Pg**	**20 49 59.6 -0.9**
URFA	**Urfa**	**0.98**	**199**	*e*Pg		**Pg**	**20 49 59.6 -0.9**
AKCD	**Akcadag**	**1.03**	**266**	*i* P		**Pg**	**20 50 00.5 -0.9**
AKCD				*i* S		**Sn**	**20 50 15.9 -0.7**
AKCD	**Akcadag**	**1.03**	**266**	P		**Pg**	**20 50 00.5 -0.9**
AKCD				S		**Sn**	**20 50 15.9 -0.7**
HEKM	**Malatya_Hekimh**	**1.12**	**297**	*i* P		**Pg**	**20 49 59.9 -3.1**
HEKM				*i* S		**Sn**	**20 50 20.1 +1.4**
SURC	**SANLIURFA_SURC**	**1.57**	**198**	*i* P		**Pg**	**20 50 11.7 +0.1**
SURC				*i* S		**Sg**	**20 50 31.9 -0.1**
SURC	**SANLIURFA_SURC**	**1.57**	**198**	P		**Pg**	**20 50 11.7 +0.1**
SURC				S		**Sg**	**20 50 31.9 -0.1**

MEX 21 20:59:23.4±0.8, **16°.27N×98°.26W, h3**km±16km, **MD3.9, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.18**	**47**	*i* P		Pg	20 59 26.6 -0.3
PNIG				*e*S		Sg	20 59 29.4 +0.2
TLIG	**Tlapa**	**1.32**	**347**	*e*P		Pg	20 59 44.6 -4.1
VHO	**Vista Hermosa**	**1.67**	**61**	*e*P		Pn	20 59 50.3 -3.4
MEIG	**Mezcala**	**2.10**	**322**	*e*P		Pn	20 59 57.5 -2.1
HUIG	**Huatulco**	**2.13**	**103**	*e*P		Pn	20 59 58.6 -1.3

MEX 21 21:10:32.3±0.4, **16°.11N×97°.90W, h33**km±12km, **MD3.8, Oaxaca**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.36**	**322**	*i* P		Pb	21 10 39.3 -1.5
PNIG				*i* S		Sb	21 10 44.9 -1.8
VHO	**Vista Hermosa**	**1.47**	**49**	*e*P		Pn	21 10 54.3 -2.4
TLIG	**Tlapa**	**1.58**	**336**	*e*P		Pn	21 10 56.2 -2.0
HUIG	**Huatulco**	**1.76**	**101**	*e*P		Pn	21 10 59.2 -1.3

IDC 21 21:11:52.5±3.2, **2°.40N×91°.55E, h0**km, **mb3.3**/2, **mb1 3.5**/3, **mb1mx3.1**/62, **mbtmp3.3**/3, **ML3.6**/1, **Error ellipse: s-maj=99.6km s-min=33.5km az=62.0, Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**17.52**	**24**	P		21 15 59.9	+0.2
	0.1nm,0.3s,baz=216,slow=14,SNR=5.0						
MKAR	**Makanchi Array**	**44.95**	**351**	P		21 20 08.9	-0.4
	0.3nm,0.7s,baz=185,slow=8.0,SNR=3.0						
WRA	**Warramunga Arr**	**47.49**	**120**	P		21 20 29.5	-0.3
	0.3nm,0.6s,baz=299,slow=8.7,SNR=4.6						

IDC 21 21:21:25.5±1.4, **6°.12S×146°.69E, h0**km, **mb3.1**/3, **mb1 3.4**/5, **mb1mx3.2**/43, **mbtmp3.2**/5, **ML2.2**/2, **Error ellipse: s-maj=56.1km s-min=26.8km az=102.0, Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.30**	**172**	Pn	Pn	21 22 18.9	+0.5
	3.1nm,0.3s,baz=357,slow=4.1,SNR=8.5						
PMG				Sn	Sn	21 22 55.0	-3.3
	2.7nm,0.3s,baz=37,slow=21,SNR=3.4						
WRA	**Warramunga Arr**	**18.24**	**220**	P	Pn	21 25 39.7	-0.6
	0.0nm,0.3s,baz=47,slow=11,SNR=1.8						
ASAR	**Alice Springs**	**21.34**	**214**	P	P	21 26 14.4	0.0
	0.2nm,0.4s,baz=40,slow=9.6,SNR=1.5						
KURBB	**Kurchatov Arra**	**81.14**	**323**	P	P	21 33 42.9	+0.1
	0.1nm,0.4s,baz=106,slow=4.9,SNR=2.2						
ILAR	**Eielson Array**	**85.72**	**23**	P	P	21 34 07.3	+1.1
	0.1nm,0.3s,baz=258,slow=5.1,SNR=1.3						
TORD	**Torodi Ar. Bea**	**144.82**	**284**	PKP	PKPab	21 41 04.5	0.0
	1.7nm,0.8s,baz=85,slow=3.3,SNR=12						
KOWA	**Kowa**	**150.03**	**288**	PKPbc	PKPbc	21 41 18.0	-1.2
	1.2nm,0.8s,baz=0.0,slow=1.0,SNR=3.2						

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*ISCJB **21** 21:24:58.3±0.7, 6°.85N±0°.04×73°.14W±0°.05, h157km±5km, mb3.5/1, Error ellipse: s-maj=8.5km s-min=5.2km az=31.2*
*IDC **21** 21:24:58.5±1.0, 7°.06N×73°.27W, h150km±19km, mb3.2/1, mb1 3.4/3, mb1mx3.0/43, mbtmp3.7/3, Error ellipse: s-maj=50.4km s-min=8.1km az=131.0*
*RSNC **21** 21:24:59.9±1.0, 6°.80N×73°.15W, h150km±6km, ML3.5, Mw4.0*

ISC 21 21:24:59.2±1.0, **6°.83N**±0°.04×**73°.12W**±0°.05, **h152**km±7km, **n21**, σ0**°95**/34, **Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BARC	**Barichara**	**0.25**	**195**	*i* P		**Pn**	**21 25 20.1 -0.1**
BARC				*e*S		**Sn**	**21 25 36.1 +0.1**
BARC				*i*			21 25 37.0
	comp=Z,393nm,0.3s						
BRRC	**Barranca, Sant**	**0.65**	**295**	*e*P		**Pn**	**21 25 22.0 +0.4**
BRRC				*e*S		**Sn**	**21 25 38.9 +0.3**
BRRC				*i*			21 25 42.2
	comp=Z,584nm,0.2s						
PAMC	**Pamplona, Colo**	**0.65**	**40**	*e*P		**Pn**	**21 25 22.8 +0.7**
PAMC				*e*S		**Sn**	**21 25 40.0 +0.4**
RUSC	**La Rusia**	**0.94**	**178**	*e*P		**Pn**	**21 25 23.8 -0.4**
RUSC				*e*S		**Sn**	**21 25 42.7 -0.6**
RUSC				*i*			21 25 43.7
	comp=Z,232nm,0.3s						
PTBC	**PUERTO BERRIO,**	**1.36**	**258**	*e*P		**Pn**	**21 25 26.5 -1.0**
PTBC				*e*S		**Sn**	**21 25 48.0 -1.1**
PTBC				*i*			21 25 55.4
	comp=Z,541nm,0.4s						
OCAC	**Ocana**	**1.41**	**352**	*e*P		**Pn**	**21 25 28.4 +0.2**
OCAC				*e*S		**Sn**	**21 25 50.7 +0.3**
ZARC	**Zaragoza, Cauc**	**1.85**	**291**	*e*P		**Pn**	**21 25 32.4 -0.3**
ZARC				*e*S		**Sn**	**21 25 58.6 +0.2**
ZARC				*i*			21 26 04.0
	comp=Z,362nm,0.4s						
NORC	**Norcasia**	**2.15**	**234**	*e*P		**Pn**	**21 25 35.8 -0.5**
NORC				*e*S		**Sn**	**21 26 03.4 -1.4**
CHIC	**Chingaza**	**2.27**	**196**	*e*P		**Pn**	**21 25 38.1 0.0**
CHIC				*i*			21 26 13.1
	comp=Z,150nm,0.4s						
ROSC	**El Rosal**	**2.31**	**211**	P		**Pn**	**21 25 39.9 +1.3**
	comp=Z,35nm,0.3s,baz=18,slow=20,SNR=39						
ROSC				S		**Sn**	**21 26 11.0 +2.1**
	comp=Z,57nm,0.3s,baz=8.3,slow=22,SNR=9.0						
ROSC	**El Rosal**	**2.31**	**211**	*e*S		**Sn**	**21 26 08.9 +0.1**
ROSC				*i*			21 26 17.4
	comp=Z,240nm,0.4s						
HELC	**Santa Helena**	**2.48**	**255**	*e*P		**Pn**	**21 25 41.0 +0.5**
HELC				*e*S		**Sn**	**21 26 11.3 -1.0**
HELC				*i*			21 26 18.4
	comp=Z,172nm,0.3s						
VILC	**Villavicencio,**	**2.76**	**192**	*e*P		**Pn**	**21 25 43.3 -0.6**
VILC				*e*S		**Sn**	**21 26 17.2 -1.1**
VILC				*i*			21 26 24.2
	comp=Z,98nm,0.4s						
GUYC	**Guyana, Colomb**	**2.77**	**235**	*e*P		**Pn**	**21 25 44.7 +0.5**
GUYC				*i*			21 26 25.8
	comp=Z,250nm,0.4s						
RREF	**El Recreo**	**2.93**	**229**	*e*P		**Pn**	**21 25 47.0 +0.6**
RREF				*i*			21 26 32.3
	comp=Z,186nm,0.3s						
CODC	**Agust˜›n Codaz**	**3.10**	**354**	*e*P		**Pn**	**21 25 47.9 0.0**
CODC				*i*			21 26 32.3
	comp=Z,113nm,0.3s						
TOLC	**Tolima**	**3.13**	**225**	*e*P		**Pn**	**21 25 48.9 +0.3**
SDV	**Santo Domingo**	**3.20**	**50**	P		**Pn**	**21 25 49.2 -0.1**
	comp=Z,3.6nm,0.3s,baz=237,slow=12,SNR=15						
SDV				S		**Sn**	**21 26 26.8 -1.3**
	comp=Z,11nm,0.3s,baz=241,slow=13,SNR=21						
PRAC	**Prado**	**3.56**	**210**	*e*P		**Pn**	**21 25 53.7 -0.3**
PRAC				*e*S		**Sn**	**21 26 36.3 -0.2**
YKA	**Yellowknife Ar**	**63.25**	**340**	P		**P**	**21 35 09.9 -1.4**
	comp=Z,0.4nm,0.5s,baz=133,slow=6.7,SNR=11						
WRA	**Warramunga Arr**	**150.34**	**241**	PKPbc		**PKPdf**	**21 44 31.0 +2.7**
	comp=Z,0.2nm,0.7s,baz=105,slow=2.6,SNR=4.7						

IDC 21 21:29:16.6±3.7, **10°.72S×164°.71E, h0**km, **mb3.6**/3, **mb1 3.9**/3, **mb1mx3.5**/43, **mbtmp3.6**/3, **Error ellipse: s-maj=187.1km s-min=31.0km az=138.0, Santa Cruz Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**30.65**	**249**	P	P	21 35 32.9	-0.2
	0.6nm,0.6s,baz=81,slow=9.1,SNR=8.5						
ASAR	**Alice Springs**	**32.04**	**242**	P	P	21 35 45.5	+0.2
	0.4nm,0.8s,baz=62,slow=10,SNR=4.6						
ILAR	**Eielson Array**	**83.53**	**19**	P	P	21 41 46.1	0.0
	0.6nm,0.6s,baz=236,slow=4.2,SNR=11						

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*ISCJB **21** 21:36:52.8±0.6, 30°.03N±0°.07×69°.68E±0°.06, h15km, mb3.7/18, MS2.8/1, Error ellipse: s-maj=11.0km s-min=6.7km az=29.5*
*IDC **21** 21:36:52.3±0.7, 29°.98N×69°.55E, h0km, mb3.6/17, mb1 3.7/21, mb1mx3.6/69, mbtmp3.6/21, ML3.4/4, MS2.7/1, Ms1 2.8/1, ms1mx2.2/66, Error ellipse: s-maj=19.1km s-min=14.7km az=27.0*

ISC 21 21:36:54.5±0.6, **30°.03N**±0°.08×**69°.60E**±0°.07, **h15**km, **n35**, σ1**°21**/35, **mb3.6**/18, **Pakistan**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PYUN	**Piuthan**	**11.87**	**96**	*e*P	**Pn**	**21 39 43.9**	**+0.4**
WSAR	**Wadi Sarin**	**11.91**	**238**	Pn	**Pn**	**21 39 41.6**	**-2.2**
	0.2nm,0.3s,baz=25,slow=9.0,SNR=5.9						
WSAR				Sn	Sn	21 41 44.4	-12
	0.2nm,0.3s,baz=180,slow=11,SNR=3.9						
GEYT	**Alibeck**	**12.36**	**313**	Pn	**Pn**	**21 39 50.1**	**+0.2**
	0.1nm,0.3s,baz=211,slow=34,SNR=1.7						
KOLN	**Koldanda**	**12.47**	**97**	*e*P	**Pn**	**21 39 51.0**	**-0.7**
	9.2nm,0.7s						
AML	**Almayashu**	**12.52**	**14**	P	**Pn**	**21 39 52.4**	**0.0**
	SNR=6.1						
UCH	**Uchtor**	**12.80**	**17**	P	**Pn**	**21 39 56.1**	**-0.2**
	SNR=9.7						
KZA	**Kyzart**	**12.86**	**19**	P	**Pn**	**21 39 58.8**	**+1.7**
	SNR=5.2						
AAK	**Ala-Archa**	**13.18**	**16**	Pn	**Pn**	**21 40 01.1**	**-0.2**
	0.7nm,0.3s,baz=138,slow=3.6,SNR=15						
AAK				Sn	**Sn**	**21 42 24.5**	**-3.2**
	0.1nm,0.3s,baz=185,slow=11,SNR=3.7						
AAK				Lg	Lg	21 43 11.1	
	0.4nm,0.3s,baz=268,slow=18,SNR=3.7						
AAK	**Ala-Archa**	**13.18**	**16**	P	**Pn**	**21 40 01.2**	**-0.1**
	SNR=5.9						
GKN	**Gorkha**	**13.32**	**95**	*e*P	**Pn**	**21 40 01.8**	**-1.4**
CHMS	**Chumysh**	**13.59**	**16**	P	**Pn**	**21 40 06.2**	**-0.4**
	SNR=6.1						
KKN	**Kakani**	**13.92**	**95**	*e*P	**Pn**	**21 40 10.3**	**-1.1**
	6.9nm,0.4s						
GUN	**Gumba**	**14.41**	**94**	*e*P	**Pn**	**21 40 15.8**	**-2.5**
	36nm,0.7s						
JIRN	**Jiri**	**14.73**	**95**	*e*P	**Pn**	**21 40 20.8**	**-1.9**
	9.5nm,0.4s						
MKAR	**Makanchi Array**	**19.43**	**27**	P	**Pn**	**21 41 21.3**	**-0.1**
	0.1nm,0.3s,baz=206,slow=11,SNR=7.8						
KURBB	**Kurchatov Arra**	**21.64**	**16**	P	**P**	**21 41 44.0**	**0.0**
	1.4nm,0.9s,baz=208,slow=9.7,SNR=5.8						
AKTO	**Aktyubinsk**	**22.17**	**340**	P	**P**	**21 41 51.6**	**+1.8**
	1.4nm,0.5s,baz=152,slow=18,SNR=2.4						
GNI	**Garni**	**22.64**	**303**	P	**P**	**21 41 56.7**	**+1.6**
	2.2nm,0.8s,baz=113,slow=7.7,SNR=3.0						
BVAR	**Borovoye Array**	**22.98**	**1**	P	**P**	**21 41 60.0**	**+1.6**
	0.8nm,0.5s,baz=170,slow=11,SNR=4.8						
ZALV	**Zalesovo Beam**	**26.33**	**20**	P	**P**	**21 42 29.9**	**+0.3**
	0.4nm,0.3s,baz=205,slow=11,SNR=3.6						
CMAR	**Chiang Mai Arr**	**29.05**	**107**	P	**P**	**21 42 55.2**	**+0.9**
	0.5nm,0.6s,baz=291,slow=10,SNR=4.1						
BRTR	**Keskin Array B**	**30.87**	**298**	P	**P**	**21 43 11.2**	**+0.8**
	0.7nm,0.8s,baz=110,slow=9.3,SNR=6.9						
FINES	**FINESS Array B**	**42.37**	**331**	P	**P**	**21 44 47.6**	**-0.1**
	0.8nm,0.8s,baz=98,slow=10.0,SNR=3.3						
GERES	**GERESS Array B**	**45.97**	**310**	P	**P**	**21 45 16.1**	**-0.9**
	0.1nm,0.2s,baz=93,slow=7.9,SNR=2.5						
HFS	**Hagfors**	**47.59**	**326**	P	**P**	**21 45 28.6**	**-0.8**
	1.2nm,0.7s,baz=142,slow=7.3,SNR=4.0						
NOA	**NORSAR Array B**	**48.99**	**327**	LR	LR	22 08 10.8	
	comp=Z,8.4nm,19.2s,baz=85,slow=38						
EKA	**Eskdalemuir Ar**	**56.25**	**319**	P	**P**	**21 46 33.7**	**-0.3**
	0.4nm,0.6s,baz=85,slow=8.8,SNR=3.0						
TORD	**Torodi Ar. Bea**	**64.51**	**271**	P	**P**	**21 47 31.3**	**+0.2**
	0.3nm,0.6s,baz=57,slow=6.1,SNR=3.2						
PETK	**Petropavlovsk-**	**65.51**	**41**	P	**P**	**21 47 38.0**	**+0.9**
	0.8nm,0.6s,baz=309,slow=6.9,SNR=2.3						
WRA	**Warramunga Arr**	**79.67**	**120**	P	**P**	**21 49 01.7**	**-0.1**
	0.4nm,0.8s,baz=319,slow=5.1,SNR=5.4						
ILAR	**Eielson Array**	**81.31**	**15**	P	**P**	**21 49 09.8**	**-0.1**
	0.2nm,0.6s,baz=319,slow=4.9,SNR=4.1						
ASAR	**Alice Springs**	**81.61**	**123**	P	**P**	**21 49 12.6**	**+0.5**
	0.3nm,0.5s,baz=306,slow=5.8,SNR=4.3						
YKA	**Yellowknife Ar**	**87.74**	**2**	P	**P**	**21 49 43.3**	**+0.9**
	0.2nm,0.6s,baz=351,slow=4.2,SNR=4.5						
HNR	**Honiara**	**94.95**	**98**	P	**P**	**21 50 17.5**	**+0.8**
	40nm,0.4s,baz=205,slow=14,SNR=2.4						
TXAR	**Lajitas Array**	**120.62**	**353**	PKP	**PKPdf**	**21 55 47.0**	**+0.7**
	0.2nm,0.7s,baz=66,slow=2.5,SNR=2.8						

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*KRNET **21** 21:40:55.3±0.1, 42°.71N×80°.33E, h13km, mb3.0*
*SOME **21** 21:40:55.1, 42°.83N×80°.42E, h10km*

ISC 21 21:40:56.8±1.8, **42°.85N**±0°.05×**80°.29E**±0°.08, **h10**km, **n26**, σ1**°82**/52, **10C, Kyrgyzstan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHLS	**Shalkode**	**0.68**	**297**	*e*P		**Pg**	**21 41 06.2 -3.7**
	47nm,0.1s						
SHLS				*e*S		**Sg**	**21 41 14.4 -4.4**
	120nm,0.2s						
SHLS	**Shalkode**	**0.68**	**297**	*e*P		**Pg**	**21 41 06.2 -3.7**
	baz=24						
SHLS				*e*S		**Sg**	**21 41 14.4 -4.4**
	baz=24						
PDGK	**Podgornoye**	**0.75**	**309**	⇑*i*P		**Pb**	**21 41 11.4 -0.7**
	baz=16						
PDGK				⇑*i*S		**Sb**	**21 41 23.6 +1.1**
	baz=16						
UZB	**Uzynbulak**	**0.97**	**288**	*e*P		**Pg**	**21 41 15.2 -0.4**
	2.6nm,0.2s						
UZB				*e*S		**Sn**	**21 41 29.9 -0.7**
	38nm,0.1s						
UZB	**Uzynbulak**	**0.97**	**288**	*e*P		**Pg**	**21 41 15.2 -0.4**
	baz=95						
UZB				*e*S		**Sn**	**21 41 30.0 -0.7**
	baz=95						
KPKS	**Kokpek**	**1.32**	**298**	*e*P		**Pb**	**21 41 21.5 -0.3**
	50nm,0.1s						
KPKS				*e*S		**Sg**	**21 41 40.4 +1.0**
	30nm,0.2s						
KPKS	**Kokpek**	**1.32**	**298**	*e*P		**Pb**	**21 41 21.5 -0.3**
	baz=2.0						
KPKS				*e*S		**Sg**	**21 41 40.4 +1.0**
	baz=2.0						
ZHN	**Zhinishke**	**1.40**	**284**	*e*P		**Pg**	**21 41 23.0 -0.6**
	13nm,0.1s						
ZHN				*e*S		**Sg**	**21 41 42.6 +0.9**
	24nm,0.3s						
ZHN	**Zhinishke**	**1.40**	**284**	*e*P		**Pg**	**21 41 23.0 -0.6**
	baz=89						
ZHN				*e*S		**Sg**	**21 41 42.6 +0.9**
	baz=89						
SATY	**Saty**	**1.40**	**279**	*e*P		**Pg**	**21 41 23.1 -0.5**
	18nm,0.2s						
SATY				*e*S		**Sg**	**21 41 43.4 +1.7**
	103nm,0.1s						
DJR	**Jarkent**	**1.52**	**346**	*e*P		**Pb**	**21 41 24.5 -0.7**
	3.4nm,0.1s						
DJR				*e*S		**Sg**	**21 41 45.2 -0.6**
	20nm,0.2s						
KURS	**Kuram**	**1.68**	**293**	*e*P		**Pg**	**21 41 28.1 -0.8**
	0.6nm,0.3s						
KURS				*e*S		**Sg**	**21 41 51.9 +1.2**
	4.0nm,0.5s						
KURS	**Kuram**	**1.68**	**293**	*e*P		**Pg**	**21 41 28.1 -0.8**
	baz=97						
KURS				*e*S		**Sg**	**21 41 51.8 +1.2**
	baz=97						
MNBS	**Baschi**	**1.84**	**312**	*e*P		**Pb**	**21 41 29.6 -1.0**
	11nm,0.2s						
MNBS				*e*S		**Sb**	**21 41 54.7 +0.9**
	20nm,0.4s						
MNBS	**Baschi**	**1.84**	**312**	*e*P		**Pb**	**21 41 29.6 -1.0**
	baz=14						
MNBS				*e*S		**Sb**	**21 41 53.8 0.0**
	baz=14						
TARG	**Taragay, Kyrgy**	**2.16**	**239**	⇑*i*P		**Pb**	**21 41 35.3 -0.9**
	baz=43						
TARG				⇑*i*S		**Sg**	**21 42 04.3 -1.8**
	baz=43						
ARXS	**Arharly**	**2.25**	**308**	*e*P		**Pb**	**21 41 37.4 -0.1**
	1.3nm,0.3s						
ARXS				*e*S		**Sg**	**21 42 07.6 -1.4**
	7.7nm,0.3s						
KDJ	**Kajisay**	**2.41**	**254**	⇑*i*P		**Pb**	**21 41 39.2 -1.1**
	baz=57						
KDJ				⇑*i*S		**Sb**	**21 42 11.0 +0.8**
	baz=57						
KAPS	**Kapalarasan**	**2.52**	**345**	*e*P		**Pb**	**21 41 41.4 -0.9**
	1.0nm,0.2s						
KAPS				*e*S		**Sb**	**21 42 14.8 +1.5**
	8.1nm,0.2s						
CHKK	**Chushkaly**	**2.61**	**294**	*e*P		**Pb**	**21 41 43.4 -0.3**
	1.8nm,0.3s						
CHKK				*e*S		**Sb**	**21 42 17.7 +2.0**
	9.5nm,0.2s						
IZV	**Izvestkoviy**	**2.71**	**275**	*e*P		**Pb**	**21 41 45.9 +0.5**
	2.7nm,0.2s						
IZV				*e*S		**Sg**	**21 42 22.3 -1.4**
	17nm,0.4s						
MTBS	**Maitube**	**2.84**	**277**	*e*P		**Pb**	**21 41 48.2 +0.5**
	3.0nm,0.2s						
MTBS				*e*S		**Sg**	**21 42 26.4 -1.7**
	9.9nm,0.2s						
ULHL	**Ulahol**	**3.05**	**260**	⇑*i*P		**Pb**	**21 41 48.2 -3.1**
	baz=63						
ULHL				⇑*i*S		**Sb**	**21 42 26.6 -2.1**
	baz=63						
KST	**Kastek**	**3.18**	**275**	*e*P		**Pb**	**21 41 53.7 +0.2**
	0.8nm,0.6s						
KST				*e*S		**Sg**	**21 42 36.1 -2.9**
	3.0nm,1.3s						
DGS	**Degeres**	**3.33**	**278**	*e*P		**Pb**	**21 41 56.7 +0.7**
	1.9nm,0.5s						
DGS				*e*S		**Sg**	**21 42 40.9 -2.9**
	8.3nm,0.4s						
KZA	**Kyzart**	**3.81**	**260**	⇑*i*P		**Pn**	**21 41 58.8 +2.9**
	baz=62						
KZA				⇑*i*S		**Sn**	**21 42 45.0 +4.1**
	baz=62						

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*IDC **21** 21:48:43.4±1.0, 42°.92N×18°.06E, h0km, mb3.6/10, mb1 3.7/18, mb1mx3.6/62, mbtmp3.6/18, ML3.6/8, MS2.8/2, Ms1 2.8/2, ms1mx2.2/49, Error ellipse: s-maj=19.2km s-min=11.3km az=57.0*
*ISCJB **21** 21:48:44.3±0.3, 42°.97N±0°.01×17°.79E±0°.01, h4km±2km, mb3.7/11, MS3.4/1, Error ellipse: s-maj=2.0km s-min=1.6km az=25.0*
*PRU **21** 21:48:44.2, 42°.80N×17°.87E, h0km*
*BEO **21** 21:48:44.6±0.3, 43°.01N×17°.66E, h4km±1km*
*LDG **21** 21:48:45.9±0.1, 42°.99N×17°.92E, h2km, Md3.8/2, Ml4.0/15, Error ellipse: s-maj=4.1km s-min=2.2km az=20.0*
*PDG **21** 21:48:45.5±0.4, 42°.95N×17°.85E, h9km, MD3.7/11, ML3.7/11, Error ellipse: s-maj=0.4km s-min=0.5km az=0.0*
*NEIC **21** 21:48:45.5±0.0, 42°.95N×17°.84E, h7km,

NKME **Niksic** 0.88 102 ⇓*i*Pg Pg 21 49 00.8 -1.8
NKME *e*Sg Sg 21 49 14.2 +0.1
NKY Niksic 0.90 98 ⇓*i*Pg Pg 21 49 01.2 -1.8
NKY *e*Sg Sb 21 49 14.9 +0.1
NKY Niksic 0.90 98 ⇓*i*Pg Pg 21 49 01.2 -1.8
NKY *e*Sg Sb 21 49 14.9 +0.1
CEME Cevo 0.93 115 ⇓*i*Pg Pb 21 49 02.0 -1.4
CEME *e*Sg Sb 21 49 16.2 +0.6
CEME Cevo 0.93 115 ⇓*i*Pg Pb 21 49 02.0 -1.4
CEME *e*Sg Sb 21 49 16.2 +0.6
HVAR Hvar 1.00 283 *e*Pg Pg 21 49 04.7 -0.3
HVAR Hvar 1.00 283 *e*Pg Pg 21 49 04.7 -0.3
BUM Brajici-Budva 1.05 128 ⇓*i*Pg Pb 21 49 04.3 -1.1
BUM *e*Sg Sn 21 49 20.2 +0.1
BUM Brajici-Budva 1.05 128 ⇓*i*Pg Pb 21 49 04.3 -1.1
BUM *e*Sg Sn 21 49 20.2 +0.1
PDG Podgorica 1.20 115 *e*Pg Pn 21 49 07.3 -0.5
PDG *e*Sg Sg 21 49 26.1 +1.7
PDG Podgorica 1.20 115 ⇓*i*P Pn 21 49 07.7 -0.1
PDG Podgorica 1.20 115 *e*Pg Pn 21 49 07.3 -0.5
PDG Podgorica 1.20 115 ⇓*i*P Pn 21 49 07.7 -0.1
PDG *e*Sg Sb 21 49 23.4 0.0
PDG S Sg 21 49 25.8 +1.4
TTG Podgorica 1.20 115 ⇓*i*Pg Pn 21 49 06.9 -0.9
TTG *e*Sg Sg 21 49 25.3 +0.9
TTG Podgorica 1.20 115 *e*Pg Pn 21 49 07.6 -0.3
TTG *e*Sn Sg 21 49 25.9 +1.5
TTG Podgorica 1.20 115 *e*Pg Pn 21 49 07.6 -0.3
TTG *e*Sn Sg 21 49 25.9 +1.5
PLE Pljevlja 1.23 72 ⇑*i*Pg Pn 21 49 07.6 -0.8
PLE *e*Sg Sg 21 49 26.4 +1.0
PLE Pljevlja 1.23 72 ⇑*i*Pg Pn 21 49 07.6 -0.8
PLE *e*Sg Sg 21 49 26.4 +1.0
KOME Kolasin 1.28 94 ⇑*i*Pg Pn 21 49 08.6 -0.3
KOME *e*Sg Sg 21 49 27.9 +1.1
KOME Kolasin 1.28 94 ⇑*i*Pg Pn 21 49 08.6 -0.3
KOME *e*Sg Sg 21 49 27.9 +1.1
DRME Dracevica, Mon 1.29 126 ⇓*i*Pg Pn 21 49 08.9 -0.1
DRME *e*Sg Sg 21 49 28.4 +1.4
DRME Dracevica, Mon 1.29 126 ⇓*i*Pg Pn 21 49 08.9 -0.1
DRME *e*Sg Sn 21 49 26.2 +0.2
HAPS Han Pijesak,BI 1.42 36 *e*Pg Pn 21 49 10.3 -0.6
HAPS *e*Sg Sg 21 49 30.4 -0.9
HAPS Han Pijesak,BI 1.42 36 *e*Pg Pn 21 49 10.3 -0.6
HAPS *e*Sg Sg 21 49 30.4 -0.9
ULC Ulcinj 1.46 132 ⇑*i*Pg Pn 21 49 11.8 +0.3
ULC *e*Sg Sg 21 49 34.2 +1.5
ULC Ulcinj 1.46 132 P Pn 21 49 11.8 +0.3
ULC *e*Sg Sg 21 49 34.2 +1.5
BBLS Lazići 1.49 52 *e*Pg Pn 21 49 12.4 +0.5
BBLS *e*Sg Sg 21 49 33.9 +0.2
BBLS Lazići 1.49 52 *e*Pg Pn 21 49 12.4 +0.5
BBLS *e*Sg Sb 21 49 32.7 +0.8
BEY Berane 1.55 92 ⇓*i*Pg Pn 21 49 13.4 +0.7
BEY Berane 1.55 92 P Pb 21 49 14.0 0.0
BEY *e*Sg Sg 21 49 36.1 +0.6
IVA Berane 1.55 92 ⇓*i*Pg Pn 21 49 13.4 +0.7
IVA *e*Sg Sg 21 49 36.1 +0.6
SJES Sjenica 1.63 78 *e*Pg Pb 21 49 15.2 -0.2
PVY Plav 1.64 102 *e*Pn Pb 21 49 15.2 -0.4
PVY *e*Sn Sg 21 49 38.5 +0.1
PVY Plav 1.64 102 *e*Pn Pb 21 49 15.2 -0.4
PVY *e*Sn Sg 21 49 38.5 +0.1
BCI Bajram Curri 1.78 108 *i*PN Pb 21 49 18.0 +0.1
BCI *i*SN Sg 21 49 44.3 +1.4
DOB Doboj 1.80 7 *e*Pn Pb 21 49 17.5 -0.6
PUK Puka 1.81 119 *i*Pn Pb 21 49 18.7 +0.4
PUK Puka 1.81 119 *i*PN Pb 21 49 18.7 +0.4
PUK *i*SN Sg 21 49 47.8 +4.1
IVAS Ivanjica 1.84 69 *e*Pn Pn 21 49 17.7 +1.0
IVAS *e*Sn Sb 21 49 41.8 0.0
IVAS Ivanjica 1.84 69 *e*Pn Pn 21 49 17.7 +1.0
IVAS *e*Sn Sb 21 49 41.8 0.0
BLY Banja Luka 1.85 347 ⇑*i*P Pb 21 49 19.4 +0.4
BLY Banja Luka 1.85 347 *e*Pn Pb 21 49 19.5 +0.4
BLY *e*Sn Sb 21 49 43.0 +1.0
BLY Banja Luka 1.85 347 *e*Pn Pb 21 49 18.8 -0.2
BLY Banja Luka 1.85 347 ⇑*i*P Pb 21 49 19.4 +0.4
BLY *e*Sn Sb 21 49 43.0 +1.0
MS1 Monte Sant'Ang 1.85 228 *i*Pn Pg 21 49 20.1 -0.9
PEJK Peje 1.86 99 P Pb 21 49 19.6 +0.3
BAI Bari 1.96 200 *i*Pn Pn 21 49 18.6 +0.3
DIVS Divibare 1.97 54 *e*Pg Pn 21 49 19.8 +1.3
DIVS *e*Sg Sg 21 49 48.4 -0.6
DIVS Divibare 1.97 54 *e*Pn Pn 21 49 19.5 +1.0
DIVS Divibare 1.97 54 *e*Pn Pn 21 49 19.5 +1.0
DIVS Divibare 1.97 54 *e*Pg Pn 21 49 19.8 +1.3
DIVS *e*Sn Sn 21 49 44.3 +1.2
DIVS *e*Sg Sg 21 49 48.4 -0.6
TEKS Tekeris 2.04 38 *e*Pn Pn 21 49 20.3 +0.9
TEKS *e*Sn Sb 21 49 47.3 -0.1
TEKS Tekeris 2.04 38 *e*Pn Pn 21 49 20.3 +0.9
TEKS *e*Sn Sb 21 49 47.3 -0.1
UDBI Udbina 2.15 318 *e*Pn Pb 21 49 24.8 +0.5
UDBI Sn Sg 21 49 55.0 +0.3
UDBI Udbina 2.15 318 *e*Pn Pb 21 49 24.7 +0.5
UDBI Sn Sg 21 49 54.9 +0.3
ZATK Zatriq 2.15 103 P Pb 21 49 23.9 -0.4
FASA Fasano 2.16 189 *e*Pn Pn 21 49 21.2 +0.2
TIR Tirane 2.23 135 *e*Pn Pn 21 49 23.7 +1.8
TIR *e*Sn Sb 21 49 53.1 +0.2
TIR Tirane 2.23 135 ⇓*i*P Pn 21 49 23.2 +1.3
TIR Tirane 2.23 135 *e*Pn Pn 21 49 23.4 +1.4
TIR Tirane 2.23 135 ⇓*i*P Pn 21 49 23.2 +1.3
TIR S Sn 21 49 50.9 +1.7
TIR *e*Sn Sb 21 49 53.1 +0.2
SG1 Sgolgore (BA) 2.27 202 *i*Pn Pn 21 49 22.7 +0.2
TRUS Trudelj 2.29 55 *e*Pn Pn 21 49 23.6 +0.8
TRUS *e*Sn Sb 21 49 53.5 -1.2
TRUS Trudelj 2.29 55 *e*Pn Pn 21 49 23.6 +0.8
TRUS *e*Sn Sb 21 49 53.5 -1.2
CGL1 Ceglie Messapi 2.31 186 *e*Pn Pn 21 49 23.2 +0.2
PRZK Prizren 2.32 108 P Pb 21 49 27.1 0.0
GRUS Gruza 2.33 65 *e*Pn Pn 21 49 24.5 +1.1
GRUS *e*Sg Sg 21 50 00.5 0.0
GRUS Gruza 2.33 65 *e*Pn Pn 21 49 24.5 +1.1
GRUS *e*Sg Sg 21 50 00.5 0.0
PHP Peshkopia 2.34 122 *i*Pn Pb 21 49 26.1 -1.4
PHP Peshkopia 2.34 122 *i*PN Pb 21 49 26.1 -1.4
PHP *i*SN Sg 21 50 04.9 +4.1
MASS Massafra 2.37 192 *e*Pn Pn 21 49 23.6 +0.2
MATE Matera 2.44 200 ⇑*i*P Pn 21 49 25.6 +0.8
MATE Matera 2.44 200 ⇑*i*P Pn 21 49 25.6 +0.8
TAR1 Taranto 2.45 189 *e*Pn Pn 21 49 24.1 -0.9
SELS Selova 2.46 83 *e*Pn Pn 21 49 26.4 +1.3
SELS *e*Sn Sb 21 49 58.1 -1.5
SELS Selova 2.46 83 *e*Pn Pn 21 49 26.4 +1.3
SELS *e*Sn Sb 21 49 58.1 -1.5
FGSL Fruska Gora 2.65 33 *e*Pn Pn 21 49 28.1 +0.4
FGSL *e*Sn Sn 21 50 01.2 +1.7
FRGS Fruska Gora 2.65 33 *e*Pn Pn 21 49 28.1 +0.4
FRGS *e*Sn Sn 21 50 01.2 +1.6
NVLJ Novalja 2.66 308 *i*Pn Pb 21 49 30.6 -2.2
NVLJ Sn Sb 21 50 03.1 -2.1
NVLJ Novalja 2.66 308 *i*Pn Pb 21 49 30.5 -2.2
NVLJ Sn Sb 21 50 03.0 -2.1
BEO Beograd 2.69 45 *e*Pn Pn 21 49 29.8 +1.6
BEO Beograd 2.69 45 *e*Pn Pn 21 49 29.8 +1.6
SVIS Svilajnac 2.82 61 *e*Pn Pn 21 49 30.2 +0.2
SVIS *e*Sn Sn 21 50 06.2 +2.5
SKO Skopje 2.88 109 P Pn 21 49 32.8 +1.9
SKO Skopje 2.88 109 P Pn 21 49 32.8 +1.9
SKO Skopje 2.88 109 *i*Pn Pn 21 49 33.4 +2.6
OHR Ohrid 2.90 128 *e*Pn Pb 21 49 34.4 -2.7
BARS Barje 2.97 91 *e*Pn Pn 21 49 33.8 +1.7
BARS *e*Sn Sn 21 50 10.9 +3.5
BARS Barje 2.97 91 *e*Pn Pn 21 49 33.8 +1.7
BARS *e*Sn Sn 21 50 10.9 +3.5
KRUS Krusevo 3.02 120 *i*Pn Pn 21 49 35.1 +2.1
OZLJ Ozalj 3.14 329 *i*Pn Pb 21 49 37.8 -3.3
OZLJ Sn Sb 21 50 16.5 -2.7
OZLJ Ozalj 3.14 329 *i*Pn Pb 21 49 37.7 -3.3
OZLJ Sn Sb 21 50 16.4 -2.7
ZAG Zagreb 3.15 336 *e*Pn Pn 21 49 36.2 +1.6
ZAG Sn Sn 21 50 14.3 +2.4
ZAG Zagreb 3.15 336 *e*Pn Pn 21 49 36.4 +1.8
ZAG Sn Sn 21 50 14.3 +2.4
KUBS Kucevo 3.18 61 *e*Pn Pn 21 49 34.1 -0.9
KUBS *e*Sn Sn 21 50 15.3 +2.6
KUBS Kucevo 3.18 61 *e*Pn Pn 21 49 34.1 -0.9
KUBS *e*Sn Sn 21 50 15.3 +2.6
AQU L'Aquila 3.29 261 *e*Pn Pn 21 49 39.2 +2.7
AQU L'Aquila 3.29 261 *e*Pn Pn 21 49 39.2 +2.7
AQU *e*Sn Sn 21 50 17.6 +2.2
CUC Castrocucco 3.31 207 *e*Pn Pn 21 49 39.1 +2.3
CUC Castrocucco 3.31 207 *e*Pn Pn 21 49 39.1 +2.3
CRES Cresnjev 3.32 331 *e*Pn Pn 21 49 38.5 +1.5
ZAGS Zajecar 3.36 74 *e*Pn Pn 21 49 38.5 +1.1
ZAGS *e*Sn Sn 21 50 18.5 +1.5
ZAGS Zajecar 3.36 74 *e*Pn Pn 21 49 38.5 +1.1
ZAGS *e*Sn Sn 21 50 18.5 +1.5
BANR Banloc 3.42 44 ⇓*i*P Pn 21 49 40.3 +1.9
BANR Banloc 3.42 44 ⇓*i*P Pn 21 49 40.3 +1.9
FNA Florina 3.45 128 P Pn 21 49 40.7 +1.9
FNA Florina 3.45 128 P Pn 21 49 40.7 +1.9
SRN Sarande 3.49 151 *i*PN Pn 21 49 40.2 +0.9
SRN *i*SN Sn 21 50 20.4 +0.1
NEST Nestorio 3.52 135 P Pn 21 49 41.8 +2.0
NEST Nestorio 3.52 135 P Pn 21 49 41.8 +2.0
ZAPS Zavoj 3.57 83 *e*Pn Pn 21 49 42.0 +1.6
ZAPS *e*Sn Sn 21 50 24.5 +2.2
KEK Kerkira 3.57 154 P Pn 21 49 40.9 +0.5
KEK Kerkira 3.57 154 P Pn 21 49 40.9 +0.5
BEHE Becsehely 3.59 349 ⇑*e*Pn Pn 21 49 43.1 +2.4
BEHE *e*Sb Sb 21 50 29.0 -3.1
BEHE Becsehely 3.59 349 *e*Pn Pn 21 49 42.0 +1.3
BEHE *e*Sn Sb 21 50 29.0 -3.1
CEY Cerknica 3.68 320 *e*Pn Pn 21 49 43.8 +1.8
SGD Sagiada 3.81 150 P Pn 21 49 44.6 +0.9
SGD Sagiada 3.81 150 P Pn 21 49 44.6 +0.9
BZS Buzias 3.83 45 *e*Pn Pn 21 49 44.2 +0.2
BZS *e*Sn Sn 21 50 29.6 +0.9
BZS Buzias 3.83 45 ⇑*i*P Pn 21 49 44.7 +0.7
BZS Buzias 3.83 45 *e*Pn Pn 21 49 44.2 +0.2
BZS Buzias 3.83 45 ⇑*i*P Pn 21 49 44.7 +0.7
BZS *e*Sn Sn 21 50 29.6 +0.9
TIP Timpagrande 3.85 192 ⇓*i*P Pn 21 49 45.2 +1.0
TIP Timpagrande 3.85 192 *e*Pn Pn 21 49 45.3 +1.0
TIP Timpagrande 3.85 192 P Pn 21 49 44.9 +0.6
TIP Timpagrande 3.85 192 P Pn 21 49 44.9 +0.6
TIP Timpagrande 3.85 192 *e*Pn Pn 21 49 45.3 +1.0
TIP S Sn 21 50 31.4 +2.1
LJU Ljubljana 3.87 324 *e*Pg Pb 21 49 52.4 -1.1
LJU *e*Sg Sb 21 50 44.0 +3.8
LJU Ljubljana 3.87 324 *e*Pn Pn 21 49 46.0 +1.5
VAY Valandovo 3.92 113 P Pn 21 49 46.0 +0.9
VAY Valandovo 3.92 113 P Pn 21 49 46.0 +0.9
VAY Valandovo 3.92 113 *i*Pn Pn 21 49 46.9 +1.8
IGT Igoumenitsa 3.92 150 P Pn 21 49 45.5 +0.3
IGT Igoumenitsa 3.92 150 P Pn 21 49 45.5 +0.3
GRG Griva 3.98 119 P Pn 21 49 47.9 +1.9
GRG Griva 3.98 119 P Pn 21 49 47.9 +1.9
KZN Kozani 3.99 130 P Pn 21 49 48.3 +2.1
KZN Kozani 3.99 130 P Pn 21 49 48.3 +2.1
TRI Trieste 3.99 315 *e*Pn Pn 21 49 49.2 +3.1
TRI Trieste 3.99 315 *e*Pn Pn 21 49 49.2 +3.1
VTS Vitosha 4.01 93 *i*P Pn 21 49 48.6 +2.0
KPRO Kipourio 4.03 137 P Pn 21 49 48.4 +1.7
KPRO Kipourio 4.03 137 P Pn 21 49 48.4 +1.7
KKB Krupnik 4.07 104 *i*P Pn 21 49 50.3 +3.0
KNT Kendrikon 4.21 113 P Pn 21 49 50.4 +1.2
KNT Kendrikon 4.21 113 P Pn 21 49 50.4 +1.2
SOKA Soboth 4.21 333 Pn Pn 21 49 51.7 +2.4
40nm,0.4s,SNR=36
SOKA *e*Sn Sn 21 50 40.7 +2.5
20nm,0.6s
SOKA Soboth 4.21 333 *i*Pn Pn 21 49 51.7 +2.4
40nm,0.4s,SNR=36
SOKA *e*Sn Sn 21 50 40.7 +2.5
20nm,0.6s
OBKA Obir 4.24 328 Pn Pn 21 49 54.1 +4.5
2.7nm,0.2s
OBKA Obir 4.24 328 *i*Pn Pn 21 49 54.1 +4.5
2.7nm,0.2s
SRE Strehaia 4.28 65 ⇑*i*P Pn 21 49 52.2 +2.0
SRE Strehaia 4.28 65 ⇑*i*P Pn 21 49 52.2 +2.0
SIRR Siria 4.32 39 ⇑*i*P Pn 21 49 51.2 +0.5
SIRR Siria 4.32 39 ⇑*i*P Pn 21 49 51.2 +0.5
SIRR S Sn 21 50 42.9 +2.1
CSKK Cs˘ţkako 4.42 4 ⇑*e*x Pn 21 49 53.9 +1.8
CSKK *e*Sb Sb 21 50 53.6 -2.5
CSKK Cs˘ţkako 4.42 4 ⇑*e*Pn Pn 21 49 53.9 +1.8
ARSA Arzberg 4.59 340 Pn Pn 21 49 56.7 +2.3
50nm,0.4s,SNR=42
ARSA Sn Sn 21 50 49.3 +1.9
20nm,0.6s
ARSA Arzberg 4.59 340 *i*Pn Pn 21 49 56.7 +2.3
50nm,0.4s,SNR=42
ARSA *e*Sn Sn 21 50 49.3 +1.9
20nm,0.6s
MMB Musomiste 4.62 105 *i*P Pn 21 49 57.4 +2.6
THL Klokotos Trika 4.65 135 P Pn 21 49 56.2 +1.0
THL Klokotos Trika 4.65 135 P Pn 21 49 56.2 +1.0
LKD2 Lefkada island 4.69 151 P Pn 21 49 56.0 +0.1
LKD2 Lefkada island 4.69 151 P Pn 21 49 56.0 +0.1
SRS Serrai 4.70 111 P Pn 21 49 57.5 +1.6
SRS Serrai 4.70 111 P Pn 21 49 57.5 +1.6
MYKA Terra Mystica 4.71 323 Pn Pn 21 49 58.8 +2.7
3.5nm,0.3s
MYKA Terra Mystica 4.71 323 *e*Pn Pn 21 49 58.9 +2.7
3.5nm,0.3s
NVR Nevrokopi 4.79 107 P Pn 21 49 59.3 +2.1
NVR Nevrokopi 4.79 107 P Pn 21 49 59.3 +2.1
SOP Sopron 4.81 350 ⇓*e*pPn Pn 21 49 59.6 +2.2
SOP *e*Sn Sn 21 50 55.9 +3.0
SOP Sopron 4.81 350 ⇓*e*Pn Pn 21 49 59.6 +2.2
SOP *e*Sn Sn 21 50 55.9 +3.0
SRO Srobarova 4.88 4 *e*Pn Pn 21 50 02.9 +4.6
SRO Srobarova 4.88 4 *e*PN Pn 21 50 02.9 +4.6
CEL Celeste 4.90 198 *e*Pn Pn 21 49 59.4 +0.6
CEL Celeste 4.90 198 *e*Pn Pn 21 49 59.4 +0.6
LOT Lotru 4.97 58 ⇓*i*P Pn 21 50 02.4 +2.6
LOT Lotru 4.97 58 ⇓*i*P Pn 21 50 02.4 +2.6
LOT S Sn 21 50 57.8 +0.7
EVR Evrytania 5.05 142 P Pn 21 50 02.4 +1.5
EVR Evrytania 5.05 142 P Pn 21 50 02.4 +1.5
PDO Prodromos 5.06 148 P Pn 21 50 00.9 +0.1
PDO Prodromos 5.06 148 P Pn 21 50 00.9 +0.1
CONA Conrad Observa 5.16 345 Pn Pn 21 50 04.7 +2.4
10.0nm,0.3s
CONA Sn Sn 21 51 02.8 +1.3
18nm,0.5s
CONA Conrad Observa 5.16 345 *i*Pn Pn 21 50 04.7 +2.4
10.0nm,0.3s
CONA *e*Sn Sn 21 51 02.8 +1.3
18nm,0.5s
PSZ Piszkesteto 5.18 16 ⇑*i*P Pn 21 50 03.8 +1.2
PSZ Piszkesteto 5.18 16 ⇓*e*Pn Pn 21 50 03.4 +0.8
PSZ *e*Sn Sn 21 51 01.0 -1.2
PSZ Piszkesteto 5.18 16 *e*Pn Pn 21 50 03.4 +0.8
PSZ Piszkesteto 5.18 16 ⇓*e*Pn Pn 21 50 03.4 +0.8
PSZ Piszkesteto 5.18 16 ⇑*i*P Pn 21 50 03.8 +1.2
PSZ *e*Sn Sn 21 51 01.0 -1.2
KBA Koelnbreinsper 5.19 324 Pn Pn 21 50 05.6 +2.8
3.6nm,0.2s
KBA Sn Sn 21 51 07.2 +4.7
28nm,0.7s
KBA Koelnbreinsper 5.19 324 *i*Pn Pn 21 50 05.6 +2.8
3.6nm,0.2s
KBA *e*Sn Sn 21 51 07.2 +4.7
28nm,0.7s
DRGR 5.20 41 ⇓*i*P Pn 21 50 04.2 +1.4
DRGR 5.20 41 ⇓*i*P Pn 21 50 04.2 +1.4
DRGR S Sn 21 51 01.3 -1.2
AGG Agios Georgios 5.22 137 *e*Pn Pn 21 50 04.8 +1.7
AGG Agios Georgios 5.22 137 P Pn 21 50 04.1 +1.0
AGG Agios Georgios 5.22 137 P Pn 21 50 04.1 +1.0
AGG Agios Georgios 5.22 137 *e*Pn Pn 21 50 04.8 +1.7
ABTA Abfaltersbach 5.33 317 Pn Pn 21 50 06.7 +2.0
11nm,0.5s
ABTA Sn Sn 21 51 11.5 +5.6
45nm,0.7s
ABTA Abfaltersbach 5.33 317 *i*Pn Pn 21 50 06.7 +2.0
11nm,0.5s
ABTA *e*Sn Sn 21 51 11.5 +5.6
45nm,0.7s
ANX Ano Chora 5.37 143 P Pn 21 50 06.6 +1.4
ANX Ano Chora 5.37 143 P Pn 21 50 06.6 +1.4
MODS Modra-Piesok 5.43 356 *e*Pn Pn 21 50 06.8 +0.8
MODS Modra-Piesok 5.43 356 *e*PN Pn 21 50 06.8 +0.8
MODS *e*SN Sn 21 51 07.0 -1.3
HUMR Humele 5.45 71 ⇑*i*P Pn 21 50 08.3 +2.1
HUMR Humele 5.45 71 ⇑*i*P Pn 21 50 08.3 +2.1
HUMR S Sn 21 51 10.9 +2.3
ARR Arges 5.49 62 ⇑*i*P Pn 21 50 08.6 +1.8
ARR Arges 5.49 62 ⇑*i*P Pn 21 50 08.6 +1.8
ARR S Sn 21 51 11.8 +2.1
MOA Molln 5.49 334 Pn Pn 21 50 10.5 +3.7
15nm,0.3s,SNR=8.2
MOA Sn Sn 21 51 13.1 +3.5
17nm,0.4s
MOA Molln 5.49 334 *i*Pn Pn 21 50 10.5 +3.7
15nm,0.3s,SNR=8.2
MOA *i*Sn Sn 21 51 13.1 +3.5
17nm,0.4s
PVL Pavlikeni 5.54 85 *i*P Pn 21 50 08.3 +0.9
SMOL Smolenice 5.57 358 *e*Sn Sn 21 51 16.2 +4.6
SMOL Smolenice 5.57 358 *e*SN Sn 21 51 16.2 +4.6
CJR Cluj-Napoca 5.59 46 ⇑*i*P Pn 21 50 09.6 +1.4
CJR Cluj-Napoca 5.59 46 ⇑*i*P Pn 21 50 09.6 +1.4
VYHS Vyhne 5.59 7 *e*Pn Pn 21 50 09.9 +1.7
VYHS Vyhne 5.59 7 *e*PN Pn 21 50 09.9 +1.7
VOIR 5.79 62 ⇑*i*P Pn 21 50 12.8 +1.9
VOIR 5.79 62 ⇑*i*P Pn 21 50 12.8 +1.9
VOIR S Sn 21 51 18.8 +1.8
SZH Strazhica 5.97 84 *i*P Pn 21 50 15.9 +2.5
VAE Valguarnera 6.04 206 Pn Pn 21 50 21.9 +7.4
0.5nm,0.3s,baz=360,slow=19,SNR=2.6
SGRR Singureni 6.08 75 ⇓*i*P Pn 21 50 16.1 +1.2
SGRR Singureni 6.08 75 ⇓*i*P Pn 21 50 16.1 +1.2
SGRR S Sn 21 51 24.1 -0.1
WTTA Wattenberg 6.12 317 Pn Pn 21 50 19.9 +4.3
1.6nm,0.2s
WTTA Sn Sn 21 51 31.8 +6.3
25nm,0.7s
WTTA Wattenberg 6.12 317 *i*Pn Pn 21 50 19.9 +4.3
1.6nm,0.2s
WTTA *e*Sn Sn 21 51 31.8 +6.3
25nm,0.7s
TRPA Tarpa 6.16 31 ⇓*i*P Pn 21 50 17.1 +1.2
TRPA Tarpa 6.16 31 ⇓*i*P Pn 21 50 17.1 +1.2
WATA Walderalm 6.20 317 Pn Pn 21 50 20.5 +3.8
12nm,0.4s,SNR=20
WATA Sn Sn 21 51 31.8 +4.4
15nm,0.6s
WATA Walderalm 6.20 317 *i*Pn Pn 21 50 20.5 +3.8
12nm,0.4s,SNR=20
WATA *e*Sn Sn 21 51 31.8 +4.4
15nm,0.6s
DOPR Dopca 6.22 58 ⇑*i*P Pn 21 50 18.8 +2.0
DOPR Dopca 6.22 58 ⇑*i*P Pn 21 50 18.8 +2.0
LANS Liptovska Anna 6.31 10 *e*Pn Pn 21 50 20.1 +2.0
LANS Liptovska Anna 6.31 10 *e*PN Pn 21 50 20.1 +2.0
MLR Muntele Rosu 6.39 64 Pn Pn 21 50 22.9 +3.6
0.1nm,0.3s,baz=102,slow=19,SNR=3.2
MLR Sn Sn 21 51 35.6 +3.6
0.1nm,0.3s,baz=270,slow=19,SNR=2.3
MLR Lg Lg 21 52 06.6
0.1nm,0.3s,baz=300,slow=20,SNR=3.2
MLR Muntele Rosu 6.39 64 ⇓*i*P Pn 21 50 21.0 +1.8
MLR Muntele Rosu 6.39 64 *e*Pn Pn 21 50 19.9 +0.6
MLR Muntele Rosu 6.39 64 *e*Pn Pn 21 50 19.9 +0.6
MLR Muntele Rosu 6.39 64 ⇓*i*P Pn 21 50 21.0 +1.8
VRAC Vranov 6.41 353 Pn Pn 21 50 21.7 +2.3
0.5nm,0.3s,baz=197,slow=14,SNR=3.8
VRAC Sn Sn 21 51 33.6 +1.2
0.6nm,0.3s,baz=100,slow=17,SNR=5.0
VRAC Vranov 6.41 353 ⇓*i*P Pn 21 50 21.9 +2.5
VRAC Vranov 6.41 353 ⇓*i*P Pn 21 50 21.9 +2.5
VRAC *e*Sn Sn 21 51 34.7 +2.4
VRAC S Sn 21 51 35.1 +2.8
FETA Feichten 6.45 312 Pn Pn 21 50 22.9 +2.8
6.3nm,0.4s
FETA Feichten 6.45 312 *e*Pn Pn 21 50 22.9 +2.8
6.3nm,0.4s
MOTA Moosalm 6.45 315 Pn Pn 21 50 22.9 +2.8
8.9nm,0.4s,SNR=15
MOTA Moosalm 6.45 315 *i*Pn Pn 21 50 22.9 +2.8
8.9nm,0.4s,SNR=15
CRVS Cervenica-Dubn 6.48 22 *e*Pn Pn 21 50 24.5 +4.1
CRVS Cervenica-Dubn 6.48 22 *e*PN Pn 21 50 24.5 +4.1
CRVS *e*SN Sn 21 51 33.7 -0.3
PGF Pioggiola 6.48 269 *e*P Pn 21 50 23.7 +3.2
PGF Pioggiola 6.48 269 *e*P Pn 21 50 23.7 +3.2
PGF Pioggiola 6.48 269 *e*P Pn 21 50 23.7 +3.2
FUORN Ofenpass-Fuorn 6.49 307 *e*Pn Pn 21 50 23.8 +3.1
FUORN Ofenpass-Fuorn 6.49 307 *e*Pn Pn 21 50 23.8 +3.1
GEA0 GERESS Array S 6.54 336 *e*Pn Pn 21 50 23.6 +2.4
GEA0 GERESS Array S 6.54 336 *e*Pn Pn 21 50 23.6 +2.4
TREC Trest 6.54 347 *e*PN Pn 21 50 24.7 +3.5
TREC *ex* x 21 50 28.9
TREC Trest 6.54 347 Pn Pn 21 50 24.7 +3.5
GEC2 GERESS Array S 6.54 336 *e*Pn Pn 21 50 24.2 +2.9
GEC2 GERESS Array S 6.54 336 *e*Pn Pn 21 50 24.2 +2.9
GERES GERESS Array B 6.54 336 Pn Pn 21 50 24.1 +2.7
1.7nm,0.3s,baz=155,slow=13,SNR=4.4
GERES Sn Sn 21 51 38.8 +3.0
2.0nm,0.3s,baz=152,slow=25,SNR=7.3
GERES LR LR 21 52 27.6
comp=Z,26nm,20.5s,baz=106,slow=34
NIE Niedzica 6.70 14 *e*P Pn 21 50 25.9 +2.5
NIE *e*S Sn 21 51 42.3 +2.9
NIE Niedzica 6.70 14 *e*P Pn 21 50 25.9 +2.5
NIE *e*S Sn 21 51 42.3 +2.9
RETA Reutte 6.72 315 Pn Pn 21 50 26.2 +2.5
3.4nm,0.3s
RETA Reutte 6.72 315 *e*Pn Pn 21 50 26.2 +2.5
3.4nm,0.3s
MORC Moravsky Berou 6.83 359 ⇓*i*P Pn 21 50 27.8 +2.6
MORC Moravsky Berou 6.83 359 *e*Pn Pn 21 50 27.9 +2.8
MORC Moravsky Berou 6.83 359 ⇓*i*P Pn 21 50 27.8 +2.6
MORC S Sn 21 51 45.3 +2.6
KHC Kasperske Hory 6.84 336 *e*PN Pn 21 50 27.6 +2.3
KHC *ex* x 21 50 31.9
KHC *e*PB Pb 21 50 43.5 -0.5
KHC *e*SN Sn 21 51 44.0 +1.2
KHC *e*SB Sb 21 52 08.5 +3.0
KHC AMS AMS 21 53 00.0
comp=Z,300nm,7.0s
KHC Kasperske Hory 6.84 336 *e*Pn Pn 21 50 27.8 +2.5
KHC Kasperske Hory 6.84 336 *e*Pn Pn 21 50 27.8 +2.5
OKC Ostrava-Krasne 6.89 2 *e*PN Pn 21 50 28.9 +2.9
OKC *e*SN Sn 21 51 46.1 +2.0
OKC AMS AMS 21 53 20.0
comp=Z,200nm,11.9s
OKC Ostrava-Krasne 6.89 2 Pn Pn 21 50 28.9 +2.9
OKC Sn Sn 21 51 46.1 +2.0
TUE Stuetta 6.96 303 *e*Pn Pn 21 50 28.7 +1.5
TUE Stuetta 6.96 303 *e*Pn Pn 21 50 28.7 +1.5
BUR04 Bucovina Ar. S 7.01 46 *e*Pn Pn 21 50 31.9 +4.1
BUR04 Bucovina Ar. S 7.01 46 *e*Pn Pn 21 50 31.9 +4.1
BURAR Bucovina Array 7.01 46 ⇑*i*P Pn 21 50 30.1 +2.3
BURAR Bucovina Array 7.01 46 ⇑*i*P Pn 21 50 30.1 +2.3
BUR08 Bucovina Ar. S 7.03 46 *e*Pn Pn 21 50 30.6 +2.7
BUR08 Bucovina Ar. S 7.03 46 *e*Pn Pn 21 50 30.6 +2.7
VRI Vrincioaia 7.04 62 ⇓*i*P Pn 21 50 29.6 +1.6
VRI Vrincioaia 7.04 62 S Sn 21 51 55.0 +7.3
VRI Vrincioaia 7.04 62 ⇓*i*P Pn 21 50 29.6 +1.6
PRD Provadia 7.05 85 *i*P Pn 21 50 30.6 +2.5
DAVA Damuels 7.07 311 Pn Pn 21 50 32.1 +3.5
3.0nm,0.3s
DAVA Sn Sn 21 51 53.1 +4.3
22nm,0.7s
DAVA Damuels 7.07 311 *e*Pn Pn 21 50 32.1 +3.5
3.0nm,0.3s
DAVA *e*Sn Sn 21 51 53.1 +4.3
22nm,0.7s
GOPC GO Pecny, Ondr 7.26 345 *e*PN Pn 21 50 34.1 +3.0
GOPC GO Pecny, Ondr 7.26 345 Pn Pn 21 50 34.1 +3.0
PRU Pruhonice 7.38 344 *e*PN Pn 21 50 35.4 +2.6
PRU *ex* x 21 50 40.0
PRU Pruhonice 7.38 344 Pn Pn 21 50 35.4 +2.6
OJC Ojcow 7.40 10 *e*P Pn 21 50 37.4 +4.4
OJC Ojcow 7.40 10 *e*P Pn 21 50 37.4 +4.4
DPC Dobruska-Polom 7.47 353 *e*PN Pn 21 50 37.5 +3.5
DPC *ex* x 21 50 41.3
DPC AMS AMS 21 54 00.0
comp=Z,300nm,6.2s
DPC Dobruska-Polom 7.47 353 Pn Pn 21 50 37.5 +3.5
KWP Kalwaria Pacla 7.50 25 *e*P Pn 21 50 38.1 +3.8
KWP Kalwaria Pacla 7.50 25 *e*Pn Pn 21 50 37.3 +2.9
KWP Kalwaria Pacla 7.50 25 *e*Pn Pn 21 50 37.3 +2.9
**KWP

SBF	**Sospel**	**7.59 280**	*e*Pn	**Pn**	**21 50 36.7**	**+1.0**
SBF	**Sospel**	**7.59 280**	*e*Pn	**Pn**	**21 50 36.7**	**+1.0**
UPC	**Upice**	**7.66 351**	*e*PN	**Pn**	**21 50 39.9**	**+3.4**
UPC	**Upice**	**7.66 351**	Pn	**Pn**	**21 50 39.9**	**+3.4**
CFR	**Carcaliu**	**7.78 70⇑**	*i*P	**Pn**	**21 50 39.6**	**+1.4**
CFR	**Carcaliu**	**7.78 70⇑**	*i*P	**Pn**	**21 50 39.6**	**+1.4**
CFR			S	**Sn**	**21 52 08.8**	**+2.8**
TIRR	**Tirgusor**	**7.85 75⇑**	*i*P	**Pn**	**21 50 40.3**	**+1.2**
TIRR	**Tirgusor**	**7.85 75⇑**	*i*P	**Pn**	**21 50 40.3**	**+1.2**
TIRR			S	**Sn**	**21 52 08.8**	**+1.2**
KSP	**Ksiaz**	**7.96 353**	*e*P	Pn	21 50 48.8	+8.1
NKC	**Novy Kostel**	**8.16 335**	AMS	AMS	21 53 50.0	
	comp=Z,200nm,10.5s					
MBDF	**Montbardon**	**8.16 286**	*e*Pn	**Pn**	**21 50 44.0**	**+0.5**
MBDF	**Montbardon**	**8.16 286**	*e*P	Pn	21 50 49.7	+6.2
MBDF			*e*Sn	**Sn**	**21 52 11.7**	**-3.8**
	8.6nm,0.5s					
MBDF	**Montbardon**	**8.16 286**	*e*Pn	**Pn**	**21 50 44.0**	**+0.5**
MBDF			*e*Sn	**Sn**	**21 52 11.7**	**-3.8**
MBDF	**Montbardon**	**8.16 286**	*e*Pn	**Pn**	**21 50 44.0**	**+0.5**
SENIN	**Lac Senin/Sane**	**8.21 298**	*e*Pn	**Pn**	**21 50 47.0**	**+2.6**
SENIN	**Lac Senin/Sane**	**8.21 298**	*e*Pn	**Pn**	**21 50 47.0**	**+2.6**
LMR	**La Mourre**	**8.26 276**	*e*Pn	**Pn**	**21 50 45.7**	**+1.0**
LMR			*e*Sn	**Sn**	**21 52 15.6**	**-2.1**
LMR	**La Mourre**	**8.26 276**	*e*Pn	**Pn**	**21 50 45.7**	**+1.0**
LMR			*e*Sn	**Sn**	**21 52 15.6**	**-2.1**
LMR	**La Mourre**	**8.26 276**	*e*Pn	**Pn**	**21 50 45.7**	**+1.0**
LPG	**La Plagne**	**8.32 292**	*e*Pn	**Pn**	**21 50 46.3**	**+0.4**
LPG	**La Plagne**	**8.32 292**	*e*Pn	Pn	21 50 52.9	+7.0
LPG			*e*Sn	**Sn**	**21 52 15.8**	**-3.9**
	21nm,0.7s					
LPG	**La Plagne**	**8.32 292**	*e*Pn	**Pn**	**21 50 46.3**	**+0.4**
LPG			*e*Sn	**Sn**	**21 52 15.8**	**-3.9**
LPG	**La Plagne**	**8.32 292**	*e*Pn	**Pn**	**21 50 46.3**	**+0.4**
LPL	**La Plagne**	**8.34 292**	*e*Pn	**Pn**	**21 50 47.2**	**+1.1**
LPL	**La Plagne**	**8.34 292**	*e*P	Pn	**21 50 50.5**	**+4.4**
LPL			*e*Sn	**Sn**	**21 52 16.1**	**-4.0**
	11nm,0.4s					
LPL	**La Plagne**	**8.34 292**	*e*Pn	**Pn**	**21 50 47.2**	**+1.1**
LPL			*e*Sn	**Sn**	**21 52 16.1**	**-4.0**
LPL	**La Plagne**	**8.34 292**	*e*Pn	**Pn**	**21 50 47.2**	**+1.1**
LPL	**La Plagne**	**8.34 292**	*e*P	Pn	**21 50 50.5**	**+4.4**
BRG	**Berggiesshubel**	**8.35 343**	PN	**Pn**	**21 50 49.9**	**+4.0**
BRG			*e*		21 50 53.7	
BRG	**Berggiesshubel**	**8.35 343**	SG	Sb	21 52 44.2	-4.6
	7.7nm,0.8s					
BFO	**Black Forest**	**8.53 312**	*e*Pn	**Pn**	**21 50 51.5**	**+3.0**
BFO	**Black Forest**	**8.53 312**	*e*Pn	**Pn**	**21 50 51.5**	**+3.0**
ORIF	**Oris-en-Rattie**	**8.81 287**	*e*Pn	**Pn**	**21 50 53.0**	**+0.6**
ORIF			*e*Sn	**Sn**	**21 52 27.4**	**-4.1**
	18nm,0.8s					
ORIF	**Oris-en-Rattie**	**8.81 287**	*e*Pn	**Pn**	**21 50 53.0**	**+0.6**
ORIF			*e*Sn	**Sn**	**21 52 27.4**	**-4.1**
ORIF	**Oris-en-Rattie**	**8.81 287**	*e*Pn	**Pn**	**21 50 53.0**	**+0.6**
CLL	**Collm**	**8.97 340**	*e*Pn	**Pn**	**21 50 59.0**	**+4.5**
CLL			*e*Pg	**Pg**	**21 51 36.0**	**-1.1**
CLL			*e*Sb	**Sb**	21 52 56.0	+21
CLL			*e*Sg	**Sg**	**21 53 35.0**	**+1.9**
CABF	**La Chapelle**	**9.09 298**	*e*Pn	**Pn**	**21 50 57.1**	**+0.9**
CABF			*e*Sn	**Sn**	**21 52 39.0**	**+0.8**
	19nm,0.8s					
CABF	**La Chapelle**	**9.09 298**	*e*Pn	**Pn**	**21 50 57.1**	**+0.9**
CABF			*e*Sn	**Sn**	**21 52 39.0**	**+0.8**
CABF	**La Chapelle**	**9.09 298**	*e*Pn	**Pn**	**21 50 57.1**	**+0.9**
HINF	**Hinteralfeld**	**9.10 306**	*e*Pn	**Pn**	**21 50 57.4**	**+1.1**
HINF	**Hinteralfeld**	**9.10 306**	*e*P	Pn	21 51 01.3	+5.0
HINF			*e*Sn	**Sn**	**21 52 36.5**	**-1.9**
	15nm,0.7s					
HINF	**Hinteralfeld**	**9.10 306**	*e*Pn	**Pn**	**21 50 57.4**	**+1.1**
HINF			*e*Sn	**Sn**	**21 52 36.5**	**-1.9**
HINF	**Hinteralfeld**	**9.10 306**	*e*Pn	**Pn**	**21 50 57.4**	**+1.1**
HINF	**Hinteralfeld**	**9.10 306**	*e*P	Pn	21 51 01.3	+5.0
CDF	**Champ du Feu**	**9.16 310**	*e*Pn	**Pn**	**21 50 57.3**	**+0.2**
CDF	**Champ du Feu**	**9.16 310**	*e*P	Pn	21 51 02.7	+5.6
CDF			*e*Sn	**Sn**	**21 52 35.6**	**-4.3**
	6.5nm,0.5s					
CDF	**Champ du Feu**	**9.16 310**	*e*Pn	**Pn**	**21 50 57.3**	**+0.2**
CDF			*e*Sn	**Sn**	**21 52 35.6**	**-4.3**
IDI	**Anoyia**	**9.43 142**	Pn	**Pn**	**21 50 60.0**	**-1.0**
	0.3nm,0.3s,baz=324,slow=17,SNR=2.4					
IDI			Sn	**Sn**	**21 52 38.2**	**-8.6**
	0.8nm,0.3s,baz=313,slow=19,SNR=3.4					
HAU	**Haudompre**	**9.49 306**	*e*Pn	**Pn**	**21 51 02.8**	**+1.2**
HAU	**Haudompre**	**9.49 306**	*e*P	Pn	21 51 06.8	+5.2
HAU			*e*Sn	**Sn**	**21 52 47.1**	**-0.9**
	20nm,0.7s					
HAU	**Haudompre**	**9.49 306**	*e*Pn	**Pn**	**21 50 51.8**	**+1.2**
HAU			*e*Sn	**Sn**	**21 52 47.1**	**-0.9**
HAU	**Haudompre**	**9.49 306**	*e*Pn	**Pn**	**21 50 51.8**	**+1.2**
HAU	**Haudompre**	**9.49 306**	*e*P	Pn	21 51 06.8	+5.2
VIVF	**Saint-Julien-l**	**9.65 286**	*e*Pn	**Pn**	**21 51 04.5**	**+0.6**
VIVF	**Saint-Julien-l**	**9.65 286**	*e*Pn	**Pn**	**21 51 04.5**	**+0.6**
VIVF	**Saint-Julien-l**	**9.65 286**	*e*Pn	**Pn**	**21 51 04.5**	**+0.6**
KEST	**Kesra**	**9.73 225**	Pn	Pn	21 51 13.1	+8.1
	0.3nm,0.3s,baz=330,slow=7.2,SNR=4.9					
LASF	**Ste Croix**	**10.18 281**	*e*Pn	**Pn**	**21 51 10.9**	**-0.2**
LASF	**Ste Croix**	**10.18 281**	*e*Pn	**Pn**	**21 51 10.9**	**-0.2**
SMF	**Signal de Mont**	**10.57 295**	*e*Pn	**Pn**	**21 51 16.7**	**+0.2**
SMF			*e*Sn	**Sn**	**21 53 09.6**	**-5.0**
	4.6nm,0.3s					
SMF	**Signal de Mont**	**10.57 295**	*e*Pn	**Pn**	**21 51 16.7**	**+0.2**
SMF			*e*Sn	**Sn**	**21 53 09.6**	**-5.0**
LOR	**Lormes**	**10.74 298**	*e*Pn	**Pn**	**21 51 18.9**	**+0.1**
	baz=115					
LOR	**Lormes**	**10.74 298**	*e*P	Pn	21 51 24.8	+6.0
LOR			*e*Sn	**Sn**	**21 53 14.6**	**-4.2**
	8.8nm,0.4s					
LOR	**Lormes**	**10.74 298**	*e*Pn	**Pn**	**21 51 18.9**	**+0.1**
LOR			*e*Sn	**Sn**	**21 53 14.6**	**-4.2**
SSF	**Saint Saulge**	**10.91 297**	*e*Pn	**Pn**	**21 51 21.1**	**0.0**
SSF	**Saint Saulge**	**10.91 297**	*e*P	Pn	21 51 26.5	+5.4
SSF			*e*Sn	**Sn**	**21 53 19.1**	**-3.7**
	13nm,0.7s					
SSF	**Saint Saulge**	**10.91 297**	*e*Pn	**Pn**	**21 51 21.1**	**0.0**
SSF			*e*Sn	**Sn**	**21 53 19.1**	**-3.7**
AVF	**Avril sur Loir**	**10.94 295**	*e*Pn	**Pn**	**21 51 21.5**	**+0.1**
AVF	**Avril sur Loir**	**10.94 295**	*e*P	Pn	21 51 26.8	+5.4
AVF			*e*Sn	**Sn**	**21 53 19.8**	**-3.6**
	8.0nm,0.7s					
AVF	**Avril sur Loir**	**10.94 295**	*e*Pn	**Pn**	**21 51 21.5**	**+0.1**
AVF			*e*Sn	**Sn**	**21 53 19.8**	**-3.6**
AKASG	**Malin Array Be**	**11.01 41**	Pn	**Pn**	**21 51 20.8**	**-1.7**
	0.3nm,0.3s,baz=234,slow=9.1,SNR=2.5					
BGF	**Bois d'Agland**	**11.22 294**	*e*Pn	**Pn**	**21 51 25.7**	**+0.4**
BGF	**Bois d'Agland**	**11.22 294**	*e*P	Pn	21 51 30.9	+5.6
BGF			*e*Sn	**Sn**	**21 53 26.2**	**-4.1**
	13nm,0.6s					
BGF	**Bois d'Agland**	**11.22 294**	*e*Pn	**Pn**	**21 51 25.7**	**+0.4**
BGF			*e*Sn	**Sn**	**21 53 26.2**	**-4.1**
BGF	**Bois d'Agland**	**11.22 294**	*e*Pn	**Pn**	**21 51 25.7**	**+0.4**
TCF	**Toulx Ste Croi**	**11.59 292**	*e*Sn	Sn	21 53 26.2	-13
	1.1nm,0.3s					
MMAI	**Mount Meron Ar**	**17.04 120**	Pn	**P**	**21 52 45.7**	**+0.7**
	0.3nm,0.3s,baz=322,slow=11,SNR=4.7					
HFS	**Hagfors**	**17.39 353**	P	**Pn**	**21 52 47.0**	**-0.4**
	0.1nm,0.3s,baz=165,slow=12,SNR=2.7					
EKA	**Eskdalemuir Ar**	**18.38 320**	P	**Pn**	**21 53 00.8**	**+1.2**
	baz=112,slow=9.5,SNR=3.8					
ASF	**Jabal al Asfar**	**18.54 119**	LR	LR	22 01 37.2	
	comp=Z,78nm,20.8s,baz=152,slow=42					
NB2	**NORSAR Subarra**	**18.54 350**	P	**P**	**21 53 01.2**	**-0.3**
	comp=Z,2.1nm,0.9s,baz=164,slow=11					
NOA	**NORSAR Array B**	**18.54 350**	P	**P**	**21 53 00.8**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=165,slow=10,SNR=2.7					
FINES	**FINESS Array B**	**19.18 12**	P	**P**	**21 53 08.2**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=190,slow=9.7,SNR=13					
FIA1	**FINESS Array S**	**19.18 12**	*e*P	**Pn**	**21 53 09.8**	**+0.5**
TORD	**Torodi Ar. Bea**	**32.79 210**	P	**P**	**21 55 19.5**	**+1.3**
	comp=Z,0.4nm,0.5s,baz=16,slow=9.0,SNR=3.6					
BVAR	**Borovoye Array**	**35.87 55**	P	**P**	**21 55 43.0**	**-1.6**
	comp=Z,0.4nm,0.6s,baz=263,slow=6.7,SNR=3.1					
KURBB	**Kurchatov Array**	**41.24 57**	P	**P**	**21 56 27.2**	**-2.5**
	comp=Z,0.2nm,0.6s,baz=283,slow=9.4,SNR=3.5					
ZALV	**Zalesovo Beam**	**44.20 51**	P	**P**	**21 56 52.5**	**-1.2**
	comp=Z,0.4nm,0.3s,baz=289,slow=9.9,SNR=2.2					
MKAR	**Makanchi Array**	**44.73 62**	P	**P**	**21 56 56.9**	**-1.2**
	comp=Z,0.4nm,0.6s,baz=282,slow=7.2,SNR=3.3					
WMQ	**Urumqi**	**49.38 64**	*e*P	**P**	**21 57 37.8**	**+3.3**
WMQ			pmax	pmax		
	comp=Z,24nm,0.7s					
WMQ			pmax	pmax		
	comp=Z,140nm,6.3s					
WMQ			LR	LR		
	comp=N,170nm,25.7s					
WMQ			LR	LR		
	comp=E,470nm,34.3s					
WMQ			LR	LR		
	comp=Z,48nm,24.3s					
SONM	**Songino Array**	**59.09 52**	P	**P**	**21 58 44.6**	**-0.6**
	comp=Z,0.5nm,0.6s,baz=293,slow=7.7,SNR=3.5					
YKA	**Yellowknife Ar**	**68.19 338**	P	**P**	**21 59 45.0**	**+0.1**
	comp=Z,0.4nm,0.7s,baz=38,slow=5.6,SNR=6.9					
CMAR	**Chiang Mai Arr**	**71.29 82**	P	**P**	**22 00 04.2**	**-0.4**
	comp=Z,0.7nm,0.5s,baz=303,slow=7.8,SNR=6.6					
ILAR	**Eielson Array**	**71.94 353**	P	**P**	**22 00 08.3**	**+0.5**
	comp=Z,0.2nm,0.5s,baz=1.7,slow=5.6,SNR=4.3					
TXAR	**Lajitas Array**	**90.21 312**	P	**P**	**22 01 46.0**	**+0.3**
	comp=Z,0.3nm,0.9s,baz=46,slow=3.9,SNR=3.4					

*ISCJB **21** 21:48:56.8±1.0, 37˚.45N±0˚.04×26˚.95E±0˚.07, h8km±7km, Error ellipse: s-maj=10.7km s-min=5.6km az=151.0*
*DDA **21** 21:48:57.1, 37˚.47N×26˚.98E, h7km, Ml2.5*

ISC 21 21:48:57.1±1.5, 37˚.46N±0˚.04×26˚.95E±0˚.06, h13km±15km, n8, σ0§66/14, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GCAM	**G?zelcaml?**	**0.33**	**43**	PG	**Pg**	**21 49 03.8**	**-0.1**
GCAM				SG	**Sb**	**21 49 09.4**	**-0.7**
GCAM	**G?zelcaml?**	**0.33**	**43**	*i* P	**Pg**	**21 49 03.9**	**+0.1**
GCAM				*i* S	**Sg**	**21 49 08.8**	**+0.4**
BODT	**Bodrum**	**0.49**	**144**	*e*PG	**Pg**	**21 49 05.9**	**-0.9**
BDRM	**Kayabasi**	**0.56**	**135**	*i* P	**Pg**	**21 49 08.4**	**+0.4**
BDRM				*i* S	**Sg**	**21 49 15.9**	**+0.5**
DGB	**˜zmir**	**0.59**	**355**	*i* P	**Pg**	**21 49 08.2**	**-0.5**
DGB				*i* S	**Sg**	**21 49 16.9**	**+0.2**
AYDN	**Tasoluk**	**0.76**	**74**	*i* P	**Pg**	**21 49 11.9**	**-0.1**
AYDN				*i* S	**Sg**	**21 49 21.7**	**-0.3**
ZEY	**˜zmir**	**0.86**	**336**	*i* P	**Pg**	**21 49 13.1**	**-0.6**
ZEY				*i* S	**Sb**	**21 49 26.5**	**+1.3**
AYDB	**Zeytinkoy-Aydi**	**0.89**	**57**	*e*PG	**Pg**	**21 49 14.0**	**-0.4**

*IDC **21** 21:51:12.2±1.7, 28˚.26S×176˚.66W, h0km, mb3.9/4, mb1 4.1/4, mb1mx3.7/41, mbtmp3.9/4, Error ellipse: s-maj=72.2km s-min=20.9km az=140.0*
*NEIC **21** 21:51:17.1±0.8, 28˚.43S×176˚.60W, h35km, mb4.4/4, Error ellipse: s-maj=34.7km s-min=12.7km az=148.0*

ISC 21 21:51:15.6±1.2, 28˚.5S±0˚.3×176˚.5W±0˚.2, h29km, n15, σ0§86/16, mb4.1/8, 1C, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.46**	**240**	Pn	**Pn**	**21 51 40.3**	**+0.2**
	319nm,0.3s,baz=52,slow=22,SNR=8.3						
RAO				Sn	**Sb**	**21 52 01.0**	**+0.7**
	439nm,0.3s,baz=68,slow=19,SNR=8.1						
STKA	**Stephens Creek**	**36.23**	**254**	P	**P**	**21 58 16.2**	**+0.1**
	2.7nm,0.8s,baz=102,slow=12,SNR=4.9						
PMG	**Port Moresby**	**39.08**	**292**	P	**P**	**21 58 39.5**	**-0.8**
	4.3nm,0.7s						
ASAR	**Alice Springs**	**44.58**	**264**	P	**P**	**21 59 25.0**	**-0.4**
	0.5nm,0.6s,baz=98,slow=7.7,SNR=7.0						
ASAR	**Alice Springs**	**44.58**	**264**	P	**P**	**21 59 25.0**	**-0.4**
WRAB	**Tennant Creek**	**45.40**	**270**	P	**P**	**21 59 32.2**	**+0.3**
	0.9nm,0.8s						
WRA	**Warramunga Arr**	**45.40**	**269**	P	**P**	**21 59 31.9**	**-0.1**
	0.9nm,0.5s,baz=109,slow=8.1,SNR=25						
KSM	**Kuching**	**76.00**	**279**	P	**P**	**22 03 00.7**	**+0.1**
	35nm,1.3s						
SYO	**Syowa Base**	**79.23**	**192⇑**	*e*PcP	**PcP**	**22 03 24.2**	**-1.6**
NVAR	**Mina Array Bea**	**85.96**	**42**	P	**P**	**22 03 54.9**	**+1.6**
	0.6nm,0.9s,baz=232,slow=6.7,SNR=3.9						
KULM	**Kulim**	**86.26**	**278**	P	**P**	**22 03 55.2**	**+0.1**
	2.3nm,1.0s						
ARU	**Arti**	**132.46**	**322**	*e*PKPdf	**PKPdf**	**22 10 27.7**	**+1.0**
FINES	**FINESS Array B**	**143.81**	**342**	PKP	**PKPdf**	**22 10 46.1**	**-1.2**
	1.3nm,0.7s,baz=27,slow=1.6,SNR=6.4						
NOA	**NORSAR Array B**	**147.07**	**353**	PKPbc	**PKPbc**	**22 10 55.0**	**-0.1**
	0.3nm,0.7s,baz=24,slow=5.0,SNR=2.3						
AKASG	**Malin Array Be**	**150.56**	**326**	PKPbc	**PKPbc**	**22 11 03.7**	**-0.6**
	0.6nm,0.5s,baz=48,slow=3.3,SNR=4.3						

*NIED **21** 22:00:00, 35˚.80N×140˚.90E, h14km, Mw3.7 Best double couple: M03.40000×10^14 NP1:φ§14.00000°, δ41.00000°, λ-92.00000°. NP2:φ§197.00000°, δ49.00000°, λ-88.00000°.*
*IDC **21** 22:00:50.6±1.2, 35˚.76N×141˚.17E, h0km, mb3.5/6, mb1 3.6/8, mb1mx3.4/63, mbtmp3.5/8, ML3.2/2, MS2.5/1, Ms1 2.5/1, ms1mx2.1/46, Error ellipse: s-maj=25.9km s-min=22.9km az=2.0*
*ISCJB **21** 22:00:51.0±1.1, 35˚.83N±0˚.04×141˚.11E±0˚.06, h11km±7km, mb3.5/6, Error ellipse: s-maj=8.3km s-min=7.2km az=168.4*
*JMA **21** 22:00:53.9±0.1, 35˚.78N×140˚.90E, h12km±1km, M3.8*
JMA Felt II J1.

ISC 21 22:00:52.5±1.3, 35˚.80N±0˚.04×141˚.01E±0˚.07, h12km±7km, n23, σ0§67/22, mb3.5/6, 2C-1D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.16**	**232**	⇓P	**Pg**	**22 00 56.5**	**+0.4**
CHOJ				S	**Sg**	**22 00 58.4**	**-0.3**
JCN	**Nagara**	**0.76**	**240**	⇑P	**Pb**	**22 01 07.9**	**+0.2**
JCN				S	**Sb**	**22 01 18.6**	**+0.5**
JYT	**Yasato**	**0.79**	**303**	⇑P	**Pg**	**22 01 07.6**	**-0.2**
JYT				S	**Sg**	**22 01 17.3**	**-0.8**
JHO	**Hitachi**	**0.89**	**336**	P	**Pn**	**22 01 10.9**	**+0.1**
JHO				S	**Sg**	**22 01 21.3**	**+0.1**
BSO4	**Boso 4**	**0.98**	**214**	P	**Pn**	**22 01 11.8**	**-0.2**
BSO4				*e*X		22 01 24.0	
BSO3	**Boso 3**	**1.08**	**203**	P	**Pg**	**22 01 13.0**	**-0.2**
BSO3				*e*X		22 01 26.2	
BSO1	**Boso 1**	**1.14**	**181**	P	**Pn**	**22 01 13.3**	**-0.6**
BSO1				*e*X		22 01 26.9	
MJAR	**Matsushiro Arr**	**2.39**	**289**	Pn	**Pn**	**22 01 30.5**	**-1.0**
	3.5nm,0.3s,baz=108,slow=4.8,SNR=48						
MJAR				Sn	**Sb**	**22 02 05.2**	**+0.4**
	4.5nm,0.3s,baz=131,slow=21,SNR=6.7						
MAT	**Matsushiro**	**2.39**	**289**	P	**Pn**	**22 01 31.2**	**-0.3**
MAT				S	**Sn**	**22 02 00.3**	**-0.5**
ASAJ	**Asahikawa**	**8.39**	**8**	Pn	**Pn**	**22 02 53.5**	**-0.4**
	0.4nm,0.3s,baz=205,slow=9.0,SNR=5.7						
KSRS	**Korea Array**	**10.65**	**283**	LR	LR	22 07 10.0	
	comp=Z,23nm,18.4s,baz=180,slow=35						
H11N2	**WAKE ISLAND Hy**	**27.82**	**118**	T	T	22 35 36.3	
	baz=311,slow=75,SNR=65						
H11N1	**WAKE ISLAND Hy**	**27.83**	**118**	T	T	22 35 40.8	
	baz=311,slow=75,SNR=44						
H11N3	**WAKE ISLAND Hy**	**27.84**	**118**	T	T	22 35 39.9	
	baz=311,slow=75,SNR=52						
H11S1	**WAKE ISLAND Hy**	**28.49**	**120**	T	T	22 36 26.8	
	baz=312,slow=75,SNR=60						
H11S3	**WAKE ISLAND Hy**	**28.49**	**120**	T	T	22 36 24.8	
	baz=312,slow=75,SNR=67						
H11S2	**WAKE ISLAND Hy**	**28.50**	**120**	T	T	22 36 25.9	
	baz=312,slow=75,SNR=55						
ZALV	**Zalesovo Beam**	**42.52**	**313**	P	**P**	**22 08 48.9**	**+1.3**
	0.3nm,0.3s,baz=118,slow=7.4,SNR=2.0						
MKAR	**Makanchi Array**	**44.51**	**303**	P	**P**	**22 09 05.0**	**+1.1**
	0.5nm,0.6s,baz=77,slow=8.3,SNR=3.6						
KURBB	**Kurchatov Arra**	**46.51**	**309**	P	**P**	**22 09 20.6**	**+1.0**
	0.6nm,0.5s,baz=83,slow=7.7,SNR=3.6						
ILAR	**Eielson Array**	**50.71**	**32**	P	**P**	**22 09 51.7**	**0.0**
	0.5nm,0.8s,baz=277,slow=5.7,SNR=5.4						
WRA	**Warramunga Arr**	**55.80**	**188**	P	**P**	**22 10 29.3**	**-0.3**
	0.4nm,0.7s,baz=4.1,slow=7.5,SNR=7.0						
YKA	**Yellowknife Ar**	**65.04**	**30**	P	**P**	**22 11 31.5**	**-0.8**
	0.1nm,0.7s,baz=265,slow=6.8,SNR=2.8						

*ATA **21** 22:08:04.6±1.9, 38˚.78N×43˚.38E, h8km±3km, ML2.1, MW2.4*
*ISK **21** 22:08:05.4, 38˚.76N×43˚.31E, h19km, ML2.2/4*
*ISCJB **21** 22:08:06.7±0.7, 38˚.73N±0˚.03×43˚.34E±0˚.05, h24km±6km, Error ellipse: s-maj=7.1km s-min=5.0km az=23.6*
*DDA **21** 22:08:06.6, 38˚.77N×43˚.29E, h7km, Ml2.5*
*CSEM **21** 22:08:06.3±0.2, 38˚.73N×43˚.31E, h20km, ML2.2, Error ellipse: s-maj=5.7km s-min=4.9km az=125.0*

ISC 21 22:08:06.6±1.0, 38˚.76N±0˚.02×43˚.32E±0˚.02, h19km±2km, n28, σ0§76/53, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.17**	**162**	PG	**Pg**	**22 08 11.7**	**+0.4**
VANB				SG	**Sg**	**22 08 16.1**	**+1.6**
VANB	**Van**	**0.17**	**162**	*e*Pg	**Pg**	**22 08 11.7**	**+0.4**
TVAN	**Van**	**0.24**	**164**	*i* P	**Pb**	**22 08 11.8**	**-0.4**
TVAN				*i* S	**Sg**	**22 08 16.3**	**+0.1**
TVAN	**Van**	**0.24**	**164**	P	**Pb**	**22 08 11.8**	**-0.4**
TVAN				S	**Sg**	**22 08 16.3**	**+0.1**
VMUR	**Van-Muradiye**	**0.30**	**40**	*i* P	**Pb**	**22 08 13.4**	**-0.2**
VMUR				*i* S	**Sb**	**22 08 18.8**	**+0.5**
VMUR	**Van-Muradiye**	**0.30**	**40**	P	**Pb**	**22 08 13.4**	**-0.2**
VMUR				S	**Sb**	**22 08 18.8**	**+0.5**
ADCV	**BITLIS_Adilcev**	**0.47**	**277**	*i* P	**Pg**	**22 08 16.1**	**-0.2**
ADCV				*i* S	**Sb**	**22 08 23.2**	**+0.1**
ADCV				*i* S	**Sg**	**22 08 23.8**	**+1.0**
ADCV	**BITLIS_Adilcev**	**0.47**	**277**	P	**Pg**	**22 08 16.1**	**-0.2**
ADCV				S	**Sb**	**22 08 23.2**	**+0.1**
GEVA	**Gevas**	**0.49**	**205**	*e*P	**Pg**	**22 08 15.5**	**-1.1**
GEVA				*e*S	**Sb**	**22 08 23.4**	**-0.2**
GEVA				IAML		22 08 25.8	
	comp=Z,7.1nm,0.4s						
GEVA	**Gevas**	**0.49**	**205**	*i* P	**Pg**	**22 08 15.7**	**-0.9**
GEVA				*i* S	**Sb**	**22 08 23.6**	**0.0**
GEVA	**Gevas**	**0.49**	**205**	P	**Pg**	**22 08 15.7**	**-0.9**
GEVA				S	**Sb**	**22 08 23.6**	**0.0**
CLDR	**Caldiran**	**0.60**	**50**	PG	**Pb**	**22 08 17.8**	**-0.9**
CLDR				SG	**Sg**	**22 08 27.0**	**0.0**
CLDR	**Caldiran**	**0.60**	**50**	*i* P	**Pn**	**22 08 21.1**	**+0.6**
CLDR				*i* S	**Sg**	**22 08 27.3**	**+0.3**
CLDR	**Caldiran**	**0.60**	**50**	*e*Pg	**Pb**	**22 08 17.8**	**-0.9**
CLDR	**Caldiran**	**0.60**	**50**	P	**Pn**	**22 08 21.1**	**+0.6**
CLDR				*e*Sg	**Sg**	**22 08 27.0**	**0.0**
TUTA	**Tutak**	**0.76**	**329**	*e*P	**Pb**	**22 08 20.8**	**-0.7**
TUTA				*e*S	**Sb**	**22 08 30.8**	**-0.7**
TUTA				IAML		22 08 33.0	
	comp=Z,19nm,0.4s						
TUTA	**Tutak**	**0.76**	**329**	*i* P	**Pb**	**22 08 20.7**	**-0.7**
TUTA				*i* S	**Sb**	**22 08 30.7**	**-0.7**
TUTA	**Tutak**	**0.76**	**329**	P	**Pb**	**22 08 20.7**	**-0.7**
TUTA				S	**Sb**	**22 08 30.7**	**-0.7**
AGRB	**Hanur-Agry**	**0.86**	**343**	PG	**Pb**	**22 08 22.4**	**-0.7**
AGRB				SG	**Sg**	**22 08 34.8**	**-0.1**
AGRB	**Hanur-Agry**	**0.86**	**343**	*e*Pg	**Pb**	**22 08 22.4**	**-0.7**
AGRB				*e*Sg	**Sg**	**22 08 34.8**	**-0.1**
GURO	**Guroymak-BITLI**	**1.03**	**259**	PG	**Pb**	**22 08 25.2**	**-0.8**
GURO	**Guroymak-BITLI**	**1.03**	**259**	*e*Pg	**Pb**	**22 08 25.2**	**-0.8**
EKAR	**Karacoban**	**1.10**	**297**	*e*P	**Pb**	**22 08 26.7**	**-0.5**
EKAR				*e*S	**Sg**	**22 08 44.6**	**+2.0**
EKAR				IAML		22 08 47.1	
	comp=Z,2.4nm,0.4s						
EKAR	**Karacoban**	**1.10**	**297**	*i* P	**Pb**	**22 08 26.6**	**-0.6**
EKAR				*i* S	**Sg**	**22 08 44.5**	**+2.0**
EKAR	**Karacoban**	**1.10**	**297**	P	**Pb**	**22 08 26.6**	**-0.6**
EKAR				S	**Sg**	**22 08 44.5**	**+2.0**
EATA	**Eleskirt**	**1.28**	**330**	*e*P	**Pb**	**22 08 30.1**	**-0.3**
EATA				*e*S	**Sg**	**22 08 47.9**	**-0.3**
EATA				IAML		22 08 50.8	
	comp=Z,0.7nm,0.5s						
EATA	**Eleskirt**	**1

comp=N,147nm,27.5s
MAW Mawson 69.65 164 LR LR 23 00 10.2
comp=N,112nm,18.2s,baz=240,slow=36
LPIG La Paz 70.69 325 LR LR 22 53 50.1
comp=N,81nm,19.4s,baz=142,slow=30
341A Kurthwood 71.41 343 P **P 22 29 34.3 +0.8**
baz=164
LRAL Lakeview Retre 71.85 349 P **P 22 29 37.0 +0.9**
baz=170
Z47A Carrollton 72.19 348 P **P 22 29 39.0 +1.0**
baz=169
Z48A Northport 72.27 348 P **P 22 29 39.6 +1.0**
baz=169
JCT Junction City 72.41 337 P **P 22 29 40.8 +1.3**
baz=159
TXAR Lajitas Array 72.65 333 P **P 22 29 42.2 +1.1**
comp=N,2.6nm,0.9s,baz=151,slow=8.7,SNR=17
TXAR LR LR 22 56 41.5
comp=N,31nm,18.2s,baz=0.0,slow=32
Y47A UCPARC, Winfie 72.84 348 P **P 22 29 42.9 +0.9**
baz=169
X49A Woodville 73.20 349 P **P 22 29 45.3 +1.2**
baz=170
X48A Hartselle 73.25 349 P **P 22 29 44.5 +0.1**
baz=170
Y43A Makayla and Ka 73.41 345 P **P 22 29 46.6 +1.3**
baz=166
X45A UM Field Stati 73.61 347 P **P 22 29 46.7 +0.1**
baz=168
OXF Oxford 73.70 347 P **P 22 29 48.1 +1.0**
baz=168
Y41A Eaglette Beard 73.73 344 P **P 22 29 48.7 +1.5**
baz=165
SWET Sewanee 73.83 350 *e*P **P 22 29 48.5 +0.6**
comp=N,3.0nm,0.8s
RAR Rarotonga 74.02 255 P **P 22 29 50.0 +0.6**
comp=N,18nm,0.5s,baz=33,slow=8.9,SNR=2.1
ABTX Abilene, Hawle 74.36 338 P **P 22 29 52.2 +1.2**
baz=160
ABTX Abilene, Hawle 74.36 338 *e*P **P 22 29 51.9 +0.9**
comp=N,7.8nm,1.1s
V48A Smith Brothers 74.48 349 P **P 22 29 52.0 +0.4**
baz=170,SNR=6.4
V47A Nunnelly 74.67 349 P **P 22 29 52.6 -0.1**
baz=169,SNR=5.1
X39A Fountain Ranch 74.67 343 P **P 22 29 53.4 +0.7**
baz=164
TZTN Tazewell 74.85 352 P **P 22 29 54.1 +0.4**
baz=172
W41B Gary Mavity, V 74.89 345 P **P 22 29 54.6 +0.6**
baz=166
WVT Waverly 75.01 348 P **P 22 29 54.9 +0.3**
baz=169
WVT Waverly 75.01 348 *e*P **P 22 29 54.8 +0.2**
comp=N,6.9nm,0.9s
WHAR Wooly Hollow 75.02 345 *e*P **P 22 29 54.9 +0.2**
comp=N,44nm,1.9s
U47A Clarksville 75.23 349 P **P 22 29 56.1 +0.2**
baz=170
W39A Magazine 75.25 343 P **P 22 29 57.1 +1.0**
baz=164
V41A Mountainview 75.47 345 P **P 22 29 57.5 +0.3**
baz=166
U42A Revenden 75.83 346 P **P 22 29 59.3 0.0**
baz=166
V39A Pettigrew 75.84 344 P **P 22 30 00.0 +0.6**
baz=164
U41A Viola 75.96 345 P **P 22 30 00.6 +0.6**
baz=166
WMOK Wichita Mounta 76.08 339 P **P 22 30 01.4 +0.5**
baz=160
U40A Yellville 76.16 344 P **P 22 30 01.3 0.0**
baz=165
S48A Wiedeman Farm, 76.25 350 P **P 22 30 01.2 -0.5**
baz=170
T43A Greenville 76.36 347 P **P 22 30 02.6 +0.3**
baz=167
TUL1 Leonard 76.41 342 P **P 22 30 03.6 +0.9**
baz=163
TUL1 Leonard 76.41 342 *e*P **P 22 30 03.2 +0.6**
comp=N,12nm,0.6s
T42A Van Buren 76.46 346 P **P 22 30 03.3 +0.5**
baz=166
T41A Mountain View 76.60 345 P **P 22 30 03.7 0.0**
baz=166
S43A Fulton Ridge, 76.80 347 P **P 22 30 04.9 +0.1**
baz=167,SNR=5.7
T40A Mansfield 76.86 345 P **P 22 30 05.5 +0.3**
baz=165
T39A Clever 76.92 344 P **P 22 30 06.1 +0.6**
baz=165
AMTX Amarillo 77.08 337 P **P 22 30 07.6 +1.0**
baz=158
S42A Caledonia 77.12 346 P **P 22 30 06.3 -0.3**
baz=167
S41A Jillco Farms, 77.12 346 P **P 22 30 06.6 0.0**
baz=166
T38A Diamond 77.13 343 P **P 22 30 06.9 +0.2**
baz=164
S40A Lebanon 77.29 345 P **P 22 30 08.1 +0.5**
baz=165
R43A Red Bud 77.46 347 P **P 22 30 08.5 0.0**
baz=168
CCM Cathedral Cave 77.48 346 P **P 22 30 09.2 +0.6**
baz=166
CCM Cathedral Cave 77.48 346 *e*P **P 22 30 09.2 +0.6**
comp=N,10nm,0.8s
S39A Bolivar 77.55 344 P **P 22 30 09.4 +0.4**
baz=165
LIC Lamto 77.57 72 *e*P **P 22 30 09.6 -0.1**
comp=N,50nm,1.4s
S38A Stockton 77.61 344 P **P 22 30 09.4 +0.1**
baz=164
R41A Rosebud 77.74 346 P **P 22 30 10.3 +0.2**
baz=166,SNR=5.8
TIC Toumodi 77.85 72 *e*P **P 22 30 11.3 0.0**
KIC Kosan Boka 77.87 72 *e*P **P 22 30 11.5 +0.1**
comp=N,13nm,0.7s
R40A Maddies Statio 77.91 345 P **P 22 30 11.7 +0.7**
baz=166
DBIC Dimbokro 77.99 72 P **P 22 30 12.2 +0.1**
comp=N,5.2nm,0.8s,baz=180,slow=5.2,SNR=7.5
DBIC LR LR 23 02 36.4
comp=N,48nm,19.1s,baz=174,slow=34
DBIC Dimbokro 77.99 72 *e*P **P 22 30 12.7 +0.6**
comp=N,25nm,1.5s
TUC Tucson 78.03 329 P **P 22 30 14.2 +2.3**
baz=152
Q43A New Douglas 78.06 348 P **P 22 30 12.3 +0.5**
baz=168
R39A Chumby, Stover 78.09 345 P **P 22 30 12.6 +0.6**
baz=165
Q42A Golden Eagle 78.18 347 P **P 22 30 13.8 +1.4**
baz=167
Q41A Truxton 78.35 346 P **P 22 30 14.0 +0.5**
baz=166,SNR=6.1
Q40A Laux Farm, Aux 78.55 346 P **P 22 30 13.9 -0.7**
baz=166,SNR=5.4
214A Organ Pipe Nat 78.58 327 P **P 22 30 16.6 +1.7**
baz=150
ANMO Albuquerque 78.72 333 P **P 22 30 17.3 +1.4**
baz=155
ANMO Albuquerque 78.72 333 *e*P **P 22 30 17.1 +1.2**
comp=N,3.7nm,1.0s
P42A Winchester 78.80 347 P **P 22 30 16.0 +0.1**
baz=167
Q38A Cooks Store, C 78.83 345 P **P 22 30 16.6 +0.5**
baz=165
P40A Paris 79.06 346 P **P 22 30 18.2 +0.8**
baz=166
P38A Dawn 79.45 345 P **P 22 30 19.6 +0.2**
baz=165
BOSA Boshof 79.53 118 P **P 22 30 19.7 -0.8**
comp=N,7.9nm,0.8s,baz=226,slow=4.9,SNR=11
TSUM Tsumeb 79.59 106 P **P 22 30 19.0 -2.0**
comp=N,1.0nm,0.6s,baz=236,slow=8.4,SNR=1.5
O40A La Belle 79.60 346 P **P 22 30 20.6 +0.3**
baz=166
N39A Derby Farms, D 80.45 346 P **P 22 30 25.4 +0.6**
baz=166
SDCO Great Sand Dun 80.92 335 P **P 22 30 28.5 +0.7**
baz=156
S22A 4UR Ranch, Cre 81.37 334 P **P 22 30 31.3 +1.1**
baz=155
IRM Iron Mountain 81.47 326 P **P 22 30 32.7 +2.2**
baz=149
TPFO Pinon Flats 81.58 325 P **P 22 30 33.5 +2.3**
baz=148
PFO Pinyon Flats O 81.59 325 P **P 22 30 33.6 +2.4**
baz=148
LONY Lake Ozonia 82.39 360 P **P 22 30 35.9 +0.9**
baz=180
LONY Lake Ozonia 82.39 360 *e*P **P 22 30 36.0 +0.9**
comp=N,12nm,1.2s
I42A Draeger Farm, 82.77 349 P **P 22 30 37.1 0.0**
baz=168
ISCO Idaho Springs 82.82 336 P **P 22 30 39.5 +1.7**
baz=156
KOWA Kowa 83.77 66 P **P 22 30 42.8 -0.1**
comp=N,3.8nm,0.7s,baz=241,slow=4.9,SNR=13
KOWA LR LR 23 08 06.6
comp=N,54nm,18.0s,baz=185,slow=36
KOWA Kowa 83.77 66 *e*P **P 22 30 43.5 +0.7**
comp=N,30nm,1.9s
ECSD EROS Data Cent 84.05 344 P **P 22 30 44.3 +0.7**
baz=163
ECSD EROS Data Cent 84.05 344 *e*P **P 22 30 44.0 +0.4**
comp=N,8.2nm,1.0s
ISA Isabella, Lake 84.21 325 P **P 22 30 46.8 +2.0**
baz=147
SMMC Simmler 84.62 324 P **P 22 30 48.4 +1.7**
baz=146
F39A Loretta 85.06 348 P **P 22 30 49.3 +0.6**
baz=167
R11A Troy Canyon, C 85.21 328 P **P 22 30 51.6 +1.8**
baz=149
F36A Milaca 85.46 346 P **P 22 30 51.0 +0.4**
baz=165
NVAR Mina Array Bea 86.43 327 P **P 22 30 56.0 0.0**
comp=N,0.6nm,0.8s,baz=152,slow=4.7,SNR=3.4
HWUT Hardware Ranch 86.47 333 *e*P **P 22 30 57.2 +1.2**
comp=N,3.7nm,0.9s
PDAR Pinedale Array 86.79 335 P **P 22 30 58.1 +0.6**
comp=N,0.6nm,0.8s,baz=151,slow=3.4,SNR=6.4
PDAR Pinedale Array 86.79 335 *e*P **P 22 30 57.6 0.0**
TOA0 Torodi Ar. Sit 87.08 71 *e*P **P 22 30 59.2 -0.2**
TORD Torodi Ar. Bea 87.08 71 P **P 22 30 58.6 -0.8**
comp=N,2.0nm,0.7s,baz=224,slow=4.4,SNR=10.0
HLID Hailey 89.21 332 P **P 22 31 11.1 +2.1**
baz=150
BRTR Keskin Array B 125.14 64 PKP **PKPdf 22 37 13.4 -0.3**
comp=N,1.0nm,0.9s,baz=211,slow=3.4,SNR=5.2
GEYT Alibeck 142.61 75 PKhKP PKPpre 22 37 41.5
comp=N,1.2nm,0.6s,baz=268,slow=4.0,SNR=5.7
AKTO Aktyubinsk 144.12 54 PKP **PKPab 22 37 46.4 +0.3**
comp=N,5.1nm,0.6s,baz=229,slow=2.4,SNR=15
MA2 Magadan 144.54 322 *e*PKPdf **PKPab 22 37 47.8 +0.4**
ABKAR Akbulak array 145.39 56 *e*PKPbc **PKPbc 22 37 50.7 +0.1**
BVAR Borovoye Array 151.32 47 PKPbc **PKPbc 22 38 06.2 -0.1**
comp=N,3.0nm,0.7s,baz=291,slow=3.1,SNR=20
KURBB Kurchatov Arra 156.88 48 PKP **PKPdf 22 38 07.8 -0.3**
comp=N,0.5nm,0.6s,baz=308,slow=2.2,SNR=3.5
KURBB PKPab **PKPab 22 38 38.0 -0.2**
comp=N,2.4nm,0.8s,baz=290,slow=4.8,SNR=8.3
KURK Kurchatov 156.90 48 PKP **PKPdf 22 38 07.8 -0.3**
KURK PKPab **PKPab 22 38 38.0 -0.3**
ZALV Zalesovo Beam 158.54 36 PKP **PKPdf 22 38 08.4 -1.7**
comp=N,0.3nm,0.4s,baz=245,slow=3.1,SNR=3.9
ZALV PKPab **PKPab 22 38 45.3 +0.1**
comp=N,2.9nm,0.9s,baz=297,slow=6.5,SNR=8.7
CMAR Chiang Mai Arr 159.43 161 PKPab **PKPab 22 38 48.4 -1.5**
comp=N,0.7nm,0.3s,baz=223,slow=5.5,SNR=4.4
MKAR Makanchi Array 160.54 56 PKP **PKPdf 22 38 13.4 +0.8**
comp=N,1.0nm,1.0s,baz=329,slow=4.5,SNR=3.6
MKAR PKPab **PKPab 22 38 52.8 -1.4**
comp=N,2.2nm,0.7s,baz=290,slow=4.1,SNR=12
GTA Gaotai 174.99 74 *e*PKP **PKPdf 22 38 23.4 +0.3**
LZH Lanzhou 177.31 139 *e*PKP **PKPdf 22 38 25.3 +1.5**
LZH pPKP pPKPdf 22 38 29.5 -5.8
LZH sPKP 22 38 30.6
LZH PKP PKPab 22 40 11.5 +2.8
LZH LR LR
comp=N,95nm,18.2s
LZH LR LR
comp=E,87nm,18.0s
LZH LR LR
comp=Z,100nm,20.1s

IDC 21 22:32:52.9±1.8,1°54.5S×134°50.5E,h0km,mb3.4/2, mb1 3.8/4,mb1mx3.4/50,mbtmp3.6/4,ML3.8/2,MS3.0/1, Ms1 3.0/1,ms1mx2.3/26,Error ellipse: s-maj=33.6km s-min=18.9km az=36.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**3.30**	**282**	Pn	Pn	22 33 44.8	-1.1
	17nm,0.3s,baz=252,slow=23,SNR=68						
SIJI				Pg	Pb	22 33 54.0	+1.6
	57nm,0.3s,baz=60,slow=20,SNR=34						
SIJI				Sn	Sn	22 34 25.6	-0.4
	23nm,0.3s,baz=295,slow=23,SNR=3.7						
SIJI				Lg	Lg	22 34 37.8	
	36nm,0.3s,baz=140,slow=23,SNR=8.1						
PMG	**Port Moresby**	**14.82**	**122**	LR	LR	22 43 50.8	
	comp=Z,54nm,18.9s,baz=204,slow=44						
WRA	**Warramunga Arr**	**18.29**	**180**	P	Pn	22 37 08.0	-0.3
	0.3nm,0.3s,baz=0.4,slow=11,SNR=15						
ASAR	**Alice Springs**	**22.00**	**181**	P	P	22 37 48.5	-0.4
	1.1nm,0.4s,baz=5.0,slow=12,SNR=11						
MKAR	**Makanchi Array**	**66.33**	**324**	P	P	22 43 43.9	+0.4
	0.2nm,0.5s,baz=121,slow=8.5,SNR=3.1						

*ISCJB **21** 22:35:51.8±0.7,31°.72S±0°.05×178°.7E±0°.1,h250km, mb3.3/2,Error ellipse: s-maj=13.6km s-min=5.6km az=13.0*
*WEL **21** 22:35:54.1±0.8,32°S±18°×17°9E±4°5,h266km±35km*
*IDC **21** 22:35:56.9±8.1,32°.55S×179°.84E,h386km±94km,mb3.0/2, mb1 3.2/3,mb1mx2.8/42,mbtmp3.7/3,Error ellipse: s-maj=113.6km s-min=38.1km az=6.0*
ISC 21 22:35:51.7±1.2,31°.70S±0°.08×178°.7E±0°.1,h250km,n45, σ2$12/45,**Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GLKZ	**Green Lake**	**3.80**	**51**	S	**S**	**22 37 40.7**	**-1.3**
MXZ	**Matakaoa Point**	**5.85**	**183**	P	**Pn**	**22 37 20.5**	**+2.6**
MXZ	**Matakaoa Point**	**5.85**	**183**	S	**S**	**22 38 24.2**	**-2.6**
HAZ	**Te Kaha**	**6.08**	**187**	P	**Pn**	**22 37 24.9**	**+4.1**
HAZ	**Te Kaha**	**6.08**	**187**	S	**S**	**22 38 33.1**	**+1.1**
WMGZ	**Waiomatatini S**	**6.11**	**182**	P	**Pn**	**22 37 24.0**	**+3.0**
WMGZ	**Waiomatatini S**	**6.11**	**182**	S	**S**	**22 38 30.3**	**-2.2**
PUZ	**Puketiti**	**6.36**	**183**	P	**Pn**	**22 37 28.1**	**+3.8**
PUZ	**Puketiti**	**6.36**	**183**	S	**S**	**22 38 37.3**	**-1.1**
URZ	**Urewera**	**6.67**	**191**	P	**Pn**	**22 37 31.3**	**+3.2**
	0.8nm,0.3s,baz=270,slow=5.5,SNR=8.4						
URZ				S	**S**	**22 38 45.3**	**0.0**
	2.9nm,0.3s,baz=260,slow=21,SNR=15						
MWZ	**Matawai**	**6.68**	**188**	P	**Pn**	**22 37 31.9**	**+3.6**
MWZ	**Matawai**	**6.68**	**188**	S	**S**	**22 38 45.1**	**-0.7**
RAGZ	**Rawiri**	**6.86**	**188**	P	**Pn**	**22 37 34.2**	**+3.7**
RAGZ	**Rawiri**	**6.86**	**188**	S	**S**	**22 38 49.4**	**-0.4**
RTZ	**Ruatahuna**	**7.04**	**191**	P	**Pn**	**22 37 35.7**	**+3.0**
RTZ	**Ruatahuna**	**7.04**	**191**	S	**S**	**22 38 53.7**	**-0.2**
RAHZ	**Arahi**	**7.32**	**190**	P	**Pn**	**22 37 38.5**	**+2.3**
RAHZ	**Arahi**	**7.32**	**190**	S	**S**	**22 38 59.0**	**-1.3**
NMHZ	**Naumai**	**7.54**	**191**	P	**Pn**	**22 37 42.1**	**+3.0**
NMHZ	**Naumai**	**7.54**	**191**	S	**S**	**22 39 05.4**	**-0.1**
ARHZ	**Aropaoanui**	**7.67**	**190**	P	**Pn**	**22 37 42.6**	**+2.0**
ARHZ	**Aropaoanui**	**7.67**	**190**	S	**S**	**22 39 06.3**	**-2.1**
KWHZ	**Kaweka Forest**	**7.92**	**193**	P	**Pn**	**22 37 46.0**	**+2.1**
KWHZ	**Kaweka Forest**	**7.92**	**193**	S	**S**	**22 39 13.1**	**-1.3**
KRHZ	**Kereru**	**8.14**	**193**	P	**Pn**	**22 37 48.2**	**+1.5**
KRHZ	**Kereru**	**8.14**	**193**	S	**S**	**22 39 17.3**	**-2.2**
PNHZ	**Pukenui**	**8.44**	**193**	P	**Pn**	**22 37 51.0**	**+0.5**
PNHZ	**Pukenui**	**8.44**	**193**	S	**S**	**22 39 21.9**	**-4.4**
PXZ	**Pawanui**	**8.44**	**190**	P	**Pn**	**22 37 50.2**	**-0.2**
TSZ	**Takapari Road**	**8.63**	**194**	P	**Pn**	**22 37 53.2**	**+0.4**
BFZ	**Birch Farm**	**9.18**	**192**	P	**Pn**	**22 37 59.1**	**-0.7**
MRZ	**Mangatainoka R**	**9.29**	**195**	P	**Pn**	**22 38 00.6**	**-0.5**
TIWZ	**Tintock**	**9.33**	**193**	P	**Pn**	**22 38 01.9**	**+0.1**
HOWZ	**Holdsworth Sta**	**9.53**	**195**	P	**Pn**	**22 38 03.5**	**-0.6**
OGWZ	**Otaki Gorge**	**9.53**	**196**	P	**Pn**	**22 38 03.8**	**-0.3**
CAW	**Cannon Point**	**9.83**	**196**	P	**Pn**	**22 38 07.0**	**-0.9**
QRZ	**Quartz Range**	**10.37**	**207**	P	**Pn**	**22 38 16.5**	**+1.7**
NNZ	**Nelson**	**10.41**	**203**	P	**Pn**	**22 38 15.2**	**-0.1**
TUWZ	**Tuamarina**	**10.43**	**200**	P	**Pn**	**22 38 15.1**	**-0.4**
THZ	**Tophouse**	**11.06**	**203**	P	**Pn**	**22 38 23.0**	**-0.5**
KHZ	**Kahutara**	**11.46**	**200**	P	**Pn**	**22 38 26.8**	**-1.5**
ASAR	**Alice Springs**	**40.24**	**270**	P	**P**	**22 43 06.4**	**+1.9**
	0.3nm,0.4s,baz=108,slow=7.7,SNR=4.2						
WRA Warramunga Arr 41.35 275 P **P 22 43 15.2 +1.6**
0.7nm,0.3s,baz=111,slow=8.0,SNR=24
FINES FINESS Array B 145.32 337 PKPbc PKPdf 22 54 51.5 -7.2
0.5nm,0.6s,baz=29,slow=4.4,SNR=3.8
NOA NORSAR Array B 149.52 348 PKPbc **PKPdf 22 55 02.9 -3.0**
0.6nm,0.7s,baz=16,slow=4.2,SNR=3.2

*ATA **21** 22:40:30.6±2.5,38°.66N×43°.26E,h5km±51km,ML2.5, MW2.7*
*ISK **21** 22:40:30.9,38°.63N×43°.16E,h11km,ML2.5/6*
*CSEM **21** 22:40:31.7±0.2,38°.63N×43°.19E,h10km,ML2.5,Error ellipse: s-maj=4.7km s-min=4.0km az=139.0*
*DDA **21** 22:40:32.3,38°.65N×43°.20E,h7km,Ml2.7*
ISC 21 22:40:32.3±1.0,38°.66N±0°.02×43°.18E±0°.02,h4km±9km, n38,σ1$19/66,**Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VANB	**Van**	**0.18**	**112**	PG	**Pg**	**22 40 35.9**	**0.0**
VANB				SG	**Sg**	**22 40 39.9**	**+1.7**
VANB	**Van**	**0.18**	**112**	*e*Pg	**Pg**	**22 40 35.9**	**0.0**
VANB				*e*Sg	**Sg**	**22 40 39.9**	**+1.7**
TVAN	**Van**	**0.22**	**127**	*i* P	**Pg**	**22 40 35.9**	**-0.8**
TVAN				*i* S	**Sg**	**22 40 40.1**	**+0.5**
TVAN	**Van**	**0.22**	**127**	P	**Pg**	**22 40 35.9**	**-0.8**
TVAN				S	**Sg**	**22 40 40.1**	**+0.5**
GEVA	**Gevas**	**0.36**	**195**	*i* P	**Pg**	**22 40 38.2**	**-1.1**
GEVA				*e*S	**Sg**	**22 40 44.9**	**+0.7**
GEVA				IAML		22 40 46.4	
	comp=Z,62nm,0.5s						
GEVA	**Gevas**	**0.36**	**195**	*i* P	**Pg**	**22 40 38.4**	**-1.0**
GEVA				*i* S	**Sg**	**22 40 45.4**	**+1.3**
GEVA	**Gevas**	**0.36**	**195**	P	**Pg**	**22 40 38.4**	**-1.0**
GEVA				S	**Sg**	**22 40 45.4**	**+1.3**
ERCV	**ERCIS-VAN**	**0.38**	**19**	PG	**Pg**	**22 40 39.8**	**+0.1**
ERCV	**ERCIS-VAN**	**0.38**	**19**	*e*Pg	**Pg**	**22 40 39.8**	**+0.1**
ADCV	**BITLIS_Adilcev**	**0.38**	**292**	*i* P	**Pg**	**22 40 40.0**	**+0.2**
ADCV				*i* S	**Sb**	**22 40 46.7**	**-1.5**
ADCV	**BITLIS_Adilcev**	**0.38**	**292**	P	**Pg**	**22 40 40.0**	**+0.2**
ADCV				S	**Sb**	**22 40 46.7**	**-1.5**
VMUR	**Van-Muradiye**	**0.45**	**43**	*i* P	**Pg**	**22 40 41.3**	**+0.3**
VMUR				*i* S	**Sb**	**22 40 49.6**	**-0.5**
VMUR	**Van-Muradiye**	**0.45**	**43**	P	**Pg**	**22 40 41.3**	**+0.3**
VMUR				S	**Sb**	**22 40 49.6**	**-0.5**
CLDR	**Caldiran**	**0.75**	**50**	PG	**Pg**	**22 40 45.8**	**-1.0**
CLDR				SG	**Sb**	**22 40 57.7**	**-1.1**
CLDR	**Caldiran**	**0.75**	**50**	*i* P	**Pg**	**22 40 45.7**	**-1.0**
CLDR				*i* S	**Sb**	**22 40 57.8**	**-1.0**
CLDR	**Caldiran**	**0.75**	**50**	*e*Pg	**Pg**	**22 40 45.8**	**-1.0**
CLDR				*e*Sg	**Sb**	**22 40 57.7**	**-1.1**
TUTA	**Tutak**	**0.79**	**339**	*i* P	**Pg**	**22 40 47.2**	**-0.3**
TUTA				*e*S	**Sg**	**22 40 58.7**	**+0.9**
TUTA				IAML		22 41 00.1	
	comp=Z,19nm,0.2s						
TUTA	**Tutak**	**0.79**	**339**	*i* P	**Pg**	**22 40 47.2**	**-0.3**
TUTA	**Tutak**	**0.79**	**339**	P	**Pg**	**22 40 47.2**	**-0.3**
GURO	**Guroymak-BITLI**	**0.91**	**263**	PG	**Pg**	**22 40 48.3**	**-1.4**
GURO				SG	**Sg**	**22 41 01.3**	**-0.1**
GURO	**Guroymak-BITLI**	**0.91**	**263**	*e*Pg	**Pg**	**22 40 48.3**	**-1.4**
GURO				*e*Sg	**Sg**	**22 41 01.3**	**-0.1**
AGRB	**Hanur-Agry**	**0.92**	**351**	PG	**Pg**	**22 40 49.6**	**-0.4**
AGRB				SG	**Sb**	**22 41 03.3**	**-0.5**
AGRB	**Hanur-Agry**	**0.92**	**351**	*e*Pg	**Pg**	**22 40 49.6**	**-0.4**
AGRB				*e*Sg	**Sb**	**22 41 03.3**	**-0.5**
EKAR	**Karacoban**	**1.05**	**305**	*e*P	**Pg**	**22 40 52.7**	**+0.2**
EKAR				*e*S	**Sn**	**22 41 11.2**	**+1.8**
EKAR				IAML		22 41 27.3	
	comp=Z,4.5nm,0.6s						
EKAR	**Karacoban**	**1.05**	**305**	*i* P	**Pb**	**22 40 53.2**	**0.0**
EKAR				*i* S	**Sn**	**22 41 13.3**	**+3.9**
EKAR	**Karacoban**	**1.05**	**305**	P	**Pb**	**22 40 53.2**	**0.0**
SRTM	**Siirt_Merkez**	**1.20**	**236**	*i* P	**Pn**	**22 40 55.7**	**-0.3**
SRTM				*i* S	**Sn**	**22 41 14.3**	**+1.6**
SRTM	**Siirt_Merkez**	**1.20**	**236**	P	**Pn**	**22 40 55.7**	**-0.3**
SRTM				S	**Sn**	**22 41 14.3**	**+1.6**
SIRT	**Sirnak**	**1.30**	**207**	PN	**Pn**	**22 40 55.1**	**-2.3**
SIRT	**Sirnak**	**1.30**	**207**	*e*Pn	**Pn**	**22 40 55.1**	**-2.3**
EATA	**Eleskirt**	**1.31**	**336**	*e*P	**Pn**	**22 40 56.4**	**-1.4**
EATA				*e*S	**Sn**	**22 41 16.1**	**+0.3**
EATA				IAML		22 41 19.0	
	comp=Z,1.7nm,0.5s						
EATA	**Eleskirt**	**1.31**	**336**	*i* P	**Pn**	**22 40 57.2**	**-0.6**
EATA				*i* S	**Sn**	**22 41 17.1**	**+1.1**
EATA	**Eleskirt**	**1.31**	**336**	P	**Pn**	**22 40 57.2**	**-0.6**
EATA				S	**Sn**	**22 41 17.0**	**+1.1**
SIRN	**S¨–rnak**	**1.31**	**208**	*i* P	**Pg**	**22 40 59.0**	**+1.5**
SIRN				*i* S	**Sn**	**22 41 17.5**	**+1.9**
SIRN	**S¨–rnak**	**1.31**	**208**	P	**Pg**	**22 40 59.0**	**+1.5**
SIRN				S	**Sn**	**22 41 17.5**	**+1.9**
IGDI	**IGDIR**	**1.39**	**30**	*e*P	**Pn**	**22 40 58.1**	**-0.5**
TASB	**TASBURUN-IGDIR**	**1.55**	**32**	PN	**Pn**	**22 40 59.5**	**-1.4**
TASB	**TASBURUN-IGDIR**	**1.55**	**32**	*e*Pn	**Pn**	**22 40 59.5**	**-1.4**

*ISK **21** 22:41:17.9,39°.10N×29°.18E,h6km,ML2.2/12*
*ISCJB **21** 22:41:18.6±0.5,39°.10N±0°.03×29°.15E±0°.03,h2km±5km, Error ellipse: s-maj=4.9km s-min=3.5km az=157.8*
*CSEM **21** 22:41:18.8±0.1,39°.09N×29°.15E,h8km,ML2.2,Error ellipse: s-maj=2.6km s-min=1.9km az=134.0*
*DDA **21** 22:41:19.1,39°.07N×29°.11E,h7km,Ml2.5*
ISC 21 22:41:18.9±1.0,39°.11N±0°.02×29°.15E±0°.02,h5km±9km, n44,σ0$46/66,**Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIMA	**Simav-Kutahya**	**0.13**	**260**	PG	**Pg**	**22 41 21.8**	**+0.2**
SIMA				SG	**Sg**	**22 41 23.8**	**+0.3**
SIMA	**Simav-Kutahya**	**0.13**	**260**	*e*Pg	**Pg**	**22 41 21.8**	**+0.2**
SIMA				*e*Sg	**Sg**	**22 41 23.8**	**+0.3**
GDZ	**Gediz**	**0.26**	**94**	*i* P	**Pg**	**22 41 23.0**	**+0.1**
GDZ				*i* S	**Sg**	**22 41 28.2**	**+0.9**
GDZ	**Gediz**	**0.26**	**94**	P	**Pg**	**22 41 24.0**	**+0.1**
GDZ				S	**Sg**	**22 41 28.2**	**+0.9**
DEMI	**Demirci**	**0.35**	**260**	*i* P	**Pg**	**22 41 25.8**	**+0.2**
DEMI				*i* S	**Sg**	**22 41 30.2**	**+0.1**
DEMI	**Demirci**	**0.35**	**260**	P	**Pg**	**22 41 25.8**	**+0.2**
DEMI				S	**Sg**	**22 41 30.2**	**+0.1**
TVSB	**Tavsanli**	**0.42**	**35**	PG	**Pg**	**22 41 26.5**	**-0.5**
TVSB				SG	**Sg**	**22 41 32.1**	**-0.4**
TVSB	**Tavsanli**	**0.42**	**35**	*e*Pg	**Pg**	**22 41 26.5**	**-0.5**
TVSB				*e*Sg	**Sg**	**22 41 32.1**	**-0.4**
KULA	**Kula-Manisa**	**0.70**	**213**	PG	**Pg**	**22 41 31.9**	**-0.5**
KULA	**Kula-Manisa**	**0.70**	**213**	*e*Pg	**Pg**	**22 41 31.9**	**-0.5**
DURS	**Dursunbey**	**0.72**	**313**	*i* P	**Pb**	**22 41 33.7**	**-0.3**
DURS				*i* S	**Sg**	**22 41 41.9**	**-0.2**
DURS	**Dursunbey**	**0.72**	**313**	P	**Pb**	**22 41 33.7**	**-0.3**
DURS				S	**Sg**	**22 41 41.9**	**-0.2**
MANT	**Manisa**	**0.77**	**217**	*i* P	**Pg**	**22 41 43.5**	**-0.1**
MANT				*i* S	**Sg**	**22 41 43.3**	**-0.4**
MANT	**Manisa**	**0.77**	**217**	P	**Pg**	**22 41 33.5**	**-0.1**
MANT				S	**Sg**	**22 41 43.3**	**-0.4**
KHAL	**Karahalli**	**0.78**	**160**	*i* P	**Pb**	**22 41 34.3**	**-0.7**
KHAL				*i* S	**Sg**	**22 41 44.4**	**+0.4**
KHAL	**Karahalli**	**0.78**	**160**	P	**Pb**	**22 41 34.3**	**-0.7**
KHAL				S	**Sg**	**22 41 44.4**	**+0.4**
AUBOZ	**BOZOYUK**	**1.05**	**40**	*i* P	**Pn**	**22 41 40.6**	**+0.2**
AUBOZ				*i* S	**Sn**	**22 41 56.7**	**+1.2**
AUBOZ	**BOZOYUK**	**1.05**	**40**	P	**Pn**	**22 41 40.6**	**+0.2**
AUBOZ				S	**Sn**	**22 41 56.7**	**+1.2**
AKHS	**Akhisar**	**1.07**	**258**	*i* P	**Pg**	**22 41 39.3**	**0.0**
AKHS				*i* S	**Sg**	**22 41 52.9**	**-0.3**
AKHS	**Akhisar**	**1.07**	**258**	P	**Pg**	**22 41 39.3**	**0.0**
AKHS				S	**Sg**	**22 41 52.9**	**-0.3**
BALB	**Balikesir**	**1.12**	**299**	PN	**Pb**	**22 41 40.6**	**-0.1**
BALB	**Balikesir**	**1.12**	**299**	*e*Pn	**Pb**	**22 41 40.6**	**-0.1**
STEP	**BALIKESIR_Sava**	**1.15**	**284**	*i* P	**Pb**	**22 41 41.1**	**-0.1**
STEP				*i* S	**Sb**	**22 41 56.3**	**-0.1**
STEP	**BALIKESIR_Sava**	**1.15**	**284**	P	**Pb**	**22 41 41.1**	**-0.1**
STEP				S	**S

ARMT	**Armutlu**	**1.48**	**351**	PN	**Pn**	**22**	**41**	**45.9**	**-0.2**
ARMT	**Armutlu**	**1.48**	**351**	*e*Pn	**Pn**	**22**	**41**	**45.9**	**-0.2**
AYDB	**Zeytinkoy-Aydi**	**1.52**	**221**	PN	**Pn**	**22**	**41**	**46.4**	**-0.5**
AYDB	**Zeytinkoy-Aydi**	**1.52**	**221**	*e*Pn	**Pn**	**22**	**41**	**46.4**	**-0.5**
EDC	**Edincik**	**1.59**	**322**	PN	**Pn**	**22**	**41**	**47.6**	**-0.1**
EDC	**Edincik**	**1.59**	**322**	*e*Pn	**Pn**	**22**	**41**	**47.6**	**-0.1**
GULT	**Gulveren**	**1.69**	**38**	PN	**Pn**	**22**	**41**	**48.8**	**-0.4**
GULT	**Gulveren**	**1.69**	**38**	*e*Pn	**Pn**	**22**	**41**	**48.8**	**-0.4**
BAYC	**CANAKKALE_Bayr**	**2.12**	**288**	*i* P	**Pg**	**22**	**41**	**59.2**	**-0.2**
BAYC				*i* S	**Sb**	**22**	**42**	**25.1**	**+0.8**
BAYC	**CANAKKALE_Bayr**	**2.12**	**288**	P	**Pg**	**22**	**41**	**59.2**	**-0.2**
BAYC				S	**Sb**	**22**	**42**	**25.1**	**+0.8**

GUC 21 22:55:46.2±0.3**, 36°.43S**×**73°.59W, h11**km±2km**, ML3.5, 1D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CCSP	**San Pedro de C**	**0.57**	**137**	*e*P	Pg	22 55 56.7	-0.6
CCSP				*i* S	Sg	22 56 04.3	-0.4
COCH	**Cobquecura**	**0.72**	**66**	*i* P	Pg	22 55 59.0	-1.1
COCH				*i* S	Sg	22 56 08.6	-0.9
COCH				IAML		22 56 09.9	
	comp=E,4µm,1.0s						
CCHI	**Chillan**	**1.23**	**98**	*e*P	Pn	22 56 07.1	-2.2
CCHI				*e*S	Sb	22 56 23.3	-2.1
CCHI				IAML		22 56 29.0	
	comp=E,2µm,0.6s						
GO05	**HualaæØ**	**1.96**	**44**	*e*P	Pn	22 56 18.8	-0.6
GO05				*e*S	Sn	22 56 43.8	-0.2
GO05				IAML		22 56 52.2	
	comp=E,492nm,0.9s						
TMU	**Temuco**	**2.43**	**161**	*e*P	Pn	22 56 26.1	+0.3
TMU				IAML		22 57 08.5	
	comp=N,280nm,0.4s						

*IDC **21** 23:07:50.5±1.3, 3°.19N×93°.79E, h0km, mb3.8/9, mb1 3.9/10, mb1mx3.6/61, mbtmp3.7/10, ML3.7/1, MS3.3/1, Ms1 3.3/1, ms1mx2.5/62, Error ellipse: s-maj=52.2km s-min=19.1km az=54.0*
*ISCJB **21** 23:07:51.6±0.5, 3°.22N±0°.07×93°.79E±0°.08, h18km, mb3.9/15, MS3.3/1, Error ellipse: s-maj=12.2km s-min=8.3km az=150.3*
*NEIC **21** 23:07:52.1±0.4, 3°.21N×93°.75E, h10km, mb4.0/8, Error ellipse: s-maj=8.4km s-min=5.7km az=66.0*
ISC 21 23:07:53.5±0.7**, 3°.21N**±0°.09×**93°.8E**±0°.1**, h18**km**, n29,** σ**0**s**53/22, mb4.0/15, Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GSI	**Gunungsitoli**	**4.23**	**117**	*e*Pn	**Pn**	**23**	**08**	**56.9**	**-0.3**
KULM	**Kulim**	**7.15**	**73**	*e*Pn	**Pn**	**23**	**09**	**37.8**	**+0.6**
COCO	**West Island** 83nm,0.6s	**15.60**	**169**	Pn	**Pn**	**23**	**11**	**33.1**	**+0.5**
CMAR	**Chiang Mai Arr** 0.1nm,0.3s,baz=212,slow=12,SNR=5.5	**15.97**	**18**	Pn	**Pn**	**23**	**11**	**37.5**	**+0.1**
CHTO	**Chiang Mai** 0.9nm,0.5s	**16.31**	**18**	Pn	**Pn**	**23**	**11**	**42.0**	**+0.3**
KSM	**Kuching** 20nm,1.4s	**16.60**	**96**	Pn	**Pn**	**23**	**11**	**46.2**	**+0.8**
H08S2	**Diego Garcia H** baz=63,slow=75,SNR=88	**23.83**	**243**	T	T	23	38	03.4	
H08S3	**Diego Garcia H** baz=63,slow=75,SNR=142	**23.83**	**243**	T	T	23	38	02.9	
H08S1	**Diego Garcia H** baz=63,slow=75,SNR=97	**23.84**	**243**	T	T	23	38	04.1	
LSA	**Lhasa** 5.0nm,0.6s	**26.46**	**355**	*e*P	**P**	**23**	**13**	**30.9**	**+0.6**
NACB	**Ninganchiao** 10.0nm,0.8s	**33.98**	**50**	*e*P	**P**	**23**	**14**	**35.6**	**-0.7**
H01W3	**Cape Leeuwin H** baz=331,slow=76,SNR=9.9	**42.45**	**155**	T	T	00	01	01.0	
H01W2	**Cape Leeuwin H** baz=331,slow=76,SNR=12	**42.46**	**155**	T	T	00	01	05.6	
H01W1	**Cape Leeuwin H** baz=331,slow=76,SNR=15	**42.46**	**155**	T	T	00	01	19.4	
MKAR	**Makanchi Array** 1.2nm,0.6s,baz=173,slow=8.4,SNR=11	**44.55**	**349**	P	**P**	**23**	**16**	**04.3**	**+0.1**
JNU	**Nakatsue** comp=Z,31nm,18.1s,baz=117,slow=42	**45.68**	**45**	LR	LR	23	39	51.3	
SONM	**Songino Array** 0.4nm,0.5s,baz=206,slow=6.3,SNR=2.5	**45.77**	**12**	P	**P**	**23**	**16**	**13.8**	**-0.3**
WRA	**Warramunga Arr** 1.1nm,0.5s,baz=301,slow=8.8,SNR=14	**45.99**	**122**	P	**P**	**23**	**16**	**15.8**	**-0.3**
WRAB	**Tennant Creek** 1.0nm,0.5s	**45.99**	**122**	*e*P	**P**	**23**	**16**	**15.7**	**-0.4**
ASAR	**Alice Springs** 0.4nm,0.5s,baz=293,slow=7.7,SNR=5.3	**47.32**	**127**	P	**P**	**23**	**16**	**26.3**	**-0.3**
GEYT	**Alibeck** 0.7nm,0.6s,baz=148,slow=8.7,SNR=3.5	**47.51**	**321**	P	**P**	**23**	**16**	**28.6**	**+0.8**
KURBB	**Kurchatov Arra** 0.4nm,0.4s,baz=170,slow=7.6,SNR=6.2	**48.97**	**347**	P	**P**	**23**	**16**	**39.1**	**+0.3**
KURK	**Kurchatov**	**49.04**	**347**	P	**P**	**23**	**16**	**39.1**	**-0.2**
ZALV	**Zalesovo Beam** 1.1nm,0.5s,baz=184,slow=7.7,SNR=6.0	**51.11**	**353**	P	**P**	**23**	**16**	**54.7**	**-0.2**
MAJO	**Matsushiro** 1.2nm,0.5s	**52.61**	**45**	P	**P**	**23**	**17**	**05.8**	**-0.7**
BVAR	**Borovoye Array** 0.5nm,0.5s,baz=160,slow=9.0,SNR=2.5	**53.28**	**343**	P	**P**	**23**	**17**	**10.7**	**-0.5**
LSZ	**Lusaka** 0.5nm,0.4s	**67.45**	**252**	P	**P**	**23**	**18**	**48.4**	**-0.6**
CASY	**Casey** 0.9nm,1.0s	**70.37**	**173**	P	**P**	**23**	**19**	**06.7**	**+0.8**
GERES	**GERESS Array B** 0.4nm,0.6s,baz=117,slow=7.8,SNR=2.7	**81.06**	**319**	P	**P**	**23**	**20**	**07.4**	**-0.3**

*UPP **21** 23:23:18.2, 67°.84N×20°.20E, h0km, ML1.0, Mining explosion.*
*CSEM **21** 23:23:18.0±0.1, 67°.83N×20°.25E, h2km, ML1.0, Error ellipse: s-maj=3.7km s-min=3.0km az=178.0, Mining explosion.*
HEL 21 23:23:18.8±0.0**, 67°.83N×20°.20E, h0km, ML1.5, ML1.0**(UPP)**, Explosion, Sweden**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUA	**Kurravaara**	**0.13**	**23**	P	Pg	23 23 20.9	-0.4
KUA				S	Sg	23 23 22.8	-0.2
KUA	**Kurravaara**	**0.13**	**23**	*i* P	Pg	23 23 20.9	-0.4
KUA				*i* S	Sg	23 23 22.8	-0.3
RATU	**Laukkuluspa**	**0.23**	**268**	P	Pg	23 23 22.8	-0.4
RATU	**Laukkuluspa**	**0.23**	**268**	*i* P	Pg	23 23 22.8	-0.4
NIKU	**Nikkaluokta**	**0.44**	**275**	P	Pg	23 23 26.7	-0.6
NIKU	**Nikkaluokta**	**0.44**	**275**	*i* P	Pg	23 23 26.7	-0.5
LANU	**Lannavaara**	**0.71**	**71**	P	Pg	23 23 31.9	-0.5
LANU	**Lannavaara**	**0.71**	**71**	*e*P	Pg	23 23 29.8	-2.5
DUNU	**Dundret**	**0.73**	**169**	P	Pg	23 23 31.8	-0.9
DUNU	**Dundret**	**0.73**	**169**	*i* P	Pg	23 23 31.8	-1.0
MASU	**Masugnsbyn**	**0.79**	**118**	P	Pg	23 23 33.1	-0.7
MASU	**Masugnsbyn**	**0.79**	**118**	*i* P	Pg	23 23 33.1	-0.7
SALU	**Saltoluokta**	**0.79**	**236**	P	Pg	23 23 33.1	-0.8
SALU	**Saltoluokta**	**0.79**	**236**	*i* P	Pg	23 23 33.1	-0.8
KIF	**Kilpisjarvi**	**1.20**	**10**	*e*S	Sg	23 23 56.9	-0.3
KIF	**Kilpisjarvi** comp=Z,4.8nm,0.2s	**1.20**	**10**	MSG		23 23 56.0	
KIF				*e*S	Sg	23 23 56.9	-0.3
KIF	**Kilpisjarvi**	**1.20**	**10**	*e*P	Pg	23 23 41.4	-0.3
PAJU	**Pajala**	**1.39**	**125**	P	Pg	23 23 43.7	-1.7
PAJU	**Pajala**	**1.39**	**125**	*e*P	Pg	23 23 43.7	-1.7
HEF	**Hetta**	**1.42**	**64**	*e*Pg	Pn	23 23 44.5	-1.3
HEF				*e*Sb	Sg	23 24 03.2	-1.1
HEF	**Hetta** baz=251	**1.42**	**64**	*e*PG	Pn	23 23 44.5	-1.3
HEF				MSG		23 24 01.8	
	comp=Z,3.7nm,0.2s						
HEF				*e*SB	Sg	23 24 03.2	-1.1
HEF	**Hetta**	**1.42**	**64**	*e*P	Pn	23 23 44.6	-1.2
ERTU	**Ertsjaerv**	**1.50**	**148**	P	Pn	23 23 45.7	-1.2
ERTU	**Ertsjaerv**	**1.50**	**148**	*e*Pn	Pn	23 23 46.3	-0.6
ERTU				*e*Sn	Sg	23 24 06.2	-0.8
ERTU	**Ertsjaerv** baz=333	**1.50**	**148**	*e*PN	Pn	23 23 46.3	-0.7
ERTU				*e*SN	Sg	23 24 06.2	-0.7
KALU	**Kalix** comp=Z,2.3nm,0.2s	**2.34**	**146**	*e*Sg	Sb	23 24 30.1	-1.1
KALU	**Kalix**	**2.34**	**146**	*e*SG	Sb	23 24 30.1	-1.1
TOF	**Tornio**	**2.40**	**135**	*e*Sg	Sb	23 24 32.5	-0.2
TOF	**Tornio** comp=Z,2.3nm,0.2s	**2.40**	**135**	MSG		23 24 29.5	
TOF				*e*SG	Sb	23 24 32.5	-0.2
SGF	**Sodankyl**	**2.45**	**96**	*e*Pg	Pb	23 24 02.1	-1.6
SGF	**Sodankyl**	**2.45**	**96**	*e*Sg	Sb	23 24 34.2	-0.2
SGF	**Sodankyl** baz=277	**2.45**	**96**	*e*PG	Pb	23 24 02.1	-1.6
SGF				*e*SG	Sb	23 24 34.2	-0.2
RNF	**Rovaniemi**	**2.58**	**116**	*e*Pb	Pn	23 24 03.3	+1.6
RNF				*e*Sg	Sb	23 24 37.6	-0.3
RNF	**Rovaniemi** baz=307	**2.58**	**116**	*e*PB	Pn	23 24 03.3	+1.7
RNF				*e*SG	Sb	23 24 37.6	-0.3

*CSEM **21** 23:23:20.5±0.5, 67°.81N×20°.87E, h1km, ML0.5, Error ellipse: s-maj=25.5km s-min=7.9km az=33.0, Mining explosion.*
UPP 21 23:23:23.3, 67°.84N×20°.20E, h0km, ML0.5, Mining explosion., Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUA	**Kurravaara**	**0.12**	**24**	P	Pg	23 23 25.9	+0.2
KUA				S	Sg	23 23 27.8	+0.5

*DDA **21** 23:24:29.8, 37°.16N×36°.95E, h7km, Ml2.5*
*CSEM **21** 23:24:29.9±0.2, 37°.14N×36°.97E, h5km, ML2.1, Error ellipse: s-maj=4.5km s-min=4.0km az=29.0*
*ISK **21** 23:24:29.2, 37°.17N×36°.97E, h8km, ML2.1/6*
ISC 21 23:24:29.9±1.0**, 37°.16N**±0°.02×**36°.97E**±0°.02**, h8**km±8km**, n34,** σ**0**s**54/55, Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GAZ	**Gaziantep**	**0.20**	**85**	PG	**Pg**	**23**	**24**	**33.6**	**-0.3**
GAZ				SG	**Sg**	**23**	**24**	**36.9**	**+0.3**
GAZ	**Gaziantep**	**0.20**	**85**	*e*Pg	**Pg**	**23**	**24**	**33.6**	**-0.3**
GAZ				*e*Sg	**Sg**	**23**	**24**	**36.9**	**+0.3**
KMRS	**Kahramanmaras**	**0.35**	**351**	PG	**Pg**	**23**	**24**	**36.4**	**-0.4**
KMRS				SG	**Sg**	**23**	**24**	**36.8**	**+0.3**
KMRS	**Kahramanmaras**	**0.35**	**351**	*e*Pg	**Pg**	**23**	**24**	**36.4**	**-0.4**
KMRS				*e*Sg	**Sg**	**23**	**24**	**41.8**	**+0.3**
KUZU	**Kuzuini**	**0.39**	**167**	*i* P	**Pg**	**23**	**24**	**38.0**	**+0.4**
KUZU				*i* S	**Sb**	**23**	**24**	**44.0**	**-1.3**
KUZU	**Kuzuini**	**0.39**	**167**	P	**Pg**	**23**	**24**	**38.0**	**+0.4**
KUZU				S	**Sb**	**23**	**24**	**44.0**	**-1.3**
ANDN	**Andirin**	**0.65**	**311**	*i* P	**Pg**	**23**	**24**	**42.3**	**-0.2**
ANDN				*i* S	**Sg**	**23**	**24**	**51.3**	**+0.3**
ANDN	**Andirin**	**0.65**	**311**	P	**Pg**	**23**	**24**	**42.3**	**-0.2**
ANDN				S	**Sg**	**23**	**24**	**51.3**	**+0.3**
KOZT	**Kozan**	**0.97**	**290**	PG	**Pg**	**23**	**24**	**48.2**	**-0.2**
KOZT				SG	**Sb**	**23**	**25**	**01.4**	**-0.4**
KOZT	**Kozan**	**0.97**	**290**	*e*Pg	**Pg**	**23**	**24**	**48.2**	**-0.2**
KOZT				*e*Sg	**Sb**	**23**	**25**	**01.4**	**-0.4**
SAIM	**ADANA**	**1.08**	**320**	*i* P	**Pn**	**23**	**24**	**51.8**	**+0.4**
SAIM				*i* S	**Sn**	**23**	**25**	**06.3**	**-0.3**
SAIM	**ADANA**	**1.08**	**320**	P	**Pn**	**23**	**24**	**51.8**	**+0.4**
SAIM				S	**Sn**	**23**	**25**	**06.3**	**-0.3**
YURE	**YUREGIR**	**1.12**	**253**	PN	**Pg**	**23**	**24**	**51.2**	**-0.2**
YURE	**YUREGIR**	**1.12**	**253**	*e*Pn	**Pg**	**23**	**24**	**51.2**	**-0.2**
YAYL	**Yayladag**	**1.32**	**212**	PN	**Pb**	**23**	**24**	**54.9**	**0.0**
YAYL	**Yayladag**	**1.32**	**212**	*i* P	**Pn**	**23**	**24**	**54.0**	**-0.7**
YAYL				*i* S	**Sn**	**23**	**25**	**13.2**	**+0.7**
YAYL	**Yayladag**	**1.32**	**212**	P	**Pn**	**23**	**24**	**54.0**	**-0.7**
YAYL	**Yayladag**	**1.32**	**212**	*e*Pn	**Pb**	**23**	**24**	**54.9**	**0.0**
YAYL				S	**Sn**	**23**	**25**	**13.2**	**+0.7**
SURC	**SANLIURFA_SURC**	**1.34**	**101**	*i* P	**Pn**	**23**	**24**	**55.1**	**+0.1**
SURC				*i* S	**Sb**	**23**	**25**	**12.5**	**-0.2**
SURC	**SANLIURFA_SURC**	**1.34**	**101**	P	**Pn**	**23**	**24**	**55.1**	**+0.1**
SURC				S	**Sb**	**23**	**25**	**12.5**	**-0.2**
AKCD	**Akcadag**	**1.37**	**33**	*i* P	**Pg**	**23**	**24**	**56.3**	**+0.2**
AKCD				*i* S	**Sn**	**23**	**25**	**14.8**	**+1.0**
AKCD	**Akcadag**	**1.37**	**33**	P	**Pg**	**23**	**24**	**56.3**	**+0.2**
AKCD				S	**Sn**	**23**	**25**	**14.8**	**+1.0**
DARE	**Darende-Malaty**	**1.47**	**16**	PN	**Pn**	**23**	**24**	**56.5**	**-0.3**
DARE	**Darende-Malaty**	**1.47**	**16**	*e*Pn	**Pn**	**23**	**24**	**56.5**	**-0.3**
URFA	**Urfa**	**1.50**	**79**	PN	**Pn**	**23**	**24**	**57.1**	**-0.1**
URFA	**Urfa**	**1.50**	**79**	*e*Pn	**Pn**	**23**	**24**	**57.1**	**-0.1**
YAHY	**KAYSERI_Yahyal**	**1.58**	**307**	*i* P	**Pg**	**23**	**25**	**00.2**	**0.0**
YAHY				*i* S	**Sg**	**23**	**25**	**22.1**	**+1.3**
YAHY	**KAYSERI_Yahyal**	**1.58**	**307**	P	**Pg**	**23**	**25**	**00.2**	**0.0**
YAHY				S	**Sg**	**23**	**25**	**22.1**	**+1.3**
MALT	**Malatya**	**1.63**	**45**	PN	**Pn**	**23**	**24**	**58.8**	**-0.2**
MALT	**Malatya**	**1.63**	**45**	*e*Pn	**Pn**	**23**	**24**	**58.8**	**-0.2**
HEKM	**Malatya_Hekimh**	**1.89**	**24**	*i* P	**Pg**	**23**	**25**	**05.5**	**-0.6**
HEKM				*i* S	**Sg**	**23**	**25**	**31.0**	**+0.4**
HEKM	**Malatya_Hekimh**	**1.89**	**24**	P	**Pg**	**23**	**25**	**05.5**	**-0.6**
BNN	**Bunyan**	**1.91**	**333**	PN	**Pn**	**23**	**25**	**02.7**	**-0.2**
BNN	**Bunyan**	**1.91**	**333**	*e*Pn	**Pn**	**23**	**25**	**02.7**	**-0.2**

*IDC **21** 23:27:33.9±1.3, 17°.58S×178°.89W, h504km±13km, mb4.0/24, mb1 4.2/26, mb1mx4.0/44, mbtmp4.9/26, Error ellipse: s-maj=14.1km s-min=9.8km az=145.0*
*NEIC **21** 23:27:35.2±0.5, 17°.57S×179°.00W, h520km±5km, mb4.5/133, Error ellipse: s-maj=7.1km s-min=4.0km az=144.0*
*ISCJB **21** 23:27:36.1±0.2, 17°.53S±0°.05×179°.12W±0°.04, h539km, mb4.4/163, Error ellipse: s-maj=7.2km s-min=3.2km az=146.8*
*MOS **21** 23:27:37.4±1.2, 17°.05S×179°.23W, h531km, mb4.6/28, Error ellipse: s-maj=11.2km s-min=9.2km az=58.1*
ISC 21 23:27:36.1±0.3**, 17°.59S**±0°.06×**178°.85W**±0°.06**, h539**km**, n501,** σ**1**s**22/509, mb4.5/163, 37C-25D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**2.96**	**267**	*e*P	**P**	**23**	**28**	**50.1**	**0.0**
MSVF	**Nonsavu**	**2.96**	**267**	*d* iP	**P**	**23**	**28**	**50.0**	**-0.1**
AFI	**Afiamalu** 19nm,0.3s,baz=183,slow=1.8,SNR=16	**7.73**	**63**	P	**P**	**23**	**29**	**27.1**	**-3.9**
AFI				S	**S**	**23**	**30**	**58.7**	**-6.5**
	3.5nm,0.3s,baz=15,slow=22,SNR=3.2								
NIUE	**Niue** baz=8.5,SNR=3.6	**8.60**	**101**	P	**P**	**23**	**29**	**37.6**	**-2.0**
FUNA	**Funafuti**	**9.21**	**348**	*e*P	**P**	**23**	**29**	**44.4**	**-1.5**
DZM	**Mont Dzumac** 1.2nm,0.3s,baz=86,slow=17,SNR=9.3	**14.54**	**250**	P	**P**	**23**	**30**	**39.2**	**-1.9**
DZM	**Mont Dzumac**	**14.54**	**250**	*e*P	**P**	**23**	**30**	**39.6**	**-1.5**
KNTN	**Kanton** 165nm,1.3s	**16.30**	**26**	*e*P	**P**	**23**	**30**	**56.8**	**-2.3**
TARA	**Tarawa** 179nm,0.9s	**20.50**	**336**	*e*P	**P**	**23**	**31**	**36.9**	**-0.5**
URZ	**Urewera** 24nm,0.8s,baz=18,slow=5.4,SNR=17	**20.89**	**189**	P	**P**	**23**	**31**	**38.0**	**-2.6**
URZ				S	**S**	**23**	**34**	**56.8**	**-1.7**
	4.1nm,0.6s,baz=246,slow=22,SNR=4.4								
URZ	**Urewera** 20nm,0.7s	**20.89**	**189**	*e*P	**P**	**23**	**31**	**38.8**	**-1.9**
URZ				*e*S	**S**	**23**	**35**	**00.3**	**+1.8**
KHZ	**Kahutara** 12nm,0.9s	**25.58**	**193**	*e*P	**P**	**23**	**32**	**21.0**	**-1.4**
LTZ	**Lake Taylor** 12nm,0.8s	**26.22**	**195**	*e*P	**P**	**23**	**32**	**26.3**	**-1.8**
OXZ	**Oxford** 22nm,0.7s	**26.79**	**195**	*e*P	**P**	**23**	**32**	**31.0**	**-2.0**
EIDS	**Eidsvold** baz=29,SNR=7.9	**28.98**	**249**	P	**P**	**23**	**32**	**51.9**	**-0.6**
EIDS	**Eidsvold** 34nm,0.9s	**28.98**	**249**	*e*P	**P**	**23**	**32**	**51.8**	**-0.7**
ARMA	**Armidale** baz=30,SNR=30	**29.74**	**239**	P	**P**	**23**	**32**	**59.6**	**+0.5**
ARMA	**Armidale** 40nm,0.7s	**29.74**	**239**	*e*P	**P**	**23**	**32**	**59.2**	**+0.1**
MLZ	**Mavora Lakes** 18nm,0.7s	**29.76**	**199**	*e*P	**P**	**23**	**32**	**58.8**	**-0.1**
MGCD	**Mangrove Creek** baz=31,SNR=17	**31.13**	**234**	P	**P**	**23**	**33**	**11.6**	**+0.7**
RMQ	**Roma** baz=31,SNR=29	**31.23**	**248**	P	**P**	**23**	**33**	**12.3**	**+0.4**
RABL	**Rabaul**	**31.36**	**292**	*e*PcP	**PcP**	**23**	**35**	**51.6**	**+1.1**
CTA	**Charters Tower** 22nm,0.7s,baz=87,slow=11,SNR=42	**33.09**	**260**	P	**P**	**23**	**33**	**27.1**	**-0.6**
CTAO	**Charters Tower** 25nm,0.7s	**33.09**	**260**	*e*P	**P**	**23**	**33**	**27.2**	**-0.6**
CTAO				*e*PP	**pP**	**23**	**35**	**00.9**	**+2.0**
CTAO	**Charters Tower**	**33.09**	**260**	*e*P	**P**	**23**	**33**	**27.2**	**-0.6**
CTAO				*e*		23	35	00.9	
CTAO				pmax	pmax				
	comp=Z,25nm,0.7s								
CNB	**Canberra Magne** baz=34,SNR=44	**33.29**	**232**	P	**P**	**23**	**33**	**29.7**	**+0.4**
CAN	**Canberra** comp=Z,30nm,0.9s	**33.56**	**232**	*e*P	**P**	**23**	**33**	**31.6**	**0.0**
CAN	**Canberra**	**33.56**	**232**	*e*P	**P**	**23**	**33**	**31.6**	**0.0**
CAN				pmax	pmax				
	comp=Z,30nm,0.9s								
YNG	**Young** baz=34,SNR=7.7	**33.63**	**234**	P	**P**	**23**	**33**	**32.8**	**+0.6**
CMSA	**Cobar Meteorol** baz=35,SNR=90	**34.94**	**240**	P	**P**	**23**	**33**	**43.0**	**-0.2**
MTSU	**Mount Surprise** baz=35,SNR=22	**35.02**	**263**	P	**P**	**23**	**33**	**43.4**	**-0.7**
QLP	**Quilpie** baz=35,SNR=25	**35.25**	**249**	P	**P**	**23**	**33**	**45.4**	**-0.4**
COEN	**Coen** baz=37,SNR=12	**36.68**	**270**	P	**P**	**23**	**33**	**57.8**	**0.0**
COEN	**Coen** comp=Z,20nm,0.8s	**36.68**	**270**	*e*P	**P**	**23**	**33**	**57.4**	**-0.4**
TOO	**Toolangi** baz=37,SNR=23	**37.05**	**230**	P	**P**	**23**	**34**	**00.9**	**+0.4**
TOO	**Toolangi**	**37.05**	**230**	P	**P**	**23**	**34**	**00.1**	**-0.4**
TOO				pmax	pmax				
	comp=Z,74nm,1.0s								
MOO	**Moorlands** baz=38,SNR=4.2	**38.04**	**222**	P	**P**	**23**	**34**	**09.1**	**+0.6**
STKA	**Stephens Creek** comp=Z,43nm,0.7s,baz=87,slow=9.7,SNR=46	**38.41**	**241**	P	**P**	**23**	**34**	**12.0**	**+0.3**
STKA	**Stephens Creek** baz=39,SNR=29	**38.41**	**241**	P	**P**	**23**	**34**	**12.1**	**+0.3**
STKA	**Stephens Creek** comp=Z,15nm,1.0s	**38.41**	**241**	*e*P	**P**	**23**	**34**	**11.9**	**+0.3**
STKA	**Stephens Creek**	**38.41**	**241**	*e*P	**P**	**23**	**34**	**12.0**	**+0.3**
STKA				pmax	pmax				
	comp=Z,15nm,1.0s								
ARPS	**Mount Arapiles** baz=40,SNR=7.6	**39.50**	**233**	P	**P**	**23**	**34**	**20.4**	**0.0**
MCQ	**Macquarie Isla** baz=41,SNR=3.1	**40.61**	**200**	P	**P**	**23**	**34**	**29.4**	**+0.5**
HTT	**Hallett** baz=41,SNR=22	**40.94**	**239**	P	**P**	**23**	**34**	**32.2**	**+0.1**
BBOO	**Buckleboo** baz=43,SNR=26	**43.19**	**241**	P	**P**	**23**	**34**	**49.6**	**-0.2**
BBOO	**Buckleboo** comp=Z,85nn,0.9s	**43.19**	**241**	*e*P	**P**	**23**	**34**	**49.3**	**-0.4**
WB2	**Warramunga Arr**	**44.27**	**259**	*e*P	**P**	**23**	**34**	**56.8**	**-1.4**
WRAB	**Tennant Creek** comp=Z,17nm,0.8s	**44.27**	**259**	*e*P	**P**	**23**	**34**	**56.7**	**-1.6**
WRAB	**Tennant Creek**	**44.27**	**259**	*e*P	**P**	**23**	**34**	**56.7**	**-1.6**
WRAB				pmax	pmax				
	comp=Z,17nm,0.8s								
WRA	**Warramunga Arr** comp=Z,16nm,0.8s,baz=96,slow=7.0,SNR=149	**44.28**	**259**	P	**P**	**23**	**34**	**56.8**	**-1.6**
WRA				S	**S**	**23**	**40**	**49.9**	**-3.4**
	comp=Z,1.6nm,0.9s,baz=94,slow=14,SNR=5.4								
AS01	**Alice Springs**	**44.43**	**254**	*e*P	**P**	**23**	**34**	**57.9**	**-1.6**
AS01				*e*S	**S**	**23**	**40**	**52.6**	**-2.8**
AS31	**Alice Springs** comp=Z,33nm,1.0s	**44.47**	**254**	*e*P	**P**	**23**	**34**	**59.3**	**-0.6**
AS31				*e*S	**S**	**23**	**40**	**54.0**	**-2.0**
ASAR	**Alice Springs** comp=Z,120nm,0.7s,baz=88,slow=8.2,SNR=1152	**44.47**	**254**	P	**P**	**23**	**34**	**59.2**	**-0.6**
ASAR				S	**S**	**23**	**40**	**53.5**	**-2.6**
	comp=Z,10nm,0.9s,baz=85,slow=16,SNR=31								
GUMO	**Guam** comp=Z,44nm,0.5s,baz=124,slow=8.5,SNR=5.3	**47.35**	**309**	P	**P**	**23**	**35**	**21.2**	**-0.5**
MTN	**Manton Dam** baz=48,SNR=5.6	**48.39**	**268**	P	**P**	**23**	**35**	**28.5**	**-1.0**
MTN	**Manton Dam** comp=Z,24nm,0.8s	**48.39**	**268**	*e*P	**P**	**23**	**35**	**28.1**	**-1.4**
WRKA	**Warakurna** baz=50,SNR=103	**49.54**	**252**	P	**P**	**23**	**35**	**37.4**	**-0.6**
FORT	**Forrest** baz=50,SNR=18	**49.76**	**244**	P	**P**	**23**	**35**	**39.0**	**-0.5**
FORT	**Forrest** comp=Z,1µm,0.7s	**49.76**	**244**	*e*P	**P**	**23**	**35**	**39.0**	**-0.5**
KNRA	**Kununurra** baz=50,SNR=7.1	**50.10**	**264**	P	**P**	**23**	**35**	**41.5**	**-0.6**
SIJI	**Sorong** comp=Z,22nm,0.8s,baz=93,slow=7.5,SNR=10	**51.75**	**283**	P	**P**	**23**	**35**	**54.2**	**-0.1**
KMBL	**Kambalda** baz=55,SNR=6.0	**55.07**	**244**	P	**P**	**23**	**36**	**16.7**	**-0.8**
SOEI	**Soe** comp=Z,52nm,0.8s	**55.65**	**270**	*e*P	**P**	**23**	**36**	**22.6**	**+0.7**
BATI	**Baumata** comp=Z,12nm,0.5s,baz=90,slow=5.1,SNR=4.5	**56.11**	**269**	P	**P**	**23**	**36**	**26.6**	**+1.5**
MBWA	**Marble Bar** comp=Z,20nm,0.9s	**57.74**	**256**	*e*P	**P**	**23**	**36**	**35.2**	**-0.8**
MEEK	**Meekatharra** baz=58,SNR=8.6	**58.15**	**249**	P	**P**	**23**	**36**	**37.9**	**-0.9**
KLBR	**Kellerberrin** baz=59,SNR=20	**58.59**	**243**	P	**P**	**23**	**36**	**40.9**	**-0.7**
NWAO	**Narrogin (SRO)** baz=59,SNR=3.8	**58.99**	**242**	P	**P**	**23**	**36**	**44.4**

MONP2 **Monument Peak** 77.93 50 P P 23 38 40.8 +1.7
baz=240,SNR=17
AFDM **Forest Hills D** 78.03 42 eP P 23 38 40.8 +1.6
comp=Z,7.7nm,0.9s
ORV **Oroville** 78.03 42 eP P 23 38 40.6 +1.4
comp=Z,8.8nm,1.4s
IKP **In-Ko-Pah, Jac** 78.04 50 P P 23 38 41.3 +1.8
baz=240,SNR=9.4
N02D **Trinity Center** 78.11 40 P P 23 38 41.4 +1.8
baz=234
KDAK **Kodiak Island** 78.20 14 eP P 23 38 40.4 +0.8
comp=Z,34nm,0.9s
KDAK **Kodiak Island** 78.20 14 ceP P 23 38 40.2 +0.6
M02C **Callahan** 78.26 40 P P 23 38 42.3 +1.9
baz=234
L02D **Cave Junction,** 78.26 39 P P 23 38 42.3 +1.9
baz=233
PFO **Pinyon Flats O** 78.27 49 P P 23 38 42.0 +1.3
baz=240
O03D **Paynes Creek** 78.27 41 P P 23 38 41.4 +0.9
baz=235
LRMC **Laurel Mtn Rad** 78.36 47 P P 23 38 42.9 +1.7
baz=239
SWSC **Sam W. Stewart** 78.41 50 P P 23 38 42.8 +1.5
baz=240
MDPB **Devils Postpil** 78.55 44 eP P 23 38 44.1 +1.8
comp=Z,10nm,0.8s
YBH **Yreka Blue Hor** 78.55 39 P P 23 38 43.5 +1.5
comp=Z,6.3nm,0.8s,baz=150,slow=3.7,SNR=23
YBH **Yreka Blue Hor** 78.55 39 eP P 23 38 43.6 +1.6
comp=Z,8.0nm,0.8s
YBH **Yreka Blue Hor** 78.55 39 eP P 23 38 43.6 +1.6
YBH pmax pmax
comp=Z,8.0nm,0.8s
CWC **Cottonwood Cre** 78.58 46 P P 23 38 43.7 +1.3
baz=238
MLAC **Mammoth, Mammo** 78.71 45 P P 23 38 44.6 +1.4
baz=237
WAKR **Walker** 78.78 44 eP P 23 38 45.2 +1.8
comp=Z,8.8nm,0.8s
MPMC **Manual Prospec** 78.79 46 P P 23 38 45.1 +1.6
baz=239,SNR=7.8
BELC **Belle Mtn. Jos** 78.79 49 P P 23 38 45.1 +1.5
baz=240,SNR=5.4
TIN **Tinemaha, Big** 78.81 45 P P 23 38 45.4 +1.9
baz=238
DAC **Darwin (Calif)** 78.83 46 eP P 23 38 45.4 +1.6
comp=Z,2.9nm,0.8s
DAC **Darwin (Calif)** 78.83 46 eP P 23 38 45.4 +1.6
DAC pmax pmax
comp=Z,3.0nm,0.8s
GSC **Goldstone, Bar** 78.88 47 P P 23 38 45.4 +1.5
baz=239
HUMO **Hull Mountain** 78.92 39 eP P 23 38 45.5 +1.7
comp=Z,9.3nm,1.0s
HEC **Hector,Ludlow** 78.97 48 P P 23 38 45.9 +1.5
baz=240,SNR=6.3
M04C **Macdoel** 79.11 40 P P 23 38 46.7 +1.6
baz=235
YERR **Yerington** 79.17 43 eP P 23 38 47.0 +1.4
comp=Z,15nm,0.7s
GLA **Glamis** 79.17 50 P P 23 38 47.2 +1.8
baz=241
I03D **Drain, OR** 79.34 37 P P 23 38 47.9 +1.9
baz=233
GMRC **Granite Mounta** 79.43 48 P P 23 38 48.0 +1.2
baz=240
FURC **Furnace Creek,** 79.44 46 P P 23 38 48.2 +1.6
baz=239
RYN **Ryan** 79.45 44 eP P 23 38 48.4 +1.4
comp=Z,5.7nm,0.8s
PAHR **Pah Rah Range** 79.47 43 eP P 23 38 48.8 +1.7
comp=Z,8.1nm,0.8s
IRM **Iron Mountain** 79.48 49 P P 23 38 48.8 +1.8
baz=240
NVAR **Mina Array Bea** 79.49 44 P P 23 38 48.7 +1.5
comp=Z,6.4nm,0.7s,baz=225,slow=8.9,SNR=55
NV01 **Mina Array Sit** 79.49 44 eP P 23 38 48.5 +1.2
TUQ **Turquoise Moun** 79.57 48 P P 23 38 49.0 +1.4
baz=240,SNR=5.5
NV11 **Mina Array Sit** 79.59 44 eP P 23 38 49.1 +1.4
comp=Z,0.7nm,0.9s
KLR **Kul'dur** 79.63 330 i P P 23 38 48.7 +1.3
Y12C **Blythe** 79.74 50 P P 23 38 50.2 +1.8
baz=241
J04D **Umpqua Nationa** 79.79 38 P P 23 38 50.5 +1.8
baz=234,SNR=7.1
113A **Mohawk Valley,** 79.82 51 eP P 23 38 51.0 +2.2
LDFC **Landfair** 79.96 48 eP P 23 38 51.4 +1.7
comp=Z,20nm,0.9s
TPNV **Topopah Spring** 80.11 46 P P 23 38 51.9 +1.5
baz=239,SNR=9.2
TPNV **Topopah Spring** 80.11 46 eP P 23 38 52.0 +1.5
comp=Z,4.7nm,0.8s
TPNV **Topopah Spring** 80.11 46 eP P 23 38 52.0 +1.5
TPNV pmax pmax
comp=Z,5.0nm,0.8s
MOD **Modoc Plateau** 80.12 40 eP P 23 38 51.7 +1.4
comp=Z,10nm,0.7s
214A **Organ Pipe Nat** 80.15 52 P P 23 38 52.2 +1.6
baz=242
214A **Organ Pipe Nat** 80.15 52 eP P 23 38 52.2 +1.6
comp=Z,25nm,1.2s
K05A **Summer Lake** 80.22 39 eP P 23 38 52.6 +1.6
comp=Z,17nm,0.9s
G03D **McMinnville, O** 80.30 36 P P 23 38 52.3 +1.3
baz=233
J05D **Fort Rock, OR** 80.34 39 P P 23 38 53.1 +1.6
baz=235,SNR=22
BRLK **Bradley Lake** 80.37 14 eP P 23 38 51.6 +0.5
comp=Z,26nm,0.8s
SHPR **Sheep Range** 80.64 47 eP P 23 38 55.2 +2.0
comp=Z,3.0nm,0.9s
MA2 **Magadan** 80.78 345 eP P 23 38 52.7 -0.5
comp=Z,14nm,0.9s
MA2 **Magadan** 80.78 345 eP P 23 38 52.7 -0.5
MA2 pmax pmax
comp=Z,14nm,0.9s
PINE **Pine Mountain** 80.81 38 eP P 23 38 55.6 +1.6
comp=Z,14nm,0.8s
W13A **Hualapai Mount** 80.85 49 eP P 23 38 56.5 +2.0
I05D **Terrebonne, OR** 80.89 38 P P 23 38 55.8 +1.6
baz=235
Y14A **Wickenburg** 80.94 50 eP P 23 38 56.7 +2.0
E03A **Lebam** 80.94 35 eP P 23 38 56.0 +1.8
comp=Z,20nm,0.9s
BMN **Battle Mountai** 81.26 43 eP P 23 38 57.8 +1.5
comp=Z,10nm,0.9s
BMN **Battle Mountai** 81.26 43 eP P 23 38 57.8 +1.5
BMN pmax pmax
comp=Z,11nm,0.9s
R11A **Troy Canyon, C** 81.27 45 P P 23 38 58.0 +1.5
baz=240,SNR=7.2
R11A **Troy Canyon, C** 81.27 45 eP P 23 38 57.9 +1.5
comp=Z,3.7nm,1.0s
GAMB **Gambell** 81.30 3 eP P 23 38 55.8 +0.1
comp=Z,13nm,0.8s
G05D **Wamic, OR** 81.42 37 P P 23 38 59.4 +2.5
baz=234
WVOR **Wild Horse Val** 81.44 41 eP P 23 38 58.5 +1.3
comp=Z,15nm,1.0s
WVOR **Wild Horse Val** 81.44 41 eP P 23 38 58.5 +1.3
WVOR pmax pmax
comp=Z,15nm,1.0s
RC01 **Rabbit Creek A** 81.81 14 eP P 23 38 58.8 +0.3
comp=Z,34nm,1.2s
I07A **Izee** 81.82 39 eP P 23 39 00.5 +1.4
comp=Z,7.2nm,0.8s
TUC **Tucson** 81.84 53 P P 23 39 01.4 +2.0
baz=243
TUC **Tucson** 81.84 53 eP P 23 39 01.1 +1.7
comp=Z,7.7nm,0.9s
TUC **Tucson** 81.84 53 eP P 23 39 01.1 +1.7
TUC pmax pmax
comp=Z,8.0nm,0.9s
SUA **Susitna One** 81.92 13 eP P 23 38 59.3 +0.1
comp=Z,29nm,0.8s
J08A **Circle Bar Ran** 82.05 40 eP P 23 39 01.7 +1.5
comp=Z,12nm,0.8s
D05A **Enumclaw** 82.19 35 eP P 23 39 02.6 +2.0
comp=Z,17nm,1.0s
LCMT **Little Creek M** 82.23 47 eP P 23 39 03.0 +1.7
comp=Z,6.5nm,0.8s
X16A **Lo Mia Camp, P** 82.31 50 eP P 23 39 03.9 +2.0
comp=Z,9.1nm,0.8s
PMR **Palmer** 82.40 14 eP P 23 39 01.7 +0.3
comp=Z,40nm,1.4s
PMR **Palmer** 82.40 14 eP P 23 39 01.7 +0.3
PMR pmax pmax
comp=Z,40nm,1.4s
CCUT **Cedar City** 82.40 47 eP P 23 39 04.3 +2.0
comp=Z,6.1nm,0.9s
KNB **Kanab** 82.53 48 eP P 23 39 05.1 +2.2
comp=Z,6.3nm,0.8s
KNB **Kanab** 82.53 48 eP P 23 39 05.1 +2.2
KNB pmax pmax
comp=Z,6.0nm,0.8s
319A **Douglas** 82.58 54 eP P 23 39 05.7 +2.5
SZCU **Shurtz Canyon** 82.61 47 eP P 23 39 05.7 +2.3
comp=Z,5.5nm,0.9s
U15A **North Rim** 82.62 48 eP P 23 39 05.6 +2.0
B05A **Bryant** 82.77 34 P P 23 39 04.9 +1.4
baz=234
DIV **Divide** 82.81 15 eP P 23 39 03.9 +0.3
comp=Z,32nm,0.8s
G08A **Pilot Rock** 82.82 38 eP P 23 39 05.7 +1.6
comp=Z,12nm,1.0s
WUAZ **Wupatki** 82.86 49 P P 23 39 06.4 +1.8
baz=243
WUAZ **Wupatki** 82.86 49 eP P 23 39 06.7 +2.1
comp=Z,11nm,1.0s
LTY **Liberty** 82.96 36 eP P 23 39 05.7 +1.0
comp=Z,5.8nm,0.8s
BMRM **Bremner River** 82.97 16 eP P 23 39 04.9 +0.5
comp=Z,19nm,0.7s
SCM **Sheep Creek Mo** 83.03 14 eP P 23 39 05.2 +0.5
comp=Z,47nm,0.8s
SCM **Sheep Creek Mo** 83.03 14 eP P 23 39 05.2 +0.5
SCM pmax pmax
comp=Z,47nm,0.8s
PKCU **Pink Cliffs** 83.09 47 eP P 23 39 08.4 +2.5
comp=Z,7.4nm,0.9s
HAWA **Hanford** 83.10 37 eP P 23 39 07.0 +1.6
comp=Z,12nm,0.9s
SEY **Seymchan** 83.38 347 ceP P 23 39 06.5 +0.2
CAST **Castle Rocks** 83.41 12 eP P 23 39 05.2 -1.3
comp=Z,34nm,0.8s
MTPU **Mount Pierson** 83.46 47 eP P 23 39 09.2 +1.5
comp=Z,8.7nm,0.9s
BMO **Blue Mountains** 83.56 39 eP P 23 39 08.3 +0.5
comp=Z,2.3nm,0.7s
BMO **Blue Mountains** 83.56 39 eP P 23 39 08.3 +0.5
BMO pmax pmax
comp=Z,2.0nm,0.7s
MSU **Marysvale** 83.68 46 eP P 23 39 11.0 +2.3
MFID **Camas Ranch** 83.71 41 eP P 23 39 09.6 +1.0
comp=Z,8.2nm,0.9s
KTH **Kantishna Hill** 83.76 12 eP P 23 39 07.6 -0.6
comp=Z,20nm,0.9s
TRF **Thorofare Moun** 83.80 12 eP P 23 39 07.9 -0.7
comp=Z,35nm,0.8s
MAW **Mawson** 84.01 200 P P 23 39 09.7 +0.2
comp=Z,1.2nm,0.6s,baz=76,slow=16,SNR=1.3
HARP **HAARP** 84.05 15 eP P 23 39 10.4 +0.7
comp=Z,35nm,0.9s
RND **Reindeer** 84.06 13 eP P 23 39 09.7 -0.1
comp=Z,47nm,0.9s
RND **Reindeer** 84.06 13 eP P 23 39 09.7 -0.1
RND pmax pmax
comp=Z,47nm,0.9s
DHY **Denali Highway** 84.10 14 eP P 23 39 10.2 +0.2
comp=Z,42nm,1.7s
F10A **Beach Ranch, E** 84.21 38 eP P 23 39 12.0 +1.0
comp=Z,15nm,1.0s
121A **Cos Peak, D** 84.22 53 P P 23 39 13.5 +2.0
baz=245
BPAW **Bear Paw Mtn.** 84.23 12 eP P 23 39 09.7 -0.9
comp=Z,5.3nm,0.8s
LLLB **Lillooet** 84.28 32 eP P 23 39 12.3 +1.2
comp=Z,4.2nm,0.8s
B08A **Colville Reser** 84.33 35 eP P 23 39 12.2 +0.8
comp=Z,8.3nm,0.8s
MCK **McKinley** 84.33 13 eP P 23 39 10.8 -0.2
comp=Z,28nm,1.0s
MCK **McKinley** 84.33 13 eP P 23 39 10.8 -0.2
MCK pmax pmax
comp=Z,28nm,1.0s
PAX **Paxson** 84.45 15 eP P 23 39 11.7 -0.1
comp=Z,8.9nm,0.8s
PAX **Paxson** 84.45 15 eP P 23 39 11.7 -0.1
PAX pmax pmax
comp=Z,9.0nm,0.8s
HLID **Hailey** 84.67 41 P P 23 39 14.8 +1.4
baz=240
HLID **Hailey** 84.67 41 eP P 23 39 14.9 +1.4
comp=Z,6.8nm,0.8s
ZEA **Zeya** 84.71 331 eP P 23 39 14.4 +1.3
ZEA pmax pmax
comp=Z,31nm,0.8s
TMUT **Trail Mountain** 84.72 46 eP P 23 39 14.8 +0.9
comp=Z,5.1nm,0.9s
HVU **Hansel Valley** 84.84 43 eP P 23 39 15.9 +1.6
comp=Z,4.9nm,0.9s
HVU **Hansel Valley** 84.84 43 eP P 23 39 15.9 +1.6
HVU pmax pmax
comp=Z,5.0nm,0.9s
SRU **San Rafael Swe** 85.11 47 eP P 23 39 17.2 +1.6
comp=Z,4.7nm,0.8s
MLY **Manley** 85.12 12 eP P 23 39 14.4 -0.5
comp=Z,9.9nm,1.0s
WRH **Wood River Hil** 85.16 13 eP P 23 39 14.9 -0.1
comp=Z,43nm,1.3s
RIDG **Independ'e Rid** 85.26 14 eP P 23 39 16.0 +0.4
comp=Z,19nm,0.9s
HDA **Harding Lake** 85.35 13 eP P 23 39 16.1 +0.1
comp=Z,51nm,1.2s
DOT **Dot Lake** 85.37 15 eP P 23 39 16.0 -0.1
comp=Z,45nm,0.8s
CCB **Clear Creek Bu** 85.37 13 eP P 23 39 15.3 -0.7
comp=Z,23nm,1.2s
IM3 **Indian Mountai** 85.44 10 eP P 23 39 15.8 -0.5
NEW **Newport** 85.50 36 P P 23 39 17.9 +0.8
baz=238
NEW **Newport** 85.50 36 eP P 23 39 18.0 +0.9
comp=Z,4.9nm,0.8s
MDM **Murphy Dome** 85.55 13 eP P 23 39 16.5 -0.4
comp=Z,19nm,1.1s
COLA **College** 85.56 13 eP P 23 39 16.7 -0.2
comp=Z,33nm,1.3s
COLA **College** 85.56 13 eP P 23 39 16.7 -0.2
COLA pmax pmax
comp=Z,33nm,1.3s
WHY **Whitehorse** 85.60 20 eP P 23 39 18.5 +1.1
comp=Z,9.9nm,0.9s
SCRK **Sand Creek** 85.66 15 eP P 23 39 18.1 +0.4
comp=Z,8.2nm,0.8s
IL1 **Eielson Array** 85.68 13 eP P 23 39 16.7 -0.8
ILAR **Eielson Array** 85.68 13 P P 23 39 16.9 -0.7
comp=Z,5.8nm,0.7s,baz=225,slow=5.1,SNR=58
ILB **Eielson Array** 85.68 13 eP P 23 39 16.8 -0.7
DLBC **Dease Lake** 85.71 23 eP P 23 39 19.2 +1.4
comp=Z,9.0nm,0.9s
XAN **Xi'an** 85.73 308 P P 23 39 20.1 +1.5
XAN pP pP 23 41 10.3 -5.7
XAN sP sP 23 42 03.5 -7.2
XAN pmax pmax
comp=Z,15nm,1.0s
XAN pmax pmax
comp=Z,140nm,4.7s
MNTX **Cornudas Mount** 85.74 55 P P 23 39 20.4 +1.8
baz=246
MNTX **Cornudas Mount** 85.74 55 eP P 23 39 20.4 +1.8
comp=Z,3.4nm,0.8s
PV09 **Paradox Valley** 85.80 48 eP P 23 39 20.8 +1.7
PV01 **Paradox Valley** 86.04 48 eP P 23 39 21.2 +1.0
comp=Z,170nm,0.8s
BILL **Bilibino** 86.08 354 ciP P 23 39 19.5 +0.2
BILL i *PP pP 23 41 15.7 -1.3
BILL i 23 42 47.6
BILL pmax pmax
comp=Z,20nm,1.0s
TX31 **Lajitas Ar. Si** 86.18 58 eP P 23 39 22.9 +2.0
TXAR **Lajitas Array** 86.18 58 P P 23 39 23.2 +2.4
comp=Z,4.8nm,0.7s,baz=219,slow=6.3,SNR=72
ANMO **Albuquerque** 86.23 52 P P 23 39 22.3 +1.2
baz=246
ANMO **Albuquerque** 86.23 52 eP P 23 39 22.8 +1.6
comp=Z,2.4nm,0.8s
ANMO **Albuquerque** 86.23 52 ceP P 23 39 22.3 +1.2
ANMO pmax pmax
comp=Z,4.0nm,1.2s
MCMT **McKenzie Canyo** 86.27 41 eP P 23 39 22.6 +1.4
MSO **Missoula** 86.60 39 P P 23 39 23.5 +1.0
baz=240
MSO **Missoula** 86.60 39 eP P 23 39 23.4 +1.0
comp=Z,2.5nm,0.8s
HHC **Hu-ho-hao-te** 86.75 315 eP P 23 39 22.8 -0.5
HHC pmax pmax
comp=Z,12nm,1.3s
HHC pmax pmax
comp=Z,38nm,7.6s
TPAW **Teton Pass** 86.84 42 eP P 23 39 25.7 +1.9
comp=Z,6.5nm,0.9s
REDW **Red Top Meadow** 86.84 43 eP P 23 39 25.4 +1.5
comp=Z,12nm,1.0s
FXWY **Fox Creek** 86.86 42 eP P 23 39 25.5 +1.5
comp=Z,4.6nm,0.8s
DAWY **Dawson** 86.90 16 eP P 23 39 24.1 +0.7
comp=Z,7.3nm,0.9s
SNOW **Snow King Moun** 86.95 43 eP P 23 39 26.3 +1.9
comp=Z,9.7nm,0.8s
LRM **Limekiln Ridge** 87.00 40 eP P 23 39 26.0 +1.4
EGAK **Eagle** 87.02 15 eP P 23 39 24.1 +0.2
comp=Z,8.2nm,0.8s
IMW **Indian Meadow** 87.03 42 eP P 23 39 26.8 +2.0
comp=Z,12nm,0.8s
MOOW **Moose Ponds** 87.09 42 eP P 23 39 26.6 +1.6
comp=Z,3.8nm,0.9s
LOHW **Long Hollow** 87.12 42 eP P 23 39 26.5 +1.4
comp=Z,4.9nm,0.8s
S22A **4UR Ranch, Cre** 87.12 49 P P 23 39 27.1 +1.7
baz=245
S22A **4UR Ranch, Cre** 87.12 49 eP P 23 39 27.3 +2.0
comp=Z,5.1nm,1.1s
QLMT **Earthquake Lak** 87.16 41 eP P 23 39 27.6 +2.3
COLD **Coldfoot** 87.18 11 eP P 23 39 25.1 +0.5
comp=Z,11nm,0.8s
YHB **Horse Butte** 87.27 41 eP P 23 39 28.1 +2.3
comp=Z,13nm,1.1s
KMI **Kunming** 87.31 297 P P 23 39 26.9 +0.4
KMI pmax pmax
comp=Z,9.0nm,0.7s
BOZ **Bozeman (W)** 87.40 40 P P 23 39 27.7 +1.4
baz=242
BOZ **Bozeman (W)** 87.40 40 eP P 23 39 27.9 +1.6
comp=Z,5.8nm,1.1s
BOZ **Bozeman (W)** 87.40 40 eP P 23 39 27.9 +1.6
BOZ pmax pmax
comp=Z,6.0nm,1.1s
BW06 **Boulder Array** 87.41 44 P P 23 39 27.8 +1.3
baz=243
PD31 **Pinedale Array** 87.41 44 eP P 23 39 27.4 +0.9
PDAR **Pinedale Array** 87.41 44 P P 23 39 27.6 +1.0
comp=Z,3.5nm,0.6s,baz=216,slow=3.6,SNR=47
PDAR **Pinedale Array** 87.41 44 eP P 23 39 27.1 +0.5
H17A **Grant Village** 87.50 42 P P 23 39 29.7 +2.7
baz=242
H17A **Grant Village** 87.50 42 eP P 23 39 29.9 +3.0
comp=Z,7.1nm,0.8s
YHH **Holmes Hill** 87.50 41 eP P 23 39 29.2 +2.2
comp=Z,3.3nm,0.8s
FYU **Fort Yukon** 87.57 13 eP P 23 39 25.9 -0.5
comp=Z,39nm,2.0s
SMCO **Snowmass** 87.61 48 eP P 23 39 29.3 +1.5
comp=Z,2.7nm,0.7s
LNIG **Linares** 88.06 63 eP P 23 39 31.4 +1.7
comp=Z,4.4nm,0.9s
SDCO **Great Sand Dun** 88.08 49 P P 23 39 30.9 +1.0
baz=246
CM01 **Chiang Mai Arr** 88.36 290 eP P 23 39 32.8 +1.6
CMAR **Chiang Mai Arr** 88.38 290 P P 23 39 33.4 +2.0
comp=Z,0.9nm,0.4s,baz=112,slow=3.0,SNR=8.3
TOLK **Toolik Lake Re** 88.55 10 P P 23 39 31.4 +0.3
baz=208
TOLK **Toolik Lake Re** 88.55 10 eP P 23 39 31.6 +0.5
comp=Z,32nm,1.9s
RLMT **Red Lodge** 88.66 42 P P 23 39 33.7 +1.5
baz=243
RLMT **Red Lodge** 88.66 42 eP P 23 39 34.2 +1.9
comp=Z,6.1nm,0.9s
ISCO **Idaho Springs** 88.83 48 P P 23 39 34.6 +1.2
baz=246
N23A **Red Feather La** 89.05 46 P P 23 39 35.7 +1.4
baz=246
N23A **Red Feather La** 89.05 46 eP P 23 39 36.2 +1.9
comp=Z,9.4nm,1.2s
YAK **Yakutsk** 89.13 338 i P P 23 39 33.8 +0.1
YAK pmax pmax
comp=Z,7.0nm,0.9s
K22A **Casper** 89.38 45 P P 23 39 36.6 +1.0
baz=245
EGMT **Eagleton** 89.67 39 P P 23 39 38.1 +1.4
baz=243
JCT **Junction City** 89.72 58 P P 23 39 38.4 +1.1
baz=250
LZH **Lanzhou** 90.37 308 ⇑P P 23 39 42.0 +1.7
LZH pP pP 23 41 38.8 -0.3
LZH sP sP 23 42 30.5 -2.8
ABTX **Abilene, Hawle** 90.60 56 P P 23 39 42.3 +0.9
baz=250
ABTX **Abilene, Hawle** 90.60 56 eP P 23 39 42.8 +1.5
comp=Z,5.8nm,0.7s
LAO **LASA Array** 91.25 41 P P 23 39 45.9 +1.8
baz=246
LAO **LASA Array** 91.25 41 eP P 23 39 46.3 +2.2
comp=Z,11nm,0.8s
RSSD **Black Hills** 91.63 44 P P 23 39 47.1 +1.0
baz=247
RSSD **Black Hills** 91.63 44 eP P 23 39 47.0 +1.0
comp=Z,6.6nm,1.0s
RSSD **Black Hills** 91.63 44 eP P 23 39 47.0 +1.0
RSSD pmax pmax
comp=Z,7.0nm,1.0s
INK **Inuvik** 91.69 15 eP P 23 39 45.3 -0.1
INK **Inuvik** 91.69 15 eP P 23 39 45.3 -0.1
WMOK **Wichita Mounta** 92.00 54 P P 23 39 48.7 +0.9
baz=250
ULN **Ulaanbaatar** 92.64 320 eP P 23 39 51.3 +0.8
comp=Z,4.3nm,1.0s
ULN **Ulaanbaatar** 92.64 320 eP P 23 39 49.0 -1.5
ULN pmax pmax
comp=Z,3.0nm,1.0s
SONM **Songino Array** 93.04 319 P P 23 39 52.2 -0.2
comp=Z,0.9nm,0.9s,baz=132,slow=6.6,SNR=3.6
DGMT **Dagmar** 93.22 40 P P 23 39 54.8 +1.7
baz=247
YKA **Yellowknife Ar** 94.22 25 P P 23 39 57.5 +0.4
comp=Z,3.4nm,0.7s,baz=246,slow=4.4,SNR=43
TIXI **Tiksi** 95.75 345 eP P 23 40 03.2 -0.7
comp=Z,1.0nm,0.5s
TIXI **Tiksi** 95.75 345 ceP P 23 40 02.8 -1.1
TIXI e 23 44 02.1
TIXI pmax pmax
comp=Z,3.0nm,1.1s
R39A **Chumby, Stover** 97.51 52 P P 23 40 14.3 +1.7
baz=254
S41A **Jillco Farms,** 98.29 53 P P 23 40 18.0 +1.9
baz=254
BVAR **Borovoye Array** 116.34 321 PKP PKPdf 23 45 18.1 -0.2
comp=Z,0.9nm,0.5s,baz=90,slow=0.3,SNR=7.9
BRVK **Borovoye** 116.40 321 ci PKIKP PKPdf 23 45 19.0 +0.6
BRVK pmax pmax
comp=Z,2.0nm,1.7s
ARU **Arti** 122.36 326 i PKIKP PKPdf 23 45 30.4 +0.6
ARU 23 47 17.3
ARU 23 51 52.2
ARU SS SS 00 03 13.2 -0.5
AKTO **Aktyubinsk** 124.36 320 PKP PKPdf 23 45 34.2 +0.4
comp=Z,1.8nm,0.8s,baz=135,slow=0.7,SNR=4.3
ARCES **ARCESS Array B** 125.93 350 PKP PKPdf 23 45 35.7 -0.6
comp=Z,2.6nm,0.8s,baz=10,slow=2.0,SNR=4.2
GEYT **Ailbeck** 126.52 304 PKP PKPdf 23 45 38.9 +0.5
comp=Z,1.5nm,0.8s,baz=232,slow=1.7,SNR=5.4
KLMR **Klimovskoe** 128.91 337 PKPdf PKPdf 23 45 39.8 -2.4
KLMR AMP 23 45 43.6
comp=Z,6.0nm,1.4s
KLMR e SKP 23 48 14.7
KLMR **Klimovskoe** 128.91 337 PKIKP PKPdf 23 45 39.7 -2.4
KLMR pmax pmax
comp=Z,6.0nm,1.4s
FINES **FINESS Array B** 132.77 344 PKP PKPdf 23 45 47.9 -1.6
comp=Z,1.8nm,0.9s,baz=76,slow=2.4,SNR=4.2
FINES SKPbc SKPab 23 48 29.8 +0.9
comp=Z,5.2nm,0.9s,baz=46,slow=5.5,SNR=14
OBN **Obninsk** 133.82 333 i PKIKP PKPdf 23 45 52.0 +0.4
OBN i 23 48 32.9
OBN pmax pmax
comp=Z,4.0nm,0.9s
HFS **Hagfors** 136.56 351 SKPbc SKiKP 23 48 41.9 -1.6
comp=Z,2.0nm,0.8s,baz=15,slow=6.2,SNR=4.0
AKASG **Malin Array Be** 140.09 332 PKhKP PKPpre 23 45 56.2

comp=Z,0.6nm,0.5s,baz=47,slow=3.8,SNR=4.5
AKASG PKP **PKPdf 23 46 04.1 +0.8**
comp=Z,0.4nm,0.3s,baz=39,slow=1.9,SNR=5.3
AKASG SKPbc **SKiKP 23 48 51.2 +0.2**
comp=Z,0.3nm,0.5s,baz=40,slow=3.1,SNR=4.2
KIEV Kiev 140.10 332 *i* PKIKP **PKPdf 23 46 02.6 -0.7**
EKA Eskdalemuir Ar 142.18 4 PKhKP PKPpre 23 46 01.5
comp=Z,2.4nm,0.8s,baz=344,slow=2.7,SNR=7.3
SORM Soroca 142.31 330 ǁ *i*P PKPpre 23 46 03.8
SORM Soroca 142.31 330 ǁPKHKP PKPpre 23 46 03.9
LVV L'vov 142.95 335 *e*PKHKP PKPpre 23 46 06.7
KWP Kalwaria Pacla 143.61 336 *e*PKP **PKPdf 23 46 09.1 -0.5**
KWP Kalwaria Pacla 143.61 336 *e*PKIKP PKPbc 23 46 09.1 +0.6
PRAR RASCA 143.86 331 ǁ *i*P PKPab 23 46 09.6 +0.2
TLCR 144.08 326 ǁPKIKP **PKPdf 23 46 10.8 +0.3**
BURAR Bucovina Array 144.14 332 ǁ *i*P **PKPdf 23 46 11.6 +0.9**
BURAR Bucovina Array 144.14 332 ǁPKIKP **PKPdf 23 46 11.6 +0.9**
OJC Ojcow 144.17 339 *e*PKP **PKPdf 23 46 10.8 +0.2**
OJC Ojcow 144.17 339 *e*PKIKP **PKPdf 23 46 10.8 +0.2**
BRTR Keskin Array B 144.26 315 PKP **PKPdf 23 46 11.2 -0.1**
comp=Z,4.2nm,0.9s,baz=116,slow=4.0,SNR=31
TESR Tescani 144.27 329 ⇑ *i*P **PKPdf 23 46 10.9 0.0**
STHS Stebnicka Huta 144.34 337 *e*PKP **PKPab 23 46 11.6 +0.5**
STHS Stebnicka Huta 144.34 337 *e*PKIKP **PKPab 23 46 11.6 +0.5**
CFR Carcaliu 144.44 327 ⇑ *i*P **PKPab 23 46 12.0 +0.4**
CFR Carcaliu 144.44 327 ⇑PKIKP **PKPab 23 46 12.0 +0.4**
UZH Uzhgorod 144.58 336 ⇑ *i*PKIKP **PKPab 23 46 12.9 +0.9**
NIE Niedzica 144.68 338 *e*PKP **PKPab 23 46 12.8 +0.4**
NIE Niedzica 144.68 338 *e*PKIKP **PKPab 23 46 12.8 +0.4**
CRVS Cervenica-Dubn 144.68 337 *e*PKP **PKPab 23 46 13.7 +1.3**
CRVS Cervenica-Dubn 144.68 337 *e*PKIKP **PKPab 23 46 13.7 +1.3**
KSP Ksiaz 144.69 343 *e*PKP **PKPab 23 46 12.8 +0.4**
KSP Ksiaz 144.69 343 *e*PKIKP **PKPab 23 46 12.8 +0.4**
VRI Vrincioaia 144.69 329 ǁ *i*P **PKPab 23 46 13.2 +0.6**
VRI Vrincioaia 144.69 329 ǁPKIKP **PKPab 23 46 13.2 +0.6**
PLOR Plostina 144.74 329 ⇑ *i*P **PKPab 23 46 13.2 +0.4**
PLOR Plostina 144.74 329 ⇑PKIKP **PKPab 23 46 13.2 +0.4**
ANTO Ankara 144.76 316 *e*PKPbc **PKPab 23 46 13.4 +0.3**
ANTO Ankara 144.76 316 *e*PKIKP **PKPab 23 46 13.4 +0.3**
TIRR Tirgusor 144.77 325 ⇑ *i*P **PKPab 23 46 12.9 0.0**
TIRR Tirgusor 144.77 325 ⇑PKIKP **PKPab 23 46 12.9 0.0**
BMR Baia Mare 144.85 333 ǁ *i*P **PKPab 23 46 13.3 +0.2**
BMR Baia Mare 144.85 333 ǁPKIKP **PKPab 23 46 13.3 +0.2**
HARR Harsova 144.88 326 ǁ *i*P **PKPab 23 46 13.5 +0.2**
HARR Harsova 144.88 326 ǁPKIKP **PKPab 23 46 13.5 +0.2**
TRPA Tarpa 144.88 335 ǁ *i*P **PKPab 23 46 13.2 0.0**
TRPA Tarpa 144.88 335 ǁ *ex* **PKPab 23 46 13.4 +0.2**
ARCR ARCALIA 144.92 332 ǁ *i*P **PKPab 23 46 14.0 +0.6**
OKC Ostrava-Krasne 145.04 341 *e*PKP **PKPab 23 46 13.7 0.0**
OKC Ostrava-Krasne 145.04 341 *e*PKIKP **PKPab 23 46 13.7 0.0**
CLL Collm 145.06 347 ⇑ *i*PKPbc **PKPbc 23 46 13.3 +0.5**
comp=Z,88nm,1.6s
CLL pmax pmax
comp=Z,88nm,1.6s
UPC Upice 145.07 343 *e*PKP **PKPab 23 46 14.0 +0.2**
UPC Upice 145.07 343 *e*PKIKP **PKPab 23 46 14.0 +0.2**
DPC Dobruska-Polom 145.12 343 *e*PKP **PKPab 23 46 14.2 +0.1**
DPC Dobruska-Polom 145.12 343 *e*PKIKP **PKPab 23 46 14.2 +0.1**
LANS Liptovska Anna 145.19 339 *e*PKP **PKPab 23 46 14.9 +0.5**
LANS Liptovska Anna 145.19 339 *e*PKIKP **PKPab 23 46 14.9 +0.5**
KRLC Kraliky 145.24 342 *e*PKP **PKPab 23 46 14.6 0.0**
KRLC Kraliky 145.24 342 *e*PKIKP **PKPab 23 46 14.6 0.0**
AMRR Amara 145.24 326 ǁ *i*P **PKPab 23 46 15.8 +1.1**
AMRR Amara 145.24 326 ǁPKIKP **PKPab 23 46 15.8 +1.1**
BRG Berggiesshubel 145.26 346 *i* PKP **PKPab 23 46 14.2 -0.4**
comp=Z,17nm,0.9s
comp=N,189nm,21.1s
comp=E,166nm,16.4s
comp=Z,284nm,16.6s
BRG Berggiesshubel 145.26 346 *i* PKIKP **PKPab 23 46 14.2 -0.4**
BRG pmax pmax
comp=Z,17nm,0.9s
BRG MLR MLR
comp=N,189nm,21.1s
BRG MLR MLR
comp=E,166nm,16.4s
BRG MLR MLR
comp=Z,284nm,16.6s
DOPR Dopca 145.27 330 ⇑ *i*P **PKPab 23 46 15.2 +0.4**
MORC Moravsky Berou 145.28 341 *e*PKPbc **PKPab 23 46 14.8 0.0**
MORC Moravsky Berou 145.28 341 PKIKP **PKPab 23 46 14.8 0.0**
MLR Muntele Rosu 145.34 329 PKPbc **PKPbc 23 46 14.4 +0.4**
comp=Z,1.3nm,0.7s,baz=94,slow=6.4,SNR=8.7
MLR Muntele Rosu 145.34 329 ǁ *i*P **PKPab 23 46 15.0 -0.3**
PVCC Panska Ves 145.43 345 *e*PKP **PKPab 23 46 14.9 -0.3**
PVCC Panska Ves 145.43 345 *e*PKIKP **PKPab 23 46 14.9 -0.3**
CJR Cluj-Napoca 145.54 332 ⇑ *i*P **PKPab 23 46 15.6 -0.3**
CJR Cluj-Napoca 145.54 332 ⇑PKIKP **PKPab 23 46 15.6 -0.3**
SECR 145.61 328 ⇑ *i*P **PKPab 23 46 16.0 -0.1**
MMAI Mount Meron Ar 145.62 303 PKPbc **PKPab 23 46 16.3 -0.3**
comp=Z,8.3nm,0.7s,baz=61,slow=4.7,SNR=34
VOIR 145.82 329 ǁ *i*P **PKPab 23 46 16.7 -0.4**
VOIR 145.82 329 ǁPKP2 **PKPab 23 46 16.7 -0.4**
DRGR 145.87 333 ⇑ *i*P **PKPbc 23 46 16.2 +0.7**
DRGR 145.87 333 ⇑PKP2 **PKPbc 23 46 16.2 +0.7**
PRA Prague 145.88 345 *e*PKP **PKPab 23 46 16.4 -0.6**
PRA Prague 145.88 345 *e*PKP2 **PKPab 23 46 16.4 -0.6**
PRU Pruhonice 145.93 345 *e*PKP **PKPbc 23 46 16.1 +0.7**
PRU *ex* x 23 46 18.1
PRU Pruhonice 145.93 345 *e*PKIKP **PKPbc 23 46 16.1 +0.7**
PRU *e* 23 46 18.1
GOPC GO Pecny, Ondr 145.94 344 *e*PKP **PKPab 23 46 16.5 -0.8**
GOPC *ex* x 23 46 18.2
GOPC GO Pecny, Ondr 145.94 344 *e*PKP2 **PKPab 23 46 16.5 -0.8**
VYHS Vyhne 145.97 339 *e*PKP **PKPbc 23 46 16.5 +0.9**
VYHS Vyhne 145.97 339 *e*PKP2 **PKPbc 23 46 16.5 +0.9**
MOX Moxa 145.98 348 PKIKP **PKPbc 23 46 16.1 +0.6**
VRAC Vranov 145.98 342 PKPbc **PKPab 23 46 16.7 -0.8**
comp=Z,9.3nm,0.9s,baz=47,slow=3.6,SNR=13
VRAC Vranov 145.98 342 PKP2 **PKPbc 23 46 16.5 +0.9**
ARR Arges 146.07 330 ǁ *i*P **PKPab 23 46 18.1 0.0**
PSZ Piszkesteto 146.08 337 ǁ *ex* **PKPbc 23 46 17.1 +1.1**
PSZ Piszkesteto 146.08 337 *e*PKPdf **PKPbc 23 46 16.6 +0.6**
PSZ Piszkesteto 146.08 337 *e*PKIKP **PKPbc 23 46 16.6 +0.6**
NKC Novy Kostel 146.19 347 PKP2 **PKPbc 23 46 17.1 +0.9**
TREC Trest 146.31 343 *e*PKP **PKPbc 23 46 17.0 +0.5**
TREC Trest 146.31 343 *e*PKIKP **PKPbc 23 46 17.0 +0.5**
SMOL Smolenice 146.43 340 *e*PKP **PKPab 23 46 18.2 -1.1**
SMOL Smolenice 146.43 340 *e*PKP2 **PKPab 23 46 18.2 -1.1**
HUMR Humele 146.51 328 ⇑ *i*P **PKPbc 23 46 17.1 -0.1**
MODS Modra-Piesok 146.60 340 *e*PKP **PKPbc 23 46 17.9 +0.6**
MODS Modra-Piesok 146.60 340 *e*PKP2 **PKPbc 23 46 17.9 +0.6**
SRO Srobarova 146.74 339 *e*PKP **PKPbc 23 46 18.8 +1.1**
SRO Srobarova 146.74 339 *e*PKP2 **PKPbc 23 46 18.8 +1.1**
SRO2 Moca 146.75 339 *e*PKP **PKPbc 23 46 17.5 -0.2**
SRO2 Moca 146.75 339 *e*PKIKP **PKPbc 23 46 17.5 -0.2**
MEM Membach 146.83 354 ⇑PKPbc **PKPbc 23 46 18.1 +0.2**
KHC Kasperske Hory 146.96 345 *e*PKP **PKPbc 23 46 19.0 +0.7**
KHC *ex* x 23 46 22.4
KHC Kasperske Hory 146.96 345 *e*PKPbc **PKPbc 23 46 19.1 +0.7**
KHC Kasperske Hory 146.96 345 *e*PKP2 **PKPbc 23 46 19.0 +0.7**
SNF Seneffe 147.07 356 ⇑PKPbc **PKPbc 23 46 19.1 +0.6**
BCLA Clavier 147.08 355 ⇑PKPbc **PKPab 23 46 22.1 +0.4**
CSKK Cs˘tkako 147.14 338 ǁ *ex* **PKPbc 23 46 19.6 +0.8**
GERES GERESS Array B 147.20 345 PKPbc **PKPbc 23 46 19.9 +0.9**
comp=Z,10nm,0.9s,baz=5.7,slow=4.0,SNR=22
BZS Buzias 147.26 333 ⇑ *i*P **PKPbc 23 46 19.7 +0.5**
BZS Buzias 147.26 333 ⇑PKP2 **PKPbc 23 46 19.7 +0.5**
CONA Conrad Observa 147.43 342 *e*PKPbc **PKPbc 23 46 20.6 +0.9**
comp=Z,17nm,0.9s
SOP Sopron 147.43 341 ǁ *e*PKPPKPdf **PKPbc 23 46 20.9 +1.4**
DOU Dourbes 147.46 356 ⇑PKPbc **PKPbc 23 46 20.0 +0.5**
HERR Herculane 147.48 331 ⇑ *i*P **PKPbc 23 46 20.3 +0.6**
WLF Walferdange 147.75 354 ⇑PKPbc **PKPbc 23 46 21.8 +1.5**
MOA Molln 147.97 343 *e*PKPbc **PKPbc 23 46 21.1 +0.2**
comp=Z,9.8nm,1.1s,SNR=5.9
MORH M˝ar˙gy, Hung 147.98 337 ǁ *e*PKPPKPdf **PKPbc 23 46 21.6 +0.6**
STU Stuttgart 148.22 350 *e*PKPbc **PKPbc 23 46 22.4 +0.9**
STU *e*PKPab **PKPab 23 46 26.9 +0.4**
STU Stuttgart 148.22 350 *e*PKP2 **PKPbc 23 46 22.4 +0.9**
BFO Black Forest 148.79 351 *e*PKPbc **PKPbc 23 46 24.0 +1.0**
BFO *e*PKPab **PKPab 23 46 29.2 +0.3**
BFO Black Forest 148.79 351 *c* iPKP2 **PKPbc 23 46 24.2 +1.2**
SOKA Soboth 148.80 341 *e*PKPbc **PKPbc 23 46 23.2 +0.1**
comp=Z,10nm,1.1s
PERS Pernice 148.82 341 *i* PKPbc **PKPbc 23 46 23.2 0.0**
KBA Koelnbreinsper 148.92 344 *i* PKPbc **PKPbc 23 46 23.4 -0.2**
comp=Z,12nm,1.2s
OBKA Obir 149.10 342 *i* PKPbc **PKPbc 23 46 23.7 -0.2**
comp=Z,9.3nm,1.3s
WATA Walderalm 149.12 346 *i* PKPbc **PKPbc 23 46 24.1 +0.1**
comp=Z,19nm,1.2s,SNR=6.7
RETA Reutte 149.16 347 *i* PKPbc **PKPbc 23 46 24.2 +0.3**
comp=Z,9.2nm,1.4s
WTTA Wattenberg 149.17 346 *i* PKPbc **PKPbc 23 46 24.6 +0.5**
comp=Z,9.6nm,0.7s
MOTA Moosalm 149.22 347 *i* PKPbc **PKPbc 23 46 24.3 +0.1**
comp=Z,7.8nm,0.8s,SNR=6.8
MYKA Terra Mystica 149.25 343 *e*PKPbc **PKPbc 23 46 23.9 -0.3**
comp=Z,6.7nm,0.6s,SNR=5.1
ABTA Abfaltersbach 149.44 345 *e*PKPbc **PKPbc 23 46 24.6 -0.1**
comp=Z,21nm,1.1s,SNR=5.3
CRNS Crni Vrh 149.57 342 *i* PKPbc **PKPbc 23 46 24.9 -0.1**
FETA Feichten 149.60 347 *i* PKPbc **PKPbc 23 46 25.5 +0.4**
comp=Z,12nm,0.9s
BLY Banja Luka 149.76 337 ⇑ *i*P **PKPbc 23 46 26.3 +0.9**
CEY Cerknica 149.83 341 *i* PKPbc **PKPbc 23 46 25.9 +0.3**
TUE Stuetta 150.41 348 *e*PKPdf **PKPbc 23 46 25.7 -1.4**
PDG Podgorica 150.82 332 ⇑ *i*P **PKPbc 23 46 28.1 +0.2**
PCAB Cabril 154.71 16 *e*PKPab **PKPab 23 46 54.9 +0.8**
PBRG Braganca 154.94 14 *e*PKPab **PKPab 23 46 55.5 +0.4**
POLO Lamas de Olo 155.08 16 *e*PKPab **PKPab 23 46 56.8 +1.0**
PVRL Vila Real 155.20 16 *e*PKPab **PKPab 23 46 56.1 -0.1**
MVO Moncorvo 155.48 15 *e*PKPab **PKPab 23 46 58.7 +1.2**
PVIS Viseu 155.67 17 *e*PKPab **PKPab 23 46 59.2 +0.9**
MTE Manteigas 156.06 17 *e*PKPab **PKPab 23 47 00.8 +0.8**
PCAS Casmilo, Conde 156.11 19 *e*PKPab **PKPab 23 47 00.2 +0.1**
PTOM Tomar 156.53 19 *e*PKPab **PKPab 23 47 02.8 +0.8**
PCBR Castelo Branco 156.60 17 *e*PKPab **PKPab 23 47 02.8 +0.6**
PMAFR Mafra 156.85 21 *e*PKPab **PKPab 23 47 04.2 +0.8**
ALMR Almeirim 156.90 20 *e*PKPab **PKPab 23 47 04.4 +0.8**
PMRV Marv??o 157.01 17 *e*PKPab **PKPab 23 47 03.1 -1.0**
PMTG Montargil 157.09 19 *e*PKPab **PKPab 23 47 04.8 +0.4**
PESTR Estremoz 157.47 18 *e*PKPab **PKPab 23 47 06.7 +0.6**
ESDC Sonseca Array 157.55 10 PKPab **PKPab 23 47 06.7 +0.2**
comp=Z,2.1nm,0.8s,baz=342,slow=4.2,SNR=12
EVO Evora 157.65 19 *e*PKPab **PKPab 23 47 07.0 +0.1**
PNCL Nicolau / Gran 157.87 21 *e*PKPab **PKPab 23 47 08.5 +0.7**
PBAR Barrancos 158.27 18 *e*PKPab **PKPab 23 47 10.5 +0.9**
PCVE Castro Verde 158.46 20 *e*PKPab **PKPab 23 47 11.2 +0.8**
PVAQ Vaqueiros 158.78 20 *e*PKPab **PKPab 23 47 12.8 +1.0**
TORD Torodi Ar. Bea 175.55 187 PKP **PKPdf 23 46 44.1 -1.1**
comp=Z,0.8nm,0.9s,baz=193,slow=0.9,SNR=4.4

*IDC **21** 23:34:21.4±1.5, 6.°68S×148.°15E, h0km, mb4.0/6, mb1 4.2/8, mb1mx3.8/48, mbtmp4.0/8, ML3.9/1, MS3.2/2, Ms1 3.2/2, ms1mx2.6/44, Error ellipse: s-maj=62.9km s-min=19.9km az=102.0*
*ISCJB **21** 23:34:27.2±0.9, 6.°76S±0.°07×147.°9E±0.°2, h51km, mb4.0/9, MS3.2/2, Error ellipse: s-maj=30.6km s-min=8.2km az=11.2*
*NEIC **21** 23:34:29.0±2.1, 6.°81S×148.°02E, h53km±21km, mb4.3/3, Error ellipse: s-maj=27.2km s-min=14.2km az=111.0*
ISC 21 23:34:28.6±1.2, 6.79S±0.°10×148.0E±0.°3, h51km, n16, σ0.°62/15, mb4.0/9, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op ISC	h m s	ISC
PMG	**Port Moresby**	**2.74 198**		Pn	**Pn**	**23 35 10.6**	**+0.4**
	24nm,0.3s,baz=29,slow=9.9,SNR=30						
PMG				Sn	**Sn**	**23 35 42.4**	**+0.3**
	60nm,0.3s,baz=8.2,slow=19,SNR=7.3						
WRAB	**Tennant Creek**	**18.64 224**		*e*P	**P**	**23 38 42.2**	**-0.1**
WRA	**Warramunga Arr**	**18.65 224**		P	**P**	**23 38 41.6**	**-0.8**
	0.4nm,0.3s,baz=50,slow=11,SNR=11						
ASAR	**Alice Springs**	**21.59 217**		P	**P**	**23 39 14.2**	**-0.2**
	7.2nm,0.6s,baz=52,slow=9.4,SNR=36						
BATI	**Baumata**	**24.39 260**		LR		23 50 31.0	
	comp=Z,62nm,18.5s,baz=290,slow=40						
STKA	**Stephens Creek**	**25.68 193**		P	**P**	**23 39 53.5**	**-0.4**
	3.7nm,0.5s,baz=343,slow=8.3,SNR=6.1						
KSM	**Kuching**	**38.54 281**		P	**P**	**23 41 46.2**	**-0.5**
	4.6nm,0.7s						
MAJO	**Matsushiro**	**44.08 349**		P	**P**	**23 42 32.1**	**+0.3**
	1.1nm,0.4s						
YAK	**Yakutsk**	**70.07 351**		P	**P**	**23 45 35.9**	**+0.8**
	2.6nm,0.5s						
DGAR	**Diego Garcia**	**74.92 264**		P	**P**	**23 46 05.0**	**+0.1**
MKAR	**Makanchi Array**	**78.76 320**		P	**P**	**23 46 26.2**	**+0.3**
	0.8nm,0.7s,baz=102,slow=8.3,SNR=5.6						
ZALV	**Zalesovo Beam**	**80.22 328**		P	**P**	**23 46 33.3**	**-0.4**
	0.6nm,0.4s,baz=100,slow=5.9,SNR=2.7						
ILAR	**Eielson Array**	**85.80 23**		P	**P**	**23 47 01.4**	**-0.8**
	0.3nm,0.7s,baz=240,slow=3.8,SNR=4.1						
BVAR	**Borovoye Array**	**88.01 324**		P	**P**	**23 47 12.8**	**-0.5**
	0.4nm,0.5s,baz=110,slow=6.4,SNR=3.0						
NEW	**Newport**	**98.24 42**		LR		00 25 36.8	
	comp=Z,10nm,19.7s,baz=204,slow=31						
TORD	**Torodi Ar. Bea**	**146.28 283**		PKPbc	**PKPab**	**23 54 06.7**	**+1.1**
	0.2nm,0.4s,baz=76,slow=4.1,SNR=4.9						

MEX 21 23:36:38.6±0.3, 16.°22N×98.°29W, h6km±14km, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op ISC	h m s	ISC
PNIG	**Pinotepa**	**0.23**	**43**	*i* P	Pg	23 36 42.9	-0.3
PNIG				*e*S	Sg	23 36 46.3	0.0
TLIG	**Tlapa**	**1.36**	**349**	*e*P	Pn	23 37 00.5	-3.8
MEIG	**Mezcala**	**2.12**	**323**	*e*P	Pn	23 37 11.7	-2.9

WEL 21 23:41:23.6, 38.°S±5.°×176.°E±2.°8, h302km±17km, ML3.6/4, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op ISC	h m s	ISC
URZ	**Urewera**	**1.27**	**123**	P	Pn	23 42 05.3	-0.2
URZ	**Urewera**	**1.27**	**123**	S	S	23 42 35.0	-3.9
RTZ	**Ruatahuna**	**1.42**	**138**	P	Pn	23 42 06.8	+0.3
RTZ	**Ruatahuna**	**1.42**	**138**	S	S	23 42 37.4	-3.2
MTHZ	**Maungataniwha**	**1.54**	**147**	P	Pn	23 42 07.7	+0.5
MTHZ	**Maungataniwha**	**1.54**	**147**	S	S	23 42 38.7	-3.2
RUGZ	**Raukumara Rang**	**1.57**	**105**	P	Pn	23 42 06.6	-0.9
RUGZ	**Raukumara Rang**	**1.57**	**105**	S	S	23 42 37.6	-4.9
MWZ	**Matawai**	**1.59**	**119**	P	Pn	23 42 07.7	+0.2
MWZ	**Matawai**	**1.59**	**119**	S	S	23 42 38.9	-3.7
BKZ	**Black Stump Fm**	**1.69**	**160**	P	Pn	23 42 09.1	+0.9
BKZ	**Black Stump Fm**	**1.69**	**160**	S	S	23 42 40.4	-3.5
RAHZ	**Arahi**	**1.70**	**143**	S	S	23 42 41.4	-2.5
RAHZ	**Arahi**	**1.70**	**143**	P	Pn	23 42 08.7	+0.4
NMHZ	**Naumai**	**1.73**	**152**	P	Pn	23 42 09.2	+0.7
NMHZ	**Naumai**	**1.73**	**152**	S	S	23 42 42.4	-2.0
SNGZ	**Shannon Statio**	**1.74**	**135**	S	S	23 42 40.8	-3.5
MOVZ	**Moawhango**	**1.83**	**180**	S	S	23 42 42.6	-3.1
ARHZ	**Aropaoanui**	**1.95**	**151**	S	S	23 42 44.4	-2.6
MXZ	**Matakaoa Point**	**2.02**	**91**	P	Pn	23 42 10.4	-0.2
PUZ	**Puketiti**	**2.04**	**105**	P	Pn	23 42 10.5	-0.3
WAZ	**Wanganui**	**2.27**	**195**	S	S	23 42 52.0	+0.2
KAHZ	**Kahuranaki**	**2.39**	**159**	P	Pn	23 42 13.7	0.0
TSZ	**Takapari Road**	**2.49**	**176**	P	Pn	23 42 14.9	+0.3
TSZ	**Takapari Road**	**2.49**	**176**	S	S	23 42 52.4	-2.9
TCW	**Tory Channel**	**3.81**	**197**	P	Pn	23 42 28.1	+0.3
TCW	**Tory Channel**	**3.81**	**197**	S	S	23 43 16.1	-3.0
NNZ	**Nelson**	**4.08**	**206**	P	Pn	23 42 31.0	+0.4
NNZ	**Nelson**	**4.08**	**206**	S	S	23 43 22.1	-2.4
TUWZ	**Tuamarina**	**4.10**	**199**	P	Pn	23 42 31.6	+0.7
TUWZ	**Tuamarina**	**4.10**	**199**	S	S	23 43 22.1	-2.8
THZ	**Tophouse**	**4.73**	**207**	P	Pn	23 42 38.6	+0.6
THZ	**Tophouse**	**4.73**	**207**	S	S	23 43 35.4	-2.5

*SIGU **21** 23:47:39.5±1.8, 50.°N×3.°W±1.°9E±.°, h2km, mb2.3/4*
*ISCJB **21** 23:47:40.3±0.3, 50.°27N±0.°03×18.°69E±0.°02, h0km, Error ellipse: s-maj=3.8km s-min=1.9km az=13.7*
*IDC **21** 23:47:41.7±2.2, 49.°96N×19.°01E, h0km, mb1 3.3/4, mb1mx3.0/59, mbtmp3.2/4, ML2.7/4, Error ellipse: s-maj=29.2km s-min=7.6km az=130.0*
*LDG **21** 23:47:41.5±0.2, 50.°24N×18.°85E, h1km, Ml3.6/3, Error ellipse: s-maj=8.7km s-min=2.9km az=17.0, Suspected Mining induced.*
*CSEM **21** 23:47:41.7±0.2, 50.°25N×18.°76E, h2km, ML3.4/11, Error ellipse: s-maj=5.5km s-min=2.8km az=13.0*
*VIE **21** 23:47:42.7±1.0, 50.°04N×18.°84E, h0km, mb2.4/3, ML3.0/4, Error ellipse: s-maj=12.6km s-min=7.3km az=157.0, Suspected Mining induced.*
*PRU **21** 23:47:42.8, 50.°24N×18.°72E, h0km*
*WAR **21** 23:47:45.9, 50.°24N×18.°83E, h1km, Mw3.1*
ISC 21 23:47:40.5±0.6, 50.°22N±0.°02×18.°67E±0.°02, h0km, n108,

σ2.°24/167, 10C-8D, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op ISC	h m s	ISC
RAC	**Raciborz**	**0.34**	**246**	*e*Sg	**Sb**	**23 47 58.2**	**+2.9**
OKC	**Ostrava-Krasne**	**0.51**	**221**	*e*Pg	**Pn**	**23 47 54.2**	**-0.9**
OKC				*e*SG	**Sb**	**23 47 59.9**	**-0.5**
	comp=Z,115nm,0.3s						
OKC	**Ostrava-Krasne**	**0.51**	**221**	Pg	**Pn**	**23 47 54.2**	**-0.9**
OKC				Sg	**Sb**	**23 47 59.9**	**-0.5**
	115nm,0.3s						
OJC	**Ojcow**	**0.72**	**90**	*i* Pg	**Pg**	**23 47 54.7**	**+0.3**
OJC				*e*Sg	**Sg**	**23 48 04.1**	**+0.3**
OJC	**Ojcow**	**0.72**	**90**	*i* Pg	**Pg**	**23 47 54.7**	**+0.3**
OJC				*e*Sg	**Sg**	**23 48 04.1**	**+0.3**
OJC	**Ojcow**	**0.72**	**90**	*i* Pg	**Pg**	**23 47 54.7**	**+0.3**
OJC				*e*Sg	**Sg**	**23 48 04.1**	**+0.3**
MORC	**Moravsky Berou**	**0.85**	**239**	⇑ *i*P	**Pn**	**23 48 00.5**	**+0.6**
MORC	**Moravsky Berou**	**0.85**	**239**	S	**Sn**	**23 48 12.8**	**-0.4**
MORC	**Moravsky Berou**	**0.85**	**239**	*e*Pg	**Pn**	**23 48 00.1**	**+0.2**
MORC	**Moravsky Berou**	**0.85**	**239**	⇑ *i*P	**Pn**	**23 48 00.5**	**+0.6**
MORC				*e*Sg	**Sn**	**23 48 12.7**	**-0.4**
LANS	**Liptovska Anna**	**1.19**	**154**	*e*Pg	**Pn**	**23 48 05.0**	**+0.5**
LANS				*e*Sg	**Sn**	**23 48 20.8**	**-0.6**
LANS	**Liptovska Anna**	**1.19**	**154**	*e*PG	**Pn**	**23 48 05.0**	**+0.5**
LANS				*e*SG	**Sn**	**23 48 20.8**	**-0.6**
KRLC	**Kraliky**	**1.23**	**264**	*e*PG	**Pn**	**23 48 06.2**	**+1.2**
KRLC				*e*SG	**Sn**	**23 48 23.0**	**+0.8**
	comp=Z,19nm,0.3s						
KRLC	**Kraliky**	**1.23**	**264**	Pg	**Pn**	**23 48 06.2**	**+1.2**
KRLC				Sg	**Sn**	**23 48 23.0**	**+0.8**
	19nm,0.3s						
NIE	**Niedzica**	**1.33**	**127**	*i* Pg	**Pn**	**23 48 06.4**	**0.0**
NIE				*e*Sg	**Sn**	**23 48 25.1**	**+0.3**
NIE	**Niedzica**	**1.33**	**127**	*i* Pg	**Pn**	**23 48 06.4**	**0.0**
NIE				*e*Sg	**Sn**	**23 48 25.1**	**+0.3**
NIE	**Niedzica**	**1.33**	**127**	*i* Pg	**Pn**	**23 48 06.4**	**0.0**
NIE				*e*Sg	**Sn**	**23 48 25.1**	**+0.3**
DPC	**Dobruska-Polom**	**1.51**	**276**	*e*PG	**Pg**	**23 48 11.2**	**+1.7**
DPC				*e*SG	**Sn**	**23 48 31.6**	**+2.3**
	comp=Z,81nm,0.6s						
DPC	**Dobruska-Polom**	**1.51**	**276**	Pg	**Pg**	**23 48 11.2**	**+1.7**
DPC				Sg	**Sn**	**23 48 31.6**	**+2.3**
	81nm,0.6s						
VRAC	**Vranov**	**1.63**	**237**	Pg	**Pg**	**23 48 13.7**	**+2.0**
	3.4nm,0.3s,baz=68,slow=9.3,SNR=47						
VRAC				Lg	Lg	23 48 35.9	
	29nm,0.3s,baz=325,slow=19,SNR=22						
VRAC	**Vranov**	**1.63**	**237**	⇑ *i*P	**Pg**	**23 48 12.6**	**+0.9**
VRAC	**Vranov**	**1.63**	**237**	⇑ *i*P	**Pg**	**23 48 12.6**	**+0.9**
VRAC				*e*Sg	**Sg**	**23 48 35.4**	**+2.6**
VRAC				S	**Sb**	**23 48 36.0**	**+3.5**
KSP	**Ksiaz**	**1.64**	**293**	*e*Pb	**Pg**	**23 48 12.7**	**+0.8**
KSP				*e*Pg	**Pb**	**23 48 14.6**	**+3.0**
KSP				*e*Sg	**Sg**	**23 48 37.2**	**+4.1**
KSP	**Ksiaz**	**1.64**	**293**	*e*Pb	**Pg**	**23 48 12.7**	**+0.8**
KSP				*e*Pg	**Pb**	**23 48 14.6**	**+3.0**
KSP				*e*Sg	**Sg**	**23 48 37.2**	**+4.1**
KSP	**Ksiaz**	**1.64**	**293**	*e*Pb	**Pg**	**23 48 12.7**	**+0.8**
UPC	**Upice**	**1.73**	**281**	*e*PG	**Pg**	**23 48 15.7**	**+2.1**
UPC				*e*SG	**Sg**	**23 48 39.1**	**+3.1**
	comp=Z,50nm,0.7s						
UPC	**Upice**	**1.73**	**281**	Pn	**Pg**	**23 48 15.7**	**+2.1**
UPC				Sg	**Sg**	**23 48 39.1**	**+3.1**
	50nm,0.7s						
VYHS	**Vyhne**	**1.73**	**176**	*e*Pg	**Pb**	**23 48 12.9**	**-0.3**
VYHS				*e*Sn	**Sn**	**23 48 34.9**	**+0.2**
VYHS	**Vyhne**	**1.73**	**176**	*e*PN	**Pb**	**23 48 12.9**	**-0.3**
VYHS				*e*SN	**Sn**	**23 48 34.9**	**+0.2**
VYHS				Lg	eLG	23 48 39.6	
STHS	**Stebnicka Huta**	**1.85**	**115**	*e*Pn	**Pn**	**23 48 14.0**	**+0.5**
STHS	**Stebnicka Huta**	**1.85**	**115**	*e*PN	**Pn**	**23 48 14.0**	**+0.5**
STHS				*e*PG	Pg	**23 48 16.1**	**+0.1**
STHS				eLG	Lg	23 48 47.3	
STHS				*e*		00 27 54.5	
SMOL	**Smolenice**	**1.89**	**206**	*e*Pn	**Pb**	**23 48 16.1**	**+0.1**
SMOL	**Smolenice**	**1.89**	**206**	*e*PN	**Pb**	**23 48 16.1**	**+0.1**
CRVS	**Cervenica-Dubn**	**2.

	13nm,0.3s								
CLL	**Collm**	**3.76**	**289**	*e*Pn	**Pb**	**23 48 44.0**	**-3.7**
CLL				*e*Pg	**Pg**	**23 48 55.0**	**+2.5**
CLL				*e*		23 49 25.0	
CLL				*e*Sg	**Sg**	**23 49 44.0**	**+2.8**
	comp=Z,55nm,1.4s						
MORH	**M¨‡r¨így, Hung**	**4.01**	**180**⇓	*e*Pn	**Pn**	**23 48 44.6**	**+1.4**
MORH				*e*Sn	**Sn**	**23 49 29.0**	**-1.8**
MORH	**M¨‡r¨így, Hung**	**4.01**	**180**⇓	*e*Pn	**Pn**	**23 48 44.6**	**+1.4**
MORH				*e*Sn	**Sn**	**23 49 29.0**	**-1.8**
NSLU	**Nyzhne Selyshc**	**4.30**	**116**	*e*Pn	**Pb**	**23 48 52.5**	**-4.4**
NSLU				Pm		23 48 59.0	
NSLU				*e*Sn	**Sb**	**23 49 45.1**	**-4.3**
NSLU				Sm		23 50 05.8	
DRGR		**4.36**	**140**⇓	*i*P	**Pn**	**23 48 49.9**	**+1.9**
DRGR		**4.36**	**140**⇓	*i*P	**Pn**	**23 48 49.9**	**+1.9**
CJR	**Cluj-Napoca**	**4.80**	**135**⇓	*i*P	**Pn**	**23 48 55.3**	**+1.2**
CJR	**Cluj-Napoca**	**4.80**	**135**⇓	*i*P	**Pn**	**23 48 55.3**	**+1.2**
BZS	**Buzias**	**5.02**	**156**⇑	*i*P	**Pn**	**23 48 58.8**	**+1.8**
BZS	**Buzias**	**5.02**	**156**⇑	*i*P	**Pn**	**23 48 58.8**	**+1.8**
BURAR	**Bucovina Array**	**5.04**	**119**⇓	*i*P	**Pn**	**23 48 58.5**	**+1.0**
BURAR	**Bucovina Array**	**5.04**	**119**⇓	*i*P	**Pn**	**23 48 58.5**	**+1.0**
HORU	**Horodok**	**5.13**	**98**	*e*Pn	**Pg**	**23 49 20.4**	**+1.6**
BSD	**Bornholm Skovb**	**5.41**	**336**	*i*P	**Pn**	**23 49 03.3**	**+1.0**
BSD				*i*S	**Sn**	**23 50 02.2**	**-3.0**
BSD	**Bornholm Skovb**	**5.41**	**336**	*i*P	**Pn**	**23 49 03.3**	**+1.0**
LLD	**Lille Linde**	**6.44**	**325**	*i*P	**Pn**	**23 49 18.0**	**+1.5**
LLD	**Lille Linde**	**6.44**	**325**	*i*P	**Pn**	**23 49 18.0**	**+1.5**
AKASG	**Malin Array Be**	**6.76**	**82**	Lg	Lg	23 51 13.3	
	comp=Z,0.9nm,0.3s,baz=262,slow=27,SNR=4.2						
NACGM	**Naroch**	**6.81**	**43**	*e*	**Sg**	**23 51 17.0**	**-2.1**
IIGN	**Ignalina**	**6.88**	**39**	*e*P	**Sn**	**23 50 40.7**	**-0.7**
IIGN				IAML		23 51 32.2	
	comp=Z,3.1nm,0.6s						
IIGN	**Ignalina**	**6.88**	**39**	*e*P	**Sn**	**23 50 40.7**	**-0.7**
IDID	**Didziasalis**	**7.07**	**41**	*e*P	**Sn**	**23 50 46.6**	**+0.6**
IDID				IAML		23 51 36.2	
	comp=Z,2.7nm,0.6s						
IDID	**Didziasalis**	**7.07**	**41**	*e*P	**Sn**	**23 50 46.6**	**+0.6**
IZAR	**Zarasai**	**7.18**	**37**	*e*P	**Sn**	**23 50 44.8**	**-4.0**
IZAR				IAML		23 51 35.4	
	comp=Z,8.6nm,0.6s						
CDF	**Champ du Feu**	**7.67**	**261**	*e*Pg	**Pg**	**23 50 06.2**	**-1.1**
CDF				*e*Sg	**Sg**	**23 51 44.7**	**-1.9**
	comp=Z,49nm,1.6s						
HINF	**Hinteralfeld**	**8.13**	**257**	*e*Sn	**Sn**	**23 51 07.5**	**-5.0**
HAU	**Haudompre**	**8.38**	**259**	*e*Pn	**Pn**	**23 49 43.8**	**+0.5**
HAU	**Haudompre**	**8.38**	**259**	*e*Pg	**Pg**	**23 50 20.4**	**-0.7**
HAU				*e*Sn	**Sn**	**23 51 13.6**	**-5.0**
HAU				*e*Sg	**Sg**	**23 52 06.8**	**-2.8**
	comp=Z,40nm,1.5s						
HAU	**Haudompre**	**8.38**	**259**	*e*Pn	**Pn**	**23 49 43.8**	**+0.5**
PAGF	**Fort de Pagny**	**8.61**	**264**	*e*Pn	**Pn**	**23 49 47.3**	**+1.0**
PAGF	**Fort de Pagny**	**8.61**	**264**	*e*Pg	**Pg**	**23 50 24.1**	**-1.3**
PAGF				*e*Sn	**Sn**	**23 51 18.4**	**-5.7**
PAGF	**Fort de Pagny**	**8.61**	**264**	*e*Pn	**Pn**	**23 49 47.3**	**+1.0**
MEZF	**Maizieres J¨vi**	**9.06**	**264**	*e*P	Pn	23 49 58.0	+5.6
MEZF				*e*Sn	**Sn**	**23 51 29.6**	**-5.4**
	comp=Z,1.1nm,0.3s						
SFTF	**Sexfontaines**	**9.15**	**262**	*e*Sn	**Sn**	**23 51 31.9**	**-5.5**
HFS	**Hagfors**	**10.33**	**346**	Pn	**Pn**	**23 50 09.7**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=159,slow=12,SNR=2.4						
HFS				Sn	**Sn**	**23 52 04.8**	**-1.4**
	comp=Z,0.1nm,0.3s,baz=155,slow=24,SNR=2.7						
NOA	**NORSAR Array B**	**11.62**	**342**	Pn	**Pn**	**23 50 26.9**	**-0.6**
	comp=Z,0.1nm,0.3s,baz=152,slow=12,SNR=3.1						
NOA				Sn	Sn	23 52 27.9	-10
	comp=Z,0.1nm,0.3s,baz=143,slow=21,SNR=2.9						
FINES	**FINESS Array B**	**11.98**	**17**	Pn	**Pn**	**23 50 30.5**	**-1.9**
	comp=Z,0.2nm,0.3s,baz=195,slow=12,SNR=12						
FINES				Sn	**Sn**	**23 52 38.6**	**-8.0**
	comp=Z,0.3nm,0.3s,baz=199,slow=22,SNR=7.2						
FINES	**FINESS Array B**	**11.98**	**17**	n	**Pn**	**23 50 30.3**	**-2.1**
FINES				n		23 52 38.8	
ARCES	**ARCESS Array B**	**19.65**	**7**	n	**Pn**	**23 52 11.4**	**-0.4**

*ATA **21** 23:49:21.5±2.3, 38°.83N×44°.17E, h40km±20km, ML2.7, MW2.5*
*ISCJB **21** 23:49:32.8±0.7, 39°.77N±0°.05×43°.57E±0°.04, h7km, Error ellipse: s-maj=8.0km s-min=4.1km az=164.4*
*DDA **21** 23:49:32.7, 39°.77N×43°.57E, h6km, Ml2.4*
*CSEM **21** 23:49:32.7, 39°.77N×43°.57E, h6km, ML2.4*

ISC 21 23:49:31.4±1.2, 39°.83N±0°.08×43°.54E±0°.04, h7km, n14, σ0s54/20, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DYDN	**Diyadin**	**0.31**	**158**	*e*P	**Pg**	**23 49 38.1**	**+0.6**
DYDN				IAML		23 50 06.2	
	comp=Z,20nm,0.8s						
DYDN	**Diyadin**	**0.31**	**158**	*i*P	**Pg**	**23 49 38.1**	**+0.6**
DYDN				*i*S	**Sg**	**23 49 42.1**	**+0.5**
DYDN	**Diyadin**	**0.31**	**158**	P	**Pg**	**23 49 38.1**	**+0.6**
DYDN				S	**Sg**	**23 49 42.1**	**+0.5**
IGDI	**IGDIR**	**0.41**	**85**	*i*P	**Pb**	**23 49 40.9**	**-0.1**
IGDI				IAML		23 49 49.2	
	comp=Z,6.4nm,0.2s						
IGDI	**IGDIR**	**0.41**	**85**	*i*P	**Pb**	**23 49 41.0**	**-0.1**
IGDI				*i*S	**Sb**	**23 49 47.2**	**-0.4**
AGRB	**Hanur-Agry**	**0.50**	**239**	PG	**Pb**	**23 49 42.2**	**-0.3**
AGRB				SG	**Sb**	**23 49 49.6**	**-0.4**
TASB	**TASBURUN-IGDIR**	**0.56**	**74**	*e*PG	**Pb**	**23 49 43.8**	**+0.3**
TUTA	**Tutak**	**0.71**	**233**	*e*P	**Pb**	**23 49 45.8**	**-0.4**
TUTA				IAML		23 49 57.5	
	comp=Z,17nm,0.3s						
TUTA	**Tutak**	**0.71**	**233**	*i*P	**Pb**	**23 49 46.4**	**+0.2**
TUTA				*i*S	**Sb**	**23 49 56.2**	**0.0**
TUTA	**Tutak**	**0.71**	**233**	P	**Pb**	**23 49 46.4**	**+0.2**
TUTA				S	**Sb**	**23 49 56.2**	**0.0**
CLDR	**Caldiran**	**0.75**	**157**	*e*PG	**Pg**	**23 49 44.8**	**-0.9**
CLDR	**Caldiran**	**0.75**	**157**	*i*P	**Pg**	**23 49 44.9**	**-0.9**
CLDR	**Caldiran**	**0.75**	**157**	P	**Pg**	**23 49 44.8**	**-0.9**
EATA	**Eleskirt**	**0.81**	**272**	*e*P	**Pn**	**23 49 49.7**	**+0.2**

*ISK **22** 00:06:33.7, 35°.57N×35°.10E, h15km, ML3.1/15*
*CSEM **22** 00:06:34.6±0.2, 35°.58N×35°.09E, h10km, ML2.9, Error ellipse: s-maj=3.9km s-min=3.6km az=121.0*
*DDA **22** 00:06:35.4, 35°.69N×35°.05E, h13km, Ml2.9*
*GRAL **22** 00:06:36.4±0.3, 35°.61N×35°.06E, h20km±15km, MD3.2*
*GII **22** 00:06:38.7±0.2, 35°.62N×35°.15E, h32km*

ISC 22 00:06:33.6±1.2, 35°.60N±0°.02×35°.01E±0°.02, h4km±10km, n73, σ0s70/93, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YAYL	**Yayladag**	**0.99**	**64**	PG	**Pg**	**00 06 53.2**	**+0.6**
YAYL				SG	**Sg**	**00 07 05.8**	**+0.3**
YAYL	**Yayladag**	**0.99**	**64**	*i*P	**Pg**	**00 06 53.2**	**+0.6**
YAYL				*i*S	**Sg**	**00 07 05.8**	**+0.3**
YAYL	**Yayladag**	**0.99**	**64**	P	**Pg**	**00 06 53.2**	**+0.6**
YAYL				S	**Sg**	**00 07 05.8**	**+0.3**
KRTS	**Karatas**	**1.02**	**17**	PG	**Pb**	**00 06 53.7**	**-0.1**
KRTS				SG	**Sb**	**00 07 08.6**	**+1.0**
KRTS	**Karatas**	**1.02**	**17**	*e*Pg	**Pb**	**00 06 53.7**	**-0.1**
KRTS				*e*Sg	**Sb**	**00 07 08.6**	**+1.0**
KRTD	**Karatas-Adana**	**1.05**	**18**	PG	**Pb**	**00 06 54.4**	**+0.1**
KRTD	**Karatas-Adana**	**1.05**	**18**	*e*Pg	**Pb**	**00 06 54.4**	**+0.1**
KIZK	**Mersin**	**1.13**	**322**	PN	**Pn**	**00 06 56.4**	**+0.1**
KIZK	**Mersin**	**1.13**	**322**	*i*P	**Pn**	**00 06 56.8**	**+0.5**
KIZK				*i*S	**Sn**	**00 07 11.8**	**-0.4**
KIZK	**Mersin**	**1.13**	**322**	P	**Pn**	**00 06 56.8**	**+0.5**
KIZK				S	**Sn**	**00 07 11.8**	**-0.4**
SILI	**Silifke-Mersin**	**1.17**	**311**	PN	**Pn**	**00 06 57.3**	**+0.5**
SILI	**Silifke-Mersin**	**1.17**	**311**	*e*Pn	**Pn**	**00 06 57.3**	**+0.5**
AKKU	**Akkuyu-Mersin**	**1.31**	**296**	PN	**Pn**	**00 06 59.2**	**+0.4**
AKKU	**Akkuyu-Mersin**	**1.31**	**296**	*e*Pn	**Pn**	**00 06 59.2**	**+0.4**
AKK1	**Akkuyu-Mersin**	**1.31**	**295**	PN	**Pn**	**00 06 59.4**	**+0.6**
AKK1	**Akkuyu-Mersin**	**1.31**	**295**	*e*Pn	**Pn**	**00 06 59.4**	**+0.6**
YURE	**YUREGIR**	**1.32**	**22**	PN	**Pg**	**00 06 58.4**	**-0.6**
YURE	**YUREGIR**	**1.32**	**22**	*i*P	**Pg**	**00 06 58.5**	**-0.6**
YURE	**YUREGIR**	**1.32**	**22**	P	**Pg**	**00 06 58.5**	**-0.6**
GULN	**MERSIN_Gulnar**	**1.33**	**297**	*i*P	**Pn**	**00 06 59.5**	**+0.5**
GULN				*i*S	**Sn**	**00 07 16.8**	**-0.4**
GULN	**MERSIN_Gulnar**	**1.33**	**297**	P	**Pn**	**00 06 59.5**	**+0.5**
GULN				S	**Sn**	**00 07 16.8**	**-0.4**
CSS	**Mathiatis**	**1.52**	**246**	PN	**Pn**	**00 07 01.7**	**+0.1**
CSS	**Mathiatis**	**1.52**	**246**	*e*Pn	**Pn**	**00 07 01.7**	**+0.1**
CSS	**Mathiatis**	**1.52**	**246**	Pn	**Pg**	**00 07 03.4**	**+0.7**
HWQ	**Hawqa**	**1.52**	**150**	*e*P	**Pn**	**00 07 01.6**	**-0.2**
HWQ	**Hawqa**	**1.52**	**150**	*e*P	**Pn**	**00 07 01.6**	**-0.2**
TEVE	**Tevekalti-Mers**	**1.52**	**304**	PN	**Pg**	**00 07 02.4**	**-0.5**
TEVE	**Tevekalti-Mers**	**1.52**	**304**	*e*Pn	**Pg**	**00 07 02.4**	**-0.5**
TEKE	**Tekeli-Mersin**	**1.64**	**290**	PN	**Pb**	**00 07 03.9**	**-0.5**
TEKE	**Tekeli-Mersin**	**1.64**	**290**	*e*Pn	**Pb**	**00 07 03.9**	**-0.5**
KARA	**Karaisali**	**1.66**	**1**	PN	**Pn**	**00 07 03.8**	**+0.2**
KARA	**Karaisali**	**1.66**	**1**	*e*Pn	**Pn**	**00 07 03.8**	**+0.2**
GULE	**Gulek**	**1.69**	**354**	*i*P	**Pg**	**00 07 06.2**	**+0.1**
GULE				*i*S	**Sg**	**00 07 27.8**	**-0.3**
GULE	**Gulek**	**1.69**	**354**	P	**Pg**	**00 07 06.2**	**+0.1**
GULE				S	**Sg**	**00 07 27.8**	**-0.3**
BHL	**Bhannes**	**1.77**	**162**	*e*P	**Pn**	**00 07 05.2**	**0.0**
BHL	**Bhannes**	**1.77**	**162**	*e*P	**Pn**	**00 07 05.2**	**0.0**
LEF	**Lefka**	**1.80**	**255**	PN	**Pb**	**00 07 06.4**	**-0.8**
LEF	**Lefka**	**1.80**	**255**	*e*Pn	**Pb**	**00 07 06.4**	**-0.8**
LEF	**Lefka**	**1.80**	**255**	P	**Pg**	**00 07 07.8**	**-0.3**
DQRL	**Deir Qamar**	**1.94**	**166**	*e*P	**Pn**	**00 07 07.6**	**0.0**
DQRL	**Deir Qamar**	**1.94**	**166**	*e*P	**Pn**	**00 07 07.6**	**0.0**
KERG	**Konya-Eregli**	**1.95**	**339**	*i*P	**Pg**	**00 07 10.6**	**-0.4**
KERG				*i*S	**Sg**	**00 07 35.4**	**-0.9**
KERG	**Konya-Eregli**	**1.95**	**339**	P	**Pg**	**00 07 10.6**	**-0.4**
KERG				S	**Sg**	**00 07 35.4**	**-0.9**
KOZT	**Kozan**	**1.99**	**19**	PN	**Pn**	**00 07 08.1**	**0.0**
KOZT	**Kozan**	**1.99**	**19**	*e*Pn	**Pn**	**00 07 08.1**	**0.0**
ERMK	**Ermenek**	**1.99**	**302**	*i*P	**Pb**	**00 07 10.8**	**+0.1**
ERMK				*i*S	**Sg**	**00 07 39.3**	**+1.6**
ERMK	**Ermenek**	**1.99**	**302**	P	**Pb**	**00 07 10.8**	**+0.1**
SHBL	**Chebaa**	**2.32**	**165**	*e*P	**Pn**	**00 07 12.7**	**-0.1**
SHBL	**Chebaa**	**2.32**	**165**	*e*P	**Pn**	**00 07 12.7**	**-0.1**
GAZ	**Gaziantep**	**2.37**	**48**	PN	**Pn**	**00 07 12.5**	**-0.9**
GAZ	**Gaziantep**	**2.37**	**48**	*e*Pn	**Pn**	**00 07 12.5**	**-0.9**
KMRS	**Kahramanmaras**	**2.44**	**38**	PN	**Pn**	**00 07 13.6**	**-0.7**
KMRS	**Kahramanmaras**	**2.44**	**38**	*e*Pn	**Pn**	**00 07 13.6**	**-0.7**
YAHY	**KAYSERI_Yahyal**	**2.51**	**6**	*i*P	**Pn**	**00 07 16.7**	**+1.3**
YAHY				*i*S	**Sn**	**00 07 47.0**	**+0.5**
YAHY	**KAYSERI_Yahyal**	**2.51**	**6**	P	**Pn**	**00 07 16.7**	**+1.3**
YAHY				S	**Sn**	**00 07 47.0**	**+0.5**
MMC7	**Mount Meron ar**	**2.59**	**173**	Pn	**Pn**	**00 07 17.1**	**+0.7**
MMA0B	**Mount Meron ar**	**2.60**	**173**	Pn	**Pn**	**00 07 17.1**	**+0.6**
KSHT	**Keshet**	**2.69**	**166**	Pn	**Pn**	**00 07 19.1**	**+1.3**
GULA	**Gulagac**	**2.81**	**347**	PN	**Pn**	**00 07 20.4**	**+0.9**
GULA	**Gulagac**	**2.81**	**347**	*e*Pn	**Pn**	**00 07 20.4**	**+0.9**
SULT	**Sultanhani-AKS**	**2.86**	**336**	PN	**Pn**	**00 07 21.1**	**+0.9**
SULT	**Sultanhani-AKS**	**2.86**	**336**	*e*Pn	**Pn**	**00 07 21.1**	**+0.9**
OFRI	**'Ofer**	**2.97**	**180**	Pn	**Pn**	**00 07 22.1**	**+0.5**
OFRI				Sn	**Sn**	**00 07 56.8**	**-0.9**
KEPZ	**Antalya-Kepez**	**3.05**	**296**	*i*P	**Pb**	**00 07 26.8**	**-1.7**
KEPZ				*i*S	**Sb**	**00 08 06.3**	**+0.2**
MMLI	**Mount Malkishu**	**3.17**	**174**	Pn	**Pn**	**00 07 25.3**	**+0.9**
MMLI				Sn	**Sn**	**00 08 00.8**	**-1.9**
SLTI	**Sal'it**	**3.35**	**180**	Pn	**Pn**	**00 07 28.3**	**+1.5**
SLTI				Sn	**Sn**	**00 08 07.3**	**+0.3**
HMDT	**Nahal Hemdat**	**3.36**	**173**	Pn	**Pn**	**00 07 26.6**	**-0.4**
URFA	**Urfa**	**3.58**	**58**	PN	**Pn**	**00 07 29.8**	**-0.2**
URFA	**Urfa**	**3.58**	**58**	*e*Pn	**Pn**	**00 07 29.8**	**-0.2**
MALT	**Malatya**	**3.85**	**44**	PN	**Pn**	**00 07 32.9**	**-0.9**
MALT	**Malatya**	**3.85**	**44**	*e*Pn	**Pn**	**00 07 32.9**	**-0.9**
DSI	**Dead Sea**	**4.03**	**176**	Pn	**Pn**	**00 07 37.6**	**+1.5**
AMAZ	**Amatzia**	**4.05**	**181**	Pn	**Pn**	**00 07 37.8**	**+1.3**

*MOS **22** 00:21:59.7±1.1, 32°.59N×48°.79E, h23km, mb4.2/27, Error ellipse: s-maj=7.0km s-min=4.3km az=102.8*
*ISCJB **22** 00:22:00.3±0.2, 32°.62N±0°.02×48°.72E±0°.02, h23km, mb4.1/59, MS3.3/6, Error ellipse: s-maj=3.4km s-min=2.8km az=18.8*
*SGS **22** 00:22:00.6, 33°.09N×48°.80E, h59km*
*CSEM **22** 00:22:00.4±0.2, 32°.59N×48°.76E, h10km, mb4.1/12, Error ellipse: s-maj=5.6km s-min=4.1km az=15.0*
*THR **22** 00:22:00.8±1.0, 32°.65N×48°.91E, h15km±7km, ML3.9*
*NEIC **22** 00:22:01.3±0.0, 32°.61N×48°.73E, h5km, mb4.3/12, MN4.0(TEH), After TEH.*
*TEH **22** 00:22:01.3, 32°.61N×48°.73E, h5km, ML4.0*
*IDC **22** 00:22:03.2±2.3, 32°.66N×48°.79E, h34km±18km, mb3.8/33, mb1 3.9/43, mb1mx3.8/72, mbtmp4.0/43, ML3.7/9, MS2.9/10, Ms1 2.9/10, ms1mx2.7/67, Error ellipse: s-maj=13.0km s-min=9.9km az=158.0*

ISC 22 00:22:01.8±0.3, 32°.64N±0°.03×48°.77E±0°.04, h23km, n269, σ1s48/278, mb4.2/59, MS3.0/6, 15C-10D, Western Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHGR	**Shooshtar-Gavs**	**0.53**	**177**	*e*P	**Pb**	**00 22 11.6**	**-0.8**
SHGR	**Shooshtar-Gavs**	**0.53**	**177**	*e*Pg	**Pb**	**00 22 11.7**	**-0.8**
SHGR				AML	AML	00 22 31.2	
	comp=N,7μm,0.6s						
SHGR				AML	AML	00 22 35.2	
	comp=E,6μm,0.5s						
IKFM	**Kafar-mosalman**	**1.18**	**319**	*e*Pg	**Pn**	**00 22 21.3**	**-1.5**
IKFM	**Kafar-mosalman**	**1.18**	**319**	*e*Pg	**Pn**	**00 22 21.3**	**-1.5**
KHMZ	**Khomeyn**	**1.49**	**42**	*e*Pg	**Pn**	**00 22 26.5**	**-0.8**
KHMZ	**Khomeyn**	**1.49**	**42**	*e*Pg	**Pn**	**00 22 26.5**	**-0.8**
IKOM	**Komasi**	**1.86**	**326**	*e*Pn	**Pb**	**00 22 34.2**	**-1.0**
IKOM				*e*Sg	**Sb**	**00 22 59.1**	**+1.0**
IKOM				*e*AMB	AMB	00 23 17.3	
	comp=Z,16μm,0.4s						
IKOM	**Komasi**	**1.86**	**326**	*e*Pn	**Pb**	**00 22 34.2**	**-1.0**
IKOM				*e*Sg	**Sb**	**00 22 59.1**	**+1.0**
ASAO	**Ashtian**	**2.18**	**28**	*e*Pn	**Pn**	**00 22 38.5**	**+1.7**
ASAO	**Ashtian**	**2.18**	**28**	*e*Pn	**Pn**	**00 22 38.5**	**+1.7**
IKLH	**Kolahrood**	**2.46**	**73**	*e*Pn	**Pn**	**00 22 42.8**	**+2.1**
IKLH				*e*AMB	AMB	00 23 23.9	
	comp=Z,8μm,0.2s						
IVIS	**Veis**	**2.47**	**320**	*e*Pn	**Pn**	**00 22 42.0**	**+1.2**
IVIS				*e*AMB	AMB	00 23 27.3	
	comp=Z,7μm,0.3s						
IVIS	**Veis**	**2.47**	**320**	*e*Pn	**Pn**	**00 22 42.0**	**+1.2**
IGHG	**Ghaleghazi**	**2.50**	**313**	*e*Pn	**Pn**	**00 22 42.8**	**+1.6**
IGHG				*e*AMB	AMB	00 23 29.9	
	comp=Z,8μm,0.2s						
IGHG	**Ghaleghazi**	**2.50**	**313**	*e*Pn	**Pn**	**00 22 42.8**	**+1.6**
QAM	**Ghamsar**	**2.50**	**63**	*e*Pn	**Pn**	**00 22 43.8**	**+2.5**
QAM				*e*AMB	AMB	00 23 21.6	
	comp=Z,12μm,0.2s						
SNGE	**Sanandaj**	**2.72**	**335**	*e*Pn	**Pn**	**00 22 46.5**	**+2.2**
SNGE	**Sanandaj**	**2.72**	**335**	*e*Pn	**Pn**	**00 22 46.5**	**+2.2**
ILIN	**Lien**	**2.73**	**327**	*e*Pn	**Pn**	**00 22 45.9**	**+1.5**
ILIN				*e*AMB	AMB	00 23 29.6	
	comp=Z,9μm,0.3s						
ILIN	**Lien**	**2.73**	**327**	*e*Pn	**Pn**	**00 22 45.9**	**+1.5**
IGAR	**Gharneh**	**2.78**	**94**	*e*Pn	**Pn**	**00 22 47.1**	**+2.0**
IGAR				*e*AMB	AMB	00 23 34.2	
	comp=Z,4μm,0.3s						
GHVR	**GHOM**	**2.80**	**48**	*e*Pn	**Pn**	**00 22 45.5**	**+0.2**
GHVR	**GHOM**	**2.80**	**48**	*e*Pn	**Pn**	**00 22 45.5**	**+0.2**
IDHR	**Dehrash**	**2.86**	**317**	*e*Pn	**Pn**	**00 22 47.0**	**+0.8**
IDHR				*e*AMB	AMB	00 23 25.0	
	comp=Z,7μm,0.1s						
IDHR	**Dehrash**	**2.86**	**317**	*e*Pn	**Pn**	**00 22 47.0**	**+0.8**
IRAZ	**Razeghan**	**2.92**	**19**	*e*Pn	**Pn**	**00 22 49.3**	**+2.2**
IRAZ				*e*AMB	AMB	00 22 55.1	
	comp=Z,5μm,0.2s						
IRAZ	**Razeghan**	**2.92**	**19**	*e*Pn	**Pn**	**00 22 49.3**	**+2.2**
IR5	**Iran Long-Peri**	**2.98**	**30**	*e*Pn	**Pn**	**00 22 49.9**	**+2.1**
IR5				*e*AMB	AMB	00 22 57.2	
	comp=E,4μm,0.2s						
IR5	**Iran Long-Peri**	**2.98**	**30**	*e*Pn	**Pn**	**00 22 49.9**	**+2.1**
IZEF	**Zefreh**	**3.01**	**84**	*e*Pn	**Pn**	**00 22 50.1**	**+1.8**
IZEF				*e*AMB	AMB	00 23 03.1	
	comp=Z,3μm,0.2s						
IRAM	**Ramesheh**	**3.17**	**104**	*e*Pn	**Pn**	**00 22 51.3**	**+0.8**
IRAM				*e*AMB	AMB	00 23 49.5	
	comp=Z,1μm,0.2s						
IRAM	**Ramesheh**	**3.17**	**104**	*e*Pn	**Pn**	**00 22 51.3**	**+0.8**
IVRN	**Varamin**	**3.41**	**46**	*e*Pn	**Pn**	**00 22 55.9**	**+2.3**
IVRN				*e*AMB	AMB	00 24 02.4	
	comp=Z,2μm,0.3s						
IVRN	**Varamin**	**3.41**	**46**	*e*Pn	**Pn**	**00 22 55.9**	**+2.3**
IMHD	**Mahdasht**	**3.42**	**27**	*e*Pn	**Pn**	**00 22 55.2**	**+1.3**
IMHD				*e*AMB	AMB	00 23 01.5	
	comp=Z,2μm,0.1s						
IMHD	**Mahdasht**	**3.42**	**27**	*e*Pn	**Pn**	**00 22 55.2**	**+1.3**
CHTH	**Charan**	**3.80**	**30**	*e*Pn	**Pn**	**00 23 00.2**	**+1.0**
CHTH	**Charan**	**3.80**	**30**	*e*Pn	**Pn**	**00 23 00.1**	**+1.0**
IKAZ	**Kazeroun**	**3.88**	**136**	*e*Pn	**Pn**	**00 23 01.3**	**+1.0**
IKAZ				*e*AMB	AMB	00 23 57.1	
	comp=Z,3μm,0.2s						
IGZV	**Ghazvin**	**3.93**	**17**	*e*Pn	**Pn**	**00 23 01.1**	**+0.2**
IGZV				*e*AMB	AMB	00 23 22.6	
	comp=Z,2μm,0.3s						
IGZV	**Ghazvin**	**3.93**	**17**	*e*Pn	**Pn**	**00 23 01.1**	**+0.2**
IDMV	**Damavand**	**3.99**	**42**	*e*AMB	AMB	00 23 18.8	
	comp=Z,1μm,0.3s						
IDMV				*e*Pn	**Pn**	**00 23 02.6**	**+0.7**
DAMV	**Damavand**	**4.00**	**41**	*e*Pn	**Pn**	**00 23 02.7**	**+0.8**
DAMV	**Damavand**	**4.00**	**41**	*e*Pn	**Pn**	**00 23 02.7**	**+0.8**
IFIR	**Firoozkooh**	**4.46**	**47**	*e*AMB	AMB	00 23 10.8	
	comp=Z,1μm,0.1s						
IFIR				*e*Pn	**Pn**	**00 23 09.5**	**+1.2**
KFJS		**4.49**	**189**	P	**Pn**	**00 23 10.5**	**+2.1**
KFJS				S	**Sn**	**00 24 03.0**	**+3.0**
ICHK	**Chekchek**	**4.78**	**93**	*e*Pn	**Pn**	**00 23 13.6**	**+0.9**
ICHK				*e*AMB	AMB	00 24 38.5	
	comp=Z,982nm,0.3s						
ICHK	**Chekchek**	**4.78**	**93**	*e*Pn	**Pn**	**00 23 13.6**	**+0.9**
ISRV	**Sarvestan**	**4.94**	**130**	*e*Pn	**Pn**	**00 23 15.6**	**+0.6**
ISRV				*e*AMB	AMB	00 24 23.5	
	comp=Z,971nm,0.2s						
IMEH	**Mehriz**	**5.12**	**102**	*e*Pn	**Pn**	**00 23 18.0**	**+0.7**
IMEH				*e*AMB	AMB	00 24 23.2	
	comp=Z,387nm,0.2s						
IMEH	**Mehriz**	**5.12**	**102**	*e*Pn	**Pn**	**00 23 18.0**	**+0.7**
IBAF	**Bafgh**	**5.86**	**98**	*e*Pn	**Pn**	**00 23 28.7**	**+1.3**
IBAF				*e*AMB	AMB	00 23 37.3	
	comp=Z,406nm,0.3s						
IBAF	**Bafgh**	**5.86**	**98**	*e*Pn	**Pn**	**00 23 28.7**	**+1.3**
LKRN	**Lenkeran, Azer**	**6.06**	**0**	P	**Pn**	**00 23 30.9**	**+0.9**
LKRN	**Lenkeran, Azer**	**6.06**	**0**	P	**Pn**	**00 23 30.9**	**+0.9**
YOVA	**Hakkari_Y¨…kse**	**6.15**	**325**	*i*P	**Pn**	**00 23 32.2**	**+0.7**
YOVA				*i*S	**Sn**	**00 24 40.6**	**-0.7**
BOQSS		**6.76**	**175**	P	**Pn**	**00 23 41.1**	**+1.4**
NAX	**Nakhchivan**	**7.04**	**339**	P	**Pn**	**00 23 44.5**	**+0.9**
NAX	**Nakhchivan**	**7.04**	**339**	P	**Pn**	**00 23 44.5**	**+0.9**
SIRN	**S¨–rnak**	**7.12**	**315**	*i*P	**Pn**	**00 23 45.9**	**+1.3**
SIRN				*i*S	**Sn**	**00 25 00.4**	**-4.4**
GEVA	**Gevas**	**7.33**	**322**	*i*P	**Pn**	**00 23 47.5**	**-0.1**
GEVA				*i*S	**Sn**	**00 25 07.5**	**-2.6**
SRTM	**Siirt_Merkez**	**7.

	comp=Z,6.0nm,0.9s								
NIL	**Nilore**	**20.52**	**80**	*e*P		**P**		**00 26 38.6**	**+0.1**
	comp=Z,14nm,1.1s								
NIL	**Nilore**	**20.52**	**80**	*e*P		**P**		**00 26 38.6**	**+0.1**
	comp=Z,14nm,1.1s								
NIL	**Nilore**	**20.52**	**80**	*e*P		**P**		**00 26 38.6**	**+0.1**
NIL				pmax	pmax				
	comp=Z,15nm,1.1s								
MNAS	**Manas**	**21.17**	**56**	P		**P**		**00 26 44.4**	**-1.2**
	comp=Z,2.0nm,0.9s								
MNAS	**Manas**	**21.17**	**56**	P		**P**		**00 26 44.4**	**-1.2**
MNAS				pmax	pmax				
	comp=Z,2.0nm,0.9s								
LPSR	**Galich'ya Gora**	**21.19**	**343**	*e*P		**P**		**00 26 44.2**	**-1.2**
	comp=Z,20nm,0.6s								
LPSR	**Galich'ya Gora**	**21.19**	**343**	*e*P		**P**		**00 26 44.2**	**-1.2**
LPSR				pmax	pmax				
	comp=Z,20nm,0.6s								
SFK	**Sufi-Kurgan**	**21.20**	**63**	P		**P**		**00 26 47.4**	**+1.4**
	comp=Z,6.0nm,1.1s								
SFK	**Sufi-Kurgan**	**21.20**	**63**	P		**P**		**00 26 47.4**	**+1.4**
SFK				pmax	pmax				
	comp=Z,6.0nm,1.1s								
VRI	**Vrincioaia**	**21.50**	**314**⇑	*i*P		**P**		**00 26 49.4**	**+0.5**
VRI	**Vrincioaia**	**21.50**	**314**	P		**P**		**00 26 49.1**	**+0.2**
	comp=Z,54nm,0.8s								
VRI	**Vrincioaia**	**21.50**	**314**	P		**P**		**00 26 49.1**	**+0.2**
VRI				pmax	pmax				
	comp=Z,54nm,0.8s								
PLOR	**Plostina**	**21.54**	**314**⇑	*i*P		**P**		**00 26 48.8**	**-0.6**
PLOR	**Plostina**	**21.54**	**314**	P		**P**		**00 26 48.7**	**-0.6**
PLOR	**Plostina**	**21.54**	**314**	P		**P**		**00 26 48.7**	**-0.6**
ATD	**Arta Tunnel**	**21.70**	**196**	P		**P**		**00 26 53.6**	**+2.3**
	comp=Z,12nm,1.0s,baz=306,slow=23,SNR=4.3								
ATD				LR		LR		00 35 55.8	
	comp=Z,44nm,20.0s,baz=104,slow=38								
SRS	**Serrai**	**21.79**	**300**	P		**P**		**00 26 52.3**	**+0.2**
	comp=Z,4.0nm,0.9s								
SRS	**Serrai**	**21.79**	**300**	P		**P**		**00 26 52.3**	**+0.2**
SRS				pmax	pmax				
	comp=Z,4.0nm,0.9s								
MLR	**Muntele Rosu**	**21.79**	**313**	P		**P**		**00 26 53.8**	**+1.6**
	comp=Z,1.6nm,0.7s,baz=180,slow=6.9,SNR=8.7								
MLR	**Muntele Rosu**	**21.79**	**313**⇑	*i*P		**P**		**00 26 54.0**	**+1.8**
MLR	**Muntele Rosu**	**21.79**	**313**	*e*P		**P**		**00 26 54.0**	**+1.8**
	comp=Z,7.8nm,0.9s								
SORM	**Soroca**	**21.84**	**321**⇓	*i*P		**P**		**00 26 51.3**	**-1.3**
SORM	**Soroca**	**21.84**	**321**	P		**P**		**00 26 51.2**	**-1.3**
SORM	**Soroca**	**21.84**	**321**	P		**P**		**00 26 51.2**	**-1.3**
TESR	**Tescani**	**21.87**	**316**⇑	*i*P		**P**		**00 26 52.2**	**-0.7**
TESR	**Tescani**	**21.87**	**316**⇑	*i*P		**P**		**00 26 52.2**	**-0.7**
AGG	**Agios Georgios**	**22.32**	**294**	P		**P**		**00 26 57.4**	**-0.4**
	comp=Z,30nm,1.2s								
AGG	**Agios Georgios**	**22.32**	**294**	P		**P**		**00 26 57.4**	**-0.4**
AGG				pmax	pmax				
	comp=Z,30nm,1.2s								
VOIR		**22.33**	**312**⇓	*i*P		**P**		**00 26 59.6**	**+1.7**
VOIR		**22.33**	**312**	P		**P**		**00 26 59.3**	**+1.4**
	comp=Z,20nm,0.8s								
VOIR		**22.33**	**312**	P		**P**		**00 26 59.3**	**+1.4**
VOIR				pmax	pmax				
	comp=Z,20nm,0.8s								
ARR	**Arges**	**22.56**	**311**⇓	*i*P		**P**		**00 27 02.2**	**+1.9**
ARR	**Arges**	**22.56**	**311**⇓	*i*P		**P**		**00 27 02.2**	**+1.9**
AAK	**Ala-Archa**	**22.61**	**56**	P		**P**		**00 27 01.6**	**+0.5**
	comp=Z,0.3nm,0.3s,baz=166,slow=5.0,SNR=4.3								
AAK				LR		LR		00 37 09.7	
	comp=Z,91nm,18.6s,baz=214,slow=40								
AAK	**Ala-Archa**	**22.61**	**56**	*i* P		**P**		**00 27 01.0**	**0.0**
	comp=Z,4.0nm,1.7s								
AAK	**Ala-Archa**	**22.61**	**56**	*i* P		**P**		**00 27 01.0**	**0.0**
AAK				pmax	pmax				
	comp=Z,4.0nm,1.7s								
AKASG	**Malin Array Be**	**23.09**	**327**	P		**P**		**00 27 06.3**	**+0.5**
	comp=Z,2.3nm,0.7s,baz=134,slow=9.4,SNR=12								
AKASG	**Malin Array Be**	**23.09**	**327**	*e*P		**P**		**00 27 05.7**	**0.0**
AKASG				pmax	pmax				
	comp=Z,2.0nm,0.6s								
KIEV	**Kiev**	**23.10**	**327**	*e*P		**P**		**00 27 06.2**	**+0.4**
	comp=Z,2.5nm,0.6s								
KIEV	**Kiev**	**23.10**	**327**	*i* P		**P**		**00 27 06.1**	**+0.4**
KIEV				pmax	pmax				
	comp=Z,3.0nm,0.8s								
BURAR	**Bucovina Array**	**23.29**	**317**⇓	*i*P		**P**		**00 27 08.2**	**+0.3**
BURAR	**Bucovina Array**	**23.29**	**317**⇓	*i*P		**P**		**00 27 08.2**	**+0.3**
BURAR	**Bucovina Array**	**23.29**	**317**	P		**P**		**00 27 08.1**	**+0.2**
BUR04	**Bucovina Ar. S**	**23.29**	**317**	*e*P		**P**		**00 27 08.1**	**+0.2**
BUR04	**Bucovina Ar. S**	**23.29**	**317**	*e*P		**P**		**00 27 08.1**	**+0.2**
BUR08	**Bucovina Ar. S**	**23.31**	**317**	*e*P		**P**		**00 27 10.5**	**+2.4**
BUR08	**Bucovina Ar. S**	**23.31**	**317**	*e*P		**P**		**00 27 10.5**	**+2.4**
NRN	**Naryn**	**23.37**	**60**	P		**P**		**00 27 09.3**	**+0.3**
	comp=Z,5.0nm,0.8s								
NRN	**Naryn**	**23.37**	**60**	P		**P**		**00 27 09.3**	**+0.3**
NRN				pmax	pmax				
	comp=Z,5.0nm,0.8s								
OTUK	**Ortayu**	**23.63**	**42**	P		**P**		**00 27 11.0**	**-0.2**
	comp=Z,5.0nm,0.9s								
OTUK	**Ortayu**	**23.63**	**42**	P		**P**		**00 27 11.0**	**-0.2**
OTUK				pmax	pmax				
	comp=Z,5.0nm,0.9s								
OBN	**Obninsk**	**24.06**	**343**	P		**P**		**00 27 15.1**	**0.0**
	comp=Z,3.8nm,0.3s,baz=128,slow=11,SNR=3.9								
OBN	**Obninsk**	**24.06**	**343**	*i* P		**P**		**00 27 15.0**	**0.0**
OBN				*i*				00 27 18.6	
OBN				*i*				00 27 46.0	
OBN				pmax	pmax				
	comp=Z,5.0nm,0.8s								
OBN				MLR	MLR				
	comp=Z,29nm,21.0s								
DRGR		**24.39**	**313**⇑	*i*P		**P**		**00 27 19.3**	**+1.0**
DRGR		**24.39**	**313**⇑	*i*P		**P**		**00 27 19.3**	**+1.0**
DRGR		**24.39**	**313**	P		**P**		**00 27 19.7**	**+1.4**
DRGR				pmax	pmax				
	comp=Z,13nm,0.9s								
BZS	**Buzias**	**24.60**	**310**⇑	*i*P		**P**		**00 27 20.9**	**+0.8**
BZS	**Buzias**	**24.60**	**310**⇑	*i*P		**P**		**00 27 20.9**	**+0.8**
BZS	**Buzias**	**24.60**	**310**	P		**P**		**00 27 21.3**	**+1.2**
BZS				pmax	pmax				
	comp=Z,2.0nm,1.6s								
ARU	**Arti**	**24.74**	**13**	P		**P**		**00 27 21.2**	**-0.1**
	comp=Z,2.6nm,0.6s,baz=261,slow=3.6,SNR=5.8								
ARU	**Arti**	**24.74**	**13**	*e*P		**P**		**00 27 21.7**	**+0.4**
	comp=Z,5.7nm,1.0s								
ARU	**Arti**	**24.74**	**13**	*d i*P		**P**		**00 27 22.1**	**+0.8**
ARU				S		**S**		**00 31 43.8**	**+1.8**
ARU				pmax	pmax				
	comp=Z,13nm,2.5s								
TRPA	**Tarpa**	**25.10**	**316**⇓	*i*P		**P**		**00 27 25.4**	**+0.7**
TRPA	**Tarpa**	**25.10**	**316**⇓	*i*P		**P**		**00 27 25.4**	**+0.7**
BRVK	**Borovoye**	**25.61**	**31**	*c e*P		**P**		**00 27 30.0**	**+0.7**
BRVK				pmax	pmax				
	comp=Z,3.0nm,0.6s								
BVAR	**Borovoye Array**	**25.64**	**31**	P		**P**		**00 27 29.1**	**-0.4**
	comp=Z,3.8nm,0.5s,baz=224,slow=6.0,SNR=20								
BVAR				ScP		**ScP**		**00 34 35.3**	**-2.4**
	comp=Z,1.2nm,0.6s,baz=229,slow=3.3,SNR=4.9								
BVAR				LR		LR		00 40 06.5	
	comp=Z,31nm,18.4s,baz=286,slow=42								
CRVS	**Cervenica-Dubn**	**26.10**	**317**	*e*P		**P**		**00 27 33.7**	**-0.1**
CRVS	**Cervenica-Dubn**	**26.10**	**317**	*e*P		**P**		**00 27 33.7**	**-0.1**
CRVS				pmax	pmax				
	comp=Z,10.0nm,1.7s								
VYHS	**Vyhne**	**27.48**	**314**	*e*P		**P**		**00 27 47.3**	**+1.1**
VYHS	**Vyhne**	**27.48**	**314**	*e*P		**P**		**00 27 47.3**	**+1.1**
VYHS	**Vyhne**	**27.48**	**314**	*e*P		**P**		**00 27 47.3**	**+1.1**
KURBB	**Kurchatov Arra**	**28.32**	**42**	P		**P**		**00 27 53.1**	**-0.5**
	comp=Z,1.0nm,0.2s,baz=245,slow=9.6,SNR=4.5								
KURK	**Kurchatov**	**28.41**	**42**	P		**P**		**00 27 53.1**	**-1.3**
KURK	**Kurchatov**	**28.41**	**42**	P		**P**		**00 27 53.1**	**-1.3**
KURK				pmax	pmax				
	comp=Z,1.0nm,0.2s								
KLMR	**Klimovskoe**	**28.87**	**351**	*e*P		P		00 27 51.6	-6.8
KLMR				AMP				00 28 03.2	
	comp=Z,6.0nm,1.1s								
KLMR	**Klimovskoe**	**28.87**	**351**	*e*P		P		00 27 51.5	-6.9
KLMR				pmax	pmax				
	comp=Z,6.0nm,1.1s								
MK01	**Makanchi Array**	**29.16**	**51**	*e*P		**P**		**00 28 01.3**	**+0.1**
MK31	**Makanchi Array**	**29.16**	**51**	*e*P		**P**		**00 28 01.7**	**+0.5**
MK31	**Makanchi Array**	**29.16**	**51**	*e*P		**P**		**00 28 01.7**	**+0.5**
MKAR	**Makanchi Array**	**29.16**	**51**	P		**P**		**00 28 01.0**	**0.0**
	comp=Z,1.5nm,0.6s,baz=246,slow=6.9,SNR=11								
MKAR	**Makanchi Array**	**29.16**	**51**	*e*P		**P**		**00 28 01.7**	**+0.5**
	comp=Z,16nm,0.7s								
MKAR	**Makanchi Array**	**29.16**	**51**	*e*P		**P**		**00 28 01.5**	**+0.3**
MKAR				pmax	pmax				
	comp=Z,6.0nm,0.6s								
GEA0	**GERESS Array S**	**30.77**	**312**	*e*P		**P**		**00 28 17.0**	**+1.5**
GERES	**GERESS Array B**	**30.78**	**312**	P		**P**		**00 28 15.6**	**+0.1**
	comp=Z,0.4nm,0.6s,baz=107,slow=12,SNR=3.2								
WMQ	**Urumqi**	**32.28**	**58**	P		**P**		**00 28 31.0**	**+2.2**
WMQ				pmax	pmax				
	comp=Z,12nm,0.7s								
WMQ				pmax	pmax				
	comp=Z,220nm,9.1s								
FINES	**FINESS Array B**	**32.35**	**340**	P		**P**		**00 28 28.2**	**-0.9**
	comp=Z,0.4nm,0.3s,baz=144,slow=8.6,SNR=11								
FINES	**FINESS Array B**	**32.35**	**340**	*e*P		**P**		**00 28 28.5**	**-0.6**
ZAA0	**Zalesovo Array**	**33.26**	**39**	*e*P		**P**		**00 28 36.6**	**-0.6**
	comp=Z,5.5nm,1.3s								
ZALV	**Zalesovo Beam**	**33.26**	**39**	P		**P**		**00 28 36.5**	**-0.6**
	comp=Z,1.7nm,0.3s,baz=240,slow=8.4,SNR=9.3								
HFS	**Hagfors**		**35.88**	**331**	P		**P**		**00 28 58.7**	**-1.0**
	comp=Z,4.0nm,0.6s,baz=120,slow=10,SNR=20								
NC405	**NORSAR Array S**	**37.23**	**331**	*e*P		**P**		**00 29 11.2**	**-0.1**
NB2	**NORSAR Subarra**	**37.40**	**331**	P		**P**		**00 29 11.5**	**-1.2**
	comp=Z,1.3nm,0.6s,baz=122,slow=8.6								
NOA	**NORSAR Array B**	**37.40**	**331**	P		**P**		**00 29 11.8**	**-0.9**
	comp=Z,1.0nm,0.6s,baz=123,slow=8.5,SNR=7.2								
NBO02	**NORSAR Array S**	**37.55**	**331**	*e*P		**P**		**00 29 14.7**	**+0.7**
ARCES	**ARCESS Array B**	**39.19**	**347**	P		**P**		**00 29 26.4**	**-1.2**
	comp=Z,2.7nm,0.9s,baz=108,slow=12,SNR=3.1								
TAM	**Tamanrasset**	**39.29**	**267**	*e*P		**P**		**00 29 30.7**	**+1.5**
	comp=Z,2.9nm,0.9s								
TAM	**Tamanrasset**	**39.29**	**267**	*e*P		**P**		**00 29 30.7**	**+1.5**
TAM				pmax	pmax				
	comp=Z,3.0nm,0.9s								
EKA	**Eskdalemuir Ar**	**42.46**	**318**	P		**P**		**00 29 54.5**	**-0.2**
	comp=Z,0.6nm,0.6s,baz=112,slow=7.7,SNR=4.0								
ESDC	**Sonseca Array**	**42.64**	**295**	P		**P**		**00 29 56.4**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=69,slow=8.7,SNR=4.5								
LZH	**Lanzhou**	**45.09**	**70**	*e*P		**P**		**00 30 15.3**	**-1.1**
LZH				pP		pP		00 30 18.5	-5.0
LZH				sP		sP		00 30 20.0	-6.3
LZH				*e*PP		**PP**		**00 32 01.4**	**-0.4**
LZH				pmax	pmax				
	comp=Z,16nm,1.2s								
LZH				pmax	pmax				
	comp=Z,42nm,6.3s								
LZH				LR	LR				
	comp=N,65nm,14.2s								
LZH				LR	LR				
	comp=E,70nm,14.0s								
LZH				LR	LR				
	comp=Z,95nm,17.8s								
PBAR	**Barrancos**	**45.24**	**293**	*e*P		**P**		**00 30 17.8**	**+0.4**
PBAR	**Barrancos**	**45.24**	**293**	*e*P		**P**		**00 30 17.8**	**+0.4**
PCBR	**Castelo Branco**	**45.30**	**296**	*e*P		**P**		**00 30 18.4**	**+0.6**
PCBR	**Castelo Branco**	**45.30**	**296**	*e*P		**P**		**00 30 18.4**	**+0.6**
POLO	**Lamas de Olo**	**45.30**	**298**	*e*P		**P**		**00 30 20.5**	**+2.6**
SONM	**Songino Array**	**45.49**	**53**	P		**P**		**00 30 19.2**	**-0.2**
	comp=Z,0.5nm,0.5s,baz=274,slow=5.6,SNR=2.6								
ULN	**Ulaanbaatar**	**45.93**	**53**	*e*P		**P**		**00 30 23.6**	**+0.7**
	comp=Z,4.9nm,1.3s								
ULN	**Ulaanbaatar**	**45.93**	**53**	*c e*P		**P**		**00 30 23.5**	**+0.6**
ULN				pmax	pmax				
	comp=Z,2.0nm,0.7s								
CMAR	**Chiang Mai Arr**	**47.01**	**95**	P		**P**		**00 30 30.9**	**-0.7**
	comp=Z,0.8nm,0.4s,baz=296,slow=8.9,SNR=3.8								
CMAR	**Chiang Mai Arr**	**47.01**	**95**	*e*P		**P**		**00 30 35.3**	**+3.8**
CMAR				pmax	pmax				
	comp=Z,1.0nm,0.5s								
TOA0	**Torodi Ar. Sit**	**47.07**	**257**	*e*P		**P**		**00 30 32.0**	**0.0**
TORD	**Torodi Ar. Bea**	**47.07**	**257**	P		**P**		**00 30 32.0**	**0.0**
	comp=Z,3.8nm,0.7s,baz=52,slow=7.7,SNR=36								
SPITS	**Spitsbergen Ar**	**47.77**	**351**	P		**P**		**00 30 36.7**	**+0.1**
	comp=Z,7.1nm,0.9s,baz=180,slow=6.4,SNR=6.8								
KOWA	**Kowa**	**51.11**	**262**	P		**P**		**00 31 03.1**	**+0.1**
	comp=Z,5.2nm,0.6s,baz=58,slow=8.6,SNR=24								
KOWA	**Kowa**	**51.11**	**262**	*e*P		**P**		**00 31 03.3**	**+0.3**
	comp=Z,4.3nm,0.6s								
DBIC	**Dimbokro**	**56.01**	**255**	P		**P**		**00 31 38.5**	**-0.4**
	comp=Z,4.0nm,1.0s,baz=51,slow=6.5,SNR=4.4								
TIXI	**Tiksi**	**56.29**	**22**	*c e*P		**P**		**00 31 40.9**	**+0.8**
TIXI				pmax	pmax				
	comp=Z,1.0nm,0.8s								
YAK	**Yakutsk**	**57.58**	**33**	LR		LR		00 59 22.2	
	comp=Z,363nm,18.9s,baz=103,slow=39								
SUMG	**Summit**	**58.39**	**339**	*e*P		**P**		**00 31 56.0**	**+0.6**
	comp=Z,7.5nm,1.0s								
SUMG	**Summit**	**58.39**	**339**	*e*P		**P**		**00 31 56.0**	**+0.6**
SUMG				pmax	pmax				
	comp=Z,7.0nm,1.0s								
KSAR	**Wonju Array Be**	**63.15**	**61**	P		**P**		**00 32 27.0**	**-0.8**
KSAR	**Wonju Array Be**	**63.15**	**61**	P		**P**		**00 32 27.0**	**-0.8**
KSRS	**Korea Array**	**63.17**	**61**	P		**P**		**00 32 27.0**	**-1.0**
	comp=Z,2.5nm,0.7s,baz=267,slow=7.1,SNR=7.2								
KSRS	**Korea Array**	**63.17**	**61**	P		**P**		**00 32 27.0**	**-1.0**
KSRS				pmax	pmax				
	comp=Z,3.0nm,0.7s								
USRK	**Ussuriysk Ar.**	**63.61**	**53**	P		**P**		**00 32 30.6**	**-0.2**
	comp=Z,1.9nm,0.6s,baz=289,slow=4.4,SNR=3.0								
BOSA	**Boshof**	**64.88**	**203**	P		**P**		**00 32 39.1**	**-0.2**
	comp=Z,2.0nm,0.6s,baz=17,slow=7.1,SNR=7.2								
SEY	**Seymchan**	**67.27**	**29**	P		**P**		**00 32 54.5**	**+0.3**
	comp=Z,1.1nm,0.5s,baz=252,slow=8.3,SNR=6.0								
SEY	**Seymchan**	**67.27**	**29**	*c e*P		**P**		**00 32 57.4**	**+3.3**
MA2	**Magadan**	**68.12**	**32**⇑	*e*P		**P**		**00 33 01.5**	**+1.9**
MA2				pmax	pmax				
	comp=Z,3.0nm,1.0s								
BILL	**Bilibino**	**69.47**	**21**	*i* P		**P**		**00 33 07.2**	**-0.6**
BILL				*i*				00 33 15.6	
BILL				*i*				00 33 37.0	
BILL				*i*				00 35 43.3	
BILL				pmax	pmax				
	comp=Z,2.0nm,1.2s								
MJAR	**Matsushiro Arr**	**71.05**	**58**	P		**P**		**00 33 17.1**	**-1.0**
	comp=Z,0.4nm,0.3s,baz=281,slow=7.5,SNR=3.0								
FRB	**Frobisher Bay**	**72.03**	**335**	P		**P**		**00 33 24.4**	**+1.0**
TOLK	**Toolik Lake Re**	**78.11**	**7**	*e*P		**P**		**00 33 59.1**	**+0.6**
	comp=Z,2.9nm,0.7s								
INK	**Inuvik**	**79.35**	**1**	P		**P**		**00 34 05.0**	**-0.3**
	comp=Z,0.8nm,0.8s,baz=19,slow=6.5,SNR=4.6								
INK	**Inuvik**	**79.35**	**1**	P		**P**		**00 34 05.0**	**-0.3**
IM3	**Indian Mountai**	**80.17**	**9**	*e*P		**P**		**00 34 09.3**	**-0.5**
ILAR	**Eielson Array**	**82.14**	**7**	P		**P**		**00 34 20.0**	**-0.3**
	comp=Z,0.5nm,0.8s,baz=340,slow=4.3,SNR=4.8								
ILAR	**Eielson Array**	**82.14**	**7**	*e*P		**P**		**00 34 21.2**	**+0.9**
YKA	**Yellowknife Ar**	**84.26**	**352**	P		**P**		**00 34 31.3**	**+0.1**
	comp=Z,0.5nm,0.8s,baz=92,slow=5.4,SNR=8.6								
YKA	**Yellowknife Ar**	**84.26**	**352**	*e*P		**P**		**00 34 32.2**	**+1.0**
YKA				pmax	pmax				
	comp=Z,1.0nm,0.8s								
ULM	**Lac du Bonnet**	**91.73**	**338**	P		**P**		**00 35 06.2**	**-1.2**
	comp=Z,2.1nm,0.9s,baz=22,slow=5.4,SNR=2.1								
WRA	**Warramunga Arr**	**96.93**	**109**	P		**P**		**00 35 31.2**	**-0.4**
	comp=Z,0.4nm,1.0s,baz=309,slow=5.3,SNR=2.6								

PRU 22 00:25:52.6, 49.89N×18.54E, h0km, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
OKC	**Ostrava-Krasne**	**0.26**	**258**	*e*Pg		Pg	00 25 57.7	+0.1
OKC				*e*Sg		Sg	00 26 01.0	+0.1
	comp=Z,4.2nm,0.4s							
DPC	**Dobruska-Polom**	**1.50**	**289**	*e*Sg		Sg	00 26 40.4	-0.4

*ISCJB **22** 00:26:05.4±0.4, 37.86N±0.04×140.56E±0.05, h115km±2km, mb3.6/15, Error ellipse: s-maj=7.6km s-min=4.8km az=41.8*
*JMA **22** 00:26:06.6, 37.84N×140.59E, h106km±1km, M3.0*
*IDC **22** 00:26:07.8±1.5, 37.73N×140.30E, h125km±16km, mb3.2/13, mb1 3.4/18, mb1mx3.2/71, mbtmp3.6/18, Error ellipse: s-maj=17.4km s-min=12.8km az=57.0*
ISC 22 00:26:06.2±0.7, 37.84N±0.04×140.56E±0.05, h109km±5km, n38, σ1§17/53, mb3.5/15, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
JMM	**Marumori**	**0.19**	**83**	P		**Pn**	**00 26 21.5**	**+0.2**
JMM				S		**Sn**	**00 26 32.7**	**0.0**
JFT	**Otama**	**0.37**	**208**	P		**Pn**	**00 26 22.4**	**+0.3**
JOU	**Okura**	**0.53**	**9**	P		**Pn**	**00 26 23.5**	**+0.4**
JFK	**Kawauchi**	**0.54**	**152**	P		**Pn**	**00 26 23.4**	**+0.2**
JFK				*e*S		**Sn**	**00 26 35.5**	**-0.4**
JYS	**Shirataka**	**0.54**	**314**	P		**Pn**	**00 26 23.6**	**+0.4**
JYS				*e*S		**Sn**	**00 26 36.3**	**+0.4**
JFY	**Yanaizu**	**0.80**	**238**	P		**Pn**	**00 26 25.9**	**+0.6**
JFY				S		**Sn**	**00 26 40.2**	**+0.4**
JIO	**Ouri**	**0.87**	**45**	P		**Pn**	**00 26 26.0**	**+0.1**
JIO				*e*S		**Sn**	**00 26 40.1**	**-0.8**
JNS	**Sasagawa**	**0.98**	**269**	P		**Pn**	**00 26 27.5**	**+0.5**
JNS				*e*S		**Sn**	**00 26 43.4**	**+0.6**
JYA	**Atsumi**	**1.00**	**319**	P		**Pn**	**00 26 27.7**	**+0.5**
JYA				*e*S		**Sn**	**00 26 43.7**	**+0.5**
JYK	**Kaneyama**	**1.08**	**352**	P		**Pn**	**00 26 28.5**	**+0.4**
JYK				S		**Sn**	**00 26 45.0**	**+0.3**
JMK	**Ichinoseki**	**1.22**	**25**	P		**Pn**	**00 26 29.9**	**+0.3**
JHK	**Hiroka**	**1.36**	**245**	P		**Pn**	**00 26 31.8**	**+0.6**
JHK				*e*S		**Sn**	**00 26 51.1**	**+0.9**
JAG	**Ashikaga**	**1.67**	**212**	P		**Pn**	**00 26 35.8**	**+0.9**
JOM	**Ohasama**	**1.73**	**19**	P		**Pn**	**00 26 36.2**	**+0.6**
JOM				*e*S		**Sn**	**00 26 58.0**	**-0.1**
JSD	**Sado**	**1.82**	**277**	P		**Pn**	**00 26 36.9**	**+0.1**
JSD				S		**Sn**	**00 26 59.9**	**-0.4**
MJAR	**Matsushiro Arr**	**2.28**	**236**	P		**Pn**	**00 26 43.8**	**+1.1**
	5.2nm,0.3s,baz=46,slow=10,SNR=59							
MJAR				S		**Sn**	**00 27 07.9**	**-2.8**
	1.0nm,0.3s,baz=30,slow=13,SNR=5.5							
MAT	**Matsushiro**	**2.28**	**236**	P		**Pn**	**00 26 43.8**	**+1.1**
MAT				*e*S		**Sn**	**00 27 12.5**	**+1.8**
JHJ	**Hachijo jima 2**	**4.75**	**188**	P		**Pn**	**00 27 16.7**	**+1.1**
	13nm,0.3s,baz=225,slow=21,SNR=2.1							
JHJ				S		**Sn**	**00 28 07.2**	**-2.4**
	19nm,0.3s,baz=246,slow=24,SNR=4.9							
ASAJ	**Asahikawa**	**6.46**	**13**	P		**Pn**	**00 27 38.3**	**-0.3**
	0.8nm,0.3s,baz=197,slow=15,SNR=6.8							
ASAJ				S		**Sn**	**00 28 48.1**	**-2.7**
	0.5nm,0.3s,baz=84,slow=32,SNR=3.5							
USRK	**Ussuriysk Ar.**	**9.07**	**317**	P		**Pn**	**00 28 16.7**	**+2.7**
	0.2nm,0.3s,baz=148,slow=15,SNR=2.2							
JNU	**Nakatsue**	**9.19**	**242**	P		**Pn**	**00 28 16.0**	**+0.3**
	0.2nm,0.3s,baz=35,slow=16,SNR=2.2							
KSRS	**Korea Array**	**10.03**	**272**	P		**Pn**	**00 28 27.0**	**0.0**
	0.1nm,0.3s,baz=85,slow=13,SNR=3.0							
HHC	**Hu-ho-hao-te**	**22.58**	**287**	*e*P		**P**	**00 30 55.0**	**-2.5**
HHC				pmax	pmax			
	comp=Z,10.0nm,1.0s							
HHC				pmax	pmax			
	comp=Z,20nm,6.8s							
MA2	**Magadan**	**22.72**	**14**	P		**P**	**00 30 58.7**	**+0.1**
	comp=Z,1.0nm,0.3s,baz=208,slow=10,SNR=3.5							
SONM	**Songino Array**	**26.77**	**303**	P		**P**	**00 31 33.3**	**-2.5**
	comp=Z,0.5nm,0.4s,baz=101,slow=3.1,SNR=3.3							
MKAR	**Makanchi Array**	**43.11**	**301**	P		**P**	**00 33 53.6**	**-1.9**
	comp=Z,0.2nm,0.5s,baz=77,slow=13,SNR=2.3							
KURBB	**Kurchatov Arra**	**44.97**	**307**	P		**P**	**00 34 10.3**	**+0.1**
	comp=Z,0.7nm,0.4s,baz=80,slow=7.9,SNR=4.8							
ILAR	**Eielson Array**	**49.18**	**33**	P		**P**	**00 34 43.9**	**+1

comp=E,28nm,0.6s
SSE pmax pmax
comp=E,150nm,4.9s
SSE LR LR
comp=E,360nm,21.4s
SSE LR LR
comp=E,300nm,19.8s
H11N1 WAKE ISLAND Hy 21.96 95 T T 01 02 25.7
baz=283,slow=73,SNR=13
H11N2 WAKE ISLAND Hy 21.96 95 T T 01 02 29.0
baz=283,slow=73,SNR=7.4
H11N3 WAKE ISLAND Hy 21.97 95 T T 01 02 27.8
baz=283,slow=73,SNR=13
H11S3 WAKE ISLAND Hy 22.08 98 T T 01 02 44.3
baz=284,slow=75,SNR=12
H11S1 WAKE ISLAND Hy 22.09 98 T T 01 02 44.3
baz=284,slow=75,SNR=5.9
H11S2 WAKE ISLAND Hy 22.10 98 T T 01 02 44.3
baz=284,slow=75,SNR=5.8
KUR Kuril'sk 22.22 8⇑ *e*P **P 00 39 59.7 +1.3**
TEY Ternei 22.48 347 *e*P **P 00 39 59.0 -2.3**
QZH Quanzhou 22.88 279 *e*P **P 00 40 06.9 +1.2**
QZH LR LR
comp=E,420nm,12.9s
QZH LR LR
comp=E,690nm,17.5s
QZH LR LR
comp=E,740nm,17.1s
USRK Ussuriysk Ar. 22.98 338 P **P 00 40 07.2 +0.6**
comp=E,3.9nm,0.6s,baz=138,slow=10,SNR=6.3
USRK LR LR 00 48 18.3
comp=E,676nm,21.9s,baz=147,slow=34
TGY Tagaytay City 23.28 251 LR LR 00 48 16.3
comp=E,976nm,19.9s,baz=70,slow=34
NJ2 Nanjing 23.57 297 *e*P **P 00 40 13.8 +1.4**
NJ2 pmax pmax
comp=E,11nm,0.5s
DAV Davao City (W) 23.63 230 LR LR 00 47 37.9
comp=E,1μm,21.1s,baz=116,slow=32
YSS Yuzh-Sakhalins 23.67 359⇓ *e*P **P 00 40 13.9 +0.7**
YSS *e* 00 40 20.3
YSS *e* 00 40 28.4
YSS *e*S **S 00 44 26.1 +0.9**
YSS *e*SS **SnSn 00 45 09.6 +4.3**
YSS pmax pmax
comp=Z,10.0nm,1.7s
YSS smax smax
comp=N,570nm,14.0s
YSS MLR MLR
comp=Z,450nm,15.0s
YSS MLR MLR
comp=N,540nm,16.0s
MDJ Mudanjiang 24.21 335 P **P 00 40 17.3 -1.0**
MDJ pmax pmax
comp=N,37nm,1.1s
MDJ pmax pmax
comp=N,190nm,3.7s
MDJ Mudanjiang 24.21 335 *e*P **P 00 40 18.8 +0.5**
comp=N,28nm,0.9s
TIA Tai'an 26.27 305 P **P 00 40 36.0 -1.1**
TIA pmax pmax
comp=N,20nm,0.9s
TIA pmax pmax
comp=N,130nm,4.1s
TIA LR LR
comp=N,380nm,15.9s
TIA LR LR
comp=N,370nm,17.8s
TIA LR LR
comp=N,200nm,12.6s
SIJI Sorong 26.80 208 P **P 00 40 41.6 -0.4**
comp=N,5.8nm,0.6s,baz=3.9,slow=15,SNR=4.9
SIJI LR LR 00 48 56.4
comp=N,620nm,21.7s,baz=358,slow=31
WHN Wuhan 27.02 292 P **P 00 40 44.8 +0.9**
WHN pP **pP 00 40 54.9 0.0**
WHN S **S 00 45 17.8 -1.1**
WHN pmax pmax
comp=N,720nm,5.7s
WHN LR LR
comp=N,1μm,14.0s
WHN LR LR
comp=N,2μm,15.1s
WHN LR LR
comp=N,2μm,15.3s
KLR Kul'dur 27.57 343 P **P 00 40 49.3 +0.7**
comp=N,1.3nm,0.7s,baz=140,slow=9.1,SNR=30
KLR LR LR 00 52 26.8
comp=N,64nm,18.0s,baz=147,slow=38
KLR Kul'dur 27.57 343 *e*P **P 00 40 48.8 +0.2**
GRNR Gornyy 28.04 350 *i* P **P 00 40 51.1 -1.7**
LBMI Labuha 28.43 216 P **P 00 40 56.5 -0.1**
SKR Severo-Kuril's 29.08 16 *e*P P 00 40 49.2 -13
SKR pmax pmax
comp=Z,400nm,6.2s
SKR pmax pmax
comp=Z,200nm,7.5s
SKR MLR MLR
comp=Z,400nm,19.0s
NKL Nikolayevsk 29.95 356 *e*P **P 00 41 11.5 +1.9**
NKL pmax pmax
comp=N,140nm,1.2s
NKL pmax pmax
comp=Z,41nm,1.2s
NKL MLR MLR
comp=N,500nm,16.0s
NKL MLR MLR
comp=E,500nm,16.0s
NKL MLR MLR
comp=Z,600nm,16.0s
MYLDM Lahad Datu 30.13 237 *e*P **P 00 41 12.2 +0.5**
comp=Z,50nm,1.2s
TIY Taiyuan 30.32 306 *e*P **P 00 41 17.9 +4.6**
TIY S **S 00 46 09.0 -1.8**
TIY LR LR
comp=Z,390nm,11.2s
TIY LR LR
comp=Z,160nm,5.7s
TIY LR LR
comp=Z,190nm,20.2s
SANI Sanana 30.43 217 P **P 00 41 09.9 -4.4**
MRSI Marisa 30.89 226 P **P 00 41 17.3 -1.1**
LUWI Luwuk 31.51 223 P **P 00 41 21.3 -2.5**
LUWI Luwuk 31.51 223 *e*P **P 00 41 22.9 -0.9**
comp=Z,46nm,0.8s
PETK Petropavlovsk- 31.70 16 P **P 00 41 24.4 -0.7**
comp=Z,2.8nm,1.0s,baz=110,slow=13,SNR=3.7
PETK LR LR 00 54 00.4
comp=Z,380nm,20.8s,baz=199,slow=36
QIZ Qiongzhong 31.71 269 P **P 00 41 26.3 +0.7**
QIZ S **S 00 46 33.5 +0.7**
QIZ LR LR
comp=Z,360nm,17.9s
QIZ LR LR
comp=Z,350nm,15.5s
HIA Hailar 32.06 330 *i* P **P 00 41 28.6 +0.2**
HIA pmax pmax
comp=Z,7.0nm,0.9s
HHC Hu-ho-hao-te 32.09 311 *e*P **P 00 41 30.3 +1.4**
HHC sP pP 00 41 44.3 +4.3
HHC S **S 00 46 38.0 -0.5**
HHC sS sS 00 46 59.5 +2.5
HHC pmax pmax
comp=Z,37nm,1.0s
HHC pmax pmax
comp=Z,87nm,4.4s
HHC LR LR
comp=Z,1μm,12.7s
HHC LR LR
comp=Z,1μm,13.1s
HHC LR LR
comp=Z,1μm,12.5s
APSI Ampana 32.12 225 P **P 00 41 29.0 -0.2**
XAN Xi'an 32.14 297 P **P 00 41 29.3 0.0**
XAN sP sP 00 41 46.6 +1.4
XAN PP **PnPn 00 42 35.4 -0.5**
XAN PcP **PcP 00 44 17.3 -0.4**
XAN S **S 00 46 32.4 -6.8**
XAN SS **SnSn 00 48 31.3 -0.6**
XAN pmax pmax
comp=Z,9.0nm,1.2s
XAN pmax pmax
comp=Z,100nm,4.7s
XAN LR LR
comp=Z,440nm,17.7s
XAN LR LR
comp=Z,340nm,20.3s
XAN LR LR
comp=Z,410nm,15.7s
PMG Port Moresby 32.63 173 P **P 00 41 32.3 -1.4**
comp=Z,14nm,0.6s,baz=15,slow=21,SNR=3.8
ZEA Zeya 32.87 342 *e*P **P 00 41 36.0 +0.7**
ZEA pmax pmax
comp=Z,35nm,1.0s
ZEA MLR MLR
comp=N,600nm,16.0s
ZEA MLR MLR
comp=Z,800nm,16.0s
GYA Guiyang 33.59 283⇑ *i*P **P 00 41 41.9 -0.3**
GYA pP pP 00 41 56.4 +3.1
GYA PP **PP 00 42 57.3 -1.3**
GYA S **S 00 47 01.8 -0.3**
GYA sS sS 00 47 23.0 +2.3
GYA SS **SnSn 00 49 06.9 -0.6**
GYA pmax pmax
comp=Z,20nm,0.8s
GYA pmax pmax
comp=Z,120nm,4.9s
GYA LR LR
comp=Z,640nm,17.2s
GYA LR LR
comp=Z,550nm,18.0s
GYA LR LR
comp=Z,570nm,17.6s
TTSI Tana Toraja 34.92 225 P **P 00 41 54.8 +1.2**
comp=Z,28nm,0.9s,comp=Z,0.1nm
BNSI Bone 35.78 223 P **P 00 42 01.5 +0.5**
HNR Honiara 36.20 152 LR LR 00 58 06.8
comp=Z,357nm,18.3s,baz=334,slow=38
KAPI Kappang 36.48 223 *e*P **P 00 42 07.0 +0.1**
comp=Z,56nm,1.1s
KAPI Kappang 36.48 223 *e*P **P 00 42 07.0 +0.1**
KAPI pmax pmax
comp=Z,56nm,1.1s
LZH Lanzhou 36.59 300 *e*P **P 00 42 10.0 +2.0**
LZH pP pP 00 42 23.1 +3.9
LZH sP sP 00 42 29.0 +5.0
LZH PP **PnPn 00 43 34.6 +2.9**
LZH PcP **PcP 00 44 31.1 +0.4**
LZH *e*S **S 00 47 48.3 +0.1**
LZH sS sS 00 48 10.4 +3.6
LZH pmax pmax
comp=Z,26nm,1.0s
LZH pmax pmax
comp=Z,220nm,5.0s
LZH LR LR
comp=Z,950nm,14.0s
LZH LR LR
comp=Z,810nm,13.6s
LZH LR LR
comp=Z,980nm,16.4s
MA2 Magadan 36.66 6 P **P 00 42 07.1 -0.9**
comp=Z,1.4nm,0.3s,baz=182,slow=16,SNR=2.9
BSSI Bau Bau, Buton 36.91 221 P **P 00 42 10.5 -0.1**
COEN Coen 36.97 181 *e*P **P 00 42 10.8 -0.3**
comp=Z,13nm,0.8s
KMI Kunming 37.22 281 P **P 00 42 14.6 +1.1**
KMI pmax pmax
comp=Z,15nm,0.6s
KMI pmax pmax
comp=Z,190nm,4.7s
SKNT Sakolnakorn 37.63 268 P **P 00 42 17.3 +0.5**
comp=Z,16nm,1.0s
SOEI Soe 37.85 212 *e*P **P 00 42 16.6 -2.1**
comp=Z,45nm,1.3s
MTN Manton Dam 37.88 200 *e*P **P 00 42 18.3 -0.5**
comp=Z,35nm,1.5s
ULN Ulaanbaatar 38.03 319 *e*P **P 00 42 19.2 -0.8**
comp=Z,8.1nm,1.0s
ULN Ulaanbaatar 38.03 319*ce*P **P 00 42 20.0 0.0**
ULN pmax pmax
comp=Z,11nm,1.2s
SONA1 Songino Array 38.41 319 *e*P **P 00 42 22.1 -1.1**
SONM Songino Array 38.41 319 P **P 00 42 22.2 -1.0**
comp=Z,1.1nm,0.6s,baz=125,slow=7.5,SNR=10
SONM PcP **PcP 00 44 36.2 +0.3**
comp=Z,1.0nm,0.7s,baz=130,slow=4.5,SNR=3.5
SONM LR LR 00 59 20.5
comp=Z,439nm,18.1s,baz=94,slow=38
BATI Baumata 38.54 213 P **P 00 42 23.6 -0.8**
comp=Z,16nm,0.5s,baz=2.6,slow=0.5,SNR=6.0
BATI LR LR 00 55 52.1
comp=Z,263nm,21.5s,baz=49,slow=32
KSM Kuching 38.86 241 *e*P **P 00 42 25.9 -1.2**
comp=Z,35nm,1.3s
KHON Khomkaen 38.87 267 P P 00 42 32.2 +5.0
comp=Z,10nm,0.5s
YAK Yakutsk 39.92 350 P **P 00 42 35.6 +0.3**
comp=Z,8.2nm,0.3s,baz=222,slow=0.8,SNR=4.2
YAK Yakutsk 39.92 350 *e*P **P 00 42 34.4 -1.0**
YAK *e**PP **pP 00 42 46.3 -0.4**
YAK *e* 00 44 36.4
YAK *e*S **S 00 48 36.9 -0.5**
YAK *e**SS **sS 00 48 56.1 -0.1**
YAK *e* 00 52 39.2
YAK pmax pmax
comp=Z,24nm,1.0s
YAK pmax pmax
comp=N,6.0nm,1.1s
YAK pmax pmax
comp=E,2.0nm,1.0s
YAK smax smax
comp=N,20nm,2.3s
YAK smax smax
comp=E,16nm,1.7s
SEY Seymchan 40.12 6 P **P 00 42 37.2 +0.2**
comp=E,0.9nm,0.5s,baz=207,slow=8.7,SNR=3.6
SEY Seymchan 40.12 6*e*P **P 00 42 38.1 +1.1**
GTA Gaotai 40.31 304⇑ P **P 00 42 40.1 +1.0**
GTA pP pP 00 42 47.6 -2.8
GTA PP **PnPn 00 44 16.8 +0.6**
GTA S **S 00 48 44.0 -0.1**
GTA pmax pmax
comp=E,8.0nm,1.8s
GTA pmax pmax
comp=E,1μm,6.7s
GTA LR LR
comp=E,400nm,17.6s
GTA LR LR
comp=E,320nm,18.5s
GTA LR LR
comp=E,460nm,18.5s
PBKT Sadao Pong 40.51 269 P **P 00 42 41.0 +0.2**
comp=E,11nm,0.7s,comp=E,703nm
BOD Bodaibo 40.58 336 *e*P **P 00 42 40.2 -0.7**
BOD pmax pmax
comp=Z,11nm,1.6s
PAYA Payao 40.81 273 P **P 00 42 45.5 +2.2**
comp=Z,4.1nm,1.2s,comp=Z,137nm
PHIT Phitsanulok 40.85 270 P **P 00 42 45.2 +1.6**
comp=Z,15nm,1.2s
NAYO Nakonayok 40.87 265 P **P 00 42 45.2 +1.3**
comp=Z,8.5nm,1.1s,comp=Z,452nm
ZAK Zakamensk 41.37 321 *e*P **P 00 42 46.5 -1.2**
ZAK pmax pmax
comp=Z,11nm,1.3s
CMAI Chiengmai2 41.44 274 P **P 00 42 49.6 +0.9**
comp=Z,101nm,1.5s
TLY Talaya 41.75 323 P **P 00 42 51.6 +0.9**
comp=Z,1.8nm,0.3s,baz=123,slow=9.5,SNR=3.0
TLY LR LR 01 01 01.7
comp=Z,254nm,18.5s,baz=115,slow=37
TLY Talaya 41.75 323 *e*P **P 00 42 51.6 +0.9**
comp=Z,11nm,1.1s
TLY Talaya 41.75 323 *e*P **P 00 42 51.3 +0.6**
TLY *e*S **S 00 49 12.4 +7.3**
TLY pmax pmax
comp=Z,17nm,1.5s
TLY MLR MLR
comp=Z,396nm,17.0s
CMMT Chiang Mai 41.78 273 P **P 00 42 50.9 -0.5**
comp=Z,10nm,1.5s,comp=Z,348nm
CHTO Chiang Mai 41.79 273 P **P 00 42 52.0 +0.6**
comp=Z,47nm,1.6s,comp=Z,1μm
CHTO Chiang Mai 41.79 273 *e*P **P 00 42 51.7 +0.3**
comp=Z,41nm,1.8s
CM01 Chiang Mai Arr 41.87 272 *e*P **P 00 42 52.2 +0.1**
CMAR Chiang Mai Arr 41.88 272 P **P 00 42 52.3 +0.2**
comp=Z,2.4nm,0.7s,baz=58,slow=8.4,SNR=15
CMAR PcP **PcP 00 44 48.9 +1.5**
comp=Z,0.6nm,0.3s,baz=112,slow=1.0,SNR=3.8
CMAR LR LR 00 59 12.4
comp=Z,297nm,20.9s,baz=95,slow=35
JAGI Jajag, Banyuwa 42.69 226 *e*P **P 00 42 58.3 -0.4**
comp=Z,71nm,1.3s
CTA Charters Tower 43.14 176 P **P 00 43 01.4 -0.8**
comp=Z,16nm,0.9s,baz=354,slow=9.5,SNR=17
CTAO Charters Tower 43.14 176 *e*P **P 00 43 01.6 -0.6**
comp=Z,32nm,1.1s
CTAO Charters Tower 43.14 176 *e*P **P 00 43 01.6 -0.6**
CTAO pmax pmax
comp=Z,32nm,1.1s
MOY Mondy 43.23 322 *e*P **P 00 43 02.2 -0.6**
MOY pmax pmax
comp=Z,24nm,2.2s
WRAB Tennant Creek 43.85 193 *e*P **P 00 43 08.2 +0.3**
comp=Z,22nm,1.1s
WRAB Tennant Creek 43.85 193*ce*P **P 00 43 07.7 -0.2**
WRAB pmax pmax
comp=Z,37nm,1.7s
WB2 Warramunga Arr 43.85 193 *e*P **P 00 43 07.0 -0.9**
comp=Z,23nm,1.1s
WRA Warramunga Arr 43.86 193 P **P 00 43 07.1 -0.9**
comp=Z,5.4nm,0.5s,baz=17,slow=8.9,SNR=44
WRA PcP **PcP 00 44 54.4 +0.6**
comp=Z,3.6nm,1.0s,baz=7.6,slow=3.5,SNR=3.5
WRA ScP **ScP 00 48 43.2 +0.8**
comp=Z,0.7nm,1.0s,baz=7.3,slow=4.1,SNR=3.5
WRA LR LR 01 01 31.6
comp=Z,274nm,19.1s,baz=355,slow=36
KULM Kulim 45.05 253 *e*P **P 00 43 17.2 -0.5**
comp=Z,12nm,0.9s
LEM Lembang 46.14 234 P **P 00 43 26.3 -0.2**
comp=Z,15nm,0.7s,baz=186,slow=20,SNR=4.7
SHL Shillong 46.91 284 P **P 00 43 32.2 -0.3**
SHL pmax pmax
comp=Z,25nm,0.6s
BILL Bilibino 46.94 11 *i* P **P 00 43 31.2 -0.7**
BILL *i* 00 43 38.7
BILL *i* 00 43 48.0
BILL *i* 00 45 03.3
BILL *i* 00 45 22.6
BILL pmax pmax
comp=Z,8.0nm,1.1s
BILL MLR MLR
comp=Z,117nm,17.0s
LSA Lhasa 47.06 290 *e*P **P 00 43 34.9 +0.9**
comp=Z,17nm,0.6s
LSA Lhasa 47.06 290 P **P 00 43 35.6 +1.7**
LSA Lhasa 47.06 290 *e*P **P 00 43 34.9 +0.9**
LSA pmax pmax
comp=Z,17nm,0.6s
HVS Khovu-Aksy 47.31 319 *i* P **P 00 43 35.2 +0.1**
HVS pmax pmax
comp=Z,15nm,1.1s
AS01 Alice Springs 47.55 192 *e*P **P 00 43 36.0 -1.1**
AS31 Alice Springs 47.56 192 *e*P **P 00 43 36.9 -0.4**
comp=Z,1.5nm,0.7s
ASAR Alice Springs 47.56 192 P **P 00 43 36.0 -1.2**
comp=Z,1.8nm,0.6s,baz=14,slow=12,SNR=40
ASAR PcP **PcP 00 45 07.5 +0.7**
comp=Z,2.2nm,1.0s,baz=6.8,slow=3.3,SNR=5.4
ASAR ScP **ScP 00 48 59.0 +1.2**
comp=Z,0.4nm,0.8s,baz=15,slow=4.3,SNR=3.4
ASAR LR LR 01 02 28.1
comp=Z,322nm,21.4s,baz=4.0,slow=35
EIDS Eidsvold 48.86 171 *e*P **P 00 43 46.1 -1.1**
comp=Z,34nm,1.8s
TIXI Tiksi 49.16 354 *e*P **P 00 43 48.7 -0.3**
comp=Z,14nm,1.5s
TIXI Tiksi 49.16 354*ce*P **P 00 43 49.3 +0.3**
TIXI pmax pmax
comp=Z,6.0nm,1.2s
WMQ Urumqi 49.91 308 *e*P **P 00 43 56.0 +0.8**
WMQ pP pP 00 44 09.4 +2.6
WMQ sP sP 00 44 18.6 +7.1
WMQ pmax pmax
comp=Z,86nm,1.3s
WMQ pmax pmax
comp=Z,240nm,3.7s
WMQ LR LR
comp=Z,720nm,14.7s
WMQ LR LR
comp=Z,760nm,18.3s
WMQ LR LR
comp=Z,310nm,28.5s
GAMB Gambell 50.07 24 *e*P **P 00 43 56.6 +0.7**
comp=Z,8.1nm,1.0s
DZM Mont Dzumac 50.23 152 P **P 00 43 57.8 0.0**
comp=Z,12nm,0.9s,baz=176,slow=7.1,SNR=5.7
DZM LR LR 01 02 54.1
comp=Z,339nm,20.2s,baz=8.0,slow=33
DZM Mont Dzumac 50.23 152 *e*LR LR 00 58 21.6
comp=Z,680nm,25.4s
ODAN Odare 50.70 286 *e*P **P 00 44 01.9 +0.3**
comp=Z,20nm,0.5s
DGZ Jazzator, Alta 50.88 316 *i* P **P 00 44 02.8 +0.3**
DGZ pmax pmax
comp=Z,28nm,1.2s
RAMN Ramite 51.38 287 *e*P **P 00 44 06.9 +0.1**
comp=Z,39nm,0.9s
JIRN Jiri 51.63 288 *e*P **P 00 44 09.4 +0.6**
GUN Gumba 51.87 288 *e*P **P 00 44 10.9 +0.4**
comp=Z,24nm,0.4s
PKIN Phulchoki 52.34 288 *e*P **P 00 44 14.3 +0.4**
comp=Z,18nm,0.6s
KKN Kakani 52.41 288 *e*P **P 00 44 14.9 +0.5**
comp=Z,19nm,0.6s
DMN Daman 52.59 288 *e*P **P 00 44 16.3 +0.5**
GKN Gorkha 52.94 288 *e*P **P 00 44 18.6 +0.4**
ZAA0 Zalesovo Array 53.25 321 *e*P **P 00 44 19.1 -0.8**
comp=Z,7.4nm,0.8s
ZALV Zalesovo Beam 53.25 321 P **P 00 44 18.9 -0.9**
comp=Z,7.3nm,0.7s,baz=104,slow=7.1,SNR=34
ZALV LR LR 01 07 54.3
comp=Z,177nm,19.4s,baz=70,slow=37
ZALV Zalesovo Beam 53.25 321 *e*P **P 00 44 18.8 -1.1**
ZALV Zalesovo Beam 53.25 321 *e*P **P 00 44 18.8 -1.1**
DANN Dangsing 53.65 289 *e*P **P 00 44 24.2 +0.6**
KOLN Koldanda 53.88 288 *e*P **P 00 44 25.5 +0.3**
comp=Z,28nm,0.8s
MK01 Makanchi Array 53.94 312 *e*P **P 00 44 24.9 -0.2**
MK31 Makanchi Array 53.95 312 *e*P **P 00 44 25.1 -0.1**
MK31 Makanchi Array 53.95 312 *e*P **P 00 44 25.1 -0.1**
MKAR Makanchi Array 53.95 312 P **P 00 44 25.1 -0.1**
comp=Z,4.3nm,0.6s,baz=88,slow=8.8,SNR=31
MKAR LR LR 01 09 43.9
comp=Z,286nm,18.2s,baz=90,slow=38
MKAR Makanchi Array 53.95 312 *e*P **P 00 44 25.1 -0.1**
comp=Z,67nm,1.0s
MKAR Makanchi Array 53.95 312 *e*P **P 00 44 25.1 -0.1**
MKAR pmax pmax
comp=Z,67nm,1.0s
MAKZ Makanchi 54.16 312 *e*P **P 00 44 27.3 +0.6**
comp=Z,25nm,1.2s
MAKZ Makanchi 54.16 312 *e*P **P 00 44 27.3 +0.6**
MAKZ pmax pmax
comp=Z,25nm,1.2s
NVS Novosibirsk 54.33 322 *e*P **P 00 44 27.9 +0.2**
NVS pmax pmax
comp=N,5.0nm,1.8s
NVS pmax pmax
comp=E,15nm,1.8s
NVS pmax pmax
comp=Z,25nm,1.8s
PYUN Piuthan 54.36 289 *e*P **P 00 44 29.0 +0.3**
comp=Z,72nm,0.9s
STKA Stephens Creek 54.84 182 P **P 00 44 30.2 -1.4**
comp=Z,2.7nm,0.5s,baz=16,slow=7.6,SNR=12
STKA LR LR 01 08 35.1
comp=Z,233nm,21.1s,baz=10,slow=37
STKA Stephens Creek 54.84 182 *e*P **P 00 44 32.0 +0.4**
comp=Z,6.6nm,1.5s
STKA Stephens Creek 54.84 182 *e*P **P 00 44 32.1 +0.4**
STKA pmax pmax
comp=Z,7.0nm,1.5s
FORT Forrest 55.74 196 *e*P **P 00 44 37.9 -0.2**
comp=Z,691nm,1.1s
PDGK Podgornoye 55.85 308 P **P 00 44 39.6 +0.5**
PDGK pmax pmax
comp=Z,24nm,1.3s
KURK Kurchatov 56.62 316 P **P 00 44 44.1 -0.2**
KURBB Kurchatov Arra 56.67 316 P **P 00 44 44.1 -0.6**
comp=Z,4.6nm,0.6s,baz=92,slow=7.9,SNR=30
KDAK Kodiak Island 56.73 35 P **P 00 44 44.1 -0.9**
comp=Z,7.2nm,0.9s,baz=162,slow=24,SNR=2.3
KDAK LR LR 01 06 02.7
comp=Z,419nm,21.8s,baz=250,slow=33
KDJ Kajisay 57.59 306 *e*P **P 00 44 51.2 -0.4**

	comp=Z,37nm,1.4s								
KDJ	**Kajisay**	**57.59**	**306**	*e*P		**P**	**00 44 51.2**	**-0.4**
KDJ				pmax		pmax			
	comp=Z,37nm,1.4s								
PPLA	**Purkeypile**	**57.86**	**29**	*e*P		**P**	**00 44 53.9**	**+0.9**
	comp=Z,41nm,1.6s								
IM3	**Indian Mountai**	**57.94**	**25**	*e*P		**P**	**00 44 53.2**	**-0.2**
CAST	**Castle Rocks**	**58.02**	**29**	*e*P		**P**	**00 44 54.5**	**+0.5**
	comp=Z,11nm,1.1s								
SUA	**Susitna One**	**58.26**	**31**	*e*P		**P**	**00 44 56.9**	**+1.1**
	comp=Z,24nm,1.5s								
ULHL	**Ulahol**	**58.28**	**306**	P		**P**	**00 44 57.8**	**+1.4**
	SNR=17								
NRN	**Naryn**	**58.51**	**305**	P		**P**	**00 44 59.6**	**+1.4**
NRN				pmax		pmax			
	comp=Z,15nm,1.1s								
KTH	**Kantishna Hill**	**58.55**	**29**	*e*P		**P**	**00 45 00.1**	**+2.3**
	comp=Z,13nm,1.2s								
BPAW	**Bear Paw Mtn.**	**58.64**	**28**	*e*P		**P**	**00 44 58.4**	**0.0**
	comp=Z,22nm,1.6s								
KSH	**Kashi**	**58.70**	**303**	P		**P**	**00 45 03.9**	**+4.6**
KSH				sP		sP	00 45 21.3	+5.5
KSH				PcP		**PcP**	**00 45 53.1**	**+4.2**
KSH				S		**S**	**00 53 04.1**	**+2.7**
KSH				ScS		**ScS**	**00 54 45.1**	**-1.1**
KSH				SS		**SS**	**00 56 58.3**	**+3.7**
KSH				pmax		pmax			
	comp=Z,33nm,0.7s								
KSH				pmax		pmax			
	comp=Z,180nm,4.3s								
KSH				LR		LR			
	comp=Z,240nm,6.9s								
KSH				LR		LR			
	comp=Z,230nm,4.1s								
KSH				LR		LR			
	comp=Z,560nm,8.0s								
TKM2	**Tokmak 2**	**58.71**	**307**	P		**P**	**00 45 00.9**	**+1.5**
	SNR=18								
TRF	**Thorofare Moun**	**58.81**	**29**	*e*P		**P**	**00 44 59.5**	**-0.3**
	comp=Z,13nm,1.1s								
MLY	**Manley**	**58.93**	**27**	*e*P		**P**	**00 45 00.9**	**+0.6**
	comp=Z,12nm,1.2s								
KZA	**Kyzart**	**59.02**	**306**	P		**P**	**00 45 04.1**	**+2.2**
	SNR=20								
KBK	**Karagaybulak**	**59.20**	**307**	P		**P**	**00 45 03.8**	**+1.0**
	SNR=11								
CHMS	**Chumysh**	**59.32**	**307**	P		**P**	**00 45 00.7**	**-2.8**
	SNR=11								
FRU	**Bishkek**	**59.44**	**307**	*e*P		**P**	**00 45 03.0**	**-1.2**
FRU				pmax		pmax			
	comp=Z,50nm,2.0s								
RND	**Reindeer**	**59.44**	**29**	*e*P		**P**	**00 45 03.0**	**-1.0**
	comp=Z,8.0nm,1.0s								
RND	**Reindeer**	**59.44**	**29**	*e*P		**P**	**00 45 03.0**	**-1.0**
RND				pmax		pmax			
	comp=Z,8.0nm,1.0s								
SML	**Sawmill**	**59.45**	**31**	*e*P		**P**	**00 45 03.7**	**-0.3**
	comp=Z,24nm,1.0s								
MCK	**McKinley**	**59.46**	**29**	*e*P		**P**	**00 45 03.5**	**-0.5**
	comp=Z,17nm,1.1s								
MCK	**McKinley**	**59.46**	**29**	*e*P		**P**	**00 45 03.5**	**-0.5**
MCK				pmax		pmax			
	comp=Z,17nm,1.1s								
AAK	**Ala-Archa**	**59.54**	**307**	P		**P**	**00 45 05.0**	**-0.1**
	comp=Z,4.3nm,0.9s,baz=88,slow=7.9,SNR=13								
AAK	**Ala-Archa**	**59.54**	**307**	P		**P**	**00 45 07.2**	**+2.0**
	SNR=8.4								
AAK	**Ala-Archa**	**59.54**	**307**	*e*P		**P**	**00 45 05.6**	**+0.5**
	comp=Z,18nm,1.4s								
AAK	**Ala-Archa**	**59.54**	**307**	*i* P		**P**	**00 45 07.1**	**+2.0**
	SNR=10								
AAK	**Ala-Archa**	**59.54**	**307**	⇓*i*P		**P**	**00 45 05.9**	**+0.8**
AAK				pmax		pmax			
	comp=Z,15nm,1.4s								
UCH	**Uchtor**	**59.56**	**306**	P		**P**	**00 45 06.8**	**+1.2**
	SNR=21								
COLD	**Coldfoot**	**59.61**	**24**	*e*P		**P**	**00 45 06.3**	**+1.4**
	comp=Z,8.4nm,1.2s								
SCM	**Sheep Creek Mo**	**59.92**	**31**	*e*P		**P**	**00 45 07.7**	**+0.4**
	comp=Z,28nm,1.0s								
SCM	**Sheep Creek Mo**	**59.92**	**31**	*e*P		**P**	**00 45 07.7**	**+0.4**
SCM				pmax		pmax			
	comp=Z,28nm,1.0s								
WRH	**Wood River Hil**	**59.95**	**28**	*e*P		**P**	**00 45 08.3**	**+1.0**
	comp=Z,12nm,1.3s								
MDM	**Murphy Dome**	**59.97**	**27**	*e*P		**P**	**00 45 07.6**	**+0.1**
	comp=Z,5.0nm,1.0s								
DHY	**Denali Highway**	**60.06**	**29**	*e*P		**P**	**00 45 09.3**	**+1.0**
	comp=Z,9.4nm,0.4s								
CCB	**Clear Creek Bu**	**60.09**	**28**	*e*P		**P**	**00 45 08.4**	**+0.1**
	comp=Z,12nm,1.4s								
COLA	**College**	**60.11**	**27**	*e*P		**P**	**00 45 09.7**	**+1.3**
COLA				pmax		pmax			
	comp=Z,2.0nm,0.9s								
TOLK	**Toolik Lake Re**	**60.16**	**23**	*e*P		**P**	**00 45 09.8**	**+1.0**
	comp=Z,8.0nm,1.1s								
AML	**Almayashu**	**60.17**	**306**	P		**P**	**00 45 10.3**	**+0.5**
	SNR=11								
IL1	**Eielson Array**	**60.50**	**27**	*e*P		**P**	**00 45 09.2**	**-1.9**
ILAR	**Eielson Array**	**60.50**	**27**	P		**P**	**00 45 09.7**	**-1.4**
	comp=Z,5.2nm,1.0s,baz=258,slow=5.6,SNR=31								
ILAR				LR		LR	01 08 40.9		
	comp=Z,151nm,21.5s,baz=272,slow=33								
ILB	**Eielson Array**	**60.50**	**27**	*e*P		**P**	**00 45 09.8**	**-1.4**
SFK	**Sufi-Kurgan**	**60.54**	**304**	P		**P**	**00 45 13.3**	**+1.2**
SFK				pmax		pmax			
	comp=Z,11nm,0.7s								
OTUK	**Ortayu**	**60.70**	**313**	P		**P**	**00 45 13.6**	**+0.8**
HYB	**Hyderabad**	**60.84**	**278**	*i* P		**P**	**00 45 15.0**	**+0.8**
PAX	**Paxson**	**60.91**	**30**	*e*P		**P**	**00 45 13.9**	**-0.1**
	comp=Z,12nm,1.4s								
PAX	**Paxson**	**60.91**	**30**	*e*P		**P**	**00 45 13.9**	**-0.1**
PAX				pmax		pmax			
	comp=Z,12nm,1.4s								
MNAS	**Manas**	**61.02**	**307**	P		**P**	**00 45 17.3**	**+2.1**
MNAS				pmax		pmax			
	comp=Z,5.0nm,0.8s								
RIDG	**Independ'e Rid**	**61.27**	**29**	*e*P		**P**	**00 45 16.0**	**-0.4**
	comp=Z,7.1nm,1.0s								
FYU	**Fort Yukon**	**61.43**	**26**	*e*P		**P**	**00 45 18.4**	**+1.1**
	comp=Z,9.2nm,0.9s								
DOT	**Dot Lake**	**61.60**	**29**	*e*P		**P**	**00 45 18.3**	**-0.3**
	comp=Z,14nm,1.0s								
SCRK	**Sand Creek**	**61.66**	**29**	*e*P		**P**	**00 45 18.9**	**-0.3**
	comp=Z,9.2nm,1.0s								
NIL	**Nilore**	**61.67**	**297**	*e*P		**P**	**00 45 20.3**	**+0.6**
	comp=Z,44nm,1.3s								
BVAR	**Borovoye Array**	**61.76**	**319**	P		**P**	**00 45 19.6**	**-0.2**
	comp=Z,10nm,0.7s,baz=88,slow=7.8,SNR=25								
BRVK	**Borovoye**	**61.82**	**319**	*e*P		**P**	**00 45 20.4**	**+0.2**
	comp=Z,17nm,0.9s								
BRVK	**Borovoye**	**61.82**	**319**	*ce*P		**P**	**00 45 20.5**	**+0.2**
BRVK				pmax		pmax			
	comp=Z,26nm,1.2s								
KK31	**Karatay Array**	**62.41**	**308**	*e*P		**P**	**00 45 24.8**	**+0.4**
KK31	**Karatay Array**	**62.41**	**308**	*e*P		**P**	**00 45 24.8**	**+0.4**
KKAR	**Karatay Array**	**62.41**	**308**	*e*P		**P**	**00 45 24.8**	**+0.4**
KKAR	**Karatay Array**	**62.41**	**308**	*e*P		**P**	**00 45 24.8**	**+0.4**
EGAK	**Eagle**	**62.95**	**28**	*e*P		**P**	**00 45 27.6**	**0.0**
	comp=Z,5.3nm,1.0s								
DAWY	**Dawson**	**63.69**	**29**	*e*P		**P**	**00 45 33.0**	**+0.4**
	comp=Z,8.7nm,1.3s								
HYT	**Haines Junctio**	**64.61**	**32**	*e*P		**P**	**00 45 40.9**	**+2.1**
	comp=Z,8.3nm,1.0s								
INK	**Inuvik**	**66.01**	**24**	P		**P**	**00 45 47.4**	**-0.1**
	comp=Z,3.0nm,0.5s,baz=292,slow=6.0,SNR=39								
INK	**Inuvik**	**66.01**	**24**	*e*P		**P**	**00 45 47.4**	**-0.1**
	comp=Z,6.5nm,1.1s								
INK	**Inuvik**	**66.01**	**24**	*e*P		**P**	**00 45 47.4**	**-0.1**
INK				pmax		pmax			
	comp=Z,7.0nm,1.1s								
SVE	**Sverdlovsk**	**67.06**	**324**	*e*P		**P**	**00 45 54.5**	**+0.1**
SVE				pmax		pmax			
	comp=Z,14nm,0.9s								
SVE				MLR		MLR			
	comp=Z,365nm,22.0s								
ARU	**Arti**	**68.25**	**323**	LR		LR	01 18 30.2		
	comp=Z,212nm,18.4s,baz=70,slow=38								
ARU	**Arti**	**68.25**	**323**	*e*P		**P**	**00 45 59.5**	**-2.4**
	comp=Z,14nm,0.9s								
ARU	**Arti**	**68.25**	**323**	*c i*P		**P**	**00 46 01.5**	**-0.5**
ARU				*PP		**pP**	**00 46 15.7**	**+1.8**
ARU							00 46 26.6		
ARU							00 48 30.9		
ARU				S		**S**	**00 54 59.1**	**-0.5**
ARU				pmax		pmax			
	comp=Z,22nm,1.2s								
ABKAR	**Akbulak array**	**68.71**	**316**	*e*P		**P**	**00 46 04.7**	**-0.3**
	comp=Z,2.5nm,0.5s								
URZ	**Urewera**	**68.79**	**152**	*e*P		**P**	**00 46 04.7**	**-0.7**
	comp=Z,20nm,1.2s								
AKTO	**Aktyubinsk**	**69.70**	**317**	P		**P**	**00 46 12.3**	**+1.2**
	comp=Z,1.3nm,0.8s,baz=19,slow=4.2,SNR=4.8								
AKTO				LR		LR	01 19 43.2		
	comp=Z,124nm,18.3s,baz=75,slow=38								
RAR	**Rarotonga**	**70.68**	**124**	LR		LR	01 11 47.5		
	comp=Z,175nm,20.8s,baz=280,slow=31								
LTZ	**Lake Taylor**	**70.81**	**158**	*e*P		**P**	**00 46 17.8**	**-0.1**
	comp=Z,37nm,1.6s								
KHZ	**Kahutara**	**70.94**	**157**	*e*P		**P**	**00 46 17.4**	**-1.1**
	comp=Z,15nm,0.8s								
OXZ	**Oxford**	**71.22**	**158**	*e*P		**P**	**00 46 19.4**	**-0.8**
	comp=Z,21nm,1.0s								
RPZ	**Rata Peaks**	**71.24**	**159**	*e*P		**P**	**00 46 21.9**	**+1.5**
	comp=Z,52nm,1.4s								
GEYT	**Alibeck**	**72.69**	**304**	P		**P**	**00 46 29.3**	**-0.2**
	comp=Z,2.9nm,0.9s,baz=55,slow=5.6,SNR=14								
GEYT				LR		LR	01 23 29.8		
	comp=Z,212nm,18.2s,baz=120,slow=40								
GYA0B	**ALIBECK ARRAY**	**72.69**	**304**	*e*P		**P**	**00 46 30.3**	**+0.9**
	comp=Z,7.2nm,1.0s								
SPITS	**Spitsbergen Ar**	**74.39**	**350**	P		**P**	**00 46 38.8**	**+0.2**
	comp=Z,4.9nm,0.9s,baz=122,slow=3.0,SNR=4.2								
SPITS				LR		LR	01 19 36.6		
	comp=Z,80nm,21.9s,baz=20,slow=36								
KBS	**Kingsbay**	**74.53**	**351**	⇑*e*P		**P**	**00 46 40.8**	**+1.3**
KBS				pmax		pmax			
	comp=Z,176nm,2.5s								
YKA	**Yellowknife Ar**	**74.92**	**28**	P		**P**	**00 46 41.7**	**-0.3**
	comp=Z,3.1nm,0.6s,baz=291,slow=5.8,SNR=44								
LLLB	**Lillooet**	**75.16**	**41**	*e*P		**P**	**00 46 44.7**	**+1.0**
	comp=Z,6.0nm,0.8s								
E03A	**Lebam**	**75.38**	**45**	*e*P		**P**	**00 46 48.0**	**+3.0**
	comp=Z,27nm,1.2s								
RES	**Resolute Bay**	**75.50**	**14**	*e*P		**P**	**00 46 45.5**	**+0.5**
	comp=Z,3.7nm,0.8s								
RES	**Resolute Bay**	**75.50**	**14**	*e*P		**P**	**00 46 45.5**	**+0.5**
RES				pmax		pmax			
	comp=Z,4.0nm,0.8s								
TMCR	**Tamitsa**	**75.84**	**334**	*e*P		**P**	**00 46 45.7**	**-1.5**
TMCR				pmax		pmax			
	comp=Z,19nm,1.5s								
LON	**Longmire**	**76.46**	**45**	*e*P		**P**	**00 46 51.7**	**+0.5**
	comp=Z,3.2nm,0.9s								
LON	**Longmire**	**76.46**	**45**	*e*P		**P**	**00 46 51.7**	**+0.5**
LON				pmax		pmax			
	comp=Z,3.0nm,0.9s								
KLMR	**Klimovskoe**	**76.55**	**331**	*e*P		**P**	**00 46 49.6**	**-1.7**
KLMR				AMP			00 46 52.7		
	comp=Z,10.0nm,1.5s								
KLMR	**Klimovskoe**	**76.55**	**331**	*e*P		**P**	**00 46 49.6**	**-1.7**
KLMR				pmax		pmax			
	comp=Z,10.0nm,1.5s								
WSAR	**Wadi Sarin**	**76.81**	**290**	P		**P**	**00 46 52.8**	**-0.7**
	comp=Z,6.4nm,0.9s,baz=94,slow=4.4,SNR=6.0								
PPT	**Papeete**	**76.85**	**116**	LR		LR	01 17 29.9		
	comp=Z,114nm,18.8s,baz=330,slow=33								
PPT2	**Papeete2**	**76.86**	**116**	*e*LR		LR	01 10 44.4		
	comp=Z,116nm,22.0s								
H04A	**Detroit Lake**	**76.90**	**47**	*e*P		**P**	**00 46 54.8**	**+1.1**
	comp=Z,10nm,1.0s								
LTY	**Liberty**	**77.02**	**44**	*e*P		**P**	**00 46 54.9**	**+0.5**
	comp=Z,20nm,1.7s								
HUMO	**Hull Mountain**	**77.07**	**49**	*e*P		**P**	**00 46 56.6**	**+2.0**
	comp=Z,28nm,1.9s								
B08A	**Colville Reser**	**77.48**	**43**	*e*P		**P**	**00 46 57.1**	**+0.2**
	comp=Z,5.5nm,0.9s								
YBH	**Yreka Blue Hor**	**77.54**	**50**	P		**P**	**00 46 56.8**	**-0.6**
	comp=Z,2.3nm,0.7s,baz=4.1,slow=2.1,SNR=6.7								
YBH				LR		LR	01 14 56.4		
	comp=Z,85nm,20.2s,baz=296,slow=31								
YBH	**Yreka Blue Hor**	**77.54**	**50**	*e*P		**P**	**00 46 58.4**	**+1.0**
	comp=Z,6.6nm,1.1s								
YBH	**Yreka Blue Hor**	**77.54**	**50**	*e*P		**P**	**00 46 58.4**	**+1.0**
YBH				pmax		pmax			
	comp=Z,7.0nm,1.1s								
ARCES	**ARCESS Array B**	**77.59**	**341**	P		**P**	**00 46 57.4**	**+0.4**
	comp=Z,10nm,0.8s,baz=46,slow=8.7,SNR=12								
PINE	**Pine Mountain**	**78.05**	**47**	*e*P		**P**	**00 47 01.1**	**+0.7**
	comp=Z,11nm,0.8s								
SOHO	**SOHO**	**78.31**	**291**	*i* P		**P**	**00 47 01.6**	**-0.2**
	SNR=12								
HATD	**Hatta, Dubai**	**78.41**	**292**	P		**P**	**00 47 02.6**	**+0.2**
K05A	**Summer Lake**	**78.46**	**48**	*e*P		**P**	**00 47 03.4**	**+0.8**
	comp=Z,62nm,1.8s								
TULEG	**Thule**	**78.49**	**7**	*e*P		**P**	**00 47 02.1**	**+0.2**
	comp=Z,16nm,1.0s								
ASHO	**Ashiyiah**	**78.53**	**292**	P		**P**	**00 47 03.0**	**-0.1**
NAZ	**Nazwa, Dubai**	**78.76**	**292**	P		**P**	**00 47 05.3**	**+0.9**
MAK	**Makhachkala**	**78.77**	**312**	*e*P		**P**	**00 47 02.8**	**-1.2**
MAK				*e*S		**S**	**00 56 53.1**	**-5.7**
MAK				*e*SS		**SS**	**01 02 01.7**	**-1.6**
MAK				pmax		pmax			
	comp=Z,11nm,0.4s								
NEW	**Newport**	**78.89**	**42**	*e*P		**P**	**00 47 04.9**	**+0.2**
	comp=Z,9.3nm,1.1s								
NEW	**Newport**	**78.89**	**42**	*e*P		**P**	**00 47 04.9**	**+0.2**
NEW				pmax		pmax			
	comp=Z,9.0nm,1.1s								
ALNE	**Al Ain**	**79.01**	**291**	*i* P		**P**	**00 47 06.3**	**+0.6**
	SNR=7.0								
ORV	**Oroville**	**79.16**	**52**	*e*P		**P**	**00 47 06.9**	**+0.6**
	comp=Z,13nm,0.6s								
ORV	**Oroville**	**79.16**	**52**	*e*P		**P**	**00 47 06.9**	**+0.6**
ORV				pmax		pmax			
	comp=Z,13nm,0.6s								
VRH	**Novokhopyorsk**	**79.28**	**321**	*e*P		**P**	**00 47 04.9**	**-1.8**
VRH				pmax		pmax			
	comp=Z,7.0nm,0.5s								
LKRN	**Lenkeran, Azer**	**79.40**	**308**	P		**P**	**00 47 05.8**	**-1.8**
SEKA	**Sheki**	**79.62**	**310**	P		**P**	**00 47 06.6**	**-2.2**
MNGR	**Mingechevir, A**	**79.86**	**310**	P		**P**	**00 47 08.3**	**-1.7**
ZKTA	**Zakatala**	**79.86**	**311**	P		**P**	**00 47 08.3**	**-1.8**
BEKR	**Beckworth**	**79.87**	**51**	*e*P		**P**	**00 47 10.8**	**+0.5**
	comp=Z,22nm,0.3s								
J08A	**Circle Bar Ran**	**79.88**	**47**	*e*P		**P**	**00 47 11.2**	**+0.9**
	comp=Z,9.0nm,1.1s								
BMO	**Blue Mountains**	**80.08**	**45**	*e*P		**P**	**00 47 11.9**	**+0.6**
	comp=Z,7.3nm,1.1s								
BMO	**Blue Mountains**	**80.08**	**45**	*e*P		**P**	**00 47 11.9**	**+0.6**
BMO				pmax		pmax			
	comp=Z,7.0nm,1.1s								
WVOR	**Wild Horse Val**	**80.11**	**48**	*e*P		**P**	**00 47 12.5**	**+1.0**
	comp=Z,12nm,1.4s								
WVOR	**Wild Horse Val**	**80.11**	**48**	*e*P		**P**	**00 47 12.5**	**+1.0**
WVOR				pmax		pmax			
	comp=Z,12nm,1.4s								
LPSR	**Galich'ya Gora**	**80.28**	**323**	*e*P		**P**	**00 47 11.0**	**-1.0**
LPSR				pmax		pmax			
	comp=Z,7.0nm,0.9s								
OBN	**Obninsk**	**80.42**	**326**	⇓*i*P		**P**	**00 47 11.5**	**-1.2**
OBN				*e*			00 50 17.5		
OBN				*i* S		**S**	**00 57 13.9**	**-1.9**
OBN				*e*SS		**SS**	**01 02 27.9**	**+0.6**
OBN				pmax		pmax			
	comp=Z,5.0nm,1.0s								
OBN				MLR		MLR			
	comp=Z,396nm,19.0s								
GANJ	**Ganja**	**80.44**	**310**	P		**P**	**00 47 11.4**	**-1.9**
WALA	**Waterton Lakes**	**80.53**	**41**	*e*P		**P**	**00 47 15.1**	**+1.4**
	comp=Z,7.4nm,1.0s								
CMB	**Columbia Colle**	**80.53**	**53**	*e*P		**P**	**00 47 14.1**	**+0.3**
	comp=Z,8.0nm,1.0s								
CMB	**Columbia Colle**	**80.53**	**53**	*e*P		**P**	**00 47 14.1**	**+0.3**
CMB				pmax		pmax			
	comp=Z,8.0nm,1.0s								
PAHR	**Pah Rah Range**	**80.63**	**51**	*e*P		**P**	**00 47 15.6**	**+1.1**
	comp=Z,3.6nm,0.5s								
VSR	**Storozhevoye**	**80.74**	**322**	*e*P		**P**	**00 47 12.4**	**-2.1**
VSR				pmax		pmax			
	comp=Z,8.0nm,0.8s								
JTMT	**Jette**	**80.84**	**42**	*e*P		**P**	**00 47 16.1**	**+0.7**
	comp=Z,16nm,1.4s								
YERR	**Yerington**	**81.00**	**52**	*e*P		**P**	**00 47 17.5**	**+1.0**
	comp=Z,13nm,1.5s								
WAKR	**Walker**	**81.05**	**52**	*e*P		**P**	**00 47 18.4**	**+1.6**
	comp=Z,7.2nm,1.2s								
NCK	**Nalchik**	**81.21**	**314**	*i* P		**P**	**00 47 17.3**	**+0.1**
NCK				pmax		pmax			
	comp=Z,4.0nm,0.9s								
ZEI	**Tsey**	**81.28**	**313**	*e*P		**P**	**00 47 16.3**	**-1.6**
ZEI				pmax		pmax			
	comp=Z,7.0nm,0.8s								
KBZ	**Khabaz**	**81.58**	**314**	P		**P**	**00 47 19.7**	**+0.6**
	comp=Z,7.6nm,0.9s,baz=146,slow=2.6,SNR=14								
KBZ				LR		LR	01 27 31.4		
	comp=Z,198nm,19.0s,baz=60,slow=39								
NAX	**Nakhchivan**	**81.60**	**309**	P		**P**	**00 47 17.6**	**-1.9**
KIV	**Kislovodsk**	**81.62**	**314**	*e*P		**P**	**00 47 20.3**	**+0.8**
KIV				pmax		pmax			
	comp=Z,9.0nm,1.0s								
KIV				MLR		MLR			
	comp=Z,193nm,19.0s								
MFID	**Camas Ranch**	**81.63**	**46**	*e*P		**P**	**00 47 20.3**	**+0.7**
	comp=Z,5.5nm,0.9s								
RYN	**Ryan**	**81.66**	**52**	*e*P		**P**	**00 47 20.9**	**+1.0**
	comp=Z,15nm,1.6s								
GNI	**Garni**	**81.75**	**310**	P		**P**	**00 47 21.4**	**+1.0**
	comp=Z,2.4nm,0.6s,baz=105,slow=13,SNR=2.8								
GNI				LR		LR	01 27 30.2		
	comp=Z,71nm,18.1s,baz=88,slow=38								
NV01	**Mina Array Sit**	**81.89**	**52**	*e*P		**P**	**00 47 21.6**	**+0.3**
NVAR	**Mina Array Bea**	**81.89**	**52**	P		**P**	**00 47 21.6**	**+0.3**
	comp=Z,2.6nm,0.7s,baz=267,slow=5.4,SNR=19								
NVAR				LR		LR	01 17 42.4		
	comp=Z,201nm,20.2s,baz=89,slow=31								
FIA1	**FINESS Array S**	**81.96**	**335**	*e*P		**P**	**00 47 19.8**	**-1.0**
FINES	**FINESS Array B**	**81.96**	**335**	P		**P**	**00 47 19.4**	**-1.4**
	comp=Z,1.0nm,0.3s,baz=64,slow=5.1,SNR=23								
FINES				LR		LR	01 27 04.3		
	comp=Z,91nm,18.3s,baz=44,slow=38								
NV11	**Mina Array Sit**	**82.00**	**52**	*e*P		**P**	**00 47 22.8**	**+1.1**
	comp=Z,0.9nm,1.6s								
HLID	**Hailey**	**82.50**	**46**	*e*P		**P**	**00 47 24.8**	**+0.5**
	comp=Z,5.3nm,1.4s								
LRM	**Limekiln Ridge**	**82.80**	**43**	*e*P		**P**	**00 47 26.3**	**+0.4**
ISA	**Isabella, Lake**	**82.86**	**54**	*e*P		**P**	**00 47 25.9**	**-0.3**
	comp=Z,6.0nm,1.3s								
ISA	**Isabella, Lake**	**82.86**	**54**	*e*P		**P**	**00 47 25.9**	**-0.3**
ISA				pmax		pmax			
	comp=Z,6.0nm,1.3s								
BOZ	**Bozeman (W)**	**83.42**	**43**	*e*P		**P**	**00 47 29.6**	**+0.7**
	comp=Z,3.4nm,0.9s								
BOZ	**Bozeman (W)**	**83.42**	**43**	*e*P		**P**	**00 47 29.6**	**+0.7**
BOZ				pmax		pmax			
	comp=Z,3.0nm,0.9s								
R11A	**Troy Canyon, C**	**83.88**	**51**	*e*P		**P**	**00 47 30.7**	**-0.8**
	comp=Z,7.0nm,1.4s								
TPNV	**Topopah Spring**	**83.98**	**52**	*e*P		**P**	**00 47 32.4**	**+0.4**
	comp=Z,3.6nm,0.8s								
TPNV	**Topopah Spring**	**83.98**	**52**	*e*P		**P**	**00 47 32.4**	**+0.4**
TPNV				pmax		pmax			
	comp=Z,4.0nm,0.8s								
YHH	**Holmes Hill**	**84.27**	**44**	*e*P		**P**	**00 47 34.9**	**+1.4**
	comp=Z,3.2nm,0.9s								
FFC	**Flin Flon**	**84.33**	**32**	*e*P		**P**	**00 47 33.7**	**+0.5**
	comp=Z,14nm,1.1s								
FFC	**Flin Flon**	**84.33**	**32**	*e*P		**P**	**00 47 33.7**	**+0.5**
FFC				pmax		pmax			
	comp=Z,14nm,1.1s								
YFT	**Old Faithful**	**84.44**	**44**	*e*P		**P**	**00 47 36.7**	**+2.4**
	comp=Z,8.9nm,0.9s								
YPP	**Pitchstone Pla**	**84.54**	**44**	*e*P		**P**	**00 47 37.1**	**+2.2**
	comp=Z,13nm,1.6s								
IMW	**Indian Meadow**	**84.62**	**44**	*e*P		**P**	**00 47 36.8**	**+1.5**
	comp=Z,4.4nm,0.9s								
H17A	**Grant Village**	**84.63**	**44**	*e*P		**P**	**00 47 38.2**	**+2.9**
	comp=Z,11nm,1.3s								
FXWY	**Fox Creek**	**84.68**	**45**	*e*P		**P**	**00 47 36.9**	**+1.3**
	comp=Z,7.7nm,1.4s								
SPUT	**South Promonto**	**84.79**	**47**	*e*P		**P**	**00 47 37.0**	**+1.0**
	comp=Z,14nm,1.7s								
MOOW	**Moose Ponds**	**84.81**	**44**	*e*P		**P**	**00 47 37.0**	**+0.8**
	comp=Z,3.3nm,1.0s								
REDW	**Red Top Meadow**	**84.92**	**45**	*e*P		**P**	**00 47 38.3**	**+1.5**
	comp=Z,8.8nm,1.3s								
SHPR	**Sheep Range**	**84.96**	**52**	*e*P		**P**	**00 47 38.2**	**+1.2**
	comp=Z,12nm,1.5s								
LOHW	**Long Hollow**	**84.97**	**45**	*e*P		**P**	**00 47 38.0**	**+1.1**
	comp=Z,5.3nm,1.4s								
DUG	**Dugway, Tooele**	**85.03**	**48**	*e*P		**P**	**00 47 37.8**	**+0.5**
	comp=Z,3.6nm,0.8s					

comp=Z,55nm,18.3s,baz=44,slow=39
ULM Lac du Bonnet 89.95 34 P **P 00 48 00.1 -0.5**
comp=Z,1.6nm,0.8s,baz=244,slow=3.3,SNR=3.0
ULM LR LR 01 25 55.3
comp=Z,90nm,20.9s,baz=322,slow=34
BUR08 Bucovina Ar. S 90.39 323 *eP* **P 00 48 04.4 +1.6**
BUR04 Bucovina Ar. S 90.39 323 *eP* **P 00 48 02.0 -0.8**
MLR Muntele Rosu 91.22 321 LR LR 01 32 06.7
comp=Z,32nm,19.5s,baz=57,slow=38
STHS Stebnicka Huta 91.39 327 *eP* P 00 48 12.8 +5.5
STHS Stebnicka Huta 91.39 327 *e* P 00 48 12.8 +5.5
BORG Borgarnes 91.52 354 LR LR 01 29 51.6
comp=Z,26nm,22.0s,baz=84,slow=36
CRVS Cervenica-Dubn 91.61 326 *eP* **P 00 48 07.6 -0.7**
CRVS Cervenica-Dubn 91.61 326 *eP* **P 00 48 07.6 -0.7**
CRVS pmax pmax
comp=Z,7.0nm,1.4s
MMAI Mount Meron Ar 91.63 307 P **P 00 48 08.8 0.0**
comp=Z,0.3nm,0.4s,baz=23,slow=4.5,SNR=4.0
MMAI LR LR 01 32 49.3
comp=Z,53nm,19.0s,baz=235,slow=38
ANMO Albuquerque 91.96 51 *eP* **P 00 48 11.5 +1.1**
comp=Z,7.4nm,1.5s
ANMO Albuquerque 91.96 51 *ceP* **P 00 48 10.2 -0.2**
ANMO pmax pmax
comp=Z,4.0nm,1.2s
VYHS Vyhne 93.20 327 *eP* **P 00 48 15.2 -0.5**
VYHS Vyhne 93.20 327 *eP* **P 00 48 15.2 -0.5**
VYHS pmax pmax
comp=Z,3.0nm,1.5s
CLL Collm 94.03 331 *eP* **P 00 48 16.0 -3.4**
LPIG La Paz 94.23 62 LR LR 01 23 36.6
comp=Z,98nm,20.0s,baz=246,slow=31
GERES GERESS Array B 95.46 329 P **P 00 48 25.6 -0.5**
comp=Z,0.6nm,0.8s,baz=35,slow=8.7,SNR=3.5
GERES LR LR 01 32 56.0
comp=Z,111nm,21.9s,baz=54,slow=36
EKA Eskdalemuir Ar 96.75 342 LR LR 01 37 04.8
comp=Z,63nm,20.1s,baz=60,slow=38
TXAR Lajitas Array 96.85 54 P **P 00 48 33.0 +0.2**
comp=Z,0.5nm,1.0s,baz=132,slow=3.5,SNR=4.2
TXAR LR LR 01 25 42.7
comp=Z,75nm,21.9s,baz=0.0,slow=31
SNAA Sanae 127.93 193 PKP **PKPdf 00 54 05.7 -0.5**
comp=Z,2.8nm,1.1s,baz=194,slow=12,SNR=3.1
TOA0 Torodi Ar. Sit 128.06 310 *ePKPdf* **PKPdf 00 54 07.9 -0.1**
TORD Torodi Ar. Bea 128.06 310 *PKPdf* **PKPdf 00 54 07.2 -0.9**
comp=Z,1.1nm,0.8s,baz=40,slow=0.9,SNR=11
KOWA Kowa 130.90 317 PKP **PKPdf 00 54 14.2 +0.8**
comp=Z,0.8nm,0.5s,baz=46,slow=2.7,SNR=6.7
PLCA Paso Flores 146.46 129 PKPbc **PKPbc 00 54 42.7 +0.2**
comp=Z,16nm,1.1s,baz=248,slow=4.9,SNR=12
PLCA Paso Flores 146.46 129 *ePKPdf* **PKPab 00 54 43.0 -0.5**
PLCA Paso Flores 146.46 129 *ePKP2* **PKPab 00 54 43.0 -0.5**
PTGA Pitinga 148.00 49 *ePKPdf* **PKPdf 00 54 45.2 +0.8**
PEL Peldehue 148.34 116 *ePKPbc* **PKPbc 00 54 48.2 +0.3**
PEL Peldehue 148.34 116 PKP2 **PKPbc 00 54 48.2 +0.3**
MNMC Minye Minye 148.83 89 *ePKPbc* **PKPbc 00 54 49.9 +0.1**
PB11 IPOC Station P 148.91 90 *ePKPdf* **PKPdf 00 54 46.2 +0.4**
PB01 IPOC Station P 149.32 92 *ePKPbc* **PKPbc 00 54 51.1 +0.3**
LPAZ La Paz 149.40 83 PKPbc **PKPbc 00 54 52.4 +0.7**
comp=Z,5.7nm,0.9s,baz=225,slow=2.9,SNR=10.0
LPAZ La Paz 149.40 83 *ePKPdf* **PKPdf 00 54 47.8 +0.5**
SAML Samuel 150.69 65 *ePKPdf* **PKPdf 00 54 49.3 +0.7**
SAML Samuel 150.69 65 *ePKIKP* **PKPdf 00 54 49.3 +0.7**

IDC 22 00:52:12.7±2.6, 15.19S×172.79W, h0km, mb4.1/4, mb1 4.4/4, mb1mx3.7/49, mbtmp4.1/4, Error ellipse: s-maj=196.3km s-min=26.5km az=147.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**44.65**	**240**	P	P	01 00 27.4	0.0
	1.4nm,0.4s,baz=84,slow=9.2,SNR=5.4						
WRA	**Warramunga Arr**	**50.47**	**257**	P	P	01 01 12.5	-0.3
	1.0nm,0.5s,baz=93,slow=7.1,SNR=46						
ASAR	**Alice Springs**	**50.74**	**252**	P	P	01 01 14.7	-0.1
	10nm,0.6s,baz=90,slow=7.6,SNR=185						
NVAR	**Mina Array Bea**	**73.78**	**42**	P	P	01 03 49.3	0.0
	0.2nm,0.6s,baz=250,slow=7.6,SNR=3.8						

GUC 22 01:02:30.7±0.3, 29.62S×70.39W, h10km, ML2.8
SJA 22 01:02:30.6±0.5, 29.66S×70.98W, h2km±5km, ML3.2, MW3.1
ISC 22 01:02:29.4±2.5, 29.71S±0.05×71.3W±0.2, h10km, n10, σ1°80/17, 2C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TLL	**Tololo Astrono**	**0.61**	**140**	*eP*	**Pn**	**01 02 44.7**	**+0.4**
TLL				*i* S	**Sn**	**01 02 55.5**	**+1.2**
TLL				IAML		01 02 55.9	
	comp=N,660nm,0.5s						
GO04	**Tololo Observa**	**0.61**	**140**	*i* P	**Pn**	**01 02 44.7**	**+0.3**
GO04				*i* S	**Sn**	**01 02 55.4**	**+0.9**
GO04				IAML		01 02 58.1	
	comp=N,2μm,0.3s						
LCO	**Las Campanas**	**0.85**	**35**	*i* P	**Pb**	**01 02 45.0**	**-1.4**
LCO				*i* S	**Sg**	**01 02 55.5**	**-1.2**
LCO				IAML		01 02 56.9	
	comp=E,850nm,0.2s						
AROD	**Rodeo**	**1.62**	**107**	*i* P	**Pn**	**01 02 58.4**	**+0.2**
AROD				*i* S	**Sn**	**01 03 19.2**	**-0.1**
AGUA	**GUANDACOL**	**2.42**	**86**	*i* P	**Pn**	**01 03 10.6**	**+1.5**
AGUA				*i* S	**Sn**	**01 03 41.5**	**+2.7**
RTLS	**Leoncito**	**2.68**	**142**	*i* P	**Pb**	**01 03 16.6**	**-1.1**
RTLS				*i* S	**Sn**	**01 03 42.9**	**-2.8**
RTLS				IAML		01 03 43.0	
	comp=Z,124nm,0.3s						
AMOG	**MOGNA**	**2.69**	**118**	*i* P	**Pn**	**01 03 15.0**	**+2.2**
VCA	**Vinchina**	**2.84**	**71**	*i* P	**Pn**	**01 03 16.1**	**+1.2**
VCA				*i* S	**Sn**	**01 03 50.1**	**+0.9**
VCA				IAML		01 03 58.5	
	comp=Z,86nm,0.8s						
RTLL	**Cerro Villicun**	**2.90**	**125**	*i* P	**Pb**	**01 03 19.2**	**-2.0**
AUSP	**Uspallata**	**2.98**	**148**	*i* P	**Pn**	**01 03 20.1**	**+3.1**

ASRS 22 01:11:24.6±0.5, 51.83N×95.93E, h15km, Ms3.2/2
MOS 22 01:11:25.3±1.4, 51.74N×95.96E, h14km, mb4.0/6, Error ellipse: s-maj=10.4km s-min=8.3km az=8.3
IDC 22 01:11:25.6±1.0, 51.97N×96.05E, h0km, mb3.7/8, mb1 3.6/12, mb1mx3.3/73, mbtmp3.6/12, ML2.8/4, Error ellipse: s-maj=28.8km s-min=11.4km az=174.0
ISC 22 01:11:25.9±0.7, 51.75N±0.07×96.00E±0.04, h10km, n49, σ2°04/56, mb3.7/8, 2D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TDJR	**Todzha**	**0.66**	**6**	*ePG*	**Pg**	**01 11 36.1**	**-2.6**
KZLR	**Kyzyl**	**0.96**	**268**	*i* Pg	**Pg**	**01 11 41.9**	**-2.5**
KZLR				*eSg*	**Sg**	**01 11 54.4**	**-2.5**
KZLR	**Kyzyl**	**0.96**	**268**	*i* PG	**Pg**	**01 11 41.9**	**-2.5**
KZLR				*e*		01 11 54.4	
HVS	**Khovu-Aksy**	**1.56**	**248**	*d i* P*	**Pn**	**01 11 52.3**	**-1.5**
HVS				*i* S	**Sn**	**01 12 12.5**	**-1.6**
ORL	**Orlik**	**2.48**	**70**	*ePN*	**Pn**	**01 12 07.3**	**+0.8**
ORL				*e*		01 12 39.1	
ORL				pmax	pmax		
	comp=Z,134nm,0.7s						
ORL				smax	smax		
	comp=N,346nm,0.8s						
CERR	**Cheremushki**	**3.02**	**293**	*ePn*	**Pn**	**01 12 14.4**	**+0.6**
CERR				*ePg*	**Pb**	**01 12 19.8**	**0.0**
CERR				*eSg*	**Sb**	**01 12 57.5**	**+0.8**
CERR	**Cheremushki**	**3.02**	**293**	*ePN*	**Pn**	**01 12 14.4**	**+0.6**
CERR				*e*		01 12 19.8	
CERR				*e*		01 12 57.5	
MOY	**Mondy**	**3.11**	**90**	*ePN*	**Pn**	**01 12 17.6**	**+2.5**
MOY				*e*		01 12 22.8	
MOY				*e*		01 13 00.0	
MINR	**Mina**	**3.34**	**342**	*ePN*	**Pb**	**01 12 21.2**	**-4.0**
VEH	**Verkhnyaya Baz**	**3.78**	**296**	*ePN*	**Pn**	**01 12 25.3**	**+1.0**
ARS	**Arshan**	**3.99**	**85**	*ePN*	**Pn**	**01 12 28.1**	**+0.9**
ARS				*e*		01 12 36.0	
ARS				*e*		01 13 28.3	
ARS				pmax	pmax		
	comp=Z,119nm,0.5s						
ARS				smax	smax		
	comp=E,478nm,0.8s						
LUZB	**Luzhba, Kemero**	**4.72**	**297**	*ePN*	**Pn**	**01 12 39.9**	**+2.8**
TLY	**Talaya**	**4.76**	**88**	*Pg*	**Pb**	**01 12 49.7**	**+0.4**
	comp=E,0.0nm,0.3s,baz=275,slow=17,SNR=3.9						
TLY				Lg	Lg	01 13 51.5	
	comp=E,0.1nm,0.3s,baz=177,slow=19,SNR=9.5						
TLY	**Talaya**	**4.76**	**88**	*ePN*	**Pb**	**01 12 49.3**	**0.0**
TLY				*e*		01 13 50.3	
TLY				pmax	pmax		
	comp=Z,12nm,0.5s						
ZAK	**Zakamensk**	**4.79**	**104**	*ePN*	**Pb**	**01 12 50.2**	**+0.2**
ZAK				*e*		01 13 53.8	
ZAK				pmax	pmax		
	comp=Z,25nm,0.8s						
ZAK				smax	smax		
	comp=E,100nm,1.2s						
TASR	**Tashtagol**	**5.09**	**285**	*ePn*	**Pn**	**01 12 42.9**	**+0.7**
TASR				*ePg*	**Pb**	**01 12 56.0**	**+1.0**
TASR				*eSg*	**Sb**	**01 13 58.5**	**+2.3**
TASR	**Tashtagol**	**5.09**	**285**	*ePN*	**Pn**	**01 12 42.9**	**+0.7**
TASR				*e*		01 12 55.0	
TASR				*e*		01 13 58.5	
IRK	**Irkutsk**	**5.14**	**81**	*ePN*	**Pb**	**01 12 54.6**	**-1.2**
IRK				*e*		01 14 00.4	
IRK				pmax	pmax		
	comp=Z,172nm,0.1s						
IRK				smax	smax		
	comp=N,327nm,1.0s						
AKAR	**Aktash**	**5.47**	**258**	*ePn*	**Pn**	**01 12 48.9**	**+1.3**
AKAR				*ePg*	Pg	01 13 05.2	-5.5
AKAR				*eSg*	**Sb**	**01 14 10.7**	**+3.3**
AKAR	**Aktash**	**5.47**	**258**	*ePN*	**Pn**	**01 12 48.9**	**+1.3**
AKAR				*e*		01 13 05.2	
AKAR				*e*		01 14 10.7	
CHBI	**Chibit, Altay**	**5.55**	**258**	*ePN*	Pn	01 12 36.0	-13
DGZ	**Jazzator, Alta**	**5.81**	**253**	*i* PN	**Pn**	**01 12 53.7**	**+1.4**
ELT	**Eltsovka**	**6.15**	**288**	*ePn*	**Pn**	**01 12 57.7**	**+1.0**
ELT				*ePg*	**Pb**	**01 13 15.1**	**+2.1**
ELT				*eSg*	**Sb**	**01 14 32.4**	**+5.8**
ELT	**Eltsovka**	**6.15**	**288**	*ePN*	**Pn**	**01 12 57.7**	**+1.0**
ELT				*e*		01 13 15.1	
ELT				*e*		01 14 32.4	
UKR	**Ust'-Kan**	**7.08**	**268**	*ePg*	**Pb**	**01 13 29.6**	**+0.7**
UKR				*eSg*	**Sg**	**01 15 06.3**	**-6.6**
UKR	**Ust'-Kan**	**7.08**	**268**	*ePN*	**Pb**	**01 13 29.6**	**+0.7**
ZALV	**Zalesovo Beam**	**7.12**	**292**	Pn	**Pn**	**01 13 09.2**	**-0.8**
	comp=N,0.4nm,0.3s,baz=116,slow=9.9,SNR=4.0						
ZALV				Lg	Lg	01 15 01.0	
	comp=N,1.7nm,0.3s,baz=102,slow=27,SNR=9.3						
OGRR	**Ongureny**	**7.30**	**70**	*eP*	**Pn**	**01 13 13.1**	**+0.6**
OGRR				pmax	pmax		
	comp=Z,13nm,0.7s						
SONM	**Songino Array**	**7.78**	**116**	Pg	Pb	01 13 45.9	+4.9
	comp=Z,0.4nm,0.3s,baz=299,slow=18,SNR=5.1						
SONM				Lg	Lg	01 15 29.2	
	comp=Z,1.1nm,0.3s,baz=307,slow=30,SNR=14						
ULN	**Ulaanbaatar**	**8.14**	**114**	*i* P	Pn	01 13 33.1	+8.9
NVS	**Novosibirsk**	**8.25**	**297**	*ePg*	**Pb**	**01 13 52.5**	**+3.8**
NVS				*eSg*	Sg	01 15 39.6	-11
MKAR	**Makanchi Array**	**10.23**	**246**	Pn	**Pn**	**01 13 55.7**	**+2.9**
	comp=Z,0.1nm,0.3s,baz=50,slow=16,SNR=5.0						
MKAR				Lg	Lg	01 16 46.9	
	comp=Z,0.2nm,0.3s,baz=59,slow=27,SNR=5.3						
KURK	**Kurchatov**	**10.95**	**271**	P	**Pn**	**01 14 04.6**	**+2.1**
KURBB	**Kurchatov Arra**	**11.02**	**271**	Pn	**Pn**	**01 14 04.6**	**+1.1**
	comp=Z,0.1nm,0.3s,baz=76,slow=15,SNR=4.0						
KURBB				Lg	Lg	01 17 14.3	
	comp=Z,0.1nm,0.3s,baz=82,slow=31,SNR=6.8						
BVAR	**Borovoye Array**	**15.66**	**285**	Pn	**Pn**	**01 15 05.6**	**-0.9**
	comp=Z,0.1nm,0.3s,baz=96,slow=13,SNR=2.3						
BRVK	**Borovoye**	**15.72**	**285**	*i* P	**Pn**	**01 15 07.7**	**+0.4**
AAK	**Ala-Archa**	**17.17**	**246**	*i* P	**Pn**	**01 15 25.3**	**-0.6**
AAK				pmax	pmax		
	comp=Z,3.0nm,1.7s						
ARU	**Arti**	**22.25**	**297**	P	**P**	**01 16 24.0**	**+1.4**
	comp=Z,1.1nm,0.4s,baz=93,slow=18,SNR=2.6						
ARU	**Arti**	**22.25**	**297**	*d i* P	**P**	**01 16 23.8**	**+1.2**
ARU						01 16 45.4	
ARU				S	**S**	**01 20 26.8**	**-0.5**
ARU				pmax	pmax		
	comp=Z,5.0nm,1.7s						
AKTO	**Aktyubinsk**	**23.72**	**282**	P	**P**	**01 16 38.7**	**+0.9**
	comp=Z,2.0nm,0.6s,baz=72,slow=9.4,SNR=5.0						
TIXI	**Tiksi**	**24.73**	**24**	P	**P**	**01 16 46.7**	**-0.2**
	comp=Z,3.2nm,0.5s,baz=259,slow=9.4,SNR=13						
FINES	**FINESS Array B**	**37.86**	**313**	P	**P**	**01 18 42.1**	**-0.3**
	comp=Z,1.4nm,1.0s,baz=62,slow=8.9,SNR=5.1						
FINES	**FINESS Array B**	**37.86**	**313**	*eP*	**P**	**01 18 43.7**	**+1.3**
FINES				pmax	pmax		
	comp=Z,1.0nm,1.0s						
BRTR	**Keskin Array B**	**43.86**	**280**	P	**P**	**01 19 33.1**	**+0.7**
	comp=Z,1.0nm,0.8s,baz=53,slow=5.6,SNR=7.9						
BRTR	**Keskin Array B**	**43.86**	**280**	*eP*	P	01 19 36.4	+4.1
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
NB2	**NORSAR Subarra**	**44.62**	**316**	P	**P**	**01 19 37.3**	**-0.7**
	comp=Z,0.6nm,0.6s,baz=78,slow=7.9						
NOA	**NORSAR Array B**	**44.62**	**316**	P	**P**	**01 19 37.1**	**-0.9**
	comp=Z,0.7nm,0.6s,baz=61,slow=8.0,SNR=3.7						
MMAI	**Mount Meron Ar**	**47.06**	**271**	P	**P**	**01 20 00.4**	**+2.7**
	comp=Z,0.5nm,0.6s,baz=25,slow=7.9,SNR=2.7						
TORD	**Torodi Ar. Bea**	**82.44**	**282**	P	**P**	**01 23 48.1**	**-0.4**
	comp=Z,0.4nm,0.7s,baz=25,slow=5.0,SNR=4.1						

IDC 22 01:11:23.5±0.8, 5.76S×133.34E, h0km, mb4.1/11, mb1 4.1/15, mb1mx3.8/57, mbtmp4.0/15, ML3.8/4, MS3.4/7, Ms1 3.4/7, ms1mx3.0/47, Error ellipse: s-maj=41.4km s-min=17.0km az=70.0
ISCJB 22 01:11:25.7±0.4, 5.86S±0.05×133.41E±0.10, h33km, mb4.0/14, MS3.2/5, Error ellipse: s-maj=14.7km s-min=5.5km az=164.1
NEIC 22 01:11:27.9±0.4, 5.82S×133.40E, h35km, mb4.1/3, Error ellipse: s-maj=17.3km s-min=7.5km az=64.0
ISC 22 01:11:27.3±0.6, 5.79S±0.07×133.3E±0.1, h33km, n28, σ2°28/27, mb4.0/14, MS3.1/5, Aru Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FAKI	**Fak Fak**	**3.04**	**340**	*ePn*	**Pn**	**01 12 11.1**	**-2.1**
FAKI				*eSn*	**Sn**	**01 12 42.3**	**-6.2**
SIJI	**Sorong**	**5.30**	**337**	Pn	**Pn**	**01 12 43.5**	**-0.7**
	11nm,0.3s,baz=160,slow=12,SNR=26						
SIJI				Sn	**Sn**	**01 13 39.4**	**-4.8**
	18nm,0.3s,baz=96,slow=22,SNR=12						
COEN	**Coen**	**12.65**	**131**	*ePn*	**Pn**	**01 14 22.8**	**-2.3**
WRAB	**Tennant Creek**	**14.09**	**176**	*ePn*	**Pn**	**01 14 43.7**	**-1.0**
WRA	**Warramunga Arr**	**14.10**	**176**	Pn	**Pn**	**01 14 43.6**	**-1.3**
	0.4nm,0.3s,baz=8.1,slow=13,SNR=28						
WRA				Sn	**Sn**	**01 17 18.4**	**-1.9**
	0.3nm,0.3s,baz=6.7,slow=22,SNR=4.9						
PMG	**Port Moresby**	**14.19**	**106**	LR	LR	01 21 50.3	
	comp=Z,404nm,18.5s,baz=266,slow=44						
PMG	**Port Moresby**	**14.19**	**106**	*ePn*	**Pn**	**01 14 44.9**	**-1.1**
ASAR	**Alice Springs**	**17.78**	**178**	P	**Pn**	**01 15 32.5**	**+0.2**
	0.1nm,0.3s,baz=2.7,slow=11,SNR=21						
ASAR				S	**Sn**	**01 18 45.2**	**-4.5**
	0.1nm,0.3s,baz=358,slow=29,SNR=3.7						
ASAR				LR	LR	01 23 31.8	
	comp=Z,118nm,18.3s,baz=5.0,slow=41						
CTA	**Charters Tower**	**18.98**	**140**	P	**Pn**	**01 15 47.5**	**+0.5**
	0.1nm,0.3s,baz=313,slow=18,SNR=2.1						
LEM	**Lembang**	**25.56**	**266**	LR	LR	01 28 22.2	
	comp=Z,50nm,20.9s,baz=272,slow=40						
HNR	**Honiara**	**26.64**	**99**	LR	LR	01 29 39.5	
	comp=Z,98nm,18.5s,baz=318,slow=41						
STKA	**Stephens Creek**	**27.09**	**164**	P	**P**	**01 17 08.2**	**+1.2**
	2.5nm,0.8s,baz=286,slow=2.3,SNR=3.1						
DZM	**Mont Dzumac**	**35.87**	**120**	LR	LR	01 31 06.5	
	comp=Z,60nm,20.2s,baz=180,slow=33						
CMAR	**Chiang Mai Arr**	**41.58**	**306**	P	**P**	**01 19 13.3**	**+0.9**
	0.8nm,0.4s,baz=124,slow=7.0,SNR=4.7						
CMAR				LR	LR	01 38 31.9	
	comp=Z,24nm,19.0s,baz=210,slow=39						
MJAR	**Matsushiro Arr**	**42.36**	**6**	P	**P**	**01 19 19.6**	**+1.2**
	1.4nm,0.9s,baz=182,slow=10.0,SNR=2.9						
KSRS	**Korea Array**	**43.31**	**354**	LR	LR	01 37 29.6	
	comp=Z,25nm,19.9s,baz=240,slow=36						
SONM	**Songino Array**	**58.42**	**339**	P	**P**	**01 21 20.7**	**+0.8**
	0.9nm,0.7s,baz=152,slow=6.3,SNR=3.9						
MKAR	**Makanchi Array**	**69.07**	**325**	P	**P**	**01 22 31.9**	**+1.9**
	2.7nm,0.6s,baz=119,slow=8.1,SNR=18						
SEY	**Seymchan**	**70.06**	**9**	P	**P**	**01 22 36.4**	**+0.8**
	1.9nm,0.9s,baz=186,slow=7.5,SNR=4.8						
AAK	**Ala-Archa**	**71.79**	**318**	*eP*	**P**	**01 22 48.2**	**+1.3**
	0.7nm,0.4s						
ZALV	**Zalesovo Beam**	**72.01**	**332**	P	**P**	**01 22 48.1**	**+0.5**
	3.1nm,0.6s,baz=110,slow=4.9,SNR=13						
KURBB	**Kurchatov Arra**	**73.25**	**327**	P	**P**	**01 22 56.3**	**+1.2**
	1.3nm,0.7s,baz=126,slow=5.8,SNR=7.5						
KURK	**Kurchatov**	**73.25**	**327**	*eP*	**P**	**01 22 56.1**	**+1.0**
KKAR	**Karatay Array**	**74.64**	**318**	*eP*	**P**	**01 23 03.8**	**+0.3**
	1.5nm,0.8s						
BVAR	**Borovoye Array**	**78.83**	**327**	P	**P**	**01 23 28.2**	**+1.2**
	0.8nm,0.5s,baz=107,slow=5.1,SNR=8.1						
BRVK	**Borovoye**	**78.91**	**327**	*eP*	**P**	**01 23 28.1**	**+0.8**
	3.7nm,0.6s						
GEYT	**Alibeck**	**81.97**	**309**	P	**P**	**01 23 46.8**	**+2.7**
	0.4nm,0.4s,baz=108,slow=4.7,SNR=3.3						
AKTO	**Aktyubinsk**	**85.16**	**322**	P	**P**	**01 24 02.1**	**+2.0**
	0.6nm,0.5s,baz=110,slow=8.1,SNR=4.1						

JMA 22 01:13:26.5±0.2, 37.28N×141.87E, h30km±3km, M3.2
IDC 22 01:13:28.0±1.1, 38.15N×141.53E, h0km, mb3.6/10, mb1 3.7/13, mb1mx3.5/71, mbtmp3.6/13, ML3.2/3, Error ellipse: s-maj=26.7km s-min=18.3km az=128.0
ISC 22 01:13:25.8±1.8, 37.49N±0.06×141.85E±0.07, h12km±11km, n27, σ1°82/28, mb3.6/10, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**0.79**	**261**	P	**Pg**	**01 13 41.5**	**+0.4**
JFK				S	**Sb**	**01 13 51.9**	**-0.3**
JMM	**Marumori**	**0.92**	**294**	P	**Pn**	**01 13 45.1**	**+0.5**
JMM				S	**Sn**	**01 13 58.1**	**+0.3**
ONAJ	**Iwakimizuishiy**	**0.93**	**245**	P	**Pb**	**01 13 42.7**	**-1.2**
ONAJ				S	**Sb**	**01 13 53.6**	**-2.6**
JIO	**Ouri**	**1.04**	**338**	P	**Pn**	**01 13 47.9**	**+1.6**
JIO				S	**Sn**	**01 14 02.4**	**+1.6**
JFT	**Otama**	**1.21**	**272**	P	**Pg**	**01 13 48.9**	**-0.1**
JFT				S	**Sn**	**01 14 04.4**	**-0.5**
JOU	**Okura**	**1.28**	**313**	P	**Pg**	**01 13 51.9**	**+1.4**
JOU				S	**Sn**	**01 14 09.5**	**+2.7**
JHO	**Hitachi**	**1.35**	**230**	P	Pn	01 13 47.6	-3.0
MJAR	**Matsushiro Art**	**3.07**	**253**	Pn	**Pn**	**01 14 17.7**	**+3.5**
	1.3nm,0.3s,baz=85,slow=15,SNR=10						
MJAR				Sn	**Sb**	**01 14 55.1**	**-2.7**
	1.1nm,0.3s,baz=40,slow=16,SNR=4.4						
MAT	**Matsushiro**	**3.07**	**253**	P	**Pn**	**01 14 16.4**	**+2.2**
MAT				S	**Sb**	**01 14 55.1**	**-2.7**
JHJ	**Hachijo jima 2**	**4.68**	**202**	Pn	**Pb**	**01 14 48.3**	**+0.4**
	0.3nm,0.3s,baz=37,slow=17,SNR=3.0						
ASAJ	**Asahikawa**	**6.64**	**5**	Pn	**Pn**	**01 14 59.7**	**-3.6**
	0.3nm,0.3s,baz=101,slow=27,SNR=3.1						
ASAJ				Sn	**Sn**	**01 16 21.0**	**+2.1**
	0.1nm,0.3s,baz=171,slow=19,SNR=2.1						
SONM	**Songino Array**	**27.82**	**303**	P	**P**	**01 19 14.9**	**-0.2**
	0.6nm,0.6s,baz=86,slow=8.8,SNR=1.9						
H11N2	**WAKE ISLAND Hy**	**28.09**	**122**	T	T	01 48 44.9	
	baz=315,slow=75,SNR=49						
H11N1	**WAKE ISLAND Hy**	**28.10**	**122**	T	T	01 48 46.2	
	baz=315,slow=75,SNR=49						
H11N3	**WAKE ISLAND Hy**	**28.11**	**122**	T	T	01 48 46.9	
	baz=315,slow=75,SNR=42						
H11S1	**WAKE ISLAND Hy**	**28.82**	**124**	T	T	01 49 36.1	
	baz=316,slow=76,SNR=49						
H11S3	**WAKE ISLAND Hy**	**28.82**	**124**	T	T	01 49 29.5	
	baz=316,slow=76,SNR=63						
H11S2	**WAKE ISLAND Hy**	**28.84**	**124**	T	T	01 49 42.3	
	baz=316,slow=76,SNR=44						
ZALV	**Zalesovo Beam**	**41.87**	**312**	P	**P**	**01 21 14.3**	**-1.3**
	0.4nm,0.3s,baz=108,slow=9.3,SNR=2.9						
MKAR	**Makanchi Array**	**44.17**	**302**	P	**P**	**01 21 33.0**	**-1.5**
	0.7nm,0.7s,baz=90,slow=7.7,SNR=3.5						
KURBB	**Kurchatov Arra**	**46.00**	**308**	P	**P**	**01 21 48.0**	**-0.8**
	0.8nm,0.6s,baz=82,slow=7.8,SNR=4.8						
ILAR	**Eielson Array**	**48.92**	**33**	P	**P**	**01 22 11.8**	**+0.4**
	0.5nm,0.7s,baz=263,slow=6.4,SNR=6.8						
INK	**Inuvik**	**53.82**	**27**	P	**P**	**01 22 49.2**	**+1.2**
	0.3nm,0.6s,baz=260,slow=3.5,SNR=3.7						
WRA	**Warramunga Arr**	**57.56**	**188**	P	P	01 23 23.8	+8.4
	0.4nm,0.5s,baz=2.3,slow=7.8,SNR=3.5						
YKA	**Yellowknife Ar**	**63.24**	**30**	P	**P**	**01 23 54.0**	**+0.2**
	0.2nm,0.7s,baz=299,slow=5.4,SNR=3.3						
GEYT	**Alibeck**	**63.92**	**299**	P	**P**	**01 23 59.4**	**+0.6**
	0.5nm,0.5s,baz=57,slow=5.5,SNR=4.2						
AKASG	**Malin Array Be**	**74.15**	**322**	P	**P**	**01 25 01.8**	**-0.2**
	0.3nm,0.4s,baz=49,slow=5.1,SNR=3.8						

SJA 22 01:24:15.7±0.5, 34.93S×73.29W, h36km±22km, ML3.8, MW3.7
ISCJB 22 01:24:35.3±1.1, 33.92S±0.04×72.1W±0.1, h26km±12km, Error ellipse: s-maj=14.8km s-min=7.4km az=2.3
GUC 22 01:24:35.0±0.5, 33.87S×72.17W, h23km±17km, ML3.2
ISC 22 01:24:36.8±1.7, 34.01S±0.05×72.1W±0.1, h34km±3km, n14, σ1°64/26, 1C-2D, Near coast of central Chile

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

mb1 3.6/14,mb1mx3.5/44,mbtmp3.6/14,ML3.9/3,MS3.3/7, Ms1 3.3/7,ms1mx3.0/22,Error ellipse: s-maj=39.6km s-min=15.4km az=33.0

ISC 22 01:55:20.9±0.7, **7°58N**×0°08×**80°82W**±0°05, **h35**km, **n50,** σ**2**°**14**/41, **mb3.4**/11, **MS3.4**/5, **9C, Panama**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZANG	**Zanguenga, Cho**	**1.66**	**35**	*eP*	**Pn**	**01 55 45.3**	**-2.2**
BCIP	**Isla Barro Col**	**1.85**	**32**	*eP*	**Pn**	**01 55 48.0**	**-2.2**
BCIP	**Isla Barro Col**	**1.85**	**32**	*eP*	**Pn**	**01 55 46.8**	**-3.3**
UPA	**Univ. de Panam**	**1.89**	**42**	*eP*	**Pn**	**01 55 47.0**	**-3.6**
FRIJ	**El Hiral**	**1.96**	**34**	*eP*	**Pn**	**01 55 49.6**	**-2.0**
BRU2	**Volcan**	**2.21**	**303**	*eP*	Pn	01 55 50.0	-5.2
EDBA	**Buenos Aires**	**2.89**	**303**	*eP*	**Pn**	**01 56 01.4**	**-3.1**
EDBA				*eS*	**Sn**	**01 56 41.4**	**+3.3**
DRK0	**Durika**	**2.92**	**305**	*eP*	**Pn**	**01 56 00.9**	**-4.1**
EDLM	**Las Mercedes**	**3.21**	**302**	*eP*	Pn	01 56 03.5	-5.5
EDDO	**Dominical**	**3.44**	**299**	*eP*	**Pn**	**01 56 08.8**	**-3.2**
BUS	**Buena Vista**	**3.50**	**304**	*eP*	**Pn**	**01 56 09.8**	**-3.4**
CAPC	**Capurgana**	**3.59**	**73**	*eP*	Pn	01 56 18.1	+3.9
SOLC	**Bahia Solano**	**3.65**	**111**	*eP*	**Pn**	**01 56 12.8**	**-2.1**
URSC	**Urasca**	**3.68**	**308**	*eP*	**Pn**	**01 56 12.3**	**-3.2**
URSC				*eS*	Sn	01 57 05.7	+7.9
VTR0	**Volcan Turrial**	**3.78**	**310**	*eP*	**Pn**	**01 56 16.2**	**-0.8**
CVTR	**Volcan Turrial**	**3.78**	**310**	*eP*	**Pn**	**01 56 15.8**	**-1.2**
CVTR				*eS*	Sn	01 57 09.5	+8.9
LCR2	**La Lucha 2**	**3.81**	**305**	*eP*	Pn	01 56 11.7	-5.6
HDC	**Heredia**	**4.05**	**307**	*eP*	**Pn**	**01 56 18.1**	**-2.3**
HDC				*eS*	Sn	01 57 13.6	+6.8
CGA2	**Cerro Gallo 2**	**4.34**	**304**	*eP*	**Pn**	**01 56 21.7**	**-2.8**
CGA2				*eS*	**Sn**	**01 57 18.5**	**+4.6**
DBBC	**Dabeiba**	**4.61**	**97**	*eP*	**Pn**	**01 56 28.0**	**-0.2**
JTS	**JuntasAbangare** 5.0nm,0.3s,baz=154,slow=16,SNR=29	**4.89**	**304**	Pn	**Pn**	**01 56 30.4**	**-1.6**
JTS				Lg	Lg	01 57 39.9	
	0.7nm,0.3s,baz=343,slow=16,SNR=2.6						
JTS				LR	LR	01 58 26.5	
	comp=Z,360nm,18.2s,baz=74,slow=38						
JTS	**JuntasAbangare**	**4.89**	**304**	*eP*	**Pn**	**01 56 30.1**	**-1.8**
MOTC	**Monteria, Cord**	**5.24**	**77**	*eP*	**Pn**	**01 56 36.0**	**-0.8**
CUI	**Cuipilapa**	**5.26**	**306**	*eP*	**Pn**	**01 56 34.3**	**-2.9**
HELC	**Santa Helena**	**5.43**	**104**	*eP*	**Pn**	**01 56 39.3**	**-0.4**
YOTC	**Yotoco, Valle**	**5.71**	**128**	*eP*	Pn	01 56 38.7	-4.7
GUYC	**Guyana, Colomb**	**5.88**	**113**	*eP*	**Pn**	**01 56 47.3**	**+1.3**
PTBC	**PUERTO BERRIO,**	**6.40**	**99**	*eP*	**Pn**	**01 56 52.0**	**-0.8**
SOTA	**Rioblanco**	**6.85**	**142**	*eP*	**Pn**	**01 56 59.3**	**0.0**
ROSC	**El Rosal** 0.5nm,0.3s,baz=258,slow=18,SNR=2.1	**7.01**	**112**	Pn	**Pn**	**01 57 00.9**	**-0.6**
SDV	**Santo Domingo** 3.4nm,0.3s,baz=287,slow=17,SNR=3.0	**10.17**	**82**	Pn	**Pn**	**01 57 44.4**	**-0.2**
SJG	**San Juan** 0.8nm,0.3s,baz=234,slow=11,SNR=2.7	**17.71**	**52**	P	**P**	**01 59 26.8**	**+1.3**
SJG				LR	LR	02 06 17.8	
	comp=Z,33nm,19.4s,baz=265,slow=37						
PTGA	**Pitinga** 1.1nm,0.3s,baz=287,slow=20,SNR=3.3	**22.38**	**111**	P	**P**	**02 00 18.1**	**+1.7**
LPAZ	**La Paz** comp=Z,55nm,18.0s,baz=10,slow=39	**26.84**	**152**	LR	LR	02 12 52.2	
TKL	**Tuckaleechee C** comp=Z,45nm,18.9s,baz=352,slow=39	**28.08**	**355**	LR	LR	02 13 31.2	
TXAR	**Lajitas Array** 0.2nm,0.6s,baz=125,slow=12,SNR=3.7	**30.50**	**318**	P	**P**	**02 01 31.0**	**+0.1**
SIV	**San Ignacio** 0.7nm,0.9s,baz=306,slow=14,SNR=3.5	**30.51**	**140**	P	**P**	**02 01 30.6**	**-0.4**
CPUP	**Villa Florida** comp=Z,60nm,18.6s,baz=174,slow=41	**40.70**	**147**	LR	LR	02 22 52.7	
PDAR	**Pinedale Array** 0.2nm,0.4s,baz=148,slow=9.0,SNR=2.3	**43.22**	**329**	P	**P**	**02 03 20.3**	**+1.3**
PDAR				LR	LR	02 23 31.0	
	comp=Z,41nm,18.8s,baz=76,slow=39						
RPN	**Rapa Nui** comp=Z,56nm,19.1s,baz=138,slow=29	**44.19**	**218**	LR	LR	02 16 55.0	
ULM	**Lac du Bonnet** 1.4nm,0.7s,baz=157,slow=13,SNR=2.9	**44.35**	**346**	P	**P**	**02 03 27.4**	**-0.2**
NVAR	**Mina Array Bea** 0.3nm,0.7s,baz=148,slow=7.3,SNR=3.7	**45.65**	**318**	P	**P**	**02 03 38.3**	**-0.2**
YKA	**Yellowknife Ar** 0.1nm,0.4s,baz=138,slow=7.8,SNR=3.1	**60.09**	**343**	P	**P**	**02 05 24.4**	**+0.1**
ILAR	**Eielson Array** 0.3nm,0.6s,baz=87,slow=4.7,SNR=4.4	**73.10**	**336**	P	**P**	**02 06 47.5**	**+0.1**
ESDC	**Sonseca Array** 0.6nm,0.7s,baz=272,slow=5.6,SNR=5.5	**75.09**	**51**	P	**P**	**02 07 00.1**	**+0.5**
KOWA	**Kowa** 0.7nm,0.4s,baz=298,slow=6.6,SNR=4.6	**75.42**	**77**	P	**P**	**02 07 02.3**	**+0.4**
TORD	**Torodi Ar. Bea** 0.2nm,0.6s,baz=278,slow=6.3,SNR=3.7	**81.06**	**78**	P	**P**	**02 07 32.5**	**-0.6**
BVAR	**Borovoye Array** 0.2nm,0.5s,baz=323,slow=3.6,SNR=2.3	**114.86**	**19**	PKP	PKPdf	02 13 57.0	-0.9
ASAR	**Alice Springs** 0.2nm,0.3s,baz=109,slow=3.6,SNR=3.4	**143.07**	**240**	PKP	**PKPdf**	**02 14 51.2**	**-0.9**
WRA	**Warramunga Arr** 0.4nm,0.4s,baz=103,slow=2.9,SNR=9.9	**143.79**	**247**	PKhKP	PKPpre	02 14 48.7	

IDC 22 01:56:04.9±4.9, **16°57S**×**72°70W**, **h115**km±41km, **mb3.6**/3, **mb1 3.6**/4, **mb1mx3.2**/42, **mbtmp3.8**/4, **Error ellipse: s-maj=48.1km s-min=29.4km az=103.0, Near coast of Peru**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz** 0.5nm,0.3s,baz=270,slow=10,SNR=11	**4.39**	**87**	P	Pn	01 57 10.2	0.0
PLCA	**Paso Flores** 3.7nm,1.1s,baz=18,slow=9.6,SNR=2.9	**24.15**	**176**	P	P	02 01 10.2	0.0
TORD	**Torodi Ar. Bea** 1.0nm,0.6s,baz=252,slow=5.4,SNR=14	**79.21**	**73**	P	P	02 07 57.9	+0.1
YKA	**Yellowknife Ar** 0.5nm,0.6s,baz=135,slow=5.4,SNR=12	**85.39**	**342**	P	P	02 08 28.9	0.0

*SOME **22** 02:07:59.8,44°.10N×83°.68E,h20km*
*NNC **22** 02:08:01.9±1.3,44°.39N×83°.40E,h0km,mb3.1,mpv2.7, Error ellipse: s-maj=14.8km s-min=5.7km az=110.0*

ISC 22 02:08:05.2±1.8, **44°46N**±0°09×**83°24E**±0°09, **h10**km, **n16,** σ**2**°**42**/30, **8C-1D, Northern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MK31	**Makanchi Array** 0.3nm,0.3s,baz=155,slow=15,SNR=128	**2.43**	**344**	⇑P	**Pn**	**02 08 44.7**	**-0.3**
MK31				⇑Pg	**Pb**	**02 08 48.0**	**-1.1**
	3.3nm,0.3s,baz=158,slow=17,SNR=7.3						
MK31				⇑Lg	Lg	02 09 22.8	
	4.4nm,0.3s,baz=157,slow=27,SNR=6.6						
DJR	**Jarkent** 37nm,0.3s	**2.48**	**268**	*eP*	**Pb**	**02 08 47.9**	**-1.9**
DJR				*eS*	**Sb**	**02 09 23.2**	**+2.9**
	16nm,0.3s						
MAKZ	**Makanchi** 1.6nm,0.5s	**2.51**	**340**	⇑Pn	**Pn**	**02 08 45.3**	**-0.9**
MAKZ				⇓Pg	**Pb**	**02 08 49.5**	**-0.9**
	4.5nm,0.5s						
MAKZ				⇑Lg	Lg	02 09 25.5	
	9.2nm,0.3s						
PDGK	**Podgornoye** 1.8nm,0.3s	**2.93**	**249**	⇑Pn	**Pn**	**02 08 51.3**	**-0.7**
PDGK				⇑Lg	Lg	02 09 37.2	
	13nm,0.5s						
SHLS	**Shalkode** 24nm,0.4s	**3.03**	**246**	*eP*	**Pn**	**02 08 51.7**	**-1.6**
SHLS				*eS*	**Sn**	**02 09 28.9**	**-0.7**
	54nm,0.5s						
ZSN	**Zaisan** 1.8nm,0.2s	**3.20**	**20**	*eP*	**Pb**	**02 09 00.8**	**-1.3**
ZSN				*eS*	**Sb**	**02 09 44.8**	**+3.6**
	14nm,0.2s						
UZB	**Uzynbulak** 2.3nm,0.4s	**3.32**	**248**	*eP*	Pb	02 08 58.5	-5.8
UZB				*eS*	**Sn**	**02 09 40.2**	**+3.3**
	7.4nm,0.4s						
KPKS	**Kokpek** 9.7nm,0.2s	**3.43**	**255**	*eP*	**Pb**	**02 09 02.7**	**-3.5**
KPKS				*eS*	**Sb**	**02 09 47.7**	**-0.3**
	39nm,0.4s						
MNBS	**Baschi** 5.3nm,0.4s	**3.50**	**265**	*eP*	**Pb**	**02 09 04.9**	**-2.3**
MNBS				*eS*	**Sb**	**02 09 52.4**	**+2.7**
	14nm,0.4s						
SATY	**Saty** 7.8nm,0.2s	**3.77**	**250**	*eP*	**Pb**	**02 09 12.8**	**+1.0**
SATY				*eS*	**Sg**	**02 10 05.9**	**-0.3**
	20nm,0.3s						
ARXS	**Arharly** 10nm,0.4s	**3.89**	**268**	*eP*	**Pb**	**02 09 13.2**	**-0.7**
ARXS				*eS*	**Sb**	**02 10 05.6**	**+4.5**
	16nm,0.5s						
CHKK	**Chushkaly** 7.6nm,0.3s	**4.54**	**265**	*eP*	**Pb**	**02 09 23.2**	**-1.7**
CHKK				*eS*	**Sb**	**02 10 23.1**	**+3.5**
	6.5nm,0.3s						
TNSS	**Tian-Shan** 2.9nm,0.4s	**4.77**	**255**	*eP*	**Pb**	**02 09 30.6**	**+1.4**
TNSS				*eS*	**Sg**	**02 10 35.5**	**-3.0**
	5.2nm,0.5s						
KUU	**Kurty** 2.1nm,0.5s	**5.00**	**266**	*eP*	**Pb**	**02 09 30.8**	**-1.9**
KUU				*eS*	**Sb**	**02 10 36.1**	**+3.3**
	4.6nm,0.3s						
IZV	**Izvestkoviy** 4.1nm,0.4s	**5.00**	**256**	*eP*	**Pb**	**02 09 35.3**	**+2.3**
IZV				*eS*	**Sg**	**02 10 44.2**	**-1.7**
	6.3nm,0.4s						
KST	**Kastek** 2.1nm,0.9s	**5.46**	**258**	*eP*	**Pb**	**02 09 42.3**	**+1.7**
KST				⇑*i*S	**Sg**	**02 10 56.4**	**-3.9**
	3.2nm,0.5s						

*ISCJB **22** 02:17:52.7±0.5, 18°.63N±0°.06×145°.6E±0°.1,h200km, mb3.3/17,Error ellipse: s-maj=19.2km s-min=7.8km az=-2.3*
*IDC **22** 02:17:55.0±1.6, 18°.54N×145°.58E,h211km±17km, mb3.2/16,mb1 3.4/19,mb1mx3.3/73,mbtmp3.8/19,Error ellipse: s-maj=19.2km s-min=11.0km az=91.0*

ISC 22 02:17:54.0±0.7, **18°57N**±0°07×**145°6E**±0°2, **h200**km, **n20,** σ**1**°**15**/21, **mb3.4**/17, **Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam** baz=12,slow=18,SNR=1.8	**5.00**	**188**	P	**Pn**	**02 19 07.7**	**-0.8**
GUMO				S	**Sn**	**02 20 09.2**	**+1.9**
	3.9nm,0.3s,baz=343,slow=19,SNR=2.7						
JOW	**Kunigami** 1.2nm,0.3s,baz=132,slow=7.1,SNR=3.8	**17.95**	**300**	P	**P**	**02 21 51.3**	**+2.0**
MJAR	**Matsushiro Arr** 2.3nm,0.6s,baz=160,slow=18,SNR=3.0	**19.04**	**342**	P	**P**	**02 22 00.0**	**-1.0**
ASAJ	**Asahikawa** 2.3nm,0.6s,baz=180,slow=8.1,SNR=4.6	**25.59**	**355**	P	**P**	**02 23 05.9**	**+1.3**
KLR	**Kul'dur** 0.1nm,0.6s,baz=156,slow=5.8,SNR=4.2	**32.56**	**343**	P	**P**	**02 24 05.4**	**-0.8**
PETK	**Petropavlovsk-** 1.3nm,0.7s,baz=161,slow=9.2,SNR=3.3	**35.73**	**13**	P	**P**	**02 24 34.8**	**+1.4**
WRA	**Warramunga Arr** 0.4nm,0.4s,baz=14,slow=8.6,SNR=10	**39.84**	**197**	P	**P**	**02 25 07.8**	**-0.3**
SONM	**Songino Array** 0.3nm,0.4s,baz=146,slow=8.0,SNR=2.5	**43.17**	**322**	P	**P**	**02 25 35.0**	**-0.1**
ASAR	**Alice Springs** 0.1nm,0.3s,baz=19,slow=12,SNR=3.6	**43.50**	**196**	P	**P**	**02 25 37.3**	**-0.6**
SEY	**Seymchan** 0.4nm,0.4s,baz=239,slow=21,SNR=2.1	**44.57**	**4**	P	**P**	**02 25 47.3**	**+1.5**
MKAR	**Makanchi Array** 0.3nm,0.7s,baz=96,slow=10,SNR=2.9	**58.47**	**314**	P	**P**	**02 27 29.2**	**+0.1**
KURBB	**Kurchatov Arra** 0.5nm,0.5s,baz=98,slow=7.1,SNR=4.8	**61.34**	**318**	P	**P**	**02 27 48.0**	**-0.4**
ILAR	**Eielson Array** 0.6nm,0.7s,baz=249,slow=5.0,SNR=7.8	**63.80**	**26**	P	**P**	**02 28 03.4**	**-1.2**
BVAR	**Borovoye Array** 0.4nm,0.5s,baz=81,slow=9.2,SNR=4.3	**66.50**	**320**	P	**P**	**02 28 21.3**	**-0.8**
INK	**Inuvik** 0.8nm,0.7s,baz=237,slow=3.9,SNR=5.7	**69.53**	**23**	P	**P**	**02 28 40.5**	**-0.1**
AKTO	**Aktyubinsk** 0.4nm,0.6s,baz=74,slow=12,SNR=1.9	**74.39**	**318**	P	**P**	**02 29 10.7**	**+0.8**
YKA	**Yellowknife Ar** 0.4nm,0.5s,baz=291,slow=5.4,SNR=7.7	**78.15**	**28**	P	**P**	**02 29 30.5**	**-0.3**
NVAR	**Mina Array Bea** 0.2nm,0.3s,baz=252,slow=6.6,SNR=4.1	**83.30**	**52**	P	**P**	**02 29 59.5**	**+0.6**
KVAR	**Kislovodsk Arr** 2.1nm,0.5s,baz=58,slow=9.2,SNR=2.2	**86.21**	**315**	P	**P**	**02 30 12.2**	**-0.9**
FINES	**FINESS Array B** 1.7nm,1.0s,baz=64,slow=6.3,SNR=3.4	**86.95**	**335**	P	**P**	**02 30 14.4**	**-1.8**

*TIF **22** 02:23:51.8,42°.54N×43°.33E,h23km±1km*
*ISCJB **22** 02:23:53.2±0.8,42°.50N±0°.08×43°.32E±0°.05,h12km±8km, Error ellipse: s-maj=14.2km s-min=5.2km az=167.2*
*CSEM **22** 02:23:53.0±0.4,42°.44N×43°.30E,h2km,ML2.0,Error ellipse: s-maj=11.6km s-min=6.5km az=149.0*
*DDA **22** 02:23:53.9,41°.94N×43°.70E,h7km,Md2.5*

ISC 22 02:23:51.7±1.6, **42°49N**±0°04×**43°33E**±0°04, **h9**km±13km, **n17,** σ**1**°**10**/33, **Western Caucasus**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONI	**Oni**	**0.14**	**43**	P	**Pb**	**02 23 56.8**	**+1.9**
ONI				S	**Sb**	**02 23 59.9**	**+2.9**
ONI	**Oni**	**0.14**	**43**	P	**Pb**	**02 23 56.8**	**+1.9**
ONI				S	**Sb**	**02 23 59.6**	**+2.6**
GUDG	**Gudauri**	**0.85**	**91**	P	**Pg**	**02 24 07.2**	**-1.0**
GUDG				S	**Sb**	**02 24 20.2**	**-0.3**
EPOS	**Posof**	**1.08**	**205**	*i* P	**Pb**	**02 24 11.8**	**-0.8**
EPOS				*i* S	**Sb**	**02 24 26.6**	**-0.4**
EPOS	**Posof**	**1.08**	**205**	P	**Pb**	**02 24 11.9**	**-0.8**
EPOS				S	**Sb**	**02 24 26.6**	**-0.4**
AKH	**Akhalkalaki**	**1.09**	**173**	P	**Pn**	**02 24 13.7**	**+0.4**
AKH				S	**Sn**	**02 24 28.4**	**-0.2**
TBLG	**Delisi**	**1.30**	**125**	P	**Pn**	**02 24 15.3**	**-0.7**
TBLG				S	**Sg**	**02 24 33.0**	**-0.4**
BTNK	**Botanikuri**	**1.36**	**126**	P	**Pg**	**02 24 18.1**	**+0.3**
BTNK				S	**Sg**	**02 24 36.5**	**+1.0**
BTNK	**Botanikuri**	**1.36**	**126**	P	**Pg**	**02 24 18.1**	**+0.3**
BTNK				S	**Sg**	**02 24 36.5**	**+1.0**
ARTV	**Artvin**	**1.67**	**219**	*i* P	**Pn**	**02 24 21.6**	**+0.2**
ARTV				*i* S	**Sb**	**02 24 43.7**	**-0.3**
ARTV	**Artvin**	**1.67**	**219**	P	**Pn**	**02 24 21.6**	**+0.2**
ARTV				S	**Sb**	**02 24 43.7**	**-0.3**
DGRG	**David-gareji**	**1.85**	**124**	P	**Pb**	**02 24 25.9**	**+0.2**
DGRG				S	**Sg**	**02 24 50.9**	**-0.2**
DGRG	**David-gareji**	**1.85**	**124**	P	**Pb**	**02 24 25.9**	**+0.2**
DBAD	**Bademkaya**	**1.91**	**220**	*i* P	**Pb**	**02 24 26.8**	**0.0**
DBAD				*i* S	**Sb**	**02 24 51.4**	**+0.6**
DBAD	**Bademkaya**	**1.91**	**220**	P	**Pb**	**02 24 26.8**	**0.0**
DBAD				S	**Sb**	**02 24 51.4**	**+0.6**
DDEM	**Demirkent**	**1.98**	**217**	*i* P	**Pb**	**02 24 27.3**	**-0.8**
DDEM				*i* S	**Sb**	**02 24 54.4**	**+1.5**
DDEM	**Demirkent**	**1.98**	**217**	P	**Pb**	**02 24 27.3**	**-0.8**
DDEM				S	**Sb**	**02 24 54.4**	**+1.5**

*UPP **22** 02:26:25.5,67°.87N×20°.21E,h0km,ML0.5,Mining explosion.*
*CSEM **22** 02:26:25.1±0.3,67°.80N×20°.27E,h2km,ML0.5,Error ellipse: s-maj=8.0km s-min=5.3km az=44.0,Mining explosion.*

HEL 22 02:26:25.9±0.1, **67°85N**×**20°22E**, **h0**km, **ML1.5, ML0.5**(UPP), **Explosion, Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.11**	**23**	P	Pg	02 26 27.6	-0.4
KUA				S	Sg	02 26 29.2	-0.3
KUA	**Kurravaara**	**0.11**	**23**	*i* P	Pg	02 26 27.6	-0.5
KUA				*i* S	Sg	02 26 29.2	-0.3
RATU	**Laukkuluspa**	**0.24**	**264**	P	Pg	02 26 30.2	-0.3
RATU	**Laukkuluspa**	**0.24**	**264**	*i* P	Pg	02 26 30.2	-0.2
NIKU	**Nikkaluokta**	**0.45**	**273**	P	Pg	02 26 34.1	-0.4
NIKU	**Nikkaluokta**	**0.45**	**273**	*i* P	Pg	02 26 34.1	-0.4
LANU	**Lannavaara**	**0.70**	**73**	P	Pg	02 26 38.7	-0.5
LANU	**Lannavaara**	**0.70**	**73**	*i* P	Pg	02 26 38.7	-0.5
KIF	**Kilpisjarvi**	**1.18**	**10**	*e*Pb	Pg	02 26 48.6	+0.1
KIF				*e*Sn	Sn	02 27 06.7	+0.4
KIF	**Kilpisjarvi**	**1.18**	**10**	*e*PB	Pg	02 26 48.6	+0.2
KIF				MSG		02 27 03.8	
	comp=Z,3.7nm,0.2s						
KIF				*e*SN	Sn	02 27 06.7	+0.4
PAJU	**Pajala**	**1.39**	**125**	P	Pg	02 26 51.1	-1.4
PAJU	**Pajala**	**1.39**	**125**	*e*P	Pg	02 26 51.1	-1.4
HEF	**Hetta**	**1.40**	**65**	*e*Sn	Sn	02 27 15.4	+3.5
HEF	**Hetta**	**1.40**	**65**	*e*PN	Pn	02 26 52.2	-0.6
HEF				MSG		02 27 09.2	
	comp=Z,2.3nm,0.2s						
HEF				*e*SN	Sn	02 27 15.4	+3.5
ERTU	**Ertsjaerv**	**1.51**	**149**	*e*Pn	Pn	02 26 54.3	+0.1
ERTU				*e*Sn	Sg	02 27 14.2	-0.2
ERTU	**Ertsjaerv**	**1.51**	**149**	*e*PN	Pn	02 26 54.3	+0.1
ERTU				*e*SN	Sg	02 27 14.2	-0.2
KALU	**Kalix**	**2.35**	**147**	*e*Pb	Pn	02 27 06.3	+0.6
KALU				*e*Sg	Sb	02 27 37.9	-0.7
KALU	**Kalix** baz=333	**2.35**	**147**	*e*PB	Pn	02 27 06.3	+0.6
KALU				*e*SG	Sb	02 27 37.9	-0.7
TOF	**Tornio**	**2.40**	**136**	*e*Pb	Pn	02 27 07.7	+1.3
TOF				*e*Sg	Sb	02 27 40.1	+0.1
	comp=Z,2.4nm,0.2s						
TOF	**Tornio**	**2.40**	**136**	*e*PB	Pn	02 27 07.7	+1.3
TOF				MSG		02 27 37.2	
	comp=Z,2.4nm,0.2s						
TOF				*e*SG	Sb	02 27 40.1	+0.1
SGF	**Sodankyl**	**2.44**	**97**	*e*Sg	Sg	02 27 43.0	-1.3
SGF	**Sodankyl**	**2.44**	**97**	*e*SG	Sg	02 27 43.0	-1.3
ARE0	**ARCESS Array S**	**2.57**	**46**	*e*P	Pn	02 27 09.6	+0.9
ARE0				*e*Sg	Sb	02 27 45.6	+0.8
ARE0	**ARCESS Array S** baz=234	**2.57**	**46**	*e*P	Pn	02 27 09.6	+0.9
ARE0				*e*SG	Sb	02 27 45.6	+0.8
RNF	**Rovaniemi**	**2.58**	**116**	*e*Pb	Pn	02 27 10.8	+2.0
RNF				*e*Sg	Sb	02 27 44.4	-0.6
RNF	**Rovaniemi** baz=298	**2.58**	**116**	*e*PB	Pn	02 27 10.8	+2.0
RNF				*e*SG	Sb	02 27 44.4	-0.6

IDC 22 02:38:08.0±1.8, **5°47S**×**147°16E**, **h182**km±18km, **mb3.3**/6, **mb1 3.6**/9, **mb1mx3.3**/46, **mbtmp4.0**/9, **Error ellipse: s-maj=33.9km s-min=12.5km az=111.0, Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby** 15nm,0.3s,baz=339,slow=8.6,SNR=28	**3.91**	**180**	P	Pn	02 39 09.6	+1.6
PMG				S	Sn	02 39 54.2	-0.9
	12nm,0.3s,baz=208,slow=22,SNR=15						
CTA	**Charters Tower** 0.1nm,0.3s,baz=1.4,slow=13,SNR=3.2	**14.55**	**183**	P	Pn	02 41 26.4	+0.8
WRA	**Warramunga Arr** 3.0nm,0.3s,baz=47,slow=12,SNR=209	**19.04**	**220**	P	P	02 42 17.6	+1.1
WRA				S	S	02 45 41.7	-1.3
	0.1nm,0.3s,baz=40,slow=21,SNR=4.6						
ASAR	**Alice Springs** 5.6nm,0.7s,baz=47,slow=8.3,SNR=64	**22.14**	**214**	P	P	02 42 50.4	+1.1
ASAR				S	S	02 46 41.5	+1.5
	0.5nm,0.8s,baz=33,slow=19,SNR=4.4						
STKA	**Stephens Creek** 1.2nm,0.6s,baz=355,slow=12,SNR=3.5	**26.78**	**191**	P	P	02 43 31.5	+0.4
VNDA	**Vanda** 0.4nm,0.5s,baz=352,slow=4.0,SNR=5.5	**72.42**	**177**	P	P	02 49 14.4	+0.5
MKAR	**Makanchi Array** 0.2nm,0.6s,baz=117,slow=4.4,SNR=2.5	**77.20**	**320**	P	P	02 49 41.6	-0.3
ILAR	**Eielson Array** 0.4nm,0.8s,baz=260,slow=5.3,SNR=4.8	**84.94**	**23**	P	P	02 50 21.0	-1.4
GEYT	**Alibeck** 0.6nm,0.6s,baz=76,slow=6.1,SNR=2.6	**92.57**	**308**	P	P	02 51 00.3	+1.1
TORD	**Torodi Ar. Bea** 0.3nm,0.3s,baz=83,slow=2.9,SNR=17	**145.11**	**285**	PKPbc	PKPbc	02 57 23.7	-1.1

*IDC **22** 02:54:36.6±8.5, 36°.38N×71°.14E,h199km±78km,mb3.0/3, mb1 3.2/5,mb1mx2.7/65,mbtmp3.6/5,MS2.7/1,Ms1 2.7/1, ms1mx2.2/22,Error ellipse: s-maj=38.9km s-min=27.7km az=1.0*
*ISCJB **22** 02:54:37.4±1.1, 36°.66N±0°.08×71°.2E±0°.1,h200km, mb3.0/3,Error ellipse: s-maj=12.8km s-min=10.1km az=35.5*
*NNC **22** 02:54:44.5±5.0, 37°.10N×71°.33E,h0km,mb3.6,mpv3.2, Error ellipse: s-maj=41.8km s-min=16.5km az=169.0*

ISC 22 02:54:37.1±1.2, **36°6N**±0°.1×**71°22E**±0°.09, **h200**km, **n10,** σ**1**°**92**/15, **mb3.2**/3, **7C-3D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	**Dzherino** 13nm,0.3s	**2.89**	**320**	⇑Pn	**Pn**	**02 55 27.5**	**+1.9**
DZET				⇓Sn	**Sn**	**02 56 02.8**	**-0.8**
	166nm,0.4s						
SFK	**Sufi-Kurgan** 1.7nm,0.2s	**3.83**	**27**	⇑Pn	**Pn**	**02 55 39.6**	**+2.6**
SFK				⇑Sn	**Sn**	**02 56 23.0**	**-1.1**
	15nm,0.3s						
MNAS	**Manas** 1.3nm,0.4s	**5.94**	**9**	⇓Pn	**Pn**	**02 56 05.7**	**+2.1**
MNAS				⇑Sn	**Sn**	**02 57 09.7**	**-2.5**
	16nm,0.7s						
KK31	**Karatay Array** 0.4nm,0.2s,baz=182,slow=13,SNR=18	**6.50**	**355**	⇓Pn	**Pn**	**02 56 13.5**	**+2.8**
KK31				⇑Sn	**Sn**	**02 57 23.2**	**-1.8**
	6.0nm,0.6s,baz=188,slow=25,SNR=9.7						
AAK	**Ala-Archa** 2.9nm,1.2s	**6.52**	**22**	⇑Pn	**Pn**	**02 56 13.3**	**+2.2**
AAK				⇑Sn	**Sn**	**02 57 25.1**	**-0.6**
	3.5nm,0.8s						
AKTO	**Aktyubinsk** 0.3nm,0.3s,baz=131,slow=11,SNR=3.5	**16.77**	**330**	P	**Pn**	**02 58 20.5**	**+0.1**
ZALV	**Zalesovo Beam** 0.2nm,0.3s,baz=219,slow=11,SNR=3.1	**19.73**	**24**	P	**Pn**	**02 58 53.5**	**-1.8**
ZALV				LR	LR	03 06 40.2	
	comp=Z,23nm,19.4s,baz=230,slow=36						
TORD	**Torodi Ar. Bea** 0.2nm,0.5s,baz=40,slow=6.2,SNR=5.9	**55.90**	**269**	P	**P**	**03 05 00.9**	**-0.9**
YKA	**Yellowknife Ar** 0.2nm,0.4s,baz=351,slow=5.3,SNR=8.6	**81.12**	**

ISC 22 03:17:31.6±0.8, 1°34N±0°04×91°69E±0°04, h20km±5km, n463, σ1s60/474, mb4.8/146, MS4.5/75, 28C-15D, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLSI	**Meulaboh, Aceh**	**5.54**	**58**	P	**Pn**	**03 18 51.1**	**-1.9**
TPTI		**5.81**	**71**	P	**Pn**	**03 18 54.5**	**-2.2**
GSI	**Gunungsitoli**	**5.89**	**90**	P	**Pn**	**03 18 55.3**	**-2.5**
GSI	**Gunungsitoli**	**5.89**	**90**	*e*Pn	**Pn**	**03 18 55.2**	**-2.5**
GSI				*e*Sn	**Sn**	**03 20 00.8**	**-4.0**
KCSI	**Kotacane, Aceh**	**6.46**	**70**	P	**Pn**	**03 19 04.3**	**-1.3**
LHMI	**Lhok Sumawe**	**6.52**	**54**	P	**Pn**	**03 19 05.5**	**-1.0**
LHMI	**Lhok Sumawe**	**6.52**	**54**	*e*Pn	**Pn**	**03 19 05.7**	**-0.8**
PBSI	**Pulau Batu**	**6.74**	**102**	P	**Pn**	**03 19 07.6**	**-1.8**
TSI	**Tuntungan**	**7.20**	**73**	P	**Pn**	**03 19 15.4**	**-0.4**
PSI	**Prapat**	**7.38**	**79**	*e*Pn	**Pn**	**03 19 16.0**	**-2.4**
PSI	**Prapat**	**7.38**	**79**	*e*P	**Pn**	**03 19 16.0**	**-2.4**
SISI	**Saibi**	**7.86**	**110**	P	**Pn**	**03 19 22.3**	**-2.6**
MNSI	**Mandailing Nat**	**7.91**	**94**	P	**Pn**	**03 19 23.0**	**-2.6**
PDSI	**Padang**	**9.05**	**104**	P	**Pn**	**03 19 39.6**	**-1.7**
PKDT	**Phuket**	**9.29**	**45**	P	**Pn**	**03 19 41.6**	**-2.9**
	118nm,0.9s,1μm0.4nm						
BKNI	**Bangkinang**	**9.41**	**96**	P	**Pn**	**03 19 46.5**	**+0.4**
BKNI	**Bangkinang**	**9.41**	**96**	*e*Pn	**Pn**	**03 19 44.2**	**-1.8**
KULM	**Kulim**	**9.77**	**66**	*e*Pn	**Pn**	**03 19 49.0**	**-2.1**
IPM	**Ipoh**	**9.84**	**71**	*e*Pn	**Pn**	**03 19 49.9**	**-2.1**
TRTT	**Trang**	**10.26**	**51**	P	**Pn**	**03 19 54.5**	**-3.3**
	43nm,1.1s,516nm						
PBA	**Port Blair**	**10.31**	**6**	*e*P	Pn	03 19 55.1	-3.3
KRJI	**Kerinci**	**10.35**	**109**	P	**Pn**	**03 19 58.9**	**-0.2**
SURT	**Suratani**	**10.36**	**43**	P	**Pn**	**03 19 57.2**	**-2.0**
	39nm,1.0s,885nm						
SKLT	**Songkhla**	**10.62**	**57**	P	**Pn**	**03 20 00.1**	**-2.7**
	130nm,1.0s,1μm						
DGPR	**DIGLIPUR**	**11.83**	**6**	*e*P	**Pn**	**03 20 18.2**	**-1.1**
MYKOM	**Kota Tinggi**	**12.17**	**88**	*e*Pn	**Pn**	**03 20 21.8**	**-2.2**
PALK	**Pallekele**	**12.44**	**299**	Pn	**Pn**	**03 20 24.8**	**-2.9**
	3.6nm,0.3s,baz=116,slow=11,SNR=11						
PALK				Sn	Sn	03 22 29.5	-16
	19nm,0.3s,baz=296,slow=2.0,SNR=16						
PALK				LR	LR	03 24 12.7	
	comp=Z,767nm,21.6s,baz=116,slow=32						
PALK	**Pallekele**	**12.44**	**299**	*e*Sn	**Pn**	**03 20 24.4**	**-3.3**
PALK				*e*Sn	Sn	03 22 31.2	-15
PALK	**Pallekele**	**12.44**	**299**	*ce*P	**Pn**	**03 20 27.0**	**-0.7**
MNAI	**Manna**	**12.60**	**117**	*e*Pn	**Pn**	**03 20 28.7**	**-1.2**
MNAI				*e*Sn	Sn	03 22 37.0	-13
TPRI	**Tanjung Pinang**	**12.84**	**92**	P	**Pn**	**03 20 33.2**	**0.0**
DSRI	**Dabo**	**13.02**	**98**	P	**Pn**	**03 20 35.4**	**-0.1**
	99nm,1.0s,3μm						
MDSI	**Maura Dua**	**13.76**	**115**	P	**Pn**	**03 20 41.5**	**-4.1**
LWLI	**Liwa**	**13.88**	**117**	P	P	03 21 01.5	+5.9
PHET	**Kaeng Krachan**	**13.93**	**34**	P	**P**	**03 20 58.7**	**+2.7**
CHBT	**CHBT**	**15.49**	**42**	P	**Pn**	**03 21 10.7**	**+1.7**
	120nm,0.9s,53μm						
NAYO	**Nakonayok**	**16.03**	**36**	P	**Pn**	**03 21 16.5**	**+0.4**
	18nm,1.3s,2μm						
MDRS	**Chennai**	**16.25**	**316**	*e*P	**Pn**	**03 21 17.7**	**-1.2**
MDRS				IAmb	IAmb	03 21 20.0	
	comp=Z,75nm,0.2s						
TRD	**Trivandrum**	**16.30**	**296**	*e*P	**Pn**	**03 21 18.4**	**-1.1**
CHAI	**Chaiyaphum**	**17.68**	**35**	P	**Pn**	**03 21 36.9**	**+0.1**
	comp=Z,7.6nm,1.2s,comp=Z,162nm						
PBKT	**Sadao Pong**	**17.68**	**31**	P	**Pn**	**03 21 36.1**	**-0.8**
	comp=Z,27nm,1.0s						
LEM	**Lembang**	**17.85**	**117**	P	**P**	**03 21 41.5**	**+1.8**
	comp=Z,1.9nm,0.3s,baz=276,slow=6.2,SNR=8.8						
LEM				LR	LR	03 27 16.2	
	comp=Z,423nm,20.6s,baz=262,slow=33						
PHIT	**Phitsanulok**	**17.94**	**28**	P	**P**	**03 21 41.0**	**+0.5**
	comp=Z,25nm,1.0s						
VIS	**Vishakhapatnam**	**18.24**	**334**	*e*P	**Pn**	**03 21 42.6**	**-1.1**
VIS				IAmb	IAmb	03 21 44.5	
	comp=Z,104nm,1.2s						
VIS				*i* x	x	03 24 59.5	
JCJI	**Jatiwangi**	**18.29**	**115**	P	**P**	**03 21 49.2**	**+4.8**
	comp=Z,211nm,0.6s						
CM01	**Chiang Mai Arr**	**18.42**	**22**	*e*P	**P**	**03 21 44.3**	**-1.5**
CMAR	**Chiang Mai Arr**	**18.45**	**22**	P	**P**	**03 21 44.8**	**-1.3**
	comp=Z,0.3nm,0.3s,baz=217,slow=13,SNR=13						
CMAR				LR	LR	03 28 58.9	
	comp=Z,503nm,19.5s,baz=208,slow=38						
KHON	**Khomkaen**	**18.51**	**36**	P	**Pn**	**03 21 49.5**	**+2.5**
	comp=Z,15nm,0.9s,comp=Z,1μm						
KSM	**Kuching**	**18.62**	**89**	*e*P	**P**	**03 21 47.5**	**-0.5**
	comp=Z,94nm,1.1s						
CHTO	**Chiang Mai**	**18.77**	**22**	P	**Pn**	**03 21 50.6**	**+0.4**
	comp=Z,80nm,1.4s,comp=Z,2μm						
CHTO	**Chiang Mai**	**18.77**	**22**	*e*P	**P**	**03 21 48.2**	**-1.5**
	comp=Z,12nm,0.9s						
CHTO	**Chiang Mai**	**18.77**	**22**	*e*P	**P**	**03 21 48.2**	**-1.5**
CHTO				pmax	pmax		
	comp=Z,12nm,0.9s						
CMMT	**Chiang Mai**	**18.77**	**22**	P	**P**	**03 21 49.5**	**-0.2**
	comp=Z,19nm,1.0s,comp=Z,489nm						
LAMP	**Lampang**	**18.77**	**24**	P	**Pn**	**03 21 53.1**	**+2.9**
	comp=Z,12nm,1.0s						
KPJI	**Karang Pucung**	**19.24**	**117**	P	**P**	**03 21 55.0**	**+0.2**
UBPT	**Khong Chiam**	**19.42**	**44**	P	**P**	**03 21 56.5**	**-0.3**
	comp=Z,52nm,0.9s,comp=Z,1μm						
PAYA	**Payao**	**19.62**	**24**	P	**Pn**	**03 22 05.6**	**+5.1**
	comp=Z,7.6nm,1.0s,comp=Z,158nm						
SKNT	**Sakolnakorn**	**19.70**	**37**	P	**P**	**03 21 59.3**	**-0.5**
	comp=Z,9.3nm,1.4s						
BWNR	**Bhubaneshwar**	**19.70**	**343**	*e*P	**Pn**	**03 22 00.9**	**-0.4**
BWNR				IAmb	IAmb	03 22 13.4	
	comp=Z,152nm,1.5s						
STKI	**Sintang**	**19.83**	**93**	P	**P**	**03 22 01.3**	**0.0**
CMAI	**Chiengmai2**	**19.84**	**21**	P	**Pn**	**03 22 02.6**	**-0.5**
	comp=Z,234nm,1.0s						
PBKI	**Pangkalan Bun**	**20.38**	**101**	P	**P**	**03 22 07.8**	**+0.5**
SMRI	**Semarang**	**20.48**	**114**	P	Pn	03 22 09.8	-0.9
HYB	**Hyderabad**	**20.55**	**322**	*i* P	**P**	**03 22 09.0**	**-0.1**
HYB	**Hyderabad**	**20.55**	**322**	*e*P	**P**	**03 22 07.1**	**-2.0**
HYB				IAmb	IAmb	03 22 15.6	
	comp=Z,16nm,1.2s						
SBUM	**Sibu**	**20.55**	**87**	*e*P	**P**	**03 22 08.7**	**-0.5**
	comp=Z,70nm,1.0s						
H08S2	**Diego Garcia H**	**21.12**	**245**	T	T	03 43 58.0	
	baz=65,slow=75,SNR=210						
H08S3	**Diego Garcia H**	**21.12**	**245**	T	T	03 43 57.1	
	baz=65,slow=75,SNR=141						
H08S1	**Diego Garcia H**	**21.14**	**245**	T	T	03 43 58.3	
	baz=65,slow=75,SNR=189						
WOJI	**Wonogiri, Jawa**	**21.24**	**116**	P	**P**	**03 22 21.3**	**+4.7**
	comp=Z,35nm,1.4s						
PCJI	**Pacitan**	**21.62**	**116**	P	**P**	**03 22 21.3**	**+0.7**
GOA	**Goa**	**22.55**	**310**	*e*P	**P**	**03 22 29.9**	**-0.7**
BOK	**Bokaro**	**23.02**	**346**	*e*P	**P**	**03 22 35.4**	**-0.1**
NGP	**Nagpur**	**23.23**	**329**	*e*P	**P**	**03 22 37.4**	**-0.3**
NGP				IAmb	IAmb	03 22 40.3	
	comp=Z,70nm,1.8s						
NGP				*ex*	x	03 26 58.0	
MTKI	**Muara Teweh, K**	**23.32**	**95**	P	**P**	**03 22 40.8**	**+2.1**
	comp=Z,55nm,0.4s						
SHL	**Shillong**	**24.09**	**0**	*e*P	**P**	**03 22 43.9**	**-2.3**
SHL				IAmb	IAmb	03 22 46.0	
	comp=Z,328nm,3.2s						
SHL	**Shillong**	**24.09**	**0**	P	**P**	**03 22 45.9**	**-0.2**
SHL				pmax	pmax		
	comp=Z,35nm,0.8s						
POO	**Poona**	**24.46**	**315**	*e*P	**P**	**03 22 50.3**	**+0.9**
POO				*ex*	x	03 27 19.0	
KBKI	**Kotabaru**	**24.90**	**101**	P	**P**	**03 22 56.5**	**+3.0**
	comp=Z,29nm,1.3s,comp=Z,1μm						
KKM	**Kota Kinabalu**	**24.91**	**79**	*e*P	**P**	**03 22 52.3**	**-1.4**
	comp=Z,81nm,1.1s						
QIZ	**Qiongzhong**	**25.02**	**44**	P	**P**	**03 22 54.3**	**-0.2**
QIZ				S	**S**	**03 27 20.6**	**+2.9**
QIZ				pmax	pmax		
	comp=Z,170nm,4.0s						
QIZ				LR	LR		
	comp=Z,1μm,14.3s						
QIZ				LR	LR		
	comp=Z,920nm,14.7s						
QIZ				LR	LR		
	comp=Z,1μm,13.8s						
BKB	**Balikpapan**	**25.34**	**96**	P	**P**	**03 23 00.2**	**+2.8**
	comp=Z,141nm,1.1s,comp=Z,2μm						
SMKI	**Samarinda**	**25.58**	**94**	P	**P**	**03 23 01.6**	**+1.9**
	comp=Z,157nm,0.5s						
ODAN	**Odare**	**25.71**	**351**	*e*P	**P**	**03 23 01.3**	**+0.4**
	comp=Z,201nm,1.1s						
BHPL	**Bhopal**	**25.80**	**329**	*e*P	**P**	**03 22 59.4**	**-2.2**
RAMN	**Ramite**	**25.93**	**350**	*e*P	**P**	**03 23 03.5**	**+0.5**
	comp=Z,203nm,1.1s						
KMI	**Kunming**	**25.95**	**23**	P	**P**	**03 23 03.9**	**+0.8**
KMI				pP	pP	03 23 06.5	-2.8
KMI				sP	sP	03 23 08.8	-3.0
KMI				PP	**PnPn**	**03 23 44.3**	**+3.4**
KMI				S	**S**	**03 27 30.8**	**-1.9**
KMI				pmax	pmax		
	comp=Z,27nm,0.5s						
KMI				pmax	pmax		
	comp=Z,150nm,4.2s						
KMI				LR	LR		
	comp=Z,1μm,17.7s						
KMI				LR	LR		
	comp=Z,1μm,14.8s						
KMI				LR	LR		
	comp=Z,950nm,13.7s						
JIRN	**Jiri**	**26.70**	**349**	*e*P	**P**	**03 23 10.5**	**+0.5**
PKIN	**Phulchoki**	**26.78**	**348**	*e*P	**P**	**03 23 11.0**	**+0.4**
	comp=Z,63nm,1.1s						
DMN	**Daman**	**26.88**	**347**	*e*P	**P**	**03 23 11.8**	**+0.3**
	comp=Z,36nm,1.0s						
GUN	**Gumba**	**27.00**	**349**	*e*P	**P**	**03 23 13.0**	**+0.3**
	comp=Z,123nm,1.1s						
KKN	**Kakani**	**27.01**	**347**	*e*P	**P**	**03 23 12.6**	**-0.1**
	comp=Z,82nm,1.2s						
MYLDM	**Lahad Datu**	**27.04**	**81**	*e*P	**P**	**03 23 13.0**	**+0.2**
	comp=Z,69nm,1.0s						
GKN	**Gorkha**	**27.36**	**346**	*e*P	**P**	**03 23 16.0**	**+0.3**
KOLN	**Koldanda**	**27.40**	**344**	*e*P	**P**	**03 23 16.5**	**+0.3**
PYUN	**Piuthan**	**27.88**	**343**	*e*P	**P**	**03 23 20.7**	**+0.2**
	comp=Z,67nm,1.0s						
LSA	**Lhasa**	**28.21**	**359**	*e*P	**P**	**03 23 24.4**	**+0.7**
	comp=Z,40nm,1.0s						
LSA	**Lhasa**	**28.21**	**359**	*e*P	**P**	**03 23 24.4**	**+0.7**
LSA				pmax	pmax		
	comp=Z,40nm,1.0s						
MPSI	**Mapaga**	**28.23**	**92**	P	**P**	**03 23 25.2**	**+1.7**
	comp=Z,15nm,0.9s,comp=Z,787nm						
TTSI	**Tana Toraja**	**28.46**	**99**	P	**P**	**03 23 26.5**	**+1.0**
GYA	**Guiyang**	**28.83**	**29**	↑*i*P	**P**	**03 23 29.8**	**+0.9**
GYA				PP	**PnPn**	**03 24 22.4**	**+2.1**
GYA				PcP	**PcP**	**03 26 40.0**	**+1.6**
GYA				S	**S**	**03 28 15.6**	**-2.5**
GYA				pmax	pmax		
	comp=Z,20nm,0.8s						
GYA				pmax	pmax		
	comp=Z,120nm,5.4s						
GYA				LR	LR		
	comp=Z,540nm,17.2s						
GYA				LR	LR		
	comp=Z,480nm,18.0s						
GYA				LR	LR		
	comp=Z,510nm,17.6s						
BNSI	**Bone**	**28.96**	**101**	P	**P**	**03 23 30.8**	**+0.8**
	comp=Z,20nm,1.7s						
MRSI	**Marisa**	**30.26**	**91**	P	**P**	**03 23 43.3**	**+1.7**
	comp=Z,16nm,1.2s						
LUWI	**Luwuk**	**31.17**	**94**	*e*P	**P**	**03 23 49.3**	**-0.3**
CD2	**Chengdu**	**31.56**	**20**	P	**P**	**03 23 52.5**	**-0.3**
CD2				pP	pP	03 23 56.6	-2.5
CD2				sP	sP	03 23 58.4	-3.2
CD2				PP	**PP**	**03 25 03.9**	**-0.5**
CD2				S	**S**	**03 29 02.0**	**+1.4**
CD2				sS	pS	03 29 09.1	+1.3
CD2				pmax	pmax		
	comp=Z,70nm,0.6s						
CD2				pmax	pmax		
	comp=Z,220nm,5.0s						
CD2				LR	LR		
	comp=Z,770nm,15.9s						
CD2				LR	LR		
	comp=Z,1μm,16.4s						
CD2				LR	LR		
	comp=Z,720nm,13.9s						
TGY	**Tagaytay City**	**31.58**	**65**	LR	LR	03 35 46.4	
	comp=Z,390nm,21.7s,baz=226,slow=35						
KMSI	**Cibinong**	**32.30**	**91**	P	**P**	**03 23 55.8**	**-3.7**
	comp=Z,140nm,0.5s						
SMLA	**Simla**	**32.66**	**337**	*e*P	**P**	**03 24 03.1**	**+0.6**
ENH	**Enshi**	**33.38**	**29**	*e*P	**P**	**03 24 07.8**	**-0.9**
	comp=Z,23nm,0.8s						
BATI	**Baumata**	**33.83**	**111**	LR	LR	03 39 29.6	
	comp=Z,717nm,18.7s,baz=348,slow=39						
DHRM	**DHARAMSHALA**	**34.00**	**336**	*e*P	**P**	**03 24 13.8**	**-0.6**
SOEI	**Soe**	**34.26**	**109**	*e*P	**P**	**03 24 14.0**	**-2.8**
DAV	**Davao City (W)**	**34.26**	**79**	LR	LR	03 41 19.1	
	comp=Z,363nm,18.6s,baz=322,slow=42						
SANI	**Sanana**	**34.46**	**96**	P	**P**	**03 24 16.4**	**-2.0**
QZH	**Quanzhou**	**35.01**	**46**	*e*P	**P**	**03 24 23.3**	**+0.3**
QZH				S	**S**	**03 29 55.5**	**+1.3**
QZH				LR	LR		
	comp=Z,2μm,15.9s						
QZH				LR	LR		
	comp=Z,1μm,15.9s						
QZH				LR	LR		
	comp=Z,1μm,12.8s						
NLAI	**Namlea**	**35.69**	**97**	P	**P**	**03 24 29.6**	**+0.6**
	comp=Z,41nm,0.9s,comp=Z,4μm						
WHN	**Wuhan**	**36.14**	**34**	P	**P**	**03 24 33.8**	**+1.2**
WHN				S	**S**	**03 30 18.9**	**+7.6**
WHN				LR	LR		
	comp=Z,5μm,21.3s						
WHN				LR	LR		
	comp=Z,2μm,13.8s						
WHN				LR	LR		
	comp=Z,2μm,15.1s						
XAN	**Xi'an**	**36.31**	**25**	P	**P**	**03 24 33.1**	**-1.0**
XAN				sP	pP	03 24 40.3	-0.1
XAN				PP	**PnPn**	**03 25 54.8**	**-1.6**
XAN				PcP	**PcP**	**03 27 00.4**	**+1.6**
XAN				S	**S**	**03 30 11.5**	**-2.6**
XAN				ScS	**ScS**	**03 34 48.4**	**-2.1**
XAN				pmax	pmax		
	comp=Z,22nm,1.0s						
XAN				LR	LR		
	comp=Z,670nm,17.2s						
XAN				LR	LR		
	comp=Z,1μm,17.1s						
XAN				LR	LR		
	comp=Z,770nm,13.9s						
LZH	**Lanzhou**	**36.37**	**17**	*e*P	**P**	**03 24 33.3**	**-1.4**
LZH				pP	pP	03 24 36.8	-4.2
LZH				sP	sP	03 24 39.0	-4.5
LZH				*e*PP	**PnPn**	**03 25 57.0**	**-0.1**
LZH				*e*S	**S**	**03 30 13.3**	**-1.8**
LZH				pmax	pmax		
	comp=Z,35nm,1.2s						
LZH				pmax	pmax		
	comp=Z,260nm,6.1s						
LZH				LR	LR		
	comp=Z,780nm,15.0s						
LZH				LR	LR		
	comp=Z,2μm,15.0s						
LZH				LR	LR		
	comp=Z,2μm,17.1s						
NIL	**Nilore**	**36.49**	**334**	*e*P	**P**	**03 24 34.8**	**-0.9**
	comp=Z,68nm,0.7s						
NIL	**Nilore**	**36.49**	**334**	*e*P	**P**	**03 24 34.8**	**-0.9**
NIL				pmax	pmax		
	comp=Z,68nm,0.7s						
MEEK	**Meekatharra**	**38.05**	**139**	P	**P**	**03 24 49.5**	**+0.5**
	baz=38,SNR=4.9						
GTA	**Gaotai**	**38.62**	**10**	↓P	**P**	**03 24 53.4**	**-0.2**
GTA				pP	pP	03 24 58.3	-1.6
GTA				sP	sP	03 25 00.4	-2.0
GTA				S	**S**	**03 30 47.5**	**-1.6**
GTA				ScP	**ScP**	**03 30 53.6**	**+0.6**
GTA				ScS	**ScS**	**03 35 02.1**	**-1.4**
GTA				pmax	pmax		
	comp=Z,16nm,1.2s						
GTA				pmax	pmax		
	comp=Z,150nm,5.2s						
GTA				LR	LR		
	comp=Z,310nm,16.2s						
GTA				LR	LR		
	comp=Z,530nm,14.7s						
GTA				LR	LR		
	comp=Z,340nm,17.1s						
WSAR	**Wadi Sarin**	**38.76**	**307**	P	**P**	**03 24 54.0**	**-0.9**
	comp=Z,3.7nm,0.6s,baz=142,slow=4.1,SNR=1.6						
SIJI	**Sorong**	**39.64**	**93**	P	**P**	**03 25 00.1**	**-2.3**
	comp=Z,7.2nm,0.7s,baz=298,slow=8.7,SNR=4.0						
NJ2	**Nanjing**	**39.87**	**37**	*e*P	**P**	**03 25 01.5**	**-2.6**
NJ2				pmax	pmax		
	comp=Z,11nm,0.5s						
NJ2				pmax	pmax		
	comp=Z,300nm,4.9s						
NJ2				LR	LR		
	comp=Z,1μm,16.3s						
NJ2				LR	LR		
	comp=Z,1μm,15.7s						
NJ2				LR	LR		
	comp=Z,770nm,17.4s						
KNRA	**Kununurra**	**40.35**	**116**	P	**P**	**03 25 08.0**	**-0.3**
	baz=40,SNR=3.4						
KSH	**Kashi**	**40.62**	**341**	P	**P**	**03 25 08.3**	**-2.0**
TIY	**Taiyuan**	**40.93**	**25**	*e*P	**P**	**03 25 17.1**	**+4.3**
TIY				S	**S**	**03 31 26.5**	**+2.8**
TIY				pmax	pmax		
	comp=Z,160nm,5.4s						
TIY				LR	LR		
	comp=Z,410nm,16.4s						
TIY				LR	LR		
	comp=Z,730nm,13.2s						
TIY				LR	LR		
	comp=Z,670nm,16.1s						
H01W3	**Cape Leeuwin H**	**41.72**	**152**	T	T	04 09 33.2	
	baz=326,slow=76,SNR=105						
H01W2	**Cape Leeuwin H**	**41.73**	**152**	T	T	04 09 33.8	
	baz=326,slow=76,SNR=93						
H01W1	**Cape Leeuwin H**	**41.73**	**152**	T	T	04 09 34.3	
	baz=326,slow=76,SNR=110						
NWAO	**Narrogin (SRO)**	**41.75**	**147**	LR	LR	03 40 01.1	
	comp=Z,611nm,19.1s,slow=32						
NRN	**Naryn**	**42.35**	**342**	P	**P**	**03 25 23.7**	**-1.1**
NRN				pmax	pmax		
	comp=Z,12nm,1.2s						
WMQ	**Urumqi**	**42.45**	**356**	P	**P**	**03 25 25.8**	**+0.6**
WMQ				pP	pP	03 25 30.3	-1.3
WMQ				PcP	**PcP**	**03 27 18.9**	**+0.9**
WMQ				pmax	pmax		
	comp=Z,24nm,1.3s						
WMQ				pmax	pmax		
	comp=Z,360nm,3.6s						
WMQ				LR	LR		
	comp=Z,830nm,18.7s						
WMQ				LR	LR		
	comp=Z,800nm,18.7s						
WMQ				LR	LR		
	comp=Z,960nm,26.3s						
KDJ	**Kajisay**	**42.66**	**344**	*e*P	**P**	**03 25 27.2**	**+0.1**
	comp=Z,17nm,1.1s						
KDJ	**Kajisay**	**42.66**	**344**	*e*P	**P**	**03 25 27.2**	**+0.1**
KDJ				pmax	pmax		
	comp=Z,17nm,1.1s						
ULHL	**Ulahol**	**43.03**	**343**	P	**P**	**03 25 29.8**	**-0.3**
	SNR=6.2						
KZA	**Kyzart**	**43.17**	**342**	P	**P**	**03 25 31.7**	**+0.2**
	SNR=6.4						
HHC	**Hu-ho-hao-te**	**43.26**	**22**	*e*P	**P**	**03 25 32.8**	**+0.9**
HHC				pP	pP	03 25 37.8	-0.4
HHC				S	**S**	**03 32 01.8**	**+3.7**
HHC				pmax	pmax		
	comp=Z,35nm,1.1s						
HHC				pmax	pmax		
	comp=Z,88nm,6.1s						
HHC				LR	LR		
	comp=Z,530nm,14.7s						
HHC				LR	LR		
	comp=Z,1μm,15.2s						
HHC				LR	LR		
	comp=Z,410nm,14.9s						
JOW	**Kunigami**	**43.31**	**51**	LR	LR	03 45 50.7	
	comp=Z,258nm,18.2s,baz=272,slow=39						
UCH	**Uchtor**	**43.54**	**341**	P	**P**	**03 25 34.5**	**0.0**
	SNR=13						
AML	**Almayashu**	**43.72**	**341**	P	**P**	**03 25 36.1**	**+0.2**
	SNR=26						
KBK	**Karagaybulak**	**43.79**	**342**	P	**P**	**03 25 37.5**	**+1.3**
	SNR=7.8						
TKM2	**Tokmak 2**	**43.84**	**343**	P	**P**	**03 25 36.4**	**-0.3**
	SNR=14						
AAK	**Ala-Archa**	**43.91**	**342**	P	**P**	**03 25 36.7**	**-0.5**
	comp=Z,3.2nm,0.7s,baz=156,slow=7.1,SNR=9.7						
AAK	**Ala-Archa**	**43.91**	**342**	P	**P**	**03 25 37.7**	**+0.5**
	SNR=5.3						
AAK	**Ala-Archa**	**43.91**	**342**	*e*P	**P**	**03 25 37.0**	**-0.2**
	comp=Z,12nm,1.3s						
AAK	**Ala-Archa**	**43.91**	**342**	*d i*P	**P**	**03 25 36.4**	**-0.8**
AAK				pmax	pmax		
	comp=Z,9.0nm,1.1s						
WRKA	**Warakurna**	**44.09**	**129**	P	**P**	**03 25 40.9**	**+2.2**
	baz=44,SNR=3.7						
EKS2	**Erkin-Say**	**44.16**	**341**	P	**P**	**03 25 39.5**	**+0.4**
	SNR=9.5						
BJI	**Beijing**	**44.49**	**27**	P	**P**	**03 25 42.4**	**+0.7**
BJI				pmax	pmax		
	comp=Z,40nm,1.0s						
KK31	**Karatay Array**	**45.69**	**338**	*e*P	**P**	**03 25 50.1**	**-1.1**
KK31	**Karatay Array**	**45.69**	**338**	*e*P	**P**	**03 25 50.1**	**-1.1**
KKAR	**Karatay Array**	**45.69**	**338**	*e*P	**P**	**03 25 50.0**	**-1.2**
	comp=Z,14nm,1.0s						
KKAR	**Karatay Array**	**45.69**	**338**	*e*P	**P**	**03 25 50.0**	**-1.2**
KKAR				pmax	pmax		
	comp=Z,14nm,1.0s						
MK01	**Makanchi Array**	**45.99**	**351**	*e*P	**P**	**03 25 52.4**	**-1.1**
MK31	**Makanchi Array**	**46.01**	**351**	*e*P	**P**	**03 25 52.9**	**-0.8**
MK31	**Makanchi Array**	**46.01**	**351**	*e*P	**P**	**03 25 52.9**	**-0.8**
MKAR	**Makanchi Array**	**46.01**	**351**	P	**P**	**03 25 52.8**	**-0.8**
	comp=Z,9.3nm,0.7s,baz=171,slow=8.8,SNR=41						
MKAR				PcP	**PcP**	**03 27 30.2**	**+0.1**
	comp=Z,1.0nm,0.6s,baz=196,slow=4.9,SNR=2.6						
MKAR				LR	LR	03 48 17.6	
	comp=Z,426nm,18.3s,baz=172,slow=40						
MKAR	**Makanchi Array**	**46.01**	**351**	*e*P	**P**	**03 25 52.9**	**-0.8**
	comp=Z,50nm,0.8s						
MKAR				PcP	**PcP**	**03 27 30.2**	**+0.1**
MKAR	**Makanchi Array**	**46.01**	**351**	*e*P	**P**	**03 25 52.9**	**-0.8**
MKAR						03 27 30.2	
MKAR				pmax	pmax		
	comp=Z,51nm,0.8s						
MAKZ	**Makanchi**	**46.08**	**351**	*e*P	**P**	**03 25 52.9**	**-1.3**
	comp=Z,14nm,1.3s						
MAKZ	**Makanchi**	**46.08**	**351**	*e*P	**P**	**03 25 52.9**	**-1.3**
MAKZ				pmax	pmax		
	comp=Z,14nm,1.3s						
WRA	**Warramunga Arr**	**46.85**	**119**	P	**P**	**03 25 59.2**	**-1.5**
	comp=Z,18nm,0.8s,baz=296,slow=8.7,SNR=63						
WRA				PcP	**PcP**	**03 27 33.8**	**+0

DGZ Jazzator, Alta 48.32 356 *i* P **P** **03 26 11.2 -0.6**
DGZ pmax pmax
comp=Z,3.0nm,0.8s
JNU Nakatsue 48.48 45 LR LR 03 49 06.6
comp=Z,432nm,18.1s,baz=262,slow=39
KSAR Wonju Array Be 48.99 39 P **P** **03 26 16.7 -0.3**
KSAR Wonju Array Be 48.99 39 P **P** **03 26 16.7 -0.3**
KSRS Korea Array 49.02 39 P **P** **03 26 16.7 -0.5**
comp=Z,4.1nm,0.9s,baz=226,slow=9.3,SNR=6.9
KSRS LR LR 03 49 01.2
comp=Z,444nm,18.9s,baz=228,slow=39
ATD Arta Tunnel 49.50 284 P **P** **03 26 21.1 -0.2**
comp=Z,5.1nm,0.4s,baz=52,slow=17,SNR=6.1
ATD LR LR 03 42 48.1
comp=Z,147nm,21.0s,baz=70,slow=31
HVS Khovu-Aksy 49.65 2 *i* P **P** **03 26 21.0 -0.9**
HVS pmax pmax
comp=Z,44nm,1.0s
ZAK Zakamensk 49.85 10 *e*P **P** **03 26 22.8 -0.6**
ZAK pmax pmax
comp=Z,5.0nm,1.1s
RAYN Ar Rayn 49.87 300 *e*P **P** **03 26 24.4 +0.4**
comp=Z,4.6nm,0.8s
RAYN Ar Rayn 49.87 300 *e*P **P** **03 26 24.4 +0.4**
RAYN pmax pmax
comp=Z,5.0nm,0.8s
KURBB Kurchatov Arra 50.36 349 P **P** **03 26 26.0 -1.1**
comp=Z,10.0nm,0.9s,baz=173,slow=7.1,SNR=52
KURBB PcP **PcP** **03 27 45.1 -0.5**
comp=Z,2.3nm,0.9s,baz=174,slow=3.3,SNR=3.4
KURK Kurchatov 50.43 349 P **P** **03 26 26.0 -1.7**
KURK PcP **PcP** **03 27 45.1 -0.7**
KURK Kurchatov 50.43 349 P **P** **03 26 26.0 -1.7**
KURK 03 27 45.1
MOY Mondy 50.76 7 *e*P **P** **03 26 30.7 +0.4**
TLY Talaya 51.17 10 *e*P **P** **03 26 33.7 +0.4**
comp=Z,5.1nm,0.8s
TLY Talaya 51.17 10 *e*P **P** **03 26 34.3 +1.0**
TLY *e*S **S** **03 33 54.8 +4.5**
TLY *e*SS **SS** **03 37 22.6 -3.3**
TLY pmax pmax
comp=Z,8.0nm,1.1s
TLY MLR MLR
comp=Z,249nm,17.0s
QIS Mount Isa 51.70 118 P **P** **03 26 38.8 +1.0**
baz=52,SNR=5.8
CN2 Changchun 51.85 31 *e*P **P** **03 26 38.3 -0.1**
CN2 pmax pmax
comp=Z,10.0nm,0.5s
ZAA0 Zalesovo Array 52.74 355 *e*P **P** **03 26 44.0 -0.9**
comp=Z,26nm,1.1s
ZALV Zalesovo Beam 52.74 355 P **P** **03 26 44.0 -1.0**
comp=Z,8.6nm,0.4s,baz=182,slow=7.2,SNR=50
ZALV LR LR 03 50 32.1
comp=Z,527nm,20.5s,baz=232,slow=38
ZALV Zalesovo Beam 52.74 355 *e*P **P** **03 26 43.0 -1.9**
ZALV Zalesovo Beam 52.74 355 *e*P **P** **03 26 43.0 -1.9**
NVS Novosibirsk 53.78 354 *e*P **P** **03 26 51.3 -1.2**
NVS *e* 03 28 00.8
NVS pmax pmax
comp=N,14nm,1.1s
NVS pmax pmax
comp=E,6.0nm,1.1s
NVS pmax pmax
comp=Z,20nm,1.1s
GUMO Guam 53.99 74 LR LR 03 48 49.2
comp=Z,204nm,20.8s,baz=276,slow=35
LKRN Lenkeran, Azer 54.03 319 P **P** **03 26 54.4 -0.3**
BVAR Borovoye Array 54.47 344 P **P** **03 26 56.2 -1.5**
comp=Z,6.0nm,1.0s,baz=142,slow=7.3,SNR=25
BVAR LR LR 03 50 32.5
comp=Z,727nm,21.0s,baz=166,slow=36
KMBO Kilima Mbogo 54.48 268 P **P** **03 26 58.7 0.0**
comp=Z,0.9nm,0.4s,baz=58,slow=8.8,SNR=4.9
KMBO Kilima Mbogo 54.48 268 *e*P **P** **03 26 59.1 +0.4**
comp=Z,3.6nm,0.9s
KMBO Kilima Mbogo 54.48 268 *e*P **P** **03 26 59.1 +0.4**
KMBO pmax pmax
comp=Z,4.0nm,0.9s
BRVK Borovoye 54.53 344 *e*P **P** **03 26 56.4 -1.7**
comp=Z,8.1nm,1.0s
BRVK Borovoye 54.53 344*ce*P **P** **03 26 56.7 -1.3**
BRVK pmax pmax
comp=Z,10.0nm,1.2s
ABKAR Akbulak array 54.93 335 *e*P **P** **03 27 00.0 -1.0**
comp=Z,4.2nm,0.8s
JHJ Hachijo jima 2 55.05 50 LR LR 03 52 27.3
comp=Z,121nm,18.1s,baz=283,slow=38
MTSU Mount Surprise 55.26 113 P **P** **03 27 02.9 -1.1**
baz=55,SNR=5.7
MJAR Matsushiro Arr 55.41 45 P **P** **03 27 04.1 -0.7**
comp=Z,1.0nm,0.4s,baz=233,slow=7.5,SNR=6.6
MJAR PcP **PcP** **03 28 05.9 +0.9**
comp=Z,1.9nm,0.8s,baz=235,slow=8.5,SNR=3.9
MJAR LR LR 03 52 44.2
comp=Z,284nm,18.4s,baz=250,slow=38
USRK Ussuriysk Ar. 55.63 34 LR LR 03 52 47.4
comp=Z,411nm,18.2s,baz=210,slow=38
AKT Akhty 56.22 321 *e*P **P** **03 27 11.3 +0.7**
AKT *e* 03 29 16.4
AKT pmax pmax
comp=Z,22nm,0.9s
MNGR Mingechevir, A 56.24 320 P **P** **03 27 10.5 -0.1**
PMG Port Moresby 56.26 102 LR LR 03 53 14.1
comp=Z,99nm,18.6s,baz=313,slow=38
PMG Port Moresby 56.26 102 *e*P **P** **03 27 10.4 -0.8**
comp=Z,9.3nm,0.6s
PMG Port Moresby 56.26 102*ce*P **P** **03 27 11.9 +0.7**
PMG pmax pmax
comp=Z,49nm,0.8s
SEKA Sheki 56.41 321 P **P** **03 27 11.2 -0.7**
NAX Nakhchivan 56.46 318 P **P** **03 27 12.0 -0.3**
AKTO Aktyubinsk 56.64 335 LR LR 03 53 34.7
comp=Z,245nm,18.1s,baz=148,slow=38
GANJ Ganja 56.67 320 P **P** **03 27 13.4 -0.3**
ZKTA Zakatala 57.00 321 P **P** **03 27 15.7 -0.3**
MAK Makhachkala 57.18 322 *e*P **P** **03 27 13.1 -4.1**
MAK *e* 03 29 22.7
MAK *e*S **S** **03 35 06.2 -5.5**
MAK pmax pmax
comp=Z,17nm,0.3s
MAK MLR MLR
comp=Z,342nm,16.0s
DDFL Dedoflistskaro 57.22 320 P P 03 27 28.2 +11
GNI Garni 57.45 318 LR LR 03 53 34.1
comp=Z,280nm,21.0s,baz=108,slow=38
GNI Garni 57.45 318 *e*P **P** **03 27 19.5 +0.1**
comp=Z,54nm,0.9s
CTAO Charters Tower 57.53 115 *e*P **P** **03 27 19.7 -0.5**
comp=Z,17nm,0.8s
STKA Stephens Creek 57.62 130 P **P** **03 27 19.3 -1.3**
comp=Z,2.7nm,0.8s,baz=305,slow=12,SNR=3.7
STKA LR LR 03 52 21.2
comp=Z,247nm,18.8s,baz=275,slow=36
DGRG David-gareji 57.70 320 P **P** **03 27 22.7 +1.7**
DGRG David-gareji 57.70 320 *e*P **P** **03 27 22.7 +1.7**
BTNK Botanikuri 58.19 320 P **P** **03 27 25.1 +0.6**
TBLG Delisi 58.25 320 P **P** **03 27 25.4 +0.5**
TBLG Delisi 58.25 320 *e*P **P** **03 27 25.3 +0.5**
GROC Groznyy 58.36 322 *e*P **P** **03 27 21.6 -3.9**
GROC *e* 03 28 12.6
GROC *e* 03 29 34.9
GROC *e*S **S** **03 35 27.9 +0.7**
GROC pmax pmax
comp=Z,17nm,0.8s
DUS Dusheti 58.46 320 P P 03 27 31.4 +5.0
DUS Dusheti 58.46 320 *e*P P 03 27 31.3 +4.9
KLR Kul'dur 58.73 30 P **P** **03 27 28.1 +0.1**
comp=Z,0.8nm,0.9s,baz=261,slow=5.8,SNR=17
KLR LR LR 03 55 52.5
comp=Z,34nm,18.4s,baz=200,slow=39
KLR Kul'dur 58.73 30 *i* P **P** **03 27 27.9 -0.1**
GUDG Gudauri 58.79 321 P **P** **03 27 31.3 +2.5**
ZEI Tsey 59.33 321 *e*P **P** **03 27 31.7 -0.8**
ZEI pmax pmax
comp=Z,29nm,2.3s
ONI Oni 59.51 320 P **P** **03 27 33.9 +0.3**
ONI Oni 59.51 320 *e*P **P** **03 27 33.9 +0.3**
NCK Nalchik 59.88 321 *i* P **P** **03 27 36.0 -0.1**
NCK pmax pmax
comp=Z,7.0nm,0.7s
ZEA Zeya 59.88 24 *e*P **P** **03 27 35.6 -0.3**
ZEA MLR MLR
comp=E,400nm,16.0s
ZEA MLR MLR
comp=Z,400nm,16.0s
ZEA MLR MLR
comp=N,300nm,15.0s
NEY Neytrino 60.30 321 *i* P **P** **03 27 39.0 -0.2**
NEY pmax pmax
comp=Z,1.0nm,0.8s
KBZ Khabaz 60.43 321 P **P** **03 27 39.9 +0.1**
comp=Z,5.2nm,0.7s,baz=126,slow=7.9,SNR=15
KBZ LR LR 03 55 28.6
comp=Z,174nm,21.7s,baz=129,slow=38
SVE Sverdlovsk 60.65 341 ⇓*i* P **P** **03 27 40.1 -0.9**
SVE pmax pmax
comp=Z,22nm,1.3s
SVE MLR MLR
comp=Z,450nm,16.0s
KIV Kislovodsk 60.68 321 *e*P **P** **03 27 41.2 -0.4**
comp=Z,22nm,1.0s
KIV Kislovodsk 60.68 321 *e*P **P** **03 27 43.5 +1.8**
KIV *e*S **S** **03 36 00.3 +2.9**
KIV pmax pmax
comp=Z,23nm,1.1s
KIV MLR MLR
comp=Z,123nm,16.0s
CMSA Cobar Meteorol 60.68 128 P **P** **03 27 41.4 -0.4**
baz=61,SNR=10
ARU Arti 61.03 340 *e*P **P** **03 27 41.4 -2.3**
comp=Z,8.6nm,1.1s
ARU Arti 61.03 340*d* *i*P **P** **03 27 41.7 -1.9**
ARU S **S** **03 36 00.5 -0.7**
ARU SS **SS** **03 39 55.8 -5.2**
ARU pmax pmax
comp=Z,14nm,1.7s
ARU MLR MLR
comp=Z,423nm,17.0s
MMAI Mount Meron Ar 61.39 307 P **P** **03 27 47.6 +0.9**
comp=Z,1.0nm,0.5s,baz=111,slow=8.0,SNR=3.5
RMQ Roma 61.52 121 P **P** **03 27 49.0 +1.4**
baz=62,SNR=4.6
EIDS Eidsvold 63.22 119 P **P** **03 27 58.4 -0.6**
baz=63,SNR=4.8
EIDS Eidsvold 63.22 119 *e*P **P** **03 27 59.8 +0.8**
comp=Z,14nm,1.0s
YSS Yuzh-Sakhalins 63.43 37⇑*e*P **P** **03 28 02.2 +2.3**
CAN Canberra 64.65 130 *e*P **P** **03 28 08.1 -0.2**
comp=Z,12nm,0.7s
CAN Canberra 64.65 130 *e*P **P** **03 28 08.1 -0.2**
CAN pmax pmax
comp=Z,12nm,0.7s
LSZ Lusaka 64.88 253 P **P** **03 28 09.8 -0.4**
comp=Z,3.6nm,0.9s,baz=73,slow=8.8,SNR=5.5
LSZ Lusaka 64.88 253 *e*P **P** **03 28 09.3 -0.9**
comp=Z,13nm,1.4s
LSZ Lusaka 64.88 253 *e*P **P** **03 28 09.3 -0.9**
LSZ pmax pmax
comp=Z,13nm,1.4s
BR131 Keskin Array S 64.99 314 *e*P **P** **03 28 10.2 -0.4**
BRTR Keskin Array B 64.99 314 P **P** **03 28 09.8 -0.7**
comp=Z,2.4nm,0.7s,baz=145,slow=6.3,SNR=19
BRTR LR LR 03 58 55.9
comp=Z,200nm,20.0s,baz=112,slow=38
VRH Novokhopyorsk 65.00 328 *e*P **P** **03 28 08.0 -2.1**
VRH pmax pmax
comp=Z,7.0nm,0.4s
ARMA Armidale 65.11 124 P **P** **03 28 13.4 +2.0**
baz=65,SNR=4.8
VSR Storozhevoye 66.38 327 *e*P **P** **03 28 17.2 -1.9**
VSR pmax pmax
comp=Z,7.0nm,1.1s
SIM Simferopol' 66.61 319 P **P** **03 28 22.8 +2.1**
SIM *e*S **S** **03 37 13.2 +2.2**
SIM pmax pmax
comp=Z,6.0nm,0.8s
YAK Yakutsk 66.93 18 *e*P **P** **03 28 21.2 -1.1**
YAK Yakutsk 66.93 18 *e*P **P** **03 28 20.5 -1.8**
YAK *e* 03 28 51.8
YAK *e* 03 30 45.3
YAK *e*PPP PPP 03 32 23.9
YAK *e*S **S** **03 37 09.9 -4.3**
YAK *e**SS **sS** **03 37 28.4 +3.4**
YAK *e* 03 38 12.5
YAK *e*SS **SS** **03 41 29.2 -3.6**
YAK pmax pmax
comp=N,5.0nm,0.9s
YAK pmax pmax
comp=Z,16nm,0.9s
YAK pmax pmax
comp=E,8.0nm,1.1s
YAK smax smax
comp=N,25nm,2.8s
YAK smax smax
comp=E,66nm,3.2s
LPSR Galich'ya Gora 67.21 328 *e*P **P** **03 28 22.7 -1.6**
LPSR pmax pmax
comp=Z,10.0nm,0.7s
LBTB Lobatse 69.03 243 *e*P **P** **03 28 36.4 -0.1**
comp=Z,11nm,0.9s
LBTB Lobatse 69.03 243 *e*P **P** **03 28 36.4 -0.1**
LBTB pmax pmax
comp=Z,11nm,0.9s
MOS Moscow 69.45 331 *e*P P 03 28 43.3 +5.0
MOS pmax pmax
comp=Z,44nm,1.1s
OBN Obninsk 69.67 330*ce*P **P** **03 28 40.5 +0.9**
OBN *e* 03 28 48.2
OBN *e* 03 31 12.6
OBN *i*S **S** **03 37 51.4 +4.3**
OBN pmax pmax
comp=Z,35nm,1.7s
OBN MLR MLR
comp=Z,195nm,17.0s
BOSA Boshof 70.10 239 P **P** **03 28 42.1 -0.9**
comp=Z,5.1nm,0.7s,baz=89,slow=3.7,SNR=11
BOSA LR LR 03 57 17.9
comp=Z,310nm,18.5s,baz=48,slow=34
IDI Anoyia 70.39 307 P **P** **03 28 44.7 +0.1**
comp=Z,12nm,0.7s,baz=66,slow=12,SNR=5.2
HARR Harsova 70.64 317 ⇓*i*P **P** **03 28 47.5 +1.7**
HARR Harsova 70.64 317 ⇓P **P** **03 28 47.5 +1.7**
CFR Carcaliu 70.65 318 ⇑*i*P **P** **03 28 49.5 +3.6**
CFR Carcaliu 70.65 318 ⇑P **P** **03 28 49.5 +3.6**
KIS Kishinev 70.80 320 *e*P **P** **03 28 47.0 +0.3**
KIS *e*S **S** **03 38 05.0 +4.4**
KIS LRM MLR 04 02 12.0
comp=Z,500nm,16.0s
KIS Kishinev 70.80 320 *e*P **P** **03 28 47.0 +0.3**
KIS *e* 03 29 10.0
KIS *e*S **S** **03 38 05.0 +4.4**
KIS *e* 03 38 26.0
KIS MLR MLR
comp=Z,500nm,16.0s
KLMR Klimovskoe 71.31 336 *e*P **P** **03 28 46.6 -3.0**
KLMR AMP 03 28 54.3
comp=Z,11nm,1.2s
KLMR LQ LQ 03 55 30.9
KLMR LQ LQ 03 55 30.9
KLMR LR LR 04 00 25.2
KLMR Klimovskoe 71.31 336 *e*P **P** **03 28 46.5 -3.0**
KLMR pmax pmax
comp=Z,11nm,1.2s
SORM Soroca 71.47 321⇑*i*P **P** **03 28 50.7 -0.1**
SORM Soroca 71.47 321⇑P **P** **03 28 50.7 -0.1**
MAW Mawson 71.68 191 P **P** **03 28 52.9 +1.3**
comp=Z,4.4nm,0.8s,baz=83,slow=23,SNR=4.5
MAW LR LR 03 55 25.3
comp=Z,272nm,18.3s,baz=50,slow=32
VRI Vrincioaia 71.81 318⇑*i*P **P** **03 28 54.5 +1.6**
VRI Vrincioaia 71.81 318⇑P **P** **03 28 54.5 +1.6**
AKASG Malin Array Be 71.83 324 P **P** **03 28 51.9 -1.0**
comp=Z,0.6nm,0.4s,baz=91,slow=4.9,SNR=13
AKASG LR LR 04 04 25.6
comp=Z,173nm,18.7s,baz=100,slow=39
AKBB Malin Array Si 71.83 324 *e*P **P** **03 28 51.9 -1.0**
comp=Z,6.1nm,1.0s
KIEV Kiev 71.84 324 *e*P **P** **03 28 51.9 -1.1**
comp=Z,5.0nm,0.9s
KIEV Kiev 71.84 324 *i* P **P** **03 28 54.6 +1.6**
KIEV pmax pmax
comp=Z,4.0nm,1.0s
TESR Tescani 72.05 319 ⇓*i*P **P** **03 28 54.4 0.0**
MLR Muntele Rosu 72.22 318 P **P** **03 28 56.1 +0.5**
comp=Z,2.9nm,0.7s,baz=158,slow=4.9,SNR=13
MLR LR LR 04 04 24.3
comp=Z,86nm,20.0s,baz=85,slow=39
MLR Muntele Rosu 72.22 318 ⇓*i*P **P** **03 28 57.1 +1.6**
MLR Muntele Rosu 72.22 318 *e*P **P** **03 28 56.2 +0.6**
comp=Z,17nm,0.8s
MLR Muntele Rosu 72.22 318 *e*P **P** **03 28 56.2 +0.6**
MLR pmax pmax
comp=Z,17nm,0.8s
PRAR RASCA 72.59 320⇑*i*P **P** **03 28 58.2 +0.7**
VOIR 72.81 317⇑*i*P **P** **03 29 01.1 +2.1**
VOIR 72.81 317 ⇑P **P** **03 29 01.2 +2.2**
ARR Arges 73.07 317 ⇓*i*P **P** **03 29 02.7 +2.2**
BURAR Bucovina Array 73.32 320⇑*i*P **P** **03 29 03.2 +1.2**
BURAR Bucovina Array 73.32 320⇑P **P** **03 29 03.2 +1.2**
BUR04 Bucovina Ar. S 73.32 320 *e*P **P** **03 29 02.3 +0.3**
BUR08 Bucovina Ar. S 73.33 320 *e*P **P** **03 29 02.8 +0.7**
MA2 Magadan 73.66 27 *e*P **P** **03 29 02.6 -1.0**
comp=Z,47nm,1.9s
MA2 Magadan 73.66 27⇑*e*P **P** **03 29 03.3 -0.3**
MA2 pmax pmax
comp=Z,20nm,1.7s
TMCR Tamitsa 73.71 338 *e*P **P** **03 29 02.7 -1.1**
TMCR pmax pmax
comp=Z,12nm,1.0s
TIXI Tiksi 74.08 11 *e*P **P** **03 29 03.8 -2.0**
comp=Z,13nm,0.7s
TIXI Tiksi 74.08 11*d* *i*P **P** **03 29 04.1 -1.7**
TIXI pmax pmax
comp=Z,14nm,0.8s
SUR Sutherland 74.64 236 *e*P **P** **03 29 11.6 +1.4**
comp=Z,17nm,0.8s
PETK Petropavlovsk- 74.72 35 LR LR 04 05 04.5
comp=Z,133nm,18.3s,baz=239,slow=38
DRGR 74.74 318 ⇑*i*P **P** **03 29 12.9 +2.6**
DRGR 74.74 318 ⇑P **P** **03 29 12.9 +2.6**
BZS Buzias 75.19 317 ⇑*i*P **P** **03 29 13.5 +0.7**
BZS Buzias 75.19 317 ⇑P **P** **03 29 13.5 +0.7**
TRPA Tarpa 75.19 320 ⇓*i*P **P** **03 29 13.3 +0.6**
TSUM Tsumeb 75.45 250 *e*P **P** **03 29 14.3 -0.7**
comp=Z,3.4nm,0.8s
KWP Kalwaria Pacla 75.48 321 *e*P **P** **03 29 13.6 -0.8**
comp=Z,67nm,0.8s
KWP Kalwaria Pacla 75.48 321 *e*P **P** **03 29 13.6 -0.8**
KWP pmax pmax
comp=Z,67nm,0.8s
SEY Seymchan 75.85 24*ce*P **P** **03 29 17.8 +1.6**
VSU Vasula 75.98 331*ce*P **P** **03 29 17.1 +0.1**
VSU pmax pmax
comp=Z,60nm,2.5s
CRVS Cervenica-Dubn 76.08 320 *e*P **P** **03 29 18.8 +0.9**
CRVS Cervenica-Dubn 76.08 320 *e*P **P** **03 29 18.8 +0.9**
STHS Stebnicka Huta 76.34 321 *e*P **P** **03 29 20.1 +0.7**
STHS *e* 03 29 24.1
STHS Stebnicka Huta 76.34 321 *e*P **P** **03 29 20.1 +0.7**
STHS *e* 03 29 24.1
STHS pmax pmax
comp=Z,6.0nm,1.0s
DZM Mont Dzumac 76.40 113 LR LR 04 08 41.2
comp=Z,91nm,18.3s,baz=313,slow=40
SUW Suwalki 76.42 326 *e*P **P** **03 29 18.7 -0.9**
SUW Suwalki 76.42 326 *e*P **P** **03 29 18.7 -0.9**
APA Apatity 77.11 340 ⇓*i*P **P** **03 29 27.0 +3.7**
APA MLR MLR
comp=Z,400nm,15.0s
FIA1 FINESS Array S 77.37 333 *e*P **P** **03 29 23.9 -1.0**
FINES FINESS Array B 77.37 333 P **P** **03 29 23.8 -1.0**
comp=Z,3.7nm,0.8s,baz=79,slow=4.1,SNR=11
FINES LR LR 04 05 37.6
comp=Z,313nm,20.3s,baz=112,slow=37
OJC Ojcow 77.44 321 *e*P **P** **03 29 24.6 -0.9**
OJC Ojcow 77.44 321 *e*P **P** **03 29 26.0 +0.4**
comp=Z,6.6nm,0.9s
OJC Ojcow 77.44 321 *e*P **P** **03 29 24.6 -0.9**
VYHS Vyhne 77.68 319 *e*P **P** **03 29 27.2 +0.3**
VYHS Vyhne 77.68 319 *e*P **P** **03 29 27.2 +0.3**
VYHS pmax pmax
comp=Z,7.0nm,1.4s
SYO Syowa Base 78.48 197 ⇓*e*P **P** **03 29 29.2 -1.6**
MODS Modra-Piesok 78.67 319 *e*P **P** **03 29 32.5 +0.1**
MODS Modra-Piesok 78.67 319 *e*P **P** **03 29 32.5 +0.1**
MODS pmax pmax
comp=Z,25nm,1.3s
MORC Moravsky Berou 78.77 321⇑*i*P **P** **03 29 34.0 +1.0**
MORC Moravsky Berou 78.77 321 *e*P **P** **03 29 32.6 -0.4**
comp=Z,55nm,1.6s
MORC Moravsky Berou 78.77 321 *e*P **P** **03 29 32.6 -0.4**
MORC pmax pmax
comp=Z,55nm,1.6s
VRAC Vranov 79.29 320 LR LR 04 09 34.4
comp=Z,78nm,18.1s,baz=98,slow=39
VRAC Vranov 79.29 320 ⇓*i*P **P** **03 29 38.6 +2.8**
VRAC Vranov 79.29 320 ⇓P **P** **03 29 38.6 +2.8**
CONA Conrad Observa 79.53 318 *e*P **P** **03 29 39.9 +2.7**
comp=Z,7.5nm,2.0s
ARSA Arzberg 79.64 318 *e*pP **P** **03 29 39.4 +1.7**
comp=Z,4.1nm,0.8s
DPC Dobruska-Polom 79.65 321 *e*P **P** **03 29 38.5 +0.7**
DPC *ex* x 03 29 49.1
DPC Dobruska-Polom 79.65 321 *e*P **P** **03 29 38.5 +0.7**
DPC *e* 03 29 49.1
KSP Ksiaz 79.76 321 *e*P **P** **03 29 39.4 +1.1**
KSP Ksiaz 79.76 321 *e*P **P** **03 29 39.4 +1.1**
UPC Upice 79.88 321 *e*P **P** **03 29 40.6 +1.7**
UPC AMS AMS 04 13 20.0
comp=Z,200nm,19.4s
UPC Upice 79.88 321 *e*P **P** **03 29 40.6 +1.7**
UPC MLR MLR
comp=Z,200nm,19.4s
SOKA Soboth 79.88 317 *e*P **P** **03 29 42.1 +3.0**
comp=Z,4.3nm,0.8s
ARCES ARCESS Array B 80.58 341 P **P** **03 29 41.9 -0.4**
comp=Z,4.8nm,0.8s,baz=91,slow=6.3,SNR=9.5
ARCES LR LR 04 07 19.9
comp=Z,352nm,18.0s,baz=110,slow=37
PRU Pruhonice 80.72 320 *e*P **P** **03 29 44.2 +0.7**
PRU AMS AMS 04 13 30.0
comp=Z,100nm,13.8s
PRU Pruhonice 80.72 320 *e*P **P** **03 29 44.2 +0.7**
PRU MLR MLR
comp=Z,100nm,13.8s
PVCC Panska Ves 80.79 321 *e*P **P** **03 29 44.8 +1.0**
PVCC AMS AMS 04 09 40.0
comp=Z,200nm,16.9s
PVCC Panska Ves 80.79 321 *e*P **P** **03 29 44.8 +1.0**
PVCC MLR MLR
comp=Z,200nm,16.9s
MYKA Terra Mystica 80.82 317 *e*P **P** **03 29 47.1 +2.9**
comp=Z,3.6nm,0.7s
KBA Koelnbreinsper 81.08 317 *e*pP **P** **03 29 46.5 +0.8**
comp=Z,6.6nm,1.4s
GEA0 GERESS Array S 81.09 319 *e*P **P** **03 29 45.9 +0.3**
GEC2 GERESS Array S 81.09 319 *e*P **P** **03 29 46.4 +0.8**
comp=Z,30nm,1.1s
GEC2 GERESS Array S 81.09 319 *e*P **P** **03 29 46.4 +0.8**
GEC2 pmax pmax
comp=Z,30nm,1.1s
GERES GERESS Array B 81.09 319 P **P** **03 29 45.9 +0.3**
comp=Z,11nm,0.8s,baz=102,slow=5.6,SNR=28
GERES LR LR 04 09 20.6
comp=Z,103nm,20.9s,baz=82,slow=38
KHC Kasperske Hory 81.21 319 *e*P **P** **03 29 46.6 +0.4**
KHC *ex* x 03 29 56.4
KHC AMS AMS 04 10 20.0
comp=Z,200nm,20.9s
KHC Kasperske Hory 81.21 319 *e*P **P** **03 29 46.6 +0.4**
comp=Z,3.1nm,0.9s
KHC Kasperske Hory 81.21 319 *e*P **P** **03 29 46.6 +0.4**
KHC MLR MLR
comp=Z,200nm,20.9s
BRG Berggiesshubel 81.23 321 *e*P **P** **03 29 46.6 +0.4**
comp=Z,34nm,1.9s
BRG Berggiesshubel 81.23 321 *e*P **P** **03 29 46.6 +0.4**
BRG pmax pmax
comp=Z,34nm,1.9s
ABTA Abfaltersbach 81.61 317 *e*P **P** **03 29 48.4 0.0**
comp=Z,11nm,1.3s
CLL Collm 81.89 322 *e*P **P** **03 29 47.0 -2.6**
CLL *e* 03 29 50.0
comp=Z,5.0nm,1.1s
CLL *i* 03 29 54.2
comp=Z,10.0nm,1.2s
CLL *e*S **S** **03 40 05.0 +2.8**
CLL *e* 03 42 00.0
CLL *e*SS SS 03 45 42.0 +21
CLL *e*SSS SSS 03 49 00.0
CLL *e*SSSS 03 51 30.0
CLL Lm MLR 04 09 00.0
comp=Z,200nm,19.7s
CLL Collm 81.89 322 *e*P **P** **03 29 47.0 -2.6**

CLL				*e*			03 29 50.0		
CLL				*i*			03 29 54.2		
CLL				*e*S		**S**	**03 40 05.0**	**+2.8**	
WTTA	**Wattenberg**	**82.26**	**317**	*e*pP		**P**	**03 29 52.8**	**+0.8**	
	comp=Z,5.7nm,0.7s								
WATA	**Walderalm**	**82.31**	**317**	*e*P		**P**	**03 29 52.6**	**+0.4**	
	comp=Z,4.4nm,0.8s								
MOTA	**Moosalm**	**82.63**	**317**	*e*P		**P**	**03 29 54.2**	**+0.4**	
	comp=Z,4.2nm,0.6s,SNR=8.3								
GRFO	**Grafenberg**	**82.81**	**320**	*e*P		**P**	**03 29 54.1**	**-0.3**	
	comp=Z,6.9nm,0.8s								
GRFO	**Grafenberg**	**82.81**	**320**	*e*P		**P**	**03 29 54.2**	**-0.3**	
GRFO				pmax		pmax			
	comp=Z,7.0nm,0.8s								
FETA	**Feichten**	**82.85**	**317**	*e*pP		**P**	**03 29 56.2**	**+1.2**	
	comp=Z,14nm,1.9s								
HFS	**Hagfors**	**82.87**	**330**	LR		LR	04 10 25.1		
	comp=Z,245nm,18.5s,baz=98,slow=38								
RETA	**Reutte**	**82.88**	**318**	*e*P		**P**	**03 29 55.0**	**0.0**	
	comp=Z,20nm,1.5s,SNR=7.3								
KEST	**Kesra**	**83.00**	**306**	P		**P**	**03 29 56.6**	**+0.7**	
	comp=Z,5.3nm,0.8s,baz=14,slow=4.2,SNR=10								
KEST				LR		LR	04 13 43.6		
	comp=Z,49nm,18.0s,baz=286,slow=41								
BILL	**Bilibino**	**83.03**	**21**	*c i*P		**P**	**03 29 57.1**	**+1.9**	
BILL				*e*			03 33 05.3		
BILL				pmax		pmax			
	comp=Z,3.0nm,1.0s								
BILL				MLR		MLR			
	comp=Z,358nm,17.0s								
DAVA	**Damuels**	**83.46**	**317**	*e*pP		**P**	**03 29 58.7**	**+0.6**	
	comp=Z,24nm,0.8s								
STU	**Stuttgart**	**84.04**	**319**	*e*P		**P**	**03 30 01.1**	**+0.3**	
	comp=Z,7.7nm,0.9s								
NOA	**NORSAR Array B**	**84.22**	**331**	P		**P**	**03 30 00.4**	**-1.1**	
	comp=Z,1.0nm,0.8s,baz=96,slow=5.8,SNR=2.9								
NOA				LR		LR	04 10 59.8		
	comp=Z,84nm,18.1s,baz=85,slow=38								
BFO	**Black Forest**	**84.58**	**318**	*e*P		**P**	**03 30 05.7**	**+2.1**	
	comp=Z,5.7nm,0.9s								
BFO	**Black Forest**	**84.58**	**318**	*e*P		**P**	**03 30 05.7**	**+2.1**	
BFO				pmax		pmax			
	comp=Z,6.0nm,0.9s								
SENIN	**Lac Senin/Sane**	**85.16**	**316**	*e*P		**P**	**03 30 07.3**	**+0.5**	
	comp=Z,60nm,1.9s								
BNI	**Bardonecchia**	**85.53**	**315**	*e*P		**P**	**03 30 09.1**	**+0.5**	
	comp=Z,8.5nm,0.9s								
SPITS	**Spitsbergen Ar**	**85.70**	**348**	P		**P**	**03 30 08.5**	**-0.2**	
	comp=Z,5.6nm,0.8s,baz=188,slow=2.9,SNR=4.5								
SPITS				LR		LR	04 12 33.0		
	comp=Z,326nm,21.5s,baz=65,slow=39								
TAM	**Tamanrasset**	**85.95**	**293**	*e*P		**P**	**03 30 12.8**	**+1.6**	
	comp=Z,7.9nm,1.0s								
TAM	**Tamanrasset**	**85.95**	**293**	*e*P		**P**	**03 30 12.8**	**+1.6**	
TAM				pmax		pmax			
	comp=Z,8.0nm,1.0s								
SSB	**Saint Sauveur**	**87.04**	**315**	*e*P		**P**	**03 30 15.9**	**-0.1**	
	comp=Z,5.3nm,0.8s								
SSB	**Saint Sauveur**	**87.04**	**315**	*e*P		**P**	**03 30 15.9**	**-0.1**	
SSB				pmax		pmax			
	comp=Z,5.0nm,0.8s								
VNDA	**Vanda**	**87.07**	**168**	P		**P**	**03 30 15.8**	**+0.5**	
	comp=Z,3.0nm,1.2s,baz=341,slow=4.5,SNR=4.1								
VNDA				LR		LR	04 02 01.6		
	comp=Z,368nm,21.5s,baz=284,slow=31								
VNDA	**Vanda**	**87.07**	**168**	*e*P		**P**	**03 30 17.2**	**+1.9**	
	comp=Z,21nm,1.8s								
VNDA	**Vanda**	**87.07**	**168**	*e*P		**P**	**03 30 17.3**	**+1.9**	
VNDA				pmax		pmax			
	comp=Z,21nm,1.8s								
URZ	**Urewera**	**87.22**	**128**	P		**P**	**03 30 17.1**	**+0.2**	
	comp=Z,3.3nm,0.3s,baz=252,slow=20,SNR=5.1								
TORD	**Torodi Ar. Bea**	**89.69**	**283**	P		**P**	**03 30 27.8**	**-1.3**	
	comp=Z,1.0nm,0.9s,baz=96,slow=5.8,SNR=6.5								
TORD				LR		LR	04 08 45.9		
	comp=Z,302nm,19.7s,baz=90,slow=34								
QSPA	**South Pole Qui**	**91.28**	**180**	P		**P**	**03 30 35.7**	**+0.1**	
	comp=Z,3.9nm,0.6s,baz=313,slow=4.3,SNR=10								
EKA	**Eskdalemuir Ar**	**91.68**	**325**	P		**P**	**03 30 37.6**	**+0.1**	
	comp=Z,1.4nm,0.9s,baz=81,slow=4.5,SNR=3.2								
EKA				LR		LR	04 15 25.7		
	comp=Z,115nm,20.1s,baz=105,slow=38								
DAG	**Danmarks Havn**	**93.30**	**348**	*i* P		**P**	**03 30 43.1**	**-1.4**	
	comp=Z,5.6nm,0.7s								
DAG	**Danmarks Havn**	**93.30**	**348**	*i* P		**P**	**03 30 43.1**	**-1.4**	
DAG				pmax		pmax			
	comp=Z,6.0nm,0.7s								
ES19	**SONSECA Array**	**93.46**	**310**	*e*P		**P**	**03 30 45.3**	**-0.8**	
ESDC	**Sonseca Array**	**93.51**	**310**	P		**P**	**03 30 47.1**	**+0.7**	
	comp=Z,0.8nm,0.6s,baz=53,slow=4.2,SNR=9.7								
KOWA	**Kowa**	**95.19**	**285**	P		**P**	**03 30 54.9**	**+0.4**	
	comp=Z,2.5nm,0.9s,baz=88,slow=8.1,SNR=7.5								
KOWA				LR		LR	04 12 19.2		
	comp=Z,228nm,19.6s,baz=93,slow=35								
DBIC	**Dimbokro**	**96.34**	**277**	LR		LR	04 12 59.9		
	comp=Z,93nm,19.9s,baz=63,slow=35								
BORG	**Borgarnes**	**98.44**	**336**	LR		LR	04 16 27.9		
	comp=Z,164nm,20.3s,baz=82,slow=36								
BOZ	**Bozeman (W)**	**128.91**	**21**	*e*PKPdf		**PKPdf**	**03 36 37.6**	**-0.8**	
BOZ	**Bozeman (W)**	**128.91**	**21**	*e*PKIKP		**PKPdf**	**03 36 37.6**	**-0.8**	
HLID	**Hailey**	**129.55**	**25**	*e*PKPdf		**PKPdf**	**03 36 39.8**	**+0.1**	
NVAR	**Mina Array Bea**	**131.74**	**32**	PKP		**PKPdf**	**03 36 43.1**	**-0.9**	
	comp=Z,0.6nm,0.7s,baz=305,slow=3.2,SNR=2.3								
PDAR	**Pinedale Array**	**132.10**	**21**	PKP		**PKPdf**	**03 36 44.0**	**-0.6**	
	comp=Z,0.3nm,0.6s,baz=356,slow=2.7,SNR=5.5								
DUG	**Dugway, Tooele**	**133.00**	**26**	*e*PKPdf		**PKPdf**	**03 36 46.1**	**-0.2**	
DUG	**Dugway, Tooele**	**133.00**	**26**	*e*PKIKP		**PKPdf**	**03 36 46.1**	**-0.2**	
ANMO	**Albuquerque**	**140.11**	**24**	*e*PKPdf		**PKPdf**	**03 36 58.5**	**-1.2**	
ANMO	**Albuquerque**	**140.11**	**24**	*e*PKIKP		**PKPdf**	**03 36 58.5**	**-1.2**	
WMOK	**Wichita Mounta**	**142.80**	**14**	P		PKPpre	03 36 59.5		
	baz=342								
WMOK	**Wichita Mounta**	**142.80**	**14**	*e*PKPdf		PKPpre	03 36 59.1		
WMOK	**Wichita Mounta**	**142.80**	**14**	*e*PKHKP		PKPpre	03 36 59.2		
MNTX	**Cornudas Mount**	**143.37**	**25**	P		**PKPdf**	**03 37 04.2**	**-1.2**	
	baz=331								
MNTX	**Cornudas Mount**	**143.37**	**25**	*e*PKPdf		**PKPdf**	**03 37 04.2**	**-1.2**	
X39A	**Fountain Ranch**	**143.93**	**8**	P		PKPab	03 37 03.6	+0.2	
	baz=350								
MIAR	**Mount Ida**	**143.97**	**7**	P		PKPbc	03 37 04.0	-0.1	
	baz=351								
MIAR	**Mount Ida**	**143.97**	**7**	*e*PKPdf		PKPbc	03 37 03.8	-0.2	
MIAR	**Mount Ida**	**143.97**	**7**	*e*PKIKP		PKPbc	03 37 03.8	-0.2	
ABTX	**Abilene, Hawle**	**144.56**	**17**	*e*PKPdf		**PKPdf**	**03 37 06.9**	**-0.5**	
Y47A	**UCPARC, Winfie**	**144.94**	**359**	P		**PKPab**	**03 37 05.2**	**-1.9**	
	baz=0.7								
Y46A	**Houston**	**144.96**	**1**	P		**PKPab**	**03 37 06.0**	**-1.2**	
	baz=359								
Z40A	**Long Farm, Mag**	**145.26**	**7**	P		**PKPdf**	**03 37 08.7**	**+0.2**	
	baz=351								
Z42A	**Norrel Spur, H**	**145.41**	**5**	P		**PKPbc**	**03 37 08.4**	**-0.2**	
	baz=354								
Z48A	**Northport**	**145.47**	**359**	P		**PKPbc**	**03 37 07.3**	**-1.5**	
	baz=1.2								
Z44A	**Pea Ridge, Bel**	**145.51**	**3**	P		**PKPbc**	**03 37 08.7**	**-0.3**	
	baz=356								
Z50A	**Ashland**	**145.52**	**356**	P		**PKPdf**	**03 37 07.7**	**-1.3**	
	baz=4.1								
Z49A	**Columbiana**	**145.61**	**357**	P		**PKPdf**	**03 37 08.2**	**-1.0**	
	baz=3.0								
Z47A	**Carrollton**	**145.65**	**360**	P		**PKPdf**	**03 37 08.4**	**-0.8**	
	baz=0.3								
WHTX	**Lake Whitney,**	**145.74**	**14**	*e*PKPbc		**PKPab**	**03 37 11.3**	**+1.2**	
155A	**Kite**	**145.78**	**351**	P		**PKPdf**	**03 37 09.2**	**-0.2**	
	baz=10								
LRAL	**Lakeview Retre**	**145.79**	**358**	P		**PKPdf**	**03 37 08.3**	**-1.1**	
	baz=2.2								
LRAL	**Lakeview Retre**	**145.79**	**358**	*e*PKPbc		**PKPdf**	**03 37 08.8**	**-0.7**	
154A	**Montrose**	**145.88**	**352**	P		**PKPdf**	**03 37 09.7**	**0.0**	
	baz=9.2								
TXAR	**Lajitas Array**	**146.15**	**25**	PKPbc		**PKPbc**	**03 37 10.8**	**-0.4**	
	comp=Z,4.2nm,0.7s,baz=26,slow=2.4,SNR=49								
150A	**Eclectic**	**146.17**	**357**	P		**PKPdf**	**03 37 10.3**	**+0.2**	
	baz=4.0								
147A	**Livingston**	**146.17**	**360**	P		**PKPbc**	**03 37 11.2**	**+0.2**	
	baz=360								
151A	**Opelika**	**146.20**	**355**	P		**PKPdf**	**03 37 10.7**	**+0.4**	
	baz=5.2								
146A	**Union**	**146.20**	**1**	P		**PKPbc**	**03 37 11.1**	**-0.1**	
	baz=359								
JCT	**Junction City**	**146.52**	**18**	*e*PKPbc		**PKPbc**	**03 37 11.6**	**-0.6**	
JCT	**Junction City**	**146.52**	**18**	*e*PKP2		**PKPbc**	**03 37 11.6**	**-0.6**	
251A	**Midway**	**146.64**	**356**	P		**PKPbc**	**03 37 12.2**	**-0.3**	
	baz=5.2								
244A	**Avery, Jackson**	**146.73**	**4**	P		**PKPbc**	**03 37 12.8**	**+0.1**	
	baz=356								
245A	**Little AP, Sta**	**146.78**	**2**	P		**PKPab**	**03 37 13.8**	**-0.2**	
	baz=357								
249A	**Camden**	**146.85**	**358**	P		**PKPbc**	**03 37 12.9**	**-0.2**	
	baz=2.1								
HKT	**Hockley**	**148.07**	**12**	*e*PKPbc		**PKPdf**	**03 37 14.1**	**+0.8**	
HKT	**Hockley**	**148.07**	**12**	*e*PKIKP		**PKPdf**	**03 37 14.1**	**+0.8**	
SAML	**Samuel**	**153.87**	**252**	*e*PKPbc		**PKPbc**	**03 37 30.4**	**-0.3**	
SAML				*e*PKPab		**PKPab**	**03 37 43.3**	**-0.4**	
LPAZ	**La Paz**	**155.18**	**232**	PKP		**PKPdf**	**03 37 25.3**	**0.0**	
	comp=Z,1.1nm,0.8s,baz=192,slow=4.9,SNR=5.1								

IDC 22 03:18:10.2±5.7, 19.97S×177.64W, h0km, mb3.8/2, mb1 4.0/2, mb1mx3.4/40, mbtmp3.8/2, Error ellipse: s-maj=278.7km s-min=58.3km az=149.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**44.97**	**256**	P	P	03 26 26.9	-0.6
	0.3nm,0.4s,baz=89,slow=7.9,SNR=6.4						
WRA	**Warramunga Arr**	**45.01**	**261**	P	P	03 26 28.2	+0.4
	2.7nm,1.1s,baz=98,slow=8.4,SNR=6.1						
AKASG	**Malin Array Be**	**142.71**	**332**	PKP	PKPdf	03 37 45.8	+0.5
	0.2nm,0.4s,baz=41,slow=3.2,SNR=3.7						
BRTR	**Keskin Array B**	**146.73**	**313**	PKPbc	PKPdf	03 37 53.4	+0.6
	0.3nm,0.7s,baz=132,slow=2.1,SNR=2.9						

IDC 22 03:29:27.7±26.0, 3.71N×92.63E, h0km, mb3.6/3, mb1 3.9/4, mb1mx3.4/66, mbtmp3.7/4, ML4.2/1, Error ellipse: s-maj=548.8km s-min=100.8km az=147.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**15.91**	**22**	Pn	Pn	03 33 13.1	-0.1
	0.3nm,0.3s,baz=210,slow=10,SNR=5.2						
MKAR	**Makanchi Array**	**43.85**	**350**	P	P	03 37 35.6	-0.1
	1.0nm,0.8s,baz=173,slow=8.5,SNR=5.6						
ZALV	**Zalesovo Beam**	**50.49**	**354**	P	P	03 38 27.4	0.0
	0.5nm,0.5s,baz=182,slow=7.7,SNR=3.0						
BVAR	**Borovoye Array**	**52.47**	**343**	P	P	03 38 42.1	-0.2
	0.3nm,0.5s,baz=142,slow=12,SNR=2.4						

IDC 22 03:30:09.2±3.2, 23.34S×174.31W, h0km, mb3.7/3, mb1 4.1/3, mb1mx3.6/44, mbtmp3.7/3, Error ellipse: s-maj=289.5km s-min=36.1km az=161.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**47.27**	**259**	P	P	03 38 43.6	-1.1
	0.3nm,0.3s,baz=97,slow=7.3,SNR=8.9						
WRA	**Warramunga Arr**	**47.66**	**264**	P	P	03 38 48.2	+0.6
	0.4nm,0.3s,baz=103,slow=7.0,SNR=25						
TXAR	**Lajitas Array**	**85.75**	**56**	P	P	03 42 50.8	+0.1
	1.4nm,1.3s,baz=218,slow=4.1,SNR=3.0						

ISCJB 22 03:40:39.7±0.5, 0.05N±0.08×123.67E±0.05, h157km, mb3.5/6, Error ellipse: s-maj=11.8km s-min=6.5km az=21.1
IDC 22 03:40:39.7±4.9, 0.09N×123.48E, h129km±45km, mb3.2/6, mb1 3.3/7, mb1mx3.1/51, mbtmp3.7/7, Error ellipse: s-maj=48.8km s-min=16.2km az=70.0
DJA 22 03:40:41.8±0.5, 0.7N±4×12.4E±°, h107km±9km, M4.2/11, mB4.6/1, mb4.0/1, MLv4.3/11, Mw(mB)3.8/1

ISC 22 03:40:41.5±0.7, 0.01N±0.08×123.61E±0.06, h157km, n18, σ2°13/24, mb3.5/6, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMSI	**Cibinong**	**0.67**	**33**	P	**Pn**	**03 41 01.1**	**-3.5**
LUWI	**Luwuk**	**1.34**	**219**	P	**Pn**	**03 41 07.7**	**-2.3**
LUWI				S	**Sn**	**03 41 27.0**	**-4.9**
MRSI	**Marisa**	**1.73**	**285**	P	**Pn**	**03 41 11.9**	**-2.2**
APSI	**Ampana**	**2.17**	**245**	P	**Pn**	**03 41 18.3**	**-0.7**
SANI	**Sanana**	**3.14**	**131**	P	**Pn**	**03 41 27.4**	**-3.5**
MPSI	**Mapaga**	**3.73**	**275**	P	**Pn**	**03 41 38.5**	**+0.1**
LBMI	**Labuha**	**3.94**	**99**	P	**Pn**	**03 41 38.7**	**-2.5**
NLAI	**Namlea**	**4.75**	**133**	P	**Pn**	**03 41 50.9**	**-0.9**
TTSI	**Tana Toraja**	**4.86**	**231**	P	**Pn**	**03 41 54.4**	**+1.2**
MSAI	**Masohi**	**6.27**	**122**	P	**Pn**	**03 42 11.3**	**-0.7**
MSAI				S	**Sn**	**03 43 20.6**	**-2.3**
SIJI	**Sorong**	**7.70**	**97**	P	**Pn**	**03 42 30.2**	**-0.8**
	3.4nm,0.3s,baz=288,slow=11,SNR=11						
WRA	**Warramunga Arr**	**22.44**	**153**	P	**P**	**03 45 28.4**	**+0.8**
	0.3nm,0.4s,baz=332,slow=10,SNR=14						
WRA				PcP	**PcP**	**03 49 18.0**	**+1.5**
	0.2nm,0.5s,baz=322,slow=2.5,SNR=5.0						
ASAR	**Alice Springs**	**25.57**	**158**	P	**P**	**03 45 59.5**	**+3.4**
	0.2nm,0.3s,baz=348,slow=13,SNR=8.1						
ASAR				PcP	**PcP**	**03 49 25.1**	**+1.8**
	0.5nm,0.6s,baz=347,slow=2.3,SNR=7.4						
SONM	**Songino Array**	**49.93**	**345**	P	**P**	**03 49 19.6**	**+0.3**
	0.5nm,0.7s,baz=170,slow=8.8,SNR=3.2						
MKAR	**Makanchi Array**	**58.92**	**328**	P	**P**	**03 50 24.9**	**+0.8**
	0.9nm,0.5s,baz=128,slow=8.2,SNR=13						
MKAR				PcP	**PcP**	**03 51 12.2**	**+0.5**
	0.5nm,0.4s,baz=131,slow=4.0,SNR=7.4						
PETK	**Petropavlovsk-**	**60.03**	**23**	P	**P**	**03 50 33.1**	**+1.5**
	0.9nm,0.6s,baz=215,slow=7.6,SNR=5.7						
KURBB	**Kurchatov Arra**	**63.26**	**330**	P	**P**	**03 50 53.7**	**+0.4**
	0.4nm,0.3s,baz=120,slow=7.3,SNR=8.6						
KURBB				PcP	**PcP**	**03 51 28.9**	**-0.2**
	0.4nm,0.3s,baz=122,slow=3.5,SNR=4.2						
TORD	**Torodi Ar. Bea**	**121.00**	**285**	PKP	**PKPdf**	**03 59 15.9**	**-0.5**
	0.1nm,0.4s,baz=115,slow=1.8,SNR=5.5						

ISCJB 22 03:52:05.5±1.9, 37.06N±0.04×141.50E±0.05, h13km±12km, mb3.6/18, Error ellipse: s-maj=7.4km s-min=5.4km az=141.0
JMA 22 03:52:07.5±0.1, 37.08N×141.37E, h34km±1km, M3.8
JMA Felt II J1.
IDC 22 03:52:10.8±3.5, 37.02N×141.32E, h39km±30km, mb3.4/18, mb1 3.6/20, mb1mx3.5/69, mbtmp3.6/20, ML3.7/2, MS3.3/1, Ms1 3.3/1, ms1mx2.5/40, Error ellipse: s-maj=19.4km s-min=14.8km az=122.0

ISC 22 03:52:06.8±2.5, 37.09N±0.05×141.36E±0.07, h10km±14km, n36, σ0°84/37, mb3.6/18, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ONAJ	**Iwakimizuishiy**	**0.45**	**272**	P	**Pb**	**03 52 17.2**	**+0.3**
ONAJ				S	**Sb**	**03 52 24.1**	**+0.3**
JFK	**Kawauchi**	**0.48**	**306**	P	**Pb**	**03 52 17.5**	**+0.1**
JFK				S	**Sb**	**03 52 24.4**	**-0.1**
JHO	**Hitachi**	**0.80**	**233**	P	**Pb**	**03 52 22.0**	**-0.8**
JHO				S	**Sg**	**03 52 32.6**	**+0.1**
JMM	**Marumori**	**0.90**	**330**	P	**Pb**	**03 52 24.0**	**-0.5**
JFT	**Otama**	**0.93**	**298**	P	**Pb**	**03 52 24.8**	**-0.2**
JFT				S	**Sg**	**03 52 36.8**	**+0.1**
JIO	**Ouri**	**1.36**	**360**	P	**Pn**	**03 52 30.9**	**-1.0**
JIO				S	**Sn**	**03 52 47.8**	**-2.3**
JOU	**Okura**	**1.39**	**337**	P	**Pn**	**03 52 31.8**	**-0.5**
MJAR	**Matsushiro Arr**	**2.59**	**259**	Pn	**Pn**	**03 52 49.8**	**+1.0**
	8.5nm,0.3s,baz=84,slow=16,SNR=110						
MJAR				S	**Sb**	**03 53 24.0**	**-1.2**
	9.9nm,0.3s,baz=79,slow=29,SNR=5.4						
MAT	**Matsushiro**	**2.59**	**259**	P	**Pn**	**03 52 50.0**	**+1.2**
MAT				S	**Sb**	**03 53 25.1**	**-0.2**
ASAJ	**Asahikawa**	**7.08**	**7**	Pn	**Pn**	**03 53 51.7**	**+1.2**
	1.5nm,0.3s,baz=192,slow=9.4,SNR=7.0						
ASAJ				S	**Sn**	**03 55 13.2**	**+2.2**
	0.5nm,0.3s,baz=18,slow=20,SNR=3.0						
JOW	**Kunigami**	**15.08**	**231**	LR	LR	04 00 54.0	
	comp=Z,97nm,18.8s,baz=288,slow=35						
SEY	**Seymchan**	**26.75**	**11**	P	**P**	**03 57 47.1**	**+0.8**
	0.3nm,0.3s,baz=163,slow=20,SNR=3.2						
SONM	**Songino Array**	**27.72**	**304**	P	**P**	**03 57 55.6**	**+0.2**
	0.3nm,0.4s,baz=126,slow=9.4,SNR=2.8						
H11N2	**WAKE ISLAND Hy**	**28.21**	**121**	T	T	04 27 33.3	
	baz=314,slow=75,SNR=202						
H11N1	**WAKE ISLAND Hy**	**28.22**	**121**	T	T	04 27 35.9	
	baz=314,slow=75,SNR=160						
H11N3	**WAKE ISLAND Hy**	**28.23**	**121**	T	T	04 27 36.6	
	baz=314,slow=75,SNR=153						
H11S1	**WAKE ISLAND Hy**	**28.92**	**123**	T	T	04 28 20.2	
	baz=316,slow=76,SNR=33						
H11S3	**WAKE ISLAND Hy**	**28.92**	**123**	T	T	04 28 20.4	
	baz=316,slow=76,SNR=31						
H11S2	**WAKE ISLAND Hy**	**28.94**	**123**	T	T	04 28 28.8	
	baz=316,slow=76,SNR=26						
CMAR	**Chiang Mai Arr**	**41.47**	**255**	P	**P**	**03 59 53.8**	**-0.3**
	1.1nm,0.2s,baz=49,slow=9.7,SNR=2.8						
ZALV	**Zalesovo Beam**	**41.85**	**312**	P	**P**	**03 59 56.6**	**-0.2**
	0.6nm,0.4s,baz=120,slow=8.5,SNR=2.9						
MKAR	**Makanchi Array**	**44.06**	**302**	P	**P**	**04 00 14.5**	**-0.3**
	0.7nm,0.8s,baz=81,slow=8.9,SNR=4.7						
KURBB	**Kurchatov Arra**	**45.94**	**308**	P	**P**	**04 00 30.1**	**+0.4**
	1.7nm,1.0s,baz=81,slow=8.1,SNR=4.9						
ILAR	**Eielson Array**	**49.47**	**32**	P	**P**	**04 00 57.3**	**+0.4**
	1.0nm,0.7s,baz=266,slow=6.6,SNR=13						
BVAR	**Borovoye Array**	**50.51**	**312**	P	**P**	**04 01 05.2**	**+0.3**
	0.2nm,0.3s,baz=63,slow=6.6,SNR=2.4						
INK	**Inuvik**	**54.36**	**27**	P	**P**	**04 01 34.0**	**+0.8**
	0.8nm,0.8s,baz=316,slow=6.1,SNR=3.6						
WRA	**Warramunga Arr**	**57.11**	**188**	P	**P**	**04 01 52.5**	**-1.0**
	0.7nm,0.6s,baz=4.8,slow=7.4,SNR=17						
ASAR	**Alice Springs**	**60.84**	**188**	P	**P**	**04 02 18.3**	**-1.0**
	0.2nm,0.5s,baz=10,slow=7.6,SNR=4.1						
YKA	**Yellowknife Ar**	**63.78**	**30**	P	**P**	**04 02 38.6**	**0.0**
	0.3nm,0.7s,baz=303,slow=6.5,SNR=4.9						
FINES	**FINESS Array B**	**68.75**	**332**	P	**P**	**04 03 10.2**	**-0.3**
	0.6nm,0.6s,baz=40,slow=7.3,SNR=2.9						
NB2	**NORSAR Subarra**	**74.12**	**337**	P	**P**	**04 03 43.0**	**0.0**
	comp=Z,1.3nm,0.8s,baz=38,slow=6.2						
NOA	**NORSAR Array B**	**74.12**	**337**	P	**P**	**04 03 43.2**	**+0.2**
	comp=Z,0.5nm,0.7s,baz=39,slow=6.1,SNR=3.2						
AKASG	**Malin Array Be**	**74.23**	**322**	P	**P**	**04 03 43.1**	**-0.7**
	comp=Z,0.3nm,0.4s,baz=46,slow=5.4,SNR=5.3						
PDAR	**Pinedale Array**	**77.66**	**45**	P	**P**	**04 04 04.5**	**+0.7**
	comp=Z,0.3nm,0.6s,baz=251,slow=2.8,SNR=3.4						
GERES	**GERESS Array B**	**82.64**	**328**	P	**P**	**04 04 30.0**	**-0.5**
	comp=Z,0.2nm,0.5s,baz=52,slow=8.0,SNR=2.4						
TXAR	**Lajitas Array**	**90.12**	**52**	P	**P**	**04 05 08.0**	**+0.5**
	comp=Z,0.2nm,0.7s,baz=308,slow=3.3,SNR=3.4						

IDC 22 04:00:43.1±1.2, 32.36N×47.06E, h0km, mb3.7/10, mb1 3.7/13, mb1mx3.5/61, mbtmp3.7/13, ML3.7/3, MS3.4/17, Ms1 3.4/17, ms1mx3.2/60, Error ellipse: s-maj=26.5km s-min=17.4km az=170.0
ISCJB 22 04:00:44.3±0.5, 32.25N±0.04×46.88E±0.06, h20km, mb3.7/9, MS3.5/9, Error ellipse: s-maj=7.1km s-min=5.3km az=153.0
TEH 22 04:00:45.1, 32.51N×47.03E, h10km, ML3.9
CSEM 22 04:00:48.7±0.7, 32.55N×47.12E, h10km, ML3.9, Error ellipse: s-maj=17.1km s-min=6.5km az=44.0
THR 22 04:00:49.9±1.3, 32.70N×47.24E, h14km±11km, ML3.6
SGS 22 04:00:50.5, 32.45N×46.82E, h13km

ISC 22 04:00:46.6±0.8, 32.38N±0.06×46.95E±0.06, h20km, n69, σ1°23/59, mb3.7/9, MS3.4/9, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IKFM	**Kafar-mosalman**	**1.37**	**33**	*e*AMB	AMB	04 01 38.3	
	comp=Z,99nm,0.4s						
IKFM				*e*Pg	**Pn**	**04 01 09.1**	**-1.4**
SHGR	**Shooshtar-Gavs**	**1.59**	**99**	*e*Pg	**Pb**	**04 01 15.9**	**+0.6**
SHGR	**Shooshtar-Gavs**	**1.59**	**99**	*e*Pg	**Pb**	**04 01 15.9**	**+0.6**
SHGR				AML	AML	04 01 44.9	
	comp=N,4μm,0.5s						
SHGR				AML	AML	04 01 47.7	
	comp=E,4μm,0.6s						
IKOM	**Komasi**	**1.85**	**15**	*e*Pn	**Pn**	**04 01 17.8**	**+0.4**
IKOM				*e*AMB	AMB	04 01 22.6	
	comp=Z,13μm,0.3s						
IKOM				*e*Sg	**Sb**	**04 01 43.2**	**+0.5**
IKOM	**Komasi**	**1.85**	**15**	*e*Pn

comp=Z,116nm,21.0s,baz=228,slow=44
WSAR Wadi Sarin 13.77 128 Pn **Pn** **04 03 58.5 -2.1**
comp=Z,0.7nm,0.3s,baz=329,slow=12,SNR=10
WSAR LR LR 04 10 43.3
comp=Z,100nm,20.2s,baz=340,slow=44
IDI Anoyia 18.55 285 LR LR 04 14 15.2
comp=Z,122nm,20.9s,baz=124,slow=44
AKTO Aktyubinsk 19.82 21 P **P** **04 05 14.3 -1.5**
comp=Z,0.2nm,0.3s,baz=204,slow=15,SNR=2.8
AKTO LR LR 04 15 15.9
comp=Z,66nm,19.3s,baz=210,slow=44
ATD Arta Tunnel 21.09 191 LR LR 04 13 38.8
comp=Z,107nm,19.6s,baz=14,slow=37
AKASG Malin Array Be 22.51 330 P **P** **04 05 45.3 +0.5**
comp=Z,0.3nm,0.5s,baz=131,slow=11,SNR=3.8
AAK Ala-Archa 24.04 57 LR LR 04 15 50.0
comp=Z,117nm,20.6s,baz=261,slow=38
ARU Arti 25.37 15 P **P** **04 06 11.1 -1.1**
comp=Z,1.3nm,0.3s,baz=259,slow=19,SNR=3.2
BVAR Borovoye Array 26.66 32 P **P** **04 06 23.3 -0.7**
comp=Z,0.6nm,0.4s,baz=227,slow=7.3,SNR=7.8
BVAR LR LR 04 19 23.8
comp=Z,108nm,19.8s,baz=254,slow=42
MKAR Makanchi Array 30.52 52 P **P** **04 06 58.1 -0.3**
comp=Z,1.2nm,0.9s,baz=252,slow=2.9,SNR=3.4
MKAR LR LR 04 20 49.9
comp=Z,79nm,20.7s,baz=232,slow=40
FINES FINESS Array B 32.08 341 P **P** **04 07 11.2 -0.7**
comp=Z,0.5nm,0.5s,baz=157,slow=10,SNR=5.6
ZALV Zalesovo Beam 34.44 40 P **P** **04 07 32.2 -0.4**
comp=Z,0.5nm,0.4s,baz=256,slow=12,SNR=2.2
HFS Hagfors 35.36 332 P **P** **04 07 40.9 +0.4**
comp=Z,0.6nm,0.5s,baz=111,slow=8.0,SNR=5.0
TORD Torodi Ar. Bea 45.52 256 P **P** **04 09 05.0 0.0**
comp=Z,0.3nm,0.3s,baz=69,slow=7.2,SNR=17
TORD LR LR 04 29 27.0
comp=Z,68nm,20.6s,baz=35,slow=38
CMAR Chiang Mai Arr 48.53 93 P **P** **04 09 27.2 -1.3**
comp=Z,0.8nm,0.4s,baz=297,slow=8.0,SNR=2.7
CMAR LR LR 04 35 31.1
comp=Z,40nm,18.7s,baz=170,slow=43
DBIC Dimbokro 54.47 254 LR LR 04 35 00.2
comp=Z,69nm,20.3s,baz=41,slow=38
KSRS Korea Array 64.64 60 LR LR 04 43 53.2
comp=Z,33nm,18.1s,baz=285,slow=40
USRK Ussuriysk Ar. 64.98 52 LR LR 04 42 44.2
comp=Z,62nm,18.1s,baz=224,slow=39
YKA Yellowknife Ar 84.30 352 P **P** **04 13 16.4 -0.3**
comp=Z,0.0nm,0.3s,baz=12,slow=6.3,SNR=3.5

IDC 22 04:07:31.6±2.1, 17.17S×178.43W, h549km±29km, mb3.6/3, mb1 3.7/4, mb1mx3.0/45, mbtmp4.5/4, Error ellipse: s-maj=106.5km s-min=23.1km az=152.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.18**	**64**	P	P	04 09 21.3	-0.1
	2.9nm,0.3s,baz=252,slow=20,SNR=3.5						
STKA	**Stephens Creek**	**38.98**	**240**	P	P	04 14 10.7	-0.3
	2.0nm,0.5s,baz=93,slow=18,SNR=3.4						
WRA	**Warramunga Arr**	**44.76**	**259**	P	P	04 14 56.5	-0.3
	2.8nm,0.5s,baz=93,slow=6.9,SNR=123						
WRA				PcP	PcP	04 16 26.5	-0.7
	0.4nm,0.8s,baz=92,slow=4.6,SNR=3.2						
ASAR	**Alice Springs**	**44.98**	**254**	P	P	04 14 58.6	+0.1
	19nm,0.6s,baz=88,slow=8.4,SNR=252						
ASAR				PcP	PcP	04 16 27.5	-0.4
	0.6nm,0.6s,baz=107,slow=3.8,SNR=4.7						
BRTR	**Keskin Array B**	**144.25**	**316**	PKP	PKPbc	04 26 05.2	-0.2
	0.5nm,0.6s,baz=64,slow=3.4,SNR=4.5						
GERES	**GERESS Array B**	**146.89**	**345**	PKPbc	PKPbc	04 26 12.1	-0.5
	0.6nm,0.6s,baz=21,slow=3.4,SNR=4.1						

*SJA **22** 04:08:30.4±0.6, 20°.74S×67°.95W, h274km±15km, ML3.6, MW3.4*
*ISCJB **22** 04:08:34.1±0.3, 21°.12S±0°.03×68°.45W±0°.04, h144km±3km, mb4.4/15, Error ellipse: s-maj=7.1km s-min=3.7km az=159.5*
*NEIC **22** 04:08:34.5±0.6, 21°.01S×68°.21W, h125km±5km, mb4.4/5, ML4.8(GUC), Error ellipse: s-maj=9.4km s-min=7.0km az=74.0*
*GUC **22** 04:08:35.1±0.7, 21°.11S×68°.56W, h114km±31km, ML4.6*
*IDC **22** 04:08:36.5±1.9, 21°.00S×68°.14W, h137km±16km, mb4.2/9, mb1 4.2/13, mb1mx3.8/41, mbtmp4.6/13, Error ellipse: s-maj=21.8km s-min=13.3km az=84.0*
ISC 22 04:08:34.6±0.8, 21°.11S±0°.04×68°.43W±0°.05, h131km±7km, n62, σ1°51/69, mb4.6/15, 2C-2D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB01	**IPOC Station P**	**0.99**	**274**	*e*Pn	**Pn**	**04 08 58.9**	**+1.3**
PB01				*e*Sn	**Sn**	**04 09 16.3**	**+1.3**
PB11	**IPOC Station P**	**1.77**	**319**	*e*Pn	**Pn**	**04 09 07.0**	**+0.9**
PB11				*e*Sn	**Sn**	**04 09 30.6**	**+0.6**
PB04	**IPOC Station P**	**2.01**	**232**	*e*Pn	**Pn**	**04 09 10.3**	**+1.3**
PB04				*e*Sn	**Sn**	**04 09 37.3**	**+2.1**
MNMC	**Minye Minye**	**2.25**	**331**	*e*Pn	**Pn**	**04 09 13.1**	**+1.0**
MNMC				*e*Sn	**Sn**	**04 09 41.4**	**+0.7**
YJA	**Yavi**	**2.91**	**112**	*e*P	Pn	04 09 22.4	+1.8
YJA				IAML		04 09 23.2	
	comp=Z,32nm,0.3s						
YJA				*e*S	Sn	04 10 01.1	+5.2
PB16	**IPOC Station P**	**2.94**	**340**	⇓*e*P	**Pn**	**04 09 22.2**	**+1.1**
PB16				⇓*e*S	**Sn**	**04 09 57.2**	**+0.4**
PB16				IAML		04 09 59.4	
	comp=N,2μm,0.6s						
PB12	**IPOC Station P**	**3.06**	**324**	*e*P	**Pn**	**04 09 21.5**	**-0.7**
PB12				*e*S	**Sn**	**04 09 57.3**	**-1.6**
PB12				IAML		04 10 03.5	
	comp=E,1μm,0.3s						
PB10	**IPOC Station P**	**3.10**	**219**	*e*P	**Pn**	**04 09 22.4**	**-0.2**
PB10				*e*S	**Sn**	**04 09 57.8**	**-1.8**
PB10				IAML		04 10 12.2	
	comp=E,714nm,0.3s						
HJA	**Humahuaca**	**3.49**	**127**	*e*P	**Pn**	**04 09 30.0**	**+1.9**
HJA				*e*S	Sn	04 10 14.4	+5.0
HJA				IAML		04 10 15.6	
	comp=Z,50nm,0.4s						
GO02	**Mina Guanaco**	**4.17**	**195**	*e*P	**Pn**	**04 09 37.7**	**+0.7**
GO02				*i* S	**Sn**	**04 10 25.4**	**+0.1**
AZAP	**Zapla**	**4.39**	**136**	*e*P	**Pn**	**04 09 40.7**	**+0.9**
AZAP				IAML		04 09 42.9	
	comp=Z,25nm,0.4s						
AZAP				*e*S	**Sn**	**04 10 32.5**	**+2.1**
ASTB	**Santa Barbara**	**4.64**	**128**	*e*P	**Pn**	**04 09 42.9**	**-0.1**
ASTB				*e*S	**Sn**	**04 10 35.4**	**-0.8**
LPAZ	**La Paz**	**4.80**	**3**	P	**Pn**	**04 09 47.3**	**+1.5**
	comp=Z,8.7nm,0.3s,baz=158,slow=5.2,SNR=187						
LPAZ				S	**Sn**	**04 10 42.1**	**+1.2**
	comp=Z,2.1nm,0.3s,baz=199,slow=18,SNR=4.3						
FSA	**Cafayete**	**5.46**	**156**	*e*P	**Pn**	**04 09 55.3**	**+1.2**
FSA				IAML		04 09 58.4	
	comp=Z,12nm,0.6s						
FSA				*e*S	**Sn**	**04 10 59.0**	**+3.0**
AHML	**Horco Molle**	**6.32**	**154**	*e*P	**Pn**	**04 10 05.9**	**+0.4**
AHML				IAML		04 10 08.9	
	comp=Z,30nm,0.6s						
AHML				*e*S	**Sn**	**04 11 15.8**	**-0.7**
CYA	**Choya**	**7.68**	**162**	*e*P	**Pn**	**04 10 23.1**	**-0.6**
CYA				IAML		04 10 25.5	
	comp=Z,5.7nm,0.5s						
LCO	**Las Campanas**	**8.13**	**194**	*e*Pn	Pn	04 10 26.9	-3.1
LCO				*e*Sn	**Sn**	**04 11 56.4**	**-4.2**
SIV	**San Ignacio**	**8.64**	**55**	P	**Pn**	**04 10 33.4**	**-3.4**
	comp=Z,30nm,0.3s,baz=264,slow=10,SNR=560						
SIV				S	Sn	04 11 59.2	-13
	baz=243,slow=16,SNR=2.5						
APLL	**PUNTA DE LOS L**	**9.40**	**170**	*e*P	**Pn**	**04 10 44.8**	**-2.1**
APLL				IAML		04 10 47.4	
	comp=Z,7.1nm,0.4s						
CPUP	**Villa Florida**	**11.42**	**119**	P	**Pn**	**04 11 13.0**	**-0.8**
	comp=Z,0.2nm,0.3s,baz=318,slow=10,SNR=4.7						
SAML	**Samuel**	**13.11**	**23**	*e*Pn	**Pn**	**04 11 33.0**	**-3.0**
TRQA	**Tornquist**	**17.79**	**163**	*e*P	**P**	**04 12 32.5**	**-0.3**
	comp=Z,17nm,0.8s						
PLCA	**Paso Flores**	**19.64**	**185**	P	**P**	**04 12 54.8**	**+1.7**
	comp=Z,0.6nm,0.3s,baz=30,slow=13,SNR=25						
PLCA	**Paso Flores**	**19.64**	**185**	*e*P	**P**	**04 12 53.2**	**+0.1**
	comp=Z,24nm,0.8s						
PTGA	**Pitinga**	**21.88**	**23**	P	**P**	**04 13 14.8**	**-2.3**
	comp=Z,14nm,0.3s,baz=318,slow=21,SNR=54						
OTAV	**Otavalo**	**23.37**	**334**	*e*P	**P**	**04 13 32.5**	**+0.3**
	comp=Z,3.0nm,0.9s						
RUSC	**La Rusia**	**27.22**	**350**	*e*P	**P**	**04 14 07.4**	**+0.4**
	comp=Z,3.9nm,0.6s						
HELC	**Santa Helena**	**28.01**	**345**	*e*P	**P**	**04 14 13.6**	**-0.2**
	comp=Z,9.7nm,0.7s						
SJG	**San Juan**	**39.04**	**3**	P	**P**	**04 15 46.0**	**-2.7**
	comp=Z,11nm,0.5s,baz=120,slow=8.0,SNR=9.7						
VNA3	**Neumayer Olymp**	**60.30**	**161**	P	**P**	**04 18 30.6**	**+1.5**
TXAR	**Lajitas Array**	**60.57**	**325**	PcP	**PcP**	**04 19 14.5**	**-0.2**
	comp=Z,1.5nm,1.2s,baz=155,slow=4.1,SNR=4.3						
VNA2	**Neumayer--Watz**	**60.87**	**161**	P	**P**	**04 18 34.1**	**+1.2**
	baz=289,slow=7.8						
WCI	**Wyandotte Cave**	**61.36**	**344**	*e*P	**P**	**04 18 36.0**	**-0.5**
SNAA	**Sanae**	**62.50**	**161**	P	**P**	**04 18 45.5**	**+1.6**
SNAA	**Sanae**	**62.50**	**161**	P	**P**	**04 18 45.7**	**+1.9**
	comp=Z,4.5nm,0.7s,baz=273,slow=8.4,SNR=12						
SNAA	**Sanae**	**62.50**	**161**	*e*P	**P**	**04 18 44.7**	**+0.8**
BINY	**Binghamton**	**63.38**	**354**	*e*P	**P**	**04 18 50.4**	**+0.5**
LIC	**Lamto**	**67.85**	**74**	*e*P	**P**	**04 19 18.4**	**-0.9**
	comp=Z,20nm,0.6s						
TIC	**Toumodi**	**68.04**	**73**	*e*P	**P**	**04 19 20.1**	**-0.4**
KIC	**Kosan Boka**	**68.17**	**74**	*e*P	**P**	**04 19 20.7**	**-0.5**
	comp=Z,20nm,0.4s						
DBIC	**Dimbokro**	**68.20**	**73**	P	**P**	**04 19 21.0**	**-0.4**
	comp=Z,7.3nm,0.4s,baz=220,slow=7.0,SNR=35						
DBIC	**Dimbokro**	**68.20**	**73**	*e*P	**P**	**04 19 20.9**	**-0.4**
	comp=Z,11nm,0.9s						
KOWA	**Kowa**	**72.45**	**66**	P	**P**	**04 19 46.9**	**-0.4**
	comp=Z,7.0nm,0.6s,baz=249,slow=8.2,SNR=34						
KOWA	**Kowa**	**72.45**	**66**	*e*P	**P**	**04 19 46.7**	**-0.5**
	comp=Z,9.1nm,0.6s						
ULM	**Lac du Bonnet**	**75.08**	**342**	P	**P**	**04 20 02.4**	**+0.6**
	comp=Z,2.7nm,0.4s,baz=147,slow=6.4,SNR=15						
SYO	**Syowa Base**	**76.71**	**159**	‖*e*P	**P**	**04 20 08.4**	**-2.5**
SYO	**Syowa Base**	**76.71**	**159**	‖*e*P	**P**	**04 20 08.4**	**-2.5**
TOA0	**Torodi Ar. Sit**	**76.81**	**70**	*e*P	**P**	**04 20 12.2**	**-0.2**
TORD	**Torodi Ar. Bea**	**76.81**	**256**	P	**P**	**04 20 12.1**	**-0.3**
	comp=Z,11nm,0.5s,baz=254,slow=5.4,SNR=313						
MAW	**Mawson**	**84.57**	**163**	P	**P**	**04 20 54.6**	**+1.8**
	comp=Z,2.4nm,0.5s,baz=175,slow=3.0,SNR=8.3						
ESDC	**Sonseca Array**	**85.24**	**44**	P	**P**	**04 20 57.0**	**+0.3**
	comp=Z,0.4nm,0.7s,baz=268,slow=4.5,SNR=4.5						
YKA	**Yellowknife Ar**	**90.97**	**340**	P	**P**	**04 21 24.3**	**+1.1**
	comp=Z,0.4nm,0.5s,baz=132,slow=4.6,SNR=16						
H11S2	**WAKE ISLAND Hyl**	**28.27**	**277**	T	T	06 47 41.4	
	baz=102,slow=74,SNR=66						
H11S1	**WAKE ISLAND Hyl**	**28.28**	**277**	T	T	06 47 42.1	
	baz=102,slow=74,SNR=31						
H11S3	**WAKE ISLAND Hyl**	**28.29**	**277**	T	T	06 47 42.7	
	baz=102,slow=74,SNR=54						
H11N3	**WAKE ISLAND Hyl**	**28.34**	**279**	T	T	06 47 46.2	
	baz=102,slow=74,SNR=13						
H11N2	**WAKE ISLAND Hyl**	**28.35**	**279**	T	T	06 47 47.0	
	baz=102,slow=74,SNR=13						
H11N1	**WAKE ISLAND Hyl**	**28.36**	**279**	T	T	06 47 45.0	
	baz=102,slow=74,SNR=6.4						
ASAR	**Alice Springs**	**130.46**	**207**	PKP	**PKPdf**	**04 27 31.6**	**+1.0**
	comp=Z,0.6nm,0.5s,baz=127,slow=1.9,SNR=11						
WRA	**Warramunga Arr**	**133.51**	**210**	PKP	**PKPdf**	**04 27 37.7**	**+1.4**
	comp=Z,1.1nm,0.7s,baz=154,slow=1.8,SNR=18						
MKAR	**Makanchi Array**	**145.06**	**36**	PKP	**PKPdf**	**04 27 57.1**	**+0.7**
	comp=Z,0.7nm,0.4s,baz=296,slow=3.1,SNR=15						
LZH	**Lanzhou**	**163.62**	**23**	*e*PKP	**PKPdf**	**04 28 23.0**	**+0.6**
LZH				pPKP	pPKPdf	04 28 56.8	-1.0
LZH				sPKP		04 29 10.0	
LZH				PKP	**PKPab**	**04 29 17.8**	**+3.1**

MEX 22 04:10:36.0±0.5, 16.55N×98.49W, h2km±36km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.38**	**114**	*e*P	Pg	04 10 43.1	-0.2
PNIG				*e*S	Sg	04 10 48.3	+0.1
TLIG	**Tlapa**	**1.01**	**356**	*e*P	Pg	04 10 53.3	-2.1
TLIG				*i* S	Sg	04 11 06.5	-2.1
VHO	**Vista Hermosa**	**1.76**	**72**	*e*P	Pn	04 11 04.9	-2.9
CAIG	**El Cayaco**	**1.77**	**287**	*e*P	Pn	04 11 05.9	-1.8

*ISCJB **22** 04:12:28.4±0.7, 62°.92S±0°.8×158°.6W±0°.4, h10km, mb4.2/6, MS3.8/12, Error ellipse: s-maj=117.1km s-min=14.3km az=9.2*
*IDC **22** 04:12:28.7±0.9, 62°.67S×158°.47W, h0km, mb4.2/4, mb1 4.4/4, mb1mx4.1/32, mbtmp4.2/4, MS3.7/13, Ms1 3.7/13, ms1mx3.6/32, Error ellipse: s-maj=136.1km s-min=24.2km az=9.0*
*NEIC **22** 04:12:29.9±0.4, 62°.80S×158°.42W, h10km, mb4.2/2, Error ellipse: s-maj=65.4km s-min=11.3km az=189.0*
ISC 22 04:12:30.0±0.7, 62.8S±0°.7×158.4W±0°.2, h10km, n38, σ0°77/15, mb4.3/6, MS3.8/12, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**19.27**	**205**	LR	LR	04 22 46.3	
	comp=Z,152nm,18.1s,baz=63,slow=32						
RPZ	**Rata Zeaks**	**26.05**	**303**	LR	LR	04 25 57.5	
	comp=Z,130nm,18.6s,baz=98,slow=31						
URZ	**Urewera**	**28.75**	**317**	LR	LR	04 26 45.1	
	comp=Z,203nm,21.6s,baz=182,slow=30						
RAR	**Rarotonga**	**41.61**	**358**	LR	LR	04 35 37.6	
	comp=Z,217nm,18.5s,baz=240,slow=34						
RKT	**Rikitea**	**42.73**	**33**	*e*LQ	LQ	04 30 01.9	
	360nm,28.5s						
RKT	**Rikitea**	**42.73**	**33**	*e*T	T	05 05 41.0	
	13nm,0.3s						
TVO	**Taravao**	**45.46**	**12**	*e*T	T	05 09 04.3	
	3.6nm,0.3s						
PAE	**Paea**	**45.55**	**12**	*e*T	T	05 09 10.6	
	5.9nm,0.3s						
PPT2	**Papeete2**	**45.62**	**12**	*e*LR	LR	04 33 18.4	
	258nm,25.5s						
PPT2	**Papeete2**	**45.62**	**12**	*e*T	T	05 09 14.0	
	6.2nm,0.3s						
PPT	**Papeete**	**45.64**	**12**	LR	LR	04 34 39.7	
	comp=Z,99nm,19.3s,baz=149,slow=29						
TIAR	**Tiarei**	**45.67**	**12**	*e*T	T	05 09 16.2	
	3.7nm,0.3s						
DZM	**Mont Dzumac**	**47.16**	**313**	LR	LR	04 36 59.8	
	comp=Z,110nm,20.9s,baz=206,slow=31						
RPN	**Rapa Nui**	**47.86**	**65**	LR	LR	04 37 09.8	
	comp=Z,72nm,18.3s,baz=262,slow=31						
VAH	**Vaihoa**	**48.15**	**14**	*e*T	T	05 12 25.6	
	447nm,0.3s						
PMOR	**Pomariorio Ree**	**48.35**	**14**	*e*T	T	05 12 39.4	
	12nm,0.3s						
STKA	**Stephens Creek**	**48.53**	**281**	P	**P**	**04 21 14.4**	**+1.5**
	1.2nm,0.3s,baz=135,slow=11,SNR=2.8						
STKA				LR	LR	04 38 09.6	
	comp=Z,104nm,19.1s,baz=202,slow=32						
AFI	**Afiamalu**	**49.77**	**343**	LR	LR	04 36 18.0	
	comp=Z,53nm,20.9s,baz=128,slow=29						
CTAO	**Charters Tower**	**56.72**	**292**	*e*P	**P**	**04 22 14.0**	**+0.3**
H01W1	**Cape Leeuwin H**	**58.48**	**254**	T	T	05 26 13.2	
	baz=147,slow=76,SNR=6.1						
H01W2	**Cape Leeuwin H**	**58.48**	**254**	T	T	05 26 13.1	
	baz=147,slow=76,SNR=6.7						
H01W3	**Cape Leeuwin H**	**58.50**	**254**	T	T	05 26 14.4	
	baz=147,slow=76,SNR=6.2						
ASAR	**Alice Springs**	**59.04**	**278**	P	**P**	**04 22 29.2**	**-0.7**
	1.5nm,0.9s,baz=146,slow=6.6,SNR=14						
ASAR				LR	LR	04 44 60.0	
	comp=Z,94nm,19.2s,baz=176,slow=33						
HNR	**Honiara**	**61.12**	**312**	LR	LR	04 44 59.8	
	comp=Z,31nm,20.4s,baz=157,slow=32						
WRA	**Warramunga Arr**	**62.08**	**281**	P	**P**	**04 22 49.8**	**-0.9**
	1.0nm,0.7s,baz=155,slow=5.8,SNR=8.1						
WRAB	**Tennant Creek**	**62.09**	**281**	*e*P	**P**	**04 22 50.6**	**-0.1**
LCO	**Las Campanas**	**63.59**	**102**	*e*P	**P**	**04 23 01.1**	**+0.2**
SOEI	**Soe**	**75.59**	**277**	*e*P	**P**	**04 24 14.2**	**-0.8**
LPAZ	**La Paz**	**75.79**	**98**	P	**P**	**04 24 17.6**	**+0.9**
	6.9nm,1.2s,baz=199,slow=4.8,SNR=10						
SAML	**Samuel**	**84.49**	**99**	*e*P	**P**	**04 25 02.3**	**-0.6**
	1.7nm,0.7s						
OTAV	**Otavalo**	**85.62**	**81**	*e*P	**P**	**04 25 08.9**	**-0.1**
	0.9nm,0.6s						
LEM	**Lembang**	**85.80**	**263**	LR	LR	05 00 49.2	
	comp=Z,55nm,20.0s,baz=196,slow=34						
BOSA	**Boshof**	**88.82**	**183**	LR	LR	05 02 42.8	
	comp=Z,54nm,18.7s,baz=182,slow=34						
KSM	**Kuching**	**91.89**	**270**	*e*P	**P**	**04 25 38.5**	**+0.2**
ILAR	**Eielson Array**	**127.59**	**6**	PKP	**PKPdf**	**04 31 33.1**	**-0.4**
	0.6nm,0.7s,baz=246,slow=1.5,SNR=4.2						
TORD	**Torodi Ar. Bea**	**128.40**	**155**	PKP	**PKPdf**	**04 31 36.9**	**+0.3**
	0.3nm,0.7s,baz=202,slow=3.5,SNR=2.5						
KURBB	**Kurchatov Arra**	**147.61**	**275**	PKPbc	**PKPbc**	**04 32 12.7**	**-0.5**
	1.5nm,0.9s,baz=117,slow=2.6,SNR=6.9						
KURK	**Kurchatov**	**147.63**	**275**	*e*PKPbc	**PKPbc**	**04 32 12.3**	**-1.0**

*ISCJB **22** 04:14:08.2±0.7, 51°.45N±0°.03×16°.13E±0°.03, h0km, Error ellipse: s-maj=4.4km s-min=2.6km az=8.3*
*IPEC **22** 04:14:08.5±0.3, 51°.56N×16°.23E, h0km, ML1.6/3, Error ellipse: s-maj=3.3km s-min=1.7km az=67.0*
*CSEM **22** 04:14:09.2±0.3, 51°.50N×16°.12E, h2km, ML2.9/18, Error ellipse: s-maj=5.5km s-min=3.2km az=179.0*
*PRU **22** 04:14:10.6, 51°.47N×16°.09E, h0km*
*VIE **22** 04:14:11.0±0.9, 51°.35N×16°.02E, h0km, mb2.3/3, ML2.2/6, Error ellipse: s-maj=6.5km s-min=5.2km az=23.0, Suspected Mining induced.*
ISC 22 04:14:09.7±1.1, 51.50N±0°.05×16.10E±0°.02, h0km, n43, σ0°78/82, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.67**	**169**	*e*Pg	**Pg**	**04 14 22.6**	**+0.1**
KSP				*i* Sg	**Sg**	**04 14 32.2**	**+1.1**
KSP	**Ksiaz**	**0.67**	**169**	*e*Pg	**Pg**	**04 14 22.6**	**+0.1**
KSP				*i* Sg	**Sg**	**04 14 32.2**	**+1.1**
UPC	**Upice**	**0.99**	**183**	*e*PG	**Pg**	**04 14 28.9**	**+0.2**
UPC				*e*SG	**Sg**	**04 14 42.1**	**+0.5**
	comp=Z,21nm,0.3s						
UPC	**Upice**	**0.99**	**183**	Pg	**Pg**	**04 14 28.9**	**+0.2**
UPC				Sg	**Sg**	**04 14 42.1**	**+0.5**
	21nm,0.3s						
DPC	**Dobruska-Polom**	**1.16**	**173**	*e*PG	**Pg**	**04 14 31.6**	**-0.3**
DPC				*e*SG	**Sg**	**04 14 47.3**	**+0.4**
	comp=Z,12nm,0.4s						
DPC	**Dobruska-Polom**	**1.16**	**173**	Pg	**Pg**	**04 14 31.6**	**-0.3**
DPC				Sg	**Sg**	**04 14 47.3**	**+0.4**
	12nm,0.4s						
PVCC	**Panska Ves**	**1.37**	**225**	*e*PG	**Pb**	**04 14 36.3**	**+0.2**
PVCC				*e*SG	**Sn**	**04 14 55.0**	**+0.2**
	comp=Z,51nm,0.2s						
PVCC	**Panska Ves**	**1.37**	**225**	Pg	**Pb**	**04 14 36.3**	**+0.2**
PVCC				Sg	**Sn**	**04 14 55.0**	**+0.2**
	51nm,0.2s						
KRLC	**Kraliky**	**1.49**	**163**	*e*PG	**Pn**	**04 14 37.1**	**-0.6**
KRLC				*e*SG	**Sg**	**04 14 56.8**	**-0.7**
	comp=Z,2.6nm,0.2s						
KRLC	**Kraliky**	**1.49**	**163**	Pg	**Pn**	**04 14 37.1**	**-0.6**
KRLC				Sg	**Sg**	**04 14 56.8**	**-0.7**
	2.6nm,0.2s						
BRG	**Berggiesshubel**	**1.49**	**246**	PG	**Pn**	**04 14 37.8**	**+0.1**
BRG				SG	**Sn**	**04 14 58.8**	**+0.9**
	55nm,0.3s						
PRA	**Prague**	**1.78**	**217**	*e*SG	**Sg**	**04 15 06.6**	**-0.1**
	comp=Z,11nm,0.1s						
PRA	**Prague**	**1.78**	**217**	Sg	**Sg**	**04 15 06.6**	**-0.1**
	11nm,0.1s						
GOPC	**GO Pecny, Ondr**	**1.79**	**208**	*e*PG	**Pb**	**04 14 43.6**	**+0.2**
GOPC				*e*SG	**Sb**	**04 15 06.3**	**-0.1**
	comp=Z,5.4nm,0.2s						
GOPC	**GO Pecny, Ondr**	**1.79**	**208**	Pg	**Pb**	**04 14 43.6**	**+0.2**
GOPC				Sg	**Sb**	**04 15 06.3**	**-0.1**
	5.4nm,0.2s						
PRU	**Pruhonice**	**1.81**	**214**	*e*PG	**Pb**	**04 14 43.2**	**-0.4**
PRU				*e*SG	**Sg**	**04 15 07.7**	**+0.1**
	comp=Z,17nm,0.4s						
PRU	**Pruhonice**	**1.81**	**214**	Pg	**Pb**	**04 14 43.2**	**-0.4**
PRU				Sg	**Sg**	**04 15 07.7**	**+0.1**
	17nm,0.4s						
CLL	**Collm**	**1.95**	**266**	*e*Pg	**Pb**	**04 14 46.0**	**0.0**
CLL				*e*Sg	**Sg**	**04 15 12.0**	**-0.1**
	comp=Z,8.0nm,0.3s						
MORC	**Moravsky Berou**	**1.96**	**151**	*e*Pn	**Pn**	**04 14 42.8**	**-1.3**
	baz=335						
MORC				*e*Sg	**Sb**	**04 15 10.3**	**-0.8**
	comp=Z,3.9nm,0.2s,baz=335						
OKC	**Ostrava-Krasne**	**2.12**	**141**	*e*PG	**Pb**	**04 14 48.7**	**-0.1**
OKC				*e*SG	**Sb**	**04 15 15.5**	**-0.1**
	comp=Z,8.2nm,0.5s						
OKC	**Ostrava-Krasne**	**2.12**	**141**	Pg	**Pb**	**04 14 48.7**	**-0.1**
OKC				Sg	**Sb**	**04 15 15.5**	**-0.1**
	comp=Z,8.2nm,0.5s						
VRAC	**Vranov**	**2.22**	**172**	*e*Pn	**Pn**	**04 14 47.3**	**-0.4**
VRAC				*e*Sg	**Sb**	**04 15 19.3**	**+0.7**
	comp=Z,3.5nm,0.2s,baz=354						
TREC	**Trest**	**2.24**	**190**	*e*PN	**Pn**	**04 14 48.6**	**+0.6**
TREC				*e*PG	**Pg**	**04 14 52.2**	**-0.4**
TREC				*e*SG	**Sg**	**04 15 21.3**	**-0.3**
	comp=Z,5.5nm,0.2s						
TREC	**Trest**	**2.24**	**190**	Pn	**Pn**	**04 14 48.6**	**+0.6**
KRUC	**Moravsky**	**2.45**	**175**	*e*Pn	**Pn**	**04 14 50.5**	**-0.3**
	baz=358						
KRUC				*e*Sg	**Sg**	**04 15 26.8**	**-1.5**
	comp=Z,2.8nm,0.2s,baz=358						
NKC	**Novy Kostel**	**2.64**	**243**	*e*PN	**Pn**	**04 14 53.5**	**+0.1**
NKC				*e*PG	**Pg**	**

ARSB	**Arslanbob**	**1.43**	**356**	⇑	*e*P		**Pg**	**04 31 04.8**	**+2.1**
	baz=58								
ARSB				⇑	*i*S		**Sg**	**04 31 24.4**	**+3.1**
	baz=58								
BTK	**Batken**	**1.77**	**276**	⇑	*i*P		**Pg**	**04 31 09.2**	**+0.1**
	baz=77								
BTK				⇑	*i*S		**Sg**	**04 31 33.5**	**+1.5**
	baz=77								
AML	**Almayashu**	**2.28**	**11**	⇓	*i*P		**Pg**	**04 31 18.1**	**-0.9**
	baz=12								
AML				⇓	*i*S		**Sg**	**04 31 48.3**	**-0.2**
	baz=12								
UCH	**Uchtor**	**2.56**	**24**	⇓	*i*P		**Pb**	**04 31 22.7**	**+0.4**
	baz=25								
UCH				⇓	*i*S		**Sb**	**04 31 55.3**	**+0.9**
	baz=25								
MNAS	**Manas**	**2.63**	**350**	⇑	Pg		**Pg**	**04 31 24.4**	**-1.3**
	1.9nm,0.4s								
MNAS				⇓	Lg		Lg	04 31 59.9	
	7.5nm,0.4s								
MNAS	**Manas**	**2.63**	**350**	⇓	*i*P		**Pb**	**04 31 23.2**	**0.0**
	baz=51								
MNAS				⇓	*i*S		**Sb**	**04 31 56.4**	**+0.3**
	baz=51								
NRN	**Naryn**	**2.69**	**54**	⇑	*e*P		**Pb**	**04 31 23.5**	**-0.8**
	baz=54								
NRN				⇑	*i*S		**Sb**	**04 31 58.5**	**+0.7**
	baz=54								
MRKS	**Merke**	**2.85**	**2**		*e*P		**Pg**	**04 31 29.6**	**-0.3**
	13nm,0.3s								
MRKS					*e*S		**Sg**	**04 32 05.8**	**-1.1**
	17nm,0.3s								
AAK	**Ala-Archa**	**2.94**	**20**	⇑	Pg		**Pg**	**04 31 31.0**	**-0.5**
	7.2nm,0.4s								
AAK				⇑	Lg		Lg	04 32 09.8	
	8.4nm,0.6s								
AAK	**Ala-Archa**	**2.94**	**20**	⇑	*i*P		**Pb**	**04 31 29.5**	**+1.1**
	baz=21								
AAK				⇑	*i*S		**Sb**	**04 32 05.5**	**+0.7**
	baz=21								
IUG	**Iuzhnay**	**3.24**	**315**		*e*P		**Pg**	**04 31 37.0**	**-0.3**
	12nm,0.3s								
IUG					*e*S		**Sg**	**04 32 19.2**	**-0.1**
	21nm,0.5s								
DZET	**Dzherino**	**3.49**	**253**	⇓	Pg		**Pg**	**04 31 41.4**	**-0.8**
	18nm,0.5s								
DZET				⇑	Lg		Lg	04 32 29.3	
	26nm,0.5s								
TKM2	**Tokmak 2**	**3.56**	**31**	⇑	Pg		**Pg**	**04 31 43.3**	**-0.2**
	2.5nm,0.8s								
TKM2				⇓	Lg		Lg	04 32 30.0	
	3.2nm,0.6s								
KK31	**Karatay Array**	**3.75**	**330**	⇑	Pn		**Pb**	**04 31 39.6**	**-2.7**
	0.2nm,0.3s,baz=166,slow=15,SNR=8.1								
KK31				⇑	Pg		**Pg**	**04 31 46.0**	**-1.2**
	0.5nm,0.3s,baz=146,slow=16,SNR=6.1								
KK31				⇓	Sn		**Sb**	**04 32 24.7**	**-3.5**
	1.1nm,0.3s,baz=138,slow=20,SNR=4.5								
KK31					Lg		Lg	04 32 37.4	
	1.8nm,0.3s,baz=156,slow=30,SNR=6.0								
KST	**Kastek**	**3.81**	**33**		*e*P		**Pg**	**04 31 49.6**	**+1.3**
	1.4nm,0.4s								
KST					*e*S		**Sg**	**04 32 39.4**	**+1.8**
	9.1nm,0.6s								
DGS	**Degeres**	**3.90**	**30**		*e*P		**Pg**	**04 31 48.5**	**-1.4**
	4.5nm,0.5s								
DGS					*e*S		**Sg**	**04 32 39.0**	**-1.4**
	5.7nm,0.9s								
BRLS	**Borolday**	**3.98**	**323**		*e*P		**Pb**	**04 31 47.6**	**+1.4**
	0.8nm,0.2s								
BRLS					*e*S		**Sb**	**04 32 37.5**	**+2.7**
	6.9nm,0.5s								
IZV	**Izvestkoviy**	**4.10**	**39**		*e*P		**Pg**	**04 31 54.4**	**+0.6**
	2.2nm,0.3s								
IZV					*e*S		**Sg**	**04 32 47.6**	**+0.7**
	13nm,0.4s								
TNSS	**Tian-Shan**	**4.27**	**41**		*e*P		**Pg**	**04 31 55.4**	**-1.6**
	2.1nm,0.4s								
TNSS					*e*S		**Sg**	**04 32 50.7**	**-1.6**
	11nm,0.7s								
KUU	**Kurty**	**4.67**	**30**		*e*P		**Pg**	**04 32 03.9**	**-0.8**
	2.0nm,0.5s								
KUU					*e*S		**Sg**	**04 33 04.1**	**-1.1**
	3.9nm,0.3s								

ISCJB ***22*** *04:34:56.7±0.9,2°.3N±0°.2×92°.49E±0°.09,h10km,mb3.8/6, MS3.4/1,Error ellipse: s-maj=23.0km s-min=11.2km az=21.8*

IDC ***22*** *04:34:57.6±1.3,2°.34N×92°.52E,h0km,mb3.7/6,mb1 3.9/7, mb1mx3.6/61,mbtmp3.8/7,ML3.7/1,MS3.4/1,Ms1 3.4/1, ms1mx2.5/65,Error ellipse: s-maj=61.9km s-min=20.0km az=48.0*

DJA ***22*** *04:35:31.9±1.0,3°N±5°×9°5E±°,h10km,M3.9/7,mb4.3/3, MLv3.7/7*

ISC 22 04:34:59.0±1.3,2°.2N±0°.2×92°.6E±0°.2,h10km,n15, σ2s23/12,mb3.8/6,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
MLSI	**Meulaboh, Aceh**	**4.31**	**61**	P	**Pn**		**04 36 06.1**	**+1.4**
TPTI		**4.68**	**76**	P	**Pn**		**04 36 05.5**	**-4.2**
TPTI				S	Sn		04 36 33.3	-31
GSI	**Gunungsitoli**	**5.02**	**100**	P	**Pn**		**04 36 15.7**	**+1.2**
LHMI	**Lhok Sumawe**	**5.28**	**55**	P	**Pn**		**04 36 21.1**	**+3.1**
KCSI	**Kotacane, Aceh**	**5.32**	**75**	P	**Pn**		**04 36 16.8**	**-1.7**
SISI	**Saibi**	**7.34**	**118**	P	Pn		04 36 54.4	+8.1
	30nm,0.9s,0.2nm							
PALK	**Pallekele**	**12.91**	**294**	Pn	Pn		04 37 58.7	-4.1
	0.4nm,0.3s,baz=116,slow=8.3,SNR=2.6							
PALK				Sn	Sn		04 40 12.2	-15
	0.4nm,0.3s,baz=294,slow=0.3,SNR=3.3							
MKAR	**Makanchi Array**	**45.35**	**350**	P	**P**		**04 43 16.0**	**-1.5**
	1.2nm,0.7s,baz=178,slow=8.8,SNR=7.6							
WRA	**Warramunga Arr**	**46.45**	**120**	P	**P**		**04 43 27.8**	**+1.3**
	1.7nm,0.9s,baz=300,slow=8.6,SNR=12							
ASAR	**Alice Springs**	**47.66**	**125**	P	**P**		**04 43 37.4**	**+1.5**
	0.4nm,0.7s,baz=292,slow=7.6,SNR=4.0							
KURBB	**Kurchatov Arra**	**49.73**	**348**	P	**P**		**04 43 50.2**	**-1.2**
	0.4nm,0.5s,baz=171,slow=6.9,SNR=3.6							
ZALV	**Zalesovo Beam**	**52.01**	**354**	P	**P**		**04 44 06.8**	**-1.7**
	0.9nm,0.5s,baz=165,slow=6.0,SNR=3.9							
BVAR	**Borovoye Array**	**53.94**	**344**	LR	LR		05 08 04.8	
	comp=Z,31nm,19.5s,baz=128,slow=37							
GERES	**GERESS Array B**	**81.08**	**319**	P	**P**		**04 47 14.7**	**+0.1**
	0.4nm,0.6s,baz=114,slow=6.9,SNR=3.0							
TXAR	**Lajitas Array**	**145.01**	**25**	PKP	**PKPab**		**04 54 37.1**	**+0.3**
	0.3nm,0.5s,baz=147,slow=1.9,SNR=6.6							

NDI ***22*** *04:48:28.7±2.8,24°.26N×94°.09E,h15km±9km,ML3.4*

IDC ***22*** *04:48:34.3±3.5,24°.25N×94°.35E,h99km±33km,mb3.5/17, mb1 3.6/18,mb1mx3.3/74,mbtmp3.8/18,MS3.1/5, Ms1 3.1/5,ms1mx2.8/49,Error ellipse: s-maj=26.7km s-min=14.0km az=58.0*

ISC 22 04:48:27.3±1.5,24°.21N±0°.05×94°.15E±0°.06,h30km±10km, n33,σ1s70/37,mb3.8/17,MS3.0/6,Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
IMP	**Imphal**	**0.64**	**343**	*e*P	**Pn**		**04 48 41.5**	**+1.1**
IMP				*e*S	**Sb**		**04 48 50.1**	**+1.2**
IMP				IAML			04 48 51.2	
	comp=N,2μm,0.5s							
IMP				IAML			04 48 51.8	
	comp=E,2μm,0.6s							
AZL	**Aizawl**	**1.42**	**251**	*e*P	**Pb**		**04 48 54.8**	**+1.6**
AZL				*ex*	x		04 49 04.8	
AZL				IAML			04 49 05.8	
	comp=N,381nm,0.5s							
AZL				IAML			04 49 06.8	
	comp=E,345nm,0.3s							
KOHI	**KOHIMA**	**1.50**	**359**	*e*P	**Pb**		**04 48 54.7**	**+0.1**
KOHI				*e*S	**Sb**		**04 49 13.8**	**+0.5**
KOHI				IAML			04 49 17.6	
	comp=N,1μm,0.8s							
KOHI				IAML			04 49 18.0	
	comp=E,632nm,0.7s							
SAIH	**SAIHA**	**2.02**	**212**	*e*P	**Pb**		**04 49 03.0**	**-0.5**
SAIH				IAML			04 49 35.4	
	comp=N,379nm,0.7s							
SAIH				IAML			04 49 37.5	
	comp=E,563nm,0.5s							
MOKO	**MOKOCHONG**	**2.12**	**9**	*e*P	**Pb**		**04 49 05.2**	**-0.1**
MOKO				*e*S	**Sb**		**04 49 28.6**	**-2.6**
MOKO				IAML			04 49 35.8	
	comp=E,487nm,0.6s							
MOKO				IAML			04 49 39.5	
	comp=N,549nm,0.8s							
SHL	**Shillong**	**2.46**	**304**	*e*P	**Pn**		**04 49 06.9**	**+1.3**
SHL				*e*PN	**Pb**		**04 49 07.5**	**-3.5**
SHL				*e*PG			04 49 16.5	
SHL				*e*S	**Sn**		**04 49 36.6**	**+1.8**
SHL				*e*SN	**Sb**		**04 49 37.0**	**-3.9**
SHL				IAML			04 49 39.2	
	comp=N,120nm,0.2s							
SHL				IAML			04 49 39.3	
	comp=E,160nm,0.2s							
JORH	**JORHAT**	**2.52**	**2**	*e*P	**Pb**		**04 49 10.9**	**-0.9**
JORH				*e*S	**Sn**		**04 49 37.8**	**+1.9**
JORH				IAML			04 50 09.6	
	comp=E,707nm,0.7s							
JORH				IAML			04 50 11.4	
	comp=N,483nm,0.8s							
TEZP	**TEZPUR**	**2.69**	**333**	*e*P	**Pn**		**04 49 10.4**	**+1.9**
TEZP				*e*S	**Sn**		**04 49 40.5**	**+0.5**
TEZP				IAML			04 49 51.4	
	comp=E,118nm,0.2s							
TEZP				IAML			04 49 53.1	
	comp=N,162nm,0.2s							
ITAN	**ITANAGAR**	**2.94**	**353**	*e*P	**Pn**		**04 49 14.4**	**+2.4**
ITAN				*e*S	**Sn**		**04 49 49.0**	**+2.6**
ITAN				IAML			04 50 09.4	
	comp=E,201nm,0.7s							
ITAN				IAML			04 50 17.4	
	comp=N,254nm,0.6s							
TURI	**Tura**	**3.71**	**292**	*e*P	**Pn**		**04 49 25.5**	**+2.8**
TURI				*e*S	**Sn**		**04 50 07.0**	**+1.5**
TURI				IAML			04 50 12.8	
	comp=N,196nm,0.2s							
TURI				IAML			04 50 13.5	
	comp=E,197nm,0.2s							
CMAR	**Chiang Mai Arr**	**7.26**	**141**	P	Pn		04 50 16.4	+4.9
	baz=321,slow=14,SNR=4.7							
PALK	**Pallekele**	**21.21**	**220**	LR	LR		05 03 46.4	
	comp=E,51nm,18.4s,baz=116,slow=43							
MKAR	**Makanchi Array**	**24.46**	**340**	P	**P**		**04 53 44.3**	**+0.7**
	comp=E,1.1nm,0.6s,baz=157,slow=10.0,SNR=9.2							
AAK	**Ala-Archa**	**24.53**	**323**	P	**P**		**04 53 46.5**	**+2.1**
	comp=E,0.9nm,0.3s,baz=127,slow=10.0,SNR=5.2							
SONM	**Songino Array**	**25.50**	**19**	P	**P**		**04 53 54.1**	**+1.0**
	comp=E,2.3nm,0.6s,baz=208,slow=12,SNR=4.1							
TLY	**Talaya**	**28.38**	**12**	LR	LR		05 06 43.8	
	comp=E,30nm,18.8s,baz=154,slow=38							
KURBB	**Kurchatov Arra**	**29.01**	**339**	P	**P**		**04 54 23.9**	**-0.5**
	comp=E,0.6nm,0.7s,baz=155,slow=8.4,SNR=3.8							
ZALV	**Zalesovo Beam**	**30.51**	**349**	P	**P**		**04 54 38.4**	**+0.7**
	comp=E,0.7nm,0.6s,baz=185,slow=6.7,SNR=4.7							
ZALV				LR	LR		05 07 06.0	
	comp=E,30nm,21.8s,baz=64,slow=36							
KSRS	**Korea Array**	**31.68**	**57**	LR	LR		05 08 54.1	
	comp=E,35nm,19.8s,baz=185,slow=39							
JNU	**Nakatsue**	**33.29**	**66**	LR	LR		05 08 16.0	
	comp=E,55nm,19.3s,baz=67,slow=36							
NRIK	**Noril'sk**	**45.31**	**357**	LR	LR		05 17 40.8	
	comp=E,387nm,19.1s,baz=333,slow=39							
AKASG	**Malin Array Be**	**55.89**	**316**	P	**P**		**04 58 01.5**	**-0.7**
	comp=E,0.9nm,0.5s,baz=81,slow=6.2,SNR=6.6							
MLR	**Muntele Rosu**	**58.11**	**310**	P	**P**		**04 58 18.3**	**+0.2**
	comp=E,0.4nm,0.5s,baz=83,slow=8.1,SNR=3.7							
FINES	**FINESS Array B**	**58.57**	**329**	P	**P**		**04 58 21.0**	**+0.1**
	comp=E,0.4nm,0.5s,baz=112,slow=6.2,SNR=5.1							
WRA	**Warramunga Arr**	**58.81**	**135**	P	**P**		**04 58 21.6**	**-1.5**
	comp=E,0.7nm,0.7s,baz=327,slow=7.3,SNR=6.7							
ASAR	**Alice Springs**	**61.26**	**138**	P	**P**		**04 58 39.0**	**-0.9**
	comp=E,0.4nm,0.7s,baz=319,slow=6.9,SNR=4.6							
HFS	**Hagfors**	**64.60**	**327**	P	**P**		**04 59 00.7**	**-1.0**
	comp=E,1.3nm,0.7s,baz=104,slow=6.1,SNR=3.9							
NOA	**NORSAR Array B**	**65.74**	**328**	P	**P**		**04 59 08.6**	**-0.5**
	comp=E,0.4nm,0.7s,baz=89,slow=3.7,SNR=2.8							
GERES	**GERESS Array B**	**66.03**	**315**	P	**P**		**04 59 11.6**	**+0.4**
	comp=E,0.8nm,0.7s,baz=104,slow=4.1,SNR=4.0							
ILAR	**Eielson Array**	**79.69**	**22**	P	**P**		**05 00 30.2**	**-1.6**
	comp=E,0.5nm,0.9s,baz=305,slow=5.2,SNR=5.7							
INK	**Inuvik**	**81.37**	**16**	P	**P**		**05 00 38.6**	**-2.1**
	comp=E,2.0nm,1.0s,baz=348,slow=9.0,SNR=6.9							
BOSA	**Boshof**	**84.56**	**235**	P	**P**		**05 00 57.9**	**-0.2**
	comp=E,2.5nm,0.6s,baz=74,slow=1.8,SNR=4.6							
TORD	**Torodi Ar. Bea**	**86.90**	**283**	P	**P**		**05 01 10.5**	**+0.6**
	comp=E,0.5nm,1.0s,baz=54,slow=3.9,SNR=3.0							

NEIC ***22*** *05:03:19.1±0.0,17°.76N×103°.24W,h15km,mb4.0/7, MD4.0(MEX),After MEX.*

MEX 22 05:03:19.1±0.6,17°.76N×103°.24W,h15km±999km,MD4.0, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
MMIG	**Aquila**	**0.53**	**349**	*e*P	Pg		05 03 27.9	-1.8
MMIG				*i* S	Sg		05 03 35.1	-1.8
MMIG	**Aquila**	**0.53**	**349**	*e*Pg	Pg		05 03 27.9	-1.8
MMIG				*e*Pn	Pn		05 03 35.1	+2.9
ZIIG	**Zihuatanejo**	**1.70**	**95**	*i* P	Pn		05 03 44.7	-3.4
ZIIG	**Zihuatanejo**	**1.70**	**95**	*e*Pn	Pn		05 03 44.7	-3.4
EZ5V		**1.74**	**349**	*e*P	Pn		05 03 46.1	-2.9
CJM	**Chamela**	**2.43**	**316**	*e*P	Pn		05 03 55.4	-2.9
CJM	**Chamela**	**2.43**	**316**	*e*Pn	Pn		05 03 55.4	-2.9
MOIG	**Morelia**	**2.72**	**45**	*e*Pn	Pn		05 04 00.3	-2.1
MOIG				*e*Sn	Sn		05 04 32.1	-3.1
WLAR	**White Oak Lake**	**18.27**	**28**	*e*P	Pn		05 07 28.7	-3.4
VBMS	**Vicksburg**	**18.42**	**36**	*e*P	P		05 07 30.6	-3.1
	14nm,0.8s							
GLA	**Glamis**	**18.45**	**328**	*e*P	P		05 07 31.0	-3.3
	4.3nm,0.8s							
MIAR	**Mount Ida**	**18.81**	**25**	*e*P	P		05 07 34.9	-3.2
	18nm,1.7s							
CPE	**Cape Elliot**	**19.56**	**323**	*e*P	P		05 07 44.8	-1.6
	20nm,1.6s							
GSC	**Goldstone, Bar**	**21.23**	**328**	*e*P	P		05 08 02.5	-2.1
	7.2nm,1.7s							
LCCY	**Blossom Villag**	**22.01**	**81**	*e*P	P		05 08 08.2	-4.8
	232nm,1.0s							
KSU1	**Kansas State U**	**22.03**	**14**	*e*P	P		05 08 10.9	-2.1
	8.2nm,0.5s							
ISCO	**Idaho Springs**	**22.06**	**355**	*e*P	P		05 08 10.1	-3.6
	4.9nm,1.6s							

IDC 22 05:06:47.3±5.6,2°.78N×92°.96E,h0km,mb3.5/2,mb1 3.7/2, mb1mx3.2/67,mbtmp3.5/2,Error ellipse: s-maj=261.5km s-min=32.3km az=55.0,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
MKAR	**Makanchi Array**	**44.81**	**350**	P	P		05 15 03.2	+0.2
	0.4nm,0.7s,baz=157,slow=7.8,SNR=3.0							
WRA	**Warramunga Arr**	**46.48**	**121**	P	P		05 15 16.6	0.0
	0.6nm,0.5s,baz=299,slow=8.7,SNR=10							
TXAR	**Lajitas Array**	**144.31**	**25**	PKP	PKPbc		05 26 24.4	-0.2
	0.1nm,0.5s,baz=315,slow=0.1,SNR=3.0							

IDC ***22*** *05:07:09.0±3.4,16°.39N×98°.39W,h0km,mb3.4/3, mb1 3.7/5,mb1mx3.5/44,mbtmp3.2/5,ML3.1/2,Error ellipse: s-maj=59.4km s-min=17.5km az=10.0*

NEIC ***22*** *05:07:10.1±0.0,16°.36N×98°.45W,h2km,mb3.9/12, MD4.0(MEX),After MEX.*

MEX ***22*** *05:07:10.1±1.2,16°.36N×98°.45W,h2km±41km,MD4.0*

ISCJB ***22*** *05:07:11.4±0.5,16°.57N±0°.04×98°.19W±0°.06,h20km, mb3.8/11,Error ellipse: s-maj=9.0km s-min=5.0km az=153.1*

ISC 22 05:07:12.2±0.8,16°.54N±0°.05×98°.25W±0°.05,h20km,n37, σ2s02/42,mb3.8/11,Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
PNIG	**Pinotepa**	**0.18**	**142**	*e*P	**Pb**		**05 07 15.6**	**-1.5**
PNIG				*i* S	**Sb**		**05 07 20.1**	**-0.4**
PNIG	**Pinotepa**	**0.18**	**142**	*e*Pg	**Pb**		**05 07 15.6**	**-1.5**
PNIG				*e*Sg	**Sb**		**05 07 20.1**	**-0.4**
TLIG	**Tlapa**	**1.06**	**343**	*i* P	**Pb**		**05 07 29.9**	**-2.2**
TLIG				*e*S	**Sn**		**05 07 44.8**	**-1.7**
TLIG	**Tlapa**	**1.06**	**343**	*e*Pn	**Pb**		**05 07 29.9**	**-2.2**
TLIG				*e*Sn	**Sn**		**05 07 45.0**	**-1.4**
VHO	**Vista Hermosa**	**1.54**	**70**	*e*P	**Pb**		**05 07 39.2**	**-1.0**
VHO	**Vista Hermosa**	**1.54**	**70**	*e*Pn	**Pb**		**05 07 39.2**	**-1.0**
CAIG	**El Cayaco**	**2.00**	**285**	*e*P	Pn		05 07 39.6	-5.3
CAIG	**El Cayaco**	**2.00**	**285**	*e*Pn	Pn		05 07 39.6	-5.3
HUIG	**Huatulco**	**2.19**	**110**	*e*P	**Pn**		**05 07 47.6**	**+0.1**
HUIG	**Huatulco**	**2.19**	**110**	*e*Pn	**Pn**		**05 07 47.6**	**+0.1**
UNM	**Universidad Na**	**2.92**	**342**	*e*Pn	**Pb**		**05 08 00.7**	**-3.0**
UNM				*e*Sn	**Sb**		**05 08 41.7**	**+2.6**
CMIG	**Matias Romero**	**3.27**	**80**	Pn	**Pn**		**05 08 03.4**	**+1.1**
	1.8nm,0.3s,baz=260,slow=14,SNR=20							
CMIG				Pg	**Pb**		**05 08 12.6**	**+3.1**
	3.9nm,0.3s,baz=253,slow=17,SNR=18							
CMIG				Lg	Lg		05 08 57.8	
	21nm,0.3s,baz=332,slow=19,SNR=20							
LVIG	**Laguna Verde**	**3.61**	**28**	*e*Pn	**Pn**		**05 08 05.3**	**-1.7**
LVIG				*e*Sn	**Sn**		**05 08 49.1**	**0.0**
MOIG	**Morelia**	**4.20**	**319**	*e*Pn	**Pn**		**05 08 18.7**	**+3.4**
MOIG				*e*Sg	**Sb**		**05 09 18.4**	**+2.5**
JRQG	**Juriquilla Cam**	**4.64**	**334**	*e*Pn	**Pn**		**05 08 24.7**	**+3.2**
JRQG				*e*Sn	**Sb**		**05 09 25.7**	**-3.0**
H06E1	**SOCORRO T-PHAS**	**12.29**	**282**	T	T		05 22 13.1	
	SNR=18							
TXAR	**Lajitas Array**	**13.68**	**340**	Pn	**Pn**		**05 10 28.1**	**+2.9**
	0.0nm,0.3s,baz=158,slow=15,SNR=2.6							
TXAR				Lg	Lg		05 14 24.6	
	0.0nm,0.3s,baz=159,slow=31,SNR=2.9							
JCT	**Junction City**	**13.95**	**354**	*e*Pn	**Pn**		**05 10 32.0**	**+3.2**
MIAR	**Mount Ida**	**18.42**	**12**	*e*P	**Pn**		**05 11 26.0**	**-0.3**
	24nm,1.9s							
UALR	**University of**	**18.92**	**15**	*e*P	**P**		**05 11 30.2**	**-1.5**
	17nm,1.5s							
ANMO	**Albuquerque**	**19.75**	**340**	*e*P	**Pn**		**05 11 42.2**	**-0.4**
	8.8nm,2.0s							
HHAR	**Hobbs**	**20.04**	**10**	*e*P	**P**		**05 11 41.8**	**-2.2**
	5.4nm,1.3s							
GNAR	**Gosnell**	**20.69**	**19**	*e*P	**P**		**05 11 49.5**	**-1.5**
	34nm,0.7s							
T25A	**Trinidad**	**21.23**	**346**	*e*P	**P**		**05 12 02.2**	**+5.0**
	4.3nm,0.9s							
X16A	**Lo Mia Camp, P**	**21.38**	**329**	*e*P	**P**		**05 11 59.3**	**+0.5**
	2.9nm,0.9s							
Y14A	**Wickenburg**	**21.83**	**325**	*e*P	**P**		**05 12 04.7**	**+1.3**
	3.3nm,0.9s							
SDCO	**Great Sand Dun**	**22.07**	**345**	*e*P	**P**		**05 12 06.3**	**0.0**
	4.6nm,1.4s							
GLA	**Glamis**	**22.24**	**321**	*e*P	**P**		**05 12 08.9**	**+1.1**
	6.3nm,0.8s							
DPP	**Dos Picos Cty**	**23.53**	**318**	*e*P	**P**		**05 12 19.3**	**-2.0**
HDB	**Hidalgo Marine**	**24.05**	**321**	*e*P	**P**		**05 12 26.1**	**-0.1**
MTPU	**Mount Pierson**	**24.69**	**333**	*e*P	**P**		**05 12 31.9**	**-0.4**
	4.4nm,0.8s							
BFSC	**Mount Baldy Ra**	**24.79**	**319**	*e*P	**P**		**05 12 34.0**	**+1.0**
P18A	**Preston Nutter**	**25.27**	**338**	*e*P	**P**		**05 12 40.3**	**+2.7**
	12nm,1.9s							
PDAR	**Pinedale Array**	**27.87**	**342**	P	**P**		**05 13 01.5**	**+0.7**
	0.2nm,0.3s,baz=144,slow=10,SNR=3.2							
NVAR	**Mina Array Bea**	**28.03**	**325**	P	**P**		**05 13 03.1**	**+0.8**
	0.6nm,0.9s,baz=147,slow=10,SNR=4.1							
OBIP	**Obispado Ponce**	**30.23**	**82**	*e*P	P		05 13 16.0	-5.8
	10nm,0.5s							
YKA	**Yellowknife Ar**	**47.33**	**350**	P	**P**		**05 15 44.2**	**-0.1**
	0.2nm,0.7s,baz=158,slow=7.2,SNR=5.2							

IDC 22 05:09:02.3±3.8,16°.97S×174°.90W,h0km,mb3.6/5, mb1 3.9/5,mb1mx3.7/47,mbtmp3.5/5,MS3.4/5,Ms1 3.4/5, ms1mx3.0/35,Error ellipse: s-maj=207.3km s-min=25.8km az=147.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
AFI	**Afiamalu**	**4.28**	**45**	LR	LR		05 11 47.8	
	comp=Z,183nm,20.1s,baz=207,slow=39							
DZM	**Mont Dzumac**	**18.30**	**251**	LR	LR		05 18 51.7	
	comp=Z,84nm,19.6s,baz=128,slow=32							
HNR	**Honiara**	**25.59**	**284**	LR	LR		05 23 03.5	
	comp=Z,154nm,19.5s,baz=142,slow=33							
H11S2	**WAKE ISLAND Hy**	**39.61**	**332**	T	T		05 58 10.7	
	baz=149,slow=76,SNR=7.2							
H11S3	**WAKE ISLAND Hy**	**39.62**	**332**	T	T		05 58 08.4	
	baz=149,slow=76,SNR=4.7							
H11S1	**WAKE ISLAND Hy**	**39.63**	**332**	T	T		05 58 13.2	
	baz=149,slow=76,SNR=5.6							
H11N3	**WAKE ISLAND Hy**	**40.60**	**333**	T	T		05 59 16.3	
	baz=151,slow=76,SNR=14							
H11N1	**WAKE ISLAND Hy**	**40.61**	**333**	T	T		05 59 13.6	
	baz=151,slow=76,SNR=13							
H11N2	**WAKE ISLAND Hy**	**40.62**	**333**	T	T		05 59 17.7	
	baz=151,slow=76,SNR=14							
WRA	**Warramunga Arr**	**48.10**	**258**	P	P		05 17 44.0	-0.3
	0.5nm,1.0s,baz=95,slow=7.2,SNR=3.0							
WRA				LR	LR		05 37 02.5	
	comp=Z,95nm,20.0s,baz=180,slow=35							
ASAR	**

	comp=E,337μm,0.3s							
DSL	**Palaion Diasel**	**0.77**	**134**	P	Pg	05 26 00.3	-0.6	
DSL				S	Sb	05 26 12.0	-1.0	
DSL	**Palaion Diasel**	**0.77**	**134**	P	Pg	05 26 00.6	-0.3	
DSL				S	Sb	05 26 12.0	-1.0	
PENT	**Pentalofos**	**0.78**	**48**	P	Pg	05 26 01.0	-0.3	
PENT	**Pentalofos**	**0.78**	**48**	P	Pg	05 26 00.8	-0.4	
PENT	**Pentalofos**	**0.78**	**48**	P	Pg	05 26 00.8	-0.4	
KPRO	**Kipourio**	**0.81**	**69**	P	Pg	05 26 00.4	-1.2	
KPRO				S	Sg	05 26 12.4	+0.3	
KPRO				AML	AML	05 26 14.9		
	comp=E,391μm,0.4s							
KPRO				AML	AML	05 26 15.4		
	comp=N,391μm,0.4s							
KPRO	**Kipourio**	**0.81**	**69**	P	Pg	05 26 01.0	-0.7	
KPRO				S	Sb	05 26 13.2	-0.9	
KPRO	**Kipourio**	**0.81**	**69**	P	Pg	05 26 01.0	-0.7	
KPRO				S	Sg	05 26 12.7	+0.6	
NEST	**Nestorio**	**0.90**	**34**	P	Pb	05 26 04.4	-0.1	
NEST				S	Sb	05 26 16.3	-0.6	
NEST				AML	AML	05 26 25.3		
	comp=E,259μm,0.4s							
NEST				AML	AML	05 26 25.6		
	comp=N,163μm,0.5s							
NEST	**Nestorio**	**0.90**	**34**	P	Pg	05 26 03.4	-0.1	
NEST	**Nestorio**	**0.90**	**34**	P	Pg	05 26 03.4	-0.1	
NEST				S	Sg	05 26 15.9	+0.7	
LKD2	**Lefkada island**	**0.91**	**166**	P	Pg	05 26 04.0	+0.4	
LKD2				S	Sb	05 26 16.8	-0.1	
LKD2				AML	AML	05 26 26.3		
	comp=E,244μm,0.4s							
LKD2				AML	AML	05 26 27.2		
	comp=N,226μm,0.6s							
LKD2	**Lefkada island**	**0.91**	**166**	P	Pg	05 26 02.7	-0.8	
LKD2	**Lefkada island**	**0.91**	**166**	P	Pg	05 26 03.7	+0.2	
LKD2				S	Sb	05 26 16.5	-0.4	
FSK	**Fiskardo**	**1.22**	**173**	P	Pg	05 26 09.4	-0.2	
FSK				S	Sn	05 26 26.6	-0.3	
PDO	**Prodromos**	**1.24**	**150**	P	Pb	05 26 10.1	-0.1	
PDO				S	Sb	05 26 26.2	-0.2	
PDO				AML	AML	05 26 35.6		
	comp=N,125μm,0.3s							
PDO				AML	AML	05 26 35.8		
	comp=E,181μm,0.7s							
PDO	**Prodromos**	**1.24**	**150**	P	Pg	05 26 09.7	-0.2	
PDO	**Prodromos**	**1.24**	**150**	P	Pg	05 26 09.7	-0.2	
PDO				S	Sb	05 26 26.6	+0.2	
KZN	**Kozani**	**1.24**	**59**	P	Pg	05 26 08.7	-1.3	
KZN	**Kozani**	**1.24**	**59**	P	Pg	05 26 09.4	-0.6	
KZN	**Kozani**	**1.24**	**59**	P	Pg	05 26 09.4	-0.6	
THL	**Klokotos Trika**	**1.26**	**94**	P	Pn	05 26 10.7	+0.1	
THL				S	Sn	05 26 29.7	+1.6	
THL				AML	AML	05 26 32.9		
	comp=N,126μm,0.5s							
THL				AML	AML	05 26 34.4		
	comp=E,196μm,0.7s							
THL	**Klokotos Trika**	**1.26**	**94**	P	Pg	05 26 09.4	-1.0	
THL	**Klokotos Trika**	**1.26**	**94**	P	Pg	05 26 09.4	-1.0	
THL				S	Sn	05 26 28.7	+0.7	
EVR	**Evrytania**	**1.34**	**124**	P	Pn	05 26 10.9	-0.8	
EVR	**Evrytania**	**1.34**	**124**	P	Pn	05 26 10.9	-0.8	
FNA	**Florina**	**1.35**	**34**	P	Pn	05 26 10.9	-1.0	
FNA	**Florina**	**1.35**	**34**	P	Pn	05 26 10.9	-1.0	
OHR	**Ohrid**	**1.48**	**12**	*e*Pn	Pg	05 26 16.4	+1.9	
BIA	**Bitola**	**1.53**	**28**	*e*Pn	Pg	05 26 17.9	+2.4	
AGG	**Agios Georgios**	**1.64**	**113**	AML	AML	05 26 46.5		
	comp=N,362μm,0.5s							
AGG				AML	AML	05 26 49.4		
	comp=E,321μm,0.5s							
STON	**Ston**	**3.79**	**329**	*i* Pn	Pn	05 26 44.1	-1.2	
STON				Sn	Sn	05 27 24.1	-6.1	
STON	**Ston**	**3.79**	**329**	*i* Pn	Pn	05 26 44.1	-1.2	
STON				Sn	Sn	05 27 24.1	-6.1	

CSEM ***22*** *05:26:27.1, 38°.32N×22°.07E, h16km, ML1.3/8*
ATH 22 05:26:27.1, 38°.32N×22°.07E, h16km±3km, ML1.3/8, Error ellipse: s-maj=3.3km s-min=1.0km az=290.0, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KALE	**Kalithea**	**0.09**	**38**	P	Pg	05 26 30.5	0.0
KALE				S	Sg	05 26 33.1	+0.3
KALE				AML	AML	05 26 42.1	
	comp=N,233μm,0.2s						
KALE				AML	AML	05 26 42.4	
	comp=E,220μm,0.2s						
KALE	**Kalithea**	**0.09**	**38**	P	Pg	05 26 30.5	-0.1
KALE				S	Sg	05 26 33.0	+0.2
SERG	**Sergoula**	**0.09**	**352**	P	Pg	05 26 30.1	-0.5
SERG				S	Sg	05 26 32.8	0.0
SERG				AML	AML	05 26 45.1	
	comp=N,112μm,0.1s						
SERG				AML	AML	05 26 45.5	
	comp=E,97μm,0.2s						
SERG	**Sergoula**	**0.09**	**352**	P	Pg	05 26 30.3	-0.3
SERG				S	Sg	05 26 32.9	+0.1
LAKA	**Lakka**	**0.11**	**221**	P	Pg	05 26 30.8	0.0
LAKA				S	Sb	05 26 33.6	+0.1
LAKA	**Lakka**	**0.11**	**221**	P	Pg	05 26 30.7	-0.1
LAKA				S	Sb	05 26 33.4	0.0
EFP	**Efpalio**	**0.17**	**308**	P	Pg	05 26 31.2	-0.3
EFP				S	Sg	05 26 33.5	-0.8
EFP				AML	AML	05 26 51.4	
	comp=N,100μm,0.4s						
EFP				AML	AML	05 26 52.6	
	comp=E,90μm,0.5s						
EFP	**Efpalio**	**0.17**	**308**	P	Pg	05 26 31.3	-0.1
EFP				S	Sg	05 26 34.0	-0.3
KLV	**Kalavryta, Ach**	**0.29**	**168**	P	Pg	05 26 33.1	-0.3
KLV				S	Sb	05 26 38.3	-0.2
KLV				AML	AML	05 26 44.1	
	comp=E,36μm,0.2s						
KLV				AML	AML	05 26 45.8	
	comp=N,34μm,0.2s						
KLV	**Kalavryta, Ach**	**0.29**	**168**	P	Pg	05 26 33.2	-0.2
KLV				S	Sg	05 26 38.0	+0.4
DLFA	**Delphi**	**0.37**	**65**	P	Pb	05 26 35.7	+0.4
DLFA				S	Sg	05 26 39.1	-0.8
DLFA	**Delphi**	**0.37**	**65**	P	Pb	05 26 35.2	-0.1
DLFA				S	Sg	05 26 39.6	-0.3
DSF	**Desfina**	**0.37**	**76**	P	Pb	05 26 35.7	+0.4
DSF	**Desfina**	**0.37**	**76**	P	Pb	05 26 35.2	-0.1
GUR	**Goura**	**0.44**	**151**	P	Pg	05 26 36.2	+0.1
GUR				S	Sb	05 26 42.6	-0.4
GUR				AML	AML	05 26 47.3	
	comp=E,130μm,0.2s						
GUR				AML	AML	05 26 49.8	
	comp=N,226μm,0.3s						
GUR	**Goura**	**0.44**	**151**	P	Pg	05 26 36.1	0.0
GUR				S	Sg	05 26 42.5	+0.3
EVR	**Evrytania**	**0.63**	**341**	AML	AML	05 26 33.4	
	comp=N,109μm,0.5s						
EVR				AML	AML	05 26 34.7	
	comp=E,71μm,0.3s						
PROD	**Prodromos**	**0.66**	**95**	P	Pg	05 26 39.2	-0.9
PROD	**Prodromos**	**0.66**	**95**	P	Pb	05 26 39.5	-0.5
LTK	**Loutraki**	**0.77**	**113**	P	Pb	05 26 41.2	-0.9
LTK				S	Sg	05 26 51.9	-0.4
LTK	**Loutraki**	**0.77**	**113**	P	Pb	05 26 41.5	-0.6
LTK				S	Sb	05 26 52.3	0.0
LKR	**Lokris**	**0.80**	**66**	P	Pg	05 26 42.8	+0.1
LKR				S	Sb	05 26 51.7	-1.5
LKR				AML	AML	05 26 53.7	
	comp=E,167μm,0.1s						
LKR				AML	AML	05 26 53.9	
	comp=N,162μm,0.2s						
LKR	**Lokris**	**0.80**	**66**	P	Pb	05 26 42.6	0.0
LKR				S	Sb	05 26 52.6	-0.5
DID	**Didima**	**1.23**	**131**	P	Pg	05 26 50.6	-0.3
DID				S	Sg	05 27 06.8	-0.2
DID	**Didima**	**1.23**	**131**	P	Pg	05 26 50.5	-0.4
DID				S	Sg	05 27 07.1	+0.1

IDC ***22*** *05:35:51.9±2.7, 41°.29S×85°.43W, h0km, mb3.9/6, mb1 4.0/7, mb1mx3.8/34, mbtmp3.8/7, ML3.5/1, MS3.7/7, Ms1 3.7/7, ms1mx3.4/30, Error ellipse: s-maj=67.6km s-min=34.4km az=12.0*
ISC 22 05:35:54.3±2.5, 41°.3S±0°.4×85°.4W±0°.2, h14km, n11, σ0§91/7, mb3.8/6, MS3.8/6, West Chile Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**11.26**	**92**	Pn	**Pn**	**05 38 35.4**	**+0.5**
	0.1nm,0.3s,baz=266,slow=19,SNR=4.4						
PLCA				LR	LR	05 42 09.1	
	comp=Z,422nm,19.4s,baz=236,slow=34						
RPN	**Rapa Nui**	**24.18**	**298**	LR	LR	05 47 49.5	
	comp=Z,140nm,21.7s,baz=124,slow=30						
CPUP	**Villa Florida**	**27.54**	**66**	LR	LR	05 52 00.9	
	comp=Z,205nm,18.9s,baz=220,slow=35						
LPAZ	**La Paz**	**29.02**	**36**	P	**P**	**05 41 55.3**	**+0.8**
	1.2nm,0.8s,baz=227,slow=6.1,SNR=3.6						
LPAZ				LR	LR	05 51 28.6	
	comp=Z,44nm,19.6s,baz=224,slow=32						
SIV	**San Ignacio**	**32.81**	**47**	P	**P**	**05 42 27.4**	**0.0**
	1.6nm,1.1s,baz=220,slow=9.4,SNR=4.3						
PTGA	**Pitinga**	**46.45**	**36**	P	**P**	**05 44 19.6**	**-1.2**
	0.9nm,0.3s,baz=200,slow=6.8,SNR=5.0						
VNDA	**Vanda**	**54.70**	**194**	LR	LR	06 06 46.5	
	comp=Z,83nm,18.2s,baz=190,slow=34						
PPT	**Papeete**	**59.29**	**273**	LR	LR	06 04 42.7	
	comp=Z,83nm,21.8s,baz=178,slow=29						
TXAR	**Lajitas Array**	**72.23**	**343**	P	**P**	**05 47 19.0**	**+0.1**
	0.7nm,0.8s,baz=161,slow=8.6,SNR=7.9						
PDAR	**Pinedale Array**	**86.43**	**342**	P	**P**	**05 48 36.9**	**+0.7**
	0.2nm,0.3s,baz=159,slow=7.7,SNR=4.1						
TORD	**Torodi Ar. Bea**	**96.41**	**78**	P	**P**	**05 49 22.4**	**-0.7**
	0.6nm,1.0s,baz=221,slow=4.0,SNR=3.0						
TORD				LR	LR	06 29 38.4	
	comp=Z,54nm,19.1s,baz=190,slow=34						

IDC 22 05:39:41.2±9.3, 1°.95N×92°.71E, h0km, mb3.2/2, mb1 3.4/2, mb1mx3.1/60, mbtmp3.2/2, Error ellipse: s-maj=423.5km s-min=34.4km az=55.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S2	**Diego Garcia H**	**22.31**	**244**	T	T	06 06 05.7	
	baz=65,slow=75,SNR=16						
H08S3	**Diego Garcia H**	**22.31**	**245**	T	T	06 06 02.6	
	baz=65,slow=75,SNR=21						
H08S1	**Diego Garcia H**	**22.32**	**244**	T	T	06 06 04.6	
	baz=65,slow=75,SNR=14						
MKAR	**Makanchi Array**	**45.58**	**350**	P	P	05 48 02.7	-0.4
	0.1nm,0.4s,baz=169,slow=9.5,SNR=2.9						
WRA	**Warramunga Arr**	**46.27**	**120**	P	P	05 48 08.6	-0.3
	0.2nm,0.5s,baz=297,slow=8.5,SNR=5.1						
TXAR	**Lajitas Array**	**145.16**	**26**	PKPbc	PKPbc	05 59 20.8	-0.4
	0.1nm,0.5s,baz=323,slow=1.8,SNR=3.2						

SOME ***22*** *05:41:48.0, 44°.73N×82°.15E, h5km*
NNC ***22*** *05:41:50.4±1.9, 44°.81N×81°.73E, h0km, mb3.5, mpv3.0, Error ellipse: s-maj=40.2km s-min=6.7km az=118.0*
ISC 22 05:41:48.5±1.5, 44°.74N±0°.05×81°.99E±0°.07, h10km, n15, σ1§93/27, 3C-4D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTMS	**Ketmen**	**1.75**	**223**	*e*P	**Pg**	**05 42 21.6**	**-0.5**
	6.7nm,0.1s						
KTMS				*e*S	**Sg**	**05 42 46.5**	**+1.7**
	128nm,0.3s						
KAPS	**Kapalarasan**	**1.95**	**287**	*e*P	**Pg**	**05 42 25.7**	**-0.1**
	7.1nm,0.3s						
KAPS				*e*S	**Sg**	**05 42 53.0**	**+1.9**
	16nm,0.2s						
MK31	**Makanchi Array**	**2.07**	**6**	⇓Pn	**Pb**	**05 42 26.0**	**-0.2**
	4.3nm,0.2s,baz=182,slow=13,SNR=303						
MK31				⇓Lg	Lg	05 42 53.5	
	9.4nm,0.3s,baz=187,slow=30,SNR=25						
MAKZ	**Makanchi**	**2.07**	**360**	⇓Pn	**Pb**	**05 42 25.8**	**-0.4**
	6.6nm,0.5s						
MAKZ				⇑Lg	Lg	05 42 53.5	
	7.0nm,0.3s						
PDGK	**Podgornoye**	**2.29**	**233**	⇑Pg	**Pb**	**05 42 29.7**	**-0.3**
	5.2nm,0.5s						
PDGK				⇑Lg	Lg	05 43 01.4	
	12nm,0.4s						
SHLS	**Shalkode**	**2.41**	**230**	*e*P	**Pn**	**05 42 29.2**	**+1.0**
	18nm,0.2s						
SHLS				*e*S	**Sn**	**05 42 58.8**	**+0.9**
	95nm,0.3s						
UZB	**Uzynbulak**	**2.67**	**234**	*e*P	**Pb**	**05 42 35.9**	**-0.6**
	3.7nm,0.3s						
UZB				⇓*i*S	**Sb**	**05 43 10.2**	**+0.9**
	12nm,0.2s						
KPKS	**Kokpek**	**2.70**	**243**	*e*P	**Pb**	**05 42 35.8**	**-1.2**
	25nm,0.6s						
KPKS				*e*S	**Sb**	**05 43 10.8**	**+0.6**
	44nm,0.4s						
ARXS	**Arharly**	**3.02**	**261**	*e*P	**Pb**	**05 42 43.2**	**+0.7**
	5.0nm,0.1s						
ARXS				*e*S	**Sg**	**05 43 23.4**	**-2.3**
	21nm,0.3s						
SATY	**Saty**	**3.09**	**238**	*e*P	**Pb**	**05 42 44.6**	**+1.1**
	5.0nm,0.2s						
SATY				*e*S	**Sg**	**05 43 25.2**	**-2.4**
	27nm,0.3s						
CHKK	**Chushkaly**	**3.70**	**258**	*e*P	**Pb**	**05 42 55.4**	**+1.5**
	1.7nm,0.3s						
CHKK				*e*S	**Sg**	**05 43 43.8**	**-3.4**
	13nm,0.3s						
TNSS	**Tian-Shan**	**4.02**	**247**	*e*P	**Pg**	**05 43 04.3**	**-1.2**
	2.9nm,0.4s						
TNSS				*e*S	**Sg**	**05 43 59.1**	**+1.4**
	4.8nm,0.4s						
KUU	**Kurty**	**4.14**	**260**	*e*P	**Pb**	**05 43 01.3**	**-0.2**
	2.9nm,0.6s						
KUU				*e*S	**Sb**	**05 43 54.3**	**+2.7**
	6.6nm,0.5s						
MTBS	**Maitube**	**4.33**	**250**	*e*P	**Pg**	**05 43 08.2**	**-3.2**
	2.9nm,0.3s						
MTBS				*e*S	**Sg**	**05 44 05.5**	**-1.8**
	11nm,0.3s						
DGS	**Degeres**	**4.73**	**254**	*e*P	**Pb**	**05 43 14.3**	**+2.7**
	2.1nm,0.4s						
DGS				*e*S	**Sg**	**05 44 15.9**	**-4.4**
	6.9nm,0.5s						

ISCJB ***22*** *05:56:42.7±0.5, 39°.11N±0°.03×29°.15E±0°.04, h8km±4km, Error ellipse: s-maj=5.6km s-min=4.2km az=146.4*
ISK ***22*** *05:56:42.2, 39°.13N×29°.15E, h5km, ML2.4/11*
CSEM ***22*** *05:56:42.8±0.1, 39°.12N×29°.15E, h8km, ML2.4, Error ellipse: s-maj=2.9km s-min=2.1km az=121.0*
DDA ***22*** *05:56:42.9, 39°.11N×29°.14E, h7km, Ml2.5*
ISC 22 05:56:42.9±0.9, 39°.12N±0°.02×29°.15E±0°.02, h7km±8km, n32, σ0§30/45, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIMA	**Simav-Kutahya**	**0.13**	**253**	PG	**Pg**	**05 56 45.9**	**+0.1**
SIMA				SG	**Sg**	**05 56 47.7**	**-0.1**
SIMA	**Simav-Kutahya**	**0.13**	**253**	*e*Pg	**Pg**	**05 56 45.9**	**+0.1**
SIMA				*e*Sg	**Sg**	**05 56 47.7**	**-0.1**
GDZ	**Gediz**	**0.26**	**97**	*i* P	**Pg**	**05 56 48.1**	**-0.1**
GDZ				*i* S	**Sg**	**05 56 52.3**	**+0.6**
GDZ	**Gediz**	**0.26**	**97**	P	**Pg**	**05 56 48.1**	**-0.1**
GDZ				S	**Sg**	**05 56 52.3**	**+0.6**
DEMI	**Demirci**	**0.34**	**257**	*i* P	**Pg**	**05 56 49.9**	**+0.2**
DEMI				*i* S	**Sg**	**05 56 54.3**	**+0.1**
DEMI	**Demirci**	**0.34**	**257**	P	**Pg**	**05 56 49.9**	**+0.2**
DEMI				S	**Sg**	**05 56 54.3**	**+0.1**
TVSB	**Tavsanli**	**0.41**	**37**	PG	**Pg**	**05 56 50.5**	**-0.4**
TVSB				SG	**Sg**	**05 56 56.2**	**-0.1**
TVSB	**Tavsanli**	**0.41**	**37**	*e*Pg	**Pg**	**05 56 50.5**	**-0.4**
TVSB				*e*Sg	**Sg**	**05 56 56.2**	**-0.1**
DURS	**Dursunbey**	**0.71**	**313**	*i* P	**Pb**	**05 56 57.4**	**-0.2**
DURS				*i* S	**Sn**	**05 57 11.3**	**+0.7**
DURS	**Dursunbey**	**0.71**	**313**	P	**Pb**	**05 56 57.4**	**-0.2**
KULA	**Kula-Manisa**	**0.71**	**212**	PG	**Pg**	**05 56 56.5**	**-0.2**
KULA	**Kula-Manisa**	**0.71**	**212**	*e*Pg	**Pg**	**05 56 56.5**	**-0.2**
MANT	**Manisa**	**0.78**	**216**	*i* P	**Pg**	**05 56 57.6**	**-0.3**
MANT				*i* S	**Sg**	**05 57 07.4**	**-0.7**
MANT	**Manisa**	**0.78**	**216**	P	**Pg**	**05 56 57.6**	**-0.3**
MANT				S	**Sg**	**05 57 07.4**	**-0.7**
KHAL	**Karahalli**	**0.80**	**160**	*i* P	**Pb**	**05 56 59.3**	**+0.1**
KHAL				*i* S	**Sg**	**05 57 08.3**	**-0.3**
KHAL	**Karahalli**	**0.80**	**160**	P	**Pb**	**05 56 59.3**	**+0.1**
KHAL				S	**Sg**	**05 57 08.4**	**-0.3**
BALB	**Balikesir**	**1.11**	**298**	PN	**Pg**	**05 57 04.2**	**0.0**
BALB	**Balikesir**	**1.11**	**298**	*e*Pn	**Pg**	**05 57 04.2**	**0.0**
CAVI	**Cavuskoy**	**1.21**	**26**	PN	**Pg**	**05 57 05.8**	**-0.3**
CAVI	**Cavuskoy**	**1.21**	**26**	*e*Pn	**Pg**	**05 57 05.8**	**-0.3**
KCTX	**Karacabey (Bur**	**1.29**	**332**	PN	**Pn**	**05 57 07.4**	**0.0**
KCTX	**Karacabey (Bur**	**1.29**	**332**	*e*Pn	**Pn**	**05 57 07.4**	**0.0**
YLV	**Yalova**	**1.45**	**7**	PN	**Pn**	**05 57 09.8**	**+0.1**
YLV	**Yalova**	**1.45**	**7**	*e*Pn	**Pn**	**05 57 09.8**	**+0.1**
ARMT	**Armutlu**	**1.46**	**351**	PN	**Pn**	**05 57 09.8**	**+0.1**
ARMT	**Armutlu**	**1.46**	**351**	*e*Pn	**Pn**	**05 57 09.8**	**+0.1**
GONE	**Gonen-Balikesi**	**1.46**	**310**	PN	**Pn**	**05 57 09.9**	**+0.2**
GONE	**Gonen-Balikesi**	**1.46**	**310**	*e*Pn	**Pn**	**05 57 09.9**	**+0.2**
AYDB	**Zeytinkoy-Aydi**	**1.53**	**220**	PN	**Pn**	**05 57 10.8**	**0.0**
AYDB	**Zeytinkoy-Aydi**	**1.53**	**220**	*e*Pn	**Pn**	**05 57 10.8**	**0.0**
GULT	**Gulveren**	**1.68**	**38**	PN	**Pn**	**05 57 12.8**	**0.0**
GULT	**Gulveren**	**1.68**	**38**	*e*Pn	**Pn**	**05 57 12.8**	**0.0**

GCMT 22 06:03:52.0±0.5, 41°.41S×89°.40W, h19km±2km, MW4.8/76, Moment Tensor Solution. s22,c23; s76,c103; Duration: 0 Moment tensor: Scale 10^{16}Nm; Mrr-0.46±.16; Mθθ0.30±.12; Mφφ0.16±.11; Mrθ0.04±.23; Mθφ-1.56±.08; Mφr0.87±.28; **Best double couple:** M0 1.82000×10^{16} **NP1:**φs175.00000°, δ80.00000°, λ-32.00000°. **NP2:**φs271.00000°, δ59.00000°, λ-168.00000°. **Principal axes:** T 1.9350, Plg14.0000°, Azm227.0000°; N -0.2310, Plg57.0000°, Azm339.0000°; P -1.7050, Plg30.0000°, Azm128.0000°; **nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Southeast of Easter Island**

MEX 22 06:09:29.9±0.3, 16°.21N×97°.94W, h11km±14km, MD3.5, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.25**	**315**	*i* P	Pg	06 09 34.7	-0.4
PNIG				*e*S	Sg	06 09 38.5	-0.2
VHO	**Vista Hermosa**	**1.44**	**53**	*e*P	Pn	06 09 52.3	-3.8
TLIG	**Tlapa**	**1.47**	**336**	*e*P	Pn	06 09 52.6	-3.8

DDA ***22*** *06:09:32.7, 35°.14N×27°.78E, h4km, Ml3.2*
CSEM ***22*** *06:09:39.6±0.4, 35°.48N×27°.91E, h5km, ML2.2, Error ellipse: s-maj=10.6km s-min=4.5km az=152.0*
ISK ***22*** *06:09:39.3, 35°.34N×27°.80E, h29km, ML3.1/6*
ATH ***22*** *06:09:42.0, 35°.65N×27°.67E, h20km±2km, ML2.2/3, Error ellipse: s-maj=12.8km s-min=1.4km az=322.0*
ISC 22 06:09:39.7±1.5, 35°.47N±0°.05×27°.87E±0°.04, h7km±13km, n35, σ0§91/47, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.58**	**277**	PG	**Pg**	**06 09 51.4**	**+0.5**
KARP				SG	**Sb**	**06 10 00.3**	**-0.5**
KARP	**Karpathos**	**0.58**	**277**	P	**Pg**	**06 09 50.8**	**-0.1**
KARP				S	**Sg**	**06 09 56.7**	**-1.9**
KARP				AML	AML	06 10 03.3	
	comp=E,633μm,0.2s						
KARP				AML	AML	06 10 03.9	
	comp=N,943μm,0.5s						
KARP	**Karpathos**	**0.58**	**277**	P	**Pg**	**06 09 50.8**	**-0.1**
KARP	**Karpathos**	**0.58**	**277**	*e*Pg	**Pg**	**06 09 51.4**	**+0.5**
KARP				*e*Sg	**Sb**	**06 10 00.3**	**-0.5**
ARKG	**Arkhangelos**	**0.77**	**16**	P	**Pb**	**06 09 55.3**	**-0.2**
ARG				S	**Sg**	**06 10 04.6**	**+0.1**
ARG				AML	AML	06 10 13.1	
	comp=N,361μm,0.4s						
ARG				AML	AML	06 10 13.9	
	comp=E,528μm,0.2s						
ARG	**Arkhangelos**	**0.77**	**16**	P	**Pb**	**06 09 55.2**	**-0.2**
ARG				S	**Sg**	**06 10 04.7**	**+0.1**
ZKR	**Zakros**	**1.40**	**256**	P	**Pg**	**06 10 06.5**	**0.0**
ZKR				S	**Sg**	**06 10 25.3**	**+0.7**
ZKR				AML	AML	06 10 35.2	
	comp=E,346μm,1.1s						
ZKR				AML	AML	06 10 39.6	
	comp=N,90μm,0.8s						
ZKR	**Zakros**	**1.40**	**256**	P	**Pg**	**06 10 06.6**	**0.0**
ZKR				S	**Sg**	**06 10 25.0**	**+0.3**
TURN	**Turunc**	**1.52**	**23**	PN	**Pn**	**06 10 04.6**	**-2.7**
TURN	**Turunc**	**1.52**	**23**	*i* P	**Pn**	**06 10 04.5**	**-2.7**
TURN				*i* S	**Sb**	**06 10 27.9**	**+0.3**
TURN	**Turunc**	**1.52**	**23**	*e*Pn	**Pn**	**06 10 04.6**	**-2.7**
TURN				S	**Sb**	**06 10 27.9**	**+0.3**
FETY	**Fethiye**	**1.52**	**40**	PN	**Pn**	**06 10 07.2**	**-0.1**
FETY	**Fethiye**	**1.52**	**40**	P	**Pn**	**06 10 07.3**	**-0.1**
AKAS	**Kas**	**1.60**	**61**	PN	**Pn**	**06 10 07.9**	**-0.7**
AKAS	**Kas**	**1.60**	**61**	*e*Pn	**Pn**	**06 10 07.9**	**-0.7**
BDRM	**Kayabasi**	**1.62**	**348**	*i* P	**Pn**	**06 10 09.1**	**+0.3**
BDRM				*i* S	**Sb**	**06 10 31.2**	**+0.5**
BDRM	**Kayabasi**	**1.62**	**348**	P	**Pn**	**06 10 09.1**	**+0.3**
BDRM				S	**Sb**	**06 10 31.2**	**+0.5**
BODT	**Bodrum**	**1.65**	**344**	PN	**Pn**	**06 10 08.4**	**-0.7**
BODT	**Bodrum**	**1.65**	**344**	*e*Pn	**Pn**	**06 10 08.4**	**-0.7**
MLSB	**Milas**	**1.82**	**358**	PN	**Pn**	**06 10 10.7**	**-0.8**
MLSB	**Milas**	**1.82**	**358**	*e*Pn	**Pn**	**06 10 10.7**	**-0.8**
NPS	**Neapolis**	**1.86**	**264**	P	**Pb**	**06 10 14.0**	**0.0**
NPS	**Neapolis**	**1.86**	**264**	P	**Pb**	**06 10 13.6**	**-0.4**
LAST	**Lasithi**	**1.98**	**262**	P	**Pn**	**06 10 14.0**	**+0.3**
LAST	**Lasithi**	**1.98**	**262**	P	**Pn**	**06 10 14.5**	**+0.8**
ELL	**Elmali**	**2.08**	**52**	PN	**Pn**	**06 10 15.1**	**-0.1**
ELL	**Elmali**	**2.08**	**52**	*e*Pn	**Pn**	**06 10 15.1**	**-0.1**
AYDN	**Tasoluk**	**2.18**	**0**	*i* P	**Pn**	**06 10 17.4**	**+0.9**
AYDN				*i* S	**Sg**	**06 10 51.4**	**+1.6**
AYDN	**Tasoluk**	**2.18**	**0**	P	**Pn**	**06 10 17.4**	**+0.9**
AYDB	**Zeytinkoy-Aydi**	**2.47**	**0**	PN	**Pn**	**06 10 20.5**	**0.0**
AYDB	**Zeytinkoy-Aydi**	**2.47**	**0**	*e*Pn	**Pn**

IKIA ePg Pg 06 39 04.3 -1.7
IALA Alasht 0.41 280 eAMB AMB 06 39 13.8
comp=Z,10µm,0.2s
IALA ePg Pg 06 39 06.2 -0.8
IFIR Firoozkooh 0.58 231 eAMB AMB 06 39 20.4
comp=Z,91µm,0.2s
IFIR ePg Pg 06 39 08.4 -1.7
IGLO Ghaloghah 0.65 40 ePg Pg 06 39 10.4 -0.9
IGLO eAMB AMB 06 39 32.7
comp=Z,51µm,0.2s
ILAS Lasjerd 0.69 205 ePg Pg 06 39 10.9 -1.2
ILAS eAMB AMB 06 39 25.1
comp=E,6µm,0.1s
ILAS Lasjerd 0.69 205 ePg Pg 06 39 10.9 -1.2
IANJ Anjilo 0.73 138 ePg Pg 06 39 11.5 -1.4
IANJ eAMB AMB 06 39 21.6
comp=Z,81µm,0.2s
IANJ Anjilo 0.73 138 ePg Pg 06 39 11.5 -1.4
IPRN Peran 0.82 287 ePg Pg 06 39 13.6 -1.0
IPRN eSg Sb 06 39 27.0 +1.0
IPRN eAMB AMB 06 39 39.0
comp=Z,72µm,0.2s
IDMV Damavand 1.12 248 ePg Pg 06 39 18.5 -1.9
IDMV eAMB AMB 06 39 37.0
comp=Z,42µm,0.1s
IDMV Damavand 1.12 248 ePg Pg 06 39 18.5 -1.9
DAMV Damavand 1.15 251 ePg Pg 06 39 18.8 -2.1
DAMV AML AML 06 39 44.5
comp=E,3µm,0.4s
IVRN Varamin 1.64 232 ePn Pn 06 39 28.4 +1.0
IVRN eSg Sg 06 39 52.1 +0.6
IVRN eAMB AMB 06 39 55.9
comp=Z,93µm,0.1s
IVRN Varamin 1.64 232 ePn Pn 06 39 28.4 +1.0
IVRN eSg Sg 06 39 52.1 +0.6
CHTH Charan 1.77 267 ePg Pn 06 39 30.1 +0.7
THKV Tehran--Karaj 1.98 268 ePg Pn 06 39 34.2 +2.1
THKV Tehran--Karaj 1.98 268 ePg Pn 06 39 34.2 +2.1
IMND Minoodasht 2.10 53 ePn Pb 06 39 36.3 -0.3
IMND eSg Sb 06 40 05.1 +2.5
IMND eAMB AMB 06 40 10.0
comp=Z,6µm,0.3s
IMND Minoodasht 2.10 53 ePn Pb 06 39 36.3 -0.3
IMND eSg Sb 06 40 05.1 +2.5
IMHD Mahdasht 2.17 262 ePn Pn 06 39 37.4 +2.7
IMHD eAMB AMB 06 40 13.8
comp=N,25µm,0.1s
IMHD Mahdasht 2.17 262 ePn Pn 06 39 37.4 +2.7
SHRO Shahrood 2.19 90 ePn Pn 06 39 35.9 +0.9
SHRO eSg Sb 06 40 06.9 +1.5
SHRO Shahrood 2.19 90 ePn Pn 06 39 35.9 +0.9
SHRO eSg Sb 06 40 06.9 +1.5
GHVR GHOM 2.25 228 eSg Sg 06 40 11.5 +0.6
GHVR GHOM 2.25 228 ePn Pn 06 39 38.0 +2.3
GHVR eSg Sg 06 40 11.5 +0.6
GHVR AML AML 06 40 17.9
comp=E,1µm,0.4s
GHVR AML AML 06 40 20.7
comp=N,950nm,0.5s
IGZV Ghazvin 2.53 279 ePn Pn 06 39 42.8 +3.0
IGZV eAMB AMB 06 39 45.1
comp=Z,12µm,0.1s
IGZV Ghazvin 2.53 279 ePn Pn 06 39 42.8 +3.0
QAM Ghamsar 2.72 215 ePn Pn 06 39 43.4 +1.0
QAM eAMB AMB 06 40 22.9
comp=Z,14µm,0.1s
MRVT Maraveh tapeh 2.77 53 ePn Pn 06 39 43.8 +0.8
MRVT Maraveh tapeh 2.77 53 ePn Pn 06 39 43.8 +0.8
IRAZ Razeghan 2.82 259 ePn Pn 06 39 45.7 +2.0
IRAZ eAMB AMB 06 39 54.3
comp=Z,9µm,0.3s
IRAZ Razeghan 2.82 259 ePn Pn 06 39 45.7 +2.0
ANAR Anarak 2.83 173 ePn Pn 06 39 44.0 +0.1
ANAR Anarak 2.83 173 ePn Pn 06 39 44.0 +0.1
IKLH Kolahrood 3.04 209 ePn Pn 06 39 48.3 +1.5
IKLH eAMB AMB 06 40 37.8
comp=Z,6µm,0.2s
IKLH Kolahrood 3.04 209 ePn Pn 06 39 48.3 +1.5
ASAO Ashtian 3.06 242 ePn Pn 06 39 48.3 +1.3
ASAO Ashtian 3.06 242 ePn Pn 06 39 48.3 +1.3
IZEF Zefreh 3.21 195 ePn Pn 06 39 49.3 +0.1
IZEF eAMB AMB 06 40 52.8
comp=Z,4µm,0.3s
IZEF Zefreh 3.21 195 ePn Pn 06 39 49.3 +0.1
HKZM Kohzaman 3.64 261 ePn Pn 06 39 57.6 +2.5
HKZM eAMB AMB 06 40 12.8
comp=Z,99nm,0.2s
HKZM Kohzaman 3.64 261 ePn Pn 06 39 57.6 +2.5
IGAR Gharneh 3.75 197 ePn Pn 06 39 58.5 +2.0
IGAR eAMB AMB 06 41 07.5
comp=Z,2µm,0.3s
ICHK Chekchek 3.86 166 ePn Pn 06 39 59.0 +0.9
ICHK eAMB AMB 06 41 07.2
comp=Z,6µm,0.2s
ICHK Chekchek 3.86 166 ePn Pn 06 39 59.0 +0.9
IPIR Pirpir 3.87 212 eAMB AMB 06 40 21.5
comp=Z,2µm,0.3s
ISFR Sfrayin 3.92 73 ePn Pn 06 40 01.5 +2.6
ISFR eAMB AMB 06 41 25.2
comp=E,5µm,0.5s
ISFR Sfrayin 3.92 73 ePn Pn 06 40 01.5 +2.6
TABS Tabas 3.92 126 ePn Pn 06 40 00.1 +1.3
TABS Tabas 3.92 126 ePn Pn 06 40 00.1 +1.3
IRAM Ramesheh 4.26 191 ePn Pn 06 40 05.0 +1.4
IRAM eAMB AMB 06 41 21.1
comp=Z,1µm,0.2s
IRAM Ramesheh 4.26 191 ePn Pn 06 40 05.0 +1.4
GEYT Alibeck 4.30 62 Pn Pn 06 40 05.8 +1.9
comp=Z,5.8nm,0.3s,baz=251,slow=14,SNR=85
GEYT Sn Sn 06 40 51.8 -2.2
baz=238,slow=22,SNR=2.3
GEYT Lg Lg 06 41 15.3
baz=236,slow=42,SNR=2.2
ASTR Astara 4.41 307 ⇓P Pn 06 40 05.7 +0.3
SNR=15
ASTR ⇓S Sn 06 40 56.2 -0.5
IAKL Akhelmad 4.44 81 ePn Pn 06 40 07.1 +1.0
IAKL eAMB AMB 06 41 53.9
comp=Z,920nm,0.4s
LKRN Lenkeran, Azer 4.50 308 P Pn 06 40 07.0 +0.3
SNR=3.9
LKRN ⇓S Sn 06 40 56.9 -2.1
IEMG Emamgholi 4.51 70 eAMB AMB 06 40 10.2
comp=Z,746nm,0.4s
IEMG ePn Pn 06 40 09.0 +1.9
IPAY Payeh 4.62 83 ePn Pn 06 40 10.7 +2.2
IPAY Payeh 4.62 83 ePn Pn 06 40 10.7 +2.2
IMEH Mehriz 4.73 166 ePn Pn 06 40 11.4 +1.3
IMEH eAMB AMB 06 41 38.5
comp=N,2µm,0.3s
IMEH Mehriz 4.73 166 ePn Pn 06 40 11.4 +1.3
LRK Lerik 4.75 305 ⇑P Pn 06 40 10.5 +0.2
SNR=8.5
LRK ⇑S Sn 06 41 03.9 -1.5
IBAF Bafgh 4.79 156 ePn Pn 06 40 11.9 +1.1
IBAF eAMB AMB 06 41 42.8
comp=Z,2µm,0.4s
IBAF Bafgh 4.79 156 ePn Pn 06 40 11.9 +1.1
IMOG Moghan 4.88 87 ePn Pn 06 40 14.1 +1.9
IMOG eAMB AMB 06 40 19.7
comp=Z,380nm,0.2s
IMOG Moghan 4.88 87 ePn Pn 06 40 14.1 +1.9
GLBA Ciilabad 5.06 311 P Pn 06 40 14.6 +0.2
SNR=16
GLBA ⇓S Sn 06 41 12.6 -0.2
GRMI Germi 5.14 305 ePn Pn 06 40 16.1 +0.6
GRMI Germi 5.14 305 ePn Pn 06 40 16.1 +0.6
ALIB Äli-Bayra 5.21 321 ⇑P Pn 06 40 18.2 +1.9
SNR=6.0
ALIB ⇑S Sn 06 41 16.6 +0.4
IBST Bostanabad 5.42 290 ePn Pn 06 40 21.3 +1.9
IBST eAMB AMB 06 40 40.5
comp=Z,527nm,0.3s
IBST Bostanabad 5.42 290 ePn Pn 06 40 21.3 +1.9
ITEG Tejag 5.46 123 ePn Pn 06 40 21.2 +1.2
ITEG eAMB AMB 06 42 20.5
comp=Z,2µm,0.5s
ITEG Tejag 5.46 123 ePn Pn 06 40 21.2 +1.2
IMYA Miami 5.50 85 ePn Pn 06 40 22.3 +1.7
IMYA eAMB AMB 06 40 22.7
comp=Z,418nm,0.3s
IMYA Miami 5.50 85 ePn Pn 06 40 22.3 +1.7
IHRS Heris 5.51 297 ePn Pn 06 40 22.7 +2.0
IHRS eAMB AMB 06 40 26.5
comp=Z,641nm,0.1s
IHRS Heris 5.51 297 ePn Pn 06 40 22.7 +2.0
GBS Qobustan 5.68 324 ⇑S Sn 06 41 27.2 -0.8
IDHR Dehrash 5.81 259 ePn Pn 06 40 27.9 +3.1
IDHR eAMB AMB 06 40 55.8
comp=Z,527nm,0.3s
IDHR Dehrash 5.81 259 ePn Pn 06 40 27.9 +3.1
IKOO Kooshah 5.92 126 ePn Pn 06 40 27.4 +1.0
IKOO eAMB AMB 06 42 25.6
comp=Z,2µm,0.4s
IKOO Kooshah 5.92 126 ePn Pn 06 40 27.4 +1.0
ATGJ Altiaghaj 5.94 326 ⇓P Pn 06 40 27.4 +0.9
SNR=5.4
ATGJ ⇓S Sn 06 41 36.4 +2.0
IMON Monand 5.95 116 ePn Pn 06 40 28.7 +1.9
IMON eAMB AMB 06 40 32.6
comp=Z,982nm,0.2s
IMON Monand 5.95 116 ePn Pn 06 40 28.7 +1.9
PQL Pirkuli 6.04 324 P Pn 06 40 29.2 +1.3
SNR=13
PQL ⇓S Sn 06 41 37.4 +0.3
SIZA Siyzn 6.13 327 ⇓P Pn 06 40 30.2 +1.1
SNR=3.7
SIZA ⇑S Sn 06 41 40.2 +1.1
SHRT Shahrakht 6.21 110 ePn Pn 06 40 31.9 +1.7
SHRT Shahrakht 6.21 110 ePn Pn 06 40 31.9 +1.7
KHGB Koh Gabri 6.21 154 ePn Pn 06 40 32.1 +1.7
KHGB eAMB AMB 06 42 36.1
comp=Z,99nm,0.9s
KHGB Koh Gabri 6.21 154 ePn Pn 06 40 32.1 +1.7
ORD Ordubad 6.51 299 ⇑P Pn 06 40 36.5 +2.2
SNR=5.3
ORD ⇑S Sn 06 41 48.1 -0.4
QUBA Quba, Azerbaij 6.53 326 ⇓P Pn 06 40 35.0 +0.4
SNR=3.4
XNQ Khinaliq 6.55 323 ⇓P Pn 06 40 35.9 +0.9
SNR=5.2
XNQ ⇓S Sn 06 41 48.3 -1.5
IMRD Marand 6.63 296 ePn Pn 06 40 39.5 +3.4
IMRD eAMB AMB 06 40 52.6
comp=Z,610nm,0.2s
IMRD Marand 6.63 296 ePn Pn 06 40 39.5 +3.4
QSAR Qusar 6.76 326 ⇑P Pn 06 40 38.7 +0.9
SNR=6.9
QSAR ⇑S Sn 06 41 54.3 -0.4
SBZ Shahbuz 7.02 301 ⇓P Pn 06 40 42.3 +1.0
SEKA Sheki 7.06 319 ⇑P Pn 06 40 42.6 +0.8
SNR=8.3
GANJ Ganja 7.18 312 P Pn 06 40 43.5 0.0
SNR=9.9
GDB GEDABAY 7.57 311 ⇓P Pn 06 40 50.1 +1.1
SNR=13
GNI Garni 7.92 304 Pn Pn 06 40 57.6 +3.8
comp=Z,4.6nm,0.3s,baz=156,slow=20,SNR=6.2
GNI Sn Sn 06 42 23.1 -0.3
comp=Z,1.4nm,0.3s,baz=195,slow=20,SNR=1.6
QZX Qazax, Azerbai 8.01 311 P Pn 06 40 56.1 +1.3
SNR=8.3
QZX ⇑S Sn 06 42 23.9 -1.3
KBZ Khabaz 11.10 317 Pn Pn 06 41 37.5 +0.3
comp=Z,0.1nm,0.3s,baz=107,slow=11,SNR=2.2
KBZ Sn Sn 06 43 35.1 -6.1
comp=Z,0.2nm,0.3s,baz=118,slow=18,SNR=2.3
KVAR Kislovodsk Arr 11.36 318 Pn Pn 06 41 44.7 +3.9
baz=153,slow=6.8,SNR=2.5
KVAR Sn Sn 06 43 41.8 -6.0
baz=176,slow=14,SNR=2.1
AB31 Akbulak array 14.10 18 ⇑Pn Pn 06 42 19.6 +1.5
comp=Z,1.1nm,0.6s,baz=225,slow=15,SNR=16
AB31 ⇓Sn Sn 06 44 53.1 -1.4
comp=Z,2.2nm,0.6s,baz=218,slow=25,SNR=6.6
AKTO Aktyubinsk 14.82 12 Pn Pn 06 42 25.9 -1.9
comp=Z,0.3nm,0.3s,baz=190,slow=12,SNR=6.7
AKTO Sn Sn 06 45 01.2 -11
comp=Z,0.2nm,0.3s,baz=156,slow=20,SNR=3.8
AKTO Aktyubinsk 14.82 12 ⇑Pn Pn 06 42 24.8 -3.1
comp=Z,3.4nm,0.7s
AKTO ⇓Sn Sn 06 44 60.0 -12
comp=Z,6.3nm,0.7s
BRTR Keskin Array B 15.97 289 Pn Pn 06 42 44.9 +1.6
comp=Z,0.1nm,0.3s,baz=116,slow=10,SNR=2.3
AAK Ala-Archa 17.65 62 P Pn 06 43 03.6 -1.0
comp=Z,0.3nm,0.3s,baz=277,slow=12,SNR=3.9
AAK LR LR 06 51 05.9
comp=Z,59nm,19.4s,baz=146,slow=41
ARU Arti 20.73 8 P P 06 43 40.7 +1.9
comp=Z,1.4nm,0.3s,baz=189,slow=3.5,SNR=4.8
BVAR Borovoye Array 20.83 30 P P 06 43 40.6 +0.6
comp=Z,4.7nm,0.8s,baz=211,slow=8.8,SNR=33
MLR Muntele Rosu 22.70 303 P P 06 44 01.5 +1.3
comp=Z,0.2nm,0.4s,baz=110,slow=15,SNR=2.5
AKASG Malin Array Be 22.71 318 P P 06 44 00.0 -0.1
comp=Z,2.1nm,0.7s,baz=119,slow=11,SNR=4.4
KURBB Kurchatov Arra 23.30 43 P P 06 44 05.5 -0.7
comp=Z,1.6nm,1.0s,baz=246,slow=10,SNR=5.8
MKAR Makanchi Array 24.13 55 P P 06 44 14.6 +0.3
comp=Z,1.1nm,0.9s,baz=238,slow=10.0,SNR=4.9
CRVS Cervenica-Dubn 26.59 309 eP P 06 44 43.5 +6.9
ZALV Zalesovo Beam 28.27 41 P P 06 44 52.1 +0.5
comp=Z,0.6nm,0.4s,baz=262,slow=9.6,SNR=2.8
FINES FINESS Array B 30.71 334 P P 06 45 13.6 +0.4
comp=Z,1.1nm,0.9s,baz=149,slow=11,SNR=3.4
GERES GERESS Array B 31.56 306 P P 06 45 19.5 -1.4
comp=Z,0.1nm,0.4s,baz=97,slow=8.0,SNR=2.2
NOA NORSAR Array B 36.47 327 LR LR 07 02 49.1
comp=Z,26nm,19.0s,baz=250,slow=39
EKA Eskdalemuir Ar 42.59 315 P P 06 46 53.1 -1.2
comp=Z,1.9nm,1.1s,baz=93,slow=9.5,SNR=2.7
CMAR Chiang Mai Arr 43.75 101 P P 06 47 04.0 -0.2
comp=Z,2.1nm,0.4s,baz=298,slow=8.3,SNR=14
BOSA Boshof 69.50 206 P P 06 50 06.8 -0.3
comp=Z,3.1nm,0.8s,baz=42,slow=5.2,SNR=4.6
YKA Yellowknife Ar 81.36 354 P P 06 51 14.9 +0.2
comp=Z,0.2nm,0.9s,baz=3.4,slow=5.6,SNR=3.5
WRA Warramunga Arr 94.56 111 P P 06 52 17.6 -1.8
comp=Z,1.0nm,1.2s,baz=319,slow=4.2,SNR=3.4
KURBB Kurchatov Arra 45.65 308 P P 06 55 01.2 -0.6
0.3nm,0.4s,baz=88,slow=8.4,SNR=4.3
WRA Warramunga Arr 57.05 187 P P 06 56 26.8 -0.7
0.2nm,0.5s,baz=4.6,slow=7.2,SNR=5.5
FINES FINESS Array B 68.58 332 P P 06 57 44.0 +0.2
1.4nm,0.9s,baz=42,slow=5.1,SNR=3.1

*IDC **22** 06:46:39.1±1.7,37.06N×141.03E,h0km,mb3.6/3, mb1 3.6/4,mb1mx3.2/72,mbtmp3.5/4,ML3.0/1,MS2.9/1, Ms1 2.9/1,ms1mx2.3/66,Error ellipse: s-maj=35.2km s-min=28.2km az=85.0*
*ISCJB **22** 06:46:40.4±1.0,37.07N±0.03×140.96E±0.07,h11km±4km, mb3.6/3,MS2.8/1,Error ellipse: s-maj=9.9km s-min=5.3km az=15.3*
*JMA **22** 06:46:42.1,37.09N×140.83E,h9km±1km,M3.2*
JMA Felt II J1.
ISC 22 06:46:41.0±1.3,37.08N±0.04×140.91E±0.07,h9km±6km, n19,σ0s85/20,mb3.6/3,5C-1D,Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ONAJ	**Iwakimizuishiy**	**0.09**	**282**	⇓P	**Pg**	**06 46 43.6**	**+0.2**
ONAJ				S	**Sg**	**06 46 44.7**	**-0.4**
JFK	**Kawauchi**	**0.28**	**354**	⇑P	**Pb**	**06 46 47.5**	**-0.9**
JFK				S	**Sg**	**06 46 51.8**	**+1.2**
JHO	**Hitachi**	**0.54**	**210**	⇑P	**Pb**	**06 46 52.0**	**-0.7**
JHO				S	**Sg**	**06 46 59.1**	**+0.4**
JFT	**Otama**	**0.63**	**314**	⇑P	**Pg**	**06 46 53.5**	**+0.3**
JFT				S	**Sg**	**06 47 01.6**	**+0.1**
JMM	**Marumori**	**0.79**	**353**	⇑P	**Pb**	**06 46 56.5**	**-0.4**
JMM				S	**Sb**	**06 47 07.2**	**-0.5**
JSB	**Shiboa**	**0.80**	**262**	P	**Pb**	**06 46 56.9**	**-0.2**
JFY	**Yanaizu**	**1.01**	**289**	⇑P	**Pg**	**06 47 00.2**	**-0.3**
JFY				S	**Sg**	**06 47 12.7**	**-1.0**
MJAR	**Matsushiro Arr**	**2.23**	**257**	Pn	**Pn**	**06 47 19.3**	**+1.1**
	3.7nm,0.3s,baz=80,slow=17,SNR=30						
MJAR				Sn	**Sn**	**06 47 47.3**	**+1.4**
	2.1nm,0.3s,baz=73,slow=17,SNR=5.3						
MAT	**Matsushiro**	**2.23**	**257**	P	**Pn**	**06 47 19.8**	**+1.6**
MAT				S	**Sb**	**06 47 48.6**	**-0.8**
YAK	**Yakutsk**	**25.94**	**348**	LR	LR	07 03 57.3	
	comp=Z,23nm,18.2s,baz=327,slow=40						
H11N2	**WAKE ISLAND Hy**	**28.52**	**120**	T	T	07 22 28.0	
	baz=312,slow=75,SNR=12						
H11N1	**WAKE ISLAND Hy**	**28.53**	**120**	T	T	07 22 21.6	
	baz=312,slow=75,SNR=14						
H11N3	**WAKE ISLAND Hy**	**28.54**	**120**	T	T	07 22 34.4	
	baz=312,slow=75,SNR=15						
H11S1	**WAKE ISLAND Hy**	**29.23**	**122**	T	T	07 23 23.3	
	baz=314,slow=75,SNR=27						
H11S3	**WAKE ISLAND Hy**	**29.23**	**122**	T	T	07 23 23.2	
	baz=314,slow=75,SNR=13						
H11S2	**WAKE ISLAND Hy**	**29.24**	**122**	T	T	07 23 24.5	
	baz=314,slow=75,SNR=9.1						

*ISCJB **22** 06:56:32.9±0.4,67.25N±0.03×142.83W±0.06,h10km, Error ellipse: s-maj=5.1km s-min=3.1km az=159.2*
*NEIC **22** 06:56:36.1±0.0,67.14N×143.20W,h13km,ML3.1(AEIC), After AEIC.*
NEIC Felt at Eagle River.
*PGC **22** 06:56:36.3±0.0,67.21N×143.16W,h15km,ML3.3/2, 335km Ene of Fairbanks, Ak Northern Alaska*
ISC 22 06:56:34.8±0.7,67.20N±0.03×143.07W±0.03,h10km,n59, σ1s89/76,Northern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BM3	**Burnt Mountain**	**0.64**	**291**	P	**Pg**	**06 56 47.9**	**+0.8**
BM3				S	**Sb**	**06 56 56.8**	**-0.2**
FYU	**Fort Yukon**	**1.06**	**234**	P	**Pg**	**06 56 54.8**	**-0.4**
FYU				S	**Sb**	**06 57 09.9**	**+0.7**
PRP	**Porcupine Dome**	**1.96**	**211**	P	**Pn**	**06 57 08.4**	**+0.3**
PRP				S	**Sn**	**06 57 32.6**	**-0.2**
EGAK	**Eagle**	**2.55**	**161**	P	**Pn**	**06 57 16.9**	**+0.7**
COLD	**Coldfoot**	**2.77**	**274**	Pn	**Pn**	**06 57 19.4**	**+0.1**
COLD				Pg	**Pb**	**06 57 25.4**	**+1.0**
COLD				Sg	**Sb**	**06 57 40.8**	**+2.3**
COLD	**Coldfoot**	**2.77**	**274**	P	**Pn**	**06 57 19.6**	**+0.3**
TOLK	**Toolik Lake Re**	**2.85**	**304**	P	**Pn**	**06 57 22.4**	**+2.0**
IL1	**Eielson Array**	**2.89**	**214**	*e*Pn	**Pn**	**06 57 21.3**	**+0.4**
ILB	**Eielson Array**	**2.89**	**214**	P	**Pn**	**06 57 21.1**	**+0.2**
PS06	**TAPS Pump Stn6**	**2.99**	**246**	P	**Pn**	**06 57 22.3**	**+0.1**
COLA	**College**	**3.04**	**222**	P	**Pn**	**06 57 23.0**	**+0.1**
MDM	**Murphy Dome**	**3.08**	**225**	P	**Pn**	**06 57 23.5**	**+0.1**
CCB	**Clear Creek Bu**	**3.21**	**219**	P	**Pn**	**06 57 25.4**	**+0.1**
HDA	**Harding Lake**	**3.22**	**211**	*e*Pn	**Pn**	**06 57 25.6**	**+0.2**
SCRK	**Sand Creek**	**3.26**	**187**	P	**Pn**	**06 57 27.1**	**+1.0**
WRH	**Wood River Hil**	**3.43**	**219**	P	**Pn**	**06 57 28.2**	**-0.1**
DAWY	**Dawson**	**3.50**	**152**	Pn	**Pn**	**06 57 30.1**	**+0.8**
DAWY				Sn	**Sn**	**06 58 08.8**	**-1.8**
RIDG	**Independ'e Rid**	**3.55**	**193**	P	**Pn**	**06 57 30.7**	**+0.8**
DOT	**Dot Lake**	**3.59**	**187**	Pn	**Pn**	**06 57 31.1**	**+0.6**
DOT				Pg	**Pb**	**06 57 41.0**	**+2.7**
DOT				Sg	**Sb**	**06 58 27.0**	**+5.1**
DOT	**Dot Lake**	**3.59**	**187**	*e*Pn	**Pn**	**06 57 31.4**	**+0.9**
INK	**Inuvik**	**3.80**	**69**	Pn	**Pn**	**06 57 34.5**	**+1.2**
INK				Pg	**Pb**	**06 57 44.4**	**+2.5**
INK				Sn	**Sn**	**06 58 17.6**	**-0.4**
INK				Sg	**Sg**	**06 58 35.8**	**-0.9**
INK	**Inuvik**	**3.80**	**69**	P	**Pn**	**06 57 34.5**	**+1.2**
MLY	**Manley**	**3.80**	**239**	*e*Pn	**Pn**	**06 57 33.9**	**+0.5**
BCA3	**Beaver Creek A**	**4.19**	**172**	P	**Pn**	**06 57 40.1**	**+1.4**
MCK	**McKinley**	**4.25**	**218**	*e*Pn	**Pn**	**06 57 41.4**	**+1.8**
MCK				*e*Sg	**Sg**	**06 58 49.3**	**-1.9**
MENT	**Mentasta**	**4.29**	**184**	*e*Pn	**Pn**	**06 57 40.9**	**+0.8**
PAX	**Paxson**	**4.36**	**195**	Pn	**Pn**	**06 57 41.8**	**+0.6**
PAX				Pg	**Pg**	**06 57 56.1**	**-2.3**
PAX				Sg	**Sb**	**06 58 49.1**	**+4.9**
IM3	**Indian Mountai**	**4.43**	**259**	P	**Pn**	**06 57 41.4**	**-0.6**
RND	**Reindeer**	**4.51**	**215**	P	**Pn**	**06 57 44.0**	**+0.8**
BPAW	**Bear Paw Mtn.**	**4.51**	**230**	*e*Pn	**Pn**	**06 57 42.6**	**-0.6**
DHY	**Denali Highway**	**4.52**	**206**	P	**Pn**	**06 57 44.5**	**+1.2**
TRF	**Thorofare Moun**	**4.82**	**222**	*e*Pn	**Pn**	**06 57 48.1**	**+0.5**
HARP	**HAARP**	**4.89**	**191**	Pn	**Pn**	**06 57 49.4**	**+1.0**
HARP				Sg	**Sg**	**06 59 11.4**	**-0.3**
HARP	**HAARP**	**4.89**	**191**	*e*Pn	**Pn**	**06 57 50.2**	**+1.9**
HARP				*e*Lg	Lg	06 59 17.8	
KTH	**Kantishna Hill**	**4.91**	**226**	*e*Pn	**Pn**	**06 57 48.6**	**-0.1**
CAST	**Castle Rocks**	**5.35**	**229**	*e*Pn	**Pn**	**06 57 54.7**	**0.0**
SCM	**Sheep Creek Mo**	**5.69**	**201**	*e*Pn	**Pn**	**06 58 01.5**	**+2.1**
SCM				*e*Sg	**Sg**	**06 59 32.9**	**-4.4**
PPLA	**Purkeypile**	**5.79**	**226**	*e*Pn	**Pn**	**06 58 02.3**	**+1.6**
PPLA				*e*Lg	Lg	06 59 42.4	
KLU	**Klutina**	**5.86**	**193**	*e*Pn	**Pn**	**06 58 04.3**	**+2.6**
SML	**Sawmill**	**5.87**	**205**	*e*Pn	**Pn**	**06 58 03.9**	**+2.1**
BALM	**Baldy**	**6.20**	**177**	Pn	**Pn**	**06 58 08.6**	**+2.3**
BALM	**Baldy**	**6.20**	**177**	*e*Pn	**Pn**	**06 58 09.0**	**+2.6**
BMRM	**Bremner River**	**6.29**	**187**	*e*Pn	**Pn**	**06 58 09.4**	**+1.8**
CTGM	**Chitina Glacie**	**6.30**	**172**	Pn	**Pn**	**06 58 08.7**	**+0.9**
CRQM	**Cirque**	**6.47**	**180**	*e*Pn	**Pn**	**06 58 13.8**	**+3.4**
SUA	**Susitna One**	**6.65**	**214**	*e*Pn	**Pn**	**06 58 14.7**	**+0.2**
HYT	**Haines Junctio**	**6.85**	**156**	Pn	**Pn**	**06 58 15.9**	**+0.6**
HYT				Sg	**Sg**	**07 00 08.7**	**-5.7**
HYT	**Haines Junctio**	**6.85**	**156**	*e*Pn	**Pn**	**06 58 16.5**	**+1.2**
HYT				*e*Lg	Lg	07 00 18.6	
YUK7	**Dusty Glacier**	**7.04**	**160**	Pn	**Pn**	**06 58 19.3**	**+1.4**
YUK7				Sg	**Sg**	**07 00 18.2**	**-2.3**
LDBN	**Lake De Bois**	**7.13**	**85**	Pn	**Pn**	**06 58 18.1**	**-0.9**
LDBN				Sn	**Sn**	**06 59 35.2**	**-4.6**
WHY	**Whitehorse**	**7.48**	**147**	Pn	**Pn**	**06 58 25.2**	**+1.2**
DHRN	**Dharma Camp**	**9.16**	**80**	Pn	**Pn**	**06 58 47.2**	**+0.4**
DHRN				Sn	Sn	07 00 22.4	-7.5
DLBC	**Dease Lake**	**10.60**	**140**	Sg	Sn	07 02 03.0	+58
KUKN	**Kugluktuk,NWT**	**10.69**	**74**	Pn	**Pn**	**06 59 07.2**	**-0.5**
KUKN				Sn	Sn	07 00 59.4	-8.0
HPLN	**Hepburn Lake,**	**10.95**	**82**	Pn	**Pn**	**06 59 09.2**	**-2.1**
HPLN				Sn	Sn	07 01 01.2	-12
YKW3	**Yellowknife Ar**	**12.87**	**98**	Pn	**Pn**	**06 59 35.0**	**-2.5**
YKW3				Sn	Sn	07 01 48.8	-12
YKW1	**Yellowknife Ar**	**12.95**	**98**	Pn	**Pn**	**06 59 36.7**	**-1.9**
YKW1				Sn	Sn	07 01 49.5	-13
WHFN	**White Fish Lak**	**15.80**	**90**	Sn	Sn	07 02 56.8	-15
RES	**Resolute Bay**	**16.89**	**43**	Pn	**Pn**	**07 00 31.3**	**+0.5**
RES				Sn	Sn	07 03 26.7	-11

*CSEM **22** 06:58:57.6±0.1,37.49N×35.59E,h15km,ML2.1,Error ellipse: s-maj=3.3km s-min=2.9km az=170.0*
*DDA **22** 06:58:58.2,37.54N×35.52E,h7km,Ml2.8*
ISK 22 06:58:57.3,37.49N×35.58E,h15km,ML2.1/5,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KOZT	**Kozan**	**0.20**	**92**	PG	Pb	06 59 02.3	-0.3
KOZT				SG	Sb	06 59 05.7	-0.5
KOZT	**Kozan**	**0.20**	**92**	*e*Pg	Pb	06 59 02.3	-0.3
KOZT				*e*Sg	Sb	06 59 05.7	-0.5
KARA	**Karaisali**	**0.48**	**242**	PG	Pb	06 59 07.3	-0.1
KARA				SG	Sb	06 59 14.5	+0.2
KARA	**Karaisali**	**0.48**	**242**	*e*Pg	Pb	06 59 07.3	-0.1
KARA				*e*Sg	Sb	06 59 14.5	+0.2
ANDN	**Andirin**	**0.61**	**81**	*i* P	Pb	06 59 10.3	+0.4
ANDN				*i* S	Sn	06 59 21.7	+0.4
ANDN	**Andirin**	**0.61**	**81**	P	Pb	06 59 10.3	+0.5
ANDN				S	Sn	06 59 21.7	+0.4
SAIM	**ADANA**	**0.63**	**39**	*i* P	Pg	06 59 09.7	0.0
SAIM				*i* S	Sb	06 59 19.3	+0.5
SAIM	**ADANA**	**0.63**	**39**	P	Pg	06 59 09.7	0.0
SAIM				S	Sb	06 59 19.3	+0.5
YAHY	**KAYSERI_Yahyal**	**0.63**	**344**	*i* P	Pg	06 59 09.6	-0.2
YAHY				*i* S	Sg	06 59 18.3	+0.2
YAHY	**KAYSERI_Yahyal**	**0.63**	**344**	P	Pg	06 59 09.6	-0.1
YAHY				S	Sg	06 59 18.3	+0.1
YURE	**YUREGIR**	**0.66**	**176**	PG	Pb	06 59 10.7	+0.1
YURE				SG	Sb	06 59 20.4	+0.8
YURE	**YUREGIR**	**0.66**	**176**	*i* P	Pg	06 59 09.2	-1.0
YURE				*i* S	Sn	06 59 22.7	+0.4
YURE	**YUREGIR**	**0.66**	**176**	P	Pg	06 59 09.2	-1.0
YURE	**YUREGIR**	**0.66**	**176**	*e*Pg	Pb	06 59 10.7	+0.1
YURE				*e*Sg	Sb	06 59 20.4	+0.8
YURE				S	Sn	06 59 22.7	+0.4
GULE	**Gulek**	**0.67**	**253**	*i* S	Sn	06 59 21.6	-1.2
GULE	**Gulek**	**0.67**	**253**	S	Sn	06 59 21.

CSEM ***22*** *07:01:07.1±0.1,39.°12N×29.°15E,h2km,ML3.3,Error ellipse: s-maj=1.6km s-min=1.3km az=109.0*

ISC 22 07:01:07.3±1.0,39.°12N±0.°02×29.°14E±0.°02,h5km±8km, n162,σ0≋65/174,3C-5D,Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIMA	**Simav-Kutahya**	**0.13**	**253**	PG	**Pg**	**07 01 09.8**	**-0.1**
SIMA				SG	**Sg**	**07 01 12.0**	**+0.3**
SIMA	**Simav-Kutahya**	**0.13**	**253**	*e*Pg	**Pg**	**07 01 09.8**	**-0.1**
SIMA				*e*Sg	**Sg**	**07 01 12.0**	**+0.3**
DEMI	**Demirci**	**0.34**	**257**	*i* P	**Pg**	**07 01 13.9**	**+0.1**
DEMI				*i* S	**Sg**	**07 01 18.4**	**0.0**
DEMI	**Demirci**	**0.34**	**257**	P	**Pg**	**07 01 13.9**	**+0.1**
DEMI				S	**Sg**	**07 01 18.4**	**0.0**
TVSB	**Tavsanli**	**0.41**	**37**	PG	**Pg**	**07 01 14.6**	**-0.7**
TVSB	**Tavsanli**	**0.41**	**37**	*e*Pg	**Pg**	**07 01 14.6**	**-0.7**
DURS	**Dursunbey**	**0.70**	**313**	*i* P	**Pg**	**07 01 21.0**	**+0.2**
DURS				*i* S	**Sn**	**07 01 34.9**	**-0.4**
DURS	**Dursunbey**	**0.70**	**313**	P	**Pg**	**07 01 21.0**	**+0.2**
DURS	**Dursunbey**	**0.70**	**313**	S	**Sn**	**07 01 34.9**	**-0.4**
KULA	**Kula-Manisa**	**0.71**	**212**	PG	**Pg**	**07 01 20.5**	**-0.4**
KULA	**Kula-Manisa**	**0.71**	**212**	*e*Pg	**Pg**	**07 01 20.5**	**-0.4**
MANT	**Manisa**	**0.78**	**216**	*i* P	**Pg**	**07 01 21.9**	**-0.3**
MANT				*i* S	**Sg**	**07 01 31.8**	**-0.5**
MANT	**Manisa**	**0.78**	**216**	P	**Pg**	**07 01 21.9**	**-0.3**
MANT				S	**Sg**	**07 01 31.8**	**-0.5**
KHAL	**Karahalli**	**0.80**	**160**	*i* P	**Pg**	**07 01 21.9**	**-0.7**
KHAL				*i* S	**Sg**	**07 01 32.3**	**-0.6**
KHAL	**Karahalli**	**0.80**	**160**	P	**Pg**	**07 01 21.9**	**-0.7**
KHAL				S	**Sg**	**07 01 32.3**	**-0.6**
KHL	**Karahalli**	**0.85**	**159**	PG	**Pg**	**07 01 23.7**	**+0.1**
KHL	**Karahalli**	**0.85**	**159**	*e*Pg	**Pg**	**07 01 23.7**	**+0.1**
ORLT	**Orhaneli**	**0.94**	**349**	PG	**Pg**	**07 01 25.3**	**-0.1**
ORLT	**Orhaneli**	**0.94**	**349**	*e*Pg	**Pg**	**07 01 25.3**	**-0.1**
AUBOZ	**BOZOYUK**	**1.05**	**41**	*i* P	**Pn**	**07 01 29.7**	**+1.0**
AUBOZ				*i* S	**Sb**	**07 01 41.9**	**-0.1**
AUBOZ	**BOZOYUK**	**1.05**	**41**	P	**Pn**	**07 01 29.7**	**+1.0**
AUBOZ				S	**Sb**	**07 01 41.9**	**-0.1**
AKHS	**Akhisar**	**1.06**	**257**	*i* P	**Pb**	**07 01 27.9**	**-0.2**
AKHS				*i* S	**Sg**	**07 01 41.0**	**-0.4**
AKHS	**Akhisar**	**1.06**	**257**	P	**Pb**	**07 01 28.0**	**-0.2**
AKHS	**Akhisar**	**1.06**	**257**	S	**Sg**	**07 01 41.0**	**-0.4**
AKS	**Akhisar**	**1.06**	**257**	PG	**Pg**	**07 01 27.4**	**-0.2**
AKS	**Akhisar**	**1.06**	**257**	*e*Pg	**Pg**	**07 01 27.4**	**-0.2**
AUKUT	**KUTAHYA**	**1.08**	**39**	*i* P	Pg	07 01 21.0	-6.9
AUKUT				*i* S	Sg	07 01 32.3	-10
BALB	**Balikesir**	**1.11**	**298**	PN	**Pb**	**07 01 28.7**	**-0.2**
BALB	**Balikesir**	**1.11**	**298**	*e*Pn	**Pb**	**07 01 28.7**	**-0.2**
STEP	**BALIKESIR_Sava**	**1.13**	**283**	*i* P	**Pg**	**07 01 28.8**	**-0.2**
STEP				*i* S	**Sn**	**07 01 45.4**	**-0.4**
STEP	**BALIKESIR_Sava**	**1.13**	**283**	P	**Pg**	**07 01 28.8**	**-0.2**
STEP	**BALIKESIR_Sava**	**1.13**	**283**	S	**Sn**	**07 01 45.4**	**-0.4**
CAVI	**Cavuskoy**	**1.21**	**26**	PN	**Pb**	**07 01 30.3**	**-0.3**
CAVI	**Cavuskoy**	**1.21**	**26**	*e*Pn	**Pb**	**07 01 30.3**	**-0.3**
SHUT	**Suhut-Afyon**	**1.24**	**117**	PN	**Pn**	**07 01 31.1**	**-0.3**
SHUT	**Suhut-Afyon**	**1.24**	**117**	*e*Pn	**Pn**	**07 01 31.1**	**-0.3**
IZI	**Izmik**	**1.24**	**12**	PN	**Pb**	**07 01 30.9**	**-0.3**
IZI	**Izmik**	**1.24**	**12**	*e*Pn	**Pb**	**07 01 30.9**	**-0.3**
MDNY	**Mudanya-Bursa**	**1.26**	**351**	PN	**Pb**	**07 01 31.3**	**-0.2**
MDNY	**Mudanya-Bursa**	**1.26**	**351**	*e*Pn	**Pb**	**07 01 31.3**	**-0.2**
KCTX	**Karacabey (Bur**	**1.29**	**332**	PN	**Pn**	**07 01 31.9**	**-0.1**
KCTX	**Karacabey (Bur**	**1.29**	**332**	*e*Pn	**Pn**	**07 01 31.9**	**-0.1**
GEMT	**Gemlik**	**1.31**	**2**	PN	**Pb**	**07 01 32.5**	**+0.1**
GEMT	**Gemlik**	**1.31**	**2**	*e*Pn	**Pb**	**07 01 32.5**	**+0.1**
BALY	**Balya**	**1.33**	**298**	*i* P	**Pn**	**07 01 31.4**	**-1.1**
BALY				*i* S	**Sg**	**07 01 48.9**	**-1.2**
BALY	**Balya**	**1.33**	**298**	P	**Pn**	**07 01 31.4**	**-1.1**
BALY	**Balya**	**1.33**	**298**	S	**Sg**	**07 01 48.8**	**-1.2**
DENT	**Denizli**	**1.37**	**184**	PN	**Pg**	**07 01 33.3**	**-0.2**
DENT	**Denizli**	**1.37**	**184**	*e*Pn	**Pg**	**07 01 33.3**	**-0.2**
ESKT	**Eskisehir**	**1.38**	**73**	PN	**Pb**	**07 01 33.3**	**-0.4**
ESKT	**Eskisehir**	**1.38**	**73**	*e*Pn	**Pb**	**07 01 33.3**	**-0.4**
ADVT	**Abdulvahap**	**1.39**	**19**	PN	**Pg**	**07 01 33.5**	**-0.4**
ADVT	**Abdulvahap**	**1.39**	**19**	*e*Pn	**Pg**	**07 01 33.5**	**-0.4**
YLV	**Yalova**	**1.46**	**7**	PN	**Pn**	**07 01 34.1**	**-0.2**
YLV	**Yalova**	**1.46**	**7**	*e*Pn	**Pn**	**07 01 34.1**	**-0.2**
GONE	**Gonen-Balikesi**	**1.46**	**310**	PN	**Pn**	**07 01 34.3**	**+0.1**
GONE	**Gonen-Balikesi**	**1.46**	**310**	*e*Pn	**Pn**	**07 01 34.3**	**+0.1**
ARMT	**Armutlu**	**1.46**	**352**	PN	**Pn**	**07 01 34.2**	**-0.1**
ARMT	**Armutlu**	**1.46**	**352**	*e*Pn	**Pn**	**07 01 34.2**	**-0.1**
GPA	**Golpazari**	**1.47**	**37**	PN	**Pb**	**07 01 34.9**	**-0.3**
GPA	**Golpazari**	**1.47**	**37**	*e*Pn	**Pb**	**07 01 34.9**	**-0.3**
AYDB	**Zeytinkoy-Aydi**	**1.53**	**220**	PN	**Pn**	**07 01 35.5**	**+0.2**
AYDB	**Zeytinkoy-Aydi**	**1.53**	**220**	*e*Pn	**Pn**	**07 01 35.5**	**+0.2**
EDC	**Edincik**	**1.57**	**322**	PN	**Pn**	**07 01 36.0**	**+0.2**
EDC	**Edincik**	**1.57**	**322**	*e*Pn	**Pn**	**07 01 36.0**	**+0.2**
GULT	**Gulveren**	**1.68**	**39**	PN	**Pn**	**07 01 37.8**	**+0.3**
GULT	**Gulveren**	**1.68**	**39**	*e*Pn	**Pn**	**07 01 37.8**	**+0.3**
ISP	**Isparta**	**1.69**	**140**	PN	**Pn**	**07 01 37.9**	**+0.4**
ISP	**Isparta**	**1.69**	**140**	P	**Pn**	**07 01 37.4**	**-0.1**
ISP	**Isparta**	**1.69**	**140**	S	**Pn**	**07 01 37.4**	**-0.1**
ISP	**Isparta**	**1.69**	**140**	*e*Pn	**Pn**	**07 01 37.9**	**+0.4**
BUY	**Buyukada**	**1.73**	**359**	PN	**Pb**	**07 01 38.6**	**-0.9**
BUY	**Buyukada**	**1.73**	**359**	*e*Pn	**Pb**	**07 01 38.6**	**-0.9**
DKL	**Dikili**	**1.74**	**269**	PN	**Pn**	**07 01 38.5**	**+0.4**
DKL	**Dikili**	**1.74**	**269**	*e*Pn	**Pn**	**07 01 38.5**	**+0.4**
HRT	**Hereke**	**1.75**	**13**	PN	**Pn**	**07 01 38.3**	**0.0**
HRT	**Hereke**	**1.75**	**13**	*e*Pn	**Pn**	**07 01 38.3**	**0.0**
BLCB	**Balcova**	**1.80**	**247**	PN	**Pn**	**07 01 39.4**	**+0.5**
BLCB	**Balcova**	**1.80**	**247**	*e*Pn	**Pn**	**07 01 39.4**	**+0.5**
SPNC	**Sapanca-Adapaz**	**1.80**	**30**	PN	**Pn**	**07 01 39.1**	**+0.1**
SPNC	**Sapanca-Adapaz**	**1.80**	**30**	*e*Pn	**Pn**	**07 01 39.1**	**+0.1**
SAUV	**Serdivan-Sakar**	**1.86**	**29**	PN	**Pn**	**07 01 39.6**	**-0.1**
SAUV	**Serdivan-Sakar**	**1.86**	**29**	*e*Pn	**Pn**	**07 01 39.6**	**-0.1**
SVRH	**Sivrihisar-ESK**	**1.88**	**79**	PN	**Pb**	**07 01 40.9**	**-1.2**
SVRH	**Sivrihisar-ESK**	**1.88**	**79**	*e*Pn	**Pb**	**07 01 40.9**	**-1.2**
KRBG	**Karabiga-Canak**	**1.91**	**312**	PN	**Pn**	**07 01 41.1**	**+0.7**
KRBG	**Karabiga-Canak**	**1.91**	**312**	*e*Pn	**Pn**	**07 01 41.1**	**+0.7**
FOCM	**Fo¨Sa**	**1.92**	**259**	PN	**Pn**	**07 01 41.1**	**+0.5**
FOCM	**Fo¨Sa**	**1.92**	**259**	*e*Pn	**Pn**	**07 01 41.1**	**+0.5**
ISK	**Istanbul-Kandi**	**1.94**	**358**	PN	**Pn**	**07 01 41.3**	**+0.4**
ISK	**Istanbul-Kandi**	**1.94**	**358**	*e*Pn	**Pn**	**07 01 41.3**	**+0.4**
SBT3	**Marmara-Eregli**	**1.98**	**333**	PN	**Pn**	**07 01 42.0**	**+0.8**
SBT3	**Marmara-Eregli**	**1.98**	**333**	*e*Pn	**Pn**	**07 01 42.0**	**+0.8**
SILT	**Sile**	**2.07**	**11**	PN	**Pn**	**07 01 42.5**	**-0.1**
SILT	**Sile**	**2.07**	**11**	*e*Pn	**Pn**	**07 01 42.5**	**-0.1**
BGKT	**Bogazkoy**	**2.08**	**352**	PN	**Pn**	**07 01 43.1**	**+0.3**
BGKT	**Bogazkoy**	**2.08**	**352**	*e*Pn	**Pn**	**07 01 43.1**	**+0.3**
MDUB	**Mudurnu**	**2.08**	**49**	PN	**Pn**	**07 01 43.6**	**+0.7**
MDUB	**Mudurnu**	**2.08**	**49**	*e*Pn	**Pn**	**07 01 43.6**	**+0.7**
MLSB	**Milas**	**2.12**	**211**	PN	**Pn**	**07 01 44.0**	**+0.7**
MLSB	**Milas**	**2.12**	**211**	*e*Pn	**Pn**	**07 01 44.0**	**+0.7**
URLA	**Izmir**	**2.13**	**250**	PN	**Pn**	**07 01 44.0**	**+0.5**
URLA	**Izmir**	**2.13**	**250**	*e*Pn	**Pn**	**07 01 44.0**	**+0.5**
KLYT	**Kilyos**	**2.13**	**358**	PN	**Pn**	**07 01 43.3**	**-0.2**
KLYT	**Kilyos**	**2.13**	**358**	*e*Pn	**Pn**	**07 01 43.3**	**-0.2**
CTKS	**Kestanelik-??a**	**2.17**	**347**	PN	**Pn**	**07 01 44.4**	**+0.4**
CTKS	**Kestanelik-??a**	**2.17**	**347**	*e*Pn	**Pn**	**07 01 44.4**	**+0.4**
RKY	**Sarkoy-Tekirda**	**2.17**	**317**	PN	**Pn**	**07 01 44.7**	**+0.5**
RKY	**Sarkoy-Tekirda**	**2.17**	**317**	*e*Pn	**Pn**	**07 01 44.7**	**+0.5**
SUTC	**Sutluce-Ispart**	**2.20**	**138**	PN	**Pn**	**07 01 45.2**	**+0.6**
SUTC	**Sutluce-Ispart**	**2.20**	**138**	*e*Pn	**Pn**	**07 01 45.2**	**+0.6**
LPK	**Lapseki**	**2.22**	**305**	PN	**Pn**	**07 01 45.4**	**+0.7**
LPK	**Lapseki**	**2.22**	**305**	*e*Pn	**Pn**	**07 01 45.4**	**+0.7**
SLVT	**Silivri**	**2.22**	**342**	PN	**Pn**	**07 01 45.3**	**+0.5**
SLVT	**Silivri**	**2.22**	**342**	*e*Pn	**Pn**	**07 01 45.3**	**+0.5**
PRK	**Paraskevi**	**2.23**	**274**	P	**Pn**	**07 01 43.7**	**-1.2**
PRK	**Paraskevi**	**2.23**	**274**	P	**Pn**	**07 01 43.7**	**-1.2**
TURN	**Turunc**	**2.28**	**191**	PN	**Pb**	**07 01 48.7**	**-0.2**
EZN	**Ezine**	**2.29**	**289**	P	**Pg**	**07 01 51.5**	**+0.4**
SMG	**Samos**	**2.29**	**233**	P	**Pg**	**07 01 51.1**	**-0.1**
SMG	**Samos**	**2.29**	**233**	P	**Pg**	**07 01 51.1**	**-0.1**
KORT	**Korkueli**	**2.32**	**155**	PN	**Pn**	**07 01 46.9**	**+0.6**
KORT	**Korkueli**	**2.32**	**155**	*e*Pn	**Pn**	**07 01 46.9**	**+0.6**
GELI	**Tayfur-Gelibol**	**2.42**	**303**	PN	**Pn**	**07 01 48.1**	**+0.6**
GELI	**Tayfur-Gelibol**	**2.42**	**303**	*e*Pn	**Pn**	**07 01 48.1**	**+0.6**
CTYL	**Yalikoy Yolu**	**2.44**	**345**	PN	**Pn**	**07 01 48.4**	**+0.7**
CTYL	**Yalikoy Yolu**	**2.44**	**345**	*e*Pn	**Pn**	**07 01 48.4**	**+0.7**
ELL	**Elmali**	**2.44**	**165**	PN	**Pn**	**07 01 48.8**	**+0.8**
ELL	**Elmali**	**2.44**	**165**	*e*Pn	**Pn**	**07 01 48.8**	**+0.8**
KIYI	**Yal¨–koy-Catal**	**2.45**	**345**	PN	**Pn**	**07 01 48.5**	**+0.7**
KIYI	**Yal¨–koy-Catal**	**2.45**	**345**	*e*Pn	**Pn**	**07 01 48.5**	**+0.7**
FETY	**Fethiye**	**2.48**	**181**	PN	**Pn**	**07 01 48.2**	**-0.2**
FETY	**Fethiye**	**2.48**	**181**	*e*Pn	**Pn**	**07 01 48.2**	**-0.2**
BOZC	**Bozcaada**	**2.50**	**288**	PN	**Pn**	**07 01 49.2**	**+0.7**
BOZC	**Bozcaada**	**2.50**	**288**	*e*Pn	**Pn**	**07 01 49.2**	**+0.7**
BODT	**Bodrum**	**2.51**	**216**	PN	**Pn**	**07 01 49.6**	**+0.8**
BODT	**Bodrum**	**2.51**	**216**	*e*Pn	**Pn**	**07 01 49.6**	**+0.8**
CHOS	**Chios island**	**2.52**	**254**	PN	**Pn**	**07 01 49.7**	**+0.7**
CHOS	**Chios island**	**2.52**	**254**	P	**Pn**	**07 01 48.5**	**-0.5**
CHOS	**Chios island**	**2.52**	**254**	P	**Pn**	**07 01 48.5**	**-0.5**
CHOS	**Chios island**	**2.52**	**254**	*e*Pn	**Pn**	**07 01 49.7**	**+0.7**
ERIK	**Erikli-Kesan**	**2.55**	**308**	PN	**Pn**	**07 01 50.0**	**+0.8**
ERIK	**Erikli-Kesan**	**2.55**	**308**	*e*Pn	**Pn**	**07 01 50.0**	**+0.8**
SIGR	**SIGRI**	**2.56**	**273**	PN	**Pn**	**07 01 50.2**	**+0.9**
SIGR	**SIGRI**	**2.56**	**273**	P	**Pb**	**07 01 53.9**	**+0.3**
SIGR	**SIGRI**	**2.56**	**273**	*e*Pn	**Pn**	**07 01 50.2**	**+0.9**
SIGR	**SIGRI**	**2.56**	**273**	P	**Pb**	**07 01 53.9**	**+0.3**
GADA	**Gvkgeada**	**2.72**	**294**	PN	**Pn**	**07 01 52.4**	**+0.8**
GADA	**Gvkgeada**	**2.72**	**294**	*e*Pn	**Pn**	**07 01 52.4**	**+0.8**
ENEZ	**Enez**	**2.81**	**306**	P	Pn	07 01 45.2	-7.6
ANTO	**Ankara**	**2.92**	**74**	*i* P	**Sg**	**07 02 45.7**	**+4.5**
ALN	**Alexandroupoli**	**2.97**	**308**	P	**Pn**	**07 01 55.1**	**+0.1**
ALN	**Alexandroupoli**	**2.97**	**308**	P	**Pn**	**07 01 55.1**	**+0.1**
SMTH	**Samothraki Isl**	**3.09**	**297**	P	**Pn**	**07 01 56.9**	**+0.2**
SMTH	**Samothraki Isl**	**3.09**	**297**	P	**Pn**	**07 01 56.9**	**+0.2**
APE	**Apeiranthos**	**3.51**	**235**	*i* P	**Pg**	**07 02 16.5**	**+2.0**
TIRR	**Tirgusor**	**5.36**	**354**	*i* P	**Pn**	**07 02 28.4**	**+0.5**
TIRR	**Tirgusor**	**5.36**	**354**	*i* P	**Pn**	**07 02 28.4**	**+0.5**
TLCR		**6.07**	**358**	*i* P	**Pn**	**07 02 38.3**	**+0.8**
TLCR		**6.07**	**358**	*i* P	**Pn**	**07 02 38.3**	**+0.8**
VRI	**Vrincioaia**	**6.97**	**346**	*i* P	**Pn**	**07 02 50.2**	**+0.2**
VRI	**Vrincioaia**	**6.97**	**346**	*i* P	**Pn**	**07 02 50.2**	**+0.2**

DJA ***22*** *07:02:20.4±1.0,0.°S±4.°×9.°7E±.°,h49km±44km,M4.1/5, MLv4.1/5*

IDC ***22*** *07:02:23.6±2.0,0.°23N×97.°64E,h0km,mb3.8/6,mb1 3.9/7, mb1mx3.6/70,mbtmp3.8/7,ML4.6/1,Error ellipse: s-maj=70.0km s-min=20.7km az=57.0*

ISCJB ***22*** *07:02:24.2±1.1,0.°13N±0.°07×97.°5E±0.°1,h25km,mb3.7/6, Error ellipse: s-maj=20.2km s-min=6.1km az=155.2*

ISC 22 07:02:25.6±1.2,0.°11N±0.°09×97.°5E±0.°2,h25km,n18, σ1≋78/14,mb3.8/6,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GSI	**Gunungsitoli**	**1.19**	**4**	P	**Pn**	**07 02 45.9**	**-0.9**
GSI				S	**Sn**	**07 03 01.9**	**-0.3**
SISI	**Saibi**	**2.15**	**132**	P	**Pn**	**07 02 56.9**	**-3.0**
SISI				S	**Sn**	**07 03 24.8**	**-0.9**
MNSI	**Mandailing Nat**	**2.21**	**72**	P	**Pn**	**07 03 00.5**	**-0.2**
TPTI		**3.15**	**354**	S	**Sn**	**07 03 47.9**	**-2.5**
KCSI	**Kotacane, Aceh**	**3.41**	**5**	P	**Pn**	**07 03 14.2**	**-3.0**
CMAR	**Chiang Mai Arr**	**18.29**	**4**	P	**P**	**07 06 37.2**	**-0.6**
	0.7nm,0.3s,baz=185,slow=9.3,SNR=2.8						
H08S2	**Diego Garcia H**	**26.08**	**252**	T	T	07 35 14.1	
	baz=73,slow=75,SNR=1270						
H08S3	**Diego Garcia H**	**26.08**	**252**	T	T	07 35 13.9	
	baz=73,slow=75,SNR=1695						
H08S1	**Diego Garcia H**	**26.10**	**252**	T	T	07 35 15.5	
	baz=73,slow=75,SNR=1702						
H01W3	**Cape Leeuwin H**	**38.13**	**158**	T	T	07 50 17.8	
	baz=331						
H01W2	**Cape Leeuwin H**	**38.15**	**158**	T	T	07 50 23.1	
	baz=331						
H01W1	**Cape Leeuwin H**	**38.15**	**158**	T	T	07 50 18.7	
	baz=331						
WRA	**Warramunga Arr**	**41.23**	**121**	P	**P**	**07 10 09.6**	**+0.7**
	0.6nm,0.7s,baz=302,slow=8.7,SNR=5.6						
ASAR	**Alice Springs**	**42.52**	**126**	P	**P**	**07 10 20.9**	**+1.4**
	0.7nm,0.7s,baz=300,slow=7.9,SNR=8.9						
KSRS	**Korea Array**	**46.59**	**34**	P	**P**	**07 10 51.6**	**0.0**
	0.7nm,0.6s,baz=208,slow=6.1,SNR=2.8						
MKAR	**Makanchi Array**	**48.36**	**346**	P	**P**	**07 11 07.3**	**+1.9**
	0.8nm,0.8s,baz=159,slow=9.1,SNR=4.0						
ZALV	**Zalesovo Beam**	**54.67**	**351**	P	**P**	**07 11 53.6**	**+1.2**
	0.9nm,0.3s,baz=186,slow=4.0,SNR=5.1						
BVAR	**Borovoye Array**	**57.37**	**341**	P	**P**	**07 12 12.6**	**+0.8**
	0.5nm,0.5s,baz=160,slow=8.0,SNR=2.3						

IDC ***22*** *07:03:22.6±1.3,34.°37N×23.°52E,h0km,mb3.6/6, mb1 3.5/11,mb1mx3.4/65,mbtmp3.5/11,ML3.5/5,MS2.7/1, Ms1 2.8/1,ms1mx2.1/65,Error ellipse: s-maj=23.4km s-min=20.3km az=155.0*

THE ***22*** *07:03:28.8,34.°49N×23.°78E,h0km±2km,ML3.4/4,Error ellipse: s-maj=3.3km s-min=0.9km az=207.0*

ATH ***22*** *07:03:32.5,34.°75N×23.°94E,h38km±1km,ML3.0/9,Error ellipse: s-maj=3.0km s-min=1.4km az=210.0*

CSEM ***22*** *07:03:33.1±0.2,34.°72N×23.°92E,h26km±1km,ML3.0, Error ellipse: s-maj=4.6km s-min=2.3km az=25.0*

ISC 22 07:03:30.7±1.3,34.°58N±0.°07×23.°80E±0.°05,h34km±2km, n60,σ1≋39/80,mb3.5/6,Crete

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GVD	**Gavdhos**	**0.35**	**43**	P	**Pb**	**07 03 39.0**	**-0.2**
GVD				S	**Sn**	**07 03 45.1**	**+0.4**
GVD				AML	AML	07 03 51.3	
	comp=E,17703μm,0.4s						
GVD				AML	AML	07 03 52.6	
	comp=N,12531μm,0.4s						
GVD	**Gavdhos**	**0.35**	**43**	P	**Pb**	**07 03 37.5**	**-1.7**
GVD				S	**Sb**	**07 03 44.6**	**-0.4**
GVD	**Gavdhos**	**0.35**	**43**	P	**Pb**	**07 03 39.2**	**0.0**
GVD				S	**Sn**	**07 03 44.8**	**0.0**
VAM	**Vamos**	**0.89**	**22**	P	**Pn**	**07 03 47.0**	**+0.3**
VAM				S	**Sn**	**07 03 56.8**	**-1.6**
VAM				AML	AML	07 04 07.7	
	comp=E,2467μm,0.7s						
VAM				AML	AML	07 04 09.4	
	comp=N,2281μm,0.5s						
VAM	**Vamos**	**0.89**	**22**	P	**Pn**	**07 03 46.9**	**+0.2**
VAM				S	**Sb**	**07 04 02.4**	**+3.2**
VAM	**Vamos**	**0.89**	**22**	P	**Pn**	**07 03 46.9**	**+0.2**
VAM				S	**Sn**	**07 03 56.9**	**-1.5**
IMMV	**Iera Moni Meta**	**0.89**	**10**	P	**Pn**	**07 03 47.0**	**+0.3**
IMMV				S	**Sn**	**07 03 57.1**	**-1.3**
IMMV				AML	AML	07 04 07.8	
	comp=E,3378μm,0.4s						
IMMV				AML	AML	07 04 08.2	
	comp=N,4277μm,0.4s						
IMMV	**Iera Moni Meta**	**0.89**	**10**	P	**Pn**	**07 03 46.9**	**+0.1**
IMMV				S	**Sb**	**07 04 02.0**	**+2.7**
IMMV	**Iera Moni Meta**	**0.89**	**10**	P	**Pn**	**07 03 47.0**	**+0.3**
IMMV				S	**Sn**	**07 03 57.3**	**-1.1**
SIVA	**Sivas**	**0.94**	**62**	P	**Pb**	**07 03 48.2**	**-0.3**
SIVA				S	**Sn**	**07 03 59.2**	**-0.5**
SIVA				AML	AML	07 04 08.5	
	comp=N,5621μm,0.6s						
SIVA				AML	AML	07 04 09.6	
	comp=E,6576μm,0.6s						
SIVA	**Sivas**	**0.94**	**62**	P	**Pn**	**07 03 48.0**	**+0.6**
SIVA				S	**Sb**	**07 04 02.9**	**+2.2**
SIVA	**Sivas**	**0.94**	**62**	P	**Pn**	**07 03 48.0**	**+0.6**
SIVA				S	**Sn**	**07 03 59.1**	**-0.5**
IDI	**Anoyia**	**1.14**	**52**	Pn	**Pn**	**07 03 50.6**	**+0.3**
	comp=E,12nm,0.3s,baz=242,slow=11,SNR=49						
IDI				Sn	**Sb**	**07 04 10.0**	**+3.5**
	comp=E,30nm,0.3s,baz=308,slow=19,SNR=17						
ANKY	**Antikythira Is**	**1.34**	**343**	P	**Pn**	**07 03 54.2**	**+1.2**
ANKY				S	**Sb**	**07 04 12.5**	**+0.3**
ANKY				AML	AML	07 04 29.2	
	comp=N,587μm,0.8s						
ANKY				AML	AML	07 04 38.1	
	comp=E,690μm,0.8s						
ANKY	**Antikythira Is**	**1.34**	**343**	P	**Pn**	**07 03 54.9**	**+1.9**
ANKY	**Antikythira Is**	**1.34**	**343**	P	**Pn**	**07 03 54.9**	**+1.9**
ANKY				S	**Sb**	**07 04 11.9**	**-0.3**
LAST	**Lasithi**	**1.50**	**67**	P	**Pn**	**07 03 56.5**	**+1.3**
LAST				S	**Sn**	**07 04 14.2**	**+0.6**
LAST				AML	AML	07 04 26.5	
	comp=N,422μm,0.7s						
LAST				AML	AML	07 04 29.9	
	comp=E,367μm,0.6s						
LAST	**Lasithi**	**1.50**	**67**	P	**Pb**	**07 03 56.9**	**-1.1**
LAST	**Lasithi**	**1.50**	**67**	P	**Pn**	**07 03 56.4**	**+1.2**
LAST				S	**Sn**	**07 04 13.9**	**+0.3**
NPS	**Neapolis**	**1.64**	**65**	P	**Pb**	**07 03 59.1**	**-1.2**
NPS				S	**Sn**	**07 04 15.8**	**-1.2**
NPS				AML	AML	07 04 29.4	
	comp=N,444μm,0.8s						
NPS				AML	AML	07 04 29.9	
	comp=E,615μm,0.8s						
NPS	**Neapolis**	**1.64**	**65**	P	**Pn**	**07 03 58.5**	**+1.4**
NPS	**Neapolis**	**1.64**	**65**	P	**Pn**	**07 03 58.5**	**+1.4**
NPS				S	**Sn**	**07 04 16.3**	**-0.7**
KYTH	**Kithira**	**1.79**	**340**	P	**Pb**	**07 04 02.3**	**-0.5**
KYTH	**Kithira**	**1.79**	**340**	P	**Pn**	**07 04 01.2**	**+2.0**
ZKR	**Zakros**	**2.06**	**74**	P	**Pn**	**07 04 04.3**	**+1.5**
ZKR	**Zakros**	**2.06**	**74**	P	**Pn**	**07 04 04.4**	**+1.5**
MHLO	**Agia Marina, M**	**2.16**	**13**	P	**Pn**	**07 04 04.3**	**+0.1**
MHLO				S	**Sn**	**07 04 29.4**	**-0.4**
MHLO				AML	AML	07 04 50.9	
	comp=N,763μm,0.7s						
MHLO				AML	AML	07 04 54.5	
	comp=E,1446μm,1.0s						
MHLO	**Agia Marina, M**	**2.16**	**13**	P	**Pn**	**07 04 04.8**	**+0.6**
MHLO				S	**Sn**	**07 04 29.4**	**-0.4**
MHLA	**Plaka, Milos I**	**2.21**	**13**	P	**Pn**	**07 04 07.1**	**+2.1**
MHLA	**Plaka, Milos I**	**2.21**	**13**	P	**Pn**	**07 04 06.6**	**+1.6**
THR5	**Thira Island,**	**2.22**	**34**	P	**Pn**	**07 04 05.9**	**+0.8**
THR5	**Thira Island,**	**2.22**	**34**	P	**Pn**	**07 04 06.0**	**+0.8**
VLI	**Veliai**	**2.24**	**342**	P	**Pn**	**07 04 07.7**	**+2.3**
VLI	**Veliai**	**2.24**	**342**	P	**Pn**	**07 04 07.5**	**+2.1**
VLI	**Veliai**	**2.24**	**342**	P	**Pn**	**07 04 07.5**	**+2.1**
THR8	**Santorini-Mono**	**2.28**	**37**	P	**Pn**	**07 04 06.2**	**+0.4**
THR8	**Santorini-Mono**	**2.28**	**37**	P	**Pn**	**07 04 06.5**	**+0.6**
DYR	**Agios Nikonas**	**2.48**	**332**	P	**Pn**	**07 04 11.2**	**+2.5**
DYR	**Agios Nikonas**	**2.48**	**332**	P	**Pn**	**07 04 11.2**	**+2.5**
APE	**Apeiranthos**	**2.85**	**29**	P	**Pn**	**07 04 13.3**	**-0.5**
APE				S	**Sn**	**07 04 46.8**	**-0.2**
APE				AML	AML	07 04 54.6	
	comp=N,53μm,0.2s						
APE				AML	AML	07 04 55.6	
	comp=E,86μm,0.6s						
APE	**Apeiranthos**	**2.85**	**29**	P	**Pn**	**07 04 14.1**	**+0.3**

*ISCJB **22** 07:50:51.1±0.7, 1.67S±0.06×134.48E±0.07, h29km, mb3.9/7, Error ellipse: s-maj=10.8km s-min=8.6km az=154.0*
*DJA **22** 07:50:53.3±0.6, 2.3S×13.4E±°, h10km, M4.2/6, mb4.3/1, MLv4.1/6*
*NEIC **22** 07:50:54.2±0.8, 1.74S×134.54E, h35km, mb4.0/5, Error ellipse: s-maj=17.2km s-min=9.7km az=69.0*
NEIC Felt [III] at Ransiki.

ISC 22 07:50:52.1±1.0, **1.59S**±0.08×**134.40E**±0.09, **h29km, n21,** σ2§**03**/23, **mb3.8/7, Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RKPI	**Ransiki, Papua**	**0.23**	**291**	P	**Pb**	**07 50 56.1**	**-2.5**
RKPI				S	**Sb**	**07 50 58.3**	**-4.7**
KMPI	**Kaimana, Papua**	**2.17**	**199**	P	**Pb**	**07 51 28.5**	**-2.2**
FAKI	**Fak Fak**	**2.52**	**238**	P	**Pn**	**07 51 32.2**	**+1.1**
FAKI				S	**Sn**	**07 52 01.9**	**+1.1**
FAKI	**Fak Fak**	**2.52**	**238**	*e*Pn	**Pn**	**07 51 32.1**	**+1.1**
FAKI				*e*Sn	**Sn**	**07 52 02.1**	**+1.3**
MTN	**Manton Dam**	**11.63**	**196**	*e*Pn	**Pn**	**07 53 36.8**	**+0.4**
PMG	**Port Moresby**	**14.88**	**122**	LR	LR	08 00 17.7	
	comp=Z,139nm,20.3s,baz=218,slow=40						
COEN	**Coen**	**15.04**	**145**	*e*Pn	**Pn**	**07 54 19.6**	**-3.2**
WRAB	**Tennant Creek**	**18.23**	**180**	*e*Pn	**P**	**07 55 03.8**	**+0.7**
	6.0nm,1.1s						
WB2	**Warramunga Arr**	**18.24**	**180**	*e*Pn	**P**	**07 55 05.1**	**+1.8**
	34nm,1.9s						
WR1	**Warramunga Arr**	**18.24**	**180**	*e*Pn	**Pn**	**07 55 02.2**	**-1.1**
	6.0nm,1.0s						
WR1				*e*Sn	Sn	07 58 13.7	-12
WRA	**Warramunga Arr**	**18.24**	**180**	P	**Pn**	**07 55 02.2**	**-1.1**
	0.4nm,0.3s,baz=2.1,slow=12,SNR=16						
WRA				S	Sn	07 58 13.7	-12
	0.0nm,0.3s,baz=353,slow=24,SNR=3.2						
CTAO	**Charters Tower**	**21.73**	**149**	*e*P	**P**	**07 55 41.0**	**-0.2**
	11nm,1.4s						
AS01	**Alice Springs**	**21.94**	**181**	*e*P	**P**	**07 55 43.8**	**+0.2**
AS31	**Alice Springs**	**21.95**	**181**	*e*P	**P**	**07 55 44.1**	**+0.5**
	2.2nm,1.0s						
ASAR	**Alice Springs**	**21.95**	**181**	P	**P**	**07 55 44.4**	**+0.8**
	1.9nm,0.5s,baz=6.7,slow=11,SNR=22						
SBUM	**Sibu**	**22.53**	**280**	*e*P	**P**	**07 55 50.3**	**+0.3**
	28nm,1.9s						
FORT	**Forrest**	**29.64**	**191**	*e*P	**P**	**07 56 56.3**	**+1.1**
	29nm,0.9s						
MK32	**Makanchi Array**	**66.31**	**324**	*e*P	**P**	**08 01 40.9**	**+2.9**
MKAR	**Makanchi Array**	**66.31**	**324**	P	**P**	**08 01 40.9**	**+2.9**
	0.5nm,0.9s,baz=123,slow=7.2,SNR=3.3						
KURK	**Kurchatov**	**70.36**	**326**	*e*P	**P**	**08 02 05.2**	**+2.0**
KURBB	**Kurchatov Arra**	**70.37**	**326**	P	**P**	**08 02 05.2**	**+2.0**
	0.2nm,0.6s,baz=125,slow=6.1,SNR=2.3						

*IDC **22** 07:55:24.8±1.3, 9.20N×124.99E, h0km, mb3.8/6, mb1 4.0/7, mb1mx3.6/53, mbtmp3.8/7, ML4.1/1, MS3.0/4, Ms1 3.0/4, ms1mx2.6/58, Error ellipse: s-maj=74.7km s-min=18.4km az=64.0*
*MAN **22** 07:55:26, 8.79N×124.36E, h1km, mb4.7, ML3.6, MS3.5*
*ISCJB **22** 07:55:27.2±1.4, 8.77N±0.03×124.30E±0.04, h5km±10km, mb3.7/6, MS2.9/3, Error ellipse: s-maj=6.0km s-min=4.3km az=178.7*

ISC 22 07:55:28.1±1.2, **8.74N**±0.03×**124.35E**±0.04, **h15**km±9km, **n25,** σ1§**14**/31, **mb3.7**/6, **MS2.7**/3, **5C-2D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CGP	**Cagayan de Oro**	**0.45**	**130**	*i*P	**Pg**	**07 55 36.5**	**-0.6**
CGP				*i* S	**Sn**	**07 55 48.8**	**+1.0**
TBP	**Tagbilaran**	**1.05**	**333**	*e*P	**Pb**	**07 55 46.9**	**-1.3**
TBP				*i* S	**Sb**	**07 56 02.0**	**+0.2**
BUKP	**Musuan**	**1.11**	**140**	*e*P	**Pb**	**07 55 48.0**	**-1.1**
BUKP				*e*S	**Sn**	**07 56 06.1**	**+1.7**
BUTP	**Butuan**	**1.28**	**80**	*e*P	**Pn**	**07 55 51.3**	**-0.1**
BUTP				*e*S	**Sg**	**07 56 10.3**	**+0.7**
PAGZ	**Pagadian**	**1.30**	**227**	*e*P	**Pb**	**07 55 52.3**	**0.0**
PAGZ				*e*S	**Sb**	**07 56 07.1**	**-1.8**
MSLP	**Maasin**	**1.47**	**20**	*e*P	**Pn**	**07 55 53.4**	**-0.7**
MSLP				*e*S	**Sn**	**07 56 13.4**	**+0.3**
CTBH	**Cotabato--PC H**	**1.52**	**184**	*e*P	**Pb**	**07 55 55.4**	**-0.6**
CTBH				*i* S	**Sg**	**07 56 17.4**	**+0.4**
SCPH	**Surigao**	**1.53**	**47**	*e*P	**Pg**	**07 55 57.9**	**+0.4**
LLP	**Lapu-Lapu**	**1.61**	**347**	*i*P	**Pn**	**07 55 55.6**	**-0.4**
LLP				*e*S	**Sn**	**07 56 16.4**	**-0.1**
IPIL	**Ipil**	**2.00**	**242**	*e*P	**Pb**	**07 56 04.3**	**+0.2**
DAV	**Davao City (W)**	**2.06**	**144**	Pn	**Pb**	**07 56 04.1**	**-1.2**
	59nm,0.3s,baz=349,slow=5.2,SNR=5.9						
DAV				Lg	Lg	07 56 36.6	
	71nm,0.3s,baz=68,slow=19,SNR=2.9						
DAV				LR	LR	07 57 02.5	
	comp=Z,326nm,19.1s,baz=158,slow=44						
BIPH	**Bislig**	**2.07**	**105**	*i*P	**Pg**	**07 56 07.4**	**-0.5**
BIPH				*i* S	**Sg**	**07 56 36.7**	**+2.0**
PLP	**Palo**	**2.49**	**14**	*e*P	**Pn**	**07 56 08.6**	**+0.5**
PLP				*i* S	**Sn**	**07 56 39.4**	**+1.2**
GUIM	**Jordan**	**2.55**	**317**	*e*P	**Pb**	**07 56 13.0**	**-0.6**
RCP	**Roxas**	**3.21**	**331**	*e*P	**Pn**	**07 56 19.1**	**+1.0**
BATI	**Baumata**	**18.84**	**182**	LR	LR	08 10 31.2	
	comp=Z,918nm,18.8s,baz=315,slow=47						
GUMO	**Guam**	**20.70**	**75**	LR	LR	08 06 34.1	
	comp=Z,31nm,21.0s,baz=166,slow=34						
CMAR	**Chiang Mai Arr**	**26.48**	**294**	P	**P**	**08 01 07.8**	**+2.8**
	1.3nm,0.3s,baz=116,slow=8.5,SNR=5.1						
WRA	**Warramunga Arr**	**30.16**	**161**	P	**P**	**08 01 38.4**	**+0.6**
	0.4nm,0.8s,baz=341,slow=9.6,SNR=2.5						
MJAR	**Matsushiro Arr**	**30.41**	**22**	LR	LR	08 12 18.0	
	comp=Z,20nm,21.9s,baz=210,slow=34						
ASAR	**Alice Springs**	**32.54**	**164**	P	**P**	**08 02 08.4**	**+0.9**
	0.3nm,0.6s,baz=342,slow=6.9,SNR=3.4						
TLY	**Talaya**	**46.06**	**342**	LR	LR	08 23 39.5	
	comp=Z,32nm,18.9s,baz=130,slow=37						
KURBB	**Kurchatov Arra**	**56.27**	**327**	P	**P**	**08 05 06.7**	**-1.2**
	0.1nm,0.3s,baz=119,slow=7.6,SNR=3.5						
FINES	**FINESS Array B**	**86.32**	**332**	P	**P**	**08 08 08.5**	**-0.9**
	1.6nm,0.9s,baz=90,slow=5.5,SNR=3.6						
NOA	**NORSAR Array B**	**93.27**	**333**	P	**P**	**08 08 40.4**	**-1.8**
	0.7nm,0.8s,baz=63,slow=5.0,SNR=3.0						

*ISN **22** 08:01:12.6±2.6, 32.56N×47.11E, h36km±43km, ML3.0*

TEH 22 08:01:11.7, 32.52N×47.19E, h10km, ML3.0, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IKFM	**Kafar-mosalman**	**1.15**	**29**	*e*Pg	Pn	08 01 34.7	+0.9
IKFM				*e*AMB	AMB	08 01 58.0	
	comp=Z,99nm,0.3s						
IKOM	**Komasi**	**1.67**	**9**	*e*Sg	Sg	08 02 08.8	+3.2
IVIS	**Veis**	**2.02**	**352**	*e*Sg	Sg	08 02 19.2	+2.4
IDHR	**Dehrash**	**2.28**	**343**	*e*Pn	Pb	08 01 52.9	-0.1
IDHR				*e*AMB	AMB	08 02 33.6	
	comp=N,2μm,0.2s						
ILIN	**Lien**	**2.40**	**356**	*e*Pn	Pb	08 01 53.9	-1.3
ILIN				*e*AMB	AMB	08 02 32.6	
	comp=Z,446nm,0.2s						

*UCR **22** 08:07:39.3±0.7, 14.81N×91.76W, h147km±24km, ML3.4, mb4.1(NEIC)*
*MEX **22** 08:07:45.8±0.5, 13.97N×92.01W, h72km±36km, MD4.2*
*ISCJB **22** 08:07:49.3±0.6, 14.1N±0.1×91.40W±0.07, h100km, mb3.9/31, Error ellipse: s-maj=16.8km s-min=4.0km az=30.2*
*IDC **22** 08:07:49.3±3.0, 13.92N×91.64W, h82km±23km, mb3.5/10, mb1 3.8/12, mb1mx3.5/49, mbtmp3.8/12, MS3.2/2, Ms1 3.2/2, ms1mx2.7/32, Error ellipse: s-maj=38.0km s-min=14.9km az=48.0*
*NEIC **22** 08:07:50.2±0.9, 14.28N×91.46W, h71km±8km, mb4.1/27, MD4.2(MEX), Error ellipse: s-maj=18.2km s-min=5.3km az=217.0*
NEIC Felt at Coban, Mixco and Santa Catarina Pinula. Also felt at Dangriga, Belize and at San Salvador, El Salvador.

ISC 22 08:07:50.5±0.7, **13.96N**±0.10×**91.52W**±0.08, **h100**km, **n75,** σ1§**81**/75, **mb4.0**/31, **Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IXG	**Ixpaco**	**1.05**	**78**	*e*P	**Pn**	**08 08 08.0**	**-3.7**
IXG				*e*S	**Sn**	**08 08 31.0**	**+3.4**
THIG		**1.19**	**323**	*e*P	Pn	08 08 02.7	-10
THIG				*i* S	Sn	08 08 15.8	-14
APG	**El Apazote**	**1.46**	**44**	P	**Pn**	**08 08 16.0**	**-0.4**
	9.3nm,0.3s,baz=213,slow=8.4,SNR=115						
APG				LR	LR	08 08 38.0	
	comp=Z,70nm,19.4s,baz=156,slow=31						
BOQS	**Boqueron**	**2.18**	**96**	*e*P	**Pn**	**08 08 22.7**	**-2.9**
SNET	**Serv Nac Est T**	**2.24**	**97**	*e*Pn	**Pn**	**08 08 25.5**	**-0.8**
SNET				*e*Sn	**Sn**	**08 08 50.3**	**-3.3**
SNET	**Serv Nac Est T**	**2.24**	**97**	IAML		08 09 09.2	
	comp=Z,185nm,0.4s						
LFU	**La Fuente**	**2.34**	**95**	*e*P	**Pn**	**08 08 24.9**	**-2.7**
CCIG	**Comitan**	**2.39**	**346**	*e*P	**Pn**	**08 08 25.1**	**-3.2**
CCIG	**Comitan**	**2.39**	**346**	*e*Pn	**Pn**	**08 08 24.0**	**-4.3**
PCIG		**2.39**	**317**	*e*P	Pn	08 08 17.4	-11
LFRS	**El Faro**	**2.41**	**98**	*e*P	**Pn**	**08 08 25.9**	**-2.6**
LBRS	**Las Brisas**	**2.41**	**95**	*e*P	**Pn**	**08 08 25.3**	**-3.2**
LBRS				*e*S	**Sn**	**08 09 00.9**	**+3.2**
TECA	**Tecapa**	**2.96**	**99**	*e*P	**Pn**	**08 08 32.8**	**-3.2**
CMIG	**Matias Romero**	**4.50**	**314**	P	Pn	08 08 46.7	-10
	comp=Z,1.6nm,0.3s,baz=149,slow=12,SNR=17						
CMIG				S	Sn	08 09 35.3	-12
	comp=Z,3.2nm,0.3s,baz=135,slow=18,SNR=4.1						
HUIG	**Huatulco**	**4.79**	**293**	*e*P	Pn	08 08 46.6	-14
JTS	**JuntasAbangare**	**7.38**	**119**	P	**Pn**	**08 09 34.1**	**-1.5**
	comp=Z,0.8nm,0.3s,baz=14,slow=18,SNR=7.9						
JTS				S	**Sn**	**08 10 54.1**	**-3.8**
	comp=Z,0.5nm,0.3s,baz=358,slow=18,SNR=2.5						
JTS	**JuntasAbangare**	**7.38**	**119**	*e*Pn	**Pn**	**08 09 35.8**	**+0.2**
	comp=Z,11nm,0.8s						
JTS				*e*Sn	**Sn**	**08 10 55.4**	**-2.4**
LNIG	**Linares**	**13.21**	**327**	*e*Pn	**Pn**	**08 10 51.7**	**-2.5**
ZAIG	**Zacatecas**	**13.66**	**311**	*e*Pn	**Pn**	**08 10 59.9**	**-0.5**
MTDJ	**Mount Denham**	**14.09**	**71**	*e*Pn	**Pn**	**08 11 04.0**	**-1.7**
HELC	**Santa Helena**	**17.52**	**115**	*e*Pn	**Pn**	**08 11 50.6**	**+1.6**
	comp=Z,26nm,2.0s						
HPIG		**18.48**	**316**	*e*P	**Pn**	**08 11 57.7**	**-2.5**
	comp=Z,8.4nm,1.7s						
TXAR	**Lajitas Array**	**18.99**	**326**	P	**P**	**08 12 03.5**	**-0.9**
	comp=Z,0.1nm,0.3s,baz=150,slow=8.1,SNR=27						
TX31	**Lajitas Ar. Si**	**18.99**	**326**	*e*P	**Pn**	**08 12 04.2**	**-2.0**
RUSC	**La Rusia**	**19.83**	**112**	*e*P	**Pn**	**08 12 18.0**	**+1.4**
	comp=Z,6.6nm,1.2s						
ABTX	**Abilene, Hawle**	**20.01**	**340**	*e*P	**P**	**08 12 14.7**	**-0.6**
	comp=Z,5.8nm,0.9s						
GDL2	**Guadalupe Moun**	**21.63**	**329**	*e*P	**P**	**08 12 31.9**	**-0.9**
WMOK	**Wichita Mounta**	**21.71**	**344**	*e*P	**P**	**08 12 31.8**	**-1.7**
	comp=Z,2.1nm,0.8s						
MNTX	**Cornudas Mount**	**21.76**	**327**	*e*P	**P**	**08 12 32.2**	**-1.9**
	comp=Z,5.7nm,0.9s						
MSTX	**Muleshoe**	**22.39**	**335**	*e*P	**P**	**08 12 39.7**	**-1.1**
	comp=Z,9.5nm,1.3s						
TKL	**Tuckaleechee C**	**22.70**	**17**	P	**P**	**08 12 45.8**	**+1.9**
	comp=Z,6.0nm,1.0s,baz=199,slow=13,SNR=4.2						
TKL				LR	LR	08 22 44.8	
	comp=Z,48nm,21.0s,baz=254,slow=39						
AMTX	**Amarillo**	**22.77**	**338**	*e*P	**P**	**08 12 43.0**	**-1.6**
	comp=Z,11nm,0.6s						
SIUC	**Southern Illin**	**23.75**	**5**	*e*P	**P**	**08 12 52.6**	**-1.0**
	comp=Z,11nm,0.9s						
319A	**Douglas**	**23.80**	**320**	*e*P	**P**	**08 12 55.3**	**+1.0**
	comp=Z,4.9nm,1.0s						
BNM	**Barren Site**	**24.32**	**328**	*e*P	**P**	**08 13 00.1**	**+1.0**
LPM	**Los Pinos Moun**	**24.45**	**329**	*e*P	**P**	**08 13 01.0**	**+0.8**
LENM	**Lemitar**	**24.51**	**328**	*e*P	**P**	**08 12 58.5**	**-2.3**
SJG	**San Juan**	**24.72**	**77**	LR	LR	08 23 50.3	
	comp=Z,63nm,20.3s,baz=252,slow=39						
LAZ	**Ladron**	**24.78**	**328**	*e*P	**P**	**08 13 01.4**	**-1.9**
ANMO	**Albuquerque**	**24.87**	**330**	*e*P	**P**	**08 13 04.2**	**+0.1**
	comp=Z,1.6nm,0.8s						
TUC	**Tucson**	**25.37**	**319**	*e*P	**P**	**08 13 09.3**	**+0.7**
	comp=Z,7.0nm,1.8s						
MVCO	**Mesa Verde**	**27.67**	**330**	*e*P	**P**	**08 13 30.4**	**+1.1**
	comp=Z,4.6nm,0.9s						
PV05	**Paradox Valley**	**28.65**	**330**	*e*P	**P**	**08 13 38.4**	**+0.4**
PV10	**Paradox Valley**	**28.86**	**331**	*e*P	**P**	**08 13 40.3**	**+0.4**
CCUT	**Cedar City**	**30.50**	**324**	*e*P	**P**	**08 13 55.3**	**+0.9**
	comp=Z,3.0nm,1.1s						
MSU	**Marysvale**	**30.54**	**327**	*e*P	**P**	**08 13 56.3**	**+1.6**
TCUT	**Toone Canyon**	**32.14**	**331**	*e*P	**P**	**08 14 08.7**	**-0.1**
	comp=Z,5.7nm,1.0s						
HWUT	**Hardware Ranch**	**32.59**	**331**	*e*P	**P**	**08 14 13.4**	**+0.7**
	comp=Z,3.4nm,1.1s						
PDAR	**Pinedale Array**	**32.66**	**335**	P	**P**	**08 14 13.6**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=131,slow=11,SNR=2.3						
REDW	**Red Top Meadow**	**33.68**	**334**	*e*P	**P**	**08 14 22.7**	**+0.5**
	comp=Z,4.7nm,1.1s						
SNOW	**Snow King Moun**	**33.73**	**334**	*e*P	**P**	**08 14 23.6**	**+1.0**
	comp=Z,3.8nm,0.8s						
LOHW	**Long Hollow**	**33.78**	**335**	*e*P	**P**	**08 14 24.2**	**+1.1**
	comp=Z,6.7nm,1.8s						
TPAW	**Teton Pass**	**33.83**	**334**	*e*P	**P**	**08 14 23.4**	**-0.1**
	comp=Z,2.7nm,1.0s						
NV01	**Mina Array Sit**	**34.00**	**321**	*e*P	**P**	**08 14 25.8**	**+0.8**
NVAR	**Mina Array Bea**	**34.00**	**321**	P	**P**	**08 14 25.1**	**+0.1**
	comp=Z,1.1nm,0.7s,baz=134,slow=9.3,SNR=9.5						
H17A	**Grant Village**	**34.42**	**336**	*e*P	**P**	**08 14 29.1**	**+0.6**
	comp=Z,4.4nm,1.4s						
PTGA	**Pitinga**	**34.49**	**112**	P	**P**	**08 14 31.9**	**+2.6**
	comp=Z,3.6nm,0.7s,baz=308,slow=7.0,SNR=8.6						
PTGA	**Pitinga**	**34.49**	**112**	*e*P	**P**	**08 14 32.5**	**+3.3**
	comp=Z,3.8nm,0.8s						
TRQ	**Mont Tremblant**	**35.19**	**21**	*e*P	**P**	**08 14 35.7**	**+0.7**
HLID	**Hailey**	**35.44**	**331**	*e*P	**P**	**08 14 38.3**	**+1.1**
	comp=Z,1.6nm,0.9s						
MCMT	**McKenzie Canyo**	**35.72**	**334**	*e*P	**P**	**08 14 39.4**	**-0.3**
	comp=Z,2.1nm,0.9s						
J08A	**Circle Bar Ran**	**37.33**	**327**	*e*P	**P**	**08 14 53.6**	**+0.3**
	comp=Z,5.1nm,0.8s						
C09A	**Chrisman Ranch**	**40.41**	**332**	*e*P	**P**	**08 15 17.1**	**-1.7**
LON	**Longmire**	**41.37**	**328**	*e*P	**P**	**08 15 28.3**	**+1.5**
	comp=Z,2.3nm,0.9s						
SIV	**San Ignacio**	**42.32**	**134**	P	**P**	**08 15 35.1**	**+0.3**
	comp=Z,1.2nm,0.9s,baz=325,slow=12,SNR=4.6						
YKA	**Yellowknife Ar**	**51.18**	**346**	P	**P**	**08 16 43.4**	**+0.2**
	comp=Z,0.5nm,0.6s,baz=148,slow=7.6,SNR=15						
YKA				PcP	**PcP**	**08 17 58.7**	**+1.5**
	comp=Z,0.4nm,0.8s,baz=146,slow=3.8,SNR=7.9						
INK	**Inuvik**	**60.61**	**343**	P	**P**	**08 17 51.2**	**+0.8**
	comp=Z,2.0nm,0.9s,baz=123,slow=7.7,SNR=11						
INK	**Inuvik**	**60.61**	**343**	*e*P	**P**	**08 17 51.6**	**+1.2**
	comp=Z,2.5nm,0.9s						
IL1	**Eielson Array**	**63.06**	**337**	*e*P	**P**	**08 18 07.6**	**+0.7**
ILAR	**Eielson Array**	**63.06**	**337**	P	**P**	**08 18 07.8**	**+0.9**
	comp=Z,1.3nm,1.0s,baz=129,slow=5.2,SNR=11						
EKA	**Eskdalemuir Ar**	**77.72**	**36**	P	**P**	**08 19 36.6**	**+0.3**
	comp=Z,0.7nm,0.6s,baz=270,slow=5.6,SNR=5.2						
ESDC	**Sonseca Array**	**79.37**	**52**	P	**P**	**08 19 46.4**	**+0.6**
	comp=Z,0.2nm,0.4s,baz=295,slow=6.6,SNR=3.2						
LZH	**Lanzhou**	**128.15**	**344**	*e*PKP	**PKPdf**	**08 26 45.0**	**-0.8**
LZH				pPKP	pPKPdf	08 27 04.3	-9.0
LZH				sPKP		08 27 12.0	
LZH				LR	LR		
	comp=N,56nm,18.1s						
LZH				LR	LR		
	comp=E,63nm,18.0s						
LZH				LR	LR		
	comp=Z,92nm,20.3s						
WRA	**Warramunga Arr**	**135.84**	**256**	PKP	**PKPdf**	**08 27 00.7**	**+0.3**
	comp=Z,0.4nm,0.9s,baz=103,slow=2.4,SNR=3.0						
CMAR	**Chiang Mai Arr**	**146.18**	**342**	PKPbc	**PKPab**	**08 27 21.4**	**+0.5**
	comp=Z,1.1nm,0.3s,baz=343,slow=4.6,SNR=8.9						

*ISN **22** 08:13:52.5, 32.41N×47.04E, h10km, ML4.2*
*TEH **22** 08:13:52.5, 32.41N×47.04E, h10km, ML4.2*
*NEIC **22** 08:13:52.5±0.0, 32.41N×47.04E, h10km, mb4.6/32, ML4.1(THR), MN4.2(TEH), After TEH.*
*IDC **22** 08:13:52.0±0.7, 32.44N×47.09E, h0km, mb4.2/29, mb1 4.2/37, mb1mx4.1/70, mbtmp4.1/37, ML3.2/6, MS3.3/18, Ms1 3.2/18, ms1mx3.1/61, Error ellipse: s-maj=15.5km s-min=10.6km az=171.0*
*ISCJB **22** 08:13:53.5±0.2, 32.35N±0.03×47.07E±0.02, h20km, mb4.4/86, MS3.5/14, Error ellipse: s-maj=3.8km s-min=2.9km az=178.1*
*SGS **22** 08:13:53.4, 32.96N×46.89E, h25km*
*MOS **22** 08:13:53.2±1.2, 32.34N×47.12E, h19km, mb4.6/37, Error ellipse: s-maj=6.6km s-min=4.5km az=112.1*
*CSEM **22** 08:13:54.1±0.1, 32.39N×47.05E, h10km, mb4.5/45, Error ellipse: s-maj=5.9km s-min=3.9km az=3.0*
*THR **22** 08:13:54.8±0.3, 32.34N×46.91E, h37km±3km, ML4.1*

ISC 22 08:13:55.3±0.3, **32.39N**±0.04×**47.09E**±0.04, **h20**km, **n338,** σ1§**36**/340, **mb4.5**/89, **MS3.3**/14, **26C-24D, Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IKFM	**Kafar-mosalman**	**1.30**	**29**	*e*Pg	**Pn**	**08 14 17.0**	**-1.3**
IKFM				*e*AMB	AMB	08 14 44.5	
	comp=Z,99nm,0.3s						
IKFM	**Kafar-mosalman**	**1.30**	**29**	*e*Pg	**Pn**	**08 14 17.0**	**-1.3**
SHGR	**Shooshtar-Gavs**	**1.48**	**101**	*e*Pg	**Pb**	**08 14 24.1**	**+2.0**
SHGR	**Shooshtar-Gavs**	**1.48**	**101**	*e*Pg	**Pb**	**08 14 24.1**	**+2.0**
SHGR	**Shooshtar-Gavs**	**1.48**	**101**	*e*Pg	**Pb**	**08 14 24.1**	**+2.0**
SHGR				AML	AML	08 14 48.2	
	comp=E,2μm,0.4s						
SHGR				AML	AML	08 14 53.3	
	comp=N,2μm,0.5s						
NSR	**Nassriya**	**1.59**	**211**	*e*Pn	**Pn**	**08 14 20.7**	**-1.6**
IKOM	**Komasi**	**1.81**	**11**	*e*Pn	**Pn**	**08 14 26.9**	**+1.4**
IKOM				*e*AMB	AMB	08 14 53.9	
	comp=Z,32μm,0.4s						
IKOM	**Komasi**	**1.81**	**11**	Pn	**Pn**	**08 14 26.8**	**+1.3**
IKOM	**Komasi**	**1.81**	**11**	Pn	**Pn**	**08 14 26.8**	**+1.3**
IVIS	**Veis**	**2.14**	**355**	*e*Pn	**Pn**	**08 14 30.9**	**+0.9**
IVIS				*e*AMB	AMB	08 15 05.6	
	comp=Z,37μm,0.3s						
IVIS	**Veis**	**2.14**	**355**	Pn	**Pn**	**08 14 30.9**	**+0.9**
IVIS	**Veis**	**2.14**	**355**	*e*Pn	**Pn**	**08 14 30.9**	**+0.9**
IDHR	**Dehrash**	**2.38**	**346**	*e*Pn	**Pn**	**08 14 34.1**	**+0.8**
IDHR				*e*AMB	AMB	08 15 16.7	
	comp=Z,31μm,0.2s						
IDHR	**Dehrash**	**2.38**	**346**	*e*Pn	**Pn**	**08 14 34.1**	**+0.8**
ILIN	**Lien**	**2.52**	**358**	*e*Pn	**Pn**	**08 14 36.4**	**+1.0**
ILIN				*e*AMB	AMB	08 15 15.6	
	comp=Z,15μm,0.3s						
ILIN	**Lien**	**2.52**	**358**	Pn	**Pn**	**08 14 36.4**	**+1.0**
ILIN	**Lien**	**2.52**	**358**	*e*Pn	**Pn**	**08 14 36.4**	**+1.0**
SNGE	**Sanandaj**	**2.70**	**5**	*e*Pn	**Pn**	**08 14 38.8**	**+1.0**
SNGE	**Sanandaj**	**2.70**	**5**	*e*Pn	**Pn**	**08 14 38.8**	**+1.0**
SNGE				AML	AML	08 15 28.4	
	comp=N,1μm,0.7s						
SNGE				AML	AML	08 15 30.6	
	comp=E,737nm,0.7s						
KHMZ	**Khomeyn**	**2.76**	**60**	*e*Pn	**Pn**	**08 14 40.9**	**+2.3**
KHMZ	**Khomeyn**	**2.76**	**60**	*e*Pn	**Pn**	**08 14 40.9**	**+2.3**
KHMZ				AML	AML	08 15 31.8	
	comp=N,290nm,0.5s						
HAGD	**Aghdareh**	**2.97**	**35**	*e*Pn	**Pn**	**08 14 43.1**	**+1.6**
HAGD				*e*AMB	AMB	08 14 51.8	
	comp=Z,99nm,0.2s						
HAGD	**Aghdareh**	**2.97**	**35**	*e*Pn	**Pn**	**08 14 43.1**	**+1.6**
IPIR	**Pirpir**	**3.23**	**84**	*e*Pn	**Pn**	**08 14 47.6**	**+2.5**
IPIR				*e*AMB	AMB	08 15 49.2	
	comp=Z,4μm,0.3s						
IPIR	**Pirpir**	**3.23**	**84**	*e*Pn	**Pn**	**08 14 47.6**	**+2.5**
ASAO	**Ashtian**	**3.27**	**48**	*e*Pn	**Pn**	**08 14 47.6**	**+2.0**
ASAO	**Ashtian**	**3.27**	**48**	*e*Pn	**Pn**	**08 14 47.6**	**+2.0**
IRAZ	**Razeghan**	**3.83**	**37**	*e*Pn	**Pn**	**08 14 55.6**	**+2.4**
IRAZ				*e*AMB	AMB	08 15 13.3	
	comp=Z,4μm,0.3s						
IRAZ	**Razeghan**	**3.83**	**37**	*e*Pn	**Pn**	**08 14 55.6**	**+2.4**
IKLH	**Kolahrood**	**3.89**	**75**	*e*Pn	**Pn**	**08 14 56.5**	**+2.3**
IKLH				*e*AMB	AMB	08 16 17.9	
	comp=Z,2μm,0.4s						
IKLH	**Kolahrood**	**3.89**	**75**	*e*Pn	**Pn**	**08 14 56.5**	**+2.3**
GHVR	**GHOM**	**4.09**	**58**	*e*Pn	**Pn**	**08 14 58.6**	**+1.8**
GHVR	**GHOM**	**4.09**	**58**	*e*Pn	**Pn**	**08 14 58.6**	**+1.8**
IGAR	**Gharneh**	**4.19**	**89**	*e*AMB	AMB	08 15 50.9	
	comp=Z,1μm,0.2s						
KFJS		**4.26**	**170**	P	**Pn**	**08 15 03.2**	**+4.3**
KFJS				S	**Sb**	**08 15 55.6**	**-4.8**
IZEF	**Zefreh**	**4.45**	**82**	*e*AMB	AMB	08 15 28.5	
	comp=Z,965nm,0.3s						
IZEF				*e*Pn	**Pn**	**08 15 03.9**	**+2.

WSAR Sn Sn 08 19 29.0 -11
comp=Z,0.3nm,0.3s,baz=45,slow=20,SNR=2.2
ISP Isparta 14.60 296 *de*P **Pn 08 17 23.2 +2.5**
MANT Manisa 16.27 297 *e*Pn **Pn 08 17 44.1 +1.3**
comp=Z,152nm,1.0s
MANT Manisa 16.27 297 *e*Pn **Pn 08 17 44.1 +1.3**
comp=Z,152nm,1.0s
SANT Santorini 18.28 288 *e*P **P 08 18 08.0 +0.2**
comp=Z,42nm,0.8s
SANT Santorini 18.28 288 *e*P **P 08 18 08.0 +0.2**
comp=Z,42nm,0.8s
APE Apeiranthos 18.31 291⇓*i*P **Pn 08 18 07.9 -0.2**
APE Apeiranthos 18.31 291⇓*i*P **Pn 08 18 07.9 -0.2**
IDI Anoyia 18.66 285 Pn **Pn 08 18 13.5 +1.2**
baz=110,slow=9.4,SNR=2.4
IDI LR LR 08 26 48.8
comp=Z,62nm,21.8s,baz=94,slow=42
IDI Anoyia 18.66 285 *e*P **Pn 08 18 13.4 +1.0**
comp=Z,25nm,0.9s
IDI Anoyia 18.66 285 *e*P **Pn 08 18 13.4 +1.0**
comp=Z,25nm,0.9s
ALN Alexandroupoli 18.86 303 P **Pn 08 18 15.9 +1.2**
comp=Z,5.0nm,1.1s
ALN Alexandroupoli 18.86 303 P **Pn 08 18 15.9 +1.2**
ALN pmax pmax
comp=Z,5.0nm,1.1s
VRH Novokhopyorsk 19.21 350 *e*P **P 08 18 15.6 -2.2**
comp=Z,20nm,1.1s
VRH Novokhopyorsk 19.21 350 *e*P **P 08 18 15.6 -2.2**
VRH pmax pmax
comp=Z,20nm,1.1s
HARR Harsova 19.32 315⇓*i*P **Pn 08 18 20.3 +0.2**
HARR Harsova 19.32 315⇓*i*P **Pn 08 18 20.3 +0.2**
ABKAR Akbulak array 19.41 26 *e*P **P 08 18 20.2 +0.2**
comp=Z,69nm,0.6s
ABKAR Akbulak array 19.41 26 *e*P **P 08 18 20.2 +0.2**
comp=Z,69nm,0.6s
CFR Carcaliu 19.46 316⇑*i*P **P 08 18 19.8 -0.8**
CFR Carcaliu 19.46 316 P **Pn 08 18 22.2 +0.3**
comp=Z,10.0nm,1.1s
CFR Carcaliu 19.46 316 P **Pn 08 18 22.2 +0.3**
CFR pmax pmax
comp=Z,10.0nm,1.1s
VSR Storozhevoye 19.69 345 *e*P **P 08 18 21.4 -1.7**
comp=Z,10.0nm,0.5s
VSR Storozhevoye 19.69 345 *e*P **P 08 18 21.4 -1.7**
VSR pmax pmax
comp=Z,10.0nm,0.5s
AKTK Aktyubinsk 19.77 21 P **P 08 18 23.2 -0.7**
AKTO Aktyubinsk 19.77 21 P **P 08 18 23.2 -0.7**
comp=Z,0.5nm,0.3s,baz=196,slow=10,SNR=8.6
AKTO LR LR 08 28 23.2
comp=Z,89nm,18.5s,baz=205,slow=44
VRI Vrincioaia 20.67 316⇑*i*P **P 08 18 33.2 -0.6**
VRI Vrincioaia 20.67 316⇑*i*P **P 08 18 33.2 -0.6**
VRI Vrincioaia 20.67 316 P Pn 08 18 37.9 +1.7
SRS Serrai 20.69 302 P Pn 08 18 35.6 -0.9
comp=Z,10.0nm,1.2s
SRS Serrai 20.69 302 P Pn 08 18 35.6 -0.9
SRS pmax pmax
comp=Z,10.0nm,1.2s
PLOR Plostina 20.71 316⇓*i*P Pn 08 18 35.6 -1.0
PLOR Plostina 20.71 316⇓*i*P Pn 08 18 35.6 -1.0
SOH Sokhos 20.78 301 P Pn 08 18 37.0 -0.5
comp=Z,8.0nm,1.2s
SOH Sokhos 20.78 301 P Pn 08 18 37.0 -0.5
SOH pmax pmax
comp=Z,8.0nm,1.2s
MLR Muntele Rosu 20.93 315 P Pn 08 18 38.6 -0.8
comp=Z,2.7nm,1.1s,baz=122,slow=4.7,SNR=5.6
MLR Muntele Rosu 20.93 315⇓*i*P **P 08 18 37.4 +0.6**
MLR Muntele Rosu 20.93 315 *e*P **P 08 18 38.0 +1.2**
comp=Z,20nm,1.2s
MLR Muntele Rosu 20.93 315 *e*P **P 08 18 38.0 +1.2**
comp=Z,20nm,1.2s
MLR Muntele Rosu 20.93 315 *e*P **P 08 18 38.0 +1.2**
MLR pmax pmax
comp=Z,20nm,1.2s
THE Thessaloniki 21.01 300 P **P 08 18 38.2 +0.7**
comp=Z,34nm,1.0s
THE Thessaloniki 21.01 300 P **P 08 18 38.2 +0.7**
THE pmax pmax
comp=Z,34nm,1.0s
LPSR Galich'ya Gora 21.05 346 *e*P **P 08 18 35.8 -2.0**
comp=Z,80nm,0.9s
LPSR Galich'ya Gora 21.05 346 *e*P **P 08 18 35.8 -2.0**
LPSR pmax pmax
comp=Z,80nm,0.9s
TESR Tescani 21.08 318⇓*i*P **P 08 18 37.8 -0.4**
TESR Tescani 21.08 318⇓*i*P **P 08 18 37.8 -0.4**
ATD Arta Tunnel 21.13 192 LR LR 08 27 31.6
comp=Z,100nm,19.9s,baz=10,slow=39
AGG Agios Georgios 21.13 295 *e*P **P 08 18 38.0 -0.8**
comp=Z,85nm,1.2s
AGG Agios Georgios 21.13 295 *e*P **P 08 18 38.0 -0.8**
comp=Z,85nm,1.2s
AGG Agios Georgios 21.13 295 *e*P **P 08 18 38.0 -0.8**
AGG pmax pmax
comp=Z,85nm,1.2s
SORM Soroca 21.16 323⇓*i*P **P 08 18 39.5 +0.4**
SORM Soroca 21.16 323⇓*i*P **P 08 18 39.5 +0.4**
LIT Litokhoron 21.23 298 P **P 08 18 41.7 +1.8**
comp=Z,17nm,1.7s
LIT Litokhoron 21.23 298 P **P 08 18 41.7 +1.8**
LIT pmax pmax
comp=Z,17nm,1.7s
KK31 Karatay Array 21.32 53 *e*P **P 08 18 42.2 +1.3**
KK31 Karatay Array 21.32 53 *e*P **P 08 18 42.2 +1.3**
KK31 Karatay Array 21.32 53 *e*P **P 08 18 42.2 +1.3**
KKAR Karatay Array 21.32 53 *e*P **P 08 18 42.6 +1.7**
KKAR Karatay Array 21.32 53 *e*P **P 08 18 42.6 +1.7**
KKAR Karatay Array 21.32 53 *e*P **P 08 18 42.6 +1.7**
GRG Griva 21.51 300 P **P 08 18 45.7 +2.8**
comp=Z,16nm,0.8s
GRG Griva 21.51 300 P **P 08 18 45.7 +2.8**
GRG pmax pmax
comp=Z,16nm,0.8s
DOPR Dopca 21.51 315⇓*i*P **P 08 18 44.0 +1.1**
DOPR Dopca 21.51 315⇓*i*P **P 08 18 44.0 +1.1**
ARR Arges 21.67 313⇑*i*P **P 08 18 44.9 +0.3**
ARR Arges 21.67 313⇑*i*P **P 08 18 44.9 +0.3**
NIL Nilore 21.96 80 *e*P **P 08 18 48.0 +0.2**
comp=Z,15nm,0.9s
NIL Nilore 21.96 80 *e*P **P 08 18 48.0 +0.2**
comp=Z,15nm,0.9s
NIL Nilore 21.96 80 *e*P **P 08 18 48.1 +0.2**
NIL pmax pmax
comp=Z,15nm,0.9s
FNA Florina 22.22 299 P **P 08 18 52.5 +1.9**
FNA Florina 22.22 299 P **P 08 18 52.5 +1.9**
MNAS Manas 22.48 56 P **P 08 18 55.2 +1.7**
comp=Z,9.0nm,1.5s
MNAS Manas 22.48 56 P **P 08 18 55.2 +1.7**
MNAS pmax pmax
comp=Z,9.0nm,1.5s
BURAR Bucovina Array 22.51 319⇓*i*P **P 08 18 53.6 -0.1**
BURAR Bucovina Array 22.51 319⇓*i*P **P 08 18 53.6 -0.1**
BUR04 Bucovina Ar. S 22.52 319 *e*P **P 08 18 52.8 -1.0**
BUR04 Bucovina Ar. S 22.52 319 *e*P **P 08 18 52.8 -1.0**
BUR08 Bucovina Ar. S 22.54 319 *e*P **P 08 18 53.4 -0.6**
BUR08 Bucovina Ar. S 22.54 319 *e*P **P 08 18 53.4 -0.6**
AKASG Malin Array Be 22.55 329 P **P 08 18 51.8 -2.1**
comp=Z,2.8nm,0.7s,baz=137,slow=9.8,SNR=14
AKBB Malin Array Si 22.55 329 *e*P **P 08 18 54.2 +0.2**
comp=Z,21nm,1.4s
AKBB Malin Array Si 22.55 329 *e*P **P 08 18 54.2 +0.2**
comp=Z,21nm,1.4s
AKBB Malin Array Si 22.55 329 *e*P **P 08 18 54.2 +0.2**
AKBB pmax pmax
comp=Z,21nm,1.4s
KIEV Kiev 22.55 329 *e*P **P 08 18 54.3 +0.3**
comp=Z,18nm,1.3s
KIEV Kiev 22.55 329 *e*P **P 08 18 54.2 +0.3**
comp=Z,8.0nm,1.0s
KIEV Kiev 22.55 329⇑*e*P **P 08 18 54.2 +0.3**
KIEV pmax pmax
comp=Z,8.0nm,1.0s
AK11 Malin Array Si 22.56 329 *e*P **P 08 18 53.7 -0.3**
AK11 Malin Array Si 22.56 329 *e*P **P 08 18 53.7 -0.3**
SFK Sufi-Kurgan 22.58 63 P **P 08 18 55.7 +1.1**
comp=Z,9.0nm,1.5s
SFK Sufi-Kurgan 22.58 63 P **P 08 18 55.7 +1.1**
SFK pmax pmax
comp=Z,9.0nm,1.5s
HERR Herculane 22.85 310⇓*i*P **P 08 18 56.9 -0.3**

TIR Tirane 23.46 300 *e*P **P 08 19 03.4 0.0**
comp=Z,25nm,0.8s
TIR Tirane 23.46 300 *e*P **P 08 19 03.4 0.0**
comp=Z,25nm,0.8s
TIR Tirane 23.46 300 *e*P **P 08 19 03.4 0.0**
TIR pmax pmax
comp=Z,25nm,0.8s
DRGR 23.53 315⇓*i*P **P 08 19 04.2 +0.1**
DRGR 23.53 315 P **P 08 19 04.1 0.0**
comp=Z,27nm,1.0s
DRGR 23.53 315 P **P 08 19 04.1 0.0**
DRGR pmax pmax
comp=Z,27nm,1.0s
BZS Buzias 23.67 311⇑*i*P **P 08 19 03.9 -1.5**
BZS Buzias 23.67 311⇑*i*P **P 08 19 03.9 -1.5**
OBN Obninsk 23.90 345 P **P 08 19 06.9 -0.6**
comp=Z,7.7nm,0.4s,baz=158,slow=15,SNR=7.1
OBN LR LR 08 30 12.5
comp=Z,52nm,19.6s,baz=92,slow=41
OBN Obninsk 23.90 345 *e*P **P 08 19 06.3 -1.2**
comp=Z,47nm,1.4s
OBN Obninsk 23.90 345 *e*P **P 08 19 06.3 -1.2**
comp=Z,47nm,1.4s
OBN *i* S **S 08 23 21.4 -1.1**
comp=Z,49nm,16.0s
OBN Obninsk 23.90 345 *c i*P **P 08 19 06.2 -1.2**
OBN *e* 08 19 37.2
OBN *i* S **S 08 23 21.4 -1.1**
OBN pmax pmax
comp=Z,20nm,1.1s
OBN MLR MLR
comp=Z,49nm,16.0s
AAK Ala-Archa 23.93 57 P **P 08 19 09.2 +1.1**
comp=Z,1.5nm,0.5s,baz=204,slow=11,SNR=5.9
AAK LR LR 08 30 07.7
comp=Z,47nm,20.1s,baz=246,slow=41
AAK Ala-Archa 23.93 57 *e*P **P 08 19 08.7 +0.6**
comp=Z,13nm,1.6s
AAK Ala-Archa 23.93 57 *e*P **P 08 19 08.7 +0.6**
comp=Z,13nm,1.6s
AAK Ala-Archa 23.93 57⇑*e*P **P 08 19 09.8 +1.7**
AAK pmax pmax
comp=Z,3.0nm,1.1s
FRU Bishkek 24.07 56 *e*P **P 08 19 08.0 -1.3**
FRU Bishkek 24.07 56 *e*P **P 08 19 08.0 -1.3**
FRU *e* 08 19 16.0
UZH Uzhgorod 24.71 318 *e*P **P 08 19 15.1 +0.2**
UZH Uzhgorod 24.71 318 *e*P **P 08 19 15.1 +0.2**
UZH *e* 08 19 21.9
OTUK Ortayu 24.77 43 P **P 08 19 16.1 +0.5**
OTUK pmax pmax
comp=Z,8.0nm,0.8s
CRVS Cervenica-Dubn 25.32 318 *e*P **P 08 19 22.9 +2.4**
CRVS Cervenica-Dubn 25.32 318 *e*P **P 08 19 22.9 +2.4**
CRVS pmax pmax
comp=Z,11nm,1.6s
ARU Arti 25.32 15 P **P 08 19 19.9 -0.5**
comp=Z,2.4nm,0.4s,baz=199,slow=4.7,SNR=12
ARU LR LR 08 31 44.0
comp=Z,70nm,19.6s,baz=122,slow=42
ARU Arti 25.32 15 *e*P **P 08 19 20.3 -0.1**
comp=Z,21nm,1.2s
ARU Arti 25.32 15 *e*P **P 08 19 20.4 -0.1**
ARU pmax pmax
comp=Z,12nm,1.1s
TIP Timpagrande 25.44 294⇑*i*P **P 08 19 21.7 -0.1**
TIP Timpagrande 25.44 294 *e*P **P 08 19 22.0 +0.3**
comp=Z,8.6nm,0.8s
TIP Timpagrande 25.44 294⇑*i*P **P 08 19 21.7 -0.1**
STHS Stebnicka Huta 25.71 319 *e*P **P 08 19 25.9 +1.8**
STHS Stebnicka Huta 25.71 319 *e*P **P 08 19 25.9 +1.8**
STHS pmax pmax
comp=Z,6.0nm,1.0s
KDJ Kajisay 25.74 59 *e*P **P 08 19 26.1 +1.5**
comp=Z,34nm,1.7s
PSZ Piszkesteto 25.75 315⇑*i*P **P 08 19 23.1 -1.4**
PSZ Piszkesteto 25.75 315 *e*P **P 08 19 24.6 +0.1**
comp=Z,7.7nm,1.0s
PSZ Piszkesteto 25.75 315⇑*i*P **P 08 19 23.1 -1.4**
PSZ Piszkesteto 25.75 315 *e*P **P 08 19 24.6 +0.1**
PSZ pmax pmax
comp=Z,8.0nm,1.0s
MORH M¨ŧr¡gy, Hung 25.82 311⇑*e*P **P 08 19 25.5 +0.5**
SVE Sverdlovsk 26.17 17⇑*e*P **P 08 19 28.4 +0.3**
SVE pmax pmax
comp=Z,17nm,1.1s
NIE Niedzica 26.24 318 P **P 08 19 32.7 +3.8**
NIE pmax pmax
comp=Z,3.0nm,1.2s
BLY Banja Luka 26.28 307⇓*i*P **P 08 19 27.5 -1.7**
BLY Banja Luka 26.28 307⇓*i*P **P 08 19 27.5 -1.7**
BRVK Borovoye 26.57 32 *e*P **P 08 19 31.9 +0.1**
comp=Z,4.2nm,0.8s
BRVK Borovoye 26.57 32 *e*P **P 08 19 31.8 +0.1**
comp=Z,4.0nm,1.4s
BRVK Borovoye 26.57 32⇓*e*P **P 08 19 31.8 +0.1**
BRVK pmax pmax
comp=Z,4.0nm,1.4s
LANS Liptovska Anna 26.58 317 *e*P **P 08 19 33.1 +1.1**
LANS Liptovska Anna 26.58 317 *e*P **P 08 19 33.1 +1.1**
LANS Liptovska Anna 26.58 317 *e*P **P 08 19 33.1 +1.1**
BVAR Borovoye Array 26.59 32 P **P 08 19 31.9 -0.1**
comp=Z,2.6nm,0.5s,baz=221,slow=8.3,SNR=29
BVAR PcP **PcP 08 22 56.0 +0.1**
comp=Z,0.8nm,0.7s,baz=288,slow=2.6,SNR=3.8
VYHS Vyhne 26.64 315 *e*P **P 08 19 34.9 +2.4**
comp=Z,4.0nm,1.5s
VYHS Vyhne 26.64 315 *e*P **P 08 19 34.9 +2.4**
VYHS Vyhne 26.64 315 *e*P **P 08 19 34.9 +2.4**
VYHS pmax pmax
comp=Z,4.0nm,1.5s
OJC Ojcow 26.93 319 *e*P **P 08 19 35.1 +0.1**
comp=Z,5.3nm,0.8s
OJC Ojcow 26.93 319 *e*P **P 08 19 35.1 +0.1**
comp=Z,5.3nm,0.8s
OJC Ojcow 26.93 319 *e*P **P 08 19 35.1 +0.1**
OJC pmax pmax
comp=Z,5.0nm,0.8s
IDID Didziasalis 27.01 334 *e*P **P 08 19 36.7 +1.0**
IDID IAmb IAmb 08 19 51.1
comp=Z,6.8nm,0.7s
IDID Didziasalis 27.01 334 *e*P **P 08 19 36.7 +1.0**
SNR=28
VAE Valguarnera 27.18 290 P **P 08 19 38.2 +0.7**
comp=Z,4.8nm,0.5s,baz=122,slow=9.5,SNR=2.5
IIGN Ignalina 27.23 334 *e*P **P 08 19 38.6 +0.9**
IIGN IAmb IAmb 08 19 49.0
comp=Z,7.4nm,0.8s
SUW Suwalki 27.52 329 *e*P **P 08 19 40.1 -0.2**
comp=Z,12nm,0.6s
SUW Suwalki 27.52 329 *e*P **P 08 19 40.1 -0.2**
comp=Z,12nm,0.6s
SUW Suwalki 27.52 329 *e*P **P 08 19 40.1 -0.2**
SUW pmax pmax
comp=Z,12nm,0.6s
IZAR Zarasai 27.53 334 *e*P **P 08 19 41.2 +0.9**
IZAR IAmb IAmb 08 19 48.0
comp=Z,16nm,1.2s
MORC Moravsky Berou 27.98 317 *e*P **P 08 19 45.2 +0.6**
comp=Z,26nm,1.4s
MORC Moravsky Berou 27.98 317 *e*P **P 08 19 45.2 +0.6**
comp=Z,26nm,1.4s
MORC Moravsky Berou 27.98 317 *e*P **P 08 19 45.2 +0.6**
MORC pmax pmax
comp=Z,28nm,1.4s
KLMR Klimovskoe 28.90 352 *e*P **P 08 19 50.0 -2.5**
KLMR AMP 08 19 59.4
comp=Z,9.0nm,1.4s
KLMR Klimovskoe 28.90 352 *e*P **P 08 19 50.0 -2.5**
KLMR pmax pmax
comp=Z,9.0nm,1.4s
KURBB Kurchatov Arra 29.45 43 P **P 08 19 58.0 +0.4**
comp=Z,2.7nm,0.9s,baz=248,slow=9.3,SNR=8.1
KURK Kurchatov 29.55 42 P **P 08 19 58.0 -0.4**
KURK Kurchatov 29.55 42 P **P 08 19 58.0 -0.4**
KURK Kurchatov 29.55 42 P **P 08 19 58.0 -0.4**
GERES GERESS Array B 29.90 313 P **P 08 20 00.8 -0.9**
comp=Z,0.2nm,0.4s,baz=119,slow=8.0,SNR=3.0
GERES PcP **PcP 08 23 04.6 +0.4**
comp=Z,0.4nm,0.7s,baz=80,slow=3.0,SNR=4.0
MK01 Makanchi Array 30.42 52 *e*P **P 08 20 06.7 +0.5**
MK01 Makanchi Array 30.42 52 *e*P **P 08 20 06.7 +0.5**
MK31 Makanchi Array 30.42 51 *e*P **P 08 20 05.9 -0.3**
MK31 Makanchi Array 30.42 51 *e*P **P 08 20 05.9 -0.3**
MK31 Makanchi Array 30.42 51 *e*P **P 08 20 05.9 -0.3**

MKAR Makanchi Array 30.42 51 P **P 08 20 06.7 +0.4**
comp=Z,3.5nm,0.8s,baz=249,slow=8.2,SNR=14
MKAR LR LR 08 34 15.1
comp=Z,75nm,19.7s,baz=234,slow=40
MKAR Makanchi Array 30.42 51 *e*P **P 08 20 06.0 -0.2**
comp=Z,27nm,0.8s
MKAR Makanchi Array 30.42 51 *e*P **P 08 20 06.0 -0.2**
comp=Z,27nm,0.8s
MKAR Makanchi Array 30.42 51 P **P 08 20 06.7 +0.4**
MKAR pmax pmax
comp=Z,3.0nm,0.8s
MKAR MLR MLR
comp=Z,75nm,19.7s
CLL Collm 31.26 317 *e*P **P 08 20 11.0 -2.5**
CLL LmV 09 19 00.0
comp=Z,100nm,19.7s
KEST Kesra 31.32 287 P **P 08 20 15.3 +1.0**
comp=Z,8.1nm,1.1s,baz=352,slow=5.1,SNR=5.7
KEST Kesra 31.32 287 *e*P **P 08 20 16.5 +2.2**
comp=Z,6.0nm,0.8s
KEST Kesra 31.32 287 *e*P **P 08 20 16.5 +2.2**
comp=Z,6.0nm,0.8s
FINES FINESS Array B 32.11 341 P **P 08 20 19.9 -0.8**
comp=Z,1.8nm,0.5s,baz=146,slow=8.8,SNR=15
FINES LR LR 08 34 41.7
comp=Z,35nm,19.4s,baz=150,slow=39
FINES FINESS Array B 32.11 341 P **P 08 20 20.0 -0.8**
FIA1 FINESS Array S 32.11 341 *e*P **P 08 20 20.9 +0.1**
comp=Z,18nm,1.4s
BFO Black Forest 33.14 310 *e*P **P 08 20 30.5 +0.4**
comp=Z,21nm,1.7s
BFO Black Forest 33.14 310 *e*P **P 08 20 30.5 +0.4**
BFO pmax pmax
comp=Z,21nm,1.7s
WMQ Urumqi 33.62 58 *e*P **P 08 20 33.9 -0.5**
WMQ pmax pmax
comp=Z,30nm,0.7s
BNI Bardonecchia 33.62 304 *e*P **P 08 20 33.9 -0.6**
comp=Z,36nm,1.6s
BNI Bardonecchia 33.62 304 *e*P **P 08 20 33.9 -0.6**
comp=Z,36nm,1.6s
BNI Bardonecchia 33.62 304 *e*P **P 08 20 33.9 -0.6**
BNI pmax pmax
comp=Z,36nm,1.6s
ZAA0 Zalesovo Array 34.36 40 *e*P **P 08 20 40.0 -0.5**
comp=Z,3.2nm,0.8s
ZALV Zalesovo Beam 34.36 40 P **P 08 20 39.9 -0.7**
comp=Z,2.2nm,0.6s,baz=253,slow=9.0,SNR=9.4
ZALV LR LR 08 36 41.9
comp=Z,42nm,20.8s,baz=252,slow=40
DGZ Jazzator, Alta 34.50 48⇑*e*P **P 08 20 43.1 +1.0**
DGZ pmax pmax
comp=Z,1.0nm,1.0s
KMBO Kilima Mbogo 34.61 197 LR LR 08 35 11.6
comp=Z,67nm,19.8s,baz=6.0,slow=37
WLF Walferdange 34.86 312 *e*P **P 08 20 44.8 -0.2**
comp=Z,34nm,1.7s
WLF Walferdange 34.86 312 *e*P **P 08 20 44.8 -0.2**
WLF pmax pmax
comp=Z,34nm,1.7s
HFS Hagfors 35.40 332 P **P 08 20 49.1 -0.4**
comp=Z,3.2nm,0.5s,baz=124,slow=8.9,SNR=19
HFS LR LR 08 37 53.3
comp=Z,54nm,18.8s,baz=140,slow=41
LVZ Lovozero 36.28 352⇓*e*P **P 08 20 56.2 -0.8**
LVZ pmax pmax
comp=Z,19nm,1.3s
NB2 NORSAR Subarra 36.93 332 P **P 08 21 01.4 -1.2**
comp=Z,1.4nm,0.8s,baz=125,slow=9.3
NOA NORSAR Array B 36.93 332 P **P 08 21 01.5 -1.2**
comp=Z,1.0nm,0.8s,baz=126,slow=8.5,SNR=3.4
NOA LR LR 08 37 31.0
comp=Z,24nm,21.5s,baz=125,slow=38
TAM Tamanrasset 37.86 266 *e*P **P 08 21 13.2 +2.1**
comp=Z,14nm,1.3s
TAM Tamanrasset 37.86 266 *e*P **P 08 21 13.2 +2.1**
TAM pmax pmax
comp=Z,14nm,1.3s
ARCES ARCESS Array B 39.12 348 P **P 08 21 19.8 -1.2**
comp=Z,3.5nm,1.1s,baz=163,slow=9.4,SNR=3.4
ES19 SONSECA Array 41.40 295 *e*P **P 08 21 40.6 +0.3**
ES19 SONSECA Array 41.40 295 *e*P **P 08 21 40.6 +0.3**
ESDC Sonseca Array 41.45 295 P **P 08 21 39.3 -1.4**
comp=Z,1.1nm,0.7s,baz=77,slow=8.8,SNR=7.3
EKA Eskdalemuir Ar 41.70 319 P **P 08 21 41.3 -1.1**
comp=Z,3.3nm,0.7s,baz=103,slow=9.2,SNR=9.3
PBRG Braganca 43.33 298 *e*P **P 08 21 56.2 +0.2**
PBRG Braganca 43.33 298 *e*P **P 08 21 56.2 +0.2**
PBAR Barrancos 44.04 293 *e*P **P 08 22 02.2 +0.6**
PBAR Barrancos 44.04 293 *e*P **P 08 22 02.2 +0.6**
PMRV Marv??o 44.11 295 *e*P **P 08 22 02.7 +0.4**
PMRV Marv??o 44.11 295 *e*P **P 08 22 02.7 +0.4**
PVRL Vila Real 44.12 298 *e*P **P 08 22 02.8 +0.5**
PVRL Vila Real 44.12 298 *e*P **P 08 22 02.8 +0.5**
PCBR Castelo Branco 44.12 296 *e*P **P 08 22 02.9 +0.6**
PESTR Estremoz 44.35 294 *e*P **P 08 22 04.5 +0.3**
PESTR Estremoz 44.35 294 *e*P **P 08 22 04.5 +0.3**
PMTG Montargil 44.81 295 *e*P **P 08 22 08.5 +0.7**
PMTG Montargil 44.81 295 *e*P **P 08 22 08.5 +0.7**
TOA0 Torodi Ar. Sit 45.63 256 *e*P **P 08 22 14.5 -0.1**
TORD Torodi Ar. Bea 45.63 256 P **P 08 22 14.8 +0.2**
comp=Z,3.6nm,0.9s,baz=62,slow=7.4,SNR=17
TORD LR LR 08 41 35.2
comp=Z,94nm,19.4s,baz=140,slow=36
LZH Lanzhou 46.51 69 *e*P **P 08 22 19.5 -2.0**
LZH pP sP 08 22 31.1 +0.9
LZH sP pP 08 22 35.8 +8.0
LZH *e*PP **PP 08 24 08.8 -1.9**
LZH pmax pmax
comp=Z,22nm,1.1s
LZH pmax pmax
comp=Z,73nm,6.5s
LZH LR LR
comp=N,290nm,14.2s
LZH LR LR
comp=E,300nm,14.5s
LZH LR LR
comp=Z,370nm,17.9s
ULN Ulaanbaatar 47.21 53⇑*e*P **P 08 22 27.2 +0.4**
ULN pmax pmax
comp=Z,3.0nm,1.0s
SPITS Spitsbergen Ar 47.80 352 P **P 08 22 30.8 0.0**
comp=Z,6.2nm,0.9s,baz=134,slow=10,SNR=6.4
CMAR Chiang Mai Arr 48.41 94 P **P 08 22 36.4 +0.1**
comp=Z,1.6nm,0.4s,baz=294,slow=8.5,SNR=4.8
KMI Kunming 48.87 84 P **P 08 22 40.5 +0.5**
KMI pmax pmax
comp=Z,17nm,0.6s
KMI pmax pmax
comp=Z,120nm,4.9s
KOWA Kowa 49.67 261 P **P 08 22 46.2 +0.2**
comp=Z,2.6nm,0.6s,baz=51,slow=6.5,SNR=7.3
HHC Hu-ho-hao-te 51.40 61 *e*P **P 08 22 58.0 -0.9**
HHC S **S 08 30 15.3 -2.3**
HHC pmax pmax
comp=Z,14nm,1.2s
HHC pmax pmax
comp=Z,62nm,6.9s
HHC LR LR
comp=N,400nm,16.5s
HHC LR LR
comp=E,340nm,15.3s
HHC LR LR
comp=Z,490nm,16.1s
KIC Kosan Boka 54.66 253 *e*P **P 08 23 23.3 +0.2**
comp=Z,61nm,1.8s
TIC Toumodi 54.73 254 *e*P **P 08 23 23.2 -0.4**
LIC Lamto 54.97 253 *e*P **P 08 23 25.5 +0.1**
comp=Z,39nm,1.4s
HIA Hailar 55.39 49⇑*e*P **P 08 23 28.8 +0.9**
HIA pmax pmax
comp=Z,7.0nm,1.0s
TIXI Tiksi 57.05 22⇑*e*P **P 08 23 38.9 -0.4**
TIXI pmax pmax
comp=Z,1.0nm,1.1s
SUMG Summit 58.12 339 *e*P **P 08 23 47.7 +0.3**
comp=Z,10nm,1.2s
SUMG Summit 58.12 339 *e*P **P 08 23 47.7 +0.3**
SUMG pmax pmax
comp=Z,10.0nm,1.2s
NJ2 Nanjing 59.58 69 *e*P **P 08 23 56.8 -0.9**
NJ2 pmax pmax
comp=Z,12nm,0.5s
KLR Kul'dur 62.99 47 P **P 08 24 19.7 -0.8**
comp=Z,0.2nm,0.9s,baz=296,slow=7.3,SNR=5.7
KLR Kul'dur 62.99 47 *de*P **P 08 24 19.9 -0.6**

SFJD	**Kangerlussuaq**	**63.54**	**334**	P		**P**	**08 24 24.3**	**+0.5**
	comp=Z,3.8nm,0.5s,baz=63,slow=4.5,SNR=4.6							
BOSA	**Boshof**	**64.12**	**201**	P		**P**	**08 24 28.4**	**+0.1**
	comp=Z,5.6nm,1.1s,baz=71,slow=4.4,SNR=4.9							
KSAR	**Wonju Array Be**	**64.51**	**61**	P		**P**	**08 24 30.1**	**-0.6**
KSAR	**Wonju Array Be**	**64.51**	**61**	P		**P**	**08 24 30.1**	**-0.6**
KSRS	**Korea Array**	**64.53**	**60**	P		**P**	**08 24 30.1**	**-0.7**
	comp=Z,1.5nm,0.7s,baz=289,slow=7.5,SNR=4.9							
TPUB	**Ta-pu**	**64.53**	**78**	*eP*		**P**	**08 24 31.0**	**-0.1**
	comp=Z,82nm,1.6s							
USRK	**Ussuriysk Ar.**	**64.88**	**52**	P		**P**	**08 24 31.9**	**-1.2**
	comp=Z,2.5nm,0.6s,baz=267,slow=8.7,SNR=3.3							
SEY	**Seymchan**	**68.16**	**28**	P		**P**	**08 24 52.5**	**-1.2**
	comp=Z,1.5nm,0.6s,baz=264,slow=8.2,SNR=8.8							
SEY	**Seymchan**	**68.16**	**28**	*iP*		**P**	**08 24 53.6**	**-0.1**
BILL	**Bilibino**	**70.20**	**20**	*iP*		**P**	**08 25 05.8**	**-0.4**
BILL				*e*			08 25 25.9	
BILL				*e*			08 27 45.8	
BILL				pmax	pmax			
	comp=Z,2.0nm,1.3s							
BILL				MLR	MLR			
	comp=Z,196nm,22.0s							
YSS	**Yuzh-Sakhalins**	**70.66**	**46**	*eP*		**P**	**08 25 08.7**	**-0.7**
YSS				*e*			08 25 14.2	
YSS				pmax	pmax			
	comp=Z,10.0nm,0.8s							
MAJO	**Matsushiro**	**72.38**	**58**	*iP*		**P**	**08 25 18.6**	**-1.4**
MAJO				pmax	pmax			
	comp=Z,5.0nm,1.0s							
TOLK	**Toolik Lake Re**	**78.51**	**6**	*eP*		**P**	**08 25 54.9**	**+0.2**
	comp=Z,7.4nm,0.8s							
INK	**Inuvik**	**79.61**	**0**	P		**P**	**08 25 59.7**	**-0.9**
	comp=Z,2.0nm,1.1s,baz=8.1,slow=4.2,SNR=4.6							
IM3	**Indian Mountai**	**80.63**	**8**	*eP*		**P**	**08 26 06.2**	**0.0**
MDM	**Murphy Dome**	**82.23**	**7**	*eP*		**P**	**08 26 14.8**	**+0.1**
	comp=Z,4.4nm,1.0s							
COLA	**College**	**82.35**	**6**	*iP*		**P**	**08 26 15.3**	**0.0**
COLA				pmax	pmax			
	comp=Z,3.0nm,1.1s							
ILAR	**Eielson Array**	**82.54**	**6**	P		**P**	**08 26 15.9**	**-0.3**
	comp=Z,0.4nm,1.0s,baz=343,slow=4.8,SNR=5.0							
ILAR	**Eielson Array**	**82.54**	**6**	P		**P**	**08 26 16.0**	**-0.3**
CAST	**Castle Rocks**	**83.30**	**9**	*eP*		**P**	**08 26 20.1**	**-0.2**
	comp=Z,3.6nm,0.9s							
SCRK	**Sand Creek**	**83.56**	**5**	*eP*		**P**	**08 26 21.8**	**+0.1**
	comp=Z,4.6nm,1.0s							
FCC	**Fort Churchill**	**83.60**	**341**	*eP*		**P**	**08 26 21.4**	**-0.4**
	comp=Z,16nm,1.8s							
FCC	**Fort Churchill**	**83.60**	**341**	*eP*		**P**	**08 26 21.4**	**-0.4**
FCC				pmax	pmax			
	comp=Z,16nm,1.8s							
DOT	**Dot Lake**	**83.88**	**5**	*eP*		**P**	**08 26 23.3**	**0.0**
	comp=Z,10nm,1.0s							
YKA	**Yellowknife Ar**	**84.30**	**352**	P		**P**	**08 26 24.9**	**-0.5**
	comp=Z,0.8nm,0.8s,baz=14,slow=5.2,SNR=16							
FFC	**Flin Flon**	**89.24**	**343**	*iP*		**P**	**08 26 50.5**	**+0.9**
CNNC	**Cliffs of the**	**95.21**	**318**	*eP*		**P**	**08 27 16.8**	**-0.8**
	comp=Z,17nm,0.9s							

ISN ***22*** *08:22:49.3±1.0, 32.˚59N×46.˚92E, h15km, ML2.4*

TEH 22 08:22:44.7, 32.˚58N×47.˚01E, h14km, ML2.8, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKFM	**Kafar-mosalman**	**1.18**	**37**	*e*AMB	AMB	08 23 37.3	
	comp=Z,99nm,0.2s						
IKFM				*e*Pg	Pg	08 23 08.8	+1.4
IVIS	**Veis**	**1.94**	**356**	*e*Pn	Pb	08 23 19.7	-0.3
IVIS				*e*Sg	Sg	08 23 49.5	+2.2
IVIS				*e*AMB	AMB	08 23 55.4	
	comp=Z,1μm,0.2s						
IDHR	**Dehrash**	**2.18**	**346**	*e*Pn	Pb	08 23 23.5	-0.5
ILIN	**Lien**	**2.33**	**359**	*e*		08 21 00.9	
ILIN				*e*Pn	Pb	08 23 26.8	+0.1
HAGD	**Aghdareh**	**2.86**	**38**	*e*Pn	Pb	08 23 32.9	-2.7
HAGD				*e*AMB	AMB	08 24 15.7	
	comp=Z,99nm,0.1s						
HKZM	**Kohzaman**	**3.20**	**29**	*e*Pn	Pb	08 23 38.8	-2.8
HKZM				*e*AMB	AMB	08 24 27.1	
	comp=Z,99nm,0.2s						
IKLH	**Kolahrood**	**3.91**	**78**	*e*Pn	Pn	08 23 46.8	+2.1
IKLH				*e*AMB	AMB	08 24 39.5	
	comp=Z,127nm,0.1s						

ISN ***22*** *08:24:49.5±1.0, 32.˚58N×46.˚94E, h42km±20km, ML3.3*

TEH 22 08:24:48.0, 32.˚52N×46.˚99E, h10km, ML3.3, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKFM	**Kafar-mosalman**	**1.24**	**35**	*e*Pg	Pg	08 25 12.4	+0.7
IKFM				*e*AMB	AMB	08 25 39.5	
	comp=Z,99nm,0.2s						
IKOM	**Komasi**	**1.71**	**14**	*e*Pn	Pg	08 25 20.8	0.0
IKOM				*e*Sg	Sg	08 25 46.3	+3.2
IKOM				*e*AMB	AMB	08 25 54.0	
	comp=Z,6μm,0.3s						
IGHG	**Ghaleghazi**	**1.84**	**349**	*e*Pn	Pg	08 25 23.2	-0.2
IGHG				*e*AMB	AMB	08 26 02.6	
	comp=Z,3μm,0.3s						
IVIS	**Veis**	**2.01**	**357**	*e*Pn	Pb	08 25 24.4	-0.3
IVIS				*e*Sg	Sg	08 25 55.0	+2.4
IVIS				*e*AMB	AMB	08 26 03.4	
	comp=Z,2μm,0.3s						
IDHR	**Dehrash**	**2.24**	**347**	*e*Pn	Pb	08 25 28.3	-0.4
IDHR				*e*AMB	AMB	08 26 08.1	
	comp=Z,2μm,0.2s						
ILIN	**Lien**	**2.40**	**359**	*e*Pn	Pb	08 25 30.7	-0.7
ILIN				*e*AMB	AMB	08 26 14.5	
	comp=Z,1μm,0.3s						
HKZM	**Kohzaman**	**3.27**	**29**	*e*Pn	Pn	08 25 42.6	+3.1
HKZM				*e*AMB	AMB	08 26 30.1	
	comp=Z,99nm,0.3s						

ATA ***22*** *08:30:01.8±1.0, 39.˚24N×42.˚26E, h16km±6km, ML2.8, MW2.6*

ISCJB ***22*** *08:30:03.4±0.6, 39.˚23N±0.˚04×42.˚26E±0.˚05, h11km±5km, Error ellipse: s-maj=7.4km s-min=4.9km az=40.5*

DDA ***22*** *08:30:03.2, 39.˚21N×42.˚27E, h7km, ML2.7*

CSEM ***22*** *08:30:03.2, 39.˚21N×42.˚27E, h7km, ML2.7*

ISC 22 08:30:03.1±1.0, 39.˚21N±0.˚03×42.˚26E±0.˚03, h12km±9km, n13, σ0.˚82/26, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EKAR	**Karacoban**	**0.16**	**286**	*i* P	**Pg**	**08 30 06.2**	**-0.9**
EKAR				*e*S	**Sg**	**08 30 10.5**	**+0.7**
EKAR				IAML		08 30 12.8	
	comp=Z,224nm,0.3s						
EKAR	**Karacoban**	**0.16**	**286**	*i* P	**Pg**	**08 30 06.1**	**-0.9**
EKAR				*i* S	**Sg**	**08 30 10.7**	**+1.0**
EKAR	**Karacoban**	**0.16**	**286**	P	**Pg**	**08 30 06.1**	**-0.9**
EKAR				S	**Sg**	**08 30 10.7**	**+1.0**
TUTA	**Tutak**	**0.47**	**66**	*e*P	**Pg**	**08 30 10.9**	**-1.4**
TUTA				*e*S	**Sg**	**08 30 19.4**	**+0.8**
TUTA				IAML		08 30 21.1	
	comp=Z,117nm,0.2s						
TUTA	**Tutak**	**0.47**	**66**	*i* P	**Pb**	**08 30 13.6**	**+0.1**
TUTA				*i* S	**Sg**	**08 30 19.4**	**+0.8**
TUTA	**Tutak**	**0.47**	**66**	P	**Pb**	**08 30 13.6**	**+0.1**
TUTA				S	**Sg**	**08 30 19.4**	**+0.8**
ADCV	**BITLIS_Adilcev**	**0.54**	**138**	*i* P	**Pg**	**08 30 12.9**	**-0.8**
ADCV				*i* S	**Sb**	**08 30 22.2**	**-0.3**
ADCV	**BITLIS_Adilcev**	**0.54**	**138**	P	**Pg**	**08 30 12.9**	**-0.8**
ADCV				S	**Sb**	**08 30 22.2**	**-0.3**
EATA	**Eleskirt**	**0.67**	**15**	*e*P	**Pg**	**08 30 15.4**	**-0.8**
EATA				*e*S	**Sg**	**08 30 25.8**	**+0.7**
EATA				IAML		08 30 27.3	
	comp=Z,10nm,0.5s						
EATA	**Eleskirt**	**0.67**	**15**	*i* P	**Pg**	**08 30 15.7**	**-0.6**
EATA				*i* S	**Sg**	**08 30 26.0**	**+0.8**
EATA	**Eleskirt**	**0.67**	**15**	P	**Pg**	**08 30 15.7**	**-0.6**
EATA				S	**Sg**	**08 30 26.0**	**+0.8**
ERZM	**Erzurum**	**0.98**	**315**	*e*P	**Pg**	**08 30 21.2**	**-0.8**
ERZM				*e*S	**Sg**	**08 30 34.9**	**+0.1**
GEVA	**Gevas**	**1.09**	**145**	*e*P	**Pg**	**08 30 23.6**	**-0.6**
GEVA				*e*S	**Sn**	**08 30 40.4**	**+0.8**
GEVA				IAML		08 30 45.1	
	comp=Z,13nm,0.8s						

GCMT ***22*** *08:36:15.0±0.3, 50.˚37N×130.˚35W, h15km, MW4.8/96, Moment Tensor Solution. s26,c29; s96,c139; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=0.27±.07; Mθθ=-1.37±.07; Mφφ=1.10±.06; Mrθ=-0.89±.22; Mθφ=1.75±.05; Mrφ=-0.04±.22; Best double couple: M=2.30900×10^16 NP1:φs=73.00000°, δ=68.00000°, λ=-179.00000°. NP2: φs=163.00000°, δ=68.00000°, λ=-179.00000°. Principal axes: T 2.1240, Plg15.0000°, Azm120.0000°; N 0.3720, Plg68.0000°, Azm251.0000°; P -2.4940, Plg16.0000°, Azm26.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

PGC ***22*** *08:36:15.4±7.9, 50.˚40N×130.˚26W, h10km, mb4.4, ML4.1, MLSn4.1/41, Mw4.7/41, Mw4.7/41, 204km west of Pt. Hardy, Bc Vancouver Island, Canada Region*

IDC ***22*** *08:36:16.5±0.8, 50.˚49N×130.˚07W, h0km, mb3.9/16, mb1 4.1/24, mb1mx4.0/77, mbtmp4.0/24, ML3.7/9, MS3.9/43, Ms1 3.9/43, ms1mx3.8/70, Error ellipse: s-maj=17.4km s-min=10.4km az=36.0*

ISCJB ***22*** *08:36:18.3±0.1, 50.˚66N±0.˚02×129.˚81W±0.˚03, h10km, mb4.4/63, MS4.0/41, Error ellipse: s-maj=3.1km s-min=1.6km az=142.9*

MOS ***22*** *08:36:19.8±1.1, 50.˚64N×129.˚91W, h25km, mb4.7/24, Error ellipse: s-maj=11.3km s-min=4.2km az=115.2*

NEIC ***22*** *08:36:20.0±0.2, 50.˚67N×129.˚89W, h10km, mb4.4/111, MW4.7(OTT), Error ellipse: s-maj=5.0km s-min=1.8km az=50.0*

NEIC Felt [II] at Vancouver.

ISC 22 08:36:19.0±1.0, 50.˚60N±0.˚05×129.˚95W±0.˚04, h9km±6km, n637, σ1.˚941/597, mb4.5/63, MS4.0/41, 9C-9D, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PACB	**Port Alice, BC**	**1.58**	**95**	Pn	**Pn**	**08 36 43.0**	**-4.1**
PACB				Sn	**Sn**	**08 37 02.6**	**-5.1**
PHC	**Port Hardy**	**1.61**	**85**	Pn	**Pn**	**08 36 45.3**	**-2.3**
PHC				Sn	**Sn**	**08 37 05.8**	**-2.5**
PHC	**Port Hardy**	**1.61**	**85**	Pn	**Pn**	**08 36 45.3**	**-2.3**
PHC				Sn	**Sn**	**08 37 05.8**	**-2.5**
EDB	**Eliza Dome**	**1.96**	**111**	Pn	**Pn**	**08 36 48.8**	**-3.6**
EDB	**Eliza Dome**	**1.96**	**111**	Pn	**Pn**	**08 36 48.8**	**-3.6**
BBB	**Bella Bella**	**1.96**	**35**	Pn	**Pn**	**08 36 51.1**	**-1.3**
	45nm,0.3s,baz=237,slow=6.7,SNR=1254						
BBB				Sn	**Sn**	**08 37 14.9**	**-2.3**
	118nm,0.3s,baz=267,slow=15,SNR=19						
BBB				LR	LR	08 37 46.5	
	comp=Z,3μm,20.9s,baz=238,slow=43						
BBB	**Bella Bella**	**1.96**	**35**	Pn	**Pn**	**08 36 51.2**	**-1.2**
BBB				Sn	**Sn**	**08 37 14.8**	**-2.3**
BBB	**Bella Bella**	**1.96**	**35**	*e*Pn	**Pn**	**08 36 51.6**	**-0.8**
BBB				*e*Sn	**Sn**	**08 37 14.7**	**-2.5**
TLCB	**Telegraph Cove**	**1.99**	**90**	Pn	**Pn**	**08 36 49.7**	**-3.0**
TLCB				Sn	**Sn**	**08 37 15.3**	**-2.4**
WOSB	**Woss**	**2.21**	**100**	Pn	**Pn**	**08 36 53.5**	**-2.4**
BNB	**Barry Inlet**	**2.28**	**331**	Pn	**Pn**	**08 36 52.1**	**-4.7**
NCRB	**Newcastle Ridg**	**2.49**	**93**	Pn	**Pn**	**08 36 57.6**	**-2.3**
ETB	**Estevan Point**	**2.52**	**118**	Pn	**Pn**	**08 36 56.5**	**-3.6**
GDR	**Gold River**	**2.65**	**107**	Pn	**Pn**	**08 36 58.8**	**-3.1**
SPLB	**Strathcona Par**	**2.85**	**103**	Pn	**Pn**	**08 37 01.3**	**-3.3**
TOFB	**Tofino**	**2.99**	**117**	Pn	Pn	08 37 01.6	-4.9
CBB	**Campbell River**	**2.99**	**99**	Pn	**Pn**	**08 37 04.6**	**-2.0**
DIB	**Dawson Inlet,**	**3.04**	**330**	Pn	**Pn**	**08 37 02.9**	**-4.3**
DIB	**Dawson Inlet,**	**3.04**	**330**	*e*Pn	**Pn**	**08 37 05.8**	**-1.5**
DIB				*e*Sn	**Sn**	**08 37 40.4**	**-3.3**
H02S1	**DAWSON INLET T**	**3.04**	**330**	Pn	**Pn**	**08 37 03.8**	**-3.5**
H02S1				Sn	**Sn**	**08 37 39.1**	**-4.6**
BTB	**Buttle Lake**	**3.07**	**110**	Pn	**Pn**	**08 37 05.0**	**-2.8**
MWAB	**Mount Washingt**	**3.11**	**104**	Pn	**Pn**	**08 37 05.4**	**-2.9**
B012	**Ucluelet**	**3.31**	**119**	Pn	**Pn**	**08 37 07.7**	**-3.2**
OZB	**Mount Ozzard**	**3.32**	**118**	Pn	**Pn**	**08 37 07.9**	**-3.3**
ALB	**Alberni**	**3.56**	**110**	Pn	**Pn**	**08 37 12.6**	**-1.8**
B928	**Bamfield**	**3.59**	**118**	Pn	**Pn**	**08 37 12.7**	**-2.0**
B927	**Port Alberni**	**3.60**	**111**	Pn	**Pn**	**08 37 12.4**	**-2.5**
TXB	**Texada**	**3.66**	**102**	Pn	**Pn**	**08 37 14.0**	**-1.8**
MGB	**Mount Grey**	**3.76**	**113**	Pn	**Pn**	**08 37 14.7**	**-2.6**
GHNB	**Nanoose**	**3.91**	**107**	Pn	**Pn**	**08 37 16.9**	**-2.2**
SHB	**Sechelt**	**4.04**	**102**	Pn	**Pn**	**08 37 19.1**	**-2.0**
YOUB	**Youbou, Lake C**	**4.06**	**113**	Pn	**Pn**	**08 37 18.5**	**-2.8**
NLLB	**Nanaimo Lost L**	**4.09**	**107**	Pn	**Pn**	**08 37 18.8**	**-2.9**
PFB	**Port Renfrew**	**4.12**	**117**	Pn	**Pn**	**08 37 19.4**	**-2.7**
OCP	**Olym-Cheeka Pk**	**4.17**	**121**	Pn	**Pn**	**08 37 21.6**	**-1.1**
B926	**Mesachie Lake**	**4.17**	**113**	Pn	**Pn**	**08 37 22.0**	**-0.9**
UBRB	**Upper Baezaeko**	**4.31**	**56**	Pn	**Pn**	**08 37 25.6**	**+0.8**
UBRB				Sn	**Sn**	**08 38 16.8**	**+1.6**
BPB	**Bare Point**	**4.38**	**110**	Pn	**Pn**	**08 37 23.5**	**-2.2**
WPB	**Watts Point**	**4.44**	**100**	Pn	**Pn**	**08 37 25.8**	**-0.7**
BIB	**Bowen Island**	**4.45**	**103**	Pn	**Pn**	**08 37 26.0**	**-0.6**
LZB	**Mount Lazard**	**4.45**	**114**	Pn	**Pn**	**08 37 25.3**	**-1.4**
GOBB	**Galiano Island**	**4.49**	**109**	Pn	**Pn**	**08 37 25.8**	**-1.3**
OFR	**Olym-F Res Ctr**	**4.51**	**124**	Pn	**Pn**	**08 37 26.8**	**-0.6**
WSLR	**Whistler**	**4.52**	**93**	Pn	**Pn**	**08 37 27.3**	**-0.4**
OBC	**Olympics--Boni**	**4.62**	**121**	Pn	**Pn**	**08 37 28.0**	**-1.0**
B010	**North Saanich**	**4.65**	**112**	Pn	**Pn**	**08 37 27.4**	**-2.0**
PGC	**Sidney**	**4.65**	**112**	Pn	**Pn**	**08 37 27.2**	**-2.2**
PGC	**Sidney**	**4.65**	**112**	*e*Pn	**Pn**	**08 37 28.2**	**-1.2**
B009	**North Saanich**	**4.65**	**112**	Pn	**Pn**	**08 37 28.0**	**-1.4**
PA01	**PA01 North**	**4.65**	**112**	Pn	**Pn**	**08 37 27.9**	**-1.5**
PA02	**PA02 Ocean**	**4.65**	**112**	Pn	**Pn**	**08 37 26.9**	**-2.5**
B011	**North Saanich**	**4.65**	**112**	Pn	**Pn**	**08 37 28.0**	**-1.4**
PA12	**PA12 Sannich**	**4.65**	**112**	Pn	**Pn**	**08 37 26.7**	**-2.7**
PA03	**PA03 Flamable**	**4.66**	**112**	Pn	**Pn**	**08 37 27.2**	**-2.2**
PA04	**PA04 Cage**	**4.66**	**112**	Pn	**Pn**	**08 37 26.9**	**-2.5**
PA05	**PA05 Willingdo**	**4.66**	**112**	Pn	**Pn**	**08 37 27.5**	**-2.0**
SNB	**Saturna Island**	**4.76**	**110**	Pn	**Pn**	**08 37 30.9**	**0.0**
VGZ	**Gonzales**	**4.84**	**114**	Pn	**Pn**	**08 37 30.5**	**-1.4**
OSD	**Olympics--Snow**	**4.95**	**122**	Pn	**Pn**	**08 37 32.7**	**-1.0**
MCW	**Mount Constitu**	**5.01**	**110**	Pn	**Pn**	**08 37 33.8**	**-0.6**
A04D	**Lummi Island**	**5.07**	**109**	P	**Pn**	**08 37 35.2**	**+0.1**
	baz=293,SNR=11						
NLWA	**Neilton Lookou**	**5.13**	**126**	*e*Pn	**Pn**	**08 37 35.2**	**-0.8**
LLLB	**Lillooet**	**5.14**	**87**	Pn	**Pn**	**08 37 35.4**	**-0.7**
LLLB	**Lillooet**	**5.14**	**87**	*e*Pn	**Pn**	**08 37 35.7**	**-0.4**
CRAG	**Craig**	**5.24**	**340**	*e*Pn	**Pn**	**08 37 34.8**	**-2.7**
BLN	**Blyn Mountain**	**5.25**	**117**	Pn	**Pn**	**08 37 36.4**	**-1.3**
SVOH	**Skagit Valley**	**5.30**	**113**	Pn	**Pn**	**08 37 38.2**	**-0.1**
VDB	**Vedder Mountai**	**5.32**	**104**	Pn	**Pn**	**08 37 38.0**	**-0.6**
WISH	**Wishkah**	**5.36**	**128**	Pn	**Pn**	**08 37 38.2**	**-0.9**
HDW	**Hoodsport**	**5.40**	**120**	Pn	**Pn**	**08 37 39.1**	**-0.7**
SMW	**South Mountain**	**5.45**	**124**	Pn	**Pn**	**08 37 39.6**	**-0.9**
MBW	**Mount Baker**	**5.53**	**106**	Pn	**Pn**	**08 37 42.0**	**+0.3**
B05A	**Bryant**	**5.63**	**111**	P	**Pn**	**08 37 42.8**	**-0.1**
	baz=296,SNR=80						
HOPB	**Hope**	**5.63**	**99**	Pn	**Pn**	**08 37 43.3**	**+0.4**
JCW	**Jim Creek**	**5.76**	**112**	Pn	**Pn**	**08 37 44.2**	**-0.5**
E03A	**Lebam**	**5.87**	**131**	Pn	**Pn**	**08 37 45.6**	**-0.4**
E03A	**Lebam**	**5.87**	**131**	*e*Pn	**Pn**	**08 37 45.5**	**-0.6**
B06A	**Marblemount**	**5.89**	**107**	Pn	**Pn**	**08 37 46.3**	**-0.1**
B06A	**Marblemount**	**5.89**	**107**	*e*Pn	**Pn**	**08 37 46.3**	**-0.1**
WRAK	**Wrangell Islan**	**6.00**	**347**	*e*Pn	**Pn**	**08 37 46.1**	**-1.8**
C05A	**Tolt Reservoir**	**6.15**	**115**	Pn	**Pn**	**08 37 50.3**	**+0.3**
ELW	**Echo Lake**	**6.15**	**117**	Pn	**Pn**	**08 37 49.9**	**-0.1**
D05A	**Enumclaw**	**6.26**	**120**	Pn	**Pn**	**08 37 52.0**	**+0.5**
D05A	**Enumclaw**	**6.26**	**120**	*e*Pn	**Pn**	**08 37 52.4**	**+0.9**
F04D	**Rainier, OR**	**6.46**	**132**	P	**Pn**	**08 37 54.7**	**+0.4**
	baz=315						
C06D	**Leavenworth**	**6.50**	**111**	P	**Pn**	**08 37 55.3**	**+0.4**
	baz=296						
FMW	**Mount Fremont**	**6.59**	**121**	Pn	**Pn**	**08 37 56.4**	**+0.2**
LON	**Longmire**	**6.62**	**122**	Pn	**Pn**	**08 37 56.7**	**+0.2**
LON	**Longmire**	**6.62**	**122**	*e*Pn	**Pn**	**08 37 57.0**	**+0.5**
LON	**Longmire**	**6.62**	**122**	*e*P	**Pn**	**08 37 57.1**	**+0.5**
PNT	**Penticton**	**6.79**	**97**	Pn	**Pn**	**08 37 58.1**	**-0.7**
LTY	**Liberty**	**6.97**	**115**	Pn	**Pn**	**08 38 01.5**	**+0.2**
LTY	**Liberty**	**6.97**	**115**	*e*Pn	**Pn**	**08 38 02.5**	**+1.3**
G03D	**McMinnville, O**	**7.01**	**138**	P	**Pn**	**08 38 02.5**	**+0.7**
	baz=321						
DOWB	**Downie Slide**	**7.27**	**78**	P	**Pn**	**08 38 05.9**	**+0.6**
B08A	**Colville Reser**	**7.27**	**104**	Pn	**Pn**	**08 38 05.2**	**-0.2**
MNB	**Mounoet Dainar**	**7.41**	**73**	P	**Pn**	**08 38 08.5**	**+1.0**
COR	**Corvallis**	**7.51**	**141**	*e*Pn	**Pn**	**08 38 09.7**	**+1.1**
COR	**Corvallis**	**7.51**	**141**	*e*P	**Pn**	**08 38 09.7**	**+1.1**
E07A	**Sunnyside**	**7.82**	**117**	*e*Pn	**Pn**	**08 38 13.9**	**+1.0**
DLBC	**Dease Lake**	**7.86**	**360**	P	**Pn**	**08 38 14.4**	**+0.9**
DLBC				S	**Sn**	**08 39 43.7**	**+1.2**
DLBC	**Dease Lake**	**7.86**	**360**	*e*Pn	**Pn**	**08 38 14.7**	**+1.3**
G05D	**Wamic, OR**	**7.89**	**129**	P	**Pn**	**08 38 15.1**	**+1.2**
	baz=314						
H04A	**Detroit Lake**	**7.90**	**136**	*e*Pn	**Pn**	**08 38 15.7**	**+1.6**
D08A	**Wollman Farm,**	**8.09**	**112**	*e*Pn	**Pn**	**08 38 16.7**	**0.0**
HAWA	**Hanford**	**8.10**	**117**	*e*Pn	**Pn**	**08 38 16.4**	**-0.3**
C09A	**Chrisman Ranch**	**8.14**	**106**	P	**Pn**	**08 38 17.2**	**-0.2**
C09A	**Chrisman Ranch**	**8.14**	**106**	*e*Pn	**Pn**	**08 38 17.4**	**0.0**
F07A	**Phinny Hill Vi**	**8.18**	**121**	*e*Pn	**Pn**	**08 38 18.3**	**+0.5**
I03D	**Drain, OR**	**8.24**	**144**	P	**Pn**	**08 38 20.1**	**+1.5**
	baz=328,SNR=7.1						
G06A	**Carlson Farm,**	**8.24**	**127**	*e*Pn	**Pn**	**08 38 19.8**	**+1.1**
E08A	**Dider Farm, El**	**8.31**	**115**	*e*Pn	**Pn**	**08 38 20.9**	**+1.2**
I04A	**Tendick Farm,**	**8.52**	**140**	P	**Pn**	**08 38 24.1**	**+1.5**
	baz=324						
I05D	**Terrebonne, OR**	**8.55**	**134**	P	**Pn**	**08 38 24.0**	**+0.9**
	baz=319						
KEBM	**Edson Butte**	**8.63**	**151**	*e*Pn	Pn	08 38 30.3	+6.1
NEW	**Newport**	**8.68**	**101**	Pn	**Pn**	**08 38 23.7**	**-1.1**
	0.9nm,0.3s,baz=290,slow=12,SNR=12						
NEW				Lg	Lg	08 40 39.9	
	0.1nm,0.3s,baz=47,slow=19,SNR=4.0						
NEW				LR	LR	08 42 14.1	
	comp=Z,608nm,18.3s,baz=290,slow=41						
NEW	**Newport**	**8.68**	**101**	P	**Pn**	**08 38 24.3**	**-0.4**
	baz=289,SNR=9.7						
NEW	**Newport**	**8.68**	**101**	*e*P	**Pn**	**08 38 23.9**	**-0.9**
E09A	**Wood Farm, Sta**	**8.83**	**113**	*e*Pn	**Pn**	**08 38 26.5**	**-0.3**
G08A	**Pilot Rock**	**9.09**	**122**	*e*Pn	**Pn**	**08 38 29.1**	**-1.2**
J04D	**Umpqua Nationa**	**9.10**	**141**	P	**Pn**	**08 38 32.7**	**+2.0**
	baz=325,SNR=8.2						
PINE	**Pine Mountain**	**9.16**	**135**	*e*Pn	**Pn**	**08 38 31.7**	**+0.2**
FNBB	**Fort Nelson**	**9.22**	**23**	P	**Pn**	**08 38 32.1**	**0.0**
HUMO	**Hull Mountain**	**9.33**	**146**	*e*Pn	**Pn**	**08 38 35.3**	**+1.7**
SKAG	**Skagway**	**9.40**	**343**	*e*Pn	**Pn**	**08 38 35.1**	**+0.6**
J05D	**Fort Rock, OR**	**9.43**	**138**	P	**Pn**	**08 38 37.7**	**+2.5**
	baz=323,SNR=18						
L02D	**Cave Junction,**	**9.51**	**150**	P	**Pn**	**08 38 38.4**	**+2.3**
	baz=334						
PLBC	**Pleasant Camp**	**9.61**	**340**	P	**Pn**	**08 38 35.9**	**-1.4**
I07A	**Izee**	**9.62**	**129**	*e*Pn	**Pn**	**08 38 38.3**	**+0.5**
F10A	**Beach Ranch, E**	**9.66**	**114**	*e*Pn	**Pn**	**08 38 38.0**	**-0.2**
K04D	**Chiloquin, OR**	**9.76**	**142**	P	**Pn**	**08 38 41.3**	**+1.7**
	baz=326						
K05A	**Summer Lake**	**10.03**	**138**	*e*Pn	**Pn**	**08 38 45.0**	**+1.6**
YBH	**Yreka Blue Hor**	**10.19**	**148**	Pn	**Pn**	**08 38 47.6**	**+2.2**
	0.1nm,0.3s,baz=345,slow=12,SNR=30						
YBH				LR	LR	08 42 10.2	
	comp=Z,1μm,20.1s,baz=332,slow=35						
YBH	**Yreka Blue Hor**	**10.19**	**148**	*e*Pn	**Pn**	**08 38 48.2**	**+2.8**
BHMT	**Big Hole Peak**	**10.24**	**101**	P	**Pn**	**08 38 46.7**	**+0.5**
BMO	**Blue Mountains**	**10.27**	**119**	*e*Pn	**Pn**	**08 38 45.3**	**-1.3**
BMO	**Blue Mountains**	**10.27**	**119**	*e*P	**Pn**	**08 38 45.3**	**-1.3**
BSMT	**Bassoo Peak**	**10.29**	**100**	P	**Pn**	**08 38 47.5**	**+0.5**
M02C	**Callahan**	**10.44**	**149**	P	**Pn**	**08 38 51.9**	**+3.0**
	baz=333,SNR=19						
M04C	**Macdoel**	**10.45**	**144**	P	**Pn**	**08

HVU **Hansel Valley** 14.78 120 *e*P Pn 08 39 50.0 +1.7
SNOW **Snow King Moun** 14.88 111 *e*Pn Pn 08 39 52.2 +2.4
REDW **Red Top Meadow** 14.88 112 *e*Pn Pn 08 39 51.7 +2.0
LOHW **Long Hollow** 14.89 111 *e*Pn Pn 08 39 51.5 +1.8
RLMT **Red Lodge** 14.90 104 P Pn 08 39 51.1 +1.1
baz=298,SNR=17
RLMT **Red Lodge** 14.90 104 *e*Pn Pn 08 39 51.0 +1.1
PAX **Paxson** 14.97 332 *e*Pn Pn 08 39 51.9 +1.2
PAX **Paxson** 14.97 332 P Pn 08 39 51.9 +1.2
KDAK **Kodiak Island** 15.02 307 Pn Pn 08 39 50.1 -1.2
0.1nm,0.3s,baz=118,slow=9.6,SNR=4.1
KDAK LR LR 08 44 09.8
comp=Z,1µm,20.4s,baz=153,slow=32
AHID **Auburn Hatcher** 15.10 114 *e*Pn Pn 08 39 54.8 +2.3
34nm,1.0s
DOT **Dot Lake** 15.11 335 P Pn 08 39 52.8 +0.5
DOT **Dot Lake** 15.11 335 *e*Pn Pn 08 39 53.5 +1.1
178nm,1.8s
MDPB **Devils Postpil** 15.11 145 *e*Pn P 08 39 59.8 +1.7
12nm,1.0s
SAO **San Andreas Ge** 15.12 153 *e*Pn Pn 08 39 53.3 +0.6
15nm,1.1s
SAO **San Andreas Ge** 15.12 153 *e*P Pn 08 39 53.3 +0.6
SAO pmax pmax
comp=Z,15nm,1.1s
SML **Sawmill** 15.12 325 Pn Pn 08 39 51.5 -1.1
comp=Z,31nm,1.2s
SML **Sawmill** 15.12 325 P Pn 08 39 51.5 -1.1
SML pmax pmax
comp=Z,31nm,1.2s
MLAC **Mammoth, Mammo** 15.20 144 P Pn 08 39 55.7 +1.7
baz=331
BGU **Big Grassy Mou** 15.23 123 *e*Pn Pn 08 39 56.2 +1.9
comp=Z,17nm,1.1s
SPUT **South Promonto** 15.28 121 *e*Pn Pn 08 39 57.1 +2.2
comp=Z,26nm,1.4s
PMR **Palmer** 15.28 323 *e*Pn Pn 08 39 56.3 +1.6
comp=Z,22nm,1.2s
PMR **Palmer** 15.28 323 *e*P Pn 08 39 56.3 +1.6
PMR pmax pmax
comp=Z,22nm,1.2s
SCRK **Sand Creek** 15.35 336 *e*Pn Pn 08 39 56.8 +1.1
comp=Z,41nm,1.1s
EGAK **Eagle** 15.39 342 *e*Pn Pn 08 39 58.2 +2.1
comp=Z,17nm,0.8s
RIDG **Independ'e Rid** 15.39 334 *e*Pn P 08 40 03.0 +2.1
comp=Z,41nm,1.0s
HWUT **Hardware Ranch** 15.57 118 *e*Pn Pn 08 39 59.7 +0.9
comp=Z,67nm,1.5s
DHY **Denali Highway** 15.65 330 *e*Pn P 08 40 05.7 +1.9
comp=Z,30nm,1.1s
PMPB **Monarch Peak** 15.82 152 *e*Pn P 08 40 07.8 +2.1
comp=Z,56nm,1.0s
SUA **Susitna One** 15.84 321 *e*Pn P 08 40 07.3 +1.5
comp=Z,31nm,0.8s
DUG **Dugway, Tooele** 15.87 124 P Pn 08 40 04.5 +1.8
baz=316,SNR=16
DUG **Dugway, Tooele** 15.87 124 *e*Pn Pn 08 40 03.6 +1.0
comp=Z,29nm,1.1s
DUG **Dugway, Tooele** 15.87 124 *e*P Pn 08 40 03.6 +1.0
DUG pmax pmax
comp=Z,29nm,1.1s
TIN **Tinemaha, Big** 15.93 144 P P 08 40 08.5 +1.4
baz=331,SNR=5.3
R11A **Troy Canyon, C** 15.94 135 P Pn 08 40 03.8 +0.3
baz=324,SNR=6.5
R11A **Troy Canyon, C** 15.94 135 *e*Pn Pn 08 40 03.2 -0.3
comp=Z,26nm,1.6s
TCUT **Toone Canyon** 15.98 119 *e*Pn Pn 08 40 05.1 +0.9
comp=Z,31nm,1.2s
BW06 **Boulder Array** 16.00 111 P P 08 40 06.8 -1.2
baz=306,SNR=24
BW06 **Boulder Array** 16.00 111 *e*Pn P 08 40 07.1 -0.9
comp=Z,46nm,1.2s
PD31 **Pinedale Array** 16.00 111 *e*Pn P 08 40 06.6 -1.4
PDAR **Pinedale Array** 16.00 111 Pn P 08 40 06.6 -1.4
comp=Z,0.3nm,0.3s,baz=307,slow=11,SNR=106
PDAR **Pinedale Array** 16.00 111 *e*Pn Pn 08 40 05.5 +1.1
CTU **Camp Tracy** 16.09 121 *e*Pn Pn 08 40 06.8 +1.3
CTU esP sP 08 40 14.3 +1.8
LAO **LASA Array** 16.14 95 P Pn 08 40 06.2 +0.2
baz=292,SNR=7.3
LAO **LASA Array** 16.14 95 *e*Pn Pn 08 40 06.5 +0.5
comp=Z,12nm,0.8s
RCTC **Rector, Farmer** 16.24 148 P P 08 40 10.9 +0.6
baz=334,SNR=9.9
JLU **Jordanelle** 16.31 121 *e*Pn Pn 08 40 09.3 +0.9
comp=Z,11nm,1.2s
RND **Reindeer** 16.36 329 *e*Pn P 08 40 10.8 -0.8
comp=Z,13nm,1.0s
RND **Reindeer** 16.36 329 *e*P P 08 40 10.8 -0.8
RND pmax pmax
comp=Z,13nm,1.0s
LDBN **Lake De Bois** 16.37 7 P P 08 40 10.2 -1.4
NLU **North Lily Min** 16.43 123 *e*Pn Pn 08 40 11.2 +1.3
comp=Z,16nm,0.9s
PAGB **Antelope Grade** 16.44 151 *e*Pn P 08 40 14.4 +1.8
comp=Z,47nm,1.2s
HDA **Harding Lake** 16.50 333 *e*Pn P 08 40 15.4 +2.4
comp=Z,5nm,1.0s
CWC **Cottonwood Cre** 16.53 144 P P 08 40 15.6 +1.8
baz=332
MCK **McKinley** 16.61 330 *e*Pn P 08 40 13.9 -0.4
comp=Z,23nm,1.0s
MCK **McKinley** 16.61 330 *e*P P 08 40 13.9 -0.4
MCK pmax pmax
comp=Z,23nm,1.0s
MPU **Maple Canyon** 16.63 122 *e*Pn Pn 08 40 13.5 +1.2
comp=Z,19nm,1.7s
MPU *e*S S 08 43 32.2 +3.6
VES **Vestal, Richgr** 16.71 148 P P 08 40 16.2 +0.6
baz=335
IL1 **Eielson Array** 16.76 334 *e*Pn P 08 40 17.4 +1.5
ILAR **Eielson Array** 16.76 334 Pn Pn 08 40 13.9 +0.3
comp=Z,0.1nm,0.3s,baz=147,slow=11,SNR=41
ILAR **Eielson Array** 16.76 334 P Pn 08 40 14.0 +0.3
ILB **Eielson Array** 16.76 334 *e*Pn P 08 40 17.9 +1.9
TPNV **Topopah Spring** 16.81 139 P Pn 08 40 16.1 +1.4
baz=328,SNR=37
TPNV **Topopah Spring** 16.81 139 *e*Pn Pn 08 40 15.2 +0.5
comp=Z,98nm,1.5s
TPNV **Topopah Spring** 16.81 139 *e*P Pn 08 40 15.2 +0.5
TPNV pmax pmax
comp=Z,98nm,1.5s
DGMT **Dagmar** 16.83 87 P P 08 40 16.1 -0.7
baz=287,SNR=8.1
DGMT **Dagmar** 16.83 87 *e*Pn P 08 40 16.5 -0.3
comp=Z,24nm,0.8s
DAC **Darwin (Calif)** 16.86 143 *e*Pn Pn 08 40 16.8 +1.4
comp=Z,36nm,1.4s
DAC **Darwin (Calif)** 16.86 143 *e*P Pn 08 40 16.8 +1.4
DAC pmax pmax
comp=Z,36nm,1.4s
TRF **Thorofare Moun** 16.87 327 *e*Pn Pn 08 40 15.7 +0.4
comp=Z,47nm,1.4s
WRH **Wood River Hil** 16.88 332 *e*Pn P 08 40 17.7 +0.4
comp=Z,11nm,0.9s
SMMC **Simmler** 16.90 151 P P 08 40 18.3 +0.6
baz=337,SNR=7.1
CCB **Clear Creek Bu** 16.92 333 *e*Pn P 08 40 19.3 +1.6
comp=Z,50nm,1.8s
FURC **Furnace Creek,** 16.98 141 P P 08 40 19.2 +0.7
baz=330,SNR=6.3
ISA **Isabella, Lake** 17.09 147 P P 08 40 20.9 +1.1
baz=334,SNR=35
ISA **Isabella, Lake** 17.09 147 *e*Pn P 08 40 21.2 +1.4
comp=Z,39nm,1.3s
ISA **Isabella, Lake** 17.09 147 P P 08 40 21.2 +1.4
MPMC **Manual Prospec** 17.09 143 P P 08 40 21.3 +1.3
baz=332,SNR=18
COLA **College** 17.10 333 *e*P P 08 40 19.2 -0.5
comp=Z,33nm,1.4s
COLA **College** 17.10 333 *e*P P 08 40 19.2 -0.5
COLA pmax pmax
comp=Z,33nm,1.4s
KTH **Kantishna Hill** 17.16 327 *e*Pn Pn 08 40 19.2 +0.5
comp=Z,53nm,1.0s
PPLA **Purkeypile** 17.21 324 *e*Pn P 08 40 20.4 -0.7
comp=Z,31nm,1.2s
WHFN **White Fish Lak** 17.26 37 P Pn 08 40 18.7 -1.3
MDM **Murphy Dome** 17.27 333 *e*Pn P 08 40 22.5 +0.8
comp=Z,20nm,1.1s
DHRN **Dharma Camp** 17.30 14 P Pn 08 40 20.7 +0.2
PKM **Mcpherson Peak** 17.35 151 P P 08 40 23.4 +0.6
baz=337
TMUT **Trail Mountain** 17.37 123 *e*Pn P 08 40 23.3 +0.1
comp=Z,37nm,1.8s

FFC **Flin Flon** 17.41 65 *e*Pn Pn 08 40 20.5 -1.4
comp=Z,17nm,0.9s
FFC **Flin Flon** 17.41 65 *e*P Pn 08 40 20.5 -1.4
FFC pmax pmax
comp=Z,17nm,0.9s
ARVC **Arvin** 17.45 148 P P 08 40 24.5 +0.7
baz=335
MSU **Marysvale** 17.45 127 *e*Pn Pn 08 40 23.7 +0.9
MSU **Marysvale** 17.45 127 *e*P Pn 08 40 23.7 +0.9
HPLN **Hepburn Lake,** 17.46 20 P Pn 08 40 21.8 -0.7
CAST **Castle Rocks** 17.48 326 *e*Pn Pn 08 40 21.5 -1.3
comp=Z,15nm,1.1s
P17A **Butcher Ranch,** 17.50 122 *e*Pn P 08 40 24.3 -0.2
comp=Z,8.7nm,0.9s
BPAW **Bear Paw Mtn.** 17.53 328 *e*Pn P 08 40 23.9 -0.6
comp=Z,20nm,1.2s
LRMC **Laurel Mtn Rad** 17.53 145 P P 08 40 26.4 +1.6
baz=333,SNR=9.8
CCUT **Cedar City** 17.61 131 *e*Pn Pn 08 40 25.2 +0.4
comp=Z,28nm,1.4s
SHPR **Sheep Range** 17.65 137 *e*Pn P 08 40 26.2 0.0
comp=Z,19nm,1.2s
P18A **Preston Nutter** 17.65 121 *e*Pn P 08 40 26.5 +0.1
comp=Z,41nm,1.4s
SVW2 **Sparrevohn** 17.69 316 *e*Pn Pn 08 40 25.2 -0.1
comp=Z,17nm,0.9s
SHOC **Shoshone, Teco** 17.70 141 P P 08 40 28.3 +1.7
baz=330
SZCU **Shurtz Canyon** 17.71 131 *e*Pn P 08 40 27.2 +0.3
comp=Z,78nm,1.9s
FYU **Fort Yukon** 17.79 340 *e*Pn P 08 40 28.7 +1.4
comp=Z,220nm,1.8s
MTPU **Mount Pierson** 17.81 128 *e*Pn P 08 40 29.1 +1.0
comp=Z,62nm,1.9s
CHGN **Chignik** 17.81 300 *e*Pn Pn 08 40 24.6 -2.2
comp=Z,64nm,1.5s
INK **Inuvik** 17.85 356 P P 08 40 28.0 +0.1
comp=Z,0.1nm,0.3s,baz=170,slow=12,SNR=12
INK LR LR 08 46 36.5
comp=Z,244nm,18.6s,baz=176,slow=34
INK **Inuvik** 17.85 356 P P 08 40 27.8 -0.2
INK **Inuvik** 17.85 356 *e*Pn P 08 40 28.5 +0.5
comp=Z,17nm,1.4s
INK **Inuvik** 17.85 356 *e*P P 08 40 28.5 +0.5
INK pmax pmax
comp=Z,17nm,1.4s
SRU **San Rafael Swe** 17.87 123 *e*Pn P 08 40 29.2 +0.6
comp=Z,16nm,1.1s
SRU **San Rafael Swe** 17.87 123 *e*P P 08 40 29.3 +0.6
SRU pmax pmax
comp=Z,16nm,1.1s
K22A **Casper** 17.89 107 P Pn 08 40 28.6 +0.4
baz=304,SNR=19
K22A **Casper** 17.89 107 *e*Pn Pn 08 40 28.8 +0.6
comp=Z,21nm,0.9s
EDW2 **Edwards Air Fo** 17.96 146 P P 08 40 31.3 +1.8
baz=334
GSC **Goldstone, Bar** 18.02 143 P P 08 40 31.8 +1.7
baz=332,SNR=11
RWWY **Rawlins** 18.04 111 *e*Pn P 08 40 31.0 +0.4
comp=Z,18nm,1.1s
MLY **Manley** 18.07 331 *e*Pn P 08 40 31.2 +0.7
comp=Z,58nm,1.8s
LCMT **Little Creek M** 18.10 132 *e*Pn P 08 40 31.7 +0.6
comp=Z,9.3nm,1.0s
PKCU **Pink Cliffs** 18.21 129 *e*Pn P 08 40 34.5 +2.0
comp=Z,73nm,1.7s
SCZ2 **Santa Cruz Isl** 18.23 152 P P 08 40 33.3 +0.9
baz=338
TUQ **Turquoise Moun** 18.25 141 P P 08 40 33.9 +1.1
baz=330,SNR=13
KNB **Kanab** 18.30 131 *e*Pn P 08 40 34.4 +1.1
comp=Z,17nm,1.2s
KNB **Kanab** 18.30 131 *e*P P 08 40 34.4 +1.1
KNB pmax pmax
comp=Z,17nm,1.2s
DECC **Green Verdugo** 18.41 148 P Pn 08 40 36.1 +1.7
baz=335
O20A **White River Ci** 18.43 116 P Pn 08 40 35.4 +0.6
baz=311,SNR=12
O20A **White River Ci** 18.43 116 *e*P Pn 08 40 35.7 +0.9
comp=Z,25nm,1.1s
MWC **Mount Wilson** 18.53 148 *e*P Pn 08 40 36.9 +0.9
comp=Z,20nm,1.0s
MWC **Mount Wilson** 18.53 148 *e*P Pn 08 40 36.9 +0.9
MWC pmax pmax
comp=Z,20nm,1.0s
PASC **Pasadena Art C** 18.54 148 *e*P Pn 08 40 37.0 +1.1
comp=Z,15nm,0.8s
HEC **Hector,Ludlow** 18.62 143 P P 08 40 37.1 +0.4
baz=331,SNR=6.3
BFSC **Mount Baldy Ra** 18.66 147 P Pn 08 40 38.3 +0.8
baz=334,SNR=10
RSSD **Black Hills** 18.66 100 P Pn 08 40 38.1 +0.5
baz=299
RSSD **Black Hills** 18.66 100 *e*P Pn 08 40 39.1 +1.5
comp=Z,15nm,1.2s
RSSD **Black Hills** 18.66 100 *e*P Pn 08 40 39.1 +1.5
RSSD pmax pmax
comp=Z,15nm,1.2s
KUKN **Kugluktuk,NWT** 18.78 18 P Pn 08 40 39.6 +1.0
SDPT **Sand Point** 18.90 296 P P 08 40 38.9 -0.7
comp=Z,59nm,1.1s
BBRC **Big Bear Solar** 18.90 145 P Pn 08 40 41.2 +0.6
baz=333,SNR=7.4
GMRC **Granite Mounta** 18.92 141 P Pn 08 40 41.3 +0.5
baz=330
U15A **North Rim** 19.02 131 *e*P Pn 08 40 43.0 +0.8
comp=Z,13nm,0.9s
PV09 **Paradox Valley** 19.07 121 *e*P Pn 08 40 43.6 +1.0
CIS **Catalina Islan** 19.16 149 P Pn 08 40 43.7 +0.2
baz=337
PV10 **Paradox Valley** 19.20 121 *e*P Pn 08 40 45.3 +1.1
PV04 **Paradox Valley** 19.27 121 *e*P P 08 40 42.0 -1.9
N23A **Red Feather La** 19.28 111 P P 08 40 44.9 +0.7
baz=306,SNR=5.6
N23A **Red Feather La** 19.28 111 *e*P Pn 08 40 45.2 0.0
comp=Z,63nm,1.8s
PHWY **Pilot Hill** 19.32 109 *e*P P 08 40 45.0 +0.3
comp=Z,25nm,1.0s
NEE2 **Needles Airpor** 19.36 139 P Pn 08 40 46.3 +0.4
baz=329
PV05 **Paradox Valley** 19.39 122 *e*P Pn 08 40 46.6 +0.2
W13A **Hualapai Mount** 19.39 137 *e*P Pn 08 40 46.9 +0.4
comp=Z,40nm,1.8s
MURC **Murieta** 19.40 146 P Pn 08 40 46.7 +0.4
baz=334
BELC **Belle Mtn. Jos** 19.48 143 P Pn 08 40 47.5 0.0
baz=332,SNR=12
SCI2 **San Clemente I** 19.51 150 P Pn 08 40 47.6 0.0
baz=337
COLD **Coldfoot** 19.51 336 P Pn 08 40 48.3 +0.9
COLD **Coldfoot** 19.51 336 *e*P Pn 08 40 49.0 +1.6
comp=Z,22nm,1.0s
PV01 **Paradox Valley** 19.63 121 *e*P P 08 40 48.9 +0.8
IM3 **Indian Mountai** 19.65 331 *e*P P 08 40 47.7 0.0
PFO **Pinyon Flats O** 19.65 145 P Pn 08 40 49.8 +0.3
baz=333
PFO **Pinyon Flats O** 19.65 145 *e*P P 08 40 48.8 +0.7
comp=Z,12nm,1.1s
PFO **Pinyon Flats O** 19.65 145 *e*P P 08 40 48.8 +0.7
PFO pmax pmax
comp=Z,12nm,1.1s
XPFO **Piæon Flat** 19.65 145 *e*P P 08 40 48.8 +0.7
comp=Z,13nm,1.1s
IRM **Iron Mountain** 19.68 141 P P 08 40 49.3 +1.0
baz=331,SNR=12
SMCO **Snowmass** 19.80 116 *e*P P 08 40 50.9 +0.9
comp=Z,13nm,1.0s
MDND **Maddock** 19.94 86 P Pn 08 40 53.3 +0.5
baz=289,SNR=25
MDND **Maddock** 19.94 86 *e*P P 08 40 51.5 +0.4
comp=Z,123nm,1.3s
PDMCI **Parker Dam,Lak** 19.96 139 P Pn 08 40 52.6 -0.4
baz=329,SNR=10
BC3 **Big Chuckawall** 19.99 142 P P 08 40 52.6 +0.8
baz=332,SNR=5.6
109C **Camp Elliot, M** 20.07 147 P P 08 40 53.3 +0.7
baz=335
CPE **Camp Elliot** 20.07 147 *e*P P 08 40 53.7 +1.1
comp=Z,21nm,1.2s
ISCO **Idaho Springs** 20.17 113 P Pn 08 40 55.5 -0.4
baz=310,SNR=10
ISCO **Idaho Springs** 20.17 113 *e*P Pn 08 40 55.6 -0.2
comp=Z,6.4nm,0.9s
ISCO **Idaho Springs** 20.17 113 *e*P Pn 08 40 55.6 -0.2
ISCO pmax pmax

comp=Z,6.0nm,0.9s
WUAZ **Wupatki** 20.20 131 P P 08 40 54.3 +0.2
baz=324,SNR=12
WUAZ **Wupatki** 20.20 131 *e*P P 08 40 55.3 +1.2
comp=Z,18nm,1.1s
Y12C **Blythe** 20.28 140 P Pn 08 40 56.5 -0.3
baz=330
Y12C **Blythe** 20.28 140 *e*P Pn 08 40 56.4 -0.4
comp=Z,18nm,1.1s
MONP2 **Monument Peak** 20.31 145 P P 08 40 56.1 +0.7
baz=334,SNR=17
MVCO **Mesa Verde** 20.35 123 P P 08 40 56.5 +0.7
baz=318,SNR=9.7
MVCO **Mesa Verde** 20.35 123 *e*P P 08 40 56.5 +0.7
comp=Z,36nm,1.2s
BAR **Barrett** 20.41 146 *e*P P 08 40 57.5 +1.2
comp=Z,22nm,1.3s
TOLK **Toolik Lake Re** 20.45 339 P Pn 08 40 58.6 -0.1
baz=143,SNR=20
TOLK **Toolik Lake Re** 20.45 339 *e*P Pn 08 40 58.9 +0.3
comp=Z,44nm,1.3s
SWSC **Sam W. Stewart** 20.49 144 P P 08 40 57.9 +0.8
baz=333,SNR=7.5
IKP **In-Ko-Pah, Jac** 20.64 145 P P 08 40 59.6 +0.8
baz=334,SNR=33
Y14A **Wickenburg** 20.76 137 *e*P P 08 41 01.4 +1.3
comp=Z,21nm,0.9s
GLA **Glamis** 20.77 142 P P 08 41 00.9 +0.7
baz=332,SNR=9.0
GLA **Glamis** 20.77 142 *e*P Pn 08 41 01.8 -0.8
comp=Z,41nm,1.1s
GLA **Glamis** 20.77 142 *e*P Pn 08 41 01.8 -0.8
GLA pmax pmax
comp=Z,41nm,1.1s
S22A **4UR Ranch, Cre** 20.87 119 P P 08 41 02.4 +0.9
baz=315,SNR=16
S22A **4UR Ranch, Cre** 20.87 119 *e*P P 08 41 03.0 +1.5
comp=Z,16nm,1.1s
B31A **Greenbush Farm** 21.00 83 P P 08 41 02.8 +0.2
baz=288
X16A **Lo Mia Camp, P** 21.06 133 *e*P P 08 41 05.0 +1.4
comp=Z,21nm,1.0s
A31A **Linda, St. Vin** 21.14 82 P P 08 41 03.7 -0.3
baz=287
C31A **Landman Farms,** 21.15 85 P P 08 41 03.8 -0.3
baz=289,SNR=29
W18A **Petrified Fore** 21.32 129 P P 08 41 07.4 +1.2
baz=322,SNR=9.2
W18A **Petrified Fore** 21.32 129 *e*P P 08 41 07.5 +1.2
comp=Z,24nm,1.0s
113A **Mohawk Valley,** 21.45 140 *e*P P 08 41 07.9 +0.5
comp=Z,6.1nm,1.0s
E31A **Nome** 21.50 88 P P 08 41 08.7 +0.8
baz=292
F31A **Hecla** 21.54 90 P P 08 41 08.0 -0.4
baz=294
A32A **Rocking H Ranc** 21.58 81 P P 08 41 08.4 -0.4
baz=287,SNR=18
ULM **Lac du Bonnet** 21.61 78 P P 08 41 08.4 -0.6
comp=Z,8.8nm,0.9s,baz=286,slow=11,SNR=12
ULM LR LR 08 50 05.5
comp=Z,260nm,20.4s,baz=282,slow=38
ULM **Lac du Bonnet** 21.61 78 P P 08 41 08.0 -1.1
ULM **Lac du Bonnet** 21.61 78 *e*P P 08 41 08.2 -0.8
comp=Z,17nm,0.9s
ULM **Lac du Bonnet** 21.61 78 *e*P P 08 41 08.2 -0.8
ULM pmax pmax
comp=Z,17nm,0.9s
OGNE **Ogallala** 21.62 106 P P 08 41 10.0 +0.6
baz=306
SDCO **Great Sand Dun** 21.62 117 P P 08 41 10.0 +0.4
baz=314,SNR=11
SDCO **Great Sand Dun** 21.62 117 *e*P P 08 41 10.2 +0.6
comp=Z,17nm,1.2s
X18A **Snowflake** 21.68 130 *e*P P 08 41 11.4 +1.3
comp=Z,46nm,1.4s
B32A **Ashes, Strandq** 21.71 83 P P 08 41 10.2 0.0
baz=288
D32A **Dogwood Acres,** 21.84 86 P P 08 41 13.3 +1.8
baz=291
C32A **Crookston** 21.90 84 P P 08 41 12.9 +0.6
baz=290
H31A **Wolsey** 22.00 94 P P 08 41 13.6 +0.3
baz=297
FCC **Fort Churchill** 22.05 54 P P 08 41 14.0 +0.4
FCC **Fort Churchill** 22.05 54 *e*P P 08 41 14.2 +0.5
comp=Z,34nm,1.3s
FCC **Fort Churchill** 22.05 54 *e*P P 08 41 14.2 +0.5
FCC pmax pmax
comp=Z,34nm,1.3s
AGMN **Agassiz Nation** 22.17 83 P P 08 41 15.3 +0.2
baz=289,SNR=7.7
AGMN **Agassiz Nation** 22.17 83 *e*P P 08 41 16.7 +1.6
comp=Z,28nm,1.1s
A33A **Warroad** 22.27 81 P P 08 41 14.4 -1.8
baz=287
B33A **Robert and Kas** 22.35 83 P P 08 41 17.8 +0.7
baz=289
KSCO **Kaye Shedlock'** 22.45 111 P P 08 41 18.8 +0.5
baz=310,SNR=9.8
KSCO **Kaye Shedlock'** 22.45 111 *e*P P 08 41 19.5 +1.2
comp=Z,40nm,1.0s
MHTCO **State Highway** 22.51 117 *e*P P 08 41 20.5 +1.4
comp=Z,27nm,1.4s
214A **Organ Pipe Nat** 22.55 139 P P 08 41 19.6 +0.3
baz=330,SNR=13
214A **Organ Pipe Nat** 22.55 139 *e*P P 08 41 19.7 +0.4
comp=Z,86nm,1.1s
T25A **Trinidad** 22.66 117 P P 08 41 21.0 +0.3
baz=314
T25A **Trinidad** 22.66 117 *e*P P 08 41 21.2 +0.5
comp=Z,63nm,1.9s
T25A *e*Sn Sn 08 45 41.7 -1.0
K31A **O'Neill** 22.73 98 P P 08 41 20.5 -0.7
baz=301
F33A **5 Mile Ranch,** 22.80 89 P P 08 41 21.8 0.0
baz=294
I32A **Karley and Nic** 22.85 94 P P 08 41 21.9 -0.5
baz=298
B34A **Aery, Baudette** 22.87 82 P P 08 41 24.6 +2.1
baz=288
J32A **Parkston** 22.93 96 P P 08 41 23.5 +0.3
baz=299
G33A **Ortonville** 22.98 91 P P 08 41 24.0 +0.3
baz=295
C34A **RKJ Ranch, Bem** 22.99 84 P P 08 41 24.2 +0.4
baz=290
D34A **Park Rapids** 23.01 85 P P 08 41 23.8 -0.2
baz=291
H33A **Prehn Over Nor** 23.01 92 P P 08 41 24.0 -0.1
baz=296
EPLO **Experimental L** 23.10 78 P P 08 41 24.2 -0.6
TUC **Tucson** 23.12 135 P P 08 41 25.9 +0.6
baz=327
TUC **Tucson** 23.12 135 *e*P P 08 41 26.0 +0.6
comp=Z,21nm,1.1s
TUC **Tucson** 23.12 135 *e*P P 08 41 26.0 +0.6
TUC pmax pmax
comp=Z,21nm,1.1s
ANMO **Albuquerque** 23.14 124 P P 08 41 26.1 +0.4
baz=319
ANMO **Albuquerque** 23.14 124 *e*P P 08 41 26.1 +0.4
comp=Z,15nm,1.3s
ANMO **Albuquerque** 23.14 124 *e*P P 08 41 25.9 +0.3
ANMO pmax pmax
comp=Z,27nm,2.5s
LAZ **Ladron** 23.20 126 *e*P P 08 41 27.2 +0.9
K32A **Verdigre** 23.21 98 P P 08 41 25.9 -0.2
baz=301
G34A **Benson** 23.47 90 P P 08 41 29.3 +0.6
baz=295
F34A **Alexandria** 23.48 88 P P 08 41 28.8 0.0
baz=294
B35A **Bob, Littlefor** 23.50 81 P P 08 41 29.3 +0.3
baz=289
J33A **Davis** 23.51 95 P P 08 41 28.8 -0.3
baz=299
LPM **Los Pinos Moun** 23.53 125 *e*P P 08 41 30.5 +0.9
ECSD **EROS Data Cent** 23.54 94 P P 08 41 29.2 -0.2
baz=298,SNR=10
ECSD **EROS Data Cent** 23.54 94 *e*P P 08 41 29.6 +0.2
comp=Z,11nm,0.9s
C35A **Jirik Farms, M** 23.56 83 P P 08 41 30.3 +0.7
baz=290
Y22D **IRIS PASSCAL I** 23.57 126 P P 08 41 30.9 +1.0
baz=321
Y22E **IRIS PASSCAL I** 23.57 126 P P 08 41 30.9 +1.0
baz=321

H34A	**Spellman Lake,** baz=296	**23.63**	**91**	P		**P**	**08 41 31.0**	**+0.7**
BNM	**Barren Site**	**23.66**	**125**	*e*P		**P**	**08 41 31.5**	**+0.6**
E35A	**Pequot Lakes** baz=293	**23.71**	**86**	P		**P**	**08 41 31.3**	**+0.2**
BGNE	**Belgrade** baz=303	**23.77**	**100**	P		**P**	**08 41 31.4**	**-0.3**
G35A	**Watkins** baz=295	**24.21**	**89**	P		**P**	**08 41 36.2**	**+0.4**
H35A	**Sunnyside Ranc** baz=296	**24.22**	**90**	P		**P**	**08 41 36.4**	**+0.5**
C36A	**Pine Crest Far** baz=290	**24.26**	**82**	P		**P**	**08 41 37.0**	**+0.7**
D36A	**Goodland** baz=292	**24.27**	**84**	P		**P**	**08 41 36.6**	**+0.3**
CBKS	**Cedar Bluff** baz=308	**24.31**	**107**	P		**P**	**08 41 38.1**	**+1.2**
121A	**Cookes Peak, D** baz=324,SNR=6.2	**24.36**	**129**	P		**P**	**08 41 37.8**	**+0.4**
121A	**Cookes Peak, D** comp=Z,32nm,1.5s	**24.36**	**129**	*e*P		**P**	**08 41 37.9**	**+0.5**
F36A	**Milaca** baz=294	**24.55**	**87**	P		**P**	**08 41 38.7**	**-0.2**
319A	**Douglas** comp=Z,20nm,1.0s	**24.60**	**134**	*e*P		**P**	**08 41 41.1**	**+1.5**
ATKO	**Atikokan Iron**	**24.68**	**79**	P		**P**	**08 41 40.3**	**+0.3**
PKLO	**Pickle Lake**	**24.70**	**72**	P		**P**	**08 41 40.1**	**-0.1**
H36A	**Jessenland, He** baz=297	**24.85**	**90**	P		**P**	**08 41 42.3**	**+0.7**
EYMN	**Ely** baz=290	**25.04**	**81**	P		**P**	**08 41 43.7**	**+0.4**
N34A	**Lincoln** baz=304	**25.12**	**100**	P		**P**	**08 41 44.2**	**+0.1**
J36A	**Seneca 1, Swea** baz=299	**25.18**	**93**	P		**P**	**08 41 45.3**	**+0.7**
F37A	**Hinrichs Farm,** baz=295	**25.18**	**87**	P		**P**	**08 41 45.0**	**+0.4**
SPMN	**Marine on St.** baz=296	**25.28**	**88**	P		**P**	**08 41 45.9**	**+0.4**
SPMN	**Marine on St.** comp=Z,26nm,1.6s	**25.28**	**88**	*e*P		**P**	**08 41 46.2**	**+0.7**
F38A	**Pierce - Schro** baz=294	**25.56**	**86**	P		**P**	**08 41 48.6**	**+0.6**
EPT	**El Paso** comp=Z,11nm,0.9s	**25.61**	**128**	*e*P		**P**	**08 41 49.5**	**+0.8**
J37A	**Redenius Farm,** baz=299	**25.69**	**92**	P		**P**	**08 41 50.0**	**+0.8**
AMTX	**Amarillo** baz=316	**25.82**	**117**	P		**P**	**08 41 51.2**	**+0.6**
AMTX	**Amarillo** comp=Z,26nm,0.9s	**25.82**	**117**	*e*P		**P**	**08 41 50.8**	**+0.3**
MSTX	**Muleshoe** baz=318	**25.87**	**120**	P		**P**	**08 41 51.5**	**+0.4**
MSTX	**Muleshoe** comp=Z,24nm,1.5s	**25.87**	**120**	*e*P		**P**	**08 41 51.6**	**+0.5**
HSIG		**25.89**	**139**	*e*P		**P**	**08 41 51.7**	**+0.6**
K37A	**Belmond** baz=300	**25.90**	**93**	P		**P**	**08 41 52.7**	**+1.5**
I38A	**Scanlan Farm,** baz=298	**26.12**	**90**	P		**P**	**08 41 54.7**	**+1.6**
MNTX	**Cornudas Mount** baz=323	**26.23**	**127**	P		**P**	**08 41 55.2**	**+1.0**
K38A	**Parkersburg** baz=300	**26.52**	**93**	P		**P**	**08 42 00.3**	**+3.6**
I39A	**Houston** baz=298	**26.72**	**90**	P		**P**	**08 41 59.3**	**+0.7**
M38A	**Pleasantville** baz=302	**26.89**	**96**	P		**P**	**08 42 00.9**	**+0.9**
K39A	**Oelwein** baz=300	**27.05**	**92**	P		**P**	**08 42 04.2**	**+2.7**
GTO	**Geraldton**	**27.27**	**75**	P		**P**	**08 42 03.9**	**+0.6**
WMOK	**Wichita Mounta** baz=314,SNR=11	**27.60**	**113**	P		**P**	**08 42 07.1**	**+0.6**
WMOK	**Wichita Mounta** comp=Z,8.9nm,0.9s	**27.60**	**113**	*e*P		**P**	**08 42 07.1**	**+0.6**
WMOK	**Wichita Mounta** comp=Z,9.0nm,0.9s	**27.60**	**113**	*e*P		**P**	**08 42 07.1**	**+0.6**
WMOK					pmax	pmax		
P38A	**Dawn** baz=305	**27.68**	**99**	P		**P**	**08 42 07.8**	**+0.7**
Q38A	**Cooks Store, C** baz=306	**28.01**	**100**	P		**P**	**08 42 10.7**	**+0.6**
RES	**Resolute Bay** comp=Z,1.5nm,0.8s,baz=225,slow=12,SNR=8.3	**28.17**	**19**	P		**P**	**08 42 11.7**	**+0.5**
RES					LR	LR	08 53 21.1	
	comp=Z,295nm,20.6s,baz=238,slow=36							
RES	**Resolute Bay**	**28.17**	**19**	P		**P**	**08 42 11.4**	**+0.2**
RES	**Resolute Bay** comp=Z,14nm,1.3s	**28.17**	**19**	*e*P		**P**	**08 42 11.8**	**+0.6**
RES	**Resolute Bay** comp=Z,14nm,1.3s	**28.17**	**19**	*e*P		**P**	**08 42 11.8**	**+0.6**
RES					pmax	pmax		
P39B	**Salisbury** baz=305	**28.24**	**99**	P		**P**	**08 42 11.9**	**-0.3**
R38A	**Fenwick Farm,** baz=306	**28.30**	**102**	P		**P**	**08 42 13.2**	**+0.5**
TUL1	**Leonard** baz=311	**28.59**	**108**	P		**P**	**08 42 15.8**	**+0.5**
TUL1	**Leonard** comp=Z,11nm,1.0s	**28.59**	**108**	*e*P		**P**	**08 42 16.5**	**+1.2**
TXAR	**Lajitas Array** comp=Z,289nm,20.5s,baz=0.0,slow=38	**29.01**	**127**	LR		LR	08 54 33.4	
HHAR	**Hobbs** comp=Z,38nm,0.2s	**29.48**	**105**	*e*P		**P**	**08 42 22.7**	**-0.5**
JCT	**Junction City** baz=320,SNR=5.1	**30.15**	**120**	P		**P**	**08 42 28.9**	**-0.4**
JCT	**Junction City** comp=Z,10.0nm,0.8s	**30.15**	**120**	*e*P		**P**	**08 42 28.9**	**-0.4**
JCT	**Junction City** comp=Z,10.0nm,0.8s	**30.15**	**120**	*e*P		**P**	**08 42 28.9**	**-0.4**
JCT					pmax	pmax		
WHTX	**Lake Whitney,** baz=317	**30.34**	**115**	P		**P**	**08 42 30.6**	**-0.3**
LPIG	**La Paz** comp=Z,145nm,19.1s,baz=348,slow=35	**30.52**	**143**	LR		LR	08 53 53.7	
MIAR	**Mount Ida** baz=312	**30.84**	**107**	P		**P**	**08 42 35.6**	**+0.3**
MIAR	**Mount Ida** comp=Z,10nm,1.2s	**30.84**	**107**	*e*P		**P**	**08 42 36.4**	**+1.1**
MIAR	**Mount Ida** comp=Z,10.0nm,1.2s	**30.84**	**107**	*e*P		**P**	**08 42 36.4**	**+1.1**
MIAR					pmax	pmax		
V41A	**Mountainview** baz=310	**30.90**	**104**	P		**P**	**08 42 35.5**	**-0.2**
HKT	**Hockley** comp=Z,44nm,1.7s	**32.78**	**116**	*e*P		**P**	**08 42 53.3**	**+1.0**
HKT					pmax	pmax		
OXF	**Oxford** comp=Z,27nm,1.0s	**33.43**	**103**	*e*P		**P**	**08 42 58.0**	**+0.1**
OXF	**Oxford** comp=Z,27nm,1.0s	**33.43**	**103**	*e*P		**P**	**08 42 58.1**	**+0.1**
OXF					pmax	pmax		
SADO	**Sadowa** comp=Z,279nm,19.1s,baz=227,slow=37	**34.13**	**80**	LR		LR	08 57 30.6	
FRB	**Frobisher Bay**	**34.32**	**44**	P		**P**	**08 43 05.6**	**+0.2**
BILL	**Bilibino**	**34.92**	**324**	*i*P		**P**	**08 43 10.5**	**-0.1**
BILL				*e*			08 44 24.9	
BILL				*e*S		**S**	**08 48 48.8**	**+7.1**
BILL				*e*SS		**SS**	**08 51 15.1**	**+2.4**
BILL	comp=Z,6.0nm,1.3s				pmax	pmax		
BILL	comp=Z,155nm,19.0s				MLR	MLR		
TKL	**Tuckaleechee C** comp=Z,641nm,19.0s,baz=318,slow=37	**36.23**	**96**	LR		LR	08 58 33.6	
SFJD	**Kangerlussuaq** comp=Z,283nm,18.8s,baz=294,slow=37	**40.98**	**36**	LR		LR	09 01 26.8	
SEY	**Seymchan** comp=Z,4.1nm,0.8s,baz=95,slow=7.1,SNR=20	**41.62**	**318**	P		**P**	**08 44 06.3**	**-0.7**
SEY	**Seymchan**	**41.62**	**318**	*e*P		**P**	**08 44 06.4**	**-0.6**
PET	**Petropavlovsk** comp=Z,9.0nm,1.2s	**42.53**	**302**	*e*P		**P**	**08 44 13.1**	**-1.4**
PET					pmax	pmax		
PETK	**Petropavlovsk-** comp=Z,2.7nm,0.7s,baz=72,slow=13,SNR=7.4	**43.00**	**303**	P		**P**	**08 44 17.1**	**-1.3**
MA2	**Magadan** comp=Z,2.1nm,0.5s,baz=55,slow=8.2,SNR=4.4	**43.64**	**314**	P		**P**	**08 44 22.9**	**-0.5**
TIXI	**Tiksi** comp=Z,1.0nm,0.4s,baz=75,slow=8.8,SNR=4.4	**46.23**	**335**	P		**P**	**08 44 43.6**	**-0.3**
TIXI	**Tiksi** comp=Z,24nm,2.0s	**46.23**	**335**	*e*P		**P**	**08 44 43.1**	**-0.7**
TIXI	**Tiksi** comp=Z,3.0nm,1.2s	**46.23**	**335**	*e*P		**P**	**08 44 43.8**	**0.0**
TIXI					pmax	pmax		
APG	**El Apazote** comp=Z,95nm,18.8s,baz=98,slow=37	**47.66**	**124**	LR		LR	09 05 52.4	
SPITS	**Spitsbergen Ar**	**49.86**	**9**	LR		LR	09 07 23.2	
	comp=Z,244nm,18.3s,baz=340,slow=37							
YAK	**Yakutsk**	**51.28**	**324**	*i* P		**P**	**08 45 22.4**	**-0.3**
YAK	comp=Z,9.0nm,0.7s				pmax	pmax		
BORG	**Borgarnes** comp=Z,148nm,18.3s,baz=325,slow=36	**52.49**	**31**	LR		LR	09 08 03.8	
H11N2	**WAKE ISLAND Hy** baz=42,slow=76,SNR=1737	**58.01**	**262**	T		T	09 48 40.8	
H11N3	**WAKE ISLAND Hy** baz=42,slow=76,SNR=1858	**58.01**	**262**	T		T	09 48 39.2	
H11N1	**WAKE ISLAND Hy** baz=42,slow=76,SNR=1616	**58.03**	**262**	T		T	09 48 40.2	
KLR	**Kul'dur**	**58.56**	**311**	*e*P		**P**	**08 46 14.3**	**-1.3**
ARCES	**ARCESS Array B** comp=Z,76nm,18.3s,baz=351,slow=39	**58.84**	**10**	LR		LR	09 14 44.7	
H11S1	**WAKE ISLAND Hy** baz=40	**59.04**	**261**	T		T	09 49 58.4	
H11S2	**WAKE ISLAND Hy** baz=40	**59.05**	**261**	T		T	09 50 04.7	
H11S3	**WAKE ISLAND Hy** baz=40	**59.06**	**261**	T		T	09 50 12.3	
TAOE	**Nuku Hiva Isla** comp=Z,269nm,27.1s	**59.87**	**192**	*e*LR		LR	09 03 50.1	
TAOE	**Nuku Hiva Isla** comp=Z,36nm,0.2s	**59.87**	**192**	*e*T		T	09 50 51.8	
BOD	**Bodaibo**	**59.92**	**326**	*e*P		**P**	**08 46 20.8**	**-4.1**
BOD	comp=Z,8.0nm,1.2s				pmax	pmax		
VLA	**Vladivostok**	**62.70**	**305**	*de*P		**P**	**08 46 44.4**	**+0.4**
MJAR	**Matsushiro Arr** comp=Z,51nm,21.9s,baz=45,slow=32	**63.87**	**296**	LR		LR	09 10 03.3	
NOA	**NORSAR Array B** comp=Z,109nm,20.2s,baz=335,slow=35	**64.43**	**20**	LR		LR	09 14 01.1	
ROSC	**El Rosal** comp=Z,46nm,18.2s,baz=92,slow=41	**64.97**	**115**	LR		LR	09 20 30.3	
EKA	**Eskdalemuir Ar** comp=Z,0.6nm,0.7s,baz=316,slow=4.0,SNR=3.0	**65.52**	**30**	P		**P**	**08 47 02.0**	**-0.3**
EKA					LR	LR	09 15 28.5	
	comp=Z,107nm,18.4s,baz=320,slow=36							
EKA	**Eskdalemuir Ar**	**65.52**	**30**	P		**P**	**08 47 02.0**	**-0.3**
HFS	**Hagfors** comp=Z,161nm,19.2s,baz=314,slow=36	**65.78**	**19**	LR		LR	09 16 04.2	
FINES	**FINESS Array B** comp=Z,2.1nm,1.0s,baz=355,slow=15,SNR=3.8	**66.67**	**12**	P		**P**	**08 47 08.9**	**-0.5**
FINES					LR	LR	09 16 03.9	
	comp=Z,150nm,21.7s,baz=3.5,slow=36							
FINES	**FINESS Array B**	**66.67**	**12**	P		**P**	**08 47 09.0**	**-0.5**
PMOR	**Pomariorio Ree** comp=Z,36nm,0.2s	**67.19**	**199**	*e*T		T	09 59 59.9	
VAH	**Vaihoa** comp=Z,9.8nm,0.4s	**67.36**	**199**	*e*T		T	10 00 13.6	
TLY	**Talaya**	**68.44**	**327**	*e*P		**P**	**08 47 20.7**	**-0.2**
TLY	comp=Z,1.0nm,0.6s				pmax	pmax		
KLMR	**Klimovskoe**	**68.58**	**6**	*e*P		**P**	**08 47 20.7**	**-0.9**
KLMR	comp=Z,14nm,1.4s				AMP		08 47 30.7	
KLMR	**Klimovskoe**	**68.58**	**6**	*e*P		**P**	**08 47 20.6**	**-1.0**
KLMR	comp=Z,14nm,1.4s				pmax	pmax		
KSRS	**Korea Array** comp=Z,19nm,21.7s,baz=170,slow=33	**68.89**	**303**	LR		LR	09 14 12.0	
TIAR	**Tiarei** comp=Z,4.2nm,0.2s	**69.98**	**200**	*e*T		T	10 03 29.0	
PPT	**Papeete** comp=Z,175nm,19.6s,baz=132,slow=28	**70.04**	**200**	LR		LR	09 09 31.1	
PPT2	**Papeete2** comp=Z,139nm,22.8s	**70.06**	**200**	*e*LR		LR	09 08 29.6	
PPT2	**Papeete2** comp=Z,7.2nm,0.2s	**70.06**	**200**	*e*T		T	10 03 34.1	
PAE	**Paea** comp=Z,2.1nm,0.2s	**70.13**	**200**	*e*T		T	10 03 40.2	
TVO	**Taravao** comp=Z,1.8nm,0.2s	**70.17**	**200**	*e*T		T	10 03 43.7	
ULN	**Ulaanbaatar** comp=Z,1.0nm,0.7s	**70.36**	**323**	*e*P		**P**	**08 47 34.3**	**+1.2**
ULN					pmax	pmax		
ZALV	**Zalesovo Beam** comp=Z,0.4nm,0.3s,baz=37,slow=5.7,SNR=3.7	**71.81**	**339**	P		**P**	**08 47 40.4**	**-1.1**
ZALV	comp=Z,78nm,19.3s,baz=68,slow=37				LR	LR	09 21 08.6	
KLNR	**Kaliningrad** comp=Z,10.0nm,0.8s	**72.23**	**18**	*i*P		**P**	**08 47 44.7**	**+0.7**
KLNR					pmax	pmax		
ARU	**Arti**	**73.11**	**355**	*d i*P		**P**	**08 47 52.6**	**+3.4**
ARU							08 50 32.1	
ARU					SS	SS	09 02 00.0	+4.0
ARU	comp=Z,9.0nm,1.2s				pmax	pmax		
RKT	**Rikitea** comp=Z,213nm,30.5s	**73.53**	**185**	*e*LR		LR	09 10 15.2	
RKT	**Rikitea** comp=Z,2.7nm,0.3s	**73.53**	**185**	*e*T		T	10 07 54.9	
OBN	**Obninsk** comp=Z,6.0nm,1.1s	**74.06**	**8**	*e*P		**P**	**08 47 55.4**	**+0.6**
OBN	comp=Z,78nm,16.0s				pmax	pmax		
HHC	**Hu-ho-hao-te**	**74.25**	**316**	*e*P		**P**	**08 47 56.3**	**0.0**
HHC	comp=Z,10.0nm,1.3s				pmax	pmax		
HHC	comp=Z,33nm,7.7s				pmax	pmax		
DGZ	**Jazzator, Alta** comp=Z,2.0nm,1.3s	**75.09**	**336**	*i*P		**P**	**08 48 01.8**	**+0.7**
DGZ					pmax	pmax		
BRVK	**Borovoye** comp=Z,2.0nm,0.9s	**75.32**	**348**	*e*P		**P**	**08 48 03.3**	**+1.2**
BRVK					pmax	pmax		
BVAR	**Borovoye Array** comp=Z,71nm,19.9s,baz=31,slow=39	**75.33**	**347**	LR		LR	09 25 23.4	
GERES	**GERESS Array B** comp=Z,0.3nm,0.6s,baz=340,slow=4.3,SNR=2.8	**76.15**	**24**	P		**P**	**08 48 07.6**	**+0.5**
GERES					LR	LR	09 23 20.7	
	comp=Z,74nm,18.8s,baz=307,slow=37							
KURK	**Kurchatov**	**76.17**	**342**	P		**P**	**08 48 06.2**	**-0.8**
KURK	**Kurchatov**	**76.17**	**342**	P		**P**	**08 48 06.2**	**-0.8**
RAR	**Rarotonga** comp=Z,94nm,19.4s,baz=122,slow=29	**76.19**	**209**	LR		LR	09 12 31.9	
KURBB	**Kurchatov Arra** comp=Z,0.5nm,0.7s,baz=20,slow=5.2,SNR=5.7	**76.28**	**342**	P		**P**	**08 48 06.2**	**-1.4**
GUMO	**Guam** comp=Z,50nm,19.5s,baz=50,slow=31	**76.59**	**275**	LR		LR	09 15 49.5	
AKASG	**Malin Array Be** comp=Z,0.8nm,0.7s,baz=345,slow=5.5,SNR=5.8	**77.53**	**13**	P		**P**	**08 48 14.2**	**-0.5**
AKASG	comp=Z,108nm,19.6s,baz=10.0,slow=36				LR	LR	09 23 11.3	
KIEV	**Kiev** comp=Z,3.0nm,1.1s	**77.53**	**13**	*e*P		**P**	**08 48 14.5**	**-0.2**
KIEV					pmax	pmax		
ESDC	**Sonseca Array** comp=Z,0.5nm,0.5s,baz=303,slow=6.7,SNR=5.1	**78.40**	**40**	P		**P**	**08 48 19.1**	**-0.8**
MKAR	**Makanchi Array** comp=Z,0.5nm,0.6s,baz=31,slow=7.2,SNR=4.5	**79.07**	**338**	P		**P**	**08 48 22.3**	**-1.1**
MKAR	comp=Z,109nm,19.0s,baz=20,slow=38				LR	LR	09 27 06.1	
AKTO	**Aktyubinsk** comp=Z,59nm,21.9s,baz=3.2,slow=36	**79.11**	**355**	LR		LR	09 24 20.9	
WMQ	**Urumqi** comp=Z,17nm,0.7s	**80.42**	**333**	*e*P		**P**	**08 48 32.6**	**+1.8**
WMQ	comp=Z,42nm,4.7s				pmax	pmax		
WMQ	comp=Z,180nm,23.3s				LR	LR		
LZH	**Lanzhou**	**81.55**	**319**	*e*P		**P**	**08 48 37.5**	**+0.4**
LZH					pP	sP	08 48 41.0	0.0
LZH					sP	PcP	08 48 42.6	-0.4
LZH					*e*PP	**PP**	**08 51 45.8**	**+3.1**
LZH	comp=Z,15nm,1.4s				pmax	pmax		
LZH	comp=Z,71nm,5.2s				pmax	pmax		
LZH	comp=N,75nm,17.2s				LR	LR		
LZH	comp=E,79nm,17.5s				LR	LR		
	comp=Z,95nm,19.3s							
MLR	**Muntele Rosu** comp=Z,51nm,19.6s,baz=28,slow=36	**82.04**	**17**	LR		LR	09 26 00.9	
AAK	**Ala-Archa** comp=Z,1.0nm,1.0s	**84.72**	**342**	*e*P		**P**	**08 48 54.1**	**+0.7**
AAK					pmax	pmax		
KIV	**Kislovodsk** comp=Z,6.0nm,1.1s	**85.61**	**5**	*e*P		**P**	**08 48 58.6**	**+0.9**
KIV					pmax	pmax		
LPAZ	**La Paz** comp=Z,0.8nm,0.9s,baz=349,slow=5.2,SNR=3.6	**85.74**	**122**	P		**P**	**08 48 57.2**	**-2.0**
KBZ	**Khabaz** comp=Z,0.5nm,0.5s,baz=346,slow=8.3,SNR=2.2	**85.85**	**5**	P		**P**	**08 48 59.0**	**+0.3**
KBZ	comp=Z,60nm,18.1s,baz=9.0,slow=38				LR	LR	09 30 48.9	
KBZ	**Khabaz**	**85.85**	**5**	P		**P**	**08 48 59.0**	**+0.3**
NEY	**Neytrino**	**86.31**	**5**	*e*P		**P**	**08 49 01.9**	**+0.6**
NEY	comp=Z,2.0nm,1.2s				pmax	pmax		
KEST	**Kesra** comp=Z,105nm,19.5s,baz=302,slow=36	**86.85**	**32**	LR		LR	09 28 47.7	
VAE	**Valguarnera** comp=Z,105nm,19.2s,baz=326,slow=36	**86.86**	**28**	LR		LR	09 28 52.7	
BRTR	**Keskin Array B** comp=Z,45nm,21.5s,baz=336,slow=36	**88.91**	**13**	LR		LR	09 30 01.3	
GNI	**Garni** comp=Z,39nm,19.1s,baz=257,slow=39	**89.51**	**4**	LR		LR	09 35 02.0	
ISP	**Isparta**	**90.29**	**15**	*ce*P		**P**	**08 49 19.3**	**-1.0**
ISP	comp=Z,4.0nm,0.8s				pmax	pmax		
IDI	**Anoyia** comp=Z,56nm,18.6s,baz=272,slow=37	**91.64**	**20**	LR		LR	09 33 24.4	
DAV	**Davao City (W)** comp=Z,63nm,21.9s,baz=146,slow=30	**93.66**	**286**	LR		LR	09 23 44.2	
MMAI	**Mount Meron Ar** comp=Z,81nm,19.6s,baz=210,slow=37	**95.75**	**12**	LR		LR	09 35 39.5	
CMAR	**Chiang Mai Arr** comp=Z,38nm,18.3s,baz=158,slow=36	**98.93**	**314**	LR		LR	09 35 24.3	

IDC ***22*** *09:39:36.9±4.2, 24°.22N×109°.05W, h0km, mb3.1/2, mb1 3.5/5, mb1mx3.4/52, mbtmp3.1/5, ML3.8/3, Error ellipse: s-maj=69.4km s-min=11.5km az=154.0*

ISC 22 08:39:39.0±3.8, 24°.2N±0°.4×109°.1W±0°.2, h22km, n6, σ1§34/7, Gulf of California

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
LPIG	**La Paz** 83nm,0.3s,baz=90,slow=5.0,SNR=26	**1.12**	**267**	Pg		**Pb**		**08 39 58.8**	**-0.9**
LPIG				Lg		Lg		08 40 14.7	
TXAR	**Lajitas Array** 71nm,0.3s,baz=71,slow=18,SNR=13	**7.07**	**42**	Pn		**Pn**		**08 41 21.0**	**-0.3**
TXAR	0.4nm,0.3s,baz=218,slow=14,SNR=18			Sn		**Sn**		**08 42 39.7**	**-1.4**
TXAR	0.1nm,0.3s,baz=235,slow=26,SNR=2.3			Lg		Lg		08 43 17.2	
NVAR	**Mina Array Bea** 0.3nm,0.3s,baz=225,slow=30,SNR=3.7 baz=154,slow=13,SNR=2.0	**16.25**	**333**	Pn		**P**		**08 43 28.6**	**-0.4**
PDAR	**Pinedale Array** 0.1nm,0.3s,baz=176,slow=12,SNR=2.4	**18.56**	**359**	P		**Pn**		**08 43 55.0**	**+0.1**
YKA	**Yellowknife Ar** 0.1nm,0.5s,baz=161,slow=7.4,SNR=2.4	**38.50**	**356**	P		**P**		**08 47 01.4**	**+2.0**
ILAR	**Eielson Array** 0.4nm,0.9s,baz=142,slow=6.6,SNR=2.7	**47.39**	**339**	P		**P**		**08 48 11.4**	**+0.2**

CSEM ***22*** *09:07:34.9±0.2, 37°.29N×31°.92E, h5km, ML2.5, Error ellipse: s-maj=4.6km s-min=4.4km az=176.0*
ISK ***22*** *09:07:34.7, 37°.32N×31°.93E, h13km, ML2.6/7*
DDA ***22*** *09:07:35.5, 37°.32N×31°.98E, h7km, Ml2.5*

ISC 22 09:07:35.8±1.1, 37°.31N±0°.03×31°.91E±0°.03, h14km±10km, n23, σ1§13/33, Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KEPZ	**Antalya-Kepez**	**0.48**	**211**	*i* P		**Pg**		**09 07 44.3**	**-0.9**
KEPZ				*i* S		**Sb**		**09 07 54.5**	**+1.6**
KEPZ	**Antalya-Kepez**	**0.48**	**211**	P		**Pg**		**09 07 44.3**	**-0.9**
SUTC	**Sutluce-Ispart**	**0.74**	**283**	PG		**Pg**		**09 07 49.8**	**-0.5**
SUTC				SG		**Sb**		**09 08 00.8**	**+0.1**
SUTC	**Sutluce-Ispart**	**0.74**	**283**	*e*Pg		**Pg**		**09 07 49.8**	**-0.5**
SUTC				*e*Sg		**Sb**		**09 08 00.8**	**+0.1**
LADK	**Ladik-KONYA**	**0.96**	**22**	PG		**Pb**		**09 07 53.5**	**-0.7**
LADK				SG		**Sb**		**09 08 06.8**	**0.0**
LADK	**Ladik-KONYA**	**0.96**	**22**	*e*Pg		**Pb**		**09 07 53.5**	**-0.7**
LADK				*e*Sg		**Sb**		**09 08 06.8**	**0.0**
ERMK	**Ermenek**	**1.04**	**130**	*i* P		**Pg**		**09 07 54.3**	**-1.7**
ERMK				*i* S		**Sn**		**09 08 11.2**	**+0.6**
ERMK	**Ermenek**	**1.04**	**130**	P		**Pg**		**09 07 54.3**	**-1.7**
ISP	**Isparta**	**1.22**	**295**	PN		**Pg**		**09 07 58.2**	**-1.0**
ISP	**Isparta**	**1.22**	**295**	*e*Pn		**Pg**		**09 07 58.2**	**-1.0**
KDHN	**Kadinhani**	**1.22**	**8**	*i* P		**Pn**		**09 07 58.8**	**+0.3**
KDHN				*i* S		**Sn**		**09 08 14.6**	**-0.3**
KDHN	**Kadinhani**	**1.22**	**8**	P		**Pn**		**09 07 58.8**	**+0.3**
KDHN				S		**Sn**		**09 08 14.6**	**-0.3**
KORT	**Korkueli**	**1.28**	**257**	PN		**Pn**		**09 07 59.1**	**-0.3**
KORT	**Korkueli**	**1.28**	**257**	*e*Pn		**Pn**		**09 07 59.1**	**-0.3**
TEVE	**Tevekalti-Mers**	**1.51**	**125**	PN		**Pn**		**09 08 02.1**	**-0.3**
TEVE	**Tevekalti-Mers**	**1.51**	**125**	*e*Pn		**Pn**		**09 08 02.1**	**-0.3**
GULN	**MERSIN_Gulnar**	**1.73**	**130**	*i* P		**Pg**		**09 08 07.8**	**-1.1**
GULN				*i* S		**Sg**		**09 08 31.5**	**+0.2**
AKKU	**Akkuyu-Mersin**	**1.75**	**131**	PN		**Pn**		**09 08 05.6**	**-0.1**
AKKU	**Akkuyu-Mersin**	**1.75**	**131**	*e*Pn		**Pn**		**09 08 05.6**	**-0.1**
KERG	**Konya-Eregli**	**1.77**	**86**	*i* P		**Pb**		**09 08 07.8**	**-0.2**
KERG				*i* S		**Sg**		**09 08 37.2**	**+4.5**
KERG	**Konya-Eregli**	**1.77**	**86**	P		**Pb**		**09 08 07.8**	**-0.2**
AKAS	**Kas**	**2.14**	**241**	PN		**Pn**		**09 08 11.5**	**+0.3**
AKAS	**Kas**	**2.14**	**241**	*e*Pn		**Pn**		**09 08 11.5**	**+0.3**

ISCJB ***22*** *09:17:10.9±0.2, 32°.83S±0°.02×179°.75E±0°.04, h200km, mb4.8/53, Error ellipse: s-maj=5.6km s-min=2.2km az=23.9*
MOS ***22*** *09:17:12.4±1.4, 32°.72S×179°.82E, h221km, mb4.8/11, Error ellipse: s-maj=12.9km s-min=10.4km az=75.4*
NEIC ***22*** *09:17:12.6±0.7, 32°.84S×179°.87E, h215km±6km, mb4.9/38, Error ellipse: s-maj=8.4km s-min=5.9km az=118.0*
IDC ***22*** *09:17:14.0±1.2, 32°.56S×179°.84E, h226km±10km, mb4.1/13, mb1 4.2/16, mb1mx3.9/45, mbtmp4.8/16, Error ellipse: s-maj=14.5km s-min=10.8km az=137.0*
WEL ***22*** *09:17:15.9±0.5, 33°.S±6°×18°.0E±1°.3, h33km, ML5.8/14*

ISC 22 09:17:11.3±0.3, 32°.80S±0°.04×179°.78E±0°.06, h200km, n318, σ2§21/326, mb4.9/53, 10C-4D, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**4.04**	**30**	S		**Sn**		**09 19 02.1**	**-0.5**
GLKZ	**Green Lake**	**4.04**	**30**	P		**Pn**		**09 18 14.7**	**+1.0**
RAO	**Raoul Island** 104nm,0.3s,baz=58,slow=19,SNR=2.8	**4.05**	**30**	P		**Pn**		**09 18 13.8**	**+0.1**
RAO	120nm,0.3s,baz=49,slow=19,SNR=4.1			S		**Sn**		**09 19 02.4**	**-0.4**
MXZ	**Matakaoa Point**	**4.90**	**194**	*e*Pn		**Pn**		**09 18 28.5**	**+4.1**
MXZ				*e*S		**Sn**		**09 19 29.5**	**+7.5**
MXZ	**Matakaoa Point**	**4.90**	**194**	P		**Pn**		**09 18 28.1**	**+3.8**
MXZ	**Matakaoa Point**	**4.90**	**194**	S		**Sn**		**09 19 26.9**	**+4.8**
GRZ	**Great Barrier**	**4.96**	**225**	P		Pn		09 18 33.2	+8.2
WMGZ	**Waiomatatini S**	**5.13**	**192**	P		**Pn**		**09 18 31.4**	**+4.2**
WMGZ	**Waiomatatini S**	**5.13**

MTVZ **Mangateitei** 7.44 207 P **Pn** 09 19 00.6 +3.4
MTVZ **Mangateitei** 7.44 207 S **Sn** 09 20 24.8 +3.4
VRZ **Vera Road** 7.51 211 P Pn 09 19 04.6 +6.5
PNHZ **Pukenui** 7.66 201 P **Pn** 09 19 00.6 +0.5
PNHZ **Pukenui** 7.66 201 S **Sn** 09 20 24.5 -2.2
DREZ **Durham Road** 7.81 214 P Pn 09 19 09.5 +7.5
TSZ **Takapari Road** 7.87 202 P **Pn** 09 19 03.1 +0.3
PKE **Pukeiti** 7.92 215 P Pn 09 19 11.1 +7.6
LREZ **Lake Rotokare** 7.94 212 P Pn 09 19 09.2 +5.6
WAZ **Wanganui** 7.94 208 P **Pn** 09 19 07.1 +3.3
WAZ **Wanganui** 7.94 208 S **Sn** 09 20 36.1 +2.8
PREZ **Palmer Road** 7.96 213 P Pn 09 19 11.0 +7.1
DVHZ **Dannevirke** 8.03 200 P **Pn** 09 19 04.6 -0.2
DVHZ **Dannevirke** 8.03 200 S **Sn** 09 20 32.5 -2.8
NMEZ **Namu Road** 8.14 214 P Pn 09 19 13.0 +6.7
PRWZ **Pori Road** 8.32 200 P **Pn** 09 19 09.5 +0.8
PRWZ **Pori Road** 8.32 200 S **Sn** 09 20 37.9 -4.3
BFZ **Birch Farm** 8.36 199 *e*Pn **Pn** 09 19 09.5 +0.3
BFZ *e*S **Sn** 09 20 45.1 +2.0
BFZ **Birch Farm** 8.36 199 P **Pn** 09 19 08.7 -0.4
BFZ **Birch Farm** 8.36 199 S **Sn** 09 20 39.8 -3.4
MRZ **Mangatainoka R** 8.54 202 P **Pn** 09 19 10.6 -0.8
MRZ **Mangatainoka R** 8.54 202 S **Sn** 09 20 41.8 -5.5
TIWZ **Tintock** 8.55 200 P **Pn** 09 19 11.2 -0.4
TIWZ **Tintock** 8.55 200 S **Sn** 09 20 45.0 -2.7
HOWZ **Holdsworth Sta** 8.77 202 P **Pn** 09 19 13.5 -1.0
OGWZ **Otaki Gorge** 8.81 203 P **Pn** 09 19 14.6 -0.4
OGWZ **Otaki Gorge** 8.81 203 S **Sn** 09 20 49.1 -4.7
TMWZ **Te Maipa** 8.85 199 P **Pn** 09 19 15.6 0.0
TMWZ **Te Maipa** 8.85 199 S **Sn** 09 20 50.1 -4.8
KIW **Kapiti Island** 8.94 204 P **Pn** 09 19 15.9 -0.8
KIW **Kapiti Island** 8.94 204 S **Sn** 09 20 51.3 -5.6
MTW **Mount Morrison** 9.01 201 P **Pn** 09 19 16.8 -0.8
MTW **Mount Morrison** 9.01 201 S **Sn** 09 20 53.2 -5.5
CAW **Cannon Point** 9.11 203 P **Pn** 09 19 17.6 -1.2
TRWZ **Traveller** 9.18 200 P **Pn** 09 19 19.5 -0.3
TRWZ **Traveller** 9.18 200 S **Sn** 09 20 56.8 -5.9
PAWZ **Paruwai Farm** 9.24 201 P **Pn** 09 19 20.1 -0.6
DUWZ **D'Urville Isla** 9.26 209 P **Pn** 09 19 21.4 +0.5
MSWZ **Moikau Station** 9.33 202 P **Pn** 09 19 21.5 -0.3
SNZO **South Karori** 9.41 204 *e*Pn **Pn** 09 19 23.5 +0.8
SNZO *e*S **Sn** 09 21 05.0 -3.0
BHW **Baring Head** 9.44 203 P **Pn** 09 19 22.9 -0.2
PLWZ **Palliser** 9.46 201 P **Pn** 09 19 22.5 -1.1
TCW **Tory Channel** 9.47 206 P **Pn** 09 19 22.9 -0.8
TUWZ **Tuamarina** 9.79 207 P **Pn** 09 19 26.6 -1.1
NNZ **Nelson** 9.83 210 P **Pn** 09 19 27.8 -0.5
CMWZ **Cape Campbell** 9.97 205 P **Pn** 09 19 31.7 +1.7
BSWZ **Blackbirch Sta** 10.06 206 P **Pn** 09 19 31.3 +0.1
THZ **Tophouse** 10.48 209 *e*Pn **Pn** 09 19 37.5 +0.8
THZ *e*S **Sn** 09 21 30.9 -2.8
THZ **Tophouse** 10.48 209 P **Pn** 09 19 36.0 -0.7
KHZ **Kahutara** 10.79 205 *e*Pn **Pn** 09 19 40.8 +0.1
KHZ *e*S **Sn** 09 21 34.8 -6.1
KHZ **Kahutara** 10.79 205 P **Pn** 09 19 39.1 -1.5
LTZ **Lake Taylor** 11.59 209 *e*Pn **Pn** 09 19 51.1 +0.2
LTZ *e*S **Sn** 09 21 56.6 -3.6
LTZ **Lake Taylor** 11.59 209 P **Pn** 09 19 50.7 -0.2
INZ **Inchbonnie** 11.89 211 P **Pn** 09 19 54.2 -0.5
OKCZ **Okains Bay** 12.11 204 P **Pn** 09 19 57.6 +0.1
CRLZ **Canterbury Las** 12.13 206 *e*Pn **Pn** 09 19 58.5 +0.7
CRLZ *e*S **Sn** 09 22 08.1 -4.8
CRLZ **Canterbury Las** 12.13 206 P **Pn** 09 19 58.5 +0.7
OXZ **Oxford** 12.14 208 *e*Pn **Pn** 09 19 57.9 0.0
OXZ *e*S **Sn** 09 22 06.1 -7.1
OXZ **Oxford** 12.14 208 P **Pn** 09 19 56.8 -1.1
MQZ **McQueen's Vall** 12.24 205 *e*Pn **Pn** 09 19 58.4 -0.7
MQZ *e*S Sn 09 22 05.4 -10
MQZ **McQueen's Vall** 12.24 205 P **Pn** 09 19 57.2 -1.8
RPZ **Rata Peaks** 12.86 210 P **Pn** 09 20 05.9 -1.1
7.8nm,0.3s,baz=330,slow=0.4,SNR=53
RPZ S S 09 22 20.5 -10
8.7nm,0.3s,baz=108,slow=22,SNR=15
RPZ **Rata Peaks** 12.86 210 *e*Pn **Pn** 09 20 06.5 -0.4
RPZ S S 09 22 20.6 -10
FOZ **Fox Glacier** 13.26 213 *e*Pn **Pn** 09 20 11.7 -0.2
LBZ **Lake Benmore** 13.77 210 *e*Pn **Pn** 09 20 18.3 0.0
ODZ **Otahua Downs** 14.13 207 *e*Pn **Pn** 09 20 22.9 +0.2
WKZ **Wanaka** 14.63 212 *e*Pn **Pn** 09 20 28.0 -0.9
MSVF **Nonsavu** 15.09 354 *e*P **P** 09 20 36.6 +1.3
41nm,0.7s
MSVF **Nonsavu** 15.09 354⇑ *i*P **P** 09 20 36.9 +1.6
MSVF pmax pmax
comp=Z,24nm,0.8s
MLZ **Mavora Lakes** 15.45 212 *e*P **P** 09 20 39.4 +0.4
comp=Z,36nm,1.3s
MLZ *e*S **S** 09 23 25.4 -5.0
DZM **Mont Dzumac** 15.93 309 P **P** 09 20 45.4 +0.7
comp=Z,0.7nm,0.3s,baz=166,slow=19,SNR=6.4
DZM **Mont Dzumac** 15.93 309 *e*P **Pn** 09 20 48.3 +3.3
comp=Z,37nm,1.2s
WHZ **Wether Hill Ro** 15.93 211 *e*P **P** 09 20 44.3 0.0
comp=Z,114nm,1.9s
DCZ **Deep Cove** 15.97 214 *e*P **P** 09 20 44.1 -0.6
comp=Z,36nm,1.2s
AFI **Afiamalu** 20.32 24 P **P** 09 21 30.6 -1.7
comp=Z,30nm,0.9s,baz=210,slow=20,SNR=2.1
MGCD **Mangrove Creek** 24.02 261 P **P** 09 22 12.3 +4.4
baz=25,SNR=11
ARMA **Armidale** 24.07 268 P **P** 09 22 12.6 +4.1
baz=25,SNR=5.9
ARMA **Armidale** 24.07 268 *e*P **P** 09 22 12.6 +4.1
comp=Z,57nm,1.8s
CNB **Canberra Magne** 25.28 256 P **P** 09 22 23.3 +3.9
baz=26,SNR=12
CAN **Canberra** 25.58 256 P **P** 09 22 25.0 +3.0
baz=27
CAN **Canberra** 25.58 256 *e*P **P** 09 22 25.5 +3.5
comp=Z,35nm,1.5s
CAN **Canberra** 25.58 256 *e*P **P** 09 22 25.5 +3.5
CAN pmax pmax
comp=Z,35nm,1.5s
EIDS **Eidsvold** 26.10 279 P **P** 09 22 29.0 +2.2
baz=27,SNR=6.4
EIDS **Eidsvold** 26.10 279 *e*P **P** 09 22 28.9 +2.2
comp=Z,14nm,0.7s
YNG **Young** 26.15 258 P **P** 09 22 30.8 +3.6
baz=27,SNR=5.8
MCQ **Macquarie Isla** 26.22 208 *e*P **P** 09 22 27.1 -0.4
comp=Z,202nm,1.4s
MCQ **Macquarie Isla** 26.22 208 *e*P **P** 09 22 27.1 -0.4
MCQ pmax pmax
comp=Z,202nm,1.4s
TAU **Tasmania Unive** 27.39 239 *e*P **P** 09 22 40.0 +1.9
comp=Z,122nm,1.7s
TAU **Tasmania Unive** 27.39 239 *e*P **P** 09 22 40.0 +1.9
TAU pmax pmax
comp=Z,122nm,1.7s
RMQ **Roma** 27.62 275 P **P** 09 22 43.8 +3.4
baz=29,SNR=6.2
CMSA **Cobar Meteorol** 28.81 263 P **P** 09 22 53.8 +2.9
baz=30,SNR=29
HNR **Honiara** 29.61 317 P **P** 09 22 56.6 -1.3
comp=Z,55nm,0.6s,baz=205,slow=5.8,SNR=5.5
KNTN **Kanton** 30.92 17 *e*P **P** 09 23 10.4 +0.9
comp=Z,172nm,1.5s
QLP **Quilpie** 31.39 272 P **P** 09 23 15.5 +1.9
baz=32,SNR=9.2
STKA **Stephens Creek** 32.16 261 P **P** 09 23 22.5 +2.3
comp=Z,12nm,0.8s,baz=95,slow=12,SNR=14
STKA **Stephens Creek** 32.16 261 P **P** 09 23 23.1 +2.9
baz=33,SNR=6.4
STKA **Stephens Creek** 32.16 261 *e*P **P** 09 23 23.2 +2.9
comp=Z,2.6nm,0.8s
STKA **Stephens Creek** 32.16 261 *e*P **P** 09 23 23.2 +2.9
STKA pmax pmax
comp=Z,3.0nm,0.8s
CTAO **Charters Tower** 32.44 285 *e*P **P** 09 23 25.0 +2.2
comp=Z,23nm,0.6s
CTAO **Charters Tower** 32.44 285 *e*P **P** 09 23 25.0 +2.2
CTAO pmax pmax
comp=Z,23nm,0.6s
HTT **Hallett** 34.07 258 P **P** 09 23 39.1 +2.2
baz=35,SNR=6.5
MTSU **Mount Surprise** 35.01 286 P **P** 09 23 46.9 +2.0
baz=36,SNR=16
BBOO **Buckleboo** 36.55 258 P **P** 09 23 59.3 +1.4
baz=38,SNR=5.8
BBOO **Buckleboo** 36.55 258 *e*P **P** 09 23 58.9 +1.0
comp=Z,108nm,1.8s
QIS **Mount Isa** 37.70 279 P **P** 09 24 08.8 +1.1
baz=39,SNR=14
COEN **Coen** 38.22 291 P **P** 09 24 13.6 +1.5
baz=39,SNR=20
COEN **Coen** 38.22 291 *e*P **P** 09 24 13.7 +1.5
comp=Z,18nm,0.9s
AS01 **Alice Springs** 41.13 271 *e*P **P** 09 24 37.1 +1.0
AS31 **Alice Springs** 41.16 271 *e*P **P** 09 24 37.4 +1.1
comp=Z,15nm,0.8s
ASAR **Alice Springs** 41.16 271 P **P** 09 24 37.4 +1.0
comp=Z,49nm,0.7s,baz=106,slow=7.6,SNR=710
ASAR S **S** 09 30 31.4 -3.2
comp=Z,2.6nm,0.8s,baz=119,slow=16,SNR=12
WB2 **Warramunga Arr** 42.37 276 *e*P **P** 09 24 46.9 +0.8
comp=Z,77nm,0.8s
WB2 *e*S **S** 09 30 49.0 -3.3
WRAB **Tennant Creek** 42.37 276 *e*P **P** 09 24 46.7 +0.5
comp=Z,67nm,0.7s
WRAB **Tennant Creek** 42.37 276 *d i*P **P** 09 24 46.5 +0.4
WRAB *i* *PP **pP** 09 25 32.8 +3.9
WRAB pmax pmax
comp=Z,65nm,0.7s
WRA **Warramunga Arr** 42.38 276 P **P** 09 24 46.8 +0.6
comp=Z,80nm,0.7s,baz=115,slow=7.7,SNR=591
WRA S **S** 09 30 48.7 -3.8
comp=Z,4.8nm,1.0s,baz=116,slow=14,SNR=8.2
MANU **Manus Island** 43.15 308 *e*P **P** 09 24 52.9 +0.6
comp=Z,62nm,1.0s
FORT **Forrest** 43.65 258 *e*P **P** 09 24 57.2 +1.0
comp=Z,984nm,1.3s
WRKA **Warakurna** 45.36 266 P **P** 09 25 10.3 +0.4
baz=46,SNR=23
MTN **Manton Dam** 48.56 282 P **P** 09 25 34.8 +0.1
baz=50,SNR=20
MTN **Manton Dam** 48.56 282 *e*P **P** 09 25 34.8 +0.1
comp=Z,47nm,0.7s
KNRA **Kununurra** 49.07 278 P **P** 09 25 39.3 +0.8
baz=50,SNR=13
KLBR **Kellerberrin** 51.82 254 P **P** 09 25 58.4 -0.5
baz=53
CASY **Casey** 52.13 209 *e*P **P** 09 26 00.9 +0.2
comp=Z,90nm,1.8s
MEEK **Meekatharra** 52.84 260 P **P** 09 26 06.6 0.0
baz=54
FAKI **Fak Fak** 53.47 294 *e*P **P** 09 26 11.3 0.0
comp=Z,46nm,0.8s
LEM **Lembang** 71.35 274 P **P** 09 28 10.1 +0.1
comp=Z,12nm,0.4s,baz=300,slow=20,SNR=3.3
SNAA **Sanae** 75.80 179 P **P** 09 28 35.8 +1.0
SNAA **Sanae** 75.80 179 P **P** 09 28 35.8 +1.0
comp=Z,3.2nm,0.8s,baz=252,slow=2.5,SNR=11
SNAA **Sanae** 75.80 179⇑ *e*P **P** 09 28 33.6 -1.2
VNA3 **Neumayer Olymp** 76.03 177 P **P** 09 28 37.2 +1.2
VNA2 **Neumayer--Watz** 76.44 178 P **P** 09 28 39.9 +1.5
baz=171,slow=4.1
VNA1 **Neumayer--Stat** 76.68 177 P **P** 09 28 41.2 +1.6
MJAR **Matsushiro Arr** 79.18 327 P **P** 09 28 51.5 -2.3
comp=Z,1.8nm,0.8s,baz=145,slow=2.9,SNR=4.4
MAJO **Matsushiro** 79.18 327 *e*P **P** 09 28 53.8 0.0
comp=Z,32nm,1.6s
MAJO **Matsushiro** 79.18 327 *e*P **P** 09 28 53.8 0.0
MAJO pmax pmax
comp=Z,32nm,1.6s
MJB9 **Matsu-Tunnel** 79.18 327 *e*P **P** 09 28 53.8 0.0
comp=Z,39nm,1.7s
EFI **East Falkland** 81.79 148⇑ *e*P **P** 09 29 06.6 -1.1
EFI pmax pmax
comp=Z,88nm,1.3s
PLCA **Paso Flores** 82.24 134 P **P** 09 29 11.9 +1.6
comp=Z,3.6nm,0.9s,baz=274,slow=5.2,SNR=7.5
PLCA **Paso Flores** 82.24 134 P **P** 09 29 12.0 +1.6
GSI **Gununguitoli** 84.14 275 *e*P **P** 09 29 20.6 +0.2
comp=Z,28nm,0.8s
KSRS **Korea Array** 84.98 321 P **P** 09 29 23.5 -0.4
comp=Z,2.5nm,0.7s,baz=137,slow=5.6,SNR=9.5
KSAR **Wonju Array Be** 84.99 321 P **P** 09 29 23.5 -0.5
KSAR **Wonju Array Be** 84.99 321 P **P** 09 29 23.5 -0.5
KS01 **Wonju Array Si** 85.02 321 *e*P **P** 09 29 23.8 -0.3
NJ2 **Nanjing** 86.40 312 *e*P **P** 09 29 31.8 +0.7
NJ2 pmax pmax
comp=Z,7.0nm,0.5s
PET **Petropavlovsk** 87.43 347⇑ *e*P **P** 09 29 34.3 -1.1
PET pmax pmax
comp=Z,12nm,1.0s
PEA0B **Petropavlovsk-** 87.69 347 *e*P **P** 09 29 36.7 0.0
comp=Z,50nm,1.6s
PETK **Petropavlovsk-** 87.69 347 P **P** 09 29 36.3 -0.4
comp=Z,8.0nm,0.7s,baz=123,slow=7.0,SNR=18
PETK **Petropavlovsk-** 87.69 347 *e*P **P** 09 29 36.5 -0.2
PETK **Petropavlovsk-** 87.69 347 *e*P **P** 09 29 36.5 -0.2
USRK **Ussuriysk Ar.** 88.14 328 P **P** 09 29 38.3 -0.8
comp=Z,1.8nm,0.8s,baz=131,slow=6.5,SNR=3.5
BAR **Barrett** 88.47 49 *e*P **P** 09 29 42.0 +1.0
comp=Z,11nm,1.4s
MURC **Murrieta** 88.75 48 P **P** 09 29 43.2 +0.9
baz=228
MONP2 **Monument Peak** 88.77 49 P **P** 09 29 43.2 +0.6
baz=229,SNR=5.4
IKP **In-Ko-Pah, Jac** 88.81 49 P **P** 09 29 44.4 +1.8
baz=229,SNR=6.7
BFSC **Mount Baldy Ra** 88.88 47 P **P** 09 29 44.2 +1.3
baz=228,SNR=7.8
VES **Vestal, Richgr** 89.08 45 P **P** 09 29 45.0 +1.3
baz=227
EDW2 **Edwards Air Fo** 89.10 47 P **P** 09 29 45.7 +1.8
baz=228,SNR=5.8
SWSC **Sam W. Stewart** 89.20 49 P **P** 09 29 46.8 +2.5
baz=229
PFO **Pinyon Flats O** 89.22 48 P **P** 09 29 46.2 +1.6
baz=229
PFO **Pinyon Flats O** 89.22 48 *e*P **P** 09 29 43.0 -1.6
comp=Z,4.3nm,1.0s
PFO **Pinyon Flats O** 89.22 48 *e*P **P** 09 29 43.0 -1.6
PFO pmax pmax
comp=Z,4.0nm,1.0s
ISA **Isabella, Lake** 89.33 46 P **P** 09 29 46.6 +1.6
baz=228,SNR=6.7
SDPT **Sand Point** 89.42 11 *e*P **P** 09 29 45.1 +0.4
comp=Z,28nm,0.7s
LRMC **Laurel Mtn Rad** 89.69 46 P **P** 09 29 48.1 +1.4
baz=228
BELC **Belle Mtn. Jos** 89.76 48 P **P** 09 29 49.4 +2.3
baz=229,SNR=6.1
CMB **Columbia Colle** 89.81 43 *e*P **P** 09 29 47.6 +0.5
comp=Z,4.1nm,1.0s
CMB **Columbia Colle** 89.81 43 *e*P **P** 09 29 47.6 +0.5
CMB pmax pmax
comp=Z,4.0nm,1.0s
BC3 **Big Chuckawall** 89.88 49 P **P** 09 29 49.4 +1.8
baz=229,SNR=6.6
GLA **Glamis** 89.89 50 P **P** 09 29 49.6 +1.9
baz=230
CWC **Cottonwood Cre** 90.08 45 P **P** 09 29 50.6 +2.0
baz=228
HEC **Hector,Ludlow** 90.09 48 P **P** 09 29 50.1 +1.5
baz=229,SNR=5.1
GSC **Goldstone, Bar** 90.11 47 P **P** 09 29 50.2 +1.5
baz=229
GSC **Goldstone, Bar** 90.11 47 *e*P **P** 09 29 48.9 +0.2
comp=Z,5.7nm,1.1s
GSC **Goldstone, Bar** 90.11 47 *e*P **P** 09 29 48.9 +0.2
GSC pmax pmax
comp=Z,6.0nm,1.1s
MPMC **Manual Prospec** 90.19 46 P **P** 09 29 50.0 +0.9
baz=228
WDC **Whiskeytown Da** 90.37 40 *e*P **P** 09 29 49.5 -0.1
comp=Z,6.5nm,1.1s
WDC **Whiskeytown Da** 90.37 40 *e*P **P** 09 29 49.5 -0.1
WDC pmax pmax
comp=Z,7.0nm,1.1s
IRM **Iron Mountain** 90.40 49 P **P** 09 29 52.1 +2.1
baz=230,SNR=8.9
214A **Organ Pipe Nat** 90.51 52 P **P** 09 29 52.6 +2.1
baz=231
O03D **Paynes Creek** 90.57 41 P **P** 09 29 51.0 +0.3
baz=226
CHGN **Chignik** 90.67 12 *e*P **P** 09 29 50.6 0.0
comp=Z,18nm,0.7s
TUQ **Turquoise Moun** 90.74 47 P **P** 09 29 53.1 +1.4
baz=229
SHOC **Shoshone, Teco** 90.83 47 P **P** 09 29 53.5 +1.6
baz=229
FURC **Furnace Creek,** 90.84 46 P **P** 09 29 52.6 +0.8
baz=229
GRAC **Grapevine Rang** 90.88 45 P **P** 09 29 52.8 +0.6
baz=228
GYA **Guiyang** 91.13 301 *e*P **P** 09 29 55.0 +1.4
GYA pP pP 09 30 53.3 +10
GYA sP sP 09 31 17.0 +13
GYA PP **PP** **09 33 38.4 +4.8**
GYA SKS **SKSac** **09 40 02.8 -4.0**
GYA S **S** **09 40 31.5 -3.0**
GYA pmax pmax
comp=Z,10.0nm,1.0s
NV01 **Mina Array Sit** 91.28 44 *e*P **P** 09 29 55.0 +0.8
NVAR **Mina Array Bea** 91.28 44 P **P** 09 29 54.5 +0.3
comp=Z,1.8nm,0.8s,baz=223,slow=8.2,SNR=16
TPNV **Topopah Spring** 91.53 46 P **P** 09 29 56.2 +0.9
baz=229
M04C **Macdoel** 91.58 40 P **P** 09 29 56.1 +0.7
baz=226
KLR **Kul'dur** 92.17 331⇑ *e*P **P** 09 29 55.4 -2.3
J04D **Umpqua Nationa** 92.46 38 P **P** 09 30 00.5 +1.0
baz=226
OHAK **Old Harbor** 92.52 14 *e*P **P** 09 30 00.3 +1.2
comp=Z,92nm,1.6s
I04A **Tendick Farm,** 92.69 38 P **P** 09 30 01.1 +0.8
baz=225
K05A **Summer Lake** 92.75 39 *e*P **P** 09 30 02.5 +1.7
J05D **Fort Rock, OR** 92.95 39 P **P** 09 30 02.4 +0.7
baz=226
BMN **Battle Mountai** 93.23 43 *e*P **P** 09 30 03.2 +0.1
comp=Z,2.5nm,0.8s
BMN **Battle Mountai** 93.23 43 *e*P **P** 09 30 03.2 +0.1
BMN pmax pmax
comp=Z,3.0nm,0.8s
KMI **Kunming** 93.24 298 P **P** 09 30 05.0 +1.5
KMI pmax pmax
comp=Z,15nm,0.6s
KMI pmax pmax
comp=Z,71nm,4.5s
PINE **Pine Mountain** 93.45 39 *e*P **P** 09 30 05.6 +1.6
comp=Z,7.5nm,0.8s
I05D **Terrebonne, OR** 93.62 38 P **P** 09 30 05.5 +0.9
baz=226
WVOR **Wild Horse Val** 93.77 41 *e*P **P** 09 30 06.6 +1.1
comp=Z,4.4nm,1.3s
WVOR **Wild Horse Val** 93.77 41 *e*P **P** 09 30 06.6 +1.1
WVOR pmax pmax
comp=Z,4.0nm,1.3s
TXAR **Lajitas Array** 95.27 59 P **P** 09 30 12.9 +0.3
comp=Z,0.2nm,0.7s,baz=208,slow=3.1,SNR=3.1
CD2 **Chengdu** 95.78 303 *e*P **P** 09 30 15.5 +0.7
B05A **Bryant** 95.97 35 P **P** 09 30 16.6 +1.5
baz=226
HHC **Hu-ho-hao-te** 96.56 315 *e*P **P** 09 30 21.1 +2.9
HHC S **S** **09 41 21.8 +0.4**
HHC pmax pmax
comp=Z,10.0nm,1.5s
HHC pmax pmax
comp=Z,50nm,8.0s
LLLB **Lillooet** 97.69 33 *e*P **P** 09 30 21.6 -1.3
comp=Z,17nm,1.9s
LZH **Lanzhou** 98.65 307 ⇑P P 09 30 15.8 -12
LZH pP pP 09 31 14.8 -2.6
LZH sP sP 09 31 38.0 -0.2
LZH PP PP 09 34 23.0 -8.8
LZH pmax pmax
comp=Z,20nm,1.5s
LZH pmax pmax
comp=Z,92nm,7.7s
ILAR **Eielson Array** 100.69 14 P **Pdif** 09 30 34.6 -1.3
comp=Z,0.7nm,0.8s,baz=230,slow=6.2,SNR=6.7
ILAR PKiKP **PKiKP** 09 35 00.1 -0.7
comp=Z,0.6nm,0.9s,baz=286,slow=1.3,SNR=4.4
BILL **Bilibino** 101.04 355⇑ *e*P **Pdif** 09 30 34.6 -2.8
BILL *e* 09 34 50.7
BILL *e*S **Sdif** **09 41 54.4 -3.2**
BILL pmax pmax
comp=Z,1.0nm,0.7s
YKA **Yellowknife Ar** 108.43 26 PKiKP **PKiKP** 09 35 14.0 -1.0
comp=Z,0.4nm,0.6s,baz=253,slow=1.4,SNR=11
TIXI **Tiksi** 110.07 345⇑ *i*PKiKP **PKiKP** 09 35 16.3 -1.6
WMQ **Urumqi** 113.22 308 *e*PKP **PKiKP** 09 35 23.9 -0.9
FCC **Fort Churchill** 115.50 35 *e*PKPdf **PKPdf** 09 35 26.9 -1.7
FCC **Fort Churchill** 115.50 35 *e*PKIKP **PKPdf** 09 35 26.9 -1.7
N54A **Moraine State** 117.73 57 *e*PKPdf **PKPdf** 09 35 32.9 -0.6
MK01 **Makanchi Array** 117.84 310 *e*PKPdf **PKPdf** 09 35 32.1 -1.5
MKAR **Makanchi Array** 117.85 310 PKP **PKPdf** 09 35 31.9 -1.7
comp=Z,0.3nm,0.5s,baz=129,slow=0.6,SNR=2.8
JSRW **J. Sargeant Re** 118.10 61 *e*PKPdf **PKPdf** 09 35 33.2 -1.1
IP03 **Louisa** 118.12 61 *e*PKPdf **PKPdf** 09 35 33.6 -0.7
IP05 **Hopewell Churc** 118.24 61 *e*PKPdf **PKPdf** 09 35 34.0 -0.6
SADO **Sadowa** 119.58 53 *e*PKPdf **PKPdf** 09 35 36.0 -0.9
RES **Resolute Bay** 120.10 18 *e*PKPdf **PKPdf** 09 35 36.0 -1.0
RES **Resolute Bay** 120.10 18 *e*PKIKP **PKPdf** 09 35 36.0 -1.0
PLVO **Plevna** 121.06 54 *e*PKPdf **PKPdf** 09 35 39.0 -0.8
KURK **Kurchatov** 121.32 313 PKP **PKPdf** 09 35 38.0 -2.1
KURK **Kurchatov** 121.32 313 PKIKP **PKPdf** 09 35 38.0 -2.1
KURBB **Kurchatov Arra** 121.35 313 PKP **PKPdf** 09 35 38.0 -2.2
comp=Z,0.4nm,0.2s,baz=54,slow=4.7,SNR=5.3
ODNJ **Ogdensburg** 121.62 59 *e*PKPdf **PKPdf** 09 35 40.4 -0.6
AAK **Ala-Archa** 121.85 303 ⇓ *i*PKIKP **PKPdf** 09 35 40.1 -1.5
LONY **Lake Ozonia** 122.65 55 P **PKPdf** 09 35 41.7 -1.2
baz=254
ALFO **Alfred** 122.71 54 P **PKPdf** 09 35 42.0 -0.9
baz=255
NCB **Newcomb** 122.72 56 *e*PKPdf **PKPdf** 09 35 42.6 -0.4
WVL **Waterville** 126.05 56 *e*PKPdf **PKPdf** 09 35 48.8 -0.6
PKME **Peaks-Kenny Pk** 126.45 55 P **PKPdf** 09 35 49.2 -0.9
baz=258
PKME **Peaks-Kenny Pk** 126.45 55 *e*PKPdf **PKPdf** 09 35 50.0 -0.1
BVAR **Borovoye Array** 126.77 315 PKP **PKPdf** 09 35 48.6 -1.8
comp=Z,0.4nm,0.4s,baz=123,slow=5.3,SNR=4.8
BRVK **Borovoye** 126.84 315 ⇓ *i*PKIKP **PKPdf** 09 35 49.2 -1.4
PQI **Presque Isle** 127.60 54 *e*PKPdf **PKPdf** 09 35 51.3 -0.9
SHEL **Horse Pasture** 131.23 173 *i* PKIKP **PKPdf** 09 35 56.7 -3.5
GEYT **Alibeck** 132.81 293 PKP **PKPdf** 09 36 02.4 0.0
comp=Z,0.6nm,0.3s,baz=298,slow=3.1,SNR=3.3
ARU **Arti** 133.69 319 ⇓ *e*PKIKP **PKPdf** 09 36 03.1 -0.4
SPITS **Spitsbergen Ar** 133.95 355 PKP **PKPdf** 09 36 03.5 +0.1
comp=Z,6.3nm,0.9s,baz=268,slow=24,SNR=3.9
ARCES **ARCESS Array B** 140.49 346 PKhKP PKPpre 09 36 08.4
comp=Z,8.2nm,1.2s,baz=94,slow=1.8,SNR=9.3
ZEI **Tsey** 144.09 299 *i* PKHKP PKPpre 09 36 17.6
ZEI pmax pmax
comp=Z,9.0nm,1.4s
VRH **Novokhopyorsk** 144.41 314 *e*PKHKP PKPpre 09 36 19.1
VRH pmax pmax
comp=Z,9.0nm,0.9s
KBZ **Khabaz** 144.79 301 PKP PKPbc 09 36 21.6 -1.9
comp=Z,6.8nm,1.0s,baz=151,slow=0.8,SNR=11
KIV **Kislovodsk** 144.93 301 *i* PKIKP **PKPdf** 09 36 25.0 +0.6
KIV pmax pmax
comp=Z,7.0nm,1.1s
NEY **Neytrino** 144.94 300⇑ *i*PKIKP **PKPdf** 09 36 25.5 +0.9
BORG **Borgarnes** 145.49 16 PKPbc **PKPdf** 09 36 24.3 -0.2
comp=Z,15nm,0.8s,baz=326,slow=0.9,SNR=5.1
BORG **Borgarnes** 145.49 16 *e*PKPdf **PKPab** 09 36 25.7 +0.1
BORG **Borgarnes** 145.49 16 *e*PKP2 **PKPab** 09 36 25.7 +0.1
LPSR **Galich'ya Gora** 145.65 317 *e*PKIKP **PKPdf** 09 36 24.5 -0.7
LPSR pmax pmax
comp=Z,20nm,1.0s
VSR **Storozhevoye** 145.95 315 *e*PKIKP **PKPdf** 09 36 24.9 -0.9
VSR pmax pmax
comp=Z,10.0nm,0.6s
OBN **Obninsk** 145.98 322 *i* PKIKP **PKPdf** 09 36 25.0 -0.6
OBN *e* 09 36 27.9
OBN *e* 09 39 49.2
OBN pmax pmax
comp=Z,21nm,1.7s
FIA1 **FINESS Array S** 146.68 337 *e*PKPdf **PKPdf** 09 36 26.9 +0.3
FINES **FINESS Array B** 146.68 337 PKPbc **PKPdf** 09 36 26.9 +0.2
comp=Z,14nm,0.7s,baz=45,slow=4.9,SNR=78
MMAI **Mount Meron Ar** 150.18 280 PKPbc **PKPbc** 09 36 37.6 -1.1
comp=Z,3.9nm,0.6s,baz=61,slow=7.2,SNR=10
NB2 **NORSAR Subarra** 150.78 349 PKP **PKPbc** 09 36 37.4 -1.8
comp=Z,5.3nm,0.7s,baz=18,slow=2.6
NOA **NORSAR Array B** 150.78 349 PKPbc **PKPbc** 09 36 37.7 -1.5
comp=Z,4.5nm,0.6s,baz=14,slow=4.1,SNR=26
HFS **Hagfors** 151.16 346 PKPbc **PKPbc** 09 36 38.1 -1.9
comp=Z,7.8nm,0.7s,baz=113,slow=1.9,SNR=20
AKASG **Malin Array Be** 151.94 318 PKPbc **PKPbc** 09 36 39.9 -2.2
comp=Z,1.7nm,0.7s,baz=57,slow=2.2,SNR=9.5
AKBB **Malin Array Si** 151.94 318 *e*PKPbc **PKPbc** 09 36 41.0 -1.1
AKBB *e*PKPab **PKPab** 09 36 50.4 -1.8
BR131 **Keskin Array S** 151.96 294 *e*PKPbc **PKPbc** 09 36 41.2 -1.5
BRTR **Keskin Array B** 151.96 294 PKPbc **PKPbc** 09 36 40.6 -2.0
comp=Z,2.0nm,0.8s,baz=112,slow=2.8,SNR=10
KIEV **Kiev** 151.96 318 *e*PKPbc **PKPbc** 09 36 41.0 -1.1
KIEV *e*PKPab **PKPab** 09 36 50.6 -1.6
KIEV **Kiev** 151.96 318⇑ *i*PKIKP **PKPbc** 09 36 40.0 -2.1
AK11 **Malin Array Si** 151.99 318 *e*PKPbc **PKPbc** 09 36 40.6 -1.6
KONO **Kongsberg** 152.36 349 *e*PKPbc **PKPbc** 09 36 41.6 -1.1
KONO **Kongsberg** 152.36 349 *e*PKIKP **PKPbc** 09 36 41.6 -1.1
BUR08 **Bucovina Ar. S** 155.72 315 *e*PKPab **PKPab** 09 37 07.8 -0.7

BUR04	Bucovina Ar. S	155.73	315	ePKPab	PKPab	09 37 07.5	-1.1
KWP	Kalwaria Pacla	156.06	321	ePKPab	PKPab	09 37 07.7	-2.1
KWP	Kalwaria Pacla	156.06	321	ePKP2	PKPab	09 37 07.7	-2.1
STHS	Stebnicka Huta	156.95	322	ePKP	PKPdf	09 36 43.3	+0.9
STHS				e		09 37 13.9	
STHS	Stebnicka Huta	156.95	322	ePKIKP	PKPdf	09 36 43.3	+0.9
VYHS	Vyhne	158.76	323	ePKP	PKPab	09 37 20.4	-1.1
VYHS	Vyhne	158.76	323	ePKP2	PKPab	09 37 20.4	-1.1
CLL	Collm	159.12	336	i PKPab	PKPab	09 37 21.2	-1.7
CLL	comp=Z,4.0nm,0.8s						
	Collm	159.12	336	i PKP2	PKPab	09 37 21.2	-1.7
CLL	comp=Z,4.0nm,0.8s			pmax	pmax		
BRG	Berggiesshubel	159.15	334	ePKP2	PKPab	09 37 22.4	-0.6
BRG	comp=Z,10.0nm,1.4s			pmax	pmax		
TOA0	Torodi Ar. Sit	160.36	186	ePKPab	PKPab	09 37 30.5	+1.4
TORD	Torodi Ar. Bea	160.36	186	PKPab	PKPab	09 37 28.5	-0.6
	comp=Z,1.0nm,0.5s,baz=172,slow=3.4,SNR=9.3						
ES19	SONSECA Array	172.50	22	ePKPab	PKPab	09 38 22.4	+0.1

ISCJB ***22*** *09:18:58.8±0.3,49°.54S±0°.06×8°.1W±0°.1,h10km,mb4.6/21, MS4.1/22, Error ellipse: s-maj=14.0km s-min=8.1km az=2.2*

IDC ***22*** *09:18:58.2±0.5,49°.56S×8°.05W,h0km,mb4.5/14, mb1 4.5/14,mb1mx4.3/42,mbtmp4.5/14,MS4.0/21, Ms1 4.0/21,ms1mx3.9/36, Error ellipse: s-maj=19.0km s-min=14.6km az=83.0*

BJI ***22*** *09:18:59.0,49°.60S×8°.10W,h10km,mB5.3/3,Ms5.5/2*

NEIC ***22*** *09:19:00.1±0.2,49°.57S×8°.05W,h10km,mb4.8/12, Error ellipse: s-maj=10.3km s-min=9.1km az=93.0*

GCMT ***22*** *09:19:00.2±0.3,49°.54S×7°.83W,h20km±1km,MW5.0/90, Moment Tensor Solution. s25,c27; s90,c120; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=3.05±.22; Mθθ=-0.27±.15; Mφφ.3.32±.14; Mrθ=2.58±.44; Mrφ=-0.83±.09; Mθφ.87±.24; Best double couple: Mo=4.14000×10^16 NP1:φs197.00000°,δ56.00000°,λ-51.00000°. NP2: φs321.00000°,δ50.00000°,λ-134.00000°. Principal axes: T 3.5200, Plg4.0000°, Azm260.0000°; N 1.2410, Plg32.0000°, Azm352.0000°; P -4.7590, Plg58.0000°, Azm164.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 22 09:19:00.2±0.4,49°.55S±0°.09×8°.1W±0°.1,h10km,n100, σ0.96/83,mb4.6/21,MS4.1/22,2C,Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	Neumayer--Stat	21.17	180	P	P	09 23 46.7	+1.5
VNA2	Neumayer--Watz	21.45	179	P	P	09 23 48.6	+0.4
	baz=354,slow=12						
VNA3	Neumayer Olymp	21.77	181	P	P	09 23 53.0	+1.3
SNAA	Sanae	22.32	176	P	P	09 23 58.8	+1.1
SNAA	Sanae	22.32	176	P	P	09 23 58.3	+0.7
	13nm,1.0s,baz=331,slow=7.6,SNR=12						
SNAA				LR	LR	09 30 53.9	
	comp=Z,332nm,18.2s,baz=70,slow=32						
SNAA	Sanae	22.32	176	eP	P	09 23 57.8	+0.1
	44nm,1.2s						
SUR	Sutherland	27.53	62	LR	LR	09 32 59.5	
	comp=Z,49nm,20.5s,baz=217,slow=31						
SYO	Syowa Base	30.03	148	eX	P	09 25 02.6	-6.1
SYO	Syowa Base	30.03	148	epP	P	09 25 08.6	-0.1
BOSA	Boshof	32.88	63	P	P	09 25 32.8	-1.7
	6.0nm,1.1s,baz=252,slow=7.8,SNR=3.1						
BOSA				LR	LR	09 36 15.4	
	comp=Z,781nm,20.0s,baz=215,slow=32						
LBTB	Lobatse	35.84	59	P	P	09 25 59.7	-0.3
	4.4nm,1.0s,baz=214,slow=7.3,SNR=2.8						
TSUM	Tsumeb	36.61	43	eP	P	09 26 06.7	0.0
	9.6nm,1.0s						
MAW	Mawson	38.53	144	P	P	09 26 22.1	-0.2
	5.4nm,0.9s,baz=242,slow=8.3,SNR=4.7						
MAW				LR	LR	09 39 01.7	
	comp=Z,456nm,21.9s,baz=242,slow=31						
QSPA	South Pole Qui	40.70	180	P	P	09 26 40.2	-0.5
	12nm,0.7s,baz=248,slow=0.7,SNR=27						
QSPA				LR	LR	09 43 26.7	
	comp=Z,289nm,18.8s,baz=222,slow=36						
QSPA	South Pole Qui	40.70	180	eP	P	09 26 40.6	0.0
	23nm,1.1s						
QSPA	South Pole Qui	40.70	180	eP	P	09 26 40.6	0.0
	23nm,1.1s						
H10S2	ASCENSION HYDR	40.83	350	T	T	10 10 38.5	
	baz=174						
H10S3	ASCENSION HYDR	40.84	350	T	T	10 10 35.1	
	baz=174						
H10S1	ASCENSION HYDR	40.85	350	T	T	10 10 39.8	
	baz=174						
PLCA	Paso Flores	43.76	257	LR	LR	09 45 56.2	
	comp=Z,260nm,18.6s,baz=182,slow=37						
CPUP	Villa Florida	44.23	283	LR	LR	09 42 46.6	
	comp=Z,115nm,20.4s,baz=145,slow=32						
VNDA	Vanda	53.05	177	P	P	09 28 16.8	+0.1
	4.3nm,0.9s,baz=217,slow=7.2,SNR=13						
VNDA				LR	LR	09 48 51.2	
	comp=Z,174nm,21.2s,baz=181,slow=34						
VNDA	Vanda	53.05	177	eP	P	09 28 17.0	+0.2
	13nm,1.3s						
SIV	San Ignacio	54.19	289	P	P	09 28 25.8	-0.2
	3.0nm,1.0s,baz=130,slow=6.4,SNR=11						
LIC	Lamto	55.61	4	eP	P	09 28 35.7	-0.4
	2.1nm,0.3s						
KIC	Kosan Boka	55.76	4	eP	P	09 28 36.8	-0.3
	0.9nm,0.3s						
TIC	Toumodi	56.03	4	eP	P	09 28 38.8	-0.3
DBIC	Dimbokro	56.06	4	P	P	09 28 39.2	0.0
	17nm,0.9s,baz=155,slow=8.2,SNR=18						
DBIC				LR	LR	09 46 52.3	
	comp=Z,92nm,18.2s,baz=144,slow=30						
DBIC	Dimbokro	56.06	4	eP	P	09 28 39.8	+0.5
	25nm,1.0s						
LPAZ	La Paz	58.40	282	P	P	09 28 55.9	-0.7
	2.7nm,1.0s,baz=130,slow=4.3,SNR=6.8						
LPAZ				LR	LR	09 51 24.2	
	comp=Z,168nm,21.5s,baz=128,slow=33						
LPAZ	La Paz	58.40	282	eP	P	09 28 55.9	-0.7
	7.4nm,1.4s						
SAML	Samuel	60.95	292	eP	P	09 29 13.1	-0.4
	8.1nm,0.9s						
KMBO	Kilima Mbogo	61.81	54	LR	LR	09 54 50.1	
	comp=Z,261nm,18.1s,baz=288,slow=35						
TOA0	Torodi Ar. Sit	63.02	11	eP	P	09 29 27.3	0.0
	5.2nm,0.9s						
TORD	Torodi Ar. Bea	63.02	11	P	P	09 29 27.3	0.0
	3.1nm,0.7s,baz=200,slow=7.2,SNR=20						
TORD				LR	LR	09 53 22.8	
	comp=Z,84nm,18.2s,baz=175,slow=33						
KOWA	Kowa	63.87	4	P	P	09 29 33.5	+0.6
	16nm,0.9s,baz=167,slow=5.8,SNR=28						
KOWA				LR	LR	09 53 05.3	
	comp=Z,133nm,18.6s,baz=213,slow=32						
KOWA	Kowa	63.87	4	eP	P	09 29 33.7	+0.8
	34nm,1.1s						
PTGA	Pitinga	65.68	300	P	P	09 29 45.0	+0.2
	6.3nm,0.5s,baz=153,slow=7.2,SNR=13						
PTGA	Pitinga	65.68	300	eP	P	09 29 45.4	+0.5
	13nm,1.0s						
ATD	Arta Tunnel	75.44	52	LR	LR	10 03 10.5	
	comp=Z,74nm,18.6s,baz=77,slow=35						
RPN	Rapa Nui	76.63	244	LR	LR	09 59 09.1	
	comp=Z,91nm,18.3s,baz=115,slow=31						
OTAV	Otavalo	77.53	285	eP	P	09 30 56.8	0.0
	5.4nm,1.2s						
ROSC	El Rosal	78.57	292	LR	LR	10 03 50.1	
	comp=Z,193nm,19.5s,baz=210,slow=34						
KEST	Kesra	86.31	14	P	P	09 31 42.5	+0.6
	4.1nm,0.9s,baz=265,slow=7.0,SNR=3.8						
PCVE	Castro Verde	86.81	0	eP	P	09 31 46.5	+2.3
RAYN	Ar Rayn	86.93	48	eP	P	09 31 46.0	+0.7
	8.9nm,0.9s						
RPZ	Rata Peaks	87.11	179	LR	LR	10 07 38.4	
	comp=Z,102nm,18.4s,baz=341,slow=34						
PBAR	Barrancos	87.36	1	eP	P	09 31 48.8	+1.9
EVO	Evora	87.71	0	eP	P	09 31 50.8	+2.3
PMRV	Marv??o	88.60	1	eP	P	09 31 54.3	+1.5
ESDC	Sonseca Array	88.92	3	P	P	09 31 55.5	+1.1
	0.2nm,0.4s,baz=160,slow=4.6,SNR=4.9						
ES19	SONSECA Array	88.95	3	eP	P	09 31 55.4	+0.9
PCBR	Castelo Branco	89.02	0	eP	P	09 31 56.0	+1.3
JTS	JuntasAbangare	89.36	287	LR	LR	10 09 40.8	
	comp=Z,58nm,21.7s,baz=196,slow=34						
WSAR	Wadi Sarin	93.51	58	LR	LR	10 11 57.5	
	comp=Z,61nm,20.6s,baz=214,slow=34						
BRTR	Keskin Array B	96.22	31	LR	LR	10 17 14.7	
	comp=Z,19nm,19.1s,baz=172,slow=36						
MLR	Muntele Rosu	99.20	24	LR	LR	10 17 56.2	
	comp=Z,12nm,18.0s,baz=186,slow=36						
PPT2	Papeete2	104.95	218	eLR	LR	10 07 45.0	
	137nm,24.2s						
BVAR	Borovoye Array	121.76	44	PKP	PKPdf	09 37 53.0	-0.4
	2.5nm,0.9s,baz=270,slow=1.4,SNR=12						
MK01	Makanchi Array	123.67	56	ePKPdf	PKPdf	09 37 56.3	-1.0
MK31	Makanchi Array	123.68	56	ePKPdf	PKPdf	09 37 56.8	-0.4
MKAR	Makanchi Array	123.68	56	PKP	PKPdf	09 37 56.4	-0.9
	1.6nm,0.8s,baz=226,slow=2.0,SNR=6.5						
MKAR	Makanchi Array	123.68	56	ePKPdf	PKPdf	09 37 56.7	-0.5
KURBB	Kurchatov Arra	124.10	50	PKP	PKPdf	09 37 57.8	-0.1
	1.8nm,0.8s,baz=235,slow=2.9,SNR=8.8						
KURK	Kurchatov	124.20	50	PKP	PKPdf	09 37 57.8	-0.2
WMQ	Urumqi	124.84	61	ePKP	PKPdf	09 38 00.5	+0.8
WMQ				LR	LR		
	comp=N,140nm,38.9s						
WMQ				LR	LR		
	comp=E,1μm,38.9s						
PDAR	Pinedale Array	127.49	295	PKP	PKPdf	09 38 03.4	-1.6
	0.5nm,0.8s,baz=116,slow=3.4,SNR=5.8						
AHID	Auburn Hatcher	128.40	294	ePKPpre	PKPpre	09 37 56.3	
FXWY	Fox Creek	128.87	295	ePKPdf	PKPdf	09 38 08.3	+0.8
ZAA0	Zalesovo Array	129.18	50	ePKPdf	PKPdf	09 38 07.7	+0.2
ZALV	Zalesovo Beam	129.18	50	PKP	PKPdf	09 38 06.8	-0.6
	0.8nm,0.3s,baz=242,slow=3.2,SNR=8.2						
ZALV	Zalesovo Beam	129.18	50	ePKPdf	PKPdf	09 38 06.5	-1.0
GTA	Gaotai	129.43	73	ePKP	PKPdf	09 38 10.8	+2.2
NVAR	Mina Array Bea	130.26	285	PKP	PKPdf	09 38 10.8	+0.5
	0.5nm,0.8s,baz=156,slow=3.2,SNR=4.9						
RES	Resolute Bay	136.21	337	ePKPdf	PKPdf	09 38 20.4	+0.3
NJ2	Nanjing	137.16	94	ePKP	PKPdf	09 38 23.3	+0.1
HHC	Hu-ho-hao-te	137.65	78	ePKP	PKPdf	09 38 26.5	+2.5
TLY	Talaya	138.08	60	ePKPdf	PKPdf	09 38 24.6	+0.2
YKA	Yellowknife Ar	139.28	317	PKhKP	PKPpre	09 38 15.5	
	0.1nm,0.7s,baz=104,slow=2.6,SNR=3.6						
YKA				PKP	PKPdf	09 38 24.1	-2.0
	0.7nm,0.9s,baz=104,slow=2.3,SNR=6.1						
DLBC	Dease Lake	145.74	308	ePKPdf	PKPab	09 38 39.0	+0.3
DIB	Dawson Inlet,	145.83	298	ePKPdf	PKPab	09 38 39.0	-0.1
KS15	Wonju Array Si	146.33	94	ePKPdf	PKPbc	09 38 40.8	+0.2
KSAR	Wonju Array Be	146.33	94	PKPbc	PKPdf	09 38 39.4	0.0
KS01	Wonju Array Si	146.35	94	ePKPdf	PKPbc	09 38 40.3	-0.4
KSRS	Korea Array	146.36	94	PKPbc	PKPdf	09 38 39.4	0.0
	3.4nm,0.7s,baz=246,slow=2.8,SNR=11						
CRAG	Craig	146.78	302	ePKPdf	PKPbc	09 38 41.0	-0.3
INK	Inuvik	147.65	326	PKPbc	PKPbc	09 38 42.8	-0.6
	6.1nm,0.6s,baz=63,slow=3.0,SNR=61						
HYT	Haines Junctio	149.77	311	ePKPbc	PKPbc	09 38 49.1	-0.2
DAWY	Dawson	150.51	318	ePKPbc	PKPbc	09 38 50.5	-0.3
TIXI	Tiksi	150.53	26	PKPbc	PKPbc	09 38 49.1	-1.5
	5.9nm,0.7s,baz=350,slow=1.9,SNR=20						
TIXI	Tiksi	150.53	26	ePKPbc	PKPbc	09 38 49.8	-0.7
EGAK	Eagle	151.18	319	ePKPbc	PKPbc	09 38 52.0	-0.3
MJAR	Matsushiro Arr	152.41	105	PKPbc	PKPbc	09 38 54.2	-1.8
	2.5nm,0.8s,baz=256,slow=5.7,SNR=5.9						
FYU	Fort Yukon	152.42	324	ePKPbc	PKPbc	09 38 55.0	0.0
USRK	Ussuriysk Ar.	152.44	86	PKPbc	PKPbc	09 38 53.9	-1.9
	3.2nm,0.8s,baz=254,slow=3.6,SNR=4.1						
TOLK	Toolik Lake Re	153.22	330	ePKPbc	PKPbc	09 38 55.6	-1.3
IL1	Eielson Array	153.58	321	ePKPbc	PKPbc	09 38 56.7	-1.0
ILAR	Eielson Array	153.58	321	PKP	PKPdf	09 38 48.3	-1.7
	0.6nm,0.9s,baz=259,slow=0.9,SNR=4.3						
ILAR				PKPbc	PKPbc	09 38 56.6	-1.1
	1.0nm,0.8s,baz=340,slow=1.7,SNR=8.9						
COLD	Coldfoot	154.03	327	ePKPbc	PKPbc	09 38 58.6	0.0
KLR	Kul'dur	154.08	75	PKPbc	PKPbc	09 38 58.5	-0.7
	0.3nm,0.9s,baz=316,slow=3.9,SNR=8.1						

NIED ***22*** *09:20:00,26°.40N×128°.70E,h20km,Mw4.2 Best double couple: Mo2.13000×10^15 NP1:φs219.00000°,δ28.00000°, λ82.00000°. NP2:φs47.00000°,δ63.00000°,λ94.00000°.*

IDC ***22*** *09:20:27.4±0.8,26°.37N×128°.39E,h0km,mb4.0/20, mb1 4.1/23,mb1mx4.0/70,mbtmp4.0/23,ML3.3/3,MS3.5/5, Ms1 3.5/5,ms1mx3.0/65, Error ellipse: s-maj=25.2km s-min=14.3km az=85.0*

ISCJB ***22*** *09:20:29.6±0.3,26°.30N±0°.04×128°.64E±0°.03,h29km, mb4.2/47,MS4.0/2, Error ellipse: s-maj=5.2km s-min=4.2km az=20.0*

JMA ***22*** *09:20:30.3±0.3,26°.36N×128°.70E,h19km±4km,M4.1*

JMA Felt I J1.

NEIC ***22*** *09:20:31.4±1.2,26°.36N×128°.44E,h26km±7km,mb4.6/26, Error ellipse: s-maj=8.1km s-min=5.0km az=131.0*

NEIC Recorded [1 JMA] on Okinawa.

ISC 22 09:20:31.3±0.5,26°.36N±0°.04×128°.62E±0°.04,h29km,n94, σ1.38/103,mb4.3/47,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNTH	Nagotoyohara	0.56	287	P	Pn	09 20 42.2	-1.1
JNTH				S	Sn	09 20 50.7	-0.8
JOW	Kunigami	0.56	327	Pn	Pb	09 20 41.6	-1.2
	3μm,0.3s,baz=296,slow=26						
JOW				Sn	Sb	09 20 48.6	-2.0
	3μm,0.3s,baz=288,slow=20,SNR=26						
JOW	Kunigami	0.56	327	P	Pn	09 20 42.1	-1.3
JOW				S	Sn	09 20 50.7	-1.1
JOW	Kunigami	0.56	327	ePg	Pn	09 20 42.2	-1.2
JOW				eSg	Sn	09 20 50.0	-1.8
JJT3	Tamagusuku3	0.78	254	P	Pn	09 20 46.5	+0.2
JJT3				S	Sn	09 20 59.0	+2.0
JIH	Iheya	0.89	320	P	Pb	09 20 47.8	-0.4
JIH				eS	Sn	09 21 00.5	+0.7
JOKE	Okinoerabujima	1.00	358	P	Pn	09 20 49.1	-0.4
JOKE				S	Sb	09 21 03.0	0.0
JAGN	Aguni-jima	1.25	281	P	Pb	09 20 53.6	-0.7
JAGN				eS	Sb	09 21 10.5	+0.5
JTK	Tokunoshima	1.46	12	P	Pn	09 20 55.2	-0.5
JKE	Kume jima 2	1.64	269	P	Pb	09 20 58.0	-2.9
JKE				S	Sb	09 21 21.6	+0.4
JMZ	Minamidaito 2	2.40	102	P	Pn	09 21 06.8	-1.9
JMZ				S	Sn	09 21 32.7	-4.5
NACB	Ninganchiao	6.72	253	ePn	Pn	09 22 06.1	-1.9
NACB				eSn	Sn	09 23 20.0	-3.6
YHNB	Yeheng	6.75	257	ePn	Pn	09 22 09.7	+1.2
JNU	Nakatsue	7.02	16	Pn	Pn	09 22 12.9	+0.7
	1.3nm,0.3s,baz=9.5,slow=16,SNR=19						
JNU				Sn	Sn	09 23 28.4	-2.8
	baz=11,slow=16,SNR=1.7						
YULB	Yu-li	7.27	248	ePn	Pn	09 22 12.2	-3.4
SSLB	Suanglung	7.40	251	ePn	Pn	09 22 16.4	-1.0
TWG	Pinlang	7.71	244	ePn	Pn	09 22 18.4	-3.4
TPUB	Ta-pu	7.87	249	ePn	Pn	09 22 22.6	-1.2
KSAR	Wonju Array Be	11.07	357	Pn	Pn	09 23 06.4	-1.3
KSRS	Korea Array	11.08	357	Pn	Pn	09 23 06.4	-1.4
	0.1nm,0.3s,baz=172,slow=12,SNR=2.7						
KSRS				LR	LR	09 27 54.4	
	comp=Z,217nm,18.0s,baz=160,slow=40						
MAJO	Matsushiro	13.04	37	ePn	P	09 23 40.8	-3.8
MJAR	Matsushiro Arr	13.04	37	Pn	P	09 23 40.8	-3.8
	baz=212,slow=33,SNR=2.2						
MJAR				LR	LR	09 28 39.0	
	comp=Z,60nm,20.1s,baz=195,slow=37						
USRK	Ussuriysk Ar.	18.01	8	P	P	09 24 40.4	+0.7
	0.2nm,0.3s,baz=169,slow=8.5,SNR=3.4						
GUMO	Guam	19.84	127	LR	LR	09 31 34.3	
	comp=Z,48nm,18.9s,baz=268,slow=33						
KLR	Kul'dur	22.97	5	P	P	09 25 33.9	+0.6
	0.1nm,0.4s,baz=190,slow=4.6,SNR=4.2						
YSS	Yuzh-Sakhalins	23.41	25	eP	P	09 25 38.9	+1.1
	20nm,0.8s						
SEY	Seymchan	39.80	17	P	P	09 28 02.0	+0.5
	0.5nm,0.3s,baz=232,slow=5.3,SNR=7.6						
MK01	Makanchi Array	41.70	312	eP	P	09 28 17.5	+0.1
MK31	Makanchi Array	41.71	312	eP	P	09 28 17.6	+0.1
MK32	Makanchi Array	41.71	312	eP	P	09 28 16.4	-1.2
MKAR	Makanchi Array	41.71	312	P	P	09 28 16.4	-1.2
	1.3nm,0.6s,baz=94,slow=10,SNR=9.7						
MKAR	Makanchi Array	41.71	312	eP	P	09 28 17.6	0.0
	29nm,1.1s						
ZALV	Zalesovo Beam	42.36	323	P	P	09 28 20.4	-2.3
	1.4nm,0.5s,baz=118,slow=9.3,SNR=5.9						
ZALV	Zalesovo Beam	42.36	323	eP	P	09 28 21.4	-1.3
ZAA1	Zalesovo Array	42.36	323	eP	P	09 28 20.4	-2.3
KURK	Kurchatov	44.97	316	eP	P	09 28 43.2	-0.6
	6.2nm,1.4s						
KURBB	Kurchatov Arra	45.00	316	P	P	09 28 42.5	-1.5
	0.9nm,0.5s,baz=103,slow=9.0,SNR=4.3						
TIXI	Tiksi	45.33	0	P	P	09 28 46.1	-0.2
	0.8nm,0.3s,baz=290,slow=4.4,SNR=3.2						
WR1	Warramunga Arr	46.36	173	eP	P	09 28 54.5	-0.5
	6.3nm,1.0s						
WRA	Warramunga Ar	46.36	173	P	P	09 28 54.5	-0.5
	0.7nm,0.6s,baz=350,slow=8.6,SNR=3.8						
AAK	Ala-Archa	46.68	305	P	P	09 28 57.4	-0.2
	0.9nm,0.5s,baz=135,slow=5.7,SNR=3.1						
KK31	Karatay Array	49.62	305	eP	P	09 29 20.5	+0.4
KKAR	Karatay Array	49.62	305	eP	P	09 29 20.2	+0.1
AS31	Alice Springs	49.99	174	eP	P	09 29 24.9	+1.9
	1.8nm,1.4s						
ASAR	Alice Springs	49.99	174	P	P	09 29 24.9	+1.9
	0.7nm,0.8s,baz=7.7,slow=13,SNR=6.0						
BVAR	Borovoye Array	50.41	318	P	P	09 29 25.9	0.0
	0.4nm,0.3s,baz=75,slow=10.0,SNR=7.2						
BRVK	Borovoye	50.48	318	eP	P	09 29 26.4	-0.1
	5.2nm,0.9s						
ABKAR	Akbulak array	56.81	313	eP	P	09 30 12.7	-0.2
	16nm,0.6s						
AKTO	Aktyubinsk	57.99	315	P	P	09 30 21.1	-0.1
	0.5nm,0.5s,baz=63,slow=14,SNR=3.1						
PPLA	Purkeypile	62.00	31	eP	P	09 30 50.7	+2.0
	8.5nm,1.3s						
CAST	Castle Rocks	62.01	30	eP	P	09 30 50.5	+1.9
	2.5nm,1.0s						
KDAK	Kodiak Island	62.21	36	eP	P	09 30 51.4	+1.4
	28nm,1.4s						
TOLK	Toolik Lake Re	62.76	24	eP	P	09 30 55.3	+1.7
	3.3nm,1.3s						
SUA	Susitna One	62.78	32	eP	P	09 30 55.1	+1.2
	5.5nm,1.0s						
RND	Reindeer	63.46	30	eP	P	09 30 59.3	+1.0
	4.1nm,1.0s						
MDM	Murphy Dome	63.57	28	eP	P	09 31 00.8	+1.8
	12nm,1.4s						
GHO	Glory Hole Cre	63.61	32	eP	P	09 30 59.0	-0.3
	11nm,1.3s						
ILAR	Eielson Array	64.16	28	P	P	09 31 06.6	+3.7
	0.3nm,0.7s,baz=285,slow=8.5,SNR=5.7						
PAX	Paxson	65.04	30	eP	P	09 31 08.2	-0.6
	2.2nm,0.8s						
PAX				eS	S	09 39 48.0	-1.0
RIDG	Independ'e Rid	65.20	29	eP	P	09 31 10.9	+1.2
	7.7nm,1.5s						
SCRK	Sand Creek	65.53	29	eP	P	09 31 12.6	+0.7
	2.5nm,1.1s						
DOT	Dot Lake	65.55	29	eP	P	09 31 12.9	+1.0
	4.2nm,0.7s						
INK	Inuvik	68.64	23	eP	P	09 31 32.3	+0.9
	2.6nm,1.2s						
SPA0	Spitsbergen Ar	68.78	348	eP	P	09 31 33.3	+1.1
SPITS	Spitsbergen Ar	68.78	348	P	P	09 31 33.3	+1.1
	14nm,1.1s,baz=107,slow=29,SNR=4.6						
KBZ	Khabaz	69.35	309	P	P	09 31 37.2	+1.0
	1.4nm,0.5s,baz=6.1,slow=2.5,SNR=4.9						
WHY	Whitehorse	70.47	31	eP	P	09 31 44.8	+1.7
	3.3nm,1.1s						
FIA1	FINESS Array S	72.92	331	eP	P	09 31 57.9	+0.3
FIA0	FINESS Array S	72.92	331	eP	P	09 31 57.2	-0.4
FINES	FINESS Array B	72.92	331	P	P	09 31 57.2	-0.4
	1.9nm,0.5s,baz=65,slow=5.5,SNR=30						
RES	Resolute Bay	75.36	11	eP	P	09 32 12.6	+1.0
	2.9nm,0.8s						
AKASG	Malin Array Be	75.66	320	P	P	09 32 13.5	-0.2
	2.6nm,0.4s,baz=63,slow=6.3,SNR=7.6						
AKBB	Malin Array Si	75.66	320	eP	P	09 32 13.6	-0.1
	3.7nm,0.5s						
KIEV	Kiev	75.67	320	eP	P	09 32 13.6	-0.2
	3.6nm,0.5s						
AK11	Malin Array Si	75.70	320	eP	P	09 32 14.1	+0.2
BR101	Keskin Array S	77.23	308	eP	P	09 32 22.3	-0.7
BRTR	Keskin Array B	77.23	308	P	P	09 32 22.3	-0.7
	1.1nm,0.6s,baz=108,slow=4.0,SNR=7.7						
YKA	Yellowknife Ar	78.27	25	P	P	09 32 29.1	+1.0
	0.3nm,0.5s,baz=300,slow=5.6,SNR=7.9						
URZ	Urewera	78.71	143	LR	LR	10 04 36.6	
	comp=Z,130nm,18.4s,baz=1.0,slow=34						
HFS	Hagfors	78.87	332	P	P	09 32 31.3	-0.2
	3.7nm,1.1s,baz=1.9,slow=8.8,SNR=3.9						
NC405	NORSAR Array S	79.11	334	eP	P	09 32 32.0	-0.9
NB201	NORSAR Array S	79.32	334	eP	P	09 32 33.6	-0.4
NB2	NORSAR Subarra	79.35	334	P	P	09 32 34.0	-0.2
	comp=Z,0.7nm,0.5s,baz=52,slow=5.6						
NB200	NORSAR Array S	79.35	334	eP	P	09 32 34.1	-0.2
NOA	NORSAR

JIO	**Ouri**	**1.35**	**358**	P		**Pn**	09 45 43.2	**-1.1**
JIO				S		**Sb**	09 45 59.7	**-2.4**
JOU	**Okura**	**1.39**	**335**	P		**Pn**	09 45 44.7	**-0.2**
JOU				*e*S		**Sb**	09 46 02.7	**-0.7**
JFY	**Yanaizu**	**1.39**	**283**	P		**Pn**	09 45 44.5	**-0.5**
JFY				*e*S		**Sb**	09 46 02.5	**-0.9**
JYS	**Shirataka**	**1.54**	**317**	P		**Pn**	09 45 47.4	**+0.4**
JYS				S		**Sb**	09 46 07.9	**+0.2**
MJAR	**Matsushiro Arr**	**2.63**	**259**	Pn		**Pn**	09 46 01.2	**-0.8**
	8.5nm,0.3s,baz=80,slow=16,SNR=125							
MJAR				S		**Sn**	09 46 33.4	**-0.7**
	8.2nm,0.3s,baz=57,slow=13,SNR=8.6							
MAJO	**Matsushiro**	**2.63**	**259**	*e*Pn		**Pn**	09 46 02.9	**+0.9**
MAT	**Matsushiro**	**2.63**	**259**	P		**Pn**	09 46 02.5	**+0.5**
MAT				S		**Sn**	09 46 35.3	**+1.2**
MJB9	**Matsu-Tunnel**	**2.63**	**259**	*e*Pn		**Pn**	09 46 02.9	**+0.9**
INU	**Inuyama**	**3.96**	**245**	*e*Pn		**Pn**	09 46 21.7	**+1.5**
JHJ	**Hachijo jima 2**	**4.19**	**199**	Pn		**Pn**	09 46 23.0	**-0.5**
	6.4nm,0.3s,baz=90,slow=20,SNR=3.1							
JHJ				S		**Sn**	09 47 10.9	**-1.8**
	11nm,0.3s,baz=73,slow=19,SNR=2.8							
ERM	**Erimo**	**5.09**	**15**	*e*Pn		**Pn**	09 46 35.9	**+0.2**
ASAJ	**Asahikawa**	**7.06**	**7**	Pn		**Pn**	09 47 02.5	**-0.4**
	1.3nm,0.3s,baz=224,slow=9.7,SNR=9.5							
ASAJ				Sn		**Sn**	09 48 24.3	**+0.9**
	0.7nm,0.3s,baz=342,slow=20,SNR=2.7							
JNU	**Nakatsue**	**9.49**	**248**	LR		LR	09 51 30.4	
	comp=Z,145nm,18.1s,baz=111,slow=40							
USRK	**Ussuriysk Ar.**	**10.06**	**318**	Pn		**Pn**	09 47 43.0	**-1.0**
	0.1nm,0.3s,baz=142,slow=46,SNR=2.3							
USRK				LR		LR	09 51 41.2	
	comp=Z,84nm,18.1s,baz=139,slow=38							
KSRS	**Korea Array**	**10.75**	**276**	Pn		**Pn**	09 47 55.8	**+2.3**
	0.1nm,0.3s,baz=88,slow=14,SNR=3.4							
KSRS				LR		LR	09 52 05.1	
	comp=Z,89nm,18.3s,baz=65,slow=38							
KSAR	**Wonju Array Be**	**10.78**	**276**	Pn		**Pn**	09 47 55.8	**+1.9**
NJ2	**Nanjing**	**19.23**	**261**	*e*P		**Pn**	09 49 44.3	**-0.4**
NJ2				pmax	pmax			
	comp=Z,11nm,0.5s							
PETK	**Petropavlovsk-**	**19.63**	**30**	P		**P**	09 49 48.4	**+0.3**
	comp=Z,0.1nm,0.3s,baz=212,slow=5.1,SNR=3.4							
PETK	**Petropavlovsk-**	**19.63**	**30**	*e*P		**P**	09 49 49.0	**+1.0**
MA2	**Magadan**	**23.29**	**12**	P		**P**	09 50 26.1	**-1.0**
	comp=Z,1.5nm,0.4s,baz=197,slow=11,SNR=3.6							
HHC	**Hu-ho-hao-te**	**23.44**	**288**	*e*P		**P**	09 50 28.9	**-0.2**
HHC				pmax	pmax			
	comp=Z,37nm,0.8s							
HHC				pmax	pmax			
	comp=Z,63nm,4.2s							
YAK	**Yakutsk**	**26.00**	**347**	LR		LR	10 01 41.0	
	comp=Z,52nm,18.3s,baz=218,slow=38							
SEY	**Seymchan**	**26.72**	**11**	P		**P**	09 50 59.5	**+0.7**
	comp=Z,1.9nm,0.8s,baz=206,slow=9.8,SNR=4.7							
H11N2	**WAKE ISLAND Hy**	**28.19**	**121**	T		T	10 20 38.7	
	baz=314,slow=75,SNR=127							
H11N1	**WAKE ISLAND Hy**	**28.20**	**121**	T		T	10 20 48.1	
	baz=314,slow=75,SNR=138							
H11N3	**WAKE ISLAND Hy**	**28.21**	**121**	T		T	10 20 48.9	
	baz=314,slow=75,SNR=140							
H11S1	**WAKE ISLAND Hy**	**28.90**	**123**	T		T	10 21 36.7	
	baz=316,slow=75,SNR=90							
H11S3	**WAKE ISLAND Hy**	**28.90**	**123**	T		T	10 21 36.8	
	baz=316,slow=75,SNR=82							
H11S2	**WAKE ISLAND Hy**	**28.92**	**123**	T		T	10 21 44.2	
	baz=316,slow=75,SNR=67							
LZH	**Lanzhou**	**30.05**	**280**	*e*P		**P**	09 51 29.3	**+0.3**
LZH				pP		sP	09 51 36.3	+4.4
LZH				sP		pP	09 51 39.5	+8.5
LZH				*e*PP		**PnPn**	09 52 27.5	**+2.0**
LZH				pmax	pmax			
	comp=Z,20nm,1.0s							
LZH				pmax	pmax			
	comp=Z,59nm,4.8s							
LZH				LR	LR			
	comp=N,230nm,12.9s							
LZH				LR	LR			
	comp=E,240nm,13.0s							
LZH				LR	LR			
	comp=Z,310nm,16.5s							
GTA	**Gaotai**	**32.54**	**287**	*e*P		**P**	09 51 55.3	**+4.4**
GTA				pP		sP	09 52 03.5	+10
GTA				sP		pP	09 52 07.8	+15
GTA				pmax	pmax			
	comp=Z,3.0nm,1.0s							
KMI	**Kunming**	**34.97**	**261**	P		**P**	09 52 13.8	**+1.6**
KMI				pmax	pmax			
	comp=Z,7.0nm,0.8s							
KMI				pmax	pmax			
	comp=Z,58nm,5.1s							
WMQ	**Urumqi**	**40.80**	**297**	P		**P**	09 53 00.3	**-0.9**
WMQ				sP		sP	09 53 15.4	+11
WMQ				pmax	pmax			
	comp=Z,16nm,2.1s							
WMQ				pmax	pmax			
	comp=Z,120nm,5.3s							
CM01	**Chiang Mai Arr**	**41.52**	**255**	*e*P		**P**	09 53 08.6	**+1.4**
ZALV	**Zalesovo Beam**	**41.86**	**312**	P		**P**	09 53 09.6	**0.0**
	comp=Z,0.8nm,0.5s,baz=101,slow=6.2,SNR=4.3							
ZALV	**Zalesovo Beam**	**41.86**	**312**	*e*P		**P**	09 53 08.4	**-1.2**
MK01	**Makanchi Array**	**44.07**	**302**	*e*P		**P**	09 53 27.2	**-0.5**
MKAR	**Makanchi Array**	**44.08**	**302**	P		**P**	09 53 26.5	**-1.2**
	comp=Z,0.8nm,0.6s,baz=88,slow=11,SNR=5.2							
KURK	**Kurchatov**	**45.88**	**308**	P		**P**	09 53 42.1	**+0.1**
KURBB	**Kurchatov Arra**	**45.95**	**308**	P		**P**	09 53 42.1	**-0.4**
	comp=Z,0.9nm,0.3s,baz=83,slow=8.1,SNR=7.9							
IM3	**Indian Mountai**	**46.53**	**31**	*e*P		**P**	09 53 48.0	**+0.7**
OHAK	**Old Harbor**	**46.71**	**43**	*e*P		**P**	09 53 48.5	**+0.2**
	comp=Z,91nm,1.8s							
KDAK	**Kodiak Island**	**47.05**	**42**	*e*P		**P**	09 53 51.4	**+0.3**
	comp=Z,89nm,2.0s							
PPLA	**Purkeypile**	**47.11**	**35**	*e*P		**P**	09 53 53.3	**+1.6**
	comp=Z,11nm,1.4s							
CAST	**Castle Rocks**	**47.17**	**34**	*e*P		**P**	09 53 53.9	**+1.9**
	comp=Z,2.1nm,0.8s							
BPAW	**Bear Paw Mtn.**	**47.67**	**33**	*e*P		**P**	09 53 57.4	**+1.6**
	comp=Z,18nm,1.9s							
KTH	**Kantishna Hill**	**47.69**	**34**	*e*P		**P**	09 53 57.9	**+1.9**
	comp=Z,4.7nm,1.0s							
MLY	**Manley**	**47.79**	**32**	*e*P		**P**	09 53 58.6	**+1.8**
	comp=Z,3.4nm,1.0s							
SUA	**Susitna One**	**47.80**	**37**	*e*P		**P**	09 53 57.1	**+0.1**
	comp=Z,8.0nm,1.3s							
COLD	**Coldfoot**	**48.09**	**29**	*e*P		**P**	09 54 00.3	**+1.3**
	comp=Z,5.3nm,1.5s							
PMR	**Palmer**	**48.57**	**37**	*e*P		**P**	09 54 03.6	**+0.9**
	comp=Z,32nm,2.0s							
RND	**Reindeer**	**48.62**	**34**	*e*P		**P**	09 54 04.0	**+0.8**
	comp=Z,7.1nm,1.3s							
MDM	**Murphy Dome**	**48.86**	**32**	*e*P		**P**	09 54 05.9	**+0.9**
	comp=Z,7.1nm,1.2s							
WRH	**Wood River Hil**	**48.93**	**33**	*e*P		**P**	09 54 06.8	**+1.3**
	comp=Z,5.0nm,1.2s							
SML	**Sawmill**	**48.94**	**36**	*e*P		**P**	09 54 06.5	**+0.8**
	comp=Z,9.3nm,1.1s							
CCB	**Clear Creek Bu**	**49.05**	**33**	*e*P		**P**	09 54 08.4	**+2.0**
	comp=Z,1.4nm,0.8s							
SCM	**Sheep Creek Mo**	**49.41**	**36**	*e*P		**P**	09 54 10.1	**+0.7**
	comp=Z,21nm,1.6s							
IL1	**Eielson Array**	**49.44**	**32**	*e*P		**P**	09 54 09.8	**+0.4**
ILAR	**Eielson Array**	**49.44**	**32**	P		**P**	09 54 09.8	**+0.4**
	comp=Z,2.2nm,0.7s,baz=270,slow=6.4,SNR=27							
ILB	**Eielson Array**	**49.44**	**32**	*e*P		**P**	09 54 10.2	**+0.8**
BVAR	**Borovoye Array**	**50.52**	**312**	P		**P**	09 54 17.0	**-0.8**
	comp=Z,0.4nm,0.5s,baz=86,slow=9.4,SNR=3.8							
BVAR				PcP		**PcP**	09 55 35.2	**-0.5**
	comp=Z,0.7nm,0.6s,baz=98,slow=2.9,SNR=3.1							
DOT	**Dot Lake**	**50.75**	**34**	*e*P		**P**	09 54 20.5	**+1.1**
	comp=Z,40nm,1.9s							
SCRK	**Sand Creek**	**50.75**	**33**	*e*P		**P**	09 54 20.2	**+0.6**
	comp=Z,3.0nm,0.8s							
RAGM	**Ragged Mountai**	**50.85**	**38**	*e*P		**P**	09 54 21.1	**+0.9**
	comp=Z,66nm,0.7s							
MENT	**Mentasta**	**50.98**	**35**	*e*P		**P**	09 54 23.2	**+2.0**
	comp=Z,4.4nm,1.1s							
EGAK	**Eagle**	**51.88**	**32**	*e*P		**P**	09 54 28.4	**+0.6**
	comp=Z,10nm,1.6s							
DAWY	**Dawson**	**52.74**	**33**	*e*P		**P**	09 54 35.4	**+1.1**
	comp=Z,8.0nm,1.9s							
INK	**Inuvik**	**54.33**	**27**	*e*P		**P**	09 54 46.8	**+1.1**
	comp=Z,2.2nm,0.8s							
WB2	**Warramunga Arr**	**57.13**	**188**	*e*P		**P**	09 55 05.7	**-0.8**
	comp=Z,15nm,1.6s							
WRA	**Warramunga Arr**	**57.13**	**188**	P		**P**	09 55 04.6	**-1.8**
	comp=Z,1.9nm,0.9s,baz=5.6,slow=7.4,SNR=18							
WRA				PcP		**PcP**	09 56 00.4	**-0.8**
	comp=Z,0.5nm,0.6s,baz=2.1,slow=4.4,SNR=4.0							
ABKAR	**Akbulak array**	**57.89**	**310**	*e*P		**P**	09 55 10.9	**-0.7**
	comp=Z,19nm,0.6s							
ASAR	**Alice Springs**	**60.86**	**188**	P		**P**	09 55 29.6	**-2.7**
	comp=Z,0.8nm,0.8s,baz=7.4,slow=7.3,SNR=8.0							
YKA	**Yellowknife Ar**	**63.75**	**30**	P		**P**	09 55 50.4	**-0.8**
	comp=Z,0.4nm,0.6s,baz=304,slow=6.6,SNR=12							
GEYT	**Ailbeck**	**63.80**	**299**	P		**P**	09 55 50.8	**-1.2**
	comp=Z,1.6nm,0.8s,baz=23,slow=7.8,SNR=3.7							
ARCES	**ARCESS Array B**	**63.93**	**339**	P		**P**	09 55 52.1	**-0.2**
	comp=Z,1.7nm,0.8s,baz=68,slow=7.1,SNR=3.5							
FIA1	**FINESS Array S**	**68.75**	**332**	*e*P		**P**	09 56 23.1	**-0.2**
	comp=Z,6.6nm,0.8s							
FINES	**FINESS Array B**	**68.75**	**332**	P		**P**	09 56 22.6	**-0.7**
	comp=Z,1.0nm,0.7s,baz=44,slow=12,SNR=4.9							
PINE	**Pine Mountain**	**70.30**	**50**	*e*P		**P**	09 56 35.3	**+1.9**
	comp=Z,6.7nm,1.4s							
KBZ	**Khabaz**	**70.85**	**311**	P		**P**	09 56 35.3	**-1.2**
	comp=Z,1.2nm,0.5s,baz=241,slow=7.3,SNR=3.7							
BMO	**Blue Mountains**	**71.89**	**47**	*e*P		**P**	09 56 43.9	**+1.0**
	comp=Z,4.7nm,1.6s							
FCC	**Fort Churchill**	**73.94**	**27**	*e*P		**P**	09 56 55.0	**+0.3**
	comp=Z,9.9nm,1.8s							
NB2	**NORSAR Subarra**	**74.12**	**337**	P		**P**	09 56 55.1	**-0.7**
	comp=Z,3.2nm,0.9s,baz=39,slow=5.9							
NOA	**NORSAR Array B**	**74.12**	**337**	P		**P**	09 56 54.6	**-1.2**
	comp=Z,1.4nm,0.8s,baz=39,slow=5.8,SNR=6.1							
AKASG	**Malin Array Be**	**74.24**	**322**	P		**P**	09 56 55.1	**-1.5**
	comp=Z,0.5nm,0.4s,baz=50,slow=6.2,SNR=7.0							
AKBB	**Malin Array Si**	**74.24**	**322**	*e*P		**P**	09 56 56.0	**-0.5**
	comp=Z,4.4nm,0.9s							
KIEV	**Kiev**	**74.25**	**322**	*e*P		**P**	09 56 56.0	**-0.6**
	comp=Z,4.3nm,0.9s							
DLMT	**Dillon**	**74.30**	**45**	*e*P		**P**	09 56 58.6	**+1.3**
	comp=Z,6.5nm,1.5s							
BOZ	**Bozeman (W)**	**74.69**	**44**	*e*P		**P**	09 57 00.3	**+0.7**
	comp=Z,3.3nm,1.4s							
NV01	**Mina Array Sit**	**74.95**	**53**	*e*P		**P**	09 57 02.5	**+1.2**
NVAR	**Mina Array Bea**	**74.95**	**53**	P		**P**	09 57 02.0	**+0.7**
	comp=Z,0.4nm,0.7s,baz=282,slow=5.5,SNR=4.2							
FXWY	**Fox Creek**	**76.24**	**45**	*e*P		**P**	09 57 10.4	**+1.8**
	comp=Z,5.5nm,1.8s							
TPAW	**Teton Pass**	**76.37**	**46**	*e*P		**P**	09 57 10.7	**+1.3**
	comp=Z,5.8nm,1.6s							
DUG	**Dugway, Tooele**	**77.31**	**49**	*e*P		**P**	09 57 15.7	**+1.1**
	comp=Z,1.2nm,0.8s							
PDAR	**Pinedale Array**	**77.62**	**45**	P		**P**	09 57 16.9	**+0.5**
	comp=Z,0.4nm,0.6s,baz=271,slow=3.3,SNR=5.2							
PDAR	**Pinedale Array**	**77.62**	**45**	*e*P		**P**	09 57 17.2	**+0.8**
BUR08	**Bucovina Ar. S**	**78.24**	**322**	*e*P		**P**	09 57 18.4	**-1.2**
BUR04	**Bucovina Ar. S**	**78.25**	**322**	*e*P		**P**	09 57 19.6	**0.0**
BRTR	**Keskin Array B**	**78.80**	**312**	P		**P**	09 57 21.7	**-1.1**
	comp=Z,0.2nm,0.5s,baz=42,slow=2.3,SNR=2.6							
P17A	**Butcher Ranch,**	**79.01**	**49**	*e*P		**P**	09 57 25.4	**+1.3**
	comp=Z,5.7nm,1.6s							
URZ	**Urewera**	**81.92**	**152**	*e*P		**P**	09 57 42.7	**+3.6**
	comp=Z,13nm,1.1s							
NRS	**Narsarsuaq**	**81.92**	**3**	*e*P		**P**	09 57 37.6	**-1.5**
	comp=Z,166nm,2.0s							
KHC	**Kasperske Hory**	**82.48**	**328**	*e*pP		pP	09 57 48.5	+4.0
GERES	**GERESS Array B**	**82.65**	**328**	P		**P**	09 57 42.6	**-0.6**
	comp=Z,0.4nm,0.5s,baz=36,slow=7.1,SNR=4.6							
GEA0	**GERESS Array S**	**82.65**	**328**	*e*P		**P**	09 57 43.0	**-0.3**
TX31	**Lajitas Ar. Si**	**90.08**	**52**	*e*P		**P**	09 58 20.6	**+0.5**
TXAR	**Lajitas Array**	**90.08**	**52**	P		**P**	09 58 20.1	**-0.1**
	comp=Z,0.5nm,0.7s,baz=297,slow=4.1,SNR=6.0							
TORD	**Torodi Ar. Bea**	**117.28**	**315**	PKP		**PKPdf**	10 04 04.3	**-1.5**
	comp=Z,0.1nm,0.5s,baz=33,slow=3.4,SNR=2.2							
LPAZ	**La Paz**	**146.66**	**59**	PKPbc		**PKPbc**	10 05 02.9	**+0.1**
	comp=Z,2.0nm,0.5s,baz=326,slow=1.4,SNR=15							
LPAZ	**La Paz**	**146.66**	**59**	*e*PKPdf		**PKPbc**	10 05 03.0	**+0.1**
MNMC	**Minye Minye**	**147.52**	**65**	*e*PKPbc		**PKPbc**	10 05 05.8	**+1.1**

*DDA **22** 09:47:11.1,39.10N×29.12E,h7km,Ml2.8*
*ISK **22** 09:47:11.6,39.06N×29.10E,h4km,ML2.7/19*
*CSEM **22** 09:47:12.1±0.1,39.07N×29.10E,h2km,ML2.7, Error ellipse: s-maj=3.2km s-min=2.5km az=114.0*
ISC 22 09:47:11.8±0.9,**39.08N**±0.02×**29.10E**±0.02,**h6**km±8km, **n58**,σ0**s77**/70,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIMA	**Simav-Kutahya**	**0.10**	**273**	PG	**Pg**	09 47 13.9	**-0.1**
SIMA				SG	**Sg**	09 47 15.8	**+0.3**
SIMA	**Simav-Kutahya**	**0.10**	**273**	*e*Pg	**Pg**	09 47 13.9	**-0.1**
SIMA				*e*Sg	**Sg**	09 47 15.8	**+0.3**
GDZ	**Gediz**	**0.29**	**88**	*i* P	**Pg**	09 47 16.8	**-0.8**
GDZ				*i* S	**Sg**	09 47 21.5	**0.0**
GDZ	**Gediz**	**0.29**	**88**	P	**Pg**	09 47 16.8	**-0.8**
GDZ				S	**Sg**	09 47 21.5	**0.0**
DEMI	**Demirci**	**0.30**	**263**	*i* P	**Pg**	09 47 17.6	**-0.2**
DEMI				*i* S	**Sg**	09 47 22.3	**+0.5**
DEMI	**Demirci**	**0.30**	**263**	P	**Pg**	09 47 17.6	**-0.2**
DEMI				S	**Sg**	09 47 22.3	**+0.5**
KULA	**Kula-Manisa**	**0.66**	**212**	PG	**Pg**	09 47 24.7	**+0.2**
KULA				SG	**Sb**	09 47 33.9	**-1.3**
KULA	**Kula-Manisa**	**0.66**	**212**	*e*Pg	**Pg**	09 47 24.7	**+0.2**
KULA				*e*Sg	**Sb**	09 47 33.9	**-1.3**
DURS	**Dursunbey**	**0.71**	**317**	*i* P	**Pg**	09 47 25.0	**-0.6**
DURS	**Dursunbey**	**0.71**	**317**	P	**Pg**	09 47 25.0	**-0.6**
MANT	**Manisa**	**0.73**	**216**	*i* P	**Pg**	09 47 25.9	**+0.1**
MANT				*i* S	**Sb**	09 47 36.0	**-1.2**
MANT	**Manisa**	**0.73**	**216**	P	**Pg**	09 47 25.9	**+0.1**
MANT				S	**Sb**	09 47 36.0	**-1.2**
KHAL	**Karahalli**	**0.77**	**157**	*i* P	**Pb**	09 47 27.9	**+0.3**
KHAL				*i* S	**Sg**	09 47 37.0	**+0.4**
KHAL	**Karahalli**	**0.77**	**157**	P	**Pb**	09 47 27.9	**+0.3**
KHAL				S	**Sg**	09 47 37.0	**+0.4**
ORLT	**Orhaneli**	**0.98**	**351**	PG	**Pb**	09 47 31.2	**0.0**
ORLT	**Orhaneli**	**0.98**	**351**	*e*Pg	**Pb**	09 47 31.2	**0.0**
BALB	**Balikesir**	**1.10**	**301**	PN	**Pn**	09 47 33.8	**+0.1**
BALB	**Balikesir**	**1.10**	**301**	*e*Pn	**Pn**	09 47 33.8	**+0.1**
STEP	**BALIKESIR_Sava**	**1.12**	**286**	*i* P	**Pn**	09 47 34.7	**+0.7**
STEP	**BALIKESIR_Sava**	**1.12**	**286**	P	**Pn**	09 47 34.7	**+0.7**
CAVI	**Cavuskoy**	**1.26**	**27**	PN	**Pn**	09 47 36.4	**+0.5**
CAVI	**Cavuskoy**	**1.26**	**27**	*e*Pn	**Pn**	09 47 36.4	**+0.5**
MDNY	**Mudanya-Bursa**	**1.30**	**353**	PN	**Pb**	09 47 37.5	**+0.9**
MDNY	**Mudanya-Bursa**	**1.30**	**353**	*e*Pn	**Pb**	09 47 37.5	**+0.9**
KCTX	**Karacabey (Bur**	**1.32**	**334**	PN	**Pn**	09 47 36.7	**0.0**
KCTX	**Karacabey (Bur**	**1.32**	**334**	*e*Pn	**Pn**	09 47 36.7	**0.0**
ADVT	**Abdulvahap**	**1.44**	**20**	PN	**Pg**	09 47 39.6	**+0.2**
ADVT	**Abdulvahap**	**1.44**	**20**	*e*Pn	**Pg**	09 47 39.6	**+0.2**
GONE	**Gonen-Balikesi**	**1.46**	**312**	PN	**Pg**	09 47 39.7	**-0.1**
GONE	**Gonen-Balikesi**	**1.46**	**312**	*e*Pn	**Pg**	09 47 39.7	**-0.1**
AYDB	**Zeytinkoy-Aydi**	**1.48**	**220**	PN	**Pb**	09 47 39.5	**-0.2**
AYDB	**Zeytinkoy-Aydi**	**1.48**	**220**	*e*Pn	**Pb**	09 47 39.5	**-0.2**
ARMT	**Armutlu**	**1.50**	**353**	PN	**Pb**	09 47 40.1	**+0.1**
ARMT	**Armutlu**	**1.50**	**353**	*e*Pn	**Pb**	09 47 40.1	**+0.1**
YLV	**Yalova**	**1.50**	**8**	PN	**Pb**	09 47 40.3	**+0.2**
YLV	**Yalova**	**1.50**	**8**	*e*Pn	**Pb**	09 47 40.3	**+0.2**
EDC	**Edincik**	**1.59**	**323**	PN	**Pb**	09 47 41.5	**0.0**
EDC	**Edincik**	**1.59**	**323**	*e*Pn	**Pb**	09 47 41.5	**0.0**
GULT	**Gulveren**	**1.73**	**38**	PN	**Pb**	09 47 43.7	**-0.4**
GULT	**Gulveren**	**1.73**	**38**	*e*Pn	**Pb**	09 47 43.7	**-0.4**
HRT	**Hereke**	**1.79**	**14**	PN	**Pn**	09 47 44.3	**+1.0**
HRT	**Hereke**	**1.79**	**14**	*e*Pn	**Pn**	09 47 44.3	**+1.0**
SPNC	**Sapanca-Adapaz**	**1.85**	**30**	PN	**Pn**	09 47 45.2	**+1.1**
SPNC	**Sapanca-Adapaz**	**1.85**	**30**	*e*Pn	**Pn**	09 47 45.2	**+1.1**
SAUV	**Serdivan-Sakar**	**1.91**	**29**	PN	**Pb**	09 47 46.2	**-0.8**
SAUV	**Serdivan-Sakar**	**1.91**	**29**	*e*Pn	**Pb**	09 47 46.2	**-0.8**
KRBG	**Karabiga-Canak**	**1.91**	**314**	PN	**Pb**	09 47 46.1	**-1.0**
KRBG	**Karabiga-Canak**	**1.91**	**314**	*e*Pn	**Pb**	09 47 46.1	**-1.0**
SBT3	**Marmara-Eregli**	**2.00**	**335**	PN	**Pb**	09 47 47.5	**-1.0**
SBT3	**Marmara-Eregli**	**2.00**	**335**	*e*Pn	**Pb**	09 47 47.5	**-1.0**
SILT	**Sile**	**2.11**	**11**	PN	**Pn**	09 47 49.1	**+1.5**
SILT	**Sile**	**2.11**	**11**	*e*Pn	**Pn**	09 47 49.1	**+1.5**
KLYT	**Kilyos**	**2.17**	**359**	PN	**Pn**	09 47 49.8	**+1.4**
KLYT	**Kilyos**	**2.17**	**359**	*e*Pn	**Pn**	09 47 49.8	**+1.4**
RKY	**Sarkoy-Tekirda**	**2.19**	**318**	PN	**Pn**	09 47 50.0	**+1.3**
RKY	**Sarkoy-Tekirda**	**2.19**	**318**	*e*Pn	**Pn**	09 47 50.0	**+1.3**
CTKS	**Kestanelik-??a**	**2.20**	**348**	PN	**Pn**	09 47 50.4	**+1.5**
CTKS	**Kestanelik-??a**	**2.20**	**348**	*e*Pn	**Pn**	09 47 50.4	**+1.5**

*IDC **22** 10:00:08.5±2.8,4.43N×95.00E,h0km,mb3.5/3,mb1 3.8/4, mb1mx3.4/75,mbtmp3.5/4,ML4.3/1,MS3.2/1,Ms1 3.2/1, ms1mx2.6/47,Error ellipse: s-maj=110.1km s-min=25.5km az=61.0*
*DJA **22** 10:00:13.9±1.5,2.7N×97.3E×,h10km,M4.1/3,MLv4.1/3*
ISC 22 10:00:09.4±2.0,**2.2N**±0.1×**92.8E**±0.1,**h35**km,**n8**,σ1**s35**/9, **mb3.5**/3,**Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLSI	**Meulaboh, Aceh**	**4.11**	**60**	P	**Pn**	10 01 11.2	**+1.4**
MLSI				S	**Sn**	10 01 55.7	**-1.0**
TPTI		**4.47**	**77**	P	**Pn**	10 01 16.4	**+1.7**
TPTI				S	**Sn**	10 02 04.3	**-1.3**
GSI	**Gunungsitoli**	**4.84**	**101**	P	**Pn**	10 01 20.9	**+1.1**
GSI				S	**Sn**	10 02 14.0	**-0.7**
DAV	**Davao City (W)**	**32.99**	**80**	LR	LR	10 20 41.7	
	comp=Z,45nm,18.8s,baz=208,slow=40						
MKAR	**Makanchi Array**	**45.33**	**350**	P		10 08 14.8	-9.2
	0.9nm,0.7s,baz=150,slow=7.3,SNR=2.2						
WRA	**Warramunga Arr**	**46.31**	**120**	P	**P**	10 08 32.1	**0.0**
	0.9nm,0.6s,baz=300,slow=8.8,SNR=12						
ASAR	**Alice Springs**	**47.53**	**125**	P	**P**	10 08 41.3	**-0.4**
	0.5nm,1.0s,baz=304,slow=7.4,SNR=3.2						
TXAR	**Lajitas Array**	**144.87**	**26**	PKP	**PKPab**	10 19 41.5	**-1.2**
	0.3nm,0.5s,baz=205,slow=1.9,SNR=8.2						

*ISK **22** 10:01:15.8,38.57N×43.11E,h18km,ML2.4/5*
*ISCJB **22** 10:01:16.4±0.7,38.46N±0.04×43.17E±0.05,h26km±4km, Error ellipse: s-maj=7.8km s-min=5.6km az=148.6*
*CSEM **22** 10:01:16.3±0.4,38.50N×43.12E,h10km,ML2.4, Error ellipse: s-maj=8.7km s-min=7.2km az=161.0*
*ATA **22** 10:01:16.0±1.8,38.56N×43.12E,h7km±237km,ML2.8, MW2.9*
*DDA **22** 10:01:17.6,38.54N×43.10E,h7km,Ml3.0*
ISC 22 10:01:16.1±1.0,**38.48N**±0.04×**43.17E**±0.03,**h27**km±7km, **n25**,σ0**s83**/42,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GEVA	**Gevas**	**0.19**	**207**	*e*P	**Pb**	10 01 21.9	**0.0**
GEVA				*e*S	**Sb**	10 01 25.5	**-0.5**
GEVA				IAML		10 01 31.9	
	comp=Z,168nm,0.3s						
GEVA	**Gevas**	**0.19**	**207**	*i* P	**Pb**	10 01 22.0	**0.0**
GEVA				*i* S	**Sb**	10 01 26.6	**+0.6**
GEVA	**Gevas**	**0.19**	**207**	P	**Pb**	10 01 22.0	**0.0**
GEVA				S	**Sb**	10 01 26.6	**+0.6**
TVAN	**

After WEL.
NEIC Felt [IV] at Christchurch. Also felt at Lyttelton, Rakaia and Rangiora.
*WEL **22** 10:08:53.0, 44°S-2°×17°3E-, h13km-2km, ML4.3/7*

ISC 22 10:08:53.1±1.0, 43°50S±0°03×172°87E±0°03, h17km±6km, n117, σ1s04/134, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CRLZ	**Canterbury Las**	**0.20**	**248**	*ePg*		**Pb**		**10 08 58.4**	**+0.2**
CRLZ				*eSg*		**Sg**		**10 09 01.6**	**+0.4**
CRLZ	**Canterbury Las**	**0.20**	**248**	P		**Pb**		**10 08 58.5**	**+0.2**
CRLZ	**Canterbury Las**	**0.20**	**248**	S		**Sg**		**10 09 01.3**	**0.0**
MQZ	**McQueen's Vall**	**0.26**	**218**	*ePg*		**Pb**		**10 08 58.9**	**-0.4**
MQZ				*eSg*		**Sg**		**10 09 02.9**	**-0.1**
MQZ	**McQueen's Vall**	**0.26**	**218**	P		**Pb**		**10 08 59.1**	**-0.3**
MQZ	**McQueen's Vall**	**0.26**	**218**	S		**Sg**		**10 09 02.9**	**-0.1**
OKCZ	**Okains Bay**	**0.26**	**149**	P		**Pb**		**10 09 00.4**	**+1.0**
OKCZ	**Okains Bay**	**0.26**	**149**	S		**Sb**		**10 09 05.0**	**+1.4**
AKCZ	**Akaroa Harbour**	**0.37**	**176**	P		**Pb**		**10 09 02.0**	**+0.7**
AKCZ	**Akaroa Harbour**	**0.37**	**176**	S		**Sb**		**10 09 07.8**	**+1.0**
EYCZ	**Eyrewell**	**0.39**	**282**	P		**Pb**		**10 09 01.1**	**-0.4**
EYCZ	**Eyrewell**	**0.39**	**282**	S		**Sb**		**10 09 06.4**	**-0.7**
OXZ	**Oxford**	**0.63**	**286**	*ePg*		**Pb**		**10 09 05.4**	**-0.3**
OXZ	**Oxford**	**0.63**	**286**	P		**Pb**		**10 09 05.5**	**-0.3**
OXZ	**Oxford**	**0.63**	**286**	S		**Sb**		**10 09 15.3**	**+1.1**
LTZ	**Lake Taylor**	**0.84**	**328**	*ePn*		**Pb**		**10 09 09.7**	**+0.4**
LTZ				*eSg*		**Sb**		**10 09 21.1**	**+0.7**
LTZ	**Lake Taylor**	**0.84**	**328**	P		**Pb**		**10 09 09.8**	**+0.4**
KHZ	**Kahutara**	**1.19**	**24**	*ePn*		**Pn**		**10 09 14.8**	**-0.1**
KHZ	**Kahutara**	**1.19**	**24**	P		**Pn**		**10 09 14.9**	**-0.1**
INZ	**Inchbonnie**	**1.30**	**306**	P		**Pn**		**10 09 16.4**	**0.0**
RPZ	**Rata Peaks**	**1.34**	**260**	Pn		**Pn**		**10 09 16.9**	**-0.2**
	230nm,0.3s,baz=89,slow=2.8,SNR=329								
RPZ				Sn		**Sb**		**10 09 34.4**	**-0.2**
	454nm,0.3s,baz=21,slow=17,SNR=31								
RPZ	**Rata Peaks**	**1.34**	**260**	*ePn*		**Pn**		**10 09 16.7**	**-0.4**
RPZ				*ePg*		**Pg**		**10 09 18.8**	**-0.2**
RPZ				*eSn*		**Sg**		**10 09 36.0**	**-0.4**
RPZ	**Rata Peaks**	**1.34**	**260**	P		**Pn**		**10 09 16.9**	**-0.2**
WVZ	**Waitaha Valley**	**1.62**	**285**	P		**Pn**		**10 09 21.1**	**+0.3**
THZ	**Tophouse**	**1.74**	**1**	*ePn*		**Pn**		**10 09 22.7**	**+0.1**
THZ	**Tophouse**	**1.74**	**1**	P		**Pn**		**10 09 22.8**	**+0.3**
DSZ	**Denniston Nort**	**1.92**	**335**	P		**Pn**		**10 09 25.6**	**+0.5**
BSWZ	**Blackbirch Sta**	**1.93**	**23**	P		**Pn**		**10 09 25.9**	**+0.7**
CMWZ	**Cape Campbell**	**2.01**	**30**	P		**Pn**		**10 09 27.8**	**+1.5**
LBZ	**Lake Benmore**	**2.13**	**245**	*ePn*		**Pn**		**10 09 28.6**	**+0.6**
LBZ				*ePg*		**Pg**		**10 09 33.7**	**-0.5**
LBZ	**Lake Benmore**	**2.13**	**245**	P		**Pn**		**10 09 28.6**	**+0.6**
TUWZ	**Tuamarina**	**2.21**	**21**	P		**Pn**		**10 09 29.3**	**+0.3**
FOZ	**Fox Glacier**	**2.23**	**268**	*ePn*		**Pn**		**10 09 30.3**	**+1.1**
FOZ				*ePg*		**Pg**		**10 09 36.7**	**+0.8**
FOZ	**Fox Glacier**	**2.23**	**268**	P		**Pn**		**10 09 30.7**	**+1.5**
ODZ	**Otahua Downs**	**2.23**	**225**	*ePn*		**Pn**		**10 09 29.5**	**+0.3**
ODZ				*ePg*		**Pg**		**10 09 35.7**	**-0.1**
ODZ				*eSn*		**Sg**		**10 10 05.2**	**+0.5**
ODZ	**Otahua Downs**	**2.23**	**225**	P		**Pn**		**10 09 29.4**	**+0.3**
NNZ	**Nelson**	**2.31**	**5**	P		**Pn**		**10 09 31.1**	**+0.7**
TCW	**Tory Channel**	**2.51**	**25**	P		**Pn**		**10 09 33.0**	**-0.1**
BHW	**Baring Head**	**2.56**	**36**	P		**Pn**		**10 09 33.8**	**0.0**
SNZO	**South Karori**	**2.57**	**32**	*ePn*		**Pn**		**10 09 33.9**	**-0.1**
PLWZ	**Palliser**	**2.61**	**43**	P		**Pn**		**10 09 34.2**	**-0.4**
QRZ	**Quartz Range**	**2.69**	**354**	P		**Pn**		**10 09 36.1**	**+0.5**
MSWZ	**Moikau Station**	**2.73**	**41**	P		**Pn**		**10 09 35.7**	**-0.4**
DUWZ	**D'Urville Isla**	**2.81**	**16**	P		**Pn**		**10 09 38.3**	**+1.1**
PAWZ	**Paruwai Farm**	**2.84**	**43**	P		**Pn**		**10 09 37.3**	**-0.4**
HHSZ	**Highcliff Hill**	**2.88**	**213**	P		**Pn**		**10 09 38.6**	**+0.3**
CAW	**Cannon Point**	**2.89**	**35**	P		**Pn**		**10 09 38.2**	**-0.2**
TRWZ	**Traveller**	**2.96**	**46**	P		**Pn**		**10 09 38.9**	**-0.4**
JCZ	**Jackson Bay**	**3.02**	**258**	P		**Pn**		**10 09 40.5**	**+0.4**
KIW	**Kapiti Island**	**3.04**	**31**	P		**Pn**		**10 09 40.5**	**+0.1**
MTW	**Mount Morrison**	**3.04**	**41**	P		**Pn**		**10 09 39.9**	**-0.6**
WKZ	**Wanaka**	**3.08**	**243**	*ePn*		**Pn**		**10 09 40.9**	**0.0**
WKZ				*ePg*		**Pg**		**10 09 51.6**	**-0.4**
WKZ	**Wanaka**	**3.08**	**243**	P		**Pn**		**10 09 41.2**	**+0.2**
EAZ	**Earnscleugh**	**3.09**	**235**	P		**Pn**		**10 09 41.4**	**+0.4**
OGWZ	**Otaki Gorge**	**3.18**	**33**	P		**Pn**		**10 09 42.0**	**-0.3**
HOWZ	**Holdsworth Sta**	**3.26**	**38**	P		**Pn**		**10 09 43.0**	**-0.4**
TMWZ	**Te Maipa**	**3.27**	**44**	P		**Pn**		**10 09 43.3**	**-0.4**
TUZ	**Tuapeka**	**3.37**	**222**	P		**Pn**		**10 09 45.3**	**+0.4**
MRZ	**Mangatainoka R**	**3.48**	**36**	P		**Pn**		**10 09 45.2**	**-1.2**
TIWZ	**Tintock**	**3.52**	**40**	P		**Pn**		**10 09 46.3**	**-0.8**
PRWZ	**Pori Road**	**3.74**	**39**	P		**Pn**		**10 09 49.4**	**-0.6**
MSZ	**Milford Sound**	**3.75**	**250**	P		**Pn**		**10 09 50.2**	**+0.1**
OHWZ	**Ohakea**	**3.76**	**30**	P		**Pn**		**10 09 51.5**	**+1.2**
BFZ	**Birch Farm**	**3.77**	**43**	*ePn*		**Pn**		**10 09 49.5**	**-1.0**
BFZ				*eSn*		**Sn**		**10 10 33.6**	**-0.8**
BFZ	**Birch Farm**	**3.77**	**43**	P		**Pn**		**10 09 49.3**	**-1.2**
POWZ	**Post Office Ro**	**3.78**	**36**	P		**Pn**		**10 09 50.6**	**0.0**
MLZ	**Mavora Lakes**	**3.88**	**240**	*ePn*		**Pn**		**10 09 51.8**	**-0.3**
MLZ				*ePg*		**Pg**		**10 10 06.5**	**-1.0**
MLZ	**Mavora Lakes**	**3.88**	**240**	P		**Pn**		**10 09 52.0**	**0.0**
SYZ	**Scrubby Hill**	**4.03**	**220**	P		**Pn**		**10 09 54.6**	**+0.6**
DVHZ	**Dannevirke**	**4.03**	**39**	P		**Pn**		**10 09 53.0**	**-1.1**
ANWZ	**Angora Road**	**4.05**	**43**	P		**Pn**		**10 09 53.5**	**-0.8**
WAZ	**Wanganui**	**4.06**	**24**	P		**Pn**		**10 09 56.3**	**+1.8**
WAZ	**Wanganui**	**4.06**	**24**	P		**Pn**		**10 09 56.7**	**+2.3**
TSZ	**Takapari Road**	**4.14**	**35**	P		**Pn**		**10 09 54.6**	**-1.0**
NMEZ	**Namu Road**	**4.15**	**11**	P		**Pn**		**10 09 58.2**	**+2.5**
LREZ	**Lake Rotokare**	**4.20**	**16**	P		**Pn**		**10 09 59.6**	**+3.3**
WHZ	**Wether Hill Ro**	**4.25**	**234**	*ePn*		**Pn**		**10 09 57.2**	**+0.2**
WHZ				*ePg*		**Pg**		**10 10 12.9**	**-1.6**
WHZ	**Wether Hill Ro**	**4.25**	**234**	P		**Pn**		**10 09 56.3**	**-0.8**
PREZ	**Palmer Road**	**4.26**	**14**	P		**Pn**		**10 09 59.6**	**+2.3**
PRHZ	**Porangahau**	**4.28**	**42**	P		**Pn**		**10 09 56.5**	**-1.0**
PNHZ	**Pukenui**	**4.36**	**36**	P		**Pn**		**10 09 57.8**	**-0.8**
PKE	**Pukeiti**	**4.38**	**11**	P		**Pn**		**10 10 00.5**	**+1.6**
DREZ	**Durham Road**	**4.42**	**13**	P		**Pn**		**10 10 01.4**	**+2.0**
DCZ	**Deep Cove**	**4.54**	**242**	*ePn*		**Pn**		**10 10 01.2**	**+0.2**
DCZ				*ePg*		**Pg**		**10 10 17.8**	**-2.3**
DCZ	**Deep Cove**	**4.54**	**242**	P		**Pn**		**10 10 01.4**	**+0.4**
MTVZ	**Mangateitei**	**4.55**	**26**	P		**Pn**		**10 10 02.4**	**+1.2**
VRZ	**Vera Road**	**4.60**	**19**	P		**Pn**		**10 10 03.5**	**+1.7**
PKVZ	**Pokaka**	**4.60**	**25**	P		**Pn**		**10 10 03.0**	**+1.1**
MOVZ	**Moawhango**	**4.63**	**29**	P		**Pn**		**10 10 02.6**	**+0.4**
TRVZ	**Turoa**	**4.65**	**26**	P		**Pn**		**10 10 04.3**	**+1.5**
KRHZ	**Kereru**	**4.66**	**35**	P		**Pn**		**10 10 01.4**	**-1.3**
BHHZ	**Black Hill Sta**	**4.67**	**32**	P		**Pn**		**10 10 02.5**	**-0.3**
DRZ	**Dome Shelter**	**4.68**	**27**	P		**Pn**		**10 10 05.2**	**+2.0**
WHVZ	**Whangaehu Hut**	**4.68**	**27**	P		**Pn**		**10 10 04.4**	**+1.2**
FWVZ	**Far West T-bar**	**4.70**	**26**	P		**Pn**		**10 10 03.7**	**+0.3**
TUVZ	**Tukino**	**4.72**	**27**	P		**Pn**		**10 10 04.5**	**+0.9**
COVZ	**Chateau Observ**	**4.74**	**26**	P		**Pn**		**10 10 05.4**	**+1.5**
NGZ	**Ngauruhoe**	**4.78**	**26**	P		**Pn**		**10 10 05.3**	**+0.8**
APZ	**The Paps**	**4.80**	**224**	P		**Pn**		**10 10 05.0**	**+0.4**
TWVZ	**Taurewa**	**4.83**	**24**	P		**Pn**		**10 10 06.0**	**+1.0**
WTVZ	**West Tongariro**	**4.83**	**26**	P		**Pn**		**10 10 05.8**	**+0.7**
KWHZ	**Kaweka Forest**	**4.87**	**34**	P		**Pn**		**10 10 05.1**	**-0.5**
MCH	**McNeill Hill**	**4.97**	**37**	P		**Pn**		**10 10 07.0**	**+0.1**
BKZ	**Black Stump Fm**	**5.12**	**33**	*ePn*		**Pn**		**10 10 08.4**	**+0.6**
BKZ	**Black Stump Fm**	**5.12**	**33**	P		**Pn**		**10 10 07.8**	**-1.2**
PYZ	**Puysegur Point**	**5.15**	**237**	*ePn*		**Pn**		**10 10 10.0**	**+0.7**
HIZ	**Hauiti**	**5.20**	**17**	*ePn*		**Pn**		**10 10 11.2**	**+1.1**
URZ	**Urewera**	**6.14**	**33**	Pn		**Pn**		**10 10 20.5**	**-2.5**
	2.9nm,0.3s,baz=225,slow=5.4,SNR=18								
URZ				Sn		**Sn**		**10 11 29.0**	**-3.8**
	2.9nm,0.3s,baz=103,slow=14,SNR=3.6								
URZ	**Urewera**	**6.14**	**33**	*ePn*		**Pn**		**10 10 21.7**	**-1.3**
URZ				*eSn*		**Sn**		**10 11 31.1**	**-1.6**
MXZ	**Matakaoa Point**	**7.23**	**37**	*ePn*		**Pn**		**10 10 39.6**	**+1.7**
OUZ	**Omahuta**	**8.29**	**4**	*ePn*		**Pn**		**10 10 54.1**	**+1.6**
ASAR	**Alice Springs**	**37.58**	**289**	P		**P**		**10 16 07.3**	**+0.6**
	1.1nm,1.0s,baz=127,slow=7.0,SNR=7.3								
WRA	**Warramunga Arr**	**39.82**	**294**	P		**P**		**10 16 25.7**	**+0.2**
	0.4nm,0.6s,baz=136,slow=7.7,SNR=8.2								
BVAR	**Borovoye Array**	**129.92**	**310**	PKP		**PKPdf**		**10 28 01.0**	**+0.2**
	0.2nm,0.5s,baz=90,slow=2.4,SNR=2.6								
TORD	**Torodi Ar. Bea**	**148.81**	**197**	PKPbc		**PKPbc**		**10 28 41.8**	**+1.8**
	0.3nm,0.8s,baz=158,slow=0.4,SNR=2.6								
ARCES	**ARCESS Array B**	**149.05**	**338**	PKPbc		**PKPbc**		**10 28 37.9**	**-1.1**
	4.0nm,1.0s,baz=45,slow=1.9,SNR=3.9								
FINES	**FINESS Array B**	**153.39**	**324**	PKPbc		**PKPbc**		**10 28 49.0**	**-0.3**
	0.6nm,0.7s,baz=42,slow=2.3,SNR=2.2								

*NEIC **22** 10:09:11.6±0.0, 16°66N×97°78W, h20km, MD4.0(MEX), After MEX.*

MEX 22 10:09:11.6±1.0, 16°66N×97°78W, h20km±33km, MD4.0, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.43**	**232**	*i* P		**Pb**		10 09 18.8	-1.7
PNIG				*eS*		Sb		10 09 25.3	-1.1
PNIG	**Pinotepa**	**0.43**	**232**	*i* P		Pb		10 09 18.8	-1.7
PNIG				*eS*		Sb		10 09 25.3	-1.1
VHO	**Vista Hermosa**	**1.08**	**68**	*eP*		Pb		10 09 28.5	-3.3
VHO				*eS*		Sb		10 09 42.1	-3.5
VHO	**Vista Hermosa**	**1.08**	**68**	*eP*		Pb		10 09 28.5	-3.3
VHO				*eS*		Sb		10 09 42.1	-3.5
TLIG	**Tlapa**	**1.17**	**320**	*eP*		Pn		10 09 29.9	-3.1
TLIG				*i* S		Sb		10 09 44.2	-3.9
TLIG	**Tlapa**	**1.17**	**320**	*eP*		Pn		10 09 29.9	-3.1
TLIG				*i* S		Sb		10 09 44.2	-3.9
TPIG	**Tehuac#an**	**1.80**	**13**	*eP*		Pn		10 09 40.5	-1.1
TPIG	**Tehuac#an**	**1.80**	**13**	*eP*		Pn		10 09 40.5	-1.1
HUIG	**Huatulco**	**1.83**	**119**	*eP*		Pn		10 09 40.6	-1.4
HUIG	**Huatulco**	**1.83**	**119**	*eP*		Pn		10 09 40.6	-1.4
MEIG	**Mezcala**	**2.16**	**306**	*eP*		Pn		10 09 43.9	-2.7
MEIG	**Mezcala**	**2.16**	**306**	*eP*		Pn		10 09 43.9	-2.7

IDC 22 10:30:07.9±4.1, 23°89N×108°96W, h0km, mb2.7/1, mb1 3.3/4, mb1mx3.2/52, mbtmp2.9/4, ML3.7/3, Error ellipse: s-maj=58.7km s-min=14.1km az=163.0, Gulf of California

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LPIG	**La Paz**	**1.25**	**280**	Pn		Pn	Pb	10 30 32.2	-0.2
	12nm,0.3s,baz=86,slow=4.6,SNR=16								
LPIG				Lg		Lg	Lg	10 30 48.1	
	68nm,0.3s,baz=31,slow=5.9,SNR=14								
TXAR	**Lajitas Array**	**7.20**	**40**	Pn		Pn	Pn	10 31 54.0	-0.6
	0.3nm,0.3s,baz=209,slow=14,SNR=13								
TXAR				Lg		Lg	Lg	10 33 53.8	
	0.3nm,0.3s,baz=213,slow=28,SNR=4.4								
NVAR	**Mina Array Bea**	**16.53**	**333**	Pn		Pn	Pn	10 34 02.4	+0.9
	baz=154,slow=11,SNR=2.2								
PDAR	**Pinedale Array**	**18.83**	**359**	P		Pn	Pn	10 34 30.1	+0.1
	0.1nm,0.3s,baz=168,slow=11,SNR=5.8								
YKA	**Yellowknife Ar**	**38.77**	**356**	P		P	P	10 37 35.5	+1.6
	0.1nm,0.7s,baz=171,slow=7.6,SNR=3.0								

IDC 22 10:30:38.9±2.3, 6°42S×129°89E, h0km, mb3.3/1, mb1 3.2/3, mb1mx3.1/49, mbtmp3.1/3, ML3.0/2, Error ellipse: s-maj=144.5km s-min=31.4km az=69.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.12**	**163**	Pn		Pn		10 33 59.5	-0.9
	0.1nm,0.3s,baz=345,slow=13,SNR=4.8								
WRA				Sn		Sn		10 36 21.1	-17
	0.1nm,0.3s,baz=333,slow=23,SNR=5.4								
ASAR	**Alice Springs**	**17.58**	**168**	P		Pn		10 34 46.0	+0.5
	0.1nm,0.3s,baz=347,slow=11,SNR=8.7								
ASAR				S		Sn		10 37 44.6	-17
	0.0nm,0.3s,baz=342,slow=25,SNR=3.1								
MKAR	**Makanchi Array**	**67.68**	**327**	P		P		10 41 38.0	0.0
	0.3nm,0.7s,baz=134,slow=7.7,SNR=2.8								

*ISCJB **22** 10:33:09.0±0.5, 39°10N±0°03×29°14E±0°03, h7km±5km, Error ellipse: s-maj=4.6km s-min=4.4km az=169.6*
*DDA **22** 10:33:08.9, 39°10N×29°15E, h7km, Ml2.6*
*ISK **22** 10:33:08.4, 39°10N×29°13E, h5km, ML2.6/11*
*CSEM **22** 10:33:09.0±0.1, 39°11N×29°14E, h5km, ML2.6, Error ellipse: s-maj=2.5km s-min=1.9km az=112.0*

ISC 22 10:33:09.0±0.9, 39°10N±0°02×29°14E±0°02, h8km±8km, n42, σ0s39/56, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SIMA	**Simav-Kutahya**	**0.13**	**261**	PG		**Pg**		**10 33 12.0**	**+0.1**
SIMA				SG		**Sg**		**10 33 13.4**	**-0.4**
SIMA	**Simav-Kutahya**	**0.13**	**261**	*ePg*		**Pg**		**10 33 12.0**	**+0.1**
SIMA				*eSg*		**Sg**		**10 33 13.4**	**-0.4**
GDZ	**Gediz**	**0.26**	**93**	*i* P		**Pg**		**10 33 14.4**	**+0.1**
GDZ				*i* S		**Sg**		**10 33 18.3**	**+0.4**
GDZ	**Gediz**	**0.26**	**93**	P		**Pg**		**10 33 14.4**	**+0.1**
GDZ				S		**Sg**		**10 33 18.3**	**+0.4**
DEMI	**Demirci**	**0.34**	**260**	*i* P		**Pg**		**10 33 15.9**	**+0.2**
DEMI				*i* S		**Sg**		**10 33 20.7**	**+0.5**
DEMI	**Demirci**	**0.34**	**260**	P		**Pg**		**10 33 15.9**	**+0.2**
DEMI				S		**Sg**		**10 33 20.7**	**+0.5**
TVSB	**Tavsanli**	**0.43**	**36**	PG		**Pg**		**10 33 16.8**	**-0.6**
TVSB	**Tavsanli**	**0.43**	**36**	*ePg*		**Pg**		**10 33 16.8**	**-0.6**
KULA	**Kula-Manisa**	**0.70**	**213**	PG		**Pg**		**10 33 22.1**	**-0.4**
KULA				SG		**Sg**		**10 33 31.9**	**+0.3**
KULA	**Kula-Manisa**	**0.70**	**213**	*ePg*		**Pg**		**10 33 22.1**	**-0.4**
KULA				*eSg*		**Sg**		**10 33 31.9**	**+0.3**
DURS	**Dursunbey**	**0.72**	**314**	*i* P		**Pg**		**10 33 23.1**	**+0.2**
DURS				*i* S		**Sb**		**10 33 33.4**	**-0.6**
DURS	**Dursunbey**	**0.72**	**314**	P		**Pg**		**10 33 23.1**	**+0.2**
DURS				S		**Sb**		**10 33 33.4**	**-0.6**
MANT	**Manisa**	**0.76**	**217**	*i* P		**Pg**		**10 33 24.0**	**+0.3**
MANT				*i* S		**Sg**		**10 33 33.7**	**0.0**
MANT	**Manisa**	**0.76**	**217**	P		**Pg**		**10 33 24.0**	**+0.3**
MANT				S		**Sg**		**10 33 33.7**	**0.0**
KHAL	**Karahalli**	**0.78**	**159**	*i* P		**Pb**		**10 33 24.9**	**-0.1**
KHAL				*i* S		**Sb**		**10 33 35.3**	**-0.5**
KHAL	**Karahalli**	**0.78**	**159**	P		**Pb**		**10 33 24.9**	**-0.1**
KHAL				S		**Sb**		**10 33 35.3**	**-0.5**
BALB	**Balikesir**	**1.12**	**299**	PN		**Pg**		**10 33 30.1**	**-0.4**
BALB	**Balikesir**	**1.12**	**299**	*ePn*		**Pg**		**10 33 30.1**	**-0.4**
CAVI	**Cavuskoy**	**1.22**	**26**	PN		**Pn**		**10 33 32.6**	**+0.1**
CAVI	**Cavuskoy**	**1.22**	**26**	*ePn*		**Pn**		**10 33 32.6**	**+0.1**
MDNY	**Mudanya-Bursa**	**1.28**	**351**	PN		**Pn**		**10 33 33.3**	**0.0**
MDNY	**Mudanya-Bursa**	**1.28**	**351**	*ePn*		**Pn**		**10 33 33.3**	**0.0**
KCTX	**Karacabey (Bur**	**1.31**	**333**	PN		**Pb**		**10 33 33.9**	**-0.1**
KCTX	**Karacabey (Bur**	**1.31**	**333**	*ePn*		**Pb**		**10 33 33.9**	**-0.1**
GONE	**Gonen-Balikesi**	**1.47**	**310**	PN		**Pn**		**10 33 36.1**	**+0.2**
GONE	**Gonen-Balikesi**	**1.47**	**310**	*ePn*		**Pn**		**10 33 36.1**	**+0.2**
YLV	**Yalova**	**1.47**	**7**	PN		**Pn**		**10 33 36.3**	**+0.3**
YLV	**Yalova**	**1.47**	**7**	*ePn*		**Pn**		**10 33 36.3**	**+0.3**
ARMT	**Armutlu**	**1.48**	**352**	PN		**Pn**		**10 33 36.3**	**+0.3**
ARMT	**Armutlu**	**1.48**	**352**	*ePn*		**Pn**		**10 33 36.3**	**+0.3**
AYDB	**Zeytinkoy-Aydi**	**1.52**	**221**	PN		**Pn**		**10 33 36.5**	**-0.1**
AYDB	**Zeytinkoy-Aydi**	**1.52**	**221**	*ePn*		**Pn**		**10 33 36.5**	**-0.1**
EDC	**Edincik**	**1.59**	**322**	PN		**Pn**		**10 33 37.7**	**+0.2**
EDC	**Edincik**	**1.59**	**322**	*ePn*		**Pn**		**10 33 37.7**	**+0.2**
GULT	**Gulveren**	**1.70**	**38**	PN		**Pn**		**10 33 39.9**	**+0.8**
GULT	**Gulveren**	**1.70**	**38**	*ePn*		**Pn**		**10 33 39.9**	**+0.8**
SBT3	**Marmara-Eregli**	**1.99**	**334**	PN		**Pn**		**10 33 43.6**	**+0.7**
SBT3	**Marmara-Eregli**	**1.99**	**334**	*ePn*		**Pn**		**10 33 43.6**	**+0.7**
SILT	**Sile**	**2.08**	**10**	PN		**Pn**		**10 33 44.9**	**+0.6**
SILT	**Sile**	**2.08**	**10**	*ePn*		**Pn**		**10 33 44.9**	**+0.6**
RKY	**Sarkoy-Tekirda**	**2.19**	**317**	PN		**Pn**		**10 33 46.3**	**+0.5**
RKY	**Sarkoy-Tekirda**	**2.19**	**317**	*ePn*		**Pn**		**10 33 46.3**	**+0.5**

*IDC **22** 10:38:41.9±1.9, 5°70S×152°57E, h0km, mb3.8/7, mb1 3.8/7, mb1mx3.6/49, mbtmp3.8/7, Error ellipse: s-maj=76.7km s-min=23.5km az=111.0*

ISC 22 10:38:47.8±2.2, 5°7S±0°3×152°5E±0°6, h40km, n8, σ1s54/10, mb3.8/7, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.60**	**230**	P		**P**		**10 43 43.6**	**-1.6**
	0.5nm,0.4s,baz=46,slow=12,SNR=13								
WRA				PcP		**PcP**		**10 47 38.4**	**+0.8**
	0.2nm,0.5s,baz=41,slow=2.3,SNR=3.9								
ASAR	**Alice Springs**	**25.26**	**223**	P		**P**		**10 44 11.6**	**+1.0**
	0.5nm,0.8s,baz=59,slow=9.2,SNR=10.0								
ASAR				PcP		**PcP**		**10 47 44.3**	**+1.0**
	0.2nm,0.7s,baz=72,slow=3.0,SNR=3.1								
PETK	**Petropavlovsk-**	**58.75**	**4**	P		**P**		**10 48 40.7**	**-0.9**
	1.5nm,0.9s,baz=177,slow=7.7,SNR=4.5								
MKAR	**Makanchi Array**	**80.77**	**319**	P		**P**		**10 50 59.6**	**+2.3**
	0.4nm,0.5s,baz=99,slow=5.7,SNR=3.7								
ZALV	**Zalesovo Beam**	**81.70**	**326**	P		**P**		**10 51 02.5**	**+0.5**
	1.4nm,0.5s,baz=115,slow=5.5,SNR=5.2								
KURBB	**Kurchatov Arra**	**84.28**	**322**	P		**P**		**10 51 16.8**	**+1.3**
	0.4nm,0.5s,baz=107,slow=3.5,SNR=4.6								
BVAR	**Borovoye Array**	**89.74**	**323**	P		**P**		**10 51 41.0**	**-0.9**
	0.7nm,0.6s,baz=110,slow=6.7,SNR=4.8								
TORD	**Torodi Ar. Bea**	**150.24**	**287**	PKPbc		**PKPbc**		**10 58 34.1**	**-1.6**
	0.7nm,0.9s,baz=118,slow=1.9,SNR=4.7								

IDC 22 10:43:50.2±3.8, 20°04S×168°05E, h0km, mb3.8/3, mb1 4.0/4, mb1mx3.6/47, mbtmp3.8/4, ML2.8/1, Error ellipse: s-maj=71.9km s-min=38.3km az=112.0, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**2.52**	**216**	Pn		Pn		10 44 32.7	+0.3
	2.1nm,0.3s,baz=106,slow=14,SNR=32								
DZM				Sn		Sn		10 45 05.6	+1.8
	2.6nm,0.3s,baz=143,slow=20,SNR=3.7								
CTA	**Charters Tower**	**20.48**	**266**	P		Pn		10 48 31.4	-0.5
	0.9nm,0.4s,baz=78,slow=9.3,SNR=1.5								
WRA	**Warramunga Arr**	**31.65**	**264**	P		P		10 50 14.1	-1.4
	0.8nm,0.8s,baz=97,slow=8.2,SNR=6.9								
ASAR	**Alice Springs**	**31.86**	**257**	P		P		10 50 16.9	-0.2
	2.9nm,0.6s,baz=86,slow=8.9,SNR=58								
GERES	**GERESS Array B**	**144.65**	**330**	PKP		PKPdf		11 03 29.2	+0.3
	0.6nm,0.9s,baz=23,slow=5.0,SNR=3.6								

IDC 22 10:51:28.5±3.5, 19°88S×177°95W, h472km±30km, mb3.0/4, mb1 3.3/5, mb1mx2.8/48, mbtmp4.0/5, Error ellipse: s-maj=108.8km s-min=17.6km az=155.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**8.38**	**46**	P		P		10 53 28.0	-0.5
	2.0nm,0.3

	6.0nm,0.1s							
ZSN				*e*S		**Sg**	**11 18 21.2**	**+0.8**
	22nm,0.2s							
MK31	**Makanchi Array**	**1.97**	**301**	⇑Pn		**Pb**	**11 18 03.3**	**-0.5**
	20nm,0.4s,baz=118,slow=14,SNR=615							
MK31				⇑Lg		Lg	11 18 34.7	
	26nm,0.4s,baz=108,slow=28,SNR=16							
MAKZ	**Makanchi**	**2.16**	**298**	⇓Pn		**Pb**	**11 18 06.1**	**-1.1**
	22nm,0.3s							
MAKZ				⇓Lg		Lg	11 18 40.6	
	28nm,0.4s							
DJR	**Jarkent**	**3.82**	**249**	*e*P		**Pg**	**11 18 37.5**	**-3.6**
	8.6nm,0.3s							
DJR				*e*S		**Sg**	**11 19 29.8**	**-0.8**
	12nm,0.5s							
KAPS	**Kapalarasan**	**3.83**	**264**	*e*P		**Pg**	**11 18 39.5**	**-1.7**
	3.8nm,0.2s							
KAPS				*e*S		**Sg**	**11 19 33.2**	**+2.3**
	13nm,0.4s							
KTMS	**Ketmen**	**3.94**	**234**	*e*P		**Pb**	**11 18 37.3**	**-0.2**
	7.1nm,0.3s							
KTMS				*e*S		**Sb**	**11 19 29.0**	**+3.8**
	20nm,0.3s							
PDGK	**Podgornoye**	**4.51**	**238**	⇑Pn		**Pn**	**11 18 37.5**	**+1.1**
	0.6nm,0.3s							
PDGK				⇓Pg		**Pb**	**11 18 48.4**	**+1.2**
	4.1nm,0.6s							
PDGK				⇑Sn		**Sn**	**11 19 33.2**	**+4.2**
	3.8nm,0.5s							
PDGK				⇓Lg		Lg	11 19 53.1	
	14nm,0.7s							
SHLS	**Shalkode**	**4.63**	**237**	*e*P		**Pb**	**11 18 45.5**	**-3.7**
	13nm,0.4s							
SHLS				*e*S		**Sb**	**11 19 44.6**	**-0.5**
	29nm,0.7s							
MNBS	**Baschi**	**4.84**	**251**	*e*P		**Pb**	**11 18 54.8**	**+2.0**
	3.2nm,0.2s							
MNBS				*e*S		**Sg**	**11 20 00.2**	**-2.9**
	11nm,0.8s							
KPKS	**Kokpek**	**4.93**	**244**	*e*P		**Pb**	**11 18 56.5**	**+2.2**
	6.3nm,0.2s							
KPKS				*e*S		**Sg**	**11 20 02.7**	**-3.4**
	33nm,0.6s							

*IDC **22** 11:18:09.6±1.1,2˚.40N×90˚.29E, h0km, mb3.8/10, mb1 3.9/12,mb1mx3.7/69,mbtmp3.8/12, ML3.9/2, Error ellipse: s-maj=39.2km s-min=19.5km az=44.0*
*ISCJB **22** 11:18:12.5±0.6,2˚.44N±0˚.09×90˚.36E±0˚.06, h33km, mb3.9/15, Error ellipse: s-maj=14.0km s-min=7.8km az=23.8*
*NEIC **22** 11:18:12.6±2.2,2˚.41N×90˚.29E, h21km±15km, mb4.2/5, Error ellipse: s-maj=11.0km s-min=6.1km az=215.0*

ISC 22 11:18:14.5±0.9,2˚.4N±0˚.1×90˚.32E±0˚.09, h35km, n37, σ0$70/31, mb4.0/15, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LHMI	**Lhok Sumawe**	**7.19**	**67**	*e*Pn	**Pn**	**11 19 58.4**	**+1.2**
GSI	**Gunungsitoli**	**7.34**	**98**	*e*Pn	**Pn**	**11 19 58.6**	**-0.6**
PSI	**Prapat**	**8.61**	**87**	*e*Pn	**Pn**	**11 20 16.3**	**-0.5**
KULM	**Kulim**	**10.70**	**74**	*e*Pn	**Pn**	**11 20 44.2**	**-1.1**
PALK	**Pallekele**	**10.73**	**297**	Pn	**Pn**	**11 20 44.9**	**-0.9**
	0.9nm,0.3s,baz=115,slow=14,SNR=6.8						
PALK				Sn	Sn	11 22 34.8	-10
	7.1nm,0.3s,baz=319,slow=0.1,SNR=10						
IPM	**Ipoh**	**10.89**	**79**	*e*Pn	**Pn**	**11 20 47.6**	**-0.4**
CM31	**Chiang Mai Arr**	**18.07**	**27**	*e*Pn	**Pn**	**11 22 21.6**	**-1.3**
CMAR	**Chiang Mai Arr**	**18.07**	**27**	P	**P**	**11 22 23.6**	**+0.6**
	0.1nm,0.3s,baz=210,slow=12,SNR=3.4						
H08S2	**Diego Garcia H**	**20.39**	**241**	T	T	11 43 50.5	
	baz=60,slow=75,SNR=55						
H08S3	**Diego Garcia H**	**20.39**	**241**	T	T	11 43 54.1	
	baz=60,slow=75,SNR=56						
H08S1	**Diego Carcia H**	**20.40**	**241**	T	T	11 43 49.5	
	baz=60,slow=75,SNR=36						
H01W3	**Cape Leeuwin H**	**43.30**	**151**	T	T	12 12 25.5	
	baz=325,slow=75,SNR=6.4						
H01W2	**Cape Leeuwin H**	**43.31**	**151**	T	T	12 12 44.5	
	baz=325,slow=75,SNR=4.5						
H01W1	**Cape Leeuwin H**	**43.31**	**151**	T	T	12 12 48.5	
	baz=325,slow=75,SNR=5.0						
GEYT	**Alibeck**	**46.05**	**324**	P	**P**	**11 26 36.1**	**+1.1**
	1.4nm,0.7s,baz=158,slow=12,SNR=4.7						
SONA0	**Songino Array**	**47.35**	**15**	*e*P	**P**	**11 26 45.4**	**+0.2**
SONM	**Songino Array**	**47.35**	**15**	P	**P**	**11 26 45.3**	**+0.2**
	2.0nm,0.5s,baz=189,slow=8.1,SNR=2.2						
WR1	**Warramunga Arr**	**48.56**	**119**	*e*P	**P**	**11 26 55.5**	**+0.7**
	4.6nm,1.0s						
WRA	**Warramunga Arr**	**48.56**	**119**	P	**P**	**11 26 55.5**	**+0.7**
	0.6nm,0.8s,baz=300,slow=8.5,SNR=5.3						
KURBB	**Kurchatov Arra**	**49.08**	**350**	P	**P**	**11 26 57.4**	**-0.8**
	1.4nm,0.8s,baz=45,slow=16,SNR=6.4						
KURK	**Kurchatov**	**49.16**	**350**	*e*P	**P**	**11 26 57.4**	**-1.3**
AS31	**Alice Springs**	**49.69**	**124**	*e*P	**P**	**11 27 03.7**	**+0.3**
	1.0nm,1.0s						
ASAR	**Alice Springs**	**49.69**	**124**	P	**P**	**11 27 03.7**	**+0.3**
	0.4nm,1.0s,baz=302,slow=7.7,SNR=3.3						
ZAA0	**Zalesovo Array**	**51.59**	**356**	*e*P	**P**	**11 27 17.4**	**+0.3**
	2.7nm,0.9s						
ZALV	**Zalesovo Beam**	**51.59**	**356**	P	**P**	**11 27 17.1**	**0.0**
	1.9nm,0.5s,baz=190,slow=7.8,SNR=6.3						
ZALV	**Zalesovo Beam**	**51.59**	**356**	*e*P	**P**	**11 27 17.3**	**+0.2**
ZAA1	**Zalesovo Array**	**51.59**	**356**	*e*P	**P**	**11 27 17.1**	**-0.1**
AKASG	**Malin Array Be**	**70.17**	**324**	P	**P**	**11 29 23.5**	**-0.1**
	0.1nm,0.3s,baz=156,slow=5.4,SNR=4.4						
AKBB	**Malin Array Si**	**70.17**	**324**	*e*P	**P**	**11 29 23.5**	**-0.1**
	3.4nm,1.4s						
TIXI	**Tiksi**	**73.33**	**12**	*e*P	**P**	**11 29 41.6**	**-0.5**
	2.9nm,1.1s						
FIA0	**FINESS Array S**	**75.81**	**333**	*e*P	**P**	**11 29 56.8**	**0.0**
FINES	**FINESS Array B**	**75.81**	**333**	P	**P**	**11 29 56.8**	**0.0**
	1.1nm,0.7s,baz=72,slow=6.2,SNR=3.5						
GERES	**GERESS Array B**	**79.40**	**319**	P	**P**	**11 30 17.7**	**+0.5**
	0.3nm,0.5s,baz=134,slow=3.9,SNR=4.9						
HFS	**Hagfors**	**81.28**	**330**	P	**P**	**11 30 28.2**	**+1.3**
	0.7nm,0.7s,baz=112,slow=6.5,SNR=2.2						
TXAR	**Lajitas Array**	**145.72**	**22**	PKPbc	**PKPab**	**11 37 50.8**	**-0.1**
	0.5nm,0.6s,baz=270,slow=1.3,SNR=3.8						
MTP	**Monte Pirata**	**148.70**	**312**	*e*PKPdf	**PKPdf**	**11 37 55.2**	**-0.1**
HUMP	**Col San Antoni**	**148.89**	**312**	*e*PKPbc	**PKPbc**	**11 37 59.1**	**-0.4**

*TEH **22** 11:33:01.9,32˚.51N×47˚.14E, h12km, ML2.9*
*ISN **22** 11:33:02.9±1.4,32˚.59N×47˚.13E, h35km±8km, ML2.9*
*ISCJB **22** 11:33:04.1±0.6,32˚.45N±0˚.05×47˚.11E±0˚.07, h20km, Error ellipse: s-maj=9.7km s-min=5.6km az=30.6*
*CSEM **22** 11:33:04.2±0.2,32˚.53N×47˚.05E, h20km, ML2.8, Error ellipse: s-maj=11.1km s-min=6.4km az=156.0*

ISC 22 11:33:03.7±1.0,32˚.49N±0˚.04×47˚.01E±0˚.07, h20km, n14, σ0$81/17, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IKFM	**Kafar-mosalman**	**1.25**	**34**	*e*Pg	**Pn**	**11 33 25.8**	**-0.2**
IKFM				*e*Sg	**Sb**	**11 33 42.6**	**+0.4**
IKFM				*e*AMB	AMB	11 33 51.2	
	comp=Z,99nm,0.2s						
SHGR	**Shooshtar-Gavs**	**1.57**	**104**	*e*P	**Pn**	**11 33 30.2**	**-0.1**
NSR	**Nassriya**	**1.65**	**207**	*e*Pn	**Pb**	**11 33 33.0**	**-0.4**
	SNR=5.0						
NSR				Sn	**Sb**	**11 33 54.0**	**+0.3**
	SNR=5.0						
IKOM	**Komasi**	**1.73**	**14**	*e*Pn	**Pb**	**11 33 34.6**	**-0.3**
IKOM				*e*AMB	AMB	11 34 00.4	
	comp=Z,5μm,0.4s						
IGHG	**Ghaleghazi**	**1.87**	**349**	*e*Pn	**Pb**	**11 33 36.2**	**-1.1**
IGHG				*e*AMB	AMB	11 34 06.2	
	comp=Z,3μm,0.3s						
IVIS	**Veis**	**2.04**	**356**	*e*Pn	**Pb**	**11 33 39.2**	**-0.8**
IVIS				*e*AMB	AMB	11 34 09.9	
	comp=Z,2μm,0.2s						
SNGE	**Sanandaj**	**2.61**	**6**	*e*Sg	**Sb**	**11 34 21.5**	**-0.2**
KHMZ	**Khomeyn**	**2.77**	**63**	*e*Pn	**Pn**	**11 33 47.2**	**0.0**
HAGD	**Aghdareh**	**2.93**	**37**	*e*Pn	**Pn**	**11 33 51.0**	**+1.7**
HAGD				*e*AMB	AMB	11 34 34.1	
	comp=Z,99nm,0.3s						
ASAO	**Ashtian**	**3.25**	**50**	*e*Pn	**Pn**	**11 33 54.0**	**+0.2**
HKZM	**Kohzaman**	**3.28**	**28**	*e*Pn	**Pn**	**11 33 55.5**	**+1.3**
HKZM				*e*AMB	AMB	11 34 43.4	
	comp=Z,99nm,0.4s						
IKLH	**Kolahrood**	**3.93**	**77**	*e*AMB	AMB	11 34 06.4	
	comp=Z,108nm,0.2s						
IKLH				*e*Pn	**Pn**	**11 34 03.3**	**+0.2**
IZEF	**Zefreh**	**4.50**	**83**	*e*Pn	**Pn**	**11 34 11.8**	**+0.8**
IZEF				*e*AMB	AMB	11 34 34.5	
	comp=Z,51nm,0.2s						
RTB	**Rutbah**	**5.67**	**277**	*e*Pn	**Pn**	**11 34 28.0**	**+1.2**
	SNR=5.0						
RTB				Sn	**Sn**	**11 35 31.0**	**-0.4**
	SNR=5.0						

MEX 22 11:36:49.8±0.3,16˚.26N×98˚.30W, h1km±5km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.22**	**52**	*i* P	Pg	11 36 53.8	-0.2
PNIG				*i* S	Sg	11 36 57.0	+0.2
TLIG	**Tlapa**	**1.32**	**349**	*e*P	Pg	11 37 11.7	-3.5
VHO	**Vista Hermosa**	**1.71**	**61**	*e*P	Pn	11 37 17.3	-3.6
CAIG	**El Cayaco**	**2.04**	**293**	*e*P	Pn	11 37 21.0	-4.2
HUIG	**Huatulco**	**2.17**	**103**	*e*P	Pn	11 37 23.1	-3.9

*DDA **22** 11:37:07.1,39˚.60N×29˚.54E, h7km, Ml2.5, Suspected Mining explosion.*
*ISCJB **22** 11:37:08.8±0.7, 39˚.66N±0˚.04×29˚.45E±0˚.06, h0km, Error ellipse: s-maj=7.3km s-min=4.9km az=22.3*
*CSEM **22** 11:37:08.7±0.4, 39˚.65N×29˚.46E, h1km, ML2.1, Error ellipse: s-maj=10.6km s-min=7.1km az=110.0, Suspected Mining explosion.*
*ISK **22** 11:37:08.0, 39˚.63N×29˚.35E, h11km, ML2.1/5*

ISC 22 11:37:08.5±0.9, 39˚.67N±0˚.03×29˚.46E±0˚.05, h0km, n14, σ0$38/20, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TVSB	**Tavsanli**	**0.22**	**179**	PG	**Pg**	**11 37 12.6**	**-0.1**
TVSB				SG	**Sg**	**11 37 16.2**	**+0.6**
TVSB	**Tavsanli**	**0.22**	**179**	*e*Pg	**Pg**	**11 37 12.6**	**-0.1**
TVSB				*e*Sg	**Sg**	**11 37 16.2**	**+0.6**
CAVI	**Cavuskoy**	**0.61**	**29**	PG	**Pb**	**11 37 21.6**	**-0.4**
CAVI				SG	**Sb**	**11 37 31.7**	**+0.5**
CAVI	**Cavuskoy**	**0.61**	**29**	*e*Pg	**Pb**	**11 37 21.6**	**-0.4**
CAVI				*e*Sg	**Sb**	**11 37 31.7**	**+0.5**
DURS	**Dursunbey**	**0.76**	**265**	*i* P	**Pg**	**11 37 23.4**	**+0.3**
DURS				*i* S	**Sb**	**11 37 35.5**	**-0.2**
DURS	**Dursunbey**	**0.76**	**265**	P	**Pg**	**11 37 23.4**	**+0.3**
DURS				S	**Sb**	**11 37 35.5**	**-0.2**
YLV	**Yalova**	**0.90**	**356**	PG	**Pb**	**11 37 26.6**	**-0.4**
YLV	**Yalova**	**0.90**	**356**	*e*Pg	**Pb**	**11 37 26.6**	**-0.4**
ARMT	**Armutlu**	**1.00**	**333**	PG	**Pg**	**11 37 27.8**	**0.0**
ARMT	**Armutlu**	**1.00**	**333**	*e*Pg	**Pg**	**11 37 27.8**	**0.0**
GULT	**Gulveren**	**1.11**	**47**	PN	**Pn**	**11 37 31.3**	**-0.1**
GULT	**Gulveren**	**1.11**	**47**	*e*Pn	**Pn**	**11 37 31.3**	**-0.1**
HRT	**Hereke**	**1.16**	**8**	PN	**Pb**	**11 37 31.2**	**-0.3**
HRT	**Hereke**	**1.16**	**8**	*e*Pn	**Pb**	**11 37 31.2**	**-0.3**

*CSEM **22** 11:41:24.1±0.9,32˚.50N×46˚.76E, h2km, ML2.9, Error ellipse: s-maj=38.0km s-min=13.7km az=8.0*
*ISN **22** 11:41:26.8±1.1,32˚.67N×46˚.91E, h35km±6km, ML2.9*

TEH 22 11:41:25.3,32˚.63N×47˚.00E, h14km, ML2.9, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IKFM	**Kafar-mosalman**	**1.14**	**38**	*e*Pg	Pg	11 41 48.3	+1.1
IKFM				*e*Sg	Sn	11 42 04.9	+2.7
IKFM				*e*AMB	AMB	11 42 15.5	
	comp=Z,99nm,0.3s						
IKOM	**Komasi**	**1.59**	**15**	*e*Pn	Pg	11 41 56.6	+0.6
IKOM				*e*AMB	AMB	11 42 22.5	
	comp=Z,2μm,0.2s						
SHGR	**Shooshtar-Gavs**	**1.61**	**109**	*e*Pg	Pg	11 41 57.1	+0.8
IGHG	**Ghaleghazi**	**1.73**	**348**	*e*Pn	Pg	11 41 58.2	-0.3
IGHG				*e*AMB	AMB	11 42 32.6	
	comp=Z,3μm,0.3s						
IVIS	**Veis**	**1.89**	**356**	*e*Pn	Pb	11 41 59.5	-0.2
IVIS				*e*AMB	AMB	11 42 34.1	
	comp=Z,947nm,0.4s						
SNGE	**Sanandaj**	**2.47**	**7**	*e*Pn	Pb	11 42 09.1	-0.5
SNGE				*e*Sg	Sg	11 42 43.8	-0.9
KHMZ	**Khomeyn**	**2.71**	**65**	*e*Pn	Pb	11 42 12.5	-1.3
HAGD	**Aghdareh**	**2.82**	**39**	*e*Pn	Pb	11 42 13.4	-2.2
HAGD				*e*AMB	AMB	11 42 56.6	
	comp=Z,99nm,0.3s						
ASAO	**Ashtian**	**3.17**	**52**	*e*Pn	Pb	11 42 18.7	-2.8
IKLH	**Kolahrood**	**3.91**	**79**	*e*Pn	Pn	11 42 28.2	+3.0
IKLH				*e*AMB	AMB	11 42 30.7	
	comp=Z,197nm,0.1s						
IZEF	**Zefreh**	**4.50**	**85**	*e*Pn	Pn	11 42 35.8	+2.5
IZEF				*e*AMB	AMB	11 42 47.1	
	comp=Z,111nm,0.1s						
IRAM	**Ramesheh**	**4.63**	**99**	*e*Pn	Pn	11 42 38.4	+3.3
IRAM				*e*AMB	AMB	11 43 35.7	
	comp=Z,79nm,0.2s						
RTB	**Rutbah**	**5.65**	**276**	*e*Pn	Pn	11 42 49.0	+0.1
	SNR=5.0						
RTB				*e*Sn	Sn	11 43 50.0	-3.6
	SNR=5.0						

*IDC **22** 11:44:31.3±0.4,9˚.20S×158˚.60E, h0km, mb4.9/28, mb1 4.9/30,mb1mx4.9/44,mbtmp4.8/30, ML4.2/2, MS4.3/32, Ms1 4.3/32,ms1mx4.2/45, Error ellipse: s-maj=11.7km s-min=10.8km az=94.0*
*GCMT **22** 11:44:32.6±0.2, 9.35S×158.57E, h29km, MW5.2/111, Moment Tensor Solution. s77,c102; s111,c172; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.52±.18; $M_{\theta\theta}$-0.26±.12; $M_{\phi\phi}$-3.26±.13; $M_{r\theta}$4.18±.24; $M_{r\phi}$4.12±.10; $M_{\theta r}$-1.58±.20; Best double couple: M=6.89300×10^{16} NP1:ϕ_s117.00000°,δ71.00000°,λ59.00000°. NP2: ϕ_s358.00000°,δ36.00000°,λ146.00000°. Principal axes: T 6.3250, Plg53.0000°, Azm349.0000°; N 1.1340, Plg30.0000°, Azm128.0000°; P -7.4620, Plg20.0000°, Azm230.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **22** 11:44:32.6±0.1, 9.19S×158.58E, h8km, mb5.3/140, MW5.2 Error ellipse: s-maj=4.0km s-min=3.3km az=145.0, Moment Tensor Solution. s27 Moment tensor: Scale 10^{16}Nm; M_{rr}5.91; $M_{\theta\theta}$0.07; $M_{\phi\phi}$-5.98; $M_{r\theta}$2.02; $M_{\theta\phi}$1.74; $M_{\phi r}$-1.41; Best double couple: M=6.70000×10^{16} NP1: ϕ_s151.00000°,δ55.00000°,λ73.00000°. NP2: ϕ_s359.00000°,δ38.00000°,λ113.00000°. Principal axes: T 6.6000, Plg73.0000°, Azm14.0000°; N 0.1300, Plg14.0000°, Azm161.0000°; P -6.7300, Plg9.0000°, Azm253.0000°;*
NEIC Felt [III] at Honiara.
*ISCJB **22** 11:44:32.5±1.3,9˚.19S±0˚.03×158˚.53E±0˚.02, h16km±9km, mb5.2/206,MS4.5/48 Error ellipse: s-maj=5.2km s-min=4.1km az=165.1*
*MOS **22** 11:44:35.3±1.0,9˚.17S×158˚.45E, h33km, mb5.5/49, MS4.6/5, Error ellipse: s-maj=7.3km s-min=6.3km az=91.3*
*BJI **22** 11:44:37.2,8˚.73S×158˚.58E, h37km, mb5.1/57,mB5.2/36, Ms4.9/37,Ms7 4.6/35*

ISC 22 11:44:35.9±0.5,9˚.20S±0˚.04×158˚.69E±0˚.04, h33km±3km, h33km:pP-P,n519, σ1$41/542, mb5.2/205, MS4.5/49, 19C-4D, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**1.26**	**101**	Pn	**Pn**	**11 44 55.4**	**-1.9**
	438nm,0.3s,baz=217,slow=7.7,SNR=205						
HNR				Sn	**Sn**	**11 45 10.5**	**-2.6**
	10μm,0.3s,baz=197,slow=18,SNR=74						
HNR	**Honiara**	**1.26**	**101**	*e*Pn	**Pn**	**11 44 55.2**	**-2.1**
HNR				*e*Sn	**Sn**	**11 45 11.3**	**-1.8**
HNR	**Honiara**	**1.26**	**101**	*e*P	**Pn**	**11 44 55.2**	**-2.1**
HNR				*e*		11 45 11.3	
RABL	**Rabaul**	**8.17**	**307**	*e*Pn	Pn	11 46 37.6	+5.2
PMG	**Port Moresby**	**11.38**	**268**	Pn	**Pn**	**11 47 19.4**	**+3.0**
	0.4nm,0.3s,baz=293,slow=13,SNR=2.4						
PMG				LR	LR	11 51 29.4	
	comp=Z,4μm,18.3s,baz=82,slow=37						
PMG	**Port Moresby**	**11.38**	**268**	*e*Pn	**Pn**	**11 47 20.3**	**+3.9**
PMG	**Port Moresby**	**11.38**	**268**	*e*P	**Pn**	**11 47 14.8**	**-1.6**
MANU	**Manus Island**	**13.32**	**302**	*e*Pn	**Pn**	**11 47 43.8**	**+0.9**
DZM	**Mont Dzumac**	**14.81**	**151**	Pn	**Pn**	**11 48 04.2**	**+1.0**
	0.8nm,0.3s,baz=306,slow=18,SNR=5.8						
DZM				LR	LR	11 52 57.4	
	comp=Z,854nm,18.9s,baz=7.5,slow=34						
DZM	**Mont Dzumac**	**14.81**	**151**	*e*Pn	**P**	**11 48 06.4**	**-2.3**
	21nm,0.7s						
DZM				*e*LR	LR	11 51 41.3	
	4μm,26.3s						
DZM	**Mont Dzumac**	**14.81**	**151**	*e*Pn	**Pn**	**11 48 04.8**	**+1.6**
COEN	**Coen**	**15.92**	**251**	P	**Pn**	**11 48 17.8**	**+0.1**
	baz=16,SNR=8.1						
COEN	**Coen**	**15.92**	**251**	*e*Pn	**P**	**11 48 19.8**	**-1.2**
	55nm,1.0s						
PATS	**Pohnpei**	**15.93**	**359**	*e*Pn	**Pn**	**11 48 17.0**	**-0.9**
	264nm,1.2s						
CTA	**Charters Tower**	**16.17**	**227**	Pn	**Pn**	**11 48 18.8**	**-2.1**
	0.9nm,0.3s,baz=52,slow=15,SNR=27						
CTA				Sn	Sn	11 51 05.2	-14
	0.1nm,0.3s,baz=47,slow=19,SNR=1.8						
CTA				LR	LR	11 54 11.4	
	comp=Z,2μm,19.1s,baz=43,slow=36						
CTA	**Charters Tower**	**16.17**	**227**	P	**Pn**	**11 48 19.0**	**-2.0**
	baz=16						
CTAO	**Charters Tower**	**16.17**	**227**	*e*Pn	**Pn**	**11 48 19.7**	**-1.2**
	313nm,1.6s						
CTAO	**Charters Tower**	**16.17**	**227**	*e*P	**Pn**	**11 48 19.7**	**-1.2**
CTAO				pmax	pmax		
	comp=Z,313nm,1.6s						
MTSU	**Mount Surprise**	**16.54**	**236**	P	**Pn**	**11 48 24.5**	**-1.2**
	baz=16,SNR=37						
TARA	**Tarawa**	**17.63**	**54**	*e*Pn	**P**	**11 48 43.8**	**+3.8**
	comp=Z,236nm,1.3s						
EIDS	**Eidsvold**	**17.64**	**203**	P	**Pn**	**11 48 38.3**	**-1.0**
	baz=17,SNR=3.8						
EIDS	**Eidsvold**	**17.64**	**203**	*e*Pn	**Pn**	**11 48 39.2**	**0.0**
	comp=Z,96nm,1.4s						
JAY	**Jayapura**	**19.08**	**289**	P	**Pn**	**11 48 57.6**	**+0.7**
	comp=Z,973nm,1.1s,comp=Z,13μm						
JAY	**Jayapura**	**19.08**	**289**	P	**Pn**	**11 48 57.1**	**+0.2**
JAY				pmax	pmax		
	comp=Z,962nm,0.9s						
GENI	**Genyem**	**19.55**	**288**	P	**Pn**	**11 49 02.8**	**+0.2**
	comp=Z,155nm,1.3s,comp=Z,2μm						
RMQ	**Roma**	**19.60**	**207**	P	**Pn**	**11 49 02.6**	**-0.5**
	baz=19,SNR=24						
FUNA	**Funafuti**	**20.27**	**90**	*e*P	Pn	11 49 10.7	-0.3
	comp=Z,116nm,1.1s						
MSVF	**Nonsavu**	**20.63**	**116**	*e*P	Pn	11 49 19.6	+4.3
	comp=Z,73nm,1.3s						
MSVF	**Nonsavu**	**20.63**	**116**	*e*P	Pn	11 49 17.7	+2.3
MSVF				pmax	pmax		
	comp=Z,70nm,1.6s						
QIS	**Mount Isa**	**21.60**	**236**	P	**P**	**11 49 23.9**	**+0.6**
	baz=21,SNR=18						
QLP	**Quilpie**	**22.06**	**217**	P	**P**	**11 49 27.8**	**-0.3**
	baz=22,SNR=9.0						
ARMA	**Armidale**	**22.12**	**196**	P	**P**	**11 49 28.8**	**-0.1**
	baz=22,SNR=7.8						
ARMA	**Armidale**	**22.12**	**196**	*e*P	**P**	**11 49 30.2**	**+1.3**
	comp=Z,46nm,1.0s						
MGCD	**Mangrove Creek**	**24.90**	**195**	P	**P**	**11 49 56.2**	**+0.3**
	baz=25						
CMSA	**Cobar Meteorol**	**25.30**	**207**	P	**P**	**11 49 59.2**	**-0.4**
	baz=25,SNR=8.4						
WRAB	**Tennant Creek**	**25.83**	**243**	*e*P	**P**	**11 50 03.9**	**-0.7**
	comp=Z,39nm,1.0s						
WRAB	**Tennant Creek**	**25.83**	**243**	*c i*P	**P**	**11 50 04.3**	**-0.2**
WRAB				pmax	pmax		
	comp=Z,40nm,1.3s						
WB2	**Warramunga Arr**	**25.83**	**243**	*e*P	**P**	**11 50 04.0**	**-0.5**
	comp=Z,34nm,1.0s						
WRA	**Warramunga Arr**	**25.84**	**243**	P	**P**	**11 50 03.8**	**-0.8**
	comp=Z,29nm,1.0s,baz=70,slow=9.8,SNR=40						
WRA				PcP	**PcP**	**11 53 33.9**	**+0.2**
	comp=Z,2.9nm,0.9s,baz=59,slow=3.3,SNR=4.9						
WRA				S	**S**	**11 54 30.8**	**-1.6**
	comp=Z,4.0nm,1.2s,baz=71,slow=15,SNR=3.9						
WRA				LR	LR	12 00 01.5	
	comp=Z,1μm,19.7s,baz=80,slow=36						
GUMO	**Guam**	**26.47**	**329**	P	**P**	**11 50 10.1**	**-0.3**
	comp=Z,200nm,0.9s,baz=191,slow=10,SNR=9.5						
GUMO				LR	LR	11 59 37.0	
	comp=Z,459nm,21.5s,baz=144,slow=34						
GUMO	**Guam**	**26.47**	**329**	*e*P	**P**	**11 50 10.5**	**+0.2**
	comp=Z,281nm,0.9s						
GUMO	**Guam**	**26.47**	**329**	*e*P	**P**	**11 50 10.5**	**+0.2**
GUMO				pmax	pmax		
	comp=Z,281nm,0.9s						
YNG	**Young**	**26.71**	**199**	P	**P**	**11 50 12.1**	**-0.2**
	baz=27						
FAKI	**Fak Fak**	**27.01**	**282**	*e*P	**P**	**11 50 14.6**	**-0.7**
	comp=Z,19nm,0.9s						
SAUI	**Saumlaki**	**27.11**	**270**	P	**P**	**11 50 20.1**	**+3.9**
CNB	**Canberra Magne**	**27.36**	**197**	P	**P**	**11 50 18.4**	**+0.1**
	baz=27,SNR=7.2						
CAN	**Canberra**	**27.47**	**197**	*e*P	**P**	**11 50 18.6**	**-0.6**
	comp=Z,41nm,1.2s						
CAN	**Canberra**	**27.47**	**197**	*e*P	**P**	**11 50 18.6**	**-0.6**
CAN				pmax	pmax		
	comp=Z,41nm,1.2s						
STKA	**Stephens Creek**	**27.59**	**213**	P	**P**	**11 50 19.9**	**-0.3**
	comp=Z,44nm,1.0s,baz=19,slow=10,SNR=32						
STKA				LR	LR	12 01 18.1	
	comp=

MBWA	**Marble Bar**	**39.33**	**248**	*e*P		**P**	**11**	**52**	**01.0 -1.4**
	comp=Z,66nm,1.3s								
MPSI	**Mapaga**	**39.77**	**282**	P		**P**	**11**	**52**	**05.8 -0.4**
	comp=Z,27nm,1.2s								
PLAI	**Plampang**	**40.40**	**267**	P		**P**	**11**	**52**	**12.3 +0.9**
	comp=Z,53nm,0.9s								
KMBL	**Kambalda**	**40.67**	**232**	P		**P**	**11**	**52**	**13.2 -0.3**
	baz=40								
MEEK	**Meekatharra**	**41.67**	**240**	P		**P**	**11**	**52**	**21.7 -0.1**
	baz=41,SNR=6.1								
RAR	**Rarotonga**	**41.69**	**112**	P		**P**	**11**	**52**	**24.4 +2.4**
	comp=Z,68nm,1.3s,baz=204,slow=13,SNR=5.0								
RAR					LR	LR	12	07	50.4
	comp=Z,239nm,19.9s,baz=279,slow=34								
MYLDM	**Lahad Datu**	**42.53**	**288**	*e*P		**P**	**11**	**52**	**29.3 +0.4**
	comp=Z,137nm,1.4s								
KBKI	**Kotabaru**	**42.65**	**275**	P		**P**	**11**	**52**	**31.0 +1.2**
	comp=Z,26nm,1.1s								
TGY	**Tagaytay City**	**44.03**	**301**	LR		LR	12	12	43.0
	comp=Z,195nm,18.1s,baz=124,slow=38								
NWAO	**Narrogin (SRO)**	**44.91**	**232**	LR		LR	12	11	18.6
	comp=Z,837nm,19.9s,slow=36								
KKM	**Kota Kinabalu**	**44.96**	**288**	*e*P		**P**	**11**	**52**	**47.7 -0.8**
	comp=Z,73nm,1.0s								
JHJ	**Hachijo jima 2**	**45.77**	**338**	LR		LR	12	10	24.9
	comp=Z,223nm,21.8s,baz=102,slow=34								
PWJI	**Pagerwojo**	**46.35**	**268**	P		**P**	**11**	**53**	**00.1 +0.7**
	comp=Z,34nm,0.9s								
JOW	**Kunigami**	**46.41**	**321**	LR		LR	12	09	38.3
	comp=Z,199nm,21.8s,baz=132,slow=32								
PCJI	**Pacitan**	**46.95**	**267**	P		**P**	**11**	**53**	**04.6 +0.4**
	comp=Z,91nm,1.1s								
SBUM	**Sibu**	**47.73**	**282**	*e*P		**P**	**11**	**53**	**10.9 +0.6**
	comp=Z,63nm,2.0s								
STKI	**Sintang**	**47.90**	**278**	P		**P**	**11**	**53**	**13.5 +2.0**
YOJ	**Yonaguni jima**	**48.29**	**315**	*e*P		**P**	**11**	**53**	**14.5 +0.2**
	comp=Z,256nm,1.5s								
YOJ	**Yonaguni jima**	**48.29**	**315**	*e*P		**P**	**11**	**53**	**14.5 +0.2**
YOJ					pmax	pmax			
	comp=Z,256nm,1.5s								
INU	**Inuyama**	**48.81**	**336**	*e*P		**P**	**11**	**53**	**17.0 -1.2**
	comp=Z,46nm,1.0s								
KSM	**Kuching**	**49.35**	**280**	*e*P		**P**	**11**	**53**	**21.9 -0.7**
	comp=Z,44nm,1.2s								
MJAR	**Matsushiro Arr**	**49.41**	**338**	P		**P**	**11**	**53**	**22.0 -0.7**
	comp=Z,5.2nm,0.9s,baz=170,slow=7.9,SNR=8.1								
MJAR					LR	LR	12	13	13.5
	comp=Z,254nm,21.4s,baz=165,slow=35								
MJAR	**Matsushiro Arr**	**49.41**	**338**	P		**P**	**11**	**53**	**22.0 -0.7**
MAJO	**Matsushiro**	**49.41**	**338**	*e*P		**P**	**11**	**53**	**22.4 -0.4**
	comp=Z,19nm,1.1s								
MAJO	**Matsushiro**	**49.41**	**338**⇓	*i*P		**P**	**11**	**53**	**22.4 -0.4**
MAJO					pmax	pmax			
	comp=Z,11nm,1.0s								
YHNB	**Yeheng**	**49.58**	**314**	*e*P		**P**	**11**	**53**	**24.4 +0.1**
	comp=Z,179nm,1.9s								
JNU	**Nakatsue**	**49.73**	**329**	P		**P**	**11**	**53**	**25.5 +0.3**
	comp=Z,68nm,0.9s,baz=92,slow=2.9,SNR=20								
JNU					LR	LR	12	12	55.7
	comp=Z,123nm,20.2s,baz=116,slow=34								
JNU	**Nakatsue**	**49.73**	**329**	*e*P		**P**	**11**	**53**	**25.6 +0.4**
LEM	**Lembang**	**50.60**	**269**	P		**P**	**11**	**53**	**32.4 0.0**
	comp=Z,38nm,0.8s,baz=323,slow=20,SNR=7.2								
LEM					LR	LR	12	16	33.0
	comp=Z,156nm,19.0s,baz=102,slow=38								
PPT	**Papeete**	**50.88**	**105**	LR		LR	12	10	15.6
	comp=Z,272nm,21.5s,baz=288,slow=30								
PPT2	**Papeete2**	**50.88**	**105**	*e*LQ		LQ	12	06	12.6
	comp=Z,861nm,30.0s								
PPT2				*e*LR		LR	12	08	29.3
	comp=Z,410nm,21.8s								
ERM	**Erimo**	**52.92**	**346**	*ce*P		**P**	**11**	**53**	**50.6 +1.7**
ERM					pmax	pmax			
	comp=Z,45nm,2.5s								
TJN	**Taejon**	**54.07**	**329**	*d i*P		**P**	**11**	**53**	**58.6 +1.1**
MDSI	**Maura Dua**	**54.29**	**271**	P		**P**	**11**	**53**	**58.5 -1.0**
KSRS	**Korea Array**	**54.62**	**330**	P		**P**	**11**	**54**	**02.3 +0.8**
	comp=Z,35nm,1.0s,baz=150,slow=8.1,SNR=56								
KS15	**Wonju Array Si**	**54.63**	**330**	*e*P		**P**	**11**	**54**	**02.4 +0.8**
KSAR	**Wonju Array Be**	**54.63**	**330**	P		**P**	**11**	**54**	**02.3 +0.7**
KSAR	**Wonju Array Be**	**54.63**	**330**	P		**P**	**11**	**54**	**02.3 +0.7**
KS01	**Wonju Array Si**	**54.66**	**330**	*e*P		**P**	**11**	**54**	**02.3 +0.5**
ASAJ	**Asahikawa**	**55.03**	**346**	P		**P**	**11**	**54**	**05.5 +1.2**
	comp=Z,5.1nm,0.8s,baz=198,slow=6.4,SNR=6.7								
ASAJ	**Asahikawa**	**55.03**	**346**	*e*P		**P**	**11**	**54**	**04.7 +0.3**
	comp=Z,18nm,1.2s								
KUR	**Kuril'sk**	**55.05**	**351**⇑	*e*P		**P**	**11**	**54**	**05.0 +0.6**
INCN	**Inchon**	**55.29**	**329**	*e*P		**P**	**11**	**54**	**06.4 0.0**
	comp=Z,103nm,1.0s								
QIZ	**Qiongzhong**	**55.73**	**300**	P		**P**	**11**	**54**	**10.8 +1.0**
QIZ					S	**S**	**12**	**01**	**55.4 +0.8**
QIZ					pmax	pmax			
	comp=Z,39nm,1.1s								
QIZ					LR	LR			
	comp=Z,79nm,5.3s								
QIZ					LR	LR			
	comp=Z,140nm,15.3s								
QIZ					LR	LR			
	comp=Z,260nm,20.8s								
QIZ	**Qiongzhong**	**55.73**	**300**	*e*P		**P**	**11**	**54**	**11.2 +1.4**
	comp=Z,95nm,1.5s								
NJ2	**Nanjing**	**55.95**	**319**	*e*P		**P**	**11**	**54**	**12.6 +1.4**
NJ2					pmax	pmax			
	comp=Z,18nm,0.5s								
YSS	**Yuzh-Sakhalins**	**57.68**	**347**	*e*P		**P**	**11**	**54**	**24.3 +1.1**
	comp=Z,55nm,1.3s								
YSS	**Yuzh-Sakhalins**	**57.68**	**347**⇑	*e*P		**P**	**11**	**54**	**23.7 +0.6**
YSS				*e*			11	54	30.3
YSS				*e**PP		**sP**	**11**	**54**	**35.9 -1.1**
YSS				*e*			11	55	17.1
YSS				*e*S		**S**	**12**	**02**	**14.8 -4.7**
YSS				*e*PS		**PnS**	**12**	**02**	**27.9 -5.8**
YSS					pmax	pmax			
	comp=Z,40nm,0.9s								
YSS					MLR	MLR			
	comp=Z,380nm,14.0s								
UBPT	**Khong Chiam**	**58.07**	**294**	P		**P**	**11**	**54**	**26.1 -0.4**
	comp=Z,28nm,1.8s								
WHN	**Wuhan**	**58.07**	**315**	P		**P**	**11**	**54**	**27.1 +0.9**
WHN					S	**S**	**12**	**02**	**23.6 -1.6**
WHN					LR	LR			
	comp=Z,1μm,32.8s								
USRK	**Ussuriysk Ar.**	**58.40**	**338**	P		**P**	**11**	**54**	**29.2 +1.0**
	comp=Z,7.0nm,0.8s,baz=157,slow=6.6,SNR=6.4								
USRK					LR	LR	12	17	43.9
	comp=Z,194nm,21.0s,baz=127,slow=34								
IPM	**Ipoh**	**59.06**	**281**	*e*P		**P**	**11**	**54**	**33.1 -0.4**
	comp=Z,31nm,1.6s								
KULM	**Kulim**	**59.61**	**282**	*e*P		**P**	**11**	**54**	**36.3 -1.0**
	comp=Z,9.8nm,1.1s								
SKR	**Severo-Kuril's**	**59.67**	**358**	*e*P		P	11	54	43.7 +6.8
SKR				*e*S		S	12	03	03.9 +19
SKR					MLR	MLR			
	comp=Z,800nm,18.0s								
MNSI	**Mandailing Nat**	**59.70**	**276**	P		**P**	**11**	**54**	**36.7 -1.2**
	comp=Z,24nm,1.2s,comp=Z,1μm								
TIA	**Tai'an**	**59.74**	**322**	P		**P**	**11**	**54**	**37.5 -0.2**
TIA					pmax	pmax			
	comp=Z,11nm,1.2s								
SKNT	**Sakolnakorn**	**60.02**	**296**	P		**P**	**11**	**54**	**39.4 -0.6**
	comp=Z,24nm,1.3s								
TAOE	**Nuku Hiva Isla**	**60.33**	**95**	*e*LR		LR	12	12	58.7
	comp=Z,238nm,22.4s								
CN2	**Changchun**	**60.77**	**333**	*e*P		**P**	**11**	**54**	**44.6 0.0**
CN2					pmax	pmax			
	comp=Z,70nm,1.1s								
KHON	**Khomkaen**	**60.83**	**294**	P		**P**	**11**	**54**	**46.3 +0.8**
	comp=Z,16nm,1.0s,comp=Z,1μm								
ENH	**Enshi**	**61.42**	**312**	*e*P		**P**	**11**	**54**	**48.9 -0.5**
	comp=Z,41nm,1.4s								
CHAI	**Chaiyaphum**	**61.43**	**294**	P		**P**	**11**	**54**	**49.8 +0.2**
	comp=Z,12nm,0.9s,comp=Z,91nm								
NAYO	**Nakonayok**	**61.51**	**292**	P		**P**	**11**	**54**	**51.0 +0.8**
	comp=Z,29nm,1.4s								
GYA	**Guiyang**	**61.69**	**307**⇑	*i*P		**P**	**11**	**54**	**51.8 +0.4**
GYA					pP	sP	11	55	04.6 -0.7
GYA					PcP	**PcP**	**11**	**55**	**34.3 +1.7**
GYA					PP	**PP**	**11**	**57**	**11.0 +3.4**
GYA					S	**S**	**12**	**03**	**11.4 -0.9**
GYA					pmax	pmax			
	comp=Z,20nm,0.8s								
GYA					pmax	pmax			
	comp=Z,130nm,5.6s								
GYA					LR	LR			
	comp=Z,590nm,18.2s								
GYA					LR	LR			
	comp=Z,520nm,18.0s								
GYA					LR	LR			
	comp=Z,550nm,18.6s								
GSI	**Gunungsitoli**	**61.76**	**276**	P		**P**	**11**	**54**	**52.3 +0.3**
	comp=Z,37nm,1.3s								
GSI	**Gunungsitoli**	**61.76**	**276**	*e*P		**P**	**11**	**54**	**50.6 -1.4**
	comp=Z,59nm,1.3s								
PET	**Petropavlovsk**	**61.98**	**360**	*e*P		**P**	**11**	**54**	**52.7 +0.1**
	comp=Z,81nm,1.3s								
PET	**Petropavlovsk**	**61.98**	**360**	*e*P		**P**	**11**	**54**	**52.8 +0.2**
PET				*e*S		**S**	**12**	**03**	**15.1 +0.6**
PET				*e*SS		**SS**	**12**	**07**	**21.9 +4.2**
PET					pmax	pmax			
	comp=Z,54nm,1.3s								
PET					pmax	pmax			
	comp=Z,100nm,14.7s								
PEA0B	**Petropavlovsk-**	**62.07**	**359**	*e*P		**P**	**11**	**54**	**53.9 +0.6**
	comp=Z,116nm,1.3s								
PETK	**Petropavlovsk-**	**62.07**	**359**	P		**P**	**11**	**54**	**53.9 +0.6**
	comp=Z,43nm,1.0s,baz=134,slow=6.4,SNR=39								
PETK					LR	LR	12	18	12.9
	comp=Z,612nm,21.8s,baz=170,slow=33								
PBKT	**Sadao Pong**	**62.57**	**294**	P		**P**	**11**	**54**	**57.0 -0.3**
	comp=Z,32nm,1.4s,comp=Z,622nm								
PHET	**Kaeng Krachan**	**62.63**	**290**	P		**P**	**11**	**54**	**59.0 +1.2**
	comp=Z,13nm,1.0s								
GRNR	**Gornyy**	**62.77**	**344**	*e*P		**P**	**11**	**54**	**58.0 0.0**
GRNR					pmax	pmax			
	comp=N,42nm,1.0s								
GRNR					pmax	pmax			
	comp=Z,52nm,1.0s								
KLR	**Kul'dur**	**62.80**	**340**	*c i*P		**P**	**11**	**54**	**58.7 +0.5**
BJI	**Beijing**	**62.81**	**324**	P		**P**	**11**	**54**	**58.4 0.0**
BJI					pmax	pmax			
	comp=Z,33nm,1.6s								
PHIT	**Phitsanulok**	**63.28**	**294**	P		**P**	**11**	**55**	**03.1 +1.1**
	comp=Z,21nm,1.0s								
MLSI	**Meulaboh, Aceh**	**63.51**	**279**	P		**P**	**11**	**55**	**03.1 -0.5**
	comp=Z,52nm,0.9s								
SRDT	**SRDT**	**63.54**	**291**	P		**P**	**11**	**55**	**03.9 +0.1**
	comp=Z,59nm,1.0s								
NANT	**Nan**	**63.59**	**296**	P		**P**	**11**	**55**	**04.6 +0.6**
	comp=Z,11nm,1.2s,comp=Z,112nm								
TIY	**Taiyuan**	**63.60**	**320**	*e*P		**P**	**11**	**55**	**05.1 +1.3**
TIY					pP	**sP**	**11**	**55**	**17.8 +0.1**
TIY					ScS	**ScS**	**12**	**04**	**48.8 -6.3**
TIY					pmax	pmax			
	comp=Z,160nm,5.5s								
TIY					LR	LR			
	comp=Z,110nm,4.0s								
TIY					LR	LR			
	comp=Z,120nm,8.9s								
TIY					LR	LR			
	comp=Z,250nm,22.2s								
XAN	**Xi'an**	**63.83**	**315**	P		**P**	**11**	**55**	**05.1 -0.3**
XAN					sP	sP	11	55	22.8 +3.5
XAN					PcP	**PcP**	**11**	**55**	**41.5 +0.4**
XAN					S	**S**	**12**	**03**	**34.4 -4.3**
XAN					ScS	**SKSac**	**12**	**04**	**49.8 -7.1**
XAN					SS	**SS**	**12**	**07**	**40.8 -6.8**
XAN					pmax	pmax			
	comp=Z,14nm,1.4s								
XAN					pmax	pmax			
	comp=Z,130nm,6.1s								
XAN					LR	LR			
	comp=Z,160nm,22.0s								
XAN					LR	LR			
	comp=Z,210nm,20.0s								
XAN					LR	LR			
	comp=Z,330nm,20.7s								
KMI	**Kunming**	**64.28**	**304**	P		**P**	**11**	**55**	**09.8 +1.1**
KMI					pP	sP	11	55	21.8 -0.8
KMI					sP	pP	11	55	26.3 +7.5
KMI					PP	**PP**	**11**	**57**	**34.1 +3.6**
KMI					S	**S**	**12**	**03**	**43.3 -1.6**
KMI					sS	sS	12	04	02.9 +1.4
KMI					SS	**SS**	**12**	**07**	**52.8 -2.3**
KMI					pmax	pmax			
	comp=Z,32nm,1.2s								
KMI					pmax	pmax			
	comp=Z,140nm,4.1s								
KMI					LR	LR			
	comp=Z,170nm,14.8s								
KMI					LR	LR			
	comp=Z,230nm,15.4s								
KMI					LR	LR			
	comp=Z,240nm,20.6s								
LAMP	**Lampang**	**64.44**	**296**	P		**P**	**11**	**55**	**10.8 +1.2**
	comp=Z,13nm,1.0s,comp=Z,127nm								
PAYA	**Payao**	**64.52**	**297**	P		**P**	**11**	**55**	**11.1 +0.9**
	comp=Z,10nm,1.2s,comp=Z,132nm								
RKT	**Rikitea**	**64.73**	**111**	*e*LR		LR	12	14	52.3
	comp=Z,353nm,23.8s								
CM01	**Chiang Mai Arr**	**65.00**	**295**	*e*P		**P**	**11**	**55**	**13.0 -0.3**
CM31	**Chiang Mai Arr**	**65.03**	**295**	*e*P		**P**	**11**	**55**	**14.9 +1.4**
CM31				*ep*P		**pP**	**11**	**55**	**24.4 +0.8**
CMAR	**Chiang Mai Arr**	**65.03**	**295**	P		**P**	**11**	**55**	**14.4 +0.9**
	comp=Z,16nm,0.9s,baz=118,slow=4.8,SNR=68								
CMAR					LR	LR	12	26	06.9
	comp=Z,54nm,18.1s,baz=132,slow=38								
CMMT	**Chiang Mai**	**65.15**	**296**	P		**P**	**11**	**55**	**13.8 -0.5**
	comp=Z,35nm,1.3s,comp=Z,443nm								
CHTO	**Chiang Mai**	**65.15**	**296**	P		**P**	**11**	**55**	**14.9 +0.6**
	comp=Z,158nm,1.3s,comp=Z,2μm								
CHTO	**Chiang Mai**	**65.15**	**296**	*e*P		**P**	**11**	**55**	**14.6 +0.3**
	comp=Z,46nm,1.2s								
CHTO	**Chiang Mai**	**65.15**	**296**	*e*P		**P**	**11**	**55**	**14.6 +0.3**
CHTO					pmax	pmax			
	comp=Z,46nm,1.2s								
CMAI	**Chiengmai2**	**65.44**	**297**	P		**P**	**11**	**55**	**17.2 +0.8**
	comp=Z,158nm,1.6s,comp=Z,10μm								
CD2	**Chengdu**	**66.03**	**310**	P		**P**	**11**	**55**	**19.6 -0.2**
CD2					pP	sP	11	55	32.0 -1.7
CD2					sP	pP	11	55	37.3 +7.4
CD2					PP	**PP**	**11**	**57**	**45.3 -0.2**
CD2					S	**S**	**12**	**04**	**05.1 -0.7**
CD2					SS	**SS**	**12**	**08**	**22.1 +0.3**
CD2					pmax	pmax			
	comp=Z,10.0nm,0.5s								
CD2					pmax	pmax			
	comp=Z,120nm,5.0s								
CD2					LR	LR			
	comp=Z,300nm,20.9s								
CD2					LR	LR			
	comp=Z,400nm,22.4s								
CD2					LR	LR			
	comp=Z,390nm,20.9s								
HHC	**Hu-ho-hao-te**	**66.04**	**323**	*e*P		**P**	**11**	**55**	**20.6 +0.9**
HHC					pP	sP	11	55	31.3 -2.4
HHC					S	**S**	**12**	**04**	**05.8 +0.1**
HHC					pmax	pmax			
	comp=Z,34nm,1.2s								
HHC					pmax	pmax			
	comp=Z,140nm,7.2s								
HHC					LR	LR			
	comp=Z,1μm,16.3s								
HHC					LR	LR			
	comp=Z,1μm,16.5s								
HHC					LR	LR			
	comp=Z,1μm,16.5s								
BTO	**Baotou**	**66.83**	**322**	*e*P		**P**	**11**	**55**	**24.6 -0.2**
HIA	**Hailar**	**67.48**	**334**	*e*P		**P**	**11**	**55**	**29.1 +0.5**
	comp=Z,66nm,1.1s								
HIA	**Hailar**	**67.48**	**334**	*e*P		**P**	**11**	**55**	**29.2 +0.5**
HIA					pmax	pmax			
	comp=Z,66nm,1.1s								
ZEA	**Zeya**	**68.12**	**340**	*e*P		**P**	**11**	**55**	**33.4 +0.9**
ZEA					pmax	pmax			
	comp=Z,24nm,1.0s								
VNDA	**Vanda**	**68.32**	**179**	P		**P**	**11**	**55**	**33.9 +0.5**
	comp=Z,6.8nm,0.9s,baz=326,slow=5.7,SNR=28								
VNDA	**Vanda**	**68.32**	**179**	*e*P		**P**	**11**	**55**	**34.0 +0.5**
	comp=Z,12nm,1.0s								
VNDA	**Vanda**	**68.32**	**179**	*e*P		**P**	**11**	**55**	**34.0 +0.5**
VNDA					pmax	pmax			
	comp=Z,12nm,1.0s								
LZH	**Lanzhou**	**68.45**	**315**	*e*P		**P**	**11**	**55**	**36.6 +1.4**
LZH					pP	sP	11	55	48.6 -0.6
LZH					sP	PcP	11	55	53.3 -7.1
LZH					PP	**PP**	**11**	**58**	**10.0 +3.3**
LZH					*e*S	**S**	**12**	**04**	**33.5 -1.6**
LZH					sS	sS	12	04	54.1 +2.3
LZH					SS	**SS**	**12**	**08**	**58.1 -1.4**
LZH					pmax	pmax			
	comp=Z,61nm,1.3s								
LZH					pmax	pmax			
	comp=Z,230nm,5.7s								
LZH					LR	LR			
	comp=Z,510nm,15.5s								
LZH					LR	LR			
	comp=Z,530nm,15.0s								
LZH					LR	LR			
	comp=Z,2μm,17.8s								
MA2	**Magadan**	**68.84**	**356**	*e*P		**P**	**11**	**55**	**36.5 -0.3**
	comp=Z,40nm,0.9s								
MA2	**Magadan**	**68.84**	**356**	*e*P		**P**	**11**	**55**	**36.6 -0.3**
MA2					pmax	pmax			
	comp=Z,40nm,0.9s								
CLNS	**Chul'man**	**71.44**	**341**	*e*P		**P**	**11**	**55**	**50.7 -2.3**
CLNS					pmax	pmax			
	comp=Z,30nm,1.0s								
CLNS					pmax	pmax			
	comp=N,10.0nm,0.9s								
CLNS					pmax	pmax			
	comp=E,5.0nm,0.8s								
SEY	**Seymchan**	**72.08**	**357**	*ce*P		**P**	**11**	**55**	**57.0 +0.4**
ULN	**Ulaanbaatar**	**72.83**	**326**	*e*P		**P**	**11**	**56**	**02.8 +1.1**
	comp=E,65nm,1.1s								
ULN	**Ulaanbaatar**	**72.83**	**326**	*c i*P		**P**	**11**	**56**	**02.5 +0.9**
ULN					pmax	pmax			
	comp=Z,106nm,1.7s								
GTA	**Gaotai**	**72.85**	**316**	⇑P		**P**	**11**	**56**	**03.0 +1.1**
GTA					pP	sP	11	56	13.3 -2.6
GTA					sP	PcP	11	56	17.1 -1.8
GTA					S	**S**	**12**	**05**	**27.1 +1.0**
GTA					sS	sS	12	05	44.5 +1.5
GTA					SKS	**SKSac**	**12**	**06**	**01.8 -3.4**
GTA					pmax	pmax			
	comp=Z,29nm,1.4s								
GTA					pmax	pmax			
	comp=Z,560nm,6.7s								
GTA					LR	LR			
	comp=Z,190nm,18.5s								
GTA					LR	LR			
	comp=Z,210nm,22.3s								
GTA					LR	LR			
	comp=Z,220nm,19.5s								
SONM	**Songino Array**	**73.17**	**326**	P		**P**	**11**	**56**	**04.6 +0.9**
	comp=Z,37nm,0.8s,baz=137,slow=5.8,SNR=88								
SONM					LR	LR	12	29	58.7
	comp=Z,174nm,18.3s,baz=95,slow=37								
SONA1	**Songino Array**	**73.18**	**326**	*e*P		**P**	**11**	**56**	**04.3 +0.7**
SHL	**Shillong**	**73.56**	**300**	*e*P		**P**	**11**	**56**	**08.0 +1.6**
CHGN	**Chignik**	**74.26**	**23**	*e*P		**P**	**11**	**56**	**09.1 -0.4**
	comp=Z,17nm,1.0s								
YAK	**Yakutsk**	**74.51**	**346**	*e*P		**P**	**11**	**56**	**11.2 +0.3**
	comp=Z,61nm,0.9s								
YAK	**Yakutsk**	**74.51**	**346**	*e*P		**P**	**11**	**56**	**10.6 -0.3**
YAK				*e**PP		**pP**	**11**	**56**	**21.0 -0.2**
YAK				*e*			11	56	28.1
YAK				*e*PPP		PPP	12	00	42.6
YAK				*e*S		**S**	**12**	**05**	**43.7 +0.1**
YAK				*e*			12	06	42.9
YAK				*e*SS		**SS**	**12**	**10**	**35.9 +4.8**
YAK					pmax	pmax			
	comp=Z,39nm,0.8s								
YAK					pmax	pmax			
	comp=N,8.0nm,1.2s								
YAK					pmax	pmax			
	comp=E,5.0nm,1.3s								
YAK					smax	smax			
	comp=E,55nm,2.5s								
YAK					smax	smax			
	comp=N,12nm,2.2s								
BOD	**Bodaibo**	**76.03**	**337**	*e*P		**P**	**11**	**56**	**19.8 +0.1**
BOD					pmax	pmax			
	comp=Z,32nm,1.4s								
ZAK	**Zakamensk**	**76.30**	**327**	*e*P		**P**	**11**	**56**	**20.8 -0.8**
ZAK					pmax	pmax			
	comp=Z,21nm,1.3s								
TLY	**Talaya**	**76.83**	**328**	*e*P		**P**	**11**	**56**	**25.1 +0.6**
	comp=Z,18nm,1.1s								
TLY	**Talaya**	**76.83**	**328**	*i* P		**P**	**11**	**56**	**24.9 +0.4**
TLY					pmax	pmax			
	comp=Z,29nm,1.7s								
BILL	**Bilibino**	**77.23**	**3**	*c i*P		**P**	**11**	**56**	**26.9 +0.5**
BILL				*i*			11	56	37.7
BILL				*i*			11	59	18.1
BILL				*e*S		**S**	**12**	**06**	**16.5 +3.0**
BILL					pmax	pmax			
	comp=Z,59nm,1.1s								
KDAK	**Kodiak Island**	**77.60**	**24**	*ce*P		**P**	**11**	**56**	**29.8 +1.2**
MOY	**Mondy**	**78.21**	**327**	*e*P		**P**	**11**	**56**	**32.6 +0.3**
MOY					pmax	pmax			
	comp=Z,32nm,2.7s								
PALK	**Pallekele**	**79.41**	**279**	P		**P**	**11**	**56**	**40.2 +0.5**
	comp=Z,17nm,0.9s,baz=302,slow=0.1,SNR=5.8								
PALK	**Pallekele**	**79.41**	**279**	*e*P		**P**	**11**	**56**	**40.0 +0.3**
	comp=Z,34nm,1.0s								
PALK	**Pallekele**	**79.41**	**279**	*ce*P		**P**	**11**	**56**	**41.9 +2.3**
BRLK	**Bradley Lake**	**79.55**	**23**	*e*P		**P**	**11**	**56**	**40.7 +1.3**
	comp=Z,37nm,1.1s								
SUA	**Susitna One**	**80.69**	**22**	*e*P		**P**	**11**	**56**	**45.9 +0.3**
	comp=Z,14nm,0.8s								
QSPA	**South Pole Qui**	**80.79**	**180**	P		**P**	**11**	**56**	**47.2 +1.0**
	comp=Z,4.4nm,0.9s,baz=43,slow=2.7,SNR=5.5								
QSPA	**South Pole Qui**	**80.79**	**180**	*e*P		**P**	**11**	**56**	**47.2 +1.0**
	comp=Z,94nm,1.4s								
RC01	**Rabbit Creek A**	**80.83**	**23**	*e*P		**P**	**11**	**56**	**47.1 +0.9**
	comp=Z,103nm,1.9s								
RC01				*ep*P		**sP**	**11**	**56**	**58.2 -2.1**
PPLA	**Purkeypile**	**81.10**	**21**

WRH	Wood River Hil	83.51	20	eP		P		11 57 00.1	-0.1
	comp=Z,57nm,1.6s								
PAX	Paxson	83.57	22	eP		P		11 57 01.0	+0.3
	comp=Z,29nm,1.7s								
PAX	Paxson	83.57	22	eP		P		11 57 01.0	+0.3
PAX					pmax	pmax			
	comp=Z,29nm,1.7s								
CCB	Clear Creek Bu	83.71	20	eP		P		11 57 00.9	-0.3
	comp=Z,51nm,1.7s								
MDM	Murphy Dome	83.76	20	eP		P		11 57 00.9	-0.6
	comp=Z,53nm,1.4s								
MAW	Mawson	83.78	203	P		P		11 57 10.0	+8.4
	comp=Z,9.0nm,1.0s,baz=95,slow=8.0,SNR=6.5								
MAW	Mawson	83.78	203	P		P		11 57 10.0	+8.4
COLA	College	83.83	20	eP		P		11 57 01.7	-0.1
	comp=Z,62nm,1.4s								
COLA	College	83.83	20	eP		P		11 57 01.7	-0.1
COLA					pmax	pmax			
	comp=Z,62nm,1.4s								
HDA	Harding Lake	83.87	21	eP		P		11 57 02.2	+0.2
	comp=Z,47nm,1.3s								
IL1	Eielson Array	84.11	21	eP		P		11 57 02.8	-0.4
ILAR	Eielson Array	84.11	21	P		P		11 57 02.6	-0.6
	comp=Z,11nm,1.1s,baz=260,slow=4.4,SNR=45								
ILAR					LR	LR		12 32 46.6	
	comp=Z,199nm,19.1s,baz=251,slow=34								
ILB	Eielson Array	84.11	21	eP		P		11 57 02.7	-0.6
MENT	Mentasta	84.21	23	eP		P		11 57 04.9	+1.0
	comp=Z,11nm,1.0s								
RIDG	Independ'e Rid	84.24	22	eP		P		11 57 04.3	+0.3
	comp=Z,50nm,1.4s								
DOT	Dot Lake	84.48	22	eP		P		11 57 06.0	+0.8
	comp=Z,147nm,1.6s								
COLD	Coldfoot	84.55	18	eP		P		11 57 06.5	+1.0
	comp=Z,40nm,1.6s								
SCRK	Sand Creek	84.69	22	eP		P		11 57 06.9	+0.5
	comp=Z,48nm,1.6s								
DGZ	Jazzator, Alta	85.11	322	eP		P		11 57 08.4	-0.5
DGZ					pmax	pmax			
	comp=Z,8.0nm,1.1s								
TOLK	Toolik Lake Re	85.63	17	P		P		11 57 11.9	+1.0
	baz=231								
TOLK	Toolik Lake Re	85.63	17	eP		P		11 57 12.1	+1.2
	comp=Z,31nm,1.4s								
HYT	Haines Junctio	85.69	26	eP		P		11 57 11.7	+0.2
	comp=Z,70nm,1.4s								
FYU	Fort Yukon	85.71	19	eP		P		11 57 12.6	+1.3
	comp=Z,53nm,1.9s								
SKAG	Skagway	86.06	28	eP		P		11 57 14.5	+1.4
	comp=Z,47nm,1.4s								
EGAK	Eagle	86.15	22	eP		P		11 57 14.8	+1.3
	comp=Z,68nm,1.6s								
DAWY	Dawson	86.46	23	eP		P		11 57 16.9	+1.8
	comp=Z,45nm,1.4s								
WHY	Whitehorse	86.78	27	eP		P		11 57 18.2	+1.5
	comp=Z,32nm,1.6s								
MK01	Makanchi Array	87.46	318	eP		P		11 57 20.1	-0.3
MK31	Makanchi Array	87.47	318	eP		P		11 57 20.6	+0.2
MK31	Makanchi Array	87.47	318	eP		P		11 57 20.6	+0.2
MKAR	Makanchi Array	87.47	318	P		P		11 57 20.5	+0.2
	comp=Z,4.2nm,0.8s,baz=101,slow=5.6,SNR=17								
MKAR					LR	LR		12 35 52.8	
	comp=Z,123nm,21.7s,baz=84,slow=35								
MKAR	Makanchi Array	87.47	318	eP		P		11 57 20.6	+0.2
	comp=Z,83nm,1.5s								
MKAR	Makanchi Array	87.47	318	eP		P		11 57 20.6	+0.2
MKAR					pmax	pmax			
	comp=Z,83nm,1.5s								
M02C	Callahan	87.47	48	P		P		11 57 21.5	+1.0
	baz=256								
N02D	Trinity Center	87.48	48	P		P		11 57 22.5	+1.9
	baz=256								
WDC	Whiskeytown Da	87.50	48	eP		P		11 57 22.1	+1.5
	comp=Z,20nm,1.6s								
WDC	Whiskeytown Da	87.50	48	eP		P		11 57 22.1	+1.5
WDC					pmax	pmax			
	comp=Z,20nm,1.6s								
YBH	Yreka Blue Hor	87.66	47	P		P		11 57 22.8	+1.3
	comp=Z,3.6nm,1.1s,baz=93,slow=17,SNR=5.1								
YBH					LR	LR		12 36 22.9	
	comp=Z,145nm,18.8s,baz=283,slow=36								
HUMO	Hull Mountain	87.70	46	eP		P		11 57 21.5	-0.1
	comp=Z,15nm,1.4s								
O03D	Paynes Creek	87.98	49	P		P		11 57 24.7	+1.7
	baz=256								
ORV	Oroville	88.03	50	eP		P		11 57 24.3	+1.1
	comp=Z,13nm,1.5s								
ORV	Oroville	88.03	50	eP		P		11 57 24.3	+1.1
ORV					pmax	pmax			
	comp=Z,13nm,1.5s								
ZAA0	Zalesovo Array	88.05	325	eP		P		11 57 21.2	-1.7
	comp=Z,9.4nm,1.1s								
ZALV	Zalesovo Beam	88.05	325	P		P		11 57 22.1	-0.9
	comp=Z,5.1nm,0.8s,baz=119,slow=5.2,SNR=18								
ZALV					LR	LR		12 37 11.0	
	comp=Z,101nm,20.2s,baz=70,slow=36								
ZALV	Zalesovo Beam	88.05	325	eP		P		11 57 20.8	-2.1
ZALV	Zalesovo Beam	88.05	325	eP		P		11 57 20.8	-2.1
DLBC	Dease Lake	88.19	30	eP		P		11 57 25.0	+1.4
	comp=Z,11nm,1.4s								
AFDM	Forest Hills D	88.29	50	eP		P		11 57 25.6	+1.1
	comp=Z,25nm,1.7s								
M04C	Macdoel	88.31	47	P		P		11 57 26.3	+1.7
	baz=256								
CMB	Columbia Colle	88.53	51	eP		P		11 57 26.8	+1.1
	comp=Z,17nm,1.7s								
CMB	Columbia Colle	88.53	51	eP		P		11 57 26.8	+1.1
CMB					pmax	pmax			
	comp=Z,17nm,1.7s								
RUBR	Rubicon Trail	88.94	50	eP		P		11 57 29.7	+1.9
	comp=Z,67nm,1.9s								
BEKR	Beckworth	88.96	49	eP		P		11 57 29.2	+1.4
	comp=Z,13nm,1.3s								
VES	Vestal, Richgr	89.08	54	P		P		11 57 29.2	+1.0
	baz=258								
J05D	Fort Rock, OR	89.09	46	P		P		11 57 29.6	+1.3
	baz=257								
CIS	Catalina Islan	89.13	56	P		P		11 57 29.7	+1.2
	baz=258								
NVS	Novosibirsk	89.21	326	*i* P		P		11 57 27.4	-0.9
K05A	Summer Lake	89.21	47	eP		P		11 57 30.3	+1.3
	comp=Z,56nm,1.8s								
TARG	Taragay, Kyrgy	89.33	312	eP		P		11 57 31.3	+1.5
	comp=Z,7.5nm,0.9s								
WAKR	Walker	89.36	51	eP		P		11 57 30.9	+1.1
	comp=Z,24nm,1.7s								
VCNR	Virginia City	89.37	50	eP		P		11 57 30.8	+1.0
	comp=Z,7.5nm,1.3s								
PINE	Pine Mountain	89.42	46	eP		P		11 57 31.3	+1.4
	comp=Z,10nm,1.4s								
MOD	Modoc Plateau	89.45	48	eP		P		11 57 32.0	+1.9
	comp=Z,37nm,1.9s								
MDPB	Devils Postpil	89.46	52	eP		P		11 57 31.0	+0.6
	comp=Z,19nm,1.6s								
PASC	Pasadena Art C	89.47	55	eP		P		11 57 31.4	+1.3
	comp=Z,15nm,1.2s								
ISA	Isabella, Lake	89.53	54	P		P		11 57 31.8	+1.3
	baz=258								
ISA	Isabella, Lake	89.53	54	eP		P		11 57 31.8	+1.3
	comp=Z,32nm,1.9s								
ISA	Isabella, Lake	89.53	54	eP		P		11 57 31.8	+1.3
ISA					pmax	pmax			
	comp=Z,32nm,1.9s								
MWC	Mount Wilson	89.58	55	eP		P		11 57 32.1	+1.2
	comp=Z,29nm,1.2s								
MWC	Mount Wilson	89.58	55	eP		P		11 57 32.1	+1.2
MWC					pmax	pmax			
	comp=Z,29nm,1.2s								
YERR	Yerington	89.62	51	eP		P		11 57 32.0	+1.1
	comp=Z,37nm,2.0s								
PAHR	Pah Rah Range	89.66	50	eP		P		11 57 32.1	+1.1
	comp=Z,38nm,1.8s								
EDW2	Edwards Air Fo	89.77	55	P		P		11 57 33.0	+1.4
	baz=259,SNR=9.0								
KDJ	Kajisay	89.87	313	eP		P		11 57 32.2	+0.2
	comp=Z,14nm,1.0s								
KDJ	Kajisay	89.87	313	P		P		11 57 32.2	+0.2
KDJ					pmax	pmax			
	comp=Z,14nm,1.1s								
BFSC	Mount Baldy Ra	89.91	55	P		P		11 57 33.7	+1.3
	baz=259,SNR=5.9								
CWC	Cottonwood Cre	90.00	53	P		P		11 57 34.2	+1.5
	baz=259								
RYN	Ryan	90.09	51	eP		P		11 57 34.3	+1.2
	comp=Z,19nm,1.3s								
CPE	Camp Elliot	90.11	57	eP		P		11 57 34.3	+1.2
	comp=Z,26nm,1.5s								
LRMC	Laurel Mtn Rad	90.13	54	P		P		11 57 34.7	+1.3
	baz=259,SNR=10								
NV01	Mina Array Sit	90.22	51	eP		P		11 57 35.2	+1.4
NVAR	Mina Array Bea	90.22	51	P		P		11 57 35.7	+1.9
	comp=Z,4.2nm,0.9s,baz=240,slow=7.0,SNR=30								
NVAR					LR	LR		12 33 11.1	
	comp=Z,193nm,18.9s,baz=92,slow=32								
NV11	Mina Array Sit	90.33	51	eP		P		11 57 35.8	+1.6
	comp=Z,1.0nm,1.1s								
DAC	Darwin (Calif)	90.36	53	eP		P		11 57 36.0	+1.5
	comp=Z,34nm,1.8s								
DAC	Darwin (Calif)	90.36	53	eP		P		11 57 36.0	+1.5
DAC					pmax	pmax			
	comp=Z,34nm,1.8s								
MPMC	Manual Prospec	90.40	54	P		P		11 57 36.1	+1.4
	baz=259,SNR=5.4								
BAR	Barrett	90.43	57	eP		P		11 57 36.2	+1.5
	comp=Z,14nm,1.3s								
INK	Inuvik	90.50	20	LR		LR		12 36 48.1	
	comp=Z,187nm,18.9s,baz=210,slow=35								
INK	Inuvik	90.50	20	eP		P		11 57 34.5	+0.5
	comp=Z,33nm,1.5s								
INK	Inuvik	90.50	20	eP		P		11 57 34.5	+0.5
INK					pmax	pmax			
	comp=Z,33nm,1.5s								
KVN	Kaiserville	90.50	51	eP		P		11 57 35.8	+0.7
	comp=Z,40nm,1.7s								
KVN	Kaiserville	90.50	51	eP		P		11 57 35.8	+0.7
KVN					pmax	pmax			
	comp=Z,40nm,1.7s								
BBRC	Big Bear Solar	90.52	56	P		P		11 57 37.1	+1.8
	baz=259								
NRN	Naryn	90.59	312	P		P		11 57 35.4	-0.2
NRN					pmax	pmax			
	comp=Z,33nm,1.9s								
MONP2	Monument Peak	90.67	57	P		P		11 57 37.9	+1.9
	baz=260,SNR=9.2								
PFO	Pinyon Flats O	90.78	56	P		P		11 57 37.7	+1.4
	baz=260,SNR=5.2								
PFO	Pinyon Flats O	90.78	56	eP		P		11 57 37.8	+1.4
	comp=Z,6.1nm,1.1s								
PFO	Pinyon Flats O	90.78	56	eP		P		11 57 37.8	+1.4
PFO					pmax	pmax			
	comp=Z,6.0nm,1.1s								
WVOR	Wild Horse Val	90.78	47	eP		P		11 57 37.9	+1.7
	comp=Z,44nm,1.6s								
WVOR	Wild Horse Val	90.78	47	eP		P		11 57 37.9	+1.7
WVOR					pmax	pmax			
	comp=Z,44nm,1.6s								
XPFO	Piæon Flat	90.78	56	eP		P		11 57 37.9	+1.5
	comp=Z,6.5nm,1.1s								
GSC	Goldstone, Bar	90.80	55	P		P		11 57 37.3	+1.3
	baz=259								
GSC	Goldstone, Bar	90.80	55	eP		P		11 57 37.5	+1.1
	comp=Z,9.0nm,1.3s								
GSC	Goldstone, Bar	90.80	55	eP		P		11 57 37.5	+1.1
GSC					pmax	pmax			
	comp=Z,9.0nm,1.3s								
KURK	Kurchatov	90.82	321	P		P		11 57 34.9	-1.1
KURK	Kurchatov	90.82	321	P		P		11 57 34.9	-1.1
KURBB	Kurchatov Arra	90.86	321	P		P		11 57 34.9	-1.2
	comp=Z,3.9nm,1.0s,baz=97,slow=2.7,SNR=20								
IKP	In-Ko-Pah, Jac	90.89	57	P		P		11 57 38.2	+1.3
	baz=260								
FURC	Furnace Creek,	90.97	53	P		P		11 57 38.7	+1.7
	baz=259,SNR=8.7								
J08A	Circle Bar Ran	91.08	46	eP		P		11 57 39.0	+1.5
	comp=Z,7.7nm,1.2s								
HEC	Hector,Ludlow	91.09	55	P		P		11 57 39.3	+1.5
	baz=260								
G08A	Pilot Rock	91.13	44	eP		P		11 57 38.4	+0.7
	comp=Z,15nm,1.4s								
SWSC	Sam W. Stewart	91.20	57	P		P		11 57 39.8	+1.6
	baz=260								
BELC	Belle Mtn. Jos	91.22	56	P		P		11 57 39.9	+1.4
	baz=260,SNR=10								
SHOC	Shoshone, Teco	91.33	54	P		P		11 57 40.2	+1.5
	baz=260								
BMN	Battle Mountai	91.43	49	eP		P		11 57 41.2	+1.9
	comp=Z,40nm,1.9s								
BMN	Battle Mountai	91.43	49	eP		P		11 57 41.2	+1.9
BMN					pmax	pmax			
	comp=Z,40nm,1.9s								
TUQ	Turquoise Moun	91.53	55	P		P		11 57 41.3	+1.4
	baz=260,SNR=5.9								
TPNV	Topopah Spring	91.54	53	P		P		11 57 41.2	+1.3
	baz=260,SNR=6.0								
TPNV	Topopah Spring	91.54	53	eP		P		11 57 41.5	+1.6
	comp=Z,14nm,1.3s								
TPNV	Topopah Spring	91.54	53	eP		P		11 57 41.5	+1.6
TPNV					pmax	pmax			
	comp=Z,14nm,1.3s								
BC3	Big Chuckawall	91.61	56	P		P		11 57 42.0	+1.7
	baz=260								
GMRC	Granite Mounta	91.63	55	P		P		11 57 41.6	+1.3
	baz=260,SNR=5.8								
AAK	Ala-Archa	91.92	313	eP		P		11 57 41.9	+0.3
	comp=Z,9.3nm,1.4s								
AAK	Ala-Archa	91.92	313	*d* P		P		11 57 41.8	+0.3
AAK					pmax	pmax			
	comp=Z,4.0nm,1.1s								
E09A	Wood Farm, Sta	91.93	43	eP		P		11 57 42.9	+1.6
	comp=Z,14nm,1.3s								
IRM	Iron Mountain	91.95	56	P		P		11 57 43.4	+1.7
	baz=260,SNR=7.4								
LDFC	Landfair	92.13	55	eP		P		11 57 44.5	+1.9
	comp=Z,20nm,1.1s								
BMO	Blue Mountains	92.19	45	eP		P		11 57 43.1	+0.4
	comp=Z,17nm,1.5s								
BMO	Blue Mountains	92.19	45	eP		P		11 57 43.1	+0.4
BMO					pmax	pmax			
	comp=Z,17nm,1.5s								
R11A	Troy Canyon, C	92.31	52	P		P		11 57 44.5	+1.0
	baz=260,SNR=7.0								
R11A	Troy Canyon, C	92.31	52	eP		P		11 57 45.3	+1.9
	comp=Z,8.1nm,1.3s								
SHPR	Sheep Range	92.33	54	eP		P		11 57 45.4	+1.8
	comp=Z,31nm,2.0s								
Y12C	Blythe	92.39	56	eP		P		11 57 45.5	+1.9
	comp=Z,4.4nm,0.9s								
F10A	Beach Ranch, E	92.45	44	eP		P		11 57 44.3	+0.5
	comp=Z,6.1nm,0.9s								
MFID	Camas Ranch	92.98	47	eP		P		11 57 47.8	+1.4
	comp=Z,30nm,1.8s								
LCMT	Little Creek M	93.93	53	eP		P		11 57 50.9	0.0
	comp=Z,4.9nm,1.3s								
HLID	Hailey	94.02	47	P		P		11 57 52.6	+1.3
	baz=261,SNR=8.6								
HLID	Hailey	94.02	47	eP		P		11 57 53.2	+2.0
	comp=Z,16nm,1.4s								
LPIG	La Paz	94.60	66	LR		LR		12 35 04.6	
	comp=Z,163nm,18.6s,baz=242,slow=32								
BGU	Big Grassy Mou	94.66	49	eP		P		11 57 56.2	+2.0
	comp=Z,19nm,1.9s								
DUG	Dugway, Tooele	94.72	50	P		P		11 57 55.4	+1.0
	baz=262								
DUG	Dugway, Tooele	94.72	50	eP		P		11 57 54.6	+0.2
	comp=Z,10.0nm,1.6s								
DUG	Dugway, Tooele	94.72	50	eP		P		11 57 54.6	+0.2
DUG					pmax	pmax			
	comp=Z,10.0nm,1.6s								
KK31	Karatay Array	94.89	313	eP		P		11 57 54.5	-0.5
KK31	Karatay Array	94.89	313	eP		P		11 57 54.5	-0.5
KKAR	Karatay Array	94.89	313	eP		P		11 57 54.3	-0.7
KKAR	Karatay Array	94.89	313	eP		P		11 57 54.3	-0.7
HVU	Hansel Valley	94.96	49	eP		P		11 57 56.4	+0.8
	comp=Z,12nm,1.3s								
HVU	Hansel Valley	94.96	49	eP		P		11 57 56.4	+0.8
HVU					pmax	pmax			
	comp=Z,12nm,1.3s								
MSU	Marysvale	94.97	52	eP		P		11 57 58.7	+2.9
MSU	Marysvale	94.97	52	eP		P		11 57 58.7	+2.9
SPUT	South Promonto	95.14	49	eP		P		11 57 56.4	0.0
	comp=Z,3.5nm,1.0s								
WALA	Waterton Lakes	95.17	41	eP		P		11 57 57.1	+0.8
	comp=Z,9.5nm,1.4s								
NLU	North Lily Min	95.25	51	eP		P		11 57 58.0	+1.0
	comp=Z,7.9nm,1.3s								
DLMT	Dillon	95.56	45	eP		P		11 57 59.3	+1.1
	comp=Z,10nm,1.5s								
JLU	Jordanelle	95.80	50	eP		P		11 58 00.1	+0.6
	comp=Z,6.1nm,1.3s								
BVAR	Borovoye Array	96.25	323	P		P		11 57 59.6	-1.4
	comp=Z,4.2nm,0.9s,baz=104,slow=4.6,SNR=21								
BVAR					LR	LR		12 44 22.3	
	comp=Z,60nm,18.4s,baz=64,slow=37								
BOZ	Bozeman (W)	96.27	45	P		P		11 58 02.4	+1.0
	baz=263								
BOZ	Bozeman (W)	96.27	45	eP		P		11 58 02.1	+0.7
	comp=Z,2.6nm,1.1s								
BOZ	Bozeman (W)	96.27	45	eP		P		11 58 02.1	+0.7
BOZ					pmax	pmax			
	comp=Z,3.0nm,1.1s								
BRVK	Borovoye	96.32	323	eP		P		11 57 60.0	-1.3
	comp=Z,8.7nm,1.1s								
BRVK	Borovoye	96.32	323	*c*eP		P		11 57 59.8	-1.4
BRVK					pmax	pmax			
	comp=Z,11nm,1.2s								
YKA	Yellowknife Ar	96.56	28	P		P		11 58 02.4	+0.3
	comp=Z,1.0nm,0.9s,baz=263,slow=4.5,SNR=19								
PDAR	Pinedale Array	97.45	48	P		Pdif		11 58 07.5	+0.5
	comp=Z,1.2nm,1.0s,baz=250,slow=3.0,SNR=7.2								
PDAR					LR	LR		12 39 06.6	
	comp=Z,127nm,18.4s,baz=284,slow=34								
PDAR	Pinedale Array	97.45	48	eP		Pdif		11 58 07.3	+0.3
LAO	LASA Array	100.10	44	P		Pdif		11 58 19.6	+1.1
	baz=267								
TXAR	Lajitas Array	101.07	62	P		Pdif		11 58 25.1	+1.8
	comp=Z,0.2nm,0.7s,baz=325,slow=1.4,SNR=2.9								
MAK	Makhachkala	111.70	313	*i* PKIKP		PKiKP		12 03 05.4	-2.1
MAK				*e*				12 03 47.4	
MAK				*e*PPP		PPP		12 06 07.7	
MAK				*e*				12 09 46.3	
MAK				*e*SS		SS		12 19 23.0	-0.7
MAK				*e*SSS		SSS		12 23 32.7	
MAK					pmax	pmax			
	comp=Z,104nm,1.2s								
KIV	Kislovodsk	114.99	314	*i* PKIKP		PKPdf		12 03 11.0	-3.0
KIV					pmax	pmax			
	comp=Z,3.0nm,0.9s								
KIV					MLR	MLR			
	comp=Z,111nm,21.0s								
OBN	Obninsk	115.57	327	⇑*i* PKIKP		PKPdf		12 03 13.9	-0.6
OBN				*e*				12 04 15.9	
OBN				*e*PS		PKKPbc		12 13 44.6	-5.0
OBN					pmax	pmax			
	comp=Z,10.0nm,1.4s								
OBN					MLR	MLR			
	comp=Z,143nm,20.0s								
FINES	FINESS Array B	117.42	337	PKP		PKPdf		12 03 18.1	+0.2
	comp=Z,1.4nm,0.9s,baz=93,slow=5.6,SNR=3.5								
AKASG	Malin Array Be	121.44	325	PKP		PKPdf		12 03 25.0	-1.0
	comp=Z,0.8nm,0.5s,baz=60,slow=2.2,SNR=7.2								
AKBB	Malin Array Si	121.44	325	*e*PKPdf		PKPdf		12 03 26.9	+0.9
AKBB	Malin Array Si	121.44	325	*e*PKIKP		PKPdf		12 03 26.9	+0.9
KIEV	Kiev	121.45	325	*e*PKPdf		PKPdf		12 03 26.1	+0.1
KIEV	Kiev	121.45	325	⇑*i* PKIKP		PKPdf		12 03 26.0	0.0
AK11	Malin Array Si	121.48	325	*e*PKPdf		PKPdf		12 03 25.3	-0.8
BRTR	Keskin Array B	122.58	311	PKP		PKPdf		12 03 27.9	-0.9
	comp=Z,0.3nm,0.4s,baz=102,slow=26,SNR=3.1								
MMAI	Mount Meron Ar	122.78	303	PKP		PKPdf		12 03 29.8	+0.5
	comp=Z,0.3nm,0.2s,baz=308,slow=3.5,SNR=2.7								
NB2	NORSAR Subarra	122.95	342	PKPdf		PKPdf		12 03 28.2	-0.5
	comp=Z,5.6nm,1.0s,baz=37,slow=1.9								
NB2	NORSAR Subarra	122.95	342	PKPdf		PKPdf		12 03 28.2	-0.5
	baz=37,slow=1.9								
NOA	NORSAR Array B	122.95	342	PKP		PKPdf		12 03 27.7	-1.0
	comp=Z,0.5nm,0.8s,baz=354,slow=18,SNR=4.0								
NBO02	NORSAR Array S	123.05	342	*e*PKPdf		PKPdf		12 03 29.0	+0.2
KLNR	Kaliningrad	124.00	332	⇑*i* PKIKP		PKPdf		12 03 31.6	+0.8
BUR04	Bucovina Ar. S	125.21	323	*e*PKPdf		PKPdf		12 03 35.2	+1.8
KWP	Kalwaria Pacla	125.61	326	*e*PKP		PKPdf		12 03 43.7	+10
MLR	Muntele Rosu	125.75	320	*e*PKPdf		PKPdf		12 03 35.1	+0.4
MLR	Muntele Rosu	125.75	320	*e*PKIKP		PKPdf		12 03 35.1	+0.4
OJC	Ojcow	126.84	328	*e*PKP		PKPdf		12 03 37.5	+1.0
OJC	Ojcow	126.84	328	*e*PKIKP		PKPdf		12 03 37.4	+1.0
NIE	Niedzica	127.04	327	*e*PKP		PKPdf		12 03 38.1	+1.3
NIE	Niedzica	127.04	327	*e*PKIKP		PKPdf		12 03 38.1	+1.3
LPAZ	La Paz	127.19	118	PKP		PKPdf		12 03 38.8	-0.1
	comp=Z,2.4nm,0.9s,baz=62,slow=4.5,SNR=5.9								
LPAZ	La Paz	127.19	118	*e*PKPdf		PKPdf		12 03 39.6	+0.8
LPAZ	La Paz	127.19	118	*e*PKIKP		PKPdf		12 03 39.6	+0.8
KSP	Ksiaz	128.22	331	*e*PKP		PKPdf		12 03 40.0	+1.0
KSP	Ksiaz	128.22	331	*e*PKIKP		PKPdf		12 03 40.0	+1.0
MORC	Moravsky Berou	128.27	329	*e*PKPdf		PKPdf		12 03 40.1	+0.9
MORC	Moravsky Berou	128.27	329	*e*PKIKP		PKPdf		12 03 40.1	+0.9
VYHS	Vyhne	128.36	327	*e*PKP		PKPdf		12 03 40.2	+0.8
VYHS	Vyhne	128.36	327	*e*PKIKP		PKPdf		12 03 40.2	+0.8
DPC	Dobruska-Polom	128.53	330	*e*PKPdf		PKPdf		12 03 40.8	+1.1
DPC				*ex*		x		12 03 50.0	
DPC					AMS	AMS		13 07 00.0	
	comp=Z,200nm,20.7s								
DPC	Dobruska-Polom	128.53	330	*e*PKIKP		PKPdf		12 03 40.8	+1.1
DPC				*e*				12 03 50.0	
DPC					MLR	MLR			
	comp=Z,200nm,20.7s								
PVCC	Panska Ves	129.26

ESLA	**Sonseca Array**	**145.93**	**336**	*e*PKPdf	**PKPab**	**12 04 13.2**	**+0.1**
ESLA				*e*PKPbc	**PKPbc**	**12 04 13.7**	**+1.1**
PAB	**San Pablo**	**146.19**	**336**	*e*PKPdf	**PKPbc**	**12 04 13.7**	**+0.2**
PAB				*e*PKPbc	**PKPab**	**12 04 14.0**	**-0.2**
PAB	**San Pablo**	**146.19**	**336**	*e*PKP2	**PKPbc**	**12 04 13.7**	**+0.2**
PVIS	**Viseu**	**146.43**	**341**	*e*PKPab	**PKPab**	**12 04 14.8**	**-0.1**
MTE	**Manteigas**	**146.60**	**341**	*e*PKPab	**PKPab**	**12 04 15.6**	**0.0**
MTE	**Manteigas**	**146.60**	**341**	*e*PKPdf	**PKPdf**	**12 04 13.1**	**0.0**
PCBR	**Castelo Branco**	**147.09**	**340**	*e*PKPab	**PKPbc**	**12 04 16.4**	**+0.5**
PMRV	**Marv??o**	**147.43**	**340**	*e*PKPab	**PKPbc**	**12 04 17.7**	**+0.8**
PTOM	**Tomar**	**147.59**	**341**	*e*PKPbc	**PKPbc**	**12 04 18.1**	**+0.8**
PESTR	**Estremoz**	**148.00**	**340**	*e*PKPbc	**PKPbc**	**12 04 19.0**	**+0.5**
PESTR	**Estremoz**	**148.00**	**340**	*e*PKPdf	**PKPbc**	**12 04 17.6**	**-0.9**
PESTR				*e*PKPbc	**PKPab**	**12 04 19.0**	**+0.5**
PMTG	**Montargil**	**148.03**	**341**	*e*PKPbc	**PKPbc**	**12 04 17.9**	**-0.6**
ALMR	**Almeirim**	**148.06**	**341**	*e*PKPbc	**PKPbc**	**12 04 19.3**	**+0.7**
PBAR	**Barrancos**	**148.42**	**338**	*e*PKPbc	**PKPbc**	**12 04 20.0**	**+0.4**
EVO	**Evora**	**148.44**	**340**	*e*PKPbc	**PKPbc**	**12 04 20.3**	**+0.7**
H07S1	**FLORES T-PHASE**	**148.67**	**15**	*e*PKPdf	**PKPab**	**12 04 24.3**	**+0.5**
PBEJ	**Beja**	**148.84**	**339**	*e*PKPbc	**PKPbc**	**12 04 22.1**	**+1.4**
PNCL	**Nicolau / Gran**	**149.00**	**340**	*e*PKPbc	**PKPbc**	**12 04 21.9**	**+0.9**
PCVE	**Castro Verde**	**149.26**	**339**	*e*PKPbc	**PKPbc**	**12 04 22.8**	**+1.1**
PVAQ	**Vaqueiros**	**149.35**	**338**	*e*PKPbc	**PKPbc**	**12 04 22.9**	**+0.9**
PBDV	**Barranco-do-Ve**	**149.57**	**339**	*e*PKPbc	**PKPbc**	**12 04 24.3**	**+1.7**
PTEO	**Sao Teotonio**	**149.57**	**340**	*e*PKPbc	**PKPbc**	**12 04 23.4**	**+0.9**
PGRA	**Graciosa**	**149.70**	**10**	*e*PKPdf	**PKPbc**	**12 04 24.2**	**+1.4**
MORF	**Marmelete**	**149.76**	**340**	*e*PKPbc	**PKPbc**	**12 04 24.4**	**+1.3**
PCED	**Cedros**	**149.95**	**12**	*e*PKPdf	**PKPbc**	**12 04 23.2**	**-0.2**
ROSA	**Rosais**	**149.95**	**11**	*e*PKPdf	**PKPbc**	**12 04 24.4**	**+1.0**
ROSA	**Rosais**	**149.95**	**11**	*e*PKPdf	**PKPbc**	**12 04 22.8**	**-0.6**
ROSA				*e*PKPbc	**PKiKP**	**12 04 24.6**	**+0.2**
PFVI	**Vila Bisbo**	**149.98**	**340**	*e*PKPbc	**PKPbc**	**12 04 25.1**	**+1.6**
PFVI	**Vila Bisbo**	**149.98**	**340**	*e*PKPbc	**PKPbc**	**12 04 24.1**	**+0.6**
PMAN	**Manadas**	**150.07**	**11**	*e*PKPdf	**PKPbc**	**12 04 25.4**	**+1.7**
PICO	**Pico**	**150.13**	**11**	*e*PKPdf	**PKPbc**	**12 04 23.8**	**-0.1**
PCAN	**Candelaria**	**150.16**	**11**	*e*PKPdf	**PKPbc**	**12 04 21.8**	**-2.1**
ADH	**Angra Heroismo**	**150.19**	**9**	*e*PKPdf	**PKPbc**	**12 04 25.0**	**+1.0**
TAM	**Tamanrasset**	**150.95**	**301**	*e*PKPbc	**PKPbc**	**12 04 27.3**	**+0.9**
TAM	**Tamanrasset**	**150.95**	**301**	PKIKP	**PKPbc**	**12 04 27.4**	**+0.9**
PSET	**Sete Cidades**	**151.22**	**7**	*e*PKPdf	**PKPbc**	**12 04 27.7**	**+1.2**
CMLA	**Cha da Macela**	**151.31**	**7**	*e*PKPdf	**PKPbc**	**12 04 24.5**	**-2.2**
BART	**Pico Bartolome**	**151.33**	**6**	*e*PKPdf	**PKPbc**	**12 04 25.1**	**-1.7**
PSMN	**Pico do Norte,**	**152.11**	**6**	*e*PKPdf	**PKPbc**	**12 04 28.9**	**+0.4**
PSMA	**Santa Maria**	**152.11**	**7**	*e*PKPdf	**PKPbc**	**12 04 28.1**	**-0.4**
TOA0	**Torodi Ar. Sit**	**157.10**	**282**	*e*PKPdf	**PKPdf**	**12 04 29.9**	**+0.5**
TOA0				*e*PKPab	**PKPab**	**12 05 00.7**	**+0.7**
TORD	**Torodi Ar. Bea**	**157.10**	**282**	PKPbc	**PKPdf**	**12 04 29.2**	**-0.2**
	comp=Z,1.5nm,1.0s,baz=245,slow=0.6,SNR=4.3						
KOWA	**Kowa**	**162.28**	**289**	PKPab	**PKPab**	**12 05 22.5**	**0.0**
	comp=Z,7.7nm,0.9s,baz=14,slow=4.2,SNR=11						
KOWA	**Kowa**	**162.28**	**289**	*e*PKPab	**PKPab**	**12 05 22.7**	**+0.2**
DBIC	**Dimbokro**	**163.51**	**262**	PKPab	**PKPab**	**12 05 26.2**	**-1.8**
	comp=Z,1.2nm,0.6s,baz=320,slow=9.7,SNR=3.1						

ISN **22** *11:53:54.9±1.2,32.4′47N×46.9′94E,h17km±8km, ML3.0*
TEH **22** *11:53:55.6,32.5′53N×46.9′94E,h14km, ML3.0*
ISCJB **22** *11:53:56.4±0.9,32.4′40N±0.08′×46.8′80E±0.05,h20km, Error ellipse: s-maj=11.7km s-min=6.5km az=177.0*
CSEM **22** *11:53:56.9±0.4,32.5′31N×46.8′87E,h15km, ML3.0, Error ellipse: s-maj=18.8km s-min=7.9km az=2.0*

ISC 22 11:53:58.0±1.4,**32.6′46N**±0.09′×**46.8′86E**±0.06,**h20**km,**n13,**
σ0**^{s}72**/16,**Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IKFM	**Kafar-mosalman**	**1.35**	**38**	*e*Pg	**Pn**	**11 54 20.7**	**-1.0**
IKFM				*e*Sg	**Sb**	**11 54 38.8**	**-0.6**
IKFM				*e*AMB	AMB	11 54 44.1	
	comp=Z,99nm,0.2s						
SHGR	**Shooshtar-Gavs**	**1.69**	**102**	*e*Pg	**Pb**	**11 54 28.4**	**+0.1**
IKOM	**Komasi**	**1.79**	**18**	*e*Pn	**Pn**	**11 54 28.6**	**+0.6**
IKOM				*e*AMB	AMB	11 54 54.3	
	comp=Z,2μm,0.2s						
IGHG	**Ghaleghazi**	**1.88**	**353**	*e*Pn	**Pn**	**11 54 29.6**	**+0.4**
IGHG				*e*AMB	AMB	11 55 04.5	
	comp=Z,2μm,0.3s						
IVIS	**Veis**	**2.06**	**360**	*e*Pn	**Pn**	**11 54 31.6**	**0.0**
IVIS				*e*AMB	AMB	11 55 05.7	
	comp=Z,691nm,0.2s						
SNGE	**Sanandaj**	**2.65**	**9**	*e*Pn	**Pn**	**11 54 41.2**	**+1.3**
SNGE				*e*Sg	**Sb**	**11 55 17.1**	**-0.2**
KHMZ	**Khomeyn**	**2.90**	**63**	*e*Pn	**Pn**	**11 54 44.1**	**+0.9**
HAGD	**Aghdareh**	**3.03**	**38**	*e*Pn	**Pn**	**11 54 44.6**	**-0.4**
HAGD				*e*AMB	AMB	11 54 49.0	
	comp=Z,99nm,0.1s						
ASAO	**Ashtian**	**3.37**	**51**	*e*Pn	**Pn**	**11 54 50.6**	**+0.9**
IKLH	**Kolahrood**	**4.06**	**77**	*e*Pn	**Pn**	**11 55 00.2**	**+0.9**
IKLH				*e*AMB	AMB	11 55 02.6	
	comp=Z,275nm,0.1s						
IZEF	**Zefreh**	**4.63**	**83**	*e*AMB	AMB	11 55 12.0	
	comp=Z,113nm,0.1s						
IZEF				*e*Pn	**Pn**	**11 55 07.1**	**-0.1**
IRAM	**Ramesheh**	**4.73**	**96**	*e*Pn	**Pn**	**11 55 08.4**	**-0.1**
IRAM				*e*AMB	AMB	11 56 07.9	
	comp=Z,69nm,0.2s						
RTB	**Rutbah**	**5.55**	**278**	*e*Pn	**Pn**	**11 55 20.0**	**+0.5**
	SNR=5.0						
RTB				Sn	**Sn**	**11 56 22.0**	**-0.7**
	SNR=5.0						

ISCJB **22** *12:02:43.4±0.9,37.2′29N±0.04′×38.8′58E±0.03,h0km±7km, Error ellipse: s-maj=6.0km s-min=4.6km az=168.4*
ISK **22** *12:02:43.2,37.2′32N×38.6′61E,h6km, ML2.6/7*
CSEM **22** *12:02:44.1±0.2,37.2′30N×38.6′60E,h8km, ML2.6, Error ellipse: s-maj=5.5km s-min=4.3km az=142.0*
DDA **22** *12:02:44.4,37.2′29N×38.6′64E,h7km, Ml3.3*

ISC 22 12:02:44.1±1.3,**37.2′32N**±0.03′×**38.6′60E**±0.02,**h1**km±11km,
n32,σ0**^{s}74/45,Turkey**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URFA	**Urfa**	**0.21**	**55**	PG	**Pg**	**12 02 47.9**	**-0.3**
URFA	**Urfa**	**0.21**	**55**	*e*Pg	**Pg**	**12 02 47.9**	**-0.3**
ATAB	**Bozova**	**0.29**	**301**	*i*P	Pg	12 02 43.7	-5.8
ATAB				*e*Sg	**Sg**	**12 02 52.8**	**-0.5**
SURC	**SANLIURFA_SURC**	**0.44**	**179**	*i*P	**Pg**	**12 02 52.8**	**+0.3**
SURC				*i*Sb	Sb	12 03 19.1	+17
SURC	**SANLIURFA_SURC**	**0.44**	**179**	P	**Pg**	**12 02 52.8**	**+0.3**
MALT	**Malatya**	**1.00**	**352**	PG	**Pg**	**12 03 03.1**	**-0.2**
MALT				SG	**Sg**	**12 03 17.2**	**+0.9**
MALT	**Malatya**	**1.00**	**352**	*e*Pg	**Pg**	**12 03 03.1**	**-0.2**
MALT				*e*Sg	**Sg**	**12 03 17.2**	**+0.9**
AKCD	**Akcadag**	**1.11**	**331**	*i*P	**Pn**	**12 03 06.3**	**-0.6**
AKCD				*i*S	**Sn**	**12 03 23.3**	**+0.3**
AKCD	**Akcadag**	**1.11**	**331**	P	**Pn**	**12 03 06.3**	**-0.6**
AKCD				S	**Sn**	**12 03 23.3**	**+0.3**
GAZ	**Gaziantep**	**1.12**	**263**	PN	**Pg**	**12 03 05.2**	**-0.3**
GAZ				SN	**Sb**	**12 03 20.9**	**-0.4**
GAZ	**Gaziantep**	**1.12**	**263**	*e*Pn	**Pg**	**12 03 05.2**	**-0.3**
GAZ				*e*Sn	**Sb**	**12 03 20.9**	**-0.4**
ELZG	**Elazig**	**1.21**	**14**	*i*P	**Pn**	**12 03 08.6**	**+0.3**
ELZG				*i*S	**Sb**	**12 03 24.4**	**+0.2**
ELZG	**Elazig**	**1.21**	**14**	P	**Pn**	**12 03 08.6**	**+0.3**
ELZG				S	**Sb**	**12 03 24.4**	**+0.2**
KUZU	**Kuzuini**	**1.34**	**246**	*i*P	**Pn**	**12 03 09.1**	**-0.8**
KUZU				*i*S	**Sn**	**12 03 29.8**	**+1.5**
KUZU	**Kuzuini**	**1.34**	**246**	P	**Pn**	**12 03 09.1**	**-0.8**
KUZU				S	**Sn**	**12 03 29.8**	**+1.5**
DIYA	**Diyarbakir**	**1.35**	**63**	*i*P	**Pg**	**12 03 10.8**	**+0.9**
DIYA				*i*S	**Sn**	**12 03 28.9**	**+0.3**
DIYA	**Diyarbakir**	**1.35**	**63**	P	**Pg**	**12 03 10.8**	**+0.9**
DIYA				S	**Sn**	**12 03 28.9**	**+0.3**
KMRS	**Kahramanmaras**	**1.37**	**278**	PN	**Pn**	**12 03 09.6**	**-0.7**
KMRS	**Kahramanmaras**	**1.37**	**278**	*e*Pn	**Pn**	**12 03 09.6**	**-0.7**
DYBB	**Diyarbakir**	**1.38**	**62**	PN	**Pn**	**12 03 09.5**	**-0.9**
DIY	**Diyarbakir**	**1.41**	**66**	*e*Pn	**Pn**	**12 03 09.5**	**-1.5**
MAZI	**Mazidag**	**1.48**	**84**	PN	**Pn**	**12 03 10.9**	**-1.0**
MAZI	**Mazidag**	**1.48**	**84**	*e*Pn	**Pn**	**12 03 10.9**	**-1.0**
DARE	**Darende-Malaty**	**1.53**	**325**	PN	**Pn**	**12 03 11.8**	**-0.8**
DARE	**Darende-Malaty**	**1.53**	**325**	*e*Pn	**Pn**	**12 03 11.8**	**-0.8**
PTK	**Pertek**	**1.69**	**21**	PN	**Pn**	**12 03 13.9**	**-1.0**
PTK	**Pertek**	**1.69**	**21**	*e*Pn	**Pn**	**12 03 13.9**	**-1.0**
MARD	**Mardin**	**1.74**	**90**	*i*P	**Pn**	**12 03 15.4**	**-0.1**
MARD				*i*S	**Sb**	**12 03 37.9**	**-1.2**
KOZT	**Kozan**	**2.21**	**275**	PN	**Pn**	**12 03 21.8**	**-0.1**
KOZT	**Kozan**	**2.21**	**275**	*e*Pn	**Pn**	**12 03 21.8**	**-0.1**
YAYL	**Yayladag**	**2.38**	**238**	PN	**Pn**	**12 03 23.9**	**-0.4**
YAYL	**Yayladag**	**2.38**	**238**	*e*Pn	**Pn**	**12 03 23.9**	**-0.4**

ISCJB **22** *12:19:11.2±1.0,34.4′45N±0.07′×70.0′0E±0.2,h63km, mb3.6/4, Error ellipse: s-maj=22.3km s-min=9.6km az=2.6*
NNC **22** *12:19:12.7±3.2,34.5′72N×69.7′7E,h0km, mb3.9, mpv3.6, Error ellipse: s-maj=34.6km s-min=23.6km az=114.0*
IDC **22** *12:19:14.0±7.8,34.4′48N×70.2′7E,h72km±62km, mb3.3/4, mb1 3.4/9, mb1mx3.1/71, mbtmp3.5/9, ML3.4/5, Error ellipse: s-maj=63.3km s-min=30.5km az=58.0*

ISC 22 12:19:12.3±1.4,**34.4′N**±0.1′×**70.0′E**±0.2,**h63**km,**n12,**
σ1^{s}**27/16,mb3.6/4,4C-2D,Southeastern Afghanistan**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SFK	**Sufi-Kurgan**	**6.28**	**25**	⇓Pn	**Pn**	**12 20 43.4**	**+1.0**
	5.0nm,0.4s						
SFK				⇓Sn	**Sn**	**12 21 55.9**	**+3.1**
	2.9nm,0.2s						
MNAS	**Manas**	**8.33**	**13**	⇑Pn	**Pn**	**12 21 10.6**	**+0.1**
	1.6nm,0.7s						
MNAS				⇑Sn	**Sn**	**12 22 43.2**	**+0.2**
	2.5nm,0.4s						
KK31	**Karatay Array**	**8.72**	**2**	⇑Pn	**Pn**	**12 21 16.6**	**+0.9**
	0.6nm,0.3s,baz=184,slow=12,SNR=13						
KK31				⇑Sn	**Sn**	**12 22 52.4**	**0.0**
	1.1nm,0.4s,baz=193,slow=25,SNR=4.5						
AAK	**Ala-Archa**	**8.96**	**22**	P	**Pn**	**12 21 18.3**	**-0.8**
	0.5nm,0.3s,baz=121,slow=5.9,SNR=3.1						
AAK				S	**Sn**	**12 22 55.8**	**-2.7**
	0.1nm,0.3s,baz=142,slow=19,SNR=3.2						
MKAR	**Makanchi Array**	**15.49**	**33**	P	**Pn**	**12 22 46.8**	**0.0**
	0.2nm,0.3s,baz=205,slow=10.0,SNR=6.6						
KURBB	**Kurchatov Arra**	**17.39**	**18**	P	**Pn**	**12 23 10.0**	**-0.4**
	0.1nm,0.3s,baz=210,slow=9.1,SNR=3.0						
AKTO	**Aktyubinsk**	**18.29**	**335**	P	**P**	**12 23 21.1**	**+0.2**
	0.2nm,0.3s,baz=129,slow=6.5,SNR=3.4						
BVAR	**Borovoye Array**	**18.64**	**1**	P	**Pn**	**12 23 25.5**	**-0.3**
	0.2nm,0.3s,baz=172,slow=11,SNR=3.1						
ZALV	**Zalesovo Beam**	**22.18**	**24**	P	**P**	**12 24 01.8**	**-1.1**
	0.8nm,0.3s,baz=230,slow=9.1,SNR=3.7						
WRA	**Warramunga Arr**	**81.57**	**121**	P	**P**	**12 31 23.2**	**-0.2**
	0.6nm,0.8s,baz=319,slow=5.3,SNR=2.3						
YKA	**Yellowknife Ar**	**83.39**	**2**	P	**P**	**12 31 32.5**	**+0.2**
	0.3nm,0.6s,baz=350,slow=5.3,SNR=9.1						
ASAR	**Alice Springs**	**83.72**	**124**	P	**P**	**12 31 35.0**	**+0.4**
	0.7nm,1.0s,baz=314,slow=4.7,SNR=4.6						

ISCJB **22** *12:20:43.3±1.8,52.7′76S±0.03′×140.4′4E±0.06,h1km±11km, mb5.2/74, MS4.8/43, Error ellipse: s-maj=6.0km s-min=5.3km az=149.2*
BJI **22** *12:20:44.5,52.7′70S×140.3′0E,h9km, mb5.1/26, mB5.5/18, Ms5.1/16, Ms7 4.9/16*
IDC **22** *12:20:44.4±0.4,52.7′74S×140.5′9E,h0km, mb5.1/22, mb1 5.1/22, mb1mx4.9/42, mbtmp5.1/22, MS4.8/34, Ms1 4.8/34, ms1mx4.7/36, Error ellipse: s-maj=16.2km s-min=10.5km az=91.0*
MOS **22** *12:20:46.0±1.3,52.5′59S×140.4′6E,h10km, mb5.4/22, MS4.7/4, Error ellipse: s-maj=20.9km s-min=8.3km az=86.7*
NEIC **22** *12:20:46.1±0.5,52.7′75S×140.5′3E,h9km±3km, mb5.2/54, Error ellipse: s-maj=4.5km s-min=4.1km az=211.0*
GCMT **22** *12:20:46.1±0.1,52.8′82S×140.2′2E,h12km, MW5.4/131, Moment Tensor Solution. s108,c172; s131,c230; Duration: 1s2 Moment tensor: Scale 10^{17}Nm; Mrr-0.05±.02; Mθθ0.14±.02; Mϕϕ-0.09±.02; Mrθ-0.20±.04; Mθϕ-1.43±.01; Mϕr0.00±.04; Best double couple: Mo1.44800×10^{17} NP1:ϕs268.00000°,δ90.00000°, λ172.00000°. NP2:ϕs358.00000°,δ82.00000°,λ0.00000°. Principal axes: T 1.4720, Plg6.0000°, Azm222.0000°; N -0.0470, Plg82.0000°, Azm87.0000°; P -1.4250, Plg5.0000°, Azm313.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 22 12:20:46.8±0.6,**52.8OS**±0.05′×**140.7′54E**±0.05,**h13**km±3km,
h13km:**pP-P,n731,**σ1^{s}**15**/649,**mb5.2**/74,**MS4.8**/44,
18C-18D,West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TAU	**Tasmania Unive**	**10.88**	**27**	*e*Pn	**Pn**	**12 23 22.6**	**+0.5**
TAU	**Tasmania Unive**	**10.88**	**27**	*e*P	**Pn**	**12 23 22.6**	**+0.5**
MCQ	**Macquarie Isla**	**11.06**	**106**	*e*Pn	**Pn**	**12 23 24.9**	**+0.4**
MCQ	**Macquarie Isla**	**11.06**	**106**	*e*P	**Pn**	**12 23 24.9**	**+0.4**
MOO	**Moorlands**	**11.28**	**26**	P	**Pn**	**12 23 30.8**	**+3.3**
	baz=11,SNR=3.6						
TOO	**Toolangi**	**15.61**	**15**	P	**Pn**	**12 24 26.2**	**-0.2**
	baz=15,SNR=17						
ARPS	**Mount Arapiles**	**16.05**	**4**	P	**Pn**	**12 24 31.8**	**-0.2**
	baz=16,SNR=8.3						
MILA	**Mila**	**16.86**	**24**	P	**Pn**	**12 24 42.4**	**0.0**
	baz=17,SNR=8.1						
PYZ	**Pyusegur Point**	**18.17**	**79**	*e*P	**P**	**12 24 59.8**	**+1.0**
	70nm,1.0s						
CAN	**Canberra**	**18.47**	**22**	P	**Pn**	**12 25 03.5**	**+1.2**
	baz=18						
CAN	**Canberra**	**18.47**	**22**	*e*P	**P**	**12 25 01.7**	**-0.5**
	19nm,0.9s						
CAN	**Canberra**	**18.47**	**22**	*e*P	**P**	**12 25 01.7**	**-0.5**
CAN				pmax	pmax		
	comp=Z,19nm,0.9s						
CNB	**Canberra Magne**	**18.56**	**23**	P	**Pn**	**12 25 05.5**	**+2.0**
	baz=18,SNR=11						
DCZ	**Deep Cove**	**18.82**	**78**	*e*P	**P**	**12 25 05.5**	**-0.4**
	comp=Z,74nm,1.1s						
WHZ	**Wether Hill Ro**	**19.07**	**80**	*e*P	**Pn**	**12 25 11.1**	**+1.6**
	comp=Z,68nm,1.2s						
YNG	**Young**	**19.32**	**20**	P	**P**	**12 25 10.4**	**-1.1**
	baz=19,SNR=8.5						
HTT	**Hallett**	**19.39**	**356**	P	**P**	**12 25 12.6**	**+0.2**
	baz=19,SNR=6.2						
MLZ	**Mavora Lakes**	**19.44**	**79**	*e*P	**Pn**	**12 25 14.8**	**+0.8**
	comp=Z,118nm,1.1s						
CASY	**Casey**	**20.06**	**216**	*e*P	**P**	**12 25 18.8**	**-0.5**
	comp=Z,190nm,0.9s						
BBOO	**Buckleboo**	**20.24**	**349**	*e*P	**P**	**12 25 20.6**	**-0.9**
	comp=Z,54nm,0.9s						
WKZ	**Wanaka**	**20.27**	**78**	*e*P	Pn	12 25 24.4	+0.5
	comp=Z,82nm,1.0s						
STKA	**Stephens Creek**	**20.92**	**3**	P	**P**	**12 25 28.0**	**-0.9**
	comp=Z,32nm,1.1s,baz=171,slow=12,SNR=16						
STKA				LR	LR	12 32 24.7	
	comp=Z,1μm,19.0s,baz=182,slow=34						
STKA	**Stephens Creek**	**20.92**	**3**	P	**P**	**12 25 29.0**	**+0.1**
	baz=21,SNR=12						
STKA	**Stephens Creek**	**20.92**	**3**	*e*P	**P**	**12 25 28.5**	**-0.4**
	comp=Z,9.5nm,1.0s						
STKA	**Stephens Creek**	**20.92**	**3**	*e*P	**P**	**12 25 28.5**	**-0.4**
MGCD	**Mangrove Creek**	**21.00**	**25**	P	**P**	**12 25 31.2**	**+1.5**
	baz=21,SNR=5.5						
ODZ	**Otahua Downs**	**21.13**	**81**	*e*P	**P**	**12 25 32.2**	**+1.2**
	comp=Z,62nm,1.2s						
LBZ	**Lake Benmore**	**21.21**	**79**	*e*P	**P**	**12 25 33.6**	**+1.7**
	comp=Z,116nm,1.2s						
FOZ	**Fox Glacier**	**21.48**	**76**	*e*P	**P**	**12 25 35.9**	**+1.0**
	comp=Z,37nm,1.2s						
CMSA	**Cobar Meteorol**	**21.57**	**12**	P	**P**	**12 25 36.0**	**+0.1**
	baz=21,SNR=36						
RPZ	**Rata Peaks**	**22.11**	**78**	P	**P**	**12 25 42.0**	**+0.4**
	comp=Z,138nm,1.2s,baz=49,slow=15,SNR=18						
RPZ				LR	LR	12 32 29.0	
	comp=Z,6μm,20.3s,baz=238,slow=32						
RPZ	**Rata Peaks**	**22.11**	**78**	*e*P	**P**	**12 25 42.9**	**+1.3**
	comp=Z,119nm,1.0s						
OXZ	**Oxford**	**22.92**	**78**	*e*P	**P**	**12 25 51.2**	**+1.0**
	comp=Z,35nm,1.2s						
LTZ	**Lake Taylor**	**23.37**	**77**	*e*P	**P**	**12 25 54.8**	**-0.2**
	comp=Z,42nm,1.0s						
ARMA	**Armidale**	**23.79**	**24**	P	**P**	**12 25 59.7**	**+0.6**
	baz=24,SNR=8.1						
ARMA	**Armidale**	**23.79**	**24**	*e*P	**P**	**12 25 59.1**	**-0.1**
	comp=Z,51nm,1.1s						
FORT	**Forrest**	**23.82**	**333**	P	**P**	**12 25 60.0**	**+0.7**
	baz=24,SNR=9.1						
FORT	**Forrest**	**23.82**	**333**	*e*P	**P**	**12 25 57.8**	**-1.5**
	comp=Z,3μm,0.8s						
KHZ	**Kahutara**	**24.34**	**78**	*e*P	**P**	**12 26 05.7**	**+1.6**
	comp=Z,96nm,1.0s						
THZ	**Tophouse**	**24.36**	**76**	*e*P	**P**	**12 26 05.2**	**+0.8**
	comp=Z,71nm,1.0s						
RKGY	**Rocky Gully**	**24.73**	**308**	P	**P**	**12 26 08.0**	**+0.4**
	baz=24,SNR=5.9						
KMBL	**Kambalda**	**25.36**	**320**	P	**P**	**12 26 12.7**	**-0.7**
	baz=25						
H01W1	**Cape Leeuwin H**	**25.90**	**303**	T	T	12 53 05.2	
	baz=141,slow=75,SNR=82						
H01W2	**Cape Leeuwin H**	**25.90**	**303**	T	T	12 53 02.7	
	baz=141,slow=75,SNR=70						
H01W3	**Cape Leeuwin H**	**25.91**	**303**	T	T	12 53 05.4	
	baz=141,slow=75,SNR=62						
NWAO	**Narrogin (SRO)**	**25.99**	**311**	P	**P**	**12 26 17.8**	**-1.2**
	comp=Z,16nm,0.9s,baz=293,slow=0.4,SNR=4.3						
NWAO				LR	LR	12 34 05.6	
	comp=Z,4μm,20.6s,baz=13,slow=31						
NWAO	**Narrogin (SRO)**	**25.99**	**311**	P	**P**	**12 26 17.9**	**-1.2**
	baz=26						
NWAO				P	**P**	**12 26 17.9**	**-1.2**
	baz=26						
VNDA	**Vanda**	**26.03**	**170**	P	**P**	**12 26 18.9**	**-0.2**
	comp=Z,72nm,0.8s,baz=324,slow=10,SNR=70						
VNDA				LR	LR	12 34 36.1	
	comp=Z,2μm,19.2s,baz=340,slow=32						
VNDA	**Vanda**	**26.03**	**170**	*e*P	**P**	**12 26 18.9**	**-0.2**
	comp=Z,104nm,1.0s						
VNDA	**Vanda**	**26.03**	**170**	*e*P	**P**	**12 26 18.9**	**-0.2**
VNDA				pmax	pmax		
	comp=Z,104nm,1.0s						
QLP	**Quilpie**	**26.33**	**7**	P	**P**	**12 26 22.7**	**+0.5**
	baz=26,SNR=47						
MIR	**Mirnyy**	**26.85**	**221**	*e*P	**P**	**12 26 29.0**	**+2.5**
MIR				pmax	pmax		
	comp=Z,105nm,1.0s						
KLBR	**Kellerberrin**	**26.88**	**313**	P	**P**	**12 26 26.9**	**-0.3**
	baz=27,SNR=5.4						
SBA	**Scott Base**	**26.89**	**168**	*e*P	**P**	**12 26 27.8**	**+1.0**
	comp=Z,89nm,1.0s						
SBA	**Scott Base**	**26.89**	**168**	*e*P	**P**	**12 26 27.8**	**+1.0**
SBA				pmax	pmax		
	comp=Z,89nm,1.0s						
RMQ	**Roma**	**26.99**	**16**	P	**P**	**12 26 28.3**	**+0.2**
	baz=27,SNR=12						
BFZ	**Birch Farm**	**27.01**	**78**	*e*P	**P**	**12 26 29.9**	**+1.7**
	comp=Z,44nm,1.0s						
MUN	**Mundaring**	**27.26**	**310**	P	**P**	**12 26 30.3**	**-0.3**
	baz=27,SNR=5.4						
BKZ	**Black Stump Fm**	**28.12**	**75**	*e*P	**P**	**12 26 38.4**	**+0.1**
	comp=Z,16nm,1.2s						
EIDS	**Eidsvold**	**28.52**	**20**	P	**P**	**12 26 41.9**	**0.0**
	baz=28,SNR=6.8						
EIDS	**Eidsvold**	**28.52**	**20**	*e*P	**P**	**12 26 41.5**	**-0.4**
	comp=Z,17nm,1.0s						
URZ	**Urewera**	**29.09**	**75**	P	**P**	**12 26 45.8**	**-1.0**
	comp=Z,33nm,0.9s,baz=274,slow=4.1,SNR=10						
URZ				LR	LR	12 37 42.6	
	comp=Z,3μm,18.4s,baz=218,slow=35						
URZ	**Urewera**	**29.09**	**75**	*e*P	**P**	**12 26 46.1**	**-0.6**
	comp=Z,69nm,1.1s						
WRKA	**Warakurna**	**29.23**	**337**	P	**P**	**12 26 46.4**	**-1.8**
	baz=29,SNR=8.9						
AS01	**Alice Springs**	**29.52**	**348**	*e*P	**P**	**12 26 49.0**	**-1.8**
ASAR	**Alice Springs**	**29.52**	**348**	P	**P**	**12 26 49.2**	**-1.6**
	comp=Z,21nm,1.1s,baz=166,slow=11,SNR=56						
ASAR				PcP	**PcP**	**12 29 54.8**	**-1.0**
	comp=Z,2.7nm,0.8

NLAI	**Namlea**	**50.63**	**343**	P		**P**		**12 29 44.8**	**-0.7**
	comp=Z,50nm,1.3s,comp=Z,582nm								
MANU	**Manus Island**	**50.90**	**9**	*e*P		**P**		**12 29 46.6**	**-0.9**
	comp=Z,23nm,1.1s								
BNSI	**Bone**	**51.10**	**333**	P		**P**		**12 29 50.2**	**+1.2**
	comp=Z,28nm,2.1s,comp=Z,815nm								
NVL	**N'lazarevskaya**	**51.41**	**199**	*e*P		**P**		**12 29 48.7**	**-2.0**
NVL				pmax		pmax			
	comp=Z,38nm,0.9s								
SANI	**Sanana**	**52.01**	**341**	P		**P**		**12 29 53.8**	**-1.9**
	comp=Z,19nm,1.5s								
KPJI	**Karang Pucung**	**52.14**	**319**	P		**P**		**12 29 58.6**	**+1.8**
SIJI	**Sorong**	**52.32**	**348**	LR		LR		12 53 22.0	
	comp=Z,412nm,20.3s,baz=164,slow=37								
LBMI	**Labuha**	**53.11**	**344**	P		**P**		**12 30 03.0**	**-0.9**
LEM	**Lembang**	**53.13**	**318**	P		**P**		**12 30 05.2**	**+0.9**
	comp=Z,37nm,0.6s,baz=148,slow=13,SNR=12								
LEM				LR		LR		12 50 16.1	
	comp=Z,931nm,20.9s,baz=156,slow=33								
SNAA	**Sanae**	**53.16**	**194**	P		**P**		**12 30 04.2**	**+0.4**
SNAA	**Sanae**	**53.16**	**194**	P		**P**		**12 30 03.5**	**-0.3**
	comp=Z,34nm,1.1s,baz=143,slow=9.1,SNR=25								
SNAA				LR		LR		12 51 59.7	
	comp=Z,3µm,21.0s,baz=150,slow=35								
SNAA	**Sanae**	**53.16**	**194**	*e*P		**P**		**12 30 03.0**	**-0.8**
	comp=Z,32nm,1.0s								
SNAA	**Sanae**	**53.16**	**194**⇩	*e*P		**P**		**12 30 03.3**	**-0.5**
KBKI	**Kotabaru**	**53.30**	**329**	P		**P**		**12 30 05.8**	**+0.5**
BBKI	**Banjar Baru**	**53.57**	**327**	P		P		12 30 18.6	+11
LUWI	**Luwuk**	**53.66**	**338**	P		**P**		**12 30 07.7**	**-0.3**
LUWI	**Luwuk**	**53.66**	**338**	*e*P		**P**		**12 30 07.3**	**-0.7**
	comp=Z,73nm,1.1s								
APSI	**Ampana**	**54.06**	**336**	P		**P**		**12 30 10.4**	**-0.5**
AFI	**Afiamalu**	**54.07**	**62**	LR		LR		12 48 54.2	
	comp=Z,981nm,21.9s,baz=204,slow=31								
VNA3	**Neumayer Olymp**	**54.46**	**191**	P		**P**		**12 30 12.3**	**-0.9**
VNA2	**Neumayer--Watz**	**54.47**	**192**	P		**P**		**12 30 12.4**	**-0.8**
	baz=154,slow=6.8								
VNA1	**Neumayer--Stat**	**54.83**	**192**	P		**P**		**12 30 16.2**	**+0.4**
RAR	**Rarotonga**	**55.12**	**79**	LR		LR		12 49 20.5	
	comp=Z,360nm,20.5s,baz=224,slow=31								
MRSI	**Marisa**	**55.33**	**337**	P		**P**		**12 30 16.3**	**-3.8**
KASI	**Kota Agung**	**55.62**	**315**	P		**P**		**12 30 21.6**	**-0.6**
MPSI	**Mapaga**	**55.70**	**335**	P		**P**		**12 30 22.3**	**-0.4**
MTKI	**Muara Teweh, K**	**55.92**	**328**	P		**P**		**12 30 25.4**	**+1.0**
MDSI	**Maura Dua**	**56.69**	**315**	P		**P**		**12 30 29.9**	**+0.1**
STKI	**Sintang**	**58.01**	**325**	P		**P**		**12 30 39.7**	**+0.6**
DAV	**Davao City (W)**	**60.98**	**343**	LR		LR		12 57 50.0	
	comp=Z,250nm,19.4s,baz=166,slow=36								
BKNI	**Bangkinang**	**62.35**	**314**	*e*P		**P**		**12 31 08.3**	**-0.6**
	comp=Z,44nm,0.4s								
MNSI	**Mandailing Nat**	**63.41**	**313**	P		**P**		**12 31 15.7**	**-0.3**
PPT2	**Papeete2**	**64.03**	**85**	*e*S		**S**		**12 39 55.9**	**-0.4**
	comp=Z,463nm,28.5s								
PPT2				*e*LQ		LQ		12 47 34.3	
	comp=Z,3µm,29.0s								
PPT2				*e*LR		LR		12 50 23.8	
	comp=Z,1µm,29.0s,baz=215								
PPT	**Papeete**	**64.05**	**85**	LR		LR		12 53 45.8	
	comp=Z,216nm,20.2s,baz=230,slow=31								
TIAR	**Tiarei**	**64.19**	**85**	*e*P		**P**		**12 31 23.4**	**+2.2**
	comp=Z,22nm,1.0s								
GSI	**Gunungsitoli**	**64.77**	**311**	P		**P**		**12 31 25.8**	**+0.9**
GSI	**Gunungsitoli**	**64.77**	**311**	*e*P		**P**		**12 31 26.1**	**+1.2**
	comp=Z,24nm,1.0s								
IPM	**Ipoh**	**66.08**	**316**	*e*P		**P**		**12 31 32.1**	**-1.3**
	comp=Z,42nm,1.1s								
GUMO	**Guam**	**66.22**	**5**	LR		LR		12 58 55.6	
	comp=Z,341nm,21.2s,baz=182,slow=35								
TPTI		**66.68**	**312**	P		P		12 31 49.1	+12
KULM	**Kulim**	**66.97**	**316**	*e*P		**P**		**12 31 38.4**	**-0.7**
	comp=Z,57nm,1.1s								
MLSI	**Meulaboh, Aceh**	**67.92**	**311**	P		**P**		**12 31 45.0**	**-0.1**
RKT	**Rikitea**	**68.66**	**100**	*e*LQ		LQ		12 49 30.5	
	comp=Z,1µm,30.5s								
RKT				*e*LR		LR		12 52 32.3	
	comp=Z,879nm,27.8s,baz=222								
SKLT	**Songkhla**	**68.68**	**317**	P		P		12 31 54.9	+5.1
TGY	**Tagaytay City**	**68.74**	**340**	LR		LR		13 02 10.6	
	comp=Z,358nm,20.6s,baz=165,slow=36								
H08S2	**Diego Garcia H**	**70.73**	**283**	T		T		13 48 51.8	
	baz=143,slow=76,SNR=46								
H08S1	**Diego Garcia H**	**70.74**	**283**	T		T		13 49 05.3	
	baz=143,slow=76,SNR=38								
H08S3	**Diego Garcia H**	**70.75**	**283**	T		T		13 48 53.3	
	baz=143,slow=76,SNR=45								
H08N1	**Diego Garcia H**	**72.65**	**283**	T		T		13 51 06.1	
	baz=152								
H08N3	**Diego Garcia H**	**72.66**	**283**	T		T		13 51 11.2	
	baz=152								
H08N2	**Diego Garcia H**	**72.67**	**283**	T		T		13 51 08.0	
	baz=152								
GO09	**Cerro Castillo**	**72.67**	**159**	*e*P		**P**		**12 32 13.9**	**+0.2**
	comp=Z,33nm,1.0s								
QIZ	**Qiongzhong**	**76.32**	**330**	P		**P**		**12 32 36.8**	**+1.6**
QIZ				S		**S**		**12 42 23.8**	**+4.2**
QIZ				pmax		pmax			
	comp=Z,7.0nm,1.3s								
QIZ				LR		LR			
	comp=Z,130nm,14.3s								
QIZ				LR		LR			
	comp=Z,310nm,33.8s								
TAOE	**Nuku Hiva Isla**	**76.54**	**87**	*e*LR		LR		12 55 54.0	
	comp=Z,636nm,32.7s								
ABPO	**Ambohimpanom**	**77.05**	**256**	*i* P		**P**		**12 32 41.3**	**+1.5**
OPO	**Ambohidratompo**	**77.42**	**256**	LR		LR		13 01 04.0	
	comp=Z,858nm,18.1s,baz=162,slow=31								
PALK	**Pallekele**	**78.30**	**299**	LR		LR		13 02 55.8	
	comp=Z,906nm,18.6s,baz=105,slow=32								
CM01	**Chiang Mai Arr**	**79.53**	**320**	*e*P		**P**		**12 32 52.9**	**-0.2**
CMAR	**Chiang Mai Arr**	**79.57**	**320**	P		**P**		**12 32 53.5**	**+0.2**
	comp=Z,4.5nm,0.9s,baz=174,slow=4.6,SNR=26								
CMAR				LR		LR		13 07 02.2	
	comp=Z,589nm,20.2s,baz=178,slow=35								
CHTO	**Chiang Mai**	**79.90**	**320**	*e*P		**P**		**12 32 55.1**	**0.0**
	comp=Z,23nm,1.1s								
CHTO	**Chiang Mai**	**79.90**	**320**	*e*P		**P**		**12 32 55.1**	**0.0**
CHTO				pmax		pmax			
	comp=Z,23nm,1.1s								
RPN	**Rapa Nui**	**79.97**	**122**	LR		LR		13 00 11.9	
	comp=Z,738nm,20.7s,baz=216,slow=30								
JOW	**Kunigami**	**80.01**	**349**	LR		LR		13 07 30.2	
	comp=Z,219nm,20.8s,baz=161,slow=35								
SUR	**Sutherland**	**80.29**	**228**	P		**P**		**12 32 58.7**	**+1.2**
	comp=Z,3.0nm,0.9s,baz=243,slow=3.5,SNR=8.0								
SUR	**Sutherland**	**80.29**	**228**	*e*P		**P**		**12 32 57.8**	**+0.3**
	comp=Z,78nm,1.1s								
BOSA	**Boshof**	**81.35**	**234**	P		**P**		**12 33 03.2**	**+0.1**
	comp=Z,14nm,1.1s,baz=194,slow=7.7,SNR=6.5								
BOSA				LR		LR		13 01 28.7	
	comp=Z,1µm,21.7s,baz=161,slow=30								
PLCA	**Paso Flores**	**83.03**	**157**	P		**P**		**12 33 11.5**	**-0.2**
	comp=Z,5.2nm,1.0s,baz=218,slow=12,SNR=5.8								
PLCA				LR		LR		13 03 58.9	
	comp=Z,416nm,19.2s,baz=221,slow=31								
PLCA	**Paso Flores**	**83.03**	**157**	*e*P		**P**		**12 33 11.7**	**0.0**
	comp=Z,8.6nm,1.1s								
PLCA	**Paso Flores**	**83.03**	**157**	*e*P		**P**		**12 33 11.7**	**0.0**
PLCA				pmax		pmax			
	comp=Z,9.0nm,1.1s								
LBTB	**Lobatse**	**84.16**	**236**	P		**P**		**12 33 17.9**	**+0.1**
	comp=Z,11nm,1.1s,baz=129,slow=6.7,SNR=4.9								
GYA	**Guiyang**	**84.27**	**330**	*e*P		**P**		**12 33 20.4**	**+2.4**
GYA				PP		**PP**		**12 36 37.8**	**+4.7**
GYA				SKS		**S**		**12 43 40.3**	**-2.7**
GYA				S		**SKKSac**		**12 43 45.5**	**-0.9**
GYA				pmax		pmax			
	comp=Z,20nm,1.0s								
GYA				pmax		pmax			
	comp=Z,130nm,6.2s								
KMI	**Kunming**	**84.29**	**326**	P		**P**		**12 33 20.3**	**+2.0**
KMI				pP		sP		12 33 23.6	-0.6
KMI				sP		pP		12 33 24.8	+2.2
KMI				PP		**PP**		**12 36 36.8**	**+3.4**
KMI				S		**S**		**12 43 45.1**	**+1.6**
KMI				sS		sS		12 43 51.3	+0.6
KMI				pmax		pmax			
	comp=Z,17nm,0.7s								
KMI				pmax		pmax			
	comp=Z,170nm,4.0s								
KMI				LR		LR			
	comp=Z,390nm,24.5s								
KMI				LR		LR			
	comp=Z,380nm,22.3s								
KMI				LR		LR			
	comp=Z,500nm,20.0s								

JHJ	**Hachijo jima 2**	**85.56**	**359**	LR		LR		13 10 26.9	
	comp=Z,337nm,19.3s,baz=332,slow=35								
WHN	**Wuhan**	**86.08**	**338**	P		**P**		**12 33 25.8**	**-1.0**
WHN				S		**S**		**12 44 01.0**	**+0.6**
WHN				LR		LR			
	comp=Z,860nm,22.7s								
NJ2	**Nanjing**	**86.59**	**342**	*e*P		**P**		**12 33 29.6**	**+0.4**
NJ2				pmax		pmax			
	comp=Z,10.0nm,0.5s								
HYB	**Hyderabad**	**87.94**	**302**	*i* P		**P**		**12 33 37.0**	**+0.8**
HYB				*e*				12 33 41.0	
GO05	**HualaæØ**	**88.09**	**154**	*e*P		**P**		**12 33 36.2**	**-0.7**
	comp=Z,32nm,1.0s								
SHL	**Shillong**	**88.78**	**317**	*e*P		**P**		**12 33 41.0**	**+0.8**
MJAR	**Matsushiro Arr**	**88.99**	**358**	P		**P**		**12 33 40.3**	**-0.4**
	comp=Z,13nm,1.2s,baz=194,slow=6.2,SNR=10								
MJAR				LR		LR		13 12 49.8	
	comp=Z,178nm,20.4s,baz=230,slow=35								
MAJO	**Matsushiro**	**88.99**	**358**	*e*P		**P**		**12 33 41.0**	**+0.3**
	comp=Z,13nm,1.0s								
MAJO	**Matsushiro**	**88.99**	**358**	*d i*P		**P**		**12 33 40.8**	**+0.1**
MAJO				pmax		pmax			
	comp=Z,28nm,1.3s								
MAT	**Matsushiro**	**88.99**	**358**	P		**P**		**12 33 39.9**	**-0.8**
MAT				S		**S**		**12 44 25.4**	**-2.8**
MJB9	**Matsu-Tunnel**	**89.00**	**358**	*e*P		**P**		**12 33 41.6**	**+0.9**
	comp=Z,14nm,1.0s								
CD2	**Chengdu**	**89.32**	**329**	P		**P**		**12 33 44.0**	**+1.6**
CD2				pP		pP		12 33 47.1	+0.3
CD2				PP		**PP**		**12 37 15.1**	**+1.3**
CD2				SKS		**SKSac**		**12 44 13.9**	**+2.1**
CD2				S		**ScS**		**12 44 35.3**	**-1.0**
CD2				sS		sS		12 44 40.6	+1.8
CD2				pmax		pmax			
	comp=Z,20nm,0.5s								
CD2				pmax		pmax			
	comp=Z,160nm,5.0s								
CD2				LR		LR			
	comp=Z,480nm,16.4s								
CD2				LR		LR			
	comp=Z,470nm,14.9s								
CD2				LR		LR			
	comp=Z,440nm,19.9s								
PEL	**Peldehue**	**90.19**	**154**	*e*P		**P**		**12 33 46.1**	**-0.7**
	comp=Z,18nm,1.1s								
PEL	**Peldehue**	**90.19**	**154**	*e*P		**P**		**12 33 46.1**	**-0.7**
PEL				pmax		pmax			
	comp=Z,18nm,1.1s								
KSAR	**Wonju Array Be**	**90.54**	**350**	P		**P**		**12 33 48.2**	**+0.4**
KSAR	**Wonju Array Be**	**90.54**	**350**	P		**P**		**12 33 48.3**	**+0.4**
KSRS	**Korea Array**	**90.55**	**350**	P		**P**		**12 33 48.2**	**+0.4**
	comp=Z,10.0nm,1.2s,baz=177,slow=4.8,SNR=10								
KSRS				LR		LR		13 13 45.1	
	comp=Z,183nm,21.8s,baz=158,slow=35								
KS01	**Wonju Array Si**	**90.57**	**350**	*e*P		**P**		**12 33 47.9**	**-0.1**
XAN	**Xi'an**	**90.76**	**334**	P		**P**		**12 33 49.0**	**-0.1**
XAN				sP		sP		12 33 55.3	+0.3
XAN				pmax		pmax			
	comp=Z,7.0nm,1.2s								
LSZ	**Lusaka**	**90.85**	**243**	P		**P**		**12 33 51.9**	**+1.7**
	comp=Z,11nm,1.1s,baz=119,slow=4.7,SNR=5.9								
LSZ	**Lusaka**	**90.85**	**243**	*e*P		**P**		**12 33 51.6**	**+1.4**
	comp=Z,7.7nm,0.9s								
LSZ	**Lusaka**	**90.85**	**243**	*e*P		**P**		**12 33 51.6**	**+1.4**
LSZ				pmax		pmax			
	comp=Z,8.0nm,0.9s								
TIA	**Tai'an**	**90.96**	**341**	P		**P**		**12 33 49.4**	**-0.5**
TIA				pmax		pmax			
	comp=Z,8.0nm,0.9s								
POO	**Poona**	**91.32**	**299**	*e*P		**P**		**12 33 54.0**	**+2.0**
LZH	**Lanzhou**	**94.10**	**331**	*e*P		**P**		**12 34 04.5**	**-0.1**
LZH				pP		pP		12 34 07.8	-1.2
LZH				sP		sP		12 34 09.3	-1.2
LZH				*e*PP		**PP**		**12 37 57.6**	**+6.0**
LZH				SKS		**SKSac**		**12 44 40.1**	**+1.2**
LZH				*e*S		**ScS**		**12 45 16.4**	**+0.3**
LZH				sS		sS		12 45 24.3	+2.2
LZH				pmax		pmax			
	comp=Z,33nm,1.2s								
LZH				pmax		pmax			
	comp=Z,160nm,6.0s								
LZH				LR		LR			
	comp=Z,560nm,18.0s								
LZH				LR		LR			
	comp=Z,630nm,17.8s								
LZH				LR		LR			
	comp=Z,1µm,19.7s								
ERM	**Erimo**	**94.46**	**2**⇧	*i* P		**P**		**12 34 05.2**	**-0.6**
ERM				pmax		pmax			
	comp=Z,12nm,0.9s								
HHC	**Hu-ho-hao-te**	**96.59**	**338**	*e*P		**P**		**12 34 16.8**	**+1.0**
HHC				pP		sP		12 34 21.4	-0.3
HHC				SKS		**SKSac**		**12 44 50.0**	**-1.7**
HHC				S		**ScS**		**12 45 41.6**	**+5.1**
HHC				pmax		pmax			
	comp=Z,23nm,1.5s								
HHC				pmax		pmax			
	comp=Z,100nm,8.4s								
HHC				LR		LR			
	comp=Z,180nm,17.3s								
HHC				LR		LR			
	comp=Z,210nm,17.3s								
HHC				LR		LR			
	comp=Z,210nm,17.8s								
CPUP	**Villa Florida**	**99.68**	**164**	LR		LR		13 17 46.7	
	comp=Z,212nm,18.2s,baz=184,slow=34								
SONM	**Songino Array**	**104.39**	**337**	PKKPbc		PKKPbc		12 50 35.5	-1.2
	comp=Z,0.2nm,0.4s,baz=263,slow=1.2,SNR=3.8								
KURBB	**Kurchatov Arra**	**115.53**	**321**	PKP		**PKPdf**		**12 39 26.4**	**-0.9**
	comp=Z,0.9nm,0.2s,baz=155,slow=2.0,SNR=6.3								
KURK	**Kurchatov**	**115.57**	**322**	PKP		**PKPdf**		**12 39 26.4**	**-1.0**
KURK	**Kurchatov**	**115.57**	**322**	PKIKP		**PKPdf**		**12 39 26.4**	**-1.0**
ZALV	**Zalesovo Beam**	**116.02**	**327**	PKKPbc		PKKPbc		12 49 57.7	-0.9
	comp=Z,2.4nm,0.9s,baz=320,slow=4.4,SNR=6.9								
BVAR	**Borovoye Array**	**120.58**	**319**	PKP		**PKPdf**		**12 39 36.1**	**-0.9**
	comp=Z,1.5nm,0.8s,baz=82,slow=3.2,SNR=11								
BRVK	**Borovoye**	**120.64**	**319**	*e*PKPdf		**PKPdf**		**12 39 36.6**	**-0.5**
BRVK	**Borovoye**	**120.64**	**319**	*d i*PKIKP		**PKPdf**		**12 39 37.4**	**+0.3**
BRVK				pmax		pmax			
	comp=Z,6.0nm,0.8s								
BILL	**Bilibino**	**122.03**	**11**⇩	*i*PKIKP		**PKPdf**		**12 39 38.9**	**-0.4**
BILL				*e*				12 41 13.6	
BILL				*e*SS		SS		12 57 52.1	-0.4
BILL				pmax		pmax			
	comp=Z,4.0nm,1.1s								
BILL				MLR		MLR			
	comp=Z,248nm,19.0s								
OHAK	**Old Harbor**	**122.22**	**36**	*e*PKPdf		**PKPdf**		**12 39 39.6**	**-0.4**
ABKAR	**Akbulak array**	**122.36**	**310**	*e*PKPdf		**PKPdf**		**12 39 39.4**	**-1.1**
MONP2	**Monument Peak**	**123.00**	**78**	P		**PKPdf**		**12 39 41.9**	**-0.7**
	baz=225								
EDW2	**Edwards Air Fo**	**123.47**	**75**	P		**PKPdf**		**12 39 44.4**	**+1.1**
	baz=226								
VES	**Vestal, Richgr**	**123.50**	**73**	P		**PKPdf**		**12 39 42.9**	**-0.3**
	baz=226								
ISA	**Isabella, Lake**	**123.74**	**74**	P		**PKPdf**		**12 39 43.5**	**-0.2**
	baz=226								
ISA	**Isabella, Lake**	**123.74**	**74**	*e*PKPdf		**PKPdf**		**12 39 43.7**	**-0.1**
ISA	**Isabella, Lake**	**123.74**	**74**	*e*PKIKP		**PKPdf**		**12 39 43.7**	**-0.1**
JTS	**JuntasAbangare**	**124.05**	**122**	PKP		**PKPdf**		**12 39 43.9**	**-1.0**
	comp=Z,4.8nm,0.9s,baz=245,slow=12,SNR=4.4								
LRMC	**Laurel Mtn Rad**	**124.07**	**75**	P		**PKPdf**		**12 39 45.9**	**+1.5**
	baz=226								
SVW2	**Sparrevohn**	**124.37**	**32**	*e*PKPdf		**PKPdf**		**12 39 43.8**	**-0.3**
TIXI	**Tiksi**	**124.42**	**356**	*e*PKPdf		**PKPdf**		**12 39 41.3**	**-2.5**
TIXI	**Tiksi**	**124.42**	**356**	*i*PKIKP		**PKPdf**		**12 39 42.0**	**-1.8**
GSC	**Goldstone, Bar**	**124.46**	**75**	P		**PKPdf**		**12 39 46.7**	**+1.5**
	baz=226								
GSC	**Goldstone, Bar**	**124.46**	**75**	*e*PKPdf		**PKPdf**		**12 39 45.1**	**-0.1**
GSC	**Goldstone, Bar**	**124.46**	**75**	*e*PKIKP		**PKPdf**		**12 39 45.1**	**-0.1**
CWC	**Cottonwood Cre**	**124.50**	**74**	P		**PKPdf**		**12 39 46.4**	**+1.1**
	baz=226								
AFDM	**Forest Hills D**	**124.56**	**69**	*e*PKPdf		**PKPdf**		**12 39 45.4**	**+0.3**
MPMC	**Manual Prospec**	**124.58**	**74**	P		**PKPdf**		**12 39 46.7**	**+1.2**
	baz=226								
IRM	**Iron Mountain**	**124.65**	**78**	P		**PKPdf**		**12 39 46.9**	**+1.4**
	baz=226								
DAC	**Darwin (Calif)**	**124.67**	**74**	*e*PKPdf		**PKPdf**		**12 39 45.9**	**+0.2**
DAC	**Darwin (Calif)**	**124.67**	**74**	*e*PKIKP		**PKPdf**		**12 39 45.9**	**+0.2**
ORV	**Oroville**	**124.67**	**69**	*e*PKPdf		**PKPdf**		**12 39 44.9**	**-0.4**
ORV	**Oroville**	**124.67**	**69**	*e*PKIKP		**PKPdf**		**12 39 44.9**	**-0.4**
GMRC	**Granite Mounta**	**124.78**	**77**	P		**PKPdf**		**12 39 46.7**	**+0.8**
	baz=226								
WDC	**Whiskeytown Da**	**124.79**	**67**	*e*PKPdf		**PKPdf**		**12 39 45.7**	**+0.2**
WDC	**Whiskeytown Da**	**124.79**	**67**	*e*PKIKP		**PKPdf**		**12 39 45.7**	**+0.2**

MLAC	**Mammoth, Mammt**	**124.88**	**72**	P		**PKPdf**		**12 39 47.4**	**+1.3**
	baz=227								
N02D	**Trinity Center**	**124.96**	**67**	P		**PKPdf**		**12 39 46.8**	**+0.9**
	baz=227								
O03D	**Paynes Creek**	**125.01**	**68**	P		**PKPdf**		**12 39 45.7**	**-0.4**
	baz=227								
TUQ	**Turquoise Moun**	**125.07**	**76**	P		**PKPdf**		**12 39 47.0**	**+0.6**
	baz=226								
RUBR	**Rubicon Trail**	**125.10**	**70**	*e*PKPdf		**PKPdf**		**12 39 47.8**	**+1.3**
M02C	**Callahan**	**125.16**	**66**	P		**PKPdf**		**12 39 48.1**	**+1.8**
	baz=228								
FURC	**Furnace Creek,**	**125.23**	**74**	P		**PKPdf**		**12 39 47.5**	**+1.1**
	baz=226								
LDFC	**Landfair**	**125.31**	**77**	*e*PKPdf		**PKPdf**		**12 39 48.4**	**+1.6**
BEKR	**Beckworth**	**125.53**	**69**	*e*PKPdf		**PKPdf**		**12 39 47.4**	**+0.2**
VCNR	**Virginia City**	**125.55**	**70**	*e*PKPdf		**PKPdf**		**12 39 47.0**	**-0.2**
YERR	**Yerington**	**125.57**	**71**	*e*PKPdf		**PKPdf**		**12 39 47.7**	**+0.4**
RUSC	**La Rusia**	**125.73**	**137**	*e*PKPdf		**PKPdf**		**12 39 48.2**	**-0.6**
NV01	**Mina Array Sit**	**125.74**	**72**	*e*PKPdf		**PKPdf**		**12 39 48.0**	**+0.3**
NVAR	**Mina Array Bea**	**125.74**	**72**	PKP		**PKPdf**		**12 39 48.5**	**+0.8**
	comp=Z,3.2nm,0.9s,baz=213,slow=4.4,SNR=20								
RYN	**Ryan**	**125.74**	**71**	*e*PKPdf		**PKPdf**		**12 39 47.6**	**0.0**
Y14A	**Wickenburg**	**125.77**	**79**	*e*PKPpre		PKPpre		12 39 48.0	
Y14A				*e*PKPdf		**PKiKP**		**12 39 49.0**	**+1.0**
HUMO	**Hull Mountain**	**125.92**	**65**	*e*PKPdf		**PKPdf**		**12 39 47.9**	**+0.3**
TPNV	**Topopah Spring**	**125.92**	**74**	P		**PKPdf**		**12 39 48.7**	**+0.7**
	baz=227								
TPNV	**Topopah Spring**	**125.92**	**74**	*e*PKPdf		**PKPdf**		**12 39 49.1**	**+1.1**
TPNV	**Topopah Spring**	**125.92**	**74**	*e*PKIKP		**PKPdf**		**12 39 49.1**	**+1.1**
PAHR	**Pah Rah Range**	**125.98**	**70**	*e*PKPdf		**PKPdf**		**12 39 48.4**	**+0.4**
DBIC	**Dimbokro**	**126.03**	**224**	PKP		**PKPdf**		**12 39 46.2**	**-2.5**
	comp=Z,1.8nm,0.7s,baz=243,slow=6.8,SNR=2.6								
W13A	**Hualapai Mount**	**126.05**	**78**	*e*PKPdf		**PKPdf**		**12 39 49.4**	**+1.0**
SUA	**Susitna One**	**126.23**	**34**	*e*PKPdf		**PKPdf**		**12 39 48.4**	**+0.7**
KVN	**Kaiserville**	**126.27**	**71**	*e*PKPdf		**PKPdf**		**12 39 49.0**	**+0.4**
KVN	**Kaiserville**	**126.27**	**71**	*e*PKIKP		**PKPdf**		**12 39 49.0**	**+0.4**
MOD	**Modoc Plateau**	**126.92**	**67**	*e*PKPdf		**PKPdf**		**12 39 50.6**	**+0.9**
X16A	**Lo Mia Camp, P**	**127.03**	**80**	*e*PKPdf		**PKPdf**		**12 39 50.5**	**+0.2**
R11A	**Troy Canyon, C**	**127.26**	**74**	P		**PKPdf**		**12 39 51.3**	**+0.7**
	baz=228								
R11A	**Troy Canyon, C**	**127.26**	**74**	*e*PKPdf		**PKPdf**		**12 39 51.2**	**+0.7**
KBZ	**Khabaz**	**127.29**	**295**	PKP		**PKPdf**		**12 39 49.3**	**-0.8**
	comp=Z,2.6nm,0.8s,baz=188,slow=4.6,SNR=4.3								
J05D	**Fort Rock, OR**	**127.32**	**65**	P		**PKPdf**		**12 39 51.7**	**+1.3**
	baz=229								
KIV	**Kislovodsk**	**127.55**	**296**	*i* PKIKP		**PKPdf**		**12 39 50.1**	**-0.7**
KIV				pmax		pmax			
	comp=Z,11nm,1.0s								
KIV				MLR		MLR			
	comp=Z,184nm,22.0s								
LCMT	**Little Creek M**	**127.73**	**76**	*e*PKPdf		**PKPdf**		**12 39 52.4**	**+1.0**
TRF	**Thorofare Moun**	**127.79**	**32**	*e*PKPdf		**PKPdf**		**12 39 50.8**	**+0.1**
PINE	**Pine Mountain**	**127.81**	**65**	*e*PKPdf		**PKPdf**		**12 39 51.8**	**+0.3**
WUAZ	**Wupatki**	**127.83**	**79**	P		**PKPdf**		**12 39 51.7**	**0.0**
	baz=227								
WUAZ	**

INK	Inuvik	136.18	32	PKP	PKPdf	12 40 04.8	-1.3		baz=240,SNR=7.8	
	comp=Z,4.6nm,1.0s,baz=222,slow=3.5,SNR=13							N42A	Yates City	144.10	89	P	PKPab	12 40 19.2	+0.2
INK	Inuvik	136.18	32	ePKPdf	PKPdf	12 40 04.7	-1.5		baz=233						
OBN	Obninsk	137.27	305	ǁ iPKIKP	PKPdf	12 40 09.0	+0.5	L40A	Anamosa	144.11	86	P	PKPbc	12 40 19.5	0.0
OBN				e		12 40 15.1			baz=234,SNR=8.4						
OBN				e		12 42 52.1		M41A	Milan	144.12	88	P	PKPbc	12 40 19.3	-0.2
OBN				ePS	PS	12 53 19.2	-1.2		baz=234,SNR=7.2						
OBN				pmax	pmax			P44A	Sand Creek, Wi	144.13	92	P	PKPab	12 40 19.2	+0.1
	comp=Z,21nm,1.4s								baz=232,SNR=7.8						
X39A	Fountain Ranch	137.57	93	P	PKPdf	12 40 10.9	+1.0	E34A	Wadena	144.18	77	P	PKPdf	12 40 20.6	-0.8
	baz=227								baz=239						
LAO	LASA Array	137.83	70	P	PKPdf	12 40 12.3	+2.2	F35A	Swanville	144.19	78	P	PKPbc	12 40 19.8	+0.2
	baz=236								baz=238,SNR=19						
MLR	Muntele Rosu	137.95	287	ǁ iP	PKPpre	12 40 03.2		A31A	Linda, St. Vin	144.20	72	P	PKPbc	12 40 19.8	+0.3
MLR	Muntele Rosu	137.95	287	ǁ PKHKP	PKPpre	12 40 03.2			baz=241						
W39A	Magazine	138.24	93	P	PKPdf	12 40 12.0	+0.9	O43A	Sugar Creek Fa	144.21	90	P	PKPbc	12 40 19.8	-0.1
	baz=228								baz=232						
DOPR	Dopca	138.54	288	ǁ iP	PKPpre	12 40 07.0		B32A	Ashes, Strandq	144.32	74	P	PKPab	12 40 19.1	-0.5
KLMR	Klimovskoe	138.56	313	ePKPdf	PKPdf	12 40 08.4	-2.4		baz=241,SNR=23						
KLMR				AMP		12 40 11.9		G36A	St. Michael	144.35	80	P	PKPbc	12 40 20.3	+0.1
	comp=Z,14nm,1.3s								baz=238,SNR=6.3						
KLMR	Klimovskoe	138.56	313	ePKIKP	PKPdf	12 40 08.3	-2.5	HDIL	Hopedale	144.39	90	ePKPdf	PKPbc	12 40 20.4	0.0
KLMR				pmax	pmax			C33A	Trail	144.45	75	P	PKPab	12 40 19.8	-0.3
	comp=Z,14nm,1.3s								baz=240,SNR=8.3						
HHAR	Hobbs	138.86	91	ePKPdf	PKPdf	12 40 13.1	+0.9	D34A	Park Rapids	144.46	76	P	PKPab	12 40 19.9	-0.3
AKASG	Malin Array Be	138.90	296	PKP	PKPdf	12 40 10.6	-1.2		baz=240,SNR=8.1						
	comp=Z,0.6nm,0.6s,baz=84,slow=1.9,SNR=5.2							MODS	Modra-Piesok	144.51	286	ePKP	PKPab	12 40 18.1	-2.2
KIEV	Kiev	138.91	296	d iPKIKP	PKPdf	12 40 15.2	+3.5	MODS	Modra-Piesok	144.51	286	ePKHKP	PKPab	12 40 18.1	-2.2
AK11	Malin Array Si	138.92	296	ePKPdf	PKPdf	12 40 11.3	-0.4	K40A	Colesburg	144.53	85	P	PKPbc	12 40 20.8	0.0
BURAR	Bucovina Array	139.54	290	ǁ iP	PKPdf	12 40 14.2	+1.0		baz=235,SNR=8.3						
BURAR	Bucovina Array	139.54	290	ǁ PKIKP	PKPdf	12 40 14.2	+1.0	S48A	Wiedeman Farm,	144.54	96	P	PKPab	12 40 19.2	-1.6
BUR04	Bucovina Ar. S	139.54	290	ePKPdf	PKPdf	12 40 13.2	0.0		baz=229						
U40A	Yellville	139.57	92	P	PKPdf	12 40 14.8	+1.3	J39A	Decorah	144.54	84	P	PKPab	12 40 19.7	-0.9
	baz=229								baz=236,SNR=27						
DRGR		140.54	287	ǁ iP	PKPdf	12 40 18.1	+3.1	L41A	Preston	144.56	87	P	PKPab	12 40 20.1	-0.6
DRGR		140.54	287	ǁ PKIKP	PKPdf	12 40 18.1	+3.1		baz=234,SNR=13						
BZS	Buzias	140.54	285	ǁ iP	PKPdf	12 40 14.4	-0.5	I38A	Scanlan Farm,	144.56	83	P	PKPab	12 40 19.7	-0.9
BZS	Buzias	140.54	285	ǁ PKIKP	PKPdf	12 40 14.4	-0.5		baz=237,SNR=23						
YKA	Yellowknife Ar	140.89	45	PKhKP	PKPpre	12 40 09.7		TKL	Tuckaleechee C	144.58	101	PKP	PKPab	12 40 20.3	-0.7
	comp=Z,0.9nm,0.8s,baz=244,slow=3.1,SNR=17								comp=Z,12nm,0.8s,baz=187,slow=8.3,SNR=8.9						
YKA				PP	PP	12 43 12.0	-4.6	TKL	Tuckaleechee C	144.58	101	ePKPdf	PKPbc	12 40 21.7	+0.5
	comp=Z,0.8nm,1.1s,baz=251,slow=7.0,SNR=4.1							TKL	Tuckaleechee C	144.58	101	ePKIKP	PKPbc	12 40 21.7	+0.5
151A	Opelika	141.48	103	P	PKPdf	12 40 18.0	+1.0	A32A	Rocking H Ranc	144.59	73	P	PKPab	12 40 20.2	-0.4
	baz=224								baz=242,SNR=35						
UZH	Uzhgorod	141.74	289	ePKHKP	PKPpre	12 40 11.7		BG3	Lake Jocassee	144.62	103	ePKPdf	PKPbc	12 40 21.3	-0.1
UZH				e		12 40 15.7		M42A	Sheffield	144.64	88	P	PKPab	12 40 20.8	-0.2
UZH				i		12 40 19.0			baz=234						
S42A	Caledonia	141.74	92	P	PKPpre	12 40 11.6		O44A	Mansfield	144.65	91	P	PKPab	12 40 20.3	-0.7
	baz=230								baz=232						
H32A	Carlson Farm,	141.76	79	P	PKPpre	12 40 12.6		E35A	Pequot Lakes	144.66	78	P	PKPab	12 40 20.7	-0.2
	baz=236								baz=239						
ECSD	EROS Data Cent	141.82	80	P	PKPpre	12 40 11.0		R47A	Wooly Knot Far	144.66	95	P	PKPab	12 40 20.7	-0.4
	baz=236								baz=230						
ECSD	EROS Data Cent	141.82	80	ePKPdf	PKPpre	12 40 11.8		AGMN	Agassiz Nation	144.66	74	P	PKPab	12 40 20.5	-0.4
KEST	Kesra	141.94	263	PKP	PKPpre	12 40 15.3			baz=241,SNR=17						
	comp=Z,6.3nm,1.2s,baz=301,slow=5.9,SNR=2.4							AGMN	Agassiz Nation	144.66	74	ePKPdf	PKPab	12 40 20.3	-0.6
S43A	Fulton Ridge,	142.05	93	P	PKPpre	12 40 14.1		N43A	Stinan Famil	144.69	89	P	PKPbc	12 40 21.3	-0.1
	baz=230								baz=233						
R42A	Luebbering	142.07	91	P	PKPpre	12 40 13.0		OKC	Ostrava-Krasne	144.70	289	ePKP	PKPdf	12 40 22.1	0.0
	baz=230							OKC	Ostrava-Krasne	144.70	289	ePKIKP	PKPdf	12 40 22.1	0.0
V46A	Holladay	142.07	97	P	PKPpre	12 40 11.9		P45A	Graceland, Par	144.70	92	P	PKPab	12 40 21.1	-0.2
	baz=228								baz=232,SNR=11						
Q41A	Truxton	142.23	90	P	PKPpre	12 40 13.7		WCI	Wyandotte Cave	144.76	95	P	PKPab	12 40 21.0	-0.6
	baz=231								baz=230						
H33A	Prehn Over Nor	142.27	79	P	PKPpre	12 40 13.0		WCI	Wyandotte Cave	144.76	95	ePKPdf	PKPab	12 40 20.8	-0.8
	baz=237							WCI	Wyandotte Cave	144.76	95	ePKIKP	PKPab	12 40 20.8	-0.8
W48A	Pulaski	142.34	99	P	PKPpre	12 40 14.1		B33A	Robert and Kas	144.81	74	P	PKPab	12 40 21.3	-0.1
	baz=227								baz=241,SNR=6.8						
V47A	Nunnelly	142.45	97	P	PKPpre	12 40 13.2		F36A	Milaca	144.82	79	P	PKPab	12 40 21.5	-0.1
	baz=228								baz=239,SNR=21						
356A	Blackshear	142.48	108	P	PKPpre	12 40 15.9		FIA1	FINESS Array S	144.85	311	ePKPdf	PKPab	12 40 20.8	-0.3
	baz=222							FINES	FINESS Array B	144.85	311	PKP	PKPab	12 40 20.7	-0.4
O40A	La Belle	142.56	88	P	PKPpre	12 40 15.2			comp=Z,15nm,0.7s,baz=113,slow=3.4,SNR=41						
	baz=232							C34A	RKJ Ranch, Bem	144.91	76	P	PKPab	12 40 21.7	-0.2
S44A	Carbondale	142.62	94	P	PKPpre	12 40 16.1			baz=240,SNR=9.6						
	baz=230							SPMN	Marine on St.	144.91	81	P	PKPab	12 40 21.6	-0.3
G33A	Ortonville	142.73	78	P	PKPpre	12 40 14.6			baz=238,SNR=11						
	baz=237							SPMN	Marine on St.	144.91	81	ePKPbc	PKPab	12 40 21.5	-0.4
V48A	Smith Brothers	142.81	98	P	PKPpre	12 40 14.5		H38A	Maiden Rock	144.94	82	P	PKPab	12 40 21.9	-0.1
	baz=228								baz=237,SNR=13						
H34A	Spellman Lake,	142.84	79	P	PKPpre	12 40 15.0		I39A	Houston	144.94	83	P	PKPab	12 40 21.5	-0.6
	baz=237								baz=236,SNR=15						
J36A	Seneca 1, Swea	142.95	82	P	PKPpre	12 40 15.1		K41A	Shullsburg	144.98	86	P	PKPbc	12 40 21.9	-0.3
	baz=236								baz=235,SNR=9.1						
LVZ	Lovozero	142.97	323	ǁ iPKIKP	PKPdf	12 40 23.9	+5.3	ARSA	Arzberg	144.99	283	ePKPbc	PKPbc	12 40 21.8	-0.4
U47A	Clarksville	143.00	97	P	PKPpre	12 40 15.9			comp=Z,42nm,1.1s,SNR=29						
	baz=228							SOKA	Soboth	144.99	282	ePKPab	PKPab	12 40 22.4	+0.2
T46A	Princeton	143.03	95	P	PKPbc	12 40 16.6	+0.1		comp=Z,30nm,1.1s,SNR=13						
	baz=229							L42A	Oliver, Polo	145.02	87	P	PKPdf	12 40 22.7	-0.2
K37A	Belmond	143.06	83	P	PKPab	12 40 15.3	+0.4		baz=234,SNR=9.9						
	baz=235							MORC	Moravsky Berou	145.02	288	ǁ iP	PKPbc	12 40 21.3	-0.9
L38A	Oak Wood Farm,	143.10	85	P	PKPbc	12 40 16.3	-0.3	MORC	Moravsky Berou	145.02	288	ePKPdf	PKPbc	12 40 21.4	-0.8
	baz=234							MORC	Moravsky Berou	145.02	288	ePKIKP	PKPbc	12 40 21.4	-0.8
P42A	Winchester	143.16	90	P	PKPab	12 40 15.8	+0.4	JSC	Jenkinsville	145.11	105	ePKPbc	PKPdf	12 40 23.7	+0.3
	baz=232							JSC	Jenkinsville	145.11	105	ePKIKP	PKPdf	12 40 23.7	+0.3
F33A	5 Mile Ranch,	143.16	77	P	PKPbc	12 40 16.4	-0.2	M43A	Waltham Townsh	145.12	89	P	PKPbc	12 40 22.7	0.0
	baz=238								baz=234,SNR=6.4						
M39A	Webster	143.19	86	P	PKPbc	12 40 16.4	-0.4	CONA	Conrad Observa	145.12	285	ePKPbc	PKPbc	12 40 21.2	-1.4
	baz=234								comp=Z,29nm,1.2s						
G34A	Benson	143.23	79	P	PKPbc	12 40 16.2	-0.6	R48A	Northridge Ran	145.13	95	P	PKPbc	12 40 22.7	-0.2
	baz=238								baz=230						
NIE	Niedzica	143.27	289	ePKP	PKPdf	12 40 20.2	+0.5	D35A	Remer	145.13	77	P	PKPbc	12 40 22.4	-0.2
NIE	Niedzica	143.27	289	ePKIKP	PKPdf	12 40 20.2	+0.5		baz=240						
C31A	Landman Farms,	143.32	74	P	PKPab	12 40 16.2	+0.4	Q47A	Bedord North L	145.13	94	P	PKPbc	12 40 22.8	0.0
	baz=240,SNR=6.7								baz=231						
J37A	Redenius Farm,	143.42	83	P	PKPab	12 40 16.3	0.0	O45A	Potomac	145.16	91	P	PKPbc	12 40 22.3	-0.6
	baz=236								baz=232						
H35A	Sunnyside Ranc	143.42	80	P	PKPab	12 40 16.4	+0.2	J40A	Soldiers Grove	145.16	85	P	PKPbc	12 40 22.4	-0.4
	baz=237								baz=236,SNR=18						
U48A	Cassie Pea, Po	143.49	97	P	PKPab	12 40 16.1	-0.7	JFWS	Jewell Farm	145.19	86	P	PKPdf	12 40 23.5	+0.2
	baz=228								baz=236,SNR=11						
K38A	Parkersburg	143.51	84	P	PKPbc	12 40 18.1	+0.4	JFWS	Jewell Farm	145.19	86	ePKPbc	PKPbc	12 40 22.8	-0.1
	baz=235							JFWS	Jewell Farm	145.19	86	ePKIKP	PKPbc	12 40 22.8	-0.1
I36A	Fitzsimmons Fa	143.53	81	P	PKPbc	12 40 17.8	+0.1	BLO	Bloomington	145.22	94	ePKPbc	PKPbc	12 40 23.0	-0.1
	baz=236							BLO	Bloomington	145.22	94	ePKP2	PKPbc	12 40 23.0	-0.1
Q44A	Meyer Farm, Va	143.54	92	P	PKPab	12 40 16.6	-0.3	N44A	Piper City	145.24	90	P	PKPbc	12 40 22.7	-0.4
	baz=231,SNR=5.7								baz=233						
M40A	Post Highland	143.55	87	P	PKPbc	12 40 18.3	+0.5	A33A	Warroad	145.25	73	P	PKPbc	12 40 22.5	-0.4
	baz=234								baz=242,SNR=17						
S46A	Don Dixon Farm	143.55	95	P	PKPab	12 40 17.0	0.0	F37A	Hinrichs Farm,	145.28	80	P	PKPdf	12 40 23.6	+0.3
	baz=230								baz=239						
VSU	Vasula	143.59	306	ǁ iPKIKP	PKPdf	12 40 23.6	+3.7	TZTN	Tazewell	145.31	100	P	PKPbc	12 40 23.4	-0.1
VSU				pmax	pmax				baz=228						
	comp=Z,61nm,1.0s							TZTN	Tazewell	145.31	100	ePKPbc	PKPbc	12 40 23.6	+0.1
R45A	Skylar, Fairfi	143.60	94	P	PKPbc	12 40 18.2	+0.2	E36A	McGregor	145.32	78	P	PKPbc	12 40 23.1	-0.1
	baz=230,SNR=6.6								baz=240						
VYHS	Vyhne	143.66	287	ePKP	PKPab	12 40 17.1	0.0	VRAC	Vranov	145.35	287	ǁ iP	PKPbc	12 40 22.9	-0.3
VYHS	Vyhne	143.66	287	ePKIKP	PKPab	12 40 17.1	0.0	VRAC	Vranov	145.35	287	ǁ PKIKP	PKPbc	12 40 22.9	-0.3
L39A	Vinton	143.67	86	P	PKPab	12 40 17.7	+0.3	G38A	Ridgeland	145.46	81	P	PKPdf	12 40 23.1	-0.6
	baz=234								baz=238,SNR=9.3						
E33A	Westby DABS, E	143.68	77	P	PKPbc	12 40 18.1	0.0	B34A	Aery, Baudette	145.46	74	P	PKPdf	12 40 22.5	-1.0
	baz=239								baz=242,SNR=8.9						
B31A	Greenbush Farm	143.69	73	P	PKPbc	12 40 17.9	-0.1	C35A	Jirik Farms, M	145.48	76	P	PKPdf	12 40 22.5	-1.1
	baz=241,SNR=7.7								baz=241,SNR=6.4						
P43A	Skaggs, Pawnee	143.69	91	P	PKPab	12 40 17.4	-0.1	I40A	Norwalk	145.51	84	P	PKPdf	12 40 22.9	-0.8
	baz=232								baz=237,SNR=8.0						
SUW	Suwalki	143.72	298	ePKP	PKPdf	12 40 19.6	-0.7	H39A	Augusta	145.54	82	P	PKPdf	12 40 23.1	-0.7
SUW	Suwalki	143.72	298	ePKPdf	PKPdf	12 40 20.0	-0.3		baz=238,SNR=14						
SUW	Suwalki	143.72	298	ePKIKP	PKPdf	12 40 20.0	-0.3	KLNR	Kaliningrad	145.55	297	d iPKIKP	PKPdf	12 40 22.9	-0.5
F34A	Alexandria	143.75	78	P	PKPbc	12 40 17.9	-0.4	KLNR				i		12 40 28.4	
	baz=238							ULM	Lac du Bonnet	145.57	71	PKPbc	PKPdf	12 40 23.2	-0.4
H36A	Jessenland, He	143.89	81	P	PKPbc	12 40 19.3	+0.6		comp=Z,12nm,0.8s,baz=249,slow=3.7,SNR=18						
	baz=237							ULM	Lac du Bonnet	145.57	71	ePKPdf	PKPbc	12 40 23.9	0.0
I37A	Lemond, Waseca	143.90	82	P	PKPab	12 40 18.2	0.0	ULM	Lac du Bonnet	145.57	71	ePKIKP	PKPbc	12 40 23.9	0.0
	baz=236							P47A	Martinsville	145.57	94	P	PKPdf	12 40 23.0	-1.0
G35A	Watkins	143.91	79	P	PKPbc	12 40 18.9	+0.1		baz=232						
	baz=238							J41A	Loganville	145.58	85	P	PKPdf	12 40 23.1	-0.8
OJC	Ojcow	143.93	290	ePKP	PKPbc	12 40 19.2	+0.5		baz=236,SNR=9.0						
OJC	Ojcow	143.93	290	ePKPdf	PKPdf	12 40 21.7	+0.9	KRLC	Kraliky	145.59	289	ePKP	PKPbc	12 40 23.9	-0.1
OJC	Ojcow	143.93	290	ePKIKP	PKPdf	12 40 21.7	+0.9	KRLC				epPKP	sPKPdf	12 40 29.4	-0.4
T48A	Bowling Green	143.98	97	P	PKPbc	12 40 19.1	-0.2	KRLC	Kraliky	145.59	289	ePKIKP	PKPbc	12 40 23.9	-0.1
	baz=229							KRLC				e		12 40 29.4	
OLIL	Olney	143.99	93	ePKPdf	PKPbc	12 40 19.0	-0.2	SFIN	Lafayette	145.62	92	P	PKPdf	12 40 23.2	-0.8
R46A	Gibon Southern	144.01	94	P	PKPab	12 40 18.9	+0.1		baz=233						
	baz=230							K42A	Prairie Point,	145.66	87	P	PKPab	12 40 24.8	+0.1
C32A	Crookston	144.04	74	P	PKPbc	12 40 19.0	-0.1		baz=235						
	baz=240							KMSC	Kings Mountain	145.67	104	P	PKPab	12 40 25.2	+0.2
Q45A	Warren Harvey,	144.06	93	P	PKPab	12 40 19.0	+0.1		baz=226						
	baz=231,SNR=13							KMSC	Kings Mountain	145.67	104	ePKPdf	PKPab	12 40 25.5	+0.5
FFC	Flin Flon	144.07	61	ePKPdf	PKPbc	12 40 18.8	-0.2	D36A	Goodland	145.70	77	P	PKPab	12 40 25.4	+0.6
FFC	Flin Flon	144.07	61	ePKIKP	PKPbc	12 40 18.8	-0.1		baz=240,SNR=11						
J38A	Wedel Dairy, R	144.07	84	P	PKPab	12 40 18.9	0.0	MYKA	Terra Mystica	145.79	281	ePKPdf	PKPdf	12 40 23.8	-0.4
	baz=236,SNR=9.5								comp=Z,65nm,1.3s,SNR=20						
K39A	Oelwein	144.08	85	P	PKPab	12 40 18.9	0.0	F38A	Pierce - Schro	145.85	80	P	PKPbc	12 40 24.9	0.0
	baz=235,SNR=12								baz=239						
D33A	AnnSam, Waubun	144.10	76	P	PKPbc	12 40 19.2	-0.1	G39A	Holcombe	145.93	82	P	PKPdf	12 40 24.6	+0.2
									baz=238,SNR=8.6						
B35A	Bob, Littlefor	145.95	75	P	PKPdf	12 40 24.4	0.0								
	baz=242,SNR=9.8														
DPC	Dobruska-Polom	145.98	289	ePKP	PKPbc	12 40 25.1	-0.1								
DPC				epPKP	sPKPdf	12 40 30.4	0.0								
DPC				ex	x	12 40 35.4									
DPC	Dobruska-Polom	145.98	289	ePKP2	PKPbc	12 40 25.1	-0.1								
TREC	Trest	145.99	287	AMS	AMS	13 51 00.0									
	comp=Z,200nm,20.3s														
H40A	Chili	146.04	83	P	PKPbc	12 40 25.8	+0.3								
	baz=238,SNR=8.6														
I41A	Arkdale	146.05	84	P	PKPbc	12 40 25.5	-0.1								
	baz=237														
O47A	Sheridan	146.09	93	P	PKPbc	12 40 25.5	-0.3								
	baz=232														
D37A	Cotton	146.13	78	P	PKPab	12 40 26.5	+0.1								
	baz=240,SNR=10														
N46A	Monticello	146.15	91	P	PKPbc	12 40 25.6	-0.3								
	baz=233														
C36A	Pine Crest Far	146.18	77	P	PKPbc	12 40 25.8	0.0								
	baz=241,SNR=11														
L44A	Lake County Fo	146.19	89	P	PKPab	12 40 26.5	-0.2								
	baz=235														
KBA	Koelnbreinsper	146.19	282	ePKPbc	PKPbc	12 40 25.7	-0.5								
	comp=Z,25nm,1.3s,SNR=8.9														
KSP	Ksiaz	146.21	290	ePKP	PKPbc	12 40 25.7	-0.1								
KSP	Ksiaz	146.21	290	ePKP2	PKPbc	12 40 25.7	-0.1								
UPC	Upice	146.23	289	ePKP	PKPbc	12 40 25.7	-0.2								
UPC				ex	x	12 40 37.4									
UPC				AMS	AMS	13 53 00.0									
UPC	Upice	146.23	289	ePKP2	PKPbc	12 40 25.7	-0.2								
F39A	Loretta	146.41	81	P	PKPdf	12 40 25.7	+0.5								
	baz=239,SNR=17														
H41A	Junction City	146.49	84	P	PKPdf	12 40 25.8	+0.5								
	baz=238,SNR=6.9														
H41A	Junction City	146.49	84	ePKPdf	PKPdf	12 40 25.6	+0.3								
G40A	Rib Lake	146.50	82	P	PKPbc	12 40 26.8	-0.1								
	baz=238,SNR=17														
ABTA	Abfaltersbach	146.52	281	ePKPdf	PKPdf	12 40 26.1	+0.6								
	comp=Z,25nm,1.0s,SNR=9.3														
ARCES	ARCESS Array B	146.53	325	PKPbc	PKPdf	12 40 25.4	+0.7								
	comp=Z,16nm,0.8s,baz=96,slow=2.4,SNR=30														
ARCES	ARCESS Array B	146.53	325	ePKPdf	PKPbc	12 40 25.6	-0.6								
ARCES	ARCESS Array B	146.53	325	ePKP2	PKPbc	12 40 25.6	-0.6								
ARE0	ARCESS Array S	146.53	325	ePKPdf	PKPbc	12 40 25.5	-0.7								
I42A	Draeger Farm,	146.54	85	P	PKPbc	12 40 26.5	-0.5								
	baz=237														
I42A	Draeger Farm,	146.54	85	ePKPdf	PKPbc	12 40 26.8	-0.2								
C37A	Embarrass	146.55	77	P	PKPbc	12 40 27.0	0.0								
	baz=241														
GKP	Gorka Klasztor	146.67	294	ePKP	PKPbc	12 40 26.3	-0.8								
GKP	Gorka Klasztor	146.67	294	ePKP2	PKPbc	12 40 26.3	-0.8								
GOPC	GO Pecny, Ondr	146.68	287	ePKP	PKPbc	12 40 27.6	+0.4								
GOPC				epPKP	pPKPbc	12 40 32.1	+0.4								
GOPC	GO Pecny, Ondr	146.68	287	ePKP2	PKPbc	12 40 27.6	+0.4								
GEA0	GERESS Array S	146.82	285	ePKPdf	PKPdf	12 40 26.1	+0.2								
GEC2	GERESS Array S	146.83	285	ePKPdf	PKPdf	12 40 26.4	+0.5								
GEC2	GERESS Array S	146.83	285	ePKIKP	PKPdf	12 40 26.4	+0.5								
GERES	GERESS Array B	146.83	285	PKPbc	PKPdf	12 40 26.6	+0.6								
	comp=Z,20nm,1.0s,baz=143,slow=2.7,SNR=72														
PRU	Pruhonice	146.85	287	ePKP	PKPbc	12 40 27.2	-0.5								
PRU				epPKP	pPKPbc	12 40 32.6	+0.4								
PRU	Pruhonice	146.85	287	ePKP2	PKPbc	12 40 27.2	-0.5								
E39A	Mellen	146.86	80	P	PKPbc	12 40 27.2	-0.6								
	baz=240,SNR=7.7														
WI04	River Road, Cl	147.02	84	ePKPdf	PKPdf	12 40 27.1	+0.8								
KHC	Kasperske Hory	147.03	285	ePKP	PKPdf	12 40 26.9	+0.7								
KHC				epPKP	pPKPbc	12 40 32.9	+0.1								
KHC				ex	x	12 40 37.8									
KHC				AMS	AMS	13 52 50.0									
	comp=Z,300nm,15.2s														
KHC	Kasperske Hory	147.03	285	ePKPdf	PKPdf	12 40 26.9	+0.7								
KHC	Kasperske Hory	147.03	285	ePKIKP	PKPdf	12 40 26.9	+0.7								
KHC				e		12 40 32.9									
KHC				MLR	MLR										
	comp=Z,300nm,15.2s														
WI01	McKinley Avenu	147.04	84	ePKPdf	PKPbc	12 40 27.6	-0.8								
WI03	Lunz Road, Cli	147.06	84	ePKPdf	PKPdf	12 40 26.8	+0.4								
EYMN	Ely	147.06	77	ePKPbc	PKPbc	12 40 28.7	+0.3								
PVCC	Panska Ves	147.07	288	ePKP	PKPbc	12 40 28.4	+0.1								
PVCC				epPKP	sPKPbc	12 40 33.9	-0.4								
PVCC				ex	x	12 40 38.5									
PVCC				AMS	AMS	13 53 50.0									
PVCC	Panska Ves	147.07	288	ePKP2	PKPbc	12 40 28.4	+0.1								
G41A	Antigo	147.09	83	P	PKPbc	12 40 27.8	-0.7								
	baz=238

GRFO	Grafenberg	148.66	285	ePKPbc	PKPbc	12 40 32.9	+0.3		
GRFO	Grafenberg	148.66	285	ePKP2	PKPbc	12 40 32.9	+0.3		
AAM	Ann Arbor	148.84	92	ePKPab	PKPab	12 40 37.0	-0.2		
AAM	Ann Arbor	148.84	92	ePKP2	PKPab	12 40 37.0	-0.2		
E43A	Lone Tree Farm baz=240	148.99	83	P	PKPbc	12 40 33.9	+0.3		
RES	Resolute Bay	149.03	25	ePKPdf	PKPbc	12 40 31.6	-1.2		
RES	Resolute Bay	149.03	25	ePKIKP	PKPbc	12 40 31.6	-1.2		
BNI	Bardonecchia	149.17	274	ePKPbc	PKPbc	12 40 32.4	-1.8		
BNI	Bardonecchia	149.17	274	ePKIKP	PKPbc	12 40 32.4	-1.8		
CART	Cartagena	149.35	256	epPKPdf	PKPbc	12 40 33.5	-1.2		
JSRW	J. Sargeant Re	149.45	104	ePKPbc	PKPbc	12 40 34.2	-0.7		
FCC	Fort Churchill	149.46	57	ePKPdf	PKPdf	12 40 27.2	-2.5		
FCC				epPKPdf	pPKPdf	12 40 33.3	-0.9		
SENIN	Lac Senin/Sane	149.46	277	ePKPbc	PKPbc	12 40 34.0	-1.0		
F45A	CMU Biological baz=240	149.54	85	P	PKPbc	12 40 34.7	-0.2		
MCWV	Mont Chateau baz=231	149.55	99	P	PKPbc	12 40 34.7	-0.5		
IP03	Louisa	149.58	104	ePKPbc	PKPbc	12 40 35.7	+0.4		
IP01	Cuckoo	149.60	104	ePKPbc	PKPbc	12 40 36.1	+0.8		
IP05	Hopewell Churc	149.61	104	ePKPbc	PKPbc	12 40 36.0	+0.7		
GLMI	Grayling	149.64	87	ePKPbc	PKPbc	12 40 36.1	+0.9		
SPRD	Spring Road, M	149.66	104	ePKPbc	PKPbc	12 40 35.9	+0.4		
CVRD	Centerville Ro	149.74	104	ePKPbc	PKPbc	12 40 36.4	+0.8		
BFO	Black Forest	149.77	281	epPKPdf	pPKPdf	12 40 33.9	-1.3		
F46A	Macinaw City C baz=240	150.04	85	P	PKPbc	12 40 36.6	+0.5		
E45A	Wooded Hills, baz=241	150.08	84	P	PKPbc	12 40 36.8	+0.6		
CBN	Corbin Frederi baz=228	150.08	104	P	PKPbc	12 40 36.6	+0.1		
N54A	Moraine State baz=233	150.27	97	P	PKPbc	12 40 37.2	+0.4		
N54A	Moraine State	150.27	97	ePKPbc	PKPbc	12 40 36.7	-0.1		
ECH	Echery	150.42	280	ePKPbc	PKPbc	12 40 35.6	-1.4		
ECH	Echery	150.42	280	ePKIKP	PKPbc	12 40 35.6	-1.4		
HFS	Hagfors comp=Z,4.6nm,0.9s,baz=177,slow=5.8,SNR=4.9	150.47	306	PKPbc	PKPbc	12 40 35.2	-1.5		
SSB	Saint Sauveur	150.58	273	ePKPbc	PKPbc	12 40 37.2	-0.3		
SSB	Saint Sauveur	150.58	273	ePKIKP	PKPbc	12 40 37.3	-0.3		
ALLY	Alegheny Colle	150.59	96	ePKPbc	PKPbc	12 40 38.0	+0.4		
O56A	Blue Knob Stat baz=231	150.70	99	P	PKPbc	12 40 38.5	+0.5		
O56A	Blue Knob Stat	150.70	99	ePKPbc	PKPbc	12 40 37.1	-0.8		
M54A	Oil Creek Stat baz=233	150.79	96	P	PKPbc	12 40 38.6	+0.5		
M54A	Oil Creek Stat	150.79	96	ePKPbc	PKPbc	12 40 38.4	+0.3		
ERPA	Erie baz=234	150.96	95	P	PKPbc	12 40 38.3	-0.2		
SDMD	Soldier's Deli	151.19	103	ePKPbc	PKPbc	12 40 39.6	+0.6		
SSPA	Standing Stone	151.33	100	ePKPbc	PKPbc	12 40 38.7	-0.7		
NC602	NORSAR Array S	151.62	307	ePKPbc	PKPbc	12 40 38.3	-1.1		
WLF	Walferdange	151.64	282	⇓PKP	PKPbc	12 40 39.3	-0.4		
NC303	NORSAR Array S	151.75	308	ePKPbc	PKPbc	12 40 39.0	-0.7		
NB201	NORSAR Array S	151.77	307	ePKPbc	PKPbc	12 40 38.0	-1.8		
NB2	NORSAR Subarra comp=Z,21nm,0.9s,baz=79,slow=3.8	151.81	307	PKP	PKPbc	12 40 38.5	-1.4		
NOA	NORSAR Array B comp=Z,11nm,1.0s,baz=254,slow=3.3,SNR=19	151.81	307	PKPbc	PKPbc	12 40 38.9	-1.0		
MVL	Millersville	151.82	102	ePKPbc	PKPbc	12 40 40.1	-0.4		
NAO01	NORSAR Array S	151.95	307	ePKPbc	PKPbc	12 40 39.5	-0.6		
NBO02	NORSAR Array S	151.98	307	ePKPbc	PKPbc	12 40 39.9	-0.3		
NBO00	NORSAR Array S	152.02	307	ePKPbc	PKPbc	12 40 39.8	-0.5		
NC204	NORSAR Array S	152.05	308	ePKPbc	PKPbc	12 40 40.1	-0.4		
MEM	Membach	152.10	284	⇑PKP	PKPbc	12 40 40.2	-0.6		
BEBN	Eben Emael	152.36	284	⇑PKP	PKPbc	12 40 40.7	-0.7		
BCLA	Clavier	152.44	283	⇑PKP	PKPbc	12 40 41.7	+0.2		
ES19	SONSECA Array	152.45	256	ePKPbc	PKPbc	12 40 41.5	-0.5		
ESDC	Sonseca Array comp=Z,1.5nm,0.9s,baz=29,slow=3.4,SNR=4.8	152.47	256	PKP	PKPdf	12 40 35.2	+0.1		
ESDC	comp=Z,6.5nm,0.9s,baz=92,slow=1.2,SNR=25			PKPbc	PKPbc	12 40 41.9	-0.2		
ESLA	Sonseca Array	152.47	256	ePKPbc	PKPbc	12 40 41.9	-0.2		
PAB	San Pablo	152.62	255	ePKPbc	PKPbc	12 40 42.5	+0.1		
PAB	San Pablo	152.62	255	ePKIKP	PKPbc	12 40 42.5	+0.1		
DOU	Dourbes	152.73	282	⇑PKP	PKPbc	12 40 42.3	+0.1		
PVAQ	Vaqueiros	153.10	248	ePKPbc	PKPbc	12 40 44.3	+0.8		
PVAQ	Vaqueiros comp=Z,316nm,18.0s	153.10	248	eLR	LR	13 33 48.9			
PBDV	Barranco-do-Ve	153.11	247	ePKPbc	PKPbc	12 40 43.6	+0.1		
PBDV	Barranco-do-Ve	153.11	247	ePKPab	PKPab	12 40 57.4	+2.2		
BINY	Binghamton baz=234	153.42	99	P	PKPbc	12 40 44.3	+0.2		
MORF	Marmelete	153.56	246	ePKPab	PKPab	12 40 58.5	+1.4		
TULEG	Thule	153.69	15	ePKPdf	PKPdf	12 40 37.3	+1.6		
PESTR	Estremoz	154.05	250	ePKPbc	PKPbc	12 40 46.9	+1.4		
EVO	Evora	154.06	249	ePKPab	PKPab	12 40 59.6	+0.5		
PNCL	Nicolau / Gran	154.06	248	ePKPab	PKPab	12 40 58.1	-1.0		
PMRV	Marv??o	154.31	252	ePKPab	PKPab	12 41 00.3	+0.1		
PMRV	Marv??o comp=Z,319nm,20.0s	154.31	252	eLR	LR	13 35 14.0			
PMTG	Montargil	154.54	250	ePKPab	PKPab	12 41 02.5	+1.3		
PCBR	Castelo Branco	154.63	252	ePKPab	PKPab	12 41 03.2	+1.7		
DAG	Danmarks Havn comp=Z,22nm,1.4s	154.68	349	*i* P	PKPbc	12 40 45.5	-0.1		
DAG	Danmarks Havn comp=Z,22nm,1.4s	154.68	349	ePKIKP pmax	PKPbc pmax	12 40 45.5	-0.1		
MTE	Manteigas comp=Z,450nm,18.0s	155.04	253	eLR	LR	13 35 00.9			
MVO	Moncorvo	155.22	255	ePKPab	PKPab	12 41 06.2	+2.1		
MVO	Moncorvo comp=Z,398nm,22.0s	155.22	255	eLR	LR	13 36 02.7			
PCAS	Casmilo, Conde	155.36	251	ePKPab	PKPab	12 41 05.6	+1.0		
PGAV	Gavieira, Arco comp=Z,407nm,18.0s	156.45	255	eLR	LR	13 36 04.3			

*NNC **22** 12:22:57.4±7.6, 41°.63N×83°.24E, h0km, mb3.1, mpv2.7, Error ellipse: s-maj=51.4km s-min=23.1km az=145.0*
*SOME **22** 12:23:15.7, 42°.27N×82°.93E, h10km*
ISC 22 12:23:14.4±3.2, 42°.2N±0°.1×83°.0E±0°.1, h10km, n7, σ1§65/11, 1C-6D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KTMS	Ketmen	2.30	304	*e*P		Pb	12 23 56.8	+0.7
KTMS	10nm,0.3s			*e*S		Sg	12 24 26.6	-1.8
SHLS	Shalkode	2.76	292	*e*P		Pn	12 23 59.2	+0.4
SHLS	19nm,0.4s			*e*S		Sn	12 24 30.8	-1.5
PDGK	Podgornoye	2.80	296	⇓Pg		Pn	12 23 57.2	-2.3
PDGK	4.3nm,0.5s			⇓Lg		Lg	12 24 42.1	
UZB	Uzynbulak	3.06	290	*e*P		Pb	12 24 10.1	+1.0
UZB	2.7nm,0.4s			*e*S		Sb	12 24 49.2	+2.6
DJR	Jarkent	3.17	314	*e*P		Pb	12 24 11.2	+0.4
DJR	4.7nm,0.4s			*e*S		Sb	12 24 50.9	+1.4
MK31	Makanchi Array	4.65	354	⇑Pg		Pb	12 24 30.5	-5.5
MK31	1.1nm,0.8s,baz=180,slow=15,SNR=3.5			⇓Sn		Sn	12 25 19.0	+0.4
MK31	1.4nm,0.9s,baz=98,slow=63,SNR=5.1			⇓Lg		Lg	12 25 43.7	
MAKZ	Makanchi	4.69	352	⇓Sn		Sn	12 25 19.4	-0.3
MAKZ	0.7nm,0.5s,baz=172,slow=29,SNR=2.6			⇓Lg		Lg	12 25 44.9	
	3.9nm,1.4s							

*TEH **22** 12:23:47.5, 32°.59N×47°.13E, h10km, ML2.9*
*ISN **22** 12:23:47.3±1.7, 32°.54N×47°.09E, h15km±12km, ML2.9*
*CSEM **22** 12:23:48.9±0.4, 32°.41N×47°.12E, h15km, ML2.9, Error ellipse: s-maj=16.2km s-min=10.9km az=158.0*
*ISCJB **22** 12:23:49.1±0.6, 32°.47N±0°.05×47°.04E±0°.06, h20km, Error ellipse: s-maj=8.5km s-min=6.3km az=41.5*
ISC 22 12:23:48.9±1.1, 32°.46N±0°.04×47°.08E±0°.05, h20km, n12, σ1§79/16, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
IKFM	Kafar-mosalman	1.24	31	*e*Pg		Pn	12 24 10.0	-1.1
IKFM	comp=Z,99nm,0.2s			*e*AMB		AMB	12 24 32.8	
SHGR	Shooshtar-Gavs	1.50	103	*e*Pg		Pb	12 24 15.9	-0.1
NSR	Nassriya SNR=5.0	1.66	209	*e*Pn		Pn	12 24 17.0	+0.2
NSR	SNR=5.0			*e*Sn		Sb	12 24 40.0	+0.8
IKOM	Komasi	1.74	12	*e*Pn		Pb	12 24 19.1	-1.3
IKOM	comp=Z,2μm,0.2s			*e*AMB		AMB	12 24 48.3	
IGHG	Ghaleghazi	1.91	347	*e*Pn		Pb	12 24 21.6	-1.6
IGHG				*e*Sg		Sb	12 24 47.9	+1.1
IGHG	comp=Z,1μm,0.2s			*e*AMB		AMB	12 25 03.3	
IVIS	Veis	2.07	355	*e*Pn		Pb	12 24 23.8	-2.0
IVIS	comp=Z,974nm,0.2s			*e*AMB		AMB	12 24 57.6	
SNGE	Sanandaj	2.63	5	*e*Pn		Pn	12 24 31.5	+1.0
SNGE				*e*Sg		Sb	12 25 10.5	+3.0
KHMZ	Khomeyn	2.73	61	*e*Pn		Pb	12 24 33.5	-3.7
HAGD	Aghdareh	2.91	36	*e*Pn		Pn	12 24 35.7	+1.3
HAGD	comp=Z,99nm,0.2s			*e*AMB		AMB	12 24 41.4	
ASAO	Ashtian	3.22	49	*e*Pn		Pn	12 24 40.1	+1.5
IKLH	Kolahrood	3.88	76	*e*Pn		Pn	12 24 48.8	+1.2
IKLH	comp=Z,129nm,0.1s			*e*AMB		AMB	12 24 50.8	
RTB	Rutbah SNR=5.0	5.74	277	*e*Pn		Pn	12 25 14.0	+1.0
RTB	SNR=5.0			*e*Sn		Sn	12 26 18.0	-0.3

*ISCJB **22** 12:36:41.9±1.1, 19°.35S±0°.09×69°.0W±0°.2, h111km, mb3.6/3, Error ellipse: s-maj=27.2km s-min=11.1km az=12.3*
*IDC **22** 12:36:44.1±2.4, 19°.24S×68°.98W, h118km±19km, mb3.5/4, mb1 3.6/6, mb1mx3.3/43, mbtmp3.9/6, Error ellipse: s-maj=36.9km s-min=19.3km az=95.0*
ISC 22 12:36:43.2±1.0, 19°.3S±0°.1×69°.1W±0°.2, h111km, n15, σ1§06/10, mb3.6/3, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
LPAZ	La Paz	3.10	17	P		Pn	12 37 31.4	+0.2
LPAZ	5.4nm,0.3s,baz=200,slow=5.3,SNR=121			S		Sn	12 38 09.2	+1.3
SIV	San Ignacio	8.27	68	P		Pn	12 38 40.7	+0.2
PTGA	2.7nm,0.3s,baz=269,slow=11,SNR=36 Pitinga	20.47	27	P		P	12 41 10.1	-2.1
PLCA	2.0nm,0.3s,baz=229,slow=9.7,SNR=5.4 Paso Flores	21.43	183	P		P	12 41 22.6	+0.2
TORD	1.9nm,0.7s,baz=45,slow=7.1,SNR=2.4 Torodi Ar. Bea	76.74	71	P		P	12 48 22.8	-0.1
YKA	0.3nm,0.4s,baz=241,slow=4.0,SNR=5.4 Yellowknife Ar	89.06	341	P		P	12 49 24.7	-0.6
H11S2	0.5nm,0.5s,baz=132,slow=4.8,SNR=25 WAKE ISLAND Hyd	27.44	279	T		T	15 15 12.7	
H11S1	baz=101,slow=75,SNR=6.4 WAKE ISLAND Hyd	27.45	279	T		T	15 15 15.5	
H11S3	baz=101,slow=75,SNR=7.9 WAKE ISLAND Hyd	27.46	279	T		T	15 15 16.2	
H11N3	baz=101,slow=75,SNR=8.2 WAKE ISLAND Hyd	27.46	280	T		T	15 15 07.4	
H11N2	baz=109 WAKE ISLAND Hyd	27.48	280	T		T	15 15 01.4	
H11N1	baz=109,slow=74,SNR=4.9 WAKE ISLAND Hyd	27.48	280	T		T	15 15 03.6	
ASAR	baz=109,slow=74,SNR=4.2 Alice Springs	131.81	209	PKP		PKPdf	12 55 45.0	+0.8
WRA	0.2nm,0.6s,baz=118,slow=1.2,SNR=4.0 Warramunga Arr	134.78	212	PKP		PKPdf	12 55 50.6	+0.8
SONM	0.3nm,0.6s,baz=158,slow=1.5,SNR=4.6 Songino Array	151.27	6	PKPbc		PKPbc	12 56 24.2	+0.3
	0.6nm,0.5s,baz=325,slow=2.3,SNR=2.9							

*ISCJB **22** 12:36:50.9±0.3, 24°.19N±0°.01×121°.82E±0°.02, h6km±2km, Error ellipse: s-maj=2.8km s-min=1.7km az=29.9*
*TAP **22** 12:36:50.2, 24°.20N×121°.79E, h8km, ML2.7, C*
*JMA **22** 12:36:50.2±0.1, 24°.15N×121°.81E, h0km, M2.4*
ISC 22 12:36:51.0±0.9, 24°.19N±0°.02×121°.80E±0°.02, h11km±6km, n59, σ0§48/110, 5D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
NACB	Ninganchiao	0.19	265	⇓*i* P		Pg	12 36 54.6	-0.5
NACB	baz=261			S		Sg	12 36 58.1	+0.2
TWD	Chiawan	0.21	239	*i* P		Pg	12 36 55.1	-0.4
TWD	baz=234			*e*S		Sg	12 36 59.0	+0.3
NANB	Nanao	0.24	350	⇓*i* P		Pg	12 36 55.8	-0.3
NANB	baz=351			S		Sg	12 36 59.8	+0.4
ENA	Nanau	0.24	348	⇓*i* P		Pg	12 36 55.8	-0.3
ENA	baz=351			*e*S		Sg	12 36 59.9	+0.5
ENAH	Nanao	0.26	3	*e*P		Pg	12 36 56.2	-0.2
ENAH	baz=5.0			*e*S		Sg	12 37 00.3	+0.3
ENLB	Shoufeng	0.34	212	*e*P		Pg	12 36 58.2	+0.5
ENLB	baz=209			*e*S		Sb	12 37 03.7	-0.6
TWC	Suao	0.42	6	P		Pg	12 36 59.0	-0.3
TWC	baz=9.0			*e*S		Sb	12 37 06.0	-0.8
NNSB	Datong	0.45	302	⇓P		Pg	12 36 59.9	+0.1
NNSB	baz=301			*e*S		Sg	12 37 06.4	+0.6
NNSH	Datong	0.45	302	P		Pg	12 36 59.9	+0.1
NNSH	baz=301			*e*S		Sg	12 37 06.3	+0.6
NNS	Nan Shan	0.46	303	*e*P		Pg	12 37 00.2	+0.1
NNS	baz=302			*e*S		Sg	12 37 06.7	+0.5
EOS1	EOS1	0.47	40	*e*P		Pg	12 37 00.4	+0.2
EOS1	baz=41			*e*S		Sb	12 37 07.9	-0.2
WHF	Hehuan Shan	0.49	265	P		Pg	12 37 00.5	-0.2
WHF	baz=263			*e*S		Sg	12 37 07.8	+0.6
ENTT	Nioudou	0.49	335	*i* P		Pg	12 37 00.8	+0.1
ENTT	baz=336			*e*S		Sb	12 37 08.3	-0.7
ESL	Shilin	0.50	222	*e*P		Pg	12 37 00.8	0.0
ESL	baz=219			*e*S		Sb	12 37 08.6	-0.5
TWE	Neicheng	0.54	347	P		Pg	12 37 01.6	+0.1
TWE	baz=349			*e*S		Sg	12 37 09.0	+0.3
TWT	Tachien	0.57	276	*e*P		Pb	12 37 02.8	-0.3
TWT	baz=274			*e*S		Sb	12 37 11.6	+0.4
ILA	Ilan	0.57	356	*e*P		Pg	12 37 02.2	0.0
ILA	baz=357			*e*S		Sb	12 37 10.9	-0.4
CHGB	Renai	0.58	257	P		Pg	12 37 02.5	0.0
CHGB	baz=256			*e*S		Sg	12 37 10.5	+0.3
TDCB	Techi	0.59	276	*e*P		Pg	12 37 02.7	+0.3
TDCB	baz=275			*e*S		Sb	12 37 11.1	-0.6
YHNB	Yeheng	0.61	321	⇓P		Pg	12 37 03.3	+0.3
YHNB	baz=321			*e*S		Sb	12 37 12.1	-0.3
OWD	Renai baz=246	0.61	248	*e*P		Pg	12 37 03.0	0.0
OWD	baz=246			*e*S		Sb	12 37 12.3	-0.2
EGFH	Guangfu baz=211	0.62	213	*e*P		Pg	12 37 03.0	0.0
EGFH	baz=211			*e*S		Sb	12 37 12.2	-0.3
NWLT	Wulai baz=335	0.64	335	*e*P		Pg	12 37 03.7	+0.2
NWLT	baz=335			*e*S		Sb	12 37 12.8	-0.4
NTC	Toucheng baz=3.0	0.66	3	*e*P		Pg	12 37 03.8	0.0
NTC	baz=3.0			*e*S		Sb	12 37 13.4	-0.3
HGSD	Ruisui baz=205	0.77	206	*e*P		Pb	12 37 06.5	+0.1
HGSD	baz=205			*e*S		Sb	12 37 17.0	+0.1
TIPB	Shuangxi baz=2.0	0.78	2	*e*P		Pg	12 37 05.2	-0.9
TIPB	baz=2.0			*e*S		Sg	12 37 16.1	-0.2
EHY	Hungye baz=211	0.81	213	*e*P		Pb	12 37 07.0	0.0
EHY	baz=211			*e*S		Sb	12 37 18.4	+0.4
DPDB	Guoxing baz=258	0.81	259	*e*P		Pn	12 37 08.1	-0.3
DPDB	baz=258			*e*S		Sb	12 37 18.1	0.0
TWA	Mucha baz=347	0.81	346	*e*P		Pb	12 37 07.0	-0.1
TATO	Taipei baz=341	0.83	340	*e*P		Pb	12 37 07.6	+0.2
TATO	baz=341			*e*S		Sg	12 37 18.2	+0.2
NSTT	Nanjuang baz=301	0.85	301	*e*P		Pn	12 37 08.3	-0.5
NSTT	baz=301			*e*S		Sb	12 37 19.3	+0.2
SSLB	Suanglung baz=241	0.87	243	*e*P		Pg	12 37 07.5	-0.2
SSLB	baz=241			*e*S		Sb	12 37 20.2	+0.5
SMLT	Sun Moon Lake baz=248	0.88	250	*e*P		Pb	12 37 08.1	-0.1
SMLT	baz=248			*e*S		Sn	12 37 21.1	-1.0
NWF	Wu-fen Shan baz=359	0.88	359	*e*P		Pb	12 37 08.4	+0.1
NWF	baz=359			*e*S		Sg	12 37 19.0	-0.5
WFSB	Wu-fen Shan baz=359	0.88	359	*e*P		Pb	12 37 08.4	+0.2
WFSB	baz=359			*e*S		Sg	12 37 19.0	-0.4
TYC	Yuchr baz=250	0.91	252	*e*P		Pn	12 37 09.3	-0.3
TYC	baz=250			*e*S		Sb	12 37 20.7	0.0
YULB	Yu-li baz=209	0.92	210	*e*P		Pg	12 37 07.9	-0.8
YULB	baz=209			*e*S		Sn	12 37 22.3	-0.7
TWF1	Yuli baz=207	0.95	209	*e*P		Pg	12 37 08.9	-0.4
TWF1	baz=207			*e*S		Sn	12 37 22.9	-0.9
YM10	YM10 baz=347	0.98	347	*e*P		Pn	12 37 10.7	-0.1
YM10	baz=347			*e*S		Sb	12 37 23.3	+0.2
YM05	YM05 baz=348	0.99	348	*e*P		Pn	12 37 10.8	-0.1
YM05	baz=348			*e*S		Sn	12 37 25.1	+0.2
YM07	YM07 baz=351	0.99	351	*e*P		Pg	12 37 09.7	-0.4
YM07	baz=351			*e*S		Sb	12 37 23.7	+0.4
YUS	Yu-Shan baz=227	1.04	228	*e*P		Pg	12 37 10.8	-0.4
YUS	baz=227			*e*S		Sn	12 37 26.7	0.0
JYNG	Yonagunijimaku	1.08	76	P		Pb	12 37 11.4	-0.2
JYNG				*e*S		Sb	12 37 25.1	-0.6
FULB	Fuli baz=204	1.09	205	*e*P		Pb	12 37 11.7	-0.1
FULB	baz=204			*e*S		Sg	12 37 26.4	+0.3
ALS	Alishan baz=232	1.13	234	*e*P		Pg	12 37 12.7	-0.1
ALS	baz=232			*e*S		Sn	12 37 29.1	+0.4
YOJ	Yonaguni jima	1.14	76	P		Pb	12 37 12.7	0.0
CHN5	Tsauling baz=239	1.18	240	*e*P		Pg	12 37 14.2	+0.4
CHN5	baz=239			*e*S		Sn	12 37 30.8	+1.2
ELDTW	Lidau baz=214	1.23	216	*e*P		Pn	12 37 13.4	-0.8
ELDTW	baz=214			*e*S		Sn	12 37 30.6	-0.1
CHN4	Tsaushan baz=232	1.38	233	*e*P		Pg	12 37 17.5	-0.1
TPUB	Ta-pu baz=229	1.39	231	*e*P		Pg	12 37 17.8	+0.1
TPUB	baz=229			*e*S		Sb	12 37 34.9	+0.2
WTP	Ta-pu baz=228	1.44	229	*e*P		Pg	12 37 18.4	-0.2
WTP	baz=228			*e*S		Sb	12 37 35.9	-0.1
TWK	Hsinying baz=231	1.51	233	*e*P		Pb	12 37 19.5	+0.4
CHN1	Nanshi baz=228	1.53	230	*e*P		Pn	12 37 18.1	-0.2
CHN1	baz=228			*e*S		Sb	12 37 38.6	-0.3
IRIF	Iriomote-Funau	1.77	85	P		Pn	12 37 22.3	+0.8
IRIF				*e*S		Sb	12 37 45.2	-0.4
HATJ	Hateruma jima	1.84	94	P		Pn	12 37 23.1	+0.7
JKRS	Kuro-shima	2.02	88	P		Pb	12 37 26.4	-1.3
JKRS				S		Sn	12 37 51.0	+0.8
JIJ	Ishigaki jima	2.15	85	P		Pn	12 37 27.9	+1.2
JISG	Ishigakijimahi	2.33	80	P		Pn	12 37 28.9	-0.2
JTJ	Tarama	2.69	80	P		Pn	12 37 35.9	+1.8

ROM 22 12:38:52.2±0.1, 42°.98N×12°.93E, h8km±1km, Md1.4/3, Ml0.9/2, Error ellipse: s-maj=0.6km s-min=0.6km az=47.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CESI	CESI - Serrava	0.04	323	Pg		Pg	12 38 54.1	+0.2
CESI	23nm,0.1s			Sg		Sg	12 38 55.3	+0.2
FDMO	Fiordimonte	0.13	62	Pg		Pg	12 38 55.6	+0.6
FDMO	18nm,0.2s			Sg		Sg	12 38 57.9	+0.9
NRCA	Norcia	0.20	137	Pg		Pg	12 38 56.8	+0.6
NRCA	30nm,0.1s			Sg		Sg	12 39 00.3	+1.4

*IDC **22** 12:39:49.1±2.5, 2°.31N×89°.65E, h0km, mb3.6/4, mb1 3.7/5, mb1mx3.4/69, mbtmp3.6/5, Error ellipse: s-maj=80.5km s-min=30.9km az=63.0*
ISC 22 12:39:49.9±2.3, 2°.3N±0°.2×89°.6E±0°.4, h10km, n10, σ0§52/6, mb3.7/4, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PALK	Pallekele	10.16	300	Sn		Sn	12 44 00.9	-9.2
CMAR	1.4nm,0.3s,baz=118,slow=0.8,SNR=3.9 Chiang Mai Arr	18.54	29	P		Pn	12 44 07.2	+0.2
H08S2	baz=233,slow=15,SNR=2.7 Diego Garcia H	19.68	240	T		T	13 04 41.5	
H08S3	baz=60,slow=75,SNR=31 Diego Garcia H	19.68	240	T		T	13 04 41.8	
H08S1	baz=60,slow=75,SNR=36 Diego Garcia H	19.70	240	T		T	13 04 43.0	
MKAR	baz=60,slow=75,SNR=28 Makanchi Array	44.82	353	P		P	12 48 04.6	+0.4
SONM	0.3nm,0.5s,baz=174,slow=8.0,SNR=3.3 Songino Array	47.68	15	P		P	12 48 26.5	-0.3

0.6nm,0.5s,baz=193,slow=8.9,SNR=4.7
WRA Warramunga Arr 49.13 119 P **P** **12 48 38.3 0.0**
1.2nm,0.6s,baz=297,slow=8.6,SNR=4.8
ZALV Zalesovo Beam 51.68 356 P **P** **12 48 56.4 -0.6**
0.3nm,0.4s,baz=161,slow=9.2,SNR=2.5
TXAR Lajitas Array 146.13 21 PKPbc **PKPab** **12 59 32.2 +0.4**
0.2nm,0.7s,baz=224,slow=2.5,SNR=3.5

JMA 22 12:41:22.2, 36.50N×137.70E, h1km±1km, M0.8, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNG	**Nsakai**	**0.34**	**106**	P	Pg	12 41 29.1	+0.5
JNG				S	Sg	12 41 33.8	+0.8
MAT	**Matsushiro**	**0.41**	**84**	P	Pg	12 41 30.3	+0.2
MAT				S	Sg	12 41 35.9	+0.5
MAT	**Matsushiro**	**0.41**	**84**	P	Pg	12 41 30.3	+0.2
MAT				S	Sg	12 41 36.0	+0.6
JGN	**Niukaw**	**0.42**	**228**	P	Pg	12 41 30.6	+0.4
JGN				S	Sg	12 41 36.4	+0.8

*IDC **22** 12:42:04.0±0.8, 1.58S×134.51E, h0km, mb3.8/7, mb1 4.1/10, mb1mx3.8/52, mbtmp3.9/10, ML4.0/3, Error ellipse: s-maj=23.4km s-min=13.9km az=39.0*
*ISCJB **22** 12:42:06.3±0.5, 1.65S±0.05×134.52E±0.05, h29km, mb4.1/14, Error ellipse: s-maj=8.7km s-min=6.6km az=137.5*
*NEIC **22** 12:42:09.0±0.3, 1.66S×134.49E, h35km, mb4.3/11, Error ellipse: s-maj=9.2km s-min=6.0km az=87.0*
*DJA **22** 12:42:10.2±0.9, 1°S±4°×13°4E±°, h10km, M4.3/8, mB5.1/2, mb4.4/5, MLv4.3/8, Mw(mB)4.4/2*
ISC 22 12:42:08.0±0.6, 1.54S±0.07×134.49E±0.08, h29km, n40, σ1°§21/45, mb4.1/14, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RKPI	**Ransiki, Papua**	**0.31**	**275**	P	**Pb**	**12 42 12.2**	**-3.4**
KMPI	**Kaimana, Papua**	**2.25**	**200**	P	**Pb**	**12 42 47.9**	**-0.1**
FAKI	**Fak Fak**	**2.62**	**238**	P	**Pn**	**12 42 48.7**	**+0.2**
FAKI	**Fak Fak**	**2.62**	**238**	*e*Pn	**Pn**	**12 42 47.5**	**-1.0**
SIJI	**Sorong**	**3.29**	**282**	Pn	**Pn**	**12 42 56.9**	**-0.8**
	6.6nm,0.3s,baz=256,slow=22,SNR=23						
SIJI				Pg	**Pb**	**12 43 04.7**	**-1.0**
	18nm,0.3s,baz=96,slow=17,SNR=15						
SIJI				Sn	**Sn**	**12 43 38.4**	**+2.6**
	17nm,0.3s,baz=279,slow=23,SNR=7.8						
SIJI				Lg	Lg	12 43 51.5	
	25nm,0.3s,baz=138,slow=21,SNR=8.0						
BNDI	**Bandanaira**	**5.45**	**237**	P	**Pn**	**12 43 29.2**	**+1.8**
MSAI	**Masohi**	**5.84**	**252**	P	**Pn**	**12 43 33.8**	**+1.1**
AAI	**Ambon**	**6.64**	**251**	P	**Pn**	**12 43 44.2**	**+0.5**
	40nm,0.7s,7µm0.2nm						
NLAI	**Namlea**	**7.57**	**257**	P	**Pn**	**12 43 56.6**	**+0.1**
MTN	**Manton Dam**	**11.71**	**196**	*e*Pn	**Pn**	**12 44 52.0**	**-1.3**
BATI	**Baumata**	**13.78**	**231**	Pn	**Pn**	**12 45 21.3**	**-0.3**
	0.7nm,0.3s,baz=292,slow=5.4,SNR=2.2						
WRAB	**Tennant Creek**	**18.28**	**180**	*e*P	**P**	**12 46 18.6**	**-1.1**
	16nm,1.0s						
WB2	**Warramunga Arr**	**18.29**	**180**	*e*Pn	**P**	**12 46 18.1**	**-1.7**
	17nm,1.1s						
WR1	**Warramunga Arr**	**18.29**	**180**	*e*Pn	**P**	**12 46 18.4**	**-1.4**
	14nm,0.9s						
WRA	**Warramunga Arr**	**18.29**	**180**	P	**P**	**12 46 18.4**	**-1.4**
	0.9nm,0.3s,baz=1.4,slow=12,SNR=46						
JAGI	**Jajag, Banyuwa**	**21.38**	**251**	*e*P	**P**	**12 46 52.3**	**-1.3**
	33nm,1.1s						
CTA	**Charters Tower**	**21.73**	**149**	P	**P**	**12 46 57.4**	**+0.2**
	1.0nm,0.3s,baz=341,slow=12,SNR=3.6						
AS01	**Alice Springs**	**22.00**	**181**	*e*P	**P**	**12 46 58.7**	**-1.4**
AS31	**Alice Springs**	**22.00**	**181**	*e*P	**P**	**12 46 59.0**	**-1.1**
	4.1nm,0.6s						
ASAR	**Alice Springs**	**22.00**	**181**	P	**P**	**12 46 58.8**	**-1.4**
	7.3nm,0.7s,baz=7.8,slow=13,SNR=99						
MBWA	**Marble Bar**	**24.23**	**215**	*e*P	**P**	**12 47 23.1**	**+0.5**
	27nm,1.4s						
KSM	**Kuching**	**24.36**	**277**	*e*P	**P**	**12 47 26.0**	**+2.1**
	21nm,1.0s						
STKA	**Stephens Creek**	**30.91**	**168**	P	**P**	**12 48 22.2**	**-0.2**
	3.3nm,0.8s,baz=315,slow=13,SNR=4.0						
STKA	**Stephens Creek**	**30.91**	**168**	*e*P	**P**	**12 48 22.9**	**+0.6**
	1.9nm,1.1s						
CMAR	**Chiang Mai Arr**	**40.21**	**301**	P	**P**	**12 49 43.0**	**+0.6**
	0.6nm,0.6s,baz=112,slow=7.1,SNR=2.8						
MK32	**Makanchi Array**	**66.32**	**324**	*e*P	**P**	**12 52 54.9**	**+0.9**
MKAR	**Makanchi Array**	**66.32**	**324**	P	**P**	**12 52 54.9**	**+0.9**
	0.3nm,0.6s,baz=123,slow=7.5,SNR=4.4						
KURK	**Kurchatov**	**70.37**	**326**	*e*P	**P**	**12 53 18.5**	**-0.7**
	3.1nm,1.3s						
KURBB	**Kurchatov Arra**	**70.37**	**326**	P	**P**	**12 53 19.3**	**+0.1**
	0.2nm,0.4s,baz=121,slow=5.7,SNR=2.5						
KTH	**Kantishna Hill**	**84.55**	**26**	*e*P	**P**	**12 54 38.9**	**+0.6**
	2.8nm,1.1s						
ILAR	**Eielson Array**	**86.54**	**25**	P	**P**	**12 54 49.4**	**+1.3**
	0.5nm,0.9s,baz=257,slow=4.7,SNR=4.2						
DOT	**Dot Lake**	**87.57**	**26**	*e*P	**P**	**12 54 53.4**	**+0.2**
	13nm,1.4s						
TORD	**Torodi Ar. Bea**	**131.88**	**286**	PKP	**PKPdf**	**13 01 20.3**	**+0.6**
	0.5nm,0.7s,baz=27,slow=4.1,SNR=3.3						
TOA1	**Torodi Ar. Sit**	**131.88**	**286**	*e*PKPdf	**PKPdf**	**13 01 20.3**	**+0.6**
HRV	**Adam Dziewonsk**	**133.01**	**26**	*e*PKPdf	**PKPdf**	**13 01 21.5**	**+0.4**
PB01	**IPOC Station P**	**147.53**	**135**	*e*PKPbc	**PKPbc**	**13 01 49.5**	**-1.0**
CPUP	**Villa Florida**	**150.03**	**158**	PKP	**PKPdf**	**13 01 51.0**	**-0.8**
	3.0nm,1.1s,baz=162,slow=6.4,SNR=2.6						
CPUP				PKPbc	**PKiKP**	**13 01 56.5**	**-1.1**
	2.7nm,0.8s,baz=224,slow=0.8,SNR=5.3						
CPUP	**Villa Florida**	**150.03**	**158**	*e*PKPdf	**PKPdf**	**13 01 51.0**	**-0.8**
CPUP				*e*PKPbc	**PKiKP**	**13 01 57.6**	**+0.1**
LPAZ	**La Paz**	**151.49**	**129**	PKPbc	**PKPbc**	**13 02 03.2**	**+2.0**
	1.4nm,0.8s,baz=266,slow=1.8,SNR=5.5						
LPAZ	**La Paz**	**151.49**	**129**	*e*PKPdf	**PKPdf**	**13 01 53.7**	**-1.3**
LPAZ				*e*PKPab	**pPKPdf**	**13 02 04.9**	**+0.3**

IDC 22 12:43:29.9±1.4, 52.26S×137.99E, h0km, mb4.1/3, mb1 4.4/3, mb1mx3.9/40, mbtmp4.2/3, MS4.1/5, Ms1 4.0/5, ms1mx3.5/38, Error ellipse: s-maj=82.0km s-min=35.7km az=88.0, West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**20.54**	**9**	P	P	12 48 08.5	-1.3
	5.3nm,0.9s,baz=166,slow=11,SNR=4.5						
STKA				LR	LR	12 55 09.4	
	comp=Z,198nm,18.1s,baz=184,slow=34						
H01W1	**Cape Leeuwin H**	**24.31**	**306**	T	T	13 15 47.5	
	baz=141,slow=74,SNR=17						
H01W2	**Cape Leeuwin H**	**24.32**	**306**	T	T	13 15 48.6	
	baz=141,slow=74,SNR=16						
H01W3	**Cape Leeuwin H**	**24.33**	**306**	T	T	13 15 51.0	
	baz=141,slow=74,SNR=16						
NWAO	**Narrogin (SRO)**	**24.48**	**314**	LR	LR	12 56 45.7	
	comp=Z,312nm,18.6s,baz=3.5,slow=32						
ASAR	**Alice Springs**	**28.72**	**352**	P	P	12 49 28.8	0.0
	1.7nm,0.9s,baz=167,slow=9.5,SNR=6.9						
WRA	**Warramunga Arr**	**32.38**	**354**	P	P	12 50 02.3	+1.2
	6.9nm,1.1s,baz=180,slow=7.3,SNR=10.0						
DZM	**Mont Dzumac**	**37.25**	**47**	LR	LR	13 02 28.7	
	comp=Z,387nm,18.1s,baz=258,slow=31						
QSPA	**South Pole Qui**	**37.85**	**180**	LR	LR	13 05 02.6	
	comp=Z,302nm,18.9s,baz=250,slow=34						
MAW	**Mawson**	**37.90**	**217**	LR	LR	13 04 13.1	
	comp=Z,427nm,20.4s,baz=70,slow=33						
H08S2	**Diego Garcia H**	**69.09**	**285**	T	T	14 11 42.6	
	baz=143,slow=76,SNR=9.9						
H08S1	**Diego Carcia H**	**69.10**	**285**	T	T	14 11 41.6	
	baz=143,slow=76,SNR=6.7						
H08S3	**Diego Garcia H**	**69.11**	**285**	T	T	14 11 43.0	
	baz=143,slow=76,SNR=8.8						
NVAR	**Mina Array Bea**	**127.06**	**73**	PKP	PKPdf	13 02 36.1	+0.6
	0.1nm,0.4s,baz=232,slow=4.4,SNR=3.8						
ILAR	**Eielson Array**	**130.17**	**33**	PKP	PKPdf	13 02 39.7	-0.7
	0.2nm,0.8s,baz=235,slow=3.2,SNR=3.1						
YKA	**Yellowknife Ar**	**141.63**	**46**	PKP	PKPdf	13 03 00.9	-0.8
	0.3nm,1.0s,baz=275,slow=2.2,SNR=4.4						
FINES	**FINESS Array B**	**143.32**	**312**	PKP	PKPbc	13 03 02.0	+0.1
	1.6nm,0.8s,baz=124,slow=9.6,SNR=4.9						
GERES	**GERESS Array B**	**145.18**	**287**	PKPbc	PKPbc	13 03 08.2	0.0
	1.4nm,1.0s,baz=219,slow=1.3,SNR=5.4						
ARCES	**ARCESS Array B**	**145.19**	**325**	PKPbc	PKPbc	13 03 04.8	-2.7
	3.5nm,0.9s,baz=72,slow=3.1,SNR=3.6						

IDC 22 12:44:40.7±4.3, 13.95N×147.35E, h0km, mb3.4/4, mb1 3.6/5, mb1mx3.4/62, mbtmp3.5/5, ML3.5/1, Error ellipse: s-maj=126.0km s-min=29.6km az=162.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**2.43**	**262**	Pn	Pn	12 45 21.5	-0.2
	11nm,0.3s,baz=43,slow=4.5,SNR=13						
GUMO				Sn	Sn	12 45 47.1	-5.1
	15nm,0.3s,baz=12,slow=17,SNR=4.4						
MKAR	**Makanchi Array**	**62.91**	**316**	P	P	12 55 10.5	+1.5
	0.1nm,0.4s,baz=97,slow=6.8,SNR=2.6						
KURBB	**Kurchatov Arra**	**65.92**	**319**	P	P	12 55 26.8	-1.6
	0.5nm,0.6s,baz=96,slow=7.1,SNR=5.8						
ILAR	**Eielson Array**	**67.22**	**25**	P	P	12 55 36.2	-0.3
	0.2nm,0.4s,baz=263,slow=5.6,SNR=6.0						
YKA	**Yellowknife Ar**	**81.43**	**28**	P	P	12 56 59.7	+0.4
	0.1nm,0.7s,baz=284,slow=5.2,SNR=4.1						

*IDC **22** 12:47:02.6±2.6, 1.58N×95.18E, h0km, mb3.6/6, mb1 3.7/7, mb1mx3.4/68, mbtmp3.6/7, ML3.8/1, Error ellipse: s-maj=100.9km s-min=20.4km az=59.0*
*ISCJB **22** 12:47:05.8±1.7, 1.16N±0.2×95.35E±0.4, h33km, mb3.6/6, Error ellipse: s-maj=55.8km s-min=16.5km az=154.2*
ISC 22 12:47:08.4±2.4, 1.7N±0.3×95.4E±0.5, h35km, n10, σ0§50/7, mb3.7/6, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**17.04**	**12**	P	**Pn**	**12 51 03.6**	**-0.5**
	0.1nm,0.3s,baz=202,slow=11,SNR=9.0						
H08S2	**Diego Garcia H**	**24.61**	**248**	T	T	13 19 31.3	
	baz=67,slow=75,SNR=3.2						
H08S3	**Diego Garcia H**	**24.61**	**248**	T	T	13 19 32.2	
	baz=67,slow=75,SNR=2.8						
H08S1	**Diego Carcia H**	**24.63**	**248**	T	T	13 19 34.9	
	baz=67,slow=75,SNR=2.8						
WRA	**Warramunga Arr**	**43.86**	**121**	P	**P**	**12 55 11.6**	**-0.1**
	0.5nm,0.7s,baz=300,slow=8.5,SNR=7.5						
ASAR	**Alice Springs**	**45.16**	**126**	P	**P**	**12 55 22.0**	**-0.1**
	0.4nm,0.5s,baz=293,slow=7.6,SNR=10						
MKAR	**Makanchi Array**	**46.36**	**348**	P	**P**	**12 55 31.2**	**0.0**
	0.8nm,0.7s,baz=166,slow=8.7,SNR=5.9						
SONM	**Songino Array**	**46.96**	**10**	P	**P**	**12 55 36.7**	**+0.7**
	0.6nm,0.6s,baz=192,slow=8.1,SNR=4.1						
KURBB	**Kurchatov Arra**	**50.81**	**346**	P	**P**	**12 56 04.8**	**-0.4**
	0.2nm,0.5s,baz=166,slow=6.0,SNR=3.1						
ZALV	**Zalesovo Beam**	**52.82**	**352**	P	**P**	**12 56 19.9**	**-0.2**
	0.6nm,0.5s,baz=180,slow=5.9,SNR=4.1						

IDC 22 12:51:00.3±1.7, 4.42S×145.34E, h0km, mb3.2/2, mb1 3.5/3, mb1mx3.3/45, mbtmp3.2/3, ML3.3/1, Error ellipse: s-maj=109.9km s-min=28.3km az=119.0, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.28**	**160**	Sn	Sn	12 53 10.1	-12
	2.0nm,0.3s,baz=285,slow=24,SNR=9.7						
WRA	**Warramunga Arr**	**18.79**	**214**	P	P	12 55 21.4	0.0
	0.1nm,0.3s,baz=36,slow=11,SNR=6.0						
ASAR	**Alice Springs**	**22.09**	**209**	P	P	12 55 57.2	-0.1
	0.2nm,0.4s,baz=39,slow=7.8,SNR=7.7						
ILAR	**Eielson Array**	**84.69**	**23**	P	P	13 03 35.8	0.0
	0.2nm,0.6s,baz=265,slow=5.3,SNR=3.8						

*IDC **22** 12:56:17.0±9.7, 4.29S×105.66E, h0km, mb3.7/3, mb1 3.9/4, mb1mx3.4/60, mbtmp3.7/4, ML3.5/1, Error ellipse: s-maj=196.9km s-min=100.0km az=84.0*
*DJA **22** 12:56:25.5±0.4, 6°S±4°×10°5E±°, h10km, M3.2/7, MLv3.2/7*
*ISCJB **22** 12:56:26.9±0.8, 6.23S±0.10×105.4E±0.1, h33km, mb3.6/3, Error ellipse: s-maj=20.6km s-min=6.5km az=139.8*
ISC 22 12:56:28.5±1.1, 6.24S±0.09×105.41E±0.09, h35km, n12, σ2§27/12, mb3.7/3, Sunda Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CGJI	**Cibinong**	**0.47**	**144**	P	**Pn**	**12 56 35.6**	**-3.1**
CGJI				S	**Sn**	**12 56 43.1**	**-2.7**
SBJI	**Serang**	**0.72**	**81**	P	**Pn**	**12 56 39.7**	**-2.6**
BLSI	**Bandar Lampung**	**0.88**	**349**	P	**Pn**	**12 56 41.3**	**-3.1**
KASI	**Kota Agung**	**1.15**	**308**	P	**Pn**	**12 56 46.3**	**-1.9**
DBJI	**Dramaga**	**1.37**	**103**	P	**Pn**	**12 56 51.0**	**-0.1**
SKJI	**Sukabumi**	**1.37**	**124**	P	**Pn**	**12 56 50.9**	**-0.3**
KLI	**Kotabumi**	**1.47**	**338**	P	**Pn**	**12 56 51.7**	**-0.9**
MDSI	**Maura Dua**	**2.13**	**325**	P	**Pn**	**12 57 01.3**	**-0.3**
LEM	**Lembang**	**2.27**	**105**	Pn	Pn	12 57 07.8	+4.1
	6.0nm,0.3s,baz=323,slow=20,SNR=3.7						
WRA	**Warramunga Arr**	**31.22**	**119**	P	**P**	**13 02 46.0**	**+1.0**
	0.5nm,0.4s,baz=304,slow=8.9,SNR=9.5						
ASAR	**Alice Springs**	**32.41**	**125**	P	**P**	**13 02 56.8**	**+1.3**
	0.3nm,0.6s,baz=300,slow=8.1,SNR=7.1						
STKA	**Stephens Creek**	**42.32**	**132**	P	**P**	**13 04 21.6**	**+2.3**
	1.4nm,0.5s,baz=325,slow=12,SNR=4.5						

*BJI **22** 13:04:08.4, 6.65S×105.14E, h20km, mb4.6/15, mB5.0/11, Ms4.7/6, Ms7 4.4/6*
*DJA **22** 13:04:14.9±0.2, 6°S±3°×10°5E±°, h10km, M4.7/21, mb4.6/21, mB5.3/12, MLv4.7/21, Mw(mB)4.7/12, Mwp6.3/1*
*ISCJB **22** 13:04:15.6±0.5, 6.11S±0.04×105.38E±0.04, h44km±4km, mb4.6/76, MS4.4/2, Error ellipse: s-maj=8.6km s-min=3.8km az=37.5*
*NEIC **22** 13:04:15.1±1.7, 5.91S×105.50E, h29km±11km, mb4.8/39, Error ellipse: s-maj=8.9km s-min=4.1km az=223.0*
*IDC **22** 13:04:16.3±2.5, 5.93S×105.45E, h33km±18km, mb4.3/30, mb1 4.4/32, mb1mx4.3/68, mbtmp4.5/32, ML4.0/2, Error ellipse: s-maj=17.9km s-min=8.2km az=47.0*
ISC 22 13:04:14.7±1.1, 6.12S±0.04×105.37E±0.04, h25km±7km, n342, σ1§61/352, mb4.7/79, 9C-11D, Sunda Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CGJI	**Cibinong**	**0.58**	**147**	P	**Pb**	**13 04 23.9**	**-2.5**
SBJI	**Serang**	**0.76**	**90**	P	**Pb**	**13 04 27.6**	**-1.7**
BLSI	**Bandar Lampung**	**0.76**	**351**	P	**Pb**	**13 04 27.9**	**-1.4**
KASI	**Kota Agung**	**1.05**	**304**	P	**Pn**	**13 04 33.3**	**-0.6**
TNG	**Tangerang**	**1.27**	**92**	P	**Pn**	**13 04 36.4**	**-0.5**
TNG				P	**Pn**	**13 04 36.4**	**-0.5**
TNG				S	**Sb**	**13 04 56.4**	**+2.5**
KLI	**Kotabumi**	**1.35**	**338**	P	**Pn**	**13 04 38.7**	**+0.7**
KLI				S	**Sb**	**13 04 58.2**	**+2.0**
DBJI	**Dramaga**	**1.44**	**107**	P	**Pn**	**13 04 38.3**	**-0.9**
SKJI	**Sukabumi**	**1.47**	**127**	P	**Pn**	**13 04 39.0**	**-0.7**
SKJI				S	**Sb**	**13 05 01.5**	**+1.8**
LWLI	**Liwa**	**1.70**	**310**	P	**Pb**	**13 04 44.4**	**-1.1**
MDSI	**Maura Dua**	**2.01**	**324**	P	**Pn**	**13 04 48.5**	**+1.4**
LEM	**Lembang**	**2.34**	**107**	Pn	**Pn**	**13 04 52.8**	**+1.0**
	11nm,0.3s,baz=233,slow=5.9,SNR=31						
LEM				Lg	Lg	13 05 32.8	
	24nm,0.3s,baz=285,slow=19,SNR=2.9						
LEM	**Lembang**	**2.34**	**107**	P	**Pn**	**13 04 52.9**	**+1.1**
JCJI	**Jatiwangi**	**2.91**	**97**	P	**Pb**	**13 05 06.0**	**+0.1**
MNAI	**Manna**	**2.97**	**306**	P	**Pn**	**13 05 01.5**	**+1.1**
MNAI	**Manna**	**2.97**	**306**	*e*Pn	**Pn**	**13 05 02.4**	**+2.0**
KPJI	**Karang Pucung**	**3.74**	**109**	P	**Pn**	**13 05 14.3**	**+3.4**
PPBI	**Pangkal Pinang**	**4.01**	**11**	P	**Pn**	**13 05 16.1**	**+1.5**
MASI	**Maura Aman, Be**	**4.30**	**313**	P	**Pn**	**13 05 19.8**	**+1.1**
XMIS	**Christmas Isla**	**4.34**	**176**	*e*Pn	**Pn**	**13 05 14.2**	**-4.9**
SMRI	**Semarang**	**5.12**	**101**	P	**Pn**	**13 05 32.2**	**+2.3**
SMRI	**Semarang**	**5.12**	**101**	*e*Pn	Pn	13 05 23.3	-6.6
UGM	**Wanagama**	**5.42**	**109**	P	**Pn**	**13 05 36.6**	**+2.6**
	217nm,1.3s,0.8nm						
UGM	**Wanagama**	**5.42**	**109**	*e*Pn	**Pn**	**13 05 32.3**	**-1.7**
KRJI	**Kerinci**	**5.59**	**316**	P	**Pn**	**13 05 39.1**	**+2.7**
DSRI	**Dabo**	**5.66**	**352**	P	**Pn**	**13 05 38.0**	**+0.7**
	102nm,1.8s,6µm237µm3.8nm						
WOJI	**Wonogiri, Jawa**	**5.77**	**107**	P	**Pn**	**13 05 42.5**	**+3.7**
	42nm,1.0s,0.3nm						
PCJI	**Pacitan**	**6.12**	**110**	P	**Pn**	**13 05 45.9**	**+2.3**
	102nm,1.3s,0.4nm						
NGJI	**Ngawi**	**6.18**	**102**	P	**Pn**	**13 05 47.8**	**+3.4**
PWJI	**Pagerwojo**	**6.66**	**107**	P	**Pn**	**13 05 51.9**	**+0.8**
	94nm,1.3s,0.4nm						
JAGI	**Jajag, Banyuwa**	**9.02**	**106**	P	Pn	13 06 28.7	+5.2
	52nm,1.5s						
SRBI	**Singaraja**	**9.96**	**102**	P	**Pn**	**13 06 38.5**	**+2.1**
	22nm,0.4s,560nm						
SBUM	**Sibu**	**10.92**	**39**	*e*Pn	**Pn**	**13 06 46.1**	**-3.5**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**12.28**	**337**	*e*Pn	**Pn**	**13 07 05.8**	**-2.3**
BNSI	**Bone**	**14.78**	**84**	P	**Pn**	**13 07 44.4**	**+2.2**
	41nm,2.6s,1µm						
TRTT	**Trang**	**14.98**	**338**	P	P	13 07 57.2	+7.0
BSSI	**Bau Bau, Buton**	**15.04**	**91**	P	**P**	**13 07 52.4**	**+1.5**
MPSI	**Mapaga**	**15.86**	**67**	P	**P**	**13 07 59.2**	**-0.8**
	19nm,1.7s,428nm						
APSI	**Ampana**	**17.05**	**73**	P	**P**	**13 08 15.1**	**+1.8**
	86nm,1.2s,1µm						
MRSI	**Marisa**	**17.80**	**69**	P	**P**	**13 08 24.2**	**+2.7**
	15nm,1.3s,330nm						
LUWI	**Luwuk**	**18.08**	**74**	P	**P**	**13 08 28.7**	**+4.0**
	66nm,1.4s,2µm						
LUWI	**Luwuk**	**18.08**	**74**	*e*Pn	**Pn**	**13 08 24.3**	**-0.2**
	134nm,1.4s						
BATI	**Baumata**	**18.56**	**104**	P	**P**	**13 08 29.0**	**-0.9**
	1.6nm,0.3s,baz=129,slow=12,SNR=3.9						
BATI	**Baumata**	**18.56**	**104**	P	**Pn**	**13 08 32.7**	**+2.5**
	30nm,1.0s,687nm						
SOEI	**Soe**	**19.06**	**102**	P	**Pn**	**13 08 39.6**	**+3.1**
	81nm,1.5s,1µm						
SOEI	**Soe**	**19.06**	**102**	*e*P	**P**	**13 08 31.9**	**-3.7**
	36nm,1.2s						
PHET	**Kaeng Krachan**	**19.75**	**343**	P	**Pn**	**13 08 50.6**	**+6.1**
	6.4nm,1.1s						
NAYO	**Nakonayok**	**20.70**	**349**	P	Pn	13 08 56.5	+0.8
	17nm,1.1s						
SANI	**Sanana**	**20.96**	**80**	P	Pn	13 08 58.0	-0.8
	27nm,1.4s						
SRDT	**SRDT**	**21.26**	**343**	P	P	13 09 12.1	+13
UBPT	**Khong Chiam**	**21.27**	**0**	P	**P**	**13 09 01.7**	**+2.4**
	33nm,1.2s						
NLAI	**Namlea**	**21.84**	**83**	P	**P**	**13 09 11.0**	**+5.3**
	6.8nm,1.0s						
CHAI	**Chaiyaphum**	**22.14**	**351**	P	**P**	**13 09 13.2**	**+4.5**
	3.9nm,0.9s,61nm						
KHON	**Khomkaen**	**22.46**	**354**	P	**P**	**13 09 16.4**	**+4.2**
	11nm,1.0s,1µm						
LBMI	**Labuha**	**22.75**	**77**	P	**P**	**13 09 17.1**	**+1.7**
	35nm,1.0s						
PBKT	**Sadao Pong**	**22.96**	**349**	P	**P**	**13 09 19.4**	**+1.9**
	17nm,1.1s						
SKNT	**Sakolnakorn**	**22.99**	**357**	P	**P**	**13 09 19.6**	**+1.8**
	8.2nm,1.2s						
PHIT	**Phitsanulok**	**23.67**	**348**	P	**P**	**13 09 27.3**	**+2.7**
	13nm,0.9s,399nm						
LAMP	**Lampang**	**25.13**	**347**	P	**P**	**13 09 42.6**	**+4.6**
	4.5nm,0.9s						
CM01	**Chiang Mai Arr**	**25.19**	**346**	*e*P	**P**	**13 09 36.6**	**-1.9**
CMAR	**Chiang Mai Arr**	**25.23**	**346**	P	**P**	**13 09 38.0**	**-0.9**
	1.9nm,0.8s,baz=175,slow=7.6,SNR=7.9						
CMAR				PcP	**PcP**	**13 13 13.3**	**+1.1**
	1.2nm,0.8s,baz=216,slow=1.7,SNR=5.6						
CMMT	**Chiang Mai**	**25.57**	**346**	P	**P**	**13 09 47.5**	**+5.5**
	6.6nm,1.4s						
CHTO	**Chiang Mai**	**25.57**	**346**	P	P	13 09 50.3	+8.3
	74nm,1.2s						
CHTO	**Chiang Mai**	**25.57**	**346**	*e*P	**P**	**13 09 39.5**	**-2.5**
	5.8nm,1.1s						
MTN	**Manton Dam**	**26.26**	**107**	*e*P	**P**	**13 09 47.4**	**-0.9**
	54nm,1.5s						
CMAI	**Chiengmai2**	**26.63**	**347**	P	**P**	**13 09 57.9**	**+6.2**
	94nm,1.1s						
WRA	**Warramunga Arr**	**31.31**	**119**	P	**P**	**13 10 33.0**	**-0.3**
	2.1nm,0.4s,baz=305,slow=8.8,SNR=52						
WRA				PcP	**PcP**	**13 13 28.3**	**+1.1**
	1.2nm,0.8s,baz=298,slow=1.8,SNR=6.7						
WRAB	**Tennant Creek**	**31.32**	**119**	*e*P	**P**	**13 10 32.5**	**-0.8**
	15nm,1.1s						
WB2	**Warramunga Arr**	**31.32**	**119**	*e*P	**P**	**13 10 33.1**	**-0.3**
	18nm,1.1s						
GYA	**Guiyang**	**32.41**	**2**	P	**P**	**13 10 44.3**	**+1.4**
GYA				pP	pP	13 10 51.4	+1.1
GYA				PP	**PnPn**	**13 11 52.0**	**+1.7**
GYA				PcP	**PcP**	**13 13 31.8**	**+1.6**
GYA				S	**S**	**13 15 55.0**	**-1.2**
GYA				sS	sS	13 16 08.3	-0.1
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
GYA				pmax	pmax		
	comp=Z,120nm,5.2s						
GYA				LR	LR		
	comp=N,530nm,17.2s						
GYA				LR	LR		
	comp=E,

1.1nm,0.8s,baz=163,slow=5.4,SNR=2.3
SONA1 Songino Array 53.74 1 *e*P P 13 13 33.6 -1.4
ULN Ulaanbaatar 53.78 1 *e*P P 13 13 34.2 -1.1
3.2nm,0.8s
WSAR Wadi Sarin 54.18 304 P P 13 13 37.8 -0.7
8.4nm,1.0s,baz=75,slow=9.0,SNR=2.8
KDJ Kajisay 54.47 334 *e*P P 13 13 38.4 -2.1
7.1nm,1.0s
USRK Ussuriysk Ar. 55.54 23 P P 13 13 47.6 -0.3
11nm,1.0s,baz=213,slow=5.9,SNR=6.9
MK01 Makanchi Array 56.50 341 *e*P P 13 13 52.5 -2.3
MK31 Makanchi Array 56.53 341 *e*P P 13 13 53.5 -1.5
MKAR Makanchi Array 56.53 341 P P 13 13 53.0 -2.0
4.2nm,1.0s,baz=148,slow=7.1,SNR=14
MKAR PcP PcP 13 14 53.1 +1.7
1.8nm,1.0s,baz=123,slow=5.3,SNR=3.6
MKAR Makanchi Array 56.53 341 *e*P P 13 13 53.5 -1.5
23nm,0.9s
MKAR PcP PcP 13 14 53.1 +1.7
KLR Kul'dur 59.74 20 P P 13 14 16.5 -0.9
0.3nm,0.9s,baz=259,slow=3.6,SNR=8.0
KURBB Kurchatov Arra 61.09 341 P P 13 14 24.5 -2.1
2.8nm,1.0s,baz=160,slow=6.3,SNR=11
KURBB PcP PcP 13 15 10.0 +0.6
1.7nm,0.9s,baz=156,slow=4.0,SNR=4.6
KURK Kurchatov 61.14 341 *e*P P 13 14 25.4 -1.5
4.3nm,0.9s
KURK PcP PcP 13 15 10.0 +0.4
GEYT Alibeck 62.04 319 P P 13 14 32.9 -0.5
8.4nm,0.9s,baz=172,slow=4.5,SNR=11
GYA0B ALIBECK ARRAY 62.04 319 *e*P P 13 14 31.5 -1.8
15nm,1.1s
ZAA0 Zalesovo Array 62.30 346 *e*P P 13 14 32.1 -2.5
7.5nm,1.0s
ZALV Zalesovo Beam 62.30 346 P P 13 14 32.5 -2.1
8.0nm,1.0s,baz=149,slow=4.3,SNR=19
ZALV Zalesovo Beam 62.30 346 *e*P P 13 14 31.9 -2.7
YSS Yuzh-Sakhalins 62.35 28 *e*P P 13 14 33.4 -1.8
16nm,1.1s
RAYN Ar Rayn 65.41 299 *e*P P 13 14 55.6 -0.2
14nm,1.4s
BVAR Borovoye Array 65.94 338 P P 13 14 56.7 -1.9
1.4nm,0.9s,baz=111,slow=7.9,SNR=6.2
BRVK Borovoye 66.00 338 *e*P P 13 14 58.0 -1.0
2.1nm,0.8s
MAW Mawson 67.74 196 P P 13 15 09.9 0.0
8.3nm,1.2s,baz=38,slow=8.7,SNR=4.5
MAW Mawson 67.74 196 *e*P P 13 15 10.9 +1.1
2.4nm,1.2s
ABKAR Akbulak array 67.84 330 *e*P P 13 15 08.5 -2.2
45nm,1.0s
AKTO Aktyubinsk 69.55 330 P P 13 15 20.3 -1.1
1.1nm,0.7s,baz=113,slow=8.5,SNR=3.1
BKZ Black Stump Fm 71.53 129 *e*P P 13 15 32.9 -1.0
20nm,1.3s
KBZ Khabaz 74.92 318 P P 13 15 53.8 +0.2
11nm,0.9s,baz=147,slow=4.3,SNR=17
ASF Jabal al Asfar 75.33 305 P P 13 15 57.0 +0.6
6.5nm,1.1s,baz=72,slow=3.2,SNR=6.4
SYO Syowa Base 75.77 200⇓*e*X P 13 16 05.0 +6.9
LSZ Lusaka 76.07 256 *e*P P 13 16 02.3 +1.2
15nm,1.4s
MMAI Mount Meron Ar 76.78 306 P P 13 16 06.2 +1.6
3.0nm,0.4s,baz=88,slow=10,SNR=7.1
VNDA Vanda 77.12 169 P P 13 16 07.2 +1.5
4.3nm,1.1s,baz=316,slow=7.3,SNR=9.3
VNDA Vanda 77.12 169 *e*P P 13 16 06.3 +0.6
3.6nm,0.9s
SBA Scott Base 78.20 169 *e*P P 13 16 14.1 +2.4
7.2nm,1.1s
CSS Mathiatis 78.96 307 *e*P P 13 16 15.9 -0.8
8.2nm,1.4s
TIXI Tiksi 79.14 7 P P 13 16 14.7 -2.2
1.2nm,0.3s,baz=177,slow=2.2,SNR=9.7
TIXI Tiksi 79.14 7 *e*P P 13 16 14.6 -2.2
4.7nm,1.2s
BR131 Keskin Array S 80.04 312 *e*P P 13 16 21.3 -1.3
BRTR Keskin Array B 80.04 312 P P 13 16 21.9 -0.7
4.3nm,1.0s,baz=133,slow=5.2,SNR=15
ILGA Ilgaz 80.36 313 *e*P P 13 16 23.9 -0.6
23nm,1.1s
QSPA South Pole Qui 83.86 180 P P 13 16 43.7 +1.5
5.9nm,1.0s,baz=274,slow=3.1,SNR=6.6
QSPA South Pole Qui 83.86 180 *e*P P 13 16 42.5 +0.3
21nm,1.5s
KARP Karpathos 84.01 307 *e*P P 13 16 42.7 -0.7
24nm,1.1s
TLCR 84.92 316⇓*i*P P 13 16 50.0 +2.3
TIRR Tirgusor 85.02 316 *e*P P 13 16 47.9 -0.4
14nm,1.1s
CFR Carcaliu 85.38 316⇑*i*P P 13 16 50.5 +0.5
SORM Soroca 85.93 319⇓*i*P P 13 16 53.5 +0.8
AKASG Malin Array Be 86.00 322 P P 13 16 52.4 -0.7
7.5nm,1.0s,baz=88,slow=4.9,SNR=18
AKBB Malin Array Si 86.00 322 *e*P P 13 16 51.9 -1.1
5.5nm,1.0s
KIEV Kiev 86.01 322 *e*P P 13 16 51.8 -1.2
5.4nm,1.0s
AK11 Malin Array Si 86.03 322 *e*P P 13 16 51.9 -1.3
VRI Vrincioaia 86.50 317⇓*i*P P 13 16 56.4 +0.8
PLOR Plostina 86.55 317⇑*i*P P 13 17 00.8 +4.9
TESR Tescani 86.69 317⇑*i*P P 13 16 56.1 -0.4
MLR Muntele Rosu 86.96 316 P P 13 16 58.7 +0.7
6.2nm,1.1s,baz=72,slow=5.2,SNR=18
MLR Muntele Rosu 86.96 316⇑*i*P P 13 16 58.4 +0.4
MLR Muntele Rosu 86.96 316 *e*P P 13 16 57.4 -0.6
65nm,1.4s
PRAR RASCA 87.15 318⇓*i*P P 13 16 59.1 +0.3
DOPR Dopca 87.44 317⇓*i*P P 13 17 00.0 -0.2
ARR Arges 87.84 316⇓*i*P P 13 17 04.9 +2.7
BURAR Bucovina Array 87.88 318⇓*i*P P 13 17 03.6 +1.2
BUR04 Bucovina Ar. S 87.88 318 *e*P P 13 17 02.4 0.0
BUR08 Bucovina Ar. S 87.89 318 *e*P P 13 17 02.7 +0.2
ARCR ARCALIA 88.35 318⇑*i*P P 13 17 05.8 +1.3
VTS Vitosha 88.35 313⇑*i*P P 13 17 04.3 -0.5
VTS Vitosha 88.35 313 *e*P P 13 17 04.0 -0.8
7.7nm,1.0s
IDID Didziasalis 88.56 326 *e*P P 13 17 05.9 +0.6
IDID IAmb IAmb 13 17 09.3
comp=Z,10nm,0.9s
CJR Cluj-Napoca 88.79 317⇓*i*P P 13 17 08.9 +2.2
IIGN Ignalina 88.86 326 *e*P P 13 17 07.3 +0.7
IIGN IAmb IAmb 13 17 10.6
comp=Z,13nm,1.0s
IZAR Zarasai 88.93 326 *e*P P 13 17 07.8 +0.8
IZAR IAmb IAmb 13 17 12.2
comp=Z,9.4nm,0.6s
DEV Deva 89.12 316⇑*i*P P 13 17 08.7 +0.5
DRGR 89.41 317⇓*i*P P 13 17 09.9 +0.3
TRPA Tarpa 89.74 318⇑*i*P P 13 17 11.6 +0.6
SNAA Sanae 89.87 197 P P 13 17 13.7 +2.4
comp=Z,6.8nm,1.1s,baz=78,slow=5.8,SNR=5.8
SNAA Sanae 89.87 197 *e*P P 13 17 12.7 +1.4
comp=Z,21nm,1.4s
BZS Buzias 89.97 316⇑*i*P P 13 17 13.1 +1.0
FIA1 FINESS Array S 90.24 332 *e*P P 13 17 12.4 -0.6
FINES FINESS Array B 90.24 332 P P 13 17 12.8 -0.2
comp=Z,5.2nm,0.9s,baz=90,slow=5.7,SNR=11
SUW Suwalki 90.33 324 *e*P P 13 17 12.6 -1.0
comp=Z,68nm,1.3s
CRVS Cervenica-Dubn 90.57 319 *e*P P 13 17 19.2 +4.3
STHS Stebnicka Huta 90.79 319 *e*P P 13 17 16.6 +0.7
VYHS Vyhne 92.24 318 *e*P P 13 17 25.0 +2.4
MORC Moravsky Berou 93.22 320⇓*i*P P 13 17 27.2 0.0
FALS False Pass 95.66 36 *e*P P 13 17 36.0 -2.1
comp=Z,295nm,0.8s
GEA0 GERESS Array S 95.66 318 *e*P P 13 17 36.3 -2.2
GERES GERESS Array B 95.66 318 P P 13 17 39.4 +1.0
comp=Z,1.0nm,1.0s,baz=108,slow=4.3,SNR=5.7
HFS Hagfors 96.10 330 P P 13 17 40.0 -0.1
comp=Z,5.7nm,1.0s,baz=72,slow=4.7,SNR=6.7
NOA NORSAR Array B 97.33 331 P P 13 17 44.8 -0.8
comp=Z,1.6nm,1.0s,baz=93,slow=4.4,SNR=2.2
YKA Yellowknife Ar 116.59 19 PKP PKPdf 13 22 55.6 -0.8
comp=Z,1.1nm,0.9s,baz=307,slow=2.4,SNR=13
B05A Bryant 121.87 35 P PKPdf 13 23 07.8 +0.9
baz=300
J05D Fort Rock, OR 124.84 40 P PKPdf 13 23 13.7 +0.6
baz=298,SNR=6.9
M04C Macdoel 125.14 42 P PKPdf 13 23 14.4 +0.8
baz=297
FCC Fort Churchill 125.38 12 *e*PKPdf PKPdf 13 23 12.8 -0.5
FFC Flin Flon 126.77 19 *e*PKPdf PKPdf 13 23 17.1 +1.0
WVOR Wild Horse Val 126.92 40 *e*PKPdf PKPdf 13 23 15.5 -1.5
MSO Missoula 127.25 33 P PKPdf 13 23 17.3 -0.2
baz=308
MSO Missoula 127.25 33 *e*PKPdf PKPdf 13 23 16.6 -0.9
MFID Camas Ranch 128.16 38 *e*PKPdf PKPdf 13 23 18.0 -1.3
EGMT Eagleton 128.65 30 P PKPdf 13 23 20.2 +0.2
baz=313
EGMT Eagleton 128.65 30 *e*PKPdf PKPdf 13 23 19.1 -1.0
LRM Limekiln Ridge 128.69 33 *e*PKPdf PKPdf 13 23 19.0 -1.4
HLID Hailey 128.92 37 P PKPdf 13 23 22.2 +1.4
baz=305
NVAR Mina Array Bea 129.09 44 PKP PKPdf 13 23 22.0 +0.7
comp=Z,1.2nm,0.9s,baz=251,slow=2.8,SNR=7.2
BOZ Bozeman (W) 129.27 33 P PKPdf 13 23 21.8 +0.4
baz=310
BOZ Bozeman (W) 129.27 33 *e*PKPdf PKPdf 13 23 21.1 -0.3
MPMC Manual Prospec 130.75 47 P PKPdf 13 23 25.5 +0.9
baz=297
HVU Hansel Valley 130.94 38 *e*PKPdf PKPdf 13 23 25.2 +0.5
R11A Troy Canyon, C 130.99 43 P PKPdf 13 23 25.9 +0.9
baz=300
LAO LASA Array 131.29 29 P PKPdf 13 23 26.5 +1.4
baz=316
HWUT Hardware Ranch 131.77 37 *e*PKPdf PKPdf 13 23 24.7 -1.6
DUG Dugway, Tooele 131.82 39 P PKPdf 13 23 28.9 +2.5
baz=305
DUG Dugway, Tooele 131.82 39 PKPdf PKPdf 13 23 24.6 -1.8
PDAR Pinedale Array 132.22 35 PKP PKPdf 13 23 26.6 -0.6
comp=Z,0.1nm,0.3s,baz=64,slow=2.1,SNR=3.4
PDAR PP PP 13 25 43.9 -5.1
comp=Z,1.4nm,0.7s,baz=318,slow=2.0,SNR=4.2
ULM Lac du Bonnet 132.55 18 PKP PKPdf 13 23 28.4 +1.1
comp=Z,4.7nm,1.0s,baz=340,slow=2.3,SNR=6.1
GMRC Granite Mounta 132.66 47 P PKPdf 13 23 30.4 +2.2
baz=298
BELC Belle Mtn. Jos 132.76 48 P PKPdf 13 23 30.0 +1.6
baz=297
B32A Ashes, Strandq 133.94 20 P PKPdf 13 23 31.3 +1.4
baz=329
C31A Landman Farms, 134.03 22 P PKPdf 13 23 30.8 +0.6
baz=327
RSSD Black Hills 134.22 30 P PKPdf 13 23 31.3 +0.4
baz=317
RSSD Black Hills 134.22 30 *e*PKPdf PKPdf 13 23 31.5 +0.6
B34A Aery, Baudette 134.48 19 P PKPdf 13 23 31.7 +0.7
baz=332
O20A White River Ci 134.66 37 P PKPdf 13 23 33.3 +1.5
baz=309
O20A White River Ci 134.66 37 *e*PKPdf PKPdf 13 23 32.9 +1.1
E32A Braaten, Kindr 135.28 22 P PKPdf 13 23 31.9 -0.6
baz=327
D35A Remer 135.91 19 P PKPdf 13 23 34.7 +1.0
baz=332
S22A 4UR Ranch, Cre 137.02 38 P PKPdf 13 23 39.0 +2.6
baz=309
F36A Milaca 137.16 19 P PKPdf 13 23 36.8 +0.8
baz=332
D41A Chassel 137.49 14 P PKPdf 13 23 38.6 +2.0
baz=339
E39A Mellen 137.60 16 P PKPdf 13 23 38.3 +1.4
baz=336
H35A Sunnyside Ranc 137.72 21 P PKPdf 13 23 37.8 +0.7
baz=329
SDCO Great Sand Dun 137.83 37 P PKPdf 13 23 40.5 +2.6
baz=311
ECSD EROS Data Cent 137.85 24 P PKPdf 13 23 39.5 +2.2
baz=326
H36A Jessenland, He 138.14 21 P PKPdf 13 23 40.5 +2.6
baz=330
BANO Bancroft 141.15 4 P PKPdf 13 23 46.0 +2.7
baz=355
M38A Pleasantville 141.15 22 P PKPdf 13 23 43.0 -0.5
baz=330
S38A Stockton 144.06 27 P PKPab 13 23 46.5 +0.3
baz=326
TX31 Lajitas Ar. Si 144.17 46 *e*PKPdf PKPab 13 23 46.6 -0.3
TXAR Lajitas Array 144.17 46 PKP PKPbc 13 23 47.8 +0.4
comp=Z,4.4nm,1.0s,baz=169,slow=0.5,SNR=18
TXAR PP PP 13 26 55.8 -7.6
comp=Z,1.6nm,0.9s,baz=300,slow=4.7,SNR=5.9
R40A Maddies Statio 144.20 24 P PKPab 13 23 46.3 -0.4
baz=329
S39A Bolivar 144.27 26 P PKPdf 13 23 49.8 +0.7
baz=327,SNR=6.6
Q42A Golden Eagle 144.33 22 P PKPab 13 23 46.5 -0.6
baz=332
T38A Diamond 144.38 28 P PKPab 13 23 47.3 0.0
baz=325
R41A Rosebud 144.55 23 P PKPbc 13 23 48.2 0.0
baz=330
Q43A New Douglas 144.60 20 P PKPbc 13 23 48.7 +0.4
baz=334
S40A Lebanon 144.69 25 P PKPbc 13 23 48.8 +0.1
baz=328
R42A Luebbering 144.79 22 P PKPab 13 23 48.5 -0.3
baz=331
T39A Clever 144.80 26 P PKPab 13 23 48.7 -0.3
baz=326
CCM Cathedral Cave 144.81 23 P PKPab 13 23 49.0 +0.1
baz=330
S41A Jillco Farms, 145.01 24 P PKPbc 13 23 49.1 -0.6
baz=329
T40A Mansfield 145.07 25 P PKPbc 13 23 49.6 -0.3
baz=328
R43A Red Bud 145.11 21 P PKPbc 13 23 48.9 -1.1
baz=333
P47A Martinsville 145.16 16 P PKPab 13 23 50.3 +0.1
baz=339
ACSO Alum Creek Sta 145.22 11 P PKPbc 13 23 49.5 -0.7
baz=345
S42A Caledonia 145.23 23 P PKPbc 13 23 49.0 -1.4
baz=331
U39A Green Forest 145.28 27 P PKPbc 13 23 49.5 -1.2
baz=326
N59A State Game Lan 145.34 2 P PKPbc 13 23 49.8 -0.9
baz=358
N59A State Game Lan 145.34 2 *e*PKPbc PKPbc 13 23 49.8 -0.9
T41A Mountain View 145.47 25 P PKPbc 13 23 50.2 -1.0
baz=329
U40A Yellville 145.59 27 P PKPdf 13 23 49.7 -1.7
baz=327,SNR=7.9
V39A Pettigrew 145.65 28 P PKPdf 13 23 50.7 -1.0
baz=325
LUPA Lehigh Univers 145.67 1 *e*PKPdf PKPab 13 23 52.6 +0.7
T42A Van Buren 145.76 24 P PKPdf 13 23 51.3 -0.4
baz=330
O56A Blue Knob Stat 145.82 5 P PKPdf 13 23 51.6 -0.1
baz=353
U41A Viola 146.00 25 P PKPdf 13 23 52.3 +0.2
baz=328,SNR=5.7
T43A Greenville 146.03 23 P PKPdf 13 23 52.2 +0.1
baz=331
V40A Witts Springs 146.06 27 P PKPdf 13 23 51.7 -0.6
baz=326
JCT Junction City 146.14 41 P PKPbc 13 23 53.8 +0.3
baz=311
JCT Junction City 146.14 41 *e*PKPdf PKPdf 13 23 53.0 +0.5
R47A Wooly Knot Far 146.20 17 P PKPbc 13 23 53.5 +0.2
baz=338
PBMO Poplar Bluff 146.24 23 *e*PKPdf PKPdf 13 23 52.3 -0.2
U42A Revenden 146.28 25 P PKPdf 13 23 52.5 0.0
baz=329,SNR=13
V41A Mountainview 146.37 26 P PKPdf 13 23 52.8 0.0
baz=327
W40A Ferguson Farm, 146.45 28 P PKPbc 13 23 53.7 -0.5
baz=325
X39A Fountain Ranch 146.50 30 P PKPbc 13 23 54.1 -0.3
baz=323
WHTX Lake Whitney, 146.58 37 P PKPbc 13 23 54.2 -0.5
baz=316
WHTX Lake Whitney, 146.58 37 *e*PKPdf PKPdf 13 23 53.0 -0.2
V42A Cord 146.69 25 P PKPbc 13 23 54.2 -0.7
baz=329
MIAR Mount Ida 146.74 29 P PKPbc 13 23 54.5 -0.7
baz=324
MIAR Mount Ida 146.74 29 *e*PKPdf PKPbc 13 23 54.4 -0.7
W41B Gary Mavity, V 146.84 27 P PKPbc 13 23 54.8 -0.6
baz=327
T46A Princeton 146.93 20 P PKPdf 13 23 53.1 -0.5
baz=335
T48A Bowling Green 147.34 18 P PKPbc 13 23 56.5 -0.2
baz=338
U47A Clarksville 147.67 19 P PKPdf 13 23 53.2 -1.7
baz=336
Y41A Eaglette Beard 147.74 29 P PKPbc 13 23 57.6 -0.3
baz=325
WVT Waverly 147.77 20 P PKPbc 13 23 58.2 +0.2
baz=335
WVT Waverly 147.77 20 *e*PKPbc PKPbc 13 23 57.1 -0.8
833A Chaparral WMA, 147.78 44 P PKPbc 13 23 59.2 +1.0
baz=309
U48A Cassie Pea, Po 147.85 18 P PKPbc 13 23 57.8 -0.4
baz=337
Z40A Long Farm, Mag 147.85 30 P PKPbc 13 23 59.0 +0.8
baz=323
V46A Holladay 147.97 21 P PKPdf 13 23 54.7 -0.7
baz=334
W45A Hickory Valley 148.14 23 P PKPbc 13 24 00.0 +1.1
baz=332
V47A Nunnelly 148.15 20 P PKPbc 13 23 58.1 -0.8
baz=335
V48A Smith Brothers 148.47 19 P PKPbc 13 23 58.8 -1.0
baz=336
Y43A Makayla and Ka 148.49 27 P PKPbc 13 24 00.6 +0.7
baz=328
Z42A Norrel Spur, H 148.55 29 P PKPbc 13 24 00.3 +0.2
baz=326
OXF Oxford 148.62 24 P PKPbc 13 24 00.5 +0.3
baz=331,SNR=6.1
OXF Oxford 148.62 24 *e*PKPbc PKPbc 13 23 59.5 -0.7
TZTN Tazewell 148.64 14 P PKPbc 13 23 59.2 -1.0
baz=343
W47A Westpoint 148.65 21 P PKPbc 13 23 58.8 -1.5
baz=335,SNR=5.6
X45A UM Field Stati 148.70 24 P PKPbc 13 23 58.7 -1.7
baz=331
PLAL Pickwick Lake 148.72 22 *e*PKPbc PKPbc 13 23 59.3 -1.2
Y44A Strider, Charl 148.76 25 P PKPbc 13 24 00.0 -0.6
baz=329
X46A Booneville 148.90 23 P PKPbc 13 24 00.5 -0.4
baz=332
W48A Pulaski 148.98 20 P PKPbc 13 24 00.8 -0.3
baz=336
HKT Hockley 149.01 38 *e*PKPbc PKPbc 13 24 01.9 +0.7
Y45A Yeager Farm, C 149.13 25 P PKPbc 13 24 01.5 0.0
baz=330,SNR=8.6
X47A Russelville 149.21 22 P PKPbc 13 24 01.3 -0.4
baz=334
SWET Sewanee 149.23 18 *e*PKPbc PKPbc 13 24 01.1 -0.7
Z44A Pea Ridge, Bel 149.25 26 P PKPbc 13 24 02.4 +0.6
baz=328
Y46A Houston 149.39 24 P PKPbc 13 24 01.8 -0.3
baz=331,SNR=12
CPCT Cooper Cave 149.43 16 *e*PKPbc PKPbc 13 24 02.2 -0.1
TKL Tuckaleechee C 149.43 15 PKPbc PKPbc 13 24 02.3 +0.1
comp=Z,24nm,0.9s,baz=90,slow=2.0,SNR=12
TKL Tuckaleechee C 149.43 15 *e*PKPbc PKPbc 13 24 01.3 -1.0
X48A Hartselle 149.56 21 P PKPbc 13 24 01.0 -1.5
baz=335
X49A Woodville 149.75 19 P PKPbc 13 24 02.2 -0.9
baz=336
LNIG Linares 149.75 49 *e*PKPbc PKPbc 13 24 02.9 -0.5
Y47A UCPARC, Winfie 149.76 22 P PKPbc 13 24 01.7 -1.4
baz=333
441A DeRidder 149.94 33 P PKPbc 13 24 05.5 +1.9
baz=321
Z46A Louisville 149.96 24 P PKPbc 13 24 03.3 -0.3
baz=331
Y48A Jasper 150.00 21 P PKPbc 13 24 02.5 -1.2
baz=334
145A Houston Renfro 150.04 26 P PKPbc 13 24 04.2 +0.3
baz=328
VBMS Vicksburg 150.10 28 P PKPbc 13 24 04.5 +0.5
baz=327
244A Avery, Jackson 150.17 28 P PKPbc 13 24 04.0 -0.1
baz=326
BG3 Lake Jocassee 150.27 14 *e*PKPbc PKPbc 13 24 03.9 -0.5
Z47A Carrollton 150.30 23 P PKPbc 13 24 04.4 0.0
baz=332,SNR=6.0
Y49A Blount Mountai 150.32 20 P PKPbc 13 24 03.6 -0.8
baz=336
Z48A Northport 150.34 22 P PKPbc 13 24 03.6 -0.9
baz=333
146A Union 150.39 25 P PKPbc 13 24 05.3 +0.6
baz=330
KMSC Kings Mountain 150.47 11 P PKPbc 13 24 04.3 -0.4
baz=346
KMSC Kings Mountain 150.47 11 *e*PKPbc PKPbc 13 24 03.7 -1.0
Y50A Piedmont 150.51 19 P PKPbc 13 24 05.2 +0.3
baz=337
245A Little AP, Sta 150.54 27 P PKPbc 13 24 05.6 +0.6
baz=328
344A Westbrook Farm 150.63 29 P PKPbc 13 24 06.4 +1.1
baz=326
147A Livingston 150.68 24 P PKPbc 13 24 06.2 +0.9
baz=331
LRAL Lakeview Retre 150.85 22 P PKPbc 13 24 05.2 -0.5
baz=334
LRAL Lakeview Retre 150.85 22 *e*PKPbc PKPbc 13 24 04.7 -1.0
CNNC Cliffs of the 150.87 5 P PKPbc 13 24 06.0 +0.3
baz=353
Z49A Columbiana 150.88 21 P PKPbc 13 24 05.9 +0.1
baz=335,SNR=5.4
Z50A Ashland 151.03 20 P PKPbc 13 24 05.9 -0.3
baz=336
247A Quitman 151.08 25 P PKPbc 13 24 06.6 +0.3
baz=330
JSC Jenkinsville 151.31 11 *e*PKPbc PKPbc 13 24 05.2 -1.6
149A Jones 151.32 22 P PKPbc 13 24 06.9 0.0
baz=334
248A Dixon Mills 151.41 24 P PKPbc 13 24 07.3 +0.3
baz=332
150A Eclectic 151.59 21 P PKPbc 13 24 07.5 0.0
baz=336
GOGA Godfrey 151.63 16 P PKPbc 13 24 07.2 -0.3
baz=341
GOGA Godfrey 151.63 16 *e*PKPbc PKPbc 13 24 06.9 -0.6
347A Saraland 151.68 26 P PKPbc 13 24 08.8 +1.1
baz=330
249A Camden 151.75 23 P PKPbc 13 24 08.4 +0.6
baz=333,SNR=6.2
151A Opelika 151.90 19 P PKPbc 13 24 08.2 0.0
baz=337
250A Grady 152.07 21 P PKPbc 13 24 06.4 -2.2
baz=335
447A Lucedale 152.15 27 P PKPbc 13 24 11.4 +2.6
baz=329
251A Midway 152.27 20 P PKPbc 13 24 09.6 +0.5
baz=336,SNR=11
349A Repton 152.28 24 P PKPbc 13 24 08.9 -0.1
baz=332
BRAL Brewton 152.50 24 P PKPbc 13 24 10.4 +0.9
baz=332
252A Lumpkin 152.58 19 P PKPbc 13 24 09.9 +0.2
baz=338
LPAZ La Paz 156.82 196 PKP PKPdf 13 24 11.0 +1.2
comp=Z,0.6nm,0.5s,baz=116,slow=4.4,SNR=2.6

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*ISCJB **22** 13:11:17.9±0.3, 52°.86S±0°.04×140°.27E±0°.07, h10km, mb5.0/48, MS5.2/93, Error ellipse: s-maj=6.3km s-min=5.3km az=8.3*

*IDC **22** 13:11:18.0±0.4, 52°.86S×140°.53E, h0km, mb4.8/20, mb1 4.9/20, mb1mx4.7/41, mbtmp4.8/20, MS5.1/35, Ms1 5.1/35, ms1mx5.0/39, Error ellipse: s-maj=18.2km s-min=11.7km az=93.0*

*NEIC **22** 13:11:19.7±0.8, 52°.87S×140°.29E, h12km±4km, mb5.1/36, MS5.3/47, Error ellipse: s-maj=5.8km s-min=5.1km az=73.0*

*GCMT **22** 13:11:19.7±0.1, 52°.93S×140°.18E, h12km, MW5.5/135, Moment Tensor Solution. s115,c200; s135,c334; Duration: 1s4 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.12±.03; $M_{\theta\theta}$0.38±.03; $M_{\phi\phi}$-0.25±.03; $M_{r\theta}$-0.47±.07; $M_{\theta\phi}$-2.46±.02; $M_{\phi r}$0.00±.07; Best double couple: $M_0$2.52400×10^{17} NP1:ϕ_s86.00000°, δ90.00000°, λ-169.00000°. NP2:ϕ_s356.00000°, δ79.00000°, λ0.00000°. Principal axes: T 2.5880, Plg7.0000°, Azm221.0000°; N -0.1280, Plg79.0000°, Azm87.0000°; P -2.4600, Plg8.0000°, Azm312.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

ISC 22 13:11:19.6±0.3, **52°.93S**±0°.06×**140°.34E**±0°.06, **h10km, n337, σ1s.24**/261, **mb5.1**/49, **MS5.2**/93, **5C-2D, West of Macquarie Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TAU	Tasmania Unive	11.06	28	*e*Pn	Pn	13 13 57.3	-0.4
MCQ	Macquarie Isla	11.14	106	*e*Pn	Pn	13 13 56.0	-2.7
MOO	Moorlands	11.46	26	P	Pn	13 14 05.3	+2.1
	baz=12,SNR=3.9						
TOO	Toolangi	15.78	15	P	Pn	13 15 00.8	-1.0
	baz=16,SNR=15						
ARPS	Mount Arapiles	16.20	4	P	Pn	13 15 06.9	-0.2

baz=16,SNR=15
MILA Mila 17.04 25 P **Pn 13 15 17.4 -0.4**
baz=17,SNR=13
CAN Canberra 18.65 23 P **Pn 13 15 38.1 +0.4**
baz=19
CAN Canberra 18.65 23 *e*P **P 13 15 37.1 -0.3**
33nm,1.0s
CNB Canberra Magne 18.74 24 P **Pn 13 15 39.1 +0.3**
baz=19,SNR=4.7
DCZ Deep Cove 18.97 78 *e*P **Pn 13 15 43.8 +2.4**
96nm,1.4s
WHZ Wether Hill Ro 19.21 80 *e*P **Pn 13 15 45.0 +0.6**
99nm,1.4s
YNG Young 19.50 20 P **P 13 15 46.2 -0.5**
baz=20,SNR=14
HTT Hallett 19.52 356 P **Pn 13 15 47.4 -0.8**
baz=20,SNR=8.3
MLZ Mavora Lakes 19.59 78 *e*P **Pn 13 15 49.2 +0.2**
143nm,1.5s
CASY Casey 19.88 216 *e*P **P 13 15 50.6 0.0**
36nm,0.9s
BBOO Buckleboo 20.35 350 P Pn 13 15 57.9 -0.1
baz=20,SNR=9.7
BBOO Buckleboo 20.35 350 *e*P **P 13 15 56.2 +0.2**
134nm,1.1s
WKZ Wanaka 20.42 78 *e*P Pn 13 15 57.9 -0.9
134nm,1.4s
RIV Riverview 20.61 26 P **P 13 15 59.0 +0.3**
baz=21
STKA Stephens Creek 21.06 3 P **P 13 16 03.2 -0.4**
40nm,1.0s,baz=171,slow=12,SNR=25
STKA LR LR 13 23 01.6
comp=Z,4µm,19.1s,baz=182,slow=34
STKA Stephens Creek 21.06 3 P **P 13 16 03.9 +0.2**
baz=21,SNR=13
STKA Stephens Creek 21.06 3 *e*P **P 13 16 03.3 -0.4**
25nm,1.2s
MGCD Mangrove Creek 21.18 26 P **P 13 16 05.6 +0.7**
baz=21,SNR=4.9
ODZ Otahua Downs 21.27 80 *e*P **P 13 16 05.8 0.0**
52nm,1.4s
LBZ Lake Benmore 21.36 78 *e*P **P 13 16 06.6 -0.2**
88nm,1.5s
CMSA Cobar Meteorol 21.73 12 P **P 13 16 10.8 -0.1**
baz=22,SNR=46
RPZ Rata Peaks 22.25 78 P **P 13 16 15.7 -0.8**
27nm,1.1s,baz=128,slow=15,SNR=8.1
RPZ LR LR 13 23 13.2
comp=Z,11µm,19.0s,baz=240,slow=32
RPZ Rata Peaks 22.25 78 *e*P **P 13 16 15.1 -1.4**
85nm,1.4s
FORT Forrest 23.89 333 P **P 13 16 32.1 -1.1**
baz=24,SNR=9.3
FORT Forrest 23.89 333 *e*P **P 13 16 31.4 -1.8**
979nm,0.8s
ARMA Armidale 23.97 25 P **P 13 16 34.0 -0.1**
baz=24,SNR=9.4
ARMA Armidale 23.97 25 *e*P **P 13 16 31.9 -2.1**
106nm,1.4s
KHZ Kahutara 24.49 78 *e*P **P 13 16 38.2 -0.5**
69nm,1.3s
THZ Tophouse 24.52 76 *e*P **P 13 16 38.6 -0.4**
20nm,0.8s
KMBL Kambalda 25.39 321 P **P 13 16 47.4 +0.5**
baz=25,SNR=5.7
H01W1 Cape Leeuwin H 25.87 304 T T 13 43 42.4
baz=141,slow=74,SNR=126
H01W2 Cape Leeuwin H 25.88 304 T T 13 43 42.9
baz=141,slow=74,SNR=134
H01W3 Cape Leeuwin H 25.89 304 T T 13 43 43.7
baz=141,slow=74,SNR=122
VNDA Vanda 25.92 169 P **P 13 16 51.8 +0.5**
14nm,0.9s,baz=330,slow=8.9,SNR=24
VNDA LR LR 13 25 06.9
comp=Z,3µm,19.1s,baz=336,slow=32
VNDA Vanda 25.92 169 *e*P **P 13 16 51.7 +0.4**
38nm,1.4s
NWAO Narrogin (SRO) 25.99 311 LR LR 13 24 40.9
comp=Z,9µm,20.8s,baz=9.0,slow=31
QLP Quilpie 26.48 8 P **P 13 16 57.3 +0.5**
baz=26,SNR=65
SBA Scott Base 26.78 168 *e*P **P 13 17 01.8 +2.7**
69nm,1.3s
KLBR Kellerberrin 26.89 314 P **P 13 16 59.9 -0.6**
baz=27,SNR=4.1
RMQ Roma 27.16 17 P **P 13 17 03.1 +0.1**
baz=27,SNR=8.4
BKZ Black Stump Fm 28.28 75 *e*P **P 13 17 14.3 +1.4**
27nm,1.3s
EIDS Eidsvold 28.69 21 P **P 13 17 16.4 -0.3**
baz=29,SNR=8.2
EIDS Eidsvold 28.69 21 *e*P **P 13 17 15.8 -0.9**
30nm,1.1s
URZ Urewera 29.24 75 P **P 13 17 18.9 -2.5**
25nm,1.0s,baz=221,slow=11,SNR=6.4
URZ LR LR 13 28 17.2
comp=Z,4µm,18.7s,baz=230,slow=35
URZ Urewera 29.24 75 *e*P **P 13 17 20.7 -0.7**
28nm,1.0s
WRKA Warakurna 29.31 337 P **P 13 17 21.0 -1.2**
baz=29,SNR=8.5
AS01 Alice Springs 29.63 348 *e*P **P 13 17 23.6 -1.4**
ASAR Alice Springs 29.63 348 P **P 13 17 23.6 -1.4**
15nm,1.0s,baz=168,slow=9.5,SNR=99
ASAR PcP **PcP 13 20 28.3 -1.1**
1.1nm,0.8s,baz=177,slow=1.3,SNR=4.1
ASAR LR LR 13 28 15.2
comp=Z,2µm,20.1s,baz=172,slow=34
AS31 Alice Springs 29.63 348 *e*P **P 13 17 23.7 -1.3**
17nm,1.4s
QIS Mount Isa 32.32 359 P **P 13 17 48.2 -0.6**
baz=32,SNR=23
CTA Charters Tower 33.10 10 P **P 13 17 54.8 -0.8**
10nm,1.0s,baz=199,slow=9.6,SNR=9.6
CTA LR LR 13 30 18.5
comp=Z,2µm,21.9s,baz=185,slow=35
CTAO Charters Tower 33.10 10 *e*P **P 13 17 55.2 -0.3**
27nm,1.3s
CTAO LR LR
comp=Z,8µm,20.0s
WB2 Warramunga Arr 33.26 350 *e*P **P 13 17 54.9 -2.0**
comp=Z,130nm,1.3s
WRA Warramunga Arr 33.26 350 P **P 13 17 55.2 -1.7**
comp=Z,44nm,1.1s,baz=175,slow=7.3,SNR=86
WRA PcP **PcP 13 20 38.0 -1.2**
comp=Z,1.9nm,0.6s,baz=178,slow=2.4,SNR=6.8
WRA LR LR 13 30 38.7
comp=Z,2µm,18.9s,baz=165,slow=35
WRAB Tennant Creek 33.26 350 *e*P **P 13 17 55.2 -1.8**
comp=Z,117nm,1.3s
MTSU Mount Surprise 34.87 7 P **P 13 18 11.0 +0.1**
baz=35,SNR=4.6
MBWA Marble Bar 35.46 326 *e*P **P 13 18 14.4 -1.6**
comp=Z,56nm,1.3s
DZM Mont Dzumac 36.72 43 P **P 13 18 25.2 -1.7**
comp=Z,11nm,0.9s,baz=187,slow=8.1,SNR=3.4
DZM LR LR 13 31 11.8
comp=Z,9µm,18.5s,baz=204,slow=33
DZM Mont Dzumac 36.72 43 *e*S **S 13 24 15.5 +5.1**
comp=Z,1µm,26.1s
DZM *e*LR LR 13 28 20.4
comp=Z,16µm,25.6s
QSPA South Pole Qui 37.18 180 P **P 13 18 30.9 +0.4**
comp=Z,20nm,1.0s,baz=351,slow=3.5,SNR=22
QSPA LR LR 13 33 09.0
comp=Z,5µm,21.3s,baz=5.5,slow=35
QSPA South Pole Qui 37.18 180 *e*P **P 13 18 30.5 0.0**
comp=Z,64nm,1.5s
MAW Mawson 38.23 217 P **P 13 18 40.4 +1.3**
comp=Z,6.1nm,0.9s,baz=104,slow=11,SNR=4.4
MAW LR LR 13 32 49.8
comp=Z,9µm,19.8s,baz=88,slow=34
MAW Mawson 38.23 217 *e*P **P 13 18 38.9 -0.1**
comp=Z,3.6nm,1.3s
RAO Raoul Island 38.59 69 LR LR 13 31 46.6
comp=Z,4µm,19.6s,baz=187,slow=32
MTN Manton Dam 40.66 346 P **P 13 18 59.1 -0.7**
baz=41,SNR=11
MTN Manton Dam 40.66 346 *e*P **P 13 18 58.3 -1.6**
comp=Z,98nm,1.4s
PMG Port Moresby 43.76 10 P **P 13 19 25.2 +0.1**
comp=Z,42nm,0.9s,baz=198,slow=6.3,SNR=7.2
PMG LR LR 13 37 38.1
comp=Z,4µm,18.2s,baz=182,slow=36
PMG Port Moresby 43.76 10 *e*P **P 13 19 24.8 -0.3**
comp=Z,61nm,1.0s
BATI Baumata 44.69 336 P **P 13 19 33.2 +0.6**
comp=Z,48nm,1.0s,baz=166,slow=4.2,SNR=7.4
BATI LR LR 13 37 16.4
comp=Z,4µm,21.5s,baz=187,slow=35
SOEI Soe 44.98 337 *e*P **P 13 19 34.4 -0.7**
comp=Z,111nm,1.4s
SAUI Saumlaki 45.42 347 *e*P **P 13 19 38.9 +0.5**
comp=Z,56nm,0.9s
SYO Syowa Base 45.43 210‖ *e*P **P 13 19 36.6 -1.3**
SYO Syowa Base 45.43 210‖ *es*P sP 13 19 42.4 +0.2
HNR Honiara 46.20 27 P **P 13 19 43.9 -0.6**
comp=Z,21nm,0.5s,baz=212,slow=13,SNR=3.0
HNR LR LR 13 37 06.1
comp=Z,2µm,18.8s,baz=208,slow=34
FAKI Fak Fak 50.30 349 *e*P **P 13 20 15.6 -0.6**
comp=Z,47nm,1.2s
KAPI Kappang 50.68 333 *e*P **P 13 20 18.6 -0.5**
comp=Z,50nm,1.1s
MANU Manus Island 51.05 9 *e*P **P 13 20 21.1 -0.8**
SIJI Sorong 52.44 349 P **P 13 20 33.2 +1.0**
comp=Z,11nm,0.9s,baz=135,slow=8.6,SNR=3.8
SIJI LR LR 13 43 58.2
comp=Z,804nm,20.4s,baz=160,slow=37
SNAA Sanae 53.00 194 P **P 13 20 37.1 +1.2**
SNAA Sanae 53.00 194 P **P 13 20 36.7 +0.8**
comp=Z,4.1nm,0.9s,baz=158,slow=9.6,SNR=6.0
SNAA LR LR 13 42 40.5
comp=Z,7µm,20.0s,baz=144,slow=35
SNAA Sanae 53.00 194 *e*P **P 13 20 35.7 -0.2**
comp=Z,16nm,1.3s
LEM Lembang 53.15 318 P **P 13 20 39.2 +1.4**
comp=Z,46nm,0.9s,baz=154,slow=8.9,SNR=8.8
LEM LR LR 13 40 51.6
comp=Z,2µm,20.9s,baz=156,slow=33
COCO West Island 53.40 303 PFAKE
COCO LR LR 13 20 50.0 +11
comp=Z,2µm,21.0s
LUWI Luwuk 53.75 338 *e*P **P 13 20 41.1 -0.8**
comp=Z,67nm,1.1s
AFI Afiamalu 54.24 63 LR LR 13 39 40.1
comp=Z,2µm,21.6s,baz=204,slow=32
FUNA Funafuti 54.30 50 PFAKE
FUNA LR LR 13 21 00.0 +14
comp=Z,5µm,19.0s
VNA2 Neumayer--Watz 54.31 192 P **P 13 20 45.8 +0.5**
baz=154,slow=6.7
VNA1 Neumayer--Stat 54.67 192 P **P 13 20 48.9 +0.9**
RAR Rarotonga 55.27 79 LR LR 13 39 54.9
comp=Z,659nm,20.4s,baz=220,slow=31
DAV Davao City (W) 61.08 349 LR LR 13 48 06.5
comp=Z,531nm,19.7s,baz=166,slow=36
PPT2 Papeete2 64.17 85 *e*S **S 13 30 35.6 +4.1**
comp=Z,826nm,27.2s
PPT2 *e*LQ LQ 13 38 09.0
comp=Z,6µm,28.2s
PPT2 *e*LR LR 13 41 05.5
comp=Z,2µm,28.8s,baz=213
PPT Papeete 64.18 85 LR LR 13 44 19.8
comp=Z,373nm,20.2s,baz=230,slow=31
PSI Prapat 65.50 313 *e*P **P 13 22 01.4 -1.7**
comp=Z,13nm,1.2s
IPM Ipoh 66.10 316 *e*P **P 13 22 05.6 -1.2**
comp=Z,21nm,1.4s
GUMO Guam 66.36 5 LR LR 13 49 32.1
comp=Z,724nm,21.2s,baz=184,slow=35
KULM Kulim 66.99 316 *e*P **P 13 22 10.9 -1.5**
comp=Z,31nm,1.3s
TGY Tagaytay City 68.83 340 LR LR 13 52 46.6
comp=Z,656nm,20.6s,baz=149,slow=36
H08S2 Diego Garcia H 70.64 283 T T 14 39 34.4
baz=143,slow=76,SNR=37
H08S1 Diego Carcia H 70.66 283 T T 14 39 35.1
baz=143,slow=76,SNR=34
H08S3 Diego Garcia H 70.66 283 T T 14 39 44.5
baz=143,slow=76,SNR=37
DGAR Diego Garcia 70.86 283 PFAKE
DGAR LR LR 13 22 50.0 +13
comp=Z,340nm,19.0s
EFI East Falkland 74.62 168 PFAKE
EFI LR LR 13 23 10.0 +12
comp=Z,1µm,20.0s
QIZ Qiongzhong 76.38 330 P **P 13 23 10.8 +2.0**
QIZ pmax pmax
comp=Z,17nm,2.1s
QIZ LR LR
comp=Z,290nm,16.7s
QIZ LR LR
comp=Z,300nm,12.2s
QIZ LR LR
comp=Z,500nm,15.9s
TAOE Nuku Hiva Isla 76.67 87 *e*LR LR 13 45 55.5
comp=Z,1µm,32.8s
ABPO Ambohimpanom 76.90 256 PFAKE
ABPO LR LR 13 23 20.0 +7.8
comp=Z,759nm,19.0s
OPO Ambohidratompo 77.27 256 LR LR 13 51 18.9
comp=Z,1µm,18.0s,baz=162,slow=31
PALK Pallekele 78.26 299 LR LR 13 53 21.5
comp=Z,2µm,18.8s,baz=116,slow=32
CM01 Chiang Mai Arr 79.56 320 *e*P **P 13 23 25.7 -0.8**
CMAR Chiang Mai Arr 79.60 320 P **P 13 23 26.5 -0.3**
comp=Z,1.7nm,0.8s,baz=184,slow=4.8,SNR=9.2
CMAR LR LR 13 57 27.6
comp=Z,1µm,20.3s,baz=176,slow=35
CHTO Chiang Mai 79.92 320 PFAKE
CHTO LR LR 13 23 40.0 +11
comp=Z,909nm,20.0s
RPN Rapa Nui 80.00 122 LR LR 13 50 43.9
comp=Z,1µm,21.2s,baz=229,slow=30
JOW Kunigami 80.12 349 LR LR 14 00 22.0
comp=Z,356nm,18.4s,baz=162,slow=37
BOSA Boshof 81.17 234 LR LR 13 52 00.5
comp=Z,2µm,21.7s,baz=152,slow=30
PLCA Paso Flores 82.95 157 P **P 13 23 46.0 +1.4**
comp=Z,2.5nm,1.1s,baz=235,slow=13,SNR=3.0
PLCA LR LR 13 53 34.7
comp=Z,565nm,20.8s,baz=220,slow=31
GYA Guiyang 84.33 330 *e*P **P 13 23 53.0 +1.4**
GYA pmax pmax
comp=Z,10.0nm,1.0s
KMI Kunming 84.34 326 P **P 13 23 54.3 +2.5**
KMI pmax pmax
comp=Z,16nm,0.6s
KMI pmax pmax
comp=Z,830nm,11.8s
KMI LR LR
comp=Z,670nm,21.8s
KMI LR LR
comp=Z,800nm,22.7s
KMI LR LR
comp=Z,1µm,24.4s
JHJ Hachijo jima 2 85.69 360 LR LR 14 01 13.0
comp=Z,726nm,19.3s,baz=92,slow=35
JNU Nakatsue 86.09 352 LR LR 14 03 34.4
comp=Z,407nm,19.1s,baz=156,slow=36
NJ2 Nanjing 86.68 342 *e*P **P 13 24 05.3 +2.3**
NJ2 pmax pmax
comp=Z,9.0nm,0.5s
ENH Enshi 87.12 334 PFAKE
ENH LR LR 13 24 20.0 +15
comp=Z,469nm,19.0s
SHL Shillong 88.80 317 *e*P **P 13 24 15.0 +1.4**
MJAR Matsushiro Arr 89.12 358 P **P 13 24 14.4 -0.2**
comp=Z,3.8nm,1.1s,baz=150,slow=4.1,SNR=4.9
CD2 Chengdu 89.38 329 P **P 13 24 16.6 +0.6**
CD2 pP sP 13 24 20.8 +0.3
CD2 PP **PP 13 27 47.9 +0.4**
CD2 SKS **SKSac 13 34 46.1 +0.3**
CD2 S **S 13 35 07.8 +2.1**
CD2 sS sS 13 35 14.6 +3.3
CD2 SS **SS 13 41 04.8 +3.2**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,160nm,5.0s
CD2 LR LR
comp=Z,990nm,18.4s
CD2 LR LR
comp=Z,1µm,18.9s
CD2 LR LR
comp=Z,620nm,19.9s
KSAR Wonju Array Be 90.66 350 P **P 13 24 22.3 +0.6**
KSRS Korea Array 90.66 350 P **P 13 24 22.3 +0.6**
comp=Z,2.7nm,1.1s,baz=183,slow=2.5,SNR=5.0
KSRS LR LR 14 04 21.6
comp=Z,398nm,21.8s,baz=152,slow=35
KS01 Wonju Array Si 90.69 350 *e*P **P 13 24 21.5 -0.4**
LZH Lanzhou 94.17 331 *e*P **P 13 24 36.5 -1.7**
LZH *e*PP **PP 13 28 27.0 +1.6**
LZH pmax pmax
comp=Z,18nm,1.4s
LZH pmax pmax
comp=Z,92nm,6.5s
LZH LR LR
comp=Z,280nm,17.6s
LZH LR LR
comp=Z,290nm,17.8s
LZH LR LR
comp=Z,370nm,19.9s
HHC Hu-ho-hao-te 96.67 338 *e*P **P 13 24 51.3 +1.8**
HHC sP sP 13 25 02.5 +8.5
HHC SKS **SKSac 13 35 24.9 -0.9**
HHC S **S 13 36 09.4 -1.0**
HHC pmax pmax
comp=Z,29nm,1.5s
HHC pmax pmax
comp=Z,84nm,8.6s
HHC LR LR
comp=Z,240nm,17.7s
HHC LR LR
comp=Z,240nm,17.2s
HHC LR LR
comp=Z,320nm,18.0s
USRK Ussuriysk Ar. 97.02 354 LR LR 14 07 39.8
comp=Z,272nm,19.2s,baz=149,slow=35
AAK Ala-Archa 110.76 314 PFAKE 13 30 00.0
AAK LR LR
comp=Z,384nm,20.0s
KURBB Kurchatov Arra 115.56 322 PP PP 13 31 05.4 +1.6
comp=Z,0.3nm,0.3s,baz=154,slow=6.0,SNR=5.2
KURK Kurchatov 115.60 322 PP PP 13 31 05.4 +1.4
ASCN Ascension 115.66 208 PFAKE 13 30 10.0 +7.8
ASCN LR LR
comp=Z,700nm,19.0s
ZALV Zalesovo Beam 116.07 327 PP PP 13 31 08.9 +1.6
comp=Z,0.4nm,0.4s,baz=149,slow=5.9,SNR=3.7
BVAR Borovoye Array 120.60 319 PKP **PKPdf 13 30 09.6 -0.8**
comp=Z,0.5nm,0.5s,baz=129,slow=4.0,SNR=4.3
BRVK Borovoye 120.67 319 PFAKE 13 30 20.0 +10
BRVK LR LR
comp=Z,194nm,20.0s
ISA Isabella, Lake 123.89 74 P **PKPdf 13 30 19.3 +1.9**
baz=226
ISA Isabella, Lake 123.89 74 *e*PKPdf **PKPdf 13 30 17.8 +0.4**
TIXI Tiksi 124.55 356 PKP **PKPdf 13 30 16.1 -1.2**
comp=Z,0.8nm,0.3s,baz=298,slow=1.2,SNR=4.5
CWC Cottonwood Cre 124.66 74 P **PKPdf 13 30 20.8 +1.8**
baz=226
N02D Trinity Center 125.13 67 P **PKPdf 13 30 21.4 +1.8**
baz=227
BCIP Isla Barro Col 125.64 128 PFAKE 13 30 30.0 +8.8
BCIP LR LR
comp=Z,641nm,20.0s
YBH Yreka Blue Hor 125.64 66 PKP **PKPdf 13 30 22.2 +1.7**
comp=Z,1.6nm,1.0s,baz=241,slow=6.8,SNR=2.9
VCNR Virginia City 125.71 70 *e*PKPdf **PKPdf 13 30 20.8 -0.1**
YERR Yerington 125.73 71 *e*PKPdf **PKPdf 13 30 20.6 -0.4**
NV01 Mina Array Sit 125.89 72 *e*PKPdf **PKPdf 13 30 19.5 -1.8**
NVAR Mina Array Bea 125.89 72 PKP **PKPdf 13 30 21.5 +0.2**
comp=Z,1.3nm,0.7s,baz=217,slow=4.5,SNR=11
NV11 Mina Array Sit 125.98 72 *e*PKPdf **PKPdf 13 30 21.0 -0.4**
TPNV Topopah Spring 126.08 75 *e*PKPdf **PKPdf 13 30 21.4 -0.2**
HUMO Hull Mountain 126.09 65 *e*PKPdf **PKPdf 13 30 21.6 +0.3**
PAHR Pah Rah Range 126.14 70 *e*PKPdf **PKPdf 13 30 22.0 +0.4**
CSS Mathiatis 126.84 281 PFAKE 13 30 30.0 +7.1
CSS LR LR
comp=Z,114nm,21.0s
R11A Troy Canyon, C 127.41 74 *e*PKPdf **PKPdf 13 30 24.3 +0.2**
ARU Arti 127.86 316 PFAKE 13 30 40.0 +16
ARU LR LR
comp=Z,463nm,20.0s
LCMT Little Creek M 127.88 77 *e*PKPdf **PKPdf 13 30 25.6 +0.5**
PINE Pine Mountain 127.98 65 *e*PKPdf **PKPdf 13 30 25.7 +0.7**
BPAW Bear Paw Mtn. 128.20 31 *e*PKPdf **PKPdf 13 30 25.2 +0.6**
TX31 Lajitas Ar. Si 128.29 91 *e*PKPdf **PKPdf 13 30 25.9 -0.1**
TXAR Lajitas Array 128.29 91 PKP **PKPdf 13 30 26.2 +0.2**
comp=Z,1.7nm,1.1s,baz=198,slow=3.7,SNR=7.1
SZCU Shurtz Canyon 128.37 76 *e*PKPdf **PKPdf 13 30 26.5 +0.5**
TOA0 Torodi Ar. Sit 128.50 235 *e*PKPdf **PKPdf 13 30 25.4 -1.3**
TORD Torodi Ar. Bea 128.50 235 PKP **PKPdf 13 30 26.3 -0.4**
comp=Z,0.9nm,0.8s,baz=151,slow=3.3,SNR=4.6
IM3 Indian Mountai 128.69 29 *e*PKPdf **PKPdf 13 30 25.4 0.0**
MNTX Cornudas Mount 128.93 87 P **PKPdf 13 30 27.6 +0.5**
baz=225
MNTX Cornudas Mount 128.93 87 *e*PKPdf **PKPdf 13 30 26.3 -0.8**
CCB Clear Creek Bu 129.59 32 *e*PKPdf **PKPdf 13 30 27.9 +0.7**
HDA Harding Lake 129.71 33 *e*PKPdf **PKPdf 13 30 26.9 -0.6**
COLA College 129.72 32 PFAKE 13 30 40.0 +13
COLA LR LR
comp=Z,577nm,22.0s
LAZ Ladron 129.74 83 *e*PKPdf **PKPdf 13 30 26.4 -2.4**
BRTR Keskin Array B 129.86 286 PKP **PKPdf 13 30 28.9 +0.2**
comp=Z,0.2nm,0.3s,baz=60,slow=5.3,SNR=2.8
IL1 Eielson Array 129.97 32 *e*PKPdf **PKPdf 13 30 26.8 -1.2**
ILAR Eielson Array 129.97 32 PKP **PKPdf 13 30 26.2 -1.7**
comp=Z,0.7nm,0.8s,baz=237,slow=3.1,SNR=8.4
DUG Dugway, Tooele 130.25 74 P **PKPdf 13 30 31.2 +1.8**
baz=229
DUG Dugway, Tooele 130.25 74 PFAKE 13 30 40.0 +11
DUG LR LR
comp=Z,457nm,21.0s
ANTO Ankara 130.44 285 PFAKE 13 30 40.0 +10
ANTO LR LR
comp=Z,268nm,20.0s
ANMO Albuquerque 130.53 83 PFAKE 13 30 40.0 +10
ANMO LR LR
comp=Z,566nm,20.0s
BMO Blue Mountains 130.66 66 PFAKE 13 30 40.0 +10
BMO LR LR
comp=Z,422nm,19.0s
MVCO Mesa Verde 130.82 80 P **PKPdf 13 30 32.6 +1.8**
baz=228
PV04 Paradox Valley 131.37 78 *e*PKPdf **PKPdf 13 30 32.9 +1.2**
PV01 Paradox Valley 131.39 79 *e*PKPdf **PKPdf 13 30 32.4 +0.5**
EGAK Eagle 131.87 34 PFAKE 13 30 40.0 +8.5
EGAK LR LR
comp=Z,1µm,20.0s
MSTX Muleshoe 132.08 87 *e*PKPdf **PKPdf 13 30 33.1 +0.1**
AHID Auburn Hatcher 132.87 72 PFAKE 13 30 50.0 +16
AHID LR LR
comp=Z,509nm,21.0s
SDCO Great Sand Dun 132.97 81 P **PKPdf 13 30 37.7 +2.9**
baz=229
ABTX Abilene, Hawle 133.05 91 P **PKPdf 13 30 35.4 +0.5**
baz=226
BW06 Boulder Array 133.76 73 PFAKE 13 30 50.0 +14
BW06 LR LR
comp=Z,804nm,19.0s
PDAR Pinedale Array 133.77 73 PKP **PKPdf 13 30 35.7 -0.5**
comp=Z,0.2nm,0.3s,baz=153,slow=1.0,SNR=3.2
YHH Holmes Hill 134.25 70 *e*PKPdf **PKPdf 13 30 37.4 +0.4**
BOZ Bozeman (W) 134.29 69 PFAKE 13 30 50.0 +13
BOZ LR LR
comp=Z,871nm,21.0s
INK Inuvik 136.37 33 *e*PKPdf **PKPdf 13 30 40.1 +0.3**
EGMT Eagleton 136.74 67 PFAKE 13 30 50.0 +8.7
EGMT LR LR
comp=Z,440nm,20.0s
CBKS Cedar Bluff 137.12 84 PFAKE 13 30 50.0 +7.7
CBKS LR LR
comp=Z,573nm,21.0s
BBGH Gun Hill 137.25 151 PFAKE 13 30 50.0 +6.9
BBGH LR LR
comp=Z,606nm,19.0s
CEL Celeste 139.50 272 PFAKE 13 31 00.0 +13
CEL LR LR
comp=Z,478nm,20.0s
DGMT Dagmar 140.11 70 PFAKE 13 31 00.0 +13
DGMT LR LR
comp=Z,784nm,20.0s
CUC Castrocucco 140.64 274 PFAKE 13 31 00.0 +11
CUC LR LR
comp=Z,261nm,19.0s
CLTB Caltabellotta 140.68 269 PFAKE 13 31 00.0 +11
CLTB LR LR
comp=Z,411nm,20.0s
ANWB Willy Bob 140.78 145 PFAKE 13 31 00.0 +11
ANWB LR LR
comp=Z,380nm,22.0s
YKA Yellowknife Ar 141.07 46 PKP **PKPdf 13 30 48.5 -0.1**
comp=Z,0.4nm,0.8s,baz=246,slow=3.1,SNR=5.5
ECSD EROS Data Cent 141.96 80 *e*PKPpre PKPpre 13 30 45.8
ECSD LR LR
comp=Z,632nm,20.0s

V47A	**Nunnelly**	**142.55**	**98**	P		**PKPdf**	**13 30 47.3**	**-4.9**
	baz=228								
U47A	**Clarksville**	**143.10**	**97**	P		PKPab	13 30 47.7	-0.9
	baz=228								
K37A	**Belmond**	**143.19**	**84**	P		PKPab	13 30 48.7	0.0
	baz=235								
O41A	**Passleys Farm,**	**143.28**	**89**	P		PKPab	13 30 47.6	-1.6
	baz=232								
AQU	**L'Aquila**	**143.51**	**275**	PFAKE			13 31 10.0	+16
AQU				LR		LR			
	comp=Z,535nm,20.0s								
VYHS	**Vyhne**	**143.59**	**287**	*e*PKP		PKPbc	13 30 51.7	+0.7
VYHS				*e*			13 31 01.8		
Q44A	**Meyer Farm, Va**	**143.66**	**93**	P		PKPbc	13 30 51.1	-0.4
	baz=231								
P43A	**Skaggs, Pawnee**	**143.81**	**91**	P		PKPab	13 30 51.5	+0.2
	baz=232								
USIN	**University of**	**143.87**	**95**	*e*PKPpre		PKPpre	13 30 51.8		
I37A	**Lemond, Waseca**	**144.04**	**82**	P		**PKPab**	**13 30 51.1**	**-0.9**
	baz=236								
OLIL	**Olney**	**144.10**	**93**	*e*PKPdf		**PKPab**	**13 30 52.6**	**+0.2**
Q45A	**Warren Harvey,**	**144.17**	**93**	P		**PKPab**	**13 30 52.0**	**-0.6**
	baz=231								
K39A	**Oelwein**	**144.21**	**85**	P		PKPbc	13 30 52.9	-0.2
	baz=235								
FFC	**Flin Flon**	**144.24**	**62**	*e*PKPdf		PKPbc	13 30 52.6	-0.2
L40A	**Anamosa**	**144.24**	**87**	P		PKPbc	13 30 53.3	+0.1
	baz=234								
D33A	**AnnSam, Waubum**	**144.25**	**76**	P		PKPbc	13 30 53.9	+0.8
	baz=240								
E34A	**Wadena**	**144.33**	**77**	P		PKPbc	13 30 53.4	+0.1
	baz=239								
F35A	**Swanville**	**144.34**	**79**	P		PKPbc	13 30 53.6	+0.2
	baz=238								
MODS	**Modra-Piesok**	**144.43**	**286**	*e*		PKPdf	13 31 07.7	+13
B32A	**Ashes, Strandq**	**144.47**	**74**	P		PKPbc	13 30 53.8	0.0
	baz=241								
S48A	**Wiedeman Farm,**	**144.64**	**97**	P		**PKPab**	**13 30 52.7**	**-1.8**
	baz=229								
K40A	**Colesburg**	**144.66**	**86**	P		**PKPab**	**13 30 53.9**	**-0.4**
	baz=235								
TKL	**Tuckaleechee C**	**144.67**	**101**	*e*PKPdf		**PKPab**	**13 30 53.6**	**-1.0**
J39A	**Decorah**	**144.68**	**84**	P		**PKPab**	**13 30 53.9**	**-0.5**
	baz=236								
L41A	**Preston**	**144.69**	**87**	P		**PKPab**	**13 30 53.8**	**-0.7**
	baz=234								
I38A	**Scanlan Farm,**	**144.70**	**83**	P		**PKPab**	**13 30 54.1**	**-0.3**
	baz=236								
BG3	**Lake Jocassee**	**144.71**	**103**	*e*PKPdf		**PKPab**	**13 30 54.1**	**-0.7**
A32A	**Rocking H Ranc**	**144.75**	**73**	P		**PKPab**	**13 30 54.3**	**-0.2**
	baz=242								
R47A	**Wooly Knot Far**	**144.77**	**95**	P		**PKPab**	**13 30 53.7**	**-1.2**
	baz=230								
AGMN	**Agassiz Nation**	**144.82**	**74**	P		**PKPab**	**13 30 52.6**	**-2.1**
	baz=241								
AGMN	**Agassiz Nation**	**144.82**	**74**	*e*PKPdf		**PKPab**	**13 30 53.6**	**-1.2**
AGMN				LR		LR			
	comp=Z,596nm,19.0s								
FIA1	**FINESS Array S**	**144.84**	**310**	*e*PKPdf		**PKPab**	**13 30 54.1**	**-0.3**
FINES	**FINESS Array B**	**144.85**	**310**	PKP		**PKPab**	**13 30 54.2**	**-0.3**
	comp=Z,4.5nm,0.6s,baz=108,slow=4.8,SNR=15								
WCI	**Wyandotte Cave**	**144.87**	**96**	P		**PKPab**	**13 30 53.2**	**-2.0**
	baz=230								
WCI	**Wyandotte Cave**	**144.87**	**96**	*e*PKPdf		**PKPab**	**13 30 53.8**	**-1.5**
SOKA	**Soboth**	**144.90**	**282**	*ep*PKPab		**PKPdf**	**13 30 59.5**	**+3.4**
	comp=Z,6.1nm,0.7s								
ARSA	**Arzberg**	**144.90**	**283**	*e*PKPdf		**PKPdf**	**13 30 56.2**	**+0.3**
	comp=Z,19nm,1.0s								
MORC	**Moravsky Berou**	**144.95**	**288**	*e*PKPdf		**PKPab**	**13 30 54.2**	**-1.1**
F36A	**Milaca**	**144.97**	**79**	P		**PKPab**	**13 30 55.6**	**+0.2**
	baz=238								
CONA	**Conrad Observa**	**145.04**	**285**	*e*PKPdf		**PKPdf**	**13 30 56.5**	**+0.3**
	comp=Z,11nm,1.2s								
SPMN	**Marine on St.**	**145.06**	**81**	*e*PKPbc		**PKPbc**	**13 30 54.9**	**-0.8**
I39A	**Houston**	**145.08**	**84**	P		**PKPbc**	**13 30 54.7**	**-1.1**
	baz=236								
OBKA	**Obir**	**145.10**	**282**	*ep*PKPbc		**PKPdf**	**13 30 59.9**	**+3.5**
	comp=Z,15nm,1.6s								
K41A	**Shullsburg**	**145.11**	**86**	P		**PKPbc**	**13 30 54.7**	**-1.2**
	baz=235								
JSC	**Jenkinsville**	**145.19**	**106**	*e*PKPbc		**PKPdf**	**13 30 56.7**	**-0.1**
R48A	**Northridge Ran**	**145.23**	**96**	P		**PKPbc**	**13 30 55.7**	**-0.8**
	baz=230								
J40A	**Soldiers Grove**	**145.30**	**85**	P		**PKPbc**	**13 30 55.7**	**-0.8**
	baz=236								
JFWS	**Jewell Farm**	**145.32**	**86**	P		**PKPbc**	**13 30 56.3**	**-0.3**
	baz=235								
JFWS	**Jewell Farm**	**145.32**	**86**	*e*PKPbc		**PKPbc**	**13 30 56.4**	**-0.3**
A33A	**Warroad**	**145.40**	**74**	P		**PKPdf**	**13 30 56.6**	**-0.1**
	baz=242								
TZTN	**Tazewell**	**145.41**	**100**	*e*PKPdf		**PKPbc**	**13 30 56.8**	**-0.3**
KRLC	**Kraliky**	**145.52**	**288**	*e*PKP		**PKPab**	**13 30 58.1**	**+0.7**
KRLC				*ex*		x	13 31 09.3		
KRLC				*ex*		x	13 31 12.9		
B34A	**Aery, Baudette**	**145.62**	**75**	P		**PKPdf**	**13 30 55.9**	**-1.2**
	baz=242								
H39A	**Augusta**	**145.68**	**83**	P		**PKPdf**	**13 30 56.2**	**-1.1**
	baz=237								
MYKA	**Terra Mystica**	**145.70**	**281**	*e*PKPab		**PKPab**	**13 30 58.6**	**+0.5**
	comp=Z,23nm,1.3s								
ULM	**Lac du Bonnet**	**145.73**	**71**	PKPbc		**PKPdf**	**13 30 57.1**	**-0.1**
	comp=Z,6.0nm,1.1s,baz=214,slow=3.6,SNR=6.7								
KMSC	**Kings Mountain**	**145.76**	**104**	*e*PKPdf		**PKPdf**	**13 30 57.2**	**-0.6**
D36A	**Goodland**	**145.85**	**78**	P		**PKPab**	**13 30 59.5**	**+0.8**
	baz=240								
DPC	**Dobruska-Polom**	**145.91**	**289**	*e*PKP		**PKPab**	**13 30 58.7**	**-0.1**
DPC				*ex*		x	13 31 06.4		
DPC				*ex*		x	13 31 09.1		
DPC				AMS		AMS	14 52 00.0		
	comp=Z,400nm,18.4s								
TREC	**Trest**	**145.91**	**287**	*e*PKP		**PKPab**	**13 30 59.3**	**+0.5**
TREC				*ex*		x	13 31 08.9		
TREC				*ex*		x	13 31 13.8		
TREC				AMS		AMS	14 41 30.0		
	comp=Z,400nm,16.4s								
MOA	**Molln**	**145.94**	**284**	*ep*PKPdf		**PKPdf**	**13 31 00.9**	**+3.2**
	comp=Z,7.7nm,1.0s								
G39A	**Holcombe**	**146.07**	**82**	P		**PKPab**	**13 30 59.6**	**+0.1**
	baz=238								
KBA	**Koelnbreinsper**	**146.10**	**282**	*e*PKPab		**PKPab**	**13 31 00.6**	**+0.8**
	comp=Z,7.2nm,0.9s								
KSP	**Ksiaz**	**146.14**	**289**	*e*PKP		**PKPab**	**13 30 59.8**	**+0.1**
UPC	**Upice**	**146.16**	**289**	*e*PKP		**PKPab**	**13 31 00.2**	**+0.5**
UPC				*ex*		x	13 31 13.4		
UPC				AMS		AMS	14 49 30.0		
	comp=Z,300nm,21.3s								
D37A	**Cotton**	**146.28**	**78**	P		**PKPdf**	**13 30 58.5**	**+0.2**
	baz=240								
ABTA	**Abfaltersbach**	**146.43**	**281**	*e*PKPab		**PKPab**	**13 31 00.7**	**-0.3**
	comp=Z,8.5nm,0.8s								
F39A	**Loretta**	**146.55**	**81**	P		**PKPbc**	**13 30 59.8**	**-0.6**
	baz=239								
ARCES	**ARCESS Array B**	**146.57**	**325**	PKPbc		**PKPdf**	**13 30 58.8**	**+0.7**
	comp=Z,2.8nm,0.4s,baz=95,slow=3.6,SNR=44								
G40A	**Rib Lake**	**146.64**	**83**	P		**PKPbc**	**13 31 00.5**	**-0.1**
	baz=238								
GEA0	**GERESS Array S**	**146.74**	**285**	*e*PKPdf		**PKPbc**	**13 30 60.0**	**-0.9**
GEC2	**GERESS Array S**	**146.74**	**285**	*e*PKPdf		**PKPdf**	**13 30 59.8**	**+0.7**
GERES	**GERESS Array B**	**146.74**	**285**	PKPbc		**PKPbc**	**13 31 00.1**	**-0.8**
	comp=Z,4.4nm,0.9s,baz=143,slow=2.9,SNR=25								
PRU	**Pruhonice**	**146.77**	**287**	*e*PKP		**PKPab**	**13 31 02.1**	**0.0**
PRU				AMS		AMS	14 39 30.0		
	comp=Z,300nm,21.8s								
KHC	**Kasperske Hory**	**146.95**	**285**	*e*PKP		**PKPab**	**13 31 03.0**	**+0.1**
KHC				*ex*		x	13 31 14.6		
KHC				AMS		AMS	14 43 10.0		
	comp=Z,500nm,18.2s								
KHC	**Kasperske Hory**	**146.95**	**285**	*e*PKPbc		**PKPab**	**13 31 02.2**	**-0.7**
PVCC	**Panska Ves**	**147.00**	**288**	AMS		AMS	14 53 20.0		
	comp=Z,400nm,20.3s								
E39A	**Mellen**	**147.00**	**81**	P		**PKPbc**	**13 31 01.6**	**+0.1**
	baz=240								
WI04	**River Road, Cl**	**147.15**	**85**	*e*PKPbc		**PKPbc**	**13 31 01.1**	**-0.9**
WTTA	**Wattenberg**	**147.21**	**281**	*e*PKPbc		**PKPbc**	**13 31 02.9**	**+0.6**
	comp=Z,22nm,1.7s								
EYMN	**Ely**	**147.21**	**77**	*e*PKPdf		**PKPdf**	**13 31 00.7**	**+0.9**
EYMN				LR		LR			
	comp=Z,405nm,20.0s								
C38A	**Sawbill Land.**	**147.24**	**78**	P		**PKPbc**	**13 31 01.7**	**-0.6**
	baz=241								
WATA	**Walderalm**	**147.28**	**281**	*e*PKPbc		**PKPbc**	**13 31 02.6**	**+0.1**
	comp=Z,9.9nm,0.9s								
NCAT	**North Carolina**	**147.32**	**105**	*e*PKPdf		**PKPdf**	**13 31 01.1**	**+0.8**
BRG	**Berggiesshubel**	**147.50**	**288**	*e*PKP		**PKPbc**	**13 31 03.4**	**+0.6**
	comp=Z,4.0nm,0.9s								
BRG				*i*			13 31 13.1		
	comp=Z,18nm,1.2s								
F41A	**Three Lakes**	**147.54**	**83**	P		**PKPbc**	**13 31 02.6**	**-0.5**
	baz=239								
MOTA	**Moosalm**	**147.56**	**281**	*e*PKPbc		**PKPbc**	**13 31 03.7**	**+0.4**
	comp=Z,6.6nm,0.7s								
FETA	**Feichten**	**147.63**	**280**	*e*PKPdf		**PKPdf**	**13 31 01.7**	**+0.9**
	comp=Z,21nm,1.2s								
FUORN	**Ofenpass-Fuorn**	**147.71**	**279**	*e*PKPdf		**PKPdf**	**13 31 00.7**	**-0.3**
COWI	**Conover**	**147.71**	**82**	*e*PKPdf		**PKPdf**	**13 31 01.8**	**+1.0**
COWI				LR		LR			
	comp=Z,731nm,19.0s								
BLA	**Blacksburg**	**147.71**	**103**	PFAKE			13 31 10.0	+3.8
BLA				LR		LR			
	comp=Z,514nm,19.0s								
CNNC	**Cliffs of the**	**147.83**	**108**	PFAKE			13 31 10.0	+3.3
CNNC				LR		LR			
	comp=Z,466nm,19.0s								
RETA	**Reutte**	**147.84**	**281**	*e*PKPbc		**PKPbc**	**13 31 03.3**	**-0.6**
	comp=Z,25nm,1.6s								
SPITS	**Spitsbergen Ar**	**148.06**	**341**	PKPbc		**PKPbc**	**13 31 03.1**	**-0.5**
	comp=Z,9.4nm,0.8s,baz=62,slow=6.7,SNR=19								
NKC	**Novy Kostel**	**148.09**	**286**	AMS		AMS	14 42 50.0		
	comp=Z,600nm,22.4s								
ACSO	**Alum Creek Sta**	**148.13**	**96**	PFAKE			13 31 10.0	+2.2
ACSO				LR		LR			
	comp=Z,534nm,22.0s								
CLL	**Collm**	**148.22**	**289**	*e*PKPbc		**PKPbc**	**13 31 05.0**	**+0.3**
	comp=Z,4.0nm,0.9s								
CLL				*e*PKPab		**pPKPbc**	**13 31 08.0**	**-0.1**
	comp=Z,65nm,2.5s								
CLL				*e*			13 31 20.0		
	comp=Z,8.0nm,1.0s								
CLL				*e*			13 31 24.0		
CLL				*e*PP		**PP**	**13 34 32.0**	**-2.1**
CLL				LmV			14 44 00.0		
	comp=Z,400nm,21.6s								
CLL	**Collm**	**148.22**	**289**	*e*PKPbc		**PKPbc**	**13 31 05.0**	**+0.3**
DAVA	**Damuels**	**148.26**	**280**	*ep*PKPdf		**PKPdf**	**13 31 06.3**	**+4.5**
	comp=Z,9.6nm,0.8s								
D41A	**Chassel**	**148.53**	**81**	P		**PKPbc**	**13 31 05.0**	**-0.7**
	baz=241								
GRFO	**Grafenberg**	**148.57**	**285**	*e*PKPbc		**PKPbc**	**13 31 05.1**	**-0.6**
AAM	**Ann Arbor**	**148.96**	**92**	PFAKE			13 31 10.0	-1.0
AAM				LR		LR			
	comp=Z,611nm,21.0s								
BNI	**Bardonecchia**	**149.06**	**274**	PFAKE			13 31 10.0	-1.6
BNI				LR		LR			
	comp=Z,1μm,21.0s								
RES	**Resolute Bay**	**149.21**	**25**	*e*PKPbc		**PKPbc**	**13 31 05.8**	**-0.8**
SENIN	**Lac Senin/Sane**	**149.36**	**277**	*e*PKPdf		**PKPdf**	**13 31 05.0**	**+1.3**
JSRW	**J. Sargeant Re**	**149.53**	**105**	*e*PKPbc		**PKPbc**	**13 31 08.5**	**0.0**
FCC	**Fort Churchill**	**149.64**	**57**	*e*PKPbc		**PKPbc**	**13 31 06.9**	**-1.1**
BFO	**Black Forest**	**149.68**	**281**	*e*PKPbc		**PKPbc**	**13 31 08.4**	**-0.1**
BFO				LR		LR			
	comp=Z,516nm,22.0s								
GLMI	**Grayling**	**149.77**	**87**	PFAKE			13 31 20.0	+5.7
GLMI				LR		LR			
	comp=Z,626nm,20.0s								
CBN	**Corbin Frederi**	**150.17**	**104**	PFAKE			13 31 20.0	+3.9
CBN				LR		LR			
	comp=Z,487nm,21.0s								
E45A	**Wooded Hills,**	**150.22**	**84**	P		**PKPbc**	**13 31 10.3**	**+0.5**
	baz=240								
ECH	**Echery**	**150.32**	**280**	*e*PKPbc		**PKPbc**	**13 31 09.5**	**-0.6**
ECH				LR		LR			
	comp=Z,508nm,22.0s								
N54A	**Moraine State**	**150.37**	**97**	P		**PKPbc**	**13 31 10.5**	**0.0**
	baz=232								
N54A	**Moraine State**	**150.37**	**97**	*e*PKPbc		**PKPbc**	**13 31 10.3**	**-0.1**
HFS	**Hagfors**	**150.45**	**305**	PKPbc		**PKPbc**	**13 31 08.2**	**-1.8**
	comp=Z,1.2nm,0.7s,baz=197,slow=14,SNR=2.9								
HFS				PKPab		**PKPab**	**13 31 16.3**	**-0.3**
	comp=Z,1.8nm,0.7s,baz=116,slow=3.4,SNR=5.1								
O56A	**Blue Knob Stat**	**150.80**	**100**	P		**PKPbc**	**13 31 11.5**	**0.0**
	baz=231								
O56A	**Blue Knob Stat**	**150.80**	**100**	*e*PKPbc		**PKPbc**	**13 31 11.0**	**-0.6**
M54A	**Oil Creek Stat**	**150.90**	**97**	*ep*PKPdf		pPKPdf	13 31 09.7	+0.2
WLF	**Walferdange**	**151.55**	**282**	⇑PKP		**PKPbc**	**13 31 14.0**	**+1.1**
NB2	**NORSAR Subarra**	**151.79**	**307**	PKP		**PKPbc**	**13 31 13.0**	**-0.1**
	comp=Z,12nm,1.0s,baz=78,slow=3.8								
NOA	**NORSAR Array B**	**151.79**	**307**	PKPbc		**PKPbc**	**13 31 12.4**	**-0.7**
	comp=Z,9.9nm,0.7s,baz=248,slow=3.1,SNR=9.7								
NB002	**NORSAR Array S**	**151.97**	**307**	*e*PKPbc		**PKPbc**	**13 31 11.8**	**-1.7**
MEM	**Membach**	**152.01**	**284**	⇑PKP		**PKPbc**	**13 31 14.2**	**+0.3**
ES19	**SONSECA Array**	**152.30**	**256**	*e*PKPbc		**PKPbc**	**13 31 14.2**	**-0.8**
ESDC	**Sonseca Array**	**152.32**	**256**	PKPbc		**PKPbc**	**13 31 15.0**	**0.0**
	comp=Z,1.3nm,0.6s,baz=89,slow=1.1,SNR=15								
ESDC				PKPab		**pPKPab**	**13 31 27.0**	**-1.5**
	comp=Z,2.7nm,0.8s,baz=95,slow=1.2,SNR=10								
BCLA	**Clavier**	**152.35**	**283**	⇑PKP		**PKPbc**	**13 31 14.9**	**+0.3**
PAB	**San Pablo**	**152.46**	**255**	*e*PKPbc		**PKPdf**	**13 31 11.8**	**+3.3**
DOU	**Dourbes**	**152.64**	**282**	⇑PKP		**PKPbc**	**13 31 16.1**	**+0.7**
BBSR	**BB Station**	**152.65**	**129**	PFAKE			13 31 20.0	+4.1
BBSR				LR		LR			
	comp=Z,370nm,22.0s								
SNF	**Seneffe**	**152.99**	**283**	⇑PKP		**PKPbc**	**13 31 16.9**	**+0.9**
BINY	**Binghamton**	**153.52**	**99**	PFAKE			13 31 20.0	+2.4
BINY				LR		LR			
	comp=Z,680nm,20.0s								
CMLA	**Cha da Macela**	**161.92**	**219**	PFAKE			13 31 30.0	+10
CMLA				LR		LR			
	comp=Z,798nm,20.0s								

NIED ***22*** *13:13:00,43˙80N×142˙70E,h190km,Mw4.6 Best double couple: M₀1.03000×10¹⁶ NP1:φ≈25.00000°, δ42.00000°,λ-158.00000°. NP2:φ≈279.00000°, δ75.00000°,λ-50.00000°.*

ISCJB ***22*** *13:13:51.7±0.1,43˙80N±0˙02×142˙66E±0˙02, h194km±1km,mb4.4/288,Error ellipse: s-maj=3.2km s-min=2.3km az=149.0*

MOS ***22*** *13:13:51.5±0.8,43˙84N×142˙66E,h195km, mb4.7/99, Error ellipse: s-maj=5.8km s-min=4.3km az=97.2*

JMA ***22*** *13:13:52.6±0.1,43˙78N×142˙67E,h193km±2km,M4.6 Broadband fault plane solution: P waves. NP1: φ≈287.00000°,δ86.00000°,λ-46.00000°. NP2:φ≈21.00000°, δ44.00000°,λ-174.00000°. Principal axes: T Plg27.0000°, Azm343.0000°; N Plg44.0000°, Azm102.0000°; P Plg34.0000°, Azm233.0000°;*

JMA Felt II J1.

SKHL ***22*** *13:13:52.9±0.7,43˙91N×142˙67E,h173km±5km,mb5.5/9, msh5.9/9*

IDC ***22*** *13:13:52.8±0.3,43˙86N×142˙69E,h189km±1km,mb4.3/45, mb1 4.4/52,mb1mx4.3/76,mbtmp4.8/52,Error ellipse: s-maj=7.7km s-min=6.3km az=124.0*

NEIC ***22*** *13:13:52.9±0.1,43˙85N×142˙60E,mb4.5/158,Error ellipse: s-maj=2.9km s-min=1.9km az=148.0*

NEIC Recorded [2 JMA] in Aomori, Honshu.

ISC 22 13:13:52.6±0.4,43˙81N±0˙03×142˙68E±0˙03,h192km±3km, h192km:pP-P,n615,σ1s21/726,mb4.5/291,56C-35D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JKK2	**Kamakawa 2**	**0.08**	**38**	⇓P		**Pn**	**13 14 18.3**	**+0.5**
JKK2				*e*S		**Sn**	**13 14 37.0**	**-0.4**
ASAJ	**Asahikawa**	**0.31**	**348**	P		**Pn**	**13 14 18.6**	**+0.4**
	1μm,0.3s,baz=178,slow=5.5							
ASAJ				S		**Sn**	**13 14 38.6**	**+0.5**
	46nm,0.3s,baz=359,slow=32,SNR=38							
ASAJ	**Asahikawa**	**0.31**	**348**	⇓P		**Pn**	**13 14 18.4**	**+0.3**
ASAJ				*e*S		**Sn**	**13 14 38.0**	**-0.1**
JAB	**Ashibetsu**	**0.45**	**228**	⇑P		**Pn**	**13 14 18.8**	**+0.2**
JAB				*e*S		**Sn**	**13 14 38.9**	**+0.3**
HRK	**Horoka**	**0.47**	**137**	*e*P		**Pn**	**13 14 19.5**	**+0.7**
HRK				*e*S		**Sn**	**13 14 40.3**	**+1.4**
JMP	**Maruseppu**	**0.53**	**68**	⇓P		**Pn**	**13 14 19.2**	**+0.3**
JMP				*e*S		**Sn**	**13 14 39.2**	**0.0**
JFR	**Furan**	**0.65**	**186**	⇑P		**Pn**	**13 14 19.5**	**0.0**
JFR				*e*S		**Sn**	**13 14 40.3**	**+0.1**
JTKR	**Abashiri--Toko**	**0.90**	**79**	⇓P		**Pn**	**13 14 21.3**	**+0.5**
JTKR				*e*S		**Sn**	**13 14 42.6**	**0.0**
JAR	**Ashorobuto**	**0.94**	**123**	⇑P		**Pn**	**13 14 21.4**	**+0.3**
JAR				*e*S		**Sn**	**13 14 43.0**	**-0.1**
JYG	**Yagishiri**	**1.09**	**305**	⇓P		**Pn**	**13 14 22.1**	**0.0**
JYG				*e*S		**Sn**	**13 14 44.5**	**-0.6**
JSE	**Soyaes**	**1.15**	**356**	⇓P		**Pn**	**13 14 22.8**	**+0.3**
JSE				*e*S		**Sn**	**13 14 45.5**	**-0.4**
JCH	**Churui**	**1.30**	**157**	⇑P		**Pn**	**13 14 22.8**	**-1.0**
JCH				*e*S		**Sn**	**13 14 45.2**	**-2.7**
JEW	**Eniwo**	**1.32**	**223**	⇑P		**Pn**	**13 14 24.4**	**+0.4**
JEW				*e*S		**Sn**	**13 14 47.6**	**-0.7**
JNBK	**Urakawa-nobuka**	**1.53**	**178**	⇑P		**Pn**	**13 14 25.3**	**-0.6**
JWK2	**Keihoku**	**1.60**	**340**	⇑P		**Pn**	**13 14 27.1**	**+0.6**
JSK	**Shakotan**	**1.67**	**255**	⇑P		**Pn**	**13 14 27.3**	**+0.2**
JSK				*e*S		**Sn**	**13 14 52.8**	**-1.1**
JAK	**Akkeshi**	**1.68**	**118**	⇑P		**Pn**	**13 14 26.2**	**-1.0**
JAK				*e*S		**Sn**	**13 14 52.2**	**-1.9**
JRA	**Rausu**	**1.77**	**85**	⇓P		**Pn**	**13 14 28.5**	**+0.5**
JRA				*e*S		**Sn**	**13 14 56.3**	**+0.7**
ERM	**Erimo**	**1.83**	**169**	*e*Pn		**Pn**	**13 14 28.7**	**0.0**
ERM	**Erimo**	**1.83**	**169**	*d*PN		**Pn**	**13 14 28.5**	**-0.2**
ERM				pmax		pmax		
	comp=Z,2μm,1.2s							
GLVR	**Golovnino**	**2.06**	**91**	*e*P		**Pn**	**13 14 33.7**	**+2.7**
GLVR				AMB		AMB	13 14 35.5	
	comp=Z,720nm,0.5s							
GLVR				*e*S		**Sn**	**13 15 05.6**	**+4.7**
GLVR				A		A	13 15 13.5	
	comp=Z,2μm,0.7s							
GLVR				A		A	13 15 13.5	
	comp=Z,1μm,0.7s							
GRPR	**Tuman**	**2.24**	**84**	*e*PN		**Pn**	**13 14 33.7**	**+0.7**
GRPR				*e*S		**Sn**	**13 15 05.6**	**+1.1**
GRPR				pmax		pmax		
	comp=Z,721nm,0.5s							
GRPR				pmax		pmax		
	comp=N,320nm,0.3s							
GRPR				pmax		pmax		
	comp=E,690nm,0.6s							
GRPR				smax		smax		
	comp=E,2μm,0.7s							
GRPR				smax		smax		
	comp=N,1μm,0.2s							
LAGR	**Lagunnoye**	**2.25**	**83**	*e*P		**Pn**	**13 14 33.5**	**+0.3**
LAGR				AMB		AMB	13 14 37.0	
	comp=N,790nm,0.5s							
LAGR				*e*S		**Sn**	**13 15 05.6**	**+0.8**
LAGR				A		A	13 15 20.0	
	comp=N,4μm,0.6s							
LAGR				A		A	13 15 20.0	
	comp=N,1μm,0.6s							
LAGR	**Lagunnoye**	**2.25**	**83**	*e*PN		**Pn**	**13 14 33.5**	**+0.3**
LAGR				*e*S		**Sn**	**13 15 05.6**	**+0.8**
LAGR				pmax		pmax		
	comp=E,761nm,0.5s							
LAGR				pmax		pmax		
	comp=Z,794nm,0.5s							
LAGR				pmax		pmax		
	comp=N,445nm,0.3s							
LAGR				smax		smax		
	comp=E,4μm,0.6s							
LAGR				smax		smax		
	comp=N,1μm,0.2s							
NEM2	**Nemuro 2**	**2.27**	**100**	⇓P		**Pn**	**13 14 32.0**	**-1.3**
NEM2				*e*S		**Sn**	**13 15 01.7**	**-3.3**
JKB	**Kayabe**	**2.27**	**213**	⇑P		**Pn**	**13 14 32.8**	**-0.6**
JKB				*e*S		**Sn**	**13 15 02.9**	**-2.3**
YUK	**Yuzh-Kuril'sk**	**2.31**	**83**	*i* P		**Pn**	**13 14 34.1**	**+0.4**
YUK				AMB		AMB	13 14 34.9	
	comp=N,2μm,0.6s							
YUK				*i* S		**Sn**	**13 15 07.0**	**+1.2**
YUK				A		A	13 15 11.8	
	comp=N,2μm,0.6s							
YUK				A		A	13 15 11.8	
	comp=N,2μm,0.6s							
YUK	**Yuzh-Kuril'sk**	**2.31**	**83**	*i* PN		**Pn**	**13 14 34.1**	**+0.4**
YUK				*i* S		**Sn**	**13 15 07.0**	**+1.2**
YUK				pmax		pmax		
	comp=E,290nm,0.6s							
YUK				pmax		pmax		
	comp=Z,2μm,0.6s							
YUK				pmax		pmax		
	comp=N,127nm,0.2s							
YUK				smax		smax		
	comp=N,2μm,0.7s							
YUK				smax		smax		
	comp=E,2μm,0.5s							
SHO	**Shikotan**	**3.00**	**87**	*e*P		**Pn**	**13 14 39.8**	**-1.9**
SHO				AMB		AMB	13 14 40.9	
	comp=E,380nm,0.4s							
SHO				*i* S		**Sn**	**13 15 17.0**	**-3.1**
SHO				A		A	13 15 21.8	
	comp=E,2μ

USRK Ussuriysk Ar. 7.72 277 P **Pn** 13 15 42.0 0.0
comp=E,6.7nm,0.3s,baz=84,slow=15,SNR=77
VLA Vladivostok 7.89 269 *e*P **Pn** 13 15 44.4 +0.2
VLA Vladivostok 7.89 269 *ce*PN **Pn** 13 15 44.4 +0.2
MJB9 Matsu-Tunnel 8.03 207 *e*Pn **Pn** 13 15 45.8 -0.4
MAJO Matsushiro 8.03 207 *e*P **Pn** 13 15 46.0 -0.2
MAJO AMB AMB 13 15 54.4
comp=E,200nm,0.8s
MAJO Matsushiro 8.03 207 *e*Pn **Pn** 13 15 45.8 -0.4
MAJO Matsushiro 8.03 207 *c i*PN **Pn** 13 15 45.9 -0.2
MAT Matsushiro 8.03 207 P **Pn** 13 15 45.7 -0.5
MAT S **Sn** 13 17 12.6 -3.9
MJAR Matsushiro Arr 8.03 207 P **Pn** 13 15 45.9 -0.3
comp=E,5.6nm,0.3s,baz=27,slow=10,SNR=65
MJAR S **Sn** 13 17 17.2 +0.7
comp=E,1.5nm,0.3s,baz=94,slow=10,SNR=6.0
GRNR Gornyy 8.15 331 ⇑ *i*PN **Pn** 13 15 46.7 -1.0
GRNR pmax pmax
comp=N,85nm,1.0s
GRNR pmax pmax
comp=E,84nm,1.0s
GRNR pmax pmax
comp=Z,100nm,1.0s
MSHR Mys Shultsa 8.51 266 ⇓ *e*PN **Pn** 13 15 52.2 -0.2
KLR Kul'dur 9.28 310 P **Pn** 13 16 02.5 +0.2
comp=Z,0.1nm,0.3s,baz=116,slow=13,SNR=80
KLR Kul'dur 9.28 310 *c i*PN **Pn** 13 16 02.4 0.0
MDJ Mudanjiang 9.44 279 P **Pn** 13 16 02.9 -1.6
MDJ pmax pmax
comp=Z,62nm,0.7s
MDJ pmax pmax
comp=Z,500nm,4.2s
MDJ Mudanjiang 9.44 279 *e*Pn **Pn** 13 16 04.4 -0.1
INU Inuyama 9.51 209 *e*Pn **Pn** 13 16 04.4 -1.1
JHJ Hachijo jima 2 10.91 193 P **Pn** 13 16 21.6 -2.2
comp=Z,34nm,0.3s,baz=54,slow=19,SNR=10
JHJ S Sn 13 18 15.0 -10
comp=Z,56nm,0.3s,baz=52,slow=24,SNR=12
JHJ2 Mitsune 10.92 193 *e*Pn **Pn** 13 16 20.9 -2.8
SKR Severo-Kuril's 11.42 48 *i* P **Pn** 13 16 31.5 +1.5
SKR AMB AMB 13 16 33.2
comp=Z,63nm,0.8s
SKR *e*S **Sn** 13 18 35.5 -1.5
SKR Severo-Kuril's 11.42 48 ⇓ *i*PN **Pn** 13 16 31.5 +1.5
SKR *e*S **Sn** 13 18 34.0 -3.0
SKR pmax pmax
comp=Z,63nm,1.0s
CN2 Changchun 12.46 276 *e*P **Pn** 13 16 42.0 -1.3
CN2 pmax pmax
comp=Z,10.0nm,0.5s
KSRS Korea Array 12.88 245 P **Pn** 13 16 47.9 -0.8
comp=Z,0.8nm,0.3s,baz=59,slow=12,SNR=23
KS01 Wonju Array Si 12.88 246 *e*Pn **Pn** 13 16 47.1 -1.7
KS15 Wonju Array Si 12.91 246 *e*Pn **Pn** 13 16 48.1 -1.0
KSAR Wonju Array Be 12.91 246 P **Pn** 13 16 47.9 -1.2
KSAR Wonju Array Be 12.91 246 PN **Pn** 13 16 47.9 -1.2
PEA0B Petropavlovsk- 13.60 42 *e*Pn **Pn** 13 16 58.1 +0.5
PETK Petropavlovsk- 13.60 42 P **Pn** 13 16 56.8 -0.8
comp=Z,0.6nm,0.3s,baz=217,slow=8.3,SNR=28
PETK Petropavlovsk- 13.60 42 *e*Pn **Pn** 13 16 57.3 -0.3
PETK Petropavlovsk- 13.60 42 *e*P **Pn** 13 16 57.3 -0.3
TJN Taejon 13.87 243 ⇑ *e*P **Pn** 13 17 02.1 +1.0
PET Petropavlovsk 14.02 43 *e*P **Pn** 13 17 02.3 -0.5
PET Petropavlovsk 14.02 43 *e*Pn **Pn** 13 17 02.7 -0.1
PET Petropavlovsk 14.02 43 *e*P **Pn** 13 17 02.7 -0.1
JNU Nakatsue 14.11 225 P **P** 13 17 05.3 -0.7
comp=Z,5.8nm,0.3s,baz=39,slow=3.1,SNR=33
JNU Nakatsue 14.11 225 *e*Pn **Pn** 13 17 03.8 -0.3
ZEA Zeya 14.19 320 *e*P **Pn** 13 17 03.4 -1.5
ZEA *e*S **S** 13 19 45.0 +1.4
ZEA pmax pmax
comp=N,73nm,0.8s
ZEA pmax pmax
comp=E,52nm,0.8s
ZEA pmax pmax
comp=Z,120nm,0.8s
ZEA pmax pmax
comp=Z,200nm,1.5s
ZEA smax smax
comp=N,200nm,5.0s
ZEA MLR MLR
comp=Z,300nm,12.0s
MA2 Magadan 16.54 15 P **P** 13 17 32.1 -0.5
comp=Z,3.7nm,0.3s,baz=197,slow=9.8,SNR=67
MA2 Magadan 16.54 15 *e*P **P** 13 17 31.7 -0.9
MA2 Magadan 16.54 15 *e*P **P** 13 17 31.7 -0.9
comp=Z,253nm,1.6s
MA2 Magadan 16.54 15 *i* P **P** 13 17 31.8 -0.9
HIA Hailar 16.67 297 *e*P **P** 13 17 33.0 -1.1
comp=Z,37nm,0.9s
HIA Hailar 16.67 297 *e*P **P** 13 17 33.1 -1.1
HIA pmax pmax
comp=Z,37nm,0.9s
CBIJ Chichi jima 16.68 182 *e*P **Pn** 13 17 36.1 +0.6
comp=Z,319nm,1.3s
CBIJ S **S** 13 20 31.2 -7.6
JCJ Chichijima 16.68 182 S **S** 13 20 31.2 -7.6
comp=Z,8.9nm,0.3s,baz=49,slow=19,SNR=4.4
CLNS Chul'man 17.22 325 *e*P **P** 13 17 40.2 +0.1
CLNS pmax pmax
comp=Z,57nm,0.9s
CLNS pmax pmax
comp=N,29nm,0.9s
CLNS pmax pmax
comp=E,18nm,0.9s
YAK Yakutsk 19.79 342 *e*P **P** 13 18 05.0 -2.8
comp=E,55nm,0.7s
YAK Yakutsk 19.79 342 *c i*P **P** 13 18 05.3 -2.5
YAK *e*S **S** 13 21 35.5 -4.4
YAK pmax pmax
comp=Z,44nm,0.8s
YAK pmax pmax
comp=N,12nm,0.9s
YAK pmax pmax
comp=E,5.0nm,0.9s
YAK smax smax
comp=N,47nm,1.4s
YAK smax smax
comp=E,41nm,1.4s
SEY Seymchan 19.97 13 P **P** 13 18 08.8 -1.0
comp=E,2.3nm,0.3s,baz=190,slow=7.2,SNR=124
SEY Seymchan 19.97 13 *e*P **P** 13 18 08.5 -1.2
SEY Seymchan 19.97 13 *ce*P **P** 13 18 08.6 -1.2
BJI Beijing 20.05 268 P **P** 13 18 10.4 -0.4
BJI pmax pmax
comp=Z,31nm,0.8s
JOW Kunigami 20.57 219 P **P** 13 18 17.6 +1.1
comp=Z,64nm,0.8s,baz=299,slow=3.5,SNR=18
JOW Kunigami 20.57 219 *e*P **P** 13 18 17.0 +0.5
comp=Z,95nm,0.9s
TIA Tai'an 20.94 257 P **P** 13 18 19.5 -0.9
TIA pmax pmax
comp=Z,110nm,0.7s
NJ2 Nanjing 22.08 246 *e*P **P** 13 18 31.5 -0.5
NJ2 pmax pmax
comp=Z,80nm,0.9s
NJ2 pmax pmax
comp=Z,320nm,3.5s
BOD Bodaibo 22.68 318 *e*P **P** 13 18 34.2 -3.1
BOD pmax pmax
comp=Z,14nm,1.0s
HHC Hu-ho-hao-te 23.13 273 *e*P **P** 13 18 40.9 -0.8
HHC S **S** 13 22 37.5 -0.9
HHC SS **SnSn** 13 23 34.5 -2.4
HHC pmax pmax
comp=Z,34nm,0.7s
HHC pmax pmax
comp=Z,140nm,4.3s
ULN Ulaanbaatar 25.01 292 *e*P **P** 13 18 59.8 +1.0
ULN Ulaanbaatar 25.01 292 *e*P **P** 13 18 59.1 +0.3
comp=Z,16nm,0.9s
ULN Ulaanbaatar 25.01 292 *d i*P **P** 13 18 59.8 +1.0
ULN pmax pmax
comp=Z,17nm,0.8s
SONA1 Songino Array 25.45 292 *e*P **P** 13 19 03.4 +0.7
SONM Songino Array 25.45 292 P **P** 13 19 03.7 +0.9
comp=Z,31nm,1.0s,baz=89,slow=8.0,SNR=100
SONM S **S** 13 23 16.9 +1.6
comp=Z,0.7nm,0.9s,baz=89,slow=8.8,SNR=2.2
SONM ScP **ScP** 13 25 49.9 -0.1
comp=Z,0.4nm,0.5s,baz=134,slow=4.2,SNR=5.0
WHN Wuhan 26.03 249 ⇓ P **P** 13 19 08.9 +1.0
WHN S S 13 23 45.6 +21
WHN pmax pmax
comp=Z,180nm,0.6s
WHN LR LR
comp=N,900nm,13.9s
WHN LR LR
comp=E,600nm,10.9s
WHN LR LR
comp=Z,640nm,13.7s
TLY Talaya 27.14 301 P **P** 13 19 18.4 +0.8
comp=Z,7.2nm,0.8s,baz=72,slow=5.5,SNR=8.0
TLY Talaya 27.14 301 *e*P **P** 13 19 18.8 +1.2
TLY Talaya 27.14 301 *e*P **P** 13 19 18.3 +0.8
comp=Z,11nm,0.9s
TLY Talaya 27.14 301 *e*P **P** 13 19 19.5 +1.9
TLY pmax pmax
comp=Z,12nm,0.9s
BILL Bilibino 27.28 19 ⇑ *i*P **P** 13 19 16.4 -2.3
BILL *e** PP **pP** 13 19 53.2 -4.4
BILL *e* 13 20 14.3
BILL pmax pmax
comp=Z,13nm,2.5s
TPUB Ta-pu 27.35 229 *e*P **P** 13 19 20.9 +1.1
comp=Z,52nm,1.5s
ZAK Zakamensk 27.37 298 *e*P **P** 13 19 20.5 +0.7
ZAK pmax pmax
comp=Z,31nm,1.2s
TIXI Tiksi 28.72 351 P **P** 13 19 32.5 +1.1
comp=Z,3.1nm,0.6s,baz=181,slow=7.4,SNR=11
TIXI Tiksi 28.72 351 *e*P **P** 13 19 28.4 -3.0
comp=Z,3.1nm,0.6s
MOY Mondy 28.79 301 *e*P **P** 13 19 33.3 +0.9
MOY pmax pmax
comp=Z,27nm,2.1s
ENH Enshi 29.53 254 *e*P **P** 13 19 39.2 +0.2
comp=Z,40nm,0.8s
LZH Lanzhou 30.54 269 *e*P **P** 13 19 48.3 +0.3
LZH pP pP 13 19 51.8 -36
LZH sP sP 13 19 53.5 -56
LZH pmax pmax
comp=Z,20nm,1.3s
GTA Gaotai 32.09 277 ⇑ P **P** 13 20 02.5 +1.0
GTA pP pP 13 20 07.1 -34
GTA sP sP 13 20 09.8 -53
GTA S **S** 13 25 00.1 +0.8
GTA Gaotai 32.09 277 ScS ScS 13 30 10.3 -0.1
GTA pmax pmax
comp=Z,5.0nm,1.2s
GTA pmax pmax
comp=Z,620nm,5.5s
GTA LR LR
comp=N,240nm,16.6s
GTA LR LR
comp=E,190nm,18.1s
GTA LR LR
comp=Z,190nm,18.5s
CD2 Chengdu 33.21 260 *e*P **P** 13 20 10.0 -1.2
HVS Khovu-Aksy 33.38 300 ⇑ *e*P **P** 13 20 14.3 +1.8
HVS pmax pmax
comp=Z,12nm,0.9s
KRAR Krasnoyarsk 33.58 309 ⇓ *e*P **P** 13 20 13.8 -0.2
DGZ Jazzator, Alta 37.57 299 *i* P **P** 13 20 49.9 +1.5
DGZ pmax pmax
comp=Z,10.0nm,1.0s
ZAA0 Zalesovo Array 38.37 306 *e*P **P** 13 20 54.5 -0.3
comp=Z,33nm,1.0s
ZALV Zalesovo Beam 38.37 306 P **P** 13 20 54.5 -0.2
comp=Z,18nm,0.6s,baz=84,slow=7.9,SNR=74
ZALV PcP **PcP** 13 23 04.4 +0.4
comp=Z,1.5nm,0.4s,baz=96,slow=3.8,SNR=5.3
ZALV ScP **ScP** 13 26 33.9 +0.4
comp=Z,9.6nm,0.8s,baz=85,slow=3.5,SNR=26
WMQ Urumqi 39.05 290 P **P** 13 21 01.5 +0.9
WMQ pmax pmax
comp=Z,45nm,0.9s
WMQ pmax pmax
comp=Z,650nm,10.7s
NVS Novosibirsk 39.14 308 ⇑ *i*P **P** 13 21 02.0 +0.9
NVS *i* PPP PPP 13 22 37.3
NVS *i* S S 13 26 36.4 -10
NVS pmax pmax
comp=Z,9.0nm,0.6s
NVS pmax pmax
comp=N,4.0nm,0.8s
NVS pmax pmax
comp=E,10.0nm,0.9s
NVS smax smax
comp=N,4.0nm,0.9s
NVS smax smax
comp=E,1.0nm,0.4s
IM3 Indian Mountai 40.42 34 *e*P **P** 13 21 11.1 -0.5
PPLA Purkeypile 41.17 39 *e*P **P** 13 21 19.1 +1.2
comp=E,94nm,1.6s
CAST Castle Rocks 41.19 38 *e*P **P** 13 21 19.1 +1.2
comp=E,18nm,0.8s
KDAK Kodiak Island 41.58 47 P **P** 13 21 21.2 +0.2
comp=E,12nm,0.6s,baz=112,slow=1.8,SNR=71
KDAK PcP **PcP** 13 23 15.4 +1.1
comp=E,5.4nm,0.8s,baz=239,slow=5.9,SNR=3.8
KDAK Kodiak Island 41.58 47 *e*P **P** 13 21 21.1 0.0
comp=E,16nm,0.8s
KDAK PcP **PcP** 13 23 15.4 +1.1
BPAW Bear Paw Mtn. 41.63 37 *e*P **P** 13 21 21.8 +0.3
comp=E,6.3nm,0.8s
MK31 Makanchi Array 41.67 296 *e*P **P** 13 21 22.6 +0.6
MK31 Makanchi Array 41.67 296 *ce*P **P** 13 21 22.0 0.0
MK31 pmax pmax
comp=Z,12nm,0.6s
MKAR Makanchi Array 41.67 296 P **P** 13 21 22.7 +0.7
comp=Z,13nm,0.8s,baz=82,slow=9.1,SNR=45
MKAR PcP **PcP** 13 23 15.4 +0.6
comp=Z,1.1nm,0.3s,baz=73,slow=5.3,SNR=10
MKAR ScP **ScP** 13 26 47.1 +0.5
comp=Z,0.6nm,0.5s,baz=69,slow=2.8,SNR=4.2
MKAR Makanchi Array 41.67 296 *e*P **P** 13 21 22.6 +0.6
comp=Z,94nm,0.6s
MKAR PcP **PcP** 13 23 15.4 +0.6
MKAR ScP **ScP** 13 26 47.1 +0.5
MKAR Makanchi Array 41.67 296 *e*P **P** 13 21 22.6 +0.6
MKAR 13 23 15.5
MKAR pmax pmax
comp=Z,94nm,0.6s
MK01 Makanchi Array 41.67 296 *e*P **P** 13 21 22.4 +0.3
MLY Manley 41.69 36 *e*P **P** 13 21 22.2 +0.2
comp=Z,8.9nm,1.0s
KTH Kantishna Hill 41.70 38 *e*P **P** 13 21 22.5 +0.4
comp=Z,34nm,0.9s
COLD Coldfoot 41.84 33 *e*P **P** 13 21 22.6 -0.5
comp=Z,8.2nm,0.8s
MAKZ Makanchi 41.87 296 *e*P **P** 13 21 24.0 +0.4
comp=Z,14nm,0.9s
MAKZ Makanchi 41.87 296 *e*P **P** 13 21 24.0 +0.4
MAKZ pmax pmax
comp=Z,15nm,0.9s
SUA Susitna One 41.98 41 *e*P **P** 13 21 24.8 +0.3
comp=Z,13nm,0.8s
TRF Thorofare Moun 41.99 38 *e*P **P** 13 21 25.0 +0.4
comp=Z,13nm,1.0s
TOLK Toolik Lake Re 42.07 30 *e*P **P** 13 21 24.1 -0.8
comp=Z,30nm,1.5s
BRLK Bradley Lake 42.14 44 *e*P **P** 13 21 25.4 -0.3
comp=Z,26nm,0.8s
SKNT Sakolnakorn 42.20 243 P **P** 13 21 26.5 -0.1
comp=Z,26nm,0.8s
RC01 Rabbit Creek A 42.51 42 *e*P **P** 13 21 28.6 0.0
comp=Z,18nm,0.8s
UBPT Khong Chiam 42.52 240 P **P** 13 21 29.7 +0.6
comp=Z,26nm,1.1s
MCK McKinley 42.57 38 *e*P **P** 13 21 29.2 +0.2
comp=Z,20nm,0.9s
MCK McKinley 42.57 38 *e*P **P** 13 21 29.2 +0.2
MCK pmax pmax
comp=Z,20nm,0.9s
RND Reindeer 42.64 38 *e*P **P** 13 21 29.4 -0.3
comp=Z,14nm,0.8s
RND Reindeer 42.64 38 *e*P **P** 13 21 29.4 -0.3
RND pmax pmax
comp=Z,14nm,0.8s
PMR Palmer 42.73 41 *e*P **P** 13 21 30.5 +0.2
comp=Z,23nm,1.0s
PMR Palmer 42.73 41 *e*P **P** 13 21 30.5 +0.2
PMR pmax pmax
comp=Z,23nm,1.0s
MDM Murphy Dome 42.76 36 *e*P **P** 13 21 30.7 +0.1
comp=Z,16nm,0.8s
KURK Kurchatov 42.79 303 *e*P **P** 13 21 30.8 -0.1
comp=Z,48nm,0.8s
KURK PcP **PcP** 13 23 20.2 +1.8
KURK ScP **ScP** 13 26 52.3 +1.3
KURK Kurchatov 42.79 303 P **P** 13 21 32.0 +1.0
KURK 13 23 20.2
KURK pmax pmax
comp=Z,54nm,0.8s
WRH Wood River Hil 42.86 37 *e*P **P** 13 21 31.4 0.0
comp=Z,11nm,0.8s
KURBB Kurchatov Arra 42.87 303 P **P** 13 21 32.0 +0.4
comp=Z,48nm,0.8s,baz=72,slow=9.0,SNR=166
KURBB PcP **PcP** 13 23 20.2 +1.5
comp=Z,0.7nm,0.2s,baz=89,slow=3.7,SNR=2.8
KURBB ScP **ScP** 13 26 52.3 +1.0
comp=Z,1.1nm,0.2s,baz=81,slow=3.0,SNR=5.3
COLA College 42.92 36 *e*P **P** 13 21 32.3 +0.5
COLA College 42.92 36 *e*P **P** 13 21 32.2 +0.4
comp=Z,35nm,0.7s
COLA College 42.92 36 *e*P **P** 13 21 32.2 +0.4
COLA pmax pmax
comp=Z,35nm,0.7s
CCB Clear Creek Bu 42.97 36 *e*P **P** 13 21 32.0 -0.1
comp=Z,6.0nm,0.7s
SML Sawmill 43.08 40 *e*P **P** 13 21 33.8 +0.6
comp=Z,51nm,0.8s
SML Sawmill 43.08 40 *e*P **P** 13 21 33.8 +0.6
SML pmax pmax
comp=Z,51nm,0.8s
PAYA Payao 43.22 250 P **P** 13 21 36.3 +1.5
comp=Z,14nm,0.8s
DHY Denali Highway 43.34 39 *e*P **P** 13 21 35.4 -0.1
comp=Z,38nm,0.6s
IL1 Eielson Array 43.35 36 *e*P **P** 13 21 34.6 -0.6
ILAR Eielson Array 43.35 36 P **P** 13 21 34.9 -0.3
comp=Z,14nm,0.8s,baz=273,slow=6.9,SNR=152
ILAR ScP **ScP** 13 26 53.0 0.0
comp=Z,0.3nm,0.7s,baz=261,slow=4.5,SNR=3.9
ILB Eielson Array 43.35 36 *e*P **P** 13 21 35.0 -0.2
HDA Harding Lake 43.36 37 *e*P **P** 13 21 34.8 -0.6
comp=Z,14nm,1.1s
CMAI Chiengmai2 43.39 251 P **P** 13 21 37.7 +1.4
comp=Z,79nm,1.1s
SCM Sheep Creek Mo 43.55 40 *e*P **P** 13 21 37.5 +0.6
comp=Z,30nm,0.8s
SCM Sheep Creek Mo 43.55 40 *e*P **P** 13 21 37.5 +0.6
SCM pmax pmax
comp=Z,30nm,0.8s
FYU Fort Yukon 43.83 33 *e*P **P** 13 21 39.8 +0.8
comp=Z,26nm,0.8s
LAMP Lampang 43.96 249 P **P** 13 21 42.1 +1.4
comp=Z,23nm,0.7s,comp=Z,178nm
PAX Paxson 44.22 38 *e*P **P** 13 21 42.8 +0.5
comp=Z,12nm,1.1s
PAX Paxson 44.22 38 *e*P **P** 13 21 42.8 +0.5
PAX pmax pmax
comp=Z,12nm,1.1s
CMMT Chiang Mai 44.23 250 P **P** 13 21 42.7 -0.1
comp=Z,22nm,1.1s
CHTO Chiang Mai 44.23 250 P **P** 13 21 43.7 +0.9
comp=Z,97nm,1.2s
CHTO Chiang Mai 44.23 250 *e*P **P** 13 21 43.1 +0.3
comp=Z,18nm,0.9s
CHTO Chiang Mai 44.23 250 *e*P **P** 13 21 43.1 +0.3
CHTO pmax pmax
comp=Z,18nm,0.9s
KLU Klutina 44.27 41 *e*P **P** 13 21 43.5 +0.9
comp=Z,31nm,0.9s
CHAI Chaiyaphum 44.28 244 P **P** 13 21 43.7 +0.5
comp=Z,21nm,0.8s,comp=Z,203nm
RIDG Independ'e Rid 44.37 37 *e*P **P** 13 21 43.0 -0.5
comp=Z,52nm,1.6s
PHIT Phitsanulok 44.38 247 P **P** 13 21 45.2 +1.2
comp=Z,32nm,0.8s,comp=Z,242nm
DIV Divide 44.41 41 *e*P **P** 13 21 44.5 +0.7
comp=Z,26nm,0.9s
HARP HAARP 44.46 39 *e*P **P** 13 21 45.3 +1.2
comp=Z,78nm,0.7s
PBKT Sadao Pong 44.46 246 P **P** 13 21 44.4 -0.2
comp=Z,25nm,1.1s
CM31 Chiang Mai Arr 44.48 250 *e*P **P** 13 21 45.1 +0.3
CMAR Chiang Mai Arr 44.48 250 P **P** 13 21 45.8 +1.0
comp=Z,9.0nm,0.8s,baz=44,slow=7.1,SNR=51
CMAR ScP **ScP** 13 26 59.3 +0.9
comp=Z,0.4nm,0.4s,baz=20,slow=3.4,SNR=4.3
CM01 Chiang Mai Arr 44.49 249 *e*P **P** 13 21 45.1 +0.2
EYAK Cordova Ski Ar 44.53 42 *e*P **P** 13 21 45.7 +1.1
comp=Z,34nm,1.3s
SCRK Sand Creek 44.71 37 *e*P **P** 13 21 45.8 -0.4
comp=Z,21nm,0.6s
DOT Dot Lake 44.73 37 *e*P **P** 13 21 45.6 -0.7
comp=Z,15nm,0.6s
SHL Shillong 44.82 263 P **P** 13 21 48.9 +1.3
SHL pmax pmax
comp=Z,7.0nm,0.6s
MENT Mentasta 45.01 38 *e*P **P** 13 21 49.3 +0.8
comp=Z,14nm,0.6s
SIJI Sorong 45.64 196 P **P** 13 21 55.0 +1.1
comp=Z,30nm,0.7s,baz=39,slow=6.5,SNR=16
EGAK Eagle 45.77 35 *e*P **P** 13 21 54.2 -0.1
comp=Z,26nm,0.9s
NAYO Nakonayok 45.88 243 P **P** 13 21 57.4 +1.6
comp=Z,13nm,0.8s
BALM Baldy 46.05 41 *e*P **P** 13 21 57.6 +0.9
comp=Z,47nm,1.8s
BALM Baldy 46.05 41 *e*P **P** 13 21 57.7 +0.9
BALM pmax pmax
comp=Z,47nm,1.8s
DAWY Dawson 46.67 36 *e*P **P** 13 22 01.4 0.0
comp=Z,3.8nm,0.8s
KDJ Kajisay 46.81 292 *e*P **P** 13 22 03.0 -0.1
comp=Z,7.8nm,0.7s
BVAR Borovoye Array 46.94 308 P **P** 13 22 04.1 +0.5
comp=Z,9.4nm,0.5s,baz=76,slow=8.3,SNR=85
BVAR PcP **PcP** 13 23 33.9 +1.0
comp=Z,1.3nm,0.5s,baz=70,slow=4.7,SNR=3.1
BVAR ScP **ScP** 13 27 08.9 +0.8
comp=Z,1.9nm,0.8s,baz=86,slow=4.6,SNR=8.2
BRVK Borovoye 46.99 308 *e*P **P** 13 22 04.3 +0.3
BRVK Borovoye 46.99 308 *e*P **P** 13 22 04.2 +0.2
comp=Z,46nm,1.1s
BRVK Borovoye 46.99 308 *c i*P **P** 13 22 04.3 +0.3
BRVK pmax pmax
comp=Z,39nm,1.0s
FAKI Fak Fak 47.46 194 *e*P **P** 13 22 08.3 +0.3
comp=Z,39nm,0.8s
OTUK Ortayu 47.48 301 P **P** 13 22 08.0 +0.1
OTUK pmax pmax
comp=Z,19nm,1.0s
TKM2 Tokmak 2 47.53 293 P **P** 13 22 09.3 +0.7
TKM2 pmax pmax
comp=Z,8.0nm,0.7s
JIRN Jiri 47.70 270 *e*P **P** 13 22 10.9 +0.6
GUN Gumba 47.78 270 *e*P **P** 13 22 11.1 +0.2
comp=Z,48nm,0.5s
RAMN Ramite 47.81 269 *e*P **P** 13 22 11.1 +0.1
comp=Z,22nm,0.4s
INK Inuvik 47.97 30 P **P** 13 22 11.4 +0.1
comp=Z,11nm,0.6s,baz=298,slow=7.2,SNR=110
INK Inuvik 47.97 30 *e*P **P** 13 22 11.3 0.0
comp=Z,11nm,0.6s
INK Inuvik 47.97 30 *e*P **P** 13 22 11.3 0.0
INK pmax pmax
comp=Z,11nm,0.6s
PHET Kaeng Krachan 48.01 244 P **P** 13 22 14.5 +2.2
comp=Z,18nm,0.9s
KKN Kakani 48.28 270 *e*P **P** 13 22 14.9 +0.3
comp=Z,5.8nm,0.3s
PKIN Phulchoki 48.32 270 *e*P **P** 13 22 15.0 +0.1
HYT Haines Junctio 48.38 40 *e*P **P** 13 22 15.8 +1.0
comp=Z,44nm,1.0s
HYT *ep*P **pP** 13 22 58.5 +1.5
AAK Ala-Archa 48.39 294 *e*P **P** 13 22 15.8 +0.7
AAK Ala-Archa 48.39 294 *ce*P **P** 13 22 15.8 +0.7
AAK pmax pmax
comp=Z,2.0nm,0.8s
DMN Daman 48.51 270 *e*P **P** 13 22 16.9 +0.5
comp=Z,20nm,0.6s
GKN Gorkha 48.62 271 *e*P **P** 13 22 17.5 +0.4
comp=Z,35nm,0.4s
DANN Dangsing 49.06 272 *e*P **P** 13 22 21.8 +1.2
KOLN Koldanda 49.51 272 *e*P **P** 13 22 24.6 +0.7
comp=Z,32nm,0.4s
WHY Whitehorse 49.66 40 *e*P **P** 13 22 25.8 +1.4
PYUN Piuthan 49.76 272 *e*P **P** 13 22 26.4 +0.6
comp=Z,21nm,0.3s
KK31 Karatay Array 50.80 296 *e*P **P** 13 22 33.3 +0.1
KK31 Karatay Array 50.80 296 *ce*P **P** 13 22 33.5 +0.4
KK31 pmax pmax
comp=Z,13nm,1.0s
KKAR Karatay Array 50.80 296 *e*P **P** 13 22 33.3 +0.1

KKAR **Karatay Array** 50.80 296 *eP* **P** 13 22 33.3 +0.1
SVE **Sverdlovsk** 50.85 315⇓ *eP* **P** 13 22 33.7 +0.4
SVE pmax pmax
comp=Z,75nm,1.0s
SKLT **Songkhla** 51.77 238 P **P** 13 22 41.7 +1.1
comp=Z,43nm,1.4s
TRTT **Trang** 51.82 239 P **P** 13 22 41.4 +0.4
comp=Z,12nm,1.2s
ARU **Arti** 52.06 316 *eP* **P** 13 22 42.0 -0.2
ARU **Arti** 52.06 316 *eP* **P** 13 22 42.1 -0.2
comp=Z,45nm,1.0s
ARU *epP* **pP** 13 23 25.4 +0.3
ARU **Arti** 52.06 316 *c iP* **P** 13 22 42.2 0.0
ARU 13 23 53.5
ARU S **S** 13 29 53.3 +2.6
ARU SS **SS** 13 33 22.3 -7.5
ARU pmax pmax
comp=Z,86nm,1.7s
DLBC **Dease Lake** 52.79 41 *eP* **P** 13 22 49.5 +1.8
comp=Z,14nm,1.3s
PMG **Port Moresby** 53.12 174⇓ *eP* **P** 13 22 51.0 +0.6
PMG pmax pmax
comp=Z,165nm,1.6s
NIL **Nilore** 53.66 284 *eP* **P** 13 22 54.8 +0.5
comp=Z,20nm,1.1s
NIL **Nilore** 53.66 284 *eP* **P** 13 22 54.8 +0.5
NIL pmax pmax
comp=Z,20nm,1.1s
SPITS **Spitsbergen Ar** 54.08 348 P **P** 13 22 56.0 -0.7
comp=Z,4.3nm,0.8s,baz=38,slow=7.3,SNR=13
AB31 **Akbulak array** 54.47 307 *ceP* **P** 13 23 00.1 +0.2
AB31 pmax pmax
comp=Z,18nm,0.7s
ABKAR **Akbulak array** 54.47 307 *eP* **P** 13 23 00.2 +0.3
comp=Z,191nm,0.9s
AKTO **Aktyubinsk** 55.01 309 P **P** 13 23 03.9 +0.1
comp=Z,8.3nm,0.7s,baz=63,slow=12,SNR=18
RES **Resolute Bay** 55.81 16 P **P** 13 23 08.8 -0.3
comp=Z,34nm,0.7s,baz=302,slow=6.9,SNR=164
RES **Resolute Bay** 55.81 16 *eP* **P** 13 23 08.8 -0.3
comp=Z,38nm,0.8s
RES **Resolute Bay** 55.81 16 *eP* **P** 13 23 08.8 -0.3
RES pmax pmax
comp=Z,38nm,0.8s
TMCR **Tamitsa** 57.32 330 *eP* **P** 13 23 19.3 -0.5
TMCR pmax pmax
comp=Z,27nm,0.8s
MTN **Manton Dam** 57.36 193 *eP* **P** 13 23 20.8 +0.2
comp=Z,95nm,1.8s
MTN *epP* **pP** 13 24 04.6 +0.2
KEV **Kevo** 57.48 338 *eP* **P** 13 23 20.3 -0.6
KEV **Kevo** 57.48 338 *eP* **P** 13 23 20.3 -0.6
COEN **Coen** 57.49 179 *eP* **P** 13 23 21.7 +0.1
comp=Z,15nm,0.9s
YKA **Yellowknife Ar** 57.52 32 P **P** 13 23 21.1 -0.2
comp=Z,3.9nm,0.6s,baz=306,slow=6.7,SNR=92
YKA PcP **PcP** 13 24 13.1 +0.7
comp=Z,0.6nm,0.5s,baz=308,slow=4.0,SNR=4.8
YKA ScP **ScP** 13 27 55.2 +1.5
comp=Z,0.2nm,0.7s,baz=303,slow=4.1,SNR=4.1
ARCES **ARCESS Array B** 58.03 338 P **P** 13 23 24.8 0.0
comp=Z,3.0nm,0.7s,baz=84,slow=8.4,SNR=18
ARCES PcP **PcP** 13 24 14.7 +0.3
comp=Z,3.3nm,1.0s,baz=69,slow=6.2,SNR=2.4
GSI **Gunungsitoli** 58.24 236 *eP* **P** 13 23 27.2 +0.3
comp=Z,18nm,0.8s
TULEG **Thule** 58.26 8 *eP* **P** 13 23 25.1 -1.1
comp=Z,38nm,0.8s
KLMR **Klimovskoe** 58.61 326 *eP* **P** 13 23 25.9 -3.0
KLMR AMP 13 23 29.6
comp=Z,31nm,1.0s
KLMR *esP* **PcP** 13 24 23.0 +6.2
KLMR **Klimovskoe** 58.61 326 *eP* **P** 13 23 25.9 -3.0
KLMR *e*SP* **PcP** 13 24 23.0 +6.2
KLMR pmax pmax
comp=Z,31nm,1.0s
DAG **Danmarks Havn** 59.11 355⇑ *iP* **P** 13 23 31.4 -0.7
comp=Z,18nm,0.8s
DAG **Danmarks Havn** 59.11 355⇑ *iP* **P** 13 23 31.4 -0.7
DAG pmax pmax
comp=Z,18nm,0.8s
SGF **Sodankyl** 59.11 336 P **P** 13 23 32.8 +0.6
SGF pmax pmax
comp=Z,22nm,0.8s
MSF **Maaselka** 59.34 334 P **P** 13 23 34.6 +0.8
MSF pmax pmax
comp=Z,29nm,1.9s
LEM **Lembang** 59.54 221 P **P** 13 23 36.4 +0.4
comp=Z,22nm,0.7s,baz=97,slow=16,SNR=4.2
JOF **Joensuu** 60.49 331 *eP* **P** 13 23 42.0 +0.4
JOF **Joensuu** 60.49 331 P **P** 13 23 42.0 +0.4
JOF pmax pmax
comp=Z,22nm,1.0s
OUL **Oulu** 60.88 334 P **P** 13 23 44.9 +0.7
OUL pmax pmax
comp=Z,18nm,0.8s
GEYT **Alibeck** 61.54 296 P **P** 13 23 49.8 +0.5
comp=Z,3.9nm,0.4s,baz=45,slow=2.5,SNR=12
LON **Longmire** 63.06 50 *eP* **P** 13 23 59.7 +0.6
comp=Z,2.2nm,0.8s
LON **Longmire** 63.06 50 *eP* **P** 13 23 59.7 +0.6
LON pmax pmax
comp=Z,2.0nm,0.8s
VRH **Novokhopyorsk** 63.28 316 *eP* **P** 13 23 59.9 -0.5
VRH pmax pmax
comp=Z,20nm,0.7s
FIA1 **FINESS Array S** 63.30 331 *eP* **P** 13 23 59.7 -0.7
FINES **FINESS Array B** 63.31 331 P **P** 13 23 59.9 -0.5
comp=Z,13nm,0.6s,baz=49,slow=7.3,SNR=84
FINES PcP **PcP** 13 24 35.8 0.0
comp=Z,1.3nm,0.3s,baz=72,slow=4.5,SNR=2.9
OBN **Obninsk** 63.31 322 *eP* **P** 13 24 00.7 +0.2
OBN **Obninsk** 63.31 322 *dP* **P** 13 24 00.7 +0.2
OBN *i* *PP **PcP** 13 24 40.0 +4.1
OBN pmax pmax
comp=Z,24nm,1.1s
VAF **Ylistaro** 63.32 334 P **P** 13 24 02.0 +1.5
LTY **Liberty** 63.38 49 *eP* **P** 13 24 01.8 +0.5
comp=Z,3.3nm,0.6s
CTA **Charters Tower** 63.67 176 P **P** 13 24 03.5 +0.3
comp=Z,1.8nm,0.6s,baz=4.2,slow=8.7,SNR=6.0
LPSR **Galich'ya Gora** 63.79 319 *eP* **P** 13 24 03.9 +0.2
LPSR pmax pmax
comp=Z,10.0nm,0.5s
WRAB **Tennant Creek** 63.89 189⇓ *eP* **P** 13 24 04.2 -0.5
WRAB pmax pmax
comp=Z,11nm,1.0s
WRA **Warramunga Arr** 63.90 189 P **P** 13 24 04.7 -0.1
comp=Z,4.8nm,0.6s,baz=8.1,slow=6.8,SNR=57
WRA PcP **PcP** 13 24 40.0 +1.4
comp=Z,2.0nm,0.9s,baz=359,slow=4.2,SNR=4.5
SUMG **Summit** 63.91 0 *iP* **P** 13 24 05.6 +0.9
comp=Z,24nm,0.9s
SUMG **Summit** 63.91 0 *eP* **P** 13 24 04.8 +0.1
comp=Z,23nm,0.9s
SUMG **Summit** 63.91 0 *eP* **P** 13 24 04.8 +0.1
SUMG pmax pmax
comp=Z,23nm,0.9s
H04A **Detroit Lake** 64.07 52 *eP* **P** 13 24 06.8 +1.0
comp=Z,7.1nm,0.8s
VSR **Storozhevoye** 64.54 317 *eP* **P** 13 24 08.3 -0.3
VSR pmax pmax
comp=Z,20nm,0.6s
HUMO **Hull Mountain** 64.87 54 *eP* **P** 13 24 12.3 +1.3
comp=Z,7.9nm,1.4s
VSU **Vasula** 65.14 329 *dP* **P** 13 24 12.5 +0.1
VSU pmax pmax
comp=Z,60nm,0.8s
PINE **Pine Mountain** 65.32 52 *eP* **P** 13 24 15.7 +1.6
comp=Z,13nm,0.8s
PINE *epP* **pP** 13 25 00.9 +2.1
SCO **Scoresbysund** 65.47 354 *iP* **P** 13 24 14.9 +0.6
comp=Z,14nm,1.0s
SCO **Scoresbysund** 65.47 354 *eP* **P** 13 24 14.6 +0.3
comp=Z,14nm,1.0s
SCO **Scoresbysund** 65.47 354 *eP* **P** 13 24 14.6 +0.3
SCO pmax pmax
comp=Z,14nm,1.0s
YBH **Yreka Blue Hor** 65.55 55 P **P** 13 24 17.3 +1.9
comp=Z,4.4nm,0.7s,baz=0.5,slow=4.0,SNR=26
YBH **Yreka Blue Hor** 65.55 55 *eP* **P** 13 24 17.1 +1.7
comp=Z,5.1nm,0.7s
YBH **Yreka Blue Hor** 65.55 55 *eP* **P** 13 24 17.1 +1.7
YBH pmax pmax
comp=Z,5.0nm,0.7s
K05A **Summer Lake** 66.00 53 *eP* **P** 13 24 19.4 +0.9
comp=Z,11nm,0.8s
F10A **Beach Ranch, E** 66.05 49 *eP* **P** 13 24 19.3 +0.7
comp=Z,2.7nm,0.9s
WDC **Whiskeytown Da** 66.35 56 *eP* **P** 13 24 20.8 +0.3
comp=Z,4.4nm,0.9s
WDC **Whiskeytown Da** 66.35 56 *eP* **P** 13 24 20.8 +0.3
WDC pmax pmax
comp=Z,4.0nm,0.9s
GOF **Gofitskoye** 66.38 310⇑ *eP* **P** 13 24 21.8 +1.3
GOF pmax pmax
comp=Z,40nm,0.7s
BMO **Blue Mountains** 66.71 50 *eP* **P** 13 24 23.3 +0.5
BMO *epP* **pP** 13 25 08.4 +0.7
BMO **Blue Mountains** 66.71 50 *eP* **P** 13 24 23.3 +0.5
BMO *e*PP* **pP** 13 25 08.4 +0.7
ILULI **Ilulissat** 66.83 5 *eP* **P** 13 24 22.6 -0.3
comp=Z,18nm,1.0s
ILULI **Ilulissat** 66.83 5 *eP* **P** 13 24 22.7 -0.3
ILULI pmax pmax
comp=Z,18nm,1.0s
J08A **Circle Bar Ran** 67.00 52 *eP* **P** 13 24 25.4 +0.8
comp=Z,6.1nm,0.9s
NCK **Nalchik** 67.05 309⇓ *eP* **P** 13 24 25.8 +0.9
NCK pmax pmax
comp=Z,11nm,0.9s
IZAR **Zarasai** 67.25 327 *eP* **P** 13 24 26.4 +0.6
IZAR IAmb IAmb 13 24 27.9
comp=Z,7.3nm,0.9s
MSO **Missoula** 67.26 46 *eP* **P** 13 24 26.8 +0.6
comp=Z,2.6nm,0.7s
KIV **Kislovodsk** 67.27 310 *eP* **P** 13 24 28.0 +1.7
KIV **Kislovodsk** 67.27 310 *eP* **P** 13 24 27.1 +0.7
comp=Z,42nm,0.8s
KIV **Kislovodsk** 67.27 310 *eP* **P** 13 24 28.0 +1.7
KIV pmax pmax
comp=Z,58nm,1.1s
KBZ **Khabaz** 67.30 309 P **P** 13 24 27.9 +1.6
comp=Z,14nm,0.8s,baz=59,slow=4.7,SNR=32
ZEI **Tsey** 67.32 308 *eP* **P** 13 24 26.3 -0.5
ZEI pmax pmax
comp=Z,11nm,0.8s
IDID **Didziasalis** 67.36 326 *eP* **P** 13 24 27.1 +0.6
IDID IAmb IAmb 13 24 28.0
comp=Z,6.2nm,0.6s
WVOR **Wild Horse Val** 67.49 52 *eP* **P** 13 24 28.5 +0.7
comp=Z,3.0nm,0.8s
WVOR *epP* **pP** 13 25 13.8 +1.0
WVOR **Wild Horse Val** 67.49 52 *eP* **P** 13 24 28.5 +0.7
WVOR *e*PP* **pP** 13 25 13.8 +1.0
WVOR pmax pmax
comp=Z,3.0nm,0.8s
FFC **Flin Flon** 67.53 35 *eP* **P** 13 24 28.3 +0.7
FFC **Flin Flon** 67.53 35 *eP* **P** 13 24 27.9 +0.3
comp=Z,7.4nm,0.8s
FFC **Flin Flon** 67.53 35 *eP* **P** 13 24 27.9 +0.3
FFC pmax pmax
comp=Z,7.0nm,0.8s
FCC **Fort Churchill** 67.54 28 *eP* **P** 13 24 27.5 -0.1
comp=Z,21nm,1.3s
FCC **Fort Churchill** 67.54 28 *eP* **P** 13 24 27.5 -0.1
FCC pmax pmax
comp=Z,21nm,1.3s
IIGN **Ignalina** 67.54 326 *eP* **P** 13 24 28.3 +0.6
IIGN IAmb IAmb 13 24 29.8
comp=Z,11nm,0.6s
AS01 **Alice Springs** 67.62 189 *eP* **P** 13 24 29.0 +0.5
AS31 **Alice Springs** 67.63 189 *eP* **P** 13 24 29.4 +0.8
comp=Z,3.7nm,0.7s
ASAR **Alice Springs** 67.63 189 P **P** 13 24 29.1 +0.6
comp=Z,12nm,0.7s,baz=3.2,slow=4.5,SNR=112
NEY **Neytrino** 67.70 309 *deP* **P** 13 24 30.8 +1.7
NEY pmax pmax
comp=Z,2.0nm,1.0s
BEKR **Beckworth** 68.10 55 *eP* **P** 13 24 31.9 +0.2
comp=Z,5.0nm,0.9s
BEKR *epP* **pP** 13 25 17.6 +0.7
NC405 **NORSAR Array S** 68.12 337 *eP* **P** 13 24 30.1 -1.2
NC303 **NORSAR Array S** 68.13 337 *eP* **P** 13 24 30.8 -0.5
NC204 **NORSAR Array S** 68.26 337 *eP* **P** 13 24 31.9 -0.3
NB201 **NORSAR Array S** 68.30 337 *eP* **P** 13 24 31.1 -1.3
NB2 **NORSAR Subarra** 68.33 337 P **P** 13 24 32.2 -0.3
comp=Z,7.5nm,0.6s,baz=36,slow=6.5
NOA **NORSAR Array B** 68.33 337 P **P** 13 24 32.3 -0.3
comp=Z,5.7nm,0.6s,baz=36,slow=6.2,SNR=49
HFS **Hagfors** 68.33 335 P **P** 13 24 32.3 -0.2
comp=Z,16nm,0.6s,baz=64,slow=6.6,SNR=74
NBO02 **NORSAR Array S** 68.42 337 *eP* **P** 13 24 32.8 -0.3
HRY **Holter Researc** 68.43 45 *eP* **P** 13 24 34.5 +0.9
MFID **Camas Ranch** 68.45 50 *eP* **P** 13 24 34.7 +1.0
comp=Z,7.6nm,1.5s
NBO00 **NORSAR Array S** 68.46 337 *eP* **P** 13 24 33.2 -0.2
GNI **Garni** 68.51 305⇑ *eP* **P** 13 24 36.6 +2.4
GNI pmax pmax
comp=Z,22nm,0.9s
NAO01 **NORSAR Array S** 68.58 337 *eP* **P** 13 24 33.5 -0.6
EGMT **Eagleton** 68.61 43 *eP* **P** 13 24 35.2 +0.6
comp=Z,10nm,1.0s
EGMT *epP* **pP** 13 25 20.8 +1.0
LRM **Limekiln Ridge** 68.70 47 *eP* **P** 13 24 36.1 +0.7
LRM *epP* **pP** 13 25 21.7 +1.1
PAHR **Pah Rah Range** 68.78 55 *eP* **P** 13 24 36.4 +0.5
comp=Z,3.9nm,0.8s
SFJD **Kangerlussuaq** 69.06 6 P **P** 13 24 36.8 -0.1
comp=Z,7.5nm,0.7s,baz=310,slow=7.9,SNR=4.3
HLID **Hailey** 69.13 49 *eP* **P** 13 24 39.1 +1.1
comp=Z,2.6nm,1.1s
MCMT **McKenzie Canyo** 69.15 48 *eP* **P** 13 24 39.1 +0.9
comp=Z,0.9nm,0.9s
CMB **Columbia Colle** 69.25 57 *eP* **P** 13 24 38.1 -0.6
comp=Z,3.8nm,0.9s
CMB **Columbia Colle** 69.25 57 *eP* **P** 13 24 38.1 -0.6
CMB pmax pmax
comp=Z,4.0nm,0.9s
BOZ **Bozeman (W)** 69.28 46 *eP* **P** 13 24 39.4 +0.5
comp=Z,5.8nm,0.6s
BOZ *epP* **pP** 13 25 24.9 +0.7
BOZ **Bozeman (W)** 69.28 46 *eP* **P** 13 24 39.4 +0.5
BOZ *e*PP* **pP** 13 25 24.9 +0.7
BOZ pmax pmax
comp=Z,6.0nm,0.6s
YERR **Yerington** 69.33 56 *eP* **P** 13 24 39.2 -0.1
comp=Z,4.6nm,0.6s
AKASG **Malin Array Be** 69.56 321 P **P** 13 24 40.1 -0.2
comp=Z,9.4nm,0.6s,baz=40,slow=6.3,SNR=44
AKBB **Malin Array Si** 69.56 321 *eP* **P** 13 24 39.8 -0.5
comp=Z,18nm,0.8s
AKBB **Malin Array Si** 69.56 321 *eP* **P** 13 24 39.8 -0.5
AKBB pmax pmax
comp=Z,18nm,0.8s
KIEV **Kiev** 69.58 322 *eP* **P** 13 24 39.8 -0.5
comp=Z,17nm,0.8s
KIEV **Kiev** 69.58 322 *c iP* **P** 13 24 39.6 -0.7
KIEV pmax pmax
comp=Z,20nm,1.0s
AK11 **Malin Array Si** 69.61 322 *eP* **P** 13 24 39.7 -0.8
RYN **Ryan** 69.99 55 *eP* **P** 13 24 44.3 +1.0
comp=Z,3.3nm,0.7s
YHB **Horse Butte** 70.07 47 *eP* **P** 13 24 44.6 +0.8
comp=Z,6.3nm,0.8s
GCMT **Greycliff** 70.17 45 *eP* **P** 13 24 45.3 +1.0
GCMT *epP* **pP** 13 25 30.7 +1.0
YHH **Holmes Hill** 70.23 47 *eP* **P** 13 24 45.6 +0.7
comp=Z,5.5nm,1.2s
NV01 **Mina Array Sit** 70.25 56 *eP* **P** 13 24 45.7 +0.7
NV01 *epP* **pP** 13 25 31.2 +0.8
NVAR **Mina Array Bea** 70.25 56 P **P** 13 24 46.2 +1.2
comp=Z,1.9nm,0.6s,baz=292,slow=6.5,SNR=18
NV11 **Mina Array Sit** 70.33 55 *eP* **P** 13 24 46.3 +0.8
comp=Z,0.2nm,0.8s
KLNR **Kaliningrad** 70.43 329 *c iP* **P** 13 24 46.0 +0.6
KLNR pmax pmax
comp=Z,30nm,0.9s
H17A **Grant Village** 70.64 47 *eP* **P** 13 24 47.6 +0.4
comp=Z,7.4nm,1.0s
IMW **Indian Meadow** 70.79 47 *eP* **P** 13 24 49.4 +1.2
comp=Z,4.4nm,0.8s
RLMT **Red Lodge** 70.83 45 *eP* **P** 13 24 49.1 +0.7
comp=Z,2.9nm,0.6s
FXWY **Fox Creek** 70.92 48 *eP* **P** 13 24 50.4 +1.4
comp=Z,3.6nm,0.8s
MOOW **Moose Ponds** 70.99 47 *eP* **P** 13 24 50.5 +1.1
comp=Z,6.4nm,1.1s
TPAW **Teton Pass** 71.06 48 *eP* **P** 13 24 51.0 +1.1
comp=Z,8.6nm,1.3s
TPAW *epP* **pP** 13 25 36.9 +1.6
REDW **Red Top Meadow** 71.19 48 *eP* **P** 13 24 51.7 +1.1
comp=Z,3.6nm,0.8s
REDW *epP* **pP** 13 25 37.7 +1.5
SIM **Simferopol'** 71.21 315 *eP* **P** 13 24 52.0 +1.6
SIM pmax pmax
comp=Z,12nm,0.8s
HVU **Hansel Valley** 71.22 50 *eP* **P** 13 24 51.3 +0.6
comp=Z,3.6nm,0.9s
HVU **Hansel Valley** 71.22 50 *eP* **P** 13 24 51.3 +0.6
HVU pmax pmax
comp=Z,4.0nm,0.9s
SORM **Soroca** 71.80 320⇑ *iP* **P** 13 24 53.7 -0.1
SORM **Soroca** 71.80 320 P **P** 13 24 53.6 -0.2
R11A **Troy Canyon, C** 71.91 54 *eP* **P** 13 24 55.6 +0.7
comp=Z,2.6nm,0.6s
R11A *epP* **pP** 13 25 41.5 +1.0
BSD **Bornholm Skovb** 71.95 331 *iP* **P** 13 24 54.3 -0.2
comp=Z,18nm,0.7s
BSD **Bornholm Skovb** 71.95 331 *i* P **P** 13 24 54.3 -0.2
BSD pmax pmax
comp=Z,19nm,0.7s
DAC **Darwin (Calif)** 72.08 57 *eP* **P** 13 24 56.5 +0.5
comp=Z,3.4nm,0.8s
DAC *eS* **S** 13 33 60.0 -2.2
DAC **Darwin (Calif)** 72.08 57 *eP* **P** 13 24 56.5 +0.5
DAC *eS* **S** 13 34 00.0 -2.2
DAC pmax pmax
comp=Z,3.0nm,0.8s
DUG **Dugway, Tooele** 72.27 51 *eP* **P** 13 24 57.7 +0.8
comp=Z,4.0nm,0.8s
DUG *epP* **pP** 13 25 44.0 +1.4
DUG **Dugway, Tooele** 72.27 51 *eP* **P** 13 24 57.7 +0.8
DUG *e*PP* **pP** 13 25 44.0 +1.4
DUG pmax pmax
comp=Z,4.0nm,0.8s
BW06 **Boulder Array** 72.29 47 *eP* **P** 13 24 57.1 -0.1
comp=Z,5.5nm,0.8s
PD31 **Pinedale Array** 72.29 47 *eP* **P** 13 24 57.6 +0.4
PD31 *epP* **pP** 13 25 43.6 +0.7
PDAR **Pinedale Array** 72.29 47 P **P** 13 24 57.8 +0.6
comp=Z,4.7nm,0.6s,baz=279,slow=2.5,SNR=30
PDAR **Pinedale Array** 72.29 47 *eP* **P** 13 24 57.4 +0.2
PDAR *epP* **pP** 13 25 43.3 +0.5
TPNV **Topopah Spring** 72.45 56 *eP* **P** 13 24 58.6 +0.5
comp=Z,4.5nm,0.7s
TPNV *epP* **pP** 13 25 44.6 +0.8
TPNV **Topopah Spring** 72.45 56 *eP* **P** 13 24 58.6 +0.5
TPNV *e*PP* **pP** 13 25 44.6 +0.8
TPNV pmax pmax
comp=Z,5.0nm,0.7s
LVV **L'vov** 72.50 323 *eP* **P** 13 24 59.3 +1.4
MUD **Monsted U'grnd** 72.72 335 *iP* **P** 13 24 59.5 +0.4
MUD **Monsted U'grnd** 72.72 335 *eP* **P** 13 24 59.5 +0.4
NLU **North Lily Min** 72.84 51 *eP* **P** 13 25 00.8 +0.3
comp=Z,2.7nm,0.8s
MPU **Maple Canyon** 73.05 51 *eP* **P** 13 25 02.2 +0.6
comp=Z,4.9nm,0.7s
KWP **Kalwaria Pacla** 73.21 324 *eP* **P** 13 25 03.1 +1.0
KWP **Kalwaria Pacla** 73.21 324 *eP* **P** 13 25 02.7 +0.5
comp=Z,196nm,0.5s
KWP **Kalwaria Pacla** 73.21 324 *eP* **P** 13 25 03.1 +1.0
GSC **Goldstone, Bar** 73.21 57 *eP* **P** 13 25 03.3 +0.8
comp=Z,2.7nm,0.6s
GSC **Goldstone, Bar** 73.21 57 *eP* **P** 13 25 03.3 +0.8
GSC pmax pmax
comp=Z,3.0nm,0.6s
PRAR **RASCA** 73.34 321⇓ *iP* **P** 13 25 03.5 +0.5
ULM **Lac du Bonnet** 73.35 35 P **P** 13 25 03.0 0.0
comp=Z,4.7nm,0.8s,baz=314,slow=9.0,SNR=8.6
ULM **Lac du Bonnet** 73.35 35 *eP* **P** 13 25 02.6 -0.3
comp=Z,22nm,1.6s
ULM **Lac du Bonnet** 73.35 35 *eP* **P** 13 25 02.6 -0.3
ULM pmax pmax
comp=Z,22nm,1.6s
SHPR **Sheep Range** 73.39 55 *eP* **P** 13 25 04.7 +1.0
comp=Z,4.3nm,0.9s
BUR08 **Bucovina Ar. S** 73.60 321 *eP* **P** 13 25 04.9 +0.3
BUR04 **Bucovina Ar. S** 73.61 321 *eP* **P** 13 25 04.9 +0.3
BURAR **Bucovina Array** 73.61 321⇑ *iP* **P** 13 25 05.1 +0.4
BURAR **Bucovina Array** 73.61 321 P **P** 13 25 05.1 +0.4
TLCR 73.70 318⇑ *iP* **P** 13 25 05.7 +0.6
CCUT **Cedar City** 73.74 53 *eP* **P** 13 25 06.1 +0.4
comp=Z,2.0nm,0.7s
TESR **Tescani** 73.77 320⇑ *iP* **P** 13 25 05.3 -0.2
P17A **Butcher Ranch,** 73.92 51 *eP* **P** 13 25 07.0 +0.3
P17A *epP* **pP** 13 25 53.2 +0.7
OJC **Ojcow** 73.97 326 *eP* **P** 13 25 07.3 +0.8
OJC **Ojcow** 73.97 326 *eP* **P** 13 25 06.9 +0.3
comp=Z,22nm,0.8s
OJC **Ojcow** 73.97 326 *eP* **P** 13 25 07.3 +0.8
STHS **Stebnicka Huta** 73.99 325 *eP* **P** 13 25 07.6 +0.9
STHS **Stebnicka Huta** 73.99 325 *eP* **P** 13 25 07.6 +0.9
STHS pmax pmax
comp=Z,8.0nm,0.8s
CFR **Carcaliu** 74.04 318⇑ *iP* **P** 13 25 06.7 -0.3
CFR **Carcaliu** 74.04 318 P **P** 13 25 06.7 -0.3
PETR **Petresti** 74.08 319⇑ *iP* **P** 13 25 09.4 +2.2
MTPU **Mount Pierson** 74.09 52 *eP* **P** 13 25 08.7 +0.7
comp=Z,3.1nm,0.7s
P18A **Preston Nutter** 74.09 50 *eP* **P** 13 25 08.2 +0.4
comp=Z,8.2nm,1.3s
ODBI **Odobesti** 74.13 319⇓ *iP* **P** 13 25 09.4 +1.9
UZH **Uzhgorod** 74.14 323 *eP* **P** 13 25 08.5 +1.0
UZH *i* 13 25 28.0
LCMT **Little Creek M** 74.18 54 *eP* **P** 13 25 09.2 +1.1
comp=Z,2.2nm,0.7s
RSSD **Black Hills** 74.19 43 *eP* **P** 13 25 08.1 -0.1
comp=Z,4.1nm,0.8s
RSSD *epP* **pP** 13 25 54.1 +0.1
RSSD **Black Hills** 74.19 43 *eP* **P** 13 25 08.1 -0.1
RSSD *e*PP* **pP** 13 25 54.2 +0.1
RSSD pmax pmax
comp=Z,4.0nm,0.8s
VRI **Vrincioaia** 74.21 319⇑ *iP* **P** 13 25 09.0 +1.0
VRI **Vrincioaia** 74.21 319 P **P** 13 25 10.9 +2.9
VRI pmax pmax
comp=Z,92nm,1.4s
PLOR **Plostina** 74.26 319⇑ *iP* **P** 13 25 08.9 +0.6
PLOR **Plostina** 74.26 319 P **P** 13 25 08.9 +0.6
CRVS **Cervenica-Dubn** 74.29 324 *eP* **P** 13 25 09.3 +0.9
CRVS **Cervenica-Dubn** 74.29 324 *eP* **P** 13 25 09.3 +0.9
CRVS pmax pmax
comp=Z,5.0nm,0.8s
RWWY **Rawlins** 74.29 47 *eP* **P** 13 25 09.2 +0.3
comp=Z,12nm,0.8s
RWWY *epP* **pP** 13 25 55.6 +0.8
SRU **San Rafael Swe** 74.29 51 *eP* **P** 13 25 09.3 +0.4
comp=Z,5.8nm,0.9s
SRU *epP* **pP** 13 25 55.6 +0.8
SRU **San Rafael Swe** 74.29 51 *eP* **P** 13 25 09.3 +0.4
SRU *e*PP* **pP** 13 25 55.6 +0.8
SRU pmax pmax
comp=Z,6.0nm,0.9s
BMR **Baia Mare** 74.34 322⇑ *iP* **P** 13 25 09.9 +1.2
NIE **Niedzica** 74.38 325 *eP* **P** 13 25 10.3 +1.3
NIE **Niedzica** 74.38 325 *eP* **P** 13 25 10.3 +1.3
LDFC **Landfair** 74.39 56 *eP* **P** 13 25 10.2 +0.8
comp=Z,8.4nm,0.8s
LDFC *epP* **pP** 13 25 56.0 +0.7
ARCR **ARCALIA** 74.40 321⇓ *iP* **P** 13 25 10.2 +1.1
TRPA **Tarpa** 74.42 323⇑ *iP* **P** 13 25 10.3 +1.2
KNB **Kanab** 74.42 54 *eP* **P** 13 25 10.5 +0.8
comp=Z,3.8nm,0.9s
KNB **Kanab** 74.42 54 *eP* **P** 13 25 10.5 +0.8
KNB pmax pmax
comp=Z,4.0nm,0.9s
HARR **Harsova** 74.50 318⇑ *iP* **P** 13 25 09.6 -0.1
HARR **Harsova** 74.50 318 P **P** 13 25 09.5 -0.1
PFO **Pinyon Flats O** 74.56 58 *eP* **P** 13 25 11.1 +0.7
comp=Z,3.3nm,0.8s
PFO **Pinyon Flats O** 74.56 58 *eP* **P** 13 25 11.1 +0.7
PFO pmax pmax
comp=Z,3.0nm,0.8s
XPFO **Piæon Flat** 74.56 58 *eP* **P** 13 25 11.3 +0.9
comp=Z,3.6nm,0.8s
DOPR **Dopca** 74.76 320⇓ *iP* **P** 13 25 12.7 +1.5
ISR **Istrita** 74.85 319⇓ *iP* **P** 13 25 13.1 +1.3
ISR **Istrita** 74.85 319 P **P** 13 25 13.1 +1.3
MLR **Muntele Rosu** 74.86 319 P **P** 13 25 12.8 +0.9
comp=Z,0.9nm,0.6s,baz=18,slow=9.6,SNR=7.8
MLR **Muntele Rosu** 74.86 319⇑ *iP* **P** 13 25 12.8 +0.9
MLR **Muntele Rosu** 74.86 319 *eP* **P** 13 25 12.0 +0.1
comp=Z,5.3nm,0.8s
KSP **Ksiaz** 74.86 328 *eP* **P** 13 25 12.4 +0.8
KSP **Ksiaz** 74.86 328 *eP* **P** 13 25 13.2 +1.5

KSP	Ksiaz	74.86	328	eP		P	13 25 12.5	+0.8
LANS	Liptovska Anna	74.93	325	eP		P	13 25 13.5	+1.4
LANS	Liptovska Anna	74.93	325	eP		P	13 25 13.6	+1.4
W13A	Hualapai Mount	75.11	56	eP		P	13 25 14.6	+0.9
	comp=Z,2.3nm,0.8s							
BR131	Keskin Array S	75.11	311	eP		P	13 25 13.7	+0.2
BRTR	Keskin Array B	75.11	311	P		P	13 25 13.9	+0.5
	comp=Z,1.6nm,0.6s,baz=67,slow=3.2,SNR=10							
BRTR				PP		PP	13 28 05.2	+1.5
	comp=Z,2.1nm,1.1s,baz=46,slow=3.6,SNR=5.4							
U15A	North Rim	75.14	54	eP		P	13 25 14.9	+1.1
	comp=Z,5.4nm,0.8s							
U15A				epP		pP	13 26 00.9	+1.1
MORC	Moravsky Berou	75.22	327⇑	iP		P	13 25 14.9	+1.1
MORC	Moravsky Berou	75.22	327	eP		P	13 25 14.5	+0.7
	comp=Z,54nm,0.8s							
MORC	Moravsky Berou	75.22	327	eP		P	13 25 14.5	+0.7
MORC				pmax	pmax			
	comp=Z,54nm,0.8s							
UPC	Upice	75.23	328	eP		P	13 25 14.7	+0.9
UPC	Upice	75.23	328	eP		P	13 25 14.7	+0.9
DPC	Dobruska-Polom	75.24	328	eP		P	13 25 15.1	+1.2
DPC				ePCP		PcP	13 25 25.8	-0.6
DPC	Dobruska-Polom	75.24	328	eP		P	13 25 15.1	+1.2
DPC				e			13 25 25.8	
STKA	Stephens Creek	75.33	181	P		P	13 25 15.5	+1.1
	comp=Z,4.8nm,0.8s,baz=349,slow=6.1,SNR=9.6							
DRGR		75.36	322⇑	iP		P	13 25 15.3	+0.6
DRGR		75.36	322	P		P	13 25 15.3	+0.6
ANTO	Ankara	75.47	312⇑	iP		P	13 25 15.9	+0.5
ANTO	Ankara	75.47	312	P		P	13 25 15.8	+0.4
PV09	Paradox Valley	75.50	50	eP		P	13 25 16.8	+0.9
ARR	Arges	75.56	320⇑	iP		P	13 25 17.5	+1.6
PV10	Paradox Valley	75.64	50	eP		P	13 25 17.6	+0.9
Y12C	Blythe	75.64	57	eP		P	13 25 17.1	+0.7
	comp=Z,9.3nm,0.7s							
CLL	Collm	75.71	330	eP		P	13 25 17.0	+0.5
CLL	Collm	75.71	330⇑	iP		P	13 25 16.6	+0.1
	comp=Z,17nm,0.8s							
CLL				i			13 25 18.3	
	comp=Z,17nm,0.8s							
CLL				ePcP		PcP	13 25 28.0	-0.3
CLL				ePP		PP	13 28 09.0	+0.8
CLL	Collm	75.71	330	eP		P	13 25 16.3	-0.2
	comp=Z,16nm,0.7s							
CLL	Collm	75.71	330⇑	iP		P	13 25 16.6	+0.1
CLL				pmax	pmax			
	comp=Z,17nm,0.8s							
VYHS	Vyhne	75.71	325	eP		P	13 25 17.4	+0.8
VYHS				ePP		PP	13 28 06.9	-1.4
VYHS	Vyhne	75.71	325	eP		P	13 25 17.4	+0.8
VYHS				pmax	pmax			
	comp=Z,7.0nm,1.1s							
PSZ	Piszkesteto	75.72	324⇓	iP		P	13 25 18.3	+1.6
PSZ	Piszkesteto	75.72	324⇓	eP		P	13 25 18.0	+1.3
PSZ	Piszkesteto	75.72	324	eP		P	13 25 15.9	-0.8
	comp=Z,13nm,1.1s							
PSZ	Piszkesteto	75.72	324	eP		P	13 25 15.9	-0.8
PSZ				pmax	pmax			
	comp=Z,13nm,1.1s							
BRG	Berggiesshubel	75.72	329	eP		P	13 25 16.9	+0.3
	comp=Z,4.9nm,0.8s							
BRG	Berggiesshubel	75.72	329	eP		P	13 25 16.9	+0.3
BRG				pmax	pmax			
	comp=Z,5.0nm,0.8s							
PVCC	Panska Ves	75.77	329	eP		P	13 25 17.8	+1.0
PVCC	Panska Ves	75.77	329	eP		P	13 25 17.8	+1.0
GLA	Glamis	75.94	58	eP		P	13 25 18.8	+0.6
	comp=Z,8.2nm,0.6s							
GLA	Glamis	75.94	58	eP		P	13 25 18.8	+0.6
GLA				pmax	pmax			
	comp=Z,8.0nm,0.6s							
VRAC	Vranov	75.97	327⇑	iP		P	13 25 19.3	+1.2
VRAC	Vranov	75.97	327	P		P	13 25 19.2	+1.2
PV01	Paradox Valley	76.07	50	eP		P	13 25 19.3	+0.2
GOPC	GO Pecny, Ondr	76.18	328	eP		P	13 25 20.2	+1.0
GOPC	GO Pecny, Ondr	76.18	328	eP		P	13 25 20.2	+1.0
SMCO	Snowmass	76.21	49	eP		P	13 25 20.1	+0.1
	comp=Z,2.1nm,0.6s							
PRU	Pruhonice	76.21	328	eP		P	13 25 20.2	+0.8
PRU	Pruhonice	76.21	328	eP		P	13 25 20.2	+0.8
WUAZ	Wupatki	76.30	54	eP		P	13 25 21.4	+1.0
	comp=Z,3.7nm,0.9s							
TREC	Trest	76.41	328	eP		P	13 25 21.4	+0.9
TREC	Trest	76.41	328	eP		P	13 25 21.4	+0.9
Y14A	Wickenburg	76.43	56	eP		P	13 25 21.7	+0.7
	comp=Z,3.9nm,0.6s							
MODS	Modra-Piesok	76.44	326	eP		P	13 25 20.0	-0.7
MODS	Modra-Piesok	76.44	326	eP		P	13 25 20.0	-0.7
MODS				pmax	pmax			
	comp=Z,10.0nm,0.9s							
ISCO	Idaho Springs	76.49	47	eP		P	13 25 22.0	+0.5
	comp=Z,3.9nm,1.2s							
ISCO	Idaho Springs	76.49	47	eP		P	13 25 22.0	+0.5
ISCO				pmax	pmax			
	comp=Z,4.0nm,1.2s							
BZS	Buzias	76.75	322⇓	iP		P	13 25 22.8	+0.4
BZS	Buzias	76.75	322	P		P	13 25 22.8	+0.4
MOX	Moxa	76.75	330	eP		P	13 25 24.1	+1.7
MOX	Moxa	76.75	330	P		P	13 25 24.1	+1.7
MOX				pmax	pmax			
	comp=Z,8.0nm,1.0s							
MVCO	Mesa Verde	76.76	51	eP		P	13 25 22.6	-0.4
	comp=Z,3.6nm,0.8s							
HERR	Herculane	76.95	321⇓	iP		P	13 25 23.7	+0.1
X16A	Lo Mia Camp, P	77.03	55	eP		P	13 25 24.3	-0.2
	comp=Z,5.0nm,1.0s							
EKA	Eskdalemuir Ar	77.06	341	P		P	13 25 24.3	+0.3
	comp=Z,2.8nm,0.5s,baz=24,slow=5.2,SNR=21							
KHC	Kasperske Hory	77.28	328	eP		P	13 25 26.2	+0.8
KHC	Kasperske Hory	77.28	328	eP		P	13 25 27.0	+1.6
KHC	Kasperske Hory	77.28	328	eP		P	13 25 25.8	+0.4
	comp=Z,5.9nm,0.8s							
KHC	Kasperske Hory	77.28	328	eP		P	13 25 25.8	+0.4
KHC				pmax	pmax			
	comp=Z,6.0nm,0.8s							
SOP	Sopron	77.28	326	P		P	13 25 28.1	+2.7
SOP				pmax	pmax			
	comp=Z,19nm,1.0s							
S22A	4UR Ranch, Cre	77.31	50	eP		P	13 25 26.5	+0.3
	comp=Z,2.7nm,0.9s							
CONA	Conrad Observa	77.36	327	eP		P	13 25 27.3	+1.3
	comp=Z,8.8nm,1.3s							
GEC2	GERESS Array S	77.46	328	eP		P	13 25 25.9	-0.6
	comp=Z,5.0nm,0.7s							
GEC2	GERESS Array S	77.46	328	eP		P	13 25 25.9	-0.6
GEC2				pmax	pmax			
	comp=Z,5.0nm,0.7s							
GERES	GERESS Array B	77.46	328	P		P	13 25 26.9	+0.4
	comp=Z,3.4nm,0.6s,baz=38,slow=5.5,SNR=35							
GEA0	GERESS Array S	77.47	328	eP		P	13 25 24.6	-2.0
BUG	Bochum--Univer	77.56	333	P		P	13 25 28.7	+1.9
MORH	M¨ʇr¨¡gy, Hung	77.58	324⇑	eP		P	13 25 27.0	0.0
GRFO	Grafenberg	77.69	330	eP		P	13 25 26.8	-0.8
	comp=Z,20nm,0.7s							
GRFO	Grafenberg	77.69	330	eP		P	13 25 26.8	-0.8
GRFO				pmax	pmax			
	comp=Z,20nm,0.7s							
PLD	Plovdiv	77.99	318	P		P	13 25 27.3	-2.1
ECSD	EROS Data Cent	78.04	40	eP		P	13 25 29.0	-0.7
	comp=Z,5.5nm,0.8s							
ARSA	Arzberg	78.05	326	eP		P	13 25 30.7	+1.1
	comp=Z,3.0nm,0.7s							
MOA	Molln	78.06	327	eP		P	13 25 30.5	+0.8
	comp=Z,3.2nm,0.7s							
VTS	Vitosha	78.34	319⇓	iP		P	13 25 32.8	+1.3
VTS	Vitosha	78.34	319	eP		P	13 25 32.0	+0.5
	comp=Z,8.0nm,0.8s							
VTS	Vitosha	78.34	319	eP		P	13 25 32.0	+0.5
VTS				pmax	pmax			
	comp=Z,8.0nm,0.8s							
SCHQ	Schefferville	78.57	17	P		P	13 25 32.8	+0.4
	comp=Z,7.0nm,0.7s,baz=306,slow=8.7,SNR=4.5							
BEBN	Eben Emael	78.63	334	⇓P		P	13 25 33.1	+0.4
MEM	Membach	78.69	334	⇓P		P	13 25 33.2	+0.1
	comp=Z,10nm,1.0s							
SOKA	Soboth	78.71	326	eP		P	13 25 33.0	-0.4
	comp=Z,11nm,0.8s							
PERS	Pernice	78.71	326	iP		P	13 25 34.1	+0.8
MMAI	Mount Meron Ar	78.85	305	P		P	13 25 35.9	+1.5
	comp=Z,1.4nm,0.5s,baz=52,slow=7.5,SNR=4.2							
TUC	Tucson	78.90	56	eP		P	13 25 35.6	+0.9
	comp=Z,4.1nm,1.0s							
TUC	Tucson	78.90	56	eP		P	13 25 35.6	+0.9
TUC				pmax	pmax			
	comp=Z,4.0nm,1.0s							
FUR	Furstenfeldbru	78.94	329	P		P	13 25 37.2	+2.7
FUR				pmax	pmax			
	comp=Z,38nm,0.9s							
OBKA	Obir	79.04	326	iP		P	13 25 36.0	+0.8
	comp=Z,6.1nm,0.7s							
KBA	Koelnbreinsper	79.05	327	eP		P	13 25 36.6	+1.3
	comp=Z,16nm,1.0s							
BCLA	Clavier	79.08	334	⇓P		P	13 25 35.5	+0.3
SRS	Serrai	79.28	318	P		P	13 25 40.1	+3.6
MYKA	Terra Mystica	79.30	327	eP		P	13 25 36.8	+0.2
	comp=Z,4.4nm,0.7s							
SNF	Seneffe	79.32	334	⇑P		P	13 25 33.0	-3.5
VISS	Visnje	79.50	326	iP		P	13 25 37.7	+0.2
WATA	Walderalm	79.51	329	iP		P	13 25 38.7	+0.9
	comp=Z,6.2nm,0.5s,SNR=8.5							
ANMO	Albuquerque	79.54	51	eP		P	13 25 39.1	+0.9
	comp=Z,2.0nm,0.6s							
ANMO	Albuquerque	79.54	51⇑	eP		P	13 25 39.5	+1.3
ANMO				pmax	pmax			
	comp=Z,5.0nm,1.5s							
WTTA	Wattenberg	79.55	329	iP		P	13 25 39.0	+0.9
	comp=Z,9.9nm,0.7s							
BOJS	Bojanci	79.57	325	iP		P	13 25 38.5	+0.5
ABTA	Abfaltersbach	79.64	328	iP		P	13 25 39.4	+1.0
	comp=Z,5.2nm,1.2s							
MOTA	Moosalm	79.68	329	eP		P	13 25 39.6	+0.8
	comp=Z,8.3nm,0.6s,SNR=13							
RETA	Reutte	79.69	329	eP		P	13 25 39.5	+0.8
	comp=Z,12nm,0.8s							
JAVS	Javornik	79.74	326	iP		P	13 25 38.9	-0.1
BAIF	Baives	79.74	334	eP		P	13 25 40.1	+1.4
BAIF				pmax	pmax			
	comp=Z,15nm,1.2s							
FETA	Feichten	80.09	329	eP		P	13 25 41.0	+0.1
	comp=Z,8.2nm,0.8s							
CDF	Champ du Feu	80.16	332	eP		P	13 25 38.4	-2.8
CDF				pmax	pmax			
	comp=Z,6.0nm,0.8s							
DAVA	Damuels	80.19	330	eP		P	13 25 41.9	+0.4
	comp=Z,9.3nm,0.6s							
PDG	Podgorica	80.30	321⇓	iP		P	13 25 42.5	+0.6
ECH	Echery	80.36	332	eP		P	13 25 41.8	-0.4
	comp=Z,5.4nm,0.7s							
ECH	Echery	80.36	332	eP		P	13 25 41.8	-0.4
ECH				pmax	pmax			
	comp=Z,5.0nm,0.7s							
319A	Douglas	80.46	56	eP		P	13 25 41.8	-1.3
	comp=Z,9.9nm,1.0s							
121A	Cookes Peak, D	80.52	54	eP		P	13 25 42.8	-0.7
	comp=Z,6.3nm,0.9s							
FUORN	Ofenpass-Fuorn	80.61	329	eP		P	13 25 44.0	+0.2
	comp=Z,17nm,0.7s							
HINF	Hinteralfeld	80.81	332	eP		P	13 25 44.4	-0.2
HINF				pmax	pmax			
	comp=Z,3.0nm,0.7s							
HAU	Haudompre	80.82	332	eP		P	13 25 44.6	0.0
HAU				pmax	pmax			
	comp=Z,17nm,1.4s							
TUE	Stuetta	81.07	329	eP		P	13 25 45.6	-0.6
	comp=Z,7.8nm,0.7s							
SENIN	Lac Senin/Sane	81.91	331	eP		P	13 25 50.4	-0.2
	comp=Z,8.6nm,0.8s							
AMTX	Amarillo	82.23	48	eP		P	13 25 52.3	0.0
	comp=Z,12nm,1.0s							
MNTX	Cornudas Mount	82.52	53	eP		P	13 25 54.5	+0.7
	comp=Z,3.7nm,1.1s							
SSF	Saint Saulge	82.59	333	eP		P	13 25 53.4	-0.5
SSF				pmax	pmax			
	comp=Z,7.0nm,0.9s							
GDL2	Guadalupe Moun	82.73	52	eP		P	13 25 56.0	+1.0
	comp=Z,2.2nm,0.3s							
LPL	La Plagne	82.83	330	eP		P	13 25 55.4	0.0
LPL	La Plagne	82.83	330	eP		P	13 25 55.4	0.0
LPL				pmax	pmax			
	comp=Z,10.0nm,0.9s							
LPG	La Plagne	82.84	330	eP		P	13 25 56.3	+0.7
LPG				pmax	pmax			
	comp=Z,14nm,0.8s							
AVF	Avril sur Loir	82.88	333	eP		P	13 25 55.1	-0.2
AVF				pmax	pmax			
	comp=Z,13nm,0.8s							
IDI	Anoyia	83.07	313	P		P	13 25 56.1	-0.5
	comp=Z,6.3nm,0.3s,baz=16,slow=7.4,SNR=21							
ROSF	Rostrenen	83.48	338	eP		P	13 25 59.4	+1.0
ROSF				pmax	pmax			
	comp=Z,63nm,1.4s							
MBDF	Montbardon	83.50	330	eP		P	13 25 59.0	+0.2
MBDF				pmax	pmax			
	comp=Z,3.0nm,0.5s							
ORIF	Oris-en-Rattie	83.66	331	eP		P	13 26 00.4	+0.9
ORIF				pmax	pmax			
	comp=Z,24nm,1.4s							
TCF	Toulx Ste Croi	83.69	334	eP		P	13 25 59.3	-0.3
TCF				pmax	pmax			
	comp=Z,15nm,1.3s							
SBF	Sospel	84.00	329	eP		P	13 26 01.0	-0.2
SBF				pmax	pmax			
	comp=Z,45nm,1.2s							
VIVF	Saint-Julien-l	84.13	331	eP		P	13 26 01.8	0.0
VIVF				pmax	pmax			
	comp=Z,5.0nm,0.8s							
CAF	Calviac	84.95	333	eP		P	13 26 05.6	-0.3
CAF				pmax	pmax			
	comp=Z,15nm,1.2s							
TX31	Lajitas Ar. Si	85.26	53	eP		P	13 26 08.3	+0.5
TX31				epP		pP	13 26 55.6	+0.7
TXAR	Lajitas Array	85.26	53	P		P	13 26 08.7	+0.9
	comp=Z,3.6nm,0.7s,baz=292,slow=3.6,SNR=31							
LFF	La Frestale	85.36	334	eP		P	13 26 08.5	+0.6
LFF				pmax	pmax			
	comp=Z,16nm,0.9s							
HPIG		85.85	56	eP		P	13 26 11.1	+0.2
	comp=Z,3.9nm,0.8s							
MTLF	Montolieu	86.30	332	eP		P	13 26 12.9	+0.3
MTLF				pmax	pmax			
	comp=Z,3.0nm,0.5s							
EPF	Esparros	87.20	333	eP		P	13 26 16.8	-0.2
EPF				pmax	pmax			
	comp=Z,5.0nm,0.8s							
ETSF	Etsaut	87.61	334	eP		P	13 26 19.5	+0.6
ETSF				pmax	pmax			
	comp=Z,89nm,0.8s							
KEST	Kesra	90.18	324	P		P	13 26 31.3	+0.2
	comp=Z,3.1nm,0.8s,baz=324,slow=8.7,SNR=3.3							
TKL	Tuckaleechee C	90.33	36	P		P	13 26 32.1	+0.4
	comp=Z,4.4nm,0.7s,baz=319,slow=11,SNR=3.8							
ES19	SONSECA Array	91.56	335	eP		P	13 26 37.4	0.0
ESDC	Sonseca Array	91.61	335	P		P	13 26 38.1	+0.5
	comp=Z,2.6nm,0.8s,baz=18,slow=4.1,SNR=14							
TORD	Torodi Ar. Bea	113.08	318	PKiKP		PKiKP	13 32 06.7	-0.5
	comp=Z,0.3nm,0.3s,baz=19,slow=2.1,SNR=8.0							
TORD				PP		PP	13 32 51.5	-7.0
	comp=Z,1.5nm,0.9s,baz=20,slow=7.1,SNR=6.3							
SNAA	Sanae	147.48	199	PKPbc		PKPbc	13 33 12.9	+0.4
	comp=Z,6.8nm,1.0s,baz=214,slow=3.1,SNR=13							

*ISCJB **22** 13:24:47.4±1.1,52.°8S±0.°1×139.°8E±0.°4,h10km,mb4.0/5, Error ellipse: s-maj=33.8km s-min=17.6km az=159.8*
*IDC **22** 13:24:48.3±1.0,52.°82S×140.°01E,h0km,mb4.0/4, mb1 4.2/4,mb1mx3.9/39,mbtmp4.0/4,Error ellipse: s-maj=37.6km s-min=23.1km az=77.0*
*NEIC **22** 13:24:49.6±0.6,52.83S×139.96E,h10km,mb4.4/1,Error ellipse: s-maj=20.2km s-min=13.4km az=73.0*

ISC 22 13:24:49.5±1.1,52.8S±0.2×139.9E±0.2,h10km,n14, σ0s32/8,mb4.0/5,West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RPZ	Rata Peaks	22.49	79	P		P		13 29 48.9	+0.1
	1.9nm,0.5s,baz=280,slow=11,SNR=2.7								
H01W1	Cape Leeuwin H	25.61	304	T		T		13 57 13.7	
	baz=141,slow=75,SNR=5.5								
H01W2	Cape Leeuwin H	25.61	304	T		T		13 57 15.8	
	baz=141,slow=75,SNR=2.9								
H01W3	Cape Leeuwin H	25.62	304	T		T		13 57 15.0	
	baz=141,slow=75,SNR=6.3								
VNDA	Vanda	26.05	169	P		P		13 30 22.2	-0.2
	2.6nm,0.8s,baz=328,slow=9.8,SNR=12								
ASAR	Alice Springs	29.49	349	P		P		13 30 53.8	+0.1
	1.3nm,0.8s,baz=169,slow=9.9,SNR=7.8								
WRA	Warramunga Arr	33.12	350	P		P		13 31 25.3	-0.4
	3.6nm,1.1s,baz=176,slow=7.5,SNR=12								
WRAB	Tennant Creek	33.13	350	eP		P		13 31 25.8	+0.1
	5.0nm,1.1s								
H08S2	Diego Garcia H	70.37	284	T		T		14 53 06.1	
	baz=144,slow=76,SNR=5.3								
H08S1	Diego Garcia H	70.39	284	T		T		14 52 51.5	
	baz=144,slow=76,SNR=4.3								
H08S3	Diego Garcia H	70.39	284	T		T		14 52 57.0	
	baz=144,slow=76,SNR=6.2								
TORD	Torodi Ar. Bea	128.34	236	PKP		PKPdf		13 43 56.8	+0.5
	0.4nm,0.4s,baz=227,slow=1.2,SNR=6.9								
ARCES	ARCESS Array B	146.35	325	PKPbc		PKPbc		13 44 28.7	-0.2
	3.5nm,0.9s,baz=57,slow=3.3,SNR=4.2								
GERES	GERESS Array B	146.47	285	PKPbc		PKPab		13 44 31.0	0.0
	0.3nm,0.4s,baz=126,slow=5.0,SNR=4.4								

IDC 22 13:33:40.9±3.9,44.°34N×29.°47W,h0km,mb3.4/5, mb1 3.7/5,mb1mx3.2/73,mbtmp3.4/5,Error ellipse: s-maj=125.0km s-min=30.8km az=170.0,Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
YKA	Yellowknife Ar	49.82	323	P		P		13 42 35.3	+0.2
	0.2nm,0.9s,baz=84,slow=6.9,SNR=3.9								
PDAR	Pinedale Array	55.79	299	P		P		13 43 18.8	-1.1
	0.1nm,0.3s,baz=74,slow=9.5,SNR=3.7								
TXAR	Lajitas Array	59.33	282	P		P		13 43 45.3	+0.6
	0.3nm,0.9s,baz=49,slow=6.1,SNR=3.4								
BVAR	Beryvoye Array	61.26	43	P		P		13 43 57.2	-0.3
	0.2nm,0.4s,baz=308,slow=7.1,SNR=2.9								
SONM	Songino Array	80.34	28	P		P		13 45 54.1	+0.3
	0.8nm,0.6s,baz=336,slow=6.8,SNR=3.0								

*NIED **22** 13:36:00.24.°00N×123.°60E,h35km,Mw4.5 Best double couple: M0 6.47000×10^15 NP1:φ=267.00000°,δ=20.00000°, λ=121.00000°. NP2:φ=54.00000°,δ=73.00000°,λ=79.00000°.*
*JMA **22** 13:36:59.8±0.1,23.°95N×123.°59E,h34km±1km,M4.4*
JMA Felt I J1.
*ISCJB **22** 13:36:59.4±0.4,23.°99N±0.°05×123.°58E±0.°03,h46km±3km, mb4.3/46,MS4.4/2,Error ellipse: s-maj=8.1km s-min=3.9km az=168.7*
*BJI **22** 13:36:59.6,23.°95N×123.°54E,h46km,mb4.3/14,mB4.5/10, Ms4.0/9,Ms7 3.9/9*
*IDC **22** 13:37:00.1±5.0,24.°10N×123.°56E,h33km±37km,mb4.0/25, mb1 4.0/28,mb1mx3.8/69,mbtmp4.1/28,ML3.0/2,MS4.4/2, Ms1 4.3/2,ms1mx3.2/70,Error ellipse: s-maj=16.2km s-min=14.8km az=52.0*
*NEIC **22** 13:37:01.4±0.6,24.°07N×123.°50E,h46km±4km,mb4.5/24, Error ellipse: s-maj=7.3km s-min=5.1km az=152.0*
NEIC Recorded [1 JMA] on Hateruma-jima and Iriomote-jima.

ISC 22 13:36:59.8±0.9,23.°99N±0.°06×123.°59E±0.°03,h33km±4km, n89,σ0s95/102,mb4.4/46,1D,Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HATJ	Hateruma jima	0.21	71	P		P	Pb	13 37 06.5	0.0
HATJ				S		Sb	Sb	13 37 11.2	+0.2
IRIF	Iriomote-Funau	0.37	20	P		P	Pb	13 37 08.7	+0.2
IRIF				eS		Sb	Sb	13 37 15.2	+0.8
JKRS	Kuro-shima	0.46	57	P		P	Pb	13 37 10.0	+0.2
JKRS				S		Sn	Sn	13 37 17.4	+0.3
JJJ	Ishigaki jima	0.63	53	P		P	Pn	13 37 12.3	-0.1
JJJ				S		Sn	Sn	13 37 21.0	-0.3
YOJ	Yonaguni jima	0.71	312	P		P	Pn	13 37 13.8	+0.3
YOJ				eS		Sn	Sn	13 37 23.6	+0.3
YOJ	Yonaguni jima	0.71	312	ePn		Pn	Pn	13 37 13.8	+0.3
JYNG	Yonagunijimaku	0.75	308	P		Pn	Pn	13 37 14.3	+0.3
JYNG				S		Sn	Sn	13 37 24.7	+0.5
JISG	Ishigakijimahi	0.89	48	P		Pn	Pn	13 37 16.3	+0.3
JISG				S		Sb	Sb	13 37 28.7	+0.3
JTJ	Tarama	1.21	57	P		Pb	Pb	13 37 21.5	-0.6
JTJ				S		Sb	Sb	13 37 37.9	+0.5
NACB	Ninganchiao	1.83	276	ePn		Pn	Pn	13 37 28.8	-0.1
YHNB	Yeheng	2.13	289	ePn		Pn	Pn	13 37 34.6	+1.5
TATO	Taipei	2.15	298	ePn		Pn	Pn	13 37 34.9	+1.5
YULB	Yu-li	2.18	255	ePn		Pn	Pn	13 37 33.2	-0.6
SSLB	Suanglung	2.42	266	ePn		Pn	Pn	13 37 37.0	-0.1
TWG	Pinlang	2.59	244	ePn		Pn	Pn	13 37 38.7	-0.7
TPUB	Ta-pu	2.80	256	ePn		Pn	Pn	13 37 43.4	+1.1
QZH	Quanzhou	4.65	283	iP		Pn	Pn	13 38 08.0	+0.2
QZH				S		Sn	Sn	13 39 02.4	+1.8
QZH				LR		LR			
	comp=N,810nm,8.0s								
QZH				LR		LR			
	comp=Z,940nm,18.4s								
JOW	Kunigami	5.10	55	Pn		Pn	Pn	13 38 13.5	-0.4
	1.1nm,0.3s,baz=288,slow=20,SNR=5.6								
JOW				Sn		Sn	Sn	13 39 13.9	+2.3
	1.4nm,0.3s,baz=155,slow=19,SNR=2.0								
JOW	Kunigami	5.10	55	ePn		Pn	Pn	13 38 15.4	+1.5
JOW				Sn		Sn	Sn	13 39 13.9	+2.3
KSAR	Wonju Array Be	13.91	14	Pn		Pn	Pn	13 40 14.6	0.0
KSRS	Korea Array	13.93	14	Pn		Pn	Pn	13 40 14.6	-0.2
	0.1nm,0.3s,baz=200,slow=13,SNR=2.7								
MJAR	Matsushiro Arr	17.75	42	P		P	P	13 41 05.8	+0.9
	baz=235,slow=10,SNR=2.7								
CD2	Chengdu	18.89	296	eP		P	P	13 41 16.8	-0.8
CD2				pmax	pmax				
	comp=

TIXI	Tiksi	47.78	2	P	P	13 45 31.5	-2.0	
	1.1nm,0.6s,baz=161,slow=1.7,SNR=5.3							
ASAR	Alice Springs	48.42	167	P	P	13 45 40.0	+1.0	
	0.9nm,0.7s,baz=354,slow=15,SNR=17							
BVAR	Borovoye Array	49.22	320	P	P	13 45 43.9	-1.0	
	1.1nm,0.5s,baz=99,slow=7.4,SNR=11							
BVAR				PcP	PcP	13 47 07.6	0.0	
	0.6nm,0.7s,baz=130,slow=4.5,SNR=3.1							
BRVK	Borovoye	49.29	320	*e*P	P	13 45 44.7	-0.7	
	3.3nm,0.8s							
ABKAR	Akbulak array	55.15	314	*e*P	P	13 46 29.2	+0.2	
	29nm,1.0s							
ARU	Arti	56.59	323	P	P	13 46 38.2	-1.0	
	2.7nm,0.4s,baz=90,slow=4.0,SNR=7.2							
ARU	Arti	56.59	323	*e*P	P	13 46 38.0	-1.2	
	4.1nm,0.7s							
GEYT	Alibeck	56.79	301	P	P	13 46 42.3	+1.3	
	3.3nm,0.8s,baz=83,slow=6.1,SNR=6.8							
GEYT				LR	LR	14 16 07.7		
	comp=Z,369nm,19.4s,baz=130,slow=41							
IM3	Indian Mountai	65.38	27	*e*P	P	13 47 39.3	+0.6	
CAST	Castle Rocks	66.31	29	*e*P	P	13 47 45.2	+0.4	
	8.3nm,1.0s							
MLY	Manley	66.71	27	*e*P	P	13 47 47.8	+0.4	
	7.7nm,1.1s							
KDAK	Kodiak Island	66.79	35	P	P	13 47 49.1	+1.3	
	5.3nm,0.9s,baz=277,slow=8.1,SNR=2.9							
SUA	Susitna One	67.18	31	*e*P	P	13 47 50.1	-0.4	
	11nm,0.9s							
KBZ	Khabaz	67.31	309	LR	LR	14 21 21.1		
	comp=Z,210nm,20.3s,baz=126,slow=40							
RND	Reindeer	67.76	29	*e*P	P	13 47 53.9	-0.1	
	13nm,1.0s							
MDM	Murphy Dome	67.78	27	*e*P	P	13 47 54.4	+0.3	
	11nm,1.0s							
ILAR	Eielson Array	68.38	27	P	P	13 47 57.3	-0.5	
	0.5nm,1.0s,baz=302,slow=9.5,SNR=6.8							
RIDG	Independ'e Rid	69.46	28	*e*P	P	13 48 05.1	+0.5	
	9.1nm,1.2s							
DOT	Dot Lake	69.81	28	*e*P	P	13 48 07.1	+0.3	
	13nm,1.1s							
ARCES	ARCESS Array B	70.54	338	P	P	13 48 10.8	-0.2	
	2.5nm,0.8s,baz=68,slow=9.8,SNR=3.6							
EGAK	Eagle	70.77	27	*e*P	P	13 48 12.8	+0.2	
	3.8nm,0.9s							
DAWY	Dawson	71.70	27	*e*P	P	13 48 18.4	+0.1	
	4.7nm,1.1s							
INK	Inuvik	72.58	22	P	P	13 48 23.5	+0.2	
	3.1nm,1.0s,baz=286,slow=6.3,SNR=12							
INK	Inuvik	72.58	22	*e*P	P	13 48 23.3	0.0	
	6.1nm,1.1s							
FINES	FINESS Array B	72.72	330	P	P	13 48 23.6	-0.7	
	3.3nm,0.8s,baz=60,slow=5.6,SNR=13							
AKASG	Malin Array Be	74.47	319	P	P	13 48 34.2	-0.6	
	1.7nm,0.7s,baz=58,slow=6.9,SNR=9.0							
AKBB	Malin Array Si	74.47	319	*e*P	P	13 48 33.7	-1.1	
	4.6nm,1.1s							
KIEV	Kiev	74.48	319	*e*P	P	13 48 33.9	-1.0	
	5.4nm,1.2s							
BR131	Keskin Array S	75.05	307	*e*P	P	13 48 38.3	-0.3	
BRTR	Keskin Array B	75.05	307	P	P	13 48 38.5	-0.1	
	3.2nm,0.8s,baz=104,slow=5.9,SNR=20							
BUR04	Bucovina Ar. S	78.02	317	*e*P	P	13 48 54.4	-0.8	
MLR	Muntele Rosu	78.36	315	P	P	13 48 57.2	+0.1	
	0.5nm,0.5s,baz=97,slow=8.1,SNR=4.5							
MLR	Muntele Rosu	78.36	315	*e*P	P	13 48 56.8	-0.3	
	3.4nm,0.8s							
RES	Resolute Bay	78.49	10	P	P	13 48 57.0	-0.2	
	2.0nm,0.7s,baz=304,slow=6.8,SNR=8.2							
RES	Resolute Bay	78.49	10	*e*P	P	13 48 56.9	-0.2	
	3.9nm,1.0s							
HFS	Hagfors	78.80	331	P	P	13 48 58.7	-0.4	
	3.5nm,0.6s,baz=87,slow=6.1,SNR=8.7							
NC405	NORSAR Array S	79.17	333	*e*P	P	13 48 59.6	-1.6	
NB2	NORSAR Subarra	79.41	333	P	P	13 49 01.8	-0.7	
	comp=Z,3.8nm,0.6s,baz=54,slow=5.6							
NOA	NORSAR Array B	79.41	333	P	P	13 49 01.7	-0.7	
	comp=Z,3.9nm,0.7s,baz=57,slow=5.5,SNR=25							
NC204	NORSAR Array S	79.48	333	*e*P	P	13 49 02.4	-0.5	
STHS	Stebnicka Huta	79.72	320	*e*P	P	13 49 05.3	+0.9	
VTS	Vitosha	81.32	313	*e*P	P	13 49 11.9	-1.4	
	comp=Z,5.0nm,0.9s							
VYHS	Vyhne	81.55	319	*e*P	P	13 49 14.7	+0.5	
YKA	Yellowknife Ar	82.29	23	P	P	13 49 17.5	-0.2	
	comp=Z,0.8nm,0.6s,baz=306,slow=5.2,SNR=31							
SCO	Scoresbysund	82.69	349	*e*P	P	13 49 19.7	0.0	
	comp=Z,8.3nm,1.2s							
GERES	GERESS Array B	84.38	321	P	P	13 49 28.9	-0.1	
	comp=Z,1.1nm,0.8s,baz=38,slow=6.8,SNR=3.8							
NVAR	Mina Array Bea	95.06	44	P	P	13 50 18.0	-1.9	
	comp=Z,0.2nm,0.5s,baz=253,slow=4.5,SNR=3.0							

***IDC* 22 13:44:27.2±6.9, 5.78S×153.87E, h184km±51km, mb3.2/5, mb1 3.4/7, mb1mx3.1/50, mbtmp3.8/7, Error ellipse: s-maj=60.0km s-min=22.9km az=85.0, New Ireland region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	Port Moresby	7.57	241	P	Pn	13 46 15.1	+0.2
	7.0nm,0.3s,baz=57,slow=3.6,SNR=21						
PMG				S	Sn	13 47 42.2	+2.1
	1.5nm,0.3s,baz=80,slow=12,SNR=3.0						
CTA	Charters Tower	16.04	207	P	P	13 48 01.4	-1.3
	0.2nm,0.3s,baz=55,slow=12,SNR=5.0						
WRA	Warramunga Arr	23.64	232	P	P	13 49 21.7	-0.2
	0.6nm,0.6s,baz=53,slow=10.0,SNR=16						
ASAR	Alice Springs	26.18	225	P	P	13 49 43.8	-1.2
	0.6nm,0.9s,baz=59,slow=9.5,SNR=8.0						
STKA	Stephens Creek	28.39	202	P	P	13 50 05.2	+0.7
	0.9nm,0.5s,baz=308,slow=19,SNR=2.2						
CMAR	Chiang Mai Arr	59.26	295	P	P	13 54 10.1	+0.2
	0.5nm,0.4s,baz=101,slow=4.8,SNR=5.3						
SONM	Songino Array	67.72	328	P	P	13 55 04.4	-0.5
	0.5nm,0.4s,baz=111,slow=8.2,SNR=3.0						
TORD	Torodi Ar. Bea	151.62	287	PKPbc	PKPbc	14 04 01.5	+0.7
	0.3nm,0.6s,baz=101,slow=2.2,SNR=3.0						

ISCJB ***22*** *13:50:39.2±0.3, 1.17N±0.05×91.98E±0.04, h10km, mb4.5/45, MS4.3/1, Error ellipse: s-maj=7.8km s-min=5.0km az=15.9*
IDC ***22*** *13:50:39.4±0.6, 1.21N×91.98E, h0km, mb4.3/25, mb1 4.4/27, mb1mx4.2/72, mbtmp4.3/27, ML4.5/1, Error ellipse: s-maj=18.8km s-min=13.4km az=40.0*
NEIC ***22*** *13:50:40.8±2.4, 1.15N×91.90E, h11km±14km, mb4.7/12, Error ellipse: s-maj=7.7km s-min=4.8km az=220.0*
ISC 22 13:50:40.8±0.5, 1.10N±0.08×91.92E±0.07, h10km, n107, σ1°49/103, mb4.6/45, 1C, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GSI	Gunungsitoli	5.66	88	*e*Pn	Pn	13 52 05.9	+0.9
LHMI	Lhok Sumawe	6.48	51	*e*Pn	Pn	13 52 17.6	+1.3
PSI	Prapat	7.20	76	*e*Pn	Pn	13 52 26.5	+0.2
BKNI	Bangkinang	9.15	95	*e*Pn	Pn	13 52 53.0	0.0
KULM	Kulim	9.66	64	*e*Pn	Pn	13 52 59.6	-0.4
IPM	Ipoh	9.69	70	*e*Pn	Pn	13 53 00.7	+0.2
TRTT	Trang	10.23	49	P	Pn	13 53 06.7	-1.1
	23nm,0.5s,304nm0.1nm						
MYKOM	Kota Tinggi	11.95	87	*e*Pn	Pn	13 53 31.6	+0.2
MNAI	Manna	12.29	116	*e*Pn	Pn	13 53 35.8	-0.2
PALK	Pallekele	12.75	299	Pn	Pn	13 53 41.8	-0.5
	2.4nm,0.3s,baz=116,slow=11,SNR=12						
PALK				Sn	Sn	13 55 50.4	-14
	16nm,0.3s,baz=116,slow=5.7,SNR=14						
PALK	Pallekele	12.75	299	*e*Pn	Pn	13 53 41.3	-1.1
PALK				Sn	Sn	13 55 50.4	-14
CHBT	CHBT	15.51	41	P	P	13 54 25.1	+1.0
	83nm,0.8s						
CHAI	Chaiyaphum	17.75	33	P	P	13 54 50.5	+1.5
	3.8nm,1.0s						
PBKT	Sadao Pong	17.77	30	P	P	13 54 53.1	+3.9
	9.3nm,0.9s						
XMIS	Christmas Isla	17.86	130	*e*Pn	Pn	13 54 48.2	-1.4
	34nm,0.8s						
KSM	Kuching	18.39	89	*e*P	Pn	13 54 56.0	-0.1
	26nm,0.9s						
CM01	Chiang Mai Arr	18.55	21	*e*P	P	13 54 57.5	-0.3
CM31	Chiang Mai Arr	18.57	21	*e*P	P	13 54 57.1	-1.0
CMAR	Chiang Mai Arr	18.57	21	P	P	13 54 57.3	-0.8
	baz=217,slow=13,SNR=14						
CHTO	Chiang Mai	18.90	21	*e*P	P	13 55 00.8	-0.9
	4.9nm,0.9s						
SKNT	Sakolnakorn	19.74	36	P	Pn	13 55 21.5	+9.1

SBUM	Sibu	20.34	86	*e*P	P	13 55 18.3	+0.8	
	19nm,0.8s							
HYB	Hyderabad	20.87	322	*i* P	Pn	13 55 25.0	-0.7	
HYB				*e*S	S	13 59 02.0	-14	
H08S2	Diego Garcia H	21.23	246	T	T	14 17 23.1		
	baz=65,slow=75,SNR=16							
H08S3	Diego Garcia H	21.23	246	T	T	14 17 22.8		
	baz=65,slow=75,SNR=19							
H08S1	Diego Garcia H	21.25	246	T	T	14 17 23.9		
	baz=65,slow=75,SNR=15							
KKM	Kota Kinabalu	24.73	78	*e*P	P	13 56 03.6	+0.8	
	46nm,1.2s							
RAMN	Ramite	26.20	349	*e*P	P	13 56 18.7	+2.6	
JIRN	Jiri	26.97	349	*e*P	P	13 56 27.2	+4.0	
	51nm,1.0s							
PKIN	Phulchoki	27.06	347	*e*P	P	13 56 28.2	+4.3	
DMN	Daman	27.15	347	*e*P	P	13 56 29.4	+4.7	
GUN	Gumba	27.28	348	*e*P	P	13 56 31.0	+5.1	
	20nm,0.7s							
GKN	Gorkha	27.64	346	*e*P	P	13 56 34.5	+5.5	
KOLN	Koldanda	27.69	344	*e*P	P	13 56 33.9	+4.4	
CD2	Chengdu	31.70	20	*e*P	P	13 57 04.8	0.0	
CD2				pmax	pmax			
	comp=Z,10.0nm,0.5s							
CD2				pmax	pmax			
	comp=Z,120nm,5.0s							
XAN	Xi'an	36.43	24	P	P	13 57 44.8	-1.0	
XAN				sP	sP	13 57 55.4	+5.2	
XAN				pmax	pmax			
	comp=Z,8.0nm,0.9s							
NIL	Nilore	36.81	334	*e*P	P	13 57 47.0	-2.1	
GTA	Gaotai	38.80	10	*e*P	P	13 58 05.8	-0.2	
GTA				pP	sP	13 58 11.8	+1.5	
GTA				sP	pP	13 58 14.8	+5.7	
GTA				S	S	14 04 04.3	+0.6	
GTA				pmax	pmax			
	comp=Z,380nm,5.0s							
GTA				LR	LR			
	comp=N,410nm,16.6s							
GTA				LR	LR			
	comp=E,240nm,16.4s							
GTA				LR	LR			
	comp=Z,350nm,16.2s							
H01W3	Cape Leeuwin H	41.40	152	T	T	14 42 53.7		
	baz=327,slow=74,SNR=7.8							
H01W2	Cape Leeuwin H	41.42	152	T	T	14 42 52.6		
	baz=327,slow=74,SNR=7.7							
H01W1	Cape Leeuwin H	41.42	152	T	T	14 42 55.5		
	baz=327,slow=74,SNR=12							
WMQ	Urumqi	42.70	355	P	P	13 58 39.0	+1.0	
WMQ				sP	sP	13 58 45.6	+3.2	
WMQ				LR	LR			
	comp=N,650nm,25.9s							
WMQ				LR	LR			
	comp=E,610nm,36.1s							
WMQ				LR	LR			
	comp=Z,940nm,31.1s							
HHC	Hu-ho-hao-te	43.38	22	*e*P	P	13 58 45.5	+1.8	
HHC				pmax	pmax			
	comp=Z,30nm,1.1s							
HHC				pmax	pmax			
	comp=Z,69nm,6.2s							
KKAR	Karatay Array	45.99	338	*e*P	P	13 59 04.1	-0.2	
MK01	Makanchi Array	46.26	351	*e*P	P	13 59 05.7	-0.7	
MKAR	Makanchi Array	46.28	351	P	P	13 59 05.9	-0.7	
	0.7nm,0.6s,baz=172,slow=8.7,SNR=8.2							
MAKZ	Makanchi	46.34	351	*e*P	P	13 59 05.1	-1.9	
	5.5nm,0.6s							
WRA	Warramunga Arr	46.54	119	P	P	13 59 09.3	+0.3	
	6.4nm,0.7s,baz=298,slow=8.5,SNR=80							
WRA				PcP	PcP	14 00 43.1	-0.2	
	1.2nm,0.7s,baz=314,slow=3.1,SNR=5.5							
WB2	Warramunga Arr	46.55	119	*e*P	P	13 59 08.6	-0.5	
ASAR	Alice Springs	47.64	124	P	P	13 59 18.1	+0.5	
	0.7nm,0.4s,baz=299,slow=7.8,SNR=32							
ASAR				PcP	PcP	14 00 47.6	+0.3	
	2.3nm,0.7s,baz=303,slow=3.0,SNR=16							
GEYT	Alibeck	48.03	324	P	P	13 59 21.1	+0.7	
	1.2nm,0.5s,baz=140,slow=11,SNR=4.0							
SONM	Songino Array	48.21	13	P	P	13 59 22.0	+0.2	
	6.0nm,0.7s,baz=194,slow=9.4,SNR=16							
SONA1	Songino Array	48.23	13	*e*P	P	13 59 21.3	-0.6	
KSAR	Wonju Array Be	49.03	38	P	P	13 59 28.1	0.0	
KSRS	Korea Array	49.06	38	P	P	13 59 28.1	-0.2	
	4.1nm,1.1s,baz=217,slow=10,SNR=5.2							
KURBB	Kurchatov Arra	50.63	349	P	P	13 59 39.0	-1.0	
	1.1nm,0.6s,baz=174,slow=7.0,SNR=7.5							
KURK	Kurchatov	50.71	349	P	P	13 59 39.0	-1.5	
ZAA0	Zalesovo Array	53.00	355	*e*P	P	13 59 56.4	-1.1	
	6.6nm,1.1s							
ZALV	Zalesovo Beam	53.00	355	P	P	13 59 56.6	-0.9	
	2.5nm,0.4s,baz=177,slow=6.9,SNR=17							
ZALV	Zalesovo Beam	53.00	355	*e*P	P	13 59 56.4	-1.2	
ABKAR	Akbulak array	55.24	335	*e*P	P	14 00 13.1	-0.9	
	26nm,1.1s							
STKA	Stephens Creek	57.29	130	P	P	14 00 28.5	-0.5	
	1.7nm,0.6s,baz=330,slow=12,SNR=3.5							
KLR	Kul'dur	58.82	29	P	P	14 00 39.3	-0.1	
	0.4nm,0.9s,baz=258,slow=5.9,SNR=13							
KBZ	Khabaz	60.76	321	P	P	14 00 53.5	+0.6	
	3.6nm,0.8s,baz=144,slow=3.7,SNR=8.0							
ASAJ	Asahikawa	61.99	39	P	P	14 01 00.7	-0.5	
	27nm,0.3s,baz=198,slow=5.6,SNR=2.5							
BRTR	Keskin Array B	65.32	314	P	P	14 01 23.1	-0.4	
	1.3nm,0.5s,baz=126,slow=7.2,SNR=8.8							
BOSA	Boshof	70.18	239	P	P	14 01 55.1	+0.8	
	4.6nm,0.7s,baz=64,slow=4.0,SNR=5.8							
IDI	Anoyia	70.72	307	P	P	14 01 57.8	+0.4	
	6.0nm,0.7s,baz=128,slow=12,SNR=4.9							
AKASG	Malin Array Be	72.16	324	P	P	14 02 04.9	-0.8	
	0.9nm,0.5s,baz=91,slow=5.5,SNR=11							
MLR	Muntele Rosu	72.55	318	P	P	14 02 09.1	+0.7	
	2.3nm,0.7s,baz=139,slow=6.0,SNR=21							
MLR	Muntele Rosu	72.55	318	*e*P	P	14 02 08.2	-0.1	
	11nm,0.7s							
BUR04	Bucovina Ar. S	73.65	320	*e*P	P	14 02 15.0	+0.2	
BUR08	Bucovina Ar. S	73.66	320	*e*P	P	14 02 14.4	-0.5	
VTS	Vitosha	73.68	314	*e*P	P	14 02 13.1	-2.0	
	4.1nm,0.7s							
TIXI	Tiksi	74.26	11	P	P	14 02 16.1	-1.7	
	7.7nm,0.6s,baz=243,slow=3.8,SNR=35							
TIXI	Tiksi	74.26	11	*e*P	P	14 02 15.8	-2.0	
	7.5nm,0.6s							
SEY	Seymchan	75.97	24	P	P	14 02 26.4	-1.3	
	0.8nm,0.6s,baz=253,slow=13,SNR=4.5							
FINES	FINESS Array B	77.68	333	P	P	14 02 36.7	-0.7	
	3.4nm,0.7s,baz=100,slow=4.9,SNR=21							
SYO	Syowa Base	78.33	197	*i*P	P	14 02 42.0	+1.2	
ARSA	Arzberg	79.97	318	*e*P	P	14 02 51.2	+0.9	
	6.7nm,0.8s,SNR=8.0							
DPC	Dobruska-Polom	79.98	321	*e*P	P	14 02 50.4	0.0	
DPC				*e*PCP	PcP	14 02 58.5	+0.6	
DPC				ex	x	14 03 04.3		
SOKA	Soboth	80.21	317	*e*P	P	14 02 52.4	+0.6	
	7.3nm,1.1s							
OBKA	Obir	80.51	317	*e*P	P	14 02 54.3	+0.9	
	17nm,1.8s							
ARCES	ARCESS Array B	80.88	341	P	P	14 02 54.0	-0.8	
	4.0nm,0.7s,baz=79,slow=5.8,SNR=14							
MYKA	Terra Mystica	81.15	317	*e*P	P	14 02 57.4	+0.6	
	6.6nm,0.9s							
KBA	Koelnbreinsper	81.41	317	*e*P	P	14 02 58.0	-0.3	
	2.1nm,0.7s							
GEA0	GERESS Array S	81.42	319	*e*P	P	14 02 58.2	0.0	
GEC2	GERESS Array S	81.42	319	*e*P	P	14 02 58.2	0.0	
	9.1nm,0.8s							
GERES	GERESS Array B	81.42	319	P	P	14 02 58.7	+0.5	
	5.0nm,0.7s,baz=110,slow=5.3,SNR=46							
KHC	Kasperske Hory	81.54	319	*e*P	P	14 02 59.0	+0.2	
KHC				ex	x	14 03 06.8		
WTTA	Wattenberg	82.59	317	*e*P	P	14 03 03.8	-0.7	
	5.6nm,0.9s							
WATA	Walderalm	82.64	317	*e*P	P	14 03 04.5	-0.2	
	5.4nm,1.0s							
MOTA	Moosalm	82.96	317	*e*P	P	14 03 06.2	-0.2	
	11nm,1.3s							
HFS	Hagfors	83.19	330	P	P	14 03 06.9	-0.1	
	1.0nm,0.8s,baz=106,slow=7.9,SNR=4.2							
RETA	Reutte	83.21	318	*e*P	P	14 03 07.8	+0.2	
	5.8nm,0.6s,SNR=8.5							
DAVA	Damuels	83.78	317	P	P	14 03 11.5	+0.8	
	8.2nm,0.8s							
NOA	NORSAR Array B	84.53	331	P	P	14 03 13.2	-0.8	
	1.0nm,0.8s,baz=96,slow=5.5,SNR=2.9							
EKA	Eskdalemuir Ar	92.00	325	P	P	14 03 49.9	+0.1	
	0.9nm,0.7s,baz=98,slow=3.0,SNR=3.2							

ESDC	Sonseca Array	93.84	310	P	P	14 03 59.7	+1.0	
	0.6nm,0.7s,baz=43,slow=3.8,SNR=4.5							
KOWA	Kowa	95.47	285	P	P	14 04 07.7	+1.0	
	0.7nm,0.5s,baz=79,slow=5.2,SNR=3.0							
NVAR	Mina Array Bea	131.81	32	PKP	PKPdf	14 09 55.3	+0.2	
	0.5nm,0.7s,baz=270,slow=3.6,SNR=5.0							
PDAR	Pinedale Array	132.24	21	PKP	PKPdf	14 09 54.7	-1.1	
	0.3nm,0.6s,baz=183,slow=1.8,SNR=3.2							
WLAR	White Oak Lake	145.07	7	*e*PKPbc	PKPbc	14 10 18.1	-0.4	
TX31	Lajitas Ar. Si	146.26	25	*e*PKPdf	PKPdf	14 10 21.8	+0.3	
TXAR	Lajitas Array	146.26	25	PKPbc	PKPdf	14 10 21.9	+0.4	
	3.4nm,0.7s,baz=323,slow=0.5,SNR=43							
JCT	Junction City	146.67	19	*e*PKPdf	PKPdf	14 10 21.2	-0.9	
HPIG		147.38	30	*e*PKPbc	PKPbc	14 10 25.2	-0.7	

ISK ***22*** *13:53:50.5, 39.12N×29.19E, h5km, ML2.1/6*
ISCJB ***22*** *13:53:51.2±0.5, 39.10N±0.03×29.16E±0.04, h7km±6km, Error ellipse: s-maj=5.6km s-min=4.1km az=147.8*
CSEM ***22*** *13:53:51.2±0.1, 39.11N×29.16E, h8km, ML2.1, Error ellipse: s-maj=2.9km s-min=1.9km az=131.0*
DDA ***22*** *13:53:51.0, 39.10N×29.16E, h7km, Ml2.6*
ISC 22 13:53:51.4±1.0, 39.11N±0.03×29.19E±0.02, h5km±9km, n27, σ1°08/44, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIMA	Simav-Kutahya	0.16	260	PG	Pg	13 53 54.5	-0.1
SIMA				SG	Sg	13 53 57.0	+0.2
SIMA	Simav-Kutahya	0.16	260	*e*Pg	Pg	13 53 54.5	-0.1
SIMA				*e*Sg	Sg	13 53 57.0	+0.2
GDZ	Gediz	0.23	95	*i* P	Pg	13 53 56.4	+0.4
GDZ				*i* S	Sg	13 53 60.0	+1.0
GDZ	Gediz	0.23	95	P	Pg	13 53 56.4	+0.4
GDZ				S	Sg	13 54 00.0	+1.0
DEMI	Demirci	0.37	260	*i* P	Pg	13 53 58.6	0.0
DEMI				*i* S	Sg	13 54 03.3	-0.2
DEMI	Demirci	0.37	260	P	Pg	13 53 58.6	0.0
DEMI				S	Sg	13 54 03.3	-0.2
TVSB	Tavsanli	0.40	32	PG	Pg	13 53 58.9	-0.3
TVSB				SG	Sg	13 54 04.6	+0.1
TVSB	Tavsanli	0.40	32	*e*Pg	Pg	13 53 58.9	-0.3
TVSB				*e*Sg	Sg	13 54 04.6	+0.1
KULA	Kula-Manisa	0.72	215	PG	Pg	13 54 04.9	-0.4
KULA	Kula-Manisa	0.72	215	*e*Pg	Pg	13 54 04.9	-0.4
DURS	Dursunbey	0.74	312	*i* P	Pg	13 54 05.7	+0.1
DURS				*i* S	Sn	13 54 19.4	-0.8
DURS	Dursunbey	0.74	312	P	Pg	13 54 05.7	+0.1
DURS				S	Sn	13 54 19.4	-0.8
KHAL	Karahalli	0.78	162	*i* P	Pb	13 54 07.0	-0.5
KHAL				*i* S	Sg	13 54 17.1	+0.7
KHAL	Karahalli	0.78	162	P	Pb	13 54 07.0	-0.5
KHAL				S	Sg	13 54 17.1	+0.7
MANT	Manisa	0.79	219	*i* P	Pg	13 54 06.2	-0.3
MANT				*i* S	Sg	13 54 16.3	-0.5
MANT	Manisa	0.79	219	P	Pg	13 54 06.2	-0.3
MANT				S	Sg	13 54 16.3	-0.5
CAVI	Cavuskoy	1.20	25	PN	Pb	13 54 13.7	-1.0
CAVI	Cavuskoy	1.20	25	*e*Pn	Pb	13 54 13.7	-1.0
BORA	Eskisehir	1.25	52	*i* P	Pg	13 54 15.6	+0.3
BORA				*i* S	Sn	13 54 33.0	+0.2
BORA	Eskisehir	1.25	52	P	Pg	13 54 15.6	+0.3
BORA				S	Sn	13 54 33.0	+0.2
YLV	Yalova	1.46	6	PN	Pn	13 54 18.1	-0.4
YLV	Yalova	1.46	6	*e*Pn	Pn	13 54 18.1	-0.4
ARMT	Armutlu	1.47	350	PN	Pn	13 54 18.3	-0.4
ARMT	Armutlu	1.47	350	*e*Pn	Pn	13 54 18.3	-0.4
GULT	Gulveren	1.67	37	PN	Pn	13 54 21.1	-0.3
GULT	Gulveren	1.67	37	*e*Pn	Pn	13 54 21.1	-0.3
AYVA	Ayvalik	1.95	277	*i* P	Sn	13 54 53.1	+3.2
AYVA				*i* S	Sg	13 54 59.2	+5.2

NIED ***22*** *13:58:00, 37.80N×143.50E, h8km, Mw4.4 Best double couple: M0 5.15000×10^15 NP1:φs 52.00000°, δ72.00000°, λ-18.00000°. NP2:φs 147.00000°, δ73.00000°, λ-161.00000°.*
ISCJB ***22*** *13:58:29.4±1.0, 37.88N±0.03×143.48E±0.03, h1km±6km, mb4.4/81, MS4.0/10, Error ellipse: s-maj=5.3km s-min=3.6km az=155.3*
IDC ***22*** *13:58:30.1±0.6, 37.75N×143.55E, h0km, mb4.2/34, mb1 4.3/41, mb1mx4.2/80, mbtmp4.2/41, ML3.5/7, MS3.7/5, Ms1 3.8/5, ms1mx3.2/69, Error ellipse: s-maj=14.6km s-min=11.1km az=140

YUK				*i* S		**Sn**	**14 01 13.3**	**-5.8**	
YUK				pmax		pmax			
	comp=Z,629nm,0.2s								
YUK				pmax		pmax			
	comp=N,125nm,0.1s								
YUK				pmax		pmax			
	comp=E,272nm,0.1s								
YUK				smax		smax			
	comp=N,719nm,0.3s								
YUK				smax		smax			
	comp=E,2µm,0.5s								
LAGR	**Lagunnoye**	**6.40**	**14**	*eP*		**Pn**	**14 00 05.1**	**-1.5**	
LAGR				*i* S		**Sn**	**14 01 14.2**	**-5.0**	
LAGR				pmax		pmax			
	comp=Z,802nm,0.4s								
LAGR				pmax		pmax			
	comp=N,330nm,0.3s								
LAGR				pmax		pmax			
	comp=E,573nm,0.3s								
LAGR				smax		smax			
	comp=E,145nm,0.2s								
LAGR				smax		smax			
	comp=N,3µm,0.3s								
SHO	**Shikotan**	**6.48**	**21**	*c iP*		**Pn**	**14 00 04.5**	**-3.2**	
SHO				*i* S		Sn	14 01 13.5	-7.7	
SHO				pmax		pmax			
	comp=Z,127nm,0.5s								
SHO				pmax		pmax			
	comp=E,57nm,0.3s								
SHO				pmax		pmax			
	comp=N,75nm,0.2s								
SHO				smax		smax			
	comp=N,682nm,0.4s								
SHO				smax		smax			
	comp=E,388nm,0.4s								
KUR	**Kuril'sk**	**8.03**	**22**	*eP*		**Pn**	**14 00 26.8**	**-2.1**	
KUR				*eS*		**Sn**	**14 01 53.0**	**-6.3**	
KUR				pmax		pmax			
	comp=Z,130nm,0.4s								
KUR				pmax		pmax			
	comp=E,49nm,0.2s								
KUR				pmax		pmax			
	comp=N,38nm,0.3s								
TEY	**Ternei**	**8.86**	**326**	*eP*		**Pn**	**14 00 39.5**	**-0.8**	
TEY				pmax		pmax			
	comp=N,15nm,0.6s								
TEY				pmax		pmax			
	comp=E,15nm,0.6s								
TEY				pmax		pmax			
	comp=Z,17nm,0.7s								
TEY				MLR		MLR			
	comp=Z,1µm,11.0s								
YSS	**Yuzh-Sakhalins**	**9.10**	**356**	*e*Pn		**Pn**	**14 00 42.8**	**-0.8**	
YSS	**Yuzh-Sakhalins**	**9.10**	**356**‖	*eP*		**Pn**	**14 00 44.5**	**+0.9**	
YSS				*eS*		**Sn**	**14 02 22.8**	**-2.7**	
YSS				pmax		pmax			
	comp=Z,220nm,0.6s								
YSS				smax		smax			
	comp=N,20nm,0.4s								
YSS				smax		smax			
	comp=E,20nm,0.6s								
YSS				MLR		MLR			
	comp=Z,660nm,15.0s								
USRK	**Ussuriysk Ar.**	**10.79**	**310**	Pn		**Pn**	**14 01 08.6**	**+1.9**	
	comp=Z,0.7nm,0.3s,baz=113,slow=19,SNR=7.4								
CBIJ	**Chichi jima**	**10.81**	**187**	*e*Pn		Pn	14 01 01.4	-5.7	
CBIJ				Sn		Sn	14 02 52.4	-15	
JCJ	**Chichijima**	**10.81**	**187**	Pn		Pn	14 01 01.2	-5.8	
	comp=Z,20nm,0.3s,baz=284,slow=23,SNR=23								
JCJ				Sn		Sn	14 02 52.4	-15	
	comp=Z,14nm,0.3s,baz=345,slow=20,SNR=5.7								
JNU	**Nakatsue**	**11.37**	**249**	Pn		**Pn**	**14 01 13.1**	**-1.7**	
	comp=Z,0.4nm,0.3s,baz=69,slow=6.7,SNR=6.0								
JNU	**Nakatsue**	**11.37**	**249**	*e*Pn		**Pn**	**14 01 13.8**	**-1.0**	
KSRS	**Korea Array**	**12.41**	**273**	Pn		**Pn**	**14 01 30.1**	**+1.2**	
	comp=Z,0.3nm,0.3s,baz=86,slow=14,SNR=13								
KS01	**Wonju Array Si**	**12.43**	**273**	*e*Pn		**Pn**	**14 01 29.2**	**+0.1**	
KSAR	**Wonju Array Be**	**12.44**	**273**	Pn		**Pn**	**14 01 30.1**	**+0.7**	
KSAR	**Wonju Array Be**	**12.44**	**273**	P		**Pn**	**14 01 30.1**	**+0.7**	
KLR	**Kul'dur**	**14.20**	**327**	Pn		**Pn**	**14 01 52.5**	**-0.9**	
	comp=Z,0.0nm,0.3s,baz=137,slow=14,SNR=7.4								
KLR	**Kul'dur**	**14.20**	**327**‖	*eP*		**Pn**	**14 01 50.9**	**-2.5**	
SKR	**Severo-Kuril's**	**15.62**	**31**⇑	*iP*		**P**	**14 02 18.3**	**+1.9**	
SKR				pmax		pmax			
	comp=Z,81nm,1.2s								
SKR				MLR		MLR			
	comp=Z,500nm,14.0s								
PEA0B	**Petropavlovsk-**	**18.12**	**28**	*e*Pn		**Pn**	**14 02 43.4**	**-0.4**	
	comp=Z,29nm,1.2s								
PETK	**Petropavlovsk-**	**18.12**	**28**	P		**Pn**	**14 02 43.1**	**-0.8**	
	comp=Z,0.3nm,0.3s,baz=220,slow=9.7,SNR=16								
PETK				LR		LR	14 10 25.6		
	comp=Z,434nm,20.5s,baz=183,slow=39								
PETK	**Petropavlovsk-**	**18.12**	**28**	*e*Pn		**Pn**	**14 02 43.6**	**-0.2**	
PET	**Petropavlovsk**	**18.42**	**30**	*eP*		**P**	**14 02 47.6**	**+0.2**	
	comp=Z,22nm,1.3s								
PET	**Petropavlovsk**	**18.42**	**30**	*eP*		**P**	**14 02 47.6**	**+0.2**	
PET				pmax		pmax			
	comp=Z,22nm,1.3s								
ZEA	**Zeya**	**19.45**	**330**	*eP*		**P**	**14 02 59.0**	**+0.4**	
ZEA				pmax		pmax			
	comp=Z,23nm,1.0s								
TIA	**Tai'an**	**21.15**	**274**	P		**P**	**14 03 15.4**	**-1.9**	
TIA				pmax		pmax			
	comp=Z,13nm,1.1s								
MA2	**Magadan**	**22.21**	**10**	P		**P**	**14 03 29.1**	**+0.6**	
	comp=Z,10nm,0.9s,baz=202,slow=7.5,SNR=8.5								
MA2	**Magadan**	**22.21**	**10**	*eP*		**P**	**14 03 28.9**	**+0.4**	
	comp=Z,18nm,1.2s								
MA2	**Magadan**	**22.21**	**10**	*eP*		**P**	**14 03 29.4**	**+0.9**	
MA2				pmax		pmax			
	comp=Z,10.0nm,0.8s								
GUMO	**Guam**	**24.21**	**177**	LR		LR	14 13 42.3		
	comp=Z,48nm,18.9s,baz=340,slow=38								
TPUB	**Ta-pu**	**24.42**	**240**	*eP*		**P**	**14 03 51.0**	**+0.1**	
	comp=Z,24nm,0.9s								
TIY	**Taiyuan**	**24.55**	**279**	*eP*		**P**	**14 03 54.9**	**+2.9**	
TIY				S		**S**	**14 08 13.3**	**+1.3**	
TIY				SS		**SnSn**	**14 09 01.4**	**+4.4**	
TIY				pmax		pmax			
	comp=Z,160nm,4.7s								
TIY				LR		LR			
	comp=Z,220nm,13.0s								
TIY				LR		LR			
	comp=Z,360nm,13.6s								
TIY				LR		LR			
	comp=Z,290nm,15.5s								
HHC	**Hu-ho-hao-te**	**24.85**	**287**	*eP*		**P**	**14 03 53.0**	**-1.7**	
HHC				S		S	14 08 08.1	-8.8	
HHC				pmax		pmax			
	comp=Z,44nm,0.9s								
HHC				pmax		pmax			
	comp=Z,120nm,4.1s								
HHC				LR		LR			
	comp=Z,1µm,13.0s								
HHC				LR		LR			
	comp=Z,1µm,13.1s								
HHC				LR		LR			
	comp=Z,1µm,12.5s								
WHN	**Wuhan**	**25.18**	**262**	P		**P**	**14 03 57.6**	**0.0**	
WHN				pmax		pmax			
	comp=Z,70nm,1.0s								
SEY	**Seymchan**	**25.66**	**9**	P		**P**	**14 04 02.9**	**+1.2**	
	comp=Z,9.2nm,0.8s,baz=198,slow=7.3,SNR=32								
SEY	**Seymchan**	**25.66**	**9**	*ce*P		**P**	**14 04 03.0**	**+1.2**	
YAK	**Yakutsk**	**25.67**	**345**	P		**P**	**14 04 01.3**	**-0.5**	
YAK	**Yakutsk**	**25.67**	**345**	*eP*		**P**	**14 04 01.6**	**-0.1**	
	comp=Z,35nm,1.0s								
YAK	**Yakutsk**	**25.67**	**345**	*eP*		**P**	**14 04 01.3**	**-0.5**	
YAK				*e**PP		**sP**	**14 04 10.1**	**+0.9**	
YAK				*e*			14 04 37.6		
YAK				*e*PPP		PPP	14 04 44.5		
YAK				*e*S		**S**	**14 08 30.3**	**+1.1**	
YAK				*e*SS		**SnSn**	**14 09 20.0**	**-3.8**	
YAK				*e*SSS		SSS	14 09 49.3		
YAK				pmax		pmax			
	comp=Z,15nm,0.9s								
YAK				pmax		pmax			
	comp=N,3.0nm,1.1s								
YAK				pmax		pmax			
	comp=E,2.0nm,0.9s								
YAK				pmax		pmax			
	comp=Z,22nm,1.3s								
YAK				pmax		pmax			
	comp=N,19nm,1.5s								
YAK				pmax		pmax			
	comp=E,20nm,1.3s								
YAK				smax		smax			
	comp=N,12nm,1.8s								
YAK				smax		smax			
	comp=E,32nm,1.8s								
YAK				MLR		MLR			
	comp=Z,279nm,21.0s								
YAK				MLR		MLR			
	comp=N,578nm,18.0s								
BOD	**Bodaibo**	**27.77**	**325**	*eP*		**P**	**14 04 20.6**	**-0.2**	
BOD				pmax		pmax			
	comp=Z,9.0nm,1.1s								
ULN	**Ulaanbaatar**	**28.33**	**302**	*eP*		**P**	**14 04 27.2**	**+1.1**	
	comp=Z,8.6nm,0.9s								
ULN	**Ulaanbaatar**	**28.33**	**302**	*d iP*		**P**	**14 04 27.9**	**+1.8**	
ULN				pmax		pmax			
	comp=Z,10.0nm,1.0s								
SONA1	**Songino Array**	**28.76**	**302**	*eP*		**P**	**14 04 31.2**	**+1.3**	
SONM	**Songino Array**	**28.77**	**302**	P		**P**	**14 04 30.2**	**+0.2**	
	comp=Z,3.9nm,0.8s,baz=101,slow=9.1,SNR=9.8								
ENH	**Enshi**	**29.11**	**265**	*eP*		**P**	**14 04 32.9**	**-0.1**	
	comp=Z,37nm,1.1s								
TLY	**Talaya**	**31.10**	**309**	P		**P**	**14 04 49.6**	**-0.8**	
	comp=Z,3.6nm,0.7s,baz=132,slow=4.6,SNR=4.9								
TLY	**Talaya**	**31.10**	**309**	*eP*		**P**	**14 04 52.4**	**+2.0**	
	comp=Z,3.5nm,0.8s								
TLY	**Talaya**	**31.10**	**309**	*eP*		**P**	**14 04 53.2**	**+2.8**	
TLY				pmax		pmax			
	comp=Z,7.0nm,1.0s								
TLY				MLR		MLR			
	comp=Z,397nm,19.0s								
BILL	**Bilibino**	**32.75**	**16**⇑	*iP*		**P**	**14 05 05.0**	**+0.3**	
BILL				*e*			14 06 16.0		
BILL				*e*SS		SS	14 12 34.1	-7.1	
BILL				pmax		pmax			
	comp=Z,4.0nm,1.1s								
CD2	**Chengdu**	**33.39**	**270**	P		**P**	**14 05 10.0**	**-0.7**	
CD2				S		**S**	**14 10 31.3**	**+0.3**	
CD2				pmax		pmax			
	comp=Z,10.0nm,0.5s								
CD2				pmax		pmax			
	comp=Z,140nm,5.2s								
CD2				LR		LR			
	comp=Z,990nm,18.4s								
CD2				LR		LR			
	comp=Z,510nm,16.9s								
CD2				LR		LR			
	comp=Z,340nm,19.9s								
GTA	**Gaotai**	**33.96**	**286**	⇑P		**P**	**14 05 16.3**	**+0.6**	
GTA				pP		sP	14 05 26.6	+3.3	
GTA				S		**S**	**14 10 40.1**	**+0.1**	
GTA				sS		sS	14 10 55.3	+6.5	
GTA				pmax		pmax			
	comp=Z,12nm,1.3s								
GTA				pmax		pmax			
	comp=Z,270nm,6.2s								
GTA				LR		LR			
	comp=Z,410nm,15.9s								
GTA				LR		LR			
	comp=Z,290nm,15.9s								
GTA				LR		LR			
	comp=Z,350nm,17.1s								
TIXI	**Tiksi**	**34.69**	**352**	P		**P**	**14 05 20.9**	**-0.6**	
	comp=Z,1.0nm,0.6s,baz=167,slow=4.2,SNR=3.0								
TIXI	**Tiksi**	**34.69**	**352**⇑	*eP*		**P**	**14 05 21.1**	**-0.3**	
TIXI				pmax		pmax			
	comp=Z,1.0nm,0.7s								
DAV	**Davao City (W)**	**34.73**	**213**	LR		LR	14 16 59.2		
	comp=Z,78nm,21.2s,baz=50,slow=32								
DGZ	**Jazzator, Alta**	**41.30**	**305**	*i* P		**P**	**14 06 18.8**	**+1.1**	
DGZ				pmax		pmax			
	comp=Z,6.0nm,0.9s								
WMQ	**Urumqi**	**42.00**	**296**	P		**P**	**14 06 24.3**	**+0.9**	
WMQ				pmax		pmax			
	comp=Z,34nm,0.9s								
WMQ				pmax		pmax			
	comp=Z,390nm,6.7s								
ZAA0	**Zalesovo Array**	**42.63**	**312**	*eP*		**P**	**14 06 28.5**	**+0.2**	
	comp=Z,19nm,1.4s								
ZALV	**Zalesovo Beam**	**42.63**	**312**	P		**P**	**14 06 28.4**	**+0.1**	
	comp=Z,2.8nm,0.6s,baz=94,slow=7.9,SNR=5.2								
ZALV				PcP		**PcP**	**14 08 20.8**	**+0.7**	
	comp=Z,1.2nm,0.4s,baz=91,slow=2.0,SNR=4.4								
CMAR	**Chiang Mai Arr**	**43.36**	**256**	P		**P**	**14 06 33.9**	**-0.8**	
	comp=Z,1.0nm,0.8s,baz=47,slow=6.9,SNR=7.5								
CM01	**Chiang Mai Arr**	**43.37**	**256**	*eP*		**P**	**14 06 34.6**	**-0.1**	
NVS	**Novosibirsk**	**43.51**	**313**	*eP*		**P**	**14 06 39.6**	**+4.2**	
IM3	**Indian Mountai**	**45.06**	**31**	*eP*		**P**	**14 06 48.1**	**+0.5**	
SHL	**Shillong**	**45.13**	**270**	P		P	14 06 55.7	+6.8	
SHL				pmax		pmax			
	comp=Z,8.0nm,0.7s								
MK01	**Makanchi Array**	**45.13**	**302**	*eP*		**P**	**14 06 48.3**	**-0.3**	
MK31	**Makanchi Array**	**45.13**	**302**	*eP*		**P**	**14 06 48.6**	**+0.1**	
MK31	**Makanchi Array**	**45.13**	**302**	*eP*		**P**	**14 06 48.6**	**+0.1**	
MKAR	**Makanchi Array**	**45.13**	**302**	P		**P**	**14 06 48.7**	**+0.2**	
	comp=Z,4.7nm,0.7s,baz=82,slow=9.0,SNR=25								
MKAR	**Makanchi Array**	**45.13**	**302**	*eP*		**P**	**14 06 48.8**	**+0.2**	
	comp=Z,39nm,0.7s								
MKAR	**Makanchi Array**	**45.13**	**302**	*eP*		**P**	**14 06 48.8**	**+0.2**	
MKAR				pmax		pmax			
	comp=Z,39nm,0.7s								
KDAK	**Kodiak Island**	**45.33**	**43**	P		**P**	**14 06 50.0**	**+0.1**	
	comp=Z,6.6nm,0.9s,baz=315,slow=3.5,SNR=8.0								
KDAK	**Kodiak Island**	**45.33**	**43**	*i* P		**P**	**14 06 50.9**	**+1.0**	
MAKZ	**Makanchi**	**45.34**	**302**	*eP*		**P**	**14 06 49.7**	**-0.5**	
	comp=Z,9.4nm,1.1s								
MAKZ	**Makanchi**	**45.34**	**302**	*eP*		**P**	**14 06 49.7**	**-0.5**	
MAKZ				pmax		pmax			
	comp=Z,9.0nm,1.1s								
KTH	**Kantishna Hill**	**46.09**	**34**	*eP*		**P**	**14 06 57.6**	**+1.6**	
	comp=Z,7.7nm,1.0s								
SUA	**Susina One**	**46.16**	**37**	*eP*		**P**	**14 06 57.9**	**+1.3**	
	comp=Z,5.8nm,0.7s								
MLY	**Manley**	**46.23**	**32**	*eP*		**P**	**14 06 58.6**	**+1.6**	
	comp=Z,4.3nm,0.8s								
KURK	**Kurchatov**	**46.77**	**308**	*eP*		**P**	**14 07 01.0**	**-0.3**	
	comp=Z,13nm,0.6s								
KURK	**Kurchatov**	**46.77**	**308**	*eP*		**P**	**14 07 01.0**	**-0.3**	
KURK				pmax		pmax			
	comp=Z,13nm,0.6s								
KURBB	**Kurchatov Arra**	**46.84**	**308**	P		**P**	**14 07 01.7**	**-0.3**	
	comp=Z,3.3nm,0.7s,baz=83,slow=7.9,SNR=18								
PMR	**Palmer**	**46.93**	**37**	*eP*		**P**	**14 07 03.1**	**+0.7**	
	comp=Z,12nm,1.2s								
PMR	**Palmer**	**46.93**	**37**	*eP*		**P**	**14 07 03.1**	**+0.7**	
PMR				pmax		pmax			
	comp=Z,12nm,1.2s								
TOLK	**Toolik Lake Re**	**46.94**	**27**	*eP*		**P**	**14 07 03.7**	**+1.1**	
	comp=Z,4.9nm,1.0s								
RND	**Reindeer**	**47.02**	**35**	*eP*		**P**	**14 07 03.8**	**+0.5**	
	comp=Z,16nm,1.4s								
RND	**Reindeer**	**47.02**	**35**	*eP*		**P**	**14 07 03.8**	**+0.5**	
RND				pmax		pmax			
	comp=Z,16nm,1.4s								
MDM	**Murphy Dome**	**47.29**	**33**	*eP*		**P**	**14 07 06.7**	**+1.4**	
	comp=Z,8.5nm,0.9s								
COLA	**College**	**47.45**	**33**	*eP*		**P**	**14 07 07.3**	**+0.9**	
	comp=Z,3.5nm,0.8s								
COLA	**College**	**47.45**	**33**	*eP*		**P**	**14 07 07.4**	**+0.9**	
COLA				pmax		pmax			
	comp=Z,4.0nm,0.8s								
IL1	**Eielson Array**	**47.87**	**33**	*eP*		**P**	**14 07 10.1**	**+0.3**	
ILAR	**Eielson Array**	**47.87**	**33**	P		**P**	**14 07 10.1**	**+0.4**	
	comp=Z,2.2nm,0.8s,baz=264,slow=6.4,SNR=23								
ILB	**Eielson Array**	**47.87**	**33**	*eP*		**P**	**14 07 09.9**	**+0.2**	
PDGK	**Podgornoye**	**47.90**	**298**	P		**P**	**14 07 14.5**	**+4.1**	
PDGK				pmax		pmax			
	comp=Z,10.0nm,1.1s								
JIRN	**Jiri**	**48.65**	**276**	*eP*		**P**	**14 07 16.5**	**-0.2**	
RAMN	**Ramite**	**48.65**	**275**	*eP*		**P**	**14 07 16.3**	**-0.3**	
GUN	**Gumba**	**48.77**	**276**	*eP*		**P**	**14 07 17.9**	**+0.3**	
	comp=Z,37nm,0.7s								
SCRK	**Sand Creek**	**49.16**	**34**	*eP*		**P**	**14 07 20.3**	**+0.4**	
	comp=Z,9.4nm,1.3s								
KKN	**Kakani**	**49.30**	**276**	*eP*		**P**	**14 07 21.6**	**+0.1**	
	comp=Z,50nm,0.8s								
HNR	**Honiara**	**49.49**	**159**	LR		LR	14 25 48.7		
	comp=Z,93nm,21.4s,baz=292,slow=33								
DMN	**Daman**	**49.52**	**276**	*eP*		**P**	**14 07 23.2**	**-0.1**	
	comp=Z,10nm,0.6s								
TARG	**Taragay, Kyrgy**	**49.57**	**296**	*eP*		**P**	**14 07 23.8**	**+0.2**	
	comp=Z,6.6nm,0.6s								
GKN	**Gorkha**	**49.71**	**277**	*eP*		**P**	**14 07 24.5**	**-0.1**	
	comp=Z,68nm,0.9s								
EGAK	**Eagle**	**50.32**	**33**	*eP*		**P**	**14 07 26.3**	**-2.1**	
	comp=Z,16nm,1.8s								
KOLN	**Koldanda**	**50.63**	**277**	*eP*		**P**	**14 07 31.4**	**-0.2**	
	comp=Z,14nm,0.7s								
PYUN	**Piuthan**	**50.96**	**278**	*eP*		**P**	**14 07 34.6**	**+0.5**	
	comp=Z,68nm,1.0s								
BVAR	**Borovoye Array**	**51.28**	**312**	P		**P**	**14 07 35.4**	**-0.5**	
	comp=Z,0.7nm,0.5s,baz=80,slow=8.9,SNR=3.6								
OTUK	**Ortayu**	**51.33**	**306**	P		**P**	**14 07 38.6**	**+2.3**	
OTUK				pmax		pmax			
	comp=Z,5.0nm,0.9s								
BRVK	**Borovoye**	**51.33**	**312**⇑	*eP*		**P**	**14 07 37.7**	**+1.4**	
BRVK				pmax		pmax			
	comp=Z,2.0nm,0.8s								
AAK	**Ala-Archa**	**51.60**	**298**⇑	*eP*		**P**	**14 07 40.0**	**+1.3**	
AAK				pmax		pmax			
	comp=Z,2.0nm,0.8s								
INK	**Inuvik**	**52.86**	**28**	P		**P**	**14 07 48.0**	**+0.6**	
	comp=Z,1.4nm,0.5s,baz=284,slow=5.6,SNR=18								
INK	**Inuvik**	**52.86**	**28**	*eP*		**P**	**14 07 47.9**	**+0.6**	
	comp=Z,12nm,1.8s								
INK	**Inuvik**	**52.86**	**28**	*eP*		**P**	**14 07 47.9**	**+0.6**	
INK				pmax		pmax			
	comp=Z,12nm,1.8s								
MNAS	**Manas**	**53.03**	**299**	P		**P**	**14 07 50.2**	**+0.9**	
MNAS				pmax		pmax			
	comp=Z,10.0nm,0.9s								
SFK	**Sufi-Kurgan**	**53.22**	**296**	P		**P**	**14 07 52.6**	**+1.8**	
KKAR	**Karatay Array**	**54.19**	**300**	*eP*		**P**	**14 07 57.3**	**-0.3**	
	comp=Z,13nm,1.1s								
KKAR	**Karatay Array**	**54.19**	**300**	*eP*		**P**	**14 07 57.3**	**-0.3**	
KKAR				pmax		pmax			
	comp=Z,13nm,1.1s								
NIL	**Nilore**	**55.98**	**289**	P		**P**	**14 08 10.7**	**0.0**	
	comp=Z,65nm,1.1s								
NIL	**Nilore**	**55.98**	**289**	P		**P**	**14 08 10.7**	**0.0**	
NIL				pmax		pmax			
	comp=Z,65nm,1.1s								
ARU	**Arti**	**56.87**	**319**	P		**P**	**14 08 17.3**	**+0.7**	
	comp=Z,4.8nm,0.8s								
ARU	**Arti**	**56.87**	**319**	*d iP*		**P**	**14 08 17.4**	**+0.8**	
ARU							14 09 11.1		
ARU							14 10 20.4		
ARU				S		**S**	**14 16 11.6**	**+2.5**	
ARU				SS		**SS**	**14 19 54.3**	**-2.5**	
ARU				pmax		pmax			
	comp=Z,3.0nm,1.0s								
WRAB	**Tennant Creek**	**58.14**	**190**‖	*eP*		**P**	**14 08 24.8**	**-1.1**	
WRAB				pmax		pmax			
	comp=Z,13nm,1.7s								
WB2	**Warramunga Arr**	**58.15**	**190**	*eP*		**P**	**14 08 24.0**	**-1.9**	
	comp=Z,6.0nm,0.8s								
WRA	**Warramunga Arr**	**58.16**	**190**	P		**P**	**14 08 24.0**	**-2.0**	
	comp=Z,5.4nm,0.8s,baz=9,slow=7.2,SNR=45								
ABKAR	**Akbulak array**	**58.71**	**310**	*eP*		**P**	**14 08 29.3**	**-0.4**	
	comp=Z,36nm,0.6s								
AKTO	**Aktyubinsk**	**59.39**	**312**	P		**P**	**14 08 34.8**	**+0.5**	
	comp=Z,1.2nm,0.6s,baz=56,slow=11,SNR=4.1								
SPITS	**Spitsbergen Ar**	**60.03**	**349**	P		**P**	**14 08 38.2**	**-0.2**	
	comp=Z,8.7nm,1.0s,baz=71,slow=11,SNR=3.2								
RES	**Resolute Bay**	**61.36**	**15**	P		**P**	**14 08 47.8**	**+0.4**	
	comp=Z,3.7nm,0.8s,baz=307,slow=6.8,SNR=22								
RES	**Resolute Bay**	**61.36**	**15**	*eP*		**P**	**14 08 47.7**	**+0.3**	
	comp=Z,4.3nm,0.8s								
RES	**Resolute Bay**	**61.36**	**15**	*eP*		**P**	**14 08 47.7**	**+0.3**	
RES				pmax		pmax			
	comp=Z,4.0nm,0.8s								
ASAR	**Alice Springs**	**61.88**	**190**	P		**P**	**14 08 49.8**	**-1.7**	
	comp=Z,1.4nm,0.8s,baz=3.7,slow=6.7,SNR=13								
YKA	**Yellowknife Ar**	**62.22**	**31**	P		**P**	**14 08 53.6**	**+0.3**	
	comp=Z,0.6nm,0.7s,baz=303,slow=6.7,SNR=17								
ARCES	**ARCESS Array B**	**63.81**	**340**	P		**P**	**14 09 04.5**	**+0.6**	
	comp=Z,3.5nm,0.9s,baz=51,slow=6.3,SNR=6.5								
GEYT	**Alibeck**	**64.92**	**300**	P		**P**	**14 09 11.2**	**-0.5**	
	comp=Z,1.8nm,0.6s,baz=46,slow=8.8,SNR=5.5								
FINES	**FINESS Array B**	**68.86**	**333**	P		**P**	**14 09 36.8**	**+0.4**	
	comp=Z,1.9nm,0.7s,baz=40,slow=9.9,SNR=9.6								
KVAR	**Kislovodsk Arr**	**71.64**	**312**	P		**P**	**14 09 55.7**	**+2.0**	
	comp=Z,3.8nm,0.6s,baz=343,slow=4.3,SNR=4.1								
KIV	**Kislovodsk**	**71.64**	**312**	*eP*		**P**	**14 09 54.3**	**+0.5**	
	comp=Z,26nm,1.1s								
KIV	**Kislovodsk**	**71.64**	**312**	*eP*		**P**	**14 09 55.0**	**+1.2**	
KIV				pmax		pmax			
	comp=Z,12nm,1.0s								
KBZ	**Khabaz**	**71.65**	**311**	P		**P**	**14 09 55.4**	**+1.7**	
	comp=Z,2.1nm,0.7s,baz=212,slow=3.2,SNR=4.7								
FFC	**Flin Flon**	**72.07**	**34**	*eP*		**P**	**14 09 56.4**	**+0.3**	
	comp=Z,9.1nm,1.5s								
FFC	**Flin Flon**	**72.07**	**34**	*eP*		**P**	**14 09 56.4**	**+0.3**	
FFC				pmax		pmax			
	comp=Z,9.0nm,1.5s								
NVAR	**Mina Array Bea**	**73.11**	**54**	P		**P**	**14 10 04.7**	**+1.8**	
	comp=Z,0.9nm,0.7s,baz=290,slow=5.8,SNR=8.6								
HFS	**Hagfors**	**74.02**	**336**	P		**P**	**14 10 07.8**	**+0.3**	
	comp=Z,1.0nm,0.4s,baz=62,slow=6.9,SNR=7.8								
NB2	**NORSAR Subarra**	**74.07**	**338**	P		**P**	**14 10 08.0**	**+0.2**	
	comp=Z,2.7nm,1.0s,baz=35,slow=6.2								
NOA	**NORSAR Array B**	**74.07**	**338**	P		**P**	**14 10 08.0**	**+0.2**	
	comp=Z,0.8nm,0.8s,baz=40,slow=5.7,SNR=5.4								
NOA				LR		LR	14 47 59.8		
	comp=Z,178nm,19.9s,baz=95,slow=40			

	0.2nm,0.8s,baz=298,slow=7.1,SNR=3.5							
TXAR	**Lajitas Array**	**146.03**	**21**	PKPbc	PKPab	14 22 29.2	+0.4
	0.2nm,0.8s,baz=307,slow=0.5,SNR=2.4							

*IDC **22** 14:10:13.3±0.9, 51°.86N×170°.45W, h0km, mb3.8/18, mb1 3.9/20, mb1mx3.7/87, mbtmp3.7/20, ML3.2/2, Error ellipse: s-maj=25.5km s-min=14.2km az=178.0*
*ISCJB **22** 14:10:16.3±0.6, 51°.86N±0°.08×170°.44W±0°.06, h31km, mb3.8/21, Error ellipse: s-maj=12.4km s-min=4.4km az=162.0*
*NEIC **22** 14:10:19.4±0.0, 52°.10N×170°.56W, h40km, mb4.0/5, After AEIC.*

ISC 22 14:10:18.1±0.8, 51°.9N±0°.1×170°.45W±0°.06, h31km, n39, σ0892/41, mb3.8/20, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIKH	**Nikolski High**	**1.43**	**43**	P	**Pb**	**14 10 42.3**	**-1.7**
NIKH				S	**Sn**	**14 10 59.6**	**+0.2**
OKTU	**Okmok Mt. Tuli**	**2.06**	**44**	P	**Pn**	**14 10 51.4**	**+0.8**
OKAK	**Okmok**	**2.08**	**37**	P	**Pn**	**14 10 50.2**	**-0.6**
KOFP	**Korovin Flat P**	**2.27**	**280**	P	**Pn**	**14 10 54.3**	**+0.8**
ATKA	**Atka Island**	**2.33**	**278**	P	**Pn**	**14 10 54.4**	**+0.2**
ATKA				S	**Sn**	**14 11 21.0**	**-0.6**
KOKL	**Mount Kliuchef**	**2.34**	**281**	P	**Pn**	**14 10 55.6**	**+1.2**
MSOM	**Makushin Julie**	**2.84**	**47**	P	**Pn**	**14 11 01.9**	**+0.7**
MTBL	**Makushin Table**	**3.06**	**47**	P	**Pn**	**14 11 05.8**	**+1.5**
UNV	**Unalaska Valle**	**3.06**	**50**	P	**Pn**	**14 11 04.8**	**+0.6**
UNV				S	**Sn**	**14 11 42.1**	**+2.3**
GSTD	**Great Sitkin T**	**3.52**	**274**	P	**Pn**	**14 11 10.9**	**+0.3**
KDAK	**Kodiak Island**	**11.82**	**53**	Pn	**Pn**	**14 13 02.4**	**-2.0**
	0.3nm,0.3s,baz=153,slow=3.8,SNR=6.6						
KTH	**Kantishna Hill**	**15.54**	**34**	P	**Pn**	**14 13 53.9**	**-0.8**
ILAR	**Eielson Array**	**17.68**	**34**	P	**P**	**14 14 22.5**	**+0.1**
	0.1nm,0.3s,baz=229,slow=11,SNR=4.4						
PETK	**Petropavlovsk-**	**19.33**	**286**	P	**Pn**	**14 14 41.5**	**-0.3**
	0.5nm,0.3s,baz=85,slow=13,SNR=18						
EGAK	**Eagle**	**19.79**	**38**	*e*P	**Pn**	**14 14 45.7**	**-1.4**
	3.5nm,1.0s						
SKAG	**Skagway**	**20.97**	**55**	*e*P	Pn	14 14 59.2	-1.7
	8.1nm,0.7s						
SEY	**Seymchan**	**22.48**	**314**	P	**P**	**14 15 14.4**	**0.0**
	0.9nm,0.6s,baz=127,slow=10,SNR=9.4						
INK	**Inuvik**	**24.07**	**33**	P	**P**	**14 15 30.5**	**+0.3**
	1.3nm,0.5s,baz=248,slow=8.0,SNR=17						
INK	**Inuvik**	**24.07**	**33**	*e*P	**P**	**14 15 29.5**	**-0.7**
	3.4nm,1.0s						
YKA	**Yellowknife Ar**	**31.03**	**48**	P	**P**	**14 16 32.7**	**+0.2**
	0.6nm,0.6s,baz=274,slow=8.0,SNR=22						
RES	**Resolute Bay**	**37.05**	**25**	P	**P**	**14 17 24.7**	**+0.2**
	0.7nm,0.8s,baz=246,slow=9.6,SNR=3.6						
NVAR	**Mina Array Bea**	**38.33**	**90**	P	**P**	**14 17 36.5**	**+0.5**
	0.5nm,0.8s,baz=316,slow=8.3,SNR=4.8						
PDAR	**Pinedale Array**	**41.14**	**78**	P	**P**	**14 17 59.2**	**-0.2**
	0.3nm,0.6s,baz=318,slow=2.0,SNR=4.3						
FCC	**Fort Churchill**	**41.73**	**50**	*e*P	**P**	**14 18 03.3**	**-0.4**
	2.5nm,0.9s						
KSRS	**Korea Array**	**44.79**	**276**	P	**P**	**14 18 29.4**	**+0.8**
	1.0nm,0.8s,baz=55,slow=7.9,SNR=2.9						
KSAR	**Wonju Array Be**	**44.82**	**276**	P	**P**	**14 18 29.4**	**+0.5**
TUC	**Tucson**	**46.96**	**91**	*e*P	**P**	**14 18 46.3**	**+0.3**
	3.0nm,0.8s						
FRB	**Frobisher Bay**	**49.72**	**35**	P	**P**	**14 19 07.0**	**+0.3**
	1.6nm,0.7s,baz=298,slow=9.9,SNR=6.7						
TXAR	**Lajitas Array**	**53.43**	**88**	P	**P**	**14 19 35.0**	**0.0**
	1.8nm,0.7s,baz=297,slow=5.3,SNR=27						
KURK	**Kurchatov**	**62.25**	**318**	P	**P**	**14 20 38.3**	**+1.8**
KURBB	**Kurchatov Arra**	**62.35**	**318**	P	**P**	**14 20 38.3**	**+1.1**
	0.6nm,0.7s,baz=47,slow=7.0,SNR=5.0						
MKAR	**Makanchi Array**	**63.61**	**313**	P	**P**	**14 20 46.1**	**+0.5**
	0.6nm,0.7s,baz=56,slow=3.2,SNR=5.0						
BVAR	**Borovoye Array**	**63.66**	**324**	P	**P**	**14 20 47.3**	**+1.4**
	0.8nm,0.6s,baz=31,slow=6.9,SNR=3.5						
FINES	**FINESS Array B**	**66.20**	**351**	P	**P**	**14 21 02.2**	**0.0**
	1.0nm,0.8s,baz=342,slow=8.7,SNR=3.4						
NOA	**NORSAR Array B**	**67.36**	**359**	P	**P**	**14 21 10.1**	**+0.4**
	0.6nm,0.7s,baz=1.6,slow=6.3,SNR=2.8						
HFS	**Hagfors**	**68.23**	**358**	P	**P**	**14 21 14.5**	**-0.6**
	1.1nm,0.6s,baz=355,slow=3.0,SNR=3.0						
AKTO	**Aktyubinsk**	**70.05**	**329**	P	**P**	**14 21 27.1**	**+0.6**
	1.3nm,0.6s,baz=58,slow=7.0,SNR=8.0						
CMAR	**Chiang Mai Arr**	**76.06**	**282**	P	**P**	**14 22 01.5**	**-1.0**
	0.8nm,0.7s,baz=22,slow=6.3,SNR=5.6						
ASAR	**Alice Springs**	**89.61**	**229**	P	**P**	**14 23 11.8**	**-0.6**
	0.7nm,0.9s,baz=26,slow=4.8,SNR=7.2						

*ISK **22** 14:14:08.8, 39°.13N×29°.13E, h6km, ML2.2/11*
*ISCJB **22** 14:14:09.3±0.5, 39°.11N±0°.04×29°.12E±0°.04, h8km±4km, Error ellipse: s-maj=7.8km s-min=4.2km az=146.8*
*DDA **22** 14:14:09.2, 39°.07N×29°.12E, h7km, Ml2.7*
*CSEM **22** 14:14:09.2±0.1, 39°.12N×29°.13E, h6km±1km, ML2.2, Error ellipse: s-maj=3.6km s-min=1.8km az=138.0*

ISC 22 14:14:09.5±0.9, 39°.13N±0°.04×29°.11E±0°.03, h8km±7km, n29, σ0834/39, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIMA	**Simav-Kutahya**	**0.11**	**244**	PG	**Pg**	**14 14 12.2**	**+0.1**
SIMA				SG	**Sg**	**14 14 13.9**	**-0.1**
SIMA	**Simav-Kutahya**	**0.11**	**244**	*e*Pg	**Pg**	**14 14 12.2**	**+0.1**
SIMA				*e*Sg	**Sg**	**14 14 13.9**	**-0.1**
GDZ	**Gediz**	**0.29**	**99**	*i* P	**Pg**	**14 14 15.0**	**-0.3**
GDZ				*i* S	**Sg**	**14 14 19.7**	**+0.6**
GDZ	**Gediz**	**0.29**	**99**	P	**Pg**	**14 14 15.0**	**-0.3**
GDZ				S	**Sg**	**14 14 19.7**	**+0.6**
DEMI	**Demirci**	**0.32**	**254**	*i* P	**Pg**	**14 14 16.1**	**+0.2**
DEMI				*i* S	**Sg**	**14 14 20.3**	**+0.2**
DEMI	**Demirci**	**0.32**	**254**	P	**Pg**	**14 14 16.1**	**+0.2**
DEMI				S	**Sg**	**14 14 20.3**	**+0.2**
TVSB	**Tavsanli**	**0.41**	**40**	PG	**Pg**	**14 14 17.2**	**-0.4**
TVSB				SG	**Sg**	**14 14 23.1**	**0.0**
TVSB	**Tavsanli**	**0.41**	**40**	*e*Pg	**Pg**	**14 14 17.2**	**-0.4**
TVSB				*e*Sg	**Sg**	**14 14 23.1**	**0.0**
DURS	**Dursunbey**	**0.68**	**313**	*i* S	**Sn**	**14 14 37.2**	**+0.8**
KULA	**Kula-Manisa**	**0.71**	**210**	PG	**Pg**	**14 14 22.9**	**-0.3**
KULA	**Kula-Manisa**	**0.71**	**210**	*e*Pg	**Pg**	**14 14 22.9**	**-0.3**
MANT	**Manisa**	**0.78**	**214**	*i* P	**Pg**	**14 14 24.1**	**-0.3**
MANT				*i* S	**Sg**	**14 14 33.8**	**-0.7**
MANT	**Manisa**	**0.78**	**214**	P	**Pg**	**14 14 24.1**	**-0.3**
MANT				S	**Sg**	**14 14 33.8**	**-0.7**
BALB	**Balikesir**	**1.08**	**298**	PN	**Pn**	**14 14 30.8**	**-0.1**
BALB	**Balikesir**	**1.08**	**298**	*e*Pn	**Pn**	**14 14 30.8**	**-0.1**
CAVI	**Cavuskoy**	**1.21**	**28**	PN	**Pn**	**14 14 32.7**	**0.0**
CAVI	**Cavuskoy**	**1.21**	**28**	*e*Pn	**Pn**	**14 14 32.7**	**0.0**
MDNY	**Mudanya-Bursa**	**1.25**	**352**	PN	**Pn**	**14 14 33.1**	**-0.1**
MDNY	**Mudanya-Bursa**	**1.25**	**352**	*e*Pn	**Pn**	**14 14 33.1**	**-0.1**
KCTX	**Karacabey (Bur**	**1.27**	**333**	PN	**Pn**	**14 14 33.3**	**-0.3**
KCTX	**Karacabey (Bur**	**1.27**	**333**	*e*Pn	**Pn**	**14 14 33.3**	**-0.3**
ARMT	**Armutlu**	**1.44**	**352**	PN	**Pb**	**14 14 36.4**	**-0.2**
ARMT	**Armutlu**	**1.44**	**352**	*e*Pn	**Pb**	**14 14 36.4**	**-0.2**
YLV	**Yalova**	**1.45**	**8**	PN	**Pb**	**14 14 36.8**	**+0.1**
YLV	**Yalova**	**1.45**	**8**	*e*Pn	**Pb**	**14 14 36.8**	**+0.1**
AYDB	**Zeytinkoy-Aydi**	**1.52**	**219**	PN	**Pn**	**14 14 37.4**	**+0.2**
AYDB	**Zeytinkoy-Aydi**	**1.52**	**219**	*e*Pn	**Pn**	**14 14 37.4**	**+0.2**
GULT	**Gulveren**	**1.69**	**39**	PN	**Pn**	**14 14 39.6**	**+0.2**
GULT	**Gulveren**	**1.69**	**39**	*e*Pn	**Pn**	**14 14 39.6**	**+0.2**

*TIR **22** 14:27:39.3, 39°.69N×20°.33E, h1km, Md2.5/4*
*CSEM **22** 14:27:39.1±0.2, 39°.69N×20°.39E, h2km, ML2.5, Error ellipse: s-maj=4.2km s-min=3.2km az=18.0*
*ATH **22** 14:27:39.1, 39°.68N×20°.37E, h10km±3km, ML2.5/12, Error ellipse: s-maj=3.2km s-min=0.7km az=222.0*
*THE **22** 14:27:39.0, 39°.68N×20°.39E, h0km±1km, ML2.5/9, Error ellipse: s-maj=1.6km s-min=0.4km az=341.0*

ISC 22 14:27:39.5±0.9, 39°.67N±0°.02×20°.38E±0°.02, h7km±7km, n60, σ0889/102, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SGD	**Sagiada**	**0.13**	**242**	P	**Pg**	**14 27 41.4**	**-0.8**
SGD	**Sagiada**	**0.13**	**242**	P	**Pg**	**14 27 41.7**	**-0.4**
SGD	**Sagiada**	**0.13**	**242**	P	**Pg**	**14 27 41.8**	**-0.4**
IGT	**Igoumenitsa**	**0.14**	**194**	P	**Pg**	**14 27 41.5**	**-1.0**
IGT				S	**Sg**	**14 27 45.6**	**+1.1**
IGT				AML	AML	14 27 46.4	
	comp=N,13149μm,0.5s						
IGT				AML	AML	14 27 46.5	
	comp=E,7400μm,0.4s						
IGT	**Igoumenitsa**	**0.14**	**194**	P	**Pg**	**14 27 42.0**	**-0.5**
IGT				S	**Sg**	**14 27 44.9**	**+0.3**
IGT	**Igoumenitsa**	**0.14**	**194**	P	**Pg**	**14 27 42.0**	**-0.5**
IGT				S	**Sg**	**14 27 45.4**	**+0.8**
KASA	**Kassiopi**	**0.35**	**282**	P	**Pg**	**14 27 46.1**	**-0.2**
KASA				S	**Sg**	**14 27 51.8**	**+0.9**
KASA				AML	AML	14 27 52.4	
	comp=N,2024μm,0.3s						
KASA				AML	AML	14 27 52.4	
	comp=E,2097μm,0.3s						
KASA	**Kassiopi**	**0.35**	**282**	P	**Pg**	**14 27 45.9**	**-0.4**
KASA				S	**Sg**	**14 27 51.3**	**+0.4**
SRN	**Sarande**	**0.36**	**305**	P	**Pg**	**14 27 45.7**	**-0.7**
SRN				S	**Sg**	**14 27 51.9**	**+0.7**
SRN	**Sarande**	**0.36**	**305**	P	**Pg**	**14 27 45.7**	**-0.7**
SRN	**Sarande**	**0.36**	**305**	*i* Pg	**Pg**	**14 27 46.0**	**-0.4**
SRN				S	**Sg**	**14 27 51.9**	**+0.7**
SRN				*i* Sg	**Sb**	**14 27 52.4**	**-1.5**
SRN	**Sarande**	**0.36**	**305**	*i* PG	**Pg**	**14 27 46.0**	**-0.5**
SRN				*i* SG	**Sb**	**14 27 52.4**	**-1.5**
JAN	**Janina**	**0.36**	**92**	P	**Pg**	**14 27 45.8**	**-0.8**
JAN				S	**Sb**	**14 27 53.6**	**-0.5**
JAN				AML	AML	14 27 54.1	
	comp=N,4396μm,0.4s						
JAN				AML	AML	14 27 54.1	
	comp=E,5912μm,0.4s						
JAN	**Janina**	**0.36**	**92**	P	**Pg**	**14 27 46.1**	**-0.5**
JAN				S	**Sg**	**14 27 51.9**	**+0.5**
JAN	**Janina**	**0.36**	**92**	P	**Pg**	**14 27 46.1**	**-0.5**
JAN				S	**Sg**	**14 27 51.9**	**+0.5**
KEK	**Kerkira**	**0.45**	**275**	P	**Pg**	**14 27 47.1**	**-1.1**
KEK				S	**Sg**	**14 27 55.1**	**+1.1**
KEK				AML	AML	14 27 55.9	
	comp=N,1272μm,0.3s						
KEK				AML	AML	14 28 00.4	
	comp=E,1507μm,0.4s						
KEK	**Kerkira**	**0.45**	**275**	P	**Pg**	**14 27 47.3**	**-0.9**
KEK				S	**Sg**	**14 27 54.5**	**+0.4**
KEK	**Kerkira**	**0.45**	**275**	P	**Pg**	**14 27 47.3**	**-0.9**
KEK				S	**Sg**	**14 27 54.5**	**+0.4**
DSL	**Palaion Diasel**	**0.77**	**134**	P	**Pg**	**14 27 52.6**	**-1.7**
DSL				S	**Sb**	**14 28 06.5**	**+0.6**
DSL				AML	AML	14 28 09.4	
	comp=N,695μm,0.4s						
DSL				AML	AML	14 28 11.2	
	comp=E,533μm,0.8s						
DSL	**Palaion Diasel**	**0.77**	**134**	P	**Pg**	**14 27 53.4**	**-0.9**
DSL				S	**Sg**	**14 28 04.7**	**+0.3**
DSL	**Palaion Diasel**	**0.77**	**134**	P	**Pg**	**14 27 53.4**	**-0.9**
DSL				S	**Sg**	**14 28 04.7**	**+0.3**
PENT	**Pentalofos**	**0.78**	**48**	P	**Pg**	**14 27 53.2**	**-1.3**
PENT	**Pentalofos**	**0.78**	**48**	P	**Pg**	**14 27 53.5**	**-1.0**
PENT	**Pentalofos**	**0.78**	**48**	P	**Pg**	**14 27 53.6**	**-1.0**
KPNO	**Kipourio**	**0.81**	**69**	P	**Pg**	**14 27 53.6**	**-1.4**
KPNO				S	**Sb**	**14 28 06.4**	**-0.6**
KPNO				AML	AML	14 28 07.8	
	comp=E,656μm,0.4s						
KPNO				AML	AML	14 28 09.5	
	comp=N,564μm,0.3s						
KPNO	**Kipourio**	**0.81**	**69**	P	**Pg**	**14 27 54.1**	**-0.9**
KPNO				S	**Sb**	**14 28 06.1**	**-0.9**
NEST	**Nestorio**	**0.90**	**35**	P	**Pg**	**14 27 56.1**	**-0.7**
NEST	**Nestorio**	**0.90**	**35**	P	**Pg**	**14 27 56.0**	**-0.8**
NEST	**Nestorio**	**0.90**	**35**	P	**Pg**	**14 27 56.1**	**-0.7**
LKD2	**Lefkada island**	**0.91**	**166**	P	**Pg**	**14 27 55.9**	**-0.9**
LKD2				S	**Sb**	**14 28 10.5**	**+0.7**
LKD2				AML	AML	14 28 13.6	
	comp=E,459μm,0.5s						
LKD2				AML	AML	14 28 14.7	
	comp=N,422μm,0.4s						
LKD2	**Lefkada island**	**0.91**	**166**	P	**Pg**	**14 27 56.0**	**-0.9**
LKD2				S	**Sb**	**14 28 09.7**	**-0.1**
LKD2	**Lefkada island**	**0.91**	**166**	P	**Pg**	**14 27 56.2**	**-0.7**
LKD2				S	**Sb**	**14 28 09.7**	**-0.1**
KBN	**Korca**	**1.00**	**18**	*i* Pg	**Pn**	**14 28 01.1**	**+1.1**
	baz=20						
KBN				*i* Sg	**Sn**	**14 28 14.1**	**-0.2**
	baz=20						
KBN	**Korca**	**1.00**	**18**	*i* PG	**Pn**	**14 28 01.1**	**+1.1**
KBN				*i* SG	**Sn**	**14 28 14.1**	**-0.2**
FSK	**Fiskardo**	**1.22**	**173**	P	**Pg**	**14 28 02.7**	**-0.1**
FSK				S	**Sn**	**14 28 20.6**	**+1.0**
PDO	**Prodromos**	**1.24**	**150**	P	**Pb**	**14 28 03.3**	**+0.1**
PDO				S	**Sg**	**14 28 18.6**	**-0.8**
PDO				AML	AML	14 28 25.6	
	comp=E,373μm,0.7s						
PDO				AML	AML	14 28 28.1	
	comp=N,317μm,0.8s						
PDO	**Prodromos**	**1.24**	**150**	P	**Pg**	**14 28 02.6**	**-0.7**
PDO				S	**Sn**	**14 28 21.2**	**+1.1**
PDO	**Prodromos**	**1.24**	**150**	P	**Pg**	**14 28 02.6**	**-0.7**
PDO				S	**Sg**	**14 28 19.3**	**-0.1**
KZN	**Kozani**	**1.24**	**59**	P	**Pn**	**14 28 03.8**	**+0.5**
KZN	**Kozani**	**1.24**	**59**	P	**Pb**	**14 28 03.2**	**-0.1**
THL	**Klokotos Trika**	**1.27**	**94**	P	**Pg**	**14 28 02.1**	**-1.7**
THL				S	**Sn**	**14 28 22.3**	**+1.5**
THL				AML	AML	14 28 25.8	
	comp=N,196μm,0.6s						
THL				AML	AML	14 28 27.6	
	comp=E,300μm,0.7s						
THL	**Klokotos Trika**	**1.27**	**94**	P	**Pg**	**14 28 02.3**	**-1.5**
THL				S	**Sb**	**14 28 20.8**	**+0.7**
THL	**Klokotos Trika**	**1.27**	**94**	P	**Pg**	**14 28 02.6**	**-1.2**
THL				S	**Sb**	**14 28 20.8**	**+0.7**
EVR	**Evrytania**	**1.34**	**124**	P	**Pg**	**14 28 04.8**	**-0.4**
EVR				S	**Sn**	**14 28 24.3**	**+1.5**
EVR				AML	AML	14 28 27.5	
	comp=E,158μm,0.8s						
EVR				AML	AML	14 28 32.6	
	comp=N,203μm,0.6s						
EVR	**Evrytania**	**1.34**	**124**	P	**Pg**	**14 28 03.8**	**-1.4**
EVR	**Evrytania**	**1.34**	**124**	P	**Pg**	**14 28 03.8**	**-1.4**
EVR				S	**Sn**	**14 28 23.8**	**+1.1**
FNA	**Florina**	**1.35**	**34**	P	**Pb**	**14 28 04.8**	**-0.2**
FNA				S	**Sb**	**14 28 22.4**	**-0.1**
FNA				AML	AML	14 28 27.9	
	comp=E,556μm,0.7s						
FNA				AML	AML	14 28 28.5	
	comp=N,421μm,0.5s						
FNA	**Florina**	**1.35**	**34**	P	**Pg**	**14 28 04.2**	**-1.1**
FNA	**Florina**	**1.35**	**34**	P	**Pg**	**14 28 04.2**	**-1.1**
FNA				S	**Sb**	**14 28 22.6**	**+0.1**
OHR	**Ohrid**	**1.47**	**12**	*i* Pn	**Pg**	**14 28 07.0**	**-0.7**
OHR				*i* Sn	**Sn**	**14 28 28.2**	**+2.3**
BIA	**Bitola**	**1.53**	**28**	*e*Pn	**Pb**	**14 28 07.9**	**-0.2**
BIA				*e*Sn	**Sg**	**14 28 30.0**	**+1.5**
AGG	**Agios Georgios**	**1.65**	**113**	P	**Pn**	**14 28 08.7**	**-0.1**
AGG				S	**Sg**	**14 28 33.3**	**+0.9**
AGG				AML	AML	14 28 39.0	
	comp=N,585μm,0.5s						
AGG				AML	AML	14 28 39.9	
	comp=E,529μm,0.7s						
AGG	**Agios Georgios**	**1.65**	**113**	P	**Pn**	**14 28 08.3**	**-0.5**
AGG				S	**Sb**	**14 28 31.7**	**+0.6**
AGG	**Agios Georgios**	**1.65**	**113**	P	**Pn**	**14 28 08.3**	**-0.5**
AGG				S	**Sb**	**14 28 31.7**	**+0.6**
LIT	**Litokhoron**	**1.68**	**75**	P	**Pb**	**14 28 10.7**	**0.0**
LIT	**Litokhoron**	**1.68**	**75**	P	**Pn**	**14 28 08.9**	**-0.3**
LIT	**Litokhoron**	**1.68**	**75**	P	**Pn**	**14 28 08.9**	**-0.3**
KRUS	**Krusevo**	**1.82**	**21**	*i* Pn	**Pn**	**14 28 12.0**	**+0.8**
KRUS				*e*Sn	**Sb**	**14 28 36.5**	**+0.4**
KLV	**Kalavryta, Ach**	**2.13**	**139**	P	**Pb**	**14 28 17.5**	**-1.0**
NVLJ	**Novalja**	**6.38**	**322**	*e*Pn	**Pn**	**14 29 11.7**	**-2.0**

*IDC **22** 14:29:32.7±0.7, 56°.93S×24°.96W, h0km, mb4.3/7, mb1 4.3/8, mb1mx4.0/30, mbtmp4.2/8, ML4.3/1, Error ellipse: s-maj=27.9km s-min=18.8km az=67.0*
*ISCJB **22** 14:29:34.1±0.6, 56°.97S±0°.09×25°.2W±0°.2, h22km, mb4.4/10, Error ellipse: s-maj=19.8km s-min=9.0km az=149.0*
*NEIC **22** 14:29:34.2±0.3, 56°.92S×25°.02W, h10km, mb4.7/1, Error ellipse: s-maj=13.5km s-min=9.2km az=63.0*

ISC 22 14:29:35.6±0.6, 57°.0S±0°.1×24°.9W±0°.1, h22km, n31, σ1902/31, mb4.4/10, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNA1	**Neumayer--Stat**	**15.48**	**159**	P	**Pn**	**14 33 13.2**	**+1.0**
VNA3	**Neumayer Olymp**	**15.72**	**162**	P	**Pn**	**14 33 15.2**	**-0.1**
VNA2	**Neumayer--Watz**	**15.88**	**159**	P	**Pn**	**14 33 17.8**	**+0.5**
	baz=325,slow=15						
SNAA	**Sanae**	**17.39**	**157**	P	**P**	**14 33 38.2**	**+0.4**
SNAA	**Sanae**	**17.39**	**157**	P	**P**	**14 33 37.5**	**-0.3**
	1.0nm,0.3s,baz=42,slow=12,SNR=84						
SNAA	**Sanae**	**17.39**	**157**	*e*P	**P**	**14 33 37.8**	**0.0**
PMSA	**Palmer Station**	**20.30**	**231**	*e*P	**P**	**14 34 09.4**	**-0.1**
TRQA	**Tornquist**	**30.85**	**292**	*e*P	**P**	**14 35 49.0**	**-0.9**
QSPA	**South Pole Qui**	**33.29**	**180**	P	**P**	**14 36 12.5**	**+1.2**
	2.1nm,0.5s,baz=231,slow=1.1,SNR=13						
QSPA	**South Pole Qui**	**33.29**	**180**	*e*P	**P**	**14 36 12.4**	**+1.2**
	11nm,0.6s						
PLCA	**Paso Flores**	**33.41**	**279**	P	**P**	**14 36 10.8**	**-1.7**
	1.0nm,0.9s,baz=121,slow=5.9,SNR=4.5						
CPUP	**Villa Florida**	**38.38**	**309**	P	**P**	**14 36 54.8**	**-0.1**
	4.4nm,0.7s,baz=144,slow=5.7,SNR=13						
MAW	**Mawson**	**38.65**	**142**	P	**P**	**14 36 54.0**	**-2.8**
	2.3nm,0.4s,baz=221,slow=22,SNR=10						
VNDA	**Vanda**	**45.72**	**182**	P	**P**	**14 37 54.5**	**+0.3**
	0.8nm,0.6s,baz=180,slow=5.8,SNR=8.8						
LPAZ	**La Paz**	**51.95**	**303**	P	**P**	**14 38 44.4**	**+0.9**
	27nm,0.5s,baz=120,slow=5.3,SNR=153						
SAML	**Samuel**	**56.35**	**313**	*e*P	**P**	**14 39 14.8**	**-0.1**
	4.4nm,0.6s						
TORD	**Torodi Ar. Bea**	**73.25**	**27**	P	**P**	**14 41 06.0**	**+1.2**
	2.3nm,0.7s,baz=196,slow=6.4,SNR=17						
KEST	**Kesra**	**96.77**	**27**	P	**P**	**14 43 03.2**	**-0.7**
	1.4nm,0.4s,baz=123,slow=2.6,SNR=5.4						
ASAR	**Alice Springs**	**97.72**	**160**	P	**P**	**14 43 08.8**	**0.0**
	0.5nm,0.9s,baz=184,slow=4.0,SNR=3.2						
FINES	**FINESS Array B**	**124.60**	**27**	PKP	**PKPdf**	**14 48 30.3**	**-1.3**
	0.5nm,0.6s,baz=107,slow=1.5,SNR=4.0						
YKA	**Yellowknife Ar**	**137.71**	**316**	PKP	**PKPdf**	**14 48 57.0**	**+0.7**
	1.0nm,0.9s,baz=126,slow=2.4,SNR=12						
INK	**Inuvik**	**147.32**	**319**	*e*PKPbc	**PKPbc**	**14 49 16.1**	**+0.5**
DAWY	**Dawson**	**148.35**	**310**	*e*PKPbc	**PKPbc**	**14 49 18.8**	**+0.1**
SONM	**Songino Array**	**149.51**	**86**	PKPbc	**PKPbc**	**14 49 22.9**	**+0.7**
	1.6nm,0.5s,baz=236,slow=2.7,SNR=4.2						
DOT	**Dot Lake**	**150.21**	**308**	*e*PKPbc	**PKPbc**	**14 49 24.3**	**+1.0**
ILAR	**Eielson Array**	**151.68**	**310**	PKPbc	**PKPbc**	**14 49 27.5**	**+0.9**
	2.4nm,0.8s,baz=146,slow=2.4,SNR=27						
MCK	**McKinley**	**152.34**	**307**	*e*PKPbc	**PKPbc**	**14 49 29.1**	**+0.9**
KDAK	**Kodiak Island**	**152.36**	**294**	PKPbc	**PKPbc**	**14 49 29.8**	**+1.5**
	5.0nm,0.9s,baz=97,slow=3.4,SNR=6.5						
BPAW	**Bear Paw Mtn.**	**153.30**	**308**	*e*PKPbc	**PKPbc**	**14 49 30.8**	**+0.5**
COLD	**Coldfoot**	**153.37**	**315**	*e*PKPbc	**PKPbc**	**14 49 31.4**	**+1.1**
PPLA	**Purkeypile**	**153.60**	**305**	*e*PKPbc	**PKPbc**	**14 49 32.2**	**+1.1**

JMA 22 14:46:50.0±0.3, 32°.60N×137°.08E, h477km, M3.7, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JWZ	**Kozaga**	**1.48**	**309**	P	P	14 47 50.9	+0.4
JHMK	**Hamakita**	**2.28**	**14**	P	P	14 47 54.7	+0.4
JAI	**Aioi**	**2.50**	**299**	P	P	14 47 57.4	+1.6
JNY	**Yasuok**	**2.83**	**13**	P	P	14 47 58.6	+0.7
JWT	**Wachi**	**3.02**	**333**	P	P	14 47 59.7	+0.6
JOD2	**Odawara 2**	**3.14**	**32**	P	P	14 48 01.2	+1.2
JHU	**Hanno**	**3.72**	**29**	P	P	14 48 05.1	+0.6
JRY	**Ryogami san**	**3.73**	**23**	P	P	14 48 05.8	+1.2
JRY				*e*S	S	14 48 57.9	-7.5
JAG	**Ashikaga**	**4.29**	**27**	P	P	14 48 09.1	-0.1
JAG				*e*S	S	14 49 03.4	-11
JYT	**Yasato**	**4.44**	**35**	P	P	14 48 10.7	+0.2
JYT				*e*S	S	14 49 06.2	-10
JHO	**Hitachi**	**4.93**	**35**	*e*S	S	14 49 14.1	-10
JFK	**Kawauchi**	**5.68**	**32**	P	P	14 48 23.7	+1.5

*ATA **22** 14:47:49.4±2.6, 38°.71N×43°.43E, h7km±999km, ML2.8, MW2.5*
*ISK **22** 14:47:50.9, 38°.71N×43°.18E, h14km,

UDBS					*e*S		**Sn**	**15 19 43.1**	**-0.3**
UEES	**San Salvador**	**0.69**	**354**		*e*P		**Pn**	**15 19 33.1**	**-0.3**
UEES					IAML			15 19 46.6	
	comp=Z,10μm,0.2s								
BOQS	**Boqueron**	**0.70**	**351**		*e*P		**Pn**	**15 19 33.7**	**+0.1**
LBRS	**Las Brisas**	**0.71**	**10**	⇓	*i*P		**Pn**	**15 19 33.7**	**+0.2**
LFU	**La Fuente**	**0.71**	**4**	⇓	*i*P		**Pn**	**15 19 33.7**	**+0.1**
TECA	**Tecapa**	**0.79**	**55**		*i* P		**Pn**	**15 19 34.8**	**+0.1**
SBLS	**San Blas**	**0.91**	**331**		*e*P		**Pn**	**15 19 36.5**	**+0.1**
PACA	**Pacayal**	**0.93**	**62**		*e*P		**Pn**	**15 19 36.9**	**+0.6**
PACA					*e*S		**Sn**	**15 19 49.9**	**+0.9**
LCY	**Lacayo**	**0.93**	**66**		*e*P		**Pn**	**15 19 36.8**	**+0.4**
SNJE	**San Jose**	**0.93**	**333**		*e*P		**Pn**	**15 19 36.7**	**+0.2**
VSM	**San Miguel**	**0.95**	**66**		*e*P		**Pn**	**15 19 37.3**	**+0.5**
RTR	**El Retiro**	**0.97**	**331**		*e*P		**Pn**	**15 19 37.6**	**+0.6**
LLGN	**La Laguna**	**1.15**	**10**		*e*P		**Pn**	**15 19 39.2**	**0.0**
LLGN					*e*S		**Sn**	**15 19 54.3**	**+0.2**
LLGN					IAML			15 19 55.3	
	comp=Z,3μm,0.4s								
CAHU	**Cacacuatique**	**1.18**	**52**		*e*P		**Pn**	**15 19 40.1**	**+0.3**
CAHU					*e*S		**Sn**	**15 19 55.7**	**+0.7**
LCND	**La Caˆ–ada**	**1.27**	**78**		*e*P		**Pn**	**15 19 41.4**	**+0.5**
LCND					*e*S		**Sn**	**15 19 57.7**	**+0.8**
LCND					IAML			15 20 01.9	
	comp=Z,6μm,0.3s								
CNCH	**Conchagua**	**1.32**	**80**		*e*P		**Pn**	**15 19 41.9**	**+0.3**
CNCH					*e*S		**Sn**	**15 19 58.9**	**+0.7**
MTO3	**Montecristo**	**1.37**	**352**		*e*P		**Pn**	**15 19 42.6**	**+0.3**
MTO3					*e*S		**Sn**	**15 19 59.5**	**0.0**
IXG	**Ixpaco**	**1.69**	**312**		*e*P		**Pn**	**15 19 46.8**	**+0.2**
TGUH	**Tegucigalpa,Un**	**2.10**	**61**		*e*P		**Pn**	**15 19 52.6**	**+0.6**
APG	**El Apazote**	**2.33**	**327**		Pn		**Pn**	**15 19 56.3**	**+1.0**
	comp=Z,6.7nm,0.3s,baz=124,slow=8.3,SNR=50								
APG					Lg		Lg	15 20 29.1	
	comp=Z,19nm,0.3s,baz=315,slow=19,SNR=6.7								
CNGN	**Cerro Negro**	**2.46**	**102**		*e*P		**Pn**	**15 19 56.1**	**-1.0**
MOMN	**Momotombo**	**2.64**	**103**		*e*P		**Pn**	**15 19 59.2**	**-0.3**
COPN	**Copaltepe**	**2.65**	**108**		*e*P		**Pn**	**15 19 59.1**	**-0.5**
ESTN	**Estel**	**2.73**	**88**		*e*P		**Pn**	**15 20 01.4**	**+0.8**
ESTN					AML		AML	15 20 38.9	
	comp=N,185nm,0.5s								
APYN	**Apoyeque**	**2.86**	**106**		*e*P		**Pn**	**15 20 02.5**	**+0.1**
RCON	**San Juan de Ri**	**2.96**	**81**		*e*P		**Pn**	**15 20 04.5**	**+0.5**
MGAN	**Managua**	**2.98**	**107**		*e*S		**Sn**	**15 20 37.8**	**-1.0**
MATN	**Matagalpa**	**3.16**	**92**		*e*P		**Pn**	**15 20 06.8**	**+0.1**
CONN	**Concepcion**	**3.76**	**113**		*e*P		**Pn**	**15 20 15.5**	**+0.7**
ESPN	**Las Esperanzas**	**4.82**	**99**		*e*P		**Pn**	**15 20 30.0**	**+0.7**
JTS	**JuntasAbangare**	**4.95**	**123**		Pn		**Pn**	**15 20 33.2**	**+2.1**
	comp=N,3.1nm,0.3s,baz=12,slow=20,SNR=14								
JTS					Sn		**Sn**	**15 21 26.1**	**-1.0**
	baz=336,slow=20,SNR=2.8								
JTS					Lg		Lg	15 21 40.0	
	comp=N,5.2nm,0.3s,baz=221,slow=22,SNR=5.1								
CMIG	**Matias Romero**	**6.84**	**307**		Pn		**Pn**	**15 20 59.6**	**+2.7**
	comp=N,1.0nm,0.3s,baz=139,slow=8.1,SNR=8.0								
CMIG					Sn		**Sn**	**15 22 13.7**	**+0.3**
	comp=N,4.2nm,0.3s,baz=246,slow=21,SNR=7.4								
TEIG	**Tepich**	**7.20**	**7**		*e*P		**Pn**	**15 21 03.2**	**+1.3**
TXAR	**Lajitas Array**	**21.08**	**323**		P		**P**	**15 24 00.3**	**+1.4**
	comp=N,0.6nm,0.6s,baz=138,slow=11,SNR=11								
YKA	**Yellowknife Ar**	**52.62**	**345**		P		**P**	**15 28 25.9**	**-1.1**
	comp=N,0.4nm,0.4s,baz=137,slow=8.3,SNR=21								
ILAR	**Eielson Array**	**64.81**	**336**		P		**P**	**15 29 50.4**	**-1.3**
	comp=N,0.1nm,0.5s,baz=177,slow=4.6,SNR=6.5								
WRA	**Warramunga Arr**	**137.82**	**255**		PKhKP	PKPpre		15 38 37.4	
	comp=N,0.9nm,1.2s,baz=92,slow=1.6,SNR=5.3								
ASAR	**Alice Springs**	**137.92**	**249**		PKhKP	PKPpre		15 38 38.0	
	comp=N,0.3nm,0.8s,baz=93,slow=1.9,SNR=3.4								

TEH ***22*** *15:32:35.2, 32.57N×46.98E, h9km, ML3.2*
ISN ***22*** *15:32:35.9±1.1, 32.51N×46.88E, h14km±8km, ML3.2*
ISCJB ***22*** *15:32:37.0±0.6, 32.44N±0.05×46.85E±0.05, h20km, Error ellipse: s-maj=6.9km s-min=6.0km az=140.9*
CSEM ***22*** *15:32:37.4±0.4, 32.42N×46.99E, h15km, ML3.2, Error ellipse: s-maj=14.8km s-min=10.4km az=148.0*

ISC 22 15:32:38.6±1.2, 32.46N±0.05×46.86E±0.05, h20km, n18, σ1s15/23, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
IKFM	**Kafar-mosalman**	**1.34**	**38**	*e*Pg		**Pn**	**15 32 59.7**	**-2.5**
IKFM				*e*AMB		AMB	15 33 20.8	
	comp=Z,99nm,0.2s							
NSR	**Nassriya**	**1.57**	**203**	*e*Pn		**Pn**	**15 33 05.0**	**-0.4**
	SNR=5.0							
NSR				*e*Sn		**Sb**	**15 33 27.0**	**+0.5**
	SNR=5.0							
SHGR	**Shooshtar-Gavs**	**1.68**	**102**	*e*Pg		**Pn**	**15 33 07.0**	**+0.1**
IKOM	**Komasi**	**1.79**	**18**	*e*Sg		**Sn**	**15 33 31.2**	**+0.4**
IKOM				*e*Pn		**Pn**	**15 33 07.5**	**-1.0**
IKOM				*e*AMB		AMB	15 33 33.3	
	comp=Z,5μm,0.3s							
IGHG	**Ghaleghazi**	**1.88**	**353**	*e*Pn		**Pn**	**15 33 10.4**	**+0.6**
IGHG				*e*AMB		AMB	15 33 45.1	
	comp=Z,4μm,0.2s							
IVIS	**Veis**	**2.06**	**360**	*e*Pn		**Pn**	**15 33 11.3**	**-0.8**
IVIS				*e*AMB		AMB	15 33 45.7	
	comp=Z,2μm,0.3s							
IDHR	**Dehrash**	**2.26**	**350**	*e*Pn		**Pn**	**15 33 14.3**	**-0.8**
IDHR				*e*AMB		AMB	15 33 51.2	
	comp=Z,2μm,0.1s							
ILIN	**Lien**	**2.45**	**2**	*e*Pn		**Pn**	**15 33 17.5**	**-0.2**
ILIN				*e*AMB		AMB	15 34 00.0	
	comp=Z,1μm,0.2s							
SNGE	**Sanandaj**	**2.65**	**9**	*e*Pn		**Pn**	**15 33 20.9**	**+0.5**
SNGE				*e*Sg		**Sn**	**15 33 54.8**	**+2.7**
KHMZ	**Khomeyn**	**2.90**	**63**	*e*Pn		**Pn**	**15 33 22.7**	**-1.1**
KHMZ				*e*Sg		**Sn**	**15 33 59.3**	**+1.2**
HAGD	**Aghdareh**	**3.02**	**38**	*e*Pn		**Pn**	**15 33 24.5**	**-1.1**
HAGD				*e*AMB		AMB	15 34 10.0	
	comp=Z,99nm,0.1s							
ASAO	**Ashtian**	**3.36**	**51**	*e*Pn		**Pn**	**15 33 29.0**	**-1.2**
HKZM	**Kohzaman**	**3.37**	**30**	*e*Pn		**Pn**	**15 33 29.6**	**-0.7**
HKZM				*e*AMB		AMB	15 34 10.5	
	comp=Z,99nm,0.3s							
IRAZ	**Razeghan**	**3.89**	**40**	*e*Pn		**Pn**	**15 33 36.9**	**-0.5**
IRAZ				*e*AMB		AMB	15 33 41.9	
	comp=Z,306nm,0.2s							
IKLH	**Kolahrood**	**4.06**	**77**	*e*Pn		**Pn**	**15 33 39.3**	**-0.5**
IKLH				*e*AMB		AMB	15 33 48.4	
	comp=Z,207nm,0.2s							
IZEF	**Zefreh**	**4.63**	**83**	*e*AMB		AMB	15 31 44.4	
	comp=Z,130nm,0.4s							
IZEF				*e*Pn		**Pn**	**15 33 46.5**	**-1.2**
IRAM	**Ramesheh**	**4.73**	**96**	*e*Pn		**Pn**	**15 33 48.8**	**-0.2**
IRAM				*e*AMB		AMB	15 34 49.7	
	comp=Z,73nm,0.3s							
RTB	**Rutbah**	**5.55**	**278**	*e*Pn		**Pn**	**15 34 00.0**	**-0.1**
	SNR=5.0							
RTB				*e*Sn		**Sn**	**15 35 02.0**	**-1.3**
	SNR=5.0							

MOS ***22*** *15:37:31.0±1.0, 6.61S×131.65E, h41km, mb4.8/32, Error ellipse: s-maj=12.1km s-min=5.8km az=115.1*
ISCJB ***22*** *15:37:31.4±0.2, 6.56S±0.03×131.72E±0.03, h42km, mb4.6/72, MS3.7/16, Error ellipse: s-maj=4.8km s-min=3.3km az=157.0*
BJI ***22*** *15:37:34.0, 6.29S×131.45E, h40km, mb4.8/19, mB4.9/15, Ms4.4/4, Ms7 4.2/4*
IDC ***22*** *15:37:34.5±2.3, 6.44S×131.74E, h49km±22km, mb4.2/17, mb1 4.3/18, mb1mx4.1/46, mbtmp4.5/18, ML5.2/3, MS3.6/18, Ms1 3.6/18, ms1mx3.4/46, Error ellipse: s-maj=22.1km s-min=11.2km az=69.0*
NEIC ***22*** *15:37:34.6±0.6, 6.47S×131.69E, h54km±5km, mb4.7/39, Error ellipse: s-maj=6.1km s-min=3.9km az=56.0*
DJA ***22*** *15:37:35.6±1.4, 6˚S±4˚×13˚2E±˚, h32km±24km, M5.3/12, mb5.5/9, mB5.7/8, MLv5.5/12, Mw(mB)5.2/8*

ISC 22 15:37:33.3±0.3, 6.51S±0.04×131.73E±0.05, h42km, n196, σ1s50/199, mb4.7/72, MS3.6/16, 11C-6D, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.52**	**196**	P		**Pn**	**15 38 01.6**	**+3.6**
SAUI	**Saumlaki**	**1.52**	**196**	*e*Pn		**Pn**	**15 38 01.7**	**+3.7**
BNDI	**Bandanaira**	**2.69**	**317**	P		**Pn**	**15 38 16.5**	**+2.5**
BNDI				S		**Sn**	**15 38 49.6**	**+4.3**
KMPI	**Kaimana, Papua**	**3.45**	**35**	P		**Pn**	**15 38 26.1**	**+1.6**
KMPI				S		**Sn**	**15 39 04.5**	**+0.4**

FAKI	**Fak Fak**	**3.61**	**8**	P			**Pn**	**15 38 28.1**	**+1.4**
FAKI	**Fak Fak**	**3.61**	**8**	*e*Pn			**Pn**	**15 38 27.8**	**+1.0**
MSAI	**Masohi**	**4.21**	**318**	P			**Pn**	**15 38 37.1**	**+2.2**
AAI	**Ambon**	**4.50**	**308**	P			**Pn**	**15 38 41.8**	**+2.7**
AAI	**Ambon**	**4.50**	**308**	P			**Pn**	**15 38 41.7**	**+2.7**
RKPI	**Ransiki, Papua**	**5.54**	**26**	P			**Pn**	**15 38 55.6**	**+2.4**
SIJI	**Sorong**	**5.63**	**355**	P			**Pn**	**15 38 54.9**	**+0.4**
	43nm,0.3s,baz=82,slow=4.6,SNR=275								
SIJI				S			**Sn**	**15 39 52.7**	**-5.1**
	122nm,0.3s,baz=274,slow=22,SNR=46								
SIJI				LR			LR	15 41 21.8	
	comp=Z,627nm,21.2s,baz=162,slow=41								
NLAI	**Namlea**	**5.64**	**305**	P			**Pn**	**15 38 58.5**	**+3.8**
	271nm,0.6s,6μm								
MTN	**Manton Dam**	**6.32**	**185**	P			**Pn**	**15 39 05.3**	**+1.4**
	baz=6.4,SNR=561								
MTN	**Manton Dam**	**6.32**	**185**	*e*Pn			**Pn**	**15 39 04.7**	**+0.8**
LBMI	**Labuha**	**7.20**	**324**	P			**Pn**	**15 39 18.5**	**+2.4**
SANI	**Sanana**	**7.24**	**308**	P			**Pn**	**15 39 19.6**	**+3.0**
SOEI	**Soe**	**8.06**	**246**	P			**Pn**	**15 39 31.8**	**+3.8**
SOEI	**Soe**	**8.06**	**246**	*e*Pn			**Pn**	**15 39 29.6**	**+1.7**
TNTI	**Ternate**	**8.45**	**329**	*e*Pn			**Pn**	**15 39 34.2**	**+1.0**
BATI	**Baumata**	**8.78**	**245**	P			**Pn**	**15 39 39.8**	**+2.0**
	31nm,0.3s,baz=118,slow=3.2,SNR=35								
BATI				S			**Sn**	**15 41 13.0**	**-2.6**
	56nm,0.3s,baz=90,slow=19,SNR=8.2								
BATI	**Baumata**	**8.78**	**245**	P			**Pn**	**15 39 41.5**	**+3.7**
GENI	**Genyem**	**9.27**	**66**	P			**Pn**	**15 39 46.6**	**+2.2**
KNRA	**Kununurra**	**9.56**	**197**	P			**Pn**	**15 39 48.3**	**-0.1**
	baz=9.7,SNR=318								
LUWI	**Luwuk**	**10.46**	**301**	*e*Pn			**Pn**	**15 40 01.0**	**+0.2**
KAPI	**Kappang**	**12.01**	**276**	Pn			**Pn**	**15 40 22.2**	**+0.2**
	64nm,1.4s								
KAPI	**Kappang**	**12.01**	**276**	P			**Pn**	**15 40 22.2**	**+0.2**
KAPI				pmax		pmax			
	comp=Z,64nm,1.4s								
COEN	**Coen**	**13.47**	**124**	P			**Pn**	**15 40 39.8**	**-2.1**
	baz=13,SNR=257								
COEN	**Coen**	**13.47**	**124**	*e*Pn			**Pn**	**15 40 39.6**	**-2.3**
WRAB	**Tennant Creek**	**13.58**	**169**	*e*Pn			**Pn**	**15 40 39.7**	**-3.7**
WRAB	**Tennant Creek**	**13.58**	**169**	*de*P			**Pn**	**15 40 39.9**	**-3.5**
WRAB				pmax		pmax			
	comp=Z,39nm,0.6s								
WRA	**Warramunga Arr**	**13.59**	**169**	P			**Pn**	**15 40 40.0**	**-3.5**
	comp=Z,12nm,0.3s,baz=346,slow=13,SNR=126								
WRA				S			Sn	15 43 00.0	-13
	comp=Z,34nm,0.3s,baz=354,slow=22,SNR=17								
WRA				LR			LR	15 47 07.7	
	comp=Z,364nm,20.1s,baz=325,slow=42								
WRA	**Warramunga Arr**	**13.59**	**169**	P			**Pn**	**15 40 40.0**	**-3.5**
WB2	**Warramunga Ar**	**13.59**	**169**	*e*Pn			**Pn**	**15 40 39.8**	**-3.8**
DAV	**Davao City (W)**	**14.82**	**335**	LR			LR	15 48 57.5	
	comp=Z,145nm,18.2s,baz=138,slow=46								
PMG	**Port Moresby**	**15.55**	**102**	P			**Pn**	**15 41 09.8**	**+0.2**
	comp=Z,8.2nm,0.3s,baz=305,slow=6.3,SNR=25								
PMG				S			Sn	15 43 49.4	-12
	comp=Z,2.4nm,0.3s,baz=215,slow=18,SNR=4.4								
PMG				LR			LR	15 48 36.3	
	comp=Z,285nm,18.3s,baz=296,slow=43								
PMG	**Port Moresby**	**15.55**	**102**	*e*Pn			**Pn**	**15 41 09.9**	**+0.2**
	comp=Z,181nm,0.9s								
PMG				S			Sn	15 43 49.4	-12
PMG	**Port Moresby**	**15.55**	**102**	*e*P			**Pn**	**15 41 09.9**	**+0.2**
PMG				pmax		pmax			
	comp=Z,181nm,0.9s								
MTSU	**Mount Surprise**	**16.86**	**134**	P			**Pn**	**15 41 23.4**	**-2.9**
	baz=17,SNR=79								
AS31	**Alice Springs**	**17.18**	**173**	*e*Pn			**Pn**	**15 41 27.4**	**-3.0**
	comp=Z,20nm,0.7s								
ASAR	**Alice Springs**	**17.18**	**173**	P			**Pn**	**15 41 27.2**	**-3.1**
	comp=Z,6.8nm,0.3s,baz=354,slow=13,SNR=203								
ASAR				S			Sn	15 44 26.1	-14
	comp=Z,10nm,0.3s,baz=357,slow=31,SNR=9.0								
ASAR				LR			LR	15 48 22.6	
	comp=Z,140nm,20.2s,baz=336,slow=38								
AS01	**Alice Springs**	**17.19**	**173**	*e*Pn			**Pn**	**15 41 27.6**	**-2.9**
JAGI	**Jajag, Banyuwa**	**17.54**	**263**	*e*Pn			**Pn**	**15 41 33.2**	**-1.6**
	comp=Z,14nm,0.4s								
MYLDM	**Lahad Datu**	**17.59**	**311**	*e*Pn			**Pn**	**15 41 35.2**	**-0.2**
	comp=Z,75nm,1.5s								
MBWA	**Marble Bar**	**18.63**	**217**	*e*P			**P**	**15 41 46.1**	**-1.3**
	comp=Z,33nm,0.8s								
WRKA	**Warakurna**	**18.71**	**190**	P			**P**	**15 41 46.3**	**-2.1**
	baz=19,SNR=44								
CTA	**Charters Tower**	**19.52**	**135**	P			**Pn**	**15 41 59.4**	**+0.7**
	comp=Z,5.0nm,0.3s,baz=311,slow=13,SNR=135								
CTAO	**Charters Tower**	**19.52**	**135**	*e*P			**Pn**	**15 41 59.1**	**+0.4**
	comp=Z,131nm,1.1s								
CTAO	**Charters Tower**	**19.52**	**135**	*e*P			**Pn**	**15 41 59.2**	**+0.4**
CTAO				pmax		pmax			
	comp=Z,131nm,1.1s								
KKM	**Kota Kinabalu**	**19.89**	**309**	*e*P			**P**	**15 42 01.4**	**+0.1**
	comp=Z,84nm,1.0s								
RABL	**Raul**	**20.47**	**85**	*e*P			**P**	**15 42 08.0**	**+0.3**
	comp=Z,24nm,0.8s								
SBUM	**Sibu**	**21.42**	**294**	*e*P			**P**	**15 42 16.9**	**-0.9**
	comp=Z,14nm,1.0s								
QLP	**Quilpie**	**23.24**	**151**	P			**P**	**15 42 38.5**	**+1.5**
	baz=23,SNR=78								
MEEK	**Meekatharra**	**23.59**	**210**	P			**P**	**15 42 42.1**	**+1.7**
	baz=24,SNR=14								
GUMO	**Guam**	**23.86**	**33**	LR			LR	15 50 57.0	
	comp=Z,82nm,21.1s,baz=202,slow=34								
FORT	**Forrest**	**24.38**	**188**	P			**P**	**15 42 48.6**	**+1.0**
	baz=24,SNR=13								
FORT	**Forrest**	**24.38**	**188**	*e*P			**P**	**15 42 47.8**	**+0.2**
	comp=Z,989nm,0.8s								
RMQ	**Roma**	**25.65**	**143**	P			**P**	**15 43 00.3**	**+1.1**
	baz=26,SNR=8.8								
EIDS	**Eidsvold**	**26.34**	**138**	P			**P**	**15 43 06.0**	**+0.5**
	baz=26,SNR=3.6								
EIDS	**Eidsvold**	**26.34**	**138**	*e*P			**P**	**15 43 05.4**	**-0.1**
	comp=Z,15nm,1.0s								
BBOO	**Buckleboo**	**26.47**	**172**	P			**P**	**15 43 06.8**	**+0.3**
	baz=27,SNR=11								
STKA	**Stephens Creek**	**26.86**	**161**	P			**P**	**15 43 10.2**	**+0.1**
	comp=Z,11nm,0.8s,baz=337,slow=8.9,SNR=18								
STKA				LR			LR	15 53 42.4	
	comp=Z,200nm,19.0s,baz=344,slow=36								
STKA	**Stephens Creek**	**26.86**	**161**	P			**P**	**15 43 10.3**	**+0.1**
	baz=27,SNR=11								
STKA	**Stephens Creek**	**26.86**	**161**	*e*P			**P**	**15 43 10.2**	**+0.1**
	comp=Z,2.7nm,0.9s								
STKA	**Stephens Creek**	**26.86**	**161**	*e*P			**P**	**15 43 10.3**	**+0.1**
STKA				pmax		pmax			
	comp=Z,3.0nm,0.9s								
CMSA	**Cobar Meteorol**	**28.11**	**154**	P			**P**	**15 43 20.8**	**-0.5**
	baz=28,SNR=12								
NWAO	**Narrogin (SRO)**	**29.54**	**205**	LR			LR	15 55 16.7	
	comp=Z,96nm,20.3s,baz=250,slow=36								
ARMA	**Armidale**	**30.25**	**144**	P			**P**	**15 43 41.5**	**+1.1**
	baz=30,SNR=12								
ARMA	**Armidale**	**30.25**	**144**	*e*P			**P**	**15 43 41.1**	**+0.6**
	comp=Z,8.1nm,0.6s								
ARPS	**Mount Arapiles**	**31.50**	**164**	P			**P**	**15 43 52.5**	**+1.3**
	baz=32,SNR=6.4								
YNG	**Young**	**31.65**	**153**	P			**P**	**15 43 54.0**	**+1.3**
	baz=32,SNR=12								
CAN	**Canberra**	**32.78**	**153**	*e*P			**P**	**15 44 03.7**	**+1.2**
	comp=Z,16nm,0.8s								
CAN	**Canberra**	**32.78**	**153**	*e*P			**P**	**15 44 03.7**	**+1.2**
CAN				pmax		pmax			
	comp=Z,16nm,0.8s								
CNB	**Canberra Magne**	**32.94**	**153**	P			**P**	**15 44 05.3**	**+1.3**
	baz=33,SNR=5.7								
JOW	**Kunigami**	**33.32**	**354**	LR			LR	15 56 46.3	
	comp=Z,115nm,19.2s,baz=146,slow=35								
TOO	**Toolangi**	**33.36**	**160**	P			**P**	**15 44 09.8**	**+2.2**
	baz=34,SNR=11								
UBPT	**Khong Chiam**	**33.85**	**310**	P			**P**	**15 44 11.4**	**-0.7**
	comp=Z,12nm,0.6s								
PSI	**Prapat**	**34.03**	**285**	*e*P			**P**	**15 44 11.4**	**-2.4**
	comp=Z,4.7nm,1.1s								
PSI	**Prapat**	**34.03**	**285**	*e*P			**P**	**15 44 11.4**	**-2.4**
PSI				pmax		pmax			
	comp=Z,5.0nm,1.1s								
SKNT	**Sakolnakorn**	**36.02**	**311**	P			**P**	**15 44 30.0**	**-0.7**
	comp=Z,5.1nm,0.6s								
DZM	**Mont Dzumac**	**36.90**	**118**	LR			LR	16 00 31.1	
	comp=Z,127nm,18.2s,baz=46,slow=37								
CHAI	**Chaiyaphum**	**36.92**	**307**	P			**P**	**15 44 39.2**	**+0.7**
	comp=Z,3.4nm,0.7s								
PHIT	**Phitsanulok**	**38.89**	**308**	P			**P**	**15 44 56.0**	**+1.0**
	comp=Z,13nm,1.0s								
JNU	**Nakatsue**	**39.42**	**359**	LR			LR	15 59 39.0	
	comp=Z,92nm,19.8s,baz=126,slow=34								
JHJ	**Hachijo jima 2**	**40.15**	**11**	LR			LR	16 00 34.4	
	comp=Z,144nm,18.6s,baz=289,slow=34								
WHN	**Wuhan**	**40.44**	**337**	P			**P**	**15 45 08.9**	**+1.2**
CM01	**Chiang Mai Arr**	**40.73**	**308**	*e*P			**P**	**15 45 09.5**	**-0.8**
CMAR	**Chiang Mai Arr**	**40.76**	**308**	P			**P**	**15 45 11.1**	**+0.4**
	comp=Z,2.9nm,0.6s,baz=137,slow=7.6,SNR=25								
CMAR				LR			LR	16 04 17.5	
	comp=Z,59nm,18.7s,baz=111,slow=39								
CMMT	**Chiang Mai**	**40.96**	**309**	P			**P**	**15 45 11.7**	**-0.6**
	comp=Z,10nm,1.0s,comp=Z,302nm								
CHTO	**Chiang Mai**	**40.96**	**309**	P			**P**	**15 45 12.8**	**+0.5**
	comp=Z,37nm,1.0s								
CHTO	**Chiang Mai**	**40.96**	**309**	*e*P			**P**	**15 45 12.0**	**-0.3**
	comp=Z,5.5nm,0.8s								
CHTO	**Chiang Mai**	**40.96**	**309**	*e*P			**P**	**15 45 12.0**	**-0.3**
CHTO				pmax		pmax			
	comp=Z,6.0nm,0.8s								
ENH	**Enshi**	**42.34**	**331**	*e*P			**P**	**15 45 22.8**	**-0.6**
	comp=Z,7.4nm,0.5s								
MJAR	**Matsushiro Arr**	**43.26**	**8**	P			**P**	**15 45 29.7**	**-1.0**
	comp=Z,11nm,1.0s,baz=194,slow=10,SNR=15								
MJAR				LR			LR	16 01 32.4	
	comp=Z,87nm,20.7s,baz=165,slow=33								
MAJO	**Matsushiro**	**43.26**	**8**	*e*P			**P**	**15 45 29.4**	**-1.3**
	comp=Z,15nm,0.8s								
MAJO	**Matsushiro**	**43.26**	**8**	*c i*P			**P**	**15 45 30.1**	**-0.6**
MAJO				pmax		pmax			
	comp=Z,18nm,1.0s								
MAT	**Matsushiro**	**43.26**	**8**	P			**P**	**15 45 29.3**	**-1.4**
MJB9	**Matsu-tunnel**	**43.26**	**8**	*e*P			**P**	**15 45 29.3**	**-1.4**
	comp=Z,15nm,0.8s								
KSAR	**Wonju Array Be**	**43.87**	**356**	P			**P**	**15 45 36.0**	**+0.5**
KSAR	**Wonju Array Be**	**43.87**	**356**	P			**P**	**15 45 36.1**	**+0.5**
KSRS	**Korea Array**	**43.88**	**356**	P			**P**	**15 45 36.1**	**+0.4**
	comp=Z,2.1nm,0.9s,baz=177,slow=9.5,SNR=6.2								
KSRS				LR			LR	16 02 56.3	
	comp=Z,37nm,20.7s,baz=157,slow=35								
XAN	**Xi'an**	**45.75**	**333**	P			**P**	**15 45 50.1**	**-0.6**
XAN				pP		pP		15 45 57.8	-4.7
XAN				pmax		pmax			
	comp=Z,12nm,1.0s								
XAN				pmax		pmax			
	comp=Z,84nm,3.6s								
CD2	**Chengdu**	**45.84**	**326**	*e*P			**P**	**15 45 51.5**	**0.0**
CD2				pmax		pmax			
	comp=Z,10.0nm,0.5s								
USRK	**Ussuriysk Ar.**	**50.48**	**0**	P			**P**	**15 46 27.0**	**+0.1**
	comp=Z,3.7nm,0.6s,baz=174,slow=6.4,SNR=8.1								
RPZ	**Rata Peaks**	**50.58**	**144**	P			**P**	**15 46 29.4**	**+1.5**
	comp=Z,10.0nm,0.7s,baz=227,slow=3.4,SNR=7.8								
THZ	**Tophouse**	**50.63**	**140**	*e*P			**P**	**15 46 28.5**	**+0.1**
	comp=Z,13nm,0.7s								
HHC	**Hu-ho-hao-te**	**50.64**	**340**	*e*P			**P**	**15 46 31.5**	**+3.1**
HHC				pmax		pmax			
	comp=Z,20nm,1.1s								
HHC				pmax		pmax			
	comp=Z,66nm,6.1s								
KHZ	**Kahutara**	**51.

NIL pmax pmax
comp=Z,5.0nm,0.6s
YAK Yakutsk 68.36 359 *e*P **P 15 48 30.3 +0.2**
comp=Z,34nm,0.9s
YAK Yakutsk 68.36 359 *e*P **P 15 48 29.1 -0.9**
YAK *e**PP **pP 15 48 40.5 -1.9**
YAK *e* 15 48 54.7
YAK *e* 15 51 05.0
YAK *e*PPP PPP 15 52 39.5
YAK *e*S **S 15 57 28.3 +0.3**
YAK *e**SS **sS 15 57 47.1 -1.5**
YAK *e*SS **SS 16 01 49.8 -2.5**
YAK pmax pmax
comp=Z,27nm,0.9s
YAK pmax pmax
comp=N,5.0nm,1.0s
YAK pmax pmax
comp=Z,85nm,4.0s
YAK pmax pmax
comp=N,29nm,4.3s
YAK pmax pmax
comp=E,75nm,4.2s
YAK smax smax
comp=N,59nm,4.3s
YAK smax smax
comp=E,26nm,4.0s
PDGK Podgornoye 68.47 322 *i* P **P 15 48 31.8 +0.4**
PDGK pmax pmax
comp=Z,7.0nm,0.6s
MK01 Makanchi Array 68.75 326 *e*P **P 15 48 33.5 +0.5**
MK31 Makanchi Array 68.78 326 *e*P **P 15 48 33.6 +0.6**
MK31 Makanchi Array 68.78 326 *ce*P **P 15 48 33.5 +0.4**
MK31 pmax pmax
comp=Z,9.0nm,0.7s
MKAR Makanchi Array 68.78 326 P **P 15 48 33.7 +0.7**
comp=Z,8.3nm,0.6s,baz=125,slow=7.6,SNR=87
MKAR Makanchi Array 68.78 326 *e*P **P 15 48 33.7 +0.7**
comp=Z,47nm,0.8s
MKAR Makanchi Array 68.78 326 *e*P **P 15 48 33.7 +0.7**
MKAR pmax pmax
comp=Z,47nm,0.8s
MAKZ Makanchi 68.96 326 *e*P **P 15 48 34.6 +0.4**
comp=Z,7.3nm,0.7s
MAKZ Makanchi 68.96 326 *i* P **P 15 48 32.1 -2.1**
MAKZ pmax pmax
comp=Z,7.0nm,0.8s
KDJ Kajisay 69.31 320 *e*P **P 15 48 37.5 +0.8**
comp=Z,8.0nm,0.6s
KDJ Kajisay 69.31 320 *e*P **P 15 48 37.5 +0.8**
KDJ pmax pmax
comp=Z,8.0nm,0.6s
TKM2 Tokmak 2 70.72 320 *i* P **P 15 48 45.9 +0.6**
TKM2 pmax pmax
comp=Z,5.0nm,0.7s
SEY Seymchan 71.03 10⇑ *e*P **P 15 48 47.5 +1.0**
AAK Ala-Archa 71.29 319 *e*P **P 15 48 49.3 +0.5**
comp=Z,3.8nm,0.7s
AAK Ala-Archa 71.29 319⇓ *e*P **P 15 48 49.8 +1.0**
AAK pmax pmax
comp=Z,3.0nm,0.8s
ZAA0 Zalesovo Array 71.92 333 *e*P **P 15 48 51.7 -0.3**
comp=Z,7.7nm,0.8s
ZALV Zalesovo Beam 71.92 333 P **P 15 48 51.4 -0.6**
comp=Z,6.5nm,0.7s,baz=114,slow=5.2,SNR=29
ZALV LR LR 16 26 24.8
comp=Z,24nm,18.4s,baz=74,slow=41
ZALV Zalesovo Beam 71.92 333 *e*P **P 15 48 51.0 -1.1**
ZALV Zalesovo Beam 71.92 333 *e*P **P 15 48 51.0 -1.1**
VNDA Vanda 72.72 173 P **P 15 48 57.2 +0.7**
comp=Z,3.7nm,0.8s,baz=320,slow=6.6,SNR=19
VNDA Vanda 72.72 173 *e*P **P 15 48 57.1 +0.6**
VNDA pmax pmax
comp=Z,4.0nm,0.8s
KURBB Kurchatov Arra 73.01 328 P **P 15 48 58.9 +0.3**
comp=Z,3.4nm,0.7s,baz=126,slow=4.8,SNR=40
KURK Kurchatov 73.01 328 *e*P **P 15 48 58.5 -0.1**
comp=Z,7.0nm,0.9s
KURK Kurchatov 73.01 328 P **P 15 48 58.9 +0.3**
KURK pmax pmax
comp=Z,4.0nm,0.8s
NVS Novosibirsk 73.20 333 *e*P **P 15 48 59.2 -0.5**
KK31 Karatay Array 74.12 318 *e*P **P 15 49 04.5 -0.9**
KK31 Karatay Array 74.12 318 *ce*P **P 15 49 05.5 +0.1**
KK31 pmax pmax
comp=Z,2.0nm,0.6s
KKAR Karatay Array 74.12 318 *e*P **P 15 49 04.3 -1.1**
KKAR Karatay Array 74.12 318 *e*P **P 15 49 04.3 -1.1**
TIXI Tiksi 78.03 359 *e*P **P 15 49 26.1 -0.9**
comp=Z,4.6nm,0.9s
TIXI Tiksi 78.03 359 *e*P **P 15 49 26.1 -0.9**
TIXI pmax pmax
comp=Z,5.0nm,0.9s
BVA0 Borovoye Array 78.58 327 P **P 15 49 30.1 -0.3**
BVA0 pmax pmax
comp=Z,8.0nm,1.1s
BVAR Borovoye Array 78.58 327 P **P 15 49 30.7 +0.3**
comp=Z,3.6nm,0.8s,baz=127,slow=6.0,SNR=27
BRVK Borovoye 78.65 327 *e*P **P 15 49 30.7 -0.1**
comp=Z,6.7nm,0.9s
BRVK Borovoye 78.65 327 *de*P **P 15 49 30.8 0.0**
BRVK pmax pmax
comp=Z,11nm,1.2s
GEYT Alibeck 81.22 310 P **P 15 49 44.7 -0.4**
comp=Z,0.8nm,0.6s,baz=134,slow=4.2,SNR=2.8
AB31 Akbulak array 83.20 321 *ce*P **P 15 49 55.0 -0.1**
AB31 pmax pmax
comp=Z,1.0nm,0.6s
ABKAR Akbulak array 83.20 321 *e*P **P 15 49 54.7 -0.5**
comp=Z,8.6nm,0.8s
QSPA South Pole Qui 83.46 180 P **P 15 49 56.6 +0.2**
comp=Z,2.7nm,0.9s,baz=312,slow=3.6,SNR=6.5
SYO Syowa Base 84.73 201⇑ *e*P **P 15 50 03.5 +0.9**
AKTO Aktyubinsk 84.75 322 P **P 15 50 03.0 0.0**
comp=Z,2.1nm,0.8s,baz=94,slow=8.3,SNR=5.3
AKTO LR LR 16 32 41.1
comp=Z,24nm,18.0s,baz=111,slow=39
SVE Sverdlovsk 85.25 329⇑ *e*P **P 15 50 05.4 0.0**
SVE pmax pmax
comp=Z,14nm,1.0s
ARU Arti 86.21 328 *e*P **P 15 50 09.0 -1.1**
comp=Z,4.0nm,0.8s
ARU Arti 86.21 328 *c i*P **P 15 50 09.1 -1.1**
ARU S S 16 00 31.6 -10
ARU pmax pmax
comp=Z,5.0nm,1.0s
RAYN Ar Rayn 89.12 294 *e*P **P 15 50 23.7 -1.2**
comp=Z,2.4nm,1.0s
RAYN Ar Rayn 89.12 294 *e*P **P 15 50 23.7 -1.2**
RAYN pmax pmax
comp=Z,2.0nm,1.0s
COLD Coldfoot 91.37 22 *e*P **P 15 50 34.5 +0.1**
comp=Z,2.1nm,0.9s
ILAR Eielson Array 92.18 25 P **P 15 50 36.4 -1.8**
comp=Z,0.6nm,0.7s,baz=256,slow=4.5,SNR=6.5
TXAR Lajitas Array 123.20 59 PKP **PKPdf 15 56 27.3 +0.9**
comp=Z,0.5nm,0.9s,baz=276,slow=2.6,SNR=3.5
TORD Torodi Ar. Bea 130.40 282 PKP **PKPdf 15 56 40.9 +0.6**
comp=Z,0.4nm,0.7s,baz=80,slow=1.7,SNR=2.7
CPUP Villa Florida 146.19 165 PKPbc **PKPab 15 57 11.1 +0.6**
comp=Z,2.0nm,0.8s,baz=206,slow=4.4,SNR=3.9
LPAZ La Paz 150.01 139 PKPbc **PKPbc 15 57 21.8 +0.7**
comp=Z,1.6nm,0.5s,baz=289,slow=1.6,SNR=7.6

IDC ***22*** *15:49:19.8±2.3, 6.°47S×132.°14E, h0km, mb3.8/1, mb1 4.4/4, mb1mx3.7/50, mbtmp4.3/4, ML4.5/3, Error ellipse: s-maj=61.7km s-min=31.7km az=79.0*
ISCJB ***22*** *15:49:24.3±0.7, 6.°68S±0.°05×131.°94E±0.°06, h35km, mb3.7/1, Error ellipse: s-maj=9.8km s-min=6.4km az=33.7*
DJA ***22*** *15:49:28.6±0.6, 7.°5S×13.°2E±.°, h63km±36km, M4.7/9, mb4.9/5, mB5.2/6, MLv4.7/9, Mw(mB)4.6/6*
ISC 22 15:49:24.9±0.9, 6.°79S±0.°06×132.°00E±0.°08, h35km, n14, σ2$45/18, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**1.37**	**210**	P	**Pn**	15 49 54.5	+6.9
BNDI	**Bandanaira**	**3.07**	**317**	P	**Pn**	**15 50 10.2**	**-0.8**
KMPI	**Kaimana, Papua**	**3.54**	**29**	P	**Pn**	**15 50 19.2**	**+1.7**
KMPI				S	**Sn**	**15 50 57.7**	**-0.5**
FAKI	**Fak Fak**	**3.86**	**4**	P	**Pn**	**15 50 21.3**	**-0.5**
MSAI	**Masohi**	**4.59**	**318**	P	**Pn**	**15 50 30.9**	**-1.0**
NLAI	**Namlea**	**6.02**	**306**	P	**Pn**	**15 50 52.2**	**+0.6**
	85nm,0.6s,2μm0.4nm						
LBMI	**Labuha**	**7.58**	**324**	P	**Pn**	**15 51 13.3**	**+0.2**
SANI	**Sanana**	**7.62**	**308**	P	**Pn**	**15 51 13.4**	**-0.2**
	55nm,0.5s,995nm0.3nm						
SOEI	**Soe**	**8.20**	**248**	P	**Pn**	**15 51 24.0**	**+2.4**
	39nm,0.5s						
SOEI				S	**Sn**	**15 52 55.9**	**+2.8**
	39nm,0.5s						
BATI	**Baumata**	**8.91**	**247**	Pn	**Pn**	**15 51 33.4**	**+2.1**
	12nm,0.3s,baz=101,slow=2.5,SNR=9.0						
BATI				Sn	**Sn**	**15 53 06.2**	**-4.4**
	6.5nm,0.3s,baz=121,slow=19,SNR=5.4						
BATI	**Baumata**	**8.91**	**247**	P	**Pn**	**15 51 34.3**	**+3.0**
WRA	**Warramunga Arr**	**13.27**	**170**	Pn	**Pn**	**15 52 33.4**	**+2.5**
	2.0nm,0.3s,baz=352,slow=13,SNR=28						
WRA				Sn	**Sn**	**15 54 53.4**	**-3.9**
	8.0nm,0.3s,baz=360,slow=23,SNR=13						
ASAR	**Alice Springs**	**16.88**	**174**	P	**P**	**15 53 21.4**	**+1.1**
	1.1nm,0.3s,baz=348,slow=11,SNR=14						
ASAR				S	**Sn**	**15 56 21.4**	**-3.8**
	1.8nm,0.3s,baz=357,slow=28,SNR=13						
MKAR	**Makanchi Array**	**69.16**	**326**	P	**P**	**16 00 27.0**	**-0.8**
	0.8nm,0.8s,baz=120,slow=8.0,SNR=6.0						

NIED ***22*** *15:49:00, 38.°40N×142.°10E, h35km, Mw3.5 Best double couple: M₀2.00000×10¹⁴ NP1:φs307.00000°, δ22.00000°, λ-129.00000°. NP2:φs169.00000°, δ73.00000°, λ-76.00000°.*
JMA 22 15:49:27.9±0.1, 38.°42N×142.°14E, h33km±1km, M3.5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIO	**Ouri**	**0.62**	**273**	P	Pn	15 49 40.1	-0.3
JIO				S	Sb	15 49 48.3	-0.7
OFUJ	**Ofunato**	**0.76**	**331**	P	Pn	15 49 42.1	-0.2
OFUJ				S	Sn	15 49 51.9	-0.6
JMK	**Ichinoseki**	**0.90**	**307**	P	Pn	15 49 44.3	+0.2
JMK				S	Sn	15 49 55.6	-0.3
JOU	**Okura**	**1.16**	**268**	P	Pn	15 49 48.5	+0.7
JOU				S	Sn	15 50 03.0	+0.4
JMM	**Marumori**	**1.20**	**243**	P	Pn	15 49 47.9	-0.4
JMM				S	Sn	15 50 02.6	-0.8
JOM	**Ohasama**	**1.24**	**328**	P	Pn	15 49 49.6	+0.7
JOM				S	Sb	15 50 05.8	-0.7
JFK	**Kawauchi**	**1.45**	**224**	P	Pn	15 49 51.1	-0.8
JFK				S	Sn	15 50 08.0	-1.8
JYK	**Kaneyama**	**1.48**	**290**	P	Pn	15 49 53.0	+0.8
JYK				S	Sn	15 50 11.8	+1.4
JRG	**Rokugo**	**1.53**	**310**	P	Pn	15 49 54.0	+1.1
JYS	**Shirataka**	**1.64**	**264**	P	Pn	15 49 55.3	+0.8

ISCJB ***22*** *15:58:18.6±0.5, 6.°69S±0.°05×129.°86E±0.°09, h146km, mb3.6/6, Error ellipse: s-maj=12.0km s-min=6.7km az=176.5*
DJA ***22*** *15:58:19.9±0.6, 7.°5S±4.°×13.°0E±.°, h194km±16km, M4.1/8, mB4.6/2, mb4.0/4, MLv4.1/8, Mw(mB)3.8/2*
IDC ***22*** *15:58:19.2±1.9, 6.°51S×129.°88E, h138km±18km, mb3.5/6, mb1 3.7/9, mb1mx3.4/52, mbtmp4.1/9, Error ellipse: s-maj=27.8km s-min=14.7km az=90.0*
ISC 22 15:58:19.1±0.8, 6.°65S±0.°05×129.°81E±0.°08, h146km, n17, σ2$77/20, mb3.7/6, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**1.99**	**132**	P	**Pn**	**15 58 57.6**	**+3.8**
BNDI	**Bandanaira**	**2.12**	**3**	P	**Pn**	**15 58 58.5**	**+3.2**
AAI	**Ambon**	**3.35**	**331**	P	**Pn**	**15 59 13.2**	**+2.4**
MSAI	**Masohi**	**3.40**	**345**	P	**Pn**	**15 59 14.0**	**+2.6**
FAKI	**Fak Fak**	**4.43**	**33**	P	**Pn**	**15 59 25.9**	**+0.9**
SIJI	**Sorong**	**5.92**	**14**	P	**Pn**	**15 59 44.5**	**-0.2**
	4.6nm,0.3s,baz=193,slow=15,SNR=22						
SIJI				S	**Sn**	**16 00 47.4**	**-4.4**
	3.1nm,0.3s,baz=41,slow=24,SNR=9.4						
SOEI	**Soe**	**6.29**	**240**	P	**Pn**	**15 59 52.0**	**+2.2**
	40nm,1.1s						
BATI	**Baumata**	**7.03**	**239**	P	**Pn**	**16 00 01.1**	**+1.5**
	8.3nm,0.3s,baz=69,slow=2.5,SNR=18						
BATI				S	**Sn**	**16 01 15.6**	**-2.7**
	0.3nm,0.3s,baz=36,slow=19,SNR=3.8						
BATI	**Baumata**	**7.03**	**239**	P	**Pn**	**16 00 01.5**	**+1.9**
WRA	**Warramunga Arr**	**13.93**	**162**	P	**Pn**	**16 01 28.9**	**-1.4**
	0.7nm,0.3s,baz=338,slow=13,SNR=14						
WRA				S	Sn	16 03 54.4	-10
	3.5nm,0.3s,baz=333,slow=24,SNR=13						
ASAR	**Alice Springs**	**17.37**	**167**	P	**Pn**	**16 02 14.9**	**+2.2**
	1.4nm,0.3s,baz=346,slow=9.7,SNR=62						
ASAR				S	**S**	**16 05 18.8**	**-6.7**
	0.7nm,0.3s,baz=356,slow=26,SNR=8.2						
STKA	**Stephens Creek**	**27.41**	**158**	P	**P**	**16 03 52.2**	**+1.2**
	2.4nm,0.9s,baz=343,slow=9.4,SNR=6.2						
CMAR	**Chiang Mai Arr**	**39.36**	**310**	P	**P**	**16 05 34.8**	**+0.2**
	0.5nm,0.3s,baz=129,slow=8.2,SNR=6.1						
MKAR	**Makanchi Array**	**67.83**	**327**	P	**P**	**16 09 02.5**	**+1.1**
	0.6nm,0.5s,baz=138,slow=6.9,SNR=8.6						
ZALV	**Zalesovo Beam**	**71.19**	**334**	P	**P**	**16 09 21.9**	**+0.1**
	0.7nm,0.5s,baz=117,slow=4.5,SNR=3.8						
KURBB	**Kurchatov Arra**	**72.11**	**329**	P	**P**	**16 09 28.4**	**+1.0**
	1.2nm,0.6s,baz=126,slow=5.0,SNR=10						
BVAR	**Borovoye Array**	**77.67**	**328**	P	**P**	**16 09 59.6**	**+0.3**
	0.4nm,0.7s,baz=116,slow=6.6,SNR=4.3						

DJA 22 16:06:25.8±1.3, 1.°N±7.°×9.°3E±.°, h10km, M4.2/4, mB4.8/1, MLv4.2/4, Mw(mB)4.1/1, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GSI	**Gunungsitoli**	**4.53**	**81**	P	Pn	16 07 34.5	0.0
GSI				S	Sn	16 08 27.8	+0.6
TPTI		**4.85**	**57**	P	Pn	16 07 39.2	+0.3
TPTI				S	Sn	16 08 36.6	+1.4
MLSI	**Meulaboh, Aceh**	**4.91**	**42**	P	Pn	16 07 39.2	-0.5
MLSI				S	Sn	16 08 37.4	+0.8
MNSI	**Mandailing Nat**	**6.48**	**88**	P	Pn	16 08 01.4	+0.1

IDC 22 16:17:53.7±1.5, 52.°85S×141.°87E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.6/39, mbtmp3.6/3, Error ellipse: s-maj=180.9km s-min=25.5km az=78.0, West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNDA	**Vanda**	**25.83**	**170**	P	P	16 23 26.1	0.0
	1.2nm,0.9s,baz=324,slow=9.3,SNR=6.4						
ASAR	**Alice Springs**	**29.77**	**345**	P	P	16 24 02.0	+0.1
	0.6nm,1.0s,baz=162,slow=9.8,SNR=6.6						
WRA	**Warramunga Arr**	**33.36**	**347**	P	P	16 24 33.3	-0.2
	0.7nm,1.0s,baz=174,slow=7.4,SNR=4.6						
FINES	**FINESS Array B**	**145.50**	**310**	PKPbc	PKPdf	16 37 31.2	-1.1
	1.5nm,0.8s,baz=90,slow=3.8,SNR=6.2						
ARCES	**ARCESS Array B**	**147.04**	**325**	PKPbc	PKPbc	16 37 35.9	-0.9
	1.7nm,0.8s,baz=79,slow=4.7,SNR=5.0						
SPITS	**Spitsbergen Ar**	**148.28**	**341**	PKPbc	PKPbc	16 37 40.0	-0.1
	3.1nm,0.8s,baz=340,slow=4.6,SNR=5.0						

ISCJB ***22*** *16:18:33.0±0.3, 33.°31N±0.°01×116.°39W±0.°02, h7km±2km, Error ellipse: s-maj=2.3km s-min=2.0km az=44.1*
NEIC ***22*** *16:18:33.9±0.0, 33.°32N×116.°40W, h7km, ML3.5(PAS), After PAS.*
NEIC Felt [III] at Borrego Springs. Also felt at Anza, San Diego and San Marcos.
ECX ***22*** *16:18:34.7±0.5, 33.°31N×116.°42W, h5km±5km, MD3.3, ML3.4*
ISC 22 16:18:32.3±1.1, 33.°30N±0.°01×116.°40W±0.°02, h6km±9km, n117, σ1$37/153, 4C-7D, Southern California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
XPFO	**Piæon Flat**	**0.31**	**352**	*e*Pg	**Pb**	**16 18 39.3**	**-1.1**
PFO	**Pinyon Flats O**	**0.31**	**351**	P	**Pb**	**16 18 39.0**	**-1.4**
	baz=170,SNR=1000						
PFO				S	**Sg**	**16 18 43.3**	**+0.7**
	baz=170						
PFO	**Pinyon Flats O**	**0.31**	**351**	*e*Pg	**Pb**	**16 18 39.3**	**-1.1**
PLM	**Palomar**	**0.39**	**277**	*e*Pg	**Pb**	**16 18 41.6**	**-0.2**
MONP2	**Monument Peak**	**0.41**	**182**	P	**Pb**	**16 18 41.9**	**-0.2**
	baz=2.3,SNR=1000						
CBKC	**Canebrake**	**0.42**	**162**	*e*Pg	**Pb**	**16 18 42.2**	**0.0**
CBKC	**Canebrake**	**0.42**	**162**	⇓ *i*P	**Pb**	**16 18 42.2**	**0.0**
BATC	**Bat Cave Butte**	**0.50**	**72**	*e*Pg	**Pb**	**16 18 43.6**	**+0.2**
ERRC	**Elmore Ranch**	**0.52**	**111**	*e*Pg	**Pn**	**16 18 44.7**	**-1.6**
HWB	**Hans Werner Br**	**0.54**	**239**	*e*Pg	**Pb**	**16 18 44.1**	**-0.2**
HWB				*e*Sg	**Sb**	**16 18 51.7**	**-0.7**
DPP	**Dos Picos Cty**	**0.54**	**236**	*e*Pg	**Pb**	**16 18 44.1**	**-0.2**
CRR	**Carrizo Plain**	**0.55**	**139**	*e*Pg	**Pb**	**16 18 44.8**	**+0.3**
EML	**El Monte Cty P**	**0.55**	**222**	⇑ *iP*	**Pb**	**16 18 44.4**	**-0.1**
SWSC	**Sam W. Stewart**	**0.62**	**125**	P	**Pb**	**16 18 45.8**	**+0.2**
	baz=307,SNR=271						
SWSC				S	**Sb**	**16 18 54.3**	**-0.2**
	baz=307						
SWSC	**Sam W. Stewart**	**0.62**	**125**	*e*Pg	**Pn**	**16 18 46.0**	**-1.7**
BAR	**Barrett**	**0.66**	**200**	*e*Pg	**Pb**	**16 18 46.3**	**0.0**
BAR				*e*Pn	Pn	16 18 55.1	+6.8
BAR				*e*Sg	**Sb**	**16 18 55.6**	**-0.2**
BAR	**Barrett**	**0.66**	**200**	⇓ *e*P	**Pb**	**16 18 46.5**	**+0.2**
IKP	**In-Ko-Pah, Jac**	**0.70**	**159**	P	**Pb**	**16 18 47.0**	**+0.1**
	baz=340,SNR=478						
IKP				S	**Sb**	**16 18 56.9**	**+0.1**
	baz=340						
IKP	**In-Ko-Pah, Jac**	**0.70**	**159**	⇓ *e*P	**Pn**	**16 18 47.3**	**-1.5**
109C	**Camp Elliot, M**	**0.72**	**235**	P	**Pb**	**16 18 47.1**	**-0.2**
	baz=53,SNR=131						
109C				S	**Sb**	**16 18 56.8**	**-0.6**
	baz=53						
CPE	**Camp Elliot**	**0.72**	**235**	*e*Pg	**Pb**	**16 18 47.1**	**-0.1**
CPE				*e*Sn	**Sb**	**16 18 56.7**	**-0.7**
CPE				*e*Sn	**Sg**	**16 18 56.8**	**+1.3**
MURC	**Murrieta**	**0.72**	**294**	P	**Pb**	**16 18 47.2**	**-0.2**
	baz=112,SNR=592						
MURC				S	**Sb**	**16 18 56.9**	**-0.7**
	baz=112						
SDRC	**San Diego Road**	**0.72**	**219**	⇑ *e*P	**Pb**	**16 18 47.4**	**0.0**
RMX	**La Rumorosa**	**0.75**	**159**	*e*P	**Pb**	**16 18 47.7**	**-0.2**
RMX				⇓ *e*P	**Pn**	**16 18 49.3**	**-0.3**
RMX				IAML		16 19 00.2	
	comp=E,2μm,0.5s						
RMX				⇑ *e*		16 19 00.2	
RMX				*e*S	**Sn**	**16 19 00.3**	**-1.1**
CLIC	**Calipatria**	**0.75**	**102**	*e*Pg	**Pn**	**16 18 48.2**	**-1.3**
YUH	**Yuha Desert**	**0.77**	**148**	*e*Pg	**Pn**	**16 18 48.6**	**-1.2**
BELC	**Belle Mtn. Jos**	**0.77**	**26**	P	**Pb**	**16 18 47.7**	**-0.6**
	baz=206,SNR=397						
BELC				S	**Sb**	**16 18 57.8**	**-1.3**
	baz=206						
WESC	**Westside Schoo**	**0.78**	**134**	*e*Pn	**Pn**	**16 18 50.0**	**+0.1**
WESC				*e*Sn	**Sn**	**16 19 01.5**	**-0.4**
ERPC	**Ernies Place**	**0.84**	**132**	*e*Pg	**Pn**	**16 18 50.2**	**-0.5**
BC3	**Big Chuckawall**	**0.87**	**66**	P	**Pb**	**16 18 49.7**	**-0.2**
	baz=248,SNR=262						
BC3				S	**Sb**	**16 19 01.2**	**-0.6**
	baz=248						
TJIG	**Tijuana**	**0.90**	**195**	*e*P	**Pb**	**16 18 50.3**	**0.0**
CBX	**Cerro Bola**	**1.01**	**193**	⇓ *e*P	**Pn**	**16 18 52.6**	**-0.6**
CBX				*e*S	**Sn**	**16 19 06.3**	**-1.5**
CBX				⇓ *e*		16 19 09.6	
CBX				IAML		16 19 09.6	
	comp=E,2μm,0.7s						
CBX				⇓ *e*		16 19 09.6	
CBX				IAML		16 19 09.6	
	comp=N,1μm,0.4s						
BTCC	**Brunts Corner**	**1.03**	**106**	*e*Pg	**Pb**	**16 18 52.2**	**-0.5**
BBRC	**Big Bear Solar**	**1.05**	**336**	P	**Pn**	**16 18 52.9**	**-0.9**
	baz=155,SNR=52						
BBRC				S	**Sb**	**16 19 06.6**	**-0.5**
	baz=155						
BBRC	**Big Bear Solar**	**1.05**	**336**	*e*Pg	**Pn**	**16 18 53.2**	**-0.6**
BBRC				*e*Sn	**Sb**	**16 19 06.6**	**-0.5**
RVR	**Riverside**	**1.06**	**311**	*e*Pg	**Pn**	**16 18 53.1**	**-0.7**
RVR				*e*Sn	**Sb**	**16 19 06.7**	**-0.6**
COA	**Coachella**	**1.16**	**112**	*e*Pn	**Pb**	**16 18 54.0**	**-0.8**
CHNC	**Chino**	**1.27**	**303**	*e*Sn	**Sn**	**16 19 13.4**	**-0.7**
CPBX	**Cerro Prieto**	**1.28**	**133**	*e*P	**Pg**	**16 18 56.5**	**-0.4**
CPBX				IAML		16 19 32.8	
	comp=E,2μm,0.3s						
CPBX				⇑ *e*		16 19 32.8	
GLA	**Glamis**	**1.35**	**100**	P	**Pn**	**16 18 56.5**	**-1.2**
	baz=282,SNR=56						
GLA	**Glamis**	**1.35**	**100**	*e*Pn	**Pn**	**16 18 56.4**	**-1.3**
IRM	**Iron Mountain**	**1.35**	**51**	P	**Pn**	**16 18 57.0**	**-0.8**
	baz=232,SNR=212						
IRM				S	**Sg**	**16 19 15.8**	**0.0**
	baz=232						
IRM	**Iron Mountain**	**1.35**	**51**	*e*Pn	**Pg**	**16 18 59.2**	**+1.0**
IRM				*e*Sn	**Sg**	**16 19 16.9**	**+1.1**
BFSC	**Mount Baldy Ra**	**1.40**	**312**	P	**Pb**	**16 18 58.5**	**-0.5**
	baz=131,SNR=144						
BFSC				S	**Sn**	**16 19 16.5**	**-1.0**
	baz=131						
BFSC	**Mount Baldy Ra**	**1.40**	**312**	*e*Sn	**Sg**	**16 19 17.5**	**+0.1**
PSRC	**Puddingstone R**	**1.41**	**304**	*e*Pn	**Sg**	**16 18 59.2**	**-0.2**
PSRC				*e*Sn	**Sg**	**16 19 17.6**	**0.0**
HEC	**Hector,Ludlow**	**1.52**	**2**	P	**Sg**	**16 19 00.8**	**-0.7**
	baz=182,SNR=126						
HEC	**Hector,Ludlow**	**1.52**	**2**	*e*Pn	**Pg**	**16 19 02.1**	**+0.5**
EL2	**El Mirage 2**	**1.55**	**323**	*e*Pn	**Pg**	**16 19 02.9**	**+0.9**
PBX	**Punta Banda**	**1.58**	**190**	*e*P	**Pb**	**16 19 01.7**	**-0.2**
PBX				*e*S	**Sg**	**16 19 23.2**	**+0.1**
GMRC	**Granite Mounta**	**1.60**	**22**	P	**Pn**	**16 19 00.7**	**-0.6**
	baz=203,SNR=202						
GMRC				S	**Sg**	**16 19 23.0**	**-0.9**
	baz=203						
GMRC	**Granite Mounta**	**1.60**	**22**	*e*Pn	**Pg**	**16 19 03.2**	**+0.2**
GMRC				*e*Sn	**Sg**	**16 19 23.9**	**+0.1**
FMP	**Fort Macarthur**	**1.63**	**285**	P	**Pb**	**16 19 02.0**	**-0.8**
	baz=103,SNR=12						
Y12C	**Blythe**	**1.63**	**74**	P	**Pn**	**16 19 00.7**	**-0.9**
	baz=255,SNR=57						
Y12C	**Blythe**	**1.63**	**74**	*e*Pn	**Pn**	**16 19 00.6**	**-0.9**
RRX	**Edison Barstow**	**1.64**	**343**	P	**Pg**	**16 19 03.7**	**-0.1**
	baz=162,SNR=31						
RRX				Sb	**Sg**	**16 19 25.3**	**+0.1**
	baz=162						
ECNX	**Esteban Cantu**	**1.65**	**186**	*e*P	**Pb**	**16 19 03.2**	**0.0**
ECNX				*e*S	**Sg**	**16 19 25.2**	**-0.2**
CACC	**Caltech Cellar**	**1.66**	**301**	*e*Pn	**Pn**	**16 19 01.7**	**-0.2**
MWC	**Mount Wilson**	**1.66**	**304**	*e*Pn	**Pb**	**16 19 03.0**	**-0.3**
MWC				*e*Sn	**Sg**	**16 19 25.2**	**-0.3**
HOLC	**Holcomb Ridge**	**1.66**	**314**	*e*Pn	**Pb**	**16 19 03.0**	**-0.4**
CIAC	**Catalina I. Ai**	**1.69**	**274**	*e*Pn	**Pn**	**16 19 02.3**	**0.0**
CIS	**Catalina Islan**	**1.69**	**274**	P	**Pn**	**16 19 02.2**	**-0.2**
	baz=92,SNR=89						
CHFC	**Chilao Flat St**	**1.70**	**308**	*e*Pn	**Pb**	**16 19 03.8**	**-0.3**
CHFC				*e*Sn	**Sg**	**16 19 26.0**	**-0.8**
PASC	**Pasadena Art C**	**1.72**	**301**	*e*Pn	**Pb**	**16 19 03.6**	**-0.7**
PASC				*e*Sn	**Sg**	**16 19 26.7**	**-0.8**
JNH	**Juniper Hills**	**1.72**	**312**	*e*Pn	**Pb**	**16 19 04.3**	**-0.2**
SCI2	**San Clemente I**	**1.83**	**260**	P	**Pb**	**16 19 04.7**	**-1.4**
	baz=78,SNR=45						
DECC	**Green Verdugo**	**1.87**	**301**	Pb	**Pg**	**16 19 07.1**	**-1.0**

DAC	**Darwin (Calif)**	**3.12**	**342**	*e*Pn	**Pn**	**16 19 23.4**	**+1.1**
SHPR	**Sheep Range**	**3.35**	**17**	*e*Pn	**Pn**	**16 19 26.9**	**+1.4**
TPNV	**Topopah Spring**	**3.64**	**2**	*e*Pn	**Pn**	**16 19 30.3**	**+0.9**
PAGB	**Antelope Grade**	**3.99**	**308**	*e*Pn	**Pn**	**16 19 36.3**	**+2.2**
X16A	**Lo Mia Camp, P**	**4.28**	**74**	*e*Pn	**Pn**	**16 19 38.8**	**+0.6**
LCMT	**Little Creek M**	**4.51**	**34**	*e*Pn	**Pn**	**16 19 42.5**	**+1.1**
U15A	**North Rim**	**4.60**	**46**	*e*Pn	**Pn**	**16 19 44.1**	**+1.4**
PMPB	**Monarch Peak**	**4.64**	**310**	*e*Pn	**Pn**	**16 19 39.3**	**-3.7**
WUAZ	**Wupatki**	**4.71**	**61**	*e*Pn	**Pn**	**16 19 45.3**	**+1.2**
KNB	**Kanab**	**4.72**	**37**	*e*Pn	**Pn**	**16 19 45.6**	**+1.3**
MDPB	**Devils Postpil**	**4.84**	**334**	*e*Pn	**Pn**	**16 19 48.9**	**+2.9**
MDPB				*e*Sg	**Sg**	**16 21 05.2**	**-2.5**
CCUT	**Cedar City**	**4.91**	**30**	*e*Pn	Pn	16 19 51.3	+4.3
SZCU	**Shurtz Canyon**	**5.07**	**31**	*e*Pn	**Pn**	**16 19 52.6**	**+3.6**
R11A	**Troy Canyon, C**	**5.08**	**7**	*e*Pn	Pn	16 19 53.7	+4.5
NV11	**Mina Array Sit**	**5.31**	**345**	*e*Pn	**Pn**	**16 19 52.8**	**+0.4**
PKCU	**Pink Cliffs**	**5.31**	**38**	*e*Pg	**Pb**	**16 20 04.4**	**-1.4**
NV01	**Mina Array Sit**	**5.34**	**344**	*e*Pn	**Pn**	**16 19 55.1**	**+2.3**
SAO	**San Andreas Ge**	**5.39**	**311**	*e*Pn	**Pn**	**16 19 51.9**	**-1.4**
X18A	**Snowflake**	**5.50**	**75**	*e*Pn	**Pn**	**16 19 56.0**	**+1.0**
CMB	**Columbia Colle**	**5.72**	**327**	*e*Sg	**Sg**	**16 21 31.3**	**-4.9**
MTPU	**Mount Pierson**	**5.84**	**35**	*e*Pn	**Pn**	**16 20 00.5**	**+0.7**
KVN	**Kaiserville**	**5.90**	**347**	*e*Pn	**Pn**	**16 20 00.9**	**+0.5**
CVR	**Calaveras Rese**	**6.04**	**315**	*e*Sn	**Sn**	**16 21 13.1**	**+1.3**
CNIC	**Niles Canyon**	**6.25**	**315**	*e*Pg	**Pb**	**16 20 22.1**	**+0.6**
CNIC				*e*Sn	**Sn**	**16 21 20.5**	**+3.7**
GDXM	**Geysers**	**7.54**	**319**	*e*Sn	Sn	16 21 57.5	+8.7
GACM	**Adobe Creek**	**7.63**	**319**	*e*Sn	**Sn**	**16 21 57.0**	**+6.1**
K22A	**Casper**	**12.15**	**37**	*e*Pn	**Pn**	**16 21 29.0**	**+2.9**
C09A	**Chrisman Ranch**	**14.55**	**355**	*e*P	**P**	**16 22 07.3**	**+1.9**
WMOK	**Wichita Mounta**	**14.69**	**80**	*e*Pn	**Pn**	**16 22 01.3**	**+0.6**
HTW	**Haystack Looko**	**15.04**	**346**	*e*Pn	**Pn**	**16 22 07.0**	**+1.6**
HTW				*e*Sn	**Sn**	**16 24 45.6**	**-6.7**

IDC 22 16:21:41.2±2.0, 6.93N×92.45E, h0km, mb3.5/2, mb1 3.8/4, mb1mx3.3/67, mbtmp3.6/4, ML3.9/2, MS3.3/1, Ms1 3.2/1, ms1mx2.5/50, Error ellipse: s-maj=50.1km s-min=35.8km az=20.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PALK	**Pallekele**	**11.66**	**272**	Pn	Pn	16 24 28.9	-0.2
	1.4nm,0.3s,baz=115,slow=10,SNR=8.9						
PALK				Sn	Sn	16 26 24.6	-16
	1.3nm,0.3s,baz=116,slow=17,SNR=5.8						
CMAR	**Chiang Mai Arr**	**13.09**	**28**	Pn	Pn	16 24 49.0	+0.5
	0.1nm,0.3s,baz=228,slow=12,SNR=4.8						
WRA	**Warramunga Arr**	**49.11**	**124**	P	P	16 30 30.6	-0.4
	0.6nm,0.6s,baz=307,slow=8.2,SNR=5.4						
ASAR	**Alice Springs**	**50.63**	**128**	P	P	16 30 42.5	+0.1
	0.4nm,0.6s,baz=300,slow=7.7,SNR=10						
KBZ	**Khabaz**	**56.67**	**319**	LR	LR	16 57 04.1	
	comp=Z,26nm,20.1s,baz=260,slow=38						

*ISCJB **22** 16:22:57.9±0.7, 53.00S±0.08×140.4E±0.5, h10km, mb4.0/8, MS3.6/16, Error ellipse: s-maj=40.2km s-min=11.2km az=0.7*
*IDC **22** 16:22:58.1±0.7, 53.04S×140.53E, h0km, mb3.9/7, mb1 4.1/7, mb1mx4.0/38, mbtmp3.9/7, MS3.6/16, Ms1 3.6/16, ms1mx3.5/35, Error ellipse: s-maj=51.0km s-min=16.3km az=84.0*
*NEIC **22** 16:22:59.4±0.4, 53.03S×140.40E, h10km, mb4.4/2, Error ellipse: s-maj=24.2km s-min=8.3km az=90.0*
ISC 22 16:22:59.4±0.7, 53.0S±0.1×140.5E±0.3, h10km, n36, σ0s68/20, mb4.0/8, MS3.6/16, West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CAN	**Canberra**	**18.70**	**22**	*e*P	**Pn**	**16 27 18.3**	**+0.1**
	29nm,1.6s						
STKA	**Stephens Creek**	**21.15**	**3**	P	**P**	**16 27 45.2**	**+0.7**
	6.2nm,0.9s,baz=146,slow=14,SNR=4.7						
STKA				LR	LR	16 34 35.4	
	comp=Z,263nm,19.9s,baz=199,slow=33						
RPZ	**Rata Peaks**	**22.19**	**78**	LR	LR	16 33 50.3	
	comp=Z,239nm,21.1s,baz=218,slow=29						
VNDA	**Vanda**	**25.81**	**170**	P	**P**	**16 28 30.9**	**+0.8**
	4.2nm,1.0s,baz=336,slow=7.4,SNR=13						
VNDA				LR	LR	16 37 15.3	
	comp=Z,165nm,20.1s,baz=276,slow=33						
H01W1	**Cape Leeuwin H**	**26.00**	**304**	T	T	16 55 35.3	
	baz=141,slow=75,SNR=5.8						
H01W2	**Cape Leeuwin H**	**26.00**	**304**	T	T	16 55 41.7	
	baz=141,slow=75,SNR=4.1						
H01W3	**Cape Leeuwin H**	**26.01**	**304**	T	T	16 55 37.0	
	baz=141,slow=75,SNR=5.3						
URZ	**Urewera**	**29.18**	**74**	LR	LR	16 38 31.1	
	comp=Z,129nm,18.6s,baz=227,slow=32						
ASAR	**Alice Springs**	**29.74**	**348**	P	**P**	**16 29 05.5**	**-0.3**
	0.4nm,0.7s,baz=165,slow=8.7,SNR=8.5						
ASAR				PcP	**PcP**	**16 32 09.1**	**-0.5**
	0.8nm,0.9s,baz=166,slow=2.7,SNR=6.5						
ASAR				LR	LR	16 39 58.7	
	comp=Z,83nm,18.3s,baz=169,slow=34						
WRA	**Warramunga Arr**	**33.37**	**349**	P	**P**	**16 29 38.1**	**+0.4**
	3.0nm,1.0s,baz=173,slow=7.3,SNR=7.3						
WRA				PcP	**PcP**	**16 32 18.5**	**-0.8**
	0.9nm,0.8s,baz=178,slow=2.1,SNR=6.3						
WRAB	**Tennant Creek**	**33.37**	**349**	*e*P	**P**	**16 29 37.5**	**-0.3**
	8.5nm,1.1s						
DZM	**Mont Dzumac**	**36.73**	**43**	LR	LR	16 41 43.0	
	comp=Z,155nm,21.8s,baz=206,slow=31						
QSPA	**South Pole Qui**	**37.08**	**180**	P	**P**	**16 30 09.5**	**0.0**
	3.1nm,0.9s,baz=22,slow=4.7,SNR=5.7						
MAW	**Mawson**	**38.21**	**217**	LR	LR	16 43 47.4	
	comp=Z,202nm,19.0s,baz=121,slow=33						
PMG	**Port Moresby**	**43.83**	**10**	LR	LR	16 47 29.8	
	comp=Z,112nm,19.2s,baz=188,slow=34						
BATI	**Baumata**	**44.81**	**336**	LR	LR	16 50 36.9	
	comp=Z,141nm,18.0s,baz=220,slow=37						
HNR	**Honiara**	**46.24**	**27**	LR	LR	16 47 05.0	
	comp=Z,41nm,21.5s,baz=156,slow=31						
SNAA	**Sanae**	**52.93**	**194**	P	**P**	**16 32 15.2**	**0.0**
	1.0nm,0.8s,baz=215,slow=13,SNR=4.1						
LEM	**Lembang**	**53.28**	**318**	LR	LR	16 52 06.3	
	comp=Z,78nm,20.1s,baz=341,slow=33						
GUMO	**Guam**	**66.45**	**5**	LR	LR	17 02 35.8	
	comp=Z,27nm,18.8s,baz=144,slow=36						
H08N1	**Diego Carcia H**	**72.66**	**283**	T	T	17 53 51.8	
	baz=143						
H08N3	**Diego Garcia H**	**72.67**	**283**	T	T	17 53 47.2	
	baz=143						
H08N2	**Diego Garcia H**	**72.69**	**283**	T	T	17 53 54.3	
	baz=143						
CMAR	**Chiang Mai Arr**	**79.73**	**320**	P	**P**	**16 35 08.3**	**+1.0**
	1.3nm,0.9s,baz=182,slow=6.2,SNR=6.1						
CMAR				LR	LR	17 09 15.5	
	comp=Z,22nm,20.6s,baz=190,slow=35						
JNU	**Nakatsue**	**86.20**	**352**	LR	LR	17 12 42.2	
	comp=Z,27nm,20.9s,baz=156,slow=35						
MJAR	**Matsushiro Arr**	**89.22**	**358**	LR	LR	17 16 05.5	
	comp=Z,17nm,18.6s,baz=260,slow=36						
KSRS	**Korea Array**	**90.77**	**350**	LR	LR	17 16 24.9	
	comp=Z,12nm,20.4s,baz=90,slow=35						
NVAR	**Mina Array Bea**	**125.84**	**72**	PKP	**PKPdf**	**16 42 01.9**	**+0.8**
	0.3nm,0.8s,baz=240,slow=2.9,SNR=4.5						
YKA	**Yellowknife Ar**	**141.08**	**46**	PKhKP	PKPpre	16 42 23.1	
	0.1nm,0.5s,baz=244,slow=2.4,SNR=3.7						
YKA				PKP	**PKiKP**	**16 42 30.0**	**-1.1**
	0.1nm,0.5s,baz=243,slow=2.4,SNR=3.8						
FINES	**FINESS Array B**	**144.97**	**310**	PKPbc	**PKPab**	**16 42 34.7**	**0.0**
	3.6nm,0.7s,baz=133,slow=8.1,SNR=13						
ULM	**Lac du Bonnet**	**145.68**	**71**	PKPbc	**PKPdf**	**16 42 36.5**	**-0.5**
	1.5nm,0.8s,baz=180,slow=5.1,SNR=3.3						
ARCES	**ARCESS Array B**	**146.70**	**325**	PKPbc	**PKPbc**	**16 42 40.1**	**+0.3**
	3.4nm,0.9s,baz=103,slow=3.9,SNR=6.4						
GERES	**GERESS Array B**	**146.85**	**285**	PKPbc	**PKPbc**	**16 42 40.3**	**-0.7**
	1.9nm,1.0s,baz=141,slow=5.1,SNR=11						
SPITS	**Spitsbergen Ar**	**148.18**	**341**	PKPbc	**PKPbc**	**16 42 43.6**	**-0.2**
	8.3nm,0.8s,baz=111,slow=3.7,SNR=6.4						
NOA	**NORSAR Array B**	**151.92**	**307**	PKPbc	**PKPbc**	**16 42 52.0**	**-1.3**
	1.0nm,1.0s,baz=100,slow=2.7,SNR=3.2						
ESDC	**Sonseca Array**	**152.38**	**255**	PKPbc	**PKPbc**	**16 42 55.3**	**+0.3**
	0.1nm,0.4s,baz=109,slow=1.6,SNR=4.9						

*ISCJB **22** 16:27:35.4±0.8, 32.53N±0.06×46.83E±0.06, h20km, Error ellipse: s-maj=9.3km s-min=6.8km az=178.3*
*ISN **22** 16:27:35.4±1.3, 32.67N×46.82E, h7km±8km, ML2.8*
*CSEM **22** 16:27:35.3±0.3, 32.68N×46.87E, h2km, ML2.7, Error ellipse: s-maj=9.1km s-min=6.4km az=177.0*
*TEH **22** 16:27:36.2, 32.66N×46.83E, h10km, ML2.8*

ISC 22 16:27:37.2±1.5, 32.65N±0.08×46.89E±0.07, h20km, n12, σ0s88/15, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IKFM	**Kafar-mosalman**	**1.18**	**42**	*e*Pg	**Pn**	**16 27 57.7**	**-1.0**
IKFM				*e*AMB	AMB	16 28 02.2	
	comp=Z,99nm,0.1s						
IKOM	**Komasi**	**1.61**	**19**	*e*AMB	AMB	16 28 09.9	
	comp=Z,3μm,0.2s						
IKOM				*e*Pn	**Pb**	**16 28 05.1**	**-1.2**
IKOM				*e*Sg	**Sb**	**16 28 27.5**	**+1.3**
SHGR	**Shooshtar-Gavs**	**1.70**	**108**	*e*P	**Pn**	**16 28 06.3**	**+0.5**
IVIS	**Veis**	**1.87**	**359**	*e*Sg	**Sb**	**16 28 33.3**	**-0.6**
IVIS				*e*Pn	**Pn**	**16 28 08.8**	**+0.5**
IVIS				*e*AMB	AMB	16 28 40.6	
	comp=Z,425nm,0.2s						
IDHR	**Dehrash**	**2.09**	**348**	*e*AMB	AMB	16 28 49.6	
	comp=Z,423nm,0.2s						
SNGE	**Sanandaj**	**2.47**	**9**	*e*Pn	**Pn**	**16 28 16.9**	**+0.4**
SNGE				*e*Sg	**Sb**	**16 28 52.9**	**+1.9**
KHMZ	**Khomeyn**	**2.79**	**66**	*e*P	**Pn**	**16 28 21.5**	**+0.5**
HKZM	**Kohzaman**	**3.19**	**31**	*e*Pn	**Pn**	**16 28 27.0**	**+0.4**
HKZM				*e*AMB	AMB	16 28 31.6	
	comp=Z,99nm,0.1s						
ASAO	**Ashtian**	**3.23**	**53**	*e*P	**Pn**	**16 28 27.6**	**+0.6**
IKLH	**Kolahrood**	**4.00**	**79**	*e*Pn	**Pn**	**16 28 37.8**	**+0.2**
IKLH				*e*AMB	AMB	16 28 39.2	
	comp=Z,98nm,0.2s						
IZEF	**Zefreh**	**4.59**	**85**	*e*Pn	**Pn**	**16 28 45.5**	**-0.2**
IZEF				*e*AMB	AMB	16 28 46.7	
	comp=Z,44nm,0.1s						
RTB	**Rutbah**	**5.55**	**276**	*e*Pn	**Pn**	**16 28 59.0**	**+0.2**
	SNR=4.0						
RTB				*e*Sn	**Sn**	**16 30 02.0**	**-0.1**
	SNR=4.0						

*ISCJB **22** 16:51:31.5±0.4, 39.11N±0.03×29.15E±0.03, h5km±4km, Error ellipse: s-maj=4.6km s-min=3.5km az=163.8*
*DDA **22** 16:51:31.5, 39.09N×29.14E, h7km, Ml2.7*
*CSEM **22** 16:51:31.6±0.1, 39.11N×29.15E, h5km, ML2.4, Error ellipse: s-maj=2.6km s-min=2.2km az=136.0*
*ISK **22** 16:51:31.2, 39.11N×29.17E, h5km, ML2.4/16*
ISC 22 16:51:31.7±0.8, 39.11N±0.02×29.15E±0.02, h10km±7km, n48, σ0s61/68, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIMA	**Simav-Kutahya**	**0.13**	**258**	PG	**Pg**	**16 51 34.9**	**0.0**
SIMA				SG	**Sg**	**16 51 37.1**	**0.0**
SIMA	**Simav-Kutahya**	**0.13**	**258**	*e*Pg	**Pg**	**16 51 34.9**	**0.0**
SIMA				*e*Sg	**Sg**	**16 51 37.1**	**0.0**
GDZ	**Gediz**	**0.26**	**95**	*i* P	**Pg**	**16 51 36.8**	**-0.3**
GDZ				*i* S	**Sg**	**16 51 40.7**	**0.0**
GDZ	**Gediz**	**0.26**	**95**	P	**Pg**	**16 51 36.8**	**-0.3**
GDZ				S	**Sg**	**16 51 40.7**	**0.0**
DEMI	**Demirci**	**0.34**	**259**	*i* P	**Pg**	**16 51 38.5**	**-0.1**
DEMI				*i* S	**Sg**	**16 51 43.0**	**-0.1**
DEMI	**Demirci**	**0.34**	**259**	P	**Pg**	**16 51 38.5**	**-0.1**
DEMI				S	**Sg**	**16 51 43.0**	**-0.1**
TVSB	**Tavsanli**	**0.42**	**36**	PG	**Pg**	**16 51 39.3**	**-0.7**
TVSB				SG	**Sg**	**16 51 44.8**	**-0.7**
TVSB	**Tavsanli**	**0.42**	**36**	*e*Pg	**Pg**	**16 51 39.3**	**-0.7**
TVSB				*e*Sg	**Sg**	**16 51 44.8**	**-0.7**
KULA	**Kula-Manisa**	**0.71**	**213**	PG	**Pg**	**16 51 45.2**	**-0.2**
KULA	**Kula-Manisa**	**0.71**	**213**	*e*Pg	**Pg**	**16 51 45.2**	**-0.2**
DURS	**Dursunbey**	**0.72**	**313**	*i* P	**Pg**	**16 51 45.7**	**+0.2**
DURS				*i* S	**Sb**	**16 51 55.7**	**-0.5**
DURS	**Dursunbey**	**0.72**	**313**	P	**Pg**	**16 51 45.7**	**+0.2**
DURS				S	**Sb**	**16 51 55.7**	**-0.5**
MANT	**Manisa**	**0.77**	**217**	*i* P	**Pg**	**16 51 46.5**	**-0.1**
MANT				*i* S	**Sg**	**16 51 56.4**	**-0.3**
MANT	**Manisa**	**0.77**	**217**	P	**Pg**	**16 51 46.5**	**-0.1**
MANT				S	**Sg**	**16 51 56.4**	**-0.3**
KHAL	**Karahalli**	**0.79**	**160**	*i* P	**Pb**	**16 51 47.5**	**0.0**
KHAL				*i* S	**Sb**	**16 51 58.0**	**-0.3**
KHAL	**Karahalli**	**0.79**	**160**	P	**Pb**	**16 51 47.5**	**0.0**
KHAL				S	**Sb**	**16 51 58.0**	**-0.3**
AKHS	**Akhisar**	**1.06**	**258**	*i* P	**Pg**	**16 51 51.5**	**-0.7**
AKHS				*i* S	**Sb**	**16 52 06.5**	**+0.4**
AKHS	**Akhisar**	**1.06**	**258**	P	**Pg**	**16 51 51.5**	**-0.7**
AKHS				S	**Sb**	**16 52 06.5**	**+0.4**
BALB	**Balikesir**	**1.12**	**299**	PN	**Pn**	**16 51 53.7**	**+0.4**
BALB	**Balikesir**	**1.12**	**299**	*e*Pn	**Pn**	**16 51 53.7**	**+0.4**
STEP	**BALIKESIR_Sava**	**1.14**	**284**	*i* P	**Pn**	**16 51 54.1**	**+0.4**
STEP				*i* S	**Sb**	**16 52 09.2**	**+0.8**
STEP	**BALIKESIR_Sava**	**1.14**	**284**	P	**Pn**	**16 51 54.1**	**+0.4**
STEP				S	**Sb**	**16 52 09.2**	**+0.8**
CAVI	**Cavuskoy**	**1.22**	**26**	PN	**Pb**	**16 51 54.9**	**+0.1**
CAVI	**Cavuskoy**	**1.22**	**26**	*e*Pn	**Pb**	**16 51 54.9**	**+0.1**
SHUT	**Suhut-Afyon**	**1.23**	**116**	PN	**Pb**	**16 51 55.1**	**0.0**
SHUT	**Suhut-Afyon**	**1.23**	**116**	*e*Pn	**Pb**	**16 51 55.1**	**0.0**
MDNY	**Mudanya-Bursa**	**1.27**	**351**	PN	**Pg**	**16 51 55.9**	**-0.3**
MDNY	**Mudanya-Bursa**	**1.27**	**351**	*e*Pn	**Pg**	**16 51 55.9**	**-0.3**
KCTX	**Karacabey (Bur**	**1.30**	**332**	PN	**Pn**	**16 51 56.4**	**+0.4**
KCTX	**Karacabey (Bur**	**1.30**	**332**	*e*Pn	**Pn**	**16 51 56.4**	**+0.4**
BALY	**Balya**	**1.34**	**298**	*i* P	**Pn**	**16 51 55.3**	**-1.2**
BALY				*i* S	**Sb**	**16 52 12.9**	**-1.2**
BALY	**Balya**	**1.34**	**298**	P	**Pn**	**16 51 55.3**	**-1.2**
BALY				S	**Sb**	**16 52 12.9**	**-1.2**
ADVT	**Abdulvahap**	**1.40**	**19**	PN	**Pb**	**16 51 58.1**	**+0.2**
ADVT	**Abdulvahap**	**1.40**	**19**	*e*Pn	**Pb**	**16 51 58.1**	**+0.2**
YLV	**Yalova**	**1.47**	**7**	PN	**Pn**	**16 51 58.9**	**+0.7**
YLV	**Yalova**	**1.47**	**7**	*e*Pn	**Pn**	**16 51 58.9**	**+0.7**
ARMT	**Armutlu**	**1.47**	**351**	PN	**Pn**	**16 51 58.9**	**+0.7**
ARMT	**Armutlu**	**1.47**	**351**	*e*Pn	**Pn**	**16 51 58.9**	**+0.7**
AYDB	**Zeytinkoy-Aydi**	**1.52**	**221**	PN	**Pb**	**16 52 00.0**	**-0.1**
AYDB	**Zeytinkoy-Aydi**	**1.52**	**221**	*e*Pn	**Pb**	**16 52 00.0**	**-0.1**
EDC	**Edincik**	**1.58**	**322**	PN	**Pb**	**16 52 00.9**	**-0.1**
EDC	**Edincik**	**1.58**	**322**	*e*Pn	**Pb**	**16 52 00.9**	**-0.1**
GULT	**Gulveren**	**1.69**	**38**	PN	**Pn**	**16 52 02.2**	**+0.9**
GULT	**Gulveren**	**1.69**	**38**	*e*Pn	**Pn**	**16 52 02.2**	**+0.9**
SBT3	**Marmara-Eregli**	**1.99**	**333**	PN	**Pn**	**16 52 06.6**	**+1.4**
SBT3	**Marmara-Eregli**	**1.99**	**333**	*e*Pn	**Pn**	**16 52 06.6**	**+1.4**
CTKS	**Kestanelik-??a**	**2.18**	**347**	PN	**Pn**	**16 52 09.3**	**+1.3**
CTKS	**Kestanelik-??a**	**2.18**	**347**	*e*Pn	**Pn**	**16 52 09.3**	**+1.3**

MAN 22 16:54:34, 9.98N×125.20E, h23km, mb4.3, ML3.2, MS2.9, 2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SCPH	**Surigao**	**0.34**	**124**	*e*P	Pn	16 54 43.9	+0.3
SCPH				*e*S	Sn	16 54 51.5	+1.7
MSLP	**Maasin**	**0.37**	**295**	*e*P	Pb	16 54 42.6	+0.6
MSLP				*e*S	Sb	16 54 48.9	+1.4
BUTP	**Butuan**	**1.08**	**158**	*e*P	Pb	16 55 00.5	+6.4
PLP	**Palo**	**1.20**	**350**	*e*P	Pn	16 54 55.0	-0.4
PLP				*i* S	Sn	16 55 10.8	-0.3
OCLP	**Ormoc**	**1.22**	**331**	*e*P	Pb	16 54 56.1	-0.3
OCLP				*e*S	Sb	16 55 13.3	+1.6
LLP	**Lapu-Lapu**	**1.26**	**286**	*e*P	Pb	16 54 57.1	-0.1
LLP				*e*S	Sb	16 55 13.1	+0.1
CNP	**Catarman**	**2.57**	**348**	*e*P	Pn	16 55 16.1	+1.8

MAN 22 17:00:07, 10.35N×126.31E, h1km, mb3.9, ML2.7, MS2.3, 1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SCPH	**Surigao**	**0.99**	**235**	*e*P	Pb	17 00 26.6	-0.3
SCPH				*e*S	Sn	17 00 43.0	+0.4
MSLP	**Maasin**	**1.45**	**262**	*e*P	Pb	17 00 35.1	+0.4
MSLP				*e*S	Sn	17 00 55.3	+1.4
CNP	**Catarman**	**2.69**	**323**	*e*P	Pn	17 00 52.7	+1.3

IDC 22 17:04:56.6±1.1, 8.58S×118.81E, h0km, mb3.6/4, mb1 3.8/6, mb1mx3.5/56, mbtmp3.6/6, ML3.6/2, MS3.4/2, Ms1 3.4/2, ms1mx2.6/44, Error ellipse: s-maj=58.6km s-min=19.8km az=53.0, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**5.05**	**109**	Pn	Pn	17 06 14.4	+0.7
	0.9nm,0.3s,baz=198,slow=3.2,SNR=2.6						
BATI				Sn	Sn	17 07 19.8	+6.9
	1.4nm,0.3s,baz=72,slow=20,SNR=2.6						
LEM	**Lembang**	**11.23**	**278**	LR	LR	17 13 31.6	
	comp=Z,86nm,18.4s,baz=318,slow=46						
WRA	**Warramunga Arr**	**18.80**	**129**	P	P	17 09 16.4	-1.4
	0.3nm,0.3s,baz=306,slow=13,SNR=16						
ASAR	**Alice Springs**	**20.83**	**138**	P	P	17 09 40.9	+0.8
	3.4nm,0.6s,baz=315,slow=8.8,SNR=48						
JHJ	**Hachijo jima 2**	**46.02**	**25**	LR	LR	17 31 07.1	
	comp=Z,114nm,20.7s,baz=271,slow=34						
MKAR	**Makanchi Array**	**64.00**	**333**	P	P	17 15 31.9	-0.1
	0.4nm,0.8s,baz=151,slow=6.4,SNR=3.4						
KURBB	**Kurchatov Arra**	**68.51**	**334**	P	P	17 16 00.9	+0.1
	0.3nm,0.6s,baz=139,slow=5.7,SNR=2.6						
VNDA	**Vanda**	**72.43**	**171**	P	P	17 16 24.4	0.0
	0.3nm,0.5s,baz=322,slow=6.8,SNR=4.5						

IDC 22 17:09:48.9±16.0, 21.09S×177.14W, h434km±140km, mb3.1/5, mb1 3.4/5, mb1mx3.0/43, mbtmp3.9/5, Error ellipse: s-maj=167.7km s-min=42.8km az=136.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**34.23**	**265**	P	P	17 15 56.8	-0.2
	1.8nm,0.9s,baz=93,slow=9.8,SNR=5.8						
ASAR	**Alice Springs**	**45.17**	**257**	P	P	17 17 25.6	0.0
	1.1nm,0.5s,baz=93,slow=7.8,SNR=27						
ASAR				PcP	PcP	17 18 57.4	+0.1
	0.3nm,0.7s,baz=97,slow=3.9,SNR=4.2						
WRA	**Warramunga Arr**	**45.31**	**262**	P	P	17 17 26.4	-0.4
	0.9nm,0.6s,baz=97,slow=8.3,SNR=14						
ILAR	**Eielson Array**	**88.72**	**12**	P	P	17 21 54.1	-0.3
	0.5nm,1.0s,baz=224,slow=5.1,SNR=3.7						
CMAR	**Chiang Mai Arr**	**91.07**	**289**	P	P	17 22 06.6	+0.2
	0.6nm,0.8s,baz=90,slow=4.5,SNR=3.4						
AKASG	**Malin Array Be**	**143.92**	**331**	PKP	PKPbc	17 28 30.9	-1.6
	0.2nm,0.4s,baz=41,slow=4.1,SNR=8.3						
EKA	**Eskdalemuir Ar**	**145.51**	**6**	PKPbc	PKPbc	17 28 37.2	-0.1
	0.3nm,0.4s,baz=332,slow=2.7,SNR=3.9						
GERES	**GERESS Array B**	**150.98**	**345**	PKPbc	PKPbc	17 28 51.4	-0.3
	0.3nm,0.6s,baz=16,slow=1.4,SNR=2.6						

IDC 22 17:14:51.5±3.0, 31.64S×178.36W, h0km, mb3.4/2, mb1 3.7/3, mb1mx3.5/40, mbtmp3.5/3, ML3.2/1, Error ellipse: s-maj=71.6km s-min=45.9km az=117.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**7.58**	**208**	Pn	Pn	17 16 42.8	-0.3
	0.3nm,0.3s,baz=207,slow=18,SNR=4.8						
URZ				Sn	Sn	17 18 04.3	-5.5
	0.4nm,0.3s,baz=254,slow=18,SNR=4.2						
ASAR	**Alice Springs**	**42.75**	**268**	P	P	17 22 50.9	0.0
	0.5nm,0.8s,baz=107,slow=7.9,SNR=7.1						
WRA	**Warramunga Arr**	**43.85**	**274**	P	P	17 22 59.6	-0.1
	0.3nm,0.5s,baz=114,slow=7.9,SNR=6.0						
FINES	**FINESS Array B**	**146.19**	**339**	PKPbc	PKPdf	17 34 32.1	+0.1
	1.0nm,0.8s,baz=41,slow=4.4,SNR=6.1						

*ISK **22** 17:14:57.9, 38.69N×43.19E, h8km, ML2.7/9*
*ATA **22** 17:14:57.4±1.0, 38.70N×43.14E, h1km±3km, ML3.0, MW3.2*
*ISCJB **22** 17:14:59.0±0.4, 38.71N±0.02×43.21E±0.03, h9km±4km, Error ellipse: s-maj=4.5km s-min=3.7km az=36.1*
*CSEM **22** 17:14:58.6±0.2, 38.71N×43.21E, h10km, ML2.7, Error ellipse: s-maj=4.0km s-min=3.3km az=131.0*
*DDA **22** 17:14:58.7, 38.70N×43.23E, h7km, Ml2.9*
**ISC 22 17:14:59.1±0.9, 38.70N±0.

CPBX				IAML		17 16 39.0
	comp=N,7μm,0.1s					
CPBX			⇓*e*			17 16 39.0
SGL	**Mount Signal**	**0.60**	**307**	⇑*iP*	**Pn**	**17 16 39.6 +0.7**
YUH	**Yuha Desert**	**0.74**	**299**	⇑*iP*	**Pn**	**17 16 41.5 +0.6**
ECBX	**El Chinero**	**0.82**	**174**	*eP*	**Pn**	**17 16 42.6 +0.6**
ECBX				*eS*	**Sn**	**17 16 53.0 -0.3**
RMX	**La Rumorosa**	**0.84**	**292**	⇑*eP*	**Pn**	**17 16 42.1 -0.3**
RMX				*eP*	**Pb**	**17 16 42.6 +0.4**
RMX				*eS*	**Sb**	**17 16 51.9 -1.3**
IKP	**In-Ko-Pah, Jac**	**0.89**	**294**	*eP*	**Pn**	**17 16 43.9 +1.0**
ZAX	**El Zacaton**	**1.23**	**231**	*eP*	**Pb**	**17 16 48.5 -0.2**
ZAX				*eS*	**Sb**	**17 17 04.0 -0.2**
ZAX				IAML		17 17 05.1
	comp=E,617nm,0.5s					
ZAX			⇑*e*			17 17 05.1
SPIG	**San Pedro Mart**	**1.27**	**192**	*eP*	**Pb**	**17 16 49.5 0.0**
SPIG				*eS*	**Sn**	**17 17 04.0 -0.9**
SPIG	**San Pedro Mart**	**1.27**	**192**	*eP*	**Pb**	**17 16 49.4 -0.2**
SPIG				*eS*	**Sb**	**17 17 05.8 +0.2**
SPX	**San Pedro Mart**	**1.27**	**192**	⇓*eP*	**Pb**	**17 16 49.5 0.0**
CBX	**Cerro Bola**	**1.28**	**271**	*eP*	**Pb**	**17 16 49.6 0.0**
CBX				*eS*	**Sn**	**17 17 05.1 +0.3**
CBX	**Cerro Bola**	**1.28**	**271**	*eP*	**Pb**	**17 16 49.6 0.0**
CBX				*eS*	**Sb**	**17 17 06.2 +0.5**
CBX				IAML		17 17 08.1
	comp=E,240nm,0.4s					
CBX				*e*		17 17 08.1
TJIG	**Tijuana**	**1.30**	**277**	*eP*	**Pb**	**17 16 49.6 -0.1**
TJIG				*eS*	**Sn**	**17 17 05.5 +0.4**
TJIG	**Tijuana**	**1.30**	**277**	*eP*	**Pb**	**17 16 49.7 -0.1**
BAR	**Barrett**	**1.34**	**287**	*eP*	**Pb**	**17 16 50.7 +0.2**
ECNX	**Esteban Cantu**	**1.38**	**243**	*eP*	**Pb**	**17 16 51.2 -0.1**
PBX	**Punta Banda**	**1.44**	**248**	*eP*	**Pb**	**17 16 51.8 -0.5**

IDC ***22*** *17:28:59.2±2.0, 17°.62S×167°.27E, h0km, mb3.9/5, mb1 4.1/6, mb1mx3.8/41, mbtmp3.9/6, ML3.6/1, MS3.2/3, Ms1 3.2/3, ms1mx2.7/34, Error ellipse: s-maj=50.2km s-min=30.4km az=119.0*

ISCJB ***22*** *17:29:00.5±1.5, 17°.74S±0°.08×167°.2E±0°.2, h19km, mb3.8/5, MS3.1/2, Error ellipse: s-maj=33.0km s-min=11.7km az=0.2*

ISC 22 17:29:02.0±1.6, **17°.7S**±0°.1×**167°.3E**±0°.3, **h19km, n8, σ1§41/7, mb3.8/5, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**4.41**	**191**	Pn	**Pn**	**17 30 08.7**	**+0.8**
	3.2nm,0.3s,baz=99,slow=7.9,SNR=40						
DZM				Sn	**Sn**	**17 30 58.1**	**-0.8**
	6.3nm,0.3s,baz=262,slow=8.6,SNR=6.2						
HNR	**Honiara**	**10.93**	**318**	LR	LR	17 34 45.3	
	comp=Z,66nm,21.8s,baz=184,slow=32						
PMG	**Port Moresby**	**21.27**	**290**	LR	LR	17 41 05.3	
	comp=Z,84nm,18.2s,baz=150,slow=34						
STKA	**Stephens Creek**	**27.20**	**234**	P	**P**	**17 34 45.2**	**+0.6**
	4.1nm,0.6s,baz=57,slow=10,SNR=10.0						
WRA	**Warramunga Arr**	**31.29**	**261**	P	**P**	**17 35 19.8**	**-1.3**
	0.5nm,0.6s,baz=88,slow=9.3,SNR=10						
ASAR	**Alice Springs**	**31.78**	**254**	P	**P**	**17 35 24.5**	**-1.0**
	1.5nm,0.6s,baz=82,slow=8.2,SNR=44						
ASAR				LR	LR	17 46 42.1	
	comp=Z,46nm,20.9s,baz=170,slow=34						
CMAR	**Chiang Mai Arr**	**76.24**	**295**	P	**P**	**17 40 51.5**	**+1.7**
	0.8nm,0.9s,baz=126,slow=4.6,SNR=5.3						
ILAR	**Eielson Array**	**89.34**	**18**	P	**P**	**17 41 55.8**	**-0.9**
	0.3nm,0.7s,baz=238,slow=5.1,SNR=4.3						

ISN ***22*** *17:29:18.9±1.2, 32°.68N×48°.66E, h26km±8km, ML3.2*
TEH ***22*** *17:29:21.2, 32°.64N×48°.77E, h10km, ML3.2*
CSEM ***22*** *17:29:21.7±0.4, 32°.61N×48°.46E, h20km, ML3.0, Error ellipse: s-maj=13.9km s-min=9.5km az=168.0*
ISCJB ***22*** *17:29:23.7±0.7, 32°.61N±0°.05×48°.70E±0°.06, h17km, Error ellipse: s-maj=8.0km s-min=5.9km az=43.4*

ISC 22 17:29:21.5±1.1, **32°.58N**±0°.05×**48°.51E**±0°.05, **h17km, n18, σ1§38/23, Western Iran**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SHGR	**Shooshtar-Gavs**	**0.53**	**152**	*eP*g	**Pn**	**17 29 33.8**	**-0.5**
IKFM	**Kafar-mosalman**	**1.09**	**330**	*eP*g	**Pg**	**17 29 43.5**	**+0.8**
IKFM				*e*AMB	AMB	17 30 06.8	
	comp=Z,99nm,0.2s						
KHMZ	**Khomeyn**	**1.68**	**46**	*eP*g	**Pn**	**17 29 49.0**	**-1.3**
KHMZ				*eS*g	**Sn**	**17 30 08.2**	**-3.4**
IKOM	**Komasi**	**1.80**	**333**	*eP*n	**Pg**	**17 29 56.0**	**0.0**
IKOM				*e*AMB	AMB	17 30 25.7	
	comp=Z,2μm,0.1s						
IPIR	**Pirpir**	**2.02**	**86**	*eP*n	**Pn**	**17 29 55.8**	**+0.8**
IPIR				*eS*g	**Sn**	**17 30 21.4**	**+1.4**
IPIR				*e*AMB	AMB	17 30 24.3	
	comp=Z,1μm,0.2s						
HAGD	**Aghdareh**	**2.30**	**13**	*e*AMB	AMB	17 30 02.1	
	comp=Z,99nm,0.1s						
HAGD				*eP*n	**Pb**	**17 30 01.1**	**-1.6**
ASAO	**Ashtian**	**2.34**	**32**	*eP*n	**Pn**	**17 30 00.2**	**+0.8**
ASAO				*eS*g	**Sn**	**17 30 29.7**	**+1.8**
ILIN	**Lien**	**2.66**	**332**	*e*AMB	AMB	17 30 51.5	
	comp=Z,738nm,0.1s						
ILIN				*eP*n	**Pb**	**17 30 07.7**	**-1.2**
SNGE	**Sanandaj**	**2.69**	**339**	*eP*n	**Pb**	**17 30 08.6**	**-0.7**
SNGE				*eS*g	**Sg**	**17 30 48.8**	**+0.9**
IKLH	**Kolahrood**	**2.69**	**73**	*eP*n	**Pn**	**17 30 04.6**	**+0.4**
IKLH				*e*AMB	AMB	17 30 45.8	
	comp=Z,834nm,0.2s						
QAM	**Ghamsar**	**2.73**	**64**	*e*AMB	AMB	17 30 46.1	
	comp=Z,1μm,0.2s						
QAM				*eP*n	**Pn**	**17 30 05.4**	**+0.7**
IDHR	**Dehrash**	**2.76**	**321**	*eP*n	**Pb**	**17 30 10.0**	**-0.4**
IDHR				*e*AMB	AMB	17 30 47.1	
	comp=Z,1μm,0.1s						
HKZM	**Kohzaman**	**2.81**	**7**	*e*AMB	AMB	17 30 55.8	
	comp=Z,99nm,0.3s						
HKZM				*eP*n	**Pn**	**17 30 08.2**	**+2.3**
GHVR	**GHOM**	**3.00**	**50**	*eP*n	**Pn**	**17 30 07.9**	**-0.5**
IZEF	**Zefreh**	**3.24**	**83**	*eP*n	**Pn**	**17 30 12.2**	**+0.4**
IZEF				*e*AMB	AMB	17 30 24.9	
	comp=Z,351nm,0.3s						
IRAM	**Ramesheh**	**3.38**	**102**	*eP*n	**Pn**	**17 30 14.8**	**+1.2**
IRAM				*e*AMB	AMB	17 31 11.4	
	comp=Z,166nm,0.2s						
IKAZ	**Kazeroun**	**3.99**	**133**	*eP*n	**Pn**	**17 30 23.8**	**+1.5**
IKAZ				*e*AMB	AMB	17 31 12.3	
	comp=Z,304nm,0.1s						
RTB	**Rutbah**	**6.92**	**276**	*eP*n	**Pn**	**17 31 02.0**	**-0.1**
	SNR=5.0						
RTB				*e*Sn	**Sn**	**17 32 19.0**	**-1.5**
	SNR=5.0						

ISCJB ***22*** *17:30:05.8±0.4, 39°.11N±0°.03×29°.17E±0°.03, h6km±5km, Error ellipse: s-maj=5.0km s-min=3.9km az=152.6*
CSEM ***22*** *17:30:05.9±0.1, 39°.12N×29°.17E, h5km, ML2.5, Error ellipse: s-maj=2.1km s-min=1.7km az=130.0*
ISK ***22*** *17:30:05.5, 39°.13N×29°.17E, h5km, ML2.5/17*
DDA ***22*** *17:30:06.1, 39°.08N×29°.16E, h7km, Ml2.8*

ISC 22 17:30:06.0±0.9, **39°.12N**±0°.02×**29°.17E**±0°.02, **h7km**±8km, **n49, σ0§46/63, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIMA	**Simav-Kutahya**	**0.15**	**257**	PG	**Pg**	**17 30 09.1**	**-0.1**
SIMA				SG	**Sg**	**17 30 11.6**	**+0.2**
SIMA	**Simav-Kutahya**	**0.15**	**257**	*eP*g	**Pg**	**17 30 09.1**	**-0.1**
SIMA				*eS*g	**Sg**	**17 30 11.6**	**+0.2**
GDZ	**Gediz**	**0.24**	**97**	*i* P	**Pg**	**17 30 10.8**	**-0.1**
GDZ				*i* S	**Sg**	**17 30 14.7**	**+0.5**
GDZ	**Gediz**	**0.24**	**97**	P	**Pg**	**17 30 10.8**	**-0.1**
GDZ				S	**Sg**	**17 30 14.7**	**+0.5**
DEMI	**Demirci**	**0.36**	**258**	*i* P	**Pg**	**17 30 13.2**	**+0.1**
DEMI				*i* S	**Sg**	**17 30 17.7**	**-0.2**
DEMI	**Demirci**	**0.36**	**258**	P	**Pg**	**17 30 13.2**	**+0.1**
DEMI				S	**Sg**	**17 30 17.7**	**-0.2**
TVSB	**Tavsanli**	**0.40**	**34**	PG	**Pg**	**17 30 13.6**	**-0.2**
TVSB				SG	**Sg**	**17 30 19.2**	**+0.1**
TVSB	**Tavsanli**	**0.40**	**34**	*eP*g	**Pg**	**17 30 13.6**	**-0.2**
TVSB				*eS*g	**Sg**	**17 30 19.2**	**+0.1**
KULA	**Kula-Manisa**	**0.72**	**214**	PG	**Pg**	**17 30 19.7**	**-0.2**
KULA	**Kula-Manisa**	**0.72**	**214**	*eP*g	**Pg**	**17 30 19.7**	**-0.2**
DURS	**Dursunbey**	**0.72**	**312**	*i* P	**Pb**	**17 30 20.7**	**-0.2**
DURS				*i* S	**Sn**	**17 30 34.3**	**+0.2**
DURS	**Dursunbey**	**0.72**	**312**	P	**Pb**	**17 30 20.7**	**-0.2**
DURS				S	**Sn**	**17 30 34.3**	**+0.2**
KHAL	**Karahalli**	**0.79**	**161**	*i* P	**Pb**	**17 30 21.6**	**-0.4**
KHAL				*i* S	**Sg**	**17 30 31.8**	**+0.4**
KHAL	**Karahalli**	**0.79**	**161**	P	**Pb**	**17 30 21.6**	**-0.4**
KHAL				S	**Sg**	**17 30 31.8**	**+0.4**
MANT	**Manisa**	**0.79**	**218**	*i* P	**Pg**	**17 30 20.9**	**-0.3**
MANT				*i* S	**Sg**	**17 30 30.8**	**-0.7**
MANT	**Manisa**	**0.79**	**218**	P	**Pg**	**17 30 20.9**	**-0.3**
MANT				S	**Sg**	**17 30 30.8**	**-0.7**
AUKUT	**KUTAHYA**	**1.06**	**38**	*i* P	**Pg**	**17 30 37.7**	**-2.5**
AKHS	**Akhisar**	**1.08**	**258**	*i* P	**Pb**	**17 30 27.1**	**+0.1**
AKHS	**Akhisar**	**1.08**	**258**	P	**Pb**	**17 30 27.1**	**+0.1**
BALB	**Balikesir**	**1.13**	**298**	PN	**Pb**	**17 30 27.8**	**0.0**
BALB	**Balikesir**	**1.13**	**298**	*eP*n	**Pb**	**17 30 27.8**	**0.0**
CAVI	**Cavuskoy**	**1.20**	**25**	PN	**Pb**	**17 30 28.7**	**-0.3**
CAVI	**Cavuskoy**	**1.20**	**25**	*eP*n	**Pb**	**17 30 28.7**	**-0.3**
SHUT	**Suhut-Afyon**	**1.22**	**117**	PN	**Pn**	**17 30 29.6**	**+0.1**
SHUT	**Suhut-Afyon**	**1.22**	**117**	*eP*n	**Pn**	**17 30 29.6**	**+0.1**
BORA	**Eskisehir**	**1.25**	**52**	*i* P	**Pg**	**17 30 30.6**	**+0.6**
BORA	**Eskisehir**	**1.25**	**52**	P	**Pg**	**17 30 30.6**	**+0.6**
MDNY	**Mudanya-Bursa**	**1.27**	**350**	PN	**Pn**	**17 30 30.1**	**0.0**
MDNY	**Mudanya-Bursa**	**1.27**	**350**	*eP*n	**Pn**	**17 30 30.1**	**0.0**
KCTX	**Karacabey (Bur**	**1.31**	**331**	PN	**Pn**	**17 30 30.6**	**0.0**
KCTX	**Karacabey (Bur**	**1.31**	**331**	*eP*n	**Pn**	**17 30 30.6**	**0.0**
ADVT	**Abdulvahap**	**1.38**	**18**	PN	**Pb**	**17 30 32.1**	**0.0**
ADVT	**Abdulvahap**	**1.38**	**18**	*eP*n	**Pb**	**17 30 32.1**	**0.0**
YLV	**Yalova**	**1.46**	**6**	PN	**Pn**	**17 30 32.8**	**+0.1**
YLV	**Yalova**	**1.46**	**6**	*eP*n	**Pn**	**17 30 32.8**	**+0.1**
ARMT	**Armutlu**	**1.47**	**351**	PN	**Pb**	**17 30 33.3**	**-0.2**
ARMT	**Armutlu**	**1.47**	**351**	*eP*n	**Pb**	**17 30 33.3**	**-0.2**
GONE	**Gonen-Balikesi**	**1.48**	**309**	PN	**Pn**	**17 30 33.3**	**+0.4**
GONE	**Gonen-Balikesi**	**1.48**	**309**	*eP*n	**Pn**	**17 30 33.3**	**+0.4**
AYDB	**Zeytinkoy-Aydi**	**1.54**	**221**	PN	**Pb**	**17 30 34.7**	**-0.2**
AYDB	**Zeytinkoy-Aydi**	**1.54**	**221**	*eP*n	**Pb**	**17 30 34.7**	**-0.2**
EDC	**Edincik**	**1.59**	**321**	PN	**Pn**	**17 30 34.7**	**+0.2**
EDC	**Edincik**	**1.59**	**321**	*eP*n	**Pn**	**17 30 34.7**	**+0.2**
GULT	**Gulveren**	**1.67**	**38**	PN	**Pn**	**17 30 35.8**	**+0.1**
GULT	**Gulveren**	**1.67**	**38**	*eP*n	**Pn**	**17 30 35.8**	**+0.1**
KRBG	**Karabiga-Canak**	**1.93**	**312**	PN	**Pn**	**17 30 39.5**	**+0.4**
KRBG	**Karabiga-Canak**	**1.93**	**312**	*eP*n	**Pn**	**17 30 39.5**	**+0.4**
SBT3	**Marmara-Eregli**	**1.99**	**333**	PN	**Pn**	**17 30 40.5**	**+0.7**
SBT3	**Marmara-Eregli**	**1.99**	**333**	*eP*n	**Pn**	**17 30 40.5**	**+0.7**

IDC 22 17:44:38.2±52.0, **16°.80S×169°.03E, h0km, mb3.9/3, mb1 4.0/4, mb1mx3.6/46, mbtmp3.9/4, ML3.7/1, Error ellipse: s-maj=879.6km s-min=60.4km az=74.0, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**5.79**	**205**	Pn	**Pn**	**17 46 04.4**	**-1.0**
	2.1nm,0.3s,baz=52,slow=14,SNR=22						
DZM				Sn	**Sn**	**17 47 19.4**	**+6.8**
	2.3nm,0.3s,baz=130,slow=18,SNR=1.9						
STKA	**Stephens Creek**	**29.05**	**234**	P	**P**	**17 50 41.3**	**+1.1**
	3.6nm,0.8s,baz=79,slow=10,SNR=4.7						
WRA	**Warramunga Arr**	**33.04**	**259**	P	**P**	**17 51 15.2**	**-0.3**
	0.5nm,0.8s,baz=90,slow=7.9,SNR=5.2						
ASAR	**Alice Springs**	**33.59**	**252**	P	**P**	**17 51 20.1**	**-0.4**
	0.8nm,0.6s,baz=80,slow=8.7,SNR=27						

IDC ***22*** *17:45:31.7±1.8, 17°.59S×167°.21E, h0km, mb4.0/5, mb1 4.3/6, mb1mx3.8/46, mbtmp4.1/6, ML4.1/1, MS2.9/1, Ms1 2.9/1, ms1mx2.5/32, Error ellipse: s-maj=48.5km s-min=28.7km az=122.0*
ISCJB ***22*** *17:45:32.0±1.5, 17°.71S±0°.08×167°.2E±0°.2, h12km, mb3.9/5, MS2.7/1, Error ellipse: s-maj=33.5km s-min=11.9km az=179.2*

ISC 22 17:45:33.4±1.6, **17°.7S**±0°.1×**167°.3E**±0°.3, **h12km, n7, σ1§51/7, mb4.0/5, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**4.42**	**190**	Pn	**Pn**	**17 46 41.2**	**+0.8**
	9.0nm,0.3s,baz=340,slow=15,SNR=20						
DZM				Sn	**Sn**	**17 47 31.0**	**-1.0**
	9.8nm,0.3s,baz=292,slow=23,SNR=8.9						
AFI	**Afiamalu**	**20.51**	**82**	LR	LR	17 55 48.3	
	comp=Z,34nm,19.6s,baz=234,slow=30						
STKA	**Stephens Creek**	**27.16**	**234**	P	**P**	**17 51 17.9**	**+1.2**
	6.7nm,0.8s,baz=71,slow=10,SNR=9.0						
WRA	**Warramunga Arr**	**31.22**	**261**	P	**P**	**17 51 51.5**	**-1.5**
	1.0nm,0.8s,baz=90,slow=8.8,SNR=9.6						
ASAR	**Alice Springs**	**31.72**	**254**	P	**P**	**17 51 56.5**	**-1.0**
	2.0nm,0.6s,baz=80,slow=8.7,SNR=22						
CMAR	**Chiang Mai Arr**	**76.16**	**295**	P	**P**	**17 57 23.4**	**+1.5**
	1.1nm,0.9s,baz=135,slow=4.5,SNR=6.8						
ILAR	**Eielson Array**	**89.33**	**18**	P	**P**	**17 58 28.4**	**-0.9**
	0.3nm,0.7s,baz=223,slow=5.4,SNR=4.1						

ISK ***22*** *17:46:05.6, 39°.12N×29°.18E, h5km, ML1.9/7*
ISCJB ***22*** *17:46:06.3±0.5, 39°.10N±0°.03×29°.17E±0°.03, h2km±7km, Error ellipse: s-maj=5.4km s-min=3.8km az=160.1*
CSEM ***22*** *17:46:06.4±0.1, 39°.11N×29°.18E, h8km, ML1.9, Error ellipse: s-maj=3.7km s-min=2.8km az=130.0*
DDA ***22*** *17:46:06.5, 39°.10N×29°.17E, h7km, Ml2.5*

ISC 22 17:46:06.4±0.9, **39°.11N**±0°.03×**29°.17E**±0°.02, **h8km**±7km, **n30, σ0§47/46, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIMA	**Simav-Kutahya**	**0.14**	**259**	PG	**Pg**	**17 46 09.7**	**+0.1**
SIMA				SG	**Sg**	**17 46 11.9**	**+0.1**
SIMA	**Simav-Kutahya**	**0.14**	**259**	*eP*g	**Pg**	**17 46 09.7**	**+0.1**
SIMA				*eS*g	**Sg**	**17 46 11.9**	**+0.1**
GDZ	**Gediz**	**0.25**	**95**	*i* P	**Pg**	**17 46 11.3**	**-0.1**
GDZ				*i* S	**Sg**	**17 46 15.1**	**+0.3**
GDZ	**Gediz**	**0.25**	**95**	P	**Pg**	**17 46 11.3**	**-0.1**
GDZ				S	**Sg**	**17 46 15.1**	**+0.3**
DEMI	**Demirci**	**0.36**	**259**	*i* S	**Sg**	**17 46 18.1**	**-0.1**
DEMI	**Demirci**	**0.36**	**259**	S	**Sg**	**17 46 18.0**	**-0.1**
TVSB	**Tavsanli**	**0.41**	**34**	PG	**Pg**	**17 46 13.7**	**-0.7**
TVSB				SG	**Sg**	**17 46 19.5**	**-0.3**
TVSB	**Tavsanli**	**0.41**	**34**	*eP*g	**Pg**	**17 46 13.7**	**-0.7**
TVSB				*eS*g	**Sg**	**17 46 19.5**	**-0.3**
KULA	**Kula-Manisa**	**0.71**	**214**	PG	**Pg**	**17 46 19.9**	**-0.3**
KULA	**Kula-Manisa**	**0.71**	**214**	*eP*g	**Pg**	**17 46 19.9**	**-0.3**
DURS	**Dursunbey**	**0.73**	**313**	*i* P	**Pg**	**17 46 20.7**	**+0.3**
DURS				*i* S	**Sn**	**17 46 33.8**	**-0.5**
DURS	**Dursunbey**	**0.73**	**313**	P	**Pg**	**17 46 20.7**	**+0.3**
DURS				S	**Sn**	**17 46 33.8**	**-0.5**
MANT	**Manisa**	**0.78**	**218**	*i* P	**Pg**	**17 46 21.2**	**-0.2**
MANT				*i* S	**Sg**	**17 46 30.9**	**-0.7**
MANT	**Manisa**	**0.78**	**218**	P	**Pg**	**17 46 21.2**	**-0.2**
MANT				S	**Sg**	**17 46 30.9**	**-0.7**
KHAL	**Karahalli**	**0.78**	**161**	*i* P	**Pb**	**17 46 22.0**	**-0.3**
KHAL				*i* S	**Sb**	**17 46 32.8**	**-0.3**
KHAL	**Karahalli**	**0.78**	**161**	P	**Pb**	**17 46 22.0**	**-0.3**
KHAL				S	**Sb**	**17 46 32.8**	**-0.3**
STEP	**BALIKESIR_Sava**	**1.16**	**284**	*i* P	**Pn**	**17 46 29.9**	**+1.1**
STEP				*i* S	**Sn**	**17 46 44.9**	**+0.1**
STEP	**BALIKESIR_Sava**	**1.16**	**284**	P	**Pn**	**17 46 29.9**	**+1.1**
STEP				S	**Sn**	**17 46 44.9**	**+0.1**
CAVI	**Cavuskoy**	**1.21**	**25**	PN	**Pg**	**17 46 29.2**	**-0.4**
CAVI	**Cavuskoy**	**1.21**	**25**	*eP*n	**Pg**	**17 46 29.2**	**-0.4**
BORA	**Eskisehir**	**1.26**	**52**	*i* P	**Pg**	**17 46 31.1**	**+0.6**
BORA				*i* S	**Sn**	**17 46 48.4**	**+0.9**
BORA	**Eskisehir**	**1.26**	**52**	P	**Pg**	**17 46 31.1**	**+0.6**
BORA				S	**Sn**	**17 46 48.4**	**+0.9**
KCTX	**Karacabey (Bur**	**1.31**	**332**	PN	**Pn**	**17 46 31.2**	**+0.2**
KCTX	**Karacabey (Bur**	**1.31**	**332**	*eP*n	**Pn**	**17 46 31.2**	**+0.2**
YLV	**Yalova**	**1.46**	**6**	PN	**Pn**	**17 46 33.1**	**0.0**
YLV	**Yalova**	**1.46**	**6**	*eP*n	**Pn**	**17 46 33.1**	**0.0**
ARMT	**Armutlu**	**1.47**	**351**	PN	**Pn**	**17 46 33.3**	**+0.1**
ARMT	**Armutlu**	**1.47**	**351**	*eP*n	**Pn**	**17 46 33.3**	**+0.1**
AYDB	**Zeytinkoy-Aydi**	**1.53**	**221**	PN	**Pn**	**17 46 34.5**	**+0.4**
AYDB	**Zeytinkoy-Aydi**	**1.53**	**221**	*eP*n	**Pn**	**17 46 34.5**	**+0.4**

DJA ***22*** *17:56:22.3±1.3, 1°.N±3°×12°.7E±°, h21km±10km, M3.5/6, MLv3.5/6*
IDC ***22*** *17:56:31.9±1.4, 0°.70N×125°.55E, h110km±10km, mb3.2/3, mb1 3.4/3, mb1mx3.0/54, mbtmp3.6/3, Error ellipse: s-maj=126.1km s-min=17.7km az=64.0*

ISC 22 17:56:31.3±1.2, **0°.8N**±0°.2×**126°.0E**±0°.2, **h100km, n9, σ2§16/10, mb3.6/3, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KMSI	**Cibinong**	**1.99**	**264**	P	**Pn**	**17 57 03.7**	**0.0**
KMSI				S	Sn	17 57 35.5	+7.0
LBMI	**Labuha**	**2.10**	**133**	P	Pn	17 56 56.2	-8.9
LBMI				S	Sn	17 57 21.6	-9.4
SANI	**Sanana**	**2.83**	**179**	P	**Pn**	**17 57 12.6**	**-2.1**
SGSI	**Sangihe**	**2.90**	**351**	P	Pn	17 57 03.8	-12
SGSI				S	Sn	17 57 36.2	-14
LUWI	**Luwuk**	**3.67**	**240**	P	Pn	17 57 27.4	+1.3
MRSI	**Marisa**	**4.03**	**266**	P	**Pn**	**17 57 30.0**	**-0.9**
WRA	**Warramunga Arr**	**22.19**	**159**	P	**P**	**18 01 18.6**	**-0.9**
	1.0nm,0.3s,baz=336,slow=11,SNR=21						
WRA				pP	**pP**	**18 01 43.0**	**+4.1**
	0.9nm,0.3s,baz=336,slow=11,SNR=4.8						
ASAR	**Alice Springs**	**25.51**	**163**	P	**P**	**18 01 50.1**	**-0.5**
	0.4nm,0.6s,baz=343,slow=8.4,SNR=18						
ASAR				pP	**pP**	**18 02 15.4**	**+2.7**
	0.5nm,0.7s,baz=343,slow=7.4,SNR=2.1						
ASAR				PcP	**PcP**	**18 05 20.6**	**+0.7**
	0.2nm,0.7s,baz=352,slow=1.9,SNR=2.8						
MKAR	**Makanchi Array**	**59.54**	**327**	P	**P**	**18 06 23.2**	**-1.1**
	0.2nm,0.3s,baz=114,slow=6.9,SNR=5.1						
MKAR				pP	**pP**	**18 06 48.3**	**-0.6**
	0.2nm,0.3s,baz=128,slow=8.4,SNR=2.2						

MEX 22 17:57:33.2±0.5, **16°.26N×98°.45W, h16km±20km, MD3.8, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.34**	**66**	*eP*	Pg	17 57 39.2	-1.1
PNIG				*i* S	Sg	17 57 44.1	-1.0
TLIG	**Tlapa**	**1.30**	**355**	*i* P	Pn	17 57 53.4	-3.5
TLIG				*eS*	Sb	17 58 08.5	-5.5
VHO	**Vista Hermosa**	**1.84**	**64**	*eP*	Pn	17 58 05.0	+0.8
VHO				*eS*	Sn	17 58 26.9	-0.4
CAIG	**El Cayaco**	**1.91**	**295**	*eP*	Pn	17 58 02.1	-3.0
CAIG				*eS*	Sn	17 58 23.9	-4.9

ISCJB ***22*** *17:59:59.8±0.9, 34°.41N±0°.02×32°.71E±0°.06, h1km±5km, Error ellipse: s-maj=8.2km s-min=3.7km az=168.2*
GII ***22*** *18:00:00.9±0.0, 34°.44N×32°.96E, h1km*
ISK ***22*** *18:00:01.8, 34°.47N×32°.85E, h18km, ML3.1/9*
CSEM ***22*** *18:00:02.0±0.7, 34°.44N×32°.79E, h15km, ML3.1, Error ellipse: s-maj=14.3km s-min=9.8km az=169.0*
DDA ***22*** *18:00:23.0, 34°.94N×32°.69E, h15km, Ml3.1*

ISC 22 18:00:01.7±1.6, **34°.50N**±0°.03×**32°.79E**±0°.05, **h8km**±11km, **n46, σ0§74/63, Cyprus region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LEF	**Lefka**	**0.63**	**8**	PG	**Pb**	**18 00 14.9**	**0.0**
LEF				SG	**Sb**	**18 00 24.3**	**+0.4**
LEF	**Lefka**	**0.63**	**8**	P	**Pg**	**18 00 14.1**	**+0.2**
LEF	**Lefka**	**0.63**	**8**	*eP*g	**Pb**	**18 00 14.9**	**0.0**
LEF				*eS*g	**Sb**	**18 00 24.3**	**+0.4**
LEF				S	**Sn**	**18 00 25.7**	**-1.4**
CSS	**Mathiatis**	**0.65**	**44**	PG	**Pg**	**18 00 14.6**	**+0.4**
CSS				SG	**Sb**	**18 00 24.0**	**-0.4**
CSS	**Mathiatis**	**0.65**	**44**	*eP*g	**Pg**	**18 00 14.6**	**+0.4**
CSS				*eS*g	**Sb**	**18 00 24.0**	**-0.4**
CSS	**Mathiatis**	**0.65**	**44**	Pg	**Pg**	**18 00 13.8**	**-0.4**
AKIN	**Ak¯-nc¯-lar- K**	**0.76**	**47**	PG	**Pb**	**18 00 16.9**	**-0.3**
AKIN	**Ak¯-nc¯-lar- K**	**0.76**	**47**	*eP*g	**Pb**	**18 00 16.9**	**-0.3**
AKDN	**Akdeniz- K¯-br**	**0.81**	**11**	PG	**Pb**	**18 00 18.

SNR=7.3
PYUN Piuthan 13.27 129 *e*P Pn 18 04 38.5 -1.1
4.5nm,0.2s
GKN Gorkha 14.39 125 *e*P Pn 18 04 52.9 -1.1
3.9nm,0.3s
AB31 Akbulak array 14.73 329 ⇓P P 18 05 01.0 -0.3
0.6nm,0.5s,baz=135,slow=13,SNR=18
AB31 ⇑S Sn 18 07 40.2 -0.3
1.8nm,1.1s,baz=152,slow=22,SNR=4.0
DMN Daman 14.96 125 *e*P Pn 18 05 00.8 -0.5
PKIN Phulchoki 15.17 125 *e*P Pn 18 05 03.6 -0.4
4.8nm,0.4s
GUN Gumba 15.27 123 *e*P Pn 18 05 04.9 -0.5
3.9nm,0.3s
JIRN Jiri 15.64 123 *e*P Pn 18 05 10.0 -0.1

*ISCJB **22** 18:04:52.5±0.2, 17°.39S±0'.03×69°.31W±0'.04, h160km±2km, mb4.3/72, Error ellipse: s-maj=5.9km s-min=4.4km az=4.2*
*SCB **22** 18:04:52.6±0.2, 17°.22S×68°.74W, h184km, Ml3.7/2, Error ellipse: s-maj=7.0km s-min=2.7km az=77.0*
*NEIC **22** 18:04:53.3±0.5, 17°.41S×69°.14W, h149km±4km, mb4.3/62, Error ellipse: s-maj=7.7km s-min=5.6km az=77.0*
*GUC **22** 18:04:53.8±0.7, 17°.49S×69°.31W, h147km±8km, ML4.6*
*IDC **22** 18:04:55.8±0.7, 17°.28S×69°.09W, h172km±5km, mb4.1/17, mb1 4.2/19, mb1mx4.0/44, mbtmp4.5/19, Error ellipse: s-maj=13.6km s-min=9.5km az=96.0*
ISC 22 18:04:53.6±0.6, 17°.45S±0'.03×69°.33W±0'.05, h157km±5km, n272, σ1°32/290, mb4.3/72, 6C-1D, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BBOD	**La Paz, Gloria**	**1.06**	**41**	*e*Pn		**Pn**	**18 05 21.1**	**+0.9**
BBOJ	**La Paz, Jacaqu**	**1.18**	**67**	*e*Pn		**Pn**	**18 05 21.2**	**0.0**
ARCH	**Arica**	**1.39**	**221**	*e*P		**Pn**	**18 05 22.4**	**-0.2**
ARCH				*i* S		**Sn**	**18 05 44.2**	**-0.6**
PB12	**IPOC Station P**	**1.50**	**219**	⇑*i*P		**Pn**	**18 05 23.3**	**-0.5**
PB12				*i* S		**Sn**	**18 05 46.2**	**-0.9**
LPAZ	**La Paz**	**1.62**	**45**	P		**Pn**	**18 05 26.7**	**+1.0**
LPAZ	69nm,0.3s,baz=213,slow=6.3,SNR=1150			S		**Sn**	**18 05 50.0**	**-0.2**
LPAZ	89nm,0.3s,baz=145,slow=6.3,SNR=28 **La Paz**	**1.62**	**45**	*e*Pn		**Pn**	**18 05 26.7**	**+1.0**
LPAZ				*e*Sn		**Sn**	**18 05 48.7**	**-1.5**
LPAZ	**La Paz**	**1.62**	**45**	*e*Pn		**Pn**	**18 05 25.9**	**+0.2**
LPAZ				*e*Sn		**Sn**	**18 05 49.7**	**-0.5**
LPAZ	**La Paz**	**1.62**	**45**	⇓*i*P		**Pn**	**18 05 26.7**	**+1.0**
LPAZ				*i* S		**Sn**	**18 05 50.0**	**-0.2**
MNMC	**Minye Minye**	**1.70**	**189**	*e*Pn		**Pn**	**18 05 26.8**	**+0.8**
MNMC				*e*Sn		**Sn**	**18 05 51.7**	**+0.6**
MNMC	**Minye Minye**	**1.70**	**189**	⇑*i*P		**Pn**	**18 05 26.9**	**+0.8**
MNMC				*i* S		**Sn**	**18 05 50.8**	**-0.3**
MNMC				IAML			18 05 55.9	
	comp=E,5μm,0.7s							
BBOB	**La Paz, Bander**	**1.73**	**42**	*e*Pn		**Pn**	**18 05 27.1**	**+0.4**
BBOB				*e*Sn		**Sn**	**18 05 51.7**	**-0.3**
	comp=E,491nm,0.5s							
PSGC	**Pisagua**	**2.27**	**199**	⇑*i*P		**Pn**	**18 05 31.1**	**-1.3**
PSGC				*i* S		**Sn**	**18 06 00.8**	**-1.6**
ARE	**Arequipa**	**2.29**	**295**	⇑*i*P		**Pn**	**18 05 32.5**	**-0.4**
ARE				*e*S		**Sn**	**18 06 02.0**	**-1.1**
PB11	**IPOC Station P**	**2.32**	**188**	*e*Pn		**Pn**	**18 05 33.2**	**+0.1**
PB11				*e*Sn		**Sn**	**18 06 02.8**	**-0.8**
PB11	**IPOC Station P**	**2.32**	**188**	⇑*i*P		**Pn**	**18 05 33.2**	**+0.1**
PB11				*i* S		**Sn**	**18 06 03.3**	**-0.4**
PB08	**IPOC Station P**	**2.69**	**177**	⇑*i*P		**Pn**	**18 05 38.7**	**+1.0**
PB08				*i* S		**Sn**	**18 06 12.8**	**+1.0**
PB08				IAML			18 06 14.5	
	comp=E,912nm,0.4s							
PB01	**IPOC Station P**	**3.58**	**182**	*e*Pn		**Pn**	**18 05 48.7**	**-0.1**
PB01				*e*Sn		**Sn**	**18 06 25.6**	**-6.0**
PB01	**IPOC Station P**	**3.58**	**182**	IAML			18 06 31.1	
	comp=E,1μm,0.5s							
PB02	**IPOC Station P**	**3.89**	**188**	*i* S		**Sn**	**18 06 35.8**	**-2.9**
PB04	**IPOC Station P**	**4.92**	**189**	*e*Pn		**Pn**	**18 06 05.4**	**-0.9**
PB04				*e*Sn		**Sn**	**18 06 57.5**	**-5.6**
MOCB	**Mochara**	**5.14**	**138**	*e*Pn		**Pn**	**18 06 12.1**	**+2.7**
MOCB				*e*Sn		**Sn**	**18 07 10.6**	**+2.0**
	comp=E,22nm,0.5s							
PB10	**IPOC Station P**	**6.14**	**191**	*e*Pn		**Pn**	**18 06 19.7**	**-2.6**
SIV	**San Ignacio**	**8.04**	**81**	P		**Pn**	**18 06 45.0**	**-2.7**
	comp=E,135nm,0.3s,baz=284,slow=14,SNR=522							
SIV	**San Ignacio**	**8.04**	**81**	*e*Pn		**Pn**	**18 06 44.9**	**-2.7**
SAML	**Samuel**	**10.35**	**36**	*e*Pn		**Pn**	**18 07 14.6**	**-3.6**
CPUP	**Villa Florida**	**14.21**	**131**	P		**Pn**	**18 08 07.2**	**-0.7**
	comp=E,0.1nm,0.3s,baz=308,slow=14,SNR=2.8							
GO05	**HualaæØ**	**17.65**	**187**	*e*P		**P**	**18 08 47.8**	**-0.7**
	comp=E,7.7nm,0.8s							
PTGA	**Pitinga**	**18.99**	**30**	P		**P**	**18 09 01.6**	**-1.7**
	comp=E,2.8nm,0.3s,baz=212,slow=13,SNR=22							
PTGA				S		**S**	**18 12 25.3**	**-5.5**
	comp=E,0.3nm,0.3s,baz=319,slow=19,SNR=3.5							
PTGA	**Pitinga**	**18.99**	**30**	*e*P		**P**	**18 09 01.7**	**-1.6**
	comp=E,12nm,0.8s							
OTAV	**Otavalo**	**19.74**	**332**	*e*P		**Pn**	**18 09 14.0**	**-1.0**
	comp=E,2.6nm,0.6s							
TRQA	**Tornquist**	**21.52**	**164**	*e*P		**P**	**18 09 30.4**	**0.0**
	comp=E,90nm,2.0s							
PLCA	**Paso Flores**	**23.23**	**182**	P		**P**	**18 09 48.0**	**+1.2**
	comp=E,14nm,0.8s,baz=25,slow=10,SNR=53							
PLCA	**Paso Flores**	**23.23**	**182**	*e*P		**P**	**18 09 48.1**	**+1.3**
	comp=E,27nm,1.0s							
RUSC	**La Rusia**	**23.48**	**351**	*e*P		**P**	**18 09 48.2**	**-1.7**
	comp=E,6.5nm,1.3s							
MTP	**Monte Pirata**	**35.52**	**6**	*e*P		**P**	**18 11 32.8**	**-2.7**
	comp=E,41nm,1.7s							
CMIG	**Matias Romero**	**42.56**	**322**	P		**P**	**18 12 34.6**	**+0.5**
	comp=E,3.2nm,0.6s,baz=112,slow=7.9,SNR=6.6							
LNIG	**Linares**	**51.32**	**324**	*e*P		**P**	**18 13 42.1**	**+0.1**
	comp=E,63nm,1.2s							
JCT	**Junction City**	**55.95**	**328**	P		**P**	**18 14 16.7**	**+1.0**
	baz=144							
JCT	**Junction City**	**55.95**	**328**	*e*P		**P**	**18 14 16.8**	**+1.0**
	comp=E,5.8nm,0.6s							
WHTX	**Lake Whitney,**	**56.07**	**331**	P		**P**	**18 14 17.1**	**+0.7**
	baz=147							
X39A	**Fountain Ranch**	**56.80**	**336**	P		**P**	**18 14 22.3**	**+0.8**
	baz=151							
V41A	**Mountainview**	**57.19**	**338**	P		**P**	**18 14 23.4**	**-0.8**
	baz=154							
W39A	**Magazine**	**57.27**	**336**	P		**P**	**18 14 25.4**	**+0.6**
	baz=152							
U42A	**Revenden**	**57.38**	**339**	P		**P**	**18 14 24.4**	**-1.1**
	baz=155							
V40A	**Witts Springs**	**57.45**	**337**	P		**P**	**18 14 25.4**	**-0.7**
	baz=153							
PBMO	**Poplar Bluff**	**57.49**	**340**	*e*P		**P**	**18 14 25.4**	**-1.0**
	comp=E,14nm,0.6s							
U41A	**Viola**	**57.61**	**338**	P		**P**	**18 14 26.3**	**-0.8**
	baz=154							
ABTX	**Abilene, Hawle**	**57.62**	**330**	P		**P**	**18 14 27.6**	**+0.2**
	baz=145							
ABTX	**Abilene, Hawle**	**57.62**	**330**	*e*P		**P**	**18 14 27.7**	**+0.3**
	comp=E,9.2nm,0.6s							
T43A	**Greenville**	**57.73**	**340**	P		**P**	**18 14 27.3**	**-0.7**
	baz=156							
V39A	**Pettigrew**	**57.78**	**337**	P		**P**	**18 14 28.1**	**-0.3**
	baz=152							
T42A	**Van Buren**	**57.94**	**340**	P		**P**	**18 14 28.4**	**-1.1**
	baz=155							
U40A	**Yellville**	**57.95**	**338**	P		**P**	**18 14 28.8**	**-0.8**
	baz=153							
S44A	**Carbondale**	**57.96**	**341**	P		**P**	**18 14 28.5**	**-1.1**
	baz=157							
S43A	**Fulton Ridge,**	**58.11**	**341**	P		**P**	**18 14 29.1**	**-1.5**
	baz=156							
T41A	**Mountain View**	**58.18**	**339**	P		**P**	**18 14 29.9**	**-1.2**
	baz=154							
U39A	**Green Forest**	**58.20**	**337**	P		**P**	**18 14 30.6**	**-0.8**
	baz=152							
S42A	**Caledonia**	**58.52**	**340**	P		**P**	**18 14 32.2**	**-1.3**
	baz=156							
S41A	**Jillco Farms,**	**58.67**	**339**	P		**P**	**18 14 33.5**	**-1.0**
	baz=155,SNR=7.2							
T39A	**Clever**	**58.74**	**338**	P		**P**	**18 14 34.3**	**-0.7**
	baz=153							
CCM	**Cathedral Cave**	**58.92**	**340**	P		**P**	**18 14 35.4**	**-0.9**
	baz=155							
CCM	**Cathedral Cave**	**58.92**	**340**	*e*P		**P**	**18 14 35.5**	**-0.7**
	comp=E,8.5nm,1.0s							
S40A	**Lebanon**	**58.94**	**339**	P		**P**	**18 14 35.4**	**-1.0**
	baz=154,SNR=5.2							
R42A	**Luebbering**	**58.98**	**340**	P		**P**	**18 14 35.7**	**-1.0**
	baz=156,SNR=8.5							
T38A	**Diamond**	**59.09**	**337**	P		**P**	**18 14 37.2**	**-0.2**
	baz=152							
R41A	**Rosebud**	**59.19**	**340**	P		**P**	**18 14 37.1**	**-1.0**
	baz=155,SNR=12							
S39A	**Bolivar**	**59.31**	**338**	P		**P**	**18 14 38.0**	**-1.0**
	baz=153							
R40A	**Maddies Statio**	**59.48**	**339**	P		**P**	**18 14 39.1**	**-0.9**
	baz=154,SNR=6.5							
Q41A	**Truxton**	**59.74**	**340**	P		**P**	**18 14 40.5**	**-1.3**
	baz=155							
R39A	**Chumby, Stover**	**59.77**	**339**	P		**P**	**18 14 40.9**	**-1.2**
	baz=153							
MNTX	**Cornudas Mount**	**59.87**	**325**	P		**P**	**18 14 42.3**	**-0.6**
	baz=139							
MNTX	**Cornudas Mount**	**59.87**	**325**	*e*P		**P**	**18 14 42.6**	**-0.3**
	comp=E,24nm,1.8s							
R38A	**Fenwick Farm,**	**59.96**	**338**	P		**P**	**18 14 42.5**	**-0.9**
	baz=152							
Q40A	**Laux Farm, Aux**	**60.05**	**340**	P		**P**	**18 14 41.3**	**-2.7**
	baz=155							
MSTX	**Muleshoe**	**60.25**	**328**	*e*P		**P**	**18 14 45.7**	**+0.1**
	comp=E,7.0nm,0.9s							
P41A	**Barry, Barry**	**60.34**	**341**	P		**P**	**18 14 44.9**	**-1.0**
	baz=156							
Q39A	**Willow Grove F**	**60.40**	**339**	P		**P**	**18 14 45.4**	**-0.9**
	baz=154							
P40A	**Paris**	**60.52**	**340**	P		**P**	**18 14 46.3**	**-0.8**
	baz=155							
Q38A	**Cooks Store, C**	**60.55**	**338**	P		**P**	**18 14 46.7**	**-0.6**
	baz=153							
O41A	**Passleys Farm,**	**60.69**	**341**	P		**P**	**18 14 46.7**	**-1.5**
	baz=156							
P39B	**Salisbury**	**60.72**	**339**	P		**P**	**18 14 47.4**	**-1.1**
	baz=154							
O40A	**La Belle**	**61.00**	**340**	P		**P**	**18 14 49.2**	**-1.2**
	baz=155							
P38A	**Dawn**	**61.11**	**339**	P		**P**	**18 14 50.8**	**-0.3**
	baz=153							
P37A	**Lathrop**	**61.36**	**338**	P		**P**	**18 14 52.2**	**-0.6**
	baz=152							
N39A	**Derby Farms, D**	**61.89**	**340**	P		**P**	**18 14 55.0**	**-1.4**
	baz=155							
M38A	**Pleasantville**	**62.60**	**340**	P		**P**	**18 15 00.2**	**-0.9**
	baz=154							
N36A	**Muff Farm, Cla**	**62.67**	**338**	P		**P**	**18 15 01.6**	**+0.1**
	baz=152							
ANMO	**Albuquerque**	**62.92**	**326**	P		**P**	**18 15 04.4**	**+0.9**
	baz=140							
M36A	**Felix, Anita**	**63.18**	**339**	P		**P**	**18 15 04.7**	**-0.2**
	baz=152							
J40A	**Soldiers Grove**	**63.66**	**343**	P		**P**	**18 15 07.4**	**-0.6**
	baz=157							
L36A	**Harm Buss Farm**	**63.70**	**339**	P		**P**	**18 15 08.5**	**+0.2**
	baz=153							
J39A	**Deorah**	**63.88**	**342**	P		**P**	**18 15 08.6**	**-0.9**
	baz=156							
L35A	**Bielow Farm, R**	**64.02**	**339**	P		**P**	**18 15 10.1**	**-0.3**
	baz=152							
VNA3	**Neumayer Olymp**	**64.03**	**162**	P		**P**	**18 15 11.2**	**+1.1**
K36A	**Gilmore City**	**64.11**	**340**	P		**P**	**18 15 10.8**	**-0.2**
	baz=153,SNR=7.9							
M33A	**Taylor Creek F**	**64.14**	**337**	P		**P**	**18 15 10.6**	**-0.6**
	baz=150							
VNA1	**Neumayer--Stat**	**64.22**	**161**	P		**P**	**18 15 11.5**	**+0.2**
BGNE	**Belgrade**	**64.36**	**336**	P		**P**	**18 15 13.1**	**+0.4**
	baz=149							
J37A	**Redenius Farm,**	**64.42**	**341**	P		**P**	**18 15 12.4**	**-0.6**
	baz=154							
SDCO	**Great Sand Dun**	**64.58**	**329**	P		**P**	**18 15 15.3**	**+0.8**
	baz=141							
SDCO	**Great Sand Dun**	**64.58**	**329**	*e*P		**P**	**18 15 15.4**	**+0.8**
	comp=E,3.3nm,0.8s							
VNA2	**Neumayer--Watz**	**64.59**	**161**	P		**P**	**18 15 14.6**	**+0.8**
	baz=300,slow=7.4							
H40A	**Chili**	**64.69**	**344**	P		**P**	**18 15 13.9**	**-0.8**
	baz=158							
J36A	**Seneca 1, Swea**	**64.69**	**340**	P		**P**	**18 15 14.3**	**-0.4**
	baz=153							
K34A	**Le Mars**	**64.72**	**338**	P		**P**	**18 15 14.5**	**-0.4**
	baz=151							
I37A	**Lemond, Waseca**	**65.01**	**341**	P		**P**	**18 15 16.6**	**-0.2**
	baz=154							
J35A	**Milford**	**65.01**	**339**	P		**P**	**18 15 16.1**	**-0.7**
	baz=152							
S22A	**4UR Ranch, Cre**	**65.25**	**328**	P		**P**	**18 15 20.2**	**+1.4**
	baz=140							
S22A	**4UR Ranch, Cre**	**65.25**	**328**	*e*P		**P**	**18 15 19.9**	**+1.0**
	comp=E,2.2nm,0.8s							
X16A	**Lo Mia Camp, P**	**65.31**	**322**	*e*P		**P**	**18 15 20.9**	**+1.7**
	comp=E,3.0nm,1.1s							
I35A	**Creekview Farm**	**65.37**	**340**	P		**P**	**18 15 18.7**	**-0.4**
	baz=153,SNR=11							
F41A	**Three Lakes**	**65.39**	**345**	P		**P**	**18 15 19.0**	**-0.2**
	baz=159							
J33A	**Davis**	**65.58**	**338**	P		**P**	**18 15 20.2**	**-0.2**
	baz=151,SNR=11							
G38A	**Ridgeland**	**65.60**	**343**	P		**P**	**18 15 19.7**	**-0.9**
	baz=156							
K31A	**O'Neill**	**65.63**	**337**	P		**P**	**18 15 21.0**	**+0.2**
	baz=149							
MVCO	**Mesa Verde**	**65.71**	**326**	*e*P		**P**	**18 15 22.8**	**+1.1**
	comp=E,5.3nm,1.0s							
ECSD	**EROS Data Cent**	**65.82**	**339**	P		**P**	**18 15 21.7**	**-0.3**
	baz=151							
ECSD	**EROS Data Cent**	**65.82**	**339**	*e*P		**P**	**18 15 21.7**	**-0.3**
	comp=E,30nm,1.7s							
SPMN	**Marine on St.**	**65.92**	**342**	P		**P**	**18 15 22.0**	**-0.6**
	baz=155,SNR=5.7							
SPMN	**Marine on St.**	**65.92**	**342**	*e*P		**P**	**18 15 22.1**	**-0.6**
	comp=E,10nm,0.6s							
J32A	**Parkston**	**65.94**	**338**	P		**P**	**18 15 22.8**	**+0.1**
	baz=150							
F39A	**Loretta**	**66.03**	**344**	P		**P**	**18 15 22.9**	**-0.4**
	baz=157							
H35A	**Sunnyside Ranc**	**66.07**	**340**	P		**P**	**18 15 23.1**	**-0.5**
	baz=153,SNR=11							
SNAA	**Sanae**	**66.22**	**162**	P		**P**	**18 15 24.9**	**+0.6**
SNAA	**Sanae**	**66.22**	**162**	P		**P**	**18 15 25.3**	**+1.0**
	comp=E,6.2nm,0.6s,baz=279,slow=7.5,SNR=43							
SNAA	**Sanae**	**66.22**	**162**	*e*P		**P**	**18 15 25.4**	**+1.1**
	comp=E,7.7nm,0.7s							
ISCO	**Idaho Springs**	**66.25**	**330**	P		**P**	**18 15 25.8**	**+0.6**
	baz=142							
ISCO	**Idaho Springs**	**66.25**	**330**	*e*P		**P**	**18 15 26.2**	**+1.1**
	comp=E,2.6nm,0.8s							
E40A	**Wakefield**	**66.25**	**345**	P		**P**	**18 15 24.4**	**-0.3**
	baz=158							
F38A	**Pierce - Schro**	**66.33**	**343**	P		**P**	**18 15 24.5**	**-0.7**
	baz=156,SNR=6.0							
H34A	**Spellman Lake,**	**66.35**	**340**	P		**P**	**18 15 25.0**	**-0.3**
	baz=152,SNR=7.8							
E39A	**Mellen**	**66.36**	**344**	P		**P**	**18 15 25.0**	**-0.4**
	baz=158							
GLA	**Glamis**	**66.41**	**319**	*e*P		**P**	**18 15 28.4**	**+2.4**
	comp=E,4.9nm,0.8s							
SMCO	**Snowmass**	**66.42**	**329**	*e*P		**P**	**18 15 27.8**	**+1.4**
	comp=E,3.3nm,0.8s							
G35A	**Wink**	**66.43**	**341**	P		**P**	**18 15 25.7**	**-0.2**
	baz=154							
PV01	**Paradox Valley**	**66.44**	**327**	*e*P		**P**	**18 15 27.5**	**+1.2**
D41A	**Chassel**	**66.50**	**346**	P		**P**	**18 15 26.0**	**-0.2**
	baz=160							
F36A	**Milaca**	**66.72**	**342**	P		**P**	**18 15 27.1**	**-0.5**
	baz=155,SNR=8.6							
H32A	**Carlson Farm,**	**66.78**	**338**	P		**P**	**18 15 28.3**	**+0.2**
	baz=150							
G34A	**Benson**	**66.82**	**340**	P		**P**	**18 15 27.8**	**-0.5**
	baz=152							
G33A	**Ortonville**	**67.04**	**340**	P		**P**	**18 15 29.3**	**-0.4**
	baz=152,SNR=8.3							
F34A	**Alexandria**	**67.19**	**341**	P		**P**	**18 15 30.7**	**+0.1**
	baz=153							
U15A	**North Rim**	**67.22**	**323**	*e*P		**P**	**18 15 33.2**	**+1.8**
	comp=E,2.9nm,0.9s							
E36A	**McGregor**	**67.23**	**342**	P		**P**	**18 15 30.4**	**-0.5**
	baz=155,SNR=7.3							
MONP2	**Monument Peak**	**67.31**	**318**	P		**P**	**18 15 33.8**	**+1.8**
	baz=131							
IRM	**Iron Mountain**	**67.35**	**320**	P		**P**	**18 15 33.3**	**+1.4**
	baz=132							
F33A	**5 Mile Ranch,**	**67.56**	**340**	P		**P**	**18 15 32.2**	**-0.8**
	baz=152,SNR=8.0							
D37A	**Cotton**	**67.58**	**343**	P		**P**	**18 15 32.0**	**-1.1**
	baz=156							
C39A	**Grand Marais**	**67.59**	**345**	P		**P**	**18 15 32.3**	**-0.8**
	baz=158,SNR=6.1							
G31A	**Conde**	**67.67**	**338**	P		**P**	**18 15 33.7**	**0.0**
	baz=150							
O20A	**White River Ci**	**67.78**	**329**	P		**P**	**18 15 36.0**	**+1.2**
	baz=140							
E34A	**Wadena**	**67.80**	**341**	P		**P**	**18 15 34.4**	**-0.1**
	baz=153							
XPFO	**Piæon Flat**	**67.80**	**319**	*e*P		**P**	**18 15 36.8**	**+1.9**
	comp=E,3.6nm,0.8s							
D36A	**Goodland**	**67.80**	**343**	P		**P**	**18 15 34.1**	**-0.3**
	baz=155							
PFO	**Pinyon Flats O**	**67.81**	**319**	P		**P**	**18 15 36.3**	**+1.3**
	baz=131							
PFO	**Pinyon Flats O**	**67.81**	**319**	*e*P		**P**	**18 15 36.8**	**+1.9**
	comp=E,3.4nm,0.8s							
F32A	**Veblen**	**67.86**	**339**	P		**P**	**18 15 34.6**	**-0.3**
	baz=151							
KNB	**Kanab**	**67.94**	**324**	*e*P		**P**	**18 15 37.0**	**+1.2**
	comp=E,6.4nm,0.8s							
D35A	**Remer**	**67.97**	**342**	P		**P**	**18 15 35.5**	**0.0**
	baz=154,SNR=5.5							
DBIC	**Dimbokro**	**68.02**	**75**	P		**P**	**18 15 35.0**	**-1.5**
	comp=E,5.0nm,0.5s,baz=232,slow=6.8,SNR=16							
C37A	**Embarrass**	**68.04**	**344**	P		**P**	**18 15 35.2**	**-0.7**
	baz=156							
EYMN	**Ely**	**68.05**	**344**	P		**P**	**18 15 35.3**	**-0.7**
	baz=157							
GMRC	**Granite Mounta**	**68.08**	**320**	P		**P**	**18 15 38.1**	**+1.4**
	baz=132							
LCMT	**Little Creek M**	**68.17**	**323**	*e*P		**P**	**18 15 39.1**	**+1.9**
	comp=E,2.2nm,0.9s							
SRU	**San Rafael Swe**	**68.19**	**326**	*e*P		**P**	**18 15 38.4**	**+1.1**
	comp=E,3.0nm,0.8s							
F31A	**Hecla**	**68.24**	**339**	P		**P**	**18 15 37.5**	**+0.3**
	baz=150							
C36A	**Pine Crest Far**	**68.24**	**343**	P		**P**	**18 15 36.7**	**-0.5**
	baz=156,SNR=6.1							
MTPU	**Mount Pierson**	**68.31**	**325**	*e*P		**P**	**18 15 39.8**	**+1.5**
	comp=E,1.7nm,0.7s							
D34A	**Park Rapids**	**68.32**	**341**	P		**P**	**18 15 36.8**	**-0.9**
	baz=153							
P18A	**Preston Nutter**	**68.42**	**327**	*e*P		**P**	**18 15 40.4**	**+1.5**
	comp=E,2.7nm,0.8s							
C35A	**Jirik Farms, M**	**68.51**	**342**	P		**P**	**18 15 38.6**	**-0.2**
	baz=154							
P17A	**Butcher Ranch,**	**68.56**	**327**	*e*P		**P**	**18 15 40.9**	**+1.2**
	comp=E,3.5nm,0.8s							
CCUT	**Cedar City**	**68.62**	**324**	*e*P		**P**	**18 15 42.6**	**+2.5**
	comp=E,4.1nm,0.8s							
MSU	**Marysvale**	**68.64**	**325**	*e*P		**P**	**18 15 41.6**	**+1.5**
C34A	**RKJ Ranch, Bem**	**68.74**	**342**	P		**P**	**18 15 39.7**	**-0.6**
	baz=154,SNR=8.0							
SHPR	**Sheep Range**	**68.94**	**322**	*e*P		**P**	**18 15 43.7**	**+1.7**
	comp=E,3.3nm,0.7s							
D32A	**Dogwood Acres,**	**68.94**	**340**	P		**P**	**18 15 41.7**	**+0.2**
	baz=151							
RSSD	**Black Hills**	**69.00**	**334**	P		**P**	**18 15 43.3**	**+1.1**
	baz=144							
B35A	**Bob, Littlefor**	**69.04**	**343**	P		**P**	**18 15 41.4**	**-0.7**
	baz=155,SNR=9.4							
GSC	**Goldstone, Bar**	**69.13**	**320**	P		**P**	**18 15 44.6**	**+1.5**
	baz=131							
GSC	**Goldstone, Bar**	**69.13**	**320**	*e*P		**P**	**18 15 44.9**	**+1.8**
	comp=E,3.1nm,0.8s							
B34A	**Aery, Baudette**	**69.42**	**342**	P		**P**	**18 15 43.8**	**-0.6**
	baz=154							
B33A	**Robert and Kas**	**69.50**	**342**	P		**P**	**18 15 44.6**	**-0.3**
	baz=153							
EDW2	**Edwards Air Fo**	**69.59**	**319**	P		**P**	**18 15 47.2**	**+1.3**
	baz=130							
AGMN	**Agassiz Nation**	**69.61**	**341**	P		**P**	**18 15 45.2**	**-0.5**
	baz=153,SNR=9.6							
AGMN	**Agassiz Nation**	**69.61**	**341**	*e*P		**P**	**18 15 45.1**	**-0.5**
	comp=E,8.9nm,0.6s							
LRMC	**Laurel Mtn Rad**	**69.79**	**319**	P		**P**	**18 15 48.9**	**+1.7**
	baz=130							
TPNV	**Topopah Spring**	**69.88**	**321**	P		**P**	**18 15 49.4**	**+1.6**
	baz=132							
TPNV	**Topopah Spring**	**69.88**	**321**	*e*P		**P**	**18 15 49.9**	**+2.1**
	comp=E,5.0nm,0.6s							
B32A	**Ashes, Strandq**	**69.90**	**341**	P		**P**	**18 15 47.3**	**-0.1**
	baz=152,SNR=6.8							
FURC	**Furnace Creek,**	**69.93**	**321**	P		**P**	**18 15 49.6**	**+1.8**
	baz=131							
MPMC	**Manual Prospec**	**70.04**	**320**	P		**P**	**18 15 50.1**	**+1.2**
	baz=131							
DUG	**Dugway, Tooele**	**70.19**	**326**	P		**P**	**18 15 50.7**	**+1.2**
	baz=136							
DUG	**Dugway, Tooele**	**70.19**	**326**	*e*P		**P**	**18 15 50.8**	**+1.2**
	comp=E,5.1nm,1.3s							
DAC	**Darwin (Calif)**	**70.25**	**320**	*e*P		**P**	**18 15 51.8**	**+1.7**
	comp=E,3.7nm,0.9s							
B31A	**Greenbush Farm**	**70.28**	**340**	P		**P**	**18 15 49.2**	**-0.4**
	baz=151							
ISA	**Isabella, Lake**	**70.40**	**319**	P		**P**	**18 15 52.6**	**+1.7**
	baz=130							
ISA	**Isabella, Lake**	**70.40**	**319**	*e*P		**P**	**18 15 52.5**	**+1.7**
	comp=E,3.5nm,0.

	baz=129								
PINE	**Pine Mountain**	**77.07**	**324**	*e*P		**P**		**18 16 31.6**	**+1.9**
	comp=E,4.9nm,0.8s								
J04D	**Umpqua Nationa**	**77.38**	**323**	P		**P**		**18 16 32.6**	**+1.2**
	baz=129								
I05D	**Terrebonne, OR**	**77.64**	**325**	P		**P**		**18 16 34.7**	**+2.1**
	baz=130								
G05D	**Wamic, OR**	**78.20**	**325**	P		**P**		**18 16 37.8**	**+2.0**
	baz=130								
I03D	**Drain, OR**	**78.37**	**323**	P		**P**		**18 16 39.0**	**+2.4**
	baz=128								
FCC	**Fort Churchill**	**78.61**	**347**	*e*P		**P**		**18 16 37.8**	**+0.2**
	comp=E,3.8nm,0.6s								
LTY	**Liberty**	**79.16**	**327**	*e*P		**P**		**18 16 42.5**	**+1.5**
	comp=E,3.4nm,0.8s								
E03A	**Lebam**	**80.25**	**325**	*e*P		**P**		**18 16 48.8**	**+2.1**
	comp=E,9.5nm,0.6s								
B05A	**Bryant**	**80.55**	**327**	P		**P**		**18 16 49.2**	**+0.9**
	baz=129								
VNDA	**Vanda**	**80.75**	**190**	P		**P**		**18 16 51.5**	**+2.4**
	comp=E,1.8nm,0.8s,baz=125,slow=5.2,SNR=11								
NLWA	**Neilton Lookou**	**80.93**	**326**	*e*P		**P**		**18 16 52.2**	**+1.8**
	comp=E,6.3nm,0.8s								
PGC	**Sidney**	**81.49**	**327**	*e*P		**P**		**18 16 55.1**	**+1.9**
	comp=E,14nm,0.7s								
ESDC	**Sonseca Array**	**83.24**	**45**	P		**P**		**18 17 02.8**	**+0.2**
	comp=E,0.7nm,0.6s,baz=247,slow=5.8,SNR=7.3								
ES19	**SONSECA Array**	**83.30**	**45**	*e*P		**P**		**18 17 05.5**	**+2.5**
YKA	**Yellowknife Ar**	**87.25**	**341**	P		**P**		**18 17 22.2**	**+0.3**
	comp=E,9.0nm,0.7s,baz=133,slow=4.9,SNR=221								
MAW	**Mawson**	**88.31**	**164**	P		**P**		**18 17 28.4**	**+1.4**
	comp=E,9.1nm,0.6s,baz=188,slow=4.9,SNR=22								
MAW	**Mawson**	**88.31**	**164**	*e*P		**P**		**18 17 28.4**	**+1.4**
	comp=E,2.1nm,0.6s								
DLBC	**Dease Lake**	**90.44**	**333**	*e*P		**P**		**18 17 38.5**	**+1.4**
	comp=E,13nm,1.6s								
EKA	**Eskdalemuir Ar**	**91.38**	**32**	P		**P**		**18 17 40.5**	**-0.9**
	comp=E,0.3nm,0.5s,baz=232,slow=4.4,SNR=2.7								
RES	**Resolute Bay**	**93.35**	**353**	P		**P**		**18 17 50.1**	**0.0**
	comp=E,1.3nm,0.9s,baz=192,slow=7.0,SNR=4.4								
PETK	**Petropavlovsk-**	**129.05**	**325**	PKP		**PKPdf**		**18 23 43.6**	**+0.9**
	comp=E,4.5nm,1.0s,baz=82,slow=2.3,SNR=3.6								
BVAR	**Borovoye Array**	**132.63**	**32**	PKP		**PKPdf**		**18 23 50.0**	**+0.5**
	comp=E,0.3nm,0.6s,baz=318,slow=1.9,SNR=2.9								
ASAR	**Alice Springs**	**133.26**	**210**	PKhKP	PKPpre			18 23 36.1	
	comp=E,0.3nm,0.6s,baz=138,slow=2.4,SNR=5.6								
ASAR				PKP		**PKiKP**		**18 23 52.0**	**-0.9**
	comp=E,1.1nm,0.5s,baz=131,slow=1.7,SNR=22								
WRA	**Warramunga Arr**	**136.18**	**213**	PKhKP	PKPpre			18 23 43.7	
	comp=E,0.3nm,0.8s,baz=152,slow=2.3,SNR=5.1								
WRA				PKP		**PKiKP**		**18 23 58.0**	**-0.9**
	comp=E,1.6nm,0.5s,baz=146,slow=1.9,SNR=17								
KURK	**Kurchatov**	**138.10**	**30**	PKP		**PKPdf**		**18 23 59.9**	**+0.2**
KURBB	**Kurchatov Arra**	**138.12**	**31**	PKP		**PKPdf**		**18 23 59.9**	**+0.1**
	comp=E,0.6nm,0.5s,baz=306,slow=2.5,SNR=5.7								
ZALV	**Zalesovo Beam**	**138.43**	**23**	PKP		**PKPdf**		**18 24 00.0**	**-0.2**
	comp=E,2.7nm,0.5s,baz=290,slow=3.7,SNR=13								
ZALV				SKP				18 27 20.2	
	comp=E,1.3nm,0.6s,baz=315,slow=2.8,SNR=6.0								
MKAR	**Makanchi Array**	**142.52**	**32**	PKhKP	PKPpre			18 24 03.9	
	comp=E,0.4nm,0.4s,baz=323,slow=2.9,SNR=10								
MKAR				SKPbc		**SKPbc**		**18 27 28.9**	**-2.4**
	comp=E,0.3nm,0.6s,baz=0.0,slow=2.9,SNR=3.0								
USRK	**Ussuriysk Ar.**	**147.85**	**331**	PKPbc		**PKPbc**		**18 24 21.1**	**+0.9**
	comp=E,4.1nm,0.7s,baz=59,slow=0.6,SNR=5.4								
MJAR	**Matsushiro Arr**	**149.13**	**313**	PKPbc		**PKPbc**		**18 24 23.0**	**-0.8**
	comp=E,2.0nm,0.7s,baz=89,slow=1.1,SNR=7.6								
SONM	**Songino Array**	**149.49**	**6**	PKPbc		**PKPbc**		**18 24 25.2**	**+0.7**
	comp=E,4.7nm,0.5s,baz=330,slow=2.6,SNR=7.7								
KSRS	**Korea Array**	**154.95**	**326**	PKPbc		**PKPbc**		**18 24 37.3**	**+0.4**
	comp=E,0.7nm,0.7s,baz=82,slow=2.4,SNR=3.0								
KSAR	**Wonju Array Be**	**154.98**	**326**	PKPbc		**PKPbc**		**18 24 37.3**	**+0.3**
LZH	**Lanzhou**	**160.47**	**17**	*e*PKP		**PKPdf**		**18 24 34.0**	**-1.1**
LZH				pPKP	PKPab			18 25 15.3	-1.6
LZH				PKP		**pPKPdf**		**18 25 18.3**	**+1.5**
LZH				sPKP				18 25 31.0	
CD2	**Chengdu**	**165.19**	**24**	PKP		**PKPdf**		**18 24 39.0**	**-0.7**

*ISCJB **22** 18:11:58.4±0.2,19°.28N±0°.02×104°.47W±0°.02,h10km, mb4.6/151,MS4.1/28,Error ellipse: s-maj=3.7km s-min=1.9km az=26.0*

*MEX **22** 18:12:00.6±1.0,19°.26N×104°.64W,h8km,MD4.9*

*NEIC **22** 18:12:00.6±0.0,19°.26N×104°.64W,h8km,mb4.6/173, MD4.9(MEX),After MEX.*

NEIC Felt [V] at Cihuatlan, [IV] at Casimiro Castillo and Manzanillo and [III] at Bucerias and Puerto Vallarta. Felt in much of Colima, Jalisco and Nayarit.

*GCMT **22** 18:12:00.6±0.3,19°.33N×104°.60W,h19km,MW5.0/107, Moment Tensor Solution. s73,c93; s107,c143; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr=4.96±.14; Mθθ3.58±.10; Mϕϕ1.38±.10; Mrθ0.42±.22; Mθϕ0.99±.08; Mϕr-0.30±.23; Best double couple: M0=4.48700×10^16^ NP1:ϕs253.00000°,δ47.00000°,λ-84.00000°. NP2: ϕs65.00000°,δ43.00000°,λ-96.00000°. Principal axes: T 3.9720, Plg2.0000°, Azm339.0000°; N 1.0280, Plg4.0000°, Azm69.0000°; P -5.0010, Plg85.0000°, Azm225.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*IDC **22** 18:12:05.3±2.1,19°.54N×104°.41W,h53km±17km,mb4.3/24, mb1 4.4/28,mb1mx4.3/51,mbtmp4.5/28,ML4.2/4,MS4.1/31, Ms1 4.1/31,ms1mx4.0/49 Error ellipse: s-maj=18.6km s-min=9.5km az=43.0*

ISC 22 18:12:00.4±1.1,19°25N±0°.04×104°57W±0°.03,h17km±5km, n640,σ1§66/652,mb4.7/151,MS4.1/28,Near coast of Jalisco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CJM	**Chamela**	**0.51**	**300**	*e*P	**Pg**	**18 12 08.8**	**-1.8**
CJM				*i* S	**Sg**	**18 12 16.0**	**-1.6**
CJM	**Chamela**	**0.51**	**300**	*e*P	**Pg**	**18 12 08.8**	**-1.8**
CJM				*i* S	**Sg**	**18 12 16.0**	**-1.6**
EZ5V		**0.94**	**76**	*e*P	**Pg**	**18 12 16.7**	**-2.1**
EZ5V				*e*S	**Sg**	**18 12 30.1**	**-1.2**
MMIG	**Aquila**	**1.50**	**129**	*e*P	**Pn**	**18 12 24.9**	**-1.7**
MMIG				*e*S	**Sn**	**18 12 45.2**	**-0.6**
MMIG	**Aquila**	**1.50**	**129**	*e*P	**Pn**	**18 12 24.9**	**-1.7**
MMIG				*e*S	**Sn**	**18 12 45.2**	**-0.6**
MOIG	**Morelia**	**3.22**	**82**	*e*P	**Pn**	**18 12 51.0**	**+0.6**
MOIG				*e*S	**Sn**	**18 13 28.8**	**+0.2**
MOIG	**Morelia**	**3.22**	**82**	*e*Pn	**Pn**	**18 12 51.9**	**+1.5**
MOIG				*e*S	**Sn**	**18 13 28.8**	**+0.2**
ZIIG	**Zihuatanejo**	**3.37**	**118**	*e*P	**Pn**	**18 12 51.1**	**-1.2**
ZIIG				*e*S	**Sn**	**18 13 32.2**	**+0.3**
ZIIG	**Zihuatanejo**	**3.37**	**118**	*e*P	**Pn**	**18 12 51.1**	**-1.2**
ZIIG				*e*S	**Sn**	**18 13 32.2**	**+0.3**
IGIG	**Irapuato, Guan**	**3.40**	**63**	*e*P	**Pn**	**18 12 53.1**	**+0.2**
IGIG				*e*S	**Sn**	**18 13 32.8**	**-0.2**
ZAIG	**Zacatecas**	**3.97**	**28**	*e*Pn	**Pn**	**18 13 00.8**	**-0.1**
ARIG	**Puente Sto Nin**	**4.12**	**103**	*e*P	**Pn**	**18 13 04.1**	**+1.5**
ARIG				*e*S	**Sn**	**18 13 50.9**	**+0.5**
JRQG	**Juriquilla Cam**	**4.14**	**69**	*e*Pn	**Pn**	**18 13 05.4**	**+2.2**
JRQG				*e*Sn	**Sn**	**18 13 53.6**	**+2.3**
CAIG	**El Cayaco**	**4.64**	**117**	*e*P	**Pn**	**18 13 09.9**	**+0.1**
CAIG				*e*S	**Sn**	**18 14 03.5**	**+0.3**
CAIG	**El Cayaco**	**4.64**	**117**	*e*P	**Pn**	**18 13 09.9**	**+0.1**
CAIG				*e*S	**Sn**	**18 14 03.5**	**+0.3**
MEIG	**Mezcala**	**4.88**	**105**	*e*P	**Pn**	**18 13 14.9**	**+1.8**
MEIG				*e*S	**Sn**	**18 14 08.1**	**-1.2**
MEIG	**Mezcala**	**4.88**	**105**	*e*P	**Pn**	**18 13 14.9**	**+1.8**
MEIG				*e*S	**Sn**	**18 14 08.1**	**-1.2**
PLIG	**Platanillo**	**4.88**	**99**	*e*P	**Pn**	**18 13 15.0**	**+1.9**
PLIG				*e*S	**Sn**	**18 14 10.3**	**+1.0**
PLIG	**Platanillo**	**4.88**	**99**	*e*P	**Pn**	**18 13 15.0**	**+1.9**
PLIG				*e*S	**Sn**	**18 14 10.3**	**+1.0**
UNM	**Universidad Na**	**5.09**	**88**	*e*Pn	Pn	18 13 21.3	+5.0
YAIG	**Yautepec**	**5.22**	**93**	*e*P	**Pn**	**18 13 20.6**	**+2.7**
YAIG				*e*S	**Sn**	**18 14 18.2**	**+0.4**
YAIG	**Yautepec**	**5.22**	**93**	*e*P	**Pn**	**18 13 20.6**	**+2.7**
YAIG				*e*S	**Sn**	**18 14 18.2**	**+0.4**
TLIG	**Tlapa**	**5.94**	**105**	*e*Pn	**Pn**	**18 13 30.6**	**+2.8**
TLIG				*e*Sn	**Sn**	**18 14 37.6**	**+2.0**
H06E1	**SOCORRO T-PHAS**	**6.03**	**267**	T	T	18 19 15.3	
	SNR=339						
H06S1	**SOCORRO T**	**6.06**	**266**	T	T	18 19 18.2	
	SNR=356						
H06N1	**SOCORRO T-PHAS**	**6.08**	**267**	T	T	18 19 19.6	
	SNR=112						
SLBS	**Sierra La Lagu**	**6.67**	**312**	*e*Pn	**Pn**	**18 13 40.1**	**+2.3**
PNIG	**Pinotepa**	**6.76**	**114**	*e*P	**Pn**	**18 13 40.0**	**+1.1**
PNIG				*e*S	**Sn**	**18 15 04.0**	**+8.3**
PNIG	**Pinotepa**	**6.76**	**114**	*e*P	**Pn**	**18 13 40.0**	**+1.1**
PNIG				*e*S	**Sn**	**18 15 04.0**	**+8.3**
LPIG	**La Paz**	**7.20**	**313**	P	**Pn**	**18 13 47.0**	**+2.1**
	2.9nm,0.3s,baz=123,slow=17,SNR=4.8						
LPIG				S	**Sn**	**18 15 05.6**	**-0.7**
	15nm,0.3s,baz=198,slow=2.4,SNR=4.3						
LPIG				LR	LR	18 15 52.7	
	comp=Z,2μm,21.4s,baz=48,slow=32						
LNIG	**Linares**	**7.35**	**39**	*e*Pn	**Pn**	**18 13 48.5**	**+1.5**
LNIG				*e*Sn	**Sn**	**18 15 05.3**	**-4.8**
LVIG	**Laguna Verde**	**7.71**	**85**	*e*Pn	Pn	18 13 59.7	+7.8
HPIG		**7.72**	**353**	*e*Pn	**Pn**	**18 13 54.3**	**+2.0**
HPIG				*e*Sn	**Sn**	**18 15 22.3**	**+2.8**
CMIG	**Matias Romero**	**9.46**	**102**	P	**Pn**	**18 14 18.1**	**+2.2**
	6.1nm,0.3s,baz=284,slow=13,SNR=47						
CMIG				S	**Sn**	**18 16 02.3**	**+0.4**
	1.8nm,0.3s,baz=8.1,slow=7.1,SNR=3.1						
CMIG				Lg	Lg	18 16 40.9	
	2.5nm,0.3s,baz=59,slow=21,SNR=4.8						
CMIG				LR	LR	18 18 10.0	
	comp=Z,2μm,19.2s,baz=270,slow=39						
TX31	**Lajitas Ar. Si**	**10.08**	**5**	*e*Pn	**Pn**	**18 14 27.2**	**+2.7**
TX31				*e*Sn	**Sn**	**18 16 14.7**	**-2.6**
TXAR	**Lajitas Array**	**10.08**	**5**	P	**Pn**	**18 14 23.9**	**-0.6**
	1.1nm,0.3s,baz=183,slow=14,SNR=40						
TXAR				Lg	Lg	18 17 12.3	
	1.1nm,0.3s,baz=175,slow=29,SNR=6.7						
TXAR				LR	LR	18 18 47.9	
	comp=Z,4μm,18.6s,baz=0.0,slow=41						
833A	**Chaparral WMA,**	**10.20**	**27**	P	Pn	18 14 32.7	+6.5
	baz=209						
SRIG	**Santa Rosalia**	**10.69**	**320**	*e*Pn	Pn	18 14 38.0	+5.3
HSIG		**11.34**	**330**	*e*Pn	Pn	18 14 46.8	+5.1
JCT	**Junction City**	**11.99**	**20**	P	Pn	18 14 56.6	+6.0
	baz=202						
JCT	**Junction City**	**11.99**	**20**	*e*Pn	**Pn**	**18 14 50.7**	**+0.1**
CCIG	**Comitan**	**12.21**	**102**	*e*Pn	**Pn**	**18 14 55.1**	**+1.4**
MNTX	**Cornudas Mount**	**12.42**	**357**	P	Pn	18 15 01.5	+4.9
	baz=177						
MNTX	**Cornudas Mount**	**12.42**	**357**	*e*Pn	**Pn**	**18 15 00.3**	**+3.7**
EPT	**El Paso**	**12.59**	**352**	*e*Pn	Pn	18 15 05.2	+6.2
319A	**Douglas**	**12.80**	**342**	*e*Pn	Pn	18 15 06.9	+5.1
435B	**Jarrell**	**13.11**	**27**	P	**Pn**	**18 15 09.9**	**+4.0**
	baz=211						
HKT	**Hockley**	**13.29**	**35**	*e*Pn	**Pn**	**18 15 11.3**	**+3.1**
121A	**Cookes Peak, D**	**13.54**	**348**	P	Pn	18 15 16.9	+4.9
	baz=167						
ABTX	**Abilene, Hawle**	**14.04**	**17**	P	**Pn**	**18 15 22.4**	**+3.8**
	baz=200						
ABTX	**Abilene, Hawle**	**14.04**	**17**	*e*Pn	**Pn**	**18 15 22.4**	**+3.8**
APG	**El Apazote**	**14.13**	**105**	P	**Pn**	**18 15 22.5**	**+2.4**
	0.3nm,0.3s,baz=322,slow=14,SNR=11						
APG				Lg	Lg	18 19 26.5	
	0.2nm,0.3s,baz=115,slow=17,SNR=5.2						
APG				LR	LR	18 20 57.9	
	comp=Z,1μm,21.8s,baz=282,slow=38						
TUC	**Tucson**	**14.16**	**338**	P	**P**	**18 15 27.2**	**-0.6**
	baz=156						
TUC	**Tucson**	**14.16**	**338**	*e*Pn	**P**	**18 15 27.6**	**-0.2**
WHTX	**Lake Whitney,**	**14.21**	**25**	P	**Pn**	**18 15 24.2**	**+3.2**
	baz=209						
WHTX	**Lake Whitney,**	**14.21**	**25**	*e*Pn	**Pn**	**18 15 24.5**	**+3.5**
214A	**Organ Pipe Nat**	**14.67**	**331**	P	**P**	**18 15 33.5**	**+0.1**
	baz=148						
MSTX	**Muleshoe**	**14.75**	**6**	P	**Pn**	**18 15 31.4**	**+3.0**
	baz=187						
MSTX	**Muleshoe**	**14.75**	**6**	*e*Pn	**Pn**	**18 15 26.3**	**-2.1**
Y22D	**IRIS PASSCAL I**	**14.92**	**352**	P	**P**	**18 15 34.6**	**-1.7**
	baz=172						
Y22D	**IRIS PASSCAL I**	**14.92**	**352**	*e*Pn	P	18 15 42.4	+6.1
Y22E	**IRIS PASSCAL I**	**14.92**	**352**	P	**P**	**18 15 34.9**	**-1.4**
	baz=172						
541A	**Lake Charles**	**14.92**	**42**	P	**Pn**	**18 15 32.3**	**+1.7**
	baz=226						
BNM	**Barren Site**	**14.96**	**353**	*e*Pn	**P**	**18 15 35.4**	**-1.4**
LPM	**Los Pinos Moun**	**15.12**	**353**	*e*P	**P**	**18 15 40.5**	**+1.9**
LAZ	**Ladron**	**15.27**	**352**	*e*P	**P**	**18 15 39.5**	**-0.8**
441A	**DeRidder**	**15.40**	**40**	P	**Pn**	**18 15 38.9**	**+1.9**
	baz=225						
ANMO	**Albuquerque**	**15.73**	**354**	P	**P**	**18 15 44.6**	**-0.8**
	baz=174						
ANMO	**Albuquerque**	**15.73**	**354**	*e*Pn	**P**	**18 15 44.8**	**-0.5**
	50nm,1.5s						
AMTX	**Amarillo**	**15.79**	**9**	P	**Pn**	**18 15 44.5**	**+2.4**
	baz=190						
AMTX	**Amarillo**	**15.79**	**9**	*e*Pn	**Pn**	**18 15 45.0**	**+2.9**
	143nm,1.4s						
113A	**Mohawk Valley,**	**15.79**	**330**	*e*P	**P**	**18 15 47.2**	**+1.4**
113A				*e*PcP	**PcP**	**18 20 36.5**	**-4.8**
341A	**Kurthwood**	**15.83**	**38**	P	**Pn**	**18 15 43.6**	**+1.0**
	baz=223						
442A	**Mamou**	**15.84**	**42**	P	**Pn**	**18 15 44.2**	**+1.5**
	baz=227						
X18A	**Snowflake**	**15.96**	**344**	*e*Pn	**Pn**	**18 15 46.3**	**+2.0**
	80nm,1.6s						
X18A				*e*PcP	**PcP**	**18 20 40.4**	**-1.4**
WMOK	**Wichita Mounta**	**16.26**	**17**	P	**Pn**	**18 15 48.4**	**+0.3**
	baz=200						
WMOK	**Wichita Mounta**	**16.26**	**17**	*e*Pn	**Pn**	**18 15 47.4**	**-0.7**
	143nm,1.5s						
X16A	**Lo Mia Camp, P**	**16.30**	**339**	*e*Pn	**P**	**18 15 51.3**	**-0.4**
	13nm,0.8s						
342A	**Flagon Creek P**	**16.37**	**40**	P	**Pn**	**18 15 50.2**	**+0.8**
	baz=225,SNR=10						
Y14A	**Wickenburg**	**16.45**	**334**	*e*Pn	**P**	**18 15 55.9**	**+2.7**
	42nm,1.5s						
Y14A				*e*PcP	**PcP**	**18 20 42.9**	**+0.6**
W18A	**Petrified Fore**	**16.46**	**345**	P	**P**	**18 15 53.7**	**+0.3**
	baz=163						
W18A	**Petrified Fore**	**16.46**	**345**	*e*Pn	**Pn**	**18 15 53.1**	**+2.3**
	19nm,0.9s						
241A	**Mo Tay, Goldon**	**16.48**	**37**	P	**Pn**	**18 15 51.5**	**+0.6**
	baz=222						
GLA	**Glamis**	**16.53**	**328**	P	**P**	**18 15 56.1**	**+2.0**
	baz=144						
GLA	**Glamis**	**16.53**	**328**	*e*Pn	**P**	**18 15 56.3**	**+2.2**
	22nm,0.9s						
140A	**Cam and Jess,**	**16.59**	**34**	P	**Pn**	**18 15 53.4**	**+1.2**
	baz=219						
343A	**Vidalia**	**16.74**	**42**	P	**Pn**	**18 15 54.6**	**+0.4**
	baz=227						
IKP	**In-Ko-Pah, Jac**	**16.89**	**324**	P	**P**	**18 16 01.2**	**+3.1**
	baz=140						
141A	**Papa Simpson,**	**16.92**	**36**	P	**Pn**	**18 15 57.0**	**+0.5**
	baz=221						
SWSC	**Sam W. Stewart**	**16.95**	**326**	P	**P**	**18 16 00.6**	**+2.0**
	baz=141						
Y12C	**Blythe**	**16.95**	**330**	P	**P**	**18 16 00.5**	**+1.8**
	baz=146						
Y12C	**Blythe**	**16.95**	**330**	*e*Pn	P	18 16 05.9	+7.2
	91nm,1.6s						
242A	**Grayson**	**16.96**	**39**	P	**Pn**	**18 15 57.5**	**+0.6**
	baz=224						
Z40A	**Long Farm, Mag**	**17.16**	**33**	P	**Pn**	**18 16 00.6**	**+1.2**
	baz=218						
445A	**Amite**	**17.22**	**46**	P	**Pn**	**18 16 01.1**	**+0.9**
	baz=232						
BAR	**Barrett**	**17.22**	**323**	*e*Pn	**P**	**18 16 06.5**	**+4.7**
	12nm,0.9s						
243A	**Waterproof**	**17.23**	**41**	P	**Pn**	**18 16 01.8**	**+1.5**
	baz=226						
MONP2	**Monument Peak**	**17.24**	**324**	P	**P**	**18 16 04.7**	**+2.6**
	baz=139						
WUAZ	**Wupatki**	**17.29**	**341**	P	**P**	**18 16 05.2**	**+2.6**
	baz=158						
WUAZ	**Wupatki**	**17.29**	**341**	*e*Pn	**P**	**18 16 05.3**	**+2.6**
	96nm,1.5s						
BC3	**Big Chuckawall**	**17.33**	**328**	P	**P**	**18 16 04.6**	**+1.6**
	baz=144						
TGUH	**Tegucigalpa,Un**	**17.35**	**105**	*e*Pn	**P**	**18 16 07.9**	**+4.7**
	209nm,1.7s						
344A	**Westbrook Farm**	**17.42**	**43**	P	**Pn**	**18 16 03.2**	**+0.5**
	baz=229,SNR=8.7						
142A	**Monroe**	**17.43**	**38**	P	**Pn**	**18 16 03.0**	**+0.2**
	baz=224						
Z41A	**Richland Creek**	**17.48**	**35**	P	**Pn**	**18 16 05.0**	**+1.6**
	baz=220,SNR=8.8						
IRM	**Iron Mountain**	**17.58**	**330**	P	**P**	**18 16 09.3**	**+3.6**
	baz=145						
WLAR	**White Oak Lake**	**17.64**	**33**	*e*Pn	**P**	**18 16 08.8**	**+2.4**
	239nm,1.2s						
XPFO	**Piæon Flat**	**17.81**	**326**	*e*P	**P**	**18 16 11.5**	**+3.1**
	56nm,1.4s						
PFO	**Pinyon Flats O**	**17.81**	**326**	P	**P**	**18 16 10.7**	**+2.3**
	baz=141						
PFO	**Pinyon Flats O**	**17.81**	**326**	*e*P	**P**	**18 16 11.4**	**+3.1**
	52nm,1.4s						
MHTCO	**State Highway**	**17.82**	**360**	*e*P	**Pn**	**18 16 05.0**	**-2.8**
	53nm,1.3s						
Y40A	**Okolona**	**17.82**	**32**	P	**Pn**	**18 16 09.1**	**+1.5**
	baz=217,SNR=5.7						
X39A	**Fountain Ranch**	**17.82**	**29**	P	**Pn**	**18 16 09.3**	**+1.7**
	baz=214						
T25A	**Trinidad**	**17.83**	**0**	P	**Pn**	**18 16 08.2**	**+0.3**
	baz=181						
T25A	**Trinidad**	**17.83**	**0**	*e*P	**P**	**18 16 09.8**	**+1.2**
	49nm,1.1s						
244A	**Avery, Jackson**	**17.84**	**42**	P	**P**	**18 16 10.1**	**+1.6**
	baz=228,SNR=15						
143A	**Socs Landing,**	**17.86**	**39**	P	**Pn**	**18 16 08.4**	**+0.4**
	baz=225						
BELC	**Belle Mtn. Jos**	**17.88**	**328**	P	**P**	**18 16 12.1**	**+3.1**
	baz=143						
446A	**Poplarville**	**17.92**	**47**	P	**Pn**	**18 16 08.6**	**-0.3**
	baz=234						
Z42A	**Norrel Spur, H**	**17.96**	**36**	P	**Pn**	**18 16 10.5**	**+1.1**
	baz=222,SNR=5.4						
Y41A	**Eaglette Beard**	**18.06**	**34**	P	**Pn**	**18 16 10.6**	**+0.1**
	baz=219						
VBMS	**Vicksburg**	**18.06**	**42**	P	**Pn**	**18 16 10.9**	**+0.3**
	baz=228						
VBMS	**Vicksburg**	**18.06**	**42**	*e*P	**P**	**18 16 13.7**	**+2.7**
	170nm,1.0s						
MIAR	**Mount Ida**	**18.10**	**30**	*e*P	**P**	**18 16 17.6**	**+6.2**
	36nm,1.0s						
346A	**Big Creek Wild**	**18.21**	**45**	P	**Pn**	**18 16 12.0**	**-0.5**
	baz=232						
MVCO	**Mesa Verde**	**18.23**	**350**	P	**P**	**18 16 14.8**	**+1.7**
	baz=168						
MVCO	**Mesa Verde**	**18.23**	**350**	*e*P	**P**	**18 16 17.7**	**+4.6**
	61nm,1.4s						
TUL1	**Leonard**	**18.32**	**23**	P	**Pn**	**18 16 13.5**	**-0.3**
	baz=207						
TUL1	**Leonard**	**18.32**	**23**	*e*P	**Pn**	**18 16 13.4**	**-0.3**
	165nm,1.2s						
245A	**Little AP, Sta**	**18.34**	**43**	P	**Pn**	**18 16 14.1**	**+0.1**
	baz=230						
GMRC	**Granite Mounta**	**18.34**	**330**	P	**P**	**18 16 17.8**	**+3.6**
	baz=145						
144A	**Alexander Plac**	**18.40**	**41**	P	**P**	**18 16 15.3**	**+0.6**
	baz=227						
U15A	**North Rim**	**18.41**	**340**	*e*P	**Pn**	**18 16 15.6**	**+0.3**
	9.9nm,1.0s						
X40A	**Basin Creek Fa**	**18.42**	**32**	P	**P**	**18 16 14.3**	**-0.5**
	baz=218,SNR=5.8						
SDCO	**Great Sand Dun**	**18.45**	**358**	P	**Pn**	**18 16 17.7**	**+2.0**
	baz=177						
SDCO	**Great Sand Dun**	**18.45**	**358**	*e*P	**Pn**	**18 16 18.1**	**+2.5**
	54nm,1.6s						
Y42A	**Garnett, Star**	**18.47**	**36**	P	**P**	**18 16 15.4**	**0.0**
	baz=221						
SCI2	**San Clemente I**	**18.53**	**320**	P	**Pn**	**18 16 18.7**	**+2.2**
	baz=134						
W39A	**Magazine**	**18.54**	**29**	P	**P**	**18 16 17.0**	**+0.8**
	baz=214,SNR=5.8						
S22A	**4UR Ranch, Cre**	**18.54**	**354**	P	**Pn**	**18 16 19.5**	**+2.7**
	baz=174						
S22A	**4UR Ranch, Cre**	**18.54**	**354**	*e*P	**Pn**	**18 16 18.7**	**+2.0**
	104nm,1.8s						
X41A	**Kaden, Bauxite**	**18.59**	**33**	P	**P**	**18 16 17.4**	**+0.7**
	baz=218						
HEC	**Hector,Ludlow**	**18.70**	**328**	P	**Pn**	**18 16 20.5**	**+1.9**
	baz=143						
CIS	**Catalina Islan**	**18.75**	**321**	P	**Pn**	**18 16 21.0**	**+1.9**
	baz=136						
347A	**Saraland**	**18.85**	**47**	P	**P**	**18 16 21.3**	**+1.6**
	baz=234						
W40A	**Ferguson Farm,**	**18.87**	**30**	P	**P**	**18 16 20.1**	**+0.3**
	baz=216,SNR=8.8						
W40A	**Ferguson Farm,**	**18.87**	**30**	*e*P	**Pn**	**18 16 23.8**	**+3.4**
	205nm,1.4s						
UALR	**University of**	**18.89**	**33

baz=235,SNR=10
V42A Cord 20.18 32 P P 18 16 33.3 -0.9
baz=219,SNR=14
Y46A Houston 20.21 41 P P 18 16 34.6 0.0
baz=228,SNR=32
ARVC Arvin 20.24 324 P Pn 18 16 36.8 0.0
baz=138
T39A Clever 20.25 27 P P 18 16 34.5 -0.5
baz=212,SNR=14
MPMC Manual Prospec 20.25 328 P P 18 16 36.5 +1.3
baz=143
148A Greensboro 20.25 45 P P 18 16 35.9 +0.9
baz=233
X45A UM Field Stati 20.26 39 P P 18 16 34.8 -0.3
baz=226,SNR=22
Z47A Carrollton 20.26 43 P P 18 16 34.9 -0.2
baz=231,SNR=8.4
FURC Furnace Creek, 20.27 330 P Pn 18 16 38.5 +1.3
baz=145
MSU Marysvale 20.30 343 eP P 18 16 37.0 +1.3
MSU ePcP PcP 18 20 50.9 +1.9
OXF Oxford 20.31 38 P P 18 16 35.1 -0.4
baz=225,SNR=11
OXF Oxford 20.31 38 eP P 18 16 35.6 0.0
110nm,0.9s
U41A Viola 20.34 31 P P 18 16 35.3 -0.7
baz=217,SNR=7.1
TPNV Topopah Spring 20.39 332 P P 18 16 38.3 +1.6
baz=147
TPNV Topopah Spring 20.39 332 eP P 18 16 38.5 +1.8
350A Dozier 20.43 50 P P 18 16 37.7 +0.8
baz=238
ISA Isabella, Lake 20.45 326 P Pn 18 16 39.5 +0.2
baz=140
ISA Isabella, Lake 20.45 326 eP Pn 18 16 39.3 0.0
20nm,0.9s
SRU San Rafael Swe 20.46 347 eP P 18 16 38.6 +1.3
9.5nm,0.9s
SRU ePcP PcP 18 20 49.5 +0.3
DAC Darwin (Calif) 20.47 329 eP P 18 16 39.3 +1.7
18nm,1.4s
ISCO Idaho Springs 20.50 358 P P 18 16 38.8 +0.8
baz=177
ISCO Idaho Springs 20.50 358 eP P 18 16 38.7 +0.8
12nm,0.8s
S38A Stockton 20.55 25 P P 18 16 38.0 -0.2
baz=210,SNR=30
PKM Mcpherson Peak 20.62 322 P P 18 16 41.2 +2.0
baz=135
U42A Revenden 20.68 32 P P 18 16 39.3 -0.3
baz=218,SNR=32
Z48A Northport 20.71 44 P P 18 16 39.5 -0.4
baz=232,SNR=6.7
T40A Mansfield 20.73 28 P P 18 16 40.2 +0.1
baz=214
149A Jones 20.76 47 P P 18 16 40.1 -0.4
baz=234,SNR=11
250A Grady 20.77 49 P P 18 16 40.3 -0.3
baz=237,SNR=6.7
TMUT Trail Mountain 20.79 345 eP P 18 16 42.1 +1.0
24nm,1.2s
X46A Booneville 20.83 40 P P 18 16 41.2 0.0
baz=227
S39A Bolivar 20.84 26 P P 18 16 40.9 -0.5
baz=211,SNR=17
CWC Cottonwood Cre 20.84 328 P Pn 18 16 44.2 +0.1
baz=142
P17A Butcher Ranch, 20.85 346 eP P 18 16 42.3 +0.7
16nm,1.0s
Y47A UCPARC, Winfie 20.85 42 P P 18 16 41.1 -0.4
baz=230,SNR=16
LRAL Lakeview Retre 20.87 45 P P 18 16 41.3 -0.4
baz=233,SNR=10
LRAL Lakeview Retre 20.87 45 eP P 18 16 41.7 0.0
25nm,0.8s
351A Pinckard 20.88 51 P P 18 16 42.1 +0.3
baz=240
P18A Preston Nutter 20.89 348 eP P 18 16 43.3 +1.1
27nm,1.1s
W45A Hickory Valley 20.89 38 P P 18 16 41.8 -0.1
baz=225,SNR=11
VES Vestal, Richgr 20.91 325 P Pn 18 16 44.7 +0.1
baz=139
JTS JuntasAbangare 20.94 112 P P 18 16 44.2 +1.6
21nm,1.1s,baz=295,slow=12,SNR=3.9
JTS LR LR 18 24 19.8
comp=Z,380nm,18.1s,baz=358,slow=35
GRAC Grapevine Rang 20.94 330 P P 18 16 44.6 +2.1
baz=144
T41A Mountain View 20.98 30 P P 18 16 42.9 0.0
baz=216,SNR=14
SMMC Simmler 21.03 323 P P 18 16 45.9 +2.4
baz=136
R38A Fenwick Farm, 21.03 24 P P 18 16 43.6 +0.2
baz=209,SNR=11
O20A White River Ci 21.06 352 P P 18 16 45.9 +2.1
baz=170
O20A White River Ci 21.06 352 eP P 18 16 46.5 +2.6
40nm,1.3s
S40A Lebanon 21.11 27 P P 18 16 44.4 +0.2
baz=213
X47A Russelville 21.25 41 P P 18 16 45.4 -0.4
baz=229,SNR=10
Z49A Columbiana 21.28 46 P P 18 16 45.8 -0.3
baz=234,SNR=12
T42A Van Buren 21.29 31 P P 18 16 46.1 -0.1
baz=217,SNR=10
150A Eclectic 21.29 48 P P 18 16 45.8 -0.5
baz=236
Y48A Jasper 21.30 43 P P 18 16 45.6 -0.7
baz=231,SNR=11
R11A Troy Canyon, C 21.31 336 P P 18 16 48.2 +1.6
baz=150
R11A Troy Canyon, C 21.31 336 eP P 18 16 48.6 +2.1
11nm,1.4s
RCTC Rector, Farmer 21.34 326 P P 18 16 49.4 +2.7
baz=139
W46A Michie 21.35 39 P P 18 16 46.5 -0.3
baz=226,SNR=11
TIN Tinemaha, Big 21.40 329 P P 18 16 49.7 +2.2
baz=143
PBMO Poplar Bluff 21.42 32 eP P 18 16 47.6 0.0
38nm,1.1s
PLAL Pickwick Lake 21.43 40 eP P 18 16 46.8 -0.9
37nm,0.9s
S41A Jillco Farms, 21.43 29 P P 18 16 47.8 0.0
baz=215,SNR=8.8
Q37A Longview Farm, 21.44 22 P P 18 16 50.0 +2.3
baz=207
V45A Humboldt 21.44 37 P P 18 16 47.7 -0.1
baz=224,SNR=8.0
251A Midway 21.45 50 P P 18 16 47.4 -0.5
baz=238
PAGB Antelope Grade 21.47 323 eP P 18 16 51.4 +3.2
80nm,1.7s
R39A Chumby, Stover 21.48 25 P P 18 16 48.4 +0.2
baz=211
352A Blakely 21.49 52 P P 18 16 48.5 +0.2
baz=240
MPU Maple Canyon 21.57 345 eP P 18 16 51.5 +2.1
9.8nm,1.0s
N23A Red Feather La 21.61 357 P P 18 16 52.2 +2.3
baz=177
N23A Red Feather La 21.61 357 eP P 18 16 52.4 +2.5
21nm,1.1s
NLU North Lily Min 21.63 344 eP P 18 16 55.7 +5.7
U44B Burton Farm, H 21.66 35 P P 18 16 50.4 +0.2
baz=222
X48A Hartselle 21.72 42 P P 18 16 50.4 -0.4
baz=230,SNR=8.2
Z50A Ashland 21.73 46 P P 18 16 50.4 -0.6
baz=235,SNR=12
T43A Greenville 21.73 32 P P 18 16 50.7 -0.2
baz=219,SNR=13
OGNE Ogallala 21.74 5 P P 18 16 51.2 +0.2
baz=187
151A Opelika 21.74 49 P P 18 16 50.2 -0.9
baz=237
Y49A Blount Mountai 21.76 44 P P 18 16 50.9 -0.4
baz=233
R40A Maddies Statio 21.79 27 P P 18 16 50.9 -0.6
baz=213,SNR=17
W47A Westpoint 21.90 40 P P 18 16 52.0 -0.7
baz=228
353A Camilla 21.95 53 P P 18 16 53.1 -0.2
baz=242
V46A Holladay 21.96 38 P P 18 16 52.2 -1.2
baz=226

PHWY Pilot Hill 22.00 358 eP P 18 16 56.1 +2.0
13nm,1.0s
S42A Caledonia 22.02 30 P P 18 16 52.9 -1.2
baz=217,SNR=10
CCM Cathedral Cave 22.05 29 P P 18 16 52.5 -1.8
baz=216
CCM Cathedral Cave 22.05 29 eP P 18 16 52.7 -1.6
12nm,0.8s
DUG Dugway, Tooele 22.05 343 P P 18 16 56.8 +2.3
baz=159
DUG Dugway, Tooele 22.05 343 eP P 18 16 56.6 +2.1
15nm,1.1s
JLU Jordanelle 22.09 346 eP P 18 16 56.6 +1.6
24nm,1.6s
T44A Benton 22.09 33 P P 18 16 54.8 +0.1
baz=220
P37A Lathrop 22.11 21 P P 18 16 56.0 +1.0
baz=206
PMPB Monarch Peak 22.13 323 eP P 18 16 58.2 +2.9
41nm,1.1s
Q39A Willow Grove F 22.14 25 P P 18 16 55.7 +0.4
baz=210
MLAC Mammoth, Mammo 22.15 329 P P 18 16 58.2 +2.5
baz=142
R41A Rosebud 22.18 28 P P 18 16 54.6 -1.1
baz=215,SNR=7.1
S43A Fulton Ridge, 22.22 32 P P 18 16 56.0 -0.2
baz=219
Y50A Piedmont 22.23 45 P P 18 16 55.4 -0.9
baz=234,SNR=6.5
W48A Pulaski 22.23 41 P P 18 16 55.6 -0.8
baz=229,SNR=12
CTU Camp Tracy 22.24 345 eP P 18 16 58.2 +1.6
14nm,1.1s
MDPB Devils Postpil 22.27 328 eP P 18 16 59.3 +2.3
22nm,1.3s
U46A Springville 22.32 37 P P 18 16 56.3 -1.0
baz=225
V47A Nunnelly 22.34 39 P P 18 16 56.2 -1.2
baz=227,SNR=11
WVT Waverly 22.36 38 P P 18 16 56.3 -1.4
baz=226
WVT Waverly 22.36 38 eP P 18 16 56.3 -1.4
54nm,1.1s
P38A Dawn 22.43 23 P P 18 16 58.1 -0.3
baz=208
R42A Luebbering 22.43 29 P P 18 16 57.7 -0.8
baz=216
Q40A Laux Farm, Aux 22.46 26 P P 18 16 57.8 -1.0
baz=212,SNR=6.2
NV11 Mina Array Sit 22.47 331 eP P 18 17 00.7 +1.7
1.8nm,1.1s
RWWY Rawlins 22.48 355 eP P 18 17 00.3 +1.0
77nm,1.6s
NV01 Mina Array Sit 22.54 331 eP P 18 17 01.4 +1.6
NV01 ePcP PcP 18 20 54.7 +1.4
NVAR Mina Array Bea 22.54 331 P P 18 17 00.7 +0.9
5.0nm,0.8s,baz=151,slow=11,SNR=16
NVAR PcP PcP 18 20 53.8 +0.5
1.1nm,0.7s,baz=131,slow=3.2,SNR=3.6
NVAR LR LR 18 25 33.5
comp=Z,467nm,19.3s,baz=213,slow=36
TCUT Toone Canyon 22.57 346 eP P 18 17 01.6 +1.4
41.1s
P39B Salisbury 22.61 24 P P 18 16 59.7 -0.6
baz=210
V48A Smith Brothers 22.70 40 P P 18 17 00.4 -0.9
baz=228,SNR=7.5
S44A Carbondale 22.73 33 P P 18 17 01.2 -0.3
baz=220
SIUC Southern Illin 22.76 33 eP P 18 17 03.2 +1.3
21nm,0.9s
Q41A Truxton 22.79 28 P P 18 17 01.7 -0.5
baz=214,SNR=7.5
BGU Big Grassy Mou 22.79 343 eP P 18 17 03.8 +1.4
22nm,1.5s
RYN Ryan 22.80 331 eP P 18 17 05.6 +3.1
20nm,1.4s
R43A Red Bud 22.84 31 P P 18 17 02.6 -0.2
baz=218
U47A Clarksville 22.89 38 P P 18 17 01.7 -1.6
baz=226,SNR=5.6
P40A Paris 22.92 26 P P 18 17 02.5 -1.1
baz=212,SNR=9.3
SLM Saint Louis 22.98 30 eP P 18 17 04.4 +0.2
36nm,0.8s
N36A Muff Farm, Cla 23.02 19 P P 18 17 04.2 -0.4
baz=204
S45A Carrier Mills 23.07 34 P P 18 17 04.3 -0.7
baz=222,SNR=6.6
HWUT Hardware Ranch 23.07 347 eP P 18 17 06.3 +0.9
21nm,1.4s
HWUT ePcP PcP 18 20 55.0 +0.7
M33A Taylor Creek F 23.13 14 P P 18 17 05.4 -0.3
baz=198
WAKR Walker 23.13 329 eP P 18 17 08.5 +2.5
38nm,1.3s
R44A Waltonville 23.24 32 P P 18 17 05.8 -1.0
baz=220,SNR=13
CMB Columbia Colle 23.24 327 eP P 18 17 08.5 +1.5
41nm,1.8s
O39A Kirksville 23.35 24 P P 18 17 07.4 -0.6
baz=210
U48A Cassie Pea, Po 23.38 39 P P 18 17 06.8 -1.5
baz=228
154A Montrose 23.39 51 P P 18 17 06.8 -1.7
baz=241
K22A Casper 23.39 356 P P 18 17 08.1 -0.4
baz=176
K22A Casper 23.39 356 eP P 18 17 08.9 +0.4
37nm,1.4s
YERR Yerington 23.42 330 eP P 18 17 11.5 +2.6
16nm,1.2s
P41A Barry, Barry 23.46 27 P P 18 17 07.8 -1.2
baz=214,SNR=9.9
Q43A New Douglas 23.48 30 P P 18 17 08.7 -0.6
baz=218
O40A La Belle 23.50 25 P P 18 17 07.8 -1.6
baz=211,SNR=9.7
HVU Hansel Valley 23.52 344 eP P 18 17 09.8 0.0
8.3nm,0.8s
RDG13 Poverty Ridge 23.52 324 eP P 18 17 12.0 +2.2
31nm,1.2s
GOGA Godfrey 23.53 49 P P 18 17 07.7 -2.1
baz=238,SNR=11
GOGA Godfrey 23.53 49 eP P 18 17 07.9 -1.9
36nm,0.8s
S46A Don Dixon Farm 23.53 35 P P 18 17 08.7 -1.1
baz=233,SNR=13
N38A Joes South For 23.57 22 P P 18 17 09.0 -1.1
baz=208
R45A Skylar, Fairfi 23.68 33 P P 18 17 10.4 -0.8
baz=221,SNR=15
BMN Battle Mountai 23.74 335 eP P 18 17 13.3 +1.3
21nm,1.4s
USIN University of 23.76 35 eP P 18 17 11.2 -0.9
155nm,0.8s
Q44A Meyer Farm, Va 23.78 31 P P 18 17 10.4 -1.8
baz=219,SNR=10
PD31 Pinedale Array 23.82 351 eP P 18 17 14.5 +1.6
PDAR Pinedale Array 23.82 351 P P 18 17 12.1 -0.7
1.3nm,0.6s,baz=142,slow=12,SNR=9.5
PDAR PcP PcP 18 20 56.0 0.0
1.7nm,0.8s,baz=156,slow=4.4,SNR=4.7
PDAR LR LR 18 27 07.0
comp=Z,791nm,18.1s,baz=110,slow=38
PDAR Pinedale Array 23.82 351 eP P 18 17 11.2 -1.7
PDAR PcP PcP 18 20 56.0 0.0
BW06 Boulder Array 23.82 351 eP P 18 17 15.8 +3.0
BW06 epP sP 18 17 30.8 +11
VCNR Virginia City 23.86 330 eP P 18 17 15.4 +2.2
21nm,1.3s
T48A Bowling Green 23.87 38 P P 18 17 11.8 -1.2
baz=227,SNR=14
O41A Passleys Farm, 23.90 27 P P 18 17 12.2 -1.1
baz=214
RUBR Rubicon Trail 23.91 329 eP P 18 17 17.5 +3.8
49nm,1.5s
N39A Derby Farms, D 23.91 23 P P 18 17 12.2 -1.2
baz=209
R46A Gibon Southern 24.03 35 P P 18 17 13.9 -0.7
baz=223,SNR=35
PAHR Pah Rah Range 24.06 331 eP P 18 17 17.8 +2.8
PAHR epP sP 18 17 34.0 +12
OLIL Olney 24.11 33 eP P 18 17 15.7 +0.4
62nm,1.0s
M38A Pleasantville 24.14 21 P P 18 17 15.3 -0.2
baz=207

Q45A Warren Harvey, 24.20 33 P P 18 17 15.4 -0.7
baz=221
AFDM Forest Hills D 24.23 328 eP P 18 17 18.0 +1.5
14nm,1.5s
N40A Mertquake, Sal 24.26 24 P P 18 17 15.9 -0.7
baz=211
N41A Harden Midland 24.41 26 P P 18 17 16.5 -1.5
baz=213
P44A Sand Creek, Wi 24.41 31 P P 18 17 17.4 -0.6
baz=219
S48A Wiedeman Farm, 24.44 38 P P 18 17 16.6 -1.8
baz=226,SNR=12
K34A Le Mars 24.44 15 P P 18 17 17.4 -0.9
baz=200
M39A Webster 24.55 23 P P 18 17 18.9 -0.4
baz=209
TKL Tuckaleechee C 24.57 44 P P 18 17 17.8 -1.8
23nm,0.7s,baz=203,slow=9.7,SNR=26
TKL LR LR 18 28 51.4
comp=Z,224nm,20.8s,baz=282,slow=42
TKL Tuckaleechee C 24.57 44 eP P 18 17 18.8 -0.8
31nm,0.8s
L37A Phoenix Point, 24.59 20 P P 18 17 19.2 -0.4
baz=205
REDW Red Top Meadow 24.62 349 eP P 18 17 19.2 -1.0
17nm,0.9s
R47A Wooly Knot Far 24.62 36 P P 18 17 19.2 -0.8
baz=225,SNR=18
BEKR Beckworth 24.64 330 eP P 18 17 22.3 +2.0
14nm,1.1s
SNOW Snow King Moun 24.70 349 eP P 18 17 20.5 -0.4
12nm,0.8s
K35A Storm Lake 24.70 17 P P 18 17 20.7 0.0
baz=202
WCI Wyandotte Cave 24.71 36 P P 18 17 19.9 -0.8
baz=225
WCI Wyandotte Cave 24.71 36 eP P 18 17 20.2 -0.5
48nm,0.8s
WCI ePcP PcP 18 20 58.1 +0.4
M40A Post Highland 24.74 24 P P 18 17 19.9 -1.1
baz=211
BG3 Lake Jocassee 24.76 46 eP P 18 17 20.8 -0.4
133nm,1.5s
TPAW Teton Pass 24.76 349 eP P 18 17 20.8 -0.7
20nm,1.1s
RSSD Black Hills 24.81 1 P P 18 17 21.7 -0.1
baz=181
RSSD Black Hills 24.81 1 eP P 18 17 23.0 +1.2
11nm,0.8s
RSSD ePcP PcP 18 20 57.5 -0.5
LOHW Long Hollow 24.82 350 eP P 18 17 21.2 -0.7
15nm,1.1s
K36A Gilmore City 24.84 18 P P 18 17 21.4 -0.5
baz=203
N42A Yates City 24.85 27 P P 18 17 21.6 -0.4
baz=214
L38A Oak Wood Farm, 24.86 21 P P 18 17 21.5 -0.6
baz=207
P45A Graceland, Par 24.89 32 P P 18 17 21.5 -0.9
baz=221,SNR=5.1
FXWY Fox Creek 24.92 349 eP P 18 17 22.2 -0.7
9.2nm,1.2s
HDIL Hopedale 24.95 28 P P 18 17 22.9 0.0
baz=216
HDIL Hopedale 24.95 28 eP P 18 17 23.3 +0.3
36nm,0.8s
ORV Oroville 24.96 328 eP P 18 17 25.2 +2.1
17nm,1.3s
MOOW Moose Ponds 24.97 349 eP P 18 17 23.6 +0.2
6.6nm,1.0s
M41A Milan 25.10 25 P P 18 17 24.3 +0.1
baz=213
Q47A Bedford North L 25.14 35 P P 18 17 23.9 -0.7
baz=224,SNR=9.3
IMW Indian Meadow 25.15 349 eP P 18 17 25.5 +0.5
7.1nm,1.0s
L39A Vinton 25.18 22 P P 18 17 24.5 -0.4
baz=209,SNR=6.0
K37A Belmond 25.20 19 P P 18 17 24.4 -0.8
baz=205,SNR=12
P46A Rosedale 25.23 33 P P 18 17 26.4 +1.0
baz=221
TZTN Tazewell 25.25 43 P P 18 17 24.8 -0.9
baz=233
TZTN Tazewell 25.25 43 eP P 18 17 25.0 -0.7
44nm,0.9s
BLO Bloomington 25.26 34 eP P 18 17 27.1 +1.4
48nm,0.6s
ECSD EROS Data Cent 25.31 14 eP P 18 17 25.0 -1.1
19nm,1.6s
K38A Parkersburg 25.38 21 P P 18 17 27.1 +0.4
baz=207
L40A Anamosa 25.41 24 P P 18 17 26.3 -0.8
baz=211
O45A Potomac 25.45 31 P P 18 17 26.8 -0.6
baz=220
YPP Pitchstone Pla 25.49 350 eP P 18 17 29.1 +0.9
2.7nm,0.8s
J36A Seneca 1, Swea 25.51 18 P P 18 17 27.3 -0.7
baz=203
JSC Jenkinsville 25.55 49 eP P 18 17 31.5 +3.0
49nm,1.2s
HLID Hailey 25.62 343 P P 18 17 29.1 0.0
baz=158
HLID Hailey 25.62 343 eP P 18 17 29.9 +0.7
5.6nm,1.0s
YFT Old Faithful 25.67 350 eP P 18 17 31.5 +1.8
11nm,1.1s
O03D Paynes Creek 25.67 328 P P 18 17 32.0 +2.5
baz=140
L41A Preston 25.70 25 P P 18 17 29.4 -0.3
baz=212
J37A Redenius Farm, 25.72 19 P P 18 17 28.4 -1.5
baz=205
K39A Oelwein 25.73 22 P P 18 17 29.4 -0.5
baz=209
I34A Hadley 25.78 15 P P 18 17 29.4 -1.0
baz=199
M43A Waltham Townsh 25.82 28 P P 18 17 29.8 -0.9
baz=216
SFIN Lafayette 25.86 32 P P 18 17 29.8 -1.3
baz=221
SFIN Lafayette 25.86 32 eP P 18 17 30.1 -1.1
48nm,1.4s
H32A Carlson Farm, 25.88 12 P P 18 17 30.3 -1.0
baz=196
MFID Camas Ranch 25.89 341 eP P 18 17 32.2 +0.6
6.6nm,1.0s
MFID epP sP 18 17 52.8 +14
KMSC Kings Mountain 25.94 48 P P 18 17 31.0 -1.0
baz=238
KMSC Kings Mountain 25.94 48 eP P 18 17 31.1 -0.9
23nm,1.0s
YHH Holmes Hill 26.00 350 eP P 18 17 34.0 +1.2
3.7nm,1.1s
YHH epP sP 18 17 47.6 +7.6
WVOR Wild Horse Val 26.01 336 eP P 18 17 33.7 +1.1
22nm,1.8s
J38A Wedel Kairy, R 26.07 20 P P 18 17 32.1 -1.0
baz=207
RLMT Red Lodge 26.10 352 P P 18 17 33.3 -0.3
baz=170
RLMT Red Lodge 26.10 352 eP P 18 17 36.2 +2.7
6.7nm,1.2s
RLMT epP sP 18 17 55.2 +14
O47A Sheridan 26.22 33 P P 18 17 32.9 -1.5
baz=222
K41A Shullsburg 26.23 24 P P 18 17 32.8 -1.7
baz=212
MOD Modoc Plateau 26.25 333 eP P 18 17 36.2 +1.3
MOD epP sP 18 17 52.7 +11
WDC Whiskeytown Da 26.26 328 eP P 18 17 34.3 -0.4
7.7nm,1.2s
H34A Spellman Lake, 26.39 14 P P 18 17 34.7 -1.2
baz=199
I37A Lemond, Waseca 26.41 18 P P 18 17 34.5 -1.6
baz=204
MCMT McKenzie Canyo 26.43 347 eP P 18 17 37.6 +1.1
JFWS Jewell Farm 26.52 24 P P 18 17 37.7 +0.6
baz=212
JFWS Jewell Farm 26.52 24 eP P 18 17 38.5 +1.4
H35A Sunnyside Ranc 26.65 16 P P 18 17 37.0 -1.3
baz=201
J08A Circle Bar Ran 26.74 337 eP P 18 17 40.4 +1.1
6.8nm,1.0s
G33A Ortonville 26.74 13 P P 18 17 37.1 -2.0
baz=197
K42A Prairie Point, 26.76 25 P P 18 17 38.6 -0.6

baz=214
M04C **Macdoel** 26.84 331 P P 18 17 40.6 +0.4
baz=142
I39A **Houston** 26.87 21 P P 18 17 39.9 -0.3
baz=208
DLMT **Dillon** 26.88 347 eP P 18 17 41.7 +1.2
10nm,1.0s
BOZ **Bozeman (W)** 26.92 349 P P 18 17 39.3 -1.6
baz=165
BOZ **Bozeman (W)** 26.92 349 eP P 18 17 40.0 -0.9
13nm,1.6s
BOZ ePcP PcP 18 21 04.2 +1.4
G34A **Benson** 26.96 14 P P 18 17 39.2 -1.9
baz=199
J41A **Loganville** 26.99 24 P P 18 17 40.7 -0.7
baz=212
KHMM **Horse Mountain** 27.08 327 eP P 18 17 43.9 +1.5
29nm,1.1s
KHMM epP sP 18 18 00.3 +11
I40A **Norwalk** 27.22 22 P P 18 17 41.9 -1.5
baz=210
LRM **Limekiln Ridge** 27.29 348 eP P 18 17 43.9 -0.4
F34A **Alexandria** 27.57 14 P P 18 17 44.8 -1.8
baz=199
BMO **Blue Mountains** 27.65 340 eP P 18 17 46.5 -0.8
8.6nm,1.3s
H39A **Augusta** 27.68 21 P P 18 17 46.6 -0.9
baz=208
BLA **Blacksburg** 27.68 45 P P 18 17 46.6 -1.1
baz=236
BLA **Blacksburg** 27.68 45 eP P 18 17 47.2 -0.5
34nm,1.0s
J05D **Fort Rock, OR** 27.77 333 P P 18 17 48.6 0.0
baz=145
ACSO **Alum Creek Sta** 27.95 37 P P 18 17 49.1 -0.9
baz=228
J04D **Umpqua Nationa** 28.11 332 P P 18 17 53.1 +1.4
baz=143
G39A **Holcombe** 28.25 20 P P 18 17 51.2 -1.5
baz=208
MSO **Missoula** 28.57 346 P P 18 17 55.1 -0.4
baz=161
MSO **Missoula** 28.57 346 eP P 18 17 56.2 +0.6
12nm,1.2s
MSO epP sP 18 18 17.0 +14
MSO ePcP PcP 18 21 07.7 +1.0
G08A **Pilot Rock** 28.59 338 eP P 18 17 56.6 +0.9
6.3nm,1.0s
F10A **Beach Ranch, E** 28.63 341 eP P 18 17 55.6 -0.6
9.8nm,1.0s
I05D **Terrebonne, OR** 28.68 334 P P 18 17 57.3 +0.8
baz=146
D34A **Park Rapids** 28.81 13 P P 18 17 56.2 -1.4
baz=199
EGMT **Eagleton** 29.01 353 P P 18 17 59.1 -0.4
baz=170
EGMT **Eagleton** 29.01 353 eP P 18 17 59.1 -0.4
29nm,1.4s
E38A **The Farm, Brul** 29.31 18 P P 18 18 01.0 -1.1
baz=206
C34A **RKJ Ranch, Bem** 29.41 13 P P 18 18 01.6 -1.3
baz=199
E39A **Mellen** 29.42 20 P P 18 18 01.4 -1.6
baz=208,SNR=5.2
MCWV **Mont Chateau** 29.45 41 P P 18 18 01.7 -1.7
baz=234
D37A **Cotton** 29.56 17 P P 18 18 03.3 -0.9
baz=204
C35A **Jirik Farms, M** 29.67 15 P P 18 18 02.9 -2.3
baz=201
E40A **Wakefield** 29.69 21 P P 18 18 03.6 -1.8
baz=209
AGMN **Agassiz Nation** 29.83 12 P P 18 18 04.4 -2.2
baz=197,SNR=10
AGMN **Agassiz Nation** 29.83 12 eP P 18 18 05.6 -1.0
28nm,1.3s
AGMN ePcP PcP 18 21 09.3 -0.4
B33A **Robert and Kas** 29.86 12 P P 18 18 04.6 -2.3
baz=197
C36A **Pine Crest Far** 30.00 16 P P 18 18 05.6 -2.6
baz=203,SNR=5.5
E41A **Kenton** 30.03 22 P P 18 18 06.9 -1.5
baz=211
N54A **Moraine State** 30.16 39 P P 18 18 07.0 -2.6
baz=232
B34A **Aery, Baudette** 30.25 13 P P 18 18 08.3 -2.1
baz=199
B35A **Bob, Littlefor** 30.34 14 P P 18 18 08.5 -2.7
baz=201,SNR=5.9
A33A **Warroad** 30.53 12 P P 18 18 10.6 -2.2
baz=197
EYMN **Ely** 30.54 17 P P 18 18 11.1 -1.8
baz=205
EYMN **Ely** 30.54 17 eP P 18 18 12.1 -0.8
9.2nm,0.8s
F44A **Big Bay de Noc** 30.58 25 P P 18 18 11.5 -1.8
baz=215
O56A **Blue Knob Stat** 30.61 41 P P 18 18 11.1 -2.6
baz=234
M54A **Oil Creek Stat** 30.69 38 P P 18 18 12.0 -2.3
baz=231
M54A **Oil Creek Stat** 30.69 38 eP P 18 18 12.4 -1.9
20nm,0.8s
LON **Longmire** 30.86 337 eP P 18 18 17.2 +1.3
6.6nm,1.1s
LTY **Liberty** 30.88 338 eP P 18 18 16.2 +0.2
11nm,1.0s
SSPA **Standing Stone** 31.24 41 P P 18 18 17.3 -1.8
baz=235
SSPA **Standing Stone** 31.24 41 eP P 18 18 18.2 -1.0
18nm,1.1s
E03A **Lebam** 31.38 334 eP P 18 18 21.7 +1.4
24nm,1.1s
ULM **Lac du Bonnet** 31.70 11 P P 18 18 19.8 -3.3
3.0nm,0.7s,baz=195,slow=8.5,SNR=5.3
ULM LR LR 18 32 24.9
comp=Z,836nm,18.6s,baz=208,slow=39
ULM **Lac du Bonnet** 31.70 11 eP P 18 18 21.1 -2.0
8.4nm,1.1s
OTAV **Otavalo** 31.83 123 eP P 18 18 27.6 +2.5
38nm,1.2s
NLWA **Neilton Lookou** 32.19 335 eP P 18 18 29.3 +1.8
7.0nm,1.1s
B05A **Bryant** 32.24 338 P P 18 18 28.2 +0.3
baz=148
N59A **State Game Lan** 32.73 42 P P 18 18 31.0 -1.3
baz=237
ROSC **El Rosal** 32.78 112 P P 18 18 32.7 -0.7
4.6nm,0.5s,baz=60,slow=20,SNR=2.2
A04D **Lummi Island** 32.85 338 P P 18 18 33.4 +0.2
baz=147
SADO **Sadowa** 33.10 34 P P 18 18 33.0 -2.4
6.2nm,0.7s,baz=242,slow=8.7,SNR=3.5
SADO PcP PcP 18 21 18.2 -0.4
4.3nm,0.5s,baz=190,slow=3.0,SNR=3.3
BINY **Binghamton** 33.31 40 P P 18 18 36.0 -1.3
baz=235
BINY **Binghamton** 33.31 40 eP P 18 18 36.0 -1.3
21nm,0.9s
RUSC **La Rusia** 33.40 109 eP P 18 18 40.4 +1.5
RUSC ePcP PcP 18 21 21.2 +0.6
DELO **Deloro Mine** 33.76 36 P P 18 18 39.6 -1.5
baz=230
BANO **Bancroft** 33.91 35 P P 18 18 40.2 -2.3
baz=229
LLLB **Lillooet** 34.18 340 eP P 18 18 47.6 +2.8
9.8nm,1.4s
PLVO **Plevna** 34.38 35 P P 18 18 44.5 -2.1
baz=231
SDV **Santo Domingo** 34.43 103 P P 18 18 47.8 +0.3
17nm,0.8s,baz=285,slow=10,SNR=22
SDV PcP PcP 18 21 23.0 -0.1
2.8nm,0.4s,baz=217,slow=3.0,SNR=3.6
SDV LR LR 18 34 02.3
comp=Z,401nm,19.6s,baz=311,slow=38
SDV **Santo Domingo** 34.43 103 eP P 18 18 48.5 +1.0
44nm,1.2s
SDV ePcP PcP 18 21 24.6 +1.5
PEMO **Pembroke** 34.70 34 P P 18 18 47.5 -1.8
baz=230
FFC **Flin Flon** 35.47 3 eP P 18 18 53.3 -2.5
14nm,0.8s
SJG **San Juan** 36.37 85 P P 18 19 02.4 -1.6
10nm,0.8s,baz=285,slow=6.0,SNR=4.8
TRQ **Mont Tremblant** 36.51 36 eP P 18 19 03.6 -1.3
MTP **Monte Pirata** 36.93 85 eP P 18 19 07.8 -1.0
32nm,1.1s
FCC **Fort Churchill** 40.20 8 eP P 18 19 33.1 -2.6
12nm,1.0s
DLBC **Dease Lake** 43.33 341 eP P 18 20 01.8 +0.3
6.4nm,0.8s
DLBC epP sP 18 20 22.0 +13
YKA **Yellowknife Ar** 43.77 353 P P 18 20 02.0 -2.8
3.2nm,0.7s,baz=163,slow=8.1,SNR=37
YKA PcP PP 18 21 49.9 +3.2
0.3nm,0.8s,baz=162,slow=3.3,SNR=5.7
RPN **Rapa Nui** 46.33 186 LR LR 18 35 08.1
comp=Z,174nm,18.3s,baz=60,slow=30
PTGA **Pitinga** 48.05 109 eP P 18 20 39.8 +0.4
9.0nm,1.0s
SAML **Samuel** 49.48 121 eP P 18 20 49.0 -1.3
18nm,0.9s
SAML ePcP PcP 18 22 12.8 +0.5
LPAZ **La Paz** 50.31 132 P P 18 20 57.5 +0.3
4.0nm,1.1s,baz=343,slow=8.4,SNR=8.2
LPAZ PcP PcP 18 22 16.8 +0.8
3.9nm,0.9s,baz=326,slow=4.0,SNR=4.9
LPAZ LR LR 18 41 27.5
comp=Z,65nm,19.8s,baz=311,slow=35
LPAZ **La Paz** 50.31 132 eP P 18 20 58.0 +0.8
29nm,1.8s
LPAZ PcP PcP 18 22 16.8 +0.8
DAWY **Dawson** 50.55 341 eP P 18 20 57.2 -0.6
2.6nm,0.8s
EGAK **Eagle** 51.60 341 eP P 18 21 04.6 -1.0
5.3nm,0.9s
DOT **Dot Lake** 51.78 339 eP P 18 21 07.2 +0.1
43nm,1.8s
PAX **Paxson** 51.85 338 eP P 18 21 08.2 +0.6
4.4nm,0.8s
SCRK **Sand Creek** 51.97 339 eP P 18 21 08.9 +0.4
15nm,1.7s
KDAK **Kodiak Island** 52.03 330 LR LR 18 41 48.6
comp=Z,119nm,18.9s,baz=107,slow=34
RIDG **Indepnd'e Rid** 52.11 339 eP P 18 21 09.2 -0.3
15nm,0.9s
INK **Inuvik** 52.30 347 LR LR 18 45 08.6
comp=Z,551nm,18.3s,baz=122,slow=38
INK **Inuvik** 52.30 347 eP P 18 21 09.5 -1.2
9.8nm,0.8s
PMR **Palmer** 52.43 335 eP P 18 21 11.5 -0.3
6.4nm,0.8s
SUA **Susitna One** 53.02 334 eP P 18 21 16.2 -0.1
3.0nm,0.6s
RND **Reindeer** 53.34 337 eP P 18 21 18.8 +0.2
6.0nm,0.8s
IL1 **Eielson Array** 53.45 339 eP P 18 21 17.8 -1.5
ILAR **Eielson Array** 53.45 339 P P 18 21 18.0 -1.3
3.5nm,0.7s,baz=154,slow=6.1,SNR=38
ILAR PcP PcP 18 22 26.1 -0.1
2.0nm,0.6s,baz=157,slow=3.1,SNR=13
ILAR LR LR 18 44 51.5
comp=Z,166nm,18.3s,baz=142,slow=37
ILB **Eielson Array** 53.45 339 eP P 18 21 18.2 -1.2
MCK **McKinley** 53.56 337 eP P 18 21 19.7 -0.5
26nm,1.7s
CCB **Clear Creek Bu** 53.69 339 eP P 18 21 20.4 -0.7
3.7nm,0.9s
TRF **Thorofare Moun** 53.90 337 eP P 18 21 22.1 -0.8
16nm,0.7s
MDM **Murphy Dome** 54.03 339 eP P 18 21 23.3 -0.3
2.9nm,1.0s
FYU **Fort Yukon** 54.06 341 eP P 18 21 23.8 +0.1
30nm,1.6s
KTH **Kantishna Hill** 54.20 336 eP P 18 21 24.9 0.0
KTH epP sP 18 21 41.0 +8.7
PPLA **Purkeypile** 54.34 335 eP P 18 21 26.3 +0.3
52nm,1.8s
BPAW **Bear Paw Mtn.** 54.52 337 eP P 18 21 26.1 -1.0
3.7nm,1.0s
CAST **Castle Rocks** 54.57 336 eP P 18 21 26.1 -1.4
6.0nm,0.7s
MLY **Manley** 54.94 338 eP P 18 21 29.2 -1.0
4.6nm,0.8s
COLD **Coldfoot** 56.01 340 eP P 18 21 38.0 +0.2
3.9nm,0.8s
TOLK **Toolik Lake Re** 56.66 342 P P 18 21 41.5 -1.0
baz=127
TOLK **Toolik Lake Re** 56.66 342 eP P 18 21 41.5 -1.0
5.2nm,0.7s
GAMB **Gambell** 62.83 333 eP P 18 22 27.7 +2.8
38nm,1.6s
CPUP **Villa Florida** 64.46 133 P P 18 22 37.0 +0.7
5.3nm,0.8s,baz=322,slow=7.3,SNR=9.3
CPUP LR LR 18 50 39.2
comp=Z,94nm,18.1s,baz=248,slow=36
CPUP **Villa Florida** 64.46 133 eP P 18 22 37.1 +0.8
26nm,1.4s
PLCA **Paso Flores** 67.54 153 P P 18 22 57.9 +2.0
5.5nm,1.0s,baz=1.2,slow=6.8,SNR=8.1
PLCA LR LR 18 46 46.3
comp=Z,119nm,18.3s,baz=192,slow=31
PLCA **Paso Flores** 67.54 153 eP P 18 22 58.4 +2.5
18nm,1.2s
BORG **Borgarnes** 69.90 27 LR LR 18 54 02.4
comp=Z,164nm,18.2s,baz=9.1,slow=36
SPB **Sao Paulo** 70.13 125 eP P 18 23 13.0 +0.7
29nm,0.9s
AFI **Afiamalu** 73.91 249 LR LR 18 48 22.4
comp=Z,93nm,19.3s,baz=150,slow=29
SPITS **Spitsbergen Ar** 77.26 10 LR LR 18 57 44.4
comp=Z,137nm,19.2s,baz=275,slow=36
PET **Petropavlovsk** 78.83 322 eP P 18 24 02.6 +0.2
48nm,1.3s
PEA0B **Petropavlovsk-** 79.35 323 eP P 18 24 06.5 +1.2
34nm,0.8s
PETK **Petropavlovsk-** 79.35 323 P P 18 24 04.8 -0.5
23nm,0.7s,baz=78,slow=7.4,SNR=45
PETK LR LR 18 56 49.5
comp=Z,25nm,18.8s,baz=81,slow=34
PETK **Petropavlovsk-** 79.35 323 eP P 18 24 05.2 -0.2
EKA **Eskdalemuir Ar** 80.67 35 P P 18 24 11.0 -1.4
4.1nm,0.9s,baz=299,slow=4.8,SNR=8.7
EKA LR LR 18 59 45.2
comp=Z,76nm,18.3s,baz=260,slow=36
MA2 **Magadan** 80.77 330 eP P 18 24 12.8 -0.1
18nm,1.1s
PCAS **Casmilo, Conde** 82.34 50 eP P 18 24 22.5 +0.9
54nm,1.4s
H11N3 **WAKE ISLAND Hy** 82.36 288 T T 19 54 58.9
baz=87
H11N2 **WAKE ISLAND Hy** 82.37 288 T T 19 54 55.4
baz=87
H11N1 **WAKE ISLAND Hy** 82.38 288 T T 19 55 04.2
baz=87
TIXI **Tiksi** 82.39 345 eP P 18 24 18.7 -2.4
17nm,1.1s
POLO **Lamas de Olo** 82.42 49 eP P 18 24 22.1 0.0
PTOM **Tomar** 82.54 51 eP P 18 24 21.7 -0.9
39nm,1.2s
ALMR **Almeirim** 82.57 51 eP P 18 24 22.3 -0.4
ALMR AMb AMb 18 24 24.3
comp=Z,49nm,1.5s
ALMR **Almeirim** 82.57 51 eP P 18 24 23.4 +0.6
PMTG **Montargil** 82.86 51 eP P 18 24 25.0 +0.7
comp=Z,29nm,1.2s
H11S1 **WAKE ISLAND Hy** 82.92 287 T T 19 55 44.3
baz=77
H11S2 **WAKE ISLAND Hy** 82.92 287 T T 19 55 33.6
baz=77
MTE **Manteigas** 82.92 50 eP P 18 24 25.5 +0.8
H11S3 **WAKE ISLAND Hy** 82.93 287 T T 19 55 52.3
baz=77
PNCL **Nicolau / Gran** 82.94 52 eP P 18 24 24.9 +0.2
PTEO **Sao Teotonio** 82.97 53 eP P 18 24 25.7 +0.8
MVO **Moncorvo** 83.04 49 eP P 18 24 26.4 +1.1
comp=Z,23nm,1.6s
MORF **Marmelete** 83.11 53 eP P 18 24 24.9 -0.8
MORF AMb AMb 18 24 27.1
comp=Z,18nm,1.9s
PCBR **Castelo Branco** 83.15 50 eP P 18 24 25.8 0.0
EVO **Evora** 83.19 52 eP P 18 24 26.5 +0.5
comp=Z,30nm,1.4s
PMRV **Marv??o** 83.35 51 eP P 18 24 26.2 -0.6
PBEJ **Beja** 83.46 52 eP P 18 24 27.5 +0.1
PCVE **Castro Verde** 83.46 53 eP P 18 24 28.1 +0.7
PBDV **Barranco-do-Ve** 83.67 53 eP P 18 24 29.5 +1.0
PVAQ **Vaqueiros** 83.78 53 eP P 18 24 28.8 -0.2
PBAR **Barrancos** 84.03 52 eP P 18 24 30.5 +0.2
ARCES **ARCESS Array B** 84.68 16 P P 18 24 31.7 -1.3
comp=Z,1.7nm,0.7s,baz=308,slow=6.0,SNR=5.9
NB2 **NORSAR Subarra** 85.06 26 P P 18 24 34.3 -0.8
comp=Z,0.7nm,0.7s,baz=304,slow=5.3
NOA **NORSAR Array B** 85.06 26 P P 18 24 32.3 -2.8
comp=Z,1.1nm,0.8s,baz=303,slow=4.9,SNR=4.6
NOA LR LR 19 03 38.3
comp=Z,95nm,18.6s,baz=325,slow=36
PAB **San Pablo** 85.52 50 eP P 18 24 37.9 0.0
comp=Z,21nm,1.1s
ESDC **Sonseca Array** 85.75 50 P P 18 24 37.8 -1.3
comp=Z,4.1nm,0.9s,baz=305,slow=5.4,SNR=15
ESLA **Sonseca Array** 85.75 50 eP P 18 24 39.4 +0.3
comp=Z,11nm,1.2s
ES19 **SONSECA Array** 85.79 49 eP P 18 24 38.5 -0.7
HFS **Hagfors** 86.58 26 LR LR 19 04 44.3
comp=Z,128nm,18.4s,baz=299,slow=37
FINES **FINESS Array B** 90.48 21 P P 18 24 58.3 -2.8
comp=Z,1.2nm,0.6s,baz=325,slow=2.9,SNR=8.4
FINES LR LR 19 03 58.2
comp=Z,89nm,21.9s,baz=334,slow=34
GERES **GERESS Array B** 92.85 36 P P 18 25 11.5 -0.9
comp=Z,0.5nm,0.8s,baz=316,slow=4.1,SNR=3.4
GERES LR LR 19 06 47.8
comp=Z,95nm,20.5s,baz=296,slow=36
URZ **Urewera** 92.95 231 LR LR 19 04 07.2
comp=Z,52nm,18.0s,baz=136,slow=34
KOWA **Kowa** 94.94 73 P P 18 25 21.7 -0.9
comp=Z,9.4nm,1.0s,baz=295,slow=3.2,SNR=16
DZM **Mont Dzumac** 96.14 249 LR LR 19 02 07.5
comp=Z,99nm,18.3s,baz=229,slow=31
TIC **Toumodi** 96.78 81 eP P 18 25 30.1 -0.9
LIC **Lamto** 96.92 81 eP P 18 25 30.9 -0.7
comp=Z,48nm,1.1s
DBIC **Dimbokro** 96.92 80 P P 18 25 30.9 -0.7
comp=Z,6.3nm,0.8s,baz=286,slow=4.8,SNR=9.2
KEST **Kesra** 96.96 49 P P 18 25 30.4 -1.1
comp=Z,2.5nm,0.8s,baz=6.3,slow=9.2,SNR=3.6
KIC **Kosan Boka** 97.14 81 eP P 18 25 32.0 -0.6
comp=Z,26nm,0.9s
HNR **Honiara** 98.19 263 LR LR 19 03 30.3
comp=Z,55nm,18.0s,baz=173,slow=31
MJAR **Matsushiro Arr** 98.85 314 LR LR 19 05 21.8
comp=Z,40nm,19.4s,baz=245,slow=32
AKASG **Malin Array Be** 99.38 28 LR LR 19 11 55.4
comp=Z,102nm,18.4s,baz=295,slow=36
TORD **Torodi Ar. Bea** 100.59 72 P Pdif 18 25 46.1 -2.0
comp=Z,1.8nm,0.9s,baz=298,slow=4.9,SNR=7.3
BRTR **Keskin Array B** 109.55 33 PKiKP PKiKP 18 30 29.1 -1.6
comp=Z,0.8nm,0.9s,baz=270,slow=1.4,SNR=5.0
MKAR **Makanchi Array** 113.98 355 PKiKP PKiKP 18 30 37.9 -0.8
comp=Z,0.8nm,0.7s,baz=27,slow=3.3,SNR=6.0
LZH **Lanzhou** 118.75 334 ePKP PKPdf 18 30 44.0 -4.4
LZH pPKP sPKPdf 18 31 07.8 +12
LZH sPKP 18 31 18.0
LZH LR LR
comp=N,100nm,18.3s
LZH LR LR
comp=E,97nm,18.0s
LZH LR LR
comp=Z,150nm,20.2s
STKA **Stephens Creek** 119.80 244 PKP PKPdf 18 30 49.5 -0.7
comp=Z,4.8nm,0.7s,baz=49,slow=3.7,SNR=7.9
GEYT **Alibeck** 120.84 16 PKP PKPdf 18 30 51.2 -1.0
comp=Z,2.4nm,0.7s,baz=292,slow=4.5,SNR=9.9
WB2 **Warramunga Arr** 124.74 259 ePKPdf PKPdf 18 30 59.3 -0.8
WRA **Warramunga Arr** 124.75 259 PKP PKPdf 18 30 59.2 -0.9
comp=Z,7.2nm,0.6s,baz=78,slow=2.4,SNR=85
AS01 **Alice Springs** 125.67 254 ePKPdf PKPdf 18 31 00.3 -1.4
AS31 **Alice Springs** 125.71 254 ePKPdf PKPdf 18 31 01.9 0.0
ASAR **Alice Springs** 125.71 254 PKP PKPdf 18 31 00.8 -1.1
comp=Z,5.9nm,0.7s,baz=81,slow=2.0,SNR=69
NIL **Nilore** 127.36 2 ePKPdf PKPdf 18 31 05.0 +0.2
RAYN **Ar Ryn** 128.43 36 ePKPdf PKPdf 18 31 07.6 +0.4
MAW **Mawson** 131.00 174 PKP PKPdf 18 31 10.9 +0.4
comp=Z,4.7nm,0.9s,baz=196,slow=3.7,SNR=3.6
BOSA **Boshof** 133.48 111 PKP PKPdf 18 31 16.5 -0.1
comp=Z,7.4nm,0.8s,baz=105,slow=0.7,SNR=6.7
CMAR **Chiang Mai Arr** 135.99 327 PKP PKPdf 18 31 21.9 +0.4
comp=Z,2.1nm,0.8s,baz=320,slow=1.6,SNR=14
CM01 **Chiang Mai Arr** 136.01 327 ePKPdf PKPdf 18 31 20.7 -0.8
MYKOM **Kota Tinggi** 145.12 304 ePKPbc PKPbc 18 31 37.1 -0.4
KULM **Kulim** 145.20 312 ePKPbc PKPbc 18 31 37.4 -0.4
IPM **Ipoh** 145.50 311 ePKPdf PKPbc 18 31 38.0 -0.7
LEM **Lembang** 146.38 287 PKPbc PKPdf 18 31 40.6 +0.3
comp=Z,20nm,0.7s,baz=60,slow=8.1,SNR=7.5
PSI **Prapat** 148.16 311 ePKPdf PKPdf 18 31 45.7 +2.4
GSI **Gunungsitoli** 150.16 311 ePKPbc PKPbc 18 31 51.0 -0.4
OPO **Ambohidratompo** 153.28 93 PKPab PKPab 18 32 09.1 -1.4
comp=Z,13nm,1.1s,baz=297,slow=4.5,SNR=4.7

DJA 22 18:13:48.0±1.8, 1°N±11°×9°2E±3°4, h20km±52km, M4.7/6, mB5.1/2, mb4.7/6, MLv4.7/6, Mw(mB)4.5/2, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
MLSI	**Meulaboh, Aceh** 44nm,0.6s	5.58	52	P	Pn		18 15 09.8	-0.1
GSI	**Gunungsitoli** 25nm,0.6s	5.58	85	P	Pn		18 15 10.2	+0.3
GSI	25nm,0.6s			S	Sn		18 16 14.1	+0.6
TPTI	79nm,0.8s,2μm	5.71	64	P	Pn		18 15 11.7	0.0
KCSI	**Kotacane, Aceh**	6.36	65	P	Pn		18 15 20.7	+0.1
KCSI				S	Sn		18 16 34.3	+1.6
SISI	**Saibi** 21nm,0.8s	7.38	107	P	Pn		18 15 34.7	+0.1
MNSI	**Mandailing Nat**	7.56	90	P	Pn		18 15 37.9	+0.8

*WEL **22** 18:31:51.4±1.2, 17°S±9°×17°9E±2°3, h33km*
*NEIC **22** 18:32:01.8±0.8, 16°27S×176°63W, h355km±8km, mb4.5/5, Error ellipse: s-maj=14.0km s-min=8.1km az=148.0*
*ISCJB **22** 18:32:02.5±0.4, 16°27S±0°05×176°63W±0°06, h379km, mb4.2/20, Error ellipse: s-maj=8.9km s-min=6.4km az=35.5*
*IDC **22** 18:32:02.7±1.8, 16°21S×176°59W, h359km±18km, mb3.9/14, mb1 4.0/16, mb1mx3.7/44, mbtmp4.6/16, Error ellipse: s-maj=15.9km s-min=10.7km az=143.0*

ISC 22 18:32:03.5±0.5, 16°32S±0°08×176°58W±0°08, h379km, n56, σ1s70/54, mb4.3/20, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
AFI	**Afiamalu** 36nm,0.3s,baz=164,slow=7.4,SNR=22	5.22	63	P	Pn		18 33 24.7	-2.3
AFI	4.3nm,0.3s,baz=243,slow=21,SNR=2.6			S	S		18 34 31.4	-3.3
MSVF	**Nonsavu**	5.33	254	Pn	Pn		18 33 24.9	-3.2
RAO	**Raoul Island** 80nm,0.3s,baz=90,slow=20,SNR=4.0	12.93	185	S	S		18 37 13.5	-1.9
GLKZ	**Green Lake**	12.94	185	P	P		18 34 52.8	-1.5
GLKZ	**Green Lake**	12.94	185	S	S		18 37 06.3	-9.3
DZM	**Mont Dzumac** 2.3nm,0.3s,baz=69,slow=20,SNR=24	17.02	248	P	P		18 35 39.9	+1.2
DZM	**Mont Dzumac** 23nm,0.6s	17.02	248	eP	P		18 35 39.1	+0.4
OUZ	**Omahuta**	20.77	203	P	P		18 36 17.3	+0.9
KUZ	**Kuaotunu**	21.46	197	P	P		18 36 18.9	-3.7
MXZ	**Matakaoa Point**	21.64	191	P	P		18 36 24.1	-0.1
WIAZ	**Waiheke Island**	21.68	198	P	P		18 36 25.4	+0.8
WIAZ	**Waiheke Island**	21.68	198	S	S		18 39 56.2	-1.2
HAZ	**Te Kaha**	21.93	192	P	P		18 36 27.4	+0.5
PKGZ	**Pakihiroa**	22.00	191	P	P		18 36 28.9	+1.4
RUGZ	**Raukumara Rang**	22.15	192	P	P		18 36 29.5	+0.5
RUGZ	**Raukumara Rang**	22.15	192	S	S		18 40 21.3	+16
TWGZ	**Tauwhareparae**	22.29	191	P	P		18 36 31.2	+1.0
TWGZ	**Tauwhareparae**	22.29	191	S	S		18 40 31.5	+24
TOZ	**Tahuesa Road**	22.45	197	P	P		18 36 33.4	+1.8
MWZ	**Matawai**	22.54	192	P	P		18 36 31.5	-0.9
MWZ	**Matawai**	22.54	192	S	S		18 40 36.8	+26
URZ	**Urewera** 21nm,0.3s,baz=354,slow=2.2,SNR=42	22.55	193	P	P		18 36 30.7	-1.8
URZ	**Urewera**	22.55	193	P	P		18 36 30.9	-1.6
TKGZ	**Te Karaka**	22.57	191	P	P		18 36 37.7	+5.0
RAGZ	**Rawiri**	22.71	192	P	P		18 36 34.4	+0.3
RAGZ	**Rawiri**	22.71	192	S	S		18 40 39.7	+26
RIGZ	**Rimuhau**	22.85	191	P	P		18 36 36.3	+1.0
RIGZ	**Rimuhau**	22.85	191	S	S		18 40 34.5	+18
TLZ	**Tolley Road**	23.00	196	P	P		18 36 39.4	+2.8
RPZ	**Rata Peaks** 5.8nm,0.5s,baz=338,slow=1.1,SNR=8.1	29.26	199	P	P		18 37 32.5	+0.3
ARMA	**Armidale** 13nm,0.6s	32.25	239	P	P		18 37 58.1	-0.4
CTA	**Charters Tower** 3.3nm,0.5s,baz=78,slow=9.5,SNR=4.4	35.46	258	P	P		18 38 25.9	0.0
CTAO	**Charters Tower** 33nm,0.8s	35.46	258	eP	P		18 38 24.6	-1.3

PMG	**Port Moresby**	**35.97 276**	P	**P**	**18 38 32.2**	**+2.0**
	31nm,0.8s,baz=88,slow=8.2,SNR=7.6						
PMG	**Port Moresby**	**35.97 276**	*eP*	**P**	**18 38 29.1**	**-1.1**
COEN	**Coen**	**38.88 268**	*eP*	**P**	**18 38 54.6**	**+0.2**
	18nm,0.7s						
STKA	**Stephens Creek**	**40.93 240**	P	**P**	**18 39 12.0**	**+1.2**
	6.8nm,0.6s,baz=88,slow=9.9,SNR=17						
BBOO	**Buckleboo**	**45.71 240**	*eP*	**P**	**18 39 48.9**	**+0.4**
WRAB	**Tennant Creek**	**46.65 258**	*eP*	**P**	**18 39 55.0**	**-0.9**
	15nm,0.6s						
WRA	**Warramunga Arr**	**46.66 258**	P	**P**	**18 39 56.2**	**+0.2**
	17nm,0.6s,baz=90,slow=7.0,SNR=285						
WRA			PcP	**PcP**	**18 41 24.3**	**+1.5**
	1.6nm,0.6s,baz=88,slow=3.6,SNR=3.9						
WRA			S	**S**	**18 46 12.9**	**-3.4**
	0.6nm,0.7s,baz=94,slow=13,SNR=5.1						
ASAR	**Alice Springs**	**46.92 253**	P	**P**	**18 39 58.6**	**+0.6**
	78nm,0.4s,baz=89,slow=7.7,SNR=3439						
ASAR			S	**S**	**18 46 17.6**	**-2.4**
	2.3nm,1.0s,baz=92,slow=14,SNR=10						
BATI	**Baumata**	**58.31 268**	P	**P**	**18 41 22.4**	**+1.7**
	19nm,0.7s,baz=178,slow=1.8,SNR=9.3						
VNDA	**Vanda**	**62.17 185**	P	**P**	**18 41 48.4**	**+3.0**
	4.8nm,1.1s,baz=349,slow=6.5,SNR=13						
PETK	**Petropavlovsk-**	**72.62 344**	P	**P**	**18 42 50.4**	**-0.1**
	1.9nm,0.9s,baz=123,slow=5.3,SNR=2.8						
QSPA	**South Pole Qui**	**73.73 180**	P	**P**	**18 42 58.1**	**+1.1**
	6.1nm,1.0s,baz=11,slow=2.1,SNR=8.3						
QSPA	**South Pole Qui**	**73.73 180**	*eP*	**P**	**18 42 57.4**	**+0.4**
LEM	**Lembang**	**74.52 267**	P	**P**	**18 43 01.8**	**-0.8**
	14nm,0.6s,baz=113,slow=18,SNR=7.8						
YBH	**Yreka Blue Hor**	**76.20 38**	P	**P**	**18 43 12.6**	**+1.3**
	0.6nm,0.5s,baz=202,slow=5.4,SNR=4.0						
TXAR	**Lajitas Array**	**83.67 57**	P	**P**	**18 43 52.0**	**+0.9**
	1.3nm,0.9s,baz=215,slow=5.2,SNR=11						
ILAR	**Eielson Array**	**83.96 12**	P	**P**	**18 43 51.6**	**-0.1**
	0.6nm,0.6s,baz=223,slow=5.7,SNR=8.9						
PDAR	**Pinedale Array**	**85.00 43**	P	**P**	**18 43 57.9**	**+0.3**
	0.1nm,0.4s,baz=232,slow=5.6,SNR=3.3						
MAW	**Mawson**	**85.93 199**	P	**P**	**18 44 02.8**	**+1.4**
	2.8nm,0.7s,baz=80,slow=6.1,SNR=3.2						
BVAR	**Borovoye Array**	**116.71 322**	PKP	**PKPdf**	**18 50 03.7**	**+0.6**
	0.3nm,0.4s,baz=136,slow=1.6,SNR=3.2						
BRTR	**Keskin Array B**	**144.85 318**	PKP	**PKPab**	**18 50 57.8**	**+1.0**
	0.6nm,0.5s,baz=82,slow=2.1,SNR=7.8						
GERES	**GERESS Array B**	**146.49 346**	PKPbc	**PKPbc**	**18 51 01.3**	**+0.4**
	0.1nm,0.2s,baz=27,slow=2.4,SNR=2.6						
MMAI	**Mount Meron Ar**	**146.69 306**	PKPbc	**PKPab**	**18 51 03.4**	**-0.7**
	1.3nm,0.4s,baz=71,slow=5.3,SNR=4.9						

*ISCJB **22** 18:51:08.4±0.8,33.4°41N±0.05°×141.08°E±0.08,h48km, mb3.8/3,Error ellipse: s-maj=9.8km s-min=6.1km az=162.7*
*IDC **22** 18:51:10.1±2.3,33.40N×141.09E,h49km±20km,mb3.4/3, mb1 3.7/6,mb1mx3.2/67,mbtmp3.8/6,ML3.3/3,Error ellipse: s-maj=37.9km s-min=14.6km az=75.0*
*JMA **22** 18:51:10.9±0.2,33.64N×140.75E,h4km±5km,M3.4*
ISC 22 18:51:09.5±1.1,33.39N±0.06°×141.07E±0.08,h48km,n15, σ1s02/20,mb3.7/3,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHJ2	**Mitsune**	**1.09**	**255**	P	**Pn**	**18 51 28.9**	**+0.5**
JHJ	**Hachijo jima 2**	**1.11**	**256**	P	**Pn**	**18 51 28.9**	**+0.1**
	200nm,0.3s,baz=234,slow=19,SNR=76						
JHJ				S	**Sn**	**18 51 42.4**	**-0.5**
	275nm,0.3s,baz=262,slow=23,SNR=7.5						
BSO1	**Boso 1**	**1.26**	**356**	P	**Pn**	**18 51 30.6**	**+0.4**
BSO3	**Boso 3**	**1.48**	**342**	P	**Pn**	**18 51 33.4**	**-0.1**
BSO4	**Boso 4**	**1.71**	**339**	P	**Pn**	**18 51 37.1**	**+0.4**
JIM2	**Oshima 3**	**1.90**	**315**	P	**Pn**	**18 51 39.0**	**-0.5**
JIZS	**Izushimoda**	**2.25**	**307**	P	**Pn**	**18 51 44.7**	**+0.4**
JIZS				*eS*	**Sn**	**18 52 09.1**	**-1.7**
JOD2	**Odawara 2**	**2.48**	**319**	P	**Pn**	**18 51 47.4**	**-0.1**
JOD2				*eS*	**Sn**	**18 52 14.9**	**-1.7**
MJAR	**Matsushiro Arr**	**3.92**	**324**	P	**Pn**	**18 52 09.2**	**+1.9**
	2.6nm,0.3s,baz=157,slow=12,SNR=34						
MJAR				S	**Sn**	**18 52 52.5**	**+0.4**
	1.1nm,0.3s,baz=90,slow=23,SNR=4.1						
MAT	**Matsushiro**	**3.92**	**324**	P	**Pn**	**18 52 09.2**	**+1.9**
MAT				S	**Sn**	**18 52 52.2**	**+0.1**
JCJ	**Chichijima**	**6.35**	**171**	P	**Pn**	**18 52 41.1**	**+0.6**
	2.5nm,0.3s,baz=349,slow=16,SNR=3.2						
ASAJ	**Asahikawa**	**10.77**	**6**	P	**Pn**	**18 53 39.7**	**-1.3**
	0.1nm,0.3s,baz=176,slow=19,SNR=3.2						
KURBB	**Kurchatov Arra**	**48.09**	**311**	P	**P**	**18 59 44.4**	**+0.2**
	0.3nm,0.5s,baz=85,slow=7.6,SNR=4.1						
WRA	**Warramunga Arr**	**53.42**	**188**	P	**P**	**19 00 24.9**	**+0.3**
	0.6nm,0.3s,baz=5.6,slow=7.4,SNR=21						
ASAR	**Alice Springs**	**57.15**	**188**	P	**P**	**19 00 52.2**	**+0.8**
	0.3nm,0.4s,baz=1.8,slow=6.2,SNR=22						

IDC 22 18:57:13.1±6.0,22.70S×178.64W,h0km,mb4.2/2, mb1 4.5/2,mb1mx3.6/43,mbtmp4.2/2,Error ellipse: s-maj=266.8km s-min=70.5km az=152.0,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**43.48**	**259**	P	P	19 05 18.4	0.0
	1.7nm,0.6s,baz=94,slow=7.4,SNR=54						
WRA	**Warramunga Arr**	**43.75**	**264**	P	P	19 05 20.3	-0.3
	2.5nm,0.5s,baz=102,slow=8.4,SNR=74						
BRTR	**Keskin Array B**	**147.82**	**309**	PKPbc	PKPbc	19 16 59.7	-0.7
	0.3nm,0.6s,baz=44,slow=2.7,SNR=2.4						

MEX 22 19:00:40.3±0.8,14.69N×92.35W,h87km±9km,MD3.9, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		**1.31**	**320**	*eP*	Pn	19 01 02.8	-0.8
PCIG				*eS*	Sn	19 01 19.4	-1.7
CCIG	**Comitan**	**1.59**	**7**	*eP*	Pn	19 01 06.1	-1.2
CCIG				*eS*	Sn	19 01 25.8	-1.9

*IDC **22** 19:01:31.7±1.6,2.76N×92.70E,h0km,mb3.4/5,mb1 3.6/7, mb1mx3.4/66,mbtmp3.5/7,ML3.8/2,MS3.2/2,Ms1 3.2/2, ms1mx2.7/45,Error ellipse: s-maj=56.7km s-min=20.9km az=53.0*
*ISCJB **22** 19:01:34.2±1.0,2.7N±0.1°×92.6E±0.1°,h33km,mb3.5/5, MS3.1/1,Error ellipse: s-maj=23.7km s-min=15.6km az=40.5*
ISC 22 19:01:36.6±1.3,2.8N±0.2°×92.7E±0.2°,h35km,n9,σ0s50/7, mb3.6/5,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PALK	**Pallekele**	**12.73**	**291**	Pn	**Pn**	**19 04 35.1**	**-0.1**
	1.0nm,0.3s,baz=117,slow=12,SNR=7.9						
PALK				Sn	Sn	19 06 45.1	-11
	2.3nm,0.3s,baz=115,slow=10,SNR=9.9						
CMAR	**Chiang Mai Arr**	**16.78**	**21**	Pn	**Pn**	**19 05 28.9**	**-0.1**
	0.1nm,0.3s,baz=215,slow=14,SNR=4.6						
LEM	**Lembang**	**17.71**	**123**	LR	LR	19 11 46.1	
	comp=Z,86nm,20.0s,baz=102,slow=35						
TGY	**Tagaytay City**	**30.11**	**66**	LR	LR	19 18 34.3	
	comp=Z,42nm,20.2s,baz=178,slow=34						
MKAR	**Makanchi Array**	**44.79**	**350**	P	**P**	**19 09 47.1**	**+0.2**
	0.4nm,0.5s,baz=171,slow=9.3,SNR=5.0						
WRA	**Warramunga Arr**	**46.71**	**121**	P	**P**	**19 10 01.9**	**-0.7**
	0.5nm,0.9s,baz=301,slow=8.3,SNR=2.8						
ASAR	**Alice Springs**	**47.97**	**126**	P	**P**	**19 10 12.9**	**+0.6**
	0.2nm,0.9s,baz=298,slow=7.1,SNR=2.9						
KURBB	**Kurchatov Arra**	**49.17**	**348**	P	**P**	**19 10 21.4**	**+0.4**
	0.4nm,0.7s,baz=169,slow=6.5,SNR=4.7						
ZALV	**Zalesovo Beam**	**51.44**	**354**	P	**P**	**19 10 38.0**	**-0.1**
	0.5nm,0.4s,baz=165,slow=7.7,SNR=3.8						

IDC 22 19:25:27.9±1.3,45.39N×27.95W,h0km,mb3.3/3, mb1 3.6/3,mb1mx3.2/62,mbtmp3.3/3,MS3.1/1,Ms1 3.1/1, ms1mx2.4/36,Error ellipse: s-maj=56.9km s-min=29.6km az=36.0,Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GERES	**GERESS Array B**	**28.30**	**68**	LR	LR	19 41 26.1	
	comp=Z,35nm,18.7s,baz=247,slow=34						
TORD	**Torodi Ar. Bea**	**40.80**	**132**	P		19 33 11.1	0.0
	0.6nm,0.7s,baz=330,slow=7.8,SNR=4.1						
TXAR	**Lajitas Array**	**60.16**	**283**	P	P	19 35 37.3	-0.2
	0.1nm,0.5s,baz=45,slow=7.8,SNR=3.4						
ILAR	**Eielson Array**	**60.34**	**334**	P	P	19 35 38.4	+0.3
	0.2nm,0.7s,baz=36,slow=9.4,SNR=2.8						
ASAR	**Alice Springs**	**153.79**	**40**	PKPab	PKPab	19 45 41.0	-0.9
	0.3nm,0.8s,baz=358,slow=5.6,SNR=4.4						

*NSSC **22** 19:28:09.0±1.2,38.99N×45.76E,h36km±999km,ML2.8*
*ISK **22** 19:28:27.7,38.91N×43.60E,h5km,ML3.5/17*
*ATA **22** 19:28:27.0±1.0,38.90N×43.53E,h0km±5km,ML3.9, MW4.1*
*DDA **22** 19:28:28.7,38.89N×43.53E,h10km,MI3.8*
*TEH **22** 19:28:28.3,38.92N×43.31E,h10km,ML3.4*
*CSEM **22** 19:28:29.0±0.1,38.94N×43.60E,h2km,ML3.8,Error ellipse: s-maj=4.4km s-min=2.9km az=156.0*
*ISCJB **22** 19:28:29.7±0.3,38.94N±0.02°×43.58E±0.02,h9km±2km, Error ellipse: s-maj=3.0km s-min=2.1km az=154.4*
ISC 22 19:28:29.1±0.8,38.91N±0.01°×43.57E±0.02,h9km±5km, n131,σ1s99/192,12C-17D,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VMUR	**Van-Muradiye**	**0.08**	**2**	*i* P	**Pg**	**19 28 31.2**	**-0.3**
VMUR				*i* S	**Sg**	**19 28 34.3**	**+1.1**
VMUR	**Van-Muradiye**	**0.08**	**2**	P	**Pg**	**19 28 31.2**	**-0.3**
VMUR				S	**Sg**	**19 28 34.3**	**+1.1**
ERCV	**ERCIS-VAN**	**0.21**	**301**	PG	**Pg**	**19 28 33.1**	**-0.4**
ERCV				SG	**Sg**	**19 28 37.9**	**+1.4**
ERCV	**ERCIS-VAN**	**0.21**	**301**	*e*Pg	**Pg**	**19 28 33.1**	**-0.4**
ERCV				*e*Sg	**Sg**	**19 28 37.9**	**+1.4**
VANB	**Van**	**0.35**	**204**	PG	**Pb**	**19 28 36.9**	**-0.6**
VANB				SG	**Sb**	**19 28 45.0**	**+1.9**
VANB	**Van**	**0.35**	**204**	*e*Pg	**Pb**	**19 28 36.9**	**-0.6**
VANB				*e*Sg	**Sb**	**19 28 45.0**	**+1.9**
CLDR	**Caldiran**	**0.36**	**50**	PG	**Pg**	**19 28 35.7**	**-0.7**
CLDR				SG	**Sb**	**19 28 41.7**	**-1.9**
CLDR	**Caldiran**	**0.36**	**50**	*i* P	**Pg**	**19 28 35.5**	**-0.7**
CLDR				*i* S	**Sb**	**19 28 42.7**	**-0.9**
CLDR	**Caldiran**	**0.36**	**50**	P	**Pg**	**19 28 35.5**	**-0.7**
CLDR				*e*Sg	**Sb**	**19 28 41.7**	**-1.9**
TVAN	**Van**	**0.40**	**198**	*i* P	**Pg**	**19 28 36.8**	**-0.3**
TVAN				*i* S	**Sb**	**19 28 44.6**	**-0.3**
TVAN	**Van**	**0.40**	**198**	P	**Pg**	**19 28 36.8**	**-0.3**
TVAN				S	**Sb**	**19 28 44.6**	**-0.3**
DYDN	**Diyadin**	**0.64**	**8**	*i* P	**Pg**	**19 28 41.0**	**-0.5**
DYDN				*e*S	**Sb**	**19 28 51.3**	**-0.3**
DYDN				IAML		19 28 56.1	
	comp=Z,325nm,0.4s						
DYDN	**Diyadin**	**0.64**	**8**	*i* P	**Pg**	**19 28 41.5**	**0.0**
DYDN				*i* S	**Sb**	**19 28 51.8**	**+0.1**
DYDN	**Diyadin**	**0.64**	**8**	P	**Pg**	**19 28 41.5**	**0.0**
ADCV	**BITLIS_Adilcev**	**0.67**	**261**	*i* P	**Pg**	**19 28 41.5**	**-0.5**
ADCV	**BITLIS_Adilcev**	**0.67**	**261**	P	**Pg**	**19 28 41.5**	**-0.5**
GEVA	**Gevas**	**0.72**	**214**	*i* P	**Pg**	**19 28 41.5**	**-1.4**
GEVA				IAML		19 29 05.4	
	comp=Z,515nm,0.5s						
GEVA	**Gevas**	**0.72**	**214**	*i* P	**Pg**	**19 28 41.6**	**-1.4**
GEVA				*i* S	**Sn**	**19 28 55.6**	**-1.2**
GEVA	**Gevas**	**0.72**	**214**	P	**Pg**	**19 28 41.6**	**-1.4**
TUTA	**Tutak**	**0.76**	**310**	*i* P	**Pg**	**19 28 42.6**	**-1.2**
TUTA				IAML		19 28 57.4	
	comp=Z,781nm,0.4s						
TUTA	**Tutak**	**0.76**	**310**	*i* P	**Pg**	**19 28 42.8**	**-1.1**
TUTA				*i* S	**Sg**	**19 28 53.8**	**-0.1**
TUTA	**Tutak**	**0.76**	**310**	P	**Pg**	**19 28 42.8**	**-1.1**
TUTA				S	**Sg**	**19 28 53.8**	**-0.1**
AGRB	**Hanur-Agry**	**0.80**	**326**	PG	**Pg**	**19 28 44.0**	**-0.5**
AGRB	**Hanur-Agry**	**0.80**	**326**	*e*Pg	**Pg**	**19 28 44.0**	**-0.5**
IGDI	**IGDIR**	**1.03**	**22**	*i* P	**Pg**	**19 28 48.7**	**-0.2**
IGDI				IAML		19 29 09.6	
	comp=Z,99nm,0.4s						
IGDI	**IGDIR**	**1.03**	**22**	*i* P	**Pg**	**19 28 48.8**	**-0.2**
IGDI				*i* S	**Sb**	**19 29 03.0**	**+0.1**
TASB	**TASBURUN-IGDIR**	**1.19**	**26**	PN	**Pb**	**19 28 51.4**	**-0.5**
TASB	**TASBURUN-IGDIR**	**1.19**	**26**	*e*Pn	**Pb**	**19 28 51.4**	**-0.5**
EKAR	**Karacoban**	**1.22**	**287**	*e*P	**Pn**	**19 28 51.4**	**-1.2**
EKAR				IAML		19 29 27.9	
	comp=Z,198nm,0.6s						
EKAR	**Karacoban**	**1.22**	**287**	*i* P	**Pn**	**19 28 51.6**	**-1.0**
EKAR				*i* S	**Sg**	**19 29 08.9**	**+0.5**
EKAR	**Karacoban**	**1.22**	**287**	P	**Pn**	**19 28 51.6**	**-1.0**
EKAR				S	**Sg**	**19 29 08.9**	**+0.5**
GURO	**Guroymak-BITLI**	**1.25**	**254**	PN	**Pn**	**19 28 51.0**	**-1.9**
GURO	**Guroymak-BITLI**	**1.25**	**254**	*e*Pn	**Pn**	**19 28 51.0**	**-1.9**
EATA	**Eleskirt**	**1.26**	**319**	*e*P	**Pn**	**19 28 51.9**	**-1.3**
EATA				*e*S	**Sn**	**19 29 11.8**	**+1.3**
EATA	**Eleskirt**	**1.26**	**319**	*i* P	**Pn**	**19 28 52.3**	**-0.9**
EATA				*i* S	**Sn**	**19 29 11.1**	**+0.6**
EATA	**Eleskirt**	**1.26**	**319**	P	**Pn**	**19 28 52.3**	**-0.9**
EATA				S	**Sn**	**19 29 11.1**	**+0.6**
HYR	**Heyderabad**	**1.28**	**51**	P	**Pg**	**19 28 53.2**	**-0.5**
	SNR=46						
HYR				S	**Sn**	**19 29 12.9**	**+2.3**
YOVA	**Hakkari_Y¨...kse**	**1.44**	**157**	*i* P	**Pb**	**19 28 55.7**	**-0.5**
YOVA				*i* S	**Sg**	**19 29 18.5**	**+3.1**
YOVA	**Hakkari_Y¨...kse**	**1.44**	**157**	P	**Pb**	**19 28 55.7**	**-0.5**
DIGO	**Kars**	**1.51**	**354**	*e*P	**Pb**	**19 28 56.8**	**-0.7**
DIGO				*e*S	**Sg**	**19 29 21.5**	**+3.9**
DIGO				IAML		19 29 31.9	
	comp=Z,40nm,0.6s						
DIGO	**Kars**	**1.51**	**354**	*i* P	**Pb**	**19 28 57.3**	**-0.1**
DIGO				*i* S	**Sg**	**19 29 17.2**	**-0.4**
DIGO	**Kars**	**1.51**	**354**	P	**Pb**	**19 28 57.3**	**-0.1**
DIGO				S	**Sg**	**19 29 17.2**	**-0.4**
NAX	**Nakhchivan**	**1.52**	**80**	P	**Pg**	**19 28 58.3**	**0.0**
	SNR=162						
SRTM	**Siirt_Merkez**	**1.59**	**235**	*i* P	**Pb**	**19 28 58.1**	**-0.5**
SRTM				*i* S	**Sg**	**19 29 21.2**	**+1.1**
SRTM	**Siirt_Merkez**	**1.59**	**235**	P	**Pb**	**19 28 58.1**	**-0.5**
SRTM				S	**Sg**	**19 29 21.2**	**+1.1**
SBZ	**Shahbuz**	**1.62**	**72**	P	**Pg**	**19 28 59.3**	**-0.8**
	SNR=188						
VRTB	**Varto-Mus**	**1.66**	**279**	PN	**Pb**	**19 28 59.4**	**-0.6**
VRTB	**Varto-Mus**	**1.66**	**279**	*i* P	**Pb**	**19 28 59.8**	**-0.2**
VRTB				*i* S	**Sg**	**19 29 30.5**	**+7.9**
VRTB	**Varto-Mus**	**1.66**	**279**	*e*Pn	**Pb**	**19 28 59.4**	**-0.6**
VRTB	**Varto-Mus**	**1.66**	**279**	P	**Pb**	**19 28 59.8**	**-0.2**
SIRT	**Sirnak**	**1.67**	**213**	PN	**Pb**	**19 28 59.4**	**-0.6**
SIRT	**Sirnak**	**1.67**	**213**	*e*Pn	**Pb**	**19 28 59.4**	**-0.6**
IMRD	**Marand**	**1.68**	**96**	*e*Pn	**Pb**	**19 29 00.0**	**-0.3**
IMRD				*e*Sg	**Sg**	**19 29 27.2**	**+4.1**
IMRD				*e*AMB	AMB	19 29 28.3	
	comp=Z,9μm,0.3s						
SIRN	**S¨¨rnak**	**1.68**	**213**	*i* P	**Pb**	**19 28 59.8**	**-0.4**
SIRN				*i* S	**Sg**	**19 29 25.2**	**+2.1**
SIRN	**S¨¨rnak**	**1.68**	**213**	P	**Pb**	**19 28 59.8**	**-0.4**
HOMI	**Horasan**	**1.71**	**312**	*e*P	**Pb**	**19 29 00.1**	**-0.8**
HOMI				IAML		19 29 39.6	
	comp=Z,99nm,0.8s						
HOMI	**Horasan**	**1.71**	**312**	*i* P	**Pb**	**19 29 00.3**	**-0.6**
HOMI				*i* S	**Sg**	**19 29 25.5**	**+1.3**
ISHB	**Shabestar**	**1.72**	**111**	*e*Pn	**Pb**	**19 29 00.2**	**-0.9**
ISHB				*e*AMB	AMB	19 29 04.7	
	comp=Z,4μm,0.3s						
ISHB				*e*Sg	**Sg**	**19 29 27.8**	**+3.3**
KARS	**Kars**	**1.75**	**348**	PN	**Pb**	**19 29 00.5**	**-1.0**
KARS	**Kars**	**1.75**	**348**	*e*Pn	**Pb**	**19 29 00.5**	**-1.0**
EAK	**Akyaka**	**1.77**	**1**	*e*P	**Pg**	**19 29 02.7**	**-0.4**
EAK				*e*S	**Sg**	**19 29 31.1**	**+5.0**
EAK	**Akyaka**	**1.77**	**1**	*i* P	**Pg**	**19 29 03.3**	**+0.2**
EAK				*i* S	**Sg**	**19 29 34.0**	**+7.9**
ORD	**Ordubad**	**1.89**	**89**	P	**Pb**	**19 29 03.7**	**-0.1**
	SNR=91						
SENK	**Senkaya-Erzuru**	**1.90**	**331**	PN	**Pn**	**19 29 02.7**	**+0.9**
SENK	**Senkaya-Erzuru**	**1.90**	**331**	*e*Pn	**Pn**	**19 29 02.7**	**+0.9**
ERZM	**Erzurum**	**1.97**	**301**	*e*P	**Pn**	**19 29 03.6**	**+0.7**
ERZM	**Erzurum**	**1.97**	**301**	*i* P	**Pb**	**19 29 05.2**	**-0.1**
ERZM	**Erzurum**	**1.97**	**301**	P	**Pb**	**19 29 05.2**	**-0.1**
SVAN	**Silvan-Diyarba**	**2.01**	**249**	PN	**Pn**	**19 29 04.4**	**+1.2**
SVAN	**Silvan-Diyarba**	**2.01**	**249**	*e*Pn	**Pn**	**19 29 04.4**	**+1.2**
BTMN	**Batman**	**2.07**	**241**	*i* P	**Pb**	**19 29 06.4**	**-0.5**
BTMN				*i* S	**Sn**	**19 29 26.1**	**-1.1**
BTMN	**Batman**	**2.07**	**241**	P	**Pb**	**19 29 06.4**	**-0.5**
ECAT	**Cat-ERZURUM**	**2.13**	**290**	*e*P	**Pn**	**19 29 05.8**	**+0.8**
ECAT	**Cat-ERZURUM**	**2.13**	**290**	*i* P	**Pb**	**19 29 07.4**	**-0.6**
ECAT				*i* S	**Sn**	**19 29 32.3**	**+0.6**
ECAT	**Cat-ERZURUM**	**2.13**	**290**	P	**Pb**	**19 29 07.4**	**-0.6**
ECAT				S	**Sn**	**19 29 32.3**	**+0.6**
ITBZ	**Tabriz**	**2.13**	**108**	*e*AMB	AMB	19 29 25.1	
	comp=Z,687nm,0.3s						
ITBZ				*e*Pn	**Pb**	**19 29 06.7**	**-1.3**
BNGB	**Bing¨¶l**	**2.25**	**273**	PN	**Pn**	**19 29 07.9**	**+1.2**
BGOL	**Bingol**	**2.26**	**273**	*i* P	**Pb**	**19 29 10.4**	**+0.3**
BGOL				*i* S	**Sn**	**19 29 26.0**	**-8.9**
BINT	**Bingol**	**2.40**	**270**	*e*Pn	**Pn**	**19 29 07.9**	**-0.8**
DDEM	**Demirkent**	**2.42**	**325**	*i* P	**Pb**	**19 29 12.7**	**-0.2**
GDB	**GEDABAY**	**2.47**	**42**	⇑P	**Pn**	**19 29 07.7**	**-2.0**
	SNR=25						
GDB				⇓S	**Sn**	**19 29 39.5**	**-0.5**
HANI	**Diyarbakir_Han**	**2.53**	**260**	*i* P	**Pb**	**19 29 13.8**	**-0.9**
HANI	**Diyarbakir_Han**	**2.53**	**260**	P	**Pb**	**19 29 13.8**	**-0.9**
QZX	**Qazax, Azerbai**	**2.55**	**32**	⇓P	**Pn**	**19 29 07.4**	**-3.3**
	SNR=4.8						
QZX				⇑S	**Sn**	**19 29 39.4**	**-2.5**
KOPT	**Kop Dagi**	**2.62**	**296**	*e*P	**Pb**	**19 29 17.1**	**+0.6**
KOPT				IAML		19 30 11.2	
	comp=Z,19nm,0.6s						
KOPT	**Kop Dagi**	**2.62**	**296**	*i* P	**Pb**	**19 29 16.8**	**+0.4**
EPOS	**Posof**	**2.67**	**346**	*e*P	**Pb**	**19 29 15.6**	**-1.5**
MARD	**Mardin**	**2.72**	**235**	*i* P	**Pn**	**19 29 14.5**	**+1.4**
GANJ	**Ganja**	**2.74**	**50**	⇓P	**Pn**	**19 29 11.9**	**-1.4**
	SNR=35						
GANJ				⇓S	**Sn**	**19 29 47.2**	**+0.7**
IHRS	**Heris**	**2.79**	**101**	*e*Pn	**Pb**	**19 29 16.2**	**-3.0**
IHRS				*e*AMB	AMB	19 29 27.2	
	comp=Z,2μm,0.5s						
DIY	**Diyarbakir**	**2.81**	**250**	*e*Pn	**Pn**	**19 29 16.5**	**+2.2**
MAZI	**Mazidag**	**2.86**	**240**	PN	**Pn**	**19 29 16.5**	**+1.6**
MAZI	**Mazidag**	**2.86**	**240**	*e*Pn	**Pn**	**19 29 16.5**	**+1.6**
DYBB	**Diyarbakir**	**2.86**	**251**	PN	**Pn**	**19 29 16.5**	**+1.6**
IBST	**Bostanabad**	**2.88**	**114**	*e*Pn	**Pn**	**19 29 17.4**	**+2.0**
IBST				*e*AMB	AMB	19 29 30.5	
	comp=Z,351nm,0.2s						
DGRG	**David-gareji**	**2.89**	**28**	*e*P	**Pb**	**19 29 17.8**	**-3.0**
DGRG				IAML		19 30 01.4	
	comp=Z,7.0nm,0.5s						
BAYB	**BAYBURT**	**2.89**	**299**	*e*P	**Pb**	**19 29 22.2**	**+1.2**
BAYB				IAML		19 30 18.4	
	comp=Z,5.3nm,0.6s						
BCA	**Borcka**	**2.94**	**330**	PN	**Pn**	**19 29 17.6**	**+1.6**
BCA	**Borcka**	**2.94**	**330**	*e*Pn	**Pn**	**19 29 17.6**	**+1.6**
BAYT	**Ayd¨¨ntepe-Bay**	**3.03**	**300**	PN	**Pn**	**19 29 18.9**	**+1.5**
BAYT	**Ayd¨¨ntepe-Bay**	**3.03**	**300**	*e*Pn	**Pn**	**19 29 18.9**	**+1.5**
KBSD	**Kabsdagh**	**3.06**	**232**	*e*P	**Pn**	**19 29 16.7**	**-1.0**
KBSD				*e*S	**Sg**	**19 30 05.8**	**-1.5**
KBSD				AML	AML	19 30 14.3	
	comp=Z,45nm,0.7s						
KBSD	**Kabsdagh**	**3.06**	**232**	*e*P	**Pn**	**19 29 16.7**	**-1.0**
KBSD				*e*S	**Sg**	**19 30 05.8**	**-1.5**
KBSD				AML	AML	19 30 14.3	
	comp=Z,45nm,0.7s						
BRDA	**Brd**	**3.10**	**63**	⇑P	**Pn**	**19 29 18.0**	**-0.1**
	SNR=4.0						
BRDA				⇑S	**Sb**	**19 29 58.3**	**-3.9**
EUZM	**Uzumlu**	**3.11**	**286**	*e*P	**Pb**	**19 29 21.8**	**-2.7**
TNCL	**Tunceli-Merkez**	**3.14**	**275**	*e*P	**Pb**	**19 29 26.5**	**+1.3**
MNGR	**Mingechevir, A**	**3.28**	**54**	⇓P	**Pn**	**19 29 19.6**	**-1.1**
	SNR=5.0						
MNGR				⇓S	**Sn**	**19 30 01.2**	**+1.4**
ZRD	**Zardab**	**3.46**	**65**	⇑P	**Pn**	**19 29 23.2**	**+0.1**
	SNR=4.1						
ZRD			

PDA	**Ponta Delgada**	**1.54 310**	*e*P		Pg	19 42 01.2	+10
PSET	**Sete Cidades**	**1.63 311**	*e*S		Sn	19 42 04.1	-7.2
PSET			A		A	19 42 06.6	
	41nm,0.3s						
PSET	**Sete Cidades**	**1.63 311**	*e*S		Sn	19 42 04.1	-7.2
ROSA	**Rosais**	**3.77 302**	*e*P		Pn	19 42 16.9	-2.8
ROSA			*e*S		Sn	19 42 56.3	-7.9
ROSA	**Rosais**	**3.77 302**	*e*P		Pn	19 42 16.9	-2.8
ROSA			*e*S		Sn	19 42 56.3	-7.9
PICO	**Pico**	**3.80 298**	*e*P		Pn	19 42 16.8	-3.3
PICO			*e*S		Sn	19 42 56.8	-8.1
PICO			A		A	19 42 58.5	
	10nm,0.2s						
PICO	**Pico**	**3.80 298**	*e*P		Pn	19 42 16.8	-3.3
PICO			*e*S		Sn	19 42 56.8	-8.1
PCAN	**Candelaria**	**3.82 298**	*e*P		Pn	19 42 17.1	-3.3
PCAN			*e*S		Sn	19 42 57.2	-8.3
PCAN			A		A	19 42 58.1	
	7.5nm,0.1s						
PCAN	**Candelaria**	**3.82 298**	*e*P		Pn	19 42 17.1	-3.3
PCAN			*e*S		Sn	19 42 57.2	-8.3
CALA	**Caldeira**	**4.03 298**	*e*P		Pn	19 42 20.3	-3.0
CALA	**Caldeira**	**4.03 298**	*e*P		Pn	19 42 20.3	-3.0

*ISCJB **22** 19:43:41.3±0.4, 19°.39N±0°.04×104°.48W±0°.03, h10km, mb4.0/21, MS3.4/6, Error ellipse: s-maj=7.1km s-min=3.3km az=31.6*
*MEX **22** 19:43:44.0±0.7, 19°.31N×104°.58W, h6km±13km, MD4.6*
*NEIC **22** 19:43:44.0±0.0, 19°.31N×104°.58W, h6km, mb4.0/15, MD4.6(MEX), After MEX.*
*IDC **22** 19:43:46.6±5.5, 19°.52N×104°.42W, h34km±38km, mb3.8/14, mb1 4.0/17, mb1mx3.8/51, mbtmp4.0/17, ML4.1/2, MS3.4/10, Ms1 3.4/10, ms1mx3.1/47, Error ellipse: s-maj=32.8km s-min=16.0km az=46.0*

ISC 22 19:43:42.0±0.5, 19°.28N±0°.06×104°.55W±0°.03, h10km, n68, σ1s48/71, mb4.2/21, MS3.4/6, Near coast of Jalisco

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CJM	**Chamela**	**0.52**	**295**	*i* P	**Pg**	**19 43 52.6**	**+0.5**
CJM				*i* S	**Sg**	**19 43 59.9**	**+1.0**
CJM	**Chamela**	**0.52**	**295**	*i* P	**Pg**	**19 43 52.6**	**+0.5**
CJM				*i* S	**Sg**	**19 43 59.9**	**+1.0**
EZ5V		**0.92**	**77**	*i* P	**Pg**	**19 44 00.4**	**+0.7**
EZ5V				*e*S	**Sg**	**19 44 12.5**	**+0.8**
MMIG	**Aquila**	**1.51**	**131**	*e*P	**Pn**	**19 44 08.6**	**-0.5**
MMIG				*e*S	**Sn**	**19 44 27.8**	**-1.0**
MMIG	**Aquila**	**1.51**	**131**	*e*P	**Pn**	**19 44 08.6**	**-0.5**
MMIG				*e*S	**Sn**	**19 44 27.8**	**-1.0**
MOIG	**Morelia**	**3.19**	**82**	*e*P	**Pn**	**19 44 35.5**	**+2.9**
MOIG				*i* S	**Sn**	**19 45 09.7**	**-1.1**
MOIG	**Morelia**	**3.19**	**82**	*e*P	**Pn**	**19 44 35.5**	**+2.9**
MOIG				*i* S	**Sn**	**19 45 09.7**	**-1.1**
IGIG	**Irapuato, Guan**	**3.37**	**64**	*e*P	**Pn**	**19 44 33.7**	**-1.2**
ZIIG	**Zihuatanejo**	**3.37**	**119**	*e*P	**Pn**	**19 44 34.9**	**+0.2**
ZIIG				*i* S	**Sn**	**19 45 14.8**	**+0.1**
ZIIG	**Zihuatanejo**	**3.37**	**119**	*e*P	**Pn**	**19 44 34.9**	**+0.2**
ZIIG				*i* S	**Sn**	**19 45 14.8**	**+0.1**
ZAIG	**Zacatecas**	**3.94**	**28**	*e*Pn	**Pn**	**19 44 44.7**	**+1.9**
ZAIG				*e*Sn	Sn	19 45 21.3	-7.9
ARIG	**Puente Sto Nin**	**4.10**	**103**	*e*P	**Pn**	**19 44 47.7**	**+2.9**
ARIG				*e*S	**Sn**	**19 45 33.3**	**+0.4**
TLIG	**Tlapa**	**5.93**	**106**	*e*Pn	**Pn**	**19 45 11.8**	**+1.7**
TLIG				*e*Sn	**Sn**	**19 46 15.8**	**-2.4**
H06E1	**SOCORRO T-PHAS**	**6.05**	**266**	T	T	19 51 29.8	
	SNR=165						
H06S1	**SOCORRO T**	**6.09**	**266**	T	T	19 51 33.5	
	SNR=20						
H06N1	**SOCORRO T-PHAS**	**6.10**	**267**	T	T	19 51 43.4	
	SNR=41						
LPIG	**La Paz**	**7.19**	**313**	Pn	Pn	19 45 32.3	+5.1
	3.9nm,0.3s,baz=261,slow=4.0,SNR=7.4						
LPIG				LR	LR	19 47 36.7	
	comp=Z,219nm,20.9s,baz=120,slow=32						
CMIG	**Matias Romero**	**9.44**	**102**	Pn	**Pn**	**19 46 01.1**	**+2.9**
	2.4nm,0.3s,baz=276,slow=11,SNR=21						
CMIG				Sn	**Sn**	**19 47 45.0**	**+0.5**
	0.4nm,0.3s,baz=322,slow=12,SNR=2.3						
CMIG				Lg	Lg	19 48 28.3	
	0.8nm,0.3s,baz=47,slow=14,SNR=3.8						
CMIG				LR	LR	19 49 51.9	
	comp=Z,357nm,19.4s,baz=254,slow=39						
TXAR	**Lajitas Array**	**10.04**	**4**	Pn	**Pn**	**19 46 08.2**	**+1.6**
	0.4nm,0.3s,baz=181,slow=13,SNR=35						
TXAR				Lg	Lg	19 48 53.7	
	0.2nm,0.3s,baz=179,slow=23,SNR=3.8						
TXAR				LR	LR	19 49 51.6	
	comp=Z,65nm,21.9s,baz=0.0,slow=37						
SRIG	**Santa Rosalia**	**10.67**	**320**	*e*Pn	**Pn**	**19 46 12.3**	**-2.8**
CCIG	**Comitan**	**12.19**	**102**	Pn	Pn	19 46 41.6	+5.6
HKT	**Hockley**	**13.25**	**35**	*e*Pn	**Pn**	**19 46 49.4**	**-0.8**
121A	**Cookes Peak, D**	**13.51**	**348**	*e*Pn	**Pn**	**19 46 55.4**	**+1.4**
	39nm,1.6s						
ABTX	**Abilene, Hawle**	**14.00**	**17**	*e*Pn	**Pn**	**19 47 00.6**	**+0.1**
	23nm,1.0s						
APG	**El Apazote**	**14.12**	**105**	Pn	**Pn**	**19 47 05.0**	**+2.6**
	baz=342,slow=16,SNR=2.4						
APG				Lg	Lg	19 51 03.2	
	0.1nm,0.3s,baz=0.0,slow=20,SNR=3.5						
APG				LR	LR	19 52 40.3	
	comp=Z,217nm,21.8s,baz=270,slow=38						
TUC	**Tucson**	**14.13**	**338**	*e*Pn	**Pn**	**19 47 04.2**	**+1.7**
	11nm,1.1s						
WHTX	**Lake Whitney,**	**14.18**	**25**	*e*Pn	**Pn**	**19 47 01.7**	**-1.3**
	22nm,0.9s						
MSTX	**Muleshoe**	**14.72**	**6**	*e*Pn	**Pn**	**19 47 10.4**	**0.0**
	86nm,1.5s						
ANMO	**Albuquerque**	**15.70**	**354**	*e*Pn	**Pn**	**19 47 23.6**	**+0.1**
	4.6nm,0.9s						
AMTX	**Amarillo**	**15.75**	**9**	*e*Pn	**Pn**	**19 47 23.9**	**-0.2**
	17nm,1.0s						
WUAZ	**Wupatki**	**17.26**	**341**	*e*Pn	**Pn**	**19 47 42.9**	**-0.6**
	4.3nm,0.8s						
PFO	**Pinyon Flats O**	**17.80**	**326**	Pn	**Pn**	**19 47 50.1**	**0.0**
	12nm,1.3s						
TUL1	**Leonard**	**18.28**	**23**	P	**Pn**	**19 47 53.4**	**-2.5**
	14nm,0.8s						
GSC	**Goldstone, Bar**	**19.29**	**328**	P	**P**	**19 48 08.4**	**+1.2**
	11nm,1.3s						
MSU	**Marysvale**	**20.28**	**343**	*e*P	**P**	**19 48 20.4**	**+2.3**
ISA	**Isabella, Lake**	**20.43**	**326**	*e*P	**P**	**19 48 19.1**	**-0.6**
	4.8nm,0.9s						
ISCO	**Idaho Springs**	**20.47**	**358**	P	**P**	**19 48 18.7**	**-1.6**
	2.2nm,0.8s						
DUG	**Dugway, Tooele**	**22.02**	**343**	P	**P**	**19 48 39.3**	**+2.4**
	5.7nm,1.3s						
NVAR	**Mina Array Bea**	**22.52**	**331**	P	**P**	**19 48 43.6**	**+1.4**
	0.8nm,0.6s,baz=142,slow=11,SNR=5.9						
GOGA	**Godfrey**	**23.50**	**49**	*e*P	**P**	**19 48 50.5**	**-1.6**
	7.3nm,0.8s						
HVU	**Hansel Valley**	**23.50**	**344**	P	**P**	**19 48 51.7**	**-0.5**
	2.0nm,0.8s						
PDAR	**Pinedale Array**	**23.80**	**351**	P	**P**	**19 48 55.1**	**-0.1**
	0.2nm,0.6s,baz=139,slow=12,SNR=3.8						
PDAR				LR	LR	19 58 50.4	
	comp=Z,139nm,19.3s,baz=187,slow=38						
TKL	**Tuckaleechee C**	**24.54**	**44**	P	**P**	**19 49 00.9**	**-1.0**
	4.4nm,0.7s,baz=209,slow=10,SNR=6.4						
WCI	**Wyandotte Cave**	**24.67**	**36**	*e*P	**P**	**19 49 03.2**	**+0.2**
	35nm,0.6s						
YBH	**Yreka Blue Hor**	**27.20**	**329**	LR	LR	19 59 45.2	
	comp=Z,33nm,18.6s,baz=187,slow=35						
AGMN	**Agassiz Nation**	**29.79**	**12**	*e*P	**P**	**19 49 47.5**	**-1.5**
	2.6nm,0.6s						
ULM	**Lac du Bonnet**	**31.67**	**11**	LR	LR	20 02 17.1	
	comp=Z,60nm,19.2s,baz=262,slow=35						
OTAV	**Otavalo**	**31.83**	**123**	P	**P**	**19 50 10.7**	**+2.9**
	3.6nm,0.9s						
FFC	**Flin Flon**	**35.44**	**3**	*e*P	**P**	**19 50 36.5**	**-1.7**
	4.7nm,1.0s						
YKA	**Yellowknife Ar**	**43.74**	**353**	P	**P**	**19 51 45.5**	**-1.8**
	0.7nm,0.6s,baz=165,slow=8.0,SNR=14						
KDAK	**Kodiak Island**	**52.01**	**330**	P	**P**	**19 52 52.7**	**+1.3**
	1.9nm,0.7s,baz=90,slow=2.0,SNR=4.0						
INK	**Inuvik**	**52.27**	**347**	P	**P**	**19 52 53.0**	**-0.3**
	2.1nm,0.7s,baz=123,slow=7.9,SNR=10						
ILAR	**Eielson Array**	**53.43**	**339**	P	**P**	**19 53 02.0**	**+0.1**
	0.8nm,0.8s,baz=151,slow=6.5,SNR=13						
ILAR				PcP	**PcP**	**19 54 08.9**	**0.0**
	0.6nm,0.7s,baz=156,slow=3.3,SNR=8.1						
CPUP	**Villa Florida**	**64.47**	**133**	P	**P**	**19 54 22.2**	**+3.1**
	0.4nm,0.4s,baz=322,slow=5.3,SNR=3.7						
PETK	**Petropavlovsk-**	**79.34**	**323**	P	**P**	**19 55 48.5**	**+0.5**
	4.8nm,0.7s,baz=83,slow=9.3,SNR=12						
EKA	**Eskdalemuir Ar**	**80.63**	**35**	P	**P**	**19 55 54.6**	**-0.4**
	0.9nm,0.8s,baz=310,slow=3.6,SNR=3.1						
TIXI	**Tiksi**	**82.36**	**345**	P	**P**	**19 56 03.0**	**-0.8**
	2.7nm,1.0s,baz=66,slow=9.2,SNR=11						
TIXI	**Tiksi**	**82.36**	**345**	P	**P**	**19 56 02.1**	**-1.6**
	2.4nm,0.9s						
NOA	**NORSAR Array B**	**85.02**	**26**	LR	LR	20 33 52.9	
	comp=Z,14nm,20.1s,baz=310,slow=36						
ESDC	**Sonseca Array**	**85.71**	**50**	P	**P**	**19 56 19.3**	**-2.3**
	0.2nm,0.4s,baz=320,slow=6.7,SNR=4.4						
HFS	**Hagfors**	**86.54**	**26**	LR	LR	20 36 39.4	
	comp=Z,33nm,18.1s,baz=98,slow=37						
FINES	**FINESS Array B**	**90.44**	**21**	P	**P**	**19 56 41.9**	**-1.7**
	1.7nm,1.1s,baz=1.9,slow=4.2,SNR=3.6						
VRAC	**Vranov**	**94.11**	**34**	LR	LR	20 38 58.4	
	comp=Z,19nm,18.1s,baz=288,slow=35						
KOWA	**Kowa**	**94.91**	**73**	P	**P**	**19 57 04.8**	**-0.4**
	2.0nm,0.7s,baz=308,slow=12,SNR=2.7						
WRA	**Warramunga Arr**	**124.78**	**259**	PKP	**PKPdf**	**20 02 43.1**	**+0.2**
	2.0nm,0.6s,baz=78,slow=2.5,SNR=28						
ASAR	**Alice Springs**	**125.74**	**254**	PKP	**PKPdf**	**20 02 44.5**	**-0.2**
	2.1nm,0.7s,baz=81,slow=1.9,SNR=14						
CMAR	**Chiang Mai Arr**	**135.97**	**327**	PKP	**PKPdf**	**20 03 05.0**	**+0.8**
	0.5nm,0.7s,baz=121,slow=0.6,SNR=4.2						
IPM	**Ipoh**	**145.49**	**311**	*e*PKPdf	**PKPbc**	**20 03 21.9**	**+0.4**

*JMA **22** 19:52:40.8±0.1, 24°.62N×122°.67E, h105km±1km, M3.2*
*ISCJB **22** 19:52:41.4±0.3, 24°.65N±0°.02×122°.71E±0°.01, h96km±3km, Error ellipse: s-maj=3.5km s-min=2.0km az=169.6*
*TAP **22** 19:52:41.1, 24°.68N×122°.71E, h102km, ML3.9, C*

ISC 22 19:52:41.9±1.3, 24°.63N±0°.04×122°.71E±0°.02, h96km±7km, n109, σ0s79/206, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JYNG	**Yonagunijimaku**	**0.28**	**129**	P	**Pn**	**19 52 56.1**	**+0.2**
JYNG				S	**Sn**	**19 53 07.3**	**+0.9**
YOJ	**Yonaguni jima**	**0.32**	**121**	*e*P	**Pn**	**19 52 56.3**	**+0.2**
	baz=135						
YOJ				*e*S	**Sn**	**19 53 07.7**	**+0.9**
	baz=135						
YOJ	**Yonaguni jima**	**0.32**	**121**	P	**Pn**	**19 52 56.3**	**+0.2**
YOJ				S	**Sn**	**19 53 07.4**	**+0.6**
EOS1	**EOS1**	**0.53**	**261**	*e*P	**Pn**	**19 52 57.6**	**+0.1**
	baz=249						
EOS1				*e*S	**Sn**	**19 53 10.2**	**+1.1**
	baz=249						
EGS		**0.74**	**287**	*e*P	**Pn**	**19 52 59.6**	**+0.3**
	baz=283						
TWB1	**Santiao Chiao**	**0.75**	**300**	*e*P	**Pn**	**19 52 59.1**	**-0.3**
	baz=293						
TWC	**Suao**	**0.78**	**269**	P	**Pn**	**19 52 59.3**	**-0.4**
	baz=261						
TWC				*e*S	**Sn**	**19 53 11.8**	**-1.2**
	baz=261						
NTC	**Toucheng**	**0.83**	**286**	*e*P	**Pn**	**19 52 59.9**	**-0.3**
	baz=286						
NTC				*e*S	**Sn**	**19 53 13.3**	**-0.6**
	baz=286						
ENAH	**Nanao**	**0.84**	**258**	*e*P	**Pn**	**19 53 00.1**	**-0.2**
	baz=251						
ENAH				*e*S	**Sn**	**19 53 13.8**	**-0.3**
	baz=251						
TIPB	**Shuangxi**	**0.87**	**293**	P	**Pn**	**19 52 59.5**	**-1.2**
	baz=287						
TIPB				*e*S	**Sn**	**19 53 14.3**	**-0.5**
	baz=287						
ILA	**Ilan**	**0.88**	**279**	*e*P	**Pn**	**19 53 00.8**	**0.0**
	baz=272						
ILA				*e*S	**Sn**	**19 53 15.2**	**+0.3**
	baz=272						
NANB	**Nanao**	**0.90**	**257**	P	**Pn**	**19 53 00.7**	**-0.2**
	baz=250						
NANB				*e*S	**Sn**	**19 53 14.9**	**-0.3**
	baz=250						
ENA	**Nanau**	**0.90**	**257**	*e*P	**Pn**	**19 53 00.9**	**-0.1**
	baz=250						
ENA				*e*S	**Sn**	**19 53 15.9**	**+0.6**
	baz=250						
NWF	**Wu-fen Shan**	**0.95**	**298**	*e*P	**Pn**	**19 53 01.3**	**-0.2**
	baz=289						
NWF				*e*S	**Sn**	**19 53 16.2**	**-0.1**
	baz=289						
WFSB	**Wu-fen Shan**	**0.95**	**298**	P	**Pn**	**19 53 01.4**	**-0.1**
	baz=289						
WFSB				*e*S	**Sn**	**19 53 16.1**	**0.0**
	baz=289						
TWE	**Neicheng**	**0.95**	**276**	P	**Pn**	**19 53 01.4**	**-0.1**
	baz=271						
TWE				*e*S	**Sn**	**19 53 15.1**	**-1.1**
	baz=271						
IRIF	**Iriomote-Funau**	**0.98**	**107**	P	**Pn**	**19 53 01.7**	**-0.1**
IRIF				S	**Sn**	**19 53 16.9**	**+0.2**
ENTT	**Nioudou**	**1.04**	**271**	*e*P	**Pn**	**19 53 02.6**	**+0.2**
	baz=265						
ENTT				*e*S	**Sn**	**19 53 18.6**	**+0.7**
	baz=265						
TWA	**Mucha**	**1.08**	**289**	P	**Pn**	**19 53 02.7**	**-0.2**
	baz=279						
TWA				*e*S	**Sn**	**19 53 18.4**	**-0.3**
	baz=279						
NWLT	**Wulai**	**1.10**	**278**	P	**Pn**	**19 53 03.0**	**-0.2**
	baz=281						
NWLT				*e*S	**Sn**	**19 53 18.8**	**-0.6**
	baz=281						
NACB	**Ninganchiao**	**1.11**	**246**	*e*P	**Pn**	**19 53 02.5**	**-0.8**
	baz=237						
NACB				*e*S	**Sn**	**19 53 18.6**	**-0.8**
	baz=237						
YM07	**YM07**	**1.13**	**299**	*e*P	**Pn**	**19 53 03.4**	**-0.1**
	baz=290						
TWD	**Chiawan**	**1.15**	**242**	P	**Pn**	**19 53 03.2**	**-0.6**
	baz=233						
TWD				*e*S	**Sn**	**19 53 19.8**	**-0.4**
	baz=233						
HATJ	**Hateruma jima**	**1.15**	**119**	P	**Pn**	**19 53 04.2**	**+0.4**
HATJ				S	**Sn**	**19 53 21.6**	**+1.4**
YM08	**YM08**	**1.16**	**299**	*e*P	**Pn**	**19 53 03.4**	**-0.5**
	baz=291						
YM08				*e*S	**Sn**	**19 53 19.4**	**-1.0**
	baz=291						
TATO	**Taipei**	**1.16**	**287**	*e*P	**Pn**	**19 53 03.4**	**-0.4**
	baz=277						
TATO				*e*S	**Sn**	**19 53 19.3**	**-1.1**
	baz=277						
YM05	**YM05**	**1.16**	**297**	P	**Pn**	**19 53 03.8**	**-0.2**
	baz=290						
YM10	**YM10**	**1.16**	**297**	P	**Pn**	**19 53 03.7**	**-0.3**
	baz=289						
YM04	**YM04**	**1.18**	**296**	P	**Pn**	**19 53 03.9**	**-0.3**
	baz=286						
YM04				*e*S	**Sn**	**19 53 20.2**	**-0.7**
	baz=286						
YM03	**YM03**	**1.19**	**297**	*e*P	**Pn**	**19 53 04.3**	**0.0**
	baz=288						
YM03				*e*S	**Sn**	**19 53 21.2**	**0.0**
	baz=288						
TWY	**Chenhua**	**1.19**	**303**	*e*P	**Pn**	**19 53 04.0**	**-0.3**
	baz=294						
TWY				*e*S	**Sn**	**19 53 20.6**	**-0.4**
	baz=294						
HWA	**Hwalien**	**1.20**	**237**	*e*P	**Pn**	**19 53 04.2**	**-0.1**
	baz=234						
HWA				*e*S	**Sn**	**19 53 21.8**	**+0.6**
	baz=234						
YHNB	**Yeheng**	**1.21**	**272**	P	**Pn**	**19 53 04.5**	**0.0**
	baz=275						
YHNB				*e*S	**Sn**	**19 53 21.4**	**-0.2**
	baz=275						
NNSB	**Datong**	**1.22**	**261**	P	**Pn**	**19 53 04.5**	**-0.2**
	baz=252						
NNSB				*e*S	**Sn**	**19 53 21.4**	**-0.5**
	baz=252						
NNSH	**Datong**	**1.22**	**261**	*e*P	**Pn**	**19 53 04.4**	**-0.3**
	baz=252						
NNSH				*e*S	**Sn**	**19 53 21.9**	**0.0**
	baz=252						
NNS	**Nan Shan**	**1.23**	**261**	*e*P	**Pn**	**19 53 04.7**	**-0.1**
	baz=252						
NNS				*e*S	**Sn**	**19 53 21.8**	**-0.3**
	baz=252						
ENLB	**Shoufeng**	**1.24**	**235**	P	**Pn**	**19 53 04.6**	**-0.2**
	baz=232						
ENLB				*e*S	**Sn**	**19 53 22.8**	**+0.7**
	baz=232						
JKRS	**Kuro-shima**	**1.25**	**108**	P	**Pn**	**19 53 05.1**	**+0.2**
JKRS				S	**Sn**	**19 53 23.3**	**+1.0**
NTST	**Danshui**	**1.26**	**295**	*e*P	**Pn**	**19 53 04.9**	**-0.1**
	baz=287						
NTST				*e*S	**Sn**	**19 53 22.6**	**+0.2**
	baz=287						
TWS1	**Kuangyinshan**	**1.26**	**292**	*e*P	**Pn**	**19 53 04.9**	**-0.1**
	baz=290						
TWS1				*e*S	**Sn**	**19 53 22.1**	**-0.4**
	baz=290						
JIJ	**Ishigaki jima**	**1.33**	**101**	P	**Pn**	**19 53 05.6**	**-0.3**
JIJ				S	**Sn**	**19 53 23.5**	**-0.6**
WHF	**Hehuan Shan**	**1.40**	**250**	P	**Pn**	**19 53 06.8**	**-0.3**
	baz=248						
WHF				*e*S	**Sn**	**19 53 25.2**	**-1.0**
	baz=248						
ESL	**Shilin**	**1.42**	**235**	*e*P	**Pn**	**19 53 06.3**	**-0.7**
	baz=233						
ESL				S	**Sn**	**19 53 25.1**	**-0.8**
	baz=233						
NCU	**National Centr**	**1.42**	**284**	P	**Pn**	**19 53 07.2**	**+0.2**
	baz=282						
NCU				S	**Sn**	**19 53 26.7**	**+0.7**
	baz=282						
NCUH	**Zhongli**	**1.42**	**284**	*e*P	**Pn**	**19 53 06.5**	**-0.5**
	baz=282						
NCUH				*e*S	**Sn**	**19 53 26.2**	**+0.2**
	baz=282						
TWT	**Tachien**	**1.45**	**255**	P	**Pn**	**19 53 07.9**	**+0.4**
	baz=253						
TWT				*e*S	**Sn**	**19 53 26.5**	**-0.3**
	baz=253						
JISG	**Ishigakijimahi**	**1.46**	**91**	P	**Pn**	**19 53 07.1**	**-0.3**
JISG				S	**Sn**	**19 53 26.4**	**-0.4**
TDCB	**Techi**	**1.46**	**255**	P	**Pn**	**19 53 07.9**	**+0.3**
	baz=248						
TDCB				*e*S	**Sn**	**19 53 26.8**	**-0.3**
	baz=248						
CHGB	**Renai**	**1.51**	**248**	P	**Pn**	**19 53 08.4**	**+0.1**
	baz=239						
CHGB				*e*S	**Sn**	**19 53 27.9**	**-0.4**
	baz=239						
EGFH	**Guangfu**	**1.51**	**231**	*e*P	**Pn**	**19 53 07.6**	**-0.5**
	baz=229						
EGFH				*e*S	**Sn**	**19 53 27.0**	**-0.9**
	baz=229						
OWD	**Renai**	**1.55**	**245**	P	**Pn**	**19 53 08.8**	**0.0**
	baz=237						
OWD				*e*S	**Sn**	**19 53 28.7**	**-0.4**
	baz=237						
NSTT	**Nanjuang**	**1.55**	**270**	*e*P	**Pn**	**19 53 08.4**	**-0.2**
	baz=268						
NSTT				*e*S	**Sn**	**19 53 28.3**	**-0.6**
	baz=268						
SBCB	**Hsinchu**	**1.57**	**276**	*e*P	**Pn**	**19 53 08.9**	**+0.1**
	baz=274						
SBCB				*e*S	**Sn**	**19 53 29.2**	**-0.2**
	baz=274						
HSN	**Hsinchu**	**1.59**	**277**	P	**Pn**	**19 53 09.3**	**+0.3**
	baz=276						
HSN				S	**Sn**	**19 53 28.9**	**-0.8**
	baz=276						
HGSD	**Ruisui**	**1.63**	**226**	*e*P	**Pn**	**19 53 09.3**	**-0.4**
	baz=223						
HGSD				*e*S	**Sn**	**19 53 30.6**	**0.0**
	baz=223						
EHY	**Hungye**	**1.69**	**229**	*e*P	**Pn**	**19 53 09.6**	**-0.8**
	baz=226						
EHY				*e*S	**Sn**	**19 53 31.0**	**-1.0**
	baz=226						
DPDB	**Guoxing**	**1.73**	**250**	*e*P	**Pn**	**19 53 11.5**	**+0.6**
	baz=245						
DPDB				*e*S	**Sn**	**19 53 33.9**	**+0.9**
	baz=245						
NMLH	**Miaoli**	**1.75**	**267**	*e*P	**Pn**	**19 53 11.2**	**+0.1**
	baz=273						
NMLH				*e*S	**Sn**	**19 53 32.7**	**-0.6**
	baz=273						
TWQ1	**Liyutan**	**1.78**	**261**	*e*P	**Pn**	**19 53 11.7**	**+0.2**
	baz=259						
TWQ1				*e*S	**Sn**	**19 53 33.9**	**-0.2**
	baz=259						
YULB	**Yu-li**	**1.78**	**227**	*e*P	**Pn**	**19 53 10.8**	**-0.8**
	baz=231						
YULB				*e*S	**Sn**	**19 53 32.4**	**-1.7**
	baz=231						
NSY	**Sanyi**	**1.79**	**264**	P	**Pn**	**19 53 12.0**	**+0.4**
	baz=262						
NSY				*e*S	**Sn**	**19 53 34.9**	**+0.7**
	baz=262						
SSLB	**Suanglung**	**1.81**	**243**	*e*P	**Pn**	**19 53 11.8**	**-0.1**
	baz=237						
SSLB				*e*S	**Sn**	**19 53 34.9**	**+0.2**
	baz=237						
SMLT	**Sun Moon Lake**	**1.81**	**246**	P	**Pn**	**19 53 12.4**	**+0.4**
	baz=238						
SMLT				*e*S	**Sn**	**19 53 35.4**	**+0.6**
	baz=238						
TWF1	**Yuli**	**1.81**	**226**	P	**Pn**	**19 53 11.2**	**-0.7**
	baz=231						
TWF1				*e*S	**Sn**	**19 53 34.0**	**-0.8**
	baz=231						
JTJ	**Tarama**	**1.82**	**89**	P	**Pn**	**19 53 11.8**	**-0.1**
JTJ				S	**Sn**	**19 53 34.7**	**-0.1**
TYC	**Yuchr**	**1.84**	**247**	P	**Pn**	**19 53 12.8**	**+0.6**
	baz=239						
TYC				*e*S	**Sn**	**19 53 35.7**	**+0.4**
	baz=239						
FULB	**Fuli**	**1.93**	**222**	P	**Pn**	**19 53 13.5**	**+0.1**
	baz=214						
FULB				*e*S	**Sn**	**19 53 37.6**	**+0.2**
	baz=214						
CHKT	**Chengkung**	**1.96**	**219**	*e*P	**Pn**	**19 53 13.0**	**-0.8**
	baz=213						
CHKT				*e*S	**Sn**	**19 53 36.3**	**-1.8**
	baz=213						
YUS	**Yu-Shan**	**1.97**	**235**	*e*P	**Pn**	**19 53 14.7**	**+0.3**
	baz=228						
YUS				*e*S	**Sn**	**19 53 38.3**	**-0.7**
	baz=228						
WJS	**Zhushan**	**1.98**	**246**	P	**Pn**	**19 53 15.1**	**+1.0**
	baz=237						
WJS				*e*S	**Sn**	**19 53 40.4**	**+1.8**
	baz=237						
WNT	**Mingjian**	**1.99**	**248**	P	**Pn**	**19 53 14.9**	**+0.

CHN2					*e*S		**Sn**	19 53 47.8	+1.4
	baz=251								
CHN4	**Tsaushan**	**2.31**	**237**		P		**Pn**	19 53 19.4	+0.9
	baz=235								
CHN4					*e*S		**Sn**	19 53 48.4	+1.9
	baz=235								
TPUB	**Ta-pu**	**2.32**	**236**		P		**Pn**	19 53 19.3	+0.8
	baz=233								
TPUB					*e*S		**Sn**	19 53 47.2	+0.6
	baz=233								
JIKM	**Ikemajima**	**2.33**	**82**		P		**Pn**	19 53 18.9	+0.3
JIKM					*e*S		**Sn**	19 53 46.4	-0.3
TWGBT	**Beinan**	**2.34**	**220**		*e*P		**Pn**	19 53 18.2	-0.6
	baz=217								
TWGBT					*e*S		**Sn**	19 53 45.6	-1.5
	baz=217								
WTCT	**Ta-ch'eng**	**2.34**	**251**		*e*P		**Pn**	19 53 18.9	+0.1
	baz=258								
WTCT					*e*S		**Sn**	19 53 46.3	-0.8
	baz=258								
TWG	**Pinlang**	**2.34**	**220**		P		**Pn**	19 53 18.2	-0.7
	baz=217								
TWG					*e*S		**Sn**	19 53 45.6	-1.6
	baz=217								
TTN	**Taitung**	**2.35**	**218**		P		**Pn**	19 53 19.1	+0.1
	baz=211								
TTN					*e*S		**Sn**	19 53 47.2	-0.1
	baz=211								
JMJ	**Miyako jima 2**	**2.36**	**85**		*e*S		**Sn**	19 53 46.8	-0.7
WTP	**Ta-pu**	**2.36**	**235**		*e*P		**Pn**	19 53 19.8	+0.7
	baz=232								
WTP					*e*S		**Sn**	19 53 49.1	+1.5
	baz=232								
CHY	**Chiayi**	**2.37**	**242**		*e*P		**Pn**	19 53 20.0	+0.8
	baz=251								
CHY					*e*S		**Sn**	19 53 49.9	+2.1
	baz=251								
TWK	**Hsinying**	**2.44**	**237**		P		**Pn**	19 53 21.0	+0.8
	baz=234								
TWK					*e*S		**Sn**	19 53 50.8	+1.2
	baz=234								
CHN1	**Nanshi**	**2.46**	**235**		*e*P		**Pn**	19 53 21.3	+0.9
	baz=232								
CHN1					*e*S		**Sn**	19 53 50.1	+0.2
	baz=232								
JOGS	**Gusukube**	**2.46**	**86**		P		**Pn**	19 53 20.7	+0.4
JOGS					*e*S		**Sn**	19 53 50.5	+0.7
WSF	**Szhu**	**2.48**	**247**		*e*P		**Pn**	19 53 20.6	0.0
	baz=245								
WSF					*e*S		**Sn**	19 53 50.4	+0.2
	baz=245								
SGST	**Jiashian**	**2.48**	**232**		*e*P		**Pn**	19 53 21.9	+1.2
	baz=239								
SGST					*e*S		**Sn**	19 53 52.3	+1.9
	baz=239								
WLGB	**Puzi**	**2.48**	**243**		*e*P		**Pn**	19 53 21.0	+0.4
	baz=250								
WLGB					*e*S		**Sn**	19 53 51.5	+1.1
	baz=250								
SLGT	**Liugui**	**2.49**	**230**		*e*P		**Pn**	19 53 21.9	+1.0
	baz=233								
SLGT					*e*S		**Sn**	19 53 52.6	+1.8
	baz=233								
ECL	**Taimali**	**2.58**	**219**		*e*P		**Pn**	19 53 21.1	-0.9
	baz=216								
ECL					*e*S		**Sn**	19 53 51.3	-1.5
	baz=216								
CHN8	**Yiju**	**2.62**	**241**		*e*S		**Sn**	19 53 53.7	+0.1
	baz=249								
SSD	**Sandimen**	**2.67**	**226**		P		**Pn**	19 53 23.9	+0.7
	baz=223								
SSD					*e*S		**Sn**	19 53 56.3	+1.4
	baz=223								
SCLT	**Jiali**	**2.72**	**238**		*e*S		**Sn**	19 53 57.3	+1.3
	baz=236								
TWM1	**Shoushan**	**2.76**	**230**		*e*P		**Pn**	19 53 26.4	+2.0
	baz=236								
MASBT	**Mashibuluo**	**2.77**	**224**		P		**Pn**	19 53 25.5	+1.0
	baz=233								
MASBT					*e*S		**Sn**	19 58.0	+0.8
	baz=233								
LAY	**Lan-yu**	**2.79**	**203**		*e*P		**Pn**	19 53 24.0	-0.8
	baz=194								
LAY					*e*S		**Sn**	19 53 55.2	-2.6
	baz=194								
TAW	**Tawu**	**2.81**	**217**		*e*S		**Sn**	19 53 56.9	-1.2
	baz=218								
EAST	**Anshuo**	**2.81**	**218**		*e*P		**Pn**	19 53 24.7	-0.5
	baz=215								
MATB	**Ma-tsu**	**2.92**	**302**		*e*P		**Pn**	19 53 26.2	-0.3
	baz=300								

*ISN **22** 19:53:42.7±3.3, 32.4°N×47.0°E, h39km±19km, ML3.3*
*CSEM **22** 19:53:43.7±0.3, 32.3°N×46.9°E, h20km, ML3.3, Error ellipse: s-maj=12.7km s-min=7.9km az=149.0*

TEH 22 19:53:41.1, 32.43N×47.07E, h6km, ML3.3, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IKFM	**Kafar-mosalman**	**1.27**	**31**	*e*AMB	AMB	19 54 33.8	
	comp=Z,99nm,0.3s						
IKFM				*e*Pg	Pg	19 54 06.1	+0.7
SHGR	**Shooshtar-Gavs**	**1.50**	**102**	*e*Pg	Pg	19 54 12.2	+2.3
NSR	**Nassriya**	**1.63**	**210**	*e*Pn	Pn	19 54 08.0	-2.3
	SNR=5.0						
NSR				*e*Sn	Sn	19 54 29.0	-2.5
	SNR=5.0						
IKOM	**Komasi**	**1.77**	**12**	*e*Pn	Pg	19 54 15.0	-0.2
IKOM				*e*AMB	AMB	19 54 19.2	
	comp=Z,7μm,0.3s						
IGHG	**Ghaleghazi**	**1.94**	**348**	*e*Pn	Pg	19 54 17.8	-0.5
IGHG				*e*AMB	AMB	19 54 56.7	
	comp=Z,3μm,0.3s						
IVIS	**Veis**	**2.10**	**355**	*e*Pn	Pb	19 54 19.6	0.0
IVIS				*e*AMB	AMB	19 54 52.8	
	comp=Z,2μm,0.2s						
IDHR	**Dehrash**	**2.33**	**346**	*e*Pn	Pb	19 54 22.8	-0.9
IDHR				*e*AMB	AMB	19 55 04.5	
	comp=Z,2μm,0.2s						
ILIN	**Lien**	**2.48**	**358**	*e*Pn	Pb	19 54 25.3	-0.9
ILIN				*e*AMB	AMB	19 55 03.8	
	comp=Z,859nm,0.2s						
SNGE	**Sanandaj**	**2.66**	**5**	*e*Pn	Pb	19 54 27.6	-1.7
KHMZ	**Khomeyn**	**2.75**	**61**	*e*Pn	Pb	19 54 29.0	-1.8
KHMZ				*e*Sg	Sg	19 55 07.9	-1.6
HAGD	**Aghdareh**	**2.94**	**35**	*e*Pn	Pb	19 54 31.4	-2.7
HAGD				*e*AMB	AMB	19 54 42.7	
	comp=Z,99nm,0.1s						
ASAO	**Ashtian**	**3.25**	**49**	*e*Pn	Pn	19 54 35.6	+2.8
HKZM	**Kohzaman**	**3.31**	**27**	*e*Pn	Pn	19 54 36.9	+3.2
HKZM				*e*AMB	AMB	19 55 24.4	
	comp=Z,99nm,0.3s						
IRAZ	**Razeghan**	**3.80**	**38**	*e*Pn	Pn	19 54 43.4	+3.0
IRAZ				*e*AMB	AMB	19 54 57.4	
	comp=Z,361nm,0.2s						
IKLH	**Kolahrood**	**3.89**	**76**	*e*Pn	Pn	19 54 44.5	+2.8
IKLH				*e*AMB	AMB	19 55 56.8	
	comp=Z,254nm,0.2s						
QAM	**Ghamsar**	**3.90**	**69**	*e*Pn	Pn	19 54 45.3	+3.6
QAM				*e*AMB	AMB	19 55 51.5	
	comp=Z,432nm,0.2s						
GHVR	**GHOM**	**4.08**	**59**	*e*Pn	Pn	19 54 46.6	+2.5
IZEF	**Zefreh**	**4.46**	**83**	*e*Pn	Pn	19 54 52.1	+2.6
IRAM	**Ramesheh**	**4.55**	**96**	*e*Pn	Pn	19 54 53.3	+2.6
IRAM				*e*AMB	AMB	19 55 51.4	
	comp=Z,96nm,0.2s						
IGZV	**Ghazvin**	**4.72**	**33**	*e*Pn	Pn	19 54 55.0	+1.9
IGZV				*e*AMB	AMB	19 55 10.7	
	comp=Z,146nm,0.3s						
IDMV	**Damavand**	**5.18**	**51**	*e*Pn	Pn	19 55 01.0	+1.6
IDMV				*e*AMB	AMB	19 55 50.6	
	comp=Z,89nm,0.3s						
RTB	**Rutbah**	**5.73**	**278**	*e*Pn	Pn	19 55 07.0	+0.2
	SNR=5.0						
RTB				*e*Sn	Sn	19 56 10.0	-2.9
	SNR=5.0						

*TIR **22** 19:54:26.3, 41.5°N×19.9°E, h34km, Md2.7/5*

CSEM 22 19:54:26.5±1.1, 41.52N×19.56E, h30km, Error ellipse: s-maj=24.7km s-min=17.5km az=40.0, Albania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TIR	**Tirane**	**0.29**	**127**	*i* Pg	Pb	19 54 34.2	+0.4
	baz=138						
TIR				*i* Sg	Sn	19 54 41.0	+1.0
	baz=138						
TIR	**Tirane**	**0.29**	**127**	*i* PG	Pb	19 54 34.2	+0.4
TIR				*i* SG	Sn	19 54 41.0	+1.0
PUK	**Puka**	**0.58**	**26**	*i* Pg	Pb	19 54 37.1	-1.2
	baz=58						
PUK				*i* Sg	Sb	19 54 46.3	0.0
	baz=58						
PUK	**Puka**	**0.58**	**26**	*i* PG	Pb	19 54 37.1	-1.2
PUK				*i* SG	Sb	19 54 46.3	0.0
PHP	**Peshkopia**	**0.68**	**76**	*i* Pg	Pb	19 54 39.0	-1.0
	baz=78						
PHP				*i* Sg	Sb	19 54 49.1	0.0
	baz=78						
PHP	**Peshkopia**	**0.68**	**76**	*i* PG	Pb	19 54 39.0	-0.9
PHP				*i* SG	Sb	19 54 49.1	0.0
BCI	**Bajram Curri**	**0.93**	**24**	*i* Pg	Pb	19 54 44.1	0.0
	baz=22						
BCI				*i* Sg	Sb	19 54 57.4	+1.4
	baz=22						
BCI	**Bajram Curri**	**0.93**	**24**	*i* PG	Pb	19 54 44.1	0.0
BCI				*i* SG	Sb	19 54 57.4	+1.4
STON	**Ston**	**1.93**	**315**	*e*Pn	Pn	19 54 57.8	+0.5
STON				Sn	Sn	19 55 19.8	-0.7
STON	**Ston**	**1.93**	**315**	*e*Pn	Pn	19 54 57.7	+0.4
STON				Sn	Sn	19 55 19.7	-0.8

*CSEM **22** 20:03:44.2±10.0, 31.60N×46.25E, h15km, ML2.8, Error ellipse: s-maj=297.3km s-min=12.2km az=27.0*
*ISN **22** 20:03:58.2±0.8, 32.66N×46.81E, h15km, ML2.8*

TEH 22 20:03:56.0, 32.58N×46.87E, h10km, ML2.8, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IKFM	**Kafar-mosalman**	**1.25**	**41**	*e*Pg	Pg	20 04 20.7	+0.6
IKFM				*e*AMB	AMB	20 04 22.6	
	comp=Z,99nm,0.1s						
IKOM	**Komasi**	**1.68**	**18**	*e*Pn	Pg	20 04 28.8	+0.5
IKOM				*e*AMB	AMB	20 04 29.8	
	comp=Z,2μm,0.1s						
IKOM				*e*Sg	Sg	20 04 53.1	+2.9
SHGR	**Shooshtar-Gavs**	**1.70**	**105**	*e*Pg	Pb	20 04 27.0	-0.3
IGHG	**Ghaleghazi**	**1.77**	**352**	*e*Pn	Pg	20 04 29.6	-0.3
IGHG				*e*AMB	AMB	20 05 07.9	
	comp=Z,1μm,0.4s						
IVIS	**Veis**	**1.95**	**360**	*e*Pn	Pb	20 04 32.0	+0.4
IVIS				*e*AMB	AMB	20 05 12.3	
	comp=Z,442nm,0.2s						
IDHR	**Dehrash**	**2.16**	**349**	*e*Pn	Pb	20 04 34.5	-0.8
IDHR				*e*AMB	AMB	20 04 41.3	
	comp=Z,481nm,0.1s						
ILIN	**Lien**	**2.34**	**2**	*e*Pn	Pb	20 04 38.2	-0.2
ILIN				*e*AMB	AMB	20 04 43.9	
	comp=Z,306nm,0.1s						
SNGE	**Sanandaj**	**2.54**	**9**	*e*Pn	Pb	20 04 40.3	-1.6
KHMZ	**Khomeyn**	**2.84**	**65**	*e*Pn	Pn	20 04 42.9	+1.3
KHMZ				*e*Sg	Sb	20 05 20.7	-1.1
ASAO	**Ashtian**	**3.29**	**52**	*e*Pn	Pn	20 04 49.3	+1.5
IKLH	**Kolahrood**	**4.03**	**78**	*e*AMB	AMB	20 05 03.1	
	comp=Z,72nm,0.1s						
IKLH				*e*Pn	Pn	20 05 01.3	+3.3

*ISK **22** 20:10:04.7, 38.79N×25.62E, h10km, ML2.9/20*
*DDA **22** 20:10:04.5, 38.79N×25.60E, h7km, Ml3.0*
*ISCJB **22** 20:10:05.2±0.6, 38.80N±0.02×25.65E±0.03, h5km±4km, Error ellipse: s-maj=4.5km s-min=3.3km az=165.9*
*ATH **22** 20:10:05.5, 38.80N×25.73E, h30km±2km, ML2.6/3, Error ellipse: s-maj=4.2km s-min=1.1km az=92.0*
*CSEM **22** 20:10:05.7±0.1, 38.79N×25.66E, h10km, ML2.6, Error ellipse: s-maj=2.5km s-min=2.1km az=89.0*

ISC 22 20:10:05.6±1.0, 38.79N±0.02×25.66E±0.02, h11km±9km, n82, σ0.56/103, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIGR	**SIGRI**	**0.45**	**20**	PG	**Pb**	**20 10 15.1**	**-0.4**
SIGR				SG	**Sb**	**20 10 21.4**	**-0.8**
SIGR	**SIGRI**	**0.45**	**20**	P	**Pg**	**20 10 14.7**	**+0.2**
SIGR				S	**Sg**	**20 10 21.1**	**+0.6**
SIGR				AML	AML	20 10 22.2	
	comp=N,2374μm,0.2s						
SIGR				AML	AML	20 10 22.3	
	comp=E,1832μm,0.2s						
SIGR	**SIGRI**	**0.45**	**20**	P	**Pg**	**20 10 14.8**	**+0.3**
SIGR	**SIGRI**	**0.45**	**20**	*e*Pg	**Pb**	**20 10 15.1**	**-0.4**
SIGR				*e*Sg	**Sb**	**20 10 21.4**	**-0.8**
CHOS	**Chios island**	**0.51**	**142**	PG	**Pb**	**20 10 16.4**	**-0.8**
CHOS				SG	**Sb**	**20 10 23.2**	**-0.8**
CHOS	**Chios island**	**0.51**	**142**	P	**Pb**	**20 10 16.9**	**+0.3**
CHOS				S	**Sg**	**20 10 23.0**	**+0.7**
CHOS				AML	AML	20 10 23.7	
	comp=N,1656μm,0.4s						
CHOS				AML	AML	20 10 23.7	
	comp=E,1823μm,0.3s						
CHOS	**Chios island**	**0.51**	**142**	P	**Pb**	**20 10 16.4**	**-0.2**
CHOS				S	**Sb**	**20 10 23.3**	**-0.8**
PRK	**Paraskevi**	**0.66**	**46**	P	**Pg**	**20 10 18.4**	**-0.1**
PRK				S	**Sg**	**20 10 26.9**	**-0.3**
PRK				AML	AML	20 10 31.5	
	comp=E,798μm,0.3s						
PRK				AML	AML	20 10 32.0	
	comp=N,778μm,0.2s						
PRK	**Paraskevi**	**0.66**	**46**	P	**Pg**	**20 10 18.2**	**-0.3**
PRK				S	**Sg**	**20 10 27.1**	**-0.1**
KRBN	**Karaburun**	**0.73**	**105**	PG	**Pg**	**20 10 19.9**	**+0.2**
KRBN				SG	**Sb**	**20 10 30.8**	**+0.5**
KRBN	**Karaburun**	**0.73**	**105**	*e*Pg	**Pg**	**20 10 19.9**	**+0.2**
KRBN				*e*Sg	**Sb**	**20 10 30.8**	**+0.5**
GPNR	**Gulpinar-Canak**	**0.76**	**29**	PG	**Pg**	**20 10 20.2**	**-0.2**
GPNR	**Gulpinar-Canak**	**0.76**	**29**	*e*Pg	**Pg**	**20 10 20.2**	**-0.2**
FOCM	**Fo¯ša**	**0.84**	**95**	PG	**Pb**	**20 10 22.2**	**-0.1**
FOCM	**Fo¯ša**	**0.84**	**95**	*e*Pg	**Pb**	**20 10 22.2**	**-0.1**
URLA	**Izmir**	**0.85**	**120**	PG	**Pg**	**20 10 21.5**	**-0.6**
URLA	**Izmir**	**0.85**	**120**	*i* P	**Pg**	**20 10 21.5**	**-0.9**
URLA				*i* S	**Sb**	**20 10 34.4**	**+0.5**
URLA	**Izmir**	**0.85**	**120**	P	**Pg**	**20 10 21.2**	**-0.9**
URLA	**Izmir**	**0.85**	**120**	*e*Pg	**Pg**	**20 10 21.5**	**-0.6**
URLA				S	**Sb**	**20 10 34.3**	**+0.5**
ZEY	**¯zmir**	**0.86**	**129**	*i* P	**Pb**	**20 10 22.4**	**-0.1**
ZEY				*i* S	**Sn**	**20 10 35.6**	**-0.6**
AYVA	**Ayvalik**	**0.96**	**57**	*i* P	**Pg**	**20 10 23.7**	**-0.4**
AYVA				*i* S	**Sb**	**20 10 37.5**	**+0.6**
AYVA	**Ayvalik**	**0.96**	**57**	P	**Pg**	**20 10 23.7**	**-0.4**
AYVA				S	**Sb**	**20 10 37.5**	**+0.6**
DKL	**Dikili**	**1.01**	**73**	PG	**Pb**	**20 10 25.1**	**-0.1**
DKL	**Dikili**	**1.01**	**73**	*e*Pg	**Pb**	**20 10 25.1**	**-0.1**
BOZC	**Bozcaada**	**1.10**	**16**	PN	**Pb**	**20 10 26.2**	**-0.4**
BOZC	**Bozcaada**	**1.10**	**16**	*i* P	**Pb**	**20 10 25.8**	**-0.8**
BOZC				*i* S	**Sn**	**20 10 42.1**	**+0.1**
BOZC	**Bozcaada**	**1.10**	**16**	*e*Pn	**Pb**	**20 10 26.2**	**-0.4**
BLCB	**Balcova**	**1.16**	**110**	PN	**Pn**	**20 10 27.9**	**+0.2**
BLCB	**Balcova**	**1.16**	**110**	*e*Pn	**Pn**	**20 10 27.9**	**+0.2**
EZN	**Ezine**	**1.16**	**26**	PN	**Pb**	**20 10 27.1**	**-0.5**
EZN	**Ezine**	**1.16**	**26**	*e*Pn	**Pb**	**20 10 27.1**	**-0.5**
LIA	**Limnos Island**	**1.17**	**342**	P	**Pg**	**20 10 28.4**	**+0.4**
LIA				S	**Sg**	**20 10 43.1**	**-0.1**
LIA	**Limnos Island**	**1.17**	**342**	P	**Pg**	**20 10 28.0**	**-0.1**
LIA				S	**Sg**	**20 10 43.4**	**+0.2**
BAYC	**CANAKKALE_Bayr**	**1.18**	**36**	*i* P	**Pb**	**20 10 27.0**	**-0.9**
BAYC				*i* S	**Sn**	**20 10 43.8**	**-0.2**
BAYC	**CANAKKALE_Bayr**	**1.18**	**36**	P	**Pb**	**20 10 27.0**	**-0.9**
BAYC				S	**Sn**	**20 10 43.8**	**-0.2**
DGB	**¯zmir**	**1.21**	**127**	*i* P	**Pn**	**20 10 27.4**	**-1.0**
DGB				*i* S	**Sn**	**20 10 45.6**	**+0.8**
KARY	**Karystos**	**1.22**	**232**	P	**Pg**	**20 10 29.3**	**+0.2**
KARY	**Karystos**	**1.22**	**232**	P	**Pg**	**20 10 29.2**	**+0.2**
GADA	**Gvkgeada**	**1.41**	**8**	PN	**Pn**	**20 10 31.4**	**+0.2**
GADA	**Gvkgeada**	**1.41**	**8**	*e*Pn	**Pn**	**20 10 31.4**	**+0.2**
DION	**Dionisos Attik**	**1.53**	**243**	P	**Pn**	**20 10 33.4**	**+0.6**
DION	**Dionisos Attik**	**1.53**	**243**	P	**Pn**	**20 10 33.4**	**+0.6**
PTL	**Penteli**	**1.59**	**243**	P	**Pn**	**20 10 34.2**	**+0.6**
PTL	**Penteli**	**1.59**	**243**	P	**Pn**	**20 10 34.3**	**+0.6**
GCAM	**G?zelcaml?**	**1.65**	**131**	PN	**Pn**	**20 10 34.9**	**+0.4**
GCAM	**G?zelcaml?**	**1.65**	**131**	*e*Pn	**Pn**	**20 10 34.9**	**+0.4**
SMTH	**Samothraki Isl**	**1.68**	**357**	P	**Pn**	**20 10 34.8**	**-0.1**
SMTH	**Samothraki Isl**	**1.68**	**357**	P	**Pn**	**20 10 34.8**	**-0.1**
APE	**Apeiranthos**	**1.72**	**183**	PN	**Pn**	**20 10 35.3**	**-0.2**
APE	**Apeiranthos**	**1.72**	**183**	P	**Pn**	**20 10 34.8**	**-0.7**
APE	**Apeiranthos**	**1.72**	**183**	*e*Pn	**Pn**	**20 10 35.3**	**-0.2**
GELI	**Tayfur-Gelibol**	**1.73**	**21**	PN	**Pn**	**20 10 35.9**	**+0.4**
GELI	**Tayfur-Gelibol**	**1.73**	**21**	*e*Pn	**Pn**	**20 10 35.9**	**+0.4**
LPK	**Lapseki**	**1.80**	**28**	PN	**Pn**	**20 10 36.7**	**+0.2**
LPK	**Lapseki**	**1.80**	**28**	*e*Pn	**Pn**	**20 10 36.7**	**+0.2**
BALB	**Balikesir**	**1.93**	**63**	PN	**Pn**	**20 10 38.7**	**+0.4**
BALB	**Balikesir**	**1.93**	**63**	*e*Pn	**Pn**	**20 10 38.7**	**+0.4**
VILL	**Villia**	**1.94**	**252**	P	**Pn**	**20 10 39.9**	**+1.4**
AYDB	**Zeytinkoy-Aydi**	**1.95**	**115**	PN	**Pn**	**20 10 39.1**	**+0.4**
AYDB	**Zeytinkoy-Aydi**	**1.95**	**115**	*e*Pn	**Pn**	**20 10 39.1**	**+0.4**
VIL2	**Platees**	**1.96**	**254**	P	**Pb**	**20 10 40.5**	**-0.8**
ENEZ	**Enez**	**1.98**	**11**	PN	**Pn**	**20 10 39.6**	**+0.6**
ENEZ	**Enez**	**1.98**	**11**	*e*Pn	**Pn**	**20 10 39.6**	**+0.6**
ERIK	**Erikli-Kesan**	**1.99**	**19**	PN	**Pn**	**20 10 39.4**	**+0.2**
ERIK	**Erikli-Kesan**	**1.99**	**19**	*e*Pn	**Pn**	**20 10 39.4**	**+0.2**
OUR	**Ouranopolis**	**2.01**	**321**	PN	**Pn**	**20 10 39.5**	**0.0**
OUR	**Ouranopolis**	**2.01**	**321**	*e*Pn	**Pn**	**20 10 39.5**	**0.0**
KRBG	**Karabiga-Canak**	**2.04**	**38**	PN	**Pn**	**20 10 39.8**	**-0.1**
KRBG	**Karabiga-Canak**	**2.04**	**38**	*e*Pn	**Pn**	**20 10 39.8**	**-0.1**
ALN	**Alexandroupoli**	**2.13**	**8**	PN	**Pn**	**20 10 41.5**	**+0.5**
ALN	**Alexandroupoli**	**2.13**	**8**	P	**Pn**	**20 10 41.4**	**+0.3**
ALN	**Alexandroupoli**	**2.13**	**8**	P	**Pn**	**20 10 41.1**	**+0.1**
ALN	**Alexandroupoli**	**2.13**	**8**	*e*Pn	**Pn**	**20 10 41.5**	**+0.5**
RKY	**Sarkoy-Tekirda**	**2.23**	**31**	PN	**Pn**	**20 10 43.2**	**+0.7**
RKY	**Sarkoy-Tekirda**	**2.23**	**31**	*e*Pn	**Pn**	**20 10 43.2**	**+0.7**
KCTX	**Karacabey (Bur**	**2.56**	**54**	PN	**Pn**	**20 10 47.7**	**+0.7**
KCTX	**Karacabey (Bur**	**2.56**	**54**	*e*Pn	**Pn**	**20 10 47.7**	**+0.7**
SBT3	**Marmara-Eregli**	**2.75**	**40**	PN	**Pn**	**20 10 50.6**	**+1.1**
SBT3	**Marmara-Eregli**	**2.75**	**40**	*e*Pn	**Pn**	**20 10 50.6**	**+1.1**
ARMT	**Armutlu**	**3.04**	**53**	PN	**Pn**	**20 10 54.9**	**+1.2**
ARMT	**Armutlu**	**3.04**	**53**	*e*Pn	**Pn**	**20 10 54.9**	**+1.2**

IDC 22 20:11:25.3±2.2, 15.28S×178.68W, h388km±24km, mb3.4/5, mb1 3.7/7, mb1mx3.2/46, mbtmp4.3/7, Error ellipse: s-maj=37.4km s-min=16.5km az=160.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**6.82**	**79**	P	Pn	20 13 06.8	+0.1
	17nm,0.3s,baz=53,slow=2.9,SNR=16						
DZM	**Mont Dzumac**	**15.63**	**242**	P	P	20 14 45.2	+0.1
	0.2nm,0.3s,baz=77,slow=18,SNR=2.2						
WRA	**Warramunga Arr**	**44.91**	**257**	P	P	20 19 03.1	-0.5
	0.8nm,0.5s,baz=93,slow=7.7,SNR=22						
ASAR	**Alice Springs**	**45.31**	**252**	P	P	20 19 06.8	+0.2
	18nm,0.5s,baz=84,slow=8.6,SNR=421						
QSPA	**South Pole Qui**	**74.76**	**180**	P	P	20 22 23.7	0.0
	3.6nm,0.6s,baz=55,slow=3.7,SNR=16						
TXAR	**Lajitas Array**	**84.82**	**58**	P	P	20 23 18.0	+0.3
	0.4nm,0.8s,baz=246,slow=6.8,SNR=4.0						
PDAR	**Pinedale Array**	**85.63**	**44**	P	P	20 23 21.1	-0.4
	0.2nm,0.5s,baz=206,slow=3.9,SNR=3.0						
MMAI	**Mount Meron Ar**	**144.45**	**306**	PKP	PKPdf	20 30 16.5	-0.1
	1.0nm,0.5s,baz=90,slow=4.6,SNR=7.0						

*KRSC **22** 20:31:49.4±1.8, 50.15N×157.00E, h50km±21km, ML4.1*
*MOS **22** 20:31:49.3±2.3, 50.15N×157.00E, h51km, mb4.2/1, Error ellipse: s-maj=36.3km s-min=5.3km az=79.4*
*SKHL **22** 20:31:50.6±0.2, 50.10N×156.73E, h40km±2km, mb5.0/3*

ISC 22 20:31:48.0±2.2, 50.20N±0.09×157.06E±0.06, h2km±13km, n49, σ2.03/71, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**0.77**	**309**	*i* P	**Pg**	**20 32 03.5**	**+0.7**
SKR				AMB	AMB	20 32 03.6	
	2μm,0.3s						
SKR				*i* S	**Sg**	**20 32 13.0**	**+0.2**
SKR				A	A	20 32 13.5	
	4μm,0.3s						
SKR				A	A	20 32 13.5	
	3μm,0.3s						
SKR	**Severo-Kuril's**	**0.77**	**309**	*i* P	**Pg**	**20 32 03.5**	**+0.7**
SKR				*e*S	**Sg**	**20 32 13.3**	**+0.5**
SKR	**Severo-Kuril's**	**0.77**	**309**	PN	**Pg**	**20 32 03.5**	**+0.7**
SKR				S	**Sg**	**20 32 13.3**	**+0.5**
PAU	**Pauzhetka**	**1.27**	**353**	*e*P	**Pn**	**20 32 13.1**	**+0.3**
PAU				AMB	AMB	20 32 14.2	
	173nm,0.2s						
PAU				*e*S	**Sn**	**20 32 30.1**	**-0.4**
PAU				A	A	20 32 32.2	
	800nm,0.2s						
PAU	**Pauzhetka**	**1.27**	**353**	*e*P	**Pn**	**20 32 13.1**	**+0.3**
PAU				*e*S	**Sn**	**20 32 30.6**	**+0.1**
PAU	**Pauzhetka**	**1.27**	**353**	PN	**Pn**	**20 32 13.1**	**+0.3**
PAU				S	**Sn**	**20 32 30.6**	**+0.1**
KDTR	**Khodutka, Kamc**	**1.73**	**21**	*i* P	**Pb**	**20

*ISCJB **22** 20:48:19.1±0.3,63°.01N±0°.02×150°.40W±0°.05, h114km±3km, mb3.7/5, Error ellipse: s-maj=4.1km s-min=3.4km az=25.7*
*IDC **22** 20:48:19.5±1.9, 62°.96N×150°.32W, h105km±21km, mb3.3/5, mb1 3.4/9, mb1mx3.1/74, mbtmp3.7/9, MS2.6/2, Ms1 2.6/2, ms1mx2.3/41, Error ellipse: s-maj=21.1km s-min=19.0km az=130.0*
*NEIC **22** 20:48:20.9±0.0, 63°.02N×150°.41W, h95km, ML3.2(AEIC), After AEIC.*

ISC 22 20:48:19.9±0.8, 63°.01N±0°.03×150°.42W±0°.03, h107km±6km, n87, σ0§79/98, mb3.6/5, Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUR	**Hurricane**	**0.36**	**95**	P	**Pn**	**20 48 35.9**	**+0.2**
HUR				S	**Sn**	**20 48 47.3**	**-0.2**
TRF	**Thorofare Moun**	**0.45**	**8**	P	**Pn**	**20 48 36.5**	**+0.1**
KTH	**Kantishna Hill**	**0.59**	**338**	P	**Pn**	**20 48 37.5**	**+0.3**
KTH				S	**Sn**	**20 48 49.3**	**-0.9**
RND	**Reindeer**	**0.81**	**60**	P	**Pn**	**20 48 39.5**	**+0.4**
RND				S	**Sn**	**20 48 53.5**	**0.0**
PPLA	**Purkeypile**	**0.82**	**263**	P	**Pn**	**20 48 39.6**	**+0.4**
PPLA				S	**Sn**	**20 48 53.5**	**-0.2**
CAST	**Castle Rocks**	**0.86**	**299**	P	**Pn**	**20 48 39.3**	**-0.1**
CAST				S	**Sn**	**20 48 52.8**	**-1.4**
MCK	**McKinley**	**0.99**	**42**	P	**Pn**	**20 48 41.2**	**+0.4**
BPAW	**Bear Paw Mtn.**	**1.12**	**347**	P	**Pn**	**20 48 42.3**	**+0.1**
SKT	**Skwentna**	**1.16**	**207**	P	**Pn**	**20 48 42.6**	**0.0**
SKT				S	**Sn**	**20 48 59.2**	**-0.5**
DHY	**Denali Highway**	**1.39**	**86**	P	**Pn**	**20 48 45.8**	**+0.4**
DHY				S	**Sn**	**20 49 05.4**	**+0.7**
GHO	**Glory Hole Cre**	**1.43**	**150**	P	**Pn**	**20 48 46.5**	**+0.8**
PMR	**Palmer**	**1.55**	**157**	P	**Pn**	**20 48 47.4**	**+0.4**
SML	**Sawmill**	**1.55**	**140**	P	**Pn**	**20 48 47.6**	**+0.4**
SUA	**Susitna One**	**1.56**	**186**	P	**Pn**	**20 48 48.0**	**+0.6**
SUA				S	**Sn**	**20 49 09.4**	**+1.1**
STLK	**Strandline Lak**	**1.66**	**204**	P	**Pn**	**20 48 48.6**	**+0.1**
WRH	**Wood River Hil**	**1.79**	**34**	P	**Pn**	**20 48 50.5**	**+0.4**
KNK	**Knik Glacier**	**1.85**	**149**	P	**Pn**	**20 48 51.1**	**+0.3**
SCM	**Sheep Creek Mo**	**1.86**	**128**	P	**Pn**	**20 48 51.3**	**+0.2**
SPCP	**Crater Peak Br**	**1.93**	**206**	P	**Pn**	**20 48 52.3**	**+0.3**
SPCP				S	**Sn**	**20 49 17.0**	**+0.5**
RC01	**Rabbit Creek A**	**1.96**	**170**	P	**Pn**	**20 48 52.7**	**+0.5**
RC01				S	**Sn**	**20 49 16.7**	**-0.1**
CCB	**Clear Creek Bu**	**2.01**	**34**	P	**Pn**	**20 48 53.2**	**+0.4**
SPWE	**Spurr West**	**2.01**	**211**	P	**Pn**	**20 48 54.1**	**+1.1**
CKL	**Chakachamna La**	**2.03**	**207**	P	**Pn**	**20 48 53.7**	**+0.4**
MLY	**Manley**	**2.03**	**356**	P	**Pn**	**20 48 53.5**	**+0.3**
HDA	**Harding Lake**	**2.09**	**46**	P	**Pn**	**20 48 54.2**	**+0.4**
MDM	**Murphy Dome**	**2.18**	**25**	P	**Pn**	**20 48 55.5**	**+0.5**
COLA	**College**	**2.19**	**30**	P	**Pn**	**20 48 55.7**	**+0.6**
PS08	**TAPS Pump Stn8**	**2.22**	**45**	P	**Pn**	**20 48 56.1**	**+0.6**
PAX	**Paxson**	**2.26**	**89**	P	**Pn**	**20 48 57.5**	**+1.3**
ILAR	**Eielson Array**	**2.36**	**40**	P	**Pn**	**20 48 57.8**	**+0.5**
	8.4nm,0.3s,baz=221,slow=14,SNR=463						
ILAR				S	**Sn**	**20 49 25.2**	**-0.9**
	8.6nm,0.3s,baz=194,slow=25,SNR=14						
ILB	**Eielson Array**	**2.36**	**40**	P	**Pn**	**20 48 57.6**	**+0.2**
GLM	**Gilmore Dome**	**2.39**	**33**	P	**Pn**	**20 48 58.4**	**+0.6**
PS11	**TAPS Pump St11**	**2.48**	**110**	P	**Pn**	**20 49 00.1**	**+1.2**
HARP	**HAARP**	**2.50**	**102**	P	**Pn**	**20 49 00.5**	**+1.3**
SLKM	**Skilak Lake**	**2.51**	**178**	P	**Pn**	**20 48 59.7**	**+0.3**
TT01	**Tatalina**	**2.56**	**270**	P	**Pn**	**20 48 59.9**	**-0.1**
KLU	**Klutina**	**2.60**	**124**	P	**Pn**	**20 49 00.2**	**-0.3**
RIDG	**Independ'e Rid**	**2.62**	**71**	P	**Pn**	**20 49 01.6**	**+0.8**
DFR	**Drift River**	**2.66**	**205**	P	**Pn**	**20 49 01.7**	**+0.4**
JPK	**Jack Peak**	**2.66**	**136**	P	**Pn**	**20 49 00.9**	**-0.5**
VLZ	**Valdez**	**2.69**	**132**	P	**Pn**	**20 49 01.0**	**-0.7**
RDWB	**Redoubt West**	**2.78**	**206**	P	**Pn**	**20 49 04.2**	**+1.2**
DIV	**Divide**	**2.89**	**129**	P	**Pn**	**20 49 03.7**	**-0.7**
DOT	**Dot Lake**	**2.94**	**75**	P	**Pn**	**20 49 05.3**	**+0.3**
SCRK	**Sand Creek**	**3.04**	**69**	P	**Pn**	**20 49 06.7**	**+0.3**
MENT	**Mentasta**	**3.06**	**88**	P	**Pn**	**20 49 07.5**	**+0.9**
ILW	**Iliamna West**	**3.23**	**205**	P	**Pn**	**20 49 10.9**	**+1.8**
BRLK	**Bradley Lake**	**3.27**	**184**	P	**Pn**	**20 49 10.1**	**+0.7**
PRP	**Porcupine Dome**	**3.30**	**38**	P	**Pn**	**20 49 10.2**	**+0.3**
IM3	**Indian Mountai**	**3.31**	**336**	P	**Pn**	**20 49 10.2**	**+0.2**
BMRM	**Bremner River**	**3.42**	**124**	P	**Pn**	**20 49 10.8**	**-0.7**
VRDI	**Verde Repeater**	**3.73**	**116**	P	**Pn**	**20 49 15.5**	**-0.2**
RAGM	**Ragged Mountai**	**3.80**	**131**	P	**Pn**	**20 49 16.1**	**-0.3**
MCARA	**McCarthy VSAT**	**3.83**	**112**	P	**Pn**	**20 49 17.4**	**+0.5**
BCA3	**Beaver Creek A**	**3.93**	**85**	P	**Pn**	**20 49 18.4**	**+0.1**
PTPK	**Patty Peak**	**4.16**	**113**	P	**Pn**	**20 49 21.9**	**+0.4**
KAIM	**Kayak Island**	**4.23**	**134**	P	**Pn**	**20 49 21.2**	**-1.0**
COLD	**Coldfoot**	**4.24**	**1**	P	**Pn**	**20 49 23.2**	**+0.9**
KHIT	**Khitrov Hills**	**4.27**	**124**	P	**Pn**	**20 49 22.2**	**-0.7**
BALM	**Baldy**	**4.29**	**114**	P	**Pn**	**20 49 22.9**	**-0.2**
KIAG	**Kiagna River**	**4.34**	**115**	P	**Pn**	**20 49 23.5**	**-0.4**
GRIN	**Grindle Hills**	**4.35**	**126**	P	**Pn**	**20 49 23.7**	**-0.2**
CDD	**Cape Douglas**	**4.39**	**202**	P	**Pn**	**20 49 25.8**	**+1.4**
EGAK	**Eagle**	**4.46**	**62**	P	**Pn**	**20 49 26.0**	**+0.8**
ISLE	**Juniper Island**	**4.53**	**119**	P	**Pn**	**20 49 25.5**	**-0.9**
BARN	**Barnard Glacie**	**4.56**	**111**	P	**Pn**	**20 49 27.5**	**+0.6**
KULT	**Kultieth River**	**4.60**	**124**	P	**Pn**	**20 49 27.1**	**-0.2**
BAGL	**Bagley Icefiel**	**4.70**	**119**	P	**Pn**	**20 49 28.0**	**-0.4**
CTGM	**Chitina Glacie**	**4.75**	**112**	P	**Pn**	**20 49 29.6**	**+0.3**
MESA	**MESA**	**4.94**	**121**	P	**Pn**	**20 49 31.8**	**-0.3**
LOGN	**Logan Glacier**	**4.96**	**112**	P	**Pn**	**20 49 32.5**	**+0.3**
KARR	**Katmai Rainbow**	**4.99**	**207**	P	**Pn**	**20 49 33.8**	**+1.2**
DAWY	**Dawson**	**5.05**	**73**	P	**Pn**	**20 49 33.6**	**+0.3**
BM3	**Burnt Mountain**	**5.05**	**26**	P	**Pn**	**20 49 34.0**	**+0.6**
RKAV	**Rock Avalanche**	**5.11**	**118**	P	**Pn**	**20 49 34.0**	**-0.3**
KDAK	**Kodiak Island**	**5.35**	**193**	P	**Pn**	**20 49 36.6**	**-0.8**
	3.1nm,0.3s,baz=48,slow=7.2,SNR=74						
KDAK				S	**Sn**	**20 50 34.1**	**-3.6**
	3.9nm,0.3s,baz=112,slow=22,SNR=18						
KDAK				LR	LR	20 51 36.2	
	comp=Z,44nm,21.2s,baz=143,slow=37						
KDAK	**Kodiak Island**	**5.35**	**193**	P	**Pn**	**20 49 36.4**	**-1.0**
INK	**Inuvik**	**8.75**	**45**	P	**Pn**	**20 50 24.6**	**+1.4**
	0.2nm,0.3s,baz=238,slow=17,SNR=28						
YKA	**Yellowknife Ar**	**16.28**	**76**	P	**Pn**	**20 52 01.8**	**-0.1**
	0.1nm,0.3s,baz=284,slow=10,SNR=13						
RES	**Resolute Bay**	**22.10**	**36**	P	**P**	**20 53 04.7**	**-1.2**
	0.4nm,0.3s,baz=31,slow=16,SNR=4.7						
MA2	**Magadan**	**27.60**	**290**	LR	LR	21 06 35.8	
	comp=Z,18nm,21.1s,baz=220,slow=40						
SPITS	**Spitsbergen Ar**	**38.82**	**4**	P	**P**	**20 55 32.6**	**-0.9**
	7.2nm,0.9s,baz=348,slow=12,SNR=3.8						
KSRS	**Korea Array**	**53.73**	**282**	P	**P**	**20 57 32.0**	**+1.4**
	0.5nm,0.5s,baz=26,slow=5.8,SNR=3.1						
KSAR	**Wonju Array Be**	**53.76**	**282**	P	**P**	**20 57 32.0**	**+1.2**
KURK	**Kurchatov**	**60.21**	**326**	P	**P**	**20 58 16.9**	**+0.8**
KURBB	**Kurchatov Arra**	**60.32**	**326**	P	**P**	**20 58 16.9**	**+0.1**
	0.2nm,0.4s,baz=29,slow=6.5,SNR=4.8						
MKAR	**Makanchi Array**	**62.83**	**322**	P	**P**	**20 58 33.8**	**0.0**
	0.3nm,0.5s,baz=42,slow=8.1,SNR=4.4						

MEX 22 20:57:44.3±0.6, 19°.31N×104°.57W, h5km±15km, MD3.9, Near coast of Jalisco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CJM	**Chamela**	**0.48**	**293**	*i* P	Pg	20 57 53.2	-0.4
CJM				*i* S	Sg	20 58 00.3	+0.4
EZ5V		**0.93**	**79**	*i* P	Pg	20 58 00.5	-1.6
EZ5V				*eS*	Sg	20 58 12.2	-2.0
MMIG	**Aquila**	**1.54**	**131**	*eP*	Pn	20 58 08.9	-3.6
MMIG				*eS*	Sn	20 58 28.3	-4.6
ZIIG	**Zihuatanejo**	**3.40**	**119**	*eP*	Pn	20 58 34.1	-3.9
ARIG	**Puente Sto Nin**	**4.13**	**104**	*eP*	Pn	20 58 45.1	-3.0

*ISK **22** 21:09:50.8, 36°.91N×27°.60E, h3km, ML2.5/9*
*ISCJB **22** 21:09:51.3±0.9, 36°.89N±0°.04×27°.63E±0°.05, h4km±7km, Error ellipse: s-maj=7.4km s-min=6.2km az=15.0*
*CSEM **22** 21:09:51.7±0.2, 36°.90N×27°.61E, h5km, ML2.8, Error ellipse: s-maj=4.0km s-min=3.4km az=57.0*
*DDA **22** 21:09:51.7, 36°.91N×27°.62E, h7km, Ml2.8*

ISC 22 21:09:51.1±1.2, 36°.87N±0°.04×27°.66E±0°.03, h4km±12km, n33, σ1§19/43, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BDRM	**Kayabasi**	**0.26**	**319**	*i* P	**Pg**	**21 09 56.2**	**+0.1**
BDRM				*i* S	**Sg**	**21 09 60.0**	**+0.5**
BDRM	**Kayabasi**	**0.26**	**319**	P	**Pg**	**21 09 56.2**	**+0.1**
BDRM				S	**Sg**	**21 10 00.0**	**+0.5**
BODT	**Bodrum**	**0.34**	**305**	PG	**Pg**	**21 09 56.8**	**-0.8**
BODT				SG	**Sg**	**21 10 01.6**	**-0.4**
BODT	**Bodrum**	**0.34**	**305**	*e*Pg	**Pg**	**21 09 56.8**	**-0.8**
YKAV	**Yalikavak-Bodr**	**0.39**	**310**	PG	**Pg**	**21 09 58.2**	**-0.5**
YKAV				SG	**Sg**	**21 10 03.9**	**+0.1**
YKAV	**Yalikavak-Bodr**	**0.39**	**310**	*e*Pg	**Pg**	**21 09 58.2**	**-0.5**
YKAV				*e*Sg	**Sg**	**21 10 03.9**	**+0.1**
MLSB	**Milas**	**0.43**	**13**	PG	**Pg**	**21 09 59.6**	**+0.1**
MLSB				SG	**Sg**	**21 10 06.2**	**+1.1**
MLSB	**Milas**	**0.43**	**13**	*e*Pg	**Pg**	**21 09 59.6**	**+0.1**
MLSB				*e*Sg	**Sg**	**21 10 06.2**	**+1.1**
DIDI	**Didim-Aydin**	**0.60**	**327**	PG	**Pg**	**21 10 02.5**	**-0.2**
DIDI	**Didim-Aydin**	**0.60**	**327**	*e*Pg	**Pg**	**21 10 02.5**	**-0.2**
TURN	**Turunc**	**0.76**	**90**	PG	**Pg**	21 10 01.9	-3.8
TURN	**Turunc**	**0.76**	**90**	*i* P	**Pg**	21 10 01.8	-3.9
TURN				*i* S	**Sg**	**21 10 09.9**	**-5.6**
TURN	**Turunc**	**0.76**	**90**	*e*Pg	**Pg**	21 10 01.9	-3.8
AYDN	**Tasoluk**	**0.81**	**13**	*i* P	**Pg**	**21 10 06.7**	**+0.1**
AYDN				*i* S	**Sb**	**21 10 17.8**	**-1.3**
AYDN	**Tasoluk**	**0.81**	**13**	P	**Pg**	**21 10 06.7**	**+0.1**
AYDN				S	**Sb**	**21 10 17.8**	**-1.3**
GCAM	**G?zelcaml?**	**0.89**	**338**	PG	**Pg**	**21 10 08.3**	**0.0**
GCAM	**G?zelcaml?**	**0.89**	**338**	*i* P	**Pg**	**21 10 08.2**	**0.0**
GCAM				*i* S	**Sb**	**21 10 21.5**	**+0.1**
GCAM	**G?zelcaml?**	**0.89**	**338**	P	**Pg**	**21 10 08.2**	**0.0**
GCAM				S	**Sb**	**21 10 21.5**	**+0.1**
AYDB	**Zeytinkoy-Aydi**	**1.09**	**10**	PG	**Pg**	**21 10 11.9**	**-0.1**
AYDB	**Zeytinkoy-Aydi**	**1.09**	**10**	*e*Pg	**Pg**	**21 10 11.9**	**-0.1**
FETY	**Fethiye**	**1.17**	**101**	PN	**Pb**	**21 10 15.2**	**+1.3**
FETY	**Fethiye**	**1.17**	**101**	*e*Pn	**Pb**	**21 10 15.2**	**+1.3**
DGB	**˜zmir**	**1.33**	**333**	*i* P	**Pn**	**21 10 14.4**	**-2.0**
DGB				*i* S	**Sb**	**21 10 33.2**	**-0.7**
KARP	**Karpathos**	**1.38**	**197**	PN	**Pb**	**21 10 18.3**	**+0.8**
KARP	**Karpathos**	**1.38**	**197**	*e*Pn	**Pb**	**21 10 18.3**	**+0.8**
AKAS	**Kas**	**1.69**	**112**	PN	**Pn**	**21 10 23.1**	**+1.5**
AKAS	**Kas**	**1.69**	**112**	*e*Pn	**Pn**	**21 10 23.1**	**+1.5**
URLA	**Izmir**	**1.71**	**331**	PN	**Pn**	**21 10 21.8**	**+0.1**
URLA	**Izmir**	**1.71**	**331**	*e*Pn	**Pn**	**21 10 21.8**	**+0.1**
APE	**Apeiranthos**	**1.71**	**277**	PN	**Pn**	**21 10 21.9**	**+0.1**
APE	**Apeiranthos**	**1.71**	**277**	*e*Pn	**Pn**	**21 10 21.9**	**+0.1**
CHOS	**Chios island**	**1.98**	**320**	PN	**Pn**	**21 10 24.5**	**-0.9**
CHOS	**Chios island**	**1.98**	**320**	*e*Pn	**Pn**	**21 10 24.5**	**-0.9**

*ISN **22** 21:16:19.0, 32°.58N×46°.28E, h10km, ML2.9*
*CSEM **22** 21:16:20.5±0.2, 32°.24N×47°.00E, h15km, ML2.9, Error ellipse: s-maj=9.6km s-min=6.8km az=134.0*

TEH 22 21:16:19.0, 32°.58N×46°.82E, h10km, ML2.9, 2D, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKFM	**Kafar-mosalman**	**1.27**	**42**	*e*Pg	Pg	21 16 44.3	+0.8
IKFM				*e*Sg	Sn	21 17 03.1	+3.0
IKFM				*e*AMB	AMB	21 17 05.7	
	comp=Z,99nm,0.2s						
NSR	**Nassriya**	**1.67**	**200**	⇓*e*Pn	Pn	21 16 45.8	-2.6
IKOM	**Komasi**	**1.69**	**20**	*e*Pn	Pg	21 16 51.4	0.0
IKOM				*e*AMB	AMB	21 17 21.4	
	comp=Z,2μm,0.3s						
SHGR	**Shooshtar-Gavs**	**1.74**	**105**	*e*Pg	Pb	21 16 50.3	-0.8
IGHG	**Ghaleghazi**	**1.75**	**353**	*e*Pn	Pg	21 16 52.5	-0.2
IGHG				*e*AMB	AMB	21 17 19.7	
	comp=Z,3μm,0.4s						
IVIS	**Veis**	**1.94**	**1**	*e*Pn	Pb	21 16 54.7	+0.2
IVIS				*e*AMB	AMB	21 17 27.8	
	comp=Z,507nm,0.2s						
IDHR	**Dehrash**	**2.14**	**350**	*e*Pn	Pb	21 16 58.3	+0.2
IDHR				*e*AMB	AMB	21 17 34.1	
	comp=Z,666nm,0.3s						
ILIN	**Lien**	**2.33**	**3**	*e*Pn	Pb	21 17 00.3	-1.0
ILIN				*e*AMB	AMB	21 17 35.2	
	comp=Z,322nm,0.3s						
SNGE	**Sanandaj**	**2.54**	**10**	*e*Pn	Pb	21 17 06.1	+1.2
KHMZ	**Khomeyn**	**2.87**	**66**	*e*Pn	Pn	21 17 06.6	+1.5
KHMZ				*e*Sg	Sn	21 17 41.4	+1.5
ASAO	**Ashtian**	**3.31**	**53**	*e*Pn	Pn	21 17 13.1	+1.9
IZEF	**Zefreh**	**4.65**	**85**	*e*Pn	Pn	21 17 32.6	+3.0
IZEF				*e*AMB	AMB	21 17 59.5	
	comp=Z,42nm,0.2s						
RTB	**Rutbah**	**5.50**	**276**	⇓*e*Pn	Pn	21 17 34.6	-6.5

*ISCJB **22** 21:21:30.6±1.1, 2°.4N±0°.2×89°.7E±0°.1, h10km, mb3.7/10, MS3.5/23, Error ellipse: s-maj=24.6km s-min=16.4km az=15.5*
*IDC **22** 21:21:30.7±1.3, 2°.35N×89°.78E, h0km, mb3.7/10, mb1 3.8/12, mb1mx3.5/71, mbtmp3.7/12, ML3.5/2, MS3.4/24, Ms1 3.4/24, ms1mx3.3/61, Error ellipse: s-maj=40.4km s-min=24.0km az=36.0*

ISC 22 21:21:32.3±1.2, 2°.4N±0°.2×89°.8E±0°.2, h10km, n33, σ0§81/13, mb3.8/10, MS3.5/23, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**10.27**	**299**	Pn	**Pn**	**21 23 59.5**	**-0.3**
	0.4nm,0.3s,baz=114,slow=14,SNR=5.1						
PALK				Sn	Sn	21 25 43.6	-11
	5.3nm,0.3s,baz=116,slow=7.8,SNR=11						
PALK				LR	LR	21 27 03.2	
	comp=Z,140nm,20.6s,baz=116,slow=32						
CMAR	**Chiang Mai Arr**	**18.36**	**29**	P	**P**	**21 25 47.4**	**+0.1**
	0.1nm,0.3s,baz=228,slow=13,SNR=3.8						
H08S2	**Diego Garcia H**	**19.89**	**240**	T	T	21 46 28.9	
	baz=60,slow=75,SNR=15						
H08S3	**Diego Garcia H**	**19.89**	**240**	T	T	21 46 27.5	
	baz=60,slow=75,SNR=14						
H08S1	**Diego Carcia H**	**19.90**	**240**	T	T	21 46 29.4	
	baz=60,slow=75,SNR=16						
DAV	**Davao City (W)**	**35.99**	**81**	LR	LR	21 44 27.2	
	comp=Z,66nm,19.7s,baz=146,slow=38						
WSAR	**Wadi Sarin**	**36.61**	**307**	LR	LR	21 41 50.4	
	comp=Z,100nm,19.2s,baz=152,slow=33						
JOW	**Kunigami**	**44.20**	**53**	LR	LR	21 48 10.6	
	comp=Z,44nm,19.3s,baz=131,slow=36						
MKAR	**Makanchi Array**	**44.74**	**353**	P	**P**	**21 29 46.6**	**+0.7**
	0.5nm,0.7s,baz=178,slow=11,SNR=4.7						
GEYT	**Alibeck**	**45.77**	**325**	P	**P**	**21 29 54.7**	**+0.5**
	0.6nm,0.4s,baz=145,slow=5.4,SNR=3.6						
GEYT				LR	LR	21 48 23.0	
	comp=Z,39nm,20.7s,baz=185,slow=35						
WRA	**Warramunga Arr**	**49.02**	**119**	P	**P**	**21 30 20.0**	**+0.2**
	0.9nm,1.1s,baz=296,slow=8.6,SNR=2.5						
KURBB	**Kurchatov Arra**	**49.03**	**351**	P	**P**	**21 30 20.0**	**+0.7**
	0.4nm,0.8s,baz=172,slow=6.7,SNR=4.1						
JNU	**Nakatsue**	**49.17**	**47**	LR	LR	21 51 42.1	
	comp=Z,62nm,19.9s,baz=280,slow=37						
KSRS	**Korea Array**	**49.47**	**40**	LR	LR	21 52 19.0	
	comp=Z,38nm,18.8s,baz=224,slow=37						
ZALV	**Zalesovo Beam**	**51.59**	**356**	P	**P**	**21 30 37.8**	**-0.9**
	0.4nm,0.5s,baz=186,slow=10,SNR=2.6						
ZALV				LR	LR	21 53 47.2	
	comp=Z,59nm,21.8s,baz=250,slow=38						
BVAR	**Borovoye Array**	**53.00**	**345**	LR	LR	21 53 38.4	
	comp=Z,71nm,21.8s,baz=132,slow=36						
AKTO	**Aktyubinsk**	**54.92**	**336**	LR	LR	21 55 17.3	
	comp=Z,31nm,19.8s,baz=129,slow=37						
GNI	**Garni**	**55.42**	**319**	LR	LR	21 56 39.7	
	comp=Z,26nm,19.3s,baz=126,slow=38						
GUMO	**Guam**	**55.58**	**75**	LR	LR	21 57 46.3	
	comp=Z,15nm,18.8s,baz=128,slow=39						
MJAR	**Matsushiro Arr**	**56.09**	**47**	LR	LR	21 55 18.5	
	comp=Z,38nm,21.6s,baz=215,slow=36						
MMAI	**Mount Meron Ar**	**59.25**	**307**	LR	LR	21 57 31.1	
	comp=Z,63nm,18.6s,baz=190,slow=36						
STKA	**Stephens Creek**	**59.74**	**129**	LR	LR	21 57 09.3	
	comp=Z,24nm,18.0s,baz=209,slow=36						
BRTR	**Keskin Array B**	**62.91**	**314**	P	**P**	**21 31 58.1**	**-1.1**
	0.6nm,0.7s,baz=137,slow=8.1,SNR=6.0						
BRTR				LR	LR	22 00 39.7	
	comp=Z,20nm,20.0s,baz=112,slow=37						
AKASG	**Malin Array Be**	**69.88**	**324**	LR	LR	22 04 57.9	
	comp=Z,11nm,21.3s,baz=260,slow=37						
TIXI	**Tiksi**	**73.49**	**12**	P	**P**	**21 33 03.8**	**-0.9**
	0.4nm,0.2s,baz=270,slow=3.0,SNR=3.6						
PETK	**Petropavlovsk-**	**75.00**	**35**	LR	LR	22 09 02.3	
	comp=Z,34nm,18.1s,baz=225,slow=38						
FINES	**FINESS Array B**	**75.61**	**334**	P	**P**	**21 33 17.7**	**+0.5**
	1.0nm,0.8s,baz=168,slow=3.7,SNR=3.5						
FINES				LR	LR	22 08 04.7	
	comp=Z,31nm,19.6s,baz=190,slow=37						
GERES	**GERESS Array B**	**79.07**	**319**	P	**P**	**21 33 38.4**	**+1.3**
	0.3nm,0.6s,baz=109,slow=11,SNR=4.8						
GERES				LR	LR	22 13 50.0	
	comp=Z,28nm,18.7s,baz=354,slow=40						
HFS	**Hagfors**	**81.04**	**331**	P	**P**	**21 33 47.7**	**+0.3**
	1.6nm,1.0s,baz=120,slow=8.8,SNR=2.6						
HFS				LR	LR	22 12 15.6	
	comp=Z,22nm,18.4s,baz=146,slow=38						
NOA	**NORSAR Array B**	**82.41**	**331**	LR	LR	22 14 19.5	
	comp=Z,13nm,19.4s,baz=120,slow=38						
SPITS	**Spitsbergen Ar**	**84.33**	**349**	LR	LR	22 15 09.2	
	comp=Z,38nm,21.5s,baz=350,slow=38						
RPZ	**Rata Peaks**	**85.32**	**134**	LR	LR	22 09 40.0	
	comp=Z,73nm,19.0s,baz=204,slow=34						
TXAR	**Lajitas Array**	**145.97**	**21**	PKPbc	**PKPdf**	**21 41 11.8**	**-0.7**
	0.1nm,0.7s,baz=267,slow=1.8,SNR=2.7						

IDC 22 21:25:52.1±1.9, 14°.87S×174°.46W, h0km, mb3.5/2, mb1 3.7/3, mb1mx3.5/44, mbtmp3.5/3, ML3.5/1, MS3.4/1, Ms1 3.4/1, ms1mx2.6/31, Error ellipse: s-maj=152.7km s-min=28.2km az=159.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.77**	**70**	Pn	Pn	21 26 37.8	0.0
	8.6nm,0.3s,baz=162,slow=3.5,SNR=6.4						
AFI				Sn	Sn	21 27 06.6	-5.4
	46nm,0.3s,baz=243,slow=22,SNR=17						
PPT	**Papeete**	**24.04**	**100**	LR	LR	21 39 01.1	
	comp=Z,81nm,18.3s,baz=222,slow=33						
WRA	**Warramunga Arr**	**48.97**	**256**	P	P	21 34 40.9	+0.1
	0.2nm,0.5s,baz=89,slow=6.7,SNR=6.4						
ASAR	**Alice Springs**	**49.31**	**251**	P	P	21 34 43.0	-0.3
	0.8nm,0.5s,baz=85,slow=7.8,SNR=17						
BRTR	**Keskin Array B**	**145.11**	**321**	PKPbc	PKPbc	21 45 30.6	-0.9
	0.4nm,0.8s,baz=27,slow=3.5,SNR=3.3						

MEX 22 21:35:18.8±0.5, 19°.29N×104°.60W, h11km±5km, MD3.7, Near coast of Jalisco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CJM	**Chamela**	**0.46**	**296**	*i* P	Pg	21 35 27.1	-0.8
CJM				*eS*	Sg	21 35 34.1	0.0
EZ5V		**0.96**	**79**	*eP*	Pg	21 35 34.9	-2.6
EZ5V				*eS*	Sg	21 35 46.9	-3.1
MMIG	**Aquila**	**1.55**	**130**	*eP*	Pn	21 35 43.0	-3.5
MMIG				*eS*	Sn	21 36 01.7	-4.9
ARIG	**Puente Sto Nin**	**4.16**	**103**	*eP*	Pn	21 36 24.8	+2.5

*KRNET **22** 21:39:53.8±0.1, 41°.84N×72°.36E, h14km, mb2.4*
*SOME **22** 21:39:53.3, 41°.82N×72°.33E, h5km*
*NNC **22** 21:39:54.0±0.5, 41°.87N×72°.27E, h0km, mb2.8, mpv2.4, Error ellipse: s-maj=2.9km s-min=2.6km az=86.0*
*ISCJB **22** 21:39:55.3±0.4, 41°.86N±0°.03×72°.33E±0°.03, h10km, Error ellipse: s-maj=4.5km s-min=2.8km az=168.1*

ISC 22 21:39:53.6±0.8, 41°.85N±0°.03×72°.35E±0°.02, h10km, n25, σ1§04/48, 24C-12D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARK	**Arkit**	**0.29**	**259**	⇑*i* P	**Pg**	**21 39 59.9**	**+0.3**
	baz=57						
ARK				⇑*i* S	**Sg**	**21 40 03.5**	**-0.1**
	baz=57						
TOKL	**Toktogul**	**0.40**	**77**	⇑*i* P	**Pg**	**21 40 01.6**	**+0.1**
	baz=76						
TOKL

*NEIC **22** 21:41:31.4±0.3, 4.°26N×122.°60E, h602km±4km, mb4.5/59, Error ellipse: s-maj=5.6km s-min=3.6km az=64.0*
*MOS **22** 21:41:31.2±1.0, 4.°28N×122.°55E, h617km, mb4.5/47, Error ellipse: s-maj=11.3km s-min=5.2km az=116.8*
*DJA **22** 21:41:31.2±0.2, 4.°N±3.°×122.°3E±.°, h582km±3km, M4.6/30, mb4.6/30, mB5.0/11, MLv5.0/12, Mw(mB)4.4/11*
*IDC **22** 21:41:32.1±0.8, 4.°29N×122.°59E, h611km±10km, mb3.8/37, mb1 3.8/39, mb1mx3.7/56, mbtmp4.8/39, Error ellipse: s-maj=10.6km s-min=7.4km az=76.0*

ISC 22 21:41:31.0±0.5, **4.°24N**±0.°04×**122.°67E**±0.°06, **h601**km±5km, **n300**, σ=**31**/343, **mb4.5**/137, **23C-18D, Celebes Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SGSI	**Sangihe**	**2.90**	**101**	P	**P**	**21 42 48.8**	**-0.9**
MRSI	**Marisa**	**3.81**	**191**	P	**P**	**21 42 55.3**	**0.0**
KMSI	**Cibinong**	**3.87**	**160**	P	**P**	**21 42 55.3**	**-0.4**
MYLDM	**Lahad Datu**	**4.26**	**283**	*eP*	**P**	**21 42 59.7**	**+1.3**
MPSI	**Mapaga**	**4.77**	**216**	P	**P**	**21 43 01.2**	**-1.0**
MPSI				S	**S**	**21 44 13.9**	**-2.6**
APSI	**Ampana**	**5.22**	**191**	P	**P**	**21 43 05.1**	**-0.7**
	256nm,0.7s,4μm1.0nm						
LUWI	**Luwuk**	**5.25**	**179**	P	**P**	**21 43 04.2**	**-1.8**
	470nm,0.9s,5μm1.4nm						
LUWI	**Luwuk**	**5.25**	**179**	*eP*	**P**	**21 43 04.3**	**-1.6**
LUWI				*eS*	**S**	**21 44 20.5**	**-3.0**
TNTI	**Ternate**	**5.82**	**126**	*eP*	**P**	**21 43 10.8**	**+0.1**
TNTI				*eS*	**S**	**21 44 28.8**	**-3.4**
KKM	**Kota Kinabalu**	**6.67**	**286**	*eP*	**P**	**21 43 16.2**	**-2.1**
LBMI	**Labuha**	**6.84**	**135**	P	**P**	**21 43 19.5**	**-0.2**
	246nm,0.8s,3μm1.0nm						
SANI	**Sanana**	**7.08**	**152**	P	**P**	**21 43 20.1**	**-1.7**
	210nm,0.7s,4μm1.0nm						
TTSI	**Tana Toraja**	**7.78**	**202**	P	**P**	**21 43 28.4**	**+0.1**
NLAI	**Namlea**	**8.65**	**149**	P	**P**	**21 43 37.0**	**+0.4**
BNSI	**Bone**	**8.96**	**197**	P	**P**	**21 43 41.5**	**+1.9**
MTKI	**Muara Teweh, K**	**9.32**	**237**	P	**P**	**21 43 43.1**	**-0.1**
SBUM	**Sibu**	**10.58**	**261**	*eP*	**P**	**21 43 56.0**	**+0.4**
FAKI	**Fak Fak**	**11.93**	**126**	*eP*	**P**	**21 44 10.9**	**+1.8**
KSM	**Kuching**	**12.65**	**258**	*eP*	**P**	**21 44 15.8**	**-0.5**
SOEI	**Soe**	**14.00**	**173**	P	**P**	**21 44 30.2**	**+0.2**
	34nm,1.0s						
SOEI	**Soe**	**14.00**	**173**	*eP*	**P**	**21 44 29.6**	**-0.4**
SOEI				*eS*	**S**	**21 46 56.6**	**+0.2**
BATI	**Baumata**	**14.39**	**176**	P	**P**	**21 44 34.1**	**+0.5**
	13nm,0.3s,baz=180,slow=3.0,SNR=67						
BATI				S	**S**	**21 47 02.2**	**-0.7**
	1.8nm,0.3s,baz=54,slow=19,SNR=14						
BATI	**Baumata**	**14.39**	**176**	P	**P**	**21 44 33.8**	**+0.2**
	111nm,0.7s,833nm						
JAGI	**Jajag, Banyuwa**	**15.22**	**214**	*eP*	**P**	**21 44 41.9**	**+0.7**
	85nm,1.8s						
TWG	**Pinlang**	**18.53**	**355**	*eP*	**P**	**21 45 08.8**	**-2.6**
	57nm,0.8s						
LEM	**Lembang**	**18.62**	**234**	P	**P**	**21 45 14.0**	**+1.5**
	1.5nm,0.3s,baz=233,slow=20,SNR=3.3						
MTN	**Manton Dam**	**18.94**	**154**	*eP*	**P**	**21 45 16.0**	**+0.8**
	11nm,0.5s						
TPUB	**Ta-pu**	**19.05**	**354**	*eP*	**P**	**21 45 16.6**	**+0.5**
	20nm,0.8s						
YULB	**Yu-li**	**19.08**	**356**	*eP*	**P**	**21 45 17.1**	**+0.7**
	19nm,1.3s						
SSLB	**Suanglung**	**19.50**	**355**	*eP*	**P**	**21 45 19.9**	**-0.4**
	8.7nm,0.7s						
UBPT	**Khong Chiam**	**20.17**	**304**	P	**P**	**21 45 25.5**	**-0.8**
	18nm,0.8s						
YHNB	**Yeheng**	**20.35**	**357**	*eP*	**P**	**21 45 27.3**	**-0.6**
	17nm,1.0s						
IPM	**Ipoh**	**21.58**	**271**	*eP*	**P**	**21 45 39.2**	**+0.1**
	8.2nm,0.9s						
CHBT	**CHBT**	**21.80**	**294**	P	**P**	**21 45 44.9**	**+3.9**
	462nm,0.7s,134μm						
KULM	**Kulim**	**21.97**	**274**	*eP*	**P**	**21 45 42.2**	**-0.3**
	6.9nm,0.8s						
SKNT	**Sakolnakorn**	**22.27**	**306**	P	**P**	**21 45 44.5**	**-0.7**
	7.2nm,0.8s						
KHON	**Khomkaen**	**22.90**	**303**	P	**P**	**21 45 51.1**	**+0.4**
	22nm,0.7s						
JOW	**Kunigami**	**23.09**	**13**	P	**P**	**21 45 53.0**	**+0.7**
	12nm,0.3s,baz=37,slow=20,SNR=7.1						
JOW	**Kunigami**	**23.09**	**13**	*eP*	**P**	**21 45 53.0**	**+0.7**
	16nm,0.4s						
MNSI	**Mandailing Nat**	**23.32**	**262**	P	**P**	**21 45 55.2**	**+0.7**
	9.1nm,0.7s						
CHAI	**Chaiyaphum**	**23.40**	**301**	P	**P**	**21 45 54.8**	**-0.4**
	22nm,0.5s,355nm						
PSI	**Prapat**	**23.75**	**267**	P	**P**	**21 45 58.3**	**-0.1**
	6.9nm,0.6s,baz=248,slow=3.9						
PSI	**Prapat**	**23.75**	**267**	*eP*	**P**	**21 45 58.3**	**-0.1**
	9.9nm,0.7s						
PSI	**Prapat**	**23.75**	**267**	*eP*	**P**	**21 45 58.3**	**-0.1**
PSI				pmax	pmax		
	comp=Z,10.0nm,0.7s						
PHET	**Kaeng Krachan**	**24.34**	**292**	P	**P**	**21 46 05.3**	**+1.8**
	comp=Z,8.3nm,0.8s						
PBKT	**Sadao Pong**	**24.57**	**301**	P	**P**	**21 46 05.0**	**-0.5**
	comp=Z,17nm,0.7s,comp=Z,612nm						
PBKT	**Sadao Pong**	**24.57**	**301**	*eP*	**P**	**21 46 04.8**	**-0.7**
	comp=Z,13nm,0.6s						
GSI	**Gunungsitoli**	**25.23**	**264**	P	**P**	**21 46 10.4**	**-1.0**
	comp=Z,22nm,1.1s						
GSI	**Gunungsitoli**	**25.23**	**264**	*eP*	**P**	**21 46 10.2**	**-1.3**
	comp=Z,14nm,0.7s						
GSI				*e*ScP	**ScP**	**21 52 07.1**	**+0.1**
PHIT	**Phitsanulok**	**25.33**	**302**	P	**P**	**21 46 12.9**	**+0.7**
	comp=Z,42nm,0.8s,comp=Z,328nm						
MBWA	**Marble Bar**	**25.41**	**186**	*eP*	**P**	**21 46 12.7**	**-0.1**
	comp=Z,8.8nm,0.6s						
MBWA				*e*ScP	**ScP**	**21 52 08.2**	**+0.8**
NANT	**Nan**	**25.89**	**306**	P	**P**	**21 46 18.1**	**+1.0**
	comp=Z,20nm,0.6s,comp=Z,194nm						
LAMP	**Lampang**	**26.62**	**304**	P	**P**	**21 46 25.9**	**+2.4**
	comp=Z,3.4nm,0.9s						
WRAB	**Tennant Creek**	**26.63**	**155**	*eP*	**P**	**21 46 23.9**	**+0.3**
	comp=Z,41nm,0.9s						
WRAB	**Tennant Creek**	**26.63**	**155**	*c iP*	**P**	**21 46 23.8**	**+0.3**
WRA	**Warramunga Arr**	**26.63**	**155**	P	**P**	**21 46 23.8**	**+0.2**
	comp=Z,28nm,0.6s,baz=337,slow=9.5,SNR=94						
WRA				S	**S**	**21 50 14.9**	**-3.0**
	comp=Z,2.8nm,0.7s,baz=336,slow=16,SNR=6.8						
WRA				ScP	**ScP**	**21 52 10.7**	**-0.3**
	comp=Z,5.2nm,0.6s,baz=340,slow=3.1,SNR=36						
WR1	**Warramunga Arr**	**26.63**	**155**	*eP*	**P**	**21 46 23.8**	**+0.2**
	comp=Z,46nm,0.7s						
WR1				*e*S	**S**	**21 50 14.9**	**-3.0**
WR1				*e*ScP	**ScP**	**21 52 10.7**	**-0.3**
WB2	**Warramunga Arr**	**26.64**	**155**	*eP*	**P**	**21 46 23.9**	**+0.2**
PAYA	**Payao**	**26.85**	**306**	P	**P**	**21 46 26.6**	**+1.1**
	comp=Z,4.2nm,1.1s						
GYA	**Guiyang**	**26.88**	**327**	*i*	**P**	**21 46 27.1**	**+1.2**
GYA				sP	sP	21 49 07.8	-2.6
GYA				S	**S**	**21 50 25.4**	**+3.5**
GYA				ScP	**ScP**	**21 52 14.0**	**+2.2**
GYA				ScS	**ScS**	**21 56 05.3**	**+1.0**
GYA				pmax	pmax		
	comp=Z,30nm,0.7s						
CM01	**Chiang Mai Arr**	**27.13**	**303**	*eP*	**P**	**21 46 28.5**	**+0.5**
CM31	**Chiang Mai Arr**	**27.16**	**303**	*eP*	**P**	**21 46 29.1**	**+0.8**
CM31				*e*PcP	**PcP**	**21 49 29.3**	**+1.0**
CMAR	**Chiang Mai Arr**	**27.16**	**303**	P	**P**	**21 46 29.0**	**+0.7**
	comp=Z,3.9nm,0.6s,baz=125,slow=7.3,SNR=35						
CMAR				PcP	**PcP**	**21 49 29.3**	**+1.0**
	comp=Z,0.4nm,0.4s,baz=159,slow=1.1,SNR=4.9						
COEN	**Coen**	**27.22**	**132**	*eP*	**P**	**21 46 29.0**	**+0.2**
	comp=Z,9.7nm,1.0s						
WHN	**Wuhan**	**27.31**	**344**	P	**P**	**21 46 29.3**	**-0.1**
CMMT	**Chiang Mai**	**27.33**	**304**	P	**P**	**21 46 29.1**	**-0.6**
	comp=Z,22nm,1.1s						
CHTO	**Chiang Mai**	**27.33**	**304**	P	**P**	**21 46 30.2**	**+0.5**
	comp=Z,96nm,1.1s						
CHTO	**Chiang Mai**	**27.33**	**304**	*eP*	**P**	**21 46 30.3**	**+0.5**
	comp=Z,16nm,0.9s						
CHTO	**Chiang Mai**	**27.33**	**304**	*eP*	**P**	**21 46 30.3**	**+0.5**
CHTO				pmax	pmax		
	comp=Z,16nm,0.9s						
CMAI	**Chiengmai2**	**27.80**	**306**	P	**P**	**21 46 35.0**	**+0.9**
	comp=Z,603nm,1.2s,comp=Z,93μm						
NJ2	**Nanjing**	**27.89**	**353**	*eP*	**P**	**21 46 35.8**	**+1.4**
NJ2				pmax	pmax		
	comp=Z,20nm,0.5s						
KMI	**Kunming**	**28.25**	**319**	P	**P**	**21 46 39.6**	**+1.7**
KMI				pmax	pmax		
	comp=Z,16nm,0.5s						
KMI				pmax	pmax		
	comp=Z,100nm,4.2s						
ENH	**Enshi**	**28.73**	**336**	*eP*	**P**	**21 46 42.6**	**+0.8**
	comp=Z,26nm,0.8s						
CBIJ	**Chichi jima**	**29.39**	**37**	*eP*	**P**	**21 46 47.5**	**0.0**
	comp=Z,299nm,1.4s						
CBIJ				*e*S	**S**	**21 50 55.9**	**-4.6**
JCJ	**Chichijima**	**29.39**	**37**	P	**P**	**21 46 47.5**	**0.0**
	comp=Z,30nm,0.3s,baz=274,slow=23,SNR=10						
JCJ				S	**S**	**21 50 55.9**	**-4.6**
	comp=Z,85nm,0.8s,baz=288,slow=19,SNR=3.7						
JNU	**Nakatsue**	**29.74**	**14**	P	**P**	**21 46 50.4**	**0.0**
	comp=Z,4.7nm,0.5s,baz=336,slow=3.2,SNR=6.4						
JNU	**Nakatsue**	**29.74**	**14**	*eP*	**P**	**21 46 50.5**	**0.0**
	comp=Z,16nm,1.1s						
AS31	**Alice Springs**	**29.82**	**159**	*eP*	**P**	**21 46 51.8**	**+0.5**
	comp=Z,7.7nm,0.4s						
AS31				*e*PcP	**PcP**	**21 49 35.5**	**+0.5**
AS31				*e*S	**S**	**21 51 06.8**	**-0.6**
AS31				*e*ScP	**ScP**	**21 52 20.8**	**-0.3**
ASAR	**Alice Springs**	**29.82**	**159**	P	**P**	**21 46 52.5**	**+1.1**
	comp=Z,12nm,0.5s,baz=338,slow=7.2,SNR=232						
ASAR				PcP	**PcP**	**21 49 35.5**	**+0.5**
	comp=Z,0.8nm,0.4s,baz=338,slow=2.3,SNR=4.5						
ASAR				S	**S**	**21 51 06.3**	**-1.0**
	comp=Z,2.2nm,0.9s,baz=330,slow=14,SNR=9.3						
ASAR				ScP	**ScP**	**21 52 20.8**	**-0.3**
	comp=Z,7.3nm,0.7s,baz=344,slow=2.8,SNR=36						
AS01	**Alice Springs**	**29.84**	**159**	*eP*	**P**	**21 46 52.3**	**+0.9**
CD2	**Chengdu**	**31.96**	**328**	P	**P**	**21 47 10.5**	**+1.1**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
TIA	**Tai'an**	**32.22**	**352**	P	**P**	**21 47 12.0**	**+0.5**
TIA				pmax	pmax		
	comp=Z,8.0nm,0.6s						
TJN	**Taejon**	**32.27**	**7**	*eP*	**P**	**21 47 13.7**	**+1.8**
XAN	**Xi'an**	**32.29**	**338**	P	**P**	**21 47 11.8**	**-0.4**
XAN				PcP	**PcP**	**21 49 42.0**	**+0.3**
XAN				sP	sP	21 49 58.4	-0.4
XAN				pmax	pmax		
	comp=Z,21nm,1.0s						
XAN				pmax	pmax		
	comp=Z,88nm,5.6s						
KS15	**Wonju Array Si**	**33.38**	**8**	*eP*	**P**	**21 47 21.6**	**+0.4**
KS15				*e*ScP	**ScP**	**21 52 32.9**	**-0.1**
KSAR	**Wonju Array Be**	**33.38**	**8**	P	**P**	**21 47 22.4**	**+1.2**
KSAR	**Wonju Array Be**	**33.38**	**8**	P	**P**	**21 47 22.4**	**+1.2**
KSRS	**Korea Array**	**33.40**	**8**	P	**P**	**21 47 22.4**	**+1.0**
	comp=Z,7.3nm,0.7s,baz=186,slow=9.6,SNR=26						
KSRS				ScP	**ScP**	**21 52 32.9**	**-0.1**
	comp=Z,1.1nm,0.6s,baz=169,slow=3.4,SNR=4.3						
KS01	**Wonju Array Si**	**33.42**	**8**	*eP*	**P**	**21 47 22.8**	**+1.3**
CTA	**Charters Tower**	**33.49**	**137**	P	**P**	**21 47 24.4**	**+1.9**
	comp=Z,8.7nm,0.8s,baz=329,slow=9.0,SNR=10						
CTAO	**Charters Tower**	**33.49**	**137**	*eP*	**P**	**21 47 24.6**	**+2.2**
	comp=Z,11nm,0.8s						
CTAO	**Charters Tower**	**33.49**	**137**	*eP*	**P**	**21 47 24.6**	**+2.2**
CTAO				pmax	pmax		
	comp=Z,11nm,0.8s						
MAJO	**Matsushiro**	**35.18**	**22**	*eP*	**P**	**21 47 36.0**	**-0.3**
MAJO				*e*ScP	**ScP**	**21 52 39.6**	**+0.1**
MAJO	**Matsushiro**	**35.18**	**22**	*eP*	**P**	**21 47 39.3**	**+3.1**
MAJO				pmax	pmax		
	comp=Z,12nm,1.4s						
MAT	**Matsushiro**	**35.18**	**22**	P	**P**	**21 47 35.8**	**-0.4**
MJAR	**Matsushiro Arr**	**35.18**	**22**	P	**P**	**21 47 36.0**	**-0.3**
	comp=Z,6.4nm,0.9s,baz=196,slow=9.4,SNR=11						
MJAR				ScP	**ScP**	**21 52 39.6**	**+0.1**
	comp=Z,1.3nm,0.7s,baz=190,slow=3.7,SNR=3.6						
MJAR	**Matsushiro Arr**	**35.18**	**22**	P	**P**	**21 47 36.0**	**-0.3**
FORT	**Forrest**	**35.20**	**172**	*eP*	**P**	**21 47 37.1**	**+0.6**
	comp=Z,1μm,0.6s						
LZH	**Lanzhou**	**36.13**	**334**	P	**P**	**21 47 45.8**	**+1.5**
LZH				sP	sP	21 50 32.1	-0.6
LZH				pmax	pmax		
	comp=Z,25nm,1.2s						
LZH				pmax	pmax		
	comp=Z,97nm,5.3s						
SHL	**Shillong**	**36.35**	**309**	*eP*	**P**	**21 47 46.3**	**0.0**
	comp=Z,30nm,0.6s						
SHL	**Shillong**	**36.35**	**309**	*eP*	**P**	**21 47 46.3**	**0.0**
SHL				pmax	pmax		
	comp=Z,30nm,0.6s						
NWAO	**Narrogin (SRO)**	**37.32**	**188**	*eP*	**P**	**21 47 54.8**	**+0.9**
	comp=Z,19nm,0.8s						
NWAO	**Narrogin (SRO)**	**37.32**	**188**	*eP*	**P**	**21 47 54.8**	**+0.9**
NWAO				pmax	pmax		
	comp=Z,19nm,0.8s						
HHC	**Hu-ho-hao-te**	**37.79**	**346**	*eP*	**P**	**21 47 59.3**	**+1.6**
HHC				S	**S**	**21 53 12.8**	**+6.0**
HHC				pmax	pmax		
	comp=Z,32nm,1.0s						
HHC				pmax	pmax		
	comp=Z,79nm,4.6s						
BBOO	**Buckleboo**	**38.98**	**162**	*eP*	**P**	**21 48 08.4**	**+1.2**
	comp=Z,34nm,1.0s						
LSA	**Lhasa**	**39.11**	**314**	*eP*	**P**	**21 48 10.6**	**+1.6**
	comp=Z,20nm,0.7s						
LSA	**Lhasa**	**39.11**	**314**	*eP*	**P**	**21 48 10.6**	**+1.6**
LSA				pmax	pmax		
	comp=Z,20nm,0.7s						
STKA	**Stephens Creek**	**40.18**	**155**	P	**P**	**21 48 18.4**	**+1.6**
	comp=Z,16nm,0.5s,baz=323,slow=8.4,SNR=32						
STKA	**Stephens Creek**	**40.18**	**155**	*eP*	**P**	**21 48 18.6**	**+1.7**
	comp=Z,4.4nm,0.8s						
STKA	**Stephens Creek**	**40.18**	**155**	*eP*	**P**	**21 48 18.6**	**+1.7**
STKA				pmax	pmax		
	comp=Z,4.0nm,0.8s						
EIDS	**Eidsvold**	**40.34**	**138**	*eP*	**P**	**21 48 18.7**	**+0.5**
	comp=Z,15nm,1.0s						
ODAN	**Odare**	**40.51**	**307**	*eP*	**P**	**21 48 20.3**	**+0.4**
	comp=Z,38nm,0.7s						
USRK	**Ussuriysk Ar.**	**40.63**	**10**	P	**P**	**21 48 21.0**	**+0.8**
	comp=Z,16nm,0.5s,baz=195,slow=6.4,SNR=43						
MDJ	**Mudanjiang**	**40.67**	**8**	P	**P**	**21 48 19.5**	**-1.0**
MDJ				pmax	pmax		
	comp=Z,52nm,0.7s						
MDJ				pmax	pmax		
	comp=Z,260nm,5.7s						
MDJ	**Mudanjiang**	**40.67**	**8**	*eP*	**P**	**21 48 21.7**	**+1.2**
	comp=Z,32nm,0.8s						
GTA	**Gaotai**	**40.68**	**333**	P	**P**	**21 48 21.8**	**+1.0**
GTA				pP	PcP	21 50 08.3	+0.8
GTA				pmax	pmax		
	comp=Z,35nm,0.9s						
RAMN	**Ramite**	**41.18**	**307**	*eP*	**P**	**21 48 25.9**	**+0.7**
	comp=Z,44nm,0.6s						
JIRN	**Jiri**	**41.82**	**308**	*eP*	**P**	**21 48 30.9**	**+0.5**
GUN	**Gumba**	**42.18**	**308**	*eP*	**P**	**21 48 33.7**	**+0.6**
	comp=Z,77nm,0.4s						
PKIN	**Phulchoki**	**42.41**	**307**	*eP*	**P**	**21 48 35.3**	**+0.4**
	comp=Z,11nm,0.3s						
KKN	**Kakani**	**42.60**	**307**	*eP*	**P**	**21 48 36.5**	**+0.2**
	comp=Z,18nm,0.3s						
DMN	**Daman**	**42.66**	**307**	*eP*	**P**	**21 48 37.1**	**+0.3**
	comp=Z,44nm,0.8s						
GKN	**Gorkha**	**43.21**	**307**	*eP*	**P**	**21 48 41.0**	**+0.1**
	comp=Z,15nm,0.3s						
ASAJ	**Asahikawa**	**43.42**	**21**	P	**P**	**21 48 43.2**	**+1.1**
	comp=Z,9.7nm,0.4s,baz=219,slow=5.6,SNR=23						
ASAJ	**Asahikawa**	**43.42**	**21**	*eP*	**P**	**21 48 43.0**	**+1.0**
KOLN	**Koldanda**	**43.93**	**306**	*eP*	**P**	**21 48 47.2**	**+0.6**
	comp=Z,79nm,0.4s						
ARMA	**Armidale**	**44.21**	**143**	*eP*	**P**	**21 48 51.4**	**+2.9**
	comp=Z,23nm,0.8s						
PYUN	**Piuthan**	**44.56**	**306**	*eP*	**P**	**21 48 52.2**	**+0.8**
	comp=Z,104nm,0.6s						
HIA	**Hailar**	**44.93**	**357**	*d iP*	**P**	**21 48 54.1**	**+0.5**
HIA				pmax	pmax		
	comp=Z,11nm,0.5s						
KLR	**Kul'dur**	**45.49**	**8**	*d iP*	**P**	**21 48 57.7**	**-0.1**
ULN	**Ulaanbaatar**	**45.49**	**345**	*eP*	**P**	**21 48 58.7**	**+0.7**
	comp=Z,11nm,0.7s						
ULN	**Ulaanbaatar**	**45.49**	**345**	*d iP*	**P**	**21 48 58.6**	**+0.6**
ULN				pmax	pmax		
	comp=Z,11nm,0.7s						
SONA0	**Songino Array**	**45.63**	**345**	*eP*	**P**	**21 48 59.7**	**+0.7**
SONA0				*e*PcP	**PcP**	**21 50 23.9**	**-0.5**
SONA0				*e*ScP	**ScP**	**21 53 20.2**	**-0.6**
SONM	**Songino Array**	**45.63**	**345**	P	**P**	**21 48 59.7**	**+0.7**
	comp=Z,12nm,0.7s,baz=160,slow=9.0,SNR=32						
SONM				PcP	**PcP**	**21 50 23.9**	**-0.5**
	comp=Z,1.9nm,0.8s,baz=177,slow=5.3,SNR=3.5						
SONM				ScP	**ScP**	**21 53 20.2**	**-0.6**
	comp=Z,1.8nm,0.8s,baz=191,slow=3.7,SNR=4.8						
SONA1	**Songino Array**	**45.64**	**345**	*eP*	**P**	**21 48 59.6**	**+0.5**
YSS	**Yuzh-Sakhalins**	**45.96**	**19**	*eP*	**P**	**21 49 01.1**	**-0.3**
YSS				pmax	pmax		
	comp=Z,6.0nm,0.9s						
CAN	**Canberra**	**46.48**	**150**	*eP*	**P**	**21 49 07.0**	**+1.4**
	comp=Z,31nm,0.6s						
CAN	**Canberra**	**46.48**	**150**	*eP*	**P**	**21 49 07.0**	**+1.4**
CAN				pmax	pmax		
	comp=Z,31nm,0.6s						
ZAK	**Zakamensk**	**48.80**	**344**	*eP*	**P**	**21 49 21.8**	**-0.9**
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.0s						
TLY	**Talaya**	**49.87**	**345**	*eP*	**P**	**21 49 31.8**	**+1.4**
	comp=Z,8.2nm,0.7s						
TLY	**Talaya**	**49.87**	**345**	*eP*	**P**	**21 49 31.5**	**+1.1**
TLY				pmax	pmax		
	comp=Z,9.0nm,0.8s						
WMQ	**Urumqi**	**50.04**	**327**	P	**P**	**21 49 33.3**	**+1.4**
WMQ				pmax	pmax		
	comp=Z,34nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,160nm,6.3s						
MOY	**Mondy**	**50.60**	**343**	*eP*	**P**	**21 49 37.2**	**+1.4**
HVS	**Khovu-Aksy**	**52.64**	**337**	*i P*	**P**	**21 49 51.2**	**+0.7**
HVS				pmax	pmax		
	comp=Z,29nm,0.9s						
BOD	**Bodaibo**	**53.86**	**354**	*eP*	**P**	**21 49 59.5**	**+0.7**
BOD				pmax	pmax		
	comp=Z,19nm,1.1s						
DGZ	**Jazzator, Alta**	**54.21**	**332**	*i*	**P**	**21 50 02.4**	**+0.8**
DGZ				pmax	pmax		
	comp=Z,7.0nm,0.9s						
NIL	**Nilore**	**54.43**	**309**	*eP*	**P**	**21 50 03.5**	**+0.2**
	comp=Z,12nm,0.6s						
NIL	**Nilore**	**54.43**	**309**	*eP*	**P**	**21 50 03.5**	**+0.2**
NIL				pmax	pmax		
	comp=Z,11nm,0.6s						
PDGK	**Podgornoye**	**54.48**	**322**	*i* P	**P**	**21 50 03.7**	**0.0**
PDGK				pmax	pmax		
	comp=Z,15nm,0.7s						
TARG	**Taragay, Kyrgy**	**54.70**	**320**	*eP*	**P**	**21 50 06.8**	**+1.2**
	comp=Z,6.9nm,0.7s						
KSH	**Kashi**	**54.85**	**316**	P	**P**	**21 50 07.6**	**+1.3**
KSH				pmax	pmax		
	comp=Z,16nm,0.7s						
MK01	**Makanchi Array**	**54.85**	**327**	*eP*	**P**	**21 50 06.5**	**+0.5**
MK01				*e*PcP	**PcP**	**21 50 58.8**	**0.0**
MK31	**Makanchi Array**	**54.88**	**327**	*eP*	**P**	**21 50 06.7**	**+0.6**
MK31	**Makanchi Array**	**54.88**	**327**	*ce*P	**P**	**21 50 06.6**	**+0.4**
MK31				pmax	pmax		
	comp=Z,11nm,0.4s						
MK32	**Makanchi Array**	**54.88**	**327**	*eP*	**P**	**21 50 06.8**	**+0.6**
MK32				*e*PcP	**PcP**	**21 50 58.6**	**-0.2**
MK32				*e*ScP	**ScP**	**21 53 59.7**	**-0.9**
MKAR	**Makanchi Array**	**54.88**	**327**	P	**P**	**21 50 06.8**	**+0.6**
	comp=Z,22nm,0.3s,baz=125,slow=7.6,SNR=778						
MKAR				PcP	**PcP**	**21 50 58.6**	**-0.2**
	comp=Z,7.3nm,0.6s,baz=127,slow=4.7,SNR=14						
MKAR				ScP	**ScP**	**21 53 59.7**	**-0.9**
	comp=Z,0.7nm,0.7s,baz=139,slow=3.9,SNR=4.2						
MKAR	**Makanchi Array**	**54.88**	**327**	*eP*	**P**	**21 50 06.7**	**+0.6**
	comp=Z,339nm,0.3s						
MAKZ	**Makanchi**	**55.05**	**327**	*eP*	**P**	**21 50 07.9**	**+0.5**
	comp=Z,26nm,0.4s						
MAKZ				*e*PcP	**PcP**	**21 50 58.9**	**-0.7**
MAKZ	**Makanchi**	**55.05**	**327**	*i P*	**P**	**21 50 07.2**	**-0.2**
MAKZ				pmax	pmax		
	comp=Z,12nm,0.4s						
NRN	**Naryn**	**55.74**	**319**	*eP*	**P**	**21 50 13.3**	**+0.7**
	comp=Z,13nm,0.7s						
NRN	**Naryn**	**55.74**	**319**	*eP*	**P**	**21 50 13.3**	**+0.7**
NRN				pmax	pmax		
	comp=Z,13nm,0.7s						
ULHL	**Ulahol**	**55.97**	**320**	P	**P**	**21 50 15.1**	**+1.1**
	SNR=6.8						
KZA	**Kyzart**	**56.54**	**319**	P	**P**	**21 50 19.8**	**+1.6**
	SNR=14						
TKM2	**Tokmak 2**	**56.72**	**320**	P	**P**	**21 50 20.1**	**+1.0**
	SNR=18						
TKM2	**Tokmak 2**	**56.72**	**320**	*i* P	**P**	**21 50 19.5**	**+0.3**
TKM2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
KBK	**Karagaybulak**	**57.01**	**319**	P	**P**	**21 50 22.1**	**+1.0**
	SNR=9.8						
UCH	**Uchtor**	**57.09**	**319**	P	**P**	**21 50 23.3**	**+1.3**
	SNR=21						
AAK	**Ala-Archa**	**57.29**	**319**	P	**P**	**21 50 24.1**	**+1.1**
	SNR=10						
AAK	**Ala-Archa**	**57.29**	**319**	*eP*	**P**	**21 50 24.1**	**+1.1**
	comp=Z,7.2nm,0.8s						
**A

comp=Z,10.0nm,0.9s
AB31 Akbulak array 69.21 321 *ce* P **P 21 51 37.5 -1.2**
AB31 pmax pmax
comp=Z,7.0nm,0.6s
ABKAR Akbulak array 69.21 321 *eP* **P 21 51 38.6 -0.1**
comp=Z,90nm,0.6s
BILL Bilibino 70.14 16⇓ *eP* **P 21 51 43.6 -0.2**
BILL *e* 21 54 35.6
BILL *e*PPP PPP 21 56 22.0
BILL *e*S **SKiKP 22 00 17.7 -7.5**
BILL pmax pmax
comp=Z,2.0nm,1.0s
AKTO Aktyubinsk 70.76 322 P **P 21 51 47.9 0.0**
comp=Z,12nm,0.4s,baz=84,slow=9.1,SNR=32
AKTO Aktyubinsk 70.76 322 *i* P **P 21 51 46.4 -1.5**
AKTO pmax pmax
comp=Z,5.0nm,0.5s
SVE Sverdlovsk 71.43 329 *c i* P **P 21 51 51.5 -0.1**
SVE pmax pmax
comp=Z,19nm,0.6s
ARU Arti 72.36 328 *eP* **P 21 51 56.1 -0.9**
comp=Z,11nm,0.7s
ARU Arti 72.36 328 *c i* P **P 21 51 55.9 -1.1**
ARU 21 54 48.0
ARU S **S 22 00 33.7 +0.5**
ARU pmax pmax
comp=Z,15nm,1.0s
MAK Makhachkala 76.27 313 *eP* **P 21 52 16.5 -2.7**
MAK *e**SP **PP 21 55 17.9 -4.0**
MAK *e*S **S 22 01 09.3 -6.8**
MAK pmax pmax
comp=Z,41nm,1.3s
RAYN Ar Rayn 76.56 293 *eP* **P 21 52 20.8 -0.5**
comp=Z,9.5nm,1.0s
RAYN Ar Rayn 76.56 293 *eP* **P 21 52 20.8 -0.5**
RAYN pmax pmax
comp=Z,10.0nm,1.0s
OPO Ambohidratompo 77.65 250 P **P 21 52 26.9 -0.5**
comp=Z,3.4nm,0.7s,baz=70,slow=9.2,SNR=4.4
ZEI Tsey 78.89 313 *eP* **P 21 52 30.7 -2.9**
ZEI pmax pmax
comp=Z,6.0nm,0.6s
AKH Akhalkalaki 79.09 311 *eP* **P 21 52 36.1 +1.4**
comp=Z,7.2nm,0.7s
AKH Akhalkalaki 79.09 311 *eP* **P 21 52 36.1 +1.4**
AKH pmax pmax
comp=Z,7.0nm,0.7s
NCK Nalchik 79.17 313⇑ *eP* **P 21 52 33.5 -1.3**
NCK pmax pmax
comp=Z,2.0nm,0.9s
KBZ Khabaz 79.69 314 P **P 21 52 37.1 -0.4**
comp=Z,2.3nm,0.8s,baz=163,slow=3.2,SNR=6.9
VRH Novokhopyorsk 81.04 321 *eP* **P 21 52 43.4 -0.9**
VRH pmax pmax
comp=Z,10.0nm,0.6s
VSR Storozhevoye 82.64 321 *eP* **P 21 52 51.0 -1.5**
VSR pmax pmax
comp=Z,20nm,1.2s
LPSR Galich'ya Gora 82.85 322 *eP* **P 21 52 52.9 -0.5**
LPSR pmax pmax
comp=Z,20nm,0.8s
KLMR Klimovskoe 82.98 331 *eP* **P 21 52 51.8 -2.1**
KLMR AMP 21 52 54.2
comp=Z,19nm,0.8s
KLMR Klimovskoe 82.98 331 *eP* **P 21 52 51.8 -2.1**
KLMR pmax pmax
comp=Z,19nm,0.8s
KDAK Kodiak Island 83.63 32 *i* P **P 21 52 59.5 +2.3**
CAST Castle Rocks 84.10 27 *eP* **P 21 53 00.8 +1.3**
comp=Z,22nm,2.0s
ASF Jabal al Asfar 84.19 302 P **P 21 53 01.6 +0.9**
comp=Z,6.8nm,0.8s,baz=108,slow=12,SNR=10
SKT Skwentna 84.30 28 *eP* **P 21 53 00.5 0.0**
comp=Z,11nm,0.8s
OBN Obninsk 84.31 325 *ce* P **P 21 53 00.0 -0.6**
OBN pmax pmax
comp=Z,13nm,0.9s
VNDA Vanda 84.47 172 P **P 21 53 01.8 +0.8**
comp=Z,1.2nm,0.5s,baz=312,slow=6.4,SNR=9.5
MLY Manley 84.74 25 *eP* **P 21 53 03.8 +1.2**
comp=Z,2.9nm,0.6s
COLD Coldfoot 85.00 23 *eP* **P 21 53 05.4 +1.6**
comp=Z,3.8nm,1.2s
TOLK Toolik Lake Re 85.26 22 *eP* **P 21 53 06.7 +1.7**
comp=Z,3.7nm,0.8s
MMAI Mount Meron Ar 85.42 303 P **P 21 53 07.2 +0.6**
comp=Z,4.3nm,0.6s,baz=95,slow=7.2,SNR=11
MCK McKinley 85.51 26 *eP* **P 21 53 06.9 +0.6**
comp=Z,5.2nm,1.0s
MCK McKinley 85.51 26 *eP* **P 21 53 06.9 +0.6**
MCK pmax pmax
comp=Z,5.0nm,1.0s
KMBO Kilima Mbogo 85.52 269 P **P 21 53 08.0 +0.3**
comp=Z,1.8nm,0.6s,baz=37,slow=8.6,SNR=3.7
KMBO Kilima Mbogo 85.52 269 *eP* **P 21 53 08.0 +0.3**
comp=Z,3.6nm,1.0s
COLA College 85.97 25⇓ *eP* **P 21 53 09.5 +1.1**
COLA pmax pmax
comp=Z,2.0nm,1.1s
SIM Simferopol' 86.01 315 *d i* P **P 21 53 08.7 -0.3**
SIM pmax pmax
comp=Z,30nm,0.4s
ILAR Eielson Array 86.38 25 P **P 21 53 09.4 -0.9**
comp=Z,2.9nm,0.6s,baz=249,slow=4.8,SNR=22
ILB Eielson Array 86.38 25 *eP* **P 21 53 10.1 -0.3**
BR101 Keskin Array S 86.57 309 *eP* **P 21 53 10.8 -1.2**
BR131 Keskin Array S 86.57 309 *eP* **P 21 53 11.2 -0.9**
BRTR Keskin Array B 86.57 309 P **P 21 53 10.8 -1.2**
comp=Z,1.0nm,0.8s,baz=113,slow=4.4,SNR=9.0
ARA0 ARCESS Array S 88.56 340 *eP* **P 21 53 19.2 -1.3**
ARCES ARCESS Array B 88.56 340 P **P 21 53 19.2 -1.3**
comp=Z,3.2nm,0.7s,baz=82,slow=5.6,SNR=16
AKASG Malin Array Be 88.94 321 P **P 21 53 21.2 -1.4**
comp=Z,1.9nm,0.7s,baz=69,slow=4.8,SNR=13
AKBB Malin Array Si 88.94 321 *eP* **P 21 53 21.2 -1.4**
comp=Z,3.0nm,0.9s
AKBB Malin Array Si 88.94 321 *eP* **P 21 53 21.2 -1.4**
AKBB pmax pmax
comp=Z,3.0nm,0.9s
KIEV Kiev 88.95 321⇑ *i* P **P 21 53 21.3 -1.3**
KIEV pmax pmax
comp=Z,2.0nm,0.9s
SPA0 Spitsbergen Ar 89.19 349 *eP* **P 21 53 23.0 -0.2**
SPITS Spitsbergen Ar 89.19 349 P **P 21 53 23.0 -0.2**
comp=Z,4.2nm,0.4s,baz=83,slow=4.8,SNR=56
FIA0 FINESS Array S 89.46 331 *eP* **P 21 53 23.7 -1.1**
FIA0 FINESS Array S 89.46 331 *eP* **P 21 53 23.7 -1.1**
FINES FINESS Array B 89.46 331 P **P 21 53 23.7 -1.1**
comp=Z,4.8nm,0.6s,baz=59,slow=5.2,SNR=38
SORM Soroca 89.76 318⇓ *i* P **P 21 53 25.1 -1.3**
SORM Soroca 89.76 318⇓ P **P 21 53 25.1 -1.3**
TESR Tescani 91.09 317⇑ *i* P **P 21 53 31.6 -1.1**
VRI Vrincioaia 91.12 316⇓ *i* P **P 21 53 32.6 -0.3**
VRI Vrincioaia 91.12 316 ⇓ P **P 21 53 32.6 -0.3**
MLR Muntele Rosu 91.72 316 P **P 21 53 35.2 -0.6**
comp=Z,0.4nm,0.6s,baz=34,slow=3.6
MLR Muntele Rosu 91.72 316⇑ *i* P **P 21 53 35.3 -0.4**
BURAR Bucovina Array 91.92 318⇑ *i* P **P 21 53 36.6 0.0**
BURAR Bucovina Array 91.92 318 ⇑ P **P 21 53 36.6 0.0**
BUR04 Bucovina Ar. S 91.92 318 *eP* **P 21 53 36.1 -0.4**
BUR08 Bucovina Ar. S 91.92 318 *eP* **P 21 53 36.7 0.0**
ARR Arges 92.65 316⇑ *i* P **P 21 53 39.1 -0.8**
KWP Kalwaria Pacla 93.23 320 *eP* **P 21 53 42.2 -0.2**
comp=Z,38nm,0.6s
KWP Kalwaria Pacla 93.23 320 *eP* **P 21 53 42.3 -0.2**
LOT Lotru 93.23 316⇑ *i* P **P 21 53 42.4 -0.3**
TRPA Tarpa 93.61 319⇑ *i* P **P 21 53 43.8 -0.3**
VTS Vitosha 94.10 313⇓ *i* P **P 21 53 45.6 -1.1**
VTS Vitosha 94.10 313 ⇓ P **P 21 53 45.6 -1.1**
CRVS Cervenica-Dubn 94.17 320 *eP* **P 21 53 46.8 +0.1**
CRVS Cervenica-Dubn 94.17 320 *eP* **P 21 53 46.8 +0.1**
CRVS pmax pmax
comp=Z,5.0nm,1.1s
STHS Stebnicka Huta 94.21 320 *eP* **P 21 53 47.4 +0.5**
STHS Stebnicka Huta 94.21 320 *eP* **P 21 53 47.4 +0.5**
STHS pmax pmax
comp=Z,2.0nm,0.6s
HFS Hagfors 95.66 332 P **P 21 53 51.6 -1.6**
comp=Z,1.7nm,0.5s,baz=151,slow=3.3,SNR=12
MORC Moravsky Berou 96.48 321⇑ *i* P **P 21 53 57.5 +0.3**
MORC Moravsky Berou 96.48 321 ⇑ P **P 21 53 57.5 +0.3**
NB2 NORSAR Subarra 96.51 333 P **P 21 53 55.4 -1.6**
comp=Z,1.6nm,0.7s,baz=72,slow=4.6
NB200 NORSAR Array S 96.51 333 *eP* **P 21 53 55.4 -1.6**
NOA NORSAR Array B 96.51 333 P **P 21 53 55.4 -1.6**
comp=Z,1.6nm,0.8s,baz=70,slow=4.6,SNR=6.0
BRG Berggiesshubel 98.40 323 *e*(P) Pdif 21 54 05.5 -0.2
comp=Z,2.9nm,0.9s
BRG Berggiesshubel 98.40 323 *eP* Pdif 21 54 05.4 -0.2
BRG pmax pmax
comp=Z,3.0nm,0.9s
GEC2 GERESS Array S 99.15 321 *e*Pdif **Pdif 21 54 08.9 -0.2**
comp=Z,4.5nm,1.4s
GEC2 GERESS Array S 99.15 321 *eP* **Pdif 21 54 08.9 -0.2**
GEC2 pmax pmax
comp=Z,5.0nm,1.4s
GERES GERESS Array B 99.15 321 P **Pdif 21 54 08.9 -0.2**
comp=Z,0.4nm,0.6s,baz=77,slow=5.8,SNR=4.8
YKA Yellowknife Ar 100.67 23 P **Pdif 21 54 16.1 +0.7**
comp=Z,0.2nm,0.9s,baz=298,slow=3.2,SNR=4.0
YKB5 Yellowknife Ar 100.67 23 *e*Pdif **Pdif 21 54 16.1 +0.7**
TOA0 Torodi Ar. Sit 118.91 287 *e*PKPdf **PKPdf 21 59 12.8 -0.5**
TORD Torodi Ar. Bea 118.91 287 PKP **PKPdf 21 59 12.7 -0.6**
comp=Z,1.2nm,0.4s,baz=81,slow=1.6,SNR=26
TOA1 Torodi Ar. Sit 118.91 287 *e*PKPdf **PKPdf 21 59 12.7 -0.6**
KOWA Kowa 123.97 291 PKP **PKPdf 21 59 22.9 0.0**
comp=Z,1.2nm,0.6s,baz=76,slow=4.7,SNR=6.6
DBIC Dimbokro 126.51 281 PKP **PKPdf 21 59 27.6 -0.3**
comp=Z,1.9nm,0.6s,baz=164,slow=1.1,SNR=3.5
TKL Tuckaleechee C 133.20 30 PKP **PKPdf 21 59 41.3 +1.3**
comp=Z,3.6nm,0.7s,baz=135,slow=1.4,SNR=3.9
PLCA Paso Flores 141.77 164 PKhKP PKPpre 21 59 52.7
comp=Z,1.2nm,0.9s,baz=272,slow=2.9,SNR=5.1

ATA ***22*** *21:44:03.5±0.4, 38.68°N×43.33°E, h7km±23km, ML2.4, MW2.6*
ISK ***22*** *21:44:03.9, 38.69°N×43.19°E, h21km, ML1.9/4*
CSEM ***22*** *21:44:05.1±0.3, 38.69°N×43.16°E, h10km, ML1.9, Error ellipse: s-maj=5.5km s-min=5.0km az=143.0*
DDA ***22*** *21:44:05.2, 38.69°N×43.20°E, h7km, Ml2.4*
ISC 22 21:44:04.8±1.2, 38.65°N±0.03°×43.22°E±0.03, h26km±8km, n20, σ0°68/38, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VANB	**Van**	**0.15**	**113**	PG	**Pb**	**21 44 10.0**	**-0.2**
VANB				SG	**Sb**	**21 44 14.5**	**+0.6**
VANB	**Van**	**0.15**	**113**	*e*Pg	**Pb**	**21 44 10.0**	**-0.2**
VANB				*e*Sg	**Sb**	**21 44 14.5**	**+0.6**
TVAN	**Van**	**0.19**	**129**	*i* P	**Pb**	**21 44 09.9**	**-0.9**
TVAN				*i* S	**Sb**	**21 44 14.0**	**-0.3**
GEVA	**Gevas**	**0.36**	**200**	*e*P	**Pb**	**21 44 12.5**	**-0.6**
GEVA				*e*S	**Sb**	**21 44 19.2**	**+0.6**
GEVA				IAML		21 44 22.3	
comp=Z,23nm,0.5s							
GEVA	**Gevas**	**0.36**	**200**	*i* P	**Pb**	**21 44 12.3**	**-0.7**
GEVA				*i* S	**Sb**	**21 44 19.6**	**+0.9**
GEVA	**Gevas**	**0.36**	**200**	P	**Pb**	**21 44 12.3**	**-0.7**
GEVA				S	**Sb**	**21 44 19.5**	**+0.9**
ADCV	**BITLIS_Adilcev**	**0.41**	**292**	*i* P	**Pb**	**21 44 12.9**	**-1.0**
ADCV				*i* S	**Sb**	**21 44 20.0**	**0.0**
ADCV	**BITLIS_Adilcev**	**0.41**	**292**	P	**Pb**	**21 44 12.9**	**-1.0**
ADCV				S	**Sb**	**21 44 20.0**	**0.0**
VMUR	**Van-Muradiye**	**0.44**	**39**	*i* P	**Pb**	**21 44 14.0**	**-0.2**
VMUR				*i* S	**Sb**	**21 44 21.7**	**+1.1**
VMUR	**Van-Muradiye**	**0.44**	**39**	P	**Pb**	**21 44 14.0**	**-0.2**
VMUR				S	**Sb**	**21 44 21.7**	**+1.1**
CLDR	**Caldiran**	**0.73**	**48**	PG	**Pb**	**21 44 18.3**	**-0.9**
CLDR				SG	**Sb**	**21 44 29.5**	**+0.5**
CLDR	**Caldiran**	**0.73**	**48**	*i* P	**Pb**	**21 44 18.3**	**-0.9**
CLDR				*i* S	**Sn**	**21 44 30.1**	**-0.1**
CLDR	**Caldiran**	**0.73**	**48**	P	**Pb**	**21 44 18.3**	**-0.9**
CLDR				*e*Sg	**Sb**	**21 44 29.5**	**+0.5**
CLDR				S	**Sn**	**21 44 30.1**	**-0.1**
TUTA	**Tutak**	**0.81**	**337**	*e*P	**Pb**	**21 44 19.9**	**-0.6**
TUTA				*e*S	**Sn**	**21 44 32.8**	**+0.7**
TUTA				IAML		21 44 37.8	
comp=Z,10nm,0.2s							
TUTA	**Tutak**	**0.81**	**337**	*i* P	**Pb**	**21 44 19.8**	**-0.6**
TUTA				*i* S	**Sb**	**21 44 31.5**	**+0.3**
GURO	**Guroymak-BITLI**	**0.93**	**264**	PG	**Pb**	**21 44 22.1**	**-0.4**
GURO	**Guroymak-BITLI**	**0.93**	**264**	*e*Pg	**Pb**	**21 44 22.1**	**-0.4**
AGRB	**Hanur-Agry**	**0.94**	**349**	PG	**Pb**	**21 44 22.0**	**-0.6**
AGRB				SG	**Sb**	**21 44 34.8**	**+0.1**
AGRB	**Hanur-Agry**	**0.94**	**349**	*e*Pg	**Pb**	**21 44 22.0**	**-0.6**
AGRB				*e*Sg	**Sb**	**21 44 34.8**	**+0.1**
EKAR	**Karacoban**	**1.08**	**304**	*e*P	**Pb**	**21 44 25.8**	**+0.8**

ISCJB ***22*** *21:54:15.6±1.3, 43.05°S±0.1°×123.8°E±0.3, h10km, mb3.8/4, Error ellipse: s-maj=31.5km s-min=20.6km az=5.6*
IDC ***22*** *21:54:15.8±1.2, 43.10°S×124.11°E, h0km, mb3.8/4, mb1 4.0/5, mb1mx3.8/41, mbtmp3.9/5, ML2.1/1, Error ellipse: s-maj=51.2km s-min=24.0km az=103.0*
ISC 22 21:54:17.2±1.2, 43.05°S±0.2°×123.9°E±0.3, h10km, n7, σ1°20/7, mb3.9/4, South of Australia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NWAO	**Narrogin (SRO)**	**11.39**	**330**	Pn	**Pn**	**21 56 59.3**	**-0.7**
0.6nm,0.3s,baz=13,slow=11,SNR=9.6							
NWAO				Sn	Sn	21 58 57.6	-10
0.6nm,0.3s,baz=180,slow=20,SNR=3.6							
ASAR	**Alice Springs**	**21.01**	**26**	P	**P**	**21 59 01.2**	**+0.3**
1.0nm,0.6s,baz=200,slow=9.3,SNR=12							
WRA	**Warramunga Arr**	**24.64**	**24**	P	**P**	**21 59 37.9**	**-0.1**
1.4nm,0.8s,baz=199,slow=11,SNR=6.7							
SNAA	**Sanae**	**59.58**	**197**	P	**P**	**22 04 20.8**	**+0.2**
1.8nm,0.9s,baz=149,slow=11,SNR=6.0							
CMAR	**Chiang Mai Arr**	**65.37**	**334**	P	**P**	**22 05 01.5**	**+1.7**
1.4nm,0.6s,baz=174,slow=5.5,SNR=10							
TORD	**Torodi Ar. Bea**	**122.33**	**257**	PKP	**PKPdf**	**22 13 12.3**	**-0.6**
0.6nm,1.0s,baz=140,slow=1.5,SNR=2.6							
YKA	**Yellowknife Ar**	**141.26**	**39**	PKP	**PKPdf**	**22 13 45.5**	**-1.4**
0.1nm,0.8s,baz=271,slow=3.4,SNR=4.4							

UPP ***22*** *22:13:06.7, 67.19°N×20.69°E, h0km, ML1.3, Mining explosion.*
CSEM ***22*** *22:13:06.1±0.3, 67.17°N×20.74°E, h2km, ML1.4, Error ellipse: s-maj=6.1km s-min=4.2km az=31.0, Mining explosion.*
HEL 22 22:13:07.2±0.0, 67.18°N×20.69°E, h0km, ML1.4, ML1.3(UPP), Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DUNU	**Dundret**	**0.07**	**220**	*i* P	Pg	22 13 08.5	-0.1
DUNU	**Dundret**	**0.07**	**220**	*i* P	Pg	22 13 08.5	-0.1
MASU	**Masugnsbyn**	**0.58**	**60**	*i* P	Pg	22 13 17.8	-0.5
MASU				*i* S	Sg	22 13 25.6	-0.2
MASU	**Masugnsbyn**	**0.58**	**60**	*i* P	Pg	22 13 17.8	-0.5
MASU				*i* S	Sg	22 13 25.6	-0.2
RATU	**Laukkuluspa**	**0.77**	**327**	*i* P	Pg	22 13 21.1	-0.9
RATU	**Laukkuluspa**	**0.77**	**327**	*i* P	Pg	22 13 21.1	-0.9
KUA	**Kurravaara**	**0.79**	**350**	*i* P	Pg	22 13 21.2	-1.1
KUA	**Kurravaara**	**0.79**	**350**	*i* P	Pg	22 13 21.2	-1.1
ERTU	**Ertsjaerv**	**0.86**	**136**	*i* P	Pg	22 13 22.6	-1.1
ERTU	**Ertsjaerv**	**0.86**	**136**	*i* P	Pg	22 13 22.6	-1.1
SALU	**Saltoluokta**	**0.87**	**284**	*i* P	Pg	22 13 23.0	-0.9
SALU	**Saltoluokta**	**0.87**	**284**	*i* P	Pg	22 13 23.0	-0.9
NIKU	**Nikkaluokta**	**0.94**	**318**	*e*P	Pg	22 13 24.0	-1.2
NIKU	**Nikkaluokta**	**0.94**	**318**	*e*P	Pg	22 13 24.0	-1.2
PAJU	**Pajala**	**0.96**	**98**	*e*P	Pg	22 13 24.5	-1.1
PAJU	**Pajala**	**0.96**	**98**	*e*P	Pg	22 13 24.5	-1.1
LANU	**Lannavaara**	**1.01**	**29**	*e*P	Pg	22 13 25.2	-1.3
LANU	**Lannavaara**	**1.01**	**29**	*e*P	Pg	22 13 25.2	-1.2
HEF	**Hetta**	**1.67**	**41**	*e*Pg	Pn	22 13 37.2	-0.5
HEF				*e*Sg	Sn	22 13 58.8	-1.1
2.6nm,0.2s							
HEF	**Hetta**	**1.67**	**41**	*e*PG	Pn	22 13 37.2	-0.5
HEF				MSG		22 13 57.1	
comp=Z,2.6nm,0.2s							
HEF				*e*SG	Sn	22 13 58.8	-1.1
TOF	**Tornio**	**1.82**	**126**	*e*Pg	Pn	22 13 39.8	+0.1
TOF	**Tornio**	**1.82**	**126**	*e*PG	Pn	22 13 39.8	+0.1
TOF				MSG		22 14 01.3	
comp=Z,2.4nm,0.2s							
TOF				*e*SN	Sb	22 14 04.4	-0.2
KIF	**Kilpisjarvi**	**1.84**	**1**	*e*P	Pn	22 13 40.0	+0.1
KIF				*e*Sg	Sb	22 14 04.7	-0.4
comp=Z,2.4nm,0.2s							
KIF	**Kilpisjarvi**	**1.84**	**1**	*e*P	Pn	22 13 40.0	+0.1
KIF				MSG		22 14 02.6	
comp=Z,2.4nm,0.2s							
KIF				*e*SG	Sb	22 14 04.7	-0.4
RNF	**Rovaniemi**	**2.18**	**103**	*e*Sg	Sb	22 14 13.9	-1.0
RNF	**Rovaniemi**	**2.18**	**103**	*e*PB	Pn	22 13 45.2	+0.6
RNF				*e*SG	Sb	22 14 13.9	-1.0
SGF	**Sodankyl**	**2.28**	**81**	*e*Sg	Sb	22 14 17.0	-0.8
SGF	**Sodankyl**	**2.28**	**81**	*e*PB	Pn	22 13 47.0	+1.0
SGF				*e*SG	Sb	22 14 17.0	-0.8
ARE0	**ARCESS Array S**	**2.96**	**35**	*e*P	Pn	22 13 55.5	0.0
ARE0	**ARCESS Array S**	**2.96**	**35**	*e*P	Pn	22 13 55.5	0.0
baz=215							
ARE0				*e*SB	Sn	22 14 34.1	+2.4

GUC 22 22:32:12.0±0.8, 19.98°S×69.20°W, h96km±4km, ML3.5, 5C-2D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB08	**IPOC Station P**	**0.17**	**164**⇓	*i* P	Pn	22 32 26.4	+0.1
PB08				*i* S	Sn	22 32 37.8	+1.1
PB08				IAML		22 32 39.0	
comp=N,2μm,0.2s							
PB11	**IPOC Station P**	**0.48**	**297**⇑	*i* P	Pn	22 32 27.5	0.0
PB11				*i* S	Sn	22 32 39.5	+0.5
MNMC	**Minye Minye**	**0.92**	**336**⇑	*i* P	Pn	22 32 32.0	+0.4
MNMC				*i* S	Sn	22 32 47.4	+1.1
MNMC				IAML		22 32 47.7	
comp=E,4μm,0.4s							
PSGC	**Pisagua**	**0.95**	**293**⇑	*i* P	Pn	22 32 31.7	0.0
PSGC				*i* S	Sn	22 32 46.9	+0.5
PSGC				IAML		22 32 48.2	
comp=N,817nm,0.2s							
PB01	**IPOC Station P**	**1.09**	**194**⇓	*i* P	Pn	22 32 33.8	+0.5
PB01				*i* S	Sn	22 32 50.5	+1.1
PB01				IAML		22 32 52.1	
comp=N,900nm,0.7s							
PB02	**IPOC Station P**	**1.48**	**206**	*e*P	Pn	22 32 38.7	+0.7
PB02				*i* S	Sn	22 32 59.0	+1.3
PB02				IAML		22 33 06.5	
comp=N,1μm,0.2s							
PB12	**IPOC Station P**	**1.72**	**322**⇑	*i* P	Pn	22 32 40.5	-0.5
PB12				*i* S	Sn	22 33 03.6	+0.6
PB09	**IPOC Station P**	**1.81**	**181**	*e*P	Pn	22 32 43.2	+1.0
PB09				*i* S	Sn	22 33 06.4	+1.3
PB09				IAML		22 33 10.1	
comp=N,891nm,0.6s							
PB07	**IPOC Station P**	**1.85**	**200**⇑	*i* P	Pn	22 32 43.4	+0.6
PB07				*i* S	Sn	22 33 07.6	+1.5
PB07				IAML		22 33 14.5	
comp=N,392nm,0.2s							

NNC 22 22:41:25.5±3.4, 38.11°N×71.73E, h0km, mb3.8, mpv3.4, 7C-3D, Error ellipse: s-maj=26.2km s-min=18.7km az=172.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SFK	**Sufi-Kurgan**	**2.35**	**35**⇑	P	Pn	22 42 05.8	+0.2
5.5nm,0.2s							
SFK				⇑S	Sb	22 42 37.4	-1.2
21nm,0.2s							
MNAS	**Manas**	**4.42**	**7**⇓	P	Pn	22 42 34.4	+0.5
2.7nm,0.3s							
MNAS				⇑S	Sn	22 43 27.3	+1.3
12nm,0.5s							
AAK	**Ala-Archa**	**4.99**	**24**⇑	P	Pn	22 42 40.0	-1.9
3.7nm,0.6s							
AAK				⇓S	Sn	22 43 38.5	-1.9
6.0nm,0.6s							
KK31	**Karatay Array**	**5.08**	**350**⇓	P	Pn	22 42 44.2	+1.3
1.8nm,0.4s,baz=161,slow=11,SNR=19							
KK31				⇑S	Sn	22 43 44.3	+2.2
21nm,0.5s,baz=91,slow=33,SNR=32							
AB31	**Akbulak array**	**14.01**	**326**⇑	P	Pn	22 44 44.1	-1.1
0.8nm,0.5s,baz=133,slow=13,SNR=25							
AB31				⇑S	Sn	22 47 19.8	-1.5
0.5nm,0.5s,baz=133,slow=24,SNR=7.0							

NNC ***22*** *22:45:04.5±1.0, 45.92°N×81.29°E, h0km, mb2.5, mpv2.7, Error ellipse: s-maj=8.5km s-min=5.2km az=116.0*
SOME ***22*** *22:45:04.2, 45.80°N×81.32°E, h0km*
ISC 22 22:45:05.6±1.6, 45.90°N±0.07°×81.45°E±0.07, h16km±15km, n19, σ1°44/37, 3C-3D, Kazakhstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MAKZ	**Makanchi**	**0.98**	**22**⇑	P	**Pn**	**22 45 23.7**	**-1.0**
2.1nm,0.3s							
MAKZ				⇓S	**Sn**	**22 45 37.7**	**-0.7**
12nm,0.2s							
MK31	**Makanchi Array**	**1.07**	**33**⇓	P	**Pn**	**22 45 26.2**	**+0.2**
1.7nm,0.2s,baz=217,slow=17							
MK31				⇑S	**Sn**	**22 45 41.5**	**+1.0**
10.0nm,0.2s,baz=218,slow=28							
KAPS	**Kapalarasan**	**1.59**	**248**	*e*P	**Pn**	**22 45 31.4**	**-1.9**
17nm,0.1s							
KAPS				*e*S	**Sn**	**22 45 49.4**	**-4.1**
41nm,0.2s							
DJR	**Jarkent**	**1.96**	**218**	*e*P	**Pb**	**22 45 39.9**	**-1.1**
34nm,0.3s							
DJR				*e*S	**Sn**	**22 46 03.9**	**+1.4**
48nm,0.4s							
TDK	**Taldyqorghan**	**2.32**	**248**	*e*P	**Pn**	**22 45 44.4**	**+1.2**
30nm,0.3s							
TDK				*e*S	**Sn**	**22 46 11.1**	**-0.4**
78nm,0.2s							
ZSN	**Zaisan**	**2.82**	**55**	*e*P	**Pg**	**22 45 59.6**	**0.0**
1.0nm,0.3s							
ZSN				*e*S	**Sg**	**22 46 36.7**	**+0.6**
5.5nm,0.5s							
PDGK	**Podgornoye**	**2.92**	**209**⇑	Pg	**Pb**	**22 45 57.4**	**0.0**
1.9nm,0.4s							
PDGK				⇓Lg	Lg	22 46 34.9	
21nm,0.5s							
ARXS	**Arharly**	**3.07**	**238**	*e*P	**Pb**	**22 45 57.5**	**-2.4**
4.1nm,0.2s							
ARXS				*e*S	**Sn**	**22 46 33.5**	**+3.5**
27nm,0.5s							
SHLS	**Shalkode**	**3.09**	**208**	*e*P	**Pb**	**22 45 58.7**	**-1.5**
5.0nm,0.1s							
SHLS				*e*S	**Sb**	**22 46 35.6**	**-2.0**
44nm,0.3s							
KPKS	**Kokpek**	**3.13**	**220**	*e*P	**Pb**	**22 46 00.8**	**-0.2**
18nm,0.2s							
KPKS				*e*S	**Sb**	**22 46 38.7**	**-0.2**
68nm,0.4s							
UZB	**Uzynbulak**	**3.25**	**213**	*e*P	**Pb**	**22 46 02.8**	**-0.2**
3.6nm,0.2s							
UZB				*e*S	**Sb**	**22 46 42.8**	**+0.4**
25nm,0.4s							
KURS	**Kuram**	**3.36**	**225**	*e*P	**Pb**	**22 46 04.0**	**-0.7**
4.7nm,0.8s							
KURS				*e*S	**Sb**	**22 46 44.8**	**-0.6**
14nm,1.1s							
SATY	**Saty**	**3.58**	**219**	*e*P	**Pb**	**22 46 08.3**	**-0.3**
3.9nm,0.1s							
SATY				*e*S	**Sb**	**22 46 52.0**	**+0.3**
41nm,0.2s							
CHKK	**Chushkaly**	**3.77**	**239**	*e*P	**Pb**	**22 46 11.9**	**0.0**
1.8nm,0.2s							
CHKK				*e*S	**Sb**	**22 46 58.2**	**+0.9**
15nm,0.4s							
KTBS	**Karatobe**	**4.04**	**239**	*e*P	**Pb**	**22 46 16.7**	**+0.3**

*IDC **22** 22:49:26.4±2.3, 37.68N×143.78E, h0km, mb3.5/4, mb1 3.5/6, mb1mx3.3/64, mbtmp3.5/6, ML3.2/2, MS2.6/1, Ms1 2.6/1, ms1mx2.1/57, Error ellipse: s-maj=55.8km s-min=27.7km az=79.0*

*ISCJB **22** 22:49:29.5±1.1, 37.84N±0.05×143.38E±0.09, h19km, mb3.5/4, Error ellipse: s-maj=10.8km s-min=7.1km az=10.4*

*JMA **22** 22:49:29.5±0.3, 37.83N×143.49E, h41km, M3.2*

ISC 22 22:49:30.1±1.4, 37.84N±0.06×143.5E±0.1, h19km, n17, σ1§19/22, mb3.6/4, Off east Coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**1.76**	**291**	P	**Pn**		**22 49 59.0**	**-0.6**
OFUJ	**Ofunato**	**1.86**	**312**	P	**Pn**		**22 50 00.3**	**-0.7**
OFUJ				eS	**Sn**		**22 50 22.8**	**-1.2**
JMK	**Ichinoseki**	**2.07**	**303**	P	**Pn**		**22 50 03.6**	**-0.2**
JMK				eS	**Sn**		**22 50 28.7**	**-0.4**
JOU	**Okura**	**2.26**	**284**	P	**Pn**		**22 50 06.8**	**+0.4**
JOM	**Ohasama**	**2.34**	**315**	P	**Pn**		**22 50 07.4**	**-0.2**
JOM				eS	**Sn**		**22 50 35.4**	**-0.4**
JFT	**Otama**	**2.49**	**263**	P	**Pn**		**22 50 09.6**	**0.0**
JFT				S	**Sn**		**22 50 38.7**	**-0.8**
JYK	**Kaneyama**	**2.65**	**295**	P	**Pn**		**22 50 12.2**	**+0.4**
JANG	**Nango**	**2.94**	**330**	eS	**Sn**		**22 50 49.7**	**-0.8**
JAG	**Ashikaga**	**3.49**	**247**	P	**Pn**		**22 50 22.8**	**-0.6**
JAG				S	**Sn**		**22 51 03.1**	**-1.1**
JRY	**Ryogami san**	**4.07**	**245**	P	**Pn**		**22 50 31.3**	**-0.1**
MJAR	**Matsushiro Arr**	**4.38**	**254**	Pn	**Pn**		**22 50 36.8**	**+1.2**
	0.9nm,0.3s,baz=65,slow=15,SNR=5.9							
ASAJ	**Asahikawa**	**6.30**	**354**	Pn	**Pn**		**22 51 02.8**	**+0.9**
	0.6nm,0.3s,baz=127,slow=20,SNR=3.5							
ASAJ				Sn	**Sn**		**22 52 10.8**	**-2.6**
	0.4nm,0.3s,baz=287,slow=19,SNR=3.0							
KSRS	**Korea Array**	**12.31**	**273**	LR	LR		22 57 15.3	
	comp=Z,27nm,19.1s,baz=18,slow=37							
ZALV	**Zalesovo Beam**	**42.57**	**312**	P	**P**		**22 57 27.2**	**+2.7**
	0.5nm,0.3s,baz=106,slow=11,SNR=2.6							
MKAR	**Makanchi Array**	**45.06**	**302**	P	**P**		**22 57 46.2**	**+1.5**
	0.4nm,0.7s,baz=88,slow=11,SNR=4.2							
KURBB	**Kurchatov Arra**	**46.78**	**308**	P	**P**		**22 57 59.1**	**+1.0**
	0.4nm,0.5s,baz=78,slow=8.4,SNR=3.2							
WRA	**Warramunga Arr**	**58.11**	**190**	P	**P**		**22 59 20.9**	**-1.4**
	0.3nm,0.6s,baz=9.3,slow=7.1,SNR=4.9							

*IDC **22** 22:55:06.8±2.8, 9.60S×112.62E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.1/61, mbtmp3.2/3, Error ellipse: s-maj=150.8km s-min=26.1km az=47.0*

*DJA **22** 22:55:14.0±1.0, 10.5S×113.3E±, h12km±9km, M3.7/13, MLv3.7/13*

ISC 22 22:55:10.7±2.0, 9.54S±0.08×112.82E±0.05, h17km±13km, n16, σ1§43/21, mb3.3/3, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
GMJI	**Gumukmas**	**1.40**	**26**	P	**Pg**		**22 55 38.0**	**+0.3**
GMJI				S	**Sb**		**22 55 50.7**	**-3.4**
JAGI	**Jajag, Banyuwa**	**1.69**	**51**	P	**Pn**		**22 55 41.2**	**+1.6**
JAGI				S	**Sn**		**22 55 59.5**	**-1.4**
PWJI	**Pagerwojo**	**1.81**	**326**	P	**Pb**		**22 55 43.8**	**+0.4**
PWJI				S	**Sb**		**22 56 06.0**	**+0.3**
BLJI	**Banyuglugur**	**1.94**	**23**	P	**Pb**		**22 55 46.0**	**+0.4**
BLJI				S	**Sn**		**22 56 09.5**	**+2.5**
PCJI	**Pacitan**	**2.10**	**309**	P	**Pg**		**22 55 50.2**	**-0.8**
IGBI	**Denpasar**	**2.41**	**73**	P	**Pn**		**22 55 50.9**	**+1.5**
DNP	**Denpasar**	**2.52**	**70**	P	**Pn**		**22 55 52.3**	**+1.5**
WOJI	**Wonogiri, Jawa**	**2.52**	**312**	P	**Pb**		**22 55 55.4**	**-0.1**
WOJI				S	**Sb**		**22 56 26.9**	**+0.6**
NGJI	**Ngawi**	**2.54**	**328**	P	**Pb**		**22 55 55.8**	**0.0**
GRJI	**Gresik**	**2.63**	**353**	P	**Pb**		**22 55 56.5**	**-0.8**
SRBI	**Singaraja**	**2.77**	**59**	P	**Pn**		**22 55 56.2**	**+1.8**
UGM	**Wanagama**	**2.78**	**305**	P	**Pb**		**22 55 59.8**	**-0.2**
TWSI	**Taliwang, Sumb**	**4.09**	**79**	P	**Pn**		**22 56 13.6**	**+1.0**
WRA	**Warramunga Arr**	**23.21**	**119**	P	**P**		**23 00 17.0**	**-0.2**
	0.2nm,0.5s,baz=292,slow=11,SNR=5.4							
ASAR	**Alice Springs**	**24.56**	**127**	P	**P**		**23 00 29.8**	**-0.3**
	0.5nm,0.6s,baz=300,slow=8.8,SNR=7.0							
MKAR	**Makanchi Array**	**62.34**	**337**	P	**P**		**23 05 31.1**	**-1.3**
	0.1nm,0.5s,baz=143,slow=7.7,SNR=4.2							

*ISN **22** 22:57:25.7±1.5, 32.60N×46.95E, h36km±8km, ML3.0*

*CSEM **22** 22:57:27.0±0.6, 32.55N×46.69E, h20km, ML3.0, Error ellipse: s-maj=19.9km s-min=14.2km az=171.0*

TEH 22 22:57:25.8, 32.59N×46.96E, h14km, ML3.0, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
IKFM	**Kafar-mosalman**	**1.19**	**38**	*e*Pg		Pg	22 57 49.9	+1.2
IKFM				*e*AMB		AMB	22 58 13.2	
	comp=Z,99nm,0.2s							
SHGR	**Shooshtar-Gavs**	**1.63**	**107**	*e*Pg		Pg	22 57 57.4	+0.3
IKOM	**Komasi**	**1.64**	**16**	*e*Pn		Pg	22 57 57.3	-0.1
IKOM				*e*Sg		Sg	22 58 21.4	+2.7
IKOM				*e*AMB		AMB	22 58 23.4	
	comp=Z,3μm,0.3s							
NSR	**Nassriya**	**1.73**	**204**	*e*Pn		Pn	22 57 54.0	-1.4
	SNR=5.0							
NSR				*e*Sn		Sn	22 58 16.0	-1.2
	SNR=5.0							
IVIS	**Veis**	**1.93**	**357**	*e*Pn		Pb	22 58 01.0	+0.2
IVIS				*e*AMB		AMB	22 58 35.7	
	comp=Z,1μm,0.3s							
IDHR	**Dehrash**	**2.15**	**347**	*e*Pn		Pb	22 58 04.0	-0.7
IDHR				*e*AMB		AMB	22 58 45.6	
	comp=Z,937nm,0.2s							
ILIN	**Lien**	**2.32**	**0**	*e*AMB		AMB	22 58 50.0	
	comp=Z,495nm,0.2s							
ILIN				*e*Pn		Pb	22 58 07.3	-0.2
SNGE	**Sanandaj**	**2.51**	**7**	*e*Pn		Pb	22 58 10.9	+0.1
KHMZ	**Khomeyn**	**2.76**	**65**	*e*Pn		Pb	22 58 12.8	-2.3
KHMZ				*e*Sg		Sb	22 58 48.7	-0.2
ASAO	**Ashtian**	**3.22**	**52**	*e*Pn		Pn	22 58 19.1	+3.0
QAM	**Ghamsar**	**3.93**	**72**	*e*Pn		Pn	22 58 29.2	+3.3
QAM				*e*AMB		AMB	22 58 32.5	
	comp=Z,256nm,0.1s							
IKLH	**Kolahrood**	**3.95**	**78**	*e*Pn		Pn	22 58 29.3	+3.1
IKLH				*e*AMB		AMB	22 58 33.7	
	comp=Z,148nm,0.1s							
IZEF	**Zefreh**	**4.53**	**85**	*e*Pn		Pn	22 58 36.7	+2.4
IZEF				*e*AMB		AMB	22 58 38.8	
	comp=Z,122nm,0.1s							
RTB	**Rutbah**	**5.62**	**276**	*e*Pn		Pn	22 58 48.0	-1.0
	SNR=5.0							
RTB				*e*Sn		Sn	22 59 50.0	-3.3
	SNR=5.0							

*IDC **22** 23:01:49.8±1.6, 5.43S×128.13E, h0km, mb4.2/1, mb1 4.5/4, mb1mx3.7/63, mbtmp4.4/4, ML4.4/3, Error ellipse: s-maj=52.7km s-min=27.3km az=78.0*

*ISCJB **22** 23:02:05.6±0.5, 5.08S±0.04×129.92E±0.05, h200km, mb3.9/1, Error ellipse: s-maj=7.1km s-min=5.4km az=138.2*

*DJA **22** 23:02:07.0±0.5, 5.3S×13.0E±, h185km±8km, M4.5/8, mb4.5/2, mb4.6/3, MLv4.5/8, Mw(mB)3.7/2*

ISC 22 23:02:06.4±0.9, 5.07S±0.05×129.90E±0.05, h200km, n12, σ1§82/20, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MSAI	**Masohi**	**1.97**	**331**	P		**Pn**	**23 02 44.3**	**-0.3**
MSAI				S		**Sn**	**23 03 11.0**	**-3.4**
AAI	**Ambon**	**2.18**	**309**	S		**Sn**	**23 03 18.0**	**-0.4**
FAKI	**Fak Fak**	**3.18**	**48**	P		**Pn**	**23 02 58.0**	**-0.2**
FAKI				S		**Sn**	**23 03 38.6**	**-0.1**
SAUI	**Saumlaki**	**3.21**	**154**	P		**Pn**	**23 02 58.4**	**-0.2**
SAUI				S		**Sn**	**23 03 38.4**	**-1.1**
NLAI	**Namlea**	**3.33**	**303**	P		**Pn**	**23 03 00.2**	**+0.2**
NLAI				S		**Sn**	**23 03 43.7**	**+1.8**
KMPI	**Kaimana, Papua**	**4.05**	**70**	S		**Sn**	**23 03 57.2**	**-0.6**
SIJI	**Sorong**	**4.39**	**18**	Pn		**Pn**	**23 03 14.2**	**+1.0**
	33nm,0.3s,baz=218,slow=17,SNR=123							
SIJI				Sn		**Sn**	**23 04 03.0**	**-2.8**
	16nm,0.3s,baz=233,slow=20,SNR=20							
SANI	**Sanana**	**4.92**	**307**	P		**Pn**	**23 03 19.9**	**0.0**
SANI				S		**Sn**	**23 04 13.8**	**-3.9**
LBMI	**Labuha**	**5.01**	**331**	P		**Pn**	**23 03 22.3**	**+1.3**
	57nm,0.7s,999nm0.3nm							
LBMI				S		**Sn**	**23 04 18.5**	**-1.4**
	57nm,0.7s,999nm0.3nm							
WRA	**Warramunga Arr**	**15.40**	**164**	Pn		**Pn**	**23 05 31.3**	**-2.3**
	0.9nm,0.3s,baz=343,slow=12,SNR=39							
WRA				Sn		S	23 08 13.7	-11
	0.7nm,0.3s,baz=336,slow=23,SNR=9.0							
ASAR	**Alice Springs**	**18.89**	**169**	P		**P**	**23 06 13.2**	**+1.2**
	1.6nm,0.3s,baz=348,slow=11,SNR=92							
ASAR				S		**S**	**23 09 36.6**	**+0.5**
	0.1nm,0.3s,baz=351,slow=23,SNR=3.9							
MKAR	**Makanchi Array**	**66.57**	**326**	P		**P**	**23 12 37.4**	**+2.3**
	1.7nm,0.6s,baz=119,slow=7.8,SNR=10.0							

IDC 22 23:02:55.8±2.6, 5.92S×149.99E, h0km, mb3.5/2, mb1 3.9/3, mb1mx3.4/52, mbtmp3.7/3, ML1.7/1, Error ellipse: s-maj=136.6km s-min=32.4km az=120.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.46**	**219**	Pn		Pn	23 04 06.7	+2.0
	2.9nm,0.3s,baz=46,slow=11,SNR=4.5							
PMG				Sn		Sn	23 04 55.3	-2.0
	4.9nm,0.3s,baz=122,slow=18,SNR=4.0							
WRA	**Warramunga Arr**	**20.63**	**226**	P		P	23 07 37.3	+0.3
	3.2nm,0.7s,baz=52,slow=11,SNR=10							
ASAR	**Alice Springs**	**23.47**	**220**	P		P	23 08 06.0	-1.3
	0.5nm,0.5s,baz=52,slow=9.4,SNR=4.0							
GERES	**GERESS Array B**	**123.49**	**327**	PKP		PKPdf	23 21 54.7	-0.7
	0.3nm,0.5s,baz=80,slow=2.4,SNR=3.3							
TORD	**Torodi Ar. Bea**	**147.94**	**285**	PKPbc		PKPbc	23 22 44.1	-0.1
	0.5nm,0.4s,baz=68,slow=2.4,SNR=12							

*ISCJB **22** 23:04:58.1±0.3, 51.54N±0.02×16.11E±0.02, h0km, Error ellipse: s-maj=2.5km s-min=1.8km az=20.0*

*LDG **22** 23:04:58.2±0.3, 51.64N×16.24E, h1km, Ml3.2/7, Error ellipse: s-maj=8.4km s-min=3.2km az=15.0, Suspected Mining induced.*

*CSEM **22** 23:04:59.8±0.1, 51.54N×16.11E, h2km, ML3.6/18, Error ellipse: s-maj=2.9km s-min=2.3km az=30.0*

*IPEC **22** 23:04:59.9±0.4, 51.55N×16.15E, h0km, 2km, ML2.4/3, Error ellipse: s-maj=3.4km s-min=2.2km az=58.0*

*BGR **22** 23:05:01.6±0.3, 51.49N×16.10E, h1km, ML2.9/9, Error ellipse: s-maj=4.4km s-min=2.2km az=15.0*

*IDC **22** 23:05:01.6±0.9, 51.59N×15.88E, h0km, mb1 3.1/4, mb1mx2.9/68, mbtmp3.0/4, ML2.7/3, Error ellipse: s-maj=17.1km s-min=8.7km az=118.0*

*VIE **22** 23:05:03.6±0.7, 51.30N×15.98E, h0km, mb2.4/4, ML3.0/7, Error ellipse: s-maj=6.3km s-min=4.8km az=42.0, Suspected Mining induced.*

*UPP **22** 23:05:03.1±3.1, 51.65N×15.12E, h0km, ML2.1*

ISC 22 23:04:59.2±0.7, 51.56N±0.03×16.08E±0.02, h0km, n117, σ1§45/211, Poland

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.73**	**169**	*e*Pg		**Pb**	**23 05 14.2**	**-0.5**
KSP				*e*Sg		**Sg**	**23 05 23.2**	**+0.8**
KSP	**Ksiaz**	**0.73**	**169**	*e*Pg		**Pb**	**23 05 14.3**	**-0.4**
KSP				*e*Sg		**Sg**	**23 05 23.4**	**+0.9**
KSP	**Ksiaz**	**0.73**	**169**	Pg		**Pb**	**23 05 14.3**	**-0.4**
KSP				Sg		**Sg**	**23 05 23.4**	**+0.9**
UPC	**Upice**	**1.05**	**182**	*e*PG		**Pb**	**23 05 20.3**	**+0.1**
UPC				*e*SG		**Sg**	**23 05 33.8**	**+0.9**
	comp=Z,147nm,0.3s							
UPC	**Upice**	**1.05**	**182**	Pg		**Pb**	**23 05 20.3**	**+0.1**
UPC				Sg		**Sg**	**23 05 33.8**	**+0.9**
	147nm,0.3s							
DPC	**Dobruska-Polom**	**1.22**	**173**	*e*Pg		**Pb**	**23 05 23.1**	**0.0**
DPC				*e*Sg		**Sg**	**23 05 38.6**	**+0.4**
DPC	**Dobruska-Polom**	**1.22**	**173**	*e*PG		**Pb**	**23 05 23.0**	**0.0**
DPC				*e*SG		**Sg**	**23 05 38.5**	**+0.3**
	comp=Z,65nm,0.3s							
DPC	**Dobruska-Polom**	**1.22**	**173**	Pg		**Pb**	**23 05 23.1**	**0.0**
DPC				Sg		**Sg**	**23 05 38.6**	**+0.4**
PVCC	**Panska Ves**	**1.40**	**223**	*e*PG		**Pb**	**23 05 27.0**	**+0.8**
PVCC				*e*SG		**Sn**	**23 05 46.5**	**+1.3**
	comp=Z,185nm,0.2s							
PVCC	**Panska Ves**	**1.40**	**223**	Pg		**Pb**	**23 05 27.0**	**+0.8**
PVCC				Sg		**Sn**	**23 05 46.5**	**+1.3**
	185nm,0.2s							
BRG	**Berggiesshubel**	**1.51**	**244**	PN		**Pn**	**23 05 27.4**	**0.0**
BRG				PG		**Pg**	**23 05 29.2**	**+1.1**
BRG				SG		**Sn**	**23 05 49.6**	**+1.8**
	161nm,0.4s							
BRG	**Berggiesshubel**	**1.51**	**244**	*e*Pn		**Pg**	**23 05 28.6**	**+0.6**
BRG				*e*Pg		**Pg**	**23 05 28.8**	**+1.8**
BRG				*e*Sg		**Sn**	**23 05 50.1**	**+2.4**
BRG	**Berggiesshubel**	**1.51**	**244**	Pn		**Pg**	**23 05 28.6**	**+0.6**
KRLC	**Kraliky**	**1.55**	**163**	*e*PG		**Pn**	**23 05 28.4**	**+0.4**
KRLC				*e*SG		**Sn**	**23 05 49.0**	**+0.2**
	comp=Z,24nm,0.3s							
KRLC	**Kraliky**	**1.55**	**163**	Pg		**Pn**	**23 05 28.4**	**+0.4**
KRLC				Sg		**Sn**	**23 05 49.0**	**+0.2**
	24nm,0.3s							
PRA	**Prague**	**1.82**	**216**	*e*PN		**Pn**	**23 05 32.4**	**+0.7**
PRA				*e*SG		**Sg**	**23 05 58.1**	**+0.6**
	comp=Z,64nm,0.4s							
PRA	**Prague**	**1.82**	**216**	Pn		**Pn**	**23 05 32.4**	**+0.7**
PRA				Sg		**Sg**	**23 05 58.1**	**+0.6**
	64nm,0.4s							
FBE	**Freiberg**	**1.83**	**251**	*e*Pg		**Pg**	**23 05 35.1**	**+0.9**
FBE				*e*Sg		**Sg**	**23 05 59.5**	**+1.6**
FBE	**Freiberg**	**1.83**	**251**	Pg		**Pg**	**23 05 35.1**	**+0.9**
FBE				Sg		**Sg**	**23 05 59.5**	**+1.6**
GOPC	**GO Pecny, Ondr**	**1.84**	**207**	*e*PN		**Pn**	**23 05 32.8**	**+0.8**
GOPC				*e*PG		**Pg**	**23 05 34.6**	**+0.2**
GOPC				*e*SG		**Sg**	**23 05 58.3**	**+0.1**
	comp=Z,37nm,0.4s							
GOPC	**GO Pecny, Ondr**	**1.84**	**207**	Pn		**Pn**	**23 05 32.8**	**+0.8**
PRU	**Pruhonice**	**1.85**	**213**	*e*PN		**Pn**	**23 05 32.6**	**+0.5**
PRU				*e*PG		**Pg**	**23 05 34.7**	**+0.1**
PRU				*e*SG		**Sg**	**23 05 58.5**	**0.0**
	comp=Z,91nm,0.4s							
PRU	**Pruhonice**	**1.85**	**213**	Pn		**Pn**	**23 05 32.6**	**+0.5**
CLL	**Collm**	**1.94**	**264**	*e*Pn		**Pn**	**23 05 34.0**	**+0.6**
CLL				*e*Pg		**Pg**	**23 05 37.4**	**+1.0**
CLL				*e*Sg		**Sg**	**23 06 02.5**	**+0.9**
CLL	**Collm**	**1.94**	**264**	*e*Pn		**Pn**	**23 05 34.0**	**+0.6**
CLL				*e*Pg		**Pg**	**23 05 37.0**	**+0.6**
CLL				*e*			23 05 39.0	
CLL				*i*			23 05 41.1	
CLL				*i* Sg		**Sg**	**23 06 03.7**	**+2.2**
	comp=Z,36nm,0.5s							
CLL	**Collm**	**1.94**	**264**	Pn		**Pn**	**23 05 34.0**	**+0.6**
RAC	**Raciborz**	**1.99**	**137**	*e*Pg		**Pg**	**23 05 37.2**	**-0.1**
RAC				*e*Sg		**Sg**	**23 06 03.8**	**+0.7**
MORC	**Moravsky Berou**	**2.01**	**152**	*e*Pn		**Pn**	**23 05 34.6**	**+0.2**
MORC				*e*Pg		**Pg**	**23 05 38.0**	**+0.3**
MORC	**Moravsky Berou**	**2.01**	**152**	*e*Pn		**Pn**	**23 05 34.5**	**+0.1**
MORC	**Moravsky Berou**	**2.01**	**152**	Pg		**Pg**	**23 05 38.0**	**+0.3**
MORC				*e*Sg		**Sb**	**23 06 02.1**	**-0.1**
	comp=Z,32nm,0.3s							
OKC	**Ostrava-Krasne**	**2.17**	**142**	*e*Pn		**Pn**	**23 05 35.9**	**-0.5**
OKC				*e*Pg		**Pg**	**23 05 40.6**	**0.0**
OKC				*e*Sg		**Sb**	**23 06 07.8**	**+1.3**
OKC	**Ostrava-Krasne**	**2.17**	**142**	*e*PN		**Pn**	**23 05 36.1**	**-0.4**
OKC				*e*PG		**Pg**	**23 05 40.7**	**0.0**
OKC				*e*SG		**Sb**	**23 06 07.7**	**+1.1**
	comp=Z,37nm,0.3s							
OKC	**Ostrava-Krasne**	**2.17**	**142**	Pn		**Pn**	**23 05 35.9**	**-0.5**
VRAC	**Vranov**	**2.27**	**172**	*e*Pn		**Pn**	**23 05 38.7**	**+0.7**
VRAC				*e*Sg		**Sb**	**23 06 10.7**	**+1.0**
	comp=Z,20nm,0.2s							
TREC	**Trest**	**2.30**	**190**	*e*PN		**Pn**	**23 05 39.4**	**+1.1**
TREC				*e*PG		**Pg**	**23 05 43.1**	**0.0**
TREC				*e*SG		**Sg**	**23 06 12.5**	**-0.4**
	comp=Z,35nm,0.2s							
TREC	**Trest**	**2.30**	**190**	Pn		**Pn**	**23 05 39.4**	**+1.1**
KRUC	**Moravsky**	**2.50**	**175**	*e*Pn		**Pn**	**23 05 41.9**	**+0.8**
KRUC				*e*Sg		**Sb**	**23 06 18.1**	**+1.7**
	comp=Z,18nm,0.3s							
TANN	**Tannenbergstha**	**2.56**	**245**	*e*Pn		**Pn**	**23 05 43.7**	**+1.8**
TANN				*e*Pg		**Pg**	**23 05 49.9**	**+1.7**
TANN				*e*Sg		**Sg**	**23 06 22.6**	**+1.3**
TANN	**Tannenbergstha**	**2.56**	**245**	Pn		**Pn**	**23 05 43.7**	**+1.8**
WERD	**Werda**	**2.63**	**247**	*e*Pn		**Pn**	**23 05 44.3**	**+1.4**
WERD				*e*Pg		**Pg**	**23 05 51.4**	**+1.8**
WERD				*e*Sg		**Sg**	**23 06 25.7**	**+2.1**
WERD	**Werda**	**2.63**	**247**	Pn		**Pn**	**23 05 44.3**	**+1.4**
NKC	**Novy Kostel**	**2.65**	**241**	*e*PN		**Pn**	**23 05 44.7**	**+1.5**
NKC				*e*PG		**Pg**	**23 05 51.4**	**+1.4**
NKC				*e*SG		**Sg**	**23 06 26.7**	**+2.3**
	comp=Z,76nm,0.3s							
NKC	**Novy Kostel**	**2.65**	**241**	Pn		**Pn**	**23 05 44.7**	**+1.5**
OJC	**Ojcow**	**2.71**	**118**	*e*Pg		**Pg**	**23 05 51.0**	**0.0**
OJC				*e*Sg		**Sg**	**23 06 26.4**	**+0.3**
OJC	**Ojcow**	**2.71**	**118**	*e*Pg		**Pg**	**23 05 51.3**	**+0.2**
OJC				*e*Sg		**Sg**	**23 06 27.4**	**+1.3**
OJC	**Ojcow**	**2.71**	**118**	Pg		**Pg**	**23 05 51.3**	**+0.2**
OJC				Sg		**Sg**	**23 06 27.4**	**+1.3**
KHC	**Kasperske Hory**	**2.91**	**214**	*e*PN		**Pn**	**23 05 47.7**	**+1.0**
KHC				*e*PG		**Pb**	**23 05 53.3**	**+1.4**
KHC				*e*SN		**Sn**	**23 06 21.2**	**-1.2**
KHC				*e*SG		**Sg**	**23 06 31.9**	**-0.7**
	comp=Z,23nm,0.4s							
KHC	**Kasperske Hory**	**2.91**	**214**	Pn		**Pn**	**23 05 47.7**	**+1.0**
MOX	**Moxa**	**2.96**	**254**	*e*Pn		**Pn**	**23 05 48.3**	**+0.9**
MOX				*e*Pg		**Pg**	**23 05 56.6**	**+0.8**
MOX				*e*Sg		**Sg**	**23 06 34.7**	**+0.5**
MOX	**Moxa**	**2.96**	**254**	Pn		**Pn**	**23 05 48.3**	**+0.9**
MANZ	**Manzenberg**	**2.97**	**240**	*e*Pn		**Pn**	**23 05 48.8**	**+1.2**
MANZ				*e*Sg		**Sg**	**23 06 36.4**	**+1.8**
MANZ	**Manzenberg**	**2.97**	**240**	Pn		**Pn**	**23 05 48.8**	**+1.2**
MANZ				Sg		**Sg**	**23 06 36.4**	**+1.8**
ROTZ	**Rotzenmuhle**	**3.05**	**236**	*e*Pn		**Pn**	**23 05 50.0**	**+1.4**
ROTZ				*e*Sg		**Sg**	**23 06 36.5**	**-0.5**
ROTZ	**Rotzenmuhle**	**3.05**	**236**	Pn		**Pn**	**23 05 50.0**	**+1.4**
ROTZ				Sg		**Sg**	**23 06 36.5**	**-0.5**
GEC2	**GERESS Array S**	**3.12**	**210**	*e*Pn		**Pn**	**23 05 51.4**	**+1.8**
GEC2				*e*Sg		**Sg**	**23 06 38.0**	**-1.2**
GEC2	**GERESS Array S**	**3.12**	**210**	Pn		**Pn**	**23 05 51.4**	**+1.8**
GEC2				Sg		**Sg**	**23 06 38.0**	**-1.2**
GERES	**GERESS Array B**	**3.12**	**210**	Pn		**Pn**	**23 05 51.4**	**+1.8**
	comp=Z,1.1nm,0.3s,baz=32,slow=13,SNR=26							
GERES				Pg		**Pg**	**23 05 57.8**	**-1.1**
	comp=Z,2.0nm,0.3s,baz=25,slow=16,SNR=21							
GERES				Sn		**Sn**	**23 06 27.9**	**+0.4**
	comp=Z,2.0nm,0.3s,baz=20,slow=18,SNR=5.5							
GERES				Lg		Lg	23 06 35.9	
	comp=Z,7.5nm,0.3s,baz=33,slow=22,SNR=12							
SMOL	**Smolenice**	**3.17**	**164**	*e*Pg		**Pg**	**23 06 01.9**	**+2.1**
SMOL				*e*Sg		**Sg**	**23 06 41.0**	**+0.1**
SMOL	**Smolenice**	**3.17**	**164**	*e*PG		**Pg**	**23 06 01.9**	**+2.1**
SMOL				*e*SG		**Sg**	**23 06 41.0**	**+0.1**
WET	**Wettzell**	**3.17**	**222**	*e*Pn		**Pn**	**23 05 51.6**	**+1.3**
WET				*e*Sg		**Sg**	**23 06 40.2**	**-0.7**
WET	**Wettzell**	**3.17**	**222**	Pn		**Pn**	**23 05 51.6**	**+1.3**
WET				Sg		**Sg**	**23 06 40.2**	**-0.7**
LANS	**Liptovska Anna**	**3.24**	**137**	*e*Pg		**Pg**	**23 06 01.2**	**-0.1**
LANS				*e*Sg		**Sg**	**23 06 46.5**	**+3.3**
LANS	**Liptovska Anna**	**3.24**	**137**	*e*		**Pn**	**23 05 52.2**	**+0.9**
LANS	**Liptovska Anna**	**3.24**	**137**	*e*PG		**Pg**	**23 06 01.2**	**-0.1**
LANS				*e*SG		**Sg**	**23 06 46.5**	**+3.3**
MODS	**Modra-Piesok**	**3.28**	**166**	*e*Pg		**Pg**	**23 06 01.3**	**-0.7**
MODS				*e*Sg		**Sg**	**23 06 45.3**	**+0.9**
MODS	**Modra-Piesok**	**3.28**	**166**	*e*PG		**Pg**	**23 06 01.3**	**-0.7**
MODS				*e*SG		**Sg**	**23 06 45.3**	**+0.9**
MODS				*e*LG		Lg	23 06 52.8	
NIE	**Niedzica**	**3.44**	**127**	*e*P		**Pg**	**23 06 04.8**	**-0.2**
NIE				*e*S		**Sg**	**23 06 50.4**	**+0.7**
VYHS	**Vyhne**	**3.54**	**149**	*e*Pg		**Pg**	**23 06 06.9**	**-0.1**
VYHS				*e*Sg		**Sg**	**23 06 53.7**	**+0.8**
VYHS	**Vyhne**	**3.54**	**149**	*e*		**Pn**	**23 05 55.5**	**+0.1**
VYHS	**Vyhne**	**3.54**	**149**	*e*PG		**Pg**	**23 06 06.8**	**-0.2**
VYHS				*e*SG		**Sg**	**23 06 53.7**	**+0.8**
VYHS				*e*LG		Lg	23 07 13.2	
CLZ	**Clausthal**	**3.56**	**277**	*e*Pn		**Pn**	**23 05 57.8**	**+2.1**
CLZ				*e*Sg		**Sg**	**23 06 55.4**	**+1.8**
CLZ	**Clausthal**	**3.56**	**277**	Pn		**Pn**

comp=Z,5.3nm,0.5s
MEZF Maizieres J'vi 7.73 251 *e*Pn **Pn 23 06 50.3 -2.6**
MEZF *e*Sn **Sn 23 08 14.9 -6.2**
comp=Z,1.4nm,0.3s
AKASG Malin Array Be 8.31 91 Pn **Pn 23 07 01.4 +0.5**
comp=Z,0.7nm,0.3s,baz=281,slow=12,SNR=3.8
HFS Hagfors 8.70 352 Pn **Pn 23 07 05.2 -0.9**
baz=163,slow=13,SNR=2.3
FINES FINESS Array B 11.33 25 Pn **Pn 23 07 40.6 -1.5**
comp=Z,0.1nm,0.3s,baz=218,slow=12,SNR=3.7
ARCES ARCESS Array B 18.58 10 P **P 23 09 16.6 -0.8**
comp=Z,0.1nm,0.3s,baz=199,slow=13,SNR=4.8

BJI ***22*** *23:05:04.3, 7.36N×93.67E, h39km, mb4.6/35, mB4.8/25, Ms4.1/12, Ms7 3.9/12*
IDC ***22*** *23:05:07.8±2.1, 7.88N×93.98E, h24km±13km, mb4.4/46, mb1 4.4/47, mb1mx4.3/72, mbtmp4.5/47, ML4.0/1, MS3.5/20, Ms1 3.5/20, ms1mx3.3/60, Error ellipse: s-maj=12.2km s-min=8.7km az=46.0*
ISCJB ***22*** *23:05:07.8±0.6, 7.81N±0.03×93.90E±0.03, h40km±5km, mb4.6/105, MS3.6/23, Error ellipse: s-maj=6.1km s-min=3.1km az=146.6*
MOS ***22*** *23:05:08.3±0.9, 7.85N×93.91E, h44km, mb4.9/31, Error ellipse: s-maj=8.9km s-min=4.6km az=112.2*
NEIC ***22*** *23:05:10.2±0.5, 7.80N×93.95E, h46km±5km, mb4.8/29, Error ellipse: s-maj=5.9km s-min=3.6km az=55.0*
DJA ***22*** *23:05:12.8±1.4, 8°N±2′×9′4E±″, h21km±10km, M4.7/18, mb4.9/18, mB5.2/9, MLv4.8/8, Mw(mB)4.7/9*
ISC 22 23:05:10.1±0.7, 7.81N±0.04×93.89E±0.05, h41km±6km, n317,σ1°35/331, mb4.6/106, **MS3.5**/23, **28C-20D, Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LHMI	**Lhok Sumawe**	**3.97**	**130**	P	**Pn**	**23 06 08.2**	**-0.4**
LHMI	**Lhok Sumawe**	**3.97**	**130**	*e*Pn	**Pn**	**23 06 08.1**	**-0.5**
PBA	**Port Blair**	**3.98**	**344**	*e*P	Pn	23 06 07.9	-0.8
PBA				*e*S	Sn	23 06 53.1	-1.0
MLSI	**Meulaboh, Aceh**	**4.32**	**145**	P	**Pn**	**23 06 14.8**	**+1.5**
DGPR	**DIGLIPUR**	**5.42**	**350**	*e*P	**Pn**	**23 06 30.6**	**+2.3**
DGPR				*e*S	**Sn**	**23 07 28.3**	**-1.1**
TPTI		**5.58**	**144**	P	**Pn**	**23 06 30.4**	**-0.3**
	195nm,0.6s,3μm0.8nm						
TPTI				S	**Sn**	**23 07 32.2**	**-1.4**
	195nm,0.6s,3μm0.8nm						
TRTT	**Trang**	**5.74**	**89**	P	**Pn**	**23 06 30.8**	**-2.1**
	85nm,0.5s,1μm0.4nm						
SKLT	**Songkhla**	**6.70**	**95**	P	**Pn**	**23 06 46.8**	**+0.8**
	67nm,0.8s,1μm0.3nm						
PSI	**Prapat**	**7.06**	**135**	*e*Pn	**Pn**	**23 06 53.0**	**+1.9**
PSI	**Prapat**	**7.06**	**135**	*e*P	**Pn**	**23 06 53.0**	**+1.9**
KULM	**Kulim**	**7.16**	**110**	*e*Pn	**Pn**	**23 06 50.7**	**-1.7**
GSI	**Gunungsitoli**	**7.43**	**150**	P	**Pn**	**23 06 56.7**	**+0.6**
	41nm,0.8s,0.2nm						
GSI	**Gunungsitoli**	**7.43**	**150**	*e*Pn	**Pn**	**23 06 53.1**	**-3.0**
PHET	**Kaeng Krachan**	**7.58**	**48**	P	**Pn**	**23 06 58.3**	**+0.2**
	21nm,0.9s,314nm0.1nm						
IPM	**Ipoh**	**7.83**	**115**	*e*Pn	**Pn**	**23 06 58.8**	**-2.7**
SRDT	**SRDT**	**8.28**	**38**	P	Pn	23 07 14.9	+7.2
MNSI	**Mandailing Nat**	**8.98**	**141**	P	**Pn**	**23 07 16.6**	**-0.8**
	37nm,0.7s,1μm						
SISI	**Saibi**	**10.45**	**150**	P	**Pn**	**23 07 38.6**	**+1.1**
PBKT	**Sadao Pong**	**11.11**	**38**	P	**Pn**	**23 07 46.6**	**+0.1**
	24nm,0.6s						
PHIT	**Phitsanulok**	**11.28**	**34**	P	**Pn**	**23 07 50.6**	**+1.7**
	15nm,0.7s,247nm						
MYKOM	**Kota Tinggi**	**11.58**	**121**	*e*Pn	**Pn**	**23 07 52.8**	**-0.2**
CM01	**Chiang Mai Arr**	**11.64**	**25**	*e*Pn	**Pn**	**23 07 54.2**	**+0.5**
CM31	**Chiang Mai Arr**	**11.66**	**24**	*e*Pn	**Pn**	**23 07 55.3**	**+1.2**
CMAR	**Chiang Mai Arr**	**11.66**	**24**	Pn	**Pn**	**23 07 54.7**	**+0.6**
	0.9nm,0.3s,baz=212,slow=14,SNR=30						
CHTO	**Chiang Mai**	**11.99**	**24**	P	**Pn**	**23 08 01.1**	**+2.6**
	46nm,1.0s						
CHTO	**Chiang Mai**	**11.99**	**24**	*e*Pn	**Pn**	**23 07 59.1**	**+0.6**
CHTO	**Chiang Mai**	**11.99**	**24**	*e*P	**Pn**	**23 07 59.1**	**+0.6**
CMMT	**Chiang Mai**	**11.99**	**24**	P	**Pn**	**23 08 00.0**	**+1.5**
	11nm,0.8s						
PAYA	**Payao**	**12.86**	**26**	P	**P**	**23 08 16.8**	**-3.6**
	5.3nm,0.5s,122nm						
PALK	**Pallekele**	**13.09**	**269**	Pn	**Pn**	**23 08 15.0**	**+1.4**
	0.7nm,0.3s,baz=117,slow=13,SNR=4.4						
PALK				Sn	Sn	23 10 27.1	-11
	2.9nm,0.3s,baz=116,slow=11,SNR=6.9						
PALK				LR	LR	23 13 05.2	
	comp=Z,434nm,18.9s,baz=116,slow=36						
PALK	**Pallekele**	**13.09**	**269**	P	**Pn**	**23 08 15.0**	**+1.4**
DSRI	**Dabo**	**13.47**	**127**	P	**Pn**	**23 08 18.8**	**+0.1**
UBPT	**Khong Chiam**	**13.55**	**56**	P	**P**	**23 08 30.2**	**+2.2**
VIS	**Vishakhapatnam**	**14.24**	**315**	*e*P	**Pn**	**23 08 27.9**	**-1.4**
VIS				IAmb	IAmb	23 08 32.2	
	comp=Z,37nm,0.8s						
VIS				*ex*	x	23 10 55.4	
VIS				IAML		23 11 02.4	
	comp=E,16nm,0.0s						
VIS				IAML		23 11 02.9	
	comp=N,16nm,0.4s						
MDRS	**Chennai**	**14.40**	**292**	*e*P	**Pn**	**23 08 32.5**	**+1.1**
MDRS				IAmb	IAmb	23 08 34.5	
	comp=Z,130nm,0.1s						
MDRS				*ex*	x	23 10 56.8	
MNAI	**Manna**	**15.10**	**143**	*e*Pn	**P**	**23 08 43.4**	**-1.9**
	comp=Z,150nm,0.5s						
MDSI	**Maura Dua**	**15.95**	**140**	P	**Pn**	**23 08 48.7**	**-3.1**
LWLI	**Liwa**	**16.29**	**141**	P	**P**	**23 08 57.8**	**-0.8**
	comp=Z,81nm,0.6s,comp=Z,15μm						
BOK	**Bokaro**	**17.65**	**335**	*e*P	**Pn**	**23 09 13.0**	**0.0**
BOK				IAmb	IAmb	23 09 22.3	
HYB	**Hyderabad**	**17.74**	**304**	*i* P	P	23 09 23.0	+8.4
HYB				*e*S	**Sn**	**23 12 26.0**	**-5.1**
HYB	**Hyderabad**	**17.74**	**304**	*e*P	**P**	**23 09 14.9**	**+0.2**
HYB				IAmb	IAmb	23 09 21.8	
SHL	**Shillong**	**17.76**	**354**	*e*P	**Pn**	**23 09 12.3**	**-2.1**
SHL				IAmb	IAmb	23 09 15.6	
	comp=Z,65nm,1.8s						
SHL	**Shillong**	**17.76**	**354**	P	**Pn**	**23 09 12.5**	**-2.0**
QIZ	**Qiongzhong**	**19.08**	**53**	P	**Pn**	**23 09 31.4**	**+0.9**
QIZ				S	**S**	**23 13 03.8**	**0.0**
QIZ				pmax	pmax		
	comp=Z,15nm,1.3s						
QIZ				LR	LR		
	comp=Z,560nm,12.8s						
QIZ				LR	LR		
	comp=Z,160nm,11.3s						
QIZ				LR	LR		
	comp=Z,270nm,11.0s						
STKI	**Sintang**	**19.14**	**113**	P	**Pn**	**23 09 34.0**	**+2.8**
KMI	**Kunming**	**19.18**	**25**	P	**Pn**	**23 09 33.5**	**+1.8**
KMI				pmax	pmax		
	comp=Z,5.0nm,0.6s						
KMI				pmax	pmax		
	comp=Z,79nm,4.5s						
KMI				LR	LR		
	comp=Z,230nm,15.6s						
KMI				LR	LR		
	comp=Z,250nm,17.1s						
KMI				LR	LR		
	comp=Z,220nm,12.9s						
ODAN	**Odare**	**19.93**	**343**	*e*P	**Pn**	**23 09 40.3**	**-0.3**
	comp=Z,17nm,0.5s						
LEM	**Lembang**	**19.97**	**136**	LR	LR	23 18 37.3	
	comp=Z,167nm,18.4s,baz=277,slow=41						
RAMN	**Ramite**	**20.25**	**341**	*e*P	Pn	23 09 43.7	-0.8
	comp=Z,79nm,0.6s						
JIRN	**Jiri**	**21.05**	**341**	*e*P	**P**	**23 09 51.4**	**+0.4**
	comp=Z,38nm,0.5s						
GOA	**Goa**	**21.07**	**293**	*e*P	**P**	**23 09 50.3**	**-0.7**
PKIN	**Phulchoki**	**21.24**	**339**	*e*P	**P**	**23 09 53.5**	**+0.5**
	comp=Z,32nm,0.5s						
DMN	**Daman**	**21.38**	**338**	*e*P	**P**	**23 09 55.5**	**+1.1**
	comp=Z,55nm,0.7s						
GUN	**Gumba**	**21.38**	**340**	*e*P	**P**	**23 09 54.5**	**-0.1**
	comp=Z,62nm,0.7s						
KKN	**Kakani**	**21.48**	**339**	*e*P	**P**	**23 09 55.8**	**+0.3**
	comp=Z,41nm,0.8s						
GKN	**Gorkha**	**21.91**	**338**	*e*P	**P**	**23 09 59.9**	**-0.1**
LSA	**Lhasa**	**21.93**	**354**	P	**P**	**23 09 59.8**	**-0.7**
LSA				pmax	pmax		
	comp=Z,37nm,0.8s						
BHPL	**Bhopal**	**22.03**	**316**	*e*P	**P**	**23 10 01.4**	**+0.1**
BHPL				IAmb	IAmb	23 10 02.9	
	comp=Z,48nm,1.2s						
SMRI	**Semarang**	**22.14**	**131**	P	**P**	**23 10 04.4**	**+1.9**
	comp=Z,123nm,0.8s						
SMRI	**Semarang**	**22.14**	**131**	*e*P	**P**	**23 10 02.8**	**+0.3**
	comp=Z,69nm,0.6s						
DANN	**Dangsing**	**22.56**	**336**	*e*P	**P**	**23 10 06.7**	**-0.5**
PYUN	**Piuthan**	**22.66**	**334**	*e*P	**P**	**23 10 08.5**	**+0.3**
	comp=Z,52nm,0.8s						
NGJI	**Ngawi**	**23.11**	**130**	P	P	23 10 24.5	+12
MYLDM	**Lahad Datu**	**24.59**	**95**	*e*P	**P**	**23 10 28.8**	**+2.3**
	comp=Z,68nm,1.3s						
BLJI	**Banyuglugur**	**24.99**	**128**	P	**P**	**23 10 31.2**	**+1.0**
	comp=Z,53nm,0.7s						
H08S3	**Diego Garcia H**	**26.29**	**235**	T	T	23 37 26.8	
	baz=54,slow=75,SNR=168						
H08S2	**Diego Garcia H**	**26.29**	**235**	T	T	23 37 27.9	
	baz=54,slow=75,SNR=241						
H08S1	**Diego Garcia H**	**26.30**	**235**	T	T	23 37 26.8	
	baz=54,slow=75,SNR=196						
SMLA	**Simla**	**27.97**	**328**	*e*P	**P**	**23 10 56.8**	**-0.1**
SMLA				IAmb	IAmb	23 11 00.0	
DHRM	**DHARAMSHALA**	**29.31**	**328**	*e*P	**P**	**23 11 08.3**	**-0.7**
LZH	**Lanzhou**	**29.58**	**16**	*e*P	**P**	**23 11 12.0**	**+0.7**
LZH				pP	pP	23 11 23.0	+0.4
LZH				sP	sP	23 11 28.1	+0.5
LZH				*e*PP	**PnPn**	**23 12 10.3**	**+3.0**
LZH				pmax	pmax		
	comp=Z,24nm,1.0s						
LZH				pmax	pmax		
	comp=Z,87nm,5.3s						
LZH				LR	LR		
	comp=Z,370nm,13.0s						
LZH				LR	LR		
	comp=Z,370nm,13.2s						
LZH				LR	LR		
	comp=Z,430nm,16.7s						
LUWI	**Luwuk**	**30.11**	**106**	P	**P**	**23 11 19.5**	**+3.4**
	comp=Z,35nm,0.9s,comp=Z,2μm						
LUWI	**Luwuk**	**30.11**	**106**	*e*P	**P**	**23 11 17.5**	**+1.4**
	comp=Z,38nm,1.1s						
GTA	**Gaotai**	**31.91**	**9**	⇑P	**P**	**23 11 35.0**	**+3.2**
GTA				pP	pP	23 11 45.0	+1.8
GTA				sP	sP	23 11 49.4	+1.3
GTA				S	**S**	**23 16 44.1**	**+3.9**
GTA				sS	sS	23 16 59.6	+0.5
GTA				pmax	pmax		
	comp=Z,6.0nm,1.2s						
GTA				pmax	pmax		
	comp=Z,53nm,6.4s						
GTA				LR	LR		
	comp=Z,120nm,15.4s						
GTA				LR	LR		
	comp=Z,150nm,15.7s						
GTA				LR	LR		
	comp=Z,90nm,15.7s						
NIL	**Nilore**	**32.01**	**326**	*e*P	**P**	**23 11 32.6**	**-0.1**
NIL	**Nilore**	**32.01**	**326**	*e*P	**P**	**23 11 32.6**	**-0.1**
NJ2	**Nanjing**	**33.48**	**41**	*e*P	**P**	**23 11 46.4**	**+0.9**
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.5s						
BATI	**Baumata**	**34.63**	**121**	LR	LR	23 27 36.2	
	comp=Z,146nm,18.3s,baz=299,slow=39						
BATI	**Baumata**	**34.63**	**121**	P	P	23 12 06.0	+10
KBL	**Kabul**	**35.07**	**323**	*e*P	**P**	**23 11 59.1**	**-0.5**
	comp=Z,13nm,1.6s						
KBL	**Kabul**	**35.07**	**323**	*e*P	**P**	**23 11 59.1**	**-0.5**
KBL				pmax	pmax		
	comp=Z,13nm,1.6s						
KSH	**Kashi**	**35.43**	**336**	P	**P**	**23 12 00.4**	**-2.1**
WMQ	**Urumqi**	**36.28**	**352**	P	**P**	**23 12 10.6**	**+1.0**
WMQ				sP	sP	23 12 26.3	+0.3
WMQ				pmax	pmax		
	comp=Z,27nm,0.9s						
WMQ				pmax	pmax		
	comp=Z,59nm,3.6s						
WMQ				LR	LR		
	comp=Z,100nm,24.9s						
WMQ				LR	LR		
	comp=Z,250nm,24.9s						
WMQ				LR	LR		
	comp=Z,120nm,19.1s						
HHC	**Hu-ho-hao-te**	**36.47**	**23**	*e*P	**P**	**23 12 13.9**	**+2.6**
HHC				pP	pP	23 12 19.1	-3.7
HHC				sS	sS	23 18 16.3	+6.7
HHC				pmax	pmax		
	comp=Z,31nm,1.0s						
HHC				pmax	pmax		
	comp=Z,79nm,5.7s						
HHC				LR	LR		
	comp=Z,670nm,13.3s						
HHC				LR	LR		
	comp=Z,760nm,13.7s						
HHC				LR	LR		
	comp=Z,700nm,14.5s						
SFK	**Sufi-Kurgan**	**36.89**	**334**	P	**P**	**23 12 15.2**	**+0.1**
SFK				pmax	pmax		
	comp=Z,9.0nm,0.9s						
WSAR	**Wadi Sarin**	**37.14**	**298**	LR	LR	23 26 31.2	
	comp=Z,69nm,21.3s,baz=150,slow=34						
JOW	**Kunigami**	**37.69**	**56**	LR	LR	23 27 15.7	
	comp=Z,46nm,22.0s,baz=167,slow=35						
SIJI	**Sorong**	**38.25**	**101**	P	**P**	**23 12 27.0**	**+0.3**
	comp=Z,14nm,0.7s,baz=304,slow=12,SNR=6.5						
AAK	**Ala-Archa**	**38.67**	**337**	P	**P**	**23 12 29.7**	**-0.3**
	comp=Z,2.3nm,0.7s,baz=132,slow=7.7,SNR=9.5						
AAK				PcP	**PcP**	**23 14 42.7**	**+1.2**
	comp=Z,3.5nm,0.7s,baz=119,slow=4.0,SNR=5.2						
AAK				ScP	**ScP**	**23 18 28.3**	**+1.8**
	comp=Z,2.5nm,0.9s,baz=198,slow=9.6,SNR=6.4						
AAK	**Ala-Archa**	**38.67**	**337**	*e*P	**P**	**23 12 29.4**	**-0.5**
	comp=Z,3.4nm,0.7s						
AAK				PcP	**PcP**	**23 14 42.7**	**+1.2**
AAK				*e*S	**S**	**23 18 28.6**	**+4.6**
MNAS	**Manas**	**39.35**	**335**	P	**P**	**23 12 36.0**	**+0.3**
MK01	**Makanchi Array**	**40.07**	**348**	*e*P	**P**	**23 12 40.1**	**-1.3**
MK31	**Makanchi Array**	**40.09**	**348**	*e*P	**P**	**23 12 40.9**	**-0.7**
MK31	**Makanchi Array**	**40.09**	**348**	*e*P	**P**	**23 12 40.9**	**-0.7**
MKAR	**Makanchi Array**	**40.09**	**348**	P	**P**	**23 12 40.8**	**-0.8**
	comp=Z,2.1nm,0.7s,baz=173,slow=7.7,SNR=6.8						
MKAR				PcP	**PcP**	**23 14 45.9**	**+0.1**
	comp=Z,0.7nm,0.6s,baz=167,slow=2.2,SNR=3.7						
MKAR				ScP	**ScP**	**23 18 33.8**	**+2.1**
	comp=Z,0.8nm,0.9s,baz=119,slow=6.3,SNR=4.6						
MKAR				LR	LR	23 31 29.4	
	comp=Z,45nm,18.3s,baz=154,slow=40						
MKAR	**Makanchi Array**	**40.09**	**348**	*e*P	**P**	**23 12 40.9**	**-0.8**
	comp=Z,19nm,0.8s						
MKAR				PcP	**PcP**	**23 14 45.9**	**+0.1**
MKAR				ScP	**ScP**	**23 18 33.8**	**+2.1**
MKAR	**Makanchi Array**	**40.09**	**348**	*e*P	**P**	**23 12 40.9**	**-0.8**
MKAR						23 14 45.9	
MKAR				pmax	pmax		
	comp=Z,19nm,0.8s						
MAKZ	**Makanchi**	**40.18**	**347**	*e*P	**P**	**23 12 41.8**	**-0.5**
	comp=Z,3.5nm,0.8s						
MAKZ	**Makanchi**	**40.18**	**347**	*e*P	**P**	**23 12 41.8**	**-0.5**
MAKZ				pmax	pmax		
	comp=Z,4.0nm,0.8s						
KK31	**Karatay Array**	**40.71**	**334**	*e*P	**P**	**23 12 47.0**	**+0.3**
KK31	**Karatay Array**	**40.71**	**334**	*e*P	**P**	**23 12 47.1**	**+0.3**
KKAR	**Karatay Array**	**40.71**	**334**	*e*P	**P**	**23 12 47.0**	**+0.3**
SONM	**Songino Array**	**41.28**	**13**	P	**P**	**23 12 51.2**	**-0.3**
	comp=Z,4.2nm,0.6s,baz=195,slow=8.7,SNR=15						
SONA1	**Songino Array**	**41.29**	**13**	*e*P	**P**	**23 12 51.0**	**-0.7**
ULN	**Ulaanbaatar**	**41.45**	**13**	*e*P	**P**	**23 12 51.6**	**-1.4**
	comp=Z,3.9nm,0.7s						
ULN	**Ulaanbaatar**	**41.45**	**13**	*d i* P	**P**	**23 12 52.1**	**-0.9**
ULN				pmax	pmax		
	comp=Z,4.0nm,0.8s						
TJN	**Taejon**	**41.69**	**42**	‖*e*P	**P**	**23 12 52.9**	**-2.0**
MEEK	**Meekatharra**	**41.81**	**146**	P	**P**	**23 12 55.5**	**-0.5**
	baz=42,SNR=8.2						
DGZ	**Jazzator, Alta**	**42.10**	**354**	*i* P	**P**	**23 12 57.8**	**-0.4**
DGZ				pmax	pmax		
	comp=Z,1.0nm,0.8s						
MTN	**Manton Dam**	**42.31**	**119**	P	**P**	**23 12 58.2**	**-2.0**
	baz=42,SNR=3.3						
MORW	**Morawa**	**42.43**	**151**	P	**P**	**23 13 01.4**	**+0.5**
	baz=42,SNR=4.4						
JNU	**Nakatsue**	**42.47**	**48**	LR	LR	23 32 31.8	
	comp=Z,56nm,18.1s,baz=233,slow=39						
KSRS	**Korea Array**	**42.67**	**41**	LR	LR	23 31 43.1	
	comp=Z,26nm,21.7s,baz=260,slow=38						
HVS	**Khovu-Aksy**	**43.19**	**360**	‖*e*P	**P**	**23 13 07.1**	**+0.1**
HVS				pmax	pmax		
	comp=Z,20nm,0.9s						
BLDU	**Ballidu**	**44.03**	**151**	P	**P**	**23 13 13.9**	**0.0**
	baz=44,SNR=6.0						
GEYT	**Alibeck**	**44.08**	**318**	P	**P**	**23 13 15.3**	**+1.0**
	comp=Z,5.3nm,0.6s,baz=142,slow=8.3,SNR=19						
GYA0B	**ALIBECK ARRAY**	**44.08**	**318**	*e*P	**P**	**23 13 15.4**	**+1.1**
	comp=Z,14nm,0.6s						
OTUK	**Ortayu**	**44.24**	**339**	P	**P**	**23 13 15.3**	**-0.1**
TLY	**Talaya**	**44.47**	**9**	*e*P	**P**	**23 13 16.9**	**-0.2**
TLY				pmax	pmax		
	comp=Z,5.0nm,1.2s						
KURBB	**Kurchatov Arra**	**44.55**	**346**	P	**P**	**23 13 17.1**	**-0.7**
	comp=Z,3.0nm,0.9s,baz=164,slow=7.0,SNR=15						
KURBB				PcP	**PcP**	**23 15 00.7**	**+0.3**
	comp=Z,2.7nm,0.8s,baz=159,slow=2.7,SNR=8.8						
KURBB				ScP	**ScP**	**23 18 49.8**	**+0.4**
	comp=Z,2.1nm,0.8s,baz=161,slow=3.3,SNR=9.7						
KURK	**Kurchatov**	**44.61**	**346**	*e*P	**P**	**23 13 17.9**	**-0.4**
	comp=Z,34nm,0.9s						
KURK				PcP	**PcP**	**23 15 00.7**	**+0.1**
KURK				ScP	**ScP**	**23 18 49.8**	**+0.1**
KURK	**Kurchatov**	**44.61**	**346**	*e*P	**P**	**23 13 17.9**	**-0.4**
KURK						23 15 00.7	
KURK				pmax	pmax		
	comp=Z,34nm,0.9s						
MUN	**Mundaring**	**44.94**	**153**	P	**P**	**23 13 21.3**	**+0.1**
	baz=45,SNR=5.3						
KLBR	**Kellerberrin**	**45.34**	**151**	P	**P**	**23 13 24.3**	**-0.1**
	baz=45,SNR=22						
NWAO	**Narrogin (SRO)**	**46.20**	**153**	P	**P**	**23 13 30.9**	**-0.3**
	comp=Z,14nm,0.5s,baz=190,slow=6.7,SNR=26						
NWAO	**Narrogin (SRO)**	**46.20**	**153**	P	**P**	**23 13 31.1**	**-0.1**
	baz=46,SNR=13						
NWAO				P	**P**	**23 13 31.1**	**-0.1**
	baz=46,SNR=13						
NWAO	**Narrogin (SRO)**	**46.20**	**153**	*e*P	**P**	**23 13 31.6**	**+0.5**
	comp=Z,18nm,0.6s						
NWAO	**Narrogin (SRO)**	**46.20**	**153**	*e*P	**P**	**23 13 31.6**	**+0.5**
NWAO				pmax	pmax		
	comp=Z,18nm,0.6s						
ZAA0	**Zalesovo Array**	**46.59**	**353**	*e*P	**P**	**23 13 33.5**	**-0.3**
	comp=Z,19nm,1.0s						
ZALV	**Zalesovo Beam**	**46.59**	**353**	P	**P**	**23 13 33.5**	**-0.3**
	comp=Z,12nm,0.4s,baz=175,slow=8.0,SNR=71						
ZALV				ScP	**ScP**	**23 18 58.4**	**+0.6**
	comp=Z,0.6nm,0.3s,baz=146,slow=0.5,SNR=2.8						
ZALV				LR	LR	23 37 40.1	
	comp=Z,50nm,18.5s,baz=240,slow=42						
HIA	**Hailar**	**46.67**	**23**	*d i* P	**P**	**23 13 34.8**	**+0.1**
HIA				pmax	pmax		
	comp=Z,11nm,0.8s						
WRKA	**Warakurna**	**46.78**	**135**	P	**P**	**23 13 34.7**	**-1.1**
	baz=47,SNR=25						
KMBL	**Kambalda**	**47.27**	**147**	P	**P**	**23 13 39.6**	**+0.1**
	baz=47,SNR=8.8						
NVS	**Novosibirsk**	**47.67**	**352**	*i* P	**P**	**23 13 41.4**	**-0.8**
WRA	**Warramunga Arr**	**48.42**	**125**	P	**P**	**23 13 46.9**	**-1.8**
	comp=Z,3.2nm,0.3s,baz=300,slow=9.8,SNR=155						
WRA				PcP	**PcP**	**23 15 14.2**	**-0.5**
	comp=Z,2.4nm,0.5s,baz=310,slow=3.0,SNR=9.7						
WRAB	**Tennant Creek**	**48.43**	**125**	*e*P	**P**	**23 13 47.2**	**-1.5**
	comp=Z,12nm,0.6s						
WRAB	**Tennant Creek**	**48.43**	**125**	*e*P	**P**	**23 13 47.2**	**-1.5**
WRAB				pmax	pmax		
	comp=Z,12nm,0.6s						
WB2	**Warramunga Arr**	**48.43**	**125**	*e*P	**P**	**23 13 47.1**	**-1.6**
WB2				*e*PcP	**PcP**	**23 15 14.2**	**-0.5**
RAYN	**Ar Rayn**	**48.89**	**294**	*e*P	**P**	**23 13 53.6**	**+1.3**
	comp=Z,6.2nm,0.6s						
BVAR	**Borovoye Array**	**48.97**	**341**	P	**P**	**23 13 51.5**	**-0.9**
	comp=Z,1.0nm,0.7s,baz=155,slow=4.4,SNR=3.6						
BVAR				PcP	**PcP**	**23 15 16.1**	**+0.1**
	comp=Z,1.6nm,0.6s,baz=145,slow=5.3,SNR=5.2						
BVAR				ScP	**ScP**	**23 19 09.2**	**+1.3**
	comp=Z,1.2nm,0.7s,baz=144,slow=5.5,SNR=6.7						
BRVK	**Borovoye**	**49.03**	**341**	*ce*P	**P**	**23 13 53.7**	**+0.9**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.9s						
MJAR	**Matsushiro Arr**	**49.38**	**48**	PcP	**PcP**	**23 15 17.8**	**0.0**
	comp=Z,3.5nm,0.7s,baz=248,slow=5.6,SNR=8.2						
ASAR	**Alice Springs**	**50.06**	**130**	P	**P**	**23 13 59.5**	**-1.7**
	comp=Z,8.9nm,0.6s,baz=302,slow=7.5,SNR=90						
ASAR				PcP	**PcP**	**23 15 20.3**	**-0.3**
	comp=Z,4.3nm,0.6s,baz=307,slow=3.6,SNR=13						
AS31	**Alice Springs**	**50.06**	**130**	*e*P	**P**	**23 13 59.7**	**-1.5**
	comp=Z,3.3nm,0.5s						
AS01	**Alice Springs**	**50.10**	**130**	*e*P	**P**	**23 13 59.4**	**-2.0**
AS01				*e*PcP	**PcP**	**23 15 20.3**	**-0.4**
ABKAR	**Akbulak array**	**50.17**	**332**	*e*P	**P**	**23 14 01.4**	**-0.1**
	comp=Z,2.1nm,0.4s						
ATD	**Arta Tunnel**	**50.41**	**278**	LR	LR	23 33 36.0	
	comp=Z,44nm,18.6s,baz=144,slow=34						
FORT	**Forrest**	**50.44**	**141**	P	**P**	**23 14 03.9**	**0.0**
	baz=50,SNR=8.9						
FORT	**Forrest**	**50.44**	**141**	*e*P	**P**	**23 14 03.6**	**-0.3**
	comp=Z,587nm,1.0s						
AKTO	**Aktyubinsk**	**51.88**	**332**	P	**P**	**23 14 13.9**	**-0.5**
	comp=Z,1.6nm,0.4s,baz=120,slow=8.1,SNR=7.4						
AKTO				PcP	**PcP**	**23 15 26.6**	**-0.1**
	comp=Z,4.1nm,0.7s,baz=130,slow=2.9,SNR=5.5						
AKTO				LR	LR	23 38 03.4	
	comp=Z,25nm,18.0s,baz=141,slow=38						
KLR	**Kul'dur**	**52.06**	**31**	P	**P**	**23 14 16.1**	**+0.3**
	comp=Z,2.0nm,0.7s,baz=233,slow=5.8,SNR=6.1						
KLR	**Kul'dur**	**52.06**	**31**	⇑*e*P	**P**	**

baz=60,SNR=18
YAK Yakutsk 60.13 19 *e*P P 23 15 11.6 -1.5
YAK pmax pmax
comp=Z,15nm,0.8s
YAK pmax pmax
comp=N,5.0nm,1.1s
YAK pmax pmax
comp=E,4.0nm,1.3s
STKA Stephens Creek 60.24 134 P P 23 15 13.2 -1.3
comp=E,3.9nm,0.5s,baz=324,slow=5.6,SNR=9.9
STKA LR LR 23 46 07.5
comp=E,54nm,18.1s,baz=210,slow=41
STKA Stephens Creek 60.24 134 P P 23 15 13.5 -0.9
baz=60,SNR=7.8
STKA Stephens Creek 60.24 134 *e*P P 23 15 13.6 -0.9
comp=E,9.2nm,1.8s
STKA Stephens Creek 60.24 134 *e*P P 23 15 13.6 -0.9
STKA pmax pmax
comp=Z,9.0nm,1.8s
VRH Novokhopyorsk 60.84 325 *e*P P 23 15 21.7 +3.5
VRH pmax pmax
comp=Z,6.0nm,0.6s
BR131 Keskin Array S 62.28 311 *e*P P 23 15 27.0 -1.4
BRTR Keskin Array B 62.28 311 P P 23 15 26.6 -1.7
BRTR LR LR 23 45 42.6
comp=Z,20nm,18.6s,baz=126,slow=39
VSR Storozhevoye 62.30 325 *e*P P 23 15 25.8 -2.2
VSR pmax pmax
comp=Z,4.0nm,0.7s
CMSA Cobar Meteorol 63.07 131 P P 23 15 33.1 -0.4
baz=63,SNR=14
ISP Isparta 64.27 308⇑ *e*P P 23 15 41.5 0.0
ISP pmax pmax
comp=Z,2.0nm,0.9s
OBN Obninsk 65.30 328 *ce*P P 23 15 46.7 -1.0
OBN pmax pmax
comp=Z,5.0nm,0.8s
OBN MLR MLR
comp=Z,47nm,22.0s
TOO Toolangi 65.98 137 P P 23 15 53.2 +0.7
KLMR Klimovskoe 66.40 334 *e*P P 23 15 52.6 -2.1
KLMR AMP 23 15 58.3
comp=Z,11nm,1.4s
KLMR Klimovskoe 66.40 334 *e*P P 23 15 52.6 -2.1
KLMR pmax pmax
comp=Z,11nm,1.4s
MA2 Magadan 66.93 28 P P 23 15 57.6 -0.5
comp=Z,15nm,0.7s,baz=223,slow=6.4,SNR=12
MA2 Magadan 66.93 28 *e*P P 23 15 58.1 0.0
comp=Z,68nm,0.8s
MA2 Magadan 66.93 28 *e*P P 23 15 57.9 -0.2
MA2 pmax pmax
comp=Z,19nm,0.8s
ARMA Armidale 67.11 128 P P 23 16 00.7 +0.8
baz=67,SNR=6.3
CAN Canberra 67.31 133 *e*P P 23 15 60.0 -1.0
comp=Z,17nm,0.8s
CAN Canberra 67.31 133 P P 23 16 00.9 -0.1
TIXI Tiksi 67.34 11 P P 23 15 59.3 -1.2
comp=Z,12nm,0.3s,baz=207,slow=4.6,SNR=34
TIXI Tiksi 67.34 11 *e*P P 23 15 58.6 -1.8
comp=Z,16nm,0.4s
TIXI Tiksi 67.34 11 *d i*P P 23 15 59.3 -1.2
TIXI pmax pmax
comp=Z,10.0nm,0.6s
CFR Carcaliu 67.47 316⇓ *i*P P 23 16 00.9 -0.9
CFR Carcaliu 67.47 316 ⇓P P 23 16 00.9 -0.9
SORM Soroca 67.97 319⇑ *i*P P 23 16 09.1 +4.2
SORM Soroca 67.97 319 ⇑P P 23 16 09.1 +4.2
HNR Honiara 67.99 103 P P 23 16 04.8 -0.8
comp=Z,54nm,0.5s,baz=142,slow=19,SNR=3.8
AKASG Malin Array Be 68.05 322 P P 23 16 03.5 -1.8
comp=Z,0.4nm,0.4s,baz=85,slow=5.6,SNR=6.8
KIEV Kiev 68.06 322⇑ *e*P P 23 16 03.8 -1.6
KIEV pmax pmax
comp=Z,2.0nm,0.8s
IDI Anoyia 68.40 305 P P 23 16 07.6 -0.4
comp=Z,5.0nm,0.6s,baz=72,slow=8.2,SNR=9.8
VRI Vrincioaia 68.58 316⇓ *i*P P 23 16 08.6 -0.2
VRI Vrincioaia 68.58 316 ⇓P P 23 16 08.6 -0.2
TMCR Tamitsa 68.59 337 *e*P P 23 16 07.4 -1.0
TMCR pmax pmax
comp=Z,9.0nm,0.8s
PLOR Plostina 68.63 316⇑ *i*P P 23 16 09.2 +0.1
PLOR Plostina 68.63 316 ⇑P P 23 16 09.2 +0.1
TESR Tescani 68.76 317⇓ *i*P P 23 16 09.1 -0.8
LSZ Lusaka 69.02 250 P P 23 16 13.4 +1.2
comp=Z,3.8nm,0.5s,baz=78,slow=10,SNR=16
LSZ Lusaka 69.02 250 *e*P P 23 16 12.7 +0.5
comp=Z,4.1nm,0.5s
MLR Muntele Rosu 69.04 316 P P 23 16 11.3 -0.5
comp=Z,0.7nm,0.7s,baz=0.0,slow=5.1
MLR Muntele Rosu 69.04 316⇓ *i*P P 23 16 11.7 -0.2
MLR Muntele Rosu 69.04 316 *e*P P 23 16 11.7 -0.2
comp=Z,9.0nm,1.2s
MLR Muntele Rosu 69.04 316 *e*P P 23 16 11.7 -0.2
MLR pmax pmax
comp=Z,9.0nm,1.2s
SEY Seymchan 69.08 25 P P 23 16 10.8 -0.8
comp=Z,3.6nm,0.7s,baz=239,slow=6.9,SNR=7.2
SEY Seymchan 69.08 25⇓ *e*P P 23 16 11.9 +0.3
HUMR Humele 69.55 315⇓ *i*P P 23 16 13.9 -0.9
VOIR 69.66 316⇓ *i*P P 23 16 14.6 -1.0
VOIR 69.66 316 ⇓P P 23 16 14.6 -1.0
BURAR Bucovina Array 69.93 318⇑ *i*P P 23 16 17.1 -0.1
BURAR Bucovina Array 69.93 318 ⇑P P 23 16 17.1 -0.1
BUR04 Bucovina Ar. S 69.93 318 *e*P P 23 16 16.6 -0.6
ARR Arges 69.93 315⇓ *i*P P 23 16 16.3 -1.0
VTS Vitosha 70.55 312⇓ *i*P P 23 16 20.3 -0.9
VTS Vitosha 70.55 312 ⇑P P 23 16 20.3 -0.9
JOF Joensuu 70.80 335 P P 23 16 21.9 -0.2
JOF pmax pmax
comp=Z,11nm,0.8s
GRG Griva 70.95 311 P P 23 16 21.9 -1.6
HERR Herculane 71.41 315⇑ *i*P P 23 16 25.6 -0.6
DRGR 71.48 317⇑ *i*P P 23 16 26.4 -0.2
DRGR 71.48 317 ⇑P P 23 16 26.4 -0.2
VSU Vasula 71.52 329 *ce*P P 23 16 25.9 -0.6
VSU pmax pmax
comp=Z,34nm,1.2s
TRPA Tarpa 71.79 318⇓ *i*P P 23 16 27.9 -0.5
BZS Buzias 72.07 315⇓ *i*P P 23 16 29.1 -1.0
BZS Buzias 72.07 315 ⇓P P 23 16 29.1 -1.0
SIRR Siria 72.12 316⇑ *i*P P 23 16 30.0 -0.5
SUW Suwalki 72.41 324 P P 23 16 30.9 -1.1
CRVS Cervenica-Dubn 72.61 319 *e*P P 23 16 37.0 +3.7
CRVS Cervenica-Dubn 72.61 319 *e* P 23 16 37.0 +3.7
FIA1 FINESS Array S 72.65 332 *e*P P 23 16 32.6 -0.7
FINES FINESS Array B 72.65 332 P P 23 16 32.6 -0.6
comp=Z,12nm,0.9s,baz=106,slow=6.9,SNR=44
FINES LR LR 23 53 10.7
comp=Z,23nm,18.5s,baz=188,slow=40
STHS Stebnicka Huta 72.83 319 *e*P P 23 16 34.4 -0.2
STHS Stebnicka Huta 72.83 319 *e*P P 23 16 34.4 -0.2
STHS pmax pmax
comp=Z,2.0nm,0.8s
OJC Ojcow 73.86 320 *e*P P 23 16 39.3 -1.4
comp=Z,4.7nm,0.6s
OJC Ojcow 73.86 320 *e*P P 23 16 39.3 -1.4
OJC pmax pmax
comp=Z,5.0nm,0.6s
VAF Vilstaro 74.60 333 P P 23 16 44.7 +0.1
OKC Ostrava-Krasne 74.88 319 *e*P P 23 16 50.3 +3.7
OKC Ostrava-Krasne 74.88 319 *e*P P 23 16 50.3 +3.7
ARCES ARCESS Array B 75.24 340 P P 23 16 47.8 -0.5
comp=Z,5.5nm,0.9s,baz=81,slow=7.5,SNR=12
MORC Moravsky Berou 75.26 319⇑ *i*P P 23 16 48.6 -0.3
MORC Moravsky Berou 75.26 319 ⇑P P 23 16 48.6 -0.3
BOSA Boshof 75.35 238 P P 23 16 51.0 +1.3
comp=Z,6.5nm,0.6s,baz=83,slow=4.8,SNR=23
DPC Dobruska-Polom 76.10 320 *e*P P 23 16 53.9 +0.3
DPC *ex* x 23 16 58.4
DPC Dobruska-Polom 76.10 320 *e*P P 23 16 53.9 +0.3
DPC *e* 23 16 58.4
BILL Bilibino 76.23 22⇑ *i*P P 23 16 53.6 -0.4
BILL *e* 23 17 02.7
BILL *e* 23 19 41.1
BILL *e*S **SKSac** 23 26 57.7 -3.8
BILL pmax pmax
comp=Z,6.0nm,1.1s
UPC Upice 76.31 320 *e*P P 23 16 55.0 +0.3
UPC Upice 76.31 320 *e*P P 23 16 55.0 +0.3
DZM Mont Dzumac 76.99 115 P P 23 16 58.8 -0.4
comp=Z,5.7nm,0.8s,baz=180,slow=14,SNR=3.7

MOA Molln 77.29 317 P P 23 16 59.7 -0.7
comp=Z,3.2nm,1.2s
MYKA Terra Mystica 77.67 316 P P 23 17 02.4 -0.2
comp=Z,9.2nm,1.6s
GEA0 GERESS Array S 77.71 318 *e*P P 23 17 02.5 -0.3
GEC2 GERESS Array S 77.71 318 *e*P P 23 17 03.0 +0.2
GEC2 GERESS Array S 77.71 318 *e*P P 23 17 03.0 +0.2
GERES GERESS Array B 77.71 318 P P 23 17 02.6 -0.2
comp=Z,2.6nm,0.6s,baz=91,slow=5.6,SNR=27
KHC Kasperske Hory 77.80 319 *e*P P 23 17 03.1 -0.1
KHC *ex* x 23 17 08.0
KHC Kasperske Hory 77.80 319 *e*P P 23 17 03.1 -0.1
KHC *e* 23 17 08.0
CLL Collm 78.25 321 *e*P P 23 17 04.0 -1.6
CLL Collm 78.25 321 *e*P P 23 17 04.0 -1.6
HFS Hagfors 78.39 330 P P 23 17 05.6 -0.6
comp=Z,4.9nm,0.5s,baz=102,slow=6.2,SNR=36
HFS LR LR 23 53 53.1
comp=Z,26nm,18.3s,baz=116,slow=37
ABTA Abfaltersbach 78.45 316 *e*P P 23 17 05.7 -1.3
comp=Z,0.2nm,0.3s
WTTA Wattenberg 79.06 317 *e*P P 23 17 09.5 -0.9
comp=Z,3.6nm,0.5s
WATA Walderalm 79.10 317 *e*P P 23 17 09.4 -1.2
comp=Z,1.1nm,0.4s
MOTA Moosalm 79.42 317 *e*P P 23 17 11.5 -0.8
comp=Z,1.0nm,0.5s
RETA Reutte 79.65 317 *e*P P 23 17 12.9 -0.6
comp=Z,3.9nm,0.5s
NB2 NORSAR Subarra 79.66 331 P P 23 17 12.3 -0.9
comp=Z,7.9nm,0.9s,baz=96,slow=5.1
NOA NORSAR Array B 79.66 331 P P 23 17 12.4 -0.8
comp=Z,5.5nm,0.9s,baz=94,slow=5.2,SNR=15
NOA LR LR 23 55 21.8
comp=Z,25nm,21.1s,baz=105,slow=38
FETA Feichten 79.68 316 *e*P P 23 17 12.9 -0.8
comp=Z,2.3nm,0.5s
SPITS Spitsbergen Ar 79.85 348 P P 23 17 13.0 -0.8
comp=Z,2.0nm,0.4s,baz=76,slow=7.0,SNR=19
DAVA Damuels 80.25 317 P P 23 17 15.9 -0.9
comp=Z,2.4nm,0.6s
KEST Kesra 81.08 305 P P 23 17 21.4 +0.1
comp=Z,1.9nm,0.6s,baz=246,slow=2.5,SNR=4.7
SYO Syowa Base 85.28 197⇓ *e*P P 23 17 42.2 +0.1
TAM Tamanrasset 85.53 292 *e*P P 23 17 45.7 +1.1
comp=Z,2.0nm,0.8s
TAM Tamanrasset 85.53 292 *e*P P 23 17 45.7 +1.1
TAM pmax pmax
comp=Z,2.0nm,0.8s
EKA Eskdalemuir Ar 87.63 325 P P 23 17 53.9 -0.2
comp=Z,0.9nm,0.5s,baz=84,slow=5.5,SNR=6.1
BKZ Black Stump Fm 89.18 130 *e*P P 23 18 01.6 -0.1
TOA0 Torodi Ar. Sit 90.37 283 *e*P P 23 18 07.6 -0.2
TORD Torodi Ar. Bea 90.37 283 P P 23 18 08.2 +0.4
comp=Z,1.4nm,0.8s,baz=82,slow=4.5,SNR=9.8
TORD PKKPbc **PKKPbc** 23 35 35.7 -0.3
comp=Z,0.3nm,0.4s,baz=302,slow=2.3,SNR=8.4
TORD LR LR 00 00 13.8
comp=Z,25nm,18.2s,baz=265,slow=37
ES19 SONECA Array 91.02 310 *e*P P 23 18 10.2 -0.3
ESDC Sonseca Array 91.07 310 P P 23 18 10.8 +0.2
comp=Z,1.7nm,0.6s,baz=63,slow=4.1,SNR=14
IM3 Indian Mountai 91.78 22 *e*P P 23 18 13.5 +0.2
TOLK Toolik Lake Re 92.09 19 *e*P P 23 18 15.5 +0.8
VNDA Vanda 92.92 168 P P 23 18 18.5 +0.2
comp=Z,0.9nm,0.6s,baz=303,slow=3.3,SNR=6.7
MLY Manley 93.32 23 *e*P P 23 18 21.2 +0.7
CAST Castle Rocks 93.49 24 *e*P P 23 18 22.0 +0.7
BPAW Bear Paw Mtn. 93.64 23 *e*P P 23 18 22.0 +0.1
comp=Z,0.4nm,0.5s
ILAR Eielson Array 94.89 22 P P 23 18 27.7 0.0
comp=Z,0.5nm,0.5s,baz=284,slow=4.7,SNR=9.1
SUA Susitna Ons 94.90 26 *e*P P 23 18 28.2 +0.3
KDAK Kodiak Island 95.61 30 P P 23 18 31.1 +0.1
comp=Z,3.3nm,0.5s,baz=291,slow=3.7,SNR=13
KDAK Kodiak Island 95.61 30 *ce*P P 23 18 31.0 0.0
KOWA Kowa 95.65 285 LR LR 00 02 45.8
comp=Z,98nm,18.2s,baz=196,slow=36
INK Inuvik 97.12 16 P P 23 18 37.2 -0.4
comp=Z,1.0nm,0.8s,baz=240,slow=3.5,SNR=4.3
RES Resolute Bay 97.47 2 P P 23 18 38.7 -0.5
comp=Z,1.9nm,0.8s,baz=342,slow=5.4,SNR=12
YKA Yellowknife Ar 106.54 13 PP PP 23 23 41.4 -2.9
comp=Z,0.3nm,0.7s,baz=331,slow=7.5,SNR=6.2
YKA PKKPbc **PKKPbc** 23 34 48.9 -3.6
comp=Z,0.2nm,0.5s,baz=150,slow=3.7,SNR=8.0
ULM Lac du Bonnet 121.56 7 PKP **PKPdf** 23 23 58.5 -0.8
comp=Z,2.7nm,0.6s,baz=13,slow=4.2,SNR=9.0
NVAR Mina Array Bea 125.09 31 PKP **PKPdf** 23 24 07.8 +1.0
comp=Z,0.7nm,0.5s,baz=296,slow=2.6,SNR=6.3
PDAR Pinedale Array 125.31 21 PKP **PKPdf** 23 24 06.4 -0.7
comp=Z,1.3nm,0.7s,baz=71,slow=2.8,SNR=11
TKL Tuckaleechee C 136.71 357 PKP **PKPdf** 23 24 28.5 -0.1
comp=Z,3.4nm,0.7s,baz=76,slow=2.8,SNR=4.0
TXAR Lajitas Array 139.38 24 PKhKP PKPpre 23 24 25.4
comp=Z,0.2nm,0.4s,baz=19,slow=1.3,SNR=6.0
TXAR PKP **PKPdf** 23 24 34.4 +0.6
comp=Z,0.6nm,0.5s,baz=315,slow=0.5,SNR=17
PLCA Paso Flores 144.41 200 PKP PKPbc 23 24 40.9 +0.1
comp=Z,5.2nm,0.9s,baz=215,slow=3.5,SNR=9.3
CPUP Villa Florida 147.03 233 PKPbc **PKPbc** 23 24 49.1 -0.1
comp=Z,4.6nm,0.7s,baz=126,slow=3.0,SNR=14
LPAZ La Paz 160.52 243 PKP **PKPdf** 23 25 07.6 +0.4
comp=Z,1.1nm,0.6s,baz=16,slow=1.4,SNR=6.1
LPAZ PKPab **PKPab** 23 25 48.8 +0.2
comp=Z,0.8nm,0.6s,baz=8.8,slow=1.7,SNR=4.5

IDC 22 23:05:10.2±4.5, 5.93S×150.21E, h0km, mb3.5/2, mb1 3.9/3, mb1mx3.4/55, mbtmp3.7/3, ML1.8/1, Error ellipse: s-maj=204.2km s-min=42.6km az=118.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.59**	**221**	Pn	Pn	23 06 22.0	+1.1
	3.2nm,0.3s,baz=40,slow=7.9,SNR=2.7						
PMG				Sn	Sn	23 07 12.0	-3.0
	6.8nm,0.3s,baz=198,slow=13,SNR=5.0						
WRA	**Warramunga Arr**	**20.79**	**226**	P	P	23 09 52.1	-1.0
	2.6nm,0.7s,baz=52,slow=11,SNR=5.1						
ASAR	**Alice Springs**	**23.61**	**220**	P	P	23 10 23.0	0.0
	1.0nm,0.7s,baz=61,slow=8.8,SNR=3.5						
TORD	**Torodi Ar. Bea**	**148.16**	**285**	PKPbc	PKPbc	23 24 58.6	-0.5
	0.5nm,0.5s,baz=71,slow=2.6,SNR=7.8						

*MDD **22** 23:12:18.4±2.3, 37.48N×15.75W, h0km, mb3.9/3, Error ellipse: s-maj=23.7km s-min=17.7km az=15.0, PRXIMO*
*INMG **22** 23:12:20.6±0.9, 37.34N×16.09W, h10km, ML2.7, Error ellipse: s-maj=6.1km s-min=3.5km az=120.0*
*CSEM **22** 23:12:24.0±0.4, 37.65N×15.27W, h10km, ML3.2/8, Error ellipse: s-maj=7.9km s-min=6.0km az=5.0*
ISC 22 23:12:21.7±3.8, 37.60N±0.09×15.4W±0.2, h10km, n85, σ1s06/142, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMPS	**Porto Santo**	**4.59**	**190**	*e*Sn	Sn	23 14 03.6	-21
PMPS				A	A	23 14 10.1	
	11nm,0.6s						
PMAFR	**Mafra**	**5.00**	**72**	*e*Pn	**Pn**	**23 13 39.0**	**+2.2**
PMAFR				*e*Sn	**Sn**	**23 14 36.2**	**+1.5**
PMAFR				A	A	23 14 43.4	
	7.5nm,0.2s						
PMAFR	**Mafra**	**5.00**	**72**	P	**Pn**	**23 13 38.5**	**+1.7**
	1.9nm,0.1s,SNR=7.4						
PMAFR				S	**Sn**	**23 14 35.8**	**+1.2**
	10nm,0.1s,SNR=7.9						
PMAFR	**Mafra**	**5.00**	**72**	P	**Pn**	**23 13 38.5**	**+1.7**
	1.9nm,0.1s,SNR=7.4						
PMAFR	**Mafra**	**5.00**	**72**	*e*Pn	**Pn**	**23 13 39.0**	**+2.2**
PMAFR				S	**Sn**	**23 14 35.8**	**+1.2**
	10nm,0.1s,SNR=7.9						
PMAFR				*e*Sn	**Sn**	**23 14 36.2**	**+1.5**
	7.5nm,0.2s						
PFVI	**Vila Bisbo**	**5.26**	**93**	*e*Sn	**Sn**	**23 14 40.6**	**-0.3**
PFVI	**Vila Bisbo**	**5.26**	**93**	S	**Sn**	**23 14 40.8**	**-0.1**
	5.5nm,0.1s,SNR=7.9						
PFVI	**Vila Bisbo**	**5.26**	**93**	S	**Sn**	**23 14 40.8**	**-0.1**
	5.5nm,0.1s,SNR=7.9						
PTEO	**Sao Teotonio**	**5.30**	**89**	*e*Sn	**Sn**	**23 14 41.7**	**-0.4**
PTEO				A	A	23 14 48.1	
	6.7nm,0.6s						
PTEO	**Sao Teotonio**	**5.30**	**89**	S	**Sn**	**23 14 41.7**	**-0.4**
	3.3nm,0.6s						
PTEO	**Sao Teotonio**	**5.30**	**89**	S	**Sn**	**23 14 41.7**	**-0.4**
	3.3nm,0.6s						
PNCL	**Nicolau / Gran**	**5.46**	**83**	*e*Sn	**Sn**	**23 14 45.8**	**-0.2**
PNCL				A	A	23 14 50.0	
	4.0nm,0.4s						
PNCL	**Nicolau / Gran**	**5.46**	**83**	*e*Sn	**Sn**	**23 14 45.8**	**-0.2**
	4.0nm,0.4s						
ALMR	**Almeirim**	**5.58**	**72**	*e*Pn	**Pn**	**23 13 46.8**	**+2.0**
ALMR				*e*Sn	**Sn**	**23 14 49.7**	**+0.7**
ALMR				A	A	23 14 55.4	
	10.0nm,0.6s						
ALMR	**Almeirim**	**5.58**	**72**	P	**Pn**	**23 13 46.8**	**+2.0**
ALMR				S	**Sn**	**23 14 49.7**	**+0.7**
	5.0nm,0.6s						
ALMR	**Almeirim**	**5.58**	**72**	P	**Pn**	**23 13 46.8**	**+2.0**
ALMR				S	**Sn**	**23 14 49.7**	**+0.7**
	5.0nm,0.6s						
PMTG	**Montargil**	**5.83**	**73**	*e*Pn	**Pn**	**23 13 49.5**	**+1.3**
PMTG				*e*Sn	**Sn**	**23 14 55.5**	**+0.5**
PMTG				A	A	23 14 58.3	
	3.0nm,0.8s						
PMTG	**Montargil**	**5.83**	**73**	*e*Pn	**Pn**	**23 13 49.5**	**+1.3**
PMTG				*e*Sn	**Sn**	**23 14 55.5**	**+0.5**
	3.0nm,0.8s						
PTOM	**Tomar**	**5.83**	**68**	*e*Pn	**Pn**	**23 13 49.8**	**+1.6**
PTOM				*e*Sn	**Sn**	**23 14 55.7**	**+0.5**
PTOM				A	A	23 15 00.2	
	5.4nm,0.3s						
PTOM	**Tomar**	**5.83**	**68**	P	**Pn**	**23 13 49.8**	**+1.6**
PTOM				S	**Sn**	**23 14 55.7**	**+0.5**
	2.7nm,0.3s						
PTOM	**Tomar**	**5.83**	**68**	P	**Pn**	**23 13 49.8**	**+1.6**
PTOM				S	**Sn**	**23 14 55.7**	**+0.5**
	2.7nm,0.3s						
PCVE	**Castro Verde**	**5.84**	**87**	*e*Sn	**Sn**	**23 14 54.9**	**-0.5**
PCVE				A	A	23 15 07.4	
	3.1nm,0.6s						
PCVE	**Castro Verde**	**5.84**	**87**	S	**Sn**	**23 14 54.9**	**-0.5**
	3.1nm,0.6s						
PCVE	**Castro Verde**	**5.84**	**87**	S	**Sn**	**23 14 54.9**	**-0.5**
	3.1nm,0.6s						
EVO	**Evora**	**5.90**	**79**	*e*Sn	**Sn**	**23 14 56.6**	**-0.3**
EVO				A	A	23 15 03.1	
	4.4nm,0.1s						
EVO	**Evora**	**5.90**	**79**	S	**Sn**	**23 14 56.6**	**-0.3**
	4.4nm,0.1s						
EVO	**Evora**	**5.90**	**79**	S	**Sn**	**23 14 56.6**	**-0.3**
	4.4nm,0.1s						
PCAS	**Casmilo, Conde**	**5.92**	**63**	*e*Pn	**Pn**	**23 13 50.7**	**+1.3**
PCAS				*e*Sn	**Sn**	**23 14 57.8**	**+0.5**
PCAS				A	A	23 14 59.6	
	2.2nm,0.6s						
PCAS	**Casmilo, Conde**	**5.92**	**63**	*e*Pn	**Pn**	**23 13 50.7**	**+1.3**
PCAS				*e*Sn	**Sn**	**23 14 57.8**	**+0.5**
	2.2nm,0.6s						
PBEJ	**Beja**	**5.98**	**84**	*e*Sn	**Sn**	**23 14 59.0**	**+0.2**
PBEJ				A	A	23 15 06.5	
	2.3nm,0.2s						
PBEJ	**Beja**	**5.98**	**84**	S	**Sn**	**23 14 59.0**	**+0.2**
	1.2nm,0.2s						
PBEJ	**Beja**	**5.98**	**84**	S	**Sn**	**23 14 59.0**	**+0.2**
	1.2nm,0.2s						
PVAQ	**Vaqueiros**	**6.11**	**89**	*e*Sn	**Sn**	**23 15 01.7**	**-0.3**
PVAQ				A	A	23 15 07.6	
	3.5nm,0.2s						
PVAQ	**Vaqueiros**	**6.11**	**89**	S	**Sn**	**23 15 01.7**	**-0.3**
	3.5nm,0.2s						
PVAQ	**Vaqueiros**	**6.11**	**89**	S	**Sn**	**23 15 01.7**	**-0.3**
	3.5nm,0.2s						
PESTR	**Estremoz**	**6.28**	**76**	*e*Sn	**Sn**	**23 15 06.5**	**+0.4**
PESTR				A	A	23 15 14.1	
	2.4nm,0.6s						
PESTR	**Estremoz**	**6.28**	**76**	*e*Sn	**Sn**	**23 15 06.5**	**+0.4**
	2.4nm,0.6s						
EGRO	**El Granado**	**6.29**	**88**	P	**Pn**	**23 13 55.3**	**+0.8**
	3.6nm,1.6s,SNR=7.9						
EGRO				S	**Sn**	**23 15 05.7**	**-0.7**
	2.1nm,0.1s,SNR=7.9						
EGRO	**El Granado**	**6.29**	**88**	P	**Pn**	**23 13 55.3**	**+0.8**
	3.6nm,1.6s,SNR=7.9						
EGRO				S	**Sn**	**23 15 05.7**	**-0.7**
	2.1nm,0.1s,SNR=7.9						
PMRV	**Marv??o**	**6.54**	**71**	*e*Pn	**Pn**	**23 13 59.0**	**+1.0**
PMRV				*e*Sn	**Sn**	**23 15 11.6**	**-1.0**
PMRV				A	A	23 15 15.7	
	3.0nm,0.3s						
PMRV	**Marv??o**	**6.54**	**71**	P	**Pn**	**23 13 59.0**	**+1.0**
PMRV				S	**Sn**	**23 15 11.6**	**-1.0**
	3.0nm,0.3s						
PMRV	**Marv??o**	**6.54**	**71**	P	**Pn**	**23 13 59.0**	**+1.0**
PMRV				S	**Sn**	**23 15 11.6**	**-1.0**
	3.0nm,0.3s						
PCBR	**Castelo Branco**	**6.59**	**68**	*e*Pn	**Pn**	**23 13 59.5**	**+0.9**
PCBR				*e*Sn	**Sn**	**23 15 13.5**	**-0.2**
PCBR				A	A	23 15 16.7	
	1.9nm,0.2s						
PCBR	**Castelo Branco**	**6.59**	**68**	P	**Pn**	**23 13 59.5**	**+0.9**
PCBR				S	**Sn**	**23 15 13.5**	**-0.2**
	0.9nm,0.2s						
PCBR	**Castelo Branco**	**6.59**	**68**	P	**Pn**	**23 13 59.5**	**+0.9**
PCBR				S	**Sn**	**23 15 13.5**	**-0.2**
	0.9nm,0.2s						
PVIS	**Viseu**	**6.61**	**60**	*e*Pn	**Pn**	**23 13 59.8**	**+0.9**
PVIS				*e*Sn	**Sn**	**23 15 12.7**	**-1.7**
PVIS				A	A	23 15 16.9	
	3.1nm,0.3s						
PVIS	**Viseu**	**6.61**	**60**	P	**Pn**	**23 13 59.8**	**+0.9**
PVIS	**Viseu**	**6.61**	**60**	P	**Pn**	**23 13 59.8**	**+0.9**
PVIS				S	**Sn**	**23 15 12.7**	**-1.7**
	3.1nm,0.3s						
PBAR	**Barrancos**	**6.64**	**82**	*e*Pn	**Pn**	**23 13 59.9**	**+0.6**
PBAR				*e*Sn	**Sn**	**23 15 14.4**	**-0.6**
PBAR				A	A	23 15 19.4	
	3.7nm,0.2s						
PBAR	**Barrancos**	**6.64**	**82**	P	**Pn**	**23 13 59.9**	**+0.6**
PBAR				S	**Sn**	**23 15 14.4**	**-0.6**
	3.7nm,0.2s						
PBAR	**Barrancos**	**6.64**	**82**	P	**Pn**	**23 13 59.9**	**+0.6**
PBAR				S	**Sn**	**23 15 14.4**	**-0.6**
	3.7nm,0.2s						
EBAD	**Badajoz**	**6.71**	**78**	P	**Pn**	**23 14 00.8**	**+0.6**
	0.2nm,0.1s,SNR=7.9						
EBAD				S	**Sn**	**23 15 15.9**	**-0.8**
	2.2nm,0.1s,SNR=7.9						
EBAD	**Badajoz**	**6.71**	**78**	P	**Pn**	**23 14 00.8**	**+0.6**
	0.2nm,0.1s,SNR=7.9						
EBAD				S	**Sn**	**23 15 15.9**	**-0.8**
	2.2nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**6.92**	**86**	P	**Pn**	**23 14 02.8**	**-0.4**
	1.7nm,1.1s,SNR=7.9						
EMIN				S	**Sn**	**23 15 21.1**	**-0.9**
	1.1nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**6.92**	**86**	P	**Pn**	**23 14 02.8**	**-0.4**
	1.7nm,1.1s,SNR=7.9						
EMIN				S	**Sn**	**23 15 21.1**	**-0.9**
	1.1nm,0.1s,SNR=7.9						
POLO	**Lamas de Olo**	**6.99**	**55**	*e*Pn	**Pn**	**23 14 05.3**	**+1.2**
POLO				*e*Sn	**Sn**	**23 15 22.0**	**-1.7**
POLO	**Lamas de Olo**	**6.99**	**55**	*e*Pn	**Pn**	**23 14 05.3**	**+1.2**
POLO				*e*Sn	**Sn**	**23 15 22.0**	**-1.7**
PGAV	**Gavieira, Arco**	**7.01**	**49**	*e*Pn	**Pn**	**23 14 05.1**	**+0.6**
PGAV				*e*Sn	**Sn**	**23 15 23.1**	**-1.2**
PGAV				A	A	23 15 32.2	
	3.4nm,1.0s						
PGAV	**Gavieira, Arco**	**7.01**	**49**	*e*Pn	**Pn**	**23 14 05.1**	**+0.6**
PGAV				*e*Sn	**Sn**	**23 15 23.1**	**-1.2**
	3.4nm,1.0s						
ELOB	**Lobios**	**7.08**	**51**	P	**Pn**	**23 14 05.5**	**+0.1**
	0.3nm,0.1s,SNR=5.5						
ELOB				S	**Sn**	**23 15 26.9**	**+0.9**
	0.6nm,0.1s,SNR=7.9						
ELOB	**Lobios**	**7.08**	**51**	P	**Pn**	**23 14 05.5**	**+0.1**
	0.3nm,0.1s,SNR=5.5						
ELOB				S	**Sn**	**23 15 26.9**	**+0.9**
	0.6nm,0.1s,SNR=7.9						
MVO	**Moncorvo**	**7.40**	**59**	*e*Pn	**Pn**	**23 14 10.5**	**+0.8**
MVO				*e*Sn	**Sn**	**23 15 33.2**	**-0.5**
MVO				A	A	23 15 38.0	
	2.2nm,0.3s						
MVO	**Moncorvo**	**7.40**	**59**	P	**Pn**	**23 14 10.3**	**+0.6**

MVO				S		Sn	23 15 33.6	-0.1	
	1.0nm,0.2s,SNR=7.9								
EAGO	**Agolada(Pontev**	**7.63**	**45**	P		**Pn**	**23 14 12.2**	**-0.8**	
	0.6nm,0.1s,SNR=7.9								
EAGO				S		**Sn**	**23 15 38.2**	**-1.4**	
	0.6nm,0.1s,SNR=7.9								
EAGO	**Agolada(Pontev**	**7.63**	**45**	P		**Pn**	**23 14 12.2**	**-0.8**	
	0.6nm,0.1s,SNR=7.9								
EAGO				S		**Sn**	**23 15 38.2**	**-1.4**	
	0.6nm,0.1s,SNR=7.9								
EPLA	**Plasencia**	**7.68**	**68**	P		**Pn**	**23 14 14.5**	**+0.9**	
	0.2nm,0.1s,SNR=7.9								
EPLA				S		**Sn**	**23 15 40.0**	**-0.7**	
	1.0nm,0.2s,SNR=7.9								
EPLA	**Plasencia**	**7.68**	**68**	P		**Pn**	**23 14 14.5**	**+0.9**	
	0.2nm,0.1s,SNR=7.9								
EPLA				S		**Sn**	**23 15 40.0**	**-0.7**	
	1.0nm,0.2s,SNR=7.9								
PBRG	**Braganca**	**7.88**	**55**	*e*Pn		**Pn**	**23 14 17.6**	**+1.2**	
PBRG				*e*Sn		**Sn**	**23 15 44.2**	**-1.5**	
PBRG	**Braganca**	**7.88**	**55**	P		**Pn**	**23 14 17.6**	**+1.2**	
PBRG				S		**Sn**	**23 15 44.2**	**-1.5**	
PBRG	**Braganca**	**7.88**	**55**	P		**Pn**	**23 14 17.6**	**+1.2**	
PBRG				S		**Sn**	**23 15 44.2**	**-1.5**	
ECAB	**El Cabril**	**7.91**	**84**	P		**Pn**	**23 14 17.0**	**+0.2**	
	0.4nm,0.2s,SNR=7.9								
ECAB				S		**Sn**	**23 15 44.4**	**-2.0**	
	0.6nm,0.2s,SNR=7.9								
ECAB	**El Cabril**	**7.91**	**84**	P		**Pn**	**23 14 17.0**	**+0.2**	
	0.4nm,0.2s,SNR=7.9								
ECAB				S		**Sn**	**23 15 44.4**	**-2.0**	
	0.6nm,0.2s,SNR=7.9								
ECAL	**Calabor**	**7.96**	**54**	P		**Pn**	**23 14 18.6**	**+1.2**	
	0.9nm,0.2s,SNR=7.9								
ECAL				S		**Sn**	**23 15 46.2**	**-1.3**	
	1.7nm,0.2s,SNR=7.9								
ECAL	**Calabor**	**7.96**	**54**	P		**Pn**	**23 14 18.6**	**+1.2**	
	0.9nm,0.2s,SNR=7.9								
ECAL				S		**Sn**	**23 15 46.2**	**-1.3**	
	1.7nm,0.2s,SNR=7.9								
EPON	**Pontenova**	**8.50**	**45**	P		**Pn**	**23 14 25.5**	**+0.7**	
	0.5nm,2.2s,SNR=7.9								
EPON	**Pontenova**	**8.50**	**45**	P		**Pn**	**23 14 25.5**	**+0.7**	
	0.5nm,2.2s,SNR=7.9								
EADA	**Adamuz**	**8.58**	**83**	P		**Pn**	**23 14 25.8**	**-0.1**	
	0.4nm,0.2s,SNR=7.9								
EADA				S		**Sn**	**23 16 00.3**	**-2.4**	
	1.3nm,0.1s,SNR=7.9								
EADA	**Adamuz**	**8.58**	**83**	P		**Pn**	**23 14 25.8**	**-0.1**	
	0.4nm,0.2s,SNR=7.9								
EADA				S		**Sn**	**23 16 00.3**	**-2.4**	
	1.3nm,0.1s,SNR=7.9								
PAB	**San Pablo**	**8.87**	**74**	P		**Pn**	**23 14 30.4**	**+0.4**	
	0.4nm,0.2s,SNR=7.9								
PAB				S		**Sn**	**23 16 08.2**	**-1.8**	
	0.1nm,0.1s,SNR=7.9								
PAB	**San Pablo**	**8.87**	**74**	P		**Pn**	**23 14 30.4**	**+0.4**	
	0.4nm,0.2s,SNR=7.9								
PAB				S		**Sn**	**23 16 08.2**	**-1.8**	
	0.1nm,0.1s,SNR=7.9								
ESDC	**Sonseca Array**	**9.19**	**73**	P		**Pn**	**23 14 34.2**	**-0.1**	
	0.1nm,0.3s,baz=262,slow=13,SNR=4.2								
ESDC				S		**Sn**	**23 16 16.1**	**-1.7**	
	0.2nm,0.4s,baz=265,slow=22,SNR=4.7								
ESDC	**Sonseca Array**	**9.19**	**73**	P		**Pn**	**23 14 34.2**	**-0.1**	
	0.1nm,0.3s,baz=262,slow=13,SNR=4.2								
ESDC				S		**Sn**	**23 16 16.1**	**-1.7**	
	0.2nm,0.4s,baz=265,slow=22,SNR=4.7								
EARI	**Arriondas**	**9.63**	**51**	P		**Pn**	**23 14 41.2**	**+0.9**	
	0.7nm,2.6s,SNR=7.9								
EARI	**Arriondas**	**9.63**	**51**	P		**Pn**	**23 14 41.2**	**+0.9**	
	0.7nm,2.6s,SNR=7.9								

*ISK **22** 23:15:12.7,39°.11N×29°.14E,h5km,ML2.5/16*
*ISCJB **22** 23:15:13.1±0.5,39°.12N±0°.04×29°.11E±0°.04,h4km±5km, Error ellipse: s-maj=6.8km s-min=4.3km az=154.3*
*DDA **22** 23:15:13.2,39°.10N×29°.04E,h7km,Ml2.7*
*CSEM **22** 23:15:13.1±0.1,39°.12N×29°.11E,h2km,ML2.5,Error ellipse: s-maj=3.0km s-min=2.4km az=132.0*

ISC 22 23:15:13.4±0.9,39°.11N±0°.02×29°.10E±0°.02,h9km±7km, n54,σ0s55/62,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIMA	**Simav-Kutahya**	**0.10**	**252**	PG	**Pg**	**23 15 15.9**	**0.0**
SIMA				SG	**Sg**	**23 15 17.6**	**-0.1**
SIMA	**Simav-Kutahya**	**0.10**	**252**	*e*Pg	**Pg**	**23 15 15.9**	**0.0**
SIMA				*e*Sg	**Sg**	**23 15 17.6**	**-0.1**
GDZ	**Gediz**	**0.30**	**95**	*i* P	**Pg**	**23 15 19.1**	**-0.2**
GDZ	**Gediz**	**0.30**	**95**	P	**Pg**	**23 15 19.1**	**-0.2**
DEMI	**Demirci**	**0.31**	**257**	*i* P	**Pg**	**23 15 19.3**	**-0.3**
DEMI				*i* S	**Sg**	**23 15 23.0**	**-0.7**
DEMI	**Demirci**	**0.31**	**257**	P	**Pg**	**23 15 19.3**	**-0.3**
DEMI				S	**Sg**	**23 15 23.0**	**-0.7**
TVSB	**Tavsanli**	**0.44**	**40**	PG	**Pg**	**23 15 21.4**	**-0.6**
TVSB				SG	**Sg**	**23 15 27.4**	**-0.3**
TVSB	**Tavsanli**	**0.44**	**40**	*e*Pg	**Pg**	**23 15 21.4**	**-0.6**
TVSB				*e*Sg	**Sg**	**23 15 27.4**	**-0.3**
DURS	**Dursunbey**	**0.69**	**315**	*i* P	**Pg**	**23 15 26.3**	**-0.4**
DURS	**Dursunbey**	**0.69**	**315**	P	**Pg**	**23 15 26.3**	**-0.4**
KULA	**Kula-Manisa**	**0.69**	**210**	PG	**Pg**	**23 15 26.5**	**-0.2**
KULA	**Kula-Manisa**	**0.69**	**210**	*e*Pg	**Pg**	**23 15 26.5**	**-0.2**
MANT	**Manisa**	**0.75**	**215**	*i* P	**Pg**	**23 15 27.6**	**-0.3**
MANT	**Manisa**	**0.75**	**215**	P	**Pg**	**23 15 27.6**	**-0.3**
KHAL	**Karahalli**	**0.80**	**158**	*i* P	**Pb**	**23 15 30.1**	**+0.4**
KHAL	**Karahalli**	**0.80**	**158**	P	**Pb**	**23 15 30.0**	**+0.4**
AKHS	**Akhisar**	**1.03**	**257**	*i* P	**Pg**	**23 15 32.9**	**-0.3**
AKHS	**Akhisar**	**1.03**	**257**	P	**Pg**	**23 15 32.9**	**-0.3**
BALB	**Balikesir**	**1.08**	**299**	PN	**Pn**	**23 15 35.1**	**+0.3**
BALB	**Balikesir**	**1.08**	**299**	*e*Pn	**Pn**	**23 15 35.1**	**+0.3**
STEP	**BALIKESIR_Sava**	**1.11**	**284**	*i* P	**Pn**	**23 15 35.2**	**+0.1**
STEP				*i* S	**Sg**	**23 15 48.6**	**-0.3**
STEP	**BALIKESIR_Sava**	**1.11**	**284**	P	**Pn**	**23 15 35.2**	**+0.1**
STEP				S	**Sg**	**23 15 48.7**	**-0.3**
CAVI	**Cavuskoy**	**1.23**	**27**	PN	**Pb**	**23 15 36.8**	**0.0**
CAVI	**Cavuskoy**	**1.23**	**27**	*e*Pn	**Pb**	**23 15 36.8**	**0.0**
SHUT	**Suhut-Afyon**	**1.26**	**116**	PN	**Pg**	**23 15 37.1**	**-0.5**
SHUT	**Suhut-Afyon**	**1.26**	**116**	*e*Pn	**Pg**	**23 15 37.1**	**-0.5**
MDNY	**Mudanya-Bursa**	**1.27**	**352**	PN	**Pb**	**23 15 37.8**	**+0.4**
MDNY	**Mudanya-Bursa**	**1.27**	**352**	*e*Pn	**Pb**	**23 15 37.8**	**+0.4**
KCTX	**Karacabey (Bur**	**1.29**	**334**	PN	**Pg**	**23 15 38.2**	**+0.1**
KCTX	**Karacabey (Bur**	**1.29**	**334**	*e*Pn	**Pg**	**23 15 38.2**	**+0.1**
BALY	**Balya**	**1.31**	**299**	*i* P	**Pn**	**23 15 36.5**	**-1.4**
BALY	**Balya**	**1.31**	**299**	P	**Pn**	**23 15 36.5**	**-1.4**
ARMT	**Armutlu**	**1.46**	**353**	PN	**Pb**	**23 15 40.7**	**-0.1**
ARMT	**Armutlu**	**1.46**	**353**	*e*Pn	**Pb**	**23 15 40.7**	**-0.1**
YLV	**Yalova**	**1.47**	**8**	PN	**Pn**	**23 15 40.6**	**+0.5**
YLV	**Yalova**	**1.47**	**8**	*e*Pn	**Pn**	**23 15 40.6**	**+0.5**
AYDB	**Zeytinkoy-Aydi**	**1.50**	**220**	PN	**Pn**	**23 15 41.1**	**+0.4**
AYDB	**Zeytinkoy-Aydi**	**1.50**	**220**	*e*Pn	**Pn**	**23 15 41.1**	**+0.4**
EDC	**Edincik**	**1.56**	**323**	PN	**Pn**	**23 15 42.0**	**+0.7**
EDC	**Edincik**	**1.56**	**323**	*e*Pn	**Pn**	**23 15 42.0**	**+0.7**
GULT	**Gulveren**	**1.71**	**39**	PN	**Pn**	**23 15 43.6**	**+0.1**
GULT	**Gulveren**	**1.71**	**39**	*e*Pn	**Pn**	**23 15 43.6**	**+0.1**
BUY	**Buyukada**	**1.74**	**0**	PN	**Pn**	**23 15 44.3**	**+0.5**
BUY	**Buyukada**	**1.74**	**0**	*e*Pn	**Pn**	**23 15 44.3**	**+0.5**
SBT3	**Marmara-Eregli**	**1.97**	**334**	PN	**Pn**	**23 15 47.9**	**+1.1**
SBT3	**Marmara-Eregli**	**1.97**	**334**	*e*Pn	**Pn**	**23 15 47.9**	**+1.1**
BAYC	**CANAKKALE_Bayr**	**2.08**	**288**	*i* P	**Pg**	**23 15 52.7**	**-0.5**
BAYC	**CANAKKALE_Bayr**	**2.08**	**288**	P	**Pg**	**23 15 52.7**	**-0.5**
KLYT	**Kilyos**	**2.14**	**359**	PN	**Pn**	**23 15 49.7**	**+0.4**
KLYT	**Kilyos**	**2.14**	**359**	*e*Pn	**Pn**	**23 15 49.7**	**+0.4**
RKY	**Sarkoy-Tekirda**	**2.16**	**317**	PN	**Pn**	**23 15 50.6**	**+1.0**
RKY	**Sarkoy-Tekirda**	**2.16**	**317**	*e*Pn	**Pn**	**23 15 50.6**	**+1.0**
CTKS	**Kestanelik-??a**	**2.17**	**348**	PN	**Pn**	**23 15 50.6**	**+0.9**
CTKS	**Kestanelik-??a**	**2.17**	**348**	*e*Pn	**Pn**	**23 15 50.6**	**+0.9**

*ISK **22** 23:26:24.9,39°.12N×29°.12E,h6km,ML2.5/10*
*ISCJB **22** 23:26:25.1±0.6,39°.11N±0°.04×29°.11E±0°.05,h6km±5km, Error ellipse: s-maj=7.5km s-min=4.3km az=137.4*
*DDA **22** 23:26:25.8,39°.09N×29°.04E,h7km,Ml2.7*
*CSEM **22** 23:26:25.3±0.1,39°.12N×29°.10E,h5km,ML2.5,Error ellipse: s-maj=2.5km s-min=1.5km az=128.0*

ISC 22 23:26:25.4±0.9,39°.12N±0°.03×29°.10E±0°.03,h9km±7km, n40,σ0s41/50,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIMA	**Simav-Kutahya**	**0.10**	**251**	PG	**Pg**	**23 26 28.1**	**+0.1**
SIMA				SG	**Sg**	**23 26 29.7**	**-0.1**
SIMA	**Simav-Kutahya**	**0.10**	**251**	*e*Pg	**Pg**	**23 26 28.1**	**+0.1**
SIMA				*e*Sg	**Sg**	**23 26 29.7**	**-0.1**
DEMI	**Demirci**	**0.31**	**256**	*i* P	**Pg**	**23 26 31.5**	**-0.1**
DEMI				*i* S	**Sg**	**23 26 35.1**	**-0.7**
DEMI	**Demirci**	**0.31**	**256**	P	**Pg**	**23 26 31.5**	**-0.1**
DEMI				S	**Sg**	**23 26 35.1**	**-0.7**
TVSB	**Tavsanli**	**0.43**	**40**	PG	**Pg**	**23 26 33.6**	**-0.3**
TVSB				SG	**Sg**	**23 26 39.6**	**-0.1**
TVSB	**Tavsanli**	**0.43**	**40**	*e*Pg	**Pg**	**23 26 33.6**	**-0.3**
TVSB				*e*Sg	**Sg**	**23 26 39.6**	**-0.1**
KULA	**Kula-Manisa**	**0.69**	**210**	PG	**Pg**	**23 26 38.7**	**-0.1**
KULA	**Kula-Manisa**	**0.69**	**210**	*e*Pg	**Pg**	**23 26 38.7**	**-0.1**
MANT	**Manisa**	**0.76**	**215**	*i* P	**Pg**	**23 26 39.8**	**-0.2**
MANT				*i* S	**Sg**	**23 26 48.9**	**-1.0**
MANT	**Manisa**	**0.76**	**215**	P	**Pg**	**23 26 39.8**	**-0.2**
MANT				S	**Sg**	**23 26 48.9**	**-1.0**
KHAL	**Karahalli**	**0.80**	**158**	*i* P	**Pb**	**23 26 41.6**	**0.0**
KHAL	**Karahalli**	**0.80**	**158**	P	**Pb**	**23 26 41.6**	**0.0**
AKHS	**Akhisar**	**1.03**	**257**	*i* P	**Pg**	**23 26 45.3**	**+0.1**
AKHS				*i* S	**Sg**	**23 26 58.5**	**-0.2**
AKHS	**Akhisar**	**1.03**	**257**	P	**Pg**	**23 26 45.3**	**+0.1**
AKHS				S	**Sg**	**23 26 58.5**	**-0.2**
BALB	**Balikesir**	**1.08**	**299**	PN	**Pn**	**23 26 46.7**	**0.0**
BALB	**Balikesir**	**1.08**	**299**	*e*Pn	**Pn**	**23 26 46.7**	**0.0**
STEP	**BALIKESIR_Sava**	**1.11**	**284**	*i* P	**Pg**	**23 26 46.6**	**0.0**
STEP	**BALIKESIR_Sava**	**1.11**	**284**	P	**Pg**	**23 26 46.6**	**0.0**
CAVI	**Cavuskoy**	**1.23**	**27**	PN	**Pg**	**23 26 48.6**	**-0.3**
CAVI	**Cavuskoy**	**1.23**	**27**	*e*Pn	**Pg**	**23 26 48.6**	**-0.3**
SHUT	**Suhut-Afyon**	**1.26**	**116**	PN	**Pg**	**23 26 49.5**	**-0.1**
SHUT	**Suhut-Afyon**	**1.26**	**116**	*e*Pn	**Pg**	**23 26 49.5**	**-0.1**
MDNY	**Mudanya-Bursa**	**1.26**	**352**	PN	**Pg**	**23 26 49.4**	**-0.2**
MDNY	**Mudanya-Bursa**	**1.26**	**352**	*e*Pn	**Pg**	**23 26 49.4**	**-0.2**
KCTX	**Karacabey (Bur**	**1.28**	**334**	PN	**Pb**	**23 26 49.9**	**+0.1**
KCTX	**Karacabey (Bur**	**1.28**	**334**	*e*Pn	**Pb**	**23 26 49.9**	**+0.1**
ADVT	**Abdulvahap**	**1.40**	**20**	PN	**Pn**	**23 26 51.6**	**+0.5**
ADVT	**Abdulvahap**	**1.40**	**20**	*e*Pn	**Pn**	**23 26 51.6**	**+0.5**
ARMT	**Armutlu**	**1.46**	**353**	PN	**Pn**	**23 26 51.8**	**-0.1**
ARMT	**Armutlu**	**1.46**	**353**	*e*Pn	**Pn**	**23 26 51.8**	**-0.1**
YLV	**Yalova**	**1.46**	**8**	PN	**Pn**	**23 26 52.3**	**+0.3**
YLV	**Yalova**	**1.46**	**8**	*e*Pn	**Pn**	**23 26 52.3**	**+0.3**
AYDB	**Zeytinkoy-Aydi**	**1.51**	**220**	PN	**Pn**	**23 26 53.4**	**+0.7**
AYDB	**Zeytinkoy-Aydi**	**1.51**	**220**	*e*Pn	**Pn**	**23 26 53.4**	**+0.7**
GULT	**Gulveren**	**1.71**	**39**	PN	**Pn**	**23 26 55.9**	**+0.5**
GULT	**Gulveren**	**1.71**	**39**	*e*Pn	**Pn**	**23 26 55.9**	**+0.5**
BUY	**Buyukada**	**1.73**	**0**	PN	**Pn**	**23 26 56.3**	**+0.6**
BUY	**Buyukada**	**1.73**	**0**	*e*Pn	**Pn**	**23 26 56.3**	**+0.6**
ISK	**Istanbul-Kandi**	**1.95**	**359**	PN	**Pn**	**23 26 59.3**	**+0.7**
ISK	**Istanbul-Kandi**	**1.95**	**359**	*e*Pn	**Pn**	**23 26 59.3**	**+0.7**

*ISK **22** 23:30:56.5,39°.11N×29°.13E,h5km,ML2.2/8*
*ISCJB **22** 23:30:57.3±0.5,39°.13N±0°.05×29°.08E±0°.04,h4km±7km, Error ellipse: s-maj=8.4km s-min=4.1km az=155.8*
*DDA **22** 23:30:57.2,39°.09N×29°.09E,h7km,Ml2.5*
*CSEM **22** 23:30:57.4±0.1,39°.13N×29°.08E,h5km,ML2.2, Error ellipse: s-maj=3.8km s-min=2.7km az=136.0*

ISC 22 23:30:57.4±0.9,39°.11N±0°.03×29°.10E±0°.02,h8km±7km, n36,σ0s28/44,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIMA	**Simav-Kutahya**	**0.09**	**252**	PG	**Pg**	**23 30 59.7**	**-0.1**
SIMA				SG	**Sg**	**23 31 01.5**	**+0.1**
SIMA	**Simav-Kutahya**	**0.09**	**252**	*e*Pg	**Pg**	**23 30 59.7**	**-0.1**
SIMA				*e*Sg	**Sg**	**23 31 01.5**	**+0.1**
GDZ	**Gediz**	**0.30**	**94**	*i* P	**Pg**	**23 31 03.4**	**-0.1**
GDZ				*i* S	**Sg**	**23 31 07.9**	**+0.4**
GDZ	**Gediz**	**0.30**	**94**	P	**Pg**	**23 31 03.4**	**-0.1**
GDZ				S	**Sg**	**23 31 07.9**	**+0.4**
DEMI	**Demirci**	**0.30**	**257**	*i* P	**Pg**	**23 31 03.4**	**-0.1**
DEMI				*i* S	**Sg**	**23 31 07.1**	**-0.4**
DEMI	**Demirci**	**0.30**	**257**	P	**Pg**	**23 31 03.4**	**-0.1**
DEMI				S	**Sg**	**23 31 07.1**	**-0.4**
TVSB	**Tavsanli**	**0.44**	**40**	PG	**Pg**	**23 31 05.4**	**-0.7**
TVSB				SG	**Sg**	**23 31 11.5**	**-0.4**
TVSB	**Tavsanli**	**0.44**	**40**	*e*Pg	**Pg**	**23 31 05.4**	**-0.7**
TVSB				*e*Sg	**Sg**	**23 31 11.5**	**-0.4**
KULA	**Kula-Manisa**	**0.69**	**210**	PG	**Pg**	**23 31 10.4**	**-0.3**
KULA	**Kula-Manisa**	**0.69**	**210**	*e*Pg	**Pg**	**23 31 10.4**	**-0.3**
MANT	**Manisa**	**0.75**	**214**	*i* P	**Pg**	**23 31 11.7**	**-0.3**
MANT	**Manisa**	**0.75**	**214**	P	**Pg**	**23 31 11.6**	**-0.3**
KHAL	**Karahalli**	**0.80**	**157**	*i* P	**Pn**	**23 31 15.1**	**-0.1**
KHAL	**Karahalli**	**0.80**	**157**	P	**Pn**	**23 31 15.1**	**-0.1**
AKHS	**Akhisar**	**1.02**	**257**	*i* P	**Pg**	**23 31 17.0**	**-0.1**
AKHS	**Akhisar**	**1.02**	**257**	P	**Pg**	**23 31 17.0**	**-0.1**
BALB	**Balikesir**	**1.08**	**300**	PN	**Pb**	**23 31 18.5**	**+0.2**
BALB	**Balikesir**	**1.08**	**300**	*e*Pn	**Pb**	**23 31 18.5**	**+0.2**
STEP	**BALIKESIR_Sava**	**1.10**	**284**	*i* P	**Pb**	**23 31 18.7**	**0.0**
STEP	**BALIKESIR_Sava**	**1.10**	**284**	P	**Pb**	**23 31 18.7**	**0.0**
MDNY	**Mudanya-Bursa**	**1.27**	**353**	PN	**Pn**	**23 31 21.5**	**+0.1**
MDNY	**Mudanya-Bursa**	**1.27**	**353**	*e*Pn	**Pn**	**23 31 21.5**	**+0.1**
KCTX	**Karacabey (Bur**	**1.28**	**334**	PN	**Pb**	**23 31 22.1**	**+0.2**
KCTX	**Karacabey (Bur**	**1.28**	**334**	*e*Pn	**Pb**	**23 31 22.1**	**+0.2**
BORA	**Eskisehir**	**1.30**	**53**	*i* P	**Pg**	**23 31 22.5**	**+0.1**
BORA	**Eskisehir**	**1.30**	**53**	P	**Pg**	**23 31 22.5**	**+0.1**
ARMT	**Armutlu**	**1.46**	**353**	PN	**Pn**	**23 31 24.5**	**+0.4**
ARMT	**Armutlu**	**1.46**	**353**	*e*Pn	**Pn**	**23 31 24.5**	**+0.4**
YLV	**Yalova**	**1.47**	**8**	PN	**Pn**	**23 31 24.4**	**+0.1**
YLV	**Yalova**	**1.47**	**8**	*e*Pn	**Pn**	**23 31 24.4**	**+0.1**
AYDB	**Zeytinkoy-Aydi**	**1.50**	**219**	PN	**Pn**	**23 31 24.9**	**+0.2**
AYDB	**Zeytinkoy-Aydi**	**1.50**	**219**	*e*Pn	**Pn**	**23 31 24.9**	**+0.2**
EDC	**Edincik**	**1.56**	**323**	PN	**Pn**	**23 31 25.8**	**+0.4**
EDC	**Edincik**	**1.56**	**323**	*e*Pn	**Pn**	**23 31 25.8**	**+0.4**
GULT	**Gulveren**	**1.71**	**39**	PN	**Pn**	**23 31 27.5**	**-0.1**
GULT	**Gulveren**	**1.71**	**39**	*e*Pn	**Pn**	**23 31 27.5**	**-0.1**

MEX 22 23:33:39.8±0.6,16°.24N×98°.25W,h9km±5km,MD3.8,Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.19**	**38**	*i* P	Pg	23 33 43.3	-0.5
PNIG				*i* S	Sg	23 33 46.1	-0.4
TLIG	**Tlapa**	**1.35**	**347**	*e*P	Pn	23 34 01.0	-3.9
TLIG				*e*S	Sb	23 34 17.7	-5.1
VHO	**Vista Hermosa**	**1.67**	**60**	*e*P	Pn	23 34 05.9	-3.6
VHO				*e*S	Sn	23 34 25.8	-5.4
CAIG	**El Cayaco**	**2.09**	**293**	*e*P	Pn	23 34 11.3	-3.7

*ISCJB **22** 23:45:56.7±0.5,10°.27S±0°.03×76°.01W±0°.04,h130km±5km, mb4.4/99,Error ellipse: s-maj=7.0km s-min=5.6km az=163.0*
*NEIC **22** 23:45:58.5±0.2,10°.32S×75°.97W,mb4.6/87,ML4.7(ARE), Error ellipse: s-maj=5.9km s-min=3.6km az=48.0*
NEIC Felt [III] at Huanuco and [II] at Ambo, Panao and Yanahuanca. Also felt at Lima.
*IDC **22** 23:45:59.2±0.7, 10°.28S×76°.08W,h135km±4km,mb4.0/17, mb1 4.2/22,mb1mx4.0/47,mbtmp4.5/22,MS3.2/3, Ms1 3.2/3,ms1mx2.8/38,Error ellipse: s-maj=19.1km s-min=11.2km az=36.0*

ISC 22 23:45:58.4±0.5,10°.25S±0°.06×75°.91W±0°.07,h128km±4km, h128km:pP-P,n279,σ1s18/296,mb4.6/99,Central Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**1.95**	**208**	*e*Pn	**Pn**	**23 46 29.8**	**-1.8**
NNA				*e*Sn	**Sn**	**23 46 53.8**	**-3.4**
ARE	**Arequipa**	**7.52**	**146**	*e*P	**Pn**	**23 47 45.0**	**-0.6**
LPAZ	**La Paz**	**9.65**	**129**	P	**Pn**	**23 48 15.6**	**+0.8**
	0.7nm,0.3s,baz=321,slow=11,SNR=35						
LPAZ	**La Paz**	**9.65**	**129**	*e*Pn	**Pn**	**23 48 15.1**	**+0.4**
OTAV	**Otavalo**	**10.73**	**346**	*e*Pn	**Pn**	**23 48 28.6**	**-0.4**
MNMC	**Minye Minye**	**10.73**	**146**	*e*Pn	**Pn**	**23 48 27.9**	**-0.9**
PB11	**IPOC Station P**	**11.21**	**148**	*e*Pn	**Pn**	**23 48 33.9**	**-1.2**
FLOC	**Florencia**	**11.76**	**1**	*e*P	**Pn**	**23 48 40.9**	**-1.4**
CRUC	**La Cruz**	**11.79**	**355**	*e*P	**Pn**	**23 48 41.5**	**-1.5**
SOTA	**Rioblanco**	**12.33**	**357**	*e*P	**Pn**	**23 48 49.9**	**-0.2**
PCON	**Cinco Dias**	**12.51**	**358**	*e*P	**Pn**	**23 48 54.2**	**+1.6**
SAML	**Samuel**	**12.61**	**85**	*e*Pn	**Pn**	**23 48 51.9**	**-1.5**
	0.1nm,0.1s						
PRAC	**Prado**	**13.91**	**4**	*e*Pn	**Pn**	**23 49 09.6**	**-0.7**
PRAC	**Prado**	**13.91**	**4**	*e*P	**Pn**	**23 49 10.8**	**+0.6**
YOTC	**Yotoco, Valle**	**14.15**	**358**	*e*P	**P**	**23 49 15.7**	**-1.2**
VILC	**Villavicencio,**	**14.44**	**9**	*e*P	**Pn**	**23 49 16.8**	**-0.2**
CHIC	**Chingaza**	**14.94**	**8**	*e*P	**Pn**	**23 49 23.2**	**-0.4**
RREF	**El Recreo**	**15.07**	**2**	*e*P	**P**	**23 49 30.4**	**+2.8**
ROSC	**El Rosal**	**15.08**	**6**	P	**Pn**	**23 49 25.7**	**+0.4**
	0.9nm,0.3s,baz=331,slow=19,SNR=3.1						
ROSC				S	**S**	**23 52 22.8**	**+2.0**
	0.5nm,0.3s,baz=291,slow=18,SNR=1.5						
ROSC				LR	LR	23 56 32.2	
	comp=Z,48nm,19.6s,baz=204,slow=42						
ROSC	**El Rosal**	**15.08**	**6**	*e*Pn	**P**	**23 49 27.1**	**-0.4**
ROSC				S	**S**	**23 52 22.8**	**+2.0**
GUYC	**Guyana, Colomb**	**15.38**	**2**	*e*P	**P**	**23 49 33.4**	**+2.4**
SIV	**San Ignacio**	**15.53**	**113**	P	**Pn**	**23 49 31.3**	**+0.7**
	2.1nm,0.3s,baz=308,slow=12,SNR=34						
NORC	**Norcasia**	**15.75**	**4**	*e*P	**P**	**23 49 36.0**	**+1.4**
RUSC	**La Rusia**	**16.29**	**10**	*e*Pn	**P**	**23 49 42.4**	**+1.4**
	37nm,1.3s						
RUSC	**La Rusia**	**16.29**	**10**	*e*P	**P**	**23 49 41.7**	**+0.7**
HELC	**Santa Helena**	**16.34**	**1**	*e*Pn	**P**	**23 49 42.6**	**+1.1**
	21nm,1.1s						
PTBC	**PUERTO BERRIO,**	**16.75**	**5**	*e*P	**Pn**	**23 49 45.7**	**+0.2**
BRRC	**Barranca, Sant**	**17.39**	**7**	*e*P	**P**	**23 49 52.8**	**+0.2**
ZARC	**Zaragoza, Cauc**	**17.66**	**3**	*e*P	**P**	**23 49 56.2**	**+0.5**
PAMC	**Pamplona, Colo**	**17.77**	**10**	*e*P	**Pn**	**23 49 59.1**	**+0.8**
PTGA	**Pitinga**	**18.46**	**60**	P	**Pn**	**23 50 05.5**	**-0.5**
	5.5nm,0.3s,baz=244,slow=12,SNR=66						
PTGA				S	**S**	**23 53 21.4**	**-7.3**
	0.6nm,0.3s,baz=342,slow=20,SNR=3.1						
PTGA	**Pitinga**	**18.46**	**60**	*e*P	**P**	**23 50 05.2**	**+0.8**
	45nm,0.9s						
PTGA				S	**S**	**23 53 21.4**	**-7.3**
OCAC	**Ocana**	**18.55**	**8**	*e*P	**P**	**23 50 05.5**	**0.0**
BCIP	**Isla Barro Col**	**19.69**	**348**	*e*P	**P**	**23 50 18.8**	**+1.0**
	14nm,0.8s						
BCIP	**Isla Barro Col**	**19.69**	**348**	*e*P	**P**	**23 50 18.0**	**+0.3**
SDV	**Santo Domingo**	**19.73**	**16**	P	**P**	**23 50 19.4**	**+1.0**
	6.6nm,0.3s,baz=184,slow=10,SNR=97						
SDV				S	**S**	**23 53 52.3**	**-1.8**
	0.1nm,0.3s,baz=47,slow=19,SNR=2.4						
SDV				LR	LR	00 00 10.7	
	comp=Z,47nm,20.6s,baz=266,slow=43						
SDV	**Santo Domingo**	**19.73**	**16**	*e*P	**P**	**23 50 19.8**

121A	Cookes Peak, D baz=139	52.31	326	P	P	23 54 57.4 +0.1
P37A	Lathrop baz=157	52.47	342	P	P	23 54 57.3 -0.8
N41A	Harden Midland baz=162	52.55	346	P	P	23 54 57.4 -1.3
O37A	Wolven Farm, M baz=158	52.94	343	P	P	23 55 00.6 -0.9
N39A	Derby Farms, D baz=160	53.13	344	P	P	23 55 02.0 -0.9
ANMO	Albuquerque baz=142	53.45	329	P	P	23 55 05.6 0.0
ANMO	Albuquerque 5.5nm,1.0s	53.45	329	*eP*	P	23 55 05.5 -0.2
TUC	Tucson baz=136	53.87	323	P	P	23 55 08.6 0.0
TUC	Tucson 6.0nm,0.9s	53.87	323	*eP*	P	23 55 08.8 +0.2
M37A	Trindle Farm, baz=158,SNR=6.1	54.05	343	P	P	23 55 09.0 -0.6
T25A	Trinidad baz=145,SNR=8.9	54.21	332	P	P	23 55 11.2 +0.1
T25A	Trinidad 14nm,0.9s	54.21	332	*eP*	P	23 55 11.6 +0.4
MHTCO	State Highway 9.3nm,0.9s	54.33	332	*eP*	P	23 55 12.4 +0.4
214A	Organ Pipe Nat baz=134,SNR=12	54.84	321	P	P	23 55 15.7 +0.1
214A	Organ Pipe Nat 58nm,1.1s	54.84	321	*eP*	P	23 55 15.7 +0.1
X18A	Snowflake 18nm,1.5s	55.00	326	*eP*	P	23 55 17.6 +0.7
SDCO	Great Sand Dun baz=144,SNR=7.2	55.21	332	P	P	23 55 18.5 +0.1
SDCO	Great Sand Dun 10nm,0.8s	55.21	332	*eP*	P	23 55 17.5 -0.9
K36A	Gilmore City baz=158	55.30	343	P	P	23 55 17.9 -0.7
W18A	Petrified Fore baz=138	55.32	326	P	P	23 55 19.2 0.0
W18A	Petrified Fore 14nm,1.1s	55.32	326	*eP*	P	23 55 19.9 +0.7
K35A	Storm Lake baz=157	55.61	343	P	P	23 55 19.9 -0.9
I39A	Houston baz=161	55.69	346	P	P	23 55 20.5 -0.9
X16A	Lo Mia Camp, P 8.7nm,0.9s	55.76	324	*eP*	P	23 55 22.8 +0.5
S22A	4UR Ranch, Cre baz=142	55.84	331	P	P	23 55 22.6 -0.3
J36A	Seneca 1, Swea baz=158	55.91	344	P	P	23 55 22.0 -1.0
I38A	Scanlan Farm, baz=161	56.06	346	P	P	23 55 23.0 -1.0
H40A	Chili baz=163	56.17	348	P	P	23 55 24.4 -0.4
MVCO	Mesa Verde baz=141	56.25	329	P	P	23 55 25.6 -0.2
Y14A	Wickenburg 4.3nm,1.0s	56.33	323	*eP*	P	23 55 26.1 -0.1
WUAZ	Wupatki baz=137,SNR=7.2	56.52	325	P	P	23 55 28.0 +0.3
WUAZ	Wupatki 13nm,0.9s	56.52	325	*eP*	P	23 55 28.5 +0.8
ISCO	Idaho Springs baz=145	56.92	333	P	P	23 55 30.6 0.0
ISCO	Idaho Springs 3.0nm,0.8s	56.92	333	*eP*	P	23 55 30.6 0.0
ECSD	EROS Data Cent baz=156	56.94	342	P	P	23 55 29.3 -1.0
G38A	Ridgeland baz=161	57.01	347	P	P	23 55 30.0 -0.7
SMCO	Snowmass 6.3nm,0.9s	57.04	331	*eP*	P	23 55 31.9 +0.3
PV05	Paradox Valley	57.22	329	*eP*	P	23 55 32.5 -0.1
PDMCI	Parker Dam,Lak baz=134	57.26	322	P	P	23 55 33.5 +0.8
H35A	Sunnyside Ranc baz=158	57.32	344	P	P	23 55 32.0 -0.9
IKP	In-Ko-Pah, Jac baz=131	57.37	320	P	P	23 55 33.6 -0.1
PV10	Paradox Valley	57.42	329	*eP*	P	23 55 33.5 -0.6
PV09	Paradox Valley	57.56	329	*eP*	P	23 55 35.2 +0.1
BC3	Big Chuckawall baz=132	57.62	321	P	P	23 55 35.5 0.0
W13A	Hualapai Mount 8.6nm,1.0s	57.66	323	*eP*	P	23 55 35.8 0.0
U15A	North Rim 8.0nm,0.9s	57.69	326	*eP*	P	23 55 36.9 +0.8
MONP2	Monument Peak baz=131	57.73	320	P	P	23 55 35.9 -0.3
IRM	Iron Mountain baz=133,SNR=19	57.77	322	P	P	23 55 36.6 +0.3
F36A	Milaca baz=160	58.06	346	P	P	23 55 37.1 -1.0
BELC	Belle Mtn. Jos baz=132,SNR=6.6	58.19	321	P	P	23 55 39.3 -0.1
XPFO	Pæon Flat 9.9nm,1.1s	58.22	320	*eP*	P	23 55 40.2 +0.6
PFO	Pinyon Flats O baz=131,SNR=6.1	58.22	320	P	P	23 55 39.9 +0.3
PFO	Pinyon Flats O 9.3nm,1.1s	58.22	320	*eP*	P	23 55 40.2 +0.6
O20A	White River Ci baz=142	58.40	331	P	P	23 55 40.9 +0.1
O20A	White River Ci 6.6nm,0.8s	58.40	331	*eP*	P	23 55 40.7 -0.1
KNB	Kanab 13nm,0.8s	58.41	326	*eP*	P	23 55 41.9 +1.0
PKCU	Pink Cliffs 14nm,1.5s	58.44	326	*eP*	P	23 55 41.3 0.0
GMRC	Granite Mounta baz=133,SNR=6.6	58.51	322	P	P	23 55 41.6 +0.1
LCMT	Little Creek M 7.7nm,1.1s	58.64	325	*eP*	P	23 55 43.3 +0.8
SRU	San Rafael Swe 6.0nm,0.9s	58.73	329	*eP*	P	23 55 43.2 +0.1
HEC	Hector,Ludlow baz=132,SNR=6.6	58.95	321	P	P	23 55 45.4 +0.8
SZCU	Shurtz Canyon 3.6nm,1.0s	58.97	326	*eP*	P	23 55 45.6 +0.7
P18A	Preston Nutter 3.6nm,0.8s	58.98	329	*eP*	P	23 55 45.2 +0.3
CCUT	Cedar City 6.9nm,1.1s	59.09	326	*eP*	P	23 55 46.8 +1.1
P17A	Butcher Ranch, 8.1nm,0.8s	59.12	329	*eP*	P	23 55 45.7 -0.1
MSU	Marysvale	59.15	327	*eP*	P	23 55 46.6 +0.5
SCI2	San Clemente I baz=129	59.15	318	P	P	23 55 46.0 +0.1
RWWY	Rawlins 29nm,1.7s	59.16	333	*eP*	P	23 55 46.2 +0.1
TMUT	Trail Mountain 3.5nm,0.9s	59.22	329	*eP*	P	23 55 46.7 +0.1
SHPR	Sheep Range 7.1nm,1.1s	59.38	324	*eP*	P	23 55 48.1 +0.4
BFSC	Mount Baldy Ra baz=131	59.39	320	P	P	23 55 47.6 -0.1
GSC	Goldstone, Bar baz=132	59.55	322	P	P	23 55 49.2 +0.5
GSC	Goldstone, Bar 5.8nm,1.1s	59.55	322	*eP*	P	23 55 49.5 +0.8
MWC	Mount Wilson 12nm,0.9s	59.63	320	*eP*	P	23 55 50.0 +0.6
MPU	Maple Canyon 4.7nm,0.9s	59.98	329	*eP*	P	23 55 51.9 +0.2
NLU	North Lily Min 3.8nm,1.1s	60.16	328	*eP*	P	23 55 53.3 +0.4
LRMC	Laurel Mtn Rad baz=131	60.21	321	P	P	23 55 53.4 +0.1
JLU	Jordanelle 8.3nm,1.0s	60.32	329	*eP*	P	23 55 54.5 +0.4
TPNV	Topopah Spring baz=133,SNR=7.9	60.32	323	P	P	23 55 54.2 +0.2
TPNV	Topopah Spring 5.7nm,0.9s	60.32	323	*eP*	P	23 55 54.6 +0.6
FURC	Furnace Creek, baz=132	60.36	323	P	P	23 55 54.5 +0.4
MPMC	Manual Prospec baz=132,SNR=5.3	60.47	322	P	P	23 55 54.7 -0.4
CTU	Camp Tracy 4.4nm,0.7s	60.54	329	*eP*	P	23 55 55.7 +0.2
DAC	Darwin (Calif) 2.9nm,0.8s	60.68	322	*eP*	P	23 55 56.7 +0.2
TCUT	Toone Canyon 15nm,0.7s	60.69	330	*eP*	P	23 55 56.9 +0.4
DUG	Dugway, Tooele baz=138,SNR=21	60.72	328	P	P	23 55 56.9 +0.3
DUG	Dugway, Tooele 13nm,0.8s	60.72	328	*eP*	P	23 55 57.0 +0.3
ISA	Isabella, Lake baz=130	60.82	321	P	P	23 55 57.4 +0.1
ISA	Isabella, Lake 5.3nm,0.8s	60.82	321	*eP*	P	23 55 57.9 +0.6
R11A	Troy Canyon, C baz=158,SNR=12	60.90	325	P	P	23 55 58.3 +0.4
R11A	Troy Canyon, C 3.7nm,0.8s	60.90	325	*eP*	P	23 55 58.4 +0.4
BW06	Boulder Array 7.7nm,1.4s	61.08	332	*eP*	P	23 55 58.6 -0.5
PD31	Pinedale Array	61.08	332	*eP*	P	23 55 58.5 -0.6
PDAR	Pinedale Array 2.2nm,0.9s,baz=134,slow=6.4,SNR=16	61.08	332	P	P	23 55 58.3 -0.8
PDAR	Pinedale Array	61.08	332	*eP*	P	23 55 57.7 -1.4
CWC	Cottonwood Cre baz=131	61.08	322	P	P	23 55 59.2 0.0
HWUT	Hardware Ranch 12nm,0.8s	61.14	330	*eP*	P	23 55 59.1 -0.4
PKM	Mcpherson Peak baz=129	61.17	319	P	P	23 55 59.4 -0.4
SPUT	South Promonto 15nm,1.5s	61.35	329	*eP*	P	23 56 00.6 -0.3
BGU	Big Grassy Mou 5.3nm,1.0s	61.37	329	*eP*	P	23 56 01.0 0.0
A33A	Warroad baz=158	61.39	345	P	P	23 56 00.3 -0.5
HVU	Hansel Valley 6.0nm,0.8s	61.87	329	*eP*	P	23 56 04.2 -0.2
REDW	Red Top Meadow 7.8nm,1.4s	62.13	332	*eP*	P	23 56 06.0 -0.2
LOHW	Long Hollow 2.3nm,0.8s	62.21	332	*eP*	P	23 56 06.5 -0.2
FXWY	Fox Creek 2.3nm,1.1s	62.43	332	*eP*	P	23 56 08.0 -0.2
NV11	Mina Array Sit 0.4nm,1.2s	62.44	323	*eP*	P	23 56 08.4 +0.2
NV01	Mina Array Sit	62.52	323	*eP*	P	23 56 08.2 -0.7
NVAR	Mina Array Bea 2.5nm,0.8s,baz=146,slow=6.5,SNR=14	62.52	323	P	P	23 56 08.4 -0.5
NVAR	0.5nm,0.6s,baz=120,slow=5.3,SNR=1.8			pP	pP	23 56 39.9 +0.2
ULM	Lac du Bonnet 6.3nm,0.8s,baz=157,slow=5.3,SNR=15	62.73	346	P	P	23 56 08.8 -0.8
ULM	Lac du Bonnet 6.8nm,0.8s	62.73	346	*eP*	P	23 56 08.8 -0.8
RYN	Ryan 7.4nm,1.4s	62.78	323	*eP*	P	23 56 10.1 -0.4
RLMT	Red Lodge baz=143	62.80	334	P	P	23 56 09.9 -0.7
KVN	Kaiserville 4.1nm,1.3s	62.82	324	*eP*	P	23 56 10.8 0.0
YHH	Holmes Hill 4.3nm,0.9s	63.24	333	*eP*	P	23 56 14.3 +0.7
WAKR	Walker 5.5nm,0.9s	63.24	323	*eP*	P	23 56 14.6 +1.0
GCMT	Greycliff	63.50	334	*eP*	P	23 56 15.0 -0.1
VCNR	Virginia City 9.2nm,1.0s	63.88	323	*eP*	P	23 56 18.8 +1.0
HLID	Hailey baz=137,SNR=6.7	64.00	330	P	P	23 56 18.5 +0.1
HLID	Hailey 3.0nm,0.8s	64.00	330	*eP*	P	23 56 18.5 +0.1
PAHR	Pah Rah Range 10.0nm,0.9s	64.00	324	*eP*	P	23 56 19.4 +0.9
MCMT	McKenzie Canyo	64.18	332	*eP*	P	23 56 20.3 +0.6
BOZ	Bozeman (W) baz=140	64.21	333	P	P	23 56 19.5 -0.3
BOZ	Bozeman (W) 7.3nm,1.3s	64.21	333	*eP*	P	23 56 18.9 -0.8
MFID	Camas Ranch 13nm,0.9s	64.60	329	*eP*	P	23 56 22.7 +0.4
BEKR	Beckworth 6.0nm,1.0s	64.67	323	*eP*	P	23 56 23.5 +0.6
ORV	Oroville 15nm,1.0s	65.15	323	*eP*	P	23 56 26.7 +0.9
EGMT	Eagleton baz=143	65.31	336	P	P	23 56 26.6 -0.2
O03D	Paynes Creek baz=129	65.80	323	P	P	23 56 29.8 -0.3
MOD	Modoc Plateau 4.4nm,0.6s	65.97	325	*eP*	P	23 56 31.3 +0.1
MSO	Missoula baz=139,SNR=5.6	66.19	332	P	P	23 56 33.0 +0.5
MSO	Missoula 8.6nm,1.1s	66.19	332	*eP*	P	23 56 33.1 +0.6
K05A	Summer Lake 10.0nm,1.1s	66.83	325	*eP*	P	23 56 38.4 +1.6
F10A	Beach Ranch, E 3.6nm,0.8s	67.12	330	*eP*	P	23 56 39.8 +1.4
YBH	Yreka Blue Hor 2.9nm,0.5s,baz=111,slow=6.5,SNR=4.7	67.23	324	P	P	23 56 38.0 -1.2
J05D	Fort Rock, OR baz=131,SNR=5.2	67.39	326	P	P	23 56 40.7 +0.5
PINE	Pine Mountain 5.0nm,0.8s	67.56	326	*eP*	P	23 56 42.2 +0.8
J04D	Umppqua Nationa baz=130	67.85	325	P	P	23 56 43.4 +0.2
L02D	Cave Junction, baz=128	68.02	324	P	P	23 56 43.9 -0.1
I05D	Terrebonne, OR baz=131	68.14	327	P	P	23 56 45.1 +0.3
I04A	Tendick Farm, baz=130	68.37	326	P	P	23 56 45.7 -0.5
LIC	Lamto 47nm,1.3s	72.45	80	*eP*	P	23 57 11.9 +0.3
TIC	Toumodi	72.55	80	*eP*	P	23 57 12.9 +0.7
DBIC	Dimbokro 5.9nm,0.5s,baz=245,slow=5.2,SNR=19	72.72	80	P	P	23 57 14.3 +1.2
DBIC	Dimbokro 7.4nm,0.8s	72.72	80	*eP*	P	23 57 14.4 +1.2
KIC	Kosan Boka 20nm,0.7s	72.76	80	*eP*	P	23 57 14.4 +1.0
KOWA	Kowa 8.8nm,0.6s,baz=262,slow=7.2,SNR=39	75.38	72	P	P	23 57 30.1 +1.5
KOWA	Kowa 11nm,0.8s	75.38	72	*eP*	P	23 57 30.2 +1.5
YKA	Yellowknife Ar 1.0nm,0.6s,baz=140,slow=5.9,SNR=22	78.46	343	P	P	23 57 44.2 -0.6
YKA	0.7nm,0.6s,baz=137,slow=5.0,SNR=6.4			pP	pP	23 58 17.1 +0.2
TOA0	Torodi Ar. Sit	80.45	75	*eP*	P	23 57 57.7 +1.1
TORD	Torodi Ar. Bea 7.0nm,0.8s,baz=271,slow=4.3,SNR=48	80.45	75	P	P	23 57 57.8 +1.1
TORD	2.6nm,0.9s,baz=259,slow=5.1,SNR=3.0			pP	pP	23 58 29.8 +1.0
ESDC	Sonseca Array 2.6nm,0.6s,baz=255,slow=5.0,SNR=20	82.94	48	P	P	23 58 10.7 +1.4
ES19	SONSECA Array	82.99	48	*eP*	P	23 58 11.7 +2.1
TAM	Tamanrasset 3.0nm,0.9s	86.14	66	*eP*	P	23 58 28.6 +2.7
SUMG	Summit 4.6nm,0.9s	86.17	11	*eP*	P	23 58 23.2 -2.0
INK	Inuvik	88.18	342	*eP*	P	23 58 34.3 -0.2
EKA	Eskdalemuir Ar 0.8nm,0.7s,baz=283,slow=3.6,SNR=4.0	88.76	33	P	P	23 58 38.0 +0.6
EGAK	Eagle 4.3nm,0.9s	89.04	337	*eP*	P	23 58 38.6 0.0
KLU	Klutina	89.64	333	*eP*	P	23 58 41.6 0.0
PAX	Paxson 2.7nm,0.8s	90.02	335	*eP*	P	23 58 43.0 -0.4
ILAR	Eielson Array 0.5nm,0.8s,baz=144,slow=2.7,SNR=7.1	91.28	336	P	P	23 58 47.9 -1.2
MDM	Murphy Dome	91.88	336	*eP*	P	23 58 51.7 -0.1
BPAW	Bear Paw Mtn.	92.73	335	*eP*	P	23 58 55.3 -0.5
CAST	Castle Rocks	92.99	334	*eP*	P	23 58 56.1 -0.9
VYHS	Vyhne	100.73	42	*e*PDIFF	Pdif	23 59 35.0 +2.7
ABKAR	Akbulak array	126.61	35	*e*PKPdf	PKPdf	00 04 47.9 +1.3
BVAR	Borovoye Array 0.3nm,0.6s,baz=323,slow=0.7,SNR=3.2	129.46	26	PKP	PKPdf	00 04 52.7 +0.8
ZALV	Zalesovo Beam 0.7nm,0.6s,baz=298,slow=3.2,SNR=3.6	133.78	16	PKP	PKPdf	00 04 59.5 -0.6
ZALV	0.9nm,0.5s,baz=270,slow=3.0,SNR=3.2			pPKP	pPKPdf	00 05 37.0 +2.6
KURK	Kurchatov	134.54	23	PKP	PKPdf	00 05 02.5 +0.9
KURK				pPKP	pPKPdf	00 05 38.2 +2.3
KURBB	Kurchatov Arra 0.2nm,0.4s,baz=270,slow=1.7,SNR=3.7	134.58	23	PKP	PKPdf	00 05 02.4 +0.8
KURBB	0.5nm,0.7s,baz=11,slow=0.9,SNR=2.4			pPKP	pPKPdf	00 05 38.2 +2.2
ASAR	Alice Springs 0.9nm,0.8s,baz=149,slow=2.0,SNR=3.5	135.43	221	pPKP	pPKPdf	00 05 42.1 +3.6
WRA	Warramunga Arr 0.6nm,0.5s,baz=128,slow=2.4,SNR=4.3	137.72	225	PKP	PKPdf	00 05 08.3 -0.2
WRA	1.0nm,0.8s,baz=126,slow=1.7,SNR=4.0			pPKP	pPKPdf	00 05 44.8 +2.0
MKAR	Makanchi Array 0.3nm,0.6s,baz=247,slow=2.0,SNR=2.8	139.15	23	PKP	PKPdf	00 05 10.0 -0.3
KSRS	Korea Array 4.8nm,0.8s,baz=39,slow=3.7,SNR=14	145.45	325	PKPbc	PKPab	00 05 22.6 +0.3
KSRS	3.1nm,0.8s,baz=45,slow=3.1,SNR=4.6			pPKPbc	pPKPdf	00 05 57.8 +1.8
KSAR	Wonju Array Be	145.48	325	PKPbc	PKPab	00 05 22.6 +0.2
KSAR				pPKPbc	pPKPdf	00 05 57.8 +1.7
HHC	Hu-ho-hao-te	148.82	349	*e*P	PKPdf	00 05 28.8 +1.4
BATI	Baumata 40nm,0.3s,baz=90,slow=1.0,SNR=9.8	151.86	224	PKPbc	PKPbc	00 05 37.0 -2.3
LZH	Lanzhou	154.28	0	*e*PKPbc	PKPdf	00 05 36.0 +0.1
LZH				PKPbc	PKPab	00 06 01.3 +2.8
LZH				pPKP	pPKPdf	00 06 04.6 -5.7
LZH				sPKP		00 06 16.1
LZH	comp=N,110nm,18.2s			LR	LR	
LZH	comp=E,110nm,18.3s			LR	LR	
LZH	comp=Z,140nm,20.1s			LR	LR	

ISK ***22*** *23:55:28.6,39.°12N×29.°15E,h5km,ML2.1/10*
ISCJB ***22*** *23:55:29.1±0.5,39.°10N±0.°04×29.°13E±0.°04,h4km±6km, Error ellipse: s-maj=6.3km s-min=4.2km az=155.4*
CSEM ***22*** *23:55:29.2±0.1,39.°11N×29.°14E,h5km,ML2.1,Error ellipse: s-maj=2.6km s-min=2.1km az=138.0*
DDA ***22*** *23:55:29.4,39.°10N×29.°14E,h7km,Ml2.5*
ISC 22 23:55:29.2±0.9,39.°10N±0.°03×29.°13E±0.°02,h8km±8km, n42,σ0$37/50,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIMA	Simav-Kutahya	0.12	262	PG	Pg	23 55 32.1	+0.1
SIMA				SG	Sg	23 55 33.9	0.0
SIMA	Simav-Kutahya	0.12	262	*e*Pg	Pg	23 55 32.1	+0.1
SIMA				*e*Sg	Sg	23 55 33.9	0.0
GDZ	Gediz	0.27	92	*i* P	Pg	23 55 34.5	-0.1
GDZ				*i* S	Sg	23 55 38.9	+0.5
GDZ	Gediz	0.27	92	P	Pg	23 55 34.5	-0.1
GDZ				S	Sg	23 55 38.8	+0.5
DEMI	Demirci	0.33	260	*i* P	Pg	23 55 36.2	+0.4
DEMI	Demirci	0.33	260	P	Pg	23 55 36.2	+0.4
TVSB	Tavsanli	0.43	36	PG	Pg	23 55 37.1	-0.6
TVSB				SG	Sg	23 55 42.7	-0.7
TVSB	Tavsanli	0.43	36	*e*Pg	Pg	23 55 37.1	-0.6
TVSB				*e*Sg	Sg	23 55 42.7	-0.7
KULA	Kula-Manisa	0.69	212	PG	Pg	23 55 42.8	+0.2
KULA	Kula-Manisa	0.69	212	*e*Pg	Pg	23 55 42.8	+0.2
DURS	Dursunbey	0.71	315	*i* P	Pg	23 55 43.2	+0.2
DURS	Dursunbey	0.71	315	P	Pg	23 55 43.2	+0.2
MANT	Manisa	0.76	217	*i* P	Pg	23 55 43.8	0.0
MANT				*i* S	Sg	23 55 52.7	-1.0
MANT	Manisa	0.76	217	P	Pg	23 55 43.8	0.0
MANT				S	Sg	23 55 52.7	-1.0
KHAL	Karahalli	0.78	159	*i* P	Pb	23 55 45.0	-0.1
KHAL	Karahalli	0.78	159	P	Pb	23 55 45.0	-0.1
BALB	Balikesir	1.11	299	PN	Pb	23 55 50.8	+0.2
BALB	Balikesir	1.11	299	*e*Pn	Pb	23 55 50.8	+0.2
STEP	BALIKESIR_Sava	1.13	285	*i* P	Pn	23 55 51.6	+0.2
STEP	BALIKESIR_Sava	1.13	285	P	Pn	23 55 51.6	+0.2
SHUT	Suhut-Afyon	1.23	116	PN	Pb	23 55 52.9	+0.1
SHUT	Suhut-Afyon	1.23	116	*e*Pn	Pb	23 55 52.9	+0.1
MDNY	Mudanya-Bursa	1.28	351	PN	Pn	23 55 53.4	+0.1
MDNY	Mudanya-Bursa	1.28	351	*e*Pn	Pn	23 55 53.4	+0.1
BORA	Eskisehir	1.28	52	*i* P	Pg	23 55 54.5	+0.6
BORA	Eskisehir	1.28	52	P	Pg	23 55 54.5	+0.6
KCTX	Karacabey (Bur	1.31	333	PN	Pb	23 55 54.1	+0.1
KCTX	Karacabey (Bur	1.31	333	*e*Pn	Pb	23 55 54.1	+0.1
BALY	Balya	1.34	299	*i* P	Pn	23 55 54.0	-0.1
BALY	Balya	1.34	299	P	Pn	23 55 54.0	-0.1
YLV	Yalova	1.48	7	PN	Pn	23 55 56.3	+0.2
YLV	Yalova	1.48	7	*e*Pn	Pn	23 55 56.3	+0.2
ARMT	Armutlu	1.48	352	PN	Pb	23 55 56.8	-0.1
ARMT	Armutlu	1.48	352	*e*Pn	Pb	23 55 56.8	-0.1
AYDB	Zeytinkoy-Aydi	1.51	221	PN	Pb	23 55 57.3	-0.2
AYDB	Zeytinkoy-Aydi	1.51	221	*e*Pn	Pb	23 55 57.3	-0.2
EDC	Edincik	1.58	322	PN	Pn	23 55 57.9	+0.4
EDC	Edincik	1.58	322	*e*Pn	Pn	23 55 57.9	+0.4
GEYV	SAKARYA_Geyve	1.65	33	*i* P	Pg	23 56 00.7	-0.1
GEYV	SAKARYA_Geyve	1.65	33	P	Pg	23 56 00.7	-0.1
GULT	Gulveren	1.70	38	PN	Pn	23 55 59.5	+0.3
GULT	Gulveren	1.70	38	*e*Pn	Pn	23 55 59.5	+0.3

IDC 22 23:57:16.2±1.8,10.°71S×123.°55E,h0km,mb3.9/1, mb1 3.5/3,mb1mx3.2/57,mbtmpb3.4/3,ML3.2/2,Error ellipse: s-maj=42.4km s-min=12.7km az=100.0,Timor region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATI	Baumata 711nm,0.3s,baz=130,slow=7.5,SNR=209	0.51	13	Pg	Pg	23 57 26.9	+0.9
BATI	427nm,0.3s,baz=139,slow=20,SNR=66			Lg	Lg	23 57 32.2	
WRA	Warramunga Arr 0.1nm,0.3s,baz=306,slow=12,SNR=5.3	13.87	133	Pn	Pn	00 00 33.0	-1.3
WRA	0.1nm,0.3s,baz=306,slow=24,SNR=3.4			Sn	Sn	00 02 54.6	-15
ASAR	Alice Springs 0.1nm,0.3s,baz=315,slow=11,SNR=7.1	16.23	144	Pn	Pn	00 01 05.9	+0.1
ASAR	0.1nm,0.3s,baz=317,slow=22,SNR=3.8			Sn	Sn	00 03 58.0	-8.7
MKAR	Makanchi Array 0.8nm,0.7s,baz=133,slow=7.3,SNR=8.3	68.07	331	P	P	00 08 17.5	-0.2

DDA ***23*** *00:07:05.3,36.°18N×36.°07E,h27km,Ml3.5*
ISK ***23*** *00:07:05.9,36.°22N×36.°09E,h15km,ML3.3/15*
ISCJB ***23*** *00:07:06.7±0.4,36.°20N±0.°02×36.°10E±0.°03,h16km±5km, Error ellipse: s-maj=4.0km s-min=3.1km az=144.5*
CSEM ***23*** *00:07:06.3±0.1,36.°20N×36.°10E,h10km,ML3.5,Error ellipse: s-maj=4.0km s-min=2.1km az=160.0*
NSSC ***23*** *00:07:14.1±1.3,35.°87N×36.°63E,h37km±55km,ML2.8*
ISC 23 00:07:06.6±0.9,36.°15N±0.°02×36.°07E±0.°02,h24km±5km, n110,σ1$38/149,Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YAYL	Yayladag	0.12	164	PG	Pb	00 07 10.7	-0.7
YAYL				SG	Sb	00 07 14.2	-0.4
YAYL	Yayladag	0.12	164	*i* P	Pb	00 07 10.9	-0.5
YAYL				*i* S	Sb	00 07 14.4	-0.1
YAYL	Yayladag	0.12	164	P	Pb	00 07 10.9	-0.5
YAYL				S	Sb	00 07 14.4	-0.1
KRTD	Karatas-Adana	0.69	311	PG	Pb	00 07 19.2	-0.8
KRTD	Karatas-Adana	0.69	311	*e*Pg	Pb	00 07 19.2	-0.8
KRTS	Karatas	0.70	308	PG	Pb	00 07 19.9	-0.3
KRTS	Karatas	0.70	308	*e*Pg	Pb	00 07 19.9	-0.3
YURE	YUREGIR	0.77	333	PG	Pb	00 07 20.0	-1.2
YURE	YUREGIR	0.77	333	*i* P	Pb	00 07 20.1	-1.2
YURE				*i* S	Sn	00 07 34.5	+1.8
YURE	YUREGIR	0.77	333	P	Pb	00 07 20.1	-1.2
KUZU	Kuzuini	1.03	52	*i* P	Pn	00 07 25.2	-0.4
KUZU				*i* S	Sn	00 07 39.1	-0.2
KUZU	Kuzuini	1.03	52	P	Pn	00 07 25.2	-0.4
KUZU				S	Sn	00 07 39.1	-0.2
KOZT	Kozan	1.35	352	PN	Pn	00 07 29.4	-0.6
KOZT				SN	Sn	00 07 46.7	-0.4
KOZT	Kozan	1.35	352	*e*Pn	Pn	00 07 29.4	-0.6
KOZT				*e*Sn	Sn	00 07 46.7	-0.4
GAZ	Gaziantep	1.38	42	PN	Pn	00 07 30.4	0.0
GAZ				SN	Sb	00 07 48.2	-0.7
GAZ	Gaziantep	1.38	42	*e*Pn	Pn	00 07 30.4	0.0
GAZ				*e*Sn	Sb	00 07 48.2	-0.7
KARA	Karaisali	1.38	324	PN	Pn	00 07 30.5	+0.

GULE				*i* S		**Sb**	**00 07 54.4**	**+0.7**
GULE	**Gulek**	**1.54**	**318**	P		**Pb**	**00 07 33.4**	**-1.1**
GULE				S		**Sb**	**00 07 54.4**	**+0.7**
KIZK	**Mersin**	**1.59**	**283**	PN		**Pb**	**00 07 34.6**	**-0.7**
KIZK				SN		**Sb**	**00 07 55.3**	**+0.4**
KIZK	**Mersin**	**1.59**	**283**	*i* P		**Pb**	**00 07 34.2**	**-1.1**
KIZK				*i* S		**Sb**	**00 07 55.5**	**+0.6**
KIZK	**Mersin**	**1.59**	**283**	P		**Pb**	**00 07 34.2**	**-1.1**
KIZK				S		**Sb**	**00 07 55.5**	**+0.6**
SILI	**Silifke-Mersin**	**1.75**	**278**	PN		**Pb**	**00 07 37.0**	**-0.9**
SILI	**Silifke-Mersin**	**1.75**	**278**	*e*Pn		**Pb**	**00 07 37.0**	**-0.9**
SAIM	**ADANA**	**1.83**	**0**	*i* P		**Pn**	**00 07 37.0**	**+0.3**
SAIM				*i* S		**Sb**	**00 08 01.5**	**-0.4**
SAIM	**ADANA**	**1.83**	**0**	P		**Pn**	**00 07 37.0**	**+0.3**
SAIM				S		**Sb**	**00 08 01.5**	**-0.4**
HWQ	**Hawqa**	**1.86**	**183**	*e*P		**Pb**	**00 07 39.7**	**-0.3**
YESI	**Yesilovacik-Me**	**1.96**	**272**	PN		**Pn**	**00 07 39.6**	**+1.2**
YESI				SN		**Sb**	**00 08 04.3**	**-1.3**
YESI	**Yesilovacik-Me**	**1.96**	**272**	*e*Pn		**Pn**	**00 07 39.6**	**+1.2**
YESI				*e*Sn		**Sb**	**00 08 04.3**	**-1.3**
KERG	**Konya-Eregli**	**2.01**	**310**	*i* P		**Pn**	**00 07 40.5**	**+1.3**
KERG				*i* S		**Sb**	**00 08 07.4**	**+0.2**
KERG	**Konya-Eregli**	**2.01**	**310**	P		**Pn**	**00 07 40.5**	**+1.3**
KERG				S		**Sb**	**00 08 07.4**	**+0.2**
YAHY	**KAYSERI_Yahyal**	**2.03**	**344**	*i* P		**Pn**	**00 07 40.6**	**+1.2**
YAHY				*i* S		**Sn**	**00 08 05.0**	**+1.0**
YAHY	**KAYSERI_Yahyal**	**2.03**	**344**	P		**Pn**	**00 07 40.6**	**+1.2**
YAHY				S		**Sn**	**00 08 05.0**	**+1.0**
AKKU	**Akkuyu-Mersin**	**2.04**	**271**	PN		**Pn**	**00 07 40.8**	**+1.4**
AKKU	**Akkuyu-Mersin**	**2.04**	**271**	*e*Pn		**Pn**	**00 07 40.8**	**+1.4**
AKK2	**Akkuyu-Mersin**	**2.04**	**271**	PN		**Pn**	**00 07 40.6**	**+1.2**
AKK2	**Akkuyu-Mersin**	**2.04**	**271**	*e*Pn		**Pn**	**00 07 40.6**	**+1.2**
GULN	**MERSIN_Gulnar**	**2.04**	**272**	*i* P		**Pn**	**00 07 40.8**	**+1.3**
GULN				*i* S		**Sb**	**00 08 06.6**	**-1.4**
GULN	**MERSIN_Gulnar**	**2.04**	**272**	P		**Pn**	**00 07 40.8**	**+1.3**
GULN				S		**Sb**	**00 08 06.6**	**-1.4**
AKK1	**Akkuyu-Mersin**	**2.04**	**271**	PN		**Pn**	**00 07 40.9**	**+1.4**
AKK1	**Akkuyu-Mersin**	**2.04**	**271**	*e*Pn		**Pn**	**00 07 40.9**	**+1.4**
OREN	**Orenkoy-Mersin**	**2.11**	**272**	PN		**Pn**	**00 07 42.0**	**+1.6**
OREN	**Orenkoy-Mersin**	**2.11**	**272**	*e*Pn		**Pn**	**00 07 42.0**	**+1.6**
TEVE	**Tevekalti-Mers**	**2.14**	**279**	PN		**Pn**	**00 07 42.4**	**+1.5**
TEVE	**Tevekalti-Mers**	**2.14**	**279**	*e*Pn		**Pn**	**00 07 42.4**	**+1.5**
SURC	**SANLIURFA_SURC**	**2.18**	**70**	*i* P		**Pn**	**00 07 42.7**	**+1.3**
SURC				*i* S		**Sb**	**00 08 13.8**	**+1.9**
SURC	**SANLIURFA_SURC**	**2.18**	**70**	P		**Pn**	**00 07 42.7**	**+1.3**
ATAB	**Bozova**	**2.22**	**53**	*i* P		**Pn**	**00 07 41.8**	**-0.2**
ATAB				*i* S		**Sb**	**00 08 11.4**	**-1.8**
ATAB	**Bozova**	**2.22**	**53**	P		**Pn**	**00 07 41.8**	**-0.2**
ATAB				S		**Sb**	**00 08 11.4**	**-1.8**
BHL	**Bhannes**	**2.26**	**189**	*e*P		**Pb**	**00 07 45.0**	**-1.8**
ELBS	**KAHRAMANMARAS**	**2.34**	**21**	*i* P		**Pn**	**00 07 44.4**	**+0.8**
ELBS				*i* S		**Sb**	**00 08 18.3**	**+1.8**
ELBS	**KAHRAMANMARAS**	**2.34**	**21**	P		**Pn**	**00 07 44.4**	**+0.8**
DQRL	**Deir Qamar**	**2.47**	**190**	*e*P		**Pn**	**00 07 47.8**	**+2.3**
CSS	**Mathiatis**	**2.52**	**243**	PN		**Pn**	**00 07 47.9**	**+1.8**
CSS	**Mathiatis**	**2.52**	**243**	*e*Pn		**Pn**	**00 07 47.9**	**+1.8**
URFA	**Urfa**	**2.56**	**59**	PN		**Pn**	**00 07 46.9**	**+0.2**
URFA	**Urfa**	**2.56**	**59**	*e*Pn		**Pn**	**00 07 46.9**	**+0.2**
ERMK	**Ermenek**	**2.59**	**282**	*i* P		**Pb**	**00 07 50.8**	**-1.7**
ERMK				*i* S		**Sb**	**00 08 24.5**	**+0.5**
ERMK	**Ermenek**	**2.59**	**282**	P		**Pb**	**00 07 50.8**	**-1.7**
AKCD	**Akcadag**	**2.61**	**34**	*i* P		**Pn**	**00 07 48.6**	**+1.2**
AKCD	**Akcadag**	**2.61**	**34**	P		**Pn**	**00 07 48.6**	**+1.2**
QRWL	**Qaraoun**	**2.61**	**187**	*e*P		**Pn**	**00 07 50.0**	**+2.6**
QASN	**Qassioun**	**2.61**	**176**	*e*P		**Pb**	**00 07 51.6**	**-1.2**
QASN				*e*S		**Sn**	**00 08 16.5**	**-1.9**
QASN					AML	AML	00 08 36.0	
	comp=E,207nm,0.6s							
QASN					AML	AML	00 08 36.3	
	comp=N,134nm,0.8s							
AKDN	**Akdeniz- K¯–br**	**2.66**	**252**	PN		**Pn**	**00 07 49.2**	**+1.2**
AKDN	**Akdeniz- K¯–br**	**2.66**	**252**	*e*Pn		**Pn**	**00 07 49.2**	**+1.2**
DARE	**Darende-Malaty**	**2.67**	**25**	PN		**Pn**	**00 07 48.9**	**+0.6**
DARE	**Darende-Malaty**	**2.67**	**25**	*e*Pn		**Pn**	**00 07 48.9**	**+0.6**
BNN	**Bunyan**	**2.71**	**356**	PN		**Pn**	**00 07 48.5**	**-0.3**
BNN	**Bunyan**	**2.71**	**356**	*e*Pn		**Pn**	**00 07 48.5**	**-0.3**
BRBR	**Barbar**	**2.73**	**182**	*e*P		**Pb**	**00 07 52.5**	**-2.3**
BRBR				*e*S		**Sn**	**00 08 20.8**	**-0.7**
BRBR					AML	AML	00 08 40.5	
	comp=E,64nm,0.5s							
BRBR					AML	AML	00 08 41.6	
	comp=N,30nm,0.8s							
TOTH	**TOTAH**	**2.79**	**174**	*e*P		**Pb**	**00 07 54.0**	**-1.8**
TOTH				*e*S		**Sn**	**00 08 21.3**	**-1.5**
TOTH					AML	AML	00 08 41.1	
	comp=N,49nm,0.6s							
TOTH					AML	AML	00 08 43.9	
	comp=E,64nm,0.5s							
SHBL	**Chebaa**	**2.80**	**186**	*e*P		**Pn**	**00 07 53.2**	**+3.1**
AVNS	**Nevsehir-Avano**	**2.83**	**340**	*i* P		**Pn**	**00 07 50.0**	**-0.4**
AVNS				*i* S		**Sb**	**00 08 29.7**	**-1.0**
AVNS	**Nevsehir-Avano**	**2.83**	**340**	P		**Pn**	**00 07 50.0**	**-0.4**
MALT	**Malatya**	**2.87**	**40**	PN		**Pn**	**00 07 51.6**	**+0.6**
MALT	**Malatya**	**2.87**	**40**	*e*Pn		**Pn**	**00 07 51.6**	**+0.6**
SULT	**Sultanhani-AKS**	**2.89**	**316**	PN		**Pn**	**00 07 52.3**	**+1.1**
SULT	**Sultanhani-AKS**	**2.89**	**316**	*e*Pn		**Pn**	**00 07 52.3**	**+1.1**
HEKM	**Malatya_Hekimh**	**3.12**	**28**	*i* P		**Pn**	**00 07 55.8**	**+1.4**
HEKM				*i* S		**Sb**	**00 08 43.0**	**+3.9**
HEKM	**Malatya_Hekimh**	**3.12**	**28**	P		**Pn**	**00 07 55.8**	**+1.4**
CUALT	**Altinyayla-SIV**	**3.17**	**10**	*i* P		**Pn**	**00 07 56.7**	**+1.5**
CUALT	**Altinyayla-SIV**	**3.17**	**10**	P		**Pn**	**00 07 56.7**	**+1.5**
ELZG	**Elazig**	**3.31**	**44**	*i* P		**Pn**	**00 07 57.2**	**+0.2**
ELZG				*i* S		**Sb**	**00 08 50.0**	**+5.6**
ELZG	**Elazig**	**3.31**	**44**	P		**Pn**	**00 07 57.2**	**+0.2**
YOZ	**Yozgat**	**3.54**	**351**	PN		**Pn**	**00 08 00.8**	**+0.6**
YOZ	**Yozgat**	**3.54**	**351**	*e*Pn		**Pn**	**00 08 00.8**	**+0.6**
LADK	**Ladik-KONYA**	**3.60**	**306**	PN		**Pn**	**00 08 02.6**	**+1.6**
LADK	**Ladik-KONYA**	**3.60**	**306**	*e*Pn		**Pn**	**00 08 02.6**	**+1.6**
KEPZ	**Antalya-Kepez**	**3.67**	**283**	*i* P		**Pn**	**00 08 05.8**	**+3.9**
KEPZ				*i* S		**Sb**	**00 08 50.0**	**-4.9**
KEPZ	**Antalya-Kepez**	**3.67**	**283**	P		**Pn**	**00 08 05.8**	**+3.9**
DYBB	**Diyarbakir**	**3.72**	**60**	PN		**Pn**	**00 08 03.3**	**+0.6**
MAZI	**Mazidag**	**3.75**	**68**	PN		**Pn**	**00 08 04.1**	**+1.0**
MAZI	**Mazidag**	**3.75**	**68**	*e*Pn		**Pn**	**00 08 04.1**	**+1.0**
DIY	**Diyarbakir**	**3.76**	**61**	*e*Pn		**Pn**	**00 08 03.3**	**+0.1**
PTK	**Pertek**	**3.81**	**43**	PN		**Pn**	**00 08 04.6**	**+0.6**
PTK	**Pertek**	**3.81**	**43**	*e*Pn		**Pn**	**00 08 04.6**	**+0.6**
SVSK	**Karacayir**	**3.84**	**11**	PN		**Pn**	**00 08 04.8**	**+0.7**
SVSK	**Karacayir**	**3.84**	**11**	*e*Pn		**Pn**	**00 08 04.8**	**+0.7**
AFSR	**Af˙ar-Bala (A**	**4.06**	**325**	PN		**Pn**	**00 08 08.8**	**+1.5**
AFSR	**Af˙ar-Bala (A**	**4.06**	**325**	*e*Pn		**Pn**	**00 08 08.8**	**+1.5**
TOKT	**Tokat**	**4.19**	**5**	PN		**Pn**	**00 08 09.2**	**+0.2**
TOKT	**Tokat**	**4.19**	**5**	*e*Pn		**Pn**	**00 08 09.2**	**+0.2**
SUTC	**Sutluce-Ispart**	**4.28**	**290**	PN		**Pn**	**00 08 11.9**	**+1.6**
SUTC	**Sutluce-Ispart**	**4.28**	**290**	*e*Pn		**Pn**	**00 08 11.9**	**+1.6**

*IDC **23** 00:12:25.0±0.7, 2°.75N×89°.59E, h0km, mb4.0/23, mb1 4.1/25, mb1mx3.9/73, mbtmp4.0/25, ML4.2/1, MS3.5/12, Ms1 3.5/12, ms1mx3.2/59, Error ellipse: s-maj=19.7km s-min=16.8km az=52.0*
*NEIC **23** 00:12:26.3±3.3, 2°.69N×89°.63E, h10km±21km, mb4.5/8, Error ellipse: s-maj=10.2km s-min=7.1km az=202.0*
ISC 23 00:12:26.7±0.6, 2°.82N±0°.08×89°.59E±0°.05, h10km, n95, σ2°31/89, mb4.3/37, MS3.7/16, 3C-5D, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LHMI	**Lhok Sumawe**	**7.72**	**72**	*e*Pn	**Pn**	**00 14 19.6**	**+0.4**
GSI	**Gunungsitoli**	**8.12**	**101**	*e*Pn	**Pn**	**00 14 21.6**	**-3.2**
PSI	**Prapat**	**9.33**	**90**	Pn	**Pn**	**00 14 44.1**	**+2.7**
	baz=270,slow=20						
PSI				Sn	**Sn**	**00 16 19.1**	**-7.4**
	baz=196,slow=0.7						
PSI	**Prapat**	**9.33**	**90**	*e*Pn	**Pn**	**00 14 41.3**	**-0.1**
PSI				Sn	**Sn**	**00 16 19.1**	**-7.4**
PALK	**Pallekele**	**9.89**	**297**	Pn	**Pn**	**00 14 49.4**	**+0.2**
	2.3nm,0.3s,baz=116,slow=12,SNR=9.6						
PALK				Sn	Sn	00 16 31.8	-8.6
	14nm,0.3s,baz=123,slow=0.3,SNR=11						
PALK				LR	LR	00 18 21.9	
	comp=Z,300nm,18.7s,baz=116,slow=36						
PALK	**Pallekele**	**9.89**	**297**	*e*Pn	**Pn**	**00 14 50.1**	**+1.0**
PALK				*e*Sn	**Sn**	**00 16 32.7**	**-7.6**
KULM	**Kulim**	**11.30**	**77**	*e*Pn	**Pn**	**00 15 07.8**	**-0.7**
IPM	**Ipoh**	**11.53**	**81**	*e*Pn	**Pn**	**00 15 10.8**	**-0.7**
VIS	**Vishakhapatnam**	**16.03**	**338**	*i* P	**P**	**00 16 20.6**	**+4.7**
VIS				*i* S	**Sn**	**00 19 06.0**	**-4.4**
VIS				*i* S	**Sn**	**00 19 06.0**	**-4.4**
PBKT	**Sadao Pong**	**17.66**	**39**	P	**P**	**00 16 34.1**	**+0.1**
	16nm,1.0s						
PHIT	**Phitsanulok**	**17.81**	**36**	P	**P**	**00 16 37.2**	**+1.7**
	13nm,0.9s						
CHAI	**Chaiyaphum**	**17.83**	**42**	P	**P**	**00 16 37.5**	**+1.6**
	4.6nm,1.2s						
CMAR	**Chiang Mai Arr**	**18.04**	**30**	P	**P**	**00 16 39.2**	**+1.0**
	baz=228,slow=12,SNR=7.7						
CMAR				LR	LR	00 23 50.2	
	comp=Z,136nm,18.6s,baz=210,slow=38						
HYB	**Hyderabad**	**18.11**	**324**	*i* P	**P**	**00 16 40.0**	**+1.1**
HYB				*e*S	**Sn**	**00 19 51.0**	**-10**
SKNT	**Sakolnakorn**	**19.95**	**44**	P	**P**	**00 16 58.9**	**-0.2**
H08S3	**Diego Garcia H**	**19.97**	**239**	T	T	00 37 23.3	
	baz=59,slow=75,SNR=108						
H08S2	**Diego Garcia H**	**19.97**	**239**	T	T	00 37 27.2	
	baz=59,slow=75,SNR=114						
H08S1	**Diego Garcia H**	**19.99**	**239**	T	T	00 37 28.1	
	baz=59,slow=75,SNR=93						
LEM	**Lembang**	**20.39**	**118**	LR	LR	00 24 02.6	
	comp=Z,120nm,18.2s,baz=340,slow=34						
POO	**Poona**	**21.94**	**316**	*e*P	P	00 17 30.0	+9.3
	20nm,1.0s						
POO				*e*S	**S**	**00 21 20.0**	**-3.2**
RAMN	**Ramite**	**24.17**	**353**	*e*P	**P**	**00 17 45.7**	**+2.2**
	68nm,1.1s						
JIRN	**Jiri**	**24.91**	**353**	*e*P	**P**	**00 17 52.4**	**+1.9**
	104nm,1.2s						
DMN	**Daman**	**25.02**	**351**	*e*P	**P**	**00 17 53.2**	**+1.9**
KKN	**Kakani**	**25.17**	**351**	*e*P	**P**	**00 17 54.7**	**+2.1**
	22nm,0.8s						
GUN	**Gumba**	**25.20**	**352**	*e*P	**P**	**00 17 54.5**	**+1.4**
	45nm,1.0s						
KOLN	**Koldanda**	**25.46**	**348**	*e*P	**P**	**00 17 57.4**	**+2.1**
	7.5nm,0.6s						
GKN	**Gorkha**	**25.49**	**350**	*e*P	**P**	**00 17 57.5**	**+2.1**
	27nm,0.8s						
QIZ	**Qiongzhong**	**25.54**	**49**	P	**P**	**00 17 56.6**	**+0.8**
QIZ				S	**S**	**00 22 26.8**	**+3.1**
QIZ				LR	LR		
	comp=N,170nm,20.0s						
QIZ				LR	LR		
	comp=E,150nm,16.5s						
KMI	**Kunming**	**25.54**	**29**	P	**P**	**00 17 58.0**	**+2.0**
KMI				pmax	pmax		
	comp=Z,15nm,0.6s						
KMI				pmax	pmax		
	comp=Z,77nm,5.1s						
KMI				LR	LR		
	comp=N,210nm,18.2s						
KMI				LR	LR		
	comp=E,160nm,14.1s						
KMI				LR	LR		
	comp=Z,180nm,16.5s						
LSA	**Lhasa**	**26.78**	**3**	*e*P	**P**	**00 18 09.6**	**+2.2**
	comp=Z,27nm,0.8s						
NIL	**Nilore**	**34.26**	**335**	*e*P	**P**	**00 19 14.7**	**+1.6**
LZH	**Lanzhou**	**35.63**	**20**	*e*P	**P**	**00 19 25.3**	**+0.2**
LZH				pP	pP	00 19 28.5	+0.4
LZH				sP	sP	00 19 30.1	+0.7
LZH				*e*PP	**PP**	**00 20 46.3**	**+0.2**
LZH				pmax	pmax		
	comp=Z,21nm,1.2s						
LZH				pmax	pmax		
	comp=Z,62nm,4.9s						
LZH				LR	LR		
	comp=N,260nm,12.9s						
LZH				LR	LR		
	comp=E,270nm,13.2s						
LZH				LR	LR		
	comp=Z,330nm,16.7s						
XAN	**Xi'an**	**35.92**	**28**	P	**P**	**00 19 26.4**	**-1.0**
XAN				pmax	pmax		
	comp=Z,6.0nm,0.6s						
XAN				pmax	pmax		
	comp=Z,130nm,5.1s						
XAN				LR	LR		
	comp=N,130nm,15.3s						
XAN				LR	LR		
	comp=E,140nm,10.4s						
XAN				LR	LR		
	comp=Z,81nm,14.2s						
DAV	**Davao City (W)**	**36.09**	**82**	LR	LR	00 36 32.0	
	comp=Z,45nm,18.0s,baz=153,slow=40						
WSAR	**Wadi Sarin**	**36.19**	**307**	LR	LR	00 33 26.8	
	comp=Z,102nm,18.6s,baz=144,slow=35						
BATI	**Baumata**	**36.31**	**111**	LR	LR	00 35 14.1	
	comp=Z,90nm,18.3s,baz=266,slow=38						
GTA	**Gaotai**	**37.59**	**13**	*e*P	**P**	**00 19 42.5**	**+0.8**
GTA				pP	sP	00 19 46.8	+0.8
GTA				sP	pP	00 19 49.6	+4.8
GTA				S	**S**	**00 25 33.1**	**+1.8**
GTA				sS	sS	00 25 40.4	+4.0
GTA				pmax	pmax		
	comp=Z,7.0nm,1.2s						
GTA				pmax	pmax		
	comp=Z,280nm,5.0s						
GTA				LR	LR		
	comp=N,160nm,20.9s						
GTA				LR	LR		
	comp=E,190nm,19.5s						
GTA				LR	LR		
	comp=Z,110nm,18.5s						
KSH	**Kashi**	**38.57**	**343**	P	**P**	**00 19 50.9**	**+1.0**
NJ2	**Nanjing**	**40.03**	**40**	*e*P	**P**	**00 20 01.6**	**-0.5**
NJ2				pmax	pmax		
	comp=Z,16nm,0.5s						
WMQ	**Urumqi**	**40.86**	**358**	P	**P**	**00 20 10.8**	**+1.9**
WMQ				sP	sP	00 20 16.3	+3.1
WMQ				pmax	pmax		
	comp=Z,12nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,160nm,4.3s						
WMQ				LR	LR		
	comp=N,56nm,23.7s						
WMQ				LR	LR		
	comp=E,120nm,24.7s						
WMQ				LR	LR		
	comp=Z,100nm,20.5s						
AAK	**Ala-Archa**	**41.88**	**343**	P	**P**	**00 20 18.5**	**+1.1**
	comp=Z,0.4nm,0.3s,baz=180,slow=11,SNR=4.2						
AAK	**Ala-Archa**	**41.88**	**343**	*e*P	**P**	**00 20 19.0**	**+1.7**
HHC	**Hu-ho-hao-te**	**42.74**	**25**	*e*P	**P**	**00 20 25.9**	**+1.6**
HHC				pmax	pmax		
	comp=Z,17nm,0.9s						
HHC				pmax	pmax		
	comp=Z,55nm,5.6s						
H01W3	**Cape Leeuwin H**	**44.02**	**151**	T	T	01 07 28.6	
	baz=325,slow=75,SNR=22						
H01W2	**Cape Leeuwin H**	**44.03**	**151**	T	T	01 07 25.9	
	baz=325,slow=75,SNR=23						
H01W1	**Cape Leeuwin H**	**44.04**	**151**	T	T	01 07 30.0	
	baz=325,slow=75,SNR=21						
MK01	**Makanchi Array**	**44.24**	**353**	*e*P	**P**	**00 20 36.8**	**+0.5**
MKAR	**Makanchi Array**	**44.26**	**353**	P	**P**	**00 20 36.9**	**+0.5**
	comp=Z,1.4nm,0.6s,baz=169,slow=8.8,SNR=13						
MKAR	**Makanchi Array**	**44.26**	**353**	*e*P	**P**	**00 20 36.9**	**+0.5**
	comp=Z,11nm,0.6s						
MK31	**Makanchi Array**	**44.26**	**353**	*e*P	**P**	**00 20 36.9**	**+0.5**
GEYT	**Alibeck**	**45.29**	**324**	P	**P**	**00 20 45.6**	**+0.8**
	comp=Z,2.0nm,0.7s,baz=156,slow=8.0,SNR=8.3						
GYA0B	**ALIBECK ARRAY**	**45.29**	**324**	*e*P	**P**	**00 20 45.5**	**+0.7**
	comp=Z,3.0nm,0.7s						
SONM	**Songino Array**	**47.13**	**15**	P	**P**	**00 21 00.0**	**+0.8**
	comp=Z,6.5nm,0.9s,baz=202,slow=7.7,SNR=11						
SONA1	**Songino Array**	**47.15**	**15**	*e*P	**P**	**00 20 60.0**	**+0.6**
RAYN	**Ar Rayn**	**47.32**	**300**	*e*P	**P**	**00 21 02.1**	**+1.0**
	comp=Z,4.0nm,1.1s						
ULN	**Ulaanbaatar**	**47.34**	**16**	*e*P	**P**	**00 21 01.6**	**+0.7**
	comp=Z,2.4nm,0.8s						
KURBB	**Kurchatov Arra**	**48.54**	**351**	P	**P**	**00 21 10.1**	**+0.1**
	comp=Z,1.7nm,0.8s,baz=173,slow=7.4,SNR=13						
KURK	**Kurchatov**	**48.62**	**351**	P	**P**	**00 21 10.1**	**-0.5**
JNU	**Nakatsue**	**48.98**	**47**	LR	LR	00 41 58.8	
	comp=Z,49nm,20.4s,baz=272,slow=36						
KSRS	**Korea Array**	**49.23**	**41**	LR	LR	00 43 50.1	
	comp=Z,42nm,18.7s,baz=224,slow=38						
WRA	**Warramunga Arr**	**49.40**	**119**	P	**P**	**00 21 15.4**	**-1.7**
	comp=Z,0.8nm,0.5s,baz=297,slow=8.6,SNR=12						
ASAR	**Alice Springs**	**50.52**	**124**	P	**P**	**00 21 26.7**	**+1.0**
	comp=Z,0.2nm,0.3s,baz=300,slow=7.4,SNR=3.9						
ZALV	**Zalesovo Beam**	**51.12**	**356**	P	**P**	**00 21 29.6**	**+0.2**
	comp=Z,1.5nm,0.5s,baz=186,slow=8.4,SNR=8.9						
ZALV				LR	LR	00 45 55.8	
	comp=Z,34nm,18.7s,baz=82,slow=39						
ZALV	**Zalesovo Beam**	**51.12**	**356**	*e*P	**P**	**00 21 29.3**	**-0.2**
ZALV				*e*sP	**P**	**00 21 29.7**	**+0.2**
KMBO	**Kilima Mbogo**	**52.47**	**266**	P	**P**	**00 21 40.1**	**-0.5**
	comp=Z,0.9nm,0.5s,baz=70,slow=10,SNR=3.6						
BVAR	**Borovoye Array**	**52.51**	**346**	P	**P**	**00 21 39.6**	**-0.3**
	comp=Z,0.5nm,0.6s,baz=119,slow=12,SNR=5.3						
ABKAR	**Akbulak array**	**52.72**	**336**	*e*P	**P**	**00 21 42.4**	**+0.9**
	comp=Z,1.2nm,0.5s						
AKTO	**Aktyubinsk**	**54.43**	**336**	P	**P**	**00 21 54.5**	**+0.4**
	comp=Z,1.0nm,0.5s,baz=100,slow=11,SNR=4.9						
MJAR	**Matsushiro Arr**	**55.90**	**47**	LR	LR	00 47 13.5	
	comp=Z,33nm,18.9s,baz=95,slow=37						
KBZ	**Khabaz**	**57.97**	**322**	P	**P**	**00 22 20.7**	**+1.2**
	comp=Z,0.9nm,0.8s,baz=119,slow=10,SNR=3.4						
MMAI	**Mount Meron Ar**	**58.83**	**307**	P	**P**	**00 22 24.6**	**-1.3**
	comp=Z,2.7nm,0.9s,baz=258,slow=40,SNR=3.9						
MMAI				LR	LR	00 48 56.4	
	comp=Z,58nm,18.2s,baz=135,slow=37						
STKA	**Stephens Creek**	**60.17**	**129**	LR	LR	00 48 07.8	
	comp=Z,56nm,18.5s,baz=202,slow=36						
BR131	**Keskin Array S**	**62.46**	**314**	*e*P	**P**	**00 22 50.8**	**+0.3**
BRTR	**Keskin Array B**	**62.46**	**314**	P	**P**	**00 22 50.6**	**+0.1**
	comp=Z,0.9nm,0.7s,baz=136,slow=7.6,SNR=11						
BOSA	**Boshof**	**69.08**	**238**	P	**P**	**00 23 33.3**	**-0.1**
	comp=Z,3.0nm,0.6s,baz=79,slow=2.3,SNR=9.3						
VRI	**Vrincioaia**	**69.31**	**318**	*i* P	**P**	**00 23 35.3**	**+0.9**
PLOR	**Plostina**	**69.36**	**318**	*i* P	**P**	**00 23 36.0**	**+1.2**
TESR	**Tescani**	**69.56**	**319**	*i* P	**P**	**00 23 34.4**	**-1.6**
MLR	**Muntele Rosu**	**69.72**	**318**	P	**P**	**00 23 38.3**	**+1.1**
	comp=Z,0.8nm,0.9s,baz=96,slow=5.4						
MLR	**Muntele Rosu**	**69.72**	**318**	*i* P	**P**	**00 23 38.2**	**+1.1**
MLR	**Muntele Rosu**	**69.72**	**318**	*e*P	**P**	**00 23 37.4**	**+0.3**
	comp=Z,5.5nm,1.0s						
ARR	**Arges**	**70.57**	**317**	*i* P	P	00 23 47.9	+5.7
VTS	**Vitosha**	**70.82**	**314**	*i* P	**P**	**00 23 44.0**	**0.0**
VTS	**Vitosha**	**70.82**	**314**	*e*P	**P**	**00 23 43.9**	**-0.1**
	comp=Z,14nm,2.0s						
BURAR	**Bucovina Array**	**70.84**	**320**	*i* P	**P**	**00 23 41.9**	**-2.0**
BUR04	**Bucovina Ar. S**	**70.84**	**320**	*e*P	**P**	**00 23 45.1**	**+1.2**
BUR08	**Bucovina Ar. S**	**70.86**	**320**	*e*P	**P**	**00 23 45.2**	**+1.2**
DRGR		**72.24**	**318**	*i* P	P	00 24 00.7	+8.4
TIXI	**Tiksi**	**73.07**	**12**	P	**P**	**00 23 55.1**	**-1.5**
	comp=Z,1.0nm,0.3s,baz=269,slow=3.5,SNR=4.2						
FINES	**FINESS Array B**	**75.11**	**334**	P	**P**	**00 24 08.8**	**+0.1**
	comp=Z,1.4nm,0.6s,baz=108,slow=6.2,SNR=9.6						
ARCES	**ARCESS Array B**	**78.51**	**341**	P	**P**	**00 24 28.6**	**+0.8**
	comp=Z,5.6nm,1.0s,baz=79,slow=6.3,SNR=8.2						
GERES	**GERESS Array B**	**78.61**	**319**	P	**P**	**00 24 29.6**	**+0.7**
	comp=Z,0.7nm,0.6s,baz=108,slow=7.2,SNR=6.1						
HFS	**Hagfors**	**80.55**	**331**	P	**P**	**00 24 39.3**	**+0.1**
	comp=Z,1.7nm,0.7s,baz=92,slow=12,SNR=5.3						
TORD	**Torodi Ar. Bea**	**97.32**	**283**	P	**P**	**00 25 14.6**	**0.0**
	comp=Z,0.4nm,0.7s,baz=119,slow=5.1,SNR=4.0						
KOWA	**Kowa**	**92.79**	**285**	P	**P**	**00 25 41.3**	**+1.0**
	comp=Z,0.6nm,0.4s,baz=56,slow=7.3,SNR=3.4						

*IDC **23** 00:15:19.7±1.2, 41°.29N×143°.85E, h0km, mb3.7/8, mb1 3.8/9, mb1mx3.5/70, mbtmp3.6/9, ML3.0/1, Error ellipse: s-maj=27.9km s-min=24.6km az=92.0*
*ISCJB **23** 00:15:22.7±0.8, 41°.50N±0°.05×143°.97E±0°.08, h27km, mb3.7/8, Error ellipse: s-maj=9.1km s-min=7.8km az=10.6

	comp=Z,123nm,0.3s,baz=169,slow=9.5,SNR=377							
APG					S	Sn	00 16 47.1	+1.3
	comp=Z,295nm,0.3s,baz=26,slow=14,SNR=17							
VSM	San Miguel	1.88	90	eP		Pn	00 16 30.2	+0.3
CAHU	Cacacuatique	1.97	80	eP		Pn	00 16 30.9	-0.2
CNCH	Conchagua	2.32	93	eP		Pn	00 16 35.6	0.0
CNCH					eS	Sn	00 17 04.2	+1.0
THIG		2.48	307	P		Pn	00 16 37.7	0.0
CCIG	Comitan	3.40	327	ePn		Pn	00 16 52.5	+1.9
CNGN	Cerro Negro	3.54	105	eP		Pn	00 16 51.0	-1.4
CNGN					eS	Sn	00 17 32.0	-1.0
PCIG		3.69	308	P		Pn	00 16 54.7	+0.3
PCIG					S	Sn	00 17 34.2	-2.5
MOMN	Momotombo	3.72	105	eP		Pn	00 16 54.1	-0.6
MOMN					eS	Sn	00 17 34.5	-2.8
COPN	Copaltepe	3.74	109	eP		Pn	00 16 54.6	-0.4
ESTN	Estel	3.75	94	eP		Pn	00 16 55.2	0.0
ESTN					AML	AML	00 17 52.6	
	comp=N,167nm,0.7s							
BRAN	Las Pilas	3.83	100	eP		Pn	00 16 56.1	-0.1
RCON	San Juan de Ri	3.94	89	eP		Pn	00 16 58.1	+0.2
MGAN	Managua	4.07	108	eP		Pn	00 16 59.3	-0.1
MGAN					AML	AML	00 17 55.0	
	comp=N,108nm,0.7s							
MATN	Matagalpa	4.20	96	eP		Pn	00 17 01.1	-0.3
TGIG		4.37	320	P		Pn	00 17 04.1	+0.5
TGIG					S	Sn	00 17 54.9	+1.7
CONN	Concepcion	4.84	112	eP		Pn	00 17 09.7	-0.4
CRZ1	La Cruz	5.04	117	eP		Pn	00 17 13.4	+0.6
CUI	Cuipilapa	5.65	119	eP		Pn	00 17 22.4	+1.2
CMIG	Matias Romero	5.80	310	P		Pn	00 17 25.2	+2.0
	comp=N,3.0nm,0.3s,baz=143,slow=12,SNR=22							
CMIG					S	Sn	00 18 28.5	+0.1
	comp=N,3.7nm,0.3s,baz=76,slow=19,SNR=5.3							
JTS	JuntasAbangare	6.01	121	P		Pn	00 17 26.5	+0.4
	comp=N,4.9nm,0.3s,baz=184,slow=23,SNR=33							
JTS					S	Sn	00 18 32.0	-1.7
	comp=N,5.4nm,0.3s,baz=17,slow=20,SNR=2.9							
JTS	JuntasAbangare	6.01	121	ePn		Pn	00 17 27.1	+1.0
	comp=N,45nm,0.8s							
JTS					eSn	Sn	00 18 33.5	-0.2
JTS	JuntasAbangare	6.01	121	eP		Pn	00 17 27.0	+0.9
JCR	Jicaral	6.12	125	eP		Pn	00 17 29.1	+1.4
CGA2	Cerro Gallo 2	6.56	120	eP		Pn	00 17 35.5	+1.7
LCR2	La Lucha 2	7.09	120	eP		Pn	00 17 43.4	+2.2
URSC	Urasca	7.24	119	eP		Pn	00 17 45.7	+2.7
BUS	Buena Vista	7.40	121	eP		Pn	00 17 47.2	+1.7
OTAV	Otavalo	17.53	137	ePn		P	00 20 02.5	+1.8
SDV	Santo Domingo	19.72	101	P		P	00 20 17.2	-7.3
	comp=N,0.0nm,0.3s,baz=276,slow=12,SNR=1.9							
SDV	Santo Domingo	19.72	101	eP		P	00 20 24.8	+0.3
TXAR	Lajitas Array	20.16	324	P		Pn	00 20 31.1	-0.4
	comp=N,1.6nm,0.8s,baz=151,slow=10,SNR=19							
OXF	Oxford	21.01	2	eP		P	00 20 40.3	+2.2
	comp=N,37nm,1.1s							
MIAR	Mount Ida	21.25	352	eP		P	00 20 40.2	-0.5
	comp=N,7.1nm,0.9s							
TKL	Tuckaleechee C	22.89	14	P		P	00 20 49.4	-8.7
	comp=N,6.0nm,1.1s,baz=156,slow=10.0,SNR=2.5							
MNTX	Cornudas Mount	22.91	325	eP		P	00 20 59.6	+1.2
	comp=N,4.2nm,0.9s							
WCI	Wyandotte Cave	24.95	7	eP		P	00 21 16.7	-0.5
	comp=N,72nm,0.8s							
RSSD	Black Hills	32.81	341	P		P	00 22 32.4	+5.0
	comp=N,1.4nm,0.9s							
HWUT	Hardware Ranch	33.68	330	P		P	00 22 38.1	+3.2
	comp=N,1.5nm,0.8s							
PDAR	Pinedale Array	33.69	334	P		P	00 22 35.6	+0.6
	comp=N,0.2nm,0.5s,baz=134,slow=5.1,SNR=2.8							
NVAR	Mina Array Bea	35.22	320	P		P	00 22 50.7	+2.4
	comp=N,3.8nm,0.8s,baz=140,slow=7.8,SNR=24							
NVAR					pP	pP	00 23 06.9	+2.9
	comp=N,2.1nm,0.6s,baz=134,slow=7.7,SNR=8.0							
NVAR					PcP	PcP	00 25 19.4	+1.3
	comp=N,0.6nm,0.6s,baz=109,slow=4.9,SNR=3.8							
LPAZ	La Paz	36.71	143	P		P	00 23 01.8	+0.2
	comp=N,1.7nm,0.8s,baz=332,slow=10,SNR=8.0							
ULM	Lac du Bonnet	37.02	354	P		P	00 23 00.1	-3.1
	comp=N,1.6nm,0.3s,baz=170,slow=9.1,SNR=8.7							
ULM					pP	pP	00 23 16.6	-2.3
	comp=N,3.3nm,0.7s,baz=169,slow=8.4,SNR=5.4							
SIV	San Ignacio	41.04	134	P		P	00 23 36.6	-0.6
	comp=N,1.3nm,0.6s,baz=306,slow=7.9,SNR=7.3							
YKA	Yellowknife Ar	52.00	346	P		P	00 25 00.6	-1.7
	comp=N,0.2nm,0.3s,baz=150,slow=7.8,SNR=10							
YKA					pP	pP	00 25 17.2	-1.5
	comp=N,1.0nm,0.9s,baz=147,slow=7.8,SNR=8.3							
RES	Resolute Bay	61.31	359	P		P	00 26 05.3	-3.0
	comp=N,0.4nm,0.4s,baz=180,slow=5.6,SNR=4.1							
WRA	Warramunga Arr	136.93	255	PKP		PKPdf	00 35 19.0	+2.8
	comp=N,0.7nm,0.9s,baz=88,slow=2.5,SNR=6.0							
WRA					pPKP	pPKPdf	00 35 35.6	+0.9
	comp=N,1.1nm,0.9s,baz=86,slow=2.4,SNR=4.5							

ISK ***23*** *00:18:08.8, 38.30N×38.95E, h6km, ML2.2/3*
CSEM ***23*** *00:18:09.4±0.2, 38.30N×38.94E, h2km, ML2.8, Error ellipse: s-maj=5.9km s-min=4.1km az=15.0*
DDA ***23*** *00:18:09.5, 38.32N×38.93E, h7km, Ml2.8*
ISC 23 00:18:09.6±1.0, 38.30N±0.02×38.95E±0.02, h8km±8km, n26, σ0965/44, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ELZG	Elazig	0.20	7	*i* P			Pg	00 18 13.8	+0.1
ELZG				*i* S			Sg	00 18 16.9	+0.3
ELZG	Elazig	0.20	7	P			Pg	00 18 13.8	+0.1
ELZG				S			Sg	00 18 16.9	+0.3
MALT	Malatya	0.41	272	PG			Pg	00 18 17.6	-0.1
MALT				SG			Sg	00 18 23.4	+0.2
PTK	Pertek	0.68	30	PG			Pg	00 18 22.2	-0.6
AKCD	Akcadag	0.81	270	*i* P			Pg	00 18 24.7	-0.6
AKCD				*i* S			Sb	00 18 36.2	-0.9
AKCD	Akcadag	0.81	270	P			Pg	00 18 24.7	-0.6
AKCD				S			Sb	00 18 36.2	-0.9
URFA	Urfa	0.87	187	PG			Pg	00 18 26.1	-0.2
URFA				SG			Sg	00 18 37.6	0.0
HEKM	Malatya_Hekimh	0.97	307	*i* P			Pg	00 18 27.3	-1.0
HEKM				*i* S			Sb	00 18 41.4	-0.4
HEKM	Malatya_Hekimh	0.97	307	P			Pg	00 18 27.3	-1.0
HEKM				S			Sb	00 18 41.4	-0.4
DIYA	Diyarbakir	1.00	112	*i* P			Pb	00 18 29.7	+0.5
DIYA				*i* S			Sn	00 18 45.1	+0.9
DIYA	Diyarbakir	1.00	112	P			Pb	00 18 29.7	+0.5
DIYA				S			Sn	00 18 45.1	+0.9
DYBB	Diyarbakir	1.00	110	PG			Pg	00 18 28.7	-0.1
DYBB				SG			Sb	00 18 42.7	+0.2
DIY	Diyarbakir	1.08	112	*e*Pg			Pg	00 18 28.7	-1.8
DIY				*e*Sg			Sg	00 18 42.7	-1.9
HANI	Diyarbakir_Han	1.14	84	*i* P			Pb	00 18 31.8	+0.1
HANI				*i* S			Sn	00 18 47.9	0.0
HANI	Diyarbakir_Han	1.14	84	P			Pb	00 18 31.8	+0.1
HANI				S			Sn	00 18 47.9	0.0
DARE	Darende-Malaty	1.18	284	PN			Pg	00 18 31.8	-0.6
DARE	Darende-Malaty	1.18	284	*e*Pn			Pg	00 18 31.8	-0.6
SURC	SANLIURFA_SURC	1.45	191	*i* P			Pg	00 18 37.1	-0.3
SURC				*i* S			Sg	00 18 56.6	+0.5
SURC	SANLIURFA_SURC	1.45	191	P			Pg	00 18 37.1	-0.3
SURC				S			Sg	00 18 56.6	+0.5
MAZI	Mazidag	1.45	125	PN			Pn	00 18 36.4	+0.1
KMRS	Kahramanmaras	1.81	244	PN			Pn	00 18 41.4	+0.3
KMRS	Kahramanmaras	1.81	244	*e*Pn			Pn	00 18 41.4	+0.3
KELT	Kelkit	1.86	7	*i* P			Pb	00 18 43.7	-0.2
KELT				*i* S			Sb	00 19 07.6	+0.2
KELT	Kelkit	1.86	7	P			Pb	00 18 43.7	-0.2
KELT				S			Sb	00 19 07.6	+0.2
SVSK	Karacayir	2.22	317	PN			Pn	00 18 47.3	+0.7
SVSK	Karacayir	2.22	317	*e*Pn			Pn	00 18 47.3	+0.7

ISCJB ***23*** *00:19:48.9±0.7, 13.28N±0.05×90.23W±0.05, h58km, mb3.9/6, Error ellipse: s-maj=8.1km s-min=5.6km az=31.8*
UCR ***23*** *00:19:49.8±0.8, 13.30N×90.17W, h25km±6km, MD3.2, ML4.5, mb5.2(NEIC)*
IDC ***23*** *00:19:51.9±1.1, 14.03N×89.21W, h64km±8km, mb3.5/7, mb1 3.8/8, mb1mx3.4/50, mbtmp3.8/8, Error ellipse: s-maj=33.7km s-min=9.1km az=35.0*
ISC 23 00:19:49.5±0.8, 13.40N±0.08×90.17W±0.07, h58km, n36, σ1980/41, mb3.8/6, 3D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SBLS	San Blas	0.69	50	*i* P			Pn	00 20 04.2	+0.5
RTR	El Retiro	0.71	46	*e*P			Pn	00 20 04.6	+0.7
SNJE	San Jose	0.72	50	*i* P			Pn	00 20 04.6	+0.6
UNIC	Santa Ana	0.84	45	*i* P			Pn	00 20 06.0	+0.6
UNIC					IAML			00 20 20.6	
	comp=Z,8μm,0.5s								
COLS	Colinas	0.89	73	*e*P			Pn	00 20 06.7	+0.6
BOQS	Boqueron	0.93	69	*e*P			Pn	00 20 07.7	+1.0
SNET	Serv Nac Est T	0.96	72	*e*P			Pn	00 20 07.9	+0.9
SNET					*e*S		Sn	00 20 21.6	+1.7
SNET					IAML			00 20 22.9	
	comp=Z,15μm,0.3s								
UEES	San Salvador	0.96	70	*e*P			Pn	00 20 08.0	+1.0
UEES					*e*S		Sn	00 20 21.9	+2.0
UEES					IAML			00 20 23.4	
	comp=Z,25μm,0.4s								
UTEC	San Salvador	0.99	72	*e*P			Pn	00 20 08.9	+1.6
UTEC					IAML			00 20 27.9	
	comp=Z,12μm,0.3s								
UESS	San Salvador	0.99	72	*e*P			Pn	00 20 08.7	+1.3
UESS					IAML			00 20 25.7	
	comp=Z,15μm,0.3s								
OPAM	San Salvador	0.99	71	*e*P			Pn	00 20 08.7	+1.3
OPAM					IAML			00 20 24.6	
	comp=Z,18μm,0.4s								
UDBS	Soyapango	1.04	72	*e*P			Pn	00 20 09.1	+1.1
UDBS					IAML			00 20 26.1	
	comp=Z,13μm,0.2s								
LFU	La Fuente	1.08	71	*e*P			Pn	00 20 10.0	+1.4
LFU					*e*S		Sn	00 20 26.0	+3.1
LFRS	El Faro	1.10	78	*e*P			Pn	00 20 09.7	+0.8
LBRS	Las Brisas	1.15	73	*e*P			Pn	00 20 10.7	+1.2
SNVI	San Vicente	1.31	81	*e*P			Pn	00 20 13.2	+1.5
APG	El Apazote	1.62	350	P			Pn	00 20 16.6	+0.6
	comp=Z,209nm,0.3s,baz=194,slow=11,SNR=95								
APG					S		Sn	00 20 37.3	+1.3
	comp=Z,524nm,0.3s,baz=85,slow=17,SNR=24								
CAHU	Cacacuatique	1.94	79	*e*P			Pn	00 20 21.5	+1.2
LCND	La Ca˜–ada	2.22	92	*e*P			Pn	00 20 25.1	+1.1
CNCH	Conchagua	2.28	93	*e*P			Pn	00 20 26.3	+1.4
CNGN	Cerro Negro	3.50	104	*e*P			Pn	00 20 41.8	+0.3
MOMN	Momotombo	3.67	105	*e*P			Pn	00 20 45.0	+1.1
COPN	Copaltepe	3.69	109	*e*P			Pn	00 20 45.2	+1.1
ESTN	Estel	3.71	94	AML		AML		00 22 55.0	
	comp=E,957nm,0.8s								
BRAN	Las Pilas	3.78	100	*e*P			Pn	00 20 51.0	+5.6
CMIG	Matias Romero	5.84	309	P			Pn	00 21 16.0	+2.4
	comp=E,4.5nm,0.3s,baz=150,slow=12,SNR=6.7								
JTS	JuntasAbangare	5.97	121	P			Pn	00 21 17.5	+2.1
	comp=E,4.9nm,0.3s,baz=12,slow=20,SNR=9.4								
JTS					S		Sn	00 22 22.0	-0.4
	comp=E,7.6nm,0.3s,baz=354,slow=18,SNR=4.7								
SDV	Santo Domingo	19.68	101	P			P	00 24 09.8	-4.5
	comp=E,0.2nm,0.3s,baz=307,slow=20,SNR=1.8								
TXAR	Lajitas Array	20.20	324	P			Pn	00 24 22.0	-0.1
	comp=E,1.0nm,0.5s,baz=146,slow=11,SNR=17								
NVAR	Mina Array Bea	35.26	320	P			P	00 26 41.2	+2.3
	comp=E,2.8nm,0.7s,baz=134,slow=7.7,SNR=15								
NVAR					pP		pP	00 26 57.3	+3.8
	comp=E,2.0nm,0.6s,baz=136,slow=7.5,SNR=6.6								
LPAZ	La Paz	36.67	143	P			P	00 26 52.4	+0.8
	comp=E,1.2nm,0.7s,baz=261,slow=18,SNR=5.2								
ULM	Lac du Bonnet	37.04	354	P			P	00 26 50.9	-2.8
	comp=E,5.3nm,0.8s,baz=171,slow=7.2,SNR=9.2								
ULM					pP		pP	00 27 06.6	-1.7
	comp=E,3.0nm,0.6s,baz=165,slow=7.8,SNR=5.2								
SIV	San Ignacio	40.99	135	P			P	00 27 27.3	+0.1
	comp=E,0.9nm,0.5s,baz=302,slow=7.7,SNR=5.1								
YKA	Yellowknife Ar	52.03	346	P			P	00 28 50.8	-2.0
	comp=E,0.3nm,0.6s,baz=144,slow=8.1,SNR=8.7								
YKA					pP		pP	00 29 07.9	-0.3
	comp=E,0.7nm,0.8s,baz=146,slow=8.2,SNR=7.5								
TORD	Torodi Ar. Bea	88.79	77	P			P	00 32 35.7	-2.1
	comp=E,0.2nm,0.7s,baz=308,slow=3.3,SNR=3.5								
WRA	Warramunga Arr	136.97	255	PKP			PKPdf	00 39 09.8	+3.1
	comp=E,0.5nm,0.7s,baz=97,slow=1.7,SNR=3.0								

IDC ***23*** *00:20:32.1±0.4, 15.84N×89.14W, h0km, mb4.6/36, mb1 4.8/39, mb1mx4.7/51, mbtmp4.7/39, ML4.5/3, MS4.3/13, Ms1 4.3/13, ms1mx4.1/21, Error ellipse: s-maj=10.3km s-min=9.1km az=18.0*
NEIC ***23*** *00:20:34.4±0.2, 15.77N×89.21W, h10km, mb5.2/296, MD5.4(SNET), Error ellipse: s-maj=3.8km s-min=2.5km az=207.0*
NEIC Felt [IV] at Puerto Barrios and [III] at Antigua Guatemala, El Estor, Guatemala and Santa Catarina Pinula. Felt [IV] at Ostuman and [II] at San Pedro Sula, Honduras. Felt [III] at Belize City, Benque Viejo del Carmen, Dangriga, Punta Gorda and San Ignacio and [II] at Belmopan, Belize. Felt in most of Belize and Guatemala and in much of western Honduras. Felt [III] at San Salvador, El Salvador.
ISCJB ***23*** *00:20:35.6±0.7, 15.96N±0.02×89.12W±0.02, h26km±4km, mb5.1/336, MS4.5/22, Error ellipse: s-maj=3.5km s-min=2.3km az=37.5*
MOS ***23*** *00:20:36.6±0.9, 15.84N×89.18W, h38km, mb5.3/90, MS4.5/5, Error ellipse: s-maj=7.0km s-min=4.0km az=105.1*
GCMT ***23*** *00:20:39.4±0.3, 15.98N×89.26W, h12km, MW5.0/81, Moment Tensor Solution. s46,c68; s81,c132; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr3.31±.10; Mθθ-0.81±.10; Mφφ-2.51±.09; Mrθ-0.51±.31; Mθφ3.40±.09; Mφr0.17±.28; Best double couple: Mo4.28800×10^16 NP1:φs312.00000°, δ49.00000°, λ76.00000°. NP2: φs153.00000°, δ43.00000°, λ106.00000°. Principal axes: T 3.3900, Plg79.0000°, Azm157.0000°; N 1.7910, Plg11.0000°, Azm321.0000°; P -5.1860, Plg3.0000°, Azm52.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 23 00:20:36.7±0.8, 15.89N±0.04×89.22W±0.04, h25km±5km, n1100, σ1814/1096, mb5.1/335, MS4.5/22, 8C-3D, Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
APG	El Apazote	1.49	234	Pg			Pn	00 21 00.9	-1.3
	3μm,0.3s,baz=87,slow=15,SNR=58								
APG				Lg			Lg	00 21 19.6	
	6μm,0.3s,baz=103,slow=18,SNR=18								
TGUH	Tegucigalpa,Un	2.62	134	*e*Pn			Pn	00 21 19.0	+1.6
CCIG	Comitan	2.83	278	*e*Pn			Pn	00 21 20.3	-0.2
TEIG	Tepich	4.40	12	*e*Pn			Pn	00 21 42.4	+0.4
MYIG	MØrida	5.06	354	*e*Pn			Pn	00 21 51.7	+0.7
CMIG	Matias Romero	5.57	283	Pn			Pn	00 21 56.0	-1.9
	6.6nm,0.3s,baz=69,slow=8.6,SNR=3.0								
CMIG					Sn		Sn	00 22 58.0	-3.1
	64nm,0.3s,baz=102,slow=16,SNR=4.2								
CMIG					Lg		Lg	00 23 31.2	
	79nm,0.3s,baz=132,slow=17,SNR=7.0								
JTS	JuntasAbangare	6.95	143	Lg			Lg	00 24 09.3	
	0.5nm,0.3s,baz=9.5,slow=12,SNR=2.4								
LVIG	Laguna Verde	7.85	300	*e*Pn			Pn	00 22 27.2	-2.0
WBCY	West Bay, Gran	8.22	64	*e*Pn			Pn	00 22 36.5	+2.2
FSCY	Frank Sound, G	8.38	65	*e*Pn			Pn	00 22 36.5	0.0
TLIG	Tlapa	9.11	282	*e*Pn			Pn	00 22 46.0	-0.7
LCCY	Blossom Villag	9.47	65	*e*Pn			Pn	00 22 52.7	+1.1
CBCY	The Bluff, Cay	9.79	66	*e*Pn			Pn	00 22 57.3	+1.5
BCIP	Isla Barro Col	11.33	125	*e*Pn			Pn	00 23 15.8	-1.3
BCIP	Isla Barro Col	11.33	125	*e*P			Pn	00 23 16.0	-1.1
MTDJ	Mount Denham	11.41	77	*e*Pn			Pn	00 23 18.5	+0.2
JRQG	Juriquilla Cam	11.69	296	*e*Pn			Pn	00 23 24.8	+2.6
MOIG	Morelia	12.01	290	*e*Pn			Pn	00 23 26.7	+0.2
058A	Arcadia	13.07	31	P			Pn	00 23 38.1	-2.7
	baz=213								
LNIG	Linares	13.13	315	*e*Pn			Pn	00 23 40.0	-1.7
CAPC	Capurgana	13.65	121	*e*P			Pn	00 23 49.4	+0.7
857A	Zephyrhills	13.91	27	P			Pn	00 23 50.0	-2.3
	baz=209								
959A	Okeechobee	13.92	32	P			Pn	00 23 51.0	-1.3
	baz=215								
DWPF	Disney Wildern	14.13	29	P			Pn	00 23 53.9	-1.4
	baz=212								
858A	St. Cloud	14.25	29	P			Pn	00 23 54.8	-2.1
	baz=212								
ZAIG	Zacatecas	14.33	301	*e*Pn			Pn	00 23 59.6	+1.2
542A	Morse	14.49	348	P			Pn	00 23 58.6	-1.6
	baz=167,SNR=9.6								
757A	Oxford	14.56	26	P			Pn	00 23 59.1	-2.1
	baz=208,SNR=7.2								
541A	Lake Charles	14.56	346	P			Pn	00 23 59.1	-2.1
	baz=165								
655A	Horseshoe Beac	14.62	21	P			Pn	00 23 59.8	-2.1
	baz=203								
552A	Lynn Haven	14.62	14	P			Pn	00 23 59.7	-2.3
	baz=195								
656A	Willston	14.76	23	P			Pn	00 24 01.5	-2.3
	baz=206								
445A	Amite	14.80	356	P			Pn	00 24 02.5	-1.9
	baz=176								
444A	Pine Grove	14.82	355	P			Pn	00 24 04.0	-0.7
	baz=174,SNR=6.1								
446A	Poplarville	14.83	360	P			Pn	00 24 03.4	-1.3
	baz=179								
447A	Lucedale	14.84	2	P			Pn	00 24 03.6	-1.4
	baz=182								
553A	Crawfordville	14.89	16	P			Pn	00 24 05.5	-0.1
	baz=198,SNR=5.6								
449A	Pace	14.91	7	P			Pn	00 24 02.7	-3.2
	baz=187								
443A	Delano Plantat	14.99	351	P			Pn	00 24 07.8	+0.9
	baz=170								
451A	Vernon	15.00	12	P			Pn	00 24 05.7	-1.3
	baz=193								
MOTC	Monteria, Cord	15.00	117	*e*P			Pn	00 24 06.2	-1.0
554A	Perry	15.01	19	P			Pn	00 24 07.2	+0.1
	baz=201								
448A	Bay Minette	15.02	4	P			Pn	00 24 07.8	+0.5
	baz=185								
450A	Crestview	15.04	9	P			Pn	00 24 06.9	-0.7
	baz=190								
442A	Mamou	15.04	349	P			Pn	00 24 05.4	-2.2
	baz=168,SNR=5.6								
657A	Interlachen	15.21	25	P			Pn	00 24 08.0	-1.9
	baz=208								
441A	DeRidder	15.23	347	P			Pn	00 24 08.4	-1.7
	baz=165,SNR=11								
HKT	Hockley	15.25	338	*e*Pn			Pn	00 24 08.2	-2.2
	80nm,1.3s								
HKT	Hockley	15.25	338	*e*P			Pn	00 24 08.2	-2.2
HKT						pmax	pmax		
	comp=Z,80nm,1.3s								
555A	McAlpin	15.28	21	P			Pn	00 24 10.1	-0.7
	baz=203,SNR=8.7								
658A	Bunnell	15.33	27	P			Pn	00 24 09.7	-1.7
	baz=210								
BRAL	Brewton	15.33	7	P			Pn	00 24 10.2	-1.3
	baz=188								
BRAL	Brewton	15.33	7	*e*Pn			Pn	00 24 12.9	+1.4
	comp=Z,346nm,1.4s								
452A	Marianna	15.34	13	P			Pn	00 24 11.3	-0.2
	baz=194								
345A	Thompson Farm,	15.36	357	P			Pn	00 24 10.6	-1.2
	baz=177								
556A	Lake Butler	15.37	23	P			Pn	00 24 12.1	+0.1
	baz=205								
346A	Big Creek Wild	15.43	359	P			Pn	00 24 12.0	-0.7
	baz=179								
347A	Saraland	15.45	2	P			Pn	00 24 12.0	-1.0
	baz=182								
348A	Jackson	15.50	4	P			Pn	00 24 11.5	-2.0
	baz=184,SNR=9.0								
349A	Repton	15.50	6	P			Pn	00 24 12.7	-0.9
	baz=187,SNR=9.3								
833A	Chaparal WMA,	15.54	324	P			Pn	00 24 12.7	-1.5
	baz=141,SNR=61								
344A	Westbrook Farm	15.55	355	P			Pn	00 24 12.6	-1.7
	baz=174,SNR=23								
453A	Whigham	15.55	16	P			Pn	00 24 13.8	-0.5
	baz=198								
454A	Quitman	15.61	18	P			Pn	00 24 13.2	-1.9
	baz=200								
557A	Orange Park	15.65	25	P			Pn	00 24 14.4	-1.1
	baz=207								
351A	Pinckard	15.66	12	P			Pn	00 24 14.9	-0.9
	baz=193								
342A	Flagon Creek P	15.67	350	P			Pn	00 24 14.2	-1.7
	baz=169,SNR=8.8								
350A	Dozier	15.68	9	P			Pn	00 24 14.5	-1.5
	baz=190								
341A	Kurthwood	15.79	347	P			Pn	00 24 15.7	-1.7
	baz=166,SNR=62								
455A	Stateville	15.83	20	P			Pn	00 24 17.1	-0.8
	baz=202								
352A	Blakely	16.00	13	P			Pn	00 24 19.1	-1.0
	baz=195								
353A	Camilla	16.05	16	P			Pn	00 24 20.6	-0.1
	baz=197								
243A	Waterproof	16.05	353	P			Pn	00 24 18.7	-1.9
	baz=172,SNR=6.9								
245A	Little AP, Sta	16.08	358	P			Pn	00 24 19.3	-1.8
	baz=178,SNR=5.4								
247A	Quitman	16.10	2	P			Pn	00 24 19.8	-1.6
	baz=182								

baz=184,SNR=9.5
OCAC Ocana 17.30 114 eP P 00 24 40.2 +2.1
YOTC Yotoco, Valle 17.33 132 eP P 00 24 37.6 -0.7
Z44A Pea Ridge, Bel 17.34 357 P Pn 00 24 36.4 -0.6
baz=176
256A Glennville 17.35 21 P Pn 00 24 37.1 0.0
baz=204
SDDR Presa de Saban 17.38 77 ePn P 00 24 42.7 +3.9
comp=Z,34nm,0.8s
153A Fort Valley 17.38 15 P Pn 00 24 36.9 -0.7
baz=197
Z49A Columbiana 17.40 8 P Pn 00 24 36.9 -0.9
baz=188,SNR=14
Z45A Winona 17.41 359 P Pn 00 24 37.0 -0.9
baz=178,SNR=5.1
NORC Norcasia 17.42 125 eP Pn 00 24 38.7 +0.5
JCT Junction City 17.46 328 P Pn 00 24 36.4 -2.2
baz=144,SNR=14
JCT Junction City 17.46 328 ePn P 00 24 39.7 +0.1
comp=Z,106nm,0.9s
JCT Junction City 17.46 328 eP P 00 24 39.7 +0.1
JCT pmax pmax
comp=Z,106nm,0.9s
RREF El Recreo 17.46 127 eP Pn 00 24 39.7 +0.4
Z48A Northport 17.47 5 P Pn 00 24 37.4 -1.2
baz=185,SNR=11
Z42A Norrel Spur, H 17.48 352 P Pn 00 24 37.6 -1.1
baz=171,SNR=34
BRRC Barranca, Sant 17.51 118 eP Pn 00 24 39.3 +0.1
Z50A Ashland 17.54 9 P Pn 00 24 38.7 -0.8
baz=190
154A Montrose 17.55 17 P Pn 00 24 38.9 -0.7
baz=200
Z41A Richland Creek 17.59 350 P Pn 00 24 39.4 -0.8
baz=168,SNR=7.7
ANIL Santa Ana 17.68 128 eP P 00 24 44.9 +2.5
WHTX Lake Whitney, 17.69 336 P Pn 00 24 40.1 -1.4
baz=153,SNR=23
WHTX Lake Whitney, 17.69 336 ePn Pn 00 24 40.0 -1.4
comp=Z,277nm,0.9s
Z40A Long Farm, Mag 17.70 348 P Pn 00 24 40.4 -1.0
baz=167,SNR=25
155A Kite 17.75 19 P Pn 00 24 41.2 -0.8
baz=202
Y46A Houston 17.92 1 P Pn 00 24 43.6 -0.5
baz=181,SNR=6.4
Y47A UCPARC, Winfie 17.98 4 P Pn 00 24 44.6 -0.3
baz=184,SNR=10.0
Y43A Makayla and Ka 18.01 355 P Pn 00 24 45.4 +0.1
baz=175,SNR=7.4
Y44A Strider, Charl 18.01 357 P Pn 00 24 44.5 -0.8
baz=177
Y42A Garnett, Star 18.02 353 P Pn 00 24 44.8 -0.6
baz=172
Y48A Jasper 18.04 6 P Pn 00 24 45.7 +0.1
baz=186,SNR=14
WLAR White Oak Lake 18.06 349 eP P 00 24 48.2 +2.0
comp=Z,286nm,0.8s
Y49A Blount Mountai 18.07 8 P Pn 00 24 46.3 0.0
baz=188,SNR=8.6
CCAR Cane Creek 18.09 353 eP P 00 24 48.0 +1.5
comp=Z,196nm,0.7s
Y41A Eaglette Beard 18.17 351 P P 00 24 48.4 +1.1
baz=169
Y50A Piedmont 18.19 9 P P 00 24 48.4 +0.8
baz=191
GOGA Godfrey 18.20 16 P P 00 24 48.4 +0.7
baz=198
GOGA Godfrey 18.20 16 eP P 00 24 49.5 +1.8
comp=Z,45nm,0.8s
GOGA Godfrey 18.20 16 eP P 00 24 49.5 +1.8
GOGA pmax pmax
comp=Z,45nm,0.8s
BARC Barichara 18.23 119 eP Pn 00 24 48.1 -0.2
PAMC Pamplona, Colo 18.26 116 eP P 00 24 49.9 +0.8
ROSC El Rosal 18.30 125 P P 00 24 51.1 +1.8
comp=Z,0.5nm,0.3s,baz=68,slow=3.8,SNR=12
ROSC LR LR 00 33 13.8
comp=Z,650nm,19.2s,baz=9.5,slow=42
ROSC El Rosal 18.30 125 eP P 00 24 51.1 +1.8
comp=Z,29nm,1.1s
ROSC El Rosal 18.30 125 eP P 00 24 51.9 +2.6
Y40A Okolona 18.41 349 P Pn 00 24 50.5 +0.4
baz=168,SNR=22
X45A UM Field Stati 18.45 360 P Pn 00 24 50.9 +0.2
baz=179
PCON Cinco Dias 18.47 136 eP Pn 00 24 52.7 +1.1
SOTA Rioblanco 18.47 136 eP P 00 24 49.6 -1.8
OXF Oxford 18.54 359 P P 00 24 51.5 0.0
baz=179,SNR=14
OXF Oxford 18.54 359 eP Pn 00 24 52.4 +0.6
comp=Z,243nm,1.0s
OXF eSn Sn 00 28 07.2 -11
OXF Oxford 18.54 359 eP Pn 00 24 52.4 +0.6
OXF e 00 28 07.2
OXF pmax pmax
comp=Z,243nm,1.0s
X44A Crenshaw 18.55 358 P Pn 00 24 51.8 -0.1
baz=177
PRAC Prado 18.58 129 eP Pn 00 24 54.3 +1.9
comp=Z,218nm,1.7s
PRAC Prado 18.58 129 eP Pn 00 24 52.5 0.0
X48A Hartselle 18.58 6 P Pn 00 24 52.3 0.0
baz=186
X47A Russelville 18.59 4 P Pn 00 24 52.3 0.0
baz=184,SNR=6.6
X46A Booneville 18.59 2 P Pn 00 24 52.4 +0.1
baz=182
X43A Marvell 18.61 356 P Pn 00 24 52.8 +0.2
baz=175,SNR=6.0
RUSC La Rusia 18.68 120 eP Pn 00 24 54.6 +0.4
comp=Z,43nm,1.4s
RUSC La Rusia 18.68 120 eP P 00 24 51.9 -1.8
GCUF Volcan Galeras 18.69 140 eP Pn 00 24 57.4 +3.2
X42A Stuttgart 18.71 354 P Pn 00 24 53.9 +0.1
baz=173
X49A Woodville 18.72 7 P Pn 00 24 54.4 +0.4
baz=188
X41A Kaden, Bauxite 18.76 352 P Pn 00 24 55.0 +0.6
baz=170,SNR=13
X40A Basin Creek Fa 18.80 351 P Pn 00 24 55.3 +0.4
baz=169,SNR=20
RGRS Roger Stewart 18.81 24 eP Pn 00 24 55.4 +0.4
comp=Z,512nm,0.9s
HPIG 18.82 308 eP Pn 00 24 56.6 +1.1
comp=Z,87nm,0.9s
OTAV Otavalo 18.84 145 eP Pn 00 24 56.0 0.0
comp=Z,26nm,1.2s
OTAV Otavalo 18.84 145 eP P 00 24 55.3 0.0
OTAV Otavalo 18.84 145 P Pn 00 24 55.9 0.0
TXAR Lajitas Array 18.86 318 P Pn 00 24 56.7 +0.9
comp=Z,1.6nm,0.3s,baz=135,slow=12,SNR=76
TXAR S Sn 00 28 25.9 -0.5
comp=Z,0.6nm,0.3s,baz=132,slow=33,SNR=4.0
TX31 Lajitas Ar. Si 18.87 318 eP Pn 00 24 57.5 +1.6
CHIC Chingaza 18.89 125 eP Pn 00 24 56.9 +0.4
MIAR Mount Ida 18.98 349 P Pn 00 24 57.4 +0.2
baz=167,SNR=24
MIAR Mount Ida 18.98 349 eP Pn 00 24 58.0 +0.9
comp=Z,97nm,1.0s
MIAR Mount Ida 18.98 349 eP Pn 00 24 58.0 +0.9
MIAR pmax pmax
comp=Z,97nm,1.0s
NHSC New Hope 18.99 24 P Pn 00 24 57.2 -0.1
baz=207
UALR University of 19.01 352 eP Pn 00 24 58.0 +0.6
comp=Z,65nm,0.7s
PLAL Pickwick Lake 19.04 3 eP Pn 00 24 58.4 +0.7
comp=Z,55nm,1.1s
X39A Fountain Ranch 19.05 348 P Pn 00 24 58.1 +0.1
baz=165,SNR=27
ABTX Abilene, Hawle 19.16 332 P Pn 00 24 59.1 -0.2
baz=148,SNR=30
ABTX Abilene, Hawle 19.16 332 eP Pn 00 24 59.3 0.0
comp=Z,237nm,1.2s
W43A Forest City 19.16 356 P Pn 00 24 59.3 +0.1
baz=176
W44A Shelby Farms P 19.17 359 P Pn 00 24 59.2 -0.2
baz=178
W46A Michie 19.18 2 P Pn 00 24 59.4 -0.1
baz=182
W45A Hickory Valley 19.18 0 P Pn 00 24 59.1 -0.4
baz=180,SNR=8.5
W48A Pulaski 19.27 6 P Pn 00 25 00.5 -0.1
baz=186,SNR=6.2
W47A Westpoint 19.33 4 P Pn 00 25 01.1 -0.2
baz=185,SNR=10
W41B Gary Mavity, V 19.39 353 P Pn 00 25 01.9 -0.2
baz=171,SNR=8.3
W42A Bald Knob 19.41 354 P Pn 00 25 02.3 +0.1
baz=173
SDV Santo Domingo 19.43 109 P P 00 25 01.4 -0.1
comp=Z,2.3nm,0.3s,baz=300,slow=9.0,SNR=16
SDV LR LR 00 34 03.2
comp=Z,855nm,18.4s,baz=34,slow=42
SDV Santo Domingo 19.43 109 eP Pn 00 25 02.5 -0.4
comp=Z,42nm,0.8s
SWET Sewanee 19.47 8 eP Pn 00 25 03.1 +0.1
comp=Z,6.5nm,0.8s
WHAR Wooly Hollow 19.51 352 eP Pn 00 25 04.1 +0.6
comp=Z,99nm,1.2s
FLOC Florencia 19.52 135 eP Pn 00 25 04.4 +0.7
W40A Ferguson Farm, 19.53 351 P Pn 00 25 04.0 +0.3
baz=169,SNR=7.1
W40A Ferguson Farm, 19.53 351 eP Pn 00 25 05.7 +2.0
comp=Z,85nm,0.8s
HBAR Harrisburg 19.62 356 eP Pn 00 25 05.6 +0.8
W39A Magazine 19.65 349 P Pn 00 25 05.5 +0.3
baz=167,SNR=28
JSC Jenkinsville 19.66 20 eP Pn 00 25 06.9 +1.6
comp=Z,107nm,1.5s
JSC Jenkinsville 19.66 20 eP Pn 00 25 06.9 +1.6
JSC pmax pmax
comp=Z,107nm,1.5s
V45A Humboldt 19.77 1 P P 00 25 05.6 +0.7
baz=181
BG3 Lake Jocassee 19.84 15 eP Pn 00 25 08.3 +0.9
comp=Z,52nm,0.5s
V43A Jonesboro 19.85 357 P Pn 00 25 06.7 -0.7
baz=176
V46A Holladay 19.85 3 P P 00 25 06.3 +0.6
baz=183,SNR=11
V44A Blytheville 19.86 358 P Pn 00 25 07.2 -0.5
baz=178
V48A Smith Brothers 19.88 6 P Pn 00 25 07.3 -0.6
baz=187,SNR=12
V47A Nunnelly 19.91 4 P Pn 00 25 07.7 -0.5
baz=185,SNR=17
CPCT Cooper Cave 19.92 11 eP Pn 00 25 08.8 +0.5
V42A Cord 19.93 355 P P 00 25 07.5 +0.9
baz=174,SNR=14
V41A Mountainview 19.98 353 P Pn 00 25 08.3 -0.8
baz=172,SNR=27
PAULI Pauline 19.99 18 eP Pn 00 25 09.6 +0.5
comp=Z,53nm,1.3s
GNAR Gosnell 20.00 358 eP Pn 00 25 09.5 +0.3
comp=Z,2µm,1.1s
V40A Witts Springs 20.09 351 P Pn 00 25 09.6 -0.7
baz=170,SNR=16
WVT Waverly 20.19 3 P P 00 25 10.1 +0.6
baz=184
WVT Waverly 20.19 3 eP P 00 25 10.1 +0.6
comp=Z,60nm,1.1s
WVT Waverly 20.19 3 eP P 00 25 10.1 +0.6
WVT pmax pmax
comp=Z,60nm,1.1s
V39A Pettigrew 20.25 350 P Pn 00 25 11.9 -0.4
baz=168,SNR=10
TKL Tuckaleechee C 20.28 13 P P 00 25 11.0 +0.6
comp=Z,36nm,1.0s,baz=190,slow=13,SNR=12
TKL S S 00 28 56.9 +0.1
comp=Z,50nm,0.7s,baz=82,slow=8.5,SNR=7.6
TKL LR LR 00 33 37.9
comp=Z,2µm,18.8s,baz=194,slow=39
TKL Tuckaleechee C 20.28 13 eP Pn 00 25 12.8 +0.2
comp=Z,99nm,1.0s
TKL eS S 00 28 57.2 +0.6
TKL Tuckaleechee C 20.28 13 eP Pn 00 25 12.8 +0.3
TKL eS S 00 28 57.3 +0.6
TKL pmax pmax
comp=Z,99nm,1.0s
U44B Burton Farm, H 20.36 360 P Pn 00 25 12.7 -0.9
baz=180
UTMT University of 20.37 1 eP Pn 00 25 13.3 -0.3
comp=Z,324nm,1.1s
U45A Rockin P Farm, 20.38 1 P P 00 25 12.4 +0.9
baz=181
U46A Springville 20.40 2 P P 00 25 12.5 +0.6
baz=183,SNR=10
U43A Rector 20.42 357 P P 00 25 12.8 +0.8
baz=177,SNR=6.8
KMSC Kings Mountain 20.43 19 P Pn 00 25 13.3 -1.1
baz=202
KMSC Kings Mountain 20.43 19 eP Pn 00 25 14.5 +0.2
comp=Z,37nm,0.8s
U42A Revenden 20.45 355 P Pn 00 25 13.6 -1.0
baz=174,SNR=17
U41A Viola 20.51 354 P P 00 25 13.9 +0.9
baz=172,SNR=13
U44A Portageville 20.53 359 P P 00 25 14.2 +1.0
baz=179
U47A Clarksville 20.54 4 P P 00 25 14.2 +0.9
baz=185
U40A Yellville 20.64 352 P Pn 00 25 16.0 -0.7
baz=170,SNR=29
WMOK Wichita Mounta 20.64 337 P P 00 25 15.2 +0.8
baz=153,SNR=49
WMOK Wichita Mounta 20.64 337 eP P 00 25 15.6 +1.2
comp=Z,111nm,1.1s
WMOK Wichita Mounta 20.64 337 eP P 00 25 15.6 +1.2
WMOK pmax pmax
comp=Z,111nm,1.1s
U48A Cassie Pea, Po 20.67 6 P P 00 25 15.9 +1.1
baz=187,SNR=13
HHAR Hobbs 20.74 349 eP Pn 00 25 17.1 -0.8
comp=Z,106nm,1.0s
U39A Green Forest 20.76 350 P Pn 00 25 17.4 -0.7
baz=168,SNR=31
TUL1 Leonard 20.78 345 P Pn 00 25 17.4 -1.0
baz=162,SNR=39
TUL1 Leonard 20.78 345 eP Pn 00 25 17.5 -1.0
PBMO Poplar Bluff 20.83 357 eP Pn 00 25 17.9 -1.1
comp=Z,135nm,1.2s
SLBS Sierra La Lagu 20.97 295 eP Pn 00 25 21.2 +0.4
comp=Z,92nm,1.3s
CLNB Carlsbad 21.05 323 eP P 00 25 21.1 +2.1
T46A Princeton 21.10 3 P P 00 25 20.0 +0.7
baz=183,SNR=9.0
T44A Benton 21.11 359 P P 00 25 20.4 +0.9
baz=179
T42A Van Buren 21.12 356 P P 00 25 20.4 +0.9
baz=175,SNR=32
T43A Greenville 21.13 358 P P 00 25 20.4 +0.8
baz=177,SNR=27
TZTN Tazewell 21.18 13 P P 00 25 21.5 +1.3
baz=195,SNR=7.4
TZTN Tazewell 21.18 13 eP P 00 25 22.0 +1.8
comp=Z,116nm,1.2s
T41A Mountain View 21.19 354 P P 00 25 21.7 +1.4
baz=173,SNR=48
T48A Bowling Green 21.28 6 P P 00 25 21.9 +0.7
baz=187
GDL2 Guadalupe Moun 21.29 322 eP P 00 25 23.5 +2.0
T39A Clever 21.37 351 P P 00 25 23.7 +1.5
baz=169,SNR=35
T40A Mansfield 21.38 353 P P 00 25 23.3 +1.0
baz=171,SNR=26
LPIG La Paz 21.42 296 P P 00 25 24.0 +1.2
comp=Z,23nm,0.6s,baz=58,slow=2.7,SNR=4.5
T38A Diamond 21.54 349 P P 00 25 25.2 +1.2
baz=167,SNR=25
MNTX Cornudas Mount 21.55 320 P P 00 25 24.8 +0.5
baz=133,SNR=46
MNTX Cornudas Mount 21.55 320 eP P 00 25 25.9 +1.6
comp=Z,101nm,1.1s
S43A Fulton Ridge, 21.61 358 P P 00 25 25.5 +0.7
baz=178,SNR=27
S45A Carrier Mills 21.71 1 P P 00 25 26.7 +0.8
baz=182,SNR=7.2
S44A Carbondale 21.71 360 P P 00 25 27.4 +1.5
baz=180,SNR=13
S41A Jillco Farms, 21.73 355 P P 00 25 26.9 +0.8
baz=173,SNR=23
OBIP Obispado Ponce 21.73 81 eP P 00 25 27.6 +1.4
comp=Z,24nm,1.1s
SIUC Southern Illin 21.74 360 eP P 00 25 27.9 +1.7
comp=Z,268nm,1.4s
S46A Don Dixon Farm 21.75 3 P P 00 25 27.0 +0.7
baz=184,SNR=9.7
MSTX Muleshoe 21.75 328 P P 00 25 26.7 +0.2
baz=143,SNR=75
MSTX Muleshoe 21.75 328 eP P 00 25 26.8 +0.2
comp=Z,406nm,1.1s
CNNC Cliffs of the 21.77 26 eP P 00 25 28.1 +1.6
comp=Z,82nm,1.3s
NCAT North Carolina 21.80 21 eP P 00 25 28.4 +1.5
comp=Z,42nm,1.0s
ICMP Isla Caja de M 21.80 82 eP P 00 25 29.0 +2.0
S40A Lebanon 21.82 353 P P 00 25 28.2 +1.2
baz=171,SNR=29
S42A Caledonia 21.84 357 P P 00 25 27.4 +0.2
baz=176,SNR=20
S48A Wiedeman Farm, 21.86 7 P P 00 25 27.9 +0.5
baz=188,SNR=9.0
AMTX Amarillo 21.97 332 P P 00 25 29.4 +0.6
baz=146
AMTX Amarillo 21.97 332 eP P 00 25 29.4 +0.6
comp=Z,260nm,0.8s
S39A Bolivar 22.01 351 P P 00 25 30.2 +1.1
baz=169,SNR=42
USIN University of 22.03 3 eP P 00 25 30.6 +1.3
comp=Z,329nm,1.2s
S38A Stockton 22.05 350 P P 00 25 30.5 +1.0
baz=168,SNR=21
CCM Cathedral Cave 22.15 356 P P 00 25 31.0 +0.4
baz=175
CCM Cathedral Cave 22.15 356 eP P 00 25 31.2 +0.6
comp=Z,80nm,0.9s
CCM Cathedral Cave 22.15 356 eP P 00 25 31.2 +0.6
CCM pmax pmax
comp=Z,80nm,0.9s
SJG San Juan 22.17 81 P P 00 25 30.7 -0.2
comp=Z,5.2nm,0.8s,baz=302,slow=13,SNR=2.0
SJG S S 00 29 27.0 -7.0
comp=Z,7.5nm,0.8s,baz=272,slow=0.3,SNR=5.4
R44A Waltonville 22.27 0 P P 00 25 33.1 +1.2
baz=180
R46A Gibon Southern 22.28 4 P P 00 25 32.7 +0.7
baz=184,SNR=9.8
R43A Red Bud 22.31 359 P P 00 25 33.0 +0.7
baz=178,SNR=30
EPT El Paso 22.31 318 eP P 00 25 33.1 +0.5
comp=Z,33nm,0.8s
R45A Skylar, Fairfi 22.33 2 P P 00 25 33.4 +0.9
baz=182
R42A Luebbering 22.34 357 P P 00 25 33.4 +0.7
baz=176,SNR=16
WCI Wyandotte Cave 22.40 6 P P 00 25 33.7 +0.4
baz=187
WCI Wyandotte Cave 22.40 6 eP P 00 25 34.4 +1.1
comp=Z,101nm,0.9s
WCI Wyandotte Cave 22.40 6 eP P 00 25 34.4 +1.1
WCI pmax pmax
comp=Z,101nm,0.9s
R41A Rosebud 22.40 356 P P 00 25 34.0 +0.7
baz=174,SNR=52
R47A Wooly Knot Far 22.44 6 P P 00 25 34.3 +0.5
baz=187
R40A Maddies Statio 22.47 354 P P 00 25 34.3 +0.2
baz=172,SNR=18
R39A Chumby, Stover 22.59 352 P P 00 25 35.8 +0.5
baz=170,SNR=22
R38A Fenwick Farm, 22.59 350 P P 00 25 35.3 0.0
baz=168,SNR=10
R48A Northridge Ran 22.61 7 P P 00 25 35.8 +0.2
baz=188,SNR=7.7
BLA Blacksburg 22.62 19 P P 00 25 35.6 -0.1
baz=202
BLA Blacksburg 22.62 19 eP P 00 25 37.7 +2.0
comp=Z,75nm,1.0s
BLA Blacksburg 22.62 19 eP P 00 25 37.7 +2.0
BLA pmax pmax
comp=Z,75nm,1.0s
SLM Saint Louis 22.67 358 eP P 00 25 37.4 +1.2
comp=Z,136nm,1.4s
SLM Saint Louis 22.67 358 eP P 00 25 37.4 +1.2
SLM pmax pmax
comp=Z,136nm,1.4s
MTP Monte Pirata 22.73 81 eP P 00 25 38.6 +1.6
comp=Z,39nm,1.1s
OLIL Olney 22.77 2 eP P 00 25 38.9 +1.7
comp=Z,196nm,1.2s
VWCC Virginia Weste 22.79 19 eP P 00 25 39.3 +1.9
Q44A Meyer Farm, Va 22.92 0 P P 00 25 39.4 +0.6
baz=180,SNR=6.3
Q45A Warren Harvey, 22.93 2 P P 00 25 39.8 +0.9
baz=182,SNR=14
Q42A Golden Eagle 22.96 357 P P 00 25 39.2 0.0
baz=177,SNR=11
Q43A New Douglas 22.96 359 P P 00 25 39.8 +0.6
baz=179,SNR=13
Q41A Truxton 23.04 356 P P 00 25 40.6 +0.6
baz=175,SNR=31
Q47A Bedord North L 23.09 6 P P 00 25 40.7 +0.2
baz=187,SNR=8.1
Q46A CEJHS Indians, 23.10 4 P P 00 25 41.0 +0.4
baz=184
Q40A Laux Farm, Aux 23.15 354 P P 00 25 41.0 -0.1
baz=173,SNR=20
Q39A Willow Grove F 23.30 353 P P 00 25 42.9 +0.2
baz=171,SNR=46
Q38A Cooks Store, C 23.30 351 P P 00 25 43.1 +0.4
baz=169,SNR=25
BLO Bloomington 23.31 5 eP P 00 25 43.3 +0.6
comp=Z,55nm,0.7s
BLO Bloomington 23.31 5 eP P 00 25 43.3 +0.6
BLO pmax pmax
comp=Z,55nm,0.7s
STVI Saint Thomas 23.31 80 eP P 00 25 43.4 +0.4
comp=Z,41nm,1.0s
Q37A Longview Farm, 23.35 350 P P 00 25 43.3 +0.2
baz=167,SNR=11
P44A Sand Creek, Wi 23.49 1 P P 00 25 44.8 +0.3
baz=181,SNR=9.7
P45A Graceland, Par 23.58 3 P P 00 25 45.6 +0.2
baz=183,SNR=8.9
P42A Winchester 23.62 358 P P 00 25 46.3 +0.5
baz=177,SNR=26
121A Cookes Peak, D 23.63 318 P P 00 25 47.0 +0.9
baz=130,SNR=56
121A Cookes Peak, D 23.63 318 eP P 00 25 47.8 +1.6
comp=Z,144nm,1.0s
P47A Martinsville 23.65 6 P P 00 25 45.5 -0.5
baz=187,SNR=8.4
P43A Skaggs, Pawnee 23.66 359 P P 00 25 46.3 +0.2
baz=179,SNR=11
P40A Paris 23.68 355 P P 00 25 46.3 0.0
baz=173,SNR=46
P46A Rosedale 23.70 4 P P 00 25 46.1 -0.4
baz=185,SNR=11
P39B Salisbury 23.71 353 P P 00 25 46.5 -0.1
baz=172,SNR=38
P41A Barry, Barry 23.75 356 P P 00 25 47.0 0.0
baz=176,SNR=40
HSIG 23.91 307 eP P 00 25 49.0 +0.3
JSRW J. Sargeant Re 23.92 23 eP P 00 25 49.6 +1.1
319A Douglas 23.92 314 eP P 00 25 50.2 +1.3
comp=Z,142nm,1.4s
P38A Dawn 23.94 352 P P 00 25 49.1 +0.3
baz=170,SNR=41
BNM Barren Site 24.00 322 eP P 00 25 50.8 +1.1
P37A Lathrop 24.03 350 P P 00 25 49.7 +0.1
baz=168,SNR=17
IP07 Quail 24.06 22 eP P 00 25 50.8 +0.9
comp=Z,63nm,1.0s
IP06 Yanceville 24.09 22 eP P 00 25 52.0 +1.8
comp=Z,35nm,0.9s
LPM Los Pinos Moun 24.12 323 eP P 00 25 51.7 +0.9
Y22D IRIS PASSCAL I 24.12 322 P P 00 25 52.1 +1.3
baz=134,SNR=9.3
Y22D IRIS PASSCAL I 24.12 322 eP P 00 25 53.0 +2.2
comp=Z,168nm,0.9s
Y22E IRIS PASSCAL I 24.12 322 P P 00 25 52.1 +1.3
baz=134
IP01 Cuckoo 24.14 22 eP P 00 25 51.7 +1.0
comp=Z,46nm,0.9s
IP03 Louisa 24.16 22 eP P 00 25 51.9 +1.0
comp=Z,107nm,1.5s
O41A Passleys Farm, 24.18 357 P P 00 25 51.0 0.0
baz=176,SNR=22
O44A Mansfield 24.18 1 P P 00 25 51.0 -0.1
baz=182,SNR=7.6
SRIG Santa Rosalia 24.19 302 eP P 00 25 53.0 +1.7
SPRD Spring Road, M 24.21 22 eP P 00 25 52.6 +1.3
comp=Z,43nm,0.9s
LENM Lemitar 24.22 322 eP P 00 25 54.0 +2.3
O42A Bath 24.23 358 P P 00 25 51.4 0.0
baz=178,SNR=5.0
O40A La Belle 24.25 355 P P 00 25 51.7 +0.1
baz=174,SNR=29
O45A Potomac 24.30 3 P P 00 25 52.0 -0.2
baz=183,SNR=11
O43A Sugar Creek Fa 24.30 360 P P 00 25 52.0 -0.1

baz=180
O47A **Sheridan** 24.40 6 P P 00 25 52.5 -0.6
baz=187,SNR=9.2
O38A **Galt** 24.42 352 P P 00 25 53.2 0.0
baz=170,SNR=16
O39A **Kirksville** 24.45 354 P P 00 25 53.4 0.0
baz=172,SNR=13
SFIN **Lafayette** 24.47 4 P P 00 25 53.3 -0.4
baz=185
SFIN **Lafayette** 24.47 4 eP P 00 25 53.6 0.0
comp=Z,53nm,1.0s
ANMO **Albuquerque** 24.47 324 P P 00 25 54.7 +0.7
baz=137
ANMO **Albuquerque** 24.47 324 eP P 00 25 55.5 +1.4
comp=Z,77nm,1.6s
ANMO **Albuquerque** 24.47 324 ceP P 00 25 54.8 +0.7
ANMO pmax pmax
comp=Z,37nm,1.2s
LAZ **Ladron** 24.48 322 eP P 00 25 55.3 +1.2
CBN **Corbin Frederi** 24.55 23 P P 00 25 55.3 +0.8
baz=208
CBN **Corbin Frederi** 24.55 23 eP P 00 25 56.0 +1.5
comp=Z,74nm,1.0s
O37A **Wolven Farm, M** 24.56 351 P P 00 25 54.6 0.0
baz=168,SNR=7.8
HDIL **Hopedale** 24.57 360 P P 00 25 54.4 -0.2
baz=180,SNR=7.1
HDIL **Hopedale** 24.57 360 eP P 00 25 55.0 +0.4
comp=Z,81nm,1.0s
PCRV **Puerto La Cruz** 24.60 100 P P 00 25 54.6 -0.6
comp=Z,7.1nm,0.7s,baz=221,slow=9.3,SNR=2.7
CBKS **Cedar Bluff** 24.63 340 P P 00 25 55.9 +0.7
baz=155,SNR=31
CBKS **Cedar Bluff** 24.63 340 eP P 00 25 56.4 +1.1
comp=Z,186nm,0.8s
CBKS **Cedar Bluff** 24.63 340 eP P 00 25 56.4 +1.1
CBKS pmax pmax
comp=Z,186nm,0.8s
N41A **Harden Midland** 24.77 357 P P 00 25 56.0 -0.3
baz=176,SNR=28
N44A **Piper City** 24.83 2 P P 00 25 56.6 -0.3
baz=182
ACSO **Alum Creek Sta** 24.85 11 P P 00 25 57.0 -0.2
baz=194
ACSO **Alum Creek Sta** 24.85 11 eP P 00 25 57.4 +0.3
comp=Z,76nm,1.3s
N42A **Yates City** 24.86 359 P P 00 25 56.8 -0.4
baz=178,SNR=9.4
N45A **Kentland** 24.91 3 P P 00 25 57.2 -0.4
baz=184
N43A **Stutzman Famil** 24.96 0 P P 00 25 58.1 +0.1
baz=180,SNR=19
N40A **Mertquake, Sal** 24.99 356 P P 00 25 58.6 +0.3
baz=174,SNR=20
N46A **Monticello** 25.00 4 P P 00 25 58.0 -0.5
baz=186
MCWV **Mont Chateau** 25.05 17 eP P 00 26 01.9 +2.9
comp=Z,59nm,1.2s
N39A **Derby Farms, D** 25.06 354 P P 00 25 59.2 +0.2
baz=172,SNR=42
T25A **Trinidad** 25.09 330 P P 00 26 01.4 +1.9
baz=144,SNR=105
T25A **Trinidad** 25.09 330 eP P 00 26 01.4 +1.9
comp=Z,239nm,1.2s
N37A **Lee Faris, Mou** 25.15 351 P P 00 26 00.3 +0.4
baz=169,SNR=18
MHTCO **State Highway** 25.21 330 eP P 00 26 03.0 +2.3
comp=Z,103nm,1.3s
N36A **Muff Farm, Cla** 25.33 350 P P 00 26 01.9 +0.4
baz=167
SKI **Saint Kitts** 25.41 83 eP P 00 26 02.9 +0.5
comp=Z,909nm,1.8s
SKI **Saint Kitts** 25.41 83 eP P 00 26 02.9 +0.5
SKI pmax pmax
comp=Z,909nm,1.8s
M41A **Milan** 25.42 358 P P 00 26 01.6 -0.6
baz=177,SNR=12
M44A **Midewin, Midew** 25.43 2 P P 00 26 01.8 -0.5
baz=182,SNR=5.9
M43A **Waltham Townsh** 25.45 0 P P 00 26 02.8 +0.3
baz=180,SNR=9.2
M45A **Boilermakers S** 25.46 3 P P 00 26 02.9 +0.3
baz=184
M42A **Sheffield** 25.48 359 P P 00 26 02.5 -0.2
baz=179
M40A **Post Highland** 25.50 356 P P 00 26 02.9 -0.1
baz=175
TUC **Tucson** 25.51 314 P P 00 26 03.9 +0.6
baz=125
TUC **Tucson** 25.51 314 eP P 00 26 04.1 +0.8
comp=Z,31nm,1.0s
TUC **Tucson** 25.51 314 eP P 00 26 04.1 +0.8
TUC pmax pmax
comp=Z,31nm,1.0s
M39A **Webster** 25.62 355 P P 00 26 04.6 +0.5
baz=173,SNR=46
M38A **Pleasantville** 25.67 353 P P 00 26 04.7 +0.2
baz=171,SNR=28
M37A **Trindle Farm,** 25.76 352 P P 00 26 05.6 +0.2
baz=169,SNR=26
SDMD **Soldier's Deli** 25.81 22 eP P 00 26 06.8 +1.0
comp=Z,51nm,0.9s
KSCO **Kaye Shedlock'** 25.86 336 P P 00 26 07.8 +1.3
baz=149,SNR=30
KSCO **Kaye Shedlock'** 25.86 336 eP P 00 26 07.8 +1.3
comp=Z,484nm,1.1s
M36A **Felix, Anita** 25.93 350 P P 00 26 06.9 +0.1
baz=168,SNR=9.1
L42A **Oliver, Polo** 26.02 359 P P 00 26 07.4 -0.3
baz=179,SNR=14
M35A **Neola** 26.09 349 P P 00 26 08.9 +0.5
baz=166
SDCO **Great Sand Dun** 26.09 330 P P 00 26 09.4 +0.6
baz=142,SNR=15
SDCO **Great Sand Dun** 26.09 330 eP P 00 26 09.6 +0.8
comp=Z,57nm,1.3s
L41A **Preston** 26.11 358 P P 00 26 08.4 -0.2
baz=177,SNR=15
L40A **Anamosa** 26.14 357 P P 00 26 08.8 +0.1
baz=176,SNR=28
SCIA **State Center** 26.15 353 P P 00 26 09.2 +0.3
baz=171
SCIA **State Center** 26.15 353 eP P 00 26 09.7 +0.8
comp=Z,40nm,0.5s
L43A **Garden Prairie** 26.20 1 P P 00 26 09.3 -0.1
baz=181
N54A **Moraine State** 26.23 16 P P 00 26 09.4 -0.3
baz=200
N54A **Moraine State** 26.23 16 eP P 00 26 11.2 +1.6
comp=Z,46nm,1.3s
L39A **Vinton** 26.25 355 P P 00 26 09.7 -0.1
baz=174,SNR=19
X18A **Snowflake** 26.29 319 eP P 00 26 12.4 +1.9
comp=Z,71nm,1.2s
M34A **Aspy Farms, Fr** 26.30 347 P P 00 26 10.8 +0.5
baz=164
L38A **Oak Wood Farm,** 26.36 354 P P 00 26 10.5 -0.2
baz=172,SNR=23
L37A **Phoenix Point,** 26.43 352 P P 00 26 11.5 +0.1
baz=170,SNR=12
M33A **Taylor Creek F** 26.50 347 P P 00 26 12.8 +0.7
baz=163,SNR=11
L36A **Harm Buss Farm** 26.54 351 P P 00 26 12.9 +0.5
baz=168,SNR=8.6
W18A **Petrified Fore** 26.54 320 P P 00 26 14.1 +1.4
baz=131,SNR=26
W18A **Petrified Fore** 26.54 320 eP P 00 26 14.6 +1.9
comp=Z,70nm,1.0s
BGNE **Belgrade** 26.57 345 P P 00 26 13.3 +0.5
baz=160
BGNE **Belgrade** 26.57 345 eP P 00 26 13.9 +1.2
comp=Z,387nm,0.9s
K41A **Shullsburg** 26.64 358 P P 00 26 13.0 -0.3
baz=178,SNR=9.4
L35A **Bielow Farm, R** 26.69 349 P P 00 26 14.2 +0.4
baz=166,SNR=14
L34A **Svendsen Farm,** 26.71 348 P P 00 26 14.2 +0.3
baz=164
S22A **4UR Ranch, Cre** 26.76 328 P P 00 26 16.3 +1.5
baz=140,SNR=63
S22A **4UR Ranch, Cre** 26.76 328 eP P 00 26 16.2 +1.5
comp=Z,82nm,1.3s
214A **Organ Pipe Nat** 26.76 311 P P 00 26 15.1 +0.5
baz=121,SNR=16
214A **Organ Pipe Nat** 26.76 311 eP P 00 26 15.7 +1.2
comp=Z,97nm,1.0s
K40A **Colesburg** 26.77 357 P P 00 26 14.3 -0.1
baz=176,SNR=11

K42A **Prairie Point,** 26.80 360 P P 00 26 14.3 -0.4
baz=180
K39A **Oelwein** 26.82 356 P P 00 26 14.8 -0.1
baz=174,SNR=24
K38A **Parkersburg** 26.84 354 P P 00 26 15.3 +0.2
baz=172,SNR=10
Q24A **Divide** 26.90 332 P P 00 26 17.1 +1.0
baz=144,SNR=13
JFWS **Jewell Farm** 26.95 358 P P 00 26 15.6 -0.4
baz=178,SNR=9.5
JFWS **Jewell Farm** 26.95 358 eP P 00 26 16.3 +0.3
comp=Z,39nm,0.9s
JFWS **Jewell Farm** 26.95 358 eP P 00 26 16.3 +0.3
JFWS pmax pmax
comp=Z,39nm,0.9s
K36A **Gilmore City** 27.03 351 P P 00 26 17.1 +0.2
baz=169,SNR=9.2
K37A **Belmond** 27.05 353 P P 00 26 17.1 +0.1
baz=171,SNR=40
L33A **Hoskins** 27.09 347 P P 00 26 17.9 +0.5
baz=163
L32A **Elgin** 27.10 346 P P 00 26 18.1 +0.6
baz=161
X16A **Lo Mia Camp, P** 27.19 317 eP P 00 26 19.8 +1.2
comp=Z,20nm,0.8s
K35A **Storm Lake** 27.23 350 P P 00 26 18.7 0.0
baz=167,SNR=6.7
MVCO **Mesa Verde** 27.25 325 P P 00 26 20.2 +1.1
baz=136,SNR=24
MVCO **Mesa Verde** 27.25 325 eP P 00 26 20.2 +1.1
comp=Z,55nm,1.1s
OGNE **Ogallala** 27.32 339 P P 00 26 20.7 +1.1
baz=152
OGNE **Ogallala** 27.32 339 eP P 00 26 21.6 +2.0
comp=Z,128nm,1.1s
J42A **Columbus** 27.33 0 P P 00 26 19.0 -0.5
baz=180,SNR=9.0
K34A **Le Mars** 27.35 349 P P 00 26 19.4 -0.3
baz=166
J41A **Loganville** 27.39 359 P P 00 26 19.7 -0.3
baz=178,SNR=9.2
J43A **Natural Harves** 27.41 1 P P 00 26 19.4 -0.7
baz=182
J39A **Decorah** 27.43 356 P P 00 26 19.9 -0.6
baz=175,SNR=8.7
J40A **Soldiers Grove** 27.44 358 P P 00 26 19.9 -0.6
baz=177,SNR=7.9
K33A **Hardington** 27.45 347 P P 00 26 21.0 +0.4
baz=164
J38A **Wedel Dairy, R** 27.48 355 P P 00 26 20.8 0.0
baz=173,SNR=15
N59A **State Game Lan** 27.53 22 P P 00 26 21.4 +0.1
baz=209
J37A **Redenius Farm,** 27.58 353 P P 00 26 22.1 +0.4
baz=171,SNR=38
J36A **Seneca 1, Swea** 27.69 352 P P 00 26 22.7 0.0
baz=169,SNR=17
K32A **Verdigre** 27.71 346 P P 00 26 23.3 +0.3
baz=162,SNR=5.7
ISCO **Idaho Springs** 27.79 332 P P 00 26 25.1 +1.1
baz=144,SNR=24
ISCO **Idaho Springs** 27.79 332 eP P 00 26 25.7 +1.7
comp=Z,41nm,1.3s
ISCO **Idaho Springs** 27.79 332 eP P 00 26 25.7 +1.7
ISCO pmax pmax
comp=Z,41nm,1.3s
WUAZ **Wupatki** 27.82 319 P P 00 26 25.4 +1.2
baz=129,SNR=41
WUAZ **Wupatki** 27.82 319 eP P 00 26 25.8 +1.5
comp=Z,89nm,1.1s
J35A **Milford** 27.86 351 P P 00 26 23.6 -0.6
baz=168
K31A **O'Neill** 27.87 345 P P 00 26 25.4 +1.0
baz=160,SNR=14
113A **Mohawk Valley,** 27.87 312 eP P 00 26 25.6 +1.1
comp=Z,10nm,1.0s
J34A **George** 27.90 349 P P 00 26 24.6 -0.1
baz=166
I42A **Draeger Farm,** 27.91 0 P P 00 26 24.3 -0.3
baz=180,SNR=13
I42A **Draeger Farm,** 27.91 0 eP P 00 26 24.6 -0.1
comp=Z,37nm,0.8s
I43A **Langenfeld Bro** 27.91 2 P P 00 26 24.3 -0.5
baz=182
SMCO **Snowmass** 27.93 330 eP P 00 26 26.7 +1.3
comp=Z,41nm,1.2s
I40A **Norwalk** 27.93 358 P P 00 26 24.6 -0.3
baz=177
I39A **Houston** 27.94 356 P P 00 26 24.6 -0.3
baz=175,SNR=12
PV01 **Paradox Valley** 27.96 326 eP P 00 26 26.0 +0.5
I41A **Arkdale** 28.08 359 P P 00 26 26.1 -0.1
baz=179,SNR=9.5
J33A **Davis** 28.12 348 P P 00 26 27.2 +0.6
baz=164
I38A **Scanlan Farm,** 28.18 355 P P 00 26 27.0 -0.1
baz=174,SNR=13
PV05 **Paradox Valley** 28.20 325 eP P 00 26 28.6 +0.9
I37A **Lemond, Waseca** 28.25 354 P P 00 26 28.1 +0.3
baz=171,SNR=9.7
I35A **Creekview Farm** 28.30 351 P P 00 26 28.2 0.0
baz=168,SNR=8.2
PV04 **Paradox Valley** 28.33 326 eP P 00 26 29.6 +0.8
I36A **Fitzsimmons Fa** 28.33 353 P P 00 26 28.5 +0.1
baz=170,SNR=11
J32A **Parkston** 28.36 347 P P 00 26 28.6 -0.1
baz=162
PV10 **Paradox Valley** 28.39 326 eP P 00 26 30.1 +0.8
ECSD **EROS Data Cent** 28.46 349 P P 00 26 29.2 -0.4
baz=165,SNR=22
ECSD **EROS Data Cent** 28.46 349 eP P 00 26 29.4 -0.2
comp=Z,35nm,0.8s
J31A **Geddes** 28.49 345 P P 00 26 29.8 -0.1
baz=160
H43A **Windswept, Lux** 28.51 2 P P 00 26 29.2 -0.8
baz=183
H43A **Windswept, Lux** 28.51 2 eP P 00 26 30.9 +0.8
comp=Z,136nm,1.9s
PV09 **Paradox Valley** 28.53 326 eP P 00 26 31.8 +1.1
H42A **Shiocton** 28.53 1 P P 00 26 30.1 -0.1
baz=181
H42A **Shiocton** 28.53 1 eP P 00 26 30.1 -0.1
comp=Z,20nm,0.9s
I34A **Hadley** 28.62 350 P P 00 26 30.9 -0.2
baz=167
H41A **Junction City** 28.63 359 P P 00 26 30.7 -0.4
baz=179
H41A **Junction City** 28.63 359 eP P 00 26 31.1 0.0
comp=Z,14nm,0.9s
H40A **Chili** 28.66 358 P P 00 26 30.9 -0.4
baz=178,SNR=16
H39A **Augusta** 28.75 357 P P 00 26 31.7 -0.4
baz=176,SNR=8.1
H37A **Dierke Farm, C** 28.77 354 P P 00 26 32.1 -0.2
baz=172,SNR=8.8
GLA **Glamis** 28.78 311 P P 00 26 33.5 +0.8
baz=120
GLA **Glamis** 28.78 311 eP P 00 26 34.1 +1.4
comp=Z,34nm,1.4s
GLA eS S 00 31 22.5 +1.6
GLA **Glamis** 28.78 311 eP P 00 26 34.1 +1.4
GLA eS S 00 31 22.5 +1.6
GLA pmax pmax
comp=Z,34nm,1.4s
I33A **Coleman** 28.79 349 P P 00 26 32.0 -0.6
baz=165
H38A **Maiden Rock** 28.81 355 P P 00 26 32.1 -0.6
baz=174,SNR=8.3
N23A **Red Feather La** 28.83 333 P P 00 26 33.9 +0.7
baz=145
N23A **Red Feather La** 28.83 333 eP P 00 26 34.5 +1.3
comp=Z,12nm,0.8s
H36A **Jessenland, He** 28.87 353 P P 00 26 33.6 +0.3
baz=170,SNR=9.4
Y12C **Blythe** 28.92 313 P P 00 26 34.6 +0.8
baz=122
Y12C **Blythe** 28.92 313 eP P 00 26 35.2 +1.4
comp=Z,30nm,1.6s
PDMCI **Parker Dam,Lak** 28.95 314 P P 00 26 34.5 +0.4
baz=133,SNR=12
PHWY **Pilot Hill** 28.95 334 eP P 00 26 35.8 +1.4
comp=Z,38nm,1.2s
U15A **North Rim** 28.97 319 eP P 00 26 36.1 +1.6
comp=Z,37nm,1.3s
H35A **Sunnyside Ranc** 29.10 352 P P 00 26 35.3 0.0
baz=169,SNR=15
I31A **Royce, Wessing** 29.14 346 P P 00 26 35.6 0.0
baz=161

H34A **Spellman Lake,** 29.21 350 P P 00 26 36.2 -0.1
baz=167
W13A **Hualapai Mount** 29.22 315 eP P 00 26 37.7 +1.0
comp=Z,18nm,0.8s
G41A **Antigo** 29.23 0 P P 00 26 35.7 -0.8
baz=180
G42A **Mountain** 29.27 1 P P 00 26 36.1 -0.7
baz=182
G42A **Mountain** 29.27 1 eP P 00 26 35.9 -0.8
comp=Z,19nm,0.8s
G38A **Ridgeland** 29.27 356 P P 00 26 36.1 -0.7
baz=175,SNR=12
O20A **White River Ci** 29.29 329 P P 00 26 38.2 +0.9
baz=140,SNR=52
O20A **White River Ci** 29.29 329 eP P 00 26 39.1 +1.9
comp=Z,95nm,0.9s
G40A **Rib Lake** 29.30 359 P P 00 26 36.5 -0.5
baz=178,SNR=9.7
G43A **Wallace** 29.30 2 P P 00 26 36.1 -0.9
baz=183
G43A **Wallace** 29.30 2 eP P 00 26 36.4 -0.6
comp=Z,22nm,1.0s
G39A **Holcombe** 29.35 357 P P 00 26 36.9 -0.6
baz=176,SNR=12
H32A **Carlson Farm,** 29.36 348 P P 00 26 37.4 -0.2
baz=164,SNR=14
SPMN **Marine on St.** 29.40 355 P P 00 26 37.8 -0.1
baz=173,SNR=16
SPMN **Marine on St.** 29.40 355 eP P 00 26 38.2 +0.3
comp=Z,75nm,0.8s
SWSC **Sam W. Stewart** 29.44 310 P P 00 26 38.8 +0.4
baz=119
G36A **St. Michael** 29.50 353 P P 00 26 39.0 +0.2
baz=171,SNR=8.2
IKP **In-Ko-Pah, Jac** 29.53 309 P P 00 26 40.4 +1.0
baz=118,SNR=6.7
BC3 **Big Chuckawall** 29.54 312 P P 00 26 40.1 +0.7
baz=120,SNR=16
G35A **Watkins** 29.57 352 P P 00 26 39.5 0.0
baz=170
IRM **Iron Mountain** 29.57 313 P P 00 26 40.5 +0.8
baz=122,SNR=11
PKCU **Pink Cliffs** 29.63 321 eP P 00 26 42.8 +2.3
comp=Z,47nm,1.2s
SUSD **Miller** 29.63 346 P P 00 26 40.0 0.0
baz=161
KNB **Kanab** 29.67 320 eP P 00 26 42.8 +2.1
comp=Z,38nm,1.0s
KNB **Kanab** 29.67 320 eP P 00 26 42.8 +2.1
KNB pmax pmax
comp=Z,38nm,1.0s
SRU **San Rafael Swe** 29.72 325 eP P 00 26 42.1 +1.0
comp=Z,38nm,1.0s
SRU **San Rafael Swe** 29.72 325 eP P 00 26 42.1 +1.0
SRU pmax pmax
comp=Z,38nm,1.0s
F41A **Three Lakes** 29.75 0 P P 00 26 40.5 -0.6
baz=180
G34A **Benson** 29.75 351 P P 00 26 40.7 -0.3
baz=168,SNR=6.7
G33A **Ortonville** 29.84 350 P P 00 26 41.4 -0.4
baz=166,SNR=6.6
F45A **CMU Biological** 29.86 5 P P 00 26 41.0 -1.0
baz=187
MONP2 **Monument Peak** 29.87 309 P P 00 26 42.8 +0.2
baz=118,SNR=8.7
F37A **Hinrichs Farm,** 29.88 355 P P 00 26 41.8 -0.3
baz=173,SNR=6.6
F43A **Flat Rock, Esc** 29.90 3 P P 00 26 41.1 -1.2
baz=184
LCMT **Little Creek M** 29.93 319 eP P 00 26 44.7 +1.8
comp=Z,22nm,1.0s
MTPU **Mount Pierson** 29.94 322 eP P 00 26 44.6 +1.3
comp=Z,22nm,1.0s
P18A **Preston Nutter** 29.94 326 eP P 00 26 44.3 +1.1
comp=Z,35nm,0.9s
F39A **Loretta** 29.96 358 P P 00 26 42.1 -0.8
baz=177,SNR=6.4
SADO **Sadowa** 30.02 14 P P 00 26 42.7 -0.7
comp=Z,6.3nm,0.7s,baz=220,slow=9.5,SNR=4.7
F46A **Macinaw City C** 30.02 6 P P 00 26 44.4 +1.0
baz=188
RWWY **Rawlins** 30.03 332 eP P 00 26 45.5 +1.6
comp=Z,63nm,1.4s
LDFC **Landfair** 30.04 314 eP P 00 26 46.2 +2.4
comp=Z,74nm,0.8s
F38A **Pierce - Schro** 30.06 356 P P 00 26 43.3 -0.4
baz=175,SNR=12
F44A **Big Bay de Noc** 30.08 4 P P 00 26 42.9 -1.0
baz=185
G32A **Webster** 30.09 348 P P 00 26 43.7 -0.4
baz=164,SNR=9.7
F36A **Milaca** 30.09 354 P P 00 26 43.9 -0.2
baz=172,SNR=22
P17A **Butcher Ranch,** 30.10 326 eP P 00 26 45.6 +1.2
comp=Z,61nm,0.9s
BELC **Belle Mtn. Jos** 30.10 312 P P 00 26 45.3 +0.8
baz=120,SNR=18
COWI **Conover** 30.12 0 eP P 00 26 43.5 -0.8
comp=Z,25nm,0.7s
SZCU **Shurtz Canyon** 30.20 320 eP P 00 26 47.4 +2.0
comp=Z,47nm,0.9s
G31A **Conde** 30.21 347 P P 00 26 44.6 -0.5
baz=163
F35A **Swanville** 30.21 353 P P 00 26 45.1 0.0
baz=170,SNR=9.0
TMUT **Trail Mountain** 30.23 325 eP P 00 26 47.1 +1.3
comp=Z,37nm,1.1s
F34A **Alexandria** 30.24 352 P P 00 26 45.1 -0.3
baz=168,SNR=9.3
XPFO **Piæon Flat** 30.24 311 eP P 00 26 47.2 +1.5
comp=Z,17nm,1.1s
PFO **Pinyon Flats O** 30.24 311 P P 00 26 46.7 +1.0
baz=119,SNR=14
PFO **Pinyon Flats O** 30.24 311 eP P 00 26 47.2 +1.5
comp=Z,18nm,1.1s
PFO **Pinyon Flats O** 30.24 311 eP P 00 26 47.2 +1.5
PFO pmax pmax
comp=Z,18nm,1.1s
MSU **Marysvale** 30.25 323 eP P 00 26 47.3 +1.5
MSU **Marysvale** 30.25 323 eP P 00 26 47.3 +1.5
GMRC **Granite Mounta** 30.26 313 P P 00 26 46.7 +0.8
baz=122,SNR=30
CCUT **Cedar City** 30.34 320 eP P 00 26 48.5 +1.8
comp=Z,29nm,0.9s
E39A **Mellen** 30.41 358 P P 00 26 46.6 -0.3
baz=177,SNR=23
F33A **5 Mile Ranch,** 30.44 350 P P 00 26 46.8 -0.3
baz=166,SNR=14
E43A **Lone Tree Farm** 30.45 3 P P 00 26 46.2 -1.0
baz=184
E42A **Champion** 30.46 2 P P 00 26 46.4 -0.9
baz=182
E40A **Wakefield** 30.47 359 P P 00 26 47.0 -0.4
baz=179,SNR=13
TCRU **Three Creeks R** 30.47 322 eP P 00 26 49.6 +1.8
comp=Z,36nm,1.0s
E41A **Kenton** 30.48 0 P P 00 26 46.7 -0.8
baz=180
K22A **Casper** 30.52 334 P P 00 26 49.2 +1.1
baz=146,SNR=13
K22A **Casper** 30.52 334 eP P 00 26 49.4 +1.4
comp=Z,43nm,1.3s
E38A **The Farm, Brul** 30.68 357 P P 00 26 48.9 -0.3
baz=176
E37A **Wrenshall** 30.70 356 P P 00 26 49.0 -0.4
baz=174,SNR=5.3
E36A **McGregor** 30.72 355 P P 00 26 49.3 -0.3
baz=172,SNR=14
HEC **Hector,Ludlow** 30.76 313 P P 00 26 51.5 +1.3
baz=121,SNR=32
MURC **Murrieta** 30.78 310 P P 00 26 51.1 +0.7
baz=118
TUQ **Turquoise Moun** 30.79 314 P P 00 26 50.7 +0.1
baz=122,SNR=9.0
RSSD **Black Hills** 30.82 339 P P 00 26 52.4 +1.6
baz=151
RSSD **Black Hills** 30.82 339 eP P 00 26 52.4 +1.6
comp=Z,18nm,0.7s
RSSD **Black Hills** 30.82 339 eP P 00 26 52.4 +1.6
RSSD pmax pmax
comp=Z,18nm,0.7s
F31A **Hecla** 30.82 348 P P 00 26 49.7 -0.8
baz=163
SHPR **Sheep Range** 30.87 317 eP P 00 26 52.8 +1.6
comp=Z,29nm,1.0s
E35A **Pequot Lakes** 30.88 353 P P 00 26 51.4 +0.4
baz=170

E34A **Wadena** 30.93 352 P P 00 26 51.7 +0.2
baz=169,SNR=8.5
MPU **Maple Canyon** 30.97 325 eP P 00 26 53.4 +1.3
comp=Z,78nm,1.1s
E33A **Westby DABS, E** 31.04 351 P P 00 26 52.1 -0.4
baz=167
D41A **Chassel** 31.08 1 P P 00 26 52.3 -0.5
baz=181
NLU **North Lily Min** 31.17 325 eP P 00 26 55.6 +1.6
comp=Z,39nm,1.2s
LONY **Lake Ozonia** 31.20 20 P P 00 26 53.3 -0.5
baz=208
LONY **Lake Ozonia** 31.20 20 eP P 00 26 53.9 0.0
comp=Z,20nm,0.8s
SHOC **Shoshone, Teco** 31.28 315 P P 00 26 55.4 +0.7
baz=123,SNR=8.0
JLU **Jordanelle** 31.28 326 eP P 00 26 56.1 +1.1
comp=Z,20nm,0.8s
D37A **Cotton** 31.29 356 P P 00 26 54.2 -0.4
baz=174,SNR=15
E32A **Braaten, Kindr** 31.30 350 P P 00 26 54.1 -0.6
baz=165
GSC **Goldstone, Bar** 31.34 313 P P 00 26 56.1 +0.8
baz=121,SNR=19
GSC **Goldstone, Bar** 31.34 313 eP P 00 26 56.5 +1.2
comp=Z,20nm,1.0s
GSC **Goldstone, Bar** 31.34 313 eP P 00 26 56.5 +1.2
GSC pmax pmax
comp=Z,20nm,1.0s
D35A **Remer** 31.36 354 P P 00 26 54.7 -0.5
baz=171,SNR=7.0
D36A **Goodland** 31.36 355 P P 00 26 54.7 -0.5
baz=173,SNR=20
E31A **Nome** 31.42 348 P P 00 26 55.3 -0.5
baz=164
BFSC **Mount Baldy Ra** 31.42 311 P P 00 26 56.6 +0.5
baz=119,SNR=7.5
D34A **Park Rapids** 31.50 352 P P 00 26 56.4 -0.1
baz=169,SNR=12
CTU **Camp Tracy** 31.51 326 eP P 00 26 58.2 +1.3
comp=Z,41nm,1.1s
TCUT **Toone Canyon** 31.63 327 eP P 00 26 59.8 +1.7
comp=Z,59nm,0.7s
D33A **AnnSam, Waubun** 31.64 351 P P 00 26 57.5 -0.2
baz=168,SNR=13
MWC **Mount Wilson** 31.70 310 eP P 00 26 60.0 +1.3
comp=Z,15nm,1.3s
MWC **Mount Wilson** 31.70 310 eP P 00 27 00.0 +1.3
MWC pmax pmax
comp=Z,15nm,1.3s
DUG **Dugway, Tooele** 31.75 324 P P 00 27 00.1 +1.2
baz=133,SNR=80
DUG **Dugway, Tooele** 31.75 324 eP P 00 27 00.3 +1.4
comp=Z,54nm,1.1s
DUG **Dugway, Tooele** 31.75 324 eP P 00 27 00.3 +1.4
DUG pmax pmax
comp=Z,55nm,1.1s
C38A **Sawbill Land.** 31.78 357 P P 00 26 57.9 -1.0
baz=176,SNR=11
D32A **Dogwood Acres,** 31.82 350 P P 00 26 58.8 -0.4
baz=166
C37A **Embarrass** 31.84 356 P P 00 26 58.9 -0.6
baz=174,SNR=5.6
TPNV **Topopah Spring** 31.84 316 P P 00 27 01.3 +1.5
baz=124,SNR=36
TPNV **Topopah Spring** 31.84 316 eP P 00 27 01.5 +1.7
comp=Z,49nm,1.2s
TPNV **Topopah Spring** 31.84 316 eP P 00 27 01.5 +1.7
TPNV pmax pmax
comp=Z,49nm,1.2s
C39A **Grand Marais** 31.84 359 P P 00 26 58.0 -1.5
baz=178,SNR=7.4
D31A **Mcclaflin, Tow** 31.86 349 P P 00 26 59.0 -0.7
baz=164
C36A **Pine Crest Far** 31.91 355 P P 00 26 59.4 -0.7
baz=173,SNR=13
C40A **Isle Royale Na** 31.93 0 P P 00 26 59.4 -0.8
baz=180,SNR=11
BW06 **Boulder Array** 31.95 331 P P 00 27 01.0 +0.2
baz=141,SNR=5.6
BW06 **Boulder Array** 31.95 331 eP P 00 27 01.6 +0.9
comp=Z,12nm,1.1s
PD31 **Pinedale Array** 31.95 331 eP P 00 27 01.0 +0.3
PDAR **Pinedale Array** 31.95 331 P P 00 27 01.1 +0.3
comp=Z,3.8nm,0.6s,baz=127,slow=9.4,SNR=29
PDAR **Pinedale Array** 31.95 331 eP P 00 26 59.7 -1.0
C35A **Jirik Farms, M** 31.96 354 P P 00 27 00.1 -0.4
baz=171,SNR=22
EDW2 **Edwards Air Fo** 31.97 312 P P 00 27 01.3 +0.5
baz=119,SNR=8.1
FURC **Furnace Creek,** 31.99 315 P P 00 27 02.1 +1.2
baz=123,SNR=12
C34A **RKJ Ranch, Bem** 32.02 353 P P 00 27 00.6 -0.4
baz=170,SNR=9.9
EYMN **Ely** 32.02 357 P P 00 27 00.2 -0.9
baz=176,SNR=16
EYMN **Ely** 32.02 357 eP P 00 27 00.1 -0.9
comp=Z,36nm,1.1s
LRMC **Laurel Mtn Rad** 32.04 313 P P 00 27 02.5 +1.0
baz=120,SNR=18
HWUT **Hardware Ranch** 32.06 328 eP P 00 27 02.6 +0.9
comp=Z,35nm,0.8s
MPMC **Manual Prospec** 32.20 314 P P 00 27 03.8 +0.7
baz=121,SNR=40
R11A **Troy Canyon, C** 32.22 319 P P 00 27 04.6 +1.4
baz=127,SNR=40
R11A **Troy Canyon, C** 32.22 319 eP P 00 27 04.6 +1.4
comp=Z,31nm,1.2s
C33A **Trail** 32.23 352 P P 00 27 02.4 -0.5
baz=168
SPUT **South Promonto** 32.32 326 eP P 00 27 05.3 +1.4
comp=Z,80nm,1.4s
BGU **Big Grassy Mou** 32.37 325 eP P 00 27 05.6 +1.2
comp=Z,121nm,1.3s
SNCC **San Nicolas Is** 32.37 308 P P 00 27 05.2 +0.9
baz=115
OSI **Osito Audit: C** 32.37 311 P P 00 27 04.9 +0.5
baz=118
OSI **Osito Audit: C** 32.37 311 eP P 00 27 05.8 +1.4
comp=Z,44nm,1.1s
DAC **Darwin (Calif)** 32.39 314 eP P 00 27 04.6 -0.1
comp=Z,20nm,1.1s
DAC **Darwin (Calif)** 32.39 314 eP P 00 27 04.6 -0.1
DAC pmax pmax
comp=Z,20nm,1.1s
C32A **Crookston** 32.41 351 P P 00 27 04.2 -0.2
baz=167
C31A **Landman Farms,** 32.58 349 P P 00 27 06.1 +0.1
baz=165
B35A **Bob, Littlefor** 32.59 354 P P 00 27 05.4 -0.6
baz=172,SNR=13
GRAC **Grapevine Rang** 32.61 316 P P 00 27 08.0 +1.6
baz=123,SNR=19
AHID **Auburn Hatcher** 32.68 329 eP P 00 27 08.5 +1.3
comp=Z,64nm,0.9s
ARVC **Arvin** 32.69 311 P P 00 27 08.4 +1.3
baz=118,SNR=14
ISA **Isabella, Lake** 32.69 313 P P 00 27 08.3 +1.1
baz=120,SNR=18
ISA **Isabella, Lake** 32.69 313 eP P 00 27 08.5 +1.3
comp=Z,23nm,1.1s
ISA **Isabella, Lake** 32.69 313 eP P 00 27 08.5 +1.3
ISA pmax pmax
comp=Z,23nm,1.1s
B33A **Robert and Kas** 32.71 352 P P 00 27 06.9 -0.2
baz=169,SNR=6.2
SCZ2 **Santa Cruz Isl** 32.77 309 P P 00 27 08.8 +1.0
baz=116
AGMN **Agassiz Nation** 32.77 352 P P 00 27 07.5 -0.1
baz=168,SNR=11
AGMN **Agassiz Nation** 32.77 352 eP P 00 27 07.9 +0.3
comp=Z,172nm,1.4s
AGMN eS S 00 32 20.7 -2.3
B34A **Aery, Baudette** 32.81 353 P P 00 27 07.7 -0.2
baz=170,SNR=22
CWC **Cottonwood Cre** 32.81 314 P P 00 27 09.6 +1.2
baz=121
HVU **Hansel Valley** 32.82 327 eP P 00 27 09.4 +1.1
comp=Z,30nm,0.8s
HVU **Hansel Valley** 32.82 327 eP P 00 27 09.4 +1.1
HVU pmax pmax
comp=Z,30nm,0.8s
B32A **Ashes, Strandq** 32.97 351 P P 00 27 09.5 +0.2
baz=167,SNR=45
MDND **Maddock** 33.00 347 P P 00 27 10.1 +0.5
baz=161,SNR=17
MDND **Maddock** 33.00 347 eP P 00 27 10.7 +1.0
comp=Z,194nm,1.0s

REDW **Red Top Meadow** 33.01 330 eP P 00 27 11.2 +1.1
comp=Z,280nm,1.4s
SNOW **Snow King Moun** 33.04 331 eP P 00 27 11.9 +1.5
comp=Z,108nm,0.8s
LOHW **Long Hollow** 33.09 331 eP P 00 27 11.8 +1.1
comp=Z,41nm,0.9s
TPAW **Teton Pass** 33.16 330 eP P 00 27 12.5 +1.1
comp=Z,102nm,0.9s
B31A **Greenbush Farm** 33.17 350 P P 00 27 11.0 -0.1
baz=165,SNR=9.8
VES **Vestal, Richgr** 33.21 312 P P 00 27 13.1 +1.5
baz=119,SNR=29
TIN **Tinemaha, Big** 33.23 315 P P 00 27 13.2 +1.3
baz=122,SNR=9.5
MOOW **Moose Ponds** 33.26 331 eP P 00 27 13.2 +1.0
comp=Z,29nm,1.0s
PTGA **Pitinga** 33.27 117 eP P 00 27 12.2 -0.2
comp=Z,39nm,1.0s
PKM **Mcpherson Peak** 33.30 310 P P 00 27 13.6 +1.0
baz=117,SNR=9.0
FXWY **Fox Creek** 33.30 331 eP P 00 27 13.6 +1.0
comp=Z,36nm,1.2s
A33A **Warroad** 33.34 353 P P 00 27 12.7 +0.2
baz=169,SNR=22
IMW **Indian Meadow** 33.46 331 eP P 00 27 15.2 +1.1
comp=Z,17nm,0.6s
A32A **Rocking H Ranc** 33.47 351 P P 00 27 13.7 0.0
baz=167,SNR=13
RCTC **Rector, Farmer** 33.55 313 P P 00 27 16.0 +1.4
baz=120
SMMC **Simmler** 33.62 311 P P 00 27 15.6 +0.3
baz=117
H17A **Grant Village** 33.68 332 P P 00 27 17.4 +1.5
baz=141,SNR=17
H17A **Grant Village** 33.68 332 eP P 00 27 17.9 +2.0
comp=Z,34nm,1.3s
RLMT **Red Lodge** 33.68 334 P P 00 27 16.7 +0.9
baz=144,SNR=21
RLMT **Red Lodge** 33.68 334 eP P 00 27 16.8 +0.9
comp=Z,34nm,1.1s
YPP **Pitchstone Pla** 33.69 332 eP P 00 27 17.9 +1.9
comp=Z,47nm,1.6s
PKME **Peaks-Kenny Pk** 33.74 26 P P 00 27 16.4 +0.3
baz=216
LAO **LASA Array** 33.81 339 P P 00 27 18.0 +1.1
baz=150,SNR=33
LAO **LASA Array** 33.81 339 eP P 00 27 18.0 +1.1
comp=Z,186nm,1.6s
YFT **Old Faithful** 33.84 332 eP P 00 27 19.9 +2.7
comp=Z,48nm,1.1s
NV11 **Mina Array Sit** 33.92 317 eP P 00 27 19.6 +1.6
comp=Z,4.8nm,0.8s
MLAC **Mammoth, Mammo** 33.94 315 P P 00 27 18.5 +0.2
baz=122
PAGB **Antelope Grade** 34.00 311 eP P 00 27 20.3 +1.7
comp=Z,40nm,1.0s
NV01 **Mina Array Sit** 34.02 317 eP P 00 27 20.2 +1.3
NVAR **Mina Array Bea** 34.02 317 P P 00 27 20.6 +1.7
comp=Z,46nm,0.7s,baz=127,slow=8.5,SNR=126
YMR **Madison River** 34.06 332 eP P 00 27 21.2 +2.0
comp=Z,53nm,0.8s
YHH **Holmes Hill** 34.11 332 eP P 00 27 21.3 +1.7
comp=Z,34nm,1.2s
MDPB **Devils Postpil** 34.11 315 eP P 00 27 21.7 +1.9
comp=Z,34nm,1.0s
KVN **Kaiserville** 34.23 318 eP P 00 27 22.3 +1.6
comp=Z,81nm,1.0s
KVN **Kaiserville** 34.23 318 eP P 00 27 22.3 +1.6
KVN pmax pmax
comp=Z,81nm,1.0s
YHB **Horse Butte** 34.23 332 eP P 00 27 22.7 +2.0
comp=Z,22nm,0.8s
RYN **Ryan** 34.27 317 eP P 00 27 22.7 +1.7
comp=Z,78nm,1.3s
GCMT **Greycliff** 34.38 334 eP P 00 27 22.7 +0.8
QLMT **Earthquake Lak** 34.40 332 eP P 00 27 24.2 +2.1
BMN **Battle Mountai** 34.48 321 eP P 00 27 24.3 +1.5
comp=Z,40nm,0.8s
BMN **Battle Mountai** 34.48 321 eP P 00 27 24.3 +1.5
BMN pmax pmax
comp=Z,41nm,0.8s
PMPB **Monarch Peak** 34.62 312 eP P 00 27 25.1 +1.2
comp=Z,29nm,0.9s
ULM **Du Flonnet** 34.69 352 P P 00 27 23.7 -0.6
comp=Z,32nm,0.7s,baz=168,slow=9.0,SNR=42
ULM **Lac du Bonnet** 34.69 352 eP P 00 27 23.7 -0.6
comp=Z,138nm,1.4s
ULM **Lac du Bonnet** 34.69 352 eP P 00 27 23.7 -0.6
ULM pmax pmax
comp=Z,138nm,1.4s
DGMT **Dagmar** 34.74 342 P P 00 27 26.1 +1.3
baz=154,SNR=26
DGMT **Dagmar** 34.74 342 eP P 00 27 26.1 +1.3
comp=Z,247nm,1.4s
WAKR **Walker** 34.80 316 eP P 00 27 27.6 +1.9
comp=Z,38nm,0.8s
YERR **Yerington** 34.93 317 eP P 00 27 28.4 +1.7
comp=Z,132nm,1.4s
HLID **Hailey** 34.93 327 P P 00 27 27.5 +0.9
baz=134,SNR=33
HLID **Hailey** 34.93 327 eP P 00 27 27.6 +0.9
comp=Z,22nm,1.0s
MCMT **McKenzie Canyo** 35.06 330 eP P 00 27 29.9 +2.0
BOZ **Bozeman (W)** 35.08 332 P P 00 27 29.3 +1.4
baz=140,SNR=19
BOZ **Bozeman (W)** 35.08 332 eP P 00 27 29.3 +1.4
comp=Z,15nm,0.8s
BOZ **Bozeman (W)** 35.08 332 eP P 00 27 29.3 +1.4
BOZ pmax pmax
comp=Z,15nm,0.8s
CMB **Columbia Colle** 35.20 315 eP P 00 27 29.7 +0.7
comp=Z,31nm,0.9s
CMB **Columbia Colle** 35.20 315 eP P 00 27 29.7 +0.7
CMB pmax pmax
comp=Z,31nm,0.9s
SAO **San Andreas Ge** 35.33 312 eP P 00 27 31.3 +1.3
comp=Z,13nm,0.9s
SAO **San Andreas Ge** 35.33 312 eP P 00 27 31.3 +1.3
SAO pmax pmax
comp=Z,13nm,0.9s
DLMT **Dillon** 35.34 331 eP P 00 27 32.0 +1.8
comp=Z,72nm,1.3s
VCNR **Virginia City** 35.37 317 eP P 00 27 32.1 +1.6
comp=Z,31nm,0.9s
PAHR **Pah Rah Range** 35.42 318 eP P 00 27 32.2 +1.3
comp=Z,24nm,0.8s
RUBR **Rubicon Trail** 35.57 317 eP P 00 27 34.6 +2.3
comp=Z,62nm,0.9s
MFID **Camas Ranch** 35.58 326 eP P 00 27 33.3 +1.1
comp=Z,18nm,0.9s
LRM **Limekiln Ridge** 35.62 332 eP P 00 27 34.0 +1.3
SAML **Samuel** 35.69 132 eP P 00 27 32.7 -0.6
comp=Z,11nm,1.2s
RDG13 **Poverty Ridge** 35.85 313 eP P 00 27 36.2 +1.7
comp=Z,36nm,0.9s
HRY **Holter Researc** 36.03 333 eP P 00 27 37.3 +1.3
AFDM **Forest Hills D** 36.06 316 eP P 00 27 37.5 +1.2
comp=Z,10nm,0.8s
BEKR **Beckworth** 36.14 318 eP P 00 27 38.9 +1.8
comp=Z,55nm,0.8s
EGMT **Eagleton** 36.23 337 P P 00 27 39.2 +1.5
baz=145,SNR=54
EGMT **Eagleton** 36.23 337 eP P 00 27 39.0 +1.3
comp=Z,172nm,1.4s
WVOR **Wild Horse Val** 36.54 322 eP P 00 27 41.1 +0.7
comp=Z,52nm,0.9s
WVOR **Wild Horse Val** 36.54 322 eP P 00 27 41.1 +0.7
WVOR pmax pmax
comp=Z,52nm,0.9s
ORV **Oroville** 36.72 316 eP P 00 27 43.2 +1.3
comp=Z,33nm,1.0s
ORV **Oroville** 36.72 316 eP P 00 27 43.2 +1.3
ORV pmax pmax
comp=Z,33nm,1.0s
J08A **Circle Bar Ran** 37.01 324 eP P 00 27 45.3 +0.8
comp=Z,214nm,1.4s
MSO **Missoula** 37.06 332 P P 00 27 45.5 +0.7
baz=138,SNR=28
MSO **Missoula** 37.06 332 eP P 00 27 45.5 +0.7
comp=Z,80nm,1.4s
MOD **Modoc Plateau** 37.23 320 eP P 00 27 46.6 +0.3
comp=Z,34nm,1.0s
GDXM **Geysers** 37.23 314 eP P 00 27 48.4 +2.1
comp=Z,23nm,1.0s
O03D **Paynes Creek** 37.30 317 P P 00 27 47.0 +0.1
baz=121,SNR=16
BMO **Blue Mountains** 37.33 326 eP P 00 27 46.6 -0.5
comp=Z,38nm,1.0s

BMO **Blue Mountains** 37.33 326 eP P 00 27 46.6 -0.5
BMO pmax pmax
comp=Z,38nm,1.0s
HOPS **Hopland Field** 37.51 315 eP P 00 27 49.6 +1.0
comp=Z,46nm,1.2s
JTMT **Jette** 37.90 332 eP P 00 27 53.0 +1.1
comp=Z,20nm,0.9s
WDC **Whiskeytown Da** 37.93 317 eP P 00 27 50.6 -1.5
comp=Z,8.0nm,0.8s
WDC **Whiskeytown Da** 37.93 317 eP P 00 27 50.6 -1.5
WDC pmax pmax
comp=Z,8.0nm,0.8s
F10A **Beach Ranch, E** 38.05 328 eP P 00 27 53.5 +0.4
comp=Z,54nm,1.1s
I07A **Izee** 38.05 324 eP P 00 27 53.7 +0.5
comp=Z,18nm,0.9s
K05A **Summer Lake** 38.06 321 eP P 00 27 53.1 -0.3
comp=Z,17nm,0.8s
M04C **Macdoel** 38.11 319 P P 00 27 53.8 -0.1
baz=123,SNR=21
LPAZ **La Paz** 38.15 146 P P 00 27 52.4 -2.5
comp=Z,2.4nm,0.8s,baz=320,slow=6.3,SNR=4.5
LPAZ PcP PcP 00 30 09.0 -0.6
comp=Z,4.8nm,1.0s,baz=6.1,slow=4.9,SNR=6.6
LPAZ LR LR 00 44 14.0
comp=Z,232nm,21.7s,baz=329,slow=37
LPAZ **La Paz** 38.15 146 P P 00 27 52.4 -2.5
LPAZ ePcP PcP 00 30 09.6 0.0
LPAZ **La Paz** 38.15 146 P P 00 27 52.4 -2.5
LPAZ e 00 30 09.6
KCPM **Cahto Peak** 38.19 315 eP P 00 27 56.6 +2.1
comp=Z,83nm,1.1s
N02D **Trinity Center** 38.24 318 P P 00 27 53.4 -1.4
baz=121
G08A **Pilot Rock** 38.51 326 eP P 00 27 57.2 +0.2
comp=Z,6.1nm,0.8s
K04D **Chiloquin, OR** 38.52 320 P P 00 27 56.9 -0.4
baz=124
KMRM **Mail Ridge** 38.53 316 eP P 00 27 58.5 +1.2
comp=Z,73nm,0.9s
M02C **Callahan** 38.55 318 P P 00 27 56.3 -1.2
baz=121,SNR=11
J05D **Fort Rock, OR** 38.58 322 P P 00 27 57.2 -0.5
baz=125,SNR=16
YBH **Yreka Blue Hor** 38.64 319 P P 00 27 57.0 -1.2
comp=Z,12nm,0.9s,baz=116,slow=4.2,SNR=29
YBH **Yreka Blue Hor** 38.64 319 eP P 00 27 56.9 -1.2
comp=Z,14nm,0.9s
PINE **Pine Mountain** 38.70 322 eP P 00 27 58.5 -0.3
comp=Z,61nm,0.8s
WALA **Waterton Lakes** 38.73 334 eP P 00 28 00.1 +1.2
comp=Z,15nm,0.8s
KHMM **Horse Mountain** 38.86 317 eP P 00 28 00.5 +0.3
comp=Z,40nm,1.0s
E09A **Wood Farm, Sta** 38.88 328 eP P 00 27 59.9 -0.1
comp=Z,17nm,0.9s
JCC **Jacoby Creek,** 39.03 317 eP P 00 28 02.6 +1.3
comp=Z,115nm,1.0s
J04D **Umpqua Nationa** 39.08 321 P P 00 28 01.9 -0.1
baz=124,SNR=37
HUMO **Hull Mountain** 39.26 320 eP P 00 28 02.5 -0.8
comp=Z,29nm,1.6s
I05D **Terrebonne, OR** 39.26 323 P P 00 28 03.1 -0.2
baz=126,SNR=8.4
G06A **Carlson Farm,** 39.39 325 eP P 00 28 05.6 +1.2
comp=Z,33nm,1.5s
L02D **Cave Junction,** 39.43 319 P P 00 28 03.8 -0.9
baz=121,SNR=7.2
HAWA **Hanford** 39.52 327 eP P 00 28 05.5 +0.1
comp=Z,15nm,0.8s
I04A **Tendick Farm,** 39.58 322 P P 00 28 05.8 -0.1
baz=124,SNR=18
NEW **Newport** 39.59 331 P P 00 28 06.1 +0.1
comp=Z,9.9nm,0.9s,baz=145,slow=9.6,SNR=12
NEW PP PnPn 00 29 39.4 -0.8
comp=Z,5.7nm,1.0s,baz=111,slow=12,SNR=3.3
NEW **Newport** 39.59 331 P P 00 28 06.0 +0.1
baz=135,SNR=9.1
NEW **Newport** 39.59 331 eP P 00 28 06.1 +0.1
comp=Z,52nm,1.8s
NEW PP PnPn 00 29 39.4 -0.8
NEW **Newport** 39.59 331 eP P 00 28 06.1 +0.1
NEW 00 29 39.4
NEW pmax pmax
comp=Z,52nm,1.8s
D08A **Wollman Farm,** 39.64 328 eP P 00 28 06.7 +0.3
comp=Z,38nm,1.1s
G05D **Wamic, OR** 39.78 324 P P 00 28 07.7 +0.1
baz=127,SNR=14
MNMC **Minye Minye** 39.80 150 eP P 00 28 08.3 +0.1
comp=Z,14nm,0.8s
C09A **Chrisman Ranch** 39.82 329 eP P 00 28 08.6 +0.7
comp=Z,30nm,0.9s
KBO **Bosley Butte** 39.85 318 eP P 00 28 09.6 +1.3
comp=Z,115nm,1.1s
H04A **Detroit Lake** 39.95 323 eP P 00 28 09.6 +0.5
comp=Z,82nm,0.8s
FFC **Flin Flon** 40.00 348 eP P 00 28 09.8 +0.6
comp=Z,64nm,1.4s
FFC **Flin Flon** 40.00 348 eP P 00 28 09.8 +0.6
FFC pmax pmax
comp=Z,64nm,1.4s
I03D **Drain, OR** 40.09 321 P P 00 28 10.2 +0.1
baz=123,SNR=26
KEBM **Edson Butte** 40.26 319 eP P 00 28 12.8 +1.1
comp=Z,208nm,1.0s
COR **Corvallis** 40.55 322 P P 00 28 14.7 +0.8
COR pmax pmax
comp=Z,67nm,1.1s
LTY **Liberty** 40.68 327 eP P 00 28 15.4 +0.4
comp=Z,33nm,1.2s
B08A **Colville Reser** 40.72 329 eP P 00 28 15.5 +0.1
comp=Z,19nm,1.1s
G03D **McMinnville, O** 40.88 323 P P 00 28 17.0 +0.4
baz=125,SNR=14
LON **Longmire** 40.97 326 eP P 00 28 18.0 +0.5
comp=Z,23nm,0.9s
LON **Longmire** 40.97 326 eP P 00 28 18.0 +0.5
LON pmax pmax
comp=Z,23nm,0.9s
C06D **Leavenworth** 41.22 328 P P 00 28 20.1 +0.6
baz=130
F04D **Rainier, OR** 41.24 324 P P 00 28 20.1 +0.5
baz=126,SNR=6.4
D05A **Enumclaw** 41.34 326 eP P 00 28 21.3 +0.9
comp=Z,71nm,1.3s
F03A **Seaside** 41.46 324 eP P 00 28 23.0 +1.6
comp=Z,86nm,1.0s
E03A **Lebam** 41.82 324 eP P 00 28 25.2 +0.9
comp=Z,78nm,1.1s
B06A **Marblemount** 41.91 328 eP P 00 28 25.3 +0.3
comp=Z,48nm,0.9s
B05A **Bryant** 42.06 327 P P 00 28 25.5 -0.7
baz=129,SNR=8.2
SIV **San Ignacio** 42.14 137 P P 00 28 25.2 -2.1
comp=Z,2.2nm,0.8s,baz=322,slow=5.2,SNR=6.8
SIV PcP PcP 00 30 21.6 -0.1
comp=Z,9.9nm,0.7s,baz=293,slow=2.1,SNR=13
NLWA **Neilton Lookou** 42.48 325 eP P 00 28 30.2 +0.4
comp=Z,46nm,1.2s
SCHQ **Schefferville** 42.54 19 P P 00 28 29.1 -1.0
comp=Z,8.6nm,0.6s,baz=224,slow=11,SNR=4.5
SCHQ PcP PcP 00 30 22.2 -0.1
comp=Z,5.8nm,0.6s,baz=206,slow=11,SNR=4.1
SCHQ LR LR 00 46 27.2
comp=Z,756nm,19.8s,baz=208,slow=36
SCHQ **Schefferville** 42.54 19 eP P 00 28 32.2 +2.1
comp=Z,29nm,1.2s
SCHQ PcP PcP 00 30 22.2 -0.1
A04D **Lummi Island** 42.66 327 P P 00 28 31.1 0.0
baz=128
FCC **Fort Churchill** 42.95 356 eP P 00 28 33.1 -0.2
comp=Z,41nm,1.4s
FCC **Fort Churchill** 42.95 356 eP P 00 28 33.1 -0.2
FCC pmax pmax
comp=Z,41nm,1.4s
PGC **Sidney** 43.01 327 eP P 00 28 33.8 -0.1
LLLB **Lillooet** 43.46 330 eP P 00 28 38.4 +0.7
comp=Z,32nm,0.9s
RPN **Rapa Nui** 47.01 205 LR LR 00 44 05.2
comp=Z,375nm,18.8s,baz=54,slow=30
RPN **Rapa Nui** 47.01 205 i P P 00 29 10.8 +4.8
YKA **Yellowknife Ar** 49.86 345 P P 00 29 28.0 +0.5
comp=Z,16nm,0.8s,baz=143,slow=7.7,SNR=117
DLBC **Dease Lake** 52.08 334 eP P 00 29 46.3 +1.9
comp=Z,46nm,0.9s
CPUP **Villa Florida** 52.18 143 P P 00 29 43.2 -2.2
comp=Z,3.3nm,1.1s,baz=345,slow=6.2,SNR=4.0

CPUP PcP **PcP** **00 30 56.6 -0.4**
comp=Z,2.2nm,0.6s,baz=290,slow=3.7,SNR=6.1
CPUP LR LR 00 53 45.1
comp=Z,209nm,18.6s,baz=337,slow=38
GO05 HualaæØ 53.22 162 *eP* **P** **00 29 52.0 -1.0**
comp=Z,37nm,1.4s
BESE Bessie Mountai 54.25 333 *eP* **P** **00 30 02.8 +2.4**
comp=Z,33nm,1.7s
HYT Haines Junctio 56.57 334 *eP* **P** **00 30 17.9 +0.8**
comp=Z,13nm,1.2s
SFJD Kangerlussuaq 56.92 17 LR LR 00 55 07.3
comp=Z,605nm,19.1s,baz=224,slow=36
RCBR Riachuelo 57.01 108 *eP* **P** **00 30 21.0 +0.2**
comp=Z,48nm,1.0s
ROSA Rosais 57.67 54 *eP* **P** **00 30 26.7 +1.5**
comp=Z,45nm,1.1s
BALM Baldy 58.75 333 *eP* **P** **00 30 33.8 +1.3**
comp=Z,17nm,1.2s
BALM Baldy 58.75 333 *eP* **P** **00 30 33.8 +1.3**
BALM pmax pmax
comp=Z,17nm,1.2s
RES Resolute Bay 58.88 358 *eP* **P** **00 30 32.5 -0.5**
comp=Z,8.9nm,0.8s
RES Resolute Bay 58.88 358 *eP* **P** **00 30 32.5 -0.5**
RES pmax pmax
comp=Z,9.0nm,0.8s
PLCA Paso Flores 58.94 164 P **P** **00 30 32.8 -1.1**
comp=Z,8.9nm,0.9s,baz=5.8,slow=9.5,SNR=13
PLCA Paso Flores 58.94 164 *eP* **P** **00 30 33.3 -0.6**
comp=Z,15nm,1.0s
PLCA Paso Flores 58.94 164 *eP* **P** **00 30 33.3 -0.6**
PLCA pmax pmax
comp=Z,15nm,1.0s
DAWY Dawson 58.98 337 *eP* **P** **00 30 34.0 +0.1**
comp=Z,10nm,1.0s
RKT Rikitea 59.22 230 *e*LR LR 00 48 19.3
comp=Z,650nm,28.2s
INK Inuvik 59.42 342 P **P** **00 30 37.1 +0.3**
comp=Z,21nm,0.9s,baz=127,slow=8.5,SNR=58
INK Inuvik 59.42 342 *eP* **P** **00 30 37.1 +0.3**
comp=Z,34nm,1.0s
BMRM Bremner River 59.72 332 *eP* **P** **00 30 40.4 +1.3**
comp=Z,23nm,1.2s
CMLA Cha da Macela 59.74 55 *i* P **P** **00 30 41.5 +1.9**
EGAK Eagle 59.99 337 *eP* **P** **00 30 40.9 +0.1**
comp=Z,12nm,0.9s
DIV Divide 60.31 332 *eP* **P** **00 30 44.9 +1.7**
comp=Z,20nm,1.2s
HARP HAARP 60.54 334 *eP* **P** **00 30 46.3 +1.6**
comp=Z,97nm,1.8s
DOT Dot Lake 60.61 335 *eP* **P** **00 30 45.8 +0.7**
comp=Z,96nm,1.0s
SCRK Sand Creek 60.72 336 *eP* **P** **00 30 47.0 +1.1**
comp=Z,28nm,1.2s
PAX Paxson 60.90 334 *eP* **P** **00 30 47.5 +0.4**
comp=Z,28nm,1.2s
PAX Paxson 60.90 334 *eP* **P** **00 30 47.6 +0.4**
PAX pmax pmax
comp=Z,28nm,1.2s
RIDG Independ'e Rid 60.96 335 *eP* **P** **00 30 48.3 +0.7**
comp=Z,51nm,1.1s
SCM Sheep Creek Mo 61.27 333 *eP* **P** **00 30 50.4 +0.8**
comp=Z,25nm,1.2s
SCM Sheep Creek Mo 61.27 333 *eP* **P** **00 30 50.4 +0.8**
SCM pmax pmax
comp=Z,25nm,1.2s
TULEG Thule 61.58 5 *eP* **P** **00 30 50.7 -0.7**
comp=Z,14nm,1.3s
SML Sawmill 61.70 332 *eP* **P** **00 30 53.0 +0.5**
comp=Z,21nm,1.1s
SML Sawmill 61.70 332 *eP* **P** **00 30 53.1 +0.5**
SML pmax pmax
comp=Z,21nm,1.1s
PMR Palmer 61.99 332 *eP* **P** **00 30 53.8 -0.6**
comp=Z,32nm,1.4s
PMR Palmer 61.99 332 *eP* **P** **00 30 53.8 -0.6**
PMR pmax pmax
comp=Z,32nm,1.4s
RC01 Rabbit Creek A 62.10 331 *eP* **P** **00 30 55.0 -0.2**
comp=Z,22nm,1.0s
IL1 Eielson Array 62.20 336 *eP* **P** **00 30 54.9 -0.9**
ILAR Eielson Array 62.20 336 P **P** **00 30 55.8 0.0**
comp=Z,25nm,1.1s,baz=112,slow=5.3,SNR=99
ILAR PP **PP** **00 33 13.0 +0.4**
comp=Z,2.9nm,0.9s,baz=108,slow=7.1,SNR=4.3
ILB Eielson Array 62.20 336 *eP* **P** **00 30 55.9 +0.1**
BRLK Bradley Lake 62.24 330 *eP* **P** **00 30 57.2 +1.0**
comp=Z,46nm,1.4s
FYU Fort Yukon 62.32 338 *eP* **P** **00 30 57.5 +1.0**
comp=Z,32nm,1.3s
RND Reindeer 62.49 334 *eP* **P** **00 30 58.3 +0.5**
comp=Z,70nm,1.2s
RND Reindeer 62.49 334 *eP* **P** **00 30 58.3 +0.5**
RND pmax pmax
comp=Z,70nm,1.2s
CCB Clear Creek Bu 62.51 336 *eP* **P** **00 30 57.4 -0.4**
comp=Z,12nm,1.0s
KDAK Kodiak Island 62.56 327 P **P** **00 30 58.3 0.0**
comp=Z,6.6nm,0.8s,baz=89,slow=2.3,SNR=8.3
KDAK Kodiak Island 62.56 327 *i* P **P** **00 30 58.5 +0.3**
WRH Wood River Hil 62.56 335 *eP* **P** **00 30 58.2 0.0**
comp=Z,9.4nm,1.0s
COLA College 62.62 336 *eP* **P** **00 30 59.0 +0.5**
comp=Z,32nm,1.1s
COLA College 62.62 336 *eP* **P** **00 30 59.0 +0.5**
COLA pmax pmax
comp=Z,32nm,1.1s
MCK McKinley 62.64 334 *eP* **P** **00 30 59.3 +0.5**
comp=Z,26nm,1.2s
MCK McKinley 62.64 334 *eP* **P** **00 30 59.3 +0.5**
MCK pmax pmax
comp=Z,26nm,1.2s
SUA Susitna One 62.68 332 *eP* **P** **00 30 59.9 +0.7**
comp=Z,18nm,1.1s
MDM Murphy Dome 62.80 336 *eP* **P** **00 31 00.0 +0.2**
comp=Z,27nm,1.4s
TRF Thorofare Moun 63.11 334 *eP* **P** **00 31 02.1 0.0**
comp=Z,53nm,1.4s
KTH Kantishna Hill 63.41 334 *eP* **P** **00 31 03.7 -0.3**
comp=Z,18nm,1.1s
BPAW Bear Paw Mtn. 63.62 334 *eP* **P** **00 31 05.2 -0.1**
comp=Z,37nm,1.2s
PPLA Purkeypile 63.76 333 *eP* **P** **00 31 06.4 0.0**
comp=Z,19nm,1.2s
MLY Manley 63.82 335 *eP* **P** **00 31 06.8 +0.2**
comp=Z,45nm,1.2s
CAST Castle Rocks 63.87 334 *eP* **P** **00 31 06.2 -0.7**
comp=Z,27nm,1.4s
COLD Coldfoot 64.38 338 *eP* **P** **00 31 11.6 +1.4**
comp=Z,36nm,1.1s
CHRN Cochrane 64.60 168 *eP* **P** **00 31 10.7 -1.1**
comp=Z,15nm,1.4s
TOLK Toolik Lake Re 64.69 339 P **P** **00 31 11.5 -0.7**
baz=112,SNR=17
TOLK Toolik Lake Re 64.69 339 *eP* **P** **00 31 12.9 +0.7**
comp=Z,15nm,0.9s
IM3 Indian Mountai 65.31 336 *eP* **P** **00 31 15.4 -0.9**
PMOZ Porto Moniz, M 66.61 61 *e*LR LR 00 51 31.4
comp=Z,289nm,20.0s
SCO Scoresbysund 67.59 20 *eP* **P** **00 31 31.0 +0.3**
comp=Z,9.4nm,1.4s
SCO Scoresbysund 67.59 20 *eP* **P** **00 31 31.0 +0.3**
SCO pmax pmax
comp=Z,9.0nm,1.4s
PPT2 Papeete2 68.15 243 *e*S S 00 40 52.3 +18
comp=Z,141nm,29.0s
PPT2 Papeete2 68.15 243 *e*LR LR 00 52 28.3
comp=Z,540nm,26.5s
BBTS Babate 69.78 80 P **P** **00 31 44.9 -0.5**
comp=Z,24nm,0.9s,baz=50,slow=2.3,SNR=4.1
PGAV Gavieira, Arco 72.89 50 *eP* **P** **00 32 02.4 -1.5**
PGAV Gavieira, Arco 72.89 50 *e*LR LR 00 54 41.5
comp=Z,261nm,20.0s
PCAS Casmilo, Conde 72.93 52 *eP* **P** **00 32 04.1 +0.1**
comp=Z,76nm,1.3s
ALMR Almeirim 72.97 53 *eP* **P** **00 32 04.5 +0.2**
ALMR AMb AMB 00 32 06.5
comp=Z,98nm,1.4s
PFVI Vila Bisbo 73.02 55 *eP* **P** **00 32 04.3 -0.3**
PTOM Tomar 73.05 53 *eP* **P** **00 32 04.5 -0.2**
comp=Z,55nm,1.4s
PNCL Nicolau / Gran 73.14 54 *eP* **P** **00 32 05.7 +0.4**
MORF Marmelete 73.14 55 *eP* **P** **00 32 05.4 0.0**
MORF AMb AMB 00 32 07.4
comp=Z,66nm,1.3s
MORF Marmelete 73.14 55 *eP* **P** **00 32 05.8 +0.4**
comp=Z,62nm,1.2s

PMTG Montargil 73.25 53 *eP* **P** **00 32 05.7 -0.3**
comp=Z,46nm,1.2s
POLO Lamas de Olo 73.31 51 *eP* **P** **00 32 05.5 -0.9**
PVIS Viseu 73.31 52 *eP* **P** **00 32 05.7 -0.7**
EVO Evora 73.49 54 *eP* **P** **00 32 07.2 -0.2**
comp=Z,20nm,1.2s
PCVE Castro Verde 73.58 55 *eP* **P** **00 32 07.9 0.0**
MTE Manteigas 73.61 52 *eP* **P** **00 32 07.7 -0.5**
comp=Z,27nm,1.1s
MTE Manteigas 73.61 52 *e*LR LR 00 54 59.9
comp=Z,249nm,22.0s
PBEJ Beja 73.67 54 *eP* **P** **00 32 08.3 -0.1**
comp=Z,32nm,1.8s
PBDV Barranco-do-Ve 73.72 55 *eP* **P** **00 32 09.0 +0.2**
PCBR Castelo Branco 73.73 53 *eP* **P** **00 32 08.5 -0.3**
comp=Z,38nm,1.3s
PESTR Estremoz 73.77 54 *eP* **P** **00 32 08.6 -0.5**
comp=Z,34nm,1.4s
PESTR Estremoz 73.77 54 *eP* **P** **00 32 07.7 -1.4**
comp=Z,15nm,1.1s
PMRV Marv??o 73.85 53 *eP* **P** **00 32 08.6 -0.9**
comp=Z,34nm,1.5s
PMRV Marv??o 73.85 53 *e*LR LR 00 55 08.4
comp=Z,219nm,22.0s
PVAQ Vaqueiros 73.87 55 *eP* **P** **00 32 09.7 +0.1**
PVAQ Vaqueiros 73.87 55 *e*LR LR 00 54 50.8
comp=Z,173nm,20.0s
MVO Moncorvo 73.91 51 *eP* **P** **00 32 09.3 -0.6**
MVO Moncorvo 73.91 51 *e*LR LR 00 55 03.2
comp=Z,156nm,22.0s
PBRG Braganca 74.04 50 *eP* **P** **00 32 10.2 -0.4**
comp=Z,45nm,1.5s
PBAR Barrancos 74.29 54 *eP* **P** **00 32 12.0 -0.1**
comp=Z,82nm,1.3s
ESK Eskdalemuir 74.84 36 *i* P **P** **00 32 15.0 +0.1**
EKA Eskdalemuir Ar 74.86 36 P **P** **00 32 13.4 -1.7**
comp=Z,4.8nm,0.8s,baz=275,slow=5.9,SNR=13
QUIF Quistinic 75.76 44 *eP* **P** **00 32 19.6 -0.7**
QUIF pmax pmax
comp=Z,49nm,1.3s
PAB San Pablo 76.16 52 *eP* **P** **00 32 22.9 -0.1**
comp=Z,25nm,1.2s
PAB San Pablo 76.16 52 *eP* **P** **00 32 22.9 -0.1**
PAB pmax pmax
comp=Z,25nm,1.2s
ESDC Sonseca Array 76.44 52 P **P** **00 32 23.9 -0.6**
comp=Z,7.0nm,0.8s,baz=285,slow=5.6,SNR=41
ESLA Sonseca Array 76.44 52 *eP* **P** **00 32 24.4 -0.1**
comp=Z,15nm,1.0s
ES19 SONSECA Array 76.48 52 *eP* **P** **00 32 23.8 -0.9**
GRR Gorron 77.22 43 *eP* **P** **00 32 27.4 -1.2**
GRR pmax pmax
comp=Z,61nm,1.6s
FLN La Foliniere 77.40 43 *eP* **P** **00 32 28.4 -1.2**
FLN pmax pmax
comp=Z,38nm,1.3s
LDF La Druitiere 77.67 43 *eP* **P** **00 32 29.9 -1.2**
LDF pmax pmax
comp=Z,21nm,1.1s
SPITS Spitsbergen Ar 77.70 12 P **P** **00 32 30.9 +0.1**
comp=Z,9.0nm,0.9s,baz=268,slow=17,SNR=2.6
SJPF Ste Jean 77.88 48 *eP* **P** **00 32 31.8 -0.6**
SJPF pmax pmax
comp=Z,24nm,1.1s
ETSF Etsaut 78.39 49 *eP* **P** **00 32 34.7 -0.7**
ETSF pmax pmax
comp=Z,16nm,1.2s
EPF Esparros 79.02 48 *eP* **P** **00 32 37.8 -1.0**
EPF pmax pmax
comp=Z,14nm,1.1s
RJF Les Rejaudoux 79.39 46 *eP* **P** **00 32 39.3 -1.4**
RJF pmax pmax
comp=Z,23nm,1.4s
AVF Avril sur Loir 80.32 44 *eP* **P** **00 32 43.7 -2.0**
AVF pmax pmax
comp=Z,25nm,1.8s
BILL Bilibino 80.71 338 *c i* P **P** **00 32 47.1 -0.3**
BILL *e* 00 32 54.1
BILL *e* 00 35 49.9
BILL *e*S S 00 43 04.0 +11
BILL *i* SS **SS** **00 48 01.1 -4.7**
BILL pmax pmax
comp=Z,12nm,1.1s
BILL MLR MLR
comp=Z,239nm,21.0s
BCLA Clavier 80.75 40 ⇑P **P** **00 32 46.3 -1.6**
comp=Z,11nm,1.4s
MEM Membach 81.14 40 ⇓P **P** **00 32 49.0 -1.0**
NB2 NORSAR Subarra 81.20 29 P **P** **00 32 49.9 -0.3**
comp=Z,6.1nm,1.0s,baz=289,slow=5.3
NOA NORSAR Array B 81.20 29 P **P** **00 32 50.2 0.0**
comp=Z,2.2nm,0.8s,baz=289,slow=5.2,SNR=8.5
WLF Walferdange 81.47 41 ⇑P **P** **00 32 51.1 -0.7**
KOWA Kowa 81.62 77 P **P** **00 32 53.1 -0.1**
comp=Z,12nm,0.8s,baz=287,slow=8.3,SNR=20
KOWA Kowa 81.62 77 *eP* **P** **00 32 53.0 -0.3**
comp=Z,61nm,1.8s
VIVF Saint-Julien-l 81.67 46 *eP* **P** **00 32 52.4 -0.6**
VIVF pmax pmax
comp=Z,28nm,1.4s
HAU Haudompre 82.01 42 *eP* **P** **00 32 53.2 -1.5**
HAU pmax pmax
comp=Z,13nm,1.1s
CABF La Chapelle 82.19 44 *eP* **P** **00 32 57.5 +1.7**
CABF pmax pmax
comp=Z,56nm,1.7s
ECH Echery 82.48 42 *eP* **P** **00 32 56.1 -1.1**
comp=Z,15nm,1.1s
ECH Echery 82.48 42 *eP* **P** **00 32 56.1 -1.1**
ECH pmax pmax
comp=Z,15nm,1.1s
CDF Champ du Feu 82.50 42 *eP* **P** **00 32 56.0 -1.4**
CDF pmax pmax
comp=Z,20nm,1.4s
HFS Hagfors 82.65 29 P **P** **00 32 57.2 -0.5**
comp=Z,2.0nm,0.7s,baz=188,slow=5.8,SNR=5.3
TIC Toumodi 82.65 85 *eP* **P** **00 32 57.8 -0.9**
LIC Lamto 82.75 86 *eP* **P** **00 32 58.5 -0.7**
comp=Z,84nm,1.0s
DBIC Dimbokro 82.80 85 P **P** **00 32 58.8 -0.7**
comp=Z,16nm,0.9s,baz=269,slow=4.0,SNR=16
DBIC Dimbokro 82.80 85 *eP* **P** **00 32 59.1 -0.2**
comp=Z,19nm,0.9s
DBIC Dimbokro 82.80 85 *eP* **P** **00 32 59.2 -0.2**
DBIC pmax pmax
comp=Z,19nm,0.9s
LPL La Plagne 82.91 45 *eP* **P** **00 33 00.2 +0.5**
LPL pmax pmax
comp=Z,12nm,1.4s
KIC Kosan Boka 82.99 85 *eP* **P** **00 32 59.7 -0.7**
comp=Z,46nm,0.8s
SENIN Lac Senin/Sane 83.07 44 *eP* **P** **00 33 00.0 -0.5**
comp=Z,12nm,1.1s
MBDF Montbardon 83.15 46 *eP* **P** **00 33 00.6 -0.3**
MBDF pmax pmax
comp=Z,14nm,1.2s
BFO Black Forest 83.20 42 *eP* **P** **00 32 59.6 -1.3**
comp=Z,19nm,1.4s
BFO Black Forest 83.20 42 *i* P **P** **00 33 00.2 -0.7**
ARCES ARCESS Array B 83.50 19 P **P** **00 33 01.3 -0.7**
comp=Z,4.3nm,0.8s,baz=292,slow=3.8,SNR=8.3
ARCES LR LR 01 10 13.5
comp=Z,165nm,18.1s,baz=302,slow=36
DAVA Damuels 84.50 42 *eP* **P** **00 33 07.0 -0.8**
comp=Z,7.0nm,0.9s
FUORN Ofenpass-Fuorn 84.95 43 *eP* **P** **00 33 09.9 -0.2**
comp=Z,14nm,0.9s
RETA Reutte 85.01 42 *eP* **P** **00 33 09.6 -0.7**
comp=Z,13nm,1.3s
FETA Feichten 85.14 43 *eP* **P** **00 33 10.2 -0.8**
comp=Z,8.8nm,1.1s
CLL Collm 85.18 38 *i* P **P** **00 33 10.0 -0.8**
comp=Z,15nm,1.3s
CLL *i* pP **PcP** **00 33 14.3 +0.3**
CLL *e* 00 33 36.0
CLL *e*S **S** **00 43 46.0 +6.7**
CLL *e*PS **PnS** **00 44 35.0 -1.5**
CLL *e*SS **SS** **00 49 12.0 -0.8**
CLL *e* 00 50 36.0
CLL *e* 00 56 48.0
CLL LmV 01 14 00.0
comp=Z,100nm,19.6s
CLL Collm 85.18 38 *eP* **P** **00 33 10.6 -0.3**
comp=Z,8.8nm,1.1s
CLL Collm 85.18 38 *i* P **P** **00 33 10.0 -0.8**
CLL *e*S **S** **00 43 46.0 +6.7**

CLL pmax pmax
comp=Z,15nm,1.3s
NKC Novy Kostel 85.20 39 *eP* **P** **00 33 10.9 -0.1**
NKC Novy Kostel 85.20 39 *eP* **P** **00 33 10.9 -0.1**
MOTA Moosalm 85.28 42 *eP* **P** **00 33 11.1 -0.5**
comp=Z,7.6nm,1.2s,SNR=5.1
VAF Ylistaro 85.48 25 P **P** **00 33 12.2 +0.1**
WATA Walderalm 85.59 42 *eP* **P** **00 33 12.3 -0.9**
comp=Z,11nm,1.4s
OUL Oulu 85.78 23 P **P** **00 33 13.1 -0.4**
WET Wettzell 85.82 40 P **P** **00 33 14.3 +0.1**
WET pmax pmax
comp=Z,16nm,1.4s
BRG Berggiesshubel 85.89 38 *eP* **P** **00 33 13.5 -0.9**
comp=Z,13nm,1.4s
comp=N,97nm,17.0s
comp=E,131nm,20.5s
comp=Z,216nm,19.7s
BRG Berggiesshubel 85.89 38 *eP* **P** **00 33 13.5 -0.9**
BRG pmax pmax
comp=Z,13nm,1.4s
BRG MLR MLR
comp=N,97nm,17.0s
BRG MLR MLR
comp=E,131nm,20.5s
BRG MLR MLR
comp=Z,216nm,19.7s
KHC Kasperske Hory 86.26 40 *eP* **P** **00 33 15.6 -0.7**
KHC *ep*P **PcP** **00 33 19.9 +1.0**
KHC *ex* x 00 33 37.3
KHC AMS AMS 01 07 00.0
comp=Z,300nm,18.4s
KHC Kasperske Hory 86.26 40 *eP* **P** **00 33 15.2 -1.1**
comp=Z,6.6nm,1.4s
KHC Kasperske Hory 86.26 40 *eP* **P** **00 33 15.2 -1.1**
KHC pmax pmax
comp=Z,7.0nm,1.4s
PVCC Panska Ves 86.38 38 *eP* **P** **00 33 17.1 +0.3**
PVCC AMS AMS 01 11 40.0
comp=Z,200nm,22.4s
PVCC Panska Ves 86.38 38 *eP* **P** **00 33 17.1 +0.3**
PVCC MLR MLR
comp=Z,200nm,22.4s
ABTA Abfaltersbach 86.38 42 P **P** **00 33 16.3 -0.8**
comp=Z,13nm,1.1s,SNR=7.1
GEC2 GERESS Array S 86.43 40 *eP* **P** **00 33 16.9 -0.4**
comp=Z,10nm,1.2s
GEC2 GERESS Array S 86.43 40 *eP* **P** **00 33 16.9 -0.4**
GEC2 pmax pmax
comp=Z,10.0nm,1.2s
GERES GERESS Array B 86.43 40 P **P** **00 33 16.7 -0.5**
comp=Z,3.6nm,1.0s,baz=300,slow=2.9,SNR=19
GERES LR LR 01 07 26.5
comp=Z,261nm,21.6s,baz=271,slow=33
GEA0 GERESS Array S 86.44 40 *eP* **P** **00 33 16.3 -1.0**
PRU Pruhonice 86.55 39 *eP* **P** **00 33 17.5 -0.2**
PRU AMS AMS 01 11 00.0
comp=Z,200nm,15.3s
PRU Pruhonice 86.55 39 *eP* **P** **00 33 17.5 -0.2**
PRU MLR MLR
comp=Z,200nm,15.3s
AFI Afiamalu 86.79 255 LR LR 01 02 57.2
comp=Z,116nm,21.7s,baz=100,slow=29
KBA Koelnbreinsper 86.81 42 P **P** **00 33 18.2 -1.1**
comp=Z,11nm,1.0s,SNR=5.0
KBA Koelnbreinsper 86.81 42 P **P** **00 33 18.7 -0.6**
MOA Molln 87.13 41 *eP* **P** **00 33 19.4 -1.2**
comp=Z,9.2nm,1.5s
MYKA Terra Mystica 87.16 42 *eP* **P** **00 33 20.7 -0.1**
comp=Z,16nm,1.6s
UPC Upice 87.25 38 *eP* **P** **00 33 21.1 0.0**
UPC *ex* x 00 33 45.8
UPC AMS AMS 01 13 00.0
UPC Upice 87.25 38 *eP* **P** **00 33 21.1 0.0**
TOA0 Torodi Ar. Sit 87.33 77 *eP* **P** **00 33 22.1 0.0**
comp=Z,3.9nm,0.9s
TORD Torodi Ar. Bea 87.33 77 P **P** **00 33 20.2 -1.9**
comp=Z,2.8nm,1.0s,baz=280,slow=4.7,SNR=16
TREC Trest 87.37 39 AMS AMS 01 06 40.0
comp=Z,200nm,21.5s
DPC Dobruska-Polom 87.49 38 *eP* **P** **00 33 22.4 +0.1**
DPC *ep*P **PcP** **00 33 25.8 +1.5**
DPC *ex* x 00 33 46.3
DPC AMS AMS 01 12 10.0
comp=Z,200nm,20.2s
DPC Dobruska-Polom 87.49 38 *eP* **P** **00 33 22.4 +0.1**
DPC MLR MLR
comp=Z,200nm,20.2s
KEST Kesra 87.61 54 P **P** **00 33 21.6 -1.7**
comp=Z,6.3nm,1.0s,baz=224,slow=4.2,SNR=4.8
KEST LR LR 01 06 52.3
comp=Z,102nm,20.4s,baz=246,slow=32
KEST Kesra 87.61 54 *eP* **P** **00 33 23.1 -0.2**
comp=Z,16nm,1.2s
FINES FINESS Array B 87.64 26 P **P** **00 33 22.4 -0.3**
comp=Z,1.4nm,0.7s,baz=294,slow=2.7,SNR=9.5
OBKA Obir 87.78 42 *eP* **P** **00 33 23.6 -0.3**
comp=Z,12nm,1.3s
SOKA Soboth 88.03 42 *eP* **P** **00 33 24.5 -0.6**
comp=Z,14nm,1.5s
SEY Seymchan 88.13 336 P **P** **00 33 23.0 -2.0**
comp=Z,2.4nm,0.7s,baz=121,slow=2.6,SNR=6.2
SEY Seymchan 88.13 336 ‖ *eP* **P** **00 33 25.1 +0.1**
TAM Tamanrasset 88.20 67 *eP* **P** **00 33 25.8 -0.6**
comp=Z,7.2nm,1.3s
TAM Tamanrasset 88.20 67 *eP* **P** **00 33 25.8 -0.6**
TAM pmax pmax
comp=Z,7.0nm,1.3s
MORC Moravsky Berou 88.43 38 *eP* **P** **00 33 26.1 -0.7**
comp=Z,40nm,1.4s
MORC Moravsky Berou 88.43 38 *eP* **P** **00 33 26.1 -0.7**
MORC pmax pmax
comp=Z,40nm,1.4s
OKC Ostrava-Krasne 88.77 38 AMS AMS 01 12 50.0
comp=Z,300nm,17.6s
MODS Modra-Piesok 88.81 40 *eP* **P** **00 33 27.6 -1.0**
MODS Modra-Piesok 88.81 40 *eP* **P** **00 33 27.6 -1.0**
MODS pmax pmax
comp=Z,22nm,1.7s
TIXI Tiksi 88.96 349 P **P** **00 33 27.4 -1.3**
comp=Z,11nm,0.9s,baz=22,slow=5.3,SNR=16
TIXI Tiksi 88.96 349 *c i* P **P** **00 33 27.5 -1.3**
TIXI pmax pmax
comp=Z,17nm,1.2s
VYHS Vyhne 89.72 39 *eP* **P** **00 33 32.8 -0.1**
VYHS Vyhne 89.72 39 *eP* **P** **00 33 32.8 -0.1**
VYHS pmax pmax
comp=Z,4.0nm,1.5s
MA2 Magadan 90.61 334 P **P** **00 33 35.7 -1.1**
comp=Z,2.5nm,0.3s,baz=18,slow=5.7,SNR=4.1
MA2 Magadan 90.61 334 *eP* **P** **00 33 36.6 -0.2**
comp=Z,7.4nm,0.8s
MA2 Magadan 90.61 334 *eP* **P** **00 33 36.2 -0.6**
MA2 pmax pmax
comp=Z,8.0nm,0.8s
DRGR 92.82 40 P **P** **00 33 47.6 +0.3**
DRGR pmax pmax
comp=Z,10.0nm,1.4s
KLMR Klimovskoe 93.29 22 *eP* **P** **00 33 46.7 -2.4**
KLMR AMP 00 33 59.8
comp=Z,6.0nm,1.2s
KLMR Klimovskoe 93.29 22 *eP* **P** **00 33 46.6 -2.5**
KLMR pmax pmax
comp=Z,6.0nm,1.2s
KIEV Kiev 94.66 34 ⇑ *eP* **P** **00 33 57.3 +1.7**
KIEV pmax pmax
comp=Z,2.0nm,1.0s
AKASG Malin Array Be 94.67 34 P **P** **00 33 53.9 -1.8**
comp=Z,0.3nm,0.5s,baz=289,slow=2.8,SNR=6.4
VOIR 94.89 40 P **P** **00 33 57.5 +0.6**
VOIR pmax pmax
comp=Z,4.0nm,1.1s
VTS Vitosha 95.02 43 *eP* **P** **00 33 57.3 -0.4**
comp=Z,4.9nm,1.2s
VTS Vitosha 95.02 43 *eP* **P** **00 33 57.3 -0.4**
VTS pmax pmax
comp=Z,5.0nm,1.2s
MLR Muntele Rosu 95.41 40 P **P** **00 33 58.9 -0.4**
comp=Z,1.0nm,0.9s,baz=166,slow=6.5
MLR Muntele Rosu 95.41 40 *eP* **P** **00 33 58.3 -1.0**
comp=Z,22nm,1.6s
MLR Muntele Rosu 95.41 40 *eP* **P** **00 33 58.3 -1.0**
MLR pmax pmax
comp=Z,22nm,1.6s
OBN Obninsk 95.77 28 *d i* P **P** **00 34 00.6 +0.1**
OBN *PP **sP** **00 34 12.0 +0.2**

OBN					*e*			00 45 16.4		
OBN					pmax	pmax				
	comp=Z,18nm,1.9s									
CFR	**Carcaliu**	**96.91**	**39**		P	**P**		**00 34 04.4**	**-1.6**	
IDI	**Anoyia**	**99.50**	**49**		LR	LR		01 15 00.8		
	comp=Z,57nm,20.4s,baz=281,slow=33									
DZM	**Mont Dzumac**	**108.83**	**252**		*e*LR	LR		01 11 19.7		
	comp=Z,216nm,24.4s									
MAK	**Makhachkala**	**109.24**	**32**		*e*P	**Pdif**		**00 34 58.7**	**-2.2**	
MAK					*e*			00 39 31.2		
MAK					*e*			00 45 36.1		
MAK					*e*SSS	SSS		00 58 56.9		
MAK					pmax	pmax				
	comp=Z,154nm,1.4s									
MKAR	**Makanchi Array**	**117.14**	**7**		PKP	**PKPdf**		**00 39 18.5**	**-1.3**	
	comp=Z,0.6nm,0.9s,baz=270,slow=2.4,SNR=3.8									
GEYT	**Alibeck**	**118.29**	**29**		PKP	**PKPdf**		**00 39 21.4**	**-0.9**	
	comp=Z,1.1nm,0.7s,baz=270,slow=8.9,SNR=3.5									
BOSA	**Boshof**	**118.69**	**114**		PKP	**PKPdf**		**00 39 22.8**	**-0.5**	
	comp=Z,4.6nm,0.9s,baz=256,slow=4.2,SNR=2.9									
AAK	**Ala-Archa**	**119.86**	**14**⇑	*i*	PKIKP	**PKPdf**		**00 39 25.3**	**0.0**	
HHC	**Hu-ho-hao-te**	**120.34**	**342**		*e*PKP	**PKPdf**		**00 39 27.6**	**+1.4**	
WMQ	**Urumqi**	**120.51**	**3**		*e*PKP	**PKPdf**		**00 39 26.3**	**-0.1**	
WMQ					LR	LR				
	comp=Z,220nm,22.1s									
WMQ					LR	LR				
	comp=Z,580nm,27.5s									
WMQ					LR	LR				
	comp=Z,290nm,19.3s									
GTA	**Gaotai**	**124.34**	**352**		*e*PKP	**PKPdf**		**00 39 35.9**	**+1.9**	
KMBO	**Kilima Mbogo**	**125.25**	**80**		PKP	**PKPdf**		**00 39 37.0**	**+0.4**	
	comp=Z,0.9nm,0.5s,baz=24,slow=20,SNR=3.6									
NJ2	**Nanjing**	**125.26**	**331**		*e*PKP	**PKPdf**		**00 39 35.8**	**0.0**	
LZH	**Lanzhou**	**126.85**	**347**		*e*PKP	**PKPdf**		**00 39 38.3**	**-0.6**	
LZH					LR	LR				
	comp=Z,140nm,18.2s									
LZH					LR	LR				
	comp=Z,140nm,18.0s									
LZH					LR	LR				
	comp=Z,170nm,20.1s									
STKA	**Stephens Creek**	**131.32**	**241**		PKP	**PKPdf**		**00 39 46.9**	**-0.3**	
	comp=Z,4.5nm,0.7s,baz=108,slow=5.6,SNR=4.9									
CD2	**Chengdu**	**131.82**	**345**		PKP	**PKPdf**		**00 39 46.0**	**-2.4**	
CD2					sPKP			00 40 07.1		
CD2					SKKS			00 48 56.6		
CD2					SS	**SS**		**00 59 38.3**	**-2.3**	
CD2					AMB	AMB				
	comp=Z,120nm,5.0s									
CD2					LR	LR				
	comp=Z,230nm,21.9s									
CD2					LR	LR				
	comp=Z,250nm,18.9s									
CD2					LR	LR				
	comp=Z,220nm,18.9s									
GYA	**Guiyang**	**135.16**	**340**	*e*	Pdif	**Pdif**		**00 36 55.0**	**-1.8**	
GYA					PKP	**PKPdf**		**00 39 53.3**	**-1.6**	
GYA					PP	**PP**		**00 42 32.8**	**+4.0**	
GYA					AMB	AMB				
	comp=Z,120nm,8.2s									
KMI	**Kunming**	**137.60**	**344**		PKP	**PKPdf**		**00 39 58.1**	**-1.5**	
KMI					AMB	AMB				
	comp=Z,120nm,5.0s									
OPO	**Ambohidratompo**	**138.35**	**100**		PKP	**PKPdf**		**00 40 00.9**	**0.0**	
	comp=Z,9.2nm,1.0s,baz=230,slow=7.9,SNR=3.7									
ABPO	**Ambohimpanom**	**138.41**	**101**	*i*	PKIKP	**PKPdf**		**00 40 06.2**	**+5.2**	
WRAB	**Tennant Creek**	**138.44**	**258**⇑	*i*	PKIKP	**PKPdf**		**00 40 01.4**	**+0.5**	
WRAB					pmax	pmax				
	comp=Z,32nm,2.5s									
WRA	**Warramunga Arr**	**138.45**	**258**		PKhKP	PKPpre		00 39 51.0		
	comp=Z,5.5nm,1.2s,baz=95,slow=2.8,SNR=6.1									
WRA					PKP	**PKPdf**		**00 40 00.8**	**-0.2**	
	comp=Z,8.2nm,0.9s,baz=86,slow=2.4,SNR=17									
ASAR	**Alice Springs**	**138.82**	**252**		PKhKP	PKPpre		00 39 52.5		
	comp=Z,1.9nm,0.9s,baz=98,slow=3.2,SNR=10									
ASAR					PKP	**PKPdf**		**00 40 01.4**	**-0.1**	
	comp=Z,2.8nm,0.7s,baz=96,slow=2.1,SNR=13									
HYB	**Hyderabad**	**144.77**	**21**	*i*	PKP	**PKPab**		**00 40 11.0**	**-0.1**	
CMAR	**Chiang Mai Arr**	**144.93**	**346**		PKPbc	**PKPab**		**00 40 10.7**	**-1.0**	
	comp=Z,10nm,0.7s,baz=335,slow=3.7,SNR=33									
SOEI	**Soe**	**146.82**	**276**	*e*	PKPbc	**PKPab**		**00 40 18.5**	**-0.6**	
BATI	**Baumata**	**147.50**	**276**		PKPbc	**PKPbc**		**00 40 20.3**	**+0.7**	
	comp=Z,14nm,0.4s,baz=90,slow=1.0,SNR=8.3									
KAPI	**Kappang**	**149.58**	**288**	*e*	PKPbc	**PKPbc**		**00 40 24.8**	**-0.1**	
MBWA	**Marble Bar**	**152.08**	**255**	*e*	PKPbc	**PKPbc**		**00 40 29.0**	**-1.7**	

MAN 23 00:25:35,10°.04N×124°.63E,h63km,mb4.1,ML2.9,MS2.5,1C,Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSLP	**Maasin**	**0.25**	**68**	*e*P	Pn	00 25 46.7	+1.6
MSLP				*e*S	Sn	00 25 56.1	+3.7
TBP	**Tagbilaran**	**0.83**	**245**	*e*P	Pn	00 25 53.6	+2.6
TBP				*e*S	Sn	00 26 05.6	+2.7
DCPH	**Dipolog City**	**1.92**	**221**⇑	*e*P	Pn	00 26 07.1	+1.7
DCPH				*e*S	Sn	00 26 30.4	+1.8

*TIR **23** 00:27:46.3,39°.70N×20°.37E,h1km,Md2.2/4*
*THE **23** 00:27:46.5,39°.68N×20°.37E,h0km±1km,ML1.8/6,Error ellipse: s-maj=1.7km s-min=0.4km az=337.0*
*CSEM **23** 00:27:46.6±0.2,39°.68N×20°.39E,h2km,ML1.9,Error ellipse: s-maj=5.1km s-min=3.9km az=13.0*
ATH 23 00:27:46.2,39°.65N×20°.37E,h16km±2km,ML1.9/5,Error ellipse: s-maj=2.9km s-min=0.9km az=222.0,
Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGD	**Sagiada**	**0.11**	**252**	P	Pg	00 27 48.8	-0.9
SGD	**Sagiada**	**0.11**	**252**	P	Pg	00 27 49.2	-0.5
SGD	**Sagiada**	**0.11**	**252**	P	Pg	00 27 49.2	-0.5
IGT	**Igoumenitsa**	**0.12**	**194**	P	Pg	00 27 49.3	-0.5
IGT				S	Sb	00 27 53.3	+0.6
IGT				AML	AML	00 27 54.0	
	comp=N,2434μm,0.3s						
IGT				AML	AML	00 27 54.8	
	comp=E,1397μm,0.4s						
IGT	**Igoumenitsa**	**0.12**	**194**	P	Pg	00 27 49.5	-0.3
IGT				S	Sg	00 27 52.2	0.0
IGT	**Igoumenitsa**	**0.12**	**194**	P	Pg	00 27 49.5	-0.3
IGT				S	Sg	00 27 52.2	0.0
KASA	**Kassiopi**	**0.35**	**287**	P	Pg	00 27 53.3	-0.1
KASA				AML	AML	00 27 59.8	
	comp=N,413μm,0.2s						
KASA				AML	AML	00 27 59.8	
	comp=E,439μm,0.2s						
KASA				S	Sb	00 28 00.2	+0.9
KASA	**Kassiopi**	**0.35**	**287**	P	Pg	00 27 53.3	-0.1
KASA				S	Sb	00 27 59.4	+0.1
SRN	**Sarande**	**0.37**	**309**	*i* Pg	Pg	00 27 53.6	-0.1
	baz=303						
SRN				*i* Sg	Sb	00 28 00.0	+0.2
	baz=303						
SRN	**Sarande**	**0.37**	**309**	*i* PG	Pg	00 27 53.6	-0.1
SRN				*i* SG	Sb	00 28 00.0	+0.2
JAN	**Janina**	**0.37**	**88**	P	Pg	00 27 53.3	-0.5
JAN				S	Sb	00 28 00.5	+0.5
JAN				AML	AML	00 28 01.5	
	comp=N,940μm,0.4s						
JAN				AML	AML	00 28 01.6	
	comp=E,1152μm,0.3s						
JAN	**Janina**	**0.37**	**88**	P	Pg	00 27 53.5	-0.3
JAN				S	Sg	00 27 59.5	+0.4
JAN	**Janina**	**0.37**	**88**	P	Pg	00 27 53.5	-0.3
JAN				S	Sg	00 27 59.5	+0.4
KEK	**Kerkira**	**0.45**	**279**	P	Pg	00 27 54.6	-0.6
KEK				S	Sb	00 28 02.1	+0.1
KEK				AML	AML	00 28 03.4	
	comp=N,261μm,0.2s						
KEK				AML	AML	00 28 08.7	
	comp=E,351μm,0.3s						
KEK	**Kerkira**	**0.45**	**279**	P	Pg	00 27 54.8	-0.3
KEK				S	Sg	00 28 01.4	+0.2
KEK	**Kerkira**	**0.45**	**279**	P	Pg	00 27 54.8	-0.3
KEK				S	Sg	00 28 01.4	+0.2
DSL	**Palaion Diesel**	**0.76**	**132**	P	Pg	00 28 00.8	-0.2
DSL				S	Sb	00 28 12.4	+1.1
DSL				AML	AML	00 28 16.9	
	comp=E,103μm,0.5s						
DSL				AML	AML	00 28 17.0	
	comp=N,148μm,0.4s						
DSL	**Palaion Diesel**	**0.76**	**132**	P	Pb	00 28 01.2	+0.1
DSL				S	Sb	00 28 11.9	+0.7
PENT	**Pentalofos**	**0.81**	**47**	P	Pb	00 28 00.9	-1.0
PENT	**Pentalofos**	**0.81**	**47**	P	Pb	00 28 01.2	-0.7
PENT	**Pentalofos**	**0.81**	**47**	P	Pb	00 28 01.3	-0.6
KPRO	**Kipourio**	**0.83**	**68**	P	Pb	00 28 00.9	-1.4
KPRO	**Kipourio**	**0.83**	**68**	P	Pb	00 28 01.6	-0.6
KPRO				S	Sg	00 28 14.0	+0.8
KPRO	**Kipourio**	**0.83**	**68**	P	Pb	00 28 01.6	-0.6
KPRO				S	Sg	00 28 14.0	+0.8
LKD2	**Lefkada island**	**0.89**	**165**	P	Pb	00 28 03.0	-0.3
LKD2	**Lefkada island**	**0.89**	**165**	P	Pg	00 28 03.7	+0.3
LKD2				S	Sn	00 28 17.7	+1.1
LKD2	**Lefkada island**	**0.89**	**165**	P	Pg	00 28 03.7	+0.3
LKD2				S	Sn	00 28 17.7	+1.1
NEST	**Nestorio**	**0.93**	**34**	P	Pg	00 28 04.2	0.0
NEST	**Nestorio**	**0.93**	**34**	P	Pb	00 28 03.9	-0.1
NEST	**Nestorio**	**0.93**	**34**	P	Pb	00 28 03.9	-0.1
FSK	**Fiskardo**	**1.20**	**173**	P	Pg	00 28 09.3	+0.1
THL	**Klokotos Trika**	**1.27**	**93**	P	Pb	00 28 09.7	-0.1
THL	**Klokotos Trika**	**1.27**	**93**	P	Pg	00 28 10.4	-0.3
THL	**Klokotos Trika**	**1.27**	**93**	P	Pg	00 28 10.4	-0.3
EVR	**Evrytania**	**1.33**	**123**	P	Pg	00 28 12.3	+0.3
EVR	**Evrytania**	**1.33**	**123**	P	Pg	00 28 11.8	-0.1
EVR	**Evrytania**	**1.33**	**123**	P	Pg	00 28 11.8	-0.1
FNA	**Florina**	**1.37**	**34**	P	Pg	00 28 12.1	-0.5
FNA	**Florina**	**1.37**	**34**	P	Pg	00 28 12.1	-0.5
FNA	**Florina**	**1.37**	**34**	P	Pg	00 28 12.1	-0.5
AGG	**Agios Georgios**	**1.64**	**112**	P	Pg	00 28 17.3	-0.5
AGG	**Agios Georgios**	**1.64**	**112**	P	Pg	00 28 17.0	-0.8

*ISK **23** 00:40:03.9,38°.65N×43°.14E,h10km,ML2.5/6*
*ISCJB **23** 00:40:04.9±0.4,38°.64N±0°.03×43°.15E±0°.03,h12km±4km,Error ellipse: s-maj=5.2km s-min=4.0km az=175.6*
*CSEM **23** 00:40:04.4±0.2,38°.64N×43°.15E,h10km,ML2.5,Error ellipse: s-maj=4.4km s-min=4.0km az=166.0*
*DDA **23** 00:40:04.8,38°.66N×43°.18E,h7km,Ml2.8*
ISC 23 00:40:05.0±0.9,38°.65N±0°.03×43°.15E±0°.02,h13km±7km,n28,σ0s99/50,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.19**	**105**	PG	**Pg**	**00 40 09.4**	**0.0**
VANB				SG	**Sg**	**00 40 13.4**	**+1.0**
VANB	**Van**	**0.19**	**105**	*e*Pg	**Pg**	**00 40 09.4**	**0.0**
VANB				*e*Sg	**Sg**	**00 40 13.4**	**+1.0**
TVAN	**Van**	**0.23**	**120**	*i* P	**Pg**	**00 40 09.3**	**-0.7**
TVAN				*i* S	**Sg**	**00 40 13.8**	**+0.3**
TVAN	**Van**	**0.23**	**120**	P	**Pg**	**00 40 09.3**	**-0.7**
TVAN				S	**Sg**	**00 40 13.8**	**+0.3**
GEVA	**Gevas**	**0.34**	**193**	*i* P	**Pg**	**00 40 11.6**	**-0.3**
GEVA				*i* S	**Sb**	**00 40 17.9**	**-0.5**
GEVA	**Gevas**	**0.34**	**193**	P	**Pg**	**00 40 11.6**	**-0.3**
GEVA				S	**Sb**	**00 40 17.9**	**-0.5**
ADCV	**BITLIS_Adilcev**	**0.37**	**296**	*i* P	**Pb**	**00 40 12.9**	**-0.7**
ADCV				*i* S	**Sb**	**00 40 19.9**	**+0.5**
ADCV	**BITLIS_Adilcev**	**0.37**	**296**	P	**Pb**	**00 40 12.9**	**-0.7**
ADCV				S	**Sb**	**00 40 19.9**	**+0.5**
VMUR	**Van-Muradiye**	**0.47**	**43**	*i* P	**Pb**	**00 40 14.6**	**-0.7**
VMUR				*i* S	**Sb**	**00 40 22.9**	**+0.6**
VMUR	**Van-Muradiye**	**0.47**	**43**	P	**Pb**	**00 40 14.6**	**-0.7**
VMUR				S	**Sb**	**00 40 22.9**	**+0.6**
CLDR	**Caldiran**	**0.78**	**50**	PG	**Pg**	**00 40 18.9**	**-1.2**
CLDR				SG	**Sb**	**00 40 30.9**	**-0.1**
CLDR	**Caldiran**	**0.78**	**50**	*i* P	**Pg**	**00 40 18.6**	**-1.4**
CLDR				*i* S	**Sb**	**00 40 30.8**	**-0.2**
CLDR	**Caldiran**	**0.78**	**50**	P	**Pg**	**00 40 18.6**	**-1.4**
CLDR	**Caldiran**	**0.78**	**50**	*e*Pg	**Pg**	**00 40 18.9**	**-1.2**
CLDR				S	**Sb**	**00 40 30.8**	**-0.2**
TUTA	**Tutak**	**0.80**	**341**	*i* P	**Pg**	**00 40 19.8**	**-0.8**
TUTA				*i* S	**Sb**	**00 40 31.7**	**0.0**
TUTA	**Tutak**	**0.80**	**341**	P	**Pg**	**00 40 19.8**	**-0.8**
TUTA				S	**Sb**	**00 40 31.7**	**0.0**
GURO	**Guroymak-BITLI**	**0.88**	**264**	PG	**Pg**	**00 40 20.8**	**-1.3**
GURO				SG	**Sb**	**00 40 33.9**	**-0.1**
GURO	**Guroymak-BITLI**	**0.88**	**264**	*e*Pg	**Pg**	**00 40 20.8**	**-1.3**
GURO				*e*Sg	**Sb**	**00 40 33.9**	**-0.1**
AGRB	**Hanur-Agry**	**0.94**	**352**	PG	**Pg**	**00 40 22.6**	**-0.5**
AGRB				SG	**Sb**	**00 40 35.7**	**+0.1**
AGRB	**Hanur-Agry**	**0.94**	**352**	*e*Pg	**Pg**	**00 40 22.6**	**-0.5**
AGRB				*e*Sg	**Sb**	**00 40 35.7**	**+0.1**
EKAR	**Karacoban**	**1.05**	**306**	*i* P	**Pg**	**00 40 24.6**	**-0.6**
EKAR				*i* S	**Sn**	**00 40 44.7**	**+4.5**
EKAR	**Karacoban**	**1.05**	**306**	P	**Pg**	**00 40 24.6**	**-0.6**
SIRT	**Sirnak**	**1.27**	**206**	PN	**Pn**	**00 40 28.2**	**-0.4**
SIRT	**Sirnak**	**1.27**	**206**	*e*Pn	**Pn**	**00 40 28.2**	**-0.4**
EATA	**Eleskirt**	**1.32**	**337**	*i* P	**Pn**	**00 40 28.6**	**-0.8**
EATA				*i* S	**Sn**	**00 40 48.2**	**+1.2**
EATA	**Eleskirt**	**1.32**	**337**	P	**Pn**	**00 40 28.6**	**-0.8**
EATA				S	**Sn**	**00 40 48.2**	**+1.2**
TASB	**TASBURUN-IGDIR**	**1.58**	**32**	PN	**Pn**	**00 40 32.6**	**-0.1**
TASB	**TASBURUN-IGDIR**	**1.58**	**32**	*e*Pn	**Pn**	**00 40 32.6**	**-0.1**

IDC 23 00:42:20.8±10.0,2°.01N×96°.33E,h0km,mb3.4/3,mb1 3.5/3,mb1mx3.2/64,mbtmp3.4/3,Error ellipse: s-maj=463.6km s-min=29.8km az=55.0,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S2	**Diego Garcia H**	**25.64**	**248**	T	T	01 14 32.2	
	baz=64						
H08S3	**Diego Garcia H**	**25.64**	**248**	T	T	01 14 43.6	
	baz=64,slow=74						
H08S1	**Diego Carcia H**	**25.66**	**248**	T	T	01 14 41.3	
	baz=64,slow=74						
WRA	**Warramunga Arr**	**43.20**	**122**	P	P	00 50 23.8	-0.1
	0.3nm,0.8s,baz=298,slow=8.8,SNR=2.9						
MKAR	**Makanchi Array**	**46.25**	**347**	P	P	00 50 47.9	0.0
	0.3nm,0.7s,baz=157,slow=7.8,SNR=3.3						
ZALV	**Zalesovo Beam**	**52.62**	**351**	P	P	00 51 36.3	-0.2
	0.5nm,0.4s,baz=181,slow=5.6,SNR=4.3						

*IDC **23** 00:45:17.6±2.0,19°.97S×168°.64E,h0km,mb3.9/4,mb1 4.1/5,mb1mx3.8/39,mbtmp3.9/5,ML3.6/1,MS4.1/1,Ms1 4.2/1,ms1mx2.8/38,Error ellipse: s-maj=78.8km s-min=25.9km az=145.0*
*ISCJB **23** 00:45:18.7±2.1,20°.1S±0°.3×168°.7E±0°.3,h25km,mb3.8/4,MS4.2/1,Error ellipse: s-maj=56.2km s-min=13.5km az=38.3*
ISC 23 00:45:20.8±1.8,20°.1S±0°.3×168°.7E±0°.3,h25km,n8,σ1s48/8,mb3.9/4,Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**2.85**	**227**	Pn	**Pn**	**00 46 04.8**	**0.0**
	9.0nm,0.3s,baz=118,slow=23,SNR=45						
DZM				Sn	**Sn**	**00 46 38.1**	**-0.4**
	28nm,0.3s,baz=309,slow=22,SNR=9.1						
CTA	**Charters Tower**	**21.08**	**266**	P	**P**	**00 50 04.6**	**+1.1**
	2.2nm,0.5s,baz=88,slow=13,SNR=2.2						
WRA	**Warramunga Arr**	**32.25**	**264**	P	**P**	**00 51 46.2**	**-1.4**
	1.2nm,1.1s,baz=95,slow=8.3,SNR=5.2						
ASAR	**Alice Springs**	**32.43**	**257**	P	**P**	**00 51 49.8**	**+0.6**
	1.7nm,0.6s,baz=83,slow=8.6,SNR=20						
VNDA	**Vanda**	**57.52**	**182**	LR	LR	01 16 04.0	
	comp=Z,171nm,18.6s,baz=190,slow=32						
ILAR	**Eielson Array**	**91.24**	**17**	P	**P**	**00 58 22.3**	**-1.2**
	0.4nm,0.7s,baz=224,slow=5.0,SNR=3.5						
YKA	**Yellowknife Ar**	**101.70**	**27**	P	**Pdif**	**00 59 12.9**	**+1.9**
	0.1nm,0.7s,baz=256,slow=5.0,SNR=3.9						
GERES	**GERESS Array B**	**145.04**	**331**	PKP	**PKPdf**	**01 04 57.4**	**+1.4**
	0.2nm,0.4s,baz=27,slow=6.6,SNR=2.8						

*TIR **23** 00:51:09.3,39°.57N×20°.27E,h20km,Md2.0/2*
*CSEM **23** 00:51:09.5±0.4,39°.64N×20°.37E,h12km,ML1.6,Error ellipse: s-maj=12.7km s-min=7.2km az=24.0*
ATH 23 00:51:09.2,39°.66N×20°.33E,h19km±3km,ML1.6/3,Error ellipse: s-maj=3.9km s-min=1.5km az=209.0,
Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGD	**Sagiada**	**0.09**	**236**	P	Pg	00 51 12.6	-0.2
SGD	**Sagiada**	**0.09**	**236**	P	Pg	00 51 12.7	-0.1
IGT	**Igoumenitsa**	**0.13**	**178**	P	Pg	00 51 12.7	-0.5
IGT				S	Sg	00 51 16.0	0.0
IGT				AML	AML	00 51 17.2	
	comp=E,428μm,0.2s						
IGT				AML	AML	00 51 17.5	
	comp=N,613μm,0.4s						
IGT	**Igoumenitsa**	**0.13**	**178**	P	Pg	00 51 13.0	-0.3
IGT				S	Sg	00 51 16.1	+0.1
SRN	**Sarande**	**0.33**	**311**	*i* Pg	Pb	00 51 17.3	+0.7
	baz=326						
SRN				*i* Sg	Sn	00 51 23.8	-1.5
	baz=326						
SRN	**Sarande**	**0.33**	**311**	*i* PG	Pb	00 51 17.3	+0.7
SRN				*i* SG	Sn	00 51 23.8	-1.5
JAN	**Janina**	**0.41**	**90**	P	Pg	00 51 16.7	-0.9
JAN				S	Sb	00 51 24.6	+0.9
JAN				AML	AML	00 51 25.1	
	comp=E,382μm,0.3s						
JAN				AML	AML	00 51 25.9	
	comp=N,299μm,0.3s						
JAN	**Janina**	**0.41**	**90**	P	Pg	00 51 17.1	-0.5
JAN				S	Sb	00 51 24.0	+0.3
KEK	**Kerkira**	**0.41**	**277**	P	Pb	00 51 18.8	+0.9
KEK	**Kerkira**	**0.41**	**277**	P	Pb	00 51 18.2	+0.3
DSL	**Palaion Diesel**	**0.80**	**131**	P	Pb	00 51 23.9	-0.5
DSL				S	Sn	00 51 36.6	-0.2
DSL				AML	AML	00 51 38.7	
	comp=N,50μm,0.4s						
DSL				AML	AML	00 51 38.7	
	comp=E,40μm,0.3s						
DSL	**Palaion Diesel**	**0.80**	**131**	P	Pb	00 51 24.2	-0.2
DSL				S	Sn	00 51 36.1	-0.7
KPRO	**Kipourio**	**0.85**	**70**	P	Pb	00 51 24.7	-0.7
KPRO	**Kipourio**	**0.85**	**70**	P	Pb	00 51 25.1	-0.3
LKD2	**Lefkada island**	**0.91**	**163**	P	Pb	00 51 26.0	-0.3
LKD2	**Lefkada island**	**0.91**	**163**	P	Pb	00 51 26.3	0.0

IDC 23 00:56:16.5±48.0,15°.11S×172°.72W,h0km,mb4.2/3,mb1 4.4/3,mb1mx3.7/47,mbtmp4.2/3,MS3.8/3,Ms1 3.8/3,ms1mx3.1/44,Error ellipse: s-maj=927.7km s-min=185.0km az=78.0,Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**24.75**	**199**	LR	LR	01 10 22.6	
	comp=Z,185nm,19.8s,baz=87,slow=34						
RPZ	**Rata Peaks**	**31.70**	**203**	LR	LR	01 13 38.4	
	comp=Z,470nm,21.9s,baz=66,slow=33						
STKA	**Stephens Creek**	**44.75**	**240**	P	P	01 04 31.4	-0.5
	4.0nm,1.0s,baz=80,slow=6.1,SNR=3.3						
WRA	**Warramunga Arr**	**50.55**	**256**	P	P	01 05 17.4	+0.1
	0.4nm,0.3s,baz=92,slow=6.9,SNR=19						
ASAR	**Alice Springs**	**50.83**	**252**	P	P	01 05 19.1	-0.1
	6.7nm,0.5s,baz=87,slow=8.3,SNR=85						
KSRS	**Korea Array**	**76.42**	**315**	LR	LR	01 38 25.8	
	comp=Z,18nm,19.3s,baz=20,slow=33						

*IDC **23** 01:13:21.2±0.7,16°.17N×98°.23W,h0km,mb4.2/20,mb1 4.4/24,mb1mx4.3/49,mbtmp4.3/24,ML3.5/3,MS3.7/22,Ms1 3.7/22,ms1mx3.5/46,Error ellipse: s-maj=21.8km s-min=11.9km az=46.0*
*ISCJB **23** 01:13:22.4±0.3,16°.27N±0°.04×98°.03W±0°.02,h10km,mb4.5/133,MS3.7/20,Error ellipse: s-maj=5.4km s-min=3.1km az=5.6*
*MEX **23** 01:13:22.5±0.6,15°.96N×98°.26W,h3km±6km,MD4.7*
*NEIC **23** 01:13:23.8±0.3,16°.18N×98°.11W,h10km,mb4.6/135,MD4.7(MEX),Error ellipse: s-maj=6.2km s-min=3.5km az=212.0*
ISC 23 01:13:25.2±1.2,16°.15N±0°.06×98°.25W±0°.04,h25km±7km,n555,σ1s13/552,mb4.6/134,MS3.7/20,Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.27**	**26**	*e*P	**Pb**	**01 13 30.8**	**-1.1**
PNIG				*i* S	**Sb**	**01 13 37.5**	**+1.0**
PNIG	**Pinotepa**	**0.27**	**26**	*e*P	**Pb**	**01 13 30.8**	**-1.1**
PNIG				*i* S	**Sb**	**01 13 37.5**	**+1.0**
TLIG	**Tlapa**	**1.44**	**348**	*e*P	**Pn**	**01 13 48.0**	**-1.8**
TLIG				*e*S	**Sn**	**01 14 08.9**	**+0.9**
TLIG	**Tlapa**	**1.44**	**348**	*e*Pn	**Pn**	**01 13 48.2**	**-1.6**
TLIG				*e*S	**Sb**	**01 14 10.3**	**+0.9**
VHO	**Vista Hermosa**	**1.72**	**57**	*e*P	**Pn**	**01 13 51.8**	**-2.0**
VHO				*e*S	**Sn**	**01 14 16.6**	**+1.5**
VHO	**Vista Hermosa**	**1.72**	**57**	*e*P	**Pn**	**01 13 51.8**	**-2.0**
VHO				*e*S	**Sn**	**01 14 16.6**	**+1.5**
CAIG	**El Cayaco**	**2.13**	**295**	*e*P	**Pn**	**01 13 57.5**	**-1.7**
CAIG				*e*S	**Sn**	**01 14 23.5**	**-1.3**
CAIG	**El Cayaco**	**2.13**	**295**	*e*P	**Pn**	**01 13 57.5**	**-1.7**
CAIG				*e*S	**Sn**	**01 14 23.5**	**-1.3**
UNM	**Universidad Na**	**3.29**	**345**	*e*Pn	**Pb**	**01 14 22.4**	**-0.6**
CMIG	**Matias Romero**	**3.36**	**73**	Pn	**Pn**	**01 14 15.0**	**-1.2**
	10nm,0.3s,baz=247,slow=13,SNR=31						
CMIG				Sn	**Sn**	**01 14 54.8**	**-0.5**
	66nm,0.3s,baz=339,slow=23,SNR=7.0						
CMIG				Lg	Lg	01 15 10.7	
	85nm,0.3s,baz=258,slow=12,SNR=6.2						
LVIG	**Laguna Verde**	**3.96**	**26**	*e*Pn	**Pn**	**01 14 22.3**	**-2.1**
MOIG	**Morel

245A	Little AP, Sta baz=207	17.55	24	P		Pn	01 17 28.7	+0.7
Z40A	Long Farm, Mag baz=195,SNR=5.3	17.59	14	P		Pn	01 17 29.3	+0.6
Z41A	Richland Creek baz=197	17.74	15	P		Pn	01 17 29.7	-0.7
145A	Houston Renfro baz=206	18.04	23	P		Pn	01 17 32.1	-2.0
WLAR	White Oak Lake 28nm,1.0s	18.07	14	*e*Pn		Pn	01 17 28.0	-6.6
247A	Quitman baz=211	18.10	27	P		Pn	01 17 33.0	-1.9
349A	Repton baz=216	18.19	32	P		Pn	01 17 34.3	-1.8
319A	Douglas 25nm,1.1s	18.19	328	*e*Pn		P	01 17 37.6	+1.3
MSTX	Muleshoe baz=166,SNR=8.7	18.21	348	P		Pn	01 17 35.3	-1.0
MSTX	Muleshoe 28nm,1.0s	18.21	348	*e*Pn		Pn	01 17 35.5	-0.8
552A	Lynn Haven baz=223	18.30	38	P		P	01 17 34.9	-2.5
Y40A	Okolona baz=195	18.35	13	P		P	01 17 36.2	-1.7
121A	Cookes Peak, D baz=150,SNR=21	18.46	334	P		Pn	01 17 40.5	+1.0
121A	Cookes Peak, D 21nm,1.0s	18.46	334	*e*Pn		Pn	01 17 40.2	+0.7
WMOK	Wichita Mounta baz=178	18.52	359	P		P	01 17 38.6	-1.2
WMOK	Wichita Mounta 12nm,1.2s	18.52	359	*e*Pn		P	01 17 38.0	-1.8
248A	Dixon Mills baz=213,SNR=6.4	18.53	29	P		P	01 17 39.6	-0.3
X39A	Fountain Ranch baz=192	18.66	11	P		P	01 17 40.8	-0.5
249A	Camden baz=215	18.73	31	P		P	01 17 41.1	-1.0
147A	Livingston baz=211	18.78	27	P		P	01 17 42.3	-0.3
MIAR	Mount Ida baz=194,SNR=6.0	18.80	12	P		P	01 17 42.7	-0.1
MIAR	Mount Ida 16nm,0.8s	18.80	12	*e*P		P	01 17 42.4	-0.4
Z45A	Winona baz=206	18.81	23	P		P	01 17 42.6	-0.4
X40A	Basin Creek Fa baz=196	18.90	14	P		P	01 17 43.9	0.0
AMTX	Amarillo baz=169	18.91	351	P		P	01 17 43.6	-0.6
AMTX	Amarillo 21nm,0.9s	18.91	351	*e*P		P	01 17 44.0	-0.2
Z46A	Louisville baz=208	18.95	25	P		P	01 17 44.1	-0.3
351A	Pinckard baz=220	18.97	35	P		P	01 17 43.0	-1.7
148A	Greensboro baz=213	19.07	29	P		P	01 17 45.7	-0.1
Y44A	Strider, Charl baz=204	19.16	21	P		P	01 17 47.2	+0.4
BCIP	Isla Barro Col 53nm,1.5s	19.25	109	*e*P		Pn	01 17 51.1	+2.1
UALR	University of 24nm,1.1s	19.30	15	*e*P		P	01 17 48.2	0.0
Y45A	Yeager Farm, C baz=206	19.31	22	P		P	01 17 47.9	-0.5
Z47A	Carrollton baz=210	19.32	27	P		P	01 17 47.0	-1.5
W39A	Magazine baz=193,SNR=11	19.39	11	P		P	01 17 49.5	+0.2
149A	Jones baz=215,SNR=5.5	19.40	30	P		P	01 17 48.9	-0.5
BNM	Barren Site	19.45	339	*e*P		Pn	01 17 52.7	+1.2
W40A	Ferguson Farm, baz=195,SNR=6.7	19.53	13	P		P	01 17 51.2	+0.4
W40A	Ferguson Farm, 41nm,0.8s	19.53	13	*e*P		P	01 17 51.6	+0.9
Y46A	Houston baz=208,SNR=16	19.59	24	P		P	01 17 50.8	-0.6
LPM	Los Pinos Moun	19.60	339	*e*P		Pn	01 17 55.8	+2.6
LRAL	Lakeview Retre baz=213,SNR=6.9	19.66	29	P		P	01 17 51.7	-0.6
LRAL	Lakeview Retre 20nm,0.9s	19.66	29	*e*P		P	01 17 51.9	-0.4
Z48A	Northport baz=212,SNR=7.4	19.69	27	P		P	01 17 52.2	-0.4
W41B	Gary Mavity, V baz=197	19.70	15	P		P	01 17 53.0	+0.3
251A	Midway baz=219	19.70	34	P		P	01 17 52.3	-0.5
TUC	Tucson baz=142	19.71	327	P		Pn	01 17 53.9	-0.5
TUC	Tucson 7.1nm,1.1s	19.71	327	*e*P		Pn	01 17 54.4	0.0
454A	Quitman baz=226	19.73	40	P		P	01 17 51.8	-1.2
555A	McAlpin baz=228	19.75	43	P		P	01 17 52.8	-0.4
150A	Eclectic baz=217	19.79	32	P		P	01 17 53.2	-0.4
WHAR	Wooly Hollow 40nm,1.4s	19.80	15	*e*P		P	01 17 54.2	+0.4
TUL1	Leonard baz=187,SNR=5.9	19.81	6	P		P	01 17 52.9	-0.9
TUL1	Leonard 27nm,0.9s	19.81	6	*e*P		P	01 17 53.1	-0.8
LAZ	Ladron	19.86	338	*e*P		Pn	01 17 55.9	-0.4
X45A	UM Field Stati baz=205	19.87	22	P		P	01 17 52.6	-1.9
OXF	Oxford baz=205	19.94	22	P		P	01 17 54.6	-0.7
OXF	Oxford 54nm,1.1s	19.94	22	*e*P		P	01 17 54.9	-0.4
252A	Lumpkin baz=221	20.00	35	P		P	01 17 54.9	-1.1
Z49A	Columbiana baz=214,SNR=7.0	20.01	30	P		P	01 17 55.4	-0.7
Y47A	UCPARC, Winfie baz=210	20.01	26	P		P	01 17 55.2	-0.9
556A	Lake Butler baz=230	20.04	44	P		P	01 17 54.8	-1.6
V39A	Pettigrew baz=193,SNR=28	20.04	11	P		P	01 17 56.0	-0.4
151A	Opelika baz=218,SNR=7.5	20.09	33	P		P	01 17 56.1	-0.8
ANMO	Albuquerque baz=156	20.11	340	P		Pn	01 17 58.9	-0.5
ANMO	Albuquerque 17nm,0.8s	20.11	340	*e*P		P	01 17 58.2	+0.7
455A	Stateville baz=227	20.12	41	P		P	01 17 55.8	-1.5
V40A	Witts Springs baz=195,SNR=7.2	20.17	13	P		P	01 17 56.8	-1.1
X46A	Booneville baz=207,SNR=15	20.29	24	P		P	01 17 57.7	-1.3
V41A	Mountainview baz=197,SNR=6.2	20.30	14	P		P	01 17 58.1	-1.2
Y48A	Jasper baz=212	20.32	27	P		P	01 17 59.4	0.0
Z50A	Ashland baz=216,SNR=6.3	20.36	31	P		P	01 17 59.4	-0.4
HHAR	Hobbs 28nm,0.9s	20.42	10	*e*P		P	01 17 59.8	-0.8
V42A	Cord baz=199,SNR=6.3	20.52	16	P		P	01 18 00.1	-1.4
X47A	Russelville baz=209,SNR=10	20.54	25	P		P	01 18 00.4	-1.5
214A	Organ Pipe Nat baz=136	20.57	323	P		P	01 18 03.5	+1.3
214A	Organ Pipe Nat 100nm,1.4s	20.57	323	*e*P		Pn	01 18 03.7	-0.8
U39A	Green Forest baz=193,SNR=19	20.60	11	P		P	01 18 01.4	-1.1
W45A	Hickory Valley baz=205,SNR=8.8	20.60	22	P		P	01 18 00.8	-1.7
Y49A	Blount Mountai baz=214	20.61	29	P		P	01 18 02.3	-0.4
U40A	Yellville baz=194,SNR=34	20.70	12	P		P	01 18 02.6	-0.9
254A	Abbeville baz=224	20.80	38	P		P	01 18 03.8	-0.8
X48A	Hartselle baz=211	20.83	27	P		P	01 18 04.1	-0.9
PLAL	Pickwick Lake 38nm,0.9s	20.86	24	*e*P		P	01 18 04.6	-0.7
W46A	Michie baz=207,SNR=6.0	20.88	23	P		P	01 18 03.8	-1.6
U41A	Viola baz=197,SNR=7.2	20.89	14	P		P	01 18 04.6	-1.0
Y50A	Piedmont baz=215	20.96	30	P		P	01 18 05.2	-1.2
GNAR	Gosnell 3um,1.3s	21.06	19	*e*P		P	01 18 07.4	0.0
U42A	Revenden baz=199,SNR=18	21.07	16	P		P	01 18 06.0	-1.5
T38A	Diamond baz=190,SNR=17	21.10	9	P		P	01 18 07.2	-0.7
X18A	Snowflake	21.11	332	*e*P		P	01 18 10.1	+1.9
X49A	Woodville baz=213,SNR=9.6	21.20	28	P		P	01 18 06.8	-2.1
V45A	Humboldt baz=205	21.20	21	P		P	01 18 08.6	-0.4
T39A	Clever baz=193,SNR=14	21.24	11	P		P	01 18 08.4	-1.0
W47A	Westpoint baz=205	21.28	25	P		P	01 18 08.8	-1.1
U43A	Rector baz=201,SNR=8.8	21.32	18	P		P	01 18 08.9	-1.3
154A	Montrose baz=223	21.38	37	P		P	01 18 09.6	-1.4
W48A	Pulaski baz=211,SNR=10	21.46	26	P		P	01 18 10.3	-1.4
W18A	Petrified Fore baz=148,SNR=10	21.51	334	P		P	01 18 13.9	+1.4
W18A	Petrified Fore 28nm,1.1s	21.51	334	*e*P		P	01 18 14.3	+1.8
T40A	Mansfield baz=195,SNR=18	21.53	13	P		P	01 18 11.4	-1.1
357A	Townsend baz=229	21.56	42	P		P	01 18 12.2	-0.6
V46A	Holladay baz=207,SNR=18	21.56	23	P		P	01 18 11.6	-1.2
T41A	Mountain View baz=197,SNR=9.0	21.60	14	P		P	01 18 12.3	-0.9
T25A	Trinidad baz=163,SNR=25	21.61	347	P		P	01 18 14.5	+0.9
T25A	Trinidad 233nm,1.9s	21.61	347	*e*P		P	01 18 15.2	+1.6
MHTCO	State Highway 34nm,1.2s	21.66	346	*e*P		P	01 18 12.3	-1.8
PBMO	Poplar Bluff 82nm,0.8s	21.69	17	*e*P		P	01 18 13.8	-0.4
113A	Mohawk Valley,	21.71	322	*e*P		P	01 18 16.3	+1.8
X16A	Lo Mia Camp, P 21nm,0.9s	21.71	329	*e*P		P	01 18 16.3	+1.6
S38A	Stockton baz=191,SNR=10	21.74	9	P		P	01 18 15.8	+1.1
T42A	Van Buren baz=198,SNR=13	21.75	16	P		P	01 18 14.9	+0.1
155A	Kite baz=224	21.77	38	P		P	01 18 14.5	-0.5
GOGA	Godfrey baz=221,SNR=10.0	21.77	35	P		P	01 18 13.5	-1.5
GOGA	Godfrey 39nm,0.8s	21.77	35	*e*P		P	01 18 13.7	-1.4
UTMT	University of 206nm,1.2s	21.78	21	*e*P		P	01 18 17.5	+2.3
V47A	Nunnelly baz=208,SNR=9.8	21.82	24	P		P	01 18 14.4	-1.1
U45A	Rockin P Farm, baz=205,SNR=5.9	21.82	21	P		P	01 18 14.0	-1.6
S39A	Bell baz=192,SNR=26	21.90	11	P		P	01 18 15.7	-0.7
SWET	Sewanee 19nm,1.0s	21.96	28	*e*P		P	01 18 16.4	-0.8
WVT	Waverly baz=207	21.96	23	P		P	01 18 15.8	-1.3
WVT	Waverly 62nm,1.0s	21.96	23	*e*P		P	01 18 15.8	-1.3
S40A	Lebanon baz=194,SNR=18	21.97	12	P		P	01 18 16.0	-1.1
T43A	Greenville baz=200,SNR=28	22.02	17	P		P	01 18 16.2	-1.5
V48A	Smith Brothers baz=210,SNR=14	22.02	25	P		P	01 18 16.2	-1.5
U46A	Springville baz=206,SNR=7.9	22.04	22	P		P	01 18 16.4	-1.5
S41A	Jillco Farms, baz=196,SNR=18	22.12	14	P		P	01 18 17.5	-1.3
Y14A	Wickenburg	22.14	326	*e*P		P	01 18 20.9	+1.7
R38A	Fenwick Farm, baz=191	22.29	9	P		P	01 18 19.5	-1.1
U47A	Clarksville baz=208,SNR=14	22.44	24	P		P	01 18 20.1	-2.2
SDCO	Great Sand Dun baz=161	22.45	345	P		P	01 18 22.3	-0.4
SDCO	Great Sand Dun 8.8nm,1.1s	22.45	345	*e*P		P	01 18 23.0	+0.3
S42A	Caledonia baz=193,SNR=14	22.52	16	P		P	01 18 22.0	-1.1
S43A	Fulton Ridge, baz=200,SNR=5.7	22.53	17	P		P	01 18 22.1	-1.2
GLA	Glamis baz=134	22.54	321	P		P	01 18 23.7	+0.3
GLA	Glamis 25nm,1.5s	22.54	321	*e*P		P	01 18 25.0	+1.6
R39A	Chumby, Stover baz=193,SNR=21	22.56	11	P		P	01 18 22.5	-1.0
WUAZ	Wupatki baz=145,SNR=14	22.57	331	P		P	01 18 25.0	+1.1
WUAZ	Wupatki 128nm,1.9s	22.57	331	*e*P		P	01 18 25.6	+1.7
CBKS	Cedar Bluff baz=176	22.62	357	P		P	01 18 23.5	-0.7
CBKS	Cedar Bluff 28nm,0.9s	22.62	357	*e*P		P	01 18 23.7	-0.5
R40A	Maddies Statio baz=195,SNR=30	22.68	12	P		P	01 18 24.5	-0.3
CCM	Cathedral Cave baz=197	22.68	14	P		P	01 18 24.2	-0.6
CCM	Cathedral Cave 23nm,0.9s	22.68	14	*e*P		P	01 18 25.4	+0.5
T46A	Princeton baz=206,SNR=9.1	22.75	22	P		P	01 18 25.6	+0.1
U48A	Cassie Pea, Po baz=210,SNR=14	22.80	25	P		P	01 18 26.0	-0.1
CPCT	Cooper Cave	22.81	30	*e*P		P	01 18 25.2	-1.0
S22A	4UR Ranch, Cre baz=158,SNR=14	22.81	342	P		P	01 18 26.4	-0.1
S22A	4UR Ranch, Cre 15nm,0.9s	22.81	342	*e*P		P	01 18 27.4	+0.9
Y12C	Blythe baz=136	22.86	323	P		P	01 18 27.1	+0.4
Y12C	Blythe 21nm,1.3s	22.86	323	*e*P		P	01 18 28.1	+1.4
MVCO	Mesa Verde baz=134,SNR=22	22.86	339	P		P	01 18 26.6	-0.3
MVCO	Mesa Verde 33nm,1.1s	22.86	339	*e*P		P	01 18 27.2	+0.3
R41A	Rosebud baz=197,SNR=11	22.88	14	P		P	01 18 26.6	-0.3
S44A	Carbondale baz=202,SNR=14	22.89	19	P		P	01 18 27.4	+0.5
Q37A	Longview Farm, baz=189	22.89	8	P		P	01 18 26.3	-0.7
SIUC	Southern Illin 83nm,1.0s	22.92	19	*e*P		P	01 18 27.2	-0.1
T47A	Sharon Grove baz=208	22.99	23	P		P	01 18 26.6	-1.5
R42A	Luebbering baz=198,SNR=7.1	23.01	15	P		P	01 18 27.9	-0.3
PDMCI	Parker Dam,Lak baz=138,SNR=7.0	23.04	325	P		P	01 18 29.6	+1.0
SWSC	Sam W. Stewart baz=132	23.06	320	P		P	01 18 29.4	+0.6
S45A	Carrier Mills baz=204,SNR=14	23.09	20	P		P	01 18 28.4	-0.6
Q38A	Cooks Store, C baz=191,SNR=8.9	23.09	9	P		P	01 18 28.7	-0.4
KSCO	Kaye Shedlock' baz=169	23.10	351	P		P	01 18 29.4	+0.1
KSCO	Kaye Shedlock' 29nm,0.8s	23.10	351	*e*P		P	01 18 29.4	+0.1
R43A	Red Bud baz=200,SNR=20	23.23	17	P		P	01 18 30.1	-0.4
BG3	Lake Jocassee 38nm,1.0s	23.25	33	*e*P		P	01 18 30.6	-0.1
Q39A	Willow Grove F baz=193,SNR=17	23.28	10	P		P	01 18 30.2	-0.8
BC3	Big Chuckawall baz=134,SNR=7.3	23.34	321	P		P	01 18 32.3	+0.6
TKL	Tuckaleechee C 7.1nm,0.6s,baz=195,slow=13,SNR=11	23.34	31	P		P	01 18 30.6	-1.0
TKL				LR		LR	01 31 01.9	
	comp=Z,119nm,18.0s,baz=182,slow=46							
T48A	Bowling Green	23.38	24	P		P	01 18 30.5	-1.4
S46A	Don Dixon Farm baz=206	23.39	21	P		P	01 18 31.3	-0.8
Q40A	Laux Farm, Aux baz=195,SNR=6.4	23.40	12	P		P	01 18 31.5	-0.6
MONP2	Monument Peak baz=131,SNR=7.9	23.42	319	P		P	01 18 33.7	+1.1
BAR	Barrett 29nm,1.8s	23.44	318	*e*P		P	01 18 32.7	0.0
R44A	Waltonville baz=202,SNR=11	23.45	18	P		P	01 18 31.8	-0.9
W13A	Hualapai Mount	23.50	326	*e*P		P	01 18 34.7	+1.3
NHSC	New Hope baz=228	23.50	41	P		P	01 18 32.0	-1.1
IRM	Iron Mountain baz=135,SNR=9.9	23.51	323	P		P	01 18 34.6	+1.3
Q24A	Divide baz=163	23.52	346	P		P	01 18 34.5	+0.8
Q41A	Truxton baz=197,SNR=9.1	23.54	14	P		P	01 18 33.3	-0.2
JSC	Jenkinsville 23nm,0.8s	23.65	37	*e*P		P	01 18 34.4	-0.2
USIN	University of 98nm,0.9s	23.66	21	*e*P		P	01 18 34.5	-0.1
Q42A	Golden Eagle baz=198,SNR=11	23.67	15	P		P	01 18 35.0	+0.2
PV01	Paradox Valley	23.72	339	*e*P		P	01 18 36.3	+0.8
R45A	Skylar, Fairfi baz=204,SNR=8.3	23.75	20	P		P	01 18 35.3	-0.2
U15A	North Rim 17nm,0.9s	23.75	331	*e*P		P	01 18 37.1	+1.3
P39B	Salisbury baz=193,SNR=7.1	23.75	11	P		P	01 18 35.2	-0.3
P38A	Dawn baz=191,SNR=11	23.75	9	P		P	01 18 35.1	-0.5
PV05	Paradox Valley	23.85	338	*e*P		P	01 18 37.6	+0.9
109C	Camp Elliot, M baz=130	23.85	318	P		P	01 18 37.4	+0.8
BELC	Belle Mtn. Jos baz=134,SNR=6.1	23.90	321	P		P	01 18 38.5	+1.3
XPFO	Piæon Flat 27nm,1.6s	23.91	320	*e*P		P	01 18 38.9	+1.6
PFO	Pinyon Flats O baz=132	23.92	320	P		P	01 18 38.5	+1.1
PFO	Pinyon Flats O 25nm,1.6s	23.92	320	*e*P		P	01 18 38.3	+0.9
Q43A	New Douglas baz=200	23.92	17	P		P	01 18 36.6	-0.5
P40A	Paris baz=194,SNR=9.0	23.92	12	P		P	01 18 36.8	-0.4
R46A	Gibon Southern baz=206	23.93	21	P		P	01 18 36.5	-0.7
S48A	Wiedeman Farm, baz=210	23.98	24	P		P	01 18 36.8	-0.9
PV04	Paradox Valley	24.06	339	*e*P		P	01 18 39.2	+0.5
Q44A	Meyer Farm, Va baz=202,SNR=7.9	24.08	18	P		P	01 18 38.3	-0.3
PV10	Paradox Valley	24.09	339	*e*P		P	01 18 39.3	+0.3
TZTN	Tazewell baz=216	24.16	30	P		P	01 18 39.0	-0.5
TZTN	Tazewell 74nm,1.4s	24.16	30	*e*P		P	01 18 38.9	-0.5
SMCO	Snowmass 27nm,1.0s	24.18	343	*e*P		P	01 18 41.3	+1.2
O37A	Wolven Farm, M baz=189	24.20	8	P		P	01 18 39.1	-0.6
OLIL	Olney 52nm,1.1s	24.20	20	*e*P		P	01 18 39.3	-0.5
KMSC	Kings Mountain baz=223	24.23	36	P		P	01 18 39.2	-0.9
KMSC	Kings Mountain 128nm,1.6s	24.23	36	*e*P		P	01 18 39.8	-0.3
PV09	Paradox Valley	24.24	339	*e*P		P	01 18 41.7	+1.3
O38A	Galt baz=191	24.25	9	P		P	01 18 39.6	-0.5
GMRC	Granite Mounta baz=135,SNR=6.4	24.25	323	P		P	01 18 42.0	+1.6
P41A	Barry, Barry baz=197	24.27	14	P		P	01 18 39.9	-0.5
Q45A	Warren Harvey, baz=204	24.33	19	P		P	01 18 40.6	-0.4
P42A	Winchester baz=198,SNR=12	24.35	15	P		P	01 18 40.9	-0.2
R47A	Wooly Knot Far baz=208,SNR=15	24.36	23	P		P	01 18 40.9	-0.3
MURC	Murrieta baz=131	24.37	319	P		P	01 18 43.1	+1.7
WCI	Wyandotte Cave baz=208	24.39	23	P		P	01 18 41.1	-0.4
WCI	Wyandotte Cave 42nm,0.8s	24.39	23	*e*P		P	01 18 41.1	-0.4
ISCO	Idaho Springs baz=162,SNR=40	24.43	346	P		P	01 18 43.5	+1.3
ISCO	Idaho Springs 32nm,1.0s	24.43	346	*e*P		P	01 18 43.3	+1.1
KNB	Kanab 14nm,1.0s	24.47	331	*e*P		P	01 18 44.2	+1.7
O40A	La Belle baz=194,SNR=13	24.53	12	P		P	01 18 42.2	-0.5
O39A	Kirksville baz=193,SNR=6.6	24.53	11	P		P	01 18 42.4	-0.4
PKCU	Pink Cliffs 18nm,1.2s	24.59	332	*e*P		P	01 18 47.5	+3.7
P43A	Skaggs, Pawnee baz=200	24.62	16	P		P	01 18 43.5	0.0
LCMT	Little Creek M 4.0nm,0.9s	24.67	330	*e*P		P	01 18 45.7	+1.5
HEC	Hector,Ludlow baz=134	24.68	322	P		P	01 18 45.3	+1.1
R48A	Northridge Ran baz=209,SNR=12	24.70	24	P		P	01 18 43.8	-0.5
P44A	Sand Creek, Wi baz=202	24.71	18	P		P	01 18 44.4	0.0
O41A	Passleys Farm, baz=197,SNR=9.1	24.73	14	P		P	01 18 44.3	-0.3
N36A	Muff Farm, Cla baz=187	24.75	6	P		P	01 18 44.2	-0.5
N37A	Lee Faris, Mou baz=189	24.77	7	P		P	01 18 44.4	-0.6
SCI2	San Clemente I baz=127	24.86	316	P		P	01 18 47.0	+1.2
TUQ	Turquoise Moun baz=136	24.87	324	P		P	01 18 47.3	+1.3
OGNE	Ogallala baz=171	24.93	353	P		P	01 18 47.3	+0.8
OGNE	Ogallala 27nm,0.8s	24.93	353	*e*P		P	01 18 47.7	+1.2
N38A	Joes South For baz=191	24.94	9	P		P	01 18 46.3	-0.2
Q47A	Bedord North L baz=207,SNR=9.1	24.96	22	P		P	01 18 46.4	-0.3
O42A	Bath baz=198	25.00	15	P		P	01 18 46.4	-0.6
CIS	Catalina Islan baz=128	25.03	317	P		P	01 18 48.3	+0.9
MTPU	Mount Pierson 22nm,1.0s	25.03	333	*e*P		P	01 18 49.7	+2.0
P45A	Graceland, Par baz=204	25.04	19	P		P	01 18 47.3	-0.1
SZCU	Shurtz Canyon 13nm,1.4s	25.07	331	*e*P		P	01 18 50.5	+2.6
BFSC	Mount Baldy Ra baz=131	25.08	320	P		P	01 18 48.9	+0.9
OTAV	Otavalo 15nm,1.3s	25.13	127	*e*P		P	01 18 52.3	+3.4
BLO	Bloomington 43nm,1.0s	25.14	22	*e*P		P	01 18 48.0	-0.3
N39A	Derby Farms, D baz=193,SNR=7.9	25.14	10	P		P	01 18 47.9	-0.4
CCUT	Cedar City 3.9nm,1.0s	25.16	331	*e*P		P	01 18 50.7	+2.0
BGNE	Belgrade baz=180	25.18	0	P		P	01 18 48.7	+0.1
SHPR	Sheep Range 8.2nm,1.2s	25.24	327	*e*P		P	01 18 51.3	+1.9
O43A	Sugar Creek Fa baz=200	25.28	16	P		P	01 18 49.2	-0.3
SRU	San Rafael Swe 15nm,1.0s	25.28	337	*e*P		P	01 18 50.2	+0.4
GSC	Goldstone, Bar baz=134,SNR=9.0	25.28	322	P		P	01 18 50.3	+0.6
GSC	Goldstone, Bar 10nm,1.1s	25.28	322	*e*P		P	01 18 50.8	+1.1
P46A	Rosedale baz=205	25.30	20	P		P	01 18 49.6	-0.1
N41A	Harden Midland baz=196,SNR=5.9	25.30	13	P		P	01 18 49.1	-0.6
M34A	Aspy Farms, Fr	25.31	3	P		P	01 18 49.6	-0.2

baz=183
N40A **Mertquake, Sal** 25.32 12 P P 01 18 49.3 -0.5
baz=195
M35A **Neola** 25.33 4 P P 01 18 49.8 -0.2
baz=185
M33A **Taylor Creek F** 25.36 2 P P 01 18 50.1 -0.1
baz=182
O44A **Mansfield** 25.39 18 P P 01 18 49.8 -0.7
baz=202
M36A **Felix, Anita** 25.40 6 P P 01 18 50.3 -0.2
baz=187
SHOC **Shoshone, Teco** 25.40 324 P P 01 18 51.8 +1.1
baz=136
MSU **Marysvale** 25.42 334 eP P 01 18 52.8 +1.6
M37A **Trindle Farm,** 25.43 7 P P 01 18 50.7 -0.2
baz=189,SNR=6.1
O20A **White River Ci** 25.43 342 P P 01 18 52.2 +1.0
baz=157,SNR=17
O20A **White River Ci** 25.43 342 eP P 01 18 52.5 +1.4
51nm,1.3s
P47A **Martinsville** 25.50 22 P P 01 18 51.3 -0.3
baz=207,SNR=5.5
DECC **Green Verdugo** 25.51 319 P P 01 18 52.8 +1.1
baz=130
HDIL **Hopedale** 25.54 16 P P 01 18 51.6 -0.2
baz=200,SNR=5.9
HDIL **Hopedale** 25.54 16 eP P 01 18 51.7 -0.2
38nm,0.9s
N23A **Red Feather La** 25.55 346 P P 01 18 52.8 +0.6
baz=162,SNR=20
N23A **Red Feather La** 25.55 346 eP P 01 18 53.7 +1.5
28nm,0.9s
M38A **Pleasantville** 25.56 9 P P 01 18 51.7 -0.4
baz=191,SNR=12
P18A **Preston Nutter** 25.63 338 eP P 01 18 54.4 +1.3
19nm,1.1s
P17A **Butcher Ranch,** 25.68 337 eP P 01 18 54.6 +1.3
8.2nm,1.1s
TMUT **Trail Mountain** 25.70 336 eP P 01 18 55.0 +1.2
11nm,0.8s
O45A **Potomac** 25.70 19 P P 01 18 53.1 -0.3
baz=204,SNR=12
L34A **Svendsen Farm,** 25.78 3 P P 01 18 53.4 -0.7
baz=184
M39A **Webster** 25.79 11 P P 01 18 53.5 -0.6
baz=193,SNR=17
NCAT **North Carolina** 25.79 36 eP P 01 18 55.6 +1.4
75nm,1.0s
PHWY **Pilot Hill** 25.83 347 eP P 01 18 56.6 +1.7
22nm,1.1s
M40A **Post Highland** 25.84 12 P P 01 18 53.8 -0.8
baz=195,SNR=7.5
LRMC **Laurel Mtn Rad** 25.92 322 P P 01 18 55.9 +0.4
baz=133,SNR=6.8
N43A **Stutzman Famil** 25.93 16 P P 01 18 55.0 -0.4
baz=200
M41A **Milan** 26.01 13 P P 01 18 55.7 -0.4
baz=197
SFIN **Lafayette** 26.02 20 P P 01 18 55.5 -0.8
baz=205,SNR=6.8
SFIN **Lafayette** 26.02 20 eP P 01 18 55.9 -0.3
40nm,0.9s
ROSC **El Rosal** 26.04 113 P P 01 18 58.1 +1.0
2.2nm,0.5s,baz=143,slow=20,SNR=2.4
L36A **Harm Buss Farm** 26.05 6 P P 01 18 57.1 +0.6
baz=188
N44A **Piper City** 26.08 18 P P 01 18 56.5 -0.3
baz=202
TPNV **Topopah Spring** 26.15 326 P P 01 18 59.1 +1.4
baz=138,SNR=7.8
TPNV **Topopah Spring** 26.15 326 eP P 01 19 01.4 +3.7
30nm,1.5s
L37A **Phoenix Point,** 26.18 8 P P 01 18 57.9 +0.3
baz=190,SNR=5.7
O47A **Sheridan** 26.20 21 P P 01 18 57.2 -0.7
baz=207,SNR=7.4
MPMC **Manual Prospec** 26.21 323 P P 01 18 58.9 +0.7
baz=134
M42A **Sheffield** 26.27 15 P P 01 18 58.1 -0.3
baz=198
L38A **Oak Wood Farm,** 26.30 9 P P 01 18 58.4 -0.4
baz=191,SNR=10
N45A **Kentland** 26.32 19 P P 01 18 58.9 0.0
baz=204
CNNC **Cliffs of the** 26.33 40 P P 01 18 58.5 -0.6
baz=229
ARVC **Arvin** 26.39 320 P P 01 19 00.3 +0.7
baz=130
DAC **Darwin (Calif)** 26.42 323 eP P 01 18 59.2 -0.9
6.5nm,1.1s
L39A **Vinton** 26.44 10 P P 01 18 59.1 -0.9
baz=193
M43A **Waltham Townsh** 26.45 16 P P 01 18 59.7 -0.4
baz=200,SNR=5.6
MPU **Maple Canyon** 26.49 337 eP P 01 19 01.9 +1.2
6.3nm,0.8s
ISA **Isabella, Lake** 26.52 321 eP P 01 19 02.6 +1.7
7.8nm,1.3s
L40A **Anamosa** 26.53 12 P P 01 18 59.8 -1.0
baz=195,SNR=5.7
RWWY **Rawlins** 26.60 345 eP P 01 19 04.0 +2.2
41nm,1.5s
K36A **Gilmore City** 26.60 6 P P 01 19 01.2 -0.3
baz=188
N46A **Monticello** 26.61 20 P P 01 19 01.3 -0.2
baz=205
NLU **North Lily Min** 26.61 336 eP P 01 19 02.9 +1.1
14nm,1.1s
K35A **Storm Lake** 26.61 5 P P 01 19 01.6 0.0
baz=186
M44A **Midewin, Midew** 26.66 17 P P 01 19 01.9 -0.1
baz=202
L41A **Preston** 26.69 13 P P 01 19 01.3 -0.9
baz=196,SNR=8.1
RUSC **La Rusia** 26.69 110 eP P 01 19 04.0 +0.9
6.9nm,1.1s
L42A **Oliver, Polo** 26.81 14 P P 01 19 02.3 -1.1
baz=198,SNR=6.2
K37A **Belmond** 26.82 8 P P 01 19 02.1 -1.4
baz=190,SNR=9.9
PKM **Mcpherson Peak** 26.86 318 P P 01 19 04.5 +0.4
baz=128
R11A **Troy Canyon, C** 26.86 329 P P 01 19 05.1 +1.0
baz=140
R11A **Troy Canyon, C** 26.86 329 eP P 01 19 05.7 +1.6
3.7nm,1.0s
M45A **Boilermakers S** 26.89 19 P P 01 19 03.6 -0.5
baz=204
VES **Vestal, Richgr** 27.01 320 P P 01 19 06.3 +1.1
baz=131
K39A **Oelwein** 27.03 10 P P 01 19 04.1 -1.2
baz=193,SNR=6.1
DUG **Dugway, Tooele** 27.11 335 P P 01 19 07.1 +0.8
baz=148,SNR=10
DUG **Dugway, Tooele** 27.11 335 eP P 01 19 07.7 +1.4
8.6nm,1.0s
CTU **Camp Tracy** 27.12 337 eP P 01 19 07.8 +1.4
6.2nm,1.0s
K40A **Colesburg** 27.16 12 P P 01 19 06.0 -0.5
baz=195,SNR=5.8
K41A **Shullsburg** 27.24 13 P P 01 19 06.8 -0.4
baz=196
J36A **Seneca 1, Swea** 27.30 6 P P 01 19 06.5 -1.2
baz=188,SNR=9.3
K22A **Casper** 27.35 347 eP P 01 19 08.8 +0.4
17nm,1.2s
TCUT **Toone Canyon** 27.36 338 eP P 01 19 10.2 +1.5
21nm,1.0s
J37A **Redenius Farm,** 27.37 7 P P 01 19 07.7 -0.7
baz=190
ACSO **Alum Creek Sta** 27.43 26 P P 01 19 07.7 -1.3
baz=213
ACSO **Alum Creek Sta** 27.43 26 eP P 01 19 08.3 -0.6
24nm,1.0s
J38A **Wedel Dairy, R** 27.53 9 P P 01 19 08.9 -0.9
baz=192
ECSD **EROS Data Cent** 27.53 3 P P 01 19 09.3 -0.6
baz=183
ECSD **EROS Data Cent** 27.53 3 eP P 01 19 09.7 -0.2
18nm,1.5s
JFWS **Jewell Farm** 27.54 13 P P 01 19 09.2 -0.7
baz=196
JFWS **Jewell Farm** 27.54 13 eP P 01 19 09.9 -0.1
15nm,0.8s
J39A **Decorah** 27.67 10 P P 01 19 10.3 -0.8
baz=193
BGU **Big Grassy Mou** 27.81 336 eP P 01 19 13.8 +1.3
12nm,1.3s

HWUT **Hardware Ranch** 27.85 338 eP P 01 19 13.9 +1.0
5.7nm,1.0s
SDV **Santo Domingo** 27.89 102 P P 01 19 13.5 0.0
3.8nm,0.7s,baz=266,slow=4.5,SNR=6.6
SDV LR LR 01 31 14.1
comp=Z,139nm,18.6s,baz=18,slow=38
SDV **Santo Domingo** 27.89 102 eP P 01 19 15.1 +1.6
28nm,1.5s
J40A **Soldiers Grove** 27.91 12 P P 01 19 12.7 -0.5
baz=195
SPUT **South Promonto** 27.91 337 eP P 01 19 15.4 +2.0
7.4nm,1.2s
J41A **Loganville** 28.03 13 P P 01 19 13.7 -0.6
baz=197,SNR=7.5
IP05 **Hopewell Churc** 28.16 36 eP P 01 19 15.9 +0.4
22nm,0.8s
J42A **Columbus** 28.18 14 P P 01 19 15.2 -0.5
baz=198
I39A **Houston** 28.21 10 P P 01 19 15.5 -0.4
baz=194
BW06 **Boulder Array** 28.24 342 P P 01 19 16.3 -0.2
baz=156,SNR=5.4
PD31 **Pinedale Array** 28.24 342 eP P 01 19 17.4 +0.9
PDAR **Pinedale Array** 28.24 342 P P 01 19 16.9 +0.5
2.5nm,0.9s,baz=134,slow=4.3,SNR=19
PDAR LR 01 31 19.9
comp=Z,425nm,18.4s,baz=170,slow=38
I38A **Scanlan Farm,** 28.26 9 P P 01 19 15.0 -1.3
baz=192,SNR=5.1
NV11 **Mina Array Sit** 28.26 326 eP P 01 19 18.7 +2.1
0.8nm,1.2s
H32A **Carlson Farm,** 28.28 1 P P 01 19 16.3 -0.3
baz=181
RSSD **Black Hills** 28.31 351 P P 01 19 17.4 +0.4
baz=168
NV01 **Mina Array Sit** 28.34 325 eP P 01 19 19.0 +1.6
NVAR **Mina Array Bea** 28.34 325 P P 01 19 19.0 +1.6
2.6nm,0.8s,baz=154,slow=9.8,SNR=22
NVAR PcP PcP 01 22 30.4 +0.4
0.2nm,0.4s,baz=195,slow=2.8,SNR=2.5
NVAR LR LR 01 30 47.1
comp=Z,142nm,19.1s,baz=226,slow=37
MCWV **Mont Chateau** 28.40 31 P P 01 19 17.2 -0.5
baz=219
I40A **Norwalk** 28.41 12 P P 01 19 17.5 -0.2
baz=195
HVU **Hansel Valley** 28.45 337 eP P 01 19 19.4 +1.2
8.7nm,1.0s
H34A **Spellman Lake,** 28.51 4 P P 01 19 18.3 -0.3
baz=185
H36A **Jessenland, He** 28.58 6 P P 01 19 18.6 -0.5
baz=188
H35A **Sunnyside Ranc** 28.61 5 P P 01 19 19.0 -0.4
baz=187
H37A **Dierke Farm, C** 28.70 8 P P 01 19 19.7 -0.6
baz=190
I41A **Arkdale** 28.72 13 P P 01 19 19.9 -0.5
baz=197
I42A **Draeger Farm,** 28.77 14 P P 01 19 20.3 -0.6
baz=199
H38A **Maiden Rock** 28.88 9 P P 01 19 21.3 -0.6
baz=192
AAM **Ann Arbor** 28.92 23 P P 01 19 21.2 -1.0
baz=210
I43A **Langenfeld Bro** 28.95 15 P P 01 19 21.7 -0.8
baz=200
G32A **Webster** 29.03 1 P P 01 19 22.6 -0.6
baz=181
H39A **Augusta** 29.05 10 P P 01 19 22.6 -0.7
baz=194
G34A **Benson** 29.09 4 P P 01 19 23.2 -0.5
baz=185
H40A **Chili** 29.16 12 P P 01 19 23.8 -0.5
baz=195
REDW **Red Top Meadow** 29.18 341 eP P 01 19 26.0 +1.2
15nm,1.3s
SNOW **Snow King Moun** 29.24 341 eP P 01 19 26.9 +1.5
9.9nm,0.9s
G36A **St. Michael** 29.25 7 P P 01 19 24.5 -0.6
baz=189
H41A **Junction City** 29.30 13 P P 01 19 25.0 -0.6
baz=197
TPAW **Teton Pass** 29.32 341 eP P 01 19 28.2 +2.0
9.1nm,1.0s
LOHW **Long Hollow** 29.33 342 eP P 01 19 27.1 +1.0
12nm,1.1s
SPMN **Marine on St.** 29.35 8 P P 01 19 25.7 -0.3
baz=190
SPMN **Marine on St.** 29.35 8 eP P 01 19 25.2 -0.8
29nm,1.5s
G38A **Ridgeland** 29.43 9 P P 01 19 26.4 -0.3
baz=192
H42A **Shiocton** 29.45 14 P P 01 19 26.4 -0.4
baz=199
FXWY **Fox Creek** 29.48 341 eP P 01 19 28.6 +1.2
6.4nm,1.1s
MOOW **Moose Ponds** 29.49 341 eP P 01 19 28.7 +1.1
7.7nm,1.4s
H43A **Windswept, Lux** 29.59 15 P P 01 19 27.3 -0.9
baz=200
F31A **Hecla** 29.62 0 P P 01 19 27.6 -0.9
baz=180
G39A **Holcombe** 29.66 10 P P 01 19 27.6 -1.1
baz=194
IMW **Indian Meadow** 29.69 341 eP P 01 19 30.4 +1.0
5.5nm,0.9s
F35A **Swanville** 29.78 5 P P 01 19 29.0 -0.8
baz=187
G40A **Rib Lake** 29.81 11 P P 01 19 29.6 -0.6
baz=195
F36A **Milaca** 29.89 7 P P 01 19 30.0 -0.8
baz=189
G41A **Antigo** 29.97 13 P P 01 19 30.9 -0.6
baz=197
SSPA **Standing Stone** 30.12 32 P P 01 19 32.2 -0.7
baz=222
G42A **Mountain** 30.16 14 P P 01 19 32.5 -0.7
baz=199
F38A **Pierce- Schro** 30.20 9 P P 01 19 32.8 -0.7
baz=192
F39A **Loretta** 30.31 10 P P 01 19 33.7 -0.8
baz=194
RLMT **Red Lodge** 30.34 344 P P 01 19 35.2 +0.1
baz=158,SNR=7.6
RLMT **Red Lodge** 30.34 344 eP P 01 19 36.0 +0.9
5.6nm,0.8s
G43A **Wallace** 30.35 15 P P 01 19 34.3 -0.6
baz=200
YHH **Holmes Hill** 30.47 342 eP P 01 19 38.1 +1.8
4.9nm,1.1s
E36A **McGregor** 30.57 7 P P 01 19 36.5 -0.3
baz=189
HLID **Hailey** 30.59 337 P P 01 19 38.0 +0.7
baz=148
HLID **Hailey** 30.59 337 eP P 01 19 38.5 +1.2
2.5nm,1.0s
SJG **San Juan** 30.72 82 LR LR 01 33 11.4
comp=Z,93nm,19.2s,baz=235,slow=39
D31A **Mcclaflin, Tow** 30.82 1 P P 01 19 38.5 -0.4
baz=181
E39A **Mellen** 30.82 10 P P 01 19 38.2 -0.8
baz=194
E38A **The Farm, Brul** 30.88 9 P P 01 19 39.0 -0.6
baz=192
ORV **Oroville** 30.91 324 eP P 01 19 46.3 +6.4
12nm,1.6s
D34A **Park Rapids** 30.95 4 P P 01 19 40.2 0.0
baz=185
D33A **AnnSam, Waubun** 30.97 3 P P 01 19 39.9 -0.4
baz=184
E40A **Wakefield** 31.00 11 P P 01 19 39.9 -0.7
baz=195,SNR=7.0
F43A **Flat Rock, Esc** 31.02 15 P P 01 19 39.6 -1.2
baz=201
D35A **Remer** 31.04 6 P P 01 19 40.1 -0.8
baz=188
GCMT **Greycliff** 31.07 344 eP P 01 19 42.7 +1.3
LAO **LASA Array** 31.17 349 P P 01 19 41.4 -0.8
baz=165
E41A **Kenton** 31.21 12 P P 01 19 41.3 -1.1
baz=197
D36A **Goodland** 31.23 7 P P 01 19 41.5 -1.1
baz=189
D37A **Cotton** 31.30 8 P P 01 19 42.1 -1.1
baz=190
F45A **CMU Biological** 31.33 17 P P 01 19 42.1 -1.4
baz=204
F44A **Big Bay de Noc** 31.34 16 P P 01 19 42.2 -1.4
baz=202
E42A **Champion** 31.40 14 P P 01 19 42.7 -1.4
baz=199
N59A **State Game Lan** 31.43 34 P P 01 19 42.4 -2.1
baz=224
BOZ **Bozeman (W)** 31.43 342 P P 01 19 44.4 -0.2
baz=155
BOZ **Bozeman (W)** 31.43 342 eP P 01 19 47.0 +2.4
8.1nm,1.3s
WVOR **Wild Horse Val** 31.49 330 eP P 01 19 46.2 +1.1
18nm,1.4s
DLMT **Dillon** 31.52 340 eP P 01 19 50.9 +5.5
123nm,0.5s
C34A **RKJ Ranch, Bem** 31.54 4 P P 01 19 44.3 -1.0
baz=186
E43A **Lone Tree Farm** 31.57 15 P P 01 19 44.3 -1.3
baz=201
MDND **Maddock** 31.63 358 P P 01 19 45.7 -0.5
baz=177,SNR=6.9
MDND **Maddock** 31.63 358 eP P 01 19 46.5 +0.3
71nm,1.0s
C35A **Jirik Farms, M** 31.66 6 P P 01 19 45.3 -1.1
baz=188
C36A **Pine Crest Far** 31.84 7 P P 01 19 47.3 -0.7
baz=190
D41A **Chassel** 31.86 13 P P 01 19 47.2 -1.0
baz=198,SNR=5.2
LRM **Limekiln Ridge** 31.89 341 eP P 01 19 49.8 +1.1
C38A **Sawbill Land.** 32.01 9 P P 01 19 48.2 -1.3
baz=192
AGMN **Agassiz Nation** 32.12 3 P P 01 19 49.6 -0.8
baz=184,SNR=8.3
AGMN **Agassiz Nation** 32.12 3 eP P 01 19 50.0 -0.4
18nm,1.0s
J08A **Circle Bar Ran** 32.13 332 eP P 01 19 52.0 +1.3
13nm,1.0s
B32A **Ashes, Strandq** 32.19 2 P P 01 19 50.7 -0.4
baz=183
EYMN **Ely** 32.20 9 P P 01 19 50.6 -0.6
baz=192
BINY **Binghamton** 32.24 32 P P 01 19 49.9 -1.7
baz=223
C39A **Grand Marais** 32.29 10 P P 01 19 51.0 -0.9
baz=194
B35A **Bob, Littlefor** 32.34 6 P P 01 19 51.6 -0.7
baz=188
B34A **Aery, Baudette** 32.39 4 P P 01 19 52.1 -0.7
baz=186
HRY **Holter Researc** 32.50 343 eP P 01 19 55.3 +1.3
PAL **Palisades** 32.51 35 P P 01 19 52.1 -1.8
baz=227
C40A **Isle Royale Na** 32.56 11 P P 01 19 54.0 -0.3
baz=196
DGMT **Dagmar** 32.60 353 P P 01 19 54.8 +0.1
baz=169
M04C **Macdoel** 32.63 326 P P 01 19 55.3 +0.2
baz=134
SADO **Sadowa** 32.77 26 LR LR 01 36 08.2
comp=Z,105nm,18.3s,baz=196,slow=42
A33A **Warroad** 32.79 3 P P 01 19 55.8 -0.4
baz=185
YBH **Yreka Blue Hor** 33.06 325 P P 01 19 57.6 -1.3
0.5nm,0.5s,baz=45,slow=6.4,SNR=3.3
EGMT **Eagleton** 33.17 346 P P 01 20 00.3 +0.5
baz=159
EGMT **Eagleton** 33.17 346 eP P 01 20 00.4 +0.7
20nm,1.3s
PCRV **Puerto La Cruz** 33.24 96 LR LR 01 35 54.1
comp=Z,88nm,18.2s,baz=8.5,slow=41
MSO **Missoula** 33.26 340 P P 01 20 01.2 +0.6
baz=152
MSO **Missoula** 33.26 340 eP P 01 20 01.5 +1.0
5.7nm,1.0s
F10A **Beach Ranch, E** 33.71 336 eP P 01 20 05.5 +1.0
11nm,0.9s
J04D **Umpqua Nationa** 33.80 328 P P 01 20 05.9 +0.5
baz=136
ULM **Lac du Bonnet** 34.07 3 P P 01 20 06.4 -1.0
6.1nm,1.0s,baz=192,slow=12,SNR=6.9
ULM LR LR 01 34 18.6
comp=Z,87nm,20.5s,baz=1.5,slow=37
ULM **Lac du Bonnet** 34.07 3 eP P 01 20 06.8 -0.7
JTMT **Jette** 34.18 341 eP P 01 20 10.1 +1.5
23nm,1.9s
WALA **Waterton Lakes** 35.23 342 eP P 01 20 18.5 +0.9
11nm,1.4s
NEW **Newport** 35.58 338 P P 01 20 21.3 +0.7
baz=148
NEW **Newport** 35.58 338 eP P 01 20 21.7 +1.1
6.0nm,1.3s
G03D **McMinnville, O** 35.80 329 P P 01 20 22.9 +0.5
baz=136
LTY **Liberty** 36.15 334 eP P 01 20 26.7 +1.2
18nm,1.4s
B08A **Colville Reser** 36.49 336 eP P 01 20 29.1 +0.8
11nm,1.4s
B05A **Bryant** 37.54 334 P P 01 20 36.9 -0.2
baz=140
A04D **Lummi Island** 38.15 334 P P 01 20 42.3 +0.1
baz=140
FFC **Flin Flon** 38.61 357 eP P 01 20 46.1 -0.1
14nm,1.0s
PTGA **Pitinga** 41.34 110 P P 01 21 08.7 -0.6
0.9nm,0.3s,baz=301,slow=20,SNR=3.6
LPAZ **La Paz** 43.84 136 P P 01 21 30.6 +0.3
0.9nm,0.7s,baz=358,slow=5.5,SNR=3.9
LPAZ LR LR 01 38 25.1
comp=Z,103nm,18.1s,baz=310,slow=34
RPN **Rapa Nui** 44.34 194 LR LR 01 35 26.1
comp=Z,80nm,21.5s,baz=46,slow=30
SCHQ **Schefferville** 45.58 25 P P 01 21 42.5 -0.5
18nm,0.9s,baz=248,slow=6.7,SNR=7.0
SCHQ LR LR 01 45 19.4
comp=Z,95nm,18.9s,baz=338,slow=42
YKA **Yellowknife Ar** 47.71 350 P P 01 21 59.0 -0.5
3.4nm,0.9s,baz=157,slow=7.4,SNR=36
YKA PcP PcP 01 23 28.1 -0.4
0.4nm,0.7s,baz=151,slow=3.6,SNR=5.4
YKA PP PP 01 23 51.7 +0.4
0.6nm,1.0s,baz=155,slow=8.0,SNR=2.5
DLBC **Dease Lake** 48.33 338 eP P 01 22 06.4 +1.8
7.7nm,1.1s
SIV **San Ignacio** 48.64 129 P P 01 22 08.8 +1.4
0.4nm,0.4s,baz=241,slow=19,SNR=3.0
DAWY **Dawson** 55.49 339 eP P 01 22 58.2 +0.4
8.0nm,1.2s
BMRM **Bremner River** 55.61 335 eP P 01 23 00.4 +1.7
11nm,1.0s
EGAK **Eagle** 56.54 340 eP P 01 23 05.3 +0.1
9.3nm,1.1s
INK **Inuvik** 56.75 345 eP P 01 23 06.4 -0.2
11nm,0.9s
DOT **Dot Lake** 56.89 338 eP P 01 23 08.8 +1.0
30nm,1.1s
PAX **Paxson** 57.04 336 eP P 01 23 09.3 +0.4
5.5nm,0.9s
PMR **Palmer** 57.81 334 eP P 01 23 14.7 +0.5
5.9nm,0.8s
ILAR **Eielson Array** 58.54 338 P P 01 23 19.5 +0.2
4.5nm,1.0s,baz=140,slow=4.9,SNR=37
MCK **McKinley** 58.77 336 eP P 01 23 21.4 +0.4
6.2nm,0.9s
TRF **Thorofare Moun** 59.16 336 eP P 01 23 24.1 +0.3
17nm,0.9s
SFJD **Kangerlussuaq** 59.42 20 LR LR 01 53 36.9
comp=Z,60nm,18.4s,baz=223,slow=41
KTH **Kantishna Hill** 59.47 336 eP P 01 23 25.7 -0.1
9.0nm,1.0s
BPAW **Bear Paw Mtn.** 59.74 336 eP P 01 23 27.5 -0.2
4.6nm,1.5s
TOLK **Toolik Lake Re** 61.50 341 P P 01 23 39.3 -0.3
baz=121,SNR=6.6
PLCA **Paso Flores** 62.16 156 P P 01 23 42.8 -1.6
3.9nm,1.2s,baz=337,slow=9.7,SNR=3.5
PLCA LR LR 01 45 01.7
comp=Z,140nm,19.4s,baz=228,slow=31
SPITS **Spitsbergen Ar** 79.17 11 LR LR 02 01 53.8
comp=Z,81nm,19.7s,baz=40,slow=37
EKA **Eskdalemuir Ar** 79.74 35 P P 01 25 30.6 -0.3
2.6nm,0.8s,baz=286,slow=4.7,SNR=6.7
ESDC **Sonseca Array** 83.09 51 P P 01 25 48.9 -0.2
1.5nm,0.8s,baz=295,slow=4.6,SNR=9.7
NOA **NORSAR Array B** 85.09 27 P P 01 25 59.5 +0.7
2.4nm,1.1s,baz=300,slow=5.1,SNR=3.5
NOA LR LR 02 06 42.7
comp=Z,17nm,18.6s,baz=295,slow=38
ARCES **ARCESS Array B** 85.94 17 P P 01 26 01.8 -1.0
2.5nm,0.9s,baz=326,slow=7.7,SNR=4.4

MA2	**Magadan**	**86.40**	**332**	LR	LR	02 04 20.0		
	comp=Z,46nm,21.8s,baz=59,slow=35							
HFS	**Hagfors**	**86.59**	**28**	LR	LR	02 03 54.4		
	comp=Z,34nm,21.9s,baz=292,slow=35							
KOWA	**Kowa**	**90.00**	**75**	P	**P**	**01 26 22.8**	**-0.5**	
	6.5nm,1.2s,baz=257,slow=8.1,SNR=4.8							
FINES	**FINESS Array B**	**91.03**	**23**	LR	LR	02 08 00.4		
	comp=Z,48nm,21.5s,baz=3.0,slow=36							
GERES	**GERESS Array B**	**91.71**	**38**	LR	LR	02 07 19.9		
	comp=Z,35nm,20.8s,baz=263,slow=35							
YAK	**Yakutsk**	**93.43**	**339**	LR	LR	02 10 32.8		
	comp=Z,57nm,20.2s,baz=107,slow=37							
TORD	**Torodi Ar. Bea**	**95.70**	**75**	P	**P**	**01 26 47.6**	**-1.9**	
	0.7nm,0.9s,baz=273,slow=4.1,SNR=3.5							
LZH	**Lanzhou**	**124.00**	**338**	*e*PKP	**PKPdf**	**01 32 23.1**	**+1.1**	
LZH				pPKP	pPKPdf	01 32 26.5	-4.0	
LZH				sPKP		01 32 28.0		
LZH				LR	LR			
	comp=N,110nm,18.1s							
LZH				LR	LR			
	comp=E,100nm,18.0s							
LZH				LR	LR			
	comp=Z,150nm,20.2s							
WRA	**Warramunga Arr**	**130.01**	**257**	PKP	**PKPdf**	**01 32 33.1**	**-0.5**	
	comp=Z,0.2nm,0.3s,baz=80,slow=2.4,SNR=13							
ASAR	**Alice Springs**	**130.61**	**253**	PKP	**PKPdf**	**01 32 34.3**	**-0.4**	
	comp=Z,0.5nm,0.8s,baz=90,slow=1.9,SNR=2.8							

IDC 23 01:15:22.4±8.4, 24°.25S×179°.98W, h615km±109km, mb3.2/5, mb1 3.4/6, mb1mx3.0/42, mbtmp4.3/6, Error ellipse: s-maj=64.5km s-min=24.9km az=22.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**14.18**	**189**	P	P	01 18 20.9	-1.4
	1.9nm,0.3s,baz=283,slow=3.6,SNR=10						
URZ				S	S	01 20 48.6	-0.6
	0.4nm,0.3s,baz=356,slow=17,SNR=2.2						
RPZ	**Rata Peaks**	**20.76**	**199**	P	P	01 19 22.3	+0.2
	6.8nm,0.6s,baz=333,slow=2.5,SNR=8.0						
STKA	**Stephens Creek**	**34.61**	**249**	P	P	01 21 22.8	+0.5
	2.9nm,0.8s,baz=93,slow=7.3,SNR=4.6						
ASAR	**Alice Springs**	**41.99**	**261**	P	P	01 22 22.2	+0.3
	1.9nm,0.5s,baz=100,slow=6.7,SNR=19						
WRA	**Warramunga Arr**	**42.40**	**267**	P	P	01 22 24.6	-0.5
	2.8nm,0.5s,baz=96,slow=8.4,SNR=108						
TXAR	**Lajitas Array**	**90.60**	**58**	P	P	01 27 21.7	+0.8
	0.4nm,0.7s,baz=204,slow=6.0,SNR=6.1						
HFS	**Hagfors**	**142.89**	**349**	PKP	PKPdf	01 33 44.7	-1.9
	0.7nm,0.4s,baz=48,slow=2.2,SNR=10.0						

ISN 23 01:19:27.6±1.5, 32°.42N×47°.19E, h15km, ML2.7
TEH 23 01:19:28.5, 32°.48N×47°.10E, h9km, ML2.7, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IKFM	**Kafar-mosalman**	**1.22**	**31**	*e*Pg	Pg	01 19 52.9	+1.0
IKFM				*e*AMB	AMB	01 20 16.7	
	comp=Z,99nm,0.3s						
IKOM	**Komasi**	**1.73**	**11**	*e*Pn	Pg	01 20 01.9	+0.3
IKOM				*e*Sg	Sg	01 20 26.8	+2.7
IKOM				*e*AMB	AMB	01 20 29.0	
	comp=Z,1μm,0.1s						
IVIS	**Veis**	**2.06**	**354**	*e*AMB	AMB	01 20 43.2	
	comp=Z,439nm,0.2s						
IVIS				*e*Pn	Pg	01 20 07.7	-0.2
IDHR	**Dehrash**	**2.30**	**345**	*e*AMB	AMB	01 20 49.4	
	comp=Z,619nm,0.2s						
IDHR				*e*Pn	Pb	01 20 09.3	-0.9
ILIN	**Lien**	**2.44**	**357**	*e*Pn	Pb	01 20 11.5	-1.2
ILIN				*e*AMB	AMB	01 20 53.9	
	comp=Z,220nm,0.1s						
IKLH	**Kolahrood**	**3.86**	**76**	*e*Pn	Pn	01 20 31.0	+2.8
IKLH				*e*AMB	AMB	01 20 53.1	
	comp=Z,63nm,0.2s						

ISCJB 23 01:24:20.3±0.4, 46°.23N±0°.04×80°.01E±0°.05, h10km, Error ellipse: s-maj=6.1km s-min=3.9km az=137.3
NNC 23 01:24:22.4±0.6, 46°.08N×80°.14E, h23km±5km, mb3.7, mpv3.3, Error ellipse: s-maj=4.3km s-min=2.7km az=158.0
SOME 23 01:24:23.0, 45°.93N×80°.18E, h15km
ISC 23 01:24:20.0±0.8, 46°.07N±0°.04×80°.12E±0°.04, h10km, n30, σ1$63/50, 17C-7D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAPS	**Kapalarasan**	**0.95**	**214**	*e*P	**Pn**	**01 24 40.1**	**+0.6**
	105nm,0.3s						
KAPS				*e*S	**Sn**	**01 24 52.5**	**-0.7**
	1μm,0.4s						
MAKZ	**Makanchi**	**1.48**	**60**	⇑P	**Pb**	**01 24 47.3**	**-0.3**
	13nm,0.2s						
MAKZ				⇑S	**Sb**	**01 25 06.0**	**-0.5**
	103nm,0.5s						
TDK	**Taldyqorghan**	**1.61**	**229**	*e*P	**Pg**	**01 24 51.4**	**+0.5**
	396nm,0.2s						
TDK				*e*S	**Sg**	**01 25 11.8**	**+0.1**
	740nm,0.3s						
MK31	**Makanchi Array**	**1.67**	**64**	⇓P	**Pb**	**01 24 50.2**	**-0.6**
	13nm,0.3s						
MK31				⇑S	**Sb**	**01 25 11.0**	**-0.9**
	59nm,0.4s						
DJR	**Jarkent**	**1.76**	**188**	*e*P	**Pg**	**01 24 52.8**	**-0.8**
	94nm,0.2s						
DJR				*e*S	**Sb**	**01 25 14.4**	**-0.1**
	430nm,0.3s						
ARXS	**Arharly**	**2.47**	**222**	*e*P	**Pb**	**01 25 05.7**	**+1.2**
	10nm,0.2s						
ARXS				*e*S	**Sb**	**01 25 36.5**	**+1.6**
	136nm,0.3s						
PDGK	**Podgornoye**	**2.78**	**189**	⇓Pn	**Pn**	**01 25 06.2**	**+1.5**
	1.3nm,0.5s						
PDGK				⇓Pg	**Pg**	**01 25 12.9**	**-0.3**
	13nm,0.6s						
PDGK				⇓Lg	Lg	01 25 50.8	
	100nm,0.6s						
KPKS	**Kokpek**	**2.80**	**202**	*e*P	**Pb**	**01 25 10.9**	**+0.8**
	20nm,0.1s						
KPKS				*e*S	**Sb**	**01 25 45.5**	**+1.0**
	274nm,0.4s						
KURS	**Kuram**	**2.93**	**209**	*e*P	**Pg**	**01 25 14.4**	**-1.8**
	2.0nm,0.3s						
KURS				*e*S	**Sg**	**01 25 51.9**	**-2.3**
	98nm,0.8s						
CHKK	**Chushkaly**	**3.14**	**226**	*e*P	**Pg**	**01 25 18.8**	**-1.3**
	7.5nm,0.2s						
CHKK				*e*S	**Sg**	**01 25 59.1**	**-1.7**
	112nm,0.3s						
SATY	**Saty**	**3.25**	**203**	*e*P	**Pg**	**01 25 20.6**	**-1.6**
	11nm,0.1s						
SATY				*e*S	**Sg**	**01 26 02.1**	**-2.3**
	157nm,0.3s						
KTBS	**Karatobe**	**3.40**	**227**	*e*P	**Pg**	**01 25 24.2**	**-0.8**
	35nm,0.5s						
KTBS				*e*S	**Sg**	**01 26 08.3**	**-0.7**
	131nm,0.6s						
KUU	**Kurty**	**3.46**	**232**	*e*P	**Pg**	**01 25 24.5**	**-1.7**
KUU				*e*S	**Sg**	**01 26 08.4**	**-2.4**
ZSN	**Zaisan**	**3.54**	**65**	*e*P	**Pg**	**01 25 27.2**	**-0.6**
	2.4nm,0.2s						
ZSN				*e*S	**Sg**	**01 26 13.5**	**-0.3**
	22nm,0.5s						
IZV	**Izvestkoviy**	**3.94**	**221**	*e*P	**Pg**	**01 25 33.9**	**-1.5**
	6.5nm,0.3s						
IZV				*e*S	**Sg**	**01 26 24.8**	**-1.5**
	58nm,0.7s						
TKM2	**Tokmak 2**	**4.51**	**227**	⇑Pn	**Pn**	**01 25 30.0**	**+1.4**
	0.6nm,0.3s						
TKM2				⇑Pg	**Pg**	**01 25 45.0**	**-1.4**
	8.1nm,0.5s						
TKM2				⇑Lg	Lg	01 26 45.0	
	15nm,0.6s						
TKM2	**Tokmak 2**	**4.51**	**227**	P	**Pn**	**01 25 30.2**	**+1.6**
	SNR=7.6						
ULHL	**Ulahol**	**4.73**	**217**	P	**Pn**	**01 25 34.2**	**+2.6**
	SNR=6.8						
KURK	**Kurchatov**	**4.75**	**348**	⇑Pn	**Pn**	**01 25 33.6**	**+2.0**
	1.2nm,0.4s						
KURK				⇑Pg	**Pg**	**01 25 48.3**	**-2.6**
KURK				⇑Lg	Lg	01 26 54.1	
	28nm,0.5s						
USP	**Ospenovka**	**4.89**	**237**	P	**Pn**	**01 25 35.5**	**+1.9**
	SNR=5.2						
CHMS	**Chumysh**	**4.91**	**233**	P	**Pn**	**01 25 35.4**	**+1.5**
	SNR=6.8						
KBK	**Karagaybulak**	**5.04**	**229**	P	**Pn**	**01 25 37.8**	**+2.0**
	SNR=7.4						
AAK	**Ala-Archa**	**5.29**	**232**	⇑Pn	**Pn**	**01 25 40.6**	**+1.4**
	3.5nm,0.6s						
AAK				⇑Pg	**Pg**	**01 25 59.5**	**-1.9**
	2.8nm,0.5s						
AAK				⇓Lg	Lg	01 27 10.8	
	21nm,0.8s						
AAK	**Ala-Archa**	**5.29**	**232**	P	**Pn**	**01 25 41.1**	**+1.8**
	SNR=9.1						
UCH	**Uchtor**	**5.57**	**228**	P	**Pn**	**01 25 46.2**	**+2.9**
	SNR=7.8						
OTUK	**Ortayu**	**5.73**	**295**	⇓Pn	**Pn**	**01 25 47.3**	**+2.2**
	1.3nm,0.6s						
OTUK				⇑Sn	**Sn**	**01 26 50.5**	**-0.5**
	5.0nm,0.5s						
OTUK				⇑Lg	Lg	01 27 24.6	
	63nm,0.8s						
MNAS	**Manas**	**6.53**	**239**	⇑Pn	**Pn**	**01 25 57.9**	**+1.7**
	0.9nm,0.5s						
MNAS				⇑Pg	**Pg**	**01 26 21.2**	**-3.8**
	3.0nm,1.0s						
MNAS				⇑Lg	Lg	01 27 51.6	
	6.5nm,0.7s						
KK31	**Karatay Array**	**7.47**	**250**	Pn	**Pn**	**01 26 10.0**	**+1.0**
	0.7nm,0.2s,baz=59,slow=13,SNR=19						
KK31				⇓Lg	Lg	01 28 21.1	
	6.7nm,0.6s,baz=62,slow=33,SNR=4.5						
BVA0	**Borovoye Array**	**9.39**	**321**	Pn	**Pn**	**01 26 36.8**	**+1.5**
	1.1nm,0.9s,baz=251,slow=12,SNR=7.7						
AB31	**Akbulak array**	**13.96**	**290**	⇑Pn	**Pn**	**01 27 38.3**	**+0.7**
	0.3nm,0.6s,baz=100,slow=13,SNR=6.6						

NEIC 23 01:27:30.6±0.0, 16°.00N×98°.26W, h4km, MD4.0(MEX), After MEX.
MEX 23 01:27:30.6±0.7, 16°.00N×98°.26W, h4km±6km, MD4.0, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.41**	**18**	*e*P	Pg	01 27 38.1	-0.4
PNIG				*e*S	Sg	01 27 44.3	+0.5
PNIG	**Pinotepa**	**0.41**	**18**	*e*P	Pg	01 27 38.1	-0.4
PNIG				*e*S	Sg	01 27 44.3	+0.5
TLIG	**Tlapa**	**1.58**	**349**	*e*P	Pn	01 27 55.1	-4.4
TLIG				*e*S	Sn	01 28 15.8	-4.8
TLIG	**Tlapa**	**1.58**	**349**	*e*Pn	Pn	01 27 56.6	-3.0
TLIG				*e*S	Sn	01 28 18.1	-2.5
VHO	**Vista Hermosa**	**1.81**	**54**	*e*P	Pn	01 27 59.9	-3.0
VHO	**Vista Hermosa**	**1.81**	**54**	*e*P	Pn	01 27 59.9	-3.0
CAIG	**El Cayaco**	**2.19**	**299**	*e*P	Pn	01 28 05.1	-2.7
CAIG				*e*S	Sn	01 28 31.4	-4.0
CAIG	**El Cayaco**	**2.19**	**299**	*e*P	Pn	01 28 05.1	-2.7
CAIG				*e*S	Sn	01 28 31.4	-4.0

ISK 23 01:27:42.3, 35°.11N×27°.93E, h12km, ML3.5/12
DDA 23 01:27:43.5, 35°.36N×27°.74E, h2km, Ml3.5
IDC 23 01:27:45.7±0.9, 35°.48N×27°.84E, h0km, mb3.7/7, mb1 3.6/13, mb1mx3.5/66, mbtmp3.5/13, ML3.1/6, MS3.2/1, Ms1 3.2/1, ms1mx2.2/64, Error ellipse: s-maj=19.5km s-min=13.2km az=159.0
ISCJB 23 01:27:46.9±0.8, 35°.40N±0°.03×27°.95E±0°.02, h15km±5km, mb3.6/7, MS3.2/1, Error ellipse: s-maj=4.6km s-min=2.9km az=170.7
CSEM 23 01:27:46.9±0.3, 35°.42N×27°.97E, h5km, ML3.2, Error ellipse: s-maj=7.7km s-min=3.2km az=160.0
ATH 23 01:27:47.1, 35°.45N×27°.87E, h18km±1km, ML3.2/6, Error ellipse: s-maj=2.3km s-min=0.8km az=325.0
THE 23 01:27:48.2, 35°.49N×27°.85E, h0km, ML3.2/5, Error ellipse: s-maj=1.2km s-min=0.3km az=135.0
ISC 23 01:27:46.9±1.3, 35°.43N±0°.04×27°.92E±0°.03, h8km±9km, n168, σ1$49/200, mb3.7/7, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KARP	**Karpathos**	**0.63**	**281**	PG	**Pg**	**01 27 57.9**	**-1.1**
KARP				SG	**Sg**	**01 28 08.0**	**+0.8**
KARP	**Karpathos**	**0.63**	**281**	P	**Pg**	**01 27 58.3**	**-0.7**
KARP				S	**Sg**	**01 28 07.2**	**-0.1**
KARP				AML	AML	01 28 10.8	
	comp=N,6791μm,0.5s						
KARP				AML	AML	01 28 13.5	
	comp=E,4405μm,0.6s						
KARP	**Karpathos**	**0.63**	**281**	*e*Pg	**Pg**	**01 27 57.9**	**-1.1**
KARP	**Karpathos**	**0.63**	**281**	P	**Pg**	**01 27 58.5**	**-0.5**
KARP				S	**Sg**	**01 28 07.1**	**-0.1**
KARP				*e*Sg	**Sg**	**01 28 08.0**	**+0.8**
ARG	**Arkhangelos**	**0.81**	**12**	P	**Pb**	**01 28 02.8**	**-0.4**
ARG				S	**Sb**	**01 28 14.2**	**0.0**
ARG				AML	AML	01 28 22.4	
	comp=E,1846μm,0.3s						
ARG				AML	AML	01 28 26.5	
	comp=N,1540μm,0.9s						
ARG	**Arkhangelos**	**0.81**	**12**	P	**Pb**	**01 28 03.3**	**+0.1**
ARG				S	**Sb**	**01 28 15.2**	**+1.0**
ARG	**Arkhangelos**	**0.81**	**12**	P	**Pb**	**01 28 03.3**	**+0.1**
ARG				S	**Sb**	**01 28 13.7**	**-0.5**
ZKR	**Zakros**	**1.42**	**258**	P	**Pn**	**01 28 12.5**	**-0.6**
ZKR				AML	AML	01 28 40.9	
	comp=N,784μm,0.6s						
ZKR				AML	AML	01 28 42.9	
	comp=E,3759μm,0.7s						
ZKR	**Zakros**	**1.42**	**258**	P	**Pn**	**01 28 12.9**	**-0.1**
ZKR				S	**Sb**	**01 28 32.8**	**+0.8**
ZKR	**Zakros**	**1.42**	**258**	P	**Pn**	**01 28 12.9**	**-0.1**
ZKR				S	**Sb**	**01 28 32.8**	**+0.8**
FETY	**Fethiye**	**1.53**	**38**	PN	**Pn**	**01 28 14.2**	**-0.4**
FETY	**Fethiye**	**1.53**	**38**	P	**Pn**	**01 28 14.9**	**+0.3**
FETY	**Fethiye**	**1.53**	**38**	*e*Pn	**Pn**	**01 28 14.2**	**-0.4**
FETY	**Fethiye**	**1.53**	**38**	P	**Pn**	**01 28 14.9**	**+0.3**
KSL	**Kastellorizon**	**1.54**	**62**	P	**Pn**	**01 28 15.4**	**+0.8**
KSL	**Kastellorizon**	**1.54**	**62**	P	**Pn**	**01 28 15.7**	**+1.1**
TURN	**Turunc**	**1.55**	**21**	PN	**Pn**	**01 28 12.5**	**-2.2**
TURN				SN	**Sn**	**01 28 34.2**	**-0.8**
TURN	**Turunc**	**1.55**	**21**	*i* P	**Pn**	**01 28 13.1**	**-1.6**
TURN				*i* S	**Sn**	**01 28 31.6**	**-3.4**
TURN	**Turunc**	**1.55**	**21**	*e*Pn	**Pn**	**01 28 12.5**	**-2.2**
TURN	**Turunc**	**1.55**	**21**	P	**Pn**	**01 28 13.1**	**-1.6**
TURN				S	**Sn**	**01 28 31.6**	**-3.4**
TURN				*e*Sn	**Sn**	**01 28 34.2**	**-0.8**
AKAS	**Kas**	**1.59**	**59**	PN	**Pn**	**01 28 13.6**	**-1.9**
AKAS	**Kas**	**1.59**	**59**	*i* P	**Pn**	**01 28 15.7**	**+0.2**
AKAS	**Kas**	**1.59**	**59**	*e*Pn	**Pn**	**01 28 13.6**	**-1.9**
AKAS	**Kas**	**1.59**	**59**	P	**Pn**	**01 28 15.7**	**+0.2**
BDRM	**Kayabasi**	**1.68**	**347**	*i* P	**Pn**	**01 28 17.0**	**+0.4**
BDRM				*i* S	**Sb**	**01 28 40.0**	**+0.7**
BDRM	**Kayabasi**	**1.68**	**347**	P	**Pn**	**01 28 17.0**	**+0.4**
BDRM				S	**Sb**	**01 28 40.0**	**+0.7**
BODT	**Bodrum**	**1.70**	**343**	PN	**Pn**	**01 28 16.2**	**-0.6**
BODT	**Bodrum**	**1.70**	**343**	P	**Pn**	**01 28 16.3**	**-0.6**
BODT	**Bodrum**	**1.70**	**343**	P	**Pn**	**01 28 16.3**	**-0.6**
MLSB	**Milas**	**1.87**	**357**	PN	**Pn**	**01 28 19.7**	**+0.5**
MLSB	**Milas**	**1.87**	**357**	*e*Pn	**Pn**	**01 28 19.7**	**+0.5**
NPS	**Neapolis**	**1.89**	**266**	P	**Pb**	**01 28 21.1**	**-0.5**
NPS				AML	AML	01 28 58.2	
	comp=N,1254μm,0.7s						
NPS				AML	AML	01 28 58.4	
	comp=E,1453μm,0.6s						
NPS	**Neapolis**	**1.89**	**266**	P	**Pn**	**01 28 20.0**	**+0.5**
NPS				S	**Sn**	**01 28 44.1**	**+0.6**
NPS	**Neapolis**	**1.89**	**266**	P	**Pn**	**01 28 20.0**	**+0.5**
NPS				S	**Sn**	**01 28 44.1**	**+0.6**
LAST	**Lasithi**	**2.01**	**263**	P	**Pb**	**01 28 23.2**	**-0.5**
LAST	**Lasithi**	**2.01**	**263**	P	**Pn**	**01 28 22.6**	**+1.4**
ELL	**Elmali**	**2.08**	**50**	PN	**Pn**	**01 28 21.8**	**-0.5**
ELL	**Elmali**	**2.08**	**50**	*e*Pn	**Pn**	**01 28 21.8**	**-0.5**
TAVA	**DENIZLI_Tavas**	**2.19**	**21**	*i* P	**Pn**	**01 28 25.1**	**+1.5**
TAVA				*i* S	**Sb**	**01 28 57.0**	**+2.9**
TAVA	**DENIZLI_Tavas**	**2.19**	**21**	P	**Pn**	**01 28 25.1**	**+1.5**
SANT	**Santorini**	**2.21**	**296**	P	**Pn**	**01 28 23.9**	**+0.1**
SANT				AML	AML	01 28 56.5	
	comp=N,581μm,0.7s						
SANT				AML	AML	01 29 04.6	
	comp=E,1145μm,0.7s						
SANT	**Santorini**	**2.21**	**296**	P	**Pn**	**01 28 23.9**	**+0.1**
SANT				S	**Sn**	**01 28 51.2**	**-0.1**
SANT	**Santorini**	**2.21**	**296**	P	**Pn**	**01 28 24.3**	**+0.5**
SANT				S	**Sn**	**01 28 51.2**	**-0.1**
AYDN	**Tasoluk**	**2.23**	**359**	*i* P	**Pn**	**01 28 25.5**	**+1.3**
AYDN				*i* S	**Sb**	**01 28 57.9**	**+2.6**
AYDN	**Tasoluk**	**2.23**	**359**	P	**Pn**	**01 28 25.5**	**+1.3**
GOLH	**Golhisar**	**2.24**	**36**	*i* P	**Pn**	**01 28 25.7**	**+1.3**
GOLH	**Golhisar**	**2.24**	**36**	P	**Pn**	**01 28 25.7**	**+1.3**
THR6	**Thira Island,**	**2.24**	**295**	P	**Pn**	**01 28 24.2**	**-0.1**
THR6	**Thira Island,**	**2.24**	**295**	P	**Pn**	**01 28 24.2**	**-0.1**
THR3	**Thira Island,**	**2.26**	**296**	P	**Pn**	**01 28 24.6**	**0.0**
THR3	**Thira Island,**	**2.26**	**296**	P	**Pn**	**01 28 24.6**	**0.0**
GCAM	**G?zelcaml?**	**2.33**	**347**	PN	**Pn**	**01 28 25.8**	**+0.3**
GCAM	**G?zelcaml?**	**2.33**	**347**	*i* P	**Pn**	**01 28 26.5**	**+1.0**
GCAM				*i* S	**Sn**	**01 28 53.6**	**-0.8**
GCAM	**G?zelcaml?**	**2.33**	**347**	*e*Pn	**Pn**	**01 28 25.8**	**+0.3**
GCAM	**G?zelcaml?**	**2.33**	**347**	P	**Pn**	**01 28 26.5**	**+1.0**
GCAM				S	**Sn**	**01 28 53.6**	**-0.8**
SMG	**Samos**	**2.44**	**339**	P	**Pn**	**01 28 27.5**	**+0.5**
SMG	**Samos**	**2.44**	**339**	P	**Pn**	**01 28 26.9**	**-0.1**
SMG	**Samos**	**2.44**	**339**	P	**Pn**	**01 28 27.7**	**+0.7**
IDI	**Anoyia**	**2.48**	**268**	Pn	**Pn**	**01 28 28.6**	**+1.0**
	comp=E,3.4nm,0.3s,baz=80,slow=16,SNR=37						
IDI				Sn	**Sn**	**01 28 57.0**	**-1.0**
	comp=E,10nm,0.3s,baz=136,slow=13,SNR=5.8						
IDI	**Anoyia**	**2.48**	**268**	PN	**Pn**	**01 28 24.6**	**-3.0**
IDI	**Anoyia**	**2.48**	**268**	*e*Pn	**Pn**	**01 28 24.6**	**-3.0**
AYDB	**Zeytinkoy-Aydi**	**2.51**	**360**	PN	**Pn**	**01 28 28.7**	**+0.5**
AYDB	**Zeytinkoy-Aydi**	**2.51**	**360**	*e*Pn	**Pn**	**01 28 28.7**	**+0.5**
KORT	**Korkueli**	**2.52**	**51**	PN	**Pn**	**01 28 27.0**	**-1.2**
KORT	**Korkueli**	**2.52**	**51**	*e*Pn	**Pn**	**01 28 27.0**	**-1.2**
APE	**Apeiranthos**	**2.53**	**311**	PN	**Pn**	**01 28 27.8**	**-0.5**
APE	**Apeiranthos**	**2.53**	**311**	P	**Pn**	**01 28 27.8**	**-0.5**
APE				AML	AML	01 29 00.5	
	comp=E,336μm,0.7s						
APE				AML	AML	01 29 01.4	
	comp=N,351μm,0.6s						
APE	**Apeiranthos**	**2.53**	**311**	P	**Pn**	**01 28 28.1**	**-0.2**
APE				S	**Sn**	**01 28 58.8**	**-0.5**
APE	**Apeiranthos**	**2.53**	**311**	*e*Pn	**Pn**	**01 28 27.8**	**-0.5**
APE	**Apeiranthos**	**2.53**	**311**	P	**Pn**	**01 28 28.5**	**+0.2**
APE				S	**Sn**	**01 28 58.8**	**-0.5**
SIVA	**Sivas**	**2.58**	**262**	P	**Pn**	**01 28 31.4**	**+2.6**
SIVA	**Sivas**	**2.58**	**262**	P	**Pn**	**01 28 30.7**	**+1.8**
ANTB	**Antalya**	**2.66**	**56**	PN	**Pn**	**01 28 29.3**	**-0.7**
ANTB	**Antalya**	**2.66**	**56**	*e*Pn	**Pn**	**01 28 29.3**	**-0.7**
DGB	**¯zmir**	**2.75**	**343**	*i* P	**Pn**	**01 28 32.5**	**+1.3**
DGB				*i* S	**Sg**	**01 29 16.6**	**+1.5**
BCK	**Bucak**	**2.96**	**46**	PN	**Pn**	**01 28 34.6**	**+0.3**
BCK	**Bucak**	**2.96**	**46**	*e*Pn	**Pn**	**01 28 34.6**	**+0.3**
ZEY	**¯zmir**	**3.03**	**338**	*i* P	**Pn**	**01 28 35.5**	**+0.4**
BLCB	**Balcova**	**3.03**	**347**	PN	**Pn**	**01 28 36.0**	**+0.8**
BLCB	**Balcova**	**3.03**	**347**	*e*Pn	**Pn**	**01 28 36.0**	**+0.8**
VAM	**Vamos**	**3.03**	**271**	P	**Pn**	**01 28 36.0**	**+0.7**
VAM	**Vamos**	**3.03**	**271**	P	**Pn**	**01 28 35.9**	**+0.7**
VAM				S	**Sn**	**01 29 12.2**	**+0.5**
VAM	**Vamos**	**3.03**	**271**	P	**Pn**	**01 28 35.9**	**+0.7**
VAM				S	**Sn**	**01 29 12.2**	**+0.5**
MANT	**Manisa**	**3.10**	**9**	*i* P	**Pn**	**01 28 37.0**	**+0.7**
MANT	**Manisa**	**3.10**	**9**	P	**Pn**	**01 28 37.0**	**+0.7**
URLA	**Izmir**	**3.11**	**341**	PN	**Pn**	**01 28 35.8**	**-0.3**
URLA	**Izmir**	**3.11**	**341**	*i* P	**Pn**	**01 28 36.0**	**-0.3**
URLA	**Izmir**	**3.11**	**341**	P	**Pn**	**01 28 36.0**	**-0.3**
MHLO	**Agia Marina, M**	**3.11**	**295**	P	**Pn**	**01 28 36.3**	**0.0**
MHLO	**Agia Marina, M**	**3.11**	**295**	P	**Pn**	**01 28 36.8**	**+0.5**
KULA	**Kula-Manisa**	**3.14**	**11**	PN	**Pn**	**01 28 37.3**	**+0.6**
KULA	**Kula-Manisa**	**3.14**	**11**	*e*Pn	**Pn**	**01 28 37.3**	**+0.6**
ISP	**Isparta**	**3.18**	**40**	PN	**Pn**	**01 28 37.7**	**+0.4**
ISP	**Isparta**	**3.18**	**40**	*e*Pn	**Pn**	**01 28 37.7**	**+0.4**
GVD	**Gavdhos**	**3.19**	**261**	P	**Pn**	**01 28 40.0**	**+2.6**
GVD	**Gavdhos**	**3.19**	**261**	P	**Pn**	**01 28 39.3**	**+1.9**
IMMV	**Iera Moni Meta**	**3.21**	**272**	P	**Pn**	**01 28 38.2**	**+0.6**
IMMV	**Iera Moni Meta**	**3.21**	**272**	P	**Pn**	**01 28 37.5**	**-0.1**
IMMV	**Iera Moni Meta**	**3.21**	**272**	P	**Pn**	**01 28 38.5**	**+0.9**
SUTC	**Sutluce-Ispart**	**3.22**	**50**	PN	**Pn**	**01 28 37.8**	**-0.1**
SUTC	**Sutluce-Ispart**	**3.22**	**50**	*e*Pn	**Pn**	**01 28 37.8**	**-0.1**
CHOS	**Chios island**	**3.31**	**334**	PN	**Pn**	**01 28 39.6**	**+0.6**
CHOS	**Chios island**	**3.31**	**334**	P	**Pn**	**01 28 40.3**	**+1.3**
CHOS	**Chios island**	**3.31**	**334**	*e*Pn	**Pn**	**01 28 39.6**	**+0.6**
CHOS	**Chios island**	**3.31**	**334**	P	**Pn**	**01 28 40.3**	**+1.3**
AKHS	**Akhisar**	**3.45**	**359**	*i* P	**Pn**	**01 28 41.8**	**+0.9**
AKHS	**Akhisar**	**3.45**	**359**	P	**Pn**	**01 28 41.8**	**+0.9**
DKL	**Dikili**	**3.73**	**348**	PN	**Pn**	**01 28 45.5**	**+0.8**
DKL	**Dikili**

comp=N,35nm,20.4s,baz=50,slow=38
MKAR Makanchi Array 41.74 57 P **P** 01 35 37.6 +1.2
comp=N,0.2nm,0.5s,baz=305,slow=5.1,SNR=2.9

IDC 23 01:30:19.7±5.3, 15°07N×98°20W, h0km, mb3.6/3, mb1 3.7/5, mb1mx3.5/46, mbtmp3.4/5, ML3.2/2, MS3.6/2, Ms1 3.6/2, ms1mx2.9/30, Error ellipse: s-maj=101.9km s-min=22.9km az=165.0, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMIG	**Matias Romero**	**3.77**	**57**	Pn	Pn	01 31 20.0	+0.9
	1.2nm,0.3s,baz=231,slow=13,SNR=13						
CMIG				Sn	Sn	01 32 03.8	-0.3
	30nm,0.3s,baz=265,slow=12,SNR=9.0						
CMIG				Lg	Lg	01 32 19.5	
	44nm,0.3s,baz=251,slow=10,SNR=14						
TXAR	**Lajitas Array**	**15.06**	**341**	Pn	Pn	01 33 56.7	+2.7
	0.0nm,0.3s,baz=162,slow=15,SNR=3.2						
ELK	**Elko**	**29.57**	**333**	LR	LR	01 48 31.5	
	comp=Z,74nm,21.1s,baz=258,slow=37						
YKA	**Yellowknife Ar**	**48.76**	**350**	P	P	01 39 04.8	-1.3
	0.6nm,1.0s,baz=159,slow=6.8,SNR=5.0						
CPUP	**Villa Florida**	**57.21**	**136**	LR	LR	02 02 20.0	
	comp=Z,66nm,18.5s,baz=183,slow=34						
INK	**Inuvik**	**57.79**	**345**	P	P	01 40 12.0	-0.4
	1.1nm,0.8s,baz=130,slow=9.0,SNR=5.4						
ILAR	**Eielson Array**	**59.55**	**338**	P	P	01 40 25.7	+0.9
	0.5nm,1.0s,baz=134,slow=7.7,SNR=5.1						

IDC 23 01:30:57.9±1.3, 16°15N×98°17W, h0km, mb4.1/15, mb1 4.2/18, mb1mx4.0/48, mbtmp4.0/18, ML3.4/3, MS3.3/3, Ms1 3.3/3, ms1mx2.9/39, Error ellipse: s-maj=31.7km s-min=15.5km az=26.0
MEX 23 01:30:59.7±0.7, 15°97N×98°17W, h8km±5km, MD4.5
NEIC 23 01:31:02.3±1.3, 16°23N×98°04W, h19km±6km, mb4.3/62, MD4.5(MEX), Error ellipse: s-maj=11.3km s-min=5.5km az=198.0

ISC 23 01:31:01.2±0.7, 16°07N±0°07×98°22W±0°04, h22km±3km, n312, σ1°62/320, mb4.3/62, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.33**	**15**	*eP*	**Pb**	**01 31 07.5**	**-0.9**
PNIG				*eS*	**Sb**	**01 31 13.7**	**+0.3**
PNIG	**Pinotepa**	**0.33**	**15**	*eP*	**Pb**	**01 31 07.5**	**-0.9**
PNIG				*eS*	**Sb**	**01 31 13.7**	**+0.3**
TLIG	**Tlapa**	**1.52**	**347**	*eP*	**Pn**	**01 31 26.0**	**-1.3**
TLIG				*eS*	**Sn**	**01 31 44.6**	**-1.9**
TLIG	**Tlapa**	**1.52**	**347**	Pn	**Pn**	**01 31 24.4**	**-2.9**
TLIG				*eS*	**Sn**	**01 31 46.4**	**-0.1**
VHO	**Vista Hermosa**	**1.74**	**55**	*eP*	**Pn**	**01 31 26.7**	**-3.5**
VHO				*eS*	**Sn**	**01 31 51.9**	**0.0**
VHO	**Vista Hermosa**	**1.74**	**55**	*eP*	**Pn**	**01 31 26.7**	**-3.5**
VHO				*eS*	**Sn**	**01 31 51.9**	**0.0**
CAIG	**El Cayaco**	**2.20**	**297**	*eP*	**Pn**	**01 31 34.9**	**-1.5**
CAIG				*eS*	**Sn**	**01 32 01.3**	**-1.6**
CAIG	**El Cayaco**	**2.20**	**297**	*eP*	**Pn**	**01 31 34.9**	**-1.5**
CAIG				*eS*	**Sn**	**01 32 01.3**	**-1.6**
CMIG	**Matias Romero**	**3.35**	**72**	Pn	**Pn**	**01 31 51.4**	**-0.9**
	11nm,0.3s,baz=252,slow=12,SNR=6.0						
CMIG				Sn	**Sn**	**01 32 32.4**	**+0.9**
	37nm,0.3s,baz=204,slow=11,SNR=4.5						
CMIG				LR	LR	01 33 12.0	
	comp=Z,199nm,21.0s,baz=114,slow=41						
UNM	**Universidad Na**	**3.37**	**344**	*ePn*	**Pn**	**01 31 51.4**	**-1.4**
LVIG	**Laguna Verde**	**4.02**	**25**	*ePn*	**Pn**	**01 31 59.2**	**-2.2**
MOIG	**Morelia**	**4.57**	**322**	*ePn*	**Pn**	**01 32 10.1**	**+0.8**
MOIG				*eS*	**Sb**	**01 33 20.9**	**+5.2**
JRQG	**Juriquilla Cam**	**5.07**	**336**	*ePn*	**Pn**	**01 32 16.3**	**+0.1**
CCIG	**Comitan**	**5.84**	**87**	*ePn*	**Pn**	**01 32 30.3**	**+3.5**
CCIG				*eS*	**Sn**	**01 33 38.2**	**+5.0**
APG	**El Apazote**	**7.54**	**97**	Pn	**Pn**	**01 32 50.1**	**-0.1**
	0.5nm,0.3s,baz=251,slow=18,SNR=2.1						
APG				Sn	**Sn**	**01 34 07.6**	**-7.6**
	1.4nm,0.3s,baz=359,slow=16,SNR=3.9						
APG				Lg	Lg	01 34 58.2	
	2.3nm,0.3s,baz=311,slow=9.1,SNR=3.7						
ZAIG	**Zacatecas**	**7.83**	**329**	*ePn*	**Pn**	**01 32 54.8**	**+0.7**
ZAIG				*ePg*	Pb	01 33 23.5	+7.2
ZAIG				*eS*	Sb	01 35 02.2	+13
833A	**Chaparral WMA,**	**12.24**	**355**	P	**Pn**	**01 33 54.2**	**-0.1**
	baz=174						
H06E1	**SOCORRO T-PHAS**	**12.43**	**284**	T	T	01 46 07.1	
	SNR=13						
TX31	**Lajitas Ar. Si**	**14.12**	**340**	*ePn*	**Pn**	**01 34 19.7**	**-0.5**
TXAR	**Lajitas Array**	**14.12**	**340**	Pn	**Pn**	**01 34 19.6**	**-0.6**
	0.0nm,0.3s,baz=170,slow=12,SNR=4.9						
TXAR				Lg	Lg	01 38 29.0	
	0.0nm,0.3s,baz=170,slow=21,SNR=4.2						
JTS	**JuntasAbangare**	**14.13**	**112**	Pn	**Pn**	**01 34 21.9**	**+1.7**
	0.2nm,0.3s,baz=344,slow=12,SNR=1.7						
JTS	**JuntasAbangare**	**14.13**	**112**	*ePn*	**P**	**01 34 26.2**	**-1.5**
	12nm,0.9s						
JCT	**Junction City**	**14.42**	**354**	*ePn*	**Pn**	**01 34 26.3**	**+2.2**
WHTX	**Lake Whitney,**	**15.87**	**2**	P	**Pn**	**01 34 42.1**	**-1.1**
	baz=182						
WHTX	**Lake Whitney,**	**15.87**	**2**	*ePn*	**Pn**	**01 34 42.0**	**-1.3**
	20nm,0.8s						
341A	**Kurthwood**	**15.88**	**16**	P	**Pn**	**01 34 41.9**	**-1.5**
	baz=198						
ABTX	**Abilene, Hawle**	**16.53**	**356**	P	**P**	**01 34 54.3**	**0.0**
	baz=175,SNR=6.5						
ABTX	**Abilene, Hawle**	**16.53**	**356**	*ePn*	**P**	**01 34 54.3**	**0.0**
	30nm,0.8s						
MNTX	**Cornudas Mount**	**16.87**	**339**	P	**P**	**01 34 58.2**	**+0.1**
	baz=155						
MNTX	**Cornudas Mount**	**16.87**	**339**	*ePn*	**Pn**	**01 34 55.7**	**-0.4**
	4.8nm,0.9s						
244A	**Avery, Jackson**	**17.31**	**22**	P	**Pn**	**01 35 01.0**	**-0.5**
	baz=205						
HSIG		**17.43**	**320**	*ePn*	**P**	**01 35 03.7**	**-0.5**
	8.2nm,1.2s						
Z40A	**Long Farm, Mag**	**17.66**	**13**	P	**Pn**	**01 35 06.2**	**+0.4**
	baz=195						
348A	**Jackson**	**17.94**	**30**	P	**Pn**	**01 35 09.6**	**+0.3**
	baz=214						
319A	**Douglas**	**18.28**	**328**	*ePn*	**P**	**01 35 14.2**	**+0.5**
MSTX	**Muleshoe**	**18.29**	**348**	P	**Pn**	**01 35 12.4**	**-1.4**
	baz=165						
MSTX	**Muleshoe**	**18.29**	**348**	*ePn*	**Pn**	**01 35 12.5**	**-1.3**
	14nm,1.0s						
146A	**Union**	**18.47**	**25**	P	**P**	**01 35 14.6**	**-1.0**
	baz=208						
121A	**Cookes Peak, D**	**18.55**	**334**	P	**P**	**01 35 15.7**	**-1.0**
	baz=149						
121A	**Cookes Peak, D**	**18.55**	**334**	*ePn*	**P**	**01 35 16.1**	**-0.6**
	7.1nm,0.8s						
WMOK	**Wichita Mounta**	**18.60**	**359**	P	**P**	**01 35 16.8**	**-0.2**
	baz=178						
WMOK	**Wichita Mounta**	**18.60**	**359**	*ePn*	**P**	**01 35 16.3**	**-0.7**
	4.3nm,0.8s						
Y42A	**Garnett, Star**	**18.62**	**17**	P	**P**	**01 35 16.2**	**-1.0**
	baz=199						
X39A	**Fountain Ranch**	**18.73**	**11**	P	**P**	**01 35 17.1**	**-1.4**
	baz=192						
249A	**Camden**	**18.78**	**31**	P	**P**	**01 35 17.4**	**-1.6**
	baz=215						
147A	**Livingston**	**18.83**	**27**	P	**P**	**01 35 16.7**	**-2.9**
	baz=211						
MIAR	**Mount Ida**	**18.87**	**12**	P	**P**	**01 35 16.0**	**-3.9**
	baz=193						
MIAR	**Mount Ida**	**18.87**	**12**	*ePn*	**P**	**01 35 19.2**	**-0.8**
	11nm,0.9s						
X41A	**Kaden, Bauxite**	**19.05**	**15**	P	**P**	**01 35 19.8**	**-2.2**
	baz=197						
Z47A	**Carrollton**	**19.37**	**26**	P	**P**	**01 35 23.7**	**-1.7**
	baz=210						
149A	**Jones**	**19.45**	**30**	P	**P**	**01 35 25.6**	**-0.7**
	baz=215						
W39A	**Magazine**	**19.46**	**11**	P	**P**	**01 35 26.1**	**-0.3**
	baz=192						
BNM	**Barren Site**	**19.53**	**339**	*eP*	**Pn**	**01 35 29.4**	**+0.5**
W40A	**Ferguson Farm,**	**19.59**	**13**	P	**P**	**01 35 27.3**	**-0.6**
	baz=194						
Y46A	**Houston**	**19.64**	**24**	P	**P**	**01 35 28.7**	**+0.2**
	baz=207,SNR=5.6						
LRAL	**Lakeview Retre**	**19.71**	**29**	P	**P**	**01 35 28.4**	**-0.8**
	baz=213						
LRAL	**Lakeview Retre**	**19.71**	**29**	*eP*	**P**	**01 35 29.6**	**+0.4**
	98nm,2.0s						
X44A	**Crenshaw**	**19.73**	**20**	P	**P**	**01 35 28.3**	**-1.2**
	baz=203						
Z48A	**Northport**	**19.74**	**27**	P	**P**	**01 35 29.0**	**-0.5**
	baz=211						
TUC	**Tucson**	**19.79**	**327**	P	**P**	**01 35 29.6**	**-0.6**
	baz=141						
TUC	**Tucson**	**19.79**	**327**	*eP*	**Pn**	**01 35 37.8**	**+5.9**
	4.9nm,1.1s						
150A	**Eclectic**	**19.83**	**32**	P	**P**	**01 35 30.1**	**-0.5**
	baz=216						
060A	**Indiantown**	**19.84**	**54**	P	**P**	**01 35 28.7**	**-2.1**
	baz=240						
TUL1	**Leonard**	**19.88**	**6**	P	**P**	**01 35 29.9**	**-1.2**
	baz=186						
TUL1	**Leonard**	**19.88**	**6**	*eP*	**P**	**01 35 29.8**	**-1.2**
	5.3nm,0.7s						
X45A	**UM Field Stati**	**19.93**	**22**	P	**P**	**01 35 29.8**	**-1.8**
	baz=205						
LAZ	**Ladron**	**19.94**	**338**	*eP*	**Pn**	**01 35 33.3**	**-0.4**
252A	**Lumpkin**	**20.04**	**35**	P	**P**	**01 35 30.4**	**-2.4**
	baz=221						
Z49A	**Columbiana**	**20.06**	**30**	P	**P**	**01 35 32.3**	**-0.8**
	baz=214						
Y47A	**UCPARC, Winfie**	**20.07**	**26**	P	**P**	**01 35 32.6**	**-0.5**
	baz=210						
V39A	**Pettigrew**	**20.11**	**11**	P	**P**	**01 35 32.9**	**-0.7**
	baz=192,SNR=8.1						
151A	**Opelika**	**20.13**	**33**	P	**P**	**01 35 32.9**	**-0.9**
	baz=218,SNR=5.6						
ANMO	**Albuquerque**	**20.20**	**340**	P	**P**	**01 35 34.8**	**0.0**
	baz=156						
ANMO	**Albuquerque**	**20.20**	**340**	*eP*	**P**	**01 35 34.6**	**-0.2**
	8.0nm,0.8s						
V40A	**Witts Springs**	**20.24**	**13**	P	**P**	**01 35 34.0**	**-1.0**
	baz=195						
X46A	**Booneville**	**20.34**	**23**	P	**P**	**01 35 35.2**	**-0.9**
	baz=207,SNR=6.6						
Y48A	**Jasper**	**20.37**	**27**	P	**P**	**01 35 35.0**	**-1.4**
	baz=212						
V41A	**Mountainview**	**20.37**	**14**	P	**P**	**01 35 34.9**	**-1.5**
	baz=196						
Z50A	**Ashland**	**20.40**	**31**	P	**P**	**01 35 35.7**	**-1.1**
	baz=216,SNR=5.2						
HHAR	**Hobbs**	**20.49**	**10**	*eP*	**P**	**01 35 37.9**	**+0.2**
	11nm,0.8s						
V42A	**Cord**	**20.58**	**16**	P	**P**	**01 35 36.9**	**-1.7**
	baz=199						
X47A	**Russelville**	**20.59**	**25**	P	**P**	**01 35 37.1**	**-1.7**
	baz=209						
214A	**Organ Pipe Nat**	**20.65**	**323**	*eP*	**P**	**01 35 40.3**	**+0.8**
	22nm,1.0s						
Y49A	**Blount Mountai**	**20.66**	**29**	P	**P**	**01 35 36.7**	**-2.9**
	baz=214						
U39A	**Green Forest**	**20.67**	**11**	P	**P**	**01 35 37.9**	**-1.7**
	baz=193,SNR=5.5						
U40A	**Yellville**	**20.76**	**12**	P	**P**	**01 35 39.0**	**-1.6**
	baz=194,SNR=11						
V43A	**Jonesboro**	**20.80**	**18**	P	**P**	**01 35 38.4**	**-2.6**
	baz=201						
254A	**Abbeville**	**20.83**	**38**	P	**P**	**01 35 38.8**	**-2.6**
	baz=224						
X48A	**Hartselle**	**20.88**	**27**	P	**P**	**01 35 40.5**	**-1.4**
	baz=211						
PLAL	**Pickwick Lake**	**20.91**	**24**	*eP*	**P**	**01 35 41.2**	**-1.1**
	21nm,0.9s						
W46A	**Mixie**	**20.93**	**23**	P	**P**	**01 35 40.8**	**-1.6**
	baz=207,SNR=5.1						
U41A	**Viola**	**20.96**	**14**	P	**P**	**01 35 40.7**	**-2.0**
	baz=197						
Y50A	**Piedmont**	**21.01**	**30**	P	**P**	**01 35 41.1**	**-2.2**
	baz=215						
U42A	**Revenden**	**21.13**	**16**	P	**P**	**01 35 42.3**	**-2.3**
	baz=198,SNR=5.5						
T38A	**Diamond**	**21.17**	**9**	P	**P**	**01 35 42.8**	**-2.2**
	baz=193,SNR=8.7						
X49A	**Woodville**	**21.25**	**28**	P	**P**	**01 35 44.6**	**-1.3**
	baz=213						
T39A	**Clever**	**21.31**	**11**	P	**P**	**01 35 45.0**	**-1.6**
	baz=192,SNR=8.4						
W47A	**Westpoint**	**21.34**	**24**	P	**P**	**01 35 45.2**	**-1.7**
	baz=209						
154A	**Montrose**	**21.42**	**37**	P	**P**	**01 35 45.2**	**-2.6**
	baz=223						
W48A	**Pulaski**	**21.51**	**26**	P	**P**	**01 35 46.5**	**-2.2**
	baz=210						
W18A	**Petrified Fore**	**21.60**	**334**	P	**P**	**01 35 50.0**	**+0.2**
	baz=148						
W18A	**Petrified Fore**	**21.60**	**334**	*eP*	**P**	**01 35 50.8**	**+1.0**
	10nm,1.0s						
T40A	**Mansfield**	**21.60**	**12**	P	**P**	**01 35 47.0**	**-2.6**
	baz=195						
V46A	**Holladay**	**21.62**	**23**	P	**P**	**01 35 48.4**	**-1.5**
	baz=207,SNR=5.5						
T41A	**Mountain View**	**21.66**	**14**	P	**P**	**01 35 48.9**	**-1.4**
	baz=197						
T25A	**Trinidad**	**21.69**	**347**	P	**P**	**01 35 50.8**	**-0.1**
	baz=163						
T25A	**Trinidad**	**21.69**	**347**	*eP*	**P**	**01 35 52.8**	**+1.8**
	19nm,1.0s						
MHTCO	**State Highway**	**21.75**	**346**	*eP*	**P**	**01 35 55.0**	**+3.5**
	14nm,1.1s						
PBMO	**Poplar Bluff**	**21.76**	**17**	*eP*	**P**	**01 35 53.5**	**+2.2**
	39nm,0.8s						
X16A	**Lo Mia Camp, P**	**21.80**	**329**	*eP*	**P**	**01 35 52.9**	**+0.9**
155A	**Kite**	**21.80**	**38**	P	**P**	**01 35 50.5**	**-1.4**
	baz=224						
GOGA	**Godfrey**	**21.81**	**35**	P	**P**	**01 35 50.2**	**-1.7**
	baz=221						
GOGA	**Godfrey**	**21.81**	**35**	*eP*	**P**	**01 35 50.4**	**-1.6**
	19nm,0.8s						
S38A	**Stockton**	**21.81**	**9**	P	**P**	**01 35 50.2**	**-1.7**
	baz=191,SNR=7.1						
T42A	**Van Buren**	**21.81**	**15**	P	**P**	**01 35 50.9**	**-1.0**
	baz=198,SNR=8.5						
V47A	**Nunnelly**	**21.87**	**24**	P	**P**	**01 35 50.7**	**-1.8**
	baz=208,SNR=7.8						
U45A	**Rockin P Farm,**	**21.88**	**21**	P	**P**	**01 35 49.8**	**-2.8**
	baz=205						
S39A	**Bolivar**	**21.97**	**10**	P	**P**	**01 35 52.2**	**-1.4**
	baz=192,SNR=12						
WVT	**Waverly**	**22.02**	**23**	P	**P**	**01 35 52.5**	**-1.6**
	baz=207						
WVT	**Waverly**	**22.02**	**23**	*eP*	**P**	**01 35 52.6**	**-1.5**
	30nm,1.0s						
S40A	**Lebanon**	**22.03**	**12**	P	**P**	**01 35 52.4**	**-1.9**
	baz=194,SNR=7.5						
V48A	**Smith Brothers**	**22.07**	**25**	P	**P**	**01 35 52.9**	**-1.9**
	baz=210						
T43A	**Greenville**	**22.08**	**17**	P	**P**	**01 35 52.9**	**-1.9**
	baz=200,SNR=6.8						
U46A	**Springville**	**22.09**	**22**	P	**P**	**01 35 53.7**	**-1.2**
	baz=206,SNR=5.7						
S41A	**Jillco Farms,**	**22.18**	**14**	P	**P**	**01 35 53.4**	**-2.6**
	baz=196						
T44A	**Benton**	**22.29**	**18**	P	**P**	**01 35 55.6**	**-1.4**
	baz=202						
R38A	**Fenwick Farm,**	**22.36**	**9**	P	**P**	**01 35 55.2**	**-2.5**
	baz=190						
U47A	**Clarksville**	**22.50**	**24**	P	**P**	**01 35 57.1**	**-2.2**
	baz=208						
SDCO	**Great Sand Dun**	**22.53**	**345**	P	**P**	**01 35 59.3**	**-0.6**
	baz=161						
SDCO	**Great Sand Dun**	**22.53**	**345**	*eP*	**P**	**01 36 00.0**	**0.0**
	6.9nm,1.0s						
S42A	**Caledonia**	**22.59**	**15**	P	**P**	**01 35 59.8**	**-0.5**
	baz=198						
S43A	**Fulton Ridge,**	**22.60**	**17**	P	**P**	**01 35 59.3**	**-1.1**
	baz=200						
R39A	**Chumby, Stover**	**22.62**	**11**	P	**P**	**01 35 59.2**	**-1.4**
	baz=193,SNR=6.3						
WUAZ	**Wupatki**	**22.66**	**331**	P	**P**	**01 36 01.8**	**+0.5**
	baz=145,SNR=6.9						
WUAZ	**Wupatki**	**22.66**	**331**	*eP*	**P**	**01 36 02.2**	**+1.0**
	8.6nm,0.8s						
CCM	**Cathedral Cave**	**22.75**	**14**	P	**P**	**01 36 01.8**	**-0.2**
	baz=197						
CCM	**Cathedral Cave**	**22.75**	**14**	*eP*	**P**	**01 36 01.8**	**-0.2**
	13nm,1.0s						
R40A	**Maddies Statio**	**22.75**	**12**	P	**P**	**01 36 01.9**	**0.0**
	baz=194,SNR=15						
T46A	**Princeton**	**22.81**	**22**	P	**P**	**01 36 02.4**	**-0.1**
	baz=206						
U48A	**Cassie Pea, Po**	**22.85**	**25**	P	**P**	**01 36 01.9**	**-1.2**
	baz=210,SNR=5.7						
S22A	**4UR Ranch, Cre**	**22.89**	**342**	P	**P**	**01 36 03.8**	**0.0**
	baz=158						
S22A	**4UR Ranch, Cre**	**22.89**	**342**	*eP*	**P**	**01 36 04.4**	**+0.6**
	7.9nm,1.1s						
Y12C	**Blythe**	**22.94**	**323**	P	**P**	**01 36 04.1**	**+0.1**
	baz=136						
MVCO	**Mesa Verde**	**22.95**	**339**	P	**P**	**01 36 04.0**	**-0.3**
	baz=153,SNR=8.8						
MVCO	**Mesa Verde**	**22.95**	**339**	*eP*	**P**	**01 36 04.0**	**-0.3**
	12nm,0.9s						
R41A	**Rosebud**	**22.95**	**14**	P	**P**	**01 36 03.6**	**-0.4**
	baz=197						
S44A	**Carbondale**	**22.95**	**18**	P	**P**	**01 36 03.8**	**-0.2**
	baz=202						
Q37A	**Longview Farm,**	**22.96**	**8**	P	**P**	**01 36 03.9**	**-0.2**
	baz=189						
SIUC	**Southern Illin**	**22.98**	**19**	*eP*	**P**	**01 36 04.1**	**-0.2**
	37nm,0.9s						
R42A	**Luebbering**	**23.07**	**15**	P	**P**	**01 36 05.2**	**-0.1**
	baz=198						
PDMCI	**Parker Dam,Lak**	**23.12**	**325**	P	**P**	**01 36 06.3**	**+0.4**
	baz=137						
S45A	**Carrier Mills**	**23.15**	**20**	P	**P**	**01 36 06.0**	**0.0**
	baz=204						
Q38A	**Cooks Store, C**	**23.16**	**9**	P	**P**	**01 36 05.6**	**-0.6**
	baz=191						
KSCO	**Kaye Shedlock'**	**23.18**	**351**	P	**P**	**01 36 05.7**	**-0.8**
	baz=169						
R43A	**Red Bud**	**23.30**	**17**	P	**P**	**01 36 06.3**	**-1.2**
	baz=200,SNR=8.8						
BG3	**Lake Jocassee**	**23.30**	**33**	*eP*	**P**	**01 36 13.8**	**+6.1**
	18nm,0.8s						
Q39A	**Willow Grove F**	**23.35**	**10**	P	**P**	**01 36 05.8**	**-2.3**
	baz=192,SNR=6.6						
TKL	**Tuckaleechee C**	**23.39**	**31**	P	**P**	**01 36 06.6**	**-1.9**
	2.2nm,0.3s,baz=241,slow=11,SNR=6.1						
BC3	**Big Chuckawall**	**23.42**	**322**	P	**P**	**01 36 08.9**	**0.0**
	baz=134						
T48A	**Bowling Green**	**23.43**	**24**	P	**P**	**01 36 07.2**	**-1.7**
	baz=209,SNR=7.0						
S46A	**Don Dixon Farm**	**23.45**	**21**	P	**P**	**01 36 06.4**	**-2.7**
	baz=206						
Q40A	**Laux Farm, Aux**	**23.47**	**12**	P	**P**	**01 36 06.9**	**-2.3**
	baz=195						
MONP2	**Monument Peak**	**23.50**	**319**	P	**P**	**01 36 08.1**	**-1.7**
	baz=131						
R44A	**Waltonville**	**23.51**	**18**	P	**P**	**01 36 08.5**	**-1.2**
	baz=202,SNR=5.5						
NHSC	**New Hope**	**23.53**	**41**	P	**P**	**01 36 10.2**	**+0.3**
	baz=228						
IRM	**Iron Mountain**	**23.59**	**323**	P	**P**	**01 36 09.8**	**-0.8**
	baz=135						
Q41A	**Truxton**	**23.61**	**14**	P	**P**	**01 36 09.5**	**-1.1**
	baz=197,SNR=6.2						
P37A	**Lathrop**	**23.68**	**7**	P	**P**	**01 36 09.5**	**-1.7**
	baz=189						
USIN	**University of**	**23.71**	**21**	*eP*	**P**	**01 36 11.0**	**-0.6**
	40nm,0.8s						
Q42A	**Golden Eagle**	**23.73**	**15**	P	**P**	**01 36 10.6**	**-1.2**
	baz=198,SNR=5.8						
PV01	**Paradox Valley**	**23.80**	**339**	*eP*	**P**	**01 36 12.5**	**-0.2**
R45A	**Skylar, Fairfi**	**23.80**	**20**	P	**P**	**01 36 11.8**	**-0.7**
	baz=204						
P39B	**Salisbury**	**23.82**	**11**	P	**P**	**01 36 11.3**	**-1.3**
	baz=193,SNR=5.5						
P38A	**Dawn**	**23.82**	**9**	P	**P**	**01 36 11.4**	**-1.3**
	baz=191,SNR=5.1						
U15A	**North Rim**	**23.83**	**331**	*eP*	**P**	**01 36 14.2**	**+1.1**
Q43A	**New Douglas**	**23.98**	**17**	P	**P**	**01 36 13.0**	**-1.2**
	baz=200						
BELC	**Belle Mtn. Jos**	**23.98**	**321**	P	**P**	**01 36 13.8**	**-0.7**
	baz=133						
P40A	**Paris**	**23.99**	**12**	P	**P**	**01 36 12.6**	**-1.6**
	baz=194,SNR=6.6						
R46A	**Gibon Southern**	**23.99**	**21**	P	**P**	**01 36 13.4**	**-0.9**
	baz=206						
PFO	**Pinyon Flats O**	**24.00**	**320**	LR	LR	01 46 32.8	
	comp=Z,50nm,18.2s,baz=306,slow=39						
S48A	**Wiedeman Farm,**	**24.04**	**24**	P	**P**	**01 36 12.7**	**-2.1**
	baz=210						
PV04	**Paradox Valley**	**24.15**	**339**	*eP*	**P**	**01 36 16.1**	**+0.2**
PV10	**Paradox Valley**	**24.18**	**339**	*eP*	**P**	**01 36 16.2**	**-0.1**
TZTN	**Tazewell**	**24.20**	**30**	*eP*	**P**	**01 36 15.9**	**-0.4**
	9.6nm,1.0s						
SMCO	**Snowmass**	**24.27**	**343**	*eP*	**P**	**01 36 18.1**	**+0.8**
	12nm,1.0s						
O37A	**Wolven Farm, M**	**24.27**	**8**	P	**P**	**01 36 15.4**	**-1.5**
	baz=189						
KMSC	**Kings Mountain**	**24.27**	**35**	P	**P**	**01 36 16.5**	**-0.5**
	baz=222						
GMRC	**Granite Mounta**	**24.33**	**323**	P	**P**	**01 36 17.5**	**-0.2**
	baz=135						
P41A	**Barry, Barry**	**24.34**	**13**	P	**P**	**01 36 15.9**	**-1.5**
	baz=196						
Q45A	**Warren Harvey,**	**24.39**	**19**	P	**P**	**01 36 15.6**	**-2.4**
	baz=204						
R47A	**Wooly Knot Far**	**24.42**	**23**	P	**P**	**01 36 17.2**	**-1.0**
	baz=208,SNR=8.2						
P42A	**Wincheter**	**24.42**	**15**	P	**P**	**01 36 17.2**	**-1.0**
	baz=198,SNR=5.2						
WCI	**Wyandotte Cave**	**24.45**	**23**	P	**P**	**01 36 17.6**	**-0.9**
	baz=208						
WCI	**Wyandotte Cave**	**24.45**	**23**	*eP*	**P**	**01 36 17.6**	**-0.9**
	24nm,0.8s						
ISCO	**Idaho Springs**	**24.51**	**346**	P	**P**	**01 36 19.9**	**+0.5**
	baz=162,SNR=15						
ISCO	**Idaho Springs**	**24.51**	**346**	*eP*	**P**	**01 36 20.2**	**+0.8**
	11nm,0.8s						
KNB	**Kanab**	**24.56**	**331**	*eP*	**P**	**01 36 21.0**	**+1.3**
	9.2nm,1.3s						
O40A	**La Belle**	**24.59**	**12**	P	**P**	**01 36 18.8**	**-1.0**
	baz=194,SNR=7.8						
O39A	**Kirksville**	**24.60**	**10**	P	**P**	**01 36 18.4**	**-1.4**
	baz=193						
R48A	**Northridge Ran**	**24.76**	**24**	P	**P**	**01 36 20.5**	**-0.8**
	baz=209,SNR=6.8						
HEC	**Hector,Ludlow**	**24.76**	**322**	P	**P**	**01 36 21.4**	**0.0**
	baz=134				

PHWY	Pilot Hill	25.91	347	eP		P	01 36 33.9	+1.8
	8.1nm,1.0s							
N43A	Stutzman Famil	25.99	16	P		P	01 36 31.7	-0.7
	baz=200							
M41A	Milan	26.07	13	P		P	01 36 31.8	-1.4
	baz=197							
SFIN	Lafayette	26.08	20	P		P	01 36 31.9	-1.4
	baz=205							
N44A	Piper City	26.14	18	P		P	01 36 33.0	-0.8
	baz=202							
TPNV	Topopah Spring	26.23	326	P		P	01 36 37.1	+2.2
	baz=137							
TPNV	Topopah Spring	26.23	326	eP		P	01 36 38.5	+3.6
	9.2nm,1.4s							
O47A	Sheridan	26.26	21	P		P	01 36 34.1	-0.8
	baz=207							
L38A	Oak Wood Farm,	26.37	9	P		P	01 36 36.0	+0.1
	baz=191							
L39A	Vinton	26.51	10	P		P	01 36 33.7	-3.4
	baz=193							
MPU	Maple Canyon	26.57	337	eP		P	01 36 39.2	+1.3
	4.3nm,1.0s							
L40A	Anamosa	26.59	12	P		P	01 36 35.3	-2.6
	baz=195							
RUSC	La Rusia	26.63	110	eP		P	01 36 44.0	+5.0
	4.3nm,1.2s							
K35A	Storm Lake	26.69	5	P		P	01 36 37.7	-1.1
	baz=186							
NLU	North Lily Min	26.69	336	eP		P	01 36 40.1	+1.1
	5.4nm,1.0s							
L41A	Preston	26.75	13	P		P	01 36 38.7	-0.6
	baz=196,SNR=5.1							
L42A	Oliver, Polo	26.87	14	P		P	01 36 38.7	-1.7
	baz=198							
K37A	Belmond	26.90	7	P		P	01 36 39.5	-1.1
	baz=189							
PKM	Mcpherson Peak	26.94	318	P		P	01 36 41.1	-0.3
	baz=128							
R11A	Troy Canyon, C	26.95	329	P		P	01 36 41.0	-0.3
	baz=140							
R11A	Troy Canyon, C	26.95	329	eP		P	01 36 45.1	+3.8
	2.3nm,1.0s							
K39A	Oelwein	27.09	10	P		P	01 36 41.0	-1.4
	baz=193							
DUG	Dugway, Tooele	27.19	335	P		P	01 36 44.2	+0.8
	baz=148							
K40A	Colesburg	27.23	11	P		P	01 36 41.9	-1.6
	baz=195							
J36A	Seneca 1, Swea	27.37	6	P		P	01 36 44.0	-0.9
	baz=188							
J37A	Redenius Farm,	27.44	7	P		P	01 36 44.8	-0.7
	baz=189							
J38A	Wedel Dairy, R	27.60	9	P		P	01 36 46.4	-0.5
	baz=192							
JFWS	Jewell Farm	27.61	13	P		P	01 36 46.3	-0.8
	baz=196							
SDV	Santo Domingo	27.84	102	P		P	01 36 50.2	+0.6
	2.2nm,0.5s,baz=309,slow=7.3,SNR=5.0							
K43A	Burlington	27.86	16	P		P	01 36 49.1	-0.2
	baz=200							
BGU	Big Grassy Mou	27.90	336	eP		P	01 36 51.3	+1.5
	3.6nm,1.1s							
HWUT	Hardware Ranch	27.93	338	eP		P	01 36 51.2	+1.1
	6.5nm,1.5s							
J41A	Loganville	28.09	13	P		P	01 36 50.6	-0.8
	baz=197							
I38A	Scanlan Farm,	28.33	9	P		P	01 36 52.4	-1.0
	baz=192							
PD31	Pinedale Array	28.33	342	eP		P	01 36 53.9	+0.2
PDAR	Pinedale Array	28.33	342	P		P	01 36 53.7	0.0
	0.9nm,0.8s,baz=121,slow=7.8,SNR=7.7							
PDAR	Pinedale Array	28.33	342	eP		P	01 36 53.3	-0.4
NVAR	Mina Array Bea	28.43	325	P		P	01 36 55.3	+0.7
	1.2nm,0.8s,baz=151,slow=9.0,SNR=10							
HVU	Hansel Valley	28.53	337	eP		P	01 36 56.8	+1.4
	2.9nm,0.9s							
G32A	Webster	29.10	1	P		P	01 36 59.2	-1.2
	baz=181							
H39A	Augusta	29.12	10	P		P	01 37 00.6	+0.2
	baz=194							
H40A	Chili	29.22	11	P		P	01 37 00.9	-0.5
	baz=195							
REDW	Red Top Meadow	29.26	341	eP		P	01 37 02.9	+0.9
	7.1nm,1.3s							
TPAW	Teton Pass	29.41	341	eP		P	01 37 05.4	+2.0
	12nm,1.5s							
LOHW	Long Hollow	29.41	341	eP		P	01 37 08.0	+4.6
	4.7nm,1.0s							
G39A	Holcombe	29.73	10	P		P	01 37 04.9	-0.9
	baz=193							
IMW	Indian Meadow	29.77	341	eP		P	01 37 11.5	+4.9
	1.8nm,0.7s							
RLMT	Red Lodge	30.42	344	P		P	01 37 12.4	+0.1
	baz=158							
RLMT	Red Lodge	30.42	344	eP		P	01 37 13.3	+1.1
	13nm,1.5s							
E39A	Mellen	30.89	10	P		P	01 37 14.2	-1.9
	baz=194							
E40A	Wakefield	31.07	11	P		P	01 37 16.1	-1.6
	baz=195							
F43A	Flat Rock, Esc	31.08	15	P		P	01 37 16.8	-1.0
	baz=201							
F44A	Big Bay de Noc	31.41	16	P		P	01 37 19.1	-1.5
	baz=202							
C33A	Trail	31.66	3	P		P	01 37 23.0	+0.1
	baz=184							
MDND	Maddock	31.71	358	P		P	01 37 22.8	-0.6
	baz=177							
C35A	Jirik Farms, M	31.74	5	P		P	01 37 22.4	-1.1
	baz=187							
D41A	Chassel	31.92	13	P		P	01 37 25.1	-0.1
	baz=197							
LRM	Limekiln Ridge	31.97	341	eP		P	01 37 26.8	+0.9
J08A	Circle Bar Ran	32.22	332	eP		P	01 37 28.2	+0.3
	5.4nm,0.9s							
C39A	Grand Marais	32.36	10	P		P	01 37 28.1	-0.9
	baz=194							
C40A	Isle Royale Na	32.63	11	P		P	01 37 30.3	-1.0
	baz=196							
SADO	Sadowa	32.83	25	P		P	01 37 31.9	-1.2
	8.1nm,1.0s,baz=270,slow=4.8,SNR=3.4							
A33A	Warroad	32.86	3	P		P	01 37 31.9	-1.5
	baz=185							
EGMT	Eagleton	33.26	346	P		P	01 37 36.0	-1.0
	baz=159							
F10A	Beach Ranch, E	33.79	336	eP		P	01 37 43.9	+2.2
	6.9nm,1.0s							
ULM	Lac du Bonnet	34.15	3	P		P	01 37 43.2	-1.3
	4.2nm,1.0s,baz=181,slow=13,SNR=3.9							
PKME	Peaks-Kenny Pk	37.91	34	P		P	01 38 17.1	+0.3
	baz=229							
FFC	Flin Flon	38.69	357	eP		P	01 38 22.9	-0.3
	4.4nm,0.8s							
SCHQ	Schefferville	45.63	25	P		P	01 39 19.3	-0.7
	6.4nm,0.6s,baz=246,slow=10,SNR=2.8							
YKA	Yellowknife Ar	47.79	350	P		P	01 39 35.7	-0.9
	1.2nm,0.8s,baz=157,slow=7.2,SNR=13							
INK	Inuvik	56.84	345	P		P	01 40 43.1	-0.6
	3.2nm,0.8s,baz=126,slow=7.8,SNR=13							
ILAR	Eielson Array	58.62	338	P		P	01 40 56.4	0.0
	1.7nm,0.9s,baz=144,slow=5.4,SNR=17							
ILAR					LR	LR	02 06 04.6	
	comp=Z,54nm,18.2s,baz=106,slow=36							
TRF	Thorofare Moun	59.25	336	eP		P	01 41 01.1	+0.1
	6.8nm,0.8s							
TOLK	Toolik Lake Re	61.58	341	P		P	01 41 16.7	+0.1
	baz=121							
EKA	Eskdalemuir Ar	79.78	35	P		P	01 43 07.0	-0.7
	1.1nm,0.7s,baz=32,slow=29,SNR=3.5							
ESDC	Sonseca Array	83.11	51	P		P	01 43 25.5	-0.2
	0.3nm,0.6s,baz=294,slow=4.6,SNR=5.2							
NB2	NORSAR Subarra	85.14	27	P		P	01 43 35.7	+0.1
	comp=Z,2.5nm,1.0s,baz=296,slow=5.1							
NOA	NORSAR Array B	85.14	27	P		P	01 43 36.7	+1.1
	comp=Z,0.8nm,0.8s,baz=314,slow=9.2,SNR=4.0							
KOWA	Kowa	89.98	75	P		P	01 43 59.2	-0.5
	comp=Z,0.7nm,0.6s,baz=280,slow=12,SNR=3.5							
TORD	Torodi Ar. Bea	95.68	75	P		P	01 44 24.0	-2.1
	comp=Z,0.5nm,0.8s,baz=261,slow=5.2,SNR=2.9							
LZH	Lanzhou	124.09	338	ePKP		PKPdf	01 50 03.3	+4.6
LZH				pPKP		pPKPdf	01 50 06.5	+0.4
LZH				sPKP			01 50 08.1	
LZH				LR		LR		
	comp=N,78nm,18.1s							
LZH				LR		LR		
	comp=E,72nm,18.3s							
LZH				LR		LR		
	comp=Z,120nm,20.2s							
WRA	Warramunga Arr	130.03	257	PKP		PKPdf	01 50 10.1	-0.1
	comp=Z,0.6nm,0.8s,baz=86,slow=1.5,SNR=3.6							

NEIC ***23*** *01:36:59.6±0.0, 15°.96N×98°.20W, h5km, MD4.0(MEX), After MEX.*

MEX 23 01:36:59.6±0.6, 15°.96N×98°.20W, h5km±4km, MD4.0, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
PNIG	Pinotepa	0.43	9	eP		Pg	01 37 07.3	-0.7
PNIG				eS		Sg	01 37 14.2	+0.5
PNIG	Pinotepa	0.43	9	eP		Pg	01 37 07.3	-0.7
PNIG				eS		Sg	01 37 14.2	+0.5
TLIG	Tlapa	1.63	347	eP		Pn	01 37 25.5	-3.5
TLIG				eS		Sn	01 37 45.1	-5.3
TLIG	Tlapa	1.63	347	ePn		Pn	01 37 26.8	-2.3
TLIG				eS		Sn	01 37 48.1	-2.4
VHO	Vista Hermosa	1.78	52	eP		Pn	01 37 28.1	-3.1
VHO				eS		Sn	01 37 51.7	-2.7
VHO	Vista Hermosa	1.78	52	eP		Pn	01 37 28.1	-3.1
VHO				eS		Sn	01 37 51.7	-2.7
CAIG	El Cayaco	2.26	299	eP		Pn	01 37 34.2	-3.4
CAIG				eS		Sn	01 38 01.9	-4.0
CAIG	El Cayaco	2.26	299	eP		Pn	01 37 34.2	-3.4
CAIG				eS		Sn	01 38 01.9	-4.0

TEH ***23*** *01:44:20.9, 32°.62N×46°.81E, h21km, ML3.4*
CSEM ***23*** *01:44:20.0±1.2, 32°.44N×46°.52E, h20km, ML3.4, Error ellipse: s-maj=36.7km s-min=12.3km az=18.0*
ISN ***23*** *01:44:20.0±1.1, 32°.61N×46°.86E, h31km±6km, ML3.4*
IDC ***23*** *01:44:20.2±1.4, 32°.47N×46°.64E, h0km, mb3.7/9, mb1 3.7/10, mb1mx3.4/60, mbtmp3.7/10, ML3.5/1, Error ellipse: s-maj=27.7km s-min=19.0km az=146.0*
ISCJB ***23*** *01:44:21.1±0.6, 32°.50N±0°.05×46°.67E±0°.06, h20km, mb3.6/9, Error ellipse: s-maj=8.0km s-min=6.6km az=20.2*

ISC 23 01:44:23.6±0.9, 32°.61N±0°.06×46°.78E±0°.06, h20km, n31, σ1s63/34, mb3.8/9, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
IKFM	Kafar-mosalman	1.27	44	ePg		Pb	01 44 45.3	-1.6
IKFM				eSg		Sn	01 45 05.2	+2.4
IKFM				eAMB		AMB	01 45 11.8	
	comp=Z,99nm,0.4s							
IKOM	Komasi	1.67	21	ePn		Pb	01 44 52.5	-1.3
IKOM				eAMB		AMB	01 45 17.9	
	comp=Z,8μm,0.2s							
IGHG	Ghaleghazi	1.72	354	ePn		Pb	01 44 53.2	-1.5
IGHG				eAMB		AMB	01 45 21.2	
	comp=Z,11μm,0.4s							
SHGR	Shooshtar-Gavs	1.78	106	ePg		Pb	01 44 54.4	-1.1
IVIS	Veis	1.91	2	ePn		Pb	01 44 55.2	-2.6
IVIS				eAMB		AMB	01 45 26.5	
	comp=Z,3μm,0.3s							
IDHR	Dehrash	2.11	351	ePn		Pn	01 44 58.1	+0.1
IDHR				eAMB		AMB	01 45 30.3	
	comp=Z,3μm,0.2s							
ILIN	Lien	2.31	4	ePn		Pn	01 45 00.8	+0.1
ILIN				eAMB		AMB	01 45 08.5	
	comp=Z,1μm,0.1s							
SNGE	Sanandaj	2.52	11	ePn		Pn	01 45 04.1	+0.5
KHMZ	Khomeyn	2.89	66	ePn		Pn	01 45 08.6	-0.1
KHMZ				eSg		Sb	01 45 47.2	-2.4
HAGD	Aghdareh	2.95	41	eAMB		AMB	01 45 48.5	
	comp=Z,99nm,0.1s							
HAGD				ePn		Pn	01 45 09.5	-0.1
HKZM	Kohzaman	3.27	32	ePn		Pn	01 45 14.2	+0.2
HKZM				eAMB		AMB	01 46 02.6	
	comp=Z,99nm,0.3s							
ASAO	Ashtian	3.32	54	ePn		Pn	01 45 14.6	-0.1
QAM	Ghamsar	4.07	72	ePn		Pn	01 45 26.1	+1.2
QAM				eAMB		AMB	01 46 24.9	
	comp=Z,640nm,0.2s							
IKLH	Kolahrood	4.09	79	ePn		Pn	01 45 25.5	+0.2
IKLH				eAMB		AMB	01 45 26.9	
	comp=Z,403nm,0.1s							
GHVR	GHOM	4.20	62	ePn		Pn	01 45 26.1	-0.5
IZEF	Zefreh	4.68	85	ePn		Pn	01 45 33.2	-0.2
IZEF				eAMB		AMB	01 45 35.3	
	comp=Z,168nm,0.1s							
IGZV	Ghazvin	4.71	36	ePn		Pn	01 45 33.1	-0.7
IGZV				eAMB		AMB	01 46 01.9	
	comp=Z,176nm,0.2s							
IRAM	Ramesheh	4.81	98	ePn		Pn	01 45 34.9	-0.3
IRAM				eAMB		AMB	01 46 33.8	
	comp=Z,156nm,0.3s							
IKAZ	Kazeroun	5.17	122	ePn		Pn	01 45 40.3	+0.1
IKAZ				eAMB		AMB	01 46 42.0	
	comp=Z,502nm,0.2s							
IDMV	Damavand	5.26	54	ePn		Pn	01 45 40.3	-1.1
IDMV				eAMB		AMB	01 46 02.7	
	comp=Z,203nm,0.2s							
IPAR	Pars	6.03	116	ePn		Pn	01 45 52.5	+0.5
IPAR				eAMB		AMB	01 47 19.4	
	comp=Z,139nm,0.5s							
AKTO	Aktyubinsk	19.65	22	P		Pn	01 48 52.2	-0.2
	comp=Z,0.2nm,0.3s,baz=202,slow=12,SNR=3.8							
BVAR	Borovoye Array	26.54	33	P		P	01 49 59.3	-0.6
	comp=Z,0.4nm,0.6s,baz=231,slow=10,SNR=6.7							
KURBB	Kurchatov Arra	29.47	43	P		P	01 50 28.1	+2.1
	comp=Z,0.4nm,0.7s,baz=248,slow=8.7,SNR=3.9							
MKAR	Makanchi Array	30.48	52	P		P	01 50 37.0	+1.9
	comp=Z,0.3nm,0.5s,baz=249,slow=8.5,SNR=4.6							
FINES	FINESS Array B	31.82	341	P		P	01 50 45.2	-1.4
	comp=Z,0.9nm,0.7s,baz=144,slow=8.3,SNR=3.7							
FINES				S		S	01 56 01.0	+5.3
	comp=Z,0.5nm,0.5s,baz=152,slow=13,SNR=5.2							
ZALV	Zalesovo Beam	34.35	40	P		P	01 51 11.0	+2.1
	comp=Z,0.8nm,0.5s,baz=243,slow=9.7,SNR=4.3							
HFS	Hagfors	35.09	332	P		P	01 51 14.0	-1.1
	comp=Z,0.7nm,0.5s,baz=125,slow=7.4,SNR=7.4							
ARCES	ARCESS Array B	38.86	348	P		P	01 51 49.0	+1.9
	comp=Z,2.6nm,1.1s,baz=157,slow=9.4,SNR=3.1							
TORD	Torodi Ar. Bea	45.44	256	P		P	01 52 39.9	-1.5
	comp=Z,0.4nm,0.5s,baz=68,slow=6.9,SNR=11							
KOWA	Kowa	49.45	261	P		P	01 53 11.6	-1.1
	comp=Z,0.6nm,0.5s,baz=58,slow=15,SNR=4.4							

IDC ***23*** *01:49:23.1±1.0, 13°.94N×125°.19E, h0km, mb3.7/7, mb1 3.9/7, mb1mx3.5/65, mbtmp3.7/7, MS3.0/2, Ms1 3.0/2, ms1mx2.6/59, Error ellipse: s-maj=42.8km s-min=17.8km az=68.0*
ISCJB ***23*** *01:49:24.8±0.9, 13°.98N±0°.10×125°.3E±0°.2, h27km, mb3.7/7, MS2.7/1, Error ellipse: s-maj=22.5km s-min=14.1km az=178.2*

ISC 23 01:49:26.8±1.1, 14°.0N±0°.1×125°.2E±0°.2, h27km, n13, σ0s95/8, mb3.7/7, 1C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
RCP	Roxas	3.41	226	ePn		Pn	01 50 18.3	+0.1
DAV	Davao City (W)	6.85	177	LR		LR	01 54 37.1	
	comp=Z,131nm,19.0s,baz=9.0,slow=46							
KSRS	Korea Array	23.52	5	LR		LR	02 02 41.9	
	comp=Z,29nm,21.9s,baz=210,slow=34							
CMAR	Chiang Mai Arr	25.63	284	P		P	01 54 53.5	-0.9
	1.0nm,0.3s,baz=97,slow=7.7,SNR=4.7							
USRK	Ussuriysk Ar.	30.69	10	P		P	01 55 38.9	-0.4
	1.6nm,0.6s,baz=224,slow=7.4,SNR=3.8							
WRA	Warramunga Arr	34.86	165	P		P	01 56 15.0	-1.0
	0.6nm,0.6s,baz=343,slow=9.2,SNR=11							
ASAR	Alice Springs	38.34	167	P		P	01 56 46.8	+1.1
	1.7nm,0.6s,baz=348,slow=7.2,SNR=21							
H11S3	WAKE ISLAND Hy	39.99	78	T		T	02 40 38.2	
	baz=278							
H11S1	WAKE ISLAND Hy	40.00	78	T		T	02 40 39.4	
	baz=278							
H11S2	WAKE ISLAND Hy	40.01	78	T		T	02 40 39.2	
	baz=278							
MKAR	Makanchi Array	48.52	321	P		P	01 58 08.2	+0.7
	0.6nm,0.9s,baz=107,slow=8.0,SNR=3.6							
KURBB	Kurchatov Arra	52.49	324	P		P	01 58 37.7	+0.3
	0.2nm,0.5s,baz=122,slow=7.4,SNR=3.4							
BVAR	Borovoye Array	58.09	324	P		P	01 59 18.5	+0.8
	0.3nm,0.5s,baz=116,slow=3.4,SNR=3.3							

ISN ***23*** *01:49:36.3±1.2, 32°.58N×46°.84E, h24km±8km, ML3.2*

TEH 23 01:49:36.2, 32°.59N×46°.81E, h12km, ML3.2, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
IKFM	Kafar-mosalman	1.27	43	ePg		Pg	01 50 01.7	+1.0
IKFM				eSg		Sg	01 50 20.4	+3.1
IKFM				eAMB		AMB	01 50 22.8	
	comp=Z,99nm,0.3s							
IKOM	Komasi	1.68	20	eAMB		AMB	01 50 12.2	
	comp=Z,6μm,0.2s							
IKOM				ePn		Pg	01 50 08.6	0.0
IGHG	Ghaleghazi	1.75	353	eAMB		AMB	01 50 41.0	
	comp=Z,5μm,0.4s							
IGHG				ePn		Pb	01 50 09.0	+0.7
IVIS	Veis	1.93	1	ePn		Pb	01 50 11.2	-0.2
IVIS				eAMB		AMB	01 50 40.2	
	comp=Z,2μm,0.1s							
IDHR	Dehrash	2.13	351	ePn		Pb	01 50 15.5	+0.6
IDHR				eAMB		AMB	01 50 47.8	
	comp=Z,2μm,0.1s							
ILIN	Lien	2.33	3	ePn		Pb	01 50 17.4	-0.8
ILIN				eAMB		AMB	01 50 57.6	
	comp=Z,825nm,0.1s							
HAGD	Aghdareh	2.95	40	ePn		Pn	01 50 25.6	+2.5
HAGD				eAMB		AMB	01 51 04.3	
	comp=Z,99nm,0.1s							
HKZM	Kohzaman	3.28	31	ePn		Pn	01 50 31.0	+3.4
HKZM				eAMB		AMB	01 51 12.1	
	comp=Z,99nm,0.2s							
IKLH	Kolahrood	4.07	78	ePn		Pn	01 50 41.7	+3.2
IKLH				eAMB		AMB	01 50 45.8	
	comp=Z,206nm,0.2s							

ISCJB ***23*** *01:54:34.1±1.0, 1°.2N±0°.2×91°.3E±0°.1, h10km, mb3.9/7, Error ellipse: s-maj=27.1km s-min=13.0km az=28.5*
IDC ***23*** *01:54:35.6±1.3, 1°.26N×91°.37E, h0km, mb3.8/7, mb1 3.9/9, mb1mx3.5/69, mbtmp3.8/9, ML3.8/2, Error ellipse: s-maj=44.6km s-min=20.6km az=45.0*

ISC 23 01:54:36.7±1.1, 1°.2N±0°.2×91°.3E±0°.1, h10km, n16, σ0s89/10, mb3.7/7, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
PSI	Prapat	7.79	78	Pn		Pn	01 56 30.6	+0.2
	1.1nm,0.3s,baz=310,slow=14,SNR=3.8							
PALK	Pallekele	12.15	300	Pn		Pn	01 57 29.4	-0.7
	0.6nm,0.3s,baz=114,slow=12,SNR=3.0							
PALK				Sn		Sn	01 59 35.0	-11
	0.6nm,0.3s,baz=117,slow=2.3,SNR=3.3							
H08S2	Diego Garcia H	20.70	245	T		T	02 21 01.6	
	baz=65,slow=75,SNR=14							
H08S3	Diego Garcia H	20.71	245	T		T	02 21 01.0	
	baz=65,slow=75,SNR=29							
H08S1	Diego Garcia H	20.72	245	T		T	02 21 07.3	
	baz=65,slow=75,SNR=14							
H01W3	Cape Leeuwin H	41.79	151	T		T	02 46 44.9	
	baz=326,slow=76,SNR=4.1							
H01W2	Cape Leeuwin H	41.80	151	T		T	02 46 46.7	
	baz=326,slow=76,SNR=3.6							
H01W1	Cape Leeuwin H	41.81	151	T		T	02 46 48.4	
	baz=326,slow=76,SNR=4.7							
MKAR	Makanchi Array	46.09	351	P		P	02 03 00.5	-0.4
	0.5nm,0.6s,baz=171,slow=7.8,SNR=5.6							
WRA	Warramunga Arr	47.14	119	P		P	02 03 09.1	-0.4
	0.4nm,0.5s,baz=296,slow=8.6,SNR=7.5							
SONM	Songino Array	48.26	14	P		P	02 03 17.8	-0.3
	1.8nm,0.6s,baz=187,slow=10,SNR=3.9							
KURBB	Kurchatov Arra	50.42	349	P		P	02 03 34.2	-0.1
	0.5nm,0.8s,baz=170,slow=6.4,SNR=4.9							
ZALV	Zalesovo Beam	52.84	355	P		P	02 03 51.7	-0.7
	0.5nm,0.3s,baz=238,slow=8.3,SNR=2.2							
STKA	Stephens Creek	57.84	129	P		P	02 04 28.6	-0.2
	5.0nm,1.0s,baz=269,slow=7.4,SNR=3.1							
GERES	GERESS Array B	80.93	319	P		P	02 06 53.5	+2.0
	0.5nm,0.9s,baz=118,slow=8.3,SNR=2.8							
TXAR	Lajitas Array	146.44	24	PKPbc		PKPbc	02 14 18.9	0.0
	0.2nm,0.6s,baz=1.5,slow=1.6,SNR=4.6							

IDC ***23*** *01:55:34.2±1.9, 1°.35S×126°.94E, h0km, mb3.4/3, mb1 3.4/4, mb1mx3.2/57, mbtmp3.3/4, ML2.8/1, Error ellipse: s-maj=200.5km s-min=22.8km az=66.0*
ISCJB ***23*** *01:55:37.8±0.7, 1°.55S±0°.05×126°.46E±0°.06, h29km, mb3.6/3, Error ellipse: s-maj=8.9km s-min=6.6km az=36.4*
DJA ***23*** *01:55:38.4±0.6, 2°.3S±3°×12°.6E±°, h21km±7km, M3.4/7, MLv3.4/7*

ISC 23 01:55:38.7±0.9, 1°.56S±0°.06×126°.51E±0°.06, h29km, n9, σ0s75/12, mb3.9/3, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
SANI	Sanana	0.71	227	P		Pb	01 55 51.6	-1.0
SANI				S		Sb	01 56 02.3	+0.2
LBMI	Labuha	1.35	47	P		Pb	01 56 02.9	-0.4
LBMI				S		Sb	01 56 20.6	+0.4
NLAI	Namlea	1.77	161	P		Pn	01 56 07.9	+0.6
NLAI				S		Sn	01 56 30.0	+1.1
MSAI	Masohi	3.00	126	P		Pn	01 56 22.9	-1.4
APSI	Ampana	4.90	278	P		Pn	01 56 50.4	-0.1
WRA	Warramunga Arr	19.81	158	P		P	02 00 07.2	+0.1
	0.0nm,0.3s,baz=341,slow=12,SNR=3.6							
ASAR	Alice Springs	23.11	163	P		P	02 00 42.6	+0.1
	0.2nm,0.3s,baz=347,slow=12,SNR=2.7							
MKAR	Makanchi Array	61.80	327	P		P	02 05 55.4	+0.5
	0.5nm,0.5s,baz=123,slow=8.0,SNR=7.0							
KURBB	Kurchatov Arra	66.09	329	P		P	02 06 23.2	+0.2
	0.5nm,0.4s,baz=135,slow=6.6,SNR=4.6							

IDC ***23*** *01:58:32.9±1.0, 27°.09N×53°.84E, h0km, mb3.5/10, mb1 3.7/12, mb1mx3.5/62, mbtmp3.6/12, ML2.4/2, Error ellipse: s-maj=23.7km s-min=20.6km az=168.0*
ISCJB ***23*** *01:58:33.5±0.6, 26°.83N±0°.05×53°.82E±0°.06, h19km, mb3.5/10, Error ellipse: s-maj=9.6km s-min=5.7km az=138.5*
TEH ***23*** *01:58:33.3, 27°.01N×54°.01E, h10km, ML3.2*

ISC 23 01:58:35.5±0.8, 26°.95N±0°.07×53°.89E±0°.06, h19km, n27, σ1s32/30, mb3.6/10, Southern Iran

| Code | Station

comp=Z,2.3nm,0.3s,baz=41,slow=21,SNR=12
IZEF Zefreh 6.08 348 *e*AMB AMB 02 00 06.5
comp=Z,57nm,0.1s
IZEF *e*Pn **Pn 02 00 03.9 -0.7**
IKLH Kolahrood 6.65 343 *e*Pn **Pn 02 00 13.4 +0.9**
IKLH *e*AMB AMB 02 00 17.4
comp=Z,49nm,0.2s
GNI Garni 15.20 332 Pn **Pn 02 02 11.7 +2.5**
comp=Z,0.1nm,0.3s,baz=72,slow=20,SNR=1.7
BRTR Keskin Array B 21.12 312 P **P 02 03 17.2 -2.1**
comp=Z,0.3nm,0.8s,baz=126,slow=13,SNR=3.0
AKTO Aktyubinsk 23.66 7 P **P 02 03 45.1 -0.6**
comp=Z,0.7nm,0.5s,baz=190,slow=11,SNR=6.0
BVAR Borovoye Array 28.81 21 P **P 02 04 32.0 -0.2**
comp=Z,0.6nm,0.4s,baz=201,slow=7.1,SNR=4.8
MKAR Makanchi Array 29.89 41 P **P 02 04 41.7 -0.2**
comp=Z,0.2nm,0.4s,baz=234,slow=12,SNR=3.4
ZALV Zalesovo Beam 35.29 32 P **P 02 05 28.8 -0.2**
comp=Z,0.8nm,0.4s,baz=247,slow=11,SNR=4.4
FINES FINESS Array B 39.22 339 P **P 02 06 00.5 -1.7**
comp=Z,1.9nm,1.0s,baz=132,slow=8.0,SNR=4.1
TORD Torodi Ar. Bea 50.59 265 P **P 02 07 33.6 +0.2**
comp=Z,0.2nm,0.6s,baz=64,slow=7.6,SNR=5.8
KOWA Kowa 55.15 269 P **P 02 08 07.9 +0.9**
comp=Z,0.6nm,0.6s,baz=58,slow=19,SNR=2.6
YKA Yellowknife Ar 90.39 355 P **P 02 11 34.7 -0.6**
comp=Z,0.1nm,0.6s,baz=7.6,slow=5.1,SNR=3.8
WRA Warramunga Arr 90.78 112 P **P 02 11 37.9 0.0**
comp=Z,0.6nm,1.1s,baz=307,slow=4.3,SNR=3.2

SKO ***23*** *01:59:49.4, 41.01N×19.13E, h133km*
TIR ***23*** *02:00:00.7, 40.92N×19.78E, h1km, Md2.8/6*
CSEM ***23*** *02:00:01.5±0.2, 40.95N×19.65E, h15km, ML2.2, Error ellipse: s-maj=6.6km s-min=3.6km az=77.0*
ATH ***23*** *02:00:01.0, 40.93N×19.75E, h16km±1km, ML2.3/5, Error ellipse: s-maj=2.1km s-min=1.3km az=269.0*
BEO ***23*** *02:00:03.5±2.3, 41.01N×19.56E, h10km±7km*
THE 23 02:00:01.2, 40.95N×19.72E, h8km±1km, ML2.2/5, 3C, Error ellipse: s-maj=1.9km s-min=0.7km az=334.0, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.42**	**15**	*e*Pg	Pb	02 00 10.6	-0.2
TIR				*e*Sg	Sb	02 00 18.4	+1.1
TIR	**Tirane**	**0.42**	**15**	P	Pb	02 00 10.7	-0.1
TIR				S	Sb	02 00 16.7	-0.5
TIR				AML	AML	02 00 26.9	
	comp=N,1422μm,0.6s						
TIR				AML	AML	02 00 27.3	
	comp=E,738μm,0.6s						
TIR	**Tirane**	**0.42**	**15**	P	Pb	02 00 10.2	-0.6
TIR	**Tirane**	**0.42**	**15**	*e*Pg	Pb	02 00 10.6	-0.2
TIR				S	Sb	02 00 16.3	-1.0
TIR				*e*Sg	Sg	02 00 18.4	+3.6
OHR	**Ohrid**	**0.83**	**78**	*i* Pg	Pg	02 00 16.5	-0.7
OHR				*i* Sg	Sb	02 00 30.1	+0.9
KBN	**Korca**	**0.87**	**111**	*i* Pg	Pg	02 00 17.4	-0.5
KBN				*i* Sg	Sb	02 00 30.5	+0.1
KBN	**Korca**	**0.87**	**111**	*i* PG	Pg	02 00 17.4	-0.5
KBN				*i* SG	Sb	02 00 30.5	+0.1
PHP	**Peshkopia**	**0.92**	**36**	*i* Pg	Pg	02 00 17.5	-1.3
PHP				*i* Sg	Sn	02 00 33.8	0.0
PHP	**Peshkopia**	**0.92**	**36**	*i* PG	Pg	02 00 17.5	-1.3
PHP				*i* SG	Sn	02 00 33.8	0.0
SRN	**Sarande**	**1.08**	**169**	*i* Pg	Pb	02 00 22.2	0.0
SRN				*i* Sg	Sn	02 00 39.3	+1.5
	baz=171						
SRN	**Sarande**	**1.08**	**169**	*i* PG	Pb	02 00 22.2	0.0
SRN				*i* SG	Sn	02 00 39.3	+1.5
PUK	**Puka**	**1.10**	**7**	*i* Pg	Pn	02 00 23.5	+0.5
PUK				*i* Sg	Sn	02 00 41.7	+3.2
PUK	**Puka**	**1.10**	**7**	*i* PG	Pn	02 00 23.5	+0.5
PUK				*i* SG	Sn	02 00 41.7	+3.2
NEST	**Nestorio**	**1.14**	**117**	P	Pg	02 00 22.4	-0.6
NEST	**Nestorio**	**1.14**	**117**	P	Pg	02 00 22.6	-0.5
NEST				S	Sn	02 00 39.2	-0.1
NEST	**Nestorio**	**1.14**	**117**	P	Pg	02 00 22.6	-0.5
NEST				S	Sn	02 00 39.2	-0.1
BIA	**Bitola**	**1.22**	**86**	P	Pb	02 00 23.1	-1.3
BIA	**Bitola**	**1.22**	**86**	P	Pb	02 00 23.1	-1.3
BIA	**Bitola**	**1.22**	**86**	*i* Pg	Pb	02 00 23.5	-1.0
BIA				*i* Sg	Sn	02 00 43.0	+1.8
KRUS	**Krusevo**	**1.23**	**69**	*i* Pg	Pb	02 00 22.9	-1.8
KRUS				*i* Sg	Sn	02 00 42.0	+0.4
KEK	**Kerkira**	**1.23**	**177**	P	Pn	02 00 23.9	-0.8
KEK				S	Sg	02 00 41.0	+0.2
KEK	**Kerkira**	**1.23**	**177**	P	Pn	02 00 23.6	-1.1
KEK				S	Sn	02 00 41.3	-0.2
KEK	**Kerkira**	**1.23**	**177**	P	Pn	02 00 23.9	-0.8
KEK				S	Sg	02 00 40.8	0.0
FNA	**Florina**	**1.27**	**97**	P	Pn	02 00 23.2	-2.0
FNA				S	Sb	02 00 41.5	-0.3
FNA				AML	AML	02 00 45.9	
	comp=N,356μm,0.6s						
FNA				AML	AML	02 00 46.6	
	comp=E,448μm,0.3s						
FNA	**Florina**	**1.27**	**97**	P	Pn	02 00 24.2	-1.0
FNA				S	Sn	02 00 42.2	-0.2
FNA	**Florina**	**1.27**	**97**	P	Pn	02 00 24.2	-1.0
FNA				S	Sn	02 00 42.2	-0.2
SCTE	**Santa Cesarea**	**1.29**	**228**	P	Pn	02 00 24.3	-1.2
SCTE	**Santa Cesarea**	**1.29**	**228**	P	Pn	02 00 24.9	-0.6
PENT	**Pentalofos**	**1.31**	**124**	P	Pn	02 00 25.1	-0.7
PENT				S	Sb	02 00 42.8	-0.4
PENT				AML	AML	02 00 50.2	
	comp=E,141μm,0.6s						
PENT				AML	AML	02 00 51.7	
	comp=N,182μm,0.6s						
PENT	**Pentalofos**	**1.31**	**124**	P	Pn	02 00 25.1	-0.8
PENT				S	Sn	02 00 43.6	0.0
PENT	**Pentalofos**	**1.31**	**124**	P	Pn	02 00 25.2	-0.7
PENT				S	Sn	02 00 43.6	0.0
BCI	**Bajram Curri**	**1.44**	**10**	*i* Pg	Pg	02 00 29.3	+0.4
BCI				*i* Sg	Sg	02 00 51.1	+3.5
BCI	**Bajram Curri**	**1.44**	**10**	*i* PG	Pg	02 00 29.3	+0.4
BCI				*i* SG	Sg	02 00 51.1	+3.5
IGT	**Igoumenitsa**	**1.49**	**161**	P	Pb	02 00 28.7	-0.4
IGT				S	Sg	02 00 49.7	+0.7
IGT				AML	AML	02 00 53.8	
	comp=N,126μm,0.3s						
IGT				AML	AML	02 00 55.6	
	comp=E,68μm,0.7s						
IGT	**Igoumenitsa**	**1.49**	**161**	P	Pn	02 00 27.6	-0.6
IGT				S	Sn	02 00 47.9	+0.1
IGT	**Igoumenitsa**	**1.49**	**161**	P	Pn	02 00 27.6	-0.6
IGT				S	Sn	02 00 47.9	+0.1
PDG	**Podgorica**	**1.52**	**347**	*e*Pg	Pb	02 00 29.5	-0.2
PDG				*e*Sg	Sn	02 00 48.9	+0.2
PDG	**Podgorica**	**1.52**	**347**	P	Pn	02 00 28.0	-0.7
PDG	**Podgorica**	**1.52**	**347**	P	Pn	02 00 28.0	-0.7
PDG	**Podgorica**	**1.52**	**347**	*e*Pg	Pb	02 00 29.5	-0.2
PDG				*e*Sg	Sn	02 00 48.9	+0.2
JAN	**Janina**	**1.55**	**146**	P	Pg	02 00 30.9	0.0
JAN				S	Sg	02 00 52.6	+1.6
JAN				AML	AML	02 00 54.3	
	comp=N,124μm,0.4s						
JAN				AML	AML	02 00 56.2	
	comp=E,196μm,0.4s						
JAN	**Janina**	**1.55**	**146**	P	Pn	02 00 28.2	-0.9
JAN	**Janina**	**1.55**	**146**	P	Pn	02 00 28.2	-0.9
JAN				S	Sg	02 00 51.6	+0.6
KPRO	**Kipourio**	**1.60**	**128**	P	Pg	02 00 31.4	-0.4
KPRO	**Kipourio**	**1.60**	**128**	P	Pb	02 00 30.9	0.0
KZN	**Kozani**	**1.69**	**112**	P	Pb	02 00 32.5	0.0
KZN	**Kozani**	**1.69**	**112**	P	Pb	02 00 32.1	-0.4
NOCI	**Noci**	**2.02**	**266**	P	Pb	02 00 38.0	-0.1
NOCI	**Noci**	**2.02**	**266**	P	Pb	02 00 37.5	-0.7
GRG	**Griva**	**2.03**	**89**	P	Pn	02 00 35.4	-0.3
GRG				S	Sn	02 01 02.4	+1.2
GRG	**Griva**	**2.03**	**89**	P	Pn	02 00 35.4	-0.3
GRG	**Griva**	**2.03**	**89**	P	Pn	02 00 36.0	+0.3
GRG				S	Sb	02 01 02.5	-1.2
THL	**Klokotos Trika**	**2.23**	**127**	P	Pn	02 00 39.7	+1.3
THL	**Klokotos Trika**	**2.23**	**127**	P	Pn	02 00 39.5	+1.1
LKD2	**Lefkada island**	**2.27**	**161**	P	Pn	02 00 36.5	-2.5
LKD2	**Lefkada island**	**2.27**	**161**	P	Pn	02 00 38.2	-0.8
SJES	**Sjenica**	**2.32**	**5**	*e*Pn	Pn	02 00 41.4	+1.6
SJES	**Sjenica**	**2.32**	**5**	*e*Pn	Pn	02 00 41.4	+1.6
KNT	**Kendrikon**	**2.41**	**84**	P	Pn	02 00 40.5	-0.4
KNT	**Kendrikon**	**2.41**	**84**	P	Pn	02 00 41.2	+0.3
STON	**Ston**	**2.45**	**323**	*e*Pn	Pn	02 00 38.9	-2.5
STON				Sn	Sn	02 01 08.6	-2.8
STON	**Ston**	**2.45**	**323**	*e*Pn	Pn	02 00 38.8	-2.6
STON				Sn	Sn	02 01 08.6	-2.8
SELS	**Selova**	**2.50**	**24**	*e*Pn	Pb	02 00 45.2	-1.1
EVR	**Evrytania**	**2.58**	**141**	P	Pn	02 00 45.0	+1.6
EVR	**Evrytania**	**2.58**	**141**	P	Pn	02 00 44.6	+1.2
IVAS	**Ivanjica**	**2.65**	**7**	*e*Pn	Pn	02 00 45.2	+1.0
IVAS	**Ivanjica**	**2.65**	**7**	*e*Pn	Pn	02 00 45.2	+1.0
AGG	**Agios Georgios**	**2.78**	**133**	P	Pn	02 00 46.3	+0.4
AGG	**Agios Georgios**	**2.78**	**133**	P	Pn	02 00 46.7	+0.8
NVR	**Nevrokopi**	**3.15**	**81**	P	Pn	02 00 51.8	+0.7
NVR	**Nevrokopi**	**3.15**	**81**	P	Pn	02 00 52.1	+1.0
ZAPS	**Zavoj**	**3.18**	**42**	*e*Pn	Pn	02 00 53.4	+1.9
ZAPS	**Zavoj**	**3.18**	**42**	*e*Pn	Pn	02 00 53.4	+1.9
KLV	**Kalavryta, Ach**	**3.45**	**146**	P	Pn	02 00 55.7	+0.4
KLV	**Kalavryta, Ach**	**3.45**	**146**	P	Pn	02 00 56.1	+0.8
NVLJ	**Novalja**	**5.08**	**317**	Sn	Sn	02 02 13.6	-2.8
NVLJ	**Novalja**	**5.08**	**317**	Sn	Sn	02 02 13.6	-2.8

ISC 23 02:01:08.9±1.6, 51.52N±0.07×16.06E±0.05, h0km, n15, σ0.73/35, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.69**	**168**	*e*Pg	**Pg**	**02 01 22.4**	**+0.2**
KSP				*e*Sg	**Sg**	**02 01 31.9**	**+0.7**
UPC	**Upice**	**1.01**	**182**	*e*PG	**Pg**	**02 01 28.4**	**+0.1**
UPC				*e*SG	**Sb**	**02 01 42.4**	**-0.8**
	comp=Z,18nm,0.2s						
DPC	**Dobruska-Polom**	**1.18**	**172**	*e*PG	**Pg**	**02 01 31.2**	**-0.4**
DPC				*e*SG	**Sg**	**02 01 46.5**	**-0.4**
	comp=Z,6.8nm,0.4s						
PVCC	**Panska Ves**	**1.37**	**224**	*e*PG	**Pb**	**02 01 35.6**	**+0.2**
PVCC				*e*SG	**Sn**	**02 01 54.4**	**+0.3**
	comp=Z,38nm,0.2s						
BRG	**Berggiesshubel**	**1.48**	**245**	PG	**Pg**	**02 01 37.2**	**-0.1**
BRG				SG	**Sn**	**02 01 57.5**	**+0.7**
	14nm,0.4s						
KRLC	**Kraliky**	**1.52**	**162**	*e*PG	**Pn**	**02 01 36.7**	**-0.7**
KRLC				*e*SG	**Sg**	**02 01 56.5**	**-1.1**
	comp=Z,2.7nm,0.2s						
GOPC	**GO Pecny, Ondr**	**1.80**	**207**	*e*PN	**Pn**	**02 01 41.4**	**+0.2**
GOPC				*e*PG	**Pb**	**02 01 42.6**	**-0.2**
GOPC				*e*SG	**Sg**	**02 02 06.6**	**-0.1**
PRU	**Pruhonice**	**1.81**	**213**	*e*PG	**Pb**	**02 01 42.8**	**-0.1**
PRU				*e*SG	**Sg**	**02 02 07.0**	**-0.1**
	comp=Z,5.8nm,0.3s						
CLL	**Collm**	**1.93**	**265**	*e*Pn	**Pn**	**02 01 42.0**	**-0.9**
CLL				*e*Pg	**Pb**	**02 01 45.0**	**+0.1**
CLL				*e*Sg	**Sg**	**02 02 11.0**	**+0.2**
	comp=Z,7.0nm,0.4s						
OKC	**Ostrava-Krasne**	**2.14**	**141**	*e*PG	**Pg**	**02 01 49.8**	**-0.2**
OKC				*e*SG	**Sb**	**02 02 15.9**	**+0.2**
	comp=Z,5.9nm,0.4s						
TREC	**Trest**	**2.26**	**190**	*e*PN	**Pn**	**02 01 48.0**	**+0.5**
TREC				*e*PG	**Pb**	**02 01 51.0**	**+0.4**
TREC				*e*SG	**Sg**	**02 02 20.5**	**-0.9**
	comp=Z,4.7nm,0.2s						
NKC	**Novy Kostel**	**2.63**	**242**	*e*PN	**Pn**	**02 01 52.8**	**+0.2**
NKC				*e*PG	**Pg**	**02 01 58.7**	**-0.5**
NKC				*e*SG	**Sg**	**02 02 34.5**	**+1.3**
	comp=Z,12nm,0.4s						
KHC	**Kasperske Hory**	**2.87**	**215**	*e*PN	**Pn**	**02 01 56.3**	**+0.3**
KHC				*e*PG	**Pb**	**02 02 02.1**	**+1.1**
KHC				*e*SN	**Sn**	**02 02 30.6**	**-0.6**
KHC				*e*SG	**Sg**	**02 02 39.8**	**-1.3**
	comp=Z,2.8nm,0.5s						
MOA	**Molln**	**3.85**	**198**	*e*Pn	**Pn**	**02 02 09.6**	**+0.1**
	comp=Z,0.7nm,0.2s						
MOA				*i* Sn	**Sb**	**02 03 04.0**	**-1.0**
	comp=Z,0.4nm,0.2s						
ARSA	**Arzberg**	**4.29**	**185**	*e*Sn	**Sn**	**02 03 08.3**	**+2.2**
	comp=Z,0.2nm,0.1s						

IDC ***23*** *02:14:17.3±0.4, 23.98S×175.96W, h0km, mb4.8/23, mb1 4.9/24, mb1mx4.7/44, mbtmp4.8/24, ML4.4/1, MS4.6/40, Ms1 4.6/40, ms1mx4.5/53, Error ellipse: s-maj=16.8km s-min=13.6km az=138.0*
NEIC ***23*** *02:14:18.8±0.1, 24.01S×175.99W, h10km, mb5.1/132, Error ellipse: s-maj=6.3km s-min=3.5km az=139.0*
GCMT ***23*** *02:14:18.8±0.1, 24.05S×175.42W, h21km, MW5.2/113, Moment Tensor Solution. s89,c140; s113,c182; Duration: 1s0 Moment tensor: Scale 10^17Nm; Mrr0.69±.02; Mθθ-0.01±.01; Mϕϕ-0.68±.01; Mrθ0.15±.03; Mθϕ-0.19±.01; Mϕr0.30±.02; Best double couple: M=0.78600×10^17 NP1:ϕs20.00000°, δ58.00000°, λ96.00000°. NP2:ϕs189.00000°, δ33.00000°, λ81.00000°. Principal axes: T 0.7680, Plg76.0000°, Azm309.0000°; N 0.0360, Plg5.0000°, Azm197.0000°; P -0.8030, Plg13.0000°, Azm106.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
MOS ***23*** *02:14:20.2±1.1, 23.88S×176.06W, h23km, mb5.4/39, MS4.9/9 Error ellipse: s-maj=10.8km s-min=8.3km az=64.0*
ISCJB ***23*** *02:14:20.3±0.1, 24.08S±0.04×175.94W±0.04, h28km, mb5.1/177, MS4.8/59, Error ellipse: s-maj=6.0km s-min=3.6km az=143.4*
BJI ***23*** *02:14:23.4, 23.64S×175.45W, h53km, mb5.3/41, mB5.6/29, Ms5.1/31, Ms7 4.8/32*
ISC 23 02:14:20.7±0.3, 24.07S±0.04×175.67W±0.05, h28km, h28km:pP-P, n544, σ1s76/549, mb5.2/176, MS4.8/60, 34C-37D, South of Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**5.54**	**201**	Sn	**Sn**	**02 16 42.8**	**-1.3**
	77nm,0.3s,baz=109,slow=23,SNR=8.9						
RAO	**Raoul Island**	**5.54**	**201**	Pn	**Pn**	**02 15 42.1**	**+0.8**
RAO				*e*S	**Sn**	**02 16 43.7**	**-0.4**
RAO	**Raoul Island**	**5.54**	**201**	P	**Pn**	**02 15 42.1**	**+0.8**
RAO				*e*S	**Sn**	**02 16 43.7**	**-0.4**
NIUE	**Niue**	**7.30**	**48**	P	Pn	02 15 58.3	-7.2
	baz=7.0,SNR=8.7						
MSVF	**Nonsavu**	**8.61**	**316**	*e*Pn	**Pn**	**02 16 26.5**	**+3.0**
MSVF	**Nonsavu**	**8.61**	**316**	*e*P	**Pn**	**02 16 25.7**	**+2.1**
AFI	**Afiamalu**	**10.75**	**21**	Pn	**Pn**	**02 16 49.5**	**-3.5**
	12nm,0.3s,baz=355,slow=18,SNR=6.5						
AFI				Sn	Sn	02 18 38.3	-14
	10nm,0.3s,baz=223,slow=19,SNR=4.0						
AFI	**Afiamalu**	**10.75**	**21**	*e*Pn	Pn	02 16 47.8	-5.2
AFI				*e*S	Sn	02 18 41.2	-11
AFI	**Afiamalu**	**10.75**	**21**	*e*P	Pn	02 16 47.8	-5.2
RAR	**Rarotonga**	**14.95**	**82**	Pn	**Pn**	**02 17 44.3**	**-5.8**
	11nm,0.3s,baz=244,slow=7.6,SNR=40						
RAR				Sn	Sn	02 20 14.2	-21
	1.8nm,0.3s,baz=50,slow=18,SNR=4.5						
RAR				LR	LR	02 24 03.1	
	comp=Z,3μm,18.1s,baz=254,slow=38						
RAR	**Rarotonga**	**14.95**	**82**	*e*Pn	**Pn**	**02 17 44.4**	**-5.8**
	538nm,1.0s						
RAR				*e*S	Sn	02 20 09.4	-26
RAR	**Rarotonga**	**14.95**	**82**	*e*P	**Pn**	**02 17 44.4**	**-5.8**
RAR				pmax	pmax		
	comp=Z,538nm,1.0s						
URZ	**Urewera**	**15.43**	**202**	Pn	**Pn**	**02 17 57.8**	**+1.4**
	comp=Z,1.4nm,0.3s,baz=55,slow=6.2,SNR=4.5						
URZ				Sn	Sn	02 20 33.9	-12
	comp=Z,0.8nm,0.3s,baz=143,slow=20,SNR=5.6						
URZ	**Urewera**	**15.43**	**202**	*e*Pn	**Pn**	**02 17 57.1**	**+0.7**
	comp=Z,21nm,1.1s						
URZ				*e*Sn	**Sn**	**02 20 39.2**	**-7.2**
FUNA	**Funafuti**	**16.22**	**342**	*e*Pn	**Pn**	**02 18 05.3**	**-1.3**
BKZ	**Black Stump Fm**	**16.45**	**202**	*e*Pn	**Pn**	**02 18 08.2**	**-1.4**
	comp=Z,26nm,1.4s						
DZM	**Mont Dzumac**	**16.58**	**273**	Pn	**P**	**02 18 16.9**	**+3.2**
	comp=Z,0.5nm,0.3s,baz=77,slow=20,SNR=8.6						
DZM				LR	LR	02 22 11.7	
	comp=Z,987nm,19.8s,baz=96,slow=29						
DZM	**Mont Dzumac**	**16.58**	**273**	*e*P	**P**	**02 18 16.8**	**+3.1**
	comp=Z,307nm,1.4s						
DZM				*e*LR	LR	02 22 12.7	
	comp=Z,4μm,22.1s						
DZM	**Mont Dzumac**	**16.58**	**273**	*e*Pn	**Pn**	**02 18 11.3**	**0.0**
	comp=Z,127nm,1.2s						
THZ	**Tophouse**	**20.05**	**206**	*e*P	**P**	**02 18 49.7**	**-2.0**
	comp=Z,33nm,1.5s						
KHZ	**Kahutara**	**20.37**	**203**	*e*P	Pn	02 18 56.7	-0.5
	comp=Z,17nm,0.7s						
RPZ	**Rata Peaks**	**22.43**	**206**	P	**P**	**02 19 16.9**	**-0.3**
	comp=Z,6.6nm,0.7s,baz=354,slow=3.8,SNR=3.0						
FOZ	**Fox Glacier**	**22.79**	**208**	*e*P	**P**	**02 19 19.9**	**-1.1**
	comp=Z,92nm,2.0s						
PPT2	**Papeete2**	**25.20**	**80**	*e*S	**S**	**02 24 03.7**	**-4.4**
	comp=Z,565nm,30.8s						
PPT2				*e*LQ	LQ	02 24 46.8	
	comp=Z,2μm,23.0s						
PPT2				*e*LR	LR	02 26 01.0	
	comp=Z,3μm,22.8s,baz=249						
PPT	**Papeete**	**25.21**	**80**	P	**P**	**02 19 47.9**	**+3.6**
	comp=Z,27nm,0.7s,baz=92,slow=12,SNR=4.9						
PPT				LR	LR	02 29 06.4	
	comp=Z,2μm,18.4s,baz=248,slow=35						
HNR	**Honiara**	**27.44**	**298**	LR	LR	02 29 19.8	
	comp=Z,2μm,20.5s,baz=151,slow=33						
ARMA	**Armidale**	**29.68**	**250**	P	**P**	**02 20 25.6**	**+1.2**
	baz=30,SNR=4.5						
ARMA	**Armidale**	**29.68**	**250**	*e*P	**P**	**02 20 24.7**	**+0.3**
	comp=Z,18nm,1.1s						
EIDS	**Eidsvold**	**30.19**	**261**	P	**P**	**02 20 28.1**	**-0.6**
	baz=30,SNR=4.4						
EIDS	**Eidsvold**	**30.19**	**261**	*e*P	**P**	**02 20 27.4**	**-1.4**
	comp=Z,25nm,1.2s						
RMQ	**Roma**	**32.19**	**258**	P	**P**	**02 20 47.5**	**+1.0**
	baz=32,SNR=9.2						
CMSA	**Cobar Meteorol**	**34.84**	**249**	P	**P**	**02 21 09.1**	**-0.4**
	baz=35,SNR=9.7						
CTA	**Charters Tower**	**35.43**	**269**	P	**P**	**02 21 13.4**	**-1.2**
	baz=97,slow=12						
CTAO	**Charters Tower**	**35.43**	**269**	*e*P	**P**	**02 21 13.5**	**-1.2**
	comp=Z,35nm,0.9s						
CTAO	**Charters Tower**	**35.43**	**269**	*e*P	**P**	**02 21 13.5**	**-1.2**
CTAO				pmax	pmax		
	comp=Z,35nm,0.9s						
QLP	**Quilpie**	**36.23**	**257**	P	**P**	**02 21 21.0**	**-0.4**
	baz=36,SNR=9.0						
RKT	**Rikitea**	**37.22**	**97**	*e*S	**S**	**02 27 09.5**	**-5.8**
	comp=Z,218nm,31.0s						
RKT				*e*LR	LR	02 31 25.0	
	comp=Z,2μm,28.8s,baz=263						
MTSU	**Mount Surprise**	**37.70**	**271**	P	**P**	**02 21 33.2**	**-0.8**
	baz=38,SNR=23						
PMG	**Port Moresby**	**38.32**	**286**	P	**P**	**02 21 37.3**	**-1.9**
	comp=Z,95nm,0.8s,baz=88,slow=7.9,SNR=17						
PMG				LR	LR	02 34 35.6	
	comp=Z,920nm,21.1s,baz=148,slow=32						
PMG	**Port Moresby**	**38.32**	**286**	*e*P	**P**	**02 21 37.4**	**-1.8**
	comp=Z,105nm,0.9s						
PMG	**Port Moresby**	**38.32**	**286**	*d* P	**P**	**02 21 37.8**	**-1.5**
STKA	**Stephens Creek**	**38.34**	**249**	P	**P**	**02 21 38.6**	**-0.7**
	comp=Z,8.3nm,1.0s,baz=118,slow=6.8,SNR=5.5						
STKA				LR	LR	02 36 25.2	
	comp=Z,3μm,18.6s,baz=77,slow=35						
COEN	**Coen**	**40.06**	**277**	P	**P**	**02 21 53.4**	**-0.4**
	baz=40,SNR=4.9						
COEN	**Coen**	**40.06**	**277**	*e*P	**P**	**02 21 52.8**	**-1.0**
	comp=Z,28nm,1.1s						
HTT	**Hallett**	**40.62**	**246**	P	**P**	**02 21 58.4**	**+0.1**
	baz=41,SNR=3.8						
QIS	**Mount Isa**	**41.39**	**266**	P	**P**	**02 22 03.6**	**-1.2**
	baz=42,SNR=6.3						
AS01	**Alice Springs**	**45.87**	**260**	*e*P	**P**	**02 22 37.7**	**-3.2**
AS31	**Alice Springs**	**45.91**	**260**	*e*P	**P**	**02 22 41.0**	**-0.2**
	comp=Z,6.9nm,1.2s						
ASAR	**Alice Springs**	**45.91**	**260**	P	**P**	**02 22 39.4**	**-1.8**
	comp=Z,16nm,0.9s,baz=97,slow=7.9,SNR=59						
ASAR				PcP	**PcP**	**02 24 18.2**	**+0.2**
	comp=Z,1.7nm,0.8s,baz=117,slow=3.4,SNR=3.6						
ASAR				S	**S**	**02 29 21.2**	**-3.0**
	comp=Z,1.0nm,0.9s,baz=100,slow=16,SNR=4.6						
ASAR				LR	LR	02 41 19.4	
	comp=Z,2μm,18.6s,baz=108,slow=36						
WB2	**Warramunga Arr**	**46.33**	**265**	*e*P	**P**	**02 22 42.0**	**-2.6**
WB2				*e*S	**S**	**02 29 25.2**	**-5.1**
WRAB	**Tennant Creek**	**46.33**	**265**	*e*P	**P**	**02 22 41.6**	**-2.9**
	comp=Z,28nm,1.1s						
WRAB				*e*PcP	**PcP**	**02 24 19.8**	**+0.3**
WRAB	**Tennant Creek**	**46.33**	**265**	*c* P	**P**	**02 22 41.8**	**-2.7**
WRAB				pmax	pmax		
	comp=Z,24nm,1.0s						
WRA	**Warramunga Arr**	**46.34**	**265**	P	**P**	**02 22 41.9**	**-2.7**
	comp=Z,15nm,0.8s,baz=103,slow=8.2,SNR=86						
WRA				PcP	**PcP**	**02 24 20.5**	**+0.9**
	comp=Z,5.0nm,1.0s,baz=97,slow=4.6,SNR=4.8						
WRA				S	**S**	**02 29 23.2**	**-7.2**
	comp=Z,2.6nm,1.1s,baz=106,slow=14,SNR=4.0						
WRA				LR	LR	02 41 20.0	
	comp=Z,2μm,19.3s,baz=105,slow=35						
JAY	**Jayapura**	**47.26**	**290**	P	**P**	**02 22 50.5**	**-1.3**
WRKA	**Warakurna**	**50.66**	**257**	P	**P**	**02 23 16.2**	**-1.6**
	baz=51,SNR=22						
KNRA	**Kununurra**	**52.64**	**268**	P	**P**	**02 23 30.3**	**-2.4**
	baz=53,SNR=6.0						
GUMO	**Guam**	**53.73**	**310**	LR	LR	02 43 52.8	
	comp=Z,504nm,21.9s,baz=140,slow=33						

PET eSS SS 02 41 35.6 -3.7
PET pmax pmax
comp=Z,200nm,10.2s
PET pmax pmax
comp=Z,22nm,1.1s
PET pmax pmax
comp=Z,200nm,10.4s
PET MLR MLR
comp=Z,300nm,15.0s
PET MLR MLR
comp=Z,300nm,20.0s
MONP2 **Monument Peak** 79.98 47 P P 02 26 28.9 +1.2
baz=233
YSS **Yuzh-Sakhalins** 80.04 333 eP P 02 26 27.7 +0.3
comp=Z,54nm,1.1s
YSS **Yuzh-Sakhalins** 80.04 333 eP P 02 26 28.0 +0.6
YSS eS S 02 36 29.6 -0.1
YSS ePS PnS 02 37 08.0 -9.0
IKP **In-Ko-Pah, Jac** 80.04 48 P P 02 26 29.8 +1.9
baz=233
VES **Vestal, Richgr** 80.06 44 P P 02 26 29.2 +1.3
baz=231
EDW2 **Edwards Air Fo** 80.16 45 P P 02 26 29.9 +1.4
baz=232
QZH **Quanzhou** 80.16 303 eP P 02 26 30.1 +1.5
QZH S S 02 36 35.8 +3.9
QZH LR LR
comp=Z,240nm,18.5s
QZH LR LR
comp=Z,230nm,20.2s
QZH LR LR
comp=Z,290nm,19.6s
PEA0B **Petropavlovsk-** 80.27 344 eP P 02 26 30.3 +1.8
comp=Z,72nm,1.3s
PETK **Petropavlovsk-** 80.27 344 P P 02 26 28.9 +0.4
comp=Z,19nm,0.9s,baz=109,slow=7.8,SNR=16
PETK LR LR 02 57 00.6
comp=Z,422nm,20.0s,baz=170,slow=32
ISA **Isabella, Lake** 80.34 44 P P 02 26 30.5 +1.0
baz=231
ISA **Isabella, Lake** 80.34 44 eP P 02 26 31.1 +1.6
comp=Z,22nm,1.4s
ISA **Isabella, Lake** 80.34 44 eP P 02 26 31.1 +1.6
ISA pmax pmax
comp=Z,22nm,1.4s
PFO **Pinyon Flats O** 80.39 47 *i* P P 02 26 34.8 +5.0
TPFO **Pinon Flats** 80.39 47 P P 02 26 31.8 +2.0
baz=233
SWSC **Sam W. Stewart** 80.43 48 P P 02 26 30.9 +1.0
baz=233
CMB **Columbia Colle** 80.66 41 eP P 02 26 32.2 +1.1
comp=Z,22nm,1.5s
CMB **Columbia Colle** 80.66 41 eP P 02 26 32.2 +1.1
CMB pmax pmax
comp=Z,22nm,1.5s
AFDM **Forest Hills D** 80.91 40 eP P 02 26 34.4 +2.0
comp=Z,13nm,1.4s
BELC **Belle Mtn. Jos** 80.93 47 P P 02 26 34.3 +1.5
baz=233
KSRS **Korea Array** 80.97 318 P P 02 26 33.2 +0.6
comp=Z,2.7nm,0.9s,baz=130,slow=6.1,SNR=7.6
KSRS LR LR 02 57 56.5
comp=Z,465nm,20.4s,baz=144,slow=32
KSAR **Wonju Array Be** 80.99 318 P P 02 26 33.2 +0.5
KSAR **Wonju Array Be** 80.99 318 P P 02 26 33.2 +0.5
ORV **Oroville** 81.00 39 eP P 02 26 34.8 +2.0
comp=Z,19nm,1.7s
ORV **Oroville** 81.00 39 eP P 02 26 34.8 +2.0
ORV pmax pmax
comp=Z,19nm,1.7s
KS01 **Wonju Array Si** 81.00 318 eP P 02 26 34.9 +2.0
CWC **Cottonwood Cre** 81.07 44 P P 02 26 34.9 +1.4
baz=231
BC3 **Big Chuckawall** 81.08 47 P P 02 26 34.8 +1.3
baz=234
WDC **Whiskeytown Da** 81.09 38 eP P 02 26 35.6 +2.4
comp=Z,24nm,1.5s
WDC **Whiskeytown Da** 81.09 38 eP P 02 26 35.6 +2.4
WDC pmax pmax
comp=Z,24nm,1.5s
GLA **Glamis** 81.15 48 P P 02 26 35.4 +1.6
baz=234
GSC **Goldstone, Bar** 81.18 45 P P 02 26 35.0 +1.0
baz=232
GSC **Goldstone, Bar** 81.18 45 eP P 02 26 35.6 +1.6
comp=Z,19nm,1.5s
GSC **Goldstone, Bar** 81.18 45 eP P 02 26 35.6 +1.6
GSC pmax pmax
comp=Z,19nm,1.5s
MDPB **Devils Postpil** 81.20 42 eP P 02 26 36.7 +2.4
comp=Z,16nm,1.2s
HEC **Hector,Ludlow** 81.20 46 P P 02 26 35.0 +0.8
baz=233
MPMC **Manual Prospec** 81.21 44 P P 02 26 35.8 +1.6
baz=232
N02D **Trinity Center** 81.26 38 P P 02 26 35.5 +1.2
baz=228
DAC **Darwin (Calif)** 81.28 44 eP P 02 26 36.7 +2.1
comp=Z,23nm,1.6s
DAC **Darwin (Calif)** 81.28 44 eP P 02 26 36.7 +2.1
DAC pmax pmax
comp=Z,23nm,1.6s
O03D **Paynes Creek** 81.32 39 P P 02 26 35.3 +0.7
baz=228
M02C **Callahan** 81.46 37 P P 02 26 36.9 +1.6
baz=228
WAKR **Walker** 81.54 41 eP P 02 26 37.8 +1.9
comp=Z,22nm,1.2s
IRM **Iron Mountain** 81.59 47 P P 02 26 37.7 +1.6
baz=234
GMRC **Granite Mounta** 81.62 46 P P 02 26 37.7 +1.3
baz=233
Y12C **Blythe** 81.76 48 P P 02 26 38.6 +1.7
baz=234
Y12C **Blythe** 81.76 48 eP P 02 26 39.4 +2.5
comp=Z,8.6nm,1.1s
YBH **Yreka Blue Hor** 81.77 37 P P 02 26 38.9 +2.0
comp=Z,2.6nm,1.1s,baz=136,slow=8.1,SNR=4.2
YBH LR LR 02 57 40.6
comp=Z,528nm,19.7s,baz=241,slow=32
YBH **Yreka Blue Hor** 81.77 37 eP P 02 26 38.8 +1.9
YBH **Yreka Blue Hor** 81.77 37 eP P 02 26 38.8 +1.9
SHOC **Shoshone, Teco** 81.89 45 P P 02 26 38.8 +1.2
baz=233
214A **Organ Pipe Nat** 81.90 50 eP P 02 26 39.7 +1.9
comp=Z,87nm,1.8s
VCNR **Virginia City** 81.92 41 eP P 02 26 40.9 +3.0
comp=Z,13nm,1.1s
YERR **Yerington** 81.96 41 eP P 02 26 41.1 +3.0
comp=Z,20nm,1.4s
LDFC **Landfair** 82.16 46 eP P 02 26 41.1 +2.0
comp=Z,51nm,1.4s
RYN **Ryan** 82.17 42 eP P 02 26 42.3 +3.1
comp=Z,23nm,1.4s
NV01 **Mina Array Sit** 82.18 42 eP P 02 26 40.2 +0.9
NVAR **Mina Array Bea** 82.18 42 P P 02 26 41.3 +2.0
comp=Z,2.1nm,0.8s,baz=223,slow=7.6,SNR=18
NVAR LR LR 02 58 07.7
comp=Z,603nm,18.8s,baz=91,slow=32
HUMO **Hull Mountain** 82.23 36 eP P 02 26 40.7 +1.5
comp=Z,26nm,1.6s
NV11 **Mina Array Sit** 82.27 42 eP P 02 26 41.5 +1.7
PAHR **Pah Rah Range** 82.34 40 eP P 02 26 41.7 +1.7
comp=Z,27nm,1.7s
PDMCI **Parker Dam,Lak** 82.34 47 P P 02 26 41.4 +1.4
baz=234
TPNV **Topopah Spring** 82.54 44 P P 02 26 42.6 +1.4
baz=233
TPNV **Topopah Spring** 82.54 44 eP P 02 26 43.2 +2.0
comp=Z,29nm,1.8s
TPNV **Topopah Spring** 82.54 44 eP P 02 26 43.2 +2.0
TPNV pmax pmax
comp=Z,29nm,1.8s
Y14A **Wickenburg** 82.90 48 eP P 02 26 44.9 +1.8
SHPR **Sheep Range** 82.97 45 eP P 02 26 45.5 +2.1
comp=Z,26nm,1.7s
W13A **Hualapai Mount** 82.98 47 eP P 02 26 45.8 +2.1
comp=Z,15nm,1.4s
USRK **Ussuriysk Ar.** 83.11 325 P P 02 26 44.6 +0.8
comp=Z,19nm,0.9s,baz=112,slow=3.9,SNR=13
J04D **Umpqua Nationa** 83.11 36 P P 02 26 46.2 +2.2
baz=228
OHAK **Old Harbor** 83.14 12 eP P 02 26 44.6 +1.0
comp=Z,74nm,1.8s
TYV **Tymovskoe** 83.17 335 eP P 02 26 43.5 -0.4
TYV pmax pmax
comp=Z,400nm,2.6s
TYV pmax pmax
comp=Z,46nm,1.1s
K05A **Summer Lake** 83.44 37 eP P 02 26 47.5 +1.8
comp=Z,28nm,1.2s
TUC **Tucson** 83.52 51 P P 02 26 48.3 +2.0
baz=236
TUC **Tucson** 83.52 51 eP P 02 26 47.7 +1.4
comp=Z,14nm,1.3s
TUC **Tucson** 83.52 51 eP P 02 26 47.7 +1.4
TUC pmax pmax
comp=Z,14nm,1.3s
J05D **Fort Rock, OR** 83.62 37 P P 02 26 48.1 +1.5
baz=228
SYO **Syowa Base** 83.72 192 ||*i*P P 02 26 47.0 +0.4
NJ2 **Nanjing** 83.80 309 eP P 02 26 48.0 +0.4
NJ2 pmax pmax
comp=Z,20nm,0.5s
KDAK **Kodiak Island** 83.80 12 P P 02 26 47.4 +0.5
baz=152,slow=19
R11A **Troy Canyon, C** 83.81 43 eP P 02 26 49.1 +1.3
comp=Z,9.4nm,1.5s
BMN **Battle Mountai** 84.08 41 eP P 02 26 50.3 +1.2
comp=Z,7.8nm,1.0s
BMN **Battle Mountai** 84.08 41 eP P 02 26 50.3 +1.2
BMN pmax pmax
comp=Z,8.0nm,1.0s
319A **Douglas** 84.09 52 eP P 02 26 51.3 +2.0
PINE **Pine Mountain** 84.11 36 eP P 02 26 51.0 +1.8
comp=Z,23nm,1.4s
X16A **Lo Mia Camp, P** 84.24 48 eP P 02 26 52.3 +2.3
comp=Z,15nm,1.3s
QIZ **Qiongzhong** 84.27 294 P P 02 26 51.1 +0.8
QIZ S S 02 37 13.1 -1.2
QIZ LR LR
comp=Z,200nm,17.8s
QIZ LR LR
comp=Z,180nm,20.4s
SNAA **Sanae** 84.39 178 P P 02 26 50.1 -0.1
SNAA **Sanae** 84.39 178 P P 02 26 50.9 +0.8
comp=Z,8.7nm,0.9s,baz=352,slow=19,SNR=14
SNAA **Sanae** 84.39 178 eP P 02 26 49.9 -0.3
comp=Z,60nm,1.6s
SNAA **Sanae** 84.39 178 *d* *i*P P 02 26 51.4 +1.3
VNA3 **Neumayer Olymp** 84.44 175 P P 02 26 50.6 +0.2
LCMT **Little Creek M** 84.52 45 eP P 02 26 53.5 +2.2
WVOR **Wild Horse Val** 84.52 39 eP P 02 26 52.5 +1.3
comp=Z,17nm,1.3s
WVOR **Wild Horse Val** 84.52 39 eP P 02 26 52.5 +1.3
WVOR pmax pmax
comp=Z,17nm,1.3s
MDJ **Mudanjiang** 84.66 324 eP P 02 26 52.8 +1.1
comp=Z,36nm,1.1s
CCUT **Cedar City** 84.75 45 eP P 02 26 54.4 +1.8
comp=Z,17nm,1.2s
KNB **Kanab** 84.79 46 eP P 02 26 55.0 +2.2
comp=Z,43nm,1.4s
KNB **Kanab** 84.79 46 eP P 02 26 55.0 +2.2
KNB pmax pmax
comp=Z,43nm,1.4s
U15A **North Rim** 84.80 46 eP P 02 26 55.3 +2.3
comp=Z,23nm,1.1s
WUAZ **Wupatki** 84.90 48 P P 02 26 54.9 +1.5
baz=236
WUAZ **Wupatki** 84.90 48 eP P 02 26 54.8 +1.5
comp=Z,25nm,1.5s
VNA2 **Neumayer--Watz** 84.91 176 P P 02 26 50.3 -2.4
baz=168,slow=2.4
SZCU **Shurtz Canyon** 84.95 45 eP P 02 26 56.0 +2.4
comp=Z,22nm,1.3s
VNA1 **Neumayer--Stat** 85.12 176 P P 02 26 55.9 +2.2
J08A **Circle Bar Ran** 85.19 38 eP P 02 26 55.9 +1.3
comp=Z,14nm,1.4s
PLCA **Paso Flores** 85.27 133 LR LR 02 58 40.8
comp=Z,158nm,19.2s,baz=266,slow=31
X18A **Snowflake** 85.33 49 eP P 02 26 57.8 +2.3
PKCU **Pink Cliffs** 85.37 46 eP P 02 26 58.8 +2.9
comp=Z,90nm,2.0s
GRNR **Gornyy** 85.65 332 eP P 02 26 56.5 0.0
GRNR pmax pmax
comp=Z,50nm,1.1s
IPM **Ipoh** 85.71 277 eP P 02 26 57.9 +0.2
comp=Z,17nm,1.1s
NKL **Nikolayevsk** 85.72 335 eP P 02 26 56.0 -0.7
NKL pmax pmax
comp=Z,52nm,1.3s
121A **Cookes Peak, D** 85.78 52 eP P 02 27 00.3 +2.5
comp=Z,40nm,1.8s
MTPU **Mount Pierson** 85.80 45 eP P 02 27 00.6 +2.6
comp=Z,32nm,1.5s
MSU **Marysvale** 86.07 45 eP P 02 27 01.4 +2.2
MSU **Marysvale** 86.07 45 eP P 02 27 01.4 +2.2
G08A **Pilot Rock** 86.16 36 eP P 02 27 01.3 +2.0
comp=Z,13nm,1.3s
WHN **Wuhan** 86.28 306 ||P P 02 27 01.1 +1.1
WHN LR LR
comp=Z,650nm,23.5s
UBPT **Khong Chiam** 86.31 288 P P 02 27 01.9 +1.3
comp=Z,11nm,1.7s
KULM **Kulim** 86.38 277 eP P 02 27 01.4 +0.4
comp=Z,14nm,1.0s
CN2 **Changchun** 86.42 322 eP P 02 27 01.3 +0.8
CN2 *es*P sP 02 27 19.9 +7.2
CN2 eS S 02 37 32.1 -2.5
CN2 pmax pmax
comp=Z,30nm,1.0s
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=Z,190nm,18.0s
CN2 LR LR
comp=Z,240nm,18.0s
CN2 LR LR
comp=Z,220nm,19.0s
BBB **Bella Bella** 86.55 27 LR LR 03 00 45.5
comp=Z,291nm,19.0s,baz=208,slow=32
KLR **Kul'dur** 86.68 329 ||eP P 02 27 02.5 +0.9
PSI **Prapat** 86.94 274 P P 02 27 03.4 -0.4
comp=Z,17nm,0.9s,baz=183,slow=3.7,SNR=17
PSI LR LR 03 08 17.3
comp=Z,308nm,19.0s,baz=128,slow=37
MNTX **Cornudas Mount** 87.09 53 P P 02 27 05.6 +1.5
baz=240
MNTX **Cornudas Mount** 87.09 53 eP P 02 27 05.4 +1.3
comp=Z,10nm,1.1s
TMUT **Trail Mountain** 87.14 45 eP P 02 27 06.5 +2.0
comp=Z,11nm,1.0s
TX31 **Lajitas Ar. Si** 87.19 56 eP P 02 27 05.8 +1.1
TXAR **Lajitas Array** 87.20 56 P P 02 27 06.3 +1.6
comp=Z,1.9nm,0.9s,baz=214,slow=7.1,SNR=15
TXAR LR LR 03 00 37.5
comp=Z,417nm,19.0s,baz=0.0,slow=32
LAZ **Ladron** 87.22 50 eP P 02 27 07.1 +2.2
TIA **Tai'an** 87.25 312 P P 02 27 05.8 +1.1
TIA pmax pmax
comp=Z,27nm,1.2s
BNM **Barren Site** 87.45 51 eP P 02 27 08.2 +2.1
SRU **San Rafael Swe** 87.47 45 eP P 02 27 07.1 +1.2
comp=Z,9.2nm,1.0s
SRU **San Rafael Swe** 87.47 45 eP P 02 27 07.1 +1.2
SRU pmax pmax
comp=Z,9.0nm,1.0s
LPM **Los Pinos Moun** 87.53 51 eP P 02 27 08.0 +1.6
P17A **Butcher Ranch,** 87.53 45 eP P 02 27 08.4 +2.2
comp=Z,11nm,1.2s
GSI **Gunungsitoli** 87.56 273 eP P 02 27 07.3 +0.6
comp=Z,84nm,1.0s
HVU **Hansel Valley** 87.58 42 eP P 02 27 08.3 +1.9
comp=Z,6.0nm,1.3s
HVU **Hansel Valley** 87.58 42 eP P 02 27 08.3 +1.9
HVU pmax pmax
comp=Z,6.0nm,1.3s
JLU **Jordanelle** 87.72 43 eP P 02 27 10.0 +2.8
comp=Z,13nm,1.6s
MA2 **Magadan** 87.79 344 eP P 02 27 06.2 -0.6
comp=Z,66nm,1.9s
MA2 **Magadan** 87.79 344 eP P 02 27 05.8 -0.9
MA2 pmax pmax
comp=Z,22nm,1.2s
B08A **Colville Reser** 87.95 34 eP P 02 27 09.0 +1.2
comp=Z,7.1nm,1.3s
ANMO **Albuquerque** 87.98 50 P P 02 27 10.0 +1.5
baz=239
ANMO **Albuquerque** 87.98 50 eP P 02 27 09.6 +1.1
comp=Z,33nm,1.9s
ANMO **Albuquerque** 87.98 50 *de*P P 02 27 10.0 +1.5
ANMO pmax pmax
comp=Z,14nm,1.7s
PMR **Palmer** 88.00 12 eP P 02 27 08.1 +0.5
comp=Z,28nm,1.3s
PMR **Palmer** 88.00 12 eP P 02 27 08.1 +0.5
PMR pmax pmax
comp=Z,28nm,1.3s
TCUT **Toone Canyon** 88.04 43 eP P 02 27 10.0 +1.3
comp=Z,45nm,1.6s
TRTT **Trang** 88.30 279 P P 02 27 11.3 +1.1
comp=Z,22nm,1.0s
SKNT **Sakolnakorn** 88.34 289 P P 02 27 10.3 0.0
comp=Z,32nm,1.0s
SML **Sawmill** 88.35 13 eP P 02 27 09.9 +0.5
comp=Z,34nm,1.6s
SML **Sawmill** 88.35 13 eP P 02 27 09.9 +0.5
SML pmax pmax
comp=Z,34nm,1.6s
LNIG **Linares** 88.39 62 eP P 02 27 10.9 +0.5
comp=Z,20nm,1.6s
BMRM **Bremner River** 88.40 15 eP P 02 27 10.5 +0.8
comp=Z,28nm,1.2s
KLU **Klutina** 88.57 14 eP P 02 27 11.4 +0.9
comp=Z,22nm,1.3s
SCM **Sheep Creek Mo** 88.58 13 eP P 02 27 11.6 +1.1
comp=Z,35nm,1.1s
SCM **Sheep Creek Mo** 88.58 13 eP P 02 27 11.6 +1.1
SCM pmax pmax
comp=Z,35nm,1.1s
CMIG **Matias Romero** 88.77 71 LR LR 02 59 11.7
comp=Z,236nm,18.5s,baz=216,slow=30
BALM **Baldy** 89.00 16 eP P 02 27 13.9 +1.4
comp=Z,29nm,1.2s
BALM **Baldy** 89.00 16 eP P 02 27 13.9 +1.4
BALM pmax pmax
comp=Z,29nm,1.2s
BESE **Bessie Mountai** 89.03 20 eP P 02 27 14.5 +1.8
comp=Z,13nm,1.3s
NEW **Newport** 89.03 35 LR LR 03 01 04.5
comp=Z,359nm,20.1s,baz=232,slow=32
CAST **Castle Rocks** 89.16 10 eP P 02 27 12.5 -0.6
comp=Z,23nm,1.1s
S22A **4UR Ranch, Cre** 89.18 48 P P 02 27 15.1 +0.8
baz=239
S22A **4UR Ranch, Cre** 89.18 48 eP P 02 27 16.0 +1.8
comp=Z,9.3nm,1.3s
MCMT **McKenzie Canyo** 89.30 39 eP P 02 27 14.9 +0.3
KTH **Kantishna Hill** 89.48 11 eP P 02 27 14.1 -0.6
comp=Z,17nm,1.1s
TRF **Thorofare Moun** 89.50 11 eP P 02 27 14.4 -0.5
comp=Z,21nm,0.8s
NAYO **Nakonayok** 89.53 286 P P 02 27 18.0 +2.1
comp=Z,16nm,1.4s
HARP **HAARP** 89.56 14 eP P 02 27 16.9 +1.8
comp=Z,30nm,1.3s
SKAG **Skagway** 89.59 19 eP P 02 27 17.2 +2.0
comp=Z,54nm,1.6s
CHAI **Chaiyaphum** 89.61 288 P P 02 27 18.1 +1.8
comp=Z,5.3nm,0.9s
REDW **Red Top Meadow** 89.64 41 eP P 02 27 18.0 +1.8
comp=Z,9.4nm,1.3s
TPAW **Teton Pass** 89.66 41 eP P 02 27 19.1 +2.8
comp=Z,11nm,1.5s
FXWY **Fox Creek** 89.69 41 eP P 02 27 18.4 +2.0
comp=Z,15nm,1.8s
DHY **Denali Highway** 89.70 12 eP P 02 27 16.0 +0.2
comp=Z,29nm,1.5s
RND **Reindeer** 89.71 12 eP P 02 27 15.8 0.0
comp=Z,42nm,1.2s
RND **Reindeer** 89.71 12 eP P 02 27 15.8 0.0
RND pmax pmax
comp=Z,42nm,1.2s
ENH **Enshi** 89.81 303 eP P 02 27 17.8 +0.8
comp=Z,158nm,1.5s
SMCO **Snowmass** 89.83 46 eP P 02 27 20.7 +3.3
comp=Z,6.5nm,1.2s
IMW **Indian Meadow** 89.89 41 eP P 02 27 19.5 +2.1
comp=Z,16nm,1.5s
MOOW **Moose Ponds** 89.93 41 eP P 02 27 19.4 +2.0
comp=Z,7.6nm,1.5s
BJI **Beijing** 89.93 315 P P 02 27 17.8 +0.6
BJI pmax pmax
comp=Z,26nm,1.7s
LOHW **Long Hollow** 89.94 41 eP P 02 27 19.5 +2.0
comp=Z,8.8nm,1.4s
BPAW **Bear Paw Mtn.** 89.98 11 eP P 02 27 16.5 -0.4
comp=Z,17nm,1.5s
PAX **Paxson** 89.99 13 eP P 02 27 17.5 +0.4
comp=Z,15nm,1.2s
PAX **Paxson** 89.99 13 eP P 02 27 17.5 +0.4
PAX pmax pmax
comp=Z,15nm,1.2s
MCK **McKinley** 90.00 12 eP P 02 27 17.2 +0.1
comp=Z,25nm,1.1s
MCK **McKinley** 90.00 12 eP P 02 27 17.2 +0.1
MCK pmax pmax
comp=Z,25nm,1.1s
HYT **Haines Junctio** 90.08 18 eP P 02 27 18.8 +1.2
comp=Z,44nm,2.0s
SDCO **Great Sand Dun** 90.08 48 P P 02 27 20.3 +1.8
baz=239
SDCO **Great Sand Dun** 90.08 48 eP P 02 27 19.9 +1.4
comp=Z,6.7nm,1.6s
PDAR **Pinedale Array** 90.10 42 P P 02 27 19.2 +0.9
comp=Z,0.3nm,0.3s,baz=225,slow=5.7,SNR=5.0
PDAR LR LR 03 03 57.2
comp=Z,334nm,18.1s,baz=259,slow=33
MSTX **Muleshoe** 90.12 53 eP P 02 27 20.2 +1.7
comp=Z,23nm,1.5s
QLMT **Earthquake Lak** 90.13 40 eP P 02 27 20.2 +1.9
YPP **Pitchstone Pla** 90.18 41 eP P 02 27 22.2 +3.4
comp=Z,8.0nm,1.5s
YHB **Horse Butte** 90.22 40 eP P 02 27 22.2 +3.4
comp=Z,23nm,1.7s
GYA **Guiyang** 90.27 299 eP P 02 27 20.5 +1.2
GYA pmax pmax
comp=Z,10.0nm,1.0s
SEY **Seymchan** 90.33 346 LR LR 03 03 20.9
comp=Z,377nm,20.0s,baz=334,slow=33
SEY **Seymchan** 90.33 346 *ce*P P 02 27 19.7 +1.1
H17A **Grant Village** 90.39 41 eP P 02 27 21.1 +1.4
comp=Z,14nm,1.7s
YHH **Holmes Hill** 90.45 40 eP P 02 27 22.5 +2.5
comp=Z,15nm,1.5s
BOZ **Bozeman (W)** 90.45 39 P P 02 27 20.9 +1.1
baz=235
BOZ **Bozeman (W)** 90.45 39 eP P 02 27 21.3 +1.5
comp=Z,9.3nm,1.1s
BOZ **Bozeman (W)** 90.45 39 eP P 02 27 21.3 +1.5
BOZ pmax pmax
comp=Z,9.0nm,1.1s
DLBC **Dease Lake** 90.50 22 eP P 02 27 21.2 +1.6
comp=Z,12nm,1.1s
PBKT **Sadao Pong** 90.78 288 P P 02 27 22.6 +0.9
comp=Z,32nm,1.2s
RIDG **Independ'e Rid** 90.81 13 eP P 02 27 21.5 +0.7
comp=Z,24nm,1.2s
WRH **Wood River Hil** 90.83 12 eP P 02 27 21.3 +0.4
comp=Z,34nm,1.2s
MLY **Manley** 90.88 10 eP P 02 27 21.2 0.0
comp=Z,6.8nm,1.1s
DOT **Dot Lake** 90.89 14 eP P 02 27 21.4 +0.2
comp=Z,48nm,1.1s
CCB **Clear Creek Bu** 91.04 12 eP P 02 27 21.8 0.0
comp=Z,16nm,1.1s
SCRK **Sand Creek** 91.19 13 eP P 02 27 23.8 +1.1
comp=Z,10nm,1.1s
WALA **Waterton Lakes** 91.20 35 eP P 02 27 24.4 +1.2
comp=Z,16nm,1.5s
COLA **College** 91.23 11 eP P 02 27 22.8 +0.1
comp=Z,17nm,0.9s
COLA **College** 91.23 11 eP P 02 27 22.8 +0.1
COLA pmax pmax
comp=Z,17nm,0.9s
MDM **Murphy Dome** 91.24 11 eP P 02 27 23.2 +0.3
comp=Z,22nm,1.2s
IM3 **Indian Mountai** 91.31 9 eP P 02 27 23.3 +0.2
IL1 **Eielson Array** 91.32 12 eP P 02 27 22.6 -0.6
ILAR **Eielson Array** 91.32 12 P P 02 27 23.6 +0.4
comp=Z,4.1nm,0.9s,baz=220,slow=5.6,SNR=25
ILB **Eielson Array** 91.32 12 eP P 02 27 23.9 +0.8
AMTX **Amarillo** 91.35 52 eP P 02 27 29.5 +5.3
comp=Z,55nm,0.8s
SRDT **SRDT** 91.48 285 P P 02 27 27.1 +2.1
comp=Z,34nm,1.1s
PHIT **Phitsanulok** 91.52 288 P P 02 27 27.5 +2.3
comp=Z,30nm,1.0s
RLMT **Red Lodge** 91.57 40 eP P 02 27 24.6 -0.5
comp=Z,8.6nm,1.3s

APG **El Apazote** 91.75 74 LR LR 03 02 46.9
comp=Z,138nm,18.1s,baz=304,slow=32
ZEA **Zeya** 91.78 330 *e*P **P** **02 27 25.8 +0.3**
ZEA pmax pmax
comp=Z,21nm,1.2s
ABTX **Abilene, Hawle** 91.80 55 *e*P **P** **02 27 30.1 +3.8**
comp=Z,21nm,1.4s
NANT **Nan** 91.94 290 P **P** **02 27 29.3 +2.2**
comp=Z,12nm,1.1s
XAN **Xi'an** 91.99 306 P **P** **02 27 28.4 +1.3**
XAN pP sP 02 27 40.3 +0.9
XAN PP **PP** **02 31 10.8 +3.6**
XAN SS SS 02 44 34.6 -2.4
XAN pmax pmax
comp=Z,30nm,0.9s
XAN pmax pmax
comp=Z,130nm,4.4s
XAN LR LR
comp=Z,170nm,15.7s
XAN LR LR
comp=Z,220nm,16.7s
XAN LR LR
comp=Z,310nm,20.6s
DAWY **Dawson** 92.30 15 *e*P **P** **02 27 28.0 +0.2**
comp=Z,18nm,1.3s
EGAK **Eagle** 92.50 14 *e*P **P** **02 27 29.1 +0.5**
comp=Z,22nm,1.3s
LAMP **Lampang** 92.74 289 P **P** **02 27 32.8 +2.0**
comp=Z,27nm,0.9s
BILL **Bilibino** 92.80 353*c* *i*P **P** **02 27 29.6 -0.3**
BILL *e* 02 31 09.5
BILL pmax pmax
comp=Z,9.0nm,1.0s
HIA **Hailar** 92.83 324*ce*P **P** **02 27 31.4 +0.8**
HIA pmax pmax
comp=Z,7.0nm,1.0s
KMI **Kunming** 92.87 296 P **P** **02 27 32.9 +1.3**
KMI pmax pmax
comp=Z,34nm,1.0s
KMI pmax pmax
comp=Z,140nm,4.3s
KMI LR LR
comp=Z,260nm,17.2s
KMI LR LR
comp=Z,270nm,17.4s
KMI LR LR
comp=Z,360nm,20.3s
PAYA **Payao** 92.88 290 P **P** **02 27 33.2 +1.7**
comp=Z,14nm,0.9s
COLD **Coldfoot** 93.00 10 *e*P **P** **02 27 32.8 +1.9**
comp=Z,12nm,1.5s
CM01 **Chiang Mai Arr** 93.28 289 *e*P **P** **02 27 34.7 +1.4**
CM31 **Chiang Mai Arr** 93.31 289 *e*P **P** **02 27 36.2 +2.7**
CMAR **Chiang Mai Arr** 93.31 289 P **P** **02 27 34.9 +1.5**
comp=Z,27nm,1.0s,baz=128,slow=3.2,SNR=59
CMAR LR LR 03 11 00.8
comp=Z,89nm,18.0s,baz=168,slow=37
HHC **Hu-ho-hao-te** 93.37 313 *e*P **P** **02 27 35.3 +1.9**
HHC pP sP 02 27 45.8 +0.1
HHC SKS **SKSac** **02 38 00.6 -5.2**
HHC S **S** **02 38 36.4 -3.0**
HHC pmax pmax
comp=Z,29nm,1.5s
HHC pmax pmax
comp=Z,66nm,8.2s
HHC LR LR
comp=Z,220nm,17.1s
HHC LR LR
comp=Z,330nm,17.3s
HHC LR LR
comp=Z,340nm,17.8s
CMMT **Chiang Mai** 93.45 289 P **P** **02 27 34.6 +0.5**
comp=Z,47nm,1.0s
CHTO **Chiang Mai** 93.46 289 *e*P **P** **02 27 34.1 0.0**
comp=Z,34nm,0.9s
CHTO **Chiang Mai** 93.46 289 *e*P **P** **02 27 34.1 0.0**
CHTO pmax pmax
comp=Z,34nm,0.9s
CMAI **Chiengmai2** 93.83 290 P **P** **02 27 37.9 +1.9**
LAO **LASA Array** 94.20 40 P **P** **02 27 38.4 +1.4**
baz=239
LAO **LASA Array** 94.20 40 *e*P **P** **02 27 39.5 +2.5**
comp=Z,12nm,1.2s
RSSD **Black Hills** 94.24 43 P **P** **02 27 37.9 +0.4**
baz=240
RSSD **Black Hills** 94.24 43 *e*P **P** **02 27 38.2 +0.8**
comp=Z,4.7nm,1.1s
RSSD **Black Hills** 94.24 43 *e*P **P** **02 27 38.2 +0.8**
RSSD pmax pmax
comp=Z,5.0nm,1.1s
TOLK **Toolik Lake Re** 94.39 9 *e*P **P** **02 27 39.9 +2.5**
comp=Z,21nm,2.0s
CD2 **Chengdu** 94.51 302 P **P** **02 27 38.8 0.0**
CD2 pP sP 02 27 53.4 +2.3
CD2 sP pP 02 27 59.1 +11
CD2 SKS **SKSac** **02 38 09.3 -3.1**
CD2 S **S** **02 38 46.9 -2.8**
CD2 sS sS 02 39 12.1 +7.3
CD2 SS **SS** **02 45 11.3 -1.9**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,120nm,5.0s
CD2 LR LR
comp=Z,270nm,17.4s
CD2 LR LR
comp=Z,440nm,19.4s
CD2 LR LR
comp=Z,250nm,16.4s
JTS **JuntasAbangare** 94.78 81 LR LR 03 00 16.9
comp=Z,158nm,22.0s,baz=298,slow=29
YAK **Yakutsk** 96.22 337 LR LR 03 07 05.2
comp=Z,136nm,20.8s,baz=101,slow=33
YAK **Yakutsk** 96.22 337⇓ *e*P **P** **02 27 46.7 +1.0**
YAK pmax pmax
comp=Z,8.0nm,0.8s
LZH **Lanzhou** 96.63 306 *e*P **P** **02 27 49.3 +0.8**
LZH pP sP 02 28 02.3 +1.5
LZH sP pP 02 28 07.0 +9.5
LZH *e*PP **PP** **02 31 47.6 +4.1**
LZH SKS **SKSac** **02 38 21.4 -2.2**
LZH *e*S **S** **02 39 04.1 -4.0**
LZH sS sS 02 39 27.8 +4.6
LZH SS **SS** **02 45 45.0 +1.6**
LZH pmax pmax
comp=Z,27nm,1.3s
LZH pmax pmax
comp=Z,210nm,8.7s
LZH LR LR
comp=Z,600nm,18.0s
LZH LR LR
comp=Z,740nm,17.8s
LZH LR LR
comp=Z,2μm,19.7s
LPAZ **La Paz** 98.72 112 LR LR 03 05 39.6
comp=Z,217nm,18.6s,baz=208,slow=31
YKA **Yellowknife Ar** 98.85 24 P Pdif 02 27 58.3 +0.7
comp=Z,0.4nm,0.9s,baz=233,slow=4.0,SNR=6.5
YKA PP **PP** **02 31 58.6 -1.1**
comp=Z,0.1nm,0.8s,baz=229,slow=5.6,SNR=3.8
ULN **Ulaanbaatar** 99.45 318⇑ *e*P **Pdif** **02 28 00.5 -0.4**
ULN pmax pmax
comp=Z,4.0nm,1.2s
SONM **Songino Array** 99.84 318 LR LR 03 14 04.6
comp=Z,132nm,18.0s,baz=84,slow=36
GTA **Gaotai** 100.88 308 ⇑P **Pdif** **02 28 08.9 +1.5**
GTA pP sP 02 28 22.4 +2.6
GTA sP sPdif 02 28 27.8 +8.1
GTA PP **PP** **02 32 20.5 +4.6**
GTA S **Sdif** **02 39 40.4 -3.4**
GTA SS **SS** **02 46 43.3 +0.5**
GTA pmax pmax
comp=Z,4.0nm,1.8s
GTA pmax pmax
comp=Z,360nm,6.9s
GTA LR LR
comp=Z,110nm,20.0s
GTA LR LR
comp=Z,210nm,21.4s
GTA LR LR
comp=Z,220nm,19.5s
WMQ **Urumqi** 110.87 310 *e*PKP **PKiKP** **02 32 52.3 +1.1**
WMQ sPKP 02 33 11.8
WMQ LR LR
comp=Z,190nm,20.1s
WMQ LR LR
comp=Z,400nm,21.7s
WMQ LR LR
comp=Z,460nm,20.9s
ZALV **Zalesovo Beam** 114.61 320 PKP PKPdf 02 32 57.8 -0.1
comp=Z,0.6nm,0.4s,baz=2.9,slow=3.0,SNR=3.7
MKAR **Makanchi Array** 115.19 312 PKP **PKPdf** **02 32 59.0 -0.3**
comp=Z,1.8nm,0.9s,baz=90,slow=2.4,SNR=12
KURK **Kurchatov** 118.06 316 *e*PKPdf **PKPdf** **02 33 03.7 -0.9**
KURK **Kurchatov** 118.06 316 *e*PKIKP **PKPdf** **02 33 03.7 -0.9**
KURBB **Kurchatov Arra** 118.11 316 PKP **PKPdf** **02 33 04.3 -0.4**
comp=Z,2.5nm,1.0s,baz=91,slow=2.1,SNR=18
AAK **Ala-Archa** 120.17 307⇓ *i*PKIKP **PKPdf** **02 33 09.1 -0.1**
KKAR **Karatay Array** 123.12 307 *e*PKPdf **PKPdf** **02 33 14.8 +0.1**
KKAR **Karatay Array** 123.12 307 *e*PKIKP **PKPdf** **02 33 14.8 +0.1**
BVAR **Borovoye Array** 123.18 319 PKP **PKPdf** **02 33 14.9 +0.4**
comp=Z,3.8nm,1.0s,baz=103,slow=3.3,SNR=16
BRVK **Borovoye** 123.24 319 *e*PKPdf **PKPdf** **02 33 15.1 +0.5**
BRVK **Borovoye** 123.24 319 *d i*PKIKP **PKPdf** **02 33 14.5 0.0**
BRVK pmax pmax
comp=Z,8.0nm,1.0s
KBL **Kabul** 123.45 297 *e*PKPdf **PKPdf** **02 33 17.1 +1.3**
KBL **Kabul** 123.45 297 *e*PKIKP **PKPdf** **02 33 17.1 +1.3**
ARU **Arti** 129.35 324 *e*PKPdf **PKPdf** **02 33 26.3 +0.2**
ARU **Arti** 129.35 324 *i* PKIKP **PKPdf** **02 33 26.5 +0.4**
ARU SS SS 02 35 33.9
ARU SS SS 02 52 47.3 -7.7
ABKAR **Akbulak array** 130.13 315 *e*PKPdf **PKPdf** **02 33 28.4 +0.6**
AKTO **Aktyubinsk** 131.14 317 PKP **PKPdf** **02 33 30.2 +0.4**
comp=Z,1.8nm,0.8s,baz=157,slow=3.5,SNR=8.8
GEYT **Alibeck** 132.47 300 PKP **PKPdf** **02 33 33.4 +0.7**
comp=Z,3.6nm,0.8s,baz=250,slow=3.0,SNR=11
ARCES **ARCESS Array B** 132.80 350 PKP **PKPdf** **02 33 34.1 +1.8**
comp=Z,2.9nm,0.8s,baz=96,slow=5.0,SNR=3.2
FINES **FINESS Array B** 139.78 344 PKhKP PKPpre 02 33 38.3
comp=Z,4.6nm,1.1s,baz=66,slow=3.4,SNR=4.3
MAK **Makhachkala** 139.88 309 *e*P **Pdif** **02 30 59.2 -1.3**
MAK *i* 02 33 46.7
MAK *e*PPP PPP 02 39 42.7
MAK *e* 02 40 56.3
MAK *e*SS SS 02 54 56.1 -6.5
MAK pmax pmax
comp=Z,198nm,1.1s
OBN **Obninsk** 140.91 331⇓ *i*PKIKP **PKPdf** **02 33 44.3 -3.3**
OBN *i* 02 33 48.4
OBN *e*SS SS 02 55 10.9 -2.3
OBN pmax pmax
comp=Z,4.0nm,0.6s
OBN pmax pmax
comp=Z,20nm,1.8s
ZEI **Tsey** 142.48 310 *i* PKHKP PKPpre 02 33 45.1
ZEI pmax pmax
comp=Z,4.0nm,1.1s
GNI **Garni** 142.55 305 *e*PKPdf **PKPdf** **02 33 49.4 -2.0**
GNI **Garni** 142.55 305*c* *i*PKIKP **PKPdf** **02 33 52.5 +1.1**
NB2 **NORSAR Subarra** 142.74 354 PKP **PKPdf** **02 33 48.0 -2.9**
comp=Z,2.0nm,0.9s,baz=17,slow=2.6
NOA **NORSAR Array B** 142.74 354 PKhKP PKPpre 02 33 47.6
comp=Z,1.2nm,0.8s,baz=56,slow=5.4,SNR=5.9
KBZ **Khabaz** 142.89 311 PKhKP PKPpre 02 33 48.3
comp=Z,1.9nm,0.9s,baz=351,slow=2.8,SNR=5.8
KIV **Kislovodsk** 142.95 312 *e*PKPdf **PKPdf** **02 33 51.5 -0.3**
KIV **Kislovodsk** 142.95 312 *i* PKIKP **PKPdf** **02 33 52.6 +0.7**
KIV pmax pmax
comp=Z,6.0nm,1.0s
HFS **Hagfors** 143.37 352 PKhKP PKPpre 02 33 49.7
comp=Z,2.2nm,0.5s,baz=85,slow=4.6,SNR=13
KONO **Kongsberg** 144.25 355⇑ *i*PKIKP **PKPdf** **02 34 00.0 +6.5**
BCA **Borcka** 144.50 308 *e*P **PKPab** **02 33 53.0 +0.1**
IDID **Didziasalis** 144.67 338 *e*P **PKPab** **02 33 52.3 -0.8**
IDID IAmb IAmb 02 33 54.9
comp=Z,10nm,1.2s
IIGN **Ignalina** 144.81 338 *e*P **PKPab** **02 33 53.2 -0.4**
IIGN IAmb IAmb 02 33 55.5
comp=Z,24nm,1.4s
SOC **Sochi** 145.10 313 *i* PKHKP PKPpre 02 33 48.1
BNGB **Bing ¶ll** 145.88 305 *e*P **PKPab** **02 33 58.7 +0.5**
BAYT **Ayd¬ntepe-Bay** 145.88 307 *e*P **PKPab** **02 33 58.6 +0.3**
ANN **Anapa** 146.09 316 *i* PKP2 **PKPbc** **02 33 58.1 +0.1**
ANN pmax pmax
comp=Z,81nm,1.3s
MAZI **Mazidag** 146.43 302 *e*P **PKPbc** **02 33 59.4 -0.1**
DYBB **Diyarbakir** 146.55 303 *e*P **PKPbc** **02 34 00.2 +0.5**
ESPY **Espiye-Giresun** 146.74 309 *e*P **PKPbc** **02 33 59.9 -0.2**
PTK **Pertek** 146.87 305 *e*P **PKPdf** **02 33 59.3 +0.4**
SUW **Suwalki** 146.92 340 *e*PKP **PKPbc** **02 33 59.9 -0.2**
SUW **Suwalki** 146.92 340 *e*PKP2 **PKPbc** **02 33 59.9 -0.2**
AKASG **Malin Array Be** 147.16 330 PKPbc **PKPbc** **02 34 00.4 -0.6**
comp=Z,17nm,0.8s,baz=41,slow=3.6,SNR=76
KIEV **Kiev** 147.18 330 *e*PKPbc **PKPbc** **02 34 00.4 -0.5**
KIEV **Kiev** 147.18 330*ce*PKP2 **PKPdf** **02 33 59.9 +1.2**
KLNR **Kaliningrad** 147.28 343*ce*PKP2 **PKPbc** **02 34 00.7 -0.4**
MUD **Monsted U'grnd** 147.45 355 *i* P **PKPbc** **02 34 01.6 +0.1**
comp=Z,131nm,1.7s
MUD **Monsted U'grnd** 147.45 355 *i* PKP2 **PKPbc** **02 34 01.6 +0.1**
MUD pmax pmax
comp=Z,130nm,1.7s
MALT **Malatya** 147.76 304 *e*P **PKPbc** **02 34 03.9 +0.7**
RSDY **Resadiye-TOKAT** 147.92 308 *e*P **PKPdf** **02 34 01.6 +1.2**
BSD **Bornholm Skovb** 148.01 349 *i* P **PKPbc** **02 34 02.0 -1.1**
comp=Z,33nm,1.1s
BSD **Bornholm Skovb** 148.01 349 *i* PKIKP **PKPbc** **02 34 02.0 -1.1**
BSD pmax pmax
comp=Z,33nm,1.1s
SIM **Simferopol'** 148.09 318 *e*PKP2 **PKPbc** **02 34 05.0 +1.3**
SIM pmax pmax
comp=Z,30nm,0.9s
EKA **Eskdalemuir Ar** 148.28 8 PKPbc **PKPbc** **02 34 03.4 -0.4**
comp=Z,4.4nm,0.8s,baz=347,slow=2.3,SNR=12
SVSK **Karacayir** 148.32 308 *e*P **PKPbc** **02 34 05.4 +1.0**
DARE **Darende-Malaty** 148.39 305 *e*P **PKPbc** **02 34 05.5 +0.7**
GAZ **Gaziantep** 149.00 303 *e*P **PKPbc** **02 34 06.8 +0.4**
KMRS **Kahramanmaras** 149.14 303 *e*P **PKPbc** **02 34 06.9 +0.2**
GKP **Gorka Klasztor** 149.25 345 *e*PKP **PKPbc** **02 34 06.6 +0.3**
GKP **Gorka Klasztor** 149.25 345 *e*PKP2 **PKPbc** **02 34 06.6 +0.3**
SORM **Soroca** 149.36 328⇓ *i*P **PKPbc** **02 34 07.6 +0.8**
SORM **Soroca** 149.36 328 ⇓PKP2 **PKPbc** **02 34 07.6 +0.8**
BEL **Belsk** 149.54 340 *e*PKP **PKPbc** **02 34 07.5 +0.5**
BEL **Belsk** 149.54 340 *e*PKP2 **PKPbc** **02 34 07.6 +0.5**
YOZ **Yozgat** 149.63 308 *e*P **PKPbc** **02 34 07.8 -0.2**
KIS **Kishinev** 149.88 326 *e*PKP **PKPbc** **02 34 07.0 -1.1**
comp=Z,100nm,1.4s
KIS *e*L L 03 35 32.0
KIS LRM MLR 03 40 38.0
comp=Z,400nm,22.0s
KIS **Kishinev** 149.88 326 *e*PKHKP **PKPbc** **02 34 07.0 -1.1**
KIS *e* 02 34 12.0
KIS pmax pmax
comp=Z,110nm,1.4s
KIS MLR MLR
comp=Z,400nm,22.0s
CORM **Corum** 149.91 310 *e*P **PKPbc** **02 34 08.2 -0.4**
KOZT **Kozan** 149.97 304 *e*P **PKPbc** **02 34 08.6 -0.1**
LVV **L'vov** 150.04 334 *e*PKP2 **PKPbc** **02 34 09.0 +0.6**
YAYL **Yayladag** 150.15 301 *e*P **PKPbc** **02 34 09.4 +0.1**
ASF **Jabal al Asfar** 150.25 293 PKPbc **PKPbc** **02 34 10.4 +0.7**
comp=Z,13nm,0.9s,baz=105,slow=0.9,SNR=23
YURE **YUREGIR** 150.31 303 *e*P **PKPbc** **02 34 09.9 +0.3**
KARA **Karaisali** 150.62 304 *e*P **PKPbc** **02 34 10.2 -0.1**
KWP **Kalwaria Pacla** 150.71 335 *e*PKP **PKPbc** **02 34 10.0 -0.1**
KWP **Kalwaria Pacla** 150.71 335 *e*PKIKP **PKPbc** **02 34 10.0 -0.1**
BRTR **Keskin Array B** 150.79 309 PKPbc **PKPbc** **02 34 10.7 -0.1**
comp=Z,10nm,0.8s,baz=131,slow=3.6,SNR=62
TLCR **Tlemcen** 151.04 323⇓ *i*P **PKPbc** **02 34 11.7 +0.8**
TLCR **Tlemcen** 151.04 323 ⇓PKIKP **PKPbc** **02 34 11.7 +0.8**
BURAR **Bucovina Array** 151.21 330⇑ *i*P **PKPbc** **02 34 12.4 +1.0**
BURAR **Bucovina Array** 151.21 330 ⇑PKIKP **PKPbc** **02 34 12.4 +1.0**
OJC **Ojcow** 151.25 339 *e*PKP **PKPbc** **02 34 11.4 +0.1**
OJC **Ojcow** 151.25 339 *e*PKIKP **PKPbc** **02 34 11.4 +0.1**
TESR **Tescani** 151.31 327⇓ *i*P **PKPbc** **02 34 11.8 +0.2**
ANTO **Ankara** 151.33 310 *e*P **PKPbc** **02 34 11.8 -0.1**
ANTO **Ankara** 151.33 310 *e*PKPdf **PKPdf** **02 34 06.6 +0.7**
ANTO *e*PKPbc **PKiKP** **02 34 12.4 0.0**
ANTO **Ankara** 151.33 310 *e*PKIKP **PKPdf** **02 34 06.6 +0.7**
ANTO *e* 02 34 12.4
LOD **Lodumlu** 151.34 310 *e*P **PKPbc** **02 34 10.8 -1.2**
MMAI **Mount Meron Ar** 151.37 295 PKPbc **PKPbc** **02 34 13.1 +0.9**
comp=Z,24nm,0.8s,baz=103,slow=12,SNR=42
CFR **Carcaliu** 151.42 323⇓ *i*P **PKPbc** **02 34 11.8 0.0**
CFR **Carcaliu** 151.42 323 ⇓PKIKP **PKPbc** **02 34 11.8 0.0**
STHS **Stebnicka Huta** 151.43 337 *e*PKP **PKPbc** **02 34 13.5 +1.7**
STHS **Stebnicka Huta** 151.43 337 *e*PKIKP **PKPbc** **02 34 13.5 +1.7**
KIZK **Mersin** 151.55 303 *e*P **PKPbc** **02 34 12.2 -0.2**
UZH **Uzhgorod** 151.68 334 *e*PKIKP **PKPbc** **02 34 12.3 0.0**

KSP **Ksiaz** 151.71 344 *e*PKP **PKPbc** **02 34 13.0 +0.7**
KSP **Ksiaz** 151.71 344 *e*PKIKP **PKPbc** **02 34 13.0 +0.7**
VRI **Vrincioaia** 151.72 326⇓ *i*P **PKPbc** **02 34 13.3 +0.8**
VRI **Vrincioaia** 151.72 326 ⇓PKIKP **PKPbc** **02 34 13.3 +0.8**
TIRR **Tirgusor** 151.72 322⇑ *i*P **PKPbc** **02 34 13.5 +1.0**
TIRR **Tirgusor** 151.72 322 ⇑PKIKP **PKPbc** **02 34 13.5 +1.0**
NIE **Niedzica** 151.76 338 *e*PKP **PKPbc** **02 34 13.1 +0.5**
NIE **Niedzica** 151.76 338 *e*PKIKP **PKPbc** **02 34 13.1 +0.5**
PLOR **Plostina** 151.77 326⇓ *i*P **PKPbc** **02 34 13.3 +0.6**
PLOR **Plostina** 151.77 326 ⇓PKIKP **PKPbc** **02 34 13.3 +0.6**
CRVS **Cervenica-Dubn** 151.78 336 *e*PKP **PKPdf** **02 34 07.9 +1.7**
CRVS *e* 02 34 12.8
CRVS **Cervenica-Dubn** 151.78 336 *e*PKIKP **PKPdf** **02 34 07.9 +1.7**
CRVS *e* 02 34 12.8
TRPA **Tarpa** 151.98 334⇑ *i*P **PKPbc** **02 34 13.9 +0.9**
CLL **Collm** 151.99 348 *e*PKPdf **PKPdf** **02 34 07.0 +0.6**
comp=Z,14nm,1.7s
CLL *i* PKPbc **PKPbc** **02 34 13.2 +0.3**
comp=Z,28nm,1.2s
CLL ⇑ *i*PKPab **pPKPbc** **02 34 21.3 -0.9**
comp=Z,31nm,1.3s
CLL Lm MLR 03 52 00.0
comp=N,100nm,18.8s
CLL Lm MLR 03 52 00.0
comp=E,100nm,21.2s
CLL Lm MLR 03 52 00.0
comp=Z,200nm,18.7s
CLL **Collm** 151.99 348⇑ *e*PKIKP **PKPdf** **02 34 07.0 +0.6**
CLL *i* 02 34 13.2
CLL *i* 02 34 21.3
CLL pmax pmax
comp=Z,14nm,1.7s
CLL pmax pmax
comp=Z,31nm,1.3s
UPC **Upice** 152.09 344⇑ *e*PKP **PKPbc** **02 34 14.5 +1.3**
UPC *e*PKPAB **sPKPdf** **02 34 20.8 +1.7**
UPC AMS AMS 03 47 00.0
comp=Z,300nm,18.1s
UPC **Upice** 152.09 344 *e*PKIKP **PKPbc** **02 34 14.5 +1.3**
UPC *e* 02 34 20.8
UPC MLR MLR
comp=Z,300nm,18.1s
OKC **Ostrava-Krasne** 152.10 341⇑ *e*PKP **PKPbc** **02 34 14.7 +1.5**
OKC AMS AMS 03 54 10.0
comp=Z,300nm,23.6s
OKC **Ostrava-Krasne** 152.10 341 *e*PKIKP **PKPbc** **02 34 14.7 +1.5**
OKC MLR MLR
comp=Z,300nm,23.6s
AKKU **Akkuyu-Mersin** 152.11 302 *e*P **PKPbc** **02 34 11.9 -1.8**
DPC **Dobruska-Polom** 152.15 343 *e*PKPDF **PKPdf** **02 34 08.2 +1.4**
DPC ⇑ *e*PKP **PKiKP** **02 34 14.8 +1.1**
DPC *e*PKPAB **sPKPdf** **02 34 21.1 +1.8**
DPC **Dobruska-Polom** 152.15 343 *e*PKIKP **PKPdf** **02 34 08.2 +1.4**
DPC *e* 02 34 14.8
DPC *e* 02 34 21.1
MDUB **Mudurnu** 152.16 312 *e*P **PKPbc** **02 34 12.4 -1.4**
BRG **Berggiesshubel** 152.22 347 *e*PKP **PKPdf** **02 34 08.1 +1.3**
comp=Z,16nm,1.9s
BRG *i* 02 34 14.3
comp=Z,27nm,1.2s
BRG *e* 02 34 23.9
comp=Z,24nm,1.3s
BRG **Berggiesshubel** 152.22 347 *e*PKIKP **PKPdf** **02 34 08.1 +1.3**
BRG *i* 02 34 14.3
BRG *e* 02 34 23.9
BRG pmax pmax
comp=Z,16nm,1.9s
BRG pmax pmax
comp=Z,24nm,1.3s
LANS **Liptovska Anna** 152.28 338 *e*PKP **PKPbc** **02 34 15.4 +1.7**
LANS *e* 02 34 26.6
LANS **Liptovska Anna** 152.28 338 *e*PKIKP **PKPbc** **02 34 15.4 +1.7**
LANS *e* 02 34 26.6
KRLC **Kraliky** 152.28 343⇑ *e*PKP **PKPbc** **02 34 15.1 +1.4**
KRLC *e*PKPAB **pPKPbc** **02 34 21.6 -1.4**
KRLC **Kraliky** 152.28 343 *e*PKIKP **PKPbc** **02 34 15.1 +1.4**
KRLC *e* 02 34 21.6
LADK **Ladik-KONYA** 152.30 307 *e*P **PKPbc** **02 34 12.3 -1.9**
DOPR **Dopca** 152.32 327⇓ *i*P **PKPbc** **02 34 15.4 +1.5**
MORC **Moravsky Berou** 152.33 341⇓ *i*P **PKPbc** **02 34 14.4 +0.6**
MORC **Moravsky Berou** 152.33 341 *e*PKPdf **PKPdf** **02 34 08.0 +1.0**
MORC *e*PKPbc **PKiKP** **02 34 14.6 +0.5**
MORC **Moravsky Berou** 152.33 341 *e*PKIKP **PKPdf** **02 34 08.0 +1.0**
MORC *e* 02 34 14.6
MLR **Muntele Rosu** 152.38 326 PKPbc **PKPbc** **02 34 14.4 +0.2**
comp=Z,4.1nm,1.2s,baz=146,slow=3.6,SNR=14
MLR **Muntele Rosu** 152.38 326⇓ *i*P **PKPbc** **02 34 14.8 +0.6**
SVRH **Svrihisar-ESK** 152.40 310 *e*P **PKPbc** **02 34 13.7 -0.7**
PVCC **Panska Ves** 152.41 346⇑ *e*PKP **PKPbc** **02 34 15.3 +1.4**
PVCC *e*pPKP **sPKPdf** **02 34 19.6 0.0**
PVCC AMS AMS 03 59 20.0
comp=Z,300nm,20.1s
PVCC **Panska Ves** 152.41 346 *e*PKIKP **PKPbc** **02 34 15.3 +1.4**
PVCC *e* 02 34 19.6
PVCC MLR MLR
comp=Z,300nm,20.1s
CSS **Mathiatis** 152.62 300 *e*PKPdf **PKPdf** **02 34 08.1 +0.2**
CSS *e*PKPbc **PKiKP** **02 34 15.3 +0.2**
CJR **Cluj-Napoca** 152.62 330⇓ *i*P **PKPbc** **02 34 15.9 +1.3**
CJR **Cluj-Napoca** 152.62 330 ⇓PKIKP **PKPbc** **02 34 15.9 +1.3**
VOIR 152.86 327⇑ *i*P **PKPbc** **02 34 17.0 +1.8**
VOIR 152.86 327 ⇑PKIKP **PKPbc** **02 34 17.0 +1.8**
PRU **Pruhonice** 152.92 345⇑ *e*PKP **PKPbc** **02 34 16.1 +1.0**
PRU AMS AMS 03 51 50.0
comp=Z,300nm,19.4s
PRU **Pruhonice** 152.92 345 *e*PKIKP **PKPbc** **02 34 16.1 +1.0**
PRU MLR MLR
comp=Z,300nm,19.4s
GOPC **GO Pecny, Ondr** 152.94 345⇑ *e*PKP **PKPbc** **02 34 16.3 +1.1**
GOPC AMS AMS 03 58 40.0
comp=Z,300nm,15.4s
GOPC **GO Pecny, Ondr** 152.94 345 *e*PKIKP **PKPbc** **02 34 16.3 +1.1**
GOPC MLR MLR
comp=Z,300nm,15.4s
DRGR 152.96 332⇓ *i*P **PKPbc** **02 34 15.4 0.0**
DRGR 152.96 332 ⇓PKIKP **PKPbc** **02 34 15.4 0.0**
VRAC **Vranov** 153.03 342⇑ *i*P **PKPbc** **02 34 18.0 +2.6**
VRAC **Vranov** 153.03 342 ⇑PKIKP **PKPbc** **02 34 18.0 +2.6**
VYHS **Vyhne** 153.06 338 *e*PKP **PKPbc** **02 34 16.1 +0.6**
VYHS *e* 02 34 28.3
VYHS **Vyhne** 153.06 338 *e*PKIKP **PKPbc** **02 34 16.1 +0.6**
VYHS *e* 02 34 28.3
ARR **Arges** 153.12 327⇓ *i*P **PKPbc** **02 34 17.5 +1.7**
NKC **Novy Kostel** 153.12 348 AMS AMS 03 51 30.0
comp=Z,300nm,18.7s
PSZ **Piszkesteto** 153.18 336⇓ *i*P **PKPab** **02 34 25.7 -1.8**
PSZ **Piszkesteto** 153.18 336 *e*PKPdf **PKPdf** **02 34 09.5 +1.1**
PSZ *e*PKPbc **PKiKP** **02 34 16.9 +0.9**
PSZ **Piszkesteto** 153.18 336 *e*PKIKP **PKPdf** **02 34 09.5 +1.1**
PSZ *e* 02 34 16.9
TREC **Trest** 153.34 344 AMS AMS 03 53 00.0
comp=Z,300nm,16.7s
MEM **Membach** 153.47 358 ⇓PKP PKPab 02 34 41.1 +13
MODS **Modra-Piesok** 153.66 340 *e*PKP **PKPbc** **02 34 16.6 -0.2**
MODS *e* 02 34 29.1
MODS **Modra-Piesok** 153.66 340 *e*PKIKP **PKPbc** **02 34 16.6 -0.2**
MODS *e* 02 34 29.1
BCLA **Clavier** 153.68 359 ⇓PKP **PKPab** **02 34 29.7 +0.3**
ISP **Isparta** 153.79 308⇓ *i*P **PKPbc** **02 34 16.1 -1.4**
ISP **Isparta** 153.79 308 ⇓PKIKP **PKPbc** **02 34 16.1 -1.4**
SRO **Srobarova** 153.82 338 *e*PKP **PKPab** **02 34 30.0 -0.1**
SRO **Srobarova** 153.82 338 *e*PKP2 **PKPab** **02 34 30.0 -0.1**
KHC **Kasperske Hory** 153.95 346⇑ *e*PKP **PKPbc** **02 34 18.4 +1.0**
KHC epPKP **sPKPdf** **02 34 22.3 +0.4**
KHC *e*PKPAB **PKPab** **02 34 30.9 +0.3**
KHC AMS AMS 03 52 00.0
comp=Z,400nm,15.8s
KHC **Kasperske Hory** 153.95 346 *e*PKPbc **PKPbc** **02 34 17.4 0.0**
KHC **Kasperske Hory** 153.95 346 *e*PKIKP **PKPbc** **02 34 17.4 0.0**
DOU **Dourbes** 154.02 360 ⇓PKP **PKPbc** **02 34 18.1 +0.6**
GERES **GERESS Array B** 154.19 346 PKP **PKPdf** **02 34 10.1 +0.2**
comp=Z,0.2nm,0.3s,baz=80,slow=2.4,SNR=6.1
BZS **Buzias** 154.35 331⇑ *i*P **PKPbc** **02 34 18.5 +0.2**
WLF **Walferdange** 154.41 357 ⇓PKP **PKPbc** **02 34 18.4 +0.1**
HERR **Herculane** 154.55 329⇑ *i*P **PKPbc** **02 34 19.5 +0.7**
MOA **Molln** 154.98 344 *i* PKPab **PKPab** **02 34 36.4 +1.3**
comp=Z,16nm,1.8s
ARSA **Arzberg** 155.19 342 *i* PKPab **PKPab** **02 34 36.6 +0.6**
comp=Z,7.0nm,1.1s
SOKA **Soboth** 155.85 342 *i* PKPab **PKPab** **02 34 39.4 +0.5**
comp=Z,25nm,1.5s
KBA **Koelnbreinsper** 155.93 345 *i* PKPab **PKPab** **02 34 40.1 +0.8**
comp=Z,7.4nm,0.9s

WATA	Walderalm	156.07	348	*i* PKPab	PKPab	02 34 41.2	+1.3
	comp=Z,6.7nm,1.1s						
RETA	Reutte	156.07	349	*i* PKPab	PKPab	02 34 40.4	+0.6
	comp=Z,10nm,1.6s						
WTTA	Wattenberg	156.13	348	*i* PKPab	PKPab	02 34 40.7	+0.5
	comp=Z,12nm,1.1s						
OBKA	Obir	156.15	342	*i* PKPab	PKPab	02 34 39.0	-1.2
	comp=Z,6.5nm,1.0s						
MOTA	Moosalm	156.15	349	*i* PKPab	PKPab	02 34 40.4	+0.1
	comp=Z,3.5nm,0.6s						
MYKA	Terra Mystica	156.28	344	*i* PKPab	PKPab	02 34 41.1	+0.4
	comp=Z,11nm,1.0s						
DAVA	Damuels	156.41	351	*i* PKPab	PKPab	02 34 41.3	0.0
	comp=Z,16nm,1.6s						
ABTA	Abfaltersbach	156.43	346	*i* PKPab	PKPab	02 34 42.1	+0.7
	comp=Z,15nm,1.4s						
FETA	Feichten	156.53	349	*i* PKPab	PKPab	02 34 42.1	+0.2
	comp=Z,9.2nm,1.1s						
PDG	Podgorica	157.90	330 ⇑	*i* P	PKPab	02 34 35.5	-12
IDI	Anoyia	158.97	307 ⇓	*i* P	PKPdf	02 34 22.5	+6.1
ESDC	Sonseca Array	162.94	22	PKP	PKPdf	02 34 21.6	+1.1
	comp=Z,0.4nm,0.8s,baz=352,slow=9.0,SNR=4.4						
TORD	Torodi Ar. Bea	168.86	167	PKP	PKPdf	02 34 25.5	-0.4
	comp=Z,3.6nm,1.2s,baz=8.7,slow=0.6,SNR=9.3						
TORD				PKPab	PKPab	02 35 38.4	+2.0
	comp=Z,1.8nm,0.9s,baz=182,slow=4.0,SNR=6.9						
TAM	Tamanrasset	178.32	221	*e*PKPdf	PKPdf	02 34 31.1	+1.7
TAM	Tamanrasset	178.32	221	*e*PKIKP	PKPdf	02 34 31.1	+1.7

IDC 23 02:24:19.5±10.0, 15°38.S×173°.00W, h0km, mb3.7/2, mb1 4.0/2, mb1mx3.5/50, mbtmp3.7/2, Error ellipse: s-maj=514.2km s-min=26.1km az=141.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.88**	**39**	Pn		Pn		02 24 51.6	-1.4
	18nm,0.3s,baz=261,slow=0.8,SNR=8.5								
AFI				Sn		Sn		02 25 11.8	-5.7
	104nm,0.3s,baz=78,slow=19,SNR=18								
WRA	**Warramunga Arr**	**50.23**	**257**	P		P		02 33 17.3	-0.5
	0.4nm,0.6s,baz=90,slow=7.2,SNR=12								
ASAR	**Alice Springs**	**50.49**	**252**	P		P		02 33 19.1	-0.7
	1.0nm,0.5s,baz=87,slow=8.0,SNR=20								
BRTR	**Keskin Array B**	**146.38**	**321**	PKPbc		PKPab		02 44 04.5	+0.8
	0.5nm,0.9s,baz=67,slow=3.7,SNR=3.9								

MEX 23 02:27:38.4±0.6, 16°.04N×98°.34W, h6km±4km, MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.40**	**30**	*i* P		Pg		02 27 45.6	-0.6
PNIG				*e*S		Sg		02 27 52.1	+0.6
TLIG	**Tlapa**	**1.53**	**352**	*e*P		Pn		02 28 02.5	-3.9
TLIG				*e*S		Sn		02 28 21.3	-5.4
VHO	**Vista Hermosa**	**1.85**	**56**	*e*P		Pn		02 28 08.0	-2.8
VHO				*e*S		Sn		02 28 29.8	-4.8
CAIG	**El Cayaco**	**2.10**	**299**	*e*P		Pn		02 28 11.5	-2.7
CAIG				*e*S		Sn		02 28 37.0	-3.7

IDC 23 02:42:18.4±5.7, 17°.30S×177°.18W, h0km, mb4.3/2, mb1 4.6/2, mb1mx3.6/54, mbtmp4.3/2, Error ellipse: s-maj=273.8km s-min=41.6km az=145.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**45.90**	**259**	P		P		02 50 43.5	+0.4
	1.3nm,0.3s,baz=95,slow=7.6,SNR=91								
ASAR	**Alice Springs**	**46.09**	**254**	P		P		02 50 44.0	-0.7
	1.5nm,0.3s,baz=83,slow=8.8,SNR=58								
BRTR	**Keskin Array B**	**145.17**	**316**	PKPbc		PKPbc		03 01 57.7	-0.3
	1.1nm,0.6s,baz=138,slow=5.0,SNR=11								
MMAI	**Mount Meron Ar**	**146.78**	**304**	PKPbc		PKPdf		03 02 02.1	+0.8
	0.6nm,0.4s,baz=92,slow=4.9,SNR=3.1								
GERES	**GERESS Array B**	**147.31**	**347**	PKPbc		PKPdf		03 02 02.8	+1.0
	0.2nm,0.4s,baz=5.7,slow=2.0,SNR=4.2								

CSEM ***23*** *02:45:10.4±0.9, 32°.26N×46°.28E, h20km, ML2.8, Error ellipse: s-maj=25.1km s-min=8.5km az=27.0*
ISN ***23*** *02:45:14.3±0.8, 32°.69N×46°.74E, h15km, ML3.0*
TEH 23 02:45:14.1, 32°.70N×46°.73E, h10km, ML3.0, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
IKFM	**Kafar-mosalman**	**1.25**	**49**	*e*Pg		Pg		02 45 39.0	+0.9
IKFM				*e*AMB		AMB		02 46 05.5	
	comp=Z,99nm,0.4s								
IKOM	**Komasi**	**1.61**	**24**	*e*Pn		Pg		02 45 46.4	+1.4
IKOM				*e*Sg		Sg		02 46 09.2	+3.3
IKOM				*e*AMB		AMB		02 46 11.5	
	comp=Z,3μm,0.1s								
IGHG	**Ghaleghazi**	**1.63**	**355**	*e*Pn		Pg		02 45 45.0	-0.4
IGHG				*e*AMB		AMB		02 46 15.2	
	comp=Z,3μm,0.3s								
IVIS	**Veis**	**1.82**	**3**	*e*Pn		Pg		02 45 48.7	-0.4
IVIS				*e*Sg		Sg		02 46 14.4	+1.6
IVIS				*e*AMB		AMB		02 46 21.3	
	comp=Z,1μm,0.2s								
SHGR	**Shooshtar-Gavs**	**1.85**	**108**	*e*Pg		Pn		02 45 46.9	+1.0
IDHR	**Dehrash**	**2.01**	**352**	*e*Pn		Pb		02 45 51.3	+0.4
IDHR				*e*Sg		Sg		02 46 21.9	+3.0
IDHR				*e*AMB		AMB		02 46 23.4	
	comp=Z,1μm,0.1s								
ILIN	**Lien**	**2.22**	**5**	*e*Pn		Pb		02 45 54.5	0.0
ILIN				*e*AMB		AMB		02 46 08.0	
	comp=Z,470nm,0.2s								
SNGE	**Sanandaj**	**2.44**	**12**	*e*Pn		Pb		02 45 57.7	-0.5
KHMZ	**Khomeyn**	**2.90**	**68**	*e*Pn		Pn		02 46 02.5	+2.0
KHMZ				*e*Sg		Sg		02 46 46.4	-0.9
HKZM	**Kohzaman**	**3.22**	**33**	*e*Pn		Pn		02 46 08.1	+3.1
HKZM				*e*AMB		AMB		02 47 04.3	
	comp=Z,99nm,0.4s								
ASAO	**Ashtian**	**3.31**	**55**	*e*Pn		Pn		02 46 08.8	+2.6
IKLH	**Kolahrood**	**4.12**	**80**	*e*Pn		Pn		02 46 19.5	+2.1
IKLH				*e*AMB		AMB		02 46 20.6	
	comp=Z,143nm,0.1s								

ISCJB ***23*** *02:57:46.7±0.3, 55°.51S±0°.05×27°.66W±0°.10, h10km, mb4.8/31, MS4.2/14, Error ellipse: s-maj=8.9km s-min=6.8km az=141.7*
IDC ***23*** *02:57:46.9±0.4, 55°.54S×27°.67W, h0km, mb4.7/17, mb1 4.8/18, mb1mx4.6/34, mbtmp4.7/18, ML4.6/1, MS4.1/12, Ms1 4.1/12, ms1mx3.9/30, Error ellipse: s-maj=16.2km s-min=13.7km az=44.0*
NEIC ***23*** *02:57:50.8±2.1, 55°.52S×27°.67W, h26km±14km, mb5.0/23, Error ellipse: s-maj=7.0km s-min=5.1km az=214.0*
GCMT ***23*** *02:57:50.8±0.4, 55°.35S×27°.41W, h30km±1km, MW5.0/62, Moment Tensor Solution. s28,c31; s62,c75; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr=2.69±.29; Mθθ=-3.43±.18; Mφφ=0.74±.21; Mrθ=-2.77±.27; Mθφ=1.21±.12; Mφr=0.09±.36; Best double couple: M=4.27200×10^16 NP1: φs=274.00000°, δ66.00000°, λ78.00000°. NP2: φs=121.00000°, δ27.00000°, λ115.00000°. Principal axes: T 3.8000, Plg67.0000°, Azm162.0000°; N 0.9440, Plg11.0000°, Azm279.0000°; P -4.7440, Plg20.0000°, Azm13.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 23 02:57:48.5±0.3, 55°.53S±0°.08×27°.75W±0°.07, h10km, n132, σ0°.93/124, mb4.9/30, MS4.1/14, 1C, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**5.20**	**280**	*e*Pn		**Pn**		02 59 06.9	**+0.7**
HOPE				*e*S		**Sn**		03 00 01.8	**-4.3**
VNA1	**Neumayer--Stat**	**17.40**	**158**	P		**P**		03 01 54.4	**+2.1**
VNA3	**Neumayer Olymp**	**17.59**	**161**	P		**Pn**		03 01 53.6	**+0.3**
VNA2	**Neumayer--Watz**	**17.79**	**158**	P		**P**		03 01 57.1	**+0.4**
	baz=314,slow=13								
SNAA	**Sanae**	**19.35**	**156**	P		**P**		03 02 13.6	**-0.2**
SNAA	**Sanae**	**19.35**	**156**	P		**P**		03 02 13.9	**+0.1**
	1.8nm,0.3s,baz=306,slow=9.7,SNR=65								
SNAA	**Sanae**	**19.35**	**156**	*e*P		**P**		03 02 13.6	**-0.2**
	22nm,0.6s								

PMSA	Palmer Station	20.01	228	*e*P		P		03 02 22.1	+1.2
	499nm,0.9s								
PLCA	Paso Flores	31.60	280	P		P		03 04 10.6	-0.7
	5.1nm,0.9s,baz=166,slow=3.7,SNR=6.7								
PLCA	Paso Flores	31.60	280	*e*P		P		03 04 11.0	-0.2
	41nm,1.9s								
SYO	Syowa Base	32.19	141 ⇑	*i* P		P		03 04 14.0	-2.0
QSPA	South Pole Qui	34.72	180	P		P		03 04 38.7	+0.3
	18nm,0.6s,baz=202,slow=4.5,SNR=54								
QSPA					LR	LR		03 18 32.1	
	comp=Z,267nm,18.3s,baz=208,slow=36								
QSPA	South Pole Qui	34.72	180	*e*P		P		03 04 38.8	+0.3
	86nm,0.7s								
CPUP	Villa Florida	36.23	311	P		P		03 04 50.9	-0.5
	3.0nm,0.9s,baz=149,slow=7.4,SNR=3.0								
CPUP					LR	LR		03 18 39.6	
	comp=Z,241nm,19.8s,baz=170,slow=34								
CPUP	Villa Florida	36.23	311	*e*P		P		03 04 55.5	+4.0
	9.9nm,1.1s								
GO05	HualaæØ	36.44	286	*e*P		P		03 04 51.5	-1.7
	9.1nm,0.8s								
PEL	Peldehue	37.17	289	*e*P		P		03 04 59.8	+0.3
	36nm,0.8s								
MAW	Mawson	40.76	144	P		P		03 05 28.2	-0.8
	5.6nm,0.7s,baz=222,slow=7.0,SNR=12								
MAW					LR	LR		03 19 51.3	
	comp=Z,329nm,19.9s,baz=242,slow=32								
MAW	Mawson	40.76	144	*e*P		P		03 05 28.3	-0.7
	12nm,1.9s								
SUR	Sutherland	40.81	76	P		P		03 05 29.6	-0.6
	0.9nm,1.1s,baz=136,slow=5.2,SNR=2.2								
BOSA	Boshof	46.15	77	P		P		03 06 12.5	-0.7
	8.6nm,1.0s,baz=192,slow=8.2,SNR=9.1								
BOSA					LR	LR		03 21 49.2	
	comp=Z,308nm,18.3s,baz=193,slow=31								
BOSA	Boshof	46.15	77	*e*P		P		03 06 11.9	-1.3
	29nm,1.3s								
PB01	IPOC Station P	46.37	301	*e*P		P		03 06 15.6	+0.6
	12nm,0.8s								
SBA	Scott Base	46.58	184	*e*P		P		03 06 17.3	+1.5
VNDA	Vanda	47.08	183	P		P		03 06 20.0	+0.3
	18nm,1.0s,baz=192,slow=7.2,SNR=41								
VNDA					LR	LR		03 24 23.0	
	comp=Z,122nm,20.3s,baz=201,slow=34								
VNDA	Vanda	47.08	183	*e*P		P		03 06 21.2	+1.5
	17nm,0.8s								
PB11	IPOC Station P	47.55	302	*e*P		P		03 06 25.1	+1.0
	22nm,1.0s								
H10S2	ASCENSION HYDR	47.59	18	T		T		03 58 23.4	
	baz=188								
H10S3	ASCENSION HYDR	47.60	18	T		T		03 58 23.2	
	baz=188								
H10S1	ASCENSION HYDR	47.61	18	T		T		03 58 19.5	
	baz=188								
MNMC	Minye Minye	48.05	302	*e*P		P		03 06 29.5	+1.3
	28nm,1.3s								
H10N1	ASCENSION HYDR	48.71	18	T		T		03 59 49.3	
	baz=185								
H10N3	ASCENSION HYDR	48.71	18	T		T		03 59 12.1	
	baz=185								
H10N2	ASCENSION HYDR	48.73	18	T		T		03 59 23.8	
	baz=185								
LBTB	Lobatse	49.16	74	P		P		03 06 35.6	-1.0
	6.8nm,0.8s,baz=226,slow=7.4,SNR=6.0								
LBTB	Lobatse	49.16	74	*e*P		P		03 06 36.1	-0.5
	13nm,1.0s								
TSUM	Tsumeb	49.71	62	P		P		03 06 40.1	-0.8
	5.9nm,0.8s,baz=203,slow=7.5,SNR=11								
TSUM	Tsumeb	49.71	62	*e*P		P		03 06 40.5	-0.3
LPAZ	La Paz	49.82	305	P		P		03 06 43.2	+1.0
	5.7nm,0.7s,baz=140,slow=5.6,SNR=28								
LPAZ					LR	LR		03 26 54.0	
	comp=Z,104nm,21.8s,baz=163,slow=35								
LPAZ	La Paz	49.82	305	*e*P		P		03 06 43.5	+1.3
	54nm,1.9s								
RCBR	Riachuelo	49.99	349	P		P		03 06 43.1	+0.3
	76nm,0.8s,baz=203,slow=0.6,SNR=4.6								
SAML	Samuel	54.21	315	*e*P		P		03 07 14.0	-0.2
	15nm,1.2s								
CASY	Casey	54.51	161	*e*P		P		03 07 15.0	-0.8
	16nm,1.1s								
LIC	Lamto	64.36	25	*e*P		P		03 08 24.3	0.0
	33nm,0.8s								
KIC	Kosan Boka	64.56	25	*e*P		P		03 08 25.6	-0.1
	18nm,0.9s								
TIC	Toumodi	64.76	25	*e*P		P		03 08 27.6	+0.6
DBIC	Dimbokro	64.83	25	P		P		03 08 27.7	+0.3
	5.2nm,0.7s,baz=162,slow=7.2,SNR=8.8								
DBIC					LR	LR		03 31 21.7	
	comp=Z,265nm,20.1s,baz=188,slow=31								
DBIC	Dimbokro	64.83	25	*e*P		P		03 08 27.7	+0.3
	17nm,1.3s								
OTAV	Otavalo	69.10	304	*e*P		P		03 08 56.3	+1.0
	12nm,1.3s								
PRAC	Prado	70.55	309	*e*P		P		03 09 03.6	0.0
	10nm,0.9s								
ROSC	El Rosal	71.31	310	LR		LR		03 44 07.8	
	comp=Z,50nm,18.0s,baz=112,slow=39								
RUSC	La Rusia	71.72	312	*e*P		P		03 09 09.2	-2.1
	7.8nm,1.3s								
PCRV	Puerto La Cruz	72.34	322	P		P		03 09 15.0	+0.6
	7.1nm,0.7s,baz=342,slow=16,SNR=3.5								
KOWA	Kowa	72.57	24	P		P		03 09 16.0	+0.3
	2.8nm,0.7s,baz=180,slow=7.4,SNR=9.7								
KOWA	Kowa	72.57	24	*e*P		P		03 09 14.9	-0.8
TOA0	Torodi Ar. Sit	72.76	30	*e*P		P		03 09 16.3	-0.5
TORD	Torodi Ar. Bea	72.76	30	P		P		03 09 16.9	+0.1
	3.4nm,0.6s,baz=199,slow=5.9,SNR=39								
TORD					LR	LR		03 36 20.6	
	comp=Z,175nm,19.2s,baz=215,slow=32								
SDV	Santo Domingo	73.42	315	P		P		03 09 21.2	+0.2
	10.0nm,0.9s,baz=281,slow=7.0,SNR=14								
SDV	Santo Domingo	73.42	315	*e*P		P		03 09 20.9	-0.1
	10nm,0.9s								
SJG	San Juan	80.24	323	LR		LR		03 45 19.6	
	comp=Z,67nm,21.5s,baz=113,slow=36								
JTS	JuntasAbangare	80.96	303	LR		LR		03 45 29.3	
	comp=Z,43nm,21.8s,baz=205,slow=35								
TAM	Tamanrasset	83.00	31	*e*P		P		03 10 15.5	+1.7
	5.7nm,1.3s								
APG	El Apazote	87.69	301	P		P		03 10 37.3	-0.2
	6.1nm,0.8s,baz=65,slow=8.4,SNR=4.7								
KEST	Kesra	96.28	30	LR		LR		03 51 19.5	
	comp=Z,303nm,19.7s,baz=297,slow=33								
ASAR	Alice Springs	99.58	163	P		Pdif		03 11 31.1	-1.0
	1.7nm,0.8s,baz=201,slow=4.1,SNR=11								
WRA	Warramunga Arr	103.30	163	Pdiff		Pdif		03 11 48.3	-0.3
	0.8nm,1.0s,baz=195,slow=4.4,SNR=4.4								
AKASG	Malin Array Be	115.97	36	PKP		PKPdf		03 16 30.0	-0.4
	0.2nm,0.4s,baz=232,slow=1.6,SNR=3.1								
MSU	Marysvale	117.83	298	*e*PKPdf		PKPdf		03 16 34.8	+0.1
EDW2	Edwards Air Fo	118.06	291	P		PKPdf		03 16 35.2	+0.2
	baz=140								
TPNV	Topopah Spring	118.72	294	P		PKPdf		03 16 36.2	-0.1
	baz=140								
PDAR	Pinedale Array	119.80	303	PKP		PKPdf		03 16 37.3	-1.1
	0.4nm,0.7s,baz=160,slow=3.5,SNR=3.1								
NOA	NORSAR Array B	120.23	21	PKP		PKPdf		03 16 37.9	-0.4
	1.0nm,0.8s,baz=191,slow=1.3,SNR=3.4								
NVAR	Mina Array Bea	120.90	294	PKP		PKPdf		03 16 40.6	0.0
	0.5nm,0.7s,baz=141,slow=3.0,SNR=4.1								
FRB	Frobisher Bay	123.05	340	PKP		PKPdf		03 16 42.9	-0.6
	2.9nm,0.7s,baz=151,slow=3.6,SNR=10								
EGMT	Eagleton	123.82	307	P		PKPdf		03 16 44.5	-1.2
	baz=137								
WVOR	Wild Horse Val	124.03	297	*e*PKPdf		PKPdf		03 16 47.0	+0.7
FINES	FINESS Array B	124.07	28	PKP		PKPdf		03 16 44.9	-0.6
	2.7nm,0.8s,baz=207,slow=2.1,SNR=11								
O03D	Paynes Creek	124.10	293	P		PKPdf		03 16 46.2	-0.3
	baz=137								
MSO	Missoula	124.90	303	P		PKPdf		03 16 47.6	-0.2
	baz=136								
N02D	Trinity Center	125.07	293	P		PKPdf		03 16 48.1	-0.2
	baz=136								
BMO	Blue Mountains	125.11	300	*e*PKPdf		PKPdf		03 16 47.6	-0.7
M02C	Callahan	125.45	293	P		PKPdf		03 16 49.4	+0.4
	baz=136								
CMAR	Chiang Mai Arr	125.55	111	PKP		PKPdf		03 16 49.0	-0.8
	1.8nm,0.4s,baz=235,slow=3.6,SNR=7.6								
YBH	Yreka Blue Hor	125.62	293	PKP		PKPdf		03 16 48.9	-0.5
	1.0nm,0.7s,baz=325,slow=16,SNR=3.9								
J05D	Fort Rock, OR	125.96	296	P		PKPdf		03 16 50.3	+0.2
	baz=136								
AKTO	Aktyubinsk	127.27	53	PKP		PKPdf		03 16 51.7	-0.4
	3.1nm,0.9s,baz=208,slow=2.9,SNR=7.7								
ABKAR	Akbulak array	127.33	55	*e*PKPdf		PKPdf		03 16 51.8	-0.4
KKAR	Karatay Array	128.31	67	*e*PKPdf		PKPdf		03 16 53.8	-0.6
KSH	Kashi	128.73	74	PKP		PKPdf		03 16 54.5	-0.9

B05A	Bryant	129.85	300	P		PKPdf		03 16 57.5	+0.5
	baz=132								
AAK	Ala-Archa	130.10	71	PKP		PKPdf		03 16 57.6	-0.4
	1.1nm,0.5s,baz=322,slow=2.0,SNR=4.9								
ARCES	ARCESS Array B	130.58	22	PKP		PKPdf		03 16 57.0	-0.8
	7.4nm,0.9s,baz=132,slow=1.3,SNR=6.9								
KMI	Kunming	133.00	110	PKP		PKPdf		03 17 05.1	+1.0
KMI				AMB		AMB			
	comp=Z,110nm,4.0s								
BRVK	Borovoye	134.74	57	*e*PKPdf		PKPdf		03 17 05.9	-0.2
BVAR	Borovoye Array	134.77	57	PKP		PKPdf		03 17 06.6	+0.4
	4.5nm,0.9s,baz=222,slow=1.9,SNR=20								
YKA	Yellowknife Ar	135.57	319	PKhKP		PKPpre		03 17 03.7	
	2.2nm,0.8s,baz=116,slow=2.0,SNR=4.4								
YKA				PKP		PKPdf		03 17 07.9	+0.5
	2.6nm,0.8s,baz=126,slow=2.3,SNR=26								
YKA				PP		PP		03 19 45.2	-0.6
	0.7nm,1.1s,baz=127,slow=6.4,SNR=5.5								
MKAR	Makanchi Array	137.02	71	PKP		PKPdf		03 17 11.2	+0.5
	0.9nm,0.8s,baz=263,slow=6.7,SNR=6.0								
RES	Resolute Bay	137.26	339	PKP		PKPdf		03 17 10.1	-0.1
	3.7nm,0.9s,baz=334,slow=0.3,SNR=16								
RES	Resolute Bay	137.26	339	*e*PKPdf		PKPdf		03 17 10.4	+0.2
KURBB	Kurchatov Arra	137.37	65	PKhKP		PKPpre		03 16 59.0	
	0.3nm,0.3s,baz=235,slow=3.3,SNR=3.5								
KURBB				PKP		PKPdf		03 17 12.3	+1.2
	1.1nm,0.7s,baz=232,slow=2.9,SNR=5.9								
KURK	Kurchatov	137.47	64	PKPpre		PKPpre		03 16 59.0	
KURK				PKP		PKPdf		03 17 12.2	+1.0
CD2	Chengdu	138.10	105	PKP		PKPdf		03 17 13.0	-0.2
WMQ	Urumqi	138.11	78	*e*PKP		PKPdf		03 17 13.8	+1.0
WMQ				LR		LR			
	comp=Z,73nm,17.9s								
LZH	Lanzhou	142.01	100	*e*PKP		PKPdf		03 17 20.3	0.0
LZH				LR		LR			
	comp=N,110nm,18.1s								
LZH				LR		LR			
	comp=E,120nm,18.0s								
LZH				LR		LR			
	comp=Z,170nm,20.2s								
GTA	Gaotai	142.06	93	*e*PKP		PKPdf		03 17 21.6	+1.4
ZALV	Zalesovo Beam	142.42	64	PKhKP		PKPpre		03 17 16.3	
	1.4nm,0.5s,baz=234,slow=5.0,SNR=4.4								
INK	Inuvik	145.20	321	PKPbc		PKPbc		03 17 24.2	-0.1
	33nm,0.9s,baz=97,slow=4.1,SNR=112								
INK	Inuvik	145.20	321	*e*PKPdf		PKPbc		03 17 24.1	-0.2
DAWY	Dawson	146.21	313	*e*PKPbc		PKPdf		03 17 27.0	+0.5
NJ2	Nanjing	146.88	121	*e*PKPbc		PKPbc		03 17 30.3	-0.2
EGAK	Eagle	147.15	314	*e*PKPbc		PKPdf		03 17 29.5	+1.5
BMRM	Bremner River	147.50	306	*e*PKPbc		PKPbc		03 17 31.6	+0.1
DOT	Dot Lake	148.06	311	*e*PKPbc		PKPbc		03 17 32.5	-0.3
DIV	Divide	148.09	306	*e*PKPbc		PKPbc		03 17 33.1	+0.1
PAX	Paxson	148.50	309	*e*PKPbc		PKPbc		03 17 33.8	-0.2
TIA	Tai'an	149.31	114	PKPbc		PKPbc		03 17 36.6	-0.3
SML	Sawmill	149.47	306	*e*PKPbc		PKPbc		03 17 35.9	-0.6
ILAR	Eielson Array	149.53	312	PKPbc		PKPbc		03 17 36.0	-0.5
	24nm,0.9s,baz=126,slow=1.5,SNR=157								
HHC	Hu-ho-hao-te	149.66	102	*e*PKPbc		PKPdf		03 17 30.8	-2.3
COLA	College	149.96	312	*e*PKPbc		PKPbc		03 17 36.6	-0.9
MCK	McKinley	150.19	310	*e*PKPbc		PKPbc		03 17 38.0	-0.2
KDAK	Kodiak Island	150.30	297	*e*PKPbc		PKPbc		03 17 38.2	-0.3
OHAK	Old Harbor	150.47	296	*e*PKPbc		PKPbc		03 17 38.6	-0.3
TRF	Thorofare Moun	150.73	309	*e*PKPbc		PKPbc		03 17 39.2	-0.4
SONM	Songino Array	151.01	86	PKPbc		PKPbc		03 17 40.5	-0.2
	14nm,0.8s,baz=218,slow=2.7,SNR=45								
KTH	Kantishna Hill	151.03	309	*e*PKPbc		PKPbc		03 17 39.5	-0.7
TOLK	Toolik Lake Re	151.08	320	P		PKPbc		03 17 40.0	-0.2
	baz=93								
BPAW	Bear Paw Mtn.	151.15	310	*e*PKPdf		PKPdf		03 17 35.0	+0.5
BPAW				*e*PKPbc		sPKPdf		03 17 39.8	+0.7
COLD	Coldfoot	151.22	317	*e*PKPbc		PKPbc		03 17 40.7	+0.2
TLY	Talaya	151.38	77	*e*PKPbc		PKPbc		03 17 41.3	-0.1
ULN	Ulaanbaatar	151.40	86	*e*PKPbc		PKPbc		03

DZM	**Mont Dzumac**	**17.75**	**254**	*e*P	**P**	**03 11 56.6**	**-0.4**
	50nm,0.9s							
OUZ	**Omahuta**	**19.82**	**208**	*e*P	**P**	**03 12 20.1**	**+1.0**
	49nm,1.3s							
URZ	**Urewera**	**21.25**	**197**	P	**P**	**03 12 34.4**	**+0.3**
	15nm,0.4s,baz=337,slow=2.5,SNR=18							
URZ				S	**S**	**03 16 11.6**	**-3.7**
	2.8nm,0.4s,baz=45,slow=2.9,SNR=2.2							
HIZ	**Hauiti**	**22.18**	**201**	*e*P	**P**	**03 12 45.9**	**+2.8**
	152nm,1.5s							
OXZ	**Oxford**	**27.44**	**201**	*e*P	**P**	**03 13 30.6**	**+0.3**
	23nm,0.7s							
RPZ	**Rata Peaks**	**28.12**	**202**	P	**P**	**03 13 36.0**	**-0.4**
	4.6nm,0.5s,baz=52,slow=9.2,SNR=4.2							
RPZ	**Rata Peaks**	**28.12**	**202**	P	**P**	**03 13 36.0**	**-0.4**
EIDS	**Eidsvold**	**32.14**	**251**	P	**P**	**03 14 12.1**	**+0.1**
	baz=32,SNR=4.5							
EIDS	**Eidsvold**	**32.14**	**251**	*e*P	**P**	**03 14 10.9**	**-1.1**
	32nm,1.4s							
ARMA	**Armidale**	**32.58**	**242**	P	**P**	**03 14 16.4**	**+0.6**
	baz=33,SNR=15							
ARMA	**Armidale**	**32.58**	**242**	*e*P	**P**	**03 14 16.2**	**+0.3**
	22nm,0.6s							
RMQ	**Roma**	**34.35**	**249**	P	**P**	**03 14 32.4**	**+1.4**
	baz=35,SNR=5.8							
CNB	**Canberra Magne**	**35.83**	**234**	P	**P**	**03 14 43.9**	**+0.3**
	baz=36,SNR=5.6							
CTAO	**Charters Tower**	**36.48**	**260**	*e*P	**P**	**03 14 48.4**	**-0.9**
	13nm,0.6s							
PMG	**Port Moresby**	**37.54**	**278**	*e*P	**P**	**03 14 58.4**	**+0.2**
	38nm,1.2s							
CMSA	**Cobar Meteorol**	**37.80**	**242**	P	**P**	**03 14 59.9**	**-0.3**
	baz=38,SNR=26							
QLP	**Quilpie**	**38.39**	**250**	P	**P**	**03 15 04.8**	**-0.4**
	baz=39,SNR=16							
MTSU	**Mount Surprise**	**38.47**	**263**	P	**P**	**03 15 04.9**	**-1.1**
	baz=39,SNR=10							
TOO	**Toolangi**	**39.52**	**232**	P	**P**	**03 15 14.3**	**-0.1**
	baz=40,SNR=3.9							
MANU	**Manus Island**	**40.05**	**289**	*e*P	**P**	**03 15 21.1**	**+2.0**
	17nm,0.9s							
COEN	**Coen**	**40.20**	**270**	P	**P**	**03 15 19.8**	**-0.5**
	baz=40,SNR=23							
COEN	**Coen**	**40.20**	**270**	*e*P	**P**	**03 15 20.1**	**-0.2**
	14nm,0.6s							
STKA	**Stephens Creek**	**41.29**	**242**	P	**P**	**03 15 29.0**	**0.0**
	34nm,0.9s,baz=87,slow=9.9,SNR=24							
STKA	**Stephens Creek**	**41.29**	**242**	P	**P**	**03 15 29.4**	**+0.3**
	baz=42,SNR=19							
ARPS	**Mount Arapiles**	**42.09**	**235**	P	**P**	**03 15 35.2**	**-0.1**
	baz=42,SNR=5.9							
QIS	**Mount Isa**	**42.67**	**259**	P	**P**	**03 15 39.9**	**-0.4**
	baz=43,SNR=3.1							
HTT	**Hallett**	**43.76**	**240**	P	**P**	**03 15 48.4**	**-0.4**
	baz=44,SNR=15							
BBOO	**Buckleboo**	**46.06**	**242**	P	**P**	**03 16 06.5**	**-0.4**
	baz=46,SNR=63							
BBOO	**Buckleboo**	**46.06**	**242**	*e*P	**P**	**03 16 06.5**	**-0.4**
	88nm,0.6s							
WB2	**Warramunga Arr**	**47.64**	**259**	*e*P	**P**	**03 16 18.2**	**-1.1**
	30nm,0.6s							
WRAB	**Tennant Creek**	**47.64**	**259**	*e*P	**P**	**03 16 18.2**	**-1.2**
	24nm,0.6s							
WRA	**Warramunga Arr**	**47.65**	**259**	P	**P**	**03 16 18.3**	**-1.1**
	27nm,0.6s,baz=98,slow=6.3,SNR=437							
WRA				PcP	**PcP**	**03 17 45.1**	**-0.1**
	1.6nm,0.8s,baz=95,slow=2.8,SNR=3.2							
AS01	**Alice Springs**	**47.69**	**254**	*e*P	**P**	**03 16 18.8**	**-0.9**
AS31	**Alice Springs**	**47.73**	**254**	*e*P	**P**	**03 16 19.4**	**-0.6**
	38nm,0.6s							
ASAR	**Alice Springs**	**47.73**	**254**	P	**P**	**03 16 19.8**	**-0.3**
	149nm,0.7s,baz=91,slow=7.8,SNR=1273							
ASAR				PcP	**PcP**	**03 17 45.5**	**0.0**
	2.1nm,0.7s,baz=96,slow=5.7,SNR=2.9							
ASAR				S	**S**	**03 22 54.8**	**-4.2**
	0.9nm,0.7s,baz=91,slow=15,SNR=6.8							
MTN	**Manton Dam**	**51.89**	**268**	P	**P**	**03 16 50.0**	**-1.3**
	baz=52,SNR=22							
MTN	**Manton Dam**	**51.89**	**268**	*e*P	**P**	**03 16 50.0**	**-1.3**
	41nm,0.8s							
WRKA	**Warakurna**	**52.75**	**252**	P	**P**	**03 16 56.9**	**-0.7**
	baz=53,SNR=56							
FORT	**Forrest**	**52.75**	**245**	*e*P	**P**	**03 16 56.4**	**-1.1**
	386nm,0.8s							
KNRA	**Kununurra**	**53.55**	**264**	P	**P**	**03 17 02.5**	**-1.0**
	baz=54,SNR=17							
SOEI	**Soe**	**59.17**	**269**	*e*P	**P**	**03 17 43.8**	**+0.5**
BATI	**Baumata**	**59.62**	**269**	P	**P**	**03 17 45.9**	**-0.4**
	33nm,0.7s,baz=183,slow=13,SNR=6.4							
VNDA	**Vanda**	**60.60**	**186**	P	**P**	**03 17 51.9**	**+0.1**
	0.8nm,0.6s,baz=24,slow=6.4,SNR=4.9							
MBWA	**Marble Bar**	**61.04**	**255**	*e*P	**P**	**03 17 54.9**	**-0.8**
	35nm,0.5s							
MEEK	**Meekatharra**	**61.28**	**249**	P	**P**	**03 17 56.1**	**-1.2**
	baz=62,SNR=5.6							
KLBR	**Kellerberrin**	**61.54**	**243**	P	**P**	**03 17 58.3**	**-0.6**
	baz=62,SNR=13							
BLDU	**Ballidu**	**62.52**	**244**	P	**P**	**03 18 04.6**	**-0.8**
	baz=63,SNR=13							
MORW	**Morawa**	**63.26**	**246**	P	**P**	**03 18 09.0**	**-1.3**
	baz=64,SNR=3.6							
JAGI	**Jajag, Banyuwa**	**69.13**	**268**	*e*P	**P**	**03 18 46.4**	**-1.4**
	54nm,0.7s							
MJAR	**Matsushiro Arr**	**69.90**	**321**	P	**P**	**03 18 51.5**	**-0.5**
	8.2nm,0.7s,baz=168,slow=6.6,SNR=20							
MAT	**Matsushiro**	**69.90**	**321**	P	**P**	**03 18 51.8**	**-0.2**
MJB9	**Matsu-Tunnel**	**69.91**	**321**	*e*P	**P**	**03 18 51.6**	**-0.5**
	48nm,1.6s							
QSPA	**South Pole Qui**	**72.02**	**180**	P	**P**	**03 19 05.8**	**+1.4**
	1.8nm,0.5s,baz=119,slow=2.7,SNR=8.3							
JNU	**Nakatsue**	**72.41**	**315**	P	**P**	**03 19 06.7**	**-0.5**
	20nm,0.7s,baz=117,slow=2.3,SNR=16							
JNU	**Nakatsue**	**72.41**	**315**	*e*P	**P**	**03 19 06.9**	**-0.2**
UGM	**Wanagama**	**72.73**	**267**	*e*P	**P**	**03 19 09.3**	**-0.2**
	67nm,0.7s							
H06S1	**SOCORRO T**	**72.89**	**63**	T	T	04 37 19.9		
	SNR=4.4							
ASAJ	**Asahikawa**	**72.92**	**330**	P	**P**	**03 19 10.7**	**+0.8**
	3.4nm,0.5s,baz=203,slow=7.7,SNR=5.0							
PETK	**Petropavlovsk-**	**74.64**	**343**	P	**P**	**03 19 19.4**	**-0.2**
	2.7nm,0.7s,baz=131,slow=8.1,SNR=4.2							
KSM	**Kuching**	**75.78**	**276**	*e*P	**P**	**03 19 27.2**	**+0.2**
	24nm,0.8s							
LEM	**Lembang**	**75.81**	**267**	P	**P**	**03 19 27.6**	**+0.2**
	52nm,0.7s,baz=38,slow=19,SNR=3.8							
YBH	**Yreka Blue Hor**	**76.71**	**38**	P	**P**	**03 19 31.9**	**+0.2**
	0.8nm,0.5s,baz=202,slow=19,SNR=4.3							
KSRS	**Korea Array**	**76.89**	**317**	P	**P**	**03 19 33.9**	**+1.2**
	5.6nm,0.8s,baz=132,slow=6.9,SNR=19							
KSAR	**Wonju Array Be**	**76.91**	**317**	P	**P**	**03 19 33.9**	**+1.1**
NV01	**Mina Array Sit**	**77.40**	**42**	*e*P	**P**	**03 19 36.0**	**+0.1**
NVAR	**Mina Array Bea**	**77.40**	**42**	P	**P**	**03 19 35.3**	**-0.5**
	1.3nm,0.8s,baz=229,slow=8.8,SNR=7.5							
NJ2	**Nanjing**	**80.44**	**308**	*e*P	**P**	**03 19 51.8**	**-0.3**
NJ2				pmax	pmax			
	comp=Z,17nm,0.5s							
CN2	**Changchun**	**82.04**	**321**	*e*P	**P**	**03 20 03.0**	**+2.7**
TX31	**Lajitas Ar. Si**	**83.47**	**56**	*e*P	**P**	**03 20 09.5**	**+1.4**
TXAR	**Lajitas Array**	**83.47**	**56**	P	**P**	**03 20 09.0**	**+0.8**
	0.8nm,0.9s,baz=220,slow=7.5,SNR=7.5							
TXAR				pP	**pP**	**03 21 07.5**	**+4.4**
	1.1nm,1.1s,baz=207,slow=5.3,SNR=4.4							
MAW	**Mawson**	**84.77**	**199**	P	**P**	**03 20 13.9**	**+0.1**
	3.3nm,0.7s,baz=147,slow=8.1,SNR=8.8							
PDAR	**Pinedale Array**	**85.34**	**42**	P	**P**	**03 20 16.9**	**-0.4**
	0.8nm,1.0s,baz=309,slow=0.9,SNR=4.0							
PDAR				pP	**pP**	**03 21 15.2**	**+2.7**
	0.4nm,0.7s,baz=211,slow=2.6,SNR=3.1							
ILAR	**Eielson Array**	**85.35**	**12**	P	**P**	**03 20 15.7**	**-0.9**
	1.1nm,0.6s,baz=220,slow=5.6,SNR=15							
ILAR				pP	**pP**	**03 21 15.8**	**+4.0**
	1.2nm,1.0s,baz=210,slow=5.4,SNR=5.0							
IPM	**Ipoh**	**85.51**	**276**	*e*P	**P**	**03 20 18.8**	**+0.2**
	25nm,0.9s							
PSI	**Prapat**	**86.98**	**274**	P	**P**	**03 20 25.8**	**-0.1**
	18nm,0.8s,baz=88,slow=4.5,SNR=20							
GSI	**Gunungsitoli**	**87.80**	**272**	*e*P	**P**	**03 20 30.7**	**+1.0**
	40nm,1.0s							
GYA	**Guiyang**	**87.81**	**299**	*e*P	**P**	**03 20 30.4**	**+0.9**
GYA				pP	pP	03 21 18.6	-6.5
GYA				PP	**PP**	**03 24 01.5**	**+2.4**
GYA				SKS	**SKSac**	**03 30 38.0**	**+1.8**
GYA				S	**S**	**03 30 55.3**	**+2.4**
GYA				pmax	pmax			
	comp=Z,20nm,1.0s							
XAN	**Xi'an**	**88.82**	**306**	P	**P**	**03 20 35.3**	**+1.3**
XAN				pmax	pmax			
	comp=Z,5.0nm,0.9s							
XAN				pmax	pmax			
	comp=Z,140nm,7.8s							
XAN				LR	LR			
	comp=Z,140nm,15.9s							
PLCA	**Paso Flores**	**88.98**	**133**	P	**P**	**03 20 35.0**	**+0.2**
	2.4nm,0.8s,baz=263,slow=22,SNR=3.5							
HHC	**Hu-ho-hao-te**	**89.59**	**313**	*e*P	**P**	**03 20 38.8**	**+1.2**
HHC				S	**S**	**03 31 08.1**	**-0.9**
HHC				pmax	pmax			
	comp=Z,24nm,1.5s							
HHC				pmax	pmax			
	comp=Z,82nm,8.1s							
SYO	**Syowa Base**	**89.69**	**192**	⇑*e*PcP	**PcP**	**03 20 39.6**	**+1.1**
SNAA	**Sanae**	**90.36**	**178**	P	**P**	**03 20 40.1**	**-0.5**
	2.0nm,1.1s,baz=286,slow=15,SNR=2.6							
KMI	**Kunming**	**90.66**	**296**	P	**P**	**03 20 43.5**	**+0.5**
KMI				pmax	pmax			
	comp=Z,26nm,0.5s							
KMI				pmax	pmax			
	comp=Z,130nm,5.2s							
INK	**Inuvik**	**91.22**	**14**	P	**P**	**03 20 44.0**	**-0.3**
	1.9nm,0.9s,baz=204,slow=2.7,SNR=4.7							
CD2	**Chengdu**	**91.76**	**302**	*e*P	**P**	**03 20 47.0**	**-0.8**
CMAR	**Chiang Mai Arr**	**91.85**	**289**	P	**P**	**03 20 49.3**	**+0.9**
	1.3nm,0.6s,baz=118,slow=2.3,SNR=5.9							
YKA	**Yellowknife Ar**	**93.18**	**24**	P	**P**	**03 20 53.0**	**-0.4**
	0.4nm,0.7s,baz=242,slow=4.3,SNR=4.3							
YKA	**Yellowknife Ar**	**93.18**	**24**	P	**P**	**03 20 53.0**	**-0.4**
LZH	**Lanzhou**	**93.44**	**307**	*e*P	**P**	**03 20 52.3**	**-3.2**
LZH				PP	**PP**	**03 24 41.9**	**-1.5**
LZH				SKS	**SKSac**	**03 31 07.3**	**-0.8**
LZH				*e*S	**S**	**03 31 40.8**	**-2.9**
LZH				pmax	pmax			
	comp=Z,24nm,1.1s							
LZH				pmax	pmax			
	comp=Z,160nm,6.4s							
GTA	**Gaotai**	**97.52**	**309**	*e*P	Pdif	03 21 18.5	+4.5	
GTA				pmax	pmax			
	comp=Z,3.0nm,0.9s							
MKAR	**Makanchi Array**	**111.45**	**314**	PKiKP	**PKiKP**	**03 26 11.5**	**-1.1**
	0.5nm,0.6s,baz=97,slow=1.3,SNR=6.0							
KURK	**Kurchatov**	**113.99**	**318**	PKP	**PKiKP**	**03 26 16.1**	**-1.2**
KURBB	**Kurchatov Arra**	**114.05**	**318**	PKP	**PKiKP**	**03 26 16.1**	**-1.3**
	0.3nm,0.3s,baz=86,slow=2.0,SNR=2.7							
BVAR	**Borovoye Array**	**118.90**	**321**	PKP	**PKPdf**	**03 26 26.1**	**-0.6**
	1.1nm,0.6s,baz=108,slow=0.5,SNR=8.4							
ARCES	**ARCESS Array B**	**126.96**	**351**	PKP	**PKPdf**	**03 26 40.9**	**-0.8**
	1.8nm,0.8s,baz=68,slow=0.0,SNR=8.6							
FINES	**FINESS Array B**	**134.11**	**346**	PKP	**PKPdf**	**03 26 55.5**	**+0.1**
	1.9nm,0.9s,baz=315,slow=0.7,SNR=4.0							
AKASG	**Malin Array Be**	**142.06**	**335**	PKhKP	PKPpre	03 27 04.6		
	0.2nm,0.3s,baz=37,slow=4.1,SNR=5.4							
KMBO	**Kilima Mbogo**	**142.85**	**243**	PKP	**PKPdf**	**03 27 11.1**	**-2.2**
	0.8nm,0.3s,baz=16,slow=4.4,SNR=4.8							
KWP	**Kalwaria Pacla**	**145.35**	**339**	*e*PKP	**PKPab**	**03 27 16.8**	**-0.1**
OJC	**Ojcow**	**145.73**	**343**	*e*PKP	**PKPbc**	**03 27 17.3**	**-0.3**
STHS	**Stebnicka Huta**	**146.01**	**341**	*e*PKP	**PKPab**	**03 27 19.1**	**-0.4**
KSP	**Ksiaz**	**146.02**	**347**	*e*PKP	**PKPab**	**03 27 18.9**	**-0.5**
CLL	**Collm**	**146.18**	**351**	⇓*i*PKPbc	**PKPbc**	**03 27 18.6**	**-0.3**
	comp=Z,6.0nm,0.7s							
CLL				⇑*i*PKPab	**PKiKP**	**03 27 20.9**	**-0.9**
NIE	**Niedzica**	**146.30**	**342**	*e*PKP	**PKPbc**	**03 27 19.8**	**+0.4**
CRVS	**Cervenica-Dubn**	**146.40**	**340**	*e*PKP	**PKPbc**	**03 27 20.0**	**+0.4**
UPC	**Upice**	**146.40**	**347**	*e*PKP	**PKPbc**	**03 27 20.1**	**+0.5**
BRG	**Berggiesshubel**	**146.45**	**350**	*e*PKP	**PKPbc**	**03 27 19.7**	**0.0**
	comp=Z,4.4nm,0.8s							
DPC	**Dobruska-Polom**	**146.48**	**347**	*e*PKP	**PKPab**	**03 27 20.6**	**-0.7**
PVCC	**Panska Ves**	**146.67**	**349**	*e*PKP	**PKPbc**	**03 27 20.9**	**+0.6**
LANS	**Liptovska Anna**	**146.79**	**342**	*e*PKP	**PKPab**	**03 27 21.8**	**-0.7**
BRTR	**Keskin Array B**	**147.03**	**317**	PKPbc	**PKPbc**	**03 27 21.7**	**-0.2**
	comp=Z,4.7nm,0.9s,baz=134,slow=3.6,SNR=31							
PRU	**Pruhonice**	**147.19**	**348**	*e*PKP	**PKPbc**	**03 27 22.2**	**+0.4**
MLR	**Muntele Rosu**	**147.48**	**332**	PKPbc	**PKPbc**	**03 27 22.0**	**-0.9**
	comp=Z,1.0nm,1.0s,baz=84,slow=7.4,SNR=7.5							
VYHS	**Vyhne**	**147.56**	**343**	*e*PKP	**PKPbc**	**03 27 23.3**	**+0.4**
ASF	**Jabal al Asfar**	**147.89**	**302**	PKPab	**PKPab**	**03 27 27.4**	**-0.2**
	comp=Z,2.1nm,0.8s,baz=61,slow=3.2,SNR=3.5							
KHC	**Kasperske Hory**	**148.19**	**349**	*e*PKP	**PKPbc**	**03 27 25.0**	**+0.5**
KHC				*ex*	x	03 27 28.1		
GERES	**GERESS Array B**	**148.44**	**349**	PKPbc	**PKPbc**	**03 27 25.2**	**0.0**
	comp=Z,2.0nm,0.8s,baz=22,slow=3.2,SNR=15							
MMAI	**Mount Meron Ar**	**148.79**	**304**	PKPbc	**PKPbc**	**03 27 27.0**	**+0.4**
	comp=Z,4.5nm,0.7s,baz=64,slow=5.7,SNR=8.2							
MMAI				PKPab	**PKPab**	**03 27 32.3**	**+1.1**
	comp=Z,1.2nm,0.4s,baz=66,slow=4.7,SNR=7.3							
ARSA	**Arzberg**	**149.57**	**346**	*e*PKiKP	**PKiKP**	**03 27 28.5**	**-0.5**
	comp=Z,4.0nm,1.3s							
KBA	**Koelnbreinsper**	**150.21**	**348**	*e*PKPbc	**PKPbc**	**03 27 29.2**	**-0.6**
	comp=Z,2.1nm,0.5s							
SOKA	**Soboth**	**150.23**	**346**	*e*PKPbc	**PKPbc**	**03 27 29.2**	**-0.5**
	comp=Z,7.8nm,1.2s							
MOTA	**Moosalm**	**150.32**	**351**	*e*PKiKP	**PKPbc**	**03 27 30.3**	**+0.3**
	comp=Z,7.7nm,1.0s							
ABTA	**Abfaltersbach**	**150.68**	**349**	*e*PKPbc	**PKPbc**	**03 27 30.2**	**-0.5**
	comp=Z,6.3nm,0.7s							
FETA	**Feichten**	**150.69**	**352**	*e*PKiKP	**PKPbc**	**03 27 30.7**	**-0.2**
	comp=Z,6.1nm,1.0s							
ESDC	**Sonseca Array**	**157.13**	**18**	PKPab	**PKPab**	**03 28 06.1**	**0.0**
	comp=Z,0.1nm,0.4s,baz=345,slow=9.3,SNR=3.1							
TORD	**Torodi Ar. Bea**	**174.27**	**148**	PKP	**PKPdf**	**03 27 47.3**	**-1.4**
	comp=Z,0.3nm,0.7s,baz=308,slow=2.3,SNR=2.9							
TORD				PKPab	**PKPab**	**03 29 21.7**	**-0.2**
	comp=Z,0.8nm,1.0s,baz=186,slow=1.3,SNR=3.1							

*ISCJB **23** 03:10:24.7±0.6,6°.84N±0°.03×73°.15W±0°.05,h156km±5km, mb3.2/2, Error ellipse: s-maj=8.1km s-min=5.0km az=22.3*
*IDC **23** 03:10:24.6±0.9,6°.71N×72°.94W,h164km±12km,mb2.8/2, mb1 3.2/4,mb1mx2.9/45,mbtmp3.3/4, Error ellipse: s-maj=42.6km s-min=8.1km az=132.0*
*RSNC **23** 03:10:26.2±1.3,6°.79N×73°.16W,h150km±7km, ML2.9*

ISC 23 03:10:24.8±0.9, 6°.82N±0°.04×73°.12W±0°.05, h156km±6km, n19, σ0°95/33, 1C-1D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BARC	**Barichara**	**0.23**	**197**	*e*P	**Pn**	**03 10 46.5**	**+0.3**
BARC				*e*S	**Sn**	**03 11 01.3**	**-1.2**
BARC				*i*		03 11 02.8	
	comp=Z,308nm,0.2s						
BRRC	**Barranca, Sant**	**0.66**	**296**	⇑*i*P	**Pn**	**03 10 48.3**	**+0.6**
BRRC				*e*S	**Sn**	**03 11 05.5**	**+0.2**
BRRC				*i*		03 11 06.6	
	comp=Z,179nm,0.1s						
PAMC	**Pamplona, Colo**	**0.66**	**38**	*e*P	**Pn**	**03 10 49.3**	**+1.0**
PAMC				*e*S	**Sn**	**03 11 06.2**	**0.0**
RUSC	**La Rusia**	**0.92**	**178**	⇓*i*P	**Pn**	**03 10 50.3**	**+0.2**
RUSC				*e*S	**Sn**	**03 11 09.1**	**-0.4**
RUSC				*i*		03 11 10.9	
	comp=Z,142nm,0.4s						
PTBC	**PUERTO BERRIO,**	**1.36**	**258**	*e*P	**Pn**	**03 10 53.1**	**-0.3**
PTBC				*e*S	**Sn**	**03 11 13.8**	**-1.6**
PTBC				*i*		03 11 16.5	
	comp=Z,48nm,0.2s						
OCAC	**Ocana**	**1.43**	**352**	*e*P	**Pn**	**03 10 55.1**	**+0.8**
OCAC				*e*S	**Sn**	**03 11 17.6**	**+0.6**
ZARC	**Zaragoza, Cauc**	**1.86**	**291**	*e*P	**Pn**	**03 10 59.0**	**+0.3**
ZARC				*e*S	**Sn**	**03 11 24.1**	**-0.6**
ZARC				*i*		03 11 30.0	
	comp=Z,76nm,0.2s						
NORC	**Norcasia**	**2.14**	**235**	*e*P	**Pn**	**03 11 02.5**	**+0.5**
NORC				*e*S	**Sn**	**03 11 29.1**	**-1.6**
CHIC	**Chingaza**	**2.26**	**196**	*e*P	**Pn**	**03 11 04.5**	**+0.8**
CHIC				*e*S	**Sn**	**03 11 33.6**	**-0.2**
CHIC				*i*		03 11 43.4	
	comp=Z,48nm,0.6s						
ROSC	**El Rosal**	**2.30**	**211**	P	**Pn**	**03 11 06.3**	**+2.1**
	comp=Z,11nm,0.3s,baz=49,slow=9.3,SNR=39						
ROSC				S	**Sn**	**03 11 35.3**	**+0.7**
	comp=Z,24nm,0.3s,baz=206,slow=23,SNR=13						
HELC	**Santa Helena**	**2.48**	**256**	*e*P	**Pn**	**03 11 08.2**	**+1.9**
HELC				*e*S	**Sn**	**03 11 37.0**	**-1.2**
HELC				*i*		03 11 45.6	
	comp=Z,34nm,0.2s						
VILC	**Villavicencio,**	**2.75**	**192**	*e*P	**Pn**	**03 11 09.9**	**+0.5**
VILC				*e*S	**Sn**	**03 11 43.1**	**-0.8**
VILC				*i*		03 11 54.1	
	comp=Z,42nm,0.3s						
CODC	**Agust`>n Codaz**	**3.12**	**354**	*e*P	**Pn**	**03 11 13.8**	**0.0**
CODC				*e*S	**Sn**	**03 11 51.8**	**-0.2**
CODC				*i*		03 11 56.8	
	comp=Z,30nm,0.4s						
SDV	**Santo Domingo**	**3.21**	**50**	P	**Pn**	**03 11 15.7**	**+0.5**
	comp=Z,3.9nm,0.3s,baz=225,slow=5.7,SNR=18						
SDV				S	**Sn**	**03 11 53.2**	**-1.1**
	comp=Z,8.1nm,0.3s,baz=266,slow=19,SNR=26						
SDV	**Santo Domingo**	**3.21**	**50**	*e*P	**Pn**	**03 11 15.5**	**+0.3**
PRAC	**Prado**	**3.55**	**210**	*e*P	**Pn**	**03 11 19.7**	**+0.2**
TXAR	**Lajitas Array**	**36.47**	**312**	P	**P**	**03 17 16.2**	**+1.2**
	comp=Z,0.1nm,0.5s,baz=135,slow=12,SNR=2.6						
YKA	**Yellowknife Ar**	**63.27**	**340**	P	**P**	**03 20 35.9**	**-0.6**
	comp=Z,1.1nm,1.1s,baz=131,slow=6.7,SNR=7.6						
WRA	**Warramunga Arr**	**150.34**	**241**	PKPbc	**PKPbc**	**03 29 57.4**	**-1.2**
	comp=Z,0.2nm,0.8s,baz=104,slow=3.4,SNR=2.7						

*TIR **23** 03:15:25.8,39°.54N×20°.26E,h25km,Md1.8/2*
*CSEM **23** 03:15:26.8±0.3,39°.67N×20°.34E,h20km,ML1.8, Error ellipse: s-maj=12.6km s-min=7.2km az=13.0*

ATH 23 03:15:27.0,39°.69N×20°.36E,h14km±3km,ML1.8/2, Error ellipse: s-maj=3.3km s-min=1.1km az=205.0, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SGD	**Sagiada**	**0.12**	**233**	P	Pg	03 15 30.1	-0.4
SGD	**Sagiada**	**0.12**	**233**	P	Pg	03 15 30.2	-0.3
IGT	**Igoumenitsa**	**0.16**	**188**	P	Pg	03 15 30.2	-0.7
IGT				S	Sb	03 15 34.2	-0.5
IGT				AML	AML	03 15 34.8	
	comp=N,1202μm,0.3s						
IGT				AML	AML	03 15 34.9	
	comp=E,665μm,0.3s						
IGT	**Igoumenitsa**	**0.16**	**188**	P	Pg	03 15 30.5	-0.4
IGT				S	Sg	03 15 34.0	+0.4
KASA	**Kassiopi**	**0.33**	**280**	P	Pg	03 15 33.7	-0.2
KASA	**Kassiopi**	**0.33**	**280**	P	Pg	03 15 33.8	-0.1
SRN	**Sarande**	**0.34**	**305**	*i* Pg	Pb	03 15 34.6	-0.2
SRN				*i* Sg	Sb	03 15 41.2	+1.2
SRN	**Sarande**	**0.34**	**305**	*i* PG	Pb	03 15 34.6	-0.1
SRN				*i* SG	Sb	03 15 41.2	+1.2
JAN	**Janina**	**0.38**	**94**	P	Pb	03 15 35.1	-0.4
JAN				S	Sg	03 15 40.5	+0.6
JAN				AML	AML	03 15 42.7	
	comp=E,427μm,0.4s						
JAN				AML	AML	03 15 42.7	
	comp=N,333μm,0.4s						
JAN	**Janina**	**0.38**	**94**	P	Pg	03 15 34.8	+0.1
JAN				S	Sg	03 15 40.3	+0.4
KEK	**Kerkira**	**0.43**	**274**	P	Pb	03 15 36.1	-0.3
KEK				S	Sg	03 15 42.1	+0.5
KEK	**Kerkira**	**0.43**	**274**	P	Pg	03 15 35.9	+0.2
KEK				S	Sg	03 15 42.0	+0.4
PENT	**Pentalofos**	**0.78**	**49**	P	Pg	03 15 42.1	-0.2
PENT	**Pentalofos**	**0.78**	**49**	P	Pg	03 15 42.0	-0.3
DSL	**Palaion Diasel**	**0.79**	**134**	P	Pg	03 15 41.3	-1.1
DSL	**Palaion Diasel**	**0.79**	**134**	P	Pg	03 15 41.7	-0.7
KPRO	**Kipourio**	**0.82**	**71**	P	Pg	03 15 42.3	-0.6
KPRO	**Kipourio**	**0.82**	**71**	P	Pg	03 15 42.4	-0.5
LKD2	**Lefkada island**	**0.93**	**166**	P	Pn	03 15 45.5	-0.1
LKD2	**Lefkada island**	**0.93**	**166**	P	Pg	03 15 45.0	+0.1
AGG	**Agios Georgios**	**1.66**	**113**	P	Pb	03 15 57.6	+0.2
AGG	**Agios Georgios**	**1.66**	**113**	P	Pb	03 15 57.7	+0.3

MEX 23 03:31:06.4±0.8, 16°.00N×98°.26W, h6km±7km, MD3.9, Near coast of Guerrero

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

comp=Z,0.4nm,0.3s,baz=194,slow=17,SNR=2.3
LPAZ La Paz 23.52 157 LR LR 03 55 33.6
comp=Z,53nm,18.8s,baz=22,slow=38
TORD Torodi Ar. Bea 78.31 78 P **P 03 51 59.2 +1.3**
comp=Z,0.2nm,0.7s,baz=280,slow=5.6,SNR=4.1
ASAR Alice Springs 144.73 236 PKP **PKPab 03 59 33.8 +0.3**
comp=Z,0.4nm,0.8s,baz=124,slow=4.2,SNR=5.8
WRA Warramunga Arr 145.83 242 PKPbc PKPdf **03 59 36.8 +0.1**
comp=Z,0.4nm,0.8s,baz=101,slow=1.2,SNR=4.3

MAN 23 03:49:08,11˚34N×124˚57E,h6km,mb4.2,ML3.0,MS2.7, 1C-2D,Leyte

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PLP	**Palo**	**0.44**	**113**	⇓*iP*		Pg	03 49 17.2	+0.8
PLP				*i* S		Sb	03 49 23.8	-1.1
CNP	**Catarman**	**1.17**	**4**	*e*P		Pg	03 49 30.1	-0.4
CNP				*e*S		Sn	03 49 47.2	0.0
LLP	**Lapu-Lapu**	**1.18**	**210**	⇓*e*P		Pg	03 49 29.7	-0.9
LLP				*e*S		Sg	03 49 44.6	-1.4
MSLP	**Maasin**	**1.23**	**167**	*e*P		Pb	03 49 31.7	0.0
MSLP				*e*S		Sn	03 49 49.8	+1.1
RCP	**Roxas**	**1.80**	**277**	⇑*e*P		Pn	03 49 39.8	+0.2

*CSEM **23** 03:51:16.6±0.3, 37˚.50N×20˚.56E, h2km, ML3.6, Error ellipse: s-maj=6.0km s-min=2.9km az=47.0*
*IDC **23** 03:51:16.2±0.8, 37˚.69N×20˚.69E, h0km, mb3.7/14, mb1 3.7/24,mb1mx3.6/70,mbtmp3.6/24,ML3.4/7, Error ellipse: s-maj=14.7km s-min=12.7km az=157.0*
*THE **23** 03:51:17.7, 37˚.51N×20˚.61E, h6km, ML3.7/9, Error ellipse: s-maj=0.6km s-min=0.3km az=60.0*
*BEO **23** 03:51:17.4±0.8, 37˚.52N×20˚.31E, h5km±4km*
*ATH **23** 03:51:18.4, 37˚.56N×20˚.72E, h12km±1km, ML3.6/19, Error ellipse: s-maj=2.2km s-min=0.8km az=61.0*

ISC 23 03:51:17.8±1.1, 37˚.54N±0˚.02×20˚.62E±0˚.03, h12km±7km, n225,σ1°32/282, mb3.6/14, 7C-12D, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
VTN	**Vitineika**	**0.58**	**49**	P		**Pg**	**03 51 29.5**	**+0.2**
VTN				S		**Sg**	**03 51 36.8**	**-0.2**
VTN	**Vitineika**	**0.58**	**49**	P		**Pg**	**03 51 29.4**	**+0.2**
VTN				S		**Sb**	**03 51 38.4**	**+0.2**
VTN	**Vitineika**	**0.58**	**49**	P		**Pg**	**03 51 28.9**	**-0.3**
VTN				S		**Sb**	**03 51 38.4**	**+0.2**
KFL	**Anninata**	**0.59**	**13**	P		**Pg**	**03 51 29.6**	**+0.4**
KFL				S		**Sg**	**03 51 36.6**	**-0.4**
KFL				AML	AML		03 51 40.4	
	comp=N,17429μm,0.4s							
KFL				AML	AML		03 51 40.9	
	comp=E,20585μm,0.3s							
KFL	**Anninata**	**0.59**	**13**	P		**Pg**	**03 51 29.4**	**+0.1**
KFL				S		**Sb**	**03 51 38.5**	**+0.3**
KFL	**Anninata**	**0.59**	**13**	P		**Pg**	**03 51 29.4**	**+0.1**
KFL				S		**Sg**	**03 51 36.8**	**-0.2**
VLS	**Valsamata**	**0.64**	**358**	P		**Pb**	**03 51 30.8**	**-0.1**
VLS				S		**Sg**	**03 51 38.6**	**-0.1**
VLS				AML	AML		03 51 46.1	
	comp=E,5990μm,0.4s							
VLS				AML	AML		03 51 49.3	
	comp=N,6996μm,0.5s							
VLS	**Valsamata**	**0.64**	**358**	P		**Pg**	**03 51 30.6**	**+0.3**
VLS				S		**Sb**	**03 51 40.0**	**+0.2**
VLS	**Valsamata**	**0.64**	**358**	P		**Pg**	**03 51 30.6**	**+0.3**
VLS				S		**Sg**	**03 51 39.0**	**+0.3**
RLS	**Riolos of Patr**	**0.85**	**52**	P		**Pg**	**03 51 33.9**	**-0.2**
RLS				S		**Sg**	**03 51 43.5**	**-1.7**
RLS				AML	AML		03 51 47.5	
	comp=N,3669μm,0.4s							
RLS				AML	AML		03 51 50.4	
	comp=E,2460μm,0.4s							
RLS	**Riolos of Patr**	**0.85**	**52**	P		**Pg**	**03 51 34.2**	**0.0**
RLS				S		**Sb**	**03 51 46.6**	**+0.9**
RLS	**Riolos of Patr**	**0.85**	**52**	P		**Pg**	**03 51 34.2**	**0.0**
RLS				S		**Sb**	**03 51 46.3**	**+0.6**
AMT	**Artemida-Makis**	**0.86**	**90**	P		**Pb**	**03 51 35.0**	**+0.3**
AMT				AML	AML		03 51 53.2	
	comp=E,11566μm,0.4s							
AMT				AML	AML		03 51 54.0	
	comp=N,13331μm,0.5s							
AMT	**Artemida-Makis**	**0.86**	**90**	P		**Pg**	**03 51 34.3**	**-0.2**
AMT				S		**Sb**	**03 51 47.0**	**+0.8**
AMT	**Artemida-Makis**	**0.86**	**90**	P		**Pg**	**03 51 34.1**	**-0.4**
AMT				S		**Sb**	**03 51 47.0**	**+0.8**
MES3	**Kyparissia**	**0.88**	**109**	P		**Pg**	**03 51 34.8**	**-0.1**
MES3				S		**Sg**	**03 51 45.9**	**-0.5**
MES3	**Kyparissia**	**0.88**	**109**	P		**Pg**	**03 51 34.4**	**-0.5**
MES3				S		**Sg**	**03 51 45.7**	**-0.7**
FSK	**Fiskardo**	**0.92**	**357**	P		**Pg**	**03 51 34.9**	**-0.7**
FSK	**Fiskardo**	**0.92**	**357**	P		**Pg**	**03 51 35.6**	**0.0**
FSK				S		**Sb**	**03 51 49.1**	**+1.2**
DRO	**Drossia**	**0.96**	**64**	P		**Pg**	**03 51 35.7**	**-0.6**
DRO	**Drossia**	**0.96**	**64**	P		**Pg**	**03 51 35.9**	**-0.3**
DRO				S		**Sb**	**03 51 50.4**	**+1.5**
DRO	**Drossia**	**0.96**	**64**	P		**Pg**	**03 51 35.9**	**-0.3**
DRO				S		**Sb**	**03 51 50.4**	**+1.5**
ITM	**Ithomi**	**1.10**	**109**	P		**Pg**	**03 51 37.9**	**-1.1**
ITM				S		**Sg**	**03 51 52.9**	**-0.3**
ITM				AML	AML		03 51 57.8	
	comp=N,8059μm,0.6s							
ITM				AML	AML		03 52 03.6	
	comp=E,6604μm,1.0s							
ITM	**Ithomi**	**1.10**	**109**	P		**Pg**	**03 51 38.2**	**-0.7**
ITM				S		**Sn**	**03 51 54.5**	**+0.4**
ITM	**Ithomi**	**1.10**	**109**	P		**Pg**	**03 51 38.2**	**-0.7**
ITM				S		**Sg**	**03 51 52.5**	**-0.7**
PYL	**PYLOS**	**1.10**	**125**	P		**Pg**	**03 51 37.3**	**-1.6**
PYL				S		**Sn**	**03 51 54.4**	**+0.4**
PYL				AML	AML		03 51 56.4	
	comp=E,7727μm,0.6s							
PYL				AML	AML		03 51 59.0	
	comp=N,7189μm,0.6s							
PYL	**PYLOS**	**1.10**	**125**	P		**Pg**	**03 51 37.9**	**-1.0**
PYL				S		**Sb**	**03 51 54.1**	**+1.1**
PYL	**PYLOS**	**1.10**	**125**	P		**Pg**	**03 51 37.8**	**-1.1**
PYL				S		**Sb**	**03 51 53.5**	**+0.5**
MES2	**Methoni**	**1.12**	**129**	P		**Pg**	**03 51 38.3**	**-1.1**
MES2				S		**Sg**	**03 51 53.6**	**-0.3**
MES2				AML	AML		03 51 56.7	
	comp=N,15848μm,0.5s							
MES2				AML	AML		03 52 00.6	
	comp=E,12634μm,0.5s							
MES2	**Methoni**	**1.12**	**129**	P		**Pg**	**03 51 38.4**	**-1.0**
MES2				S		**Sg**	**03 51 53.5**	**-0.4**
PDO	**Prodromos**	**1.15**	**22**	P		**Pg**	**03 51 39.1**	**-0.8**
PDO				AML	AML		03 52 01.8	
	comp=E,5775μm,0.3s							
PDO				AML	AML		03 52 05.7	
	comp=N,7720μm,0.4s							
PDO	**Prodromos**	**1.15**	**22**	P		**Pg**	**03 51 39.4**	**-0.5**
PDO				S		**Sn**	**03 51 57.2**	**+1.9**
PDO	**Prodromos**	**1.15**	**22**	P		**Pg**	**03 51 39.4**	**-0.5**
PDO				S		**Sn**	**03 51 57.2**	**+1.9**
UPR	**University Cam**	**1.18**	**51**	P		**Pn**	**03 51 41.1**	**+1.0**
UPR	**University Cam**	**1.18**	**51**	P		**Pg**	**03 51 40.3**	**-0.3**
LKD2	**Lefkada island**	**1.25**	**1**	P		**Pg**	**03 51 40.2**	**-1.6**
LKD2				S		**Sb**	**03 51 58.3**	**+1.0**
LKD2				AML	AML		03 52 04.9	
	comp=E,3336μm,0.7s							
LKD2				AML	AML		03 52 10.9	
	comp=N,3031μm,0.4s							
LKD2	**Lefkada island**	**1.25**	**1**	P		**Pg**	**03 51 41.1**	**-0.7**
LKD2				S		**Sn**	**03 51 59.6**	**+1.8**
LKD2	**Lefkada island**	**1.25**	**1**	P		**Pg**	**03 51 40.9**	**-0.9**
LKD2				S		**Sb**	**03 51 58.4**	**+1.0**
LAKA	**Lakka**	**1.28**	**56**	P		**Pn**	**03 51 41.0**	**-0.5**
LAKA				AML	AML		03 52 13.5	
	comp=N,6876μm,0.8s							
LAKA				AML	AML		03 52 15.6	
	comp=E,6329μm,0.9s							
LAKA	**Lakka**	**1.28**	**56**	P		**Pn**	**03 51 41.3**	**-0.2**
LAKA	**Lakka**	**1.28**	**56**	P		**Pn**	**03 51 41.3**	**-0.2**
PVO	**Paravola**	**1.29**	**33**	P		**Pn**	**03 51 42.4**	**+0.8**
PVO				S		**Sg**	**03 51 58.0**	**-1.4**
PVO				AML	AML		03 52 15.6	
	comp=N,3280μm,0.5s							
PVO				AML	AML		03 52 18.4	
	comp=E,3754μm,0.8s							
PVO	**Paravola**	**1.29**	**33**	P		**Pn**	**03 51 42.0**	**+0.4**
PVO				S		**Sn**	**03 52 00.5**	**+1.7**
PVO	**Paravola**	**1.29**	**33**	P		**Pn**	**03 51 42.0**	**+0.4**
PVO				S		**Sn**	**03 52 00.5**	**+1.7**
TRIP	**Tripoli**	**1.31**	**90**	P		**Pn**	**03 51 40.2**	**-1.8**
TRIP				AML	AML		03 52 05.0	
	comp=N,5144μm,1.1s							
TRIP				AML	AML		03 52 13.4	
	comp=E,2992μm,0.7s							
TRIP	**Tripoli**	**1.31**	**90**	P		**Pn**	**03 51 40.9**	**-1.0**
KLV	**Kalavryta, Ach**	**1.31**	**67**	P		**Pn**	**03 51 41.1**	**-0.8**
KLV				AML	AML		03 52 12.4	
	comp=N,4799μm,1.1s							
KLV				AML	AML		03 52 13.3	
	comp=E,4162μm,1.1s							
KLV	**Kalavryta, Ach**	**1.31**	**67**	P		**Pn**	**03 51 41.8**	**-0.1**
KLV	**Kalavryta, Ach**	**1.31**	**67**	P		**Pn**	**03 51 41.8**	**-0.1**
KLV				S		**Sn**	**03 52 04.5**	**+5.1**
EFP	**Efpalio**	**1.35**	**48**	P		**Pn**	**03 51 41.9**	**-0.4**
EFP	**Efpalio**	**1.35**	**48**	P		**Pn**	**03 51 42.3**	**-0.1**
EFP	**Efpalio**	**1.35**	**48**	P		**Pn**	**03 51 42.3**	**-0.1**
VLX	**Vlachokerasia**	**1.41**	**96**	P		**Pn**	**03 51 42.9**	**-0.4**
VLX	**Vlachokerasia**	**1.41**	**96**	P		**Pn**	**03 51 43.4**	**+0.1**
VLX	**Vlachokerasia**	**1.41**	**96**	P		**Pn**	**03 51 43.4**	**+0.1**
TRIZ	**Trizonia**	**1.41**	**54**	P		**Pn**	**03 51 42.5**	**-0.7**
TRIZ	**Trizonia**	**1.41**	**54**	P		**Pn**	**03 51 43.4**	**+0.1**
TRIZ	**Trizonia**	**1.41**	**54**	P		**Pn**	**03 51 43.4**	**+0.1**
GUR	**Goura**	**1.42**	**73**	P		**Pn**	**03 51 42.7**	**-0.8**
GUR	**Goura**	**1.42**	**73**	P		**Pn**	**03 51 43.5**	**0.0**
GUR	**Goura**	**1.42**	**73**	P		**Pn**	**03 51 43.5**	**0.0**
SERG	**Sergoula**	**1.43**	**52**	P		**Pn**	**03 51 43.1**	**-0.4**
SERG	**Sergoula**	**1.43**	**52**	P		**Pn**	**03 51 43.5**	**-0.1**
SERG	**Sergoula**	**1.43**	**52**	P		**Pn**	**03 51 43.5**	**-0.1**
ANX	**Ano Chora**	**1.47**	**44**	P		**Pn**	**03 51 44.4**	**+0.2**
ANX	**Ano Chora**	**1.47**	**44**	P		**Pn**	**03 51 44.4**	**+0.2**
KALE	**Kalithea**	**1.47**	**54**	P		**Pn**	**03 51 43.3**	**-0.9**
KALE				AML	AML		03 52 20.0	
	comp=E,4031μm,0.9s							
KALE				AML	AML		03 52 21.6	
	comp=N,5347μm,1.3s							
KALE	**Kalithea**	**1.47**	**54**	P		**Pn**	**03 51 44.0**	**-0.1**
KALE	**Kalithea**	**1.47**	**54**	P		**Pn**	**03 51 44.0**	**-0.1**
DYR	**Agios Nikonas**	**1.57**	**119**	P		**Pn**	**03 51 44.8**	**-0.6**
DYR				AML	AML		03 52 15.4	
	comp=N,3231μm,0.8s							
DYR				AML	AML		03 52 18.2	
	comp=E,2498μm,0.7s							
DYR	**Agios Nikonas**	**1.57**	**119**	P		**Pn**	**03 51 45.3**	**-0.2**
DYR				S		**Sn**	**03 52 06.7**	**+1.0**
DYR	**Agios Nikonas**	**1.57**	**119**	P		**Pn**	**03 51 45.3**	**-0.2**
DYR				S		**Sn**	**03 52 06.7**	**+1.0**
DSL	**Palaion Diasel**	**1.64**	**13**	P		**Pb**	**03 51 48.2**	**+0.3**
DSL				AML	AML		03 52 27.9	
	comp=E,2131μm,1.1s							
DSL				AML	AML		03 52 29.4	
	comp=N,1587μm,0.6s							
DSL	**Palaion Diasel**	**1.64**	**13**	P		**Pb**	**03 51 48.3**	**+0.4**
EVR	**Evrytania**	**1.66**	**34**	P		**Pn**	**03 51 46.5**	**-0.3**
EVR	**Evrytania**	**1.66**	**34**	P		**Pn**	**03 51 47.4**	**+0.6**
EVR				S		**Sn**	**03 52 09.9**	**+1.7**
EVR	**Evrytania**	**1.66**	**34**	P		**Pn**	**03 51 47.4**	**+0.6**
EVR				S		**Sn**	**03 52 09.9**	**+1.7**
THAL	**Thalero**	**1.69**	**72**	P		**Pg**	**03 51 50.0**	**-0.2**
THAL	**Thalero**	**1.69**	**72**	P		**Pb**	**03 51 49.3**	**+0.5**
DSF	**Desfina**	**1.74**	**59**	P		**Pg**	**03 51 50.9**	**-0.3**
DSF				AML	AML		03 52 23.7	
	comp=N,2715μm,0.7s							
DSF				AML	AML		03 52 27.1	
	comp=E,1917μm,1.3s							
DSF	**Desfina**	**1.74**	**59**	P		**Pb**	**03 51 50.2**	**+0.5**
LOUT	**Loutraki**	**1.92**	**76**	P		**Pn**	**03 51 51.6**	**+1.4**
LOUT	**Loutraki**	**1.92**	**76**	P		**Pn**	**03 51 51.7**	**+1.5**
LTK	**Loutraki**	**1.92**	**75**	P		**Pn**	**03 51 51.6**	**+1.3**
LTK	**Loutraki**	**1.92**	**75**	P		**Pn**	**03 51 50.7**	**+0.4**
LTK	**Loutraki**	**1.92**	**75**	P		**Pn**	**03 51 50.7**	**+0.4**
PROD	**Prodromos**	**1.94**	**68**	P		**Pb**	**03 51 52.5**	**-0.5**
PROD	**Prodromos**	**1.94**	**68**	P		**Pn**	**03 51 52.4**	**+1.9**
AGG	**Agios Georgios**	**2.00**	**42**	P		**Pb**	**03 51 54.8**	**+0.7**
AGG	**Agios Georgios**	**2.00**	**42**	P		**Pb**	**03 51 54.1**	**0.0**
IGT	**Igoumenitsa**	**2.00**	**354**	P		**Pn**	**03 51 51.6**	**+0.2**
IGT	**Igoumenitsa**	**2.00**	**354**	P		**Pn**	**03 51 51.6**	**+0.2**
KRND	**KRANIDI**	**2.02**	**94**	P		**Pn**	**03 51 51.9**	**+0.3**
KRND	**KRANIDI**	**2.02**	**94**	P		**Pn**	**03 51 51.9**	**+0.3**
AXAR	**Agios Charalam**	**2.02**	**52**	P		**Pb**	**03 51 55.2**	**+0.7**
AXAR	**Agios Charalam**	**2.02**	**52**	P		**Pb**	**03 51 54.3**	**-0.1**
DID	**Didima**	**2.08**	**90**	P		**Pn**	**03 51 53.0**	**+0.5**
DID				AML	AML		03 52 33.0	
	comp=N,2057μm,0.8s							
DID				AML	AML		03 52 34.5	
	comp=E,2387μm,1.1s							
DID	**Didima**	**2.08**	**90**	P		**Pn**	**03 51 53.0**	**+0.5**
DID	**Didima**	**2.08**	**90**	P		**Pn**	**03 51 53.0**	**+0.5**
SGD	**Sagiada**	**2.10**	**352**	P		**Pb**	**03 51 56.9**	**+1.2**
LKR	**Lokris**	**2.18**	**59**	P		**Pb**	**03 51 56.2**	**-0.9**
LKR				AML	AML		03 52 33.2	
	comp=E,1036μm,0.6s							
LKR				AML	AML		03 52 41.8	
	comp=N,1499μm,1.4s							
LKR	**Lokris**	**2.18**	**59**	P		**Pn**	**03 51 54.4**	**+0.6**
LKR	**Lokris**	**2.18**	**59**	P		**Pn**	**03 51 54.4**	**+0.6**
VILL	**Villia**	**2.22**	**73**	P		**Pn**	**03 51 55.0**	**+0.6**
VILL	**Villia**	**2.22**	**73**	P		**Pn**	**03 51 55.0**	**+0.6**
KEK	**Kerkira**	**2.27**	**344**	P		**Pn**	**03 51 57.2**	**+2.1**
KEK	**Kerkira**	**2.27**	**344**	P		**Pn**	**03 51 55.6**	**+0.6**
KEK	**Kerkira**	**2.27**	**344**	P		**Pn**	**03 51 55.6**	**+0.6**
THL	**Klokotos Trika**	**2.30**	**28**	P		**Pb**	**03 51 58.6**	**-0.6**
THL	**Klokotos Trika**	**2.30**	**28**	P		**Pb**	**03 51 58.1**	**-1.1**
KYTH	**Kithira**	**2.32**	**122**	P		**Pb**	**03 51 59.2**	**-0.4**
SMIA	**Simia**	**2.44**	**56**	P		**Pn**	**03 51 59.2**	**+1.9**
SMIA	**Simia**	**2.44**	**56**	P		**Pn**	**03 51 59.3**	**+1.9**
VLY	**Voula,Athens**	**2.54**	**82**	P		**Pn**	**03 51 59.5**	**+0.8**
VLY	**Voula,Athens**	**2.54**	**82**	P		**Pn**	**03 51 59.3**	**+0.6**
VLY	**Voula,Athens**	**2.54**	**82**	P		**Pn**	**03 51 59.3**	**+0.6**
FYTO	**Fytoko, Volos**	**2.61**	**44**	P		**Pn**	**03 52 00.9**	**+1.2**
FYTO	**Fytoko, Volos**	**2.61**	**44**	P		**Pn**	**03 52 01.3**	**+1.6**
DION	**Dionisos Attik**	**2.68**	**77**	P		**Pn**	**03 52 01.0**	**+0.3**
DION	**Dionisos Attik**	**2.68**	**77**	P		**Pn**	**03 52 01.8**	**+1.1**
PENT	**Pentalofos**	**2.69**	**8**	P		**Pb**	**03 52 05.7**	**-0.1**
XOR	**Xorichti**	**2.72**	**47**	P		**Pn**	**03 52 02.2**	**+0.9**
XOR	**Xorichti**	**2.72**	**47**	P		**Pn**	**03 52 02.2**	**+0.9**
ANKY	**Antikythira Is**	**2.72**	**127**	P		**Pn**	**03 52 04.1**	**+2.9**
SKIA	**Skiathos**	**2.76**	**53**	P		**Pn**	**03 52 03.3**	**+1.4**
SKIA	**Skiathos**	**2.76**	**53**	P		**Pn**	**03 52 03.6**	**+1.7**
KZN	**Kozani**	**2.91**	**18**	P		**Pb**	**03 52 08.2**	**-1.4**
KARY	**Karystos**	**3.06**	**80**	P		**Pn**	**03 52 06.1**	**+0.2**
KARY	**Karystos**	**3.06**	**80**	P		**Pn**	**03 52 07.1**	**+1.1**
SERI	**Serifos**	**3.10**	**96**	P		**Pn**	**03 52 07.2**	**+0.7**
SERI	**Serifos**	**3.10**	**96**	P		**Pn**	**03 52 07.9**	**+1.4**
FNA	**Florina**	**3.29**	**10**	P		**Pn**	**03 52 11.5**	**+2.3**
FNA	**Florina**	**3.29**	**10**	P		**Pn**	**03 52 11.5**	**+2.3**
IMMV	**Iera Moni Meta**	**3.41**	**126**	P		**Pn**	**03 52 12.6**	**+1.9**
IMMV	**Iera Moni Meta**	**3.41**	**126**	P		**Pn**	**03 52 12.9**	**+2.2**
BIA	**Bitola**	**3.52**	**9**	*i* Pn		**Pn**	**03 52 15.4**	**+3.1**
OHR	**Ohrid**	**3.57**	**2**	*i* Pn		**Pg**	**03 52 27.5**	**+1.3**
PLG	**Polygyros**	**3.59**	**37**	P		**Pn**	**03 52 13.6**	**+0.3**
PLG	**Polygyros**	**3.59**	**37**	P		**Pn**	**03 52 14.6**	**+1.4**
TIR	**Tirane**	**3.85**	**351**	*e*Pn		**Pn**	**03 52 16.5**	**-0.3**
TIR	**Tirane**	**3.85**	**351**	⇑*i*P		**Pb**	**03 52 26.7**	**+1.1**
TIR	**Tirane**	**3.85**	**351**	*e*Pn		**Pn**	**03 52 16.5**	**-0.3**
KRUS	**Krusevo**	**3.86**	**7**	*i* Pn		**Pn**	**03 52 15.3**	**-1.6**
APE	**Apeiranthos**	**3.94**	**95**	⇓*iP*		**Pn**	**03 52 16.0**	**-2.1**
APE	**Apeiranthos**	**3.94**	**95**	⇓*iP*		**Pn**	**03 52 16.0**	**-2.1**
SANT	**Santorini**	**4.04**	**105**	⇑*iP*		**Pn**	**03 52 18.1**	**-1.4**
SANT	**Santorini**	**4.04**	**105**	⇑*iP*		**Pn**	**03 52 18.1**	**-1.4**
VAY	**Valandovo**	**4.07**	**21**	*i* Pn		**Pn**	**03 52 22.0**	**+2.2**
IDI	**Anoyia**	**4.11**	**122**	Pn		**Pn**	**03 52 22.7**	**+2.2**
	comp=N,1.6nm,0.3s,baz=278,slow=7.0,SNR=8.0							
IDI				Sn		**Sn**	**03 53 10.3**	**+1.9**
	comp=N,14nm,0.3s,baz=324,slow=19,SNR=19							
IDI	**Anoyia**	**4.11**	**122**	⇑*iP*		**Pn**	**03 52 22.4**	**+2.0**
IDI	**Anoyia**	**4.11**	**122**	S		**Sn**	**03 53 06.2**	**-2.2**
IDI	**Anoyia**	**4.11**	**122**	⇑*iP*		**Pn**	**03 52 22.4**	**+2.0**
FASA	**Fasano**	**4.14**	**323**	*e*Pn		**Pn**	**03 52 22.4**	**+1.6**
SKO	**Skopje**	**4.47**	**8**	*i* Pn		**Pn**	**03 52 25.8**	**+0.4**
SG1	**Sgolgore (BA)**	**4.50**	**318**	*e*Pn		**Pn**	**03 52 27.9**	**+2.1**
SG1				Sn		**Sn**	**03 53 17.7**	**-0.3**
MMB	**Musomiste**	**4.70**	**30**	*e*P		**Pn**	**03 52 30.0**	**+1.4**
KKB	**Krupnik**	**4.72**	**23**	*e*P		**Pn**	**03 52 31.1**	**+2.3**
VAE	**Valguarnera**	**4.94**	**271**	Pn		**Pn**	**03 52 34.5**	**+2.6**
	comp=N,1.1nm,0.3s,baz=131,slow=9.3,SNR=2.1							
VAE				Sn		**Sn**	**03 53 31.7**	**+2.8**
	comp=N,3.9nm,0.3s,baz=162,slow=20,SNR=2.3							
PDG	**Podgorica**	**5.00**	**348**	*e*Pn		**Pn**	**03 52 32.4**	**-0.1**
PDG				*e*Sn		**Sn**	**03 53 28.8**	**-1.4**
PDG	**Podgorica**	**5.00**	**348**	⇓*iP*		**Pb**	**03 52 42.3**	**-2.9**
PDG	**Podgorica**	**5.00**	**348**	*e*Pn		**Pn**	**03 52 32.4**	**-0.1**
PDG				*e*Sn		**Sn**	**03 53 28.8**	**-1.4**
RZN	**Rozhen**	**5.21**	**36**	*e*P		**Pn**	**03 52 37.0**	**+1.3**
VTS	**Vitosha**	**5.42**	**21**	*e*Pn		**Pn**	**03 52 40.3**	**+1.7**
VTS				*e*Sn		**Sn**	**03 53 42.1**	**+1.2**
VTS	**Vitosha**	**5.42**	**21**	⇓*iP*		**Pn**	**03 52 41.3**	**+2.7**
VTS	**Vitosha**	**5.42**	**21**	S		**Sn**	**03 53 40.2**	**-0.7**
VTS	**Vitosha**	**5.42**	**21**	*e*P		**Pn**	**03 52 41.2**	**+2.7**
VTS	**Vitosha**	**5.42**	**21**	*e*Pn		**Pn**	**03 52 40.3**	**+1.7**
VTS	**Vitosha**	**5.42**	**21**	⇓*iP*		**Pn**	**03 52 41.3**	**+2.7**
VTS				*e*Sn		**Sn**	**03 53 42.1**	**+1.2**
SELS	**Selova**	**5.69**	**4**	*e*Pn		**Pn**	**03 52 42.6**	**+0.5**
SJES	**Sjenica**	**5.74**	**355**	*e*Pn		**Pn**	**03 52 41.7**	**-1.1**
SJES				*e*Sn		**Sn**	**03 53 47.1**	**-1.6**
SJES	**Sjenica**	**5.74**	**355**	*e*Pn		**Pn**	**03 52 41.7**	**-1.1**
STON	**Ston**	**5.78**	**338**	*i* Pn		**Pn**	**03 52 41.9**	**-1.3**
STON				Sn		**Sn**	**03 53 46.0**	**-3.4**
STON	**Ston**	**5.78**	**338**	*i* Pn		**Pn**	**03 52 41.9**	**-1.3**
ZAPS	**Zavoj**	**5.93**	**14**	*e*Pn		**Pn**	**03 52 46.7**	**+1.3**
IVAS	**Ivanjica**	**6.04**	**357**	*e*Pn		**Pn**	**03 52 46.3**	**-0.7**
IVAS				*e*Sn		**Sn**	**03 53 53.3**	**-2.8**
IVAS	**Ivanjica**	**6.04**	**357**	*e*Pn		**Pn**	**03 52 46.3**	**-0.7**
GRUS	**Gruza**	**6.34**	**1**	*e*Pn		**Pn**	**03 52 51.6**	**+0.5**
GRUS				*e*Sn		**Sn**	**03 54 02.6**	**-0.8**
GRUS	**Gruza**	**6.34**	**1**	*e*Pn		**Pn**	**03 52 51.6**	**+0.5**
GRUS				*e*Sn		**Sn**	**03 54 02.6**	**-0.8**
ZAGS	**Zajecar**	**6.39**	**11**	*e*Pn		**Pn**	**03 52 52.0**	**+0.4**
ZAGS	**Zajecar**	**6.39**	**11**	*e*Pn		**Pn**	**03 52 52.0**	**+0.4**
BBLS	**Lazići**	**6.39**	**352**	*e*Pn		**Pn**	**03 52 51.5**	**-0.2**
BBLS				*e*Sn		**Sn**	**03 54 02.1**	**-2.5**
BBLS	**Lazići**	**6.39**	**352**	*e*Pn		**Pn**	**03 52 51.5**	**-0.2**
DIVS	**Divibare**	**6.57**	**356**	*e*Pn		**Pn**	**03 52 54.3**	**0.0**
DIVS				*e*Sn		**Sn**	**03 54 05.9**	**-3.2**
DIVS	**Divibare**	**6.57**	**356**	*e*Pn		**Pn**	**03 52 54.3**	**0.0**
TRUS	**Trudelj**	**6.68**	**359**	*e*Pn		**Pn**	**03 52 55.1**	**-0.6**
TRUS	**Trudelj**	**6.68**	**359**	*e*Pn		**Pn**	**03 52 55.1**	**-0.6**
TEKS	**Tekeris**	**7.05**	**354**	*e*Pn		**Pn**	**03 53 00.7**	**-0.1**
TEKS	**Tekeris**	**7.05**	**354**	*e*Pn		**Pn**	**03 53 00.7**	**-0.1**
UDBI	**Udbina**	**7.89**	**334**	*i* Pn		**Pn**	**03 53 14.4**	**+2.0**
UDBI				Sn		**Sn**	**03 54 40.1**	**-1.4**
UDBI	**Udbina**	**7.89**	**334**	*i* Pn		**Pn**	**03 53 14.3**	**+2.0**
UDBI				Sn		**Sn**	**03 54 40.1**	**-1.4**
BZS	**Buzias**	**8.11**	**5**	⇓*iP*		**Pn**	**03 53 19.5**	**+4.3**
NVLJ	**Novalja**	**8.25**	**330**

ISC 23 03:58:59.9±0.8, 24°08S±0°3×175°9W±0°2, h31km, n20, σ0°81/13, mb4.0/7, MS3.4/5, South of Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAR	**Rarotonga**	**15.16**	**83**	P	Pn	04 02 20.4	-11
	2.5nm,0.3s,baz=239,slow=7.1,SNR=8.3						
RAR				LR	LR	04 08 50.7	
	comp=Z,129nm,19.3s,baz=242,slow=40						
DZM	**Mont Dzumac**	**16.36**	**273**	LR	LR	04 08 10.9	
	comp=Z,141nm,19.6s,baz=182,slow=34						
RPZ	**Rata Peaks**	**22.39**	**205**	LR	LR	04 11 40.7	
	comp=Z,146nm,19.7s,baz=356,slow=34						
PPT	**Papeete**	**25.41**	**80**	LR	LR	04 13 36.6	
	comp=Z,88nm,18.1s,baz=278,slow=35						
HNR	**Honiara**	**27.22**	**298**	LR	LR	04 13 56.9	
	comp=Z,86nm,18.8s,baz=134,slow=33						
PMG	**Port Moresby**	**38.09**	**286**	LR	LR	04 19 03.4	
	comp=Z,76nm,18.6s,baz=163,slow=32						
STKA	**Stephens Creek**	**38.16**	**248**	LR	LR	04 20 44.6	
	comp=Z,119nm,18.1s,baz=27,slow=34						
ASAR	**Alice Springs**	**45.71**	**260**	P	**P**	**04 07 18.1**	**-0.3**
ASAR	2.4nm,1.0s,baz=101,slow=7.7,SNR=13			PcP	**PcP**	**04 08 55.8**	**-0.2**
	0.7nm,0.8s,baz=115,slow=4.2,SNR=3.0						
WRA	**Warramunga Arr**	**46.13**	**265**	P	**P**	**04 07 20.4**	**-1.3**
	1.4nm,0.7s,baz=103,slow=8.5,SNR=19						
NVAR	**Mina Array Bea**	**82.28**	**42**	P	**P**	**04 11 18.4**	**-0.2**
	0.9nm,1.0s,baz=229,slow=7.9,SNR=3.9						
VNA3	**Neumayer Olymp**	**84.52**	**176**	P	**P**	**04 11 29.7**	**+0.2**
VNA2	**Neumayer--Watz**	**84.98**	**176**	P	**P**	**04 11 31.8**	**0.0**
	baz=167,slow=1.9						
TXAR	**Lajitas Array**	**87.34**	**56**	P	**P**	**04 11 44.3**	**+0.1**
	0.5nm,0.9s,baz=203,slow=5.4,SNR=4.7						
PDAR	**Pinedale Array**	**90.20**	**42**	P	**P**	**04 11 57.3**	**-0.2**
	0.2nm,0.7s,baz=255,slow=6.4,SNR=2.4						
ILAR	**Eielson Array**	**91.31**	**12**	P	**P**	**04 12 01.5**	**-0.3**
	0.7nm,0.9s,baz=221,slow=6.1,SNR=5.0						
CMAR	**Chiang Mai Arr**	**93.09**	**289**	P	**P**	**04 12 13.2**	**+2.0**
	1.2nm,0.4s,baz=130,slow=3.1,SNR=12						
HFS	**Hagfors**	**143.28**	**352**	PKhKP	PKPpre	04 18 27.2	
	2.5nm,1.0s,baz=12,slow=7.7,SNR=2.4						
AKASG	**Malin Array Be**	**147.00**	**330**	PKPbc	**PKPbc**	**04 18 38.9**	**-0.3**
	1.5nm,0.7s,baz=39,slow=4.1,SNR=9.0						
BRTR	**Keskin Array B**	**150.59**	**309**	PKPbc	**PKPbc**	**04 18 49.3**	**+0.3**
	1.3nm,0.8s,baz=124,slow=3.7,SNR=10						
MMAI	**Mount Meron Ar**	**151.15**	**295**	PKPbc	**PKPbc**	**04 18 49.8**	**-0.6**
	2.6nm,0.7s,baz=85,slow=3.0,SNR=3.7						

IDC 23 04:22:25.1±3.6, 4°55S×135°64E, h0km, mb3.5/1, mb1 3.3/3, mb1mx3.0/50, mbtmp3.1/3, ML2.6/2, Error ellipse: s-maj=157.4km s-min=33.2km az=80.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**15.35**	**185**	Pn	Pn	04 26 05.4	+2.1
	0.0nm,0.3s,baz=3.9,slow=12,SNR=3.8						
ASAR	**Alice Springs**	**19.08**	**185**	P	P	04 26 48.5	-1.0
	0.0nm,0.3s,baz=7.5,slow=8.5,SNR=4.3						
MKAR	**Makanchi Array**	**69.41**	**324**	P	P	04 33 35.1	+0.1
	0.2nm,0.5s,baz=118,slow=6.2,SNR=4.5						

IDC 23 04:39:01.7±10.0, 7°97S×108°07W, h0km, mb3.2/4, mb1 3.7/4, mb1mx3.5/34, mbtmp3.2/4, MS3.6/13, Ms1 3.6/13, ms1mx3.5/18, Error ellipse: s-maj=245.2km s-min=163.8km az=128.0, Central East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RPN	**Rapa Nui**	**19.09**	**183**	LR	LR	04 48 02.6	
	comp=Z,128nm,20.8s,baz=13,slow=28						
CMIG	**Matias Romero**	**28.11**	**28**	LR	LR	04 53 53.8	
	comp=Z,61nm,20.4s,baz=214,slow=32						
JTS	**JuntasAbangare**	**29.31**	**52**	LR	LR	04 54 19.6	
	comp=Z,93nm,21.6s,baz=297,slow=31						
LPIG	**La Paz**	**31.95**	**356**	LR	LR	04 55 18.9	
	comp=Z,93nm,19.6s,baz=78,slow=31						
ROSC	**El Rosal**	**35.99**	**70**	LR	LR	04 58 27.9	
	comp=Z,46nm,19.5s,baz=217,slow=32						
TXAR	**Lajitas Array**	**37.33**	**6**	P	P	04 46 15.6	-0.4
	0.1nm,0.5s,baz=181,slow=9.1,SNR=2.3						
TXAR				LR	LR	04 58 56.9	
	comp=Z,49nm,18.1s,baz=0.0,slow=32						
LPAZ	**La Paz**	**39.85**	**106**	LR	LR	04 59 49.0	
	comp=Z,90nm,18.5s,baz=247,slow=31						
PLCA	**Paso Flores**	**46.65**	**140**	LR	LR	05 02 14.2	
	comp=Z,148nm,18.1s,baz=278,slow=30						
NVAR	**Mina Array Bea**	**47.13**	**349**	P	P	04 47 35.5	-0.6
	0.5nm,0.7s,baz=177,slow=10,SNR=4.2						
NVAR				LR	LR	05 03 26.9	
	comp=Z,108nm,18.1s,baz=263,slow=31						
TKL	**Tuckaleechee C**	**49.06**	**26**	LR	LR	05 07 30.3	
	comp=Z,22nm,20.5s,baz=336,slow=35						
PDAR	**Pinedale Array**	**50.51**	**359**	P	P	04 48 02.8	+0.9
	0.1nm,0.3s,baz=169,slow=7.6,SNR=2.6						
PDAR				LR	LR	05 06 25.8	
	comp=Z,75nm,18.3s,baz=189,slow=33						
YBH	**Yreka Blue Hor**	**51.25**	**346**	LR	LR	05 04 57.9	
	comp=Z,84nm,20.8s,baz=154,slow=30						
CPUP	**Villa Florida**	**51.45**	**117**	LR	LR	05 06 27.5	
	comp=Z,99nm,18.5s,baz=248,slow=32						
YKA	**Yellowknife Ar**	**70.43**	**357**	P	P	04 50 17.3	-0.2
	0.3nm,0.8s,baz=170,slow=6.3,SNR=3.0						
H11S2	**WAKE ISLAND Hy 88.00**	**289**		T	T	06 27 55.0	
	baz=100,slow=75,SNR=631						
H11N3	**WAKE ISLAND Hy 88.00**	**290**		T	T	06 27 53.5	
	baz=102,slow=74,SNR=80						
H11S1	**WAKE ISLAND Hy 88.01**	**289**		T	T	06 27 56.9	
	baz=100,slow=75,SNR=353						
H11N2	**WAKE ISLAND Hy 88.02**	**290**		T	T	06 27 59.5	
	baz=102,slow=74,SNR=63						
H11S3	**WAKE ISLAND Hy 88.02**	**289**		T	T	06 27 51.6	
	baz=100,slow=75,SNR=314						
H11N1	**WAKE ISLAND Hy 88.02**	**290**		T	T	06 27 58.2	
	baz=102,slow=74,SNR=40						

IDC 23 04:47:18.9±2.7, 24°79S×69°79W, h0km, mb3.3/2, mb1 3.5/3, mb1mx3.3/37, mbtmp3.3/3, ML3.4/1, Error ellipse: s-maj=73.8km s-min=43.5km az=30.0, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**8.60**	**11**	Pn	Pn	04 49 25.3	0.0
	0.2nm,0.3s,baz=193,slow=7.4,SNR=5.9						
TXAR	**Lajitas Array**	**62.89**	**327**	P	P	04 57 47.1	0.0
	0.1nm,0.3s,baz=160,slow=8.3,SNR=3.3						
TORD	**Torodi Ar. Bea**	**79.23**	**70**	P	P	04 59 26.5	0.0
	0.2nm,0.4s,baz=252,slow=5.6,SNR=7.5						

JMA 23 04:54:32.0±0.4, 25°41N×126°63E, h0km±3km, M3.5, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JKE	**Kume jima 2**	**0.92**	**9**	P	Pg	04 54 50.3	+0.6
JKE				*eS*	Sb	04 55 03.0	-0.7
JJT3	**Tamagusuku3**	**1.27**	**55**	P	Pg	04 54 56.6	+0.2
JJT3				*eS*	Sb	04 55 14.1	+0.3
JOGS	**Gusukube**	**1.28**	**240**	P	Pg	04 54 56.6	0.0
JOGS				*eS*	Sn	04 55 14.7	-0.4
JAGN	**Aguni-jima**	**1.30**	**25**	P	Pb	04 54 57.3	0.0
JAGN				S	Sg	04 55 13.7	0.0
JIKM	**Ikemajima**	**1.34**	**249**	P	Pg	04 54 57.2	-0.6
JIKM				*eS*	Sb	04 55 16.1	+0.3
JMJ	**Miyako jima 2**	**1.35**	**244**	P	Pn	04 54 58.0	-0.1
JIRB	**Irabujima**	**1.44**	**247**	P	Pn	04 54 58.1	-1.3
JIRB				*eS*	Sg	04 55 18.2	-0.2
JNTH	**Nagotoyohara**	**1.67**	**48**	*eS*	Sb	04 55 25.0	-0.2
JTJ	**Tarama**	**1.91**	**247**	P	Pn	04 55 06.3	+0.5
JTJ				S	Sn	04 55 31.1	+0.6
JIH	**Iheya**	**2.02**	**36**	P	Pn	04 55 07.7	+0.4
JIH				*eS*	Sb	04 55 34.7	-0.5
JOW	**Kunigami**	**2.05**	**46**	P	Pb	04 55 09.1	-1.0
JISG	**Ishigakijimahi**	**2.26**	**249**	P	Pn	04 55 10.5	-0.1
JIJ	**Ishigaki jima**	**2.49**	**246**	P	Pn	04 55 14.0	+0.2
JIJ				*eS*	Sn	04 55 46.8	+2.0
JOKE	**Okinoerabujima**	**2.61**	**41**	P	Pn	04 55 16.9	+1.4
JKRS	**Kuro-shima**	**2.65**	**244**	P	Pn	04 55 17.4	+1.4
JMZ	**Minamidaito 2**	**4.16**	**83**	S	Sn	04 56 15.9	-10

YARS 23 04:59:33.6±0.1, 57°33N±0°01×120°73E±0°01, h10km, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KHN	**Khani**	**0.66**	**232**	*eP*	Pg	04 59 44.6	-1.7
KHN				Pmax		04 59 44.6	
	comp=Z,20nm,0.3s						
KHN				*eS*	Sg	04 59 51.9	-3.0
KHN				Smax		04 59 51.9	
	comp=E,37nm,0.2s						
YKLR	**Yuktali**	**0.90**	**145**	*eP*	Pg	04 59 49.8	-1.0
YKLR				Pmax		04 59 49.8	
	comp=Z,7.0nm,0.2s						
CRS	**Chara**	**1.41**	**253**	*eP*	Pn	04 59 59.4	0.0
CRS				Pmax		04 59 59.4	
	comp=Z,9.0nm,0.3s						
CRS				*eS*	Sn	05 00 17.3	-0.7
CRS				Smax		05 00 17.3	
	comp=E,23nm,0.3s						
CLNS	**Chul'man**	**2.33**	**101**	*eP*	Pb	05 00 15.7	+0.1
CLNS				Pmax		05 00 15.7	
	comp=Z,2.0nm,0.2s						
CLNS				*eS*	Sb	05 00 45.4	+1.0
CLNS				Smax		05 00 45.4	
	comp=N,19nm,0.4s						
IENR	**Iengra**	**2.53**	**114**	*eP*	Pb	05 00 19.2	+0.1
IENR				Pmax		05 00 19.2	
	comp=Z,3.0nm,0.4s						
IENR				*eS*	Sb	05 00 51.4	+1.2
IENR				Smax		05 00 51.4	
	comp=E,10.0nm,0.2s						
NLYR	**Nelyaty**	**2.88**	**255**	*eP*	Pb	05 00 24.8	-0.3
NLYR				Pmax		05 00 24.8	
	comp=Z,5.0nm,0.3s						
NLYR				*eS*	Sb	05 01 02.1	+1.7
NLYR				Smax		05 01 02.1	
	comp=E,11nm,0.7s						
TUP	**Tupik**	**2.94**	**189**	*eP*	Pb	05 00 26.8	+0.7
TUP				Pmax		05 00 26.8	
	comp=Z,10.0nm,0.4s						
TUP				*eS*	Sb	05 01 04.4	+2.2
TUP				Smax		05 01 04.4	
	comp=E,38nm,0.5s						
TNDR	**Tynda**	**3.12**	**133**	*eS*	Sb	05 01 10.0	+2.7
TNDR				Smax		05 01 10.0	
	comp=N,13nm,0.4s						
BOD	**Bodaibo**	**3.66**	**281**	*eS*	Sb	05 01 26.6	+4.1
CGD	**Chagda**	**5.44**	**71**	*eS*	Sg	05 02 21.7	-6.4
CGD				Smax		05 02 21.7	
	comp=N,8.0nm,0.6s						

YARS 23 04:59:44.8±0.2, 57°38N±0°01×120°66E±0°01, h10km, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KHN	**Khani**	**0.66**	**226**	*eP*	Pg	04 59 55.5	-2.1
KHN				Pmax		04 59 55.5	
	comp=Z,32nm,0.2s						
KHN				*eS*	Sg	05 00 02.5	-3.7
KHN				Smax		05 00 02.5	
	comp=N,108nm,0.5s						
YKLR	**Yuktali**	**0.96**	**145**	*eP*	Pg	05 00 01.6	-1.6
YKLR				Pmax		05 00 01.6	
	comp=Z,19nm,0.2s						
YKLR				*eS*	Sg	05 00 14.1	-1.6
YKLR				Smax		05 00 14.1	
	comp=N,97nm,0.3s						
YKLR	**Yuktali**	**0.96**	**145**	*eS*	Pg	05 00 01.2	-2.0
CRS	**Chara**	**1.39**	**251**	*eP*	Pn	05 00 10.5	+0.2
CRS				Pmax		05 00 10.5	
	comp=Z,13nm,0.3s						
CRS				*eS*	Sb	05 00 28.4	-0.2
CRS				Smax		05 00 28.4	
	comp=E,36nm,0.3s						
CLNS	**Chul'man**	**2.37**	**101**	*eP*	Pb	05 00 27.7	+0.1
CLNS				Pmax		05 00 27.7	
	comp=Z,2.0nm,0.3s						
CLNS				*eS*	Sb	05 00 58.6	+1.7
CLNS				Smax		05 00 58.6	
	comp=N,56nm,0.4s						
IENR	**Iengra**	**2.58**	**115**	*eP*	Pb	05 00 31.6	+0.4
IENR				Pmax		05 00 31.6	
	comp=Z,15nm,0.7s						
IENR				*eS*	Sb	05 01 04.8	+1.8
IENR				Smax		05 01 04.8	
	comp=E,42nm,0.7s						
NLYR	**Nelyaty**	**2.86**	**254**	*eP*	Pb	05 00 36.5	+0.6
NLYR				Pmax		05 00 36.5	
	comp=Z,10.0nm,0.5s						
NLYR				*eS*	Sb	05 01 12.5	+1.6
NLYR				Smax		05 01 12.5	
	comp=E,35nm,1.0s						
TUP	**Tupik**	**2.99**	**188**	*eP*	Pb	05 00 38.9	+0.8
TUP				Pmax		05 00 38.9	
	comp=Z,22nm,0.4s						
TUP				*eS*	Sb	05 01 16.5	+1.9
TUP				Smax		05 01 16.5	
	comp=E,83nm,0.7s						
OLMR	**Olekminsk**	**3.01**	**358**	*eP*	Pb	05 00 37.8	-0.6
OLMR				Pmax		05 00 37.8	
	comp=Z,12nm,0.5s						
OLMR				*eS*	Sb	05 01 17.4	+2.3
OLMR				Smax		05 01 17.4	
	comp=E,45nm,0.4s						
TNDR	**Tynda**	**3.18**	**133**	*eP*	Pb	05 00 42.4	+1.0
TNDR				Pmax		05 00 42.4	
	comp=Z,6.0nm,0.3s						
TNDR				*eS*	Sg	05 01 23.7	-3.3
TNDR				Smax		05 01 23.7	
	comp=E,40nm,0.4s						
BOD	**Bodaibo**	**3.61**	**280**	*eS*	Sg	05 01 37.0	-3.6
BOD				Smax		05 01 37.0	
	comp=N,26nm,0.6s						
CGD	**Chagda**	**5.46**	**71**	*eS*	Sg	05 02 33.9	-6.1
CGD				Smax		05 02 33.9	
	comp=N,7.0nm,0.7s						

NIED ***23*** *05:00:00, 35°50N×140°90E, h5km, Mw4.1 Best double couple: M0 1.42000×10^15 NP1:φ=206.00000°, δ=11.00000°, λ=175.00000°. NP2:φ=301.00000°, δ=89.00000°, λ=79.00000°.*

IDC ***23*** *05:00:37.6±0.8, 35°38N×141°22E, h0km, mb3.7/12, mb1 3.9/16, mb1mx3.7/70, mbtmp3.8/16, ML3.6/3, Error ellipse: s-maj=22.9km s-min=16.0km az=89.0*

ISCJB ***23*** *05:00:40.5±0.5, 35°44N±0°04×141°05E±0°07, h33km, mb3.7/12, Error ellipse: s-maj=8.6km s-min=5.4km az=174.1*

JMA ***23*** *05:00:40.7±0.1, 35°50N×140°93E, h23km±1km, M4.0*

JMA Felt II J1.

ISC 23 05:00:42.4±0.7, 35°49N±0°05×141°03E±0°08, h33km, n30, σ2s07/28, mb3.7/12, 4C-1D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHOJ	**Chosi**	**0.25**	**326**	↑P	**Pn**	**05 00 46.2**	**-3.4**
CHOJ				S	**Sn**	**05 00 50.2**	**-3.6**
KTR	**Katsuura**	**0.68**	**240**	P	**Pn**	**05 00 52.9**	**-2.7**
BSO4	**Boso 4**	**0.76**	**229**	↓P	**Pn**	**05 00 54.7**	**-1.9**
BSO3	**Boso 3**	**0.81**	**212**	↑P	**Pn**	**05 00 55.4**	**-1.8**
BSO1	**Boso 1**	**0.84**	**183**	↑P	**Pn**	**05 00 55.4**	**-2.0**
JYT	**Yasato**	**1.00**	**317**	↑P	**Pn**	**05 00 57.6**	**-2.5**
JYT				S	**Sn**	**05 01 10.5**	**-2.5**
JHO	**Hitachi**	**1.18**	**342**	P	**Pn**	**05 01 00.7**	**-1.8**
MJAR	**Matsushiro Arr**	**2.52**	**295**	Pn	**Pn**	**05 01 22.7**	**+1.8**
	7.7nm,0.3s,baz=84,slow=8.9,SNR=30						
MAT	**Matsushiro**	**2.52**	**295**	P	**Pn**	**05 01 21.5**	**+0.5**
MAT				*eS*	**Sn**	**05 01 51.2**	**+0.7**
JHJ	**Hachijo jima 2**	**2.58**	**204**	Pn	**Pn**	**05 01 19.7**	**-2.2**
	24nm,0.3s,baz=52,slow=19,SNR=5.8						
JHJ				Sn	**Sn**	**05 01 49.4**	**-2.8**
	52nm,0.3s,baz=90,slow=20,SNR=3.6						
JCJ	**Chichijima**	**8.43**	**173**	Pn	**Pn**	**05 02 39.2**	**-3.0**
	15nm,0.3s,baz=91,slow=20,SNR=7.9						
ASAJ	**Asahikawa**	**8.70**	**7**	Pn	**Pn**	**05 02 44.9**	**-0.9**
	0.9nm,0.3s,baz=127,slow=20,SNR=3.0						
H11N2	**WAKE ISLAND Hy 27.66**	**118**		T	T	05 35 30.0	
	baz=310,slow=75,SNR=1083						
H11N1	**WAKE ISLAND Hy 27.67**	**118**		T	T	05 35 30.2	
	baz=310,slow=75,SNR=716						
H11N3	**WAKE ISLAND Hy 27.68**	**118**		T	T	05 35 27.8	
	baz=310,slow=75,SNR=650						
H11S1	**WAKE ISLAND Hy 28.32**	**120**		T	T	05 36 16.0	
	baz=312,slow=76,SNR=1697						
H11S3	**WAKE ISLAND Hy 28.32**	**120**		T	T	05 36 16.0	
	baz=312,slow=76,SNR=1145						
H11S2	**WAKE ISLAND Hy 28.34**	**120**		T	T	05 36 18.0	
	baz=312,slow=76,SNR=924						
ZALV	**Zalesovo Beam**	**42.74**	**314**	P	**P**	**05 08 39.4**	**+3.1**
	0.4nm,0.3s,baz=94,slow=5.8,SNR=2.5						
MKAR	**Makanchi Array**	**44.69**	**303**	P	**P**	**05 08 54.1**	**+2.0**
	1.3nm,0.8s,baz=89,slow=11,SNR=6.6						
KURBB	**Kurchatov Arra**	**46.72**	**309**	P	**P**	**05 09 09.4**	**+1.5**
	1.2nm,0.5s,baz=83,slow=7.8,SNR=5.2						
ILAR	**Eielson Array**	**50.96**	**32**	P	**P**	**05 09 41.0**	**+0.7**
	0.7nm,0.8s,baz=261,slow=6.0,SNR=7.7						
BVAR	**Borovoye Array**	**51.39**	**313**	P	**P**	**05 09 45.3**	**+1.6**
	0.3nm,0.5s,baz=81,slow=9.2,SNR=2.7						
WRA	**Warramunga Arr**	**55.50**	**188**	P	**P**	**05 10 13.3**	**-0.8**
	1.8nm,0.7s,baz=2.6,slow=7.6,SNR=28						
ASAR	**Alice Springs**	**59.22**	**188**	P	**P**	**05 10 40.5**	**+0.1**
	0.2nm,0.5s,baz=20,slow=12,SNR=3.1						
YKA	**Yellowknife Ar**	**65.29**	**30**	P	**P**	**05 11 21.9**	**+1.3**
	0.3nm,0.8s,baz=300,slow=6.4,SNR=5.3						
ARCES	**ARCESS Array B**	**65.33**	**340**	P	**P**	**05 11 21.6**	**+0.8**
	2.5nm,1.0s,baz=37,slow=6.1,SNR=2.7						
FINES	**FINESS Array B**	**70.03**	**332**	P	**P**	**05 11 50.4**	**0.0**
	1.6nm,1.0s,baz=31,slow=3.7,SNR=3.4						
NOA	**NORSAR Array B**	**75.48**	**337**	P	**P**	**05 12 23.1**	**+0.1**
	0.9nm,0.8s,baz=40,slow=5.8,SNR=3.0						
NVAR	**Mina Array Bea**	**76.16**	**53**	P	**P**	**05 12 27.9**	**+0.4**
	0.3nm,0.8s,baz=342,slow=5.7,SNR=3.7						

JMA ***23*** *05:17:17.9±0.1, 23°89N×122°15E, h26km±4km, M2.5*

ISCJB ***23*** *05:17:18.3±0.3, 23°94N±0°02×122°18E±0°02, h27km±2km, Error ellipse: s-maj=3.2km s-min=2.3km az=148.6*

TAP ***23*** *05:17:18.7, 23°97N×122°14E, h49km, ML3.2, C*

ISC 23 05:17:18.1±1.1, 23°93N±0°02×122°15E±0°02, h28km±11km, n65, σ0s51/115, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HWA	**Hwalien**	**0.50**	**276**	*eP*	**Pn**	**05 17 29.7**	**+0.3**
	baz=265						
ENLB	**Shoufeng**	**0.50**	**268**	*i* P	**Pn**	**05 17 29.6**	**+0.1**
	baz=260						
ENLB				*i* S	**Sn**	**05 17 38.1**	**+0.9**
	baz=260						
TWD	**Chiawan**	**0.53**	**287**	*i* P	**Pn**	**05 17 29.4**	**-0.5**
	baz=277						
TWD				S	**Sn**	**05 17 37.2**	**-0.7**
	baz=277						
NACB	**Ninganchiao**	**0.57**	**296**	*i* P	**Pb**	**05 17 29.8**	**+0.2**
	baz=292						
NACB				*e*S	**Sn**	**05 17 38.3**	**-0.5**
	baz=292						
ENAH	**Nanao**	**0.61**	**329**	P	**Pn**	**05 17 30.9**	**0.0**
	baz=334						
ENAH				S	**Sn**	**05 17 39.9**	**+0.1**
	baz=334						
NANB	**Nanao**	**0.62**	**324**	*i* P	**Pn**	**05 17 30.9**	**-0.2**
	baz=313						
NANB				*i* S	**Sn**	**05 17 40.2**	**+0.1**
	baz=313						
EOS1	**EOS1**	**0.62**	**358**	P	**Pn**	**05 17 30.9**	**-0.2**
	baz=359						
EOS1				*i* S	**Sn**	**05 17 39.9**	**-0.2**
	baz=359						
ENA	**Nanau**	**0.62**	**323**	P	**Pn**	**05 17 31.0**	**-0.2**
	baz=313						
ENA				*i* S	**Sn**	**05 17 40.5**	**+0.2**
	baz=313						
ESL	**Shilin**	**0.67**	**261**	*e*P	**Pb**	**05 17 31.1**	**-0.1**
	baz=256						
TWC	**Suao**	**0.73**	**338**	P	**Pb**	**05 17 32.3**	**-0.1**
	baz=346						
TWC				S	**Sb**	**05 17 41.4**	**-0.7**
	baz=346						
HGSD	**Ruisui**	**0.80**	**237**	*e*P	**Pn**	**05 17 33.6**	**+0.1**
	baz=229						
HGSD				*e*S	**Sn**	**05 17 43.9**	**-0.5**
	baz=229						
WHF	**Hehuan Shan**	**0.84**	**285**	*i* P	**Pb**	**05 17 34.2**	**-0.3**
	baz=282						
WHF				S	**Sb**	**05 17 45.5**	**0.0**
	baz=282						
NNSB	**Datong**	**0.86**	**306**	*i* P	**Pb**	**05 17 34.4**	**-0.2**
	baz=294						
NNSB				S	**Sb**	**05 17 46.1**	**+0.2**
	baz=294						
NNSH	**Datong**	**0.86**	**306**	*e*P	**Pb**	**05 17 34.5**	**-0.2**
	baz=294						
NNSH				*e*S	**Sb**	**05 17 46.0**	**+0.1**
	baz=294						
EHY	**Hungye**	**0.87**	**241**	P	**Pn**	**05 17 34.4**	**-0.1**
	baz=249						
EHY				*e*S	**Sn**	**05 17 46.1**	**-0.2**
	baz=249						
NNS	**Nan Shan**	**0.88**	**306**	P	**Pb**	**05 17 34.6**	**-0.2**
	baz=304						
ENTT	**Nioudou**	**0.89**	**323**	*i* P	**Pn**	**05 17 34.8**	**0.0**
	baz=322						
ENTT				S	**Sb**	**05 17 46.4**	**-0.1**
	baz=322						
JYNG	**Yonagunijimaku**	**0.89**	**54**	P	**Pb**	**05 17 34.9**	**-0.1**
JYNG				*e*S	**Sb**	**05 17 46.7**	**+0.1**
OWD	**Renai**	**0.89**	**272**	P	**Pb**	**05 17 35.3**	**+0.1**
	baz=269						
OWD				*e*S	**Sb**	**05 17 46.6**	**-0.2**
	baz=269						
CHGB	**Renai**	**0.91**	**279**	P	**Pb**	**05 17 35.3**	**0.0**
	baz=276						
CHGB				S	**Sb**	**05 17 47.1**	**-0.1**
	baz=276						
TWE	**Neicheng**	**0.91**	**331**	*i* P	**Pb**	**05 17 35.3**	**0.0**
	baz=337						
TWE				S	**Sb**	**05 17 47.1**	**+0.1**
	baz=337						
YULB	**Yu-li**	**0.95**	**236**	*e*P	**Pb**	**05 17 35.7**	**-0.3**
	baz=245						
YOJ	**Yonaguni jima**	**0.95**	**56**	P	**Pb**	**05 17 35.8**	**-0.2**
YOJ				*e*S	**Sb**	**05 17 47.8**	**-0.3**
TWT	**Tachien**	**0.95**	**290**	*e*P	**Pb**	**05 17 36.5**	**+0.4**
	baz=287						
TWT				S	**Sn**	**05 17 48.6**	**+0.1**
	baz=287						
TDCB	**Techi**	**0.96**	**290**	*e*P	**Pb**	**05 17 36.4**	**+0.1**
	baz=287						
TDCB				*e*

TYC					*e*S		**Sb**	05 17 54.7	-0.2
	baz=267								
NWF	**Wu-fen Shan**	**1.19**	**344**		*e*P		**Pn**	05 17 39.5	+0.5
	baz=357								
NWF					*e*S		**Sn**	05 17 54.1	-0.2
	baz=357								
WFSB	**Wu-fen Shan**	**1.19**	**344**		*e*P		**Pn**	05 17 39.5	+0.5
	baz=356								
WFSB					*e*S		**Sn**	05 17 53.9	-0.3
	baz=356								
TATO	**Taipei**	**1.21**	**330**		*e*P		**Pb**	05 17 39.9	-0.4
	baz=329								
TATO					*e*S		**Sn**	05 17 55.0	+0.4
	baz=329								
LIOB	**Emei**	**1.26**	**305**		*e*P		**Pb**	05 17 41.5	+0.3
	baz=303								
LIOB					*e*S		**Sb**	05 17 57.1	0.0
	baz=303								
NSTT	**Nanjuang**	**1.26**	**304**		*e*P		**Pb**	05 17 41.3	0.0
	baz=302								
NSTT					*e*S		**Sn**	05 17 56.5	+0.4
	baz=302								
ELDTW	**Lidau**	**1.27**	**235**		*e*P		**Pn**	05 17 40.3	+0.1
	baz=223								
ELDTW					*e*S		**Sn**	05 17 55.0	-1.5
	baz=223								
ALS	**Alishan**	**1.30**	**252**		*e*P		**Pb**	05 17 42.1	-0.1
	baz=249								
WJS	**Zhushan**	**1.31**	**266**		*e*P		**Pb**	05 17 42.8	+0.8
	baz=263								
WJS					*e*S		**Sb**	05 17 59.9	+1.4
	baz=263								
TWQ1	**Liyutan**	**1.33**	**289**		*e*S		**Sb**	05 17 60.0	+0.9
	baz=286								
YM07	**YM07**	**1.33**	**339**		*e*P		**Pn**	05 17 40.4	-0.6
	baz=339								
YM10	**YM10**	**1.34**	**336**		*e*P		**Pn**	05 17 41.6	+0.6
	baz=336								
YM05	**YM05**	**1.34**	**337**		P		**Pn**	05 17 41.4	+0.2
	baz=337								
YM05					*e*S		**Sn**	05 17 58.6	+0.5
	baz=337								
TWH	**Lutao**	**1.36**	**207**		*e*P		**Pn**	05 17 41.2	0.0
	baz=197								
TWH					*e*S		**Sn**	05 17 57.7	-0.7
	baz=197								
CHN5	**Tsauling**	**1.39**	**257**		*e*P		**Pb**	05 17 43.4	-0.1
	baz=254								
CHN5					*e*S		**Sb**	05 18 01.5	+0.6
	baz=254								
TWGBT	**Beinan**	**1.48**	**222**		*e*P		**Pn**	05 17 43.5	+0.5
	baz=228								
TWG	**Pinlang**	**1.48**	**222**		*e*P		**Pn**	05 17 43.5	+0.5
	baz=228								
WDLH	**Douliu**	**1.50**	**261**		*e*S		**Sb**	05 18 04.4	+0.5
	baz=259								
IRIF	**Iriomote-Funau**	**1.50**	**74**		P		**Pn**	05 17 43.4	+0.3
IRIF					*e*S		**Sn**	05 18 01.8	0.0
HATJ	**Hateruma jima**	**1.52**	**85**		P		**Pn**	05 17 43.8	+0.4
HATJ					S		**Sn**	05 18 02.2	0.0
TPUB	**Ta-pu**	**1.53**	**246**		*e*P		**Pb**	05 17 45.7	-0.2
	baz=244								
TPUB					*e*S		**Sb**	05 18 05.4	+0.6
	baz=244								
CHN4	**Tsaushan**	**1.54**	**249**		*e*P		**Pb**	05 17 46.3	+0.3
	baz=246								
CHN4					*e*S		**Sb**	05 18 06.3	+1.2
	baz=246								
WTP	**Ta-pu**	**1.56**	**245**		*e*P		**Pb**	05 17 46.0	-0.4
	baz=242								
RLNB	**Erlin**	**1.64**	**269**		*e*P		**Pb**	05 17 47.3	-0.4
	baz=279								
RLNB					*e*S		**Sb**	05 18 08.7	+0.7
	baz=279								
TWK	**Hsinying**	**1.66**	**247**		*e*P		**Pb**	05 17 47.8	-0.3
	baz=244								
TWK					*e*S		**Sb**	05 18 08.7	+0.1
	baz=244								
CHN1	**Nanshi**	**1.66**	**244**		*e*P		**Pb**	05 17 48.0	-0.1
	baz=242								
CHN1					*e*S		**Sb**	05 18 09.4	+0.8
	baz=242								
SGST	**Jiashian**	**1.67**	**240**		*e*P		**Pb**	05 17 48.1	-0.1
	baz=230								
SGST					*e*S		**Sb**	05 18 09.5	+0.7
	baz=230								
JKRS	**Kuro-shima**	**1.73**	**79**		P		**Pn**	05 17 47.1	+0.8
JKRS					*e*S		**Sn**	05 18 08.7	+1.3
JIJ	**Ishigaki jima**	**1.87**	**76**		P		**Pn**	05 17 48.3	0.0
JIJ					*e*S		**Sn**	05 18 09.7	-1.3
MASBT	**Mashibuluo**	**1.91**	**227**		*e*P		**Pb**	05 17 51.9	-0.5
	baz=220								

*ISCJB **23** 05:19:06.9±0.4,39°.30N±0°.02×26°.00E±0°.04,h8^{km}±3^{km}, Error ellipse: s-maj=4.8km s-min=2.8km az=2.4*
*ATH **23** 05:19:07.0,39°.30N×25°.98E,h10^{km}±3^{km},ML2.4/4, Error ellipse: s-maj=3.7km s-min=1.0km az=214.0*
*ISK **23** 05:19:06.5,39°.31N×25°.99E,h8^{km},ML2.7/20*
*THE **23** 05:19:07.1,39°.30N×25°.98E,h8^{km},ML2.2/5, Error ellipse: s-maj=0.9km s-min=0.3km az=162.0*
*CSEM **23** 05:19:07.0±0.1,39°.30N×25°.99E,h8^{km},ML2.4, Error ellipse: s-maj=3.7km s-min=1.9km az=86.0*
ISC 23 05:19:07.1±0.8,**39°.30N**±0°.01×**25°.99E**±0°.02,**h11**^{km}±5^{km}, **n71**,σ0**855**/101,**Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIGR	**SIGRI**	**0.13**	**229**	PG	**Pg**	**05 19 10.1**	**-0.1**
SIGR				SG	**Sg**	**05 19 12.2**	**-0.3**
SIGR	**SIGRI**	**0.13**	**229**	P	**Pg**	**05 19 10.2**	**-0.1**
SIGR				S	**Sg**	**05 19 12.1**	**-0.4**
SIGR				AML	AML	05 19 12.4	
	comp=N,14294μm,0.3s						
SIGR				AML	AML	05 19 12.4	
	comp=E,7285μm,0.3s						
SIGR	**SIGRI**	**0.13**	**229**	P	**Pg**	**05 19 10.1**	**-0.1**
SIGR				S	**Sg**	**05 19 12.2**	**-0.3**
SIGR	**SIGRI**	**0.13**	**229**	P	**Pg**	**05 19 10.1**	**-0.1**
SIGR				S	**Sg**	**05 19 12.2**	**-0.3**
GPNR	**Gulpinar-Canak**	**0.19**	**36**	PG	**Pg**	**05 19 10.9**	**-0.3**
GPNR				SG	**Sg**	**05 19 14.6**	**+0.5**
GPNR	**Gulpinar-Canak**	**0.19**	**36**	*e*Pg	**Pg**	**05 19 10.9**	**-0.3**
GPNR				*e*Sg	**Sg**	**05 19 14.6**	**+0.5**
PRK	**Paraskevi**	**0.23**	**103**	P	**Pg**	**05 19 11.8**	**0.0**
PRK				S	**Sg**	**05 19 15.6**	**+0.6**
PRK				AML	AML	05 19 15.7	
	comp=N,1814μm,0.2s						
PRK				AML	AML	05 19 16.1	
	comp=E,1614μm,0.3s						
PRK	**Paraskevi**	**0.23**	**103**	P	**Pg**	**05 19 11.8**	**0.0**
PRK				S	**Sg**	**05 19 15.1**	**+0.1**
PRK	**Paraskevi**	**0.23**	**103**	P	**Pg**	**05 19 11.8**	**0.0**
PRK				S	**Sg**	**05 19 15.4**	**+0.4**
BOZC	**Bozcaada**	**0.55**	**5**	PG	**Pg**	**05 19 17.7**	**0.0**
BOZC				SG	**Sb**	**05 19 25.9**	**-0.6**
BOZC	**Bozcaada**	**0.55**	**5**	*e*Pg	**Pg**	**05 19 17.7**	**0.0**
BOZC				*e*Sg	**Sb**	**05 19 25.9**	**-0.6**
EZN	**Ezine**	**0.59**	**26**	PG	**Pg**	**05 19 18.3**	**-0.2**
EZN				SG	**Sb**	**05 19 27.2**	**-0.5**
EZN	**Ezine**	**0.59**	**26**	P	**Pg**	**05 19 18.5**	**0.0**
EZN				S	**Sg**	**05 19 27.0**	**+0.7**
EZN	**Ezine**	**0.59**	**26**	P	**Pg**	**05 19 18.5**	**0.0**
EZN				S	**Sg**	**05 19 27.0**	**+0.7**
DKL	**Dikili**	**0.75**	**107**	PG	**Pg**	**05 19 21.5**	**0.0**
DKL	**Dikili**	**0.75**	**107**	*e*Pg	**Pg**	**05 19 21.5**	**0.0**
FOCM	**Fo¯ça**	**0.82**	**135**	PG	**Pg**	**05 19 22.8**	**-0.2**
FOCM	**Fo¯ça**	**0.82**	**135**	*e*Pg	**Pg**	**05 19 22.8**	**-0.2**
PSRA	**Psara**	**0.82**	**204**	P	**Pg**	**05 19 22.5**	**-0.4**
PSRA				S	**Sb**	**05 19 34.5**	**0.0**
PSRA	**Psara**	**0.82**	**204**	P	**Pg**	**05 19 22.6**	**-0.4**
PSRA				S	**Sb**	**05 19 34.2**	**-0.3**
KRBN	**Karaburun**	**0.83**	**148**	PG	**Pg**	**05 19 23.1**	**0.0**
KRBN	**Karaburun**	**0.83**	**148**	*e*Pg	**Pg**	**05 19 23.1**	**0.0**
LIA	**Limnos Island**	**0.86**	**314**	P	**Pb**	**05 19 24.2**	**+0.2**
LIA	**Limnos Island**	**0.86**	**314**	P	**Pg**	**05 19 23.7**	**+0.1**
LIA				S	**Sb**	**05 19 35.8**	**+0.2**
LIA	**Limnos Island**	**0.86**	**314**	P	**Pg**	**05 19 23.8**	**+0.1**
LIA				S	**Sb**	**05 19 35.8**	**+0.2**
GADA	**Gvkgeada**	**0.89**	**356**	PG	**Pg**	**05 19 23.5**	**-0.8**
GADA				SG	**Sg**	**05 19 36.2**	**+0.2**
GADA	**Gvkgeada**	**0.89**	**356**	P	**Pg**	**05 19 24.0**	**-0.3**
GADA				S	**Sb**	**05 19 37.0**	**+0.5**
GADA	**Gvkgeada**	**0.89**	**356**	*e*Pg	**Pg**	**05 19 23.5**	**-0.8**
GADA				*e*Sg	**Sg**	**05 19 36.2**	**+0.2**
GADA				S	**Sb**	**05 19 37.0**	**+0.5**
CHOS	**Chios island**	**0.91**	**177**	PG	**Pb**	**05 19 24.9**	**-0.1**
CHOS				SG	**Sn**	**05 19 38.5**	**-0.6**
CHOS	**Chios island**	**0.91**	**177**	P	**Pg**	**05 19 24.6**	**-0.1**
CHOS				S	**Sg**	**05 19 36.2**	**-0.4**
CHOS				AML	AML	05 19 39.1	
	comp=N,614μm,0.3s						
CHOS				AML	AML	05 19 40.7	
	comp=E,914μm,0.3s						
CHOS	**Chios island**	**0.91**	**177**	P	**Pg**	**05 19 24.3**	**-0.3**
CHOS				S	**Sb**	**05 19 37.5**	**+0.4**
CHOS	**Chios island**	**0.91**	**177**	P	**Pg**	**05 19 24.4**	**-0.2**
CHOS	**Chios island**	**0.91**	**177**	*e*Pg	**Pb**	**05 19 24.9**	**-0.1**
CHOS				S	**Sg**	**05 19 36.5**	**0.0**
CHOS				*e*Sg	**Sn**	**05 19 38.5**	**-0.6**
URLA	**Izmir**	**1.05**	**153**	PG	**Pg**	**05 19 25.7**	**-1.6**
URLA	**Izmir**	**1.05**	**153**	*e*Pg	**Pg**	**05 19 25.7**	**-1.6**
GELI	**Tayfur-Gelibol**	**1.16**	**19**	PN	**Pg**	**05 19 28.9**	**-0.5**
GELI	**Tayfur-Gelibol**	**1.16**	**19**	*e*Pn	**Pg**	**05 19 28.9**	**-0.5**
SMTH	**Samothraki Isl**	**1.22**	**343**	P	**Pb**	**05 19 29.1**	**-1.1**
SMTH				S	**Sg**	**05 19 46.6**	**+0.2**
SMTH				AML	AML	05 19 48.2	
	comp=E,131μm,0.4s						
SMTH				AML	AML	05 19 50.6	
	comp=N,121μm,0.4s						
SMTH	**Samothraki Isl**	**1.22**	**343**	P	**Pb**	**05 19 29.3**	**-0.9**
SMTH				S	**Sn**	**05 19 46.8**	**+0.1**
SMTH	**Samothraki Isl**	**1.22**	**343**	P	**Pb**	**05 19 29.6**	**-0.6**
SMTH				S	**Sg**	**05 19 46.7**	**+0.2**
LPK	**Lapseki**	**1.23**	**29**	PN	**Pb**	**05 19 29.4**	**-0.9**
LPK	**Lapseki**	**1.23**	**29**	*e*Pn	**Pb**	**05 19 29.4**	**-0.9**
BLCB	**Balcova**	**1.23**	**138**	PN	**Pb**	**05 19 30.1**	**-0.2**
BLCB	**Balcova**	**1.23**	**138**	*e*Pn	**Pb**	**05 19 30.1**	**-0.2**
ERIK	**Erikli-Kesan**	**1.43**	**16**	PN	**Pn**	**05 19 33.4**	**+0.5**
ERIK	**Erikli-Kesan**	**1.43**	**16**	*e*Pn	**Pn**	**05 19 33.4**	**+0.5**
ENEZ	**Enez**	**1.44**	**5**	PN	**Pn**	**05 19 33.1**	**0.0**
ENEZ	**Enez**	**1.44**	**5**	*e*Pn	**Pn**	**05 19 33.1**	**0.0**
KRBG	**Karabiga-Canak**	**1.49**	**42**	PN	**Pn**	**05 19 33.5**	**-0.3**
KRBG	**Karabiga-Canak**	**1.49**	**42**	*e*Pn	**Pn**	**05 19 33.5**	**-0.3**
GONE	**Gonen-Balikesi**	**1.51**	**60**	PN	**Pn**	**05 19 34.7**	**+0.6**
GONE	**Gonen-Balikesi**	**1.51**	**60**	*e*Pn	**Pn**	**05 19 34.7**	**+0.6**
ALN	**Alexandroupoli**	**1.60**	**2**	PN	**Pn**	**05 19 36.1**	**+0.8**
ALN	**Alexandroupoli**	**1.60**	**2**	P	**Pb**	**05 19 36.8**	**+0.2**
ALN	**Alexandroupoli**	**1.60**	**2**	*e*Pn	**Pn**	**05 19 36.1**	**+0.8**
ALN	**Alexandroupoli**	**1.60**	**2**	P	**Pb**	**05 19 36.9**	**+0.3**
RKY	**Sarkoy-Tekirda**	**1.66**	**33**	PN	**Pn**	**05 19 36.9**	**+0.7**
RKY	**Sarkoy-Tekirda**	**1.66**	**33**	*e*Pn	**Pn**	**05 19 36.9**	**+0.7**
EDC	**Edincik**	**1.79**	**53**	PN	**Pn**	**05 19 38.1**	**+0.2**
EDC	**Edincik**	**1.79**	**53**	*e*Pn	**Pn**	**05 19 38.1**	**+0.2**
AYDB	**Zeytinkoy-Aydi**	**2.01**	**132**	PN	**Pn**	**05 19 41.9**	**+0.8**
AYDB	**Zeytinkoy-Aydi**	**2.01**	**132**	*e*Pn	**Pn**	**05 19 41.9**	**+0.8**
KCTX	**Karacabey (Bur**	**2.07**	**61**	PN	**Pn**	**05 19 41.6**	**-0.1**
KCTX	**Karacabey (Bur**	**2.07**	**61**	*e*Pn	**Pn**	**05 19 41.6**	**-0.1**
SBT3	**Marmara-Eregli**	**2.20**	**43**	PN	**Pn**	**05 19 44.0**	**+0.6**
SBT3	**Marmara-Eregli**	**2.20**	**43**	*e*Pn	**Pn**	**05 19 44.0**	**+0.6**
APE	**Apeiranthos**	**2.25**	**189**	PN	**Pn**	**05 19 45.8**	**+1.4**
APE	**Apeiranthos**	**2.25**	**189**	*e*Pn	**Pn**	**05 19 45.8**	**+1.4**
ARMT	**Armutlu**	**2.55**	**59**	PN	**Pn**	**05 19 49.4**	**+1.0**
ARMT	**Armutlu**	**2.55**	**59**	*e*Pn	**Pn**	**05 19 49.4**	**+1.0**

*ISCJB **23** 05:19:58.7±0.5,27°.69N±0°.07×126°.83E±0°.08, h200^{km}±8^{km},mb3.6/3, Error ellipse: s-maj=15.5km s-min=4.5km az=137.6*
*IDC **23** 05:19:59.7±0.8,27°.67N×127°.12E,h211^{km}±53^{km},mb3.4/3, mb1 3.4/4,mb1mx2.8/63,mbtmp3.8/4, Error ellipse: s-maj=93.0km s-min=28.2km az=124.0*
*JMA **23** 05:20:01.7±0.2,27°.83N×126°.84E,h174^{km},M3.7*
ISC 23 05:19:59.1±0.9,**27°.74N**±0°.08×**126°.79E**±0°.07, **h197**^{km}±10^{km},**n25**,σ1**959**/39,**mb3.8**/3,**Northwest of Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAGN	**Aguni-jima**	**1.22**	**160**	P	**Pn**	**05 20 31.5**	**+1.3**
JAGN				*e*S	**Sn**	**05 20 54.6**	**+0.3**
JIH	**Iheya**	**1.26**	**123**	P	**Pn**	**05 20 31.7**	**+1.1**
JIH				*e*S	**Sn**	**05 20 54.3**	**-0.6**
JKE	**Kume jima 2**	**1.41**	**180**	P	**Pn**	**05 20 32.8**	**+1.0**
JKE				*e*S	**Sn**	**05 20 57.4**	**+0.2**
JOW	**Kunigami**	**1.60**	**124**	P	**Pn**	**05 20 34.6**	**+1.0**
	62nm,0.3s,baz=304,slow=15,SNR=140						
JOW				S	**Sn**	**05 20 58.7**	**-1.5**
	40nm,0.3s,baz=279,slow=19,SNR=18						
JOW	**Kunigami**	**1.60**	**124**	P	**Pn**	**05 20 34.5**	**+1.0**
JOW				S	**Sn**	**05 20 58.8**	**-1.5**
JOKE	**Okinoerabujima**	**1.63**	**103**	P	**Pn**	**05 20 34.4**	**+0.6**
JOKE				S	**Sn**	**05 20 58.9**	**-1.7**
JNTH	**Nagotoyohara**	**1.64**	**138**	P	**Pn**	**05 20 35.3**	**+1.4**
JJT3	**Tamagusuku3**	**1.82**	**151**	P	**Pn**	**05 20 37.8**	**+2.1**
JJT3				*e*S	**Sn**	**05 21 04.5**	**+0.5**
JTK	**Tokunoshima**	**1.92**	**88**	P	**Pn**	**05 20 37.2**	**+0.6**
JTK				S	**Sn**	**05 21 03.5**	**-2.2**
JAMN	**Amaminishikomi**	**2.17**	**76**	P	**Pn**	**05 20 39.3**	**+0.1**
JAMN				S	**Sn**	**05 21 08.7**	**-1.7**
JTAJ	**Takarajima**	**2.55**	**56**	P	**Pn**	**05 20 44.1**	**+0.7**
JAM	**Amami Oshima**	**2.58**	**74**	P	**Pn**	**05 20 43.9**	**+0.2**
JAM				*e*S	**Sn**	**05 21 16.6**	**-1.9**
JZK	**Kikaishima**	**2.87**	**78**	P	**Pn**	**05 20 48.1**	**+1.0**
JZK				*e*S	**Sn**	**05 21 24.2**	**-0.4**
JIKM	**Ikemajima**	**3.12**	**207**	S	**Sn**	**05 21 29.7**	**-0.3**
JOGS	**Gusukube**	**3.21**	**203**	S	**Sn**	**05 21 32.0**	**0.0**
JIRB	**Irabujima**	**3.24**	**207**	*e*S	**Sn**	**05 21 31.1**	**-1.4**
JNN	**Nakanoshima**	**3.43**	**52**	P	**Pn**	**05 20 55.2**	**+1.5**
JNN				S	**Sn**	**05 21 36.0**	**-0.5**
JTJ	**Tarama**	**3.61**	**212**	S	**Sn**	**05 21 38.6**	**-2.0**
JIJ	**Ishigaki jima**	**4.12**	**216**	P	**Pn**	**05 21 01.3**	**-1.0**
JIJ				S	**Sn**	**05 21 48.4**	**-3.5**
JKRS	**Kuro-shima**	**4.29**	**216**	S	**Sn**	**05 21 53.2**	**-2.6**
JMZ	**Minamidaito 2**	**4.40**	**115**	P	**Pn**	**05 21 07.3**	**+1.4**
JMZ				*e*S	**Sn**	**05 21 55.5**	**-2.8**
MJAR	**Matsushiro Arr**	**13.06**	**45**	P	**Pn**	**05 22 55.2**	**-2.2**
	baz=236,slow=17,SNR=3.6						
SONM	**Songino Array**	**25.59**	**327**	P	**P**	**05 25 12.9**	**+2.7**
	0.8nm,0.3s,baz=137,slow=9.7,SNR=6.4						
CMAR	**Chiang Mai Arr**	**27.17**	**256**	P	**P**	**05 25 26.5**	**+2.0**
	1.2nm,0.3s,baz=55,slow=8.2,SNR=2.0						
MKAR	**Makanchi Array**	**39.57**	**311**	P	**P**	**05 27 10.8**	**-0.3**
	0.5nm,0.6s,baz=97,slow=9.7,SNR=6.8						

*ISCJB **23** 05:31:05.0±0.4,39°.29N±0°.01×26°.01E±0°.02,h3^{km}±3^{km}, Error ellipse: s-maj=3.1km s-min=2.4km az=0.3*
*ISK **23** 05:31:04.5,39°.29N×26°.01E,h7^{km},ML2.9/13*
*DDA **23** 05:31:04.3,39°.29N×25°.99E,h7^{km},Ml3.0*
*THE **23** 05:31:05.5,39°.29N×25°.99E,h2^{km}±1^{km},ML2.3/7, Error ellipse: s-maj=1.5km s-min=0.3km az=171.0*
*ATH **23** 05:31:05.4,39°.30N×25°.99E,h5^{km}±3^{km},ML2.4/8, Error ellipse: s-maj=3.7km s-min=0.8km az=140.0*
*CSEM **23** 05:31:05.2±0.1,39°.29N×26°.01E,h5^{km},ML2.3, Error ellipse: s-maj=2.8km s-min=2.2km az=83.0*
ISC 23 05:31:05.5±0.8,**39°.30N**±0°.01×**25°.99E**±0°.01,**h9**^{km}±6^{km}, **n96**,σ0**865**/150,**Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIGR	**SIGRI**	**0.14**	**232**	PG	**Pg**	**05 31 08.2**	**-0.3**
SIGR				SG	**Sg**	**05 31 10.4**	**-0.1**
SIGR	**SIGRI**	**0.14**	**232**	P	**Pg**	**05 31 08.1**	**-0.4**
SIGR				S	**Sg**	**05 31 10.1**	**-0.5**
SIGR				AML	AML	05 31 10.5	
	comp=E,8713μm,0.3s						
SIGR				AML	AML	05 31 10.6	
	comp=N,19888μm,0.3s						
SIGR	**SIGRI**	**0.14**	**232**	P	**Pg**	**05 31 08.2**	**-0.3**
SIGR				S	**Sg**	**05 31 10.2**	**-0.3**
SIGR	**SIGRI**	**0.14**	**232**	P	**Pg**	**05 31 08.2**	**-0.3**
SIGR				*e*Sg	**Sg**	**05 31 10.4**	**-0.1**
GPNR	**Gulpinar-Canak**	**0.19**	**34**	PG	**Pg**	**05 31 09.2**	**-0.3**
GPNR	**Gulpinar-Canak**	**0.19**	**34**	*e*Pg	**Pg**	**05 31 09.2**	**-0.3**
PRK	**Paraskevi**	**0.22**	**103**	P	**Pg**	**05 31 10.0**	**0.0**
PRK				S	**Sg**	**05 31 14.0**	**+1.0**
PRK				AML	AML	05 31 14.2	
	comp=N,3757μm,0.5s						
PRK				AML	AML	05 31 16.2	
	comp=E,2850μm,0.3s						
PRK	**Paraskevi**	**0.22**	**103**	P	**Pg**	**05 31 10.0**	**0.0**
PRK				S	**Sg**	**05 31 13.6**	**+0.6**

PRK	**Paraskevi**	**0.22**	**103**		P		**Pg**	05 31 09.9	0.0
PRK					S		**Sg**	05 31 13.6	+0.6
AYVA	**Ayvalik**	**0.54**	**88**	*i*	P		**Pg**	05 31 15.8	-0.2
AYVA				*i*	S		**Sg**	05 31 23.6	+0.6
AYVA	**Ayvalik**	**0.54**	**88**		P		**Pg**	05 31 15.8	-0.2
AYVA					S		**Sg**	05 31 23.6	+0.6
BOZC	**Bozcaada**	**0.55**	**5**		PG		**Pg**	05 31 15.7	-0.4
BOZC					SG		**Sg**	05 31 23.9	+0.6
BOZC	**Bozcaada**	**0.55**	**5**	*i*	P		**Pg**	05 31 16.0	-0.1
BOZC				*i*	S		**Sg**	05 31 23.8	+0.4
BOZC	**Bozcaada**	**0.55**	**5**	*e*	Pg		**Pg**	05 31 15.7	-0.4
BOZC				*e*	Sg		**Sg**	05 31 23.9	+0.6
EZN	**Ezine**	**0.59**	**26**		PG		**Pg**	05 31 16.4	-0.5
EZN					SG		**Sg**	05 31 24.3	-0.3
EZN	**Ezine**	**0.59**	**26**		P		**Pg**	05 31 16.6	-0.3
EZN					S		**Sb**	05 31 25.8	-0.6
EZN	**Ezine**	**0.59**	**26**		P		**Pg**	05 31 16.6	-0.3
EZN					*e*Sg		**Sg**	05 31 24.3	-0.3
EZN					S		**Sb**	05 31 25.8	-0.6
BAYC	**CANAKKALE_Bayr**	**0.62**	**44**	*i*	P		**Pg**	05 31 16.8	-0.6
BAYC				*i*	S		**Sg**	05 31 24.8	-0.8
BAYC	**CANAKKALE_Bayr**	**0.62**	**44**		P		**Pg**	05 31 16.8	-0.6
BAYC					S		**Sg**	05 31 24.8	-0.8
DKL	**Dikili**	**0.74**	**107**		PG		**Pg**	05 31 19.4	-0.4
DKL	**Dikili**	**0.74**	**107**	*e*	Pg		**Pg**	05 31 19.4	-0.4
FOCM	**Fo¯ça**	**0.82**	**135**		PG		**Pg**	05 31 20.8	-0.4
FOCM	**Fo¯ça**	**0.82**	**135**	*e*	Pg		**Pg**	05 31 20.8	-0.4
PSRA	**Psara**	**0.82**	**204**		P		**Pg**	05 31 20.4	-0.9
PSRA					S		**Sb**	05 31 32.9	-0.3
PSRA					AML	AML	05 31 35.8		
	comp=E,1724μm,0.3s								
PSRA					AML	AML	05 31 36.3		
	comp=N,1652μm,0.3s								
PSRA	**Psara**	**0.82**	**204**		P		**Pg**	05 31 20.8	-0.5
PSRA					S		**Sb**	05 31 32.8	-0.3
KRBN	**Karaburun**	**0.82**	**148**		PG		**Pg**	05 31 20.5	-0.8
KRBN	**Karaburun**	**0.82**	**148**	*e*	Pg		**Pg**	05 31 20.5	-0.8
LIA	**Limnos Island**	**0.87**	**314**		P		**Pb**	05 31 22.5	-0.2
LIA					S		**Sb**	05 31 34.9	+0.5
LIA					AML	AML	05 31 37.6		
	comp=E,241μm,0.6s								
LIA					AML	AML	05 31 39.0		
	comp=N,170μm,0.5s								
LIA	**Limnos Island**	**0.87**	**314**		P		**Pg**	05 31 22.0	-0.1
LIA					S		**Sb**	05 31 35.1	+0.6
LIA	**Limnos Island**	**0.87**	**314**		P		**Pg**	05 31 22.1	-0.1
LIA					S		**Sb**	05 31 34.3	-0.2
GADA	**Gvkgeada**	**0.90**	**355**		PG		**Pg**	05 31 21.9	-0.8
GADA					SG		**Sg**	05 31 34.9	+0.5
GADA	**Gvkgeada**	**0.90**	**355**		P		**Pg**	05 31 22.5	-0.2
GADA					S		**Sb**	05 31 35.5	+0.2
GADA	**Gvkgeada**	**0.90**	**355**	*e*	Pg		**Pg**	05 31 21.9	-0.8
GADA	**Gvkgeada**	**0.90**	**355**		P		**Pg**	05 31 22.5	-0.2
GADA				*e*	Sg		**Sg**	05 31 34.9	+0.5
GADA					S		**Sb**	05 31 35.5	+0.2
CHOS	**Chios island**	**0.91**	**177**		PG		**Pg**	05 31 22.5	-0.4
CHOS	**Chios island**	**0.91**	**177**		P		**Pg**	05 31 21.9	-1.0
CHOS					S		**Sb**	05 31 35.8	+0.1
CHOS					AML	AML	05 31 37.1		
	comp=N,827μm,0.3s								
CHOS					AML	AML	05 31 38.7		
	comp=E,1575μm,0.3s								
CHOS	**Chios island**	**0.91**	**177**		P		**Pg**	05 31 22.5	-0.4
CHOS					S		**Sb**	05 31 35.9	+0.2
CHOS	**Chios island**	**0.91**	**177**		P		**Pg**	05 31 22.5	-0.4
CHOS					S		**Sb**	05 31 35.6	-0.1
URLA	**Izmir**	**1.04**	**153**		PG		**Pg**	05 31 23.9	-1.6
URLA	**Izmir**	**1.04**	**153**	*i*	P		**Pg**	05 31 24.0	-1.6
URLA				*i*	S		**Sg**	05 31 37.9	-1.2

IDC 23 05:32:26.0±3.0, 54°22N×86°63E, h0km, mb1 3.0/2, mb1mx2.8/74, mbtmp3.0/2, ML2.7/2, Error ellipse: s-maj=23.8km s-min=14.3km az=58.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.10**	**257**	*i*		05 40 10.0	
	baz=79,slow=327,SNR=1.9						
ZALV	**Zalesovo Beam**	**1.10**	**257**	Pg	Pg	05 32 45.3	-1.7
	1.9nm,0.3s,baz=76,slow=15,SNR=13						
ZALV				Lg	Lg	05 33 02.6	
	1.8nm,0.3s,baz=78,slow=28,SNR=6.9						
KURBB	**Kurchatov Arra**	**6.12**	**237**	Pn	Pn	05 33 58.3	+0.7
	0.1nm,0.3s,baz=54,slow=14,SNR=8.9						
KURBB				Lg	Lg	05 35 41.1	
	0.0nm,0.3s,baz=49,slow=31,SNR=2.3						
MKAR	**Makanchi Array**	**7.93**	**202**	Pn	Pn	05 34 23.4	+1.0
	0.1nm,0.3s,baz=24,slow=14,SNR=4.3						
MKAR				Sn	Sn	05 35 53.2	+0.5
	0.1nm,0.3s,baz=22,slow=26,SNR=3.4						
MKAR				Lg	Lg	05 36 40.5	
	0.1nm,0.3s,baz=15,slow=28,SNR=2.5						

IDC 23 05:37:47.2±0.5, 9°74S×118°07E, h0km, mb4.3/22, mb1 4.4/25, mb1mx4.3/59, mbtmp4.3/25, ML4.1/3, MS3.4/14, Ms1 3.4/14, ms1mx3.1/56, Error ellipse: s-maj=18.4km s-min=13.1km az=60.0
ISCJB 23 05:37:50.6±0.3, 9°74S±0°05×118°22E±0°04, h35km, mb4.3/26, MS3.4/13, Error ellipse: s-maj=7.9km s-min=4.3km az=24.2
DJA 23 05:37:53.2±0.4, 10°S±5°×118°8E±°, h10km, M4.9/18, mb5.1/5, mB5.1/4, MLv4.9/18, Mw(mB)4.4/4
NEIC 23 05:37:53.6±0.7, 9°71S×118°22E, h46km±6km, mb4.0/6, Error ellipse: s-maj=8.4km s-min=4.8km az=217.0

ISC 23 05:37:52.1±0.4, 9°93S±0°06×118°16E±0°05, h35km, n90, σ1s97/75, mb4.3/25, MS3.3/13, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLAI	**Plampang**	**1.16**	**341**	P	**Pn**	**05 38 13.8**	**+1.9**
WBSI	**Waikabubak, Su**	**1.25**	**77**	P	**Pn**	**05 38 15.8**	**+2.7**
TWSI	**Taliwang, Sumb**	**1.73**	**313**	P	**Pn**	**05 38 22.3**	**+2.5**
TWSI				S	**Sn**	**05 38 42.8**	**+2.1**
WSI	**Waingapu**	**2.12**	**83**	P	Pn	05 38 31.2	+6.1
BASI	**Baing, Sumba**	**2.40**	**97**	P	**Pn**	**05 38 32.9**	**+4.0**
DNP	**Denpasar**	**3.17**	**293**	P	**Pn**	**05 38 43.7**	**+4.2**
IGBI	**Denpasar**	**3.17**	**290**	P	**Pn**	**05 38 42.0**	**+2.4**
SRBI	**Singaraja**	**3.44**	**302**	P	**Pn**	**05 38 46.7**	**+3.4**
JAGI	**Jajag, Banyuwa**	**4.22**	**290**	P	**Pn**	**05 38 54.9**	**+1.0**
JAGI	**Jajag, Banyuwa**	**4.22**	**290**	*e*Pn	**Pn**	**05 38 55.0**	**+1.0**
JAGI				*e*Sn	**Sn**	**05 39 42.0**	**0.0**
BSSI	**Bau Bau, Buton**	**4.42**	**32**	P	**Pn**	**05 39 00.6**	**+3.9**
GMJI	**Gumukmas**	**4.94**	**289**	P	**Pn**	**05 39 04.7**	**+0.8**
BLJI	**Banyuglugur**	**5.01**	**295**	P	**Pn**	**05 39 07.9**	**+3.1**
BATI	**Baumata**	**5.43**	**93**	Pn	**Pn**	**05 39 12.4**	**+1.8**
	5.6nm,0.3s,baz=294,slow=20,SNR=9.5						
BATI				Sn	**Sn**	**05 40 13.9**	**+2.1**
	8.5nm,0.3s,baz=270,slow=19,SNR=2.7						
BNSI	**Bone**	**5.83**	**19**	P	Pn	05 39 21.8	+5.7
SOEI	**Soe**	**6.02**	**89**	P	**Pn**	**05 39 22.4**	**+3.5**
SOEI	**Soe**	**6.02**	**89**	*e*Pn	**Pn**	**05 39 20.0**	**+1.1**
GRJI	**Gresik**	**6.37**	**298**	P	Pn	05 39 28.9	+5.3
PWJI	**Pagerwojo**	**6.56**	**286**	P	Pn	05 39 34.0	+7.8
TTSI	**Tana Toraja**	**7.04**	**14**	P	Pn	05 39 39.0	+6.3
PCJI	**Pacitan**	**7.11**	**283**	P	**Pn**	**05 39 36.4**	**+2.7**
WOJI	**Wonogiri, Jawa**	**7.45**	**286**	P	Pn	05 39 52.9	+15
UGM	**Wanagama**	**7.81**	**284**	*e*Pn	**Pn**	**05 39 45.5**	**+2.2**
MBWA	**Marble Bar**	**11.26**	**172**	*e*Pn	**Pn**	**05 40 30.3**	**-0.4**
MTN	**Manton Dam**	**13.04**	**104**	*e*Pn	**Pn**	**05 40 54.3**	**-0.7**
SIJI	**Sorong**	**15.84**	**56**	Pn	**Pn**	**05 41 32.2**	**-0.5**
	1.7nm,0.3s,baz=271,slow=6.4,SNR=4.6						
SIJI				LR	LR	05 47 39.6	
	comp=Z,94nm,20.9s,baz=248,slow=38						
WRA	**Warramunga Arr**	**18.51**	**124**	P	**P**	**05 42 05.8**	**+0.2**
	0.4nm,0.3s,baz=297,slow=13,SNR=22						
WRA				S	Sn	05 45 18.7	-13
	0.3nm,0.3s,baz=293,slow=24,SNR=4.5						
WR1	**Warramunga Arr**	**18.51**	**124**	*e*P	**P**	**05 42 05.8**	**+0.2**
	6.9nm,1.3s						
WR1				*e*Sn	Sn	05 45 18.7	-13
WB2	**Warramunga Arr**	**18.52**	**124**	*e*P	**Pn**	**05 42 06.7**	**+0.5**
AS31	**Alice Springs**	**20.31**	**134**	*e*P	Pn	05 42 27.9	+0.5
	2.1nm,0.8s						
ASAR	**Alice Springs**	**20.31**	**134**	P	Pn	05 42 28.0	+0.6
	4.1nm,0.5s,baz=307,slow=9.3,SNR=46						
ASAR				S	**S**	**05 46 02.5**	**-8.7**
	3.4nm,0.9s,baz=308,slow=24,SNR=8.6						
ASAR				LR	LR	05 50 28.1	
	comp=Z,116nm,21.6s,baz=355,slow=37						
AS01	**Alice Springs**	**20.34**	**134**	*e*P	Pn	05 42 27.8	0.0
NWAO	**Narrogin (SRO)**	**22.90**	**182**	P	P	05 43 04.3	+11
	22nm,0.6s,baz=309,slow=14,SNR=20						
NWAO				S	**S**	**05 46 58.6**	**-1.9**
	38nm,0.6s,baz=336,slow=22,SNR=10						
PSI	**Prapat**	**22.96**	**302**	P	**P**	**05 42 52.2**	**-1.6**
	5.0nm,0.5s,baz=127,slow=8.2,SNR=15						
PSI				LR	LR	05 53 29.1	
	comp=Z,153nm,19.1s,baz=144,slow=42						
PSI	**Prapat**	**22.96**	**302**	*e*P	**P**	**05 42 53.0**	**-0.8**
	44nm,1.5s						
PMG	**Port Moresby**	**28.59**	**91**	LR	LR	05 56 42.1	
	comp=Z,71nm,18.0s,baz=260,slow=40						
STKA	**Stephens Creek**	**30.78**	**139**	P	**P**	**05 44 06.2**	**+1.7**
	1.4nm,0.4s,baz=311,slow=12,SNR=4.1						
STKA				LR	LR	05 57 33.2	
	comp=Z,70nm,19.0s,baz=331,slow=38						
JNU	**Nakatsue**	**44.50**	**15**	P	**P**	**05 46 00.0**	**-0.3**
	4.8nm,0.6s,baz=180,slow=20,SNR=3.5						
JNU				LR	LR	06 05 30.4	
	comp=Z,23nm,19.7s,baz=118,slow=38						
H08S2	**Diego Garcia H**	**45.16**	**269**	T	T	06 34 19.8	
	baz=95,slow=75,SNR=4.3						
H08S3	**Diego Garcia H**	**45.17**	**269**	T	T	06 34 20.4	
	baz=95,slow=75,SNR=3.7						
H08S1	**Diego Garcia H**	**45.18**	**269**	T	T	06 34 19.2	
	baz=95,slow=75,SNR=3.9						
H08N1	**Diego Garcia H**	**46.78**	**271**	T	T	06 35 38.2	
	baz=239,slow=76,SNR=7.2						
H08N2	**Diego Garcia H**	**46.80**	**271**	T	T	06 35 38.0	
	baz=239,slow=76,SNR=11						
H08N3	**Diego Garcia H**	**46.80**	**271**	T	T	06 35 36.4	
	baz=239,slow=76,SNR=7.9						
DZM	**Mont Dzumac**	**47.77**	**111**	LR	LR	06 06 43.9	
	comp=Z,46nm,18.0s,baz=194,slow=36						
KS15	**Wonju Array Si**	**48.00**	**10**	*e*P	**P**	**05 46 27.6**	**-0.1**
KSAR	**Wonju Array Be**	**48.00**	**10**	P	**P**	**05 46 28.1**	**+0.4**
KSRS	**Korea Array**	**48.02**	**10**	P	**P**	**05 46 28.1**	**+0.3**
	4.2nm,0.6s,baz=187,slow=8.1,SNR=16						
KSRS				LR	LR	06 05 54.6	
	comp=Z,19nm,21.9s,baz=305,slow=35						
KS01	**Wonju Array Si**	**48.03**	**10**	*e*P	**P**	**05 46 28.0**	**0.0**
MAJO	**Matsushiro**	**49.93**	**21**	*e*P	**P**	**05 46 40.4**	**-2.2**
MJAR	**Matsushiro Arr**	**49.93**	**21**	P	**P**	**05 46 40.4**	**-2.2**
	1.0nm,0.6s,baz=190,slow=6.4,SNR=4.6						
MJAR				LR	LR	06 06 21.7	
	comp=Z,18nm,21.9s,baz=255,slow=34						
GTA	**Gaotai**	**51.97**	**342**	*e*P	**P**	**05 46 58.3**	**+0.3**
GTA				pP	pP	05 47 03.3	-5.2
GTA				sP	sP	05 47 05.4	-7.3
GTA				pmax	pmax		
	comp=Z,5.0nm,1.2s						
USRK	**Ussuriysk Ar.**	**55.32**	**12**	P	**P**	**05 47 22.0**	**-0.3**
	comp=Z,7.8nm,0.5s,baz=185,slow=7.0,SNR=22						
SONA0	**Songino Array**	**58.45**	**351**	*e*P	**P**	**05 47 44.1**	**-0.5**
SONM	**Songino Array**	**58.45**	**351**	P	**P**	**05 47 44.1**	**-0.5**
	comp=Z,3.2nm,0.5s,baz=168,slow=8.4,SNR=25						
SONA1	**Songino Array**	**58.46**	**351**	*e*P	**P**	**05 47 43.6**	**-1.1**
KLR	**Kul'dur**	**60.11**	**10**	P	**P**	**05 47 54.9**	**-0.9**
	comp=Z,0.1nm,0.6s,baz=233,slow=2.8,SNR=4.7						
MK01	**Makanchi Array**	**64.89**	**334**	*e*P	**P**	**05 48 26.2**	**-1.7**
MK31	**Makanchi Array**	**64.91**	**334**	*e*P	**P**	**05 48 27.0**	**-1.1**
MK32	**Makanchi Array**	**64.91**	**334**	*e*P	**P**	**05 48 27.1**	**-0.9**
MKAR	**Makanchi Array**	**64.91**	**334**	P	**P**	**05 48 27.1**	**-0.9**
	comp=Z,1.6nm,0.5s,baz=155,slow=6.9,SNR=32						
MKAR				LR	LR	06 18 57.5	
	comp=Z,32nm,19.2s,baz=198,slow=38						
MKAR	**Makanchi Array**	**64.91**	**334**	*e*P	**P**	**05 48 26.9**	**-1.1**
	comp=Z,1.1nm,0.6s						
MAKZ	**Makanchi**	**65.06**	**333**	*e*P	**P**	**05 48 28.4**	**-0.6**
	comp=Z,1.2nm,0.6s						
WSAR	**Wadi Sarin**	**66.90**	**300**	P	**P**	**05 48 40.6**	**-0.7**
	comp=Z,2.6nm,0.5s,baz=82,slow=7.1,SNR=7.1						
MAW	**Mawson**	**68.08**	**200**	P	**P**	**05 48 49.0**	**+1.0**
	comp=Z,3.4nm,0.8s,baz=51,slow=9.3,SNR=3.8						
MAW	**Mawson**	**68.08**	**200**	*e*P	**P**	**05 48 50.4**	**+2.5**
	comp=Z,1.9nm,1.4s						
KURBB	**Kurchatov Arra**	**69.44**	**334**	P	**P**	**05 48 55.5**	**-1.1**
	comp=Z,0.6nm,0.4s,baz=140,slow=5.7,SNR=8.3						
KURK	**Kurchatov**	**69.47**	**334**	*e*P	**P**	**05 48 55.5**	**-1.3**
ZAA0	**Zalesovo Array**	**69.62**	**340**	*e*P	**P**	**05 48 56.2**	**-1.4**
	comp=Z,3.0nm,0.9s						
ZALV	**Zalesovo Beam**	**69.62**	**340**	P	**P**	**05 48 55.9**	**-1.8**
	comp=Z,2.9nm,0.5s,baz=146,slow=5.5,SNR=7.3						
ZAA1	**Zalesovo Array**	**69.62**	**340**	*e*P	**P**	**05 48 55.9**	**-1.8**
VNDA	**Vanda**	**71.20**	**171**	P	**P**	**05 49 09.5**	**+2.4**
	comp=Z,1.5nm,0.8s,baz=298,slow=6.1,SNR=5.6						
PETK	**Petropavlovsk-**	**71.26**	**24**	P	**P**	**05 49 06.8**	**-0.9**
	comp=Z,3.3nm,0.6s,baz=180,slow=4.4,SNR=4.6						
PEA1	**Petropavlovsk-**	**71.26**	**24**	*e*P	**P**	**05 49 06.8**	**-0.9**
YAK	**Yakutsk**	**72.30**	**6**	LR	LR	06 24 16.0	
	comp=Z,14nm,19.3s,baz=278,slow=39						
BVAR	**Borovoye Array**	**74.73**	**332**	P	**P**	**05 49 27.5**	**-0.7**
	comp=Z,0.6nm,0.4s,baz=153,slow=4.8,SNR=4.8						
BVAR				LR	LR	06 25 18.0	
	comp=Z,28nm,18.7s,baz=104,slow=38						
ABKAR	**Akbulak array**	**77.85**	**325**	*e*P	**P**	**05 49 45.2**	**-0.8**
AKTO	**Aktyubinsk**	**79.52**	**326**	P	**P**	**05 49 54.0**	**-1.2**
	comp=Z,1.3nm,0.4s,baz=117,slow=5.1,SNR=7.6						
TIXI	**Tiksi**	**81.72**	**3**	LR	LR	06 30 04.2	
	comp=Z,23nm,19.5s,baz=214,slow=38						
KBZ	**Khabaz**	**86.35**	**315**	P	**P**	**05 50 31.4**	**+0.6**
	comp=Z,2.7nm,0.8s,baz=208,slow=5.3,SNR=6.6						
SNAA	**Sanae**	**89.88**	**196**	P	**P**	**05 50 49.6**	**+2.3**
	comp=Z,1.9nm,1.0s,baz=180,slow=8.1,SNR=5.2						
SNAA				LR	LR	06 29 28.6	
	comp=Z,130nm,18.8s,baz=94,slow=34						
BR101	**Keskin Array S**	**92.09**	**310**	*e*P	**P**	**05 50 57.2**	**-1.0**
BRTR	**Keskin Array B**	**92.09**	**310**	P	**P**	**05 50 57.2**	**-1.0**
	comp=Z,0.3nm,0.5s,baz=150,slow=12,SNR=4.0						
AKASG	**Malin Array Be**	**96.93**	**320**	P	**P**	**05 51 18.4**	**-1.5**
	comp=Z,0.5nm,0.6s,baz=74,slow=5.5,SNR=3.4						
FIA0	**FINESS Array S**	**99.64**	**331**	*e*P	**Pdif**	**05 51 31.3**	**-0.5**
FINES	**FINESS Array B**	**99.64**	**331**	P	**Pdif**	**05 51 31.3**	**-0.5**
	comp=Z,0.9nm,0.6s,baz=104,slow=8.9,SNR=3.4						
YKA	**Yellowknife Ar**	**115.38**	**24**	PKP	**PKPdf**	**05 56 30.0**	**+0.2**
	comp=Z,0.1nm,0.4s,baz=297,slow=1.8,SNR=4.8						
TORD	**Torodi Ar. Bea**	**117.80**	**280**	PKP	**PKPdf**	**05 56 36.6**	**+0.8**
	comp=Z,0.2nm,0.4s,baz=76,slow=1.8,SNR=2.5						
TOA1	**Torodi Ar. Sit**	**117.81**	**280**	*e*PKPdf	**PKPdf**	**05 56 36.6**	**+0.8**
TKL	**Tuckaleechee C**	**147.53**	**35**	PKPbc	**PKPdf**	**05 57 31.3**	**+0.7**
	comp=Z,4.3nm,0.7s,baz=318,slow=12,SNR=3.2						

IDC 23 05:51:00.8±2.8, 54°48N×86°35E, h0km, mb1 3.0/2, mb1mx2.9/70, mbtmp3.0/2, ML2.6/2, Error ellipse: s-maj=21.0km s-min=14.3km az=48.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.04**	**240**	*i*		05 57 13.6	
	baz=60,slow=326,SNR=2.9						
ZALV	**Zalesovo Beam**	**1.04**	**240**	Pg	Pg	05 51 19.8	-1.0
	1.5nm,0.3s,baz=57,slow=17,SNR=16						
ZALV				Lg	Lg	05 51 35.7	
	4.6nm,0.3s,baz=55,slow=27,SNR=25						
KURBB	**Kurchatov Arra**	**6.14**	**234**	Pn	Pn	05 52 33.5	+0.9
	0.1nm,0.3s,baz=50,slow=14,SNR=24						
KURBB				Sn	Sn	05 53 41.6	-1.8
	0.0nm,0.3s,baz=45,slow=21,SNR=2.7						
KURBB				Lg	Lg	05 54 17.4	
	0.1nm,0.3s,baz=52,slow=33,SNR=7.5						
MKAR	**Makanchi Array**	**8.12**	**200**	Pn	Pn	05 53 00.3	+0.5
	0.1nm,0.3s,baz=24,slow=12,SNR=6.1						
MKAR				Sn	Sn	05 54 32.5	+0.3
	0.4nm,0.3s,baz=19,slow=24,SNR=11						
MKAR				Lg	Lg	05 55 16.2	
	baz=22,slow=34,SNR=2.7						

IDC 23 05:51:48.3±8.2, 5°83S×150°09E, h81km±58km, mb3.3/2, mb1 3.6/3, mb1mx3.2/41, mbtmp3.8/3, ML2.3/1, Error ellipse: s-maj=123.3km s-min=54.1km az=121.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.59**	**219**	P	Pn	05 52 56.3	+1.0
	11nm,0.3s,baz=5.9,slow=4.6,SNR=14						
PMG				S	Sn	05 53 47.1	-0.3
	17nm,0.3s,baz=348,slow=19,SNR=6.9						
WRA	**Warramunga Arr**	**20.77**	**226**	P	P	05 56 23.5	+0.6
	1.7nm,0.4s,baz=53,slow=11,SNR=34						
WRA				pP	pP	05 56 36.3	-2.8
	1.9nm,0.6s,baz=51,slow=10,SNR=9.1						
ASAR	**Alice Springs**	**23.61**	**220**	P	P	05 56 53.0	+0.9
	0.5nm,0.5s,baz=57,slow=8.8,SNR=9.7						
ASAR				pP	pP	05 57 08.3	-1.4
	0.8nm,0.8s,baz=60,slow=9.6,SNR=4.1						
TORD	**Torodi Ar. Bea**	**148.02**	**285**	PKPbc	PKPdf	06 11 24.0	+1.6
	0.3nm,0.8s,baz=78,slow=3.0,SNR=2.4						

MEX 23 06:06:39.8±0.6, 16°36N×98°45W, h8km±12km, MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.31**	**84**	*e*P	Pg	06 06 45.6	-0.4
PNIG				*e*S	Sg	06 06 50.4	+0.2
TLIG	**Tlapa**	**1.20**	**355**	*i* P	Pb	06 06 59.2	-3.7
TLIG				*e*S	Sg	06 07 14.0	-4.7
VHO	**Vista Hermosa**	**1.79**	**66**	*e*P	Pn	06 07 09.8	-1.4
VHO				*e*S	Sn	06 07 28.8	-5.5
CAIG	**El Cayaco**	**1.87**	**292**	*e*P	Pn	06 07 08.9	-3.2
CAIG				*e*S	Sn	06 07 31.5	-4.4

ISK 23 06:09:24.7, 39°09N×29°21E, h5km, ML2.1/5
ISCJB 23 06:09:25.7±0.5, 39°11N±0°03×29°16E±0°03, h0km±10km, Error ellipse: s-maj=5.0km s-min=4.1km az=159.0
CSEM 23 06:09:25.9±0.1, 39°12N×29°15E, h2km, ML2.1, Error ellipse: s-maj=3.2km s-min=2.3km az=132.0
DDA 23 06:09:25.7, 39°09N×29°14E, h12km, Md2.5

ISC 23 06:09:26.0±0.9, 39°11N±0°03×29°16E±0°02, h10km±7km, n22, σ0s55/40, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIMA	**Simav-Kutahya**	**0.14**	**261**	PG	**Pg**	**06 09 29.3**	**0.0**
SIMA				SG	**Sg**	**06 09 31.5**	**0.0**
SIMA	**Simav-Kutahya**	**0.14**	**261**	*e*Pg	**Pg**	**06 09 29.3**	**0.0**
SIMA				*e*Sg	**Sg**	**06 09 31.5**	**0.0**
GDZ	**Gediz**	**0.25**	**94**	*i* P	**Pg**	**06 09 30.7**	**-0.5**
GDZ				*i* S	**Sg**	**06 09 34.9**	**+0.2**
GDZ	**Gediz**	**0.25**	**94**	P	**Pg**	**06 09 30.7**	**-0.5**
GDZ				S	**Sg**	**06 09 34.9**	**+0.2**
DEMI	**Demirci**	**0.35**	**260**	P	**Pg**	**06 09 32.9**	**-0.1**
DEMI				*i* S	**Sg**	**06 09 37.1**	**-0.6**
DEMI	**Demirci**	**0.35**	**260**	P	**Pg**	**06 09 32.9**	**-0.1**
DEMI				S	**Sg**	**06 09 37.1**	**-0.6**
TVSB	**Tavsanli**	**0.42**	**34**	PG	**Pg**	**06 09 33.4**	**-0.9**
TVSB				SG	**Sg**	**06 09 38.9**	**-0.9**
TVSB	**Tavsanli**	**0.42**	**34**	*e*Pg	**Pg**	**06 09 33.4**	**-0.9**
TVSB				*e*Sg	**Sg**	**06 09 38.9**	**-0.9**
KULA	**Kula-Manisa**	**0.71**	**214**	PG	**Pg**	**06 09 39.4**	**-0.3**
KULA				SG	**Sg**	**06 09 48.6**	**-0.3**
KULA	**Kula-Manisa**	**0.71**	**214**	*e*Pg	**Pg**	**06 09 39.4**	**-0.3**
KULA				*e*Sg	**Sg**	**06 09 48.6**	**-0.3**
DURS	**Dursunbey**	**0.73**	**313**	*i* P	**Pg**	**06 09 39.4**	**-0.7**
DURS				*i* S	**Sb**	**06 09 50.4**	**-0.5**
DURS	**Dursunbey**	**0.73**	**313**	P	**Pg**	**06 09 39.4**	**-0.7**
DURS				S	**Sb**	**06 09 50.4**	**-0.5**
MANT	**Manisa**	**0.77**	**218**	*i* P	**Pg**	**06 09 40.8**	**-0.2**
MANT				*i* S	**Sg**	**06 09 50.6**	**-0.5**
MANT	**Manisa**	**0.77**	**218**	P	**Pg**	**06 09 40.8**	**-0.2**
MANT				S	**Sg**	**06 09 50.6**	**-0.5**
KHAL	**Karahalli**	**0.78**	**160**	*i* P	**Pb**	**06 09 41.6**	**-0.1**
KHAL				*i* S	**Sb**	**06 09 51.9**	**-0.5**
KHAL	**Karahalli**	**0.78**	**160**	P	**Pb**	**06 09 41.7**	**-0.1**
KHAL				S	**Sb**	**06 09 51.9**	**-0.5**
BORA	**Eskisehir**	**1.27**	**52**	*i* P	**Pb**	**06 09 51.1**	**+1.0**
BORA				*i* S	**Sb**	**06 10 06.9**	**+0.5**
BORA	**Eskisehir**	**1.27**	**52**	P	**Pb**	**06 09 51.1**	**+1.0**
BORA				S	**Sb**	**06 10 06.9**	**+0.5**
YLV	**Yalova**	**1.47**	**6**	PN	**Pn**	**06 09 53.3**	**+0.6**
YLV	**Yalova**	**1.47**	**6**	*e*Pn	**Pn**	**06 09 53.3**	**+0.6**
ARMT	**Armutlu**	**1.48**	**351**	PN	**Pn**	**06 09 53.1**	**+0.4**
ARMT	**Armutlu**	**1.48**	**351**	*e*Pn	**Pn**	**06 09 53.1**	**+0.4**

MAN 23 06:13:31,10°19N×123°21E, h26km, mb4.3, ML3.2, MS2.9, 3C-1D, Cebu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUIM	**Jordan**	**0.75**	**305**	*e*P	Pn	06 13 46.2	+0.3
GUIM				*e*S	Sn	06 13 57.6	+1.2
LLP	**Lapu-Lapu**	**0.75**	**80**	*e*P	Pn	06 13 46.6	+0.6
LLP				*i* S	Sn	06 13 57.7	+1.2
TBP	**Tagbilaran**	**0.81**	**128**	*e*P	Pb	06 13 46.4	-0.1
SNPH	**Sibulan**	**0.84**	**178**	*i* P	Pb	06 13 47.0	-0.1
SNPH				*i* S	Sb	06 13 57.3	-0.7
RCP	**Roxas**	**1.44**	**341**	*e*P	Pb	06 14 00.1	+3.0
RCP				*e*S	Sb	06 14 20.4	+5.4
DCPH	**Dipolog City**	**1.60**	**175**	*e*P	Pb	06 13 59.0	-1.0
DCPH				*e*S	Sn	06 14 18.7	+1.1
MSLP	**Maasin**	**1.62**	**92**	*e*P	Pn	06 13 56.7	-1.2
MSLP				*e*S	Sb	06 14 23.7	+3.4

NNC 23 06:27:24.7±2.9, 38°35N×73°23E, h30km, mb5.1, mpv4.8, Error ellipse: s-maj=23.5km s-min=20.6km az=136.0
IDC 23 06:27:24.6±2.2, 38°27N×73°64E, h120km±18km, mb4.0/26, mb1 4.1/32, mb1mx3.9/73, mbtmp4.4/32, MS2.7/2, Ms1 2.7/2, ms1mx2.3/64, Error ellipse: s-maj=15.4km s-min=11.5km az=164.0
ISCJB 23 06:27:24.6±0.2, 38°28N±0°02×73°65E±0°03, h140km, mb4.3/67, Error ellipse: s-maj=3.3km s-min=2.4km az=1.4
NEIC 23 06:27:25.9±0.4, 38°37N×73°57E, h129km±4km, mb4.4/29, Error ellipse: s-maj=5.0km s-min=3.8km az=144.0
MOS 23 06:27:25.0±1.1, 38°39N×73°55E, h132km, mb4.6/30, Error ellipse: s-maj=7.3km s-min=4.1km az=98.1
BJI 23 06:27:26.1, 38°36N×73°73E, h139km, mb4.6/14, mB4.6/11

ISC 23 06:27:25.8±0.3, 38°25N±0°04×73°62E±0°04, h140km, n241, σ2s18/267, mb4.4/66, 22C-11D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SFK	**Sufi-Kurgan**	**1.76**	**357**	⇑P	**Pn**	**06 27 56.9**	**-0.9**
	485nm,0.3s						
SFK				⇓S	**Sn**	**06 28 19.3**	**-3.0**
	7μm,0.5s						
SFK	**Sufi-Kurgan**	**1.76**	**357**	PN	**Pn**	**06 27 56.9**	**-0.9**
SFK				S	**Sn**	**06 28 19.3**	**-3.0**
SFK				pmax	pmax		
	comp=Z,485nm,0.3s						
SFK				smax	smax		
	comp=N,7μm,0.5s						
NRN	**Naryn**	**3.67**	**29**	*e*Pn	**Pn**	**06 28 20.4**	**-1.3**
NRN				*e*Sn	**Sn**	**06 28 59.5**	**-5.5**
NRN	**Naryn**	**3.67**	**29**	*e*PN	**Pn**	**06 28 20.4**	**-1.3**
DZET	**Dzherino**	**3.80**	**280**	PN	**Pn**	**06 28 20.4**	**-2.8**
AML	**Almayashu**	**3.87**	**1**	P	**Pn**	**06 28 23.5**	**-1.0**
	SNR=446						
KZA	**Kyzart**	**4.02**	**18**	P	**Pn**	**06 28 25.5**	**-0.9**
	SNR=157						
UCH	**Uchtor**	**4.03**	**10**	P	**Pn**	**06 28 25.8**	**-0.7**
	SNR=332						
MNAS	**Manas**	**4.31**	**349**	⇑Pn	**Pn**	**06 28 28.9**	**-1.1**
	comp=N,133nm,0.5s						
MNAS				⇑Sn	**Sn**	**06 29 15.6**	**-4.3**
	comp=N,510nm,0.5s						
MNAS	**Manas**	**4.31**	**349**	PN	**Pn**	**06 28 28.9**	**-1.1**
MNAS				S	**Sn**	**06 29 15.6**	**-4.3**
MNAS				pmax	pmax		
	comp=Z,133nm,0.5s						
MNAS				smax	smax		
	comp=N,510nm,0.5s						
EKS2	**Erkin-Say**	**4.40**	**2**	P	**Pn**	**06 28 30.9**	**-0.3**
	SNR=244						
AAK	**Ala-Archa**	**4.43**	**8**	P	**Pn**	**06 28 31.0**	**-0.6**
	comp=N,15nm,0.3s,baz=159,slow=4.0,SNR=86						
AAK				S	**Sn**	**06 29 20.4**	**-2.3**
	comp=N,24nm,0.3s,ba

JOSI				IAML		06 31 15.1	
	comp=N,365nm,0.7s						
JOSI				IAML		06 31 15.3	
	comp=E,368nm,0.9s						
DBND	Deoband	9.17	157	eP	Pn	06 29 33.7	-1.3
BHGR	Bahadurgarh	9.94	163	eS	Sn	06 31 22.9	-12
OTUK	Ortayu	10.03	355	⇓Pn	Pn	06 29 43.7	-2.6
	comp=E,51nm,0.8s						
OTUK	Ortayu	10.03	355	P	Pn	06 29 43.7	-2.6
OTUK				pmax	pmax		
	comp=Z,51nm,0.8s						
KHET	Khetri	10.32	169	eP	Pn	06 29 47.0	-3.2
KHET				eS	Sn	06 31 30.8	-13
KHET				IAML		06 31 39.3	
	comp=E,52nm,0.3s						
KHET				IAML		06 31 39.5	
	comp=N,37nm,0.2s						
MAKZ	Makanchi	10.54	33	ePn	Pn	06 29 52.0	-1.0
MAKZ	Makanchi	10.54	33	eP	Pn	06 29 50.6	-2.4
MK01	Makanchi Array	10.65	34	ePn	Pn	06 29 53.6	-0.8
MK31	Makanchi Array	10.66	34	⇑P	Pn	06 29 54.1	-0.5
	comp=N,5.7nm,0.7s,baz=214,slow=15,SNR=50						
MK31	Makanchi Array	10.66	34	ePn	Pn	06 29 54.2	-0.5
MK31	Makanchi Array	10.66	34	eP	Pn	06 29 54.2	-0.5
MK32	Makanchi Array	10.66	34	ePn	Pn	06 29 54.4	-0.2
MKAR	Makanchi Array	10.66	34	P	Pn	06 29 54.4	-0.3
	comp=N,1.3nm,0.3s,baz=214,slow=15,SNR=72						
MKAR	Makanchi Array	10.66	34	ePn	Pn	06 29 54.2	-0.5
MKAR	Makanchi Array	10.66	34	eP	Pn	06 29 54.2	-0.5
JASL	Jaisalmer	11.53	192	eS	Sn	06 31 59.8	-14
WMQ	Urumqi	11.99	58	P	Pn	06 30 12.0	-0.3
WMQ				pmax	pmax		
	comp=N,26nm,1.1s						
GEYT	Alibeck	12.22	273	P	Pn	06 30 10.7	-4.5
	comp=N,5.6nm,0.3s,baz=104,slow=11,SNR=12						
GEYT				S	Sn	06 32 16.9	-13
	comp=N,2.9nm,0.3s,baz=96,slow=11,SNR=7.6						
GYA0B	ALIBECK ARRAY	12.22	273	ePn	Pn	06 30 11.4	-3.8
PYUN	Piuthan	12.80	140	eP	Pn	06 30 20.4	-2.7
	comp=N,135nm,0.4s						
PYUN				eS	Sn	06 32 32.7	-12
KURBB	Kurchatov Arra	12.85	14	P	Pn	06 30 19.9	-3.3
	comp=N,0.1nm,0.3s,baz=202,slow=12,SNR=26						
KURK	Kurchatov	12.96	14	⇑P	P	06 30 28.9	-1.0
	comp=N,31nm,0.9s						
KURK	Kurchatov	12.96	14	ePn	Pn	06 30 21.1	-3.5
KURK	Kurchatov	12.96	14	eP	Pn	06 30 21.1	-3.5
DANN	Dangsing	13.01	136	eP	Pn	06 30 23.1	-2.7
	comp=N,26nm,1.1s						
KOLN	Koldanda	13.39	138	eP	Pn	06 30 28.0	-2.5
GKN	Gorkha	13.76	135	eP	Pn	06 30 32.9	-2.4
	comp=N,84nm,0.3s						
KKN	Kakani	14.29	133	eP	Pn	06 30 39.2	-2.8
	comp=N,37nm,0.5s						
DMN	Daman	14.33	134	eP	Pn	06 30 40.7	-1.9
	comp=N,24nm,0.3s						
PKIN	Phulchoki	14.52	134	eP	Pn	06 30 41.9	-3.1
	comp=N,20nm,0.2s						
GUN	Gumba	14.55	132	eP	Pn	06 30 42.4	-3.0
	comp=N,52nm,0.4s						
AB31	Akbulak array	14.76	323	⇑Pn	Pn	06 30 44.0	-3.4
	comp=N,14nm,0.5s,baz=134,slow=13,SNR=218						
AB31				⇓Sn	Sn	06 33 16.6	-14
	comp=N,37nm,0.8s						
AB31	Akbulak array	14.76	323	P	Pn	06 30 44.4	-3.1
AB31				S	Sn	06 33 16.6	-14
AB31				pmax	pmax		
	comp=Z,14nm,0.5s						
AB31				smax	smax		
	comp=N,37nm,0.8s						
ABKAR	Akbulak array	14.76	323	ePn	Pn	06 30 44.2	-3.3
JIRN	Jiri	14.92	131	eP	Pn	06 30 48.1	-1.9
	comp=N,106nm,0.4s						
BVA0	Borovoye Array	14.94	352	Pn	Pn	06 30 46.9	-2.8
	comp=N,21nm,0.8s,baz=157,slow=10,SNR=82						
BVA0	Borovoye Array	14.94	352	P	Pn	06 30 46.9	-2.8
BVA0				pmax	pmax		
	comp=Z,21nm,0.8s						
BVAR	Borovoye Array	14.94	352	P	Pn	06 30 47.4	-2.4
	comp=Z,1.4nm,0.3s,baz=163,slow=11,SNR=19						
BVAR				S	Sn	06 33 39.6	+4.3
	comp=Z,0.4nm,0.3s,baz=167,slow=20,SNR=3.1						
BVAR				LR	LR	06 37 12.3	
	comp=Z,33nm,20.0s,baz=110,slow=39						
BRVK	Borovoye	14.98	352	ePn	Pn	06 30 47.9	-2.4
BRVK	Borovoye	14.98	352	d iP	Pn	06 30 47.7	-2.6
BRVK				pmax	pmax		
	comp=Z,62nm,1.2s						
DGZ	Jazzator, Alta	15.13	36	i P	Pn	06 30 52.1	-0.2
DGZ				pmax	pmax		
	comp=Z,3.0nm,0.5s						
BHPL	Bhopal	15.32	167	eP	Pn	06 30 56.1	+1.4
RAMN	Ramite	15.69	132	eP	Pn	06 30 56.9	-2.6
	comp=Z,45nm,0.4s						
ODAN	Odare	16.22	130	eP	Pn	06 31 04.1	-1.9
	comp=Z,35nm,0.4s						
AKTO	Aktyubinsk	16.47	323	P	Pn	06 31 07.1	-1.5
	comp=Z,4.5nm,0.3s,baz=126,slow=12,SNR=84						
AKTO				S	Sn	06 33 57.1	-15
	comp=Z,0.4nm,0.3s,baz=216,slow=8.7,SNR=3.9						
AKTO	Aktyubinsk	16.47	323	⇓Pn	Pn	06 31 06.3	-2.3
	comp=Z,65nm,1.2s						
AKTO				⇓Sn	Sn	06 33 58.7	-13
	comp=Z,12nm,0.6s						
ZAA0	Zalesovo Array	17.48	22	eP	P	06 31 19.8	0.0
	comp=Z,27nm,0.6s						
ZALV	Zalesovo Beam	17.48	22	P	P	06 31 19.8	-0.1
	comp=Z,6.0nm,0.3s,baz=213,slow=11,SNR=67						
ZALV				S	S	06 34 28.1	-6.3
	baz=222,slow=13,SNR=2.0						
ZALV				LR	LR	06 38 40.1	
	comp=Z,19nm,20.2s,baz=70,slow=39						
ZALV	Zalesovo Beam	17.48	22	eP	P	06 31 19.5	-0.3
ZALV	Zalesovo Beam	17.48	22	eP	P	06 31 19.5	-0.3
ZAA1	Zalesovo Array	17.48	22	eP	P	06 31 19.8	-0.1
ZAA1				eS	S	06 34 28.1	-6.3
BOK	Bokaro	17.82	140	eP	P	06 31 25.2	+1.4
NVS	Novosibirsk	17.83	18	⇑iP	P	06 31 23.6	-0.1
NVS				eS	S	06 34 38.1	-3.2
HVS	Khovu-Aksy	19.15	41	i P	P	06 31 39.5	+1.3
WSAR	Wadi Sarin	19.70	225	P	P	06 31 45.7	+1.4
	comp=Z,2.5nm,0.3s,baz=69,slow=7.7,SNR=27						
UOSS	Minazif	19.86	233	eP	P	06 31 46.2	+0.3
	comp=Z,22nm,1.3s						
SHL	Shillong	19.97	124	eP	Pn	06 31 51.1	+0.7
SHL	Shillong	19.97	124	eP	P	06 31 49.3	+1.9
	comp=Z,15nm,0.6s						
SHL	Shillong	19.97	124	eP	P	06 31 49.3	+1.9
SHL				pmax	pmax		
	comp=Z,15nm,0.6s						
GTA	Gaotai	20.42	79	⇑P	Pn	06 31 55.4	-0.3
GTA				pP	pP	06 32 18.5	+1.4
GTA				sP	sP	06 32 35.3	+0.6
GTA				S	S	06 35 34.3	+1.1
GTA				pmax	pmax		
	comp=Z,5.0nm,1.8s						
GTA				pmax	pmax		
	comp=Z,72nm,5.2s						
GTA				LR	LR		
	comp=Z,120nm,16.6s						
GTA				LR	LR		
	comp=Z,180nm,16.2s						
GTA				LR	LR		
	comp=Z,53nm,14.0s						
SVE	Sverdlovsk	20.48	339	eP	P	06 31 52.5	+0.2
SVE				pmax	pmax		
	comp=Z,45nm,0.9s						
ARU	Arti	20.77	336	P	P	06 31 55.1	-0.3
	comp=Z,14nm,0.6s,baz=137,slow=4.9,SNR=28						
ARU	Arti	20.77	336	eP	P	06 31 55.1	-0.3
	comp=Z,22nm,0.7s						
ARU	Arti	20.77	336	c iP	P	06 31 55.0	-0.3
ARU						06 32 24.9	
ARU				S	S	06 35 38.4	-0.8
ARU				SS	Sn	06 36 21.7	+27
ARU				pmax	pmax		
	comp=Z,43nm,1.2s						
HYB	Hyderabad	21.21	167	i P	P	06 32 02.0	+1.5
GNI	Garni	22.42	284	P	P	06 32 14.3	+1.3
	comp=Z,8.8nm,0.4s,baz=63,slow=6.8,SNR=3.3						
GNI	Garni	22.42	284	⇑iP	P	06 32 15.8	+2.8
GNI				pmax	pmax		
	comp=Z,29nm,0.7s						
ZEI	Tsey	22.98	291	eP	P	06 32 13.7	-4.6
ZEI				pmax	pmax		
	comp=Z,5.0nm,0.4s						
GOF	Gofitskoye	23.74	296	⇑eP	P	06 32 26.1	+1.1
GOF				pmax	pmax		
	comp=Z,15nm,0.8s						
KBZ	Khabaz	23.74	293	P	P	06 32 26.7	+1.7
	comp=Z,2.8nm,0.7s,baz=97,slow=7.1,SNR=8.5						
KIV	Kislovodsk	23.91	294	eP	P	06 32 39.0	+12
KIV				pmax	pmax		
	comp=Z,19nm,1.0s						
LZH	Lanzhou	24.14	86	eP	P	06 32 32.9	+4.0
LZH				pP	pP	06 32 59.8	+2.5
LZH				PP	sP	06 33 13.3	-1.1
LZH				sP	sP	06 33 15.4	+1.0
LZH				pmax	pmax		
	comp=Z,23nm,1.0s						
LZH				pmax	pmax		
	comp=Z,68nm,4.2s						
SONA0	Songino Array	25.63	57	eP	P	06 32 42.8	+0.5
SONM	Songino Array	25.63	57	P	P	06 32 42.8	+0.5
	comp=Z,0.9nm,0.5s,baz=261,slow=11,SNR=6.9						
VRH	Novokhopyorsk	25.87	310	eP	P	06 32 42.9	-1.3
VRH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
ULN	Ulaanbaatar	26.07	58	eP	P	06 32 47.3	+1.0
	comp=Z,2.4nm,1.2s						
ULN	Ulaanbaatar	26.07	58	i P	P	06 32 48.8	+2.5
ULN				pmax	pmax		
	comp=Z,1.0nm,0.9s						
VSR	Storozhevoye	27.42	309	eP	P	06 32 56.8	-1.3
VSR				pmax	pmax		
	comp=Z,6.0nm,0.6s						
KMI	Kunming	27.90	109	P	P	06 33 06.0	+3.1
KMI				pmax	pmax		
	comp=Z,19nm,0.5s						
KMI				pmax	pmax		
	comp=Z,99nm,4.4s						
LPSR	Galich'ya Gora	27.94	312	eP	P	06 33 02.6	-0.1
LPSR				pmax	pmax		
	comp=Z,10.0nm,0.6s						
RAYN	Ar Rayn	28.11	247	eP	P	06 33 05.6	+1.0
	comp=Z,3.3nm,0.8s						
RAYN	Ar Rayn	28.11	247	P	P	06 33 05.8	+1.2
HHC	Hu-ho-hao-te	29.23	73	eP	P	06 33 16.8	+2.4
HHC				pmax	pmax		
	comp=Z,15nm,0.7s						
HHC				pmax	pmax		
	comp=Z,59nm,4.4s						
CMAR	Chiang Mai Arr	29.60	125	PP	PP	06 34 17.9	-9.4
	comp=Z,0.9nm,0.3s,baz=320,slow=7.7,SNR=4.2						
OBN	Obninsk	30.04	316	⇑eP	P	06 33 13.3	-8.0
OBN				e		06 34 01.3	
OBN				pmax	pmax		
	comp=Z,7.0nm,0.5s						
BR101	Keskin Array S	30.93	285	eP	P	06 33 31.1	+1.5
BR131	Keskin Array S	30.93	285	eP	P	06 33 31.3	+1.7
BRTR	Keskin Array B	30.93	285	P	P	06 33 31.1	+1.5
	comp=Z,3.0nm,0.8s,baz=82,slow=8.9,SNR=13						
KLMR	Klimovskoe	31.04	328	eP	P	06 33 28.7	-1.3
KLMR				AMP		06 33 30.6	
	comp=Z,11nm,0.7s						
KLMR				ePP	PnPn	06 34 34.4	-2.9
KLMR	Klimovskoe	31.04	328	eP	P	06 33 28.6	-1.4
KLMR				e		06 34 34.4	
KLMR				pmax	pmax		
	comp=Z,11nm,0.7s						
TMCR	Tamitsa	33.41	332	eP	P	06 33 51.0	+0.4
TMCR				pmax	pmax		
	comp=Z,20nm,0.6s						
AKASG	Malin Array Be	33.53	306	P	P	06 33 52.0	+0.1
	comp=Z,0.9nm,0.3s,baz=75,slow=6.8,SNR=15						
AKASG				PP	PnPn	06 35 06.6	-1.8
	comp=Z,0.9nm,0.6s,baz=83,slow=11,SNR=5.2						
AKASG	Malin Array Be	33.53	306	P	P	06 33 52.0	+0.1
AKASG						06 35 06.6	
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.3s						
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.6s						
AKBB	Malin Array Si	33.53	306	eP	P	06 33 52.0	+0.1
	comp=Z,6.5nm,0.8s						
AKBB	Malin Array Si	33.53	306	eP	P	06 33 52.0	+0.1
AKBB				pmax	pmax		
	comp=Z,7.0nm,0.8s						
KIEV	Kiev	33.54	306	eP	P	06 33 52.0	+0.1
	comp=Z,6.6nm,0.9s						
KIEV	Kiev	33.54	306	i P	P	06 33 51.5	-0.4
KIEV				pmax	pmax		
	comp=Z,8.0nm,0.8s						
AK11	Malin Array Si	33.56	306	eP	P	06 33 52.2	+0.1
SORM	Soroca	34.01	302	⇓iP	P	06 33 55.8	-0.2
VRI	Vrincioaia	35.21	298	⇓iP	P	06 34 08.0	+1.6
VRI	Vrincioaia	35.21	298	P	P	06 34 09.2	+2.8
PLOR	Plostina	35.27	298	⇑iP	P	06 34 08.9	+2.0
JOF	Joensuu	35.44	328	P	P	06 34 09.5	+1.4
JOF				pmax	pmax		
	comp=Z,40nm,1.4s						
MLR	Muntele Rosu	35.79	297	P	P	06 34 11.9	+0.3
	comp=Z,2.1nm,0.9s,baz=218,slow=9.0,SNR=8.8						
MLR				PP	PP	06 35 35.6	0.0
	comp=Z,1.3nm,0.9s,baz=325,slow=2.2,SNR=4.6						
MLR	Muntele Rosu	35.79	297	⇑iP	P	06 34 14.6	+3.1
BURAR	Bucovina Array	36.13	301	⇑iP	P	06 34 15.1	+0.7
BUR04	Bucovina Ar. S	36.13	301	eP	P	06 34 15.2	+0.8
BUR08	Bucovina Ar. S	36.14	301	eP	P	06 34 15.4	+1.0
VOIR		36.42	297	i P	P	06 34 18.6	+1.7
VOIR		36.42	297	P	P	06 34 19.0	+2.1
VOIR				pmax	pmax		
	comp=Z,5.0nm,1.0s						
LVZ	Lovozero	36.64	337	eP	P	06 34 18.9	+0.5
	comp=Z,30nm,1.0s						
LVZ	Lovozero	36.64	337	eP	P	06 34 18.9	+0.5
LVZ				pmax	pmax		
	comp=Z,30nm,1.0s						
ARR	Arges	36.72	297	⇓iP	P	06 34 19.7	+0.3
QIZ	Qiongzhong	36.81	111	eP	P	06 34 20.9	+0.6
	comp=Z,20nm,1.2s						
NJ2	Nanjing	37.21	86	eP	P	06 34 25.5	+1.9
NJ2				pmax	pmax		
	comp=Z,22nm,0.5s						
FIA0	FINESS Array S	37.24	324	eP	P	06 34 24.0	+0.6
FIA0	FINESS Array S	37.24	324	eP	P	06 34 24.0	+0.6
FIA1	FINESS Array S	37.24	324	eP	P	06 34 24.0	+0.6
FINES	FINESS Array B	37.24	324	P	P	06 34 24.0	+0.6
	comp=Z,11nm,0.5s,baz=113,slow=9.7,SNR=92						
OUL	Oulu	38.47	330	P	P	06 34 34.8	+1.1
OUL				pmax	pmax		
	comp=Z,20nm,0.8s						
NIE	Niedzica	39.28	304	P	P	06 34 42.6	+1.9
NIE				pmax	pmax		
	comp=Z,6.0nm,1.0s						
OJC	Ojcow	39.55	305	eP	P	06 34 43.3	+0.4
	comp=Z,7.6nm,0.9s						
OJC	Ojcow	39.55	305	eP	P	06 34 43.3	+0.4
OJC				pmax	pmax		
	comp=Z,8.0nm,0.9s						
ARA0	ARCESS Array S	40.35	336	eP	P	06 34 50.1	+0.8
ARCES	ARCESS Array B	40.35	336	P	P	06 34 50.1	+0.8
	comp=Z,8.4nm,0.5s,baz=108,slow=8.1,SNR=60						
ITM	Ithomi	40.46	285	eP	P	06 34 49.0	-1.7
	comp=Z,10nm,1.2s						
VRAC	Vranov	41.70	304	P	P	06 35 01.1	+0.6
	comp=Z,1.8nm,0.3s,baz=85,slow=7.9,SNR=4.8						
DPC	Dobruska-Polom	41.76	306	eP	P	06 35 02.9	+1.8
DPC	Dobruska-Polom	41.76	306	eP	P	06 35 02.9	+1.8
HFS	Hagfors	43.01	321	P	P	06 35 11.6	+0.7
	comp=Z,23nm,0.5s,baz=98,slow=11,SNR=92						
HFS				PP	PP	06 36 53.5	+0.1
	comp=Z,1.7nm,0.6s,baz=98,slow=11,SNR=3.5						
BRG	Berggiesshubel	43.20	307	i P	P	06 35 13.6	+0.9
	comp=Z,5.9nm,0.8s						
BRG	Berggiesshubel	43.20	307	i P	P	06 35 13.6	+0.9
BRG				pmax	pmax		
	comp=Z,6.0nm,0.8s						
GEC2	GERESS Array S	43.65	304	eP	P	06 35 17.9	+1.5
	comp=Z,3.9nm,1.0s						
GEC2	GERESS Array S	43.65	304	eP	P	06 35 17.9	+1.5
GEC2				pmax	pmax		
	comp=Z,4.0nm,1.0s						
GERES	GERESS Array B	43.65	304	P	P	06 35 17.6	+1.2
	comp=Z,0.9nm,0.6s,baz=57,slow=9.7,SNR=7.3						
GERES				PP	PcP	06 37 06.5	+5.4
	comp=Z,0.3nm,0.4s,baz=69,slow=7.3,SNR=4.0						
GEA0	GERESS Array S	43.65	304	eP	P	06 35 17.0	+0.7
KHC	Kasperske Hory	43.68	305	eP	P	06 35 18.2	+1.6
KHC	Kasperske Hory	43.68	305	eP	P	06 35 17.7	+1.1
	comp=Z,2.6nm,0.9s						
KHC	Kasperske Hory	43.68	305	eP	P	06 35 18.2	+1.6
TIP	Timpagrande	43.74	290	eP	P	06 35 17.6	+0.3
	comp=Z,4.4nm,0.9s						
CLL	Collm	43.74	308	i P	P	06 35 17.5	+0.5
	comp=Z,8.0nm,0.8s						
CLL	Collm	43.74	308	i P	P	06 35 17.5	+0.5
CLL				pmax	pmax		
	comp=Z,8.0nm,0.8s						
NC405	NORSAR Array S	44.02	322	eP	P	06 35 18.7	-0.4
NC602	NORSAR Array S	44.09	321	eP	P	06 35 19.9	+0.3
NC303	NORSAR Array S	44.19	322	eP	P	06 35 21.1	+0.7
NB201	NORSAR Array S	44.23	322	eP	P	06 35 20.1	-0.7
NB2	NORSAR Subarra	44.26	322	P	P	06 35 21.2	+0.1
	comp=Z,20nm,0.8s,baz=92,slow=7.9						
NB2	NORSAR Subarra	44.26	322	P	P	06 35 21.2	+0.1
	baz=92,slow=7.9						
NB200	NORSAR Array S	44.26	322	eP	P	06 35 21.4	+0.3
NOA	NORSAR Array B	44.26	322	P	P	06 35 21.4	+0.3
	comp=Z,17nm,0.8s,baz=91,slow=7.8,SNR=54						
NAO01	NORSAR Array S	44.42	322	eP	P	06 35 22.3	0.0
NBO02	NORSAR Array S	44.44	322	eP	P	06 35 22.6	+0.1
NBO00	NORSAR Array S	44.48	322	eP	P	06 35 22.9	+0.2
NC204	NORSAR Array S	44.49	322	eP	P	06 35 23.0	+0.1
KONO	Kongsberg	45.06	320	eP	P	06 35 27.9	+0.6
	comp=Z,11nm,0.8s						
KONO	Kongsberg	45.06	320	eP	P	06 35 27.9	+0.6
KONO				pmax	pmax		
	comp=Z,11nm,0.8s						
SPITS	Spitsbergen Ar	46.28	346	P	P	06 35 38.3	+1.6
	comp=Z,2.5nm,0.6s,baz=108,slow=8.1,SNR=5.1						
KEST	Kesra	50.46	288	P	P	06 36 10.7	+1.2
	comp=Z,2.6nm,0.6s,baz=341,slow=2.4,SNR=4.3						
KEST	Kesra	50.46	288	eP	P	06 36 10.6	+1.2
	comp=Z,4.9nm,0.9s						
EKA	Eskdalemuir Ar	52.49	315	P	P	06 36 24.4	+0.4
	comp=Z,3.7nm,0.6s,baz=90,slow=8.3,SNR=12						
DAG	Danmarks Havn	53.64	343	P	P	06 36 33.4	+1.2
DAG				pmax	pmax		
	comp=Z,6.0nm,1.2s						
ESDC	Sonseca Array	58.48	298	P	P	06 37 08.0	+0.8
	comp=Z,0.7nm,0.3s,baz=59,slow=7.3,SNR=7.0						
SFJD	Kangerlussuaq	66.87	339	P	P	06 38 04.7	+2.5
	comp=Z,2.2nm,0.3s,baz=8.3,slow=19,SNR=6.3						
SFJD	Kangerlussuaq	66.87	339	eP	P	06 38 04.5	+2.3
	comp=Z,3.7nm,0.8s						
SFJD	Kangerlussuaq	66.87	339	eP	P	06 38 04.5	+2.3
SFJD				pmax	pmax		
	comp=Z,4.0nm,0.8s						
TOA1	Torodi Ar. Sit	67.83	269	eP	P	06 38 09.2	+0.1
TOA0	Torodi Ar. Sit	67.83	269	eP	P	06 38 09.3	+0.2
	comp=Z,5.0nm,0.4s						
TORD	Torodi Ar. Bea	67.83	269	P	P	06 38 09.2	+0.1
	comp=Z,4.3nm,0.3s,baz=48,slow=5.9,SNR=96						
TOLK	Toolik Lake Re	68.69	16	eP	P	06 38 14.8	+1.1
	comp=Z,4.7nm,0.8s						
COLD	Coldfoot	69.71	17	eP	P	06 38 21.1	+1.2
	comp=Z,4.5nm,1.0s						
IM3	Indian Mountai	69.86	19	eP	P	06 38 21.7	+0.8
KOWA	Kowa	71.54	274	P	P	06 38 32.4	+0.5
	comp=Z,1.3nm,0.3s,baz=40,slow=7.1,SNR=6.9						
INK	Inuvik	71.83	10	P	P	06 38 34.0	+1.4
	comp=Z,2.2nm,0.5s,baz=350,slow=7.2,SNR=28						
INK	Inuvik	71.83	10	eP	P	06 38 34.0	+1.4
	comp=Z,8.2nm,1.3s						
INK	Inuvik	71.83	10	eP	P	06 38 34.0	+1.4
INK				pmax	pmax		
	comp=Z,8.0nm,1.3s						
COLA	College	72.20	17	⇑eP	P	06 38 35.7	+0.8
COLA				pmax	pmax		
	comp=Z,4.0nm,0.7s						
CAST	Castle Rocks	72.34	20	eP	P	06 38 37.1	+1.2
	comp=Z,4.4nm,1.2s						
IL1	Eielson Array	72.51	17	eP	P	06 38 37.3	+0.5
ILAR	Eielson Array	72.51	17	P	P	06 38 37.0	+0.2
	comp=Z,1.6nm,0.9s,baz=319,slow=4.7,SNR=19						
ILB	Eielson Array	72.51	17	eP	P	06 38 37.3	+0.5
DAWY	Dawson	74.72	14	eP	P	06 38 50.8	+1.0
	comp=Z,3.7nm,1.2s						
HARP	HAARP	74.94	18	eP	P	06 38 52.8	+1.8
	comp=Z,18nm,1.0s						
DBIC	Dimbokro	76.85	268	P	P	06 39 03.4	+0.7
	comp=Z,1.1nm,0.4s,baz=56,slow=3.9,SNR=4.6						
HYT	Haines Junctio	78.04	15	eP	P	06 39 09.2	+0.5
	comp=Z,4.0nm,0.9s						
YKA	Yellowknife Ar	79.38	4	P	P	06 39 16.8	+1.1
	comp=Z,1.8nm,0.5s,baz=349,slow=5.5,SNR=45						
YKB5	Yellowknife Ar	79.38	4	eP	P	06 39 16.1	+0.3
WR1	Warramunga Arr	81.19	124	eP	P	06 39 26.6	+0.5
	comp=Z,4.4nm,1.1s						
WRA	Warramunga Arr	81.19	124	P	P	06 39 26.6	+0.5
	comp=Z,0.5nm,0.6s,baz=326,slow=5.0,SNR=8.6						
ASAR	Alice Springs	83.59	127	P	P	06 39 39.5	+1.0
	comp=Z,0.2nm,0.5s,baz=350,slow=4.7,SNR=3.8						
FFC	Flin Flon	87.31	357	eP	P	06 39 57.9	+1.4
	comp=Z,7.7nm,1.4s						
FFC	Flin Flon	87.31	357	eP	P	06 39 57.9	+1.4
FFC				pmax	pmax		
	comp=Z,8.0nm,1.4s						
AHID	Auburn Hatcher	99.25	4	eP	Pdif	06 40 52.2	+0.4
	comp=Z,5.4nm,0.8s						
PLCA	Paso Flores	152.35	253	PKPbc	PKPbc	06 47 07.0	+2.0
	comp=Z,0.8nm,0.5s,baz=24,slow=3.3,SNR=11						

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*IDC **23** 06:28:52.5±0.7, 36.°18N×25.°06E, h0km, mb3.8/8, mb1 3.9/14, mb1mx3.7/69, mbtmp3.7/14, ML3.5/6, MS3.5/1, Ms1 3.5/1, ms1mx2.3/65, Error ellipse: s-maj=17.0km s-min=8.5km az=105.0*
*ISK **23** 06:28:53.7, 36.°12N×25.°05E, h16km, ML3.7/8*
*ATH **23** 06:28:54.9, 36.°09N×25.°14E, h29km, ML3.8/30, Error ellipse: s-maj=1.1km s-min=0.5km az=82.0*
*NEIC **23** 06:28:54.8±0.0, 36.°09N×25.°14E, h29km, ML3.8(ATH), ML4.0(THE), After ATH.*
*ISCJB **23** 06:28:55.8±0.2, 36.°09N±0.°01×25.°17E±0.°02, h27km±2km, mb3.6/8, MS3.4/1, Error ellipse: s-maj=2.9km s-min=2.3km az=176.9*
*CSEM **23** 06:28:55.6±0.1, 36.°08N×25.°17E, h15km, ML3.8, Error ellipse: s-maj=2.5km s-min=2.4km az=123.0*
*THE **23** 06:28:55.7, 36.°08N×25.°10E, h8km, ML4.0/9, Error ellipse: s-maj=0.9km s-min=0.2km az=41.0*

ISC 23 06:28:55.3±0.9, **36.°08N**±0.°01×**25.°13E**±0.°02, **h17**km±6km, **n278**, σ1s**14**/340, **mb3.7**/8, **Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
THR9	Santorini-Faro	0.33	34	P	Pb	06 29 02.7	0.0
THR9	Santorini-Faro	0.33	34	P	Pb	06 29 02.7	0.0
THR6	Thira Island,	0.35	39	P	Pb	06 29 03.0	0.0
THR6	Thira Island,	0.35	39	ePg	Pb	06 29 03.0	0.0
THR6	Thira Island,	0.35	39	P	Pb	06 29 03.0	0.0
THR6	Thira Island,	0.35	39	P	Pb	06 29 02.9	-0.1
THR5	Thira Island,	0.38	28	P	Pb	06 29 03.3	-0.2
THR5	Thira Island,	0.38	28	P	Pb	06 29 03.4	-0.1
THR5	Thira Island,	0.38	28	P	Pb	06 29 03.4	-0.1
THT1	Athinios (Pele	0.39	39	P	Pg	06 29 03.4	+0.1
THT1				S	Sg	06 29 08.7	-0.1
THT1				AML	AML	06 29 09.4	
	comp=E,9129µm,0.4s						
THT1				AML	AML	06 29 09.4	
	comp=N,13032µm,0.3s						
THT1	Athinios (Pele	0.39	39	P	Pb	06 29 03.5	-0.2
THT1				S	Sb	06 29 09.9	+0.5
THT1	Athinios (Pele	0.39	39	P	Pb	06 29 03.5	-0.2
THT1				S	Sb	06 29 09.2	-0.2
SANT	Santorini	0.39	43	P	Pg	06 29 03.5	+0.1
SANT				S	Sg	06 29 08.8	-0.1
SANT				AML	AML	06 29 10.4	
	comp=N,25037µm,0.4s						
SANT				AML	AML	06 29 10.5	
	comp=E,21485µm,0.3s						
SANT	Santorini	0.39	43	ePg	Pg	06 29 03.6	+0.1
SANT				eSg	Sb	06 29 09.5	-0.1
SANT	Santorini	0.39	43	P	Pb	06 29 03.6	-0.2
SANT				S	Sb	06 29 10.1	+0.5
SANT	Santorini	0.39	43	P	Pb	06 29 03.6	-0.2
SANT				S	Sb	06 29 09.3	-0.3
SAP3	Santorini-Thir	0.39	26	P	Pb	06 29 03.7	-0.1
SAP3				S	Sb	06 29 09.6	0.0
SAP3	Santorini-Thir	0.39	26	P	Pb	06 29 03.9	+0.1
SAP3				S	Sb	06 29 10.2	+0.6
SAP3	Santorini-Thir	0.39	26	P	Pb	06 29 03.9	+0.1
SAP3				S	Sb	06 29 10.2	+0.6
THR3	Thira Island,	0.39	34	P	Pb	06 29 03.8	0.0

THR3	Thira Island,	0.39	34	*e*Pg		Pb	06 29 03.8	0.0	
THR3	Thira Island,	0.39	34	P		Pb	06 29 03.8	0.0	
THR3	Thira Island,	0.39	34	P		Pb	06 29 03.7	0.0	
SAP2K	Karterados	0.42	38	P		Pb	06 29 04.6	+0.4	
SAP2K	Karterados	0.42	38	P		Pb	06 29 04.4	+0.2	
SFIR	Foira Santorin	0.42	36	P		Pb	06 29 04.3	+0.1	
THR7	Fira-Santorini	0.42	36	P		Pb	06 29 04.0	-0.2	
THR7	Fira-Santorini	0.42	36	P		Pb	06 29 04.0	-0.2	
THR7	Fira-Santorini	0.42	36	P		Pb	06 29 04.0	-0.2	
THT2	Imerovigli	0.42	34	P		Pn	06 29 05.9	-0.7	
THT2	Imerovigli	0.42	34	P		Pb	06 29 04.5	+0.2	
THT2	Imerovigli	0.42	34	P		Pb	06 29 04.5	+0.2	
SAP4	Santorini-Oia	0.44	27	P		Pb	06 29 05.0	+0.4	
SAP4				S		Sb	06 29 10.8	0.0	
SAP4	Santorini-Oia	0.44	27	P		Pb	06 29 04.6	+0.1	
SAP4				S		Sb	06 29 11.6	+0.8	
SAP4	Santorini-Oia	0.44	27	P		Pb	06 29 04.6	+0.1	
SAP4				S		Sb	06 29 11.6	+0.8	
THR2	Thira island,	0.44	34	P		Pg	06 29 03.2	-1.0	
THR2	Thira island,	0.44	34	P		Pg	06 29 03.8	-0.4	
IOSP	Ios island	0.65	11	P		Pb	06 29 08.4	+0.2	
IOSP				S		Sg	06 29 16.9	0.0	
IOSP				AML	AML		06 29 20.2		
	comp=E,50396µm,0.8s								
IOSP				AML	AML		06 29 20.6		
	comp=N,63454µm,0.3s								
IOSP	Ios island	0.65	11	P		Pg	06 29 08.1	-0.1	
IOSP				S		Sb	06 29 17.2	+0.2	
IACM	Heraklion	0.78	183	P		Pb	06 29 10.2	-0.1	
IACM				S		Sg	06 29 21.1	+0.4	
IACM	Heraklion	0.78	183	P		Pg	06 29 10.7	+0.3	
IACM				S		Sg	06 29 21.6	+0.9	
IACM	Heraklion	0.78	183	P		Pg	06 29 10.7	+0.3	
IACM				S		Sg	06 29 21.4	+0.7	
IDI	Anoyia	0.82	194	Pg		Pb	06 29 10.6	-0.4	
	comp=N,147nm,0.3s,baz=338,slow=13,SNR=176								
IDI				Lg		Lg	06 29 21.7		
	comp=N,1µm,0.3s,baz=108,slow=20,SNR=44								
IDI	Anoyia	0.82	194	PG		Pb	06 29 10.8	-0.2	
IDI				SG		Sb	06 29 21.9	+0.1	
IDI	Anoyia	0.82	194	*e*Pg		Pb	06 29 10.8	-0.2	
IDI				*e*Sg		Sb	06 29 21.9	+0.1	
IDI	Anoyia	0.82	194	*e*Pg		Pb	06 29 10.8	-0.2	
IDI				*e*Sg		Sb	06 29 21.9	+0.1	
MHLO	Agia Marina, M	0.84	316	P		Pb	06 29 10.9	-0.5	
MHLO				S		Sb	06 29 22.6	+0.1	
MHLO				AML	AML		06 29 26.1		
	comp=N,61941µm,0.3s								
MHLO				AML	AML		06 29 26.4		
	comp=E,63861µm,0.3s								
MHLO	Agia Marina, M	0.84	316	P		Pb	06 29 11.3	-0.2	
MHLO				S		Sg	06 29 23.4	+0.5	
MHLO	Agia Marina, M	0.84	316	P		Pb	06 29 11.3	-0.2	
MHLO				S		Sg	06 29 23.4	+0.5	
MHLA	Plaka, Milos I	0.87	319	P		Pn	06 29 13.4	+0.6	
MHLA				S		Sb	06 29 23.7	+0.4	
MHLA				AML	AML		06 29 27.4		
	comp=E,18694µm,0.6s								
MHLA				AML	AML		06 29 29.7		
	comp=N,23322µm,0.9s								
MHLA	Plaka, Milos I	0.87	319	P		Pn	06 29 12.7	-0.1	
MHLA				S		Sg	06 29 24.1	+0.3	
NPS	Neapolis	0.91	154	P		Pb	06 29 12.8	+0.2	
NPS				S		Sg	06 29 24.8	-0.1	
NPS				AML	AML		06 29 28.0		
	comp=E,16433µm,0.4s								
NPS				AML	AML		06 29 28.2		
	comp=N,13443µm,0.4s								
NPS	Neapolis	0.91	154	*e*Pg		Pb	06 29 12.6	0.0	
NPS				*e*Sn		Sn	06 29 26.3	+0.3	
NPS	Neapolis	0.91	154	P		Pb	06 29 12.6	0.0	
NPS				S		Sn	06 29 26.3	+0.3	
NPS	Neapolis	0.91	154	P		Pb	06 29 12.7	+0.2	
NPS				S		Sg	06 29 25.1	+0.2	
LAST	Lasithi	0.96	163	P		Pb	06 29 13.5	0.0	
LAST				S		Sb	06 29 26.3	+0.3	
LAST				AML	AML		06 29 28.0		
	comp=E,9150µm,0.3s								
LAST				AML	AML		06 29 28.8		
	comp=N,9330µm,0.4s								
LAST	Lasithi	0.96	163	*e*Pg		Pg	06 29 13.8	-0.2	
LAST				*e*Sn		Sn	06 29 27.6	+0.2	
LAST	Lasithi	0.96	163	P		Pg	06 29 13.8	-0.2	
LAST				S		Sn	06 29 27.6	+0.2	
LAST	Lasithi	0.96	163	P		Pg	06 29 13.8	-0.2	
LAST				S		Sg	06 29 26.7	0.0	
VAM	Vamos	1.01	228	P		Pb	06 29 13.2	-1.1	
VAM				AML	AML		06 29 30.2		
	comp=N,31959µm,0.3s								
VAM				AML	AML		06 29 30.2		
	comp=E,27287µm,0.3s								
VAM	Vamos	1.01	228	*e*Pg		Pb	06 29 13.9	-0.4	
VAM				*e*Sn		Sn	06 29 28.7	+0.2	
VAM	Vamos	1.01	228	P		Pb	06 29 13.9	-0.4	
VAM				S		Sn	06 29 28.7	+0.2	
VAM	Vamos	1.01	228	P		Pb	06 29 13.9	-0.4	
VAM				S		Sn	06 29 28.7	+0.2	
APE	Apeiranthos	1.04	18	PG		Pb	06 29 14.4	-0.4	
APE				SG		Sg	06 29 28.8	-0.2	
APE	Apeiranthos	1.04	18	P		Pb	06 29 14.2	-0.6	
APE				S		Sn	06 29 30.2	+1.0	
APE				AML	AML		06 29 30.8		
	comp=N,11448µm,0.5s								
APE				AML	AML		06 29 31.0		
	comp=E,19561µm,0.5s								
APE	Apeiranthos	1.04	18	*e*Pg		Pb	06 29 14.7	-0.1	
APE				*e*Sn		Sn	06 29 30.2	+1.0	
APE	Apeiranthos	1.04	18	P		Pb	06 29 14.7	-0.1	
APE				S		Sn	06 29 30.2	+1.0	
APE	Apeiranthos	1.04	18	*e*Pg		Pb	06 29 14.4	-0.4	
APE	Apeiranthos	1.04	18	P		Pb	06 29 14.7	-0.1	
APE				*e*Sg		Sg	06 29 28.8	-0.2	
APE				S		Sn	06 29 29.7	+0.5	
SIVA	Sivas	1.09	194	P		Pg	06 29 16.6	+0.1	
SIVA				S		Sn	06 29 30.6	+0.1	
SIVA				AML	AML		06 29 31.6		
	comp=E,45439µm,0.6s								
SIVA				AML	AML		06 29 33.6		
	comp=N,24432µm,0.6s								
SIVA	Sivas	1.09	194	*e*Pn		Pb	06 29 15.9	+0.2	
SIVA				*e*Sn		Sg	06 29 31.0	+0.2	
SIVA	Sivas	1.09	194	P		Pb	06 29 15.9	+0.2	
SIVA				S		Sg	06 29 31.0	+0.2	
SIVA	Sivas	1.09	194	P		Pn	06 29 16.2	+0.4	
SIVA				S		Sg	06 29 30.9	+0.2	
IMMV	Iera Moni Meta	1.12	237	P		Pb	06 29 14.9	-1.3	
IMMV				S		Sb	06 29 30.4	-0.1	
IMMV				AML	AML		06 29 36.4		
	comp=E,13634µm,0.5s								
IMMV				AML	AML		06 29 37.7		
	comp=N,13396µm,0.5s								
IMMV	Iera Moni Meta	1.12	237	P		Pb	06 29 15.7	-0.5	
IMMV				S		Sn	06 29 31.5	+0.3	
IMMV	Iera Moni Meta	1.12	237	P		Pb	06 29 15.7	-0.5	
IMMV				S		Sn	06 29 31.5	+0.3	
SERI	Serifos	1.19	335	P		Pn	06 29 16.0	-1.2	
SERI				S		Sn	06 29 33.5	+0.5	
SERI				AML	AML		06 29 34.6		
	comp=E,7214µm,0.6s								
SERI				AML	AML		06 29 34.9		
	comp=N,4326µm,0.5s								
SERI	Serifos	1.19	335	P		Pn	06 29 16.7	-0.5	
SERI				S		Sn	06 29 33.6	+0.5	
ZKR	Zakros	1.31	137	P		Pb	06 29 19.6	+0.2	
ZKR				S		Sg	06 29 37.8	+0.1	
ZKR				AML	AML		06 29 39.8		
	comp=N,5408µm,0.6s								
ZKR				AML	AML		06 29 42.3		
	comp=E,8268µm,0.6s								
ZKR	Zakros	1.31	137	*e*Pn		Pn	06 29 19.1	+0.3	
ZKR				*e*Sn		Sg	06 29 37.5	-0.2	
ZKR	Zakros	1.31	137	P		Pn	06 29 19.1	+0.3	
ZKR				S		Sg	06 29 37.5	-0.2	
ZKR	Zakros	1.31	137	P		Pn	06 29 19.1	+0.3	
ZKR				S		Sg	06 29 37.4	-0.2	
TNSA	Tinos	1.46	1	P		Pn	06 29 19.4	-1.3	
TNSA				AML	AML		06 29 45.6		
	comp=N,7475µm,0.5s								
TNSA				AML	AML		06 29 46.3		
	comp=E,5079µm,0.5s								
TNSA	Tinos	1.46	1	P		Pn	06 29 20.3	-0.4	
ANKY	Antikythira Is	1.50	262	P		Pn	06 29 20.6	-0.7	
ANKY				S		Sg	06 29 44.1	+0.5	
ANKY				AML	AML		06 29 46.1		
	comp=E,6461µm,0.5s								
ANKY				AML	AML		06 29 47.0		
	comp=N,4854µm,0.4s								
ANKY	Antikythira Is	1.50	262	*e*Pn		Pn	06 29 21.2	-0.1	
ANKY	Antikythira Is	1.50	262	P		Pn	06 29 21.2	-0.1	
ANKY	Antikythira Is	1.50	262	P		Pn	06 29 21.3	-0.1	
ANKY				S		Sg	06 29 42.9	-0.7	
GVD	Gavdhos	1.50	215	P		Pb	06 29 22.9	+0.2	
GVD				AML	AML		06 29 53.6		
	comp=N,4544µm,0.6s								
GVD				AML	AML		06 29 54.0		
	comp=E,7139µm,0.4s								
GVD	Gavdhos	1.50	215	P		Pb	06 29 22.5	-0.2	
KYTH	Kithira	1.69	277	P		Pn	06 29 23.8	-0.3	
KYTH				S		Sb	06 29 46.7	-0.3	
KYTH				AML	AML		06 29 53.5		
	comp=E,6020µm,0.5s								
KYTH				AML	AML		06 29 53.5		
	comp=N,4668µm,0.4s								
KYTH	Kithira	1.69	277	*e*Pn		Pn	06 29 24.1	0.0	
KYTH	Kithira	1.69	277	P		Pn	06 29 24.1	0.0	
NISR	Nisiros	1.70	71	P		Pn	06 29 24.5	+0.4	
NISR				AML	AML		06 29 58.5		
	comp=E,5171µm,0.8s								
NISR				AML	AML		06 30 01.7		
	comp=N,3537µm,0.8s								
NISR	Nisiros	1.70	71	P		Pn	06 29 24.5	+0.4	
KARP	Karpathos	1.74	107	PN		Pn	06 29 25.5	+0.8	
KARP	Karpathos	1.74	107	P		Pn	06 29 24.8	+0.2	
KARP	Karpathos	1.74	107	*e*Pn		Pn	06 29 25.2	+0.5	
KARP	Karpathos	1.74	107	P		Pn	06 29 25.2	+0.5	
KARP	Karpathos	1.74	107	P		Pn	06 29 25.2	+0.5	
KARP	Karpathos	1.74	107	*e*Pn		Pn	06 29 25.5	+0.8	
VLI	Veliai	1.88	290	P		Pn	06 29 26.4	-0.2	
VLI				AML	AML		06 30 06.7		
	comp=E,3119µm,0.6s								
VLI				AML	AML		06 30 09.2		
	comp=N,2477µm,0.5s								
VLI	Veliai	1.88	290	*e*Pn		Pn	06 29 26.8	+0.2	
VLI	Veliai	1.88	290	P		Pn	06 29 26.8	+0.2	
VLI	Veliai	1.88	290	P		Pn	06 29 26.8	+0.2	
BODT	Bodrum	2.01	60	PN		Pn	06 29 27.4	-1.0	
BODT	Bodrum	2.01	60	*e*Pn		Pn	06 29 27.4	-1.0	
KARY	Karystos	2.02	344	P		Pn	06 29 28.8	+0.2	
KARY				S		Sn	06 29 53.5	0.0	
KARY	Karystos	2.02	344	P		Pn	06 29 29.0	+0.4	
KARY				S		Sn	06 29 53.8	+0.3	
KRND	KRANIDI	2.05	310	P		Pn	06 29 29.4	+0.4	
KRND				AML	AML		06 30 05.7		
	comp=E,1610µm,0.6s								
KRND				AML	AML		06 30 10.8		
	comp=N,1533µm,0.5s								
KRND	KRANIDI	2.05	310	P		Pn	06 29 29.2	+0.2	
KRND	KRANIDI	2.05	310	P		Pn	06 29 29.5	+0.5	
VLY	Voula,Athens	2.06	329	P		Pn	06 29 29.9	+0.7	
VLY				AML	AML		06 30 05.8		
	comp=N,2859µm,0.7s								
VLY				AML	AML		06 30 07.6		
	comp=E,2642µm,0.5s								
VLY	Voula,Athens	2.06	329	P		Pn	06 29 29.9	+0.7	
DID	Didima	2.08	314	P		Pn	06 29 28.9	-0.5	
DID				AML	AML		06 30 09.2		
	comp=E,1005µm,0.7s								
DID				AML	AML		06 30 13.2		
	comp=N,770µm,0.7s								
DID	Didima	2.08	314	*e*Pn		Pn	06 29 29.6	+0.2	
DID	Didima	2.08	314	P		Pn	06 29 29.6	+0.2	
DID	Didima	2.08	314	P		Pn	06 29 29.6	+0.2	
SMG	Samos	2.12	40	P		Pn	06 29 29.5	-0.5	
SMG				S		Sn	06 29 57.1	+1.2	
SMG				AML	AML		06 30 16.8		
	comp=N,2072µm,0.5s								
SMG				AML	AML		06 30 17.0		
	comp=E,2226µm,0.4s								
SMG	Samos	2.12	40	*e*Pn		Pn	06 29 30.6	+0.6	
SMG	Samos	2.12	40	P		Pn	06 29 30.6	+0.6	
SMG	Samos	2.12	40	P		Pn	06 29 30.6	+0.6	
SMG				S		Sn	06 29 56.8	+0.8	
ATH	Athens Observa	2.20	330	P		Pn	06 29 32.7	+1.7	
ATH				AML	AML		06 30 06.6		
	comp=E,1954µm,0.8s								
ATH				AML	AML		06 30 06.6		
	comp=N,1780µm,1.1s								
ATH	Athens Observa	2.20	330	P		Pn	06 29 32.2	+1.2	
PTL	Penteli	2.21	333	P		Pn	06 29 31.5	+0.4	
PTL				AML	AML		06 30 05.2		
	comp=E,2060µm,0.7s								
PTL				AML	AML		06 30 08.3		
	comp=N,1547µm,0.7s								
PTL	Penteli	2.21	333	P		Pn	06 29 31.7	+0.5	
DION	Dionisos Attik	2.21	335	P		Pn	06 29 31.3	+0.1	
DION				AML	AML		06 30 12.1		
	comp=E,1574µm,0.8s								
DION				AML	AML		06 30 17.0		
	comp=N,1482µm,0.5s								
DION	Dionisos Attik	2.21	335	P		Pn	06 29 31.6	+0.4	
GCAM	G?zelcaml?	2.34	46	PN		Pn	06 29 33.4	+0.5	
GCAM	G?zelcaml?	2.34	46	*e*Pn		Pn	06 29 33.4	+0.5	
DYR	Agios Nikonas	2.35	288	P		Pn	06 29 35.0	+1.8	
DYR	Agios Nikonas	2.35	288	P		Pn	06 29 34.5	+1.4	
CHOS	Chios island	2.42	18	PN		Pn	06 29 33.3	-0.8	
CHOS	Chios island	2.42	18	P		Pn	06 29 33.1	-0.9	
CHOS				AML	AML		06 30 17.4		
	comp=N,1604µm,0.5s								
CHOS				AML	AML		06 30 21.1		
	comp=E,2161µm,0.6s								
CHOS	Chios island	2.42	18	*e*Pn		Pn	06 29 33.3	-0.8	
CHOS	Chios island	2.42	18	P		Pn	06 29 33.9	-0.2	
ARG	Arkhangelos	2.43	86	P		Pn	06 29 36.0	+1.8	
ARG	Arkhangelos	2.43	86	P		Pn	06 29 35.4	+1.2	
MLSB	Milas	2.45	60	PN		Pn	06 29 34.6	+0.1	
MLSB	Milas	2.45	60	*e*Pn		Pn	06 29 34.6	+0.1	
VILL	Villia	2.53	326	P		Pn	06 29 36.4	+0.7	
VLX	Vlachokerasia	2.56	301	P		Pn	06 29 36.1	+0.2	
VLX				AML	AML		06 30 15.1		
	comp=N,1025µm,0.5s								
VLX				AML	AML		06 30 15.2		
	comp=E,997µm,0.5s								
VLX	Vlachokerasia	2.56	301	*e*Pn		Pn	06 29 36.2	+0.2	
VLX	Vlachokerasia	2.56	301	P		Pn	06 29 36.2	+0.2	
VLX	Vlachokerasia	2.56	301	P		Pn	06 29 36.5	+0.5	
URLA	Izmir	2.56	27	PN		Pn	06 29 34.4	-1.6	
URLA	Izmir	2.56	27	*e*Pn		Pn	06 29 34.4	-1.6	
LOUT	Loutraki	2.57	318	P		Pn	06 29 37.3	+1.2	
LOUT	Loutraki	2.57	318	P		Pn	06 29 37.1	+1.0	
VIL2	Platees	2.59	326	P		Pn	06 29 36.3	-0.1	
LTK	Loutraki	2.60	319	P		Pn	06 29 38.1	+1.6	
LTK	Loutraki	2.60	319	P		Pn	06 29 37.7	+1.2	
TRIP	Tripoli	2.71	303	P		Pn	06 29 40.7	+2.6	
TRIP	Tripoli	2.71	303	P		Pn	06 29 39.8	+1.7	
KRBN	Karaburun	2.75	24	PN		Pn	06 29 38.1	-0.5	
KRBN	Karaburun	2.75	24	*e*Pn		Pn	06 29 38.1	-0.5	
BLCB	Balcova	2.76	33	PN		Pn	06 29 38.5	-0.2	
BLCB	Balcova	2.76	33	*e*Pn		Pn	06 29 38.5	-0.2	
THAL	Thalero	2.77	315	P		Pn	06 29 40.1	+1.2	
THAL	Thalero	2.77	315	P		Pn	06 29 40.0	+1.2	
ITM	Ithomi	2.80	294	P		Pn	06 29 42.0	+2.7	
ITM	Ithomi	2.80	294	*e*Pn		Pb	06 29 42.7	-2.1	
ITM	Ithomi	2.80	294	P		Pn	06 29 41.1	+1.8	
ITM	Ithomi	2.80	294	*e*Pn		Pb	06 29 42.7	-2.1	
PROD	Prodromos	2.81	321	P		Pn	06 29 40.7	+1.3	
PROD	Prodromos	2.81	321	P		Pn	06 29 40.5	+1.1	
SKY	Skiros Island	2.83	351	P		Pn	06 29 40.0	+0.4	
SKY				AML	AML		06 30 28.9		
	comp=N,2158µm,0.7s								
SKY				AML	AML		06 30 29.8		
	comp=E,2410µm,0.8s								
SKY	Skiros Island	2.83	351	P		Pn	06 29 40.3	+0.6	
PYL	PYLOS	2.85	288	P		Pn	06 29 43.0	+3.1	
PYL	PYLOS	2.85	288	P		Pn	06 29 42.0	+2.1	
MES2	Methoni	2.85	286	P		Pn	06 29 42.7	+2.7	
MES2	Methoni	2.85	286	P		Pn	06 29 41.9	+1.9	
AYDB	Zeytinkoy-Aydi	2.89	49	PN		Pn	06 29 41.3	+0.7	
AYDB	Zeytinkoy-Aydi	2.89	49	*e*Pn		Pn	06 29 41.3	+0.7	
GUR	Goura	2.90	311	P		Pn	06 29 42.0	+1.3	
GUR	Goura	2.90	311	P		Pn	06 29 41.8	+1.1	
TURN	Turunc	2.91	73	PN		Pn	06 29 37.3	-3.5	
TURN	Turunc	2.91	73	*e*Pn		Pn	06 29 37.3	-3.5	
FOCM	Fo˘ša	2.92	25	PN		Pn	06 29 40.6	-0.3	
FOCM	Fo˘ša	2.92	25	*e*Pn		Pn	06 29 40.6	-0.3	
MES3	Kyparissia	3.01	294	P		Pn	06 29 44.5	+2.3	
MES3	Kyparissia	3.01	294	P		Pn	06 29 43.8	+1.6	
LKR	Lokris	3.07	327	P		Pn	06 29 43.6	+0.6	
LKR	Lokris	3.07	327	P		Pn	06 29 43.8	+0.8	
KLV	Kalavryta, Ach	3.08	310	P		Pn	06 29 44.5	+1.3	
KLV				AML	AML		06 30 26.0		
	comp=E,405µm,0.7s								
KLV				AML	AML		06 30 32.3		
	comp=N,227µm,0.6s								
KLV	Kalavryta, Ach	3.08	310	P		Pn	06 29 44.3	+1.1	
DSF	Desfina	3.12	319	P		Pn	06 29 44.9	+1.2	
DSF	Desfina	3.12	319	P		Pn	06 29 44.7	+1.0	
SIGR	SIGRI	3.18	10	PN		Pn	06 29 44.9	+0.5	
SIGR	SIGRI	3.18	10	*e*Pn		Pn	06 29 44.9	+0.5	
SMIA	Simia	3.18	332	P		Pn	06 29 45.9	+1.4	
SMIA	Simia	3.18	332	P		Pn	06 29 45.7	+1.2	
PRK	Paraskevi	3.29	16	P		Pn	06 29 45.0	-0.9	
PRK	Paraskevi	3.29	16	P		Pn	06 29 45.9	0.0	
DKL	Dikili	3.30	25	PN		Pn	06 29 45.7	-0.4	
DKL	Dikili	3.30	25	*e*Pn		Pn	06 29 45.7	-0.4	
DRO	Drossia	3.31	305	P		Pn	06 29 49.3	+3.0	
DRO	Drossia	3.31	305	P		Pn	06 29 48.4	+2.1	
LAKA	Lakka	3.31	312	P		Pn	06 29 47.6	+1.3	
LAKA	Lakka	3.31	312	P		Pn	06 29 47.5	+1.2	
KALE	Kalithea	3.32	315	P		Pn	06 29 47.4	+1.0	
KALE	Kalithea	3.32	315	P		Pn	06 29 47.4	+1.0	
AXAR	Agios Charalam	3.32	324	P		Pn	06 29 49.5	+3.0	
AXAR	Agios Charalam	3.32	324	P		Pn	06 29 48.5	+2.0	
SKIA	Skiathos	3.35	337	P		Pn	06 29 48.4	+1.5	
SKIA	Skiathos	3.35	337	P		Pn	06 29 48.1	+1.3	
SERG	Sergoula	3.38	314	P		Pn	06 29 47.4	+0.1	
SERG	Sergoula	3.38	314	P		Pn	06 29 47.9	+0.7	
RLS	Riolos of Patr	3.53	305	P		Pn	06 29 50.3	+1.1	
RLS	Riolos of Patr	3.53	305	P		Pn	06 29 50.4	+1.1	
NEO	Neokhori	3.56	335	P		Pn	06 29 50.5	+0.8	
NEO	Neokhori	3.56	335	P		Pn	06 29 50.6	+0.9	
XOR	Xorichti	3.62	335	P		Pn	06 29 51.0	+0.5	
XOR	Xorichti	3.62	335	P		Pn	06 29 51.3	+0.7	
AGG	Agios Georgios	3.68	324	P		Pn	06 29 53.9	+2.5	
AGG	Agios Georgios	3.68	324	*e*Pn		Pn	06 29 53.5	+2.1	
AGG	Agios Georgios	3.68	324	P		Pn	06 29 53.2	+1.8	
AGG	Agios Georgios	3.68	324	*e*Pn		Pn	06 29 53.5	+2.1	
FYTO	Fytoko, Volos	3.75	333	P		Pn	06 29 51.7	-0.6	
FYTO	Fytoko, Volos	3.75	333	P		Pn	06 29 52.6	+0.3	
LIA	Limnos Island	3.81	1	P		Pn	06 29 53.1	0.0	
LIA	Limnos Island	3.81	1	P		Pn	06 29 53.7	+0.6	
PDO	Prodromos	4.02	310	P		Pn	06 29 58.5	+2.4	
PDO	Prodromos	4.02	310	P		Pn	06 29 57.9	+1.8	
THL	Klokotos Trika	4.26	326	P		Pn	06 30 01.1	+1.7	
THL	Klokotos Trika	4.26	326	P		Pn	06 30 00.9	+1.6	
LKD2	Lefkada island	4.47	309	P		Pn	06 30 04.0	+1.9	
LKD2	Lefkada island	4.47	309	P		Pn	06 30 03.9	+1.7	
LIT	Litokhoron	4.52	333	P		Pn	06 30 05.0	+2.0	
LIT	Litokhoron	4.52	333	P		Pn	06 30 04.7	+1.8	
ISP	Isparta	4.66	67	*e*Pn		Pn	06 30 07.8	+2.9	
ISP	Isparta	4.66	67	*e*Pn		Pn	06 30 07.8	+2.9	
SGD	Sagiada	5.24	314	P		Pn	06 30 15.4	+2.7	
SGD	Sagiada	5.24	314	P		Pn	06 30 15.0	+2.3	
FNA	Florina	5.54	329	*e*Pn		Pn	06 30 19.3	+2.3	
FNA	Florina	5.54	329	*e*Pn		Pn	06 30 19.3	+2.3	
KEK	Kerkira	5.56	312	P		Pn	06 30 18.2	+1.0	
KEK	Kerkira	5.56	312	P		Pn	06 30 18.6	+1.4	
VAY	Valandovo	5.60	340	*i* Pn		Pn	06 30 21.4	+3.6	
BIA	Bitola	5.76	330	*i* Pn		Pn	06 30 22.7	+2.7	
KRUS	Krusevo	6.09	331	*i* Pn		Pn	06 30 27.5	+2.9	
VTS	Vitosha	6.67	348	*e*Pn		Pn	06 30 35.1	+2.5	
VTS	Vitosha	6.67	348	*e*Pn		Pn	06 30 35.1	+2.5	
TIR	Tirane	6.67	324	*e*Pn		Pn	06 30 34.3	+1.8	
TIR	Tirane	6.67	324	*e*Pn		Pn	06 30 34.3	+1.8	
TIP	Timpagrande	7.32	297	*e*Pn		Pn	06 30 42.1	+0.6	
TIP	Timpagrande	7.32	297	*e*Pn		Pn	06 30 42.1	+0.6	
BRTR	Keskin Array B	7.65	59	Pn		Pn	06 30 49.2	+3.2	
	comp=N,0.4nm,0.3s,baz=239,slow=14,

comp=Z,307nm,20.6s,baz=100,slow=32
HATD Hatta, Dubai 20.91 343 P Pn 06 36 59.0 -1.0
SNR=12
UOSS Minazif 21.00 343 *e*P **P** **06 36 58.0 -0.4**
78nm,1.1s
RAYN Ar Rayn 25.00 320 *e*P **P** **06 37 38.8 0.0**
26nm,1.1s
KMBO Kilima Mbogo 26.22 258 P **P** **06 37 51.6 +1.3**
18nm,1.0s,baz=59,slow=11,SNR=21
KMBO LR LR 06 47 00.7
comp=Z,103nm,19.9s,baz=100,slow=34
KMBO Kilima Mbogo 26.22 258 *e*P **P** **06 37 51.5 +1.1**
KMBO Kilima Mbogo 26.22 258 P **P** **06 37 51.4 +1.1**
SNR=12
OPO Ambohidratompo 27.89 213 LR LR 06 46 36.7
comp=Z,217nm,19.0s,baz=4.0,slow=31
GEYT Alibeck 33.23 353 P **P** **06 38 49.8 -2.2**
0.9nm,0.4s,baz=188,slow=9.6,SNR=2.4
GEYT LR LR 06 52 43.7
comp=Z,148nm,19.5s,baz=140,slow=37
PSI Prapat 36.07 92 P P 06 39 23.6 +6.7
1.0nm,0.3s,baz=276,slow=9.2,SNR=3.7
PSI LR LR 06 52 30.0
comp=Z,134nm,20.2s,baz=333,slow=34
CMAR Chiang Mai Arr 37.78 66 P **P** **06 39 31.5 +0.2**
0.5nm,0.3s,baz=257,slow=8.2,SNR=3.0
CMAR LR LR 06 53 47.0
comp=Z,30nm,18.2s,baz=205,slow=34
MMAI Mount Meron Ar 37.96 321 P **P** **06 39 33.8 +1.1**
0.5nm,0.2s,baz=109,slow=7.8,SNR=2.8
MMAI LR LR 06 54 22.0
comp=Z,291nm,21.2s,baz=145,slow=35
KK31 Karatay Array 38.73 9 *e*P **P** **06 39 38.9 -0.1**
KKAR Karatay Array 38.73 9 *e*P **P** **06 39 39.0 0.0**
GNI Garni 38.77 338 P **P** **06 39 40.7 +1.1**
8.2nm,0.3s,baz=100,slow=11,SNR=5.1
GNI LR LR 06 56 57.4
comp=Z,130nm,20.7s,baz=141,slow=38
AAK Ala-Archa 39.06 14 P **P** **06 39 43.6 +1.7**
1.5nm,0.7s,baz=166,slow=11,SNR=6.4
AAK LR LR 06 55 59.5
comp=Z,240nm,21.8s,baz=197,slow=36
AAK Ala-Archa 39.06 14 *e*P **P** **06 39 39.3 -2.6**
1.2nm,0.9s
AAK Ala-Archa 39.06 14 P **P** **06 39 46.4 +4.5**
SNR=5.7
LSZ Lusaka 39.70 239 P **P** **06 39 47.6 0.0**
2.5nm,0.4s,baz=64,slow=9.6,SNR=5.9
LSZ Lusaka 39.70 239 *e*P **P** **06 39 48.2 +0.6**
4.8nm,0.7s
KBZ Khabaz 42.55 339 P **P** **06 40 11.1 +0.5**
2.0nm,0.7s,baz=118,slow=13,SNR=5.4
KBZ PP **PP** **06 41 47.2 -2.2**
3.7nm,1.0s,baz=135,slow=5.5,SNR=5.3
KBZ LR LR 06 59 08.9
comp=Z,160nm,20.5s,baz=146,slow=38
KVAR Kislovodsk Arr 42.82 339 P **P** **06 40 13.2 +0.3**
2.8nm,0.4s,baz=170,slow=19,SNR=4.3
BRTR Keskin Array B 43.61 327 P **P** **06 40 19.0 -0.3**
1.2nm,0.8s,baz=138,slow=10.0,SNR=6.9
BRTR PP **PP** **06 42 01.9 +1.0**
0.5nm,0.4s,baz=159,slow=12,SNR=3.8
BRTR LR LR 06 59 05.3
comp=Z,259nm,19.9s,baz=130,slow=37
BR101 Keskin Array S 43.61 327 *e*P **P** **06 40 19.0 -0.3**
BR101 *e*PP **PP** **06 42 01.9 +1.0**
ABKAR Akbulak array 44.34 357 *e*P **P** **06 40 25.3 +0.4**
MAKZ Makanchi 44.99 19 *e*P **P** **06 40 32.5 +2.3**
MK01 Makanchi Array 45.06 19 *e*P **P** **06 40 30.4 -0.3**
MK01 *e*PcP **PcP** **06 42 11.5 +0.1**
MK31 Makanchi Array 45.08 19 *e*P **P** **06 40 32.7 +1.9**
MK32 Makanchi Array 45.08 19 *e*P **P** **06 40 30.8 0.0**
MK32 *e*PcP **PcP** **06 42 11.1 -0.4**
MKAR Makanchi Array 45.08 19 P **P** **06 40 30.8 0.0**
1.2nm,0.6s,baz=219,slow=11,SNR=7.6
MKAR PcP **PcP** **06 42 11.1 -0.4**
1.6nm,1.0s,baz=189,slow=4.7,SNR=4.5
MKAR LR LR 07 00 11.0
comp=Z,142nm,21.0s,baz=212,slow=37
MKAR Makanchi Array 45.08 19 *e*P **P** **06 40 32.6 +1.8**
12nm,0.6s
MKAR PcP **PcP** **06 42 11.1 -0.4**
AKTO Aktyubinsk 45.64 356 P **P** **06 40 35.4 +0.2**
3.7nm,0.7s,baz=170,slow=9.8,SNR=7.7
AKTO LR LR 07 01 31.3
comp=Z,62nm,19.2s,baz=172,slow=39
LEM Lembang 46.18 104 LR LR 06 58 14.9
comp=Z,75nm,18.7s,baz=202,slow=34
IDI Anoyia 46.29 316 P **P** **06 40 41.0 +0.3**
19nm,1.1s,baz=110,slow=9.3,SNR=5.3
IDI LR LR 07 00 15.0
comp=Z,145nm,21.6s,baz=97,slow=36
IDI Anoyia 46.29 316 *e*P **P** **06 40 43.2 +2.6**
22nm,1.1s
KURBB Kurchatov Arra 47.52 14 P **P** **06 40 50.0 +0.1**
3.8nm,1.1s,baz=210,slow=8.0,SNR=13
KURBB PcP **PcP** **06 42 20.1 +0.2**
0.6nm,0.9s,baz=243,slow=0.4,SNR=3.5
KURK Kurchatov 47.62 14 *e*P **P** **06 40 53.2 +2.5**
KURK *e*PcP **PcP** **06 42 20.1 -0.1**
BVAR Borovoye Array 48.45 6 P **P** **06 40 57.0 -0.1**
0.8nm,0.6s,baz=177,slow=5.9,SNR=6.7
BVAR PcP **PcP** **06 42 23.2 0.0**
0.4nm,0.5s,baz=228,slow=1.7,SNR=2.4
BVAR LR LR 07 02 16.4
comp=Z,229nm,19.7s,baz=196,slow=37
BRVK Borovoye 48.48 6 *e*P **P** **06 41 00.3 +3.0**
4.7nm,1.1s
BOSA Boshof 49.10 225 LR LR 06 57 37.6
comp=Z,79nm,21.0s,baz=148,slow=31
TIRR Tirgusor 49.69 328 *e*P **P** **06 41 05.8 -0.9**
2.9nm,0.9s
AGG Agios Georgios 50.01 319 *e*P **P** **06 41 10.8 +1.5**
16nm,1.0s
KIS Kishinev 51.22 331 *e*P **P** **06 41 18.0 -0.3**
VTS Vitosha 51.45 323 *e*P **P** **06 41 19.9 -0.5**
4.1nm,0.9s
ARU Arti 51.58 357 P **P** **06 41 19.6 -1.1**
3.1nm,0.2s,baz=193,slow=5.4,SNR=3.0
ARU Arti 51.58 357 *e*P **P** **06 41 20.6 -0.1**
6.9nm,1.1s
MLR Muntele Rosu 51.68 327 P **P** **06 41 20.6 -1.4**
0.4nm,0.5s,baz=148,slow=4.1,SNR=8.0
MLR LR LR 07 04 10.7
comp=Z,35nm,20.1s,baz=119,slow=37
MLR Muntele Rosu 51.68 327 *e*P **P** **06 41 22.1 +0.1**
ZAA0 Zalesovo Array 52.16 16 *e*P **P** **06 41 26.5 +1.3**
6.0nm,1.0s
ZALV Zalesovo Beam 52.16 16 P **P** **06 41 26.3 +1.1**
2.0nm,0.6s,baz=199,slow=8.8,SNR=6.3
ZALV LR LR 07 04 34.5
comp=Z,121nm,20.3s,baz=241,slow=37
ZALV Zalesovo Beam 52.16 16 *e*P **P** **06 41 26.1 +1.0**
ZAA1 Zalesovo Array 52.16 16 *e*P **P** **06 41 26.3 +1.1**
TIR Tirane 52.84 320 *e*P **P** **06 41 29.5 -1.0**
14nm,0.6s
KKM Kota Kinabalu 53.15 86 *e*P **P** **06 41 33.0 -0.3**
12nm,0.9s
BUR04 Bucovina Ar. S 53.45 329 *e*P **P** **06 41 35.1 +0.1**
BUR08 Bucovina Ar. S 53.47 329 *e*P **P** **06 41 35.0 -0.1**
AKASG Malin Array Be 53.69 334 P **P** **06 41 36.1 -0.4**
0.8nm,0.5s,baz=129,slow=6.4,SNR=13
AKASG LR LR 07 08 22.2
comp=Z,55nm,18.2s,baz=155,slow=40
AKBB Malin Array Si 53.69 334 *e*P **P** **06 41 35.8 -0.7**
7.3nm,1.0s
KIEV Kiev 53.69 334 *e*P **P** **06 41 35.9 -0.6**
7.8nm,1.1s
VAE Valguarnera 54.78 313 LR LR 07 02 46.9
comp=Z,41nm,21.6s,baz=138,slow=34
SONA0 Songino Array 56.76 34 *e*P **P** **06 41 59.7 +0.7**
SONM Songino Array 56.76 34 P **P** **06 41 59.7 +0.7**
2.9nm,0.6s,baz=229,slow=8.5,SNR=13
SONM LR LR 07 06 23.1
comp=Z,132nm,20.9s,baz=265,slow=36
SONA1 Songino Array 56.77 34 *e*P **P** **06 41 59.3 +0.2**
OJC Ojcow 57.86 329 *e*P **P** **06 42 07.0 +0.5**
5.2nm,1.0s
KEST Kesra 57.92 309 LR LR 07 05 22.9
comp=Z,147nm,21.9s,baz=173,slow=34
MORC Moravsky Berou 58.80 327 *e*P **P** **06 42 13.5 +0.4**
19nm,0.9s
VRAC Vranov 59.05 327 P **P** **06 42 15.4 +0.6**
3.0nm,0.4s,baz=167,slow=3.6,SNR=7.9
GERES GERESS Array B 60.43 325 LR LR 07 09 33.6
comp=Z,83nm,21.7s,baz=116,slow=37
TOA0 Torodi Ar. Sit 60.82 282 *e*P **P** **06 42 27.0 -0.6**

TORD Torodi Ar. Bea 60.82 282 P **P** **06 42 27.1 -0.5**
5.2nm,1.2s,baz=82,slow=5.4,SNR=14
TORD LR LR 07 08 44.5
comp=Z,108nm,18.6s,baz=40,slow=36
TOA1 Torodi Ar. Sit 60.82 282 *e*P **P** **06 42 27.1 -0.6**
CLL Collm 62.06 327 *e*S **S** **06 51 00.0 +0.8**
H01W3 Cape Leeuwin H 62.32 134 T T 07 50 15.9
baz=299,slow=75,SNR=6.4
H01W2 Cape Leeuwin H 62.32 134 T T 07 50 15.2
baz=299,slow=75,SNR=5.8
H01W1 Cape Leeuwin H 62.33 134 T T 07 50 15.6
baz=299,slow=75,SNR=6.0
FINES FINESS Array B 62.81 341 LR LR 07 13 16.4
comp=Z,86nm,18.3s,baz=184,slow=39
KOWA Kowa 66.40 284 P **P** **06 43 04.1 -0.4**
4.8nm,0.9s,baz=122,slow=2.1,SNR=8.0
KOWA LR LR 07 10 36.6
comp=Z,139nm,20.8s,baz=52,slow=35
HFS Hagfors 66.51 336 P **P** **06 43 02.9 -1.4**
1.6nm,0.5s,baz=125,slow=7.8,SNR=13
HFS LR LR 07 13 42.0
comp=Z,131nm,22.0s,baz=144,slow=37
KIC Kosan Boka 67.22 275 *e*P **P** **06 43 09.1 -0.6**
45nm,1.2s
DBIC Dimbokro 67.32 275 P **P** **06 43 09.8 -0.6**
5.5nm,0.9s,baz=83,slow=9.9,SNR=5.7
DBIC LR LR 07 12 39.4
comp=Z,57nm,19.3s,baz=74,slow=36
KSAR Wonju Array Be 67.36 51 P **P** **06 43 08.8 -1.3**
KSRS Korea Array 67.39 51 P **P** **06 43 08.8 -1.5**
1.1nm,0.5s,baz=256,slow=6.8,SNR=5.1
TIC Toumodi 67.49 275 *e*P **P** **06 43 10.9 -0.5**
LIC Lamto 67.51 275 *e*P **P** **06 43 09.6 -2.0**
55nm,1.4s
NOA NORSAR Array B 68.03 336 LR LR 07 14 38.5
comp=Z,102nm,21.9s,baz=115,slow=37
ES19 SONSECA Array 69.09 311 *e*P **P** **06 43 22.3 +1.2**
ARA0 ARCESS Array S 69.09 347 *e*P **P** **06 43 19.8 -0.7**
ARCES ARCESS Array B 69.09 347 P **P** **06 43 19.8 -0.7**
3.3nm,0.6s,baz=142,slow=6.1,SNR=12
ESDC Sonseca Array 69.13 311 P **P** **06 43 21.4 +0.1**
0.9nm,0.7s,baz=78,slow=4.8,SNR=4.4
MAW Mawson 72.26 180 LR LR 07 09 34.7
comp=Z,250nm,18.2s,baz=247,slow=31
EKA Eskdalemuir Ar 72.53 327 P **P** **06 43 38.6 -2.9**
0.6nm,0.5s,baz=113,slow=7.4,SNR=4.0
EKA LR LR 07 18 11.2
comp=Z,52nm,20.9s,baz=85,slow=38
WRA Warramunga Arr 74.40 112 P **P** **06 43 54.4 +1.0**
4.3nm,0.8s,baz=290,slow=5.3,SNR=31
WR1 Warramunga Arr 74.40 112 *e*P **P** **06 43 54.4 +1.0**
7.8nm,0.8s
WRAB Tennant Creek 74.41 112 *e*P **P** **06 43 54.8 +1.4**
7.0nm,0.7s
WB2 Warramunga Arr 74.41 112 *e*P **P** **06 43 54.7 +1.3**
7.3nm,0.8s
ASAR Alice Springs 74.75 116 P **P** **06 43 56.3 +0.9**
2.0nm,0.8s,baz=290,slow=6.0,SNR=17
ASAR LR LR 07 15 29.6
comp=Z,52nm,18.2s,baz=278,slow=35
AS01 Alice Springs 74.80 116 *e*P **P** **06 43 56.3 +0.7**
MAJO Matsushiro 75.40 54 *e*P **P** **06 43 59.5 +0.6**
MJAR Matsushiro Arr 75.41 54 P **P** **06 43 59.5 +0.6**
1.1nm,0.4s,baz=268,slow=6.1,SNR=6.1
SPITS Spitsbergen Ar 77.10 351 LR LR 07 21 51.4
comp=Z,115nm,20.1s,baz=150,slow=39
STKA Stephens Creek 83.04 123 LR LR 07 17 11.2
comp=Z,156nm,21.0s,baz=250,slow=32
BORG Borgarnes 83.17 335 LR LR 07 23 30.7
comp=Z,41nm,21.9s,baz=153,slow=37
SCO Scoresbysund 83.74 340 *e*P **P** **06 44 45.1 +1.7**
3.5nm,1.1s
SNAA Sanae 87.09 197 LR LR 07 18 45.5
comp=Z,114nm,18.8s,baz=91,slow=32
SFJD Kangerlussuaq 94.54 339 LR LR 07 29 52.1
comp=Z,83nm,20.8s,baz=56,slow=37
VNDA Vanda 96.63 168 LR LR 07 21 50.6
comp=Z,253nm,20.1s,baz=218,slow=31
YKA Yellowknife Ar 112.85 359 PP PP 06 51 40.1 +1.5
0.2nm,0.8s,baz=359,slow=6.4,SNR=5.5
YKA PKKPbc **PKKPbc** **07 01 38.9 -2.5**
0.6nm,1.2s,baz=142,slow=6.1,SNR=4.0
LPAZ La Paz 130.58 253 PKP **PKPdf** **06 51 27.1 -0.3**
1.0nm,0.9s,baz=7.6,slow=4.6,SNR=3.4
PDAR Pinedale Array 132.13 352 PKP **PKPdf** **06 51 27.7 -1.6**
0.4nm,0.6s,baz=337,slow=3.4,SNR=4.5
PDAR Pinedale Array 132.13 352 *e*PKPdf **PKPdf** **06 51 28.9 -0.4**
NV01 Mina Array Sit 136.96 1 *e*PKPdf **PKPdf** **06 51 39.4 +1.0**
NVAR Mina Array Bea 136.96 1 PKP **PKPdf** **06 51 38.4 0.0**
0.9nm,0.7s,baz=324,slow=1.0,SNR=8.3
FRD Ford Ranch, An 141.89 359 *e*PKPpre PKPpre 06 51 40.5
TXAR Lajitas Array 143.65 340 PKhKP PKPpre 06 51 47.1
0.4nm,0.4s,baz=47,slow=5.3,SNR=10

DDA ***23*** *06:46:27.7, 39°.29N×25°.95E, h7km, Md2.6*
ISK ***23*** *06:46:27.2, 39°.26N×26°.01E, h19km, ML2.2/8*
ISCJB ***23*** *06:46:28.7±0.5, 39°.27N±0°.03×25°.97E±0°.04, h18km±5km, Error ellipse: s-maj=5.6km s-min=4.2km az=141.5*
CSEM ***23*** *06:46:28.2±0.2, 39°.28N×25°.99E, h12km, ML2.2, Error ellipse: s-maj=5.3km s-min=3.5km az=79.0*
THE ***23*** *06:46:29.2, 39°.30N×25°.97E, h6km±1km, ML1.8/5, Error ellipse: s-maj=1.3km s-min=0.4km az=190.0*

ISC 23 06:46:28.1±0.8, 39°.28N±0°.02×25°.99E±0°.02, h14km±6km, n48, σ0°61/74, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIGR	**SIGRI**	**0.13**	**237**	PG	**Pb**	**06 46 32.0**	**-0.3**
SIGR				SG	**Sg**	**06 46 34.1**	**+0.2**
SIGR	**SIGRI**	**0.13**	**237**	P	**Pb**	**06 46 32.0**	**-0.3**
SIGR				S	**Sg**	**06 46 34.0**	**+0.2**
SIGR	**SIGRI**	**0.13**	**237**	P	**Pb**	**06 46 32.0**	**-0.3**
SIGR				*e*Sg	**Sg**	**06 46 34.1**	**+0.2**
PRK	**Paraskevi**	**0.22**	**99**	P	**Pb**	**06 46 33.8**	**-0.1**
PRK				S	**Sg**	**06 46 37.5**	**+1.3**
PRK	**Paraskevi**	**0.22**	**99**	P	**Pb**	**06 46 33.8**	**-0.1**
PRK				S	**Sg**	**06 46 37.5**	**+1.3**
AYVA	**Ayvalik**	**0.54**	**87**	*i* P	**Pb**	**06 46 39.4**	**-0.1**
AYVA				*i* S	**Sb**	**06 46 47.6**	**+0.6**
AYVA	**Ayvalik**	**0.54**	**87**	P	**Pb**	**06 46 39.3**	**-0.1**
AYVA				S	**Sb**	**06 46 47.7**	**+0.6**
BOZC	**Bozcaada**	**0.56**	**5**	PG	**Pb**	**06 46 39.7**	**0.0**
BOZC				SG	**Sb**	**06 46 48.1**	**+0.5**
BOZC	**Bozcaada**	**0.56**	**5**	*i* P	**Pb**	**06 46 39.6**	**-0.2**
BOZC				*i* S	**Sb**	**06 46 47.6**	**0.0**
BOZC	**Bozcaada**	**0.56**	**5**	*i* Pg	**Pb**	**06 46 39.7**	**0.0**
BOZC				*e*Sg	**Sb**	**06 46 48.1**	**+0.5**
EZN	**Ezine**	**0.60**	**25**	PG	**Pg**	**06 46 39.1**	**-0.8**
EZN	**Ezine**	**0.60**	**25**	*e*Pg	**Pg**	**06 46 39.1**	**-0.8**
BAYC	**CANAKKALE_Bayr**	**0.63**	**43**	*i* P	**Pg**	**06 46 40.2**	**-0.2**
BAYC				*i* S	**Sb**	**06 46 50.0**	**+0.4**
BAYC	**CANAKKALE_Bayr**	**0.63**	**43**	P	**Pg**	**06 46 40.2**	**-0.2**
BAYC				S	**Sb**	**06 46 50.0**	**+0.4**
DKL	**Dikili**	**0.74**	**106**	PG	**Pg**	**06 46 41.7**	**-0.8**
DKL	**Dikili**	**0.74**	**106**	*e*Pg	**Pg**	**06 46 41.7**	**-0.8**
FOCM	**Fo¯ša**	**0.81**	**134**	PG	**Pg**	**06 46 42.7**	**-1.1**
FOCM	**Fo¯ša**	**0.81**	**134**	*e*Pg	**Pg**	**06 46 42.7**	**-1.1**
LIA	**Limnos Island**	**0.88**	**315**	P	**Pb**	**06 46 45.6**	**+0.5**
LIA				S	**Sb**	**06 46 57.6**	**+0.9**
LIA	**Limnos Island**	**0.88**	**315**	P	**Pb**	**06 46 45.6**	**+0.5**
LIA				S	**Sb**	**06 46 57.6**	**+0.9**
CHOS	**Chios island**	**0.90**	**177**	PG	**Pg**	**06 46 45.3**	**-0.1**
CHOS	**Chios island**	**0.90**	**177**	P	**Pb**	**06 46 46.1**	**+0.6**
CHOS				S	**Sn**	**06 46 59.7**	**+0.5**
CHOS	**Chios island**	**0.90**	**177**	*e*Pg	**Pg**	**06 46 45.3**	**-0.1**
CHOS	**Chios island**	**0.90**	**177**	P	**Pb**	**06 46 46.1**	**+0.6**
CHOS				S	**Sn**	**06 46 59.7**	**+0.5**
GADA	**Gvkgeada**	**0.91**	**355**	PG	**Pg**	**06 46 45.3**	**-0.4**
GADA	**Gvkgeada**	**0.91**	**355**	*e*Pg	**Pg**	**06 46 45.3**	**-0.4**
URLA	**Izmir**	**1.03**	**153**	PG	**Pb**	**06 46 47.1**	**-0.7**
URLA	**Izmir**	**1.03**	**153**	*i* P	**Pb**	**06 46 48.0**	**+0.2**
URLA				*i* S	**Sg**	**06 47 02.1**	**+0.6**
URLA	**Izmir**	**1.03**	**153**	*e*Pg	**Pb**	**06 46 47.1**	**-0.7**
URLA	**Izmir**	**1.03**	**153**	P	**Pb**	**06 46 48.0**	**+0.2**
URLA				S	**Sg**	**06 47 02.2**	**+0.6**
GELI	**Tayfur-Gelibol**	**1.17**	**18**	PN	**Pb**	**06 46 49.7**	**-0.5**
GELI	**Tayfur-Gelibol**	**1.17**	**18**	*e*Pn	**Pb**	**06 46 49.7**	**-0.5**
LPK	**Lapseki**	**1.24**	**28**	PN	**Pn**	**06 46 50.3**	**-0.7**
LPK	**Lapseki**	**1.24**	**28**	*e*Pn	**Pn**	**06 46 50.3**	**-0.7**
SMTH	**Samothraki Isl**	**1.24**	**343**	P	**Pg**	**06 46 51.9**	**-0.1**
SMTH				S	**Sg**	**06 47 09.0**	**+0.9**
SMTH	**Samothraki Isl**	**1.24**	**343**	P	**Pg**	**06 46 51.9**	**-0.1**
SMTH				S	**Sg**	**06 47 09.0**	**+0.9**
BALY	**Balya**	**1.34**	**70**	*i* P	**Pb**	**06 46 53.4**	**+0.4**
BALY				*i* S	**Sg**	**06 47 11.6**	**+0.3**
BALY	**Balya**	**1.34**	**70**	P	**Pb**	**06 46 53.4**	**+0.4**
BALY				S	**Sg**	**06 47 11.6**	**+0.3**
STEP	**BALIKESIR_Sava**	**1.34**	**85**	*i* P	**Pg**	**06 46 54.3**	**+0.4**
STEP				*i* S	**Sg**	**06 47 12.0**	**+0.6**
STEP	**BALIKESIR_Sava**	**1.34**	**85**	P	**Pg**	**06 46 54.3**	**+0.4**
STEP				S	**Sg**	**06 47 12.0**	**+0.6**
ERIK	**Erikli-Kesan**	**1.44**	**16**	PN	**Pn**	**06 46 52.7**	**-1.1**
ERIK	**Erikli-Kesan**	**1.44**	**16**	*e*Pn	**Pn**	**06 46 52.7**	**-1.1**
KRBG	**Karabiga-Canak**	**1.50**	**42**	PN	**Pn**	**06 46 53.5**	**-1.1**
KRBG	**Karabiga-Canak**	**1.50**	**42**	*e*Pn	**Pn**	**06 46 53.5**	**-1.1**
RKY	**Sarkoy-Tekirda**	**1.67**	**33**	PN	**Pn**	**06 46 56.3**	**-0.7**
RKY	**Sarkoy-Tekirda**	**1.67**	**33**	*e*Pn	**Pn**	**06 46 56.3**	**-0.7**
SART	**Tekirdag**	**1.68**	**33**	*i* P	**Pb**	**06 46 58.6**	**-0.2**
SART				*i* S	**Sb**	**06 47 19.7**	**-0.1**
SART	**Tekirdag**	**1.68**	**33**	P	**Pb**	**06 46 58.6**	**-0.2**
SART				S	**Sb**	**06 47 19.7**	**-0.1**

MEX 23 06:51:59.6±0.5, 15°.05N×93°.18W, h68km±8km, MD3.6, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		**0.65**	**357**	*e*P	Pn	06 52 12.5	-1.3
PCIG				*i* S	Sn	06 52 22.6	-1.7
CCIG	**Comitan**	**1.58**	**39**	*e*P	Pn	06 52 24.7	-1.1
CCIG				*e*S	Sn	06 52 42.7	-2.9
TGIG		**1.72**	**2**	*e*P	Pn	06 52 25.7	-1.8

IDC 23 06:55:09.1±5.2, 2°.61N×89°.84E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.3/61, mbtmp3.6/3, MS3.9/1, Ms1 3.9/1, ms1mx2.6/64, Error ellipse: s-maj=172.9km s-min=31.4km az=61.0, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**44.49**	**353**	P	P	07 03 21.5	-0.8
	0.2nm,0.4s,baz=168,slow=7.4,SNR=2.1						
SONM	**Songino Array**	**47.27**	**15**	P	P	07 03 45.0	+0.7
	1.7nm,0.6s,baz=189,slow=9.3,SNR=10.0						
WRA	**Warramunga Arr**	**49.08**	**119**	P	P	07 03 58.4	-0.3
	0.4nm,0.5s,baz=298,slow=8.8,SNR=7.5						
CTA	**Charters Tower**	**59.74**	**115**	LR	LR	07 32 05.1	
	comp=Z,103nm,18.9s,baz=344,slow=37						

IDC ***23*** *06:58:47.4±2.2, 3°.26N×93°.94E, h0km, mb3.6/6, mb1 3.6/7, mb1mx3.5/64, mbtmp3.5/7, ML2.5/1, Error ellipse: s-maj=76.0km s-min=19.9km az=54.0*
ISCJB ***23*** *06:58:49.4±1.6, 3°.3N±0°.2×94°.0E±0°.2, h24km, mb3.6/6, Error ellipse: s-maj=43.2km s-min=14.5km az=136.0*

ISC 23 06:58:51.3±2.1, 3°.3N±0°.3×94°.0E±0°.3, h24km, n16, σ0°74/7, mb3.7/6, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**4.91**	**96**	Pn	**Pn**	**07 00 03.5**	**-0.3**
	0.2nm,0.3s,baz=275,slow=6.0,SNR=2.0						
H08S2	**Diego Garcia H**	**24.07**	**243**	T	T	07 28 54.1	
	baz=63,slow=75,SNR=11						
H08S3	**Diego Garcia H**	**24.08**	**243**	T	T	07 28 55.8	
	baz=63,slow=75,SNR=9.4						
H08S1	**Diego Garcia H**	**24.09**	**243**	T	T	07 28 53.5	
	baz=63,slow=75,SNR=12						
H08N1	**Diego Garcia H**	**24.89**	**247**	T	T	07 30 10.7	
	baz=348						
H08N2	**Diego Garcia H**	**24.90**	**247**	T	T	07 30 13.0	
	baz=348						
H08N3	**Diego Garcia H**	**24.91**	**247**	T	T	07 30 09.1	
	baz=348						
H01W3	**Cape Leeuwin H**	**42.41**	**155**	T	T	07 52 11.7	
	baz=331						
H01W2	**Cape Leeuwin H**	**42.42**	**155**	T	T	07 52 07.8	
	baz=331						
H01W1	**Cape Leeuwin H**	**42.43**	**155**	T	T	07 52 07.8	
	baz=331						
MKAR	**Makanchi Array**	**44.52**	**349**	P	**P**	**07 07 01.1**	**+0.1**
	0.7nm,0.6s,baz=181,slow=7.4,SNR=5.4						
SONM	**Songino Array**	**45.64**	**12**	P	**P**	**07 07 10.5**	**+0.5**
	0.2nm,0.4s,baz=190,slow=9.1,SNR=2.5						
WRA	**Warramunga Arr**	**45.82**	**122**	P	**P**	**07 07 12.1**	**+0.4**
	0.6nm,0.5s,baz=299,slow=8.7,SNR=9.0						
ASAR	**Alice Springs**	**47.18**	**127**	P	**P**	**07 07 22.4**	**+0.1**
	0.3nm,0.6s,baz=292,slow=8.3,SNR=5.5						
KURBB	**Kurchatov Arra**	**48.95**	**347**	P	**P**	**07 07 34.3**	**-1.3**
	0.4nm,0.6s,baz=167,slow=6.3,SNR=5.0						
ZALV	**Zalesovo Beam**	**51.06**	**353**	P	**P**	**07 07 51.8**	**+0.3**
	0.9nm,0.3s,baz=186,slow=6.3,SNR=2.4						

KRSC ***23*** *07:18:47.6±1.7, 48°.01N×154°.88E, h121km±32km, ML5.0*
MOS ***23*** *07:18:49.7±1.0, 48°.27N×154°.32E, h60km, mb4.6/29, Error ellipse: s-maj=10.0km s-min=3.1km az=70.9*
ISCJB ***23*** *07:18:50.0±0.4, 48°.33N±0°.03×154°.31E±0°.04, h55km±3km, mb4.6/135, MS3.4/9, Error ellipse: s-maj=6.3km s-min=2.5km az=141.9*
SKHL ***23*** *07:18:50.1±0.1, 48°.04N×154°.73E, h60km±6km, mb5.4/5, msh5.1/5*
BJI ***23*** *07:18:51.1, 48°.50N×154°.30E, h40km, mb4.4/15, mB4.6/13, Ms4.3/5, Ms7 4.3/5*
IDC ***23*** *07:18:52.6±2.3, 48°.22N×154°.26E, h71km±19km, mb4.0/29, mb1 4.1/34, mb1mx4.0/75, mbtmp4.3/34, MS3.2/12, Ms1 3.2/12, ms1mx2.9/70, Error ellipse: s-maj=17.0km s-min=10.6km az=163.0*
NEIC ***23*** *07:18:53.8±0.6, 48°.35N×154°.23E, h74km±5km, mb4.6/102, Error ellipse: s-maj=7.0km s-min=3.7km az=151.0*

ISC 23 07:18:51.8±0.9, 48°.21N±0°.05×154°.48E±0°.05, h63km±8km, n349, σ1°62/381, mb4.6/135, 4C-5D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**2.69**	**23**	*e*P	**Pn**	**07 19 32.1**	**-0.6**
SKR				AMB	AMB	07 19 35.7	
	2μm,0.5s						
SKR				*e*S	**Sn**	**07 20 03.6**	**-0.5**
SKR				A	A	07 20 09.0	
	1μm,0.4s						
SKR				A	A	07 20 09.0	
	1μm,0.4s						
SKR	**Severo-Kuril's**	**2.69**	**23**	*e*P	**Pn**	**07 19 32.2**	**-0.5**
SKR				*e*S	**Sn**	**07 20 06.1**	**+2.0**
SKR	**Severo-Kuril's**	**2.69**	**23**	↓*i* PN	**Pn**	**07 19 33.0**	**+0.3**
SKR				*e*S	**Sn**	**07 20 05.0**	**+0.9**
SKR				pmax	pmax		
	comp=Z,2μm,1.1s						
SKR				pmax	pmax		
	comp=Z,2μm,0.6s						
SKR				smax	smax		
	comp=E,1μm,0.3s						
SKR				smax	smax		
	comp=N,2μm,0.6s						
PAU	**Pauzhetka**	**3.59**	**24**	*e*P	**Pn**	**07 19 44.8**	**-0.2**
PAU				*e*S	**Sn**	**07 20 25.9**	**-0.1**
PAU				A	A	07 20 35.4	
	comp=N,988nm,0.4s						
PAU				A	A	07 20 35.4	
	comp=N,1μm,0.4s						
PAU	**Pauzhetka**	**3.59**	**24**	*e*P	**Pn**	**07 19 44.7**	**-0.2**
PAU				*e*S	**Sn**	**07 20 26.8**	**+0.8**
PAU	**Pauzhetka**	**3.59**	**24**	PN	**Pn**	**07 19 44.7**	**-0.2**
PAU				S	**Sn**	**07 20 26.8**	**+0.8**
KDTR	**Khodutka, Kamc**	**4.28**	**31**	*i* P	**Pn**	**07 19 52.5**	**-1.9**
KDTR				*e*S	**

KRMR S **Sn** **07 21 06.0 +1.1**
PEA0B Petropavlovsk- 5.31 21 *e*Pn **Pn** **07 20 09.4 +0.9**
PEA0B *e*Sn **Sn** **07 21 06.0 -2.3**
PETK Petropavlovsk- 5.31 21 P **Pn** **07 20 09.3 +0.8**
comp=N,20nm,0.3s,baz=180,slow=12,SNR=58
PETK LR LR 07 22 26.0
comp=N,276nm,21.0s,baz=210,slow=40
PEA1 Petropavlovsk- 5.32 21 *e*Pn **Pn** **07 20 09.3 +0.7**
KUR Kuril'sk 5.44 239 *e*P **Pn** **07 20 11.3 +1.1**
KUR AMB AMB 07 20 12.8
comp=N,745nm,0.5s
KUR *e*S **Sn** **07 21 11.9 +0.6**
KUR A A 07 21 18.6
comp=N,750nm,2.5s
KUR A A 07 21 18.6
comp=N,1µm,2.5s
KUR A A 07 21 22.2
comp=N,650nm,0.6s
KUR A A 07 21 22.2
comp=N,470nm,0.6s
KUR Kuril'sk 5.44 239 *d i*PN **Pn** **07 20 11.3 +1.1**
KUR *i* S **Sn** **07 21 14.2 +2.9**
KUR pmax pmax
comp=Z,436nm,0.5s
KUR pmax pmax
comp=E,108nm,0.3s
KUR pmax pmax
comp=N,118nm,0.2s
KUR pmax pmax
comp=Z,574nm,0.9s
KUR smax smax
comp=E,1µm,1.9s
KUR smax smax
comp=N,590nm,1.5s
KUR smax smax
comp=N,350nm,0.5s
KUR smax smax
comp=E,160nm,0.7s
KUR MLR MLR
comp=Z,565nm,14.0s
PET Petropavlovsk 5.50 27 *e*P **Pn** **07 20 10.1 -0.9**
PET AMB AMB 07 20 13.0
comp=Z,59nm,0.4s
PET AMB AMB 07 20 15.4
comp=Z,2µm,4.0s
PET *e*S **Sn** **07 21 12.0 -0.8**
PET A A 07 21 19.0
comp=Z,240nm,2.0s
PET A A 07 21 19.0
comp=Z,420nm,2.0s
PET A A 07 21 29.4
comp=Z,390nm,0.5s
PET A A 07 21 29.4
comp=Z,330nm,0.5s
PET Petropavlovsk 5.50 27 *e*Pn **Pn** **07 20 10.0 -1.1**
PET *e*Sn **Sn** **07 21 11.3 -1.5**
PET Petropavlovsk 5.50 27⚠ *i*PN **Pn** **07 20 09.9 -1.1**
PET *e*S **Sn** **07 21 13.8 +1.0**
PET smax smax
comp=E,384nm,0.6s
PET smax smax
comp=N,466nm,0.5s
PET MLR MLR
comp=Z,200nm,16.0s
INSR Institute 5.52 27 *e*P **Pn** **07 20 09.9 -1.4**
INSR *e*S **Sn** **07 21 12.2 -1.2**
INSR Institute 5.52 27 PN **Pn** **07 20 09.9 -1.4**
INSR S **Sn** **07 21 12.2 -1.2**
DALK Dalny 5.54 28 *e*P **Pn** **07 20 10.5 -1.0**
DALK *e*S **Sn** **07 21 13.3 -0.4**
DALK Dalny 5.54 28 PN **Pn** **07 20 10.5 -1.0**
DALK S **Sn** **07 21 13.3 -0.4**
UGLR Uglovaya 5.71 27 *e*P **Pn** **07 20 14.0 0.0**
UGLR Uglovaya 5.71 27 PN **Pn** **07 20 14.0 0.0**
KOK Koryaka 5.73 26 *e*P **Pn** **07 20 14.8 +0.6**
KOK Koryaka 5.73 26 PN **Pn** **07 20 14.8 +0.6**
AVH Avacha 5.73 27 *e*P **Pn** **07 20 14.7 +0.4**
AVH Avacha 5.73 27 PN **Pn** **07 20 14.7 +0.4**
SMAR Somma 5.75 27 *e*P **Pn** **07 20 14.8 +0.1**
SMAR Somma 5.75 27 PN **Pn** **07 20 14.8 +0.1**
KRER Koryakskii 5.77 26 *e*P **Pn** **07 20 15.1 +0.2**
KRER Koryakskii 5.77 26 PN **Pn** **07 20 15.1 +0.2**
KRX Arik 5.79 26 *e*P **Pn** **07 20 15.2 +0.1**
KRX Arik 5.79 26 PN **Pn** **07 20 15.2 +0.1**
SDLR Sedlovina 5.79 27 *e*P **Pn** **07 20 14.5 -0.6**
SDLR Sedlovina 5.79 27 PN **Pn** **07 20 14.5 -0.6**
NLC Nalytchevo 5.85 30 *e*P **Pn** **07 20 14.5 -1.2**
NLC *e*S **Sn** **07 21 18.4 -2.9**
NLC Nalytchevo 5.85 30 PN **Pn** **07 20 14.5 -1.2**
GNL Ganaly 5.91 20 *e*P **Pn** **07 20 17.6 +0.9**
GNL Ganaly 5.91 20 PN **Pn** **07 20 17.6 +0.9**
SPN Mys Shipunski 6.03 34 *e*P **Pn** **07 20 16.3 -1.9**
SPN *e*S **Sn** **07 21 22.7 -3.1**
SPN Mys Shipunski 6.03 34 PN **Pn** **07 20 16.3 -1.9**
KII Karymskiy 6.62 26 *e*P **Pn** **07 20 26.8 +0.4**
KII Karymskiy 6.62 26 PN **Pn** **07 20 26.8 +0.4**
SHO Shikotan 6.87 234 *e*P **Pn** **07 20 26.2 -3.6**
SHO AMB AMB 07 20 28.4
comp=Z,92nm,0.4s
SHO AMB AMB 07 20 35.0
comp=Z,370nm,5.0s
SHO *e*S **Sn** **07 21 43.0 -3.5**
SHO A A 07 21 46.0
comp=Z,340nm,3.0s
SHO A A 07 21 46.0
comp=Z,380nm,3.0s
SHO A A 07 22 12.0
comp=Z,330nm,0.6s
SHO A A 07 22 12.0
comp=Z,390nm,0.6s
SHO Shikotan 6.87 234 *i* PN **Pn** **07 20 26.2 -3.6**
SHO pmax pmax
comp=E,34nm,0.3s
SHO pmax pmax
comp=Z,70nm,0.3s
SHO pmax pmax
comp=N,49nm,0.2s
YUK Yuzh-Kuril'sk 7.30 238 *e*P **Pn** **07 20 35.6 -0.1**
YUK AMB AMB 07 20 36.7
comp=N,330nm,0.3s
YUK AMB AMB 07 20 38.0
comp=N,720nm,2.0s
YUK *e*S **Sn** **07 21 56.6 -0.5**
YUK A A 07 22 05.5
comp=N,872nm,2.0s
YUK A A 07 22 05.5
comp=N,815nm,2.0s
YUK A A 07 22 21.8
comp=N,740nm,0.8s
YUK A A 07 22 21.8
comp=N,490nm,0.8s
YUK Yuzh-Kuril'sk 7.30 238 *i* PN **Pn** **07 20 35.3 -0.4**
YUK *e*S **Sn** **07 21 59.7 +2.6**
YUK pmax pmax
comp=Z,282nm,0.2s
YUK pmax pmax
comp=E,31nm,0.1s
YUK smax smax
comp=E,176nm,0.4s
YUK smax smax
comp=N,99nm,0.3s
LAGR Lagunnoye 7.33 239 *e*P **Pn** **07 20 36.2 +0.1**
LAGR AMB AMB 07 20 36.5
comp=N,280nm,0.3s
LAGR *e*S **Sn** **07 22 00.9 +3.1**
LAGR A A 07 22 03.5
comp=N,210nm,0.5s
LAGR A A 07 22 03.5
comp=N,290nm,0.5s
LAGR Lagunnoye 7.33 239 *e*PN **Pn** **07 20 36.2 +0.1**
LAGR *e*S **Sn** **07 22 00.9 +3.1**
LAGR pmax pmax
comp=Z,281nm,0.3s
LAGR pmax pmax
comp=E,81nm,0.4s
LAGR pmax pmax
comp=N,127nm,0.2s
LAGR smax smax
comp=N,208nm,0.5s
LAGR smax smax
comp=E,293nm,0.5s
GRPR Tuman 7.38 238 *e*P **Pn** **07 20 35.7 -1.1**
GRPR AMB AMB 07 20 37.5
comp=E,17nm,0.2s
GRPR *e*S **Sn** **07 22 00.5 +1.5**
GRPR A A 07 22 12.5
comp=E,200nm,0.1s
GRPR A A 07 22 12.5
comp=E,210nm,0.1s
GRPR Tuman 7.38 238 *e*PN **Pn** **07 20 35.7 -1.1**
GRPR *e*S **Sn** **07 22 00.5 +1.5**
GRPR pmax pmax
comp=Z,166nm,0.2s
GRPR smax smax
comp=N,197nm,0.1s
GRPR smax smax
comp=E,212nm,0.4s
KZV Kizimen 7.79 25 *e*P **Pn** **07 20 41.6 -1.0**
KZV Kizimen 7.79 25 PN **Pn** **07 20 41.6 -1.0**
NEM2 Nemuro 2 7.79 235 P **Pn** **07 20 39.1 -3.3**
NEM2 *e*S **Sn** **07 22 02.7 -6.5**
TUMR Tumrok 7.90 24 *e*P **Pn** **07 20 44.0 0.0**
TUMR Tumrok 7.90 24 PN **Pn** **07 20 44.0 0.0**
YSS Yuzh-Sakhalins 8.03 265 *e*P **Pn** **07 20 48.1 +2.4**
YSS AMB AMB 07 20 48.9
comp=E,46nm,0.3s
YSS AMB AMB 07 20 49.7
comp=E,110nm,2.0s
YSS *e*S **Sn** **07 22 15.0 +0.1**
YSS A A 07 22 16.0
comp=E,34nm,0.4s
YSS A A 07 22 16.0
comp=E,39nm,0.4s
YSS Yuzh-Sakhalins 8.03 265 *e*Pn **Pn** **07 20 48.1 +2.4**
YSS *e*Sn **Sn** **07 22 13.8 -1.1**
YSS Yuzh-Sakhalins 8.03 265⚠ *e*PN **Pn** **07 20 47.6 +2.0**
YSS pmax pmax
comp=Z,60nm,0.8s
YSS pmax pmax
comp=E,60nm,0.7s
YSS MLR MLR
comp=Z,200nm,14.0s
TYV Tymovskoe 8.14 293 *e*P **Pn** **07 20 50.1 +3.0**
TYV AMB AMB 07 20 51.5
comp=Z,180nm,6.0s
TYV *e*S **Sn** **07 22 16.1 -1.4**
TYV A A 07 22 17.8
comp=Z,290nm,4.0s
TYV A A 07 22 18.0
comp=Z,17nm,0.4s
TYV A A 07 22 18.0
comp=Z,6.0nm,0.4s
TYV Tymovskoe 8.14 293 *e*PN **Pn** **07 20 47.7 +0.6**
TYV pmax pmax
comp=Z,7.0nm,0.9s
ESO Esso 8.15 17 *e*P **Pn** **07 20 48.7 +1.4**
ESO Esso 8.15 17 PN **Pn** **07 20 48.7 +1.4**
JNK Nakash 8.23 239 P **Pn** **07 20 47.1 -1.3**
KMNR Kamenistaya 8.35 23 *e*P **Pn** **07 20 51.0 +1.0**
KMNR Kamenistaya 8.35 23 PN **Pn** **07 20 51.0 +1.0**
KOZ Kozyrevsk 8.53 21 *e*P **Pn** **07 20 52.7 +0.3**
KOZ Kozyrevsk 8.53 21 PN **Pn** **07 20 52.7 +0.3**
KPT Kopyto 8.53 22 *e*P **Pn** **07 20 53.0 +0.5**
KPT Kopyto 8.53 22 PN **Pn** **07 20 53.0 +0.5**
KIRR Kirishev 8.55 23 *e*P **Pn** **07 20 52.2 -0.6**
KIRR Kirishev 8.55 23 PN **Pn** **07 20 52.2 -0.6**
BZMR Bezymyannaya 8.57 23 *e*P **Pn** **07 20 53.3 +0.2**
BZMR Bezymyannaya 8.57 23 PN **Pn** **07 20 53.3 +0.2**
BZWR Bezymyannyi-We 8.60 23 *e*P **Pn** **07 20 53.8 +0.3**
BZWR Bezymyannyi-We 8.60 23 PN **Pn** **07 20 53.8 +0.3**
JAK Akkeshi 8.61 236 P **Pn** **07 20 50.4 -3.3**
JAK *e*S **Sn** **07 22 22.3 -6.9**
ZLN Zelenaya 8.73 24 *e*P **Pn** **07 20 54.7 -0.5**
ZLN Zelenaya 8.73 24 PN **Pn** **07 20 54.7 -0.5**
CIRR Tsirk 8.80 24 *e*P **Pn** **07 20 56.3 +0.1**
CIRR Tsirk 8.80 24 PN **Pn** **07 20 56.3 +0.1**
JSE Soyaes 8.82 253 P **Pn** **07 20 59.0 +2.6**
KRSR Krestovskiy 8.84 23 *e*P **Pn** **07 20 56.6 -0.2**
KRSR Krestovskiy 8.84 23 PN **Pn** **07 20 56.6 -0.2**
KLY Klyuchi 8.95 23 *e*P **Pn** **07 20 58.2 +0.1**
KLY Klyuchi 8.95 23 PN **Pn** **07 20 58.2 +0.1**
JAR Ashorobuto 8.96 241 P **Pn** **07 20 57.5 -0.8**
OKH Okha 9.04 311 *e*P **Pn** **07 21 03.5 +4.1**
JWK2 Keihoku 9.11 256 P **Pn** **07 21 04.8 +4.4**
ASAJ Asahikawa 9.21 248 P **Pn** **07 21 02.6 +0.9**
comp=Z,3.4nm,0.3s,baz=73,slow=16,SNR=14
ASAJ Asahikawa 9.21 248 P **Pn** **07 21 03.5 +1.7**
ASAJ Asahikawa 9.21 248 *e*Pn **Pn** **07 21 03.7 +2.0**
JKK2 Kamakawa 2 9.24 246 P **Pn** **07 21 02.9 +0.7**
BDR Baidarnaya 9.32 24 *e*P **Pn** **07 21 03.3 0.0**
BDR Baidarnaya 9.32 24 PN **Pn** **07 21 03.3 0.0**
SRKR Sorokina 9.38 23 *e*P **Pn** **07 21 03.2 -1.0**
SRKR Sorokina 9.38 23 PN **Pn** **07 21 03.2 -1.0**
SMKR Semkarok 9.40 24 *e*P **Pn** **07 21 03.3 -1.1**
SMKR Semkarok 9.40 24 PN **Pn** **07 21 03.3 -1.1**
KBTR Krutoberegovo 9.50 29 *e*P **Pn** **07 21 03.0 -2.6**
KBTR Krutoberegovo 9.50 29 PN **Pn** **07 21 03.0 -2.6**
JCH Churui 9.61 238 P **Pn** **07 21 04.5 -2.8**
BKI Bering 9.98 41 *e*P **Pn** **07 21 10.1 -2.2**
BKI *e*S Sn 07 22 51.7 -11
BKI Bering 9.98 41 PN **Pn** **07 21 10.1 -2.2**
NKL Nikolayevsk 10.05 305 *e*PN **Pn** **07 21 15.0 +1.8**
NKL pmax pmax
comp=Z,28nm,1.2s
ERM Erimo 10.12 236 *e*P **Pn** **07 21 14.0 -0.2**
ERM Erimo 10.12 236 *e*Pn **Pn** **07 21 12.6 -1.5**
ERM Erimo 10.12 236 *e*PN **Pn** **07 21 11.8 -2.4**
JNBK Urakawa-nobuka 10.17 239 P **Pn** **07 21 11.5 -3.4**
JKB Kayabe 11.41 241 P **Pn** **07 21 27.9 -4.0**
MA2 Magadan 11.59 351 P **Pn** **07 21 34.8 +0.6**
comp=Z,2.6nm,0.3s,baz=169,slow=8.0,SNR=7.5
MA2 LR LR 07 26 35.7
comp=Z,129nm,18.7s,baz=183,slow=40
MA2 Magadan 11.59 351 *e*Pn **Pn** **07 21 36.2 +2.0**
JANG Nango 12.14 235 P Pn 07 21 35.2 -6.6
OFUJ Ofunato 13.00 230 P Pn 07 21 47.2 -6.3
SMY Shemya 13.28 63 *e*Pn **Pn** **07 21 54.3 -2.9**
SMY *e*Sn **Sn** **07 24 22.3 -0.5**
SMY Shemya 13.28 63 *e*PN **Pn** **07 21 54.3 -2.9**
SEY Seymchan 14.80 356 P **Pn** **07 22 19.0 +1.8**
comp=Z,0.3nm,0.3s,baz=166,slow=11,SNR=14
SEY Seymchan 14.80 356 *ce*P **Pn** **07 22 18.9 +1.7**
KLR Kul'dur 15.03 282 P **P** **07 22 27.1 +2.8**
comp=Z,0.0nm,0.3s,baz=72,slow=8.8,SNR=9.0
KLR Kul'dur 15.03 282 *e*P **Pn** **07 22 21.8 +1.5**
USRK Ussuriysk Ar. 16.06 264 P **Pn** **07 22 32.8 -0.7**
comp=Z,0.4nm,0.3s,baz=82,slow=12,SNR=5.7
USRK LR LR 07 28 39.9
comp=Z,75nm,19.2s,baz=27,slow=37
MAJO Matsushiro 16.71 232 *e*P **Pn** **07 22 38.3 -3.4**
MAJO Matsushiro 16.71 232 *e*Pn **Pn** **07 22 38.3 -3.4**
MAJO *e*Sn **Sn** **07 25 47.6 +1.2**
MAJO Matsushiro 16.71 232 *e*P **Pn** **07 22 40.4 -1.3**
MAJO pmax pmax
comp=Z,10.0nm,1.0s
MJAR Matsushiro Arr 16.71 232 P **Pn** **07 22 38.3 -3.4**
comp=Z,0.6nm,0.3s,baz=29,slow=13,SNR=12
MJAR LR LR 07 28 48.2
comp=Z,85nm,20.6s,baz=40,slow=36
YAK Yakutsk 19.64 324 LR LR 07 30 20.0
comp=Z,47nm,21.4s,baz=63,slow=35
YAK Yakutsk 19.64 324 *e*P **Pn** **07 23 19.8 +3.0**
YAK Yakutsk 19.64 324 *e*P **P** **07 23 13.5 -1.4**
YAK *e*S **S** **07 26 44.4 -8.4**
YAK pmax pmax
comp=E,10.0nm,1.4s
YAK pmax pmax
comp=Z,17nm,0.9s
YAK pmax pmax
comp=N,3.0nm,1.1s
YAK smax smax
comp=N,52nm,4.1s
YAK smax smax
comp=E,72nm,4.6s
BILL Bilibino 20.76 13 *ce*P **P** **07 23 25.3 -1.7**
BILL *e**PP sP 07 24 01.1 +13
BILL pmax pmax
comp=Z,6.0nm,0.8s
KSRS Korea Array 22.14 251 P **P** **07 23 40.6 -1.4**
comp=Z,4.8nm,0.8s,baz=54,slow=10.0,SNR=13
KSRS LR LR 07 31 45.5
comp=Z,76nm,19.4s,baz=42,slow=35
KS01 Wonju Array Si 22.14 251 *e*P **P** **07 23 41.4 -0.7**
JNU Nakatsue 23.27 238 LR LR 07 34 23.8
comp=Z,17nm,18.4s,baz=108,slow=40
TIXI Tiksi 26.34 342 LR LR 07 36 03.0
comp=Z,47nm,18.7s,baz=58,slow=39
TIXI Tiksi 26.34 342 *e*P **P** **07 24 23.4 +2.1**
TIXI Tiksi 26.34 342 *e*P **P** **07 24 23.4 +2.1**
TIXI pmax pmax
comp=Z,1.0nm,0.8s
JOW Kunigami 29.54 233 LR LR 07 38 00.9
comp=Z,42nm,18.3s,baz=106,slow=39
H11N2 WAKE ISLAND Hy 30.14 156 T T 07 57 07.6
baz=342,slow=76,SNR=2351
H11N1 WAKE ISLAND Hy 30.15 156 T T 07 57 10.5
baz=342,slow=76,SNR=3919
H11N3 WAKE ISLAND Hy 30.16 156 T T 07 57 10.6
baz=342,slow=76,SNR=1386
HHC Hu-ho-hao-te 31.14 273 *e*P **P** **07 25 06.5 +2.1**
HHC pmax pmax
comp=Z,22nm,0.9s
HHC pmax pmax
comp=Z,65nm,4.8s
H11S1 WAKE ISLAND Hy 31.25 157 T T 07 58 00.8
baz=345,slow=76,SNR=9526
H11S3 WAKE ISLAND Hy 31.26 157 T T 07 58 00.8
baz=345,slow=76,SNR=8774
H11S2 WAKE ISLAND Hy 31.27 157 T T 07 57 56.1
baz=345,slow=76,SNR=7875
IM3 Indian Mountai 32.04 37 *e*P **P** **07 25 12.4 +0.5**
PPLA Purkeypile 32.46 43 *e*P **P** **07 25 17.7 +1.9**
comp=Z,28nm,1.6s
KDAK Kodiak Island 32.47 53 P **P** **07 25 15.4 -0.4**
comp=Z,4.8nm,0.8s,baz=279,slow=13,SNR=4.3
KDAK Kodiak Island 32.47 53 *e*P **P** **07 25 15.6 -0.1**
KDAK Kodiak Island 32.47 53 *i* P **P** **07 25 15.6 -0.1**
CAST Castle Rocks 32.52 42 *e*P **P** **07 25 17.2 +1.0**
comp=Z,3.6nm,0.8s
SKT Skwentna 32.76 45 *e*P **P** **07 25 19.8 +1.5**
comp=Z,7.5nm,1.1s
BPAW Bear Paw Mtn. 33.04 41 *e*P **P** **07 25 21.8 +1.1**
comp=Z,6.3nm,1.0s
KTH Kantishna Hill 33.05 42 *e*P **P** **07 25 21.9 +1.0**
comp=Z,34nm,1.4s
SUA Susitna One 33.14 46 *e*P **P** **07 25 22.0 +0.3**
comp=Z,2.2nm,1.2s
BRLK Bradley Lake 33.17 49 *e*P **P** **07 25 21.8 -0.1**
comp=Z,19nm,1.3s
MLY Manley 33.19 39 *e*P **P** **07 25 23.0 +0.9**
comp=Z,3.7nm,0.8s
TRF Thorofare Moun 33.33 42 *e*P **P** **07 25 24.2 +0.8**
comp=Z,7.8nm,1.0s
COLD Coldfoot 33.60 35 *e*P **P** **07 25 26.3 +0.8**
comp=Z,5.4nm,0.9s
RC01 Rabbit Creek A 33.64 46 *e*P **P** **07 25 26.2 +0.3**
comp=Z,15nm,0.9s
PMR Palmer 33.91 46 *e*P **P** **07 25 29.3 +1.1**
PMR Palmer 33.91 46 *e*P **P** **07 25 29.3 +1.1**
comp=Z,4.1nm,0.9s
PMR Palmer 33.91 46 *e*P **P** **07 25 29.3 +1.1**
PMR pmax pmax
comp=Z,4.0nm,0.9s
MCK McKinley 33.94 42 *e*P **P** **07 25 29.0 +0.5**
MCK McKinley 33.94 42 *e*P **P** **07 25 29.4 +0.9**
comp=Z,12nm,1.0s
MCK McKinley 33.94 42 *e*P **P** **07 25 29.5 +0.9**
MCK pmax pmax
comp=Z,12nm,1.0s
RND Reindeer 33.98 42 *e*P **P** **07 25 29.2 +0.2**
comp=Z,12nm,1.0s
RND Reindeer 33.98 42 *e*P **P** **07 25 29.2 +0.2**
RND pmax pmax
comp=Z,12nm,1.0s
TOLK Toolik Lake Re 34.01 33 *e*P **P** **07 25 30.2 +1.0**
comp=Z,7.7nm,0.6s
MDM Murphy Dome 34.26 40 *e*P **P** **07 25 32.4 +1.1**
comp=Z,8.0nm,0.9s
SML Sawmill 34.27 45 *e*P **P** **07 25 31.8 +0.3**
SML Sawmill 34.27 45 *e*P **P** **07 25 31.7 +0.3**
comp=Z,28nm,0.7s
SML Sawmill 34.27 45 *e*P **P** **07 25 31.7 +0.3**
SML pmax pmax
comp=Z,28nm,0.7s
WRH Wood River Hil 34.31 40 *e*P **P** **07 25 32.2 +0.5**
comp=Z,22nm,1.7s
COLA College 34.41 40 *e*P **P** **07 25 34.1 +1.5**
COLA College 34.41 40 *e*P **P** **07 25 34.1 +1.5**
comp=Z,17nm,0.9s
COLA College 34.41 40 *e*P **P** **07 25 34.1 +1.5**
COLA pmax pmax
comp=Z,17nm,0.9s
CCB Clear Creek Bu 34.43 40 *e*P **P** **07 25 33.2 +0.5**
comp=Z,7.1nm,1.0s
DHY Denali Highway 34.66 43 *e*P **P** **07 25 35.3 +0.4**
comp=Z,9.6nm,1.3s
SCM Sheep Creek Mo 34.75 45 *e*P **P** **07 25 36.4 +0.8**
comp=Z,9.9nm,0.9s
SCM Sheep Creek Mo 34.75 45 *e*P **P** **07 25 36.4 +0.8**
SCM pmax pmax
comp=Z,10.0nm,0.9s
IL1 Eielson Array 34.83 40 *e*P **P** **07 25 36.3 +0.1**
ILAR Eielson Array 34.83 40 P **P** **07 25 36.4 +0.2**
comp=Z,2.8nm,0.9s,baz=262,slow=9.4,SNR=25
ILAR PcP **PcP** **07 28 05.8 -2.1**
comp=Z,0.2nm,0.6s,baz=253,slow=5.6,SNR=3.2
ILB Eielson Array 34.83 40 *e*P **P** **07 25 36.5 +0.3**
KLU Klutina 35.45 46 *e*P **P** **07 25 42.4 +0.8**
comp=Z,12nm,1.1s
FYU Fort Yukon 35.52 37 *e*P **P** **07 25 44.0 +1.9**
comp=Z,23nm,0.9s
DIV Divide 35.56 46 *e*P **P** **07 25 43.6 +1.0**
DIV Divide 35.56 46 *e*P **P** **07 25 43.5 +1.0**
comp=Z,27nm,1.4s
RIDG Independ'e Rid 35.76 42 *e*P **P** **07 25 44.1 -0.1**
comp=Z,19nm,1.2s
DOT Dot Lake 36.11 42 *e*P **P** **07 25 47.2 0.0**
comp=Z,6.8nm,0.8s
SCRK Sand Creek 36.12 41 *e*P **P** **07 25 47.7 +0.3**
comp=Z,11nm,1.2s
BMRM Bremner River 36.14 46 *e*P **P** **07 25 48.5 +1.0**
comp=Z,12nm,1.1s
RAGM Ragged Mountai 36.19 47 *e*P **P** **07 25 49.0 +1.0**
comp=Z,6.5nm,0.8s
TPUB Ta-pu 36.57 239 *e*P **P** **07 25 51.8 +0.3**
comp=Z,89nm,1.8s
XAN Xi'an 36.57 264 P P 07 25 46.4 -5.1
XAN pmax pmax
comp=Z,5.0nm,0.7s
BALM Baldy 37.22 46 *e*P **P** **07 25 58.0 +1.2**
comp=Z,7.2nm,0.9s
EGAK Eagle 37.28 40 *e*P **P** **07 25 57.2 +0.1**
comp=Z,10nm,0.9s
DAWY Dawson 38.12 41 *e*P **P** **07 26 05.5 +1.2**
comp=Z,8.6nm,1.6s
LZH Lanzhou 38.78 271 *e*P **P** **07 26 08.3 -2.0**
LZH pP pP 07 26 21.5 -4.5
LZH sP sP 07 26 27.4 -6.0
LZH pmax pmax
comp=Z,23nm,1.1s
LZH pmax pmax
comp=Z,72nm,4.8s
LZH LR LR
comp=Z,330nm,12.7s
LZH LR LR
comp=Z,330nm,13.2s
LZH LR LR
comp=Z,400nm,16.5s
HYT Haines Junctio 39.58 45 *e*P **P** **07 26 17.5 +0.9**
comp=Z,7.5nm,0.9s
INK Inuvik 39.92 33 P **P** **07 26 20.6 +1.4**
comp=Z,5.8nm,0.7s,baz=297,slow=6.7,SNR=46
WHY Whitehorse 40.87 45 *e*P **P** **07 26 29.5 +2.3**
comp=Z,9.3nm,1.1s
SKAG Skagway 40.98 47 *e*P **P** **07 26 30.4 +2.4**
comp=Z,8.0nm,1.3s
DLBC Dease Lake 43.91 47 *e*P **P** **07 26 54.2 +2.3**
comp=Z,8.7nm,1.2s
WMQ Urumqi 45.27 291 P **P** **07 27 03.6 +0.7**
WMQ pP pP 07 27 12.9 -6.1
WMQ pmax pmax
comp=Z,22nm,0.7s
WMQ pmax pmax
comp=Z,150nm,4.5s
MK32 Makanchi Array 47.10 297 *e*P **P** **07 27 15.8 -1.4**
MK32 *e*PcP **PcP** **07 28 47.9 -0.2**
MKAR Makanchi Array 47.10 297 P **P** **07 27 15.8 -1.4**
comp=Z,0.4nm,0.6s,baz=73,slow=10,SNR=5.4
MKAR PcP **PcP** **07 28 47.9 -0.2**
comp=Z,0.2nm,0.6s,baz=74,slow=1.5,SNR=2.5
MK01 Makanchi Array 47.11 297 *e*P **P** **07 27 15.6 -1.7**
KURK Kurchatov 47.34 303 *e*P **P** **07 27 18.2 -0.7**
KURK *e*PcP **PcP** **07 28 48.9 +0.1**
KURK Kurchatov 47.34 303 *e*P **P** **07 27 18.2 -0.7**
KURK *e* 07 28 48.9

KURBB **Kurchatov Arra** 47.43 303 P P 07 27 18.2 -1.5
comp=Z,1.4nm,0.6s,baz=70,slow=8.5,SNR=16
KURBB PcP PcP 07 28 48.9 -0.2
comp=Z,0.5nm,0.8s,baz=57,slow=6.8,SNR=3.1
RES **Resolute Bay** 49.15 19 P P 07 27 33.7 +1.2
comp=Z,4.8nm,0.6s,baz=291,slow=5.5,SNR=60
RES **Resolute Bay** 49.15 19 *e*P P 07 27 33.6 +1.1
comp=Z,5.4nm,0.5s
RES **Resolute Bay** 49.15 19 *e*P P 07 27 33.6 +1.1
RES pmax pmax
comp=Z,5.0nm,0.5s
YKA **Yellowknife Ar** 49.20 38 P P 07 27 34.1 +1.0
comp=Z,2.9nm,0.9s,baz=298,slow=7.6,SNR=29
BVAR **Borovoye Array** 50.65 309 P P 07 27 44.0 -0.2
comp=Z,5.5nm,0.4s,baz=60,slow=8.0,SNR=34
BVAR PcP PcP 07 29 00.9 +0.1
comp=Z,0.9nm,0.5s,baz=72,slow=4.7,SNR=3.5
SPITS **Spitsbergen Ar** 51.34 350 P P 07 27 48.5 -0.6
comp=Z,10nm,1.0s,baz=2.7,slow=9.1,SNR=6.9
LLLB **Lillooet** 51.67 54 *e*P P 07 27 52.6 +0.7
comp=Z,55nm,0.3s
TULEG **Thule** 52.51 12 *e*P P 07 27 57.5 -0.3
comp=Z,11nm,1.4s
PINE **Pine Mountain** 56.05 60 *e*P P 07 28 26.0 +1.8
comp=Z,6.1nm,0.9s
YBH **Yreka Blue Hor** 56.24 63 P P 07 28 27.0 +1.5
comp=Z,2.4nm,0.8s,baz=36,slow=8.7,SNR=9.5
ARA0 **ARCESS Array S** 56.77 341 *e*P P 07 28 27.2 -1.6
ARCES **ARCESS Array B** 56.77 341 P P 07 28 27.2 -1.6
comp=Z,3.5nm,0.9s,baz=27,slow=10,SNR=4.4
BMO **Blue Mountains** 57.49 57 *e*P P 07 28 35.9 +1.7
comp=Z,3.6nm,0.9s
BMO **Blue Mountains** 57.49 57 P P 07 28 36.0 +1.7
MOD **Modoc Plateau** 57.57 62 *e*P P 07 28 36.3 +1.4
comp=Z,3.4nm,0.6s
J08A **Circle Bar Ran** 57.74 59 *e*P P 07 28 37.6 +1.5
comp=Z,2.5nm,0.9s
MSO **Missoula** 58.14 54 *e*P P 07 28 40.1 +1.3
comp=Z,7.1nm,1.3s
ABKAR **Akbulak array** 58.20 310 *e*P P 07 28 38.5 -0.5
comp=Z,36nm,0.4s
WVOR **Wild Horse Val** 58.22 60 *e*P P 07 28 41.0 +1.6
comp=Z,3.4nm,0.9s
WVOR **Wild Horse Val** 58.22 60 *e*P P 07 28 41.0 +1.6
WVOR pmax pmax
comp=Z,3.0nm,0.9s
AKTO **Aktyubinsk** 58.44 312 P P 07 28 38.2 -2.5
comp=Z,1.0nm,0.4s,baz=45,slow=7.1,SNR=4.0
AKTO LR LR 07 54 12.6
comp=Z,36nm,18.4s,baz=23,slow=36
BEKR **Beckworth** 58.80 64 *e*P P 07 28 44.8 +1.2
comp=Z,3.3nm,1.0s
FFC **Flin Flon** 59.02 41 *e*P P 07 28 45.8 +1.1
comp=Z,7.1nm,1.1s
FFC **Flin Flon** 59.02 41 *e*P P 07 28 45.8 +1.1
FFC pmax pmax
comp=Z,7.0nm,1.1s
BGC **Bolinger Road** 59.05 67 *e*P P 07 28 47.8 +2.6
SUMG **Summit** 59.17 5 *e*P P 07 28 46.4 +0.5
comp=Z,4.9nm,0.5s
SUMG **Summit** 59.17 5 *e*P P 07 28 46.4 +0.5
SUMG pmax pmax
comp=Z,5.0nm,0.5s
PAHR **Pah Rah Range** 59.48 63 *e*P P 07 28 49.5 +1.2
comp=Z,9.8nm,1.4s
LRM **Limekiln Ridge** 59.58 54 *e*P P 07 28 50.5 +1.6
VCNR **Virginia City** 59.58 64 *e*P P 07 28 50.5 +1.5
comp=Z,3.7nm,0.8s
EGMT **Eagleton** 59.61 51 *e*P P 07 28 50.4 +1.5
comp=Z,26nm,1.8s
HLID **Hailey** 59.93 57 *e*P P 07 28 53.0 +1.7
comp=Z,1.9nm,0.9s
CMB **Columbia Colle** 59.94 65 *e*P P 07 28 53.2 +1.9
comp=Z,11nm,1.8s
MCMT **McKenzie Canyo** 59.99 55 *e*P P 07 28 52.8 +1.0
YERR **Yerington** 60.02 64 *e*P P 07 28 53.4 +1.4
comp=Z,12nm,1.5s
BOZ **Bozeman (W)** 60.16 54 *e*P P 07 28 54.3 +1.5
comp=Z,11nm,1.4s
BOZ **Bozeman (W)** 60.16 54 P P 07 28 54.4 +1.5
BMN **Battle Mountai** 60.30 61 *e*P P 07 28 55.4 +1.5
comp=Z,3.9nm,0.6s
KVN **Kaiserville** 60.67 63 *e*P P 07 28 57.7 +1.3
comp=Z,3.7nm,0.7s
RYN **Ryan** 60.68 64 *e*P P 07 28 57.9 +1.4
comp=Z,3.9nm,1.0s
NV01 **Mina Array Sit** 60.94 64 *e*P P 07 28 59.5 +1.1
NVAR **Mina Array Bea** 60.94 64 P P 07 28 59.6 +1.2
comp=Z,2.3nm,0.5s,baz=298,slow=7.6,SNR=29
YHB **Horse Butte** 60.94 54 *e*P P 07 28 59.9 +1.6
comp=Z,9.8nm,1.4s
GCMT **Greycliff** 61.09 53 *e*P P 07 29 01.1 +2.0
YHH **Holmes Hill** 61.11 54 *e*P P 07 29 01.5 +2.1
comp=Z,3.2nm,1.0s
H17A **Grant Village** 61.51 54 *e*P P 07 29 05.3 +3.1
comp=Z,4.6nm,1.2s
IMW **Indian Meadow** 61.64 55 *e*P P 07 29 05.2 +2.1
comp=Z,3.3nm,1.1s
RLMT **Red Lodge** 61.74 53 *e*P P 07 29 05.7 +2.0
comp=Z,27nm,2.0s
FXWY **Fox Creek** 61.76 55 *e*P P 07 29 05.6 +1.8
comp=Z,11nm,2.0s
MOOW **Moose Ponds** 61.84 55 *e*P P 07 29 06.3 +2.0
comp=Z,11nm,1.9s
TPAW **Teton Pass** 61.90 55 *e*P P 07 29 06.8 +2.0
comp=Z,20nm,1.9s
LOHW **Long Hollow** 62.01 55 *e*P P 07 29 07.5 +2.1
comp=Z,12nm,1.8s
REDW **Red Top Meadow** 62.04 55 *e*P P 07 29 07.6 +1.9
comp=Z,8.0nm,1.4s
LAO **LASA Array** 62.30 50 *e*P P 07 29 11.3 +4.1
comp=Z,19nm,1.5s
SPUT **South Promonto** 62.49 58 *e*P P 07 29 10.1 +1.5
comp=Z,6.5nm,1.3s
R11A **Troy Canyon, C** 62.62 62 *e*P P 07 29 10.6 +1.0
comp=Z,3.0nm,0.8s
COEN **Coen** 62.70 192 *e*P P 07 29 13.3 +3.4
comp=Z,13nm,1.2s
DUG **Dugway, Tooele** 63.02 59 *e*P P 07 29 13.9 +1.8
DUG **Dugway, Tooele** 63.02 59 *e*P P 07 29 13.8 +1.6
comp=Z,4.8nm,1.0s
DUG **Dugway, Tooele** 63.02 59 P P 07 29 13.9 +1.8
FIA1 **FINESS Array S** 63.11 335 *e*P P 07 29 11.0 -1.2
comp=Z,44nm,1.9s
FIA0 **FINESS Array S** 63.11 335 *e*P P 07 29 11.1 -1.1
FIA0 **FINESS Array S** 63.11 335 *e*P P 07 29 11.1 -1.1
FINES **FINESS Array B** 63.11 335 P P 07 29 11.1 -1.1
comp=Z,2.6nm,0.4s,baz=154,slow=27,SNR=35
PD31 **Pinedale Array** 63.14 55 *e*P P 07 29 14.3 +1.3
PDAR **Pinedale Array** 63.14 55 P P 07 29 13.7 +0.6
comp=Z,1.5nm,0.8s,baz=304,slow=2.7,SNR=13
PDAR **Pinedale Array** 63.14 55 *e*P P 07 29 13.8 +0.8
TPNV **Topopah Spring** 63.14 64 *e*P P 07 29 13.7 +0.7
comp=Z,4.7nm,1.0s
JLU **Jordanelle** 63.53 58 *e*P P 07 29 17.7 +2.1
comp=Z,3.9nm,1.8s
SFJD **Kangerlussuaq** 63.54 11 P P 07 29 14.1 -0.8
comp=Z,2.9nm,0.5s,baz=336,slow=10.0,SNR=2.9
NLU **North Lily Min** 63.60 59 *e*P P 07 29 17.6 +1.5
comp=Z,3.6nm,1.2s
MPU **Maple Canyon** 63.81 59 *e*P P 07 29 18.8 +1.3
comp=Z,6.0nm,1.3s
SHPR **Sheep Range** 64.09 64 *e*P P 07 29 20.8 +1.6
comp=Z,3.0nm,1.2s
MTN **Manton Dam** 64.23 205 *e*P P 07 29 20.4 +0.3
comp=Z,30nm,1.8s
TCRU **Three Creeks R** 64.28 60 *e*P P 07 29 20.4 -0.2
comp=Z,20nm,1.9s
CCUT **Cedar City** 64.46 62 *e*P P 07 29 23.2 +1.4
comp=Z,4.3nm,1.1s
MSU **Marysvale** 64.51 60 *e*P P 07 29 23.5 +1.4
TMUT **Trail Mountain** 64.54 59 *e*P P 07 29 23.4 +1.0
comp=Z,15nm,1.9s
P17A **Butcher Ranch,** 64.69 59 *e*P P 07 29 25.2 +2.0
comp=Z,4.4nm,1.1s
ULM **Lac du Bonnet** 64.81 42 P P 07 29 23.8 +0.2
comp=Z,1.6nm,0.5s,baz=309,slow=7.7,SNR=5.7
P18A **Preston Nutter** 64.86 58 *e*P P 07 29 25.8 +1.3
comp=Z,3.3nm,0.7s
LCMT **Little Creek M** 64.89 62 *e*P P 07 29 26.0 +1.5
comp=Z,4.6nm,0.9s
SRU **San Rafael Swe** 65.06 59 *e*P P 07 29 26.8 +1.2
comp=Z,5.9nm,1.2s
SRU **San Rafael Swe** 65.06 59 P P 07 29 27.1 +1.5
KNB **Kanab** 65.14 62 *e*P P 07 29 28.1 +2.0
comp=Z,7.2nm,1.1s
KNB **Kanab** 65.14 62 P P 07 29 28.1 +2.0
KNB pmax pmax
comp=Z,7.0nm,1.1s
RSSD **Black Hills** 65.17 51 *e*P P 07 29 27.4 +1.1
comp=Z,5.2nm,0.6s
PSI **Prapat** 65.55 245 P P 07 29 32.3 +3.4
U15A **North Rim** 65.85 62 *e*P P 07 29 32.4 +1.5
comp=Z,4.7nm,1.2s
PV05 **Paradox Valley** 66.58 59 *e*P P 07 29 36.6 +1.2
comp=Z,20nm,1.7s
PV07 **Paradox Valley** 66.58 58 *e*P P 07 29 37.4 +2.0
comp=Z,8.1nm,1.4s
PV03 **Paradox Valley** 66.60 58 *e*P P 07 29 36.5 +0.9
comp=Z,4.7nm,1.3s
NB2 **NORSAR Subarra** 67.14 342 P P 07 29 38.1 -0.3
comp=Z,0.6nm,0.5s,baz=25,slow=6.5
NB200 **NORSAR Array S** 67.14 342 *e*P P 07 29 37.4 -0.9
NOA **NORSAR Array B** 67.14 342 P P 07 29 37.4 -0.9
comp=Z,0.6nm,0.4s,baz=30,slow=6.4,SNR=10
NOA LR LR 08 03 34.3
comp=Z,10nm,19.5s,baz=30,slow=40
ISCO **Idaho Springs** 67.34 55 *e*P P 07 29 41.6 +1.3
comp=Z,4.6nm,1.4s
ISCO **Idaho Springs** 67.34 55 *e*P P 07 29 41.6 +1.3
ISCO pmax pmax
comp=Z,5.0nm,1.4s
HFS **Hagfors** 67.41 340 P P 07 29 39.4 -0.6
comp=Z,1.7nm,0.5s,baz=64,slow=3.4,SNR=12
AFI **Afiamalu** 68.75 145 LR LR 07 54 33.3
comp=Z,22nm,21.5s,baz=142,slow=31
MAK **Makhachkala** 68.81 311 *e*P P 07 29 46.3 -2.8
MAK *e*S S 07 38 44.0 -3.7
MAK MLR MLR
comp=Z,197nm,16.0s
WR1 **Warramunga Arr** 70.20 200 *e*P P 07 29 56.8 -1.0
comp=Z,7.1nm,0.8s
WRA **Warramunga Arr** 70.20 200 P P 07 29 56.8 -1.0
comp=Z,1.5nm,0.7s,baz=16,slow=6.7,SNR=11
DZM **Mont Dzumac** 70.78 168 *e*LR LR 07 29 28.1
comp=Z,480nm,23.1s
AKASG **Malin Array Be** 70.84 327 P P 07 30 00.6 -0.8
comp=Z,1.1nm,0.4s,baz=31,slow=6.1,SNR=4.8
AKBB **Malin Array Si** 70.84 327 *e*P P 07 30 00.5 -0.9
comp=Z,2.2nm,0.9s
AKBB **Malin Array Si** 70.84 327 *e*P P 07 30 00.5 -0.9
AKBB pmax pmax
comp=Z,2.0nm,0.9s
319A **Douglas** 71.16 64 *e*P P 07 30 05.2 +1.4
comp=Z,8.1nm,1.0s
BUR08 **Bucovina Ar. S** 74.85 327 *e*P P 07 30 24.8 -0.5
BURAR **Bucovina Array** 74.87 327 ‖ *i*P P 07 30 25.1 -0.4
EKA **Eskdalemuir Ar** 75.13 347 P P 07 30 26.5 -0.2
comp=Z,4.3nm,0.4s,baz=23,slow=5.6,SNR=36
DPC **Dobruska-Polom** 75.43 334 *e*P P 07 30 29.6 +1.0
DPC **Dobruska-Polom** 75.43 334 *e*P P 07 30 29.6 +1.0
CLL **Collm** 75.51 336 *i* P P 07 30 28.9 0.0
comp=Z,4.0nm,0.5s
CLL **Collm** 75.51 336 *i* P P 07 30 28.9 0.0
CLL pmax pmax
comp=Z,4.0nm,0.5s
TX31 **Lajitas Ar. Si** 75.97 62 *e*P P 07 30 33.1 +1.0
TXAR **Lajitas Array** 75.97 62 P P 07 30 33.0 +0.9
comp=Z,3.0nm,0.7s,baz=298,slow=4.7,SNR=34
TXAR **Lajitas Array** 75.97 62 P P 07 30 33.0 +0.9
TXAR pmax pmax
comp=Z,3.0nm,0.7s
SLBS **Sierra La Lagu** 76.27 70 *e*P P 07 30 36.4 +2.6
comp=Z,87nm,1.9s
MLR **Muntele Rosu** 76.39 326 P P 07 30 34.3 +0.1
comp=Z,0.5nm,0.5s,baz=302,slow=15,SNR=5.1
MLR **Muntele Rosu** 76.39 326 ‖ *i*P P 07 30 35.0 +0.8
VOIR 76.77 326 ‖ *i*P P 07 30 36.9 +0.6
KHC **Kasperske Hory** 77.32 335 *e*P P 07 30 40.1 +0.9
KHC **Kasperske Hory** 77.32 335 *e*P P 07 30 40.1 +0.9
GEC2 **GERESS Array S** 77.54 335 *e*P P 07 30 38.9 -1.7
comp=Z,11nm,1.5s
GEC2 **GERESS Array S** 77.54 335 *e*P P 07 30 38.9 -1.7
GEC2 pmax pmax
comp=Z,11nm,1.5s
GERES **GERESS Array B** 77.54 335 P P 07 30 40.8 +0.2
comp=Z,1.5nm,0.6s,baz=36,slow=5.4,SNR=10
BR101 **Keskin Array S** 77.95 317 *e*P P 07 30 43.2 +0.2
BR131 **Keskin Array S** 77.95 317 *e*P P 07 30 43.5 +0.4
BRTR **Keskin Array B** 77.95 317 P P 07 30 43.2 +0.2
comp=Z,1.6nm,0.6s,baz=51,slow=4.6,SNR=11
MMAI **Mount Meron Ar** 82.53 312 P P 07 31 08.3 +0.6
comp=Z,1.8nm,0.4s,baz=46,slow=6.2,SNR=6.0
ESDC **Sonseca Array** 90.42 344 P P 07 31 46.4 +0.2
comp=Z,0.3nm,0.3s,baz=2.2,slow=4.7,SNR=3.9
CPUP **Villa Florida** 146.93 60 PKPbc PKPbc 07 38 26.7 -0.3
comp=Z,3.2nm,1.1s,baz=342,slow=1.0,SNR=5.2

IDC ***23*** *07:21:51.1±0.5,23.97S×175.88W,h0km,mb4.4/19, mb1 4.6/20,mb1mx4.5/43,mbtmp4.4/20,ML3.9/1,MS3.8/20, Ms1 3.8/20,ms1mx3.6/44,Error ellipse: s-maj=17.7km s-min=14.7km az=108.0*

ISCJB ***23*** *07:21:55.0±2.5,23.96S±0.05×175.93W±0.05, h32km±17km,mb4.7/77,MS3.9/19,Error ellipse: s-maj=8.6km s-min=7.0km az=44.3*

BJI ***23*** *07:21:56.1,23.751S×175.26W,h45km,mb5.1/23, mB5.4/17,Ms5.1/5,Ms7 4.8/5*

NEIC ***23*** *07:21:58.1±0.8,23.92S×175.90W,h45km±7km,mb4.8/58, Error ellipse: s-maj=6.7km s-min=5.3km az=128.0*

ISC 23 07:21:53.3±0.9,23.94S±0.06×175.69W±0.08,h15km±5km, n180,σ1§45/181,mb4.7/77,MS3.9/19,1C,Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
RAO	**Raoul Island**	5.66	200	*e*Pn	Op Pn	07 23 19.6	+2.8
NIUE	**Niue**	7.22	49	P	Pn	07 23 33.5	-4.8
	baz=7.0,SNR=4.1						
MSVF	**Nonsavu**	8.50	315	*e*Pn	Pn	07 23 57.9	+1.9
AFI	**Afiamalu**	10.64	21	Pn	Pn	07 24 21.3	-4.0
	14nm,0.3s,baz=144,slow=8.1,SNR=13						
AFI				Sn	Sn	07 26 07.7	-17
	2.2nm,0.3s,baz=81,slow=18,SNR=1.8						
AFI	**Afiamalu**	10.64	21	*e*Pn	Pn	07 24 23.0	-2.3
RAR	**Rarotonga**	14.95	83	Pn	Pn	07 25 17.9	-6.3
	19nm,0.3s,baz=243,slow=8.0,SNR=27						
RAR				Sn	Sn	07 27 49.8	-20
	2.4nm,0.3s,baz=105,slow=17,SNR=3.1						
RAR				LR	LR	07 31 45.7	
	comp=Z,265nm,19.1s,baz=278,slow=39						
RAR	**Rarotonga**	14.95	83	*e*Pn	Pn	07 25 28.0	-1.7
	92nm,0.6s						
URZ	**Urewera**	15.54	202	Pn	Pn	07 25 29.1	-2.7
	0.5nm,0.3s,baz=12,slow=9.4,SNR=2.7						
URZ				Sn	Sn	07 28 10.7	-13
	0.3nm,0.3s,baz=49,slow=19,SNR=2.8						
URZ	**Urewera**	15.54	202	*e*Pn	Pn	07 25 31.3	-0.5
URZ				*e*Sn	Sn	07 28 10.7	-13
FUNA	**Funafuti**	16.09	341	*e*Pn	Pn	07 25 38.6	-0.4
	59nm,1.0s						
DZM	**Mont Dzumac**	16.55	273	Pn	P	07 25 46.0	-1.6
	0.1nm,0.3s,baz=135,slow=20,SNR=2.2						
DZM				LR	LR	07 30 56.8	
	comp=Z,310nm,21.1s,baz=186,slow=33						
DZM	**Mont Dzumac**	16.55	273	*e*Pn	Pn	07 25 45.3	+0.2
	75nm,1.5s						
BKZ	**Black Stump Fm**	16.57	202	*e*Pn	P	07 25 48.2	+0.6
	5.2nm,0.9s						
HIZ	**Hauiti**	16.61	207	*e*Pn	P	07 25 48.2	+0.2
	35nm,1.4s						
BFZ	**Birch Farm**	18.02	200	*e*Pn	P	07 26 04.4	+0.8
	42nm,1.3s						
SNZO	**South Karori**	19.10	203	*e*P	P	07 26 15.1	-0.3
	125nm,1.3s						
OXZ	**Oxford**	21.82	205	*e*P	P	07 26 45.5	+0.5
	14nm,1.1s						
RPZ	**Rata Peaks**	22.54	206	P	P	07 26 50.2	-2.5
	5.0nm,0.8s,baz=180,slow=20,SNR=2.7						
PPT	**Papeete**	25.21	80	LR	LR	07 36 49.1	
	comp=Z,247nm,18.1s,baz=277,slow=35						
HNR	**Honiara**	27.36	298	P	P	07 27 37.8	-0.3
	27nm,0.3s,baz=344,slow=7.5,SNR=3.5						
HNR				LR	LR	07 36 43.2	
	comp=Z,149nm,21.1s,baz=182,slow=33						
EIDS	**Eidsvold**	30.19	260	*e*P	P	07 28 03.1	-0.1
	12nm,1.2s						
CMSA	**Cobar Meteorol**	34.87	249	P	P	07 28 42.8	-1.4
	baz=35						
CTA	**Charters Tower**	35.42	269	P	P	07 28 48.1	-0.8
	9.9nm,0.5s,baz=93,slow=10,SNR=28						
CTA	**Charters Tower**	35.42	269	P	P	07 28 48.6	-0.4
	baz=36						
CTAO	**Charters Tower**	35.42	269	*e*P	P	07 28 48.3	-0.6
	13nm,0.8s						
TOO	**Toolangi**	35.76	238	P	P	07 28 51.2	-0.6
	baz=36						
QLP	**Quilpie**	36.24	257	P	P	07 28 56.6	+0.7
	baz=36,SNR=3.2						
MTSU	**Mount Surprise**	37.68	271	P	P	07 29 08.0	-0.3
	baz=38,SNR=5.7						
PMG	**Port Moresby**	38.27	286	P	P	07 29 12.2	-1.1
	20nm,0.6s,baz=110,slow=6.7,SNR=5.5						
PMG	**Port Moresby**	38.27	286	*e*P	P	07 29 12.5	-0.7
	30nm,0.9s						
STKA	**Stephens Creek**	38.37	248	P	P	07 29 12.7	-1.2
	2.0nm,0.7s,baz=95,slow=8.2,SNR=4.5						
STKA				LR	LR	07 44 08.8	
	comp=Z,297nm,18.2s,baz=43,slow=35						
STKA	**Stephens Creek**	38.37	248	P	P	07 29 12.8	-1.2
	baz=39						
COEN	**Coen**	40.02	277	P	P	07 29 28.1	+0.1
	baz=40						
HTT	**Hallett**	40.66	246	P	P	07 29 32.5	-0.6
	baz=41						
QIS	**Mount Isa**	41.38	266	P	P	07 29 38.3	-1.0
	baz=42						
BBOO	**Buckleboo**	43.06	247	P	P	07 29 51.8	-0.9
	baz=43						
AS01	**Alice Springs**	45.87	260	*e*P	P	07 30 14.4	-0.9
AS31	**Alice Springs**	45.91	260	*e*P	P	07 30 15.6	-0.1
	2.6nm,1.1s						
ASAR	**Alice Springs**	45.91	260	P	P	07 30 14.0	-1.7
	5.0nm,0.8s,baz=97,slow=8.2,SNR=36						
ASAR				PcP	PcP	07 31 52.1	-0.6
	1.0nm,0.7s,baz=98,slow=4.8,SNR=3.7						
ASAR				LR	LR	07 48 54.1	
	comp=Z,249nm,18.4s,baz=106,slow=36						
WC3	**Warramunga Arr**	46.30	265	*e*P	P	07 30 16.7	-2.0
	9.2nm,1.0s						
WB2	**Warramunga Arr**	46.32	265	*e*P	P	07 30 16.5	-2.4
WRAB	**Tennant Creek**	46.33	265	*e*P	P	07 30 15.1	-3.9
	19nm,1.4s						
WR1	**Warramunga Arr**	46.33	265	*e*P	P	07 30 17.0	-2.0
	7.1nm,0.8s						
WR1				*e*PcP	PcP	07 31 52.9	-1.3
WRA	**Warramunga Arr**	46.33	265	P	P	07 30 17.0	-2.0
	4.4nm,0.6s,baz=103,slow=8.0,SNR=40						
WRA				PcP	PcP	07 31 52.9	-1.3
	2.3nm,1.0s,baz=101,slow=3.5,SNR=3.9						
WRA				LR	LR	07 48 35.2	
	comp=Z,250nm,20.4s,baz=135,slow=35						
FORT	**Forrest**	49.99	249	P	P	07 30 46.1	-1.0
	baz=50						
WRKA	**Warakurna**	50.67	257	P	P	07 30 50.8	-1.6
	baz=51,SNR=15						
KNRA	**Kununurra**	52.63	268	P	P	07 31 06.3	-0.7
	baz=53,SNR=4.1						
GUMO	**Guam**	53.63	310	LR	LR	07 51 26.2	
	comp=Z,44nm,21.1s,baz=150,slow=33						
VNDA	**Vanda**	54.71	186	P	P	07 31 22.6	+1.1
	1.7nm,0.9s,baz=9.9,slow=6.1,SNR=7.4						
VNDA				PcP	PcP	07 32 24.8	+0.8
	1.1nm,0.8s,baz=358,slow=5.5,SNR=4.0						
VNDA				LR	LR	07 50 58.4	
	comp=Z,66nm,20.5s,baz=216,slow=32						
VNDA	**Vanda**	54.71	186	*e*P	P	07 31 22.4	+1.0
VNDA				*e*PcP	PcP	07 32 19.4	-4.5
SOEI	**Soe**	58.78	273	*e*P	P	07 31 53.1	+1.6
	19nm,1.0s						
BATI	**Baumata**	59.16	272	LR	LR	07 56 49.7	
	comp=Z,149nm,19.6s,baz=330,slow=36						
BLDU	**Ballidu**	59.66	247	P	P	07 31 55.8	-1.5
	baz=60,SNR=6.2						
MORW	**Morawa**	60.55	249	P	P	07 32 02.1	-1.3
	baz=61,SNR=3.2						
JCJ	**Chichijima**	65.02	319	LR	LR	07 56 14.0	
	comp=Z,90nm,21.1s,baz=140,slow=32						
QSPA	**South Pole Qui**	66.15	180	P	P	07 32 41.3	+1.4
	7.5nm,0.9s,baz=25,slow=2.5,SNR=15						
QSPA				LR	LR	07 58 26.7	
	comp=Z,91nm,19.3s,baz=281,slow=33						
JOW	**Kunigami**	74.00	310	LR	LR	08 02 40.1	
	comp=Z,42nm,19.3s,baz=148,slow=33						
MJAR	**Matsushiro Arr**	74.23	323	P	P	07 33 29.1	-0.6
	1.3nm,0.6s,baz=164,slow=10,SNR=4.2						
MJAR				LR	LR	08 00 33.2	
	comp=Z,37nm,22.0s,baz=25,slow=31						
MAJO	**Matsushiro**	74.23	323	*e*P	P	07 33 29.1	-0.6
MAW	**Mawson**	79.06	199	P	P	07 33 56.6	+0.1
	7.7nm,1.0s,baz=68,slow=1.6,SNR=4.8						
MAW	**Mawson**	79.06	199	*e*P	P	07 33 58.0	+1.5
	2.3nm,1.1s						
PETK	**Petropavlovsk-**	80.14	344	P	P	07 34 01.1	-1.4
	6.1nm,0.8s,baz=129,slow=8.2,SNR=5.9						
PETK				LR	LR	08 04 54.0	
	comp=Z,49nm,19.5s,baz=143,slow=32						
PETK	**Petropavlovsk-**	80.14	344	*e*P	P	07 34 03.0	+0.5
PEA1	**Petropavlovsk-**	80.14	344	*e*P	P	07 34 01.1	-1.4
ISA	**Isabella, Lake**	80.26	44	*e*P	P	07 34 05.5	+1.8
	4.9nm,1.0s						
KSRS	**Korea Array**	80.86	318	P	P	07 34 07.9	+1.2
	1.3nm,0.8s,baz=45,slow=38,SNR=3.4						
KSRS				LR	LR	08 05 51.0	
	comp=Z,52nm,19.2s,baz=145,slow=33						
WAKR	**Walker**	81.45	41	*e*P	P	07 34 12.3	+2.2
	6.4nm,1.2s						
VCNR	**Virginia City**	81.83	41	*e*P	P	07 34 13.5	+1.4
	5.3nm,1.2s						
NV01	**Mina Array Sit**	82.09	42	*e*P	P	07 34 14.5	+1.0
NVAR	**Mina Array Bea**	82.09	42	P	P	07 34 15.2	+1.7
	2.4nm,0.9s,baz=223,slow=9.3,SNR=17						
NVAR				LR	LR	08 06 10.4	
	comp=Z,71nm,18.6s,baz=94,slow=32						
NV11	**Mina Array Sit**	82.19	42	*e*P	P	07 34 15.4	+1.5
	0.3nm,1.0s						
TPNV	**Topopah Spring**	82.46	44	*e*P	P	07 34 17.1	+1.7
	3.3nm,1.1s						
Y14A	**Wickenburg**	82.83	48	*e*P	P	07 34 19.1	+1.9
	3.0nm,0.8s						
USRK	**Ussuriysk Ar.**	82.99	325	P	P	07 34 18.5	+0.8
	4.0nm,0.5s,baz=131,slow=5.8,SNR=6.7						
MOD	**Modoc Plateau**	83.14	38	*e*P	P	07 34 19.5	+0.8
	2.2nm,1.0s						
TUC	**Tucson**	83.46	51	*e*P	P	07 34 22.4	+1.9
	4.4nm,1.0s						
NJ2	**Nanjing**	83.70	309	*e*P	P	07 34 21.8	+0.1
NJ2				pmax	pmax		
	comp=Z,14nm,0.6s						
SYO	**Syowa Base**	83.84	192	*e*P	P	07 34 19.0	-2.9
X16A	**Lo Mia Camp, P**	84.17	48	*e*P	P	07 34 26.6	+2.3
	4.3nm,0.9s						
LCMT	**Little Creek M**	84.44	45	*e*P	P	07 34 27.2	+1.6
	7.2nm,1.1s						
SNAA	**Sanae**	84.52	178	P	P	07 34 25.1	-0.3
SNAA	**Sanae**	84.52	178	P	P	07 34 25.5	+0.1
	7.4nm,0.9s,baz=204,slow=10.0,SNR=18						
SNAA	**Sanae**	84.52	178	*e*P	P	07 34 25.5	+0.1
	9.1nm,0.9s						
VNA3	**Neumayer Olymp**	84.58	175	P	P	07 34 25.7	+0.1
CCUT	**Cedar City**	84.67	45	*e*P	P	07 34 28.3	+1.4
	5.2nm,1.0s						
KNB	**Kanab**	84.72	46	*e*P	P	07 34 29.1	+2.1
	6.8nm,1.0s						
U15A	**North Rim**	84.73	46	*e*P	P	07 34 29.4	+2.2
	6.1nm,0.8s						
VNA2	**Neumayer--Watz**	85.04	176	P	P	07 34 28.3	+0.4
	baz=146,slow=4.1						
VNA1	**Neumayer--Stat**	85.26	176	P	P	07 34 29.2	+0.2
X18A	**Snowflake**	85.26	49	*e*P	P	07 34 31.4	+1.6
	4.2nm,0.9s						
PLCA	**Paso Flores**	85.38	133	LR	LR	08 07 05.3	
	comp=Z,42nm,18.2s,baz=206,slow=32						
MTPU	**Mount Pierson**	85.72	45	*e*P	P	07 34 34.8	+2.6
	5.8nm,1.1s						
KLR	**Kul'dur**	86.56	329	P	P	07 34 37.0	+1.4
	0.3nm,0.9s,baz=105,slow=4.3						
PSI	**Prapat**	86.91	274	*e*P	P	07 34 38.0	-0.4
	7.2nm,0.8s						
MNTX

	3.5nm,1.0s								
P17A	**Butcher Ranch,**	**87.46**	**45**	*eP*		**P**		**07 34 42.3**	**+1.8**
	3.7nm,1.0s								
PMR	**Palmer**	**87.88**	**12**	*eP*		**P**		**07 34 40.5**	**-1.1**
	7.7nm,1.0s								
GHO	**Glory Hole Cre**	**88.08**	**12**	*eP*		**P**		**07 34 41.6**	**-1.2**
	10nm,0.9s								
BMRM	**Bremner River**	**88.28**	**15**	*eP*		**P**		**07 34 44.6**	**+0.9**
	9.0nm,1.0s								
SCM	**Sheep Creek Mo**	**88.46**	**13**	*eP*		**P**		**07 34 45.4**	**+0.8**
	9.4nm,0.9s								
CAST	**Castle Rocks**	**89.03**	**10**	*eP*		**P**		**07 34 46.4**	**-0.8**
	5.6nm,0.8s								
KTH	**Kantishna Hill**	**89.36**	**11**	*eP*		**P**		**07 34 48.7**	**-0.1**
	6.7nm,0.9s								
TRF	**Thorofare Moun**	**89.37**	**11**	*eP*		**P**		**07 34 49.1**	**+0.2**
	12nm,1.0s								
RND	**Reindeer**	**89.59**	**12**	*eP*		**P**		**07 34 50.3**	**+0.4**
	10nm,1.0s								
ENH	**Enshi**	**89.72**	**303**	*eP*		**P**		**07 34 52.8**	**+1.6**
	25nm,1.2s								
PAX	**Paxson**	**89.87**	**13**	*eP*		**P**		**07 34 51.9**	**+0.8**
	3.1nm,0.9s								
MCK	**McKinley**	**89.87**	**12**	*eP*		**P**		**07 34 51.9**	**+0.8**
	9.8nm,1.0s								
PDAR	**Pinedale Array**	**90.02**	**42**	P		**P**		**07 34 53.1**	**+0.6**
	0.4nm,0.7s,baz=200,slow=3.0,SNR=3.7								
DLBC	**Dease Lake**	**90.39**	**22**	*eP*		**P**		**07 34 54.3**	**+0.6**
	3.5nm,0.9s								
RIDG	**Independ'e Rid**	**90.68**	**13**	*eP*		**P**		**07 34 56.0**	**+1.1**
	12nm,1.4s								
WRH	**Wood River Hil**	**90.70**	**12**	*eP*		**P**		**07 34 55.8**	**+0.9**
	8.1nm,1.0s								
PBKT	**Sadao Pong**	**90.72**	**288**	*eP*		**P**		**07 34 56.9**	**+0.8**
	9.4nm,1.2s								
DOT	**Dot Lake**	**90.77**	**14**	*eP*		**P**		**07 34 56.6**	**+1.3**
	16nm,0.9s								
CCB	**Clear Creek Bu**	**90.91**	**12**	*eP*		**P**		**07 34 55.9**	**+0.1**
	4.1nm,0.8s								
SCRK	**Sand Creek**	**91.07**	**13**	*eP*		**P**		**07 34 57.3**	**+0.5**
	3.3nm,1.0s								
COLA	**College**	**91.11**	**12**	*eP*		**P**		**07 34 57.5**	**+0.8**
	6.8nm,0.8s								
MDM	**Murphy Dome**	**91.12**	**11**	*eP*		**P**		**07 34 57.3**	**+0.4**
	7.4nm,1.1s								
IM3	**Indian Mountai**	**91.19**	**9**	*eP*		**P**		**07 34 57.9**	**+0.8**
IL1	**Eielson Array**	**91.20**	**12**	*eP*		**P**		**07 34 57.5**	**+0.3**
ILAR	**Eielson Array**	**91.20**	**12**	P		**P**		**07 34 57.8**	**+0.6**
	2.3nm,0.9s,baz=218,slow=5.8,SNR=20								
ILB	**Eielson Array**	**91.20**	**12**	*eP*		**P**		**07 34 57.8**	**+0.6**
XAN	**Xi'an**	**91.90**	**306**	P		**P**		**07 35 02.5**	**+1.2**
XAN				pmax		pmax			
	comp=Z,11nm,0.9s								
XAN				pmax		pmax			
	comp=Z,83nm,4.3s								
DAWY	**Dawson**	**92.18**	**15**	*eP*		**P**		**07 35 03.3**	**+1.4**
	4.1nm,1.1s								
KMI	**Kunming**	**92.79**	**296**	P		**P**		**07 35 06.8**	**+1.0**
KMI				pmax		pmax			
	comp=Z,19nm,0.7s								
KMI				pmax		pmax			
	comp=Z,120nm,5.5s								
CM01	**Chiang Mai Arr**	**93.23**	**289**	*eP*		**P**		**07 35 09.4**	**+1.7**
CMAR	**Chiang Mai Arr**	**93.25**	**289**	P		**P**		**07 35 09.7**	**+1.9**
	3.0nm,0.3s,baz=134,slow=2.9,SNR=28								
HHC	**Hu-ho-hao-te**	**93.27**	**313**	*eP*		**P**		**07 35 09.3**	**+1.8**
HHC				pmax		pmax			
	comp=Z,20nm,1.5s								
HHC				pmax		pmax			
	comp=Z,32nm,8.2s								
CHTO	**Chiang Mai**	**93.40**	**289**	*eP*		**P**		**07 35 10.2**	**+1.7**
	9.5nm,0.8s								
CD2	**Chengdu**	**94.42**	**302**	*eP*		**P**		**07 35 13.4**	**+0.4**
JTS	**JuntasAbangare**	**94.78**	**81**	LR		LR		08 07 17.1	
	comp=Z,27nm,21.3s,baz=256,slow=29								
LZH	**Lanzhou**	**96.53**	**306**	*eP*		**P**		**07 35 23.0**	**+0.3**
LZH				pP		sP		07 35 36.0	+6.5
LZH				sP		pP		07 35 40.6	+13
LZH				*e*PP		**PP**		**07 39 20.3**	**+3.0**
LZH				pmax		pmax			
	comp=Z,17nm,1.4s								
LZH				pmax		pmax			
	comp=Z,83nm,9.2s								
LZH				LR		LR			
	comp=N,230nm,17.5s								
LZH				LR		LR			
	comp=E,240nm,17.2s								
LZH				LR		LR			
	comp=Z,300nm,19.6s								
YKA	**Yellowknife Ar**	**98.74**	**24**	P		**P**		**07 35 32.1**	**+0.4**
	0.1nm,0.7s,baz=229,slow=3.6,SNR=3.7								
LPAZ	**La Paz**	**98.78**	**112**	LR		LR		08 13 03.5	
	comp=Z,42nm,18.3s,baz=168,slow=31								
WMQ	**Urumqi**	**110.77**	**310**	*e*PKP		**PKiKP**		**07 40 25.1**	**-0.6**
MK32	**Makanchi Array**	**115.09**	**312**	*e*PKiKP		**PKPdf**		**07 40 32.9**	**-0.9**
MKAR	**Makanchi Array**	**115.09**	**312**	PKP		**PKPdf**		**07 40 32.9**	**-0.9**
	0.4nm,0.5s,baz=180,slow=1.8,SNR=4.5								
KURK	**Kurchatov**	**117.95**	**316**	*e*PKPdf		**PKPdf**		**07 40 38.3**	**-0.8**
KURBB	**Kurchatov Arra**	**118.00**	**316**	PKP		**PKPdf**		**07 40 38.3**	**-0.9**
	0.6nm,0.8s,baz=115,slow=1.8,SNR=5.9								
KSH	**Kashi**	**118.58**	**303**	PKP		**PKPdf**		**07 40 42.1**	**+1.2**
KK31	**Karatay Array**	**123.03**	**307**	*e*PKPdf		**PKPdf**		**07 40 49.2**	**0.0**
KKAR	**Karatay Array**	**123.03**	**307**	*e*PKPdf		**PKPdf**		**07 40 49.2**	**0.0**
ARA0	**ARCESS Array S**	**132.66**	**350**	*e*PKPdf		**PKPdf**		**07 41 07.2**	**+0.5**
ARCES	**ARCESS Array B**	**132.66**	**350**	PKP		**PKPdf**		**07 41 07.2**	**+0.5**
	3.6nm,1.0s,baz=37,slow=6.2,SNR=5.1								
FIA0	**FINESS Array S**	**139.65**	**344**	*e*PKPdf		PKPpre		07 41 17.0	
FINES	**FINESS Array B**	**139.65**	**344**	PKhKP		PKPpre		07 41 17.0	
	0.9nm,0.7s,baz=48,slow=2.8,SNR=5.2								
HFS	**Hagfors**	**143.24**	**352**	PKhKP		PKPpre		07 41 22.7	
	1.7nm,0.5s,baz=29,slow=3.3,SNR=12								
AKASG	**Malin Array Be**	**147.04**	**330**	PKPbc		**PKPdf**		**07 41 34.3**	**+1.1**
	2.9nm,0.5s,baz=42,slow=4.0,SNR=26								
AKBB	**Malin Array Si**	**147.04**	**330**	*e*PKPbc		**PKPbc**		**07 41 35.1**	**-0.1**
KIEV	**Kiev**	**147.05**	**331**	*e*PKPbc		**PKPbc**		**07 41 35.1**	**-0.1**
AK11	**Malin Array Si**	**147.08**	**331**	*e*PKPbc		**PKPbc**		**07 41 35.1**	**-0.2**
EKA	**Eskdalemuir Ar**	**148.16**	**8**	PKPbc		**PKPbc**		**07 41 38.1**	**0.0**
	2.0nm,0.6s,baz=359,slow=2.8,SNR=4.5								
KWP	**Kalwaria Pacla**	**150.58**	**335**	*e*PKP		**PKPbc**		**07 41 45.5**	**+1.1**
KWP	**Kalwaria Pacla**	**150.58**	**335**	*e*PKPbc		**PKPbc**		**07 41 45.3**	**+0.9**
KWP				*e*PKPab		**pPKPab**		**07 41 53.1**	**-3.1**
BR101	**Keskin Array S**	**150.69**	**309**	*e*PKPbc		**PKPbc**		**07 41 44.1**	**-1.1**
BR131	**Keskin Array S**	**150.69**	**309**	*e*PKPbc		**PKPbc**		**07 41 45.5**	**+0.3**
BRTR	**Keskin Array B**	**150.69**	**309**	PKPbc		**PKPbc**		**07 41 44.1**	**-1.1**
	4.5nm,0.9s,baz=126,slow=3.2,SNR=21								
BUR04	**Bucovina Ar. S**	**151.09**	**330**	*e*PKPbc		**PKPbc**		**07 41 46.2**	**+0.4**
OJC	**Ojcow**	**151.12**	**339**	*e*PKP		**PKPbc**		**07 41 46.4**	**+0.7**
MMAI	**Mount Meron Ar**	**151.29**	**295**	PKPbc		**PKPbc**		**07 41 47.6**	**+0.9**
	9.2nm,0.8s,baz=57,slow=5.3,SNR=13								
STHS	**Stebnicka Huta**	**151.30**	**337**	*e*PKP		**PKPbc**		**07 41 47.3**	**+1.2**
KSP	**Ksiaz**	**151.58**	**344**	*e*PKP		**PKPbc**		**07 41 47.7**	**+1.0**
NIE	**Niedzica**	**151.64**	**338**	*e*PKP		**PKPbc**		**07 41 48.5**	**+1.5**
CRVS	**Cervenica-Dubn**	**151.65**	**336**	*e*PKP		**PKPab**		**07 41 55.9**	**+0.3**
CLL	**Collm**	**151.86**	**348**	*i* PKPbc		**PKPbc**		**07 41 47.8**	**+0.5**
	comp=Z,11nm,1.1s								
CLL				*e*PKPab		**PKPab**		**07 41 57.0**	**+0.7**
	comp=Z,7.0nm,1.0s								
CLL				*ep*PKPbc		**sPKPab**		**07 42 01.0**	**-2.2**
CLL				*ep*PKPab		**pPKPab**		**07 42 09.0**	**+7.6**
BRG	**Berggiesshubel**	**152.09**	**347**	*e*P		**PKPbc**		**07 41 48.5**	**+0.6**
	comp=Z,5.3nm,0.7s								
LANS	**Liptovska Anna**	**152.15**	**338**	*e*PKP		**PKPab**		**07 41 57.0**	**-0.7**
MLR	**Muntele Rosu**	**152.26**	**326**	PKPbc		**PKPbc**		**07 41 48.9**	**+0.3**
	comp=Z,0.5nm,0.8s,baz=51,slow=6.5,SNR=3.4								
MLR	**Muntele Rosu**	**152.26**	**326**	*e*PKPbc		**PKPbc**		**07 41 48.9**	**+0.3**
MLR				*e*PKPab		**PKPab**		**07 41 58.8**	**+0.4**
VYHS	**Vyhne**	**152.93**	**338**	*e*PKP		**PKPab**		**07 42 01.8**	**+0.8**
MODS	**Modra-Piesok**	**153.53**	**340**	*e*PKP		**PKPab**		**07 42 02.8**	**-0.7**
GEC2	**GERESS Array S**	**154.06**	**346**	*e*PKPbc		**PKPbc**		**07 41 52.0**	**-0.4**
GERES	**GERESS Array B**	**154.06**	**346**	PKPbc		**PKPbc**		**07 41 52.0**	**-0.4**
	comp=Z,0.6nm,0.7s,baz=18,slow=2.5,SNR=3.5								
TOA0	**Torodi Ar. Sit**	**168.99**	**167**	*e*PKPdf		**PKPdf**		**07 42 00.2**	**-0.5**
TOA0				*e*PKPab		**PKPab**		**07 43 12.2**	**+0.6**
TORD	**Torodi Ar. Bea**	**168.99**	**167**	PKP		**PKPdf**		**07 41 59.3**	**-1.4**
	comp=Z,1.4nm,1.0s,baz=258,slow=2.0,SNR=5.3								
TORD				PKPab		**PKPab**		**07 43 09.9**	**-1.6**
	comp=Z,1.5nm,0.8s,baz=193,slow=4.2,SNR=7.3								
TOA1	**Torodi Ar. Sit**	**168.99**	**167**	*e*PKPdf		**PKPdf**		**07 41 59.3**	**-1.4**
TOA1				*e*PKPab		**PKPab**		**07 43 09.9**	**-1.6**

SJA ***23*** *07:30:39.8±0.5, 34°.43S×72°.60W, h55km±7km, ML3.5, MW3.5*
GUC ***23*** *07:30:49.1±0.5, 33°.89S×71°.96W, h20km±7km, ML3.2*
ISC 23 07:30:45.8±2.1**, 33.91S**±0.05×**72.02W**±0.10**, h1**km±12km,
n13,σ1ᵖ**56**/**23**, **Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHPI	**Pichilemu**	**0.48**	**179**	*eP*	**Pn**	**07 30 58.8**	**-1.0**
CHPI				*eS*	**Sb**	**07 31 06.2**	**+1.6**
GO05	**HualaæØ**	**1.10**	**176**	*eP*	**Pn**	**07 31 09.0**	**+0.6**
GO05				*i* S	**Sn**	**07 31 24.2**	**-0.1**
GO05				IAML		07 31 28.3	
	comp=E,575nm,0.4s						
ANTU	**Antumapu**	**1.20**	**74**	*eP*	**Pn**	**07 31 10.8**	**+1.0**
ANTU				*i* S	**Sn**	**07 31 25.7**	**-1.0**
ANTU				IAML		07 31 27.6	
	comp=N,1μm,0.5s						
NICH	**Los Niches**	**1.27**	**149**	*eP*	**Pg**	**07 31 11.2**	**+1.1**
NICH				*eS*	**Sn**	**07 31 28.1**	**-0.3**
PEL	**Peldehue**	**1.35**	**56**	*eP*	**Pg**	**07 31 12.3**	**+0.6**
PEL				*i* S	**Sn**	**07 31 29.5**	**-0.8**
LMEL	**Las Melosas**	**1.51**	**88**	*eP*	**Pg**	**07 31 14.9**	**+0.2**
LMEL				*i* S	**Sg**	**07 31 34.7**	**+0.4**
LMEL				IAML		07 31 37.5	
	comp=E,1μm,0.5s						
FCH	**Farellones**	**1.55**	**69**	*eP*	**Pg**	**07 31 15.5**	**0.0**
FCH				*i* S	**Sg**	**07 31 36.0**	**+0.3**
FCH				IAML		07 31 40.9	
	comp=E,465nm,0.3s						
AUSP	**Uspallata**	**2.77**	**53**	*eP*	**Pb**	**07 31 34.7**	**-1.6**
AUSP				*eS*	**Sg**	**07 32 15.1**	**+0.1**
RTLS	**Leoncito**	**3.11**	**48**	*eP*	**Pb**	**07 31 39.5**	**-2.6**
RTLS				*eS*	**Sg**	**07 32 24.0**	**-1.7**
RTLS				IAML		07 32 28.4	
	comp=Z,52nm,0.5s						
RTCV	**Cerro Valdivia**	**3.57**	**56**	*eP*	**Pn**	**07 31 44.8**	**+2.5**
RTCV				*eS*	**Sb**	**07 32 32.7**	**-0.8**
RTLL	**Cerro Villicun**	**3.94**	**50**	*eP*	**Pn**	**07 31 50.4**	**+2.9**
RTLL				IAML		07 32 50.1	
	comp=Z,48nm,0.7s						
AMOG	**MOGNA**	**4.20**	**46**	*eP*	**Pn**	**07 31 53.5**	**+2.4**
AGUA	**GUANDACOL**	**5.33**	**35**	*eP*	**Pn**	**07 32 08.7**	**+2.0**

CSEM ***23*** *07:39:29.7, 43°.12N×13°.02E, h12km, MD1.5/4*
ROM 23 07:39:29.7±0.1**, 43.12N×13.02E, h12**km±1km**, Md1.5/4, Ml1.2/4, Error ellipse: s-maj=1.3km s-min=0.6km az=51.0, Central Italy**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FDMO	**Fiordimonte**	**0.09**	**147**	Pg	Pg	07 39 33.0	+0.4
FDMO				Sg	Sg	07 39 35.1	+0.5
	108nm,0.2s						
FDMO	**Fiordimonte**	**0.09**	**147**	Pg	Pg	07 39 33.0	+0.4
FDMO				Sg	Sg	07 39 35.1	+0.5
	108nm,0.2s						
CESI	**CESI - Serrava**	**0.14**	**217**	Pg	Pg	07 39 33.6	+0.4
CESI				Sg	Sg	07 39 36.3	+0.6
	32nm,0.1s						
CESI	**CESI - Serrava**	**0.14**	**217**	Pg	Pg	07 39 33.6	+0.4
CESI				Sg	Sg	07 39 36.3	+0.6
	32nm,0.1s						
SNTG	**Esanatoglia**	**0.15**	**338**	Pg	Pg	07 39 33.8	+0.4
SNTG				Sg	Sg	07 39 36.6	+0.6
	84nm,0.1s						
SNTG	**Esanatoglia**	**0.15**	**338**	Pg	Pg	07 39 33.8	+0.4
SNTG				Sg	Sg	07 39 36.6	+0.6
	84nm,0.1s						
NRCA	**Norcia**	**0.29**	**166**	Pg	Pg	07 39 36.0	+0.3
NRCA				Sg	Sb	07 39 40.8	-0.8
	17nm,0.1s						
NRCA	**Norcia**	**0.29**	**166**	Pg	Pg	07 39 36.0	+0.3
NRCA				Sg	Sb	07 39 40.8	-0.8
	17nm,0.1s						

ISCJB ***23*** *07:45:03.7±0.2, 24°.01S±0°.03×66°.61W±0°.04, h181km, mb4.2/38, Error ellipse: s-maj=4.8km s-min=3.7km az=163.4*
SJA ***23*** *07:45:05.5±0.8, 24°.05S×66°.91W, h199km±11km, ML3.9, MW4.5*
NEIC ***23*** *07:45:05.0±0.6, 24°.02S×66°.61W, h181km±5km, mb4.2/28, Error ellipse: s-maj=9.4km s-min=6.0km az=83.0*
IDC ***23*** *07:45:06.2±1.4, 23°.88S×66°.59W, h193km±12km, mb4.1/16, mb1 4.1/20, mb1mx3.9/42, mbtmp4.5/20, Error ellipse: s-maj=15.2km s-min=10.0km az=77.0*
ISC 23 07:45:04.9±0.3**, 23.98S**±0.04×**66.82W**±0.04**, h181**km**, n110**,σ1ᵖ**83**/128**, mb4.2**/38**, Jujuy Province**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HJA	**Humahuaca**	**1.50**	**60**	*i* P	**Pn**	**07 45 41.5**	**+4.1**
HJA				IAML		07 45 44.1	
	comp=Z,641nm,0.4s						
AZAP	**Zapla**	**1.62**	**99**	*i* P	**Pn**	**07 45 42.0**	**+3.6**
AZAP				IAML		07 45 42.4	
	comp=Z,1μm,0.6s						
AZAP				*i* S	**Sn**	**07 46 09.1**	**+4.8**
YJA	**Yavi**	**2.16**	**34**	*i* P	**Pn**	**07 45 48.3**	**+4.0**
YJA				IAML		07 45 49.3	
	comp=Z,145nm,0.4s						
YJA				*i* S	**Sn**	**07 46 20.4**	**+5.6**
ASTB	**Santa Barbara**	**2.17**	**90**	*i* P	**Pn**	**07 45 47.2**	**+3.2**
FSA	**Cafayete**	**2.26**	**160**	*i* P	**Pn**	**07 45 47.1**	**+2.1**
FSA				IAML		07 45 47.8	
	comp=Z,422nm,0.8s						
FSA				*i* S	**Sn**	**07 46 17.6**	**+1.2**
ALOL	**LOMAS DE OLMED**	**2.60**	**87**	*i* P	**Pn**	**07 45 51.7**	**+2.9**
GO02	**Mina Guanaco**	**2.79**	**244**	*e*Pn	**Pn**	**07 45 54.9**	**+3.6**
GO02				*e*Sn	**Sn**	**07 46 31.7**	**+4.3**
AHML	**Horco Molle**	**3.10**	**155**	*i* P	**Pn**	**07 45 57.3**	**+2.4**
PB10	**IPOC Station P**	**3.45**	**277**	*e*Pn	**Pn**	**07 46 02.6**	**+3.5**
PB10				*e*Sn	**Sn**	**07 46 44.6**	**+3.1**
PB04	**IPOC Station P**	**3.47**	**297**	*e*Pn	**Pn**	**07 46 02.7**	**+3.1**
PB04				*e*Sn	**Sn**	**07 46 44.6**	**+2.4**
PB01	**IPOC Station P**	**3.82**	**319**	*e*Pn	**Pn**	**07 46 06.7**	**+2.8**
PB01				*e*Sn	**Sn**	**07 46 53.4**	**+3.4**
GO03	**Copiap**	**4.74**	**220**	*e*Pn	**Pn**	**07 46 17.1**	**+1.5**
GO03				*e*Sn	**Sn**	**07 47 11.6**	**+0.6**
PB11	**IPOC Station P**	**4.95**	**327**	*e*Pn	**Pn**	**07 46 19.7**	**+1.3**
PB11				*e*Sn	**Sn**	**07 47 16.7**	**+0.5**
MNMC	**Minye Minye**	**5.47**	**331**	*e*Pn	**Pn**	**07 46 26.9**	**+1.6**
MNMC				*e*Sn	**Sn**	**07 47 29.3**	**+0.8**
GO04	**Tololo Observa**	**7.12**	**209**	*e*Pn	**Pn**	**07 46 44.3**	**-2.5**
GO04				*e*Sn	**Sn**	**07 48 05.0**	**-2.3**
LPAZ	**La Paz**	**7.75**	**351**	P	**Pn**	**07 46 57.1**	**+1.6**
	comp=Z,8.8nm,0.3s,baz=180,slow=11,SNR=147						
LPAZ				S	**Sn**	**07 48 23.4**	**+0.4**
	comp=Z,1.6nm,0.3s,baz=181,slow=25,SNR=5.2						
LPAZ	**La Paz**	**7.75**	**351**	*e*Pn	**Pn**	**07 46 57.6**	**+2.1**
LPAZ				*e*Sn	**Sn**	**07 48 23.3**	**+0.4**
ARE	**Arequipa**	**8.66**	**329**	*e*P	**Pn**	**07 47 07.0**	**-0.3**
ARE				*e*S	**Sn**	**07 48 40.0**	**-4.4**
CPUP	**Villa Florida**	**8.91**	**107**	P	**Pn**	**07 47 09.7**	**-0.5**
	comp=Z,1.4nm,0.3s,baz=288,slow=14,SNR=76						
SIV	**San Ignacio**	**9.61**	**35**	P	**Pn**	**07 47 18.8**	**-0.6**
	comp=Z,2.9nm,0.3s,baz=221,slow=13,SNR=31						
GO05	**HualaæØ**	**11.86**	**201**	*e*Pn	**Pn**	**07 47 46.6**	**-1.8**
GO05				*e*Sn	**S**	**07 50 01.7**	**-3.7**
TRQA	**Tornquist**	**14.63**	**165**	*e*Pn	**Pn**	**07 48 21.4**	**-1.9**
NNA	**Nana**	**15.25**	**320**	*e*Pn	**P**	**07 48 33.6**	**+1.6**
	comp=Z,19nm,0.8s						
SAML	**Samuel**	**15.34**	**14**	*e*Pn	**Pn**	**07 48 32.3**	**0.0**
	comp=Z,5.6nm,0.8s						
SAML				*e*S	**S**	**07 51 20.9**	**-3.2**
GO06	**Curarrehue**	**16.05**	**193**	*e*P	**Pn**	**07 48 41.5**	**+0.7**
	comp=Z,32nm,0.8s						
PLCA	**Paso Flores**	**17.00**	**190**	P	**Pn**	**07 48 51.9**	**-0.2**
	comp=Z,0.7nm,0.3s,baz=31,slow=8.9,SNR=32						
PLCA				PcP	**PcP**	**07 53 27.2**	**+0.5**
	comp=Z,0.1nm,0.3s,baz=344,slow=2.0,SNR=4.5						
PLCA	**Paso Flores**	**17.00**	**190**	*e*P	**Pn**	**07 48 52.0**	**-0.1**
	comp=Z,16nm,0.7s						
CHRN	**Cochrane**	**23.68**	**190**	*e*P	**P**	**07 50 00.7**	**+0.8**
	comp=Z,4.9nm,0.8s						
PTGA	**Pitinga**	**24.04**	**17**	P	**P**	**07 50 01.7**	**-1.8**
	comp=Z,1.8nm,0.3s,baz=98,slow=23,SNR=7.1						
ROSC	**El Rosal**	**29.56**	**345**	*e*P	**P**	**07 50 52.6**	**-0.6**
	comp=Z,2.6nm,0.5s						
VNA3	**Neumayer Olymp**	**57.12**	**161**	P	**P**	**07 54 32.6**	**+0.5**
VNA1	**Neumayer--Stat**	**57.32**	**160**	P	**P**	**07 54 34.3**	**+0.9**
VNA2	**Neumayer--Watz**	**57.69**	**160**	P	**P**	**07 54 34.0**	**-2.0**
	baz=303,slow=8.8						
SNAA	**Sanae**	**59.32**	**161**	P	**P**	**07 54 47.6**	**+0.2**
SNAA	**Sanae**	**59.32**	**161**	P	**P**	**07 54 47.3**	**-0.1**
	comp=Z,7.7nm,0.8s,baz=273,slow=8.3,SNR=35						
SNAA				PcP	**PcP**	**07 55 33.6**	**+0.2**
	comp=Z,3.0nm,0.7s,baz=317,slow=8.4,SNR=3.4						
SNAA	**Sanae**	**59.32**	**161**	*e*P	**P**	**07 54 47.6**	**+0.2**
	comp=Z,29nm,1.5s						
TXAR	**Lajitas Array**	**63.75**	**324**	P	**P**	**07 55 17.6**	**0.0**
	comp=Z,0.1nm,0.4s,baz=142,slow=7.5,SNR=4.7						
PBMO	**Poplar Bluff**	**64.40**	**339**	*e*P	**P**	**07 55 21.5**	**-0.1**
	comp=Z,5.2nm,0.7s						
HHAR	**Hobbs**	**65.18**	**336**	*e*P	**P**	**07 55 27.4**	**+0.8**
	comp=Z,4.9nm,0.9s						
QSPA	**South Pole Qui**	**66.23**	**180**	P	**P**	**07 55 34.2**	**+1.0**
	comp=Z,18nm,0.5s,baz=160,slow=3.0,SNR=101						
LIC	**Lamto**	**67.27**	**72**	*e*P	**P**	**07 55 38.5**	**-1.9**
	comp=Z,74nm,1.8s						
TIC	**Toumodi**	**67.48**	**71**	*e*P	**P**	**07 55 40.0**	**-1.8**
KIC	**Kosan Boka**	**67.59**	**72**	*e*P	**P**	**07 55 40.6**	**-1.8**
	comp=Z,8.2nm,0.5s						
DBIC	**Dimbokro**	**67.64**	**71**	P	**P**	**07 55 41.1**	**-1.6**
	comp=Z,10nm,1.0s,baz=219,slow=6.9,SNR=13						
DBIC	**Dimbokro**	**67.64**	**71**	*e*P	**P**	**07 55 41.1**	**-1.6**
	comp=Z,20nm,1.5s						
BGNE	**Belgrade**	**71.25**	**336**	*e*P	**P**	**07 56 05.2**	**+0.9**
	comp=Z,29nm,0.8s						
KOWA	**Kowa**	**72.28**	**65**	P	**P**	**07 56 09.4**	**-1.6**
	comp=Z,2.8nm,0.3s,baz=252,slow=5.2,SNR=14						
KOWA	**Kowa**	**72.28**	**65**	*e*P	**P**	**07 56 09.4**	**-1.6**
	comp=Z,3.7nm,0.6s						
ECSD	**EROS Data Cent**	**72.72**	**338**	*e*P	**P**	**07 56 13.1**	**+0.1**
	comp=Z,7.1nm,1.0s						
PLM	**Palomar**	**74.30**	**318**	*e*P	**P**	**07 56 24.5**	**+1.8**
KNB	**Kanab**	**74.55**	**323**	*e*P	**P**	**07 56 25.6**	**+1.6**
	comp=Z,3.9nm,1.0s						
VNDA	**Vanda**	**74.75**	**190**	P	**P**	**07 56 25.3**	**+0.9**
	comp=Z,2.2nm,0.8s,baz=134,slow=3.1,SNR=9.1						
VNDA	**Vanda**	**74.75**	**190**	*e*P	**P**	**07 56 26.5**	**+2.1**
	comp=Z,6.8nm,1.2s						
P18A	**Preston Nutter**	**75.14**	**327**	*e*P	**P**	**07 56 27.1**	**-0.4**
	comp=Z,3.6nm,1.1s						
CCUT	**Cedar City**	**75.24**	**323**	*e*P	**P**	**07 56 30.8**	**+2.8**
	comp=Z,2.9nm,0.9s						
TOA0	**Torodi Ar. Sit**	**76.41**	**69**	*e*P	**P**	**07 56 33.4**	**-1.5**
TOA1	**Torodi Ar. Sit**	**76.41**	**69**	*e*P	**P**	**07 56 33.4**	**-1.4**
TORD	**Torodi Ar. Bea**	**76.41**	**69**	P	**P**	**07 56 33.4**	**-1.4**
	comp=Z,4.9nm,0.5s,baz=257,slow=5.7,SNR=78						
PD31	**Pinedale Array**	**77.21**	**329**	*e*P	**P**	**07 56 39.9**	**+0.9**
PDAR	**Pinedale Array**	**77.21**	**329**	P	**P**	**07 56 39.4**	**+0.4**
	comp=Z,0.5nm,0.6s,baz=125,slow=6.9,SNR=6.4						
TSUM	**Tsumeb**	**77.50**	**106**	P	**P**	**07 56 39.4**	**-1.7**
	comp=Z,3.1nm,1.0s,baz=252,slow=6.1,SNR=5.1						
ULM	**Lac du Bonnet**	**78.26**	**341**	P	**P**	**07 56 43.5**	**-0.7**
	comp=Z,3.2nm,0.6s,baz=160,slow=5.9,SNR=14						
NVAR	**Mina Array Bea**	**78.62**	**321**

KHAL	**Karahalli**	**0.74**	**162**	P	Pn	07 45 44.6	-0.2
KHAL				S	Sn	07 45 55.3	-1.1
MANT	**Manisa**	**0.77**	**221**	*i* P	Pb	07 45 44.1	+0.6
MANT				*i* S	Sb	07 45 53.6	-0.7
MANT	**Manisa**	**0.77**	**221**	P	Pb	07 45 44.1	+0.6
MANT				S	Sb	07 45 53.6	-0.7
DURS	**Dursunbey**	**0.77**	**313**	*i* P	Pb	07 45 43.1	-0.4
DURS				*i* S	Sn	07 45 57.2	0.0
DURS	**Dursunbey**	**0.77**	**313**	P	Pb	07 45 43.1	-0.4
ARMT	**Armutlu**	**1.51**	**350**	PN	Pb	07 45 56.2	+0.1
ARMT	**Armutlu**	**1.51**	**350**	*e*Pn	Pb	07 45 56.2	+0.1

ISK ***23*** *07:45:44.8, 39.°29N×26.°01E, h6km, ML2.7/4*
DDA ***23*** *07:45:44.7, 39.°30N×26.°04E, h7km, Md2.8*
ISCJB ***23*** *07:45:45.1±0.4, 39.°28N±0.°02×26.°00E±0.°03, h5km±3km, Error ellipse: s-maj=3.7km s-min=2.8km az=13.1*
ATH ***23*** *07:45:45.4, 39.°28N×26.°00E, h11km±4km, ML2.0/5, Error ellipse: s-maj=4.3km s-min=1.1km az=150.0*
CSEM ***23*** *07:45:45.3±0.1, 39.°28N×26.°01E, h8km, ML2.0, Error ellipse: s-maj=2.9km s-min=2.2km az=100.0*

ISC 23 07:45:45.4±0.8, 39.°29N±0.°02×26.°00E±0.°02, h10km±6km, n47, σ0°54/76, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SIGR	**SIGRI**	**0.14**	**237**	PG		**Pg**	**07 45 48.4**	**0.0**
SIGR				SG		**Sg**	**07 45 50.4**	**-0.3**
SIGR	**SIGRI**	**0.14**	**237**	P		**Pg**	**07 45 48.5**	**0.0**
SIGR				S		**Sg**	**07 45 49.9**	**-0.8**
SIGR				AML	AML		07 45 50.7	
	comp=N,8634μm,0.3s							
SIGR				AML	AML		07 45 50.8	
	comp=E,5574μm,0.3s							
SIGR	**SIGRI**	**0.14**	**237**	P		**Pg**	**07 45 48.5**	**0.0**
SIGR				*e*Sg		**Sg**	**07 45 50.4**	**-0.3**
GPNR	**Gulpinar-Canak**	**0.20**	**31**	PG		**Pg**	**07 45 49.3**	**-0.3**
GPNR				SG		**Sg**	**07 45 52.3**	**-0.1**
GPNR	**Gulpinar-Canak**	**0.20**	**31**	*e*Pg		**Pg**	**07 45 49.3**	**-0.3**
GPNR				*e*Sg		**Sg**	**07 45 52.3**	**-0.1**
PRK	**Paraskevi**	**0.21**	**100**	P		**Pg**	**07 45 50.5**	**+0.7**
PRK				S		**Sg**	**07 45 53.2**	**+0.3**
PRK				AML	AML		07 45 54.1	
	comp=E,1179μm,0.2s							
PRK				AML	AML		07 45 55.1	
	comp=N,982μm,0.3s							
PRK	**Paraskevi**	**0.21**	**100**	P		**Pg**	**07 45 50.2**	**+0.4**
PRK				S		**Sg**	**07 45 53.1**	**+0.3**
AYVA	**Ayvalik**	**0.53**	**87**	*i* P		**Pg**	**07 45 55.2**	**-0.5**
AYVA				*i* S		**Sb**	**07 46 03.8**	**-0.8**
AYVA	**Ayvalik**	**0.53**	**87**	P		**Pg**	**07 45 55.2**	**-0.5**
AYVA				S		**Sb**	**07 46 03.8**	**-0.8**
BOZC	**Bozcaada**	**0.56**	**4**	*i* P		**Pg**	**07 45 56.0**	**-0.2**
BOZC				*i* S		**Sb**	**07 46 04.5**	**-0.8**
BAYC	**CANAKKALE_Bayr**	**0.62**	**43**	*i* P		**Pg**	**07 45 56.7**	**-0.7**
BAYC				*i* S		**Sg**	**07 46 06.1**	**+0.5**
BAYC	**CANAKKALE_Bayr**	**0.62**	**43**	P		**Pg**	**07 45 56.7**	**-0.7**
BAYC				S		**Sg**	**07 46 06.1**	**+0.5**
FOCM	**Fo˘ša**	**0.81**	**135**	PG		**Pg**	**07 46 00.6**	**-0.3**
FOCM	**Fo˘ša**	**0.81**	**135**	*e*Pg		**Pg**	**07 46 00.6**	**-0.3**
KRBN	**Karaburun**	**0.81**	**148**	PG		**Pg**	**07 46 00.2**	**-0.9**
KRBN	**Karaburun**	**0.81**	**148**	*e*Pg		**Pg**	**07 46 00.2**	**-0.9**
PSRA	**Psara**	**0.82**	**205**	P		**Pg**	**07 46 00.3**	**-0.8**
PSRA				S		**Sg**	**07 46 12.1**	**+0.3**
PSRA	**Psara**	**0.82**	**205**	P		**Pg**	**07 46 00.5**	**-0.6**
PSRA				S		**Sg**	**07 46 12.1**	**+0.3**
LIA	**Limnos Island**	**0.88**	**314**	P		**Pg**	**07 46 02.5**	**+0.1**
LIA				S		**Sg**	**07 46 13.9**	**+0.1**
LIA				AML	AML		07 46 16.9	
	comp=E,251μm,0.3s							
LIA				AML	AML		07 46 17.1	
	comp=N,142μm,0.5s							
LIA	**Limnos Island**	**0.88**	**314**	P		**Pg**	**07 46 02.3**	**-0.1**
LIA				S		**Sg**	**07 46 14.1**	**+0.3**
CHOS	**Chios island**	**0.90**	**177**	PG		**Pg**	**07 46 02.7**	**0.0**
CHOS				SG		**Sb**	**07 46 15.6**	**+0.5**
CHOS	**Chios island**	**0.90**	**177**	P		**Pg**	**07 46 01.3**	**-1.4**
CHOS				S		**Sb**	**07 46 15.7**	**+0.6**
CHOS				AML	AML		07 46 19.1	
	comp=E,291μm,0.2s							
CHOS				AML	AML		07 46 20.8	
	comp=N,290μm,0.2s							
CHOS	**Chios island**	**0.90**	**177**	P		**Pg**	**07 46 01.8**	**-0.9**
CHOS	**Chios island**	**0.90**	**177**	*e*Pg		**Pg**	**07 46 02.7**	**0.0**
CHOS				S		**Sb**	**07 46 15.2**	**+0.1**
URLA	**Izmir**	**1.03**	**153**	*i* P		**Pg**	**07 46 04.2**	**-1.0**
URLA				*i* S		**Sb**	**07 46 19.1**	**+0.1**
ZEY	**˙zmir**	**1.11**	**159**	*i* P		**Pg**	**07 46 06.2**	**-0.6**
ZEY				*i* S		**Sb**	**07 46 21.6**	**+0.3**
GELI	**Tayfur-Gelibol**	**1.17**	**18**	PN		**Pg**	**07 46 07.4**	**-0.5**
GELI	**Tayfur-Gelibol**	**1.17**	**18**	*e*Pn		**Pg**	**07 46 07.4**	**-0.5**
SKY	**Skiros Island**	**1.20**	**251**	P		**Pn**	**07 46 09.1**	**+0.9**
SKY	**Skiros Island**	**1.20**	**251**	P		**Pn**	**07 46 08.5**	**+0.2**
BLCB	**Balcova**	**1.21**	**138**	PN		**Pb**	**07 46 08.2**	**-0.2**
BLCB	**Balcova**	**1.21**	**138**	*e*Pn		**Pb**	**07 46 08.2**	**-0.2**
SMTH	**Samothraki Isl**	**1.24**	**343**	P		**Pn**	**07 46 08.5**	**-0.3**
SMTH				S		**Sb**	**07 46 25.0**	**+0.1**
SMTH				AML	AML		07 46 26.9	
	comp=N,58μm,0.5s							
SMTH				AML	AML		07 46 27.1	
	comp=E,59μm,0.4s							
SMTH	**Samothraki Isl**	**1.24**	**343**	P		**Pn**	**07 46 08.6**	**-0.2**
SMTH				S		**Sg**	**07 46 25.4**	**+0.1**
BALY	**Balya**	**1.33**	**70**	*i* P		**Pn**	**07 46 08.8**	**-1.3**
BALY				*i* S		**Sb**	**07 46 27.5**	**-0.1**
BALY	**Balya**	**1.33**	**70**	P		**Pn**	**07 46 08.8**	**-1.3**
BALY				S		**Sb**	**07 46 27.5**	**-0.1**
STEP	**BALIKESIR_Sava**	**1.33**	**86**	*i* P		**Pg**	**07 46 11.2**	**+0.2**
STEP				*i* S		**Sn**	**07 46 28.1**	**+0.2**
STEP	**BALIKESIR_Sava**	**1.33**	**86**	P		**Pg**	**07 46 11.2**	**+0.2**
STEP				S		**Sn**	**07 46 28.1**	**+0.2**
GONE	**Gonen-Balikesi**	**1.51**	**59**	PN		**Pn**	**07 46 12.9**	**+0.5**
GONE	**Gonen-Balikesi**	**1.51**	**59**	*e*Pn		**Pn**	**07 46 12.9**	**+0.5**
ALN	**Alexandroupoli**	**1.61**	**1**	P		**Pb**	**07 46 15.3**	**+0.1**
ALN	**Alexandroupoli**	**1.61**	**1**	P		**Pb**	**07 46 15.5**	**+0.3**
SART	**Tekirdag**	**1.67**	**32**	*i* P		**Pn**	**07 46 14.8**	**0.0**
SART				*i* S		**Sb**	**07 46 37.8**	**+0.5**
SART	**Tekirdag**	**1.67**	**32**	P		**Pn**	**07 46 14.8**	**0.0**
SART				S		**Sb**	**07 46 37.8**	**+0.5**
AYDB	**Zeytinkoy-Aydi**	**1.99**	**132**	PN		**Pn**	**07 46 19.9**	**+0.6**
AYDB	**Zeytinkoy-Aydi**	**1.99**	**132**	*e*Pn		**Pn**	**07 46 19.9**	**+0.6**
SIMA	**Simav-Kutahya**	**2.32**	**94**	*i* PG		**Pg**	**07 46 30.3**	**+0.4**
SIMA				*i* SG		Sn	07 46 32.1	-20

ISCJB ***23*** *07:51:15.0±0.8, 38.°52N±0.°03×20.°50E±0.°07, h11km±3km, Error ellipse: s-maj=8.7km s-min=4.3km az=178.0*
THE ***23*** *07:51:15.8, 38.°52N×20.°56E, h11km, ML2.6/6, Error ellipse: s-maj=1.0km s-min=0.4km az=270.0*
ATH ***23*** *07:51:15.5, 38.°51N×20.°57E, h12km±2km, ML2.6/7, Error ellipse: s-maj=3.4km s-min=1.1km az=279.0*
CSEM ***23*** *07:51:15.1±0.2, 38.°53N×20.°53E, h12km, ML2.6, Error ellipse: s-maj=5.0km s-min=3.1km az=82.0*

ISC 23 07:51:15.3±0.9, 38.°51N±0.°02×20.°56E±0.°04, h11km±6km, n52, σ0°54/74, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
FSK	**Fiskardo**	**0.05**	**175**	P		**Pg**	**07 51 17.1**	**-0.4**
FSK				S		**Sg**	**07 51 18.6**	**-0.5**
MGNA	**Meganis˛„**	**0.23**	**52**	P		**Pg**	**07 51 20.5**	**+0.2**
MGNA				AML	AML		07 51 24.4	
	comp=E,3786μm,0.2s							
MGNA				AML	AML		07 51 24.8	
	comp=N,4251μm,0.3s							
MGNA				S		**Sg**	**07 51 24.9**	**+1.4**
MGNA	**Meganis˛„**	**0.23**	**52**	P		**Pg**	**07 51 20.4**	**+0.2**
MGNA				S		**Sg**	**07 51 24.4**	**+0.9**
LKD2	**Lefkada island**	**0.29**	**16**	P		**Pg**	**07 51 21.6**	**+0.3**
LKD2				AML	AML		07 51 26.4	
	comp=E,2271μm,0.2s							
LKD2				S		**Sb**	**07 51 26.5**	**-0.9**
LKD2				AML	AML		07 51 28.1	
	comp=N,1751μm,0.2s							
LKD2	**Lefkada island**	**0.29**	**16**	P		**Pg**	**07 51 21.4**	**+0.2**
LKD2				S		**Sg**	**07 51 26.0**	**+0.8**
LKD2	**Lefkada island**	**0.29**	**16**	P		**Pg**	**07 51 21.4**	**+0.2**
LKD2				S		**Sg**	**07 51 26.0**	**+0.8**
VLS	**Valsamata**	**0.34**	**176**	P		**Pg**	**07 51 22.4**	**+0.4**
VLS				AML	AML		07 51 28.4	
	comp=E,9438μm,0.2s							
VLS				S		**Sb**	**07 51 28.5**	**-0.2**
VLS				AML	AML		07 51 28.5	
	comp=N,7389μm,0.2s							
VLS	**Valsamata**	**0.34**	**176**	P		**Pg**	**07 51 22.3**	**+0.2**
VLS				S		**Sb**	**07 51 28.1**	**-0.6**
VLS	**Valsamata**	**0.34**	**176**	P		**Pg**	**07 51 22.3**	**+0.2**
VLS				S		**Sg**	**07 51 27.8**	**+1.3**
KFL	**Anninata**	**0.44**	**156**	P		**Pg**	**07 51 24.5**	**+0.5**
KFL				S		**Sb**	**07 51 31.9**	**+0.2**
KFL				AML	AML		07 51 32.2	
	comp=N,1766μm,0.5s							
KFL				AML	AML		07 51 33.6	
	comp=E,2107μm,0.3s							
KFL	**Anninata**	**0.44**	**156**	P		**Pg**	**07 51 24.2**	**+0.2**
KFL				S		**Sb**	**07 51 31.2**	**-0.5**
KFL	**Anninata**	**0.44**	**156**	P		**Pg**	**07 51 24.3**	**+0.2**
KFL				S		**Sb**	**07 51 31.2**	**-0.5**
PDO	**Prodromos**	**0.50**	**80**	P		**Pg**	**07 51 25.5**	**+0.4**
PDO	**Prodromos**	**0.50**	**80**	P		**Pg**	**07 51 25.3**	**+0.2**
PDO	**Prodromos**	**0.50**	**80**	P		**Pg**	**07 51 25.3**	**+0.2**
DSL	**Palaion Diasel**	**0.75**	**34**	P		**Pg**	**07 51 29.5**	**-0.3**
DSL	**Palaion Diasel**	**0.75**	**34**	P		**Pg**	**07 51 29.7**	**-0.2**
DSL				S		**Sb**	**07 51 40.8**	**+0.1**
DSL	**Palaion Diasel**	**0.75**	**34**	P		**Pg**	**07 51 29.6**	**-0.3**
DSL				S		**Sb**	**07 51 40.8**	**+0.1**
PVO	**Paravola**	**0.77**	**82**	P		**Pb**	**07 51 31.2**	**+0.6**
PVO	**Paravola**	**0.77**	**82**	P		**Pb**	**07 51 30.5**	**-0.2**
PVO	**Paravola**	**0.77**	**82**	P		**Pb**	**07 51 30.5**	**-0.2**
RLS	**Riolos of Patr**	**0.85**	**122**	P		**Pb**	**07 51 32.2**	**+0.1**
RLS				AML	AML		07 51 47.1	
	comp=E,371μm,0.2s							
RLS				AML	AML		07 51 47.2	
	comp=N,255μm,0.2s							
RLS	**Riolos of Patr**	**0.85**	**122**	P		**Pg**	**07 51 31.9**	**+0.2**
EFP	**Efpalio**	**1.06**	**94**	P		**Pb**	**07 51 34.2**	**-1.5**
EFP	**Efpalio**	**1.06**	**94**	P		**Pb**	**07 51 35.3**	**-0.4**
EFP				S		**Sn**	**07 51 50.1**	**0.0**
EFP	**Efpalio**	**1.06**	**94**	P		**Pb**	**07 51 35.3**	**-0.4**
EFP				S		**Sn**	**07 51 50.9**	**0.0**
DRO	**Drossia**	**1.07**	**121**	P		**Pb**	**07 51 35.3**	**-0.5**
DRO				AML	AML		07 51 54.9	
	comp=N,1002μm,0.2s							
DRO				AML	AML		07 51 55.0	
	comp=E,1438μm,0.4s							
DRO	**Drossia**	**1.07**	**121**	P		**Pb**	**07 51 35.8**	**0.0**
DRO				S		**Sn**	**07 51 51.3**	**+0.3**
DRO	**Drossia**	**1.07**	**121**	P		**Pb**	**07 51 35.8**	**0.0**
DRO				S		**Sn**	**07 51 51.3**	**+0.3**
ANX	**Ano Chora**	**1.07**	**85**	P		**Pb**	**07 51 35.2**	**-0.8**
ANX				AML	AML		07 52 00.4	
	comp=E,216μm,0.5s							
ANX				AML	AML		07 52 02.3	
	comp=N,412μm,0.5s							
ANX	**Ano Chora**	**1.07**	**85**	P		**Pb**	**07 51 35.5**	**-0.5**
ANX	**Ano Chora**	**1.07**	**85**	P		**Pb**	**07 51 35.5**	**-0.5**
SGD	**Sagiada**	**1.13**	**347**	P		**Pb**	**07 51 36.9**	**+0.1**
SGD	**Sagiada**	**1.13**	**347**	P		**Pb**	**07 51 36.9**	**+0.1**
LAKA	**Lakka**	**1.15**	**103**	P		**Pb**	**07 51 36.0**	**-1.3**
LAKA	**Lakka**	**1.15**	**103**	P		**Pb**	**07 51 36.6**	**-0.6**
LAKA	**Lakka**	**1.15**	**103**	P		**Pb**	**07 51 36.6**	**-0.6**
SERG	**Sergoula**	**1.18**	**94**	P		**Pb**	**07 51 36.6**	**-1.1**
SERG	**Sergoula**	**1.18**	**94**	P		**Pb**	**07 51 37.1**	**-0.7**
SERG	**Sergoula**	**1.18**	**94**	P		**Pb**	**07 51 37.1**	**-0.7**
KALE	**Kalithea**	**1.25**	**95**	P		**Pn**	**07 51 38.1**	**-0.7**
KALE				S		**Sg**	**07 51 59.4**	**+0.3**
KALE	**Kalithea**	**1.25**	**95**	P		**Pn**	**07 51 38.1**	**-0.7**
KALE				S		**Sg**	**07 51 55.9**	**+0.3**
KLV	**Kalavryta, Ach**	**1.34**	**110**	P		**Pn**	**07 51 39.5**	**-0.5**
KLV	**Kalavryta, Ach**	**1.34**	**110**	P		**Pn**	**07 51 39.5**	**-0.5**
AGG	**Agios Georgios**	**1.48**	**69**	P		**Pn**	**07 51 41.5**	**-0.4**
AGG	**Agios Georgios**	**1.48**	**69**	P		**Pn**	**07 51 41.5**	**-0.4**
GUR	**Goura**	**1.52**	**112**	P		**Pn**	**07 51 42.5**	**0.0**
GUR				S		**Sb**	**07 52 03.0**	**+0.1**
GUR	**Goura**	**1.52**	**112**	P		**Pn**	**07 51 42.5**	**0.0**
GUR				S		**Sb**	**07 52 03.0**	**+0.1**
THL	**Klokotos Trika**	**1.55**	**47**	P		**Pn**	**07 51 42.5**	**-0.3**
THL	**Klokotos Trika**	**1.55**	**47**	P		**Pn**	**07 51 42.5**	**-0.3**
TRIP	**Tripoli**	**1.67**	**125**	P		**Pb**	**07 51 46.1**	**0.0**
TRIP	**Tripoli**	**1.67**	**125**	P		**Pb**	**07 51 46.4**	**+0.2**

WEL 23 08:15:46.2, 39.°0S±0.°7×176.°9E±0.°7, h26km±2km, ML3.6/22, ML3.6/22, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
NMHZ	**Naumai**	**0.13**	**233**	P		Pb	08 15 51.7	+0.3
NMHZ	**Naumai**	**0.13**	**233**	S		Sb	08 15 56.4	+1.5
MTHZ	**Maungataniwha**	**0.18**	**335**	P		Pb	08 15 52.0	+0.1
MTHZ	**Maungataniwha**	**0.18**	**335**	S		Sb	08 15 56.9	+1.2
WHHZ	**Waihua**	**0.24**	**104**	P		Pb	08 15 52.7	+0.2
WHHZ	**Waihua**	**0.24**	**104**	S		Sb	08 15 58.3	+1.5
ARHZ	**Aropaoanui**	**0.25**	**170**	P		Pb	08 15 53.0	+0.3
ARHZ	**Aropaoanui**	**0.25**	**170**	S		Sb	08 15 58.8	+1.8
BKZ	**Black Stump Fm**	**0.38**	**247**	P		Pb	08 15 54.6	0.0
BKZ	**Black Stump Fm**	**0.38**	**247**	S		Sb	08 16 01.0	+0.7
SNGZ	**Shannon Statio**	**0.39**	**53**	P		Pb	08 15 55.0	+0.2
SNGZ	**Shannon Statio**	**0.39**	**53**	S		Sn	08 16 02.7	-0.1
RTZ	**Ruatahuna**	**0.40**	**5**	P		Pb	08 15 55.1	+0.1
RTZ	**Ruatahuna**	**0.40**	**5**	S		Sb	08 16 02.1	+1.1
MRHZ	**Matea Rd**	**0.45**	**294**	P		Pb	08 15 55.9	+0.3
MRHZ	**Matea Rd**	**0.45**	**294**	S		Sb	08 16 02.8	+0.7
MCHZ	**McNeill Hill**	**0.47**	**204**	P		Pn	08 15 56.6	-0.6
MCHZ	**McNeill Hill**	**0.47**	**204**	S		Sn	08 16 05.1	+0.5
MUGZ	**Murupara**	**0.56**	**346**	P		Pb	08 15 57.5	+0.1
MUGZ	**Murupara**	**0.56**	**346**	S		Sn	08 16 06.2	-0.7
KWHZ	**Kaweka Forest**	**0.57**	**225**	P		Pb	08 15 57.9	+0.1
KWHZ	**Kaweka Forest**	**0.57**	**225**	P		Pb	08 15 57.9	+0.2
KWHZ	**Kaweka Forest**	**0.57**	**225**	S		Sn	08 16 06.8	-0.5
KNZ	**Kokohu**	**0.57**	**91**	P		Pn	08 15 58.2	-0.5
KNZ	**Kokohu**	**0.57**	**91**	S		Sn	08 16 08.0	+0.7
RAGZ	**Rawiri**	**0.64**	**36**	P		Pb	08 15 59.0	+0.1
CKHZ	**Cape Kidnapper**	**0.65**	**170**	P		Pn	08 15 59.6	-0.1
CKHZ	**Cape Kidnapper**	**0.65**	**170**	S		Sn	08 16 10.1	+0.9
ALRZ	**Allen Road**	**0.65**	**314**	P		Pn	08 15 59.5	-0.3
ALRZ	**Allen Road**	**0.65**	**314**	S		Sn	08 16 08.9	-0.3
PRRZ	**Plateau Road**	**0.67**	**320**	P		Pb	08 15 59.7	+0.3
PRRZ	**Plateau Road**	**0.67**	**320**	S		Sn	08 16 09.4	-0.3
HATZ	**Hinemaiaia**	**0.67**	**281**	P		Pb	08 15 59.7	+0.3
HATZ	**Hinemaiaia**	**0.67**	**281**	S		Sn	08 16 09.1	-0.7
RIGZ	**Rimuhau**	**0.71**	**64**	P		Pn	08 16 00.8	+0.1
PRGZ	**Paritu Road**	**0.74**	**83**	P		Pb	08 16 00.7	+0.1
RRRZ	**Republican Roa**	**0.76**	**334**	P		Pb	08 16 00.9	+0.1
KRHZ	**Kereru**	**0.76**	**215**	P		Pn	08 16 01.3	-0.1
KRHZ	**Kereru**	**0.76**	**215**	P		Pn	08 16 01.3	-0.1
MHGZ	**Mahia Peninsul**	**0.77**	**100**	P		Pb	08 16 00.9	0.0
URZ	**Rewera**	**0.77**	**10**	P		Pb	08 16 01.0	-0.1
KAHZ	**Kahuranaki**	**0.78**	**184**	P		Pn	08 16 01.5	0.0
WPRZ	**Whakapapatarin**	**0.79**	**309**	P		Pb	08 16 01.4	+0.1
HRRZ	**Handcock Road**	**0.81**	**321**	P		Pn	08 16 02.0	0.0
MWZ	**Matawai**	**0.82**	**34**	P		Pb	08 16 01.9	0.0
BHHZ	**Black Hill Sta**	**0.83**	**235**	P		Pb	08 16 01.7	-0.3
RITZ	**Rihia Road**	**0.84**	**272**	P		Pn	08 16 02.6	+0.1
WHTZ	**Whakaora**	**0.84**	**294**	P		Pn	08 16 02.7	+0.2
TARZ	**Mount Tarawera**	**0.85**	**336**	P		Pb	08 16 02.5	0.0
TARZ	**Mount Tarawera**	**0.85**	**336**	P		Pb	08 16 02.5	0.0
HSRZ	**Hossack Road**	**0.89**	**322**	P		Pn	08 16 03.3	+0.2
HLRZ	**Highlands Stat**	**0.89**	**329**	P		Pn	08 16 03.9	+0.8
HLRZ	**Highlands Stat**	**0.89**	**329**	P		Pn	08 16 03.9	+0.8
TKGZ	**Te Karaka**	**0.92**	**51**	P		Pb	08 16 03.5	+0.1
RATZ	**Rangitukua**	**0.92**	**279**	P		Pn	08 16 03.6	0.0
EDRZ	**Edgecumbe**	**0.92**	**350**	P		Pn	08 16 03.4	-0.2
GRRZ	**Galatos Road**	**0.93**	**316**	P		Pn	08 16 03.8	0.0
MKRZ	**Makatiti**	**0.95**	**337**	P		Pn	08 16 04.7	+0.5
KATZ	**Kakaramea**	**0.97**	**272**	P		Pn	08 16 04.2	+0.1
WATZ	**Wairara**	**0.99**	**288**	P		Pn	08 16 04.2	-0.3
WATZ	**Wairara**	**0.99**	**288**	P		Pn	08 16 04.2	-0.3
MOVZ	**Moawhango**	**1.00**	**247**	P		Pn	08 16 04.8	+0.1
KRVZ	**Karewarewa**	**1.01**	**265**	P		Pn	08 16 04.8	-0.1
PXZ	**Pawanui**	**1.01**	**183**	P		Pn	08 16 03.8	-0.9
OMRZ	**Omania**	**1.01**	**334**	P		Pn	08 16 04.5	-0.3
KUTZ	**Kaahu Road**	**1.02**	**301**	P		Pn	08 16 04.7	-0.2
UTU	**Utuhina**	**1.02**	**325**	P		Pb	08 16 06.1	+0.8
TUVZ	**Tukino**	**1.03**	**256**	P		Pb	08 16 05.4	-0.1
MARZ	**Manawahe**	**1.05**	**349**	P		Pn	08 16 05.3	0.0
NGZ	**Ngauruhoe**	**1.05**	**261**	P		Pn	08 16 05.5	+0.1
WTVZ	**West Tongariro**	**1.05**	**264**	P		Pn	08 16 05.5	+0.1
PNHZ	**Pukenui**	**1.06**	**212**	P		Pn	08 16 05.1	-0.3
WHVZ	**Whangaehu Hut**	**1.08**	**255**	P		Pn	08 16 06.1	+0.1
DRZ	**Dome Shelter**	**1.10**	**256**	P		Pb	08 16 07.0	+0.2
DRZ	**Dome Shelter**	**1.10**	**256**	P		Pb	08 16 07.5	+0.7
COVZ	**Chateau Observ**	**1.10**	**260**	P		Pn	08 16 06.1	+0.1
FWVZ	**Far West T-bar**	**1.10**	**257**	P		Pn	08 16 06.2	0.0
WPHZ	**Waipukurau**	**1.11**	**200**	P		Pn	08 16 05.7	-0.4
TRVZ	**Turoa**	**1.12**	**255**	P		Pn	08 16 06.5	+0.1
CNGZ	**Carnagh Statio**	**1.13**	**62**	P		Pb	08 16 07.4	+0.3
KARZ	**Kaharoa**	**1.14**	**331**	P		Pb	08 16 07.2	-0.1
WHRZ	**Whale Island**	**1.16**	**1**	P		Pn	08 16 07.2	+0.4
TWVZ	**Taurewa**	**1.17**	**267**	P		Pn	08 16 06.7	-0.3
TWGZ	**Tauwhareparae**	**1.17**	**44**	P		Pb	08 16 07.5	-0.4
MTVZ	**Mangateitei**	**1.20**	**252**	P		Pn	08 16 07.8	+0.4
RUGZ	**Raukumara Rang**	**1.20**	**29**	P		Pn	08 16 07.8	+0.4
OPRZ	**Ohinepanea**	**1.21**	**345**	P		Pn	08 16 06.6	-0.8
PKVZ	**Pokaka**	**1.27**	**257**	P		Pn	08 16 08.6	+0.3
PRHZ	**Porangahau**	**1.27**	**191**	P		Pn	08 16 07.2	-1.1
TSZ	**Takapari Road**	**1.28**	**216**	P		Pn	08 16 07.8	-0.7
TLZ	**Tolley Road**	**1.29**	**302**	P		Pn	08 16 08.1	-0.5
TGRZ	**Tauranga**	**1.39**	**337**	P		Pn	08 16 09.6	-0.4
PUZ	**Puketiti**	**1.40**	**48**	P		Pn	08 16 10.1	0.0
KMRZ	**Kaimai**	**1.41**	**326**	P		Pn	08 16 10.9	+0.6
DVHZ	**Dannevirke**	**1.41**	**205**	P		Pn	08 16 08.9	-1.3
HAZ	**Te Kaha**	**1.42**	**28**	P		Pn	08 16 10.2	-0.2
PKGZ	**Pakihiroa**	**1.44**	**39**	P		Pn	08 16 11.0	+0.4
ANWZ	**Angora Road**	**1.48**	**194**	P		Pn	08 16 10.3	-0.9
POWZ	**Post Office Ro**	**1.64**	**213**	P		Pn	08 16 12.7	-0.7
WMGZ	**Waiomatatini S**	**1.67**	**45**	P		Pn	08 16 13.6	-0.2
WAZ	**Wanganui**	**1.68**	**243**	P		Pn	08 16 15.2	+1.2
VRZ	**Vera Road**	**1.70**	**266**	P		Pn	08 16 14.8	+0.6
HIZ	**Hauiti**	**1.71**	**287**	P		Pn	08 16 14.6	+0.3
PRWZ	**Pori Road**	**1.71**	**206**	P		Pn	08 16 13.2	-1.1
TOZ	**Tahuroa Road**	**1.71**	**318**	P		Pn	08 16 14.1	-0.2
BFZ	**Birch Farm**	**1.75**	**198**	P		Pn	08 16 13.1	-1.7
MRZ	**Mangatainoka R**	**1.95**	**212**	P		Pn	08 16 15.9	-1.7
DREZ	**Durham Road**	**2.14**	**265**	P		Pn	08 16 22.2	+1.9
HOWZ	**Holdsworth Sta**	**2.17**	**210**	P		Pn	08 16 18.5	-2.3
PREZ	**Palmer Road**	**2.19**	**261**	P		Pn	08 16 22.8	+1.8
TMWZ	**Te Maipa**	**2.23**	**201**	P		Pn	08 16 19.3	-2.3
OGWZ	**Otaki Gorge**	**2.25**	**217**	P		Pn	08 16 19.9	-1.9
PKE	**Pukeiti**	**2.30**	**265**	P		Pn	08 16 24.3	+1.8
MTW	**Mount Morrison**	**

JHJ2				*e*Sn	**Sn**	**08 51 27.5**	**+0.1**
MJAR	**Matsushiro Arr**	**2.35**	**320**	Pn	**Pn**	**08 51 16.7**	**+0.1**
	19nm,0.3s,baz=138,slow=13,SNR=12						
MJAR				Sn	**Sn**	**08 51 45.0**	**+0.6**
	17nm,0.3s,baz=156,slow=9.7,SNR=6.8						
MJAR				LR	LR	08 52 00.9	
	comp=Z,94nm,20.2s,baz=110,slow=35						
MAJO	**Matsushiro**	**2.35**	**320**	*e*Pn	**Pn**	**08 51 17.2**	**+0.5**
MAJO				*e*Sn	**Sn**	**08 51 45.0**	**+0.5**
MAJO				Lg	Lg	08 51 46.1	
MAT	**Matsushiro**	**2.35**	**320**	P	**Pn**	**08 51 17.2**	**+0.5**
MAT				S	**Sn**	**08 51 45.2**	**+0.8**
MJB9	**Matsu-Tunnel**	**2.36**	**320**	*e*Pn	**Pn**	**08 51 17.3**	**+0.6**
MJB9				*e*Sn	**Sn**	**08 51 46.2**	**+1.6**
CBIJ	**Chichi jima**	**7.84**	**166**	*e*Pn	**Pn**	**08 52 31.2**	**-0.7**
JCJ	**Chichijima**	**7.84**	**166**	Pn	**Pn**	**08 52 30.9**	**-1.0**
	6.6nm,0.3s,baz=275,slow=21,SNR=7.3						
KSRS	**Korea Array**	**10.21**	**289**	LR	LR	08 56 44.2	
	comp=Z,84nm,20.1s,baz=82,slow=40						
PETK	**Petropavlovsk-**	**22.19**	**29**	LR	LR	09 04 16.6	
	comp=Z,25nm,19.4s,baz=189,slow=35						
MA2	**Magadan**	**25.80**	**13**	LR	LR	09 07 54.5	
	comp=Z,19nm,18.6s,baz=132,slow=39						
H11N2	**WAKE ISLAND Hy**	**28.02**	**115**	T	T	09 26 05.4	
	baz=308,slow=75,SNR=64						
H11N1	**WAKE ISLAND Hy**	**28.03**	**115**	T	T	09 26 05.2	
	baz=308,slow=75,SNR=76						
H11N3	**WAKE ISLAND Hy**	**28.04**	**115**	T	T	09 26 05.5	
	baz=308,slow=75,SNR=65						
SONA0	**Songino Array**	**28.25**	**308**	*e*P	**P**	**08 56 27.0**	**-0.9**
SONM	**Songino Array**	**28.25**	**308**	P	**P**	**08 56 27.0**	**-0.9**
	0.4nm,0.4s,baz=108,slow=9.3,SNR=3.0						
H11S3	**WAKE ISLAND Hy**	**28.64**	**118**	T	T	09 26 49.7	
	baz=310,slow=76,SNR=35						
H11S1	**WAKE ISLAND Hy**	**28.64**	**118**	T	T	09 26 55.3	
	baz=310,slow=76,SNR=30						
H11S2	**WAKE ISLAND Hy**	**28.66**	**118**	T	T	09 26 58.9	
	baz=310,slow=76,SNR=38						
CMAR	**Chiang Mai Arr**	**39.91**	**257**	LR	LR	09 14 12.9	
	comp=Z,24nm,18.0s,baz=50,slow=37						
MK01	**Makanchi Array**	**44.45**	**304**	*e*P	**P**	**08 58 45.3**	**-0.2**
MK31	**Makanchi Array**	**44.46**	**304**	*e*P	**P**	**08 58 43.6**	**-1.9**
MK32	**Makanchi Array**	**44.46**	**304**	*e*P	**P**	**08 58 45.5**	**-0.1**
MKAR	**Makanchi Array**	**44.46**	**304**	P	**P**	**08 58 45.5**	**-0.1**
	0.7nm,0.7s,baz=89,slow=9.5,SNR=6.7						
MKAR	**Makanchi Array**	**44.46**	**304**	*e*P	**P**	**08 58 43.7**	**-1.8**
	6.0nm,0.8s						
KURK	**Kurchatov**	**46.52**	**310**	*e*P	**P**	**08 59 02.0**	**+0.2**
KURBB	**Kurchatov Arra**	**46.59**	**310**	P	**P**	**08 59 02.0**	**-0.3**
	0.9nm,0.6s,baz=85,slow=7.2,SNR=6.2						
KULM	**Kulim**	**46.75**	**240**	*e*P	P	08 58 58.6	-5.3
	6.3nm,1.0s						
ILAR	**Eielson Array**	**51.99**	**31**	P	P	08 59 57.1	+14
	0.5nm,0.8s,baz=268,slow=6.6,SNR=4.3						
KK31	**Karatay Array**	**53.36**	**301**	*e*P	**P**	**08 59 54.6**	**+0.9**
KKAR	**Karatay Array**	**53.36**	**301**	*e*P	**P**	**08 59 54.7**	**+0.9**
WRAB	**Tennant Creek**	**54.66**	**187**	*e*P	**P**	**09 00 02.8**	**-0.5**
	5.2nm,0.8s						
WB2	**Warramunga Arr**	**54.67**	**187**	*e*P	**P**	**09 00 02.9**	**-0.5**
	4.9nm,0.8s						
WR1	**Warramunga Arr**	**54.67**	**187**	*e*P	**P**	**09 00 02.7**	**-0.7**
WRA	**Warramunga Arr**	**54.67**	**187**	P	**P**	**09 00 02.7**	**-0.7**
	4.9nm,0.8s,baz=3.5,slow=7.7,SNR=38						
AS01	**Alice Springs**	**58.39**	**187**	*e*P	**P**	**09 00 29.5**	**-0.3**
ASAR	**Alice Springs**	**58.40**	**187**	P	**P**	**09 00 29.4**	**-0.4**
	1.3nm,0.9s,baz=6.5,slow=7.7,SNR=11						
ABKAR	**Akbulak array**	**58.60**	**311**	*e*P	**P**	**09 00 31.1**	**+0.1**
YKA	**Yellowknife Ar**	**66.31**	**29**	P	P	09 01 35.9	+14
	0.1nm,0.7s,baz=304,slow=6.4,SNR=2.6						
KBZ	**Khabaz**	**71.57**	**311**	P	**P**	**09 01 56.3**	**+1.1**
	1.5nm,0.8s,baz=346,slow=4.1,SNR=3.5						
CLL	**Collm**	**82.53**	**330**	*e*P	P	09 03 03.6	+7.1

ISK ***23*** *08:58:44.5,38°.24N×29°.88E,h5km,ML2.4/7*
ISCJB ***23*** *08:58:45.5±0.5,38°.23N±0°.03×29°.86E±0°.03,h4km±6km, Error ellipse: s-maj=4.5km s-min=3.7km az=11.4*
CSEM ***23*** *08:58:45.5±0.2,38°.25N×29°.89E,h5km,MD2.9, Error ellipse: s-maj=3.8km s-min=3.2km az=19.0*
DDA ***23*** *08:58:45.2,38°.23N×29°.87E,h4km,Md2.9*

ISC 23 08:58:45.4±0.9, 38°.22N±0°.02×29°.88E±0°.02, h11km±7km, n30, σ0s58/49, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KZIL	**AFYON_Kizioren**	**0.21**	**80**	*i* P		**Pg**	**08 58 49.3**	**-0.6**
KZIL				*i* S		**Sg**	**08 58 53.4**	**+0.4**
KZIL	**AFYON_Kizioren**	**0.21**	**80**	P		**Pg**	**08 58 49.3**	**-0.6**
KZIL				S		**Sg**	**08 58 53.3**	**+0.4**
KHL	**Karahalli**	**0.30**	**290**	PG		**Pg**	**08 58 51.5**	**+0.1**
KHL	**Karahalli**	**0.30**	**290**	*e*Pg		**Pg**	**08 58 51.5**	**+0.1**
KHAL	**Karahalli**	**0.34**	**296**	*i* P		**Pg**	**08 58 52.2**	**0.0**
KHAL				*i* S		**Sb**	**08 58 58.0**	**-1.0**
KHAL	**Karahalli**	**0.34**	**296**	P		**Pg**	**08 58 52.2**	**0.0**
KHAL				S		**Sb**	**08 58 58.0**	**-1.0**
BRDR	**BURDUR-Merkez**	**0.54**	**165**	*i* P		**Pg**	**08 58 55.4**	**-0.6**
BRDR				*i* S		**Sg**	**08 59 03.7**	**+0.5**
BRDR	**BURDUR-Merkez**	**0.54**	**165**	P		**Pg**	**08 58 55.4**	**-0.6**
BRDR				S		**Sg**	**08 59 03.7**	**+0.5**
SHUT	**Suhut-Afyon**	**0.62**	**58**	PG		**Pg**	**08 58 57.2**	**-0.3**
SHUT				SG		**Sb**	**08 59 07.4**	**+0.2**
SHUT	**Suhut-Afyon**	**0.62**	**58**	*e*Pg		**Pg**	**08 58 57.2**	**-0.3**
SHUT				*e*Sg		**Sb**	**08 59 07.4**	**+0.2**
ISP	**Isparta**	**0.65**	**128**	PG		**Pb**	**08 58 58.8**	**+0.1**
ISP				SG		**Sb**	**08 59 08.1**	**+0.3**
ISP	**Isparta**	**0.65**	**128**	*e*Pg		**Pb**	**08 58 58.8**	**+0.1**
ISP				*e*Sg		**Sb**	**08 59 08.1**	**+0.3**
BAGO	**Egridir - ISPA**	**0.75**	**108**	*i* P		**Pg**	**08 58 59.4**	**-0.5**
BAGO				*i* S		**Sn**	**08 59 12.5**	**-1.0**
GDZ	**Gediz**	**0.92**	**340**	*i* P		**Pg**	**08 59 02.8**	**-0.3**
GDZ				*i* S		**Sb**	**08 59 15.8**	**0.0**
GDZ	**Gediz**	**0.92**	**340**	P		**Pg**	**08 59 02.8**	**-0.3**
GDZ				S		**Sb**	**08 59 15.8**	**0.0**
BOLV	**Bolvadin**	**0.98**	**59**	*i* P		**Pg**	**08 59 03.6**	**-0.6**
BOLV				*i* S		**Sn**	**08 59 19.2**	**+0.1**
BOLV	**Bolvadin**	**0.98**	**59**	P		**Pg**	**08 59 03.6**	**-0.6**
KULA	**Kula-Manisa**	**1.00**	**287**	PG		**Pb**	**08 59 04.9**	**+0.1**
KULA	**Kula-Manisa**	**1.00**	**287**	*e*Pg		**Pb**	**08 59 04.9**	**+0.1**
GOLH	**Golhisar**	**1.01**	**194**	*i* P		**Pg**	**08 59 02.9**	**-2.0**
GOLH				*i* S		**Sn**	**08 59 21.7**	**+1.7**
MANT	**Manisa**	**1.07**	**285**	*i* P		**Pb**	**08 59 06.2**	**+0.1**
MANT				*i* S		**Sg**	**08 59 19.5**	**-0.5**
MANT	**Manisa**	**1.07**	**285**	P		**Pb**	**08 59 06.2**	**+0.1**
MANT				S		**Sg**	**08 59 19.5**	**-0.5**
TAVA	**DENIZLI_Tavas**	**1.07**	**226**	*i* P		**Pn**	**08 59 06.8**	**+0.3**
TAVA				*i* S		**Sb**	**08 59 20.5**	**+0.4**
TAVA	**DENIZLI_Tavas**	**1.07**	**226**	P		**Pn**	**08 59 06.8**	**+0.3**
TAVA				S		**Sb**	**08 59 20.5**	**+0.4**
SIMA	**Simav-Kutahya**	**1.11**	**321**	PN		**Pb**	**08 59 06.7**	**0.0**
SIMA	**Simav-Kutahya**	**1.11**	**321**	*e*Pn		**Pb**	**08 59 06.7**	**0.0**
TVSB	**Tavsanli**	**1.27**	**345**	PN		**Pn**	**08 59 09.3**	**+0.1**
TVSB	**Tavsanli**	**1.27**	**345**	*e*Pn		**Pn**	**08 59 09.3**	**+0.1**
AYDB	**Zeytinkoy-Aydi**	**1.59**	**261**	PN		**Pg**	**08 59 15.6**	**-0.3**
AYDB	**Zeytinkoy-Aydi**	**1.59**	**261**	*e*Pn		**Pg**	**08 59 15.6**	**-0.3**

CSEM ***23*** *09:01:17.1,32°.67N×46°.99E,h0km,ML3.1*
ISN ***23*** *09:01:17.1±1.1,32°.67N×46°.99E,h0km±4km,ML3.1*

TEH 23 09:01:21.4, 32°.69N×46°.92E, h7km, ML3.1, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
IKFM	**Kafar-mosalman**	**1.14**	**43**	*e*Pg		Pg	09 01 41.9	-1.3
IKFM				*e*AMB		AMB	09 02 01.3	
	comp=Z,99nm,0.2s							
IKOM	**Komasi**	**1.56**	**18**	*e*Pn		Pn	09 01 50.0	+0.3
IKOM				*e*AMB		AMB	09 01 53.0	
	comp=Z,3μm,0.2s							
IGHG	**Ghaleghazi**	**1.66**	**350**	*e*Pn		Pn	09 01 51.2	0.0
IGHG				*e*AMB		AMB	09 02 26.7	
	comp=Z,4μm,0.3s							
NSR	**Nassriya**	**1.80**	**202**	*e*Pn		Pn	09 01 51.0	-1.9
	SNR=4.0							
NSR				*e*Sn		Sn	09 02 15.0	-1.0
	SNR=4.0							
IVIS	**Veis**	**1.83**	**358**	*e*Pn		Pn	09 01 52.7	-0.7
IVIS				*e*AMB		AMB	09 02 24.0	
	comp=Z,1μm,0.2s							
IDHR	**Dehrash**	**2.05**	**348**	*e*AMB		AMB	09 02 29.2	
	comp=Z,3μm,0.2s							
ILIN	**Lien**	**2.22**	**1**	*e*Pn		Pn	09 01 59.0	+0.1
ILIN				*e*AMB		AMB	09 02 39.2	
	comp=Z,608nm,0.1s							
IRAZ	**Razeghan**	**3.68**	**42**	*e*Pn		Pn	09 02 18.3	-0.6
IRAZ				*e*AMB		AMB	09 02 38.8	
	comp=Z,207nm,0.3s							
IKLH	**Kolahrood**	**3.96**	**80**	*e*Pn		Pn	09 02 22.4	-0.4
IKLH				*e*AMB		AMB	09 02 23.0	
	comp=Z,174nm,0.2s							
RTB	**Rutbah**	**5.58**	**275**	*e*Pn		Pn	09 02 44.0	-0.9
	SNR=4.0							
RTB				*e*Sn		Sn	09 03 49.0	-0.2
	SNR=4.0							

ISK ***23*** *09:04:14.4,37°.24N×32°.01E,h5km,ML2.6/3*
CSEM ***23*** *09:04:16.6±0.4,37°.29N×31°.99E,h8km,MD2.4, Error ellipse: s-maj=11.3km s-min=8.8km az=95.0*
DDA ***23*** *09:04:16.6,37°.29N×31°.97E,h7km,Md2.4*

ISC 23 09:04:16.0±1.3, 37°.27N±0°.03×31°.99E±0°.03, h1km±12km, n14, σ1s21/24, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KEPZ	**Antalya-Kepez**	**0.48**	**221**	*i* P		**Pg**	**09 04 25.7**	**+0.5**
KEPZ				*i* S		**Sb**	**09 04 34.5**	**-0.3**
KEPZ	**Antalya-Kepez**	**0.48**	**221**	P		**Pg**	**09 04 25.7**	**+0.5**
KEPZ				S		**Sb**	**09 04 34.5**	**-0.3**
SUTC	**Sutluce-Ispart**	**0.82**	**285**	PG		**Pg**	**09 04 30.9**	**-0.8**
SUTC				SG		**Sg**	**09 04 43.2**	**+0.8**
ERMK	**Ermenek**	**0.97**	**130**	*i* P		**Pb**	**09 04 36.0**	**+0.3**
ERMK				*i* S		**Sn**	**09 04 53.4**	**+2.1**
ERMK	**Ermenek**	**0.97**	**130**	P		**Pb**	**09 04 36.0**	**+0.3**
LADK	**Ladik-KONYA**	**0.98**	**17**	PG		**Pg**	**09 04 34.6**	**-0.1**
LADK				SG		**Sb**	**09 04 48.1**	**-1.1**
LADK	**Ladik-KONYA**	**0.98**	**17**	*e*Pg		**Pg**	**09 04 34.6**	**-0.1**
LADK				*e*Sg		**Sb**	**09 04 48.1**	**-1.1**
BAGO	**Egridir - ISPA**	**1.20**	**307**	*i* P		**Pg**	**09 04 38.9**	**-0.1**
BAGO				*i* S		**Sn**	**09 04 55.9**	**-1.1**
KDHN	**Kadinhani**	**1.25**	**4**	*i* P		**Pn**	**09 04 40.9**	**0.0**
KDHN				*i* S		**Sn**	**09 05 01.6**	**+3.2**
KDHN	**Kadinhani**	**1.25**	**4**	P		**Pn**	**09 04 40.8**	**0.0**
TEVE	**Tevekalti-Mers**	**1.43**	**125**	PN		**Pn**	**09 04 41.1**	**-2.0**
TEVE	**Tevekalti-Mers**	**1.43**	**125**	*e*Pn		**Pn**	**09 04 41.1**	**-2.0**
GULN	**MERSIN_Gulnar**	**1.65**	**131**	*i* P		**Pb**	**09 04 47.4**	**+0.1**
GULN				*i* S		**Sg**	**09 05 09.5**	**+0.5**
GULN	**MERSIN_Gulnar**	**1.65**	**131**	P		**Pb**	**09 04 47.3**	**+0.1**
GULN				S		**Sg**	**09 05 09.5**	**+0.5**

IDC ***23*** *09:14:25.8±0.7,11°.37N×126°.60E,h0km,mb4.1/14, mb1 4.1/14,mb1mx3.8/61,mbtmp4.0/14,MS2.9/5, Ms1 3.0/5,ms1mx2.5/61,Error ellipse: s-maj=45.6km s-min=14.8km az=67.0*
ISCJB ***23*** *09:14:30.0±0.4,11°.38N±0°.05×126°.64E±0°.05,h40km, mb4.1/19,MS3.4/2,Error ellipse: s-maj=7.7km s-min=6.8km az=31.1*
NEIC ***23*** *09:14:33.2±3.1,11°.31N×126°.60E,h54km±28km,mb4.3/6, Error ellipse: s-maj=21.0km s-min=5.7km az=65.0*

ISC 23 09:14:31.8±0.6, 11°.43N±0°.07×126°.60E±0°.09, h40km, n39, σ0s90/40, mb4.2/19, 1C-1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PLP	**Palo**	**1.61**	**261**	⇓*e*P		**Pn**	**09 14 56.2**	**-1.6**
PLP				*i* S		**Sn**	**09 15 16.2**	**-1.2**
MSLP	**Maasin**	**2.14**	**233**	*e*P		**Pn**	**09 15 05.1**	**0.0**
MSLP				*e*S		**Sn**	**09 15 31.9**	**+1.4**
CNP	**Catarman**	**2.18**	**300**	*e*P		**Pn**	**09 15 03.7**	**-1.8**
CNP				*e*S		**Sn**	**09 15 30.9**	**-0.4**
RCP	**Roxas**	**3.78**	**272**	⇑*e*P		**Pn**	**09 15 28.7**	**+1.1**
DAV	**Davao City (W)**	**4.45**	**193**	LR		LR	09 17 13.9	
	comp=Z,64nm,18.2s,baz=106,slow=38							
GUMO	**Guam**	**17.96**	**81**	LR		LR	09 24 15.5	
	comp=Z,38nm,19.6s,baz=93,slow=33							
MTN	**Manton Dam**	**24.53**	**169**	*e*P		**P**	**09 19 47.4**	**-0.4**
	4.1nm,0.6s							
KSRS	**Korea Array**	**25.94**	**2**	LR		LR	09 31 10.5	
	comp=Z,11nm,18.1s,baz=35,slow=39							
CMAR	**Chiang Mai Arr**	**27.59**	**288**	P		**P**	**09 20 15.1**	**-0.5**
	0.9nm,0.3s,baz=109,slow=7.2,SNR=4.7							
WR1	**Warramunga Arr**	**32.09**	**166**	*e*P		**P**	**09 20 53.9**	**-1.5**
	2.3nm,0.9s							
WR1				*e*PcP		**PcP**	**09 23 44.3**	**+0.1**
WRA	**Warramunga Arr**	**32.09**	**166**	P		**P**	**09 20 53.9**	**-1.5**
	0.6nm,0.4s,baz=346,slow=9.2,SNR=20							
WRA				PcP		**PcP**	**09 23 44.3**	**+0.1**
	0.6nm,0.9s,baz=348,slow=3.4,SNR=3.4							
AS31	**Alice Springs**	**35.61**	**168**	*e*P		**P**	**09 21 25.1**	**-0.8**
	0.9nm,0.9s							
ASAR	**Alice Springs**	**35.61**	**168**	P		**P**	**09 21 24.9**	**-1.0**
	0.9nm,0.3s,baz=351,slow=7.2,SNR=42							
ASAR				PcP		**PcP**	**09 23 54.1**	**0.0**
	0.3nm,0.5s,baz=348,slow=2.5,SNR=4.2							
SONA0	**Songino Array**	**40.05**	**339**	*e*P		**P**	**09 22 03.6**	**+0.3**
SONM	**Songino Array**	**40.05**	**339**	P		**P**	**09 22 03.6**	**+0.3**
	0.7nm,0.6s,baz=132,slow=6.4,SNR=4.2							
STKA	**Stephengen Creek**	**45.40**	**162**	P		**P**	**09 22 46.0**	**-0.6**
	1.4nm,0.8s,baz=355,slow=9.7,SNR=4.2							
MK01	**Makanchi Array**	**51.29**	**322**	*e*P		**P**	**09 23 33.0**	**+1.0**
MK31	**Makanchi Array**	**51.31**	**322**	*e*P		**P**	**09 23 33.6**	**+1.5**
MK32	**Makanchi Array**	**51.31**	**322**	*e*P		**P**	**09 23 32.8**	**+0.7**
MKAR	**Makanchi Array**	**51.31**	**322**	P		**P**	**09 23 32.8**	**+0.7**
	2.0nm,0.7s,baz=113,slow=8.1,SNR=16							
MKAR	**Makanchi Array**	**51.31**	**322**	*e*P		**P**	**09 23 33.6**	**+1.5**
	12nm,0.7s							
MAKZ	**Makanchi**	**51.51**	**322**	*e*P		**P**	**09 23 35.2**	**+1.6**
	3.7nm,1.0s							
BVAR	**Borovoye Array**	**60.90**	**325**	P		**P**	**09 24 40.9**	**+0.4**
	2.0nm,0.7s,baz=110,slow=8.3,SNR=12							
BRVK	**Borovoye**	**60.97**	**325**	*e*P		**P**	**09 24 42.2**	**+1.2**
	4.8nm,0.9s							
ABKAR	**Akbulak array**	**66.22**	**319**	*e*P		**P**	**09 25 16.3**	**+0.7**
ARU	**Arti**	**68.44**	**326**	P		**P**	**09 25 29.4**	**-0.2**
	2.0nm,0.5s,baz=87,slow=7.7,SNR=3.8							
ILAR	**Eielson Array**	**78.26**	**26**	LR		LR	10 00 01.6	
	comp=Z,21nm,20.7s,baz=170,slow=35							
SPITS	**Spitsbergen Ar**	**82.95**	**349**	P		**P**	**09 26 52.7**	**+0.5**
	8.0nm,1.0s,baz=102,slow=3.4,SNR=3.5							
ARA0	**ARCESS Array S**	**83.22**	**340**	*e*P		**P**	**09 26 54.0**	**+0.3**
ARCES	**ARCESS Array B**	**83.22**	**340**	P		**P**	**09 26 54.0**	**+0.3**
	3.6nm,0.8s,baz=80,slow=6.5,SNR=4.6							
FIA0	**FINESS Array S**	**85.03**	**332**	*e*P		**P**	**09 27 03.3**	**+0.3**
FINES	**FINESS Array B**	**85.03**	**332**	P		**P**	**09 27 03.3**	**+0.3**
	1.7nm,0.9s,baz=56,slow=5.2,SNR=3.7							
BR101	**Keskin Array S**	**85.05**	**309**	*e*P		**P**	**09 27 03.6**	**-0.2**
BRTR	**Keskin Array B**	**85.05**	**309**	P		**P**	**09 27 03.6**	**-0.2**
	0.4nm,0.6s,baz=111,slow=3.6,SNR=2.7							
AKASG	**Malin Array Be**	**85.87**	**321**	P		**P**	**09 27 07.3**	**-0.2**
	0.2nm,0.3s,baz=65,slow=3.5,SNR=3.1							
RES	**Resolute Bay**	**90.30**	**10**	LR		LR	10 14 13.5	
	comp=Z,11nm,19.6s,baz=70,slow=40							
YKA	**Yellowknife Ar**	**92.57**	**24**	P		**P**	**09 27 38.8**	**0.0**
	0.2nm,0.8s,baz=302,slow=4.5,SNR=3.6							
TOA1	**Torodi Ar. Sit**	**120.13**	**293**	*e*PKPdf		**PKPdf**	**09 33 19.2**	**-0.2**
TORD	**Torodi Ar. Bea**	**120.13**	**293**	PKP		**PKPdf**	**09 33 19.2**	**-0.2**
	0.5nm,0.9s,baz=57,slow=3.2,SNR=3.2							

ISCJB ***23*** *09:21:55.0±0.7,53°.85N±0°.07×90°.6E±0°.1,h10km,mb3.9/5, MS3.0/2,Error ellipse: s-maj=12.1km s-min=5.7km az=138.8*
IDC ***23*** *09:21:55.4±1.0,53°.76N×91°.04E,h0km,mb3.5/4, mb1 3.7/7,mb1mx3.4/71,mbtmp3.6/7,ML3.2/3,MS2.8/3, Ms1 2.8/3,ms1mx2.3/77,Error ellipse: s-maj=22.3km s-min=9.3km az=141.0*
NNC ***23*** *09:21:59.1±2.9,53°.76N×90°.55E,h6km±13km,mb4.2, mpv4.0,Error ellipse: s-maj=23.0km s-min=18.1km az=30.0*

ISC 23 09:21:57.0±0.9, 53°.83N±0°.09×90°.83E±0°.07, h10km, n19, σ1s45/19, mb3.6/5, 4C-7D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
ZAA0	**Zalesovo Array**	**3.56**	**274**	⇓Pg		**Pb**	**09 23 00.3**	**+0.4**
	44nm,1.3s							
ZAA0				⇓Lg		Lg	09 23 49.1	
	284nm,0.9s							
ZALV	**Zalesovo Beam**	**3.56**	**274**	Pn		**Pn**	**09 22 55.6**	**+3.4**
	1.2nm,0.3s,baz=94,slow=14,SNR=4.9							
ZALV				Sn		**Sb**	**09 23 40.2**	**-2.9**
	3.9nm,0.3s,baz=91,slow=15,SNR=7.2							
ZALV				Lg		Lg	09 23 50.2	
	6.6nm,0.3s,baz=86,slow=26,SNR=5.4							
ZALV				LR		LR	09 24 37.3	
	comp=Z,60nm,21.6s,baz=70,slow=44							
TLY	**Talaya**	**8.07**	**100**	Lg		Lg	09 26 00.6	
	0.0nm,0.3s,baz=207,slow=22,SNR=6.6							
KURK	**Kurchatov**	**8.11**	**252**	⇓Pn		**Pn**	**09 23 55.6**	**+0.9**
	12nm,1.1s							
KURK				⇑Sn		**Sn**	**09 25 25.1**	**-1.2**
	39nm,1.0s							
KURK				⇓Lg		Lg	09 26 11.8	
	83nm,0.8s							
KURBB	**Kurchatov Arra**	**8.20**	**252**	Pn		**Pn**	**09 23 57.5**	**+1.5**
	0.4nm,0.3s,baz=66,slow=15,SNR=15							
KURBB				Sn		**Sn**	**09 25 28.1**	**-0.5**
	0.1nm,0.3s,baz=67,slow=26,SNR=5.6							
KURBB				Lg		Lg	09 26 16.1	
	0.2nm,0.3s,baz=70,slow=31,SNR=12							
MK31	**Makanchi Array**	**8.90**	**221**	Pn		**Pn**	**09 24 07.1**	**+1.5**
	4.2nm,0.7s,baz=34,slow=12,SNR=65							
MK31				Sn		**Sn**	**09 25 47.4**	**+1.4**
	13nm,1.0s,baz=48,slow=26,SNR=4.8							
MK31				⇓Lg		Lg	09 26 33.8	
	33nm,0.8s,baz=49,slow=30,SNR=4.6							
MKAR	**Makanchi Array**	**8.90**	**221**	Pn		**Pn**	**09 24 06.5**	**+0.9**
	1.4nm,0.3s,baz=32,slow=12,SNR=35							
MKAR				Sn		**Sn**	**09 25 45.9**	**-0.1**
	0.4nm,0.3s,baz=38,slow=24,SNR=4.8							
MKAR				Lg		Lg	09 26 37.3	
	0.4nm,0.3s,baz=42,slow=30,SNR=6.3							
MAKZ	**Makanchi**	**9.02**	**222**	⇑Pn		**Pn**	**09 24 07.3**	**+0.1**
	7.0nm,1.2s							
MAKZ				⇑Sn		**Sn**	**09 25 48.2**	**-0.5**
	24nm,1.4s							
MAKZ				⇑Lg		Lg	09 26 42.3	
	27nm,0.9s							
SONM	**Songino Array**	**11.52**	**115**	Lg		Lg	09 27 51.9	
	0.1nm,0.3s,baz=297,slow=26,SNR=8.0							
BVAR	**Borovoye Array**	**12.21**	**275**	Sn		**Sn**	**09 27 06.0**	**-1.0**
	0.2nm,0.3s,baz=77,slow=21,SNR=2.9							
PDGK	**Podgornoye**	**12.89**	**220**	⇓Lg		Lg	09 28 44.8	
	22nm,1.2s							
TKM2	**Tokmak 2**	**14.84**	**229**	⇓Lg		Lg	09 29 46.6	
	24nm,1.2s							
AAK	**Ala-Archa**	**15.57**	**231**	Lg		Lg	09 30 08.0	
	baz=311,slow=23,SNR=6.0							
YAK	**Yakutsk**	**21.90**	**52**	P		**P**	**09 26 48.4**	**-1.4**
	64nm,0.5s,baz=166,slow=1.2,SNR=6.1							
TIXI	**Tiksi**	**24.25**	**28**	P		**P**	**09 27 13.6**	**-0.1**
	4.0nm,1.0s,baz=276,slow=6.4,SNR=6.0							
TIXI				LR		LR	09 37 51.4	
	comp=Z,15nm,18.0s,baz=262,slow=39							
WSAR	**Wadi Sarin**	**38.98**	**231**	LR		LR	09 48 00.1	
	comp=Z,55nm,18.9s,baz=330,slow=40							
ILAR	**Eielson Array**	**53.71**	**27**	P		**P**	**09 31 18.1**	**-0.4**
	0.7nm,1.0s,baz=324,slow=5.6,SNR=5.7							
YKA	**Yellowknife Ar**	**62.31**	**13**	P		**P**	**09 32 18.8**	**0.0**
	0.1nm,0.3s,baz=343,slow=6.7,SNR=3.1							
TORD	**Torodi Ar. Bea**	**79.00**	**277**	P		**P**	**09 34 01.6**	**+0.5**
	0.6nm,0.8s,baz=44,slow=4.2,SNR=3.0							

**IDC 23 09:40:24.8±3.1, 54°.11N×87°.19E, h0km, mb1 2.6/2, mb1mx2.5/74, mbtmp2.6/2, ML2.4/2, Error ellipse: s-ma

PKE	**Pukeiti**	**1.42**	**306**	P	Pn	09 52 25.7 +1.5
BHW	**Baring Head**	**1.44**	**198**	P	Pn	09 52 24.0 -0.5
TCW	**Tory Channel**	**1.48**	**217**	P	Pn	09 52 24.8 -0.2
PLWZ	**Palliser**	**1.54**	**186**	P	Pn	09 52 25.0 -0.8
KUTZ	**Kaahu Road**	**1.57**	**10**	P	Pn	09 52 27.3 +1.0
MTHZ	**Maungataniwha**	**1.59**	**42**	P	Pn	09 52 27.7 +1.1
HIZ	**Hauiti**	**1.60**	**343**	P	Pn	09 52 27.1 +0.5
ALRZ	**Allen Road**	**1.62**	**25**	P	Pn	09 52 27.2 +0.2
WHHZ	**Waihua**	**1.67**	**55**	P	Pn	09 52 28.3 +0.7
PRRZ	**Plateau Road**	**1.70**	**25**	P	Pn	09 52 28.3 +0.3
TLZ	**Tolley Road**	**1.71**	**2**	P	Pn	09 52 28.0 -0.1
HRRZ	**Handcock Road**	**1.77**	**21**	P	Pn	09 52 29.8 +0.8
TUWZ	**Tuamarina**	**1.81**	**219**	P	Pn	09 52 29.0 -0.5
RTZ	**Ruatahuna**	**1.84**	**40**	P	Pn	09 52 30.6 +0.5
MUGZ	**Murupara**	**1.86**	**33**	P	Pn	09 52 30.4 +0.2
RRRZ	**Republican Roa**	**1.88**	**26**	P	Pn	09 52 30.9 +0.4
SNGZ	**Shannon Statio**	**1.92**	**50**	P	Pn	09 52 32.4 +1.4
TARZ	**Mount Tarawera**	**1.98**	**25**	P	Pn	09 52 32.5 +0.7
NNZ	**Nelson**	**1.98**	**233**	P	Pn	09 52 32.0 +0.3
BSWZ	**Blackbirch Sta**	**2.06**	**215**	P	Pn	09 52 32.3 -0.6
MHGZ	**Mahia Peninsul**	**2.08**	**66**	P	Pn	09 52 32.6 -0.6
PRGZ	**Paritu Road**	**2.18**	**60**	P	Pn	09 52 33.4 -1.1
URZ	**Urewera**	**2.19**	**36**	P	Pn	09 52 33.9 -0.8
RIGZ	**Rimuhau**	**2.22**	**54**	P	Pn	09 52 34.6 -0.5
TOZ	**Tahuroa Road**	**2.31**	**1**	P	Pn	09 52 36.5 +0.2
MWZ	**Matawai**	**2.34**	**44**	P	Pn	09 52 36.9 +0.1
QRZ	**Quartz Range**	**2.38**	**250**	P	Pn	09 52 36.5 -0.7
THZ	**Tophouse**	**2.59**	**228**	P	Pn	09 52 39.7 -0.5
RUGZ	**Raukumara Rang**	**2.69**	**40**	P	Pn	09 52 41.9 +0.2
TWGZ	**Tauwhareparae**	**2.70**	**47**	P	Pn	09 52 41.5 -0.2
KHZ	**Kahutara**	**2.78**	**211**	P	Pn	09 52 41.4 -1.4
HAZ	**Te Kaha**	**2.91**	**39**	P	Pn	09 52 44.6 +0.1
MKAZ	**Moumakai**	**2.94**	**355**	P	Pn	09 52 45.6 +0.6
PKGZ	**Pakihiroa**	**2.96**	**44**	P	Pn	09 52 45.8 +0.5
AWAZ	**Awhitu Peninsu**	**3.04**	**347**	P	Pn	09 52 47.6 +1.3
ETAZ	**East Tamaki Re**	**3.11**	**352**	P	Pn	09 52 48.4 +1.2
WTAZ	**Waiatarua**	**3.18**	**347**	P	Pn	09 52 49.5 +1.3
WMGZ	**Waiomatatini S**	**3.19**	**47**	P	Pn	09 52 46.9 -1.5
WIAZ	**Waiheke Island**	**3.25**	**355**	P	Pn	09 52 50.2 +1.0
DSZ	**Dennistoun Nort**	**3.26**	**237**	P	Pn	09 52 48.3 -1.0
KUZ	**Kuaotunu**	**3.29**	**4**	P	Pn	09 52 50.0 +0.2
RVAZ	**Riverhead Bore**	**3.34**	**348**	P	Pn	09 52 51.3 +0.9
LTZ	**Lake Taylor**	**3.64**	**220**	P	Pn	09 52 52.8 -1.8
OKCZ	**Okains Bay**	**4.09**	**205**	P	Pn	09 52 58.5 -2.3
WCZ	**Waipu Caves**	**4.19**	**347**	P	Pn	09 53 03.0 +1.0
AKCZ	**Akaroa Harbour**	**4.28**	**206**	P	Pn	09 53 01.4 -1.9

IDC 23 09:57:55.6±2.0, 6°59.S×128°.26E, h0km, mb3.6/1, mb1 3.4/3, mb1mx3.1/47, mbtmp3.3/3, ML3.0/2, Error ellipse: s-maj=121.0km s-min=31.5km az=66.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.53**	**157**		Pn	Pn	10 01 23.2	+0.5
	0.1nm,0.3s,baz=335,slow=13,SNR=5.5							
WRA					Sn		10 03 48.6	-16
	0.2nm,0.3s,baz=344,slow=20,SNR=8.6							
ASAR	**Alice Springs**	**17.82**	**163**	P	Pn		10 02 05.0	-0.3
	0.1nm,0.3s,baz=337,slow=9.7,SNR=13							
MKAR	**Makanchi Array**	**66.95**	**328**	P	P		10 08 50.1	0.0
	0.2nm,0.4s,baz=131,slow=6.6,SNR=5.1							

*ISCJB **23** 10:00:09.5±1.9, 50°.22N±0°.07×12°.8E±0°.1, h0km, Error ellipse: s-maj=14.5km s-min=6.2km az=42.8*
*VIE **23** 10:00:09.9±0.4, 50°.27N×12°.85E, h0km, mb2.2/3, ML2.5/3, Error ellipse: s-maj=5.0km s-min=2.0km az=36.0, Suspected Mining explosion.*
*CSEM **23** 10:00:10.9±1.4, 50°.25N×12°.76E, h1km, ML2.5, Error ellipse: s-maj=31.4km s-min=12.5km az=133.0, Suspected Mining explosion.*

ISC 23 10:00:14.1±2.0, 50°.22N±0°.08×12°.86E±0°.08, h0km, n6, σ0s34/12, Germany

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**2.28**	**73**	*e*Pg	**Pb**		**10 00 55.8**	**-0.3**
KSP				*e*Sg	**Sg**		**10 01 27.6**	**+0.3**
KSP	**Ksiaz**	**2.28**	**73**	*e*Pg	**Pb**		**10 00 55.8**	**-0.3**
KSP				*e*Sg	**Sg**		**10 01 27.6**	**+0.3**
CONA	**Conrad Observa**	**3.03**	**138**	Pg	**Pb**		**10 01 09.2**	**+0.3**
	0.1nm,0.0s							
CONA				Sg	**Sg**		**10 01 51.1**	**-0.3**
	0.4nm,0.1s							
CONA	**Conrad Observa**	**3.03**	**138**	*e*Pg	**Pb**		**10 01 09.2**	**+0.3**
	0.1nm,0.0s							
CONA				*e*Sg	**Sg**		**10 01 51.1**	**-0.3**
	0.4nm,0.1s							
WTTA	**Wattenberg**	**3.07**	**196**	Pg	**Pb**		**10 01 10.0**	**+0.2**
	0.3nm,0.1s							
WTTA				Sg	**Sg**		**10 01 52.4**	**-0.3**
	0.5nm,0.1s							
WTTA	**Wattenberg**	**3.07**	**196**	Pg	**Pb**		**10 01 10.0**	**+0.2**
	0.3nm,0.1s							
WTTA				Sg	**Sg**		**10 01 52.4**	**-0.3**
	0.5nm,0.1s							

*ISCJB **23** 10:13:55.0±0.6, 34°.64N±0°.05×140°.15E±0°.06, h70km±6km, mb3.5/2, Error ellipse: s-maj=8.6km s-min=6.8km az=138.8*
*JMA **23** 10:13:55.3±0.3, 34°.63N×140°.17E, h64km±3km, M2.7*
*IDC **23** 10:13:58.3±2.1, 34°.55N×139°.71E, h77km±12km, mb3.0/2, mb1 3.3/3, mb1mx2.9/63, mbtmp3.3/3, Error ellipse: s-maj=61.9km s-min=6.4km az=72.0*

ISC 23 10:13:56.0±1.1, 34°.64N±0°.05×140°.15E±0°.05, h62km±9km, n17, σ0s69/22, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
BSO3	**Boso 3**	**0.34**	**62**	P	**Pn**		**10 14 06.3**	**0.0**
BSO4	**Boso 4**	**0.38**	**24**	P	**Pn**		**10 14 07.0**	**+0.2**
BSO4				X			10 14 16.0	
TATJ	**Tateyama 2**	**0.44**	**332**	P	**Pn**		**10 14 08.1**	**+0.6**
TATJ				S	**Sn**		**10 14 17.3**	**+1.4**
KTR	**Katsuura**	**0.52**	**15**	P	**Pn**		**10 14 08.1**	**-0.2**
KTR				S	**Sn**		**10 14 17.1**	**-0.2**
JIM2	**Oshima 3**	**0.59**	**278**	P	**Pn**		**10 14 09.0**	**-0.2**
JIM2				S	**Sn**		**10 14 18.5**	**-0.3**
BSO1	**Boso 1**	**0.69**	**89**	P	**Pn**		**10 14 09.4**	**-0.2**
BSO1				X			10 14 19.8	
KTJJ	**Kamata 2**	**0.94**	**288**	P	**Pn**		**10 14 13.0**	**-0.3**
KTJJ				S	**Sn**		**10 14 25.1**	**-0.9**
JIZS	**Izushimoda**	**1.05**	**275**	S	**Sn**		**10 14 29.0**	**+0.4**
JOD2	**Odawara 2**	**1.07**	**306**	P	**Pn**		**10 14 14.6**	**-0.4**
JOD2				S	**Sn**		**10 14 28.3**	**-0.9**
JHJ	**Hachijo jima 2**	**1.55**	**191**	P	**Pn**		**10 14 22.1**	**+0.7**
	18nm,0.3s,baz=343,slow=19,SNR=6.1							
JHJ				S	**Sn**		**10 14 40.9**	**+0.3**
	40nm,0.3s,baz=90,slow=20,SNR=12							
MJAR	**Matsushiro Arr**	**2.47**	**321**	P	**Pn**		**10 14 34.6**	**+0.8**
	7.1nm,0.3s,baz=158,slow=12,SNR=76							
MJAR				S	**Sn**		**10 15 02.4**	**-0.5**
	1.5nm,0.3s,baz=140,slow=16,SNR=3.8							
MAT	**Matsushiro**	**2.47**	**321**	P	**Pn**		**10 14 35.0**	**+1.1**
MAT				S	**Sn**		**10 15 04.0**	**+1.1**
H11N2	**WAKE ISLAND Hy**	**27.94**	**115**	T	T		10 49 24.9	
	baz=308							
H11N1	**WAKE ISLAND Hy**	**27.94**	**115**	T	T		10 49 28.2	
	baz=308							
H11N3	**WAKE ISLAND Hy**	**27.95**	**115**	T	T		10 49 29.1	
	baz=308							
WRA	**Warramunga Arr**	**54.56**	**187**	P	**P**		**10 23 17.5**	**-0.5**
	0.3nm,0.5s,baz=1.5,slow=7.5,SNR=17							
ASAR	**Alice Springs**	**58.29**	**187**	P	**P**		**10 23 44.2**	**-0.3**
	0.1nm,0.3s,baz=24,slow=10,SNR=5.8							

*ISCJB **23** 10:19:47.9±1.0, 1°.1N±0°.1×91°.9E±0°.2, h10km, mb3.8/8, MS3.1/1, Error ellipse: s-maj=30.3km s-min=16.7km az=148.3*
*IDC **23** 10:19:48.1±1.3, 1°.10N×91°.88E, h0km, mb3.9/8, mb1 4.1/9, mb1mx3.7/66, mbtmp3.9/9, ML4.5/1, MS3.0/3, Ms1 3.0/3, ms1mx2.6/62, Error ellipse: s-maj=48.1km s-min=20.9km az=53.0*

ISC 23 10:19:49.7±1.2, 1°.1N±0°.2×91°.9E±0°.2, h10km, n15, σ0s57/10, mb3.8/8, 1D, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**12.72**	**299**	LR	LR		10 27 01.0	
	comp=Z,70nm,18.9s,baz=116,slow=34							
TRD	**Trivandrum**	**16.59**	**297**	*e*P	Pn		10 23 35.6	-7.0
CMAR	**Chiang Mai Arr**	**18.61**	**21**	P	**Pn**		**10 24 08.4**	**+0.7**
	0.6nm,0.3s,baz=217,slow=13,SNR=1.8							
CMAR				LR	LR		10 30 04.5	
	comp=Z,29nm,21.1s,baz=212,slow=33							
H08S2	**Diego Garcia H**	**21.19**	**246**	T	T		10 46 22.1	
	baz=66,slow=75,SNR=17							
H08S3	**Diego Garcia H**	**21.19**	**246**	T	T		10 46 21.7	
	baz=66,slow=75,SNR=22							
H08S1	**Diego Carcia H**	**21.21**	**246**	T	T		10 46 22.9	
	baz=66,slow=75,SNR=21							
MKAR	**Makanchi Array**	**46.29**	**351**	P	**P**		**10 28 14.8**	**-0.8**
	0.5nm,0.6s,baz=168,slow=9.5,SNR=6.3							
WRA	**Warramunga Arr**	**46.56**	**119**	P	**P**		**10 28 18.1**	**0.0**
	1.1nm,0.6s,baz=296,slow=8.7,SNR=15							
ASAR	**Alice Springs**	**47.66**	**124**	P	**P**		**10 28 26.8**	**+0.1**
	0.4nm,1.0s,baz=306,slow=7.9,SNR=4.3							
SONM	**Songino Array**	**48.24**	**13**	P	**P**		**10 28 30.6**	**-0.2**
	1.2nm,0.6s,baz=190,slow=8.1,SNR=6.2							
KURBB	**Kurchatov Arra**	**50.65**	**349**	P	**P**		**10 28 48.5**	**-0.5**
	0.5nm,0.6s,baz=177,slow=7.4,SNR=3.9							
ZALV	**Zalesovo Beam**	**53.01**	**355**	P	**P**		**10 29 06.2**	**-0.5**
	1.3nm,0.4s,baz=179,slow=8.5,SNR=3.0							
ZALV				LR	LR		10 52 35.6	
	comp=Z,18nm,21.2s,baz=76,slow=37							
BRTR	**Keskin Array B**	**65.30**	**314**	P	**P**		**10 30 32.6**	**+0.3**
	0.3nm,0.6s,baz=124,slow=8.9,SNR=2.9							
GERES	**GERESS Array B**	**81.41**	**319**	P	**P**		**10 32 07.6**	**+0.5**
	0.7nm,0.6s,baz=99,slow=4.2,SNR=5.2							
TXAR	**Lajitas Array**	**146.30**	**25**	PKPbc	**PKPdf**		**10 39 29.9**	**-0.5**
	0.2nm,0.6s,baz=277,slow=0.7,SNR=2.9							

*ISCJB **23** 10:24:18.1±0.5, 42°.61S±0°.10×83°.9E±0°.1, h10km, mb4.4/15, MS3.8/10, Error ellipse: s-maj=14.9km s-min=12.3km az=142.3*
*IDC **23** 10:24:18.0±0.8, 42°.61S×83°.85E, h0km, mb4.1/10, mb1 4.3/10, mb1mx4.0/52, mbtmp4.1/10, MS3.8/10, Ms1 3.8/10, ms1mx3.3/48, Error ellipse: s-maj=26.9km s-min=21.0km az=117.0*
*NEIC **23** 10:24:19.4±0.4, 42°.63S×83°.86E, h10km, mb4.3/6, Error ellipse: s-maj=12.3km s-min=10.2km az=145.0*

ISC 23 10:24:19.7±0.6, 42°.6S±0°.1×83°.8E±0°.1, h10km, n36, σ0s77/26, mb4.6/15, MS3.8/10, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
CRZF	**Crozet Islands**	**23.03**	**249**	*e*P	**P**		**10 29 24.5**	**-0.3**
	68nm,0.9s							
H01W2	**Cape Leeuwin H**	**24.76**	**82**	T	T		10 55 14.1	
	baz=243,slow=75,SNR=140							
H01W3	**Cape Leeuwin H**	**24.77**	**82**	T	T		10 55 14.7	
	baz=243,slow=75,SNR=160							
H01W1	**Cape Leeuwin H**	**24.77**	**82**	T	T		10 55 15.4	
	baz=243,slow=75,SNR=169							
MAW	**Mawson**	**27.47**	**197**	LR	LR		10 38 29.2	
	comp=Z,129nm,20.1s,baz=17,slow=31							
NWAO	**Narrogin (SRO)**	**27.96**	**81**	LR	LR		10 38 49.2	
	comp=Z,158nm,20.7s,baz=92,slow=31							
H08S2	**Diego Garcia H**	**36.24**	**341**	T	T		11 09 26.3	
	baz=166,slow=76,SNR=704							
H08S1	**Diego Carcia H**	**36.25**	**341**	T	T		11 09 21.8	
	baz=166,slow=76,SNR=684							
H08S3	**Diego Garcia H**	**36.26**	**341**	T	T		11 09 27.7	
	baz=166,slow=76,SNR=770							
ASAR	**Alice Springs**	**45.27**	**82**	P	**P**		**10 32 36.8**	**-0.8**
	6.8nm,0.4s,baz=226,slow=7.1,SNR=14							
ASAR				LR	LR		10 49 05.8	
	comp=Z,168nm,21.6s,baz=226,slow=33							
AS31	**Alice Springs**	**45.28**	**82**	*e*P	**P**		**10 32 36.8**	**-0.8**
	1.6nm,1.0s							
VNDA	**Vanda**	**46.22**	**163**	P	**P**		**10 32 44.0**	**-0.3**
	1.5nm,0.9s,baz=277,slow=7.9,SNR=4.0							
VNDA				LR	LR		10 50 15.4	
	comp=Z,140nm,19.5s,baz=240,slow=34							
STKA	**Stephens Creek**	**46.40**	**96**	P	**P**		**10 32 48.0**	**+1.7**
	1.6nm,0.7s,baz=264,slow=9.2,SNR=2.5							
STKA				LR	LR		10 50 04.8	
	comp=Z,86nm,18.4s,baz=205,slow=33							
STKA	**Stephens Creek**	**46.40**	**96**	*e*P	**P**		**10 32 48.0**	**+1.7**
	1.0nm,1.0s							
QSPA	**South Pole Qui**	**47.54**	**180**	P	**P**		**10 32 54.9**	**-0.1**
	4.1nm,0.8s,baz=313,slow=5.5,SNR=9.5							
QSPA				LR	LR		10 51 12.2	
	comp=Z,158nm,19.1s,baz=259,slow=34							
WR1	**Warramunga Arr**	**47.90**	**78**	*e*P	**P**		**10 32 57.9**	**-0.2**
	5.5nm,1.0s							
WRA	**Warramunga Arr**	**47.90**	**78**	P	**P**		**10 32 57.9**	**-0.2**
	5.4nm,1.0s,baz=231,slow=7.8,SNR=23							
BOSA	**Boshof**	**48.72**	**267**	LR	LR		10 50 05.4	
	comp=Z,89nm,19.1s,baz=194,slow=32							
SNAA	**Sanae**	**49.19**	**205**	P	**P**		**10 33 07.7**	**+0.2**
	0.9nm,0.8s,baz=191,slow=4.5,SNR=3.9							
SNAA	**Sanae**	**49.19**	**205**	*e*P	**P**		**10 33 07.7**	**+0.2**
	2.2nm,1.1s							
CTA	**Charters Tower**	**56.52**	**87**	P	**P**		**10 34 01.9**	**-0.4**
	2.9nm,0.9s,baz=271,slow=8.3,SNR=4.7							
PBKT	**Sadao Pong**	**60.97**	**19**	*e*P	**P**		**10 34 32.8**	**-0.2**
	3.8nm,0.8s							
CM01	**Chiang Mai Arr**	**62.31**	**16**	*e*P	**P**		**10 34 42.7**	**+0.6**
CM31	**Chiang Mai Arr**	**62.35**	**16**	*e*P	**P**		**10 34 43.0**	**+0.7**
CMAR	**Chiang Mai Arr**	**62.35**	**16**	P	**P**		**10 34 43.0**	**+0.7**
	3.0nm,0.3s,baz=213,slow=7.1,SNR=5.7							
CMAR				LR	LR		10 58 10.9	
	comp=Z,35nm,20.0s,baz=205,slow=33							
MK32	**Makanchi Array**	**89.04**	**359**	*e*P	**P**		**10 37 13.6**	**-0.7**
MKAR	**Makanchi Array**	**89.04**	**359**	P	**P**		**10 37 13.6**	**-0.7**
	0.1nm,0.3s,baz=165,slow=6.0,SNR=2.2							
TORD	**Torodi Ar. Bea**	**93.11**	**285**	P	**P**		**10 37 34.6**	**+0.6**
	0.5nm,1.0s,baz=126,slow=4.9,SNR=3.7							
TORD				LR	LR		11 16 26.4	
	comp=Z,39nm,19.8s,baz=230,slow=34							
TOA1	**Torodi Ar. Sit**	**93.11**	**285**	*e*P	**P**		**10 37 34.6**	**+0.6**
ZAA0	**Zalesovo Array**	**96.20**	**1**	*e*P	**P**		**10 37 47.7**	**+0.6**
	21nm,1.0s							
KOWA	**Kowa**	**98.11**	**282**	LR	LR		11 19 04.7	
	comp=Z,45nm,19.7s,baz=30,slow=34							
ILAR	**Eielson Array**	**144.08**	**34**	PKP	**PKPab**		**10 43 52.3**	**+0.4**
	0.2nm,0.8s,baz=290,slow=3.7,SNR=3.3							
ILB	**Eielson Array**	**144.08**	**34**	*e*PKPdf	**PKPab**		**10 43 52.3**	**+0.4**
INK	**Inuvik**	**147.61**	**25**	PKPbc	**PKPbc**		**10 44 02.4**	**-0.6**
	1.1nm,0.9s,baz=278,slow=1.7,SNR=5.2							
YKA	**Yellowknife Ar**	**157.31**	**22**	PKPab	**PKPab**		**10 44 45.1**	**-1.0**
	0.2nm,0.8s,baz=330,slow=4.3,SNR=4.4							
NVAR	**Mina Array Bea**	**162.67**	**97**	PKPab	**PKPab**		**10 45 09.2**	**-1.3**
	0.5nm,0.8s,baz=230,slow=6.4,SNR=4.6							

IDC 23 10:40:59.1±4.0, 4°.63S×155°.16E, h0km, mb3.2/2, mb1 3.5/2, mb1mx3.2/42, mbtmp3.2/2, Error ellipse: s-maj=201.0km s-min=50.8km az=122.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**25.35**	**231**	P	P		10 46 28.9	+0.8
	0.2nm,0.6s,baz=57,slow=9.2,SNR=4.6							
ASAR	**Alice Springs**	**27.89**	**225**	P	P		10 46 50.4	-0.7
	0.1nm,0.3s,baz=55,slow=9.2,SNR=8.6							
TORD	**Torodi Ar. Bea**	**152.48**	**290**	PKPbc	PKPbc		11 00 58.4	-0.1
	0.5nm,0.8s,baz=85,slow=2.6,SNR=3.5							

*NNC **23** 10:41:11.6±5.9, 43°.43N×84°.59E, h0km, mb3.1, mpv2.7, Error ellipse: s-maj=47.0km s-min=20.7km az=120.0*
*SOME **23** 10:41:11.2, 43°.12N×84°.57E, h5km*

ISC 23 10:41:12.4±3.5, 43°.4N±0°.1×84°.5E±0°.1, h10km, n7, σ2s63/11, 3C-2D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
KTMS	**Ketmen**	**3.04**	**273**	*e*P	**Pg**		**10 42 08.9**	**-1.8**
	2.3nm,0.8s							
KTMS				*e*S	**Sg**		**10 42 50.4**	**+0.3**
	8.5nm,0.6s							
PDGK	**Podgornoye**	**3.67**	**271**	⇑Pg	**Pb**		**10 42 19.3**	**+1.9**
	2.3nm,0.8s							
PDGK				⇑Lg	Lg		10 43 09.2	
	3.7nm,0.7s							
MK31	**Makanchi Array**	**3.76**	**336**	Pg	**Pb**		**10 42 19.6**	**+0.7**
	0.7nm,0.4s,baz=140,slow=17,SNR=12							
MK31				⇓Lg	Lg		10 43 09.9	
	4.7nm,0.8s,baz=146,slow=30,SNR=5.5							
MAKZ	**Makanchi**	**3.88**	**333**	⇓Pg	**Pb**		**10 42 22.5**	**+1.7**
	1.1nm,0.8s							
MAKZ				⇑Lg	Lg		10 43 13.4	
	2.5nm,0.7s							
KAPS	**Kapalarasan**	**4.17**	**299**	*e*P	**Pb**		**10 42 29.8**	**+4.0**
	2.0nm,0.7s							
KAPS				*e*S	**Sg**		**10 43 26.3**	**+0.1**
	8.9nm,0.6s							
KPKS	**Kokpek**	**4.25**	**273**	*e*P	**Pg**		**10 42 30.4**	**-3.4**
	1.9nm,0.3s							
KPKS				*e*S	**Sg**		**10 43 27.5**	**-1.5**
	5.8nm,0.4s							
MNBS	**Baschi**	**4.49**	**281**	*e*P	**Pb**		**10 42 35.1**	**+3.8**
	1.7nm,0.8s							
MNBS				*e*S	**Sg**		**10 43 35.6**	**-1.0**
	3.9nm,0.9s							

MAN 23 10:44:17, 9°.91N×123°.15E, h1km, mb4.5, ML3.4, MS3.2, 4C-1D, Negros

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
SNPH	**Sibulan**	**0.57**	**171**	⇑*i*P	Pn		10 44 32.9	+0.6
SNPH				*i* S	Sn		10 44 42.4	0.0
TBP	**Tagbilaran**	**0.74**	**107**	*e*P	Pb		10 44 32.9	+0.3
GUIM	**Jordan**	**0.90**	**322**	*e*P	Pb		10 44 35.6	+0.2
GUIM				*e*S	Sb		10 44 48.3	+0.3
LLP	**Lapu-Lapu**	**0.90**	**63**	⇓*e*P	Pg		10 44 33.9	-0.4
LLP				*e*S	Sg		10 44 44.8	-1.2
DCPH	**Dipolog City**	**1.33**	**171**	⇑*e*P	Pb		10 44 45.0	+2.2
DCPH				*e*S	Sn		10 45 03.8	+2.7
JAP	**San Jose, Anti**	**1.45**	**305**	⇑*e*P	Pg		10 44 47.5	+2.8
RCP	**Roxas**	**1.69**	**346**	⇑*e*P	Pb		10 44 48.4	-0.5
RCP				*e*S	Sg		10 45 11.9	+0.6
MSLP	**Maasin**	**1.70**	**82**	*e*P	Pb		10 44 48.5	-0.5
MSLP				*e*S	Sg		10 45 12.1	+0.4
OCLP	**Ormoc**	**1.83**	**52**	*e*P	Pn		10 44 50.2	+0.6
IPIL	**Ipil**	**2.18**	**195**	*e*P	Pg		10 44 59.2	+0.3

*IDC **23** 10:55:09.5±2.9, 19°.07S×175°.39W, h135km±27km, mb3.7/11, mb1 3.8/12, mb1mx3.6/48, mbtmp4.1/12, MS4.0/2, Ms1 3.9/2, ms1mx3.0/35, Error ellipse: s-maj=22.6km s-min=15.1km az=129.0*
*NEIC **23** 10:55:11.6±1.6, 19°.12S×175°.18W, h164km±16km, mb4.5/6, Error ellipse: s-maj=19.4km s-min=12.2km az=138.0*

ISC 23 10:55:10.2±0.6, 19°.04S±0°.1×175°.0W±0°.1, h150km, n26, σ1s72/31, mb3.8/15, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**5.98**	**32**	P	**Pn**		**10 56 38.4**	**+1.6**
	3.0nm,0.3s,baz=301,slow=4.9,SNR=7.9							
AFI				S	**Sn**		**10 57 41.3**	**-3.2**
	7.3nm,0.3s,baz=208,slow=24,SNR=7.6							
AFI	**Afiamalu**	**5.98**	**32**	*e*Pn	**Pn**		**10 56 37.7**	**+0.9**
AFI				*e*			10 56 38.1	
AFI				*e*Sn	**Sn**		**10 57 41.3**	**-3.2**
MSVF	**Nonsavu**	**6.69**	**280**	*e*Pn	**Pn**		**10 56 49.5**	**+3.4**
URZ	**Urewera**	**20.34**	**198**	P	**P**		**10 59 33.3**	**-1.3**
	6.8nm,0.7s,baz=358,slow=4.9,SNR=11							
URZ				LR	LR		11 06 48.8	
	comp=Z,1μm,20.1s,baz=16,slow=35							
RPZ	**Rata Peaks**	**27.24**	**202**	P	**P**		**11 00 40.5**	**+0.3**
	3.2nm,0.5s,baz=306,slow=1.4,SNR=7.6							
RPZ	**Rata Peaks**	**27.24**	**202**	*e*P	**P**		**11 00 39.3**	**-0.8**
	6.0nm,0.8s							
RPZ				*e*P	**P**		**11 00 40.5**	**+0.3**
RABL	**Rabaul**	**35.25**	**291**	*e*P	P		11 01 46.0	-4.7
	5μm,0.4s							
STKA	**Stephens Creek**	**40.93**	**243**	P	**P**		**11 02 36.6**	**-1.4**
	2.0nm,0.8s,baz=86,slow=10,SNR=2.3							
WB2	**Warramunga Arr**	**47.57**	**260**	*e*P	**P**		**11 03 28.7**	**-2.3**
AS31	**Alice Springs**	**47.57**	**255**	*e*P	**P**		**11 03 29.2**	**-1.8**
	1.4nm,0.7s							
AS31				*e*PcP	**PcP**		**11 04 58.2**	**-0.4**
ASAR	**Alice Springs**	**47.58**	**255**	P	**P**		**11 03 29.1**	**-2.0**
	5.0nm,0.7s,baz=88,slow=8.6,SNR=82							
ASAR				PcP	**PcP**		**11 04 58.2**	**-0.4**
	0.5nm,0.6s,baz=103,slow=4.2,SNR=5.6							
WR1	**Warramunga Arr**	**47.58**	**260**	*e*P	**P**		**11 03 28.8**	**-2.3**
	1.0nm,1.1s							
WR1				*e*PcP	**PcP**		**11 04 58.2**	**-0.4**
WRA	**Warramunga Arr**	**47.58**	**260**	P	**P**		**11 03 28.8**	**-2.3**
	1.1n

RAR	**Rarotonga**	**15.07**	**82**	Pn	Pn	11 00 42.9	-8.3	MEEK	**Meekatharra**	**58.74**	**252**	P	P	**11 07 14.9**	**-1.5**	GLA				pmax	pmax		
	comp=Z,13nm,0.3s,baz=245,slow=8.7,SNR=38								baz=59,SNR=4.3								comp=Z,11nm,1.0s						
RAR				Sn	Sn	11 03 13.5	-24	BATI	**Baumata**	**59.07**	**272**	LR	LR	11 33 46.8		GSC	**Goldstone, Bar**	**81.26**	**45**	P	P	**11 09 34.6**	**+0.2**
	comp=Z,0.4nm,0.3s,baz=90,slow=20,SNR=2.7								comp=Z,340nm,18.1s,baz=160,slow=37								baz=232,SNR=7.8						
RAR				LR	LR	11 07 10.8		RPN	**Rapa Nui**	**59.40**	**108**	LR	LR	11 29 38.7		GSC	**Goldstone, Bar**	**81.26**	**45**	*eP*	P	**11 09 34.3**	**-0.1**
	comp=Z,1µm,18.0s,baz=269,slow=39								comp=Z,55nm,18.5s,baz=326,slow=33								comp=Z,7.7nm,1.0s						
RAR	**Rarotonga**	**15.07**	**82**	P	Pn	11 00 42.9	-8.3	BLDU	**Balliu**	**59.53**	**248**	P	P	**11 07 21.0**	**-0.7**	GSC	**Goldstone, Bar**	**81.26**	**45**	*eP*	P	**11 09 34.3**	**-0.1**
RAR				pmax	pmax				baz=60,SNR=9.0							GSC				pmax	pmax		
	comp=Z,13nm,0.3s							MORW	**Morawa**	**60.42**	**249**	P	P	**11 07 27.2**	**-0.6**		comp=Z,8.0nm,1.0s						
RAR				MLR	MLR				baz=61,SNR=6.2							MDPB	**Devils Postpil**	**81.27**	**42**	*eP*	P	**11 09 35.2**	**+0.6**
	comp=Z,1µm,18.0s							CASY	**Casey**	**61.66**	**206**	*eP*	P	**11 07 36.5**	**+0.8**		comp=Z,12nm,1.1s						
URZ	**Urewera**	**15.40**	**201**	Pn	Pn	**11 00 54.6**	**-0.9**		comp=Z,22nm,0.8s							HEC	**Hector,Ludlow**	**81.28**	**46**	P	P	**11 09 34.7**	**+0.2**
	comp=Z,0.5nm,0.3s,baz=3.5,slow=19,SNR=2.9							DAV	**Davao City (W)**	**64.98**	**291**	LR	LR	11 33 48.7			baz=233						
URZ				Sn	Sn	11 03 35.0	-11		comp=Z,65nm,21.6s,baz=160,slow=34							MPMC	**Manual Prospec**	**81.28**	**44**	P	P	**11 09 34.9**	**+0.3**
	comp=Z,1.0nm,0.3s,baz=308,slow=23,SNR=6.3							JCJ	**Chichijima**	**65.04**	**319**	LR	LR	11 32 09.0			baz=232,SNR=12						
URZ	**Urewera**	**15.40**	**201**	*e*Pn	**Pn**	**11 00 54.6**	**-0.9**		comp=Z,307nm,20.5s,baz=102,slow=32							OMMB	**Old Mammoth Mi**	**81.31**	**42**	*eP*	P	**11 09 34.9**	**0.0**
URZ				*e*Pn	**P**	**11 00 56.5**	**-3.6**	QSPA	**South Pole Qui**	**66.03**	**180**	P	P	**11 08 05.9**	**+1.2**		comp=Z,8.8nm,1.2s						
URZ				*e*Sn	Sn	11 03 35.0	-11		comp=Z,14nm,0.8s,baz=49,slow=2.4,SNR=25							N02D	**Trinity Center**	**81.32**	**38**	P	P	**11 09 35.3**	**+0.7**
FUNA	**Funafuti**	**16.16**	**342**	*e*Pn	**P**	**11 01 05.5**	**-3.1**	QSPA	**South Pole Qui**	**66.03**	**180**	*eP*	P	**11 08 05.9**	**+1.2**		baz=228						
	comp=Z,134nm,1.2s							QSPA				*eP*	P	**11 08 06.1**	**+1.4**	O03D	**Paynes Creek**	**81.38**	**39**	P	P	**11 09 35.0**	**+0.1**
BKZ	**Black Stump Fm**	**16.42**	**202**	*e*Pn	**Pn**	**11 01 08.2**	**-0.5**	JOW	**Kunigami**	**73.99**	**310**	LR	LR	11 38 14.2			baz=228						
	comp=Z,12nm,0.9s								comp=Z,141nm,19.5s,baz=110,slow=33							MLAC	**Mammoth, Mammo**	**81.42**	**42**	P	P	**11 09 35.8**	**+0.5**
DZM	**Mont Dzumac**	**16.46**	**273**	Pn	**P**	**11 01 13.3**	**+1.3**	MJAR	**Matsushiro Arr**	**74.26**	**323**	P	P	**11 08 53.2**	**-2.1**		baz=231						
	comp=Z,0.6nm,0.3s,baz=77,slow=18,SNR=9.0								comp=Z,4.2nm,0.9s,baz=164,slow=5.7,SNR=8.4							TIN	**Tinemaha, Big**	**81.43**	**43**	P	P	**11 09 35.8**	**+0.5**
DZM				LR	LR	11 05 10.3		MJAR				LR	LR	11 36 52.1			baz=231						
	comp=Z,416nm,20.1s,baz=71,slow=29								comp=Z,124nm,21.3s,baz=200,slow=32							M02C	**Callahan**	**81.52**	**37**	P	P	**11 09 36.4**	**+0.7**
DZM	**Mont Dzumac**	**16.46**	**273**	*e*P	**P**	**11 01 15.8**	**+3.8**	MAJO	**Matsushiro**	**74.26**	**323**	*e*P	P	**11 08 53.2**	**-2.1**		baz=228						
	comp=Z,219nm,1.5s							MAJO	**Matsushiro**	**74.26**	**323**	*e*P	P	**11 08 54.0**	**-1.3**	WAKR	**Walker**	**81.61**	**41**	*e*P	P	**11 09 37.2**	**+0.9**
DZM				*e*LR	LR	11 05 20.0						pmax	pmax				comp=Z,10.0nm,1.0s						
	comp=Z,1µm,23.5s								comp=Z,8.0nm,1.0s							L02D	**Cave Junction,**	**81.63**	**36**	P	P	**11 09 36.6**	**+0.5**
DZM	**Mont Dzumac**	**16.46**	**273**	*e*Pn	**P**	**11 01 10.0**	**-2.0**	LEM	**Lembang**	**75.02**	**269**	P	P	**11 09 00.2**	**-0.2**		baz=227						
	comp=Z,96nm,1.2s								comp=Z,32nm,0.8s,baz=138,slow=14,SNR=6.4							IRM	**Iron Mountain**	**81.67**	**47**	P	P	**11 09 37.1**	**+0.6**
HIZ	**Hauiti**	**16.46**	**207**	*e*Pn	**Pn**	**11 01 11.4**	**+2.2**	KSM	**Kuching**	**75.92**	**278**	*e*P	P	**11 09 04.8**	**-0.5**		baz=234,SNR=7.7						
	comp=Z,26nm,1.1s								comp=Z,9.4nm,0.7s							GMRC	**Granite Mounta**	**81.70**	**46**	P	P	**11 09 37.1**	**+0.3**
BFZ	**Birch Farm**	**17.88**	**200**	*e*Pn	**Pn**	**11 01 28.5**	**+1.6**	JNU	**Nakatsue**	**76.24**	**316**	P	P	**11 09 05.3**	**-1.4**		baz=233						
	comp=Z,36nm,0.9s								comp=Z,13nm,0.9s,baz=70,slow=7.9,SNR=7.7							YBH	**Yreka Blue Hor**	**81.83**	**37**	P	P	**11 09 37.6**	**+0.3**
KHZ	**Kahutara**	**20.34**	**203**	*e*P	**P**	**11 01 52.0**	**-2.4**	JNU				LR	LR	11 38 40.0			comp=Z,3.4nm,0.9s,baz=219,slow=4.1,SNR=8.4						
	comp=Z,26nm,0.9s								comp=Z,122nm,20.5s,baz=144,slow=33							YBH				LR	LR	11 41 09.3	
PPT2	**Papeete2**	**25.32**	**80**	*e*LQ	LQ	11 07 35.8		**JNU**	**Nakatsue**	**76.24**	**316**	*e*P	P	**11 09 05.3**	**-1.4**		comp=Z,213nm,19.1s,baz=236,slow=32						
	comp=Z,581nm,23.2s								comp=Z,23nm,1.1s							**YBH**	**Yreka Blue Hor**	**81.83**	**37**	*e*P	P	**11 09 38.1**	**+0.8**
PPT2				*e*LR	LR	11 08 38.4		TPUB	**Ta-pu**	**77.60**	**303**	*e*P	P	**11 09 12.7**	**-2.0**		comp=Z,12nm,1.4s						
	comp=Z,956nm,22.2s,baz=249								comp=Z,28nm,0.8s							YBH	**Yreka Blue Hor**	**81.83**	**37**	*e*P	P	**11 09 38.1**	**+0.8**
PPT	**Papeete**	**25.33**	**80**	LR	LR	11 12 05.0		SSLB	**Suanglung**	**77.61**	**303**	*e*P	P	**11 09 13.5**	**-1.2**	YBH				pmax	pmax		
	comp=Z,823nm,18.4s,baz=270,slow=35								comp=Z,18nm,0.8s								comp=Z,12nm,1.4s						
HNR	**Honiara**	**27.33**	**298**	P	**P**	**11 03 01.8**	**-1.4**	ASAJ	**Asahikawa**	**77.81**	**331**	P	P	**11 09 15.4**	**+0.2**	Y12C	**Blythe**	**81.84**	**48**	P	P	**11 09 37.8**	**+0.4**
	comp=Z,71nm,0.8s,baz=163,slow=3.7,SNR=5.1								comp=Z,16nm,1.0s,baz=207,slow=4.5,SNR=11								baz=234						
HNR				LR	LR	11 12 19.1		**ASAJ**	**Asahikawa**	**77.81**	**331**	*e*P	P	**11 09 16.6**	**+1.4**	Y12C	**Blythe**	**81.84**	**48**	*e*P	P	**11 09 37.8**	**+0.4**
	comp=Z,525nm,20.3s,baz=160,slow=33								comp=Z,20nm,1.0s								comp=Z,12nm,1.1s						
HNR	**Honiara**	**27.33**	**298**	*e*P	**P**	**11 03 01.8**	**-1.4**	SCZ2	**Santa Cruz Isl**	**78.62**	**45**	P	P	**11 09 20.3**	**+0.3**	TUQ	**Turquoise Moun**	**81.91**	**46**	P	P	**11 09 38.1**	**+0.2**
HNR				*e*P	**P**	**11 03 02.2**	**-1.1**		baz=231								baz=233						
ARMA	**Armidale**	**29.57**	**250**	P	**P**	**11 03 25.2**	**+1.9**	SCI2	**San Clemente I**	**78.69**	**46**	P	P	**11 09 20.9**	**+0.4**	FURC	**Furnace Creek,**	**81.93**	**44**	P	P	**11 09 38.0**	**+0.3**
	baz=30								baz=232								baz=232,SNR=5.5						
EIDS	**Eidsvold**	**30.07**	**261**	P	**P**	**11 03 27.8**	**+0.2**	MAW	**Mawson**	**78.92**	**199**	P	P	**11 09 22.4**	**+1.3**	GRAC	**Grapevine Rang**	**81.94**	**44**	P	P	**11 09 38.4**	**+0.5**
	baz=30								comp=Z,12nm,1.0s,baz=117,slow=9.2,SNR=9.1								baz=232						
EIDS	**Eidsvold**	**30.07**	**261**	*e*P	**P**	**11 03 28.1**	**+0.5**	MAW	**Mawson**	**78.92**	**199**	P	P	**11 09 22.8**	**+1.7**	SHOC	**Shoshone, Teco**	**81.96**	**45**	P	P	**11 09 38.5**	**+0.5**
	comp=Z,19nm,1.2s								baz=79,SNR=6.0								baz=233						
MGCD	**Mangrove Creek**	**30.34**	**245**	P	**P**	**11 03 31.8**	**+2.0**	MAW	**Mawson**	**78.92**	**199**	*e*P	P	**11 09 22.7**	**+1.5**	VCNR	**Virginia City**	**81.98**	**41**	*e*P	P	**11 09 39.1**	**+0.8**
	baz=31								comp=Z,6.0nm,1.2s								comp=Z,9.5nm,1.1s						
RMQ	**Roma**	**32.08**	**258**	P	**P**	**11 03 46.0**	**+0.7**	MAW	**Mawson**	**78.92**	**199**	*e*P	P	**11 09 22.7**	**+1.5**	214A	**Organ Pipe Nat**	**81.99**	**50**	P	P	**11 09 38.2**	**0.0**
	baz=32,SNR=8.3							MAW				pmax	pmax				baz=235						
CMSA	**Cobar Meteorol**	**34.73**	**249**	P	**P**	**11 04 08.5**	**+0.1**		comp=Z,6.0nm,1.2s							YERR	**Yerington**	**82.03**	**41**	*e*P	P	**11 09 39.1**	**+0.6**
	baz=35,SNR=12							CIS	**Catalina Islan**	**79.04**	**46**	P	P	**11 09 22.7**	**+0.3**		comp=Z,10nm,1.2s						
CTA	**Charters Tower**	**35.31**	**269**	P	**P**	**11 04 13.3**	**-0.2**		baz=232							LDFC	**Landfair**	**82.23**	**46**	*e*P	P	**11 09 40.1**	**+0.5**
	baz=36							PKM	**Mcpherson Peak**	**79.07**	**44**	P	P	**11 09 23.3**	**+0.6**		comp=Z,19nm,1.0s						
CTAO	**Charters Tower**	**35.31**	**269**	*e*P	**P**	**11 04 13.1**	**-0.4**		baz=230							RYN	**Ryan**	**82.24**	**42**	*e*P	P	**11 09 40.1**	**+0.5**
	comp=Z,35nm,0.8s							SMMC	**Simmon**	**79.23**	**44**	P	P	**11 09 23.9**	**+0.6**		comp=Z,11nm,1.2s						
CTAO	**Charters Tower**	**35.31**	**269**	*e*P	**P**	**11 04 13.1**	**-0.4**		baz=230							NV01	**Mina Array Sit**	**82.25**	**42**	*e*P	P	**11 09 39.7**	**0.0**
CTAO				pmax	pmax			LPIG	**La Paz**	**79.52**	**58**	LR	LR	11 38 41.3		NVAR	**Mina Array Bea**	**82.25**	**42**	P	P	**11 09 40.0**	**+0.3**
	comp=Z,35nm,0.8s								comp=Z,265nm,18.9s,baz=210,slow=31								comp=Z,6.4nm,0.9s,baz=222,slow=8.9,SNR=40						
QLP	**Quilpie**	**36.11**	**257**	P	**P**	**11 04 19.9**	**-0.4**	MWC	**Mount Wilson**	**79.78**	**45**	*e*P	P	**11 09 26.1**	**-0.6**	NVAR				LR	LR	11 41 07.0	
	baz=36,SNR=9.8								comp=Z,8.9nm,1.0s								comp=Z,232nm,18.9s,baz=95,slow=32						
TAOE	**Nuku Hiva Isla**	**37.24**	**72**	*e*LR	LR	11 14 08.4		MWC	**Mount Wilson**	**79.78**	**45**	*e*P	P	**11 09 26.1**	**-0.6**	HUMO	**Hull Mountain**	**82.28**	**36**	*e*P	P	**11 09 41.2**	**+1.7**
	comp=Z,360nm,22.4s							MWC				pmax	pmax				comp=Z,20nm,1.5s						
RKT	**Rikitea**	**37.34**	**97**	*e*LR	LR	11 14 06.9			comp=Z,9.0nm,1.0s							NV11	**Mina Array Sit**	**82.34**	**42**	*e*P	P	**11 09 40.7**	**+0.6**
	comp=Z,523nm,30.0s							**PET**	**Petropavlovsk**	**79.91**	**345**‖	*i*P	P	**11 09 25.7**	**-0.8**		comp=Z,0.7nm,1.0s						
MTSU	**Mount Surprise**	**37.58**	**271**	P	**P**	**11 04 32.6**	**-0.4**	PET				*e*S	S	**11 19 25.5**	**-3.6**	M04C	**Macdoel**	**82.35**	**38**	P	P	**11 09 40.3**	**+0.3**
	baz=38,SNR=16							PET				pmax	pmax				baz=228						
PMG	**Port Moresby**	**38.20**	**286**	P	**P**	**11 04 36.3**	**-1.9**		comp=Z,18nm,0.9s							PAHR	**Pah Rah Range**	**82.40**	**40**	*e*P	P	**11 09 40.7**	**+0.2**
	comp=Z,105nm,0.8s,baz=112,slow=6.2,SNR=23							PET				MLR	MLR				comp=Z,10nm,1.3s						
PMG				LR	LR	11 17 24.3			comp=Z,100nm,17.0s							PDMCI	**Parker Dam,Lak**	**82.42**	**47**	P	P	**11 09 40.9**	**+0.5**
	comp=Z,284nm,20.5s,baz=136,slow=32							**MURC**	**Murrieta**	**79.97**	**46**	P	P	**11 09 27.5**	**0.0**		baz=234						
PMG	**Port Moresby**	**38.20**	**286**	*e*P	**P**	**11 04 37.1**	**-1.0**		baz=232							TPNV	**Topopah Spring**	**82.61**	**44**	P	P	**11 09 42.0**	**+0.4**
	comp=Z,110nm,0.8s							YSS	**Yuzh-Sakhalins**	**79.97**	**333**	*e*P	P	**11 09 27.8**	**+0.8**		baz=233,SNR=9.8						
PMG	**Port Moresby**	**38.20**	**286**	*ce*P	**P**	**11 04 37.2**	**-1.0**		comp=Z,53nm,1.0s							TPNV	**Topopah Spring**	**82.61**	**44**	*e*P	P	**11 09 42.4**	**+0.8**
STKA	**Stephens Creek**	**38.23**	**249**	P	**P**	**11 04 37.6**	**-0.7**	YSS	**Yuzh-Sakhalins**	**79.97**	**333**‖	*e*P	P	**11 09 27.8**	**+0.8**		comp=Z,11nm,1.1s						
	comp=Z,6.8nm,0.9s,baz=96,slow=9.0,SNR=7.6							YSS				*e*S	S	**11 19 33.2**	**+3.2**	TPNV	**Topopah Spring**	**82.61**	**44**	*e*P	P	**11 09 42.4**	**+0.8**
STKA				PcP	**PcP**	**11 06 52.6**	**+0.1**	YSS				pmax	pmax			TPNV				pmax	pmax		
	comp=Z,4.1nm,0.8s,baz=0.0,slow=2.0,SNR=3.0								comp=Z,30nm,1.0s								comp=Z,11nm,1.1s						
STKA				LR	LR	11 19 24.3		YSS				MLR	MLR			KVN	**Kaiserville**	**82.76**	**42**	*e*P	P	**11 09 42.8**	**+0.4**
	comp=Z,997nm,18.8s,baz=73,slow=35								comp=Z,200nm,16.0s								comp=Z,10nm,1.3s						
STKA	**Stephens Creek**	**38.23**	**249**	P	**P**	**11 04 38.3**	**0.0**	**BFSC**	**Mount Baldy Ra**	**80.05**	**46**	P	P	**11 09 27.9**	**-0.1**	KVN	**Kaiserville**	**82.76**	**42**	*e*P	P	**11 09 42.8**	**+0.4**
	baz=38,SNR=5.4								baz=232								comp=Z,10.0nm,1.3s						
STKA	**Stephens Creek**	**38.23**	**249**	*e*P	**P**	**11 04 37.6**	**-0.7**	MONP2	**Monument Peak**	**80.06**	**47**	P	P	**11 09 28.2**	**0.0**	I03D	**Drain, OR**	**82.82**	**35**	P	P	**11 09 42.6**	**+0.4**
	comp=Z,2.4nm,1.0s								baz=233,SNR=7.8								baz=227						
STKA				PcP	**PcP**	**11 06 52.6**	**+0.1**	IKP	**In-n-Pah, Jac**	**80.12**	**48**	P	P	**11 09 28.5**	**+0.1**	K04D	**Chiloquin, OR**	**82.95**	**37**	P	P	**11 09 43.4**	**+0.2**
STKA	**Stephens Creek**	**38.23**	**249**	*e*P	**P**	**11 04 37.6**	**-0.7**		baz=233								baz=228						
STKA						11 06 52.6		VES	**Vestal, Richgr**	**80.13**	**44**	P	P	**11 09 28.3**	**+0.1**	Y14A	**Wickenburg**	**82.98**	**48**	*e*P	P	**11 09 43.7**	**+0.3**
STKA				pmax	pmax				baz=231,SNR=7.6								comp=Z,10nm,1.0s						
	comp=Z,2.0nm,1.0s							PEA0B	**Petropavlovsk-**	**80.22**	**344**	*e*P	P	**11 09 28.4**	**+0.1**	USRK	**Ussuriysk Ar.**	**83.03**	**325**	P	P	**11 09 44.1**	**+0.8**
COEN	**Coen**	**39.94**	**277**	P	**P**	**11 04 53.1**	**+0.4**		comp=Z,32nm,0.9s								comp=Z,22nm,0.9s,baz=122,slow=2.7,SNR=18						
	baz=40,SNR=4.8							PETK	**Petropavlovsk-**	**80.22**	**344**	P	P	**11 09 27.9**	**-0.4**	SHPR	**Sheep Range**	**83.05**	**45**	*e*P	P	**11 09 44.9**	**+1.0**
COEN	**Coen**	**39.94**	**277**	*e*P	**P**	**11 04 52.5**	**-0.2**		comp=Z,16nm,0.8s,baz=133,slow=8.2,SNR=16								comp=Z,9nm,1.1s						
	comp=Z,23nm,1.2s							PETK				LR	LR	11 40 09.4		W13A	**Hualapai Mount**	**83.06**	**47**	*e*P	P	**11 09 44.4**	**+0.4**
HTT	**Hallett**	**40.52**	**246**	P	**P**	**11 04 57.1**	**-0.3**		comp=Z,143nm,19.2s,baz=164,slow=32								comp=Z,7.8nm,1.0s						
	baz=41,SNR=4.9							PEA1	**Petropavlovsk-**	**80.22**	**344**	*e*P	P	**11 09 27.9**	**-0.4**	TYV	**Tymovskoe**	**83.10**	**335**	*e*P	P	**11 09 44.2**	**+0.7**
QIS	**Mount Isa**	**41.27**	**266**	P	**P**	**11 05 03.1**	**-0.6**	EDW2	**Edwards Air Fo**	**80.23**	**45**	P	P	**11 09 29.0**	**+0.2**	TYV				pmax	pmax		
	baz=42,SNR=4.5								baz=232,SNR=14								comp=Z,200nm,2.7s						
AS01	**Alice Springs**	**45.75**	**260**	*e*P	**P**	**11 05 38.1**	**-1.7**	RCTC	**Rector, Farmer**	**80.33**	**43**	P	P	**11 09 29.4**	**+0.1**	TYV				pmax	pmax		
AS31	**Alice Springs**	**45.79**	**260**	*e*P	**P**	**11 05 39.1**	**-1.0**		baz=231								comp=Z,37nm,1.1s						
	comp=Z,4.4nm,0.9s							ISA	**Isabella, Lake**	**80.41**	**44**	P	P	**11 09 30.3**	**+0.4**	J04D	**Umpqua Nationa**	**83.17**	**36**	P	P	**11 09 44.6**	**+0.3**
ASAR	**Alice Springs**	**45.79**	**260**	P	**P**	**11 05 38.8**	**-1.4**		baz=231,SNR=15								baz=228						
	comp=Z,16nm,0.9s,baz=96,slow=8.2,SNR=47							ISA	**Isabella, Lake**	**80.41**	**44**	*e*P	P	**11 09 30.3**	**+0.4**	MOD	**Modoc Plateau**	**83.29**	**38**	*e*P	P	**11 09 45.4**	**+0.4**
ASAR				ScP	**ScP**	**11 11 09.5**	**-0.5**		comp=Z,11nm,1.0s								comp=Z,17nm,1.4s						
	comp=Z,0.6nm,0.9s,baz=98,slow=5.7,SNR=2.9							**ISA**	**Isabella, Lake**	**80.41**	**44**	*e*P	P	**11 09 30.3**	**+0.4**	I04A	**Tendick Farm,**	**83.38**	**36**	P	P	**11 09 45.9**	**+0.6**
ASAR				LR	LR	11 24 28.1		ISA				pmax	pmax				baz=228						
	comp=Z,853nm,18.4s,baz=108,slow=36								comp=Z,11nm,1.0s							K05A	**Summer Lake**	**83.50**	**37**	*e*P	P	**11 09 46.5**	**+0.5**
WB2	**Warramunga Arr**	**46.21**	**265**	*e*P	**P**	**11 05 41.2**	**-2.3**	PFO	**Pinyon Flats O**	**80.46**	**47**	P	P	**11 09 30.2**	**0.0**		comp=Z,13nm,1.0s						
WB2				*e*P	**P**	**11 05 41.4**	**-2.1**		baz=233,SNR=5.7							TUC	**Tucson**	**83.61**	**51**	P	P	**11 09 47.0**	**+0.3**
WRAB	**Tennant Creek**	**46.21**	**265**	*ce*P	**P**	**11 05 41.8**	**-1.7**	PFO	**Pinyon Flats O**	**80.46**	**47**	*e*P	P	**11 09 30.6**	**+0.4**		baz=236						
WRAB				pmax	pmax				comp=Z,6.1nm,1.0s							TUC	**Tucson**	**83.61**	**51**	*e*P	P	**11 09 47.8**	**+1.1**
	comp=Z,19nm,0.8s							PFO	**Pinyon Flats O**	**80.46**	**47**	*e*P	P	**11 09 30.6**	**+0.4**		comp=Z,9.8nm,1.0s						
WR1	**Warramunga Arr**	**46.22**	**265**	*e*P	**P**	**11 05 41.4**	**-2.1**	PFO				pmax	pmax			**TUC**	**Tucson**	**83.61**	**51**	*e*P	P	**11 09 47.8**	**+1.1**
	comp=Z,28nm,0.9s								comp=Z,6.0nm,1.0s							TUC				pmax	pmax		
WR1				*e*PcP	**PcP**	**11 07 18.0**	**-1.2**	XPFO	**Piæon Flat**	**80.47**	**47**	*e*P	P	**11 09 30.3**	**0.0**		comp=Z,10.0nm,1.0s						
WRA	**Warramunga Arr**	**46.22**	**265**	P	**P**	**11 05 41.4**	**-2.1**		comp=Z,0.0nm,1.0s							J05D	**Fort Rock, OR**	**83.68**	**37**	P	P	**11 09 47.2**	**+0.3**
	comp=Z,18nm,0.8s,baz=103,slow=8.2,SNR=77							SWSC	**Sam W. Stewart**	**80.51**	**48**	P	P	**11 09 30.4**	**0.0**		baz=229						
WRA				PcP	**PcP**	**11 07 18.0**	**-1.2**		baz=233							NJ2	**Nanjing**	**83.69**	**309**	*e*P	P	**11 09 47.5**	**+0.4**
	comp=Z,5.1nm,0.9s,baz=104,slow=3.8,SNR=5.2							BBRC	**Big Bear Solar**	**80.55**	**46**	P	P	**11 09 30.8**	**0.0**	NJ2				pmax	pmax		
JAY	**Jayapura**	**47.14**	**290**	P	**P**	**11 05 49.7**	**-1.1**		baz=232								comp=Z,14nm,0.5s						
JAY				pmax	pmax			CMB	**Columbia Colle**	**80.73**	**41**	*e*P	P	**11 09 31.6**	**+0.1**	SYO	**Syowa Base**	**83.71**	**192**‖	*e*P	P	**11 09 45.5**	**-1.1**
	comp=Z,128nm,0.9s							CMB				*e*P	P	**11 09 31.6**	**+0.1**	SYO	**Syowa Base**	**83.71**	**192**‖	*i*PcP	PcP	**11 09 51.1**	**+0.4**
FORT	**Forrest**	**49.85**	**249**	P	**P**	**11 06 10.8**	**-0.7**		comp=Z,7.0nm,1.0s							R11A	**Troy Canyon, C**	**83.88**	**43**	P	P	**11 09 48.1**	**0.0**
	baz=50								comp=Z,7.0nm,1.0s								baz=233						
FORT	**Forrest**	**49.85**	**249**	*e*P	**P**	**11 06 11.2**	**-0.3**	LRMC	**Laurel Mtn Rad**	**80.80**	**45**	P	P	**11 09 32.1**	**+0.1**	R11A	**Troy Canyon, C**	**83.88**	**43**	*e*P	P	**11 09 48.4**	**+0.3**
	comp=Z,486nm,0.8s								baz=232,SNR=12								comp=Z,4.4nm,1.3s						
WRKA	**Warakurna**	**50.54**	**257**	P	**P**	**11 06 15.4**	**-1.5**	KSRS	**Korea Array**	**80.88**	**318**	P	P	**11 09 31.9**	**-0.3**	G03D	**McMinnville, O**	**83.89**	**34**	P	P	**11 09 48.4**	**+0.7**
	baz=51,SNR=19								comp=Z,3.5nm,1.0s,baz=140,slow=5.7,SNR=9.0								baz=227						
MTN	**Manton Dam**	**51.30**	**273**	*e*P	**P**	**11 06 20.4**	**-2.1**	KSRS				LR	LR	11 40 55.8		BMN	**Battle Mountai**	**84.15**	**41**	*e*P	P	**11 09 49.9**	**+0.5**
	comp=Z,6.9nm,0.6s								comp=Z,153nm,20.2s,baz=150,slow=32								comp=Z,10nm,1.3s						
KNRA	**Kununurra**	**52.52**	**268**	P	**P**	**11 06 30.0**	**-1.7**	KS15	**Wonju Array Si**	**80.89**	**318**	*e*P	P	**11 09 31.9**	**-0.4**	BMN	**Battle Mountai**	**84.15**	**41**	*e*P	P	**11 09 49.9**	**+0.5**
	baz=53,SNR=6.8							KSAR	**Wonju Array Be**	**80.89**	**318**	P	P	**11 09 31.9**	**-0.4**	BMN				pmax	pmax		
GUMO	**Guam**	**53.63**	**310**	LR	LR	11 27 03.0		KSAR	**Wonju Array Be**	**80.89**	**318**	P	P	**11 09 31.9**	**-0.4**		comp=Z,10.0nm,1.3s						
	comp=Z,134nm,21.6s,baz=130,slow=33							KS01	**Wonju Array Si**	**80.91**	**318**	*e*P	P	**11 09 32.5**	**+0.1**	319A	**Douglas**	**84.17**	**52**	*e*P	P	**11 09 50.3**	**+0.6**
SBA	**Scott Base**	**54.49**	**184**	P	**P**	**11 06 48.5**	**+3.2**	AFDM	**Forest Hills D**	**80.97**	**40**	*e*P	P	**11 09 32.4**	**-0.3**		comp=Z,12nm,1.0s						
SBA				pmax	pmax				comp=Z,4.7nm,1.0s							PINE	**Pine Mountain**	**84.17**	**37**	*e*P	P	**11 09 50.0**	**+0.5**
	comp=Z,17nm,1.4s							BELC	**Belle Mtn. Jos**	**81.00**	**47**	P	P	**11 09 33.3**	**+0.2**		comp=Z,7.1nm,0.8s						
VNDA	**Vanda**	**54.58**	**186**	P	**P**	**11 06 46.7**	**+0.7**		baz=233,SNR=7.1							I05D	**Terrebonne, OR**	**84.32**	**36**	P	P	**11 09 50.5**	**+0.4**
	comp=Z,3.6nm,0.9s,baz=9.8,slow=6.5,SNR=12							ORV	**Oroville**	**81.06**	**39**	*e*P	P	**11 09 32.9**	**-0.3**		baz=228						
VNDA				PcP	**PcP**	**11 07 50.2**	**+1.3**		comp=Z,5.5nm,1.2s							X16A	**Lo Mia Camp, P**	**84.32**	**49**	*e*P	P	**11 09 51.4**	**+0.9**
	comp=Z,4.5nm,0.9s,baz=350,slow=5.2,SNR=6.0							ORV	**Oroville**	**81.06**	**39**	*e*P	P	**11 09 32.9**	**-0.3**		comp=Z,13nm,1.0s						
VNDA	**Vanda**	**54.58**	**186**	*e*P	**P**	**11 06 47.5**	**+1.6**	ORV				pmax	pmax			SNAA	**Sanae**	**84.41**	**178**	P	P	**11 09 50.4**	**+0.1**
VNDA				PcP	**PcP**	**11 07 50.2**	**+1.3**		comp=Z,6.0nm,1.2s							SNAA	**Sanae**	**84.41**	**178**	P	P	**11 09 50.3**	**+0.1**
VNDA	**Vanda**	**54.58**	**186**	*e*

comp=Z,11nm,1.0s
KNB Kanab 84.87 46 *e*P **P 11 09 54.1 +0.9**
comp=Z,14nm,1.0s
KNB Kanab 84.87 46 *e*P **P 11 09 54.1 +0.9**
KNB pmax pmax
comp=Z,15nm,1.0s
U15A North Rim 84.88 46 *e*P **P 11 09 54.2 +0.8**
comp=Z,17nm,0.9s
VNA2 Neumayer--Watz 84.93 176 P **P 11 09 53.3 +0.5**
baz=173,slow=3.5
WUAZ Wupatki 84.98 48 P **P 11 09 54.1 +0.3**
baz=236
WUAZ Wupatki 84.98 48 *e*P **P 11 09 54.3 +0.5**
comp=Z,12nm,1.1s
SZCU Shurtz Canyon 85.03 45 *e*P **P 11 09 55.1 +1.1**
comp=Z,13nm,1.1s
VNA1 Neumayer--Stat 85.15 176 P **P 11 09 53.7 -0.1**
J08A Circle Bar Ran 85.26 38 *e*P **P 11 09 55.2 +0.3**
comp=Z,6.5nm,1.0s
X18A Snowflake 85.41 49 *e*P **P 11 09 55.5 -0.5**
comp=Z,8.6nm,0.8s
PKCU Pink Cliffs 85.45 46 *e*P **P 11 09 57.8 +1.5**
comp=Z,31nm,1.6s
GRNR Gornyy 85.58 332 *i* P **P 11 09 57.1 +0.9**
IPM Ipoh 85.59 277 *e*P **P 11 09 56.8 -0.3**
comp=Z,11nm,0.8s
NKL Nikolayevsk 85.66 335 *e*P **P 11 09 55.5 -0.9**
NKL pmax pmax
comp=Z,25nm,1.0s
121A Cookes Peak, D 85.86 52 P **P 11 09 58.5 +0.3**
baz=238
MTPU Mount Pierson 85.87 45 *e*P **P 11 09 60.0 +1.6**
comp=Z,14nm,1.2s
W18A Petrified Fore 85.88 49 P **P 11 09 58.6 +0.4**
baz=237
W18A Petrified Fore 85.88 49 *e*P **P 11 09 58.9 +0.6**
comp=Z,14nm,1.2s
BRLK Bradley Lake 85.98 12 *e*P **P 11 09 58.0 0.0**
comp=Z,21nm,1.0s
MSU Marysvale 86.14 45 *e*P **P 11 10 00.5 +0.9**
MSU Marysvale 86.14 45 *e*P **P 11 10 00.5 +0.9**
UBPT Khong Chiam 86.20 288 P **P 11 10 01.9 +1.9**
comp=Z,10.0nm,1.2s
G08A Pilot Rock 86.22 36 *e*P **P 11 10 00.8 +1.2**
comp=Z,4.3nm,1.0s
CN2 Changchun 86.34 322 *e*P **P 11 10 00.8 +0.7**
CN2 *es*P sP 11 10 07.8 0.0
CN2 *e*S **S 11 20 34.5 -0.4**
CN2 pmax pmax
comp=Z,30nm,1.0s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=Z,160nm,18.0s
CN2 LR LR
comp=Z,140nm,18.0s
A04D Lummi Island 86.57 32 P **P 11 10 02.1 +1.0**
baz=227
KLR Kul'dur 86.61 329 *c i*P **P 11 10 02.0 +0.8**
PSI Prapat 86.81 274 *e*P **P 11 10 02.6 -0.7**
comp=Z,28nm,1.0s
PSI Prapat 86.81 274 *e*P **P 11 10 02.6 -0.7**
PSI pmax pmax
comp=Z,29nm,1.0s
TIA Tai'an 87.16 312 P **P 11 10 05.3 +1.0**
TIA pmax pmax
comp=Z,27nm,1.1s
MNTX Cornudas Mount 87.18 54 P **P 11 10 04.7 +0.1**
baz=240
MNTX Cornudas Mount 87.18 54 *e*P **P 11 10 05.1 +0.5**
comp=Z,9.3nm,0.9s
TMUT Trail Mountain 87.21 45 *e*P **P 11 10 05.8 +0.9**
comp=Z,9.3nm,0.8s
TX31 Lajitas Ar. Si 87.29 56 *e*P **P 11 10 05.0 -0.2**
TX31 *e*P **P 11 10 05.6 +0.4**
TXAR Lajitas Array 87.29 56 P **P 11 10 05.6 +0.4**
comp=Z,4.7nm,1.0s,baz=212,slow=6.9,SNR=39
TXAR LR LR 11 43 36.5
comp=Z,164nm,19.0s,baz=0.0,slow=32
LAZ Ladron 87.30 50 *e*P **P 11 10 06.3 +1.0**
RC01 Rabbit Creek A 87.43 12 *e*P **P 11 10 04.7 -0.2**
comp=Z,23nm,1.1s
GSI Gunungsitoli 87.44 273 *e*P **P 11 10 06.8 +0.6**
comp=Z,81nm,0.9s
SRU San Rafael Swe 87.55 45 *e*P **P 11 10 06.7 +0.4**
comp=Z,7.2nm,0.9s
SRU San Rafael Swe 87.55 45 *e*P **P 11 10 06.7 +0.4**
SRU pmax pmax
comp=Z,7.0nm,0.9s
SUA Susitna One 87.58 12 *e*P **P 11 10 05.7 -0.2**
comp=Z,16nm,0.8s
P17A Butcher Ranch, 87.61 45 *e*P **P 11 10 07.3 +0.7**
comp=Z,5.7nm,0.8s
HLID Hailey 87.71 40 P **P 11 10 06.9 -0.1**
baz=234
MA2 Magadan 87.74 344 *e*P **P 11 10 06.0 -0.5**
comp=Z,29nm,1.3s
MA2 Magadan 87.74 344 ‖ *e*P **P 11 10 06.1 -0.4**
EYAK Cordova Ski Ar 87.78 14 *e*P **P 11 10 06.9 +0.2**
comp=Z,18nm,1.0s
MVCO Mesa Verde 87.85 47 P **P 11 10 07.6 -0.3**
baz=238
SKT Skwentna 87.92 11 *e*P **P 11 10 06.3 -1.1**
comp=Z,7.8nm,1.0s
PMR Palmer 88.01 12 *e*P **P 11 10 07.4 -0.3**
comp=Z,17nm,1.0s
PMR Palmer 88.01 12 *e*P **P 11 10 07.4 -0.3**
PMR pmax pmax
comp=Z,17nm,1.0s
P18A Preston Nutter 88.01 45 *e*P **P 11 10 08.8 +0.1**
comp=Z,6.1nm,1.1s
ANMO Albuquerque 88.06 50 P **P 11 10 09.1 +0.2**
baz=239
ANMO Albuquerque 88.06 50 *e*P **P 11 10 09.3 +0.4**
comp=Z,7.6nm,1.0s
ANMO Albuquerque 88.06 50 *ce*P **P 11 10 09.3 +0.4**
ANMO pmax pmax
comp=Z,7.0nm,0.8s
TCUT Toone Canyon 88.11 43 *e*P **P 11 10 09.6 +0.5**
comp=Z,14nm,1.2s
TRTT Trang 88.17 279 P **P 11 10 10.6 +0.9**
comp=Z,13nm,1.2s,comp=Z,205nm
GHO Glory Hole Cre 88.22 12 *e*P **P 11 10 09.0 +0.2**
comp=Z,32nm,1.0s
SKNT Sakolnakorn 88.22 289 P **P 11 10 09.7 -0.1**
comp=Z,27nm,0.9s,comp=Z,2μm
LLLB Lilloet 88.24 31 *e*P **P 11 10 10.0 +0.8**
comp=Z,6.2nm,1.0s
DIV Divide 88.30 14 *e*P **P 11 10 09.5 +0.3**
comp=Z,20nm,1.0s
BMRM Bremner River 88.42 15 *e*P **P 11 10 10.2 +0.4**
comp=Z,16nm,0.8s
LNIG Linares 88.49 62 *e*P **P 11 10 10.2 -0.7**
comp=Z,5.7nm,0.9s
CRQM Cirque 88.58 15 *e*P **P 11 10 10.8 +0.1**
comp=Z,21nm,1.1s
KLU Klutina 88.59 14 *e*P **P 11 10 10.8 +0.2**
comp=Z,10nm,1.0s
SCM Sheep Creek Mo 88.59 13 *e*P **P 11 10 11.0 +0.4**
comp=Z,28nm,0.9s
SCM Sheep Creek Mo 88.59 13 *e*P **P 11 10 11.0 +0.4**
SCM pmax pmax
comp=Z,28nm,0.9s
BALM Baldy 89.01 16 *e*P **P 11 10 13.2 +0.5**
comp=Z,16nm,0.9s
BALM Baldy 89.01 16 *e*P **P 11 10 13.2 +0.5**
BALM pmax pmax
comp=Z,16nm,0.9s
BESE Bessie Mountai 89.06 20 *e*P **P 11 10 13.5 +0.7**
comp=Z,15nm,1.2s
NEW Newport 89.08 35 P **P 11 10 13.7 +0.5**
baz=231
CAST Castle Rocks 89.17 10 *e*P **P 11 10 11.7 -1.5**
comp=Z,18nm,1.0s
S22A 4UR Ranch, Cre 89.26 48 P **P 11 10 14.3 -0.3**
baz=239
S22A 4UR Ranch, Cre 89.26 48 *e*P **P 11 10 14.7 +0.1**
comp=Z,5.8nm,1.1s
KTH Kantishna Hill 89.49 11 *e*P **P 11 10 14.0 -0.8**
comp=Z,17nm,1.0s
TRF Thorofare Moun 89.50 11 *e*P **P 11 10 14.3 -0.7**
comp=Z,24nm,0.8s
O20A White River Ci 89.58 45 P **P 11 10 15.5 -0.4**
baz=238
SKAG Skagway 89.62 19 *e*P **P 11 10 16.8 +1.4**
comp=Z,15nm,1.2s
ENH Enshi 89.70 303 *e*P **P 11 10 17.5 +1.0**
comp=Z,76nm,1.2s
RND Reindeer 89.72 12 *e*P **P 11 10 15.9 +0.1**
comp=Z,27nm,1.0s
RND Reindeer 89.72 12 *e*P **P 11 10 15.9 +0.1**
RND pmax pmax
comp=Z,27nm,1.0s
SNOW Snow King Moun 89.83 41 *e*P **P 11 10 17.8 +0.7**
comp=Z,7.2nm,1.2s
BJI Beijing 89.83 315 P **P 11 10 17.3 +0.5**
BJI pmax pmax
comp=Z,21nm,1.0s
SMCO Snowmass 89.91 46 *e*P **P 11 10 17.6 -0.2**
comp=Z,22nm,2.0s
IMW Indian Meadow 89.96 41 *e*P **P 11 10 17.9 +0.1**
comp=Z,4.7nm,1.2s
MCK McKinley 90.00 12 *e*P **P 11 10 17.1 0.0**
comp=Z,19nm,1.0s
MCK McKinley 90.00 12 *e*P **P 11 10 17.1 0.0**
MCK pmax pmax
comp=Z,19nm,1.0s
HYT Haines Junctio 90.10 18 *e*P **P 11 10 17.7 -0.1**
comp=Z,7.3nm,1.0s
GYA Guiyang 90.15 299 *e*P **P 11 10 20.0 +1.2**
GYA pmax pmax
comp=Z,10.0nm,1.0s
SDCO Great Sand Dun 90.16 48 P **P 11 10 18.7 -0.2**
baz=239
SDCO Great Sand Dun 90.16 48 *e*P **P 11 10 19.0 +0.1**
comp=Z,4.6nm,1.1s
BW06 Boulder Array 90.17 42 P **P 11 10 18.5 -0.2**
baz=237
PD31 Pinedale Array 90.17 42 *e*P **P 11 10 18.5 -0.2**
PDAR Pinedale Array 90.17 42 P **P 11 10 18.4 -0.3**
comp=Z,1.4nm,0.9s,baz=228,slow=3.6,SNR=9.4
PDAR LR LR 11 46 47.5
comp=Z,130nm,18.1s,baz=287,slow=33
PDAR Pinedale Array 90.17 42 *e*P **P 11 10 17.7 -1.0**
MSTX Muleshoe 90.21 53 P **P 11 10 18.6 -0.3**
baz=241
MSTX Muleshoe 90.21 53 *e*P **P 11 10 18.6 -0.3**
comp=Z,7.2nm,0.9s
SEY Seymchan 90.29 346 *ce*P **P 11 10 18.8 +0.4**
PHET Kaeng Krachan 90.32 284 P **P 11 10 22.1 +2.4**
comp=Z,22nm,0.9s
YMR Madison River 90.38 40 *e*P **P 11 10 20.2 +0.6**
comp=Z,23nm,1.8s
YHH Holmes Hill 90.51 40 *e*P **P 11 10 21.1 +0.7**
comp=Z,8.0nm,1.4s
BOZ Bozeman (W) 90.52 39 P **P 11 10 20.3 +0.2**
baz=235
BOZ Bozeman (W) 90.52 39 *e*P **P 11 10 20.2 +0.2**
comp=Z,6.7nm,1.1s
BOZ Bozeman (W) 90.52 39 *e*P **P 11 10 20.3 +0.2**
BOZ pmax pmax
comp=Z,7.0nm,1.1s
DLBC Dease Lake 90.53 22 *e*P **P 11 10 20.8 +1.0**
comp=Z,9.5nm,0.9s
T25A Trinkid 90.60 49 P **P 11 10 20.5 -0.3**
baz=240
PBKT Sadao Pong 90.66 288 P **P 11 10 21.9 +0.7**
comp=Z,28nm,1.1s,comp=Z,1μm
PBKT Sadao Pong 90.66 288 *e*P **P 11 10 21.9 +0.7**
comp=Z,26nm,1.1s
PBKT *e*S **S 11 21 20.2 +3.4**
WHY Whitehorse 90.72 19 *e*P **P 11 10 20.9 +0.3**
comp=Z,5.2nm,0.8s
WRH Wood River Hil 90.83 12 *e*P **P 11 10 20.9 -0.1**
comp=Z,26nm,1.0s
MLY Manley 90.89 10 *e*P **P 11 10 20.5 -0.7**
comp=Z,6.3nm,1.0s
DOT Dot Lake 90.90 14 *e*P **P 11 10 21.4 0.0**
comp=Z,44nm,0.9s
HDA Harding Lake 90.99 12 *e*P **P 11 10 19.4 -2.2**
comp=Z,14nm,0.8s
Q24A Divide 91.02 47 P **P 11 10 22.5 -0.3**
baz=240
CCB Clear Creek Bu 91.05 12 *e*P **P 11 10 21.1 -0.8**
comp=Z,13nm,0.9s
SCRK Sand Creek 91.21 13 *e*P **P 11 10 23.0 +0.2**
comp=Z,8.0nm,1.0s
COLA College 91.24 12 ‖ *i*P **P 11 10 22.5 -0.3**
COLA pmax pmax
comp=Z,19nm,1.0s
MDM Murphy Dome 91.25 11 *e*P **P 11 10 22.5 -0.4**
comp=Z,15nm,1.0s
IM3 Indian Mountai 91.32 9 *e*P **P 11 10 22.8 -0.3**
IL1 Eielson Array 91.33 12 *e*P **P 11 10 22.6 -0.6**
ILAR Eielson Array 91.33 12 P **P 11 10 22.6 -0.7**
comp=Z,5.4nm,0.9s,baz=218,slow=5.2,SNR=36
ILB Eielson Array 91.33 12 *e*P **P 11 10 22.9 -0.3**
SRDT SRDT 91.36 285 P **P 11 10 25.8 +1.3**
comp=Z,28nm,1.1s,comp=Z,4μm
PHIT Phitsanulok 91.40 288 P **P 11 10 26.5 +1.9**
comp=Z,33nm,1.0s
AMTX Amarillo 91.44 52 P **P 11 10 24.6 0.0**
baz=242
AMTX Amarillo 91.44 52 *e*P **P 11 10 24.0 -0.6**
comp=Z,14nm,1.4s
N23A Red Feather La 91.47 45 P **P 11 10 24.7 -0.2**
baz=239
NANT Nan 91.82 290 P **P 11 10 28.1 +1.5**
comp=Z,13nm,0.9s,comp=Z,107nm
XAN Xi'an 91.88 307 P **P 11 10 27.8 +1.2**
XAN S **S 11 21 33.1 +5.6**
XAN pmax pmax
comp=Z,19nm,2.3s
XAN LR LR
comp=Z,64nm,19.6s
XAN LR LR
comp=Z,130nm,18.1s
ABTX Abilene, Hawle 91.89 55 P **P 11 10 26.2 -0.5**
baz=243
ABTX Abilene, Hawle 91.89 55 *e*P **P 11 10 26.6 0.0**
comp=Z,13nm,1.1s
DAWY Dawson 92.32 15 *e*P **P 11 10 28.4 +0.5**
comp=Z,10nm,1.0s
EGAK Eagle 92.52 14 *e*P **P 11 10 28.7 0.0**
comp=Z,12nm,1.0s
LAMP Lampang 92.62 289 P **P 11 10 32.1 +1.8**
comp=Z,35nm,0.8s,comp=Z,264nm
KMI Kunming 92.75 296 P **P 11 10 32.6 +1.5**
KMI pmax pmax
comp=Z,24nm,0.9s
KMI pmax pmax
comp=Z,150nm,4.9s
PAYA Payao 92.77 290 P **P 11 10 32.4 +1.4**
comp=Z,18nm,0.8s,comp=Z,142nm
BILL Bilibino 92.77 353 ⇑ *i*P **P 11 10 29.6 -0.2**
BILL *e* 11 14 10.4
BILL *e*S **SKSac 11 21 00.7 -1.6**
BILL pmax pmax
comp=Z,13nm,1.0s
BILL MLR MLR
comp=Z,237nm,19.0s
COLD Coldfoot 93.00 10 *e*P **P 11 10 31.6 +0.7**
comp=Z,9.4nm,1.5s
CM01 Chiang Mai Arr 93.17 289 *e*P **P 11 10 34.4 +1.6**
CM31 Chiang Mai Arr 93.19 289 *e*P **P 11 10 33.8 +0.8**
CMAR Chiang Mai Arr 93.19 289 P **P 11 10 34.5 +1.6**
comp=Z,23nm,0.9s,baz=135,slow=3.3,SNR=118
HHC Hu-ho-hao-te 93.27 314 P **P 11 10 34.3 +1.4**
HHC PP **PP 11 14 21.5 +4.4**
HHC S **S 11 21 40.8 +1.1**
HHC pmax pmax
comp=Z,26nm,1.5s
HHC pmax pmax
comp=Z,64nm,7.8s
HHC LR LR
comp=Z,130nm,16.9s
HHC LR LR
comp=Z,280nm,17.2s
HHC LR LR
comp=Z,280nm,17.9s
CMMT Chiang Mai 93.33 289 P **P 11 10 34.0 +0.4**
comp=Z,49nm,0.9s
CHTO Chiang Mai 93.34 289 P **P 11 10 35.0 +1.4**
comp=Z,219nm,0.9s
CHTO Chiang Mai 93.34 289 *e*P **P 11 10 34.6 +1.0**
comp=Z,40nm,0.9s
CHTO Chiang Mai 93.34 289 *e*P **P 11 10 34.6 +1.0**
CHTO pmax pmax
comp=Z,40nm,0.9s
WMOK Wichita Mounta 93.49 54 P **P 11 10 33.6 -0.4**
baz=243
CMAI Chiengmai2 93.71 290 P **P 11 10 36.9 +1.4**
LAO LASA Array 94.27 40 *e*P **P 11 10 38.2 +0.9**
comp=Z,34nm,2.0s
RSSD Black Hills 94.31 43 P **P 11 10 37.2 -0.6**
baz=241
RSSD Black Hills 94.31 43 *e*P **P 11 10 36.9 -0.9**
comp=Z,7.2nm,1.1s
RSSD Black Hills 94.31 43 *e*P **P 11 10 36.9 -0.9**
RSSD pmax pmax
comp=Z,7.0nm,1.1s
TOLK Toolik Lake Re 94.40 9 P **P 11 10 37.3 -0.1**
baz=204
TOLK Toolik Lake Re 94.40 9 *e*P **P 11 10 37.5 +0.1**
comp=Z,21nm,2.0s
LZH Lanzhou 96.52 307 *e*P **P 11 10 49.0 +1.0**
LZH pP pP 11 10 53.9 +0.2
LZH sP sP 11 10 56.3 +0.6
LZH *e*PP **PP 11 14 46.3 +3.7**
LZH pmax pmax
comp=Z,22nm,1.4s
LZH pmax pmax
comp=Z,98nm,9.5s
LZH LR LR
comp=Z,280nm,17.5s
LZH LR LR
comp=Z,260nm,17.6s
LZH LR LR
comp=Z,350nm,19.7s
K31A O'Neill 97.02 46 P Pdif 11 10 50.8 +0.7
baz=244
INK Inuvik 97.17 15 *e*P **P 11 10 49.6 -0.3**
comp=Z,16nm,2.0s
INK Inuvik 97.17 15 *e*P **P 11 10 49.6 -0.3**
INK pmax pmax
comp=Z,17nm,2.0s
P37A Lathrop 98.76 51 P Pdif 11 10 58.6 +0.8
baz=246
MDND Maddock 98.78 41 P Pdif 11 10 58.7 +1.0
baz=244
LPAZ La Paz 98.83 112 LR LR 11 48 56.4
comp=Z,98nm,18.1s,baz=212,slow=31
YKA Yellowknife Ar 98.89 24 P **P 11 10 57.0 -0.7**
comp=Z,0.6nm,0.9s,baz=236,slow=4.2,SNR=11
YKA PKKPbc **PKKPbc 11 27 24.8 -2.3**
comp=Z,0.2nm,0.8s,baz=13,slow=2.3,SNR=3.9
ECSD EROS Data Cent 98.91 46 P Pdif 11 10 59.6 +1.1
baz=245
R39A Chumby, Stover 99.19 52 P **Pdif 11 11 00.6 +0.9**
baz=247
ULN Ulaanbaatar 99.36 318 *ce*P **Pdif 11 11 00.3 -0.2**
ULN pmax pmax
comp=Z,2.0nm,0.8s
447A Lucedale 99.63 61 P **Pdif 11 11 02.7 +0.8**
baz=248
SONA0 Songino Array 99.75 318 *e*Pdif **Pdif 11 11 01.3 -0.9**
SONM Songino Array 99.75 318 P **Pdif 11 11 01.3 -0.9**
comp=Z,0.3nm,0.4s,baz=111,slow=3.3,SNR=3.6
L42A Oliver, Polo 102.96 50 P **Pdif 11 11 17.1 +0.6**
baz=249
455A Stateville 104.14 62 P **Pdif 11 11 22.7 +0.8**
baz=250
C40A Isle Royale Na 105.31 44 P **PKiKP 11 15 41.1 +0.5**
baz=251
E43A Lone Tree Farm 106.22 46 P **PKiKP 11 15 42.8 +0.4**
baz=252
ERPA Erie 109.86 52 P **PKiKP 11 15 49.8 +0.5**
baz=255
WMQ Urumqi 110.77 310 *e*PKP **PKiKP 11 15 50.5 -0.6**
WMQ LR LR
comp=Z,86nm,24.3s
WMQ LR LR
comp=Z,220nm,21.9s
WMQ LR LR
comp=Z,190nm,21.9s
SSPA Standing Stone 111.02 54 P **PKiKP 11 15 51.3 -0.2**
baz=256
ZALV Zalesovo Beam 114.52 320 PKP PKPdf 11 15 56.8 -1.0
comp=Z,0.9nm,0.3s,baz=84,slow=3.4,SNR=2.4
ZAA1 Zalesovo Array 114.52 320 *e*PKiKP PKPdf 11 15 56.8 -1.0
MK32 Makanchi Array 115.09 312 *e*Pdif **Pdif 11 12 12.0 +1.7**
MK32 *e*PKiKP PKPdf 11 15 58.2 -1.0
MKAR Makanchi Array 115.09 312 Pdiff **Pdif 11 12 12.0 +1.7**
comp=Z,0.2nm,0.5s,baz=87,slow=6.6,SNR=3.7
MKAR PKP PKPdf 11 15 58.2 -1.0
comp=Z,2.0nm,0.9s,baz=72,slow=4.0,SNR=12
KURK Kurchatov 117.96 316 *e*PKPdf **PKPdf 11 16 03.6 -0.9**
KURK *e*PKPdf **PKiKP 11 16 04.2 -0.3**
KURK Kurchatov 117.96 316 *e*PKiKP **PKPdf 11 16 03.6 -0.9**
KURBB Kurchatov Arra 118.01 316 PKP **PKPdf 11 16 03.6 -1.0**
comp=Z,1.8nm,0.7s,baz=120,slow=2.0,SNR=9.1
NRN Naryn 118.81 305 *e*PKPdf **PKPdf 11 16 06.7 -0.2**
NRN Naryn 118.81 305 *e*PKiKP **PKPdf 11 16 06.7 -0.2**
AAK Ala-Archa 120.06 307 *e*PKPdf **PKPdf 11 16 08.8 -0.3**
AAK Ala-Archa 120.06 307 *e*PKiKP **PKPdf 11 16 08.8 -0.3**
KK31 Karatay Array 123.02 307 *e*PKPdf **PKPdf 11 16 14.2 -0.4**
KK31 Karatay Array 123.02 307 *e*PKiKP **PKPdf 11 16 14.2 -0.4**
KKAR Karatay Array 123.02 307 *e*PKPdf **PKPdf 11 16 14.2 -0.4**
KKAR Karatay Array 123.02 307 *e*PKiKP **PKPdf 11 16 14.2 -0.4**
BVAR Borovoye Array 123.09 319 PKP **PKPdf 11 16 13.8 -0.6**
comp=Z,2.8nm,0.9s,baz=85,slow=3.7,SNR=13
BRVK Borovoye 123.15 319 ⇑ *i*PKiKP **PKPdf 11 16 13.4 -1.0**
KBL Kabul 123.33 297 *e*PKPdf **PKPdf 11 16 15.9 +0.2**
KBL Kabul 123.33 297 *e*PKiKP **PKPdf 11 16 15.9 +0.2**
ARU Arti 129.26 324 *i* PKiKP **PKPdf 11 16 26.2 +0.2**
ARU 11 18 32.5
ARU 11 23 34.2
AKTO Aktyubinsk 131.05 317 PKP **PKPdf 11 16 29.2 -0.4**
comp=Z,1.6nm,0.7s,baz=74,slow=2.0,SNR=3.9
GEYT Alibeck 132.36 300 PKP **PKPdf 11 16 32.7 +0.2**
comp=Z,4.7nm,0.8s,baz=297,slow=1.3,SNR=7.7
KLMR Klimovskoe 135.94 336 *e*PKPdf PKPpre 11 16 32.3
KLMR AMP 11 16 51.3
comp=Z,8.0nm,1.3s
KLMR Klimovskoe 135.94 336 *e*PKiKP PKPpre 11 16 32.2
KLMR pmax pmax
comp=Z,8.0nm,1.3s
FINES FINESS Array B 139.74 344 PKhKP PKPpre 11 16 33.9
comp=Z,1.7nm,0.9s,baz=63,slow=6.4,SNR=3.4
OBN Obninsk 140.83 331 ⇑ *e*PKiKP **PKPdf 11 16 47.9 +0.3**
OBN *i* 11 16 50.5
OBN 11 23 48.0
OBN *e*SS SS 11 38 17.2 +3.8
OBN pmax pmax
comp=Z,5.0nm,0.4s
OBN pmax pmax
comp=Z,13nm,0.6s
VSR Storozhevoye 141.84 324 *e*PKHKP PKPpre 11 16 44.3
VSR pmax pmax
comp=Z,7.0nm,0.5s
ZEI Tsey 142.38 310 *i* PKHKP PKPpre 11 16 44.0
ZEI pmax pmax
comp=Z,4.0nm,1.0s
NB200 NORSAR Array S 142.72 354 *e*PKPpre PKPpre 11 16 43.5
NOA NORSAR Array B 142.72 354 PKhKP PKPpre 11 16 43.5
comp=Z,1.8nm,0.8s,baz=19,slow=2.8,SNR=7.1
KBZ Khabaz 142.78 311 PKhKP PKPpre 11 16 46.2
comp=Z,2.6nm,0.8s,baz=100,slow=1.6,SNR=8.9
KIV Kislovodsk 142.85 312 *i* PKiKP **PKPdf 11 16 53.3 +1.5**
KIV pmax pmax
comp=Z,7.0nm,1.0s
AKH Akhalkalaki 143.06 308 ‖ *i*P **PKPdf 11 16 49.7 -2.6**
HFS Hagfors 143.34 352 PKhKP PKPpre 11 16 48.1
comp=Z,2.4nm,0.6s,baz=95,slow=3.5,SNR=7.7
IZAR Zarasai 144.43 339 *e*P **PKPab 11 16 51.9 -0.3**
IZAR IAmb IAmb 11 16 58.7
comp=Z,8.6nm,0.6s
MBAR Mbarara 144.45 230 *e*PKPdf **PKPdf 11 16 55.3 -0.3**
MBAR Mbarara 144.45 230 *e*PKiKP **PKPdf 11 16 55.3 -0.3**
IDID Didziasalis 144.61 338 *e*P PKPbc 11 16 53.0 0.0
IDID IAmb IAmb 11 16 58.1
comp=Z,4.2nm,0.8s
IIGN Ignalina 144.76 338 *e*P **PKPab 11 16 53.0 -0.4**
IIGN IAmb IAmb 11 16 54.9
comp=Z,8.8nm,0.9s
NACGM Naroch 144.92 337 *e* **PKPab 11 16 53.0 -1.0**
ANN Anapa 145.99 316 *i* PKP2 **PKPbc 11 16 57.5 -0.3**
ANN pmax pmax
comp=Z,63nm,0.9s
SUW Suwalki 146.86 339 *e*PKP **PKPbc 11 16 59.9 -0.1**
SUW Suwalki 146.86 339 *e*PKPdf **PKPdf 11 16 58.4 +0.2**
SUW Suwalki 146.86 339 *e*PKP2 **PKPbc 11 16 59.9 -0.1**
AKASG Malin Array Be 147.09 330 PKPbc **PKPbc 11 16 59.9 -0.9**
comp=Z,19nm,0.8s,baz=41,slow=4.0,SNR=78
AKBB Malin Array Si 147.09 330 *e*PKPdf **PKPdf 11 16 59.5 +0.8**
AKBB Malin Array Si 147.09 330 *e*PKP2 **PKPdf 11 16 59.5 +0.8**
KIEV Kiev 147.10 330 *e*PKPdf **PKPdf 11 16 59.0 +0.4**
KIEV Kiev 147.10 330 *e*PKP2 **PKPdf 11 16 59.1 +0.4**
AK11 Malin Array Si 147.13 330 *e*PKPdf **PKPbc 11 16 59.9 -1.0**

SIM	**Simferopol'**	**148.00 318**	*i* PKP2	**PKPab**	**11 17 04.8**	**-1.4**		
SIM			pmax	pmax				
	comp=Z,33nm,0.9s							
EKA	**Eskdalemuir Ar**	**148.28 8**	PKPbc	**PKPbc**	**11 17 03.4**	**-0.5**		
	comp=Z,6.2nm,0.8s,baz=5.0,slow=3.3,SNR=14							
GKP	**Gorka Klasztor**	**149.20 345**	*e*PKP	**PKPab**	**11 17 11.2**	**+0.5**		
GKP	**Gorka Klasztor**	**149.20 345**	*e*PKP2	**PKPab**	**11 17 11.2**	**+0.5**		
SORM	**Soroca**	**149.28 328**	*i* P	**PKPbc**	**11 17 06.3**	**-0.4**		
BEL	**Belsk**	**149.48 340**	*e*PKP	**PKPbc**	**11 17 08.7**	**+1.6**		
BEL	**Belsk**	**149.48 340**	*e*PKP2	**PKPbc**	**11 17 08.7**	**+1.6**		
KIS	**Kishinev**	**149.80 325**	*e*PKP	**PKPbc**	**11 17 07.0**	**-1.0**		
KIS	**Kishinev**	**149.80 325**	*e*PKP2	**PKPbc**	**11 17 07.0**	**-1.0**		
LVV	**L'vov**	**149.97 334**	*e*PKP2	**PKPbc**	**11 17 08.7**	**+0.4**		
ILGA	**Ilgaz**	**150.09 312**	*e*PKPbc	**PKPbc**	**11 17 10.2**	**+1.0**		
ASF	**Jabal al Asfar**	**150.13 293**	PKPbc	**PKPbc**	**11 17 09.5**	**+0.1**		
	comp=Z,15nm,0.8s,baz=56,slow=0.6,SNR=20							
KWP	**Kalwaria Pacla**	**150.64 335**	*e*PKP	**PKPbc**	**11 17 10.2**	**+0.2**		
KWP	**Kalwaria Pacla**	**150.64 335**	*e*PKPbc	**PKPbc**	**11 17 10.2**	**+0.2**		
KWP	**Kalwaria Pacla**	**150.64 335**	*e*PKIKP	**PKPbc**	**11 17 10.2**	**+0.2**		
BR101	**Keskin Array S**	**150.69 309**	*e*PKPdf	**PKPdf**	**11 17 04.8**	**-0.2**		
BR101			*e*PKPbc	**PKPbc**	**11 17 10.2**	**-0.5**		
BR131	**Keskin Array S**	**150.69 309**	*e*PKPbc	**PKPbc**	**11 17 10.6**	**0.0**		
BRTR	**Keskin Array B**	**150.69 309**	PKP	**PKPdf**	**11 17 04.8**	**-0.2**		
	comp=Z,0.4nm,0.7s,baz=176,slow=2.0,SNR=3.9							
BRTR			PKPbc	**PKPbc**	**11 17 10.2**	**-0.5**		
	comp=Z,12nm,0.8s,baz=116,slow=2.9,SNR=57							
BUR08	**Bucovina Ar. S**	**151.13 330**	*e*PKPdf	**PKPdf**	**11 17 05.9**	**+0.5**		
BUR04	**Bucovina Ar. S**	**151.14 330**	*e*PKPdf	**PKPdf**	**11 17 06.8**	**+1.3**		
BURAR	**Bucovina Array**	**151.14 330**	*i* P	**PKPbc**	**11 17 12.2**	**+0.9**		
OJC	**Ojcow**	**151.19 339**	*e*PKP	**PKPbc**	**11 17 11.2**	**0.0**		
OJC	**Ojcow**	**151.19 339**	*e*PKPdf	**PKPdf**	**11 17 06.0**	**+0.7**		
OJC			*e*PKPbc	**PKPbc**	**11 17 11.1**	**-0.1**		
OJC			*e*PKPab	**sPKPbc**	**11 17 19.8**	**+0.8**		
OJC	**Ojcow**	**151.19 339**	*e*PKIKP	**PKPdf**	**11 17 06.0**	**+0.7**		
OJC			*e*		11 17 11.1			
ANTO	**Ankara**	**151.23 310**	*i* P	**PKPbc**	**11 17 12.7**	**+0.9**		
ANTO	**Ankara**	**151.23 310**	*e*PKPdf	**PKPdf**	**11 17 05.9**	**+0.1**		
ANTO	**Ankara**	**151.23 310**	*e*PKIKP	**PKPdf**	**11 17 05.9**	**+0.1**		
MMAI	**Mount Meron Ar**	**151.25 295**	PKPbc	**PKPbc**	**11 17 12.3**	**+0.3**		
	comp=Z,30nm,0.8s,baz=62,slow=4.3,SNR=39							
CFR	**Carcaliu**	**151.34 323**	*i* P	**PKPbc**	**11 17 11.8**	**+0.1**		
STHS	**Stebnicka Huta**	**151.37 336**	*e*PKP	**PKPbc**	**11 17 12.3**	**+0.6**		
STHS			*e*		11 17 20.9			
STHS	**Stebnicka Huta**	**151.37 336**	*e*PKIKP	**PKPbc**	**11 17 12.3**	**+0.6**		
STHS			*e*		11 17 20.9			
UZH	**Uzhgorod**	**151.61 334**	*e*PKIKP	**PKPdf**	**11 17 06.2**	**+0.2**		
UZH			*e*		11 17 12.2			
UZH			*e*		11 17 19.0			
TIRR	**Tirgusor**	**151.63 322**	*i* P	**PKPbc**	**11 17 12.1**	**-0.3**		
TIRR	**Tirgusor**	**151.63 322**	*e*PKPbc	**PKPbc**	**11 17 11.7**	**-0.7**		
TIRR	**Tirgusor**	**151.63 322**	*e*PKIKP	**PKPbc**	**11 17 11.7**	**-0.7**		
VRI	**Vrincioaia**	**151.64 326**	*i* P	**PKPbc**	**11 17 12.8**	**+0.4**		
KSP	**Ksiaz**	**151.66 344**	*e*PKP	**PKPbc**	**11 17 12.8**	**+0.5**		
KSP	**Ksiaz**	**151.66 344**	*e*PKIKP	**PKPbc**	**11 17 12.8**	**+0.5**		
PLOR	**Plostina**	**151.69 326**	*i* P	**PKPbc**	**11 17 12.4**	**-0.2**		
NIE	**Niedzica**	**151.71 338**	*e*PKP	**PKPbc**	**11 17 13.1**	**+0.6**		
NIE	**Niedzica**	**151.71 338**	*e*PKIKP	**PKPbc**	**11 17 13.1**	**+0.6**		
CRVS	**Cervenica-Dubn**	**151.71 336**	*e*PKP	**PKPbc**	**11 17 13.1**	**+0.6**		
CRVS			*e*		11 17 21.8			
CRVS	**Cervenica-Dubn**	**151.71 336**	*e*PKIKP	**PKPbc**	**11 17 13.1**	**+0.6**		
CRVS			*e*		11 17 21.8			
CLL	**Collm**	**151.95 348**	*i* PKPbc	**PKPbc**	**11 17 12.9**	**0.0**		
	comp=Z,18nm,0.9s							
CLL			*e*PKPab	**sPKPbc**	**11 17 21.0**	**+0.3**		
	comp=Z,20nm,1.0s							
CLL			*e*		11 17 24.0			
CLL			*e*		11 17 35.0			
CLL	**Collm**	**151.95 348**	*e*PKPbc	**PKPbc**	**11 17 12.4**	**-0.5**		
CLL	**Collm**	**151.95 348**	*i* PKIKP	**PKPbc**	**11 17 12.9**	**0.0**		
CLL			*e*		11 17 21.0			
CLL			pmax	pmax				
	comp=Z,18nm,0.9s							
CLL			pmax	pmax				
	comp=Z,20nm,1.0s							
UPC	**Upice**	**152.04 344**	*e*PKP	**PKPbc**	**11 17 13.8**	**+0.6**		
UPC			*ep*PKP	**pPKPbc**	**11 17 17.9**	**-1.1**		
UPC	**Upice**	**152.04 344**	*e*PKIKP	**PKPbc**	**11 17 13.8**	**+0.6**		
UPC			*e*		11 17 17.9			
DPC	**Dobruska-Polom**	**152.10 343**	*e*PKP	**PKPbc**	**11 17 13.9**	**+0.5**		
DPC			*ep*PKP	**sPKPdf**	**11 17 17.0**	**+2.4**		
DPC			*e*PKPAB	**PKPab**	**11 17 23.7**	**+0.8**		
DPC			*es*PKP		11 17 29.9			
DPC			*ex*	x	11 17 34.7			
DPC	**Dobruska-Polom**	**152.10 343**	*e*PKIKP	**PKPbc**	**11 17 13.9**	**+0.5**		
DPC			*e*		11 17 17.0			
DPC			*e*		11 17 23.7			
BRG	**Berggiesshubel**	**152.18 347**	*i* PKP	**PKPbc**	**11 17 13.3**	**-0.1**		
	comp=Z,16nm,0.8s							
BRG	**Berggiesshubel**	**152.18 347**	*i* PKIKP	**PKPbc**	**11 17 13.3**	**-0.1**		
BRG			pmax	pmax				
	comp=Z,16nm,0.8s							
LANS	**Liptovska Anna**	**152.22 338**	*e*PKP	**PKPbc**	**11 17 14.0**	**+0.3**		
LANS			*e*		11 17 26.1			
LANS	**Liptovska Anna**	**152.22 338**	*e*PKIKP	**PKPbc**	**11 17 14.0**	**+0.3**		
LANS			*e*		11 17 26.1			
DOPR	**Dopca**	**152.24 327**	*i* P	**PKPbc**	**11 17 11.7**	**-2.1**		
MORC	**Moravsky Berou**	**152.28 341**	*e*PKPdf	**PKPbc**	**11 17 11.8**	**-2.0**		
MORC	**Moravsky Berou**	**152.28 341**	*e*PKIKP	**PKPbc**	**11 17 11.8**	**-2.0**		
MLR	**Muntele Rosu**	**152.29 326**	PKPbc	**PKPbc**	**11 17 13.6**	**-0.5**		
	comp=Z,1.4nm,0.8s,baz=28,slow=3.2,SNR=9.6							
MLR	**Muntele Rosu**	**152.29 326**	*i* P	**PKPbc**	**11 17 13.4**	**-0.7**		
MLR	**Muntele Rosu**	**152.29 326**	*e*PKPdf	**PKPdf**	**11 17 06.6**	**-0.7**		
MLR			*e*PKPbc	**PKPbc**	**11 17 13.6**	**-0.5**		
MLR	**Muntele Rosu**	**152.29 326**	*e*PKIKP	**PKPdf**	**11 17 06.6**	**-0.7**		
MLR			*e*		11 17 13.6			
PVCC	**Panska Ves**	**152.37 346**	*e*PKP	**PKPbc**	**11 17 14.6**	**+0.7**		
PVCC			*e*PKPAB	**PKPab**	**11 17 24.8**	**+0.9**		
PVCC	**Panska Ves**	**152.37 346**	*e*PKIKP	**PKPbc**	**11 17 14.6**	**+0.7**		
PVCC			*e*		11 17 24.8			
CSS	**Mathiatis**	**152.50 300**	*e*PKPbc	**PKPbc**	**11 17 14.4**	**-0.3**		
VOIR		**152.79 327**	*i* P	**PKPbc**	**11 17 16.5**	**+1.4**		
VYHS	**Vyhne**	**153.00 338**	*e*PKP	**PKPbc**	**11 17 15.5**	**+0.1**		
VYHS			*e*		11 17 27.2			
VYHS	**Vyhne**	**153.00 338**	*e*PKIKP	**PKPbc**	**11 17 15.5**	**+0.1**		
VYHS			*e*		11 17 27.3			
ARR	**Arges**	**153.04 327**	*i* P	**PKPbc**	**11 17 16.1**	**+0.4**		
PSZ	**Piszkesteto**	**153.11 336**	*e*PKPdf	**PKPdf**	**11 17 09.3**	**+0.9**		
PSZ	**Piszkesteto**	**153.11 336**	*e*PKIKP	**PKPdf**	**11 17 09.3**	**+0.9**		
MODS	**Modra-Piesok**	**153.61 340**	*e*PKP	**PKPab**	**11 17 29.1**	**-0.1**		
MODS	**Modra-Piesok**	**153.61 340**	*e*PKP2	**PKPab**	**11 17 29.1**	**-0.1**		
KHC	**Kasperske Hory**	**153.90 346**	*e*PKP	**PKPbc**	**11 17 17.6**	**+0.2**		
KHC			*ep*PKP	**pPKPbc**	**11 17 22.1**	**-1.1**		
KHC			*e*PKPAB	**PKPab**	**11 17 31.3**	**+0.8**		
KHC	**Kasperske Hory**	**153.90 346**	*e*PKPdf	**PKPdf**	**11 17 11.6**	**+2.2**		
KHC	**Kasperske Hory**	**153.90 346**	*e*PKIKP	**PKPdf**	**11 17 11.6**	**+2.2**		
GERES	**GERESS Array B**	**154.14 346**	PKP	**PKPdf**	**11 17 09.3**	**-0.5**		
	comp=Z,0.3nm,0.2s,baz=199,slow=2.8,SNR=3.5							
GERES			PKPbc	**PKPbc**	**11 17 17.7**	**-0.2**		
	comp=Z,1.2nm,0.8s,baz=52,slow=2.2,SNR=5.7							
GEA0	**GERESS Array S**	**154.15 346**	*e*PKPdf	**PKPdf**	**11 17 09.2**	**-0.7**		
GEA0			*e*PKPbc	**PKPbc**	**11 17 18.0**	**0.0**		
CONA	**Conrad Observa**	**154.43 342**	*e*PKPab	**PKPab**	**11 17 30.1**	**-2.7**		
	comp=Z,6.7nm,0.7s							
MOA	**Molln**	**154.94 344**	PKPab	**PKPab**	**11 17 35.0**	**+0.1**		
	comp=Z,7.8nm,1.1s							
ARSA	**Arzberg**	**155.14 341**	PKPab	**PKPab**	**11 17 36.4**	**+0.6**		
	comp=Z,6.6nm,1.0s							
SOKA	**Soboth**	**155.80 342**	*e*PKPab	**PKPab**	**11 17 38.9**	**+0.2**		
	comp=Z,14nm,1.1s							
KBA	**Koelnbreinsper**	**155.88 345**	*e*PKPab	**PKPab**	**11 17 39.3**	**+0.1**		
	comp=Z,12nm,0.9s							
RETA	**Reutte**	**156.03 349**	*e*PKPab	**PKPab**	**11 17 39.5**	**-0.1**		
	comp=Z,5.9nm,0.9s							
WTTA	**Wattenberg**	**156.09 347**	*e*PKPab	**PKPab**	**11 17 36.5**	**-3.6**		
	comp=Z,12nm,1.6s							
OBKA	**Obir**	**156.09 342**	PKPab	**PKPab**	**11 17 40.0**	**0.0**		
	comp=Z,8.1nm,0.8s							
MOTA	**Moosalm**	**156.11 348**	*e*PKPab	**PKPab**	**11 17 39.7**	**-0.4**		
	comp=Z,5.1nm,0.8s							
MYKA	**Terra Mystica**	**156.23 344**	*e*PKPab	**PKPab**	**11 17 40.4**	**-0.1**		
	comp=Z,9.5nm,1.0s							
DAVA	**Damuels**	**156.37 350**	*e*PKPab	**PKPab**	**11 17 39.8**	**-1.5**		
	comp=Z,8.2nm,0.9s							
ABTA	**Abfaltersbach**	**156.39 346**	*e*PKPab	**PKPab**	**11 17 40.7**	**-0.5**		
	comp=Z,5.4nm,0.7s							
FETA	**Feichten**	**156.49 349**	PKPab	**PKPab**	**11 17 40.5**	**-1.3**		
	comp=Z,11nm,1.1s							
KARP	**Karpathos**	**157.07 305**	*e*PKPdf	**PKPdf**	**11 17 11.6**	**-2.5**		
ESDC	**Sonseca Array**	**162.97 22**	PKP	**PKPdf**	**11 17 20.6**	**-0.1**		
	comp=Z,0.5nm,0.6s,baz=347,slow=3.0,SNR=4.6							
KEST	**Kesra**	**167.54 340**	PKPab	**PKPab**	**11 18 29.4**	**-0.9**		
	comp=Z,6.3nm,0.9s,baz=276,slow=3.8,SNR=5.0							
KOWA	**Kowa**	**167.74 139**	PKP	**PKPdf**	**11 17 24.1**	**-1.1**		
	comp=Z,1.3nm,0.4s,baz=4.9,slow=0.8,SNR=5.9							
TOA0	**Torodi Ar. Sit**	**168.90 167**	*e*PKPdf	**PKPdf**	**11 17 25.1**	**-1.0**		
TORD	**Torodi Ar. Bea**	**168.90 167**	PKP	**PKPdf**	**11 17 25.2**	**-0.8**		
	comp=Z,2.7nm,1.0s,baz=298,slow=1.4,SNR=9.3							
TORD			PKPab	**PKPab**	**11 18 36.9**	**+0.3**		
	comp=Z,3.3nm,0.8s,baz=188,slow=4.2,SNR=13							
TORD			PP	**PP**	**11 22 25.5**	**+1.1**		
	comp=Z,1.1nm,0.9s,baz=177,slow=5.3,SNR=3.3							
TOA1	**Torodi Ar. Sit**	**168.90 167**	*e*PKPdf	**PKPdf**	**11 17 25.2**	**-0.8**		
TOA1			*e*PKPab	**PKPab**	**11 18 36.9**	**+0.3**		
TOA1			*e*PP	**PP**	**11 22 25.6**	**+1.1**		

ISCJB ***23*** *10:57:38.8±0.8,59.°28N±0.°03×27.°62E±0.°09, h0km, Error ellipse: s-maj=6.9km s-min=3.7km az=11.6*
HEL ***23*** *10:57:40.3±0.2,59.°29N×27.°62E, h0km, ML1.9, Explosion*
CSEM ***23*** *10:57:42.1±0.9,59.°42N×27.°53E, h2km, ML1.9, Error ellipse: s-maj=17.1km s-min=9.7km az=135.0, Mining explosion.*
IDC ***23*** *10:57:43.1±1.1,59.°45N×27.°20E, h0km, mb1 3.3/4, mb1mx3.0/63, mbtmp3.3/4, ML3.1/3, Error ellipse: s-maj=14.7km s-min=7.7km az=85.0*

ISC 23 10:57:39.6±0.9, 59.°31N±0.°03×27.°46E±0.°04, h0km, n26, σ1s97/38, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op ISC	h m s	ISC
ARBE	**Arbavere**	**0.77**	**280**	*e*P	**Pb**	**10 57 55.9**	**+0.1**
ARBE				*e*SB	**Sb**	**10 58 07.3**	**+0.6**
VSU	**Vasula**	**0.93**	**204**	*e*P	**Pg**	**10 57 57.7**	**+0.2**
VSU				*e*S	**Sg**	**10 58 09.6**	**+0.1**
VJF	**Virojoki**	**1.23**	**2**	*e*P	**Pg**	**10 58 02.7**	**-0.6**
VJF	**Virojoki**	**1.23**	**2**	*e*P	**Pg**	**10 58 02.7**	**-0.6**
VJF				MSG		10 58 18.1	
	comp=Z,12nm,0.2s						
VJF				*e*S	**Sg**	**10 58 19.6**	**+0.4**
PVF	**Pernaja**	**1.48**	**328**	MSG		10 58 26.4	
	comp=Z,8.7nm,0.2s						
PVF				*e*S	**Sn**	**10 58 28.0**	**+0.6**
MEF	**Metsahovi**	**1.80**	**302**	*e*Pg	**Pg**	**10 58 14.4**	**+0.4**
MEF				*e*S	**Sg**	**10 58 37.5**	**+0.2**
	comp=Z,35nm,0.3s,SNR=68						
MEF				*e*Sg	**Sg**	**10 58 38.4**	**+1.1**
	comp=Z,3.2nm,0.1s						
MEF	**Metsahovi**	**1.80**	**302**	*e*PG	**Pg**	**10 58 14.4**	**+0.4**
MEF				*e*SG	**Sg**	**10 58 38.4**	**+1.1**
MEF				MSG		10 58 40.1	
	comp=Z,3.2nm,0.1s						
MTSE	**Matsula**	**1.98**	**254**	*e*P	**Pb**	**10 58 16.6**	**+0.1**
	SNR=68						
MTSE				*e*S	**Sg**	**10 58 43.4**	**+0.3**
	SNR=68						
MTSE	**Matsula**	**1.98**	**254**	*e*PB	**Pb**	**10 58 16.8**	**+0.3**
MTSE				*e*SG	**Sg**	**10 58 43.1**	**0.0**
FIA0	**FINESS Array S**	**2.25**	**343**	*e*Sb	**Sb**	**10 58 50.3**	**+0.9**
FIA0	**FINESS Array S**	**2.25**	**343**	*e*SB	**Sb**	**10 58 50.3**	**+0.9**
FINES	**FINESS Array B**	**2.25**	**343**	Pg	**Pn**	**10 58 19.1**	**+1.1**
	comp=Z,2.6nm,0.3s,baz=162,slow=14,SNR=56						
FINES				Lg	Lg	10 58 48.3	
	comp=Z,3.0nm,0.3s,baz=168,slow=27,SNR=15						
KAF	**Kangasniemi**	**2.87**	**349**	*e*Sb	**Sb**	**10 59 08.2**	**+1.0**
KAF	**Kangasniemi**	**2.87**	**349**	MSG		10 59 05.8	
	comp=Z,3.2nm,0.2s						
KAF				*e*SB	**Sb**	**10 59 08.2**	**+1.0**
KEF	**Keuruu**	**3.14**	**337**	*e*Sb	**Sb**	**10 59 16.9**	**+2.0**
KEF	**Keuruu**	**3.14**	**337**	MSG		10 59 13.8	
	comp=Z,4.2nm,0.2s						
KEF				*e*SB	**Sb**	**10 59 16.9**	**+2.0**
SLIT	**Slitere, Latvi**	**3.20**	**240**	*e*S	**Sb**	**10 59 17.8**	**+1.2**
	comp=Z,109nm,0.5s,SNR=46						
SLIT	**Slitere, Latvi**	**3.20**	**240**	*e*SB	**Sb**	**10 59 18.6**	**+2.0**
RAF	**Rauma**	**3.32**	**304**	*e*P	**Pn**	**10 58 35.7**	**+2.9**
RAF				*e*S	**Sn**	**10 59 15.6**	**+2.7**
	comp=Z,8.9nm,0.7s,SNR=46						
RAF	**Rauma**	**3.32**	**304**	*e*P	**Pn**	**10 58 35.7**	**+2.9**
JOF	**Joensuu**	**4.07**	**26**	*e*P	**Pn**	**10 58 44.8**	**+1.7**
JOF				*e*Sg	**Sb**	**10 59 46.2**	**+4.3**
	comp=Z,2.5nm,0.3s						
JOF	**Joensuu**	**4.07**	**26**	*e*P	**Pn**	**10 58 44.8**	**+1.7**
JOF				*e*SG	**Sb**	**10 59 46.2**	**+4.3**
JOF				MSG		10 59 46.6	
	comp=Z,2.5nm,0.3s						
HFS	**Hagfors**	**7.01**	**283**	Pn	**Pn**	**10 59 23.2**	**-0.3**
	comp=Z,0.1nm,0.3s,baz=96,slow=13,SNR=3.5						
HFS				Lg	Lg	11 01 16.1	
	comp=Z,0.5nm,0.3s,baz=95,slow=31,SNR=5.8						
NOA	**NORSAR Array B**	**8.28**	**289**	Pn	**Pn**	**10 59 39.6**	**-1.2**
	comp=Z,0.2nm,0.3s,baz=86,slow=10,SNR=4.4						
NOA				Lg	Lg	11 01 56.8	
	comp=Z,0.4nm,0.3s,baz=130,slow=24,SNR=3.8						
AKASG	**Malin Array Be**	**8.69**	**173**	Pn	**Pn**	**10 59 46.5**	**0.0**
	comp=Z,1.1nm,0.3s,baz=352,slow=13,SNR=7.9						
ARCES	**ARCESS Array B**	**10.30**	**356**	Pn	**Pn**	**11 00 06.8**	**-1.7**
	comp=Z,0.1nm,0.3s,baz=171,slow=12,SNR=5.9						
ARCES				Sn	**Sn**	**11 01 58.0**	**-6.5**
	comp=Z,0.2nm,0.3s,baz=171,slow=24,SNR=4.3						
ARCES				Lg	Lg	11 02 59.3	
	comp=Z,0.3nm,0.3s,baz=169,slow=28,SNR=3.1						

ISCJB ***23*** *10:58:50.8±0.5,39.°11N±0.°03×29.°16E±0.°03, h0km±6km, Error ellipse: s-maj=4.7km s-min=3.5km az=155.6*
ISK ***23*** *10:58:50.2,39.°10N×29.°19E, h5km, ML2.5/12*
CSEM ***23*** *10:58:51.1±0.1,39.°11N×29.°16E, h5km, ML2.5, Error ellipse: s-maj=2.7km s-min=2.0km az=131.0*
DDA ***23*** *10:58:51.0,39.°10N×29.°14E, h7km, Ml2.7*

ISC 23 10:58:51.1±0.9, 39.°11N±0.°02×29.°17E±0.°02, h7km±8km, n38, σ0s39/58, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op ISC	h m s	ISC
SIMA	**Simav-Kutahya**	**0.14**	**259**	PG	**Pg**	**10 58 54.4**	**+0.2**
SIMA				SG	**Sg**	**10 58 56.3**	**0.0**
SIMA	**Simav-Kutahya**	**0.14**	**259**	*e*Pg	**Pg**	**10 58 54.4**	**+0.2**
SIMA				*e*Sg	**Sg**	**10 58 56.3**	**0.0**
GDZ	**Gediz**	**0.25**	**95**	*i* P	**Pg**	**10 58 55.9**	**-0.1**
GDZ				*i* S	**Sg**	**10 59 00.0**	**+0.6**
GDZ	**Gediz**	**0.25**	**95**	P	**Pg**	**10 58 55.9**	**-0.1**
GDZ				S	**Sg**	**10 59 00.0**	**+0.6**
DEMI	**Demirci**	**0.36**	**259**	*i* P	**Pg**	**10 58 58.0**	**-0.1**
DEMI				*i* S	**Sg**	**10 59 02.6**	**-0.2**
DEMI	**Demirci**	**0.36**	**259**	P	**Pg**	**10 58 58.0**	**-0.1**
DEMI				S	**Sg**	**10 59 02.6**	**-0.2**
TVSB	**Tavsanli**	**0.41**	**34**	PG	**Pg**	**10 58 58.4**	**-0.7**
TVSB				SG	**Sg**	**10 59 03.9**	**-0.6**
TVSB	**Tavsanli**	**0.41**	**34**	*e*Pg	**Pg**	**10 58 58.4**	**-0.7**
TVSB				*e*Sg	**Sg**	**10 59 03.9**	**-0.6**
KULA	**Kula-Manisa**	**0.71**	**214**	PG	**Pg**	**10 59 04.6**	**-0.3**
KULA				SG	**Sg**	**10 59 14.0**	**-0.2**
KULA	**Kula-Manisa**	**0.71**	**214**	*e*Pg	**Pg**	**10 59 04.6**	**-0.3**
KULA				*e*Sg	**Sg**	**10 59 14.0**	**-0.2**
DURS	**Dursunbey**	**0.72**	**313**	*i* P	**Pg**	**10 59 05.1**	**0.0**
DURS				*i* S	**Sb**	**10 59 16.1**	**-0.2**
DURS	**Dursunbey**	**0.72**	**313**	P	**Pg**	**10 59 05.1**	**0.0**
DURS				S	**Sb**	**10 59 16.1**	**-0.2**
MANT	**Manisa**	**0.78**	**218**	*i* P	**Pg**	**10 59 05.9**	**-0.2**
MANT				*i* S	**Sg**	**10 59 15.6**	**-0.7**
MANT	**Manisa**	**0.78**	**218**	P	**Pg**	**10 59 05.9**	**-0.2**
MANT				S	**Sg**	**10 59 15.6**	**-0.7**
KHAL	**Karahalli**	**0.78**	**161**	*i* P	**Pb**	**10 59 06.8**	**-0.3**
KHAL				*i* S	**Sb**	**10 59 17.7**	**-0.3**
KHAL	**Karahalli**	**0.78**	**161**	P	**Pb**	**10 59 06.8**	**-0.3**
KHAL				S	**Sb**	**10 59 17.7**	**-0.3**
ORLT	**Orhaneli**	**0.96**	**348**	PG	**Pg**	**10 59 08.6**	**-0.9**
ORLT	**Orhaneli**	**0.96**	**348**	*e*Pg	**Pg**	**10 59 08.6**	**-0.9**
BALB	**Balikesir**	**1.13**	**298**	PN	**Pb**	**10 59 12.9**	**0.0**
BALB	**Balikesir**	**1.13**	**298**	*e*Pn	**Pb**	**10 59 12.9**	**0.0**
STEP	**BALIKESIR_Sava**	**1.15**	**284**	*i* P	**Pg**	**10 59 13.2**	**-0.1**
STEP				*i* S	**Sb**	**10 59 28.8**	**+0.2**
STEP	**BALIKESIR_Sava**	**1.15**	**284**	P	**Pg**	**10 59 13.2**	**-0.1**
STEP				S	**Sb**	**10 59 28.8**	**+0.2**
CAVI	**Cavuskoy**	**1.21**	**25**	PN	**Pg**	**10 59 14.5**	**+0.2**
CAVI	**Cavuskoy**	**1.21**	**25**	*e*Pn	**Pg**	**10 59 14.5**	**+0.2**
BORA	**Eskisehir**	**1.26**	**52**	*i* P	**Pn**	**10 59 15.8**	**+0.6**
BORA				*i* S	**Sn**	**10 59 32.8**	**+0.4**
BORA	**Eskisehir**	**1.26**	**52**	P	**Pn**	**10 59 15.8**	**+0.6**
BORA				S	**Sn**	**10 59 32.8**	**+0.4**
MDNY	**Mudanya-Bursa**	**1.27**	**350**	PN	**Pn**	**10 59 15.6**	**+0.3**
MDNY	**Mudanya-Bursa**	**1.27**	**350**	*e*Pn	**Pn**	**10 59 15.6**	**+0.3**
YLV	**Yalova**	**1.46**	**6**	PN	**Pn**	**10 59 18.3**	**+0.3**
YLV	**Yalova**	**1.46**	**6**	*e*Pn	**Pn**	**10 59 18.3**	**+0.3**
ARMT	**Armutlu**	**1.47**	**351**	PN	**Pb**	**10 59 18.8**	**0.0**
ARMT	**Armutlu**	**1.47**	**351**	*e*Pn	**Pb**	**10 59 18.8**	**0.0**
GONE	**Gonen-Balikesi**	**1.48**	**310**	PN	**Pb**	**10 59 18.8**	**-0.1**
GONE	**Gonen-Balikesi**	**1.48**	**310**	*e*Pn	**Pb**	**10 59 18.8**	**-0.1**
AYDB	**Zeytinkoy-Aydi**	**1.53**	**221**	PN	**Pn**	**10 59 19.2**	**+0.2**
AYDB	**Zeytinkoy-Aydi**	**1.53**	**221**	*e*Pn	**Pn**	**10 59 19.2**	**+0.2**
GULT	**Gulveren**	**1.68**	**38**	PN	**Pn**	**10 59 21.5**	**+0.5**
GULT	**Gulveren**	**1.68**	**38**	*e*Pn	**Pn**	**10 59 21.5**	**+0.5**

WEL 23 10:59:34.4±1.4, 46.°S±6.°×16.°6E±.°, h5km, ML3.5/8, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op ISC	h m s	ISC
PYZ	**Puysegur Point**	**0.44**	**52**	P	**Pb**	**10 59 45.0**	**+0.4**
DCZ	**Deep Cove**	**1.19**	**35**	P	**Pg**	**10 59 55.0**	**-2.1**
DCZ	**Deep Cove**	**1.19**	**35**	S	**Sg**	**11 00 11.5**	**-1.0**
APZ	**The Paps**	**1.30**	**108**	P	**Pn**	**10 59 57.7**	**-1.7**
APZ	**The Paps**	**1.30**	**108**	S	**Sg**	**11 00 15.3**	**-1.0**
WHZ	**Wether Hill Ro**	**1.34**	**67**	P	**Pn**	**10 59 59.2**	**-0.7**
WHZ	**Wether Hill Ro**	**1.34**	**67**	S	**Sn**	**11 00 18.3**	**+0.3**
MLZ	**Mavora Lakes**	**1.73**	**52**	P	**Pn**	**11 00 05.7**	**+0.6**
MLZ	**Mavora Lakes**	**1.73**	**52**	S	**Sg**	**11 00 32.0**	**+2.2**
SYZ	**Scrubby Hill**	**2.04**	**94**	P	**Pn**	**11 00 10.3**	**+0.9**
SYZ	**Scrubby Hill**	**2.04**	**94**	S	**Sn**	**11 00 36.1**	**+0.7**
MSZ	**Milford Sound**	**2.15**	**35**	P	**Pn**	**11 00 09.8**	**-1.1**
TUZ	**Tuapeka**	**2.44**	**80**	P	**Pn**	**11 00 14.8**	**-0.2**
TUZ	**Tuapeka**	**2.44**	**80**	S	**

	5.9nm,0.4s						
LASF	**Ste Croix**	**4.97**	**302**	*e*Pn	**Pn**	**11 01 28.2**	**+0.5**
LASF	**Ste Croix**	**4.97**	**302**	*e*Pg	**Pg**	**11 01 46.6**	**-1.8**
MTLF	**Montolieu**	**5.81**	**290**	*e*Pn	**Pn**	**11 01 38.1**	**-1.2**
MTLF	**Montolieu**	**5.81**	**290**	*e*P	**Pn**	**11 01 43.1**	**+3.8**
MTLF	**Montolieu**	**5.81**	**290**	*e*Pg	**Pg**	**11 02 02.6**	**-1.9**
MTLF				*e*Sn	**Sn**	**11 02 42.1**	**-3.7**
	4.8nm,0.3s						
MTLF	**Montolieu**	**5.81**	**290**	*e*Pn	**Pn**	**11 01 38.1**	**-1.2**
MTLF	**Montolieu**	**5.81**	**290**	*e*Pg	**Pg**	**11 02 02.6**	**-1.9**
CAF	**Calviac**	**6.50**	**303**	*e*Pn	**Pn**	**11 01 49.8**	**+1.1**
CAF	**Calviac**	**6.50**	**303**	*e*P	**Pn**	11 01 54.3	+5.6
CAF				*e*Sn	**Sn**	**11 02 59.3**	**-3.5**
	2.9nm,0.4s						
CAF	**Calviac**	**6.50**	**303**	*e*Pn	**Pn**	**11 01 49.8**	**+1.1**
EPF	**Esparros**	**7.09**	**285**	*e*Pn	**Pn**	**11 01 57.6**	**+0.7**
EPF	**Esparros**	**7.09**	**285**	*e*Pg	**Pg**	**11 02 28.2**	**-0.8**
EPF				*e*Sn	**Sn**	**11 03 13.0**	**-4.5**
	4.8nm,0.4s						
EPF	**Esparros**	**7.09**	**285**	*e*Pn	**Pn**	**11 01 57.6**	**+0.7**
EPF	**Esparros**	**7.09**	**285**	*e*Pg	**Pg**	**11 02 28.2**	**-0.8**

IDC 23 11:01:32.8±7.0, 4°40S×152°64E, h122km±53km, mb3.8/3, mb1 3.9/4, mb1mx3.3/48, mbtmp4.2/4, Error ellipse: s-maj=62.7km s-min=29.5km az=10.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.37**	**227**	P	Pn	11 03 17.7	-0.2
	2.1nm,0.3s,baz=51,slow=11,SNR=6.7						
DZM	**Mont Dzumac**	**22.09**	**144**	P	P	11 06 18.3	+0.1
	6.5nm,0.5s,baz=306,slow=17,SNR=14						
WRA	**Warramunga Arr**	**23.59**	**228**	P	P	11 06 33.0	+0.2
	4.3nm,0.4s,baz=54,slow=9.9,SNR=21						
ASAR	**Alice Springs**	**26.34**	**222**	P	P	11 06 57.6	0.0
	0.8nm,0.3s,baz=53,slow=8.9,SNR=6.0						
TORD	**Torodi Ar. Bea**	**150.03**	**289**	PKPbc	PKPbc	11 21 09.5	-0.6
	0.3nm,0.4s,baz=80,slow=2.5,SNR=7.3						

IDC 23 11:04:05.7±1.6, 0°06N×126°29E, h0km, mb3.6/4, mb1 3.7/4, mb1mx3.5/52, mbtmp3.6/4, MS3.7/1, Ms1 3.7/1, ms1mx2.6/44, Error ellipse: s-maj=171.4km s-min=22.3km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.38**	**159**	P	P	11 08 54.9	-0.2
	1.3nm,0.7s,baz=338,slow=12,SNR=3.5						
ASAR	**Alice Springs**	**24.71**	**163**	P	P	11 09 29.1	+0.2
	0.3nm,0.4s,baz=342,slow=7.4,SNR=4.8						
TLY	**Talaya**	**54.87**	**343**	LR	LR	11 40 36.0	
	comp=Z,63nm,18.1s,baz=217,slow=40						
MKAR	**Makanchi Array**	**60.33**	**327**	P	P	11 14 16.0	-0.4
	0.2nm,0.4s,baz=118,slow=6.4,SNR=3.1						
KURBB	**Kurchatov Arra**	**64.60**	**329**	P	P	11 14 45.2	+0.4
	0.4nm,0.3s,baz=128,slow=6.0,SNR=3.3						

*ISCJB **23** 11:22:38.2±0.4, 37°47S±0°03×176°88E±0°04, h196km±3km, mb3.5/4, Error ellipse: s-maj=5.9km s-min=4.6km az=151.8*
*WEL **23** 11:22:39.3, 37°S±3°×17°7E±°, h182km±4km*
*NEIC **23** 11:22:39.9±0.0, 37°33S×176°91E, h178km, ML4.1(WEL), After WEL.*
*IDC **23** 11:22:40.0±1.4, 37°54S×176°56E, h173km±6km, mb3.4/4, mb1 3.5/5, mb1mx3.3/41, mbtmp3.9/5, Error ellipse: s-maj=46.0km s-min=18.7km az=45.0*

ISC 23 11:22:39.6±0.9, 37°48S±0°05×176°83E±0°05, h192km±5km, n228, σ1s41/237, mb3.6/4, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPRZ	**Ohinepanea**	**0.42**	**211**	Pn	**Pn**	**11 23 04.0**	**-1.5**
OPRZ				Sn	**Sn**	**11 23 23.9**	**-1.8**
OPRZ	**Ohinepanea**	**0.42**	**211**	P	**Pn**	**11 23 04.6**	**-0.9**
TGRZ	**Tauranga**	**0.51**	**241**	P	**Pn**	**11 23 05.1**	**-0.6**
MARZ	**Manawahe**	**0.52**	**194**	P	**Pn**	**11 23 05.4**	**-0.4**
KARZ	**Kaharoa**	**0.71**	**221**	P	**Pn**	**11 23 06.7**	**-0.1**
OMRZ	**Omania**	**0.72**	**210**	P	**Pn**	**11 23 07.3**	**+0.4**
KMRZ	**Kaimai**	**0.79**	**243**	P	**Pn**	**11 23 07.2**	**-0.1**
TARZ	**Mount Tarawera**	**0.79**	**199**	P	**Pn**	**11 23 07.9**	**+0.6**
HAZ	**Te Kaha**	**0.80**	**110**	P	**Pn**	**11 23 05.4**	**-1.8**
HAZ	**Te Kaha**	**0.80**	**110**	S	**Sn**	**11 23 25.8**	**-2.8**
URZ	**Urewera**	**0.81**	**164**	P	**Pn**	**11 23 06.2**	**-1.0**
	14nm,0.3s,baz=253,slow=5.0,SNR=157						
URZ				S	**Sn**	**11 23 26.3**	**-2.5**
	41nm,0.3s,baz=280,slow=19,SNR=38						
URZ	**Urewera**	**0.81**	**164**	Pn	**Pn**	**11 23 06.4**	**-0.8**
URZ	**Urewera**	**0.81**	**164**	P	**Pn**	**11 23 06.5**	**-0.8**
URZ	**Urewera**	**0.81**	**164**	S	**Sn**	**11 23 26.8**	**-2.0**
RUGZ	**Raukumara Rang**	**0.83**	**126**	P	**Pn**	**11 23 05.5**	**-2.0**
RUGZ	**Raukumara Rang**	**0.83**	**126**	S	**Sn**	**11 23 25.0**	**-4.2**
RRRZ	**Republican Roa**	**0.89**	**196**	P	**Pn**	**11 23 08.3**	**+0.5**
MUGZ	**Murupara**	**0.99**	**183**	P	**Pn**	**11 23 08.3**	**-0.1**
MUGZ	**Murupara**	**0.99**	**183**	S	**Sn**	**11 23 29.4**	**-1.6**
HRRZ	**Handcock Road**	**1.00**	**205**	P	**Pn**	**11 23 09.2**	**+0.6**
MWZ	**Matawai**	**1.01**	**147**	Pn	**Pn**	**11 23 07.9**	**-0.7**
MWZ	**Matawai**	**1.01**	**147**	P	**Pn**	**11 23 07.9**	**-0.7**
MWZ	**Matawai**	**1.01**	**147**	S	**Sn**	**11 23 29.2**	**-2.1**
PKGZ	**Pakihiroa**	**1.07**	**113**	P	**Pn**	**11 23 07.9**	**-1.1**
PKGZ	**Pakihiroa**	**1.07**	**113**	S	**Sn**	**11 23 29.2**	**-2.8**
PRRZ	**Plateau Road**	**1.07**	**199**	Pn	**Pn**	**11 23 09.4**	**+0.5**
PRRZ	**Plateau Road**	**1.07**	**199**	P	**Pn**	**11 23 09.5**	**+0.5**
PRRZ	**Plateau Road**	**1.07**	**199**	S	**Sn**	**11 23 32.0**	**0.0**
TOZ	**Tahuroa Road**	**1.08**	**256**	P	**Pn**	**11 23 09.3**	**+0.2**
RAGZ	**Rawiri**	**1.11**	**156**	Pn	**Pn**	**11 23 09.4**	**0.0**
RAGZ	**Rawiri**	**1.11**	**156**	P	**Pn**	**11 23 09.5**	**0.0**
RAGZ	**Rawiri**	**1.11**	**156**	S	**Sn**	**11 23 31.3**	**-1.4**
RTZ	**Ruatahuna**	**1.14**	**174**	P	**Pn**	**11 23 09.4**	**-0.2**
RTZ	**Ruatahuna**	**1.14**	**174**	S	**Sn**	**11 23 32.2**	**-0.8**
ALRZ	**Allen Road**	**1.14**	**200**	Pn	**Pn**	**11 23 10.1**	**+0.5**
ALRZ	**Allen Road**	**1.14**	**200**	P	**Pn**	**11 23 10.1**	**+0.5**
ALRZ	**Allen Road**	**1.14**	**200**	S	**Sn**	**11 23 33.2**	**+0.2**
TWGZ	**Tauwhareparae**	**1.14**	**128**	Pn	**Pn**	**11 23 09.4**	**-0.2**
TWGZ	**Tauwhareparae**	**1.14**	**128**	P	**Pn**	**11 23 09.4**	**-0.2**
KUZ	**Kuaotunu**	**1.15**	**309**	Pn	**Pn**	**11 23 07.8**	**-1.8**
KUZ				Sn	**Sn**	**11 23 29.9**	**-3.0**
KUZ	**Kuaotunu**	**1.15**	**309**	P	**Pn**	**11 23 07.9**	**-1.8**
KUZ	**Kuaotunu**	**1.15**	**309**	P	**Pn**	**11 23 09.7**	**-1.8**
KUZ	**Kuaotunu**	**1.15**	**309**	S	**Sn**	**11 23 29.9**	**-3.0**
WPRZ	**Whakapapatarin**	**1.16**	**207**	P	**Pn**	**11 23 11.1**	**+1.3**
MXZ	**Matakaoa Point**	**1.18**	**94**	Pn	**Pn**	**11 23 08.1**	**-1.7**
MXZ	**Matakaoa Point**	**1.18**	**94**	P	**Pn**	**11 23 08.1**	**-1.7**
MXZ	**Matakaoa Point**	**1.18**	**94**	S	**Sn**	**11 23 29.7**	**-3.5**
TKGZ	**Te Karaka**	**1.25**	**140**	Pn	**Pn**	**11 23 10.6**	**+0.3**
TKGZ	**Te Karaka**	**1.25**	**140**	P	**Pn**	**11 23 10.7**	**+0.4**
TKGZ	**Te Karaka**	**1.25**	**140**	S	**Sn**	**11 23 32.2**	**-2.1**
PUZ	**Puketiti**	**1.27**	**118**	Pn	**Pn**	**11 23 07.5**	**-3.1**
PUZ	**Puketiti**	**1.27**	**118**	P	**Pn**	**11 23 08.9**	**-1.8**
PUZ	**Puketiti**	**1.27**	**118**	S	**Sn**	**11 23 31.6**	**-3.1**
WMGZ	**Waiomatatini S**	**1.30**	**105**	Pn	**Pn**	**11 23 09.7**	**-1.1**
WMGZ	**Waiomatatini S**	**1.30**	**105**	P	**Pn**	**11 23 09.7**	**-1.1**
WMGZ	**Waiomatatini S**	**1.30**	**105**	S	**Sn**	**11 23 32.5**	**-2.6**
TLZ	**Tolley Road**	**1.32**	**230**	P	**Pn**	**11 23 12.1**	**+1.0**
SNGZ	**Shannon Statio**	**1.36**	**163**	Pn	**Pn**	**11 23 11.4**	**+0.1**
SNGZ				Sn	**Sn**	**11 23 35.2**	**-0.9**
SNGZ	**Shannon Statio**	**1.36**	**163**	P	**Pn**	**11 23 11.4**	**+0.1**
SNGZ	**Shannon Statio**	**1.36**	**163**	S	**Sn**	**11 23 35.0**	**-1.1**
MTHZ	**Maungataniwha**	**1.37**	**180**	P	**Pn**	**11 23 11.5**	**0.0**
MKAZ	**Moumakai**	**1.38**	**285**	Pn	**Pn**	**11 23 11.0**	**-0.5**
MKAZ				Sn	**Sn**	**11 23 35.2**	**-1.0**
MKAZ	**Moumakai**	**1.38**	**285**	P	**Pn**	**11 23 11.0**	**-0.5**
MRHZ	**Matea Rd**	**1.39**	**193**	P	**Pn**	**11 23 11.9**	**+0.3**
MRHZ	**Matea Rd**	**1.39**	**193**	S	**Sn**	**11 23 36.9**	**+0.2**
RIGZ	**Rimuhau**	**1.42**	**149**	P	**Pn**	**11 23 12.2**	**+0.3**
RIGZ	**Rimuhau**	**1.42**	**149**	S	**Sn**	**11 23 36.6**	**-0.5**
CNGZ	**Carnagh Statio**	**1.48**	**133**	Pn	**Pn**	**11 23 12.9**	**+0.6**
CNGZ	**Carnagh Statio**	**1.48**	**133**	P	**Pn**	**11 23 12.6**	**+0.3**
CNGZ	**Carnagh Statio**	**1.48**	**133**	P	**Pn**	**11 23 13.0**	**+0.6**
WATZ	**Wairara**	**1.50**	**215**	P	**Pn**	**11 23 13.6**	**+1.0**
WATZ	**Wairara**	**1.50**	**215**	P	**Pn**	**11 23 13.6**	**+1.0**
HATZ	**Hinemaiaia**	**1.52**	**202**	Pn	**Pn**	**11 23 13.3**	**+0.5**
HATZ	**Hinemaiaia**	**1.52**	**202**	P	**Pn**	**11 23 13.3**	**+0.5**
WIAZ	**Waiheke Island**	**1.52**	**296**	P	**Pn**	**11 23 11.9**	**-0.9**
KBAZ	**Karaka Road Bo**	**1.60**	**284**	P	**Pn**	**11 23 13.6**	**+0.1**
ETAZ	**East Tamaki Re**	**1.61**	**289**	P	**Pn**	**11 23 13.2**	**-0.4**
NMHZ	**Naumai**	**1.61**	**181**	Pn	**Pn**	**11 23 14.5**	**+0.8**
NMHZ	**Naumai**	**1.61**	**181**	P	**Pn**	**11 23 14.6**	**+1.0**
RATZ	**Rangitukua**	**1.61**	**211**	P	**Pn**	**11 23 14.6**	**+1.0**
WHHZ	**Waihua**	**1.62**	**169**	P	**Pn**	**11 23 14.4**	**+0.7**
GRZ	**Great Barrier**	**1.65**	**318**	P	**Pn**	**11 23 12.1**	**-1.9**
PRGZ	**Paritu Road**	**1.66**	**150**	Pn	**Pn**	**11 23 14.1**	**+0.1**
PRGZ	**Paritu Road**	**1.66**	**150**	P	**Pn**	**11 23 14.1**	**+0.1**
KNZ	**Kokohu**	**1.67**	**157**	Pn	**Pn**	**11 23 14.3**	**+0.2**
KNZ	**Kokohu**	**1.67**	**157**	P	**Pn**	**11 23 14.3**	**+0.2**
RITZ	**Rihia Road**	**1.68**	**207**	P	**Pn**	**11 23 15.3**	**+1.0**
BKZ	**Black Stump Fm**	**1.70**	**189**	Pn	**Pn**	**11 23 14.5**	**0.0**
BKZ				Sn	**Sn**	**11 23 41.8**	**0.0**
BKZ	**Black Stump Fm**	**1.70**	**189**	P	**Pn**	**11 23 14.5**	**0.0**
KATZ	**Kakaramea**	**1.74**	**211**	P	**Pn**	**11 23 15.8**	**+0.9**
ARHZ	**Aropaoanui**	**1.78**	**176**	Pn	**Pn**	**11 23 15.8**	**+0.6**
ARHZ	**Aropaoanui**	**1.78**	**176**	P	**Pn**	**11 23 15.8**	**+0.6**
HBAZ	**Herne Bay Bore**	**1.79**	**290**	P	**Pn**	**11 23 15.0**	**-0.3**
AWAZ	**Awhitu Peninsu**	**1.79**	**283**	P	**Pn**	**11 23 15.1**	**-0.2**
ABAZ	**Army Bay**	**1.83**	**298**	P	**Pn**	**11 23 15.1**	**-0.6**
KRVZ	**Karewarewa**	**1.86**	**210**	Pn	**Pn**	**11 23 17.1**	**+1.0**
KRVZ	**Karewarewa**	**1.86**	**210**	P	**Pn**	**11 23 17.1**	**+1.0**
HIZ	**Hauiti**	**1.87**	**236**	Pn	**Pn**	**11 23 17.5**	**+1.5**
HIZ	**Hauiti**	**1.87**	**236**	P	**Pn**	**11 23 17.6**	**+1.5**
MHGZ	**Mahia Peninsul**	**1.87**	**153**	Pn	**Pn**	**11 23 16.6**	**+0.5**
MHGZ	**Mahia Peninsul**	**1.87**	**153**	P	**Pn**	**11 23 16.6**	**+0.5**
WTAZ	**Waiatarua**	**1.88**	**286**	P	**Pn**	**11 23 15.8**	**-0.6**
WTVZ	**West Tongariro**	**1.90**	**211**	Pn	**Pn**	**11 23 17.4**	**+0.8**
WTVZ	**West Tongariro**	**1.90**	**211**	P	**Pn**	**11 23 17.4**	**+0.8**
OTVZ	**Oturere**	**1.91**	**208**	Pn	**Pn**	**11 23 17.6**	**+0.9**
TWVZ	**Taurewa**	**1.93**	**214**	Pn	**Pn**	**11 23 17.7**	**+0.9**
TWVZ	**Taurewa**	**1.93**	**214**	P	**Pn**	**11 23 17.9**	**+1.1**
RVAZ	**Riverhead Bore**	**1.94**	**291**	P	**Pn**	**11 23 16.2**	**-0.6**
NGZ	**Ngauruhoe**	**1.95**	**209**	Pn	**Pn**	**11 23 18.0**	**+0.9**
NGZ	**Ngauruhoe**	**1.95**	**209**	P	**Pn**	**11 23 18.1**	**+0.9**
MCHZ	**McNeill Hill**	**1.96**	**183**	Pn	**Pn**	**11 23 17.7**	**+0.7**
MCHZ	**McNeill Hill**	**1.96**	**183**	P	**Pn**	**11 23 17.7**	**+0.7**
KWHZ	**Kaweka Forest**	**1.96**	**189**	P	**Pn**	**11 23 17.6**	**+0.4**
COVZ	**Chateau Observ**	**1.99**	**210**	P	**Pn**	**11 23 18.4**	**+0.9**
TUVZ	**Tukino**	**2.01**	**207**	Pn	**Pn**	**11 23 18.4**	**+0.7**
TUVZ	**Tukino**	**2.01**	**207**	P	**Pn**	**11 23 18.4**	**+0.7**
FWVZ	**Far West T-bar**	**2.03**	**209**	Pn	**Pn**	**11 23 18.8**	**+0.7**
FWVZ	**Far West T-bar**	**2.03**	**209**	P	**Pn**	**11 23 19.0**	**+0.9**
WHVZ	**Whangaehu Hut**	**2.04**	**208**	Pn	**Pn**	**11 23 18.8**	**+0.7**
WHVZ	**Whangaehu Hut**	**2.04**	**208**	P	**Pn**	**11 23 18.8**	**+0.7**
DRZ	**Dome Shelter**	**2.05**	**209**	P	**Pn**	**11 23 19.2**	**+0.9**
TRVZ	**Turoa**	**2.07**	**209**	Pn	**Pn**	**11 23 19.1**	**+0.7**
TRVZ	**Turoa**	**2.07**	**209**	P	**Pn**	**11 23 19.3**	**+0.8**
WNVZ	**Wahianoa**	**2.08**	**207**	Pn	**Pn**	**11 23 19.0**	**+0.5**
BHHZ	**Black Hill Sta**	**2.09**	**196**	Pn	**Pn**	**11 23 18.5**	**+0.1**
BHHZ	**Black Hill Sta**	**2.09**	**196**	P	**Pn**	**11 23 18.6**	**+0.1**
MOVZ	**Moawhango**	**2.10**	**203**	Pn	**Pn**	**11 23 18.6**	**0.0**
MOVZ	**Moawhango**	**2.10**	**203**	P	**Pn**	**11 23 18.6**	**0.0**
PKVZ	**Pokaka**	**2.15**	**212**	Pn	**Pn**	**11 23 19.9**	**+0.8**
PKVZ	**Pokaka**	**2.15**	**212**	P	**Pn**	**11 23 20.1**	**+1.0**
MTVZ	**Mangateitei**	**2.18**	**209**	Pn	**Pn**	**11 23 20.3**	**+0.9**
MTVZ	**Mangateitei**	**2.18**	**209**	P	**Pn**	**11 23 20.4**	**+0.9**
CKHZ	**Cape Kidnapper**	**2.18**	**175**	Pn	**Pn**	**11 23 20.0**	**+0.6**
CKHZ	**Cape Kidnapper**	**2.18**	**175**	P	**Pn**	**11 23 20.0**	**+0.6**
KRHZ	**Kereru**	**2.19**	**189**	P	**Pn**	**11 23 19.5**	**0.0**
KAHZ	**Kahuranaki**	**2.31**	**179**	Pn	**Pn**	**11 23 21.3**	**+0.5**
KAHZ	**Kahuranaki**	**2.31**	**179**	P	**Pn**	**11 23 21.4**	**+0.5**
PNHZ	**Pukenui**	**2.48**	**191**	Pn	**Pn**	**11 23 22.4**	**-0.3**
PNHZ	**Pukenui**	**2.48**	**191**	P	**Pn**	**11 23 22.5**	**-0.3**
WCZ	**Waipu Caves**	**2.52**	**307**	P	**Pn**	**11 23 22.1**	**-1.2**
PXZ	**Pawanui**	**2.54**	**179**	Pn	**Pn**	**11 23 23.5**	**+0.2**
PXZ	**Pawanui**	**2.54**	**179**	P	**Pn**	**11 23 23.6**	**+0.2**
WPHZ	**Waipukurau**	**2.59**	**187**	Pn	**Pn**	**11 23 24.3**	**+0.2**
WPHZ	**Waipukurau**	**2.59**	**187**	P	**Pn**	**11 23 24.3**	**+0.2**
TSZ	**Takapari Road**	**2.66**	**195**	Pn	**Pn**	**11 23 24.4**	**-0.4**
TSZ	**Takapari Road**	**2.66**	**195**	P	**Pn**	**11 23 24.4**	**-0.4**
WAZ	**Wanganui**	**2.69**	**212**	Pn	**Pn**	**11 23 26.2**	**+1.0**
WAZ	**Wanganui**	**2.69**	**212**	P	**Pn**	**11 23 26.1**	**+1.0**
PRHZ	**Porangahau**	**2.78**	**183**	Pn	**Pn**	**11 23 26.3**	**+0.1**
PRHZ	**Porangahau**	**2.78**	**183**	P	**Pn**	**11 23 26.2**	**0.0**
NEZ	**North Egmont**	**2.79**	**229**	Pn	**Pn**	**11 23 28.8**	**+2.4**
DVHZ	**Dannevirke**	**2.86**	**190**	Pn	**Pn**	**11 23 26.6**	**-0.5**
DVHZ	**Dannevirke**	**2.86**	**190**	P	**Pn**	**11 23 26.6**	**-0.5**
OHWZ	**Ohakea**	**2.96**	**203**	P	**Pn**	**11 23 28.9**	**+0.6**
ANWZ	**Angora Road**	**2.98**	**185**	P	**Pn**	**11 23 28.6**	**0.0**
POWZ	**Post Office Ro**	**3.02**	**196**	Pn	**Pn**	**11 23 28.9**	**-0.1**
POWZ	**Post Office Ro**	**3.02**	**196**	P	**Pn**	**11 23 28.9**	**-0.1**
PRWZ	**Pori Road**	**3.14**	**192**	Pn	**Pn**	**11 23 30.4**	**0.0**
PRWZ	**Pori Road**	**3.14**	**192**	P	**Pn**	**11 23 30.4**	**0.0**
BFZ	**Birch Farm**	**3.23**	**188**	Pn	**Pn**	**11 23 30.9**	**-0.6**
BFZ	**Birch Farm**	**3.23**	**188**	P	**Pn**	**11 23 30.9**	**-0.6**
MRZ	**Mangatainoka R**	**3.32**	**197**	Pn	**Pn**	**11 23 31.9**	**-0.7**
MRZ	**Mangatainoka R**	**3.32**	**197**	P	**Pn**	**11 23 31.9**	**-0.7**
OUZ	**Omahuta**	**3.45**	**310**	P	**Pn**	**11 23 33.0**	**-1.3**
CPWZ	**Castlepoint**	**3.46**	**188**	Pn	**Pn**	**11 23 34.3**	**0.0**
CPWZ	**Castlepoint**	**3.46**	**188**	P	**Pn**	**11 23 34.3**	**0.0**
TRWZ	**Traveller**	**4.01**	**192**	Pn	**Pn**	**11 23 40.1**	**-1.1**
TRWZ	**Traveller**	**4.01**	**192**	P	**Pn**	**11 23 40.1**	**-1.1**
PAWZ	**Paruwai Farm**	**4.04**	**195**	P	**Pn**	**11 23 40.2**	**-1.4**
MSWZ	**Moikau Station**	**4.11**	**197**	Pn	**Pn**	**11 23 41.0**	**-1.5**
MSWZ	**Moikau Station**	**4.11**	**197**	P	**Pn**	**11 23 40.9**	**-1.5**
WEL	**Wellington**	**4.12**	**202**	Pn	**Pn**	**11 23 41.4**	**-1.0**
BHW	**Baring Head**	**4.20**	**201**	P	**Pn**	**11 23 42.4**	**-1.2**
TCW	**Tory Channel**	**4.21**	**207**	Pn	**Pn**	**11 23 42.5**	**-1.2**
TCW	**Tory Channel**	**4.21**	**207**	P	**Pn**	**11 23 42.5**	**-1.2**
PLWZ	**Palliser**	**4.26**	**196**	Pn	**Pn**	**11 23 42.6**	**-1.7**
PLWZ	**Palliser**	**4.26**	**196**	P	**Pn**	**11 23 42.6**	**-1.7**
TUWZ	**Tuamarina**	**4.53**	**209**	Pn	**Pn**	**11 23 46.3**	**-1.5**
TUWZ	**Tuamarina**	**4.53**	**209**	P	**Pn**	**11 23 46.2**	**-1.5**
NNZ	**Nelson**	**4.59**	**215**	Pn	**Pn**	**11 23 46.6**	**-1.8**
NNZ	**Nelson**	**4.59**	**215**	P	**Pn**	**11 23 46.7**	**-1.8**
QRZ	**Quartz Range**	**4.72**	**224**	Pn	**Pn**	**11 23 48.4**	**-1.8**
QRZ	**Quartz Range**	**4.72**	**224**	P	**Pn**	**11 23 48.4**	**-1.8**
BSWZ	**Blackbirch Sta**	**4.80**	**201**	P	**Pn**	**11 23 49.1**	**-1.2**
THZ	**Tophouse**	**5.24**	**214**	Pn	**Pn**	**11 23 55.2**	**-1.6**
THZ	**Tophouse**	**5.24**	**214**	P	**Pn**	**11 23 55.2**	**-1.6**
KHZ	**Kahutara**	**5.54**	**206**	Pn	**Pn**	**11 23 58.9**	**-1.7**
KHZ	**Kahutara**	**5.54**	**206**	P	**Pn**	**11 23 58.8**	**-1.8**
DSZ	**Denniston Nort**	**5.76**	**221**	Pn	**Pn**	**11 24 01.6**	**-1.9**
DSZ	**Denniston Nort**	**5.76**	**221**	P	**Pn**	**11 24 01.6**	**-1.9**
LTZ	**Lake Taylor**	**6.34**	**212**	Pn	**Pn**	**11 24 09.1**	**-2.0**
LTZ	**Lake Taylor**	**6.34**	**212**	P	**Pn**	**11 24 09.6**	**-1.5**
INZ	**Inchbonnie**	**6.67**	**217**	P	**Pn**	**11 24 11.8**	**-3.4**
OKCZ	**Okains Bay**	**6.86**	**204**	P	**Pn**	**11 24 15.6**	**-2.3**
CRLZ	**Canterbury Las**	**6.88**	**206**	Pn	**Pn**	**11 24 16.2**	**-1.8**
CRLZ	**Canterbury Las**	**6.88**	**206**	P	**Pn**	**11 24 16.2**	**-1.8**
MQZ	**McQueen's Vall**	**6.98**	**206**	Pn	**Pn**	**11 24 16.0**	**-3.4**
MQZ	**McQueen's Vall**	**6.98**	**206**	P	**Pn**	**11 24 16.0**	**-3.4**
AKCZ	**Akaroa Harbour**	**7.04**	**204**	P	**Pn**	**11 24 17.7**	**-2.5**
WVZ	**Waitaha Valley**	**7.27**	**218**	Pn	**Pn**	**11 24 21.2**	**-2.0**
WVZ	**Waitaha Valley**	**7.27**	**218**	P	**Pn**	**11 24 21.4**	**-1.8**
RPZ	**Rata Peaks**	**7.62**	**213**	P	**Pn**	**11 24 25.2**	**-2.6**
	1.6nm,0.3s,baz=22,slow=5.3,SNR=18						
RPZ				S	**Sn**	**11 25 46.4**	**-7.2**
	2.8nm,0.3s,baz=17,slow=20,SNR=11						
RPZ	**Rata Peaks**	**7.62**	**213**	P	**Pn**	**11 24 23.8**	**-3.9**
FOZ	**Fox Glacier**	**8.06**	**219**	P	**Pn**	**11 24 31.3**	**-2.2**
ODZ	**Otahua Downs**	**8.87**	**210**	P	**Pn**	**11 24 41.6**	**-2.5**
JCZ	**Jackson Bay**	**8.97**	**220**	P	**Pn**	**11 24 42.7**	**-2.8**
WKZ	**Wanaka**	**9.40**	**216**	P	**Pn**	**11 24 48.9**	**-2.2**
HHSZ	**Highcliff Hill**	**9.60**	**207**	P	**Pn**	**11 24 53.1**	**-0.5**
MSZ	**Milford Sound**	**9.83**	**220**	P	**Pn**	**11 24 55.7**	**-0.9**
TUZ	**Tuapeka**	**10.02**	**210**	P	**Pn**	**11 24 58.2**	**-0.9**
MLZ	**Mavora Lakes**	**10.23**	**217**	P	**Pn**	**11 25 01.4**	**-0.5**
ASAR	**Alice Springs**	**39.11**	**278**	P	**P**	**11 29 49.2**	**+0.8**
	0.9nm,0.5s,baz=122,slow=8.2,SNR=26						
WRA	**Warramunga Arr**	**40.77**	**283**	P	**P**	**11 30 02.3**	**+0.2**
	0.7nm,0.5s,baz=121,slow=7.8,SNR=22						
QSPA	**South Pole Qui**	**52.64**	**180**	P	**P**	**11 31 36.0**	**+2.4**
	1.7nm,0.7s,baz=11,slow=5.2,SNR=5.8						
SNAA	**Sanae**	**71.15**	**180**	P	**P**	**11 33 38.5**	**+1.7**
	0.4nm,0.4s,baz=176,slow=14,SNR=8.4						
TORD	**Torodi Ar. Bea**	**155.38**	**191**	PKPab	**PKPab**	**11 42 38.4**	**+1.7**
	0.3nm,0.7s,baz=168,slow=3.9,SNR=3.2						

IDC 23 11:27:46.1±0.8, 0°83N×125°68E, h0km, mb3.8/8, mb1 3.9/8, mb1mx3.7/53, mbtmp3.8/8, Error ellipse: s-maj=51.6km s-min=16.9km az=72.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.32**	**158**	P	P	11 32 45.5	-0.1
	1.0nm,0.4s,baz=339,slow=11,SNR=26						
ASAR	**Alice Springs**	**25.62**	**162**	P	P	11 33 17.7	+0.2
	0.8nm,0.3s,baz=344,slow=11,SNR=33						
ASAR				PcP	PcP	11 36 48.3	-0.4
	0.2nm,0.5s,baz=352,slow=1.3,SNR=4.3						
KSRS	**Korea Array**	**36.51**	**3**	P	P	11 34 53.5	+0.3
	0.5nm,0.5s,baz=186,slow=8.6,SNR=2.7						
SONM	**Songino Array**	**49.73**	**343**	P	P	11 36 40.8	+0.6
	0.6nm,0.6s,baz=146,slow=8.8,SNR=2.4						
PETK	**Petropavlovsk-**	**58.50**	**22**	P	P	11 37 43.5	-0.6
	2.7nm,0.9s,baz=191,slow=6.3,SNR=4.0						
MKAR	**Makanchi Array**	**59.36**	**327**	P	P	11 37 49.6	-0.7
	0.8nm,0.4s,baz=119,slow=8.7,SNR=8.6						
KURBB	**Kurchatov Arra**	**63.63**	**329**	P	P	11 38 18.7	-0.3
	1.3nm,0.8s,baz=127,slow=6.3,SNR=8.8						
BVAR	**Borovoye Array**	**69.19**	**

SERG	**Sergoula**	**1.15 175**	P	Pg	11 52 31.7	-0.1
SERG			S	Sg	11 52 46.0	-0.8
SERG			AML	AML	11 52 49.8	
	comp=N,162μm,0.4s					
SERG			AML	AML	11 52 50.7	
	comp=E,182μm,0.4s					
KALE	**Kalithea**	**1.18 172**	P	Pg	11 52 31.6	-0.8
KALE			S	Sn	11 52 49.1	+0.2
KALE			AML	AML	11 52 50.8	
	comp=E,137μm,0.5s					
KALE			AML	AML	11 52 51.1	
	comp=N,107μm,0.9s					
KALE	**Kalithea**	**1.18 172**	P	Pg	11 52 31.8	-0.6
KALE			S	Sn	11 52 48.7	-0.2
DSF	**Desfina**	**1.24 158**	P	Pg	11 52 33.5	0.0
DSF			S	Sb	11 52 49.4	-0.3
DSF			AML	AML	11 52 52.2	
	comp=E,92μm,0.3s					
DSF			AML	AML	11 52 53.1	
	comp=N,108μm,0.2s					
LKD2	**Lefkada island**	**1.25 232**	P	Pn	11 52 33.0	-0.6
SGD	**Sagiada**	**1.31 273**	P	Pg	11 52 36.5	+1.8
PAIG	**Paliouri**	**1.40 74**	P	Pn	11 52 33.9	-1.7
PAIG	**Paliouri**	**1.40 74**	P	Pn	11 52 34.7	-0.9
KLV	**Kalavryta, Ach**	**1.53 173**	P	Pg	11 52 39.4	+0.5
KLV	**Kalavryta, Ach**	**1.53 173**	P	Pg	11 52 38.9	-0.1

*IDC **23** 11:53:38.0±1.1, 31°.23N×142°.78E, h0km, mb3.3/4, mb1 3.5/7, mb1mx3.3/60, mbtmp3.4/7, ML3.1/3, Error ellipse: s-maj=34.6km s-min=20.9km az=77.0*
*ISCJB **23** 11:53:40.5±0.8, 31°.28N±0°.07×142°.5E±0°.2, h37km, mb3.2/4, Error ellipse: s-maj=19.9km s-min=6.1km az=157.4*
*JMA **23** 11:53:40.2±0.2, 31°.25N×142°.38E, h38km, M4.2*

ISC 23 11:53:42.6±1.0, 31°.20N±0°.07×142°.5E±0°.2, h37km, n12, σ2§09/16, mb3.3/4, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JHJ	**Hachijo jima 2**	**2.99**	**311**	Pn	**Pn**	**11 54 27.2**	**-0.3**
	4.5nm,0.3s,baz=108,slow=20,SNR=3.3						
JHJ				Sn	**Sn**	**11 55 01.1**	**-1.1**
	11nm,0.3s,baz=198,slow=20,SNR=3.4						
BSO1	**Boso 1**	**3.67**	**340**	P	**Pn**	**11 54 35.1**	**-1.3**
BSO3	**Boso 3**	**3.96**	**336**	P	**Pn**	**11 54 39.8**	**-0.8**
CBIJ	**Chichi jima**	**4.09**	**184**	P	**Pn**	**11 54 43.1**	**+0.4**
JCJ	**Chichijima**	**4.10**	**184**	Pn	**Pn**	**11 54 42.0**	**-0.7**
	1.4nm,0.3s,baz=345,slow=20,SNR=10						
JCJ				Sn	**Sn**	**11 55 25.2**	**-4.1**
	4.2nm,0.3s,baz=285,slow=20,SNR=3.9						
JHU	**Hanno**	**5.36**	**331**	P	**Pn**	**11 54 59.4**	**-0.6**
JHU				S	**Sn**	**11 55 58.2**	**-2.3**
JRY	**Ryogami san**	**5.67**	**329**	P	**Pn**	**11 55 03.4**	**-0.8**
MJAR	**Matsushiro Arr**	**6.41**	**327**	Pn	**Pn**	**11 55 13.1**	**-1.4**
	0.5nm,0.3s,baz=159,slow=10,SNR=5.9						
MJAR				Sn	**Sn**	**11 56 23.5**	**-2.9**
	0.2nm,0.3s,baz=156,slow=23,SNR=2.8						
MKAR	**Makanchi Array**	**48.16**	**307**	P	**P**	**12 02 23.1**	**+4.0**
	0.3nm,0.7s,baz=88,slow=8.9,SNR=3.6						
WRA	**Warramunga Arr**	**51.45**	**190**	P	**P**	**12 02 45.2**	**+1.0**
	0.2nm,0.5s,baz=7.3,slow=7.8,SNR=12						
ASAR	**Alice Springs**	**55.17**	**190**	P	**P**	**12 03 13.1**	**+1.5**
	0.2nm,0.3s,baz=6.6,slow=6.0,SNR=3.5						
NVAR	**Mina Array Bea**	**77.80**	**52**	P	**P**	**12 05 36.2**	**-0.2**
	0.1nm,0.5s,baz=285,slow=4.6,SNR=2.5						

IDC 23 11:55:06.3±1.7, 2°.64N×92°.43E, h0km, mb3.3/3, mb1 3.7/5, mb1mx3.3/68, mbtmp3.6/5, ML4.1/2, Error ellipse: s-maj=56.5km s-min=25.1km az=51.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PALK	**Pallekele**	**12.55**	**292**	Pn	Pn	11 58 04.9	-1.4
	0.6nm,0.3s,baz=116,slow=16,SNR=3.2						
PALK				Sn	Sn	12 00 10.6	-16
	2.8nm,0.3s,baz=105,slow=16,SNR=6.2						
CMAR	**Chiang Mai Arr**	**16.97**	**22**	Pn	Pn	11 59 03.8	-1.4
	0.4nm,0.3s,baz=211,slow=14,SNR=7.1						
H08S2	**Diego Garcia H**	**22.36**	**243**	T	T	12 23 19.0	
	baz=61						
H08S3	**Diego Garcia H**	**22.36**	**243**	T	T	12 23 16.9	
	baz=61						
H08S1	**Diego Garcia H**	**22.38**	**243**	T	T	12 22 39.1	
	baz=61						
MKAR	**Makanchi Array**	**44.85**	**350**	P	P	12 03 23.1	+0.7
	0.6nm,0.7s,baz=182,slow=9.6,SNR=4.9						
WRA	**Warramunga Arr**	**46.86**	**121**	P	P	12 03 38.2	-0.4
	0.2nm,0.6s,baz=298,slow=8.8,SNR=6.6						
ASAR	**Alice Springs**	**48.09**	**125**	P	P	12 03 48.2	0.0
	0.1nm,0.5s,baz=292,slow=7.8,SNR=3.0						

NEIC 23 12:09:35.7±0.0, 53°.58N×167°.32W, h86km, mb3.7/2, ML3.2(AEIC), After AEIC., Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
UNV	**Unalaska Valle**	**0.55**	**60**	*e*Pn	Pn	12 09 50.9	+0.5
UNV				*e*Sn	Sn	12 10 01.7	+0.4
AKUT	**Akutan**	**1.07**	**58**	*e*Pn	Pn	12 09 56.3	+0.4
NIKH	**Nikolski High**	**1.10**	**237**	*e*Pn	Pn	12 09 57.2	+0.9
NIKH				*e*Sn	Sn	12 10 13.3	+1.6
FALS	**False Pass**	**2.62**	**59**	*e*Pn	Pn	12 10 17.5	+1.5
FALS				*e*Sn	Sn	12 10 54.4	+7.4
SDPT	**Sand Point**	**4.37**	**63**	*e*Pn	Pn	12 10 40.1	+0.6
ATKA	**Atka Island**	**4.39**	**254**	*e*Pn	Pn	12 10 41.4	+1.6
OHAK	**Old Harbor**	**8.78**	**60**	*e*Pn	Pn	12 11 37.4	-2.1
KDAK	**Kodiak Island**	**9.32**	**57**	*e*Pn	Pn	12 11 45.5	-1.5
RC01	**Rabbit Creek A**	**12.09**	**45**	*e*Pn	Pn	12 12 22.2	-2.3
SKAG	**Skagway**	**18.47**	**59**	*e*Pn	P	12 13 45.0	+0.5
WHY	**Whitehorse**	**18.82**	**55**	*e*P	Pn	12 13 50.0	+0.2
	7.7nm,1.4s						
INK	**Inuvik**	**21.65**	**34**	*e*P	P	12 14 16.8	-1.8
	1.2nm,0.4s						

IDC 23 12:16:49.2±3.2, 1°.68N×93°.87E, h0km, mb3.1/2, mb1 3.4/3, mb1mx3.1/61, mbtmp3.2/3, ML4.3/1, Error ellipse: s-maj=115.4km s-min=31.6km az=63.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**17.40**	**16**	P	Pn	12 20 53.3	-0.3
	0.4nm,0.3s,baz=210,slow=12,SNR=3.2						
MKAR	**Makanchi Array**	**46.06**	**349**	P	P	12 25 14.8	0.0
	0.1nm,0.5s,baz=153,slow=9.7,SNR=2.6						
ASAR	**Alice Springs**	**46.37**	**125**	P	P	12 25 17.4	-0.1
	0.2nm,0.7s,baz=294,slow=7.5,SNR=5.2						

*ISCJB **23** 12:27:09.5±1.0, 10°.41N±0°.04×125°.16E±0°.07, h23km±7km, mb3.4/4, Error ellipse: s-maj=12.3km s-min=6.3km az=19.8*
*MAN **23** 12:27:09, 10°.48N×125°.06E, h6km, mb4.3, ML3.1, MS2.9*
*IDC **23** 12:27:09.2±2.6, 10°.02N×124°.24E, h0km, mb3.3/4, mb1 3.5/4, mb1mx3.2/61, mbtmp3.3/4, Error ellipse: s-maj=269.3km s-min=21.0km az=65.0*

ISC 23 12:27:09.3±1.8, 10°.45N±0°.05×125°.13E±0°.08, h12km±13km, n12, σ1§26/17, mb3.4/4, 2C, Leyte

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSLP	**Maasin**	**0.41**	**221**	*e*P	**Pg**	**12 27 18.2**	**+0.7**
MSLP				*e*S	**Sb**	**12 27 26.1**	**+1.3**
PLP	**Palo**	**0.73**	**348**	*e*P	**Pb**	**12 27 22.6**	**-1.4**
PLP				*i* S	**Sb**	**12 27 32.8**	**-1.2**
LLP	**Lapu-Lapu**	**1.15**	**264**	*e*P	**Pn**	**12 27 30.6**	**-0.8**
LLP				*e*S	**Sb**	**12 27 46.0**	**-0.2**
BESP	**Borongan**	**1.19**	**15**	*e*P	**Pn**	**12 27 30.9**	**-0.9**
BESP				*e*S	**Sn**	**12 27 48.6**	**+0.7**
TBP	**Tagbilaran**	**1.46**	**239**	*e*P	**Pn**	**12 27 33.0**	**-2.5**
CNP	**Catarman**	**2.10**	**347**	*e*P	**Pn**	**12 27 46.2**	**+1.8**
CNP				*e*S	**Sb**	**12 28 13.1**	**-0.5**
GUIM	**Jordan**	**2.51**	**274**	*e*P	**Pn**	**12 27 50.5**	**+0.5**
RCP	**Roxas**	**2.59**	**296**	*e*P	**Pn**	**12 27 51.5**	**+0.4**
WRA	**Warramunga Arr**	**31.53**	**163**	P	**P**	**12 33 31.4**	**-0.2**
	0.2nm,0.7s,baz=341,slow=9.5,SNR=3.1						
ASAR	**Alice Springs**	**34.97**	**166**	P	**P**	**12 34 02.2**	**+0.6**
	0.5nm,0.5s,baz=341,slow=7.0,SNR=14						
MKAR	**Makanchi Array**	**51.21**	**323**	P	**P**	**12 36 14.2**	**+1.4**
	0.1nm,0.4s,baz=123,slow=7.1,SNR=2.5						
KURBB	**Kurchatov Arra**	**55.30**	**326**	P	**P**	**12 36 42.2**	**-0.5**
	0.3nm,0.5s,baz=123,slow=6.5,SNR=3.5						

*ISCJB **23** 12:38:39.0±0.5, 56°.69N±0°.09×156°.4W±0°.1, h64km, mb3.7/7, Error ellipse: s-maj=13.9km s-min=5.0km az=151.5*
*NEIC **23** 12:38:39.8±0.0, 56°.42N×156°.19W, h43km, ML3.1(AEIC), After AEIC.*
*IDC **23** 12:38:41.7±3.7, 56°.81N×156°.37W, h66km±33km, mb3.5/7, mb1 3.7/10, mb1mx3.2/80, mbtmp3.6/10, ML3.1/3, MS2.8/1, Ms1 2.8/1, ms1mx2.1/48, Error ellipse: s-maj=36.6km s-min=18.7km az=19.0*

ISC 23 12:38:40.6±0.8, 56°.6N±0°.1×156°.35W±0°.07, h64km, n27, σ1§12/28, mb3.6/7, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CHGN	**Chignik**	**1.19**	**256**	*e*Pn	**Pn**	**12 38 59.7**	**-1.5**
CHGN				*e*Sn	**Sn**	**12 39 14.9**	**-1.6**
OHAK	**Old Harbor**	**1.79**	**69**	*e*Pn	**Pn**	**12 39 07.7**	**-1.6**
KDAK	**Kodiak Island**	**2.37**	**59**	P	**Pn**	**12 39 15.9**	**-1.1**
	8.1nm,0.3s,baz=192,slow=5.5,SNR=240						
KDAK				S	**Sn**	**12 39 42.9**	**-2.0**
	16nm,0.3s,baz=237,slow=18,SNR=18						
KDAK				Lg	Lg	12 39 56.1	
	8.4nm,0.3s,baz=269,slow=22,SNR=6.5						
KDAK	**Kodiak Island**	**2.37**	**59**	*e*Pn	**Pn**	**12 39 16.0**	**-1.1**
SDPT	**Sand Point**	**2.64**	**243**	*e*Pn	**Pn**	**12 39 19.3**	**-1.5**
HOM	**Homer**	**3.95**	**37**	*e*Pn	**Pn**	**12 39 39.5**	**+0.9**
BRLK	**Bradley Lake**	**4.29**	**40**	*e*Pn	**Pn**	**12 39 42.8**	**-0.6**
RC01	**Rabbit Creek A**	**5.66**	**35**	*e*Pn	**Pn**	**12 40 01.6**	**-0.4**
SUA	**Susitna One**	**5.67**	**28**	*e*Pn	**Pn**	**12 40 03.0**	**+0.8**
GHO	**Glory Hole Cre**	**6.43**	**33**	*e*Pn	**Pn**	**12 40 13.2**	**+0.6**
EYAK	**Cordova Ski Ar**	**6.81**	**50**	*e*Pn	**Pn**	**12 40 17.1**	**-0.6**
SCM	**Sheep Creek Mo**	**6.99**	**38**	*e*Pn	**Pn**	**12 40 19.7**	**-0.6**
RAGM	**Ragged Mountai**	**7.20**	**53**	*e*Pn	**Pn**	**12 40 22.4**	**-0.7**
KLU	**Klutina**	**7.27**	**43**	*e*Pn	**Pn**	**12 40 23.2**	**-0.9**
BMRM	**Bremner River**	**7.50**	**50**	*e*Pn	**Pn**	**12 40 26.2**	**-1.1**
CRQM	**Cirque**	**8.04**	**53**	*e*Pn	**Pn**	**12 40 34.5**	**-0.2**
BALM	**Baldy**	**8.51**	**53**	*e*Pn	**Pn**	**12 40 40.1**	**-1.0**
ILAR	**Eielson Array**	**9.40**	**26**	P	**Pn**	**12 40 52.8**	**-0.4**
	0.1nm,0.3s,baz=218,slow=13,SNR=5.3						
ILAR				S	Sn	12 42 28.6	-8.5
	0.0nm,0.3s,baz=216,slow=26,SNR=2.4						
INK	**Inuvik**	**15.64**	**32**	P	**Pn**	**12 42 17.2**	**+0.5**
	0.1nm,0.3s,baz=223,slow=8.1,SNR=3.3						
YKA	**Yellowknife Ar**	**21.64**	**57**	P	**P**	**12 43 25.3**	**+0.1**
	0.4nm,0.5s,baz=273,slow=9.4,SNR=7.9						
PETK	**Petropavlovsk-**	**26.29**	**282**	P	**P**	**12 44 10.7**	**+0.9**
	1.5nm,0.8s,baz=80,slow=12,SNR=2.9						
MA2	**Magadan**	**27.49**	**298**	LR	LR	12 56 54.1	
	comp=Z,20nm,18.3s,baz=172,slow=40						
NVAR	**Mina Array Bea**	**30.93**	**110**	P	**P**	**12 44 53.4**	**+1.9**
	0.4nm,0.6s,baz=306,slow=9.6,SNR=4.5						
PDAR	**Pinedale Array**	**32.60**	**95**	P	**P**	**12 45 07.2**	**+1.2**
	0.7nm,0.5s,baz=308,slow=3.7,SNR=6.3						
TXAR	**Lajitas Array**	**45.67**	**104**	P	**P**	**12 46 56.2**	**+1.3**
	0.2nm,0.7s,baz=297,slow=6.9,SNR=4.2						
ARCES	**ARCESS Array B**	**54.16**	**359**	P	**P**	**12 47 57.6**	**-1.0**
	6.4nm,1.0s,baz=13,slow=8.3,SNR=3.0						
CMAR	**Chiang Mai Arr**	**82.59**	**292**	P	**P**	**12 50 56.6**	**-0.1**
	1.0nm,0.3s,baz=33,slow=5.4,SNR=4.6						

NNC 23 12:42:02.0±3.8, 36°.96N×70°.90E, h0km, mb3.6, mpv3.2, 4C-3D, Error ellipse: s-maj=31.7km s-min=14.0km az=174.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZET	**Dzherino**	**2.47**	**319**	⇑P	Pn	12 42 43.3	-0.3
	20nm,0.3s						
DZET				⇓S	Sb	12 43 16.6	-1.7
	87nm,0.5s						
SFK	**Sufi-Kurgan**	**3.67**	**33**	⇑P	Pn	12 43 00.8	+0.6
	0.9nm,0.4s						
SFK				⇓S	Sn	12 43 46.8	+2.5
	6.1nm,0.3s						
MNAS	**Manas**	**5.66**	**12**	⇑P	Pn	12 43 26.7	-0.8
	0.6nm,0.4s						
MNAS				⇑S	Sn	12 44 33.3	+0.1
	3.9nm,0.6s						
KK31	**Karatay Array**	**6.15**	**357**	⇓P	Pn	12 43 32.0	-2.0
	0.6nm,0.2s,baz=168,slow=11,SNR=15						
KK31				S	Sn	12 44 43.7	-1.4
	3.4nm,0.7s,baz=181,slow=19,SNR=7.4						

*MAN **23** 12:53:32, 4°.72N×127°.17E, h19km, mb4.7, ML3.5, MS3.4*
*IDC **23** 12:53:41.6±3.8, 5°.10N×126°.22E, h34km±35km, mb3.8/9, mb1 3.9/11, mb1mx3.6/61, mbtmp4.0/11, ML4.0/2, Error ellipse: s-maj=135.8km s-min=12.1km az=66.0*
*ISCJB **23** 12:53:42.9±0.5, 5°.36N±0°.04×126°.98E±0°.07, h76km, mb3.9/9, Error ellipse: s-maj=10.2km s-min=4.9km az=166.3*
*DJA **23** 12:53:46.4±1.5, 5°.1±1°.×12°.7E±°, h12km±25km, M4.3/7, mb4.3/4, mB4.7/3, MLv4.4/7, Mw(mB)3.9/3*

ISC 23 12:53:44.8±0.7, 5°.30N±0°.05×126°.95E±0°.09, h76km, n22, σ1§89/27, mb4.0/9, 3C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SGSI	**Sangihe**	**2.13**	**222**	P	**Pn**	**12 54 18.1**	**-0.3**
SGSI				S	**Sn**	**12 54 45.1**	**+1.1**
DAV	**Davao City (W)**	**2.23**	**322**	Pn	Pn	12 54 13.6	-6.0
	51nm,0.3s,baz=83,slow=17,SNR=2.5						
DAV				Lg	Lg	12 54 49.0	
	130nm,0.3s,baz=228,slow=22,SNR=13						
DMPH	**Davao City--Mi**	**2.28**	**321**	⇑*e*P	**Pn**	**12 54 19.2**	**-1.2**
DMPH				*e*S	**Sn**	**12 54 43.8**	**-3.7**
BIPH	**Bislig**	**2.93**	**349**	⇑*i*P	**Pn**	**12 54 28.4**	**-0.7**
BIPH				*i* S	Sn	12 54 54.6	-8.6
BUKP	**Musuan**	**3.17**	**324**	*e*P	**Pn**	**12 54 30.5**	**-2.0**
BUKP				*e*S	**Sn**	**12 55 08.9**	**-0.5**
BUTP	**Butuan**	**3.88**	**340**	*e*P	**Pn**	**12 54 41.7**	**-0.4**
BUTP				*e*S	**Sn**	**12 55 30.3**	**+3.9**
DCPH	**Dipolog City**	**4.84**	**313**	⇑*e*P	**Pn**	**12 54 53.8**	**-1.3**
LBMI	**Labuha**	**5.92**	**175**	P	**Pn**	**12 55 10.4**	**+0.5**
	46nm,0.7s,0.2nm						
MRSI	**Marisa**	**6.92**	**226**	P	**Pn**	**12 55 25.5**	**+1.9**
	23nm,0.5s,378nm0.1nm						
SANI	**Sanana**	**7.36**	**187**	P	**Pn**	**12 55 27.7**	**-1.9**
SANI				S	**Sn**	**12 56 47.8**	**-3.9**
SIJI	**Sorong**	**7.49**	**145**	Pn	**Pn**	**12 55 31.1**	**-0.3**
	2.6nm,0.3s,baz=340,slow=15,SNR=14						
SIJI				Sn	**Sn**	**12 56 51.3**	**-3.7**
	0.8nm,0.3s,baz=240,slow=20,SNR=1.7						
APSI	**Ampana**	**8.12**	**221**	P	**Pn**	**12 55 41.0**	**+1.0**
NLAI	**Namlea**	**8.48**	**179**	P	**Pn**	**12 55 44.7**	**-0.2**
WRA	**Warramunga Arr**	**26.11**	**164**	P	**P**	**12 59 12.3**	**+0.5**
	1.1nm,0.5s,baz=346,slow=9.6,SNR=32						
ASAR	**Alice Springs**	**29.58**	**167**	P	**P**	**12 59 44.2**	**+1.5**
	0.2nm,0.5s,baz=348,slow=7.2,SNR=12						
STKA	**Stephens Creek**	**39.52**	**160**	P	**P**	**13 01 10.9**	**+2.7**
	1.0nm,0.5s,baz=325,slow=11,SNR=3.4						
SONM	**Songino Array**	**45.90**	**341**	P	**P**	**13 02 00.0**	**+0.2**
	0.7nm,0.7s,baz=146,slow=10,SNR=3.3						
MKAR	**Makanchi Array**	**56.41**	**325**	P	**P**	**13 03 17.2**	**-1.2**
	1.2nm,0.7s,baz=121,slow=8.1,SNR=14						
ZALV	**Zalesovo Beam**	**59.30**	**333**	P	**P**	**13 03 38.5**	**0.0**
	1.4nm,0.4s,baz=119,slow=7.2,SNR=1.7						
KURBB	**Kurchatov Arra**	**60.55**	**327**	P	**P**	**13 03 47.1**	**0.0**
	2.6nm,0.6s,baz=124,slow=6.4,SNR=28						
BVAR	**Borovoye Array**	**66.14**	**327**	P	**P**	**13 04 24.3**	**+0.2**
	1.2nm,0.7s,baz=126,slow=9.7,SNR=7.5						
FINES	**FINESS Array B**	**90.56**	**332**	P	**P**	**13 06 38.8**	**+0.5**
	1.0nm,0.7s,baz=56,slow=5.2,SNR=4.2						

*ISCJB **23** 12:58:47.4±0.6, 6°.58S±0°.04×130°.93E±0°.06, h100km, mb3.9/2, Error ellipse: s-maj=9.0km s-min=5.7km az=10.2*
*IDC **23** 12:58:48.5±2.5, 6°.53S×130°.87E, h99km±25km, mb3.8/2, mb1 4.0/6, mb1mx3.4/48, mbtmp4.3/6, Error ellipse: s-maj=43.1km s-min=23.1km az=89.0*
*DJA **23** 12:58:50.1±0.4, 6°.5±2°.×13°.1E±°, h125km±10km, M4.3/12, mb4.3/7, mB5.2/3, MLv4.3/12, Mw(mB)4.6/3*

ISC 23 12:58:47.4±0.8, 6°.62S±0°.06×130°.86E±0°.08, h100km, n15, σ2§85/19, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**1.42**	**162**	P	Pn	12 59 20.6	+7.9
SAUI				S	Sn	12 59 41.4	+10
BNDI	**Bandanaira**	**2.29**	**335**	P	**Pn**	**12 59 25.3**	**+1.6**
MSAI	**Masohi**	**3.78**	**329**	P	**Pn**	**12 59 45.4**	**+1.8**
FAKI	**Fak Fak**	**3.93**	**21**	P	**Pn**	**12 59 47.2**	**+1.6**
FAKI				S	**Sn**	**13 00 29.1**	**-1.6**
AAI	**Ambon**	**3.94**	**318**	P	**Pn**	**12 59 47.1**	**+1.3**
KMPI	**Kaimana, Papua**	**4.08**	**44**	P	Pn	12 59 51.9	+4.2
KMPI				S	**Sn**	**13 00 35.1**	**+0.7**
NLAI	**Namlea**	**5.03**	**312**	P	**Pn**	**13 00 03.6**	**+3.1**
SIJI	**Sorong**	**5.73**	**4**	P	**Pn**	**13 00 09.8**	**-0.2**
	56nm,0.3s,baz=52,slow=9.2,SNR=189						
SIJI				S	**Sn**	**13 01 08.6**	**-5.8**
	5.2nm,0.3s,baz=270,slow=20,SNR=3.8						
LBMI	**Labuha**	**6.82**	**330**	P	**Pn**	**13 00 25.8**	**+0.9**
	21nm,0.6s,0.1nm						
SOEI	**Soe**	**7.23**	**244**	P	**Pn**	**13 00 33.7**	**+3.1**
BATI	**Baumata**	**7.96**	**243**	P	**Pn**	**13 00 42.7**	**+2.3**
	1.0nm,0.3s,baz=120,slow=20,SNR=3.1						
BATI				S	**Sn**	**13 02 05.2**	**-3.7**
	1.3nm,0.3s,baz=245,slow=19,SNR=2.5						
WRA	**Warramunga Arr**	**13.67**	**166**	P	**Pn**	**13 01 57.5**	**+0.4**
	1.2nm,0.3s,baz=347,slow=13,SNR=25						
WRA				S	**Sn**	**13 04 23.8**	**-3.9**
	1.0nm,0.3s,baz=353,slow=23,SNR=5.7						
ASAR	**Alice Springs**	**17.20**	**171**	P	**P**	**13 02 44.8**	**+3.2**
	1.0nm,0.3s,baz=353,slow=11,SNR=49						
ASAR				S	**Sn**	**13 05 49.0**	**-3.9**
	0.1nm,0.3s,baz=354,slow=28,SNR=3.3						
MKAR	**Makanchi Array**	**68.38**	**326**	P	**P**	**13 09 39.9**	**+1.6**
	1.5nm,0.4s,baz=115,slow=8.0,SNR=28						
KURBB	**Kurchatov Arra**	**72.64**	**328**	P	**P**	**13 10 03.8**	**-0.1**
	0.4nm,0.4s,baz=126,slow=5.1,SNR=5.5						

*ATH **23** 12:59:12.8, 39°.29N×25°.99E, h12km±1km, ML2.2/8, Error ellipse: s-maj=1.9km s-min=0.9km az=214.0*
*ISK **23** 12:59:12.4, 39°.29N×25°.99E, h7km, ML2.7/17*
*DDA **23** 12:59:12.2, 39°.28N×26°.01E, h7km, Ml2.9*
*ISCJB **23** 12:59:12.6±0.3, 39°.29N±0°.02×25°.99E±0°.02, h5km±3km, Error ellipse: s-maj=3.1km s-min=2.6km az=11.9*
*THE **23** 12:59:12.9, 39°.31N×25°.99E, h1km±1km, ML2.1/6, Error ellipse: s-maj=1.0km s-min=0.3km az=171.0*
*CSEM **23** 12:59:12.8±0.1, 39°.29N×26°.00E, h5km, ML2.7, Error ellipse: s-maj=1.9km s-min=1.5km az=86.0*

ISC 23 12:59:12.8±0.8, 39°.28N±0°.01×25°.99E±0°.02, h11km±5km, n79, σ0§43/121, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIGR	**SIGRI**	**0.13**	**236**	PG	**Pg**	**12 59 15.9**	**0.0**
SIGR				SG	**Sg**	**12 59 18.1**	**-0.1**
SIGR	**SIGRI**	**0.13**	**236**	P	**Pg**	**12 59 15.9**	**0.0**
SIGR				S	**Sg**	**12 59 17.7**	**-0.4**
SIGR				AML	AML	12 59 18.2	
	comp=E,4496μm,0.3s						
SIGR				AML	AML	12 59 18.2	
	comp=N,3587μm,0.2s						
SIGR	**SIGRI**	**0.13**	**236**	P	**Pg**	**12 59 15.9**	**0.0**
SIGR				S	**Sg**	**12 59 17.9**	**-0.2**
SIGR	**SIGRI**	**0.13**	**236**	P	**Pg**	**12 59 15.9**	**0.0**
SIGR				S	**Sg**	**12 59 18.0**	**-0.1**
GPNR	**Gulpinar-Canak**	**0.20**	**32**	PG	**Pg**	**12 59 17.0**	**-0.2**
GPNR				SG	**Sg**	**12 59 20.4**	**+0.3**
GPNR	**Gulpinar-Canak**	**0.20**	**32**	*e*Pg	**Pg**	**12 59 17.0**	**-0.2**
GPNR				*e*Sg	**Sg**	**12 59 20.4**	**+0.3**
PRK	**Paraskevi**	**0.22**	**100**	P	**Pg**	**12 59 17.8**	**+0.3**
PRK				S	**Sg**	**12 59 20.5**	**-0.1**
PRK				AML	AML	12 59 21.6	
	comp=E,4049μm,0.3s						
PRK				AML	AML	12 59 21.8	
	comp=N,1818μm,0.5s						
PRK	**Paraskevi**	**0.22**	**100**	P	**Pg**	**12 59 17.5**	**+0.1**
PRK				S	**Sg**	**12 59 20.8**	**+0.2**
PRK	**Paraskevi**	**0.22**	**100**	P	**Pg**	**12 59 17.5**	**+0.1**
PRK				S	**Sg**	**12 59 20.7**	**+0.2**
AYVA	**Ayvalik**	**0.54**	**87**	*i* P	**Pg**	**12 59 23.0**	**-0.4**
AYVA				*i* S	**Sg**	**12 59 31.0**	**+0.4**
AYVA	**Ayvalik**	**0.54**	**87**	P	**Pg**	**12 59 23.0**	**-0.4**
AYVA				S	**Sg**	**12 59 31.0**	**+0.4**
BOZC	**Bozcaada**	**0.56**	**5**	PG	**Pg**	**12 59 23.5**	**-0.2**
BOZC				SG	**Sg**	**12 59 31.8**	**+0.7**
BOZC	**Bozcaada**	**0.56**	**5**	*i* P	**Pg**	**12 59 23.5**	**-0.2**
BOZC				*i* S	**Sg**	**12 59 31.4**	**+0.3**
BOZC	**Bozcaada**	**0.56**	**5**	*e*Pg	**Pg**	**12 59 23.5**	**-0.2**
BOZC				*e*Sg	**Sg**	**12 59 31.8**	**+0.7**
EZN	**Ezine**	**0.60**	**25

LPK	**Lapseki**	**1.24**	**28**	*e*Pn		**Pn**	**12 59 35.4**	**-0.7**
SMTH	**Samothraki Isl**	**1.24**	**343**	P		**Pn**	**12 59 35.7**	**-0.4**
SMTH				S		**Sg**	**12 59 53.0**	**+0.2**
SMTH				AML	AML		12 59 54.0	
	comp=E,133μm,0.4s							
SMTH				AML	AML		12 59 54.8	
	comp=N,99μm,0.3s							
SMTH	**Samothraki Isl**	**1.24**	**343**	P		**Pn**	**12 59 35.6**	**-0.5**
SMTH				S		**Sg**	**12 59 52.9**	**+0.2**
SMTH	**Samothraki Isl**	**1.24**	**343**	P		**Pn**	**12 59 35.9**	**-0.2**
SMTH				S		**Sg**	**12 59 52.9**	**+0.2**
BALY	**Balya**	**1.34**	**70**	*i* P		**Pn**	**12 59 36.5**	**-1.0**
BALY				*i* S		**Sb**	**12 59 55.4**	**+0.2**
STEP	**BALIKESIR_Sava**	**1.34**	**85**	*i* P		**Pb**	**12 59 38.2**	**+0.2**
STEP				*i* S		**Sg**	**12 59 56.3**	**+0.3**
ERIK	**Erikli-Kesan**	**1.44**	**16**	PN		**Pn**	**12 59 39.3**	**+0.4**
ERIK	**Erikli-Kesan**	**1.44**	**16**	*e*Pn		**Pn**	**12 59 39.3**	**+0.4**
ENEZ	**Enez**	**1.46**	**5**	PN		**Pb**	**12 59 39.8**	**-0.1**
ENEZ	**Enez**	**1.46**	**5**	*e*Pn		**Pb**	**12 59 39.8**	**-0.1**
KRBG	**Karabiga-Canak**	**1.50**	**42**	PN		**Pn**	**12 59 39.7**	**+0.1**
KRBG	**Karabiga-Canak**	**1.50**	**42**	*e*Pn		**Pn**	**12 59 39.7**	**+0.1**
BALB	**Balikesir**	**1.50**	**76**	PN		**Pb**	**12 59 40.7**	**0.0**
BALB	**Balikesir**	**1.50**	**76**	*e*Pn		**Pb**	**12 59 40.7**	**0.0**
ALN	**Alexandroupoli**	**1.61**	**1**	PN		**Pn**	**12 59 41.8**	**+0.6**
ALN	**Alexandroupoli**	**1.61**	**1**	P		**Pb**	**12 59 42.6**	**0.0**
ALN				AML	AML		13 00 05.1	
	comp=E,35μm,0.7s							
ALN				AML	AML		13 00 06.3	
	comp=N,44μm,0.5s							
ALN	**Alexandroupoli**	**1.61**	**1**	P		**Pn**	**12 59 41.0**	**-0.2**
ALN				S		**Sb**	**13 00 02.9**	**-0.1**
ALN	**Alexandroupoli**	**1.61**	**1**	*e*Pn		**Pn**	**12 59 41.8**	**+0.6**
ALN	**Alexandroupoli**	**1.61**	**1**	P		**Pb**	**12 59 42.8**	**+0.2**
ALN				S		**Sb**	**13 00 02.9**	**-0.1**
RKY	**Sarkoy-Tekirda**	**1.67**	**33**	PN		**Pn**	**12 59 42.9**	**+0.8**
RKY	**Sarkoy-Tekirda**	**1.67**	**33**	*e*Pn		**Pn**	**12 59 42.9**	**+0.8**
SMG	**Samos**	**1.71**	**157**	P		**Pn**	**12 59 43.2**	**+0.7**
SMG	**Samos**	**1.71**	**157**	P		**Pb**	**12 59 44.0**	**-0.2**
KARY	**Karystos**	**1.75**	**225**	P		**Pn**	**12 59 43.8**	**+0.7**
EDC	**Edincik**	**1.79**	**53**	PN		**Pn**	**12 59 43.7**	**0.0**
EDC	**Edincik**	**1.79**	**53**	*e*Pn		**Pn**	**12 59 43.7**	**0.0**
SBT3	**Marmara-Eregli**	**2.21**	**43**	PN		**Pn**	**12 59 50.1**	**+0.9**
SBT3	**Marmara-Eregli**	**2.21**	**43**	*e*Pn		**Pn**	**12 59 50.1**	**+0.9**
SERI	**Serifos**	**2.43**	**210**	P		**Pb**	**12 59 55.2**	**-1.4**

WEL 23 13:22:35.3±1.1, 45°S±4°×16°7E±°, h5km, ML3.6/6, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.39**	**130**	P	Pb	13 22 44.6	-0.1
DCZ	**Deep Cove**	**0.39**	**130**	S	Sb	13 22 50.3	-0.7
PYZ	**Puysegur Point**	**0.95**	**182**	P	Pg	13 22 53.7	+0.1
PYZ	**Puysegur Point**	**0.95**	**182**	S	Sg	13 23 06.1	+0.1
MLZ	**Mavora Lakes**	**0.99**	**99**	P	Pg	13 22 54.1	-0.2
MLZ	**Mavora Lakes**	**0.99**	**99**	S	Sg	13 23 06.9	-0.3
MSZ	**Milford Sound**	**1.01**	**58**	P	Pg	13 22 53.7	-0.9
MSZ	**Milford Sound**	**1.01**	**58**	S	Sg	13 23 05.7	-1.9
WHZ	**Wether Hill Ro**	**1.09**	**129**	P	Pg	13 22 56.1	-0.2
WHZ	**Wether Hill Ro**	**1.09**	**129**	S	Sg	13 23 10.6	+0.2
WKZ	**Wanaka**	**1.67**	**77**	P	Pn	13 23 05.5	+0.3
WKZ	**Wanaka**	**1.67**	**77**	S	Sg	13 23 29.0	+0.2
EAZ	**Earnscleugh**	**1.82**	**91**	P	Pn	13 23 07.5	+0.2
EAZ	**Earnscleugh**	**1.82**	**91**	S	Sn	13 23 31.3	+0.6
JCZ	**Jackson Bay**	**1.86**	**53**	S	Sb	13 23 33.8	+0.4
SYZ	**Scrubby Hill**	**2.14**	**129**	S	Sn	13 23 38.6	0.0
SYZ	**Scrubby Hill**	**2.14**	**129**	P	Pn	13 23 11.8	+0.2
TUZ	**Tuapeka**	**2.17**	**111**	P	Pn	13 23 11.7	-0.3
LBZ	**Lake Benmore**	**2.59**	**73**	P	Pn	13 23 17.5	-0.4
ODZ	**Otahua Downs**	**2.77**	**88**	P	Pn	13 23 19.5	-0.9
FOZ	**Fox Glacier**	**2.78**	**54**	P	Pn	13 23 18.0	-2.4
HHSZ	**Highcliff Hill**	**2.80**	**105**	P	Pn	13 23 20.5	-0.2
RPZ	**Rata Peaks**	**3.44**	**66**	P	Pn	13 23 28.0	-1.5
WVZ	**Waitaha Valley**	**3.59**	**55**	P	Pn	13 23 28.8	-2.8
INZ	**Inchbonnie**	**4.21**	**55**	P	Pn	13 23 37.8	-2.4
MQZ	**McQueen's Vall**	**4.50**	**73**	P	Pn	13 23 42.5	-1.6
AKCZ	**Akaroa Harbour**	**4.62**	**75**	P	Pn	13 23 43.9	-1.8
LTZ	**Lake Taylor**	**4.68**	**61**	P	Pn	13 23 47.2	+0.6
OKCZ	**Okains Bay**	**4.77**	**74**	P	Pn	13 23 46.6	-1.2
DSZ	**Denniston Nort**	**5.06**	**49**	P	Pn	13 23 49.4	-2.5
THZ	**Tophouse**	**5.66**	**55**	P	Pn	13 23 59.6	-0.6
QRZ	**Quartz Range**	**6.11**	**46**	P	Pn	13 24 03.3	-2.9
DUWZ	**D'Urville Isla**	**6.87**	**53**	P	Pn	13 24 17.3	+0.6

GUC 23 13:24:45.7±0.6, 20°75S×68°93W, h108km±3km, ML3.5, 9C-1D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB01	**IPOC Station P**	**0.60**	**241**	⇑*i* P	Pn	13 25 03.3	+0.1
PB01				*i* S	Sn	13 25 16.9	+0.7
PB01				IAML		13 25 18.1	
	comp=E,3μm,0.2s						
PB08	**IPOC Station P**	**0.64**	**341**	⇓*i* P	Pn	13 25 04.4	+0.5
PB08				*i* S	Sn	13 25 18.4	+0.9
PB08				IAML		13 25 18.6	
	comp=N,1μm,0.2s						
PB02	**IPOC Station P**	**1.07**	**238**	⇑*i* P	Pn	13 25 08.2	+0.6
PB02				*i* S	Sn	13 25 24.9	+0.8
PB02				IAML		13 25 25.9	
	comp=E,983nm,0.4s						
PB09	**IPOC Station P**	**1.08**	**196**	⇑*i* P	Pn	13 25 08.4	+0.6
PB09				*i* S	Sn	13 25 25.8	+1.3
PB09				IAML		13 25 28.9	
	comp=E,861nm,1.0s						
PB11	**IPOC Station P**	**1.20**	**325**	⇑*i* P	Pn	13 25 09.7	+0.6
PB11				*i* S	Sn	13 25 28.1	+1.3
PB07	**IPOC Station P**	**1.32**	**222**	⇑*i* P	Pn	13 25 11.0	+0.6
PB07				*i* S	Sn	13 25 30.3	+1.1
PB07				IAML		13 25 31.5	
	comp=E,1μm,0.3s						
PSGC	**Pisagua**	**1.61**	**315**	⇑*i* P	Pn	13 25 14.3	+0.5
PSGC				*i* S	Sn	13 25 36.1	+1.0
MNMC	**Minye Minye**	**1.73**	**339**	⇑*i* P	Pn	13 25 16.9	+1.4
MNMC				*e*S	Sn	13 25 39.8	+1.6
MNMC				IAML		13 25 44.5	
	comp=E,699nm,0.6s						
PB04	**IPOC Station P**	**1.94**	**216**	*e*P	Pn	13 25 18.9	+0.9
PB04				*i* S	Sn	13 25 44.1	+1.3
PB04				IAML		13 25 51.7	
	comp=E,261nm,0.5s						
PB06	**IPOC Station P**	**2.04**	**197**	⇑*i* P	Pn	13 25 19.9	+0.7
PB06				*i* S	Sn	13 25 45.9	+1.1
PB06				IAML		13 25 51.0	
	comp=E,138nm,0.4s						
PB12	**IPOC Station P**	**2.50**	**328**	⇑*i* P	Pn	13 25 25.2	0.0
PB12				*i* S	Sn	13 25 55.5	0.0
PB12				IAML		13 26 06.5	
	comp=N,686nm,0.3s						

*NEIC **23** 13:42:24.2±0.0, 15°.31N×94°.41W, h16km, MD4.2(MEX), After MEX.*

MEX 23 13:42:24.2±0.8, 15°.31N×94°.41W, h16km±21km, MD4.2, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.22**	**71**	*e*P	Pn	13 42 42.8	-3.8
PCIG				*e*S	Sb	13 42 56.2	-6.0
PCIG		**1.22**	**71**	*e*P	Pn	13 42 42.8	-3.8
PCIG				*e*S	Sb	13 42 56.2	-6.0
HUIG	**Huatulco**	**1.70**	**286**	*e*P	Pn	13 42 49.5	-3.7
HUIG	**Huatulco**	**1.70**	**286**	*e*P	Pn	13 42 49.5	-3.7
TGIG		**1.92**	**40**	*i* P	Pn	13 42 53.4	-2.9
TGIG		**1.92**	**40**	*i* P	Pn	13 42 53.4	-2.9
CCIG	**Comitan**	**2.39**	**66**	*e*P	Pn	13 43 01.5	-1.4
CCIG	**Comitan**	**2.39**	**66**	*e*P	Pn	13 43 01.5	-1.4

*IDC **23** 13:50:17.5±1.3, 2°.72S×129°.48E, h0km, mb3.7/3, mb1 3.8/5, mb1mx3.4/54, mbtmp3.6/5, ML3.2/2, Error ellipse: s-maj=42.9km s-min=23.6km az=78.0*

*DJA **23** 13:50:24.4±1.0, 3°.5S±9°×13°.1E±°, h141km±12km, M3.5/6, MLv3.5/6*

*ISCJB **23** 13:50:25.3±0.7, 2°.97S±0°.06×130°.61E±0°.05, h25km, mb3.5/2, Error ellipse: s-maj=9.4km s-min=6.7km az=150.3*

ISC 23 13:50:26.6±1.0, 2°.94S±0°.07×130°.65E±0°.04, h25km, n12, σ1§56/14, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**1.60**	**89**	P	Pn	**13 50 53.8**	**+0.5**
FAKI				S	Sb	**13 51 16.4**	**+1.2**
BNDI	**Bandanaira**	**1.74**	**205**	P	Pb	**13 50 58.8**	**+0.9**
MSAI	**Masohi**	**1.77**	**257**	P	Pn	**13 50 55.7**	**+0.1**
MSAI				S	Sb	**13 51 23.2**	**+3.1**
SIJI	**Sorong**	**2.15**	**17**	Pn	Pn	**13 51 00.6**	**-0.3**
	1.5nm,0.3s,baz=139,slow=19,SNR=8.5						
SIJI				Sn	Sn	**13 51 26.2**	**-0.5**
	3.9nm,0.3s,baz=278,slow=23,SNR=4.5						
AAI	**Ambon**	**2.56**	**253**	P	Pn	**13 51 06.9**	**+0.3**
AAI				S	Sn	**13 51 33.6**	**-3.4**
NLAI	**Namlea**	**3.56**	**265**	P	Pn	**13 51 20.9**	**+0.6**
LBMI	**Labuha**	**3.89**	**306**	P	Pn	**13 51 25.5**	**+0.6**
SANI	**Sanana**	**4.74**	**281**	P	Pn	**13 51 35.9**	**-0.7**
WRA	**Warramunga Arr**	**17.28**	**168**	P	Pn	**13 54 25.7**	**-0.7**
	0.1nm,0.3s,baz=348,slow=12,SNR=8.8						
ASAR	**Alice Springs**	**20.84**	**172**	P	**P**	**13 55 05.6**	**-1.2**
	3.6nm,0.6s,baz=352,slow=11,SNR=70						
MKAR	**Makanchi Array**	**65.23**	**326**	P	P	14 00 55.0	-11
	0.3nm,0.5s,baz=126,slow=8.5,SNR=3.6						
KURBB	**Kurchatov Arra**	**69.43**	**328**	P	P	14 01 23.2	-9.3
	0.3nm,0.4s,baz=126,slow=5.0,SNR=4.9						

IDC 23 13:50:50.9±1.5, 3°.18S×130°.01E, h0km, mb3.7/4, mb1 4.0/5, mb1mx3.6/53, mbtmp3.8/5, ML3.6/1, Error ellipse: s-maj=104.4km s-min=23.6km az=73.0, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.19**	**166**	P	Pn	13 54 52.5	-0.2
	0.2nm,0.3s,baz=346,slow=12,SNR=9.2						
ASAR	**Alice Springs**	**20.71**	**170**	P	P	13 55 32.8	-0.2
	8.7nm,0.6s,baz=351,slow=11,SNR=27						
SONM	**Songino Array**	**54.85**	**341**	P	P	14 00 23.7	+0.6
	0.2nm,0.4s,baz=132,slow=6.4,SNR=2.9						
MKAR	**Makanchi Array**	**65.07**	**326**	P	P	14 01 33.2	-0.1
	0.3nm,0.5s,baz=114,slow=8.1,SNR=4.7						
KURBB	**Kurchatov Arra**	**69.29**	**328**	P	P	14 01 59.6	-0.3
	0.3nm,0.3s,baz=127,slow=6.4,SNR=3.0						

*ISCJB **23** 13:54:08.9±1.2, 32°.34S±0°.05×70°.11W±0°.09, h107km±11km, Error ellipse: s-maj=12.9km s-min=5.7km az=25.1*

*GUC **23** 13:54:08.6±0.5, 32°.36S×70°.26W, h118km±7km, ML2.8*

*SJA **23** 13:54:09.3±0.5, 32°.32S×70°.03W, h98km±4km, ML2.3, MW2.9*

ISC 23 13:54:09.8±1.9, 32°.33S±0°.06×70°.12W±0°.08, h98km±18km, n11, σ0§64/19, 1D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AUSP	**Uspallata**	**0.63**	**80**	*e*P	Pn	**13 54 26.5**	**-0.3**
AUSP				*e*S	Sn	**13 54 39.4**	**0.0**
RTLS	**Leoncito**	**0.88**	**53**	*e*P	Pn	**13 54 29.0**	**-0.2**
RTLS				*e*S	Sn	**13 54 44.1**	**+0.5**
RTLS				IAML		13 54 44.7	
	comp=Z,64nm,0.2s						
PEL	**Peldehue**	**0.94**	**210**	⇓*i* P	Pn	**13 54 28.9**	**-0.7**
PEL				*i* S	Sn	**13 54 44.3**	**0.0**
FCH	**Farellones**	**1.00**	**188**	*e*P	Pn	**13 54 30.5**	**0.0**
FCH				*i* S	Sn	**13 54 47.4**	**+1.3**
FCH				IAML		13 54 51.0	
	comp=E,140nm,0.4s						
ANTU	**Antumapu**	**1.31**	**199**	*e*S	Sn	**13 54 51.6**	**-0.1**
ANTU				IAML		13 54 52.6	
	comp=E,323nm,0.2s						
RTCV	**Cerro Valdivia**	**1.42**	**71**	*e*P	Pn	**13 54 34.8**	**-0.3**
LMEL	**Las Melosas**	**1.51**	**183**	*e*P	Pn	**13 54 36.3**	**-0.1**
LMEL				IAML		13 55 03.1	
	comp=N,92nm,0.1s						
AMOG	**MOGNA**	**1.96**	**45**	*e*P	Pn	**13 54 41.8**	**-0.1**
AMOG				*e*S	Sn	**13 55 05.5**	**-0.9**
AROD	**Rodeo**	**2.23**	**15**	*e*P	Pn	**13 54 46.5**	**+0.8**
AROD				*e*S	Sn	**13 55 13.9**	**+1.0**
GO04	**Tololo Observa**	**2.23**	**345**	*e*P	Pn	**13 54 44.9**	**-0.7**
GO04				*i* S	Sn	**13 55 13.0**	**+0.1**
GO04				IAML		13 55 16.5	
	comp=N,119nm,0.5s						
AGUA	**GUANDACOL**	**3.16**	**27**	*e*P	Pn	**13 54 58.1**	**+0.2**
AGUA				*e*S	Sn	**13 55 34.2**	**-0.6**

*CSEM **23** 13:57:08.9±0.1, 39°.29N×25°.98E, h10km, ML3.0, Error ellipse: s-maj=1.9km s-min=1.6km az=91.0*

*ISK **23** 13:57:08.4, 39°.29N×25°.99E, h12km, ML3.0/11*

*ATH **23** 13:57:08.4, 39°.30N×25°.99E, h22km±1km, ML2.8/8, Error ellipse: s-maj=1.9km s-min=1.0km az=137.0*

*ISCJB **23** 13:57:08.8±0.3, 39°.29N±0°.02×25°.98E±0°.02, h7km±3km, Error ellipse: s-maj=3.4km s-min=2.7km az=29.4*

*DDA **23** 13:57:09.8, 39°.36N×26°.06E, h7km, Ml3.1*

*THE **23** 13:57:09.1, 39°.30N×25°.98E, h0km±1km, ML2.6/6, Error ellipse: s-maj=1.1km s-min=0.4km az=177.0*

ISC 23 13:57:09.0±0.8, 39°29N±0°.01×25°.98E±0°.02, h13km±5km, n77, σ0§45/121, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIGR	**SIGRI**	**0.13**	**229**	PG	**Pg**	**13 57 12.2**	**0.0**
SIGR				SG	**Sg**	**13 57 14.5**	**0.0**
SIGR	**SIGRI**	**0.13**	**229**	P	**Pg**	**13 57 11.4**	**-0.8**
SIGR				AML	AML	13 57 14.4	
	comp=E,16976μm,0.3s						
SIGR				AML	AML	13 57 14.5	
	comp=N,16012μm,0.2s						
SIGR	**SIGRI**	**0.13**	**229**	P	**Pg**	**13 57 12.2**	**0.0**
SIGR				S	**Sg**	**13 57 14.2**	**-0.3**
SIGR	**SIGRI**	**0.13**	**229**	P	**Pg**	**13 57 12.2**	**0.0**
SIGR				S	**Sg**	**13 57 14.2**	**-0.3**
GPNR	**Gulpinar-Canak**	**0.20**	**37**	PG	**Pg**	**13 57 13.3**	**-0.1**
GPNR				SG	**Sg**	**13 57 17.1**	**+0.6**
GPNR	**Gulpinar-Canak**	**0.20**	**37**	*e*Pg	**Pg**	**13 57 13.3**	**-0.1**
GPNR				*e*Sg	**Sg**	**13 57 17.1**	**+0.6**
PRK	**Paraskevi**	**0.23**	**102**	P	**Pg**	**13 57 13.9**	**0.0**
PRK				S	**Sg**	**13 57 17.1**	**-0.2**
PRK				AML	AML	13 57 17.8	
	comp=E,11899μm,0.3s						
PRK				AML	AML	13 57 18.2	
	comp=N,4908μm,0.4s						
PRK	**Paraskevi**	**0.23**	**102**	P	**Pg**	**13 57 13.9**	**0.0**
PRK				S	**Sg**	**13 57 17.5**	**+0.2**
PRK	**Paraskevi**	**0.23**	**102**	P	**Pg**	**13 57 13.9**	**0.0**
PRK				S	**Sg**	**13 57 17.6**	**+0.2**
BOZC	**Bozcaada**	**0.55**	**6**	PG	**Pg**	**13 57 19.6**	**-0.2**
BOZC				SG	**Sb**	**13 57 28.4**	**+0.1**
BOZC	**Bozcaada**	**0.55**	**6**	*i* P	**Pg**	**13 57 19.9**	**+0.2**
BOZC				*i* S	**Sb**	**13 57 27.9**	**-0.5**
BOZC	**Bozcaada**	**0.55**	**6**	*e*Pg	**Pg**	**13 57 19.6**	**-0.2**
BOZC				*e*Sg	**Sb**	**13 57 28.4**	**+0.1**
AYVA	**Ayvalik**	**0.55**	**88**	*i* P	**Pg**	**13 57 19.7**	**-0.1**
AYVA				*i* S	**Sb**	**13 57 27.6**	**-0.8**
AYVA	**Ayvalik**	**0.55**	**88**	P	**Pg**	**13 57 19.7**	**-0.1**
AYVA				S	**Sb**	**13 57 27.6**	**-0.8**
EZN	**Ezine**	**0.59**	**27**	PG	**Pg**	**13 57 20.3**	**-0.3**
EZN				SG	**Sb**	**13 57 29.1**	**-0.5**
EZN	**Ezine**	**0.59**	**27**	P	**Pg**	**13 57 20.5**	**-0.1**
EZN				S	**Sb**	**13 57 29.5**	**-0.1**
EZN	**Ezine**	**0.59**	**27**	P	**Pg**	**13 57 20.5**	**-0.1**
EZN				*e*Sg	**Sb**	**13 57 29.1**	**-0.5**
BAYC	**CANAKKALE_Bayr**	**0.63**	**44**	*i* P	**Pg**	**13 57 20.7**	**-0.5**
BAYC				*i* S	**Sg**	**13 57 29.3**	**-0.2**
BAYC	**CANAKKALE_Bayr**	**0.63**	**44**	P	**Pg**	**13 57 20.7**	**-0.5**
BAYC				S	**Sg**	**13 57 29.3**	**-0.2**
DKL	**Dikili**	**0.76**	**107**	PG	**Pg**	**13 57 23.4**	**-0.2**
DKL	**Dikili**	**0.76**	**107**	*e*Pg	**Pg**	**13 57 23.4**	**-0.2**
EFSA	**Agios Efstrati**	**0.80**	**288**	P	**Pg**	**13 57 24.2**	**-0.3**
EFSA	**Agios Efstrati**	**0.80**	**288**	P	**Pg**	**13 57 24.2**	**-0.3**
PSRA	**Psara**	**0.82**	**203**	P	**Pb**	**13 57 25.1**	**0.0**
PSRA				S	**Sb**	**13 57 36.6**	**+0.7**
PSRA				AML	AML	13 57 40.0	
	comp=E,3425μm,0.3s						
PSRA				AML	AML	13 57 41.8	
	comp=N,3270μm,0.2s						
PSRA	**Psara**	**0.82**	**203**	P	**Pg**	**13 57 24.7**	**-0.1**
PSRA				S	**Sb**	**13 57 36.4**	**+0.4**
FOCM	**Fo^§a**	**0.83**	**134**	PG	**Pg**	**13 57 24.8**	**-0.1**
FOCM	**Fo^§a**	**0.83**	**134**	*e*Pg	**Pg**	**13 57 24.8**	**-0.1**

KRBN	**Karaburun**	**0.83**	**147**	PG		**Pg**	**13 57 24.0**	**-1.1**
KRBN	**Karaburun**	**0.83**	**147**	*e*Pg		**Pg**	**13 57 24.0**	**-1.1**
LIA	**Limnos Island**	**0.86**	**315**	P		**Pn**	**13 57 26.8**	**0.0**
LIA				S		**Sb**	**13 57 37.5**	**+0.3**
LIA				AML	AML		13 57 40.9	
	comp=E,386μm,0.3s							
LIA				AML	AML		13 57 41.1	
	comp=N,459μm,0.3s							
LIA	**Limnos Island**	**0.86**	**315**	P		**Pg**	**13 57 25.7**	**+0.1**
LIA				S		**Sn**	**13 57 38.7**	**-0.6**
LIA	**Limnos Island**	**0.86**	**315**	P		**Pg**	**13 57 25.7**	**+0.1**
LIA				S		**Sb**	**13 57 37.5**	**+0.3**
GADA	**Gvkgeada**	**0.90**	**356**	PG		**Pg**	**13 57 25.8**	**-0.5**
GADA	**Gvkgeada**	**0.90**	**356**	*e*Pg		**Pg**	**13 57 25.8**	**-0.5**
CHOS	**Chios island**	**0.91**	**176**	PG		**Pb**	**13 57 26.8**	**+0.2**
CHOS	**Chios island**	**0.91**	**176**	P		**Pb**	**13 57 26.9**	**+0.2**
CHOS				S		**Sb**	**13 57 39.3**	**+0.6**
CHOS				AML	AML		13 57 41.2	
	comp=N,1108μm,0.2s							
CHOS				AML	AML		13 57 42.0	
	comp=E,1864μm,0.2s							
CHOS	**Chios island**	**0.91**	**176**	P		**Pg**	**13 57 26.4**	**-0.1**
CHOS				S		**Sn**	**13 57 40.1**	**-0.5**
CHOS	**Chios island**	**0.91**	**176**	P		**Pg**	**13 57 26.4**	**-0.1**
CHOS	**Chios island**	**0.91**	**176**	*e*Pg		**Pb**	**13 57 26.8**	**+0.2**
CHOS				S		**Sb**	**13 57 39.0**	**+0.3**
CESE	**ˆe¯me**	**0.99**	**165**	PG		**Pb**	**13 57 28.2**	**+0.1**
CESE	**ˆe¯me**	**0.99**	**165**	*e*Pg		**Pb**	**13 57 28.2**	**+0.1**
URLA	**Izmir**	**1.05**	**152**	PG		**Pg**	**13 57 28.0**	**-1.2**
URLA	**Izmir**	**1.05**	**152**	*e*Pg		**Pg**	**13 57 28.0**	**-1.2**
GELI	**Tayfur-Gelibol**	**1.17**	**19**	PN		**Pb**	**13 57 30.9**	**-0.1**
GELI	**Tayfur-Gelibol**	**1.17**	**19**	*e*Pn		**Pb**	**13 57 30.9**	**-0.1**
SKY	**Skiros Island**	**1.19**	**250**	P		**Pb**	**13 57 30.9**	**-0.5**
SKY				S		**Sg**	**13 57 47.2**	**0.0**
SKY				AML	AML		13 57 50.4	
	comp=N,881μm,0.2s							
SKY				AML	AML		13 57 51.2	
	comp=E,779μm,0.2s							
SKY	**Skiros Island**	**1.19**	**250**	P		**Pb**	**13 57 31.0**	**-0.3**
SKY				S		**Sg**	**13 57 47.5**	**+0.3**
SMTH	**Samothraki Isl**	**1.22**	**344**	P		**Pb**	**13 57 32.2**	**+0.1**
SMTH				S		**Sb**	**13 57 47.8**	**0.0**
SMTH				AML	AML		13 57 50.3	
	comp=E,454μm,0.4s							
SMTH				AML	AML		13 57 50.6	
	comp=N,342μm,0.3s							
SMTH	**Samothraki Isl**	**1.22**	**344**	P		**Pn**	**13 57 31.9**	**0.0**
SMTH				S		**Sn**	**13 57 49.2**	**+0.9**
SMTH	**Samothraki Isl**	**1.22**	**344**	P		**Pn**	**13 57 31.9**	**0.0**
SMTH				S		**Sg**	**13 57 48.2**	**-0.3**
BLCB	**Balcova**	**1.23**	**137**	PN		**Pn**	**13 57 32.1**	**+0.2**
BLCB	**Balcova**	**1.23**	**137**	*e*Pn		**Pn**	**13 57 32.1**	**+0.2**
BALY	**Balya**	**1.35**	**70**	*i* P		**Pn**	**13 57 32.8**	**-0.8**
BALY				*i* S		**Sb**	**13 57 51.0**	**-0.3**
BALY	**Balya**	**1.35**	**70**	P		**Pn**	**13 57 32.8**	**-0.8**
BALY				S		**Sb**	**13 57 51.0**	**-0.3**
STEP	**BALIKESIR_Sava**	**1.35**	**86**	*i* P		**Pg**	**13 57 35.5**	**+0.5**
STEP				*i* S		**Sg**	**13 57 52.8**	**+0.2**
STEP	**BALIKESIR_Sava**	**1.35**	**86**	P		**Pg**	**13 57 35.5**	**+0.5**
STEP				S		**Sg**	**13 57 52.8**	**+0.2**
ALN	**Alexandroupoli**	**1.60**	**2**	P		**Pn**	**13 57 37.4**	**+0.3**
ALN				S		**Sn**	**13 57 57.5**	**0.0**
ALN				AML	AML		13 58 01.4	
	comp=E,140μm,0.7s							
ALN				AML	AML		13 58 02.6	
	comp=N,144μm,0.4s							
ALN	**Alexandroupoli**	**1.60**	**2**	P		**Pn**	**13 57 37.3**	**+0.3**
ALN				S		**Sg**	**13 57 59.8**	**-0.7**
ALN	**Alexandroupoli**	**1.60**	**2**	P		**Pn**	**13 57 37.4**	**+0.3**
ALN				S		**Sn**	**13 57 58.1**	**+0.5**
KESN	**Edirne-Kesan**	**1.62**	**19**	*i* P		**Pn**	**13 57 38.3**	**+0.7**
KESN				*i* S		**Sb**	**13 57 59.6**	**+0.1**
KESN	**Edirne-Kesan**	**1.62**	**19**	P		**Pn**	**13 57 38.3**	**+0.7**
KESN				S		**Sb**	**13 57 59.6**	**+0.1**
SART	**Tekirdag**	**1.67**	**33**	*i* P		**Pn**	**13 57 38.4**	**+0.4**
SART				*i* S		**Sb**	**13 58 01.0**	**+0.3**
SART	**Tekirdag**	**1.67**	**33**	P		**Pn**	**13 57 38.4**	**+0.4**
SART				S		**Sb**	**13 58 01.0**	**+0.3**
OUR	**Ouranopolis**	**1.85**	**305**	P		**Pn**	**13 57 41.1**	**+0.6**
OUR	**Ouranopolis**	**1.85

AAK					Sn		**Sn**	**14 03 23.3 -1.2**
	comp=N,0.8nm,0.3s,baz=286,slow=19,SNR=2.3							
AAK					Lg		Lg	14 03 59.6
	comp=N,0.2nm,0.3s,baz=288,slow=19,SNR=2.4							
AAK	**Ala-Archa**	**6.70**	**33**	⇑	Pn		**Pn**	**14 02 09.3 +1.3**
	comp=N,13nm,0.7s							
AAK					⇑Sn		**Sn**	**14 03 24.8 +0.2**
	comp=N,11nm,0.7s							
AAK					⇑Lg		Lg	14 03 58.6
	comp=N,18nm,1.0s							
AAK	**Ala-Archa**	**6.70**	**33**		P		**Pn**	**14 02 10.0 +2.0**
	SNR=24							
AAK	**Ala-Archa**	**6.70**	**33**		*e*Pn		**Pn**	**14 02 09.1 +1.1**
AAK					Sn		**Sn**	**14 03 23.3 -1.2**
AAK					Lg		Lg	14 03 59.6
AAK	**Ala-Archa**	**6.70**	**33**		*e*PN		**Pn**	**14 02 09.1 +1.1**
FRU	**Bishkek**	**6.91**	**33**		*e*PN		**Pn**	**14 02 12.0 +1.2**
KBK	**Karagaybulak**	**6.92**	**35**		P		**Pn**	**14 02 13.0 +2.0**
	SNR=6.7							
CHMS	**Chumysh**	**7.10**	**32**		P		**Pn**	**14 02 15.1 +1.6**
	SNR=32							
USP	**Ospenovka**	**7.22**	**30**		P		**Pn**	**14 02 16.1 +1.1**
	SNR=5.7							
ULHL	**Ulahol**	**7.27**	**43**		P		**Pn**	**14 02 16.3 +0.4**
	SNR=9.8							
TKM2	**Tokmak 2**	**7.43**	**37**	⇑	Pn		**Pn**	**14 02 18.7 +0.7**
	comp=N,9.8nm,0.6s							
TKM2				⇑	Sn		**Sn**	**14 03 42.6 +0.2**
	comp=N,5.9nm,0.8s							
TKM2				⇓	Lg		Lg	14 04 20.9
	comp=N,5.5nm,0.7s							
TKM2	**Tokmak 2**	**7.43**	**37**		P		**Pn**	**14 02 19.2 +1.2**
	SNR=30							
TKM2	**Tokmak 2**	**7.43**	**37**		P		**Pn**	**14 02 18.7 +0.7**
TKM2					S		**Sn**	**14 03 42.6 +0.2**
TKM2					pmax		pmax	
	comp=Z,10.0nm,0.6s							
TKM2					smax		smax	
	comp=N,6.0nm,0.8s							
KDJ	**Kajisay**	**7.73**	**47**		*e*Pn		**Pn**	**14 02 21.9 -0.3**
TARG	**Taragay, Kyrgy**	**7.87**	**52**		*e*Pn		**Pn**	**14 02 22.8 -1.6**
GEYT	**Alibeck**	**9.14**	**279**		Pn		**Pn**	**14 02 42.6 +1.2**
	comp=N,0.4nm,0.3s,baz=76,slow=12,SNR=3.0							
GEYT					Sn		**Sn**	**14 04 24.9 +0.6**
	comp=N,0.5nm,0.3s,baz=107,slow=25,SNR=2.8							
GYA0B	**ALIBECK ARRAY**	**9.14**	**279**		*e*Pn		**Pn**	**14 02 40.8 -0.6**
MAKZ	**Makanchi**	**13.37**	**40**		*e*Pn		**Pn**	**14 03 37.9 -1.4**
MAKZ	**Makanchi**	**13.37**	**40**		*e*P		**Pn**	**14 03 37.9 -1.4**
MK01	**Makanchi Array**	**13.52**	**40**		*e*Pn		**Pn**	**14 03 39.6 -1.6**
MK31	**Makanchi Array**	**13.53**	**40**		*e*Pn		**Pn**	**14 03 39.8 -1.5**
MK31	**Makanchi Array**	**13.53**	**40**		*e*P		**Pn**	**14 03 39.8 -1.5**
MKAR	**Makanchi Array**	**13.53**	**40**		Pn		**Pn**	**14 03 40.5 -0.8**
	comp=N,0.1nm,0.3s,baz=224,slow=15,SNR=16							
MKAR	**Makanchi Array**	**13.53**	**40**		*e*Pn		**Pn**	**14 03 39.7 -1.6**
MKAR	**Makanchi Array**	**13.53**	**40**		*e*P		**Pn**	**14 03 39.7 -1.6**
ABKAR	**Akbulak array**	**14.02**	**333**		*e*Pn		**Pn**	**14 03 46.6 -1.4**
KURBB	**Kurchatov Arra**	**14.96**	**23**		Pn		**Pn**	**14 03 57.2 -3.7**
	comp=N,0.1nm,0.3s,baz=208,slow=11,SNR=3.1							
KURK	**Kurchatov**	**15.07**	**23**		Pn		Pn	14 03 57.2 -5.1
KURK	**Kurchatov**	**15.07**	**23**		P		Pn	14 03 57.2 -5.2
WMQ	**Urumqi**	**15.33**	**58**		P		**Pn**	**14 04 07.8 +2.0**
WMQ					pP		sP	14 04 17.3 +2.5
WMQ					pmax		pmax	
	comp=Z,13nm,0.7s							
AKTO	**Aktyubinsk**	**15.70**	**332**		Pn		**Pn**	**14 04 12.1 +1.5**
	comp=Z,0.4nm,0.3s,baz=148,slow=10,SNR=28							
BVAR	**Borovoye Array**	**15.93**	**2**		Pn		**Pn**	**14 04 11.5 -2.1**
	comp=Z,0.4nm,0.3s,baz=165,slow=13,SNR=8.4							
BRVK	**Borovoye**	**15.96**	**2**		*e*Pn		**Pn**	**14 04 12.4 -1.6**
	comp=Z,4.7nm,0.8s							
BRVK	**Borovoye**	**15.96**	**2**		*e*P		**Pn**	**14 04 12.4 -1.6**
BRVK					pmax		pmax	
	comp=Z,5.0nm,0.8s							
LSA	**Lhasa**	**19.45**	**106**		*e*P		**P**	**14 04 56.5 -0.1**
	comp=Z,5.2nm,0.4s							
LSA	**Lhasa**	**19.45**	**106**		*e*P		**P**	**14 04 56.5 -0.1**
LSA					pmax		pmax	
	comp=Z,5.0nm,0.4s							
ZAA0	**Zalesovo Array**	**19.88**	**27**		*e*P		**P**	**14 04 58.3 -2.3**
	comp=Z,4.6nm,0.7s							
ZALV	**Zalesovo Beam**	**19.88**	**27**		P		**P**	**14 04 58.9 -1.8**
	comp=Z,5.9nm,0.6s,baz=215,slow=10,SNR=17							
ZALV	**Zalesovo Beam**	**19.88**	**27**		*e*P		**P**	**14 04 58.1 -2.5**
ARU	**Arti**	**20.70**	**343**		P		**P**	**14 05 11.1 +1.5**
	comp=Z,1.1nm,0.4s,baz=147,slow=7.9,SNR=2.9							
ARU	**Arti**	**20.70**	**343**		*i* P		**P**	**14 05 11.1 +1.5**
ARU					pmax		pmax	
	comp=Z,5.0nm,0.1s							
KBZ	**Khabaz**	**21.31**	**296**		P		**P**	**14 05 16.6 +0.4**
	comp=Z,0.6nm,0.4s,baz=181,slow=9.0,SNR=4.2							
RAYN	**Ar Rayn**	**24.71**	**244**		*e*P		**P**	**14 05 50.5 -0.5**
	comp=Z,3.3nm,0.9s							
LZH	**Lanzhou**	**27.45**	**82**		*e*P		**P**	**14 06 15.5 -0.3**
LZH					pP		sP	14 06 26.3 +6.2
LZH					sP		pP	14 06 31.3 +12
LZH					*e*PP		**PnPn**	**14 07 03.6 +3.5**
LZH					pmax		pmax	
	comp=Z,20nm,1.0s							
LZH					pmax		pmax	
	comp=Z,42nm,4.1s							
LZH					LR		LR	
	comp=N,52nm,11.3s							
LZH					LR		LR	
	comp=E,63nm,11.6s							
LZH					LR		LR	
	comp=Z,87nm,13.2s							
BRTR	**Keskin Array B**	**28.16**	**286**		P		**P**	**14 06 23.8 +1.7**
	comp=Z,0.7nm,0.6s,baz=104,slow=10,SNR=4.9							
SONM	**Songino Array**	**28.95**	**57**		P		**P**	**14 06 27.0 -2.0**
	comp=Z,0.6nm,0.8s,baz=262,slow=8.6,SNR=3.2							
SONM	**Songino Array**	**28.95**	**57**		P		**P**	**14 06 27.0 -2.0**
AKASG	**Malin Array Be**	**31.68**	**308**		P		**P**	**14 06 53.0 +0.2**
	comp=Z,0.2nm,0.3s,baz=85,slow=7.0,SNR=5.2							
CMAR	**Chiang Mai Arr**	**31.75**	**118**		LR		LR	14 21 47.6
	comp=Z,13nm,20.7s,baz=185,slow=4.1							
HHC	**Hu-ho-hao-te**	**32.63**	**70**		*e*P		**P**	**14 07 00.6 -0.9**
HHC					pmax		pmax	
	comp=Z,11nm,0.9s							
HHC					pmax		pmax	
	comp=Z,24nm,4.1s							
FINES	**FINESS Array B**	**36.35**	**326**		P		**P**	**14 07 33.6 +0.4**
	comp=Z,1.7nm,0.9s,baz=132,slow=10,SNR=4.3							
ARCES	**ARCESS Array B**	**40.15**	**338**		P		**P**	**14 08 06.0 +0.8**
	comp=Z,3.7nm,0.8s,baz=127,slow=7.7,SNR=4.8							
ARCES	**ARCESS Array B**	**40.15**	**338**		P		**P**	**14 08 06.0 +0.8**
HFS	**Hagfors**	**41.89**	**322**		P		**P**	**14 08 20.0 +0.4**
	comp=Z,1.9nm,0.5s,baz=105,slow=11,SNR=10							
HFS	**Hagfors**	**41.89**	**322**		P		**P**	**14 08 20.0 +0.4**
NB2	**NORSAR Subarra**	**43.21**	**323**		P		**P**	**14 08 30.4 0.0**
	comp=Z,1.8nm,0.8s,baz=95,slow=7.9							
NOA	**NORSAR Array B**	**43.21**	**323**		P		**P**	**14 08 30.4 0.0**
	comp=Z,1.3nm,0.7s,baz=97,slow=8.0,SNR=4.6							
TIXI	**Tiksi**	**45.65**	**22**		*e*P		**P**	**14 08 48.8 -0.9**
	comp=Z,3.0nm,0.8s							
TIXI	**Tiksi**	**45.65**	**22**		*e*P		**P**	**14 08 48.8 -0.9**
TIXI					pmax		pmax	
	comp=Z,3.0nm,0.8s							
TORD	**Torodi Ar. Bea**	**64.59**	**267**		P		**P**	**14 11 05.8 -1.5**
	comp=Z,0.7nm,0.7s,baz=46,slow=5.2,SNR=4.9							
TOLK	**Toolik Lake Re**	**70.63**	**14**		*e*P		**P**	**14 11 44.4 -0.2**
	comp=Z,16nm,1.9s							
YKA	**Yellowknife Ar**	**80.69**	**2**		P		**P**	**14 12 41.7 -0.6**
	comp=Z,0.4nm,0.6s,baz=350,slow=5.8,SNR=9.2							
WRA	**Warramunga Arr**	**83.28**	**121**		P		P	14 12 52.0 -4.6
	comp=Z,0.4nm,0.7s,baz=323,slow=4.9,SNR=4.6							
WRA	**Warramunga Arr**	**83.28**	**121**		P		P	14 12 52.0 -4.5
ASAR	**Alice Springs**	**85.54**	**124**		P		P	14 13 03.5 -4.4
	comp=Z,0.3nm,0.7s,baz=326,slow=4.9,SNR=6.3							

*ISCJB **23** 14:17:00.7±0.9,24°.21S±0°.05×67°.0W±0°.1,h201km±9km, mb3.5/1,Error ellipse: s-maj=17.4km s-min=7.9km az=8.6*

*SJA **23** 14:17:00.3±0.5,24°.19S×67°.24W,h173km±8km,ML2.9, MW3.1*

*IDC **23** 14:17:00.2±3.6,24°.22S×66°.94W,h165km±34km,mb3.4/1, mb1 3.4/4,mb1mx3.1/40,mbtmp3.8/4,Error ellipse: s-maj=51.7km s-min=29.8km az=124.0*

ISC 23 14:17:00.5±1.3,24°.14S±0°.06×67°.2W±0°.1,h179km±10km, n13,σ1§60/22,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
HJA	**Humahuaca**	**1.89**	**61**	*e*P		**Pn**	**14 17 38.0**	**+1.1**
HJA				IAML			14 17 39.4	
	comp=Z,94nm,0.5s							
HJA				*e*S		**Sn**	**14 18 05.7**	**+0.8**
AZAP	**Zapla**	**1.96**	**93**	*e*P		**Pn**	**14 17 38.1**	**+0.7**
AZAP				IAML			14 17 39.3	
	comp=Z,91nm,0.5s							
AZAP				*e*S		**Sn**	**14 18 05.7**	**-0.2**
FSA	**Cafayete**	**2.26**	**151**	*e*P		**Pn**	**14 17 40.1**	**-0.5**
YJA	**Yavi**	**2.50**	**39**	*e*P		**Pn**	**14 17 45.1**	**+1.5**
YJA				IAML			14 17 46.4	
	comp=Z,23nm,0.4s							
YJA				*e*S		**Sn**	**14 18 18.4**	**+1.3**
ASTB	**Santa Barbara**	**2.53**	**86**	*e*P		**Pn**	**14 17 44.4**	**+0.7**
ASTB				*e*S		**Sn**	**14 18 17.0**	**-0.2**
ALOL	**LOMAS DE OLMED**	**2.97**	**84**	*e*P		**Pn**	**14 17 49.4**	**+0.5**
ALOL				*e*S		**Sn**	**14 18 25.5**	**-0.9**
AHML	**Horco Molle**	**3.13**	**148**	*e*P		**Pn**	**14 17 50.8**	**0.0**
AHML				IAML			14 17 51.6	
	comp=Z,11nm,0.8s							
AHML				*e*S		**Sn**	**14 18 28.2**	**-2.0**
LPAZ	**La Paz**	**7.86**	**354**	P		**Pn**	**14 18 54.1**	**+1.5**
	comp=Z,1.0nm,0.3s,baz=172,slow=4.6,SNR=17							
LPAZ				S		**Sn**	**14 20 17.8**	**-3.4**
	comp=Z,0.1nm,0.3s,baz=40,slow=19,SNR=6.8							
SIV	**San Ignacio**	**9.94**	**37**	P		**Pn**	**14 19 18.0**	**-1.5**
	comp=Z,0.8nm,0.3s,baz=233,slow=14,SNR=12							
SIV				S		**Sn**	**14 21 06.5**	**-3.8**
	comp=Z,0.1nm,0.3s,baz=288,slow=20,SNR=3.5							
PLCA	**Paso Flores**	**16.78**	**189**	P		**P**	**14 20 44.6**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=22,slow=9.6,SNR=6.8							
TORD	**Torodi Ar. Bea**	**76.80**	**69**	P		**P**	**14 28 33.1**	**+0.3**
	comp=Z,0.7nm,0.6s,baz=256,slow=5.7,SNR=9.4							
ASAR	**Alice Springs**	**128.25**	**205**	PKP		**PKPdf**	**14 35 47.1**	**+0.8**
	comp=Z,0.4nm,0.7s,baz=144,slow=1.8,SNR=7.9							
WRA	**Warramunga Arr**	**131.42**	**207**	PKP		**PKPdf**	**14 35 53.7**	**+1.3**
	comp=Z,0.3nm,0.5s,baz=158,slow=1.7,SNR=10							
WRA				SKPbc		**SKPbc**	**14 39 02.0**	**+1.2**
	comp=Z,0.2nm,0.8s,baz=148,slow=3.3,SNR=5.0							

NNC 23 14:17:20.6±3.1,37°.26N×69°.57E,h2km±18km,mb3.5, mpv3.2,5C-6D,Error ellipse: s-maj=24.2km s-min=18.6km az=168.0,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SFK	**Sufi-Kurgan**	**4.13**	**47**	⇓P		Pn	14 18 25.4	+0.5
	1.4nm,0.2s							
SFK				⇓Sn		Sn	14 19 15.1	+1.2
	4.9nm,0.4s							
SFK				⇓Lg		Lg	14 19 31.5	
	12nm,0.6s							
MNAS	**Manas**	**5.69**	**22**	⇓P		Pn	14 18 46.6	+0.3
	0.5nm,0.3s							
MNAS				⇓Sn		Sn	14 19 53.0	+0.8
	1.5nm,0.5s							
MNAS				⇓Lg		Lg	14 20 22.3	
	3.8nm,1.0s							
KK31	**Karatay Array**	**5.88**	**7**	Pn		Pn	14 18 50.0	+1.2
	0.3nm,0.3s,baz=202,slow=17,SNR=10.0							
KK31				⇑Sn		Sn	14 19 58.9	+2.1
	0.9nm,0.3s,baz=202,slow=27,SNR=4.7							
AAK	**Ala-Archa**	**6.57**	**34**	⇑P		Pn	14 18 58.2	-0.1
	2.1nm,0.6s							
AAK				⇑Sn		Sn	14 20 14.4	+0.4
	1.3nm,0.5s							
AAK				⇑Lg		Lg	14 20 48.5	
	2.1nm,0.6s							
TKM2	**Tokmak 2**	**7.30**	**37**	⇑P		Pn	14 19 07.4	-1.0
	1.6nm,0.6s							
AB31	**Akbulak array**	**13.88**	**333**	Pn		Pn	14 20 35.6	-2.5
	0.2nm,0.3s,baz=152,slow=13,SNR=8.2							

IDC 23 14:24:04.3±5.0,3°.22N×90°.16E,h0km,mb3.4/4,mb1 3.6/4, mb1mx3.2/62,mbtmp3.4/4,MS2.7/1,Ms1 2.9/1, ms1mx2.3/45,Error ellipse: s-maj=179.4km s-min=26.9km az=63.0,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**17.41**	**29**	LR		LR	14 34 09.5	
	comp=Z,21nm,18.2s,baz=280,slow=35							
H08S3	**Diego Garcia H**	**20.67**	**239**	T		T	14 49 26.9	
	baz=60							
H08S2	**Diego Garcia H**	**20.67**	**238**	T		T	14 49 21.8	
	baz=60							
H08S1	**Diego Garcia H**	**20.69**	**238**	T		T	14 49 29.4	
	baz=60							
MKAR	**Makanchi Array**	**43.94**	**352**	P		P	14 32 12.3	-0.7
	0.3nm,0.7s,baz=160,slow=8.8,SNR=4.0							
SONM	**Songino Array**	**46.60**	**15**	P		P	14 32 34.8	+0.6
	0.7nm,0.5s,baz=195,slow=9.8,SNR=4.7							
WRA	**Warramunga Arr**	**49.10**	**120**	P		P	14 32 54.1	+0.1
	0.4nm,0.7s,baz=298,slow=8.6,SNR=6.4							
ASAR	**Alice Springs**	**50.27**	**124**	P		P	14 33 02.4	-0.5
	0.2nm,0.8s,baz=300,slow=7.3,SNR=3.4							

*MOS **23** 14:54:48.0±1.0,7°.24S×129°.19E,h81km,mb5.4/59,Error ellipse: s-maj=9.8km s-min=4.7km az=108.3*

*BJI **23** 14:54:50.7,7°.47S×129°.41E,h128km,mb5.3/68,mB5.2/41*

*NEIC **23** 14:54:54.6±0.5,7°.22S×129°.23E,h128km±4km,mb5.2/95, MW5.2,Error ellipse: s-maj=4.7km s-min=3.9km az=58.0, Moment Tensor Solution. s30 Moment tensor: Scale 10^{16}Nm; M_{rr}1.32; $M_{\theta\theta}$-1.39; $M_{\phi\phi}$0.07; $M_{r\theta}$6.10; $M_{\theta\phi}$2.17; $M_{\phi r}$1.60; Best double couple: M_o6.80000×10^{16} NP1: ϕ_s338.00000°,δ21.00000°,λ166.00000°. NP2: ϕ_s81.00000°,δ85.00000°,λ70.00000°. Principal axes: T 7.1700, Plg46.0000°, Azm330.0000°; N -0.8100, Plg20.0000°, Azm82.0000°; P -6.3600, Plg37.0000°, Azm188.0000°;*

NEIC Felt at Darwin, Australia.

*ISCJB **23** 14:54:54.5±0.3,7°.34S±0°.02×129°.24E±0°.02,h145km±3km, mb5.1/182 Error ellipse: s-maj=3.5km s-min=3.3km az=164.1*

*DJA **23** 14:54:54.9±0.2,7°.S±1°×12°.9E±°,h125km±2km,M5.3/43, mb5.3/43,mB5.7/24,MLv6.0/2,Mw(mB)5.2/24*

*GCMT **23** 14:54:54.6±0.2,7°.40S×129°.24E,h132km±1km, MW5.2/123,Moment Tensor Solution. s78,c112; s123,c205; Duration: 1§0 Moment tensor: Scale 10^{16} Nm; M_{rr}4.30±.14; $M_{\theta\theta}$-3.71±.17; $M_{\phi\phi}$-0.58±.17; $M_{r\theta}$5.42±.10; $M_{\theta\phi}$4.00±.14; $M_{\phi r}$1.05±.12; Best double couple: M_o7.92300×10^{16} NP1:ϕ_s94.00000°,δ71.00000°, λ60.00000°. NP2:ϕ_s334.00000°,δ36.00000°,λ145.00000°. Principal axes: T 7.9830, Plg54.0000°, Azm326.0000°; N -0.1170, Plg29.0000°, Azm105.0000°; P -7.8620, Plg20.0000°, Azm206.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*IDC **23** 14:54:55.5±1.1,7°.25S×129°.18E,h131km±9km,mb4.7/40, mb1 4.7/43,mb1mx4.6/56,mbtmp5.1/43,MS3.9/21, Ms1 3.9/21,ms1mx3.6/53 Error ellipse: s-maj=10.9km s-min=7.4km az=76.0*

ISC 23 14:54:54.6±0.5,7°.31S±0°.03×129°.18E±0°.04,h128km±3km, n543,σ1§81/597,mb5.2/179,16C-11D,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SAUI	**Saumlaki**	**2.21**	**108**	P		**Pn**	**14 55 31.2**	**+0.1**
SAUI	**Saumlaki**	**2.21**	**108**	*e*Pn		**Pn**	**14 55 31.0**	**0.0**
BNDI	**Bandanaira**	**2.86**	**15**	P		**Pn**	**14 55 41.3**	**+1.9**
AAI	**Ambon**	**3.73**	**345**	P		**Pn**	**14 55 53.0**	**+2.2**
AAI	**Ambon**	**3.73**	**345**	P		**Pn**	**14 55 53.4**	**+2.6**
MSAI	**Masohi**	**3.94**	**356**	P		**Pn**	**14 55 57.0**	**+3.4**
NLAI	**Namlea**	**4.54**	**333**	P		**Pn**	**14 56 05.4**	**+3.8**
FAKI	**Fak Fak**	**5.33**	**35**	P		**Pn**	**14 56 11.2**	**-0.9**
FAKI				S		**Sn**	**14 57 09.1**	**-3.4**
FAKI	**Fak Fak**	**5.33**	**35**	*e*Pn		**Pn**	**14 56 10.9**	**-1.2**
SOEI	**Soe**	**5.43**	**243**	P		**Pn**	**14 56 15.0**	**+1.4**
SOEI				S		**Sn**	**14 57 15.7**	**+0.6**
SOEI	**Soe**	**5.43**	**243**	*e*Pn		**Pn**	**14 56 14.9**	**+1.3**
KMPI	**Kaimana, Papua**	**5.78**	**51**	P		**Pn**	**14 56 16.7**	**-1.5**
MTN	**Manton Dam**	**5.83**	**161**	P		**Pn**	**14 56 16.8**	**-2.0**
	baz=5.8,SNR=1000							
MTN	**Manton Dam**	**5.83**	**161**	*e*Pn		**Pn**	**14 56 17.3**	**-1.5**
SANI	**Sanana**	**6.11**	**329**	P		**Pn**	**14 56 26.5**	**+3.8**
BATI	**Baumata**	**6.16**	**242**	P		**Pn**	**14 56 24.8**	**+1.4**
	624nm,0.3s,baz=90,slow=5.3,SNR=584							
BATI				S		**Sn**	**14 57 31.8**	**-0.8**
	594nm,0.3s,baz=150,slow=5.4,SNR=24							
BATI				LR		LR	14 58 28.4	
	comp=Z,2µm,18.3s,baz=2.0,slow=34							
BATI	**Baumata**	**6.16**	**242**	P		**Pn**	**14 56 24.6**	**+1.2**
SIJI	**Sorong**	**6.73**	**18**	P		**Pn**	**14 56 30.8**	**-0.2**
	96nm,0.3s,baz=219,slow=9.7,SNR=292							
SIJI				S		**Sn**	**14 57 42.5**	**-3.9**
	98nm,0.3s,baz=234,slow=22,SNR=12							
LBMI	**Labuha**	**6.83**	**346**	P		**Pn**	**14 56 36.7**	**+4.3**
KDI	**Kendari**	**7.32**	**297**	P		**Pn**	**14 56 42.6**	**+3.6**
	344nm,1.2s,4µm1.0nm							
RKPI	**Ransiki, Papua**	**7.62**	**41**	P		**Pn**	**14 56 42.0**	**-1.0**
TNTI	**Ternate**	**8.23**	**347**	*e*Pn		**Pn**	**14 56 53.8**	**+2.6**
KNRA	**Kununurra**	**8.33**	**183**	P		**Pn**	**14 56 50.0**	**-2.5**
	baz=8.3,SNR=1000							
BSSI	**Bau Bau, Buton**	**8.70**	**277**	P		**Pn**	**14 57 00.5**	**+2.9**
LUWI	**Luwuk**	**8.92**	**314**	P		**Pn**	**14 57 04.8**	**+4.3**
LUWI	**Luwuk**	**8.92**	**314**	*e*Pn		**Pn**	**14 57 04.6**	**+4.1**
BASI	**Baing, Sumba**	**8.97**	**251**	P		**Pn**	**14 57 00.9**	**-0.4**
WSI	**Waingapu**	**9.09**	**254**	P		**Pn**	**14 57 01.7**	**-1.1**
BAKI	**Biak**	**9.20**	**49**	P		**Pn**	**14 57 04.1**	**-0.2**
KMSI	**Cibinong**	**9.39**	**326**	P		**Pn**	**14 57 11.0**	**+4.2**
BNSI	**Bone**	**9.47**	**287**	P		**Pn**	**14 57 11.0**	**+3.1**
APSI	**Ampana**	**9.83**	**310**	P		**Pn**	**14 57 17.2**	**+4.4**
WBSI	**Waikabubak, Su**	**9.95**	**256**	P		**Pn**	**14 57 13.1**	**-1.3**
TTSI	**Tana Toraja**	**10.23**	**294**	P		**Pn**	**14 57 21.7**	**+3.5**
MRSI	**Marisa**	**10.58**	**317**	P		**Pn**	**14 57 27.3**	**+4.5**
FITZ	**Fitzroy Crossi**	**11.26**	**197**	P		**Pn**	**14 57 27.7**	**-4.2**
	baz=11							
PCI	**Palu**	**11.28**	**304**	P		**Pn**	**14 57 35.5**	**+3.4**
	722nm,1.0s,5µm							
PLAI	**Plampang**	**11.39**	**262**	P		**Pn**	**14 57 32.3**	**-1.3**
SGSI	**Sangihe**	**11.51**	**341**	P		**Pn**	**14 57 37.3**	**+2.1**
GENI	**Genyem**	**11.91**	**67**	P		**Pn**	**14 57 40.0**	**-0.5**
MPSI	**Mapaga**	**11.97**	**309**	P		**P**	**14 57 45.4**	**-3.3**
TWSI	**Taliwang, Sumb**	**12.26**	**263**	P		**Pn**	**14 57 44.3**	**-0.7**
JAY	**Jayapura**	**12.43**	**68**	P		**Pn**	**14 57 46.0**	**-1.4**
JAY	**Jayapura**	**12.43**	**68**	P		**Pn**	**14 57 46.3**	**-1.1**
JAY				pmax		pmax		
	comp=Z,822nm,1.1s							
SGKI	**Sangatta, Kali**	**13.36**	**300**	P		P	14 58 16.2	+12
WRAB	**Tennant Creek**	**13.52**	**159**	*e*Pn		**Pn**	**14 57 56.6**	**-4.7**
WRAB	**Tennant Creek**	**13.52**	**159**	*d iP*		**Pn**	**14 57 56.7**	**-4.6**
WRAB				pmax		pmax		
	comp=Z,327nm,1.3s							
WRA	**Warramunga Arr**	**13.52**	**159**	P		Pn	14 57 56.6	-4.8
	comp=Z,23nm,0.3s,baz=340,slow=13,SNR=313							
WRA				S		Sn	15 00 14.8	-16
	comp=Z,57nm,0.3s,baz=332,slow=23,SNR=13							
WRA				LR		LR	15 04 07.4	
	comp=Z,868nm,19.3s,baz=335,slow=41							
WB2	**Warramunga Arr**	**13.53**	**159**	*e*Pn		Pn	14 57 56.6	-4.8
KBKI	**Kotabaru**	**13.55**	**286**	P		**P**	**14 58 04.6**	**-1.7**
BKB	**Balikpapan**	**13.63**	**296**	P		**P**	**14 58 08.6**	**+1.3**
IGBI	**Denpasar**	**13.97**	**263**	P		**P**	**14 58 09.5**	**-1.5**
DAV	**Davao City (W)**	**14.73**	**346**	P		**Pn**	**14 58 17.9**	**+1.1**
	comp=Z,40nm,0.3s,baz=244,slow=3.4,SNR=3.8							
JAGI	**Jajag, Banyuwa**	**14.93**	**265**	P		**P**	**14 58 20.6**	**-1.1**
JAGI	**Jajag, Banyuwa**	**14.93**	**265**	*e*Pn		**Pn**	**14 58 16.6**	**-2.7**
COEN	**Coen**	**15.26**	**117**	P		**Pn**	**14 58 20.7**	**-2.7**
	baz=15,SNR=73							
COEN	**Coen**	**15.26**	**117**	*e*Pn		**Pn**	**14 58 19.6**	**-3.8**
	comp=Z,133nm,0.6s							
BLJI	**Banyuglugur**	**15.45**	**267**	P		**P**	**14 58 29.5**	**+2.0**
PALU	**Palau**	**15.48**	**20**	P		**P**	**14 58 28.7**	**+0.8**
	baz=16,SNR=5.9							
MTKI	**Muara Teweh, K**	**15.58**	**293**	P		**P**	**14 58 33.1**	**+4.2**
GMJI	**Gumukmas**	**15.62**	**265**	P		**Pn**	**14 58 27.3**	**-0.5**
BUKP	**Musuan**	**15.63**	**345**	*e*P		**P**	**14 58 29.8**	**+0.2**
MYLDM	**Lahad Datu**	**16.35**	**319**	*e*Pn		**P**	**14 58 41.1**	**+3.7**
	comp=Z,483nm,1.1s							
IPIL	**Ipil**	**

KASI Kota Agung 24.59 273 P P 15 00 02.2 -0.8
comp=Z,27nm,0.9s
KMBL Kambalda 24.89 195 P P 15 00 06.2 +0.6
baz=25,SNR=8.8
MORW Morawa 24.94 208 P P 15 00 06.9 +0.8
baz=25,SNR=34
MDSI Maura Dua 25.02 275 P P 15 00 06.4 -0.6
comp=Z,15nm,1.0s
CAUP Cauayan 25.17 343 eP P 15 00 12.7 +4.5
BOLP Bolinao 25.26 339 eP P 15 00 07.7 -1.3
DSRI Dabo 25.45 284 P P 15 00 13.9 +3.1
comp=Z,224nm,1.1s,comp=Z,3µm
TPRI Tanjung Pinang 25.91 287 P P 15 00 16.8 +1.8
comp=Z,69nm,1.1s,comp=Z,3µm
GUMO Guam 25.96 37 P P 15 00 16.2 +0.8
comp=Z,41nm,0.4s,baz=118,slow=5.8,SNR=8.4
BLDU Balliduu 25.96 205 P P 15 00 15.8 +0.5
baz=26,SNR=36
BBOO Buckleboo 26.17 167 P P 15 00 17.2 +0.1
baz=26,SNR=10
BBOO Buckleboo 26.17 167 eP P 15 00 17.2 +0.1
comp=Z,59nm,1.0s
APYP Conner 26.21 343 eP P 15 00 15.1 -2.5
KLBR Kellerberrin 26.41 202 P P 15 00 20.6 +1.2
baz=26,SNR=26
MYKOM Kota Tinggi 26.84 289 eP P 15 00 21.8 -1.5
comp=Z,44nm,0.7s
STKA Stephens Creek 27.05 156 P P 15 00 25.0 0.0
comp=Z,11nm,0.2s,baz=325,slow=9.6,SNR=124
STKA LR LR 15 12 53.5
comp=Z,577nm,18.2s,baz=332,slow=40
STKA Stephens Creek 27.05 156 P P 15 00 25.2 +0.2
baz=27,SNR=60
STKA Stephens Creek 27.05 156 eP P 15 00 25.1 0.0
comp=Z,9.2nm,0.9s
STKA Stephens Creek 27.05 156 eP P 15 00 25.1 0.0
STKA pmax pmax
comp=Z,9.0nm,0.9s
MASI Maura Aman, Be 27.13 277 P P 15 00 40.7 +15
MUN Mundaring 27.36 205 P P 15 00 28.4 +0.6
baz=27,SNR=10
HTT Hallett 27.52 162 P P 15 00 29.9 +0.6
baz=28,SNR=25
NWAO Narrogin (SRO) 27.80 202 P P 15 00 32.1 +0.4
comp=Z,46nm,0.9s,baz=85,slow=18,SNR=16
NWAO LR LR 15 13 09.3
comp=Z,535nm,19.3s,baz=250,slow=39
NWAO Narrogin (SRO) 27.80 202 P P 15 00 32.9 +1.2
baz=28,SNR=11
NWAO P P 15 00 32.9 +1.2
baz=28,SNR=11
NWAO Narrogin (SRO) 27.80 202 eP P 15 00 32.7 +1.0
comp=Z,139nm,1.3s
NWAO Narrogin (SRO) 27.80 202 eP P 15 00 32.7 +1.0
NWAO pmax pmax
comp=Z,139nm,1.3s
CMSA Cobar Meteorol 28.62 150 P P 15 00 39.7 +0.7
baz=29,SNR=173
RKGY Rocky Gully 29.40 201 P P 15 00 48.6 +2.6
baz=30,SNR=7.4
IPM Ipoh 30.43 292 eP P 15 00 54.9 -0.4
comp=Z,36nm,0.6s
HNR Honiara 30.51 96 LR LR 15 13 44.4
comp=Z,231nm,20.9s,baz=272,slow=37
MNSI Mandailing Nat 30.60 284 P P 15 00 56.6 -0.2
comp=Z,71nm,1.0s,comp=Z,884nm
KULM Kulim 31.09 293 eP P 15 01 00.7 -0.4
comp=Z,28nm,0.8s
ARMA Armidale 31.17 140 P P 15 01 03.5 +1.8
baz=31,SNR=13
ARMA Armidale 31.17 140 eP P 15 01 02.8 +1.1
comp=Z,77nm,1.8s
YULB Yu-li 31.47 346 eP P 15 01 01.2 -3.1
comp=Z,8.8nm,0.7s
ARPS Mount Arapiles 31.52 160 P P 15 01 05.7 +1.1
baz=32,SNR=76
TPUB Ta-pu 31.55 345 eP P 15 01 03.2 -1.8
comp=Z,82nm,1.6s
PSI Prapat 31.82 287 eP P 15 01 06.7 -0.9
comp=Z,59nm,0.7s
PSI Prapat 31.82 287 eP P 15 01 06.7 -0.9
PSI pmax pmax
comp=Z,59nm,0.7s
SKLT Songkhla 31.91 296 P P 15 01 09.1 +0.9
comp=Z,47nm,1.0s,comp=Z,538nm
SSLB Suanglung 31.93 346 eP P 15 01 06.1 -2.2
comp=Z,32nm,1.4s
YOJ Yonaguni jima 32.15 349 eP P 15 01 09.4 -0.7
comp=Z,63nm,0.5s
YOJ Yonaguni jima 32.15 349 eP P 15 01 09.4 -0.7
YOJ pmax pmax
comp=Z,63nm,0.5s
YNG Young 32.18 149 P P 15 01 11.7 +1.2
baz=32,SNR=11
GSI Gunungsitoli 32.67 284 P P 15 01 14.3 -0.6
comp=Z,74nm,1.1s
GSI Gunungsitoli 32.67 284 eP P 15 01 13.7 -1.2
comp=Z,109nm,1.2s
GSI ePcP PcP 15 03 59.5 +1.4
YHNB Yeheng 32.68 347 eP P 15 01 13.6 -1.4
comp=Z,27nm,0.6s
TRTT Trang 33.02 297 P P 15 01 18.4 +0.4
comp=Z,30nm,1.1s,comp=Z,262nm
CAN Canberra 33.29 150 P P 15 01 21.8 +1.7
baz=33
CAN Canberra 33.29 150 eP P 15 01 19.6 -0.6
comp=Z,28nm,0.8s
CAN Canberra 33.29 150 eP P 15 01 19.6 -0.6
CAN pmax pmax
comp=Z,28nm,0.8s
CHBT CHBT 33.30 307 P P 15 01 21.4 +1.1
comp=Z,120nm,1.3s,comp=Z,127µm
CNB Canberra Magne 33.47 149 P P 15 01 23.4 +1.7
baz=34,SNR=4.7
TOO Toolangi 33.57 156 P P 15 01 24.7 +2.2
baz=34,SNR=22
TPTI 33.61 287 P P 15 01 24.3 +1.2
comp=Z,72nm,1.2s
JOW Kunigami 33.95 359 P P 15 01 26.0 +0.2
comp=Z,50nm,0.5s,baz=199,slow=0.9,SNR=19
JOW LR LR 15 13 33.2
comp=Z,251nm,20.9s,baz=194,slow=33
JOW Kunigami 33.95 359 eP P 15 01 25.4 -0.4
comp=Z,60nm,0.6s
PKDT Phuket 34.26 296 P P 15 01 30.0 +1.3
comp=Z,22nm,1.2s
LHMI Lhok Sumawe 34.49 290 P P 15 01 34.2 +3.6
comp=Z,231nm,0.8s,comp=Z,2µm
MLSI Meulaboh, Aceh 34.67 288 P P 15 01 32.2 0.0
comp=Z,166nm,0.8s
SKNT Sakolnakorn 34.68 314 P P 15 01 31.6 -0.7
comp=Z,37nm,0.9s
NAYO Nakonayok 35.00 308 P P 15 01 35.6 +0.6
comp=Z,38nm,1.1s,comp=Z,824nm
BSI Banda Aceh 36.12 290 P P 15 01 44.1 -0.6
comp=Z,46nm,1.3s,comp=Z,736nm
PBKT Sadao Pong 36.63 311 P P 15 01 48.1 -0.8
comp=Z,25nm,0.9s
SRDT SRDT 36.77 306 P P 15 01 50.7 +0.6
comp=Z,89nm,1.1s,comp=Z,3µm
PHIT Phitsanulok 37.42 311 P P 15 01 56.5 +0.9
comp=Z,83nm,1.0s,comp=Z,666nm
DZM Mont Dzumac 38.79 116 P P 15 02 07.9 +0.7
comp=Z,7.0nm,0.7s,baz=211,slow=12,SNR=4.9
DZM LR LR 15 18 28.5
comp=Z,171nm,18.5s,baz=328,slow=36
LAMP Lampang 38.84 312 P P 15 02 08.6 +1.1
comp=Z,35nm,0.8s,comp=Z,279nm
PAYA Payao 39.19 313 P P 15 02 11.0 +0.6
comp=Z,37nm,0.8s,comp=Z,279nm
CM01 Chiang Mai Arr 39.27 311 eP P 15 02 11.7 +0.6
CM01 ePcP PcP 15 04 19.2 +1.6
CM31 Chiang Mai Arr 39.31 311 eP P 15 02 12.1 +0.8
CM31 Chiang Mai Arr 39.31 311 P P 15 02 12.2 +0.8
CMAR Chiang Mai Arr 39.31 311 P P 15 02 12.2 +0.8
comp=Z,28nm,0.7s,baz=141,slow=7.0,SNR=264
CMAR PcP PcP 15 04 19.7 +2.0
comp=Z,3.4nm,0.5s,baz=177,slow=2.9,SNR=6.4
CMAR ScP ScP 15 07 54.8 +0.2
comp=Z,5.5nm,0.9s,baz=156,slow=3.6,SNR=15
CMAR LR LR 15 17 59.9
comp=Z,67nm,22.0s,baz=136,slow=35
CMMT Chiang Mai 39.52 311 P P 15 02 12.7 -0.5
comp=Z,113nm,1.0s,comp=Z,1µm
CHTO Chiang Mai 39.53 311 P P 15 02 13.8 +0.6
comp=Z,497nm,1.1s,comp=Z,5µm
CHTO Chiang Mai 39.53 311 eP P 15 02 13.6 +0.4
comp=Z,90nm,0.8s

CHTO Chiang Mai 39.53 311 P P 15 02 14.0 +0.8
SNR=33
CHTO Chiang Mai 39.53 311 eP P 15 02 13.6 +0.4
CHTO pmax pmax
comp=Z,90nm,0.8s
GYA Guiyang 40.05 328⇑ iP P 15 02 17.6 0.0
GYA pP pP 15 02 49.5 +3.3
GYA sP sP 15 03 04.4 +3.6
GYA PP PnPn 15 03 57.8 +0.7
GYA PcP PcP 15 04 20.3 +0.2
GYA ScP ScP 15 07 57.8 +0.4
GYA S S 15 08 16.0 +1.8
GYA sS sS 15 09 06.3 +2.4
GYA ScS ScS 15 12 10.6 -0.8
GYA pmax pmax
comp=Z,40nm,0.8s
GYA pmax pmax
comp=Z,130nm,5.4s
CMAI Chiengmai2 40.15 313 P P 15 02 19.0 +0.5
comp=Z,1µm,0.9s,comp=Z,9µm
WHN Wuhan 40.23 340 ⇓P P 15 02 19.8 +1.0
WHN pP pP 15 02 48.5 +1.0
WHN PP PP 15 03 56.3 +2.2
WHN S S 15 08 13.4 -3.1
WHN pmax pmax
comp=Z,150nm,1.1s
WHN LR LR
comp=Z,560nm,9.0s
JNU Nakatsue 40.24 2 P P 15 02 18.1 -0.8
comp=Z,20nm,0.8s,baz=187,slow=5.5,SNR=17
JNU Nakatsue 40.24 2 eP P 15 02 18.1 -0.8
comp=Z,26nm,0.9s
NJ2 Nanjing 40.36 346 eP P 15 02 20.4 +0.5
NJ2 pmax pmax
comp=Z,45nm,0.9s
KMI Kunming 41.25 322 P P 15 02 28.8 +1.2
KMI pmax pmax
comp=Z,77nm,1.3s
KMI pmax pmax
comp=Z,240nm,4.2s
KMI LR LR
comp=Z,99nm,6.1s
KMI LR LR
comp=Z,100nm,7.4s
KMI LR LR
comp=Z,190nm,20.4s
DGPR DIGLIPUR 41.36 299 eP P 15 02 27.1 -1.2
JHJ Hachijo jima 2 41.45 13 LR LR 15 17 49.4
comp=Z,209nm,20.1s,baz=126,slow=33
ENH Enshi 41.87 334 eP P 15 02 30.8 -1.6
comp=Z,19nm,0.7s
INU Inuyama 43.07 9 eP P 15 02 41.2 -0.7
comp=Z,14nm,0.6s
TJN Taejon 43.49 358 c iP P 15 02 45.4 +0.2
MJAR Matsushiro Arr 44.44 10 P P 15 02 51.4 -1.4
comp=Z,16nm,0.6s,baz=194,slow=10.0,SNR=29
MJAR LR LR 15 20 34.3
comp=Z,71nm,19.7s,baz=185,slow=35
MAJO Matsushiro 44.44 10 eP P 15 02 51.5 -1.4
comp=Z,42nm,0.6s
MAJO Matsushiro 44.44 10 ⇓iP P 15 02 50.8 -2.0
MAJO pmax pmax
comp=Z,40nm,0.7s
MAT Matsushiro 44.44 10 P P 15 02 51.4 -1.4
MJB9 Matsu-Tunnel 44.44 10 eP P 15 02 51.3 -1.5
comp=Z,43nm,0.6s
KS15 Wonju Array Si 44.53 359 eP P 15 02 53.9 +0.3
KSAR Wonju Array Be 44.53 359 P P 15 02 54.0 +0.5
KSAR PcP PcP 15 04 35.6 +1.1
KSAR Wonju Array Be 44.53 359 P P 15 02 54.1 +0.5
KSAR 15 04 35.7
KSRS Korea Array 44.54 359 P P 15 02 54.0 +0.4
comp=Z,12nm,0.5s,baz=176,slow=9.1,SNR=96
KSRS PcP PcP 15 04 35.6 +1.1
comp=Z,2.3nm,0.7s,baz=183,slow=3.1,SNR=5.0
KSRS LR LR 15 19 53.3
comp=Z,99nm,21.6s,baz=175,slow=34
KS01 Wonju Array Si 44.57 359 eP P 15 02 53.3 -0.5
TIA Tai'an 44.75 346 P P 15 02 54.5 -0.8
TIA pmax pmax
comp=Z,13nm,1.0s
CD2 Chengdu 45.13 329 ⇑P P 15 02 58.3 -0.2
CD2 pP pP 15 03 27.3 -0.4
CD2 sP sP 15 03 41.9 -0.2
CD2 PcS PcS 15 08 30.3 -0.7
CD2 S S 15 09 29.4 +1.0
CD2 sS sS 15 10 20.3 +1.3
CD2 pmax pmax
comp=Z,110nm,0.5s
CD2 pmax pmax
comp=Z,210nm,4.2s
CD2 LR LR
comp=Z,390nm,17.4s
CD2 LR LR
comp=Z,710nm,18.9s
CD2 LR LR
comp=Z,230nm,15.9s
XAN Xi'an 45.38 336 P P 15 02 59.3 -1.1
XAN pP pP 15 03 29.5 -0.1
XAN S S 15 09 33.6 +1.7
XAN sS sS 15 10 18.8 -3.7
XAN SS SS 15 12 51.9 -5.7
XAN pmax pmax
comp=Z,29nm,0.9s
XAN pmax pmax
comp=Z,140nm,3.3s
SAIH SAIHA 46.18 311 eP P 15 03 06.8 -0.2
IMP Imphal 46.88 314 eP P 15 03 11.0 -1.4
AZL Aizawl 47.13 312 eP P 15 03 13.2 -1.2
LKP Lekhapani 47.19 318 eP P 15 03 13.7 -0.8
KOHI KOHIMA 47.32 315 eP P 15 03 15.1 -0.8
MOKO MOKOCHONG 47.42 316 eP P 15 03 16.8 +0.2
JORH JORHAT 47.87 316 eP P 15 03 19.2 -0.6
AGT Agartala 48.29 311 eP P 15 03 25.3 +2.2
BJT Baijiatuau 48.60 347 eP P 15 03 24.1 -1.1
comp=Z,54nm,0.6s
BJT Baijiatuau 48.60 347 eP P 15 03 24.1 -1.1
BJT pmax pmax
comp=Z,54nm,0.6s
BJI Beijing 48.62 347 P P 15 03 24.8 -0.5
BJI pmax pmax
comp=Z,92nm,0.7s
ZIRO ZIRO 48.65 317 eP P 15 03 25.2 -0.8
TEZP TEZPUR 48.80 315 eP P 15 03 24.6 -2.4
SHL Shillong 48.81 313 eP P 15 03 27.5 +0.2
SHL ex x 15 07 07.5
LZH Lanzhou 49.30 333 ⇑P P 15 03 31.3 +0.5
LZH pP pP 15 04 01.4 +0.9
LZH sP sP 15 04 16.8 +2.0
LZH PP PP 15 05 28.3 +2.2
LZH eS S 15 10 27.1 -0.5
LZH sS sS 15 11 17.5 -1.4
LZH SS SS 15 13 56.3 -4.8
LZH pmax pmax
comp=Z,130nm,1.3s
LZH pmax pmax
comp=Z,260nm,5.1s
LZH LR LR
comp=Z,510nm,13.2s
LZH LR LR
comp=Z,460nm,13.5s
LZH LR LR
comp=Z,1µm,16.2s
GUWA GUWAHATI 49.33 314 eP P 15 03 30.4 -0.6
TURI Tura 49.93 312 eP P 15 03 36.1 +0.5
DHUB DHUBRI 50.45 313 eP P 15 03 39.0 -0.5
PALK Pallekele 50.47 286 P P 15 03 40.2 +0.3
comp=Z,10.0nm,0.8s,baz=103,slow=3.2,SNR=5.4
PALK PcP PcP 15 04 58.1 +1.7
comp=Z,9.4nm,0.6s,baz=120,slow=4.1,SNR=6.8
HHC Hu-ho-hao-te 50.59 343 eP P 15 03 40.5 +0.1
HHC PP PP 15 05 36.8 -0.9
HHC S S 15 10 48.1 +2.9
HHC sS sS 15 11 34.0 -2.7
HHC pmax pmax
comp=Z,25nm,1.0s
HHC pmax pmax
comp=Z,120nm,6.4s
CN2 Changchun 50.98 357 eP P 15 03 47.5 +4.3
CN2 esP sP 15 04 31.1 +3.8
CN2 eS S 15 10 54.6 +4.3
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=Z,130nm,17.0s
CN2 LR LR
comp=Z,110nm,17.0s
CN2 LR LR
comp=Z,210nm,19.0s
USRK Ussuriysk Ar. 51.33 3 P P 15 03 45.8 0.0
comp=Z,22nm,0.5s,baz=181,slow=7.1,SNR=56
USRK LR LR 15 24 25.3
comp=Z,71nm,21.5s,baz=155,slow=34
RPZ Rata Peaks 51.49 142 P P 15 03 48.7 +1.6
comp=Z,8.4nm,0.5s,baz=259,slow=2.9,SNR=15
RPZ Rata Peaks 51.49 142 eP P 15 03 48.6 +1.5
comp=Z,32nm,1.1s
VIS Vishakhapatnam 51.66 299 eP P 15 03 48.5 -0.1
MDJ Mudanjiang 51.69 0 P P 15 03 46.6 -1.8
MDJ pmax pmax
comp=Z,35nm,1.1s
MDJ pmax pmax
comp=Z,260nm,3.6s
MDJ Mudanjiang 51.69 0 eP P 15 03 48.0 -0.5
comp=Z,62nm,1.4s
LSA Lhasa 51.86 317 eP P 15 03 51.2 +0.6
comp=Z,121nm,0.6s
LSA Lhasa 51.86 317 eP P 15 03 51.2 +0.6
LSA pmax pmax
comp=Z,121nm,0.6s
GTK Tadong 52.22 313 eP P 15 03 52.6 -0.2
BOK Bokaro 52.36 308 eP P 15 03 53.8 -0.1
BOK IAmb IAmb 15 03 54.8
ASAJ Asahikawa 52.61 12 P P 15 03 55.7 +0.5
comp=Z,22nm,0.6s,baz=232,slow=7.1,SNR=55
ASAJ Asahikawa 52.61 12 eP P 15 03 55.3 +0.1
comp=Z,22nm,0.6s
ODAN Odare 52.84 312 eP P 15 03 57.8 +0.2
RAMN Ramite 53.48 311 eP P 15 04 02.8 +0.5
comp=Z,339nm,0.6s
GTA Gaotai 53.85 332 ⇑P P 15 04 04.8 +0.2
GTA pP pP 15 04 34.3 -0.5
GTA sP sP 15 04 49.3 +0.4
GTA S S 15 11 29.8 -0.1
GTA sS sS 15 12 22.1 +0.2
GTA SS SS 15 15 13.6 +0.6
GTA pmax pmax
comp=Z,39nm,1.4s
GTA pmax pmax
comp=Z,200nm,5.7s
GTA LR LR
comp=Z,160nm,19.5s
GTA LR LR
comp=Z,190nm,20.4s
GTA LR LR
comp=Z,170nm,21.9s
JIRN Jiri 54.17 312 eP P 15 04 07.7 +0.2
comp=Z,203nm,0.5s
GUN Gumba 54.54 312 eP P 15 04 10.3 +0.2
comp=Z,254nm,0.5s
PKIN Phulchoki 54.72 311 eP P 15 04 11.5 +0.2
KKN Kakani 54.92 311 eP P 15 04 12.8 +0.1
DMN Daman 54.95 311 eP P 15 04 13.1 +0.1
YSS Yuzh-Sakhalins 55.36 11 eP P 15 04 14.8 -0.3
comp=Z,28nm,0.6s
YSS Yuzh-Sakhalins 55.36 11⇑ eP P 15 04 15.0 -0.1
YSS e 15 04 47.1
YSS pmax pmax
comp=Z,30nm,0.6s
GKN Gorkha 55.52 311 eP P 15 04 17.1 +0.2
HYB Hyderabad 55.72 297 i P P 15 04 19.0 +0.7
HYB Hyderabad 55.72 297 eP P 15 04 17.4 -1.0
HYB IAmb IAmb 15 04 17.7
comp=Z,17nm,0.5s
KOLN Koldanda 56.17 310 eP P 15 04 21.9 +0.3
KLR Kul'dur 56.34 2 P P 15 04 22.1 -0.1
comp=Z,2.0nm,0.9s,baz=198,slow=6.4
KLR Kul'dur 56.34 2 c iP P 15 04 22.3 +0.1
DANN Dangsing 56.35 311 eP P 15 04 23.4 +0.4
PYUN Piuthan 56.80 310 eP P 15 04 26.3 +0.2
comp=Z,613nm,1.1s
GRNR Gornyy 58.18 5 eP P 15 04 34.8 -0.2
GRNR pmax pmax
comp=Z,72nm,0.6s
AFI Afiamalu 58.29 102 LR LR 15 29 31.8
comp=Z,55nm,18.7s,baz=278,slow=36
ULN Ulaanbaatar 58.31 343 eP P 15 04 36.5 +0.4
comp=Z,28nm,1.0s
ULN Ulaanbaatar 58.31 343 P P 15 04 36.9 +0.7
SNR=20
ULN Ulaanbaatar 58.31 343 c iP P 15 04 36.9 +0.7
ULN pmax pmax
comp=Z,36nm,1.1s
SONM Songino Array 58.48 342 P P 15 04 37.9 +0.6
comp=Z,15nm,0.7s,baz=158,slow=6.8,SNR=58
SONM ScP ScP 15 09 14.0 -1.1
comp=Z,1.2nm,0.8s,baz=168,slow=4.5,SNR=4.0
SONA1 Songino Array 58.49 342 eP P 15 04 37.0 -0.4
BHPL Bhopal 58.98 303 eP P 15 04 38.8 -2.4
BHPL IAmb IAmb 15 04 41.4
comp=Z,15nm,0.5s
TYV Tymovskoe 59.10 10 eP P 15 04 38.5 -2.8
TYV pmax pmax
comp=Z,29nm,1.5s
TYV pmax pmax
comp=Z,300nm,4.7s
CASY Casey 60.27 189 eP P 15 04 49.6 +0.4
comp=Z,31nm,1.4s
ZEA Zeya 60.84 359 eP P 15 04 53.4 +0.2
ZEA pmax pmax
comp=N,72nm,1.2s
ZEA pmax pmax
comp=Z,78nm,1.2s
NKL Nikolayevsk 61.02 8 i P P 15 04 54.7 +0.3
NKL pmax pmax
comp=N,33nm,0.9s
NKL pmax pmax
comp=E,19nm,0.9s
NKL pmax pmax
comp=Z,110nm,0.9s
ZAK Zakamensk 61.69 341 eP P 15 04 59.1 -0.1
ZAK e 15 05 37.7
ZAK pmax pmax
comp=Z,13nm,1.3s
SKR Severo-Kuril's 62.29 19 eP P 15 04 51.3 -12
SKR eS S 15 13 26.3 +7.4
SKR MLR MLR
comp=Z,500nm,19.0s
SMLA Simla 62.70 310 eP P 15 05 06.7 +0.6
SMLA IAmb IAmb 15 05 07.7
TLY Talaya 62.72 342 P P 15 05 06.4 +0.6
comp=Z,9.8nm,0.6s,baz=230,slow=3.6,SNR=17
TLY Talaya 62.72 342 eP P 15 05 06.6 +0.8
comp=Z,13nm,0.7s
TLY Talaya 62.72 342 P P 15 05 06.7 +0.8
SNR=6.3
TLY Talaya 62.72 342 eP P 15 05 06.8 +0.9
TLY e 15 05 49.3
TLY eS PnS 15 13 56.5 -4.2
TLY pmax pmax
comp=Z,11nm,0.6s
TLY MLR MLR
comp=Z,27nm,11.0s
WMQ Urumqi 63.21 328 P P 15 05 09.8 +0.4
WMQ pP pP 15 05 40.0 -0.4
WMQ PcP PcP 15 05 47.3 +1.7
WMQ pmax pmax
comp=Z,100nm,0.7s
WMQ pmax pmax
comp=Z,110nm,3.8s
WMQ LR LR
comp=Z,580nm,15.1s
WMQ LR LR
comp=Z,280nm,22.1s
WMQ LR LR
comp=Z,200nm,25.7s
MOY Mondy 63.53 341 eP P 15 05 12.4 +1.0
MOY pmax pmax
comp=Z,69nm,1.9s
DHRM DHARAMSHALA 63.88 311 eP P 15 05 13.2 -1.1
PEA0B Petropavlovsk- 64.87 19 eP P 15 05 20.2 +0.2
comp=Z,59nm,1.4s
PETK Petropavlovsk- 64.87 19 P P 15 05 20.4 +0.5
comp=Z,15nm,0.8s,baz=177,slow=4.4,SNR=32
PETK LR LR 15 30 33.9
comp=Z,44nm,21.9s,baz=204,slow=33
PETK Petropavlovsk- 64.87 19 eP P 15 05 20.2 +0.2
PETK Petropavlovsk- 64.87 19 eP P 15 05 20.2 +0.2

PET	**Petropavlovsk**	65.11	19⇓	*i*P		**P**		**15 05 22.2**	**+0.8**
PET				*e**PP		**PcP**		**15 05 53.6**	**+0.5**
PET				*e*S		**S**		**15 13 51.7**	**-2.0**
PET				pmax		pmax			
	comp=Z,27nm,1.2s								
PET				pmax		pmax			
	comp=Z,100nm,11.5s								
PET				MLR		MLR			
	comp=Z,100nm,17.0s								
HVS	**Khovu-Aksy**	65.74	336⇑	*e*P		**P**		**15 05 25.4**	**-0.3**
HVS				pmax		pmax			
	comp=Z,73nm,1.2s								
BOD	**Bodaibo**	66.07	351⇓	*i*P		**P**		**15 05 27.1**	**-0.4**
BOD				pmax		pmax			
	comp=Z,51nm,1.2s								
NIL	**Nilore**	66.80	311	*e*P		**P**		**15 05 32.6**	**-0.2**
	comp=Z,71nm,0.6s								
NIL	**Nilore**	66.80	311	*e*P		**P**		**15 05 32.6**	**-0.2**
NIL				pmax		pmax			
	comp=Z,71nm,0.6s								
DGZ	**Jazzator, Alta**	67.39	332	*i* P		**P**		**15 05 37.0**	**+0.7**
DGZ				pmax		pmax			
	comp=Z,20nm,1.0s								
PDGK	**Podgornoye**	67.55	323	*i* P		**P**		**15 05 37.4**	**0.0**
PDGK				pmax		pmax			
	comp=Z,39nm,1.3s								
TARG	**Taragay, Kyrgy**	67.68	321	*e*P		**P**		**15 05 40.1**	**+1.4**
	comp=Z,15nm,0.8s								
KSH	**Kashi**	67.69	318	P		**P**		**15 05 39.9**	**+1.5**
KSH				sP		sP		15 06 24.3	+0.7
KSH				S		**S**		**15 14 22.8**	**-3.1**
KSH				ScS		**SKiKP**		**15 15 20.5**	**-2.5**
KSH				pmax		pmax			
	comp=Z,160nm,0.7s								
KSH				LR		LR			
	comp=Z,100nm,4.4s								
KSH				LR		LR			
	comp=Z,130nm,6.1s								
KSH				LR		LR			
	comp=Z,370nm,5.9s								
PRZ	**Przheval'sk**	67.73	322	P		**P**		**15 05 40.0**	**+1.4**
MK01	**Makanchi Array**	68.02	327	*e*P		**P**		**15 05 40.3**	**+0.2**
MK31	**Makanchi Array**	68.04	327	*e*P		**P**		**15 05 40.6**	**+0.3**
MK31	**Makanchi Array**	68.04	327	*i* P		**P**		**15 05 39.8**	**-0.5**
MK31				pmax		pmax			
	comp=Z,15nm,0.4s								
MKAR	**Makanchi Array**	68.04	327	P		**P**		**15 05 41.2**	**+0.9**
	comp=Z,40nm,0.4s,baz=131,slow=4.6,SNR=622								
MKAR	**Makanchi Array**	68.04	327	*e*P		**P**		**15 05 40.4**	**+0.2**
	comp=Z,295nm,0.4s								
MKAR	**Makanchi Array**	68.04	327	P		**P**		**15 05 41.2**	**+0.9**
MKAR				pmax		pmax			
	comp=Z,36nm,0.4s								
MAKZ	**Makanchi**	68.22	327	*e*P		**P**		**15 05 41.4**	**0.0**
	comp=Z,30nm,0.5s								
MAKZ	**Makanchi**	68.22	327	*i* P		**P**		**15 05 41.3**	**0.0**
MAKZ				pmax		pmax			
	comp=Z,17nm,0.4s								
KDJ	**Kajisay**	68.29	321	*e*P		**P**		**15 05 42.5**	**+0.4**
	comp=Z,27nm,0.8s								
KDJ	**Kajisay**	68.29	321	P		**P**		**15 05 43.0**	**+0.8**
KDJ				pmax		pmax			
	comp=Z,27nm,0.8s								
MA2	**Magadan**	68.86	12	*e*P		**P**		**15 05 44.6**	**-0.5**
	comp=Z,51nm,1.0s								
MA2	**Magadan**	68.86	12⇑	*e*P		**P**		**15 05 45.9**	**+0.8**
ULHL	**Ulahol**	68.94	321	P		**P**		**15 05 47.4**	**+1.2**
	SNR=14								
YAK	**Yakutsk**	69.13	0	*e*P		**P**		**15 05 46.4**	**-0.3**
	comp=Z,146nm,0.6s								
YAK	**Yakutsk**	69.13	0	*c i*P		**P**		**15 05 46.4**	**-0.3**
YAK				*e*				15 06 07.9	
YAK				*e**PP		**PcP**		**15 06 11.4**	**+1.7**
YAK				*e*				15 08 20.8	
YAK				*e*S		**S**		**15 14 40.3**	**-1.4**
YAK				*e**SS		**pS**		**15 15 19.6**	**+0.8**
YAK				*e*				15 15 31.8	
YAK				pmax		pmax			
	comp=Z,103nm,0.9s								
YAK				pmax		pmax			
	comp=N,33nm,1.1s								
YAK				pmax		pmax			
	comp=E,5.0nm,1.0s								
YAK				pmax		pmax			
	comp=Z,31nm,2.2s								
YAK				pmax		pmax			
	comp=N,15nm,1.8s								
YAK				pmax		pmax			
	comp=E,20nm,1.9s								
YAK				smax		smax			
	comp=E,56nm,1.6s								
YAK				smax		smax			
	comp=N,46nm,1.5s								
KZA	**Kyzart**	69.48	320	P		**P**		**15 05 51.0**	**+1.2**
	SNR=48								
SFK	**Sufi-Kurgan**	69.59	317	*i* P		**P**		**15 05 50.6**	**+0.3**
SFK				pmax		pmax			
	comp=Z,34nm,0.5s								
TKM2	**Tokmak 2**	69.70	321	P		**P**		**15 05 51.6**	**+0.7**
	SNR=48								
TKM2	**Tokmak 2**	69.70	321	*i* P		**P**		**15 05 51.1**	**+0.2**
TKM2				pmax		pmax			
	comp=Z,36nm,0.8s								
KBK	**Karagaybulak**	69.97	320	P		**P**		**15 05 53.7**	**+1.2**
	SNR=19								
UCH	**Uchtor**	70.03	320	P		**P**		**15 05 54.2**	**+1.0**
	SNR=53								
AAK	**Ala-Archa**	70.25	320	P		**P**		**15 05 55.3**	**+1.1**
	comp=Z,28nm,0.7s,baz=120,slow=5.1,SNR=90								
AAK	**Ala-Archa**	70.25	320	P		**P**		**15 05 54.8**	**+0.6**
	SNR=41								
AAK	**Ala-Archa**	70.25	320	*e*P		**P**		**15 05 54.5**	**+0.4**
	comp=Z,33nm,0.8s								
AAK	**Ala-Archa**	70.25	320	P		**P**		**15 05 55.3**	**+1.1**
	SNR=20								
AAK	**Ala-Archa**	70.25	320	*i* P		**P**		**15 05 54.2**	**0.0**
AAK				pmax		pmax			
	comp=Z,35nm,0.8s								
CHMS	**Chumysh**	70.27	321	P		**P**		**15 05 54.5**	**+0.4**
	SNR=12								
KBL	**Kabul**	70.34	311	*e*P		**P**		**15 05 53.6**	**-1.3**
	comp=Z,51nm,1.4s								
KBL	**Kabul**	70.34	311	*e*P		**P**		**15 05 53.6**	**-1.3**
KBL				pmax		pmax			
	comp=Z,51nm,1.4s								
AML	**Almayashu**	70.51	319	P		**P**		**15 05 57.1**	**+1.1**
	SNR=60								
USP	**Ospenovka**	70.57	321	P		**P**		**15 05 56.9**	**+0.9**
	SNR=13								
EKS2	**Erkin-Say**	70.72	320	P		**P**		**15 05 58.1**	**+1.2**
	SNR=58								
MNAS	**Manas**	71.45	319	*i* P		**P**		**15 06 01.9**	**+0.5**
MNAS				pmax		pmax			
	comp=Z,60nm,0.9s								
ZAA0	**Zalesovo Array**	71.50	334	*e*P		**P**		**15 06 00.3**	**-1.0**
	comp=Z,24nm,0.6s								
ZALV	**Zalesovo Beam**	71.50	334	P		**P**		**15 06 01.1**	**-0.2**
	comp=Z,29nm,0.6s,baz=133,slow=5.7,SNR=86								
ZALV				LR		LR		15 39 31.2	
	comp=Z,33nm,20.1s,baz=70,slow=37								
ZALV	**Zalesovo Beam**	71.50	334	*e*P		**P**		**15 06 00.1**	**-1.2**
VNDA	**Vanda**	72.24	173	P		**P**		**15 06 06.3**	**+0.9**
	comp=Z,5.5nm,0.6s,baz=322,slow=6.9,SNR=40								
VNDA				LR		LR		15 36 51.2	
	comp=Z,89nm,20.7s,baz=338,slow=35								
VNDA	**Vanda**	72.24	173	*e*P		**P**		**15 06 05.7**	**+0.3**
	comp=Z,5.7nm,0.7s								
VNDA	**Vanda**	72.24	173	*e*P		**P**		**15 06 05.7**	**+0.3**
VNDA				pmax		pmax			
	comp=Z,6.0nm,0.7s								
SEY	**Seymchan**	72.26	11	P		**P**		**15 06 06.3**	**+0.7**
	comp=Z,50nm,0.8s,baz=214,slow=4.9								
KURBB	**Kurchatov Arra**	72.35	329	P		**P**		**15 06 06.5**	**+0.1**
	comp=Z,42nm,0.5s,baz=130,slow=4.9,SNR=169								
KURBB				PP		**PP**		**15 08 49.1**	**+0.1**
	comp=Z,1.3nm,0.8s,baz=123,slow=6.9,SNR=4.0								
KURK	**Kurchatov**	72.36	329	*e*P		**P**		**15 06 06.2**	**-0.2**
	comp=Z,58nm,0.8s								
KURK				PP		**PP**		**15 08 49.1**	**0.0**
KURK	**Kurchatov**	72.36	329	*e*P		**P**		**15 06 06.2**	**-0.2**
KURK								15 08 49.2	
KURK				pmax		pmax			
	comp=Z,58nm,0.8s								
NVS	**Novosibirsk**	72.79	334⇓	*i*P		**P**		**15 06 08.9**	**0.0**
NVS				*e**PP		**pP**		**15 06 43.8**	**+3.1**
NVS				*e*S		**S**		**15 15 21.3**	**-2.9**
NVS				pmax		pmax			
	comp=Z,23nm,0.8s								
NVS				pmax		pmax			
	comp=N,12nm,0.6s								
NVS				pmax		pmax			
	comp=E,12nm,0.5s								
NVS				smax		smax			
	comp=N,5.0nm,1.2s								
KK31	**Karatay Array**	73.03	319	*e*P		**P**		**15 06 11.1**	**+0.4**
KK31	**Karatay Array**	73.03	319	*i* P		**P**		**15 06 10.6**	**-0.1**
KK31				pmax		pmax			
	comp=Z,25nm,0.8s								
KKAR	**Karatay Array**	73.03	319	*e*P		**P**		**15 06 10.9**	**+0.2**
KKAR	**Karatay Array**	73.03	319	*e*P		**P**		**15 06 10.9**	**+0.2**
MAW	**Mawson**	74.36	201	P		**P**		**15 06 19.6**	**+1.7**
	comp=Z,4.8nm,0.6s,baz=80,slow=4.3,SNR=11								
MAW	**Mawson**	74.36	201	P		**P**		**15 06 19.7**	**+1.7**
	baz=74								
OTUK	**Ortayu**	74.41	324	P		**P**		**15 06 18.7**	**+0.1**
OTUK				pmax		pmax			
	comp=Z,54nm,0.6s								
WSAR	**Wadi Sarin**	75.27	296	P		**P**		**15 06 24.1**	**+0.1**
	comp=Z,4.5nm,0.5s,baz=140,slow=6.8,SNR=5.8								
WSAR	**Wadi Sarin**	75.27	296	P		**P**		**15 06 24.7**	**+0.7**
BIDO	**Bidbid**	75.78	296	P		**P**		**15 06 27.3**	**+0.3**
	SNR=9.2								
HATD	**Hatta, Dubai**	77.87	297	P		**P**		**15 06 38.6**	**-0.1**
BVA0	**Borovoye Array**	77.89	328	*i* P		**P**		**15 06 37.4**	**-0.7**
BVA0				pmax		pmax			
	comp=Z,27nm,1.1s								
BVAR	**Borovoye Array**	77.89	328	P		**P**		**15 06 38.5**	**+0.3**
	comp=Z,13nm,0.8s,baz=120,slow=8.5,SNR=57								
BRVK	**Borovoye**	77.96	328	*e*P		**P**		**15 06 37.9**	**-0.6**
	comp=Z,26nm,0.9s								
BRVK	**Borovoye**	77.96	328	P		**P**		**15 06 38.7**	**+0.2**
	SNR=15								
BRVK	**Borovoye**	77.96	328	*c i*P		**P**		**15 06 38.4**	**-0.1**
BRVK				pmax		pmax			
	comp=Z,30nm,0.9s								
TIXI	**Tiksi**	78.79	360	P		**P**		**15 06 42.4**	**-0.3**
	comp=Z,21nm,0.4s,baz=204,slow=4.9								
TIXI	**Tiksi**	78.79	360	*e*P		**P**		**15 06 42.1**	**-0.6**
	comp=Z,89nm,1.4s								
TIXI	**Tiksi**	78.79	360⇓	*i*P		**P**		**15 06 42.0**	**-0.6**
TIXI				pmax		pmax			
	comp=Z,26nm,0.6s								
BILL	**Bilibino**	79.60	13	*e*P		**P**		**15 06 46.5**	**-0.7**
BILL				*e*				15 06 53.7	
BILL				*e*				15 09 45.8	
BILL				*e*S		**S**		**15 16 42.0**	**+3.7**
BILL				pmax		pmax			
	comp=Z,5.0nm,1.3s								
GEYT	**Alibeck**	79.79	311	P		**P**		**15 06 48.9**	**0.0**
	comp=Z,3.9nm,0.5s,baz=151,slow=3.4,SNR=18								
GYA0B	**ALIBECK ARRAY**	79.79	311	*e*P		**P**		**15 06 48.9**	**0.0**
	comp=Z,13nm,1.0s								
AB31	**Akbulak array**	82.24	322	*i* P		**P**		**15 07 01.0**	**-0.6**
AB31				pmax		pmax			
	comp=Z,15nm,0.6s								
ABKAR	**Akbulak array**	82.24	322	*e*P		**P**		**15 07 01.2**	**-0.4**
	comp=Z,190nm,0.6s								
QSPA	**South Pole Qui**	82.67	180	P		**P**		**15 07 04.0**	**+0.3**
	comp=Z,8.6nm,0.6s,baz=320,slow=1.6,SNR=28								
QSPA	**South Pole Qui**	82.67	180	*e*P		**P**		**15 07 04.0**	**+0.3**
	comp=Z,10.0nm,0.7s								
SYO	**Syowa Base**	83.08	201⇑	*e*P		**P**		**15 07 08.4**	**+2.8**
AKTO	**Aktyubinsk**	83.82	322	P		**P**		**15 07 09.7**	**0.0**
	comp=Z,21nm,0.8s,baz=112,slow=5.4,SNR=31								
AKTO	**Aktyubinsk**	83.82	322	*i* P		**P**		**15 07 09.1**	**-0.6**
AKTO				pmax		pmax			
	comp=Z,47nm,1.0s								
SVE	**Sverdlovsk**	84.61	329	*de*P		**P**		**15 07 13.2**	**-0.3**
SVE				pmax		pmax			
	comp=Z,79nm,1.4s								
ARU	**Arti**	85.53	328	P		**P**		**15 07 17.5**	**-0.6**
	comp=Z,16nm,0.6s,baz=97,slow=3.1,SNR=25								
ARU	**Arti**	85.53	328	*e*P		**P**		**15 07 17.3**	**-0.9**
	comp=Z,33nm,1.0s								
ARU	**Arti**	85.53	328	*c i*P		**P**		**15 07 17.9**	**-0.3**
ARU								15 10 38.4	
ARU				S		**S**		**15 17 31.8**	**-7.2**
ARU				SS		**SS**		**15 23 22.8**	**+5.0**
ARU				pmax		pmax			
	comp=Z,66nm,1.7s								
RAYN	**Ar Rayn**	87.12	294	*e*P		**P**		**15 07 26.3**	**-0.5**
	comp=Z,44nm,1.3s								
RAYN	**Ar Rayn**	87.12	294	P		**P**		**15 07 27.3**	**+0.5**
RAYN				pmax		pmax			
	comp=Z,44nm,1.3s								
AKT	**Akhty**	88.42	312⇓	*i*P		**P**		**15 07 33.7**	**+1.1**
AKT				pmax		pmax			
	comp=Z,35nm,0.9s								
KDAK	**Kodiak Island**	89.91	32	P		**P**		**15 07 38.7**	**-0.3**
	comp=Z,8.8nm,0.8s,baz=175,slow=4.9,SNR=6.2								
KDAK	**Kodiak Island**	89.91	32	*i* P		**P**		**15 07 41.8**	**+2.8**
TBLG	**Delisi**	90.68	312	*e*P		**P**		**15 07 43.6**	**+0.6**
	comp=Z,19nm,0.7s								
TBLG	**Delisi**	90.68	312	*e*P		**P**		**15 07 43.6**	**+0.6**
TBLG				pmax		pmax			
	comp=Z,19nm,0.7s								
PPLA	**Purkeypile**	91.31	27	*e*P		**P**		**15 07 45.0**	**-0.6**
	comp=Z,22nm,1.3s								
IM3	**Indian Mountai**	91.40	24	*e*P		**P**		**15 07 45.0**	**-0.9**
ZEI	**Tsey**	91.45	313	*e*P		**P**		**15 07 45.8**	**-1.1**
ZEI				pmax		pmax			
	comp=Z,14nm,0.9s								
CAST	**Castle Rocks**	91.48	26	*e*P		**P**		**15 07 45.1**	**-1.2**
	comp=Z,6.2nm,1.2s								
AKH	**Akhalkalaki**	91.55	311	*e*P		**P**		**15 07 48.0**	**+0.7**
	comp=Z,18nm,0.8s								
AKH	**Akhalkalaki**	91.55	311	*e*P		**P**		**15 07 48.0**	**+0.7**
AKH				pmax		pmax			
	comp=Z,18nm,0.8s								
SUA	**Susitna One**	91.65	28	*e*P		**P**		**15 07 46.9**	**-0.3**
	comp=Z,61nm,0.4s								
KMBO	**Kilima Mbogo**	91.77	269	P		**P**		**15 07 48.7**	**-0.3**
	comp=Z,5.3nm,0.9s,baz=71,slow=5.4,SNR=7.5								
KMBO	**Kilima Mbogo**	91.77	269	*e*P		**P**		**15 07 48.3**	**-0.7**
	comp=Z,16nm,1.4s								
KMBO	**Kilima Mbogo**	91.77	269	*e*P		**P**		**15 07 48.3**	**-0.7**
KMBO				pmax		pmax			
	comp=Z,16nm,1.4s								
KTH	**Kantishna Hill**	92.01	26	*e*P		**P**		**15 07 47.7**	**-1.1**
	comp=Z,16nm,1.2s								
BPAW	**Bear Paw Mtn.**	92.10	26	*e*P		**P**		**15 07 49.0**	**-0.1**
	comp=Z,9.9nm,1.2s								
TRF	**Thorofare Moun**	92.27	26	*e*P		**P**		**15 07 49.0**	**-1.1**
	comp=Z,20nm,1.4s								
KBZ	**Khabaz**	92.31	314	P		**P**		**15 07 50.7**	**+0.2**
	comp=Z,4.8nm,0.8s,baz=119,slow=3.3,SNR=11								
NEY	**Neytrino**	92.38	313	*i* P		**P**		**15 07 48.2**	**-2.9**
NEY				pmax		pmax			
	comp=Z,3.0nm,1.0s								
MLY	**Manley**	92.40	25	*e*P		**P**		**15 07 49.8**	**-0.8**
	comp=Z,9.3nm,1.1s								
KIV	**Kislovodsk**	92.50	314	*e*P		**P**		**15 07 48.4**	**-3.1**
KIV				pmax		pmax			
	comp=Z,4.0nm,1.0s								
SML	**Sawmill**	92.85	28	*e*P		**P**		**15 07 51.8**	**-0.9**
	comp=Z,22nm,1.1s								
SML	**Sawmill**	92.85	28	*e*P		**P**		**15 07 51.8**	**-0.9**
SML				pmax		pmax			
	comp=Z,22nm,1.1s								
RND	**Reindeer**	92.89	27	*e*P		**P**		**15 07 51.4**	**-1.5**
	comp=Z,20nm,1.0s								
RND	**Reindeer**	92.89	27	*e*P		**P**		**15 07 51.4**	**-1.5**
RND				pmax		pmax			
	comp=Z,20nm,1.0s								
MCK	**McKinley**	92.92	26	*e*P		**P**		**15 07 51.3**	**-1.6**
	comp=Z,24nm,1.2s								
MCK	**McKinley**	92.92	26	*e*P		**P**		**15 07 51.3**	**-1.6**
MCK				pmax		pmax			
	comp=Z,24nm,1.2s								
COLD	**Coldfoot**	93.07	23	*e*P		**P**		**15 07 52.6**	**-0.9**
	comp=Z,9.5nm,1.3s								
SCM	**Sheep Creek Mo**	93.32	28	*e*P		**P**		**15 07 53.7**	**-1.2**
	comp=Z,26nm,1.3s								
SCM	**Sheep Creek Mo**	93.32	28	*e*P		**P**		**15 07 53.7**	**-1.2**
SCM				pmax		pmax			
	comp=Z,26nm,1.3s								
WRH	**Wood River Hil**	93.41	26	*e*P		**P**		**15 07 53.3**	**-1.8**
	comp=Z,18nm,1.1s								
MDM	**Murphy Dome**	93.44	25	*e*P		**P**		**15 07 53.2**	**-2.0**
	comp=Z,5.2nm,1.2s								
DHY	**Denali Highway**	93.50	27	*e*P		**P**		**15 07 54.6**	**-1.1**
	comp=Z,16nm,1.0s								
CCB	**Clear Creek Bu**	93.56	25	*e*P		**P**		**15 07 54.1**	**-1.7**
	comp=Z,19nm,1.1s								
TOLK	**Toolik Lake Re**	93.57	21	P		**P**		**15 07 55.0**	**-0.8**
	baz=259								
TOLK	**Toolik Lake Re**	93.57	21	*e*P		**P**		**15 07 55.3**	**-0.6**
	comp=Z,14nm,1.5s								
HDA	**Harding Lake**	93.89	26	*e*P		**P**		**15 07 55.6**	**-1.8**
	comp=Z,12nm,1.0s								
KLU	**Klutina**	93.94	29	*e*P		**P**		**15 07 56.5**	**-1.2**
	comp=Z,11nm,1.5s								
DIV	**Divide**	93.96	29	*e*P		**P**		**15 07 57.3**	**-0.5**
	comp=Z,9.4nm,0.9s								
ILAR	**Eielson Array**	93.97	25	P		**P**		**15 07 55.5**	**-2.2**
	comp=Z,5.1nm,1.1s,baz=261,slow=4.1,SNR=25								
ILAR				PP		**PP**		**15 11 40.2**	**-5.1**
	comp=Z,1.3nm,1.1s,baz=237,slow=6.4,SNR=4.8								
ILAR				LR		LR		15 46 51.6	
	comp=Z,21nm,19.5s,baz=254,slow=33								
ILB	**Eielson Array**	93.97	25	*e*P		**P**		**15 07 55.4**	**-2.3**
IL1	**Eielson Array**	93.97	25	*e*P		**P**		**15 07 55.1**	**-2.6**
VRH	**Novokhopyorsk**	94.04	321	*e*P		**P**		**15 07 55.4**	**-2.9**
VRH				pmax		pmax			
	comp=Z,10.0nm,0.5s								
PAX	**Paxson**	94.34	27	*e*P		**P**		**15 07 58.7**	**-0.8**
	comp=Z,15nm,1.2s								
PAX	**Paxson**	94.34	27	*e*P		**P**		**15 07 58.7**	**-0.8**
PAX				pmax		pmax			
	comp=Z,15nm,1.2s								
BMRM	**Bremner River**	94.50	29	*e*P		**P**		**15 07 59.7**	**-0.5**
	comp=Z,10nm,1.0s								
RIDG	**Independ'e Rid**	94.72	26	*e*P		**P**		**15 08 00.3**	**-0.9**
	comp=Z,17nm,1.1s								
FYU	**Fort Yukon**	94.90	24	*e*P		**P**		**15 08 01.8**	**-0.1**
	comp=Z,34nm,1.4s								
DOT	**Dot Lake**	95.05	27	*e*P		**P**		**15 08 01.6**	**-1.1**
	comp=Z,20nm,1.0s								
SCRK	**Sand Creek**	95.12	26	*e*P		**P**		**15 08 02.0**	**-1.1**
	comp=Z,6.6nm,1.2s								
SNAA	**Sanae**	95.17	194	P		**P**		**15 08 04.6**	**+1.4**
SNAA	**Sanae**	95.17	194	P		**P**		**15 08 04.4**	**+1.2**
	comp=Z,1.5nm,0.6s,baz=129,slow=6.5,SNR=17								
SNAA				LR		LR		15 51 16.6	
	comp=Z,63nm,18.1s,baz=126,slow=36								
BALM	**Baldy**	95.60	29	*e*P		**P**		**15 08 05.2**	**-0.2**
	comp=Z,6.1nm,1.1s								
BALM	**Baldy**	95.60	29	*e*P		**P**		**15 08 05.2**	**-0.2**
BALM				pmax		pmax			
	comp=Z,6.0nm,1.1s								
VSR	**Storozhevoye**	95.64	321	*e*P		**P**		**15 08 01.6**	**-4.0**
VSR				pmax		pmax			
	comp=Z,9.0nm,1.1s								
KLMR	**Klimovskoe**	96.16	331	*e*P		**P**		**15 08 04.5**	**-3.3**
KLMR				AMP				15 08 09.7	
	comp=Z,16nm,1.4s								
KLMR				*e*PP		**PP**		**15 11 59.5**	**-2.8**
KLMR	**Klimovskoe**	96.16	331	*e*P		**P**		**15 08 04.4**	**-3.3**
KLMR				*e*				15 11 59.4	
KLMR				pmax		pmax			
	comp=Z,16nm,1.4s								
EGAK	**Eagle**	96.42	26	*e*P		**P**		**15 08 08.1**	**-0.7**
	comp=Z,9.9nm,1.1s								
VNA2	**Neumayer--Watz**	96.75	193	P		**P**		**15 08 11.9**	**+1.6**
VNA3	**Neumayer Olymp**	97.01	192	P		**P**		**15 08 10.5**	**-1.1**
MMAI	**Mount Meron Ar**	97.09	302	P		Pdif		15 08 13.5	+0.7
	comp=Z,0.6nm,0.3s,baz=76,slow=6.1,SNR=4.1								
DAWY	**Dawson**	97.15	26	*e*P		**P**		**15 08 11.7**	**-0.5**
	comp=Z,19nm,1.3s								
OBN	**Obninsk**	97.43	325⇓	*e*P		**P**		**15 08 11.2**	**-2.4**
OBN				*e**PP		**pP**		**15 08 43.9**	**-2.7**
OBN				pmax		pmax			
	comp=Z,8.0nm,1.0s								
OBN				MLR		MLR			
	comp=Z,46nm,18.0s								
BOSA	**Boshof**	98.60	240	P		Pdif		15 08 20.7	+1.0
	comp=Z,1.5nm,0.6s,baz=109,slow=8.6,SNR=3.8								
BR131	**Keskin Array S**	98.87	309	*e*P		**P**		**15 08 20.1**	**-0.6**
BRTR	**Keskin Array B**	98.87	309	P		Pdif		15 08 21.4	+0.7
	comp=Z,1.7nm,0.7s,baz=134,slow=5.4,SNR=10.0								
BRTR				PP		**PP**		**15 12 24.1**	**+0.1**
	comp=Z,1.1nm,0.8s,baz=132,slow=5.3,SNR=4.4								
APA	**Apatity**	98.92	337⇑	*i*P		Pdif		15 08 26.9	+6.9
WHY	**Whitehorse**	99.24	30	*e*P		**Pdif**		**15 08 20.7**	**-1.1**
	comp=Z,3.7nm,1.0s								
INK	**Inuvik**	99.45	22	P		**Pdif**		**15 08 22.7**	**+0.3**
	comp=Z,1.1nm,0.9s,baz=276,slow=8.1,SNR=3.9								
INK	**Inuvik**	99.45	22	*e*Pdif		**Pdif**		**15 08 21.1**	**-1.2**

TX31	Lajitas Ar. Si	125.79	59	*e*PKPdf	PKPdf	15 13 40.6	-1.4		
TXAR	Lajitas Array	125.79	59	PKP	PKPdf	15 13 42.0	0.0		
	comp=Z,1.2nm,0.7s,baz=294,slow=1.2,SNR=8.6								
TXAR				PKKPbc	PKKPbc	15 23 20.4	+2.2		
	comp=Z,0.3nm,0.6s,baz=110,slow=5.8,SNR=4.1								
ECSD	EROS Data Cent	126.05	40	*e*PKPdf	PKPdf	15 13 40.5	-1.4		
E36A	McGregor	126.66	36	P	PKPdf	15 13 42.1	-1.0		
	baz=304								
EYMN	Ely	126.83	33	P	PKPdf	15 13 43.4	+0.1		
	baz=306								
ES19	SONSECA Array	127.09	315	*e*PKPdf	PKPdf	15 13 42.8	-1.4		
ESDC	Sonseca Array	127.15	315	PKP	PKPdf	15 13 43.6	-0.7		
	comp=Z,0.3nm,0.3s,baz=59,slow=0.9,SNR=8.3								
TOA0	Torodi Ar. Sit	128.06	281	*e*PKPdf	PKPdf	15 13 47.0	+0.4		
TOA0				*e*PKPdf	PKiKP	15 13 47.2	0.0		
TORD	Torodi Ar. Bea	128.06	281	PKP	PKPdf	15 13 46.9	+0.3		
	comp=Z,3.9nm,0.6s,baz=69,slow=1.8,SNR=32								
TORD				SKPbc	SKPbc	15 16 52.9			
	comp=Z,4.1nm,1.0s,baz=63,slow=3.6,SNR=8.4								
E39A	Mellen	128.27	34	P	PKPdf	15 13 46.8	+0.6		
	baz=306								
E40A	Wakefield	128.59	34	P	PKPdf	15 13 47.6	+0.8		
	baz=307								
JCT	Junction City	128.75	57	*e*PKPdf	PKPdf	15 13 48.4	+0.8		
JCT	Junction City	128.75	57	*e*PKIKP	PKPdf	15 13 48.4	+0.8		
PLCA	Paso Flores	128.86	161	PKP	PKPdf	15 13 49.0	+1.4		
	comp=Z,2.3nm,0.7s,baz=294,slow=0.4,SNR=7.5								
PLCA				SKPbc	SKPbc	15 16 56.7			
	comp=Z,5.7nm,1.2s,baz=236,slow=7.1,SNR=3.9								
PLCA	Paso Flores	128.86	161	*e*PKPdf	PKPdf	15 13 48.3	+0.7		
PLCA				SKPbc	SKPbc	15 16 56.7			
PLCA	Paso Flores	128.86	161	*e*PKIKP	PKPdf	15 13 48.3	+0.7		
PCBR	Castelo Branco	129.50	317	*i* P	SKPbc	15 16 58.8	-0.2		
PMRV	Marv??o	129.63	316	*i* P	SKPbc	15 16 59.5	0.0		
PBAR	Barrancos	129.96	315	*i* P	SKPbc	15 17 00.7	+0.1		
PESTR	Estremoz	130.03	316	*i* P	SKPbc	15 17 01.2	+0.3		
PCAS	Casmilo, Conde	130.09	318	*i* P	SKPbc	15 17 00.3	-0.8		
PTOM	Tomar	130.24	317	*i* P	SKPbc	15 17 01.9	+0.3		
PMTG	Montargil	130.37	316	*i* P	SKPbc	15 17 02.2	+0.1		
EVO	Evora	130.48	316	*i* P	SKPbc	15 17 01.8	-0.7		
PBEJ	Beja	130.61	315	*i* P	SKPbc	15 17 02.9	-0.1		
PVAQ	Vaqueiros	130.78	314	*i* P	SKPbc	15 17 04.0	+0.4		
PCVE	Castro Verde	130.91	314	*i* P	SKPbc	15 17 02.5	-1.6		
PBDV	Barranco-do-Ve	131.00	314	*i* P	SKPbc	15 17 03.5	-1.0		
KOWA	Kowa	133.56	283	PKP	PKPdf	15 13 57.2	+0.2		
	comp=Z,2.5nm,0.4s,baz=16,slow=2.5,SNR=6.3								
KOWA	Kowa	133.56	283	*e*PKPdf	PKPdf	15 13 58.0	+1.0		
DBIC	Dimbokro	134.38	272	PKP	PKPdf	15 13 59.4	+0.8		
	comp=Z,3.6nm,0.4s,baz=50,slow=0.8,SNR=10.0								
DBIC				SKPbc	SKPbc	15 17 15.2	-1.6		
	comp=Z,8.1nm,0.8s,baz=89,slow=3.4,SNR=9.0								
BBTS	Babate	145.59	285	PKPbc	PKPab	15 14 20.0	+0.4		
	comp=Z,37nm,0.6s,baz=109,slow=1.4,SNR=8.7								
CPUP	Villa Florida	145.97	170	PKPbc	PKPab	15 14 20.6	-0.1		
	comp=Z,14nm,1.1s,baz=191,slow=4.5,SNR=9.5								
CPUP				SKPbc	SKPbc	15 17 47.3	-0.3		
	comp=Z,8.7nm,0.9s,baz=112,slow=1.5,SNR=7.7								
CPUP	Villa Florida	145.97	170	*e*PKPdf	PKPbc	15 14 20.2	+0.1		
CPUP				SKPbc	SKPbc	15 17 47.3	-0.3		
JTS	JuntasAbangare	146.16	82	PKPbc	PKPbc	15 14 20.5	-0.5		
	comp=Z,8.9nm,0.3s,baz=302,slow=2.9,SNR=11								
JTS	JuntasAbangare	146.16	82	*e*PKPbc	PKPbc	15 14 21.0	0.0		
JTS	JuntasAbangare	146.16	82	*e*PKP2	PKPbc	15 14 21.0	0.0		
PB01	IPOC Station P	146.39	147	*e*PKPdf	PKPab	15 14 22.6	0.0		
PB11	IPOC Station P	147.33	146	*e*PKPbc	PKPbc	15 14 24.6	+0.2		
NNA	Nana	147.80	126	*i* PKP2	PKPab	15 14 27.6	-0.7		
MNMC	Minye Minye	147.87	145	*e*PKPbc	PKPbc	15 14 26.9	+0.9		
LPAZ	La Paz	150.96	144	PKP	PKPdf	15 14 29.7	+1.4		
	comp=Z,5.5nm,1.3s,baz=244,slow=1.1,SNR=9.5								
LPAZ				PKPbc	PKiKP	15 14 34.6	-0.1		
	comp=Z,3.9nm,0.4s,baz=255,slow=1.6,SNR=20								
BCIP	Isla Barro Col	151.23	84	*e*PKPbc	PKPbc	15 14 33.0	-1.0		
OTAV	Otavalo	151.57	103	*e*PKPdf	PKPdf	15 14 31.1	+1.9		
OTAV	Otavalo	151.57	103	PKIKP	PKPdf	15 14 31.3	+2.1		
RUSC	La Rusia	157.84	92	*e*PKPdf	PKPdf	15 14 38.0	+0.2		
SAML	Samuel	159.69	142	*e*PKPdf	PKPdf	15 14 38.8	-0.6		
SDV	Santo Domingo	160.33	84	PKP	PKPdf	15 14 39.8	-0.5		
	comp=Z,1.2nm,0.4s,baz=225,slow=1.7,SNR=7.9								
SDV	Santo Domingo	160.33	84	*e*PKPdf	PKPdf	15 14 40.9	+0.6		
PTGA	Pitinga	167.88	131	*e*PKPdf	PKPdf	15 14 47.6	+0.7		

NIED ***23*** *14:57:00, 36.60N×141.10E, h5km, Mw3.5 Best double couple: M0 1.81000×10^14 NP1:φs=327.00000°, δ=47.00000°, λ=-173.00000°. NP2:φs=232.00000°, δ=85.00000°, λ=-43.00000°.*

JMA 23 14:57:57.3, 36.59N×141.07E, h23km±1km, M3.8, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHO	**Hitachi**	**0.40**	**273**	P	Pb	14 58 05.4	-0.4
JHO				S	Sb	14 58 11.6	0.0
ONAJ	**Iwakimizuishiy**	**0.56**	**337**	P	Pb	14 58 08.2	-0.2
ONAJ				*i* S	Sb	14 58 16.3	+0.3
JFK	**Kawauchi**	**0.79**	**349**	P	Pb	14 58 11.7	-0.7
JFK				S	Sb	14 58 22.3	-0.4
JYT	**Yasato**	**0.79**	**243**	P	Pb	14 58 11.9	-0.5
JYT				S	Sb	14 58 23.0	+0.3
JSB	**Shiboa**	**1.00**	**293**	P	Pn	14 58 16.2	+0.3
JFT	**Otama**	**1.10**	**328**	P	Pn	14 58 17.3	0.0
JFT				S	Sn	14 58 32.0	+0.3
MAT	**Matsushiro**	**2.31**	**270**	P	Pn	14 58 35.1	+1.2
MAT				S	Sb	14 59 07.0	+0.7

THE ***23*** *15:23:50.7, 35.91N×22.40E, h2km, ML3.8/10, Error ellipse: s-maj=1.0km s-min=0.4km az=38.0*
ISCJB ***23*** *15:23:52.4±0.8, 35.86N±0.03×22.45E±0.04, h15km±5km, mb3.8/16, MS3.3/4, Error ellipse: s-maj=6.9km s-min=3.0km az=40.6*
ATH ***23*** *15:23:52.3, 35.95N×22.51E, h10km±1km, ML3.7/12, Error ellipse: s-maj=1.8km s-min=0.6km az=46.0*
CSEM ***23*** *15:23:53.1±0.4, 35.95N×22.51E, h2km, ML3.7, Error ellipse: s-maj=9.4km s-min=4.3km az=37.0*
BEO ***23*** *15:23:53.9±1.0, 36.08N×22.61E, h0km*
IDC ***23*** *15:23:56.5±1.7, 35.73N×22.31E, h72km±16km, mb3.5/15, mb1 3.6/22, mb1mx3.5/65, mbtmp3.8/22, MS3.2/6, Ms1 3.2/6, ms1mx2.8/51, Error ellipse: s-maj=18.2km s-min=12.5km az=21.0*

ISC 23 15:23:51.7±0.8, 35.91N±0.03×22.42E±0.03, h16km±5km, n240, σ1§80/269, mb3.8/16, MS3.3/4, 6C-5D, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KYTH	**Kithira**	**0.62**	**55**	P	**Pg**	**15 24 03.1**	**-0.8**
KYTH				S	**Sg**	**15 24 09.9**	**-2.3**
KYTH				AML	AML	15 24 12.7	
	comp=N,23940μm,0.4s						
KYTH				AML	AML	15 24 13.5	
	comp=E,15601μm,0.3s						
KYTH	**Kithira**	**0.62**	**55**	P	**Pg**	**15 24 02.9**	**-1.0**
KYTH				S	**Sb**	**15 24 11.9**	**-0.8**
KYTH	**Kithira**	**0.62**	**55**	P	**Pg**	**15 24 02.9**	**-1.0**
KYTH				S	**Sg**	**15 24 10.0**	**-2.2**
ANKY	**Antikythira Is**	**0.72**	**93**	P	**Pg**	**15 24 04.8**	**-0.9**
ANKY				S	**Sg**	**15 24 13.6**	**-1.5**
ANKY				AML	AML	15 24 15.7	
	comp=N,16366μm,0.9s						
ANKY				AML	AML	15 24 16.8	
	comp=E,11925μm,0.5s						
ANKY	**Antikythira Is**	**0.72**	**93**	P	**Pg**	**15 24 04.7**	**-1.0**
ANKY				S	**Sb**	**15 24 15.2**	**-0.3**
ANKY	**Antikythira Is**	**0.72**	**93**	P	**Pg**	**15 24 04.8**	**-0.9**
ANKY				S	**Sg**	**15 24 13.7**	**-1.5**
DYR	**Agios Nikonas**	**0.85**	**355**	P	**Pg**	**15 24 07.5**	**-0.8**
DYR				S	**Sg**	**15 24 19.0**	**-0.6**
DYR				AML	AML	15 24 23.4	
	comp=E,7265μm,0.4s						
DYR				AML	AML	15 24 25.5	
	comp=N,5494μm,0.3s						
DYR	**Agios Nikonas**	**0.85**	**355**	P	**Pg**	**15 24 06.5**	**-1.8**
DYR				S	**Sg**	**15 24 18.9**	**-0.7**
DYR	**Agios Nikonas**	**0.85**	**355**	P	**Pg**	**15 24 07.7**	**-0.6**
DYR				S	**Sg**	**15 24 19.2**	**-0.4**
VLI	**Veliai**	**0.91**	**27**	P	**Pg**	**15 24 08.6**	**-0.8**
VLI				S	**Sg**	**15 24 19.3**	**-2.1**
VLI				AML	AML	15 24 29.9	
	comp=N,7998μm,0.7s						
VLI				AML	AML	15 24 33.9	
	comp=E,10068μm,0.9s						
VLI	**Veliai**	**0.91**	**27**	P	**Pg**	**15 24 07.8**	**-1.6**
VLI				S	**Sb**	**15 24 21.6**	**+0.6**
VLI	**Veliai**	**0.91**	**27**	P	**Pg**	**15 24 08.4**	**-1.0**
VLI				S	**Sg**	**15 24 19.6**	**-1.7**
MNVA	**Monemvasia**	**0.92**	**33**	P	**Pg**	**15 24 08.7**	**-0.9**
MNVA				AML	AML	15 24 29.0	
	comp=N,3137μm,0.4s						
MNVA				AML	AML	15 24 31.9	
	comp=E,6314μm,0.7s						
MNVA	**Monemvasia**	**0.92**	**33**	P	**Pg**	**15 24 08.6**	**-1.0**
PYL	**PYLOS**	**1.13**	**331**	P	**Pb**	**15 24 12.4**	**-0.4**
PYL				S	**Sn**	**15 24 29.9**	**+1.9**
PYL				AML	AML	15 24 34.8	
	comp=E,10015μm,0.4s						
PYL				AML	AML	15 24 35.5	
	comp=N,5728μm,0.4s						
PYL	**PYLOS**	**1.13**	**331**	P	**Pb**	**15 24 11.7**	**-1.1**
PYL				S	**Sb**	**15 24 27.9**	**+0.6**
PYL	**PYLOS**	**1.13**	**331**	P	**Pb**	**15 24 13.0**	**+0.2**
PYL				S	**Sn**	**15 24 29.5**	**+1.5**
ITM	**Ithomi**	**1.33**	**343**	P	**Pn**	**15 24 16.3**	**+0.7**
ITM				S	**Sg**	**15 24 34.9**	**+0.2**
ITM				AML	AML	15 24 40.8	
	comp=N,5882μm,0.4s						
ITM				AML	AML	15 24 40.8	
	comp=E,6911μm,0.3s						
ITM	**Ithomi**	**1.33**	**343**	P	**Pn**	**15 24 14.9**	**-0.8**
ITM				S	**Sn**	**15 24 34.0**	**+0.9**
ITM	**Ithomi**	**1.33**	**343**	P	**Pb**	**15 24 16.7**	**+0.4**
ITM				S	**Sg**	**15 24 34.9**	**+0.2**
IMMV	**Iera Moni Meta**	**1.35**	**109**	P	**Pn**	**15 24 15.3**	**-0.6**
IMMV				S	**Sg**	**15 24 35.8**	**+0.5**
IMMV				AML	AML	15 24 42.0	
	comp=E,5876μm,0.8s						
IMMV				AML	AML	15 24 43.0	
	comp=N,8780μm,0.8s						
IMMV	**Iera Moni Meta**	**1.35**	**109**	P	**Pn**	**15 24 15.3**	**-0.6**
IMMV				S	**Sg**	**15 24 34.9**	**-0.3**
IMMV	**Iera Moni Meta**	**1.35**	**109**	P	**Pn**	**15 24 16.0**	**+0.1**
IMMV				S	**Sg**	**15 24 34.9**	**-0.3**
VLX	**Vlachokerasia**	**1.46**	**359**	P	**Pg**	**15 24 19.4**	**-0.4**
VLX				S	**Sg**	**15 24 39.4**	**+0.6**
VLX				AML	AML	15 24 50.1	
	comp=N,7558μm,1.1s						
VLX				AML	AML	15 24 50.9	
	comp=E,4789μm,0.7s						
VLX	**Vlachokerasia**	**1.46**	**359**	P	**Pn**	**15 24 17.1**	**-0.4**
VLX				S	**Sg**	**15 24 38.0**	**-0.8**
VLX	**Vlachokerasia**	**1.46**	**359**	P	**Pg**	**15 24 19.2**	**-0.6**
VLX				S	**Sg**	**15 24 38.0**	**-0.8**
VAM	**Vamos**	**1.53**	**109**	P	**Pb**	**15 24 19.4**	**-0.3**
VAM	**Vamos**	**1.53**	**109**	P	**Pn**	**15 24 18.5**	**+0.1**
VAM				S	**Sg**	**15 24 40.1**	**-1.1**
VAM	**Vamos**	**1.53**	**109**	P	**Pb**	**15 24 19.8**	**0.0**
VAM				S	**Sg**	**15 24 40.1**	**-1.1**
KRND	**KRANIDI**	**1.58**	**22**	P	**Pb**	**15 24 20.7**	**+0.1**
KRND				S	**Sg**	**15 24 42.4**	**-0.4**
KRND				AML	AML	15 24 46.3	
	comp=E,4263μm,1.1s						
KRND				AML	AML	15 24 48.9	
	comp=N,2300μm,0.4s						
KRND	**KRANIDI**	**1.58**	**22**	P	**Pn**	**15 24 19.1**	**0.0**
KRND	**KRANIDI**	**1.58**	**22**	P	**Pb**	**15 24 20.8**	**+0.1**
KRND				S	**Sg**	**15 24 42.0**	**-0.8**
TRIP	**Tripoli**	**1.62**	**356**	P	**Pg**	**15 24 22.1**	**-0.7**
TRIP				S	**Sg**	**15 24 43.7**	**-0.3**
TRIP				AML	AML	15 24 52.2	
	comp=N,2813μm,0.9s						
TRIP				AML	AML	15 24 53.3	
	comp=E,4495μm,0.8s						
TRIP	**Tripoli**	**1.62**	**356**	P	**Pg**	**15 24 22.1**	**-0.7**
TRIP				S	**Sg**	**15 24 43.7**	**-0.3**
VDRA	**Hydra**	**1.67**	**30**	P	**Pb**	**15 24 21.8**	**-0.2**
VDRA	**Hydra**	**1.67**	**30**	P	**Pb**	**15 24 22.0**	**0.0**
AMT	**Artemida-Makis**	**1.72**	**341**	P	**Pb**	**15 24 23.3**	**+0.4**
AMT				AML	AML	15 24 54.6	
	comp=E,9955μm,0.6s						
AMT				AML	AML	15 24 56.8	
	comp=N,8277μm,0.3s						
AMT	**Artemida-Makis**	**1.72**	**341**	P	**Pn**	**15 24 21.4**	**+0.4**
AMT	**Artemida-Makis**	**1.72**	**341**	P	**Pb**	**15 24 23.8**	**+0.9**
DID	**Didima**	**1.73**	**22**	P	**Pb**	**15 24 22.4**	**-0.7**
DID	**Didima**	**1.73**	**22**	P	**Pb**	**15 24 22.9**	**-0.1**
GVD	**Gavdhos**	**1.73**	**128**	P	**Pb**	**15 24 23.5**	**+0.4**
GVD	**Gavdhos**	**1.73**	**128**	P	**Pb**	**15 24 23.8**	**+0.7**
MHLO	**Agia Marina, M**	**1.78**	**63**	P	**Pg**	**15 24 26.3**	**+0.3**
MHLO	**Agia Marina, M**	**1.78**	**63**	P	**Pn**	**15 24 21.9**	**+0.1**
MHLO				S	**Sb**	**15 24 46.1**	**0.0**
MHLO	**Agia Marina, M**	**1.78**	**63**	P	**Pn**	**15 24 21.9**	**+0.1**
MHLO				S	**Sb**	**15 24 46.1**	**0.0**
MHLA	**Plaka, Milos I**	**1.82**	**62**	P	**Pn**	**15 24 22.8**	**+0.5**
MHLA	**Plaka, Milos I**	**1.82**	**62**	P	**Pb**	**15 24 23.7**	**-0.9**
GUR	**Goura**	**2.02**	**358**	P	**Pn**	**15 24 26.9**	**+1.5**
GUR	**Goura**	**2.02**	**358**	P	**Pb**	**15 24 27.5**	**-0.7**
IDI	**Anoyia**	**2.11**	**106**	P	**Pb**	**15 24 29.2**	**-0.3**
	comp=N,14nm,0.3s,baz=274,slow=14,SNR=54						
IDI				S	**Sg**	**15 24 57.6**	**-1.9**
	comp=N,28nm,0.3s,baz=12,slow=22,SNR=4.5						
IDI	**Anoyia**	**2.11**	**106**	*e*P	**Pb**	**15 24 29.8**	**+0.2**
DRO	**Drossia**	**2.12**	**345**	P	**Pb**	**15 24 30.1**	**+0.4**
DRO	**Drossia**	**2.12**	**345**	P	**Pb**	**15 24 29.9**	**+0.2**
THAL	**Thalero**	**2.13**	**5**	P	**Pb**	**15 24 30.0**	**0.0**
THAL	**Thalero**	**2.13**	**5**	P	**Pb**	**15 24 29.8**	**-0.2**
KLV	**Kalavryta, Ach**	**2.14**	**354**	P	**Pb**	**15 24 29.0**	**-1.1**
KLV	**Kalavryta, Ach**	**2.14**	**354**	P	**Pb**	**15 24 29.5**	**-0.7**
SIVA	**Sivas**	**2.15**	**114**	P	**Pb**	**15 24 30.8**	**+0.6**
SIVA	**Sivas**	**2.15**	**114**	P	**Pb**	**15 24 30.3**	**+0.1**
LTK	**Loutraki**	**2.16**	**12**	P	**Pb**	**15 24 30.4**	**0.0**
LTK	**Loutraki**	**2.16**	**12**	P	**Pb**	**15 24 30.1**	**-0.3**
VLY	**Voula,Athens**	**2.23**	**29**	P	**Pb**	**15 24 30.5**	**-1.2**
VLY	**Voula,Athens**	**2.23**	**29**	P	**Pn**	**15 24 28.2**	**+0.2**
VLY	**Voula,Athens**	**2.23**	**29**	P	**Pb**	**15 24 30.5**	**-1.2**
VTN	**Vitineika**	**2.23**	**334**	P	**Pb**	**15 24 31.7**	**0.0**
VTN	**Vitineika**	**2.23**	**334**	P	**Pb**	**15 24 31.7**	**0.0**
RLS	**Riolos of Patr**	**2.28**	**341**	P	**Pb**	**15 24 31.8**	**-0.6**
RLS	**Riolos of Patr**	**2.28**	**341**	P	**Pb**	**15 24 32.0**	**-0.4**
ATH	**Athens Observa**	**2.31**	**26**	P	**Pn**	**15 24 31.0**	**+2.0**
ATH	**Athens Observa**	**2.31**	**26**	P	**Pb**	**15 24 31.4**	**-1.5**
ATHU	**Athens Univers**	**2.33**	**28**	P	**Pb**	**15 24 32.1**	**-1.2**
ATHU	**Athens Univers**	**2.33**	**28**	P	**Pn**	**15 24 30.2**	**+0.8**
ATHU	**Athens Univers**	**2.33**	**28**	P	**Pb**	**15 24 32.0**	**-1.2**
LAKA	**Lakka**	**2.35**	**352**	P	**Pb**	**15 24 33.5**	**-0.3**
LAKA	**Lakka**	**2.35**	**352**	P	**Pb**	**15 24 33.2**	**-0.6**
VILL	**Villia**	**2.36**	**17**	P	**Pb**	**15 24 32.5**	**-1.4**
PROD	**Prodromos**	**2.38**	**9**	P	**Pb**	**15 24 33.8**	**-0.4**
PROD	**Prodromos**	**2.38**	**9**	P	**Pb**	**15 24 33.3**	**-0.9**
VIL2	**Platees**	**2.40**	**16**	P	**Pn**	**15 24 32.4**	**+2.1**
PTL	**Penteli**	**2.43**	**28**	P	**Pn**	**15 24 32.0**	**+1.2**
PTL	**Penteli**	**2.43**	**28**	P	**Pn**	**15 24 32.7**	**+1.9**
IOSP	**Ios island**	**2.46**	**70**	P	**Pn**	**15 24 32.0**	**+0.9**
IOSP	**Ios island**	**2.46**	**70**	P	**Pn**	**15 24 32.8**	**+1.7**
TRIZ	**Trizonia**	**2.47**	**354**	P	**Pb**	**15 24 35.7**	**+0.1**
TRIZ	**Trizonia**	**2.47**	**354**	P	**Pb**	**15 24 35.1**	**-0.6**
DION	**Dionisos Attik**	**2.48**	**29**	P	**Pn**	**15 24 32.8**	**+1.3**
DION	**Dionisos Attik**	**2.48**	**29**	P	**Pn**	**15 24 33.5**	**+2.0**
KALE	**Kalithea**	**2.49**	**355**	P	**Pb**	**15 24 36.3**	**+0.3**
KALE	**Kalithea**	**2.49**	**355**	P	**Pb**	**15 24 35.5**	**-0.6**
DSF	**Desfina**	**2.50**	**2**	P	**Pb**	**15 24 36.0**	**-0.2**
DSF	**Desfina**	**2.50**	**2**	P	**Pb**	**15 24 35.4**	**-0.9**
SANT	**Santorini**	**2.50**	**78**	*e*P	**Pn**	**15 24 31.1**	**-0.7**
SANT	**Santorini**	**2.50**	**78**	P	**Pn**	**15 24 33.5**	**+1.7**
SANT	**Santorini**	**2.50**	**78**	P	**Pn**	**15 24 33.9**	**+2.1**
SERG	**Sergoula**	**2.52**	**354**	P	**Pb**	**15 24 36.6**	**+0.1**
SERG	**Sergoula**	**2.52**	**354**	P	**Pb**	**15 24 35.9**	**-0.6**
EFP	**Efpalio**	**2.55**	**351**	P	**Pb**	**15 24 36.8**	**-0.2**
EFP	**Efpalio**	**2.55**	**351**	P	**Pb**	**15 24 36.2**	**-0.8**
KFL	**Anninata**	**2.56**	**330**	P	**Pb**	**15 24 35.5**	**-1.7**
KFL	**Anninata**	**2.56**	**330**	P	**Pb**	**15 24 35.9**	**-1.3**
LAST	**Lasithi**	**2.60**	**106**	P	**Pb**	**15 24 36.4**	**-1.7**
LAST	**Lasithi**	**2.60**	**106**	P	**Pb**	**15 24 36.2**	**-1.9**
KARY	**Karystos**	**2.67**	**37**	P	**Pn**	**15 24 34.8**	**+0.8**
KARY	**Karystos**	**2.67**	**37**	P	**Pn**	**15 24 34.8**	**+0.8**
VLS	**Valsamata**	**2.70**	**328**	P	**Pb**	**15 24 38.1**	**-1.5**
VLS	**Valsamata**	**2.70**	**328**	P	**Pb**	**15 24 38.2**	**-1.4**
ANX	**Ano Chora**	**2.71**	**352**	P	**Pn**	**15 24 37.6**	**+2.9**
ANX	**Ano Chora**	**2.71**	**352**	P	**Pb**	**15 24 37.8**	**-2.1**
APE	**Apeiranthos**	**2.76**	**64**	*e*P	**Pn**	**15 24 35.7**	**+0.4**
APE	**Apeiranthos**	**2.76**	**64**	*i*|P	**Sb**	**15 25 14.3**	**-0.1**
APE	**Apeiranthos**	**2.76**	**64**	P	**Pn**	**15 24 37.0**	**+1.6**
APE	**Apeiranthos**	**2.76**	**64**	P	**Pn**	**15 24 35.8**	**+0.4**
APE	**Apeiranthos**	**2.76**	**64**	P	**Pn**	**15 24 37.4**	**+2.0**
LKR	**Lokris**	**2.78**	**9**	P	**Pb**	**15 24 39.1**	**-1.8**
LKR	**Lokris**	**2.78**	**9**	P	**Pb**	**15 24 38.8**	**-2.1**
EREA	**Eretria**	**2.78**	**25**	P	**Pn**	**15 24 38.1**	**+2.4**
EREA	**Eretria**	**2.78**	**25**	P	**Pn**	**15 24 36.4**	**+0.8**
EREA	**Eretria**	**2.78**	**25**	P	**Pn**	**15 24 38.2**	**+2.6**
PVO	**Paravola**	**2.80**	**346**	P	**Pb**	**15 24 39.3**	**-2.0**
PVO	**Paravola**	**2.80**	**346**	P	**Pb**	**15 24 39.3**	**-2.0**
AXAR	**Agios Charalam**	**2.86**	**4**	P	**Pb**	**15 24 40.5**	**-1.9**
AXAR	**Agios Charalam**	**2.86**	**4**	P	**Pb**	**15 24 40.1**	**-2.3**
PDO	**Prodromos**	**2.86**	**340**	P	**Pb**	**15 24 42.0**	**-0.3**
PDO	**Prodromos**	**2.86**	**340**	P	**Pb**	**15 24 41.2**	**-1.2**
FSK	**Fiskardo**	**2.95**	**330**	P	**Pb**	**15 24 41.5**	**-2.3**
EVR	**Evrytania**	**3.04**	**351**	P	**Pb**	**15 24 44.0**	**-1.6**
EVR	**Evrytania**	**3.04**	**351**	P	**Pb**	**15 24 43.3**	**-2.2**
AGG	**Agios Georgios**	**3.11**	**359**	*e*P	**Pb**	**15 24 46.2**	**-0.4**
AGG	**Agios Georgios**	**3.11**	**359**	P	**Pb**	**15 24 45.2**	**-1.4**
AGG	**Agios Georgios**	**3.11**	**359**	P	**Pb**	**15 24 44.3**	**-2.3**
ZKR	**Zakros**	**3.20**	**103**	P	**Pn**	**15 24 44.0**	**+2.7**
ZKR	**Zakros**	**3.20**	**103**	P	**Pn**	**15 24 44.2**	**+2.9**
LKD2	**Lefkada island**	**3.20**	**335**	P	**Pb**	**15 24 45.4**	**-2.8**
LKD2	**Lefkada island**	**3.20**	**335**	P	**Pb**	**15 24 45.3**	**-2.9**
SKIA	**Skiathos**	**3.36**	**14**	P	**Pn**	**15 24 47.1**	**+3.6**
SKIA	**Skiathos**	**3.36**	**14**	P	**Pn**	**15 24 46.9**	**+3.4**
DSL	**Palaion Diasel**	**3.39**	**342**	P	**Pn**	**15 24 47.3**	**+3.4**
DSL	**Palaion Diasel**	**3.39**	**342**	P	**Pn**	**15 24 47.5**	**+3.5**
SKY	**Skiros Island**	**3.42**	**29**	P	**Pn**	**15 24 46.3**	**+2.0**
SKY	**Skiros Island**	**3.42**	**29**	P	**Pn**	**15 24 46.8**	**+2.5**
NEO	**Neokhori**	**3.45**	**10**	P	**Pb**	**15 24 49.1**	**-3.4**
NEO	**Neokhori**	**3.45**	**10**	P	**Pn**	**15 24 48.5**	**+3.7**
XOR	**Xorichti**	**3.51**	**10**	P	**Pn**	**15 24 48.3**	**+2.7**
XOR	**Xorichti**	**3.51**	**10**	P	**Pn**	**15 24 48.6**	**+3.0**
THL	**Klokotos Trika**	**3.66**	**355**	P	**Pn**	**15 24 50.9**	**+4.2**
THL	**Klokotos Trika**	**3.66**	**355**	P	**Pn**	**15 24 51.1**	**+3.4**
CHOS	**Chios island**	**3.81**	**49**	*e*P	**Pn**	**15 24 49.7**	**-0.2**
CHOS	**Chios island**	**3.81**	**49**	P	**Pn**	**15 24 52.0**	**+2.1**
CHOS	**Chios island**	**3.81**	**49**	P	**Pn**	**15 24 52.3**	**+2.4**
KARP	**Karpathos**	**3.88**	**94**	*e*P	**Pn**	**15 24 54.3**	**+3.6**
KARP	**Karpathos**	**3.88**	**94**	P	**Pn**	**15 24 52.2**	**+1.5**
KARP	**Karpathos**	**3.88**	**94**	P	**Pn**	**15 24 53.0**	**+2.3**
SMG	**Samos**	**3.97**	**62**	P	**Pn**	**15 24 53.8**	**+1.8**
SMG	**Samos**	**3.97**	**62**	P	**Pn**	**15 24 54.4**	**+2.4**
IGT	**Igoumenitsa**	**3.98**	**336**	P	**Pn**	**15 24 53.5**	**+1.4**
IGT	**Igoumenitsa**	**3.98**

comp=Z,3.5nm,0.9s,baz=192,slow=8.6,SNR=7.3
BVAR Borovoye Array 37.47 48 P **P 15 31 04.0 -0.3**
comp=Z,0.8nm,0.7s,baz=297,slow=6.3,SNR=4.8
KURBB Kurchatov Arra 42.40 52 P **P 15 31 43.7 -1.5**
comp=Z,0.6nm,0.3s,baz=280,slow=8.5,SNR=10
SPITS Spitsbergen Ar 42.45 358 P **P 15 31 44.1 -1.3**
comp=Z,4.3nm,0.9s,baz=154,slow=8.3,SNR=5.5
MKAR Makanchi Array 45.23 57 P **P 15 32 07.5 -0.7**
comp=Z,3.5nm,0.7s,baz=280,slow=6.5,SNR=40
ZALV Zalesovo Beam 46.11 47 P **P 15 32 15.5 +0.6**
comp=Z,0.7nm,0.4s,baz=270,slow=8.2,SNR=2.5
SONM Songino Array 60.73 50 P **P 15 34 02.9 +0.3**
comp=Z,0.3nm,0.4s,baz=311,slow=7.5,SNR=2.7
CMAR Chiang Mai Arr 68.70 82 P **P 15 34 52.6 -2.2**
comp=Z,0.5nm,0.3s,baz=299,slow=9.2,SNR=2.9
YKA Yellowknife Ar 76.03 341 P **P 15 35 36.4 -1.5**
comp=Z,0.1nm,0.4s,baz=48,slow=5.9,SNR=2.7
TKL Tuckaleechee C 81.11 308 LR LR 16 12 04.5
comp=Z,23nm,20.4s,baz=333,slow=36
PETK Petropavlovsk- 83.22 25 LR LR 16 17 26.6
comp=Z,26nm,19.1s,baz=17,slow=38

*ISN **23** 15:26:29.7±1.4, 32.6′68N×46.9′94E, h7km±8km, ML3.1*
*CSEM **23** 15:26:29.7, 32.6′68N×46.9′94E, h7km, ML3.1*
*ISCJB **23** 15:26:32.6±0.9, 32.6′67N±0.0′05×46.6′89E±0.0′08, h20km, Error ellipse: s-maj=10.0km s-min=5.6km az=27.6*
*TEH **23** 15:26:32.2, 32.7′74N×46.8′87E, h8km, ML3.1*
ISC 23 15:26:32.5±1.5, **32.6′64N**±0.0′06×**46.6′98E**±0.0′08, **h20**km, **n7, s0g46/12, Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
IKOM	**Komasi**	**1.60**	**16**	*e*Pg		**Pn**	**15 26 59.9**	**+0.1**
IKOM				*e*Sg		**Sn**	**15 27 20.1**	**+0.2**
IKOM				*e*AMB		AMB	15 27 30.9	
	comp=Z,4μm,0.3s							
IGHG	**Ghaleghazi**	**1.72**	**349**	*e*Pg		**Pn**	**15 27 01.9**	**+0.3**
IGHG				*e*AMB		AMB	15 27 33.2	
	comp=Z,5μm,0.4s							
NSR	**Nassriya**	**1.77**	**204**	*e*Pn		**Pn**	**15 27 02.0**	**0.0**
	SNR=4.0							
NSR				*e*Sn		**Sn**	**15 27 26.0**	**-0.1**
	SNR=4.0							
IVIS	**Veis**	**1.89**	**357**	*e*Sg		**Sn**	**15 27 27.7**	**+0.6**
IVIS				*e*Pg		**Pn**	**15 27 03.2**	**-0.6**
IVIS				*e*AMB		AMB	15 27 34.5	
	comp=Z,884nm,0.2s							
IDHR	**Dehrash**	**2.12**	**347**	*e*AMB		AMB	15 27 39.4	
IDHR	comp=Z,2μm,0.2s			*e*Pn		**Pn**	**15 27 06.2**	**-0.8**
BHD	**Baghdad**	**2.28**	**287**	*e*Pn		**Pn**	**15 27 09.0**	**0.0**
	SNR=4.0							
BHD				*e*Sn		**Sn**	**15 27 37.0**	**+0.6**
	SNR=4.0							
RTB	**Rutbah**	**5.63**	**276**	*e*Pn		**Pn**	**15 27 55.0**	**-0.2**
	SNR=4.0							
RTB				*e*Sn		**Sn**	**15 28 59.0**	**-0.3**
	SNR=4.0							

*IDC **23** 15:50:18.6±0.6, 42.2′27N×45.5′11E, h0km, mb3.8/13, mb1 4.0/18, mb1mx3.8/65, mbtmp3.9/18, ML3.5/5, MS3.0/4, Ms1 3.0/4, ms1mx2.5/62, Error ellipse: s-maj=9.1km s-min=8.1km az=68.0*
*TIF **23** 15:50:19.0, 42.2′32N×45.2′21E, h17km±1km*
*MOS **23** 15:50:19.1±1.3, 42.2′28N×45.2′20E, h2km, mb4.5/4, Error ellipse: s-maj=4.7km s-min=4.0km az=120.1*
*ISCJB **23** 15:50:19.9±0.3, 42.2′33N±0.0′01×45.2′26E±0.0′01, h13km±2km, mb3.9/17, MS3.6/2, Error ellipse: s-maj=2.4km s-min=1.7km az=10.8*
*CSEM **23** 15:50:20.2±0.1, 42.2′29N×45.2′24E, h8km, mb4.1/4, Error ellipse: s-maj=2.3km s-min=1.9km az=26.0*
*NEIC **23** 15:50:20.4±0.3, 42.2′32N×45.2′25E, h10km, mb4.1/5, Error ellipse: s-maj=5.6km s-min=4.5km az=4.0*
*DDA **23** 15:50:24.5, 41.9′55N×45.0′04E, h33km, Ml3.8*
*NNC **23** 15:50:27.4±4.2, 42.2′44N×45.2′79E, h25km±34km, mb4.0, Error ellipse: s-maj=26.7km s-min=15.7km az=82.0*
ISC 23 15:50:21.0±0.9, **42.2′28N**±0.0′01×**45.2′19E**±0.0′01, **h16**km±6km, **n238, s195/328, mb3.9/17, 37C-33D, Eastern Caucasus**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
DUS	**Dusheti**	**0.41**	**243**	P		**Pg**	**15 50 29.0**	**-0.4**
DUS				S		**Sb**	**15 50 36.1**	**+0.2**
DUS	**Dusheti**	**0.41**	**243**	P		**Pg**	**15 50 28.9**	**-0.4**
DUS	**Dusheti**	**0.41**	**243**	P	⇑*i*PG	**Pg**	**15 50 28.9**	**-0.4**
DUS				*e*S		**Sb**	**15 50 36.1**	**+0.2**
GUDG	**Gudauri**	**0.56**	**290**	P		**Pg**	**15 50 30.3**	**-1.9**
GUDG				S		**Sg**	**15 50 38.3**	**-1.4**
GUDG	**Gudauri**	**0.56**	**290**	P		**Pg**	**15 50 30.3**	**-1.9**
SEAG	**Tbilisi Sea**	**0.59**	**209**	P		**Pb**	**15 50 32.5**	**-0.5**
SEAG				S		**Sb**	**15 50 41.8**	**+0.8**
SEAG	**Tbilisi Sea**	**0.59**	**209**	P		**Pb**	**15 50 32.5**	**-0.5**
TBLG	**Delisi**	**0.64**	**212**	P		**Pg**	**15 50 32.8**	**-0.9**
TBLG				S		**Sb**	**15 50 42.6**	**0.0**
TBLG	**Delisi**	**0.64**	**212**	P		**Pb**	**15 50 33.9**	**0.0**
TBLG				S		**Sg**	**15 50 41.2**	**-1.0**
TBLG	**Delisi**	**0.64**	**212**	*e*Pg		**Pg**	**15 50 32.7**	**-0.9**
TBLG	**Delisi**	**0.64**	**212**	*e*Pg		**Pg**	**15 50 32.7**	**-0.9**
TBLG	**Delisi**	**0.64**	**212**	P		**Pg**	**15 50 33.0**	**-0.7**
TBLG	**Delisi**	**0.64**	**212**	*e*PG		**Pg**	**15 50 32.8**	**-0.9**
BTNK	**Botanikuri**	**0.66**	**206**	P		**Pg**	**15 50 33.0**	**-1.0**
BTNK				S		**Sb**	**15 50 44.3**	**+1.1**
BTNK	**Botanikuri**	**0.66**	**206**	P		**Pg**	**15 50 33.1**	**-1.0**
BTNK				S		**Sb**	**15 50 44.3**	**+1.1**
DGRG	**David-gareji**	**0.84**	**171**	P		**Pg**	**15 50 36.7**	**-0.7**
DGRG				S		**Sn**	**15 50 50.6**	**+0.4**
DGRG	**David-gareji**	**0.84**	**171**	P		**Pg**	**15 50 36.1**	**-1.3**
DGRG				S		**Sn**	**15 50 50.6**	**+0.4**
DGRG	**David-gareji**	**0.84**	**171**	⇑*i*PG		**Pg**	**15 50 36.7**	**-0.7**
DGRG				*e*S		**Sn**	**15 50 50.6**	**+0.4**
VLKR	**Vladikavkaz**	**0.85**	**334**	*i* Pg		**Pb**	**15 50 37.8**	**+0.3**
VLKR				*e*Sg		**Sn**	**15 50 51.1**	**+0.5**
VLKR	**Vladikavkaz**	**0.85**	**334**	⇑*i*PG		**Pb**	**15 50 37.8**	**+0.3**
VLKR				*e*S		**Sn**	**15 50 51.1**	**+0.5**
BTLR	**Botlikh**	**0.85**	**63**	*e*Pg		**Pg**	**15 50 36.1**	**-1.6**
BTLR				*e*Sg		**Sg**	**15 50 47.4**	**-1.6**
BTLR	**Botlikh**	**0.85**	**63**	*e*PG		**Pg**	**15 50 36.1**	**-1.6**
BTLR				*e*S		**Sg**	**15 50 47.4**	**-1.6**
LACR	**Lac**	**0.86**	**310**	*i* Pg		**Pg**	**15 50 36.3**	**-1.4**
LACR				*e*Sg		**Sg**	**15 50 48.4**	**-0.6**
LACR	**Lac**	**0.86**	**310**	⇑*i*PG		**Pg**	**15 50 36.3**	**-1.4**
LACR				*e*S		**Sg**	**15 50 48.4**	**-0.6**
GROC	**Groznyy**	**1.02**	**26**	*i* Pg		**Pn**	**15 50 40.8**	**+0.1**
GROC				*e*Sg		**Sn**	**15 50 56.3**	**+1.5**
GROC	**Groznyy**	**1.02**	**26**	⇑*i*PG		**Pn**	**15 50 40.8**	**+0.1**
GROC				*e*S		**Sn**	**15 50 56.3**	**+1.5**
KZR	**Kazreti**	**1.07**	**213**	P		**Pb**	**15 50 39.8**	**-1.3**
KZR				S		**Sb**	**15 50 54.4**	**-0.5**
KZR	**Kazreti**	**1.07**	**213**	P		**Pb**	**15 50 39.8**	**-1.3**
KZR				S		**Sb**	**15 50 54.4**	**-0.5**
ZEI	**Tsey**	**1.08**	**299**	*i* P		**Pb**	**15 50 40.1**	**-1.4**
ZEI	**Tsey**	**1.08**	**299**	*i* P		**Pb**	**15 50 40.1**	**-1.4**
ZEI				*e*Sg		**Sn**	**15 50 56.2**	**-0.2**
ZEI	**Tsey**	**1.08**	**299**	⇓*i*PG		**Pb**	**15 50 40.0**	**-1.4**
ZEI				*e*S		**Sn**	**15 50 56.2**	**-0.2**
DDFL	**Dedoflistskaro**	**1.08**	**140**	P		**Pn**	**15 50 43.0**	**+1.4**
DDFL				S		**Sn**	**15 50 58.6**	**+2.3**
DDFL	**Dedoflistskaro**	**1.08**	**140**	P		**Pn**	**15 50 43.0**	**+1.4**
GRO	**Groznyy**	**1.12**	**21**	*i* P		**Pb**	**15 50 40.8**	**-1.2**
ARNR	**Ardon**	**1.12**	**324**	*e*Pg		**Pg**	**15 50 42.6**	**-0.1**
ARNR				*e*Sg		**Sn**	**15 50 59.5**	**+2.4**
ARNR	**Ardon**	**1.12**	**324**	*e*PG		**Pg**	**15 50 42.6**	**-0.1**
ARNR				*e*S		**Sn**	**15 50 59.5**	**+2.4**
XNZR	**Khunzakh**	**1.15**	**76**	*e*Pg		**Pb**	**15 50 41.8**	**-0.9**
XNZR				*e*Sg		**Sg**	**15 50 58.0**	**-0.4**
XNZR	**Khunzakh**	**1.15**	**76**	*e*PG		**Pb**	**15 50 41.8**	**-0.9**
XNZR				*e*S		**Sg**	**15 50 58.0**	**-0.4**
KORR	**Kora**	**1.16**	**315**	*i* Pg		**Pg**	**15 50 42.7**	**-0.7**
KORR				*e*Sg		**Sn**	**15 51 00.2**	**+2.2**
KORR	**Kora**	**1.16**	**315**	⇓*i*PG		**Pg**	**15 50 42.7**	**-0.7**
KORR				*e*S		**Sn**	**15 51 00.2**	**+2.2**
BTKR	**Batakoyurt**	**1.19**	**337**	*i* Pg		**Pg**	**15 50 44.2**	**+0.2**
BTKR				*e*Sg		**Sn**	**15 51 03.3**	**+4.4**
BTKR	**Batakoyurt**	**1.19**	**337**	⇓*i*PG		**Pg**	**15 50 44.2**	**+0.2**
BTKR				*e*S		**Sn**	**15 51 03.3**	**+4.4**
QZX	**Qazax, Azerbai**	**1.23**	**174**	⇓P		**Pn**	**15 50 42.5**	**-1.1**
QZX				⇑S		**Sg**	**15 51 01.0**	**+0.2**
ZKTA	**Zakatala**	**1.25**	**120**	Pg		**Pn**	**15 50 43.4**	**-0.4**
ZKTA	**Zakatala**	**1.25**	**120**	PG		**Pn**	**15 50 43.4**	**-0.4**
UNCR	**Uncukul**	**1.26**	**69**	*i* Pg		**Pn**	**15 50 43.0**	**-1.1**
	890nm,0.3s							
UNCR				*i* Sg		**Sn**	**15 51 01.0**	**+0.3**
UNCR	**Uncukul**	**1.26**	**69**	⇓*i*PG		**Pn**	**15 50 43.0**	**-1.1**
UNCR				*i* S		**Sn**	**15 51 01.0**	**+0.3**
UNCR				pmax	pmax			
	comp=Z,890nm,0.3s							
ZKT	**Zaqatala**	**1.27**	**119**	P		**Pn**	**15 50 43.4**	**-0.6**
ZKT				S		**Sg**	**15 51 01.8**	**-0.2**
GNBR	**Gunib**	**1.32**	**85**	*i* Pg		**Pn**	**15 50 45.0**	**+0.1**
GNBR				*e*Sg		**Sg**	**15 51 03.2**	**-0.5**
GNBR	**Gunib**	**1.32**	**85**	⇑*i*PG		**Pn**	**15 50 45.0**	**+0.1**
GNBR				*e*S		**Sg**	**15 51 03.2**	**-0.5**
ONI	**Oni**	**1.32**	**284**	P		**Pn**	**15 50 44.6**	**-0.3**
ONI				S		**Sn**	**15 51 02.9**	**+0.7**
ONI	**Oni**	**1.32**	**284**	P		**Pn**	**15 50 44.6**	**-0.3**
ONI	**Oni**	**1.32**	**284**	*e*PG		**Pn**	**15 50 44.6**	**-0.3**
DLMR	**Dylym**	**1.32**	**53**	*i* Pg		**Pn**	**15 50 44.0**	**-0.9**
DLMR	**Dylym**	**1.32**	**53**	*i* PG		**Pn**	**15 50 44.0**	**-0.9**
DLMR				*e*S		**Sn**	**15 51 02.5**	**+0.3**
DIGR	**Digorskoe uzhe**	**1.34**	**298**	*e*Pg		**Pn**	**15 50 44.5**	**-0.8**
DIGR				*e*Sg		**Sg**	**15 51 04.0**	**-0.4**
DIGR	**Digorskoe uzhe**	**1.34**	**298**	*e*PG		**Pn**	**15 50 44.5**	**-0.8**
DIGR				*e*S		**Sg**	**15 51 04.0**	**-0.4**
STDR	**Stavd-Durt**	**1.37**	**323**	*i* Pg		**Pg**	**15 50 46.6**	**-0.8**
STDR				*e*Sg		**Sg**	**15 51 08.3**	**+3.1**
STDR	**Stavd-Durt**	**1.37**	**323**	⇑*i*PG		**Pg**	**15 50 46.6**	**-0.8**
STDR				*e*S		**Sg**	**15 51 08.3**	**+3.1**
ARKR	**Arakani**	**1.38**	**76**	*e*Pg		**Pn**	**15 50 45.5**	**-0.1**
	comp=Z,547nm,0.2s							
ARKR	**Arakani**	**1.38**	**76**	*e*PG		**Pn**	**15 50 45.5**	**-0.1**
ARKR				*e*S		**Sg**	**15 51 07.0**	**+1.6**
ARKR				pmax	pmax			
	comp=Z,547nm,0.2s							
KRNR	**Karanay**	**1.38**	**66**	*i* Pg		**Pn**	**15 50 45.0**	**-0.7**
	comp=Z,218nm,0.3s							
KRNR				*e*Sg		**Sb**	**15 51 04.0**	**0.0**
KRNR	**Karanay**	**1.38**	**66**	⇓*i*PG		**Pn**	**15 50 45.0**	**-0.7**
KRNR				*e*S		**Sb**	**15 51 04.0**	**0.0**
KRNR				pmax	pmax			
	comp=Z,218nm,0.3s							
LSNR	**Lesken**	**1.42**	**315**	*e*Pg		**Pb**	**15 50 47.0**	**-0.1**
LSNR				*e*Sg		**Sg**	**15 51 07.0**	**+0.3**
LSNR	**Lesken**	**1.42**	**315**	*e*PG		**Pb**	**15 50 47.0**	**-0.1**
LSNR				*e*S		**Sg**	**15 51 07.0**	**+0.3**
DBC	**Dubki**	**1.42**	**58**	*i* Pg		**Pn**	**15 50 46.4**	**+0.2**
	comp=Z,550nm,0.4s							
DBC	**Dubki**	**1.42**	**58**	⇓*i*PG		**Pn**	**15 50 46.4**	**+0.2**
DBC				*i* S		**Sg**	**15 51 06.5**	**-0.4**
DBC				pmax	pmax			
	comp=Z,550nm,0.4s							
KMKR	**Kumukh**	**1.43**	**95**	*e*Pg		**Pg**	**15 50 48.0**	**-0.5**
	comp=Z,276nm,0.3s							
KMKR	**Kumukh**	**1.43**	**95**	*e*PG		**Pg**	**15 50 48.0**	**-0.5**
KMKR				*e*S		**Sg**	**15 51 09.0**	**+1.9**
KMKR				pmax	pmax			
	comp=Z,276nm,0.3s							
BUJR	**Buynaksk**	**1.52**	**68**	*e*Pg		**Pn**	**15 50 48.0**	**+0.4**
	comp=Z,343nm,0.3s							
BUJR	**Buynaksk**	**1.52**	**68**	*e*PG		**Pn**	**15 50 48.0**	**+0.4**
BUJR				*i* S		**Sg**	**15 51 12.0**	**+2.0**
BUJR				pmax	pmax			
	comp=Z,343nm,0.3s							
AKH	**Akhalkalaki**	**1.54**	**236**	P		**Pn**	**15 50 47.7**	**-0.2**
AKH				S		**Sn**	**15 51 07.9**	**+0.3**
AKH	**Akhalkalaki**	**1.54**	**236**	*e*P		**Pb**	**15 50 48.7**	**-0.5**
AKH				*e*S		**Sn**	**15 51 07.2**	**-0.4**
AKH	**Akhalkalaki**	**1.54**	**236**	*e*Pn		**Pn**	**15 50 47.5**	**-0.5**
AKH	**Akhalkalaki**	**1.54**	**236**	P		**Pn**	**15 50 47.7**	**-0.2**
AKH				S		**Sn**	**15 51 07.9**	**+0.3**
AKH	**Akhalkalaki**	**1.54**	**236**	*e*PG		**Pn**	**15 50 47.7**	**-0.2**
AKH				*e*S		**Sn**	**15 51 07.9**	**+0.3**
GDB	**GEDABAY**	**1.61**	**165**	⇓P		**Pn**	**15 50 48.7**	**-0.3**
GDB				⇓S		**Sb**	**15 51 10.7**	**0.0**
PRTR	**Priterechnaya**	**1.61**	**336**	*i* Pn		**Pb**	**15 50 50.5**	**+0.1**
PRTR				*e*Sg		**Sg**	**15 51 14.4**	**+1.3**
PRTR	**Priterechnaya**	**1.61**	**336**	⇓*i*PN		**Pb**	**15 50 50.5**	**+0.1**
PRTR				*e*S		**Sg**	**15 51 14.4**	**+1.3**
NCK	**Nalchik**	**1.69**	**317**	*e*Pn		**Pb**	**15 50 51.8**	**+0.1**
	comp=Z,701nm,0.2s							
NCK	**Nalchik**	**1.69**	**317**	*e*PN		**Pb**	**15 50 51.8**	**+0.1**
NCK				pmax	pmax			
	comp=Z,701nm,0.2s							
URKR	**Urkarakh**	**1.82**	**93**	*i* Pn		**Pg**	**15 50 55.0**	**-1.0**
	comp=Z,433nm,0.4s							
URKR	**Urkarakh**	**1.82**	**93**	⇓*i*PN		**Pg**	**15 50 55.0**	**-1.0**
URKR				*i* S		**Sg**	**15 51 24.0**	**+4.4**
URKR				pmax	pmax			
	comp=Z,433nm,0.4s							
SGKR	**Sergokala**	**1.84**	**84**	*i* Pn		**Pb**	**15 50 54.5**	**+0.2**
	comp=Z,641nm,0.4s							
SGKR	**Sergokala**	**1.84**	**84**	*i* PN		**Pb**	**15 50 54.5**	**+0.2**
SGKR				*i* S		**Sg**	**15 51 22.5**	**+2.3**
SGKR				pmax	pmax			
	comp=Z,641nm,0.4s							
MAK	**Makhachkala**	**1.84**	**67**	*e*Pn		**Pg**	**15 50 54.9**	**-1.5**
	comp=Z,208nm,0.8s							
MAK	**Makhachkala**	**1.84**	**67**	*e*PN		**Pg**	**15 50 54.9**	**-1.5**
MAK				*e*			15 51 20.8	
MAK				pmax	pmax			
	comp=Z,208nm,0.8s							
MAK				smax	smax			
	comp=E,2μm,0.5s							
MAK				smax	smax			
	comp=E,2μm,0.4s							
GANJ	**Ganja**	**1.84**	**152**	⇑P		**Pn**	**15 50 52.2**	**+0.2**
GANJ				⇑S		**Sn**	**15 51 15.6**	**+0.7**
GANJ	**Ganja**	**1.84**	**152**	PN		**Pn**	**15 50 52.4**	**+0.4**
SEKA	**Sheki**	**1.84**	**125**	⇓P		**Pn**	**15 50 52.9**	**+0.8**
SEKA	**Sheki**	**1.84**	**125**	Pn		**Pb**	**15 50 53.2**	**-1.2**
SEKA				⇑S		**Sb**	**15 51 16.8**	**-0.5**
SEKA	**Sheki**	**1.84**	**125**	PN		**Pb**	**15 50 53.2**	**-1.2**
EAK	**Akyaka**	**1.99**	**217**	*i* P		**Pn**	**15 50 54.4**	**+0.3**
EAK	**Akyaka**	**1.99**	**217**	P		**Pn**	**15 50 54.4**	**+0.3**
EPOS	**Posof**	**1.99**	**248**	*i* P		**Pn**	**15 50 54.2**	**0.0**
EPOS	**Posof**	**1.99**	**248**	P		**Pn**	**15 50 54.2**	**0.0**
AKT	**Akhty**	**2.06**	**112**	*e*PN		**Pg**	**15 50 59.9**	**-0.7**
AKT				*e*S		**Sg**	**15 51 30.7**	**+3.4**
NEY	**Neytrino**	**2.06**	**299**	*e*Pn		**Pb**	**15 50 57.9**	**-0.2**
	comp=E,356nm,0.5s							
NEY	**Neytrino**	**2.06**	**299**	*e*PN		**Pb**	**15 50 57.9**	**-0.2**
NEY				pmax	pmax			
	comp=Z,356nm,0.5s							
MNGR	**Mingechevir, A**	**2.07**	**136**	Pn		**Pn**	**15 50 55.4**	**+0.3**
MNGR				⇑S		**Sn**	**15 51 20.7**	**+0.2**
MNGR	**Mingechevir, A**	**2.07**	**136**	PN		**Pn**	**15 50 55.4**	**+0.3**
GNI	**Garni**	**2.15**	**189**	Pn		**Pb**	**15 50 58.5**	**-1.3**
	comp=Z,36nm,0.3s,baz=11,slow=4.6,SNR=88							
GNI				Sn		**Sb**	**15 51 28.0**	**+1.7**
	comp=Z,48nm,0.3s,baz=168,slow=19,SNR=9.5							
GNI	**Garni**	**2.15**	**189**	*e*Pn		**Pn**	**15 50 57.9**	**+1.5**
GNI				Sn		**Sb**	**15 51 28.0**	**+1.7**
GNI	**Garni**	**2.15**	**189**	*e*PN		**Pn**	**15 50 57.9**	**+1.5**
GNI				Sn		**Sb**	**15 51 28.0**	**+1.7**
GNI	**Garni**	**2.15**	**189**	*ce*PN		**Pb**	**15 50 58.4**	**-1.3**
GNI				pmax	pmax			
	comp=Z,1μm,0.8s							
KBZ	**Khabaz**	**2.22**	**312**	Pn		**Pn**	**15 50 58.0**	**+0.8**
	comp=Z,22nm,0.3s,baz=145,slow=2.5,SNR=172							
KBZ				Sn		**Sb**	**15 51 28.5**	**+0.6**
	comp=Z,15nm,0.3s,baz=139,slow=13,SNR=5.9							
KBZ				LR		LR	15 52 02.1	
	comp=Z,200nm,18.4s,baz=124,slow=48							
KSMR	**Kasumkent**	**2.29**	**106**	*i* Sb		**Sb**	**15 51 32.0**	**+1.8**
KSMR	**Kasumkent**	**2.29**	**106**	*i* Pn		**Pg**	**15 51 05.8**	**+0.8**
KSMR				*i* S		**Sb**	**15 51 32.0**	**+1.8**
KSMR				pmax	pmax			
	comp=Z,195nm,0.3s							
DIGO	**Kars**	**2.31**	**217**	*i* P		**Pn**	**15 50 59.3**	**+0.7**
DIGO	**Kars**	**2.31**	**217**	P		**Pn**	**15 50 59.3**	**+0.7**
DRN	**Derbent**	**2.35**	**95**	*e*PN		**Pg**	**15 51 06.8**	**-0.3**
DRN				*e*S		**Sg**	**15 51 39.8**	**+3.3**
SHA1	**Shidzhatmaz**	**2.36**	**309**	*e*Pn		**Pn**	**15 50 59.7**	**+0.4**
SHA1	**Shidzhatmaz**	**2.36**	**309**	⇑*e*PN		**Pn**	**15 50 59.7**	**+0.4**
QBL	**Gabala**	**2.39**	**123**	⇑P		**Pn**	**15 50 58.9**	**-0.7**
QBL				⇑S		**Sn**	**15 51 28.3**	**-0.2**
TASB	**TASBURUN-IGDIR**	**2.40**	**198**	*e*P		**Pn**	**15 51 01.7**	**+1.9**
TASB				*e*S		**Sb**	**15 51 32.6**	**-0.7**
QSAR	**Qusar**	**2.42**	**107**	⇓P		**Pn**	**15 50 59.1**	**-0.8**
XNQ	**Khinaliq**	**2.47**	**116**	⇓P		**Pn**	**15 51 00.5**	**-0.3**
XNQ				⇓S		**Sn**	**15 51 30.9**	**+0.2**
KVAR	**Kislovodsk Arr**	**2.48**	**313**	Pn		**Pn**	**15 51 02.5**	**+1.7**
	baz=333,slow=4.0,SNR=28							
KIV	**Kislovodsk**	**2.48**	**313**	*e*Pn		**Pn**	**15 51 02.3**	**+1.4**
KIV	**Kislovodsk**	**2.48**	**313**	*e*Pn		**Pn**	**15 51 02.3**	**+1.4**
KIV	**Kislovodsk**	**2.48**	**313**	*e*PN		**Pn**	**15 51 02.3**	**+1.4**
BRDA	**Brd**	**2.51**	**143**	⇓P		**Pn**	**15 51 00.7**	**-0.4**
BRDA				⇓S		**Sn**	**15 51 32.0**	**+0.6**
IGDI	**IGDIR**	**2.55**	**200**	*i* P		**Pn**	**15 51 03.5**	**+1.8**
HYR	**Heyderabad**	**2.57**	**186**	⇓P		**Pn**	**15 51 02.5**	**+0.4**
QUBA	**Quba, Azerbaij**	**2.64**	**109**	⇑P		**Pn**	**15 51 02.3**	**-0.6**
ARTV	**Artvin**	**2.67**	**247**	*i* P		**Pn**	**15 51 04.6**	**+1.0**
ARTV	**Artvin**	**2.67**	**247**	P		**Pn**	**15 51 04.6**	**+1.0**
IML	**Ismayilli**	**2.69**	**122**	⇓P		**Pn**	**15 51 03.3**	**-0.4**
IML				⇑S		**Sn**	**15 51 35.9**	**-0.1**
SENK	**Senkaya-Erzuru**	**2.74**	**232**	*e*P		**Pn**	**15 51 05.4**	**+0.9**
BCA	**Borcka**	**2.79**	**254**	*e*P		**Pb**	**15 51 07.8**	**-2.7**
DBOC	**Borcka**	**2.79**	**252**	*i* P		**Pb**	**15 51 08.3**	**-2.3**
SBZ	**Shahbuz**	**2.89**	**174**	⇓P		**Pn**	**15 51 06.2**	**-0.3**
SBZ				⇓S		**Sn**	**15 51 42.2**	**+1.2**
DBAD	**Bademkaya**	**2.91**	**245**	*i* P		**Pn**	**15 51 08.6**	**+1.9**
DBAD	**Bademkaya**	**2.91**	**245**	P		**Pn**	**15 51 08.6**	**+1.9**
DDEM	**Demirkent**	**2.93**	**243**	*i* P		**Pn**	**15 51 09.0**	**+2.0**
DDEM	**Demirkent**	**2.93**	**243**	P		**Pn**	**15 51 09.0**	**+2.0**
PQL	**Pirkuli**	**2.96**	**119**	⇑P		**Pn**	**15 51 07.8**	**+0.4**
PQL				⇑S		**Sn**	**15 51 42.2**	**-0.5**
SIZA	**Siyzn**	**3.03**	**112**	⇓P		**Pn**	**15 51 07.3**	**-1.0**
NAX	**Nakhchivan**	**3.11**	**176**	⇑P		**Pn**	**15 51 10.6**	**+1.1**
NAX				⇑S		**Sn**	**15 51 47.8**	**+1.4**
ATGJ	**Altiaghaj**	**3.15**	**115**	⇑P		**Pn**	**15 51 09.4**	**-0.6**
ATGJ				⇑S		**Sn**	**15 51 47.3**	**0.0**
EATA	**Eleskirt**	**3.16**	**221**	*i* P		**Pn**	**15 51 12.8**	**+2.4**
EATA	**Eleskirt**	**3.16**	**221**	P		**Pn**	**15 51 12.8**	**+2.4**
AGRB	**Hanur-Agry**	**3.17**	**212**	*e*P		**Pn**	**15 51 13.6**	**+3.2**
GOF	**Gofitskoye**	**3.18**	**331**	*e*Sg		**Sg**	**15 52 03.2**	**-0.1**
	comp=Z,636nm,1.0s							
GOF	**Gofitskoye**	**3.18**	**331**	⇑*e*PN		**Pg**	**15 51 20.4**	**-1.6**
GOF				*e*S		**Sg**	**15 52 03.2**	**-0.1**
GOF				pmax	pmax			
	comp=Z,95nm,0.9s							
GOF				smax	smax			
	comp=E,422nm,1.0s							
GOF				smax	smax			
	comp=N,636nm,1.0s							
CLDR	**Caldiran**	**3.28**	**198**	*e*P		**Pb**	**15 51 16.4**	**-2.6**
GBS	**Qobustan**	**3.32**	**120**	⇓P		**Pn**	**15 51 11.6**	**-0.7**
HOMI	**Horasan**	**3.34**	**229**	*i* P		**Pn**	**15 51 14.0**	**+1.2**
ORD	**Ordubad**	**3.40**	**169**	⇓P		**Pn**	**15 51 13.4**	**-0.1**
ORD				⇑S		**Sn**	**15 51 54.8**	**+1.2**
CHOM	**Cayeli-Rize**	**3.52**	**252**	*e*P		**Pn**	**15 51 17.5**	**+2.5**
ALIB	**Äli-Bayra**	**3.70**	**128**	⇑P

comp=Z,5.3nm,0.8s,baz=252,slow=9.2,SNR=27
BVA0 Borovoye Array 19.98 49 P **P 15 54 52.9 +0.4**
comp=Z,5.3nm,0.8s,SNR=27
BVA0 Borovoye Array 19.98 49 P **P 15 54 52.9 +0.4**
BVA0 pmax pmax
comp=Z,5.0nm,0.8s
BVAR Borovoye Array 19.98 49 P **P 15 54 53.4 +0.8**
comp=Z,4.5nm,0.7s,baz=234,slow=8.8,SNR=34
BVAR S **S 15 58 31.4 -5.2**
comp=Z,0.9nm,0.7s,baz=253,slow=20,SNR=3.6
AAK Ala-Archa 21.58 79 P **P 15 55 10.1 +0.1**
comp=Z,3.1nm,0.8s,baz=234,slow=8.1,SNR=6.4
AAK Ala-Archa 21.58 79 ⇓P **P 15 55 09.6 -0.5**
AAK Ala-Archa 21.58 79 *eP* **P 15 55 10.2 +0.1**
comp=Z,5.0nm,0.8s
AAK Ala-Archa 21.58 79 *ceP* **P 15 55 11.0 +0.9**
AAK pmax pmax
comp=Z,5.0nm,0.9s
WSAR Wadi Sarin 22.05 145 P **P 15 55 15.4 +0.5**
comp=Z,2.6nm,0.6s,baz=213,slow=18,SNR=3.1
FINES FINESS Array B 22.37 336 P **P 15 55 17.6 -0.5**
comp=Z,3.4nm,0.8s,baz=137,slow=12,SNR=10
GERES GERESS Array B 22.89 297 P **P 15 55 25.0 +1.1**
comp=Z,0.3nm,0.5s,baz=82,slow=9.0,SNR=2.5
KURBB Kurchatov Arra 24.27 58 P **P 15 55 37.9 +0.6**
comp=Z,3.2nm,0.8s,baz=270,slow=11,SNR=14
KURK Kurchatov 24.34 58 ⇓P **P 15 55 37.9 0.0**
comp=Z,4.4nm,0.9s
KURK Kurchatov 24.34 58 *eP* **P 15 55 37.9 0.0**
comp=Z,3.9nm,0.8s
KURK Kurchatov 24.34 58 *i* P **P 15 55 38.4 +0.5**
KURK pmax pmax
comp=Z,5.0nm,1.0s
HFS Hagfors 26.23 324 P **P 15 55 55.2 +0.3**
comp=Z,2.3nm,0.7s,baz=120,slow=14,SNR=5.0
MK31 Makanchi Array 26.66 67 P **P 15 56 00.8 +1.8**
comp=Z,1.4nm,0.8s,baz=276,slow=4.3,SNR=8.7
MK31 Makanchi Array 26.66 67 *eP* **P 15 56 00.2 +1.2**
MK31 Makanchi Array 26.66 67 *eP* **P 15 56 00.2 +1.2**
MKAR Makanchi Array 26.66 67 P **P 15 55 59.3 +0.3**
comp=Z,1.6nm,1.0s,baz=268,slow=9.1,SNR=6.3
MKAR Makanchi Array 26.66 67 *eP* **P 15 56 00.1 +1.1**
comp=Z,6.9nm,0.8s
MKAR Makanchi Array 26.66 67 *eP* **P 15 56 00.1 +1.1**
MKAR pmax pmax
comp=Z,7.0nm,0.8s
MK01 Makanchi Array 26.67 68 *eP* **P 15 55 59.9 +0.9**
ARCES ARCESS Array B 29.17 346 P **P 15 56 21.1 0.0**
comp=Z,5.9nm,1.1s,baz=146,slow=9.8,SNR=3.0
WMQ Urumqi 30.85 72 P **P 15 56 39.1 +2.7**
EKA Eskdalemuir Ar 33.71 310 P **P 15 57 01.0 -0.2**
comp=Z,0.5nm,0.5s,baz=97,slow=12,SNR=2.1
EKA Eskdalemuir Ar 33.71 310 P **P 15 57 01.0 -0.2**
BOD Bodaibo 44.79 45 *eP* **P 15 58 32.7 -0.9**
BOD pmax pmax
comp=Z,3.0nm,0.9s
LZH Lanzhou 45.11 78 *eP* **P 15 58 36.8 +0.1**
LZH pP pP 15 58 40.0 -1.7
LZH sP sP 15 58 41.5 -2.2
LZH *ePP* **PP 16 00 23.0 +1.0**
LZH pmax pmax
comp=Z,16nm,1.3s
LZH pmax pmax
comp=Z,42nm,5.8s
LZH LR LR
comp=N,54nm,14.3s
LZH LR LR
comp=E,62nm,14.0s
LZH LR LR
comp=Z,85nm,16.8s
TOA0 Torodi Ar. Sit 47.47 245 *eP* **P 15 58 57.4 +2.1**
TORD Torodi Ar. Bea 47.47 245 P **P 15 58 55.6 +0.4**
comp=Z,0.6nm,0.6s,baz=32,slow=7.0,SNR=5.2
HHC Hu-ho-hao-te 48.52 68 *eP* **P 15 59 04.3 +1.1**
HHC pmax pmax
comp=Z,10.0nm,1.1s
HHC pmax pmax
comp=Z,24nm,6.3s
CMAR Chiang Mai Arr 51.14 101 P **P 15 59 23.3 +0.1**
comp=Z,0.8nm,0.6s,baz=300,slow=9.2,SNR=7.4
KSRS Korea Array 61.28 64 LR LR 16 29 55.7
comp=Z,25nm,18.7s,baz=335,slow=39
YKA Yellowknife Ar 74.32 350 P **P 16 01 56.8 -0.4**
comp=Z,0.4nm,0.6s,baz=14,slow=6.1,SNR=10.0

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*JMA **23** 16:02:01.7±0.1,23°.82N×121°.65E,h42km±2km,M2.8*
*ISCJB **23** 16:02:02.6±0.2,23°.83N±0°.01×121°.71E±0°.01,h38km±5km, Error ellipse: s-maj=2.4km s-min=1.6km az=43.0*
*TAP **23** 16:02:02.4,23°.85N×121°.66E,h40km,ML3.4,B*
ISC 23 16:02:02.8±1.0,**23°.84N**±0°.02×**121°.67E**±0°.02,**h33**km±2km, **n101,σ0s77**/186,**2C-10D,Taiwan**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ENLB	**Shoufeng**	**0.09**	**315**	P	**Pb**	**16 02 09.4**	**+0.8**
	baz=318						
ENLB				*e*S	**Sb**	**16 02 14.5**	**+1.9**
	baz=318						
HWA	**Hwalien**	**0.15**	**336**	P	**Pb**	**16 02 09.8**	**+0.7**
	baz=345						
HWA				*e*S	**Sb**	**16 02 16.9**	**+3.6**
	baz=345						
ESL	**Shilin**	**0.22**	**264**	⇓*i*P	**Pn**	**16 02 09.7**	**+0.4**
	baz=269						
ESL				S	**Sb**	**16 02 14.7**	**+0.3**
	baz=269						
TWD	**Chiawan**	**0.25**	**344**	*i* P	**Pn**	**16 02 10.1**	**+0.2**
	baz=355						
TWD				*e*S	**Sb**	**16 02 15.7**	**+0.8**
	baz=355						
NACB	**Ninganchiao**	**0.34**	**348**	P	**Pb**	**16 02 10.7**	**-0.5**
	baz=340						
NACB				S	**Sb**	**16 02 17.3**	**+0.4**
	baz=340						
HGSD	**Ruisui**	**0.41**	**214**	P	**Pb**	**16 02 12.5**	**+0.3**
	baz=202						
HGSD				*e*S	**Sn**	**16 02 20.3**	**+1.4**
	baz=202						
EHY	**Hungye**	**0.46**	**224**	P	**Pb**	**16 02 12.2**	**-0.7**
	baz=229						
EHY				*e*S	**Sb**	**16 02 19.0**	**-0.8**
	baz=229						
OWD	**Renai**	**0.47**	**284**	⇓*i*P	**Pb**	**16 02 12.8**	**-0.3**
	baz=290						
OWD				S	**Sb**	**16 02 19.7**	**-0.5**
	baz=290						
WHF	**Hehuan Shan**	**0.48**	**309**	⇓*i*P	**Pb**	**16 02 12.8**	**-0.7**
	baz=304						
WHF				S	**Sb**	**16 02 20.5**	**-0.4**
	baz=304						
CHGB	**Renai**	**0.51**	**296**	⇓*i*P	**Pb**	**16 02 13.4**	**-0.4**
	baz=299						
CHGB				S	**Sb**	**16 02 21.4**	**+0.1**
	baz=299						
YULB	**Yu-li**	**0.56**	**218**	⇑P	**Pn**	**16 02 13.4**	**-1.1**
	baz=225						
YULB				*e*S	**Sb**	**16 02 20.9**	**-1.5**
	baz=225						
ENA	**Nanau**	**0.59**	**6**	P	**Pn**	**16 02 14.2**	**-0.7**
	baz=19						
ENA				*e*S	**Sb**	**16 02 23.6**	**+0.4**
	baz=19						
NANB	**Nanao**	**0.59**	**7**	P	**Pn**	**16 02 14.1**	**-0.8**
	baz=19						
NANB				*e*S	**Sn**	**16 02 23.2**	**-0.2**
	baz=19						
TWF1	**Yuli**	**0.59**	**216**	P	**Pn**	**16 02 13.8**	**-1.1**
	baz=223						
TWF1				*e*S	**Sn**	**16 02 22.3**	**-1.1**
	baz=223						
TWT	**Tachien**	**0.62**	**312**	P	**Pn**	**16 02 15.0**	**-0.4**
	baz=311						
TWT				S	**Sn**	**16 02 23.6**	**-0.7**
	baz=311						
ENAH	**Nanao**	**0.62**	**12**	P	**Pn**	**16 02 14.8**	**-0.4**
	baz=21						
ENAH				*e*S	**Sb**	**16 02 24.6**	**+0.6**
	baz=21						
TDCB	**Techi**	**0.63**	**311**	⇓P	**Pn**	**16 02 15.1**	**-0.5**
	baz=311						
TDCB				*e*S	**Sn**	**16 02 23.8**	**-0.7**
	baz=311						
NNSB	**Datong**	**0.65**	**336**	⇓P	**Pn**	**16 02 14.9**	**-0.9**
	baz=332						
NNSB				S	**Sn**	**16 02 24.3**	**-0.7**
	baz=332						
NNSH	**Datong**	**0.65**	**336**	P	**Pn**	**16 02 14.9**	**-0.9**
	baz=336						
NNSH				S	**Sn**	**16 02 24.4**	**-0.6**
	baz=336						
NNS	**Nan Shan**	**0.66**	**335**	P	**Pn**	**16 02 15.1**	**-0.9**
	baz=332						
NNS				S	**Sn**	**16 02 24.4**	**-0.8**
	baz=332						
SSLB	**Suanglung**	**0.66**	**266**	*e*P	**Pn**	**16 02 15.3**	**-0.6**
	baz=270						
SSLB				*e*S	**Sn**	**16 02 24.1**	**-1.0**
	baz=270						
SMLT	**Sun Moon Lake**	**0.71**	**274**	⇓*i*P	**Pn**	**16 02 16.2**	**-0.4**
	baz=275						
SMLT				*e*S	**Sn**	**16 02 26.0**	**-0.5**
	baz=275						
DPDB	**Guoxing**	**0.71**	**286**	P	**Pn**	**16 02 16.3**	**-0.3**
	baz=281						
DPDB				*e*S	**Sn**	**16 02 26.6**	**+0.1**
	baz=281						
FULB	**Fuli**	**0.72**	**209**	P	**Pn**	**16 02 16.4**	**-0.4**
	baz=216						
FULB				*e*S	**Sn**	**16 02 27.3**	**+0.6**
	baz=216						
YUS	**Yu-Shan**	**0.75**	**243**	P	**Pn**	**16 02 17.4**	**-0.1**
	baz=241						
YUS				S	**Sn**	**16 02 27.1**	**-0.9**
	baz=241						
TWC	**Suao**	**0.79**	**12**	P	**Pn**	**16 02 17.3**	**-0.3**
	baz=21						
TWC				*e*S	**Sn**	**16 02 27.9**	**-0.3**
	baz=21						
CHKT	**Chengkung**	**0.79**	**201**	*e*P	**Pn**	**16 02 16.8**	**-0.8**
	baz=187						
CHKT				*e*S	**Sn**	**16 02 27.3**	**-0.9**
	baz=187						
ENTT	**Nioudou**	**0.81**	**353**	*i* P	**Pn**	**16 02 17.0**	**-0.9**
	baz=347						
ENTT				*e*S	**Sn**	**16 02 28.0**	**-0.7**
	baz=347						
EOS1	**EOS1**	**0.82**	**30**	*e*P	**Pn**	**16 02 18.3**	**+0.3**
	baz=46						
EOS1				*e*S	**Sb**	**16 02 30.2**	**+0.7**
	baz=46						
ALS	**Alishan**	**0.86**	**248**	*e*P	**Pn**	**16 02 19.0**	**+0.1**
	baz=248						
ALS				S	**Sn**	**16 02 30.3**	**-0.2**
	baz=248						
WJS	**Zhushan**	**0.87**	**269**	*e*P	**Pb**	**16 02 19.7**	**+0.2**
	baz=269						
WJS				*e*S	**Sb**	**16 02 31.3**	**+0.5**
	baz=269						
YHNB	**Yeheng**	**0.87**	**342**	⇓P	**Pn**	**16 02 18.3**	**-0.6**
	baz=342						
YHNB				*e*S	**Sn**	**16 02 29.5**	**-0.9**
	baz=342						
TWE	**Neicheng**	**0.88**	**360**	P	**Pn**	**16 02 18.1**	**-0.8**
	baz=351						
TWE				*e*S	**Sb**	**16 02 31.1**	**-0.1**
	baz=351						
ELDTW	**Lidau**	**0.88**	**223**	P	**Pn**	**16 02 18.2**	**-0.8**
	baz=218						
ELDTW				*e*S	**Sn**	**16 02 30.5**	**-0.2**
	baz=218						
WNT	**Mingjian**	**0.91**	**273**	*e*P	**Pn**	**16 02 20.0**	**+0.7**
	baz=272						
WNT				*e*S	**Sb**	**16 02 32.4**	**+0.4**
	baz=272						
CHN5	**Tsauling**	**0.94**	**256**	⇑*i*P	**Pn**	**16 02 20.2**	**+0.3**
	baz=256						
CHN5				S	**Sb**	**16 02 33.4**	**+0.4**
	baz=256						
NWLT	**Wulai**	**0.95**	**351**	*e*P	**Pn**	**16 02 19.3**	**-0.6**
	baz=350						
TCU	**Taichung**	**0.96**	**289**	*e*P	**Pb**	**16 02 21.1**	**0.0**
	baz=288						
TCU				*e*S	**Sb**	**16 02 33.9**	**+0.3**
	baz=288						
TWQ1	**Liyutan**	**0.97**	**302**	*i* P	**Pn**	**16 02 20.6**	**+0.5**
	baz=301						
TWQ1				*i* S	**Sn**	**16 02 33.6**	**+0.9**
	baz=301						
NSTT	**Nanjuang**	**1.00**	**322**	⇓*i*P	**Pn**	**16 02 21.1**	**+0.6**
	baz=310						
NSTT				*e*S	**Sn**	**16 02 33.8**	**+0.2**
	baz=310						
LIOB	**Emei**	**1.00**	**323**	⇓*i*P	**Pn**	**16 02 21.4**	**+0.7**
	baz=311						
LIOB				*e*S	**Sn**	**16 02 34.1**	**+0.4**
	baz=311						
NSY	**Sanyi**	**1.01**	**305**	*e*P	**Pn**	**16 02 21.3**	**+0.5**
	baz=304						
NSY				*e*S	**Sb**	**16 02 35.4**	**+0.4**
	baz=304						
WGK	**Gukeng**	**1.03**	**262**	*e*P	**Pn**	**16 02 21.7**	**+0.7**
	baz=262						
WGK				*e*S	**Sn**	**16 02 35.2**	**+1.0**
	baz=262						
EGS		**1.03**	**13**	*e*P	**Pb**	**16 02 22.4**	**+0.2**
	baz=16						
WCHH	**Zhanghua**	**1.05**	**284**	*e*P	**Pb**	**16 02 22.4**	**-0.1**
	baz=283						
WCHH				*e*S	**Sb**	**16 02 36.2**	**+0.2**
	baz=283						
WDLH	**Douliu**	**1.05**	**262**	*e*P	**Pn**	**16 02 22.3**	**+1.1**
	baz=262						
WDLH				*e*S	**Sn**	**16 02 36.0**	**+1.2**
	baz=262						
STYT	**Tauyuan**	**1.08**	**232**	*e*P	**Pn**	**16 02 22.0**	**+0.3**
	baz=226						
STYT				*e*S	**Sn**	**16 02 36.6**	**+1.1**
	baz=226						
TPUB	**Ta-pu**	**1.10**	**241**	*e*P	**Pn**	**16 02 22.3**	**+0.4**
	baz=242						
TPUB				*e*S	**Sb**	**16 02 37.4**	**0.0**
	baz=242						
CHN4	**Tsaushan**	**1.10**	**244**	P	**Pn**	**16 02 22.8**	**+0.9**
	baz=245						
CHN4				*e*S	**Sb**	**16 02 37.9**	**+0.4**
	baz=245						
TWH	**Lutao**	**1.14**	**189**	*e*P	**Pn**	**16 02 21.5**	**-0.9**
	baz=184						
TWH				*e*S	**Sn**	**16 02 35.7**	**-1.1**
	baz=184						
WTP	**Ta-pu**	**1.14**	**239**	*e*P	**Pn**	**16 02 23.2**	**+0.7**
	baz=240						
WTP				*e*S	**Sb**	**16 02 38.7**	**+0.2**
	baz=240						
TIPB	**Shuangxi**	**1.14**	**7**	P	**Pn**	**16 02 21.7**	**-0.8**
	baz=357						
TIPB				*e*S	**Sn**	**16 02 37.3**	**+0.3**
	baz=357						
CHN2	**Minshiung**	**1.14**	**255**	*e*P	**Pn**	**16 02 23.6**	**+1.1**
	baz=255						
CHN2				*e*S	**Sb**	**16 02 39.6**	**+1.0**
	baz=255						
SBCB	**Hsinchu**	**1.14**	**327**	*e*P	**Pn**	**16 02 23.4**	**+0.9**
	baz=325						
SBCB				*e*S	**Sb**	**16 02 38.3**	**-0.3**
	baz=325						
TWA	**Mucha**	**1.14**	**356**	P	**Pn**	**16 02 22.5**	**0.0**
	baz=345						
TWA				*e*S	**Sn**	**16 02 37.1**	**0.0**
	baz=345						
TATO	**Taipei**	**1.15**	**352**	*e*P	**Pn**	**16 02 22.6**	**+0.1**
	baz=351						
TATO				*e*S	**Sb**	**16 02 38.7**	**0.0**
	baz=351						
TWG	**Pinlang**	**1.15**	**209**	*e*P	**Pn**	**16 02 22.2**	**-0.4**
	baz=193						
TWG				*e*S	**Sn**	**16 02 36.0**	**-1.3**
	baz=193						
RLNB	**Erlin**	**1.21**	**273**	*e*P	**Pn**	**16 02 24.1**	**+0.7**
	baz=273						
RLNB				*e*S	**Sb**	**16 02 40.2**	**-0.2**
	baz=273						
NCU	**National Centr**	**1.21**	**339**	*e*P	**Pn**	**16 02 24.0**	**+0.5**
	baz=337						
TWK	**Hsinying**	**1.23**	**243**	P	**Pn**	**16 02 24.3**	**+0.6**
	baz=243						
TWK				*e*S	**Sb**	**16 02 40.9**	**-0.3**
	baz=243						
NWF	**Wu-fen Shan**	**1.23**	**5**	*e*P	**Pn**	**16 02 24.2**	**+0.3**
	baz=346						
NWF				*e*S	**Sn**	**16 02 39.9**	**+0.5**
	baz=346						
WFSB	**Wu-fen Shan**	**1.23**	**5**	*e*P	**Pn**	**16 02 23.8**	**0.0**
	baz=346						
WFSB				*e*S	**Sn**	**16 02 39.9**	**+0.6**
	baz=346						
CHN1	**Nanshi**	**1.24**	**239**	*e*P	**Pn**	**16 02 24.5**	**+0.7**
	baz=240						
CHN1				*e*S	**Sn**	**16 02 40.6**	**+1.2**
	baz=240						
SGST	**Jiashian**	**1.25**	**233**	P	**Pn**	**16 02 25.3**	**+1.2**
	baz=234						
SGST				*e*S	**Sb**	**16 02 41.6**	**-0.1**
	baz=234						
SLGT	**Liugui**	**1.26**	**229**	*e*P	**Pn**	**16 02 25.5**	**+1.3**
	baz=239						
SLGT				*e*S	**Sb**	**16 02 42.4**	**+0.3**
	baz=239						
WTCT	**Ta-ch'eng**	**1.28**	**271**	*e*P	**Pn**	**16 02 25.0**	**+0.7**
	baz=272						
WTCT				*e*S	**Sb**	**16 02 42.2**	**-0.2**
	baz=272						
TWS1	**Kuangyinshan**	**1.28**	**350**	*e*P	**Pn**	**16 02 24.4**	**0.0**
	baz=347						
TWS1				*e*S	**Sn**	**16 02 41.0**	**+0.5**
	baz=347						
WLGB	**Puzi**	**1.31**	**254**	*e*P	**Pn**	**16 02 25.3**	**+0.5**
	baz=255						
WLGB				*e*S	**Sb**	**16 02 43.5**	**+0.1**
	baz=255						
JYNG	**Yonaguni jima**	**1.31**	**62**	P	**Pn**	**16 02 24.7**	**-0.1**
JYNG				*e*S	**Sn**	**16 02 41.1**	**-0.1**
YM10	**YM10**	**1.32**	**356**	*e*P	**Pn**	**16 02 24.5**	**-0.5**
	baz=354						
YM10				*e*S	**Sn**	**16 02 41.7**	**+0.2**
	baz=354						
YM05	**YM05**	**1.32**	**356**	*e*P	**Pn**	**16 02 24.2**	**-0.9**
	baz=355						
YM07	**YM07**	**1.33**	**358**	*e*P	**Pn**	**16 02 24.9**	**-0.2**
	baz=342						
YM07				*e*S	**Sn**	**16 02 41.6**	**-0.2**
	baz=342						
YM03	**YM03**	**1.34**	**355**	*e*P	**Pn**	**16 02 25.8**	**+0.5**
	baz=353						
WSF	**Szhu**	**1.34**	**262**	P	**Pn**	**16 02 25.9**	**+0.7**
	baz=262						
WSF				*e*S	**Sb**	**16 02 44.0**	**-0.4**
	baz=262						
YOJ	**Yonaguni jima**	**1.37**	**63**	*e*P	**Pn**	**16 02 25.4**	**-0.2**
	baz=66						
YOJ				*e*S	**Sn**	**16 02 42.5**	**-0.1**
	baz=66						
YOJ	**Yonaguni jima**	**1.37**	**63**	P	**Pn**	**16 02 25.5**	**-0.2**
YOJ				S	**Sn**	**16 02 42.8**	**+0.2**
ECL	**Taimali**	**1.40**	**208**	*e*P	**Pn**	**16 02 25.1**	**-1.0**
	baz=199						
CHN3	**Shinhua**	**1.42**	**238**	*e*P	**Pb**	**16 02 28.4**	**-0.3**
	baz=239						
CHN3				*e*S	**Sb**	**16 02 48.0**	**+1.5**
	baz=239						
SSD	**Sandimen**	**1.45**	**222**	*e*P	**Pn**	**16 02 27.7**	**+1.0**
	baz=221						
TWM1	**Shoushan**	**1.53**	**229**	*e*P	**Pb**	**16 02 30.3**	**-0.4**
	baz=229						
MASBT	**Mashibuluo**	**1.55**	**218**	*e*P	**Pn**	**16 02 28.3**	**+0.2**
	baz=218						
MASBT				*e*S	**Sn**	**16 02 49.2**	**+2.1**
	baz=218						
SGLT	**Jiouru**	**1.55**	**225**	*e*P	**Pb**	**16 02 30.9**	**-0.1**
	baz=225						
EAST	**Anshuo**	**1.64**	**208**	*e*P	**Pn**	**16 02 29.3**	**0.0**
	baz=199						
SCZT	**Fangliau**	**1.75**	**214**	*e*P	**Pn**	**16 02 32.5**	**+1.6**
	baz=214						
LAY	**Lan-yu**	**1.79**	**184**	*e*P	**Pn**	**16 02 29.9**	**-1.6**
	baz=175						
WDGT	**Dungji**	**1.94**	**253**	*e*P	**Pn**	**16 02 33.3**	**-0.1**
	baz=244						
WDGT				*e*S	**Sn**	**16 02 56.2**	**-0.4**
	baz=244						
IRIF	**Iriomote-Funau**	**1.94**	**75**	P	**Pn**	**16 02 33.7**	**+0.2**
IRIF				S	**Sn**	**16 02 57.1**	**+0.3**
PHUB	**P'eng-hu**	**1.95**	**261**	*e*P	**Pn**	**16 02 33.5**	**-0.1**
	baz=262						
PHUB				*e*S	**Sn**	**16 02 56.6**	**-0.4**
	baz=262						
PNG	**Penghu**	**1.96**	**263**	*e*P	**Pn**	**16 02 33.5**	**-0.2**
	baz=264						
PNG				*e*S	**Sn**	**16 02 57.2**	**0.0**
	baz=264						
HATJ	**Hateruma jima**	**1.96**	**83**	P	**Pn**	**16 02 34.1**	**+0.3**
HATJ				*e*S	**Sn**	**16 02 57.4**	**+0.2**
TWK1	**Hengchun**	**2.05**	**203**	*e*P	**Pn**	**16 02 35.8**	**+0.9**
	baz=191						
TWKBT	**Hengchun**	**2.05**	**203**	*e*P	**Pn**	**16 02 36.0**	**+1.0**
	baz=196						
TWKBT				*e*S	**Sn**	**16 03 00.8**	**+1.4**
	baz=196						
JKRS	**Kuro-shima**	**2.17**	**79**	P	**Pn**	**16 02 37.2**	**+0.5**
JKRS				S	**Sn**	**16 03 03.6**	**+1.2**
JIJ	**Ishigaki jima**	**2.32**	**76**	P	**Pn**	**16 02 38.5**	**-0.1**
JIJ				S	**Sn**	**16 03 04.7**	**-1.3**
VWUC	**VWUC**	**2.33**	**300**	*e*P	**Pn**	**16 02 37.8**	**-1.0**
	baz=299						
VWUC				*e*S	**Sn**	**16 03 03.7**	**-2.7**
	baz=299						
JISG	**Ishigakijimahi**	**2.52**	**72**	P	**Pn**	**16 02 41.2**	**-0.3**
JISG				*e*S	**Sn**	**16 03 09.9**	**-1.1**
JTJ	**Tarama**	**2.88**	**73**	P	**Pn**	**16 02 46.6**	**+0.2**
JTJ				*e*S	**Sn**	**16 03 19.2**	**-0.6**
KNMB	**Chin-men Tao**	**3.06**	**282**	*e*P	**Pn**	**16 02 47.9**	**-1.1**
	baz=281						
JIRB	**Irabujima**	**3.34**	**72**	P	**Pn**	**16 02 52.8**	**+0.1**
JIRB				*e*S	**Sn**	**16 03 30.5**	**-0.8**
JIKM	**Ikemajima**	**3.43**	**71**	S	**Sn**	**16 03 33.2**	**-0.4**
JOGS	**Gusukube**	**3.53**	**74**	*e*S	**Sn**	**16 03 36.4**	**+0.5**

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*ISK **23** 16:14:37.2,39°.11N×29°.14E,h5km,ML4.2/51*
*DDA **23** 16:14:37.0,39°.12N×29°.14E,h6km,Ml4.3*
*NEIC **23** 16:14:37.0±0.0,39°.11N×29°.14E,h6km,mb4.1/5,MW4.2, ML4.3(ISK),Moment Tension Solution. s17 Moment tensor: Scale 10^{15}Nm; M_{rr}-2.13; $M_{\theta\theta}$2.18; $M_{\phi\phi}$-0.05; $M_{r\theta}$0.55; $M_{\theta\phi}$-1.09; $M_{r\phi}$0.43; Best double couple: M_o2.50000×10^{15} NP1:ϕ_s275.00000°,δ52.00000°, λ-113.00000°. NP2:ϕ_s130.00000°,δ44.00000°, λ-63.00000°. Principal axes: T 2.6500, Plg4.0000°, Azm21.0000°; N -0.2900, Plg18.0000°, Azm290.0000°; P -2.3600, Plg71.0000°, Azm124.0000°; After ISK.*
*ISCJB **23** 16:14:37.3±0.3,39°.10N±0°.01×29°.10E±0°.01,h7km±2km, mb3.9/28,MS3.4/10 Error ellipse: s-maj=2.0km s-min=1.9km az=15.8*
*MOS **23** 16:14:38.1±1.2,39°.14N×29°.08E,h13km,mb4.2/8,Error ellipse: s-maj=6.0km s-min=4.1km az=92.7*
*CSEM **23** 16:14:38.6±0.1,39°.09N×29°.12E,h10km,mb4.1/7,Mw4.2, Error ellipse: s-maj=2.3km s-min=2.2km az=72.0*
*IDC **23** 16:14:39.8±2.9,39°.06N×29°.12E,h15km±19km,mb3.8/19, mb1 3.8/28,mb1mx3.7/70,mbtmp3.8/28,ML3.4/9,MS3.2/15, Ms1 3.2/15,ms1mx2.9/67,Error ellipse: s-maj=11.5km s-min=10.4km az=0.0*
*THE **23** 16:14:40.7,39°.03N×29°.06E,h19km±3km,ML3.9/4,Error ellipse: s-maj=4.2km s-min=0.9km az=34.0*
*ATH **23** 16:15:11.6,35°.66N×28°.87E,h14km±6km,ML2.7/3,Error ellipse: s-maj=6.4km s-min=1.1km az=356.0*
ISC 23 16:14:38.0±1.0,**39°.13N**±0°.01×**29°.13E**±0°.01,**h1**km±7km, **n417,σ1s46**/489,**mb3.9**/27,**MS3.3**/10,**23C-27D,Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIMA	**Simav-Kutahya**	**0.12**	**246**	P	**Pg**	**16 14 40.3**	**-0.1**
SIMA				SG	**Sg**	**16 14 42.3**	**+0.3**
SIMA	**Simav-Kutahya**	**0.12**	**246**	*e*Pg	**Pg**	**16 14 40.3**	**-0.1**
SIMA				*e*Sg	**Sg**	**16 14 42.3**	**+0.3**
GDZ	**Gediz**	**0.28**	**99**	⇓*i*P	**Pg**	**16 14 42.2**	**-1.1**
GDZ				*i* S	**Sg**	**16 14 46.6**	**-0.3**
GDZ	**Gediz**	**0.28**	**99**	P	**Pg**	**16 14 42.2**	**-1.1**
GDZ				S	**Sg**	**16 14 46.6**	**-0.3**
DEMI	**Demirci**	**0.33**	**254**	⇑*i*P	**Pg**	**16 14 44.1**	**-0.3**
DEMI				*i* S	**Sg**	**16 14 48.9**	**+0.2**
DEMI	**Demirci**	**0.33**	**254**	P	**Pg**	**16 14 44.1**	**-0.3**
DEMI				S	**Sg**	**16 14 48.9**	**+0.2**
TVSB	**Tavsanli**	**0.41**	**39**	PG	**Pg**	**16 14 44.9**	**-0.9**
TVSB				SG	**Sg**	**16 14 51.1**	**0.0**
TVSB	**Tavsanli**	**0.41**	**39**	Pg	**Pg**	**16 14 45.5**	**-0.3**
TVSB	**Tavsanli**	**0.41**	**39**	Pg	**Pg**	**16 14 45.5**	**-0.3**
TVSB				*e*Sg	**Sg**	**16 14 51.1**	**0.0**

DURS	Dursunbey	0.69	313	⇑	iP	Pg	16 14 51.1	-0.1
DURS					iS	Sn	16 15 06.2	-0.1
DURS	Dursunbey	0.69	313		P	Pg	16 14 51.1	-0.1
KULA	Kula-Manisa	0.72	211		PG	Pg	16 14 50.9	-0.9
KULA	Kula-Manisa	0.72	211		Pg	Pg	16 14 51.3	-0.5
KULA	Kula-Manisa	0.72	211		ePg	Pg	16 14 50.9	-0.9
MANT	Manisa	0.78	215	⇑	iP	Pg	16 14 51.8	-1.1
MANT					iS	Sg	16 15 02.0	-1.1
MANT	Manisa	0.78	215		ePg	Pg	16 14 51.9	-1.1
MANT	Manisa	0.78	215		ePg	Pg	16 14 51.9	-1.1
MANT					S	Sg	16 15 02.0	-1.1
KHAL	Karahalli	0.81	160	⇑	iP	Pg	16 14 52.8	-0.8
KHAL					iS	Sg	16 15 03.7	-0.4
KHAL	Karahalli	0.81	160		P	Pg	16 14 52.8	-0.8
KHAL					S	Sg	16 15 03.7	-0.4
KHL	Karahalli	0.87	159		PG	Pg	16 14 53.8	-0.8
KHL					SG	Sg	16 15 05.1	-0.7
KHL	Karahalli	0.87	159		Pg	Pg	16 14 54.5	-0.1
KHL	Karahalli	0.87	159		ePg	Pg	16 14 53.8	-0.8
KHL					eSg	Sg	16 15 05.1	-0.7
ORLT	Orhaneli	0.93	349		PG	Pg	16 14 55.4	-0.4
ORLT	Orhaneli	0.93	349		ePg	Pg	16 14 55.4	-0.4
AUBOZ	BOZOYUK	1.04	42	⇑	iP	Pg	16 14 57.0	-1.0
AUBOZ					iS	Sb	16 15 12.5	-0.6
AUBOZ	BOZOYUK	1.04	42		P	Pg	16 14 57.0	-1.0
AUBOZ					S	Sb	16 15 12.5	-0.6
AKHS	Akhisar	1.06	256		iP	Pg	16 14 57.5	-0.7
AKHS					iS	Sg	16 15 12.5	+0.6
AKHS	Akhisar	1.06	256		P	Pg	16 14 57.5	-0.7
AKHS					S	Sg	16 15 12.5	+0.6
AKS	Akhisar	1.06	256		PG	Pg	16 14 57.6	-0.6
AKS	Akhisar	1.06	256		ePg	Pg	16 14 57.6	-0.6
AUKUT	KUTAHYA	1.07	40	⇑	iP	Pg	16 14 51.6	-6.9
AUKUT					iS	Sg	16 15 02.3	-10
BALB	Balikesir	1.09	298		PN	Pb	16 14 59.8	+0.1
BALB	Balikesir	1.09	298		ePn	Pb	16 14 59.8	+0.1
STEP	BALIKESIR_Sava	1.12	283	⇓	iP	Pg	16 14 59.5	0.0
STEP					iS	Sb	16 15 16.1	+0.8
STEP	BALIKESIR_Sava	1.12	283		P	Pg	16 14 59.5	0.0
STEP					S	Sb	16 15 16.1	+0.8
KZIL	AFYON_Kizioren	1.18	138	⇑	iP	Pg	16 15 00.0	-0.6
KZIL					iS	Sg	16 15 15.9	0.0
KZIL	AFYON_Kizioren	1.18	138		P	Pg	16 15 00.0	-0.6
KZIL					S	Sg	16 15 15.9	0.0
CAVI	Cavuskoy	1.20	27		PN	Pg	16 15 00.6	-0.4
CAVI					SN	Sn	16 15 18.8	-0.1
CAVI	Cavuskoy	1.20	27		ePn	Pg	16 15 00.6	-0.4
CAVI					eSn	Sn	16 15 18.8	-0.1
IZI	Iznik	1.23	12		PN	Pn	16 15 02.4	0.0
IZI	Iznik	1.23	12		ePn	Pn	16 15 02.4	0.0
MDNY	Mudanya-Bursa	1.25	351		PN	Pg	16 15 01.7	-0.2
MDNY	Mudanya-Bursa	1.25	351		ePn	Pg	16 15 01.7	-0.2
SHUT	Suhut-Afyon	1.25	117		PN	Pg	16 15 01.9	-0.1
SHUT	Suhut-Afyon	1.25	117		ePn	Pg	16 15 01.9	-0.1
BORA	Eskisehir	1.27	54	⇑	iP	Pg	16 15 01.4	-0.9
BORA					iS	Sb	16 15 19.9	+0.3
BORA	Eskisehir	1.27	54		P	Pg	16 15 01.4	-0.9
BORA					S	Sb	16 15 19.9	+0.3
KCTX	Karacabey (Bur	1.28	332		PN	Pg	16 15 02.4	-0.1
KCTX	Karacabey (Bur	1.28	332		ePn	Pg	16 15 02.4	-0.1
GEMT	Gemlik	1.30	2		PN	Pn	16 15 03.3	0.0
GEMT	Gemlik	1.30	2		ePn	Pn	16 15 03.3	0.0
BALY	Balya	1.32	298		iP	Pg	16 15 01.7	-1.5
BALY					iS	Sb	16 15 21.4	+0.4
BALY	Balya	1.32	298		P	Pg	16 15 01.7	-1.5
BALY					S	Sb	16 15 21.4	+0.4
ADVT	Abdulvahap	1.38	20		PN	Pn	16 15 03.8	-0.6
ADVT	Abdulvahap	1.38	20		ePn	Pn	16 15 03.8	-0.6
DENT	Denizli	1.38	183		PN	Pg	16 15 04.1	-0.3
DENT	Denizli	1.38	183		ePn	Pg	16 15 04.1	-0.3
ESKT	Eskisehir	1.39	73		PN	Pg	16 15 03.7	-0.9
ESKT	Eskisehir	1.39	73		ePn	Pg	16 15 03.7	-0.9
GONE	Gonen-Balikesi	1.44	310		PN	Pn	16 15 05.1	-0.1
GONE	Gonen-Balikesi	1.44	310		ePn	Pn	16 15 05.1	-0.1
YLV	Yalova	1.44	7		PN	Pn	16 15 05.1	-0.2
YLV	Yalova	1.44	7		ePn	Pn	16 15 05.1	-0.2
ARMT	Armutlu	1.45	352		PN	Pn	16 15 05.1	-0.2
ARMT	Armutlu	1.45	352		ePn	Pn	16 15 05.1	-0.2
GPA	Golpazari	1.47	38		PN	Pn	16 15 05.6	-0.1
GPA	Golpazari	1.47	38		ePn	Pn	16 15 05.6	-0.1
BOLV	Bolvadin	1.48	106	⇓	iP	Pn	16 15 05.1	-0.8
BOLV					iS	Sg	16 15 25.3	-0.2
BOLV	Bolvadin	1.48	106		P	Pn	16 15 05.1	-0.8
BOLV					S	Sg	16 15 25.3	-0.2
AYDB	Zeytinkoy-Aydi	1.53	220		PN	Pn	16 15 05.6	-1.0
AYDB	Zeytinkoy-Aydi	1.53	220		ePn	Pn	16 15 05.6	-1.0
EDC	Edincik	1.56	322		PN	Pn	16 15 06.5	-0.3
EDC	Edincik	1.56	322		ePn	Pn	16 15 06.5	-0.3
BRDR	BURDUR-Merkez	1.61	153		iP	Pn	16 15 07.4	-0.2
BRDR					iS	Sg	16 15 32.5	+2.8
BRDR	BURDUR-Merkez	1.61	153		P	Pn	16 15 07.4	-0.2
BRDR					S	Sg	16 15 32.5	+2.8
GEYV	SAKARYA_Geyve	1.62	33	⇑	iP	Pn	16 15 06.8	-0.9
GEYV					iS	Sg	16 15 33.1	+3.1
GEYV	SAKARYA_Geyve	1.62	33		P	Pn	16 15 06.8	-0.9
GEYV					S	Sg	16 15 33.1	+3.1
TAVA	DENIZLI_Tavas	1.67	186		iP	Pn	16 15 06.5	-2.0
TAVA					iS	Sg	16 15 33.1	+1.3
TAVA	DENIZLI_Tavas	1.67	186		P	Pn	16 15 06.5	-2.0
TAVA					S	Sg	16 15 33.1	+1.3
GULT	Gulveren	1.68	39		PN	Pn	16 15 08.3	-0.3
GULT	Gulveren	1.68	39		ePn	Pn	16 15 08.3	-0.3
ISP	Isparta	1.71	140		PN	Pn	16 15 08.1	-0.9
ISP	Isparta	1.71	140	⇑	iP	Pn	16 15 07.8	-1.2
ISP	Isparta	1.71	140		ePn	Pn	16 15 07.0	-1.9
ISP	Isparta	1.71	140		P	Pn	16 15 07.0	-1.9
ISP					S	Sn	16 15 28.1	-3.4
ISP	Isparta	1.71	140		ePn	Pn	16 15 08.1	-0.9
ISP	Isparta	1.71	140		eP	Pn	16 15 08.5	-0.5
ISP					S	Sn	16 15 28.1	-3.4
ISP	Isparta	1.71	140		eP	Pn	16 15 08.5	-0.5
BAGO	Egridir - ISPA	1.73	131		iP	Pn	16 15 07.5	-1.8
BAGO					iS	Sg	16 15 37.5	+4.0
DKL	Dikili	1.73	269		PN	Pn	16 15 08.7	-0.5
DKL	Dikili	1.73	269		ePn	Pn	16 15 08.7	-0.5
HRT	Hereke	1.74	14		PN	Pn	16 15 08.3	-1.0
HRT	Hereke	1.74	14		ePn	Pn	16 15 08.3	-1.0
AYDN	Tasoluk	1.77	214		iP	Pn	16 15 08.0	-1.8
AYDN					iS	Sg	16 15 35.9	+1.1
AYN	Tasoluk	1.77	214		P	Pn	16 15 08.0	-1.8
AYDN					S	Sg	16 15 35.9	+1.1
BLCB	Balcova	1.79	246		PN	Pn	16 15 09.3	-0.8
BLCB	Balcova	1.79	246		ePn	Pn	16 15 09.3	-0.8
SPNC	Sapanca-Adapaz	1.80	30		PN	Pn	16 15 09.9	-0.2
SPNC	Sapanca-Adapaz	1.80	30		ePn	Pn	16 15 09.9	-0.2
SAUV	Serdivan-Sakar	1.85	29		PN	Pn	16 15 09.9	-0.9
SAUV	Serdivan-Sakar	1.85	29		ePn	Pn	16 15 09.9	-0.9
SVRH	Sivrihisar-ESK	1.88	80		PN	Pn	16 15 11.1	-0.3
SVRH	Sivrihisar-ESK	1.88	80		ePn	Pn	16 15 11.1	-0.3
KRBG	Karabiga-Canak	1.89	312		PN	Pn	16 15 11.3	-0.1
KRBG	Karabiga-Canak	1.89	312		ePn	Pn	16 15 11.3	-0.1
AUSIV	SIVRIHISAR	1.90	80		iP	Pn	16 15 12.3	+0.7
AUSIV					iS	Sb	16 15 38.2	+0.5
AUSIV	SIVRIHISAR	1.90	80		P	Pn	16 15 12.3	+0.7
AUSIV					S	Sb	16 15 38.2	+0.5
FOCM	Fo^§a	1.92	258		PN	Pn	16 15 11.2	-0.5
FOCM	Fo^§a	1.92	258		ePn	Pn	16 15 11.2	-0.5
GOLH	Golhisar	1.92	170		iP	Pn	16 15 10.2	-1.8
GOLH					iS	Sg	16 15 43.5	+3.7
GOLH	Golhisar	1.92	170		P	Pn	16 15 10.2	-1.8
ISK	Istanbul-Kandi	1.93	358		PN	Pn	16 15 11.1	-0.9
ISK	Istanbul-Kandi	1.93	358		ePn	Pn	16 15 11.1	-0.9
ISK	Istanbul-Kandi	1.93	358		eP	Pn	16 15 11.0	-0.9
SBT3	Marmara-Eregli	1.96	333		PN	Pn	16 15 12.5	+0.3
SBT3	Marmara-Eregli	1.96	333		ePn	Pn	16 15 12.5	+0.3
AUMIH	MIHALICIK	1.96	67		iP	Pb	16 15 14.7	0.0
AUMIH					iS	Sg	16 15 42.0	+0.9
AUMIH	MIHALICIK	1.96	67		P	Pb	16 15 14.6	0.0
AUMIH					S	Sg	16 15 42.0	+0.9
BCK	Bucak	2.03	145		PN	Pn	16 15 12.4	-0.9
BCK	Bucak	2.03	145		ePn	Pn	16 15 12.4	-0.9
GMLD	Gumuldur	2.03	239		PN	Pn	16 15 13.2	-0.1
GMLD	Gumuldur	2.03	239		ePn	Pn	16 15 13.2	-0.1
BTAS	Taskesti	2.03	45		iP	Pn	16 15 12.6	-0.8
BTAS					iS	Sg	16 15 44.9	+1.6
BTAS	Taskesti	2.03	45		P	Pn	16 15 12.6	-0.8
SILT	Sile	2.06	11		PN	Pn	16 15 13.2	-0.5
SILT	Sile	2.06	11		ePn	Pn	16 15 13.2	-0.5
BGKT	Bogazkoy	2.06	353		PN	Pn	16 15 13.8	0.0
BGKT	Bogazkoy	2.06	353		ePn	Pn	16 15 13.8	0.0
GCAM	G?zelcaml?	2.07	227		PN	Pn	16 15 13.2	-0.6
GCAM	G?zelcaml?	2.07	227		ePn	Pn	16 15 13.2	-0.6
MDUB	Mudurnu	2.08	49		PN	Pn	16 15 13.8	-0.3
MDUB	Mudurnu	2.08	49		ePn	Pn	16 15 13.8	-0.3
KLYT	Kilyos	2.12	358		PN	Pn	16 15 13.7	-0.8
KLYT	Kilyos	2.12	358		ePn	Pn	16 15 13.7	-0.8
KAND	Kocaeli-Kandir	2.12	22		iP	Pn	16 15 13.8	-0.7
KAND					iS	Sg	16 15 46.7	+0.5
KAND	Kocaeli-Kandir	2.12	22		P	Pn	16 15 13.8	-0.7
KAND					S	Sg	16 15 46.7	+0.5
MLSB	Milas	2.12	211		PN	Pn	16 15 14.3	-0.3
MLSB	Milas	2.12	211		ePn	Pn	16 15 14.3	-0.3
URLA	Izmir	2.13	249		PN	Pn	16 15 12.4	-2.3
URLA	Izmir	2.13	249		ePn	Pn	16 15 12.4	-2.3
CTKS	Kestanelik-??a	2.15	347		PN	Pn	16 15 14.0	-1.0
CTKS	Kestanelik-??a	2.15	347		ePn	Pn	16 15 14.0	-1.0
RKY	Sarkoy-Tekirda	2.16	317		PN	Pn	16 15 15.4	+0.2
RKY	Sarkoy-Tekirda	2.16	317		ePn	Pn	16 15 15.4	+0.2
SAHE	Sakarya_HENDEK	2.17	37		iP	Pg	16 15 18.9	-0.6
SAHE					iS	Sg	16 15 47.2	-0.4
SAHE	Sakarya_HENDEK	2.17	37		P	Pg	16 15 18.9	-0.6
SAHE					S	Sg	16 15 47.2	-0.4
LPK	Lapseki	2.21	305		PN	Pn	16 15 14.6	-1.1
LPK	Lapseki	2.21	305		ePn	Pn	16 15 14.6	-1.1
SLVT	Silivri	2.21	342		PN	Pn	16 15 16.1	+0.3
SLVT	Silivri	2.21	342		ePn	Pn	16 15 16.1	+0.3
SUTC	Sutluce-Ispart	2.21	138		PN	Pn	16 15 15.4	-0.6
SUTC	Sutluce-Ispart	2.21	138		ePn	Pn	16 15 15.4	-0.6
PRK	Paraskevi	2.22	274		P	Pn	16 15 14.9	-1.1
PRK					S	Sn	16 15 41.6	-2.5
PRK	Paraskevi	2.22	274		P	Pn	16 15 41.6	-2.5
DOGA	KONYA_Doganhis	2.24	117		iP	Pn	16 15 14.4	-1.9
DOGA					iS	Sg	16 15 57.0	+7.1
DOGA	KONYA_Doganhis	2.24	117		P	Pn	16 15 14.4	-1.9
CRLT	Corlu	2.26	332		PN	Pn	16 15 16.9	+0.4
CRLT	Corlu	2.26	332		ePn	Pn	16 15 16.9	+0.4
EZN	Ezine	2.28	289		PN	Pn	16 15 16.7	0.0
EZN	Ezine	2.28	289		P	Pn	16 15 16.2	-0.5
EZN	Ezine	2.28	289		P	Pn	16 15 16.2	-0.5
EZN	Ezine	2.28	289		ePn	Pn	16 15 16.7	0.0
SMG	Samos	2.29	232		P	Pn	16 15 15.2	-1.8
SMG					S	Sn	16 15 41.3	-4.6
SMG	Samos	2.29	232		P	Pn	16 15 15.2	-1.8
SMG					S	Sn	16 15 41.3	-4.6
TURN	Turunc	2.29	191		PN	Pn	16 15 18.0	+1.1
TURN	Turunc	2.29	191		ePn	Pn	16 15 18.0	+1.1
KORT	Korkueli	2.34	155		PN	Pn	16 15 16.9	-0.8
KORT	Korkueli	2.34	155		ePn	Pn	16 15 16.9	-0.8
GELI	Tayfur-Gelibol	2.41	303		PN	Pn	16 15 18.3	-0.2
GELI	Tayfur-Gelibol	2.41	303		ePn	Pn	16 15 18.3	-0.2
CTYL	Yalikoy Yolu	2.42	345		PN	Pn	16 15 19.4	+0.7
CTYL	Yalikoy Yolu	2.42	345		ePn	Pn	16 15 19.4	+0.7
KIYI	Yal¯–koy-Catal	2.43	345		PN	Pn	16 15 19.6	+0.8
KIYI	Yal¯–koy-Catal	2.43	345		ePn	Pn	16 15 19.6	+0.8
ELL	Elmali	2.46	165		PN	Pn	16 15 19.4	+0.1
ELL	Elmali	2.46	165		ePn	Pn	16 15 19.4	+0.1
BOZC	Bozcaada	2.48	288		PN	Pn	16 15 19.3	-0.3
BOZC	Bozcaada	2.48	288		ePn	Pn	16 15 19.3	-0.3
FETY	Fethiye	2.50	181		PN	Pn	16 15 18.6	-1.1
FETY	Fethiye	2.50	181		P	Pn	16 15 18.1	-1.6
FETY	Fethiye	2.50	181		P	Pn	16 15 18.1	-1.6
FETY	Fethiye	2.50	181		ePn	Pn	16 15 18.6	-1.1
BODT	Bodrum	2.52	215		PN	Pn	16 15 19.1	-0.9
BODT	Bodrum	2.52	215		P	Pn	16 15 17.0	-3.0
BODT	Bodrum	2.52	215		P	Pn	16 15 17.0	-3.0
BODT	Bodrum	2.52	215		ePn	Pn	16 15 19.1	-0.9
CHOS	Chios island	2.52	254		P	Pn	16 15 18.4	-1.7
CHOS					S	Sn	16 15 48.0	-3.4
CHOS	Chios island	2.52	254		P	Pn	16 15 18.4	-1.7
CHOS					S	Sn	16 15 48.0	-3.4
ERIK	Erikli-Kesan	2.53	308		PN	Pn	16 15 20.8	+0.6
ERIK	Erikli-Kesan	2.53	308		ePn	Pn	16 15 20.8	+0.6
ANTB	Antalya	2.54	151		PN	Pn	16 15 19.9	-0.3
ANTB	Antalya	2.54	151		ePn	Pn	16 15 19.9	-0.3
SIGR	SIGRI	2.55	273		PN	Pn	16 15 20.8	+0.4
SIGR	SIGRI	2.55	273		P	Pn	16 15 18.6	-1.8
SIGR					S	Sn	16 15 48.3	-3.7
SIGR	SIGRI	2.55	273		P	Pn	16 15 18.6	-1.8
SIGR	SIGRI	2.55	273		ePn	Pn	16 15 20.8	+0.4
SIGR					S	Sn	16 15 48.3	-3.7
GADA	Gvkgeada	2.71	294		PN	Pn	16 15 22.6	-0.1
GADA	Gvkgeada	2.71	294		P	Pn	16 15 22.5	-0.1
GADA	Gvkgeada	2.71	294		P	Pn	16 15 22.5	-0.1
ENEZ	Enez	2.79	306		PN	Pn	16 15 23.4	-0.4
ENEZ	Enez	2.79	306		P	Pn	16 15 23.4	-0.4
BR231	Keskin MP Arra	2.91	75		ePn	Pn	16 15 26.2	+0.7
BR231	Keskin MP Arra	2.91	75		ePn	Pn	16 15 26.2	+0.7
ANTO	Ankara	2.93	74	⇑	iP	Pn	16 15 27.1	+1.4
ANTO	Ankara	2.93	74		ePn	Pn	16 15 26.4	+0.6
ANTO	Ankara	2.93	74		eP	Pn	16 15 26.4	+0.6
ANTO	Ankara	2.93	74		eP	Pn	16 15 26.4	+0.6
ALN	Alexandroupoli	2.95	308		P	Pn	16 15 25.0	-1.0
ALN	Alexandroupoli	2.95	308		P	Pn	16 15 25.0	-1.0
KSL	Kastellorizon	3.00	173		P	Pn	16 15 26.3	-0.3
KSL					S	Pg	16 15 36.5	+1.1
KSL					AML	AML	16 16 33.8	
	comp=E,937µm,1.2s							
KSL					AML	AML	16 16 34.0	
	comp=N,916µm,1.6s							
ARG	Arkhangelos	3.02	196		P	Pn	16 15 27.3	+0.4
ARG					S	Pg	16 15 38.5	+2.7
ARG					AML	AML	16 16 36.9	
	comp=E,1129µm,1.2s							
ARG					AML	AML	16 16 41.3	
	comp=N,1284µm,1.2s							
ARG	Arkhangelos	3.02	196		P	Pn	16 15 27.2	+0.3
ARG					S	Pg	16 15 38.5	+2.7
SMTH	Samothraki Isl	3.08	297		P	Pn	16 15 26.9	-0.8
SMTH	Samothraki Isl	3.08	297		P	Pn	16 15 26.9	-0.8
LIA	Limnos Island	3.15	285		P	Pn	16 15 28.1	-0.5
LIA	Limnos Island	3.15	285		P	Pn	16 15 28.1	-0.5
APE	Apeiranthos	3.51	235	⇑	iP	Pn	16 15 32.5	-1.2
APE	Apeiranthos	3.51	235		eP	Pn	16 15 32.5	-1.2
APE	Apeiranthos	3.51	235		eP	Pn	16 15 32.5	-1.2
BR131	Keskin Array S	3.54	79		ePn	Pn	16 15 34.1	-0.1
BR131	Keskin Array S	3.54	79		ePn	Pn	16 15 34.2	-0.1
BRTR	Keskin Array B	3.54	79		Pn	Pn	16 15 35.2	+1.0
	comp=N,2.2nm,0.3s,baz=254,slow=13,SNR=52							
BRTR					Sn	Sn	16 16 15.2	-1.6
	comp=N,7.6nm,0.3s,baz=253,slow=19,SNR=8.6							
BRTR					Lg	Lg	16 16 35.2	
	comp=N,8.1nm,0.3s,baz=269,slow=23,SNR=7.7							
BRTR					LR	LR	16 17 25.2	
	comp=N,409nm,21.0s,baz=252,slow=46							
KDZ	Kurdzhali	3.79	313		iP	Pn	16 15 37.0	-0.5
JMB	Yambol	3.85	331		iP	Pn	16 15 39.2	+0.9
KARP	Karpathos	3.91	204		P	Pn	16 15 38.1	-1.1
KARP					S	Pg	16 15 56.2	+3.3
KARP					AML	AML	16 16 54.5	
	comp=E,600µm,1.0s							
KARP					AML	AML	16 17 08.5	
	comp=N,679µm,1.1s							
KARP	Karpathos	3.91	204		ePn	Pn	16 15 37.5	-1.7
KARP	Karpathos	3.91	204		P	Pn	16 15 37.9	-1.3
KARP					S	Pg	16 15 56.6	+3.7
KARP	Karpathos	3.91	204		ePn	Pn	16 15 37.5	-1.7
DIM	Dimitrovgrad	4.00	318		iP	Pn	16 15 40.0	-0.4
ILGA	Ilgaz	4.01	60		ePn	Pn	16 15 41.1	+0.4
ILGA	Ilgaz	4.01	60		ePn	Pn	16 15 41.1	+0.4
SANT	Santorini	4.01	228		ePn	Pn	16 15 38.3	-2.3
SANT	Santorini	4.01	228		ePn	Pn	16 15 38.3	-2.3
OUR	Ouranopolis	4.15	288		P	Pn	16 15 41.9	-0.5
OUR	Ouranopolis	4.15	288		P	Pn	16 15 41.9	-0.5
RZN	Rozhen	4.23	309		iP	Pn	16 15 43.8	+0.1
PRD	Provadia	4.27	343		iP	Pn	16 15 43.2	-0.8
PAIG	Paliouri	4.29	282		P	Pn	16 15 44.0	-0.3
PAIG	Paliouri	4.29	282		P	Pn	16 15 44.0	-0.3
PLD	Plovdiv	4.49	313		iP	Pn	16 15 47.9	+0.8
PLD	Plovdiv	4.49	313		P	Pn	16 15 47.5	+0.4
PLD	Plovdiv	4.49	313		P	Pn	16 15 47.5	+0.4
PLG	Polygyros	4.55	288		P	Pn	16 15 47.9	-0.1
PLG	Polygyros	4.55	288		P	Pn	16 15 47.9	-0.1
PSN	Preselentsi	4.60	351		iP	Pn	16 15 46.7	-1.9
ZKR	Zakros	4.64	211		P	Pn	16 15 50.5	+1.3
ZKR	Zakros	4.64	211		P	Pn	16 15 50.5	+1.3
SRS	Serrai	4.68	297	⇓	iPn	Pn	16 15 49.6	-0.3
SRS	Serrai	4.68	297		P	Pn	16 15 49.5	-0.3
NPS	Neapolis	4.78	217		P	Pn	16 15 52.3	+1.2
NPS	Neapolis	4.78	217		P	Pn	16 15 52.3	+1.2
SZH	Strazhica	4.78	331		iP	Pn	16 15 50.3	-0.8
IDI	Anoyia	5.12	223		Pn	Pn	16 15 54.9	-0.9
	comp=N,1.4nm,0.3s,baz=54,slow=14,SNR=21							
IDI					Lg	Lg	16 17 22.2	
	comp=N,0.2nm,0.3s,baz=42,slow=19,SNR=2.0							
IDI					LR	LR	16 17 48.5	
	comp=N,197nm,21.6s,baz=72,slow=37							
IDI	Anoyia	5.12	223	⇑	iP	Pn	16 15 55.8	0.0
IDI	Anoyia	5.12	223		ePn	Pn	16 15 54.7	-1.1
IDI	Anoyia	5.12	223	⇑	iP	Pn	16 15 55.8	0.0
IDI					Lg	Lg	16 17 22.2	
KNT	Kendrikon	5.19	295		P	Pn	16 15 58.1	+1.4
	comp=N,12nm,0.7s							
KNT	Kendrikon	5.19	295		P	Pn	16 15 58.1	+1.4
KNT					pmax	pmax		
	comp=Z,12nm,0.7s							
LIT	Litokhoron	5.22	283		P	Pn	16 15 58.3	+1.1
LIT	Litokhoron	5.22	283		P	Pn	16 15 58.3	+1.1
AGG	Agios Georgios	5.29	271		ePn	Pn	16 15 57.8	-0.4
AGG	Agios Georgios	5.29	271		eP	Pn	16 15 57.8	-0.4
AGG	Agios Georgios	5.29	271		eP	Pn	16 15 57.8	-0.4
ZIMR		5.33	329	⇓	iP	Pb	16 16 09.0	-2.9
TIRR	Tirgusor	5.35	354	⇓	iP	Pn	16 15 59.2	+0.3
TIRR	Tirgusor	5.35	354		ePn	Pn	16 15 58.4	-0.5
TIRR	Tirgusor	5.35	354		ePn	Pn	16 15 58.4	-0.5
TIRR	Tirgusor	5.35	354		eP	Pn	16 15 58.9	0.0
TIRR	Tirgusor	5.35	354		eP	Pn	16 15 58.9	0.0
CSS	Mathiatis	5.35	140		ePn	Pn	16 15 57.6	-1.4
CSS	Mathiatis	5.35	140		ePn	Pn	16 15 57.6	-1.4
GRG	Griva	5.47	292		P	Pn	16 16 02.1	+1.4
GRG	Griva	5.47	292		P	Pn	16 16 02.1	+1.4
VAY	Valandovo	5.47	296		ePn	Pb	16 16 13.2	-1.1
SGRR	Singureni	5.61	336	⇑	iP	Pn	16 16 03.1	+0.7
SGRR	Singureni	5.61	336	⇑	iP	Pn	16 16 03.1	+0.7
HARR	Harsova	5.62	351	⇑	iP	Pn	16 16 04.5	+1.8
HARR	Harsova	5.62	351		P	Pn	16 16 04.4	+1.8
HARR	Harsova	5.62	351		P	Pn	16 16 04.4	+1.8
VTS	Vitosha	5.66	309		ePn	Pn	16 16 03.9	+0.5
VTS	Vitosha	5.66	309		eP	Pn	16 16 03.9	+0.5
VTS	Vitosha	5.66	309

SORM	**Soroca**	**9.02**	**357**	⇑*i*P		**Pn**	**16 16 48.5**	**-0.7**
SORM	**Soroca**	**9.02**	**357**	P		**Pn**	**16 16 48.5**	**-0.7**
SORM	**Soroca**	**9.02**	**357**	P		**Pn**	**16 16 48.5**	**-0.7**
SOC	**Sochi**	**9.12**	**57**	*e*P		**Pn**	**16 16 48.4**	**-2.2**
	comp=Z,187nm,11.0s							
SOC	**Sochi**	**9.12**	**57**	*e*P		**Pn**	**16 16 48.4**	**-2.2**
SOC				*e*			16 18 30.7	
SOC				MLR	MLR			
	comp=Z,187nm,11.0s							
ASF	**Jabal al Asfar**	**9.39**	**135**	Pn		**Pn**	**16 16 53.9**	**-0.6**
	comp=Z,0.2nm,0.3s,baz=22,slow=5.4,SNR=2.0							
ASF				Sn		**Sn**	**16 18 40.2**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=271,slow=23,SNR=2.2							
TIP	**Timpagrande**	**9.61**	**274**	*e*Pn		**Pn**	**16 16 58.1**	**+0.6**
TIP	**Timpagrande**	**9.61**	**274**	*e*Pn		**Pn**	**16 16 58.1**	**+0.6**
EIL	**Elat**	**10.59**	**151**	Pn		**Pn**	**16 17 09.9**	**-1.0**
	comp=Z,0.2nm,0.3s,baz=337,slow=13,SNR=1.7							
EIL				Sn		**Sn**	**16 19 10.7**	**+0.6**
	comp=Z,0.4nm,0.3s,baz=85,slow=18,SNR=3.4							
NEY	**Neytrino**	**11.04**	**64**	*i* P		**Pn**	**16 17 21.2**	**+4.1**
KIV	**Kislovodsk**	**11.24**	**60**	*e*P		**Pn**	**16 17 22.6**	**+2.8**
KIV				pmax	pmax			
	comp=Z,8.0nm,1.1s							
KIV				MLR	MLR			
	comp=Z,67nm,9.0s							
KVAR	**Kislovodsk Arr**	**11.25**	**60**	Pn		**Pn**	**16 17 21.9**	**+2.0**
	baz=106,slow=2.6,SNR=6.6							
KVAR				LR	LR		16 22 57.8	
	comp=Z,151nm,21.7s,baz=238,slow=44							
KBZ	**Khabaz**	**11.31**	**62**	Pn		**Pn**	**16 17 23.2**	**+2.7**
	comp=Z,0.1nm,0.3s,baz=293,slow=12,SNR=2.6							
KIEV	**Kiev**	**11.56**	**0**	*e*Pn		**Pn**	**16 17 22.9**	**-1.2**
KIEV	**Kiev**	**11.56**	**0**	*e*Pn		**Pn**	**16 17 22.9**	**-1.2**
KIEV	**Kiev**	**11.56**	**0**	*e*P		**Pn**	**16 17 27.9**	**+3.9**
AKASG	**Malin Array Be**	**11.57**	**0**	Pn		**Pn**	**16 17 21.8**	**-2.3**
	comp=Z,0.7nm,0.3s,baz=178,slow=12,SNR=3.7							
AKASG				Sn		**Sn**	**16 19 38.8**	**+4.9**
	comp=Z,0.7nm,0.3s,baz=187,slow=26,SNR=4.5							
AKBB	**Malin Array Si**	**11.57**	**0**	*e*Pn		**Pn**	**16 17 22.9**	**-1.2**
AKBB	**Malin Array Si**	**11.57**	**0**	*e*P		**Pn**	**16 17 22.9**	**-1.2**
AKBB	**Malin Array Si**	**11.57**	**0**	*e*P		**Pn**	**16 17 22.9**	**-1.2**
ZEI	**Tsey**	**11.75**	**67**	*e*P		Pn	16 17 32.5	+5.6
ZEI				pmax	pmax			
	comp=Z,7.0nm,1.3s							
GNI	**Garni**	**12.08**	**80**	LR	LR		16 23 12.6	
	comp=Z,148nm,21.5s,baz=274,slow=42							
VRAC	**Vranov**	**13.55**	**323**	LR	LR		16 24 36.2	
	comp=Z,72nm,19.7s,baz=122,slow=44							
GERES	**GERESS Array B**	**14.72**	**316**	Pn		**Pn**	**16 18 09.4**	**+2.0**
	comp=Z,0.1nm,0.3s,baz=126,slow=6.6,SNR=2.6							
GERES				LR	LR		16 24 41.2	
	comp=Z,65nm,18.2s,baz=139,slow=41							
OBN	**Obninsk**	**16.75**	**15**	LR	LR		16 25 35.8	
	comp=Z,89nm,21.1s,baz=270,slow=39							
OBN	**Obninsk**	**16.75**	**15**	*e*P		**Pn**	**16 18 34.5**	**+0.8**
	comp=Z,70nm,18.0s							
OBN	**Obninsk**	**16.75**	**15**	*e*P		**Pn**	**16 18 34.5**	**+0.8**
OBN				pmax	pmax			
	comp=Z,8.0nm,1.3s							
OBN				MLR	MLR			
	comp=Z,70nm,18.0s							
MOS	**Moscow**	**17.55**	**16**	*e*P		**P**	**16 18 45.7**	**+0.8**
MOS				*e*S		**S**	**16 22 04.4**	**-3.5**
MOS				pmax	pmax			
	comp=Z,40nm,0.8s							
WLF	**Walferdange**	**19.43**	**310**	*e*P		**P**	**16 19 04.8**	**-0.8**
	comp=Z,28nm,1.3s							
WLF	**Walferdange**	**19.43**	**310**	*e*P		**P**	**16 19 04.8**	**-0.8**
WLF				pmax	pmax			
	comp=Z,28nm,1.3s							
RAYN	**Ar Rayn**	**20.87**	**133**	*e*P		**P**	**16 19 21.5**	**0.0**
	comp=Z,8.9nm,1.3s							
RAYN	**Ar Rayn**	**20.87**	**133**	*e*P		**P**	**16 19 21.5**	**0.0**
	comp=Z,8.9nm,1.3s							
FINES	**FINESS Array B**	**22.42**	**356**	P		**P**	**16 19 39.0**	**+1.2**
	comp=Z,3.8nm,0.8s,baz=154,slow=14,SNR=7.9							
FINES				LR	LR		16 29 06.6	
	comp=Z,111nm,18.8s,baz=188,slow=38							
FIA1	**FINESS Array S**	**22.42**	**356**	*e*P		**P**	**16 19 39.7**	**+1.9**
GEYT	**Alibeck**	**22.67**	**84**	P		**P**	**16 19 41.2**	**+0.4**
	comp=Z,5.2nm,1.0s,baz=276,slow=13,SNR=9.7							
KLMR	**Klimovskoe**	**22.69**	**13**	*e*P		**P**	**16 19 38.6**	**-2.1**
KLMR				AMP			16 19 43.8	
	comp=Z,17nm,1.2s							
KLMR	**Klimovskoe**	**22.69**	**13**	*e*P		**P**	**16 19 38.5**	**-2.1**
KLMR				pmax	pmax			
	comp=Z,17nm,1.2s							
HFS	**Hagfors**	**23.16**	**340**	P		**P**	**16 19 45.4**	**-0.2**
	comp=Z,0.4nm,0.4s,baz=184,slow=40,SNR=2.7							
HFS				LR	LR		16 29 05.0	
	comp=Z,72nm,20.1s,baz=152,slow=37							
AKTO	**Aktyubinsk**	**23.26**	**51**	P		**P**	**16 19 46.9**	**+0.1**
	comp=Z,6.3nm,1.1s,baz=252,slow=13,SNR=8.2							
AKTO				LR	LR		16 33 00.1	
	comp=Z,77nm,18.7s,baz=253,slow=47							
ABKAR	**Akbulak array**	**24.14**	**55**	*e*P		**P**	**16 19 56.0**	**+0.6**
	comp=Z,2.3nm,0.9s							
NOA	**NORSAR Array B**	**24.59**	**339**	P		**P**	**16 20 01.4**	**+2.0**
	comp=Z,0.9nm,0.8s,baz=54,slow=11,SNR=3.5							
NOA				LR	LR		16 30 48.0	
	comp=Z,46nm,20.3s,baz=160,slow=39							
ARU	**Arti**	**25.98**	**39**	P		**P**	**16 20 13.9**	**+1.9**
	comp=Z,5.1nm,0.8s,baz=233,slow=7.4,SNR=12							
ARU				LR	LR		16 32 22.6	
	comp=Z,43nm,18.1s,baz=269,slow=41							
ARU	**Arti**	**25.98**	**39**	*e*P		**P**	**16 20 13.4**	**+1.5**
	comp=Z,16nm,1.1s							
ARU	**Arti**	**25.98**	**39**	*d i*P		**P**	**16 20 14.1**	**+2.2**
ARU							16 20 49.7	
ARU				S		**S**	**16 24 48.3**	**+5.1**
ARU				SS		**SnSn**	**16 25 47.3**	**+8.0**
ARU				pmax	pmax			
	comp=Z,24nm,1.7s							
EKA	**Eskdalemuir Ar**	**26.93**	**318**	P		**P**	**16 20 22.2**	**+1.6**
	comp=Z,0.5nm,0.5s,baz=113,slow=11,SNR=3.1							
BRVK	**Borovoye**	**31.28**	**50**	*i* P		**P**	**16 21 01.5**	**+2.2**
BRVK				pmax	pmax			
	comp=Z,3.0nm,2.1s							
BVAR	**Borovoye Array**	**31.34**	**50**	P		**P**	**16 21 01.9**	**+2.1**
	comp=Z,0.2nm,0.6s,baz=234,slow=4.4,SNR=2.8							
OTUK	**Ortayu**	**32.17**	**59**	P		**P**	**16 21 09.8**	**+2.6**
OTUK				pmax	pmax			
	comp=Z,4.0nm,1.1s							
AAK	**Ala-Archa**	**34.16**	**69**	P		**P**	**16 21 25.9**	**+1.2**
	comp=Z,2.0nm,0.9s,baz=229,slow=9.7,SNR=5.8							
AAK	**Ala-Archa**	**34.16**	**69**	*e*P		**P**	**16 21 26.7**	**+1.9**
	comp=Z,2.6nm,0.9s							
AAK	**Ala-Archa**	**34.16**	**69**	*i* P		**P**	**16 21 26.0**	**+1.2**
AAK				pmax	pmax			
	comp=Z,9.0nm,2.4s							
TOA0	**Torodi Ar. Sit**	**35.46**	**231**	*e*P		**P**	**16 21 34.7**	**-1.3**
TORD	**Torodi Ar. Bea**	**35.46**	**231**	P		**P**	**16 21 35.1**	**-1.0**
	comp=Z,1.5nm,0.7s,baz=38,slow=8.8,SNR=11							
TORD				PcP		**PcP**	**16 24 03.9**	**-1.9**
	comp=Z,0.5nm,0.8s,baz=15,slow=1.4,SNR=2.2							
KURBB	**Kurchatov Arra**	**36.20**	**55**	P		**P**	**16 21 42.7**	**+0.7**
	comp=Z,1.3nm,0.9s,baz=279,slow=8.9,SNR=9.3							
KURK	**Kurchatov**	**36.26**	**55**	P		**P**	**16 21 42.8**	**+0.2**
KURK	**Kurchatov**	**36.26**	**55**	*i* P		**P**	**16 21 44.0**	**+1.5**
KURK				pmax	pmax			
	comp=Z,1.0nm,1.1s							
MKAR	**Makanchi Array**	**39.00**	**61**	P		**P**	**16 22 05.8**	**0.0**
	comp=Z,0.7nm,0.7s,baz=281,slow=9.2,SNR=9.6							
MK01	**Makanchi Array**	**39.01**	**61**	*e*P		**P**	**16 22 05.1**	**-0.9**
SPITS	**Spitsbergen Ar**	**39.51**	**356**	LR		LR	16 39 39.4	
	comp=Z,47nm,18.7s,baz=200,slow=38							
ZALV	**Zalesovo Beam**	**39.99**	**49**	P		**P**	**16 22 15.3**	**+1.4**
	comp=Z,1.2nm,0.7s,baz=254,slow=9.1,SNR=4.5							
ZALV				LR	LR		16 42 31.8	
	comp=Z,35nm,18.2s,baz=246,slow=42							
KMBO	**Kilima Mbogo**	**40.75**	**168**	P		**P**	**16 22 19.9**	**-1.1**
	comp=Z,2.4nm,0.5s,baz=219,slow=21,SNR=2.7							
WMQ	**Urumqi**	**43.34**	**64**	P		**P**	**16 22 43.6**	**+2.0**
WMQ				sP		sP	16 22 50.9	+8.8
WMQ				pmax	pmax			
	comp=Z,19nm,0.7s							
WMQ				LR	LR			
	comp=N,87nm,17.5s							
WMQ				LR	LR			
	comp=E,130nm,17.5s							
WMQ				LR	LR			
	comp=Z,110nm,16.5s							
SONM	**Songino Array**	**54.55**	**54**	P		**P**	**16 24 07.8**	**+0.2**
	comp=Z,0.6nm,0.9s,baz=284,slow=6.0,SNR=4.5							
LZH	**Lanzhou**	**57.68**	**68**	*e*P		P	16 24 24.9	-5.4
LZH				pP		pP	16 24 28.3	-2.3
LZH				sP		sP	16 24 29.8	-0.9
LZH				*e*PP		**PP**	**16 26 33.5**	**-4.3**
LZH				pmax	pmax			
	comp=Z,17nm,1.0s							
LZH				pmax	pmax			
	comp=Z,42nm,4.3s							
LZH				LR	LR			
	comp=N,54nm,14.5s							
LZH				LR	LR			
	comp=E,65nm,15.3s							
LZH				LR	LR			
	comp=Z,89nm,18.2s							
HHC	**Hu-ho-hao-te**	**60.84**	**59**	*e*P		**P**	**16 24 52.4**	**+0.4**
HHC				pmax	pmax			
	comp=Z,10.0nm,1.2s							
HHC				pmax	pmax			
	comp=Z,12nm,7.6s							
BILL	**Bilibino**	**68.41**	**16**	⇓*e*P		**P**	**16 25 43.4**	**+2.5**
BILL				*e*			16 26 06.8	
BILL				*e*			16 28 16.9	
BILL				pmax	pmax			
	comp=Z,2.0nm,1.2s							
BILL				MLR	MLR			
	comp=Z,25nm,17.0s							
USRK	**Ussuriysk Ar.**	**71.81**	**48**	P		**P**	**16 26 00.9**	**-1.2**
	comp=Z,3.2nm,0.7s,baz=253,slow=11,SNR=6.0							
KSAR	**Wonju Array Be**	**73.36**	**55**	P		**P**	**16 26 10.2**	**-1.2**
KSAR	**Wonju Array Be**	**73.36**	**55**	P		**P**	**16 26 10.3**	**-1.2**
KSRS	**Korea Array**	**73.38**	**55**	P		**P**	**16 26 10.2**	**-1.3**
	comp=Z,2.2nm,1.0s,baz=309,slow=4.3,SNR=5.8							
YKA	**Yellowknife Ar**	**74.60**	**343**	P		**P**	**16 26 16.6**	**-1.6**
	comp=Z,0.4nm,0.9s,baz=35,slow=5.1,SNR=5.6							
NVAR	**Mina Array Bea**	**97.22**	**335**	P		Pdif	16 28 13.5	+0.6
	comp=Z,0.1nm,0.3s,baz=66,slow=31,SNR=2.5							

CSEM ***23*** *16:14:55.0,39.05N×29.15E,h7km,ML4.0*
DDA 23 16:14:55.0,39.05N×29.15E,h7km,Ml4.0,Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GDZ	**Gediz**	**0.26**	**82**	*i* P	Pg	16 14 59.2	-1.0
GDZ				*i* S	Sg	16 15 04.7	+1.0
GDZ	**Gediz**	**0.26**	**82**	P	Pg	16 14 59.2	-1.0
GDZ				S	Sg	16 15 04.7	+1.0
DEMI	**Demirci**	**0.34**	**268**	*e*P	Pg	16 15 01.8	+0.2
DEMI				*i* S	Sg	16 15 06.8	+0.8
DEMI	**Demirci**	**0.34**	**268**	P	Pg	16 15 01.8	+0.2
DEMI				S	Sg	16 15 06.8	+0.7
MANT	**Manisa**	**0.73**	**220**	*e*P	Pb	16 15 09.8	-0.4
MANT				*i* S	Sb	16 15 19.6	-0.8
MANT	**Manisa**	**0.73**	**220**	P	Pb	16 15 09.8	-0.3
MANT				S	Sb	16 15 19.6	-0.8
AUKUT	**KUTAHYA**	**1.12**	**37**	*e*P	Pg	16 15 12.6	-4.0
AUKUT				*i* S	Sg	16 15 21.3	-10
AUKUT	**KUTAHYA**	**1.12**	**37**	P	Pg	16 15 12.6	-4.0
AUKUT				S	Sg	16 15 21.3	-10
BORA	**Eskisehir**	**1.30**	**50**	*e*P	Pg	16 15 21.4	+1.4
BORA				*i* S	Sn	16 15 37.4	-0.1

IDC 23 16:19:43.6±1.4,19.36S×169.10E,h0km,mb4.1/5, mb1 4.1/6,mb1mx3.7/48,mbtmp4.1/6,ML3.3/1,Error ellipse: s-maj=42.0km s-min=21.4km az=173.0,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**3.67**	**222**	Pn	Pn	16 20 43.3	+1.5
	2.3nm,0.3s,baz=34,slow=22,SNR=13						
DZM				Sn	Sn	16 21 26.3	+0.6
	10.0nm,0.3s,baz=34,slow=11,SNR=9.4						
CTA	**Charters Tower**	**21.52**	**264**	P	P	16 24 35.8	+1.3
	1.8nm,0.4s,baz=85,slow=13,SNR=4.0						
PMG	**Port Moresby**	**23.42**	**292**	P	P	16 24 55.7	+1.2
	12nm,0.9s,baz=86,slow=16,SNR=3.0						
WRA	**Warramunga Arr**	**32.71**	**263**	P	P	16 26 16.4	-1.7
	0.5nm,0.8s,baz=94,slow=8.1,SNR=5.6						
ASAR	**Alice Springs**	**32.97**	**256**	P	P	16 26 19.7	-0.8
	1.8nm,0.8s,baz=83,slow=8.5,SNR=25						
PPT	**Papeete**	**39.17**	**94**	P	P	16 27 13.6	+0.1
	24nm,0.8s,baz=262,slow=7.1,SNR=2.4						

IDC ***23*** *16:20:49.3±2.9, 1.13N×99.33E,h0km,mb3.5/5,mb1 3.6/6, mb1mx3.2/68,mbtmp3.5/6,ML4.1/1,MS3.0/1,Ms1 3.0/1, ms1mx2.3/46,Error ellipse: s-maj=114.3km s-min=25.4km az=57.0*
NEIC ***23*** *16:20:50.6±1.1, 1.22N×99.38E,h10km,mb3.7/2,Error ellipse: s-maj=18.8km s-min=15.0km az=138.0*
NEIC Felt [III] at Padangsidempuan.
DJA ***23*** *16:20:53.1±0.2, 1°N±2°×9°E±°,h10km,M4.4/12,mb5.0/1, MLv4.2/12*
ISC 23 16:20:52.7±1.2,1.37N±0.04×99.33E±0.04,h14km±10km, n25,σ1§39/32,mb3.7/6,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MNSI	**Mandailing Nat**	**0.62**	**156**	P	**Pg**	**16 21 04.1**	**-0.7**
MNSI				S	**Sg**	**16 21 13.6**	**+0.5**
GSI	**Gunungsitoli**	**1.75**	**268**	P	**Pn**	**16 21 23.5**	**+0.8**
GSI				S	**Sb**	**16 21 47.8**	**+1.2**
GSI	**Gunungsitoli**	**1.75**	**268**	*e*Pn	**Pn**	**16 21 20.6**	**-2.1**
GSI				*e*Pg	**Pb**	**16 21 23.3**	**-1.3**
GSI				*e*Sn	**Sn**	**16 21 45.1**	**+0.3**
BKNI	**Bangkinang**	**2.00**	**121**	P	**Pb**	**16 21 28.5**	**-0.3**
BKNI				S	**Sg**	**16 21 56.3**	**-0.7**
BKNI	**Bangkinang**	**2.00**	**121**	*e*Pn	**Pb**	**16 21 28.3**	**-0.5**
TSI	**Tuntungan**	**2.25**	**340**	P	**Pb**	**16 21 33.3**	**+0.1**
TSI				S	**Sg**	**16 22 07.3**	**+2.0**
PDSI	**Padang**	**2.53**	**153**	P	**Pn**	**16 21 34.9**	**+1.5**
SISI	**Saibi**	**2.68**	**185**	P	**Pn**	**16 21 36.3**	**+0.8**
TPTI		**2.86**	**311**	P	**Pn**	**16 21 39.4**	**+1.6**
TPTI				S	**Sb**	**16 22 16.9**	**-1.4**
SDSI	**Sungai Dareh**	**3.10**	**137**	P	**Pb**	**16 21 49.5**	**+1.9**
SDSI				S	**Sg**	**16 22 33.0**	**+0.6**
IPM	**Ipoh**	**3.53**	**29**	*e*Pn	**Pn**	**16 21 47.0**	**-0.1**
KRJI	**Kerinci**	**4.04**	**148**	P	**Pn**	**16 21 53.6**	**-0.7**
MLSI	**Meulaboh, Aceh**	**4.10**	**315**	P	**Pn**	**16 21 57.7**	**+2.7**
KULM	**Kulim**	**4.12**	**19**	*e*Pn	**Pn**	**16 21 54.1**	**-1.0**
DSRI	**Dabo**	**5.56**	**109**	P	**Pn**	**16 22 17.6**	**+2.6**
LEM	**Lembang**	**11.60**	**135**	LR	LR	16 28 33.9	
	comp=Z,72nm,20.0s,baz=254,slow=41						
CMAR	**Chiang Mai Arr**	**16.99**	**359**	P	**P**	**16 24 51.7**	**-0.2**
	0.2nm,0.3s,baz=188,slow=12,SNR=4.0						
CHTO	**Chiang Mai**	**17.34**	**359**	*e*P	**Pn**	**16 24 54.2**	**-0.3**
	1.2nm,0.6s						
WRA	**Warramunga Arr**	**40.33**	**123**	P	**P**	**16 28 27.6**	**-2.5**
	0.2nm,0.7s,baz=304,slow=8.9,SNR=3.2						
SONM	**Songino Array**	**46.69**	**7**	P	**P**	**16 29 22.0**	**+0.8**
	0.3nm,0.5s,baz=178,slow=9.5,SNR=2.3						
MKAR	**Makanchi Array**	**47.63**	**344**	P	**P**	**16 29 27.1**	**-1.3**
	0.4nm,0.6s,baz=157,slow=8.8,SNR=7.0						
KURBB	**Kurchatov Arra**	**52.16**	**343**	P	**P**	**16 30 04.1**	**+1.5**
	0.4nm,0.6s,baz=153,slow=7.0,SNR=3.3						
KURK	**Kurchatov**	**52.21**	**343**	P	**P**	**16 30 04.1**	**+1.1**
ZALV	**Zalesovo Beam**	**53.76**	**349**	P	**P**	**16 30 15.3**	**+0.9**
	0.8nm,0.5s,baz=174,slow=9.5,SNR=4.1						
ABKAR	**Akbulak array**	**58.39**	**331**	*e*P	**P**	**16 30 47.8**	**+0.1**
	0.4nm,0.2s						

ISK ***23*** *16:22:24.7,39.07N×29.20E,h5km,ML2.5/7*
ISCJB ***23*** *16:22:25.5±0.5,39.09N±0.03×29.16E±0.03,h2km±5km, Error ellipse: s-maj=4.9km s-min=3.7km az=135.3*
DDA ***23*** *16:22:25.2,39.11N×29.16E,h7km,Ml2.2*
CSEM ***23*** *16:22:25.6±0.1,39.10N×29.16E,h2km,ML2.5,Error ellipse: s-maj=3.0km s-min=2.1km az=115.0*
ISC 23 16:22:25.6±0.9,39.10N±0.02×29.16E±0.02,h7km±8km, n28,σ0§50/52,Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIMA	**Simav-Kutahya**	**0.14**	**265**	PG	**Pg**	**16 22 28.9**	**+0.2**
SIMA				SG	**Sg**	**16 22 30.5**	**-0.2**
SIMA	**Simav-Kutahya**	**0.14**	**265**	*i* Pg	**Pg**	**16 22 28.9**	**+0.2**
SIMA				*e*Sg	**Sg**	**16 22 30.5**	**-0.2**
GDZ	**Gediz**	**0.25**	**91**	*i* P	**Pg**	**16 22 30.5**	**-0.1**
GDZ				*i* S	**Sg**	**16 22 34.4**	**+0.5**
GDZ	**Gediz**	**0.25**	**91**	P	**Pg**	**16 22 30.5**	**-0.1**
GDZ				S	**Sg**	**16 22 34.4**	**+0.5**
DEMI	**Demirci**	**0.35**	**262**	*i* P	**Pg**	**16 22 32.7**	**+0.1**
DEMI				*i* S	**Sg**	**16 22 37.1**	**-0.1**
TVSB	**Tavsanli**	**0.42**	**33**	PG	**Pg**	**16 22 33.2**	**-0.7**
TVSB				SG	**Sg**	**16 22 39.1**	**-0.4**
TVSB	**Tavsanli**	**0.42**	**33**	*e*Pg	**Pg**	**16 22 33.2**	**-0.7**
TVSB				*e*Sg	**Sg**	**16 22 39.1**	**-0.4**
KULA	**Kula-Manisa**	**0.70**	**214**	PG	**Pg**	**16 22 38.9**	**-0.2**
KULA				SG	**Sg**	**16 22 48.4**	**+0.1**
KULA	**Kula-Manisa**	**0.70**	**214**	*e*Pg	**Pg**	**16 22 38.9**	**-0.2**
KULA				*e*Sg	**Sg**	**16 22 48.4**	**+0.1**
DURS	**Dursunbey**	**0.74**	**314**	*i* P	**Pg**	**16 22 39.5**	**-0.3**
DURS				*i* S	**Sn**	**16 22 53.2**	**-0.9**
DURS	**Dursunbey**	**0.74**	**314**	P	**Pg**	**16 22 39.5**	**-0.3**
DURS				S	**Sn**	**16 22 53.2**	**-0.9**
KHAL	**Karahalli**	**0.77**	**160**	*i* P	**Pb**	**16 22 41.6**	**+0.2**
KHAL				*i* S	**Sb**	**16 22 52.0**	**-0.1**
KHAL	**Karahalli**	**0.77**	**160**	P	**Pb**	**16 22 41.6**	**+0.2**
KHAL				S	**Sb**	**16 22 52.0**	**-0.1**
MANT	**Manisa**	**0.77**	**218**	*i* P	**Pg**	**16 22 40.4**	**0.0**
MANT				*i* S	**Sg**	**16 22 49.9**	**-0.6**
MANT	**Manisa**	**0.77**	**218**	P	**Pg**	**16 22 40.4**	**0.0**
MANT				S	**Sg**	**16 22 49.8**	**-0.6**
CAVI	**Cavuskoy**	**1.22**	**25**	PN	**Pn**	**16 22 49.2**	**0.0**
CAVI	**Cavuskoy**	**1.22**	**25**	*e*Pn	**Pn**	**16 22 49.2**	**0.0**
MDNY	**Mudanya-Bursa**	**1.29**	**350**	PN	**Pb**	**16 22 50.3**	**+0.1**
MDNY	**Mudanya-Bursa**	**1.29**	**350**	*e*Pn	**Pb**	**16 22 50.3**	**+0.1**
KCTX	**Karacabey (Bur**	**1.32**	**332**	PN	**Pg**	**16 22 50.9**	**-0.2**
KCTX				SN	**Sn**	**16 23 10.0**	**+1.5**
KCTX	**Karacabey (Bur**	**1.32**	**332**	*e*Pn	**Pg**	**16 22 50.9**	**-0.2**
KCTX				*e*Sn	**Sn**	**16 23 10.0**	**+1.5**
YLV	**Yalova**	**1.48**	**6**	PN	**Pg**	**16 22 53.3**	**-0.7**
YLV				SN	**Sg**	**16 23 13.6**	**+0.4**
YLV	**Yalova**	**1.48**	**6**	*e*Pn	**Pg**	**16 22 53.3**	**-0.7**
YLV				*e*Sn	**Sg**	**16 23 13.6**	**+0.4**
ARMT	**Armutlu**	**1.49**	**351**	PN	**Pg**	**16 22 53.9**	**-0.3**
ARMT				SN	**Sg**	**16 23 14.2**	**+0.7**
ARMT	**Armutlu**	**1.49**	**351**	*e*Pn	**Pg**	**16 22 53.9**	**-0.3**
ARMT				*e*Sn	**Sg**	**16 23 14.2**	**+0.7**
AYDB	**Zeytinkoy-Aydi**	**1.52**	**221**	PN	**Pn**	**16 22 53.3**	**-0.1**
AYDB				SN	**Sg**	**16 23 14.1**	**-0.4**
AYDB	**Zeytinkoy-Aydi**	**1.52**	**221**	*e*Pn	**Pn**	**16 22 53.3**	**-0.1**
AYDB				*e*Sn	**Sg**	**16 23 14.1**	**-0.4**

NEIC ***23*** *16:22:32.6±0.8,23.04S×66.09W,h211km±8km,mb4.4/8, Error ellipse: s-maj=15.3km s-min=6.5km az=90.0*
SCB ***23*** *16:22:32.1±1.1,22.79S×66.75W,h237km±7km,Ml4.0/1, Error ellipse: s-maj=33.1km s-min=13.5km az=29.0*
ISCJB ***23*** *16:22:33.1±0.3,23.02S±0.03×66.29W±0.03,h222km, mb3.8/16,Error ellipse: s-maj=4.3km s-min=4.2km az=29.9*
SJA ***23*** *16:22:34.1±0.5,23.08S×66.47W,h247km±7km,ML3.9, MW3.7*
IDC ***23*** *16:22:34.9±1.3,22.94S×66.14W,h228km±11km,mb3.5/11, mb1 3.6/16,mb1mx3.5/43,mbtmp4.1/16,Error ellipse: s-maj=14.9km s-min=10.6km az=70.0*
GUC ***23*** *16:22:36.6±0.5,22.98S×66.92W,h260km,ML5.2,MW4.8*
ISC 23 16:22:33.5±0.5,22.99S±0.04×66.41W±0.05,h222km,n63, σ1§75/76,mb4.0/16,9C,Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HJA	**Humahuaca**	**0.95**	**103**	*e*P	Pn	16 23 10.2	+4.4
YJA	**Yavi**	**1.16**	**46**	*e*P	Pn	16 23 11.5	+4.3
YJA				IAML		16 23 12.0	
	comp=Z,648nm,0.4s						
AZAP	**Zapla**	**1.74**	**135**	*e*P	**Pn**	**16 23 14.6**	**+3.1**
AZAP				IAML		16 23 15.6	
	comp=Z,299nm,0.5s						
AZAP				*e*S	**S**	**16 23 44.6**	**+3.5**
MOCB	**Mochara**	**1.88**	**23**	*e*Pn	**Pn**	**16 23 16.9**	**+3.8**
MOCB				*e*Sn	**S**	**16 23 47.9**	**+4.2**
	comp=Z,563nm,0.9s						
ASTB	**Santa Barbara**	**2.04**	**118**	*e*P	**Pn**	**16 23 17.4**	**+3.2**
ALOL	**LOMAS DE OLMED**	**2.38**	**111**	*e*P	**Pn**	**16 23 20.4**	**+2.8**
PB09	**IPOC Station P**	**2.88**	**294**	⇑*i*P	Pn	16 23 26.7	+3.6
PB09				*i* S	**S**	**16 24 04.6**	**+2.8**
PB09				IA

	comp=E,6.0nm,0.6s								
CCUT	**Cedar City**	**74.68**	**323**	*e*P		**P**	**16 33 51.3**	**+2.3**	
	comp=E,2.0nm,0.8s								
TOA0	**Torodi Ar. Sit**	**75.70**	**69**	*e*P		**P**	**16 33 53.4**	**-1.6**	
	comp=E,13nm,1.4s								
TORD	**Torodi Ar. Bea**	**75.70**	**69**	P		**P**	**16 33 53.8**	**-1.2**	
	comp=E,2.3nm,0.4s,baz=260,slow=5.8,SNR=35								
PDAR	**Pinedale Array**	**76.56**	**329**	P		**P**	**16 34 00.9**	**+1.3**	
	comp=E,0.1nm,0.4s,baz=128,slow=5.9,SNR=2.7								
NVAR	**Mina Array Bea**	**78.10**	**321**	P		**P**	**16 34 09.9**	**+1.8**	
	comp=E,0.2nm,0.3s,baz=148,slow=8.7,SNR=4.3								
HLID	**Hailey**	**79.54**	**327**	*e*P		**P**	**16 34 17.7**	**+1.9**	
	comp=E,2.3nm,0.8s								
PAHR	**Pah Rah Range**	**79.57**	**321**	*e*P		**P**	**16 34 17.7**	**+1.7**	
	comp=E,6.5nm,0.6s								
BOSA	**Boshof**	**80.71**	**117**	P		**P**	**16 34 21.7**	**-0.8**	
	comp=E,2.4nm,1.0s,baz=202,slow=5.4,SNR=3.4								
YKA	**Yellowknife Ar**	**93.37**	**340**	P		**P**	**16 35 23.3**	**+0.5**	
	comp=E,0.2nm,0.5s,baz=130,slow=4.7,SNR=5.6								
ASAR	**Alice Springs**	**129.59**	**204**	PKP		**PKPdf**	**16 41 16.6**	**-0.1**	
	comp=E,0.2nm,0.5s,baz=132,slow=1.6,SNR=4.5								
ASAR				SKPbc	SKPab		16 44 16.5	-1.0	
	comp=E,0.3nm,0.8s,baz=143,slow=2.9,SNR=3.9								
WRA	**Warramunga Arr**	**132.76**	**207**	PKP		**PKPdf**	**16 41 23.2**	**+0.4**	
	comp=E,0.2nm,0.5s,baz=160,slow=1.7,SNR=6.4								
WRA				SKPbc		**SKPbc**	**16 44 28.3**	**-0.9**	
	comp=E,0.3nm,0.7s,baz=150,slow=3.5,SNR=5.8								
KURBB	**Kurchatov Arra**	**141.25**	**36**	PKhKP	PKPpre		16 41 34.2		
	comp=E,0.2nm,0.4s,baz=290,slow=3.2,SNR=3.3								
ZALV	**Zalesovo Beam**	**142.25**	**28**	PKP		**PKPdf**	**16 41 39.4**	**+0.4**	
	comp=E,0.4nm,0.3s,baz=338,slow=3.4,SNR=2.4								
MKAR	**Makanchi Array**	**145.41**	**39**	PKPbc		**PKPab**	**16 41 45.8**	**0.0**	
	comp=E,1.0nm,0.6s,baz=300,slow=3.3,SNR=15								
MKAR				SKPbc		**SKiKP**	**16 45 03.1**	**-0.8**	
	comp=E,0.6nm,0.7s,baz=322,slow=1.8,SNR=4.9								
LZH	**Lanzhou**	**164.45**	**31**	*e*PKP		**PKPdf**	**16 42 09.3**	**-1.6**	
LZH				pPKP	PKPab		16 43 04.5	-2.3	
LZH				PKP		**pPKPdf**	**16 43 07.4**	**-1.0**	
LZH				sPKP			16 43 26.0		
CMAR	**Chiang Mai Arr**	**165.58**	**106**	PKPab		**PKPab**	**16 43 12.1**	**-0.1**	
	comp=E,0.7nm,0.6s,baz=254,slow=5.9,SNR=5.3								

*DDA **23** 16:22:58.9, 39.03N×29.18E, h7km, Ml2.5*
*ISK **23** 16:22:58.9, 39.09N×29.20E, h5km, ML2.4/8*
*ISCJB **23** 16:22:59.4±0.5, 39.08N±0.03×29.19E±0.03, h4km±5km, Error ellipse: s-maj=5.1km s-min=4.1km az=164.9*
*CSEM **23** 16:22:59.5±0.2, 39.08N×29.19E, h5km, ML2.4, Error ellipse: s-maj=3.6km s-min=2.9km az=110.0*

ISC 23 16:22:59.5±1.0,**39.08N**±0.02×**29.19E**±0.02,**h5**km±9km, **n30,σ0s42/52,Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SIMA	**Simav-Kutahya**	**0.16**	**270**	PG		**Pg**	**Pg**	**16 23 03.1**	**+0.4**
SIMA				SG		**Sg**	**Sg**	**16 23 05.1**	**+0.2**
SIMA	**Simav-Kutahya**	**0.16**	**270**	*e*Pg		**Pg**	**Pg**	**16 23 03.1**	**+0.4**
SIMA				*e*Sg		**Sg**	**Sg**	**16 23 05.1**	**+0.2**
GDZ	**Gediz**	**0.23**	**89**	*i* P		**Pg**	**Pg**	**16 23 04.2**	**+0.3**
GDZ				*i* S		**Sg**	**Sg**	**16 23 07.4**	**+0.5**
GDZ	**Gediz**	**0.23**	**89**	P		**Pg**	**Pg**	**16 23 04.2**	**+0.3**
GDZ				S		**Sg**	**Sg**	**16 23 07.4**	**+0.5**
DEMI	**Demirci**	**0.37**	**264**	*i* P		**Pg**	**Pg**	**16 23 06.6**	**-0.1**
DEMI				*i* S		**Sg**	**Sg**	**16 23 11.2**	**-0.4**
DEMI	**Demirci**	**0.37**	**264**	P		**Pg**	**Pg**	**16 23 06.6**	**-0.1**
DEMI				S		**Sg**	**Sg**	**16 23 11.2**	**-0.4**
TVSB	**Tavsanli**	**0.42**	**30**	PG		**Pg**	**Pg**	**16 23 07.2**	**-0.4**
TVSB				SG		**Sg**	**Sg**	**16 23 12.7**	**-0.5**
TVSB	**Tavsanli**	**0.42**	**30**	*e*Pg		**Pg**	**Pg**	**16 23 07.2**	**-0.4**
TVSB				*e*Sg		**Sg**	**Sg**	**16 23 12.7**	**-0.5**
KULA	**Kula-Manisa**	**0.70**	**216**	PG		**Pg**	**Pg**	**16 23 13.1**	**+0.1**
KULA	**Kula-Manisa**	**0.70**	**216**	*e*Pg		**Pg**	**Pg**	**16 23 13.1**	**+0.1**
KHAL	**Karahalli**	**0.75**	**162**	*i* P		**Pb**	**Pb**	**16 23 15.1**	**+0.1**
KHAL				*i* S		**Sb**	**Sb**	**16 23 25.7**	**+0.1**
KHAL	**Karahalli**	**0.75**	**162**	P		**Pb**	**Pb**	**16 23 15.1**	**+0.1**
KHAL				S		**Sb**	**Sb**	**16 23 25.7**	**+0.1**
DURS	**Dursunbey**	**0.76**	**313**	*i* P		**Pb**	**Pb**	**16 23 14.7**	**-0.5**
DURS				*i* S		**Sb**	**Sb**	**16 23 26.6**	**+0.7**
DURS	**Dursunbey**	**0.76**	**313**	P		**Pb**	**Pb**	**16 23 14.7**	**-0.5**
DURS				S		**Sb**	**Sb**	**16 23 26.6**	**+0.7**
MANT	**Manisa**	**0.77**	**220**	*i* P		**Pg**	**Pg**	**16 23 14.0**	**-0.3**
MANT				*i* S		**Sg**	**Sg**	**16 23 23.5**	**-0.8**
MANT	**Manisa**	**0.77**	**220**	P		**Pg**	**Pg**	**16 23 14.0**	**-0.3**
MANT				S		**Sg**	**Sg**	**16 23 23.5**	**-0.8**
BALB	**Balikesir**	**1.16**	**299**	PN		**Pg**	**Pg**	**16 23 21.8**	**+0.1**
BALB	**Balikesir**	**1.16**	**299**	*e*Pn		**Pg**	**Pg**	**16 23 21.8**	**+0.1**
CAVI	**Cavuskoy**	**1.22**	**24**	PN		**Pg**	**Pg**	**16 23 22.6**	**-0.7**
CAVI	**Cavuskoy**	**1.22**	**24**	*e*Pn		**Pg**	**Pg**	**16 23 22.6**	**-0.7**
MDNY	**Mudanya-Bursa**	**1.30**	**350**	PN		**Pg**	**Pg**	**16 23 24.3**	**-0.2**
MDNY				SN		**Sn**	**Sn**	**16 23 42.8**	**+0.7**
MDNY	**Mudanya-Bursa**	**1.30**	**350**	*e*Pn		**Pg**	**Pg**	**16 23 24.3**	**-0.2**
MDNY				*e*Sn		**Sn**	**Sn**	**16 23 42.8**	**+0.7**
KCTX	**Karacabey (Bur**	**1.34**	**332**	PN		**Pg**	**Pg**	**16 23 25.6**	**+0.4**
KCTX	**Karacabey (Bur**	**1.34**	**332**	*e*Pn		**Pg**	**Pg**	**16 23 25.6**	**+0.4**
YLV	**Yalova**	**1.49**	**5**	PN		**Pg**	**Pg**	**16 23 27.5**	**-0.5**
YLV				SN		**Sg**	**Sg**	**16 23 47.7**	**+0.4**
YLV	**Yalova**	**1.49**	**5**	*e*Pn		**Pg**	**Pg**	**16 23 27.5**	**-0.5**
YLV				*e*Sn		**Sg**	**Sg**	**16 23 47.7**	**+0.4**
ARMT	**Armutlu**	**1.50**	**350**	PN		**Pb**	**Pb**	**16 23 27.5**	**-0.3**
ARMT				SN		**Sg**	**Sg**	**16 23 47.7**	**0.0**
ARMT	**Armutlu**	**1.50**	**350**	*e*Pn		**Pb**	**Pb**	**16 23 27.5**	**-0.3**
ARMT				*e*Sn		**Sg**	**Sg**	**16 23 47.7**	**0.0**
GONE	**Gonen-Balikesi**	**1.51**	**310**	PN		**Pn**	**Pn**	**16 23 27.3**	**+0.2**
GONE				SN		**Sg**	**Sg**	**16 23 47.9**	**-0.1**
GONE	**Gonen-Balikesi**	**1.51**	**310**	*e*Pn		**Pn**	**Pn**	**16 23 27.3**	**+0.2**
GONE				*e*Sn		**Sg**	**Sg**	**16 23 47.9**	**-0.1**

DJA 23 16:30:47.4±0.7,**1°S**±6°×**13°2E**±°,**h10**km,**M3.8/6,MLv3.8/6, Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**2.33**	**171**	P		Pn	Pn	16 31 24.1	-1.7
FAKI				S		Sb	Sb	16 31 56.4	-1.9
RKPI	**Ransiki, Papua**	**2.47**	**111**	P		Pb	Pb	16 31 30.3	-1.7
RKPI				S		Sn	Sn	16 31 56.4	-1.7
KMPI	**Kaimana, Papua**	**3.54**	**149**	P		Pn	Pn	16 31 42.3	-0.2
MSAI	**Masohi**	**4.00**	**227**	P		Pn	Pn	16 31 49.8	+0.9

*ISK **23** 16:33:13.1, 39.04N×29.17E, h2km, ML2.7/13*
*DDA **23** 16:33:14.1, 39.10N×29.11E, h7km, Ml2.6*
*CSEM **23** 16:33:14.5±0.1, 39.08N×29.13E, h2km, ML2.7, Error ellipse: s-maj=3.2km s-min=2.6km az=96.0*

ISC 23 16:33:14.7±1.0,**39.07N**±0.02×**29.14E**±0.02,**h5**km±8km, **n50,σ0s56/72,Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SIMA	**Simav-Kutahya**	**0.12**	**276**	PG		**Pg**	**Pg**	**16 33 17.4**	**+0.1**
SIMA				SG		**Sg**	**Sg**	**16 33 19.3**	**+0.3**
SIMA	**Simav-Kutahya**	**0.12**	**276**	*e*Pg		**Pg**	**Pg**	**16 33 17.4**	**+0.1**
SIMA				*e*Sg		**Sg**	**Sg**	**16 33 19.3**	**+0.3**
GDZ	**Gediz**	**0.27**	**86**	*i* P		**Pg**	**Pg**	**16 33 19.7**	**-0.3**
GDZ				*i* S		**Sg**	**Sg**	**16 33 23.8**	**+0.2**
GDZ	**Gediz**	**0.27**	**86**	P		**Pg**	**Pg**	**16 33 19.7**	**-0.3**
GDZ				S		**Sg**	**Sg**	**16 33 23.8**	**+0.2**
DEMI	**Demirci**	**0.33**	**265**	*i* P		**Pg**	**Pg**	**16 33 21.7**	**+0.5**
DEMI				*i* S		**Sg**	**Sg**	**16 33 25.6**	**+0.1**
DEMI	**Demirci**	**0.33**	**265**	P		**Pg**	**Pg**	**16 33 21.7**	**+0.5**
DEMI				S		**Sg**	**Sg**	**16 33 25.6**	**+0.1**
TVSB	**Tavsanli**	**0.45**	**34**	PG		**Pg**	**Pg**	**16 33 22.2**	**-1.3**
TVSB	**Tavsanli**	**0.45**	**34**	*e*Pg		**Pg**	**Pg**	**16 33 22.2**	**-1.3**
KULA	**Kula-Manisa**	**0.67**	**214**	PG		**Pg**	**Pg**	**16 33 26.1**	**-1.5**
KULA				SG		**Sg**	**Sg**	**16 33 37.0**	**+0.7**
KULA	**Kula-Manisa**	**0.67**	**214**	*e*Pg		**Pg**	**Pg**	**16 33 26.1**	**-1.5**
KULA				*e*Sg		**Sg**	**Sg**	**16 33 37.0**	**+0.7**
MANT	**Manisa**	**0.73**	**218**	*i* P		**Pg**	**Pg**	**16 33 28.3**	**-0.6**
MANT				*i* S		**Sg**	**Sg**	**16 33 38.3**	**-0.1**
MANT	**Manisa**	**0.73**	**218**	P		**Pg**	**Pg**	**16 33 28.3**	**-0.6**
MANT				S		**Sg**	**Sg**	**16 33 38.3**	**-0.1**
DURS	**Dursunbey**	**0.74**	**316**	*i* P		**Pg**	**Pg**	**16 33 28.2**	**-0.7**
DURS				*i* S		**Sg**	**Sg**	**16 33 37.5**	**-1.0**
DURS	**Dursunbey**	**0.74**	**316**	P		**Pg**	**Pg**	**16 33 28.2**	**-0.7**
DURS				S		**Sg**	**Sg**	**16 33 37.5**	**-1.0**
KHAL	**Karahalli**	**0.75**	**158**	*i* P		**Pg**	**Pg**	**16 33 29.5**	**+0.3**
KHAL				*i* S		**Sg**	**Sg**	**16 33 38.8**	**-0.2**
KHAL	**Karahalli**	**0.75**	**158**	P		**Pg**	**Pg**	**16 33 29.5**	**+0.3**
KHAL				S		**Sg**	**Sg**	**16 33 38.8**	**-0.2**
ORLT	**Orhaneli**	**0.99**	**349**	PG		**Pb**	**Pb**	**16 33 34.5**	**+0.1**
ORLT	**Orhaneli**	**0.99**	**349**	*e*Pg		**Pb**	**Pb**	**16 33 34.5**	**+0.1**
BALB	**Balikesir**	**1.13**	**301**	PN		**Pn**	**Pn**	**16 33 37.4**	**+0.2**
BALB	**Balikesir**	**1.13**	**301**	*e*Pn		**Pn**	**Pn**	**16 33 37.4**	**+0.2**
KZIL	**AFYON_Kizioren**	**1.13**	**136**	*i* P		**Pn**	**Pn**	**16 33 37.5**	**+0.2**
KZIL				*i* S		**Sn**	**Sn**	**16 33 53.7**	**+0.5**
KZIL	**AFYON_Kizioren**	**1.13**	**136**	P		**Pn**	**Pn**	**16 33 37.5**	**+0.2**
KZIL				S		**Sn**	**Sn**	**16 33 53.7**	**+0.5**
CAVI	**Cavuskoy**	**1.25**	**26**	PN		**Pg**	**Pg**	**16 33 38.8**	**0.0**
CAVI				SN		**Sn**	**Sn**	**16 33 56.8**	**+0.6**
CAVI	**Cavuskoy**	**1.25**	**26**	*e*Pn		**Pg**	**Pg**	**16 33 38.8**	**0.0**
CAVI				*e*Sn		**Sn**	**Sn**	**16 33 56.8**	**+0.6**
MDNY	**Mudanya-Bursa**	**1.31**	**352**	PN		**Pg**	**Pg**	**16 33 40.0**	**+0.1**
MDNY	**Mudanya-Bursa**	**1.31**	**352**	*e*Pn		**Pg**	**Pg**	**16 33 40.0**	**+0.1**
KCTX	**Karacabey (Bur**	**1.34**	**333**	PN		**Pb**	**Pb**	**16 33 40.2**	**-0.1**
KCTX	**Karacabey (Bur**	**1.34**	**333**	*e*Pn		**Pb**	**Pb**	**16 33 40.2**	**-0.1**
GONE	**Gonen-Balikesi**	**1.49**	**311**	PN		**Pb**	**Pb**	**16 33 42.5**	**-0.3**
GONE	**Gonen-Balikesi**	**1.49**	**311**	*e*Pn		**Pb**	**Pb**	**16 33 42.5**	**-0.3**
AYDB	**Zeytinkoy-Aydi**	**1.49**	**221**	PN		**Pn**	**Pn**	**16 33 41.8**	**-0.4**
AYDB				SN		**Sg**	**Sg**	**16 34 02.5**	**-0.1**
AYDB	**Zeytinkoy-Aydi**	**1.49**	**221**	*e*Pn		**Pn**	**Pn**	**16 33 41.8**	**-0.4**
AYDB				*e*Sn		**Sg**	**Sg**	**16 34 02.5**	**-0.1**
YLV	**Yalova**	**1.50**	**7**	PN		**Pn**	**Pn**	**16 33 42.5**	**+0.1**
YLV				SN		**Sg**	**Sg**	**16 34 03.9**	**+0.8**
YLV	**Yalova**	**1.50**	**7**	*e*Pn		**Pn**	**Pn**	**16 33 42.5**	**+0.1**
YLV				*e*Sn		**Sg**	**Sg**	**16 34 03.9**	**+0.8**
ARMT	**Armutlu**	**1.51**	**352**	PN		**Pn**	**Pn**	**16 33 41.5**	**-0.9**
ARMT	**Armutlu**	**1.51**	**352**	*e*Pn		**Pn**	**Pn**	**16 33 41.5**	**-0.9**
EDC	**Edincik**	**1.61**	**323**	PN		**Pn**	**Pn**	**16 33 44.1**	**+0.3**
EDC	**Edincik**	**1.61**	**323**	*e*Pn		**Pn**	**Pn**	**16 33 44.1**	**+0.3**
GULT	**Gulveren**	**1.73**	**38**	PN		**Pn**	**Pn**	**16 33 45.3**	**-0.2**
GULT	**Gulveren**	**1.73**	**38**	*e*Pn		**Pn**	**Pn**	**16 33 45.3**	**-0.2**
HRT	**Hereke**	**1.79**	**13**	PN		**Pn**	**Pn**	**16 33 46.3**	**-0.1**
HRT	**Hereke**	**1.79**	**13**	*e*Pn		**Pn**	**Pn**	**16 33 46.3**	**-0.1**
SBT3	**Marmara-Eregli**	**2.02**	**334**	PN		**Pn**	**Pn**	**16 33 50.1**	**+0.8**
SBT3	**Marmara-Eregli**	**2.02**	**334**	*e*Pn		**Pn**	**Pn**	**16 33 50.1**	**+0.8**
KLYT	**Kilyos**	**2.18**	**358**	PN		**Pn**	**Pn**	**16 33 51.9**	**+0.3**
KLYT	**Kilyos**	**2.18**	**358**	*e*Pn		**Pn**	**Pn**	**16 33 51.9**	**+0.3**
RKY	**Sarkoy-Tekirda**	**2.21**	**318**	PN		**Pn**	**Pn**	**16 33 51.9**	**-0.2**
RKY	**Sarkoy-Tekirda**	**2.21**	**318**	*e*Pn		**Pn**	**Pn**	**16 33 51.9**	**-0.2**
CTKS	**Kestanelik-??a**	**2.22**	**348**	PN		**Pn**	**Pn**	**16 33 52.1**	**0.0**
CTKS	**Kestanelik-??a**	**2.22**	**348**	*e*Pn		**Pn**	**Pn**	**16 33 52.1**	**0.0**

*ISCJB **23** 16:41:13.8±0.5, 39.09N±0.03×29.16E±0.04, h5km±6km, Error ellipse: s-maj=5.1km s-min=4.2km az=141.5*
*DDA **23** 16:41:13.8, 39.07N×29.15E, h7km, Ml2.5*
*CSEM **23** 16:41:13.9±0.1, 39.09N×29.17E, h5km, ML2.7, Error ellipse: s-maj=2.5km s-min=1.8km az=111.0*
*ISK **23** 16:41:13.0, 39.09N×29.20E, h6km, ML2.7/6*

ISC 23 16:41:14.0±0.9,**39.09N**±0.02×**29.17E**±0.02,**h8**km±9km, **n29,σ0s36/44,Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SIMA	**Simav-Kutahya**	**0.14**	**268**	PG		**Pg**	**Pg**	**16 41 17.2**	**+0.1**
SIMA	**Simav-Kutahya**	**0.14**	**268**	*e*Pg		**Pg**	**Pg**	**16 41 17.2**	**+0.1**
GDZ	**Gediz**	**0.24**	**90**	*i* P		**Pg**	**Pg**	**16 41 18.9**	**+0.1**
GDZ				*i* S		**Sg**	**Sg**	**16 41 22.9**	**+0.7**
GDZ	**Gediz**	**0.24**	**90**	P		**Pg**	**Pg**	**16 41 18.9**	**+0.1**
GDZ				S		**Sg**	**Sg**	**16 41 22.9**	**+0.7**
DEMI	**Demirci**	**0.35**	**263**	*i* P		**Pg**	**Pg**	**16 41 20.8**	**-0.2**
DEMI				*i* S		**Sg**	**Sg**	**16 41 25.3**	**-0.3**
DEMI	**Demirci**	**0.35**	**263**	P		**Pg**	**Pg**	**16 41 20.8**	**-0.2**
DEMI				S		**Sg**	**Sg**	**16 41 25.3**	**-0.3**
TVSB	**Tavsanli**	**0.43**	**32**	PG		**Pg**	**Pg**	**16 41 21.7**	**-0.6**
TVSB				SG		**Sg**	**Sg**	**16 41 27.3**	**-0.6**
TVSB	**Tavsanli**	**0.43**	**32**	*e*Pg		**Pg**	**Pg**	**16 41 21.7**	**-0.6**
TVSB				*e*Sg		**Sg**	**Sg**	**16 41 27.3**	**-0.6**
KULA	**Kula-Manisa**	**0.70**	**215**	PG		**Pg**	**Pg**	**16 41 27.3**	**-0.1**
KULA				SG		**Sg**	**Sg**	**16 41 37.4**	**+0.2**
KULA	**Kula-Manisa**	**0.70**	**215**	*e*Pg		**Pg**	**Pg**	**16 41 27.3**	**-0.1**
KULA				*e*Sg		**Sg**	**Sg**	**16 41 36.7**	**+0.2**
DURS	**Dursunbey**	**0.74**	**314**	*i* P		**Pg**	**Pg**	**16 41 28.2**	**-0.1**
DURS				*i* S		**Sb**	**Sb**	**16 41 39.7**	**+0.1**
DURS	**Dursunbey**	**0.74**	**314**	P		**Pg**	**Pg**	**16 41 28.2**	**-0.1**
DURS				S		**Sb**	**Sb**	**16 41 39.7**	**+0.1**
KHAL	**Karahalli**	**0.76**	**160**	*i* P		**Pb**	**Pb**	**16 41 29.3**	**-0.2**
KHAL				*i* S		**Sb**	**Sb**	**16 41 39.5**	**-0.6**
KHAL	**Karahalli**	**0.76**	**160**	P		**Pb**	**Pb**	**16 41 29.3**	**-0.2**
KHAL				S		**Sb**	**Sb**	**16 41 39.5**	**-0.6**
MANT	**Manisa**	**0.76**	**219**	*i* P		**Pg**	**Pg**	**16 41 28.7**	**0.0**
MANT				*i* S		**Sg**	**Sg**	**16 41 38.3**	**-0.3**
MANT	**Manisa**	**0.76**	**219**	P		**Pg**	**Pg**	**16 41 28.7**	**0.0**
MANT				S		**Sg**	**Sg**	**16 41 38.3**	**-0.3**
AUKUT	**KUTAHYA**	**1.09**	**37**	*i* P		Pg	Pg	16 41 29.2	-5.7
AUKUT				*i* S		Sg	Sg	16 41 38.7	-10
CAVI	**Cavuskoy**	**1.23**	**25**	PN		**Pg**	**Pg**	**16 41 37.4**	**-0.1**
CAVI	**Cavuskoy**	**1.23**	**25**	*e*Pn		**Pg**	**Pg**	**16 41 37.4**	**-0.1**
MDNY	**Mudanya-Bursa**	**1.30**	**350**	PN		**Pg**	**Pg**	**16 41 39.0**	**+0.1**
MDNY				SN		**Sn**	**Sn**	**16 41 56.4**	**+0.4**
MDNY	**Mudanya-Bursa**	**1.30**	**350**	*e*Pn		**Pg**	**Pg**	**16 41 39.0**	**+0.1**
MDNY				*e*Sn		**Sn**	**Sn**	**16 41 56.4**	**+0.4**
KCTX	**Karacabey (Bur**	**1.33**	**332**	PN		**Pb**	**Pb**	**16 41 39.2**	**-0.1**
KCTX	**Karacabey (Bur**	**1.33**	**332**	*e*Pn		**Pb**	**Pb**	**16 41 39.2**	**-0.1**
YLV	**Yalova**	**1.48**	**6**	PN		**Pn**	**Pn**	**16 41 41.5**	**+0.4**
YLV	**Yalova**	**1.48**	**6**	*e*Pn		**Pn**	**Pn**	**16 41 41.5**	**+0.4**
GONE	**Gonen-Balikesi**	**1.49**	**310**	PN		**Pn**	**Pn**	**16 41 41.4**	**+0.3**
GONE	**Gonen-Balikesi**	**1.49**	**310**	*e*Pn		**Pn**	**Pn**	**16 41 41.4**	**+0.3**
ARMT	**Armutlu**	**1.50**	**351**	PN		**Pn**	**Pn**	**16 41 41.5**	**+0.3**
ARMT	**Armutlu**	**1.50**	**351**	*e*Pn		**Pn**	**Pn**	**16 41 41.5**	**+0.3**

*ISCJB **23** 16:41:50.2±0.5, 39.11N±0.03×29.13E±0.03, h2km±5km, Error ellipse: s-maj=5.3km s-min=3.7km az=165.0*
*CSEM **23** 16:41:50.4±0.1, 39.11N×29.14E, h5km, ML3.1, Error ellipse: s-maj=2.6km s-min=2.1km az=138.0*
*ISK **23** 16:41:50.1, 39.11N×29.10E, h7km, ML3.1/10*
*DDA **23** 16:41:50.1, 39.10N×29.15E, h7km, Ml3.0*

ISC 23 16:41:50.1±0.9,**39.10N**±0.02×**29.15E**±0.02,**h6**km±8km, **n43,σ0s86/64,Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SIMA	**Simav-Kutahya**	**0.13**	**262**	PG		**Pg**	**Pg**	**16 41 53.3**	**+0.3**
SIMA				SG		**Sg**	**Sg**	**16 41 54.7**	**-0.2**
SIMA	**Simav-Kutahya**	**0.13**	**262**	*e*Pg		**Pg**	**Pg**	**16 41 53.3**	**+0.3**
SIMA				*e*Sg		**Sg**	**Sg**	**16 41 54.7**	**-0.2**
GDZ	**Gediz**	**0.26**	**93**	*i* P		**Pg**	**Pg**	**16 41 55.3**	**+0.1**
GDZ				*i* S		**Sg**	**Sg**	**16 41 59.5**	**+0.9**
GDZ	**Gediz**	**0.26**	**93**	P		**Pg**	**Pg**	**16 41 55.3**	**+0.1**
GDZ				S		**Sg**	**Sg**	**16 41 59.5**	**+0.9**
DEMI	**Demirci**	**0.34**	**260**	*i* P		**Pg**	**Pg**	**16 41 57.2**	**+0.3**
DEMI				*i* S		**Sg**	**Sg**	**16 42 01.6**	**+0.2**
DEMI	**Demirci**	**0.34**	**260**	P		**Pg**	**Pg**	**16 41 57.2**	**+0.3**
DEMI				S		**Sg**	**Sg**	**16 42 01.6**	**+0.2**
TVSB	**Tavsanli**	**0.42**	**34**	PG		**Pg**	**Pg**	**16 41 57.9**	**-0.5**
TVSB	**Tavsanli**	**0.42**	**34**	*e*Pg		**Pg**	**Pg**	**16 41 57.9**	**-0.5**
KULA	**Kula-Manisa**	**0.70**	**213**	PG		**Pg**	**Pg**	**16 42 03.8**	**+0.2**
KULA				SG		**Sg**	**Sg**	**16 42 13.2**	**+0.5**
KULA	**Kula-Manisa**	**0.70**	**213**	*e*Pg		**Pg**	**Pg**	**16 42 03.8**	**+0.2**
KULA				*e*Sg		**Sg**	**Sg**	**16 42 13.2**	**+0.5**
DURS	**Dursunbey**	**0.72**	**314**	*i* P		**Pg**	**Pg**	**16 42 04.0**	**-0.1**
DURS				*i* S		**Sb**	**Sb**	**16 42 14.2**	**-1.2**
DURS	**Dursunbey**	**0.72**	**314**	P		**Pg**	**Pg**	**16 42 04.0**	**-0.1**
DURS				S		**Sb**	**Sb**	**16 42 14.2**	**-1.2**
KHAL	**Karahalli**	**0.78**	**160**	*i* P		**Pb**	**Pb**	**16 42 05.8**	**-0.3**
KHAL				*i* S		**Sg**	**Sg**	**16 42 11.7**	**-3.4**
KHAL	**Karahalli**	**0.78**	**160**	P		**Pb**	**Pb**	**16 42 05.8**	**-0.3**
KHAL				S		**Sg**	**Sg**	**16 42 11.7**	**-3.4**
ORLT	**Orhaneli**	**0.96**	**348**	PG		**Pb**	**Pb**	**16 42 08.8**	**-0.5**
ORLT	**Orhaneli**	**0.96**	**348**	*e*Pg		**Pb**	**Pb**	**16 42 08.8**	**-0.5**
AKHS	**Akhisar**	**1.07**	**258**	*i* P		**Pb**	**Pb**	**16 42 11.1**	**+0.1**
AKHS				*i* S		**Sb**	**Sb**	**16 42 25.1**	**-0.1**
AKHS	**Akhisar**	**1.07**	**258**	P		**Pb**	**Pb**	**16 42 11.1**	**+0.1**
AKHS				S		**Sb**	**Sb**	**16 42 25.1**	**-0.1**
AUKUT	**KUTAHYA**	**1.09**	**38**	*i* P		Pg	Pg	16 42 04.1	-6.9
AUKUT				*i* S		Sg	Sg	16 42 15.0	-10
BALB	**Balikesir**	**1.12**	**299**	PN		**Pg**	**Pg**	**16 42 11.2**	**-0.5**
BALB	**Balikesir**	**1.12**	**299**	*e*Pn		**Pg**	**Pg**	**16 42 11.2**	**-0.5**
SHUT	**Suhut-Afyon**	**1.22**	**116**	PN		**Pn**	**Pn**	**16 42 14.8**	**+1.0**
SHUT	**Suhut-Afyon**	**1.22**	**116**	*e*Pn		**Pn**	**Pn**	**16 42 14.8**	**+1.0**
CAVI	**Cavuskoy**	**1.22**	**26**	PN		**Pn**	**Pn**	**16 42 14.7**	**+1.0**
CAVI				SN		**Sn**	**Sn**	**16 42 32.4**	**+1.8**
CAVI	**Cavuskoy**	**1.22**	**26**	*e*Pn		**Pn**	**Pn**	**16 42 14.7**	**+1.0**
CAVI				*e*Sn		**Sn**	**Sn**	**16 42 32.4**	**+1.8**
BORA	**Eskisehir**	**1.27**	**52**	*i* P		**Pg**	**Pg**	**16 42 15.1**	**+0.6**
BORA				*i* S		**Sn**	**Sn**	**16 42 31.9**	**0.0**
BORA	**Eskisehir**	**1.27**	**52**	P		**Pg**	**Pg**	**16 42 15.1**	**+0.6**
BORA				S		**Sn**	**Sn**	**16 42 31.9**	**0.0**
MDNY	**Mudanya-Bursa**	**1.28**	**351**	PN		**Pg**	**Pg**	**16 42 15.3**	**+0.6**
MDNY				SN		**Sn**	**Sn**	**16 42 31.9**	**-0.1**
MDNY	**Mudanya-Bursa**

MMAI LR LR 16 50 10.1
comp=N,61nm,18.2s,baz=95,slow=44
ZFRI Zfri 10.27 262 Pn **Pn 16 45 31.6 +3.6**
PRNI Paran 10.47 261 Pn **Pn 16 45 33.3 +2.5**
HRFI Mount Harif 10.53 260 Pn **Pn 16 45 34.1 +2.5**
ZEI Tsey 10.55 347 *e*P **Pn 16 45 35.6 +3.6**
ZEI pmax pmax
comp=Z,8.0nm,1.4s
GEYT Alibeck 10.58 56 Pn **Pn 16 45 32.0 -0.2**
comp=Z,0.2nm,0.3s,baz=245,slow=18,SNR=5.7
GEYT LR LR 16 50 38.0
comp=Z,34nm,19.0s,baz=240,slow=44
GYA0B ALIBECK ARRAY 10.58 56 *e*Pn **Pn 16 45 31.8 -0.5**
GYA0B ALIBECK ARRAY 10.58 56 *e*Pn **Pn 16 45 31.8 -0.5**
MBRI Mt Berech 10.70 259 Pn **Pn 16 45 35.8 +1.8**
EIL Elat 10.71 258 Pn **Pn 16 45 35.7 +1.7**
comp=Z,0.5nm,0.3s,baz=70,slow=12,SNR=5.1
EIL Sn Sn 16 47 48.8 +15
comp=Z,0.7nm,0.3s,baz=338,slow=5.5,SNR=2.2
EIL Lg Lg 16 48 46.9
comp=Z,0.8nm,0.3s,baz=282,slow=10,SNR=2.9
EIL Elat 10.71 258 Pn **Pn 16 45 35.3 +1.3**
UOSS Minazif 11.04 131 *e*Pn **Pn 16 45 37.8 -0.8**
UOSS Minazif 11.04 131 *e*Pn **Pn 16 45 37.8 -0.8**
NEY Neytrino 11.24 344 *i* P **Pn 16 45 44.4 +3.0**
NEY Neytrino 11.24 344 *i* P **Pn 16 45 44.4 +3.0**
NCK Nalchik 11.29 347 *i* P **Pn 16 45 45.9 +3.9**
KBZ Khabaz 11.66 345 Pn **Pn 16 45 47.8 +0.9**
comp=Z,0.1nm,0.3s,baz=143,slow=5.1,SNR=2.2
KVAR Kislovodsk Arr 11.92 345 Pn **Pn 16 45 50.2 -0.4**
baz=138,slow=16,SNR=5.7
KVAR LR LR 16 49 48.5
comp=Z,17nm,21.2s,baz=224,slow=35
KIV Kislovodsk 11.92 345 *e*Pn **Pn 16 45 51.3 +0.7**
KIV Kislovodsk 11.92 345 *e*Pn **Pn 16 45 51.3 +0.7**
KIV Kislovodsk 11.92 345 *e*P **Pn 16 45 54.3 +3.7**
KIV pmax pmax
comp=Z,8.0nm,1.0s
GOF Gofitskoye 12.90 347⇑ *e*P **P 16 46 15.7 +1.1**
BRTR Keskin Array B 12.97 307 Pn **Pn 16 46 05.7 +0.6**
comp=Z,0.1nm,0.3s,baz=134,slow=12,SNR=4.1
WSAR Wadi Sarin 13.81 129 Pn **Pn 16 46 14.4 -2.1**
comp=Z,1.1nm,0.3s,baz=334,slow=14,SNR=13
WSAR Sn **Sn 16 48 41.2 -8.1**
comp=Z,1.2nm,0.3s,baz=82,slow=23,SNR=6.2
MANT Manisa 16.15 297 *e*Pn **Pn 16 46 46.4 -1.4**
comp=Z,61nm,1.0s
MANT Manisa 16.15 297 *e*Pn **Pn 16 46 46.4 -1.4**
comp=Z,61nm,1.0s
SANT Santorini 18.17 288 *e*P **Pn 16 47 12.4 -0.5**
comp=Z,15nm,1.0s
SANT Santorini 18.17 288 *e*P **Pn 16 47 12.4 -0.5**
comp=Z,15nm,1.0s
KBL Kabul 18.49 78 *e*P **P 16 47 15.8 -1.0**
comp=Z,16nm,0.9s
KBL Kabul 18.49 78 *e*P **P 16 47 15.8 -1.0**
comp=Z,16nm,0.9s
KBL Kabul 18.49 78 *e*P **P 16 47 15.8 -1.0**
KBL pmax pmax
comp=Z,16nm,0.9s
IDI Anoyia 18.56 285 P **Pn 16 47 18.5 +0.9**
comp=Z,0.9nm,0.3s,baz=81,slow=10,SNR=12
IDI Anoyia 18.56 285⇑ *i*P **Pn 16 47 18.7 +1.1**
IDI Anoyia 18.56 285 *e*P **Pn 16 47 18.3 +0.7**
comp=Z,8.1nm,0.9s
IDI Anoyia 18.56 285 *e*P **Pn 16 47 18.3 +0.7**
comp=Z,8.1nm,0.9s
TIRR Tirgusor 18.77 315 *e*P **P 16 47 18.9 -0.6**
comp=Z,10nm,1.4s
TIRR Tirgusor 18.77 315 *e*P **P 16 47 18.9 -0.6**
comp=Z,10nm,1.4s
TIRR Tirgusor 18.77 315 *e*P **P 16 47 18.9 -0.6**
TIRR pmax pmax
comp=Z,10.0nm,1.4s
VRH Novokhopyorsk 19.08 350 *e*P **P 16 47 21.8 -1.1**
comp=Z,20nm,0.5s
VRH Novokhopyorsk 19.08 350 *e*P **P 16 47 21.8 -1.1**
VRH pmax pmax
comp=Z,20nm,0.5s
CFR Carcaliu 19.33 316 P **Pn 16 47 27.9 +1.1**
comp=Z,4.0nm,1.1s
CFR Carcaliu 19.33 316 P **Pn 16 47 27.9 +1.1**
CFR pmax pmax
comp=Z,4.0nm,1.1s
AB31 Akbulak array 19.34 26 *e*P **P 16 47 25.6 -0.1**
comp=Z,5.0nm,0.6s
AB31 Akbulak array 19.34 26*ce*P **P 16 47 25.6 -0.1**
AB31 pmax pmax
comp=Z,5.0nm,0.6s
ABKAR Akbulak array 19.34 26 *e*P **P 16 47 25.1 -0.6**
comp=Z,50nm,0.7s
ABKAR Akbulak array 19.34 26 *e*P **P 16 47 25.1 -0.6**
comp=Z,50nm,0.7s
VSR Storozhevoye 19.56 345 *e*P **P 16 47 26.7 -1.5**
comp=Z,10.0nm,0.6s
VSR Storozhevoye 19.56 345 *e*P **P 16 47 26.7 -1.5**
VSR pmax pmax
comp=Z,10.0nm,0.6s
AKTK Aktyubinsk 19.68 21 *i* P **P 16 47 28.6 -0.9**
comp=Z,6.0nm,0.8s
AKTO Aktyubinsk 19.68 21 P **P 16 47 29.6 0.0**
comp=Z,0.6nm,0.3s,baz=218,slow=11,SNR=5.9
AKTO LR LR 16 57 13.2
comp=Z,28nm,20.4s,baz=206,slow=44
AKTO Aktyubinsk 19.68 21 *i* P **P 16 47 28.6 -0.9**
AKTO pmax pmax
comp=Z,6.0nm,0.8s
VRI Vrincioaia 20.54 316⇓ *i*P Pn 16 47 40.0 -1.1
VRI Vrincioaia 20.54 316 P **P 16 47 39.9 +1.0**
VRI Vrincioaia 20.54 316 P **P 16 47 39.9 +1.0**
SRS Serrai 20.57 301 P Pn 16 47 43.4 +1.8
SRS pmax pmax
comp=Z,8.0nm,1.1s
PLOR Plostina 20.57 316⇑ *i*P Pn 16 47 41.2 -0.4
PLOR Plostina 20.57 316 P Pn 16 47 41.0 -0.6
PLOR Plostina 20.57 316 P Pn 16 47 41.0 -0.6
MLR Muntele Rosu 20.80 315 P **P 16 47 42.4 +0.5**
comp=Z,1.5nm,1.0s,baz=106,slow=11,SNR=4.9
MLR Muntele Rosu 20.80 315⇑ *i*P Pn 16 47 44.1 -0.2
MLR Muntele Rosu 20.80 315 *e*P **P 16 47 41.6 -0.2**
comp=Z,6.0nm,0.9s
MLR Muntele Rosu 20.80 315 *e*P **P 16 47 41.6 -0.2**
comp=Z,6.0nm,0.9s
MLR Muntele Rosu 20.80 315 *e*P **P 16 47 41.6 -0.2**
MLR pmax pmax
comp=Z,6.0nm,0.9s
LPSR Galich'ya Gora 20.92 346 *e*P **P 16 47 41.5 -1.4**
comp=Z,130nm,0.8s
LPSR Galich'ya Gora 20.92 346 *e*P **P 16 47 41.5 -1.4**
LPSR pmax pmax
comp=Z,130nm,0.8s
SORM Soroca 21.03 323⇑ *i*P **P 16 47 45.8 +1.6**
SORM Soroca 21.03 323 P **P 16 47 45.7 +1.6**
SORM Soroca 21.03 323 P **P 16 47 45.7 +1.6**
ATD Arta Tunnel 21.22 191 LR LR 16 56 51.5
comp=Z,64nm,19.1s,baz=40,slow=39
KK31 Karatay Array 21.31 54 *e*P **P 16 47 45.7 -1.6**
KK31 Karatay Array 21.31 54 *i* P **P 16 47 46.6 -0.7**
comp=Z,11nm,0.8s
KK31 Karatay Array 21.31 54*c i*P **P 16 47 46.6 -0.7**
KK31 pmax pmax
comp=Z,11nm,0.8s
KKAR Karatay Array 21.31 54 *e*P **P 16 47 45.8 -1.5**
KKAR Karatay Array 21.31 54 *e*P **P 16 47 45.8 -1.5**
KKAR Karatay Array 21.31 54 *e*P **P 16 47 45.8 -1.5**
VOIR 21.32 314⇑ *i*P **P 16 47 49.0 +1.7**
VOIR 21.32 314 P **P 16 47 48.8 +1.5**
comp=Z,20nm,1.2s
VOIR 21.32 314 P **P 16 47 48.8 +1.5**
VOIR pmax pmax
comp=Z,20nm,1.2s
DOPR Dopca 21.38 315⇓ *i*P **P 16 47 49.8 +1.8**
DOPR Dopca 21.38 315⇓ *i*P **P 16 47 49.8 +1.8**
ARR Arges 21.54 313⇓ *i*P **P 16 47 51.3 +1.6**
ARR Arges 21.54 313⇓ *i*P **P 16 47 51.3 +1.6**
NIL Nilore 22.01 80 *e*P **P 16 47 53.6 -1.3**
comp=Z,27nm,0.9s
NIL Nilore 22.01 80 *e*P **P 16 47 53.6 -1.3**
comp=Z,27nm,0.9s
NIL Nilore 22.01 80 *e*P **P 16 47 53.6 -1.3**
NIL pmax pmax
comp=Z,27nm,0.9s
BURAR Bucovina Array 22.38 319⇓ *i*P **P 16 47 59.6 +0.9**
BURAR Bucovina Array 22.38 319⇓ *i*P **P 16 47 59.6 +0.9**
BURAR Bucovina Array 22.38 319 P **P 16 47 59.6 +0.9**
BUR04 Bucovina Ar. S 22.38 319 *e*P **P 16 47 58.3 -0.5**
BUR04 Bucovina Ar. S 22.38 319 *e*P **P 16 47 58.3 -0.5**
BUR08 Bucovina Ar. S 22.40 319 *e*P **P 16 47 58.5 -0.5**
BUR08 Bucovina Ar. S 22.40 319 *e*P **P 16 47 58.5 -0.5**
AKASG Malin Array Be 22.42 329 P **P 16 47 56.4 -2.6**
comp=Z,2.7nm,0.7s,baz=138,slow=10.0,SNR=17
AKBB Malin Array Si 22.42 329 *e*P **P 16 47 59.0 0.0**
comp=Z,6.1nm,0.8s
AKBB Malin Array Si 22.42 329 *e*P **P 16 47 59.0 0.0**
comp=Z,6.1nm,0.8s
AKBB Malin Array Si 22.42 329 *e*P **P 16 47 59.0 0.0**
AKBB pmax pmax
comp=Z,6.0nm,0.8s
KIEV Kiev 22.42 329 *e*P **P 16 47 59.1 +0.1**
comp=Z,6.3nm,0.9s
KIEV Kiev 22.42 329 *e*P **P 16 47 59.1 +0.1**
comp=Z,6.2nm,0.9s
KIEV Kiev 22.42 329 *e*P **P 16 47 59.6 +0.6**
KIEV pmax pmax
comp=Z,7.0nm,0.9s
AK11 Malin Array Si 22.43 329 *e*P **P 16 47 59.0 -0.1**
AK11 Malin Array Si 22.43 329 *e*P **P 16 47 59.0 -0.1**
MNAS Manas 22.48 56 P **P 16 48 00.2 +0.2**
comp=Z,13nm,1.1s
MNAS Manas 22.48 56 P **P 16 48 00.2 +0.2**
MNAS pmax pmax
comp=Z,13nm,1.1s
SFK Sufi-Kurgan 22.59 63 *i* P **P 16 48 01.8 +0.5**
comp=Z,18nm,0.8s
SFK Sufi-Kurgan 22.59 63 *i* P **P 16 48 01.8 +0.5**
SFK pmax pmax
comp=Z,18nm,0.8s
AML Almayashu 23.22 58 P **P 16 48 08.6 +0.6**
SNR=10.0
EKS2 Erkin-Say 23.43 57 P **P 16 48 10.5 +0.7**
SNR=6.4
OBN Obninsk 23.77 345 P **P 16 48 12.9 +0.2**
comp=Z,17nm,0.7s,baz=173,slow=21,SNR=9.7
OBN Obninsk 23.77 345*c i*P **P 16 48 11.8 -0.9**
OBN *e* 16 48 18.4
OBN *SP sP 16 48 42.0 +21
OBN 16 52 02.0
OBN MLR MLR
comp=Z,64nm,19.0s
SIRR Siria 23.80 313⇑ *i*P **P 16 48 13.6 +0.5**
SIRR Siria 23.80 313⇑ *i*P **P 16 48 13.6 +0.5**
AAK Ala-Archa 23.93 57 P **P 16 48 15.1 +0.4**
comp=Z,5.7nm,0.9s,baz=223,slow=6.3,SNR=23
AAK LR LR 16 58 56.2
comp=Z,48nm,20.6s,baz=246,slow=40
AAK Ala-Archa 23.93 57 P **P 16 48 14.7 +0.1**
SNR=8.7
AAK Ala-Archa 23.93 57 *e*P **P 16 48 14.1 -0.5**
comp=Z,6.3nm,0.9s
AAK Ala-Archa 23.93 57 *e*P **P 16 48 14.1 -0.5**
comp=Z,6.3nm,0.9s
AAK Ala-Archa 23.93 57 *i* P **P 16 48 14.3 -0.3**
AAK pmax pmax
comp=Z,9.0nm,1.2s
MOS Moscow 24.14 347 *e*P **P 16 48 13.4 -2.8**
MOS pmax pmax
comp=Z,44nm,0.9s
CHMS Chumysh 24.21 56 P **P 16 48 18.2 +1.1**
SNR=17
KBK Karagaybulak 24.26 57 P **P 16 48 19.7 +2.0**
SNR=20
KZA Kyzart 24.33 59 P **P 16 48 20.2 +1.6**
SNR=12
KSH Kashi 24.39 65 P **P 16 48 20.8 +1.9**
KSH pmax pmax
comp=Z,34nm,0.6s
OTUK Ortayu 24.74 43 P **P 16 48 22.3 +0.5**
OTUK pmax pmax
comp=Z,10.0nm,0.9s
TKM2 Tokmak 2 24.79 57 P **P 16 48 23.8 +1.3**
SNR=25
TKM2 Tokmak 2 24.79 57 *i* P **P 16 48 23.4 +0.9**
TKM2 pmax pmax
comp=Z,11nm,0.7s
KWP Kalwaria Pacla 24.89 321 *e*P **P 16 48 23.3 +0.1**
comp=Z,52nm,0.8s
KWP Kalwaria Pacla 24.89 321 *e*P **P 16 48 23.3 +0.1**
KWP pmax pmax
comp=Z,52nm,0.8s
ULHL Ulahol 25.09 59 P **P 16 48 27.8 +2.6**
SNR=8.8
CRVS Cervenica-Dubn 25.18 318 *e*P **P 16 48 27.4 +1.6**
CRVS Cervenica-Dubn 25.18 318 *e*P **P 16 48 27.4 +1.6**
CRVS pmax pmax
comp=Z,3.0nm,0.8s
ARU Arti 25.23 15 P **P 16 48 26.0 -0.1**
comp=Z,7.6nm,0.8s,baz=197,slow=7.3,SNR=14
ARU Arti 25.23 15 *e*P **P 16 48 25.6 -0.5**
comp=Z,17nm,1.1s
ARU Arti 25.23 15*c i*P **P 16 48 25.9 -0.2**
ARU 16 48 59.2
ARU S **S 16 52 50.6 +0.2**
ARU pmax pmax
comp=Z,21nm,1.2s
TIP Timpagrande 25.33 294⇓ *i*P **P 16 48 28.0 +0.8**
TIP Timpagrande 25.33 294⇓ *i*P **P 16 48 28.0 +0.8**
STHS Stebnicka Huta 25.57 319 *e*P **P 16 48 32.1 +2.8**
STHS Stebnicka Huta 25.57 319 *e*P **P 16 48 32.1 +2.8**
STHS pmax pmax
comp=Z,3.0nm,0.9s
KDJ Kajisay 25.74 59 *e*P **P 16 48 30.0 -1.2**
comp=Z,11nm,0.9s
SVE Sverdlovsk 26.08 17⇑ *i*P **P 16 48 34.4 +0.6**
SVE pmax pmax
comp=Z,13nm,1.0s
LANS Liptovska Anna 26.45 317 *e*P **P 16 48 38.5 +1.3**
LANS Liptovska Anna 26.45 317 *e*P **P 16 48 38.6 +1.3**
BRVK Borovoye 26.51 32 *e*P **P 16 48 37.1 -0.6**
comp=Z,5.8nm,0.8s
BRVK Borovoye 26.51 32*ce*P **P 16 48 37.4 -0.3**
BRVK pmax pmax
comp=Z,10.0nm,1.2s
VYHS Vyhne 26.51 315 *e*P **P 16 48 39.5 +1.7**
VYHS Vyhne 26.51 315 *e*P **P 16 48 39.5 +1.7**
BVA0 Borovoye Array 26.53 32 *i* P **P 16 48 37.3 -0.7**
BVA0 pmax pmax
comp=Z,8.0nm,0.7s
BVAR Borovoye Array 26.53 32 P **P 16 48 38.4 +0.4**
comp=Z,7.7nm,0.7s,baz=227,slow=9.2,SNR=30
BVAR LR LR 17 01 55.0
comp=Z,46nm,18.5s,baz=180,slow=43
PDGK Podgornoye 27.66 58 P **P 16 48 52.2 +3.9**
PDGK pmax pmax
comp=Z,3.0nm,0.8s
KLMR Klimovskoe 28.78 352 *e*P **P 16 48 55.8 -2.2**
KLMR Klimovskoe 28.78 352 *e*P **P 16 48 55.7 -2.2**
KURBB Kurchatov Arra 29.42 43 P **P 16 49 04.2 +0.4**
comp=Z,4.7nm,1.0s,baz=249,slow=9.3,SNR=18
KURK Kurchatov 29.51 43 *e*P **P 16 49 03.6 -1.0**
comp=Z,5.0nm,0.8s
KURK Kurchatov 29.51 43 *e*P **P 16 49 03.6 -1.0**
KURK pmax pmax
comp=Z,5.0nm,0.8s
MAKZ Makanchi 30.20 52 *e*P **P 16 49 10.1 -0.7**
comp=Z,3.1nm,1.1s
MAKZ Makanchi 30.20 52 *e*P **P 16 49 10.1 -0.7**
MAKZ pmax pmax
comp=Z,3.0nm,1.1s
MK01 Makanchi Array 30.41 52 *e*P **P 16 49 12.9 +0.3**
MK31 Makanchi Array 30.41 52 *e*P **P 16 49 12.7 +0.2**
MK31 Makanchi Array 30.41 52*ce*P **P 16 49 12.8 +0.2**
MK31 pmax pmax
comp=Z,6.0nm,0.7s
MKAR Makanchi Array 30.41 52 P **P 16 49 12.9 +0.3**
comp=Z,5.8nm,0.8s,baz=248,slow=7.4,SNR=51
MKAR PcP **PcP 16 52 13.5 +1.6**
comp=Z,0.4nm,0.8s,baz=224,slow=4.0,SNR=2.3
MKAR LR LR 17 02 57.9
comp=Z,31nm,19.1s,baz=360,slow=40
MKAR Makanchi Array 30.41 52 *e*P **P 16 49 12.6 0.0**
comp=Z,34nm,0.7s
MKAR PcP **PcP 16 52 13.5 +1.6**
MKAR Makanchi Array 30.41 52 *e*P **P 16 49 12.6 0.0**
MKAR 16 52 13.5
MKAR pmax pmax
comp=Z,34nm,0.7s
KEST Kesra 31.21 286 P **P 16 49 21.0 +1.1**
comp=Z,6.5nm,1.1s,baz=252,slow=6.4,SNR=2.2
PYUN Piuthan 31.29 88 *e*P **P 16 49 21.4 +0.6**
comp=Z,24nm,0.8s
DANN Dangsing 31.87 88 *e*P **P 16 49 27.4 +1.4**
KOLN Koldanda 31.90 89 *e*P **P 16 49 26.6 +0.4**
FINES FINESS Array B 31.98 341 P **P 16 49 26.1 -0.1**
comp=Z,2.0nm,0.5s,baz=146,slow=9.6,SNR=18
GKN Gorkha 32.71 88 *e*P **P 16 49 33.7 +0.5**
comp=Z,33nm,0.6s
DMN Daman 33.22 88 *e*P **P 16 49 38.6 +0.8**
comp=Z,31nm,0.8s
KKN Kakani 33.31 88 *e*P **P 16 49 39.3 +0.7**
comp=Z,32nm,0.6s
PKIN Phulchoki 33.48 88 *e*P **P 16 49 40.6 +0.5**
comp=Z,20nm,0.7s
WMQ Urumqi 33.62 58 P **P 16 49 41.9 +1.0**
WMQ sP sP 16 49 49.3 -0.2
WMQ PP **PnPn 16 50 51.4 -1.3**
WMQ pmax pmax
comp=Z,18nm,1.1s
WMQ LR LR
comp=N,75nm,17.5s
WMQ LR LR
comp=E,88nm,30.1s
WMQ LR LR
comp=Z,85nm,23.7s
GUN Gumba 33.78 87 *e*P **P 16 49 43.7 +0.9**
comp=Z,79nm,1.1s
NVS Novosibirsk 33.85 38 *e*P P 16 49 32.9 -10
JIRN Jiri 34.12 88 *e*P **P 16 49 46.6 +0.8**
comp=Z,54nm,0.7s
ZAA0 Zalesovo Array 34.32 40 *e*P **P 16 49 46.3 -0.5**
comp=Z,6.3nm,1.0s
ZALV Zalesovo Beam 34.32 40 P **P 16 49 46.7 0.0**
comp=Z,4.2nm,0.6s,baz=256,slow=9.4,SNR=17
ZALV LR LR 17 05 13.1
comp=Z,16nm,18.8s,baz=56,slow=39
ZALV Zalesovo Beam 34.32 40 *e*P **P 16 49 46.3 -0.4**
ZALV Zalesovo Beam 34.32 40 *e*P **P 16 49 46.3 -0.4**
RAMN Ramite 34.69 89 *e*P **P 16 49 50.8 +0.2**
comp=Z,29nm,0.8s
KMBO Kilima Mbogo 34.70 197 LR LR 17 04 25.9
comp=Z,37nm,19.3s,baz=100,slow=37
HFS Hagfors 35.27 332 P **P 16 49 54.0 -0.8**
comp=Z,3.1nm,0.4s,baz=129,slow=11,SNR=31
NOA NORSAR Array B 36.79 332 P **P 16 50 07.0 -1.0**
comp=Z,0.8nm,0.7s,baz=136,slow=8.7,SNR=3.5
NOA NORSAR Array B 36.79 332 P **P 16 50 07.0 -1.0**
LSA Lhasa 37.71 82 *e*P **P 16 50 16.2 -0.4**
comp=Z,3.1nm,0.8s
LSA Lhasa 37.71 82 *e*P **P 16 50 16.2 -0.4**
LSA pmax pmax
comp=Z,3.0nm,0.8s
ARCES ARCESS Array B 39.00 348 P **P 16 50 25.8 -0.6**
comp=Z,6.8nm,1.0s,baz=161,slow=8.0,SNR=6.1
ESDC Sonseca Array 41.34 295 P **P 16 50 46.4 +0.1**
comp=Z,0.1nm,0.3s,baz=73,slow=9.5,SNR=3.1
EKA Eskdalemuir Ar 41.56 319 P **P 16 50 48.0 +0.2**
comp=Z,0.7nm,0.4s,baz=104,slow=8.8,SNR=4.6
EKA Eskdalemuir Ar 41.56 319 P **P 16 50 48.0 +0.2**
GTA Gaotai 42.80 65⇑ P **P 16 50 58.8 +0.5**
GTA pP pP 16 51 04.3 -0.2
GTA sP sP 16 51 07.4 +0.4
GTA pmax pmax
comp=Z,5.0nm,1.1s
TOA0 Torodi Ar. Sit 45.59 256 *e*P **P 16 51 20.9 +0.1**
TORD Torodi Ar. Bea 45.59 256 P **P 16 51 21.5 +0.8**
comp=Z,2.3nm,0.9s,baz=66,slow=7.8,SNR=14
LZH Lanzhou 46.53 69 *e*P **P 16 51 27.6 -0.6**
LZH pP pP 16 51 30.8 -3.7
LZH sP sP 16 51 32.3 -4.6
LZH *e*PP **PP 16 53 16.5 -1.0**
LZH pmax pmax
comp=Z,20nm,1.2s
LZH pmax pmax
comp=Z,67nm,5.7s
LZH LR LR
comp=N,170nm,15.0s
LZH LR LR
comp=E,170nm,15.3s
LZH LR LR
comp=Z,240nm,18.4s
SONM Songino Array 46.76 53 P **P 16 51 30.5 +0.7**
comp=Z,0.6nm,0.5s,baz=280,slow=8.9,SNR=6.5
SONA1 Songino Array 46.77 53 *e*P **P 16 51 29.3 -0.6**
ULN Ulaanbaatar 47.20 53 *e*P **P 16 51 33.1 -0.2**
comp=Z,6.6nm,1.1s
ULN Ulaanbaatar 47.20 53*ce*P **P 16 51 33.1 -0.2**
ULN pmax pmax
comp=Z,5.0nm,0.8s
SPITS Spitsbergen Ar 47.68 352 P **P 16 51 36.8 +0.5**
comp=Z,4.8nm,0.8s,baz=141,slow=9.3,SNR=11
CHTO Chiang Mai 48.33 93 *e*P **P 16 51 41.4 -0.8**
comp=Z,2.7nm,0.8s
CHTO Chiang Mai 48.33 93 *e*P **P 16 51 41.4 -0.8**
CHTO pmax pmax
comp=Z,3.0nm,0.8s
CMAR Chiang Mai Arr 48.49 94 P **P 16 51 43.2 -0.2**
comp=Z,1.4nm,0.7s,baz=292,slow=8.3,SNR=15
CMAR LR LR 17 17 04.5
comp=Z,17nm,18.7s,baz=95,slow=42
CM01 Chiang Mai Arr 48.52 94 *e*P **P 16 51 42.9 -0.8**
KOWA Kowa 49.62 261 P **P 16 51 52.5 +0.4**
comp=Z,2.3nm,0.6s,baz=54,slow=11,SNR=4.7
BOD Bodaibo 51.07 39 *e*P **P 16 52 01.2 -1.2**
BOD pmax pmax
comp=Z,4.0nm,0.8s
HHC Hu-ho-hao-te 51.41 61 *e*P **P 16 52 05.6 +0.2**
HHC pmax pmax
comp=Z,12nm,1.1s
HHC pmax pmax
comp=Z,21nm,6.8s
TIXI Tiksi 56.97 22 *e*P **P 16 52 44.5 -0.7**
comp=Z,12nm,1.8s
TIXI Tiksi 56.97 22*ce*P **P 16 52 45.2 -0.1**
TIXI pmax pmax
comp=Z,1.0nm,0.8s
IPM Ipoh 57.57 107 *e*P **P 16 52 48.9 -1.5**
comp=Z,6.9nm,0.9s
NJ2 Nanjing 59.61 69 *e*P **P 16 53 04.5 +0.1**
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
KSAR Wonju Array Be 64.51 61 P **P 16 53 36.2 -1.1**
KSAR Wonju Array Be 64.51 61 P **P 16 53 36.2 -1.1**
KSRS Korea Array 64.54 61 P **P 16 53 36.2 -1.2**
comp=Z,2.2nm,0.6s,baz=279,slow=7.1,SNR=13
KSRS LR LR 17 24 21.3
comp=Z,19nm,18.3s,baz=21,slow=38
USRK Ussuriysk Ar. 64.87 52 P **P 16 53 38.5 -1.0**
comp=Z,4.9nm,0.6s,baz=276,slow=5.9,SNR=8.4
SEY Seymchan 68.10 28 P **P 16 53 59.4 -0.4**
comp=Z,2.7nm,0.7s,baz=310,slow=3.3,SNR=12
BILL Bilibino 70.11 20⇑ *i*P **P 16 54 12.1 -0.1**
BILL *e* 16 54 31.3
BILL *e* 16 56 44.7
BILL *eS* **S 17 03 29.4 +7.5**
BILL pmax pmax
comp=Z,2.0nm,1.0s
BILL MLR MLR
comp=Z,25nm,17.0s
YSS Yuzh-Sakhalins 70.64 46 *e*P **P 16 54 14.8 -0.9**
comp=Z,7.9nm,1.1s
YSS Yuzh-Sakhalins 70.64 46 *e*P **P 16 54 14.8 -0.9**
YSS pmax pmax
comp=Z,10.0nm,0.9s
ASAJ Asahikawa 71.84 49 P **P 16 54 22.4 -0.7**
comp=Z,2.2nm,0.7s,baz=175,slow=22,SNR=4.6
MJAR Matsushiro Arr 72.38 58 P **P 16 54 27.4 +0.9**
comp=Z,1.3nm,0.9s,baz=93,slow=5.4,SNR=4.0
SCHQ Schefferville 76.19 327 P **P 16 54 48.5 +0.1**
comp=Z,5.1nm,0.6s,baz=178,slow=16,SNR=2.8
TOLK Toolik Lake Re 78.41 6 *e*P **P 16 55 00.8 +0.2**
comp=Z,8.3nm,0.7s
INK Inuvik 79.49 0 P **P 16 55 06.1 -0.3**
comp=Z,1.5nm,1.0s,baz=4.6,slow=3.3,SNR=6.5
IM3 Indian Mountai 80.53 8 *e*P **P 16 55 11.9 -0.2**
MDM Murphy Dome 82.13 6 *e*P **P 16 55 20.5 -0.2**
comp=Z,6.5nm,1.2s
ILAR Eielson Array 82.43 6 P **P 16 55 21.9 -0.4**
comp=Z,0.9nm,0.9s,baz=331,slow=4.7,SNR=8.0
EGAK Eagle 82.83 4 *e*P **P 16 55 24.2 0.0**
comp=Z,3.5nm,1.0s
CAST Castle Rocks 83.20 9 *e*P **P 16 55 25.9 -0.4**
comp=Z,7.1nm,1.4s
SCRK Sand Creek 83.45 5 *e*P **P 16 55 26.8 -0.9**
comp=Z,7.1nm,1.1s
DOT Dot Lake 83.77 5 *e*P **P 16 55 29.5 +0.3**
comp=Z,12nm,1.0s
YKA Yellowknife Ar 84.18 352 P **P 16 55 31.2 0.0**
comp=Z,1.1nm,0.8s,baz=16,slow=5.4,SNR=18

FFC	**Flin Flon**	**89.11**	**343**	*e*P	**P**	**16 55 55.1**	**-0.4**
	comp=Z,33nm,2.1s						
FFC	**Flin Flon**	**89.11**	**343**	*e*P	**P**	**16 55 55.1**	**-0.4**
FFC				pmax	pmax		
	comp=Z,33nm,2.1s						
ULM	**Lac du Bonnet**	**91.28**	**337**	P	**P**	**16 56 05.5**	**-0.3**
	comp=Z,2.2nm,0.9s,baz=66,slow=3.9,SNR=3.5						

*ISCJB **23** 16:48:43.4±0.9, 8.6S±0.1×119.53E±0.06, h200km, mb3.5/2, Error ellipse: s-maj=18.8km s-min=7.5km az=16.2*
*DJA **23** 16:48:44.8±0.6, 8.3S±7.2×120.0E±°, h161km±5km, M3.4/7, MLv3.4/7*
*IDC **23** 16:48:45.2±2.7, 8.06S×119.87E, h189km±22km, mb3.2/3, mb1 3.2/5, mb1mx2.9/55, mbtmp3.7/5, MS3.2/1, Ms1 3.2/1, ms1mx2.3/19, Error ellipse: s-maj=76.3km s-min=13.9km az=48.0*

ISC 23 16:48:45.0±1.1, 8.6S±0.2×119.53E±0.07, h200km, n12, σ2s36/16, Flores region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WBSI	**Waikabubak, Su**	**1.06**	**187**	P	**Pn**	**16 49 13.8**	**-1.5**
WBSI				S	**Sn**	**16 49 36.1**	**-2.8**
WSI	**Waingapu**	**1.32**	**145**	P	**Pn**	**16 49 15.2**	**-2.0**
WSI				S	**Sn**	**16 49 39.0**	**-3.3**
PLAI	**Plampang**	**1.75**	**262**	P	**Pn**	**16 49 20.2**	**-0.8**
PLAI				S	**Sn**	**16 49 47.1**	**-1.9**
BASI	**Baing, Sumba**	**1.93**	**148**	P	**Pn**	**16 49 21.5**	**-1.4**
TWSI	**Taliwang, Sumb**	**2.62**	**266**	P	**Pn**	**16 49 29.9**	**-0.4**
BATI	**Baumata**	**4.39**	**112**	P	**Pn**	**16 49 51.3**	**-0.5**
	6.2nm,0.3s,baz=275,slow=4.4,SNR=14						
BATI				S	**Sn**	**16 50 41.9**	**-2.3**
	3.0nm,0.3s,baz=16,slow=20,SNR=5.3						
BATI	**Baumata**	**4.39**	**112**	P	**Pn**	**16 49 49.9**	**-1.9**
WRA	**Warramunga Arr**	**18.25**	**130**	P	**Pn**	**16 52 45.2**	**-0.9**
	0.3nm,0.3s,baz=304,slow=12,SNR=25						
WRA				S	**S**	**16 56 05.9**	**+3.8**
	0.1nm,0.3s,baz=310,slow=20,SNR=5.8						
ASAR	**Alice Springs**	**20.36**	**139**	P	**P**	**16 53 08.8**	**+2.3**
	0.7nm,0.4s,baz=317,slow=10.0,SNR=33						
STKA	**Stephens Creek**	**30.95**	**142**	P	**P**	**16 54 46.7**	**+3.2**
	2.9nm,1.0s,baz=318,slow=11,SNR=3.8						
JOW	**Kunigami**	**36.21**	**13**	LR	LR	17 10 23.9	
	comp=Z,39nm,21.9s,baz=75,slow=36						
MKAR	**Makanchi Array**	**64.33**	**333**	P	**P**	**16 58 58.6**	**-0.7**
	0.2nm,0.4s,baz=155,slow=8.0,SNR=4.2						

*ISCJB **23** 16:50:42.8±0.4, 39.13N±0.02×29.13E±0.03, h4km±4km, Error ellipse: s-maj=4.3km s-min=3.1km az=140.4*
*ISK **23** 16:50:42.4, 39.13N×29.14E, h6km, ML2.6/8*
*DDA **23** 16:50:43.0, 39.09N×29.16E, h7km, Ml3.0*
*CSEM **23** 16:50:43.0±0.1, 39.13N×29.14E, h5km, ML2.6, Error ellipse: s-maj=3.2km s-min=2.2km az=127.0*

ISC 23 16:50:43.2±0.9, 39.13N±0.02×29.15E±0.02, h10km±7km, n44, σ0s58/78, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIMA	**Simav-Kutahya**	**0.14**	**250**	PG	**Pg**	**16 50 46.6**	**+0.2**
SIMA	**Simav-Kutahya**	**0.14**	**250**	*e*Pg	**Pg**	**16 50 46.6**	**+0.2**
GDZ	**Gediz**	**0.26**	**99**	*i* P	**Pg**	**16 50 48.0**	**-0.6**
GDZ				*i* S	**Sg**	**16 50 52.0**	**-0.2**
GDZ	**Gediz**	**0.26**	**99**	P	**Pg**	**16 50 48.0**	**-0.6**
GDZ				S	**Sg**	**16 50 52.0**	**-0.2**
DEMI	**Demirci**	**0.35**	**256**	*i* P	**Pg**	**16 50 49.3**	**-0.8**
DEMI				*i* S	**Sg**	**16 50 54.6**	**-0.1**
DEMI	**Demirci**	**0.35**	**256**	P	**Pg**	**16 50 49.3**	**-0.8**
DEMI				S	**Sg**	**16 50 54.7**	**-0.1**
TVSB	**Tavsanli**	**0.40**	**37**	PG	**Pg**	**16 50 50.9**	**-0.3**
TVSB				SG	**Sg**	**16 50 56.6**	**+0.1**
TVSB	**Tavsanli**	**0.40**	**37**	*e*Pg	**Pg**	**16 50 50.9**	**-0.3**
TVSB				*e*Sg	**Sg**	**16 50 56.6**	**+0.1**
DURS	**Dursunbey**	**0.70**	**312**	*i* P	**Pb**	**16 50 57.4**	**-0.3**
DURS				*i* S	**Sn**	**16 51 10.3**	**-0.1**
DURS	**Dursunbey**	**0.70**	**312**	P	**Pb**	**16 50 57.4**	**-0.3**
DURS				S	**Sn**	**16 51 10.3**	**-0.1**
KULA	**Kula-Manisa**	**0.72**	**212**	PG	**Pg**	**16 50 56.7**	**-0.5**
KULA				SG	**Sg**	**16 51 06.3**	**-0.3**
KULA	**Kula-Manisa**	**0.72**	**212**	*e*Pg	**Pg**	**16 50 56.7**	**-0.5**
KULA				*e*Sg	**Sg**	**16 51 06.3**	**-0.3**
MANT	**Manisa**	**0.79**	**216**	*i* P	**Pg**	**16 50 57.9**	**-0.5**
MANT				*i* S	**Sg**	**16 51 07.7**	**-1.0**
MANT	**Manisa**	**0.79**	**216**	P	**Pg**	**16 50 57.9**	**-0.5**
MANT				S	**Sg**	**16 51 07.7**	**-1.0**
KHAL	**Karahalli**	**0.81**	**160**	*i* P	**Pg**	**16 50 58.4**	**-0.4**
KHAL				*i* S	**Sg**	**16 51 09.1**	**-0.2**
KHAL	**Karahalli**	**0.81**	**160**	P	**Pg**	**16 50 58.4**	**-0.4**
KHAL				S	**Sg**	**16 51 09.1**	**-0.2**
AUBOZ	**BOZOYUK**	**1.04**	**41**	*i* P	**Pn**	**16 51 04.4**	**+0.5**
AUBOZ				*i* S	**Sb**	**16 51 17.3**	**+0.2**
AUBOZ	**BOZOYUK**	**1.04**	**41**	P	**Pn**	**16 51 04.4**	**+0.5**
AUBOZ				S	**Sb**	**16 51 17.3**	**+0.2**
AUKUT	**KUTAHYA**	**1.07**	**39**	*i* P	**Pg**	**16 51 01.8**	**-1.9**
AUKUT				*i* S	Sg	16 51 07.7	-10
AUKUT	**KUTAHYA**	**1.07**	**39**	P	**Pg**	**16 51 01.8**	**-1.9**
AKHS	**Akhisar**	**1.07**	**257**	*i* P	**Pg**	**16 51 03.5**	**-0.3**
AKHS				*i* S	**Sb**	**16 51 17.9**	**0.0**
AKHS	**Akhisar**	**1.07**	**257**	P	**Pg**	**16 51 03.5**	**-0.3**
AKHS				S	**Sb**	**16 51 17.9**	**0.0**
BALB	**Balikesir**	**1.11**	**298**	PN	**Pb**	**16 51 04.3**	**-0.2**
BALB				SN	**Sb**	**16 51 19.7**	**+0.7**
BALB	**Balikesir**	**1.11**	**298**	*e*Pn	**Pb**	**16 51 04.3**	**-0.2**
BALB				*e*Sn	**Sb**	**16 51 19.7**	**+0.7**
KZIL	**AFYON_Kizioren**	**1.17**	**138**	*i* P	**Pn**	**16 51 06.4**	**+0.6**
KZIL				*i* S	**Sb**	**16 51 21.0**	**+0.1**
KZIL	**AFYON_Kizioren**	**1.17**	**138**	P	**Pn**	**16 51 06.4**	**+0.6**
KZIL				S	**Sb**	**16 51 21.0**	**+0.1**
CAVI	**Cavuskoy**	**1.20**	**26**	PN	**Pg**	**16 51 05.8**	**-0.4**
CAVI				SN	**Sn**	**16 51 22.9**	**+0.4**
CAVI	**Cavuskoy**	**1.20**	**26**	*e*Pn	**Pg**	**16 51 05.8**	**-0.4**
CAVI				*e*Sn	**Sn**	**16 51 22.9**	**+0.4**
MDNY	**Mudanya-Bursa**	**1.25**	**351**	PN	**Pg**	**16 51 06.0**	**-1.3**
MDNY				SN	**Sb**	**16 51 23.7**	**+0.5**
MDNY	**Mudanya-Bursa**	**1.25**	**351**	*e*Pn	**Pg**	**16 51 06.0**	**-1.3**
MDNY				*e*Sn	**Sb**	**16 51 23.7**	**+0.5**
BORA	**Eskisehir**	**1.26**	**53**	*i* P	**Pn**	**16 51 07.8**	**+0.8**
BORA				*i* S	**Sn**	**16 51 24.4**	**+0.4**
BORA	**Eskisehir**	**1.26**	**53**	P	**Pn**	**16 51 07.8**	**+0.8**
BORA				S	**Sn**	**16 51 24.4**	**+0.4**
KCTX	**Karacabey (Bur**	**1.29**	**332**	PN	**Pb**	**16 51 07.9**	**+0.3**
KCTX	**Karacabey (Bur**	**1.29**	**332**	*e*Pn	**Pb**	**16 51 07.9**	**+0.3**
ADVT	**Abdulvahap**	**1.38**	**19**	PN	**Pn**	**16 51 09.0**	**+0.4**
ADVT	**Abdulvahap**	**1.38**	**19**	*e*Pn	**Pn**	**16 51 09.0**	**+0.4**
YLV	**Yalova**	**1.45**	**7**	PN	**Pb**	**16 51 10.3**	**0.0**
YLV				SN	**Sg**	**16 51 29.5**	**-0.2**
YLV	**Yalova**	**1.45**	**7**	*e*Pn	**Pb**	**16 51 10.3**	**0.0**
YLV				*e*Sn	**Sg**	**16 51 29.5**	**-0.2**
ARMT	**Armutlu**	**1.45**	**351**	PN	**Pn**	**16 51 10.1**	**+0.5**
ARMT				SN	**Sg**	**16 51 29.8**	**-0.1**
ARMT	**Armutlu**	**1.45**	**351**	*e*Pn	**Pn**	**16 51 10.1**	**+0.5**
ARMT				*e*Sn	**Sg**	**16 51 29.8**	**-0.1**
AYDB	**Zeytinkoy-Aydi**	**1.54**	**220**	PN	**Pn**	**16 51 11.2**	**+0.3**
AYDB				SN	**Sg**	**16 51 32.3**	**-0.4**
AYDB	**Zeytinkoy-Aydi**	**1.54**	**220**	*e*Pn	**Pn**	**16 51 11.2**	**+0.3**
AYDB				*e*Sn	**Sg**	**16 51 32.3**	**-0.4**
GULT	**Gulveren**	**1.67**	**39**	PN	**Pn**	**16 51 13.4**	**+0.7**
GULT	**Gulveren**	**1.67**	**39**	*e*Pn	**Pn**	**16 51 13.4**	**+0.7**

*ISCJB **23** 17:02:54.5±1.0, 24.0S±0.2×115.8W±0.2, h10km, mb4.0/8, MS3.8/5, Error ellipse: s-maj=30.8km s-min=21.0km az=151.8*
*IDC **23** 17:02:54.2±1.0, 24.06S×115.90W, h0km, mb3.7/6, mb1 4.1/6, mb1mx3.8/35, mbtmp3.7/6, MS3.9/6, Ms1 3.9/6, ms1mx3.4/42, Error ellipse: s-maj=40.5km s-min=25.2km az=48.0*
*NEIC **23** 17:02:55.4±0.6, 24.07S×115.88W, h10km, mb4.7/2, Error ellipse: s-maj=25.1km s-min=20.4km az=60.0*

ISC 23 17:02:55.6±1.0, 24.1S±0.2×115.9W±0.2, h10km, n35, σ1s27/18, mb4.1/7, MS3.8/5, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RPN	**Rapa Nui**	**6.64**	**118**	LR	LR	17 06 30.9	
	comp=Z,2μm,18.8s,baz=336,slow=32						
RKT	**Rikitea**	**17.52**	**269**	*e*LQ	LQ	17 10 13.1	
	1μm,27.8s						
RKT				*e*LR	LR	17 10 54.7	
	1μm,26.8s,baz=101						
RKT	**Rikitea**	**17.52**	**269**	*e*T	T	17 24 17.0	
	3.1nm,0.2s						
TAOE	**Nuku Hiva Isla**	**27.69**	**299**	*e*LR	LR	17 15 41.3	
	834nm,25.9s						
PPT2	**Papeete2**	**32.09**	**275**	*e*LR	LR	17 17 33.0	
	572nm,27.0s						
PPT	**Papeete**	**32.10**	**275**	LR	LR	17 18 03.0	
	comp=Z,365nm,19.8s,baz=138,slow=28						
PLCA	**Paso Flores**	**41.23**	**125**	P	**P**	**17 10 40.0**	**-0.9**
	3.6nm,1.0s,baz=281,slow=7.9,SNR=6.2						
H06S1	**SOCORRO T**	**42.84**	**7**	T	T	17 57 09.8	
	SNR=28						
LPAZ	**La Paz**	**45.31**	**89**	P	**P**	**17 11 15.6**	**+0.9**
	3.6nm,0.9s,baz=260,slow=5.0,SNR=12						
LPAZ				LR	LR	17 26 14.4	
	comp=Z,104nm,18.2s,baz=252,slow=31						
APG	**El Apazote**	**46.12**	**35**	LR	LR	17 26 14.9	
	comp=Z,80nm,19.4s,baz=91,slow=30						
ROSC	**El Rosal**	**49.66**	**60**	LR	LR	17 27 35.8	
	comp=Z,46nm,19.7s,baz=160,slow=30						
CPUP	**Villa Florida**	**52.63**	**106**	LR	LR	17 30 13.9	
	comp=Z,130nm,21.8s,baz=231,slow=31						
TXAR	**Lajitas Array**	**54.41**	**13**	P	**P**	**17 12 21.9**	**-1.1**
	0.1nm,0.6s,baz=185,slow=9.1,SNR=2.6						
JCT	**Junction City**	**56.41**	**17**	*e*P	**P**	**17 12 36.9**	**-0.5**
	4.0nm,0.6s						
NVAR	**Mina Array Bea**	**62.23**	**358**	P	**P**	**17 13 17.6**	**-0.1**
	0.7nm,0.9s,baz=190,slow=9.1,SNR=3.0						
PDAR	**Pinedale Array**	**66.78**	**5**	P	**P**	**17 13 47.8**	**+0.3**
	1.1nm,0.7s,baz=175,slow=5.2,SNR=4.6						
DZM	**Mont Dzumac**	**70.57**	**254**	*e*LR	LR	17 35 29.3	
	124nm,24.0s						
YKA	**Yellowknife Ar**	**86.29**	**1**	P	**P**	**17 15 37.6**	**+0.6**
	0.6nm,0.8s,baz=174,slow=5.3,SNR=14						
H11S2	**WAKE ISLAND Hy**	**86.50**	**292**	T	T	18 51 09.2	
	baz=118,slow=75,SNR=52						
H11S1	**WAKE ISLAND Hy**	**86.51**	**292**	T	T	18 51 08.5	
	baz=118,slow=75,SNR=54						
H11S3	**WAKE ISLAND Hy**	**86.52**	**292**	T	T	18 51 10.5	
	baz=118,slow=75,SNR=54						
H11N3	**WAKE ISLAND Hy**	**86.87**	**293**	T	T	18 51 38.4	
	baz=119,slow=76,SNR=15						
H11N1	**WAKE ISLAND Hy**	**86.89**	**293**	T	T	18 51 38.2	
	baz=119,slow=76,SNR=10						
H11N2	**WAKE ISLAND Hy**	**86.89**	**293**	T	T	18 51 37.3	
	baz=119,slow=76,SNR=28						
WRAB	**Tennant Creek**	**98.81**	**244**	*e*P	Pdif	17 16 37.2	+0.9
	2.4nm,1.2s						
IDI	**Anoyia**	**144.35**	**63**	*e*P	**PKPdf**	**17 22 32.5**	**+0.1**
ZALV	**Zalesovo Beam**	**146.38**	**338**	PKPbc	**PKPdf**	**17 22 34.9**	**-0.2**
	1.3nm,0.5s,baz=67,slow=3.1,SNR=8.3						
CMAR	**Chiang Mai Arr**	**147.12**	**267**	PKPbc	**PKPbc**	**17 22 40.2**	**+0.6**
	1.0nm,0.7s,baz=86,slow=1.4,SNR=9.2						
ARU	**Arti**	**147.44**	**6**	*e*PKPdf	**PKPdf**	**17 22 35.4**	**-1.4**
BRTR	**Keskin Array B**	**149.98**	**51**	PKPbc	**PKPbc**	**17 22 47.8**	**+1.2**
	1.1nm,0.8s,baz=219,slow=1.6,SNR=7.7						
BVAR	**Borovoye Array**	**150.72**	**352**	PKPbc	**PKPbc**	**17 22 48.8**	**+1.0**
	1.1nm,0.8s,baz=343,slow=1.5,SNR=9.2						
KURK	**Kurchatov**	**151.14**	**341**	*e*PKPdf	**PKPdf**	**17 22 45.7**	**+2.7**
KURK				PKPbc	**sPKPdf**	**17 22 47.9**	**+0.3**
KURBB	**Kurchatov Arra**	**151.25**	**341**	PKPbc	**PKPbc**	**17 22 47.9**	**-1.2**
	1.3nm,0.8s,baz=25,slow=1.6,SNR=17						
MKAR	**Makanchi Array**	**153.07**	**332**	PKPbc	**PKPbc**	**17 22 52.5**	**-0.9**
	0.9nm,0.8s,baz=1,slow=2.8,SNR=10						
ABKAR	**Akbulak array**	**154.67**	**6**	*e*PKPdf	**PKPdf**	**17 22 45.7**	**-2.5**

*ISK **23** 17:27:41.3, 39.08N×29.21E, h5km, ML2.3/4*
*ISCJB **23** 17:27:42.4±0.5, 39.10N±0.02×29.17E±0.03, h2km±4km, Error ellipse: s-maj=4.3km s-min=3.1km az=150.2*
*CSEM **23** 17:27:42.5±0.1, 39.09N×29.18E, h8km, ML2.3, Error ellipse: s-maj=3.0km s-min=2.3km az=134.0*
*DDA **23** 17:27:42.6, 39.11N×29.15E, h12km, Ml2.9*

ISC 23 17:27:42.7±0.9, 39.10N±0.02×29.17E±0.02, h7km±7km, n38, σ0s57/74, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIMA	**Simav-Kutahya**	**0.15**	**264**	PG	**Pg**	**17 27 45.7**	**-0.1**
SIMA				SG	**Sg**	**17 27 48.3**	**+0.4**
SIMA	**Simav-Kutahya**	**0.15**	**264**	*e*Pg	**Pg**	**17 27 45.7**	**-0.1**
SIMA				*e*Sg	**Sg**	**17 27 48.3**	**+0.4**
GDZ	**Gediz**	**0.24**	**92**	*i* P	**Pg**	**17 27 47.7**	**+0.2**
GDZ				*i* S	**Sg**	**17 27 51.6**	**+0.8**
GDZ	**Gediz**	**0.24**	**92**	P	**Pg**	**17 27 47.7**	**+0.2**
GDZ				S	**Sg**	**17 27 51.6**	**+0.8**
DEMI	**Demirci**	**0.36**	**261**	*i* P	**Pg**	**17 27 49.9**	**+0.2**
DEMI				*i* S	**Sg**	**17 27 54.4**	**0.0**
DEMI	**Demirci**	**0.36**	**261**	P	**Pg**	**17 27 49.9**	**+0.2**
DEMI				S	**Sg**	**17 27 54.4**	**0.0**
TVSB	**Tavsanli**	**0.42**	**33**	PG	**Pg**	**17 27 49.8**	**-1.0**
TVSB				SG	**Sg**	**17 27 55.6**	**-0.7**
TVSB	**Tavsanli**	**0.42**	**33**	*e*Pg	**Pg**	**17 27 49.8**	**-1.0**
TVSB				*e*Sg	**Sg**	**17 27 55.6**	**-0.7**
KULA	**Kula-Manisa**	**0.71**	**214**	PG	**Pg**	**17 27 55.4**	**-0.9**
KULA				SG	**Sg**	**17 28 05.2**	**-0.2**
KULA	**Kula-Manisa**	**0.71**	**214**	*e*Pg	**Pg**	**17 27 55.4**	**-0.9**
KULA				*e*Sg	**Sg**	**17 28 05.2**	**-0.2**
DURS	**Dursunbey**	**0.74**	**313**	*i* P	**Pb**	**17 27 57.5**	**-0.3**
DURS				*i* S	**Sb**	**17 28 07.7**	**-0.4**
DURS	**Dursunbey**	**0.74**	**313**	P	**Pb**	**17 27 57.5**	**-0.3**
DURS				S	**Sb**	**17 28 07.7**	**-0.4**
KHAL	**Karahalli**	**0.77**	**161**	*i* P	**Pb**	**17 27 57.9**	**-0.6**
KHAL				*i* S	**Sb**	**17 28 08.7**	**-0.4**
KHAL	**Karahalli**	**0.77**	**161**	P	**Pb**	**17 27 57.8**	**-0.6**
KHAL				S	**Sb**	**17 28 08.7**	**-0.4**
MANT	**Manisa**	**0.77**	**218**	*i* P	**Pg**	**17 27 57.4**	**-0.1**
MANT				*i* S	**Sg**	**17 28 07.4**	**-0.2**
MANT	**Manisa**	**0.77**	**218**	P	**Pg**	**17 27 57.4**	**-0.1**
MANT				S	**Sg**	**17 28 07.4**	**-0.2**
AKHS	**Akhisar**	**1.08**	**259**	*i* P	**Pb**	**17 28 03.6**	**0.0**
AKHS				*i* S	**Sb**	**17 28 18.5**	**+0.6**
AKHS	**Akhisar**	**1.08**	**259**	P	**Pb**	**17 28 03.6**	**0.0**
AKHS				S	**Sb**	**17 28 18.5**	**+0.6**
BALB	**Balikesir**	**1.14**	**299**	PN	**Pg**	**17 28 03.7**	**-0.8**
BALB				SN	**Sn**	**17 28 22.3**	**+1.6**
BALB	**Balikesir**	**1.14**	**299**	*e*Pn	**Pg**	**17 28 03.7**	**-0.8**
BALB				*e*Sn	**Sn**	**17 28 22.3**	**+1.6**
STEP	**BALIKESIR_Sava**	**1.16**	**284**	*i* P	**Pn**	**17 28 05.7**	**+0.4**
STEP				*i* S	**Sn**	**17 28 21.7**	**+0.3**
STEP	**BALIKESIR_Sava**	**1.16**	**284**	P	**Pn**	**17 28 05.7**	**+0.4**
STEP				S	**Sn**	**17 28 21.7**	**+0.3**
CAVI	**Cavuskoy**	**1.22**	**25**	PN	**Pb**	**17 28 05.9**	**-0.1**
CAVI				SN	**Sn**	**17 28 22.8**	**0.0**
CAVI	**Cavuskoy**	**1.22**	**25**	*e*Pn	**Pb**	**17 28 05.9**	**-0.1**
CAVI				*e*Sn	**Sn**	**17 28 22.8**	**0.0**
BORA	**Eskisehir**	**1.26**	**51**	*i* P	**Pg**	**17 28 06.9**	**0.0**
BORA				*i* S	**Sn**	**17 28 25.2**	**+1.2**
BORA	**Eskisehir**	**1.26**	**51**	P	**Pg**	**17 28 06.9**	**0.0**
BORA				S	**Sn**	**17 28 25.2**	**+1.2**
KCTX	**Karacabey (Bur**	**1.32**	**332**	PN	**Pn**	**17 28 06.9**	**-0.6**
KCTX				SN	**Sg**	**17 28 26.1**	**+0.9**
KCTX	**Karacabey (Bur**	**1.32**	**332**	*e*Pn	**Pn**	**17 28 06.9**	**-0.6**
KCTX				*e*Sn	**Sg**	**17 28 26.1**	**+0.9**
BALY	**Balya**	**1.36**	**299**	*i* P	**Pn**	**17 28 07.6**	**-0.5**
BALY				*i* S	**Sb**	**17 28 25.9**	**-0.1**
BALY	**Balya**	**1.36**	**299**	P	**Pn**	**17 28 07.6**	**-0.5**
BALY				S	**Sb**	**17 28 25.9**	**-0.1**
YLV	**Yalova**	**1.47**	**6**	PN	**Pn**	**17 28 09.2**	**-0.5**
YLV				SN	**Sg**	**17 28 30.4**	**+0.3**
YLV	**Yalova**	**1.47**	**6**	*e*Pn	**Pn**	**17 28 09.2**	**-0.5**
YLV				*e*Sn	**Sg**	**17 28 30.4**	**+0.3**
ARMT	**Armutlu**	**1.48**	**351**	PN	**Pn**	**17 28 09.7**	**0.0**
ARMT				SN	**Sg**	**17 28 30.4**	**0.0**
ARMT	**Armutlu**	**1.48**	**351**	*e*Pn	**Pn**	**17 28 09.7**	**0.0**
ARMT				*e*Sn	**Sg**	**17 28 30.4**	**0.0**
AYDB	**Zeytinkoy-Aydi**	**1.53**	**221**	PN	**Pn**	**17 28 10.4**	**0.0**
AYDB				SN	**Sg**	**17 28 31.5**	**-0.2**
AYDB	**Zeytinkoy-Aydi**	**1.53**	**221**	*e*Pn	**Pn**	**17 28 10.4**	**0.0**
AYDB				*e*Sn	**Sg**	**17 28 31.5**	**-0.2**
GULT	**Gulveren**	**1.69**	**37**	PN	**Pn**	**17 28 13.1**	**+0.5**
GULT	**Gulveren**	**1.69**	**37**	*e*Pn	**Pn**	**17 28 13.1**	**+0.5**

*THE **23** 17:34:53.9, 40.12N×21.57E, h26km, ML3.7/9, Error ellipse: s-maj=1.0km s-min=0.4km az=336.0*
*ATH **23** 17:34:56.0, 40.16N×21.62E, h20km, ML3.6/20, Error ellipse: s-maj=1.1km s-min=0.6km az=323.0*
*PDG **23** 17:34:57.3±0.4, 40.19N×21.63E, h12km, ML3.7/11, Error ellipse: s-maj=0.3km s-min=0.5km az=0.0*

*SKO **23** 17:34:57.3, 40.15N×21.56E, h3km*
*TIR **23** 17:34:57.6, 40.26N×21.60E, h17km, Md3.7/10*
*BEO **23** 17:34:57.5±0.7, 40.19N×21.57E, h6km, 4km*
*CSEM **23** 17:34:57.2±0.1, 40.13N×21.63E, h10km, ML3.6, Error ellipse: s-maj=2.8km s-min=1.9km az=58.0*
*IDC **23** 17:35:01.1±2.0, 40.11N×21.49E, h63km±24km, mb3.3/7, mb1 3.4/12, mb1mx3.1/77, mbtmp3.5/12, ML3.3/4, MS2.7/3, Ms1 2.7/3, ms1mx2.3/36, Error ellipse: s-maj=24.2km s-min=13.4km az=75.0*

ISC 23 17:34:56.2±0.8, 40.16N±0.01×21.61E±0.01, h13km±5km, n260, σ1s78/344, mb3.5/5/6, 26C-28D, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KZN	**Kozani**	**0.19**	**39**	P	**Pg**	**17 35 01.7**	**+1.1**
KZN				S	**Sg**	**17 35 04.9**	**+1.4**
KZN				AML	AML	17 35 06.2	
	comp=N,38930μm,0.2s						
KZN				AML	AML	17 35 07.3	
	comp=E,48790μm,0.3s						
KZN	**Kozani**	**0.19**	**39**	P	**Pb**	**17 35 00.2**	**-1.5**
KZN				S	**Sg**	**17 35 05.0**	**+1.4**
KZN	**Kozani**	**0.19**	**39**	P	**Pb**	**17 35 01.4**	**-0.3**
KZN				S	**Sg**	**17 35 04.8**	**+1.2**
KPRO	**Kipourio**	**0.28**	**224**	P	**Pg**	**17 35 01.9**	**-0.2**
KPRO				S	**Sg**	**17 35 06.6**	**+0.7**
KPRO				AML	AML	17 35 09.2	
	comp=E,41539μm,0.3s						
KPRO				AML	AML	17 35 12.8	
	comp=N,35958μm,0.4s						
KPRO	**Kipourio**	**0.28**	**224**	P	**Pg**	**17 34 59.7**	**-2.3**
KPRO				S	**Sg**	**17 35 04.4**	**-1.5**
KPRO	**Kipourio**	**0.28**	**224**	P	**Pg**	**17 35 02.1**	**+0.1**
KPRO				S	**Sg**	**17 35 06.8**	**+0.9**
PENT	**Pentalofos**	**0.37**	**276**	P	**Pg**	**17 35 02.9**	**-0.7**
PENT				S	**Sg**	**17 35 08.5**	**-0.1**
PENT				AML	AML	17 35 12.7	
	comp=N,35792μm,0.7s						
PENT				AML	AML	17 35 15.2	
	comp=E,20647μm,0.4s						
PENT	**Pentalofos**	**0.37**	**276**	P	**Pg**	**17 35 01.5**	**-2.1**
PENT				S	**Sg**	**17 35 07.5**	**-1.1**
PENT	**Pentalofos**	**0.37**	**276**	P	**Pg**	**17 35 03.3**	**-0.3**
PENT				S	**Sg**	**17 35 09.0**	**+0.4**
KTI	**Kastanea**	**0.45**	**58**	P	**Pg**	**17 35 03.9**	**-1.3**
KTI	**Kastanea**	**0.45**	**58**	P	**Pg**	**17 35 03.9**	**-1.3**
NEST	**Nestorio**	**0.50**	**301**	P	**Pg**	**17 35 05.6**	**-0.5**
NEST				S	**Sg**	**17 35 14.2**	**+1.3**
NEST				AML	AML	17 35 18.6	
	comp=E,22716μm,0.4s						
NEST				AML	AML	17 35 18.9	
	comp=N,22445μm,0.4s						
NEST	**Nestorio**	**0.50**	**301**	P	**Pg**	**17 35 03.5**	**-2.6**
NEST				S	**Sg**	**17 35 10.9**	**-2.0**
NEST	**Nestorio**	**0.50**	**301**	P	**Pg**	**17 35 05.9**	**-0.2**
NEST				S	**Sg**	**17 35 11.9**	**+1.0**
FNA	**Florina**	**0.65**	**344**	P	**Pb**	**17 35 08.7**	**-0.8**
FNA				S	**Sg**	**17 35 17.8**	**+0.2**
FNA				AML	AML	17 35 19.9	
	comp=N,36255μm,0.4s						
FNA				AML	AML	17 35 21.3	
	comp=E,24336μm,0.3s						
FNA	**Florina**	**0.65**	**344**	P	**Pb**	**17 35 06.5**	**-3.0**
FNA				S	**Sg**	**17 35 17.2**	**-0.4**
FNA	**Florina**	**0.65**	**344**	P	**Pb**	**17 35 08.7**	**-0.8**
FNA				S	**Sg**	**17 35 17.9**	**+0.3**
THL	**Klokotos Trika**	**0.67**	**152**	P	**Pb**	**17 35 08.4**	**-1.3**
THL				S	**Sb**	**17 35 17.3**	**-1.5**
THL				AML	AML	17 35 24.3	
	comp=E,9372μm,0.5s						
THL				AML	AML	17 35 25.8	
	comp=N,7115μm,0.5s						
THL	**Klokotos Trika**	**0.67**	**152**	P	**Pb**	**17 35 06.5**	**-3.2**
THL				S	**Sb**	**17 35 15.9**	**-

PLG			S	Sb	17 35 41.4	+0.9
XOR	**Xorichti**	**1.45 122**	P	Pn	17 35 22.4	+0.2
XOR	**Xorichti**	**1.45 122**	P	Pn	17 35 22.7	+0.5
KEK	**Kerkira**	**1.46 253**	P	Pg	17 35 25.0	+0.7
KEK			S	Sb	17 35 42.8	+1.0
KEK			AML	AML	17 35 50.0	
	comp=N,2188μm,0.7s					
KEK			AML	AML	17 35 50.1	
	comp=E,1644μm,0.5s					
KEK	**Kerkira**	**1.46 253**	P	Pb	17 35 24.2	+0.9
KEK			S	Sb	17 35 43.1	+1.3
SOH	**Sokhos**	**1.48 63**	P	Pb	17 35 24.2	+0.6
SOH	**Sokhos**	**1.48 63**	P	Pb	17 35 23.9	+0.2
NEO	**Neokhori**	**1.50 124**	P	Pn	17 35 23.4	+0.5
NEO			AML	AML	17 35 54.8	
	comp=E,3738μm,0.7s					
NEO			AML	AML	17 35 54.9	
	comp=N,5892μm,1.0s					
NEO	**Neokhori**	**1.50 124**	P	Pn	17 35 23.6	+0.7
PVO	**Paravola**	**1.54 183**	P	Pb	17 35 25.1	+0.5
PVO	**Paravola**	**1.54 183**	P	Pb	17 35 24.7	+0.1
LKD2	**Lefkada island**	**1.55 209**	P	Pb	17 35 25.2	+0.3
LKD2	**Lefkada island**	**1.55 209**	P	Pb	17 35 24.9	+0.1
ANX	**Ano Chora**	**1.58 171**	P	Pb	17 35 26.0	+0.7
ANX			S	Sb	17 35 46.0	+0.8
ANX			AML	AML	17 35 55.9	
	comp=N,4347μm,0.5s					
ANX			AML	AML	17 35 57.3	
	comp=E,3334μm,0.5s					
ANX	**Ano Chora**	**1.58 171**	P	Pb	17 35 25.5	+0.2
ANX			S	Sb	17 35 46.1	+0.8
PDO	**Prodromos**	**1.59 192**	P	Pb	17 35 25.5	+0.1
PDO	**Prodromos**	**1.59 192**	P	Pb	17 35 25.3	-0.2
PAIG	**Paliouri**	**1.60 98**	P	Pn	17 35 24.3	+0.1
PAIG	**Paliouri**	**1.60 98**	P	Pn	17 35 24.8	+0.6
SKIA	**Skiathos**	**1.74 124**	P	Pn	17 35 26.5	+0.4
SKIA			AML	AML	17 36 00.2	
	comp=E,1431μm,0.8s					
SKIA			AML	AML	17 36 01.1	
	comp=N,1602μm,0.8s					
SKIA	**Skiathos**	**1.74 124**	P	Pn	17 35 26.9	+0.8
EFP	**Efpalio**	**1.74 172**	P	Pb	17 35 28.6	+0.6
EFP			S	Sb	17 35 50.6	+0.8
EFP			AML	AML	17 35 58.1	
	comp=N,3294μm,0.6s					
EFP			AML	AML	17 36 00.9	
	comp=E,3190μm,0.6s					
EFP	**Efpalio**	**1.74 172**	P	Pb	17 35 27.9	-0.1
EFP			S	Sb	17 35 50.3	+0.5
PHP	**Peshkopia**	**1.77 330**	*i* Pn	Pb	17 35 28.5	0.0
PHP			*i* Sn	Sb	17 35 51.5	+0.9
PHP	**Peshkopia**	**1.77 330**	*i* PN	Pb	17 35 28.5	0.0
PHP			*i* SN	Sb	17 35 51.5	+0.9
SERG	**Sergoula**	**1.77 169**	P	Pb	17 35 28.1	-0.5
SERG			AML	AML	17 35 58.8	
	comp=N,2466μm,0.4s					
SERG			AML	AML	17 35 59.1	
	comp=E,3525μm,0.5s					
SERG	**Sergoula**	**1.77 169**	P	Pn	17 35 27.9	+1.3
SMIA	**Simia**	**1.77 135**	P	Pn	17 35 27.8	+1.1
SMIA	**Simia**	**1.77 135**	P	Pn	17 35 27.7	+1.1
TIR	**Tirane**	**1.78 312**	*ij* /P	Pb	17 35 29.9	+1.2
TIR	**Tirane**	**1.78 312**	S	Sg	17 35 54.8	+1.2
TIR	**Tirane**	**1.78 312**	P	Pn	17 35 27.3	+0.6
TIR	**Tirane**	**1.78 312**	*i* Pn	Pb	17 35 29.7	+1.0
TIR			*i* Sn	Sg	17 35 54.1	+0.5
TIR	**Tirane**	**1.78 312**	*i* PN	Pb	17 35 29.7	+1.0
TIR			*i* SN	Sg	17 35 54.1	+0.5
SRS	**Serrai**	**1.79 57**	P	Pn	17 35 27.2	+0.4
SRS	**Serrai**	**1.79 57**	P	Pn	17 35 27.5	+0.7
KALE	**Kalithea**	**1.81 167**	P	Pn	17 35 26.7	-0.4
KALE			S	Sb	17 35 52.2	+0.4
KALE			AML	AML	17 35 59.3	
	comp=E,2159μm,0.5s					
KALE			AML	AML	17 36 03.7	
	comp=N,2574μm,0.5s					
KALE	**Kalithea**	**1.81 167**	P	Pn	17 35 27.4	+0.3
KALE			S	Sb	17 35 52.0	+0.2
SKO	**Skopje**	**1.82 356**	*i* Pn	Pb	17 35 29.2	-0.2
SKO			*e*Sg	Sg	17 35 55.1	+0.4
OUR	**Ouranopolis**	**1.82 84**	P	Pb	17 35 29.2	-0.1
OUR	**Ouranopolis**	**1.82 84**	P	Pb	17 35 28.8	-0.6
TRIZ	**Trizonia**	**1.82 169**	P	Pb	17 35 28.8	-0.6
TRIZ	**Trizonia**	**1.82 169**	P	Pn	17 35 28.6	+1.4
LKR	**Lokris**	**1.85 144**	P	Pn	17 35 28.4	+0.8
LKR	**Lokris**	**1.85 144**	P	Pn	17 35 28.5	+0.9
ALNA	**Alonissos**	**2.01 119**	P	Pn	17 35 29.4	-0.4
ALNA	**Alonissos**	**2.01 119**	P	Pn	17 35 30.2	+0.4
NVR	**Nevrokopi**	**2.08 54**	P	Pn	17 35 31.2	+0.3
NVR	**Nevrokopi**	**2.08 54**	P	Pn	17 35 31.6	+0.7
VLS	**Valsamata**	**2.13 202**	P	Pb	17 35 34.2	-0.4
VLS	**Valsamata**	**2.13 202**	P	Pb	17 35 33.5	-1.2
KFL	**Anninata**	**2.14 198**	P	Pb	17 35 34.7	-0.2
KFL	**Anninata**	**2.14 198**	P	Pb	17 35 33.9	-1.1
PROD	**Prodromos**	**2.14 152**	P	Pb	17 35 34.5	-0.3
PROD	**Prodromos**	**2.14 152**	P	Pb	17 35 33.7	-1.2
KLV	**Kalavryta, Ach**	**2.15 169**	P	Pn	17 35 33.1	+1.3
KLV	**Kalavryta, Ach**	**2.15 169**	P	Pn	17 35 33.0	+1.2
PRZK	**Prizren**	**2.15 343**	P	Pb	17 35 34.4	-0.7
PRZK			S	Sn	17 35 45.0	-13
THAL	**Thalero**	**2.27 159**	P	Pn	17 35 34.5	+1.1
THAL	**Thalero**	**2.27 159**	P	Pn	17 35 34.6	+1.2
GUR	**Goura**	**2.29 165**	P	Pb	17 35 36.0	-1.4
GUR	**Goura**	**2.29 165**	P	Pn	17 35 35.5	+1.7
PUK	**Puka**	**2.29 326**	*i* Pn	Pb	17 35 36.0	-1.4
PUK			*i* Sn	Sb	17 36 06.9	+1.2
PUK	**Puka**	**2.29 326**	*i* PN	Pb	17 35 36.0	-1.4
PUK			*i* SN	Sb	17 36 06.9	+1.2
VIL2	**Platees**	**2.33 146**	P	Pn	17 35 35.6	+1.4
KAVA	**Kavala**	**2.36 68**	P	Pn	17 35 33.9	-0.8
KAVA	**Kavala**	**2.36 68**	P	Pn	17 35 34.9	+0.2
LTK	**Loutraki**	**2.38 153**	P	Pn	17 35 35.0	+0.1
LTK	**Loutraki**	**2.38 153**	P	Pn	17 35 35.6	+0.7
VILL	**Villia**	**2.39 146**	P	Pn	17 35 36.0	+0.9
BCI	**Bajram Curri**	**2.50 333**	*i* Pn	Pb	17 35 40.3	-0.6
BCI			*i* Sn	Sb	17 36 11.2	-0.4
BCI	**Bajram Curri**	**2.50 333**	*i* PN	Pb	17 35 40.3	-0.6
BCI			*i* SN	Sb	17 36 11.2	-0.4
ULC	**Ulcinj**	**2.54 316**	*ij* /Pn	Pn	17 35 39.4	+2.2
ULC			*e*Sn	Sb	17 36 12.1	-0.8
ULC	**Ulcinj**	**2.54 316**	*ij* /Pn	Pn	17 35 39.4	+2.2
ULC			*e*Sn	Sb	17 36 12.1	-0.8
BARS	**Barje**	**2.66 3**	*e*Pn	Pn	17 35 40.5	+1.7
BARS	**Barje**	**2.66 3**	*e*Pn	Pn	17 35 40.5	+1.7
PEJK	**Peje**	**2.68 338**	P	Pn	17 35 41.5	+2.4
PEJK			S	Sn	17 36 12.9	+1.4
VTS	**Vitosha**	**2.71 26**	*ij* /P	Pb	17 35 43.1	-1.6
VTS	**Vitosha**	**2.71 26**	*ij* /P	Pb	17 35 43.1	-1.6
DRME	**Dracevica, Mon**	**2.73 319**	⇑/Pn	Pn	17 35 42.2	+2.4
DRME			*e*Sn	Sb	17 36 16.7	-1.7
DRME	**Dracevica, Mon**	**2.73 319**	⇑/Pn	Pn	17 35 42.2	+2.4
DRME			*e*Sn	Sb	17 36 16.7	-1.7
PVY	**Plav**	**2.74 333**	*ij* /Pn	Pn	17 35 42.4	+2.5
PVY			*e*Sn	Sb	17 36 16.7	-1.9
PVY	**Plav**	**2.74 333**	*ij* /Pn	Pn	17 35 42.4	+2.5
PVY			*e*Sn	Sb	17 36 16.7	-1.9
PTL	**Penteli**	**2.74 140**	P	Pn	17 35 41.3	+1.4
PTL	**Penteli**	**2.74 140**	P	Pn	17 35 41.3	+1.4
DION	**Dionisos Attik**	**2.75 138**	P	Pn	17 35 41.5	+1.4
DION	**Dionisos Attik**	**2.75 138**	P	Pn	17 35 41.4	+1.4
SMRK	**Smrekonice**	**2.76 350**	P	Pg	17 35 47.8	-1.3
SMRK			S	Sn	17 36 02.8	-11
ATHU	**Athens Univers**	**2.76 142**	P	Pn	17 35 42.2	+2.0
ATHU	**Athens Univers**	**2.76 142**	P	Pn	17 35 41.9	+1.7
VLY	**Voula,Athens**	**2.86 143**	P	Pn	17 35 42.3	+0.8
VLY	**Voula,Athens**	**2.86 143**	P	Pn	17 35 42.6	+1.1
PDG	**Podgorica**	**2.88 323**	*ij* /P	Pb	17 35 44.9	-2.6
PDG	**Podgorica**	**2.88 323**	⇑/Pn	Pb	17 35 44.4	+2.6
PDG	**Podgorica**	**2.88 323**	*ij* /P	Pb	17 35 44.9	-2.6
PDG			*e*Sn	Sb	17 36 20.2	-2.5
TTG	**Podgorica**	**2.88 323**	⇑/Pn	Pn	17 35 44.4	+2.6
TTG			*e*Sn	Sb	17 36 20.2	-2.5
DID	**Didima**	**2.93 154**	P	Pn	17 35 43.3	+0.7
DID	**Didima**	**2.93 154**	P	Pn	17 35 43.6	+1.0
BUM	**Brajici-Budva**	**2.97 317**	*ij* /Pn	Pn	17 35 45.5	+2.5
BUM			*e*Sn	Sb	17 36 22.4	-2.7
BUM	**Brajici-Budva**	**2.97 317**	*ij* /Pn	Pn	17 35 45.5	+2.5
BUM			*e*Sn	Sb	17 36 22.4	-2.7
BEY	**Berane**	**3.00 335**	*ij* /Pn	Pn	17 35 45.9	+2.3
BEY			*e*Sn	Sb	17 36 22.8	-3.5
IVA	**Berane**	**3.00 335**	*ij* /Pn	Pn	17 35 45.9	+2.3
IVA			*e*Sn	Sb	17 36 22.8	-3.5
KARY	**Karystos**	**3.05 133**	P	Pn	17 35 46.3	+2.1
KARY	**Karystos**	**3.05 133**	P	Pn	17 35 46.0	+1.8
SELS	**Selova**	**3.08 353**	*e*Pn	Pn	17 35 45.3	+0.7
KOME	**Kolasin**	**3.12 330**	*e*Pn	Pn	17 35 47.5	+2.3
KOME			*e*Sn	Sb	17 36 26.1	-3.5
KOME	**Kolasin**	**3.12 330**	*e*Pn	Pn	17 35 47.5	+2.3
KOME			*e*Sn	Sb	17 36 26.1	-3.5
CEME	**Cevo**	**3.13 321**	*ij* /Pn	Pn	17 35 47.5	+2.1
CEME			*e*Sn	Sb	17 36 26.4	-3.6
CEME	**Cevo**	**3.13 321**	*ij* /Pn	Pn	17 35 47.5	+2.1
CEME			*e*Sn	Sb	17 36 26.4	-3.6
ZAPS	**Zavoj**	**3.21 13**	*e*Pn	Pn	17 35 48.2	+1.9
HCY	**Herceg Novi**	**3.28 315**	⇑/Pn	Pn	17 35 49.5	+2.2
HCY			*e*Sn	Sn	17 36 29.8	+3.6
HCY	**Herceg Novi**	**3.28 315**	⇑/Pn	Pn	17 35 49.5	+2.2
HCY			*e*Sn	Sn	17 36 29.8	+3.6
NKME	**Niksic**	**3.29 323**	*ij* /Pn	Pn	17 35 50.2	+2.8
NKME			*e*Sn	Sn	17 36 29.9	+3.5
NKME	**Niksic**	**3.29 323**	*ij* /Pn	Pn	17 35 50.2	+2.8
NKME			*e*Sn	Sn	17 36 29.9	+3.5
NKY	**Niksic**	**3.31 324**	⇑/Pn	Pn	17 35 50.2	+2.5
NKY			*e*Sn	Sn	17 36 30.2	+3.3
NKY	**Niksic**	**3.31 324**	⇑/Pn	Pn	17 35 50.2	+2.5
NKY			*e*Sn	Sn	17 36 30.2	+3.3
SJES	**Sjenica**	**3.34 339**	*e*Pn	Pn	17 35 50.5	+2.3
ALN	**Alexandroupoli**	**3.46 76**	P	Pn	17 35 50.0	+0.3
ALN	**Alexandroupoli**	**3.46 76**	P	Pn	17 35 50.7	+1.0
BOVS	**Bovan**	**3.48 1**	*e*Pn	Pn	17 35 50.8	+0.8
BOVS	**Bovan**	**3.48 1**	*e*Pn	Pn	17 35 50.8	+0.8
TREB	**Trebinje**	**3.54 317**	*e*Pn	Pn	17 35 52.7	+1.8
PLE	**Pljevlja**	**3.58 333**	⇑/Pn	Pn	17 35 54.1	+2.5
PLE			*e*Sn	Sn	17 36 36.4	+2.6
PLE	**Pljevlja**	**3.58 333**	⇑/Pn	Pn	17 35 54.1	+2.5
PLE			*e*Sn	Sn	17 36 36.4	+2.6
BRY	**Bratogost**	**3.58 321**	*ij* /Pn	Pn	17 35 54.1	+2.5
BRY			*e*Sn	Sn	17 36 37.2	+3.3
BRY	**Bratogost**	**3.58 321**	*ij* /Pn	Pn	17 35 54.1	+2.5
BRY			*e*Sn	Sn	17 36 37.2	+3.3
IVAS	**Ivanjica**	**3.59 343**	*e*Pn	Pn	17 35 52.9	+1.3
IVAS	**Ivanjica**	**3.59 343**	*e*Pn	Pn	17 35 52.9	+1.3
UPM	**Unac-Piva**	**3.66 327**	⇑/Pn	Pn	17 35 55.3	+2.6
UPM			*e*Sn	Sn	17 36 38.9	+3.1
UPM	**Unac-Piva**	**3.66 327**	⇑/Pn	Pn	17 35 55.3	+2.6
UPM			*e*Sn	Sn	17 36 38.9	+3.1
ZAGS	**Zajecar**	**3.68 7**	*e*Pn	Pn	17 35 53.7	+0.9
ZAGS	**Zajecar**	**3.68 7**	*e*Pn	Pn	17 35 53.7	+0.9
GRUS	**Gruza**	**3.79 350**	*e*Pn	Pn	17 35 56.1	+1.8
GRUS	**Gruza**	**3.79 350**	*e*Pn	Pn	17 35 56.1	+1.8
TIP	**Timpagrande**	**3.87 257**	⇑/P	Pn	17 35 56.1	+0.6
TIP	**Timpagrande**	**3.87 257**	S	Sn	17 36 41.8	+0.9
TIP	**Timpagrande**	**3.87 257**	⇑/P	Pn	17 35 56.1	+0.6
CHOS	**Chios island**	**3.87 116**	P	Pn	17 35 57.1	+1.6
CHOS	**Chios island**	**3.87 116**	P	Pn	17 35 57.2	+1.6
STON	**Ston**	**4.00 314**	*e*Pn	Pn	17 35 59.3	+2.1
STON			Sn	Sn	17 36 43.5	-0.4
STON	**Ston**	**4.00 314**	*e*Pn	Pn	17 35 59.2	+2.1
STON			Sn	Sn	17 36 43.4	-0.4
BBLS	**Lazići**	**4.06 337**	*e*Pn	Pn	17 36 00.2	+2.2
BBLS	**Lazići**	**4.06 337**	*e*Pn	Pn	17 36 00.2	+2.2
SVIS	**Svilajnac**	**4.12 356**	*e*Pn	Pn	17 35 59.1	+0.3
DIVS	**Divibare**	**4.12 344**	*e*Pn	Pn	17 36 00.5	+1.6
DIVS	**Divibare**	**4.12 344**	*e*Pn	Pn	17 36 00.5	+1.6
TRUS	**Trudelj**	**4.16 348**	*e*Pn	Pn	17 36 00.7	+1.3
TRUS	**Trudelj**	**4.16 348**	*e*Pn	Pn	17 36 00.7	+1.3
KUBS	**Kucevo**	**4.25 1**	*e*Pn	Pn	17 36 02.1	+1.4
KUBS	**Kucevo**	**4.25 1**	*e*Pn	Pn	17 36 02.1	+1.4
APE	**Apeiranthos**	**4.35 134**	⇑/P	Pn	17 36 04.0	+2.0
APE	**Apeiranthos**	**4.35 134**	⇑/P	Pn	17 36 04.0	+2.0
HAPS	**Han Pijesak,Bl**	**4.40 334**	*e*Pn	Pn	17 36 05.3	+2.5
TEKS	**Tekeris**	**4.65 341**	*e*Pn	Pn	17 36 08.0	+1.8
TEKS	**Tekeris**	**4.65 341**	*e*Pn	Pn	17 36 08.0	+1.8
SANT	**Santorini**	**4.84 140**	⇑/P	Pn	17 36 12.6	+3.8
SANT	**Santorini**	**4.84 140**	⇑/P	Pn	17 36 12.6	+3.8
FGSL	**Fruska Gora**	**5.17 346**	*e*Pn	Pn	17 36 15.0	+1.7
FRGS	**Fruska Gora**	**5.17 346**	*e*Pn	Pn	17 36 15.0	+1.7
BZS	**Buzias**	**5.46 0**	*e*Pn	Pn	17 36 18.4	+1.2
BZS	**Buzias**	**5.46 0**	⇑/P	Pn	17 36 20.5	+3.3
BZS	**Buzias**	**5.46 0**	*e*Pn	Pn	17 36 18.4	+1.2
BZS	**Buzias**	**5.46 0**	⇑/P	Pn	17 36 20.5	+3.3
IDI	**Anoyia**	**5.51 151**	P	Pn	17 36 20.7	+2.7
	comp=N,0.8nm,0.3s,baz=336,slow=12,SNR=8.2					
IDI			S	Sn	17 37 22.0	+0.7
	comp=N,1.0nm,0.3s,baz=46,slow=22,SNR=4.5					
IDI	**Anoyia**	**5.51 151**	*ij* /P	Pn	17 36 20.1	+2.1
VOIR		**5.85 24**	⇑/P	Pn	17 36 25.4	+2.7
VOIR		**5.85 24**	⇑/P	Pn	17 36 25.4	+2.7
UDBI	**Udbina**	**6.15 317**	*e*Pn	Pn	17 36 28.3	+1.5
UDBI			Sn	Sn	17 37 37.6	+0.5
UDBI	**Udbina**	**6.15 317**	*e*Pn	Pn	17 36 28.3	+1.5
MLR	**Muntele Rosu**	**6.21 29**	P	Pn	17 36 32.7	+5.1
	baz=238,slow=10					
MLR	**Muntele Rosu**	**6.21 29**	*ij* /P	Pn	17 36 31.3	+3.6
MLR	**Muntele Rosu**	**6.21 29**	*ij* /P	Pn	17 36 31.3	+3.6
NVLJ	**Novalja**	**6.66 314**	*e*Pn	Pn	17 36 34.5	+0.9
NVLJ			Sn	Sn	17 37 48.3	-1.1
NVLJ	**Novalja**	**6.66 314**	*e*Pn	Pn	17 36 34.5	+0.9
PLOR	**Plostina**	**6.78 31**	*ij* /P	Pn	17 36 39.2	+3.8
PLOR	**Plostina**	**6.78 31**	*ij* /P	Pn	17 36 39.2	+3.8
VRI	**Vrincioaia**	**6.83 32**	*ij* /P	Pn	17 36 40.0	+4.0
VRI	**Vrincioaia**	**6.83 32**	*ij* /P	Pn	17 36 40.0	+4.0
CRES	**Cresnjev**	**7.24 323**	*e*Pn	Pn	17 36 41.6	-0.1
CEY	**Cerknica**	**7.67 319**	*e*Pn	Pn	17 36 47.7	0.0
PSZ	**Piszkesteto**	**7.86 352**	⇑/P	Pn	17 36 52.5	+2.3
PSZ	**Piszkesteto**	**7.86 352**	⇑/P	Pn	17 36 52.5	+2.3
BURAR	**Bucovina Array**	**7.90 18**	*ij* /P	Pn	17 36 53.7	+2.9
BURAR	**Bucovina Array**	**7.90 18**	*ij* /P	Pn	17 36 53.7	+2.9
SOKA	**Soboth**	**8.09 326**	Pn	Pn	17 36 53.9	+0.5
	comp=N,0.8nm,0.2s					
SOKA	**Soboth**	**8.09 326**	*i* Pn	Pn	17 36 53.9	+0.5
	comp=N,0.8nm,0.2s					
ARSA	**Arzberg**	**8.35 330**	Pn	Pn	17 36 56.8	-0.1
	comp=N,1.6nm,0.3s					
ARSA	**Arzberg**	**8.35 330**	*i* Pn	Pn	17 36 56.8	-0.1
	comp=N,1.6nm,0.3s					
VYHS	**Vyhne**	**8.57 348**	*e*Pn	Pn	17 37 02.7	+2.8
VYHS	**Vyhne**	**8.57 348**	*e*PN	Pn	17 37 02.7	+2.8
VYHS			*e*SN	Sn	17 38 32.3	-4.1
BRTR	**Keskin Array B**	**9.25 89**	P	Pn	17 37 14.3	+4.9
	comp=N,0.1nm,0.3s,baz=256,slow=8.6,SNR=5.2					
GERES	**GERESS Array B**	**10.36 330**	P	Pn	17 37 26.4	+2.0
	comp=N,0.1nm,0.3s,baz=152,slow=13,SNR=3.5					
GERES			LR	LR	17 42 14.0	
	comp=N,72nm,18.1s,baz=226,slow=42					
KHC	**Kasperske Hory**	**10.64 330**	*e*P	Pn	17 37 40.3	+12
AKASG	**Malin Array Be**	**11.81 24**	P	Pn	17 37 49.2	+4.9
	comp=N,0.4nm,0.3s,baz=211,slow=12,SNR=3.2					
MMAI	**Mount Meron Ar**	**13.17 118**	LR	LR	17 43 54.4	
	comp=N,30nm,19.9s,baz=200,slow=40					
OBN	**Obninsk**	**17.98 29**	LR	LR	17 47 00.1	
	comp=N,17nm,21.6s,baz=264,slow=40					
HFS	**Hagfors**	**20.60 349**	P	P	17 39 34.3	-0.5
	comp=N,1.4nm,0.5s,baz=147,slow=14,SNR=6.6					
FINES	**FINESS Array B**	**21.49 6**	P	P	17 39 44.9	+0.6
	comp=N,0.8nm,0.5s,baz=179,slow=7.6,SNR=4.7					
NB2	**NORSAR Subarra**	**21.87 346**	P	P	17 39 47.5	-1.0
	comp=Z,4.5nm,0.6s,baz=161,slow=11					
NOA	**NORSAR Array B**	**21.87 346**	P	P	17 39 47.9	-0.6
	comp=Z,1.6nm,0.6s,baz=161,slow=11,SNR=8.4					
EKA	**Eskdalemuir Ar**	**22.36 321**	P	P	17 39 53.0	-0.8
	comp=Z,1.6nm,0.6s,baz=123,slow=10,SNR=6.6					
TORD	**Torodi Ar. Bea**	**32.10 219**	P	P	17 41 22.7	-0.5
	comp=Z,1.4nm,0.9s,baz=34,slow=9.5,SNR=5.2					
MKAR	**Makanchi Array**	**43.56 60**	P	P	17 42 59.3	-0.4
	comp=Z,0.3nm,0.5s,baz=279,slow=5.5,SNR=5.6					
YKA	**Yellowknife Ar**	**71.82 340**	P	P	17 46 16.8	-1.3
	comp=Z,0.1nm,0.5s,baz=38,slow=5.2,SNR=2.8					

*ISCJB **23** 17:36:19.5±0.1,28.°72S±0.°02×177.°42W±0.°02,h112km, mb5.7/271,Error ellipse: s-maj=3.9km s-min=2.4km az=139.9*

*MOS **23** 17:36:19.3±0.8,28.°40S×177.°38W,h104km,mb5.9/61, MS5.2/10,Error ellipse: s-maj=8.6km s-min=7.1km az=72.5*

*BJI **23** 17:36:19.9,28.°50S×177.°40W,h107km,mb5.3/53, mB5.5/41*

*GCMT **23** 17:36:21.2±0.1,28.°51S×177.°05W,h101km,MW6.0/147, Moment Tensor Solution. s147,c324; s145,c418; Duration: 2≥3 Moment tensor: Scale 10^{18}Nm; M_{rr}-0.58±.01; $M_{\theta\theta}$-0.03±.01; $M_{\phi\phi}$0.61±.01; $M_{r\theta}$0.06±.01; $M_{\theta\phi}$-0.22±.01; $M_{r\phi}$0.81±.01; Best double couple: M_o1.03500×10^{18} NP1:ϕ_s180.00000°,δ72.00000°, λ-77.00000°. NP2:ϕ_s324.00000°,δ22.00000°, λ-124.00000°. Principal axes: T 1.0500, Plg26.0000°, Azm260.0000°; N -0.0290, Plg12.0000°, Azm356.0000°; P -1.0210, Plg61.0000°, Azm109.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

*IDC **23** 17:36:21.2±0.3,28.°42S×177.°33W,h112km±2km,mb5.1/35, mb1 5.1/36,mb1mx5.0/47,mbtmp5.4/36,MS4.8/33, Ms1 4.8/33,ms1mx4.8/41 Error ellipse: s-maj=9.7km s-min=8.5km az=161.0*

*NEIC **23** 17:36:21.0±0.0,28.°19S×177.°35W,h110km Best double couple: NP1:ϕ_s183.00000°,δ75.00000°,λ-75.00000°. NP2:ϕ_s318.00000°,δ21.00000°,λ-132.00000°. Principal axes: T 1.0800, Plg28.0000°, Azm261.0000°; N 0.0700, Plg14.0000°, Azm359.0000°; P -1.1500, Plg57.0000°, Azm112.0000°;*

*NEIC **23** 17:36:21.2±0.1,28.°56S×177.°41W,mb5.8/223,MW6.0, MW6.0 Error ellipse: s-maj=4.8km s-min=2.8km az=161.0, Moment Tensor Solution. s11 Moment tensor: Scale 10^{18}Nm; M_{rr}-0.83; $M_{\theta\theta}$0.31; $M_{\phi\phi}$0.52; $M_{r\theta}$0.05; $M_{\theta\phi}$-0.47; $M_{r\phi}$1.01; Best double couple: M_o1.30000×10^{18} NP1: ϕ_s301.00000°,δ28.00000°,λ-135.00000°. NP2: ϕ_s169.00000°,δ71.00000°,λ-70.00000°. Principal axes: T 1.2300, Plg23.0000°, Azm244.0000°; N 0.1900, Plg19.0000°, Azm343.0000°; P -1.4100, Plg59.0000°, Azm108.0000°; Depth from synthetics of broadband displacement seismograms.*

ISC 23 17:36:21.1±0.2,28.°60S±0.°04×177.°34W±0.°04, h114km±1km,h114km:pP-P,n1240,σ1.1953/1351,mb5.8/271, 17C-25D,Kermadec islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.82**	**218**	P		**Pn**	**17 36 40.6**	**-0.3**
	16μm,0.3s,baz=115,slow=3.4,SNR=335							
RIZ	**Raoul Island**	**0.82**	**219**	P		**Pn**	**17 36 40.6**	**-0.2**
RIZ	**Raoul Island**	**0.82**	**219**	P		**Pn**	**17 36 40.7**	**-0.2**
RIZ	**Raoul Island**	**0.82**	**219**	S		**Sn**	**17 36 57.5**	**+1.7**
GLKZ	**Green Lake**	**0.83**	**218**	P		**Pn**	**17 36 40.6**	**-0.4**
GLKZ	**Green Lake**	**0.83**	**218**	P		**Pn**	**17 36 40.6**	**-0.4**
GLKZ	**Green Lake**	**0.83**	**218**	S		**Sn**	**17 36 57.4**	**+1.4**
MXZ	**Matakaoa Point**	**9.65**	**201**	*e*Pn		Pn	17 38 29.0	-7.9
MXZ	**Matakaoa Point**	**9.65**	**201**	P		Pn	17 38 29.3	-7.6
MXZ	**Matakaoa Point**	**9.65**	**201**	S		**Sn**	**17 40 17.2**	**-6.2**
WMGZ	**Waiomatatini S**	**9.85**	**200**	P		Pn	17 38 31.8	-7.8
WMGZ	**Waiomatatini S**	**9.85**	**200**	S		**Sn**	**17 40 24.1**	**-4.2**
HAZ	**Te Kaha**	**10.00**	**203**	P		Pn	17 38 34.0	-7.6
HAZ	**Te Kaha**	**10.00**	**203**	S		**Sn**	**17 40 28.0**	**-3.8**
KUZ	**Kuaotunu**	**10.00**	**214**	P		**Pn**	**17 38 39.3**	**-2.3**
WIZ	**White Island**	**10.01**	**206**	S		**Sn**	**17 40 27.8**	**-4.3**
PKGZ	**Pakihiroa**	**10.02**	**201**	P		Pn	17 38 33.7	-8.3
PKGZ	**Pakihiroa**	**10.02**	**201**	P		**Pn**	**17 40 27.6**	**-4.9**
PUZ	**Puketiti**	**10.13**	**200**	P	

comp=Z,24nm,0.3s,baz=157,slow=19,SNR=14
RPZ Rata Peaks 17.73 209 *e*P P 17 40 11.3 -8.5
comp=Z,96nm,0.6s
RPZ S S 17 43 18.6 -20
RPZ Rata Peaks 17.73 209 P P 17 40 10.7 -9.2
FOZ Fox Glacier 18.13 211 *e*P P 17 40 16.9 -7.3
comp=Z,62nm,0.8s
FOZ Fox Glacier 18.13 211 P P 17 40 16.2 -8.0
LBZ Lake Benmore 18.64 209 *e*P P 17 40 21.9 -8.0
comp=Z,56nm,0.9s
ODZ Otahua Downs 18.98 207 *e*P **P** **17 40 27.6 -6.0**
comp=Z,88nm,0.7s
WKZ Wanaka 19.50 210 *e*P **P** **17 40 33.4 -5.8**
comp=Z,62nm,0.8s
MLZ Mavora Lakes 20.32 211 *e*P **P** **17 40 48.3 +0.2**
comp=Z,75nm,1.2s
LHI Lord Howe Isla 20.62 256 P Pn 17 40 54.3 -0.4
baz=21,SNR=3.9
LHI Lord Howe Isla 20.62 256 *e*P Pn 17 40 53.4 -1.4
comp=Z,697nm,1.2s
WHZ Wether Hill Ro 20.80 210 *e*P **P** **17 40 54.7 +1.5**
comp=Z,52nm,0.7s
KNTN Kanton 26.24 13 *e*P **P** **17 41 43.1 -2.5**
comp=Z,210nm,1.1s
ARMA Armidale 27.03 259 P **P** **17 41 55.5 +2.7**
baz=27,SNR=33
ARMA Armidale 27.03 259 *e*P **P** **17 41 52.8 0.0**
comp=Z,46nm,0.8s
MGCD Mangrove Creek 27.40 252 P **P** **17 41 58.3 +2.3**
baz=28,SNR=44
PPT2 Papeete2 27.72 73 *e*LR LR 17 48 41.4
comp=Z,33µm,31.8s,baz=240
PPT Papeete 27.73 73 P **P** **17 41 57.1 -2.0**
comp=Z,52nm,0.9s,baz=249,slow=11,SNR=4.8
EIDS Eidsvold 28.28 269 P **P** **17 42 05.0 +1.1**
baz=29,SNR=8.6
EIDS Eidsvold 28.28 269 *e*P **P** **17 42 03.5 -0.3**
comp=Z,366nm,1.8s
HNR Honiara 28.62 307 P **P** **17 42 06.0 -0.9**
HNR Honiara 28.62 307 P **P** **17 42 05.3 -1.7**
comp=Z,37nm,0.5s,baz=168,slow=5.2,SNR=4.1
HNR LR LR 17 52 45.0
comp=Z,2µm,20.1s,baz=138,slow=34
CNB Canberra Magne 28.94 248 P **P** **17 42 12.5 +2.7**
baz=29,SNR=32
CAN Canberra 29.24 248 *e*P **P** **17 42 10.9 -1.4**
comp=Z,52nm,1.0s
CAN Canberra 29.24 248 *e*P **P** **17 42 10.9 -1.4**
CAN pmax pmax
comp=Z,52nm,1.0s
MILA Mila 29.27 245 P **P** **17 42 15.6 +3.0**
baz=30,SNR=12
YNG Young 29.68 250 P **P** **17 42 18.4 +2.1**
baz=30,SNR=7.7
RMQ Roma 30.08 266 P **P** **17 42 21.6 +1.8**
baz=30,SNR=13
PMOR Pomariorio Ree 30.41 70 *e*P **P** **17 42 23.5 +0.8**
comp=Z,209nm,1.3s
PMOR Pomariorio Ree 30.41 70 *e*T T 18 14 17.2
comp=Z,36nm,0.4s
VAH Vaihoa 30.51 70 *e*P **P** **17 42 24.4 +0.8**
comp=Z,179nm,1.2s
VAH Vaihoa 30.51 70 *e*T T 18 14 23.9
comp=Z,329nm,0.2s
MOO Moorlands 31.75 235 P **P** **17 42 36.7 +2.3**
baz=32,SNR=7.6
TAU Tasmania Unive 31.78 234 *e*P **P** **17 42 36.2 +1.6**
comp=Z,67nm,0.9s
TAU Tasmania Unive 31.78 234 *e*P **P** **17 42 36.2 +1.6**
TAU pmax pmax
comp=Z,67nm,0.9s
CMSA Cobar Meteorol 32.03 256 P **P** **17 42 38.8 +1.9**
baz=32,SNR=85
TOO Toolangi 32.23 244 P **P** **17 42 39.9 +1.3**
baz=32,SNR=9.4
TOO Toolangi 32.23 244 P **P** **17 42 41.6 +2.9**
TOO pmax pmax
comp=Z,49nm,0.8s
QLP Quilpie 34.02 264 P **P** **17 42 54.6 +0.3**
baz=34,SNR=22
CTA Charters Tower 34.13 276 P **P** **17 42 56.2 +0.9**
comp=Z,44nm,0.5s,baz=100,slow=10,SNR=70
CTA pP **pP** **17 43 21.8 +1.2**
comp=Z,51nm,0.6s,baz=103,slow=11,SNR=7.9
CTAO Charters Tower 34.13 276 *e*P **P** **17 42 56.2 +0.9**
comp=Z,605nm,1.8s
CTAO Charters Tower 34.13 276 *e*P **P** **17 42 56.2 +0.9**
CTAO pmax pmax
comp=Z,605nm,1.8s
ARPS Mount Arapiles 35.10 246 P **P** **17 43 05.2 +1.7**
baz=35,SNR=25
STKA Stephens Creek 35.48 254 P **P** **17 43 07.6 +0.8**
comp=Z,39nm,0.7s,baz=98,slow=10,SNR=47
STKA pP **pP** **17 43 34.4 +2.2**
comp=Z,84nm,0.8s,baz=91,slow=8.9,SNR=11
STKA ScP **ScP** **17 49 13.2 +3.8**
comp=Z,22nm,0.9s,baz=90,slow=4.4,SNR=7.8
STKA LR LR 17 55 49.0
comp=Z,5µm,20.8s,baz=99,slow=33
STKA Stephens Creek 35.48 254 P **P** **17 43 07.4 +0.6**
baz=36,SNR=40
STKA Stephens Creek 35.48 254 *e*P **P** **17 43 07.5 +0.8**
comp=Z,28nm,1.0s
STKA pP **pP** **17 43 34.4 +2.2**
STKA ScP **ScP** **17 49 13.2 +3.8**
STKA Stephens Creek 35.48 254 *e*P **P** **17 43 07.5 +0.8**
STKA *°PP **pP** **17 43 34.4 +2.2**
STKA pmax pmax
comp=Z,28nm,1.0s
MTSU Mount Surprise 36.57 278 P **P** **17 43 16.6 +0.4**
baz=37,SNR=49
HTT Hallett 37.59 251 P **P** **17 43 24.7 0.0**
baz=38,SNR=78
RABL Rabaul 37.79 304 *e*P **P** **17 43 26.4 -0.2**
comp=Z,123nm,0.5s
RKT Rikitea 38.37 92 *e*S **S** **17 49 19.1 +1.4**
comp=Z,1µm,31.8s
RKT *e*LQ LQ 17 52 26.7
comp=Z,4µm,27.0s
RKT *e*LR LR 17 53 41.0
comp=Z,13µm,33.8s,baz=253
PMG Port Moresby 38.40 293 LR LR 17 58 05.2
comp=Z,2µm,18.9s,baz=130,slow=34
PMG Port Moresby 38.40 293 *e*P **P** **17 43 29.9 -1.7**
comp=Z,82nm,1.0s
PMG Port Moresby 38.40 293 *i* P **P** **17 43 30.8 -0.9**
COEN Coen 39.37 283 P **P** **17 43 40.6 +0.8**
baz=40,SNR=12
COEN Coen 39.37 283 *e*P **P** **17 43 40.6 +0.8**
comp=Z,87nm,0.9s
QIS Mount Isa 39.79 272 P **P** **17 43 44.1 +0.8**
baz=40,SNR=4.9
BBOO Buckleboo 40.04 252 P **P** **17 43 44.2 -0.9**
baz=40,SNR=57
BBOO Buckleboo 40.04 252 *e*P **P** **17 43 44.3 -0.9**
comp=Z,76nm,0.8s
TAOE Nuku Hiva Isla 40.09 68 *e*S **S** **17 49 42.2 -1.6**
comp=Z,2µm,24.1s
TAOE *e*LQ LQ 17 53 07.7
comp=Z,5µm,24.5s
TAOE *e*LR LR 17 54 21.8
comp=Z,11µm,33.4s,baz=244
MANU Manus Island 42.77 302 *e*P **P** **17 44 04.8 -2.8**
comp=Z,168nm,1.1s
AS01 Alice Springs 43.77 265 *e*P **P** **17 44 15.1 -0.6**
AS31 Alice Springs 43.81 265 *e*P **P** **17 44 15.4 -0.5**
comp=Z,41nm,1.1s
ASAR Alice Springs 43.81 265 P **P** **17 44 15.3 -0.6**
comp=Z,23nm,0.7s,baz=105,slow=7.4,SNR=354
ASAR pP **pP** **17 44 41.4 -0.8**
comp=Z,35nm,0.5s,baz=95,slow=6.7,SNR=11
ASAR ScP **ScP** **17 49 45.4 +3.5**
comp=Z,10nm,0.9s,baz=108,slow=4.4,SNR=8.0
ASAR LR LR 18 01 21.6
comp=Z,4µm,21.9s,baz=126,slow=34
ASAR P4KPbc 18 22 11.1
comp=Z,0.2nm,0.7s,baz=107,slow=3.8,SNR=5.3
WB2 Warramunga Arr 44.63 270 *e*P **P** **17 44 22.0 -0.5**
comp=Z,414nm,1.5s
WRAB Tennant Creek 44.63 270 *e*P **P** **17 44 21.9 -0.6**
comp=Z,528nm,1.7s
WRAB Tennant Creek 44.63 270 *ce*P **P** **17 44 21.3 -1.2**
WRAB pmax pmax
comp=Z,38nm,0.7s
WRA Warramunga Arr 44.64 270 P **P** **17 44 22.1 -0.5**
comp=Z,36nm,0.7s,baz=110,slow=6.3,SNR=245
WRA ScP **ScP** **17 49 48.4 +3.1**
comp=Z,14nm,1.0s,baz=108,slow=3.9,SNR=11
WRA S **S** **17 50 52.2 +1.7**
comp=Z,9.5nm,0.9s,baz=107,slow=13,SNR=5.6
WRA PKiKP **PKiKP** **17 53 01.3 -1.6**
comp=Z,0.6nm,0.6s,baz=101,slow=0.6,SNR=4.6
WRA LR LR 18 01 26.7
comp=Z,3µm,18.1s,baz=100,slow=34
FORT Forrest 47.09 253 P **P** **17 44 40.2 -1.4**
baz=47,SNR=88
FORT Forrest 47.09 253 *e*P **P** **17 44 40.3 -1.4**
comp=Z,3µm,0.7s
JAY Jayapura 47.62 295 P **P** **17 44 46.3 +0.3**
JAY Jayapura 47.62 295 P **P** **17 44 49.9 +3.9**
JAY pmax pmax
comp=Z,510nm,1.0s
GENI Genyem 48.00 295 P **P** **17 44 51.2 +2.3**
WRKA Warakurna 48.30 261 P **P** **17 44 49.7 -1.5**
baz=49,SNR=184
SBA Scott Base 49.87 184 *e*P **P** **17 45 06.2 +3.9**
comp=Z,161nm,1.0s
SBA Scott Base 49.87 184 *e*P **P** **17 45 06.2 +3.9**
SBA pmax pmax
comp=Z,161nm,1.0s
VNDA Vanda 49.94 186 P **P** **17 45 05.8 +3.0**
comp=Z,15nm,0.8s,baz=1.9,slow=8.0,SNR=36
VNDA LR LR 18 02 03.0
comp=Z,389nm,21.2s,baz=25,slow=31
VNDA Vanda 49.94 186 *e*P **P** **17 45 05.8 +3.0**
comp=Z,44nm,1.1s
VNDA Vanda 49.94 186 *e*P **P** **17 45 05.8 +3.0**
VNDA pmax pmax
comp=Z,44nm,1.1s
MTN Manton Dam 50.30 277 P **P** **17 45 05.8 -0.6**
baz=51,SNR=21
MTN Manton Dam 50.30 277 *e*P **P** **17 45 06.1 -0.3**
comp=Z,44nm,0.8s
KNRA Kununurra 51.17 273 P **P** **17 45 12.8 -0.2**
baz=52,SNR=34
KMBL Kambalda 52.13 251 P **P** **17 45 18.4 -1.5**
baz=52,SNR=8.3
KHLU Kahalu'u 52.20 26 *e*P **P** **17 45 20.8 +0.3**
comp=Z,366nm,1.2s
SAUI Saumlaki 52.45 283 *ep*P pP 17 45 52.5 +3.1
HPAH Hawaii Prepara 52.67 26 *e*P **P** **17 45 24.2 +0.2**
comp=Z,435nm,1.1s
HPAH *ep*P **pP** **17 45 52.2 +1.2**
MHA Mahukona 52.74 26 *e*P **P** **17 45 25.0 +0.7**
MHA Mahukona 52.74 26 *e*P **P** **17 45 25.0 +0.7**
KIP Kipapa 53.12 23 *e*P **P** **17 45 27.0 -0.1**
comp=Z,289nm,1.1s
KIP Kipapa 53.12 23 *ce*P **P** **17 45 26.3 -0.8**
KIP pmax pmax
comp=Z,1µm,1.1s
KLBR Kellerberrin 55.49 250 P **P** **17 45 42.9 -1.5**
baz=56,SNR=23
NWAO Narrogin (SRO) 55.58 248 P **P** **17 45 43.9 -1.2**
baz=56,SNR=5.6
NWAO P **P** **17 45 43.9 -1.2**
baz=56,SNR=5.6
NWAO Narrogin (SRO) 55.58 248 *e*P **P** **17 45 44.2 -0.9**
comp=Z,80nm,1.4s
NWAO Narrogin (SRO) 55.58 248 *e*P **P** **17 45 44.2 -0.9**
NWAO pmax pmax
comp=Z,80nm,1.4s
MEEK Meekatharra 56.16 256 P **P** **17 45 47.7 -1.6**
baz=56,SNR=36
BLDU Ballidu 56.62 251 P **P** **17 45 51.3 -1.1**
baz=57,SNR=25
MUN Mundaring 56.66 249 P **P** **17 45 51.9 -0.8**
baz=57,SNR=5.9
CASY Casey 56.99 207 *e*P **P** **17 45 54.6 +0.2**
comp=Z,77nm,0.8s
AAI Ambon 57.29 285 P **P** **17 45 59.0 +1.7**
MORW Morawa 57.61 252 P **P** **17 45 58.6 -0.8**
baz=58,SNR=13
SOEI Soe 57.69 277 P **P** **17 46 01.4 +1.1**
SOEI Soe 57.69 277 *e*P **P** **17 46 02.8 +2.5**
comp=Z,89nm,0.8s
BATI Baumata 58.02 276 LR LR 18 10 12.1
comp=Z,3µm,20.0s,baz=144,slow=35
BATI Baumata 58.02 276 P **P** **17 46 03.5 +1.0**
NLAI Namlea 58.45 285 P **P** **17 46 06.1 +0.7**
PALU Palau 58.60 300 P **P** **17 46 07.3 +0.9**
baz=59,SNR=3.6
RPN Rapa Nui 59.37 106 LR LR 18 06 57.8
comp=Z,587nm,18.9s,baz=242,slow=31
LBMI Labuha 59.50 288 P **P** **17 46 12.0 -0.7**
SANI Sanana 60.02 285 P **P** **17 46 15.1 -1.1**
TNTI Ternate 60.38 289 *ep*P pP 17 46 45.3 -1.0
QSPA South Pole Qui 61.50 180 P **P** **17 46 27.9 +2.2**
comp=Z,346nm,0.8s,baz=47,slow=1.6,SNR=528
QSPA South Pole Qui 61.50 180 *e*P **P** **17 46 27.7 +2.0**
comp=Z,558nm,1.0s
LUWI Luwuk 63.28 284 *e*P **P** **17 46 38.9 +0.8**
comp=Z,90nm,0.8s
PLAI Plampang 63.80 274 P **P** **17 46 41.1 -0.5**
BNSI Bone 63.87 280 P **P** **17 46 41.8 -0.2**
KAPI Kappang 63.88 279 *e*P **P** **17 46 40.2 -1.9**
comp=Z,72nm,1.8s
MIR Mirnyy 63.98 206 ⇓ *i*P **P** **17 46 45.0 +3.1**
MIR *i* 17 47 20.0
MIR pmax pmax
comp=Z,162nm,1.5s
APSI Ampana 64.30 284 P **P** **17 46 45.0 +0.2**
TWSI Taliwang, Sumb 64.63 274 P **P** **17 46 46.4 -0.6**
MRSI Marisa 64.78 285 P **P** **17 46 47.5 -0.4**
DAV Davao City (W) 65.41 294 LR LR 18 12 24.2
comp=Z,312nm,21.2s,baz=132,slow=33
PCI Palu 65.86 283 P **P** **17 46 55.8 +0.9**
PCI Palu 65.86 283 P **P** **17 46 57.0 +2.1**
IGBI Denpasar 66.11 273 P **P** **17 46 56.2 -0.4**
SRBI Singaraja 66.39 274 P **P** **17 46 56.2 -2.1**
MPSI Mapaga 66.44 284 P **P** **17 46 58.4 -0.2**
JAGI Jajag, Banyuwa 67.15 273 P **P** **17 47 02.2 -0.9**
JAGI Jajag, Banyuwa 67.15 273 *e*P **P** **17 47 02.6 -0.5**
comp=Z,87nm,0.8s
GMJI Gumukmas 67.86 273 P **P** **17 47 06.6 -1.0**
BLJI Banyuglugur 67.97 273 P **P** 17 47 19.6 +11
PWJI Pagerwojo 69.41 272 P **P** **17 47 16.9 -0.4**
PCJI Pacitan 69.89 272 P **P** **17 47 20.2 0.0**
MTKI Muara Teweh, K 70.09 280 P **P** 17 47 35.4 +14
WOJI Wonogiri, Jawa 70.27 272 P **P** **17 47 24.3 +1.8**
comp=Z,57nm,0.5s
RCP Roxas 70.30 296 ⇑ *e*P pP 17 47 47.2 -3.7
PBKI Pangkalan Bun 72.03 277 P **P** **17 47 33.6 +0.4**
KPJI Karang Pucung 72.25 271 P **P** **17 47 34.1 -0.4**
KKM Kota Kinabalu 72.56 287 *e*P **P** **17 47 36.0 -0.4**
comp=Z,202nm,1.5s
TGY Tagaytay City 73.21 297 LR LR 18 18 25.9
comp=Z,201nm,20.0s,baz=110,slow=34
LUBP Lubang 73.54 296 *e*P **P** **17 47 39.5 -2.5**
STKI Sintang 73.56 279 P **P** **17 47 42.9 +0.7**
JHJ Hachijo jima 2 73.63 323 LR LR 18 16 20.7
comp=Z,400nm,19.6s,baz=137,slow=33
LEM Lembang 73.64 271 P **P** **17 47 43.4 +0.5**
comp=Z,66nm,0.7s,baz=85,slow=4.3,SNR=19
LEM LR LR 18 19 27.5
comp=Z,813nm,21.1s,baz=114,slow=35
SBUM Sibu 74.10 282 *e*P **P** **17 47 44.1 -1.3**
comp=Z,73nm,1.2s
MAW Mawson 74.19 200 P **P** **17 47 46.7 +1.8**
comp=Z,68nm,0.6s,baz=129,slow=7.6,SNR=59
MAW pP **pP** **17 48 14.2 +0.7**
comp=Z,30nm,0.6s,baz=151,slow=9.9,SNR=2.8
MAW LR LR 18 19 06.6
comp=Z,684nm,18.9s,baz=104,slow=34
MAW Mawson 74.19 200 P **P** **17 47 46.7 +1.8**
baz=74,SNR=45
MAW Mawson 74.19 200 *e*P **P** **17 47 46.7 +1.8**
comp=Z,68nm,1.5s
MAW pP **pP** **17 48 14.2 +0.7**
MAW Mawson 74.19 200 *e*P **P** **17 47 46.7 +1.8**
MAW *°PP **pP** **17 48 14.2 +0.7**
MAW pmax pmax
comp=Z,69nm,1.5s
DBJI Dramaga 74.53 271 P **P** **17 47 47.7 -0.2**
KSM Kuching 75.27 280 *e*P **P** **17 47 51.5 -0.6**
comp=Z,140nm,1.5s
CGJI Cibinong 75.43 270 P **P** **17 47 51.6 -1.4**
JOW Kunigami 75.89 311 LR LR 18 16 27.4
comp=Z,696nm,21.6s,baz=126,slow=32
JOW Kunigami 75.89 311 *ep*P pP 17 48 20.6 -3.4
INU Inuyama 76.81 323 *e*P **P** **17 48 00.0 -0.2**
comp=Z,42nm,1.1s
GO09 Cerro Castillo 76.85 141 *e*P **P** **17 48 01.2 +0.8**
comp=Z,266nm,1.3s
KASI Kota Agung 76.99 271 P **P** **17 48 00.8 -1.1**
MJAR Matsushiro Arr 77.10 325 P **P** **17 48 01.4 -0.6**
comp=Z,22nm,0.7s,baz=166,slow=5.7,SNR=40
MJAR LR LR 18 17 12.5
comp=Z,535nm,21.4s,baz=130,slow=32
MAJO Matsushiro 77.11 325 *e*P **P** **17 48 01.5 -0.4**
comp=Z,49nm,0.9s
MAJO Matsushiro 77.11 325 ⇑ *i*P **P** **17 48 01.8 -0.1**
MAJO pmax pmax
comp=Z,40nm,0.8s
MJB9 Matsu-Tunnel 77.11 325 *e*P **P** **17 48 01.6 -0.4**
comp=Z,48nm,0.9s
LWLI Liwa 77.61 271 P **P** **17 48 05.9 +0.4**
MDSI Maura Dua 77.76 272 P **P** **17 48 04.0 -2.1**
JNU Nakatsue 78.61 318 P **P** **17 48 09.8 -0.6**
comp=Z,20nm,0.7s,baz=83,slow=2.5,SNR=13
JNU LR LR 18 18 50.9
comp=Z,501nm,20.7s,baz=130,slow=32
CHRN Cochrane 78.69 138 *e*P **P** **17 48 11.1 +0.3**
comp=Z,17nm,0.9s
SYO Syowa Base 78.99 193 ⇑ *i*P **P** **17 48 11.2 -0.7**
SSLB Suanglung 79.00 305 *e*P **P** **17 48 10.7 -2.0**
comp=Z,30nm,0.9s
ERM Erimo 79.16 331 *e*P **P** **17 48 15.9 +2.8**
comp=Z,45nm,0.8s
ERM Erimo 79.16 331 *e*P **P** **17 48 15.9 +2.8**
ERM pmax pmax
comp=Z,45nm,0.8s
YHNB Yeheng 79.24 306 *ep*P pP 17 48 45.0 +1.9
H06S1 SOCORRO T 79.53 62 T T 19 15 43.6
SNR=26
H06N1 SOCORRO T-PHAS 79.58 62 T T 19 15 47.5
SNR=8.5
H06E1 SOCORRO T-PHAS 79.58 62 T T 19 15 55.0
SNR=16
YUK Yuzh-Kuril'sk 79.75 334 *e*P P 17 48 10.3 -5.9
YUK *e*S **S** **17 58 08.9 -0.5**
YUK *e*SS **SS** **18 03 16.3 -5.2**
YUK SSS SSS 18 06 40.2
SNAA Sanae 79.93 178 P **P** **17 48 17.8 +0.7**
comp=Z,133nm,0.9s,baz=192,slow=5.4
SNAA Sanae 79.93 178 *e*P **P** **17 48 17.5 +0.4**
comp=Z,177nm,0.9s
SNAA Sanae 79.93 178 *d* iP **P** **17 48 17.7 +0.6**
KUR Kuril'sk 80.02 336 *d* iP **P** **17 48 17.8 +0.1**
KUR *e* 17 48 20.2
KUR *i* *PP **pP** **17 48 47.0 +0.3**
KUR *i* *SP **sP** **17 48 57.7 -1.1**
KUR *i* S **S** **17 58 17.8 +5.5**
TPRI Tanjung Pinang 80.03 277 P P 17 48 33.5 +15
MASI Maura Aman, Be 80.09 272 P **P** **17 48 17.6 -1.3**
MYKOM Kota Tinggi 81.04 277 *e*P **P** **17 48 23.7 -0.2**
comp=Z,61nm,0.9s
ASAJ Asahikawa 81.12 332 P **P** **17 48 24.9 +1.3**
comp=Z,35nm,0.7s,baz=218,slow=7.8,SNR=37
ASAJ Asahikawa 81.12 332 *e*P **P** **17 48 25.1 +1.5**
comp=Z,54nm,1.0s
KRJI Kerinci 81.27 272 P P 17 48 32.2 +6.9
comp=Z,188nm,0.8s,comp=Z,2µm
QZH Quanzhou 81.41 304 *e*P **P** **17 48 28.6 +3.0**
QZH pP **pP** **17 48 57.0 +2.3**
QZH S **S** **17 58 27.8 +0.2**
QZH LR LR
comp=Z,410nm,22.4s
QZH LR LR
comp=Z,560nm,20.5s
QZH LR LR
comp=Z,700nm,17.9s
NIKH Nikolski High 81.56 5 *ep*P pP 17 48 53.3 -1.5
SKR Severo-Kuril's 82.36 343 *e*P **P** **17 48 27.6 -2.3**
SKR *e**PP pP 17 48 51.1 -7.9
SKR *e*S **S** **17 58 33.6 -2.6**
SKR pmax pmax
comp=Z,400nm,6.9s
SKR pmax pmax
comp=Z,200nm,11.1s
SKR MLR MLR
comp=Z,300nm,3.0s
SKR MLR MLR
comp=Z,400nm,18.0s
SNCC San Nicolas Is 82.38 46 P **P** **17 48 30.8 +0.3**
baz=229
SNCC San Nicolas Is 82.38 46 *e*P **P** **17 48 31.4 +0.9**
SNCC *ep*P **pP** **17 49 02.0 +2.3**
UNV Unalaska Valle 82.64 6 *ep*P pP 17 48 58.7 -1.7
SCZ2 Santa Cruz Isl 82.80 45 P **P** **17 48 33.0 +0.3**
baz=228
SCI2 San Clemente I 82.82 46 P **P** **17 48 32.8 0.0**
baz=229,SNR=6.8
TJN Taejon 82.95 318 *ce*P **P** **17 48 33.4 +0.1**
SBC Santa Barbara 83.05 45 P **P** **17 48 34.2 +0.3**
baz=228
LPIG La Paz 83.10 58 P **P** **17 48 34.0 -0.4**
comp=Z,28nm,0.4s,baz=163,slow=5.8,SNR=4.1
LPIG LR LR 18 17 21.0
comp=Z,924nm,20.8s,baz=218,slow=30
LPIG La Paz 83.10 58 P **P** **17 48 34.0 -0.4**
SLBS Sierra La Lagu 83.13 58 *e*P **P** **17 48 34.9 +0.2**
comp=Z,270nm,1.8s
CIS Catalina Islan 83.18 46 P **P** **17 48 34.4 -0.3**
baz=229,SNR=14
BLG Laguna Peak, P 83.23 45 P **P** **17 48 34.8 -0.1**
baz=229
PKM Mcpherson Peak 83.28 44 P **P** **17 48 35.7 +0.4**
baz=228
PLCA Paso Flores 83.31 133 P **P** **17 48 36.4 +0.8**
comp=Z,58nm,0.9s,baz=257,slow=5.6,SNR=88
PLCA pP **pP** **17 49 06.9 +2.2**
comp=Z,38nm,0.7s,baz=260,slow=5.0,SNR=6.5
PLCA LR LR 18 18 54.0
comp=Z,602nm,19.3s,baz=273,slow=31
PLCA Paso Flores 83.31 133 *e*P **P** **17 48 36.3 +0.8**
comp=Z,137nm,1.1s
PLCA pP **pP** **17 49 06.9 +2.2**
PLCA Paso Flores 83.31 133 *e*P **P** **17 48 36.3 +0.8**
PLCA *°PP **pP** **17 49 06.9 +2.2**
PLCA pmax pmax
comp=Z,137nm,1.1s
KSRS Korea Array 83.36 319 P **P** **17 48 35.9 +0.5**
comp=Z,8.2nm,0.8s,baz=142,slow=5.9,SNR=20
KSRS LR LR 18 19 44.6
comp=Z,230nm,21.6s,baz=127,slow=31
SSE Sheshan 83.37 311 P **P** **17 48 33.1 -2.5**
SSE S **S** **17 58 40.0 -7.3**
SSE pmax pmax
comp=Z,20nm,0.6s
SSE LR LR
comp=Z,230nm,25.7s
SSE LR LR
comp=Z,330nm,25.6s
KS15 Wonju Array Si 83.38 319 *e*P **P** **17 48 36.4 +0.9**
KSAR Wonju Array Be 83.38 319 P **P** **17 48 35.9 +0.4**
KSAR Wonju Array Be 83.38 319 P **P** **17 48 35.9 +0.4**
YSS Yuzh-Sakhalins 83.39 334 *e*P **P** **17 48 35.9 +0.6**
comp=Z,94nm,0.7s
YSS Yuzh-Sakhalins 83.39 334 *ke*P **P** **17 48 35.9 +0.6**
YSS *e**PP **pP** **17 49 06.3 +1.8**
YSS *e**SP **sP** **17 49 19.0 +2.4**
YSS *e* 17 51 50.0
YSS *e*PPP PPP 17 53 50.0
YSS *i* S **S** **17 58 49.0 +2.2**
YSS *e**SS **sS** **17 59 38.0 +0.9**
YSS *ePS **PnS** **17 59 54.0 +0.2**
YSS pmax pmax
comp=Z,100nm,0.8s
YSS pmax pmax
comp=N,30nm,0.7s
YSS smax smax
comp=N,2µm,11.6s
KS01 Wonju Array Si 83.39 319 *e*P **P** **17 48 35.7 +0.1**
SMMC Simmler 83.46 44 P **P** **17 48 36.5 +0.4**
baz=228
FMP Fort Macarthur 83.46 46 P **P** **17 48 36.1 0.0**
baz=229
SAO San Andreas Ge 83.56 42 *e*P **P** **17 48 37.4 +0.9**
comp=N,86nm,1.2s
SAO San Andreas Ge 83.56 42 *e*P **P** **17 48 37.4 +0.9**
SAO pmax pmax
comp=Z,87nm,1.2s
SRIG Santa Rosalia 83.57 54 *e*P **P** **17 48 36.4 -0.4**
SRIG *ep*P **pP** **17 49 05.7 -0.3**
PMPB Monarch Peak 83.57 43 *e*P **P** **17 48 37.8 +1.1**
comp=Z,418nm,1.8s
PAGB Antelope Grade 83.58 43 *e*P **P** **17 48 37.6 +0.9**
comp=Z,390nm,1.7s
MCCM Marconi Confer 83.68 40 *e*P **P** **17 48 37.8 +0.7**
comp=Z,329nm,1.6s

109C	**Camp Elliot, M**	**83.69**	**47**	P		**P**	**17 48 37.3**	**+0.1**
	baz=230								
SISI	**Saibi**	**83.72**	**272**	P		P	17 48 52.5	+15
OSI	**Osito Audit: C**	**83.78**	**45**	P		**P**	**17 48 37.9**	**+0.2**
	baz=229								
OSI	**Osito Audit: C**	**83.78**	**45**	*e*P		**P**	**17 48 38.6**	**+0.9**
OSI				*e*pP		**pP**	**17 49 09.3**	**+2.3**
DECC	**Green Verdugo**	**83.79**	**46**	P		**P**	**17 48 37.4**	**-0.3**
	baz=229								
PASC	**Pasadena Art C**	**83.83**	**46**	*e*P		**P**	**17 48 38.5**	**+0.5**
PASC				*e*pP		**pP**	**17 49 08.6**	**+1.5**
BAR	**Barrett**	**83.84**	**48**	*e*P		**P**	**17 48 38.1**	**0.0**
	comp=Z,168nm,1.8s								
RDG13	**Poverty Ridge**	**83.84**	**41**	*e*P		**P**	**17 48 38.8**	**+0.8**
	comp=Z,644nm,1.8s								
PET	**Petropavlovsk**	**83.93**	**346**	*i*P		**P**	**17 48 36.5**	**-1.4**
PET				*e**PP		**pP**	**17 49 06.6**	**-0.6**
PET				*e**SP		**sP**	**17 49 19.2**	**-0.1**
PET				*i* S		**S**	**17 58 49.1**	**-2.9**
PET				*e*SPP		SPP	18 00 01.0	
PET				*e*SS		**SS**	**18 04 20.7**	**-2.6**
PET				*e*SSS		SSS	18 07 45.3	
PET				pmax		pmax		
	comp=Z,27nm,0.9s								
PET				pmax		pmax		
	comp=Z,300nm,10.8s								
PET				pmax		pmax		
	comp=Z,300nm,12.9s								
MWC	**Mount Wilson**	**83.94**	**46**	*e*P		**P**	**17 48 38.9**	**+0.1**
	comp=Z,94nm,1.2s								
MWC	**Mount Wilson**	**83.94**	**46**	*e*P		**P**	**17 48 38.9**	**+0.1**
MWC				pmax		pmax		
	comp=Z,94nm,1.2s								
EFI	**East Falkland**	**83.98**	**147**	*e*P		**P**	**17 48 39.0**	**+0.5**
	comp=Z,393nm,1.1s								
EFI				*e*pP		**pP**	**17 49 09.6**	**+1.8**
EFI	**East Falkland**	**83.98**	**147**	*d i*P		**P**	**17 48 39.1**	**+0.5**
EFI				pmax		pmax		
	comp=Z,363nm,1.1s								
ARVC	**Arvin**	**84.05**	**45**	P		**P**	**17 48 39.1**	**0.0**
	baz=229								
MURC	**Murrieta**	**84.09**	**47**	P		**P**	**17 48 39.4**	**+0.1**
	baz=230,SNR=14								
MONP2	**Monument Peak**	**84.14**	**48**	P		**P**	**17 48 40.2**	**+0.4**
	baz=230,SNR=30								
HOPS	**Hopland Field**	**84.16**	**39**	*e*P		**P**	**17 48 40.4**	**+0.9**
	comp=Z,131nm,1.1s								
IKP	**In-Ko-Pah, Jac**	**84.19**	**48**	P		**P**	**17 48 40.2**	**+0.3**
	baz=231,SNR=16								
GDXM	**Geysers**	**84.19**	**40**	*e*P		**P**	**17 48 40.9**	**+1.2**
	comp=Z,359nm,1.9s								
BFSC	**Mount Baldy Ra**	**84.20**	**46**	P		**P**	**17 48 39.8**	**-0.2**
	baz=230,SNR=24								
PEA0B	**Petropavlovsk-**	**84.22**	**345**	*e*P		**P**	**17 48 39.5**	**0.0**
	comp=Z,400nm,1.8s								
PETK	**Petropavlovsk-**	**84.22**	**345**	P		**P**	**17 48 38.9**	**-0.5**
	comp=Z,26nm,0.7s,baz=110,slow=6.7,SNR=76								
PETK				LR		LR	18 21 45.8		
	comp=Z,399nm,20.6s,baz=158,slow=32								
PETK	**Petropavlovsk-**	**84.22**	**345**	*e*P		**P**	**17 48 38.8**	**-0.7**
PETK	**Petropavlovsk-**	**84.22**	**345**	*e*P		**P**	**17 48 38.8**	**-0.7**
MNSI	**Mandailing Nat**	**84.30**	**274**	P		pP	17 49 06.3	-3.8
VES	**Vestal, Richgr**	**84.36**	**44**	P		**P**	**17 48 40.5**	**0.0**
	baz=229,SNR=21								
KCPM	**Cahto Peak**	**84.36**	**39**	*e*P		**P**	**17 48 41.7**	**+1.1**
	comp=Z,530nm,1.9s								
EDW2	**Edwards Air Fo**	**84.41**	**45**	P		**P**	**17 48 41.2**	**+0.3**
	baz=229,SNR=58								
CANA	**Caviahue**	**84.48**	**130**	*e*P		**P**	**17 48 41.6**	**0.0**
PFO	**Pinyon Flats O**	**84.57**	**47**	P		**P**	**17 48 42.1**	**+0.2**
	baz=230,SNR=27								
PFO	**Pinyon Flats O**	**84.57**	**47**	*e*P		**P**	**17 48 42.1**	**+0.2**
	comp=Z,208nm,1.7s								
PFO	**Pinyon Flats O**	**84.57**	**47**	*e*P		**P**	**17 48 42.1**	**+0.2**
PFO				pmax		pmax		
	comp=Z,208nm,1.7s								
XPFO	**Piæon Flat**	**84.57**	**47**	*e*P		**P**	**17 48 42.1**	**+0.2**
	comp=Z,222nm,1.7s								
RCTC	**Rector, Farmer**	**84.57**	**44**	P		**P**	**17 48 41.5**	**-0.1**
	baz=228								
SWSC	**Sam W. Stewart**	**84.57**	**48**	P		**P**	**17 48 42.0**	**+0.3**
	baz=231								
ISA	**Isabella, Lake**	**84.62**	**44**	P		**P**	**17 48 42.5**	**+0.5**
	baz=229,SNR=74								
ISA	**Isabella, Lake**	**84.62**	**44**	*e*P		**P**	**17 48 42.3**	**+0.3**
	comp=Z,134nm,1.1s								
ISA	**Isabella, Lake**	**84.62**	**44**	*e*P		**P**	**17 48 42.3**	**+0.3**
ISA				pmax		pmax		
	comp=Z,134nm,1.1s								
KMRM	**Mail Ridge**	**84.67**	**38**	*e*P		**P**	**17 48 43.4**	**+1.2**
	comp=Z,297nm,1.2s								
BBRC	**Big Bear Solar**	**84.69**	**46**	P		**P**	**17 48 42.8**	**+0.2**
	baz=230								
QIZ	**Qiongzhong**	**84.75**	**295**	P		**P**	**17 48 43.8**	**+0.9**
QIZ				pP		**pP**	**17 49 12.8**	**+0.6**
QIZ				PP		**PP**	**17 52 01.8**	**+0.9**
QIZ				S		**S**	**17 59 03.3**	**+1.6**
QIZ				SS		**SS**	**18 04 39.1**	**+2.5**
QIZ				pmax		pmax		
	comp=Z,10.0nm,0.9s								
QIZ				LR		LR			
	comp=Z,280nm,33.3s								
QIZ				LR		LR			
	comp=Z,360nm,39.7s								
IPM	**Ipoh**	**84.80**	**278**	*e*P		**P**	**17 48 42.9**	**-0.5**
	comp=Z,38nm,0.7s								
SDPT	**Sand Point**	**84.85**	**10**	*e*P		**P**	**17 48 42.2**	**-0.3**
SDPT				*e*pP		**pP**	**17 49 09.6**	**-2.2**
JCC	**Jacoby Creek,**	**84.92**	**38**	*e*P		**P**	**17 48 44.2**	**+1.0**
JCC				*e*pP		**pP**	**17 49 15.2**	**+2.7**
LRMC	**Laurel Mtn Rad**	**84.99**	**45**	P		**P**	**17 48 44.1**	**+0.2**
	baz=230,SNR=22								
RRX	**Edison Barstow**	**85.03**	**46**	P		**P**	**17 48 44.3**	**+0.3**
	baz=230								
CMB	**Columbia Colle**	**85.04**	**42**	*e*P		**P**	**17 48 44.0**	**0.0**
	comp=Z,87nm,1.0s								
CMB	**Columbia Colle**	**85.04**	**42**	*e*P		**P**	**17 48 44.0**	**0.0**
CMB				pmax		pmax		
	comp=Z,87nm,1.0s								
BELC	**Belle Mtn. Jos**	**85.11**	**47**	P		**P**	**17 48 45.2**	**+0.6**
	baz=231,SNR=54								
KHMM	**Horse Mountain**	**85.12**	**38**	*e*P		**P**	**17 48 45.6**	**+1.2**
	comp=Z,148nm,1.3s								
MSHR	**Mys Shultsa**	**85.23**	**325**	*i* P		**P**	**17 48 45.5**	**+0.8**
BC3	**Big Chuckawall**	**85.25**	**48**	P		**P**	**17 48 45.8**	**+0.6**
	baz=231,SNR=25								
GLA	**Glamis**	**85.28**	**48**	P		**P**	**17 48 46.1**	**+0.9**
	baz=231,SNR=8.1								
GLA	**Glamis**	**85.28**	**48**	*e*P		**P**	**17 48 46.2**	**+0.9**
GLA				*e*pP		**pP**	**17 49 15.2**	**+0.6**
GLA	**Glamis**	**85.28**	**48**	*e*P		**P**	**17 48 46.2**	**+0.9**
GLA				*e**PP		**pP**	**17 49 15.2**	**+0.6**
AFDM	**Forest Hills D**	**85.32**	**41**	*e*P		**P**	**17 48 45.4**	**0.0**
	comp=Z,112nm,1.3s								
CWC	**Cottonwood Cre**	**85.37**	**44**	P		**P**	**17 48 45.9**	**0.0**
	baz=229								
GO05	**HualaæØ**	**85.40**	**127**	*e*P		**P**	**17 48 46.0**	**-0.1**
	comp=Z,208nm,1.4s								
HEC	**Hector,Ludlow**	**85.42**	**46**	P		**P**	**17 48 46.3**	**+0.3**
	baz=230,SNR=69								
GSC	**Goldstone, Bar**	**85.42**	**46**	P		**P**	**17 48 46.3**	**+0.2**
	baz=230,SNR=44								
GSC	**Goldstone, Bar**	**85.42**	**46**	*e*P		**P**	**17 48 46.1**	**+0.1**
	comp=Z,89nm,0.9s								
GSC	**Goldstone, Bar**	**85.42**	**46**	*e*P		**P**	**17 48 46.1**	**+0.1**
GSC				pmax		pmax		
	comp=Z,89nm,0.9s								
ORV	**Oroville**	**85.43**	**40**	*e*P		**P**	**17 48 45.8**	**0.0**
	comp=Z,108nm,1.1s								
ORV	**Oroville**	**85.43**	**40**	*e*P		**P**	**17 48 45.8**	**0.0**
ORV				pmax		pmax		
	comp=Z,108nm,1.1s								
MPMC	**Manual Prospec**	**85.48**	**45**	P		**P**	**17 48 46.9**	**+0.4**
	baz=230,SNR=89								
HSIG		**85.49**	**54**	*e*P		**P**	**17 48 46.4**	**0.0**
HSIG				*e*pP		**pP**	**17 49 15.5**	**-0.3**
NJ2	**Nanjing**	**85.52**	**310**	*e*P		**P**	**17 48 46.8**	**+0.4**
NJ2				pP		**pP**	**17 49 14.4**	**-1.4**
NJ2				sP		**sP**	**17 49 27.8**	**-0.1**
NJ2				S		**S**	**17 59 03.4**	**-5.3**
NJ2				SS		**SS**	**18 04 52.4**	**+4.9**
NJ2				pmax		pmax		
	comp=Z,18nm,0.6s								
NJ2				pmax		pmax			
	comp=Z,68nm,3.5s								
NJ2				LR		LR			
	comp=Z,590nm,21.1s								
NJ2				LR		LR			
	comp=Z,670nm,19.5s								
NJ2				LR		LR			
	comp=Z,1µm,22.3s								
MDPB	**Devils Postpil**	**85.55**	**43**	*e*P		**P**	**17 48 47.1**	**+0.3**
	comp=Z,61nm,1.0s								
WDC	**Whiskeytown Da**	**85.56**	**39**	*e*P		**P**	**17 48 46.7**	**+0.3**
	comp=Z,194nm,1.1s								
WDC	**Whiskeytown Da**	**85.56**	**39**	*e*P		**P**	**17 48 46.7**	**+0.3**
WDC				pmax		pmax			
	comp=Z,194nm,1.1s								
DAC	**Darwin (Calif)**	**85.56**	**44**	*e*P		**P**	**17 48 46.9**	**+0.1**
	comp=Z,53nm,1.1s								
DAC	**Darwin (Calif)**	**85.56**	**44**	*e*P		**P**	**17 48 46.9**	**+0.1**
DAC				pmax		pmax			
	comp=Z,53nm,1.1s								
TIN	**Tinemaha, Big**	**85.68**	**44**	P		**P**	**17 48 47.3**	**0.0**
	baz=229								
N02D	**Trinity Center**	**85.74**	**38**	P		**P**	**17 48 48.1**	**+0.7**
	baz=226,SNR=27								
IRM	**Iron Mountain**	**85.76**	**47**	P		**P**	**17 48 48.4**	**+0.8**
	baz=231,SNR=44								
O03D	**Paynes Creek**	**85.77**	**39**	P		**P**	**17 48 47.4**	**-0.2**
	baz=227,SNR=13								
113A	**Mohawk Valley,**	**85.80**	**49**	*e*P		**P**	**17 48 48.3**	**+0.5**
	comp=Z,59nm,1.1s								
GMRC	**Granite Mounta**	**85.82**	**47**	P		**P**	**17 48 48.5**	**+0.4**
	baz=231,SNR=46								
PSI	**Prapat**	**85.83**	**275**	*e*P		**P**	**17 48 47.3**	**-1.3**
	comp=Z,89nm,1.2s								
PSI	**Prapat**	**85.83**	**275**	*e*P		**P**	**17 48 47.3**	**-1.3**
PSI				pmax		pmax			
	comp=Z,89nm,1.2s								
RUBR	**Rubicon Trail**	**85.86**	**41**	*e*P		**P**	**17 48 48.9**	**+0.6**
	comp=Z,564nm,1.9s								
Y12C	**Blythe**	**85.91**	**48**	P		**P**	**17 48 49.1**	**+0.7**
	baz=232,SNR=8.9								
Y12C	**Blythe**	**85.91**	**48**	*e*P		**P**	**17 48 49.0**	**+0.7**
Y12C				*e*pP		**pP**	**17 49 18.3**	**+0.6**
WAKR	**Walker**	**85.91**	**42**	*e*P		**P**	**17 48 48.9**	**+0.4**
	comp=Z,186nm,1.3s								
214A	**Organ Pipe Nat**	**85.95**	**50**	P		**P**	**17 48 49.2**	**+0.6**
	baz=233,SNR=12								
M02C	**Callahan**	**85.95**	**38**	P		**P**	**17 48 49.3**	**+0.8**
	baz=226,SNR=34								
USRK	**Usuriysk Ar.**	**85.99**	**326**	P		**P**	**17 48 49.3**	**+0.8**
	comp=Z,23nm,0.7s,baz=136,slow=3.3,SNR=30								
USRK				LR		LR	18 22 43.3		
	comp=Z,378nm,20.3s,baz=131,slow=32								
TUQ	**Turquoise Moun**	**86.06**	**46**	P		**P**	**17 48 49.6**	**+0.3**
	baz=231,SNR=7.3								
L02D	**Cave Junction,**	**86.09**	**37**	P		**P**	**17 48 49.8**	**+0.8**
	baz=225,SNR=6.9								
CHGN	**Chignik**	**86.09**	**10**	*e*pP		pP	17 49 17.4	-0.6
FURC	**Furnace Creek,**	**86.13**	**45**	P		**P**	**17 48 49.5**	**+0.2**
	baz=230,SNR=21								
SHOC	**Shoshone, Teco**	**86.14**	**45**	P		**P**	**17 48 49.7**	**+0.2**
	baz=230,SNR=22								
GRAC	**Grapevine Rang**	**86.16**	**44**	P		**P**	**17 48 50.1**	**+0.5**
	baz=230,SNR=17								
KEBM	**Edson Butte**	**86.21**	**36**	*e*P		**P**	**17 48 50.9**	**+1.2**
	comp=Z,267nm,1.3s								
YBH	**Yreka Blue Hor**	**86.27**	**38**	P		**P**	**17 48 50.4**	**+0.3**
	comp=Z,21nm,0.9s,baz=159,slow=3.2,SNR=25								
YBH				LR		LR	18 20 42.9		
	comp=Z,261nm,21.3s,baz=228,slow=31								
YBH	**Yreka Blue Hor**	**86.27**	**38**	*e*P		**P**	**17 48 50.3**	**+0.3**
	comp=Z,305nm,1.9s								
YBH	**Yreka Blue Hor**	**86.27**	**38**	*e*P		**P**	**17 48 50.3**	**+0.3**
YBH				pmax		pmax			
	comp=Z,305nm,1.9s								
BEKR	**Beckworth**	**86.29**	**40**	*e*P		**P**	**17 48 50.2**	**-0.1**
	comp=Z,158nm,1.4s								
GSI	**Gunungsitoli**	**86.30**	**273**	P		**P**	**17 48 51.8**	**+1.0**
	comp=Z,138nm,1.1s,comp=Z,2µm								
GSI	**Gunungsitoli**	**86.30**	**273**	*e*P		**P**	**17 48 51.2**	**+0.4**
	comp=Z,161nm,1.0s								
VCNR	**Virginia City**	**86.31**	**41**	*e*P		**P**	**17 48 48.4**	**-2.1**
	comp=Z,137nm,1.5s								
YERR	**Yerington**	**86.34**	**42**	*e*P		**P**	**17 48 50.6**	**0.0**
	comp=Z,124nm,1.4s								
LDFC	**Landfair**	**86.36**	**47**	*e*P		**P**	**17 48 51.9**	**+1.2**
	comp=Z,238nm,1.1s								
UBPT	**Khong Chiam**	**86.36**	**289**	P		**P**	**17 48 53.3**	**+2.3**
	comp=Z,32nm,1.0s,comp=Z,874nm								
SKLT	**Songkhla**	**86.46**	**280**	P		P	17 49 03.6	+12
NEE2	**Needles Airpor**	**86.48**	**47**	P		**P**	**17 48 51.9**	**+0.8**
	baz=232,SNR=11								
PDMCI	**Parker Dam,Lak**	**86.50**	**48**	P		**P**	**17 48 51.9**	**+0.7**
	baz=232,SNR=26								
NV01	**Mina Array Sit**	**86.53**	**42**	*e*P		**P**	**17 48 50.0**	**-1.6**
NVAR	**Mina Array Bea**	**86.53**	**42**	P		**P**	**17 48 51.6**	**0.0**
	comp=Z,45nm,0.9s,baz=221,slow=8.0,SNR=162								
NVAR				pP		**pP**	**17 49 21.3**	**+0.3**
	comp=Z,54nm,0.9s,baz=216,slow=6.1,SNR=8.8								
NVAR				PKPPKP		**P'P'df**	**18 14 56.5**	**+3.1**
	comp=Z,2.6nm,0.9s,baz=90,slow=0.9,SNR=9.8								
NVAR				LR		LR	18 19 53.0		
	comp=Z,996nm,21.4s,baz=100,slow=30								
RYN	**Ryan**	**86.53**	**42**	*e*P		**P**	**17 48 51.6**	**+0.1**
	comp=Z,175nm,1.6s								
NV11	**Mina Array Sit**	**86.62**	**43**	*e*P		**P**	**17 48 51.0**	**-1.0**
	comp=Z,6.2nm,0.9s								
TYV	**Tymovskoe**	**86.65**	**336**	*e*P		**P**	**17 48 51.3**	**-0.2**
TYV				*e*S		**S**	**17 59 17.5**	**-1.3**
TYV				pmax		pmax			
	comp=Z,24nm,1.8s								
TYV				pmax		pmax			
	comp=Z,300nm,9.9s								
TYV				smax		smax			
	comp=E,10.0nm,2.2s								
TYV				smax		smax			
	comp=N,1µm,9.2s								
PAHR	**Pah Rah Range**	**86.74**	**41**	*e*P		**P**	**17 48 52.4**	**-0.1**
	comp=N,85nm,1.2s								
HUMO	**Hull Mountain**	**86.74**	**37**	*e*P		**P**	**17 48 52.9**	**+0.6**
	comp=N,202nm,1.4s								
M04C	**Macdoel**	**86.77**	**38**	P		**P**	**17 48 52.7**	**+0.1**
	baz=226,SNR=8.2								
TPNV	**Topopah Spring**	**86.82**	**45**	P		**P**	**17 48 53.3**	**+0.4**
	baz=230,SNR=64								
TPNV	**Topopah Spring**	**86.82**	**45**	*e*P		**P**	**17 48 53.2**	**+0.2**
	comp=N,137nm,1.0s								
TPNV	**Topopah Spring**	**86.82**	**45**	*e*P		**P**	**17 48 53.2**	**+0.2**
TPNV				pmax		pmax			
	comp=Z,137nm,1.0s								
Y14A	**Wickenburg**	**87.02**	**49**	*e*P		**P**	**17 48 54.5**	**+0.6**
	comp=Z,90nm,1.0s								
W13A	**Hualapai Mount**	**87.16**	**47**	*e*P		**P**	**17 48 55.3**	**+0.6**
	comp=Z,54nm,1.0s								
SHPR	**Sheep Range**	**87.22**	**46**	*e*P		**P**	**17 48 55.5**	**+0.6**
	comp=Z,118nm,1.3s								
PEL	**Peldehue**	**87.27**	**126**	*e*P		**P**	**17 48 55.4**	**+0.1**
	comp=Z,281nm,1.3s								
PEL	**Peldehue**	**87.27**	**126**	*e*P		**P**	**17 48 55.4**	**+0.1**
PEL				pmax		pmax			
	comp=Z,281nm,1.3s								
I03D	**Drain, OR**	**87.30**	**36**	P		**P**	**17 48 54.9**	**0.0**
	baz=225,SNR=9.9								
K04D	**Chiloquin, OR**	**87.39**	**38**	P		**P**	**17 48 55.4**	**-0.2**
	baz=226								
MDJ	**Mudanjiang**	**87.48**	**325**	P		**P**	**17 48 54.3**	**-1.4**
MDJ				pmax		pmax			
	comp=Z,41nm,1.0s								
MDJ				pmax		pmax			
	comp=Z,250nm,3.0s								
MDJ	**Mudanjiang**	**87.48**	**325**	*e*P		**P**	**17 48 56.4**	**+0.6**
	comp=Z,49nm,1.1s								
TUC	**Tucson**	**87.54**	**51**	P		**P**	**17 48 57.2**	**+0.7**
	baz=234								
TUC	**Tucson**	**87.54**	**51**	*e*P		**P**	**17 48 57.5**	**+1.1**
	comp=Z,93nm,1.0s								
TUC	**Tucson**	**87.54**	**51**	*e*P		**P**	**17 48 57.5**	**+1.1**
TUC				pmax		pmax			
	comp=Z,93nm,1.0s								
TPTI		**87.58**	**275**	P		**P**	**17 48 56.6**	**-0.3**
TRTT	**Trang**	**87.58**	**280**	P		**P**	**17 48 57.2**	**+0.2**
	comp=Z,19nm,1.4s,comp=Z,383nm								
J04D	**Umpqua Nationa**	**87.63**	**37**	P		**P**	**17 48 57.0**	**+0.3**
	baz=226,SNR=12								
MOD	**Modoc Plateau**	**87.69**	**39**	*e*P		**P**	**17 48 56.7**	**-0.3**
	comp=Z,64nm,1.0s								
WHN	**Wuhan**	**87.73**	**307**	P		**P**	**17 48 57.6**	**+0.4**
WHN				LR		LR			
	comp=Z,570nm,11.7s								
WHN				LR		LR			
	comp=Z,2µm,19.9s								
WHN				LR		LR			
	comp=Z,3µm,22.4s								
I04A	**Tendick Farm,**	**87.86**	**36**	P		**P**	**17 48 57.4**	**-0.2**
	baz=226,SNR=14								
OHAK	**Old Harbor**	**87.87**	**13**	*e*pP		pP	17 49 24.6	-2.2
K05A	**Summer Lake**	**87.93**	**38**	*e*P		**P**	**17 48 58.5**	**+0.3**
	comp=Z,189nm,1.2s								
COR	**Corvallis**	**87.95**	**35**	*e*P		**P**	**17 49 00.8**	**+2.9**
COR				*e*pP		**pP**	**17 49 30.5**	**+3.1**
COR	**Corvallis**	**87.95**	**35**	*e*P		**P**	**17 49 00.8**	**+2.9**
COR				*e**PP		**pP**	**17 49 30.5**	**+3.1**
DL2	**Dalian**	**88.03**	**317**	P		P	17 49 05.3	+6.9
319A	**Douglas**	**88.04**	**53**	*e*P		**P**	**17 48 59.7**	**+0.9**
	comp=Z,94nm,0.8s								
R11A	**Troy Canyon, C**	**88.11**	**44**	P		**P**	**17 48 58.9**	**-0.3**
	baz=231,SNR=23								
R11A	**Troy Canyon, C**	**88.11**	**44**	*e*P		**P**	**17 48 58.8**	**-0.3**
	comp=Z,40nm,1.3s								
J05D	**Fort Rock, OR**	**88.12**	**37**	P		**P**	**17 48 59.3**	**+0.2**
	baz=227,SNR=29								
HPIG		**88.15**	**58**	*e*P		**P**	**17 48 59.0**	**-0.6**
HPIG				*e*pP		**pP**	**17 49 31.0**	**+1.9**
ZAIG	**Zacatecas**	**88.29**	**63**	*e*P		**P**	**17 49 00.5**	**0.0**
X16A	**Lo Mia Camp, P**	**88.34**	**49**	*e*P		**P**	**17 49 01.4**	**+1.1**
	comp=Z,125nm,1.0s								
G03D	**McMinnville, O**	**88.41**	**35**	P		**P**	**17 49 00.4**	**+0.3**
	baz=225								
SKNT	**Sakolnakorn**	**88.45**	**290**	P		**P**	**17 49 01.3**	**+0.3**
	comp=Z,25nm,1.1s								
BMN	**Battle Mountai**	**88.47**	**41**	*e*P		**P**	**17 49 00.6**	**-0.1**
	comp=Z,79nm,1.2s								
BMN	**Battle Mountai**	**88.47**	**41**	*e*P		**P**	**17 49 00.6**	**-0.1**
BMN				pmax		pmax			
	comp=Z,79nm,1.2s								
KDAK	**Kodiak Island**	**88.53**	**13**	P		**P**	**17 49 01.9**	**+1.6**
	comp=Z,21nm,1.1s,baz=259,slow=5.2,SNR=3.7								
KDAK				pP		**pP**	**17 49 29.0**	**-0.9**
	comp=Z,30nm,0.9s,baz=92,slow=4.9,SNR=5.7								
KDAK	**Kodiak Island**	**88.53**	**13**	P		**P**	**17 49 01.9**	**+1.6**
KDAK				*e*pP		**pP**	**17 49 30.2**	**+0.4**
KDAK	**Kodiak Island**	**88.53**	**13**	P		**P**	**17 49 01.9**	**+1.6**
KDAK				*e**PP		**pP**	**17 49 30.2**	**+0.4**
H04A	**Detroit Lake**	**88.59**	**36**	*e*P		**P**	**17 49 00.8**	**-0.2**
	comp=Z,408nm,1.8s								
PINE	**Pine Mountain**	**88.63**	**37**	*e*P		**P**	**17 49 01.9**	**+0.5**
	comp=Z,280nm,1.4s								
AUSP	**Uspallata**	**88.68**	**126**	*e*P		**P**	**17 49 02.7**	**+0.4**
LCMT	**Little Creek M**	**88.74**	**46**	*e*P		**P**	**17 49 02.7**	**+0.6**
	comp=Z,60nm,1.1s								
F03A	**Seaside**	**88.77**	**34**	*e*P		**P**	**17 49 02.3**	**+0.5**
	comp=Z,325nm,1.5s								
I05D	**Terrebonne, OR**	**88.79**	**37**	P		**P**	**17 49 02.2**	**+0.2**
	baz=227,SNR=9.0								
TLIG	**Tlapa**	**88.83**	**69**	*e*P		**P**	**17 49 04.2**	**+1.3**
GRNR	**Gornyy**	**88.95**	**333**	*e*P		**P**	**17 49 02.5**	**0.0**
GRNR				pmax		pmax			
	comp=N,42nm,1.0s								
GRNR				pmax		pmax			
	comp=E,42nm,1.0s								
GRNR				pmax		pmax			
	comp=Z,52nm,1.0s								
WVOR	**Wild Horse Val**	**88.97**	**39**	*e*P		**P**	**17 49 02.9**	**-0.1**
	comp=Z,136nm,1.4s								
WVOR	**Wild Horse Val**	**88.97**	**39**	*e*P		**P**	**17 49 02.9**	**-0.1**
WVOR				pmax		pmax			
	comp=Z,136nm,1.4s								
RTLS	**Leoncito**	**88.98**	**126**	*e*P		**P**	**17 49 03.9**	**+0.2**
U15A	**North Rim**	**88.99**	**47**	*e*P		**P**	**17 49 04.2**	**+0.8**
	comp=Z,120nm,0.9s								
CCUT	**Cedar City**	**88.99**	**46**	*e*P		**P**	**17 49 04.2**	**+0.8**
	comp=Z,78nm,1.2s								
KNB	**Kanab**	**89.01**	**46**	*e*P		**P**	**17 49 04.2**	**+0.8**
	comp=Z,117nm,1.1s								
KNB	**Kanab**	**89.01**	**46**	*e*P		**P**	**17 49 04.2**	**+0.8**
KNB				pmax		pmax			
	comp=Z,117nm,1.1s								
WUAZ	**Wupatki**	**89.04**	**48**	P		**P**	**17 49 04.2**	**+0.6**
	baz=233								
WUAZ	**Wupatki**	**89.04**	**48**	*e*P		**P**	**17 49 04.4**	**+0.8**
	comp=Z,98nm,1.0s								
CN2	**Changchun**	**89.06**	**322**	*e*P		**P**	**17 49 03.3**	**+0.1**
CN2				*e*sP		sP	17 49 44.3	-0.5
CN2				*e*S		**S**	**17 59 40.9**	**-1.2**
CN2				pmax		pmax			
	comp=Z,40nm,1.1s								
CN2				pmax		pmax			
	comp=Z,200nm,5.0s							

LON	**Longmire**	90.20	35	*e*P		**P**		17 49 08.3	-0.3		
LON	comp=Z,61nm,1.1s			pmax		pmax					
EPT	**El Paso**	90.21	54	*e*P		**P**		17 49 09.8	+0.8		
EPT				*e*pP		**pP**		17 49 40.8	+2.2		
TRQA	**Tornquist**	90.28	134	*e*P		**P**		17 49 09.8	+0.4		
	comp=Z,108nm,1.2s										
DIB	**Dawson Inlet,**	90.32	25	*e*P		**P**		17 49 09.7	+0.9		
	comp=Z,105nm,1.0s										
MSU	**Marysvale**	90.32	45	*e*P		**P**		17 49 10.4	+0.9		
MSU	**Marysvale**	90.32	45	*e*P		**P**		17 49 10.4	+0.9		
D05A	**Enumclaw**	90.42	34	*e*P		**P**		17 49 10.3	+0.8		
	comp=Z,591nm,1.2s										
HOM	**Homer**	90.46	13	*e*pP		pP		17 49 36.6	-2.3		
F07A	**Phinny Hill Vi**	90.58	36	*e*P		**P**		17 49 10.7	+0.4		
F07A				*e*pP		**pP**		17 49 41.5	+1.6		
G08A	**Pilot Rock**	90.68	37	*e*P		**P**		17 49 10.9	0.0		
	comp=Z,225nm,1.1s										
BRLK	**Bradley Lake**	90.71	13	*e*P		**P**		17 49 10.5	0.0		
	comp=Z,184nm,1.1s										
PGC	**Sidney**	90.73	32	*e*P		**P**		17 49 11.5	+0.7		
	comp=Z,172nm,1.0s										
PBKT	**Sadao Pong**	90.75	288	P		**P**		17 49 14.5	+2.8		
	comp=Z,24nm,1.0s,comp=Z,856nm										
HOPE	**Hope Point**	90.81	158	*e*P		**P**		17 49 12.6	+1.3		
	comp=Z,306nm,1.4s										
HOPE				*e*pP		**pP**		17 49 42.9	+2.0		
AGUA	**GUANDACOL**	90.83	124	*e*P		**P**		17 49 12.1	-0.1		
TX31	**Lajitas Ar. Si**	90.93	57	*e*P		**P**		17 49 11.5	-1.0		
TXAR	**Lajitas Array**	90.93	57	P		**P**		17 49 12.4	0.0		
	comp=Z,19nm,1.1s,baz=215,slow=6.1,SNR=100										
TXAR				pP		**pP**		17 49 42.2	+0.2		
	comp=Z,17nm,1.0s,baz=205,slow=5.6,SNR=7.6										
TXAR				PKKP		**PKKPbc**		18 06 38.2	+1.4		
	comp=Z,1.0nm,0.9s,baz=90,slow=2.8,SNR=5.6										
TXAR				LR		LR		18 21 27.4			
	comp=Z,578nm,21.2s,baz=0.0,slow=30										
DUG	**Dugway, Tooele**	90.94	44	P		**P**		17 49 12.2	-0.1		
	baz=232										
DUG	**Dugway, Tooele**	90.94	44	*e*P		**P**		17 49 12.1	-0.2		
	comp=Z,92nm,1.8s										
DUG	**Dugway, Tooele**	90.94	44	*e*P		**P**		17 49 12.1	-0.2		
DUG				pmax		pmax					
	comp=Z,92nm,1.8s										
MNTX	**Cornudas Mount**	90.97	54	P		**P**		17 49 12.5	+0.1		
	baz=237,SNR=36										
MNTX	**Cornudas Mount**	90.97	54	*e*P		**P**		17 49 12.5	+0.1		
	comp=Z,49nm,0.9s										
E07A	**Sunnyside**	91.06	36	*e*P		**P**		17 49 13.3	+0.8		
E07A				*e*pP		**pP**		17 49 42.9	+0.8		
ENH	**Enshi**	91.07	304	*e*P		**P**		17 49 13.4	+0.5		
	comp=Z,589nm,1.8s										
B05A	**Bryant**	91.11	33	P		**P**		17 49 13.0	+0.3		
	baz=226,SNR=15										
HAWA	**Hanford**	91.12	36	*e*P		**P**		17 49 13.0	+0.3		
	comp=Z,293nm,1.4s										
SVW2	**Sparrevohn**	91.12	10	*e*pP		pP		17 49 40.3	-1.7		
LTY	**Liberty**	91.12	35	*e*P		**P**		17 49 12.7	-0.2		
	comp=Z,113nm,1.1s										
A04D	**Lummi Island**	91.14	33	P		**P**		17 49 13.1	+0.4		
	baz=226,SNR=23										
GYA	**Guiyang**	91.16	300	P		P		17 49 24.8	+11		
GYA				pP		pP		17 49 46.3	+3.1		
GYA				sP		sP		17 49 58.0	+2.8		
GYA				PP		**PP**		17 52 55.4	+3.1		
MFID	**Camas Ranch**	91.18	40	*e*P		**P**		17 49 13.1	-0.2		
	comp=Z,94nm,1.1s										
Y22D	**IRIS PASSCAL I**	91.20	51	P		**P**		17 49 14.4	+0.7		
	baz=236										
Y22E	**IRIS PASSCAL I**	91.20	51	P		**P**		17 49 14.7	+1.0		
	baz=236										
SRDT	**SRDT**	91.22	286	P		**P**		17 49 17.0	+3.1		
	comp=Z,28nm,1.0s,comp=Z,2µm										
LAZ	**Ladron**	91.24	51	*e*P		**P**		17 49 14.5	+0.6		
BBB	**Bella Bella**	91.25	28	P		**P**		17 49 13.6	+0.5		
	comp=Z,38nm,0.9s,baz=252,slow=5.3,SNR=13										
BBB				pP		**pP**		17 49 42.2	-0.5		
	comp=Z,96nm,0.9s,baz=228,slow=4.3,SNR=9.0										
BBB				LR		LR		18 23 09.9			
	comp=Z,286nm,20.9s,baz=246,slow=31										
BBB	**Bella Bella**	91.25	28	*e*P		**P**		17 49 14.1	+1.0		
BBB				*e*pP		**pP**		17 49 42.9	+0.2		
NLU	**North Lily Min**	91.25	44	*e*P		**P**		17 49 14.2	+0.3		
	comp=Z,63nm,1.4s										
BGU	**Big Grassy Mou**	91.26	43	*e*P		**P**		17 49 13.9	+0.2		
	comp=Z,197nm,1.9s										
BMO	**Blue Mountains**	91.28	38	*e*P		**P**		17 49 13.2	-0.5		
	comp=Z,82nm,1.1s										
BMO	**Blue Mountains**	91.28	38	*e*P		**P**		17 49 13.2	-0.5		
BMO				pmax		pmax					
	comp=Z,82nm,1.1s										
MID	**Middleton Isla**	91.38	15	*e*pP		pP		17 49 42.4	-0.8		
TMUT	**Trail Mountain**	91.39	45	*e*P		**P**		17 49 15.1	+0.5		
	comp=Z,100nm,1.0s										
E08A	**Dider Farm, El**	91.43	36	*e*P		**P**		17 49 14.7	+0.5		
E08A				*e*pP		**pP**		17 49 45.3	+1.5		
BNM	**Barren Site**	91.45	52	*e*P		**P**		17 49 15.1	+0.2		
VCA	**Vinchina**	91.45	124	*e*P		**P**		17 49 14.9	-0.2		
C06D	**Leavenworth**	91.46	34	P		**P**		17 49 13.9	-0.4		
	baz=227										
PHIT	**Phitsanulok**	91.52	289	P		**P**		17 49 19.2	+4.0		
	comp=Z,23nm,0.8s,comp=Z,247nm										
PHIT				P		PcP		17 49 28.1	+12		
	comp=Z,23nm,0.8s,comp=Z,247nm										
LPM	**Los Pinos Moun**	91.53	51	*e*P		**P**		17 49 15.5	+0.3		
LPM				*e*pP		**pP**		17 49 43.7	-1.1		
MPU	**Maple Canyon**	91.56	44	*e*P		**P**		17 49 15.9	+0.7		
MPU				*e*pP		**pP**		17 49 45.7	+0.9		
B06A	**Marblemount**	91.58	33	*e*P		**P**		17 49 15.1	+0.3		
B06A				*e*pP		**pP**		17 49 44.5	+0.1		
CMIG	**Matias Romero**	91.64	72	P		**P**		17 49 16.1	+0.2		
	comp=Z,18nm,1.1s,baz=299,slow=4.8,SNR=6.4										
CMIG				LR		LR		18 21 08.8			
	comp=Z,489nm,21.5s,baz=256,slow=29										
SRU	**San Rafael Swe**	91.71	46	*e*P		**P**		17 49 16.0	+0.1		
	comp=Z,100nm,1.3s										
SRU	**San Rafael Swe**	91.71	46	*e*P		**P**		17 49 16.0	+0.1		
SRU				pmax		pmax					
	comp=Z,100nm,1.3s										
MA2	**Magadan**	91.72	344	P		**P**		17 49 14.6	-0.6		
	comp=Z,4.2nm,0.6s,baz=153,slow=11,SNR=3.1										
MA2	**Magadan**	91.72	344	P		**P**		17 49 14.6	-0.6		
MA2				*e*pP		**pP**		17 49 45.0	+0.2		
MA2	**Magadan**	91.72	344	P		**P**		17 49 14.6	-0.6		
MA2				*e**PP		**pP**		17 49 45.0	+0.2		
APLL	**PUNTA DE LOS L**	91.73	126	*e*P		**P**		17 49 16.1	-0.2		
P17A	**Butcher Ranch,**	91.79	45	*e*P		**P**		17 49 16.9	+0.7		
P17A				*e*pP		**pP**		17 49 44.6	-1.3		
LNIG	**Linares**	91.81	63	*e*P		**P**		17 49 15.5	-1.0		
	comp=Z,69nm,1.3s										
SPUT	**South Promonto**	91.84	43	*e*P		**P**		17 49 16.9	+0.5		
	comp=Z,138nm,1.1s										
CRAG	**Craig**	91.87	23	*e*P		**P**		17 49 16.8	+0.9		
CRAG				*e*pP		**pP**		17 49 45.5	0.0		
D08A	**Wollman Farm,**	91.87	36	*e*P		**P**		17 49 16.6	+0.3		
	comp=Z,149nm,1.0s										
CTU	**Camp Tracy**	91.89	44	*e*P		**P**		17 49 17.0	+0.3		
CTU				*e*pP		**pP**		17 49 47.1	+0.8		
MVCO	**Mesa Verde**	91.91	48	P		**P**		17 49 16.4	-0.6		
	baz=235										
MVCO	**Mesa Verde**	91.91	48	*e*P		**P**		17 49 17.1	+0.1		
	comp=Z,38nm,1.1s										
HVU	**Hansel Valley**	91.93	43	*e*P		**P**		17 49 16.9	+0.1		
	comp=Z,178nm,1.2s										
HVU	**Hansel Valley**	91.93	43	*e*P		**P**		17 49 16.9	+0.1		
HVU				pmax		pmax					
	comp=Z,177nm,1.2s										
GDL2	**Guadalupe Moun**	91.97	54	*e*P		**P**		17 49 17.3	+0.1		
GDL2				*e*pP		**pP**		17 49 48.0	+1.2		
ANMO	**Albuquerque**	92.01	51	P		**P**		17 49 17.5	+0.1		
	baz=236										
ANMO	**Albuquerque**	92.01	51	*e*P		**P**		17 49 17.5	+0.1		
	comp=Z,69nm,1.3s										
ANMO	**Albuquerque**	92.01	51	*d i*P		**P**		17 49 17.5	+0.1		
ANMO				pmax		pmax					
	comp=Z,67nm,1.3s										
JLU	**Jordanelle**	92.02	44	*e*P		**P**		17 49 17.7	+0.3		
	comp=Z,62nm,1.1s										
PV05	**Paradox Valley**	92.02	47	*e*P		**P**		17 49 18.0	+0.6		
PV05				*e*pP		**pP**		17 49 46.1	-0.9		
BJT	**Baijiatuau**	92.04	315	*e*P		**P**		17 49 17.6	+0.4		
	comp=Z,18nm,0.6s										
BJT	**Baijiatuau**	92.04	315	*e*P		**P**		17 49 17.6	+0.4		
BJT				pmax		pmax					
	comp=Z,18nm,0.6s										
F10A	**Beach Ranch, E**	92.05	37	*e*P		**P**		17 49 16.5	-0.7		
	comp=Z,186nm,1.2s										
BJI	**Beijing**	92.05	315	P		**P**		17 49 17.8	+0.6		
BJI				pmax		pmax					
	comp=Z,34nm,1.0s										
BJI				LR		LR					
	comp=Z,1µm,25.1s										
BJI				LR		LR					
	comp=Z,680nm,26.5s										
NANT	**Nan**	92.06	290	P		**P**		17 49 21.7	+3.9		
	comp=Z,4.3nm,1.0s,comp=Z,82nm										
HLID	**Hailey**	92.07	40	P		**P**		17 49 17.6	+0.2		
	baz=232										
HLID	**Hailey**	92.07	40	*e*P		**P**		17 49 17.5	0.0		
	comp=Z,208nm,1.9s										
RC01	**Rabbit Creek A**	92.15	13	*e*P		**P**		17 49 16.9	-0.2		
RC01				*e*pP		**pP**		17 49 42.4	-4.3		
GAMB	**Gambell**	92.17	3	*e*pP		pP		17 49 42.8	-3.9		
P18A	**Preston Nutter**	92.19	45	*e*P		**P**		17 49 18.3	0.0		
	comp=Z,28nm,0.9s										
PV10	**Paradox Valley**	92.23	47	*e*P		**P**		17 49 18.3	-0.1		
PV10				*e*pP		**pP**		17 49 49.2	+1.1		
PV09	**Paradox Valley**	92.24	47	*e*P		**P**		17 49 18.7	+0.1		
SUA	**Susitna One**	92.30	12	*e*P		**P**		17 49 17.5	-0.5		
	comp=Z,103nm,0.9s										
PV04	**Paradox Valley**	92.33	47	*e*P		**P**		17 49 18.6	-0.2		
TCUT	**Toone Canyon**	92.35	44	*e*P		**P**		17 49 19.2	+0.3		
	comp=Z,387nm,1.4s										
PV01	**Paradox Valley**	92.39	47	*e*P		**P**		17 49 18.9	-0.3		
EYAK	**Cordova Ski Ar**	92.52	15	*e*P		**P**		17 49 18.6	-0.2		
EYAK				*e*pP		**pP**		17 49 44.9	-3.5		
B08A	**Colville Reser**	92.53	34	*e*P		**P**		17 49 18.9	-0.4		
B08A				*e*pP		**pP**		17 49 48.1	-0.8		
TCA	**Tanti**	92.55	128	*e*P		**P**		17 49 19.5	-0.5		
HWUT	**Hardware Ranch**	92.55	43	*e*P		**P**		17 49 18.6	-1.2		
	comp=Z,71nm,1.3s										
RAGM	**Ragged Mountai**	92.62	16	*e*P		**P**		17 49 19.6	+0.2		
	comp=Z,94nm,1.1s										
C09A	**Chrisman Ranch**	92.69	35	*e*P		**P**		17 49 20.1	+0.1		
	comp=Z,48nm,0.8s										
PMR	**Palmer**	92.73	13	*e*P		**P**		17 49 19.4	-0.4		
	comp=Z,69nm,1.1s										
PMR	**Palmer**	92.73	13	*e*P		**P**		17 49 19.4	-0.4		
PMR				pmax		pmax					
	comp=Z,69nm,1.1s										
LAMP	**Lampang**	92.81	289	P		**P**		17 49 25.3	+4.1		
	comp=Z,6.3nm,0.9s										
LLLB	**Lillooet**	92.83	32	*e*P		**P**		17 49 20.8	+0.2		
LLLB				*e*pP		**pP**		17 49 50.4	+0.2		
WRAK	**Wrangell Islan**	92.89	23	*e*P		**P**		17 49 20.6	0.0		
	comp=Z,26nm,1.0s										
PAYA	**Payao**	93.02	290	P		P		17 49 35.2	+13		
DIV	**Divide**	93.03	15	*e*P		**P**		17 49 21.2	-0.1		
DIV				*e*pP		**pP**		17 49 47.2	-3.6		
SML	**Sawmill**	93.09	13	*e*P		**P**		17 49 22.1	+0.6		
	comp=Z,76nm,1.4s										
SML	**Sawmill**	93.09	13	*e*P		**P**		17 49 22.1	+0.6		
SML				pmax		pmax					
	comp=Z,76nm,1.4s										
TIY	**Taiyuan**	93.11	312	*e*P		**P**		17 49 25.4	+3.2		
TIY				pP		**pP**		17 49 54.6	+2.8		
TIY				sP		**sP**		17 50 05.1	+1.2		
TIY				SKS		**SKSac**		17 59 47.3	+1.5		
TIY				S		**ScS**		18 00 20.4	-0.5		
TIY				SS		**SS**		18 06 36.9	-0.6		
TIY				pmax		pmax					
	comp=Z,250nm,4.5s										
TIY				LR		LR					
	comp=Z,480nm,19.5s										
TIY				LR		LR					
	comp=Z,260nm,20.9s										
BMRM	**Bremner River**	93.15	15	*e*P		**P**		17 49 21.8	0.0		
	comp=Z,114nm,1.0s										
KLU	**Klutina**	93.32	15	*e*P		**P**		17 49 22.5	-0.1		
	comp=Z,60nm,1.2s										
SCM	**Sheep Creek Mo**	93.32	14	*e*P		**P**		17 49 22.5	-0.1		
	comp=Z,96nm,0.9s										
SCM	**Sheep Creek Mo**	93.32	14	*e*P		**P**		17 49 22.5	-0.1		
SCM				pmax		pmax					
	comp=Z,96nm,0.9s										
CM01	**Chiang Mai Arr**	93.32	289	*e*P		**P**		17 49 24.3	+0.7		
NNA	**Nana**	93.35	105	*i* P		**P**		17 49 25.6	+1.6		
CM31	**Chiang Mai Arr**	93.36	289	*e*P		**P**		17 49 23.1	-0.6		
CMAR	**Chiang Mai Arr**	93.36	289	P		**P**		17 49 23.9	+0.2		
	comp=Z,2.5nm,0.9s,baz=135,slow=3.1,SNR=14										
CMAR				PKKP		**PKKPbc**		18 06 31.1	+1.3		
	comp=Z,2.6nm,0.6s,baz=286,slow=4.4,SNR=13										
CYA	**Choya**	93.36	125	*e*P		**P**		17 49 23.4	-0.3		
PPLA	**Purkeypile**	93.37	11	*e*pP		pP		17 49 50.1	-2.5		
PB04	**IPOC Station P**	93.48	118	*e*P		**P**		17 49 25.3	+0.7		
	comp=Z,109nm,1.2s										
XAN	**Xi'an**	93.49	307	P		**P**		17 49 24.9	+0.8		
XAN				pP		pP		17 49 54.8	+1.1		
XAN				SKS		**SKSac**		17 59 49.9	+1.9		
XAN				S		**ScS**		18 00 27.4	+3.2		
XAN				pmax		pmax					
	comp=Z,24nm,1.6s										
XAN				pmax		pmax					
	comp=Z,490nm,13.9s										
XAN				LR		LR					
	comp=Z,420nm,22.0s										
XAN				LR		LR					
	comp=Z,630nm,22.4s										
XAN				LR		LR					
	comp=Z,940nm,21.6s										
AHID	**Auburn Hatcher**	93.51	42	*e*P		**P**		17 49 24.1	-0.1		
	comp=Z,104nm,1.0s										
CMMT	**Chiang Mai**	93.52	289	P		**P**		17 49 26.9	+2.4		
CHTO	**Chiang Mai**	93.53	289	P		**P**		17 49 28.0	+3.5		
	comp=Z,51nm,1.0s,comp=Z,2µm										
CHTO	**Chiang Mai**	93.53	289	*e*P		**P**		17 49 25.8	+1.3		
	comp=Z,54nm,1.6s										
CHTO	**Chiang Mai**	93.53	289	*e*P		**P**		17 49 25.8	+1.3		
CHTO				pmax		pmax					
	comp=Z,54nm,1.6s										
KMI	**Kunming**	93.53	297	P		**P**		17 49 26.3	+1.6		
KMI				pP		pP		17 49 56.8	+2.5		
KMI				sP		sP		17 50 10.3	+4.0		
KMI				PP		**PP**		17 53 14.8	+3.7		
KMI				SKS		**SKSac**		17 59 52.4	+3.4		
KMI				S		**S**		18 00 24.1	+0.2		
KMI				sS		sS		18 01 16.4	+1.2		
KMI				SS		**SS**		18 06 43.1	-1.1		
KMI				pmax		pmax					
	comp=Z,14nm,1.3s										
KMI				pmax		pmax					
	comp=Z,300nm,4.9s										
KMI				LR		LR					
	comp=Z,360nm,18.7s										
KMI				LR		LR					
	comp=Z,350nm,21.1s										
NEW	**Newport**	93.58	36	LR		LR		18 28 53.6			
	comp=Z,177nm,18.1s,baz=211,slow=34										
NEW	**Newport**	93.58	36	P		**P**		17 49 23.4	-0.7		
	baz=230										
NEW	**Newport**	93.58	36	*e*P		**P**		17 49 23.9	-0.3		
	comp=Z,18nm,1.1s										
NEW	**Newport**	93.58	36	*e*P		**P**		17 49 23.9	-0.3		
NEW				pmax		pmax					
	comp=Z,18nm,1.1s										
833A	**Chaparral WMA,**	93.61	60	P		**P**		17 49 23.9	-0.8		
	baz=239										
MCMT	**McKenzie Canyo**	93.73	40	*e*P		**P**		17 49 24.9	-0.3		
O20A	**White River Ci**	93.74	46	P		**P**		17 49 24.6	-0.7		
	baz=235,SNR=5.7										
O20A	**White River Ci**	93.74	46	*e*P		**P**		17 49 25.3	0.0		
O20A				*e*pP		**pP**		17 49 56.3	+1.4		
BALM	**Baldy**	93.75	16	*e*P		**P**		17 49 24.3	-0.4		
	comp=Z,54nm,0.8s										
BALM	**Baldy**	93.75	16	*e*P		**P**		17 49 24.3	-0.4		
BALM				pmax		pmax					
	comp=Z,54nm,0.8s										
BESE	**Bessie Mountai**	93.78	21	*e*P		**P**		17 49 25.3	+0.5		
BESE				*e*pP		**pP**		17 49 53.9	-0.5		
CAST	**Castle Rocks**	93.88	11	*e*P		**P**		17 49 22.9	-2.2		
	comp=Z,56nm,1.0s										
CMAI	**Chiengmai2**	93.98	290	P		P		17 49 41.1	+14		
REDW	**Red Top Meadow**	94.01	42	*e*P		**P**		17 49 26.5	0.0		
	comp=Z,112nm,1.1s										
SMCO	**Snowmass**	94.01	47	*e*P		**P**		17 49 26.7	-0.2		
	comp=Z,56nm,1.0s										
TPAW	**Teton Pass**	94.03	42	*e*P		**P**		17 49 26.8	+0.2		
	comp=Z,247nm,1.9s										
MSTX	**Muleshoe**	94.04	53	P		**P**		17 49 26.2	-0.5		
	baz=238										
MSTX	**Muleshoe**	94.04	53	*e*P		**P**		17 49 26.4	-0.3		
	comp=Z,67nm,0.8s										
FXWY	**Fox Creek**	94.07	42	*e*P		**P**		17 49 26.6	-0.1		
	comp=Z,36nm,0.9s										
SNOW	**Snow King Moun**	94.13	42	*e*P		**P**		17 49 27.3	+0.2		
	comp=Z,92nm,0.9s										
SDCO	**Great Sand Dun**	94.19	49	P		**P**		17 49 27.1	-0.4		
	baz=237,SNR=16										
SDCO	**Great Sand Dun**	94.19	49	*e*P		**P**		17 49 27.6	0.0		
	comp=Z,25nm,1.1s										
KTH	**Kantishna Hill**	94.20	12	*e*P		**P**		17 49 25.1	-1.5		
	comp=Z,34nm,0.8s										
DLMT	**Dillon**	94.20	40	*e*P		**P**		17 49 27.6	+0.4		
DLMT				*e*pP		**pP**		17 49 57.7	+0.9		
TRF	**Thorofare Moun**	94.22	12	*e*P		**P**		17 49 25.8	-1.0		
	comp=Z,89nm,0.9s										
IMW	**Indian Meadow**	94.28	42	*e*P		**P**		17 49 27.8	0.0		
	comp=Z,88nm,1.3s										
HARP	**HAARP**	94.30	14	*e*pP		pP		17 49 56.9	+0.2		
MOOW	**Moose Ponds**	94.30	42	*e*P		**P**		17 49 27.6	-0.2		
	comp=Z,57nm,1.3s										
LOHW	**Long Hollow**	94.31	42	*e*P		**P**		17 49 27.6	-0.2		
	comp=Z,234nm,1.9s										
SKAG	**Skagway**	94.35	20	*e*P		**P**		17 49 28.3	+1.0		
	comp=Z,89nm,1.3s										
MSO	**Missoula**	94.35	38	P		**P**		17 49 26.5	-1.3		
	baz=232										
MSO	**Missoula**	94.35	38	*e*P		**P**		17 49 27.9	0.0		
	comp=Z,33nm,1.5s										
SEY	**Seymchan**	94.36	347	P		**P**		17 49 26.8	-0.5		
	comp=Z,11nm,0.9s,baz=150,slow=4.5,SNR=20										
SEY	**Seymchan**	94.36	347	*ce*P		**P**		17 49 25.8	-1.5		
APG	**El Apazote**	94.37	75	P		**P**		17 49 28.7	0.0		
	comp=Z,5.3nm,0.3s,baz=269,slow=8.3,SNR=8.3										
APG				LR		LR		18 24 32.1			
	comp=Z,385nm,18.5s,baz=262,slow=31										
JCT	**Junction City**	94.39	58	P		**P**		17 49 27.2	-1.1		
	baz=239										
JCT	**Junction City**	94.39	58	*e*P		**P**		17 49 27.4	-0.9		
JCT				*e*pP		**pP**		17 49 58.9	+1.0		
JCT	**Junction City**	94.39	58	*e*P		**P**		17 49 27.4	-0.9		
JCT				*e**PP		**pP**		17 49 58.9	+1.0		
MHTCO	**State Highway**	94.40	50	*e*P		**P**		17 49 28.6	+0.3		
MHTCO				*e*pP		**pP**		17 49 58.4	+0.4		
ATAH	**Atahualpa**	94.41	101	P		**P**		17 49 30.4	+1.1		
	comp=Z,14nm,0.9s,baz=264,slow=3.6,SNR=12										
DHY	**Denali Highway**	94.43	13	*e*P		**P**		17 49 27.2	-0.6		
	comp=Z,30nm,1.1s										
BW06	**Boulder Array**	94.44	43	P		**P**		17 49 27.7	-0.8		
	baz=235,SNR=12										
BW06	**Boulder Array**	94.44	43	*e*P		**P**		17 49 28.1	-0.4		
	comp=Z,32nm,1.0s										
PD31	**Pinedale Array**	94.44	43	*e*P		**P**		17 49 28.1	-0.4		
PDAR	**Pinedale Array**	94.44	43	P		**P**		17 49 28.0	-0.4		
	comp=Z,14nm,1.0s,baz=219,slow=3.8,SNR=50										
PDAR				PKKP		**PKKPdf**		18 06 27.9	-0.4		
	comp=Z,2.3nm,0.8s,baz=69,slow=4.3,SNR=16										
PDAR			

WRH Wood River Hil 95.55 12 *e*P **P** **17 49 31.9 -0.8**
comp=N,68nm,0.9s
ABTX Abilene, Hawle 95.59 56 P **P** **17 49 32.9 -0.8**
baz=240
ABTX Abilene, Hawle 95.59 56 *e*P **P** **17 49 33.4 -0.3**
ABTX *e*pP **pP** **17 50 07.8 +4.4**
MLY Manley 95.59 11 *e*P **P** **17 49 31.6 -1.3**
comp=N,17nm,1.1s
N23A Red Feather La 95.62 46 P **P** **17 49 33.4 -0.6**
baz=237,SNR=7.4
N23A Red Feather La 95.62 46 *e*P **P** **17 49 34.1 +0.1**
N23A *e*pP **pP** **17 50 04.1 +0.5**
CD2 Chengdu 95.62 302 P **P** **17 49 34.6 +0.7**
CD2 pP pP 17 50 04.9 +1.3
CD2 sP sP 17 50 17.5 +1.9
CD2 SKS **SKSac** **17 59 59.4 -0.2**
CD2 S **ScS** **18 00 41.9 -0.2**
CD2 SS **SS** **18 07 15.3 +1.8**
CD2 pmax pmax
comp=N,30nm,0.5s
CD2 pmax pmax
comp=N,560nm,5.4s
CD2 LR LR
comp=N,730nm,22.8s
CD2 LR LR
comp=N,680nm,21.9s
CD2 LR LR
comp=N,910nm,25.3s
DOT Dot Lake 95.63 14 *e*P **P** **17 49 32.9 -0.3**
comp=N,96nm,0.8s
MNMC Minye Minye 95.64 115 *e*P **P** **17 49 35.6 +1.0**
comp=N,94nm,1.5s
HDA Harding Lake 95.71 13 *e*P **P** **17 49 32.4 -1.0**
comp=N,41nm,0.8s
WALA Waterton Lakes 95.74 36 *e*P **P** **17 49 33.9 -0.2**
WALA *e*pP **pP** **17 50 06.1 +2.4**
CCB Clear Creek Bu 95.77 12 *e*P **P** **17 49 32.7 -1.0**
comp=N,58nm,1.3s
SCRK Sand Creek 95.94 14 *e*P **P** **17 49 34.0 -0.6**
comp=N,41nm,1.0s
COLA College 95.96 12 *e*P **P** **17 49 33.3 -1.2**
comp=N,15nm,1.3s
COLA *e*pP **pP** **17 50 00.3 -3.9**
COLA College 95.96 12 *e*P **P** **17 49 33.3 -1.2**
COLA *e**PP **pP** **17 50 00.3 -3.9**
COLA pmax pmax
comp=Z,15nm,1.3s
RLMT Red Lodge 95.96 41 P **P** **17 49 35.4 0.0**
baz=235,SNR=11
RLMT Red Lodge 95.96 41 *e*P **P** **17 49 35.7 +0.4**
RLMT *e*pP **pP** **17 50 05.8 +0.8**
MDM Murphy Dome 95.97 12 *e*P **P** **17 49 33.5 -1.1**
comp=Z,59nm,1.1s
IM3 Indian Mountai 96.01 9 *e*P **P** **17 49 33.0 -1.8**
ILAR Eielson Array 96.05 13 P **P** **17 49 33.6 -1.4**
comp=Z,3.1nm,0.8s,baz=222,slow=5.9,SNR=26
ILAR pP **pP** **17 50 02.5 -2.2**
comp=Z,15nm,0.9s,baz=226,slow=5.4,SNR=14
ILAR PKKPbc **PKKPbc** **18 06 22.4 -2.3**
comp=Z,0.6nm,0.7s,baz=322,slow=1.8,SNR=5.4
ILAR PKPPKP **P'P'df** **18 14 37.0 +3.4**
comp=Z,0.4nm,0.9s,baz=310,slow=1.6,SNR=4.1
ILAR LR LR 18 26 45.4
comp=Z,122nm,21.5s,baz=223,slow=32
ILB Eielson Array 96.05 13 *e*P **P** **17 49 34.0 -1.0**
GCMT Greycliff 96.12 41 *e*P **P** **17 49 36.1 +0.2**
GCMT *e*pP **pP** **17 50 06.4 +0.8**
PHWY Pilot Hill 96.15 46 *e*pP pP 17 50 07.3 +1.2
435B Jarrell 96.20 58 P **P** **17 49 35.7 -0.8**
baz=240
K22A Casper 96.22 45 P **P** **17 49 35.9 -0.6**
baz=237,SNR=9.1
K22A Casper 96.22 45 *e*P **P** **17 49 36.5 0.0**
K22A *e*pP **pP** **17 50 06.3 +0.1**
KSCO Kaye Shedlock' 96.77 49 P **P** **17 49 38.1 -1.0**
baz=239
WHTX Lake Whitney, 96.88 57 P **P** **17 49 38.6 -1.0**
baz=241
JTS JuntasAbangare 96.93 82 P **P** **17 49 40.5 +0.3**
comp=Z,2.7nm,0.5s,baz=205,slow=4.6,SNR=3.7
JTS LR LR 18 24 43.1
comp=Z,980nm,19.5s,baz=357,slow=30
DAWY Dawson 97.06 16 *e*P **P** **17 49 39.6 0.0**
comp=Z,18nm,0.9s
BILL Bilibino 97.12 354 *d i*P **P** **17 49 38.5 -1.2**
BILL *e**PP **pP** **17 50 06.1 -3.3**
BILL *e* 17 53 43.4
BILL *i*S **SKSac** **18 00 02.8 -2.8**
BILL pmax pmax
comp=Z,4.0nm,1.2s
EGAK Eagle 97.25 15 *e*P **P** **17 49 40.1 -0.2**
comp=Z,39nm,1.3s
WMOK Wichita Mounta 97.27 54 P **P** **17 49 40.4 -0.8**
baz=240
EGMT Eagleton 97.35 39 P **P** **17 49 40.9 -0.5**
baz=235
COLD Coldfoot 97.70 10 *e*pP pP 17 50 13.2 +1.2
FYU Fort Yukon 97.97 12 *e*pP pP 17 50 14.7 +1.5
LZH Lanzhou 98.11 307 *e*P Pdif 17 49 47.0 +1.8
LZH pP pP 17 50 17.9 +3.0
LZH sP sP 17 50 30.0 +3.1
LZH PP **PP** **17 53 50.8 +4.6**
LZH SKS **SKSac** **18 00 13.4 +0.9**
LZH S **S** **18 01 01.0 -1.8**
LZH sS sS 18 01 55.0 +0.6
LZH SS **SS** **18 07 52.3 +3.6**
LZH pmax pmax
comp=Z,56nm,1.5s
LZH pmax pmax
comp=Z,650nm,9.8s
LZH LR LR
comp=Z,590nm,17.5s
LZH LR LR
comp=Z,930nm,17.6s
LZH LR LR
comp=Z,2μm,19.7s
LPAZ La Paz 98.34 114 P Pdif 17 49 48.1 +0.8
comp=Z,6.8nm,0.9s,baz=262,slow=2.7,SNR=22
LPAZ LR LR 18 23 42.6
comp=Z,356nm,19.4s,baz=252,slow=29
LPAZ La Paz 98.34 114 *e*P Pdif 17 49 48.6 +1.2
comp=Z,20nm,1.2s
LPAZ La Paz 98.34 114 *e*P Pdif 17 49 48.6 +1.3
LPAZ pmax pmax
comp=Z,20nm,1.2s
RSSD Black Hills 98.54 44 Pdiff **P** **17 49 46.1 -0.9**
baz=238
RSSD Black Hills 98.54 44 *e*P **P** **17 49 46.4 -0.6**
comp=Z,69nm,1.1s
RSSD Black Hills 98.54 44 *e*P **P** **17 49 46.4 -0.6**
RSSD pmax pmax
comp=Z,69nm,1.1s
LAO LASA Array 98.60 41 Pdiff **P** **17 49 46.9 -0.1**
baz=237
TOLK Toolik Lake Re 99.10 10 Pdiff **Pdif** **17 49 51.1 +2.4**
baz=205
YAK Yakutsk 99.81 338 *e*P **Pdif** **17 49 49.4 -2.5**
YAK *e**PP **pP** **17 50 17.3 -4.3**
YAK *e*S **SKSac** **18 00 17.2 -2.1**
YAK *e* 18 01 07.4
YAK pmax pmax
comp=Z,4.0nm,1.0s
YAK smax smax
comp=N,173nm,2.9s
YAK smax smax
comp=E,89nm,2.3s
CPUP Villa Florida 100.64 128 P **Pdif** **17 49 57.4 +0.8**
comp=E,1.1nm,0.4s,baz=250,slow=5.4,SNR=4.1
CPUP PKKPbc **PKKPbc** **18 06 11.6 +1.7**
comp=E,0.6nm,0.4s,baz=102,slow=9.2,SNR=3.2
ULN Ulaanbaatar 101.82 318 *e*P **Pdif** **17 50 01.3 -0.1**
comp=E,2.7nm,0.8s
ULN Ulaanbaatar 101.82 318 *i*P **Pdif** **17 50 01.0 -0.4**
ULN pmax pmax
comp=Z,3.0nm,0.9s
U39A Green Forest 101.85 55 Pdiff **Pdif** **17 50 01.6 0.0**
baz=243
INK Inuvik 101.90 15 P **Pdif** **17 50 00.6 -0.4**
comp=Z,2.2nm,1.0s,baz=202,slow=6.1,SNR=7.0
INK PP **PP** **17 54 13.9 -0.1**
comp=Z,4.9nm,1.1s,baz=204,slow=10,SNR=3.6
546A Slidell 101.95 62 Pdiff **Pdif** **17 50 02.7 +0.6**
baz=244
V40A Witts Springs 102.07 56 Pdiff **Pdif** **17 50 03.3 +0.7**
baz=244
SONM Songino Array 102.20 318 P **Pdif** **17 50 03.7 +0.6**
comp=Z,0.5nm,0.4s,baz=167,slow=6.5,SNR=4.0
SONM PP **PP** **17 54 17.0 +0.2**
comp=Z,1.7nm,1.0s,baz=145,slow=8.1,SNR=4.5
SONM PKKPbc **PKKPbc** **18 06 06.9 +0.2**
comp=Z,5.2nm,0.9s,baz=270,slow=3.0,SNR=20
W41B Gary Mavity, V 102.21 57 Pdiff **Pdif** **17 50 03.2 0.0**
baz=244
Q37A Longview Farm, 102.28 52 Pdiff **Pdif** **17 50 04.1 +0.6**
baz=243
GTA Gaotai 102.49 308 ⇑P **Pdif** **17 50 05.3 +0.7**
GTA pP pPdif 17 50 35.0 +0.7
GTA sP sPdif 17 50 46.6 +0.3
GTA PP **PKiKP** **17 54 22.6 -2.8**
GTA SKS **SKSac** **18 00 33.4 -0.3**
GTA S **Sdif** **18 01 37.3 -2.0**
GTA sS sS 18 02 28.4 -3.0
GTA SS **SS** **18 08 53.3 +3.9**
GTA pmax pmax
comp=Z,3.0nm,1.2s
GTA pmax pmax
comp=Z,340nm,5.7s
GTA LR LR
comp=Z,340nm,19.5s
GTA LR LR
comp=Z,670nm,21.9s
GTA LR LR
comp=Z,850nm,21.9s
145A Houston Renfro 102.82 60 Pdiff **Pdif** **17 50 05.7 -0.4**
baz=244
447A Lucedale 103.02 62 Pdiff **Pdif** **17 50 06.3 -0.7**
baz=244
ECSD EROS Data Cent 103.02 47 Pdiff **Pdif** **17 50 08.1 +1.4**
baz=243
S40A Lebanon 103.09 54 Pdiff **Pdif** **17 50 09.8 +2.7**
baz=244
BOD Bodaibo 103.36 329 *e*P **Pdif** **17 49 58.5 -9.3**
H33A Prehn Over Nor 103.37 46 Pdiff **Pdif** **17 50 08.2 0.0**
baz=243
X44A Crenshaw 103.47 58 Pdiff **Pdif** **17 50 08.6 -0.3**
baz=244
R40A Maddies Statio 103.56 54 Pdiff **Pdif** **17 50 07.0 -2.1**
baz=244
YKA Yellowknife Ar 103.58 25 Pdiff **Pdif** **17 50 08.1 -0.5**
comp=Z,0.5nm,0.5s,baz=236,slow=4.2,SNR=12
YKA PP **PKiKP** **17 54 22.9 -3.5**
comp=Z,0.7nm,0.9s,baz=226,slow=7.7,SNR=4.5
YKA PKKPbc **PKKPbc** **18 05 60.0 -3.0**
comp=Z,3.1nm,0.5s,baz=36,slow=2.8,SNR=38
YKA PKPPKP **P'P'df** **18 14 22.8 +3.0**
comp=Z,0.2nm,0.8s,baz=48,slow=2.0,SNR=4.9
I34A Hadley 103.65 47 Pdiff **Pdif** **17 50 08.4 -1.0**
baz=244
Y45A Yeager Farm, C 103.65 59 Pdiff **Pdif** **17 50 07.9 -1.8**
baz=245
SIV San Ignacio 104.12 117 Pdiff **Pdif** **17 50 13.1 +0.8**
comp=Z,2.0nm,1.0s,baz=248,slow=8.0,SNR=6.4
P40A Paris 104.25 53 Pdiff **Pdif** **17 50 11.8 -0.4**
baz=245
ZAK Zakamensk 105.19 319 *e*P **Pdif** **17 50 14.1 -2.2**
ZAK pmax pmax
comp=Z,2.0nm,1.7s
Q43A New Douglas 105.66 54 PKiKP **PKiKP** **17 54 32.6 +1.5**
baz=246
Z49A Columbiana 105.66 61 PKiKP **PKiKP** **17 54 32.6 +1.3**
baz=246
ULM Lac du Bonnet 106.34 41 Pdiff **Pdif** **17 50 21.2 0.0**
comp=Z,1.2nm,0.6s,baz=149,slow=5.9,SNR=3.1
L41A Preston 106.37 51 PKiKP **PKiKP** **17 54 34.4 +2.1**
baz=246
453A Whigham 106.43 64 PKiKP **PKiKP** **17 54 34.5 +1.7**
baz=246
TIXI Tiksi 106.69 345 PKiKP **PKiKP** **17 54 30.8 -1.1**
comp=Z,1.4nm,0.3s,baz=160,slow=0.7,SNR=10
R46A Gibon Southern 106.94 55 PKiKP **PKiKP** **17 54 36.1 +2.7**
baz=247
WMQ Urumqi 112.56 309 *e*PKP **PKiKP** **17 54 43.8 -0.2**
WMQ LR LR
comp=Z,520nm,20.1s
WMQ LR LR
comp=Z,1μm,23.9s
WMQ LR LR
comp=Z,2μm,24.7s
PTGA Pitinga 113.47 105 PKiKP **PKiKP** **17 54 45.8 -0.8**
comp=Z,1.5nm,0.3s,baz=304,slow=4.3,SNR=4.6
PTGA PKKPbc **PKKPbc** **18 05 30.6 +0.7**
comp=Z,0.9nm,0.3s,baz=5.3,slow=4.0,SNR=4.3
RES Resolute Bay 115.36 17 PKP **PKPdf** **17 54 47.0 -1.3**
comp=Z,1.9nm,0.9s,baz=323,slow=2.9,SNR=6.1
RES Resolute Bay 115.36 17 *e*PKPdf **PKPdf** **17 54 47.0 -1.3**
OPO Ambohidratompo 116.35 228 PKP **PKPdf** **17 54 51.8 -0.3**
comp=Z,11nm,0.9s,baz=146,slow=1.4,SNR=10
SUR Sutherland 116.95 197 PKP **PKPdf** **17 54 53.7 +0.7**
comp=Z,2.0nm,0.9s,baz=236,slow=2.0,SNR=11
SUR pPKP pPKPdf 17 55 23.6 -0.3
comp=Z,2.3nm,0.8s,baz=148,slow=2.7,SNR=6.1
SUR Sutherland 116.95 197 *e*PKPdf **PKPdf** **17 54 54.1 +1.0**
SUR pPKP pPKPdf 17 55 23.6 -0.3
HUMP Col San Antoni 116.98 83 *e*PKPdf **PKPdf** **17 54 51.7 -1.4**
MK01 Makanchi Array 117.04 311 *e*PKPdf **PKPdf** **17 54 50.9 -1.5**
MK31 Makanchi Array 117.05 311 *e*PKPdf **PKPdf** **17 54 51.5 -1.0**
MK31 Makanchi Array 117.05 311 *e*PKIKP **PKPdf** **17 54 51.5 -1.0**
MKAR Makanchi Array 117.05 311 Pdiff **Pdif** **17 51 10.0 +1.0**
comp=Z,0.2nm,0.5s,baz=89,slow=5.5,SNR=4.4
MKAR PKP **PKPdf** **17 54 51.4 -1.1**
comp=Z,7.7nm,0.9s,baz=72,slow=4.0,SNR=31
MKAR PKKPbc **PKKPbc** **18 05 18.2 -0.3**
comp=Z,6.2nm,0.8s,baz=306,slow=2.9,SNR=3.6
ZALV Zalesovo Beam 117.07 319 PKP **PKPdf** **17 54 50.9 -1.3**
comp=Z,4.1nm,0.7s,baz=184,slow=1.8,SNR=17
MAKZ Makanchi 117.26 311 *e*PKPdf **PKPdf** **17 54 51.5 -1.3**
MAKZ Makanchi 117.26 311 *e*PKIKP **PKPdf** **17 54 51.5 -1.3**
SHLS Shalkode 118.13 306 *e*PKP **PKPdf** **17 54 53.5 -1.3**
SHLS *e*PP **PP** **17 56 07.4 -4.5**
NVS Novosibirsk 118.15 320 *e*PKIKP **PKPdf** **17 54 52.1 -2.1**
NVS *e* 17 55 19.8
NVS *e* 18 01 43.2
NVS pmax pmax
comp=E,6.0nm,0.9s
UZB Uzynbulak 118.44 306 *e*PKP **PKPdf** **17 54 54.4 -1.0**
UZB *e*PP **PP** **17 56 11.9 -2.1**
KPKS Kokpek 118.75 306 *e*PKP **PKPdf** **17 54 55.1 -0.8**
KPKS *e*PP **PP** **17 56 14.4 -1.7**
KPKS *e*PS **PS** **18 06 02.1 -2.5**
SATY Saty 118.86 306 *e*PKP **PKPdf** **17 54 55.1 -1.1**
SATY *e*PS **PS** **18 06 03.5 -2.1**
ZHN Zhinishke 118.86 306 *e*PKP **PKPdf** **17 54 55.4 -0.7**
ZHN *e*PS **PS** **18 06 03.5 -2.2**
BOSA Boshof 119.14 203 PKP **PKPdf** **17 54 57.4 +0.1**
comp=E,18nm,0.8s,baz=150,slow=3.0,SNR=8.5
BOSA pPKP **pPKPdf** **17 55 28.1 0.0**
comp=E,14nm,0.5s,baz=151,slow=1.3,SNR=6.0
BOSA PKKPbc **PKKPbc** **18 05 12.3 +1.4**
comp=E,4.1nm,1.0s,baz=356,slow=9.3,SNR=3.5
BOSA Boshof 119.14 203 *e*PKPdf **PKPdf** **17 54 58.2 +0.9**
BOSA pPKP **pPKPdf** **17 55 28.1 0.0**
BOSA PKKPbc **PKKPbc** **18 05 12.3 +1.4**
SEM Semipalatinsk 119.14 314 *e*PKP **PKPdf** **17 54 55.0 -1.6**
SEM *e*PP **PP** **17 56 15.9 -2.8**
SEM *e*PS **PS** **18 06 05.6 -2.5**
KDJ Kajisay 119.53 305 *e*PKPdf **PKPdf** **17 54 57.1 -0.5**
KDJ Kajisay 119.53 305 PKIKP **PKPdf** **17 54 57.1 -0.5**
KSH Kashi 119.81 301 PKP **PKPdf** **17 54 58.3 +0.2**
KSH sPKP 17 55 37.6
KSH PP **PP** **17 56 28.8 +5.2**
KSH AMB AMB
comp=E,300nm,5.2s
KSH LR LR
comp=E,1μm,20.9s
KSH LR LR
comp=E,1μm,19.9s
KURK Kurchatov 120.21 314 PKP **PKPdf** **17 54 57.3 -1.0**
KURK PKKPbc **PKKPbc** **18 05 07.2 +0.1**
KURK Kurchatov 120.21 314 PKIKP **PKPdf** **17 54 57.3 -1.0**
NRN Naryn 120.23 304 PKIKP **PKPdf** **17 54 58.9 -0.2**
ULHL Ulahol 120.23 304 P **PKPdf** **17 54 58.7 -0.2**
SNR=6.9
KURBB Kurchatov Arra 120.25 314 PKP **PKPdf** **17 54 57.3 -1.1**
comp=E,12nm,0.9s,baz=101,slow=2.0,SNR=63
KURBB PKKPbc **PKKPbc** **18 05 07.2 +0.3**
comp=E,4.1nm,0.9s,baz=285,slow=3.9,SNR=6.4
NIL Nilore 120.42 294 *e*P **PKPdf** **17 54 58.4 -0.9**
NIL Nilore 120.42 294 *e*PKIKP **PKPdf** **17 54 58.4 -0.9**
KUU Kurty 120.51 306 *e*PKP **PKPdf** **17 54 57.9 -1.3**
KUU *e*PP **PP** **17 56 25.4 -2.7**
KUU *e*PS **PS** **18 06 17.8 -2.4**

BMNS Besmoynak 120.83 305 *e*PKP **PKPdf** **17 54 59.2 -0.8**
TKM2 Tokmak 2 120.84 305 P **PKPdf** **17 54 59.1 -1.0**
SNR=11
KZA Kyzart 120.92 304 P **PKPdf** **17 55 00.4 -0.2**
SNR=15
KBK Karagaybulak 121.26 305 P **PKPdf** **17 55 00.6 -0.2**
SNR=7.7
CHMS Chumysh 121.47 305 P **PKPdf** **17 55 00.3 -0.7**
SNR=9.9
UCH Uchtor 121.49 304 P **PKPdf** **17 55 01.6 0.0**
SNR=16
FRU Bishkek 121.53 305 *e*PKIKP **PKPdf** **17 55 00.0 -1.2**
FRU *e* 17 55 28.0
AAK Ala-Archa 121.58 305 PKP **PKPdf** **17 55 00.5 -0.9**
comp=E,3.0nm,0.6s,baz=170,slow=2.6,SNR=16
AAK PKKPbc **PKKPbc** **18 05 02.2 +0.2**
comp=E,8.2nm,0.9s,baz=232,slow=3.8,SNR=4.5
AAK Ala-Archa 121.58 305 P **PKPdf** **17 55 00.8 -0.6**
SNR=6.8
AAK Ala-Archa 121.58 305 *i*P **PKPdf** **17 55 00.8 -0.6**
SNR=9.9
AAK Ala-Archa 121.58 305 *i*PKIKP **PKPdf** **17 55 00.7 -0.8**
USP Ospenovka 121.70 305 P **PKPdf** **17 55 00.9 -0.6**
SNR=5.8
AML Almayashu 122.06 304 P **PKPdf** **17 55 02.2 -0.5**
SNR=17
EKS2 Erkin-Say 122.10 305 P **PKPdf** **17 55 02.4 0.0**
SNR=9.9
FRB Frobisher Bay 123.54 30 PKKPbc PKKPbc 18 04 53.9 -0.8
comp=E,6.5nm,0.8s,baz=97,slow=4.2,SNR=8.5
BRZS Berezniki 123.90 313 *e*PKP **PKPdf** **17 55 04.3 -1.1**
DZA Taraz 123.92 304 *e*PKP **PKPdf** **17 55 05.3 -0.5**
KBL Kabul 124.03 294 *e*PKPdf **PKPdf** **17 55 06.8 +0.3**
KBL Kabul 124.03 294 *e*PKIKP **PKPdf** **17 55 06.8 +0.3**
SCHQ Schefferville 124.52 41 PKP **PKPdf** **17 55 05.3 -1.2**
comp=E,8.8nm,0.9s,baz=288,slow=1.9,SNR=4.9
SCHQ pPKP **pPKPdf** **17 55 35.9 -1.4**
comp=E,12nm,0.9s,baz=299,slow=2.2,SNR=3.3
SCHQ Schefferville 124.52 41 *e*PKPdf **PKPdf** **17 55 05.9 -0.6**
SCHQ pPKP **pPKPdf** **17 55 35.9 -1.4**
KK31 Karatay Array 124.55 305 *e*PKPdf **PKPdf** **17 55 06.5 -0.4**
KK31 Karatay Array 124.55 305 *e*PKIKP **PKPdf** **17 55 06.6 -0.4**
KKAR Karatay Array 124.55 305 *e*PKPdf **PKPdf** **17 55 06.5 -0.4**
KKAR Karatay Array 124.55 305 *e*PKIKP **PKPdf** **17 55 06.5 -0.4**
IUG luzhnay 124.75 303 *e*PKP **PKPdf** **17 55 07.4 -0.1**
CHM Chimkent 125.09 303 *e*PKP **PKPdf** **17 55 06.1 -1.9**
CHM *e*PP **PP** **17 56 56.4 -2.6**
BVAR Borovoye Array 125.51 317 PKP **PKPdf** **17 55 08.1 -0.3**
comp=E,15nm,0.9s,baz=126,slow=1.2,SNR=54
BRVK Borovoye 125.57 317 *e*PKPdf **PKPdf** **17 55 08.1 -0.5**
BRVK Borovoye 125.57 317 PKPdf **PKPdf** **17 55 07.6 -1.0**
SNR=15
BRVK Borovoye 125.57 317 P **PKPdf** **17 55 07.6 -1.0**
SNR=15
BRVK Borovoye 125.57 317 *c i*PKIKP **PKPdf** **17 55 07.6 -1.0**
BRVK pmax pmax
comp=Z,46nm,1.7s
ILULI Ilulissat 129.08 22 *e*PKPdf **PKPdf** **17 55 14.5 -0.3**
ILULI Ilulissat 129.08 22 *e*PKIKP **PKPdf** **17 55 14.5 -0.3**
WSAR Wadi Sarin 129.75 277 SKP SKPbc 17 58 33.5 +4.0
comp=Z,10nm,1.0s,baz=193,slow=2.7,SNR=8.4
LSZ Lusaka 129.87 213 PKP **PKPdf** **17 55 18.9 +0.8**
comp=Z,6.7nm,0.5s,baz=157,slow=1.3,SNR=17
LSZ pPKP **pPKPdf** **17 55 49.3 +0.4**
comp=Z,12nm,0.6s,baz=139,slow=3.0,SNR=6.4
LSZ SKP 17 58 33.7
comp=Z,14nm,0.8s,baz=116,slow=2.0,SNR=10
LSZ Lusaka 129.87 213 PKiKP **PKPdf** **17 55 18.5 +0.4**
SNR=8.7
LSZ Lusaka 129.87 213 P **PKPdf** **17 55 18.5 +0.4**
SNR=8.7
SPA0 Spitsbergen Ar 129.95 356 *e*PKPdf **PKPdf** **17 55 16.9 +0.6**
SPITS Spitsbergen Ar 129.95 356 PKP **PKPdf** **17 55 15.7 -0.5**
comp=Z,16nm,0.9s,baz=3.6,slow=6.7,SNR=12
SPITS pPKP **pPKPdf** **17 55 46.6 -0.5**
comp=Z,32nm,0.9s,baz=80,slow=6.0,SNR=5.7
SFJD Kangerlussuaq 130.13 24 PKP **PKPdf** **17 55 16.4 -0.4**
comp=Z,3.0nm,0.5s,baz=210,slow=3.4,SNR=5.4
TSUM Tsumeb 130.34 199 PKP **PKPdf** **17 55 19.6 +0.7**
comp=Z,7.8nm,0.6s,baz=165,slow=3.3,SNR=14
TSUM pPKP **pPKPdf** **17 55 50.3 +0.5**
comp=Z,10.0nm,0.5s,baz=161,slow=2.7,SNR=6.7
TSUM Tsumeb 130.34 199 *e*PKPdf **PKPdf** **17 55 20.1 +1.2**
TSUM pPKP **pPKPdf** **17 55 50.3 +0.5**
DAG Danmarks Havn 130.70 6 *i*P **PKPdf** **17 55 15.8 -1.9**
comp=Z,5.2nm,0.7s
DAG *i* 17 55 46.2
DAG Danmarks Havn 130.70 6 *i*PKIKP **PKPdf** **17 55 15.8 -1.9**
DAG *i* 17 55 46.2
DAG pmax pmax
comp=Z,5.0nm,0.7s
SVE Sverdlovsk 130.85 322 *i*PKIKP **PKPdf** **17 55 18.0 -0.5**
SVE pmax pmax
comp=Z,51nm,2.0s
SVE MLR MLR
comp=Z,753nm,23.0s
SOHO SOHO 131.86 278 *i*P **PKPdf** **17 55 20.3 -1.1**
SNR=17
ARU Arti 132.06 322 PKP **PKPdf** **17 55 20.4 -0.3**
comp=Z,10nm,0.6s,baz=75,slow=1.6,SNR=18
ARU pPKP **pPKPdf** **17 55 50.1 -1.6**
comp=Z,5.5nm,0.4s,baz=85,slow=0.8,SNR=3.1
ARU SKP 17 58 39.6
comp=Z,4.7nm,0.7s,baz=71,slow=3.7,SNR=6.7
UOSS Minazif 132.38 279 *e*PKPdf **PKPdf** **17 55 21.6 -0.8**
HATD Hatta, Dubai 132.41 279 P **PKPdf** **17 55 23.0 +0.6**
ASHO Ashiyiah 132.43 278 P **PKPdf** **17 55 21.5 -1.0**
ALNE Al Ain 132.51 277 P **PKPdf** **17 55 22.4 -0.2**
AKTO Aktyubinsk 133.30 314 PKhKP PKPpre 17 55 09.5
comp=Z,2.9nm,0.6s,baz=124,slow=1.8,SNR=8.4
AKTO PKP **PKPdf** **17 55 23.1 -0.2**
comp=Z,11nm,0.8s,baz=81,slow=1.9,SNR=22
AKTO SKP 17 58 45.2
comp=Z,7.3nm,0.9s,baz=146,slow=3.3,SNR=4.5
GEYT Alibeck 133.30 296 PKhKP PKPpre 17 55 13.5
comp=Z,0.9nm,0.5s,baz=113,slow=1.9,SNR=4.0
GEYT PKP **PKPdf** **17 55 24.1 +0.3**
comp=Z,5.3nm,0.8s,baz=225,slow=0.8,SNR=12
GEYT SKP 17 58 45.5
comp=Z,7.2nm,0.9s,baz=90,slow=1.4,SNR=6.9
GYA0B ALIBECK ARRAY 133.30 296 *e*PKPdf **PKPdf** **17 55 25.1 +1.3**
MZR Muzera 134.18 275 P **PKPdf** **17 55 26.6 +0.7**
KMBO Kilima Mbogo 135.59 234 SKP **SKPab** **17 58 57.2 +2.4**
comp=Z,1.9nm,0.4s,baz=135,slow=4.3,SNR=6.4
KMBO Kilima Mbogo 135.59 234 *e*PKPdf **PKPdf** **17 55 31.8 +2.7**
KMBO SKP 17 58 57.2
KMBO Kilima Mbogo 135.59 234 P **PKPdf** **17 55 28.3 -0.8**
KMBO Kilima Mbogo 135.59 234 *e*PKIKP **PKPdf** **17 55 31.8 +2.7**
SCO Scoresbysund 135.82 12 *i*P **PKPdf** **17 55 28.0 +0.6**
SCO *e* 17 55 57.9
SCO Scoresbysund 135.82 12 *e*PKPdf **PKPdf** **17 55 28.1 +0.7**
SCO Scoresbysund 135.82 12 *e*PKIKP **PKPdf** **17 55 28.1 +0.7**
ARCES ARCESS Array B 136.95 348 PKhKP PKPpre 17 55 20.7
comp=Z,1.9nm,0.5s,baz=17,slow=1.5,SNR=19
ARCES PKP **PKPdf** **17 55 28.9 -0.7**
comp=Z,5.8nm,0.5s,baz=35,slow=2.2,SNR=18
ARE0 ARCESS Array S 136.95 348 *e*PKPdf **PKPdf** **17 55 28.8 -0.8**
DAMY Dhamar 138.98 259 *e*PKPdf **PKPdf** **17 55 37.4 +2.1**
H10S3 ASCENSION HYDR 139.09 153 T T 20 31 16.7
baz=205,slow=74,SNR=630
H10S2 ASCENSION HYDR 139.09 153 T T 20 31 16.8
baz=15,slow=74,SNR=727
H10S1 ASCENSION HYDR 139.10 153 T T 20 31 51.8
SNR=885
KLMR Klimovskoe 139.44 333 *e*PKPdf **PKPdf** **17 55 32.7 -1.7**
KLMR AMP 17 55 36.8
comp=Z,28nm,1.0s
KLMR *e*pPKPdf **pPKPdf** **17 56 01.8 -3.4**
KLMR *e*sPKPdf **sPKPdf** **17 56 15.5 -1.5**
KLMR *e*PP **PP** **17 58 27.0 -2.9**
KLMR *e*SS **SS** **18 16 39.4 +0.1**
KLMR *e*SS **SS** **18 16 39.4 +0.1**
KLMR Klimovskoe 139.44 333 *e*PKIKP **PKPdf** **17 55 32.6 -1.8**
KLMR *e* 17 56 01.8
KLMR *e* 17 56 15.5
KLMR *e* 17 58 26.9
KLMR *e*SS SS 18 16 39.3 0.0
KLMR pmax pmax
comp=Z,28nm,1.0s
H10N3 ASCENSION HYDR 140.16 153 T T 20 32 41.5
baz=204,slow=75,SNR=1498
H10N1 ASCENSION HYDR 140.17 153 T T 20 33 05.3
baz=204,slow=75,SNR=1019
H10N2 ASCENSION HYDR 140.18 153 T T 20 33 04.2
baz=204,slow=75,SNR=871

LKRN	Lenkeran, Azer	140.67	297	PKIKP	PKPdf	17 55 36.2	-1.1
RAYN	Ar Rayn	141.33	273	ePKPpre	PKPpre	17 55 33.2	
MAK	Makhachkala	141.36	304	eP	Pdif	17 52 59.6	+2.5
MAK				e		17 55 35.8	
MAK				ePPP	PPP	18 01 48.0	
MAK				eSS	SS	18 17 00.7	-2.6
MAK				eSSS	SSS	18 22 15.3	
MAK				pmax	pmax		
	comp=Z,38nm,0.4s						
KONS	Konsvik	141.54	353	e	PKPdf	17 55 35.5	-2.5
STOK	Stokkvaagen	141.71	353	e	PKPdf	17 55 40.6	+2.3
SEKA	Sheki	141.76	301	PKIKP	PKPdf	17 55 38.0	-1.3
MNGR	Mingechevir, A	141.88	301	PKIKP	PKPdf	17 55 38.4	-1.0
ZKTA	Zakatala	142.15	302	PKIKP	PKPdf	17 55 38.8	-1.1
GANJ	Ganja	142.47	300	PKIKP	PKPdf	17 55 39.3	-1.2
GROC	Groznyy	142.57	305	ePKIKP	PKPdf	17 55 38.9	-1.7
GROC				e		17 56 06.9	
GROC				e		17 56 19.4	
GROC				e		17 58 45.7	
GROC				pmax	pmax		
	comp=Z,20nm,0.6s						
VRH	Novokhopyorsk	143.10	319	ePKHKP	PKPpre	17 55 36.9	
VRH				pmax	pmax		
	comp=Z,10.0nm,0.6s						
DGRG	David-gareji	143.10	302	P	PKPbc	17 55 38.3	-0.6
DGRG	David-gareji	143.10	302	ePKIKP	PKPbc	17 55 38.2	-0.7
MOS	Moscow	143.16	327	ePKHKP	PKPpre	17 55 35.0	
MOS				pmax	pmax		
	comp=Z,49nm,1.1s						
NAX	Nakhchivan	143.21	298	PKIKP	PKPbc	17 55 40.6	+1.3
DUS	Dusheti	143.52	303	P	PKPbc	17 55 40.5	+0.5
DUS	Dusheti	143.52	303	ePKIKP	PKPbc	17 55 40.5	+0.4
TBLG	Delisi	143.54	302	P	PKPbc	17 55 40.1	0.0
TBLG	Delisi	143.54	302	ePKIKP	PKPbc	17 55 40.1	0.0
NSS	Namsos	143.57	353	eP	PKPab	17 55 37.8	-0.6
GUDG	Gudauri	143.63	304	P	PKPbc	17 55 41.4	+0.8
FIA1	FINESS Array S	143.65	341	ePKPpre	PKPpre	17 55 37.6	
FIA1				ePKPpre	PKPpre	17 55 38.4	
FINES	FINESS Array B	143.65	341	PKhKP	PKPpre	17 55 38.3	
	comp=Z,18nm,0.6s,baz=55,slow=3.6,SNR=112						
GNI	Garni	143.72	300	ePKPdf	PKPbc	17 55 41.2	+0.4
GNI	Garni	143.72	300	PKPdf	PKPbc	17 55 40.7	-0.1
	SNR=6.8						
GNI	Garni	143.72	300	P	PKPbc	17 55 40.7	-0.1
	SNR=6.8						
GNI	Garni	143.72	300	P	PKPab	17 55 40.1	+0.1
GNI	Garni	143.72	300	i PKIKP	PKPbc	17 55 40.7	-0.1
ZEI	Tsey	144.00	304	i PKIKP	PKPab	17 55 40.0	-1.1
ZEI				pmax	pmax		
	comp=Z,38nm,1.3s						
OBN	Obninsk	144.00	327	eP	PKPab	17 55 39.6	-0.8
OBN	Obninsk	144.00	327d	iPKHKP	PKPpre	17 55 39.1	
OBN				i		17 55 44.7	
OBN				e		17 56 09.4	
OBN				i		17 56 22.5	
OBN				e		17 59 06.4	
OBN				PPP	PPP	18 02 21.0	
OBN				e		18 11 20.9	
OBN				i SS	SS	18 17 37.4	+4.9
OBN				pmax	pmax		
	comp=Z,100nm,1.3s						
OBN				pmax	pmax		
	comp=Z,86nm,1.6s						
LPSR	Galich'ya Gora	144.08	322	ePKIKP	PKPab	17 55 40.4	-0.3
LPSR				pmax	pmax		
	comp=Z,20nm,1.2s						
GOF	Gofitskoye	144.16	308⇓	iPKIKP	PKPbc	17 55 41.6	-0.2
GOF				pmax	pmax		
	comp=Z,112nm,0.7s						
VORR	Voronezh	144.34	320	ePKIKP	PKPbc	17 55 42.0	-0.1
VORR				pmax	pmax		
	comp=Z,300nm,1.8s						
ONI	Oni	144.36	304	P	PKPbc	17 55 42.6	0.0
ONI	Oni	144.36	304	ePKIKP	PKPbc	17 55 42.5	-0.1
CLDR	Caldiran	144.44	298	eP	PKPab	17 55 42.6	-0.2
AKH	Akhalkalaki	144.51	302	eP	PKPdf	17 55 44.6	+0.3
AKH	Akhalkalaki	144.51	302⇓	iP	PKPdf	17 55 44.2	-0.1
AKH	Akhalkalaki	144.51	302	ePKPdf	PKPdf	17 55 44.0	-0.3
AKH	Akhalkalaki	144.51	302	ePKIKP	PKPdf	17 55 44.0	-0.3
KBZ	Khabaz	144.55	306	PKP	PKPab	17 55 42.7	-0.1
	comp=Z,21nm,0.8s,baz=79,slow=1.8,SNR=47						
VSR	Storozhevoye	144.56	320	ePKIKP	PKPab	17 55 41.6	-1.0
VSR				pmax	pmax		
	comp=Z,50nm,0.7s						
KIV	Kislovodsk	144.66	307	ePKPdf	PKPbc	17 55 43.5	0.0
KIV	Kislovodsk	144.66	307	PKPdf	PKPab	17 55 42.9	-0.5
	SNR=16						
KIV	Kislovodsk	144.66	307	P	PKPab	17 55 42.9	-0.5
	SNR=16						
KIV	Kislovodsk	144.66	307	i P	PKPab	17 55 42.9	-0.5
	SNR=11						
KIV	Kislovodsk	144.66	307	ePKHKP	PKPpre	17 55 38.7	
KIV				i		17 55 42.7	
KIV				e*PP	pPKPdf	17 56 12.4	-2.9
KIV				e		17 59 08.8	
KIV				eSS	SS	18 17 35.1	-6.4
KIV				pmax	pmax		
	comp=Z,56nm,1.1s						
KIV				MLR	MLR		
	comp=Z,403nm,25.0s						
NEY	Neytrino	144.77	305	i PKIKP	PKPdf	17 55 44.8	+0.1
VANB	Van	144.89	297	eP	PKPab	17 55 44.5	+0.1
KARS	Kars	144.93	301	eP	PKPdf	17 55 45.1	+0.1
TBLU	Trondheim	144.99	354	eP	PKPbc	17 55 41.5	-2.2
AGRB	Hanur-Agry	145.11	299	eP	PKPdf	17 55 45.4	0.0
SENK	Senkaya-Erzuru	145.49	301	eP	PKPdf	17 55 46.1	+0.1
SIRT	Sirnak	145.70	295	eP	PKPbc	17 55 46.7	-0.3
MOL	Molde	145.88	356	ePKPdf	PKPdf	17 55 44.8	-0.9
BCA	Borcka	145.90	303	eP	PKPdf	17 55 46.6	+0.1
GURO	Guroymak-BITLI	145.95	297	eP	PKPbc	17 55 47.3	-0.4
DOMB	Dombas	146.29	355	ePKPbc	PKPdf	17 55 47.0	+0.5
AKN	Aaknes	146.30	356	ePKPbc	PKPbc	17 55 47.5	-0.3
VRTB	Varto-Mus	146.34	298	eP	PKPdf	17 55 47.9	+0.4
SOC	Sochi	146.83	307	i PKP2	PKPbc	17 55 50.7	+0.8
SOC				e		17 59 17.9	
SOC				pmax	pmax		
	comp=Z,28nm,0.6s						
SOC				MLR	MLR		
	comp=Z,313nm,20.0s						
BNGB	Bingˆ¶l	146.96	298	eP	PKPdf	17 55 48.7	+0.2
KOPT	Kop Dagi	146.96	300	i P	PKPbc	17 55 51.6	+0.7
FOO	Floro	146.97	358	ePKPbc	PKPbc	17 55 49.0	-0.7
NB2	NORSAR Subarra	147.06	352	PKP	PKPdf	17 55 48.6	+0.8
	comp=Z,56nm,1.0s,baz=17,slow=2.6						
NB2	NORSAR Subarra	147.06	352	PKP	PKPdf	17 55 48.6	+0.8
	baz=17,slow=2.6						
NOA	NORSAR Array B	147.06	352	PKPbc	PKPdf	17 55 48.8	+0.9
	comp=Z,4.4nm,0.5s,baz=50,slow=1.7,SNR=51						
BAYT	Ayd˜–ntepe-Bay	147.18	301	eP	PKPbc	17 55 51.2	-0.1
MAZI	Mazidag	147.29	296	eP	PKPdf	17 55 48.7	-0.4
NC602	NORSAR Array S	147.31	352	ePKPdf	PKPdf	17 55 48.2	0.0
HYA	Hoyanger	147.35	357	ePKPbc	PKPbc	17 55 50.6	-0.2
DYBB	Diyarbakir	147.49	296	eP	PKPbc	17 55 52.8	+0.8
SUE	Sulen	147.52	358	ePKPbc	PKPbc	17 55 50.9	-0.4
HFS	Hagfors	147.59	350	PKPbc	PKPdf	17 55 49.6	+0.9
	comp=Z,36nm,0.8s,baz=48,slow=4.4,SNR=58						
HFS				pPKPbc	pPKPdf	17 56 20.0	+0.4
	comp=Z,148nm,0.8s,baz=48,slow=2.2,SNR=14						
TNCL	Tunceli-Merkez	147.82	299	i P	PKPbc	17 55 53.3	+0.4
KELT	Kelkit	147.88	301	i P	PKPbc	17 55 53.9	+0.7
PTK	Pertek	147.97	298	eP	PKPdf	17 55 50.7	+0.4
IZAR	Zarasai	148.04	335	eP	PKPdf	17 55 49.2	-0.3
IZAR				IAmb	IAmb	17 55 53.5	
	comp=Z,82nm,1.2s						
ANN	Anapa	148.06	310	i PKP2	PKPbc	17 55 52.6	-0.6
ANN				pmax	pmax		
	comp=Z,181nm,1.2s						
ANN				pmax	pmax		
	comp=Z,458nm,8.9s						
ASK	Askoy	148.08	358	ePKPbc	PKPbc	17 55 52.1	-0.6
ESPY	Espiye-Giresun	148.14	302	eP	PKPbc	17 55 52.0	-1.6
BER	Bergen	148.17	357	ePKPbc	PKPbc	17 55 52.6	-0.4
IDID	Didziasalis	148.18	334	eP	PKPdf	17 55 49.7	0.0
IDID				IAmb	IAmb	17 55 54.8	
	comp=Z,25nm,0.9s						
OSL	Oslo	148.19	352	ePKPbc	PKPbc	17 55 52.8	-0.3
MICGM	Minsk	148.30	332⇓	eP	PKPdf	17 55 51.0	+1.0
MICGM				PM		17 55 54.0	
	comp=Z,0.3nm,1.2s						
MNK	Minsk	148.30	332⇓	ePKIKP	PKPdf	17 55 51.0	+1.0
MNK				pmax	pmax		
	comp=Z,260nm,1.2s						
ELZG	Elazig	148.33	298	i P	PKPbc	17 55 55.5	+1.1
IIGN	Ignalina	148.35	334	eP	PKPdf	17 55 50.5	+0.4
IIGN				IAmb	IAmb	17 55 54.4	
	comp=Z,54nm,1.1s						
LRW	Lerwick	148.36	4	eP	PKPdf	17 55 50.0	+0.1
SAN1	Sandwick	148.48	4	eP	PKPbc	17 55 52.5	-1.3
ODD1	Odda	148.58	356	ePKPbc	PKPbc	17 55 53.6	-0.5
URFA	Urfa	148.58	296	eP	PKPbc	17 55 54.8	-0.2
KONO	Kongsberg	148.60	353	ePKPdf	PKPdf	17 55 50.2	-0.1
KONO	Kongsberg	148.60	353	ePKPbc	PKPbc	17 55 53.6	-0.5
KONO	Kongsberg	148.60	353	ePKIKP	PKPdf	17 55 50.2	-0.1
KEMA	Kemaliye	148.61	299	i P	PKPbc	17 55 55.9	+0.9
SUSE	Susehri	148.67	301	i P	PKPbc	17 55 54.5	-0.7
MALT	Malatya	148.79	297	eP	PKPbc	17 55 55.5	0.0
BLS5	Blasjo	149.08	356	ePKPdf	PKPdf	17 55 51.1	-0.1
HEKM	Malatya_Hekimh	149.08	299	i P	PKPbc	17 55 56.3	0.0
AKCD	Akcadag	149.19	298	i P	PKPbc	17 55 57.0	+0.5
RSDY	Resadiye-TOKAT	149.29	302	eP	PKPdf	17 55 53.4	+1.3
KMY	Karmoy	149.35	357	ePKPbc	PKPbc	17 55 55.9	-0.1
CUKAN	kangal_SIVAS	149.38	300	i P	PKPbc	17 55 57.0	0.0
SLMH	Al Salmeh	149.40	293	eP	PKPbc	17 55 57.4	+0.4
SLMH				AML	AML	17 56 45.4	
	comp=E,48nm,0.7s						
SLMH				AML	AML	17 56 60.0	
	comp=N,35nm,0.7s						
DARE	Darende-Malaty	149.49	298	eP	PKPbc	17 55 55.8	-1.4
STAV	Stavanger	149.60	357	ePKPbc	PKPbc	17 55 55.9	-0.7
SVSK	Karacayir	149.63	301	eP	PKPbc	17 55 57.4	+0.1
RSC	Scourie	149.77	8	i Pg	PKPbc	17 55 56.4	-0.6
BIGH	Upper Bighouse	149.77	7	eP	PKPbc	17 55 56.5	-0.6
GAZ	Gaziantep	149.88	295	eP	PKPbc	17 55 58.2	0.0
CUALT	Altinyayla-SIV	149.93	300	i P	PKPbc	17 55 58.5	+0.2
MLA1	Latheron	150.01	6	eP	PKPbc	17 55 55.9	-1.8
HOMB	Homborsund	150.06	354	ePKPbc	PKPbc	17 55 57.5	-0.3
KVT	Kavak	150.09	303	eP	PKPbc	17 55 59.3	+0.8
KMRS	Kahramanmaras	150.09	296	eP	PKPdf	17 55 55.5	+2.0
H07S1	FLORES T-PHASE	150.09	60	ePKiKP	pPKPdf	17 56 27.2	+2.8
SNART	Snartemo	150.10	355	ePKPbc	PKPbc	17 55 57.4	-0.5
RRR	Rubha Reidh	150.16	9	eP	PKPbc	17 55 57.3	-0.7
AKASG	Malin Array Be	150.19	325	PKPbc	PKPbc	17 55 57.5	-0.9
	comp=N,64nm,0.9s,baz=45,slow=2.8,SNR=19						
KIEV	Kiev	150.20	325	ePKPdf	PKPdf	17 55 51.7	-1.5
KIEV	Kiev	150.20	325	i P	PKPdf	17 55 52.1	-1.0
	SNR=31						
KIEV	Kiev	150.20	325	ePKIKP	PKPdf	17 55 51.7	-1.5
SIM	Simferopol'	150.22	312	i PKIKP	PKPbc	17 55 59.2	+0.6
SIM				e		17 56 06.0	
SIM				e		17 56 28.0	
SIM				pmax	pmax		
	comp=Z,47nm,1.1s						
SNOP	Sinop	150.45	306	eP	PKPbc	17 55 58.7	-0.6
DIKM	Dikmen	150.51	305	eP	PKPbc	17 55 58.4	-1.0
SUW	Suwalki	150.51	335	ePKPbc	PKPbc	17 55 58.4	-0.6
SUW				epPKPbc	pPKPbc	17 56 28.6	-1.2
SUW	Suwalki	150.51	335	ePKPbc	PKPbc	17 55 58.7	-0.3
SUW	Suwalki	150.51	335	ePKIKP	PKPbc	17 55 58.4	-0.6
SUW				e		17 56 28.6	
KAC	Achnashellach	150.58	9	eP	PKPbc	17 55 58.0	-1.0
KPL	Plockton	150.69	9	eP	PKPbc	17 55 58.8	-0.5
BNN	Bunyan	150.71	299	eP	PKPbc	17 55 58.8	-1.4
MCD	Coleburn Disti	150.74	7	eP	PKPbc	17 55 58.3	-1.1
TOTH	TOTAH	150.74	288	eP	PKPdf	17 55 53.7	-0.9
TOTH				AML	AML	17 56 46.2	
	comp=N,36nm,0.7s						
TOTH				AML	AML	17 57 14.0	
	comp=E,17nm,0.5s						
MDO	Dochfour	150.75	8	eP	PKPbc	17 55 58.1	-1.3
KSB	Sheil Bridge	150.84	9	eP	PKPbc	17 55 58.6	-1.1
YAYL	Yayladag	150.88	293	eP	PKPbc	17 56 00.0	-0.7
KOZT	Kozan	150.94	296	eP	PKPbc	17 55 59.8	-0.8
MME1	Meikle Cairn	151.03	6	eP	PKPbc	17 55 59.0	-1.1
HWQ	Hawqa	151.12	290	eP	PKPbc	17 56 00.8	-0.4
BRBR	Barbar	151.14	288	eP	PKPdf	17 55 57.3	+1.9
BRBR				eS	pPKPdf	17 56 29.0	+2.6
BRBR				AML	AML	17 57 01.0	
	comp=N,36nm,0.8s						
BRBR				AML	AML	17 57 06.1	
	comp=E,22nm,0.7s						
SHBL	Chebaa	151.31	288	eP	PKPbc	17 56 02.4	+0.6
QRWL	Qaraoun	151.36	288	eP	PKPbc	17 56 02.1	+0.3
BHL	Bhannes	151.38	289	eP	PKPbc	17 56 01.7	-0.1
DRUM	Mains of Drumt	151.47	6	eP	PKPbc	17 56 00.1	-1.0
KARA	Karaisali	151.58	296	eP	PKPbc	17 56 00.0	-2.1
MMAI	Mount Meron Ar	151.60	287	PKPbc	PKPbc	17 56 03.0	+0.7
	comp=E,14nm,0.4s,baz=83,slow=6.8,SNR=72						
MUD	Monsted U'grnd	151.78	352	i P	PKPbc	17 56 01.2	-0.6
MUD				i		17 56 30.2	
MUD	Monsted U'grnd	151.78	352	i PKIKP	PKPbc	17 56 01.2	-0.6
MUD				i		17 56 30.2	
EDU	Dundee	151.78	7	eP	PKPbc	17 56 01.0	-0.9
EAB	Aberfoyle	151.98	8	eP	PKPbc	17 56 01.7	-0.6
COP	Copenhagen	152.04	348	i P	PKPbc	17 56 03.3	+0.9
	comp=E,32nm,0.8s						
COP	Copenhagen	152.04	348	i PKIKP	PKPbc	17 56 03.3	+0.9
COP				pmax	pmax		
	comp=Z,32nm,0.8s						
BSD	Bornholm Skovb	152.06	345	i P	PKPbc	17 56 01.5	-1.0
	comp=Z,142nm,1.3s						
BSD	Bornholm Skovb	152.06	345	i PKIKP	PKPbc	17 56 01.5	-1.0
BSD				i		17 56 30.9	
BSD				pmax	pmax		
	comp=Z,140nm,1.3s						
SORM	Soroca	152.18	322⇓	iP	PKPbc	17 56 02.5	-0.5
BR131	Keskin Array S	152.20	302	ePKPdf	PKPdf	17 55 57.2	+0.4
BRTR	Keskin Array B	152.20	302	PKP	PKPdf	17 55 55.7	-1.1
	comp=Z,0.9nm,0.8s,baz=137,slow=0.9,SNR=7.6						
BRTR				PKPbc	PKPbc	17 56 02.8	-0.8
	comp=Z,9.2nm,0.7s,baz=134,slow=4.0,SNR=44						
PGBU	Glenifferbraes	152.33	9	eP	PKPbc	17 56 02.2	-0.9
EDI	Edinburgh	152.38	7	eP	PKPbc	17 56 02.4	-0.8
PICO	Pico	152.39	61	eP	pPKPbc	17 56 38.6	+3.9
LLD	Lille Linde	152.41	348	i P	PKPbc	17 56 03.2	-0.1
	comp=Z,155nm,1.2s						
LLD				i		17 56 32.2	
LLD	Lille Linde	152.41	348	i PKIKP	PKPbc	17 56 03.2	-0.1
LLD				i		17 56 32.2	
LLD				pmax	pmax		
	comp=Z,160nm,1.2s						
ROSA	Rosais	152.49	60	ePKiKP	pPKPdf	17 56 28.2	+0.2
ROSA	Rosais	152.49	60	ePKPbc	PKPbc	17 56 03.9	-0.2
KIS	Kishinev	152.55	319	ePKP	PKPdf	17 55 55.0	-1.9
KIS				epPKP	pPKPdf	17 56 31.0	+3.2
KIS				eSKKS		18 06 29.0	
KIS				eSKSP		18 10 20.0	
KIS				LRM	MLR	19 01 20.0	
	comp=Z,600nm,24.0s						
KIS	Kishinev	152.55	319	ePKIKP	PKPdf	17 55 55.0	-1.9
KIS				e		17 56 02.0	
KIS				e		17 56 31.0	
MILM	Milestii Mici	152.60	319⇓	iP	PKPbc	17 56 03.2	-0.8
PMAN	Manadas	152.62	61	eP	pPKPbc	17 56 40.0	+4.9
ANTO	Ankara	152.79	302	ePKPdf	PKPdf	17 55 58.2	+0.6
ANTO	Ankara	152.79	302	PKPdf	PKPdf	17 55 56.5	-1.1
	SNR=25						
ANTO	Ankara	152.79	302	P	PKPdf	17 55 56.5	-1.1
	SNR=25						
ANTO	Ankara	152.79	302	ePKIKP	PKPdf	17 55 58.2	+0.6
BR231	Keskin MP Arra	152.81	302	ePKPbc	PKPbc	17 56 05.2	+0.3
EKA	Eskdalemuir Ar	152.96	7	PKPbc	PKPbc	17 56 03.4	-1.1
	comp=Z,3.5nm,0.5s,baz=225,slow=1.1,SNR=8.2						
EKA				pPKP	pPKPdf	17 56 26.9	-1.3
	comp=Z,10nm,0.8s,baz=24,slow=6.4,SNR=6.7						
ECK	Cauldkaine Hil	153.11	7	eP	PKPbc	17 56 04.3	-0.6
GKP	Gorka Klasztor	153.11	340	ePKPdf	PKPdf	17 55 58.3	+0.9
GKP				ePKPbc	PKPbc	17 56 04.6	-0.3
GKP				epPKPbc	pPKPbc	17 56 34.9	-0.8
GKP	Gorka Klasztor	153.11	340	ePKIKP	PKPdf	17 55 58.3	+0.9
BEL	Belsk	153.12	335	ePKPdf	PKPdf	17 55 56.8	-0.8
BEL				ePKPbc	PKiKP	17 56 05.2	0.0
BEL				epPKPbc	pPKPbc	17 56 35.3	-0.5
BEL	Belsk	153.12	335	ePKIKP	PKPdf	17 55 56.8	-0.8
CSS	Mathiatis	153.23	292	ePKPbc	PKPbc	17 56 06.0	+0.1
LVV	L'vov	153.28	328	ePKIKP	PKPdf	17 55 58.2	+0.4
EDMD	Edmundbyers	153.58	6	eP	PKPbc	17 56 05.0	-0.9
KESW	Keswick, Cumbr	153.70	8	eP	PKPbc	17 56 05.5	-0.7
CFR	Carcaliu	153.91	316⇑	iP	PKPab	17 56 19.0	-1.6
KWP	Kalwaria Pacla	154.02	329	ePKPdf	PKPdf	17 55 58.2	-0.7
KWP				ePKPbc	PKPbc	17 56 06.8	-0.2
KWP				ePKPab	PKPab	17 56 20.7	-0.2
KWP	Kalwaria Pacla	154.02	329	ePKPdf	PKPdf	17 55 58.6	-0.3
KWP	Kalwaria Pacla	154.02	329	ePKIKP	PKPdf	17 55 58.6	-0.3
TIRR	Tirgusor	154.10	315⇓	iP	PKPab	17 56 19.9	-1.5
TIRR	Tirgusor	154.10	315	ePKPab	PKPab	17 56 21.7	+0.3
TIRR	Tirgusor	154.10	315	ePKP2	PKPab	17 56 21.7	+0.3
BUR08	Bucovina Ar. S	154.16	324	ePKPdf	PKPdf	17 55 59.8	+0.4
BUR04	Bucovina Ar. S	154.17	323	ePKPdf	PKPdf	17 55 58.5	-0.8
BURAR	Bucovina Array	154.17	323⇓	iP	PKPbc	17 56 08.5	+0.9
VRI	Vrincioaia	154.38	319⇑	iP	PKPab	17 56 23.7	+1.1
CMLA	Cha da Macela	154.78	61	ePKiKP	PKPab	17 56 30.0	+5.4
OJC	Ojcow	154.79	334	ePKPdf	PKPdf	17 55 59.1	-0.8
OJC				ePKPbc	PKPbc	17 56 08.3	-0.4
OJC				ePKPab	PKPab	17 56 23.5	-0.6
OJC	Ojcow	154.79	334	ePKPdf	PKPdf	17 55 59.5	-0.5
OJC	Ojcow	154.79	334	ePKIKP	PKPdf	17 55 59.5	-0.5
STHS	Stebnicka Huta	154.82	331	ePKP	PKPdf	17 55 58.9	-1.2
STHS	Stebnicka Huta	154.82	331	ePKIKP	PKPdf	17 55 58.9	-1.2
STHS				e		17 56 23.7	
UZH	Uzhgorod	154.93	328	ePKIKP	PKPbc	17 56 08.6	-0.4
UZH				e		17 56 23.6	
UZH				e		17 56 35.2	
MLR	Muntele Rosu	155.04	319	PKP	PKPdf	17 55 59.2	-1.5
	comp=Z,0.6nm,1.1s,baz=99,slow=4.2,SNR=5.4						
MLR	Muntele Rosu	155.04	319⇑	iP	PKPab	17 56 19.7	-5.9
MLR	Muntele Rosu	155.04	319	ePKPdf	PKPdf	17 55 59.3	-1.4
MLR	Muntele Rosu	155.04	319	ePKIKP	PKPdf	17 55 59.3	-1.4
BART	Pico Bartolome	155.05	61	ePKiKP	PKPab	17 56 28.2	+2.3
CRVS	Cervenica-Dubn	155.11	330	ePKP	PKPdf	17 56 00.0	-0.5
CRVS	Cervenica-Dubn	155.11	330	ePKIKP	PKPdf	17 56 00.0	-0.5
CRVS				e		17 56 25.4	
TRPA	Tarpa	155.17	327⇓	iP	PKPab	17 56 22.8	-3.0
NIE	Niedzica	155.22	332	ePKPdf	PKPdf	17 55 60.0	-0.6
NIE	Niedzica	155.22	332	ePKIKP	PKPdf	17 56 00.0	-0.6
PSMA	Santa Maria	155.25	63	ePKiKP	PKPab	17 56 30.0	+3.4
PSMN	Pico do Norte,	155.30	63	ePKiKP	PKPab	17 56 27.9	+1.0
KSP	Ksiaz	155.51	339	ePKPdf	PKPdf	17 55 60.0	-0.9
KSP				ePKPbc	PKPab	17 56 10.1	-17
KSP				ePKPab	pPKPdf	17 56 26.8	-5.2
KSP	Ksiaz	155.51	339	ePKIKP	PKPdf	17 56 00.0	-0.9
VOIR		155.59	320⇓	iP	PKPab	17 56 29.3	+1.4
OKC	Ostrava-Krasne	155.73	335	ePKPAB	PKPab	17 56 27.7	-0.5
OKC				ex	x	17 56 40.8	
OKC				epPKP	sPKPbc	17 56 54.6	+1.4
OKC				ex	x	18 00 25.7	
OKC				AMS	AMS	19 09 20.0	
	comp=Z,500nm,23.5s						
OKC	Ostrava-Krasne	155.73	335	ePKP2	PKPab	17 56 27.7	-0.5
OKC				MLR	MLR		
	comp=Z,500nm,23.5s						
LANS	Liptovska Anna	155.77	332	ePKP	PKPdf	17 56 01.7	+0.3
LANS	Liptovska Anna	155.77	332	ePKIKP	PKPdf	17 56 01.7	+0.3
LANS				e		17 56 28.9	
UPC	Upice	155.90	339	ePKPDF	PKPdf	17 56 01.1	-0.4
UPC				ex	x	17 56 11.3	
UPC				ePKPAB	PKPab	17 56 29.0	+0.1
UPC				ex	x	18 00 23.6	
UPC				ex	x	18 19 32.7	
UPC				AMS	AMS	19 04 00.0	
	comp=Z,700nm,23.5s						
UPC	Upice	155.90	339	ePKIKP	PKPdf	17 56 01.1	-0.4
UPC				e		17 56 11.3	
UPC				e		17 56 29.0	
UPC				MLR	MLR		
	comp=Z,700nm,23.5s						
DPC	Dobruska-Polom	155.93	338	ePKPDF	PKPdf	17 56 01.4	-0.2
DPC				ex	x	17 56 11.5	
DPC				ePKPAB	PKPab	17 56 29.5	+0.4
DPC				ex	x	17 56 41.9	
DPC				ex	x	18 00 24.5	
DPC	Dobruska-Polom	155.93	338	ePKIKP	PKPdf	17 56 01.4	-0.2
DPC				e		17 56 29.5	
DPC				e		17 56 41.9	
MORC	Moravsky Berou	156.00	336⇑	iP	PKPab	17 56 17.9	-11
MORC	Moravsky Berou	156.00	336	ePKPdf	PKPdf	17 56 01.4	-0.3
MORC				ePKPab	PKPab	17 56 29.1	-0.3
MORC	Moravsky Berou	156.00	336	ePKIKP	PKPdf	17 56 01.4	-0.3
MORC				e		17 56 29.1	
KRLC	Kraliky	156.01	337	ePKPDF	PKPdf	17 56 01.2	-0.5
KRLC				ePKPAB	PKPab	17 56 29.4	-0.1
KRLC				ex	x	17 56 42.0	
KRLC				esPKP		17 56 47.4	
KRLC	Kraliky	156.01	337	ePKIKP	PKPdf	17 56 01.2	-0.5
KRLC				e		17 56 29.4	
KRLC				e		17 56 42.0	
CLL	Collm	156.02	344	ePKPdf	PKPdf	17 56 01.0	-0.6
	comp=Z,54nm,2.2s						
CLL			⇑	iPKPdf(2)		17 56 11.3	
	comp=Z,27nm,1.3s						
CLL				ePKPdiff2		17 56 25.0	
CLL				ePKPab	PKPab	17 56 28.0	-1.3
	comp=Z,24nm,1.0s						
CLL				i PKPab(2)		17 56 39.8	
	comp=Z,48nm,1.0s						
CLL				epPKPab	pPKPab	17 56 56.0	-3.2
CLL				i pPKPab2		17 57 09.0	
CLL				ePP	PP	18 00 02.0	-4.6
CLL				ePP(2)		18 00 27.0	
CLL				eSKSdf	SKSdf	18 02 56.0	-1.2
CLL				ePPP	PPP	18 03 45.0	
CLL				eSKKSac	SKKSac	18 06 47.0	+1.5
CLL				ePPPrev		18 09 06.0	
CLL				e(PSKS)		18 10 19.0	
CLL				esPSKS		18 11 11.0	
CLL				eSKKSdf	SKKSdf	18 11 30.0	-2.6
CLL				ePPS	PPS	18 13 18.0	
CLL				epPPS		18 13 41.0	
CLL				eSS	SS	18 19 47.0	+1.8
CLL				eSPS	SPS	18 20 31.0	
CLL				eSSS	SSS	18 25 42.0	
CLL				eSSSS		18 29 42.0	
CLL	Collm	156.02	344	ePKIKP	PKPdf	17 56 01.0	-0.6
CLL				i		17 56 11.3	
CLL				e		17 56 28.0	
CLL				i		17 56 39.8	
CLL				pmax	pmax		
	comp=Z,54nm,2.2s						
CLL				pmax	pmax		
	comp=Z,27nm,1.3s						
CLL				pmax	pmax		
	comp=Z,24nm,1.0s						
BRG	Berggiesshubel	156.18	342	ePKP	PKPdf	17 56 00.6	-1.2
	comp=Z,30nm,1.5s						
BRG	Berggiesshubel	156.18	342	i PKP	PKPab	17 56 29.4	-0.6
	comp=Z,54nm,1.4s						
BRG				i sPKP		17 56 41.2	
	comp=Z,59nm,1.4s						
BRG				i sPKP		17 57 12.1	
	comp=Z,49nm,1.2s						
BRG				SKKS		18 06 47.0	
BRG				SS	SS	18 19 44.0	-3.0
BRG	Berggiesshubel	156.18	342	ePKIKP	PKPdf	17 56 00.6	-1.2
BRG				i		17 56 29.4	
BRG				i		17 56 41.2	
BRG				SS	SS	18 19 44.0	-3.0
BRG				pmax	pmax		
	comp=Z,30nm,1.5s						
BRG				pmax	pmax		
	comp=Z,54nm,1.4s						
BRG				MLR	MLR		
	comp=E,672nm,24.8s						
BRG				MLR	MLR		
	comp=Z,864nm,22.7s						
PVCC	Panska Ves	156.31	341	ePKPDF	PKPdf	17 56 01.5	-0.5
PVCC				ex	x	17 56 11.6	
PVCC				ePKPAB	PKPab	17 56 30.6	0.0
PVCC				ex	x	17 56 41.7	
PVCC				ex	x	18 00 27.4	
PVCC				AMS	AMS	19 02 00.0	
	comp=Z,900nm,23.0s						
PVCC	Panska Ves	156.31	341	ePKIKP	PKPdf	17 56 01.5	-0.5
PVCC				e		17 56 30.6	
PVCC				e		17 56 41.7	
PVCC				MLR	MLR		
	comp=Z,900nm,23.0s						
PSZ	Piszkesteto	156.54	330⇑	iP	PKPdf	17 56 13.2	+11
PSZ	Piszkesteto	156.54	330⇓	ePKPdf	PKPdf	17 56 00.9	-1.6
PSZ	Piszkesteto	156.54	330	ePKPdf	PKPdf	17 56 02.6	+0.1
PSZ				ePKPab	PKPab	17 56 32.0	+0.2
PSZ	Piszkesteto	156.54	330	ePKIKP	PKPdf	17 56 02.6	+0.1
PSZ				e		17 56 32.0	
VYHS	Vyhne	156.54	332	ePKIKP	PKPdf	17 56 02.0	-0.4
VYHS				e		17 56 31.4	
LIC	Lamto	156.58	160	ePKIKP	PKPdf	17 56 03.0	-0.5
	comp=Z,206nm,1.2s						
VRAC	Vranov	156.73	336	PKP	PKPdf	17 56 01.9	-0.7
	comp=Z,1.3nm,0.3s,baz=322,slow=2.4,SNR=8.8						

VRAC				PKPab	**PKPab**	17 56 31.3	-1.2	
	comp=Z,8.6nm,0.7s,baz=27,slow=4.0,SNR=12							
VRAC	**Vranov**	**156.73**	**336**	⇑*i*P	PKPab	17 56 17.8	-15	
PRA	**Prague**	**156.76**	**341**	AMS	AMS	19 01 50.0		
GOPC	**GO Pecny, Ondr**	**156.79**	**340**	*e*PKPDF	**PKPdf**	**17 56 03.6**	**+0.9**	
GOPC				*e*PKPAB	**PKPab**	**17 56 30.1**	**-2.7**	
GOPC				*ex*	x	17 56 41.6		
GOPC				*ex*	x	18 00 31.3		
GOPC				AMS	AMS	19 06 30.0		
	comp=Z,800nm,18.5s							
GOPC	**GO Pecny, Ondr**	**156.79**	**340**	*e*PKIKP	**PKPdf**	**17 56 03.6**	**+0.9**	
GOPC				*e*		17 56 30.1		
GOPC				*e*		17 56 41.6		
GOPC				MLR	MLR			
	comp=Z,800nm,18.5s							
KIC	**Kosan Boka**	**156.80**	**161**	*e*PKIKP	**PKPdf**	**17 56 03.0**	**-0.8**	
	comp=Z,170nm,1.0s							
PRU	**Pruhonice**	**156.80**	**340**	*e*PKPDF	**PKPdf**	**17 56 01.4**	**-1.2**	
PRU				*e*PKPAB	**PKPab**	**17 56 32.3**	**-0.5**	
PRU				*ex*	x	17 56 43.2		
PRU				*e*pPKP	**pPKPab**	**17 57 03.0**	**+0.4**	
PRU				*ex*	x	18 00 30.8		
PRU				*e*SS	SS	18 19 47.9	-5.9	
PRU				AMS	AMS	19 02 40.0		
	comp=Z,900nm,22.8s							
PRU	**Pruhonice**	**156.80**	**340**	*e*PKIKP	**PKPdf**	**17 56 01.4**	**-1.2**	
PRU				*e*		17 56 32.3		
PRU				*e*		17 56 43.2		
PRU				*e*SS	SS	18 19 47.9	-5.9	
PRU				MLR	MLR			
	comp=Z,900nm,22.8s							
TIC	**Toumodi**	**156.98**	**160**	*e*PKIKP	**PKPdf**	**17 56 03.5**	**-0.5**	
DBIC	**Dimbokro**	**157.06**	**161**	PKP	**PKPdf**	**17 56 04.2**	**+0.1**	
	comp=Z,23nm,1.0s,baz=167,slow=1.6,SNR=16							
DBIC				PKPab	**pPKPdf**	**17 56 35.2**	**+0.1**	
	comp=Z,36nm,1.1s,baz=160,slow=3.4,SNR=9.4							
DBIC	**Dimbokro**	**157.06**	**161**	*e*PKPdf	**PKPdf**	**17 56 04.7**	**+0.7**	
DBIC				PKPab	**pPKPdf**	**17 56 35.2**	**+0.1**	
SMOL	**Smolenice**	**157.08**	**334**	*e*PKP	**PKPab**	**17 56 34.3**	**+0.2**	
SMOL	**Smolenice**	**157.08**	**334**	*e*PKP2	**PKPab**	**17 56 34.3**	**+0.2**	
TREC	**Trest**	**157.12**	**338**	*ex*	x	18 00 33.1		
TREC				AMS	AMS	19 14 30.0		
	comp=Z,600nm,19.0s							
NKC	**Novy Kostel**	**157.15**	**344**	AMS	AMS	19 05 50.0		
	comp=Z,900nm,24.3s							
MODS	**Modra-Piesok**	**157.26**	**334**	*e*PKP	**PKPab**	**17 56 31.5**	**-3.3**	
MODS	**Modra-Piesok**	**157.26**	**334**	*e*PKP2	**PKPab**	**17 56 31.5**	**-3.3**	
SRO	**Srobarova**	**157.29**	**332**	*e*PKP	**PKPab**	**17 56 33.1**	**-1.9**	
SRO	**Srobarova**	**157.29**	**332**	*e*PKP2	**PKPab**	**17 56 33.1**	**-1.9**	
BBTS	**Babate**	**157.45**	**124**	PKPab	**PKPab**	**17 56 36.6**	**+0.1**	
	comp=Z,76nm,1.0s,baz=298,slow=1.3,SNR=6.2							
KHC	**Kasperske Hory**	**157.85**	**341**	*e*PKPDF	**PKPdf**	**17 56 03.3**	**-0.8**	
KHC				*ex*	x	17 56 15.2		
KHC				*e*PKPAB	**pPKPdf**	**17 56 33.3**	**-1.8**	
KHC				*ex*	x	17 56 52.9		
KHC				*ex*	x	18 00 38.0		
KHC				*e*SS	SS	18 20 03.9	-1.1	
KHC				AMS	AMS	19 05 00.0		
KHC	**Kasperske Hory**	**157.85**	**341**	*e*PKPdf	**PKPdf**	**17 56 02.8**	**-1.3**	
KHC	**Kasperske Hory**	**157.85**	**341**	*e*PKIKP	**PKPdf**	**17 56 03.3**	**-0.8**	
KHC				*e*		17 56 33.3		
KHC				*e*SS	SS	18 20 03.9	-1.1	
MEM	**Membach**	**157.87**	**354**	⇓PKP	pPKPab	17 57 07.0	-0.1	
GRF	**Grafenberg Arr**	**157.95**	**345**	PKP2	**PKPab**	**17 56 37.3**	**-0.4**	
GRFO	**Grafenberg**	**157.95**	**345**	PKPab	**PKPab**	**17 56 38.1**	**+0.4**	
GRFO	**Grafenberg**	**157.95**	**345**	*e*PKP2	**PKPab**	**17 56 38.1**	**+0.4**	
GERES	**GERESS Array B**	**158.07**	**340**	PKP	**PKPdf**	**17 56 03.5**	**-0.9**	
	comp=Z,1.8nm,0.9s,baz=45,slow=0.4,SNR=8.6							
GERES				PKPab	**PKPab**	**17 56 37.4**	**-1.0**	
	comp=Z,4.3nm,0.9s,baz=41,slow=2.5,SNR=7.9							
BCLA	**Clavier**	**158.12**	**355**	⇓PKP	pPKPab	17 57 08.1	-0.1	
KARP	**Karpathos**	**158.15**	**295**	*e*PKPab	**PKPab**	**17 56 38.9**	**-0.3**	
CONA	**Conrad Observa**	**158.15**	**336**	*e*PKPdf	**PKPdf**	**17 56 03.6**	**-0.9**	
	comp=Z,5.7nm,1.1s							
CONA				*i* pPKPdf	**pPKPdf**	**17 56 34.4**	**-1.1**	
	comp=Z,30nm,1.3s							
CONA				*es*PKPab	**sPKPab**	**17 57 22.9**	**+2.4**	
	comp=Z,60nm,1.2s							
MORH	**M¨ŧr¨gy, Hung**	**158.38**	**329**	⇓*ex*	**PKPdf**	**17 56 03.4**	**-1.3**	
DOU	**Dourbes**	**158.48**	**357**	⇓PKP	pPKPab	17 57 09.7	0.0	
MOA	**Molln**	**158.77**	**338**	*e*PKPdf	**PKPdf**	**17 56 04.0**	**-1.2**	
	comp=Z,7.2nm,1.2s							
MOA				*e*pPKPdf	**pPKPdf**	**17 56 34.7**	**-1.5**	
	comp=Z,8.3nm,1.1s							
MOA				*es*PKPab	**sPKPab**	**17 57 25.2**	**+2.1**	
	comp=Z,71nm,2.0s							
WLF	**Walferdange**	**158.80**	**354**	⇑PKP	pPKPab	17 57 11.1	-0.1	
ARSA	**Arzberg**	**158.85**	**335**	*e*PKPdf	**PKPdf**	**17 56 04.3**	**-1.0**	
	comp=Z,6.7nm,1.2s							
ARSA				*e*pPKPdf	**pPKPdf**	**17 56 34.8**	**-1.5**	
	comp=Z,11nm,1.2s							
ARSA				*es*PKPab	**sPKPab**	**17 57 25.5**	**+2.0**	
	comp=Z,28nm,1.4s							
DIVS	**Divibare**	**159.23**	**323**	*e*PKPdf	**PKPdf**	**17 56 05.7**	**-0.2**	
SOKA	**Soboth**	**159.51**	**335**	*e*PKPdf	**PKPdf**	**17 56 05.0**	**-1.2**	
	comp=Z,8.4nm,1.2s							
SOKA				*e*pPKPdf	**pPKPdf**	**17 56 35.8**	**-1.4**	
	comp=Z,13nm,1.2s							
SOKA				*i* sPKPab	**sPKPab**	**17 57 28.0**	**+1.5**	
	comp=Z,64nm,1.8s							
KBA	**Koelnbreinsper**	**159.75**	**339**	*e*PKPdf	**PKPdf**	**17 56 04.7**	**-1.8**	
	comp=Z,10nm,1.5s							
KBA				*e*pPKPdf	**pPKPdf**	**17 56 35.7**	**-1.9**	
	comp=Z,15nm,1.2s							
OBKA	**Obir**	**159.83**	**336**	*e*PKPdf	**PKPdf**	**17 56 05.2**	**-1.4**	
	comp=Z,3.1nm,0.9s							
OBKA				*i* sPKPab	**sPKPab**	**17 57 29.3**	**+1.4**	
	comp=Z,20nm,1.1s							
IDI	**Anoyia**	**160.01**	**295**	PKP	**PKPdf**	**17 56 06.2**	**-0.9**	
	comp=Z,9.3nm,1.1s,baz=122,slow=3.7,SNR=8.6							
IDI	**Anoyia**	**160.01**	**295**	*e*PKPdf	**PKPdf**	**17 56 07.3**	**+0.2**	
MYKA	**Terra Mystica**	**160.05**	**337**	*i* pPKPdf	**pPKPdf**	**17 56 36.0**	**-1.8**	
	comp=Z,8.4nm,1.0s							
MYKA				*i* sPKPab	sPKPab	17 57 30.0	+1.2	
	comp=Z,44nm,1.2s							
MOZS	**Mozjanca**	**160.05**	**335**	*i* PKPbc	**PKPdf**	**17 56 05.4**	**-1.3**	
WTTA	**Wattenberg**	**160.09**	**342**	*e*PKPab	**PKPab**	**17 56 44.0**	**-3.4**	
	comp=Z,20nm,1.0s							
RETA	**Reutte**	**160.12**	**344**	*e*PKPab	**PKPab**	**17 56 43.6**	**-3.7**	
	comp=Z,19nm,1.2s							
MOTA	**Moosalm**	**160.16**	**343**	*e*PKPdf	**PKPdf**	**17 56 06.0**	**-0.9**	
	comp=Z,10nm,1.4s							
LJU	**Ljubljana**	**160.24**	**335**	*i* PKPbc	**PKPdf**	**17 56 05.6**	**-1.3**	
ABTA	**Abfaltersbach**	**160.31**	**340**	*e*PKPdf	**PKPdf**	**17 56 05.3**	**-1.8**	
	comp=Z,8.4nm,1.1s							
ABTA				*e*pPKPdf	**pPKPdf**	**17 56 36.2**	**-1.9**	
	comp=Z,15nm,1.5s							
ABTA				*es*PKPab	**sPKPab**	**17 57 30.7**	**+0.8**	
	comp=Z,32nm,1.1s							
BOJS	**Bojanci**	**160.40**	**333**	*i* PKPbc	**PKPdf**	**17 56 00.8**	**-6.2**	
FETA	**Feichten**	**160.56**	**343**	*i* PKPdf	**PKPdf**	**17 56 06.6**	**-0.8**	
	comp=Z,12nm,1.4s							
FETA				*e*pPKPdf	**pPKPdf**	**17 56 37.5**	**-1.0**	
	comp=Z,16nm,1.3s							
FETA				*es*PKPab	**sPKPab**	**17 57 32.7**	**+1.6**	
	comp=Z,32nm,1.4s							
FUORN	**Ofenpass-Fuorn**	**161.05**	**344**	*e*PKPab	**PKPab**	**17 56 51.5**	**-0.2**	
TUE	**Stuetta**	**161.40**	**345**	*e*PKPdf	**PKPdf**	**17 56 07.6**	**-0.8**	
PCAB	**Cabril**	**164.29**	**31**	*i* P	pPKPab	17 57 36.0	+0.5	
TOA0	**Torodi Ar. Sit**	**164.60**	**176**	*e*PKPdf	**PKPdf**	**17 56 11.5**	**-0.6**	
TOA0				*e*PKPdf	**PKPdf**	**17 56 11.8**	**-0.3**	
TORD	**Torodi Ar. Bea**	**164.60**	**176**	PKP	**PKPdf**	**17 56 11.8**	**-0.4**	
	comp=Z,22nm,1.1s,baz=300,slow=1.0,SNR=75							
TORD				pPKP	**pPKPdf**	**17 56 42.0**	**-1.2**	
	comp=Z,19nm,0.9s,baz=296,slow=1.1,SNR=11							
TORD				PKPab	**PKPab**	**17 57 08.2**	**+0.7**	
	comp=Z,42nm,0.7s,baz=196,slow=2.8,SNR=32							
TORD				PP	**PP**	**18 00 53.5**	**+1.0**	
	comp=Z,15nm,1.3s,baz=166,slow=4.5,SNR=4.0							
KOWA	**Kowa**	**164.66**	**155**	PKP	**PKPdf**	**17 56 11.9**	**-0.3**	
	comp=Z,27nm,1.0s,baz=241,slow=1.1,SNR=37							
KOWA				pPKP	**pPKPdf**	**17 56 42.0**	**-1.2**	
	comp=Z,19nm,0.8s,baz=274,slow=2.9,SNR=7.1							
KOWA				PKPab	**PKPab**	**17 57 08.3**	**+0.5**	
	comp=Z,16nm,0.7s,baz=156,slow=4.3,SNR=4.0							
KOWA	**Kowa**	**164.66**	**155**	*e*PKPdf	**PKPdf**	**17 56 11.5**	**-0.7**	
KOWA				pPKP	**pPKPdf**	**17 56 42.0**	**-1.2**	
KOWA				PKPab	**PKPab**	**17 57 08.3**	**+0.5**	
POLO	**Lamas de Olo**	**164.66**	**31**	*e*PKPdf	**PKPdf**	**17 56 11.7**	**+0.1**	
POLO	**Lamas de Olo**	**164.66**	**31**	*e*PKPab	**PKPab**	**17 57 06.7**	**-0.8**	
POLO				*i* P	**pPKPab**	**17 57 36.8**	**-0.4**	
PBRG	**Braganca**	**164.76**	**28**	*i* P	pPKPab	17 57 37.3	-0.3	
PVRL	**Vila Real**	**164.78**	**31**	*e*PKPdf	**PKPdf**	**17 56 12.1**	**+0.5**	
PVRL	**Vila Real**	**164.78**	**31**	*e*PKPab	**PKPab**	**17 57 08.1**	**+0.2**	
PVRL				*i* P	**pPKPab**	**17 57 37.2**	**-0.5**	
PVIS	**Viseu**	**165.13**	**33**	*e*PKPdf	**PKPdf**	**17 56 12.6**	**+0.7**	
PVIS				*i* P	**pPKPab**	**17 57 40.3**	**+1.0**	
MVO	**Moncorvo**	**165.17**	**30**	*e*PKPdf	**PKPdf**	**17 56 12.3**	**+0.3**	
MVO				*i* P	**pPKPab**	**17 57 38.8**	**-0.6**	
CEL	**Celeste**	**165.36**	**315**	*e*PKPab	**PKPab**	**17 57 11.4**	**+0.8**	
MTE	**Manteigas**	**165.55**	**33**	*e*PKPdf	**PKPdf**	**17 56 13.1**	**+0.8**	
MTE				*i* P	**pPKPdf**	**17 56 43.2**	**-0.2**	
PMAFR	**Mafra**	**165.69**	**41**	*e*PKPdf	**PKPdf**	**17 56 13.8**	**+1.4**	
PMAFR				*i* P	**pPKPdf**	**17 56 44.7**	**+1.2**	
PTOM	**Tomar**	**165.70**	**37**	*e*PKPdf	**PKPdf**	**17 56 13.1**	**+0.8**	
PTOM				*i* P	**pPKPab**	**17 57 43.4**	**+1.7**	
LIS	**Lisbon**	**165.93**	**41**	*e*PKPdf	**PKPdf**	**17 56 12.1**	**-0.4**	
LIS				AMS	AMS	19 21 58.8		
	comp=N,880nm,18.3s							
ALMR	**Almeirim**	**165.94**	**39**	*e*PKPdf	**PKPdf**	**17 56 12.2**	**-0.3**	
ALMR				AMS	AMS	19 36 30.9		
	comp=N,1μm,21.6s							
PCBR	**Castelo Branco**	**166.01**	**34**	*e*PKPdf	**PKPdf**	**17 56 13.1**	**+0.5**	
PCBR				*i* P	**pPKPdf**	**17 56 44.1**	**+0.4**	
PMRV	**Marv??o**	**166.37**	**35**	*i* P	pPKPab	17 57 44.6	-0.1	
PNCL	**Nicolau / Gran**	**166.69**	**42**	*e*PKPdf	**PKPdf**	**17 56 13.9**	**+0.7**	
PNCL				*i* P	**pPKPdf**	**17 56 44.7**	**+0.5**	
EVO	**Evora**	**166.70**	**39**	*e*PKPdf	**PKPdf**	**17 56 13.6**	**+0.4**	
EVO				*i* P	**pPKPdf**	**17 56 44.8**	**+0.5**	
EVO	**Evora**	**166.70**	**39**	*e*PKPab	**PKPab**	**17 57 15.3**	**-1.1**	
PTEO	**Sao Teotonio**	**166.95**	**44**	*i* P	pPKPdf	17 56 45.2	+0.7	
PTEO	**Sao Teotonio**	**166.95**	**44**	*e*PKPab	**PKPab**	**17 57 16.7**	**-0.9**	
PBEJ	**Beja**	**167.13**	**40**	*e*PKPdf	**PKPdf**	**17 56 14.8**	**+1.3**	
PBEJ				*i* P	**pPKPdf**	**17 56 45.3**	**+0.7**	
MORF	**Marmelete**	**167.14**	**45**	*e*PKPdf	**PKPdf**	**17 56 13.2**	**-0.4**	
MORF				*e*PP	**PP**	**18 01 06.6**	**-0.2**	
MORF				AMS	AMS	19 21 30.1		
	comp=N,330nm,21.9s							
MORF	**Marmelete**	**167.14**	**45**	*e*PKPdf	**PKPdf**	**17 56 14.0**	**+0.4**	
MORF				*i* P	**pPKPdf**	**17 56 44.7**	**0.0**	
PCVE	**Castro Verde**	**167.30**	**42**	*e*PKPdf	**PKPdf**	**17 56 14.6**	**+0.9**	
PBAR	**Barrancos**	**167.49**	**38**	*e*PKPdf	**PKPdf**	**17 56 14.6**	**+0.8**	
PBAR				*i* P	**pPKPab**	**17 57 51.2**	**+1.6**	
PAB	**San Pablo**	**167.64**	**26**	*e*PKPdf	**PKPdf**	**17 56 14.8**	**+0.9**	
PAB	**San Pablo**	**167.64**	**26**	*e*PKIKP	**PKPdf**	**17 56 14.8**	**+0.9**	
ES19	**SONSECA Array**	**167.67**	**24**	*e*PKPdf	**PKPdf**	**17 56 14.2**	**+0.2**	
ESDC	**Sonseca Array**	**167.67**	**25**	PKP	**PKPdf**	**17 56 13.9**	**0.0**	
	comp=N,5.3nm,1.0s,baz=348,slow=2.3,SNR=11							
ESDC				pPKP	**pPKPdf**	**17 56 44.4**	**-0.6**	
	comp=N,3.4nm,0.9s,baz=345,slow=2.8,SNR=2.8							
ESDC				PKPab	**PKPab**	**17 57 20.1**	**-0.6**	
	comp=N,2.2nm,0.5s,baz=324,slow=4.5,SNR=7.2							
KEST	**Kesra**	**170.91**	**323**	PKP	**PKPdf**	**17 56 15.8**	**-0.3**	
	comp=N,6.8nm,0.9s,baz=280,slow=6.0,SNR=5.1							
KEST				pPKP	**pPKPdf**	**17 56 46.2**	**-1.0**	
	comp=N,6.7nm,0.9s,baz=298,slow=2.4,SNR=3.5							
TAM	**Tamanrasset**	**173.66**	**205**	*e*PKPdf	**PKPdf**	**17 56 18.4**	**+0.6**	
TAM	**Tamanrasset**	**173.66**	**205**	*e*PKIKP	**PKPdf**	**17 56 18.4**	**+0.6**	

*ECX **23** 17:37:02.6±0.5, 33°.47N×117°.73W, h13km, MD3.7, ML3.8*
*IDC **23** 17:37:02.2±2.2, 33°.47N×117°.84W, h0km, mb3.3/3, mb1 3.5/7, mb1mx3.3/74, mbtmp3.2/7, ML3.4/4, Error ellipse: s-maj=32.9km s-min=16.5km az=61.0*
*NEIC **23** 17:37:02.3±0.0, 33°.50N×117°.72W, h13km, ML3.9(PAS), After PAS.*
NEIC Felt [IV] at Aliso Viejo, Capistrano Beach, Dana Point, Irvine, Ladera Ranch, Laguna Beach, Laguna Hills, Laguna Niguel, Laguna Woods, Lake Forest, Mission Viejo, Rancho Santa Margarita, San Clemente, San Juan Capistrano and Tustin. Felt throughout the greater Los Angeles area and as far as La Quinta, San Diego and Ventura.

ISC 23 17:37:00.6±1.1, 33°.51N±0°.02×117°.73W±0°.02, h2km±8km, n184, σ1s10/236, mb3.3/3, 3C, Southern California

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BREC	**Barre Substati**	**0.36**	**325**	*e*Pg		**Pb**		**17 37 10.3**	**+0.5**
CRNC	**Corona**	**0.39**	**21**	*e*Pg		**Pb**		**17 37 09.9**	**-0.4**
FULC	**Fullerton**	**0.39**	**336**	*e*Pg		**Pn**		**17 37 11.1**	**-2.2**
FULC				*e*Sg		**Sb**		**17 37 17.2**	**+0.4**
DLAC	**Del Amo**	**0.45**	**318**	*e*Pg		**Pn**		**17 37 12.2**	**-2.0**
DLAC				*e*Sg		**Sb**		**17 37 20.0**	**+1.5**
MURC	**Murrieta**	**0.46**	**78**	P		**Pb**		**17 37 10.8**	**-0.6**
	baz=258,SNR=502								
MURC				S		**Sg**		**17 37 16.5**	**+1.2**
	baz=258								
CHNC	**Chino**	**0.49**	**5**	*e*Pg		**Pb**		**17 37 12.4**	**+0.4**
FMP	**Fort Macarthur**	**0.51**	**294**	P		**Pb**		**17 37 12.0**	**-0.3**
	baz=114,SNR=41								
FMP				S		**Sb**		**17 37 19.7**	**-0.4**
	baz=114								
FMP	**Fort Macarthur**	**0.51**	**294**	*e*Pg		**Pn**		**17 37 13.2**	**-1.7**
FMP				*e*Sg		**Sb**		**17 37 19.6**	**-0.6**
RVR	**Riverside**	**0.57**	**32**	*e*Pg		**Pb**		**17 37 12.8**	**-0.5**
CIAC	**Catalina I. Ai**	**0.58**	**259**	*e*Pg		**Pb**		**17 37 13.6**	**+0.1**
CIS	**Catalina Islan**	**0.58**	**260**	P		**Pb**		**17 37 13.5**	**0.0**
	baz=80,SNR=575								
CIS				S		**Sb**		**17 37 21.7**	**-0.5**
	baz=80								
PSRC	**Puddingstone R**	**0.58**	**354**	*e*Pg		**Pb**		**17 37 13.3**	**-0.3**
RPV	**Rancho Palos V**	**0.61**	**293**	*e*Pg		**Pb**		**17 37 14.1**	**+0.2**
DGR	**Domenigoni Val**	**0.62**	**77**	*e*Pg		**Pb**		**17 37 13.4**	**-0.8**
GVRC	**Garvey Reservo**	**0.63**	**329**	*e*Pg		**Pn**		**17 37 14.6**	**-1.9**
GVRC				*e*Sg		**Sn**		**17 37 24.7**	**-2.5**
FON	**Fontana**	**0.64**	**23**	*e*Pg		**Pb**		**17 37 14.3**	**-0.2**
HMTC	**Hemet**	**0.64**	**72**	*e*Pg		**Pb**		**17 37 13.8**	**-0.8**
PEM	**Pine Mountain**	**0.67**	**350**	*e*Pg		**Pb**		**17 37 14.7**	**-0.3**
CLTC	**Calectric**	**0.68**	**31**	*e*Pg		**Pb**		**17 37 15.3**	**+0.1**
SSK	**Sunset Peak**	**0.70**	**3**	*e*Pg		**Pb**		**17 37 15.5**	**-0.1**
CACC	**Caltech Cellar**	**0.70**	**333**	*e*Sg		**Sn**		**17 37 26.9**	**-2.3**
BFSC	**Mount Baldy Ra**	**0.73**	**5**	P		**Pb**		**17 37 15.8**	**-0.3**
	baz=184,SNR=1000								
BFSC				S		**Sb**		**17 37 25.4**	**-1.3**
	baz=184								
BFSC	**Mount Baldy Ra**	**0.73**	**5**	*e*Pg		**Pb**		**17 37 15.9**	**-0.2**
PLM	**Palomar**	**0.74**	**102**	*e*Pg		**Pb**		**17 37 15.6**	**-0.8**
HLNC	**Highland**	**0.75**	**35**	*e*Sg		**Sb**		**17 37 26.6**	**-0.4**
BBSC	**Beaumont Base**	**0.75**	**57**	*e*Pg		**Pb**		**17 37 16.2**	**-0.2**
PASC	**Pasadena Art C**	**0.76**	**330**	*e*Pg		**Pb**		**17 37 15.7**	**-0.9**
MWC	**Mount Wilson**	**0.76**	**339**	*e*Pg		**Pb**		**17 37 16.0**	**-0.7**
SVD	**Seven Oaks Dam**	**0.80**	**41**	*e*Pg		**Pb**		**17 37 17.2**	**-0.1**
HWB	**Hans Werner Br**	**0.81**	**126**	*e*Pg		**Pg**		**17 37 16.5**	**+0.5**
HWB				*e*Sn		**Sb**		**17 37 27.6**	**-1.2**
109C	**Camp Elliot, M**	**0.81**	**139**	P		**Pg**		**17 37 16.6**	**+0.4**
	baz=320,SNR=66								
109C				S		**Sg**		**17 37 27.1**	**+0.4**
	baz=320								
CPE	**Camp Elliot**	**0.81**	**139**	*e*Pg		**Pg**		**17 37 16.6**	**+0.4**
CPE				*e*Sn		**Sb**		**17 37 27.7**	**-1.1**
CRY	**Cary Ranch**	**0.83**	**86**	*e*Pg		**Pb**		**17 37 17.3**	**-0.6**
DPP	**Dos Picos Cty**	**0.84**	**127**	*e*Pg		**Pb**		**17 37 17.2**	**-0.7**
DPP				*e*Sn		**Sb**		**17 37 28.8**	**-0.9**
DJJ	**Donna J Jenkin**	**0.85**	**315**	*e*Pg		**Pn**		**17 37 18.4**	**-1.2**
CHFC	**Chilao Flat St**	**0.86**	**344**	*e*Sg		**Sb**		**17 37 29.9**	**-0.5**
SCI2	**San Clemente I**	**0.86**	**232**	P		**Pb**		**17 37 18.1**	**-0.2**
	baz=53,SNR=542								
SCI2				S		**Sb**		**17 37 29.6**	**-0.7**
	baz=53								
DECC	**Green Verdugo**	**0.89**	**326**	P		**Pb**		**17 37 18.6**	**-0.3**
	baz=146,SNR=27								
DECC				S		**Sb**		**17 37 30.7**	**-0.6**
	baz=146								
DECC	**Green Verdugo**	**0.89**	**326**	*e*Pg		**Pn**		**17 37 19.7**	**-0.6**
DECC				*e*Sg		**Sn**		**17 37 31.6**	**-2.3**
DNR	**Dunn Ranch,Anz**	**0.92**	**86**	*e*Pg		**Pb**		**17 37 19.0**	**-0.4**
DNR				*e*Sn		**Sb**		**17 37 31.9**	**-0.3**
SNDA	**J Saunders Pla**	**0.94**	**87**	*e*Pg		**Pb**		**17 37 19.2**	**-0.4**
FRD	**Ford Ranch, An**	**0.94**	**91**	*e*Pg		**Pb**		**17 37 19.1**	**-0.7**
HOLC	**Holcomb Ridge**	**0.95**	**354**	*e*Pg		**Pb**		**17 37 19.4**	**-0.5**
JNH	**Juniper Hills**	**0.95**	**349**	*e*Pg		**Pb**		**17 37 19.5**	**-0.4**
EML	**El Monte Cty P**	**0.97**	**129**	*e*Pg		**Pg**		**17 37 19.2**	**+0.1**
EML				*e*Sn		**Sg**		**17 37 32.1**	**+0.4**
EML	**El Monte Cty P**	**0.97**	**129**	*i* P		**Pg**		**17 37 19.2**	**+0.1**
BBRC	**Big Bear Solar**	**1.01**	**42**	Pb		**Pb**		**17 37 20.7**	**-0.3**
	baz=221,SNR=78								
BBRC				S		**Sg**		**17 37 33.4**	**+0.3**
	baz=221								
BBRC	**Big Bear Solar**	**1.01**	**42**	*e*Pg		**Pn**		**17 37 21.0**	**-1.1**
SDRC	**San Diego Road**	**1.02**	**139**	⇑*e*P		**Pg**		**17 37 20.1**	**0.0**
SDRC				*e*S		**Sg**		**17 37 33.2**	**-0.1**
EL2	**El Mirage 2**	**1.03**	**9**	*e*Pg		**Pn**		**17 37 21.0**	**-1.2**
IR2C	**Iron Canyon**	**1.04**	**328**	*e*Pg		**Pg**		**17 37 20.5**	**+0.1**
LRRC	**Littlerock Res**	**1.04**	**347**	*e*Pg		**Pn**		**17 37 21.2**	**-1.1**
DEVC	**Devers**	**1.05**	**66**	*e*Pn		**Pn**		**17 37 21.5**	**-1.0**
DEVC				*e*Sn		**Sb**		**17 37 35.3**	**-0.5**
PFO	**Pinyon Flats O**	**1.07**	**84**	Pb		**Pg**		**17 37 21.3**	**+0.2**
	baz=264,SNR=635								
PFO				S		**Sg**		**17 37 34.8**	**-0.2**
	baz=264								
PFO	**Pinyon Flats O**	**1.07**	**84**	*e*Pg		**Pg**		**17 37 20.9**	**-0.1**
BLCC	**Black Canyon**	**1.07**	**313**	*e*Pg		**Pn**		**17 37 22.3**	**-0.4**
XPFO	**Piæon Flat**	**1.07**	**84**	*e*Pg		**Pg**		**17 37 21.1**	**-0.1**
CJV	**Casa Juvan**	**1.07**	**342**	*e*Pg		**Pb**		**17 37 21.4**	**-0.6**
SBI	**Santa Barbara**	**1.08**	**269**	*e*Pg		**Pb**		**17 37 21.6**	**-0.5**
SBI				*e*Pn		**Pn**		**17 37 23.6**	**+0.8**
VTV	**Victorville**	**1.10**	**18**	*e*Pg		**Pn**		**17 37 22.4**	**-0.7**
VTV				*e*Sg		**Sb**		**17 37 36.5**	**-0.8**
OAT	**Oat Mountain**	**1.11**	**319**	*e*Pn		**Pn**		**17 37 23.1**	**-0.2**
BORC	**Borrego Spring**	**1.13**	**102**	*e*Pn		**Pg**		**17 37 22.4**	**+0.2**
BORC				*e*Sn		**Sb**		**17 37 36.9**	**-1.1**
LEOC	**Leona Valley**	**1.22**	**337**	*e*Pn		**Pn**		**17 37 23.8**	**-1.0**
BAR	**Barrett**	**1.22**	**133**	*e*Pn		**Pn**		**17 37 23.0**	**-1.6**
BAR				*e*Sn		**Sb**		**17 37 39.4**	**-1.1**
BAR	**Barrett**	**1.22**	**133**	⇑*e*P		**Pn**		**17 37 23.2**	**-1.5**
BAR				*e*S		**Sb**		**17 37 39.1**	**-1.5**
BLG	**Laguna Peak, P**	**1.26**	**299**	P		**Pn**		**17 37 23.3**	**-2.0**
	baz=118,SNR=52								
BLG				S		**Sn**		**17 37 41.8**	**-1.0**
	baz=118								
MONP2	**Monument Peak**	**1.26**	**119**	Pb		**Pn**		**17 37 24.0**	**-1

Y12C	**Blythe**	**2.69**	**84**	*P*	**Pn**	17 37 43.9	**-1.0**
	baz=266,SNR=20						
Y12C	**Blythe**	**2.69**	**84**	*e*Pn	**Pn**	17 37 43.8	**-1.1**
DAC	**Darwin (Calif)**	**2.76**	**2**	*e*Pn	**Pn**	17 37 46.3	**+0.1**
NEE2	**Needles Airpor**	**2.87**	**63**	P	**Pn**	17 37 47.0	**-0.4**
	baz=245,SNR=30						
PTRM	**Twissleman Ran**	**2.96**	**317**	*e*Pn	**Pn**	17 37 49.4	**+0.7**
FURC	**Furnace Creek,**	**3.04**	**13**	P	**Pn**	17 37 50.1	**+0.4**
	baz=194,SNR=10.0						
FURC				S	**Sn**	17 38 23.8	**-2.8**
	baz=194						
PAGB	**Antelope Grade**	**3.04**	**318**	*e*Pn	**Pn**	17 37 49.8	**+0.1**
PDMCI	**Parker Dam,Lak**	**3.09**	**74**	P	**Pn**	17 37 50.8	**+0.3**
	baz=256,SNR=21						
LSDC	**Los Osos Digit**	**3.13**	**306**	*e*Pn	**Pn**	17 37 50.9	**-0.1**
PANM	**San Antonio Re**	**3.46**	**312**	*e*Pn	**Pn**	17 37 54.5	**-1.0**
GRAC	**Grapevine Rang**	**3.49**	**5**	P	**Pn**	17 37 56.9	**+0.9**
	baz=185,SNR=32						
W13A	**Hualapai Mount**	**3.56**	**62**	*e*Pn	**Pn**	17 37 57.1	**0.0**
TPNV	**Topopah Spring**	**3.64**	**19**	P	**Pn**	17 37 58.8	**+0.7**
	baz=200,SNR=44						
TPNV	**Topopah Spring**	**3.64**	**19**	*e*Pn	**Pn**	17 37 59.0	**+0.9**
SHPR	**Sheep Range**	**3.66**	**35**	*e*Pn	**Pn**	17 37 59.2	**+0.8**
PMPB	**Monarch Peak**	**3.69**	**318**	*e*Pn	**Pn**	17 37 58.1	**-0.7**
PCCM	**Crazy Canyon**	**3.82**	**313**	*e*Pn	**Pn**	17 37 59.9	**-0.6**
PAPM	**Alder Peak**	**3.83**	**310**	*e*Pn	**Pn**	17 37 59.2	**-1.5**
Y14A	**Wickenburg**	**3.96**	**83**	*e*Pn	**Pn**	17 38 01.4	**-1.1**
MDPB	**Devils Postpil**	**4.26**	**345**	*e*Pn	**Pn**	17 38 06.5	**-0.3**
SAO	**San Andreas Ge**	**4.45**	**318**	*e*Pn	**Pn**	17 38 08.3	**-0.8**
SAO				*e*		17 38 08.5	
NV11	**Mina Array Sit**	**4.92**	**356**	*e*Pn	**Pn**	17 38 18.0	**+2.2**
NV01	**Mina Array Sit**	**4.93**	**355**	*e*Pn	**Pn**	17 38 17.3	**+1.4**
NV01				*e*Lg	Lg	17 39 38.9	
NVAR	**Mina Array Bea**	**4.93**	**355**	Pn	**Pn**	17 38 18.2	**+2.3**
	baz=234,slow=5.2,SNR=5.4						
NVAR				Pg	**Pg**	17 38 33.0	**-2.1**
	baz=182,slow=18,SNR=19						
NVAR				Lg	Lg	17 39 38.9	
	baz=181,slow=28,SNR=1.8						
CMB	**Columbia Colle**	**5.00**	**335**	*e*Pn	**Pn**	17 38 16.9	**+0.1**
LCMT	**Little Creek M**	**5.07**	**45**	*e*Pn	**Pn**	17 38 18.1	**+0.4**
R11A	**Troy Canyon, C**	**5.13**	**19**	*e*Pn	**Pn**	17 38 18.3	**-0.4**
RYN	**Ryan**	**5.15**	**353**	*e*Pn	**Pn**	17 38 19.1	**+0.3**
WAKR	**Walker**	**5.17**	**345**	*e*Pn	**Pn**	17 38 20.3	**+1.0**
X16A	**Lo Mia Camp, P**	**5.31**	**78**	*e*Pn	**Pn**	17 38 19.9	**-1.2**
KNB	**Kanab**	**5.33**	**48**	*e*Pn	**Pn**	17 38 22.5	**+1.1**
U15A	**North Rim**	**5.33**	**55**	*e*Pn	**Pn**	17 38 21.7	**+0.2**
KVN	**Kaiserville**	**5.54**	**357**	*e*Pn	**Pn**	17 38 26.1	**+1.9**
YERR	**Yerington**	**5.60**	**348**	*e*Pn	**Pn**	17 38 23.8	**-1.3**
WUAZ	**Wupatki**	**5.62**	**67**	*e*Pn	**Pn**	17 38 26.1	**+0.7**
	comp=N,15nm,0.7s						
RUBR	**Rubicon Trail**	**5.87**	**341**	*e*Pn	**Pn**	17 38 28.4	**-0.4**
RUBR				*e*Sg	**Sb**	17 39 51.9	**-2.6**
VCNR	**Virginia City**	**5.98**	**346**	*e*Pn	**Pn**	17 38 28.2	**-2.1**
PAHR	**Pah Rah Range**	**6.33**	**348**	*e*Pn	**Pn**	17 38 37.1	**+2.1**
	comp=N,15nm,1.0s						
X18A	**Snowflake**	**6.54**	**79**	*e*Pn	**Pn**	17 38 36.6	**-1.5**
MSU	**Marysvale**	**6.72**	**40**	*e*Pn	**Pn**	17 38 43.4	**+2.9**
	comp=N,3.1nm,0.7s						
ELK	**Elko**	**7.49**	**15**	Pn	Pn	17 38 55.0	+3.9
	comp=N,0.4nm,0.3s,baz=243,slow=9.3,SNR=5.3						
ELK				Pg	**Pg**	17 39 23.3	**-0.8**
	comp=N,0.4nm,0.3s,baz=254,slow=18,SNR=5.1						
ELK				Lg	Lg	17 40 59.8	
	comp=N,0.6nm,0.3s,baz=342,slow=14,SNR=4.2						
NLU	**North Lily Min**	**7.87**	**34**	*e*Pn	**Pn**	17 38 54.5	**-1.8**
SRU	**San Rafael Swe**	**8.07**	**44**	*e*Pn	**Pn**	17 38 58.3	**-0.7**
LGBM	**Gray Butte**	**8.59**	**337**	*e*Pn	**Pn**	17 39 04.6	**-1.5**
PV04	**Paradox Valley**	**8.66**	**53**	*e*Pn	**Pn**	17 39 07.4	**+0.3**
JLU	**Jordanelle**	**8.68**	**34**	*e*Pn	**Pn**	17 39 06.6	**-0.8**
	comp=N,4.6nm,0.8s						
PV01	**Paradox Valley**	**8.76**	**56**	*e*Pn	**Pn**	17 39 08.5	**+0.1**
	comp=N,506nm,0.7s						
HWUT	**Hardware Ranch**	**9.45**	**29**	*e*Pn	**Pn**	17 39 16.5	**-1.4**
	comp=N,6.3nm,0.9s						
PDAR	**Pinedale Array**	**11.26**	**32**	Pn	Pn	17 39 48.1	+5.4
	comp=N,0.1nm,0.3s,baz=230,slow=13,SNR=2.4						
TXAR	**Lajitas Array**	**12.71**	**105**	Pn	Pn	17 40 07.2	+4.7
	comp=N,0.1nm,0.3s,baz=283,slow=13,SNR=5.0						
PNT	**Penticton**	**15.86**	**355**	*e*Sn	**Sn**	17 43 41.2	**+0.1**
PNT				*e*S	**S**	17 43 57.1	**+1.2**
ULM	**Lac du Bonnet**	**23.20**	**37**	P	**P**	17 42 12.0	**+3.3**
	comp=N,2.1nm,0.8s,baz=224,slow=11,SNR=3.3						
YKA	**Yellowknife Ar**	**29.07**	**3**	P	**P**	17 43 03.7	**+1.5**
	comp=N,0.1nm,0.5s,baz=181,slow=8.6,SNR=1.9						
ILAR	**Eielson Array**	**35.98**	**339**	P	**P**	17 44 04.6	**+2.0**
	comp=N,0.4nm,0.8s,baz=156,slow=7.1,SNR=5.5						

*ISK **23** 17:37:18.9, 39.08N×29.19E, h6km, ML2.4/6*
*ISCJB **23** 17:37:19.8±0.5, 39.09N±0.03×29.16E±0.04, h7km±5km, Error ellipse: s-maj=5.7km s-min=4.0km az=144.4*
*CSEM **23** 17:37:19.6±0.1, 39.08N×29.20E, h6km±1km, ML2.4, Error ellipse: s-maj=3.2km s-min=1.6km az=134.0*
*DDA **23** 17:37:20.3, 39.04N×29.18E, h7km, Ml2.6*
ISC 23 17:37:20.1±0.9, 39.10N±0.03×29.17E±0.02, h7km±8km, n29, σ0.943/44, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIMA	**Simav-Kutahya**	**0.15**	**264**	PG	**Pg**	**17 37 23.1**	**0.0**
SIMA				SG	**Sg**	**17 37 25.2**	**0.0**
SIMA	**Simav-Kutahya**	**0.15**	**264**	*e*Pg	**Pg**	**17 37 23.1**	**0.0**
SIMA				*e*Sg	**Sg**	**17 37 25.2**	**0.0**
GDZ	**Gediz**	**0.24**	**92**	*i* P	**Pg**	**17 37 24.7**	**-0.2**
GDZ				*i* S	**Sg**	**17 37 28.7**	**+0.5**
GDZ	**Gediz**	**0.24**	**92**	P	**Pg**	**17 37 24.7**	**-0.2**
GDZ				S	**Sg**	**17 37 28.7**	**+0.5**
DEMI	**Demirci**	**0.36**	**261**	*i* P	**Pg**	**17 37 27.1**	**0.0**
DEMI				*i* S	**Sg**	**17 37 31.8**	**+0.1**
DEMI	**Demirci**	**0.36**	**261**	P	**Pg**	**17 37 27.0**	**0.0**
DEMI				S	**Sg**	**17 37 31.8**	**+0.1**
TVSB	**Tavsanli**	**0.42**	**33**	PG	**Pg**	**17 37 27.5**	**-0.7**
TVSB				SG	**Sg**	**17 37 33.4**	**-0.3**
TVSB	**Tavsanli**	**0.42**	**33**	*e*Pg	**Pg**	**17 37 27.5**	**-0.7**
TVSB				*e*Sg	**Sg**	**17 37 33.4**	**-0.3**
KULA	**Kula-Manisa**	**0.70**	**214**	PG	**Pg**	**17 37 33.2**	**-0.4**
KULA				SG	**Sg**	**17 37 42.8**	**0.0**
KULA	**Kula-Manisa**	**0.70**	**214**	*e*Pg	**Pg**	**17 37 33.2**	**-0.4**
KULA				*e*Sg	**Sg**	**17 37 42.8**	**0.0**
DURS	**Dursunbey**	**0.74**	**313**	*i* P	Pn	17 37 42.4	+5.4
DURS				*i* S	**Sn**	**17 37 48.7**	**+0.1**
KHAL	**Karahalli**	**0.77**	**161**	*i* P	**Pn**	**17 37 37.4**	**0.0**
KHAL				*i* S	**Sg**	**17 37 45.3**	**+0.5**
KHAL	**Karahalli**	**0.77**	**161**	P	**Pn**	**17 37 37.4**	**0.0**
MANT	**Manisa**	**0.77**	**218**	*i* P	**Pg**	**17 37 34.8**	**-0.1**
MANT				*i* S	**Sg**	**17 37 44.5**	**-0.4**
MANT	**Manisa**	**0.77**	**218**	P	**Pg**	**17 37 34.8**	**-0.1**
MANT				S	**Sg**	**17 37 44.5**	**-0.4**
CAVI	**Cavuskoy**	**1.22**	**25**	PN	**Pg**	**17 37 42.9**	**-0.6**
CAVI				SN	**Sb**	**17 38 00.3**	**+0.8**
CAVI	**Cavuskoy**	**1.22**	**25**	*e*Pn	**Pg**	**17 37 42.9**	**-0.6**
CAVI				*e*Sn	**Sb**	**17 38 00.3**	**+0.8**
MDNY	**Mudanya-Bursa**	**1.29**	**350**	PN	**Pb**	**17 37 44.8**	**+0.1**
MDNY	**Mudanya-Bursa**	**1.29**	**350**	*e*Pn	**Pb**	**17 37 44.8**	**+0.1**
KCTX	**Karacabey (Bur**	**1.32**	**332**	PN	**Pg**	**17 37 45.1**	**-0.4**
KCTX	**Karacabey (Bur**	**1.32**	**332**	*e*Pn	**Pg**	**17 37 45.1**	**-0.4**
YLV	**Yalova**	**1.48**	**6**	PN	**Pn**	**17 37 47.3**	**+0.1**
YLV	**Yalova**	**1.48**	**6**	*e*Pn	**Pn**	**17 37 47.3**	**+0.1**
ARMT	**Armutlu**	**1.48**	**351**	PN	**Pn**	**17 37 47.6**	**+0.3**
ARMT	**Armutlu**	**1.48**	**351**	*e*Pn	**Pn**	**17 37 47.6**	**+0.3**
AYDB	**Zeytinkoy-Aydi**	**1.52**	**222**	PN	**Pn**	**17 37 47.0**	**-0.9**
AYDB	**Zeytinkoy-Aydi**	**1.52**	**222**	*e*Pn	**Pn**	**17 37 47.0**	**-0.9**
GULT	**Gulveren**	**1.69**	**37**	PN	**Pn**	**17 37 49.7**	**-0.4**
GULT	**Gulveren**	**1.69**	**37**	*e*Pn	**Pn**	**17 37 49.7**	**-0.4**

*DDA **23** 17:47:40.8, 39.10N×29.16E, h5km, Ml3.9*
*CSEM **23** 17:47:41.8±0.1, 39.12N×29.15E, h2km, ML3.8, Error ellipse: s-maj=1.9km s-min=1.5km az=109.0*
*ISK **23** 17:47:41.5, 39.13N×29.15E, h5km, ML3.8/43*
ISC 23 17:47:42.0±0.9, 39.13N±0.02×29.13E±0.02, h6km±8km, n179, σ0.974/200, 8C-9D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIMA	**Simav-Kutahya**	**0.13**	**247**	PG	**Pg**	**17 47 44.8**	**+0.1**
SIMA				SG	**Sg**	**17 47 47.0**	**+0.5**
SIMA	**Simav-Kutahya**	**0.13**	**247**	*e*Pg	**Pg**	**17 47 44.8**	**+0.1**
SIMA				*e*Sg	**Sg**	**17 47 47.0**	**+0.5**
DEMI	**Demirci**	**0.34**	**255**	*i* P	**Pg**	**17 47 48.7**	**+0.1**
DEMI				*i* S	**Sg**	**17 47 53.6**	**+0.6**
DEMI	**Demirci**	**0.34**	**255**	P	**Pg**	**17 47 48.7**	**+0.1**
DEMI				S	**Sg**	**17 47 53.7**	**+0.6**
TVSB	**Tavsanli**	**0.41**	**39**	PG	**Pg**	**17 47 49.3**	**-0.6**
TVSB				SG	**Sg**	**17 47 55.1**	**-0.1**
TVSB	**Tavsanli**	**0.41**	**39**	*e*Pg	**Pg**	**17 47 49.3**	**-0.6**
TVSB				*e*Sg	**Sg**	**17 47 55.1**	**-0.1**
KULA	**Kula-Manisa**	**0.72**	**211**	PG	**Pg**	**17 47 55.2**	**-0.6**
KULA	**Kula-Manisa**	**0.72**	**211**	*e*Pg	**Pg**	**17 47 55.2**	**-0.6**
MANT	**Manisa**	**0.78**	**215**	*i* P	**Pg**	**17 47 56.7**	**-0.4**
MANT				*i* S	**Sg**	**17 48 06.5**	**-0.7**
MANT	**Manisa**	**0.78**	**215**	P	**Pg**	**17 47 56.7**	**-0.4**
MANT				S	**Sg**	**17 48 06.5**	**-0.7**
KHL	**Karahalli**	**0.86**	**159**	PG	**Pg**	**17 47 58.3**	**-0.3**
KHL	**Karahalli**	**0.86**	**159**	*e*Pg	**Pg**	**17 47 58.3**	**-0.3**
ORLT	**Orhaneli**	**0.93**	**349**	PG	**Pg**	**17 47 59.8**	**0.0**
ORLT	**Orhaneli**	**0.93**	**349**	*e*Pg	**Pg**	**17 47 59.8**	**0.0**
AKS	**Akhisar**	**1.06**	**257**	PG	**Pg**	**17 48 02.5**	**+0.2**
AKS	**Akhisar**	**1.06**	**257**	*e*Pg	**Pg**	**17 48 02.5**	**+0.2**
BALB	**Balikesir**	**1.10**	**298**	PN	**Pn**	**17 48 04.1**	**+0.3**
BALB				SN	**Sn**	**17 48 19.4**	**+0.1**
BALB	**Balikesir**	**1.10**	**298**	*e*Pn	**Pn**	**17 48 04.1**	**+0.3**
BALB				*e*Sn	**Sn**	**17 48 19.4**	**+0.1**
STEP	**BALIKESIR_Sava**	**1.13**	**283**	*i* P	**Pn**	**17 48 04.3**	**0.0**
STEP				*i* S	**Sn**	**17 48 20.8**	**+0.7**
STEP	**BALIKESIR_Sava**	**1.13**	**283**	P	**Pn**	**17 48 04.3**	**0.0**
STEP				S	**Sn**	**17 48 20.8**	**+0.7**
CAVI	**Cavuskoy**	**1.20**	**27**	PN	**Pg**	**17 48 05.6**	**+0.6**
CAVI				SN	**Sn**	**17 48 22.4**	**+0.5**
CAVI	**Cavuskoy**	**1.20**	**27**	*e*Pn	**Pg**	**17 48 05.6**	**+0.6**
CAVI				*e*Sn	**Sn**	**17 48 22.4**	**+0.5**
IZI	**Iznik**	**1.23**	**12**	PN	**Pb**	**17 48 05.6**	**-0.1**
IZI	**Iznik**	**1.23**	**12**	*e*Pn	**Pb**	**17 48 05.6**	**-0.1**
SHUT	**Suhut-Afyon**	**1.25**	**117**	PN	**Pg**	**17 48 06.0**	**+0.1**
SHUT	**Suhut-Afyon**	**1.25**	**117**	*e*Pn	**Pg**	**17 48 06.0**	**+0.1**
MDNY	**Mudanya-Bursa**	**1.25**	**351**	PN	**Pn**	**17 48 05.7**	**-0.3**
MDNY	**Mudanya-Bursa**	**1.25**	**351**	*e*Pn	**Pn**	**17 48 05.7**	**-0.3**
KCTX	**Karacabey (Bur**	**1.28**	**332**	PN	**Pb**	**17 48 06.6**	**+0.1**
KCTX	**Karacabey (Bur**	**1.28**	**332**	*e*Pn	**Pb**	**17 48 06.6**	**+0.1**
GEMT	**Gemlik**	**1.30**	**2**	PN	**Pn**	**17 48 06.5**	**-0.2**
GEMT	**Gemlik**	**1.30**	**2**	*e*Pn	**Pn**	**17 48 06.5**	**-0.2**
DENT	**Denizli**	**1.38**	**183**	PN	**Pb**	**17 48 08.1**	**-0.1**
DENT	**Denizli**	**1.38**	**183**	*e*Pn	**Pb**	**17 48 08.1**	**-0.1**
ADVT	**Abdulvahap**	**1.38**	**20**	PN	**Pb**	**17 48 07.9**	**-0.3**
ADVT	**Abdulvahap**	**1.38**	**20**	*e*Pn	**Pb**	**17 48 07.9**	**-0.3**
ESKT	**Eskisehir**	**1.39**	**73**	PN	**Pn**	**17 48 07.6**	**-0.4**
ESKT	**Eskisehir**	**1.39**	**73**	*e*Pn	**Pn**	**17 48 07.6**	**-0.4**
GONE	**Gonen-Balikesi**	**1.44**	**310**	PN	**Pb**	**17 48 08.9**	**-0.4**
GONE	**Gonen-Balikesi**	**1.44**	**310**	*e*Pn	**Pb**	**17 48 08.9**	**-0.4**
YLV	**Yalova**	**1.44**	**7**	PN	**Pn**	**17 48 08.5**	**+0.1**
YLV	**Yalova**	**1.44**	**7**	*e*Pn	**Pn**	**17 48 08.5**	**+0.1**
ARMT	**Armutlu**	**1.45**	**352**	PN	**Pn**	**17 48 08.5**	**-0.2**
ARMT	**Armutlu**	**1.45**	**352**	*e*Pn	**Pn**	**17 48 08.5**	**-0.2**
GPA	**Golpazari**	**1.47**	**38**	PN	**Pn**	**17 48 08.7**	**-0.3**
GPA	**Golpazari**	**1.47**	**38**	*e*Pn	**Pn**	**17 48 08.7**	**-0.3**
AYDB	**Zeytinkoy-Aydi**	**1.53**	**220**	PN	**Pn**	**17 48 10.3**	**+0.3**
AYDB	**Zeytinkoy-Aydi**	**1.53**	**220**	*e*Pn	**Pn**	**17 48 10.3**	**+0.3**
EDC	**Edincik**	**1.56**	**321**	PN	**Pn**	**17 48 09.9**	**-0.3**
EDC	**Edincik**	**1.56**	**321**	*e*Pn	**Pn**	**17 48 09.9**	**-0.3**
GULT	**Gulveren**	**1.68**	**39**	PN	**Pn**	**17 48 12.4**	**+0.4**
GULT	**Gulveren**	**1.68**	**39**	*e*Pn	**Pn**	**17 48 12.4**	**+0.4**
ISP	**Isparta**	**1.70**	**140**	PN	**Pn**	**17 48 12.5**	**+0.2**
ISP	**Isparta**	**1.70**	**140**	⇑*i*P	**Pg**	**17 48 15.5**	**+0.9**
ISP	**Isparta**	**1.70**	**140**	S	**Sg**	**17 48 40.8**	**+4.1**
ISP	**Isparta**	**1.70**	**140**	P	**Pn**	**17 48 12.8**	**+0.5**
ISP	**Isparta**	**1.70**	**140**	*e*Pn	**Pn**	**17 48 12.5**	**+0.2**
ISP	**Isparta**	**1.70**	**140**	P	**Pn**	**17 48 12.8**	**+0.5**
BUY	**Buyukada**	**1.72**	**360**	PN	**Pb**	**17 48 12.6**	**-0.6**
BUY	**Buyukada**	**1.72**	**360**	*i* P	**Pn**	**17 48 12.6**	**+0.2**
BUY				*i* S	**Sb**	**17 48 35.0**	**-0.8**
BUY	**Buyukada**	**1.72**	**360**	P	**Pn**	**17 48 12.6**	**+0.2**
BUY	**Buyukada**	**1.72**	**360**	*e*Pn	**Pb**	**17 48 13.3**	**-0.6**
BUY				S	**Sb**	**17 48 35.0**	**-0.8**
DKL	**Dikili**	**1.73**	**269**	PN	**Pb**	**17 48 13.5**	**-0.7**
DKL	**Dikili**	**1.73**	**269**	*e*Pn	**Pb**	**17 48 13.5**	**-0.7**
HRT	**Hereke**	**1.74**	**14**	PN	**Pb**	**17 48 13.3**	**-1.0**
HRT	**Hereke**	**1.74**	**14**	*e*Pn	**Pb**	**17 48 13.3**	**-1.0**
SPNC	**Sapanca-Adapaz**	**1.79**	**30**	PN	**Pb**	**17 48 14.7**	**-0.6**
SPNC	**Sapanca-Adapaz**	**1.79**	**30**	*e*Pn	**Pb**	**17 48 14.7**	**-0.6**
BLCB	**Balcova**	**1.80**	**246**	PN	**Pb**	**17 48 14.3**	**-1.0**
BLCB	**Balcova**	**1.80**	**246**	*e*Pn	**Pb**	**17 48 14.3**	**-1.0**
SAUV	**Serdivan-Sakar**	**1.85**	**29**	PN	**Pn**	**17 48 14.9**	**+0.7**
SAUV	**Serdivan-Sakar**	**1.85**	**29**	*e*Pn	**Pn**	**17 48 14.9**	**+0.7**
SVRH	**Sivrihisar-ESK**	**1.88**	**80**	PN	**Pb**	**17 48 15.7**	**-1.1**
SVRH	**Sivrihisar-ESK**	**1.88**	**80**	*e*Pn	**Pb**	**17 48 15.7**	**-1.1**
KRBG	**Karabiga-Canak**	**1.89**	**312**	PN	**Pb**	**17 48 15.3**	**+0.5**
KRBG	**Karabiga-Canak**	**1.89**	**312**	*e*Pn	**Pb**	**17 48 15.3**	**+0.5**
AYVA	**Ayvalik**	**1.91**	**276**	*i* P	**Pn**	**17 48 15.4**	**+0.4**
AYVA				*i* S	**Sg**	**17 48 45.1**	**+1.9**
AYVA	**Ayvalik**	**1.91**	**276**	P	**Pn**	**17 48 15.4**	**+0.4**
FOCM	**Fo˜ça**	**1.92**	**258**	PN	**Pn**	**17 48 16.0**	**+0.8**
FOCM	**Fo˜ça**	**1.92**	**258**	*e*Pn	**Pn**	**17 48 16.0**	**+0.8**
ISK	**Istanbul-Kandi**	**1.93**	**358**	PN	**Pb**	**17 48 16.7**	**-0.9**
ISK	**Istanbul-Kandi**	**1.93**	**358**	*e*Pn	**Pb**	**17 48 16.7**	**-0.9**
SBT3	**Marmara-Eregli**	**1.96**	**333**	PN	**Pn**	**17 48 16.2**	**+0.6**
SBT3	**Marmara-Eregli**	**1.96**	**333**	*e*Pn	**Pn**	**17 48 16.2**	**+0.6**
BCK	**Bucak**	**2.02**	**145**	PN	**Pb**	**17 48 17.9**	**-1.3**
BCK	**Bucak**	**2.02**	**145**	*e*Pn	**Pb**	**17 48 17.9**	**-1.3**
GMLD	**Gumuldur**	**2.03**	**239**	PN	**Pn**	**17 48 17.7**	**+1.0**
GMLD	**Gumuldur**	**2.03**	**239**	*e*Pn	**Pn**	**17 48 17.7**	**+1.0**
SILT	**Sile**	**2.06**	**11**	PN	**Pn**	**17 48 17.2**	**+0.2**
SILT	**Sile**	**2.06**	**11**	*e*Pn	**Pn**	**17 48 17.2**	**+0.2**
BGKT	**Bogazkoy**	**2.06**	**352**	PN	**Pb**	**17 48 18.5**	**-1.3**
BGKT	**Bogazkoy**	**2.06**	**352**	*e*Pn	**Pb**	**17 48 18.5**	**-1.3**
GCAM	**G?zelcaml?**	**2.07**	**227**	PN	**Pn**	**17 48 17.5**	**+0.3**
GCAM	**G?zelcaml?**	**2.07**	**227**	*e*Pn	**Pn**	**17 48 17.5**	**+0.3**
DGB	**˜zmir**	**2.07**	**239**	*i* P	**Pg**	**17 48 21.4**	**-0.2**
DGB				*i* S	**Sg**	**17 48 48.9**	**+0.5**
MDUB	**Mudurnu**	**2.08**	**49**	PN	**Pn**	**17 48 17.7**	**+0.2**
MDUB	**Mudurnu**	**2.08**	**49**	*e*Pn	**Pn**	**17 48 17.7**	**+0.2**
KLYT	**Kilyos**	**2.12**	**358**	PN	**Pn**	**17 48 18.1**	**+0.2**
KLYT	**Kilyos**	**2.12**	**358**	*e*Pn	**Pn**	**17 48 18.1**	**+0.2**
MLSB	**Milas**	**2.12**	**211**	PN	**Pn**	**17 48 18.2**	**+0.2**
MLSB	**Milas**	**2.12**	**211**	*e*Pn	**Pn**	**17 48 18.2**	**+0.2**
URLA	**Izmir**	**2.13**	**250**	PN	**Pn**	**17 48 19.2**	**+1.1**
URLA	**Izmir**	**2.13**	**250**	*e*Pn	**Pn**	**17 48 19.2**	**+1.1**
CTKS	**Kestanelik-??a**	**2.15**	**347**	PN	**Pn**	**17 48 18.5**	**+0.1**
CTKS	**Kestanelik-??a**	**2.15**	**347**	*e*Pn	**Pn**	**17 48 18.5**	**+0.1**
RKY	**Sarkoy-Tekirda**	**2.16**	**317**	PN	**Pn**	**17 48 18.8**	**+0.2**
RKY	**Sarkoy-Tekirda**	**2.16**	**317**	*e*Pn	**Pn**	**17 48 18.8**	**+0.2**
SART	**Tekirdag**	**2.16**	**317**	*i* P	**Pn**	**17 48 18.1**	**-0.5**
SART				*i* S	**Sg**	**17 48 51.0**	**-0.4**
SART	**Tekirdag**	**2.16**	**317**	P	**Pn**	**17 48 18.1**	**-0.5**
SART				S	**Sg**	**17 48 51.0**	**-0.4**
LPK	**Lapseki**	**2.21**	**305**	PN	**Pn**	**17 48 19.9**	**+0.7**
LPK	**Lapseki**	**2.21**	**305**	*e*Pn	**Pn**	**17 48 19.9**	**+0.7**
SLVT	**Silivri**	**2.21**	**342**	PN	**Pn**	**17 48 19.7**	**+0.5**
SLVT	**Silivri**	**2.21**	**342**	*e*Pn	**Pn**	**17 48 19.7**	**+0.5**
SUTC	**Sutluce-Ispart**	**2.21**	**138**	PN	**Pn**	**17 48 19.7**	**+0.4**
SUTC	**Sutluce-Ispart**	**2.21**	**138**	*e*Pn	**Pn**	**17 48 19.7**	**+0.4**
CRLT	**Corlu**	**2.26**	**332**	PN	**Pn**	**17 48 20.4**	**+0.5**
CRLT	**Corlu**	**2.26**	**332**	*e*Pn	**Pn**	**17 48 20.4**	**+0.5**
EZN	**Ezine**	**2.28**	**289**	PN	**Pn**	**17 48 20.6**	**+0.5**
EZN	**Ezine**	**2.28**	**289**	*e*Pn	**Pn**	**17 48 20.6**	**+0.5**
SMG	**Samos**	**2.30**	**232**	P	**Pn**	**17 48 20.1**	**-0.3**
SMG	**Samos**	**2.30**	**232**	P	**Pn**	**17 48 20.1**	**-0.3**
KORT	**Korkueli**	**2.33**	**155**	PN	**Pn**	**17 48 21.0**	**0.0**
KORT	**Korkueli**	**2.33**	**155**	*e*Pn	**Pn**	**17 48 21.0**	**0.0**
GELI	**Tayfur-Gelibol**	**2.41**	**302**	PN	**Pn**	**17 48 23.0**	**+1.1**
GELI	**Tayfur-Gelibol**	**2.41**	**302**	*e*Pn	**Pn**	**17 48 23.0**	**+1.1**
CTYL	**Yalikoy Yolu**	**2.43**	**345**	PN	**Pn**	**17 48 22.5**	**+0.4**
CTYL	**Yalikoy Yolu**	**2.43**	**345**	*e*Pn	**Pn**	**17 48 22.5**	**+0.4**
ELL	**Elmali**	**2.46**	**165**	PN	**Pn**	**17 48 23.5**	**+0.8**
ELL	**Elmali**	**2.46**	**165**	*e*Pn	**Pn**	**17 48 23.5**	**+0.8**
BOZC	**Bozcaada**	**2.49**	**288**	PN	**Pn**	**17 48 23.1**	**+0.1**
BOZC	**Bozcaada**	**2.49**	**288**	*e*Pn	**Pn**	**17 48 23.1**	**+0.1**
FETY	**Fethiye**	**2.49**	**181**	PN	**Pn**	**17 48 22.9**	**-0.2**
FETY	**Fethiye**	**2.49**	**181**	P	**Pn**	**17 48 22.0**	**-1.1**
FETY	**Fethiye**	**2.49**	**181**	P	**Pn**	**17 48 22.0**	**-1.1**
FETY	**Fethiye**	**2.49**	**181**	*e*Pn	**Pn**	**17 48 22.9**	**-0.2**
BODT	**Bodrum**	**2.52**	**215**	PN	**Pn**	**17 48 24.4**	**+1.0**
BODT	**Bodrum**	**2.52**	**215**	P	**Pn**	**17 48 21.5**	**-1.9**
BODT	**Bodrum**	**2.52**	**215**	P	**Pn**	**17 48 21.5**	**-1.9**
BODT	**Bodrum**	**2.52**	**215**	*e*Pn	**Pn**	**17 48 24.4**	**+1.0**
CHOS	**Chios island**	**2.52**	**254**	P	**Pn**	**17 48 23.4**	**-0.1**
CHOS	**Chios island**	**2.52**	**254**	P	**Pn**	**17 48 23.4**	**-0.1**
KESN	**Edirne-Kesan**	**2.53**	**313**	*i* P	**Pn**	**17 48 24.9**	**+0.9**
KESN				*i* S	**Sg**	**17 49 04.4**	**+1.1**
KESN	**Edirne-Kesan**	**2.53**	**313**	P	**Pn**	**17 48 24.9**	**+0.9**
ERIK	**Erikli-Kesan**	**2.53**	**308**	PN	**Pn**	**17 48 25.1**	**+1.5**
ERIK	**Erikli-Kesan**	**2.53**	**308**	*e*Pn	**Pn**	**17 48 25.1**	**+1.5**
SIGR	**SIGRI**	**2.55**	**273**	PN	**Pn**	**17 48 25.4**	**+1.6**
SIGR	**SIGRI**	**2.55**	**273**	P	**Pn**	**17 48 23.6**	**-0.2**
SIGR	**SIGRI**	**2.55**	**273**	P	**Pn**	**17 48 23.6**	**-0.2**
SIGR	**SIGRI**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	baz=59						
KBK				⇓iS	Sb	17 59 59.4	-2.0
	baz=59						
AAK	Ala-Archa	3.19	351	Pn	Pb	17 59 22.0	-0.6
	14nm,0.3s,baz=150,slow=7.6,SNR=89						
AAK				Sn	Sb	18 00 02.3	+0.4
	5.1nm,0.3s,baz=336,slow=20,SNR=5.8						
AAK	Ala-Archa	3.19	351	⇑Pn	Pb	17 59 20.4	-2.1
	129nm,0.8s						
AAK				⇑Lg	Lg	18 00 11.4	
	257nm,0.8s						
AAK	Ala-Archa	3.19	351	P	Pb	17 59 21.7	-0.8
	SNR=76						
AAK	Ala-Archa	3.19	351	⇑iP	Pb	17 59 20.0	-2.5
	baz=53						
AAK				⇑iS	Sb	17 59 59.2	-2.7
	baz=53						
EKS2	Erkin-Say	3.34	342	P	Pb	17 59 24.1	-1.0
	SNR=50						
EKS2	Erkin-Say	3.34	342	⇑iP	Pb	17 59 22.0	-3.1
	baz=44						
EKS2				⇑iS	Sb	18 00 02.8	-3.4
	baz=44						
FRU1	Bishkek	3.34	353	⇑iP	Pb	17 59 22.2	-2.9
	baz=55						
FRU1				⇑iS	Sb	18 00 03.2	-3.1
	baz=55						
ARK	Arkit	3.35	315	⇑eP	Pn	17 59 21.0	+2.3
	baz=16						
ARK				⇑iS	Sn	18 00 00.6	+1.4
	baz=16						
BTK	Batken	3.39	281	⇑iP	Pn	17 59 21.1	+1.9
	baz=82						
BTK				⇑iS	Sn	18 00 02.0	+1.9
	baz=82						
TKM2	Tokmak 2	3.44	5	⇓Pn	Pb	17 59 25.2	-1.8
	157nm,0.4s						
TKM2				⇓Sn	Sb	18 00 10.0	+0.6
	522nm,0.8s						
TKM2	Tokmak 2	3.44	5	P	Pb	17 59 25.4	-1.6
	SNR=182						
TKM2	Tokmak 2	3.44	5	⇑iP	Pb	17 59 24.2	-2.8
	baz=7.0						
TKM2				⇑iS	Sb	18 00 06.5	-2.9
	baz=7.0						
CHMS	Chumysh	3.52	355	P	Pb	17 59 26.7	-1.4
	SNR=36						
CHMS	Chumysh	3.52	355	⇓iP	Pb	17 59 25.0	-3.2
	baz=57						
CHMS				⇓iS	Sb	18 00 07.8	-3.6
	baz=57						
MRKS	Merke	3.56	336	eP	Pb	17 59 26.4	-2.6
	90nm,0.7s						
MRKS				eS	Sb	18 00 12.4	-0.4
	52nm,0.6s						
KST	Kastek	3.60	9	eP	Pb	17 59 28.1	-1.5
	15nm,0.4s						
KST				eS	Sb	18 00 15.2	+1.4
	287nm,0.7s						
MNAS	Manas	3.61	327	⇑Pn	Pn	17 59 25.3	+3.1
	12nm,0.5s						
MNAS				⇑Pg	Pg	17 59 32.8	-1.3
	53nm,0.4s						
MNAS				⇑Lg	Lg	18 00 21.4	
	120nm,0.6s						
MNAS	Manas	3.61	327	⇓iP	Pn	17 59 25.5	+3.3
	baz=29						
MNAS				⇓iS	Sb	18 00 09.5	-4.5
	baz=29						
IZV	Izvestkoviy	3.71	17	eP	Pb	17 59 33.9	+2.4
	155nm,0.6s						
IZV				eS	Sg	18 00 25.1	+0.9
	352nm,0.7s						
MTBS	Maitube	3.76	14	eP	Pb	17 59 31.3	-1.0
	42nm,0.6s						
MTBS				eS	Sb	18 00 20.6	+2.2
	57nm,1.1s						
DGS	Degeres	3.78	7	eP	Pb	17 59 29.7	-2.9
	120nm,0.5s						
DGS				eS	Sb	18 00 18.2	-0.7
	261nm,0.8s						
TNSS	Tian-Shan	3.79	20	eP	Pb	17 59 35.2	+2.2
	60nm,0.8s						
TNSS				eS	Sg	18 00 27.5	+0.6
	150nm,0.7s						
USP	Ospenovka	3.81	353	P	Pb	17 59 30.8	-2.2
	SNR=22						
PRZ	Przheval'sk	3.87	38	⇑iP	Pb	17 59 29.8	-4.4
	baz=39						
PRZ				⇑iS	Sb	18 00 18.1	-3.5
	baz=39						
AAA	Alma-Ata	3.94	19	eP	Pg	17 59 38.6	-2.0
	80nm,0.6s						
AAA				eS	Sg	18 00 33.5	+1.7
	176nm,0.6s						
KNDC	Almaty	3.96	19	⇑Pn	Pb	17 59 31.3	-4.5
	17nm,0.4s						
KNDC				⇓Pg	Pg	17 59 41.4	+0.4
	101nm,0.6s						
KNDC				⇓Lg	Lg	18 00 35.4	
	243nm,0.7s						
KOTS	Kotyrbulak	4.02	21	eP	Pb	17 59 38.6	+1.8
	15nm,0.5s						
KOTS				eS	Sg	18 00 33.0	-1.1
	256nm,0.7s						
KTBS	Karatobe	4.37	15	eP	Pb	17 59 45.2	+2.6
	18nm,0.4s						
KTBS				eS	Sg	18 00 45.1	-0.4
	131nm,0.8s						
CHKK	Chushkaly	4.57	17	eP	Pb	17 59 48.4	+2.4
	29nm,0.5s						
CHKK				eS	Sg	18 00 50.1	-1.7
	199nm,0.6s						
KURS	Kuram	4.59	29	eP	Pb	17 59 49.2	+2.7
	18nm,0.8s						
KURS				eS	Sg	18 00 51.4	-1.1
	105nm,1.0s						
IUG	Iuzhnay	4.71	306	eP	Pb	17 59 49.8	+1.3
	29nm,0.4s						
IUG				eS	Sg	18 00 52.0	-4.3
	274nm,0.8s						
KK31	Karatay Array	5.03	317	⇓Pn	Pn	17 59 44.8	+3.1
	1.7nm,0.3s,baz=128,slow=12,SNR=90						
KK31				⇑Pg	Pb	17 59 58.1	+4.2
	11nm,0.5s,baz=145,slow=16,SNR=7.7						
KK31				⇓Sn	Sn	18 00 42.7	+2.3
	15nm,0.5s,baz=127,slow=28,SNR=5.5						
KK31				⇑Lg	Lg	18 01 06.6	
	23nm,0.5s,baz=127,slow=28,SNR=5.5						
PDGK	Podgornoye	5.03	39	⇓Pn	Pn	17 59 46.0	+4.2
	9.4nm,0.7s						
PDGK				⇑Pg	Pg	18 00 01.9	+0.4
	62nm,0.8s						
PDGK				⇑Lg	Lg	18 01 09.1	
	115nm,0.9s						
ARXS	Arharly	5.12	22	eP	Pb	17 59 59.0	+3.5
	15nm,0.5s						
ARXS				eS	Sg	18 01 08.2	-1.4
	77nm,0.7s						
MNBS	Baschi	5.19	27	eP	Pg	18 00 00.9	-3.5
	26nm,0.6s						
MNBS				eS	Sg	18 01 11.8	+0.2
	61nm,1.0s						
CHCP	Chirah Chowk	6.01	195	P	Pn	18 00 01.7	+6.5
CEP	Cherat	6.23	206	P	Pn	18 00 03.7	+5.5
THW	Thamme Wali	7.23	203	P	Pn	18 00 16.0	+4.1
DHRM	DHARAMSHALA	7.28	172	eP	Pn	18 00 15.9	+3.1
DHRM				eS	Sn	18 01 37.4	+1.1
DHRM				IAML		18 01 49.0	
	comp=N,131nm,0.6s						
DHRM				IAML		18 01 50.0	
	comp=E,229nm,0.4s						
SARP	Sargodha	7.82	196	P	Pn	18 00 23.5	+3.6
SMLA	Simla	8.50	168	eP	Pn	18 00 31.9	+2.6
SMLA				eS	Sn	18 02 04.7	-1.2
SMLA				IAML		18 02 13.9	
	comp=N,65nm,0.2s						
SMLA				IAML		18 02 14.5	
	comp=E,77nm,0.6s						
MAKZ	Makanchi	8.85	32	⇑Pn	Pn	18 00 38.5	+4.5
	comp=E,4.2nm,1.2s						
MAKZ				⇓Pg	Pg	18 01 12.1	-2.3
	comp=E,8.5nm,1.1s						
MAKZ				⇓Lg	Lg	18 03 12.8	
	comp=E,9.7nm,1.0s						
MK31	Makanchi Array	8.97	33	⇓Pn	Pn	18 00 39.5	+3.9
	comp=E,1.7nm,0.7s,baz=211,slow=13,SNR=5.1						
MK31				⇓Pg	Pg	18 01 12.4	-4.3
	comp=E,4.4nm,0.8s,baz=218,slow=14,SNR=4.1						
MK31				⇓Lg	Lg	18 03 17.6	
	comp=E,6.9nm,0.7s						
MKAR	Makanchi Array	8.97	33	Pn	Pn	18 00 39.8	+4.1
	comp=E,0.2nm,0.3s,baz=204,slow=13,SNR=5.8						
MKAR				Lg	Lg	18 03 11.3	
	comp=E,0.3nm,0.3s,baz=216,slow=28,SNR=5.1						
OTUK	Ortayu	8.99	348	⇑Lg	Lg	18 03 14.2	
	comp=E,39nm,0.7s						
GKD	Gaurikund	9.39	159	eP	Pn	18 00 44.4	+2.7
GKD				eS	Sn	18 02 24.6	-3.5
GKD				IAML		18 02 35.3	
	comp=N,59nm,0.3s						
GKD				IAML		18 02 35.7	
	comp=E,46nm,0.3s						
DDI	Dehra Dun	9.45	165	eS	Sn	18 02 23.9	-5.3
DDI				IAML		18 02 24.8	
	comp=E,92nm,0.2s						
DDI				IAML		18 02 25.1	
	comp=N,127nm,0.2s						
KKR	Kurukshetra	9.60	171	ex	Sn	18 02 38.7	+5.7
JOSI	Joshimath	9.61	157	eS	Sn	18 02 26.9	-6.6
WMQ	Urumqi	10.33	61	eP	Pn	18 00 59.0	+4.6
KUDL	Kundal	11.37	174	eP	Pn	18 01 11.1	+2.5
KUDL				eS	Sn	18 03 11.5	-4.8
KUDL				IAML		18 03 24.5	
	comp=E,14nm,0.9s						
KUDL				IAML		18 03 25.8	
	comp=N,7.0nm,0.7s						
KURBB	Kurchatov Arra	11.38	11	Pn	Pn	18 01 10.6	+1.9
	comp=N,0.0nm,0.3s,baz=199,slow=12,SNR=2.8						
KURBB				Lg	Lg	18 04 23.6	
	comp=N,0.1nm,0.3s,baz=199,slow=28,SNR=5.5						
KHET	Khetri	11.40	177	eP	Pn	18 01 09.4	+0.4
KHET				eS	Sn	18 03 13.0	-4.1
KHET				IAML		18 03 16.6	
	comp=N,15nm,0.5s						
KHET				IAML		18 03 20.1	
	comp=E,11nm,0.0s						
KURK	Kurchatov	11.49	11	⇓Lg	Lg	18 04 36.3	
	comp=E,60nm,1.2s						
PYUN	Piuthan	13.09	148	eP	Pn	18 01 32.7	+0.4
	comp=E,15nm,0.4s						
GEYT	Alibeck	13.40	269	Pn	Pn	18 01 35.0	-1.4
	comp=E,0.7nm,0.3s,baz=97,slow=9.7,SNR=9.1						
GEYT				Sn	Sn	18 03 59.8	-6.3
	comp=E,0.5nm,0.3s,baz=73,slow=24,SNR=4.3						
KOLN	Koldanda	13.63	146	eP	Pn	18 01 39.0	-0.7
	comp=E,6.9nm,0.3s						
GKN	Gorkha	13.90	143	eP	Pn	18 01 42.1	-1.2
	comp=E,12nm,0.3s						
BVAR	Borovoye Array	13.93	348	Pn	P	18 01 49.2	-2.7
	comp=E,0.1nm,0.3s,baz=155,slow=14,SNR=3.4						
BVAR				Lg	Lg	18 05 41.9	
	comp=E,0.1nm,0.3s,baz=147,slow=27,SNR=4.0						
KKN	Kakani	14.38	141	eP	Pn	18 01 48.8	-1.2
	comp=E,11nm,0.5s						
DMN	Daman	14.45	142	eP	Pn	18 01 49.0	-2.0
	comp=E,6.1nm,0.4s						
GUN	Gumba	14.58	139	eP	Pn	18 01 50.8	-2.0
	comp=E,15nm,0.4s						
PKIN	Phulchoki	14.62	141	eP	Pn	18 01 51.8	-1.5
	comp=E,9.0nm,0.4s						
JIRN	Jiri	14.94	139	eP	Pn	18 01 56.3	-1.5
	comp=E,22nm,0.3s						
RAMN	Ramite	15.73	139	eP	Pn	18 02 05.1	-3.0
	comp=E,43nm,0.6s						
ZALV	Zalesovo Beam	15.88	21	Pn	P	18 02 11.9	-1.6
	comp=E,0.3nm,0.3s,baz=208,slow=11,SNR=5.2						
AKTO	Aktyubinsk	16.30	318	Pn	P	18 02 17.2	-0.9
	comp=E,0.4nm,0.3s,baz=114,slow=15,SNR=6.3						
ARU	Arti	20.18	333	P	Pn	18 03 03.8	+1.2
	comp=E,4.6nm,0.7s,baz=142,slow=2.7,SNR=5.4						
SONM	Songino Array	23.96	59	P	P	18 03 42.0	+1.1
	comp=E,1.2nm,0.8s,baz=265,slow=9.4,SNR=5.2						
CD2	Chengdu	24.81	101	eP	P	18 03 48.0	-0.7
BRTR	Keskin Array B	31.78	284	P	P	18 04 52.6	+1.5
	comp=E,2.5nm,0.7s,baz=88,slow=7.4,SNR=11						
AKASG	Malin Array Be	33.79	305	P	P	18 05 08.8	+0.5
	comp=E,0.4nm,0.4s,baz=78,slow=8.0,SNR=5.5						
MLR	Muntele Rosu	36.31	296	P	P	18 05 32.1	+1.7
	comp=E,0.6nm,0.8s,baz=312,slow=4.0,SNR=4.3						
FINES	FINESS Array B	36.96	323	P	P	18 05 36.3	+0.8
	comp=E,1.0nm,0.4s,baz=112,slow=9.9,SNR=17						
ARCES	ARCESS Array B	39.73	335	P	P	18 05 59.5	+0.8
	comp=E,2.1nm,0.7s,baz=103,slow=9.8,SNR=6.0						
VRAC	Vranov	42.01	303	P	P	18 06 19.3	+1.5
	comp=E,2.5nm,0.6s,baz=142,slow=12,SNR=3.2						
HFS	Hagfors	42.83	320	P	P	18 06 24.9	+0.6
	comp=E,3.8nm,0.8s,baz=97,slow=11,SNR=9.8						
GERES	GERESS Array B	43.96	303	P	P	18 06 35.0	+1.3
	comp=E,1.4nm,0.6s,baz=67,slow=6.6,SNR=6.7						
NB2	NORSAR Subarra	44.05	321	P	P	18 06 34.6	+0.5
	comp=Z,2.0nm,0.7s,baz=89,slow=8.6						
NOA	NORSAR Array B	44.05	321	P	P	18 06 34.7	+0.5
	comp=Z,2.8nm,0.7s,baz=90,slow=8.1,SNR=7.5						
EKA	Eskdalemuir Ar	52.46	315	P	P	18 07 39.7	+0.6
	comp=Z,2.1nm,0.8s,baz=69,slow=9.3,SNR=4.6						
ESDC	Sonseca Array	58.97	298	P	P	18 08 26.8	+0.6
	comp=Z,0.2nm,0.3s,baz=49,slow=5.3,SNR=3.5						
TORD	Torodi Ar. Bea	69.04	270	P	P	18 09 32.0	-0.7
	comp=Z,0.6nm,0.4s,baz=50,slow=5.7,SNR=7.8						
INK	Inuvik	70.39	11	P	P	18 09 40.8	+0.6
	comp=Z,0.7nm,0.6s,baz=329,slow=4.4,SNR=3.1						
ILAR	Eielson Array	70.97	18	P	P	18 09 43.5	-0.4
	comp=Z,0.4nm,0.8s,baz=322,slow=3.8,SNR=3.2						
YKA	Yellowknife Ar	78.06	5	P	P	18 10 25.6	+0.6
	comp=Z,0.7nm,0.6s,baz=347,slow=5.7,SNR=9.9						
WRA	Warramunga Arr	80.90	125	P	P	18 10 41.5	+0.5
	comp=Z,1.7nm,0.6s,baz=326,slow=4.9,SNR=30						
ASAR	Alice Springs	83.38	128	P	P	18 10 54.4	+0.4
	comp=Z,1.6nm,0.7s,baz=315,slow=5.0,SNR=29						

MEX 23 18:09:15.0±0.7, 16°.72N×99°.77W, h5km±36km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ACX	Acapulco	0.17	329	iP	Pg	18 09 19.2	+0.7
ACX				eS	Sg	18 09 21.9	+1.1
CAIG	El Cayaco	0.58	304	eP	Pg	18 09 25.6	-0.6
CAIG				eS	Sg	18 09 33.8	0.0
TLIG	Tlapa	1.42	54	eP	Pn	18 09 37.4	-4.2
ARIG	Puente Sto Nin	1.65	340	eP	Pn	18 09 41.5	-3.2
PLIG	Platanillo	1.68	9	eP	Pn	18 09 42.1	-3.0
ZIIG	Zihuatanejo	1.85	299	eP	Pn	18 09 45.8	-1.5

DJA 23 18:13:18.3±0.8, 2°N±6°×12°3E±°, h10km, M3.6/7, MLv3.6/7, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MRSI	Marisa	1.47	208	P	Pn	18 13 43.3	-1.6
MRSI				S	Sn	18 14 03.0	-1.2
KMSI	Cibinong	1.82	132	P	Pn	18 13 48.3	-1.4
LUWI	Luwuk	2.82	177	P	Pn	18 14 05.5	+2.1
LUWI				S	Sb	18 14 42.2	-1.1
APSI	Ampana	2.85	200	P	Pn	18 14 05.8	+1.9
MPSI	Mapaga	3.08	242	P	Pn	18 14 07.9	+0.9
PCI	Palu	3.86	226	P	Pn	18 14 17.0	-0.8
KDI	Kendari	5.71	180	P	Pb	18 14 52.3	-5.8
BNSI	Bone	6.64	202	P	Pn	18 15 00.1	+4.1

SOME 23 18:17:31.2, 42°.55N×82°.52E, h15km
NNC 23 18:17:33.0±2.9, 42°.36N×82°.26E, h0km, mb2.8, mpv2.4, Error ellipse: s-maj=22.1km s-min=10.5km az=147.0
ISC 23 18:17:31.3±3.1, 42°.5N±0°.1×82°.37E±0°.10, h5km±15km, n11, σ1s.34/18, 2C-2D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KTMS	Ketmen	1.78	304	eP	Pg	18 18 05.8	+0.3
	2.8nm,0.1s						
KTMS				eS	Sg	18 18 30.6	+2.0
	12nm,0.3s						
SHLS	Shalkode	2.25	289	eP	Pn	18 18 09.0	-0.4
	2.2nm,0.3s						
SHLS				eS	Sn	18 18 36.1	-1.5
	24nm,0.6s						
PDGK	Podgornoye	2.29	293	⇑Pg	Pb	18 18 14.2	+1.0
	2.4nm,0.7s						
PDGK				⇓Lg	Lg	18 18 45.0	
	16nm,0.6s						
UZB	Uzynbulak	2.56	287	eP	Pb	18 18 18.6	+0.7
UZB				eS	Sg	18 18 52.8	-0.8
DJR	Jarkent	2.66	316	eP	Pb	18 18 20.4	+0.9
	1.8nm,0.4s						
DJR				eS	Sg	18 18 55.9	-0.8
	8.2nm,0.6s						
KPKS	Kokpek	2.89	292	eP	Pb	18 18 24.1	+0.7
	3.9nm,0.1s						
KPKS				eS	Sg	18 19 02.0	-2.2
	25nm,0.5s						
SATY	Saty	2.98	283	eP	Pb	18 18 26.3	+1.3
	1.5nm,0.2s						
SATY				eS	Sg	18 19 05.8	-1.3
	10nm,0.3s						
MNBS	Baschi	3.32	301	eP	Pb	18 18 32.4	+1.6
	0.8nm,0.4s						
MNBS				eS	Sg	18 19 16.9	-1.2
	3.3nm,0.3s						
KAPS	Kapalarasan	3.57	323	eP	Pb	18 18 34.6	-0.4
	1.3nm,0.8s						
KAPS				eS	Sb	18 19 20.2	+1.6
	4.0nm,0.6s						
MK31	Makanchi Array	4.34	359	Pg	Pg	18 18 54.0	-0.4
	0.2nm,0.3s,baz=172,slow=15,SNR=11						
MK31				⇑Lg	Lg	18 19 54.0	
	0.8nm,0.4s,baz=187,slow=25,SNR=4.8						
MAKZ	Makanchi	4.36	356	⇓Lg	Lg	18 19 54.2	
	2.2nm,0.8s						

ISCJB 23 18:19:48.0±0.6, 5°.46S±0°.05×147°.17E±0°.08, h195km, mb3.7/9, Error ellipse: s-maj=10.8km s-min=7.5km az=169.7
IDC 23 18:19:49.6±1.3, 5°.57S×147°.11E, h198km±12km, mb3.6/9, mb1 3.8/14, mb1mx3.5/52, mbtmp4.3/14, Error ellipse: s-maj=19.4km s-min=8.9km az=106.0
DJA 23 18:19:51.4±1.2, 6°S±9°×14°7E±1°3, h183km±7km, M4.8/8, mb4.5/8, MLv5.0/3
ISC 23 18:19:49.4±0.6, 5°.53S±0°.07×147°.09E±0°.09, h195km, n18, σ0s.99/21, mb4.0/9, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	3.85	179	P	Pn	18 20 49.8	+0.6
	8.5nm,0.3s,baz=44,slow=10,SNR=180						
PMG				S	Sn	18 21 34.4	-1.8
	31nm,0.3s,baz=84,slow=22,SNR=16						
JAY	Jayapura	7.04	295	P	Pn	18 21 31.2	+1.0
	291nm,0.9s,0.8nm						
GENI	Genyem	7.49	293	P	Pn	18 21 36.6	+0.5
HNR	Honiara	13.32	108	P	Pn	18 22 51.7	+0.5
	6.5nm,0.3s,baz=213,slow=5.1,SNR=6.4						
CTA	Charters Tower	14.49	183	P	Pn	18 23 06.8	+1.1
	0.8nm,0.3s,baz=357,slow=12,SNR=18						
SIJI	Sorong	16.46	286	P	Pn	18 23 29.8	+0.1
	0.7nm,0.3s,baz=124,slow=11,SNR=3.9						
AAI	Ambon	18.92	275	P	P	18 23 54.5	-1.2
	15nm,0.6s						
WRA	Warramunga Arr	18.95	220	P	P	18 23 57.0	+1.1
	6.6nm,0.3s,baz=48,slow=12,SNR=157						
WRA				S	S	18 27 19.8	-1.1
	0.2nm,0.3s,baz=44,slow=18,SNR=10						
ASAR	Alice Springs	22.05	214	P	P	18 24 29.8	+1.0
	22nm,0.8s,baz=48,slow=8.6,SNR=150						
ASAR				S	S	18 28 17.4	-0.5
	1.8nm,0.9s,baz=32,slow=19,SNR=5.8						
STKA	Stephens Creek	26.71	190	P	P	18 25 10.7	-0.1
	2.3nm,0.7s,baz=348,slow=9.7,SNR=4.6						
KSRS	Korea Array	46.35	339	P	P	18 27 56.4	+0.4
	0.6nm,0.6s,baz=161,slow=9.7,SNR=3.0						
PETK	Petropavlovsk-	59.10	7	P	P	18 29 29.6	+0.4
	2.0nm,0.5s,baz=154,slow=6.3,SNR=4.8						
SONM	Songino Array	64.04	331	P	P	18 30 02.6	+0.1
	0.2nm,0.4s,baz=142,slow=7.3,SNR=3.4						
VNDA	Vanda	72.37	177	P	P	18 30 54.0	+0.5
	1.7nm,0.6s,baz=333,slow=6.8,SNR=17						
MKAR	Makanchi Array	77.19	320	P	P	18 31 21.7	-0.1
	0.3nm,0.6s,baz=106,slow=7.8,SNR=3.7						
QSPA	South Pole Qui	84.43	180	P	P	18 31 59.4	-0.5
	3.0nm,0.9s,baz=298,slow=1.2,SNR=6.4						
ILAR	Eielson Array	85.02	23	P	P	18 32 00.7	-2.0
	1.2nm,0.7s,baz=251,slow=5.0,SNR=14						
TORD	Torodi Ar. Bea	145.06	285	PKPbc	PKPbc	18 39 03.3	-1.1
	1.0nm,0.8s,baz=73,slow=3.3,SNR=7.1						

ISN 23 18:26:36.5±1.9, 32°.43N×47°.09E, h14km±15km, ML2.9
CSEM 23 18:26:36.5, 32°.43N×47°.09E, h14km, ML2.9
ISCJB 23 18:26:38.9±0.8, 32°.40N±0°.05×47°.01E±0°.07, h20km, Error ellipse: s-maj=10.1km s-min=5.4km az=38.4
TEH 23 18:26:38.2, 32°.43N×47°.04E, h5km, ML2.9
ISC 23 18:26:38.7±1.3, 32°.39N±0°.06×47°.11E±0°.07, h20km, n8, σ0s.89/12, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
IKFM	Kafar-mosalman	1.29	29	ePg	Pn	18 27 01.4	-0.3
IKFM				eSg	Sn	18 27 17.7	-0.7
IKFM				eAMB	AMB	18 27 27.9	
	comp=Z,99nm,0.2s						
NSR	Nassriya	1.60	211	ePn	Pn	18 27 06.0	+0.1
	SNR=5.0						
NSR				eSn	Sn	18 27 27.0	+1.0
	SNR=5.0						
IKOM	Komasi	1.81	11	ePg	Pb	18 27 10.6	-0.8
IKOM				eSg	Sb	18 27 34.5	+0.8
IKOM				eAMB	AMB	18 27 37.4	
	comp=Z,1μm,0.2s						
IGHG	Ghaleghazi	1.99	347	ePg	Pn	18 27 12.7	+1.2
IGHG				eAMB	AMB	18 27 43.3	
	comp=Z,867nm,0.2s						
IVIS	Veis	2.14	354	ePg	Pn	18 27 14.4	+0.9
IVIS				eAMB	AMB	18 27 48.8	
	comp=Z,562nm,0.2s						
IDHR	Dehrash	2.38	346	eAMB	AMB	18 27 56.4	
	comp=Z,614nm,0.1s						
BHD	Baghdad	2.46	292	ePn	Pn	18 27 17.0	-0.7
	SNR=5.0						
BHD				eSn	Sn	18 27 48.0	+0.9
	SNR=5.0						
RTB	Rutbah	5.77	278	ePn	Pn	18 28 03.0	-0.2
	SNR=5.0						
RTB				eSn	Sn	18 29 08.0	-0.8
	SNR=5.0						

TIR 23 18:45:18.3, 40°.20N×21°.67E, h2km, Md2.0/3
ATH 23 18:45:19.1, 40°.16N×21°.59E, h23km±2km, ML2.2/8, Error ellipse: s-maj=2.4km s-min=1.0km az=327.0
CSEM 23 18:45:19.4±0.2, 40°.16N×21°.59E, h12km, ML2.2, Error ellipse: s-maj=6.1km s-min=4.1km az=39.0
SKO 23 18:45:21.6, 40°.25N×21°.64E, h11km
THE 23 18:45:19.8, 40°.16N×21°.60E, h11km±1km, ML2.2/8, 2C, Error ellipse: s-maj=1.2km s-min=0.4km az=340.0, Greece

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KZN	Kozani	0.20	42	P	Pg	18 45 24.7	+0.6
KZN				S	Sg	18 45 28.2	+1.1
KZN	Kozani	0.20	42	P	Pg	18 45 24.3	+0.2
KZN				S	Sg	18 45 27.3	+0.2
KZN	Kozani	0.20	42	P	Pg	18 45 24.6	+0.5
KZN				S	Sg	18 45 28.4	+1.3
KPRO	Kipourio	0.27	222	P	Pg	18 45 25.2	-0.1
KPRO				S	Sb	18 45 30.9	-0.5
KPRO				AML	AML	18 45 33.0	
	comp=E,1145μm,0.3s						
KPRO				AML	AML	18 45 34.3	
	comp=N,1414μm,0.2s						
KPRO	Kipourio	0.27	222	P	Pg	18 45 25.3	-0.1
KPRO				S	Sg	18 45 30.0	+0.9
KPRO	Kipourio	0.27	222	P	Pg	18 45 25.3	-0.1
KPRO				S	Sg	18 45 30.0	+0.9
PENT	Pentalofos	0.35	276	P	Pg	18 45 26.4	-0.5
PENT				S	Sg	18 45 31.3	-0.3
PENT				AML	AML	18 45 36.2	
	comp=N,981μm,0.4s						
PENT				AML	AML	18 45 36.9	
	comp=E,573μm,0.4s						
PENT	Pentalofos	0.35	276	P	Pg	18 45 26.4	-0.5
PENT				S	Sg	18 45 31.7	+0.1
PENT	Pentalofos	0.35	276	P	Pg	18 45 26.6	-0.3
PENT				S	Sg	18 45 31.7	+0.1
NEST	Nestorio	0.49	302	P	Pg	18 45 29.1	-0.3

NEST				AML	AML	18 45 41.7		
	comp=E,761µm,0.5s							
NEST				AML	AML	18 45 42.2		
	comp=N,707µm,0.4s							
NEST	**Nestorio**	**0.49**	**302**	P	Pg	18 45 29.0	-0.4	
NEST				S	Sg	18 45 36.7	+0.7	
NEST	**Nestorio**	**0.49**	**302**	P	Pg	18 45 29.1	-0.3	
NEST				S	Sg	18 45 36.7	+0.7	
FNA	**Florina**	**0.65**	**345**	P	Pg	18 45 32.2	-0.2	
FNA				S	Sg	18 45 40.6	-0.4	
FNA				AML	AML	18 45 42.8		
	comp=E,1084µm,0.4s							
FNA				AML	AML	18 45 43.3		
	comp=N,1122µm,0.2s							
FNA	**Florina**	**0.65**	**345**	P	Pg	18 45 31.9	-0.5	
FNA				S	Sg	18 45 41.6	+0.7	
FNA	**Florina**	**0.65**	**345**	P	Pg	18 45 32.0	-0.4	
FNA				S	Sg	18 45 40.8	-0.1	
THL	**Klokotos Trika**	**0.67**	**151**	P	Pg	18 45 31.7	-1.1	
THL				AML	AML	18 45 44.2		
	comp=N,294µm,0.3s							
THL				AML	AML	18 45 45.9		
	comp=E,292µm,0.1s							
THL	**Klokotos Trika**	**0.67**	**151**	P	Pg	18 45 32.0	-0.8	
THL				S	Sb	18 45 42.3	-0.6	
THL	**Klokotos Trika**	**0.67**	**151**	P	Pg	18 45 32.1	-0.7	
THL				S	Sb	18 45 42.3	-0.6	
LIT	**Litokhoron**	**0.69**	**94**	P	Pg	18 45 33.0	-0.1	
LIT				S	Sb	18 45 43.3	-0.1	
LIT				AML	AML	18 45 45.6		
	comp=E,481µm,0.3s							
LIT				AML	AML	18 45 45.9		
	comp=N,557µm,0.4s							
LIT	**Litokhoron**	**0.69**	**94**	P	Pg	18 45 32.6	-0.5	
LIT				S	Sb	18 45 43.0	-0.4	
LIT	**Litokhoron**	**0.69**	**94**	P	Pg	18 45 32.8	-0.3	
LIT				S	Sb	18 45 42.9	-0.5	
KBN	**Korca**	**0.77**	**307**	*i* Pn	Pb	18 45 35.2	-0.1	
	baz=303							
KBN				*i* Sn	Sb	18 45 47.1	+1.2	
	baz=303							
KBN	**Korca**	**0.77**	**307**	*i* PN	Pb	18 45 35.1	-0.2	
KBN				*i* SN	Sb	18 45 47.1	+1.2	
BIA	**Bitola**	**0.89**	**347**	⇑*i* Pg	Pg	18 45 35.9	-1.0	
BIA				*e*Sg	Sg	18 45 47.4	-1.0	
OHR	**Ohrid**	**1.13**	**328**	⇑*i* Pg	Pb	18 45 41.1	-0.4	
OHR				*i* Sg	Sb	18 45 56.2	0.0	
IGT	**Igoumenitsa**	**1.16**	**238**	P	Pn	18 45 41.9	0.0	
IGT				S	Sg	18 45 57.4	+0.3	
IGT				AML	AML	18 46 05.7		
	comp=E,92µm,0.7s							
IGT				AML	AML	18 46 06.9		
	comp=N,74µm,0.7s							
IGT	**Igoumenitsa**	**1.16**	**238**	P	Pb	18 45 41.5	-0.3	
IGT				S	Sg	18 45 57.2	+0.2	
KRUS	**Krusevo**	**1.24**	**348**	*e*Pg	Pn	18 45 42.3	-0.9	
KRUS				*i* Sg	Sb	18 45 58.4	-0.9	
EVR	**Evrytania**	**1.25**	**172**	P	Pn	18 45 42.6	-0.7	
EVR	**Evrytania**	**1.25**	**172**	P	Pn	18 45 42.7	-0.6	
AGG	**Agios Georgios**	**1.27**	**153**	P	Pn	18 45 43.4	-0.1	
AGG				AML	AML	18 46 06.9		
	comp=E,323µm,0.3s							
AGG				AML	AML	18 46 08.2		
	comp=N,262µm,0.6s							
AGG	**Agios Georgios**	**1.27**	**153**	P	Pn	18 45 43.0	-0.5	
AGG				S	Sn	18 46 00.4	-0.1	
AGG	**Agios Georgios**	**1.27**	**153**	P	Pn	18 45 43.0	-0.5	
AGG				S	Sn	18 46 00.4	-0.1	
XOR	**Xorichti**	**1.46**	**122**	P	Pn	18 45 46.0	-0.2	
XOR	**Xorichti**	**1.46**	**122**	P	Pn	18 45 46.1	-0.1	

*IDC **23** 18:50:24.4±0.9, 1.°05N×95.°38E, h0km, mb4.1/16, mb1 4.2/18, mb1mx4.0/62, mbtmp4.1/18, ML4.5/1, Error ellipse: s-maj=29.1km s-min=16.2km az=42.0*
*NEIC **23** 18:50:26.2±0.5, 1.°13N×95.°54E, h10km, mb4.1/5, Error ellipse: s-maj=11.2km s-min=7.7km az=204.0*
*ISCJB **23** 18:50:27.4±0.6, 1.°02N±0.°08×95.°48E±0.°07, h33km, mb4.1/20, Error ellipse: s-maj=11.2km s-min=9.4km az=30.4*

ISC 23 18:50:29.8±0.9, 1.°1N±0.°1×95.°6E±0.°1, h35km, n47, σ1s14/42, mb4.2/20, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSI	**Gunungsitoli**	**1.97**	**84**	*e*Pn	**Pn**	**18 51 00.6**	**0.0**
PSI	**Prapat**	**3.71**	**63**	Pn	**Pn**	**18 51 23.8**	**-1.0**
	baz=254,slow=7.4						
IPM	**Ipoh**	**6.36**	**58**	*e*Pn	**Pn**	**18 52 00.6**	**-0.5**
	15nm,0.7s						
KULM	**Kulim**	**6.53**	**50**	*e*Pn	**Pn**	**18 52 02.1**	**-1.3**
	16nm,0.6s						
PKDT	**Phuket**	**7.28**	**22**	P	**Pn**	**18 52 17.2**	**+3.5**
	21nm,0.7s,317nm0.1nm						
TRTT	**Trang**	**7.83**	**31**	P	**Pn**	**18 52 19.1**	**-2.2**
	6.7nm,0.6s,0.0nm						
CHAI	**Chaiyaphum**	**16.00**	**23**	P	**P**	**18 54 15.8**	**+0.3**
	5.8nm,0.9s						
PBKT	**Sadao Pong**	**16.26**	**19**	P	**P**	**18 54 17.7**	**-0.6**
	23nm,0.8s						
PHIT	**Phitsanulok**	**16.68**	**16**	P	**P**	**18 54 23.4**	**+0.4**
	26nm,0.8s						
UBPT	**Khong Chiam**	**17.13**	**34**	P	**P**	**18 54 28.3**	**+0.3**
	13nm,1.0s						
CMAR	**Chiang Mai Arr**	**17.57**	**11**	P	**Pn**	**18 54 32.4**	**+0.4**
	0.6nm,0.3s,baz=201,slow=12,SNR=49						
LAMP	**Lampang**	**17.77**	**13**	P	**P**	**18 54 36.8**	**+1.8**
	3.1nm,0.8s						
CMMT	**Chiang Mai**	**17.91**	**10**	P	**Pn**	**18 54 35.8**	**-0.5**
	10nm,0.7s						
CHTO	**Chiang Mai**	**17.91**	**10**	P	**P**	**18 54 36.9**	**+0.2**
	46nm,0.8s						
CHTO	**Chiang Mai**	**17.91**	**10**	*e*P	**Pn**	**18 54 34.3**	**-2.0**
	5.5nm,0.7s						
SHL	**Shillong**	**24.60**	**352**	*e*P	**P**	**18 55 47.0**	**-0.1**
H08S2	**Diego Garcia H**	**24.64**	**249**	T	T	19 22 06.9	
	baz=109,slow=74,SNR=12						
H08S3	**Diego Garcia H**	**24.65**	**249**	T	T	19 22 06.9	
	SNR=3.5						
H08S1	**Diego Carcia H**	**24.66**	**249**	T	T	19 22 06.9	
	baz=71,slow=74,SNR=10						
LSA	**Lhasa**	**28.77**	**352**	*e*P	**P**	**18 56 26.2**	**+1.3**
	3.5nm,0.5s						
ENH	**Enshi**	**31.87**	**23**	*e*P	**P**	**18 56 51.5**	**-0.4**
H01W3	**Cape Leeuwin H**	**39.77**	**156**	T	T	19 41 33.3	
	baz=334,slow=75,SNR=3.2						
H01W2	**Cape Leeuwin H**	**39.78**	**156**	T	T	19 41 32.2	
	baz=334,slow=75,SNR=3.1						
H01W1	**Cape Leeuwin H**	**39.78**	**156**	T	T	19 41 34.2	
	baz=334,slow=75,SNR=2.1						
WRA	**Warramunga Arr**	**43.33**	**121**	P	**P**	**18 58 29.8**	**+1.0**
	1.1nm,0.8s,baz=300,slow=8.5,SNR=21						
WRAB	**Tennant Creek**	**43.33**	**121**	*e*P	**P**	**18 58 30.2**	**+1.4**
	2.5nm,0.9s						
ASAR	**Alice Springs**	**44.60**	**126**	P	**P**	**18 58 40.4**	**+1.4**
	0.9nm,0.6s,baz=293,slow=7.9,SNR=28						
AAK	**Ala-Archa**	**45.50**	**338**	*e*P	**P**	**18 58 46.7**	**+0.7**
KSAR	**Wonju Array Be**	**46.81**	**36**	P	**P**	**18 58 57.1**	**+0.9**
KSRS	**Korea Array**	**46.85**	**36**	P	**P**	**18 58 57.1**	**+0.6**
	1.6nm,0.7s,baz=225,slow=8.9,SNR=9.1						
MKAR	**Makanchi Array**	**46.99**	**347**	P	**P**	**18 58 57.8**	**+0.3**
	3.4nm,0.6s,baz=162,slow=8.0,SNR=52						
SONM	**Songino Array**	**47.49**	**10**	P	**P**	**18 59 01.5**	**0.0**
	1.9nm,0.7s,baz=191,slow=9.7,SNR=11						
SONM				PcP	**PcP**	**19 00 32.4**	**+1.0**
	0.6nm,0.5s,baz=183,slow=4.0,SNR=3.6						
GEYT	**Alibeck**	**50.30**	**321**	P	**P**	**18 59 22.6**	**-0.5**
	2.0nm,0.8s,baz=146,slow=6.6,SNR=6.3						
KURBB	**Kurchatov Arra**	**51.44**	**346**	P	**P**	**18 59 31.4**	**0.0**
	1.6nm,0.7s,baz=166,slow=6.9,SNR=12						
KURK	**Kurchatov**	**51.51**	**346**	*e*P	**P**	**18 59 32.4**	**+0.5**
ZALV	**Zalesovo Beam**	**53.43**	**352**	P	**P**	**18 59 46.4**	**+0.2**
	5.7nm,0.5s,baz=184,slow=7.8,SNR=27						
USRK	**Ussuriysk Ar.**	**53.69**	**32**	P	**P**	**18 59 49.8**	**+1.6**
	4.6nm,0.9s,baz=176,slow=2.6,SNR=5.5						
BVAR	**Borovoye Array**	**55.85**	**342**	P	**P**	**19 00 03.0**	**-0.7**
	1.9nm,0.7s,baz=145,slow=8.8,SNR=12						
ABKAR	**Akbulak array**	**56.88**	**333**	*e*P	**P**	**19 00 10.0**	**-1.1**
	1.1nm,0.6s						
AKTO	**Aktyubinsk**	**58.60**	**333**	P	**P**	**19 00 21.5**	**-1.7**
	1.0nm,0.8s,baz=96,slow=14,SNR=4.1						
KBZ	**Khabaz**	**63.13**	**320**	P	**P**	**19 00 52.4**	**-1.7**
	1.6nm,0.7s,baz=98,slow=4.8,SNR=6.3						
BRTR	**Keskin Array B**	**68.02**	**313**	P	**P**	**19 01 24.7**	**-1.3**
	0.7nm,0.7s,baz=126,slow=6.3,SNR=6.8						
TIXI	**Tiksi**	**73.57**	**10**	*e*P	**P**	**19 01 58.7**	**-0.2**
	1.4nm,0.4s						
FINES	**FINESS Array B**	**79.37**	**333**	P	**P**	**19 02 31.6**	**-0.3**
	0.9nm,0.6s,baz=90,slow=4.4,SNR=6.1						
ARCES	**ARCESS Array B**	**82.11**	**340**	P	**P**	**19 02 46.8**	**+0.3**
	4.2nm,0.9s,baz=90,slow=6.1,SNR=5.2						
HFS	**Hagfors**	**85.03**	**330**	P	**P**	**19 03 01.8**	**+0.2**
	1.3nm,0.6s,baz=139,slow=6.8,SNR=6.8						
TXAR	**Lajitas Array**	**144.57**	**30**	PKP	**PKPdf**	**19 10 03.0**	**-0.5**
	0.7nm,0.7s,baz=301,slow=1.3,SNR=7.7						

*ISCJB **23** 18:52:35.6±0.5, 39.°14N±0.°02×29.°12E±0.°02, h2km±4km, Error ellipse: s-maj=3.1km s-min=2.8km az=44.8*
*ISK **23** 18:52:35.5, 39.°13N×29.°15E, h6km, ML3.6/50*
*DDA **23** 18:52:35.3, 39.°13N×29.°11E, h5km, Ml3.9*
*CSEM **23** 18:52:36.2±0.1, 39.°12N×29.°14E, h5km, ML3.6, Error ellipse: s-maj=2.1km s-min=1.8km az=87.0*

ISC 23 18:52:36.9±1.0, 39.°13N±0.°02×29.°14E±0.°02, h4km±9km, n183, σ1s00/214, 12C-8D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIMA	**Simav-Kutahya**	**0.13**	**250**	PG	**Pg**	**18 52 39.6**	**+0.1**
SIMA				SG	**Sg**	**18 52 41.6**	**+0.3**
SIMA	**Simav-Kutahya**	**0.13**	**250**	*e*Pg	**Pg**	**18 52 39.6**	**+0.1**
SIMA				*e*Sg	**Sg**	**18 52 41.6**	**+0.3**
GDZ	**Gediz**	**0.27**	**98**	*i* P	**Pg**	**18 52 41.4**	**-0.7**
GDZ				*i* S	**Sg**	**18 52 45.5**	**-0.1**
GDZ	**Gediz**	**0.27**	**98**	P	**Pg**	**18 52 41.4**	**-0.7**
GDZ				S	**Sg**	**18 52 45.5**	**-0.1**
TVSB	**Tavsanli**	**0.41**	**38**	PG	**Pg**	**18 52 43.7**	**-1.0**
TVSB				SG	**Sg**	**18 52 49.1**	**-1.0**
TVSB	**Tavsanli**	**0.41**	**38**	*e*Pg	**Pg**	**18 52 43.7**	**-1.0**
TVSB				*e*Sg	**Sg**	**18 52 49.1**	**-1.0**
KULA	**Kula-Manisa**	**0.72**	**212**	PG	**Pg**	**18 52 49.8**	**-0.8**
KULA				SG	**Sg**	**18 52 59.4**	**-0.6**
KULA	**Kula-Manisa**	**0.72**	**212**	*e*Pg	**Pg**	**18 52 49.8**	**-0.8**
KULA				*e*Sg	**Sg**	**18 52 59.4**	**-0.6**
KHAL	**Karahalli**	**0.81**	**160**	*i* P	**Pg**	**18 52 51.9**	**-0.4**
KHAL				*i* S	**Sg**	**18 53 02.7**	**0.0**
KHAL	**Karahalli**	**0.81**	**160**	P	**Pg**	**18 52 51.9**	**-0.4**
KHAL				S	**Sg**	**18 53 02.7**	**0.0**
KHL	**Karahalli**	**0.86**	**159**	PG	**Pg**	**18 52 52.8**	**-0.5**
KHL				SG	**Sg**	**18 53 04.2**	**-0.2**
KHL	**Karahalli**	**0.86**	**159**	*e*Pg	**Pg**	**18 52 52.8**	**-0.5**
KHL				*e*Sg	**Sg**	**18 53 04.2**	**-0.2**
AKS	**Akhisar**	**1.06**	**257**	PG	**Pg**	**18 52 56.4**	**-0.9**
AKS	**Akhisar**	**1.06**	**257**	*e*Pg	**Pg**	**18 52 56.4**	**-0.9**
AUKUT	**KUTAHYA**	**1.07**	**39**	*i* P	Pg	18 52 50.7	-6.7
AUKUT				*i* S	Sg	18 53 01.2	-10
BALB	**Balikesir**	**1.10**	**298**	PN	**Pg**	**18 52 57.6**	**-0.4**
BALB				SN	**Sb**	**18 53 13.5**	**+0.3**
BALB	**Balikesir**	**1.10**	**298**	*e*Pn	**Pg**	**18 52 57.6**	**-0.4**
BALB				*e*Sn	**Sb**	**18 53 13.5**	**+0.3**
KZIL	**AFYON_Kizioren**	**1.17**	**138**	*i* P	**Pg**	**18 52 59.1**	**-0.2**
KZIL				*i* S	**Sn**	**18 53 15.9**	**-0.7**
KZIL	**AFYON_Kizioren**	**1.17**	**138**	P	**Pg**	**18 52 59.1**	**-0.2**
KZIL				S	**Sn**	**18 53 15.9**	**-0.7**
CAVI	**Cavuskoy**	**1.20**	**27**	PN	**Pg**	**18 52 59.2**	**-0.7**
CAVI				SN	**Sg**	**18 53 15.5**	**0.0**
CAVI	**Cavuskoy**	**1.20**	**27**	*e*Pn	**Pg**	**18 52 59.2**	**-0.7**
CAVI				*e*Sn	**Sg**	**18 53 15.5**	**0.0**
IZI	**Iznik**	**1.23**	**12**	PN	**Pg**	**18 53 00.5**	**0.0**
IZI	**Iznik**	**1.23**	**12**	*e*Pn	**Pg**	**18 53 00.5**	**0.0**
SHUT	**Suhut-Afyon**	**1.24**	**117**	PN	**Pg**	**18 53 00.1**	**-0.6**
SHUT	**Suhut-Afyon**	**1.24**	**117**	*e*Pn	**Pg**	**18 53 00.1**	**-0.6**
MDNY	**Mudanya-Bursa**	**1.25**	**351**	PN	**Pg**	**18 53 00.1**	**-0.8**
MDNY	**Mudanya-Bursa**	**1.25**	**351**	*e*Pn	**Pg**	**18 53 00.1**	**-0.8**
BORA	**Eskisehir**	**1.26**	**53**	*i* P	**Pg**	**18 53 00.6**	**-0.5**
BORA				*i* S	**Sb**	**18 53 18.4**	**+0.4**
KCTX	**Karacabey (Bur**	**1.29**	**332**	PN	**Pg**	**18 53 00.6**	**-1.0**
KCTX				SN	**Sg**	**18 53 18.2**	**0.0**
KCTX	**Karacabey (Bur**	**1.29**	**332**	*e*Pn	**Pg**	**18 53 00.6**	**-1.0**
KCTX				*e*Sn	**Sg**	**18 53 18.2**	**0.0**
GEMT	**Gemlik**	**1.31**	**2**	PN	**Pg**	**18 53 00.8**	**-1.1**
GEMT				SN	**Sb**	**18 53 19.5**	**+0.4**
GEMT	**Gemlik**	**1.31**	**2**	*e*Pn	**Pg**	**18 53 00.8**	**-1.1**
GEMT				*e*Sn	**Sb**	**18 53 19.5**	**+0.4**
DENT	**Denizli**	**1.37**	**184**	PN	**Pn**	**18 53 01.9**	**-1.0**
DENT	**Denizli**	**1.37**	**184**	*e*Pn	**Pn**	**18 53 01.9**	**-1.0**
ESKT	**Eskisehir**	**1.38**	**73**	PN	**Pn**	**18 53 02.4**	**-0.7**
ESKT	**Eskisehir**	**1.38**	**73**	*e*Pn	**Pn**	**18 53 02.4**	**-0.7**
ADVT	**Abdulvahap**	**1.38**	**19**	PN	**Pn**	**18 53 02.4**	**-0.5**
ADVT	**Abdulvahap**	**1.38**	**19**	*e*Pn	**Pn**	**18 53 02.4**	**-0.5**
YLV	**Yalova**	**1.45**	**7**	PN	**Pn**	**18 53 02.8**	**-1.1**
YLV				SN	**Sg**	**18 53 23.0**	**-0.4**
YLV	**Yalova**	**1.45**	**7**	*e*Pn	**Pn**	**18 53 02.8**	**-1.1**
YLV				*e*Sn	**Sg**	**18 53 23.0**	**-0.4**
GONE	**Gonen-Balikesi**	**1.45**	**310**	PN	**Pn**	**18 53 03.4**	**-0.5**
GONE	**Gonen-Balikesi**	**1.45**	**310**	*e*Pn	**Pn**	**18 53 03.4**	**-0.5**
ARMT	**Armutlu**	**1.45**	**352**	PN	**Pn**	**18 53 02.6**	**-1.3**
ARMT	**Armutlu**	**1.45**	**352**	*e*Pn	**Pn**	**18 53 02.6**	**-1.3**
GPA	**Golpazari**	**1.47**	**37**	PN	**Pn**	**18 53 03.2**	**-1.0**
GPA	**Golpazari**	**1.47**	**37**	*e*Pn	**Pn**	**18 53 03.2**	**-1.0**
AYDB	**Zeytinkoy-Aydi**	**1.53**	**220**	PN	**Pn**	**18 53 03.7**	**-1.4**
AYDB	**Zeytinkoy-Aydi**	**1.53**	**220**	*e*Pn	**Pn**	**18 53 03.7**	**-1.4**
EDC	**Edincik**	**1.57**	**321**	PN	**Pn**	**18 53 04.5**	**-1.0**
EDC				SN	**Sb**	**18 53 26.7**	**+0.1**
EDC	**Edincik**	**1.57**	**321**	*e*Pn	**Pn**	**18 53 04.5**	**-1.0**
EDC				*e*Sn	**Sb**	**18 53 26.7**	**+0.1**
GEYV	**SAKARYA_Geyve**	**1.62**	**33**	*i* P	**Pg**	**18 53 07.6**	**-0.3**
GEYV				*i* S	**Sg**	**18 53 30.6**	**+1.6**
GEYV	**SAKARYA_Geyve**	**1.62**	**33**	P	**Pg**	**18 53 07.6**	**-0.3**
GEYV				S	**Sg**	**18 53 30.6**	**+1.6**
GULT	**Gulveren**	**1.68**	**39**	PN	**Pn**	**18 53 06.4**	**-0.7**
GULT	**Gulveren**	**1.68**	**39**	*e*Pn	**Pn**	**18 53 06.4**	**-0.7**
ISP	**Isparta**	**1.69**	**140**	PN	**Pn**	**18 53 05.9**	**-1.4**
ISP	**Isparta**	**1.69**	**140**	P	**Pn**	**18 53 05.9**	**-1.9**
ISP	**Isparta**	**1.69**	**140**	P	**Pn**	**18 53 05.4**	**-1.9**
ISP	**Isparta**	**1.69**	**140**	*e*Pn	**Pn**	**18 53 05.9**	**-1.4**
BUY	**Buyukada**	**1.72**	**359**	PN	**Pn**	**18 53 06.1**	**-1.5**
BUY	**Buyukada**	**1.72**	**359**	*e*Pn	**Pn**	**18 53 06.1**	**-1.5**
DKL	**Dikili**	**1.74**	**269**	PN	**Pn**	**18 53 06.6**	**-1.2**
DKL	**Dikili**	**1.74**	**269**	*e*Pn	**Pn**	**18 53 06.6**	**-1.2**
HRT	**Hereke**	**1.74**	**13**	PN	**Pn**	**18 53 06.7**	**-1.2**
HRT	**Hereke**	**1.74**	**13**	*i* Pn	**Pn**	**18 53 06.7**	**-1.2**
SPNC	**Sapanca-Adapaz**	**1.80**	**30**	PN	**Pn**	**18 53 08.1**	**-0.5**
SPNC	**Sapanca-Adapaz**	**1.80**	**30**	*e*Pn	**Pn**	**18 53 08.1**	**-0.5**
BLCB	**Balcova**	**1.80**	**246**	PN	**Pn**	**18 53 08.1**	**-0.6**
BLCB	**Balcova**	**1.80**	**246**	*e*Pn	**Pn**	**18 53 08.1**	**-0.6**
SAUV	**Serdivan-Sakar**	**1.85**	**29**	PN	**Pn**	**18 53 08.6**	**-0.8**
SAUV	**Serdivan-Sakar**	**1.85**	**29**	*e*Pn	**Pn**	**18 53 08.6**	**-0.8**
SVRH	**Sivrihisar-ESK**	**1.88**	**79**	PN	**Pn**	**18 53 09.0**	**-0.8**
SVRH	**Sivrihisar-ESK**	**1.88**	**79**	*e*Pn	**Pn**	**18 53 09.0**	**-0.8**
KRBG	**Karabiga-Canak**	**1.90**	**312**	PN	**Pn**	**18 53 08.8**	**-1.3**
KRBG	**Karabiga-Canak**	**1.90**	**312**	*e*Pn	**Pn**	**18 53 08.8**	**-1.3**
FOCM	**Fo¸ça**	**1.93**	**258**	PN	**Pn**	**18 53 10.1**	**-0.3**
FOCM	**Fo¸ça**	**1.93**	**258**	*e*Pn	**Pn**	**18 53 10.1**	**-0.3**
ISK	**Istanbul-Kandi**	**1.94**	**358**	PN	**Pn**	**18 53 09.0**	**-1.6**
ISK	**Istanbul-Kandi**	**1.94**	**358**	*e*Pn	**Pn**	**18 53 09.0**	**-1.6**
AUMIH	**MIHALICIK**	**1.96**	**67**	*i* P	**Pb**	**18 53 13.3**	**+0.2**
AUMIH				*i* S	**Sg**	**18 53 41.9**	**+2.1**
AUMIH	**MIHALICIK**	**1.96**	**67**	P	**Pb**	**18 53 13.3**	**+0.2**
SBT3	**Marmara-Eregli**	**1.97**	**333**	PN	**Pn**	**18 53 09.8**	**-1.1**
SBT3	**Marmara-Eregli**	**1.97**	**333**	*e*Pn	**Pn**	**18 53 09.8**	**-1.1**
BCK	**Bucak**	**2.02**	**145**	PN	**Pn**	**18 53 11.6**	**-0.1**
BCK	**Bucak**	**2.02**	**145**	*e*Pn	**Pn**	**18 53 11.6**	**-0.1**
BTAS	**Taskesti**	**2.03**	**44**	*i* P	**Pg**	**18 53 15.3**	**-0.4**
BTAS				*i* S	**Sg**	**18 53 44.6**	**+2.5**
BTAS	**Taskesti**	**2.03**	**44**	P	**Pg**	**18 53 15.4**	**-0.4**
SILT	**Sile**	**2.06**	**11**	PN	**Pn**	**18 53 12.0**	**-0.2**
SILT	**Sile**	**2.06**	**11**	*e*Pn	**Pn**	**18 53 12.0**	**-0.2**
GCAM	**G?zelcaml?**	**2.07**	**227**	PN	**Pn**	**18 53 11.8**	**-0.5**
GCAM	**G?zelcaml?**	**2.07**	**227**	*e*Pn	**Pn**	**18 53 11.8**	**-0.5**
BGKT	**Bogazkoy**	**2.07**	**352**	PN	**Pn**	**18 53 11.1**	**-1.3**
BGKT	**Bogazkoy**	**2.07**	**352**	*e*Pn	**Pn**	**18 53 11.1**	**-1.3**
MDUB	**Mudurnu**	**2.08**	**49**	PN	**Pn**	**18 53 12.0**	**-0.6**
MDUB	**Mudurnu**	**2.08**	**49**	*e*Pn	**Pn**	**18 53 12.0**	**-0.6**
MLSB	**Milas**	**2.12**	**211**	PN	**Pn**	**18 53 12.8**	**-0.3**
MLSB	**Milas**	**2.12**	**211**	*e*Pn	**Pn**	**18 53 12.8**	**-0.3**
KLYT	**Kilyos**	**2.12**	**358**	PN	**Pn**	**18 53 12.0**	**-1.1**
KLYT	**Kilyos**	**2.12**	**358**	*e*Pn	**Pn**	**18 53 12.0**	**-1.1**
URLA	**Izmir**	**2.13**	**250**	PN	**Pn**	**18 53 12.8**	**-0.5**
URLA	**Izmir**	**2.13**	**250**	*e*Pn	**Pn**	**18 53 12.8**	**-0.5**
CTKS	**Kestanelik-??a**	**2.16**	**347**	PN	**Pn**	**18 53 12.9**	**-0.7**
CTKS	**Kestanelik-??a**	**2.16**	**347**	*e*Pn	**Pn**	**18 53 12.9**	**-0.7**
SAHE	**Sakarya_HENDEK**	**2.17**	**37**	*i* P	**Pn**	**18 53 13.0**	**-0.7**
SAHE				*i* S	**Sg**	**18 53 48.3**	**+1.8**
SAHE	**Sakarya_HENDEK**	**2.17**	**37**	P	**Pn**	**18 53 13.0**	**-0.7**
RKY	**Sarkoy-Tekirda**	**2.17**	**317**	PN	**Pn**	**18 53 12.5**	**-1.3**
RKY	**Sarkoy-Tekirda**	**2.17**	**317**	*e*Pn	**Pn**	**18 53 12.5**	**-1.3**
SUTC	**Sutluce-Ispart**	**2.20**	**138**	PN	**Pn**	**18 53 12.8**	**-1.6**
SUTC	**Sutluce-Ispart**	**2.20**	**138**	*e*Pn	**Pn**	**18 53 12.8**	**-1.6**
LPK	**Lapseki**	**2.22**	**305**	PN	**Pn**	**18 53 12.9**	**-1.5**
LPK	**Lapseki**	**2.22**	**305**	*e*Pn	**Pn**	**18 53 12.9**	**-1.5**
SLVT	**Silivri**	**2.22**	**342**	PN	**Pn**	**18 53 13.9**	**-0.5**
SLVT	**Silivri**	**2.22**	**342**	*e*Pn	**Pn**	**18 53 13.9**	**-0.5**
PRK	**Paraskevi**	**2.23**	**274**	P	**Pn**	**18 53 13.6**	**-1.0**
PRK	**Paraskevi**	**2.23**	**274**	P	**Pn**	**18 53 13.6**	**-1.0**
CRLT	**Corlu**	**2.27**	**332**	PN	**Pn**	**18 53 14.5**	**-0.7**
CRLT	**Corlu**	**2.27**	**332**	*e*Pn	**Pn**	**18 53 14.5**	**-0.7**
EZN	**Ezine**	**2.29**	**289**	PN	**Pn**	**18 53 15.3**	**-0.1**
EZN	**Ezine**	**2.29**	**289**	*e*Pn	**Pn**	**18 53 15.3**	**-0.1**
TURN	**Turunc**	**2.29**	**191**	PN	**Pn**	**18 53 16.9**	**+1.5**
TURN	**Turunc**	**2.29**	**191**	*e*Pn	**Pn**	**18 53 16.9**	**+1.5**
SMG	**Samos**	**2.30**	**233**	P	**Pn**	**18 53 12.4**	**-3.1**
SMG	**Samos**	**2.30**	**233**	P	**Pn**	**18 53 12.4**	**-3.1**
KORT	**Korkueli**	**2.33**	**155**	PN	**Pn**	**18 53 15.0**	**-1.1**
KORT	**Korkueli**	**2.33**	**155**	*e*Pn	**Pn**	**18 53 15.0**	**-1.1**
GELI	**Tayfur-Gelibol**	**2.42**	**303**	PN	**Pn**	**18 53 16.9**	**-0.2**
GELI	**Tayfur-Gelibol**	**2.42**	**303**	*e*Pn	**Pn**	**18 53 16.9**	**-0.2**
CTYL	**Yalikoy Yolu**	**2.43**	**345**	PN	**Pn**	**18 53 16.2**	**-1.2**
CTYL	**Yalikoy Yolu**	**2.43**	**345**	*e*Pn	**Pn**	**18 53 16.2**	**-1.2**
KIYI	**Yal¯koy-Catal**	**2.44**	**345**	PN	**Pn**	**18 53 17.5**	**0.0**
KIYI	**Yal¯koy-Catal**	**2.44**	**345**	*e*Pn	**Pn**	**18 53 17.5**	**0.0**
ELL	**Elmali**	**2.45**	**165**	PN	**Pn**	**18 53 17.7**	**-0.1**
ELL	**Elmali**	**2.45**	**165**	*e*Pn	**Pn**	**18 53 17.7**	**-0.1**
FETY	**Fethiye**	**2.49**	**181**	PN	**Pn**	**18 53 16.9**	**-1.3**
FETY	**Fethiye**	**2.49**	**181**	P	**Pn**	**18 53 16.8**	**-1.4**
FETY	**Fethiye**	**2.49**	**181**	*e*Pn	**Pn**	**18 53 16.9**	**-1.3**
BOZC	**Bozcaada**	**2.49**	**288**	PN	**Pn**	**18 53 17.6**	**-0.6**
**BOZC

SBF	**Sospel**	**2.91**	**15**	*e*Pn	**Pn**	**19 16 31.8**	**+1.8**
SBF				*e*Sn	**Sn**	**19 17 04.3**	**-0.8**
	39nm,0.4s						
SBF	**Sospel**	**2.91**	**15**	*e*Pn	**Pn**	**19 16 31.8**	**+1.8**
SBF				*e*Sn	**Sn**	**19 17 04.3**	**-0.8**
	20nm,0.4s						
RUSF	**Rustrel**	**2.96**	**347**	Pn	**Pb**	**19 16 34.7**	**-1.7**
SMRF	**Simiane la Rot**	**2.98**	**349**	*e*P	**Pb**	**19 16 35.7**	**-1.0**
SMRF				*e*Sn	**Sn**	**19 17 05.7**	**+0.8**
	24nm,0.3s						
SMRF	**Simiane la Rot**	**2.98**	**349**	*e*P	**Pb**	**19 16 35.7**	**-1.0**
SMRF				*e*Sn	**Sn**	**19 17 07.5**	**+0.8**
	12nm,0.3s						
OGDI	**Digne**	**3.06**	**359**	Pn	**Pb**	**19 16 36.2**	**-1.8**
ISO	**Isola**	**3.17**	**9**	Pn	**Pb**	**19 16 37.1**	**-2.8**
SURF	**Saint Ours**	**3.44**	**5**	Pn	**Pb**	**19 16 41.7**	**-3.0**
LASF	**Ste Croix**	**3.55**	**329**	*e*Pn	**Pn**	**19 16 41.1**	**+2.4**
LASF	**Ste Croix**	**3.55**	**329**	*e*P	**Pb**	**19 16 42.7**	**-3.7**
LASF				*e*Sn	**Sn**	**19 17 19.6**	**-1.1**
	17nm,0.3s						
LASF	**Ste Croix**	**3.55**	**329**	*e*Pn	**Pn**	**19 16 41.1**	**+2.4**
LASF	**Ste Croix**	**3.55**	**329**	*e*P	**Pb**	**19 16 42.7**	**-3.7**
LASF				*e*Sn	**Sn**	**19 17 19.6**	**-1.1**
	8.7nm,0.3s						
MBDF	**Montbardon**	**3.68**	**4**	*e*Pn	**Pn**	**19 16 43.8**	**+3.2**
MBDF				*e*Sn	**Sn**	**19 17 24.3**	**+0.1**
	9.3nm,0.5s						
MBDF	**Montbardon**	**3.68**	**4**	*e*Pn	**Pn**	**19 16 43.8**	**+3.2**
MBDF				*e*Sn	**Sn**	**19 17 24.3**	**+0.1**
	4.7nm,0.5s						
MTLF	**Montolieu**	**3.85**	**308**	*e*Pn	**Pn**	**19 16 45.1**	**+2.3**
MTLF	**Montolieu**	**3.85**	**308**	*e*P	**Pn**	**19 16 46.4**	**+3.6**
MTLF				*e*Sn	**Sn**	**19 17 27.3**	**-0.8**
	20nm,0.2s						
MTLF	**Montolieu**	**3.85**	**308**	*e*Pn	**Pn**	**19 16 45.1**	**+2.3**
MTLF	**Montolieu**	**3.85**	**308**	*e*P	**Pn**	**19 16 46.4**	**+3.6**
MTLF				*e*Sn	**Sn**	**19 17 27.3**	**-0.8**
	10nm,0.2s						
MTLF	**Montolieu**	**3.85**	**308**	Pn	**Pn**	**19 16 45.2**	**+2.4**
ORIF	**Oris-en-Rattie**	**3.88**	**355**	*e*Pn	**Pn**	**19 16 46.2**	**+2.9**
ORIF	**Oris-en-Rattie**	**3.88**	**355**	*e*P	**Pb**	**19 16 48.8**	**-3.3**
ORIF	**Oris-en-Rattie**	**3.88**	**355**	*e*Pn	**Pn**	**19 16 46.2**	**+2.9**
ORIF	**Oris-en-Rattie**	**3.88**	**355**	*e*P	**Pb**	**19 16 48.8**	**-3.3**
ORIF	**Oris-en-Rattie**	**3.88**	**355**	Pn	**Pn**	**19 16 47.6**	**+4.3**
VIVF	**Saint-Julien-l**	**4.00**	**342**	*e*Pn	**Pn**	**19 16 47.8**	**+2.9**
VIVF	**Saint-Julien-l**	**4.00**	**342**	*e*P	**Pn**	**19 16 48.8**	**+3.9**
VIVF				*e*Sn	**Sn**	**19 17 31.2**	**-0.7**
	8.6nm,0.3s						
VIVF	**Saint-Julien-l**	**4.00**	**342**	*e*Pn	**Pn**	**19 16 47.8**	**+2.9**
VIVF	**Saint-Julien-l**	**4.00**	**342**	*e*P	**Pn**	**19 16 48.8**	**+3.9**
VIVF				*e*Sn	**Sn**	**19 17 31.2**	**-0.7**
	4.3nm,0.3s						
LPG	**La Plagne**	**4.45**	**3**	*e*Pn	**Pn**	**19 16 54.1**	**+2.8**
LPG	**La Plagne**	**4.45**	**3**	*e*P	Pn	19 16 56.6	+5.3
LPG				*e*Sn	**Sn**	**19 17 43.3**	**0.0**
	7.6nm,0.6s						
LPG	**La Plagne**	**4.45**	**3**	*e*Pn	**Pn**	**19 16 54.1**	**+2.8**
LPG	**La Plagne**	**4.45**	**3**	*e*P	Pn	19 16 56.6	+5.3
LPG				*e*Sn	**Sn**	**19 17 43.3**	**0.0**
	3.8nm,0.6s						
LPL	**La Plagne**	**4.47**	**3**	*e*P	Pb	19 16 57.4	-4.8
LPL				*e*Sn	**Sn**	**19 17 43.9**	**+0.3**
	7.3nm,0.6s						
LPL	**La Plagne**	**4.47**	**3**	*e*P	Pb	19 16 57.4	-4.8
LPL				*e*Sn	**Sn**	**19 17 43.9**	**+0.3**
	3.7nm,0.6s						
LBL	**Lubilhac**	**4.77**	**332**	P	**Pn**	**19 16 58.5**	**+3.1**
LBL	**Lubilhac**	**4.77**	**332**	Pn	**Pn**	**19 16 58.7**	**+3.3**
EPF	**Esparros**	**4.92**	**296**	*e*Pn	**Pn**	**19 16 58.5**	**+1.0**
EPF	**Esparros**	**4.92**	**296**	*e*P	Pn	19 17 02.7	+5.2
EPF				*e*Sn	**Sn**	**19 17 52.3**	**-2.1**
	5.4nm,0.3s						
EPF	**Esparros**	**4.92**	**296**	*e*Pn	**Pn**	**19 16 58.5**	**+1.0**
EPF	**Esparros**	**4.92**	**296**	*e*P	Pn	19 17 02.7	+5.2
EPF				*e*Sn	**Sn**	**19 17 52.3**	**-2.1**
	2.7nm,0.3s						
CAF	**Calviac**	**5.00**	**322**	*e*Pn	**Pn**	**19 17 00.7**	**+2.1**
CAF	**Calviac**	**5.00**	**322**	*e*P	Pn	19 17 02.8	+4.2
CAF				*e*Sn	**Sn**	**19 17 55.6**	**-0.9**
	4.8nm,0.3s						
CAF	**Calviac**	**5.00**	**322**	*e*Pn	**Pn**	**19 17 00.7**	**+2.1**
CAF	**Calviac**	**5.00**	**322**	*e*P	Pn	19 17 02.8	+4.2
CAF				*e*Sn	**Sn**	**19 17 55.6**	**-0.9**
	2.4nm,0.3s						
MONQ	**Montcuq**	**5.06**	**313**	Pn	**Pn**	**19 17 02.5**	**+3.2**
PYM	**Petit Puy Mans**	**5.30**	**333**	P	**Pn**	**19 17 06.9**	**+4.1**
ETSF	**Etsaut**	**5.50**	**292**	*e*P	Pn	19 17 10.2	+4.7
ETSF				*e*Sn	**Sn**	**19 18 05.6**	**-3.1**
	3.9nm,0.2s						
ETSF	**Etsaut**	**5.50**	**292**	*e*P	Pn	19 17 10.2	+4.7
ETSF				*e*Sn	**Sn**	**19 18 05.6**	**-3.1**
	2.0nm,0.2s						
RJF	**Les Rejaudoux**	**5.54**	**322**	*e*Pn	**Pn**	**19 17 08.1**	**+2.1**
RJF	**Les Rejaudoux**	**5.54**	**322**	*e*P	**Pn**	**19 17 09.8**	**+3.8**
RJF				*e*Sn	**Sn**	**19 18 08.4**	**-1.4**
	8.9nm,0.3s						
RJF	**Les Rejaudoux**	**5.54**	**322**	*e*Pn	**Pn**	**19 17 08.1**	**+2.1**
RJF	**Les Rejaudoux**	**5.54**	**322**	*e*P	**Pn**	**19 17 09.8**	**+3.8**
RJF				*e*Sn	**Sn**	**19 18 08.4**	**-1.4**
	4.4nm,0.3s						
LFF	**La Frestale**	**5.68**	**315**	*e*P	Pn	19 17 12.5	+4.7
LFF				*e*Sn	**Sn**	**19 18 11.2**	**-1.8**
	4.9nm,0.2s						
LFF	**La Frestale**	**5.68**	**315**	*e*P	Pn	19 17 12.5	+4.7
LFF				*e*Sn	**Sn**	**19 18 11.2**	**-1.8**
	2.5nm,0.2s						
SMF	**Signal de Mont**	**5.88**	**343**	*e*Sn	**Sn**	**19 18 16.4**	**-1.8**
SMF	**Signal de Mont**	**5.88**	**343**	*e*Sn	**Sn**	**19 18 16.4**	**-1.8**
SJPF	**Ste Jean**	**6.03**	**292**	*e*P	Pn	19 17 17.3	+4.6
SJPF	**Ste Jean**	**6.03**	**292**	*e*P	Pn	19 17 17.3	+4.6
TCF	**Toulx Ste Croi**	**6.04**	**331**	*e*P	Pn	19 17 17.4	+4.4
TCF	**Toulx Ste Croi**	**6.04**	**331**	*e*P	Pn	19 17 17.4	+4.4
BGF	**Bois d'Agland**	**6.07**	**336**	*e*P	Pn	19 17 17.7	+4.4
BGF	**Bois d'Agland**	**6.07**	**336**	*e*P	Pn	19 17 17.7	+4.4
AVF	**Avril sur Loir**	**6.14**	**340**	*e*P	Pn	19 17 19.3	+5.1
AVF	**Avril sur Loir**	**6.14**	**340**	*e*P	Pn	19 17 19.3	+5.1

IDC 23 19:24:54.9±3.9, 24°58S×175°81W, h0km, mb4.1/3, mb1 4.3/3, mb1mx3.7/38, mbtmp4.0/3, Error ellipse: s-maj=217.6km s-min=43.9km az=156.0, South of Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**45.70**	**260**	P	P	19 33 17.9	0.0
	1.1nm,0.8s,baz=100,slow=7.0,SNR=8.5						
WRA	**Warramunga Arr**	**46.17**	**265**	P	P	19 33 20.9	-0.8
	1.2nm,0.6s,baz=104,slow=8.5,SNR=19						
CMAR	**Chiang Mai Arr**	**93.36**	**289**	P	P	19 38 14.0	+1.7
	1.5nm,0.9s,baz=130,slow=2.7,SNR=8.9						
BVAR	**Borovoye Array**	**123.47**	**319**	PKP	PKPdf	19 43 53.5	-0.4
	0.2nm,0.4s,baz=90,slow=2.9,SNR=2.9						
AKASG	**Malin Array Be**	**147.54**	**330**	PKPbc	PKPbc	19 44 39.7	-1.1
	0.7nm,0.5s,baz=45,slow=4.1,SNR=5.8						
BRTR	**Keskin Array B**	**151.01**	**309**	PKPbc	PKPbc	19 44 49.2	-0.9
	0.7nm,0.7s,baz=108,slow=4.7,SNR=5.2						

MEX 23 19:37:16.9±0.4, 18°24N×103°16W, h1km, MD3.8, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMIG	**Aquila**	**0.18**	**285**	*e*P	Pg	19 37 20.2	-0.2
MMIG				*e*S	Sg	19 37 23.0	+0.3
EZ5V		**1.30**	**341**	*e*P	Pg	19 37 38.6	-3.3
ZIIG	**Zihuatanejo**	**1.73**	**111**	*e*P	Pn	19 37 45.1	-3.1
CJM	**Chamela**	**2.18**	**305**	*e*P	Pn	19 37 51.9	-2.4

*DJA **23** 19:57:10.9±1.3, 9°S±4°×10°6E±°, h16km±13km, M4.7/18, mb5.2/1, mb4.8/12, MLv4.6/18, Mw(mB)4.6/1*
*IDC **23** 19:57:10.8±0.8, 8°47S×106°23E, h0km, mb3.9/15, mb1 4.0/15, mb1mx3.8/58, mbtmp3.9/15, MS3.6/18, Ms1 3.6/18, ms1mx3.4/53, Error ellipse: s-maj=35.6km s-min=15.0km az=51.0*
*ISCJB **23** 19:57:11.8±0.4, 8°81S±0°04×106°12E±0°04, h33km, mb4.1/21, MS3.7/18, Error ellipse: s-maj=6.2km s-min=4.8km az=29.2*
*NEIC **23** 19:57:11.1±0.5, 8°75S×106°01E, h10km, mb4.6/6, Error ellipse: s-maj=15.3km s-min=10.5km az=62.0*

ISC 23 19:57:14.6±0.6, 8°77S±0°05×106°06E±0°07, h35km, n77, σ1°63/62, mb4.0/21, MS3.7/18, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
XMIS	**Christmas Isla**	**1.75**	**193**	*e*Pn	**Pn**	**19 57 38.9**	**-3.6**
SKJI	**Sukabumi**	**1.82**	**16**	P	**Pn**	**19 57 41.6**	**-1.9**
CGJI	**Cibinong**	**2.17**	**350**	P	**Pn**	**19 57 46.5**	**-1.8**
CGJI				S	**Sn**	**19 58 14.5**	**+0.5**
DBJI	**Dramaga**	**2.30**	**17**	P	**Pn**	**19 57 48.3**	**-1.9**
LEM	**Lembang**	**2.47**	**39**	Pn	**Pn**	**19 57 52.5**	**0.0**
	32nm,0.3s,baz=301,slow=4.2,SNR=54						
LEM				Sn	**Sn**	**19 58 21.0**	**-0.6**
	38nm,0.3s,baz=178,slow=21,SNR=8.0						
LEM	**Lembang**	**2.47**	**39**	P	**Pn**	**19 57 52.2**	**-0.4**
LEM				S	**Sn**	**19 58 21.7**	**+0.1**
SBJI	**Serang**	**2.63**	**2**	P	**Pn**	**19 57 52.2**	**-2.4**
TNG	**Tangerang**	**2.64**	**13**	P	**Pn**	**19 57 52.2**	**-2.6**
TNG				P		19 57 53.6	
JCJI	**Jatiwangi**	**3.15**	**44**	P	**Pn**	**19 57 58.2**	**-3.6**
KPJI	**Karang Pucung**	**3.18**	**64**	P	**Pn**	**19 58 02.0**	**-0.2**
BLSI	**Bandar Lampung**	**3.47**	**347**	P	**Pn**	**19 58 05.6**	**-0.6**
KASI	**Kota Agung**	**3.58**	**334**	P	**Pn**	**19 58 04.4**	**-3.2**
KLI	**Kotabumi**	**4.06**	**343**	P	**Pn**	**19 58 15.8**	**+1.5**
LWLI	**Liwa**	**4.22**	**332**	P	**Pn**	**19 58 14.7**	**-1.9**
UGM	**Wanagama**	**4.50**	**79**	P	**Pn**	**19 58 16.9**	**-3.5**
MDSI	**Maura Dua**	**4.64**	**336**	P	**Pn**	**19 58 21.1**	**-1.2**
SMRI	**Semarang**	**4.66**	**69**	*e*Pn	Pn	19 58 13.5	-9.2
PCJI	**Pacitan**	**5.09**	**84**	P	**Pn**	**19 58 26.4**	**-2.1**
	76nm,0.9s,0.6nm						
MNAI	**Manna**	**5.35**	**325**	P	**Pn**	**19 58 30.6**	**-1.5**
	175nm,1.0s,0.8nm						
PWJI	**Pagerwojo**	**5.73**	**83**	P	**Pn**	**19 58 36.3**	**-1.0**
	72nm,1.0s,0.5nm						
MASI	**Maura Aman, Be**	**6.76**	**326**	P	**Pn**	**19 58 51.8**	**+0.4**
	120nm,1.3s,2μm0.6nm						
GMJI	**Gumukmas**	**7.32**	**87**	P	**Pn**	**19 58 58.8**	**-0.3**
	51nm,1.1s,0.2nm						
JAGI	**Jajag, Banyuwa**	**8.01**	**88**	P	**Pn**	**19 59 05.9**	**-2.7**
	84nm,0.8s						
JAGI	**Jajag, Banyuwa**	**8.01**	**88**	*e*Pn	Pn	19 59 01.8	-6.8
	60nm,0.7s						
SRBI	**Singaraja**	**9.08**	**86**	P	**Pn**	**19 59 21.0**	**-2.3**
	50nm,0.7s						
TWSI	**Taliwang, Sumb**	**10.70**	**91**	P	**Pn**	**19 59 43.3**	**-2.2**
	27nm,0.8s						
PLAI	**Plampang**	**11.58**	**91**	P	**Pn**	**19 59 56.0**	**-1.6**
SOEI	**Soe**	**18.00**	**95**	P	**P**	**20 01 23.8**	**+1.2**
SOEI	**Soe**	**18.00**	**95**	*e*P	**Pn**	**20 01 21.3**	**-1.1**
	24nm,0.8s						
H01W3	**Cape Leeuwin H**	**27.03**	**165**	T	T	20 30 56.7	
	baz=345,slow=75,SNR=177						
H01W1	**Cape Leeuwin H**	**27.04**	**165**	T	T	20 30 57.3	
	baz=345,slow=75,SNR=16						
H01W2	**Cape Leeuwin H**	**27.04**	**165**	T	T	20 30 57.6	
	baz=345,slow=75,SNR=17						
CMAR	**Chiang Mai Arr**	**27.95**	**345**	P	**P**	**20 03 00.1**	**-1.8**
	1.0nm,0.7s,baz=178,slow=8.5,SNR=9.9						
CMAR				LR	LR	20 15 57.0	
	comp=Z,170nm,18.0s,baz=183,slow=41						
CHTO	**Chiang Mai**	**28.29**	**346**	*e*P	**P**	**20 03 03.4**	**-1.6**
	2.6nm,0.8s						
WRA	**Warramunga Arr**	**29.51**	**115**	P	**P**	**20 03 16.1**	**+0.2**
	2.0nm,1.0s,baz=288,slow=11,SNR=8.5						
PALK	**Pallekele**	**29.88**	**301**	LR	LR	20 13 17.7	
	comp=Z,148nm,20.3s,baz=116,slow=32						
ASAR	**Alice Springs**	**30.48**	**122**	P	**P**	**20 03 26.1**	**+1.6**
	0.6nm,0.9s,baz=269,slow=7.5,SNR=4.2						
ASAR				LR	LR	20 17 43.1	
	comp=Z,193nm,18.4s,baz=294,slow=40						
H08S2	**Diego Garcia H**	**33.23**	**269**	T	T	20 38 51.7	
	baz=94,slow=74,SNR=48						
H08S3	**Diego Garcia H**	**33.24**	**269**	T	T	20 38 52.4	
	baz=94,slow=74,SNR=53						
H08S1	**Diego Garcia H**	**33.25**	**269**	T	T	20 38 54.5	
	baz=94,slow=74,SNR=32						
STKA	**Stephens Creek**	**40.19**	**130**	LR	LR	20 21 31.8	
	comp=Z,151nm,20.3s,baz=275,slow=36						
RAMN	**Ramite**	**40.21**	**333**	*e*P	**P**	**20 04 48.7**	**+0.4**
CTA	**Charters Tower**	**40.42**	**111**	P	**P**	**20 04 50.6**	**+0.8**
	0.6nm,0.3s,baz=267,slow=7.8,SNR=3.9						
LSA	**Lhasa**	**40.85**	**340**	*e*P	**P**	**20 04 53.0**	**-0.7**
JIRN	**Jiri**	**41.00**	**333**	*e*P	**P**	**20 04 55.7**	**+0.7**
	64nm,1.0s						
GUN	**Gumba**	**41.36**	**332**	*e*P	**P**	**20 04 58.6**	**+0.7**
	96nm,1.4s						
JOW	**Kunigami**	**41.44**	**31**	LR	LR	20 24 43.6	
	comp=Z,46nm,18.3s,baz=318,slow=40						
DMN	**Daman**	**41.46**	**331**	*e*P	**P**	**20 04 59.0**	**+0.4**
	35nm,1.1s						
KKN	**Kakani**	**41.53**	**332**	*e*P	**P**	**20 04 59.5**	**+0.4**
	28nm,1.0s						
GKN	**Gorkha**	**42.02**	**331**	*e*P	**P**	**20 05 03.3**	**+0.3**
KOLN	**Koldanda**	**42.33**	**330**	*e*P	**P**	**20 05 06.2**	**+0.6**
	13nm,0.6s						
PYUN	**Piuthan**	**42.91**	**329**	*e*P	**P**	**20 05 10.9**	**+0.6**
	40nm,1.0s						
KSAR	**Wonju Array Be**	**50.30**	**23**	P	**P**	**20 06 06.3**	**-1.5**
KSRS	**Korea Array**	**50.33**	**23**	P	**P**	**20 06 06.3**	**-1.7**
	1.3nm,0.9s,baz=203,slow=9.2,SNR=4.6						
KSRS				LR	LR	20 27 56.0	
	comp=Z,33nm,20.7s,baz=310,slow=37						
WSAR	**Wadi Sarin**	**56.24**	**305**	LR	LR	20 31 19.1	
	comp=Z,154nm,18.1s,baz=147,slow=36						
SONM	**Songino Array**	**56.35**	**0**	P	**P**	**20 06 52.2**	**-0.1**
	1.3nm,0.8s,baz=180,slow=8.7,SNR=12						
ULN	**Ulaanbaatar**	**56.39**	**1**	*e*P	**P**	**20 06 52.0**	**-0.6**
	7.5nm,1.0s						
MKAR	**Makanchi Array**	**59.23**	**341**	P	**P**	**20 07 11.9**	**-0.5**
	1.4nm,0.8s,baz=153,slow=8.2,SNR=11						
MKAR				LR	LR	20 35 41.7	
	comp=Z,41nm,20.2s,baz=210,slow=39						
DZM	**Mont Dzumac**	**59.36**	**110**	LR	LR	20 35 19.5	
	comp=Z,88nm,18.3s,baz=242,slow=39						
KURBB	**Kurchatov Arra**	**63.79**	**341**	P	**P**	**20 07 43.3**	**+0.2**
	1.6nm,0.9s,baz=150,slow=6.1,SNR=4.8						
KURK	**Kurchatov**	**63.84**	**341**	*e*P	**P**	**20 07 43.2**	**-0.2**
	72nm,1.2s						
GEYT	**Alibeck**	**64.47**	**319**	P	**P**	**20 07 47.1**	**-0.8**
	0.5nm,0.5s,baz=124,slow=9.0,SNR=3.3						
GEYT				LR	LR	20 38 35.1	
	comp=Z,48nm,18.9s,baz=300,slow=39						
ZALV	**Zalesovo Beam**	**65.01**	**346**	P	**P**	**20 07 50.5**	**-0.5**
	0.9nm,0.5s,baz=131,slow=4.3,SNR=5.8						
ZALV				LR	LR	20 39 57.5	
	comp=Z,37nm,19.3s,baz=59,slow=40						
ATD	**Arta Tunnel**	**66.01**	**287**	LR	LR	20 33 24.1	
	comp=Z,21nm,18.6s,baz=166,slow=33						
BVAR	**Borovoye Array**	**68.63**	**338**	P	**P**	**20 08 14.2**	**+0.1**
	0.4nm,0.4s,baz=147,slow=12,SNR=4.5						
BRVK	**Borovoye**	**68.69**	**338**	*e*P	**P**	**20 08 17.4**	**+2.9**
	12nm,1.0s						
KMBO	**Kilima Mbogo**	**68.89**	**272**	LR	LR	20 33 37.7	
	comp=Z,67nm,20.1s,baz=98,slow=32						
ABKAR	**Akbulak array**	**70.45**	**330**	*e*P	**P**	**20 08 25.4**	**0.0**
	9.9nm,1.0s						
AKTO	**Aktyubinsk**	**72.17**	**330**	P	**P**	**20 08 37.8**	**+2.0**
	0.9nm,1.0s,baz=117,slow=11,SNR=3.1						
AKTO				LR	LR	20 46 22.4	
	comp=Z,34nm,18.1s,baz=157,slow=41						
VNDA	**Vanda**	**74.42**	**169**	P	**P**	**20 08 51.8**	**+3.1**
	0.8nm,0.9s,baz=291,slow=9.3,SNR=2.3						
GNI	**Garni**	**74.55**	**316**	LR	LR	20 45 39.8	
	comp=Z,16nm,18.1s,baz=130,slow=39						
ARU	**Arti**	**75.81**	**335**	*e*P	**P**	**20 08 57.0**	**0.0**
	7.2nm,1.3s						
KBZ	**Khabaz**	**77.34**	**318**	P	**P**	**20 09 07.2**	**+1.3**
	2.0nm,0.9s,baz=90,slow=2.0,SNR=5.1						
MMAI	**Mount Meron Ar**	**78.87**	**306**	LR	LR	20 45 02.7	
	comp=Z,55nm,19.7s,baz=110,slow=36						
BRTR	**Keskin Array B**	**82.31**	**312**	P	**P**	**20 09 35.1**	**+2.0**
	1.1nm,1.0s,baz=134,slow=11,SNR=3.9						
BRTR				LR	LR	20 48 21.2	
	comp=Z,34nm,19.4s,baz=114,slow=37						
NOA	**NORSAR Array B**	**99.96**	**331**	LR	LR	21 03 55.7	
	comp=Z,13nm,19.0s,baz=85,slow=40						
TXAR	**Lajitas Array**	**145.42**	**50**	PKPbc	**PKPab**	**20 16 50.4**	**+0.4**
	0.4nm,0.4s,baz=259,slow=1.3,SNR=6.8						

DJA 23 19:57:15.8±0.4, 5°N±3°×96°E±°, h10km, M3.7/6, MLv3.7/6, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSI	**Banda Aceh**	**0.82**	**312**	P	Pg	19 57 31.1	-0.5
BSI				S	Sb	19 57 43.8	+0.6
MLSI	**Meulaboh, Aceh**	**0.84**	**144**	P	Pg	19 57 31.0	-1.0
MLSI				S	Sg	19 57 42.7	-0.2
LHMI	**Lhok Sumawe**	**1.07**	**75**	P	Pg	19 57 35.9	-0.5
LHMI				S	Sn	19 57 51.2	-0.6
TPTI		**2.10**	**143**	P	Pb	19 57 52.6	-1.5
TPTI				S	Sb	19 58 19.1	-1.2

*IDC **23** 20:01:53.7±1.1, 3°87N×92°51E, h0km, mb3.7/9, mb1 3.9/11, mb1mx3.6/65, mbtmp3.8/11, ML3.8/2, Error ellipse: s-maj=39.9km s-min=17.6km az=52.0*
*NEIC **23** 20:01:55.1±0.5, 3°89N×92°55E, h10km, mb4.3/2, Error ellipse: s-maj=11.3km s-min=6.6km az=213.0*
*ISCJB **23** 20:01:56.1±0.6, 3°89N±0°09×92°58E±0°08, h33km, mb3.8/11, Error ellipse: s-maj=14.6km s-min=8.9km az=35.0*

ISC 23 20:01:58.3±0.7, 3°9N±0°1×92°54E±0°10, h35km, n21, σ0°89/18, mb3.8/11, 1D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSI	**Gunungsitoli**	**5.63**	**117**	*e*P	**Pn**	**20 03 18.4**	**-1.2**
	30nm,0.6s						
KULM	**Kulim**	**8.21**	**80**	*e*P	**Pn**	**20 03 54.2**	**-0.8**
	9.0nm,0.6s						
IPM	**Ipoh**	**8.48**	**86**	*e*P	**Pn**	**20 03 58.1**	**-0.8**
	18nm,0.6s						
PALK	**Pallekele**	**12.26**	**287**	Pn	**Pn**	**20 04 49.7**	**-0.9**
	2.4nm,0.3s,baz=115,slow=14,SNR=12						
PALK				Sn	Sn	20 06 53.0	-13
	1.5nm,0.3s,baz=118,slow=6.0,SNR=2.2						
CMAR	**Chiang Mai Arr**	**15.80**	**23**	Pn	**Pn**	**20 05 37.0**	**-1.4**
	0.0nm,0.3s,baz=219,slow=13,SNR=4.6						
H08S2	**Diego Garcia H**	**23.04**	**240**	T	T	20 32 24.3	
	baz=61,slow=75,SNR=21						
H08S3	**Diego Garcia H**	**23.04**	**240**	T	T	20 32 24.3	
	baz=61,slow=75,SNR=19						
H08S1	**Diego Garcia H**	**23.05**	**240**	T	T	20 32 24.3	
	baz=61,slow=75,SNR=12						
MKAR	**Makanchi Array**	**43.69**	**350**	P	**P**	**20 10 00.3**	**+0.4**
	0.6nm,0.7s,baz=170,slow=8.6,SNR=4.6						
SONM	**Songino Array**	**45.41**	**13**	P	**P**	**20 10 14.8**	**+1.1**
	0.4nm,0.6s,baz=201,slow=6.2,SNR=2.7						
GEYT	**Alibeck**	**46.23**	**322**	P	**P**	**20 10 20.4**	**+0.2**
	1.1nm,0.7s,baz=159,slow=8.6,SNR=4.0						
WRA	**Warramunga Arr**	**47.38**	**122**	P	**P**	**20 10 29.9**	**+0.4**
	0.9nm,0.8s,baz=301,slow=8.8,SNR=6.1						
WRAB	**Tennant Creek**	**47.39**	**122**	*e*P	**P**	**20 10 29.9**	**+0.4**
	2.9nm,1.0s						
KURBB	**Kurchatov Arra**	**48.08**	**348**	P	**P**	**20 10 33.9**	**-0.5**
	0.3nm,0.6s,baz=114,slow=35,SNR=4.9						
KURK	**Kurchatov**	**48.14**	**348**	P	**P**	**20 10 33.9**	**-1.0**
ASAR	**Alice Springs**	**48.70**	**126**	P	**P**	**20 10 40.4**	**+0.7**
	0.2nm,0.5s,baz=290,slow=8.1,SNR=4.1						
ZALV	**Zalesovo Beam**	**50.33**	**354**	P	**P**	**20 10 52.3**	**+0.7**
	1.1nm,0.4s,baz=173,slow=6.3,SNR=6.3						
STKA	**Stephens Creek**	**58.59**	**131**	P	**P**	**20 11 53.0**	**+1.0**
	1.5nm,0.5s,baz=342,slow=3.3,SNR=5.4						
TIXI	**Tiksi**	**71.46**	**11**	*e*P	**P**	**20 13 14.8**	**0.0**
	2.1nm,0.8s						
GERES	**GERESS Array B**	**79.76**	**319**	P	**P**	**20 14 03.9**	**+0.9**
	0.8nm,0.8s,baz=102,slow=5.6,SNR=5.7						
SYO	**Syowa Base**	**81.12**	**197**	*e*X	**P**	**20 14 09.0**	**-0.7**

MEX 23 20:03:49.6±0.5, 14°80N×93°35W, h16km±62km, MD3.6, 1C, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.91**	**8**	*e*P	Pb	20 04 03.8	-3.1

*ISCJB **23** 20:14:16.0±0.4, 71°86N±0°04×75°83W±0°10, h45km, Error ellipse: s-maj=5.4km s-min=4.1km az=156.7*
*OTT **23** 20:14:18.7±0.3, 71°91N×75°51W, h18km, MN4.1/

CDKN				SN	Sn	20 17 47.3	-2.4
CDKN				LG	Lg	20 18 30.3	
CDKN				Trac		20 18 47.1	
	comp=Z,64nm,0.5s						
FRB	**Frobisher Bay**	**8.58**	**159**	PN	**Pn**	**20 16 20.5**	**+1.5**
FRB				SN	**Sn**	**20 17 52.0**	**-2.2**
FRB				LG	Lg	20 18 36.4	
FRB				Trac		20 18 52.5	
	comp=Z,64nm,0.4s						
FRB	**Frobisher Bay**	**8.58**	**159**	Pn	**Pn**	**20 16 20.5**	**+1.5**
FRB				Sn	**Sn**	**20 17 52.0**	**-2.2**
FRB				Lg	Lg	20 18 36.4	
EUNU	**Eureka**	**8.60**	**347**	PN	**Pn**	**20 16 21.6**	**+2.3**
EUNU				SN	**Sn**	**20 17 53.3**	**-1.6**
EUNU				Trac		20 18 00.9	
	comp=Z,7.8nm,0.7s						
EUNU	**Eureka**	**8.60**	**347**	Pn	**Pn**	**20 16 21.6**	**+2.3**
EUNU				Sn	**Sn**	**20 17 53.3**	**-1.6**
NUNN	**Nunuq Camp, NU**	**8.79**	**228**	PN	**Pn**	**20 16 23.2**	**+1.2**
NUNN				SN	**Sn**	**20 17 55.1**	**-4.5**
NUNN				LG	Lg	20 18 45.8	
NUNN				Trac		20 18 54.1	
	comp=Z,96nm,0.5s						
NUNN	**Nunuq Camp, NU**	**8.79**	**228**	Pn	**Pn**	**20 16 23.2**	**+1.2**
NUNN				Sn	**Sn**	**20 17 55.1**	**-4.5**
NUNN				Lg	Lg	20 18 45.8	
CB31	**Cambridge Bay**	**10.23**	**269**	PN	**Pn**	**20 16 39.0**	**-2.6**
CB31				SN	**Sn**	**20 18 29.1**	**-5.7**
CB31				LG	Lg	20 19 27.9	
CB31				Trac		20 19 33.4	
	comp=Z,67nm,0.4s						
CB31	**Cambridge Bay**	**10.23**	**269**	Pn	**Pn**	**20 16 39.0**	**-2.6**
CB31				Sn	**Sn**	**20 18 29.1**	**-5.7**
CB31				Lg	Lg	20 19 27.9	
KNGQ	**Kangiqsujuaq**	**10.44**	**171**	PN	**Pn**	**20 16 46.5**	**+2.0**
KNGQ				SN	**Sn**	**20 18 36.4**	**-3.6**
KNGQ				LG	Lg	20 19 33.0	
KNGQ				Trac		20 19 42.5	
	comp=Z,26nm,0.3s						
SEDN	**First Sedna Si**	**10.52**	**222**	PN	**Pn**	**20 16 45.0**	**-0.6**
SEDN				SN	**Sn**	**20 18 37.3**	**-4.6**
SEDN				LG	Lg	20 19 36.8	
SEDN				Trac		20 19 46.3	
	comp=Z,80nm,0.7s						
MCMN	**McManaman Lake**	**10.71**	**225**	PN	**Pn**	**20 16 46.7**	**-1.5**
MCMN				SN	**Sn**	**20 18 40.0**	**-6.4**
MCMN				LG	Lg	20 19 41.8	
MCMN				Trac		20 20 04.3	
	comp=Z,79nm,0.7s						
YBKN	**Baker Lake, Hu**	**10.74**	**235**	PN	**Pn**	**20 16 46.6**	**-1.9**
YBKN				SN	**Sn**	**20 18 39.5**	**-7.7**
YBKN				LG	Lg	20 19 44.0	
YBKN				LG	Lg	20 19 46.2	
YBKN				Trac		20 19 54.5	
	comp=Z,109nm,0.8s						
SUMG	**Summit**	**11.18**	**69**	*i* P	**Pn**	**20 16 56.6**	**+1.6**
ARVN	**Arviat, NU**	**13.06**	**223**	PN	**Pn**	**20 17 19.5**	**-0.7**
ARVN				SN	**Sn**	**20 19 35.6**	**-8.2**
ARVN				LG	Lg	20 20 55.0	
ARVN				Trac		20 21 01.3	
	comp=Z,45nm,0.6s						
KUKN	**Kugluktuk,NWT**	**14.05**	**273**	LG	Lg	20 21 23.6	
KUQ	**Kuujjuuaa**	**14.13**	**165**	LG	Lg	20 21 27.6	
KUQ				Trac		20 21 34.0	
	comp=Z,28nm,0.5s						
DAG	**Danmarks Havn**	**15.46**	**46**	*i* P	**Pn**	**20 17 52.3**	**+0.1**

ISK ***23*** *20:14:17.5, 39.°09N×29.°18E, h5*km*, ML2.2/5*
ISCJB ***23*** *20:14:18.7±0.5, 39.°09N±0.°04×29.°14E±0.°04, h2*km*±9*km*, Error ellipse: s-maj=6.7km s-min=4.0km az=149.5*
CSEM ***23*** *20:14:18.8±0.1, 39.°10N×29.°15E, h5*km*, ML2.2, Error ellipse: s-maj=4.0km s-min=2.6km az=138.0*
DDA ***23*** *20:14:19.0, 39.°11N×29.°15E, h7*km*, Ml2.5*

ISC 23 20:14:18.9±0.9, 39.°10N±0.°03×29.°15E±0.°02, h7km**±9**km**, n24, σ0°48/36, Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIMA	**Simav-Kutahya**	**0.13**	**263**	PG	**Pg**	**20 14 21.8**	**0.0**
SIMA				SG	**Sg**	**20 14 23.6**	**-0.1**
SIMA	**Simav-Kutahya**	**0.13**	**263**	*e*Pg	**Pg**	**20 14 21.8**	**0.0**
SIMA				*e*Sg	**Sg**	**20 14 23.6**	**-0.1**
GDZ	**Gediz**	**0.26**	**92**	*i* P	**Pg**	**20 14 24.2**	**+0.2**
GDZ				*i* S	**Sg**	**20 14 28.3**	**+0.8**
GDZ	**Gediz**	**0.26**	**92**	P	**Pg**	**20 14 24.2**	**+0.2**
GDZ				S	**Sg**	**20 14 28.3**	**+0.8**
DEMI	**Demirci**	**0.34**	**261**	*i* P	**Pg**	**20 14 25.6**	**-0.1**
DEMI				*i* S	**Sg**	**20 14 29.8**	**-0.4**
DEMI	**Demirci**	**0.34**	**261**	P	**Pg**	**20 14 25.5**	**-0.1**
DEMI				S	**Sg**	**20 14 29.8**	**-0.4**
TVSB	**Tavsanli**	**0.42**	**35**	PG	**Pg**	**20 14 25.9**	**-1.3**
TVSB				SG	**Sg**	**20 14 32.5**	**-0.3**
TVSB	**Tavsanli**	**0.42**	**35**	*e*Pg	**Pg**	**20 14 25.9**	**-1.3**
TVSB				*e*Sg	**Sg**	**20 14 32.5**	**-0.3**
KULA	**Kula-Manisa**	**0.70**	**213**	PG	**Pg**	**20 14 31.9**	**-0.4**
KULA				SG	**Sg**	**20 14 41.1**	**-0.4**
KULA	**Kula-Manisa**	**0.70**	**213**	*e*Pg	**Pg**	**20 14 31.9**	**-0.4**
KULA				*e*Sg	**Sg**	**20 14 41.1**	**-0.4**
DURS	**Dursunbey**	**0.72**	**314**	*i* P	**Pg**	**20 14 33.3**	**+0.5**
DURS	**Dursunbey**	**0.72**	**314**	P	**Pg**	**20 14 33.3**	**+0.5**
MANT	**Manisa**	**0.77**	**217**	*i* P	**Pg**	**20 14 33.6**	**0.0**
MANT				*i* S	**Sg**	**20 14 42.9**	**-0.7**
MANT	**Manisa**	**0.77**	**217**	P	**Pg**	**20 14 33.6**	**0.0**
MANT				S	**Sg**	**20 14 42.9**	**-0.7**
KHAL	**Karahalli**	**0.78**	**160**	*i* P	**Pb**	**20 14 34.7**	**-0.1**
KHAL	**Karahalli**	**0.78**	**160**	P	**Pb**	**20 14 34.7**	**-0.1**
AKHS	**Akhisar**	**1.06**	**258**	*i* P	**Pb**	**20 14 39.9**	**+0.3**
AKHS	**Akhisar**	**1.06**	**258**	P	**Pb**	**20 14 39.9**	**+0.3**
BORA	**Eskisehir**	**1.27**	**52**	*i* P	**Pn**	**20 14 43.5**	**+0.3**
BORA	**Eskisehir**	**1.27**	**52**	P	**Pn**	**20 14 43.5**	**+0.3**
ARMT	**Armutlu**	**1.48**	**351**	PN	**Pn**	**20 14 46.2**	**+0.2**
ARMT	**Armutlu**	**1.48**	**351**	*e*Pn	**Pn**	**20 14 46.2**	**+0.2**
AYDB	**Zeytinkoy-Aydi**	**1.52**	**221**	PN	**Pn**	**20 14 46.7**	**+0.2**
AYDB	**Zeytinkoy-Aydi**	**1.52**	**221**	*e*Pn	**Pn**	**20 14 46.7**	**+0.2**

IDC 23 20:16:16.9±8.0, 15.°76S×173.°28W, h0km**, mb3.6/3, mb1 3.9/4, mb1mx3.6/45, mbtmp3.6/4, ML3.3/1, MS3.4/1, Ms1 3.4/1, ms1mx2.6/45, Error ellipse: s-maj=367.4km s-min=24.7km az=140.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.34**	**38**	Pn	Pn	20 16 55.0	-1.7
	7.3nm,0.3s,baz=232,slow=5.0,SNR=5.4						
AFI				Sn	Sn	20 17 23.3	-3.0
	30nm,0.3s,baz=82,slow=19,SNR=8.3						
HNR	**Honiara**	**26.86**	**280**	LR	LR	20 30 21.8	
	comp=Z,82nm,21.2s,baz=146,slow=32						
WRA	**Warramunga Arr**	**49.88**	**257**	P	P	20 25 12.3	-0.2
	0.2nm,0.5s,baz=91,slow=7.0,SNR=9.6						
ASAR	**Alice Springs**	**50.11**	**252**	P	P	20 25 13.6	-0.7
	1.1nm,0.6s,baz=87,slow=8.2,SNR=21						
ILAR	**Eielson Array**	**82.78**	**11**	P	P	20 28 43.1	+0.7
	0.4nm,0.6s,baz=230,slow=6.6,SNR=7.6						
BRTR	**Keskin Array B**	**146.51**	**321**	PKPbc	PKPbc	20 36 00.5	-0.2
	0.9nm,0.8s,baz=91,slow=1.4,SNR=7.0						

IDC 23 20:27:45.3±5.4, 1.°14N×91.°94E, h0km**, mb3.4/3, mb1 3.6/3, mb1mx3.2/63, mbtmp3.4/3, Error ellipse: s-maj=186.2km s-min=32.9km az=59.0, North Indian Ocean**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**46.25**	**351**	P	P	20 36 12.1	-0.3
	0.2nm,0.5s,baz=170,slow=8.8,SNR=3.4						
WRA	**Warramunga Arr**	**46.54**	**119**	P	P	20 36 14.9	-0.2
	0.6nm,0.9s,baz=296,slow=8.3,SNR=4.8						
SONM	**Songino Array**	**48.18**	**13**	P	P	20 36 27.7	+0.2
	0.5nm,0.6s,baz=194,slow=9.1,SNR=5.9						

IDC 23 20:31:14.2±2.1, 4.°10N×124.°98E, h0km**, mb3.3/3, mb1 3.6/3, mb1mx3.2/56, mbtmp3.3/3, Error ellipse: s-maj=196.4km s-min=27.3km az=64.0, Celebes Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**25.61**	**159**	P	P	20 36 46.0	+0.5
	0.4nm,0.3s,baz=339,slow=9.5,SNR=13						
ASAR	**Alice Springs**	**28.94**	**163**	P	P	20 37 14.8	-0.6
	0.1nm,0.7s,baz=338,slow=7.1,SNR=5.5						
MKAR	**Makanchi Array**	**56.26**	**326**	P	P	20 40 56.5	-0.1
	0.1nm,0.4s,baz=133,slow=7.1,SNR=4.3						

NIED ***23*** *20:53:00, 43.°90N×147.°10E, h74*km*, Mw4.6 Best double couple: M0 7.63000×10*15* NP1:φ*s*17.00000°, δ16.00000°, λ64.00000°. NP2:φ*s*223.00000°, δ76.00000°, λ97.00000°.*
BJI ***23*** *20:53:41.0, 44.°01N×147.°29E, h89*km*, mb4.8/43, mB4.9/24, Ms4.1/2, Ms7 4.1/3*
ISCJB ***23*** *20:53:43.7±0.3, 44.°12N±0.°03×146.°99E±0.°04, h91*km*±2*km*, mb4.5/102, Error ellipse: s-maj=5.4km s-min=3.3km az=138.1*
MOS ***23*** *20:53:43.7±1.1, 44.°09N×146.°97E, h93*km*, mb4.7/33, Error ellipse: s-maj=6.5km s-min=4.9km az=108.2*
MOS Felt (IV) at Malokuril'skoye; (II) at Yuzhno-Kuril'sk.
IDC ***23*** *20:53:43.7±0.5, 44.°21N×146.°93E, h74*km*±4*km*, mb4.3/38, mb1 4.4/44, mb1mx4.2/82, mbtmp4.5/44, MS3.0/9, Ms1 3.0/9, ms1mx2.8/71, Error ellipse: s-maj=10.7km s-min=8.9km az=137.0*
JMA ***23*** *20:53:44.3±0.2, 43.°95N×147.°13E, h71*km*±4*km*, M4.7*
JMA Felt I J1.
SKHL ***23*** *20:53:44.7±0.3, 44.°08N×147.°01E, h91*km*±4*km*, mb6.2/5, msh7.1/5*
SKHL Felt (II) at Yushno-Kurilsk; at (IV) Malokyrilskoe.
NEIC ***23*** *20:53:45.6±0.6, 44.°18N×146.°87E, h94*km*±5*km*, mb4.6/33, Error ellipse: s-maj=7.2km s-min=4.4km az=152.0*
NEIC Recorded [1 JMA] in eastern Hokkaido.

ISC 23 20:53:43.9±0.5, 44.°12N±0.°04×147.°01E±0.°04, h81km**±3**km**, h80**km**:pP-P, n389, σ1s21/428, mb4.6/102, 27C-11D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YUK	**Yuzh-Kuril'sk**	**0.83**	**264**	*i* P	**Pn**	**20 54 01.5**	**+0.5**
YUK				AMB	AMB	20 54 02.0	
	9μm,0.1s						
YUK				*i* S	**Sn**	**20 54 14.0**	**+0.3**
YUK				A	A	20 54 16.4	
	27μm,0.2s						
YUK				A	A	20 54 16.4	
	51μm,0.2s						
YUK	**Yuzh-Kuril'sk**	**0.83**	**264**	*c i*PN	**Pn**	**20 54 01.5**	**+0.5**
YUK				*i* S	**Sn**	**20 54 14.0**	**+0.3**
YUK				pmax	pmax		
	comp=N,2μm,0.1s						
YUK				pmax	pmax		
	comp=E,5μm,0.1s						
YUK				pmax	pmax		
	comp=Z,9μm,0.1s						
YUK				smax	smax		
	comp=N,27μm,0.2s						
YUK				smax	smax		
	comp=E,51μm,0.5s						
LAGR	**Lagunnoye**	**0.88**	**266**	*i* P	**Pn**	**20 54 02.3**	**+0.8**
LAGR				AMB	AMB	20 54 02.9	
	comp=E,6μm,0.1s						
LAGR				*e*S	**Sn**	**20 54 15.3**	**+0.6**
LAGR				A	A	20 54 16.8	
	comp=E,24μm,0.3s						
LAGR				A	A	20 54 16.8	
	comp=E,8μm,0.3s						
LAGR	**Lagunnoye**	**0.88**	**266**	*d i*PN	**Pn**	**20 54 02.3**	**+0.8**
LAGR				*e*S	**Sn**	**20 54 15.3**	**+0.6**
LAGR				pmax	pmax		
	comp=N,1μm,0.1s						
LAGR				pmax	pmax		
	comp=E,1μm,0.1s						
LAGR				pmax	pmax		
	comp=Z,6μm,0.1s						
LAGR				smax	smax		
	comp=E,240nm,0.3s						
LAGR				smax	smax		
	comp=N,820nm,0.5s						
GRPR	**Tuman**	**0.90**	**262**	*i* P	**Pn**	**20 54 02.4**	**+0.6**
GRPR				AMB	AMB	20 54 03.2	
	comp=N,5μm,0.3s						
GRPR				*e*S	**Sn**	**20 54 15.4**	**+0.3**
GRPR				A	A	20 54 17.2	
	comp=N,42μm,0.3s						
GRPR				A	A	20 54 17.2	
	comp=N,35μm,0.3s						
GRPR	**Tuman**	**0.90**	**262**	*c i*PN	**Pn**	**20 54 02.4**	**+0.6**
GRPR				*e*S	**Sn**	**20 54 15.4**	**+0.3**
GRPR				pmax	pmax		
	comp=Z,5μm,0.3s						
GRPR				pmax	pmax		
	comp=N,3μm,0.1s						
GRPR				pmax	pmax		
	comp=E,3μm,0.2s						
GRPR				smax	smax		
	comp=N,42nm,0.3s						
GRPR				smax	smax		
	comp=E,35nm,0.3s						
GLVR	**Golovnino**	**1.14**	**251**	*i* P	**Pn**	**20 54 05.5**	**+0.9**
GLVR				AMB	AMB	20 54 05.8	
	comp=E,2μm,0.1s						
GLVR				*e*S	**Sn**	**20 54 21.3**	**+1.1**
GLVR				A	A	20 54 21.4	
	comp=E,23μm,0.3s						
GLVR				A	A	20 54 21.4	
	comp=E,15μm,0.3s						
GLVR	**Golovnino**	**1.14**	**251**	*c i*PN	**Pn**	**20 54 05.5**	**+0.9**
GLVR				*e*S	**Sn**	**20 54 21.3**	**+1.1**
GLVR				pmax	pmax		
	comp=N,505nm,0.1s						
GLVR				pmax	pmax		
	comp=E,324nm,0.1s						
GLVR				pmax	pmax		
	comp=Z,2μm,0.1s						
GLVR				smax	smax		
	comp=N,23μm,0.3s						
GLVR				smax	smax		
	comp=E,15μm,0.3s						
NEM2	**Nemuro 2**	**1.19**	**231**	P	**Pn**	**20 54 05.1**	**-0.1**
NEM2				*e*S	**Sn**	**20 54 20.4**	**-0.8**
KUR	**Kuril'sk**	**1.27**	**29**	*i* P	**Pn**	**20 54 06.9**	**+0.7**
KUR				AMB	AMB	20 54 07.6	
	comp=E,3μm,1.5s						
KUR				AMB	AMB	20 54 08.5	
	comp=E,2μm,0.4s						
KUR				*i* S	**Sn**	**20 54 23.8**	**+0.7**
KUR				A	A	20 54 24.6	
	comp=E,27μm,0.3s						
KUR				A	A	20 54 24.6	
	comp=E,12μm,0.3s						
KUR				A	A	20 54 24.9	
	comp=E,36μm,1.5s						
KUR	**Kuril'sk**	**1.27**	**29**	*c i*PN	**Pn**	**20 54 07.0**	**+0.7**
KUR				*e*S	**Sn**	**20 54 23.8**	**+0.7**
KUR				pmax	pmax		
	comp=N,400nm,0.1s						
KUR				pmax	pmax		
	comp=E,409nm,0.1s						
KUR				pmax	pmax		
	comp=Z,783nm,0.1s						
KUR				smax	smax		
	comp=E,30μm,0.3s						
KUR				smax	smax		
	comp=N,17μm,0.2s						
JRA	**Rausu**	**1.37**	**263**	P	**Pn**	**20 54 09.1**	**+1.6**
JRA				*e*S	**Sn**	**20 54 27.5**	**+2.1**
JNK	**Nakash**	**1.74**	**253**	P	**Pn**	**20 54 13.4**	**+1.1**
JNK				*e*S	**Sn**	**20 54 34.8**	**+0.9**
JAK	**Akkeshi**	**2.02**	**237**	P	**Pn**	**20 54 16.3**	**+0.3**
JAK				*e*S	**Sn**	**20 54 40.3**	**-0.2**
JTKR	**Abashiri--Toko**	**2.24**	**267**	P	**Pn**	**20 54 20.7**	**+1.8**
JAR	**Ashorobuto**	**2.49**	**252**	P	**Pn**	**20 54 24.3**	**+2.0**
JAR				*e*S	**Sn**	**20 54 54.1**	**+2.4**
JOB	**Onbets**	**2.61**	**243**	P	**Pn**	**20 54 25.2**	**+1.3**
JOB				*e*S	**Sn**	**20 54 55.4**	**+0.8**
JMP	**Maruseppu**	**2.63**	**269**	P	**Pn**	**20 54 26.4**	**+2.2**
JMP				*e*S	**Sn**	**20 54 57.9**	**+2.6**
JCH	**Churui**	**3.05**	**242**	P	**Pn**	**20 54 30.6**	**+0.7**
JCH				*e*S	**Sn**	**20 55 04.9**	**-0.5**
JKK2	**Kamakawa 2**	**3.08**	**267**	P	**Pn**	**20 54 32.7**	**+2.4**
ASAJ	**Asahikawa**	**3.18**	**271**	P	**Pn**	**20 54 34.2**	**+2.6**
	comp=N,51nm,0.3s,baz=67,slow=5.5,SNR=363						
ASAJ	**Asahikawa**	**3.18**	**271**	P	**Pn**	**20 54 34.2**	**+2.6**
ASAJ	**Asahikawa**	**3.18**	**271**	*e*P	**Pn**	**20 54 34.0**	**+2.4**
JSE	**Soyaes**	**3.27**	**286**	P	**Pn**	**20 54 35.1**	**+2.3**
JFR	**Furan**	**3.34**	**255**	P	**Pn**	**20 54 36.3**	**+2.4**
JEM	**Erimo**	**3.52**	**235**	P	**Pn**	**20 54 37.8**	**+1.6**
ERM	**Erimo**	**3.52**	**235**	*e*Pn	**Pn**	**20 54 38.1**	**+1.9**
ERM	**Erimo**	**3.52**	**235**	*ce*PN	**Pn**	**20 54 38.9**	**+2.7**
ERM				pmax	pmax		
	comp=Z,390nm,1.0s						
JNBK	**Urakawa-nobuka**	**3.61**	**241**	P	**Pn**	**20 54 38.0**	**+0.5**
YSS	**Yuzh-Sakhalins**	**4.12**	**315**	*e*P	**Pn**	**20 54 46.5**	**+2.2**
YSS				AMB	AMB	20 54 47.3	
	comp=Z,100nm,0.7s						
YSS				*e*S	**Sn**	**20 55 33.0**	**+1.8**
YSS				A	A	20 55 35.4	
	comp=Z,70nm,0.7s						
YSS	**Yuzh-Sakhalins**	**4.12**	**315**	*e*Pn	**Pn**	**20 54 45.5**	**+1.2**
YSS	**Yuzh-Sakhalins**	**4.12**	**315**	*e*PN	**Pn**	**20 54 46.5**	**+2.2**
YSS				*e*S	**Sn**	**20 55 33.0**	**+1.8**
YSS				pmax	pmax		
	comp=N,50nm,0.7s						
YSS				pmax	pmax		
	comp=E,60nm,0.7s						
YSS				smax	smax		
	comp=E,1μm,3.7s						
YSS				smax	smax		
	comp=Z,70nm,0.7s						
UGL	**Uglegorsk**	**6.01**	**327**	*i* P	**Pn**	**20 55 13.2**	**+3.0**
UGL				AMB	AMB	20 55 15.1	
	comp=Z,165nm,0.6s						
UGL				*e*S	**Sn**	**20 56 19.7**	**+2.2**
UGL				A	A	20 56 26.3	
	comp=Z,190nm,0.6s						
TYV	**Tymovskoe**	**7.36**	**338**	*e*P	**Pn**	**20 55 30.9**	**+2.4**
TYV				AMB	AMB	20 55 32.6	
	comp=Z,56nm,0.8s						
TYV				AMB	AMB	20 55 32.7	
	comp=Z,200nm,2.2s						
TYV				*e*S	**Sn**	**20 56 50.8**	**+0.4**
TYV				A	A	20 56 55.4	
	comp=Z,310nm,1.0s						
TYV				A	A	20 56 55.4	
	comp=Z,84nm,1.0s						
TYV	**Tymovskoe**	**7.36**	**338**	*e*PN	**Pn**	**20 55 30.9**	**+2.4**
TYV				*e*S	**Sn**	**20 56 50.8**	**+0.4**
TYV				pmax	pmax		
	comp=Z,56nm,0.8s						
TYV				pmax	pmax		
	comp=Z,200nm,2.2s						
TYV				smax	smax		
	comp=N,31nm,1.0s						
TYV				smax	smax		
	comp=E,84nm,1.0s						
TEY	**Ternei**	**7.49**	**281**	*e*P	**Pn**	**20 55 32.6**	**+2.3**
TEY	**Ternei**	**7.49**	**281**	*e*PN	**Pn**	**20 55 31.1**	**+0.8**
TEY				*e*		20 57 00.0	
TEY				pmax	pmax		
	comp=E,43nm,1.0s						
TEY				pmax	pmax		
	comp=Z,43nm,1.0s						
SKR	**Severo-Kuril's**	**9.01**	**40**	*e*P	**Pn**	**20 55 51.7**	**+0.7**
GRNR	**Gornyy**	**9.77**	**317**	*e*PN	**Pn**	**20 56 04.2**	**+2.7**
GRNR				pmax	pmax		
	comp=N,92nm,1.0s						
GRNR				pmax	pmax		
	comp=E,92nm,1.0s						
GRNR				pmax	pmax		
	comp=Z,130nm,1.0s						
MAJO	**Matsushiro**	**10.11**	**225**	*e*Pn	**Pn**	**20 56 05.4**	**-0.8**
	comp=Z,28nm,0.6s						
MAJO	**Matsushiro**	**10.11**	**225**	*i* PN	**Pn**	**20 56 05.4**	**-0.8**
MAT	**Matsushiro**	**10.11**	**225**	P	**Pn**	**20 56 05.6**	**-0.6**
MAT				*e*S	**Sn**	**20 57 56.2**	**-1.7**
MJAR	**Matsushiro Arr**	**10.11**	**225**	P	**Pn**	**20 56 06.2**	**0.0**
	comp=Z,4.1nm,0.3s,baz=30,slow=13,SNR=50						
MJAR				S	**Sn**	**20 57 59.6**	**+1.7**
	comp=Z,0.7nm,0.3s,baz=32,slow=19,SNR=3.9						
MJAR				LR	LR	21 00 03.8	
	comp=Z,22nm,21.5s,baz=75,slow=38						
USRK	**Ussuriysk Ar.**	**10.79**	**276**	P	**Pn**	**20 56 14.9**	**-0.4**
	comp=Z,0.6nm,0.3s,baz=89,slow=11,SNR=10						
PETK	**Petropavlovsk-**	**11.43**	**34**	P	**Pn**	**20 56 24.0**	**0.0**
	comp=Z,0.7nm,0.3s,baz=183,slow=9.8,SNR=8.7						
PETK				LR	LR	21 01 15.5	
	comp=Z,78nm,18.6s,baz=222,slow=40						
PETK	**Petropavlovsk-**	**11.43**	**34**	PN	**Pn**	**20 56 24.0**	**0.0**
MSHR	**Mys Shultsa**	**11.65**	**268**	*ce*PN	**Pn**	**20 56 28.9**	**+1.9**
KLR	**Kul'dur**	**11.65**	**301**	P	**Pn**	**20 56 29.9**	**+2.9**
	comp=Z,0.1nm,0.3s,baz=107,slow=15,SNR=60						
KLR				LR	LR	21 01 12.5	
	comp=Z,8.4nm,19.1s,baz=112,slow=39						
KLR	**Kul'dur**	**11.65**	**301**	*d i*PN	**Pn**	**20 56 30.0**	**+2.9**
MDJ	**Mudanjiang**	**12.48**	**278**	P	**Pn**	**20 56 37.8**	**-0.4**
MDJ				pmax	pmax		
	comp=Z,14nm,0.9s						
MDJ				pmax	pmax		
	comp=Z,180nm,4.1s						
MDJ	**Mudanjiang**	**12.48**	**278**	*e*Pn	**Pn**	**20 56 39.5**	**+1.3**
	comp=Z,12nm,0.6s						
CN2	**Changchun**	**15.53**	**276**	*e*P	**Pn**	**20 57 17.0**	**-1.0**
CN2				*es*P	sP	20 57 48.4	+1.7
CN2				*e*S	**Sn**	**21 00 04.6**	**-4.6**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
CN2				pmax	pmax		
	comp=Z,200nm,3.0s						
MA2	**Magadan**	**15.65**	**7**	P	**P**	**20 57 21.5**	**-0.4**
	comp=Z,2.2nm,0.3s,baz=180,slow=11,SNR=5.5						
MA2	**Magadan**	**15.65**	**7**	*i* P	**P**	**20 57 22.3**	**+0.4**
KSRS	**Korea Array**	**15.90**	**252**	P	**Pn**	**20 57 21.6**	**-1.0**
	comp=Z,0.4nm,0.3s,baz=59,slow=12,SNR=18						
KSRS				LR	LR	21 03 01.5	
	comp=Z,89nm,21.2s,baz=65,slow=35						
KSAR	**Wonju Array Be**	**15.93**	**252**	P	**Pn**	**20 57 21.6**	**-1.4**
KSAR	**Wonju Array Be**	**15.93**	**252**	P	**Pn**	**20 57 21.7**	**-1.4**
ZEA	**Zeya**	**16.11**	**314**	*e*P	**P**	**20 57 26.4**	**-0.7**
ZEA				pmax	pmax		
	comp=E,43nm,1.4s						
ZEA				pmax	pmax		
	comp=N,29nm,1.2s						
ZEA				pmax	pmax		
	comp=Z,43nm,1.2s						
JNU	**Nakatsue**	**16.68**	**234**	P	**Pn**	**20 57 31.9**	**-0.7**
	comp=Z,0.3nm,0.3s,baz=46,slow=11,SNR=4.8						
JNU				LR	LR	21 03 17.4	
	comp=Z,52nm,21.7s,baz=59,slow=34						
TJN	**Taejon**	**16.85**	**249**	*ce*P	**P**	**20 57 37.1**	**+1.8**
SEY	**Seymchan**	**19.10**	**8**	P	**P**	**20 57 58.8**	**-1.1**
	comp=Z,0.6nm,0.3s,baz=201,slow=17,SNR=5.2						
SEY	**Seymchan**	**19.10**	**8**	*ce*P	**Pn**	**20 58 01.5**	**0.0**
YAK	**Yakutsk**	**20.62**	**337**	P	**P**	**20 58 14.1**	**-2.2**
	comp=Z,12nm,0.5s,baz=224,slow=0.3,SNR=5.4						
YAK	**Yakutsk**	**20.62**	**337**	*e*P	**P**	**20 58 14.0**	**-2.2**
YAK				*e*S	**S**	**21 01 58.8**	**-3.1**
YAK				*e*SS	**sS**	**21 02 29.2**	**+0.5**

SONM Songino Array 28.23 292 P **P** 20 59 28.9 -0.3
comp=Z,2.9nm,0.5s,baz=82,slow=8.6,SNR=31
SONM ScP **ScP** 21 06 13.9 -0.4
comp=Z,0.9nm,0.8s,baz=181,slow=2.1,SNR=5.1
SONM LR LR 21 12 11.1
comp=Z,85nm,20.0s,baz=94,slow=39
TIXI Tiksi 28.98 348 P **P** 20 59 35.9 +0.6
comp=Z,0.5nm,0.3s,baz=149,slow=5.2,SNR=5.5
TIXI Tiksi 28.98 348 *eP* **P** 20 59 36.5 +1.2
TIXI Tiksi 28.98 348 *eP* **P** 20 59 36.5 +1.2
TIXI pmax pmax
comp=Z,5.0nm,2.1s
H11N2 WAKE ISLAND Hy 29.45 139 T T 21 30 28.3
baz=330,slow=75,SNR=2240
H11N1 WAKE ISLAND Hy 29.46 139 T T 21 30 27.7
baz=330,slow=75,SNR=2286
H11N3 WAKE ISLAND Hy 29.47 139 T T 21 30 28.3
baz=330,slow=75,SNR=47
ZAK Zakamensk 29.99 298 *eP* **P** 20 59 42.7 -1.9
ZAK pmax pmax
comp=Z,3.0nm,0.9s
H11S1 WAKE ISLAND Hy 30.42 141 T T 21 31 41.8
baz=332,slow=76,SNR=3087
H11S3 WAKE ISLAND Hy 30.42 141 T T 21 31 40.0
baz=332,slow=76,SNR=3218
H11S2 WAKE ISLAND Hy 30.44 141 T T 21 31 40.8
baz=332,slow=76,SNR=444
GUMO Guam 30.48 184 LR LR 21 09 45.2
comp=Z,16nm,21.4s,baz=108,slow=32
XAN Xi'an 30.99 264 P **P** 20 59 53.5 -0.1
XAN pmax pmax
comp=Z,13nm,0.9s
ENH Enshi 32.63 258 *eP* **P** 21 00 07.7 -0.3
comp=Z,15nm,0.8s
LZH Lanzhou 33.66 271 ⇑P **P** 21 00 18.5 +1.5
LZH pmax pmax
comp=Z,23nm,1.3s
LZH pmax pmax
comp=Z,76nm,7.2s
PPLA Purkeypile 38.96 39 *eP* **P** 21 01 03.9 +2.0
comp=Z,8.9nm,1.0s
KDAK Kodiak Island 39.07 48 *eP* **P** 21 01 02.6 0.0
KDAK Kodiak Island 39.07 48 *i* P **P** 21 01 02.6 0.0
BPAW Bear Paw Mtn. 39.49 38 *eP* **P** 21 01 06.7 +0.6
comp=Z,0.5nm,0.7s
KTH Kantishna Hill 39.52 38 *eP* **P** 21 01 07.2 +0.7
comp=Z,7.2nm,0.8s
TRF Thorofare Moun 39.81 39 *eP* **P** 21 01 09.7 +0.8
comp=Z,5.2nm,0.9s
DGZ Jazzator, Alta 40.14 300 *i* P **P** 21 01 11.5 -0.4
DGZ pmax pmax
comp=Z,7.0nm,0.8s
MCK McKinley 40.41 38 *eP* **P** 21 01 13.8 +0.1
comp=Z,12nm,1.3s
MCK McKinley 40.41 38 *eP* **P** 21 01 13.8 +0.1
MCK pmax pmax
comp=Z,12nm,1.3s
ZALV Zalesovo Beam 40.69 307 P **P** 21 01 15.7 -0.4
comp=Z,1.8nm,0.4s,baz=76,slow=6.6,SNR=9.5
ZALV PcP **PcP** 21 03 16.8 +0.7
comp=Z,10nm,0.6s,baz=81,slow=2.5,SNR=24
SML Sawmill 40.81 41 *eP* **P** 21 01 17.4 +0.4
comp=Z,3.0nm,0.8s
SML Sawmill 40.81 41 *eP* **P** 21 01 17.4 +0.4
SML pmax pmax
comp=Z,3.0nm,0.8s
COLA College 40.83 36 *eP* **P** 21 01 19.7 +2.6
COLA College 40.83 36 *eP* **P** 21 01 17.6 +0.5
comp=Z,12nm,0.8s
COLA College 40.83 36 *eP* **P** 21 01 17.6 +0.5
COLA pmax pmax
comp=Z,12nm,0.8s
ILAR Eielson Array 41.25 36 P **P** 21 01 21.2 +0.6
comp=Z,4.6nm,0.8s,baz=273,slow=6.8,SNR=38
NVS Novosibirsk 41.41 308 *eP* **P** 21 01 20.9 -1.0
PAX Paxson 42.02 39 *eP* **P** 21 01 29.5 +2.5
comp=Z,3.3nm,1.0s
PAX Paxson 42.02 39 *eP* **P** 21 01 29.5 +2.5
PAX pmax pmax
comp=Z,3.0nm,1.0s
DOT Dot Lake 42.58 38 *eP* **P** 21 01 31.6 +0.2
comp=Z,6.3nm,0.6s
BMRM Bremner River 42.69 42 *eP* **P** 21 01 33.3 +0.8
comp=Z,5.7nm,0.7s
EGAK Eagle 43.69 36 *eP* **P** 21 01 40.9 +0.5
comp=Z,5.7nm,0.8s
MKAR Makanchi Array 44.32 297 P **P** 21 01 45.2 -0.5
comp=Z,4.2nm,0.5s,baz=78,slow=8.5,SNR=58
MKAR PcP **PcP** 21 03 29.1 +0.7
comp=Z,2.3nm,0.7s,baz=69,slow=4.0,SNR=5.7
MKAR ScP **ScP** 21 07 13.5 +0.5
comp=Z,0.4nm,0.6s,baz=66,slow=4.1,SNR=3.1
KURK Kurchatov 45.24 304 P **P** 21 01 52.4 -0.4
KURK PcP **PcP** 21 03 32.4 +1.0
KURK Kurchatov 45.24 304*ceP* **P** 21 01 51.4 -1.4
KURK pmax pmax
comp=Z,7.0nm,0.8s
KURBB Kurchatov Arra 45.32 304 P **P** 21 01 52.4 -1.1
comp=Z,3.2nm,0.4s,baz=74,slow=8.3,SNR=33
KURBB PcP **PcP** 21 03 32.4 +0.7
comp=Z,5.5nm,0.7s,baz=74,slow=3.3,SNR=12
LSA Lhasa 46.08 271 *eP* **P** 21 02 01.7 +1.4
comp=Z,30nm,1.0s
LSA Lhasa 46.08 271 P **P** 21 02 01.9 +1.6
LSA Lhasa 46.08 271 *eP* **P** 21 02 01.7 +1.4
LSA pmax pmax
comp=Z,30nm,1.0s
INK Inuvik 46.14 30 P **P** 21 01 59.9 +0.2
comp=Z,5.9nm,0.3s,baz=285,slow=7.4,SNR=94
PAYA Payao 46.28 253 P **P** 21 02 03.1 +1.7
comp=Z,6.4nm,0.8s
LAMP Lampang 47.01 253 P **P** 21 02 08.6 +1.5
comp=Z,8.3nm,0.8s
CHAI Chaiyaphum 47.25 248 P **P** 21 02 10.1 +1.1
comp=Z,5.9nm,0.8s
CHTO Chiang Mai 47.29 254 P **P** 21 02 10.4 +1.1
comp=Z,104nm,0.8s
CHTO Chiang Mai 47.29 254 *eP* **P** 21 02 10.4 +1.1
CHTO Chiang Mai 47.29 254 *eP* **P** 21 02 10.0 +0.7
comp=Z,34nm,1.3s
CHTO Chiang Mai 47.29 254 *eP* **P** 21 02 10.0 +0.7
CHTO pmax pmax
comp=Z,34nm,1.3s
PHIT Phitsanulok 47.40 251 P **P** 21 02 12.9 +2.8
comp=Z,7.3nm,1.0s
PDGK Podgornoye 47.52 294 P **P** 21 02 11.0 0.0
PDGK pmax pmax
comp=Z,10.0nm,0.9s
CMAR Chiang Mai Arr 47.53 253 P **P** 21 02 12.2 +1.0
comp=Z,5.2nm,0.7s,baz=43,slow=7.5,SNR=40
SHL Shillong 47.95 266 P **P** 21 02 14.7 +0.1
SHL pmax pmax
comp=Z,17nm,0.6s
NAYO Nakonayok 48.84 247 P **P** 21 02 23.4 +2.2
comp=Z,94nm,1.0s,comp=Z,5µm
BVAR Borovoye Array 49.19 309 P **P** 21 02 23.4 -0.1
comp=Z,0.8nm,0.3s,baz=97,slow=8.2,SNR=16
BVAR pP **pP** 21 02 43.0 -0.4
comp=Z,2.1nm,0.4s,baz=97,slow=6.9,SNR=7.4
BVAR PcP **PcP** 21 03 45.9 +0.4
comp=Z,2.7nm,0.4s,baz=70,slow=2.7,SNR=8.5
BVAR ScP **ScP** 21 07 33.7 +0.4
comp=Z,0.4nm,0.7s,baz=353,slow=10,SNR=4.1
BRVK Borovoye 49.23 309 *eP* **P** 21 02 23.5 -0.3
BRVK Borovoye 49.23 309 *eP* **P** 21 02 22.5 -1.3
comp=Z,8.9nm,0.9s
BRVK Borovoye 49.23 309*ceP* **P** 21 02 23.5 -0.3
BRVK pmax pmax
comp=Z,6.0nm,1.7s
OTUK Ortayu 49.96 303 P **P** 21 02 29.8 +0.3
OTUK pmax pmax
comp=Z,11nm,0.9s
ULHL Ulahol 50.14 294 P **P** 21 02 32.3 +1.1
SNR=7.8
TKM2 Tokmak 2 50.25 295 P **P** 21 02 32.5 +0.5
SNR=17
DLBC Dease Lake 50.47 43 P **P** 21 02 34.5 +1.3
comp=Z,1.7nm,0.5s,baz=302,slow=7.0,SNR=5.6
KBK Karagaybulak 50.80 295 P **P** 21 02 36.7 +0.6
SNR=15
USP Ospenovka 50.81 296 P **P** 21 02 36.4 +0.5
SNR=10
JIRN Jiri 50.81 272 *eP* **P** 21 02 37.4 +0.8
comp=Z,92nm,0.8s
KZA Kyzart 50.87 294 P **P** 21 02 38.1 +1.2
SNR=19
GUN Gumba 50.89 273 *eP* **P** 21 02 37.9 +0.8
comp=Z,75nm,0.7s
RAMN Ramite 50.93 271 *eP* **P** 21 02 38.0 +0.7
comp=Z,71nm,0.3s
AAK Ala-Archa 51.10 295 *eP* **P** 21 02 38.8 +0.5
AAK Ala-Archa 51.10 295 P **P** 21 02 38.6 +0.2
KKN Kakani 51.39 273 *eP* **P** 21 02 41.5 +0.8
comp=Z,21nm,0.5s
PKIN Phulchoki 51.43 273 *eP* **P** 21 02 41.4 +0.3
EKS2 Erkin-Say 51.56 296 P **P** 21 02 42.1 +0.4
SNR=15
DMN Daman 51.62 273 *eP* **P** 21 02 43.3 +0.8
comp=Z,40nm,0.6s
GKN Gorkha 51.73 274 *eP* **P** 21 02 43.8 +0.6
comp=Z,29nm,0.4s
AML Almayashu 51.87 295 P **P** 21 02 45.1 +0.8
SNR=9.2
DANN Dangsing 52.16 275 *eP* **P** 21 02 48.1 +1.6
comp=Z,14nm,1.0s
MNAS Manas 52.47 296 P **P** 21 02 49.0 +0.5
MNAS pmax pmax
comp=Z,15nm,0.9s
KOLN Koldanda 52.61 274 *eP* **P** 21 02 50.8 +1.0
comp=Z,26nm,0.4s
SVE Sverdlovsk 52.80 316 *eP* **P** 21 02 49.3 -1.2
SVE pmax pmax
comp=Z,8.0nm,0.9s
PYUN Piuthan 52.86 275 *eP* **P** 21 02 52.6 +1.0
comp=Z,53nm,0.4s
SFK Sufi-Kurgan 53.03 293 P **P** 21 02 52.9 +0.1
SFK pmax pmax
comp=Z,13nm,0.8s
KKAR Karatay Array 53.45 298 *eP* **P** 21 02 55.7 +0.2
comp=Z,5.3nm,0.5s
KKAR Karatay Array 53.45 298 *eP* **P** 21 02 55.7 +0.2
KKAR pmax pmax
comp=Z,5.0nm,0.5s
ARU Arti 54.01 317 P **P** 21 02 58.4 -1.0
comp=Z,4.3nm,0.4s,baz=66,slow=5.8,SNR=5.8
ARU Arti 54.01 317 *eP* **P** 21 03 00.0 +0.7
ARU Arti 54.01 317*d* *i*P **P** 21 02 58.9 -0.4
ARU *e*PP **pP** 21 03 17.3 -2.1
ARU 21 04 02.2
ARU S **S** 21 10 30.0 +1.2
ARU SS **SS** 21 14 09.0 -1.5
ARU pmax pmax
comp=Z,8.0nm,1.0s
BBB Bella Bella 54.11 49 LR LR 21 26 05.6
comp=Z,29nm,18.5s,baz=334,slow=36
SPITS Spitsbergen Ar 54.40 349 P **P** 21 03 00.2 -1.7
comp=Z,1.9nm,0.6s,baz=18,slow=9.7,SNR=14
RES Resolute Bay 54.64 17 P **P** 21 03 01.9 -1.7
comp=Z,1.8nm,0.4s,baz=331,slow=3.3,SNR=13
RES Resolute Bay 54.64 17 P **P** 21 03 02.0 -1.7
YKA Yellowknife Ar 55.55 34 P **P** 21 03 10.9 +0.5
comp=Z,1.7nm,0.7s,baz=301,slow=6.7,SNR=30
YKA pP **pP** 21 03 29.3 -1.3
comp=Z,1.7nm,0.6s,baz=302,slow=7.0,SNR=7.5
NIL Nilore 56.59 286 *eP* **P** 21 03 18.8 +0.6
comp=Z,70nm,0.8s
NIL Nilore 56.59 286 *eP* **P** 21 03 18.8 +0.6
NIL pmax pmax
comp=Z,71nm,0.8s
ABKAR Akbulak array 56.75 309 *eP* **P** 21 03 18.6 -0.6
comp=Z,4.2nm,0.4s
AKTO Aktyubinsk 57.22 310 P **P** 21 03 22.4 0.0
comp=Z,2.6nm,0.3s,baz=64,slow=9.7,SNR=9.0
AKTO PcP **PcP** 21 04 15.8 -0.1
comp=Z,3.2nm,0.6s,baz=84,slow=8.6,SNR=6.4
ARCES ARCESS Array B 58.86 339 P **P** 21 03 31.5 -2.1
comp=Z,4.9nm,1.0s,baz=48,slow=7.5,SNR=7.7
ARCES PcP **PcP** 21 04 22.3 +0.1
comp=Z,2.8nm,0.7s,baz=52,slow=6.0,SNR=4.4
KBL Kabul 58.97 290 P **P** 21 03 34.5 -0.6
KBL pmax pmax
comp=Z,25nm,0.8s
DAG Danmarks Havn 59.04 356 *eP* **P** 21 03 34.9 +0.2
DAG Danmarks Havn 59.04 356 P **P** 21 03 34.1 -0.6
GEYT Alibeck 64.17 299 P **P** 21 04 10.3 +0.4
comp=Z,9.3nm,0.7s,baz=36,slow=2.8,SNR=33
FINES FINESS Array B 64.50 333 P **P** 21 04 09.8 -1.8
comp=Z,3.3nm,0.4s,baz=45,slow=6.8,SNR=24
WRAB Tennant Creek 64.78 193*ceP* **P** 21 04 13.5 -0.4
WRAB pmax pmax
comp=Z,9.0nm,1.7s
WRA Warramunga Arr 64.80 193 P **P** 21 04 13.8 -0.2
comp=Z,8.1nm,0.9s,baz=12,slow=6.8,SNR=40
WRA pP **pP** 21 04 32.6 -2.0
comp=Z,2.1nm,0.8s,baz=9.5,slow=6.5,SNR=3.4
OBN Obninsk 64.95 324 *i*P **P** 21 04 13.9 -0.7
OBN pmax pmax
comp=Z,6.0nm,0.9s
PAHR Pah Rah Range 66.02 57 *eP* **P** 21 04 22.8 +0.9
comp=Z,14nm,1.0s
LRM Limekiln Ridge 66.19 49 *eP* **P** 21 04 23.8 +0.7
comp=Z,15nm,1.1s
EGMT Eagleton 66.20 46 *eP* **P** 21 04 23.7 +0.7
comp=Z,4.3nm,0.9s
CMB Columbia Colle 66.43 59 *eP* **P** 21 04 25.9 +1.4
comp=Z,13nm,0.6s
CMB Columbia Colle 66.43 59 *eP* **P** 21 04 25.9 +1.4
CMB pmax pmax
comp=Z,13nm,0.6s
BOZ Bozeman (W) 66.77 49 *eP* **P** 21 04 27.7 +1.0
comp=Z,6.2nm,0.6s
BOZ Bozeman (W) 66.77 49 *eP* **P** 21 04 27.7 +1.0
BOZ pmax pmax
comp=Z,6.0nm,0.6s
NVAR Mina Array Bea 67.47 58 P **P** 21 04 32.6 +1.3
comp=Z,7.9nm,0.8s,baz=289,slow=6.7,SNR=26
ASAR Alice Springs 68.52 193 P **P** 21 04 38.5 +0.9
comp=Z,1.9nm,0.5s,baz=12,slow=6.4,SNR=30
ASAR pP **pP** 21 04 57.4 -1.1
comp=Z,2.0nm,0.8s,baz=12,slow=6.4,SNR=6.2
GOF Gofitskoye 68.52 312 ⇑*eP* **P** 21 04 38.2 +0.7
GOF pmax pmax
comp=Z,43nm,0.7s
HVU Hansel Valley 68.60 52 *eP* **P** 21 04 39.1 +0.9
comp=Z,5.0nm,1.0s
HVU Hansel Valley 68.60 52 *eP* **P** 21 04 39.2 +0.9
HVU pmax pmax
comp=Z,5.0nm,1.0s
NB2 NORSAR Subarra 69.22 339 P **P** 21 04 40.1 -1.5
comp=Z,1.7nm,0.4s,baz=32,slow=6.5
NOA NORSAR Array B 69.22 339 P **P** 21 04 40.2 -1.5
comp=Z,1.2nm,0.5s,baz=32,slow=6.6,SNR=22
NCK Nalchik 69.25 311 *i*P **P** 21 04 43.1 +1.0
NCK pmax pmax
comp=Z,9.0nm,0.5s
HFS Hagfors 69.31 337 P **P** 21 04 40.4 -1.7
comp=Z,2.5nm,0.3s,baz=46,slow=4.3,SNR=32
KVAR Kislovodsk Arr 69.44 312 P **P** 21 04 44.4 +1.1
comp=Z,21nm,0.6s,baz=30,slow=1.8,SNR=29
KIV Kislovodsk 69.44 312 *eP* **P** 21 04 43.8 +0.5
KIV Kislovodsk 69.44 312 *eP* **P** 21 04 44.1 +0.8
comp=Z,34nm,0.7s
KIV Kislovodsk 69.44 312 *i* P **P** 21 04 44.1 +0.8
SNR=18
KIV Kislovodsk 69.44 312 *eP* **P** 21 04 43.8 +0.5
KIV pmax pmax
comp=Z,48nm,1.1s
KBZ Khabaz 69.48 311 P **P** 21 04 44.7 +1.3
comp=Z,21nm,0.8s,baz=65,slow=4.0,SNR=65
ZEI Tsey 69.55 310 *eP* **P** 21 04 43.4 -0.8
ZEI pmax pmax
comp=Z,11nm,0.7s
DUG Dugway, Tooele 69.61 54 *eP* **P** 21 04 42.9 -1.6
comp=Z,15nm,0.8s
DUG Dugway, Tooele 69.61 54 *eP* **P** 21 04 42.9 -1.6
DUG pmax pmax
comp=Z,15nm,0.8s
PDAR Pinedale Array 69.75 50 P **P** 21 04 46.0 +0.6
comp=Z,3.0nm,0.6s,baz=256,slow=1.6,SNR=24
NLU North Lily Min 70.19 53 *eP* **P** 21 04 49.4 +1.3
comp=Z,6.4nm,0.8s
GNI Garni 70.83 308 P **P** 21 04 53.6 +1.6
comp=Z,4.3nm,0.6s,baz=293,slow=3.1,SNR=4.0
GNI Garni 70.83 308*ceP* **P** 21 04 52.2 +0.2
GNI pmax pmax
comp=Z,33nm,1.2s
TMUT Trail Mountain 71.13 53 *eP* **P** 21 04 54.8 +0.8
comp=Z,14nm,1.0s
AKASG Malin Array Be 71.22 324 P **P** 21 04 53.5 -0.4
comp=Z,4.3nm,0.4s,baz=40,slow=6.3,SNR=26
KIEV Kiev 71.23 324 *eP* **P** 21 04 53.9 -0.1
KIEV Kiev 71.23 324 P **P** 21 04 53.6 -0.4
KIEV Kiev 71.23 324*c i*P **P** 21 04 53.9 -0.1
KIEV pmax pmax
comp=Z,11nm,0.8s
ANN Anapa 71.61 315 *eP* **P** 21 04 56.2 -0.2
ANN *e**PP **pP** 21 05 17.8 +0.4
ANN *e**SP **sP** 21 05 28.5 +2.2
ANN *eS* **S** 21 14 06.2 -3.0
ANN pmax pmax
comp=Z,67nm,1.5s
SRU San Rafael Swe 71.65 53 *eP* **P** 21 04 57.6 +0.6
comp=Z,11nm,0.9s
SRU San Rafael Swe 71.65 53 *eP* **P** 21 04 57.6 +0.6
SRU pmax pmax
comp=Z,11nm,0.9s
BANOM Banah 72.92 290 P **P** 21 05 05.1 +0.5
WSAR Wadi Sarin 73.08 286 P **P** 21 05 06.3 +0.8
comp=Z,4.7nm,0.6s,baz=102,slow=4.7,SNR=13
MSFE Esma-Masafi 73.39 289 P **P** 21 05 07.7 +0.4
SORM Soroca 73.52 322 ⇓*i*P **P** 21 05 07.3 -0.4
SORM Soroca 73.52 322 P **P** 21 05 07.2 -0.4
WUAZ Wupatki 73.57 56 *eP* **P** 21 05 09.4 +1.0
comp=Z,4.3nm,0.8s
UOSS Minazif 73.63 289 *i* P **P** 21 05 09.2 +0.5
SNR=7.8
HATD Hatta, Dubai 73.76 289 *i* P **P** 21 05 10.2 +0.7
SNR=10
ASHO Ashiyiah 73.90 289 P **P** 21 05 10.6 +0.2
SOHO SOHO 73.94 288 *i* P **P** 21 05 10.7 +0.2
SNR=6.5
LVV L'vov 74.06 326 *eP* **P** 21 05 11.9 +1.1
ALNE Al Ain 74.53 289 *i* P **P** 21 05 14.3 +0.4
SNR=7.8
BURAR Bucovina Array 75.28 324 ⇑*i*P **P** 21 05 18.5 +0.5
BURAR Bucovina Array 75.28 324 P **P** 21 05 18.5 +0.5
SDCO Great Sand Dun 75.45 51 *eP* **P** 21 05 20.1 +0.7
comp=Z,1.9nm,0.8s
TLCR 75.53 320 ⇑*i*P **P** 21 05 19.9 +0.6
STKA Stephens Creek 75.79 185 P **P** 21 05 21.9 +1.1
comp=Z,1.6nm,0.4s,baz=20,slow=8.2,SNR=6.3
CFR Carcaliu 75.85 320 ⇑*i*P **P** 21 05 21.5 +0.4
CFR Carcaliu 75.85 320 P **P** 21 05 21.5 +0.4
CFR pmax pmax
comp=Z,11nm,0.7s
VRI Vrincioaia 75.96 322 ⇓*i*P **P** 21 05 22.5 +0.6
VRI Vrincioaia 75.96 322 P **P** 21 05 22.4 +0.6
TIRR Tirgusor 76.27 320 ⇓*i*P **P** 21 05 23.9 +0.4
LANS Liptovska Anna 76.40 328 *eP* **P** 21 05 25.8 +1.5
LANS Liptovska Anna 76.40 328 *eP* **P** 21 05 25.8 +1.5
MLR Muntele Rosu 76.60 322 P **P** 21 05 26.2 +0.6
comp=Z,2.2nm,0.5s,baz=326,slow=2.4,SNR=47
MLR Muntele Rosu 76.60 322 ⇓*i*P **P** 21 05 26.0 +0.4
ISR Istrita 76.62 321 ⇑*i*P **P** 21 05 26.9 +1.3
ANMO Albuquerque 76.87 54*ceP* **P** 21 05 28.0 +0.6
ANMO pmax pmax
comp=Z,5.0nm,1.7s
CLL Collm 76.94 332 *eP* **P** 21 05 27.0 -0.2
comp=Z,7.0nm,0.6s
CLL Collm 76.94 332 *eP* **P** 21 05 27.0 -0.2
CLL pmax pmax
comp=Z,7.0nm,0.6s
BRG Berggiesshubel 76.99 332 *eP* **P** 21 05 27.5 0.0
comp=Z,12nm,1.1s
BRG Berggiesshubel 76.99 332 *eP* **P** 21 05 27.5 0.0
BRG pmax pmax
comp=Z,12nm,1.1s
VOIR 77.04 322 ⇑*i*P **P** 21 05 28.9 +0.9
VOIR 77.04 322 P **P** 21 05 28.9 +0.9
VYHS Vyhne 77.18 328 *eP* **P** 21 05 29.4 +0.8
VYHS Vyhne 77.18 328 *eP* **P** 21 05 29.4 +0.8
VYHS pmax pmax
comp=N,19nm,1.3s
BRTR Keskin Array B 77.21 313 P **P** 21 05 29.6 +0.5
comp=N,4.8nm,0.6s,baz=80,slow=3.7,SNR=46
ARR Arges 77.28 322 ⇓*i*P **P** 21 05 30.7 +1.4
ANTO Ankara 77.55 314 ⇓*i*P **P** 21 05 31.8 +0.9
ANTO Ankara 77.55 314 *eP* **P** 21 05 31.1 +0.2
comp=N,62nm,0.7s
ANTO Ankara 77.55 314 *eP* **P** 21 05 31.2 +0.2
ANTO pmax pmax
comp=Z,62nm,0.7s
SMOL Smolenice 77.70 328 *eP* **P** 21 05 32.2 +0.7
SMOL Smolenice 77.70 328 *eP* **P** 21 05 32.2 +0.7
EKA Eskdalemuir Ar 77.74 343 P **P** 21 05 31.8 +0.2
comp=Z,3.8nm,0.6s,baz=28,slow=5.4,SNR=19
BZS Buzias 78.38 324 ⇑*i*P **P** 21 05 33.6 -1.7
HERR Herculane 78.63 323 ⇑*i*P **P** 21 05 36.1 -0.6
MNTX Cornudas Mount 79.80 56 *eP* **P** 21 05 44.0 +0.6
comp=Z,3.7nm,0.7s
VTS Vitosha 80.10 321 ⇓*i*P **P** 21 05 45.8 +0.8
ALN Alexandroupoli 80.12 319 P **P** 21 05 45.0 +0.1
ALN Alexandroupoli 80.12 319 P **P** 21 05 45.0 +0.1
ALN Alexandroupoli 80.12 319 P **P** 21 05 45.0 +0.1
RDO Rodhopi 80.17 319 P **P** 21 05 45.7 +0.6
RDO Rodhopi 80.17 319 P **P** 21 05 45.7 +0.6
NVR Nevrokopi 80.79 320 P **P** 21 05 48.4 -0.1
NVR Nevrokopi 80.79 320 P **P** 21 05 48.4 -0.1
CSS Mathiatis 80.90 310 P **P** 21 05 49.7 +0.5
CSS Mathiatis 80.90 310 P **P** 21 05 49.7 +0.5
ASF Jabal al Asfar 80.93 306 P **P** 21 05 50.7 +1.2
comp=Z,4.1nm,0.8s,baz=358,slow=3.5,SNR=7.7
SRS Serrai 81.09 320 P **P** 21 05 50.1 0.0
SRS Serrai 81.09 320 P **P** 21 05 50.1 0.0
SRS Serrai 81.09 320 P **P** 21 05 50.1 0.0
MMAI Mount Meron Ar 81.17 308 P **P** 21 05 52.0 +1.3
comp=Z,16nm,0.8s,baz=41,slow=6.6,SNR=26
MMAI pP **pP** 21 06 11.7 -0.5
comp=Z,2.9nm,0.7s,baz=52,slow=7.5,SNR=3.4
PRK Paraskevi 81.30 318 P **P** 21 05 51.0 -0.2
PRK Paraskevi 81.30 318 P **P** 21 05 51.0 -0.2
PRK Paraskevi 81.30 318 P **P** 21 05 51.0 -0.2
LIA Limnos Island 81.31 319 P **P** 21 05 51.0 -0.2
LIA Limnos Island 81.31 319 P **P** 21 05 51.0 -0.2
KNT Kendrikon 81.38 321 P **P** 21 05 51.4 -0.2
KNT Kendrikon 81.38 321 P **P** 21 05 51.4 -0.2
KNT Kendrikon 81.38 321 P **P** 21 05 51.4 -0.2
SIGR SIGRI 81.53 318 P **P** 21 05 52.0 -0.4
SIGR SIGRI 81.53 318 P **P** 21 05 52.0 -0.4
OUR Ouranopolis 81.53 320 P **P** 21 05 51.0 -1.4
OUR Ouranopolis 81.53 320 P **P** 21 05 51.0 -1.4
OUR Ouranopolis 81.53 320 P **P** 21 05 51.0 -1.4
PLG Polygyros 81.75 320 P **P** 21 05 53.1 -0.5
PLG Polygyros 81.75 320 P **P** 21 05 53.1 -0.5
PLG Polygyros 81.75 320 P **P** 21 05 53.1 -0.5
FETY Fethiye 81.90 314 P **P** 21 05 52.8 -1.7
FETY Fethiye 81.90 314 P **P** 21 05 52.8 -1.7
PDG Podgorica 81.96 324 ⇓*i*P **P** 21 05 54.4 -0.2
PAIG Paliouri 82.00 320 P **P** 21 05 54.0 -0.9
PAIG Paliouri 82.00 320 P **P** 21 05 54.0 -0.9
PAIG Paliouri 82.00 320 P **P** 21 05 54.0 -0.9
PHP Peshkopia 82.05 323 P **P** 21 05 54.7 -0.5
PHP Peshkopia 82.05 323 P **P** 21 05 54.7 -0.5
PHP Peshkopia 82.05 323 P **P** 21 05 54.7 -0.5
CHOS Chios island 82.07 317 P **P** 21 05 54.9 -0.5
CHOS Chios island 82.07 317 P **P** 21 05 54.9 -0.5
FNA Florina 82.37 321 P **P** 21 05 56.7 -0.2
FNA Florina 82.37 321 P **P** 21 05 56.7 -0.2
FNA Florina 82.37 321 P **P** 21 05 56.7 -0.2
TXAR Lajitas Array 82.53 56 P **P** 21 05 58.9 +0.9
comp=Z,8.2nm,0.6s,baz=300,slow=4.0,SNR=107
TXAR pP **pP** 21 06 19.6 +0.2
comp=Z,3.7nm,0.8s,baz=287,slow=4.1,SNR=4.7
ARG Arkhangelos 82.72 314 P **P** 21 05 58.9 +0.2
ARG Arkhangelos 82.72 314 P **P** 21 05 58.9 +0.2
ARG Arkhangelos 82.72 314 P **P** 21 05 58.9 +0.2
NEST Nestorio 82.81 321 P **P** 21 05 58.8 -0.5
PENT Pentalofos 82.95 321 P **P** 21 05 58.7 -1.3
THL Klokotos Trika 83.06 320 P **P** 21 05 58.8 -1.6
KARY Karystos 83.14 318 P **P** 21 06 00.5 -0.3
LKR Lokris 83.33 319 P **P** 21 06 00.7 -1.1
LKR Lokris 83.33 319 P **P** 21 06 00.7 -1.1
APE Apeiranthos 83.36 317 P **P** 21 05 59.2 -2.9
APE Apeiranthos 83.36 317 P **P** 21 05 59.2 -2.9
APE Apeiranthos 83.36 317 P **P** 21 05 59.2 -2.9
AXAR Agios Charalam 83.40 319 P **P** 21 06 02.2 0.0
AXAR Agios Charalam 83.40 319 P **P** 21 06 02.2 0.0
PTL Penteli 83.40 318 P **P** 21 06 00.6 -1.6
PTL Penteli 83.40 318 P **P** 21 06 00.6 -1.6
JAN Janina 83.52 321 P **P** 21 06 02.4 -0.4
JAN Janina 83.52 321 P **P** 21 06 02.4 -0.4
JAN Janina 83.52 321 P **P** 21 06 02.4 -0.4
EVR Evrytania 83.67 320 P **P** 21 06 01.1 -2.6
EVR Evrytania 83.67 320 P **P** 21 06 01.1 -2.6
SRN Sarande 83.72 322 P **P** 21 06 02.6 -1.1
SRN Sarande 83.72 322 P **P** 21 06 02.6 -1.1

KARP	Karpathos	83.73	315	P		P	21 06 02.8	-1.2
KARP	Karpathos	83.73	315	P		P	21 06 02.8	-1.2
DSF	Desfina	83.75	319	P		P	21 06 01.9	-2.1
DSF	Desfina	83.75	319	P		P	21 06 01.9	-2.1
SERI	Serifos	83.80	317	P		P	21 05 58.8	-5.5
DSL	Palaion Diasel	83.83	321	P		P	21 06 03.5	-0.9
DSL	Palaion Diasel	83.83	321	P		P	21 06 03.5	-0.9
SGD	Sagiada	83.83	322	P		P	21 06 04.0	-0.3
IGT	Igoumenitsa	83.85	321	P		P	21 06 03.5	-1.0
IGT	Igoumenitsa	83.85	321	P		P	21 06 03.5	-1.0
IGT	Igoumenitsa	83.85	321	P		P	21 06 03.5	-1.0
ANX	Áno Chora	83.88	320	P		P	21 06 03.9	-0.9
KALE	Kalithea	83.94	320	P		P	21 06 03.5	-1.5
KALE	Kalithea	83.94	320	P		P	21 06 03.5	-1.5
SERG	Sergoula	83.96	320	P		P	21 06 03.6	-1.5
TRIZ	Trizonia	84.00	320	P		P	21 06 03.9	-1.3
EFP	Efpalio	84.02	320	P		P	21 06 04.9	-0.5
LAKA	Lakka	84.14	320	P		P	21 06 04.9	-1.1
LAKA	Lakka	84.14	320	P		P	21 06 04.9	-1.1
KLV	Kalavryta, Ach	84.22	319	P		P	21 06 03.5	-2.9
KLV	Kalavryta, Ach	84.22	319	P		P	21 06 03.5	-2.9
PDO	Prodromos	84.22	320	P		P	21 06 03.7	-2.7
LKD2	Lefkada island	84.31	321	P		P	21 06 05.8	-1.0
LKD2	Lefkada island	84.31	321	P		P	21 06 05.8	-1.0
DRO	Drossia	84.50	320	P		P	21 06 07.6	-0.2
ZKR	Zakros	84.55	315	P		P	21 06 07.9	-0.2
ZKR	Zakros	84.55	315	P		P	21 06 07.9	-0.2
TRIP	Tripoli	84.58	319	P		P	21 06 07.2	-1.1
VLX	Vlachokerasia	84.65	319	P		P	21 06 07.1	-1.6
VLX	Vlachokerasia	84.65	319	P		P	21 06 07.1	-1.6
KFL	Anninata	84.80	320	P		P	21 06 08.8	-0.5
VLS	Valsamata	84.83	320	P		P	21 06 08.7	-0.8
VLS	Valsamata	84.83	320	P		P	21 06 08.7	-0.8
VLS	Valsamata	84.83	320	P		P	21 06 08.7	-0.8
AMT	Artemida-Makis	84.84	319	P		P	21 06 08.6	-0.9
LAST	Lasithi	84.89	315	P		P	21 06 09.5	-0.4
LAST	Lasithi	84.89	315	P		P	21 06 09.5	-0.4
ITM	Ithomi	85.02	319	P		P	21 06 09.2	-1.2
ITM	Ithomi	85.02	319	P		P	21 06 09.2	-1.2
VAM	Vamos	85.33	316	P		P	21 06 11.7	-0.3
VAM	Vamos	85.33	316	P		P	21 06 11.7	-0.3
VAM	Vamos	85.33	316	P		P	21 06 11.7	-0.3
PYL	PYLOS	85.33	319	P		P	21 06 10.4	-1.6
PYL	PYLOS	85.33	319	P		P	21 06 10.4	-1.6
SIVA	Sivas	85.34	316	P		P	21 06 12.2	+0.2
SIVA	Sivas	85.34	316	P		P	21 06 12.2	+0.2
IMMV	Iera Moni Meta	85.40	317	P		P	21 06 11.9	-0.4
ANKY	Antikythira Is	85.41	317	P		P	21 06 11.1	-1.3
ANKY	Antikythira Is	85.41	317	P		P	21 06 11.1	-1.3
ESDC	Sonseca Array	92.57	338	P		P	21 06 46.0	-0.3
	comp=Z,0.4nm,0.4s,baz=14,slow=4.5,SNR=6.1							
CMIG	Matias Romero	97.00	58	LR		LR	21 46 40.3	
	comp=Z,60nm,20.5s,baz=196,slow=33							
TORD	Torodi Ar. Bea	114.84	322	PKP	PKPdf		21 12 15.0	-0.5
	comp=Z,0.5nm,0.6s,baz=9.5,slow=2.1,SNR=8.2							
DBIC	Dimbokro	123.42	326	PKP		PKPdf	21 12 32.3	+0.3
	comp=Z,2.9nm,0.8s,baz=289,slow=2.8,SNR=4.0							
PLCA	Paso Flores	152.23	96	PKPbc		PKPbc	21 13 30.8	+0.9
	comp=Z,1.3nm,0.5s,baz=294,slow=1.8,SNR=14							
CPUP	Villa Florida	153.50	56	PKPab		PKPab	21 13 46.0	+0.4
	comp=Z,2.8nm,0.8s,baz=335,slow=3.1,SNR=4.8							

ISCJB ***23*** *21:02:31.7±0.2,51°50.N±0.01×16°14.E±0.02, h0km, mb3.3/5, MS3.9/1, Error ellipse: s-maj=2.1km s-min=1.6km az=10.8*

IPEC ***23*** *21:02:33.0±0.3,51°56.N×16°22.E, h0km, ML3.0/3, Error ellipse: s-maj=3.3km s-min=1.7km az=67.0*

CSEM ***23*** *21:02:33.3±0.1,51°52.N×16°14.E, h2km, ML3.7/17, Ms3.5, Error ellipse: s-maj=2.0km s-min=1.7km az=21.0*

IDC ***23*** *21:02:34.2±0.7,51°50.N×16°06.E, h0km, mb3.4/5, mb1 3.6/10, mb1mx3.4/70, mbtmp3.5/10, ML3.4/5, MS3.9/1, Ms1 3.9/1, ms1mx2.1/46, Error ellipse: s-maj=12.9km s-min=6.9km az=123.0*

BGR ***23*** *21:02:34.6±0.3,51°50.N×16°16.E, h1km, ML3.5/17, Error ellipse: s-maj=3.3km s-min=2.2km az=17.0*

VIE ***23*** *21:02:37.3±0.6,51°24.N×16°06.E, h0km, mb3.0/12, ML3.0/13, Ms3.5/1, Error ellipse: s-maj=5.6km s-min=3.8km az=38.0, Suspected Mining induced.*

UPP ***23*** *21:02:37.7±3.1,51°79.N×15°64.E, h0km, ML2.2*

ISC 23 21:02:32.7±0.5, 51°52.N±0.02×16°15.E±0.02, h0km, n169, σ1ŝ64/273, mb3.3/5, 11C-18D, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KSP	Ksiaz	0.68	172	*i*	Pg	Pb	21 02 47.2	-0.1
KSP					eSg	Sb	21 02 56.4	-1.0
KSP	Ksiaz	0.68	172		ePg	Pb	21 02 47.3	-0.1
KSP					eSg	Sg	21 02 55.6	+1.1
KSP	Ksiaz	0.68	172		Pg	Pb	21 02 47.3	-0.1
KSP					Sg	Sg	21 02 55.6	+1.1
UPC	Upice	1.01	185	*i*	Pg	Pb	21 02 53.4	+0.3
UPC					eSG	Sb	21 03 06.9	-0.1
	comp=Z,238nm,0.5s							
UPC	Upice	1.01	185		Pg	Pb	21 02 53.4	+0.3
UPC					Sg	Sb	21 03 06.9	-0.1
	238nm,0.5s							
DPC	Dobruska-Polom	1.17	175	*e*	Pg	Pn	21 02 56.1	-0.3
DPC					eSg	Sb	21 03 12.2	+0.6
DPC	Dobruska-Polom	1.17	175	*i*	Pg	Pn	21 02 56.1	-0.3
DPC					eSG	Sb	21 03 11.2	-0.4
	comp=Z,129nm,0.5s							
DPC	Dobruska-Polom	1.17	175		Pg	Pn	21 02 56.1	-0.3
DPC					Sg	Sb	21 03 12.2	+0.6
PVCC	Panska Ves	1.41	226	*e*	Pg	Pb	21 03 00.2	+0.4
PVCC					eSG	Sn	21 03 18.5	-0.3
	comp=Z,424nm,0.7s							
PVCC	Panska Ves	1.41	226		Pg	Pb	21 03 00.2	+0.4
PVCC					Sg	Sn	21 03 18.5	-0.3
	424nm,0.7s							
KRLC	Kraliky	1.50	164	*e*	PG	Pb	21 03 01.4	0.0
KRLC					eSG	Sb	21 03 20.9	-0.1
	comp=Z,31nm,0.5s							
KRLC	Kraliky	1.50	164		Pg	Pb	21 03 01.4	0.0
KRLC					Sg	Sb	21 03 20.9	-0.1
	31nm,0.5s							
BRG	Berggiesshubel	1.53	246		PN	Pn	21 03 00.8	-0.4
BRG					PG	Pg	21 03 03.0	+1.0
BRG					SG	Sg	21 03 23.2	+1.4
	266nm,0.5s							
BRG	Berggiesshubel	1.53	246	*e*	Pn	Pn	21 03 01.2	-0.1
BRG					ePg	Pg	21 03 03.0	+1.0
BRG					eSg	Sg	21 03 23.4	+1.6
BRG	Berggiesshubel	1.53	246		Pn	Pn	21 03 01.2	-0.1
PRA	Prague	1.81	218	*i*	ePN	Pb	21 03 05.8	-0.9
PRA					eSG	Sg	21 03 30.6	-0.2
	comp=Z,113nm,0.5s							
PRA	Prague	1.81	218		Pn	Pb	21 03 05.8	-0.9
PRA					Sg	Sg	21 03 30.6	-0.2
	113nm,0.5s							
GOPC	GO Pecny, Ondr	1.82	209	*i*	ePN	Pn	21 03 05.6	+0.3
GOPC					ePG	Pg	21 03 07.5	-0.1
GOPC					eSG	Sg	21 03 31.7	+0.5
	comp=Z,104nm,0.7s							
GOPC	GO Pecny, Ondr	1.82	209		Pn	Pn	21 03 05.6	+0.3
PRU	Pruhonice	1.84	214	*i*	ePN	Pn	21 03 05.9	+0.4
PRU					ePG	Pg	21 03 07.9	0.0
PRU				*ex*		x	21 03 25.0	
PRU					eSG	Sg	21 03 31.4	-0.3
	comp=Z,142nm,0.5s							
PRU	Pruhonice	1.84	214		Pn	Pn	21 03 05.9	+0.4
FBE	Freiberg	1.86	252	*e*	Pn	Pn	21 03 06.0	+0.3
FBE					ePg	Pg	21 03 08.5	+0.3
FBE					eSg	Sg	21 03 33.3	+1.0
FBE	Freiberg	1.86	252		Pn	Pn	21 03 06.0	+0.3
GKP	Gorka Klasztor	1.88	20	*e*	Pn	Pg	21 03 07.9	-0.7
GKP					ePg	Pb	21 03 15.3	+7.5
GKP					eSg	Sg	21 03 36.6	+3.7
GKP	Gorka Klasztor	1.88	20	*e*	Pn	Pg	21 03 07.9	-0.7
GKP					eSg	Sg	21 03 36.6	+3.7
RAC	Raciborz	1.94	137	*e*	Pg	Pg	21 03 10.7	+1.0
RAC					eSg	Sg	21 03 37.0	+2.2
MORC	Moravsky Berou	1.96	152	*e*	Pn	Pn	21 03 07.7	+0.6
MORC					eSg	Sg	21 03 35.4	-0.1
MORC	Moravsky Berou	1.96	152	*i*	iP	Pn	21 03 07.5	+0.4
MORC	Moravsky Berou	1.96	152		S	Sn	21 03 30.2	-2.2
MORC	Moravsky Berou	1.96	152	*e*	Pn	Pn	21 03 07.6	+0.4
MORC					Sg	Sg	21 03 35.4	-0.1
CLL	Collm	1.98	265	*e*	Pn	Pn	21 03 07.4	0.0
CLL					ePg	Pg	21 03 10.9	+0.3
CLL					eSg	Sg	21 03 37.0	+0.7
CLL	Collm	1.98	265	*e*	Pn	Pn	21 03 07.0	-0.4
CLL					ePg	Pg	21 03 11.0	+0.3
CLL				*i*			21 03 13.8	
CLL				*e*			21 03 32.0	
CLL					eSg	Sg	21 03 37.0	+0.7
	comp=Z,236nm,0.7s							
CLL	Collm	1.98	265		Pn	Pn	21 03 07.4	0.0
CLL	Collm	1.98	265		Pg	Pg	21 03 10.9	+0.3
CLL					Sg	Sg	21 03 37.0	+0.7
OKC	Ostrava-Krasne	2.11	142	*e*	Pn	Pn	21 03 09.1	0.0
OKC					ePg	Pg	21 03 14.8	+1.3
OKC					eSg	Sg	21 03 40.2	-0.2
OKC	Ostrava-Krasne	2.11	142	*i*	ePN	Pn	21 03 09.2	0.0
OKC					ePG	Pg	21 03 13.4	+0.4
OKC					eSG	Sg	21 03 39.9	-0.4
	comp=Z,197nm,0.9s							
OKC	Ostrava-Krasne	2.11	142		Pn	Pn	21 03 09.1	0.0
VRAC	Vranov	2.23	173		Pn	Pn	21 03 12.0	+1.1
	comp=Z,4.4nm,0.3s,baz=334,slow=14,SNR=24							
VRAC					Lg	Lg	21 03 44.4	
	comp=Z,15nm,0.3s,baz=62,slow=20,SNR=10							
VRAC	Vranov	2.23	173	*i*	iP	Pn	21 03 12.0	+1.1
VRAC	Vranov	2.23	173		S	Sn	21 03 38.3	-0.8
VRAC	Vranov	2.23	173	*e*	Pn	Pn	21 03 11.6	+0.7
VRAC	Vranov	2.23	173	*i*	iP	Pn	21 03 12.0	+1.1
VRAC					eSg	Sg	21 03 44.1	-0.2
	comp=Z,67nm,0.5s							
TREC	Trest	2.27	191	*i*	ePN	Pn	21 03 12.4	+1.0
TREC					ePG	Pg	21 03 15.6	-0.5
TREC					eSG	Sg	21 03 45.7	+0.3
	comp=Z,65nm,0.4s							
TREC	Trest	2.27	191		Pn	Pn	21 03 12.4	+1.0
KRUC	Moravsky	2.46	176	*e*	Pn	Pn	21 03 15.1	+1.0
KRUC					eSg	Sg	21 03 51.3	-0.5
	comp=Z,67nm,0.7s							
TANN	Tannenbergstha	2.58	246	*e*	Pn	Pn	21 03 17.0	+1.3
TANN					ePg	Pg	21 03 23.9	+1.8
TANN					eSg	Sg	21 03 56.1	+0.7
TANN	Tannenbergstha	2.58	246		Pn	Pn	21 03 17.0	+1.3
OJC	Ojcow	2.65	118	*e*	Pn	Pn	21 03 16.4	-0.3
OJC					ePg	Pg	21 03 23.3	-0.1
OJC					eSg	Sg	21 03 59.2	+1.4
OJC	Ojcow	2.65	118	*e*	Pn	Pn	21 03 16.4	-0.3
WERD	Werda	2.65	248	*e*	Pn	Pn	21 03 17.3	+0.6
WERD					ePg	Pg	21 03 24.8	+1.3
WERD					eSg	Sg	21 03 58.7	+0.8
WERD	Werda	2.65	248		Pn	Pn	21 03 17.3	+0.6
NKC	Novy Kostel	2.67	243	*i*	ePN	Pn	21 03 17.7	+0.7
NKC					ePG	Pg	21 03 24.7	+0.8
NKC					eSG	Sg	21 04 00.1	+1.6
	comp=Z,227nm,0.6s							
NKC	Novy Kostel	2.67	243		Pn	Pn	21 03 17.7	+0.7
KHC	Kasperske Hory	2.90	216	*i*	ePN	Pn	21 03 20.6	+0.5
KHC					ePG	Pg	21 03 26.9	-1.4
KHC					eSN	Sn	21 03 55.6	-0.1
KHC					eSG	Sg	21 04 04.2	-1.6
	comp=Z,41nm,0.4s							
KHC	Kasperske Hory	2.90	216		Pn	Pn	21 03 20.6	+0.5
MANZ	Manzenberg	2.99	241	*e*	Pn	Pn	21 03 22.1	+0.8
MANZ					ePg	Pg	21 03 31.0	+1.1
MANZ					eSg	Sg	21 04 10.0	+1.3
MANZ	Manzenberg	2.99	241		Pn	Pn	21 03 22.1	+0.8
MANZ	Manzenberg	2.99	241		Pg	Pg	21 03 31.0	+1.1
MANZ					Sg	Sg	21 04 10.0	+1.3
MOX	Moxa	2.99	255	*e*	Pn	Pn	21 03 21.7	+0.4
MOX					ePg	Pg	21 03 30.1	+0.1
MOX					eSg	Sg	21 04 10.2	+1.6
MOX	Moxa	2.99	255		Pn	Pn	21 03 21.7	+0.4
ROTZ	Rotzenmuhle	3.06	237	*e*	Pn	Pn	21 03 23.1	+0.8
ROTZ					ePg	Pg	21 03 32.5	+1.2
ROTZ					eSg	Sg	21 04 09.8	-1.1
ROTZ	Rotzenmuhle	3.06	237		Pn	Pn	21 03 23.1	+0.8
GEC2	GERESS Array S	3.10	211	*e*	Pn	Pn	21 03 23.8	+0.9
GEC2					ePg	Pg	21 03 32.6	+0.5
GEC2					eSg	Sg	21 04 11.2	-1.1
GEC2	GERESS Array S	3.10	211		Pn	Pn	21 03 23.8	+0.9
GERES	GERESS Array B	3.10	211		Pn	Pn	21 03 23.6	+0.7
	comp=Z,4.1nm,0.3s,baz=32,slow=12,SNR=113							
GERES					Pg	Pg	21 03 30.9	-1.2
	comp=Z,7.0nm,0.3s,baz=26,slow=15,SNR=61							
GERES					Lg		21 04 10.4	
	comp=Z,11nm,0.3s,baz=33,slow=30,SNR=8.7							
SMOL	Smolenice	3.12	164	*e*	Pg	Pg	21 03 32.7	+0.3
SMOL					eSg	Sg	21 04 15.0	+2.2
SMOL	Smolenice	3.12	164	*e*	PG	Pg	21 03 32.7	+0.3
SMOL					eSG	Sg	21 04 15.0	+2.2
WET	Wettzell	3.17	223	*e*	Pn	Pn	21 03 24.5	+0.7
WET					eSg	Sg	21 04 14.9	+0.5
WET	Wettzell	3.17	223		Pn	Pn	21 03 24.5	+0.7
WET					Sg	Sg	21 04 14.9	+0.5
LANS	Liptovska Anna	3.18	137	*e*	Pg	Pg	21 03 34.4	+0.8
LANS					eSg	Sg	21 04 15.3	+0.4
LANS	Liptovska Anna	3.18	137	*e*		Pn	21 03 24.9	+0.9
LANS	Liptovska Anna	3.18	137	*e*	PG	Pg	21 03 34.4	+0.8
LANS					eSG	Sg	21 04 15.3	+0.4
MODS	Modra-Piesok	3.23	167	*e*	Pg	Pg	21 03 34.0	-0.5
MODS					eSg	Sg	21 04 24.8	-0.3
MODS	Modra-Piesok	3.23	167	*e*		Pn	21 03 24.8	+0.2
MODS	Modra-Piesok	3.23	167	*e*	PG	Pg	21 03 34.0	-0.5
MODS					eSG	Sg	21 04 16.1	-0.3
MODS					eLG	Lg	21 04 20.0	
ZST	Bratislava	3.38	169	*e*	Sg	Sg	21 04 20.3	-0.9
ZST	Bratislava	3.38	169	*e*	SG	Sg	21 04 20.3	-0.9
ZST					eLG	Lg	21 04 24.8	
NIE	Niedzica	3.38	127	*e*	Pn	Pn	21 03 28.2	+1.5
NIE					ePg	Pg	21 03 38.0	+0.5
NIE					eSg	Sg	21 04 23.6	+2.3
NIE	Niedzica	3.38	127	*e*	Pn	Pn	21 03 28.2	+1.5
VYHS	Vyhne	3.49	149	*e*	Pg	Pg	21 03 39.6	+0.1
VYHS					eSg	Sg	21 04 22.4	-2.2
VYHS	Vyhne	3.49	149	*e*		Pn	21 03 28.4	+0.2
VYHS	Vyhne	3.49	149	*e*	PG	Pg	21 03 39.5	+0.1
VYHS					eSG	Sg	21 04 22.4	-2.2
VYHS					eLG	Lg	21 04 34.8	
CONA	Conrad Observa	3.60	183		Pn	Pn	21 03 31.0	+1.3
	comp=Z,2.0nm,0.2s,SNR=5.9							
CONA					Sg	Sg	21 04 26.5	-1.7
	comp=Z,43nm,0.5s							
CONA	Conrad Observa	3.60	183	*i*	Pn	Pn	21 03 31.0	+1.3
	comp=Z,2.0nm,0.2s,SNR=5.9							
CONA					eSg	Sg	21 04 26.5	-1.7
	comp=Z,43nm,0.5s							
CLZ	Clausthal	3.61	277	*e*	Pn	Pn	21 03 31.0	+1.1
CLZ					ePg	Pg	21 03 42.1	+0.2
CLZ					eSg	Sg	21 04 29.8	+1.2
CLZ	Clausthal	3.61	277		Pn	Pn	21 03 31.0	+1.1
GRA1	Grafenberg Arr	3.63	242		Pn	Pn	21 03 31.1	+1.0
GRA1	Grafenberg Arr	3.63	242		Pg	Pg	21 03 43.4	+1.2
GRA1					Sg	Sg	21 04 30.7	+1.4
GRF	Grafenberg Arr	3.63	242	*e*	Pn	Pn	21 03 31.1	+1.0
GRF					ePg	Pg	21 03 43.4	+1.2
GRF					eSg	Sg	21 04 30.7	+1.4
BSD	Bornholm Skovb	3.68	349	*i*	P	Pn	21 03 30.3	-0.4
BSD				*i*	S	Sn	21 04 11.1	-3.6
BSD	Bornholm Skovb	3.68	349	*i*	P	Pn	21 03 30.4	-0.3
	SNR=49							
BSD				*i*	S	Sn	21 04 11.1	-3.6
SOP	Sopron	3.85	176	*e*	Pn	Pb	21 03 40.8	-0.6
SOP					eSn	Sg	21 04 32.4	-3.8
MOA	Molln	3.87	199		Pn	Pn	21 03 34.7	+1.3
	comp=Z,11nm,0.4s,SNR=7.6							
MOA					Sg	Sg	21 04 37.5	+0.6
	comp=Z,37nm,0.5s							
MOA	Molln	3.87	199	*i*	Pn	Pn	21 03 34.7	+1.3
	comp=Z,11nm,0.4s,SNR=7.6							
MOA					Sg	Sg	21 04 37.5	+0.6
	comp=Z,37nm,0.5s							
STHS	Stebnicka Huta	3.88	121	*e*	Pg	Pg	21 03 47.8	+0.9
STHS					eSg	Sg	21 04 37.6	+0.5
STHS	Stebnicka Huta	3.88	121	*e*		Pn	21 03 34.2	+0.7
STHS	Stebnicka Huta	3.88	121	*e*	PG	Pg	21 03 47.8	+0.9
STHS					eSG	Sg	21 04 37.6	+0.5
STHS					eLG	Lg	21 04 49.4	
ARSA	Arzberg	4.29	186		Pn	Pn	21 03 40.8	+1.6
	comp=Z,4.4nm,0.3s							
ARSA					Sg	Sg	21 04 48.0	-2.4
	comp=Z,41nm,0.8s							
ARSA	Arzberg	4.29	186	*e*	Pn	Pn	21 03 40.8	+1.6
	comp=Z,4.4nm,0.3s							
ARSA					Sg	Sg	21 04 48.0	-2.4
	comp=Z,41nm,0.8s							
CRVS	Cervenica-Dubn	4.30	125	*e*	Pg	Pg	21 03 55.4	+0.4
CRVS					eSg	Sg	21 04 51.0	+0.3
CRVS	Cervenica-Dubn	4.30	125	*e*		Pn	21 03 40.6	+1.3
CRVS	Cervenica-Dubn	4.30	125	*e*	PG	Pg	21 03 55.4	+0.4
CRVS					eSG	Sg	21 04 51.0	+0.3
CRVS					eLG	Lg	21 05 15.2	
PSZ	Piszkesteto	4.34	145	*i*	iP	Pn	21 03 41.5	+1.4
PSZ	Piszkesteto	4.34	145	*ex*		Pn	21 03 41.4	+1.4
PSZ	Piszkesteto	4.34	145	*e*	Pn	Pn	21 03 41.4	+1.4
LLD	Lille Linde	4.49	330	*i*	P	Pn	21 03 40.7	-1.1
LLD	Lille Linde	4.49	330	*i*	P	Pn	21 03 40.7	-1.1
KWP	Kalwaria Pacla	4.59	112	*e*	Pg	Pg	21 03 58.6	-1.9
KWP					eSg	Sg	21 05 05.8	+5.9
KWP	Kalwaria Pacla	4.59	112	*e*	Pg	Pg	21 03 58.6	-1.9
KBA	Koelnbreinsper	4.81	204		Pn	Pn	21 03 47.9	+1.5
	comp=Z,10.0nm,0.4s,SNR=6.1							
KBA					Sg	Sg	21 05 06.3	-0.7
	comp=Z,19nm,0.6s							
KBA	Koelnbreinsper	4.81	204	*i*	Pn	Pn	21 03 47.9	+1.5
	comp=Z,10.0nm,0.4s,SNR=6.1							
KBA					Sg	Sg	21 05 06.3	-0.7
	comp=Z,19nm,0.6s							
SOKA	Soboth	4.90	189		Pn	Pn	21 03 48.8	+1.2
	comp=Z,0.7nm,0.2s							
SOKA					Sg	Sg	21 05 09.0	-1.0
	comp=Z,9.4nm,0.5s							
SOKA	Soboth	4.90	189	*i*	Pn	Pn	21 03 48.8	+1.2
	comp=Z,0.7nm,0.2s							
SOKA					Sg	Sg	21 05 09.0	-1.0
	comp=Z,9.4nm,0.5s							
WATA	Walderalm	5.14	217		Pn	Pn	21 03 52.6	+1.6
	comp=Z,7.4nm,0.3s,SNR=8.5							
WATA	Walderalm	5.14	217	*i*	Pn	Pn	21 03 52.6	+1.6
	comp=Z,7.4nm,0.3s,SNR=8.5							
DEL	Delary	5.14	346		P	Pn	21 03 50.0	-0.8
DEL					S	Sn	21 04 46.2	-4.6
DEL	Delary	5.14	346		P	Pn	21 03 50.0	-0.8
MYKA	Terra Mystica	5.16	200		Sg	Sg	21 05 18.0	-0.4
	comp=Z,18nm,0.6s							
MYKA	Terra Mystica	5.16	200		Sg	Sg	21 05 18.1	-0.4
	comp=Z,18nm,0.6s							
MOTA	Moosalm	5.32	220		Pn	Pn	21 03 54.3	+0.9
	comp=Z,3.5nm,0.3s,SNR=7.1							
MOTA					Sg	Sg	21 05 25.3	+1.9
	comp=Z,28nm,0.9s							
MOTA	Moosalm	5.32	220	*e*	Pn	Pn	21 03 54.3	+0.9
	comp=Z,3.5nm,0.3s,SNR=7.1							
MOTA					Sg	Sg	21 05 25.3	+1.9
	comp=Z,28nm,0.9s							
ABTA	Abfaltersbach	5.34	208		Pn	Pn	21 03 55.5	+1.9
	comp=Z,1.7nm,0.3s							
ABTA					Sg	Sg	21 05 24.3	+0.3
	comp=Z,17nm,0.6s							
ABTA	Abfaltersbach	5.34	208	*i*	Pn	Pn	21 03 55.5	+1.9
	comp=Z,1.7nm,0.3s							
ABTA					Sg	Sg	21 05 24.3	+0.3
	comp=Z,17nm,0.6s							
TRPA	Tarpa	5.35	127	*i*	iP	Pn	21 03 54.1	+0.4
TRPA	Tarpa	5.35	127	*i*	iP	Sg	21 05 22.8	-1.5
TRPA	Tarpa	5.35	127	*ex*		Pn	21 03 55.2	+1.5
TRPA	Tarpa	5.35	127	*i*	iP	Sg	21 05 22.8	-1.5
TRPA	Tarpa	5.35	127	*i*	iP	Pn	21 03 54.1	+0.4
TRPA	Tarpa	5.35	127	*e*	Pn	Pn	21 03 55.2	+1.5
VXJU	Vaexsjoe	5.46	353		P	Pn	21 03 55.2	0.0
VXJU	Vaexsjoe	5.46	353		P	Pn	21 03 55.2	0.0
MORH	Mörkgöy, Hung	5.56	162	*ex*		Pn	21 03 57.7	+1.2
MORH	Mörkgöy, Hung	5.56	162	*e*	Pn	Pn	21 03 57.7	+1.2
OSKU	Oskarshamn	5.69	360		P	Pn	21 03 58.4	+0.1
OSKU	Oskarshamn	5.69	360		P	Pn	21 03 58.4	+0.1
FETA	Feichten	5.73	220		Pn	Pn	21 03 59.6	+0.5
	comp=Z,0.4nm,0.1s							
FETA	Feichten	5.73	220	*i*	Pn	Pn	21 03 59.6	+0.5
	comp=Z,0.4nm,0.1s							
BYXU	Byxelk

46nm,1.6s
LTZ Lake Taylor 19.33 197 *e*P P 21 06 47.1 -0.3
20nm,1.1s
MQZ McQueen's Vall 20.09 196 *e*P P 21 06 52.9 -1.5
60nm,1.9s
RPZ Rata Peaks 20.53 199 P P 21 06 57.3 -1.0
5.8nm,0.5s,baz=345,slow=2.3,SNR=6.2
RPZ Rata Peaks 20.53 199 *e*P P 21 06 57.5 -0.8
HNR Honiara 24.22 305 P P 21 07 30.2 -1.5
70nm,0.5s,baz=34,slow=3.2,SNR=4.9
ARMA Armidale 25.77 250 *e*P P 21 07 46.3 +0.9
7.7nm,0.7s
EIDS Eidsvold 26.16 262 *e*P P 21 07 49.3 +0.5
11nm,0.7s
CAN Canberra 28.80 241 *e*P P 21 08 12.6 +0.6
87nm,1.9s
CTA Charters Tower 31.42 271 P P 21 08 35.1 +0.4
52nm,0.5s,baz=95,slow=11,SNR=113
CTAO Charters Tower 31.42 271 *e*P P 21 08 35.1 +0.4
45nm,0.6s
STKA Stephens Creek 34.45 249 P P 21 09 00.7 +0.5
8.4nm,0.6s,baz=97,slow=11,SNR=39
STKA Stephens Creek 34.45 249 *e*P P 21 09 00.8 +0.5
1.9nm,0.6s
PMG Port Moresby 34.62 290 P P 21 09 00.7 -1.2
37nm,0.7s,baz=101,slow=5.1,SNR=12
PMG Port Moresby 34.62 290 *e*P P 21 09 01.5 -0.4
32nm,0.7s
COEN Coen 36.15 280 *e*P P 21 09 15.0 +0.5
23nm,1.1s
BBOO Buckleboo 39.16 248 *e*P P 21 09 38.5 -0.5
59nm,1.5s
AS01 Alice Springs 41.84 261 *e*P P 21 09 59.9 -0.7
AS31 Alice Springs 41.88 261 *e*P P 21 10 00.7 -0.3
3.7nm,0.8s
ASAR Alice Springs 41.88 261 P P 21 10 00.6 -0.3
9.5nm,0.7s,baz=95,slow=7.2,SNR=127
ASAR ScP **ScP** 21 14 46.6 +0.9
2.0nm,0.7s,baz=107,slow=4.5,SNR=9.4
ASAR S **S** 21 15 39.6 -1.9
1.3nm,0.7s,baz=102,slow=16,SNR=8.1
WB2 Warramunga Arr 42.30 267 *e*P P 21 10 03.4 -0.9
27nm,0.5s
WRAB Tennant Creek 42.30 267 *e*P P 21 10 03.1 -1.1
30nm,0.7s
WRA Warramunga Arr 42.31 267 P P 21 10 03.4 -0.9
25nm,0.5s,baz=100,slow=8.3,SNR=202
WRA ScP **ScP** 21 14 50.4 +2.8
12nm,0.9s,baz=101,slow=4.0,SNR=33
WRA S **S** 21 15 44.7 -3.0
2.2nm,0.9s,baz=101,slow=14,SNR=6.1
FORT Forrest 46.05 250 *e*P P 21 10 32.5 -0.6
630nm,0.6s
SBA Scott Base 53.80 183 *e*P P 21 11 32.2 +2.9
11nm,0.9s
VNDA Vanda 53.81 185 P P 21 11 30.1 +0.8
1.6nm,0.7s,baz=5.8,slow=8.2,SNR=11
SOEI Soe 54.83 275 *e*P P 21 11 38.1 +0.4
27nm,0.8s
BATI Baumata 55.20 275 P P 21 11 41.2 +1.1
21nm,0.5s,baz=141,slow=2.3,SNR=7.2
MBWA Marble Bar 55.21 260 *e*P P 21 11 39.3 -0.8
30nm,0.6s
CASY Casey 59.57 206 *e*P P 21 12 08.4 -0.7
2.9nm,0.6s
QSPA South Pole Qui 65.61 180 PKP P 21 12 49.6 +1.2
16nm,0.7s,baz=2.4,slow=0.7,SNR=50
QSPA South Pole Qui 65.61 180 P P 21 12 49.2 +0.9
16nm,0.7s,baz=13,slow=1.1,SNR=32
QSPA South Pole Qui 65.61 180 *e*P P 21 12 49.1 +0.8
140nm,1.1s
KKM Kota Kinabalu 69.01 287 *e*P P 21 13 09.4 -0.7
9.0nm,0.4s
LEM Lembang 71.12 271 P P 21 13 22.9 +0.2
18nm,0.6s,baz=135,slow=22,SNR=3.5
KSM Kuching 72.14 280 *e*P P 21 13 28.1 -0.4
16nm,0.7s
MJAR Matsushiro Arr 72.33 326 P P 21 13 27.9 -1.2
3.9nm,0.8s,baz=166,slow=6.0,SNR=9.5
MAT Matsushiro 72.33 326 P P 21 13 28.2 -0.9
JNU Nakatsue 73.91 319 P P 21 13 37.1 -1.1
6.1nm,0.8s,baz=11,slow=6.7,SNR=5.1
ASAJ Asahikawa 76.34 333 P P 21 13 51.8 +0.2
4.8nm,0.8s,baz=275,slow=30,SNR=4.8
KSRS Korea Array 78.64 320 P P 21 14 02.5 -1.7
1.9nm,0.7s,baz=118,slow=5.0,SNR=9.2
KSAR Wonju Array Be 78.66 320 P P 21 14 02.5 -1.7
PETK Petropavlovsk- 79.64 347 P P 21 14 08.7 -0.3
3.4nm,0.7s,baz=111,slow=5.6,SNR=6.1
NJ2 Nanjing 80.99 311 *e*P P 21 14 16.9 +0.3
NJ2 pmax pmax
comp=Z,12nm,0.7s
USRK Ussuriysk Ar. 81.21 327 P P 21 14 17.5 0.0
comp=Z,2.6nm,0.6s,baz=107,slow=7.0,SNR=6.4
IPM Ipoh 81.79 279 *e*P P 21 14 20.5 -0.7
comp=Z,14nm,0.7s
SLBS Sierra La Lagu 83.14 60 *e*P P 21 14 28.8 +1.0
comp=Z,14nm,0.6s
ISA Isabella, Lake 83.46 46 *e*P P 21 14 29.3 +0.1
comp=Z,6.6nm,0.8s
CMB Columbia Colle 83.66 43 *e*P P 21 14 30.4 +0.3
comp=Z,6.2nm,1.0s
AFDM Forest Hills D 83.86 42 *e*P P 21 14 31.9 +0.8
comp=Z,4.7nm,0.9s
ORV Oroville 83.91 42 *e*P P 21 14 31.7 +0.5
comp=Z,6.9nm,1.0s
WDC Whiskeytown Da 83.94 40 *e*P P 21 14 32.1 +0.8
comp=Z,5.6nm,1.0s
SNAA Sanae 84.10 179 P P 21 14 31.2 -0.6
SNAA Sanae 84.10 179 P P 21 14 30.8 -0.9
comp=Z,2.9nm,0.5s,baz=178,slow=17,SNR=5.0
SNAA Sanae 84.10 179 *e*P P 21 14 30.9 -0.9
comp=Z,151nm,0.4s
VNA3 Neumayer Olymp 84.31 177 P P 21 14 32.3 -0.5
GSC Goldstone, Bar 84.36 47 *e*P P 21 14 34.1 +0.5
comp=Z,6.6nm,1.0s
WAKR Walker 84.54 43 *e*P P 21 14 33.7 -0.9
comp=Z,4.6nm,0.9s
VNA2 Neumayer--Watz 84.73 178 P P 21 14 34.7 -0.1
baz=184,slow=3.8
NVAR Mina Array Bea 85.21 44 P P 21 14 37.6 -0.3
comp=Z,1.6nm,0.7s,baz=214,slow=8.6,SNR=3.6
TPNV Topopah Spring 85.67 46 *e*P P 21 14 40.5 +0.4
comp=Z,4.3nm,0.6s
PINE Pine Mountain 86.88 38 *e*P P 21 14 45.4 -0.3
comp=Z,7.8nm,0.9s
WVOR Wild Horse Val 87.39 41 *e*P P 21 14 48.1 +0.1
comp=Z,8.8nm,1.2s
J08A Circle Bar Ran 88.03 40 *e*P P 21 14 50.8 -0.2
comp=Z,11nm,1.1s
HPIG 88.10 59 *e*P P 21 14 51.0 -0.8
comp=Z,7.7nm,0.9s
G08A Pilot Rock 88.91 38 *e*P P 21 14 55.7 +0.6
comp=Z,4.4nm,0.9s
MTPU Mount Pierson 88.97 47 *e*P P 21 14 57.2 +1.4
comp=Z,4.8nm,0.8s
XAN Xi'an 89.04 308 P P 21 14 56.6 +0.7
XAN pmax pmax
comp=Z,4.0nm,0.7s
MFID Camas Ranch 89.63 41 *e*P P 21 14 58.3 -0.1
comp=Z,6.1nm,1.0s
CM01 Chiang Mai Arr 89.64 290 *e*P P 21 14 59.8 +0.9
CMAR Chiang Mai Arr 89.66 290 P P 21 14 59.8 +0.8
comp=Z,2.1nm,0.9s,baz=141,slow=3.5,SNR=13
CHTO Chiang Mai 89.82 291 *e*P P 21 15 00.8 +1.0
comp=Z,4.0nm,0.9s
TMUT Trail Mountain 90.28 46 *e*P P 21 15 02.9 +1.0
comp=Z,10nm,0.7s
SPUT South Promonto 90.55 44 *e*P P 21 15 02.3 -0.5
comp=Z,5.2nm,1.0s
MNTX Cornudas Mount 90.59 55 *e*P P 21 15 02.9 -0.1
comp=Z,4.1nm,0.9s
HVU Hansel Valley 90.59 44 *e*P P 21 15 02.9 -0.1
comp=Z,4.7nm,0.7s
SRU San Rafael Swe 90.64 47 *e*P P 21 15 03.4 +0.1
comp=Z,11nm,1.1s
P17A Butcher Ranch, 90.68 46 *e*P P 21 15 04.6 +1.1
comp=Z,5.8nm,1.0s
HHC Hu-ho-hao-te 90.78 315 *e*P P 21 15 06.5 +2.7
HHC pmax pmax
comp=Z,15nm,1.3s
HHC pmax pmax
comp=Z,25nm,8.0s
TX31 Lajitas Ar. Si 90.79 58 *e*P P 21 15 04.1 -0.1
TXAR Lajitas Array 90.79 58 P P 21 15 04.5 +0.3
comp=Z,4.2nm,0.8s,baz=213,slow=6.4,SNR=47
ILAR Eielson Array 92.60 14 P P 21 15 09.9 -1.6
comp=Z,0.3nm,0.7s,baz=205,slow=6.5,SNR=4.4

PDAR Pinedale Array 93.14 44 P P 21 15 14.2 -0.7
comp=Z,0.9nm,0.7s,baz=203,slow=2.7,SNR=11
LZH Lanzhou 93.67 308 ⇓P P 21 15 21.5 +4.2
LZH pP pP 21 17 16.3 +4.1
LZH sP sP 21 18 07.6 +3.2
LZH PP **PP** 21 19 18.8 +7.2
LZH pmax pmax
comp=Z,19nm,1.4s
LZH pmax pmax
comp=Z,65nm,9.5s
MKAR Makanchi Array 112.49 313 SKP **SKPdf** 21 23 19.3 -0.1
comp=Z,0.9nm,0.8s,baz=67,slow=3.2,SNR=5.9
BVAR Borovoye Array 120.82 318 PKP **PKPdf** 21 20 47.9 -1.0
comp=Z,0.4nm,0.4s,baz=121,slow=2.8,SNR=5.3
SPITS Spitsbergen Ar 125.68 356 PKP **PKPdf** 21 20 56.4 -1.1
comp=Z,5.5nm,0.8s,baz=303,slow=11,SNR=2.0
GEYT Alibeck 129.20 300 SKPbc SKPbc 21 23 39.0 +0.6
comp=Z,1.9nm,0.7s,baz=263,slow=1.2,SNR=9.4
ARCES ARCESS Array B 132.43 348 PKP **PKPdf** 21 21 10.3 -0.3
comp=Z,2.1nm,0.7s,baz=24,slow=3.3,SNR=6.9
ARCES SKPbc **SKPbc** 21 23 49.2 +0.2
comp=Z,1.6nm,0.6s,baz=44,slow=5.6,SNR=8.7
FINES FINESS Array B 138.97 341 PKP **PKPdf** 21 21 23.6 +0.8
comp=Z,0.9nm,0.7s,baz=120,slow=29,SNR=3.8
FINES SKPbc **SKPbc** 21 24 09.2 +0.1
comp=Z,6.1nm,0.7s,baz=56,slow=2.7,SNR=20
NB2 NORSAR Subarra 142.63 351 PKP **SKPbc** 21 24 18.9 +0.3
comp=Z,0.9nm,0.7s,baz=17,slow=2.6
NOA NORSAR Array B 142.63 351 SKPbc **SKPbc** 21 24 18.9 +0.3
comp=Z,1.5nm,0.8s,baz=15,slow=4.3,SNR=4.6
HFS Hagfors 143.09 349 PKhKP PKPpre 21 21 26.9
comp=Z,1.8nm,0.4s,baz=64,slow=2.2,SNR=27
AKASG Malin Array Be 145.41 327 PKPbc **PKPdf** 21 21 34.2 -0.4
comp=Z,1.3nm,0.4s,baz=46,slow=5.5,SNR=5.8
AKASG SKPbc **SKiKP** 21 24 25.6 -0.1
comp=Z,1.6nm,0.5s,baz=46,slow=3.1,SNR=9.1
BR131 Keskin Array S 147.87 306 *e*PKPab **PKPab** 21 21 46.9 -0.6
BRTR Keskin Array B 147.87 306 PKPbc **PKPbc** 21 21 42.1 -0.9
comp=Z,0.6nm,0.5s,baz=138,slow=4.9,SNR=4.7
MMAI Mount Meron Ar 147.87 294 PKPbc **PKPbc** 21 21 44.0 +0.8
comp=Z,0.7nm,0.3s,baz=81,slow=6.8,SNR=4.5
EKA Eskdalemuir Ar 149.09 3 PKPbc **PKPbc** 21 21 44.4 -1.0
comp=Z,0.9nm,0.4s,baz=352,slow=2.9,SNR=7.1
STHS Stebnicka Huta 150.04 332 *e*PKP **PKPbc** 21 21 47.9 +0.1
STHS *e* 21 21 56.1
MLR Muntele Rosu 150.32 321 PKPbc **PKPbc** 21 21 48.1 -0.6
comp=Z,0.2nm,0.7s,baz=102,slow=9.4,SNR=3.3
CRVS Cervenica-Dubn 150.32 331 *e*PKP **PKPbc** 21 21 49.0 +0.5
DPC Dobruska-Polom 151.20 338⇑ *e*PKP **PKPbc** 21 21 50.4 -0.1
DPC *e*PKPAB **PKPab** 21 22 01.0 +0.2
CLL Collm 151.38 343 ⇓*i*PKPbc **PKPbc** 21 21 50.3 -0.5
comp=Z,7.0nm,0.8s
CLL Collm 151.38 343 *e*PKPbc **PKPbc** 21 21 49.9 -0.9
VYHS Vyhne 151.77 333 *e*PKP **PKPab** 21 22 03.5 +0.3
VTS Vitosha 153.62 319 *e*PKPab **PKPab** 21 22 11.7 +0.3
TOA0 Torodi Ar. Sit 168.61 189 *e*PKPab **PKPab** 21 23 17.1 -0.1
TORD Torodi Ar. Bea 168.61 189 PKP **PKPdf** 21 22 02.6 -1.5
comp=Z,1.6nm,1.0s,baz=321,slow=0.7,SNR=5.5
TORD PKPab **PKPab** 21 23 16.9 -0.3
comp=Z,3.1nm,0.9s,baz=180,slow=3.4,SNR=14

*CSEM **23** 21:03:12.4±0.1, 36.62°N×25.62°E, h8km, ML1.2, Error ellipse: s-maj=2.6km s-min=1.9km az=78.0*
*ATH **23** 21:03:12.0, 36.61°N×25.64°E, h18km±3km, ML1.5/3, Error ellipse: s-maj=3.7km s-min=1.2km az=258.0*
THE 23 21:03:13.5, 36.58°N×25.59°E, h2km±18km, ML1.2/4, Error ellipse: s-maj=19.3km s-min=1.0km az=42.0, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THR2	**Thira island,**	**0.18**	**223**	P	Pg	21 03 17.4	+0.3
THR2	**Thira island,**	**0.18**	**223**	P	Pg	21 03 17.4	+0.3
THR2	**Thira island,**	**0.18**	**223**	P	Pg	21 03 17.4	+0.3
THT2	**Imerovigli**	**0.20**	**223**	P	Pg	21 03 17.9	+0.5
THT2				S	Sg	21 03 20.8	+0.8
THT2	**Imerovigli**	**0.20**	**223**	P	Pg	21 03 17.9	+0.5
THT2				S	Sg	21 03 20.8	+0.8
THR3	**Thira Island,**	**0.23**	**222**	P	Pg	21 03 18.4	+0.5
THR3	**Thira Island,**	**0.23**	**222**	P	Pg	21 03 18.1	+0.2
THR3	**Thira Island,**	**0.23**	**222**	P	Pg	21 03 18.2	+0.3
THT1	**Athinios (Pele**	**0.23**	**214**	P	Pg	21 03 18.1	+0.1
THT1				S	Sg	21 03 21.1	+0.1
THT1	**Athinios (Pele**	**0.23**	**214**	P	Pg	21 03 18.0	0.0
THT1				S	Sg	21 03 21.8	+0.7
THT1	**Athinios (Pele**	**0.23**	**214**	P	Pg	21 03 18.1	+0.1
THT1				S	Sg	21 03 21.9	+0.8
SANT	**Santorini**	**0.24**	**207**	P	Pg	21 03 18.4	+0.3
SANT				S	Sg	21 03 22.2	+1.1
SANT	**Santorini**	**0.24**	**207**	P	Pg	21 03 18.2	+0.2
SANT				S	Sg	21 03 22.4	+1.3
SANT	**Santorini**	**0.24**	**207**	P	Pg	21 03 18.2	+0.2
SANT				S	Sg	21 03 22.4	+1.3
SAP3	**Santorini-Thir**	**0.25**	**234**	P	Pg	21 03 18.5	+0.3
SAP3				S	Sg	21 03 22.5	+1.1
SAP3	**Santorini-Thir**	**0.25**	**234**	P	Pg	21 03 18.5	+0.3
SAP3				S	Sg	21 03 22.5	+1.1
THR5	**Thira Island,**	**0.26**	**230**	P	Pg	21 03 18.7	+0.3
THR5	**Thira Island,**	**0.26**	**230**	P	Pg	21 03 18.6	+0.2
THR5				S	Sg	21 03 22.8	+1.1
THR5	**Thira Island,**	**0.26**	**230**	P	Pg	21 03 18.6	+0.2
THR5				S	Sg	21 03 22.8	+1.1
THR6	**Thira Island,**	**0.27**	**215**	P	Pg	21 03 19.4	+0.7
THR6	**Thira Island,**	**0.27**	**215**	P	Pg	21 03 19.1	+0.3
THR6	**Thira Island,**	**0.27**	**215**	P	Pg	21 03 19.1	+0.3
IOSP	**Ios island**	**0.28**	**300**	P	Pg	21 03 18.3	-0.6
IOSP				AML	AML	21 03 24.3	
	comp=E,290μm,0.1s						
IOSP				AML	AML	21 03 25.6	
	comp=N,272μm,0.2s						
IOSP	**Ios island**	**0.28**	**300**	P	Pg	21 03 18.4	-0.5
THR9	**Santorini-Faro**	**0.29**	**220**	P	Pg	21 03 19.9	+0.8
THR9	**Santorini-Faro**	**0.29**	**220**	P	Pg	21 03 19.9	+0.8
APE	**Apeiranthos**	**0.49**	**354**	P	Pg	21 03 21.6	-1.3
APE				S	Sg	21 03 27.6	-1.7
APE				AML	AML	21 03 30.5	
	comp=E,113μm,0.2s						
APE				AML	AML	21 03 31.7	
	comp=N,113μm,0.2s						
APE	**Apeiranthos**	**0.49**	**354**	P	Pg	21 03 21.5	-1.4
MHLA	**Plaka, Milos I**	**0.95**	**280**	P	Pg	21 03 31.7	-0.1
MHLA				S	Sg	21 03 43.4	-0.8
MHLA	**Plaka, Milos I**	**0.95**	**280**	P	Pg	21 03 31.2	-0.6
MHLA				S	Sg	21 03 44.0	-0.2
SERI	**Serifos**	**1.06**	**303**	P	Pg	21 03 32.2	-1.6
SERI				AML	AML	21 03 48.3	
	comp=E,41μm,0.2s						
SERI				AML	AML	21 03 48.4	
	comp=N,81μm,0.2s						
SERI	**Serifos**	**1.06**	**303**	P	Pg	21 03 32.3	-1.5
KARP	**Karpathos**	**1.64**	**129**	P	Pn	21 03 41.5	-1.8
KARP	**Karpathos**	**1.64**	**129**	P	Pn	21 03 41.7	-1.6

*CSEM **23** 21:04:02.0±0.5, 51.32°N×15.98E, h2km, ML2.8/5, Error ellipse: s-maj=13.3km s-min=6.6km az=123.0*
PRU 23 21:03:58.9, 51.45°N×16.11E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
UPC	**Upice**	**0.95**	**184**	*e*PG	Pg	21 04 16.4	-0.6
UPC				*e*SG	Sg	21 04 29.3	+0.1
	comp=Z,26nm,0.4s						
UPC	**Upice**	**0.95**	**184**	Pg	Pg	21 04 16.4	-0.6
UPC				Sg	Sg	21 04 29.3	+0.1
	26nm,0.4s						
DPC	**Dobruska-Polom**	**1.11**	**173**	*e*SG	Sg	21 04 34.5	0.0
	comp=Z,10.0nm,0.3s						
DPC	**Dobruska-Polom**	**1.11**	**173**	Sg	Sg	21 04 34.5	0.0
	10.0nm,0.3s						
PVCC	**Panska Ves**	**1.34**	**227**	*e*PG	Pg	21 04 23.9	-0.7
PVCC				*e*SG	Sg	21 04 42.1	+0.1
	comp=Z,40nm,0.2s						
PVCC	**Panska Ves**	**1.34**	**227**	Pg	Pg	21 04 23.9	-0.7
PVCC				Sg	Sg	21 04 42.1	+0.1
	40nm,0.2s						
KRLC	**Kraliky**	**1.44**	**163**	*e*SG	Sg	21 04 44.5	-0.6
	comp=Z,1.8nm,0.2s						
KRLC	**Kraliky**	**1.44**	**163**	Sg	Sg	21 04 44.5	-0.6
	1.8nm,0.2s						
GOPC	**GO Pecny, Ondr**	**1.75**	**209**	*e*SG	Sb	21 04 54.8	+0.3
GOPC	**GO Pecny, Ondr**	**1.75**	**209**	Sg	Sb	21 04 54.8	+0.3
PRU	**Pruhonice**	**1.77**	**215**	*e*SG	Sb	21 04 55.1	+0.1
	comp=Z,12nm,0.3s						
PRU	**Pruhonice**	**1.77**	**215**	Sg	Sb	21 04 55.1	+0.1
	12nm,0.3s						

*BJI **23** 21:21:39.8, 0.05°S×125.55E, h47km, mb5.4/82, mB5.6/58, Ms5.1/86, Ms7.4 9/80*
*MOS **23** 21:21:43.3±1.0, 0.36°N×125.36E, h49km, mb6.0/80, MS5.0/39, Error ellipse: s-maj=7.6km s-min=4.4km az=110.2*
*NEIC **23** 21:21:44.9±0.1, 0.37°N×125.29E, h48km, mb5.7/171, ME5.4, MS5.0/143, MW5.7, MW5.7, Error ellipse: s-maj=4.2km s-min=3.4km az=57.0, Moment Tensor Solution. s29 Moment tensor: Scale 10^17Nm; Mrr3.00; Mθθ-0.64; Mφφ-2.36; Mrθ1.75; Mθφ0.31; Mrφ2.27; Best double couple: M=4.00000×10^17 NP1:φs27.00000°, δ69.00000°, λ106.00000°. NP2:φs163.00000°, δ26.00000°, λ55.00000°. Principal axes: T 4.4400, Plg63.0000°, Azm316.0000°; N -1.2000, Plg15.0000°, Azm195.0000°; P -3.2400, Plg22.0000°, Azm99.0000°; Broadband fault plane solution: P waves. NP1:φs239.00000°, δ18.00000°, λ123.00000°. NP2:φs25.00000°, δ75.00000°, λ80.00000°. Principal axes: T Plg59.0000°, Azm281.0000°; N Plg0.0000°, Azm0.0000°; P Plg29.0000°, Azm123.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from CMT mechanism.*
*GCMT **23** 21:21:44.9±0.1, 0.18°N×125.54E, h50km, MW5.7/131, Moment Tensor Solution. s131,c253; s124,c297; Duration: 1s8 Moment tensor: Scale 10^17Nm; Mrr3.48±.05; Mθθ-1.41±.04; Mφφ-2.07±.05; Mrθ0.81±.04; Mθφ-2.50±.03; Mrφ2.43±.05; Best double couple: M=4.66700×10^17 NP1:φs27.00000°, δ62.00000°, λ75.00000°. NP2:φs238.00000°, δ31.00000°, λ117.00000°. Principal axes: T 4.3970, Plg69.0000°, Azm266.0000°; N 0.5410, Plg14.0000°, Azm34.0000°; P -4.9380, Plg16.0000°, Azm128.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*IDC **23** 21:21:44.4±1.2, 0.38°N×125.34E, h43km±10km, mb5.3/55, mb1 5.3/57, mb1mx5.2/62, mbtmp5.5/57, ML5.3/2, MS4.6/40, Ms1 4.6/40, ms1mx4.6/51 Error ellipse: s-maj=10.1km s-min=7.5km az=71.0*
*NEIC **23** 21:21:45.0±0.0, 0.32°N×125.61E, h60km, Moment Tensor Solution. s36 Moment tensor: Scale 10^17Nm; Mrr2.62; Mθθ-1.69; Mφφ-0.94; Mrθ2.07; Mθφ-1.26; Mrφ3.49; Best double couple: M=4.80000×10^17 NP1:φs35.00000°, δ74.00000°, λ80.00000°. NP2:φs248.00000°, δ19.00000°, λ121.00000°. Principal axes: T 4.9600, Plg59.0000°, Azm290.0000°; N -0.2800, Plg0.0000°, Azm37.0000°; P -4.6900, Plg28.0000°, Azm132.0000°;*
*ISCJB **23** 21:21:46.0±0.3, 0.34°N±0.01°×125.39E±0.02, h74km±2km, mb5.6/297 Error ellipse: s-maj=2.7km s-min=2.3km az=153.6*
*DJA **23** 21:21:47.2±0.2, 0.7°N±2°×12.5°E±°, h67km±2km, M5.6/62, mb5.7/62, mB6.0/42, MLv6.1/3, Mw(mB)5.5/42, Mwp5.8/5*
ISC 23 21:21:45.9±0.3, 0.36°N±0.02°×125.39E±0.03, h57km±1km, h57km:pP-P, n1549, σ1s70/1647, mb5.7/307, MS5.0/210, 97C-43D, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMSI	**Cibinong**	**1.42**	**279**	P	**Sn**	**21 22 31.2**	**+4.0**
TNTI	**Ternate**	**2.02**	**78**	*e*Pn	**Pn**	**21 22 17.4**	**-0.2**
TNTI				*e*Sn	Sn	21 22 32.6	-9.1
LBMI	**Labuha**	**2.33**	**115**	P	**Pn**	**21 22 22.1**	**+0.2**
SANI	**Sanana**	**2.46**	**166**	P	**Sn**	**21 22 50.2**	**-2.4**
LUWI	**Luwuk**	**2.96**	**242**	P	**Sn**	**21 23 09.0**	**+4.2**
LUWI	**Luwuk**	**2.96**	**242**	*e*Pn	**Pn**	**21 22 32.5**	**+2.1**
LUWI				*e*S	**Sn**	**21 23 12.8**	**+8.0**
SGSI	**Sangihe**	**3.31**	**2**	P	**Pn**	**21 22 37.1**	**+1.8**
MRSI	**Marisa**	**3.45**	**272**	P	**Pn**	**21 22 37.8**	**+0.7**
APSI	**Ampana**	**3.94**	**251**	P	**Pn**	**21 22 46.7**	**+2.8**
NLAI	**Namlea**	**3.96**	**154**	P	**Pn**	**21 22 42.7**	**-1.5**
AAI	**Ambon**	**4.90**	**145**	P	**Pn**	**21 22 57.1**	**+0.1**
KDI	**Kendari**	**5.10**	**213**	P	**Pn**	**21 23 00.3**	**+0.5**
	1μm,0.8s,13μm5.1nm						
MSAI	**Masohi**	**5.10**	**136**	P	**Pn**	**21 23 00.5**	**+0.7**
MPSI	**Mapaga**	**5.49**	**270**	P	**Pn**	**21 23 06.5**	**+1.4**
PCI	**Palu**	**5.69**	**257**	P	**Pn**	**21 23 09.5**	**+1.6**
	4μm,1.0s,33μm19nm						
SIJI	**Sorong**	**6.00**	**102**	P	**Pn**	**21 23 12.8**	**+0.6**
	50nm,0.3s,baz=124,slow=23,SNR=92						
SIJI				S	**Sn**	**21 24 21.6**	**+1.9**
	6.0nm,0.3s,baz=111,slow=23,SNR=1.6						
TTSI	**Tana Toraja**	**6.51**	**239**	P	**Pn**	**21 23 21.1**	**+2.0**
MATI	**Mati**	**6.60**	**8**	*e*P	Pn	21 23 34.6	+14
BNDI	**Bandanaira**	**6.62**	**137**	P	**Pn**	**21 23 19.7**	**-1.0**
	3μm,1.2s,36μm11nm						
DAV	**Davao City (W)**	**6.67**	**2**	P	**Pn**	**21 23 25.9**	**+4.6**
	95nm,0.3s,baz=146,slow=1.1,SNR=16						
DAV				S	**Sn**	**21 24 41.5**	**+5.5**
	42nm,0.3s,baz=30,slow=18,SNR=1.7						
DAV				LR	LR	21 26 15.2	
	comp=Z,19μm,18.2s,baz=174,slow=41						
DAV	**Davao City (W)**	**6.67**	**2**	⇓*i*P	Pn	21 23 28.8	+7.5
DAV	**Davao City (W)**	**6.67**	**2**	*e*Pn	**Pn**	**21 23 20.7**	**-0.7**
DAV				*e*S	Sn	21 24 52.8	+17
DMPH	**Davao City--Mi**	**6.68**	**1**⇑	*e*P	Pn	21 23 27.5	+5.9
DMPH				*e*S	Sn	21 24 46.2	+10
CTBH	**Cotabato--PC H**	**6.91**	**351**⇑	*e*P	**Pn**	**21 23 28.0**	**+3.3**
BNSI	**Bone**	**7.08**	**228**	P	**Pn**	**21 23 28.7**	**+1.7**
ZCP	**Zamboanga City**	**7.32**	**333**⇓	*e*P	**Pn**	**21 23 32.7**	**+2.5**
BUKP	**Musuan**	**7.48**	**358**	*e*P	**Pn**	**21 23 37.1**	**+4.6**
FAKI	**Fak Fak**	**7.59**	**115**	P	**Pn**	**21 23 32.4**	**-1.6**
FAKI	**Fak Fak**	**7.59**	**115**	*e*Pn	**Pn**	**21 23 32.6**	**-1.4**
PAGZ	**Pagadian**	**7.71**	**345**	*e*P	**Pn**	**21 23 38.3**	**+2.8**
SGKI	**Sangatta, Kali**	**7.83**	**264**	P	**Pn**	**21 23 39.3**	**+2.0**
BIPH	**Bislig**	**7.84**	**7**⇑	*i*P	**Pn**	**21 23 41.1**	**+3.8**
BIPH				*i* S	Sn	21 25 17.5	+13
IPIL	**Ipil**	**7.90**	**339**	*e*P	**Pn**	**21 23 40.5**	**+2.3**
CGP	**Cagayan de Oro**	**8.07**	**355**⇓	*e*P	Pn	21 23 47.9	+7.4
BSSI	**Bau Bau, Buton**	**8.10**	**217**	P	**Pn**	**21 23 42.6**	**+1.7**
SMKI	**Samarinda**	**8.22**	**264**	P	**Pn**	**21 23 46.2**	**+3.7**
MYLDM	**Lahad Datu**	**8.38**	**305**	*e*Pn	**Pn**	**21 23 48.6**	**+3.8**
DCPH	**Dipolog City**	**8.42**	**346**⇑	*e*P	Pn	21 24 04.4	+19
BUTP	**Butuan**	**8.56**	**2**	*e*P	**Pn**	**21 23 51.0**	**+3.7**
BKB	**Balikpapan**	**8.64**	**259**	P	**Pn**	**21 23 50.8**	**+2.5**
RKPI	**Ransiki, Papua**	**8.98**	**102**	P	**Pn**	**21 23 52.9**	**-0.1**
SNPH	**Sibulan**	**9.18**	**347**⇑	*e*P	Pn	21 24 00.5	+4.7
KMPI	**Kaimana, Papua**	**9.22**	**116**	P	**Pn**	**21 23 55.8**	**-0.5**
MSLP	**Maasin**	**9.73**	**357**	*e*P	**Pn**	**21 24 03.8**	**+0.6**
KBKI	**Kotabaru**	**9.91**	**248**	P	**Pn**	**21 24 07.8**	**+2.2**
LLP	**Lapu-Lapu**	**10.00**	**352**⇓	*e*P	**Pn**	**21 24 11.1**	**+4.2**
SOEI	**Soe**	**10.11**	**186**	P	**Pn**	**21 24 11.5**	**+3.0**
SOEI	**Soe**	**10.11**	**186**	*e*Pn	**Pn**	**21 24 11.3**	**+2.8**
SAUI	**Saumlaki**	**10.17**	**145**	P	**Pn**	**21 24 09.2**	**-0.1**
SAUI	**Saumlaki**	**10.17**	**145**	*e*Pn	**Pn**	**21 24 09.1**	**-0.1**
SAUI				*e*Sn	**Sn**	**21 26 07.0**	**+5.2**
MTKI	**Muara Teweh, K**	**10.57**	**263**	P	**Pn**	**21 24 18.1**	**+3.3**
	194nm,0.9s,5μm						
GUIM	**Jordan**	**10.57**	**345**	*e*P	**Pn**	**21 24 18.9**	**+4.1**
BATI	**Baumata**	**10.63**	**189**	P	**

PBKI Pangkalan Bun 14.05 257 P **Pn** **21 25 03.6 +1.5**
BWJI Bawean 14.13 244 P **P** **21 25 06.2 -3.0**
JAGI Jajag, Banyuwa 14.22 232 P **P** **21 25 07.6 -2.6**
JAGI Jajag, Banyuwa 14.22 232 *e*Pn **Pn** **21 25 05.8 +1.4**
LUBP Lubang 14.23 339 *e*P **Pn** **21 25 06.7 +2.1**
BLJI Banyuglugur 14.25 235 P **P** **21 25 08.0 -2.5**
MTN Manton Dam 14.30 157 P **Pn** **21 25 04.6 -0.8**
baz=14,SNR=133
MTN Manton Dam 14.30 157 *e*Pn **Pn** **21 25 03.9 -1.6**
TGY Tagaytay City 14.35 342 P **Pn** **21 25 06.6 +0.4**
38nm,0.3s,baz=143,slow=14,SNR=1.7
TGY LR LR 21 30 15.6
comp=Z,4μm,20.2s,baz=153,slow=36
GMJI Gumukmas 14.67 234 P **P** **21 25 13.1 -2.1**
GRJI Gresik 14.77 240 P **P** **21 25 14.5 -1.8**
GENI Genyem 15.06 101 P **Pn** **21 25 15.7 +0.3**
KSM Kuching 15.12 274 *e*Pn **Pn** **21 25 17.1 +1.0**
3μm,1.2s
TBJI Tambak Boyo 15.27 242 P **Pn** **21 25 19.4 +1.3**
JAY Jayapura 15.58 101 P **Pn** **21 25 23.8 +1.7**
BALP Baler 15.74 346 *e*P **Pn** **21 25 25.4 +1.2**
NGJI Ngawi 15.87 241 P **P** **21 25 29.5 +1.0**
PWJI Pagerwojo 15.89 238 P **P** **21 25 28.2 -0.6**
SCZP Santa Cruz 16.25 341 *e*P **P** **21 25 33.6 +0.9**
KNRA Kununurra 16.28 168 P **Pn** **21 25 30.1 -0.7**
baz=16,SNR=93
PCJI Pacitan 16.52 239 P **P** **21 25 37.4 +1.7**
WOJI Wonogiri, Jawa 16.56 240 P **P** **21 25 37.2 +1.0**
SMRI Semarang 16.63 243 P **P** **21 25 37.4 +0.4**
SMRI Semarang 16.63 243 *e*Pn **Pn** **21 25 34.7 -0.7**
642nm,0.8s
BOLP Bolinao 16.81 342 *e*P **P** **21 25 40.1 +1.1**
CAUP Cauayan 16.85 348 *e*P **P** **21 25 39.6 +0.2**
UGM Wanagama 16.94 241 P **P** **21 25 42.0 +1.5**
UGM Wanagama 16.94 241 *e*Pn **Pn** **21 25 36.6 -2.7**
956nm,1.2s
ABRA Dolores 17.79 345 *e*P **Pn** **21 25 49.6 -0.1**
APYP Conner 17.87 347 *e*P **P** **21 25 51.2 +0.6**
KPJI Karang Pucung 18.11 245 P **Pn** **21 25 55.0 +1.5**
JCJI Jatiwangi 18.39 248 P **Pn** **21 25 58.6 +1.6**
LEM Lembang 19.11 248 P **Pn** **21 26 05.2 -0.7**
11nm,0.3s,baz=35,slow=7.5,SNR=66
LEM LR LR 21 34 32.4
comp=Z,5μm,19.6s,baz=52,slow=40
LEM Lembang 19.11 248 P **Pn** **21 26 05.3 -0.6**
PPBI Pangkal Pinang 19.41 263 P **Pn** **21 26 08.6 -0.6**
CBJI Citeko 19.69 250 P **P** **21 26 10.7 +0.1**
DBJI Dramaga 19.83 249 P **P** **21 26 12.2 0.0**
SKJI Sukabumi 20.16 248 P Pn 21 26 18.9 +0.8
607nm,0.8s,6μm
SBJI Serang 20.27 251 P **P** **21 26 17.7 +0.7**
DSRI Dabo 20.83 268 P **P** **21 26 23.7 +0.7**
DSRI Dabo 20.83 268 P Pn 21 26 24.7 -1.3
CGJI Cibinong 20.84 250 P **P** **21 26 23.1 0.0**
CGJI Cibinong 20.84 250 P **P** **21 26 22.6 -0.5**
TPRI Tanjung Pinang 20.87 272 P Pn 21 26 24.6 -1.9
TPRI Tanjung Pinang 20.87 272 P **P** **21 26 24.3 +0.8**
BLSI Bandar Lampung 20.90 254 P **P** **21 26 24.4 +0.6**
KLI Kotabumi 21.15 256 P **P** **21 26 27.4 +0.9**
MYKOM Kota Tinggi 21.58 274 *e*P **P** **21 26 30.9 -0.2**
160nm,1.1s
KASI Kota Agung 21.66 254 P **P** **21 26 32.2 +0.2**
KASI Kota Agung 21.66 254 P **P** **21 26 32.9 +0.9**
261nm,0.9s,3μm
MDSI Maura Dua 21.73 257 P **P** **21 26 31.5 -1.2**
MDSI Maura Dua 21.73 257 P **P** **21 26 31.2 -1.5**
191nm,1.2s,1μm
LWLI Liwa 21.96 256 P **P** **21 26 35.6 +0.3**
LWLI Liwa 21.96 256 P **P** **21 26 34.7 -0.6**
232nm,0.8s
WRAB Tennant Creek 21.99 157 *e*P **P** **21 26 34.0 -1.5**
582nm,0.9s
WRAB Tennant Creek 21.99 157 *d i*P **P** **21 26 34.1 -1.4**
WRAB pmax pmax
comp=Z,870nm,1.2s
WRA Warramunga Arr 22.00 157 P **P** **21 26 34.1 -1.4**
comp=Z,357nm,0.8s,baz=334,slow=9.9,SNR=233
WRA S **S** **21 30 28.9 -6.3**
comp=Z,15nm,1.1s,baz=342,slow=20,SNR=5.3
WRA ScP **ScP** **21 34 04.5 -0.6**
comp=Z,9.3nm,1.2s,baz=342,slow=3.4,SNR=4.6
WRA P3KPbc 22 00 19.6
comp=Z,1.4nm,1.0s,baz=151,slow=4.3,SNR=6.6
WB2 Warramunga Arr 22.00 157 *e*P **P** **21 26 33.8 -1.8**
WC3 Warramunga Arr 22.03 157 *e*P **P** **21 26 34.8 -1.0**
comp=Z,624nm,0.8s
MBWA Marble Bar 22.09 194 *e*P **P** **21 26 36.9 +0.5**
comp=Z,125nm,0.8s
MANU Manus Island 22.10 96 *e*P **P** **21 26 36.6 -0.1**
comp=Z,473nm,1.8s
MANU LR LR
comp=Z,2μm,18.0s
XMIS Christmas Isla 22.39 241 *e*P **P** **21 26 39.0 -0.8**
comp=Z,3μm,1.4s
XMIS LR LR
comp=Z,1μm,21.0s
COEN Coen 22.64 130 P **P** **21 26 40.8 -1.6**
baz=23,SNR=31
COEN Coen 22.64 130 *e*P **P** **21 26 39.8 -2.7**
comp=Z,384nm,1.0s
TWG Pinlang 22.72 350 *e*P **P** **21 26 39.2 -3.9**
comp=Z,214nm,0.9s
TWG LR LR
comp=Z,9μm,19.0s
MNAI Manna 22.90 258 P **P** **21 26 50.6 +5.4**
MNAI Manna 22.90 258 P **P** **21 26 47.6 +2.4**
comp=Z,536nm,1.1s,comp=Z,5μm
MNAI Manna 22.90 258 *e*P **P** **21 26 42.2 -3.0**
comp=Z,533nm,1.1s
MNAI LR LR
comp=Z,4μm,21.0s
RGRI Rengat 23.07 268 P **P** **21 26 47.7 +0.9**
RGRI Rengat 23.07 268 P **P** **21 26 48.3 +1.5**
comp=Z,343nm,1.2s
YULB Yu-li 23.24 350 *e*P **P** **21 26 45.0 -3.5**
comp=Z,122nm,1.3s
TPUB Ta-pu 23.27 349 *e*P **P** **21 26 45.9 -2.8**
GUMO Guam 23.35 55 P **P** **21 26 48.5 -1.0**
comp=Z,104nm,0.8s,baz=182,slow=15,SNR=6.0
GUMO Guam 23.35 55 *e*P **P** **21 26 48.6 -0.9**
comp=Z,348nm,1.3s
GUMO Guam 23.35 55 *e*P **P** **21 26 48.6 -0.9**
GUMO pmax pmax
comp=Z,348nm,1.3s
MASI Maura Aman, Be 23.40 261 P **P** **21 26 50.6 +0.5**
MASI Maura Aman, Be 23.40 261 P **P** **21 26 49.7 -0.4**
comp=Z,1μm,1.1s,comp=Z,9μm
SSLB Suanglung 23.69 350 *e*P **P** **21 26 50.2 -2.4**
comp=Z,96nm,1.0s
PMG Port Moresby 23.75 115 P **P** **21 26 52.5 -0.7**
comp=Z,45nm,0.8s,baz=319,slow=8.2,SNR=18
PMG S **S** **21 31 02.7 -2.1**
comp=Z,8.6nm,0.8s,baz=189,slow=17,SNR=2.3
PMG LR LR 21 39 39.5
comp=Z,2μm,21.4s,baz=312,slow=45
PMG Port Moresby 23.75 115 *e*P **P** **21 26 52.7 -0.6**
comp=Z,447nm,1.7s
PMG S **S** **21 31 02.7 -2.1**
PMG Port Moresby 23.75 115 *d i*P **P** **21 26 52.7 -0.6**
PMG pmax pmax
comp=Z,1μm,1.7s
NACB Ninganchiao 23.96 351 *e*P **P** **21 26 52.2 -2.8**
comp=Z,60nm,1.2s
NACB LR LR
comp=Z,3μm,22.0s
SDSI Sungai Dareh 23.99 267 P **P** **21 26 55.0 -0.5**
SDSI Sungai Dareh 23.99 267 P **P** **21 26 56.7 +1.2**
comp=Z,0.2nm,1.0s
QIZ Qiongzhong 24.02 321 P **P** **21 26 55.8 +0.1**
QIZ sP **sP** **21 27 15.9 -0.5**
QIZ S **S** **21 31 13.4 +4.3**
QIZ pmax pmax
comp=Z,67nm,1.8s
QIZ LR LR
comp=Z,2μm,14.6s
QIZ LR LR
comp=Z,1μm,16.6s
QIZ LR LR
comp=Z,2μm,17.3s
QIZ Qiongzhong 24.02 321 *e*P **P** **21 26 55.8 +0.1**
comp=Z,212nm,1.5s
QIZ LR LR
comp=Z,3μm,20.0s
KRJI Kerinci 24.05 264 P **P** **21 26 59.7 +3.6**
KRJI Kerinci 24.05 264 P **P** **21 26 56.1 0.0**
comp=Z,656nm,1.1s,comp=Z,6μm
YOJ Yonaguni jima 24.07 355 *e*P **P** **21 26 57.0 +0.9**
comp=Z,119nm,1.0s
YOJ LR LR
comp=Z,2μm,19.0s
YOJ Yonaguni jima 24.07 355 *e*P **P** **21 26 57.0 +0.9**
YOJ pmax pmax
comp=Z,119nm,1.0s
YOJ MLR MLR
comp=Z,2μm,19.0s
BKNI Bangkinang 24.35 270 P **P** **21 26 58.2 -0.6**
BKNI Bangkinang 24.35 270 P **P** **21 27 00.0 +1.2**
comp=Z,234nm,1.2s,comp=Z,3μm
BKNI Bangkinang 24.35 270 *e*P **P** **21 26 58.4 -0.4**
comp=Z,344nm,1.1s
BKNI LR LR
comp=Z,6μm,21.0s
YHNB Yeheng 24.48 351 *e*P **P** **21 26 59.0 -0.9**
comp=Z,178nm,1.5s
YHNB LR LR
comp=Z,6μm,22.0s
MCO Taipa Grande 24.51 333 P **P** **21 27 02.0 +1.9**
UBPT Khong Chiam 24.64 308 P **P** **21 27 01.0 -0.3**
comp=Z,152nm,1.4s,comp=Z,3μm
IPM Ipoh 24.68 280 *e*P **P** **21 27 01.0 -0.8**
comp=Z,316nm,1.3s
IPM LR LR
comp=Z,5μm,20.0s
TATO Taipei 24.76 352 *e*P **P** **21 27 00.4 -2.0**
comp=Z,162nm,1.4s
TATO LR LR
comp=Z,4μm,22.0s
PDSI Padang 24.96 267 P **P** **21 27 04.2 -0.2**
QIS Mount Isa 25.01 147 P **P** **21 27 04.4 -0.4**
baz=25,SNR=237
KULM Kulim 25.18 282 *e*P **P** **21 27 05.8 -0.6**
comp=Z,378nm,1.2s
AS31 Alice Springs 25.27 161 *e*P **P** **21 27 06.9 -0.2**
comp=Z,112nm,1.1s
ASAR Alice Springs 25.27 161 P **P** **21 27 06.4 -0.7**
comp=Z,329nm,1.1s,baz=334,slow=6.0,SNR=896
ASAR PcP **PcP** **21 30 39.7 +0.4**
comp=Z,9.8nm,0.7s,baz=354,slow=2.0,SNR=5.3
ASAR S **S** **21 31 26.6 -2.5**
comp=Z,29nm,1.1s,baz=347,slow=18,SNR=7.8
ASAR ScP **ScP** **21 34 14.1 +0.2**
comp=Z,15nm,0.9s,baz=350,slow=2.3,SNR=15
AS01 Alice Springs 25.29 161 *e*P **P** **21 27 07.2 0.0**
QZH Quanzhou 25.31 345 ⇑ *i*P **P** **21 27 06.6 -0.7**
QZH sP **sP** **21 27 24.6 -3.5**
QZH S **S** **21 31 33.4 +3.9**
QZH sS **sS** **21 31 46.3 -7.1**
QZH pmax pmax
comp=Z,630nm,4.9s
QZH LR LR
comp=Z,1μm,26.5s
QZH LR LR
comp=Z,2μm,24.6s
QZH LR LR
comp=Z,3μm,24.3s
WRKA Warakurna 25.40 174 P **P** **21 27 08.6 +0.3**
baz=26,SNR=282
GZH Guangzhou 25.45 333 P **P** **21 27 12.1 +3.5**
GZH pmax pmax
comp=Z,760nm,5.7s
PPSI Pulau Pagai 25.56 263 P **P** **21 27 09.4 -0.4**
PPSI Pulau Pagai 25.56 263 P **P** **21 27 09.0 -0.8**
comp=Z,558nm,1.2s,comp=Z,5μm
SKLT Songkhla 25.61 286 P **P** **21 27 10.3 +0.1**
comp=Z,228nm,1.1s,comp=Z,2μm
MNSI Mandailing Nat 25.81 271 P **P** **21 27 12.7 +0.6**
comp=Z,63nm,1.0s,comp=Z,2μm
MNSI Mandailing Nat 25.81 271 P **P** **21 27 12.5 +0.4**
CHBT CHBT 25.97 299 P **P** **21 27 14.6 +1.2**
comp=Z,264nm,1.3s
MTSU Mount Surprise 26.16 136 P **P** **21 27 14.8 -0.4**
baz=26,SNR=21
SISI Saibi 26.35 266 P **P** **21 27 12.6 -4.3**
SISI Saibi 26.35 266 P **P** **21 27 15.5 -1.4**
comp=Z,167nm,1.2s,comp=Z,2μm
JOW Kunigami 26.47 6 P **P** **21 27 16.9 -1.0**
comp=Z,120nm,0.8s,baz=195,slow=6.4,SNR=45
JOW LR LR 21 37 36.0
comp=Z,1μm,20.6s,baz=203,slow=36
JOW Kunigami 26.47 6 *e*P **P** **21 27 19.0 +1.2**
comp=Z,496nm,0.9s
PSI Prapat 26.56 276 P **P** **21 27 17.9 -1.2**
comp=Z,127nm,1.0s
PSI Prapat 26.56 276 *e*P **P** **21 27 18.2 -0.8**
comp=Z,141nm,1.0s
PSI LR LR
comp=Z,3μm,22.0s
PSI Prapat 26.56 276 *e*P **P** **21 27 18.2 -0.8**
PSI pmax pmax
comp=Z,141nm,1.0s
PSI MLR MLR
comp=Z,3μm,22.0s
TRTT Trang 26.67 287 P **P** **21 27 19.4 -0.4**
comp=Z,44nm,1.4s,comp=Z,526nm
SKNT Sakolnakorn 26.78 309 P **P** **21 27 20.2 -0.6**
comp=Z,45nm,1.0s
RABL Rabaul 27.13 100 *e*P **P** **21 27 25.1 +1.0**
comp=Z,316nm,1.1s
RABL LR LR
comp=Z,2μm,20.0s
KHON Khomkaen 27.34 307 P **P** **21 27 26.3 +0.6**
comp=Z,94nm,1.0s,comp=Z,691nm
MEEK Meekatharra 27.62 193 P **P** **21 27 27.8 -0.5**
baz=28,SNR=29
CHAI Chaiyaphum 27.78 305 P **P** **21 27 30.0 +0.2**
comp=Z,40nm,0.9s,comp=Z,299nm
GSI Gunungsitoli 27.82 272 P **P** **21 27 28.3 -1.9**
comp=Z,130nm,0.5s
GSI Gunungsitoli 27.82 272 *e*P **P** **21 27 27.9 -2.3**
comp=Z,120nm,0.9s
GSI *e*PcP **PcP** **21 30 47.5 +2.0**
GSI LR LR
comp=Z,5μm,20.0s
GSI Gunungsitoli 27.82 272 S **P** **21 27 31.0 +0.8**
PKDT Phuket 27.98 286 P **P** **21 27 31.2 -0.4**
comp=Z,39nm,1.2s,comp=Z,530nm
TPTI 28.34 276 P **P** **21 27 36.1 +1.3**
comp=Z,58nm,0.9s,comp=Z,2μm
TPTI 28.34 276 S **P** **21 27 36.1 +1.3**
PHET Kaeng Krachan 28.42 297 P **P** **21 27 36.1 +0.7**
comp=Z,47nm,1.1s,comp=Z,424nm
LHMI Lhok Sumawe 28.81 280 *e*P **P** **21 27 39.5 +0.5**
comp=Z,174nm,0.8s
CTA Charters Tower 28.82 136 P **P** **21 27 38.7 -0.3**
comp=Z,12nm,0.9s,baz=322,slow=11,SNR=18
CTA ScP **ScP** **21 34 26.1 +1.5**
comp=Z,23nm,1.1s,baz=10,slow=5.9,SNR=7.2
CTA LR LR 21 41 44.8
comp=Z,1μm,20.7s,baz=327,slow=42
CTAO Charters Tower 28.82 136 *e*P **P** **21 27 39.5 +0.6**
comp=Z,107nm,1.4s
CTAO LR LR
comp=Z,802nm,21.0s
CTAO Charters Tower 28.82 136 *e*P **P** **21 27 39.6 +0.6**
CTAO pmax pmax
comp=Z,107nm,1.4s
CTAO MLR MLR
comp=Z,802nm,21.0s
PBKT Sadao Pong 28.96 305 P **P** **21 27 39.4 -0.8**
comp=Z,77nm,0.8s,comp=Z,1μm
MLSI Meulaboh, Aceh 29.21 278 P **P** **21 27 44.0 +1.4**
comp=Z,277nm,0.9s
MLSI Meulaboh, Aceh 29.21 278 S P 21 27 37.7 -4.9
SRDT SRDT 29.47 299 P **P** **21 27 44.7 -0.1**
comp=Z,166nm,1.0s,comp=Z,3μm
PHIT Phitsanulok 29.73 306 P **P** **21 27 47.9 +0.8**
comp=Z,97nm,1.1s,comp=Z,833nm
BSI Banda Aceh 30.47 280 S P 21 27 47.2 -6.5
MORW Morawa 30.59 196 P **P** **21 27 54.1 -0.4**
baz=31,SNR=14
SSE Sheshan 30.83 353 P **P** **21 27 57.9 +1.3**
SSE S **S** **21 33 00.0 +3.7**
SSE pmax pmax
comp=Z,12nm,0.7s
SSE pmax pmax
comp=Z,170nm,3.4s
SSE LR LR
comp=Z,930nm,21.2s
SSE LR LR
comp=Z,510nm,21.5s
COCO West Island 30.96 245 *e*P **P** **21 27 58.0 +0.1**
comp=Z,227nm,0.8s
COCO LR LR
comp=Z,3μm,21.0s
COCO West Island 30.96 245 *i*P **P** **21 27 58.5 +0.5**
FORT Forrest 31.07 176 P **P** **21 27 59.0 +0.3**
baz=31,SNR=23
FORT Forrest 31.07 176 *e*P **P** **21 27 57.5 -1.2**
comp=Z,2μm,0.9s
LAMP Lampang 31.07 307 P **P** **21 27 59.8 +0.9**
comp=Z,38nm,1.0s,comp=Z,310nm
CBIJ Chichi jima 31.10 30 P **P** **21 27 58.4 -0.7**
JCJ Chichijima 31.10 30 P **P** **21 27 58.4 -0.7**
comp=Z,81nm,0.6s,baz=325,slow=21,SNR=5.6
JCJ LR LR 21 40 18.1
comp=Z,243nm,19.2s,baz=262,slow=36
PAYA Payao 31.34 309 P **P** **21 28 01.8 +0.5**
comp=Z,20nm,1.2s,comp=Z,183nm
CM01 Chiang Mai Arr 31.56 306 *e*P **P** **21 28 03.6 +0.4**
CM01 *e*PcP **PcP** **21 30 55.8 +0.8**
CM31 Chiang Mai Arr 31.59 306 *e*P **P** **21 28 04.4 +0.9**
CM31 *e*PcP **PcP** **21 30 57.4 +2.3**
CM31 Chiang Mai Arr 31.59 306 P **P** **21 28 04.3 +0.8**
CMAR Chiang Mai Arr 31.59 306 P **P** **21 28 04.0 +0.4**
comp=Z,58nm,1.1s,baz=132,slow=7.2,SNR=163
CMAR PcP **PcP** **21 30 56.2 +1.2**
comp=Z,23nm,1.0s,baz=164,slow=1.4,SNR=16
CMAR ScP **ScP** **21 34 34.2 +0.6**
comp=Z,7.9nm,1.1s,baz=156,slow=2.3,SNR=9.1
CMAR PKiKP **PKiKP** **21 38 24.1 -0.3**
comp=Z,0.9nm,0.8s,baz=224,slow=1.0,SNR=4.8
CMAR LR LR 21 40 32.5
comp=Z,936nm,20.6s,baz=128,slow=36
GYA Guiyang 31.60 327 ⇑ *i*P **P** **21 28 04.8 +1.2**
GYA pP pP 21 28 18.0 +0.2
GYA sP sP 21 28 25.3 +0.8
GYA PP **PP** **21 29 13.3 -2.6**
GYA PcP **PcP** **21 30 55.4 +0.4**
GYA S **S** **21 33 12.9 +4.1**
GYA sS sS 21 33 32.0 -0.9
GYA ScP **ScP** **21 34 36.3 +2.6**
GYA SS **SnSn** **21 35 04.6 +5.3**
GYA ScS **ScS** **21 38 33.0 +1.1**
GYA pmax pmax
comp=Z,70nm,0.7s
GYA pmax pmax
comp=Z,160nm,5.4s
GYA LR LR
comp=Z,5μm,17.2s
GYA LR LR
comp=Z,4μm,17.5s
GYA LR LR
comp=Z,5μm,17.6s
KMBL Kambalda 31.73 186 P **P** **21 28 05.1 +0.6**
baz=32,SNR=11
CMMT Chiang Mai 31.77 307 P **P** **21 28 04.3 -0.8**
comp=Z,179nm,1.1s,comp=Z,2μm
CHTO Chiang Mai 31.78 307 P **P** **21 28 05.4 +0.2**
comp=Z,784nm,1.1s,comp=Z,9μm
CHTO Chiang Mai 31.78 307 *e*P **P** **21 28 05.7 +0.5**
comp=Z,162nm,1.0s
CHTO *e*PcP **PcP** **21 30 58.2 +2.7**
CHTO LR LR
comp=Z,1μm,20.0s
CHTO Chiang Mai 31.78 307 P **P** **21 28 05.4 +0.2**
SNR=59
CHTO Chiang Mai 31.78 307 *e*P **P** **21 28 05.7 +0.5**
CHTO *e* 21 30 58.2
CHTO pmax pmax
comp=Z,162nm,1.0s
CHTO MLR MLR
comp=Z,1μm,20.0s
WHN Wuhan 31.80 342 ⇑ P **P** **21 28 05.6 +0.5**
WHN S **S** **21 33 12.1 +0.6**
WHN pmax pmax
comp=Z,88nm,1.2s
WHN LR LR
comp=Z,2μm,15.1s
WHN LR LR
comp=Z,1μm,11.9s
WHN LR LR
comp=Z,8μm,25.4s
BLDU Ballidu 31.89 194 P **P** **21 28 05.9 0.0**
baz=32,SNR=22
NJ2 Nanjing 32.12 350 *e*P **P** **21 28 08.8 +0.8**
NJ2 pP **pP** **21 28 21.3 -0.9**
NJ2 sP **sP** **21 28 29.6 +0.7**
NJ2 PcP **PcP** **21 30 58.4 +2.3**
NJ2 S **S** **21 33 14.3 -2.2**
NJ2 pmax pmax
comp=Z,18nm,0.6s
NJ2 pmax pmax
comp=Z,450nm,5.6s
NJ2 LR LR
comp=Z,2μm,24.1s
NJ2 LR LR
comp=Z,1μm,23.3s
NJ2 LR LR
comp=Z,4μm,24.4s
CMAI Chiengmai2 32.31 309 P **P** **21 28 10.8 +0.9**
comp=Z,825nm,1.2s,comp=Z,45μm
QLP Quilpie 32.36 147 P **P** **21 28 09.9 -0.2**
baz=32,SNR=21
KLBR Kellerberrin 32.59 192 P **P** **21 28 13.0 +0.9**
baz=33,SNR=24
KMI Kunming 32.95 320 P **P** **21 28 17.4 +1.8**
KMI pP pP 21 28 31.3 +1.5
KMI sP sP 21 28 35.3 -1.2
KMI PP **PP** **21 29 29.3 -1.6**
KMI S **S** **21 33 30.9 +0.9**
KMI sS sS 21 33 49.8 -4.4
KMI pmax pmax
comp=Z,92nm,1.3s
KMI pmax pmax
comp=Z,730nm,4.5s
KMI LR LR
comp=Z,2μm,20.4s
KMI LR LR
comp=Z,2μm,25.5s
KMI LR LR
comp=Z,3μm,30.6s
JNU Nakatsue 33.00 8 P **P** **21 28 15.2 -0.5**
comp=Z,68nm,1.1s,baz=177,slow=3.2,SNR=24
JNU S **S** **21 33 29.4 -0.9**
comp=Z,4.2nm,0.9s,baz=291,slow=22,SNR=3.2
JNU Nakatsue 33.00 8 *e*P **P** **21 28 15.1 -0.5**
comp=Z,81nm,1.1s
JNU S **S** **21 33 29.4 -0.9**
MUN Mundaring 33.31 194 P **P** **21 28 18.9 +0.5**
baz=34,SNR=8.0
ENH Enshi 33.37 334 *e*P **P** **21 28 18.5 -0.5**
comp=Z,55nm,0.8s
ENH *e*PcP **PcP** **21 30 59.1 -0.6**
ENH LR LR
comp=Z,3μm,21.0s
NWAO Narrogin (SRO) 33.99 192 P **P** **21 28 24.1 -0.2**
comp=Z,56nm,0.9s,baz=251,slow=8.4,SNR=20
NWAO Narrogin (SRO) 33.99 192 P **P** **21 28 25.5 +1.3**
baz=34,SNR=15
NWAO P **P** **21 28 25.5 +1.3**
baz=34,SNR=15
NWAO Narrogin (SRO) 33.99 192 *e*P **P** **21 28 25.5 +1.3**
comp=Z,54nm,0.8s
NWAO LR LR
comp=Z,2μm,19.0s
NWAO Narrogin (SRO) 33.99 192 *e*P **P** **21 28 25.5 +1.3**
NWAO pmax pmax
comp=Z,54nm,0.8s
NWAO MLR MLR
comp=Z,2μm,19.0s
PBA Port Blair 34.30 290 *e*P P 21 28 25.5 -1.7
BBOO Buckleboo 34.49 164 P **P** **21 28 28.8 +0.2**
baz=35,SNR=23
BBOO Buckleboo 34.49 164 *e*P **P** **21 28 29.1 +0.5**
comp=Z,181nm,1.0s
DGPR DIGLIPUR 34.59 293 *e*P **P** **21 28 27.2 -2.4**
DGPR IAmb IAmb 21 28 32.6
comp=Z,19nm,0.9s
RMQ Roma 34.92 142 P **P** **21 28 32.2 -0.2**
baz=35,SNR=9.4
JHJ Hachijo jima 2 35.29 21 LR LR 21 40 28.9
comp=Z,814nm,21.8s,baz=262,slow=32
STKA Stephens Creek 35.54 156 P **P** **21 28 37.7 +0.1**
comp=Z,150nm,1.0s,baz=327,slow=8.8,SNR=89
STKA S **S** **21 34 07.7 -1.8**
comp=Z,7.6nm,0.9s,baz=192,slow=22,SNR=3.7
STKA Stephens Creek 35.54 156 P **P** **21 28 37.9 +0.2**
baz=36,SNR=69

STKA	**Stephens Creek**	**35.54**	**156**	*e*P	**P**	**21 28 37.9**	**+0.2**
	comp=Z,30nm,0.9s							
STKA				S	**S**	**21 34 07.7**	**-1.8**
STKA				LR	LR			
	comp=Z,200nm,21.0s							
STKA	**Stephens Creek**	**35.54**	**156**	*e*P	**P**	**21 28 37.9**	**+0.2**
STKA				S	**S**	**21 34 07.7**	**-1.8**
STKA				pmax	pmax			
	comp=Z,30nm,0.9s							
EIDS	**Eidsvold**	**35.65**	**138**	P	**P**	**21 28 37.9**	**-0.8**
	baz=36,SNR=4.0							
EIDS	**Eidsvold**	**35.65**	**138**	*e*P	**P**	**21 28 38.2**	**-0.5**
	comp=Z,87nm,1.4s							
EIDS				*e*PP	**PnPn**	**21 29 51.3**	**-8.4**
EIDS				LR	LR			
	comp=Z,1μm,21.0s							
RKGY	**Rocky Gully**	**35.66**	**192**	P	**P**	**21 28 40.2**	**+1.5**
	baz=36,SNR=14							
HNR	**Honiara**	**35.75**	**107**	P	**P**	**21 28 38.8**	**-0.9**
	comp=Z,107nm,0.7s,baz=218,slow=4.6,SNR=8.6							
HNR				S	**S**	**21 34 14.6**	**+1.4**
	comp=Z,25nm,0.3s,baz=301,slow=17,SNR=2.6							
HNR				LR	LR	21 44 44.4		
	comp=Z,747nm,20.7s,baz=274,slow=38							
HNR	**Honiara**	**35.75**	**107**	*e*P	**P**	**21 28 39.0**	**-0.8**
	comp=Z,131nm,0.8s							
HNR				S	**S**	**21 34 14.6**	**+1.4**
TJN	**Taejon**	**35.89**	**3**	*ce*P	**P**	**21 28 41.2**	**+0.7**
HTT	**Hallett**	**35.94**	**161**	P	**P**	**21 28 42.0**	**+0.9**
	baz=36,SNR=18							
INU	**Inuyama**	**36.46**	**16**	*e*P	**P**	**21 28 46.3**	**+0.8**
	comp=Z,160nm,1.0s							
INU				LR	LR			
	comp=Z,900nm,21.0s							
TIA	**Tai'an**	**36.49**	**349**	P	**P**	**21 28 44.8**	**-0.9**
TIA				S	**S**	**21 34 16.6**	**-7.3**
TIA				pmax	pmax			
	comp=Z,21nm,1.2s							
TIA				pmax	pmax			
	comp=Z,370nm,4.1s							
TIA				LR	LR			
	comp=Z,2μm,26.8s							
TIA				LR	LR			
	comp=Z,780nm,27.1s							
TIA				LR	LR			
	comp=Z,3μm,26.1s							
CD2	**Chengdu**	**36.67**	**328**	⇑P	**P**	**21 28 47.0**	**-0.4**
CD2				pP	pP	21 28 57.5	-4.3
CD2				sP	sP	21 29 02.3	-6.1
CD2				PP	**PnPn**	**21 30 15.9**	**+3.7**
CD2				S	**S**	**21 34 29.1**	**+2.3**
CD2				sS	sS	21 34 47.0	-4.2
CD2				pmax	pmax			
	comp=Z,210nm,0.7s							
CD2				pmax	pmax			
	comp=Z,800nm,3.4s							
CD2				LR	LR			
	comp=Z,4μm,31.3s							
CD2				LR	LR			
	comp=Z,3μm,25.8s							
CD2				LR	LR			
	comp=Z,4μm,30.8s							
XAN	**Xi'an**	**36.89**	**337**	P	**P**	**21 28 47.9**	**-1.3**
XAN				pP	pP	21 29 02.4	-1.3
XAN				PcP	**PcP**	**21 31 09.9**	**0.0**
XAN				S	**S**	**21 34 22.8**	**-7.4**
XAN				ScP	**ScP**	**21 34 53.3**	**+1.1**
XAN				sS	sS	21 34 56.8	+2.3
XAN				SS	**SnSn**	**21 37 08.5**	**+1.3**
XAN				pmax	pmax			
	comp=Z,72nm,0.7s							
XAN				pmax	pmax			
	comp=Z,360nm,12.7s							
XAN				LR	LR			
	comp=Z,2μm,22.0s							
XAN				LR	LR			
	comp=Z,690nm,20.2s							
XAN				LR	LR			
	comp=Z,2μm,31.9s							
INCN	**Inchon**	**36.96**	**2**	*e*P	**P**	**21 28 49.5**	**-0.2**
	comp=Z,51nm,0.6s							
INCN				LR	LR			
	comp=Z,2μm,21.0s							
INCN	**Inchon**	**36.96**	**2**	P	**P**	**21 28 50.6**	**+0.9**
	SNR=6.0							
KS15	**Wonju Array Si**	**36.97**	**3**	*e*P	**P**	**21 28 51.1**	**+1.3**
KSAR	**Wonju Array Be**	**36.97**	**3**	P	**P**	**21 28 49.5**	**-0.2**
KSAR				PcP	**PcP**	**21 31 10.8**	**+0.8**
KSAR	**Wonju Array Be**	**36.97**	**3**	P	**P**	**21 28 49.6**	**-0.2**
KSAR						21 31 10.9		
KSRS	**Korea Array**	**36.99**	**3**	P	**P**	**21 28 49.5**	**-0.3**
	comp=Z,22nm,0.6s,baz=184,slow=10.0,SNR=114							
KSRS				PcP	**PcP**	**21 31 10.8**	**+0.8**
	comp=Z,13nm,1.0s,baz=180,slow=2.7,SNR=5.1							
KSRS				LR	LR	21 46 01.8		
	comp=Z,1μm,19.2s,baz=189,slow=39							
KSRS	**Korea Array**	**36.99**	**3**	P	**P**	**21 28 49.6**	**-0.3**
KSRS						21 31 10.9		
KSRS				pmax	pmax			
	comp=Z,38nm,1.0s							
KSRS				MLR	MLR			
	comp=Z,1μm,19.3s							
KS01	**Wonju Array Si**	**37.01**	**3**	*e*P	**P**	**21 28 50.9**	**+0.8**
KS01				*e*PcP	**PcP**	**21 31 11.0**	**+0.9**
CMSA	**Cobar Meteorol**	**37.10**	**151**	P	**P**	**21 28 51.7**	**+0.7**
	baz=37,SNR=49							
MAJO	**Matsushiro**	**37.92**	**17**	*e*P	**P**	**21 28 57.7**	**-0.2**
	comp=Z,94nm,0.9s							
MAJO	**Matsushiro**	**37.92**	**17**	⇓*i*P	**P**	**21 28 57.1**	**-0.7**
MAJO				pmax	pmax			
	comp=Z,212nm,1.9s							
MAT	**Matsushiro**	**37.92**	**17**	P	**P**	**21 28 57.2**	**-0.6**
MAT				S	**S**	**21 34 44.4**	**-1.2**
MJAR	**Matsushiro Arr**	**37.92**	**17**	P	**P**	**21 28 57.5**	**-0.4**
	comp=Z,69nm,0.8s,baz=195,slow=10.0,SNR=104							
MJAR				ScP	**ScP**	**21 34 56.5**	**+0.5**
	comp=Z,11nm,1.1s,baz=205,slow=5.1,SNR=9.0							
MJB9	**Matsu-Tunnel**	**37.92**	**17**	*e*P	**P**	**21 28 57.7**	**-0.2**
	comp=Z,99nm,1.0s							
DL2	**Dalian**	**38.52**	**355**	P	**P**	**21 29 03.1**	**+0.3**
DL2				pP	**pP**	**21 29 18.9**	**+1.6**
DL2				*e*S	**S**	**21 34 59.3**	**+4.8**
DL2				ScS	**ScS**	**21 39 06.4**	**-2.0**
DL2				pmax	pmax			
	comp=Z,95nm,0.9s							
DL2				pmax	pmax			
	comp=Z,410nm,6.5s							
DL2				LR	LR			
	comp=Z,1μm,20.3s							
DL2				LR	LR			
	comp=Z,1μm,19.6s							
DL2				LR	LR			
	comp=Z,2μm,25.8s							
TIY	**Taiyuan**	**39.05**	**344**	*e*P	**P**	**21 29 06.5**	**-0.9**
TIY				PP	**PnPn**	**21 30 46.4**	**+5.6**
TIY				S	**S**	**21 35 05.5**	**+2.8**
TIY				sS	**sS**	**21 35 27.5**	**+0.3**
TIY				SS	**SS**	**21 37 53.4**	**-3.5**
TIY				pmax	pmax			
	comp=Z,53nm,0.9s							
TIY				pmax	pmax			
	comp=Z,340nm,5.2s							
TIY				LR	LR			
	comp=Z,310nm,10.9s							
TIY				LR	LR			
	comp=Z,650nm,14.8s							
TIY				LR	LR			
	comp=Z,690nm,21.1s							
ARMA	**Armidale**	**39.49**	**143**	P	**P**	**21 29 12.0**	**+0.7**
	baz=40,SNR=56							
ARMA	**Armidale**	**39.49**	**143**	*e*P	**P**	**21 29 11.3**	**+0.1**
	comp=Z,65nm,0.8s							
ARMA				*e*PP	**PP**	**21 30 43.3**	**+0.4**
ARPS	**Mount Arapiles**	**39.97**	**159**	P	**P**	**21 29 15.8**	**+0.9**
	baz=40,SNR=22							
BJT	**Baijiatuau**	**40.36**	**349**	*e*P	**P**	**21 29 17.5**	**-0.7**
	comp=Z,265nm,1.8s							
BJT				*e*PcP	**PcP**	**21 31 21.8**	**+1.2**
BJT				LR	LR			
	comp=Z,2μm,21.0s							
BJT	**Baijiatuau**	**40.36**	**349**	*e*P	**P**	**21 29 17.5**	**-0.7**
BJT				*e*		21 31 21.8		
BJT				pmax	pmax			
	comp=Z,265nm,1.8s							
BJT				MLR	MLR			
	comp=Z,2μm,21.0s							
BJI	**Beijing**	**40.38**	**349**	P	**P**	**21 29 17.5**	**-0.8**
BJI				pmax	pmax			
	comp=Z,56nm,1.2s							
BJI				LR	LR			
	comp=Z,2μm,19.9s							
BJI				LR	LR			
	comp=Z,2μm,20.4s							
BJI				LR	LR			
	comp=Z,5μm,32.7s							
YNG	**Young**	**40.66**	**150**	P	**P**	**21 29 22.1**	**+1.3**
	baz=41,SNR=22							
LZH	**Lanzhou**	**40.80**	**333**	⇑P	**P**	**21 29 22.8**	**+0.8**
LZH				pP	pP	21 29 35.1	-1.5
LZH				sP	sP	21 29 39.6	-3.6
LZH				PP	**PnPn**	**21 31 02.0**	**+0.4**
LZH				PcP	**PcP**	**21 31 23.6**	**+1.3**
LZH				ScP	**ScP**	**21 35 08.4**	**+1.1**
LZH				PcS	**PcS**	**21 35 12.8**	**-0.6**
LZH				S	**S**	**21 35 32.4**	**+3.3**
LZH				sS	sS	21 35 51.6	-2.2
LZH				SS	**SS**	**21 38 31.6**	**-0.5**
LZH				pmax	pmax			
	comp=Z,280nm,1.1s							
LZH				pmax	pmax			
	comp=Z,1μm,6.2s							
LZH				LR	LR			
	comp=Z,3μm,14.2s							
LZH				LR	LR			
	comp=Z,3μm,14.0s							
LZH				LR	LR			
	comp=Z,6μm,17.2s							
SHL	**Shillong**	**40.91**	**310**	*e*P	**P**	**21 29 22.9**	**-0.2**
SHL				*ex*	x	21 35 14.0		
MGCD	**Mangrove Creek**	**41.24**	**147**	P	**P**	**21 29 26.8**	**+1.2**
	baz=41,SNR=11							
SNY	**Shenyang**	**41.31**	**358**	⇑P	**P**	**21 29 25.5**	**-0.5**
SNY				S	**S**	**21 35 33.1**	**-3.1**
SNY				pmax	pmax			
	comp=Z,140nm,0.9s							
SNY				pmax	pmax			
	comp=Z,1μm,4.3s							
SNY				LR	LR			
	comp=Z,930nm,23.9s							
SNY				LR	LR			
	comp=Z,1μm,19.8s							
SNY				LR	LR			
	comp=Z,2μm,21.2s							
CAN	**Canberra**	**41.78**	**151**	*e*P	**P**	**21 29 29.3**	**-0.7**
	comp=Z,188nm,1.3s							
CAN	**Canberra**	**41.78**	**151**	*e*P	**P**	**21 29 29.3**	**-0.7**
CAN				pmax	pmax			
	comp=Z,188nm,1.3s							
CNB	**Canberra Magne**	**41.95**	**150**	P	**P**	**21 29 33.0**	**+1.5**
	baz=42,SNR=11							
TOO	**Toolangi**	**42.06**	**156**	P	**P**	**21 29 33.7**	**+1.5**
	baz=42,SNR=10							
HHC	**Hu-ho-hao-te**	**42.21**	**344**	*e*P	**P**	**21 29 33.6**	**+0.1**
HHC				sP	sP	21 29 56.0	+1.3
HHC				PP	**PP**	**21 31 11.4**	**-0.8**
HHC				S	**S**	**21 35 52.5**	**+2.6**
HHC				ScS	**ScS**	**21 39 30.8**	**+0.1**
HHC				pmax	pmax			
	comp=Z,220nm,1.0s							
HHC				pmax	pmax			
	comp=Z,680nm,5.7s							
MSHR	**Mys Shultsa**	**42.35**	**6**	*ce*P	**P**	**21 29 35.5**	**+1.1**
BTO	**Baotou**	**42.43**	**343**	*e*P	**P**	**21 29 33.8**	**-1.4**
CN2	**Changchun**	**43.26**	**0**	*e*P	**P**	**21 29 44.3**	**+2.6**
CN2				*e*PP	**PcP**	**21 31 28.0**	**-2.0**
CN2				*e*S	**S**	**21 36 07.5**	**+2.7**
CN2				pmax	pmax			
	comp=Z,10.0nm,0.7s							
CN2				pmax	pmax			
	comp=Z,200nm,3.0s							
CN2				LR	LR			
	comp=Z,750nm,22.0s							
CN2				LR	LR			
	comp=Z,620nm,22.0s							
CN2				LR	LR			
	comp=Z,980nm,23.0s							
BWNR	**Bhubaneshwar**	**43.48**	**300**	*e*P	**P**	**21 29 43.0**	**-0.9**
BWNR				IAmb	IAmb	21 29 45.7		
	comp=Z,78nm,0.9s							
LSA	**Lhasa**	**43.75**	**315**	*e*P	**P**	**21 29 47.0**	**+0.4**
	comp=Z,216nm,1.6s							
LSA				LR	LR			
	comp=Z,700nm,20.0s							
LSA	**Lhasa**	**43.75**	**315**	P	**P**	**21 29 47.5**	**+0.9**
LSA	**Lhasa**	**43.75**	**315**	*e*P	**P**	**21 29 47.0**	**+0.4**
LSA				pmax	pmax			
	comp=Z,216nm,1.6s							
LSA				MLR	MLR			
	comp=Z,700nm,20.0s							
USRK	**Ussuriysk Ar.**	**44.05**	**7**	P	**P**	**21 29 48.7**	**+0.6**
	comp=Z,45nm,0.9s,baz=186,slow=7.1,SNR=90							
MDJ	**Mudanjiang**	**44.23**	**4**	P	**P**	**21 29 48.3**	**-1.2**
MDJ				pP	pP	21 30 00.1	-4.2
MDJ				sP	sP	21 30 05.3	-5.5
MDJ				S	**S**	**21 36 24.6**	**+5.6**
MDJ				sS	sS	21 36 44.8	+1.0
MDJ				pmax	pmax			
	comp=Z,100nm,1.0s							
MDJ				pmax	pmax			
	comp=Z,1μm,4.1s							
MDJ				LR	LR			
	comp=Z,810nm,23.1s							
MDJ				LR	LR			
	comp=Z,800nm,19.9s							
MDJ				LR	LR			
	comp=Z,1μm,21.5s							
MDJ	**Mudanjiang**	**44.23**	**4**	*e*P	**P**	**21 29 50.5**	**+0.9**
	comp=Z,79nm,0.9s							
MDJ				LR	LR			
	comp=Z,1μm,21.0s							
CHLP	**Challavanipeta**	**44.40**	**296**	*e*P	**P**	**21 29 51.1**	**-0.2**
ERM	**Erimo**	**44.46**	**19**	*e*P	**P**	**21 29 50.3**	**-1.1**
	comp=Z,70nm,1.0s							
ERM	**Erimo**	**44.46**	**19**	*ce*P	**P**	**21 29 53.5**	**+2.1**
ERM				pmax	pmax			
	comp=Z,69nm,1.0s							
VIS	**Vishakhapatnam**	**44.80**	**295**	*e*P	**P**	**21 29 53.4**	**-1.2**
VIS				IAmb	IAmb	21 29 56.1		
	comp=Z,130nm,1.4s							
VIS				*i* S	**S**	**21 36 26.2**	**-1.9**
BOK	**Bokaro**	**44.83**	**304**	*e*P	**P**	**21 29 54.4**	**-0.3**
BOK				IAmb	IAmb	21 29 57.5		
	comp=Z,250nm,2.3s							
ODAN	**Odare**	**45.03**	**309**	*e*P	**P**	**21 29 56.5**	**0.0**
	comp=Z,304nm,0.9s							
PALK	**Pallekele**	**45.08**	**280**	P	**P**	**21 29 56.1**	**-0.8**
	comp=Z,49nm,1.1s,baz=116,slow=7.5,SNR=7.8							
PALK	**Pallekele**	**45.08**	**280**	*e*P	**P**	**21 29 55.8**	**-1.2**
	comp=Z,190nm,1.6s							
PALK				LR	LR			
	comp=Z,2μm,20.0s							
PALK	**Pallekele**	**45.08**	**280**	*i* P	**P**	**21 29 54.2**	**-2.7**
	SNR=6.4							
PALK	**Pallekele**	**45.08**	**280**	*i* P	**P**	**21 29 57.4**	**+0.5**
GTA	**Gaotai**	**45.36**	**332**	⇑P	**P**	**21 29 58.8**	**0.0**
GTA				pP	pP	21 30 12.1	-1.5
GTA				sP	sP	21 30 17.3	-2.8
GTA				PcP	**PcP**	**21 31 39.5**	**+2.0**
GTA				ScP	**ScP**	**21 35 25.9**	**+0.3**
GTA				S	**S**	**21 36 37.9**	**+2.1**
GTA				sS	sS	21 36 58.1	-2.6
GTA				ScS	**ScS**	**21 39 48.6**	**-2.0**
GTA				SS	**SS**	**21 39 53.6**	**-6.8**
GTA				pmax	pmax			
	comp=Z,45nm,1.3s							
GTA				pmax	pmax			
	comp=Z,2μm,6.4s							
GTA				LR	LR			
	comp=Z,1μm,18.5s							
GTA				LR	LR			
	comp=Z,2μm,18.1s							
GTA				LR	LR			
	comp=Z,2μm,18.1s							
TEY	**Ternei**	**45.59**	**11**	*e*P	**P**	**21 29 59.0**	**-1.3**
TEY				pmax	pmax			
	comp=N,66nm,1.1s							
TEY				pmax	pmax			
	comp=Z,116nm,1.1s							
RAMN	**Ramite**	**45.69**	**309**	*e*P	**P**	**21 30 02.1**	**+0.3**
	comp=Z,908nm,1.2s							
DZM	**Mont Dzumac**	**45.80**	**122**	P	**P**	**21 30 03.0**	**+0.5**
	comp=Z,34nm,1.1s,baz=336,slow=9.7,SNR=5.0							
DZM	**Mont Dzumac**	**45.80**	**122**	*e*P	**P**	**21 30 03.2**	**+0.7**
	comp=Z,117nm,1.4s							
DZM				*e*S	**S**	**21 36 48.0**	**+5.4**
DZM				*e*LR	LR	21 42 50.4		
	comp=Z,1μm,42.0s							
DZM	**Mont Dzumac**	**45.80**	**122**	*e*P	**P**	**21 29 59.1**	**-3.4**
	comp=Z,4μm,33.8s							
ASAJ	**Asahikawa**	**46.19**	**17**	P	**P**	**21 30 05.8**	**+0.8**
	comp=Z,100nm,1.5s							
ASAJ	**Asahikawa**	**46.19**	**17**	*e*P	**P**	**21 30 05.9**	**+0.8**
	comp=Z,56nm,0.4s,baz=223,slow=8.9,SNR=107							
PVM	**Polavaram**	**46.22**	**294**	*e*P	**P**	**21 30 03.9**	**-1.8**
JIRN	**Jiri**	**46.35**	**309**	*e*P	**P**	**21 30 07.1**	**0.0**
	comp=Z,410nm,0.8s							
MDRS	**Chennai**	**46.47**	**288**	*e*P	**P**	**21 30 06.5**	**-1.2**
MDRS				IAmb	IAmb	21 30 10.4		
	comp=Z,32nm,0.6s							
GUN	**Gumba**	**46.71**	**309**	*e*P	**P**	**21 30 09.8**	**-0.1**
	comp=Z,425nm,0.8s							
PKIN	**Phulchoki**	**46.93**	**309**	*e*P	**P**	**21 30 10.9**	**-0.6**
	comp=Z,88nm,0.8s							
KKN	**Kakani**	**47.12**	**309**	*e*P	**P**	**21 30 12.5**	**-0.5**
	comp=Z,197nm,0.8s							
SKHT	**Srikalahasti**	**47.13**	**288**	*e*P	**P**	**21 30 11.4**	**-1.4**
YUK	**Yuzh-Kuril'sk**	**47.16**	**20**	*e*P	**P**	**21 30 14.1**	**+1.4**
YUK				*e*PP	**sP**	**21 30 36.7**	**+2.7**
YUK				*e*		21 32 03.9		
YUK				*e*S	**S**	**21 37 02.3**	**+1.1**
YUK				pmax	pmax			
	comp=E,250nm,1.4s							
YUK				pmax	pmax			
	comp=Z,314nm,1.4s							
YUK				pmax	pmax			
	comp=N,177nm,1.1s							
DMN	**Daman**	**47.17**	**309**	*e*P	**P**	**21 30 13.3**	**-0.1**
	comp=N,285nm,1.0s							
ADKI	**Addanki**	**47.37**	**291**	*e*P	**P**	**21 30 13.6**	**-1.2**
GKN	**Gorkha**	**47.72**	**309**	*e*P	**P**	**21 30 17.1**	**-0.5**
	comp=N,294nm,0.9s							
NJS	**Nagarjunasagar**	**48.17**	**292**	*e*P	**P**	**21 30 19.1**	**-1.8**
RCLA	**Racherla**	**48.22**	**290**	*e*P	**P**	**21 30 19.0**	**-2.4**
KOLN	**Koldanda**	**48.43**	**308**	*e*P	**P**	**21 30 22.8**	**-0.3**
	comp=N,361nm,0.6s							
SRLM	**Srisailam**	**48.44**	**291**	*e*P	**P**	**21 30 20.8**	**-2.3**
DANN	**Dangsing**	**48.57**	**309**	*e*P	**P**	**21 30 24.4**	**+0.2**
	comp=N,37nm,0.8s							
RPR	**Rampur**	**48.80**	**295**	*e*P	**P**	**21 30 24.3**	**-1.5**
YSS	**Yuzh-Sakhalins**	**48.83**	**16**	*e*P	**P**	**21 30 25.8**	**+0.3**
	comp=N,266nm,1.6s							
YSS				*e*PcP	**PcP**	**21 31 50.2**	**+0.8**
YSS	**Yuzh-Sakhalins**	**48.83**	**16**	*e*α*i*P	**P**	**21 30 26.6**	**+1.1**
YSS				*e**SP	**sP**	**21 30 49.2**	**+2.3**
YSS				*e*		21 31 51.0		
YSS				*e*		21 32 19.0		
YSS				*e*S	**S**	**21 37 23.5**	**-1.2**
YSS				*e*SS	**SS**	**21 40 53.0**	**-3.1**
YSS				pmax	pmax			
	comp=Z,500nm,5.4s							
YSS				pmax	pmax			
	comp=Z,60nm,0.7s							
TRD	**Trivandrum**	**48.91**	**281**	*e*P	**P**	**21 30 25.3**	**-1.4**
TRD				IAmb	IAmb	21 30 27.7		
	comp=Z,90nm,0.8s							
HIA	**Hailar**	**48.96**	**355**	*e*P	**P**	**21 30 27.1**	**+0.5**
	comp=Z,207nm,1.3s							
HIA				*e*PcP	**PcP**	**21 31 52.2**	**+2.3**
HIA				LR	LR			
	comp=Z,2μm,20.0s							
HIA	**Hailar**	**48.96**	**355**	*e*P	**P**	**21 30 27.1**	**+0.5**
HIA				*e*		21 31 52.3		
HIA				pmax	pmax			
	comp=Z,207nm,1.3s							
HIA				MLR	MLR			
	comp=Z,2μm,20.0s							
KLR	**Kul'dur**	**48.99**	**6**	P	**P**	**21 30 27.0**	**+0.2**
	comp=Z,3.9nm,1.0s,baz=215,slow=5.1,SNR=48							
KLR				S	**S**	**21 37 23.1**	**-3.9**
	comp=Z,0.1nm,0.9s,baz=124,slow=18,SNR=2.4							
KLR	**Kul'dur**	**48.99**	**6**	*c i*P	**P**	**21 30 26.6**	**-0.2**
PYUN	**Piuthan**	**49.06**	**308**	*e*P	**P**	**21 30 27.6**	**-0.3**
	comp=Z,633nm,0.8s							
HYB	**Hyderabad**	**49.08**	**293**	*i* P	**P**	**21 30 28.0**	**0.0**
	comp=Z,200nm,1.0s							
HYB				*e*PcP	**PcP**	**21 31 52.0**	**+0.9**
HYB				*e*S	**S**	**21 37 24.0**	**-5.3**
HYB	**Hyderabad**	**49.08**	**293**	*e*P	**P**	**21 30 24.8**	**-3.3**
HYB				IAmb	IAmb	21 30 28.4		
	comp=Z,136nm,0.7s							
HYBB	**Hyderabad (bro**	**49.09**	**293**	*e*P	**P**	**21 30 25.6**	**-2.4**
SRSP	**Sriramsagar**	**49.68**	**295**	*e*P	**P**	**21 30 30.6**	**-2.0**
URV	**Uravakonda**	**49.70**	**289**	*e*P	**P**	**21 30 30.7**	**-2.1**
NGP	**Nagpur**	**49.71**	**298**	*e*P	**P**	**21 30 31.3**	**-1.5**
NGP				IAmb	IAmb	21 30 34.6		
	comp=Z,2μm,3.0s							
ULN	**Ulaanbaatar**	**49.93**	**344**	*e*P	**P**	**21 30 33.6**	**-0.5**
	comp=Z,42nm,1.0s							
ULN				*e*PcP	**PcP**	**21 31 51.3**	**-2.4**
ULN				LR	LR			
	comp=Z,2μm,22.0s							
ULN	**Ulaanbaatar**	**49.93**	**344**	P	**P**	**21 30 34.2**	**+0.1**
	SNR=28							
ULN	**Ulaanbaatar**	**49.93**	**344**	⇑*i*P	**P**	**21 30 33.7**	**-0.5**
ULN				pmax	pmax			
	comp=Z,83nm,1.7s							
SONM	**Songino Array**	**50.09**	**343**	P	**P**	**21 30 34.6**	**-0.7**
	comp=Z,24nm,0.8s,baz=162,slow=8.2,SNR=116							
SONM				PcP	**PcP**	**21 31 55.5**	**+1.2**
	comp=Z,14nm,0.8s,baz=158,slow=5.9,SNR=4.1							
SONM				LR	LR	21 53 21.9		
	comp=Z,2μm,21.4s,baz=152,slow=38							
SONA1	**Songino Array**	**50.10**	**343**	*e*P	**P**	**21 30 34.5**	**-0.9**
SONA1				*e*PcP	**PcP**	**21 31 52.6**	**-1.7**
KLRI	**Killari**	**51.05**	**293**	*e*P	**P**	**21 30 40.9**	**-2.0**
GRNR	**Gornyy**	**51.10**	**9**	*e*P	**P**	**21 30 43.3**	**+0.6**
GRNR				pmax	pmax			
	comp=N,96nm,1.0s							
GRNR				pmax	pmax			
	comp=Z,170nm,1.0s							
BHPL	**Bhopal**	**51.81**	**300**	*e*P	**P**	**21 30 46.1**	**-2.5**
BHPL				IAmb	IAmb	21 30 49.0		
	comp=Z,250nm,0.5s							
TYV	**Tymovskoe**	**52.41**	**14**	*e*P	**P**	**21 30 54.1**	**+1.6**
TYV				*e*S	**S**	**21 38 18.3**	**+4.0**
TYV				pmax	pmax			
	comp=Z,45nm,1.0s							
TYV				pmax	pmax			
	comp=Z,700nm,4.7s							
TYV				smax	smax			
	comp=E,900nm,10.6s							
CIT	**Chita**	**52.44**	**351**	*e*P	**P**	**21 30 52.2**	**-0.5**
CIT				*e*		21 31 04.5		
CIT				*e*		21 32 05.0		
CIT				pmax	pmax			
	comp=Z,276nm,2.0s							
GOA	**Goa**	**53.06**	**289**	*e*P	**P**	**21 30 55.5**	**-2.4**
GOA				IAmb	IAmb	21 30 58.3		
	comp=Z,2μm,3.8s							
ZEA	**Zeya**	**53.22**	**1**	*e*P	**P**	**21 30 59.0**	**+0.6**
ZEA				*e*		21 31 22.0		
ZEA				*e*S	**S**	**21 38 20.0**	**-5.2**
ZEA				pmax	pmax			
	comp=N,71nm,1.0s							
ZEA				pmax	pmax			
	comp=E,35nm,1.0s							
ZEA				pmax	pmax			
	comp=Z,99nm,1.0s							
ZEA				smax	smax			
	comp=N,600nm,12.0s							
ZEA				MLR	MLR			
	comp=Z,800nm,16.0s							
ZAK	**Zakamensk**	**53.28**	**343**	*e*P	**P**	**21 30 57.6**	**-1.4**
ZAK				*e*		21 32 03.9		
ZAK				pmax	pmax			
	comp=Z,23nm,1.3s							
POO	**Poona**	**53.70**	**293

NKL *e* 21 42 26.0
NKL pmax pmax
comp=N,43nm,1.0s
NKL pmax pmax
comp=E,22nm,1.0s
NKL pmax pmax
comp=Z,190nm,1.0s
NKL pmax pmax
comp=N,450nm,4.0s
NKL pmax pmax
comp=Z,900nm,6.0s
NKL smax smax
comp=N,500nm,6.0s
NKL MLR MLR
comp=N,500nm,17.0s
NKL MLR MLR
comp=E,500nm,17.0s
NKL MLR MLR
comp=Z,500nm,17.0s
TLY Talaya 54.33 344 P **P** **21 31 06.5 0.0**
comp=Z,34nm,0.9s,baz=176,slow=3.1,SNR=14
TLY Talaya 54.33 344 *eP* **P** **21 31 06.9 +0.4**
comp=Z,59nm,1.0s
TLY LR LR
comp=Z,1μm,21.0s
TLY Talaya 54.33 344 P **P** **21 31 07.2 +0.7**
SNR=20
TLY Talaya 54.33 344*d iP* **P** **21 31 06.8 +0.2**
TLY *eS* S 21 38 51.0 +11
TLY pmax pmax
comp=Z,87nm,1.3s
TLY MLR MLR
comp=Z,578nm,19.0s
FUNA Funafuti 54.33 101 *eP* **P** **21 31 06.1 -1.1**
comp=Z,140nm,1.0s
IRK Irkutsk 54.66 344 *eP* **P** **21 31 09.5 +0.6**
IRK pmax pmax
comp=Z,101nm,1.3s
BOM Bombay 54.74 293 *ex* P 21 31 03.4 -6.6
WMQ Urumqi 54.76 327 P **P** **21 31 10.3 +0.4**
WMQ pP pP 21 31 27.6 +2.5
WMQ PcP **PcP** **21 32 09.9 -2.0**
WMQ ScP **ScP** **21 36 06.6 +0.9**
WMQ S **S** **21 38 45.3 -1.2**
WMQ sS sS 21 39 12.6 +0.6
WMQ pmax pmax
comp=Z,940nm,3.9s
WMQ LR LR
comp=Z,3μm,14.9s
WMQ LR LR
comp=Z,3μm,22.3s
WMQ LR LR
comp=Z,4μm,28.1s
MSVF Nonsavu 54.82 112 *eP* **P** **21 31 10.3 -0.5**
comp=Z,176nm,1.8s
MSVF Nonsavu 54.82 112 *eP* **P** **21 31 10.3 -0.5**
MSVF pmax pmax
comp=Z,176nm,1.8s
SMLA Simla 54.94 309 *eP* **P** **21 31 11.2 -0.1**
MOY Mondy 55.11 342 *eP* **P** **21 31 12.6 +0.3**
MOY pmax pmax
comp=Z,181nm,1.2s
DHRM DHARAMSHALA 56.07 309 *eP* **P** **21 31 17.3 -2.4**
DHRM IAmb IAmb 21 31 19.6
comp=Z,15μm,3.4s
HVS Khovu-Aksy 57.25 337⇑*eP* **P** **21 31 27.3 -0.3**
HVS pmax pmax
comp=Z,323nm,1.0s
BOD Bodaibo 58.01 353⇑*iP* **P** **21 31 33.1 +0.5**
BOD pmax pmax
comp=Z,365nm,1.1s
DCZ Deep Cove 58.63 147 *eP* **P** **21 31 38.5 +1.2**
comp=Z,188nm,1.8s
ZSN Zaisan 58.64 329⇑*iP* **P** **21 31 37.1 -0.2**
comp=Z,252nm,1.0s
ZSN *i* PP **PP** **21 33 47.8 +0.2**
ZSN *eS* **S** **21 39 38.8 +1.3**
ZSN LR LR 21 58 43.2
comp=Z,60nm,16.3s
BHJ Bhuj 58.65 297 *eP* **P** **21 31 36.8 -1.0**
BHJ IAmb IAmb 21 31 38.7
comp=Z,75nm,0.7s
NIL Nilore 58.98 310 *eP* **P** **21 31 39.1 -0.8**
comp=Z,133nm,0.9s
NIL LR LR
comp=Z,700nm,21.0s
NIL Nilore 58.98 310 *eP* **P** **21 31 39.1 -0.8**
NIL pmax pmax
comp=Z,133nm,0.9s
NIL MLR MLR
comp=Z,700nm,21.0s
FOZ Fox Glacier 58.99 144 *eP* **P** **21 31 39.9 +0.2**
comp=Z,133nm,1.6s
PEA0B Petropavlovsk- 59.04 22 *eP* **P** **21 31 41.4 +1.4**
comp=Z,87nm,0.9s
PEA0B LR LR
comp=Z,700nm,20.0s
PETK Petropavlovsk- 59.04 22 P **P** **21 31 40.0 +0.1**
comp=Z,73nm,0.9s,baz=192,slow=3.7,SNR=42
PETK SKKP 21 56 28.9
comp=Z,2.8nm,0.6s,baz=81,slow=3.9,SNR=3.5
PETK LR LR 21 59 21.5
comp=Z,316nm,19.0s,baz=217,slow=38
PETK Petropavlovsk- 59.04 22 *eP* **P** **21 31 41.3 +1.3**
PETK Petropavlovsk- 59.04 22 *eP* **P** **21 31 41.3 +1.3**
MLZ Mavora Lakes 59.11 146 *eP* **P** **21 31 41.3 +0.7**
comp=Z,60nm,1.3s
SHLS Shalkode 59.12 322⇑*iP* **P** **21 31 39.2 -1.7**
comp=Z,2μm,1.3s
SHLS *i* PP **PP** **21 33 50.0 -2.1**
SHLS *eS* **S** **21 39 40.8 -3.4**
SHLS LR LR 22 00 10.4
comp=Z,208nm,13.2s
WKZ Wanaka 59.29 145 *eP* **P** **21 31 43.1 +1.3**
comp=Z,150nm,1.6s
PET Petropavlovsk 59.34 23 *eP* **P** **21 31 41.9 -0.1**
comp=Z,151nm,1.3s
PET Petropavlovsk 59.34 23α*iP* **P** **21 31 43.9 +2.0**
PET *e**SP **sP** **21 32 01.1 -2.6**
PET *i* S **S** **21 39 48.5 +2.3**
PET *e*SS **SS** **21 43 44.5 +2.6**
PET pmax pmax
comp=Z,98nm,1.3s
PET pmax pmax
comp=Z,400nm,15.7s
WHZ Wether Hill Ro 59.34 147 *eP* **P** **21 31 42.2 0.0**
comp=Z,72nm,1.1s
UZB Uzynbulak 59.39 322⇑*iP* **P** **21 31 42.6 -0.1**
comp=Z,924nm,0.9s
UZB *i* PP **PP** **21 33 54.4 -0.1**
UZB *i* S **S** **21 39 47.3 -0.4**
KSH Kashi 59.53 317 P **P** **21 31 44.3 +0.6**
KSH pP pP 21 32 00.5 +1.4
KSH PcP **PcP** **21 32 30.4 -0.3**
KSH S **S** **21 39 46.8 -2.7**
KSH ScS **ScS** **21 41 21.8 -7.6**
KSH SS **SS** **21 43 49.1 +3.4**
KSH pmax pmax
comp=Z,350nm,1.3s
KSH LR LR
comp=Z,1μm,13.7s
KSH LR LR
comp=Z,1μm,14.5s
KSH LR LR
comp=Z,1μm,16.7s
MK01 Makanchi Array 59.57 327 *eP* **P** **21 31 42.9 -0.9**
MK01 *e*PcP **PcP** **21 32 31.5 +0.9**
MK31 Makanchi Array 59.59 327 *eP* **P** **21 31 42.9 -1.0**
MK31 Makanchi Array 59.59 327 *eP* **P** **21 31 42.9 -1.0**
MKAR Makanchi Array 59.59 327 P **P** **21 31 42.9 -1.0**
comp=Z,88nm,0.8s,baz=121,slow=8.3,SNR=144
MKAR S **S** **21 39 46.7 -3.2**
comp=Z,0.4nm,0.7s,baz=325,slow=3.4,SNR=2.4
MKAR LR LR 21 59 13.9
comp=Z,2μm,18.5s,baz=120,slow=38
MKAR PKPPKP **P'P'df** **22 01 12.1 -0.7**
comp=Z,0.9nm,0.9s,baz=300,slow=2.4,SNR=4.1
MKAR P4KPbc 22 08 49.7
comp=Z,1.4nm,0.7s,baz=125,slow=4.9,SNR=16
MKAR Makanchi Array 59.59 327 *eP* **P** **21 31 42.9 -1.0**
comp=Z,476nm,0.8s
MKAR *e*PcP **PcP** **21 32 29.7 -1.0**
MKAR S **S** **21 39 46.7 -3.2**
MKAR P'P' 22 01 12.1
MKAR Makanchi Array 59.59 327 *eP* **P** **21 31 42.9 -1.0**
MKAR *e* 21 32 29.7
MKAR S **S** **21 39 46.7 -3.2**
MKAR pmax pmax
comp=Z,476nm,0.8s
LBZ Lake Benmore 59.70 144 *eP* **P** **21 31 44.6 -0.1**
comp=Z,92nm,1.2s
SATY Saty 59.72 322⇑*iP* **P** **21 31 45.2 +0.2**
comp=Z,3μm,1.3s
SATY *i* S **S** **21 39 51.9 0.0**
SATY LR LR 22 01 35.6
comp=Z,330nm,16.8s
ZHN Zhinishke 59.76 322⇑*iP* **P** **21 31 45.2 -0.1**
comp=Z,880nm,1.1s
KPKS Kokpek 59.77 322⇑*iP* **P** **21 31 45.1 -0.2**
comp=Z,2μm,0.9s
KPKS *i* S **S** **21 39 52.3 -0.1**
MAKZ Makanchi 59.77 327 *eP* **P** **21 31 44.3 -0.8**
comp=Z,230nm,1.3s
MAKZ LR LR
comp=Z,2μm,19.0s
MAKZ Makanchi 59.77 327 *eP* **P** **21 31 44.3 -0.8**
MAKZ pmax pmax
comp=Z,230nm,1.3s
MAKZ MLR MLR
comp=Z,2μm,19.0s
RPZ Rata Peaks 59.84 143 LR LR 21 59 26.1
comp=Z,566nm,19.8s,baz=316,slow=38
RPZ Rata Peaks 59.84 143 *eP* **P** **21 31 46.2 +0.5**
comp=Z,80nm,1.1s
THZ Tophouse 59.92 140 *eP* **P** **21 31 46.4 +0.1**
comp=Z,21nm,0.8s
KDJ Kajisay 60.01 320 *eP* **P** **21 31 46.9 -0.2**
comp=Z,146nm,1.1s
LTZ Lake Taylor 60.07 142 *eP* **P** **21 31 47.5 +0.2**
comp=Z,22nm,0.9s
OXZ Oxford 60.22 142 *eP* **P** **21 31 47.7 -0.6**
comp=Z,34nm,1.2s
OXZ LR LR
comp=Z,500nm,20.0s
KHZ Kahutara 60.67 141 *eP* **P** **21 31 49.8 -1.5**
comp=Z,28nm,0.8s
ULHL Ulahol 60.67 320 P **P** **21 31 53.8 +2.2**
SNR=39
AAA Alma-Ata 60.73 321 *eP* **P** **21 31 52.1 +0.3**
comp=Z,673nm,1.3s
AAA *i* S **S** **21 40 04.7 -0.1**
SNZO South Karori 60.86 139 PFAKE 21 32 10.0 +17
SNZO LR LR
comp=Z,1μm,21.0s
BKZ Black Stump Fm 61.04 136 *eP* **P** **21 31 53.5 -0.4**
comp=Z,31nm,0.9s
BKZ LR LR
comp=Z,1μm,20.0s
URZ Urewera 61.06 135 LR LR 22 00 41.3
comp=Z,556nm,19.7s,baz=304,slow=38
URZ Urewera 61.06 135 *eP* **P** **21 31 53.6 -0.5**
comp=Z,46nm,1.0s
KZA Kyzart 61.23 319 P **P** **21 31 55.5 -0.2**
SNR=171
KRAR Krasnoyarsk 61.40 340‖*eP* **P** **21 31 56.7 +0.7**
TKM2 Tokmak 2 61.42 320 P **P** **21 31 56.2 -0.5**
SNR=127
KUU Kurty 61.44 322⇑*iP* **P** **21 31 56.6 0.0**
comp=Z,1μm,1.2s
KUU *i* S **S** **21 40 13.5 -0.1**
KUU LR LR 22 02 29.2
comp=Z,125nm,17.5s
BMNS Besmoynak 61.47 321⇑*iP* **P** **21 31 56.7 -0.3**
comp=Z,1μm,1.2s
RAO Raoul Island 61.52 124 LR LR 21 59 31.9
comp=Z,562nm,18.3s,baz=108,slow=37
BFZ Birch Farm 61.57 138 PFAKE 21 32 10.0 +13
BFZ LR LR
comp=Z,2μm,20.0s
YAK Yakutsk 61.60 2 P **P** **21 31 57.3 +0.1**
comp=Z,273nm,0.8s,baz=333,slow=1.4,SNR=64
YAK S **S** **21 40 13.9 -1.0**
comp=Z,8.2nm,0.4s,baz=37,slow=22,SNR=10
YAK Yakutsk 61.60 2 *eP* **P** **21 31 57.5 +0.3**
comp=Z,283nm,0.8s
YAK S **S** **21 40 13.9 -1.0**
YAK LR LR
comp=Z,700nm,20.0s
YAK Yakutsk 61.60 2*c iP* **P** **21 31 57.3 +0.1**
YAK *e**PP **sP** **21 32 19.6 +0.6**
YAK *e* 21 32 36.8
YAK *e* 21 34 09.5
YAK *e*S **S** **21 40 13.2 -1.7**
YAK *e* 21 41 40.3
YAK pmax pmax
comp=N,54nm,1.0s
YAK pmax pmax
comp=Z,267nm,1.0s
YAK pmax pmax
comp=E,21nm,1.4s
YAK pmax pmax
comp=Z,78nm,2.3s
YAK pmax pmax
comp=N,37nm,2.1s
YAK pmax pmax
comp=E,31nm,1.9s
YAK smax smax
comp=E,449nm,3.2s
YAK smax smax
comp=N,445nm,2.7s
YAK MLR MLR
comp=Z,723nm,21.0s
KBK Karagaybulak 61.71 320 P **P** **21 31 58.6 0.0**
SNR=68
UCH Uchtor 61.78 319 P **P** **21 31 59.4 0.0**
SNR=162
AAK Ala-Archa 61.99 320 P **P** **21 32 00.7 +0.2**
comp=Z,53nm,1.0s,baz=118,slow=4.9,SNR=66
AAK Ala-Archa 61.99 320 P **P** **21 32 00.3 -0.2**
SNR=91
AAK Ala-Archa 61.99 320 *eP* **P** **21 32 00.0 -0.5**
comp=Z,125nm,1.3s
AAK LR LR
comp=Z,2μm,22.0s
AAK Ala-Archa 61.99 320 P **P** **21 32 00.9 +0.4**
SNR=68
AAK Ala-Archa 61.99 320 *iP* **P** **21 32 00.7 +0.2**
SNR=123
AAK Ala-Archa 61.99 320*c iP* **P** **21 32 00.8 +0.3**
AAK pmax pmax
comp=Z,113nm,1.3s
CHMS Chumysh 62.00 320 P **P** **21 31 59.2 -1.2**
SNR=43
FRU Bishkek 62.01 320 *eP* **P** **21 32 00.0 -0.4**
FRU pmax pmax
comp=Z,120nm,2.0s
AML Almayashu 62.28 319 P **P** **21 32 02.2 -0.5**
SNR=160
MA2 Magadan 62.28 14 P **P** **21 32 03.0 +1.1**
comp=Z,95nm,0.8s,baz=200,slow=6.6,SNR=50
MA2 Magadan 62.28 14 *eP* **P** **21 32 02.7 +0.8**
comp=Z,130nm,0.9s
MA2 LR LR
comp=Z,400nm,19.0s
USP Ospenovka 62.29 320 P **P** **21 32 01.8 -0.6**
SNR=93
EKS2 Erkin-Say 62.47 319 P **P** **21 32 03.1 -0.5**
SNR=177
KBL Kabul 62.55 309 *eP* **P** **21 32 03.6 -0.9**
comp=Z,137nm,0.8s
KBL LR LR
comp=Z,400nm,22.0s
KBL Kabul 62.55 309 *eP* **P** **21 32 03.6 -0.9**
KBL pmax pmax
comp=Z,137nm,0.8s
KBL MLR MLR
comp=Z,400nm,22.0s
SEM Semipalatinsk 62.86 329⇑*iP* **P** **21 32 05.2 -1.1**
comp=Z,280nm,1.8s
SEM *i* PP **PP** **21 34 23.8 -1.3**
SEM *i* S **S** **21 40 30.5 -1.3**
SEM LR LR 22 01 11.4
comp=Z,213nm,19.1s
ZAA0 Zalesovo Array 63.00 334 *eP* **P** **21 32 05.8 -1.0**
comp=Z,120nm,1.0s
ZAA0 LR LR
comp=Z,1μm,21.0s
ZALV Zalesovo Beam 63.00 334 P **P** **21 32 05.6 -1.1**
comp=Z,93nm,1.0s,baz=122,slow=5.4,SNR=47
ZALV LR LR 22 00 03.3
comp=Z,998nm,21.7s,baz=92,slow=36
ZALV PKP2bc 22 01 14.3
comp=Z,0.5nm,0.5s,baz=299,slow=3.0,SNR=4.8
AFI Afiamalu 63.78 106 LR LR 21 59 56.6
comp=Z,235nm,19.9s,baz=260,slow=36
KURBB Kurchatov Arra 63.88 329 P **P** **21 32 11.4 -1.2**
comp=Z,51nm,0.6s,baz=131,slow=6.4,SNR=127
KURBB PP **PP** **21 34 33.9 +0.2**
comp=Z,19nm,1.2s,baz=132,slow=8.1,SNR=4.8
KURBB S **S** **21 40 39.4 -4.5**
comp=Z,0.1nm,0.3s,baz=131,slow=13,SNR=3.3
KURK Kurchatov 63.88 329 *eP* **P** **21 32 11.6 -1.0**
comp=Z,130nm,0.7s
KURK PP **PP** **21 34 33.9 +0.2**
KURK S **S** **21 40 39.4 -4.5**
KURK Kurchatov 63.88 329 P **P** **21 32 11.6 -1.0**
SNR=58
KURK Kurchatov 63.88 329*c iP* **P** **21 32 11.4 -1.2**
KURK pmax pmax
comp=Z,236nm,1.2s
DZA Taraz 64.18 319 *eP* **P** **21 32 14.4 -0.4**
comp=Z,848nm,1.1s
DZA *i* PP **PP** **21 34 35.7 -0.9**
NVS Novosibirsk 64.29 334⇑*iP* **P** **21 32 14.1 -1.1**
NVS *e**PP **pP** **21 32 26.3 -4.4**
NVS *eS* **S** **21 40 45.0 -3.8**
NVS *e* 21 41 57.9
NVS pmax pmax
comp=Z,84nm,0.8s
NVS pmax pmax
comp=N,80nm,1.0s
NVS pmax pmax
comp=E,100nm,1.2s
NVS smax smax
comp=N,13nm,1.4s
NVS smax smax
comp=E,20nm,1.5s
IUG Iuzhnay 64.73 317⇑*iP* **P** **21 32 18.5 -0.1**
comp=E,1μm,1.2s
KK31 Karatay Array 64.81 319 *eP* **P** **21 32 18.3 -0.7**
KK31 Karatay Array 64.81 319 *eP* **P** **21 32 18.3 -0.7**
KKAR Karatay Array 64.81 319 *eP* **P** **21 32 18.3 -0.7**
KKAR Karatay Array 64.81 319 *eP* **P** **21 32 18.3 -0.7**
CHM Chimkent 65.09 317 *eP* **P** **21 32 20.7 -0.1**
comp=E,723nm,1.0s
CHM *i* PP **PP** **21 34 44.0 -0.6**
CHM LR LR 22 05 06.8
comp=E,210nm,17.2s
SEY Seymchan 65.60 13 P **P** **21 32 25.0 +1.4**
comp=E,43nm,1.0s,baz=216,slow=5.2,SNR=50
SEY Seymchan 65.60 13‖*eP* **P** **21 32 25.3 +1.7**
BRZS Berezniki 66.68 326 *eP* **P** **21 32 32.0 +1.2**
comp=E,80nm,1.0s
CASY Casey 67.33 186 *eP* **P** **21 32 33.9 -0.7**
comp=E,24nm,0.9s
WSAR Wadi Sarin 68.57 295 P **P** **21 32 41.1 -2.1**
comp=E,37nm,0.9s,baz=119,slow=8.4,SNR=24
WSAR Wadi Sarin 68.57 295 P **P** **21 32 41.2 -2.1**
BIDO Bidbid 69.07 295 P **P** **21 32 46.4 0.0**
SNR=17
BVAR Borovoye Array 69.43 328 P **P** **21 32 46.9 -1.0**
comp=E,58nm,0.9s,baz=124,slow=6.9,SNR=106
BVAR LR LR 22 04 14.4
comp=E,790nm,21.5s,baz=129,slow=37
MRIV Mauritius Mete 69.44 248 *eP* **P** **21 32 48.5 -0.3**
BRVK Borovoye 69.50 328 *eP* **P** **21 32 47.6 -0.8**
comp=E,170nm,1.1s
BRVK LR LR
comp=E,800nm,19.0s
BRVK Borovoye 69.50 328 P **P** **21 32 48.2 -0.2**
SNR=72
BRVK Borovoye 69.50 328⇑*iP* **P** **21 32 48.0 -0.4**
BRVK pmax pmax
comp=Z,192nm,1.2s
MIR Mirnyy 70.59 193⇓*iP* **P** **21 32 58.0 +3.2**
MIR *i* 21 33 20.0
MIR pmax pmax
comp=Z,108nm,1.5s
SOHO SOHO 70.61 295 *iP* **P** **21 32 53.8 -2.0**
SNR=8.8
UOSS Minazif 71.02 296 *eP* **P** **21 32 56.8 -1.5**
comp=Z,66nm,1.7s
UOSS Minazif 71.02 296 P **P** **21 32 55.6 -2.7**
UOSS Minazif 71.02 296 P **P** **21 32 58.6 +0.2**
HATD Hatta, Dubai 71.07 296 P **P** **21 32 57.2 -1.4**
SNR=5.2
HATD Hatta, Dubai 71.07 296 *iP* **P** **21 32 57.6 -1.0**
SNR=10
BANOM Banah 71.09 297 P **P** **21 32 57.4 -1.4**
BANOM Banah 71.09 297 P **P** **21 32 57.0 -1.8**
ASHO Ashiyiah 71.11 296 P **P** **21 32 57.5 -1.4**
SNR=6.8
ASHO Ashiyiah 71.11 296 *iP* **P** **21 32 57.2 -1.7**
SNR=11
MSFE Esma-Masafi 71.13 297 P **P** **21 32 58.3 -0.7**
RER Riviere de l'E 71.19 248 *eP* **P** **21 33 00.6 +1.1**
comp=Z,217nm,0.9s
TIXI Tiksi 71.22 1 *eP* **P** **21 32 58.2 -0.3**
comp=Z,96nm,1.1s
TIXI LR LR
comp=Z,1μm,22.0s
TIXI Tiksi 71.22 1*c iP* **P** **21 32 58.4 -0.1**
TIXI pmax pmax
comp=Z,86nm,1.0s
ALNE Al Ain 71.30 295 *iP* **P** **21 32 58.9 -1.1**
SNR=33
NAZ Nazwa, Dubai 71.52 296 *iP* **P** **21 33 01.2 -0.1**
SNR=6.4
GEYT Alibeck 71.98 310 P **P** **21 33 03.1 -0.8**
comp=Z,56nm,1.1s,baz=148,slow=4.8,SNR=47
GEYT LR LR 22 08 34.8
comp=Z,333nm,20.8s,baz=335,slow=39
GYA0B ALIBECK ARRAY 71.98 310 *eP* **P** **21 33 03.6 -0.3**
comp=Z,76nm,1.1s
GYA0B LR LR
comp=Z,500nm,20.0s
ATKA Atka Island 72.02 34 *eP* **P** **21 33 04.4 +0.7**
comp=Z,167nm,1.1s
BILL Bilibino 73.14 15*c iP* **P** **21 33 10.6 +0.5**
BILL *e* 21 35 58.7
BILL *e*PPP PPP 21 37 43.6
BILL *i* S **S** **21 42 31.5 -1.7**
BILL *e*SS **SS** **21 47 21.6 +6.2**
BILL pmax pmax
comp=Z,31nm,1.4s
MZR Muzera 73.23 294 *iP* **P** **21 33 11.2 -0.3**
SNR=11
NRIK Noril'sk 73.38 347 P **P** **21 33 11.8 +0.4**
comp=Z,25nm,0.5s
ABKAR Akbulak array 73.92 322 *eP* **P** **21 33 14.1 -1.0**
comp=Z,382nm,0.6s
AKTO Aktyubinsk 75.47 322 P **P** **21 33 23.5 -0.5**
comp=Z,79nm,0.9s,baz=110,slow=9.2,SNR=128
AKTO LR LR 22 09 17.9
comp=Z,1μm,19.2s,baz=110,slow=38
SVE Sverdlovsk 76.13 329*c iP* **P** **21 33 27.4 -0.2**
SVE *eS* **S** **21 42 58.6 -8.5**
SVE pmax pmax
comp=Z,293nm,1.2s
ARU Arti 77.07 328 P **P** **21 33 31.8 -1.1**
comp=Z,93nm,0.9s,baz=94,slow=3.2,SNR=142
ARU Arti 77.07 328 *eP* **P** **21 33 31.7 -1.2**
comp=Z,160nm,1.0s
ARU LR LR
comp=Z,600nm,21.0s
ARU Arti 77.07 328*d iP* **P** **21 33 32.1 -0.8**
ARU *e*PP **pP** **21 33 48.8 0.0**
ARU 21 36 24.9
ARU S **S** **21 43 16.7 -0.6**
ARU *eSS **sS** **21 43 44.1 0.0**
ARU SS **SS** **21 48 14.7 -0.8**
ARU pmax pmax
comp=Z,183nm,1.0s
ARU MLR MLR
comp=Z,849nm,30.0s
AKUT Akutan 77.44 34 *eP* **P** **21 33 36.4 +1.4**
comp=Z,282nm,1.2s
GAMB Gambell 78.00 24 *eP* **P** **21 33 40.2 +2.3**
comp=Z,105nm,1.2s
ABPO Ambohimpanom 78.92 251 *eP* **P** **21 33 44.6 +0.4**
comp=Z,43nm,1.0s
ABPO Ambohimpanom 78.92 251 *eP* **P** **21 33 44.6 +0.4**
ABPO pmax pmax
comp=Z,43nm,1.0s
OPO Ambohidratompo 78.93 251 P **P** **21 33 44.6 +0.3**
comp=Z,71nm,0.9s,baz=79,slow=4.5,SNR=57
OPO LR LR 22 05 15.0
comp=Z,674nm,21.5s,baz=92,slow=33
FALS False Pass 78.97 34 *eP* **P** **21 33 44.7 +1.3**

MAW **Mawson** 80.15 200 P P 21 33 50.6 +1.0
comp=Z,35nm,0.9s,baz=50,slow=6.5,SNR=29
MAW LR LR 22 05 41.9
comp=Z,372nm,19.3s,baz=58,slow=33
VNDA **Vanda** 80.28 172 P P 21 33 50.5 +0.3
comp=Z,5.9nm,0.9s,baz=315,slow=6.5,SNR=24
VNDA LR LR 22 10 22.3
comp=Z,481nm,19.4s,baz=333,slow=36
VNDA **Vanda** 80.28 172 *e*P P 21 33 50.8 +0.6
comp=Z,20nm,1.2s
VNDA **Vanda** 80.28 172 *e*P P 21 33 50.8 +0.6
VNDA pmax pmax
comp=Z,20nm,1.2s
AKT **Akhty** 80.52 312↓ *i*P P 21 33 52.0 -0.4
AKT pmax pmax
comp=Z,91nm,0.8s
RAYN **Ar Rayn** 80.58 294 *e*P P 21 33 52.1 -0.9
comp=Z,100nm,1.0s
RAYN LR LR
comp=Z,1µm,22.0s
SDPT **Sand Point** 80.72 34 *e*P P 21 33 54.0 +1.0
comp=Z,161nm,0.7s
MAK **Makhachkala** 80.89 313 *e*P P 21 33 52.7 -1.4
MAK *e**PP **pP** 21 34 08.9 -1.2
MAK *e**SP **sP** 21 34 17.1 +0.7
MAK *e* 21 36 55.2
MAK *e*S **S** 21 43 53.7 -4.8
MAK *e*SS **SS** 21 49 14.5 +1.0
MAK pmax pmax
comp=Z,106nm,1.4s
MAK MLR MLR
comp=Z,385nm,19.0s
DAMY **Dhamar** 81.19 285 *e*P P 21 33 57.6 +0.9
comp=Z,30nm,0.8s
DAMY LR LR
comp=Z,600nm,20.0s
SBA **Scott Base** 81.20 172 *e*P P 21 33 56.6 +1.5
comp=Z,50nm,1.4s
SBA **Scott Base** 81.20 172 *e*P P 21 33 56.6 +1.5
SBA pmax pmax
comp=Z,50nm,1.4s
DDFL **Dedoflistskaro** 81.72 312 P P 21 34 01.0 +2.3
GROC **Groznyy** 82.17 313 *e*P P 21 34 00.2 -0.7
GROC *e**PP **pP** 21 34 17.0 +0.1
GROC *e* 21 37 08.9
GROC *e*S **S** 21 44 11.8 +0.1
GROC pmax pmax
comp=Z,154nm,1.4s
DGRG **David-gareji** 82.28 312 P P 21 34 01.9 +0.3
DGRG **David-gareji** 82.28 312 *e*P P 21 34 01.9 +0.3
GNI **Garni** 82.61 310 P P 21 34 04.6 +1.0
comp=Z,16nm,0.7s,baz=190,slow=2.4,SNR=25
GNI **Garni** 82.61 310 *e*P P 21 34 04.5 +1.0
comp=Z,96nm,1.3s
GNI LR LR
comp=Z,400nm,22.0s
GNI **Garni** 82.61 310 P P 21 34 04.4 +0.9
SNR=24
GNI **Garni** 82.61 310 *i*P P 21 34 04.5 +1.0
SNR=18
GNI **Garni** 82.61 310 *c i*P P 21 34 04.4 +0.9
GNI pmax pmax
comp=Z,286nm,1.7s
ATD **Arta Tunnel** 82.62 282 P P 21 34 05.1 +1.2
comp=Z,45nm,1.0s,baz=12,slow=1.8,SNR=12
ATD LR LR 22 09 11.2
comp=Z,186nm,21.3s,baz=76,slow=34
TBLG **Delisi** 82.78 312 P P 21 34 04.9 +0.7
TBLG **Delisi** 82.78 312 *e*P P 21 34 05.3 +1.1
TBLG **Delisi** 82.78 312 *e*P P 21 34 04.0 -0.1
comp=Z,99nm,0.9s
TBLG **Delisi** 82.78 312 *e*P P 21 34 04.8 +0.7
DUS **Dusheti** 82.84 312 P P 21 34 05.7 +1.1
DUS **Dusheti** 82.84 312 *e*P P 21 34 05.7 +1.1
TASB **TASBURUN-IGDIR** 82.98 310 *e*P P 21 34 06.3 +1.0
GUDG **Gudauri** 83.05 313 P P 21 34 06.5 +0.7
CLDR **Caldiran** 83.15 309 *e*P P 21 34 06.4 0.0
ZEI **Tsey** 83.50 313 *e*P P 21 34 04.0 -4.1
ZEI pmax pmax
comp=Z,132nm,1.1s
VANB **Van** 83.52 309 *e*P P 21 34 07.4 -0.8
AKH **Akhalkalaki** 83.68 311 P P 21 34 10.4 +1.4
AKH **Akhalkalaki** 83.68 311 *e*P P 21 34 10.4 +1.4
AKH **Akhalkalaki** 83.68 311 *e*P P 21 34 09.9 +0.9
comp=Z,175nm,1.1s
AKH **Akhalkalaki** 83.68 311 *e*P P 21 34 10.4 +1.4
NCK **Nalchik** 83.79 314⇑ *i*P P 21 34 09.7 +0.4
NCK pmax pmax
comp=Z,79nm,0.9s
ONI **Oni** 83.81 313 P P 21 34 10.5 +1.0
ONI **Oni** 83.81 313 *e*P P 21 34 10.5 +1.0
AGRB **Hanur-Agry** 83.90 310 *e*P P 21 34 10.7 +0.5
KARS **Kars** 83.92 311 *e*P P 21 34 11.5 +1.3
SIRT **Sirnak** 84.18 307 *e*P P 21 34 11.1 -0.5
KBZ **Khabaz** 84.32 314 P P 21 34 11.7 -0.2
comp=Z,61nm,1.0s,baz=117,slow=4.1,SNR=56
KBZ LR LR 22 14 06.0
comp=Z,205nm,21.9s,baz=79,slow=37
GOF **Gofitskoye** 84.33 315⇑ *i*P P 21 34 12.3 +0.3
GOF *e*S **S** 21 44 37.7 +4.1
GOF pmax pmax
comp=Z,120nm,1.1s
SVW2 **Sparrevohn** 84.39 29 *e*P P 21 34 13.7 +1.8
comp=Z,104nm,1.2s
SENK **Senkaya-Erzuru** 84.47 311 *e*P P 21 34 14.2 +1.1
KIV **Kislovodsk** 84.49 314 *e*P P 21 34 13.1 +0.1
comp=Z,72nm,1.1s
KIV LR LR
comp=Z,400nm,20.0s
KIV **Kislovodsk** 84.49 314 P P 21 34 13.1 +0.1
SNR=32
KIV **Kislovodsk** 84.49 314 *i*P P 21 34 13.0 +0.1
SNR=23
KIV **Kislovodsk** 84.49 314 *e*P P 21 34 13.1 +0.1
KIV *e* 21 44 30.6
KIV pmax pmax
comp=Z,53nm,1.1s
KIV pmax pmax
comp=Z,226nm,4.2s
GURO **Guroymak-BITLI** 84.57 309 *e*P P 21 34 13.7 +0.1
OHAK **Old Harbor** 85.00 33 *e*P P 21 34 16.0 +1.0
comp=Z,116nm,1.0s
VRTB **Varto-Mus** 85.06 309 *e*P P 21 34 16.8 +0.8
BCA **Borcka** 85.08 311 *e*P P 21 34 15.7 -0.2
PPT **Papeete** 85.37 108 LR LR 22 08 40.8
comp=Z,193nm,22.0s,baz=258,slow=33
PPT2 **Papeete2** 85.37 108 *e*S S 21 44 44.8 -0.2
comp=Z,1µm,25.5s
PPT2 **Papeete2** 85.37 108 *e*LR LR 22 01 22.8
comp=Z,2µm,32.8s
KDAK **Kodiak Island** 85.44 32 LR LR 22 09 49.6
comp=Z,105nm,20.3s,baz=257,slow=34
KDAK **Kodiak Island** 85.44 32 *e*P P 21 34 18.0 +0.7
comp=Z,148nm,1.4s
KDAK **Kodiak Island** 85.44 32 *i*P P 21 34 18.6 +1.4
BNGB **Bing¶ll** 85.66 309 *e*P P 21 34 19.5 +0.5
CHOM **Cayeli-Rize** 85.71 311 *e*P P 21 34 19.2 +0.2
VRH **Novokhopyorsk** 85.74 321 *e*P P 21 34 17.8 -1.1
VRH *e*S **S** 21 44 46.7 -0.5
VRH pmax pmax
comp=Z,450nm,0.7s
VRH smax smax
comp=N,190nm,6.3s
MAZI **Mazidag** 85.76 307 *e*P P 21 34 19.1 -0.4
IM3 **Indian Mountai** 85.95 24 *e*P P 21 34 20.5 +0.9
DYBB **Diyarbakir** 86.03 308 *e*P P 21 34 20.8 0.0
BAYT **Ayd¯–ntepe-Bay** 86.14 310 *e*P P 21 34 21.7 +0.3
PPLA **Purkeypile** 86.22 27 *e*P P 21 34 22.1 +0.8
comp=N,72nm,1.8s
CAST **Castle Rocks** 86.33 27 *e*P P 21 34 22.7 +1.1
comp=N,10.0nm,0.7s
CAST LR LR
comp=Z,200nm,20.0s
KTUT **Trabzon** 86.45 311 *e*P P 21 34 22.5 -0.2
BRLK **Bradley Lake** 86.52 30 *e*P P 21 34 23.6 +0.9
comp=Z,42nm,1.0s
SOC **Sochi** 86.61 313 *e*P P 21 34 22.2 -1.2
SOC *e**SP **sP** 21 34 45.0 -0.8
SOC *e*S **SKSac** 21 44 41.6 -3.9
SOC *e*SS **SS** 21 50 36.2 -1.8
SOC *e*SSS SSS 21 54 12.4
SOC pmax pmax
comp=Z,169nm,0.9s
PTK **Pertek** 86.66 309 *e*P P 21 34 24.1 +0.1

SUA **Susitna One** 86.75 29 *e*P P 21 34 24.0 +0.2
comp=Z,41nm,0.9s
KTH **Kantishna Hill** 86.86 26 *e*P P 21 34 24.3 0.0
comp=Z,20nm,1.1s
BPAW **Bear Paw Mtn.** 86.89 26 *e*P P 21 34 24.6 +0.2
comp=Z,20nm,1.1s
URFA **Urfa** 87.05 307 *e*P P 21 34 24.4 -1.4
MLY **Manley** 87.08 25 *e*P P 21 34 26.1 +0.8
comp=Z,32nm,0.9s
TRF **Thorofare Moun** 87.14 27 *e*P P 21 34 25.6 -0.1
comp=Z,31nm,1.3s
RC01 **Rabbit Creek A** 87.20 29 *e*P P 21 34 25.5 -0.4
comp=Z,32nm,1.0s
ESPY **Espiye-Giresun** 87.24 311 *e*P P 21 34 25.2 -1.3
VORR **Voronezh** 87.34 322↓ *i*P P 21 34 26.0 -0.7
VORR pmax pmax
comp=Z,750nm,1.2s
VSR **Storozhevoye** 87.35 321 *e*P P 21 34 25.7 -1.1
VSR *e*S **S** 21 44 56.2 -6.6
VSR pmax pmax
comp=Z,290nm,1.1s
VSR smax smax
comp=N,320nm,7.4s
MALT **Malatya** 87.39 308 *e*P P 21 34 27.4 -0.1
COLD **Coldfoot** 87.50 23 *e*P P 21 34 28.3 +1.1
comp=N,44nm,0.9s
PMR **Palmer** 87.53 29 *e*P P 21 34 27.6 +0.2
comp=N,27nm,1.0s
PMR **Palmer** 87.53 29 *e*P P 21 34 27.6 +0.2
PMR pmax pmax
comp=Z,27nm,1.0s
LPSR **Galich'ya Gora** 87.56 322 *e*P P 21 34 26.6 -1.2
LPSR *e*S **S** 21 45 00.0 -4.8
LPSR pmax pmax
comp=Z,280nm,1.3s
LPSR smax smax
comp=N,160nm,2.6s
KLMR **Klimovskoe** 87.67 331 *e*P P 21 34 25.0 -3.1
KLMR AMP 21 34 33.6
comp=Z,103nm,0.9s
KLMR *e*PP **PP** 21 37 54.0 0.0
KLMR *e*S **SKSac** 21 44 47.1 -4.1
KLMR *e*S **SKSac** 21 44 47.1 -4.1
KLMR LQ LQ 22 06 46.0
KLMR LQ LQ 22 06 46.0
KLMR LR LR 22 12 22.3
KLMR **Klimovskoe** 87.67 331 *e*P P 21 34 25.0 -3.1
KLMR *e* 21 37 53.9
KLMR *e*S **SKSac** 21 44 47.0 -4.1
KLMR pmax pmax
comp=Z,103nm,0.9s
MCK **McKinley** 87.76 26 *e*P P 21 34 28.7 +0.1
comp=Z,60nm,1.2s
MCK **McKinley** 87.76 26 *e*P P 21 34 28.7 +0.1
MCK pmax pmax
comp=Z,60nm,1.2s
RND **Reindeer** 87.78 27 *e*P P 21 34 28.5 -0.2
RND **Reindeer** 87.78 27 *e*P P 21 34 28.5 -0.2
TOLK **Toolik Lake Re** 87.86 21 P P 21 34 30.7 +1.7
baz=266
TOLK **Toolik Lake Re** 87.86 21 *e*P P 21 34 30.3 +1.4
comp=Z,43nm,1.1s
SML **Sawmill** 87.92 28 *e*P P 21 34 29.6 +0.2
comp=Z,71nm,1.0s
SML **Sawmill** 87.92 28 *e*P P 21 34 29.6 +0.2
SML pmax pmax
comp=Z,71nm,1.0s
DARE **Darende-Malaty** 88.14 308 *e*P P 21 34 31.1 +0.1
MDM **Murphy Dome** 88.14 25 *e*P P 21 34 30.5 +0.2
comp=Z,16nm,1.0s
KMBO **Kilima Mbogo** 88.14 269 P P 21 34 32.8 +1.1
comp=Z,112nm,1.0s,baz=61,slow=5.8,SNR=124
KMBO LR LR 22 11 54.9
comp=Z,701nm,20.6s,baz=90,slow=34
KMBO **Kilima Mbogo** 88.14 269 *e*P P 21 34 33.1 +1.4
comp=Z,220nm,1.1s
KMBO **Kilima Mbogo** 88.14 269 P P 21 34 32.8 +1.1
SNR=66
KMBO **Kilima Mbogo** 88.14 269 *i*P P 21 34 32.1 +0.4
SNR=30
KMBO **Kilima Mbogo** 88.14 269 *e*P P 21 34 33.1 +1.4
KMBO pmax pmax
comp=Z,220nm,1.1s
WRH **Wood River Hil** 88.17 26 *e*P P 21 34 30.4 0.0
comp=Z,49nm,1.1s
RSDY **Resadiye-TOKAT** 88.29 310 *e*P P 21 34 29.3 -2.3
ANN **Anapa** 88.30 315 *c i*P P 21 34 30.2 -1.2
ANN *e**PP **pP** 21 34 46.4 -1.2
ANN *e**SP **sP** 21 34 53.4 -0.4
ANN *i* 21 45 04.2
ANN pmax pmax
comp=Z,406nm,1.0s
COLA **College** 88.30 25 *e*P P 21 34 30.7 -0.3
comp=Z,14nm,1.1s
COLA **College** 88.30 25 *e*P P 21 34 30.7 -0.3
COLA pmax pmax
comp=Z,14nm,1.1s
CCB **Clear Creek Bu** 88.31 25 *e*P P 21 34 30.7 -0.4
comp=Z,40nm,1.0s
CCB LR LR
comp=Z,300nm,21.0s
GAZ **Gaziantep** 88.33 307 *e*P P 21 34 31.8 -0.1
SCM **Sheep Creek Mo** 88.40 28 *e*P P 21 34 32.8 +1.1
comp=Z,66nm,1.0s
SCM *e*S **S** 21 45 18.3 +5.7
SCM **Sheep Creek Mo** 88.40 28 *e*P P 21 34 32.8 +1.1
SCM *e*S **S** 21 45 18.3 +5.7
SCM pmax pmax
comp=Z,66nm,1.0s
DHY **Denali Highway** 88.43 27 *e*P P 21 34 32.2 +0.3
comp=Z,19nm,0.9s
MOS **Moscow** 88.44 326 *e*P P 21 34 29.5 -2.4
MOS *e**PP **pP** 21 34 49.4 +1.3
MOS *e* 21 44 51.7
MOS *i*S **S** 21 45 06.8 -6.3
MOS pmax pmax
comp=Z,300nm,1.2s
MOS pmax pmax
comp=Z,152nm,1.0s
TMCR **Tamitsa** 88.52 334 *e*P P 21 34 30.7 -1.4
TMCR pmax pmax
comp=Z,51nm,0.9s
ASF **Jabal al Asfar** 88.53 302 P P 21 34 33.7 +0.7
comp=Z,94nm,0.9s,baz=58,slow=2.1,SNR=127
SVSK **Karacayir** 88.53 310 *e*P P 21 34 33.2 +0.5
KMRS **Kahramanmaras** 88.58 307 *e*P P 21 34 32.9 -0.1
NAI **Nairobi** 88.59 269 *e*P P 21 34 35.4 +1.6
comp=Z,384nm,0.9s
NAI **Nairobi** 88.59 269 *e*P P 21 34 35.4 +1.6
NAI pmax pmax
comp=Z,384nm,0.9s
HDA **Harding Lake** 88.67 26 *e*P P 21 34 32.4 -0.4
comp=Z,28nm,0.9s
HDA LR LR
comp=Z,300nm,19.0s
ILAR **Eielson Array** 88.70 25 P P 21 34 31.7 -1.3
comp=Z,9.2nm,0.9s,baz=255,slow=4.4,SNR=51
ILAR PP **PP** 21 38 07.0 +4.8
comp=Z,2.4nm,1.1s,baz=281,slow=6.5,SNR=4.1
ILAR PKKPbc **PKKPdf** 21 52 12.7 +2.1
comp=Z,0.6nm,0.7s,baz=56,slow=1.4,SNR=6.5
ILAR LR LR 22 13 34.9
comp=Z,118nm,19.7s,baz=281,slow=35
ILB **Eielson Array** 88.70 25 *e*P P 21 34 32.1 -0.8
IL1 **Eielson Array** 88.71 25 *e*P P 21 34 32.0 -1.0
SYO **Syowa Base** 88.82 201↓ *e*X P 21 34 31.0 -2.3
SYO **Syowa Base** 88.82 201↓ *e*PcP **PcP** 21 34 36.1 +1.2
TOKT **Tokat** 88.89 310 *e*P P 21 34 34.1 -0.3
OBN **Obninsk** 89.03 325 *e*P P 21 34 33.6 -1.0
comp=Z,170nm,0.9s
OBN LR LR
comp=Z,800nm,22.0s
OBN **Obninsk** 89.03 325 *d i*P P 21 34 33.8 -0.8
OBN *e* 21 34 46.4
OBN *e**PP **sP** 21 34 53.7 -3.4
OBN *e* 21 38 00.6
OBN *e* 21 44 55.8
OBN *i* 21 45 13.2
OBN *e*PS **PS** 21 46 34.1 +4.0
OBN *e*SS SS 21 51 14.7 +2.1
OBN pmax pmax
comp=Z,212nm,1.0s
OBN MLR MLR
comp=Z,716nm,21.0s
KLU **Klutina** 89.06 29 *e*P P 21 34 35.7 +0.9

DIV **Divide** 89.13 29 *e*P P 21 34 36.3 +1.2
comp=Z,68nm,1.1s
YAYL **Yayladag** 89.21 306 *e*P P 21 34 35.8 -0.3
KVT **Kavak** 89.27 311 *e*P P 21 34 35.7 -0.5
PAX **Paxson** 89.29 27 *e*P P 21 34 36.6 +0.7
comp=Z,59nm,1.2s
PAX **Paxson** 89.29 27 *e*P P 21 34 36.6 +0.7
PAX pmax pmax
comp=Z,59nm,1.2s
HWQ **Hawqa** 89.34 304 *e*P P 21 34 37.4 +0.7
BNN **Bunyan** 89.42 309 *e*P P 21 34 35.4 -1.7
FYU **Fort Yukon** 89.43 24 *e*P P 21 34 38.1 +1.9
comp=Z,73nm,1.3s
HARP **HAARP** 89.43 28 *e*P P 21 34 37.9 +1.5
comp=Z,102nm,1.2s
KOZT **Kozan** 89.44 307 *e*P P 21 34 36.7 -0.3
SHBL **Chebaa** 89.51 303 *e*P P 21 34 38.7 +1.1
RIDG **Independ'e Rid** 89.58 26 *e*P P 21 34 37.3 +0.1
BHL **Bhannes** 89.58 304 *e*P P 21 34 38.6 +0.7
YURE **YUREGIR** 89.59 307 *e*P P 21 34 38.4 +0.6
RAGM **Ragged Mountai** 89.66 30 *e*P P 21 34 38.8 +1.2
comp=Z,48nm,1.2s
BMRM **Bremner River** 89.69 29 *e*P P 21 34 38.1 +0.4
comp=Z,38nm,1.1s
MMAI **Mount Meron Ar** 89.80 303 P P 21 34 39.6 +0.7
comp=Z,70nm,1.0s,baz=88,slow=5.9,SNR=68
MMAI LR LR 22 21 53.9
comp=Z,186nm,18.4s,baz=255,slow=40
KRTS **Karatas** 89.80 306 *e*P P 21 34 39.2 +0.5
DOT **Dot Lake** 89.93 27 *e*P P 21 34 38.7 -0.1
comp=Z,60nm,0.9s
LVZ **Lovozero** 89.95 338 *e*P P 21 34 38.7 -0.1
comp=Z,47nm,1.2s
LVZ LR LR
comp=Z,800nm,20.0s
LVZ **Lovozero** 89.95 338 *ce*P P 21 34 37.1 -1.7
LVZ pmax pmax
comp=Z,25nm,0.8s
SCRK **Sand Creek** 89.96 26 *e*P P 21 34 39.4 +0.4
comp=Z,18nm,1.1s
QSPA **South Pole Qui** 90.29 180 P P 21 34 40.3 -0.2
comp=Z,8.4nm,0.9s,baz=328,slow=2.1,SNR=16
QSPA S SKSac 21 45 06.4 -0.3
comp=Z,0.9nm,0.4s,baz=105,slow=4.3,SNR=12
BALM **Baldy** 90.79 29 *e*P P 21 34 43.9 +0.9
comp=Z,24nm,1.0s
BALM **Baldy** 90.79 29 *e*P P 21 34 43.9 +0.9
BALM pmax pmax
comp=Z,24nm,1.0s
ILGA **Ilgaz** 91.03 311 *e*P P 21 34 44.1 -0.5
comp=Z,68nm,1.4s
BR131 **Keskin Array S** 91.12 310 *e*P P 21 34 43.6 -1.4
BRTR **Keskin Array B** 91.12 310 P P 21 34 43.5 -1.4
comp=Z,29nm,1.1s,baz=123,slow=4.6,SNR=78
BRTR LR LR 22 21 29.0
comp=Z,308nm,18.6s,baz=88,slow=39
EGAK **Eagle** 91.16 25 *e*P P 21 34 45.2 +0.8
comp=Z,18nm,1.1s
CSS **Mathiatis** 91.49 305 *e*P P 21 34 46.0 -0.6
comp=Z,29nm,0.9s
CSS LR LR
comp=Z,300nm,20.0s
CSS **Mathiatis** 91.49 305 P P 21 34 45.5 -1.1
ANTO **Ankara** 91.77 310⇑ *i*P P 21 34 47.4 -0.5
ANTO **Ankara** 91.77 310 *e*P P 21 34 46.6 -1.3
comp=Z,16nm,0.8s
ANTO LR LR
comp=Z,2µm,18.0s
ANTO **Ankara** 91.77 310 P P 21 34 47.4 -0.5
SNR=9.2
ANTO **Ankara** 91.77 310⇑ P P 21 34 47.4 -0.5
BR231 **Keskin MP Arra** 91.78 310 *e*P P 21 34 47.1 -0.9
DAWY **Dawson** 91.97 26 *e*P P 21 34 49.0 +0.8
comp=Z,59nm,1.3s
KEV **Kevo** 92.58 340 PFAKE 21 35 00.0 +9.2
KEV LR LR
comp=Z,600nm,21.0s
ARCES **ARCESS Array B** 93.13 340 P P 21 34 52.1 -1.3
comp=Z,24nm,0.9s,baz=78,slow=4.5,SNR=28
ARCES LR LR 22 19 23.5
comp=Z,510nm,22.0s,baz=100,slow=37
ARE0 **ARCESS Array S** 93.13 340 *e*P P 21 34 52.7 -0.7
comp=Z,41nm,1.2s
ARE0 LR LR
comp=Z,600nm,18.0s
HYT **Haines Junctio** 93.17 29 *e*P P 21 34 54.5 +0.6
SPA0 **Spitsbergen Ar** 93.50 349 *e*P P 21 34 55.3 +0.2
SPITS **Spitsbergen Ar** 93.50 349 P P 21 34 54.1 -0.9
comp=Z,28nm,0.8s,baz=69,slow=7.9,SNR=50
SPITS LR LR 22 24 00.6
comp=Z,418nm,18.3s,baz=45,slow=40
ISP **Isparta** 93.64 308 *e*P P 21 34 56.0 -0.6
comp=Z,46nm,1.0s
ISP LR LR
comp=Z,700nm,19.0s
ISP **Isparta** 93.64 308 *e*P P 21 34 56.0 -0.6
ISP pmax pmax
comp=Z,46nm,1.0s
ISP MLR MLR
comp=Z,700nm,19.0s
AKASG **Malin Array Be** 93.64 321 P P 21 34 54.8 -1.3
comp=Z,15nm,0.7s,baz=71,slow=4.4,SNR=84
AKASG PP **PP** 21 38 38.4 -3.1
comp=Z,0.3nm,0.3s,baz=73,slow=7.7,SNR=4.2
AKASG LR LR 22 20 58.7
comp=Z,380nm,21.5s,baz=80,slow=38
AKBB **Malin Array Si** 93.64 321 *e*P P 21 34 54.8 -1.4
comp=Z,48nm,1.2s
AKBB *e*PP **PP** 21 38 36.8 -4.7
AKBB LR LR
comp=Z,600nm,20.0s
AKBB **Malin Array Si** 93.64 321 *e*P P 21 34 54.8 -1.4
AKBB *e* 21 38 36.8
AKBB pmax pmax
comp=Z,48nm,1.2s
AKBB MLR MLR
comp=Z,600nm,20.0s
KIEV **Kiev** 93.65 321 *e*P P 21 34 54.7 -1.5
comp=Z,39nm,1.1s
KIEV *e*PP **PP** 21 38 37.8 -3.8
KIEV LR LR
comp=Z,600nm,21.0s
KIEV **Kiev** 93.65 321 *i*P P 21 34 55.3 -0.9
SNR=5.4
KIEV **Kiev** 93.65 321 *c i*P P 21 34 55.5 -0.7
KIEV pmax pmax
comp=Z,43nm,1.2s
AK11 **Malin Array Si** 93.68 321 *e*P P 21 34 55.0 -1.3
INK **Inuvik** 93.77 21 P P 21 34 56.3 -0.1
comp=Z,32nm,1.1s,baz=284,slow=5.6,SNR=56
INK LR LR 22 17 58.8
comp=Z,111nm,21.9s,baz=290,slow=36
INK **Inuvik** 93.77 21 *e*P P 21 34 56.4 0.0
comp=Z,71nm,1.3s
INK **Inuvik** 93.77 21 *e*P P 21 34 56.4 0.0
INK pmax pmax
comp=Z,71nm,1.3s
HSPB **Hornsund (broa** 94.06 348 *e*P P 21 34 57.4 -0.2
HSPB *e* 21 35 07.5
HSPB *e*S S 21 45 53.9 -9.5
HSPB MLR MLR
comp=Z,1µm,35.1s
KBS **Kingsbay** 94.06 350 PFAKE 21 35 10.0 +12
KBS LR LR
comp=Z,1µm,20.0s
MICGM **Minsk** 94.08 325⇑ *i*P P 21 34 57.0 -1.1
MICGM PM 21 34 59.0
comp=Z,0.2nm,0.8s
MICGM eLR LR 22 14 40.0
MNK **Minsk** 94.08 325⇑ *i*P P 21 34 57.0 -1.1
MNK pmax pmax
comp=Z,220nm,0.8s
FIA1 **FINESS Array S** 94.15 332 *e*P P 21 34 56.5 -1.7
comp=Z,16nm,1.0s
FINES **FINESS Array B** 94.15 332 P P 21 34 56.3 -1.9
comp=Z,8.1nm,0.8s,baz=106,slow=6.9,SNR=26
FINES LR LR 22 19 44.9
comp=Z,651nm,21.4s,baz=86,slow=37
KIS **Kishinev** 94.23 317⇑ *i*P P 21 34 57.0 -2.0
comp=Z,200nm,1.0s
KIS *e*SKS SKSac 21 45 18.0 -11
KIS LRM MLR 22 17 18.0
comp=Z,700nm,22.0s
KIS **Kishinev** 94.23 317 *α i*P P 21 34 57.0 -2.0
KIS *e* 21 35 20.0

KIS				e		21 38 54.0	
KIS				pmax	pmax		
	comp=Z,200nm,1.0s						
KIS				pmax	pmax		
	comp=Z,200nm,4.0s						
VSU	**Vasula**	**94.23**	**329**	ceP	**P**	**21 34 57.9**	**-0.8**
VSU				pmax	pmax		
	comp=Z,43nm,0.7s						
TLCR		**94.39**	**315**	⇓iP	**P**	**21 34 59.7**	**0.0**
TLCR		**94.39**	**315**	⇓P	**P**	**21 34 59.7**	**0.0**
SKAG	**Skagway**	**94.42**	**30**	eP	**P**	**21 35 01.4**	**+1.8**
	comp=Z,56nm,1.0s						
SORM	**Soroca**	**94.44**	**318**	⇑iP	**P**	**21 34 59.0**	**-0.9**
SORM	**Soroca**	**94.44**	**318**	⇑P	**P**	**21 34 59.0**	**-0.9**
TAOE	**Nuku Hiva Isla**	**94.47**	**99**	eS	**S**	**21 46 08.2**	**-1.3**
	comp=Z,402nm,26.9s						
TAOE	**Nuku Hiva Isla**	**94.47**	**99**	eLR	LR	22 05 34.2	
	comp=Z,724nm,23.9s						
WHY	**Whitehorse**	**94.47**	**29**	eP	**P**	**21 35 01.2**	**+1.3**
	comp=Z,61nm,1.0s						
IDID	**Didziasalis**	**94.64**	**325**	eP	**P**	**21 35 00.4**	**-0.2**
IDID				IAmb	IAmb	21 35 01.2	
	comp=Z,13nm,0.9s						
MBAR	**Mbarara**	**94.65**	**269**	eP	**P**	**21 35 02.2**	**+0.3**
	comp=Z,49nm,1.1s						
MBAR	**Mbarara**	**94.65**	**269**	eP	**P**	**21 35 02.2**	**+0.3**
MBAR				pmax	pmax		
	comp=Z,49nm,1.1s						
NACGM	**Naroch**	**94.67**	**325**	e	**P**	**21 35 01.0**	**+0.2**
NACGM				eLR	LR	22 15 30.0	
LEOM	**Leova**	**94.67**	**317**	⇑iP	**P**	**21 34 59.8**	**-1.2**
LEOM	**Leova**	**94.67**	**317**	⇑P	**P**	**21 34 59.9**	**-1.1**
TIRR	**Tirgusor**	**94.74**	**314**	⇑iP	**P**	**21 35 01.0**	**-0.4**
TIRR	**Tirgusor**	**94.74**	**314**	eP	**P**	**21 34 59.6**	**-1.8**
	comp=Z,37nm,0.9s						
TIRR				LR	LR		
	comp=Z,500nm,22.0s						
TIRR	**Tirgusor**	**94.74**	**314**	eP	**P**	**21 34 59.6**	**-1.8**
TIRR				pmax	pmax		
	comp=Z,37nm,0.9s						
TIRR				MLR	MLR		
	comp=Z,500nm,22.0s						
BESE	**Bessie Mountai**	**94.79**	**31**	eP	**P**	**21 35 03.0**	**+1.7**
	comp=Z,60nm,1.3s						
FETY	**Fethiye**	**94.86**	**307**	P	**P**	**21 34 58.1**	**-4.0**
FETY	**Fethiye**	**94.86**	**307**	P	**P**	**21 34 58.1**	**-4.0**
IZAR	**Zarasai**	**94.86**	**326**	eP	**P**	**21 35 01.4**	**-0.3**
IZAR				IAmb	IAmb	21 35 02.1	
	comp=Z,8.8nm,0.8s						
CFR	**Carcaliu**	**94.87**	**315**	⇓iP	**P**	**21 35 01.2**	**-0.7**
CFR	**Carcaliu**	**94.87**	**315**	⇓P	**P**	**21 35 01.2**	**-0.7**
IIGN	**Ignalina**	**94.93**	**326**	eP	**P**	**21 35 01.7**	**-0.3**
IIGN				IAmb	IAmb	21 35 07.2	
	comp=Z,15nm,0.9s						
HARR	**Harsova**	**95.06**	**315**	⇓iP	**P**	**21 35 02.2**	**-0.6**
HARR	**Harsova**	**95.06**	**315**	⇓P	**P**	**21 35 02.2**	**-0.6**
MANT	**Manisa**	**95.13**	**309**	eP	**P**	**21 35 03.2**	**-0.4**
	comp=Z,109nm,1.1s						
PETR	**Petresti**	**95.45**	**316**	⇓iP	**P**	**21 35 04.2**	**-0.4**
ODBI	**Odobesti**	**95.57**	**316**	⇓iP	**P**	**21 35 06.3**	**+1.2**
ARG	**Arkhangelos**	**95.66**	**306**	P	**P**	**21 35 05.3**	**-0.5**
ARG	**Arkhangelos**	**95.66**	**306**	P	**P**	**21 35 05.3**	**-0.5**
ARG	**Arkhangelos**	**95.66**	**306**	P	**P**	**21 35 05.3**	**-0.5**
GRER		**95.67**	**316**	⇓iP	**P**	**21 35 07.6**	**+2.0**
VRI	**Vrincioaia**	**95.78**	**316**	⇑iP	**P**	**21 35 06.1**	**-0.1**
VRI	**Vrincioaia**	**95.78**	**316**	⇑P	**P**	**21 35 06.1**	**-0.1**
PLOR	**Plostina**	**95.84**	**316**	⇑iP	**P**	**21 35 06.2**	**-0.2**
PLOR	**Plostina**	**95.84**	**316**	⇑P	**P**	**21 35 06.2**	**-0.2**
PRAR	**RASCA**	**95.95**	**318**	⇓iP	**P**	**21 35 06.5**	**-0.4**
ISR	**Istrita**	**96.00**	**315**	⇓iP	**P**	**21 35 06.3**	**-0.9**
ISR	**Istrita**	**96.00**	**315**	⇓P	**P**	**21 35 06.3**	**-0.9**
SULR		**96.25**	**315**	⇑iP	**P**	**21 35 08.3**	**+0.1**
MLR	**Muntele Rosu**	**96.37**	**316**	P	**P**	**21 35 06.8**	**-2.2**
	comp=Z,4.9nm,0.8s,baz=42,slow=2.2,SNR=47						
MLR				LR	LR	22 23 10.2	
	comp=Z,115nm,21.0s,baz=55,slow=38						
MLR	**Muntele Rosu**	**96.37**	**316**	⇑iP	**P**	**21 35 08.7**	**-0.3**
MLR	**Muntele Rosu**	**96.37**	**316**	eP	**P**	**21 35 08.2**	**-0.8**
	comp=Z,51nm,1.1s						
MLR	**Muntele Rosu**	**96.37**	**316**	⇑P	**P**	**21 35 08.7**	**-0.3**
KARP	**Karpathos**	**96.50**	**306**	eP	**P**	**21 35 09.0**	**-0.6**
	comp=Z,38nm,1.0s						
KARP				LR	LR		
	comp=Z,300nm,18.0s						
KARP	**Karpathos**	**96.50**	**306**	P	**P**	**21 35 08.7**	**-0.9**
SGRR	**Singureni**	**96.50**	**314**	⇑iP	**P**	**21 35 09.4**	**0.0**
SMG	**Samos**	**96.56**	**308**	P	**P**	**21 35 09.2**	**-0.6**
SMG	**Samos**	**96.56**	**308**	P	**P**	**21 35 09.2**	**-0.6**
BURAR	**Bucovina Array**	**96.60**	**318**	⇑iP	**P**	**21 35 10.1**	**+0.2**
BURAR	**Bucovina Array**	**96.60**	**318**	⇑P	**P**	**21 35 10.1**	**+0.2**
BUR04	**Bucovina Ar. S**	**96.60**	**318**	eP	**P**	**21 35 09.6**	**-0.4**
BUR08	**Bucovina Ar. S**	**96.61**	**318**	eP	**P**	**21 35 09.6**	**-0.4**
DOPR	**Dopca**	**96.70**	**316**	⇑iP	**P**	**21 35 09.8**	**-0.5**
ALN	**Alexandroupoli**	**96.84**	**311**	P	**P**	**21 35 08.3**	**-2.7**
ALN	**Alexandroupoli**	**96.84**	**311**	P	**P**	**21 35 08.3**	**-2.7**
ALN	**Alexandroupoli**	**96.84**	**311**	P	**P**	**21 35 08.3**	**-2.7**
PRK	**Paraskevi**	**96.84**	**309**	P	**P**	**21 35 09.4**	**-1.7**
PRK	**Paraskevi**	**96.84**	**309**	P	**P**	**21 35 09.4**	**-1.7**
PRK	**Paraskevi**	**96.84**	**309**	P	**P**	**21 35 09.4**	**-1.7**
SUW	**Suwalki**	**96.88**	**324**	eP	**P**	**21 35 10.1**	**-0.8**
SUW	**Suwalki**	**96.88**	**324**	eP	**P**	**21 35 10.0**	**-0.9**
	comp=Z,105nm,0.9s						
SUW				LR	LR		
	comp=Z,700nm,19.0s						
SUW	**Suwalki**	**96.88**	**324**	eP	**P**	**21 35 10.1**	**-0.8**
DIB	**Dawson Inlet,**	**96.98**	**36**	PFAKE		21 35 20.0	+8.7
DIB				LR	LR		
	comp=Z,300nm,18.0s						
VOIR		**97.00**	**316**	⇑iP	**P**	**21 35 10.7**	**-1.1**
VOIR		**97.00**	**316**	⇑P	**P**	**21 35 10.7**	**-1.1**
LSZ	**Lusaka**	**97.04**	**255**	eP	Pdif	21 35 12.7	0.0
	comp=Z,24nm,0.9s						
LSZ				LR	LR		
	comp=Z,1µm,22.0s						
LSZ	**Lusaka**	**97.04**	**255**	eP	Pdif	21 35 12.7	0.0
LSZ				pmax	pmax		
	comp=Z,24nm,0.9s						
LSZ				MLR	MLR		
	comp=Z,1µm,22.0s						
LVV	**L'vov**	**97.06**	**320**	eP	Pdif	21 35 12.3	+0.4
CHOS	**Chios island**	**97.10**	**309**	P	**P**	**21 35 11.0**	**-1.4**
CHOS	**Chios island**	**97.10**	**309**	P	**P**	**21 35 11.0**	**-1.4**
SIGR	**SIGRI**	**97.17**	**309**	P	**P**	**21 35 09.7**	**-2.8**
SIGR	**SIGRI**	**97.17**	**309**	P	**P**	**21 35 09.7**	**-2.8**
HUMR	**Humele**	**97.17**	**315**	⇓iP	**P**	**21 35 12.2**	**-0.3**
RDO	**Rodhopi**	**97.19**	**311**	P	**P**	**21 35 10.5**	**-2.1**
RDO	**Rodhopi**	**97.19**	**311**	P	**P**	**21 35 10.5**	**-2.1**
ARCR	**ARCALIA**	**97.25**	**317**	⇓iP	Pdif	21 35 13.3	+0.5
SMTH	**Samothraki Isl**	**97.27**	**311**	P	**P**	**21 35 10.2**	**-2.8**
SMTH	**Samothraki Isl**	**97.27**	**311**	P	**P**	**21 35 10.2**	**-2.8**
ZKR	**Zakros**	**97.30**	**305**	P	**P**	**21 35 12.3**	**-1.0**
ZKR	**Zakros**	**97.30**	**305**	P	**P**	**21 35 12.3**	**-1.0**
ARR	**Arges**	**97.31**	**316**	⇓iP	**P**	**21 35 12.5**	**-0.6**
DLBC	**Dease Lake**	**97.31**	**31**	eP	Pdif	21 35 13.6	+0.7
	comp=Z,16nm,1.3s						
APE	**Apeiranthos**	**97.66**	**307**	⇑iP	**P**	**21 35 12.6**	**-2.3**
APE	**Apeiranthos**	**97.66**	**307**	⇑P	**P**	**21 35 12.6**	**-2.3**
BMR	**Baia Mare**	**97.74**	**318**	⇓iP	Pdif	21 35 15.9	+0.9
BMR	**Baia Mare**	**97.74**	**318**	⇓P	Pdif	21 35 15.9	+0.9
NPS	**Neapolis**	**97.78**	**306**	P	**P**	**21 35 14.5**	**-0.9**
NPS	**Neapolis**	**97.78**	**306**	P	**P**	**21 35 14.5**	**-0.9**
NPS	**Neapolis**	**97.78**	**306**	P	**P**	**21 35 14.5**	**-0.9**
SANT	**Santorini**	**97.79**	**307**	⇑iP	**P**	**21 35 13.5**	**-2.0**
SANT	**Santorini**	**97.79**	**307**	eP	**P**	**21 35 13.1**	**-2.4**
	comp=Z,16nm,0.8s						
SANT				LR	LR		
	comp=Z,2µm,18.0s						
CJR	**Cluj-Napoca**	**97.82**	**317**	⇑iP	Pdif	21 35 15.8	+0.4
CJR	**Cluj-Napoca**	**97.82**	**317**	⇑P	Pdif	21 35 15.8	+0.4
LOT	**Lotru**	**97.90**	**316**	⇑iP	**P**	**21 35 15.3**	**-0.5**
LAST	**Lasithi**	**97.90**	**305**	P	**P**	**21 35 14.7**	**-1.4**
LAST	**Lasithi**	**97.90**	**305**	P	**P**	**21 35 14.7**	**-1.4**
KWP	**Kalwaria Pacla**	**97.93**	**320**	eP	Pdif	21 35 16.0	+0.2
KWP	**Kalwaria Pacla**	**97.93**	**320**	eP	**P**	**21 35 15.4**	**-0.4**
	comp=Z,709nm,1.0s						
KWP				LR	LR		
	comp=Z,6µm,22.0s						
KWP	**Kalwaria Pacla**	**97.93**	**320**	⇑eP	Pdif	21 35 16.0	+0.2
TRPA	**Tarpa**	**98.30**	**319**	⇑iP	**P**	**21 35 17.3**	**-0.2**
TRPA	**Tarpa**	**98.30**	**319**	⇑ex	**P**	**21 35 17.2**	**-0.2**
IDI	**Anoyia**	**98.37**	**306**	P	**P**	**21 35 17.7**	**-0.4**
	comp=Z,10nm,0.7s,baz=46,slow=7.2,SNR=41						
IDI	**Anoyia**	**98.37**	**306**	⇓iP	Pdif	21 35 18.6	+0.5
IDI	**Anoyia**	**98.37**	**306**	eP	**P**	**21 35 17.9**	**-0.2**
	comp=Z,19nm,0.8s						
IDI				LR	LR		
	comp=Z,500nm,18.0s						
UZH	**Uzhgorod**	**98.38**	**319**	eP	Pdif	21 35 18.0	+0.2
UZH				e		21 35 31.8	
DRGR		**98.41**	**317**	⇓iP	**P**	**21 35 18.0**	**-0.1**
DRGR		**98.41**	**317**	⇓P	**P**	**21 35 18.0**	**-0.1**
NVR	**Nevrokopi**	**98.42**	**312**	P	**P**	**21 35 15.4**	**-2.8**
NVR	**Nevrokopi**	**98.42**	**312**	P	**P**	**21 35 15.4**	**-2.8**
SIVA	**Sivas**	**98.46**	**305**	P	**P**	**21 35 18.2**	**-0.2**
SIVA	**Sivas**	**98.46**	**305**	P	**P**	**21 35 18.2**	**-0.2**
OUR	**Ouranopolis**	**98.46**	**311**	P	**P**	**21 35 16.3**	**-2.0**
OUR	**Ouranopolis**	**98.46**	**311**	P	**P**	**21 35 16.3**	**-2.0**
OUR	**Ouranopolis**	**98.46**	**311**	P	**P**	**21 35 16.3**	**-2.0**
SRS	**Serrai**	**98.65**	**312**	P	**P**	**21 35 16.8**	**-2.4**
SRS	**Serrai**	**98.65**	**312**	P	**P**	**21 35 16.8**	**-2.4**
SRS	**Serrai**	**98.65**	**312**	P	**P**	**21 35 16.8**	**-2.4**
BEL	**Belsk**	**98.72**	**323**	eP	Pdif	21 35 19.8	+0.6
BEL	**Belsk**	**98.72**	**323**	eP	Pdif	21 35 19.8	+0.6
VTS	**Vitosha**	**98.72**	**313**	⇑iP	**P**	**21 35 18.9**	**-0.8**
VTS	**Vitosha**	**98.72**	**313**	eP	**P**	**21 35 18.5**	**-1.1**
	comp=Z,32nm,1.0s						
VTS				LR	LR		
	comp=Z,700nm,20.0s						
VTS	**Vitosha**	**98.72**	**313**	P	**P**	**21 35 17.1**	**-2.6**
VTS	**Vitosha**	**98.72**	**313**	eP	**P**	**21 35 18.5**	**-1.1**
VTS				pmax	pmax		
	comp=Z,32nm,1.0s						
VTS				MLR	MLR		
	comp=Z,700nm,20.0s						
PAIG	**Paliouri**	**98.75**	**310**	P	**P**	**21 35 16.6**	**-3.0**
PAIG	**Paliouri**	**98.75**	**310**	P	**P**	**21 35 16.6**	**-3.0**
PAIG	**Paliouri**	**98.75**	**310**	P	**P**	**21 35 16.6**	**-3.0**
PLG	**Polygyros**	**98.86**	**311**	P	**P**	**21 35 17.9**	**-2.3**
PLG	**Polygyros**	**98.86**	**311**	P	**P**	**21 35 17.9**	**-2.3**
PLG	**Polygyros**	**98.86**	**311**	P	**P**	**21 35 17.9**	**-2.3**
CRVS	**Cervenica-Dubn**	**98.87**	**320**	eP	**P**	**21 35 19.9**	**-0.1**
CRVS	**Cervenica-Dubn**	**98.87**	**320**	ePDIFF	**P**	**21 35 19.9**	**-0.1**
SOH	**Sokhos**	**98.87**	**311**	P	**P**	**21 35 17.6**	**-2.6**
SOH	**Sokhos**	**98.87**	**311**	P	**P**	**21 35 17.6**	**-2.6**
SOH	**Sokhos**	**98.87**	**311**	P	**P**	**21 35 17.6**	**-2.6**
STHS	**Stebnicka Huta**	**98.91**	**320**	eP	Pdif	21 35 20.5	+0.3
STHS	**Stebnicka Huta**	**98.91**	**320**	ePDIFF	Pdif	21 35 20.5	+0.3
VAM	**Vamos**	**98.91**	**306**	P	**P**	**21 35 19.9**	**-0.6**
VAM	**Vamos**	**98.91**	**306**	P	**P**	**21 35 19.9**	**-0.6**
VAM	**Vamos**	**98.91**	**306**	P	**P**	**21 35 19.9**	**-0.6**
RKT	**Rikitea**	**99.01**	**113**	eSKSac	**SKSac**	**21 45 54.0**	**-1.1**
	comp=Z,784nm,30.2s						
RKT	**Rikitea**	**99.01**	**113**	ePS	PS	21 48 20.0	-1.1
	comp=Z,474nm,27.8s						
RKT	**Rikitea**	**99.01**	**113**	eLR	LR	22 07 42.5	
	comp=Z,905nm,34.0s						
BOSA	**Boshof**	**99.07**	**241**	P	**Pdif**	**21 35 21.8**	**+0.3**
	comp=Z,7.3nm,1.0s,baz=131,slow=8.3,SNR=5.4						
BOSA				LR	LR	22 14 14.4	
	comp=Z,576nm,21.9s,baz=104,slow=32						
IMMV	**Iera Moni Meta**	**99.08**	**306**	P	**Pdif**	**21 35 19.2**	**-2.1**
HORT	**Hortiatis**	**99.09**	**311**	P	**Pdif**	**21 35 18.9**	**-2.4**
HORT	**Hortiatis**	**99.09**	**311**	P	**Pdif**	**21 35 18.9**	**-2.4**
KNT	**Kendrikon**	**99.16**	**312**	P	**Pdif**	**21 35 19.1**	**-2.4**
KNT	**Kendrikon**	**99.16**	**312**	P	**Pdif**	**21 35 19.1**	**-2.4**
KNT	**Kendrikon**	**99.16**	**312**	P	**Pdif**	**21 35 19.1**	**-2.4**
SIRR	**Siria**	**99.22**	**317**	⇑iP	**Pdif**	**21 35 21.6**	**0.0**
VILL	**Villia**	**99.27**	**309**	P	**Pdif**	**21 35 16.6**	**-5.5**
BZS	**Buzias**	**99.36**	**316**	⇓iP	**Pdif**	**21 35 21.6**	**-0.6**
BZS	**Buzias**	**99.36**	**316**	⇓P	**Pdif**	**21 35 21.6**	**-0.6**
VAY	**Valandovo**	**99.38**	**312**	P	**Pdif**	**21 35 19.8**	**-2.6**
VAY	**Valandovo**	**99.38**	**312**	P	**Pdif**	**21 35 19.8**	**-2.6**
VAY	**Valandovo**	**99.38**	**312**	i P	**Pdif**	**21 35 17.7**	**-4.8**
VAY	**Valandovo**	**99.38**	**312**	P	**Pdif**	**21 35 19.8**	**-2.6**
DID	**Didima**	**99.42**	**308**	P	**Pdif**	**21 35 18.0**	**-4.7**
DID	**Didima**	**99.42**	**308**	P	**Pdif**	**21 35 18.0**	**-4.7**
NIE	**Niedzica**	**99.52**	**320**	eP	**Pdif**	**21 35 23.8**	**+0.9**
NIE	**Niedzica**	**99.52**	**320**	eP	**Pdif**	**21 35 23.8**	**+0.9**
GRG	**Griva**	**99.56**	**312**	P	**Pdif**	**21 35 20.7**	**-2.6**
GRG	**Griva**	**99.56**	**312**	P	**Pdif**	**21 35 20.7**	**-2.6**
GRG	**Griva**	**99.56**	**312**	P	**Pdif**	**21 35 20.7**	**-2.6**
LIT	**Litokhoron**	**99.63**	**311**	P	**Pdif**	**21 35 21.5**	**-2.1**
LIT	**Litokhoron**	**99.63**	**311**	P	**Pdif**	**21 35 21.5**	**-2.1**
LIT	**Litokhoron**	**99.63**	**311**	P	**Pdif**	**21 35 21.5**	**-2.1**
OJC	**Ojcow**	**99.67**	**321**	eP	**Pdif**	**21 35 23.2**	**-0.3**
OJC	**Ojcow**	**99.67**	**321**	ePdif	**Pdif**	**21 35 22.6**	**-0.9**
	comp=Z,35nm,1.1s						
OJC	**Ojcow**	**99.67**	**321**	eP	**Pdif**	**21 35 23.2**	**-0.3**
KYTH	**Kithira**	**99.73**	**307**	P	**Pdif**	**21 35 23.1**	**-1.1**
KYTH	**Kithira**	**99.73**	**307**	P	**Pdif**	**21 35 23.1**	**-1.1**
AGG	**Agios Georgios**	**99.91**	**310**	ePdif	**Pdif**	**21 35 22.1**	**-2.8**
	comp=Z,32nm,0.9s						
AGG	**Agios Georgios**	**99.91**	**310**	P	**Pdif**	**21 35 21.6**	**-3.3**
AGG	**Agios Georgios**	**99.91**	**310**	eP	**Pdif**	**21 35 22.1**	**-2.8**
AGG				pmax	pmax		
	comp=Z,32nm,0.9s						
GUR	**Goura**	**100.06**	**309**	P	**Pdif**	**21 35 23.2**	**-2.5**
GUR	**Goura**	**100.06**	**309**	P	**Pdif**	**21 35 23.2**	**-2.5**
PSZ	**Piszkesteto**	**100.08**	**319**	⇓iP	**Pdif**	**21 35 23.0**	**-2.5**
PSZ	**Piszkesteto**	**100.08**	**319**	⇑ePdiff	**Pdif**	**21 35 25.5**	**0.0**
PSZ	**Piszkesteto**	**100.08**	**319**	ePdif	**Pdif**	**21 35 25.0**	**-0.5**
PSZ				LR	LR		
	comp=Z,800nm,21.0s						
PSZ	**Piszkesteto**	**100.08**	**319**	eP	**Pdif**	**21 35 25.0**	**-0.5**
PSZ				MLR	MLR		
	comp=Z,800nm,21.0s						
LANS	**Liptovska Anna**	**100.10**	**320**	eP	**Pdif**	**21 35 26.2**	**+0.7**
LANS	**Liptovska Anna**	**100.10**	**320**	ePDIFF	**Pdif**	**21 35 26.2**	**+0.7**
VLX	**Vlachokerasia**	**100.11**	**308**	P	**Pdif**	**21 35 23.4**	**-2.5**
VLX	**Vlachokerasia**	**100.11**	**308**	P	**Pdif**	**21 35 23.4**	**-2.5**
SKO	**Skopje**	**100.11**	**313**	i P	**Pdif**	**21 35 21.9**	**-3.8**
KALE	**Kalithea**	**100.15**	**309**	P	**Pdif**	**21 35 23.6**	**-2.4**
KALE	**Kalithea**	**100.15**	**309**	P	**Pdif**	**21 35 23.6**	**-2.4**
TRIP	**Tripoli**	**100.18**	**308**	P	**Pdif**	**21 35 24.1**	**-2.1**
KLV	**Kalavryta, Ach**	**100.19**	**309**	P	**Pdif**	**21 35 22.8**	**-3.4**
KLV	**Kalavryta, Ach**	**100.19**	**309**	P	**Pdif**	**21 35 22.8**	**-3.4**
TRIZ	**Trizonia**	**100.21**	**309**	P	**Pdif**	**21 35 24.1**	**-2.1**
SERG	**Sergoula**	**100.21**	**309**	P	**Pdif**	**21 35 24.2**	**-2.0**
DYR	**Agios Nikonas**	**100.24**	**307**	P	**Pdif**	**21 35 22.9**	**-3.5**
ANX	**Ano Chora**	**100.29**	**309**	P	**Pdif**	**21 35 23.6**	**-3.1**
LAKA	**Lakka**	**100.30**	**309**	P	**Pdif**	**21 35 24.4**	**-2.2**
LAKA	**Lakka**	**100.30**	**309**	P	**Pdif**	**21 35 24.4**	**-2.2**
EFP	**Efpalio**	**100.33**	**309**	P	**Pdif**	**21 35 24.2**	**-2.5**
EVR	**Evrytania**	**100.33**	**310**	P	**Pdif**	**21 35 24.6**	**-2.2**
EVR	**Evrytania**	**100.33**	**310**	P	**Pdif**	**21 35 24.6**	**-2.2**
HFS	**Hagfors**	**100.35**	**332**	P	**Pdif**	**21 35 24.4**	**-1.9**
	comp=Z,4.6nm,0.7s,baz=98,slow=4.4,SNR=19						
KRUS	**Krusevo**	**100.36**	**312**	i P	**Pdif**	**21 35 24.3**	**-2.6**
BIA	**Bitola**	**100.36**	**312**	i P	**Pdif**	**21 35 24.7**	**-2.2**
FNA	**Florina**	**100.36**	**312**	P	**Pdif**	**21 35 23.7**	**-3.2**
FNA	**Florina**	**100.36**	**312**	P	**Pdif**	**21 35 23.7**	**-3.2**
FNA	**Florina**	**100.36**	**312**	P	**Pdif**	**21 35 23.7**	**-3.2**
DAG	**Danmarks Havn**	**100.39**	**352**	⇑iP	**Pdif**	**21 35 25.7**	**-0.5**
	comp=Z,24nm,1.2s						
DAG	**Danmarks Havn**	**100.39**	**352**	⇑iP	**Pdif**	**21 35 25.7**	**-0.5**
DAG				pmax	pmax		
	comp=Z,24nm,1.2s						
GKP	**Gorka Klasztor**	**100.50**	**325**	eP	**Pdif**	**21 35 26.3**	**-0.8**
GKP	**Gorka Klasztor**	**100.50**	**325**	eP	**Pdif**	**21 35 26.3**	**-0.8**
ITM	**Ithomi**	**100.50**	**308**	P	**Pdif**	**21 35 23.9**	**-3.6**
ITM	**Ithomi**	**100.50**	**308**	P	**Pdif**	**21 35 23.9**	**-3.6**
DRO	**Drossia**	**100.55**	**309**	P	**Pdif**	**21 35 26.7**	**-1.1**
VYHS	**Vyhne**	**100.65**	**320**	eP	**Pdif**	**21 35 27.7**	**-0.3**
VYHS	**Vyhne**	**100.65**	**320**	ePDIFF	**Pdif**	**21 35 27.7**	**-0.3**
PYL	**PYLOS**	**100.69**	**308**	P	**Pdif**	**21 35 25.5**	**-2.8**
PYL	**PYLOS**	**100.69**	**308**	P	**Pdif**	**21 35 25.5**	**-2.8**
RLS	**Riolos of Patr**	**100.73**	**309**	P	**Pdif**	**21 35 26.1**	**-2.4**
RLS	**Riolos of Patr**	**100.73**	**309**	P	**Pdif**	**21 35 26.1**	**-2.4**
OHR	**Ohrid**	**100.74**	**312**	i P	**Pdif**	**21 35 21.7**	**-6.9**
BUD	**Budapest**	**100.75**	**319**	⇑ePdiff	**Pdif**	**21 35 28.8**	**+0.4**
DIVS	**Divibare**	**100.78**	**315**	ePdif	**Pdif**	**21 35 28.1**	**-0.6**
OKC	**Ostrava-Krasne**	**100.79**	**321**	ePDIFF	**Pdif**	**21 35 28.9**	**+0.4**
OKC	**Ostrava-Krasne**	**100.79**	**321**	i P	**Pdif**	**21 35 28.9**	**+0.4**
DSL	**Palaion Diasel**	**100.84**	**310**	P	**Pdif**	**21 35 26.8**	**-2.2**
DSL	**Palaion Diasel**	**100.84**	**310**	P	**Pdif**	**21 35 26.8**	**-2.2**
PDO	**Prodromos**	**100.86**	**309**	P	**Pdif**	**21 35 26.9**	**-2.2**
SRO	**Srobarova**	**101.15**	**319**	ePDIFF	**Pdif**	**21 35 30.9**	**+0.8**
SRO	**Srobarova**	**101.15**	**319**	eP	**Pdif**	**21 35 30.9**	**+0.8**
NB2	**NORSAR Subarra**	**101.18**	**333**	P	**Pdif**	**21 35 28.3**	**-1.7**
	comp=Z,11nm,1.1s,baz=70,slow=4.4						
NB2	**NORSAR Subarra**	**101.18**	**333**	P	**Pdif**	**21 35 28.3**	**-1.7**
	baz=70,slow=4.4						
NB2	**NORSAR Subarra**	**101.18**	**333**	P	**Pdif**	**21 35 28.1**	**-1.9**
NB2				pmax	pmax		
	comp=Z,8.0nm,1.0s						
NOA	**NORSAR Array B**	**101.18**	**333**	P	**Pdif**	**21 35 28.2**	**-1.9**
	comp=Z,5.3nm,0.9s,baz=68,slow=4.6,SNR=14						
NOA				PP	**PP**	**21 39 39.4**	**+0.3**
	comp=Z,3.1nm,1.0s,baz=74,slow=7.9,SNR=3.3						
MORC	**Moravsky Berou**	**101.18**	**321**	⇑iP	**Pdif**	**21 35 30.9**	**+0.6**
MORC	**Moravsky Berou**	**101.18**	**321**	ePdif	**Pdif**	**21 35 29.8**	**-0.5**
MORC	**Moravsky Berou**	**101.18**	**321**	⇑P	**Pdif**	**21 35 30.9**	**+0.6**
MORH	**Mˆ‡rˆ¡gy, Hung**	**101.28**	**317**	⇓ePdiff	**Pdif**	**21 35 31.2**	**+0.5**
CSKK	**Csˆ‡kako**	**101.28**	**319**	⇑ePdiff	**Pdif**	**21 35 30.9**	**+0.1**
NC204	**NORSAR Array S**	**101.30**	**333**	ePdif	**Pdif**	**21 35 29.1**	**-1.4**
BSD	**Bornholm Skovb**	**101.30**	**327**	i P	**Pdif**	**21 35 29.9**	**-0.7**
	comp=Z,34nm,1.3s						
BSD	**Bornholm Skovb**	**101.30**	**327**	i P	**Pdif**	**21 35 29.9**	**-0.7**
BSD				pmax	pmax		
	comp=Z,35nm,1.3s						
RES	**Resolute Bay**	**101.35**	**10**	ePdif	**Pdif**	**21 35 31.4**	**+1.0**
RES	**Resolute Bay**	**101.35**	**10**	eP	**Pdif**	**21 35 31.4**	**+1.0**
IGT	**Igoumenitsa**	**101.36**	**310**	P	**Pdif**	**21 35 28.6**	**-2.7**
IGT	**Igoumenitsa**	**101.36**	**310**	P	**Pdif**	**21 35 28.6**	**-2.7**
IGT	**Igoumenitsa**	**101.36**	**310**	P	**Pdif**	**21 35 28.6**	**-2.7**
TIR	**Tirane**	**101.39**	**312**	PFAKE		21 35 40.0	+8.6
TIR				LR	LR		
	comp=Z,500nm,20.0s						
VLS	**Valsamata**	**101.39**	**309**	P	**Pdif**	**21 35 28.9**	**-2.6**
VLS	**Valsamata**	**101.39**	**309**	P	**Pdif**	**21 35 28.9**	**-2.6**
VLS	**Valsamata**	**101.39**	**309**	P	**Pdif**	**21 35 28.9**	**-2.6**
SRN	**Sarande**	**101.55**	**311**	P	**Pdif**	**21 35 29.6**	**-2.5**
SRN	**Sarande**	**101.55**	**311**	P	**Pdif**	**21 35 29.6**	**-2.5**
KRLC	**Kraliky**	**101.59**	**321**	ePDIFF	**Pdif**	**21 35 32.8**	**+0.7**
KRLC	**Kraliky**	**101.59**	**321**	i P	**Pdif**	**21 35 32.8**	**+0.7**
PDG	**Podgorica**	**101.63**	**313**	⇑iP	**Pdif**	**21 35 32.1**	**-0.3**
TTG	**Podgorica**	**101.63**	**313**	PFAKE		21 35 40.0	+7.6
TTG				LR	LR		
	comp=Z,2µm,19.0s						
SNAA	**Sanae**	**101.63**	**195**	P	**Pdif**	**21 35 31.6**	**-0.2**
	comp=Z,2.7nm,1.0s,baz=176,slow=9.5,SNR=6.3						
KSP	**Ksiaz**	**101.69**	**322**	eP	**Pdif**	**21 35 32.2**	**-0.3**
KSP	**Ksiaz**	**101.69**	**322**	eP	**Pdif**	**21 35 32.2**	**-0.3**
MODS	**Modra-Piesok**	**101.69**	**320**	eP	**Pdif**	**21 35 31.9**	**-0.7**
MODS	**Modra-Piesok**	**101.69**	**320**	ePDIFF	**Pdif**	**21 35 31.9**	**-0.7**
DPC	**Dobruska-Polom**	**101.80**	**322**	ePDIFF	**Pdif**	**21 35 33.7**	**+0.6**
DPC				ex	x	21 35 41.7	
DPC				epP	**pPdif**	**21 35 47.5**	**-1.8**
DPC				ePP	**PP**	**21 39 48.0**	**+3.9**
DPC				AMS	AMS	22 21 40.0	
	comp=Z,700nm,18.5s						
DPC	**Dobruska-Polom**	**101.80**	**322**	i P	**Pdif**	**21 35 33.7**	**+0.6**
DPC				e		21 39 48.0	
DPC				MLR	MLR		
	comp=Z,700nm,18.5s						
VRAC	**Vranov**	**101.90**	**321**	⇑iP	**Pdif**	**21 35 34.5**	**+1.0**
VRAC	**Vranov**	**101.90**	**321**	⇑P	**Pdif**	**21 35 34.5**	**+1.0**
UPC	**Upice**	**101.95**	**322**	ePDIFF	**Pdif**	**21 35 34.2**	**+0.5**
UPC				AMS	AMS	22 22 10.0	
	comp=Z,900nm,22.0s						
UPC	**Upice**	**101.95**	**322**	i P	**Pdif**	**21 35 34.2**	**+0.5**
UPC				MLR	MLR		
	comp=Z,900nm,22.0s						
SOP	**Sopron**	**102.33**	**319**	⇑ePdiff	**Pdif**	**21 35 35.4**	**0.0**
SOP	**Sopron**	**102.33**	**319**	P	**Pdif**	**21 35 35.9**	**+0.5**
RGN	**Rugen**	**102.35**	**326**	PFAKE		21 35 50.0	+15
RGN				LR	LR		
	comp=Z,800nm,20.0s						
KONO	**Kongsberg**	**102.45**	**332**	PFAKE		21 35 50.0	+14
KONO				LR	LR		
	comp=Z,900nm,22.0s						
TREC	**Trest**	**102.60**	**321**	AMS	AMS	22 24 00.0	
	comp=Z,800nm,26.6s						
BLY	**Banja Luka**	**102.61**	**316**	PFAKE		21 35 50.0	+13
BLY				LR	LR		
	comp=Z,2µm,19.0s						
CONA	**Conrad Observa**	**102.72**	**319**	ePdiff	**Pdif**	**21 35 37.3**	**+0.1**
	comp=Z,5.5nm,1.1s						
CONA				ePKiKP	**PP**	**21 39 54.1**	**+2.9**
	comp=Z,18nm,1.4s						
TULEG	**Thule**	**102.77**	**3**	PFAKE		21 35 50.0	+13
TULEG				LR	LR		
	comp=Z,300nm,19.0s						
PVCC	**Panska Ves**	**102.83**	**322**	ePDIFF	**Pdif**	**21 35 38.5**	**+0.9**
PVCC				AMS	AMS	22 23 00.0	
	comp=Z,800nm,21.9s						
PVCC	**Panska Ves**	**102.83**	**322**	i P	**Pdif**	**21 35 38.5**	**+0.9**
PVCC				MLR	MLR		
	comp=Z,800nm,21.9s						
KOGS	**Kog**	**102.84**	**318**	i Pdiff	**Pdif**	**21 35 37.8**	**+0.1**
GOPC	**GO Pecny, Ondr**	**102.87**	**322**	ePDIFF	**Pdif**	**21 35 38.6**	**+0.8**
GOPC				AMS	AMS	22 23 00.0	
	comp=Z,800nm,20.3s						
GOPC	**GO Pecny, Ondr**	**102.87**	**322**	i P	**Pdif**	**21 35 38.6**	**+0.8**
GOPC				MLR	MLR		
	comp=Z,800nm,20.3s						
PRU	**Pruhonice**	**103.00**	**322**	ePDIFF	**Pdif**	**21 35 38.7**	**+0.4**
PRU				ex	x	21 35 47.1	
PRU				eSP	SP	21 48 54.3	-0.7
PRU				AMS	AMS	22 22 40.0	
	comp=Z,800nm,21.3s						
PRU	**Pruhonice**	**103.00**	**322**	i P	**Pdif**	**21 35 38.7**	**+0.4**
PRU				e		21 48 54.3	
PRU				MLR	MLR		
	comp=Z,800nm,21.3s						
YKA	**Yellowknife Ar**	**103.10**	**24**	Pdiff	**Pdif**	**21 35 39.3**	**+0.8**
	comp=Z,2.9nm,1.0s,baz=296,slow=4.8,SNR=33						
YKA				PP	**PKiKP**	**21 39 58.7**	**+0.8**
	comp=Z,2.1nm,0.9s,baz=300,slow=7.4,SNR=13						
YKA				PKKPbc	**PKKPbc**	**21 51 34.9**	**-2.1**
	comp=Z,1.1nm,0.8s,baz=112,slow=2.4,SNR=14						
BRG	**Berggiesshubel**	**103.11**	**323**	PKP	**PP**	**21 39 52.0**	**-1.9**
BRG				SDIFF		21 47 16.0	
BRG				SS	**SKKPbc**	**21 55 09.0**	**-4.8**
	comp=N,3µm,18.1s						
	comp=E,1µm,14.3s						
	comp=Z,4µm,20.1s						
BRG	**Berggiesshubel**	**103.11**	**323**	eP	**Pdif**	**21 35 38.9**	**+0.1**
BRG				pmax	pmax		
	comp=Z,15nm,1.1s						
ARSA	**Arzberg**	**103.12**	**319**	ePdiff	**Pdif**	**21 35 38.9**	**-0.1**
	comp=Z,7.9nm,1.1s						
CLL	**Collm**	**103.55**	**323**	ePdif	**Pdif**	**21 35 40.0**	**-0.7**
	comp=Z,21nm,1.5s						
CLL				ePP	**PP**	**21 39 52.0**	**-5.1**
CLL				i PKiKP	**PKiKP**	**21 39 58.5**	**-0.6**
CLL				ePPP	PPP	21 42 06.0	
CLL				ePS	**PS**	**21 49 00.0**	**-8.2**
CLL				ePPS	PPS	21 50 00.0	
CLL				eSS	SS	21 54 36.0	-1.8
CLL				e(SSS)		21 58 54.0	
CLL				e		22 02 54.0	
CLL	**Collm**	**103.55**	**323**	eP	**Pdif**	**21 35 40.0**	**-0.7**
CLL				pmax	pmax		
	comp=Z,21nm,1.5s						
SOKA	**Soboth**	**103.59**	**318**	ePdiff	**Pdif**	**21 35 41.0**	**-0.1**
	comp=Z,9.4nm,1.2s						
SOKA				ePKiKP	**PKiKP**	**21 39 59.4**	**0.0**
	comp=Z,7.6nm,1.1s						
MOA	**Molln**	**103.78**	**320**	ePdiff	**Pdif**	**21 35 42.2**	**+0.3**
	comp=Z,19nm,1.3s						
KHC	**Kasperske Hory**	**103.85**	**321**	ePDIFF	**Pdif**	**21 35 42.3**	**+0.1**
KHC				ePP	**PKiKP**	**21 40 00.9**	**+1.1**
KHC				AMS	AMS	22 24 40.0	
	comp=Z,800nm,23.0s						
KHC	**Kasperske Hory**	**103.85**	**321**	ePdif	**Pdif**	**21 35 41.4**	**-0.7**
KHC				LR	LR		
	comp=Z,300nm,22.0s						
KHC	**Kasperske Hory**	**103.85**	**321**	i P	**Pdif**	**21 35 42.3**	**+0.1**
KHC				e		21 40 00.9	
KHC				MLR	MLR		
	comp=Z,800nm,23.0s						
GEC2	**GERESS Array S**	**103.86**	**321**	ePdif	**Pdif**	**21 35 42.4**	**+0.1**
GEC2	**GERESS Array S**	**103.86**	**321**	eP	**Pdif**	**21 35 42.4**	**+0.1**
GERES	**GERESS Array B**	**103.86**	**321**	Pdiff	**Pdif**	**21 35 43.0**	**+0.7**
	comp=Z,3.3nm,0.9s,baz=71,slow=4.8,SNR=21						
GERES				PP	**PKiKP**	**21 40 03.5**	**+3.6**
	comp=Z,4.1nm,1.0s,baz=69,slow=7.3,SNR=6.8						
GEA0	**GERESS Array S**	**103.86**	**321**	ePdif	**Pdif**	**21 35 42.5**	**+0.2**
TIP	**Timpagrande**	**104.15**	**311**	PFAKE		21 35 50.0	+6.2
TIP				LR	LR		
	comp=Z,600nm,22.0s						
NKC	**Novy Kostel**	**104.22**	**322**	ePDIFF	**Pdif**	**21 35 44.4**	**+0.6**
NKC				AMS	AMS	22 25 30.0	
	comp=Z,1µm,24.8s						
NKC	**Novy Kostel**	**104.22**	**322**	i P	**Pdif**	**21 35 44.4**	**+0.6**
NKC				MLR	MLR		
	comp=Z,1µm,24.8s						
KEBM	**Edson Butte**	**104.51**	**45**	PFAKE		21 36 00.0	+15

KEBM LR LR
comp=Z,500nm,20.0s
CADS Cadrg 104.58 318 *i* Pdiff **Pdif 21 35 45.1 -0.4**
CUC Castrocucco 104.68 312 PFAKE 21 36 00.0 +14
CUC LR LR
comp=Z,1µm,18.0s
CEL Celeste 105.00 310 PFAKE 21 36 00.0 +12
CEL LR LR
comp=Z,1µm,22.0s
GRFO Grafenberg 105.14 322 PFAKE 21 40 10.0
GRFO LR LR
comp=Z,900nm,22.0s
ABTA Abfaltersbach 105.24 319 *e*Pdiff **Pdif 21 35 47.0 -1.4**
comp=Z,11nm,1.2s
WTTA Wattenberg 105.65 320 *e*Pdiff **Pdif 21 35 51.0 +0.6**
comp=Z,18nm,1.6s
WATA Walderalm 105.67 320 *i* Pdiff **Pdif 21 35 49.7 -0.8**
comp=Z,10nm,1.0s
AQU L'Aquila 105.86 314 PFAKE 21 40 20.0
AQU LR LR
comp=Z,600nm,19.0s
MOTA Moosalm 105.97 320 *i* Pdiff **Pdif 21 35 51.1 -0.7**
comp=Z,8.0nm,1.1s
SCO Scoresbysund 106.09 349 *i* P **Pdif 21 35 52.5 +0.9**
comp=Z,9.7nm,1.3s
SCO Scoresbysund 106.09 349 *e*Pdif **Pdif 21 35 52.0 +0.5**
SCO LR LR
comp=Z,700nm,20.0s
SCO Scoresbysund 106.09 349 *i* P **Pdif 21 35 52.5 +0.9**
SCO pmax pmax
comp=Z,10.0nm,1.3s
FETA Feichten 106.32 320 *e*Pdiff **Pdif 21 35 54.3 +0.9**
comp=Z,16nm,1.5s
WDC Whiskeytown Da 106.39 47 PFAKE 21 40 20.0
WDC LR LR
comp=Z,400nm,20.0s
J05D Fort Rock, OR 106.59 44 P **PKiKP 21 40 07.0 +1.9**
baz=287
DAVA Damuels 106.78 320 *e*PKiKP **PKiKP 21 40 06.9 +1.5**
comp=Z,15nm,1.2s
CLTB Caltabellotta 107.22 310 PFAKE 21 40 20.0
CLTB LR LR
comp=Z,600nm,20.0s
TUE Stuetta 107.39 319 PFAKE 21 40 20.0
TUE LR LR
comp=Z,900nm,21.0s
ORV Oroville 107.43 48 PFAKE 21 40 20.0
ORV LR LR
comp=Z,300nm,22.0s
AFDM Forest Hills D 107.99 49 PFAKE 21 40 20.0
AFDM LR LR
comp=Z,300nm,21.0s
RUBR Rubicon Trail 108.57 48 PFAKE 21 40 20.0
RUBR LR LR
comp=Z,300nm,21.0s
WVOR Wild Horse Val 108.67 45 PFAKE 21 40 20.0
WVOR LR LR
comp=Z,200nm,20.0s
BMO Blue Mountains 108.78 42 PFAKE 21 40 20.0
BMO LR LR
comp=Z,200nm,19.0s
VCNR Virginia City 108.88 48 PFAKE 21 40 20.0
VCNR LR LR
comp=Z,400nm,20.0s
NVAR Mina Array Bea 110.14 49 PKKPab PKKPab 21 51 26.4 +1.0
comp=Z,2.6nm,0.8s,baz=126,slow=5.2,SNR=5.7
MSO Missoula 110.23 39 P **PKiKP 21 40 12.9 +1.1**
baz=294
BMN Battle Mountai 110.31 46 PFAKE 21 40 20.0
BMN LR LR
comp=Z,300nm,22.0s
HLID Hailey 111.19 42 P **PKiKP 21 40 15.6 +1.8**
baz=292
HLID Hailey 111.19 42 *e*PKP **PKiKP 21 40 15.1 +1.3**
EDW2 Edwards Air Fo 111.40 52 P **PKiKP 21 40 16.7 +2.4**
baz=286
MPMC Manual Prospec 111.46 51 P **PKiKP 21 40 16.7 +2.1**
baz=287
DLMT Dillon 111.68 40 PFAKE 21 40 30.0
DLMT LR LR
comp=Z,200nm,19.0s
TPNV Topopah Spring 112.14 50 P **PKiKP 21 40 16.8 +1.0**
baz=288
R11A Troy Canyon, C 112.19 48 P **PKiKP 21 40 18.0 +2.1**
baz=289
BOZ Bozeman (W) 112.20 40 P **PKiKP 21 40 17.1 +1.4**
baz=295
BOZ Bozeman (W) 112.20 40 *e*PKP **PKiKP 21 40 16.5 +0.8**
BOZ Bozeman (W) 112.20 40 *e*PKiKP **PKiKP 21 40 16.5 +0.8**
GSC Goldstone, Bar 112.21 51 P **PKiKP 21 40 18.0 +2.1**
baz=287
EGMT Eagleton 112.28 37 P **PKiKP 21 40 17.1 +1.5**
baz=298
EGMT Eagleton 112.28 37 *e*PKP **PKiKP 21 40 16.6 +1.0**
CPE Camp Elliot 112.66 54 PFAKE 21 40 30.0
CPE LR LR
comp=Z,400nm,22.0s
PFO Pinyon Flats O 112.97 53 P **PKiKP 21 40 19.6 +2.2**
baz=287
PFO Pinyon Flats O 112.97 53 *e*PKP **PKiKP 21 40 18.9 +1.4**
PFO Pinyon Flats O 112.97 53 *e*PKiKP **PKiKP 21 40 18.9 +1.4**
HVU Hansel Valley 112.98 44 *e*PKP **PKiKP 21 40 17.8 +0.5**
HVU Hansel Valley 112.98 44 *e*PKiKP **PKiKP 21 40 17.8 +0.5**
MONP2 Monument Peak 113.21 54 P **PKiKP 21 40 19.7 +1.7**
baz=287
BELC Belle Mtn. Jos 113.23 53 P **PKiKP 21 40 19.7 +1.7**
baz=287
GMRC Granite Mounta 113.26 52 P **PKiKP 21 40 19.3 +1.3**
baz=288
H17A Grant Village 113.39 40 P **PKiKP 21 40 20.7 +2.6**
baz=296
SPUT South Promonto 113.39 44 PFAKE 21 40 30.0
SPUT LR LR
comp=Z,300nm,19.0s
FCC Fort Churchill 113.39 21 PFAKE 21 40 30.0
FCC LR LR
comp=Z,300nm,21.0s
LKWY Lake 113.43 40 PFAKE 21 40 30.0
LKWY LR LR
comp=Z,300nm,21.0s
IKP In-Ko-Pah, Jac 113.53 54 P **PKiKP 21 40 20.1 +1.7**
baz=287
DUG Dugway, Tooele 113.56 45 P **PKiKP 21 40 20.0 +1.6**
baz=292
LOHW Long Hollow 113.70 41 PFAKE 21 40 30.0
LOHW LR LR
comp=Z,300nm,21.0s
BC3 Big Chuckawall 113.76 53 P **PKiKP 21 40 21.4 +2.4**
baz=288
IRM Iron Mountain 113.86 52 P **PKiKP 21 40 21.2 +2.2**
baz=288
HWUT Hardware Ranch 113.88 43 *e*PKP **PKiKP 21 40 20.1 +1.0**
RLMT Red Lodge 113.90 39 PFAKE 21 40 30.0
RLMT LR LR
comp=Z,300nm,20.0s
NLU North Lily Min 114.17 45 *e*PKP PKPdf 21 40 21.1 +1.4
JLU Jordanelle 114.36 44 PFAKE 21 40 30.0 +10
JLU LR LR
comp=Z,200nm,20.0s
TCRU Three Creeks R 114.41 47 PFAKE 21 40 30.0 +10
TCRU LR LR
comp=Z,400nm,20.0s
PDMCI Parker Dam,Lak 114.60 52 P PKPdf 21 40 22.6 +2.3
baz=289
BW06 Boulder Array 114.76 42 P PKPdf 21 40 22.0 +1.3
baz=296
PDAR Pinedale Array 114.76 42 PKP PKPdf 21 40 19.9 -0.9
comp=Z,0.8nm,0.5s,baz=239,slow=0.5,SNR=14
PDAR PKKPbc **PKKPbc 21 50 58.8 -0.8**
comp=Z,1.8nm,0.8s,baz=107,slow=5.1,SNR=12
PDAR PKKPab **PKKPab 21 51 04.8 -0.1**
comp=Z,5.0nm,0.9s,baz=112,slow=5.8,SNR=22
PKCU Pink Cliffs 114.93 48 PFAKE 21 40 30.0 +8.6
PKCU LR LR
comp=Z,300nm,19.0s
LAO LASA Array 115.02 37 P **PKPdf 21 40 23.0 +2.1**
baz=300
DGMT Dagmar 115.27 34 P **PKPdf 21 40 22.8 +1.5**
baz=303
P17A Butcher Ranch, 115.31 45 *e*PKPdf **PKPdf 21 40 20.8 -1.0**
U15A North Rim 115.31 49 *e*PKPdf **PKPdf 21 40 22.2 +0.2**
P18A Preston Nutter 115.60 45 *e*PKPdf **PKPdf 21 40 21.6 -1.0**
SRU San Rafael Swe 115.60 46 *e*PKPdf **PKPdf 21 40 21.8 -0.6**
SRU San Rafael Swe 115.60 46 *e*PKiKP **PKPdf 21 40 21.8 -0.6**
Y14A Wickenburg 115.61 52 *e*PKPdf **PKPdf 21 40 22.9 +0.5**
WUAZ Wupatki 116.33 50 P **PKPdf 21 40 25.6 +1.7**
baz=291
WUAZ Wupatki 116.33 50 *e*PKPdf **PKPdf 21 40 23.3 -0.6**
O20A White River Ci 116.79 44 P **PKPdf 21 40 25.9 +1.2**
baz=296
O20A White River Ci 116.79 44 *e*PKPdf **PKPdf 21 40 22.7 -1.9**
RWWY Rawlins 116.80 42 *e*PKPdf **PKPdf 21 40 24.2 -0.5**
RWWY LR LR
comp=Z,400nm,22.0s
K22A Casper 116.80 41 P **PKPdf 21 40 24.8 +0.2**
baz=298
K22A Casper 116.80 41 *e*PKPdf **PKPdf 21 40 24.9 +0.4**
PV09 Paradox Valley 116.84 46 *e*PKPdf **PKPdf 21 40 26.5 +1.5**
PV10 Paradox Valley 116.96 46 *e*PKPdf **PKPdf 21 40 27.0 +1.9**
PV05 Paradox Valley 117.04 46 *e*PKPdf **PKPdf 21 40 27.1 +1.9**
TAM Tamanrasset 117.20 296 *e*PKPdf **PKPdf 21 40 27.5 +1.6**
TAM LR LR
comp=Z,300nm,21.0s
TAM Tamanrasset 117.20 296 *e*PKIKP **PKPdf 21 40 27.5 +1.6**
TAM MLR MLR
comp=Z,300nm,21.0s
PV01 Paradox Valley 117.40 46 *e*PKPdf **PKPdf 21 40 27.8 +1.8**
RSSD Black Hills 117.66 38 P **PKPdf 21 40 26.3 0.0**
baz=301
RSSD Black Hills 117.66 38 *e*PKPdf **PKPdf 21 40 25.9 -0.4**
RSSD Black Hills 117.66 38 *e*PKIKP **PKPdf 21 40 25.9 -0.4**
W18A Petrified Fore 117.72 49 P **PKPdf 21 40 27.8 +1.2**
baz=292
MVCO Mesa Verde 117.83 47 *e*PKPdf **PKPdf 21 40 27.1 +0.3**
TUC Tucson 117.91 53 P **PKPdf 21 40 28.4 +1.4**
baz=290
TUC Tucson 117.91 53 *e*PKPdf **PKPdf 21 40 25.6 -1.3**
TUC Tucson 117.91 53 *e*PKIKP **PKPdf 21 40 25.6 -1.3**
N23A Red Feather La 118.01 42 P **PKPdf 21 40 27.6 +0.5**
baz=298
ULM Lac du Bonnet 118.54 29 PKP **PKPdf 21 40 27.3 -0.2**
comp=Z,8.0nm,0.7s,baz=283,slow=2.3,SNR=16
ULM PKKPbc **PKKPbc 21 50 45.6 -0.5**
comp=Z,2.1nm,0.6s,baz=138,slow=4.2,SNR=5.5
ULM Lac du Bonnet 118.54 29 *e*PKPdf **PKPdf 21 40 26.4 -1.1**
ULM PKKPbc **PKKPbc 21 50 45.6 -0.5**
ISCO Idaho Springs 118.74 43 P **PKPdf 21 40 29.2 +0.7**
baz=298
ISCO Idaho Springs 118.74 43 *e*PKPdf **PKPdf 21 40 29.4 +0.8**
ISCO Idaho Springs 118.74 43 *e*PKIKP **PKPdf 21 40 29.4 +0.8**
ES19 SONSECA Array 118.98 317 *e*PKPdf **PKPdf 21 40 29.4 +0.7**
ESDC Sonseca Array 119.04 317 PKP **PKPdf 21 40 28.8 0.0**
comp=Z,1.6nm,0.8s,baz=35,slow=5.4,SNR=6.0
ESDC PP **PP 21 41 52.0 +3.3**
comp=Z,5.5nm,1.0s,baz=60,slow=6.4,SNR=6.6
C31A Landman Farms, 119.18 32 P **PKPdf 21 40 29.1 +0.3**
baz=309
B32A Ashes, Strandq 119.42 31 P **PKPdf 21 40 29.5 +0.3**
baz=310
319A Douglas 119.43 53 *e*PKPdf **PKPdf 21 40 32.1 +2.2**
A33A Warroad 119.65 30 P **PKPdf 21 40 29.8 +0.1**
baz=312
SDCO Great Sand Dun 119.75 45 P **PKPdf 21 40 31.6 +1.0**
baz=297
SDCO Great Sand Dun 119.75 45 *e*PKPdf **PKPdf 21 40 31.1 +0.5**
PBRG Braganca 119.83 320 *e*PKPdf **PKPdf 21 40 34.4 +4.1**
AGMN Agassiz Nation 119.83 30 P **PKPdf 21 40 30.1 +0.1**
baz=311
AGMN Agassiz Nation 119.83 30 *e*PKPdf **PKPdf 21 40 28.1 -1.9**
E31A Nome 119.86 33 P **PKPdf 21 40 30.8 +0.7**
baz=308
D32A Dogwood Acres, 119.97 32 P **PKPdf 21 40 30.7 +0.3**
baz=309
121A Cookes Peak, D 120.20 51 P **PKPdf 21 40 33.5 +2.1**
baz=292
121A Cookes Peak, D 120.20 51 *e*PKPdf **PKPdf 21 40 33.6 +2.1**
ANMO Albuquerque 120.26 48 P **PKPdf 21 40 33.0 +1.5**
baz=295
ANMO Albuquerque 120.26 48 *e*PKPdf **PKPdf 21 40 32.8 +1.3**
ANMO Albuquerque 120.26 48*c* *i*PKIKP **PKPdf 21 40 33.5 +2.0**
ANMO pmax pmax
comp=Z,18nm,1.2s
B34A Aery, Baudette 120.31 30 P **PKPdf 21 40 31.2 +0.3**
baz=312
LPM Los Pinos Moun 120.39 49 *e*PKPdf **PKPdf 21 40 33.0 +1.2**
BNM Barren Site 120.46 49 *e*PKPdf **PKPdf 21 40 33.9 +2.0**
D33A AnnSam, Waubun 120.59 32 P **PKPdf 21 40 31.8 +0.3**
baz=310
POLO Lamas de Olo 120.73 320 *e*PKPdf **PKPdf 21 40 34.0 +1.9**
C34A RKJ Ranch, Bem 120.74 31 P **PKPdf 21 40 31.9 +0.1**
baz=311
T25A Trinidad 120.80 45 P **PKPdf 21 40 34.0 +1.5**
baz=297
T25A Trinidad 120.80 45 *e*PKPdf **PKPdf 21 40 33.4 +0.8**
B35A Bob, Littlefor 120.85 29 P **PKPdf 21 40 32.1 +0.1**
baz=313
E33A Westby DABS, E 120.91 32 P **PKPdf 21 40 32.7 +0.5**
baz=310
D34A Park Rapids 120.96 31 P **PKPdf 21 40 32.6 +0.4**
baz=311
MTE Manteigas 121.08 319 *e*PKPdf **PKPdf 21 40 34.7 +2.0**
PVIS Viseu 121.14 320 *e*PKPdf **PKPdf 21 40 31.8 -1.0**
KSCO Kaye Shedlock' 121.15 43 P **PKPdf 21 40 33.5 +0.4**
baz=300
C35A Jirik Farms, M 121.17 30 P **PKPdf 21 40 32.6 0.0**
baz=312
F33A 5 Mile Ranch, 121.18 33 P **PKPdf 21 40 33.4 +0.7**
baz=309
PCBR Castelo Branco 121.32 319 *e*PKPdf **PKPdf 21 40 35.1 +2.0**
H32A Carlson Farm, 121.36 35 P **PKPdf 21 40 33.6 +0.4**
baz=307
PMRV Marv??o 121.47 318 *e*PKPdf **PKPdf 21 40 35.3 +1.8**
G33A Ortonville 121.50 34 P **PKPdf 21 40 34.0 +0.7**
baz=309
D35A Remer 121.55 31 P **PKPdf 21 40 33.2 -0.2**
baz=312
I32A Karley and Nic 121.64 35 P **PKPdf 21 40 34.6 +1.0**
baz=307
K31A O'Neill 121.70 37 P **PKPdf 21 40 34.6 +0.8**
baz=305
C36A Pine Crest Far 121.70 29 P **PKPdf 21 40 34.1 +0.4**
baz=314
E35A Pequot Lakes 121.72 31 P **PKPdf 21 40 34.1 +0.3**
baz=311
F34A Alexandria 121.76 32 P **PKPdf 21 40 34.4 +0.6**
baz=310
PBAR Barrancos 121.86 317 *e*PKPdf **PKPdf 21 40 35.9 +1.7**
PCAS Casmilo, Conde 121.88 319 *e*PKPdf **PKPdf 21 40 34.6 +0.4**
G34A Benson 121.91 33 P **PKPdf 21 40 34.9 +0.8**
baz=310
D36A Goodland 121.94 30 P **PKPdf 21 40 34.5 +0.3**
baz=313
C37A Embarrass 122.04 29 P **PKPdf 21 40 34.7 +0.4**
baz=314
F35A Swanville 122.09 32 P **PKPdf 21 40 34.9 +0.5**
baz=311
H34A Spellman Lake, 122.20 34 P **PKPdf 21 40 35.5 +0.8**
baz=309
PMTG Montargil 122.21 318 *e*PKPdf **PKPdf 21 40 36.1 +1.2**
EYMN Ely 122.22 28 P **PKPdf 21 40 35.4 +0.7**
baz=315
EYMN Ely 122.22 28 *e*PKPdf **PKPdf 21 40 33.7 -1.0**
ECSD EROS Data Cent 122.30 35 P **PKPdf 21 40 35.4 +0.5**
baz=308
ECSD EROS Data Cent 122.30 35 *e*PKPdf **PKPdf 21 40 35.3 +0.4**
D37A Cotton 122.32 30 P **PKPdf 21 40 35.1 +0.3**
baz=314
E36A McGregor 122.34 31 P **PKPdf 21 40 35.9 +1.0**
baz=313
EVO Evora 122.35 318 *e*PKPdf **PKPdf 21 40 37.2 +2.1**
MNTX Cornudas Mount 122.40 51 P **PKPdf 21 40 36.6 +1.1**
baz=294
MNTX Cornudas Mount 122.40 51 *e*PKPdf **PKPdf 21 40 36.8 +1.3**
ALMR Almeirim 122.40 318 *e*PKPdf **PKPdf 21 40 36.3 +1.1**
ALMR Almeirim 122.40 318 *e*PKPdf **PKPdf 21 40 36.6 +1.4**
C38A Sawbill Land. 122.49 29 P **PKPdf 21 40 35.0 -0.1**
baz=315
PBEJ Beja 122.50 317 *e*PKPdf **PKPdf 21 40 37.1 +1.6**
I34A Hadley 122.54 34 P **PKPdf 21 40 36.2 +0.8**
baz=309
G35A Watkins 122.55 33 P **PKPdf 21 40 35.7 +0.4**
baz=311
TOC2 Torodi Ar. Sit 122.59 286 PFAKE 21 40 50.0 +14
TOC2 LR LR
comp=Z,500nm,20.0s
TOC3 Torodi Ar. Sit 122.59 286 PFAKE 21 40 50.0 +14
TOC3 LR LR
comp=Z,400nm,21.0s
TOB2 Torodi Ar. Sit 122.60 286 PFAKE 21 40 50.0 +14
TOB2 LR LR
comp=Z,500nm,20.0s
TOC1 Torodi Ar. Sit 122.60 286 PFAKE 21 40 50.0 +14
TOC1 LR LR
comp=Z,500nm,20.0s
TOB3 Torodi Ar. Sit 122.61 286 PFAKE 21 40 50.0 +14
TOB3 LR LR
comp=Z,400nm,21.0s
TOC4 Torodi Ar. Sit 122.61 286 PFAKE 21 40 50.0 +14
TOC4 LR LR
comp=Z,400nm,20.0s
TOA0 Torodi Ar. Sit 122.61 286 *e*PKPdf **PKPdf 21 40 36.3 +0.1**
TOA0 LR LR
comp=Z,500nm,20.0s
TORD Torodi Ar. Bea 122.61 286 PKP **PKPdf 21 40 36.0 -0.3**
comp=Z,24nm,0.9s,baz=57,slow=1.6,SNR=94
TORD PKKPbc **PKKPab 21 50 33.1 +2.6**
comp=Z,2.7nm,1.0s,baz=254,slow=3.2,SNR=7.0
TOA1 Torodi Ar. Sit 122.62 286 PFAKE 21 40 50.0 +14
TOA1 LR LR
comp=Z,500nm,21.0s
TOA3 Torodi Ar. Sit 122.62 286 PFAKE 21 40 50.0 +14
TOA3 LR LR
comp=Z,1µm,19.0s
TOB4 Torodi Ar. Sit 122.63 286 PFAKE 21 40 50.0 +14
TOB4 LR LR
comp=Z,500nm,20.0s
TOB5 Torodi Ar. Sit 122.63 286 PFAKE 21 40 50.0 +14
TOB5 LR LR
comp=Z,500nm,20.0s
TOC7 Torodi Ar. Sit 122.63 286 PFAKE 21 40 50.0 +14
TOC7 LR LR
comp=Z,500nm,20.0s
TOC5 Torodi Ar. Sit 122.64 286 PFAKE 21 40 50.0 +14
TOC5 LR LR
comp=Z,500nm,20.0s
F36A Milaca 122.64 31 P **PKPdf 21 40 36.0 +0.5**
baz=312
TOC6 Torodi Ar. Sit 122.64 286 PFAKE 21 40 50.0 +14
TOC6 LR LR
comp=Z,500nm,20.0s
H35A Sunnyside Ranc 122.70 33 P **PKPdf 21 40 36.6 +1.0**
baz=310
PVAQ Vaqueiros 122.71 316 *e*PKPdf **PKPdf 21 40 38.0 +2.1**
E37A Wrenshall 122.74 30 P **PKPdf 21 40 36.4 +0.7**
baz=313
BGNE Belgrade 122.77 38 P **PKPdf 21 40 36.2 +0.3**
baz=305
BGNE Belgrade 122.77 38 *e*PKPdf **PKPdf 21 40 36.8 +0.9**
PCVE Castro Verde 122.82 317 *e*PKPdf **PKPdf 21 40 37.9 +1.8**
PNCL Nicolau / Gran 122.91 317 *e*PKPdf **PKPdf 21 40 38.3 +2.1**
G36A St. Michael 122.93 32 P **PKPdf 21 40 37.1 +1.1**
baz=311
PBDV Barranco-do-Ve 122.94 316 *e*PKPdf **PKPdf 21 40 38.9 +2.5**
C39A Grand Marais 122.96 28 P **PKPdf 21 40 36.3 +0.3**
baz=316
E38A The Farm, Brul 123.13 30 P **PKPdf 21 40 37.0 +0.6**
baz=314
I35A Creekview Farm 123.15 34 P **PKPdf 21 40 37.3 +0.7**
baz=310
CBKS Cedar Bluff 123.19 41 PFAKE 21 40 50.0 +13
CBKS LR LR
comp=Z,300nm,19.0s
K34A Le Mars 123.24 36 P **PKPdf 21 40 37.1 +0.3**
baz=308
H36A Jessenland, He 123.27 33 P **PKPdf 21 40 38.3 +1.5**
baz=311
J35A Milford 123.33 35 P **PKPdf 21 40 37.4 +0.5**
baz=309
C40A Isle Royale Na 123.34 27 P **PKPdf 21 40 37.6 +0.8**
baz=318
MORF Marmelete 123.40 317 *e*PKPdf **PKPdf 21 40 38.9 +1.6**
MORF Marmelete 123.40 317 *e*PKPdf **PKPdf 21 40 39.5 +2.2**
F38A Pierce - Schro 123.42 30 P **PKPdf 21 40 38.1 +1.1**
baz=314
MSTX Muleshoe 123.43 48 P **PKPdf 21 40 38.7 +1.2**
baz=297
MSTX Muleshoe 123.43 48 *e*PKPdf **PKPdf 21 40 37.6 +0.1**
SPMN Marine on St. 123.44 32 P **PKPdf 21 40 37.8 +0.8**
baz=312
SPMN Marine on St. 123.44 32 *e*PKPdf **PKPdf 21 40 37.9 +0.8**
I36A Fitzsimmons Fa 123.58 33 P **PKPdf 21 40 38.2 +0.8**
baz=311
PFVI Vila Bisbo 123.61 317 *e*PKPdf **PKPdf 21 40 39.6 +2.0**
RTC Rabat Centre 123.72 312 PFAKE 21 40 50.0 +12
RTC LR LR
comp=Z,1µm,22.0s
K35A Storm Lake 123.72 35 P **PKPdf 21 40 38.1 +0.4**
baz=309
E39A Mellen 123.78 29 P **PKPdf 21 40 38.3 +0.6**
baz=315
AMTX Amarillo 123.81 46 P **PKPdf 21 40 39.8 +1.6**
baz=298
H37A Dierke Farm, C 123.81 32 P **PKPdf 21 40 38.5 +0.7**
baz=312
L35A Bielow Farm, R 123.92 36 P **PKPdf 21 40 38.7 +0.6**
baz=308
I37A Lemond, Waseca 123.92 33 P **PKPdf 21 40 39.0 +0.9**
baz=311
F39A Loretta 123.93 30 P **PKPdf 21 40 38.6 +0.6**
baz=315
HPIG 123.94 57 *e*PKPdf **PKPdf 21 40 39.8 +1.0**
G38A Ridgeland 123.97 31 P **PKPdf 21 40 38.3 +0.3**
baz=313
E40A Wakefield 124.05 29 P **PKPdf 21 40 39.3 +1.0**
baz=316
H38A Maiden Rock 124.08 32 P **PKPdf 21 40 38.9 +0.6**
baz=313
SCHQ Schefferville 124.08 9 PKP **PKPdf 21 40 37.6 -0.4**
comp=Z,15nm,0.7s,baz=313,slow=3.8,SNR=5.8
SCHQ Schefferville 124.08 9 *e*PKPdf **PKPdf 21 40 39.0 +0.9**
SCHQ LR LR
comp=Z,500nm,21.0s
K36A Gilmore City 124.22 35 P **PKPdf 21 40 39.2 +0.5**
baz=309
D41A Chassel 124.23 28 P **PKPdf 21 40 39.1 +0.6**
baz=318
G39A Holcombe 124.24 31 P **PKPdf 21 40 38.9 +0.3**
baz=314
J37A Redenius Farm, 124.30 34 P **PKPdf 21 40 39.3 +0.5**
baz=311
F40A Park Falls 124.32 29 P **PKPdf 21 40 39.4 +0.6**
baz=316
L36A Harm Buss Farm 124.44 35 P **PKPdf 21 40 39.7 +0.7**
baz=309
I38A Scanlan Farm, 124.48 32 P **PKPdf 21 40 39.7 +0.6**
baz=312
E41A Kenton 124.49 28 P **PKPdf 21 40 39.7 +0.7**
baz=317
H39A Augusta 124.60 31 P **PKPdf 21 40 39.7 +0.4**
baz=314
K37A Belmond 124.60 34 P **PKPdf 21 40 39.5 +0.1**
baz=310
COWI Conover 124.67 29 *e*PKPdf **PKPdf 21 40 40.3 +0.9**
TX31 Lajitas Ar. Si 124.69 53 *e*PKPdf **PKPdf 21 40 41.0 +1.0**
TXAR Lajitas Array 124.69 53 PKP **PKPdf 21 40 41.1 +1.0**
comp=Z,5.4nm,0.9s,baz=259,slow=1.2,SNR=44
TXAR PKKPbc **PKKPbc 21 50 23.0 +0.8**
comp=Z,0.9nm,0.8s,baz=105,slow=5.7,SNR=5.6
G40A Rib Lake 124.74 30 P **PKPdf 21 40 40.5 +0.9**
baz=315
J38A Wedel Dairy, R 124.89 33 P **PKPdf 21 40 40.1 +0.2**
baz=312
F41A Three Lakes 124.94 29 P **PKPdf 21 40 40.6 +0.7**
baz=316
L37A Phoenix Point, 124.95 35 P **PKPdf 21 40 40.1 0.0**
baz=310
E42A Champion 125.00 28 P **PKPdf 21 40 40.7 +0.6**
baz=318
I39A Houston 125.04 32 P **PKPdf 21 40 40.1 0.0**
baz=313
N36A Muff Farm, Cla 125.06 37 P **PKPdf 21 40 40.8 +0.6**
baz=308
H40A Chili 125.10 31 P **PKPdf 21 40 40.9 +0.7**
baz=315
K38A Parkersburg 125.17 34 P **PKPdf 21 40 40.9 +0.5**
baz=311
M37A Trindle Farm, 125.23 36 P **PKPdf 21 40 41.5 +0.9**
baz=309
J39A Decorah 125.29 33 P **PKPdf 21 40 40.6 -0.1**
baz=313
L38A Oak Wood Farm, 125.39 34 P **PKPdf 21 40 41.3 +0.4**
baz=311
SCIA State Center 125.40 35 *e*PKPdf **PKPdf 21 40 41.4 +0.5**
E43A Lone Tree Farm 125.47 27 P **PKPdf 21 40 41.8 +1.0**
baz=319
H41A Junction City 125.48 30 P **PKPdf 21 40 41.5 +0.5**
baz=315
H41A Junction City 125.48 30 *e*PKPdf **PKPdf 21 40 41.1 +0.1**
I40A Norwalk 125.49 31 P **PKPdf 21 40 41.5 +0.5**

baz=314
N37A Lee Faris, Mou 125.54 37 P PKPdf 21 40 42.0 +0.8
baz=309
K39A Oelwein 125.62 33 P PKPdf 21 40 41.3 0.0
baz=312
G42A Mountain 125.63 29 P PKPdf 21 40 41.9 +0.6
baz=317
G42A Mountain 125.63 29 ePKPdf PKPdf 21 40 41.9 +0.6
M38A Pleasantville 125.72 35 P PKPdf 21 40 42.3 +0.8
baz=310
J40A Soldiers Grove 125.77 32 P PKPdf 21 40 41.8 +0.3
baz=314
F43A Flat Rock, Esc 125.79 28 P PKPdf 21 40 42.5 +0.9
baz=319
L39A Vinton 125.94 34 P PKPdf 21 40 42.4 +0.5
baz=312
O37A Wolven Farm, M 125.95 37 P PKPdf 21 40 42.6 +0.6
baz=308
WMOK Wichita Mounta 125.96 45 P PKPdf 21 40 43.1 +0.9
baz=301
WMOK Wichita Mounta 125.96 45 ePKPdf PKPdf 21 40 43.3 +1.1
WMOK Wichita Mounta 125.96 45 ePKIKP PKPdf 21 40 43.3 +1.1
G43A Wallace 125.98 28 P PKPdf 21 40 42.7 +0.8
baz=318
G43A Wallace 125.98 28 ePKPdf PKPdf 21 40 43.5 +1.6
K40A Colesburg 126.03 33 P PKPdf 21 40 42.4 +0.3
baz=313
H42A Shiocton 126.11 30 P PKPdf 21 40 42.9 +0.7
baz=316
H42A Shiocton 126.11 30 ePKPdf PKPdf 21 40 42.5 +0.4
J41A Loganville 126.17 32 P PKPdf 21 40 42.4 +0.1
baz=314
P37A Lathrop 126.18 38 P PKPdf 21 40 42.8 +0.4
baz=308
M39A Webster 126.27 35 P PKPdf 21 40 43.2 +0.6
baz=311
JFWS Jewell Farm 126.36 32 P PKPdf 21 40 42.9 +0.2
baz=314
JFWS Jewell Farm 126.36 32 ePKPdf PKPdf 21 40 43.1 +0.4
JFWS Jewell Farm 126.36 32 ePKIKP PKPdf 21 40 43.1 +0.4
I42A Draeger Farm, 126.37 30 P PKPdf 21 40 43.0 +0.3
baz=316
I42A Draeger Farm, 126.37 30 ePKPdf PKPdf 21 40 43.1 +0.4
ABTX Abilene, Hawle 126.37 48 P PKPdf 21 40 44.0 +0.9
baz=299
L40A Anamosa 126.41 33 P PKPdf 21 40 43.2 +0.4
baz=312
N39A Derby Farms, D 126.47 35 P PKPdf 21 40 43.5 +0.5
baz=310
H43A Windswept, Lux 126.52 29 P PKPdf 21 40 43.5 +0.5
baz=317
H43A Windswept, Lux 126.52 29 ePKPdf PKPdf 21 40 43.3 +0.4
K41A Shullsburg 126.54 32 P PKPdf 21 40 43.5 +0.5
baz=314
P38A Dawn 126.65 37 P PKPdf 21 40 44.2 +0.8
baz=309
J42A Columbus 126.67 31 P PKPdf 21 40 43.7 +0.4
baz=315
M40A Post Highland 126.69 34 P PKPdf 21 40 43.9 +0.5
baz=312
I43A Langenfeld Bro 126.76 30 P PKPdf 21 40 43.9 +0.5
baz=317
L41A Preston 126.80 33 P PKPdf 21 40 43.7 +0.2
baz=313
O39A Kirksville 126.84 36 P PKPdf 21 40 44.6 +0.9
baz=310
K42A Prairie Point, 126.93 32 P PKPdf 21 40 44.2 +0.4
baz=315
J43A Natural Harves 126.98 31 P PKPdf 21 40 44.3 +0.4
baz=316
N40A Mertquake, Sal 126.99 35 P PKPdf 21 40 44.7 +0.8
baz=311
Q38A Cooks Store, C 127.01 38 P PKPdf 21 40 44.6 +0.5
baz=308
P39B Salisbury 127.21 37 P PKPdf 21 40 45.1 +0.7
baz=309
JCT Junction City 127.25 50 P PKPdf 21 40 46.2 +1.4
baz=297
JCT Junction City 127.25 50 ePKPdf PKPdf 21 40 46.4 +1.6
JCT Junction City 127.25 50 ePKIKP PKPdf 21 40 46.4 +1.6
M41A Milan 127.25 34 P PKPdf 21 40 45.1 +0.7
baz=313
L42A Oliver, Polo 127.30 33 P PKPdf 21 40 44.8 +0.3
baz=314
R38A Fenwick Farm, 127.30 39 P PKPdf 21 40 44.8 +0.2
baz=308
O40A La Belle 127.32 36 P PKPdf 21 40 45.5 +0.9
baz=311
Q39A Willow Grove F 127.35 37 P PKPdf 21 40 45.4 +0.7
baz=309
TUL1 Leonard 127.40 42 ePKPdf PKPdf 21 40 46.2 +1.3
K43A Burlington 127.51 31 P PKPdf 21 40 45.4 +0.5
baz=316
N41A Harden Midland 127.52 35 P PKPdf 21 40 45.6 +0.6
baz=312
P40A Paris 127.60 36 P PKPdf 21 40 45.9 +0.7
baz=310
S38A Stockton 127.64 39 P PKPdf 21 40 45.9 +0.6
baz=307
L43A Garden Prairie 127.67 32 P PKPdf 21 40 46.1 +0.9
baz=315
T38A Diamond 127.74 40 P PKPdf 21 40 46.3 +0.7
baz=306
R39A Chumby, Stover 127.77 38 P PKPdf 21 40 46.3 +0.8
baz=308
KOWA Kowa 127.83 289 PKP PKPdf 21 40 46.8 +0.6
comp=Z,15nm,1.1s,baz=77,slow=1.0,SNR=19
KOWA Kowa 127.83 289 ePKPdf PKPdf 21 40 47.2 +1.0
KOWA LR LR
comp=Z,400nm,20.0s
O41A Passleys Farm, 127.90 35 P PKPdf 21 40 46.3 +0.6
baz=312
N42A Yates City 127.90 34 P PKPdf 21 40 46.2 +0.4
baz=313
Q40A Laux Farm, Aux 127.93 37 P PKPdf 21 40 46.7 +0.9
baz=310
S39A Bolivar 127.97 39 P PKPdf 21 40 46.7 +0.8
baz=308
ZAIG Zacatecas 128.01 60 ePKPdf PKPdf 21 40 49.3 +2.5
M43A Waltham Townsh 128.08 33 P PKPdf 21 40 47.0 +1.0
baz=314
P41A Barry, Barry 128.09 36 P PKPdf 21 40 46.9 +0.8
baz=311
R40A Maddies Statio 128.25 38 P PKPdf 21 40 47.3 +0.9
baz=309
WHTX Lake Whitney, 128.30 47 P PKPdf 21 40 48.2 +1.4
baz=300
WHTX Lake Whitney, 128.30 47 ePKPdf PKPdf 21 40 48.8 +2.1
N43A Stutzman Famil 128.30 33 P PKPdf 21 40 47.3 +0.8
baz=314
T39A Clever 128.34 40 P PKPdf 21 40 47.6 +0.9
baz=307
HHAR Hobbs 128.42 41 ePKPdf PKPdf 21 40 48.1 +1.3
Q41A Truxton 128.46 36 P PKPdf 21 40 48.2 +1.3
baz=311
HDIL Hopedale 128.50 34 P PKPdf 21 40 47.5 +0.7
baz=314
HDIL Hopedale 128.50 34 ePKPdf PKPdf 21 40 47.6 +0.7
HDIL LR LR
comp=Z,200nm,20.0s
833A Chaparral WMA, 128.52 53 P PKPdf 21 40 49.4 +2.1
baz=296
S40A Lebanon 128.54 39 P PKPdf 21 40 47.7 +0.7
baz=308
P42A Winchester 128.56 35 P PKPdf 21 40 47.8 +0.8
baz=312
M44A Midewin, Midew 128.60 32 P PKPdf 21 40 48.3 +1.2
baz=315
U39A Green Forest 128.66 40 P PKPdf 21 40 48.0 +0.6
baz=307
R41A Rosebud 128.79 37 P PKPdf 21 40 48.5 +1.0
baz=310
T40A Mansfield 128.81 39 P PKPdf 21 40 48.5 +1.0
baz=308
V39A Pettigrew 128.87 41 P PKPdf 21 40 48.4 +0.6
baz=306
Q42A Golden Eagle 128.90 36 P PKPdf 21 40 49.2 +1.5
baz=311
P43A Skaggs, Pawnee 129.00 35 P PKPdf 21 40 49.0 +1.2
baz=313
S41A Jillco Farms, 129.02 38 P PKPdf 21 40 48.6 +0.7
baz=309
CCM Cathedral Cave 129.03 37 P PKPdf 21 40 49.0 +1.0
baz=310
CCM Cathedral Cave 129.03 37 ePKPdf PKPdf 21 40 49.3 +1.4
CCM Cathedral Cave 129.03 37 ePKIKP PKPdf 21 40 49.3 +1.4
U40A Yellville 129.08 40 P PKPdf 21 40 49.0 +0.9
baz=307
W39A Magazine 129.15 42 P PKPdf 21 40 49.5 +1.3
baz=306
R42A Luebbering 129.15 37 P PKPdf 21 40 49.3 +1.1
baz=311
N45A Kentland 129.26 32 P PKPdf 21 40 50.0 +1.7
baz=316
X39A Fountain Ranch 129.32 43 P PKPdf 21 40 50.5 +1.9
baz=305
T41A Mountain View 129.35 39 P PKPdf 21 40 49.8 +1.2
baz=309
Q43A New Douglas 129.37 35 P PKPdf 21 40 50.1 +1.5
baz=312
V40A Witts Springs 129.43 41 P PKPdf 21 40 49.7 +0.9
baz=307
S42A Caledonia 129.48 37 P PKPdf 21 40 49.9 +1.1
baz=310
P44A Sand Creek, Wi 129.62 34 P PKPdf 21 40 50.4 +1.4
baz=314
MIAR Mount Ida 129.67 42 P PKPdf 21 40 51.0 +1.8
baz=305
MIAR Mount Ida 129.67 42 ePKPdf PKPdf 21 40 51.1 +1.8
MIAR Mount Ida 129.67 42 ePKIKP PKPdf 21 40 51.1 +1.8
R43A Red Bud 129.67 36 P PKPdf 21 40 50.5 +1.4
baz=312
U41A Viola 129.68 39 P PKPdf 21 40 50.2 +0.9
baz=308
T42A Van Buren 129.77 38 P PKPdf 21 40 50.3 +0.9
baz=310
Q44A Meyer Farm, Va 129.78 35 P PKPdf 21 40 50.8 +1.4
baz=313
KIC Kosan Boka 129.78 279 ePKIKP PKPdf 21 40 51.5 +1.5
comp=Z,33nm,0.9s
DBIC Dimbokro 129.87 279 PKP PKPdf 21 40 50.6 +0.5
comp=Z,14nm,0.9s,baz=45,slow=2.8,SNR=14
V41A Mountainview 129.87 40 P PKPdf 21 40 50.5 +0.9
baz=308
LNIG Linares 129.88 57 ePKPdf PKPdf 21 40 49.7 -0.2
TIC Toumodi 130.03 279 ePKIKP PKPdf 21 40 51.9 +1.4
S43A Fulton Ridge, 130.05 37 P PKPdf 21 40 51.2 +1.3
baz=311
P45A Graceland, Par 130.07 34 P PKPdf 21 40 51.3 +1.4
baz=315
LIC Lamto 130.08 278 ePKIKP PKPdf 21 40 52.0 +1.4
comp=Z,50nm,0.9s
WHAR Wooly Hollow 130.08 41 ePKPdf PKPdf 21 40 51.8 +1.7
U42A Renden 130.11 39 P PKPdf 21 40 50.8 +0.8
baz=309
Y40A Okolona 130.17 43 P PKPdf 21 40 51.6 +1.4
baz=305
W41B Gary Mavity, V 130.18 41 P PKPdf 21 40 51.3 +1.1
baz=307
R44A Waltonville 130.19 36 P PKPdf 21 40 51.5 +1.4
baz=312
T43A Greenville 130.23 38 P PKPdf 21 40 51.6 +1.4
baz=310
Q45A Warren Harvey, 130.28 34 P PKPdf 21 40 51.9 +1.6
baz=314
P46A Rosedale 130.30 33 P PKPdf 21 40 51.9 +1.6
baz=315
PBMO Poplar Bluff 130.34 38 ePKPdf PKPdf 21 40 52.2 +1.7
V42A Cord 130.35 40 P PKPdf 21 40 52.2 +1.7
baz=308
OLIL Olney 130.42 35 ePKPdf PKPdf 21 40 53.1 +2.5
SIUC Southern Illin 130.46 36 ePKPdf PKPdf 21 40 52.0 +1.4
SIUC LR LR
comp=Z,300nm,20.0s
WLAR White Oak Lake 130.47 43 ePKPdf PKPdf 21 40 53.3 +2.5
HKT Hockley 130.52 49 ePKPdf PKPdf 21 40 53.9 +3.0
HKT Hockley 130.52 49 ePKIKP PKPdf 21 40 53.9 +3.0
JRQG Juriquilla Cam 130.55 62 PFAKE 21 41 00.0 +8.4
JRQG LR LR
comp=Z,500nm,19.0s
R45A Skylar, Fairfi 130.62 35 P PKPdf 21 40 53.0 +2.1
baz=313
T44A Benton 130.66 37 P PKPdf 21 40 52.8 +1.8
baz=311
S45A Carrier Mills 130.86 36 P PKPdf 21 40 53.5 +2.1
baz=313
BLO Bloomington 130.99 33 ePKPdf PKPdf 21 40 53.4 +1.8
BLO Bloomington 130.99 33 ePKIKP PKPdf 21 40 53.4 +1.8
R46A Gibon Southern 131.12 35 P PKPdf 21 40 53.7 +1.9
baz=314
R47A Wooly Knot Far 131.61 34 P PKPdf 21 40 54.1 +1.2
baz=315
T46A Princeton 131.70 36 P PKPdf 21 40 54.6 +1.6
baz=313
WCI Wyandotte Cave 131.79 34 ePKPdf PKPdf 21 40 53.4 +0.2
WCI Wyandotte Cave 131.79 34 ePKIKP PKPdf 21 40 53.4 +0.2
LONY Lake Ozonia 131.82 19 P PKPdf 21 40 55.3 +2.2
baz=333
U46A Springville 131.99 37 P PKPdf 21 40 55.1 +1.5
baz=312
ACSO Alum Creek Sta 132.04 29 P PKPdf 21 40 54.9 +1.3
baz=320
ACSO Alum Creek Sta 132.04 29 PFAKE 21 41 10.0 +16
ACSO LR LR
comp=Z,600nm,22.0s
ALLY Alegheny Colle 132.23 26 PFAKE 21 41 10.0 +16
ALLY LR LR
comp=Z,800nm,19.0s
S48A Wiedeman Farm, 132.32 34 P PKPdf 21 40 55.3 +1.1
baz=315
WVT Waverly 132.35 37 P PKPdf 21 40 55.6 +1.3
baz=312
WVT Waverly 132.35 37 ePKPdf PKPdf 21 40 55.5 +1.2
WVT Waverly 132.35 37 ePKIKP PKPdf 21 40 55.5 +1.2
V46A Holladay 132.39 37 P PKPdf 21 40 55.0 +0.6
baz=312
OXF Oxford 132.42 40 ePKPdf PKPdf 21 40 57.2 +2.7
OXF Oxford 132.42 40 ePKIKP PKPdf 21 40 57.2 +2.7
U47A Clarksville 132.46 36 P PKPdf 21 40 56.0 +1.5
baz=313
T48A Bowling Green 132.52 35 P PKPdf 21 40 56.5 +1.9
baz=315
M54A Oil Creek Stat 132.56 26 P PKPdf 21 40 55.3 +0.7
baz=325
U48A Cassie Pea, Po 132.85 36 P PKPdf 21 40 56.1 +0.8
baz=313
PLAL Pickwick Lake 132.96 38 ePKPdf PKPdf 21 40 55.5 +0.1
W47A Westpoint 133.08 38 P PKPdf 21 40 56.4 +0.7
baz=312
V48A Smith Brothers 133.21 37 P PKPdf 21 40 56.5 +0.5
baz=313
X47A Russelville 133.40 39 P PKPdf 21 40 57.1 +0.8
baz=311
BINY Binghamton 133.46 22 P PKPdf 21 40 56.8 +0.6
baz=330
W48A Blaski 133.55 37 P PKPdf 21 40 57.6 +1.0
baz=313
Y47A UCPARC, Winfie 133.81 39 P PKPdf 21 40 57.8 +0.7
baz=311
X48A Hartselle 133.95 38 P PKPdf 21 40 57.9 +0.6
baz=312
O56A Blue Knob Stat 134.05 26 P PKPdf 21 40 59.0 +1.5
baz=326
Z48A Northport 134.33 40 P PKPdf 21 40 59.1 +1.0
baz=311
PAGS Pennsylvania G 134.86 24 ePKPdf PKPdf 21 41 00.5 +1.6
LRAL Lakeview Retre 134.91 39 P PKPdf 21 41 00.7 +1.5
baz=311
LRAL Lakeview Retre 134.91 39 ePKPdf PKPdf 21 41 01.1 +1.9
TKL Tuckaleechee C 135.03 34 PKP PKPdf 21 41 01.2 +1.8
comp=Z,39nm,0.9s,baz=205,slow=3.1,SNR=20
TKL SKPbc SKPbc 21 44 26.0 +0.6
comp=Z,13nm,1.1s,baz=329,slow=6.3,SNR=3.7
TKL Tuckaleechee C 135.03 34 ePKPdf PKPdf 21 41 00.7 +1.3
TKL SKPbc SKPbc 21 44 26.0 +0.6
Z49A Columbiana 135.10 39 P PKPdf 21 41 00.5 +1.0
baz=312
MVL Millersville 135.20 24 ePKPdf PKPdf 21 40 59.7 +0.2
YLE Yale 135.32 20 PFAKE 21 41 10.0 +10
YLE LR LR
comp=Z,1μm,20.0s
Z50A Ashland 135.44 38 P PKPdf 21 41 01.0 +0.8
baz=312
BLA Blacksburg 135.64 30 ePKPdf PKPdf 21 41 00.5 0.0
BLA Blacksburg 135.64 30 ePKIKP PKPdf 21 41 00.5 0.0
BG3 Lake Jocassee 135.99 34 ePKPdf PKPdf 21 41 02.9 +1.7
151A Opelika 136.30 39 P PKPdf 21 41 02.1 +0.3
baz=313
JSRW J. Sargeant Re 136.47 27 ePKPdf PKPdf 21 41 02.8 +0.8
251A Midway 136.54 39 P PKPdf 21 41 03.7 +1.5
baz=312
KMSC Kings Mountain 136.76 33 P PKPdf 21 41 03.7 +1.1
baz=319
KMSC Kings Mountain 136.76 33 ePKPdf PKPdf 21 41 03.6 +1.0
GOGA Godfrey 136.82 36 P PKPdf 21 41 03.2 +0.4
baz=315
GOGA Godfrey 136.82 36 ePKPdf PKPdf 21 41 03.7 +1.0
GOGA Godfrey 136.82 36 ePKIKP PKPdf 21 41 03.7 +1.0
NCAT North Carolina 136.85 30 ePKPdf PKPdf 21 41 04.0 +1.3
HODGE Hodges 136.92 34 ePKPdf PKPdf 21 41 03.4 +0.5
PLCA Paso Flores 137.28 162 PKP PKPdf 21 41 05.4 +1.9
comp=Z,8.2nm,0.9s,baz=217,slow=5.1,SNR=13
PLCA SKPbc SKPbc 21 44 33.1 +1.0
comp=Z,7.1nm,1.0s,baz=216,slow=6.7,SNR=6.8
PLCA Paso Flores 137.28 162 ePKPdf PKPdf 21 41 05.7 +2.2
PLCA SKPbc SKPbc 21 44 33.1 +1.0
PLCA Paso Flores 137.28 162 ePKIKP PKPdf 21 41 05.7 +2.2
JSC Jenkinsville 137.44 33 ePKPdf PKPdf 21 41 02.2 -1.7
JSC Jenkinsville 137.44 33 ePKIKP PKPdf 21 41 02.2 -1.7
452A Marianna 137.50 40 P PKPdf 21 41 05.7 +1.7
baz=311
PEL Peldehue 144.05 157 ePKPdf PKPbc 21 41 14.2 +0.4
PEL Peldehue 144.05 157 ePKIKP PKPbc 21 41 14.2 +0.3
ROC1 El Roble 144.06 156 ePKPdf PKPdf 21 41 15.4 -0.8
AUSP Uspallata 145.37 158 eP PKPab 21 41 20.0 +1.5
SACV Santiago Islan 145.77 298 ePKPdf PKPab 21 41 20.4 +0.2
RTLS Leoncito 145.78 157 eP PKPab 21 41 20.7 +0.5
RTCV Cerro Valdivia 146.01 159 eP PKPbc 21 41 20.2 +0.1
ACAN Cantantal 146.10 161 eP PKPbc 21 41 20.2 -0.2
AMOG MOGNA 146.85 158 eP PKPdf 21 41 21.4 +0.6
AROD Rodeo 147.15 156 eP PKPbc 21 41 22.9 -0.9
LCO Las Campanas 147.62 153 ePKPbc PKPab 21 41 26.6 -0.7
TCA Tanti 147.77 164 eP PKPdf 21 41 23.0 +0.7
JTS JuntasAbangare 148.02 70 PKPbc PKPbc 21 41 26.9 +0.7
comp=Z,44nm,0.9s,baz=23,slow=4.9,SNR=16
APLL PUNTA DE LOS L 148.05 160 eP PKPdf 21 41 23.5 +0.7
AGUA GUANDACOL 148.15 157 eP PKPdf 21 41 23.6 +0.6
CBCY The Bluff, Cay 148.28 50 ePKPbc PKPab 21 41 28.7 -1.1
VCA Vinchina 148.93 156 eP PKPdf 21 41 25.7 +1.3
CYA Choya 150.09 160 eP PKPdf 21 41 26.7 +0.6
MTDJ Mount Denham 150.86 49 ePKPbc PKPbc 21 41 33.8 +0.6
GTBY Guantanamo Bay 151.54 44 ePKPbc PKPbc 21 41 34.1 -0.5
AHML Horco Molle 151.77 159 eP PKPdf 21 41 29.1 +0.4
FSA Cafayete 152.15 158 eP PKPdf 21 41 30.2 +0.7
PB04 IPOC Station P 153.43 146 ePKPdf PKPdf 21 41 31.7 +0.3
CPUP Villa Florida 154.04 174 PKP PKPdf 21 41 31.8 -0.1
comp=Z,7.5nm,1.0s,baz=46,slow=2.4,SNR=8.8
CPUP PKPbc PKiKP 21 41 41.0 +0.9
comp=Z,18nm,1.1s,baz=181,slow=0.9,SNR=12
CPUP Villa Florida 154.04 174 ePKPdf PKPdf 21 41 33.1 +1.1
CPUP ePKPbc PKiKP 21 41 41.3 +1.2
CPUP Villa Florida 154.04 174 ePKIKP PKPdf 21 41 33.1 +1.1
AZAP Zapla 154.20 158 eP PKPdf 21 41 33.5 +0.9
SDDR Presa de Saban 154.75 40 PFAKE 21 41 40.0 -1.8
SDDR LR LR
comp=Z,400nm,21.0s
PB01 IPOC Station P 154.82 146 ePKPdf PKPdf 21 41 32.2 -1.1
NNA Nana 155.09 118 ePKPdf PKPdf 21 41 31.9 -1.9
NNA Nana 155.09 118 ePKIKP PKPdf 21 41 31.9 -1.9
PB11 IPOC Station P 155.73 144 ePKPdf PKPdf 21 41 35.7 +1.0
SDD Santo Domingo 156.00 38 PFAKE 21 41 50.0 -12
SDD LR LR
comp=Z,600nm,20.0s
OTAV Otavalo 156.15 89 ePKPdf PKPdf 21 41 37.0 +1.2
OTAV LR LR
comp=Z,400nm,22.0s
OTAV Otavalo 156.15 89 PKIKP PKPdf 21 41 37.0 +1.2
MNMC Minye Minye 156.25 143 ePKPdf PKPdf 21 41 36.1 +0.6
AGP Aguadilla 157.65 33 PFAKE 21 41 50.0 +13
AGP LR LR
comp=Z,600nm,21.0s
YOTC Yotoco, Valle 157.86 79 eP PKPdf 21 41 37.3 -0.3
AOPR Arecibo Observ 157.91 32 PFAKE 21 41 50.0 +13
AOPR LR LR
comp=Z,2μm,19.0s
CRPR Cabo Rojo, PR 158.00 33 PFAKE 21 41 50.0 +13
CRPR LR LR
comp=Z,900nm,22.0s
HELC Santa Helena 158.13 72 ePKPdf PKPdf 21 41 35.8 -2.4
HELC LR LR
comp=Z,700nm,21.0s
ZARC Zaragoza, Cauc 158.36 68 eP PKPdf 21 41 36.4 -1.6
SJG San Juan 158.42 31 ePKPdf PKPdf 21 41 37.4 -0.5
SJG ePKPab PKPab 21 42 12.6 +0.2
SJG LR LR
comp=Z,300nm,22.0s
SJG San Juan 158.42 31 ePKIKP PKPdf 21 41 37.4 -0.5
SJG e 21 42 12.6
SJG MLR MLR
comp=Z,300nm,22.0s
CBYP Canovanas 158.44 30 ePKPdf PKPdf 21 41 37.5 -0.5
CBYP LR LR
comp=Z,600nm,20.0s
GUYC Guyana, Colomb 158.52 75 eP PKPdf 21 41 39.7 +0.9
HUMP Col San Antoni 158.55 30 ePKPdf PKPdf 21 41 36.6 -1.4
HUMP LR LR
comp=Z,400nm,21.0s
RREF El Recreo 158.64 76 eP PKPdf 21 41 38.3 -0.8
MTP Monte Pirata 158.74 30 ePKPdf PKPdf 21 41 37.3 -0.9
MTP ePKPab PKPab 21 42 14.0 +0.2
STVI Saint Thomas 158.81 28 ePKPdf PKPdf 21 41 37.9 -0.4
STVI ePKPab PKPab 21 42 12.4 -1.7
URIC Uribia, Colomb 158.99 55 eP PKPdf 21 41 36.4 -2.3
PTBC PUERTO BERRIO 159.04 71 eP PKPdf 21 41 39.0 +0.2
LPAZ La Paz 159.30 141 PKP PKPdf 21 41 40.2 +0.5
comp=Z,9.3nm,0.9s,baz=50,slow=1.0,SNR=23
LPAZ La Paz 159.30 141 ePKPdf PKPdf 21 41 42.0 +2.2
LPAZ La Paz 159.30 141 ePKIKP PKPdf 21 41 42.0 +2.2
PRAC Prado 159.34 79 ePKPdf PKPdf 21 41 39.2 0.0
PRAC LR LR
comp=Z,400nm,22.0s
OCAC Ocana 159.49 65 eP PKPdf 21 41 40.3 +0.8
ROSC El Rosal 159.65 75 PKP PKPdf 21 41 40.8 +0.8
comp=Z,4.9nm,0.4s,baz=184,slow=5.7,SNR=8.7
ROSC El Rosal 159.65 75 ePKPdf PKPdf 21 41 41.0 +1.0
ROSC LR LR
comp=Z,100nm,18.0s
SMRT St. Maarten 159.90 24 ePKPdf PKPdf 21 41 37.5 -2.2
CHIC Chingaza 160.27 75 eP PKPdf 21 41 41.0 +0.3
RUSC La Rusia 160.54 71 ePKPdf PKPdf 21 41 41.6 +0.5
RUSC La Rusia 160.54 71 eP PKPdf 21 41 39.7 -1.4
SDV Santo Domingo 161.59 60 PKP PKPdf 21 41 41.8 -0.1
comp=Z,21nm,1.0s,baz=281,slow=0.7,SNR=20
SDV Santo Domingo 161.59 60 ePKPdf PKPdf 21 41 40.5 -1.3
SDV ePKPab PKPab 21 42 24.2 -2.6
SDV Santo Domingo 161.59 60 eP PKPdf 21 41 39.7 -2.2
SIV San Ignacio 163.21 158 PKP PKPdf 21 41 43.8 +0.7
comp=Z,6.9nm,1.0s
SAML Samuel 167.93 135 ePKPdf PKPdf 21 41 48.6 +1.5
PTGA Pitinga 174.63 94 PKP PKPdf 21 41 49.9 -0.6
comp=Z,1.3nm,0.3s,baz=276,slow=6.8,SNR=6.3
PTGA Pitinga 174.63 94 ePKPdf PKPdf 21 41 51.0 +0.5

CSEM ***23*** *21:30:51.1±0.6,39°.91N×24°.51E,h10km,ML0.9,Error ellipse: s-maj=33.1km s-min=12.5km az=21.0*

ATH 23 21:30:58.1,40°.13N×24°.04E,h13km±6km,ML0.9/4,Error ellipse: s-maj=6.3km s-min=1.4km az=307.0,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OUR	Ouranopolis	0.21	348	P	Pg	21 31 02.4	-0.3
OUR				S	Sg	21 31 06.3	+0.5
OUR				AML	AML	21 31 06.3	
	comp=N,523μm,0.3s						
OUR				AML	AML	21 31 06.5	
	comp=E,390μm,0.3s						
OUR	Ouranopolis	0.21	348	P	Pg	21 31 02.5	-0.2
PAIG	Paliouri	0.34	233	P	Pg	21 31 04.8	-0.3
PAIG				S	Sg	21 31 10.5	+0.7
PAIG				AML	AML	21 31 11.1	
	comp=E,34μm,0.2s						
PAIG				AML	AML	21 31 11.6	
	comp=N,27μm,0.2s						
PAIG	Paliouri	0.34	233	P	Pg	21 31 04.9	-0.2
PAIG				S	Sg	21 31 10.2	+0.5
PLG	Polygyros	0.51	298	P	Pg	21 31 08.3	0.0
PLG				S	Sg	21 31 15.3	+0.2
PLG				AML	AML	21 31 16.0	
	comp=E,22μm,0.2s						
PLG				AML	AML	21 31 16.2	
	comp=N,26μm,0.2s						
PLG	Polygyros	0.51	298	P	Pg	21 31 08.2	0.0
KAVA	Kavala	0.94	23	P	Pb	21 31 16.0	-0.2
KAVA				AML	AML	21 31 30.2	
	comp=E,16μm,0.2s						

KAVA AML AML 21 31 30.3
comp=N,12μm,0.1s

*DDA **23** 21:31:07.8, 39°.29N×26°.00E, h7km, Ml2.0*
*CSEM **23** 21:31:08.2±0.1, 39°.29N×25°.98E, h5km, ML1.3, Error ellipse: s-maj=2.0km s-min=2.0km az=104.0*
ATH 23 21:31:08.5, 39°.30N×25°.97E, h11km±4km, ML1.3/3, Error ellipse: s-maj=4.5km s-min=1.4km az=181.0, Aegean Sea

Code	Station Name	Δ°	AZ°		Phase	ID	Time	Res
					Op	ISC	h m s	ISC
SIGR	**SIGRI**	**0.12**	**228**		P	Pg	21 31 10.5	-1.0
SIGR					S	Sg	21 31 12.4	-1.2
SIGR					AML	AML	21 31 13.2	
	comp=E,554μm,0.3s							
SIGR					AML	AML	21 31 13.3	
	comp=N,320μm,0.2s							
SIGR	**SIGRI**	**0.12**	**228**		P	Pg	21 31 11.0	-0.5
SIGR					S	Sg	21 31 13.1	-0.5
PRK	**Paraskevi**	**0.24**	**102**		P	Pg	21 31 12.3	-1.0
PRK					S	Sg	21 31 16.3	-0.3
PRK					AML	AML	21 31 16.7	
	comp=E,296μm,0.3s							
PRK					AML	AML	21 31 18.8	
	comp=N,152μm,0.5s							
PRK	**Paraskevi**	**0.24**	**102**		P	Pg	21 31 12.8	-0.6
PRK					S	Sg	21 31 16.6	0.0
BOZC	**Bozcaada**	**0.55**	**6**	*i*	P	Pg	21 31 19.0	-0.2
BOZC				*i*	S	Sg	21 31 26.9	+0.4
AYVA	**Ayvalik**	**0.56**	**88**	*i*	P	Pg	21 31 18.6	-0.7
AYVA				*i*	S	Sg	21 31 26.4	-0.2
AYVA	**Ayvalik**	**0.56**	**88**		P	Pg	21 31 18.6	-0.7
AYVA					S	Sg	21 31 26.4	-0.2
BAYC	**CANAKKALE_Bayr**	**0.63**	**45**	*i*	P	Pg	21 31 19.8	-0.9
BAYC				*i*	S	Sg	21 31 28.9	-0.1
BAYC	**CANAKKALE_Bayr**	**0.63**	**45**		P	Pg	21 31 19.8	-0.9
PSRA	**Psara**	**0.82**	**203**		P	Pg	21 31 23.4	-0.8
PSRA					S	Sb	21 31 35.3	-0.3
PSRA	**Psara**	**0.82**	**203**		P	Pg	21 31 23.8	-0.4
PSRA					S	Sb	21 31 35.4	-0.3
LIA	**Limnos Island**	**0.86**	**315**		P	Pg	21 31 24.6	-0.5
LIA					S	Sg	21 31 36.5	+0.3
LIA	**Limnos Island**	**0.86**	**315**		P	Pg	21 31 24.7	-0.3
LIA					S	Sb	21 31 36.6	-0.3
CHOS	**Chios island**	**0.91**	**176**		P	Pg	21 31 25.6	-0.4
CHOS					AML	AML	21 31 41.3	
	comp=N,27μm,0.2s							
CHOS					AML	AML	21 31 42.0	
	comp=E,43μm,0.2s							
CHOS	**Chios island**	**0.91**	**176**		P	Pg	21 31 25.6	-0.4
URLA	**Izmir**	**1.05**	**152**	*i*	P	Pg	21 31 27.5	-1.2
URLA				*i*	S	Sg	21 31 41.6	-0.8
URLA	**Izmir**	**1.05**	**152**		P	Pg	21 31 27.5	-1.2
ZEY	**˙zmir**	**1.13**	**158**	*i*	P	Pb	21 31 29.0	-1.1

*IDC **23** 21:42:52.6±1.9, 17°.50S×167°.39E, h0km, mb3.9/5, mb1 4.1/6, mb1mx3.8/49, mbtmp4.0/6, ML3.9/1, Error ellipse: s-maj=49.3km s-min=29.6km az=132.0*
*ISCJB **23** 21:42:54.0±1.6, 17°.69S±0°.09×167°.3E±0°.2, h19km, mb3.8/4, Error ellipse: s-maj=30.2km s-min=12.7km az=178.8*
ISC 23 21:42:55.4±1.7, 17°.7S±0°.1×167°.5E±0°.3, h19km, n6, σ1§19/6, mb3.8/4, Vanuatu Islands

Code	Station Name	Δ°	AZ°		Phase	ID	Time	Res
					Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**4.48**	**192**		Pn	**Pn**	**21 44 03.2**	**+0.7**
	5.2nm,0.3s,baz=138,slow=23,SNR=32							
DZM					Sn	**Sn**	**21 44 53.0**	**-1.1**
	2.2nm,0.3s,baz=127,slow=20,SNR=3.1							
CTA	**Charters Tower**	**20.20**	**260**		P	Pn	21 47 29.1	-2.2
	2.0nm,0.2s,baz=88,slow=12,SNR=7.6							
STKA	**Stephens Creek**	**27.32**	**234**		P	**P**	**21 48 40.5**	**+1.3**
	3.5nm,0.7s,baz=54,slow=9.0,SNR=5.9							
WRA	**Warramunga Arr**	**31.40**	**261**		P	**P**	**21 49 14.9**	**-0.6**
	1.0nm,1.1s,baz=91,slow=8.9,SNR=4.3							
ASAR	**Alice Springs**	**31.90**	**254**		P	**P**	**21 49 19.6**	**-0.4**
	0.9nm,0.7s,baz=77,slow=8.8,SNR=14							
ILAR	**Eielson Array**	**89.25**	**18**		P	**P**	**21 55 49.4**	**-0.3**
	0.3nm,0.7s,baz=238,slow=4.5,SNR=3.4							

*ISCJB **23** 22:08:31.1±0.6, 34°.75N±0°.06×140°.10E±0°.05, h67km±5km, mb3.5/4, Error ellipse: s-maj=10.6km s-min=7.3km az=12.6*
*JMA **23** 22:08:31.4±0.2, 34°.78N×140°.11E, h65km±2km, M3.1*
*IDC **23** 22:08:35.5±2.1, 34°.34N×138°.87E, h53km±39km, mb3.3/4, mb1 3.5/5, mb1mx3.1/72, mbtmp3.5/5, ML3.4/1, Error ellipse: s-maj=84.7km s-min=10.9km az=68.0*
ISC 23 22:08:32.2±1.0, 34°.78N±0°.06×140°.09E±0°.05, h60km±8km, n15, σ0§72/22, mb3.5/4, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°		Phase	ID	Time	Res
					Op	ISC	h m s	ISC
BSO4	**Boso 4**	**0.30**	**44**		P	**Pn**	**22 08 42.3**	**+0.1**
BSO4					X		22 09 50.0	
TATJ	**Tateyama 2**	**0.30**	**327**		P	**Pn**	**22 08 42.9**	**+0.5**
TATJ					S	**Sn**	**22 08 51.1**	**+1.4**
BSO3	**Boso 3**	**0.35**	**86**		P	**Pn**	**22 08 42.5**	**+0.1**
BSO3					X		22 08 51.1	
KTR	**Katsuura**	**0.41**	**27**		P	**Pn**	**22 08 43.0**	**-0.3**
KTR					S	**Sn**	**22 08 50.9**	**-0.5**
JIM2	**Oshima 3**	**0.54**	**264**		P	**Pn**	**22 08 44.6**	**-0.1**
JIM2					S	**Sn**	**22 08 53.6**	**-0.2**
BSO1	**Boso 1**	**0.74**	**99**		P	**Pn**	**22 08 46.1**	**-0.3**
BSO1					X		22 08 56.9	
KTJJ	**Kamata 2**	**0.85**	**280**		P	**Pn**	**22 08 48.0**	**-0.4**
KTJJ					S	**Sn**	**22 08 59.5**	**-0.8**
JOD2	**Odawara 2**	**0.95**	**301**		P	**Pn**	**22 08 49.1**	**-0.6**
JOD2					S	**Sn**	**22 09 01.6**	**-1.0**
JIZS	**Izushimoda**	**1.00**	**267**		P	**Pn**	**22 08 50.3**	**+0.1**
JIZS					S	**Sn**	**22 09 03.6**	**0.0**
JHJ	**Hachijo jima 2**	**1.67**	**189**		P	**Pn**	**22 09 00.2**	**+1.0**
	26nm,0.3s,baz=106,slow=22,SNR=10							
MJAR	**Matsushiro Arr**	**2.33**	**320**		P	**Pn**	**22 09 08.8**	**+0.5**
	10nm,0.3s,baz=170,slow=15,SNR=63							
MJAR					S	**Sn**	**22 09 37.3**	**+1.5**
	8.8nm,0.3s,baz=179,slow=19,SNR=7.5							
MKAR	**Makanchi Array**	**44.44**	**304**		P	**P**	**22 16 37.6**	**+0.4**
	0.2nm,0.5s,baz=91,slow=8.6,SNR=3.9							
KURBB	**Kurchatov Arra**	**46.57**	**310**		P	**P**	**22 16 54.2**	**+0.3**
	0.3nm,0.4s,baz=83,slow=8.0,SNR=5.6							
WRA	**Warramunga Arr**	**54.69**	**187**		P	**P**	**22 17 54.6**	**-0.6**
	1.7nm,0.7s,baz=3.1,slow=7.6,SNR=14							
ASAR	**Alice Springs**	**58.42**	**187**		P	**P**	**22 18 21.1**	**-0.6**
	0.3nm,0.8s,baz=16,slow=11,SNR=3.4							

JMA 23 22:08:57.5±0.2, 32°.99N×140°.41E, h58km±5km, M3.8, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHJ2	**Mitsune**	**0.51**	**284**	P	Pn	22 09 09.6	+0.2
JHCJ	**Hachijojimakas**	**0.52**	**279**	P	Pn	22 09 09.6	+0.1
JHCJ				S	Sn	22 09 18.0	-0.3
JKO	**Kozu shima**	**1.60**	**319**	P	Pn	22 09 24.1	+0.6
JKO				*e*S	Sn	22 09 44.0	+0.9
JNIO	**Niijimaoohara**	**1.66**	**326**	S	Sn	22 09 44.7	+0.2
BSO3	**Boso 3**	**1.81**	**3**	P	Pn	22 09 24.8	-1.3
JIM2	**Oshima 3**	**1.91**	**335**	S	Sn	22 09 49.9	-0.7
BSO4	**Boso 4**	**2.00**	**358**	P	Pn	22 09 28.1	-0.7
BSO4				S	Sn	22 09 51.1	-1.5
KTJJ	**Kamata 2**	**2.23**	**330**	P	Pn	22 09 32.3	+0.2
KTJJ				*e*S	Sn	22 09 58.4	-0.1
JOD2	**Odawara 2**	**2.52**	**335**	P	Pn	22 09 37.1	+1.1
JOD2				*e*S	Sn	22 10 04.6	-1.0
TK04	**Tokai 4**	**2.53**	**304**	P	Pn	22 09 38.2	+2.2

*IDC **23** 22:15:32.9±0.5, 34°.94N×25°.41E, h0km, mb4.6/38, mb1 4.6/47, mb1mx4.5/74, mbtmp4.6/47, ML4.1/8, MS4.1/5, Ms1 4.1/5, ms1mx3.4/68, Error ellipse: s-maj=10.8km s-min=6.6km az=22.0*
*ISCJB **23** 22:15:33.2±0.2, 34°.76N±0°.02×25°.38E±0°.01, h15km, mb4.7/90, MS4.4/8, Error ellipse: s-maj=2.4km s-min=1.4km az=24.2*
*BJI **23** 22:15:33.5, 34°.71N×24°.89E, h38km, mb4.8/47, mB5.0/30, Ms4.8/12, Ms7 4.5/12*
*MOS **23** 22:15:33.5±1.4, 34°.90N×25°.28E, h15km, mb5.1/28, Error ellipse: s-maj=5.2km s-min=3.2km az=83.1*
*ATH **23** 22:15:34.5, 34°.94N×25°.35E, h21km, ML4.5/20, Error ellipse: s-maj=1.8km s-min=0.8km az=172.0*
*NEIC **23** 22:15:34.4±0.0, 34°.94N×25°.35E, h21km, mb4.6/35, ML4.5(ATH), ML4.6(THE), After ATH.*
NEIC Felt [II] at Irakleio. Also felt at Agia Varvara, Gazio and Ierapetra.
*HLW **23** 22:15:34.1, 35°.06N×25°.54E, h13km±11km, Md4.9*
*THE **23** 22:15:34.4, 34°.90N×25°.34E, h10km, ML4.6/12, Error ellipse: s-maj=0.6km s-min=0.3km az=358.0*
*CSEM **23** 22:15:34.1±0.1, 34°.82N×25°.38E, h10km, mb4.7/26, Error ellipse: s-maj=4.2km s-min=2.4km az=21.0*
*GII **23** 22:15:35.7±0.3, 34°.90N×25°.44E, h47km, mb4.5/8, MD4.4/8*
*NIC **23** 22:15:37.0±0.4, 34°.05N×25°.92E, h2km, mb4.8, ML4.4*
*DDA **23** 22:15:55.3, 34°.90N×25°.11E, h24km, Ml4.6*
*TIR **23** 22:16:22.1, 37°.04N×21°.16E, h17km, Md4.5/10*
ISC 23 22:15:34.8±0.3, 34°.91N±0°.03×25°.36E±0°.01, h15km, h15km:pP-P, n787, σ1§89/887, mb4.8/90, MS4.5/9, 30C-31D, Crete

Code	Station Name	Δ°	AZ°		Phase	ID	Time	Res
					Op	ISC	h m s	ISC
LAST	**Lasithi**	**0.27**	**21**		P	**Pg**	**22 15 40.5**	**-0.2**
LAST					AML	AML	22 15 45.5	
LAST					S	**Sb**	**22 15 45.7**	**-0.3**
LAST					AML	AML	22 15 45.9	
LAST	**Lasithi**	**0.27**	**21**		P	**Pg**	**22 15 40.4**	**-0.3**
LAST					S	**Sg**	**22 15 44.7**	**-0.1**
LAST	**Lasithi**	**0.27**	**21**		P	**Pg**	**22 15 40.4**	**-0.3**
LAST					S	**Sg**	**22 15 44.7**	**-0.1**
LAST	**Lasithi**	**0.27**	**21**		P	**Pg**	**22 15 40.4**	**-0.3**
LAST					S	**Sg**	**22 15 45.2**	**+0.4**
NPS	**Neapolis**	**0.41**	**30**		P	**Pg**	**22 15 42.7**	**-0.5**
NPS					S	**Sb**	**22 15 49.9**	**0.0**
NPS					AML	AML	22 15 50.9	
NPS					AML	AML	22 15 56.3	
NPS	**Neapolis**	**0.41**	**30**		P	**Pg**	**22 15 42.7**	**-0.5**
NPS					S	**Sg**	**22 15 49.3**	**+0.5**
NPS	**Neapolis**	**0.41**	**30**		S	**Pg**	**22 15 42.7**	**-0.5**
NPS					S	**Sg**	**22 15 49.3**	**+0.5**
NPS	**Neapolis**	**0.41**	**30**		P	**Pg**	**22 15 42.7**	**-0.5**
NPS					S	**Sg**	**22 15 49.2**	**+0.5**
NPS	**Neapolis**	**0.41**	**30**		P	**Pg**	**22 15 42.7**	**-0.5**
NPS					S	**Sg**	**22 15 49.3**	**+0.5**
IACM	**Heraklion**	**0.46**	**329**		P	**Pg**	**22 15 44.0**	**-0.1**
IACM					S	**Sg**	**22 15 49.1**	**-1.3**
IACM	**Heraklion**	**0.46**	**329**		P	**Pg**	**22 15 43.6**	**-0.5**
IACM					S	**Sg**	**22 15 50.6**	**+0.2**
IACM	**Heraklion**	**0.46**	**329**		P	**Pg**	**22 15 43.6**	**-0.5**
IACM					S	**Sg**	**22 15 49.5**	**-0.9**
SIVA	**Sivas**	**0.47**	**284**		P	**Pg**	**22 15 43.5**	**-0.6**
SIVA					S	**Sg**	**22 15 50.7**	**+0.3**
SIVA					AML	AML	22 15 52.7	
SIVA					AML	AML	22 15 54.6	
SIVA	**Sivas**	**0.47**	**284**		P	**Pg**	**22 15 43.5**	**-0.6**
SIVA					S	**Sg**	**22 15 50.2**	**-0.2**
SIVA	**Sivas**	**0.47**	**284**		P	**Pg**	**22 15 43.5**	**-0.6**
SIVA					S	**Sg**	**22 15 50.2**	**-0.2**
SIVA	**Sivas**	**0.47**	**284**		P	**Pg**	**22 15 43.5**	**-0.6**
SIVA					S	**Sg**	**22 15 50.5**	**+0.1**
IDI	**Anoyia**	**0.54**	**315**		Pg	**Pg**	**22 15 44.4**	**-1.2**
	1μm,0.3s,baz=135,slow=17							
IDI					Lg	Lg	22 15 52.4	
	7μm,0.3s,baz=48,slow=22,SNR=66							
IDI	**Anoyia**	**0.54**	**315**		P	**Pg**	**22 15 44.5**	**-1.1**
IDI	**Anoyia**	**0.54**	**315**	*e*	Pg	**Pg**	**22 15 44.4**	**-1.2**
IDI					Lg	Lg	22 15 52.4	
IDI				*e*	Sg	**Sg**	**22 15 52.7**	**-0.2**
ZKR	**Zakros**	**0.73**	**73**		P	**Pg**	**22 15 48.1**	**-1.0**
ZKR					S	**Sg**	**22 15 58.6**	**-0.3**
ZKR					AML	AML	22 16 02.1	
	comp=N,92969μm,0.4s							
ZKR					AML	AML	22 16 02.5	
ZKR	**Zakros**	**0.73**	**73**		P	**Pg**	**22 15 48.4**	**-0.7**
ZKR	**Zakros**	**0.73**	**73**		P	**Pg**	**22 15 48.4**	**-0.7**
ZKR					S	**Sb**	**22 16 00.1**	**+0.9**
ZKR	**Zakros**	**0.73**	**73**		P	**Pg**	**22 15 48.4**	**-0.7**
ZKR					S	**Sg**	**22 15 58.9**	**+0.1**
GVD	**Gavdhos**	**1.05**	**267**		P	**Pb**	**22 15 54.5**	**-0.2**
GVD					S	**Sg**	**22 16 08.8**	**-0.1**
GVD					AML	AML	22 16 15.4	
	comp=N,56130μm,0.5s							
GVD					AML	AML	22 16 15.7	
	comp=E,78528μm,0.4s							
GVD	**Gavdhos**	**1.05**	**267**		P	**Pb**	**22 15 53.2**	**-1.5**
GVD	**Gavdhos**	**1.05**	**267**		P	**Pb**	**22 15 53.2**	**-1.5**
GVD					S	**Sb**	**22 16 08.0**	**-0.3**
GVD	**Gavdhos**	**1.05**	**267**		P	**Pb**	**22 15 54.4**	**-0.3**
GVD					S	**Sg**	**22 16 08.8**	**-0.1**
VAM	**Vamos**	**1.07**	**298**		P	**Pb**	**22 15 53.6**	**-1.6**
VAM					S	**Sb**	**22 16 09.1**	**+0.1**
VAM					AML	AML	22 16 13.7	
	comp=E,60853μm,0.4s							
VAM					AML	AML	22 16 14.9	
	comp=N,71043μm,0.4s							
VAM	**Vamos**	**1.07**	**298**		P	**Pb**	**22 15 53.6**	**-1.6**
VAM	**Vamos**	**1.07**	**298**		P	**Pb**	**22 15 53.6**	**-1.6**
VAM					S	**Sb**	**22 16 09.0**	**+0.1**
VAM	**Vamos**	**1.07**	**298**		S	**Pb**	**22 15 54.0**	**-1.1**
VAM					S	**Sb**	**22 16 09.1**	**+0.1**
VAM	**Vamos**	**1.07**	**298**		P	**Pb**	**22 15 53.6**	**-1.6**
THT1					S	**Sb**	**22 15 56.5**	**-1.4**
IMMV	**Iera Moni Meta**	**1.26**	**296**		P	**Pn**	**22 15 56.5**	**-1.4**
IMMV					S	**Sb**	**22 16 13.8**	**-0.5**
IMMV	**Iera Moni Meta**	**1.26**	**296**		P	**Pn**	**22 15 57.2**	**-0.7**
IMMV					S	**Sg**	**22 16 15.2**	**-0.3**
THR6	**Thira Island,**	**1.45**	**1**		P	**Pn**	**22 16 00.4**	**-0.1**
THR6	**Thira Island,**	**1.45**	**1**		P	**Pn**	**22 16 00.8**	**+0.3**
THR9	**Santorini-Faro**	**1.45**	**360**		P	**Pn**	**22 16 00.8**	**+0.3**
THR9	**Santorini-Faro**	**1.45**	**360**		P	**Pn**	**22 16 01.0**	**+0.5**
SANT	**Santorini**	**1.46**	**3**	*e*	P	**Pn**	**22 16 00.9**	**+0.2**
SANT	**Santorini**	**1.46**	**3**		P	**Pn**	**22 16 00.6**	**-0.2**
SANT	**Santorini**	**1.46**	**3**	*e*	Pn	**Pn**	**22 16 00.8**	**0.0**
SANT				*e*	S	**Sn**	**22 16 19.8**	**+0.1**
SANT	**Santorini**	**1.46**	**3**		P	**Pn**	**22 16 01.0**	**+0.2**
SANT				*e*	S	**Sn**	**22 16 19.8**	**+0.1**
THT1	**Athinios (Pele**	**1.48**	**2**		P	**Pn**	**22 16 00.8**	**-0.1**
THT1					S	**Sn**	**22 16 19.7**	**-0.2**
THT1	**Athinios (Pele**	**1.48**	**2**		P	**Pn**	**22 15 59.6**	**-1.3**
THT1	**Athinios (Pele**	**1.48**	**2**		S	**Sn**	**22 16 19.3**	**-0.6**
THT1	**Athinios (Pele**	**1.48**	**2**		P	**Pn**	**22 16 01.1**	**+0.2**
THT1					S	**Sb**	**22 16 20.5**	**-0.1**
THR3	**Thira Island,**	**1.50**	**1**		P	**Pn**	**22 16 00.7**	**-0.5**
THR3	**Thira Island,**	**1.50**	**1**		P	**Pn**	**22 16 01.3**	**+0.1**
THR8	**Santorini-Mono**	**1.50**	**4**		P	**Pn**	**22 16 01.1**	**-0.1**
THR8	**Santorini-Mono**	**1.50**	**4**		P	**Pn**	**22 16 01.5**	**+0.3**
THR5	**Thira Island,**	**1.51**	**360**		P	**Pn**	**22 16 01.4**	**+0.1**
THR5	**Thira Island,**	**1.51**	**360**		P	**Pn**	**22 16 01.7**	**+0.4**
THR7	**Fira-Santorini**	**1.51**	**2**		P	**Pn**	**22 16 02.0**	**+0.6**
THR7	**Fira-Santorini**	**1.51**	**2**		P	**Pn**	**22 16 02.0**	**+0.6**
THT2	**Imerovigli**	**1.53**	**2**		P	**Pb**	**22 16 03.1**	**+0.2**
THT2					S	**Sb**	**22 16 22.5**	**+0.5**
THT2	**Imerovigli**	**1.53**	**2**		P	**Pb**	**22 16 02.6**	**-0.3**
THT2					S	**Sb**	**22 16 22.5**	**+0.5**
THR2	**Thira island,**	**1.54**	**2**		P	**Pn**	**22 16 01.8**	**0.0**
THR2	**Thira island,**	**1.54**	**2**		P	**Pn**	**22 16 02.1**	**+0.3**
KARP	**Karpathos**	**1.61**	**66**	*e*	P	**Pb**	**22 16 05.0**	**+0.8**
KARP	**Karpathos**	**1.61**	**66**		P	**Pb**	**22 16 04.4**	**+0.1**
KARP					S	**Sg**	**22 16 26.2**	**-0.5**
KARP					AML	AML	22 16 44.4	
	comp=N,21736μm,0.9s							
KARP					AML	AML	22 16 55.4	
	comp=E,17264μm,0.9s							
KARP	**Karpathos**	**1.61**	**66**	*e*	Pn	**Pb**	**22 16 04.0**	**-0.3**
KARP					S	**Sn**	**22 16 23.3**	**+0.1**
KARP	**Karpathos**	**1.61**	**66**		P	**Pn**	**22 16 01.5**	**-1.2**
KARP					S	**Sn**	**22 16 23.3**	**+0.1**
KARP	**Karpathos**	**1.61**	**66**		P	**Pb**	**22 16 04.1**	**-0.1**
KARP					S	**Sg**	**22 16 25.7**	**-0.9**
IOSP	**Ios island**	**1.81**	**358**		P	**Pb**	**22 16 06.9**	**-0.8**
IOSP					AML	AML	22 16 29.7	
	comp=E,30884μm,0.7s							
IOSP					AML	AML	22 16 42.1	
	comp=N,21635μm,0.6s							
IOSP	**Ios island**	**1.81**	**358**		P	**Pn**	**22 16 06.6**	**+1.0**
ANKY	**Antikythira Is**	**1.94**	**300**		P	**Pb**	**22 16 09.4**	**-0.4**
ANKY					S	**Sn**	**22 16 32.4**	**+1.2**
ANKY					AML	AML	22 16 47.4	
	comp=E,15283μm,0.7s							
ANKY					AML	AML	22 16 53.2	
	comp=N,12145μm,1.4s							
ANKY	**Antikythira Is**	**1.94**	**300**		P	**Pn**	**22 16 06.6**	**-0.6**
ANKY					S	**Sn**	**22 16 30.4**	**-0.9**
ANKY	**Antikythira Is**	**1.94**	**300**		P	**Pn**	**22 16 06.6**	**-0.6**
ANKY					S	**Sn**	**22 16 30.4**	**-0.9**
ANKY	**Antikythira Is**	**1.94**	**300**		P	**Pb**	**22 16 08.8**	**-1.0**
ANKY					S	**Sn**	**22 16 32.5**	**+1.2**
MHLO	**Agia Marina, M**	**1.94**	**337**		P	**Pn**	**22 16 08.1**	**+0.8**
MHLO					S	**Sb**	**22 16 33.7**	**-0.3**
MHLO					AML	AML	22 16 44.4	
	comp=E,47782μm,0.8s							
MHLO					AML	AML	22 16 49.2	
	comp=N,55408μm,0.5s							
MHLO	**Agia Marina, M**	**1.94**	**337**		P	**Pn**	**22 16 06.0**	**-1.3**
MHLO					S	**Sn**	**22 16 30.8**	**-0.7**
MHLO	**Agia Marina, M**	**1.94**	**337**		P	**Pn**	**22 16 08.1**	**+0.8**
MHLO					S	**Sb**	**22 16 33.1**	**-0.9**
MHLA	**Plaka, Milos I**	**1.99**	**338**		P	**Pn**	**22 16 08.6**	**+0.7**
MHLA					AML	AML	22 16 52.1	
	comp=N,22031μm,0.9s							
MHLA					AML	AML	22 16 53.5	
	comp=E,18552μm,0.8s							
MHLA	**Plaka, Milos I**	**1.99**	**338**		P	**Pn**	**22 16 08.6**	**+0.7**
APE	**Apeiranthos**	**2.16**	**4**	*e*	P	**Pn**	**22 16 10.9**	**+0.5**
APE	**Apeiranthos**	**2.16**	**4**		P	**Pn**	**22 16 09.9**	**-0.4**
APE					AML	AML	22 16 51.4	
	comp=E,6407μm,0.7s							
APE					AML	AML	22 16 52.0	
	comp=N,5893μm,0.5s							
APE	**Apeiranthos**	**2.16**	**4**		P	**Pn**	**22 16 09.7**	**-0.7**
APE	**Apeiranthos**	**2.16**	**4**		P	**Pn**	**22 16 09.7**	**-0.7**
APE	**Apeiranthos**	**2.16**	**4**		P	**Pn**	**22 16 10.6**	**+0.2**
APE	**Apeiranthos**	**2.16**	**4**	*e*	P	**Pn**	**22 16 10.5**	**+0.2**
NISR	**Nisiros**	**2.23**	**40**		P	**Pb**	**22 16 13.3**	**-1.5**
NISR					AML	AML	22 16 57.7	
	comp=N,16868μm,1.4s							
NISR					AML	AML	22 16 59.0	
	comp=E,18187μm,0.6s							
NISR	**Nisiros**	**2.23**	**40**		P	**Pn**	**22 16 12.8**	**+1.6**
KYTH	**Kithira**	**2.32**	**306**		P	**Pn**	**22 16 13.1**	**+0.6**
KYTH	**Kithira**	**2.32**	**306**		P	**Pn**	**22 16 12.1**	**-0.5**
KYTH	**Kithira**	**2.32**	**306**		P	**Pn**	**22 16 12.1**	**-0.5**
SERI	**Serifos**	**2.36**	**343**		P	**Pn**	**22 16 13.2**	**+0.1**
SERI					AML	AML	22 16 57.0	
	comp=N,3058μm,0.8s							
SERI					AML	AML	22 17 06.0	
	comp=E,3217μm,0.5s							
SERI	**Serifos**	**2.36**	**343**		P	**Pn**	**22 16 13.6**	**+0.5**
MNVA	**Monemvasia**	**2.59**	**314**		P	**Pn**	**22 16 17.3**	**+1.1**
MNVA	**Monemvasia**	**2.59**	**314**		P	**Pn**	**22 16 17.3**	**+1.1**
ARG	**Arkhangelos**	**2.61**	**59**		P	**Pn**	**22 16 15.3**	**-1.1**
ARG	**Arkhangelos**	**2.61**	**59**		P	**Pn**	**22 16 15.3**	**-1.1**
ARG	**Arkhangelos**	**2.61**	**59**		P	**Pn**	**22 16 15.3**	**-1.1**
ARG	**Arkhangelos**	**2.61**	**59**		P	**Pn**	**22 16 15.3**	**-1.1**
TNSA	**Tinos**	**2.63**	**357**		P	**Pn**	**22 16 19.1**	**+2.4**
TNSA	**Tinos**	**2.63**	**357**		P	**Pn**	**22 16 18.5**	**+1.7**
BODT	**Bodrum**	**2.67**	**36**	*e*	P	**Pn**	**22 16 18.3**	**+1.0**
VLI	**Veliai**	**2.67**	**313**		P	**Pn**	**22 16 19.0**	**+1.6**
VLI					AML	AML	22 17 02.9	
	comp=E,3632μm,0.6s							
VLI					AML	AML	22 17 10.5	
	comp=N,4441μm,1.4s							
VLI	**Veliai**	**2.67**	**313**		P	**Pn**	**22 16 16.8**	**-0.6**
VLI	**Veliai**	**2.67**	**313**		P	**Pn**	**22 16 16.8**	**-0.6**
VLI	**Veliai**	**2.67**	**313**		P	**Pn**	**22 16 18.7**	**+1.3**
BDRM	**Kayabasi**	**2.74**	**38**	*i*	P	**Pn**	**22 16 19.7**	**+1.5**
BDRM	**Kayabasi**	**2.74**	**38**		P	**Pn**	**22 16 19.7**	**+1.5**
YDRA	**Hydra**	**2.88**	**328**		P	**Pn**	**22 16 22.5**	**+2.3**
YDRA	**Hydra**	**2.88**	**328**		P	**Pn**	**22 16 21.9**	**+1.7**
SMG	**Samos**	**3.04**	**23**		P	**Pn**	**22 16 22.4**	**-0.1**
SMG	**Samos**	**3.04**	**23**		P	**Pn**	**22 16 23.0**	**+0.6**
KRND	**KRANIDI**	**3.05**	**325**		P	**Pn**	**22 16 24.2**	**+1.6**
KRND					AML	AML	22 17 08.3	
	comp=E,4114μm,0.6s							
KRND					AML	AML	22 17 18.5	
	comp=N,4418μm,1.1s							
KRND	**KRANIDI**	**3.05**	**325**		P	**Pn**	**22 16 23.9**	**+1.4**
DYR	**Agios Nikonas**	**3.08**	**308**		P	**Pn**	**22 16 22.0**	**-1.0**
DYR	**Agios Nikonas**	**3.08**	**308**		P	**Pn**	**22 16 22.0**	**-1.0**
MLSB	**Milas**	**3.08**	**39**	*e*	P	**Pn**	**22 16 24.5**	**+1.5**
DID	**Didima**	**3.11**	**327**		P	**Pn**	**22 16 25.1**

SIGR	SIGRI	4.32	5	eP	Pn	22 16 41.8	+1.9
MANT	Manisa	4.40	35	ePn	Pn	22 16 45.0	+3.6
MANT	Manisa	4.40	35	ePn	Pn	22 16 45.0	+3.6
KULA	Kula-Manisa	4.47	35	eP	Pn	22 16 44.6	+2.4
KORT	Korkueli	4.55	61	eP	Pn	22 16 45.3	+1.9
KORT	Korkueli	4.55	61	*i* P	Pn	22 16 46.0	+2.6
KORT				*i* S	Sb	22 17 45.6	-3.7
KORT	Korkueli	4.55	61	P	Pn	22 16 46.0	+2.6
BRDR	BURDUR-Merkez	4.71	52	*i* P	Pn	22 16 48.4	+3.0
BRDR	BURDUR-Merkez	4.71	52	P	Pn	22 16 48.4	+3.0
ANTB	Antalya	4.73	64	eP	Pn	22 16 48.4	+2.7
AGG	Agios Georgios	4.77	330	eP	Pn	22 16 46.7	+0.5
AGG	Agios Georgios	4.77	330	ePn	Pn	22 16 49.0	+2.8
AGG	Agios Georgios	4.77	330	eP	Pn	22 16 49.0	+2.8
AGG	Agios Georgios	4.77	330	eP	Pn	22 16 49.0	+2.8
KHAL	Karahalli	4.79	43	*i* P	Pn	22 16 49.9	+3.3
KHAL	Karahalli	4.79	43	P	Pn	22 16 49.9	+3.3
STEP	BALIKESIR_Sava	4.84	22	*i* P	Pn	22 16 47.2	0.0
STEP	BALIKESIR_Sava	4.84	22	P	Pn	22 16 47.2	0.0
DEMI	Demirci	4.92	32	*i* P	Pn	22 16 52.1	+3.7
DEMI	Demirci	4.92	32	P	Pn	22 16 52.1	+3.7
BCK	Bucak	4.94	57	eP	Pn	22 16 51.5	+2.9
BOZC	Bozcaada	4.96	6	eP	Pn	22 16 50.7	+2.0
EZN	Ezine	4.97	9	eP	Pn	22 16 50.7	+1.8
ISP	Isparta	5.08	54	eP	Pn	22 16 52.2	+1.6
ISP	Isparta	5.08	54	ePn	Pn	22 16 52.0	+1.4
ISP	Isparta	5.08	54	Pn	Pn	22 16 49.0	-1.6
ISP	Isparta	5.08	54	*i* P	Pn	22 16 53.0	+2.4
ISP	Isparta	5.08	54	Pn	Pn	22 16 49.0	-1.6
ISP	Isparta	5.08	54	*i* P	Pn	22 16 53.0	+2.4
KZIL	AFYON_Kizioren	5.10	48	*i* P	Pn	22 16 53.0	+2.2
KZIL	AFYON_Kizioren	5.10	48	P	Pn	22 16 53.0	+2.2
BALB	Balikesir	5.13	22	eP	Pn	22 16 53.5	+2.3
SUTC	Sutluce-Ispart	5.23	59	eP	Pn	22 16 55.3	+2.6
GADA	Gvkgeada	5.29	4	eP	Pn	22 16 55.5	+2.2
BAGO	Egridir - ISPA	5.35	53	*i* P	Pn	22 16 56.3	+2.1
KEPZ	Antalya-Kepez	5.44	67	*i* P	Pn	22 16 58.0	+2.5
KEPZ				*i* S	Sn	22 18 01.9	+4.0
SHUT	Suhut-Afyon	5.53	47	eP	Pn	22 16 59.4	+2.6
TVSB	Tavsanli	5.59	35	eP	Pn	22 17 00.7	+3.1
KCTX	Karacabey (Bur	5.85	23	eP	Pn	22 17 03.6	+2.5
BOLV	Bolvadin	5.88	48	*i* P	Pn	22 17 02.6	+1.1
BOLV	Bolvadin	5.88	48	P	Pn	22 17 02.6	+1.1
ALFC	Alefka baz=260	5.94	86	P	Pn	22 17 01.8	-0.6
ALFC				S	Sn	22 18 08.8	-1.4
ALFC	Alefka	5.94	86	P	Pn	22 17 01.8	-0.6
ALFC				S	Sn	22 18 08.8	-1.4
DOGA	KONYA_Doganhis	6.00	56	*i* P	Pn	22 17 06.4	+3.2
IGT	Igoumenitsa	6.12	320	‖*i*	Pn	22 17 07.7	+3.0
LEF	Lefka	6.18	86	eP	Pn	22 17 07.2	+1.6
SZAC	Souni baz=264	6.19	89	P	Pn	22 17 05.2	-0.5
SZAC				S	Sn	22 18 12.6	-3.6
SZAC	Souni	6.19	89	P	Pn	22 17 05.2	-0.5
KMER	Konya-Meram	6.34	61	*i* P	Pn	22 17 10.8	+3.0
SRS	Serrai	6.36	348	⇑*i*	Pn	22 17 11.2	+3.2
CAVI	Cavuskoy	6.37	33	eP	Pn	22 17 11.4	+3.2
ERMK	Ermenek	6.38	72	*i* P	Pn	22 17 10.6	+2.1
ERMK				*i* S	Sn	22 18 17.8	-3.3
TEKE	Tekeli-Mersin	6.44	77	eP	Pn	22 17 09.7	+0.6
MAMC	Mammari baz=261	6.45	85	P	Pn	22 17 09.0	-0.3
MAMC	Mammari	6.45	85	P	Pn	22 17 09.0	-0.3
LADK	Ladik-KONYA	6.53	58	eP	Pn	22 17 13.1	+2.7
SRN	Sarande	6.54	321	*i* Pn	Pn	22 17 11.3	+0.8
SRN	Sarande	6.54	321	*i* PN	Pn	22 17 11.3	+0.8
SRN				*i* SN	Sn	22 18 20.3	-4.6
CSS	Mathiatis	6.55	87	eP	Pn	22 17 09.7	-0.9
CSS	Mathiatis	6.55	87	ePn	Pn	22 17 09.5	-1.2
CSS				eS	Sn	22 18 23.6	-1.4
CSS	Mathiatis baz=263	6.55	87	P	Pn	22 17 09.4	-1.2
CSS				S	Sn	22 18 22.0	-3.0
CSS	Mathiatis	6.55	87	ePn	Pn	22 17 09.5	-1.2
CSS				eS	Sn	22 18 23.6	-1.4
CSS	Mathiatis	6.55	87	Pn	Pn	22 17 09.2	-1.4
FNA	Florina	6.66	333	‖*i*	Pn	22 17 15.4	+3.7
KDZ	Kurdzhali	6.73	0	*i* P	Pn	22 17 16.7	+1.5
KBN	Korca	6.76	329	*i* Pn	Pn	22 17 14.3	+0.8
KBN	Korca	6.76	329	*i* PN	Pn	22 17 14.3	+0.8
KBN				*i* SN	Sn	22 18 28.5	-1.8
VAY	Valandovo	6.77	342	*i* Pn	Pn	22 17 18.9	+5.3
VAY				*i* Sn	Sn	22 18 36.6	+6.1
RZN	Rozhen	6.79	356	*i* P	Pn	22 17 16.9	+2.8
GULN	MERSIN_Gulnar	6.79	77	*i* P	Pn	22 17 15.0	+1.1
GULN				*i* S	Sn	22 18 29.7	-1.3
GULN	MERSIN_Gulnar	6.79	77	P	Pn	22 17 15.0	+1.1
GULN				S	Sn	22 18 29.7	-1.3
AKKU	Akkuyu-Mersin	6.79	77	eP	Pn	22 17 14.6	+0.6
MMB	Musomiste	6.79	350	*i* P	Pn	22 17 16.2	+2.2
BIA	Bitola	6.88	334	ePn	Pn	22 17 18.8	+3.5
DIM	Dimitrovgrad	7.13	1	*i* P	Pn	22 17 24.1	+5.5
OHR	Ohrid	7.16	331	ePn	Pb	22 17 32.1	-6.9
KKB	Krupnik	7.18	346	*i* P	Pn	22 17 26.4	+2.2
PLD	Plovdiv	7.21	356	*i* P	Pn	22 17 26.0	+2.4
KRUS	Krusevo	7.22	335	ePn	Pn	22 17 20.7	+0.8
KIZK	Mersin	7.32	75	eP	Pn	22 17 22.6	+1.4
KIZK	Mersin	7.32	75	*i* P	Pn	22 17 23.1	+2.0
KIZK				*i* S	Sn	22 18 43.6	-0.4
SULT	Sultanhani-AKS	7.34	61	eP	Pn	22 17 22.6	+1.0
AFSR	Af˙ar-Bala (A	7.64	51	eP	Pn	22 17 27.4	+1.7
BR231	Keskin MP Arra	7.69	48	ePn	Pn	22 17 29.9	+3.6
BR231	Keskin MP Arra	7.69	48	ePn	Pn	22 17 30.0	+3.6
SKO	Skopje	7.70	338	ePn	Pn	22 17 28.8	+2.4
LOD	Lodumlu	7.71	48	eP	Pn	22 17 29.6	+3.0
ANTO	Ankara	7.71	48	eP	Pn	22 17 29.9	+3.2
ANTO	Ankara	7.71	48	⇑*i* P	Pn	22 17 29.9	+3.2
ANTO	Ankara	7.71	48	ePn	Pn	22 17 28.9	+2.3
ANTO	Ankara SNR=37	7.71	48	P	Pn	22 17 29.3	+2.6
ANTO	Ankara	7.71	48	eP	Pn	22 17 29.0	+2.3
ANTO	Ankara	7.71	48	eP	Pn	22 17 29.0	+2.3
TIR	Tirane	7.75	328	ePn	Pn	22 17 25.3	-1.8
TIR	Tirane	7.75	328	ePn	Pn	22 17 25.3	-1.8
TIR	Tirane	7.75	328	*i* PN	Pn	22 17 28.8	+1.7
TIR	Tirane	7.75	328	eP	Pn	22 17 25.3	-1.8
PHP	Peshkopia	7.79	332	*i* PN	Pn	22 17 29.7	+2.0
VTS	Vitosha	7.86	348	⇑*i* P	Pn	22 17 31.9	+3.2
VTS	Vitosha	7.86	348	ePn	Pn	22 17 31.5	+2.8
VTS	Vitosha	7.86	348	eP	Pn	22 17 31.5	+2.8
VTS	Vitosha	7.86	348	eP	Pn	22 17 31.5	+2.8
TIP	Timpagrande	8.09	304	⇑*i* P	Pn	22 17 32.5	+0.6
TIP	Timpagrande	8.09	304	ePn	Pn	22 17 31.9	0.0
TIP				eS	Sn	22 18 53.6	-9.5
TIP	Timpagrande	8.09	304	ePn	Pn	22 17 31.9	0.0
TIP	Timpagrande	8.09	304	⇑*i* P	Pn	22 17 32.5	+0.6
TIP				eS	Sn	22 18 53.6	-9.5
BR131	Keskin Array S	8.16	51	ePn	Pn	22 17 35.4	+2.3
BR131	Keskin Array S	8.16	51	ePn	Pn	22 17 35.2	+2.3
BRTR	Keskin Array B comp=N,0.5nm,0.3s,baz=229,slow=12,SNR=75	8.16	51	Pn	Pn	22 17 34.8	+1.9
PUK	Puka	8.31	331	*i* PN	Pn	22 17 31.4	-3.5
CEL	Celeste	8.32	296	ePn	Pn	22 17 35.5	+0.6
CEL				eS	Sn	22 19 05.6	-3.0
CEL	Celeste	8.32	296	ePn	Pn	22 17 35.5	+0.6
CEL				eS	Sn	22 19 05.6	-3.0
OFRI	'Ofer	8.33	103	Pn	Pn	22 17 33.1	-2.0
OFRI	'Ofer	8.33	103	Pn	Pn	22 17 33.1	-2.0
OFRI				Sn	Sn	22 19 05.9	-3.1
SLTI	Sal'it	8.50	106	Pn	Pn	22 17 35.9	-1.6
SLTI	Sal'it	8.50	106	Pn	Pn	22 17 35.9	-1.6
SLTI				Sn	Sn	22 19 11.8	-1.4
BCI	Bajram Curri	8.52	333	*i* PN	Pn	22 17 34.8	+2.5
MMA0B	Mount Meron ar	8.55	100	Pn	Pn	22 17 36.8	-1.4
MMA0B	Mount Meron ar	8.55	100	Pn	Pn	22 17 36.8	-1.4
MMAI	Mount Meron Ar comp=N,9.6nm,0.3s,baz=280,slow=11,SNR=40	8.55	100	Pn	Pn	22 17 36.7	-1.5
MMAI				Sn	Sn	22 19 11.6	-2.9
	comp=N,5.9nm,0.3s,baz=277,slow=9.1,SNR=4.2						
BHL	Bhannes	8.57	94	eP	Pn	22 17 39.1	+0.7
KZIT	Kziot	8.58	115	Pn	Pn	22 17 37.0	-1.5
KZIT	Kziot	8.58	115	Pn	Pn	22 17 37.0	-1.5
QRWL	Qaraoun	8.65	96	eP	Pn	22 17 38.0	-1.6
AMAZ	Amatzia	8.68	110	Pn	Pn	22 17 38.2	-1.7
AMAZ	Amatzia	8.68	110	Pn	Pn	22 17 38.2	-1.7
DRME	Dracevica, Mon	8.73	328	ePn	Pn	22 17 39.9	-0.6
MMLI	Mount Malkishu	8.74	104	Pn	Pn	22 17 39.5	-1.2
MMLI	Mount Malkishu	8.74	104	Pn	Pn	22 17 39.5	-1.2
SHBL	Chebaa	8.75	97	eP	Pn	22 17 39.6	-1.3
HWQ	Hawqa	8.75	91	eP	Pn	22 17 40.0	-1.0
RCY	Rachaya	8.79	96	eP	Pn	22 17 39.9	-1.7
HMDT	Nahal Hemdat	8.88	104	Pn	Pn	22 17 41.1	-1.6
HMDT				Sn	Sn	22 19 20.4	-2.1
HMDT	Nahal Hemdat	8.88	104	Pn	Pn	22 17 41.1	-1.6
HMDT				Sn	Sn	22 19 20.4	-2.1
PDG	Podgorica	8.90	329	‖*i*	Pn	22 17 43.8	+1.0
TTG	Podgorica	8.90	329	ePn	Pn	22 17 44.6	+1.8
TTG				eSn	Sn	22 19 28.0	+5.3
TTG	Podgorica	8.90	329	eP	Pn	22 17 44.6	+1.8
TTG				eS	Sn	22 19 28.0	+5.3
TTG	Podgorica	8.90	329	eP	Pn	22 17 44.6	+1.8
TTG				*e*		22 19 28.0	
YTIR	Yattir	8.91	111	Pn	Pn	22 17 41.5	-1.6
YTIR	Yattir	8.91	111	Pn	Pn	22 17 41.5	-1.6
ILGA	Ilgaz	9.01	45	ePn	Pn	22 17 48.0	+3.5
ILGA	Ilgaz	9.01	45	ePn	Pn	22 17 48.0	+3.5
RMNI	Mount Ramon	9.01	116	Pn	Pn	22 17 43.4	-1.1
RMNI	Mount Ramon	9.01	116	Pn	Pn	22 17 43.4	-1.1
DSI	Dead Sea	9.03	109	Pn	Pn	22 17 42.9	-1.7
DSI				Sn	Sn	22 19 23.4	-2.6
DSI	Dead Sea	9.03	109	Pn	Pn	22 17 42.9	-1.7
DSI				Sn	Sn	22 19 23.4	-2.6
MZDA	Masada	9.12	110	Pn	Pn	22 17 44.6	-1.3
MZDA				Sn	Sn	22 19 26.1	-2.2
MZDA	Masada	9.12	110	Pn	Pn	22 17 44.6	-1.3
MZDA				Sn	Sn	22 19 26.1	-2.2
CUC	Castrocucco	9.13	307	ePn	Pn	22 17 46.8	+0.7
CUC				eS	Sn	22 19 22.6	-6.0
CUC	Castrocucco	9.13	307	ePn	Pn	22 17 46.8	+0.7
CUC				eS	Sn	22 19 22.5	-6.0
VAE	Valguarnera comp=N,4.3nm,0.3s,baz=151,slow=12,SNR=17	9.21	289	Pn	Pn	22 17 48.5	+1.3
VAE				Sn	Sn	22 19 28.3	-2.4
	comp=N,1.8nm,0.3s,baz=141,slow=15,SNR=2.2						
ZAGS	Zajecar	9.22	346	⇑*i* Pn	Pn	22 17 49.9	+2.7
PRNI	Paran	9.31	117	Pn	Pn	22 17 47.3	-1.3
PRNI				Sn	Sn	22 19 30.5	-2.6
PRNI	Paran	9.31	117	Pn	Pn	22 17 47.3	-1.3
PRNI				Sn	Sn	22 19 30.5	-2.6
SGRR	Singureni	9.32	3	⇑*i* P	Pn	22 17 53.8	+5.3
ZFRI	Zfri	9.34	115	Pn	Pn	22 17 47.1	-1.8
ZFRI				Sn	Sn	22 19 31.1	-2.5
ZFRI	Zfri	9.34	115	Pn	Pn	22 17 47.1	-1.8
ZFRI				Sn	Sn	22 19 31.1	-2.5
HRFI	Mount Harif	9.51	118	Pn	Pn	22 17 50.1	-1.0
HRFI	Mount Harif	9.51	118	Pn	Pn	22 17 50.2	+1.5
IVAS	Ivanjica	9.55	337	ePn	Pn	22 17 55.4	+3.6
MBRI	Mt Berech	9.55	120	Pn	Pn	22 17 50.7	-1.2
MBRI				Sn	Sn	22 19 35.8	-3.2
MBRI	Mt Berech	9.55	120	Pn	Pn	22 17 50.7	-1.2
MBRI				Sn	Sn	22 19 35.8	-3.2
HUMR	Humele	9.61	358	‖*i* P	Pn	22 17 52.9	+0.3
HUMR	Humele	9.61	358	‖*i* P	Pn	22 17 52.9	+0.3
EIL	Elat comp=N,4.1nm,0.3s,baz=297,slow=3.4,SNR=36	9.65	120	Pn	Pn	22 18 00.2	+7.0
EIL				Sn	Sn	22 19 44.3	+3.0
	comp=N,5.8nm,0.3s,baz=93,slow=3.0,SNR=6.1						
EIL	Elat	9.65	120	Pn	Pn	22 17 52.2	-1.0
EIL				Sn	Sn	22 19 44.3	+3.0
EIL	Elat	9.65	120	Pn	Pn	22 17 52.2	-1.0
GRUS	Gruza	9.66	340	⇑*i* Pn	Pn	22 17 56.0	+2.7
UPM	Unac-Piva	9.68	331	ePn	Pn	22 17 54.3	+0.5
TIRR	Tirgusor	9.82	13	‖*i* P	Pn	22 18 00.3	+4.8
TIRR	Tirgusor	9.82	13	ePn	Pn	22 17 56.9	+1.4
TIRR	Tirgusor	9.82	13	ePn	Pn	22 17 56.8	+1.4
TIRR	Tirgusor	9.82	13	eP	Pn	22 17 56.9	+1.4
KUBS	Kucevo	9.91	344	‖*i* Pn	Pn	22 17 57.4	+0.7
STON	Ston	9.94	325	ePn	Pn	22 17 51.9	-5.2
STON				Sn	Sn	22 19 39.6	-8.7
HQLS		9.94	122	P	Pn	22 17 55.6	-1.7
HQLS				S	Sn	22 19 43.4	-5.2
HAQS	Haql	10.00	123	P	Pn	22 17 56.3	-1.7
HAQS				S	Sn	22 19 42.6	-7.3
ASF	Jabal al Asfar comp=N,1.0nm,0.3s,baz=230,slow=6.3,SNR=10	10.01	103	Pn	Pn	22 17 57.1	-1.1
ASF				Sn	Sn	22 19 50.6	+0.4
	comp=N,0.2nm,0.3s,baz=170,slow=10.0,SNR=2.9						
BBLS	Lazići	10.06	335	ePn	Pn	22 17 57.8	-1.0
DIVS	Divibare	10.07	337	ePn	Pn	22 18 02.6	+3.6
DIVS	Divibare	10.07	337	ePn	Pn	22 18 02.6	+3.6
CLTB	Caltabellotta	10.17	289	ePn	Pn	22 18 01.2	+0.9
CLTB				eS	Sn	22 19 50.8	-3.3
CLTB	Caltabellotta	10.17	289	ePn	Pn	22 18 01.2	+0.9
CLTB				eS	Sn	22 19 50.8	-3.3
ISR	Istrita	10.24	5	‖*i* P	Pn	22 18 06.2	+4.9
ARR	Arges	10.46	357	‖*i* P	Pn	22 18 08.7	+4.4
CFR	Carcaliu	10.48	11	‖*i* P	Pn	22 18 08.8	+4.4
BDAS	Al Bad'	10.51	125	P	Pn	22 18 02.8	-2.2
VOIR		10.52	359	⇑*i* P	Pn	22 18 09.8	+4.7
MLR	Muntele Rosu comp=N,0.1nm,0.3s,baz=117,slow=8.9,SNR=14	10.58		Pn	Pn	22 18 09.5	+3.5
MLR	Muntele Rosu	10.58	2	⇑*i* P	Pn	22 18 11.6	+5.6
JLOS		10.58	123	P	Pn	22 18 04.7	-1.5
LOT	Lotru	10.60	354	⇑*i* P	Pn	22 18 09.9	+3.7
LOT	Lotru	10.60	354	⇑*i* P	Pn	22 18 09.9	+3.7
TEKS	Tekeris	10.62	337	ePn	Pn	22 18 07.0	+0.5
PLOR	Plostina	10.98	5	⇑*i* P	Pn	22 18 15.7	+4.4
VRI	Vrincioaia	11.00	5	‖*i* P	Pn	22 18 15.9	+4.3
DOPR	Dopca	11.05	0	⇑*i* P	Pn	22 18 17.6	+5.3
BZS	Buzias	11.07	346	‖*i* P	Pn	22 18 14.9	+2.3
BZS	Buzias	11.07	346	‖*i* P	Pn	22 18 14.9	+2.3
BLY	Banja Luka	11.66	330	‖*i* P	Pn	22 18 20.0	-0.6
BLY	Banja Luka	11.66	330	‖*i* P	Pn	22 18 20.0	-0.6
SIRR	Siria	11.69	347	‖*i* P	Pn	22 18 23.6	+2.5
SIRR	Siria	11.69	347	‖*i* P	Pn	22 18 23.6	+2.5
AQU	L'Aquila	11.94	312	ePn	Pn	22 18 24.5	0.0
AQU				eS	Sn	22 20 31.3	-6.1
AQU	L'Aquila	11.94	312	eP	Pn	22 18 24.5	0.0
AQU				eS	Sn	22 20 31.3	-6.1
AQU	L'Aquila	11.94	312	eP	Pn	22 18 24.5	0.0
AQU				eS	Sn	22 20 31.3	-6.1
SIM	Simferopol'	12.06	31	eP	Pn	22 18 31.0	+4.8
SIM				pmax	pmax		
	comp=Z,19nm,1.1s						
SIM				MLR	MLR		
	comp=N,110nm,9.3s						
UDBI	Udbina	12.11	325	ePn	Pn	22 18 26.2	-0.7
UDBI				Sn	Sn	22 20 34.6	-7.0
UDBI	Udbina	12.11	325	ePn	Pn	22 18 26.2	-0.7
KIS	Kishinev comp=N,500nm,10.0s	12.36	11	eP	Pn	22 18 30.0	-0.1
KIS	Kishinev	12.36	11	eP	Pn	22 18 30.0	-0.1
KIS				MLR	MLR		
	comp=Z,500nm,10.0s						
PRAR	RASCA	12.46	3	⇑*i* P	Pn	22 18 35.0	+3.4
PRAR	RASCA	12.46	3	⇑*i* P	Pn	22 18 35.0	+3.4
NVLJ	Novalja	12.57	323	*i* Pn	Pn	22 18 30.9	-2.1
NVLJ				Sn	Sn	22 20 46.3	-6.3
BURAR	Bucovina Array	12.70	360	‖*i* P	Pn	22 18 40.3	+5.4
BUR04	Bucovina Ar. S	12.70	360	ePn	Pn	22 18 38.1	+3.2
BUR04	Bucovina Ar. S	12.70	360	ePn	Pn	22 18 38.2	+3.2
BUR08	Bucovina Ar. S	12.73	360	ePn	P	22 18 42.2	-4.3
BUR08	Bucovina Ar. S	12.73	360	ePn	P	22 18 42.2	-4.3
BIDS	Bi'r al Bayda'	12.78	126	P	Pn	22 18 34.5	-1.5
OZLJ	Ozalj	13.08	328	ePn	Pn	22 18 37.3	-2.8
KEST	Kesra comp=Z,0.1nm,0.3s,baz=350,slow=18,SNR=1.7	13.11	278	Pn	Pn	22 18 39.6	-0.9
KEST				LR	LR	22 24 59.9	
	comp=Z,265nm,19.2s,baz=9.0,slow=43						
SORM	Soroca	13.40	9	‖*i* P	P	22 18 55.3	+1.5
ANN	Anapa	13.54	40	eP	P	22 18 56.6	+1.3
ANN				pmax	pmax		
	comp=Z,67nm,1.4s						
VSL	Villasalto	13.54	294	ePn	Pn	22 18 47.1	+0.8
VSL	Villasalto	13.54	294	ePn	Pn	22 18 47.1	+0.8
PSZ	Piszkesteto	13.63	344	⇑*i* P	Pn	22 18 50.2	+2.6
PSZ	Piszkesteto	13.63	344	ePn	Pn	22 18 47.5	0.0
PSZ	Piszkesteto	13.63	344	eP	Pn	22 18 47.5	0.0
PSZ	Piszkesteto	13.63	344	eP	Pn	22 18 47.5	0.0
UZH	Uzhgorod	13.90	352	eP	P	22 18 57.0	-2.4
UZH				eS	Sn	22 21 35.0	+10
OBKA	Obir	14.18	328	P	P	22 18 59.8	-2.8
	comp=Z,14nm,1.2s						
OBKA	Obir	14.18	328	eP	P	22 18 59.8	-2.8
	comp=Z,14nm,1.2s						
CRVS	Cervenica-Dubn	14.28	350	ePn	Pn	22 18 59.4	+3.0
CRVS	Cervenica-Dubn	14.28	350	ePN	Pn	22 18 59.4	+3.0
CRVS	Cervenica-Dubn	14.28	350	eP	Pn	22 18 59.4	+3.0
ARSA	Arzberg comp=Z,1.1nm,0.3s	14.38	332	ePn	P	22 19 02.0	-2.7
VYHS	Vyhne	14.42	342	ePN	P	22 19 03.0	-2.1
VYHS	Vyhne	14.42	342	eP	P	22 19 03.0	-2.1
ABSA	Djebel Ababsia	14.62	281	P	P	22 19 11.1	+3.5
CMAH	Djebel Manchou	14.67	282	P	P	22 19 09.4	+1.3
CMAH	Djebel Manchou	14.67	282	P	P	22 19 09.4	+1.3
MODS	Modra-Piesok	14.74	338	eP	P	22 19 08.6	-0.1
MODS	Modra-Piesok	14.74	338	ePN	P	22 19 08.6	-0.1
MODS	Modra-Piesok	14.74	338	eP	P	22 19 08.6	-0.1
STHS	Stebnicka Huta	14.81	349	ePn	Pn	22 19 05.3	+1.6
STHS	Stebnicka Huta	14.81	349	ePN	Pn	22 19 05.3	+1.6
STHS	Stebnicka Huta	14.81	349	eP	P	22 19 11.2	+1.6
STHS	Stebnicka Huta	14.81	349	eP	Pn	22 19 05.3	+1.6
CONA	Conrad Observa comp=Z,10nm,1.6s	14.82	334	Pn	P	22 19 07.6	-2.1
CONA	Conrad Observa comp=Z,10nm,1.6s	14.82	334	ePn	P	22 19 07.6	-2.1
KWP	Kalwaria Pacla	14.84	353	ePn	P	22 19 10.4	+0.6
KWP	Kalwaria Pacla	14.84	353	eP	P	22 19 10.5	+0.6
KWP	Kalwaria Pacla	14.84	353	eP	P	22 19 10.5	+0.6
LVV	L'vov	14.94	357	eP	P	22 19 12.1	+1.2
LVV	L'vov	14.94	357	eP	P	22 19 12.1	+1.2
LVV				eS	S	22 22 00.9	-7.4
LVV				MLR	MLR		
	comp=E,200nm,10.0s						
LVV				MLR	MLR		
	comp=N,700nm,11.0s						
LVV				MLR	MLR		
	comp=Z,600nm,11.0s						
CAEH	'Ain El Ouahch	15.13	282	P	P	22 19 14.2	+1.0
CAEH	'Ain El Ouahch	15.13	282	P	P	22 19 14.2	+1.0
KBA	Koelnbreinsper comp=Z,6.8nm,0.7s	15.15	327	Pn	Pn	22 19 10.3	+1.9
KBA	Koelnbreinsper comp=Z,6.8nm,0.7s	15.15	327	eP	Pn	22 19 10.3	+1.9
CKFL	Kef-Lekhel	15.23	281	P	P	22 19 16.6	+2.2
CKFL	Kef-Lekhel	15.23	281	P	P	22 19 16.6	+2.2
ABTA	Abfaltersbach comp=Z,6.2nm,0.5s	15.29	325	Pn	P	22 19 13.3	-1.6
ABTA	Abfaltersbach comp=Z,6.2nm,0.5s	15.29	325	eP	P	22 19 13.3	-1.6
MOA	Molln comp=Z,11nm,0.9s	15.36	331	Pn	Pn	22 19 12.9	+1.9
MOA	Molln comp=Z,11nm,0.9s	15.36	331	eP	Pn	22 19 12.9	+1.9
CASM	Ain Smara	15.42	280	P	P	22 19 18.7	+2.3
CASM	Ain Smara	15.42	280	P	P	22 19 18.7	+2.3
AKH	Akhalkalaki	15.66	60	P	P	22 19 17.4	-1.9
AKH	Akhalkalaki	15.66	60	⇑*i* P	P	22 19 18.0	-1.2
AKH	Akhalkalaki comp=Z,84nm,1.1s	15.66	60	ePn	P	22 19 17.7	-1.5
AKH	Akhalkalaki	15.66	60	eP	P	22 19 17.3	-1.9
AKH	Akhalkalaki comp=Z,84nm,1.1s	15.66	60	ePn	P	22 19 17.7	-1.5
AKH	Akhalkalaki	15

NCK	**Nalchik**	**16.51**	**53**	*i* P		**P**		**22 19 28.6**	**+0.2**
NCK				pmax		pmax				
	comp=Z,141nm,1.2s									
TBLG	**Delisi**	**16.65**	**60**	P		**P**		**22 19 29.4**	**-0.6**
TBLG	**Delisi**	**16.65**	**60**	*e*Pn		**P**		**22 19 30.1**	**+0.2**
	comp=Z,127nm,1.3s									
TBLG	**Delisi**	**16.65**	**60**	*e*P		**P**		**22 19 30.2**	**+0.2**
	comp=Z,127nm,1.3s									
TBLG	**Delisi**	**16.65**	**60**	*e*P		**P**		**22 19 30.2**	**+0.2**
TBLG				pmax		pmax				
	comp=Z,127nm,1.3s									
RETA	**Reutte**	**16.66**	**323**	Pn		**P**		**22 19 30.1**	**0.0**
	comp=Z,17nm,1.3s									
RETA	**Reutte**	**16.66**	**323**	*e*Pn		**P**		**22 19 30.1**	**0.0**
	comp=Z,17nm,1.3s									
KHC	**Kasperske Hory**	**16.66**	**332**	*e*P		**P**		**22 19 29.7**	**-0.4**
KHC				*e*pP		**pP**		**22 19 31.6**	**-2.7**
KHC				*ex*		x		22 22 56.9		
KHC				*ex*		x		22 23 04.8		
KHC	**Kasperske Hory**	**16.66**	**332**	*e*Pn		**Pn**		**22 19 28.0**	**+0.2**
	comp=Z,4.8nm,0.9s									
KHC	**Kasperske Hory**	**16.66**	**332**	*e*Pn		**Pn**		**22 19 28.0**	**+0.2**
	comp=Z,4.8nm,0.9s									
KHC	**Kasperske Hory**	**16.66**	**332**	P		**P**		**22 19 29.7**	**-0.4**
KHC	**Kasperske Hory**	**16.66**	**332**	*e*P		**Pn**		**22 19 28.0**	**+0.2**
KHC				pmax		pmax				
	comp=Z,5.0nm,0.9s									
BTNK	**Botanikuri**	**16.68**	**60**	P		**P**		**22 19 33.1**	**+2.8**
GUDG	**Gudauri**	**16.70**	**57**	P		**P**		**22 19 33.0**	**+2.2**
TUE	**Stuetta**	**16.73**	**319**	*e*Pn		**Pn**		**22 19 27.6**	**-1.1**
	comp=Z,19nm,0.8s									
TUE	**Stuetta**	**16.73**	**319**	*e*Pn		**Pn**		**22 19 27.6**	**-1.1**
	comp=Z,19nm,0.8s									
DUS	**Dusheti**	**16.73**	**59**	P		**P**		**22 19 33.4**	**+2.3**
DUS	**Dusheti**	**16.73**	**59**	*e*P		**P**		**22 19 33.3**	**+2.3**
DUS	**Dusheti**	**16.73**	**59**	*e*P		**P**		**22 19 33.3**	**+2.3**
DPC	**Dobruska-Polom**	**16.79**	**340**	*e*P		**P**		**22 19 31.4**	**-0.1**
DPC				*e*pP		**pP**		**22 19 32.7**	**-3.0**
DPC				*ex*		x		22 19 35.3		
DPC	**Dobruska-Polom**	**16.79**	**340**	*e*P		**P**		**22 19 31.4**	**-0.1**
DPC	**Dobruska-Polom**	**16.79**	**340**	*e*P		**P**		**22 19 31.4**	**-0.1**
GOPC	**GO Pecny, Ondr**	**16.88**	**336**	*e*P		**P**		**22 19 34.6**	**+2.1**
GOPC				*ex*		x		22 23 08.3		
GOPC	**GO Pecny, Ondr**	**16.88**	**336**	*e*P		**P**		**22 19 34.6**	**+2.1**
GOPC	**GO Pecny, Ondr**	**16.88**	**336**	*e*P		**P**		**22 19 34.6**	**+2.1**
GOF	**Gofitskoye**	**16.89**	**48**	*e*P		**P**		**22 19 33.9**	**+1.3**
	comp=Z,70nm,1.3s									
GOF	**Gofitskoye**	**16.89**	**48**⇑	*e*P		**P**		**22 19 33.9**	**+1.3**
GOF				pmax		pmax				
	comp=Z,70nm,1.3s									
DAVA	**Damuels**	**16.96**	**321**	Pn		**P**		**22 19 34.5**	**+0.9**
	comp=Z,20nm,1.1s									
DAVA	**Damuels**	**16.96**	**321**	*e*Pn		**P**		**22 19 34.5**	**+0.9**
	comp=Z,20nm,1.1s									
UPC	**Upice**	**17.02**	**339**	*e*P		**P**		**22 19 35.1**	**+1.2**
UPC				*es*P		**sP**		**22 19 42.4**	**+2.3**
UPC	**Upice**	**17.02**	**339**	*e*P		**P**		**22 19 35.1**	**+1.2**
UPC	**Upice**	**17.02**	**339**	*e*P		**P**		**22 19 35.1**	**+1.2**
DGRG	**David-gareji**	**17.02**	**62**	P		**P**		**22 19 33.9**	**-0.2**
DGRG	**David-gareji**	**17.02**	**62**	*e*P		**P**		**22 19 33.9**	**-0.2**
DGRG	**David-gareji**	**17.02**	**62**	*e*P		**P**		**22 19 33.9**	**-0.2**
PRU	**Pruhonice**	**17.03**	**336**	*e*P		**P**		**22 19 34.0**	**-0.1**
PRU				*e*pP		**pP**		**22 19 36.3**	**-2.0**
PRU				*es*S		S		22 23 10.3	+19	
PRU	**Pruhonice**	**17.03**	**336**	*e*P		**P**		**22 19 34.0**	**-0.1**
PRU	**Pruhonice**	**17.03**	**336**	*e*P		**P**		**22 19 34.0**	**-0.1**
PVCC	**Panska Ves**	**17.48**	**337**	*e*P		**P**		**22 19 40.5**	**+1.4**
PVCC	**Panska Ves**	**17.48**	**337**	*e*P		**P**		**22 19 40.5**	**+1.4**
PVCC	**Panska Ves**	**17.48**	**337**	*e*P		**P**		**22 19 40.5**	**+1.4**
BNI	**Bardonecchia**	**17.50**	**311**	*e*Pn		**Pn**		**22 19 38.1**	**-0.2**
BNI	**Bardonecchia**	**17.50**	**311**	*e*P		**Pn**		**22 19 38.2**	**-0.2**
BNI	**Bardonecchia**	**17.50**	**311**	*e*P		**Pn**		**22 19 38.2**	**-0.2**
DDFL	**Dedoflistskaro**	**17.56**	**62**	P		**P**		**22 19 42.4**	**+2.3**
SENIN	**Lac Senin/Sane**	**17.81**	**315**	*e*Pn		**P**		**22 19 44.3**	**+1.3**
	comp=Z,50nm,1.4s									
SENIN	**Lac Senin/Sane**	**17.81**	**315**	*e*Pn		**P**		**22 19 44.3**	**+1.3**
	comp=Z,50nm,1.4s									
GROC	**Groznyy**	**17.87**	**56**	*e*P		**P**		**22 19 44.1**	**+0.6**
	comp=Z,49nm,1.1s									
GROC	**Groznyy**	**17.87**	**56**	*e*P		**P**		**22 19 44.1**	**+0.6**
GROC				*es*S		**S**		**22 23 05.4**	**-2.9**
GROC				pmax		pmax				
	comp=Z,49nm,1.1s									
BRG	**Berggiesshubel**	**17.98**	**336**	*e*P		**P**		**22 19 45.7**	**+1.1**
	comp=Z,10nm,1.5s									
BRG				*e*				22 19 54.5		
	comp=Z,15nm,1.3s									
BRG	**Berggiesshubel**	**17.98**	**336**	*e*P		**P**		**22 19 45.7**	**+1.1**
	comp=Z,10.0nm,1.5s									
BRG	**Berggiesshubel**	**17.98**	**336**	*e*P		**P**		**22 19 45.7**	**+1.1**
BRG				pmax		pmax				
	comp=Z,10.0nm,1.5s									
NKC	**Novy Kostel**	**17.99**	**332**	*e*P		**P**		**22 19 46.2**	**+1.5**
NKC	**Novy Kostel**	**17.99**	**332**	*e*P		**P**		**22 19 46.2**	**+1.5**
NKC	**Novy Kostel**	**17.99**	**332**	*e*P		**P**		**22 19 46.2**	**+1.5**
GRFO	**Grafenberg**	**18.05**	**329**	*e*Pn		**P**		**22 19 45.9**	**+0.5**
	comp=Z,39nm,1.1s									
GRFO	**Grafenberg**	**18.05**	**329**	*e*P		**P**		**22 19 45.9**	**+0.5**
	comp=Z,39nm,1.1s									
GRFO	**Grafenberg**	**18.05**	**329**	*e*P		**P**		**22 19 45.9**	**+0.5**
GRFO				pmax		pmax				
	comp=Z,39nm,1.1s									
BFO	**Black Forest**	**18.44**	**322**	*e*P		**P**		**22 19 49.1**	**-0.6**
	comp=Z,31nm,1.4s									
BFO	**Black Forest**	**18.44**	**322**	*e*P		**P**		**22 19 49.1**	**-0.6**
	comp=Z,31nm,1.4s									
BFO	**Black Forest**	**18.44**	**322**	*e*P		**P**		**22 19 49.1**	**-0.6**
BFO				pmax		pmax				
	comp=Z,31nm,1.4s									
CLL	**Collm**	**18.67**	**335**	*e*P		**Pn**		**22 19 53.0**	**+0.5**
CLL				*ep*P		**pP**		**22 19 57.0**	**+0.6**
CLL				*es*P		**sP**		**22 20 01.0**	**+2.7**
CLL				*e*PPP		PPP		22 20 12.0		
CLL				*i* SS		S		22 23 37.2	+13	
CLL	**Collm**	**18.67**	**335**	*e*P		**Pn**		**22 19 55.3**	**+2.8**
	comp=Z,12nm,0.9s									
CLL	**Collm**	**18.67**	**335**	*e*P		**Pn**		**22 19 55.3**	**+2.8**
	comp=Z,12nm,0.9s									
CLL	**Collm**	**18.67**	**335**	*e*P		**Pn**		**22 19 55.3**	**+2.8**
CLL				pmax		pmax				
	comp=Z,12nm,0.9s									
AKT	**Akhty**	**18.74**	**63**	*e*P		**Pn**		**22 19 54.2**	**+0.6**
	comp=Z,50nm,1.1s									
AKT	**Akhty**	**18.74**	**63**	*e*P		**Pn**		**22 19 54.2**	**+0.6**
AKT				pmax		pmax				
	comp=Z,50nm,1.1s									
ECH	**Echery**	**18.97**	**320**	*e*P		**P**		**22 19 55.7**	**+0.1**
ECH	**Echery**	**18.97**	**320**	*e*P		**P**		**22 19 55.7**	**+0.1**
MAK	**Makhachkala**	**18.98**	**58**	*e*P		**Pn**		**22 19 58.4**	**+2.1**
MAK				pmax		pmax				
	comp=Z,171nm,1.3s									
MAK				MLR		MLR				
	comp=Z,142nm,15.0s									
VSR	**Storozhevoye**	**19.11**	**27**	*e*P		**Pn**		**22 20 00.5**	**+2.6**
VSR				pmax		pmax				
	comp=Z,10.0nm,0.6s									
SUW	**Suwalki**	**19.16**	**356**	*e*P		**P**		**22 19 56.1**	**-1.4**
	comp=Z,62nm,0.9s									
SUW	**Suwalki**	**19.16**	**356**	*e*P		**P**		**22 19 56.1**	**-1.4**
	comp=Z,62nm,0.9s									
SUW	**Suwalki**	**19.16**	**356**	*e*P		**P**		**22 19 56.1**	**-1.4**
SUW				pmax		pmax				
	comp=Z,62nm,0.9s									
NACGM	**Naroch**	**20.02**	**2**	*e*		**P**		**22 20 06.0**	**-0.9**
VRH	**Novokhopyorsk**	**20.13**	**31**	*e*P		**P**		**22 20 08.7**	**+0.6**
	comp=Z,40nm,0.9s									
VRH	**Novokhopyorsk**	**20.13**	**31**	*e*P		**P**		**22 20 08.7**	**+0.6**
VRH				pmax		pmax				
	comp=Z,40nm,0.9s									
LPSR	**Galich'ya Gora**	**20.16**	**25**	*e*P		**P**		**22 20 08.9**	**+0.5**
	comp=Z,10.0nm,0.9s									
LPSR	**Galich'ya Gora**	**20.16**	**25**	*e*P		**P**		**22 20 08.9**	**+0.5**
LPSR				pmax		pmax				
	comp=Z,10.0nm,0.9s									
WLF	**Walferdange**	**20.39**	**322**	⇑P		Pn		22 20 16.6	+3.4	
WLF	**Walferdange**	**20.39**	**322**	*e*P		**P**		**22 20 10.7**	**-0.3**
	comp=Z,4.0nm,0.8s									
WLF	**Walferdange**	**20.39**	**322**	*e*P		**P**		**22 20 10.7**	**-0.3**
	comp=Z,4.0nm,0.8s									
WLF	**Walferdange**	**20.39**	**322**	*e*P		**P**		**22 20 10.7**	**-0.3**
WLF				pmax		pmax				
	comp=Z,4.0nm,0.8s									
IDID	**Didziasalis**	**20.43**	**2**	*e*P		**P**		**22 20 10.2**	**-1.2**
IDID				IAmb		IAmb		22 20 17.6		
	comp=Z,20nm,1.1s									
IDID	**Didziasalis**	**20.43**	**2**	*e*P		**P**		**22 20 10.2**	**-1.2**
	SNR=34									
IIGN	**Ignalina**	**20.45**	**1**	*e*P		**P**		**22 20 10.9**	**-0.7**
IIGN				IAmb		IAmb		22 20 17.8		
	comp=Z,30nm,1.1s									
IZAR	**Zarasai**	**20.85**	**1**	*e*P		**P**		**22 20 15.1**	**-0.8**
IZAR				IAmb		IAmb		22 20 26.1		
	comp=Z,30nm,1.2s									
RAYN	**Ar Rayn**	**20.88**	**118**	*e*P		Pn		22 20 18.3	-0.7	
	comp=Z,24nm,0.9s									
RAYN	**Ar Rayn**	**20.88**	**118**	*e*P		Pn		22 20 18.3	-0.8	
	comp=Z,24nm,0.9s									
MEM	**Membach**	**21.07**	**324**	⇑P		**P**		**22 20 20.0**	**+1.7**
TAM	**Tamanrasset**	**21.11**	**240**	*e*P		**P**		**22 20 19.1**	**-0.1**
	comp=Z,23nm,1.7s									
TAM	**Tamanrasset**	**21.11**	**240**	*e*P		**P**		**22 20 19.1**	**-0.1**
	comp=Z,23nm,1.7s									
TAM	**Tamanrasset**	**21.11**	**240**	*e*P		**P**		**22 20 19.1**	**-0.1**
TAM				pmax		pmax				
	comp=Z,23nm,1.7s									
BCLA	**Clavier**	**21.30**	**323**	⇑P		**P**		**22 20 22.2**	**+1.4**
BCLA	**Clavier**	**21.30**	**323**	P		**P**		**22 20 22.1**	**+1.4**
DOU	**Dourbes**	**21.45**	**321**	⇑P		**P**		**22 20 23.5**	**+1.0**
OBN	**Obninsk**	**21.65**	**18**	P		**P**		**22 20 25.1**	**+0.6**
	comp=Z,38nm,0.7s,baz=195,slow=19,SNR=15									
OBN	**Obninsk**	**21.65**	**18**	*e*P		**P**		**22 20 22.6**	**-1.9**
	comp=Z,8.7nm,0.6s									
OBN	**Obninsk**	**21.65**	**18***d*	*i*P		**P**		**22 20 26.0**	**+1.5**
OBN				**PP*		**sP**		**22 20 34.0**	**+3.3**
OBN				*e*				22 20 50.2		
OBN				*e*				22 21 05.3		
OBN				*i* S		**S**		**22 24 22.2**	**-1.4**
OBN				*e*				22 24 24.3		
OBN				*e*				22 24 32.2		
OBN				pmax		pmax				
	comp=Z,89nm,1.2s									
OBN				MLR		MLR				
	comp=Z,160nm,17.0s									
SNF	**Seneffe**	**21.86**	**322**	⇑P		**P**		**22 20 27.9**	**+1.1**
UCC	**Uccle**	**22.00**	**323**	*e*P		**P**		**22 20 30.2**	**+1.9**
UCC	**Uccle**	**22.00**	**323**	*e*P		**P**		**22 20 30.2**	**+1.9**
MOS	**Moscow**	**22.48**	**18**	*e*P		**P**		**22 20 31.6**	**-1.8**
MOS				*e*PPP		PPP		22 21 05.4		
MOS				*es*		**S**		**22 24 36.5**	**-2.9**
MOS				pmax		pmax				
	comp=Z,100nm,1.3s									
MOS				pmax		pmax				
	comp=Z,80nm,1.2s									
VSU	**Vasula**	**23.58**	**2***d*	*i*P		**P**		**22 20 43.1**	**-1.6**
VSU				pmax		pmax				
	comp=Z,56nm,1.7s									
ES19	**SONSECA Array**	**23.71**	**290**	*e*P		**P**		**22 20 47.9**	**+1.6**
ES19	**SONSECA Array**	**23.71**	**290**	*e*P		**P**		**22 20 47.8**	**+1.6**
ESDC	**Sonseca Array**	**23.75**	**290**	P		**P**		**22 20 48.1**	**+1.5**
	comp=Z,17nm,0.9s,baz=81,slow=9.4,SNR=42									
ESDC				ScP		**ScP**		**22 28 08.9**	**+0.9**	
	comp=Z,0.2nm,0.5s,baz=0.4,slow=4.7,SNR=4.1									
ESLA	**Sonseca Array**	**23.75**	**290**	*e*P		**P**		**22 20 48.4**	**+1.7**
	comp=Z,20nm,0.9s									
ESLA	**Sonseca Array**	**23.75**	**290**	*e*P		**P**		**22 20 48.4**	**+1.7**
	comp=Z,20nm,0.9s									
PAB	**San Pablo**	**24.05**	**290**	*e*P		**P**		**22 20 50.4**	**+0.9**
	comp=Z,19nm,1.4s									
PAB	**San Pablo**	**24.05**	**290**	*e*P		**P**		**22 20 50.4**	**+0.9**
	comp=Z,19nm,1.4s									
PAB	**San Pablo**	**24.05**	**290**	*e*P		**P**		**22 20 50.4**	**+0.9**
PAB				pmax		pmax				
	comp=Z,19nm,1.4s									
MUD	**Monsted U'grnd**	**24.22**	**338**	*i* P		**P**		**22 20 51.0**	**+0.3**
	comp=Z,58nm,1.4s									
MUD	**Monsted U'grnd**	**24.22**	**338**	*i* P		**P**		**22 20 51.0**	**+0.3**
MUD				pmax		pmax				
	comp=Z,58nm,1.4s									
PBRG	**Braganca**	**26.00**	**295**	*e*P		**P**		**22 21 08.4**	**+1.3**
PBAR	**Barrancos**	**26.16**	**287**	*e*P		**P**		**22 21 09.8**	**+1.2**
	comp=Z,103nm,1.6s									
MVO	**Moncorvo**	**26.17**	**293**	*e*P		**P**		**22 21 10.5**	**+1.8**
	comp=Z,60nm,1.7s									
HFS	**Hagfors**	**26.36**	**347**	P		**P**		**22 21 08.7**	**-1.4**
	comp=Z,2.7nm,0.7s,baz=154,slow=8.2,SNR=8.8									
PMRV	**Marv??o**	**26.40**	**290**	*e*P		**P**		**22 21 11.8**	**+1.0**
GEYT	**Alibeck**	**26.46**	**74**	P		**P**		**22 21 11.7**	**+0.4**
	comp=Z,7.0nm,0.6s,baz=269,slow=11,SNR=18									
GYA0B	**ALIBECK ARRAY**	**26.46**	**74**	*e*P		**P**		**22 21 12.4**	**+1.1**
	comp=Z,21nm,1.0s									
GYA0B	**ALIBECK ARRAY**	**26.46**	**74**	*e*P		**P**		**22 21 12.4**	**+1.1**
	comp=Z,21nm,1.0s									
PCBR	**Castelo Branco**	**26.47**	**290**	*e*P		**P**		**22 21 14.0**	**+2.7**
MTE	**Manteigas**	**26.53**	**292**	*e*P		**P**		**22 21 14.7**	**+2.8**
FINES	**FINESS Array B**	**26.56**	**1**	P		**P**		**22 21 10.5**	**-1.4**
	comp=Z,6.9nm,0.4s,baz=160,slow=11,SNR=127									
FINES				PcP		**PcP**		**22 24 36.1**	**+0.2**	
	comp=Z,0.9nm,0.5s,baz=147,slow=3.2,SNR=4.1									
FIA1	**FINESS Array S**	**26.56**	**1**	*e*P		**P**		**22 21 10.7**	**-1.2**
PESTR	**Estremoz**	**26.57**	**288**	*e*P		**P**		**22 21 16.3**	**+4.0**
	comp=Z,54nm,1.3s									
PESTR	**Estremoz**	**26.57**	**288**	*e*P		**P**		**22 21 15.1**	**+2.9**
	comp=Z,17nm,0.9s									
PESTR	**Estremoz**	**26.57**	**288**	*e*P		**P**		**22 21 15.1**	**+2.9**
	comp=Z,17nm,0.9s									
PVAQ	**Vaqueiros**	**26.75**	**285**	*e*P		**P**		**22 21 16.9**	**+3.0**
	comp=Z,45nm,1.7s									
PBEJ	**Beja**	**26.82**	**286**	*e*P		**P**		**22 21 17.9**	**+3.3**
	comp=Z,41nm,1.2s									
EVO	**Evora**	**26.91**	**288**	*e*P		**P**		**22 21 16.8**	**+1.5**
PBDV	**Barranco-do-Ve**	**26.93**	**285**	*e*P		**P**		**22 21 18.2**	**+2.6**
PCVE	**Castro Verde**	**26.99**	**286**	*e*P		**P**		**22 21 20.1**	**+4.1**
PMTG	**Montargil**	**27.06**	**289**	*e*P		**P**		**22 21 18.5**	**+1.9**
PTOM	**Tomar**	**27.19**	**290**	*e*P		**P**		**22 21 18.8**	**+1.0**
PNCL	**Nicolau / Gran**	**27.34**	**287**	*e*P		**P**		**22 21 23.9**	**+4.7**
KLMR	**Klimovskoe**	**27.52**	**15**	*e*P		**P**		**22 21 18.7**	**-1.8**
KLMR				AMP				22 21 20.7		
	comp=Z,39nm,1.0s									
KLMR	**Klimovskoe**	**27.52**	**15**	*e*P		**P**		**22 21 18.7**	**-1.8**
KLMR				pmax		pmax				
	comp=Z,39nm,1.0s									
PTEO	**Sao Teotonio**	**27.54**	**286**	*e*P		P		22 21 28.2	+7.2	
NB2	**NORSAR Subarra**	**27.69**	**345**	P		**P**		**22 21 21.2**	**-0.9**
	comp=Z,3.8nm,1.0s,baz=156,slow=9.3									
NOA	**NORSAR Array B**	**27.69**	**345**	P		**P**		**22 21 21.1**	**-1.0**
	comp=Z,0.3nm,0.5s,baz=223,slow=17,SNR=7.5									
AKTO	**Aktyubinsk**	**28.30**	**47**	P		**P**		**22 21 27.9**	**+0.2**
	comp=Z,20nm,1.0s,baz=253,slow=8.8,SNR=30									
EKA	**Eskdalemuir Ar**	**28.34**	**325**	P		**P**		**22 21 27.9**	**-0.1**
	comp=Z,7.2nm,0.6s,baz=121,slow=10.0,SNR=20									
UOSS	**Minazif**	**28.42**	**102**	P		**P**		**22 21 28.9**	**0.0**
ASHO	**Ashiyiah**	**28.42**	**103**	P		**P**		**22 21 30.2**	**+1.1**
ALNE	**Al Ain**	**28.48**	**104**	*i* P		**P**		**22 21 31.2**	**+1.7**
	SNR=9.4									
TMCR	**Tamitsa**	**30.30**	**11**	*e*P		**P**		**22 21 43.8**	**-1.4**
TMCR				pmax		pmax				
	comp=Z,38nm,1.3s									
TOA0	**Torodi Ar. Sit**	**30.45**	**230**	*e*P		**P**		**22 21 48.0**	**+0.9**
TOA0	**Torodi Ar. Sit**	**30.45**	**230**	P		**P**		**22 21 48.6**	**+1.6**
TORD	**Torodi Ar. Bea**	**30.45**	**230**	P		**P**		**22 21 47.7**	**+0.7**
	comp=Z,20nm,0.6s,baz=37,slow=9.0,SNR=79									
ARU	**Arti**	**31.16**	**36**	P		**P**		**22 21 52.5**	**-0.4**
	comp=Z,5.9nm,0.3s,baz=240,slow=6.8,SNR=27									
ARU	**Arti**	**31.16**	**36**	*e*P		**P**		**22 21 52.2**	**-0.7**
	comp=Z,38nm,1.1s									
ARU	**Arti**	**31.16**	**36**	*i* P		**P**		**22 21 52.5**	**-0.4**
ARU				pmax		pmax				
	comp=Z,59nm,1.7s									
WSAR	**Wadi Sarin**	**31.18**	**103**	P		**P**		**22 21 54.8**	**+1.4**
	comp=Z,2.8nm,0.8s,baz=271,slow=11,SNR=3.6									
SVE	**Sverdlovsk**	**32.36**	**36***c*	*i*P		**P**		**22 22 03.6**	**+0.2**
SVE				*es*S		**S**		**22 27 16.2**	**-0.6**
SVE				pmax		pmax				
	comp=Z,53nm,1.0s									
KOWA	**Kowa**	**33.34**	**240**	P		**P**		**22 22 13.0**	**+0.6**
	comp=Z,3.9nm,0.8s,baz=50,slow=10,SNR=8.7									
ARCES	**ARCESS Array B**	**34.68**	**0**	P		**P**		**22 22 22.0**	**-1.5**
	comp=Z,8.8nm,0.4s,baz=191,slow=10.0,SNR=193									
KKAR	**Karatay Array**	**35.67**	**63**	*e*P		**P**		**22 22 33.1**	**+0.7**
	comp=Z,0.9nm,0.4s									
KKAR	**Karatay Array**	**35.67**	**63**	*e*P		**P**		**22 22 33.1**	**+0.7**
	comp=Z,0.9nm,0.4s									
KKAR	**Karatay Array**	**35.67**	**63**	*e*P		**P**		**22 22 33.1**	**+0.7**
KKAR				pmax		pmax				
	comp=Z,1.0nm,0.4s									
BRVK	**Borovoye**	**36.35**	**46**	*e*P		**P**		**22 22 37.2**	**-0.8**
	comp=Z,51nm,1.0s									
BRVK	**Borovoye**	**36.35**	**46**	P		**P**		**22 22 38.9**	**+0.8**
	SNR=16									
BRVK	**Borovoye**	**36.35**	**46***d*	*i*P		**P**		**22 22 38.6**	**+0.6**
BRVK				pmax		pmax				
	comp=Z,33nm,1.1s									
BVAR	**Borovoye Array**	**36.40**	**46**	P		**P**		**22 22 39.2**	**+0.7**
	comp=Z,16nm,0.9s,baz=258,slow=5.9,SNR=66									
KMBO	**Kilima Mbogo**	**37.54**	**160**	LR		LR		22 37 57.8		
	comp=Z,181nm,19.4s,baz=351,slow=36									
AML	**Almayashu**	**38.08**	**64**	P		**P**		**22 22 54.8**	**+1.5**
	SNR=5.2									
EKS2	**Erkin-Say**	**38.09**	**63**	P		**P**		**22 22 54.6**	**+1.5**
	SNR=17									
AAK	**Ala-Archa**	**38.62**	**63**	P		**P**		**22 22 58.5**	**+0.8**
	comp=Z,8.8nm,0.8s,baz=237,slow=5.8,SNR=36									
AAK	**Ala-Archa**	**38.62**	**63**	P		**P**		**22 22 59.2**	**+1.6**
	SNR=16									
AAK	**Ala-Archa**	**38.62**	**63**	P		**P**		**22 22 59.3**	**+1.6**
	SNR=14									
AAK	**Ala-Archa**	**38.62**	**63**	P		**P**		**22 22 59.1**	**+1.5**
	SNR=22									
AAK	**Ala-Archa**	**38.62**	**63***d*	*i*P		**P**		**22 22 59.1**	**+1.5**
AAK				pmax		pmax				
	comp=Z,20nm,1.1s									
UCH	**Uchtor**	**38.68**	**64**	P		**P**		**22 22 59.4**	**+0.9**
	SNR=8.2									
FRU	**Bishkek**	**38.70**	**63**	*e*P		**P**		**22 22 59.0**	**+0.9**
CHMS	**Chumysh**	**38.78**	**63**	P		**P**		**22 23 00.2**	**+1.4**
	SNR=9.8									
KBK	**Karagaybulak**	**38.95**	**63**	P		**P**		**22 23 02.6**	**+2.1**
	SNR=13									
KZA	**Kyzart**	**39.24**	**64**	P		**P**		**22 23 05.0**	**+2.0**
	SNR=24									
NIL	**Nilore**	**39.30**	**78**	*e*P		**P**		**22 23 04.0**	**+0.8**
	comp=Z,41nm,0.6s									
NIL	**Nilore**	**39.30**	**78**	*e*P		**P**		**22 23 04.0**	**+0.8**
	comp=Z,41nm,0.6s									
NIL	**Nilore**	**39.30**	**78**	*e*P		**P**		**22 23 04.0**	**+0.8**
NIL				pmax		pmax				
	comp=Z,41nm,0.6s									
TKM2	**Tokmak 2**	**39.40**	**63**	P		**P**		**22 23 05.2**	**+1.0**
	SNR=14									
DBIC	**Dimbokro**	**39.54**	**232**	P		**P**		**22 23 06.6**	**+1.3**
	comp=Z,4.3nm,0.6s,baz=21,slow=8.9,SNR=14									
TIC	**Toumodi**	**39.66**	**232**	*e*P		**P**		**22 23 07.6**	**+1.2**
KIC	**Kosan Boka**	**39.70**	**231**	*e*P		**P**		**22 23 08.2**	**+1.5**
	comp=Z,56nm,1.4s									
ULHL	**Ulahol**	**39.95**	**64**	P		**P**		**22 23 10.7**	**+1.9**
	SNR=16									
LIC	**Lamto**	**39.99**	**232**	*e*P		**P**		**22 23 09.8**	**+0.7**
	comp=Z,80nm,1.5s									
KSH	**Kashi**	**40.14**	**68**	P		**P**		**22 23 10.1**	**-0.2**
KSH				pmax

ULN	**Ulaanbaatar**	**59.93**	**50**	*d*	*i*P		**P**		**22 25 41.0**	**+0.6**
ULN						pmax	pmax			
	comp=Z,17nm,1.0s									
BOD	**Bodaibo**	**60.55**	**38**		*e*P		**P**		**22 25 42.2**	**-2.1**
BOD						pmax	pmax			
	comp=Z,10.0nm,1.0s									
FRB	**Frobisher Bay**	**60.97**	**330**		P		**P**		**22 25 47.6**	**+0.6**
	comp=Z,12nm,0.9s,baz=76,slow=7.7,SNR=22									
TIXI	**Tiksi**	**61.35**	**21**		P		**P**		**22 25 49.1**	**-0.4**
	comp=Z,4.0nm,0.8s,baz=306,slow=4.5,SNR=12									
TIXI	**Tiksi**	**61.35**	**21**	↑	*e*P		**P**		**22 25 48.7**	**-0.7**
	comp=Z,6.1nm,1.0s									
TIXI	**Tiksi**	**61.35**	**21**	↑	*e*P		**P**		**22 25 48.5**	**-1.0**
TIXI						pmax	pmax			
	comp=Z,13nm,1.7s									
LZH	**Lanzhou**	**62.16**	**64**		*e*P		**P**		**22 25 56.5**	**+0.7**
LZH						pP	sP		22 26 10.3	+7.8
LZH						sP	pP		22 26 16.0	+15
LZH						pmax	pmax			
	comp=Z,23nm,1.2s									
LZH						pmax	pmax			
	comp=Z,65nm,6.5s									
LZH						LR	LR			
	comp=Z,250nm,15.5s									
LZH						LR	LR			
	comp=Z,260nm,15.3s									
LZH						LR	LR			
	comp=Z,330nm,18.6s									
BOSA	**Boshof**	**63.18**	**180**		P		**P**		**22 26 03.5**	**+1.2**
	comp=Z,3.2nm,0.9s,baz=3.3,slow=8.6,SNR=4.2									
SCHQ	**Schefferville**	**63.49**	**320**		P		**P**		**22 26 04.8**	**+0.7**
	comp=Z,12nm,0.4s,baz=71,slow=4.2,SNR=16									
RES	**Resolute Bay**	**63.95**	**345**		P		**P**		**22 26 07.5**	**+0.6**
HHC	**Hu-ho-hao-te**	**65.64**	**56**		*e*P		**P**		**22 26 19.3**	**+0.8**
HHC					S		**S**		**22 34 58.8**	**-5.0**
HHC					pmax	pmax				
	comp=Z,15nm,1.2s									
HHC					pmax	pmax				
	comp=Z,59nm,7.0s									
CHTO	**Chiang Mai**	**66.26**	**83**		P		**P**		**22 26 23.2**	**+0.5**
	comp=Z,25nm,1.5s									
CMMT	**Chiang Mai**	**66.26**	**83**		P		**P**		**22 26 22.2**	**-0.5**
	comp=Z,5.6nm,1.5s									
CMAR	**Chiang Mai Arr**	**66.44**	**83**		P		**P**		**22 26 23.9**	**+0.1**
	comp=Z,1.8nm,0.7s,baz=300,slow=7.6,SNR=14									
CMAR					PP		**PP**		**22 28 42.3**	**-7.8**
	comp=Z,0.8nm,0.3s,baz=297,slow=9.5,SNR=4.3									
PAYA	**Payao**	**66.73**	**82**		P		**P**		**22 26 27.3**	**+1.5**
	comp=Z,4.6nm,1.1s									
XAN	**Xi'an**	**66.80**	**64**		P		**P**		**22 26 26.5**	**+0.5**
XAN						pmax	pmax			
	comp=Z,7.0nm,0.8s									
LAMP	**Lampang**	**66.97**	**83**		P		**P**		**22 26 29.2**	**+2.0**
	comp=Z,4.3nm,0.8s									
NANT	**Nan**	**67.69**	**82**		P		**P**		**22 26 33.8**	**+2.0**
TIA	**Tai'an**	**71.66**	**58**		P		**P**		**22 26 56.8**	**+0.7**
TIA						pmax	pmax			
	comp=Z,9.0nm,1.3s									
CN2	**Changchun**	**73.22**	**48**		*e*P		**P**		**22 27 05.5**	**+0.3**
CN2						pmax	pmax			
	comp=Z,10.0nm,0.7s									
BILL	**Bilibino**	**73.27**	**14**	↓	*e*P		**P**		**22 27 04.2**	**-0.9**
BILL					*e*				22 27 21.6	
BILL						pmax	pmax			
	comp=Z,11nm,1.1s									
BILL						MLR	MLR			
	comp=Z,2μm,15.0s									
SEY	**Seymchan**	**73.73**	**22**	*c*	*e*P		**P**		**22 27 08.8**	**+1.0**
KLR	**Kul'dur**	**73.85**	**41**		P		**P**		**22 27 09.2**	**+0.4**
	comp=Z,0.5nm,0.9s,baz=313,slow=7.2,SNR=22									
KLR	**Kul'dur**	**73.85**	**41**	*d*	*i*P		**P**		**22 27 08.9**	**+0.1**
FCC	**Fort Churchill**	**74.00**	**332**		*e*P		**P**		**22 27 09.9**	**+0.4**
	comp=Z,4.0nm,0.8s									
FCC	**Fort Churchill**	**74.00**	**332**		*e*P		**P**		**22 27 09.9**	**+0.4**
FCC						pmax	pmax			
	comp=Z,4.0nm,0.8s									
NJ2	**Nanjing**	**75.03**	**61**		*e*P		**P**		**22 27 16.8**	**+0.8**
NJ2						pmax	pmax			
	comp=Z,10.0nm,0.5s									
INK	**Inuvik**	**75.89**	**352**		P		**P**		**22 27 20.2**	**0.0**
	comp=Z,1.5nm,0.5s,baz=2,9,slow=5.5,SNR=6.6									
INK	**Inuvik**	**75.89**	**352**		*e*P		**P**		**22 27 20.4**	**+0.2**
INK	**Inuvik**	**75.89**	**352**		*e*P		**P**		**22 27 20.4**	**+0.2**
USRK	**Ussuriysk Ar.**	**76.90**	**45**		P		**P**		**22 27 26.3**	**-0.1**
	comp=Z,11nm,0.9s,baz=298,slow=4.9,SNR=11									
YKA	**Yellowknife Ar**	**77.74**	**342**		P		**P**		**22 27 30.8**	**0.0**
	comp=Z,2.3nm,0.5s,baz=32,slow=5.3,SNR=61									
KSAR	**Wonju Array Be**	**78.29**	**53**		P		**P**		**22 27 34.8**	**+0.5**
KSAR	**Wonju Array Be**	**78.29**	**53**		P		**P**		**22 27 34.8**	**+0.5**
KSRS	**Korea Array**	**78.31**	**52**		P		**P**		**22 27 34.8**	**+0.4**
	comp=Z,4.8nm,0.8s,baz=298,slow=4.9,SNR=18									
FFC	**Flin Flon**	**79.93**	**332**		*e*P		**P**		**22 27 43.0**	**0.0**
	comp=Z,5.5nm,0.8s									
FFC	**Flin Flon**	**79.93**	**332**		*e*P		**P**		**22 27 43.0**	**0.0**
FFC						pmax	pmax			
	comp=Z,6.0nm,0.8s									
EGAK	**Eagle**	**80.08**	**354**		*e*P		**P**		**22 27 43.4**	**-0.2**
	comp=Z,3.1nm,0.7s									
ILAR	**Eielson Array**	**80.46**	**357**		P		**P**		**22 27 46.0**	**+0.4**
	comp=Z,1.3nm,0.8s,baz=353,slow=4.3,SNR=10									
ULM	**Lac du Bonnet**	**80.61**	**326**		P		**P**		**22 27 46.2**	**-0.5**
	comp=Z,1.1nm,0.4s,baz=50,slow=5.2,SNR=3.6									
DAWY	**Dawson**	**80.62**	**353**		*e*P		**P**		**22 27 46.8**	**+0.2**
	comp=Z,8.8nm,1.0s									
YSS	**Yuzh-Sakhalins**	**81.03**	**38**	↑	*e*P		**P**		**22 27 50.3**	**+1.3**
YSS						pmax	pmax			
	comp=Z,20nm,0.9s									
BPAW	**Bear Paw Mtn.**	**81.28**	**358**		*e*P		**P**		**22 27 49.5**	**-0.6**
	comp=Z,1.4nm,1.0s									
DOT	**Dot Lake**	**81.42**	**355**		*e*P		**P**		**22 27 51.3**	**+0.4**
	comp=Z,18nm,1.1s									
PPLA	**Purkeypile**	**82.51**	**359**		*e*P		**P**		**22 27 56.4**	**-0.3**
	comp=Z,4.2nm,0.6s									
ASAJ	**Asahikawa**	**82.86**	**40**		P		**P**		**22 27 59.3**	**+0.6**
	comp=Z,1.3nm,0.3s,baz=64,slow=0.6,SNR=2.8									
PCRV	**Puerto La Cruz**	**84.26**	**278**		LR		LR		23 05 12.1	
	comp=Z,323nm,19.7s,baz=91,slow=35									
DLBC	**Dease Lake**	**84.75**	**347**		P		**P**		**22 28 08.6**	**+0.3**
	comp=Z,2.4nm,0.9s,baz=74,slow=8.2									
MJAR	**Matsushiro Arr**	**85.37**	**48**		P		**P**		**22 28 11.8**	**+0.1**
	comp=Z,3.9nm,0.8s,baz=290,slow=6.8,SNR=9.8									
NEW	**Newport**	**90.67**	**336**		P		**P**		**22 28 37.9**	**+1.0**
	comp=Z,2.2nm,0.5s,baz=116,slow=3.9,SNR=3.1									
PDAR	**Pinedale Array**	**92.41**	**329**		P		**P**		**22 28 45.0**	**-0.2**
	comp=Z,0.4nm,0.5s,baz=64,slow=5.1,SNR=3.5									
ROSC	**El Rosal**	**95.16**	**279**		LR		LR		23 12 36.7	
	comp=Z,150nm,19.1s,baz=76,slow=36									
TXAR	**Lajitas Array**	**100.03**	**316**		PP		PP		22 33 25.9	+1.4
	comp=Z,0.3nm,0.9s,baz=16,slow=6.7,SNR=3.8									
WRA	**Warramunga Arr**	**116.40**	**97**		PKP		**PKPdf**		**22 34 18.2**	**-0.1**
	comp=Z,1.1nm,0.7s,baz=308,slow=1.9,SNR=14									
ASAR	**Alice Springs**	**117.84**	**101**		PKP		**PKPdf**		**22 34 21.1**	**0.0**
	comp=Z,1.3nm,0.7s,baz=322,slow=1.5,SNR=13									
STKA	**Stephens Creek**	**127.48**	**106**		PKP		**PKPdf**		**22 34 40.1**	**+0.9**
	comp=Z,3.0nm,0.8s,baz=352,slow=4.4,SNR=3.5									

SJA 23 22:35:20.6±0.5,31°.25S×68°.68W,h103km±3km,ML3.3, MW3.5,San Juan Province

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
RTLL	**Cerro Villicun**	**0.19**	**114**	*e*P		Pn	22 35 36.9	+1.7
RTLL				IAML			22 35 37.1	
	comp=Z,1μm,0.1s							
AMOG	**MOGNA**	**0.35**	**27**	*e*P		Pn	22 35 36.7	+0.8
AMOG				*e*S		Sn	22 35 48.2	+1.0
RTCV	**Cerro Valdivia**	**0.62**	**169**	*e*P		Pn	22 35 38.4	+0.7
RTCV				*e*S		Sn	22 35 51.3	+0.9
RTLS	**Leoncito**	**0.76**	**224**	*e*P		Pn	22 35 40.6	+1.4
RTLS				IAML			22 35 40.6	
	comp=Z,410nm,0.3s							
RTLS				*e*S		Sn	22 35 54.8	+1.7
AUSP	**Usapallata**	**1.14**	**212**	*e*P		Pn	22 35 44.6	+1.5
AUSP				*e*S		Sn	22 36 01.9	+1.9
AROD	**Rodeo**	**1.28**	**327**	*e*P		Pn	22 35 46.1	+1.4
AROD				*e*S		Sn	22 36 04.8	+1.9
ACAN	**Cantantal**	**1.63**	**129**	*e*P		Pn	22 35 49.4	+0.8
AGUA	**GUANDACOL**	**1.77**	**5**	*e*P		Pn	22 35 51.5	+1.1

IDC 23 22:35:31.5±0.7,28°.97N×140°.41E,h389km±13km,mb2.9/7, mb1 3.0/8,mb1mx2.6/64,mbtmp3.6/8,Error ellipse: s-maj=32.5km s-min=19.7km az=70.0,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JCJ	**Chichijima**	**2.44**	**140**	P		Pn	22 36 28.7	-0.8
	baz=330,slow=20							
JCJ				S		S	22 37 16.8	+0.5
	4.5nm,0.3s,baz=319,slow=20,SNR=2.8							
ZALV	**Zalesovo Beam**	**47.05**	**318**	P		P	22 43 26.5	+0.9
	0.4nm,0.4s,baz=105,slow=7.1,SNR=2.0							
MKAR	**Makanchi Array**	**48.09**	**308**	P		P	22 43 33.1	-0.4
	0.1nm,0.3s,baz=82,slow=10,SNR=3.1							
WRA	**Warramunga Arr**	**48.98**	**188**	P		P	22 43 40.5	0.0
	0.3nm,0.9s,baz=5.4,slow=7.5,SNR=2.2							
KURBB	**Kurchatov Arra**	**50.62**	**313**	P		P	22 43 52.4	0.0
	0.8nm,0.4s,baz=90,slow=8.4,SNR=7.7							
BVAR	**Borovoye Array**	**55.61**	**317**	P		P	22 44 28.4	+0.1
	0.6nm,0.4s,baz=92,slow=7.2,SNR=5.1							
YKA	**Yellowknife Ar**	**71.24**	**28**	P		P	22 46 09.9	+0.6
	0.2nm,0.5s,baz=300,slow=6.0,SNR=4.8							
FINES	**FINESS Array B**	**75.58**	**333**	P		P	22 46 33.3	-0.9
	0.7nm,0.4s,baz=71,slow=5.1,SNR=14							

NIED ***23*** *22:40:00,48°.60N×155°.30E,h38km,Mw5.6 Best double couple: M₀2.91000×10¹⁷ NP1:φ₀98.00000°,δ14.00000°, λ-49.00000°. NP2:φ₀236.00000°,δ80.00000°, λ-99.00000°.*

BJI ***23*** *22:40:17.9,48°.61N×155°.37E,h35km,mb5.1/75,mB5.3/66, Ms5.5/87,Ms7 5.4/81*

KRSC ***23*** *22:40:19.7±1.9,48°.18N×155°.29E,h62km±34km,ML6.3, FELT [II-III] at Severo-Kurilsk.*

ISCJB ***23*** *22:40:21.6±0.3,48°.35N±0°.02×154°.85E±0°.02,h37km±2km, mb5.3/484,MS5.3/434,Error ellipse: s-maj=3.0km s-min=1.5km az=154.2*

NEIC ***23*** *22:40:22.4±0.1,48°.40N×154°.74E,h31km,mb5.4/296, ME5.2,MS5.2/296,MW5.6,MW5.7,MW5.6,Error ellipse: s-maj=4.1km s-min=2.1km az=163.0,Moment Tensor Solution. s72 Moment tensor: Scale 10¹⁷Nm; Mrr2.76; Mθθ-0.81; Mφφ-1.94; Mrθ1.11; Mrφ-1.43; Mθφ0.96; Best double couple: M₀3.20000×10¹⁷ NP1:φ₀207.00000°, δ32.00000°,λ78.00000°. NP2:φ₀41.00000°,δ59.00000°, λ98.00000°. Principal axes: T 3.1400, Plg75.0000°, Azm333.0000°; N 0.1200, Plg6.0000°, Azm217.0000°; P -3.2500, Plg13.0000°, Azm126.0000°; Broadband fault plane solution: P waves. NP1:φ₀230.00000°,δ15.00000°, λ90.00000°. NP2:φ₀50.00000°,δ75.00000°,λ90.00000°. Principal axes: T Plg60.0000°, Azm320.0000°; N Plg0.0000°, Azm0.0000°; P Plg30.0000°, Azm140.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*

SKHL ***23*** *22:40:22.8±0.3,48°.19N×155°.23E,h58km±5km,mb6.0/4, Ms5.6/7,msh6.3/3*

SKHL Felt (III) at Severo-Kurilsk (6.0)/8.

MOS ***23*** *22:40:22.8±1.0,48°.40N×154°.82E,h51km,mb5.6/140, MS5.3/68,Error ellipse: s-maj=5.8km s-min=2.9km az=72.9*

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

GCMT ***23*** *22:40:22.4±0.1,48°.36N×155°.10E,h34km,MW5.7/136, Moment Tensor Solution. s121,c235; s136,c344; Duration: 1ŝ7 Moment tensor: Scale 10¹⁷Nm; Mrr4.22±.05; Mθθ-1.64±.03; Mφφ-2.57±.03; Mrθ1.35±.05; Mθφ-1.89±.02; Mrφ1.01±.05; Best double couple: M₀4.46500×10¹⁷ NP1:φ₀44.00000°,δ56.00000°, λ96.00000°. NP2:φ₀213.00000°,δ34.00000°,λ81.00000°. Principal axes: T 4.5680, Plg78.0000°, Azm334.0000°; N -0.1960, Plg5.0000°, Azm220.0000°; P -4.3620, Plg11.0000°, Azm129.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

IDC ***23*** *22:40:24.8±1.8,48°.40N×154°.73E,h49km±16km,mb4.6/50, mb1 4.7/56,mb1mx4.7/72,mbtmp4.9/56,ML4.7/4,MS5.2/60, Ms1 5.2/60,ms1mx5.1/69 Error ellipse: s-maj=11.0km s-min=7.7km az=142.0*

NEIC ***23*** *22:40:25.0±0.0,48°.49N×154°.93E,h50km,Moment Tensor Solution. s24 Moment tensor: Scale 10¹⁷Nm; Mrr2.27; Mθθ-0.84; Mφφ-1.44; Mrθ1.42; Mθφ-0.80; Mrφ2.19; Best double couple: M₀3.40000×10¹⁷ NP1:φ₀33.00000°, δ70.00000°,λ89.00000°. NP2:φ₀215.00000°,δ20.00000°, λ92.00000°. Principal axes: T 3.5100, Plg64.0000°, Azm302.0000°; N -0.2800, Plg0.0000°, Azm33.0000°; P -3.2300, Plg25.0000°, Azm123.0000°;*

NEIC ***23*** *22:40:41.5±0.0,48°.63N×154°.93E,h41km,Moment Tensor Solution. s61 Moment tensor: Scale 10¹⁷Nm; Mrr4.63; Mθθ-1.69; Mφφ-2.93; Mrθ-0.46; Mθφ-2.21; Mrφ0.71; Best double couple: M₀4.70000×10¹⁷ NP1:φ₀226.00000°, δ44.00000°,λ104.00000°. NP2:φ₀28.00000°,δ48.00000°, λ77.00000°. Principal axes: T 4.7700, Plg80.0000°, Azm228.0000°; N -0.1500, Plg9.0000°, Azm37.0000°; P -4.6200, Plg2.0000°, Azm127.0000°;*

ISC 23 22:40:24.1±0.3,48°.33N±0°.03×154°.86E±0°.03,h46km±2km, h46km:pP-P,n2001,σ1s50/1972,mb5.3/507,MS5.3/435, 101C-44D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SKR	**Severo-Kuril's**	**2.49**	**19**	*e*P		**Pn**	**22 41 01.1**	**-1.0**
SKR				AMB		AMB	22 41 08.0	
	10μm,0.7s							
SKR				*e*S		**Sn**	**22 41 30.0**	**-1.2**
SKR				A		A	22 41 42.4	
	64μm,0.7s							
SKR				A		A	22 41 42.4	
	51μm,0.7s							
SKR				AMS		AMS	22 41 59.7	
	96μm,14.0s							
SKR				AMS		AMS	22 41 59.7	
	97μm,14.0s							
SKR	**Severo-Kuril's**	**2.49**	**19**	*e*P		**Pn**	**22 41 01.7**	**-0.4**
SKR				*e*S		**Sn**	**22 41 30.5**	**-0.7**
SKR	**Severo-Kuril's**	**2.49**	**19**	*d*	*i*PN	**Pn**	**22 41 01.1**	**-1.0**
SKR				*e*S		**Sn**	**22 41 31.0**	**-0.2**
SKR				pmax	pmax			
	comp=Z,4μm,1.3s							
SKR				pmax	pmax			
	comp=Z,10μm,0.7s							
SKR				smax	smax			
	comp=N,64μm,0.7s							
SKR				smax	smax			
	comp=E,51μm,0.9s							
SKR				MLR	MLR			
	comp=Z,61μm,13.0s							
KDTR	**Khodutka, Kamc**	**4.05**	**30**	*e*P		**Pn**	**22 41 22.1**	**-1.4**
KDTR				*e*S		**Sn**	**22 42 07.1**	**-2.5**
MIPR	**Malaya Ipel'ka**	**4.13**	**16**	*e*P		**Pn**	**22 41 25.1**	**+0.4**
MIPR				*e*S		**Sn**	**22 42 13.5**	**+1.9**
MIPR	**Malaya Ipel'ka**	**4.13**	**16**	PN		**Pn**	**22 41 25.1**	**+0.4**
MIPR				S		**Sn**	**22 42 13.5**	**+1.9**
ASAK	**Asacha**	**4.50**	**24**	*e*P		**Pn**	**22 41 29.6**	**-0.1**
ASAK	**Asacha**	**4.50**	**24**	PN		**Pn**	**22 41 29.6**	**-0.1**
MTVR	**Mutnovka**	**4.67**	**26**	*e*P		**Pn**	**22 41 32.0**	**-0.1**
MTVR				*e*S		**Sn**	**22 42 24.2**	**-0.8**
MTVR	**Mutnovka**	**4.67**	**26**	PN		**Pn**	**22 41 32.0**	**-0.1**
MTVR				S		**Sn**	**22 42 24.2**	**-0.8**
RUS	**Russkaya**	**4.72**	**28**	*e*P		**Pn**	**22 41 31.1**	**-1.6**
RUS				*i*P		**Pn**	**22 41 31.1**	**-1.6**
RUS				*e*S		**Sn**	**22 42 24.4**	**-1.7**
RUS	**Russkaya**	**4.72**	**28**	PN		**Pn**	**22 41 31.1**	**-1.6**
RUS				S		**Sn**	**22 42 24.4**	**-1.7**
KRMR	**Karymshinskiy**	**4.96**	**24**	*e*P		**Pn**	**22 41 36.3**	**+0.3**
KRMR				*e*S		**Sn**	**22 42 32.8**	**+0.8**
KRMR	**Karymshinskiy**	**4.96**	**24**	PN		**Pn**	**22 41 36.3**	**+0.3**
KRMR				S		**Sn**	**22 42 32.8**	**+0.8**
PEA0B	**Petropavlovsk-**	**5.11**	**20**	*e*Pn		**Pn**	**22 41 39.2**	**+1.2**
PETK	**Petropavlovsk-**	**5.11**	**20**	P		**Pn**	**22 41 39.1**	**+1.0**
	comp=Z,99nm,0.3s,baz=182,slow=11,SNR=476							
PETK				S		**Sn**	**22 42 38.7**	**+3.0**
	comp=Z,7.3nm,0.3s,baz=181,slow=13,SNR=2.4							
PETK				LR		LR	22 43 49.6	
	comp=Z,55μm,20.2s,baz=184,slow=40							
PETK	**Petropavlovsk-**	**5.11**	**20**	*e*Pn		**Pn**	**22 41 38.6**	**+0.5**
PETK				S		**Sn**	**22 42 38.7**	**+3.0**
PET	**Petropavlovsk**	**5.28**	**26**	*e*P		**Pn**	**22 41 40.0**	**-0.4**
PET				AMB		AMB	22 41 41.5	
	comp=Z,227nm,0.5s							
PET				AMB		AMB	22 41 45.4	
	comp=Z,2μm,2.0s							
PET				*e*S		**Sn**	**22 42 38.0**	**-1.8**
PET				A		A	22 42 46.3	
	comp=Z,19μm,2.0s							
PET				A		A	22 43 00.3	
	comp=Z,12μm,0.9s							
PET	**Petropavlovsk**	**5.28**	**26**	*e*Pn		**Pn**	**22 41 39.6**	**-0.7**
PET				*e*Sn		**Sn**	**22 42 40.8**	**+0.9**
PET	**Petropavlovsk**	**5.28**	**26**	*α i*PN		**Pn**	**22 41 39.4**	**-1.0**
PET				pmax	pmax			
	comp=Z,1μm,1.4s							
PET				pmax	pmax			
	comp=Z,1μm,0.7s							
PET				MLR	MLR			
	comp=Z,21μm,19.0s							
DALK	**Dalny**	**5.31**	**26**	*e*P		**Pn**	**22 41 39.7**	**-1.1**
DALK				*e*S		**Sn**	**22 42 39.3**	**-1.4**
DALK	**Dalny**	**5.31**	**26**	PN		**Pn**	**22 41 39.7**	**-1.1**
DALK				S		**Sn**	**22 42 39.3**	**-1.4**
UGLR	**Uglovaya**	**5.49**	**26**	*e*P		**Pn**	**22 41 43.5**	**+0.1**
UGLR				*e*S		**Sn**	**22 42 45.9**	**+0.7**
UGLR	**Uglovaya**	**5.49**	**26**	PN		**Pn**	**22 41 43.5**	**+0.1**
UGLR				S		**Sn**	**22 42 45.9**	**+0.7**
KOK	**Koryaka**	**5.51**	**24**	*e*P		**Pn**	**22 41 44.8**	**+1.1**
KOK	**Koryaka**	**5.51**	**24**	PN		**Pn**	**22 41 44.8**	**+1.1**
AVH	**Avacha**	**5.51**	**25**	*e*P		**Pn**	**22 41 44.2**	**+0.5**
AVH	**Avacha**	**5.51**	**25**	PN		**Pn**	**22 41 44.2**	**+0.5**
SMAR	**Somma**	**5.53**	**25**	*e*P		**Pn**	**22 41 44.6**	**+0.6**
SMAR	**Somma**	**5.53**	**25**	PN		**Pn**	**22 41 44.6**	**+0.6**
KRER	**Koryakskii**	**5.55**	**25**	*e*P		**Pn**	**22 41 44.7**	**+0.4**
KRER	**Koryakskii**	**5.55**	**25**	PN		**Pn**	**22 41 44.7**	**+0.4**
SDLR	**Sedlovina**	**5.57**	**26**	*e*P		**Pn**	**22 41 44.5**	**0.0**
SDLR	**Sedlovina**	**5.57**	**26**	PN		**Pn**	**22 41 44.5**	**0.0**
KRX	**Arik**	**5.57**	**24**	*e*P		**Pn**	**22 41 45.4**	**+0.8**
KRX	**Arik**	**5.57**	**24**	PN		**Pn**	**22 41 45.4**	**+0.8**
NLC	**Nalytchevo**	**5.62**	**29**	*e*P		**Pn**	**22 41 41.8**	**-3.2**
NLC				*e*S		**Sn**	**22 42 44.4**	**-3.7**
NLC	**Nalytchevo**	**5.62**	**29**	PN		**Pn**	**22 41 41.8**	**-3.2**
GNL	**Ganaly**	**5.71**	**19**	*e*P		**Pn**	**22 41 47.4**	**+1.0**
GNL	**Ganaly**	**5.71**	**19**	PN		**Pn**	**22 41 47.4**	**+1.0**
KUR	**Kuril'sk**	**5.72**	**240**	*i*P		**Pn**	**22 41 48.6**	**+2.2**
KUR				AMB		AMB	22 41 50.8	
	comp=Z,720nm,0.4s							
KUR				AMB		AMB	22 42 02.3	
	comp=Z,4μm,1.5s							
KUR				*i* S		**Sn**	**22 42 52.7**	**+2.0**
KUR				A		A	22 43 02.1	
	comp=Z,5μm,2.1s							
KUR				A		A	22 43 02.1	
	comp=Z,16μm,2.1s							
KUR				A		A	22 43 10.1	
	comp=Z,1μm,0.7s							
KUR				A		A	22 43 10.1	
	comp=Z,2μm,0.7s							
KUR				AMS		AMS	22 43 48.0	
	comp=Z,25μm,13.0s							
KUR				AMS		AMS	22 43 48.0	
	comp=Z,13μm,13.0s							
KUR				AMS		AMS	22 43 48.0	
	comp=Z,19μm,13.0s							
KUR	**Kuril'sk**	**5.72**	**240**	*c i*PN		**Pn**	**22 41 48.9**	**+2.5**
KUR				*i* S		**Sn**	**22 42 56.3**	**+5.6**
KUR				pmax	pmax			
	comp=N,172nm,0.4s							
KUR				pmax	pmax			
	comp=Z,598nm,0.4s							
KUR				pmax	pmax			
	comp=E,108nm,0.2s							
KUR				pmax	pmax			
	comp=Z,4μm,1.2s							
KUR				smax	smax			
	comp=E,16μm,2.1s							
KUR				smax	smax			
	comp=N,5μm,1.8s							
KUR				smax	smax			
	comp=E,588nm,0.8s							
KUR				smax	smax			
	comp=N,321nm,0.2s							
KUR				MLR	MLR			
	comp=E,13μm,13.0s							
KUR				MLR	MLR			
	comp=Z,19μm,13.0s							
KUR				MLR	MLR			
	comp=N,25μm,14.0s							
SPN	**Mys Shipunski**	**5.79**	**33**	*e*P		**Pn**	**22 41 46.0**	**-1.3**
SPN				*e*S		**Sn**	**22 42 50.9**	**-1.4**
SPN	**Mys Shipunski**	**5.79**	**33**	PN		**Pn**	**22 41 46.0**	**-1.3**
KII	**Karymskiy**	**6.40**	**25**	*e*P		**Pn**	**22 41 57.2**	**+1.4**
KII	**Karymskiy**	**6.40**	**25**	PN		**Pn**	**22 41 57.2**	**+1.4**
KZV	**Kizimen**	**7.58**	**24**	*e*P		**Pn**	**22 42 11.2**	**-0.8**
KZV	**Kizimen**	**7.58**	**24**	PN		**Pn**	**22 42 11.2**	**-0.8**
YUK	**Yuzh-Kuril'sk**	**7.58**	**239**	*e*P		**Pn**	**22 42 12.8**	**+0.8**
YUK				AMB		AMB	22 42 15.1	
	comp=N,810nm,0.4s							
YUK				*i* S		**Sn**	**22 43 37.7**	**+1.2**
YUK				AMS		AMS	22 45 04.0	
	comp=N,2μm,12.0s							
YUK	**Yuzh-Kuril'sk**	**7.58**	**239**	*c i*PN		**Pn**	**22 42 12.8**	**+0.8**
YUK				pmax	pmax			
	comp=E,307nm,0.4s							
YUK				pmax	pmax			
	comp=Z,809nm,0.4s							
YUK				pmax	pmax			
	comp=N,241nm,0.2s							
YUK				MLR	MLR			

YSS	**Yuzh-Sakhalins**	**8.29**	**265**	*e*P	**Pn**	**22 42 24.8**	**+3.1**
YSS				AMB	AMB	22 42 28.8	
	comp=Z,2µm,5.0s						
YSS				*e*S	**Sn**	**22 43 57.0**	**+3.0**
YSS				AMS	AMS	22 45 22.0	
	comp=Z,16µm,17.0s						
YSS				AMS	AMS	22 45 22.0	
	comp=Z,16µm,17.0s						
YSS	**Yuzh-Sakhalins**	**8.29**	**265**	*e*Pn	**Pn**	**22 42 24.8**	**+3.1**
YSS				*e*Sn	**Sn**	**22 43 52.0**	**-2.0**
YSS	**Yuzh-Sakhalins**	**8.29**	**265**	*ke*PN	**Pn**	**22 42 24.8**	**+3.1**
YSS				*e*S	**Sn**	**22 43 57.7**	**+3.7**
YSS				pmax	pmax		
	comp=Z,80nm,0.8s						
YSS				pmax	pmax		
	comp=E,100nm,0.9s						
YSS				pmax	pmax		
	comp=Z,2µm,4.8s						
YSS				MLR	MLR		
	comp=Z,16µm,16.0s						
KPT	**Kopyto**	**8.32**	**21**	*e*P	**Pn**	**22 42 22.9**	**+0.7**
KPT	**Kopyto**	**8.32**	**21**	PN	**Pn**	**22 42 22.9**	**+0.7**
KOZ	**Kozyrevsk**	**8.32**	**20**	*e*P	**Pn**	**22 42 24.3**	**+2.2**
KOZ	**Kozyrevsk**	**8.32**	**20**	PN	**Pn**	**22 42 24.3**	**+2.2**
TYV	**Tymovskoe**	**8.33**	**292**	*e*P	**Pn**	**22 42 26.5**	**+4.4**
TYV				AMB	AMB	22 42 29.4	
	comp=Z,2µm,5.6s						
TYV				*e*S	**Sn**	**22 43 58.0**	**+3.3**
TYV				AMS	AMS	22 46 03.3	
	comp=Z,26µm,16.0s						
TYV				AMS	AMS	22 46 03.3	
	comp=Z,25µm,16.0s						
TYV				AMS	AMS	22 46 03.3	
	comp=Z,40µm,16.0s						
TYV	**Tymovskoe**	**8.33**	**292**	*e*PN	**Pn**	**22 42 26.5**	**+4.4**
TYV				*e*S	**Sn**	**22 43 57.7**	**+3.0**
TYV				pmax	pmax		
	comp=Z,223nm,1.7s						
TYV				pmax	pmax		
	comp=Z,2µm,5.6s						
TYV				smax	smax		
	comp=N,67nm,1.0s						
TYV				smax	smax		
	comp=E,1µm,7.7s						
TYV				MLR	MLR		
	comp=N,23µm,15.0s						
KIRR	**Kirishev**	**8.34**	**22**	*e*P	**Pn**	**22 42 23.6**	**+1.1**
KIRR	**Kirishev**	**8.34**	**22**	PN	**Pn**	**22 42 23.6**	**+1.1**
BZMR	**Bezymyannaya**	**8.36**	**22**	*e*P	**Pn**	**22 42 22.6**	**-0.1**
BZMR	**Bezymyannaya**	**8.36**	**22**	PN	**Pn**	**22 42 22.6**	**-0.1**
UGL	**Uglegorsk**	**8.50**	**280**	*e*P	**Pn**	**22 42 28.9**	**+4.4**
UGL				AMB	AMB	22 42 31.3	
	comp=N,358nm,0.8s						
UGL				*e*S	**Sn**	**22 44 02.0**	**+3.0**
UGL				AMS	AMS	22 46 04.4	
	comp=N,27µm,15.0s						
UGL				AMS	AMS	22 46 04.4	
	comp=N,21µm,15.0s						
UGL				AMS	AMS	22 46 04.4	
	comp=N,26µm,15.0s						
JNK	**Nakash**	**8.51**	**240**	P	**Pn**	**22 42 24.7**	**0.0**
JNK				*e*S	**Sn**	**22 44 00.3**	**+0.9**
ZLN	**Zelenaya**	**8.51**	**23**	*e*P	**Pn**	**22 42 25.5**	**+0.7**
ZLN	**Zelenaya**	**8.51**	**23**	PN	**Pn**	**22 42 25.5**	**+0.7**
CIRR	**Tsirk**	**8.59**	**23**	*e*P	**Pn**	**22 42 26.2**	**+0.4**
CIRR	**Tsirk**	**8.59**	**23**	PN	**Pn**	**22 42 26.2**	**+0.4**
KRSR	**Krestovskiy**	**8.63**	**22**	*e*P	**Pn**	**22 42 26.7**	**+0.3**
KRSR	**Krestovskiy**	**8.63**	**22**	PN	**Pn**	**22 42 26.7**	**+0.3**
KLY	**Klyuchi**	**8.74**	**22**	*e*P	**Pn**	**22 42 28.9**	**+1.1**
KLY	**Klyuchi**	**8.74**	**22**	PN	**Pn**	**22 42 28.9**	**+1.1**
JTKR	**Abashiri--Toko**	**8.77**	**244**	P	**Pn**	**22 42 30.2**	**+2.0**
JAK	**Akkeshi**	**8.89**	**237**	P	**Pn**	**22 42 28.1**	**-1.8**
JAK				*e*S	**Sn**	**22 44 04.5**	**-4.2**
JMP	**Maruseppu**	**9.08**	**246**	P	**Pn**	**22 42 35.0**	**+2.5**
BDR	**Baidarnaya**	**9.11**	**23**	*e*P	**Pn**	**22 42 31.5**	**-1.4**
BDR	**Baidarnaya**	**9.11**	**23**	PN	**Pn**	**22 42 31.5**	**-1.4**
OKH	**Okha**	**9.16**	**309**	*i* P	**Pn**	**22 42 37.6**	**+4.1**
OKH				AMB	AMB	22 42 39.9	
	comp=N,4µm,5.8s						
OKH				*i* S	**Sn**	**22 44 20.6**	**+5.4**
OKH				A	A	22 44 40.0	
	comp=N,8µm,8.0s						
OKH				AMS	AMS	22 46 53.5	
	comp=N,22µm,16.0s						
OKH				AMS	AMS	22 46 53.5	
	comp=N,28µm,16.0s						
OKH				AMS	AMS	22 46 53.5	
	comp=N,20µm,16.0s						
OKH	**Okha**	**9.16**	**309**	⇓ *i* PN	**Pn**	**22 42 37.0**	**+3.5**
OKH				pmax	pmax		
	comp=Z,2µm,9.7s						
OKH				MLR	MLR		
	comp=Z,20µm,12.0s						
SRKR	**Sorokina**	**9.17**	**22**	*e*P	**Pn**	**22 42 33.3**	**-0.5**
SRKR	**Sorokina**	**9.17**	**22**	PN	**Pn**	**22 42 33.3**	**-0.5**
SMKR	**Semkarok**	**9.19**	**23**	*e*P	**Pn**	**22 42 33.4**	**-0.6**
SMKR	**Semkarok**	**9.19**	**23**	PN	**Pn**	**22 42 33.4**	**-0.6**
JAR	**Ashorobuto**	**9.24**	**241**	P	**Pn**	**22 42 35.5**	**+0.8**
KBTR	**Krutoberegovo**	**9.27**	**29**	*e*P	**Pn**	**22 42 32.7**	**-2.3**
KBTR	**Krutoberegovo**	**9.27**	**29**	PN	**Pn**	**22 42 32.7**	**-2.3**
JWK2	**Keihoku**	**9.39**	**256**	P	Pn	22 42 42.5	+5.8
JOB	**Onbets**	**9.44**	**239**	*e*S	**Sn**	**22 44 17.8**	**-4.3**
ASAJ	**Asahikawa**	**9.49**	**248**	P	**Pn**	**22 42 39.0**	**+0.9**
	comp=Z,21nm,0.3s,baz=77,slow=14,SNR=83						
ASAJ				LR	LR	22 46 08.5	
	comp=Z,87nm,18.5s,baz=70,slow=36						
ASAJ	**Asahikawa**	**9.49**	**248**	P	**Pn**	**22 42 41.5**	**+3.4**
ASAJ	**Asahikawa**	**9.49**	**248**	*e*Pn	**Pn**	**22 42 41.2**	**+3.1**
ASAJ				*e*Sn	**Sn**	**22 44 15.8**	**-7.6**
JKK2	**Kamakawa 2**	**9.52**	**247**	P	**Pn**	**22 42 40.6**	**+2.0**
BKI	**Bering**	**9.72**	**41**	*e*P	**Pn**	**22 42 39.0**	**-2.2**
BKI	**Bering**	**9.72**	**41**	PN	**Pn**	**22 42 39.0**	**-2.2**
JCH	**Churui**	**9.89**	**239**	P	**Pn**	**22 42 42.4**	**-1.2**
JCH				*e*S	**Sn**	**22 44 28.6**	**-4.6**
JFR	**Furan**	**10.01**	**243**	P	**Pn**	**22 42 46.9**	**+1.6**
JAB	**Ashibetsu**	**10.04**	**246**	P	**Pn**	**22 42 48.7**	**+3.0**
NKL	**Nikolayevsk**	**10.20**	**304**	*i* PN	**Pn**	**22 42 50.0**	**+2.3**
NKL				*e*		22 44 48.0	
NKL				pmax	pmax		
	comp=N,170nm,1.2s						
NKL				pmax	pmax		
	comp=E,240nm,1.2s						
NKL				pmax	pmax		
	comp=Z,410nm,1.2s						
NKL				pmax	pmax		
	comp=N,1µm,8.0s						
NKL				pmax	pmax		
	comp=E,3µm,8.0s						
NKL				pmax	pmax		
	comp=Z,2µm,8.0s						
NKL				MLR	MLR		
	comp=N,17µm,14.0s						
NKL				MLR	MLR		
	comp=E,11µm,14.0s						
NKL				MLR	MLR		
	comp=Z,32µm,14.0s						
JBT2	**Biratori 2**	**10.37**	**242**	P	**Pn**	**22 42 50.2**	**0.0**
ERM	**Erimo**	**10.40**	**237**	*e*Pn	**Pn**	**22 42 50.6**	**+0.1**
ERM				*e*Sn	**Sn**	**22 44 39.9**	**-5.7**
ERM	**Erimo**	**10.40**	**237**	⇑ *e*PN	**Pn**	**22 42 50.9**	**+0.4**
JNBK	**Urakawa-nobuka**	**10.45**	**239**	P	**Pn**	**22 42 48.9**	**-2.4**
JNBK				*e*S	**Sn**	**22 44 41.2**	**-5.7**
PALN	**Palana**	**11.19**	**14**	*e*P	**Pn**	**22 43 02.7**	**+1.5**
PALN	**Palana**	**11.19**	**14**	PN	**Pn**	**22 43 02.7**	**+1.5**
MA2	**Magadan**	**11.52**	**350**	P	**Pn**	**22 43 06.4**	**+0.7**
	comp=Z,7.9nm,0.3s,baz=165,slow=11,SNR=37						
MA2				S	**Sn**	**22 45 12.3**	**-0.5**
	comp=Z,1.0nm,0.3s,baz=66,slow=20,SNR=2.2						
MA2				LR	LR	22 48 05.6	
	comp=Z,17µm,18.3s,baz=172,slow=40						
JKB	**Kayabe**	**11.70**	**242**	P	**Pn**	**22 43 06.0**	**-2.3**
JKB				*e*S	**Sn**	**22 45 09.6**	**-7.7**
GRNR	**Gornyy**	**12.22**	**288**	*e*PN	**Pn**	**22 43 19.8**	**+4.4**
GRNR				pmax	pmax		
	comp=E,290nm,1.3s						
GRNR				pmax	pmax		
	comp=Z,170nm,1.3s						
JSR	**Shiriuchi**	**12.28**	**242**	P	**Pn**	**22 43 13.7**	**-2.5**
JOSM	**Okushiri--Mats**	**12.51**	**246**	P	**Pn**	**22 43 18.6**	**-0.8**
JTH	**Tanohata**	**12.54**	**233**	P	Pn	22 43 14.5	-5.3
TEY	**Ternei**	**12.96**	**262**	*e*PN	**Pn**	**22 43 25.8**	**+0.3**
TEY				pmax	pmax		
	comp=Z,4µm,10.0s						
TEY				MLR	MLR		
	comp=E,8µm,15.0s						
TEY				MLR	MLR		
	comp=N,5µm,14.0s						
TEY				MLR	MLR		
	comp=Z,7µm,13.0s						
SMY	**Shemya**	**12.99**	**63**	*e*Pn	**Pn**	**22 43 23.3**	**-2.6**
SMY				*e*Sn	Sn	22 45 38.4	-10
SMY	**Shemya**	**12.99**	**63**	*e*PN	**Pn**	**22 43 23.3**	**-2.6**
TILK	**Tilichiki**	**13.77**	**24**	*e*P	**Pn**	**22 43 36.2**	**-0.3**
TILK	**Tilichiki**	**13.77**	**24**	P	**Pn**	**22 43 36.2**	**-0.3**
SEY	**Seymchan**	**14.70**	**356**	P	**Pn**	**22 43 48.8**	**-0.1**
	comp=Z,1.3nm,0.3s,baz=164,slow=11,SNR=41						
SEY				LR	LR	22 49 49.8	
	comp=Z,15µm,20.2s,baz=162,slow=39						
SEY	**Seymchan**	**14.70**	**356**	*e*P	**Pn**	**22 43 48.3**	**-0.6**
SEY	**Seymchan**	**14.70**	**356**	⇑ *i*P	**Pn**	**22 43 48.3**	**-0.6**
KLR	**Kul'dur**	**15.26**	**282**	P	**Pn**	**22 43 57.0**	**+0.8**
	comp=Z,0.0nm,0.3s,baz=83,slow=12,SNR=38						
KLR				LR	LR	22 50 09.5	
	comp=Z,1µm,19.1s,baz=90,slow=39						
KLR	**Kul'dur**	**15.26**	**282**	*e*P	**Pn**	**22 43 55.4**	**-0.9**
KLR	**Kul'dur**	**15.26**	**282**	*c i*P	**P**	**22 43 59.4**	**-1.0**
KMSK	**Kamenskaya**	**15.52**	**20**	*e*P	**Pn**	**22 43 59.6**	**0.0**
KMSK	**Kamenskaya**	**15.52**	**20**	P	**Pn**	**22 43 59.6**	**0.0**
USRK	**Ussuriysk Ar.**	**16.33**	**264**	P	**Pn**	**22 44 09.8**	**-0.3**
	comp=Z,0.6nm,0.3s,baz=69,slow=11,SNR=7.2						
USRK				LR	LR	22 50 03.0	
	comp=Z,8µm,20.8s,baz=64,slow=36						
VLA	**Vladivostok**	**16.84**	**261**	*i* P	**Pn**	**22 44 17.2**	**+0.7**
VLA				pmax	pmax		
	comp=Z,49nm,0.8s						
MAJO	**Matsushiro**	**16.98**	**232**	*e*Pn	**Pn**	**22 44 16.3**	**-2.0**
	comp=Z,40nm,0.8s						
MAJO	**Matsushiro**	**16.98**	**232**	*c i*P	**Pn**	**22 44 16.4**	**-2.0**
MAJO				pmax	pmax		
	comp=Z,103nm,1.7s						
MAT	**Matsushiro**	**16.98**	**232**	P	**Pn**	**22 44 16.1**	**-2.2**
MAT				S	**S**	**22 47 31.8**	**-2.5**
MAT	**Matsushiro**	**16.98**	**232**	P	**Pn**	**22 44 16.4**	**-1.9**
MJAR	**Matsushiro Arr**	**16.98**	**232**	P	**Pn**	**22 44 16.4**	**-2.0**
	comp=Z,1.2nm,0.3s,baz=30,slow=13,SNR=35						
MJB9	**Matsu-Tunnel**	**16.98**	**232**	*e*Pn	**Pn**	**22 44 16.0**	**-2.3**
	comp=Z,41nm,0.8s						
MSHR	**Mys Shultsa**	**17.57**	**260**	*ce*P	**Pn**	**22 44 25.0**	**-0.4**
MDJ	**Mudanjiang**	**17.77**	**267**	P	**Pn**	**22 44 25.3**	**-2.7**
MDJ				sP	pP	22 44 36.8	-2.2
MDJ				S	**Sn**	**22 47 45.1**	**+0.1**
MDJ				pmax	pmax		
	comp=Z,26nm,1.5s						
MDJ				pmax	pmax		
	comp=Z,990nm,7.3s						
MDJ				LR	LR		
	comp=Z,6µm,13.5s						
MDJ				LR	LR		
	comp=Z,8µm,14.3s						
MDJ				LR	LR		
	comp=Z,14µm,15.5s						
MDJ	**Mudanjiang**	**17.77**	**267**	*e*Pn	**P**	**22 44 28.9**	**+0.6**
	comp=Z,67nm,0.9s						
ZEA	**Zeya**	**18.12**	**298**	*ce*P	**Pn**	**22 44 33.6**	**+1.4**
ZEA				pmax	pmax		
	comp=N,190nm,2.0s						
ZEA				pmax	pmax		
	comp=E,250nm,2.0s						
ZEA				pmax	pmax		
	comp=Z,290nm,2.0s						
ZEA				pmax	pmax		
	comp=Z,2µm,8.0s						
ZEA				MLR	MLR		
	comp=N,4µm,14.0s						
ZEA				MLR	MLR		
	comp=E,18µm,14.0s						
ZEA				MLR	MLR		
	comp=Z,30µm,14.0s						
INU	**Inuyama**	**18.52**	**232**	*e*P	**P**	**22 44 36.1**	**-0.5**
	comp=Z,63nm,1.0s						
JHJ	**Hachijo jima 2**	**18.96**	**222**	LR	LR	22 52 00.3	
	comp=Z,1µm,21.6s,baz=125,slow=37						
JWT	**Wachi**	**19.44**	**235**	P	**P**	**22 44 47.4**	**+0.8**
YAK	**Yakutsk**	**19.69**	**323**	P	P	22 44 39.7	-9.4
	comp=Z,0.0nm,0.3s,baz=214,slow=1.1,SNR=1.7						
YAK				S	**S**	**22 48 24.0**	**-4.5**
	comp=Z,0.0nm,0.3s,baz=11,slow=1.4,SNR=2.0						
YAK				LR	LR	22 52 07.1	
	comp=Z,7µm,21.2s,baz=238,slow=36						
YAK	**Yakutsk**	**19.69**	**323**	*e*P	**P**	**22 44 49.5**	**+0.3**
	comp=Z,186nm,0.8s						
YAK				S	**S**	**22 48 24.0**	**-4.5**
YAK	**Yakutsk**	**19.69**	**323**	*e*P	**Pn**	**22 44 50.7**	**-0.2**
YAK				pmax	pmax		
	comp=Z,140nm,1.0s						
YAK				pmax	pmax		
	comp=N,54nm,1.2s						
YAK				pmax	pmax		
	comp=E,99nm,1.3s						
ATKA	**Atka Island**	**20.07**	**67**	*e*P	**P**	**22 44 50.6**	**-2.8**
	comp=E,136nm,1.2s						
ATKA				LR	LR		
	comp=Z,7µm,21.0s						
JAD	**Aida**	**20.37**	**237**	P	**P**	**22 44 57.9**	**+1.1**
BILL	**Bilibino**	**20.59**	**12**	*c i*P	**P**	**22 44 56.6**	**-2.3**
BILL				*e*		22 45 18.3	
BILL				pmax	pmax		
	comp=Z,55nm,1.2s						
BILL				MLR	MLR		
	comp=Z,13µm,17.0s						
CN2	**Changchun**	**20.84**	**268**	*e*P	**P**	**22 45 00.0**	**-1.8**
CN2				pmax	pmax		
	comp=Z,30nm,1.1s						
CN2				pmax	pmax		
	comp=Z,840nm,14.4s						
CN2				LR	LR		
	comp=Z,4µm,15.0s						
CN2				LR	LR		
	comp=Z,7µm,15.0s						
CN2				LR	LR		
	comp=Z,7µm,17.0s						
JHS	**Saijyo**	**20.92**	**238**	P	**P**	**22 45 04.3**	**+1.6**
KSRS	**Korea Array**	**22.42**	**251**	P	**P**	**22 45 19.1**	**+0.4**
	comp=Z,61nm,1.0s,baz=50,slow=10,SNR=59						
KSRS				LR	LR	22 53 38.5	
	comp=Z,8µm,18.8s,baz=52,slow=36						
KSRS	**Korea Array**	**22.42**	**251**	P	**P**	**22 45 19.2**	**+0.4**
KSRS				pmax	pmax		
	comp=Z,60nm,1.0s						
KSRS				MLR	MLR		
	comp=Z,8µm,18.8s						
KS01	**Wonju Array Si**	**22.42**	**251**	*e*P	**P**	**22 45 17.5**	**-1.3**
KS15	**Wonju Array Si**	**22.45**	**251**	*e*P	**P**	**22 45 17.6**	**-1.6**
KSAR	**Wonju Array Be**	**22.45**	**251**	P	**P**	**22 45 19.1**	**+0.1**
KSAR	**Wonju Array Be**	**22.45**	**251**	P	**P**	**22 45 19.2**	**+0.1**
HIA	**Hailar**	**23.03**	**286**	*e*P	**P**	**22 45 22.6**	**-2.6**
	comp=Z,190nm,1.9s						
HIA				LR	LR		
	comp=Z,14µm,18.0s						
HIA	**Hailar**	**23.03**	**286**	*e*P	**P**	**22 45 22.6**	**-2.6**
HIA				pmax	pmax		
	comp=Z,190nm,1.9s						
HIA				MLR	MLR		
	comp=Z,14µm,18.0s						
INCN	**Inchon**	**23.22**	**253**	*e*P	**P**	**22 45 26.0**	**-1.1**
	comp=Z,162nm,1.6s						
INCN				LR	LR		
	comp=Z,8µm,19.0s						
INCN	**Inchon**	**23.22**	**253**	P	**P**	**22 45 27.4**	**+0.3**
	SNR=5.3						
NIKH	**Nikolski High**	**23.30**	**65**	PFAKE		22 45 40.0	+12
NIKH				LR	LR		
	comp=Z,4µm,21.0s						
TJN	**Taejon**	**23.44**	**250**	*c i*P	**P**	**22 45 30.5**	**+1.3**
JNU	**Nakatsue**	**23.55**	**239**	P	**P**	**22 45 30.2**	**-0.1**
	comp=Z,17nm,0.9s,baz=59,slow=7.6,SNR=18						
JNU				LR	LR	22 54 55.0	
	comp=Z,4µm,21.3s,baz=42,slow=37						
JNU	**Nakatsue**	**23.55**	**239**	P	**P**	**22 45 31.5**	**+1.2**
JNU	**Nakatsue**	**23.55**	**239**	*e*P	**P**	**22 45 29.8**	**-0.6**
	comp=Z,319nm,2.0s						
GAMB	**Gambell**	**23.84**	**37**	*e*P	**P**	**22 45 32.4**	**-0.3**
	comp=Z,500nm,1.5s						
DL2	**Dalian**	**25.67**	**261**	P	**P**	**22 45 48.5**	**-1.0**
DL2				S	**S**	**22 50 11.0**	**-3.7**
DL2				pmax	pmax		
	comp=Z,77nm,1.0s						
DL2				pmax	pmax		
	comp=Z,840nm,4.3s						
DL2				LR	LR		
	comp=Z,3µm,18.3s						
DL2				LR	LR		
	comp=Z,3µm,22.4s						
DL2				LR	LR		
	comp=Z,5µm,20.1s						
BOD	**Bodaibo**	**25.94**	**307**	*e*P	**P**	**22 45 50.4**	**-1.4**
BOD				pmax	pmax		
	comp=Z,49nm,1.7s						
TIXI	**Tiksi**	**26.31**	**342**	P	**P**	**22 45 53.2**	**-1.8**
	comp=Z,48nm,1.1s,baz=132,slow=11,SNR=21						
TIXI				LR	LR	22 57 37.3	
	comp=Z,9µm,18.3s,baz=142,slow=39						
TIXI	**Tiksi**	**26.31**	**342**	*e*P	**P**	**22 45 53.1**	**-1.9**
	comp=Z,68nm,1.1s						
TIXI	**Tiksi**	**26.31**	**342**	*c i*P	**P**	**22 45 52.7**	**-2.3**
TIXI				pmax	pmax		
	comp=Z,43nm,0.9s						
FALS	**False Pass**	**26.41**	**60**	PFAKE		22 46 10.0	+14
FALS				LR	LR		
	comp=Z,6µm,22.0s						
SDPT	**Sand Point**	**28.06**	**59**	PFAKE		22 46 20.0	+9.1
SDPT				LR	LR		
	comp=Z,4µm,21.0s						
BJI	**Beijing**	**28.70**	**268**	P	**P**	**22 46 15.9**	**-0.8**
BJI				S	**S**	**22 51 02.8**	**+0.3**
BJI				pmax	pmax		
	comp=Z,20nm,2.1s						
BJI				LR	LR		
	comp=Z,8µm,17.0s						
BJI				LR	LR		
	comp=Z,6µm,19.1s						
BJI				LR	LR		
	comp=Z,5µm,18.0s						
BJT	**Baijiatuau**	**28.72**	**268**	*e*P	**P**	**22 46 16.2**	**-0.6**
	comp=Z,59nm,1.7s						
BJT				LR	LR		
	comp=Z,5µm,21.0s						
BJT	**Baijiatuau**	**28.72**	**268**	*e*P	**P**	**22 46 16.3**	**-0.6**
BJT				pmax	pmax		
	comp=Z,59nm,1.7s						
BJT				MLR	MLR		
	comp=Z,5µm,21.0s						
CHGN	**Chignik**	**29.15**	**56**	PFAKE		22 46 30.0	+9.5
CHGN				LR	LR		
	comp=Z,4µm,20.0s						
JOW	**Kunigami**	**29.82**	**234**	P	**P**	**22 46 25.8**	**-1.0**
	comp=Z,17nm,0.9s,baz=291,slow=26,SNR=4.5						
JOW	**Kunigami**	**29.82**	**234**	*e*P	**P**	**22 46 26.9**	**+0.2**
	comp=Z,41nm,1.1s						
JOW				LR	LR		
	comp=Z,3µm,20.0s						
TIA	**Tai'an**	**30.14**	**260**	P	**P**	**22 46 30.3**	**+0.8**
TIA				S	**S**	**22 51 24.8**	**-0.3**
TIA				pmax	pmax		
	comp=Z,9.0nm,1.0s						
TIA				pmax	pmax		
	comp=Z,330nm,3.9s						
TIA				LR	LR		
	comp=Z,3µm,15.9s						
TIA				LR	LR		
	comp=Z,3µm,16.7s						
TIA				LR	LR		
	comp=Z,2µm,14.4s						
H11N2	**WAKE ISLAND Hy**	**30.15**	**157**	T	T	23 18 15.9	
	baz=345,slow=76,SNR=2373						
H11N1	**WAKE ISLAND Hy**	**30.16**	**157**	T	T	23 18 17.1	
	baz=345,slow=76,SNR=3900						
H11N3	**WAKE ISLAND Hy**	**30.17**	**157**	T	T	23 18 14.1	
	baz=345,slow=76,SNR=2163						
WAKE	**Wake Island**	**30.51**	**158**	PFAKE		22 46 50.0	+17
WAKE				LR	LR		
	comp=Z,6µm,21.0s						
SVW2	**Sparrevohn**	**30.54**	**47**	*e*P	**P**	**22 46 32.4**	**-0.4**
	comp=Z,112nm,2.0s						
SVW2				LR	LR		
	comp=Z,4µm,20.0s						
SSE	**Sheshan**	**30.78**	**248**	P	**P**	**22 46 37.3**	**+2.1**
SSE				S	**S**	**22 51 36.1**	**+0.8**
SSE				pmax	pmax		
	comp=Z,22nm,0.7s						
SSE				pmax	pmax		
	comp=Z,270nm,3.5s						
SSE				LR	LR		
	comp=Z,1µm,17.7s						
SSE				LR	LR		
	comp=Z,2µm,17.3s						
H11S1	**WAKE ISLAND Hy**	**31.27**	**158**	T	T	23 19 39.1	
	baz=345,slow=76						
H11S3	**WAKE ISLAND Hy**	**31.28**	**158**	T	T	23 19 43.0	
	baz=345,slow=76						
H11S2	**WAKE ISLAND Hy**	**31.29**	**158**	T	T	23 19 35.0	
	baz=345,slow=76						
HHC	**Hu-ho-hao-te**	**31.39**	**273**	*e*P	**P**	**22 46 40.3**	**-0.3**
HHC				PP	**PnPn**	**22 47 47.3**	**+3.0**
HHC				S	**S**	**22 51 42.8**	**-2.0**
HHC				pmax	pmax		
	comp=Z,13nm,1.0s						
HHC				pmax	pmax		
	comp=Z,34nm,5.3s						
HHC				LR	LR		
	comp=Z,330nm,14.2s						
HHC				LR	LR		
	comp=Z,770nm,13.0s						
ULN	**Ulaanbaatar**	**31.53**	**287**	*e*P	**P**	**22 46 41.0**	**-0.9**
	comp=Z,9.7nm,0.9s						
ULN				LR	LR		
	comp=Z,14µm,18.0s						
ULN	**Ulaanbaatar**	**31.53**	**287**	P	**P**	**22 46 40.7**	**-1.1**
	SNR=8.6						
ULN	**Ulaanbaatar**	**31.53**	**287**	*c i*P	**P**	**22 46 40.8**	**-1.0**
ULN				pmax	pmax		
	comp=Z,17nm,1.2s						
NJ2	**Nanjing**	**31.60**	**252**	*e*P	**P**	**22 46 43.1**	**+0.7**
NJ2				pP	**pP**	**22 46 55.4**	**+0.9**
NJ2				sS	**sS**	**22 52 03.9**	**-4.5**
NJ2				SS	**SnSn**	**22 53 39.9**	**+3.1**
NJ2				pmax	pmax		
	comp=Z,13nm,0.5s						
NJ2				pmax	pmax		
	comp=Z,510nm,6.3s						
NJ2				LR	LR		
	comp=Z,6µm,18.4s						
NJ2				LR	LR		
	comp=Z,4µm,16.8s						
NJ2				LR	LR		
	comp=Z,6µm,20.1s						
IM3	**Indian Mountai**	**31.79**	**37**	*e*P	**P**	**22 46 43.5**	**-0.2**
OHAK	**Old Harbor**	**31.88**	**54**	PFAKE		22 47 00.0	+15
OHAK				LR	LR		
	comp=Z,9µm,22.0s						
SONA1	**Songino Array**	**31.95**	**288**	*e*P	**P**	**22 46 44.5**	**-1.0**
SONA1				*e*PcP	**PcP**	**22 49 34.4**	**-0.3**
SONM	**Songino Array**	**31.95**	**288**	P	**P**	**22 46 43.8**	**-1.8**
	comp=Z,6.7nm,0.9s,baz=65,slow=6.2,SNR=23						
SONM				PcP	**PcP**	**22 49 33.7**	**-1.0**
	comp=Z,2.7nm,0.8s,baz=106,slow=1.9,SNR=5.1						
SONM				LR	LR	23 00 52.1	
	comp=Z,14µm,19.3s,baz=75,slow=38						
KDAK	**Kodiak Island**	**32.19**	**53**	P	**P**	**22 46 46.3**	**-1.0**
	comp=Z,23nm,1.0s,baz=151,slow=7.4,SNR=6.5						
KDAK	**Kodiak Island**	**32.19**	**53**	P	**P**	**

TLY	**Talaya**	**32.54**	**296**	*c*	*i*P		**P**	**22 46 49.4**	**-1.1**
TLY					*e*			22 48 02.2	
TLY					*e*			22 49 36.1	
TLY					*e*S		**S**	**22 51 57.2**	**-5.2**
TLY					*e*SS		**SS**	**22 54 25.5**	**+2.2**
TLY						pmax	pmax		
	comp=Z,33nm,1.5s								
BPAW	**Bear Paw Mtn.**	**32.78**	**41**		*e*P		**P**	**22 46 52.6**	**+0.1**
	comp=Z,7.8nm,1.1s								
KTH	**Kantishna Hill**	**32.79**	**42**		*e*P		**P**	**22 46 53.9**	**+1.2**
	comp=Z,142nm,1.2s								
SUA	**Susitna One**	**32.87**	**46**			PFAKE		22 47 10.0	+17
SUA						LR	LR		
	comp=Z,3μm,22.0s								
BRLK	**Bradley Lake**	**32.89**	**49**		*e*P		**P**	**22 46 54.0**	**+0.4**
	comp=Z,22nm,0.8s								
MLY	**Manley**	**32.94**	**39**		*e*P		**P**	**22 46 53.3**	**-0.5**
	comp=Z,44nm,1.1s								
MLY						LR	LR		
	comp=Z,4μm,18.0s								
TRF	**Thorofare Moun**	**33.07**	**42**		*e*P		**P**	**22 46 54.8**	**-0.5**
	comp=Z,30nm,1.0s								
ZAK	**Zakamensk**	**33.11**	**293**		*e*P		**P**	**22 46 55.2**	**-0.4**
ZAK						pmax	pmax		
	comp=Z,16nm,1.4s								
COLD	**Coldfoot**	**33.35**	**35**		*e*P		**P**	**22 46 58.1**	**+0.7**
	comp=Z,88nm,1.5s								
COLD						LR	LR		
	comp=Z,2μm,18.0s								
RC01	**Rabbit Creek A**	**33.38**	**47**		*e*P		**P**	**22 46 56.5**	**-1.2**
	comp=Z,62nm,1.6s								
RC01					*e*PcP		**PcP**	**22 49 35.5**	**-2.7**
PMR	**Palmer**	**33.64**	**46**		*e*P		**P**	**22 46 59.0**	**-0.9**
	comp=Z,23nm,1.2s								
PMR						LR	LR		
	comp=Z,3μm,20.0s								
PMR	**Palmer**	**33.64**	**46**		*e*P		**P**	**22 46 59.0**	**-0.9**
PMR						pmax	pmax		
	comp=Z,23nm,1.2s								
PMR						MLR	MLR		
	comp=Z,3μm,20.0s								
MCK	**McKinley**	**33.68**	**42**		*e*P		**P**	**22 46 59.5**	**-0.7**
	comp=Z,83nm,1.2s								
MCK	**McKinley**	**33.68**	**42**		*e*P		**P**	**22 46 59.6**	**-0.7**
MCK						pmax	pmax		
	comp=Z,83nm,1.2s								
RND	**Reindeer**	**33.72**	**42**		*e*P		**P**	**22 46 59.6**	**-1.1**
	comp=Z,73nm,1.1s								
RND	**Reindeer**	**33.72**	**42**		*e*P		**P**	**22 46 59.6**	**-1.1**
RND						pmax	pmax		
	comp=Z,73nm,1.1s								
TOLK	**Toolik Lake Re**	**33.77**	**33**		P		**P**	**22 47 01.7**	**+0.7**
	baz=262								
TOLK					S		**S**	**22 52 22.9**	**+1.6**
	baz=262								
TOLK	**Toolik Lake Re**	**33.77**	**33**		*e*P		**P**	**22 47 01.8**	**+0.7**
	comp=Z,186nm,1.7s								
TOLK						LR	LR		
	comp=Z,3μm,22.0s								
MDM	**Murphy Dome**	**34.00**	**40**		*e*P		**P**	**22 47 02.6**	**-0.5**
	comp=Z,42nm,1.0s								
SML	**Sawmill**	**34.01**	**45**		*e*P		**P**	**22 47 03.4**	**+0.2**
	comp=Z,70nm,0.8s								
SML	**Sawmill**	**34.01**	**45**		*e*P		**P**	**22 47 03.4**	**+0.2**
SML						pmax	pmax		
	comp=Z,70nm,0.8s								
WRH	**Wood River Hil**	**34.05**	**40**		*e*P		**P**	**22 47 03.6**	**+0.1**
	comp=Z,98nm,1.3s								
MOY	**Mondy**	**34.13**	**296**		*e*P		**P**	**22 47 04.4**	**-0.1**
MOY					*e*			22 48 25.7	
MOY						pmax	pmax		
	comp=Z,42nm,2.0s								
COLA	**College**	**34.16**	**40**		*e*P		**P**	**22 47 04.6**	**+0.2**
	comp=Z,72nm,0.9s								
COLA						LR	LR		
	comp=Z,4μm,19.0s								
COLA	**College**	**34.16**	**40**		*e*P		**P**	**22 47 04.6**	**+0.2**
COLA						pmax	pmax		
	comp=Z,71nm,0.9s								
DHY	**Denali Highway**	**34.39**	**43**		*e*P		**P**	**22 47 05.9**	**-0.8**
	comp=Z,102nm,1.3s								
SCM	**Sheep Creek Mo**	**34.48**	**45**		*e*P		**P**	**22 47 06.7**	**-0.7**
	comp=Z,84nm,1.2s								
SCM	**Sheep Creek Mo**	**34.48**	**45**		*e*P		**P**	**22 47 06.7**	**-0.7**
SCM						pmax	pmax		
	comp=Z,84nm,1.2s								
HDA	**Harding Lake**	**34.55**	**41**		*e*P		**P**	**22 47 06.0**	**-1.8**
	comp=Z,27nm,0.9s								
ILAR	**Eielson Array**	**34.57**	**40**		P		**P**	**22 47 07.7**	**-0.4**
	comp=Z,9.6nm,0.7s,baz=258,slow=7.7,SNR=59								
ILB	**Eielson Array**	**34.57**	**40**		*e*P		**P**	**22 47 07.5**	**-0.6**
IL1	**Eielson Array**	**34.57**	**40**		*e*P		**P**	**22 47 07.0**	**-1.0**
YOJ	**Yonaguni jima**	**34.59**	**238**			PFAKE		22 47 20.0	+11
YOJ						LR	LR		
	comp=Z,2μm,22.0s								
TATO	**Taipei**	**35.07**	**240**			PFAKE		22 47 20.0	+7.3
TATO						LR	LR		
	comp=Z,4μm,20.0s								
KLU	**Klutina**	**35.18**	**46**		*e*P		**P**	**22 47 12.4**	**-0.9**
	comp=Z,43nm,1.2s								
MID	**Middleton Isla**	**35.23**	**49**			PFAKE		22 47 30.0	+16
MID						LR	LR		
	comp=Z,4μm,20.0s								
PAX	**Paxson**	**35.27**	**43**		*e*P		**P**	**22 47 13.7**	**-0.4**
	comp=Z,28nm,1.1s								
PAX						LR	LR		
	comp=Z,4μm,19.0s								
PAX	**Paxson**	**35.27**	**43**		*e*P		**P**	**22 47 13.7**	**-0.4**
PAX						pmax	pmax		
	comp=Z,28nm,1.1s								
PAX						MLR	MLR		
	comp=Z,4μm,19.0s								
FYU	**Fort Yukon**	**35.27**	**37**		*e*P		**P**	**22 47 15.3**	**+1.3**
	comp=Z,441nm,1.6s								
DIV	**Divide**	**35.29**	**46**		*e*P		**P**	**22 47 14.7**	**+0.4**
	comp=Z,55nm,1.2s								
YHNB	**Yeheng**	**35.37**	**240**			PFAKE		22 47 30.0	+15
YHNB						LR	LR		
	comp=Z,4μm,20.0s								
EYAK	**Cordova Ski Ar**	**35.37**	**47**		*e*P		**P**	**22 47 13.8**	**-1.1**
	comp=Z,24nm,1.0s								
WHN	**Wuhan**	**35.48**	**255**	⇓	*i*P		**P**	**22 47 17.0**	**+0.8**
WHN					S		**S**	**22 52 46.9**	**-1.3**
WHN						pmax	pmax		
	comp=Z,470nm,2.1s								
WHN						LR	LR		
	comp=Z,11μm,19.9s								
WHN						LR	LR		
	comp=Z,8μm,19.5s								
WHN						LR	LR		
	comp=Z,7μm,22.9s								
RIDG	**Independ'e Rid**	**35.50**	**42**		*e*P		**P**	**22 47 14.7**	**-1.4**
	comp=Z,61nm,1.1s								
RIDG						LR	LR		
	comp=Z,3μm,20.0s								
GUMO	**Guam**	**35.62**	**197**			LR	LR	23 00 52.5	
	comp=Z,2μm,19.8s,baz=34,slow=34								
DOT	**Dot Lake**	**35.85**	**42**		*e*P		**P**	**22 47 17.9**	**-1.1**
	comp=Z,42nm,0.8s								
DOT						LR	LR		
	comp=Z,9μm,21.0s								
SCRK	**Sand Creek**	**35.86**	**41**		*e*P		**P**	**22 47 17.6**	**-1.7**
	comp=Z,76nm,1.4s								
SCRK						LR	LR		
	comp=Z,3μm,20.0s								
BMRM	**Bremner River**	**35.88**	**46**		*e*P		**P**	**22 47 19.5**	**+0.2**
	comp=Z,43nm,0.9s								
RAGM	**Ragged Mountai**	**35.92**	**47**		*e*P		**P**	**22 47 20.0**	**+0.3**
	comp=Z,104nm,1.3s								
SSLB	**Suanglung**	**36.29**	**240**		*e*P		**P**	**22 47 23.0**	**-0.2**
	comp=Z,14nm,1.1s								
YULB	**Yu-li**	**36.40**	**239**		*e*P		**P**	**22 47 22.7**	**-1.4**
	comp=Z,23nm,1.1s								
QZH	**Quanzhou**	**36.80**	**244**	⇑	*i*P		**P**	**22 47 27.9**	**+0.4**
QZH					S		**S**	**22 53 06.8**	**-1.6**
QZH						pmax	pmax		
	comp=Z,540nm,6.7s								
QZH						LR	LR		
	comp=Z,1μm,14.9s								
QZH						LR	LR		
	comp=Z,1μm,15.4s								
QZH						LR	LR		
	comp=Z,2μm,16.5s								
XAN	**Xi'an**	**36.84**	**264**		P		**P**	**22 47 27.3**	**-0.6**
XAN					pP		pP	22 47 39.0	-1.1
XAN					PP		**PnPn**	**22 48 59.0**	**+6.4**
XAN					S		**S**	**22 53 17.5**	**+8.5**
XAN						pmax	pmax		
	comp=Z,21nm,1.8s								
XAN						pmax	pmax		
	comp=Z,410nm,3.5s								
XAN						LR	LR		
	comp=Z,4μm,21.0s								
XAN						LR	LR		
	comp=Z,4μm,20.2s								
XAN						LR	LR		
	comp=Z,2μm,30.3s								
TPUB	**Ta-pu**	**36.85**	**240**		*e*P		**P**	**22 47 28.1**	**+0.1**
	comp=Z,32nm,0.7s								
BALM	**Baldy**	**36.95**	**46**		*e*P		**P**	**22 47 28.3**	**-0.3**
	comp=Z,30nm,1.1s								
BALM						LR	LR		
	comp=Z,5μm,22.0s								
BALM	**Baldy**	**36.95**	**46**		*e*P		**P**	**22 47 28.3**	**-0.3**
BALM						pmax	pmax		
	comp=Z,30nm,1.1s								
BALM						MLR	MLR		
	comp=Z,5μm,22.0s								
EGAK	**Eagle**	**37.02**	**40**		*e*P		**P**	**22 47 28.6**	**-0.3**
	comp=Z,36nm,0.8s								
EGAK					*e*PcP		**PcP**	**22 49 49.9**	**+1.1**
EGAK						LR	LR		
	comp=Z,4μm,19.0s								
DAWY	**Dawson**	**37.87**	**41**		*e*P		**P**	**22 47 35.5**	**-0.7**
	comp=Z,27nm,1.0s								
DAWY					*e*PP		**PP**	**22 49 00.3**	**-2.7**
DAWY						LR	LR		
	comp=Z,2μm,20.0s								
HVS	**Khovu-Aksy**	**38.63**	**298**	⇓	*i*P		**P**	**22 47 43.2**	**+0.4**
HVS						pmax	pmax		
	comp=Z,49nm,1.3s								
ENH	**Enshi**	**38.82**	**259**		*e*P		**P**	**22 47 43.3**	**-1.3**
	comp=Z,64nm,1.4s								
ENH						LR	LR		
	comp=Z,3μm,22.0s								
LZH	**Lanzhou**	**39.03**	**271**	⇑	*i*P		**P**	**22 47 46.8**	**+0.3**
LZH					pP		pP	22 47 58.1	-0.7
LZH					sP		sP	22 48 03.5	-0.7
LZH					PP		**PnPn**	**22 49 21.3**	**+2.2**
LZH					S		**S**	**22 53 42.1**	**-0.3**
LZH					sS		sS	22 54 03.4	+0.4
LZH					SS		**SS**	**22 56 28.0**	**-7.6**
LZH						pmax	pmax		
	comp=Z,92nm,1.1s								
LZH						pmax	pmax		
	comp=Z,690nm,5.0s								
LZH						LR	LR		
	comp=Z,8μm,14.0s								
LZH						LR	LR		
	comp=Z,9μm,13.7s								
LZH						LR	LR		
	comp=Z,9μm,16.4s								
HYT	**Haines Junctio**	**39.31**	**46**		*e*P		**P**	**22 47 48.7**	**+0.2**
	comp=Z,34nm,1.0s								
HYT						LR	LR		
	comp=Z,4μm,20.0s								
INK	**Inuvik**	**39.68**	**34**		P		**P**	**22 47 52.3**	**+1.0**
	comp=Z,22nm,1.0s,baz=307,slow=6.5,SNR=115								
INK	**Inuvik**	**39.68**	**34**		*e*P		**P**	**22 47 52.2**	**+1.0**
	comp=Z,62nm,1.1s								
INK						LR	LR		
	comp=Z,3μm,20.0s								
INK	**Inuvik**	**39.68**	**34**		*e*P		**P**	**22 47 52.2**	**+1.0**
INK						pmax	pmax		
	comp=Z,62nm,1.1s								
GTA	**Gaotai**	**39.91**	**278**	⇑	P		**P**	**22 47 53.5**	**-0.2**
GTA					pP		pP	22 48 01.8	-4.2
GTA					sP		sP	22 48 06.1	-5.3
GTA					PP		**PnPn**	**22 49 31.9**	**+2.5**
GTA					PcP		**PcP**	**22 50 00.4**	**+1.9**
GTA					ScP		**ScP**	**22 53 44.3**	**+0.8**
GTA					PcS		**PcS**	**22 53 50.3**	**+1.5**
GTA					S		**S**	**22 53 54.3**	**-1.1**
GTA					sS		sS	22 54 09.6	-6.4
GTA					ScS		**ScS**	**22 57 57.9**	**+1.2**
GTA						pmax	pmax		
	comp=Z,15nm,1.6s								
GTA						pmax	pmax		
	comp=Z,310nm,6.9s								
GTA						LR	LR		
	comp=Z,5μm,16.6s								
GTA						LR	LR		
	comp=Z,6μm,17.1s								
GTA						LR	LR		
	comp=Z,9μm,17.1s								
WHY	**Whitehorse**	**40.60**	**45**		*e*P		**P**	**22 48 00.6**	**+1.5**
	comp=Z,110nm,1.8s								
SKAG	**Skagway**	**40.71**	**47**		*e*P		**P**	**22 48 01.0**	**+1.1**
	comp=Z,66nm,1.3s								
SKAG						LR	LR		
	comp=Z,3μm,20.0s								
BESE	**Bessie Mountai**	**41.20**	**48**		*e*P		**P**	**22 48 04.3**	**+0.2**
	comp=Z,59nm,1.6s								
GZH	**Guangzhou**	**41.37**	**247**		*e*P		**P**	**22 48 06.8**	**+1.1**
CD2	**Chengdu**	**42.20**	**265**	⇑	P		**P**	**22 48 12.6**	**+0.1**
CD2					pP		pP	22 48 23.6	-1.3
CD2					sP		sP	22 48 28.5	-1.8
CD2					PP		**PcP**	**22 49 58.5**	**-7.5**
CD2					S		**S**	**22 54 28.1**	**-1.3**
CD2					sS		sS	22 54 48.8	-1.4
CD2					SS		**SS**	**22 57 39.4**	**+1.0**
CD2						pmax	pmax		
	comp=Z,110nm,0.6s								
CD2						pmax	pmax		
	comp=Z,820nm,4.8s								
CD2						LR	LR		
	comp=Z,3μm,16.5s								
CD2						LR	LR		
	comp=Z,6μm,21.1s								
CD2						LR	LR		
	comp=Z,5μm,21.5s								
ZAA0	**Zalesovo Array**	**42.66**	**305**		*e*P		**P**	**22 48 14.6**	**-1.3**
	comp=Z,5.7nm,0.8s								
ZAA0						LR	LR		
	comp=Z,5μm,20.0s								
ZALV	**Zalesovo Beam**	**42.66**	**305**		P		**P**	**22 48 15.2**	**-0.7**
	comp=Z,2.2nm,0.4s,baz=58,slow=6.2,SNR=8.6								
ZALV						PcP	**PcP**	**22 50 06.2**	**-0.8**
	comp=Z,6.0nm,0.8s,baz=79,slow=3.9,SNR=5.5								
ZALV						LR	LR	23 06 55.3	
	comp=Z,5μm,19.5s,baz=78,slow=37								
ZALV	**Zalesovo Beam**	**42.66**	**305**		*e*P		**P**	**22 48 15.4**	**-0.5**
DGZ	**Jazzator, Alta**	**42.89**	**298**		*i*P		**P**	**22 48 18.6**	**+0.6**
DGZ						pmax	pmax		
	comp=Z,18nm,1.4s								
CRAG	**Craig**	**43.15**	**52**			PFAKE		22 48 30.0	+10
CRAG						LR	LR		
	comp=Z,3μm,21.0s								
NVS	**Novosibirsk**	**43.18**	**307**		*e*P		**P**	**22 48 18.5**	**-1.6**
NVS					*e*			22 50 10.7	
NVS					*e*S		**S**	**22 54 37.8**	**-5.4**
NVS					*e*			22 58 17.2	
NVS						pmax	pmax		
	comp=Z,106nm,2.2s								
NVS						pmax	pmax		
	comp=N,35nm,2.4s								
NVS						pmax	pmax		
	comp=E,72nm,2.3s								
NVS						smax	smax		
	comp=N,26nm,2.0s								
WRAK	**Wrangell Islan**	**43.20**	**51**		*e*P		**P**	**22 48 22.2**	**+2.0**
	comp=N,30nm,1.0s								
WRAK						LR	LR		
	comp=Z,2μm,19.0s								
GYA	**Guiyang**	**43.22**	**257**	⇑	*i*P		**P**	**22 48 20.6**	**-0.3**
GYA					pP		pP	22 48 30.0	-3.3
GYA					PP		**PP**	**22 50 04.4**	**+2.6**
GYA					PcP		**PcP**	**22 50 11.3**	**+1.8**
GYA					ScP		**ScP**	**22 53 59.8**	**+3.0**
GYA					S		**S**	**22 54 45.6**	**+1.0**
GYA					sS		sS	22 55 00.3	-5.1
GYA					SS		**SS**	**22 57 51.0**	**-7.6**
GYA					ScS		**ScS**	**22 58 17.9**	**+0.8**
GYA						pmax	pmax		
	comp=Z,30nm,0.8s								
GYA						pmax	pmax		
	comp=Z,150nm,5.4s								
GYA						LR	LR		
	comp=Z,3μm,17.4s								
GYA						LR	LR		
	comp=Z,2μm,17.6s								
GYA						LR	LR		
	comp=Z,2μm,18.0s								
DLBC	**Dease Lake**	**43.64**	**47**		P		**P**	**22 48 24.4**	**+0.6**
	comp=Z,13nm,1.0s,baz=289,slow=8.4,SNR=18								
DLBC	**Dease Lake**	**43.64**	**47**		*e*P		**P**	**22 48 24.9**	**+1.0**
	comp=Z,162nm,2.0s								
DLBC						LR	LR		
	comp=Z,2μm,18.0s								
TGY	**Tagaytay City**	**44.15**	**231**		P		**P**	**22 48 29.4**	**+1.1**
	comp=Z,146nm,0.3s,baz=352,slow=6.9,SNR=2.9								
TGY						LR	LR	23 08 42.3	
	comp=Z,839nm,19.1s,baz=29,slow=38								
DIB	**Dawson Inlet,**	**44.39**	**55**		*e*P		**P**	**22 48 30.8**	**+1.0**
	comp=Z,22nm,1.1s								
DIB						LR	LR		
	comp=Z,2μm,19.0s								
WMQ	**Urumqi**	**45.47**	**291**			P	**P**	**22 48 39.0**	**+0.4**
WMQ						pP	pP	22 48 47.4	-3.7
WMQ						PP	**PP**	**22 50 24.8**	**-0.6**
WMQ						S	**S**	**22 55 21.3**	**+4.4**
WMQ						SS	**ScS**	**22 58 34.8**	**+4.0**
WMQ						pmax	pmax		
	comp=Z,39nm,1.7s								
WMQ						pmax	pmax		
	comp=Z,1μm,11.5s								
WMQ						LR	LR		
	comp=Z,13μm,17.9s								
WMQ						LR	LR		
	comp=Z,14μm,13.7s								
WMQ						LR	LR		
	comp=Z,10μm,17.9s								
QIZ	**Qiongzhong**	**46.56**	**247**		P		**P**	**22 48 48.4**	**+1.1**
QIZ					S		**S**	**22 55 34.5**	**+1.7**
QIZ						LR	LR		
	comp=Z,2μm,15.3s								
QIZ						LR	LR		
	comp=Z,2μm,16.2s								
QIZ						LR	LR		
	comp=Z,3μm,14.7s								
QIZ	**Qiongzhong**	**46.56**	**247**			PFAKE		22 49 00.0	+13
QIZ						LR	LR		
	comp=Z,2μm,21.0s								
KMI	**Kunming**	**46.70**	**259**		P		**P**	**22 48 48.9**	**+0.2**
KMI					pP		pP	22 49 01.8	+0.6
KMI					sP		sP	22 49 07.9	+1.4
KMI					PP		**PP**	**22 50 35.5**	**-3.3**
KMI					S		**S**	**22 55 31.5**	**-3.7**
KMI					sS		sS	22 55 54.3	-1.8
KMI						pmax	pmax		
	comp=Z,39nm,1.4s								
KMI						pmax	pmax		
	comp=Z,700nm,5.5s								
KMI						LR	LR		
	comp=Z,2μm,18.0s								
KMI						LR	LR		
	comp=Z,2μm,17.3s								
KMI						LR	LR		
	comp=Z,2μm,19.5s								
MK31	**Makanchi Array**	**47.28**	**297**		*e*P		**P**	**22 48 52.1**	**-0.6**
MK31	**Makanchi Array**	**47.28**	**297**		*i*P		**P**	**22 48 51.4**	**-1.3**
MK31						pmax	pmax		
	comp=Z,20nm,0.8s								
MKAR	**Makanchi Array**	**47.28**	**297**		P		**P**	**22 48 50.3**	**-2.4**
	comp=Z,14nm,0.8s,baz=64,slow=6.9,SNR=54								
MKAR						LR	LR	23 10 21.6	
	comp=Z,6μm,18.3s,baz=42,slow=38								
MKAR	**Makanchi Array**	**47.28**	**297**		*e*P		**P**	**22 48 52.1**	**-0.6**
	comp=Z,102nm,0.8s								
MKAR	**Makanchi Array**	**47.28**	**297**		*e*P		**P**	**22 48 52.1**	**-0.6**
MKAR						pmax	pmax		
	comp=Z,100nm,0.8s								
MK01	**Makanchi Array**	**47.28**	**297**		*e*P		**P**	**22 48 51.1**	**-1.6**
MAKZ	**Makanchi**	**47.45**	**297**		*e*P		**P**	**22 48 53.3**	**-0.7**
	comp=Z,51nm,1.4s								
MAKZ						LR	LR		
	comp=Z,5μm,20.0s								
MAKZ	**Makanchi**	**47.45**	**297**		*i*P		**P**	**22 48 52.0**	**-2.1**
MAKZ						pmax	pmax		
	comp=Z,38nm,1.3s								
KURK	**Kurchatov**	**47.48**	**303**		*e*P		**P**	**22 48 53.1**	**-1.1**
	comp=Z,56nm,1.3s								
KURK					*e*PcP		**PcP**	**22 50 24.4**	**+0.6**
KURK						LR	LR		
	comp=Z,8μm,19.0s								
KURK	**Kurchatov**	**47.48**	**303**		P		**P**	**22 48 53.1**	**-1.1**
	SNR=25								
KURK	**Kurchatov**	**47.48**	**303**	*c*	*i*P		**P**	**22 48 53.0**	**-1.1**
KURK						pmax	pmax		
	comp=Z,48nm,1.2s								
KURBB	**Kurchatov Arra**	**47.58**	**303**		P		**P**	**22 48 52.9**	**-2.0**
	comp=Z,11nm,0.8s,baz=68,slow=7.8,SNR=45								
DAV	**Davao City (W)**	**48.03**	**221**			LR	LR	23 10 19.2	
	comp=Z,421nm,20.5s,baz=33,slow=37								
HPAH	**Hawaii Prepara**	**48.58**	**108**			PFAKE		22 49 20.0	+17
HPAH						LR	LR		
	comp=Z,5μm,22.0s								
POHA	**Pohakuloa**	**48.88**	**108**			PFAKE		22 49 20.0	+14
POHA						LR	LR		
	comp=Z,5μm,20.0s								
YKA	**Yellowknife Ar**	**48.95**	**38**		P		**P**	**22 49 05.7**	**+0.5**
	comp=Z,7.3nm,0.6s,baz=298,slow=7.6,SNR=137								
RES	**Resolute Bay**	**48.95**	**19**		P		**P**	**22 49 06.0**	**+0.8**
	comp=Z,26nm,0.6s,baz=303,slow=7.7,SNR=110								
RES	**Resolute Bay**	**48.95**	**19**		*e*P		**P**	**22 49 05.7**	**+0.5**
RES	**Resolute Bay**	**48.95**	**19**		*e*P		**P**	**22 49 05.7**	**+0.5**
	comp=Z,177nm,1.5s								
RES						LR	LR		
	comp=Z,4μm,21.0s								
RES	**Resolute Bay**	**48.95**	**19**		*e*P		**P**	**22 49 05.7**	**+0.5**
RES						pmax	pmax		
	comp=Z,180nm,1.5s								
UWE	**Uwekahuna**	**49.28**	**108**			PFAKE		22 49 20.0	+11
UWE						LR	LR		
	comp=Z,6μm,20.0s								
TARA	**Tarawa**	**49.33**	**156**			PFAKE		22 49 20.0	+11
TARA						LR	LR		
	comp=Z,6μm,21.0s								
LKP	**Lekhapani**	**49.78**	**267**		*e*P		**P**	**22 49 12.4**	**+0.3**
LKP						IAmb	IAmb	22 49 15.6	
	comp=Z,30nm,0.7s								
MANU	**Manus Island**	**50.59**	**190**			PFAKE		22 49 30.0	+12
MANU						LR	LR		
	comp=Z,2μm,22.0s								
BVAR	**Borovoye Array**	**50.77**	**309**		P		**P**	**22 49 17.9**	**-1.4**
	comp=Z,5.3nm,0.5s,baz=53,slow=8.3,SNR=18								
BVAR						LR	LR	23 12 44.1	
	comp=Z,8μm,18.5s,baz=62,slow=38								
PDGK	**Podgornoye**	**50.79**	**294**		*i*P		**P**	**22 49 18.3**	**-1.4**
PDGK						pmax	pmax		
	comp=Z,13nm,1.3s								
BRVK	**Borovoye**	**50.81**	**309**		*e*P		**P**	**22 49 19.3**	**-0.3**
BRVK	**Borovoye**	**50.81**	**309**		*e*P		**P**	**22 49 19.1**	**-0.5**
BRVK					*e*PcP		**PcP**	**22 50 35.9**	**0.0**
BRVK						LR	LR		
	comp=Z,8μm,19.0s								
BRVK	**Borovoye**	**50.81**	**309**	⇓	*e*P		**P**	**22 49 19.3**	**-0.3**
BRVK						pmax	pmax		
	comp=Z,11nm,0.6s								
ZIRO	**ZIRO**	**50.98**	**269**		*e*P		**P**	**22 49 20.6**	**-0.8**
KBS	**Kingsbay**	**51.11**	**351**			PFAKE		22 49 30.0	+8.5
KBS						LR	LR		
	comp=Z,3μm,21.0s								
SPITS	**Spitsbergen Ar**	**51.26**	**350**		P		**P**	**22 49 23.0**	**+0.3**
	comp=Z,3.6nm

SKNT Sakolnakorn 51.76 251 P **P** 22 49 27.9 +0.8
comp=Z,32nm,1.9s
PRZ Przheval'sk 51.92 294 P **P** 22 49 28.7 +0.4
A04D Lummi Island 51.95 56 P **P** 22 49 28.5 +0.3
baz=303
KOHI KOHIMA 52.01 267 *e*P **P** 22 49 27.2 -1.9
KOHI IAmb IAmb 22 49 32.5
comp=Z,116nm,1.4s
NLWA Neilton Lookou 52.02 58 *e*P **P** 22 49 29.7 +0.9
comp=Z,60nm,1.4s
NLWA LR LR
comp=Z,2µm,22.0s
UBPT Khong Chiam 52.11 248 P **P** 22 49 30.6 +0.9
comp=Z,38nm,1.8s
OTUK Ortayu 52.27 303 P **P** 22 49 29.5 -1.1
OTUK pmax pmax
comp=Z,13nm,1.6s
TEZP TEZPUR 52.28 269 *e*P **P** 22 49 29.0 -1.9
GENI Genyem 52.31 199 P **P** 22 49 33.5 +2.3
comp=Z,37nm,0.7s,comp=Z,4µm
TULEG Thule 52.34 12 *e*P **P** 22 49 29.9 -0.7
comp=Z,213nm,1.5s
TULEG LR LR
comp=Z,4µm,18.0s
B05A Bryant 52.54 57 P **P** 22 49 32.7 +0.1
baz=304
PAYA Payao 52.64 257 P **P** 22 49 35.9 +2.2
comp=Z,14nm,0.9s
E03A Lebam 52.67 59 *e*P **P** 22 49 35.2 +1.7
comp=Z,72nm,1.5s
IMP Imphal 52.72 266 *e*P **P** 22 49 33.8 -0.5
IMP IAmb IAmb 22 49 35.5
comp=Z,68nm,1.3s
B06A Marblemount 52.74 56 *e*P **P** 22 49 34.1 +0.1
comp=Z,18nm,0.9s
B06A LR LR
comp=Z,2µm,22.0s
KDJ Kajisay 52.87 294 *e*P **P** 22 49 35.3 0.0
comp=Z,42nm,1.4s
KDJ *e*PcP **PcP** 22 50 44.6 +0.6
KDJ LR LR
comp=Z,9µm,19.0s
KDJ Kajisay 52.87 294 P **P** 22 49 35.3 0.0
KHON Khomkaen 52.97 252 P P 22 49 45.0 +9.0
TNTI Ternate 53.00 215 PFAKE 22 49 50.0 +14
TNTI LR LR
comp=Z,600nm,21.0s
GUWA GUWAHATI 53.30 269 *e*P **P** 22 49 36.7 -1.8
TKM2 Tokmak 2 53.37 296 P **P** 22 49 39.1 0.0
SNR=21
TKM2 Tokmak 2 53.37 296 *i* P **P** 22 49 38.0 -1.0
TKM2 pmax pmax
comp=Z,21nm,1.3s
ULHL Ulahol 53.37 295 P **P** 22 49 39.2 +0.2
SNR=12
LAMP Lampang 53.40 256 P **P** 22 49 41.7 +2.5
comp=Z,13nm,0.9s
KKM Kota Kinabalu 53.40 231 PFAKE 22 49 50.0 +11
KKM LR LR
comp=Z,1µm,20.0s
C06D Leavenworth 53.40 56 P **P** 22 49 39.1 +0.1
baz=304
SVE Sverdlovsk 53.48 317⇑ *e*P **P** 22 49 38.5 -0.8
SVE *e*S **S** 22 57 11.1 +2.7
SVE pmax pmax
comp=Z,19nm,1.5s
SVE MLR MLR
comp=Z,4µm,15.0s
LON Longmire 53.55 58 *e*P **P** 22 49 39.5 -0.5
comp=Z,40nm,1.9s
LON Longmire 53.55 58 *e*P **P** 22 49 39.6 -0.5
LON pmax pmax
comp=Z,40nm,1.9s
G03D McMinnville, O 53.59 60 P **P** 22 49 40.6 +0.3
baz=305
SHL Shillong 53.60 269 *e*P **P** 22 49 40.5 -0.4
SHL IAmb IAmb 22 49 42.1
comp=Z,49nm,1.0s
CMMT Chiang Mai 53.63 257 P **P** 22 49 41.1 +0.1
comp=Z,47nm,1.6s
CHTO Chiang Mai 53.63 257 P **P** 22 49 42.2 +1.2
comp=Z,210nm,1.8s,comp=Z,5µm
CHTO Chiang Mai 53.63 257 *e*P **P** 22 49 41.8 +0.8
comp=Z,29nm,0.8s
CHTO LR LR
comp=Z,4µm,19.0s
CHTO Chiang Mai 53.63 257 P **P** 22 49 41.8 +0.8
SNR=25
CHTO Chiang Mai 53.63 257 *e*P **P** 22 49 41.8 +0.8
CHTO pmax pmax
comp=Z,29nm,0.8s
CHAI Chaiyaphum 53.82 252 P **P** 22 49 43.8 +1.5
comp=Z,7.1nm,0.9s,comp=Z,106nm
USP Ospenovka 53.83 297 P **P** 22 49 41.7 -0.4
SNR=25
CHMS Chumysh 53.83 296 P **P** 22 49 42.4 +0.2
SNR=10
PHIT Phitsanulok 53.87 254 P **P** 22 49 45.1 +2.4
comp=Z,24nm,1.0s
CM31 Chiang Mai Arr 53.89 257 *e*P **P** 22 49 43.1 +0.2
CMAR Chiang Mai Arr 53.89 257 P **P** 22 49 43.6 +0.8
comp=Z,8.6nm,0.7s,baz=30,slow=6.9,SNR=43
CMAR LR LR 23 14 32.5
comp=Z,3µm,18.6s,baz=52,slow=38
LTY Liberty 53.91 57 *e*P **P** 22 49 42.6 -0.1
comp=Z,13nm,0.9s
LTY LR LR
comp=Z,2µm,22.0s
CM01 Chiang Mai Arr 53.91 257 *e*P **P** 22 49 43.8 +0.8
KBK Karagaybulak 53.91 296 P **P** 22 49 43.1 +0.1
SNR=24
COR Corvallis 53.93 61 PFAKE 22 50 00.0 +17
COR LR LR
comp=Z,1µm,21.0s
PBKT Sadao Pong 53.97 253 P **P** 22 49 43.8 +0.4
comp=Z,31nm,1.5s
NRN Naryn 53.99 294 P **P** 22 49 44.7 +1.0
FRU Bishkek 54.01 296 *e*P **P** 22 49 42.0 -1.5
FRU *e* 22 49 52.0
FRU pmax pmax
comp=Z,100nm,2.0s
FRU1 Bishkek 54.01 296 P **P** 22 49 42.6 -1.0
B08A Colville Reser 54.02 55 *e*P **P** 22 49 41.5 -2.0
comp=Z,35nm,1.2s
KZA Kyzart 54.07 295 P **P** 22 49 45.1 +0.7
SNR=26
AAK Ala-Archa 54.20 296 LR LR 23 14 18.7
comp=Z,5µm,19.6s,baz=33,slow=38
AAK Ala-Archa 54.20 296 *e*P **P** 22 49 44.6 -0.4
AAK Ala-Archa 54.20 296 P **P** 22 49 45.0 0.0
SNR=13
AAK Ala-Archa 54.20 296 *e*P **P** 22 49 43.4 -1.6
comp=Z,39nm,1.4s
AAK Ala-Archa 54.20 296 P **P** 22 49 44.2 -0.8
AAK Ala-Archa 54.20 296 *i* P **P** 22 49 44.4 -0.6
SNR=7.5
AAK Ala-Archa 54.20 296 *c i*P **P** 22 49 44.6 -0.4
AAK pmax pmax
comp=Z,35nm,1.6s
AZL Aizawl 54.30 266 *e*P **P** 22 49 46.7 +0.8
I03D Drain, OR 54.42 62 P **P** 22 49 47.1 +0.7
baz=306
UCH Uchtor 54.42 296 P **P** 22 49 47.2 +0.2
SNR=5.8
H04A Detroit Lake 54.52 60 *e*P **P** 22 49 47.4 +0.2
comp=Z,46nm,1.5s
DHUB DHUBRI 54.55 270 *ex* P 22 49 57.4 +10
EKS2 Erkin-Say 54.61 297 P **P** 22 49 47.6 -0.4
SNR=18
GTK Tadong 54.62 273 *e*P **P** 22 49 49.1 +0.8
TURI Tura 54.64 270 *e*P **P** 22 49 49.1 +0.9
ARU Arti 54.65 317 LR LR 23 15 19.9
comp=Z,2µm,19.5s,baz=44,slow=38
ARU Arti 54.65 317 *e*P **P** 22 49 46.3 -1.5
comp=Z,28nm,1.0s
ARU Arti 54.65 317 *c i*P **P** 22 49 45.6 -2.3
ARU *PP **pP** 22 50 00.2 -0.5
ARU 22 50 49.0
ARU 22 51 46.1
ARU S **S** 22 57 21.4 -2.7
ARU 22 59 28.2
ARU SS **SS** 23 01 11.3 +4.6
ARU SSS SSS 23 03 08.5
ARU pmax pmax
comp=Z,20nm,1.7s
ARU MLR MLR
comp=Z,4µm,19.0s
G05D Wamic, OR 54.70 59 P **P** 22 49 49.0 +0.5
baz=306
FAKI Fak Fak 54.72 208 PFAKE 22 50 00.0 +11
FAKI LR LR
comp=Z,1µm,22.0s
E07A Sunnyside 54.76 57 *e*P **P** 22 49 48.6 -0.3
comp=Z,16nm,0.6s
I04A Tendick Farm, 54.91 61 P **P** 22 49 50.8 +0.7
baz=306,SNR=9.4
C09A Chrisman Ranch 54.92 55 *e*P **P** 22 49 49.0 -1.0
comp=Z,21nm,0.9s
SAIH SAIHA 54.96 265 *e*P **P** 22 49 50.5 -0.3
AML Almayashu 54.97 296 P **P** 22 49 51.3 +0.4
SNR=9.7
D08A Wollman Farm, 55.00 56 *e*P **P** 22 49 50.3 -0.2
comp=Z,17nm,1.1s
HAWA Hanford 55.04 57 *e*P **P** 22 49 50.1 -0.7
comp=Z,18nm,1.1s
G06A Carlson Farm, 55.09 59 *e*P **P** 22 49 50.8 -0.6
comp=Z,53nm,1.8s
DAG Danmarks Havn 55.10 358⇑ *i*P **P** 22 49 50.2 -0.7
comp=Z,12nm,1.1s
DAG Danmarks Havn 55.10 358⇑ *i*P **P** 22 49 50.2 -0.7
DAG pmax pmax
comp=Z,12nm,1.1s
F07A Phinny Hill Vi 55.11 58 *e*P **P** 22 49 51.6 +0.3
comp=Z,20nm,0.8s
KSH Kashi 55.15 292 P **P** 22 49 55.5 +3.6
KSH pP pP 22 50 06.4 +1.7
KSH PcP **PcP** 22 50 56.9 +4.3
KSH PP **PP** 22 52 02.0 +6.7
KSH S **S** 22 57 36.1 +4.5
KSH ScS **ScS** 22 59 41.5 +4.4
KSH pmax pmax
comp=Z,65nm,1.3s
KSH pmax pmax
comp=Z,670nm,7.1s
KSH LR LR
comp=Z,3µm,14.2s
KSH LR LR
comp=Z,2µm,12.8s
KSH LR LR
comp=Z,4µm,15.2s
AGT Agartala 55.16 268 *e*P **P** 22 49 52.9 +0.9
L02D Cave Junction, 55.17 64 P **P** 22 49 52.8 +0.9
baz=307
I05D Terrebonne, OR 55.22 60 P **P** 22 49 52.7 +0.4
baz=306
NEW Newport 55.28 54 P **P** 22 49 53.0 +0.4
baz=306,SNR=7.6
NEW Newport 55.28 54 *e*P **P** 22 49 51.1 -1.5
comp=Z,34nm,1.4s
NEW Newport 55.28 54 *e*P **P** 22 49 53.1 +0.4
NEW pmax pmax
comp=Z,33nm,1.3s
HUMO Hull Mountain 55.29 63 *e*P **P** 22 49 52.7 -0.1
comp=Z,34nm,1.5s
HUMO LR LR
comp=Z,1µm,20.0s
J04D Umpqua Nationa 55.42 62 P **P** 22 49 54.9 +1.0
baz=307,SNR=8.2
BELO BELONIA 55.46 267 *e*P **P** 22 49 54.1 0.0
MNAS Manas 55.47 297 *i* P **P** 22 49 52.1 -2.1
MNAS pmax pmax
comp=Z,7.0nm,0.8s
KULLO Kullorsuaq 55.50 10⇑ *i*P **P** 22 49 53.4 -0.3
comp=Z,103nm,0.8s
KULLO Kullorsuaq 55.50 10⇑ *i*P **P** 22 49 53.4 -0.3
KULLO pmax pmax
comp=Z,100nm,0.8s
MRSI Marisa 55.51 221 P **P** 22 49 55.7 +1.2
comp=Z,33nm,1.8s,comp=Z,989nm
ODAN Odare 55.73 273 *e*P **P** 22 49 56.9 +0.5
E09A Wood Farm, Sta 55.75 57 *e*P **P** 22 49 56.0 0.0
comp=Z,30nm,1.1s
PINE Pine Mountain 55.77 61 *e*P **P** 22 49 57.7 +1.3
comp=Z,72nm,1.5s
LVZ Lovozero 55.78 337 PFAKE 22 50 10.0 +14
LVZ LR LR
comp=Z,5µm,18.0s
KHMM Horse Mountain 55.87 65 *e*P **P** 22 49 56.8 -0.3
comp=Z,50nm,1.2s
KHMM LR LR
comp=Z,1µm,20.0s
J05D Fort Rock, OR 55.90 61 P **P** 22 49 58.5 +1.2
baz=307,SNR=17
YBH Yreka Blue Hor 55.96 64 P **P** 22 49 58.1 +0.5
comp=Z,9.1nm,0.9s,baz=45,slow=2.5,SNR=7.9
YBH LR LR 23 10 02.5
comp=Z,2µm,21.8s,baz=310,slow=32
YBH Yreka Blue Hor 55.96 64 *e*P **P** 22 49 58.4 +0.8
comp=Z,16nm,0.9s
K04D Chiloquin, OR 55.99 62 P **P** 22 49 58.7 +0.7
baz=307
JIRN Jiri 56.00 275 *e*P **P** 22 49 58.9 +0.4
comp=Z,23nm,0.3s
G08A Pilot Rock 56.02 58 *e*P **P** 22 49 58.4 +0.3
comp=Z,13nm,1.3s
GUN Gumba 56.04 275 *e*P **P** 22 49 59.1 +0.4
comp=Z,23nm,0.4s
M02C Callahan 56.08 64 P **P** 22 49 59.1 +0.6
baz=307
SANI Sanana 56.12 216 P **P** 22 49 59.5 +0.6
comp=Z,23nm,1.2s,comp=Z,738nm
RAMN Ramite 56.20 274 *e*P **P** 22 50 00.0 +0.3
comp=Z,44nm,0.5s
KEV Kevo 56.24 341 PFAKE 22 50 10.0 +11
KEV LR LR
comp=Z,4µm,20.0s
KK31 Karatay Array 56.28 299 *e*P **P** 22 49 59.5 -0.3
KK31 Karatay Array 56.28 299 *i* P **P** 22 49 58.7 -1.1
KK31 pmax pmax
comp=Z,19nm,1.3s
KKAR Karatay Array 56.28 299 *e*P **P** 22 49 58.5 -1.2
KKAR Karatay Array 56.28 299 *e*P **P** 22 49 58.6 -1.2
SFK Sufi-Kurgan 56.36 294 *i* P **P** 22 49 59.6 -1.1
SFK pmax pmax
comp=Z,26nm,1.5s
N02D Trinity Center 56.42 64 P **P** 22 50 01.7 +0.8
baz=308
I07A Izee 56.43 60 *e*P **P** 22 50 02.5 +1.5
comp=Z,18nm,1.2s
K05A Summer Lake 56.44 62 *e*P **P** 22 50 02.6 +1.4
comp=Z,132nm,1.6s
M04C Macdoel 56.45 63 P **P** 22 50 02.1 +0.9
baz=308
LUWI Luwuk 56.51 220 PFAKE 22 50 10.0 +8.3
LUWI LR LR
comp=Z,600nm,21.0s
KKN Kakani 56.52 275 *e*P **P** 22 50 02.4 +0.4
WALA Waterton Lakes 56.52 52 *e*P **P** 22 50 01.8 +0.1
comp=Z,68nm,1.4s
WALA LR LR
comp=Z,2µm,19.0s
F10A Beach Ranch, E 56.58 57 *e*P **P** 22 50 01.2 -0.9
comp=Z,54nm,1.8s
PKIN Phulchoki 56.58 275 *e*P **P** 22 50 02.7 +0.2
ARCES ARCESS Array B 56.74 341 P **P** 22 50 01.9 -0.8
comp=Z,3.5nm,0.6s,baz=40,slow=7.3,SNR=31
ARCES LR LR 23 19 44.4
comp=Z,6µm,18.9s,baz=34,slow=42
ARE0 ARCESS Array S 56.74 341 PFAKE 22 50 10.0 +7.3
ARE0 LR LR
comp=Z,5µm,20.0s
DMN Daman 56.76 275 *e*P **P** 22 50 04.3 +0.6
comp=Z,114nm,1.0s
WDC Whiskeytown Da 56.76 65 *e*P **P** 22 50 02.9 -0.3
comp=Z,15nm,1.0s
WDC *e*pP **pP** 22 50 18.7 +2.6
WDC LR LR
comp=Z,800nm,20.0s
WDC Whiskeytown Da 56.76 65 *e*P **P** 22 50 02.9 -0.3
WDC *e**PP **pP** 22 50 18.7 +2.6
WDC pmax pmax
comp=Z,15nm,1.0s
WDC MLR MLR
comp=Z,800nm,20.0s
GKN Gorkha 56.81 276 *e*P **P** 22 50 04.5 +0.6
comp=Z,42nm,0.5s
SRDT SRDT 56.81 253 P **P** 22 50 05.8 +2.0
comp=Z,19nm,0.8s
JTMT Jette 57.12 53 *e*P **P** 22 50 06.0 +0.1
comp=Z,22nm,1.1s
BMO Blue Mountains 57.22 58 *e*P **P** 22 50 07.3 +0.8
comp=Z,30nm,1.3s
BMO LR LR
comp=Z,2µm,22.0s
BMO Blue Mountains 57.22 58 *e*P **P** 22 50 07.3 +0.8
BMO pmax pmax
comp=Z,30nm,1.3s
O03D Paynes Creek 57.38 64 P **P** 22 50 07.9 +0.1
baz=308
HOPS Hopland Field 57.41 66 PFAKE 22 50 20.0 +12
HOPS LR LR
comp=Z,2µm,22.0s
J08A Circle Bar Ran 57.46 60 *e*P **P** 22 50 10.1 +1.7
comp=Z,35nm,1.3s
PHET Kaeng Krachan 57.56 252 P P 22 50 15.7 +6.5
comp=Z,11nm,0.9s,comp=Z,168nm
KOLN Koldanda 57.65 277 *e*P **P** 22 50 10.4 +0.5
comp=Z,26nm,0.4s
HNR Honiara 57.69 174 LR LR 23 11 36.6
comp=Z,2µm,21.7s,baz=338,slow=32
GDXM Geysers 57.70 66 PFAKE 22 50 20.0 +10
GDXM LR LR
comp=Z,2µm,21.0s
PYUN Piuthan 57.83 277 *e*P **P** 22 50 11.7 +0.4
MSO Missoula 57.87 54 P **P** 22 50 11.5 +0.4
baz=308,SNR=15
MSO Missoula 57.87 54 *e*P **P** 22 50 11.2 +0.1
comp=Z,65nm,1.4s
PMG Port Moresby 57.89 189 LR LR 23 11 17.1
comp=Z,1µm,21.7s,baz=354,slow=32
WVOR Wild Horse Val 57.94 61 *e*P **P** 22 50 11.9 +0.2
comp=Z,36nm,1.1s
WVOR LR LR
comp=Z,1µm,22.0s
WVOR Wild Horse Val 57.94 61 *e*P **P** 22 50 11.9 +0.2
WVOR pmax pmax
comp=Z,36nm,1.1s
WVOR MLR MLR
comp=Z,1µm,22.0s
ORV Oroville 58.02 65 *e*P **P** 22 50 11.3 -0.9
comp=Z,11nm,1.0s
ORV Oroville 58.02 65 *e*P **P** 22 50 11.3 -0.9
ORV pmax pmax
comp=Z,11nm,1.0s
MCCM Marconi Confer 58.06 67 PFAKE 22 50 30.0 +18
MCCM LR LR
comp=Z,2µm,20.0s
AB31 Akbulak array 58.32 310 *i* P **P** 22 50 12.3 -1.8
AB31 pmax pmax
comp=Z,5.0nm,0.8s
ABKAR Akbulak array 58.32 310 *e*P **P** 22 50 13.7 -0.4
comp=Z,56nm,0.6s
AKTO Aktyubinsk 58.55 312 P **P** 22 50 15.3 -0.4
comp=Z,1.9nm,0.5s,baz=84,slow=4.7,SNR=5.8
AKTO LR LR 23 17 46.7
comp=Z,3µm,18.6s,baz=39,slow=38
AKTO Aktyubinsk 58.55 312 *i* P **P** 22 50 14.3 -1.4
AKTO pmax pmax
comp=Z,6.0nm,1.1s
AFDM Forest Hills D 58.72 65 *e*P **P** 22 50 16.5 -0.6
comp=Z,17nm,1.3s
FFC Flin Flon 58.76 41 *e*P **P** 22 50 18.0 +0.9
comp=Z,83nm,1.4s
FFC LR LR
comp=Z,1µm,20.0s
FFC Flin Flon 58.76 41 *e*P **P** 22 50 18.0 +0.9
FFC pmax pmax
comp=Z,83nm,1.4s
BOK Bokaro 58.80 272 *e*P **P** 22 50 18.8 +1.0
MFID Camas Ranch 58.94 58 *e*P **P** 22 50 18.9 +0.3
comp=Z,30nm,1.4s
MFID LR LR
comp=Z,1µm,21.0s
SUMG Summit 59.03 5⇑ *i*P **P** 22 50 19.8 +0.6
comp=Z,60nm,0.9s
SUMG *i* 22 50 41.5
SUMG Summit 59.03 5 *e*P **P** 22 50 19.5 +0.3
comp=Z,341nm,1.6s
SUMG LR LR
comp=Z,2µm,20.0s
SUMG Summit 59.03 5 *e*P **P** 22 50 19.5 +0.3
SUMG pmax pmax
comp=Z,340nm,1.6s
HRY Holter Researc 59.07 53 *e*P **P** 22 50 21.1 +1.5
PAHR Pah Rah Range 59.20 64 *e*P **P** 22 50 21.2 +0.7
comp=Z,19nm,1.0s
RDG13 Poverty Ridge 59.21 67 *e*P **P** 22 50 20.6 0.0
comp=Z,39nm,1.4s
RDG13 LR LR
comp=Z,1µm,22.0s
FCC Fort Churchill 59.29 34 *e*P **P** 22 50 21.0 +0.4
FCC Fort Churchill 59.29 34 *e*P **P** 22 50 21.0 +0.4
comp=Z,25nm,0.8s
FCC LR LR
comp=Z,1µm,21.0s
FCC Fort Churchill 59.29 34 *e*P **P** 22 50 21.0 +0.4
FCC pmax pmax
comp=Z,25nm,0.8s
VCNR Virginia City 59.30 64 *e*P **P** 22 50 21.9 +0.6
comp=Z,12nm,0.9s
LRM Limekiln Ridge 59.30 54 *e*P **P** 22 50 20.7 -0.5
EGMT Eagleton 59.34 51 P **P** 22 50 21.8 +0.6
baz=310,SNR=19
EGMT Eagleton 59.34 51 *e*P **P** 22 50 21.7 +0.4
comp=Z,101nm,1.4s
EGMT LR LR
comp=Z,2µm,19.0s
KLMR Klimovskoe 59.36 329 *e*P **P** 22 50 18.7 -2.4
KLMR comp=Z,25nm,1.4s AMP 22 50 21.8
KLMR *ePP **PP** 22 52 28.6 -3.4
KLMR *eS **S** 22 58 20.3 -5.8
KLMR *eS **S** 22 58 20.3 -5.8
KLMR *eSS **SS** 23 02 25.3 +4.8
KLMR *eSS **SS** 23 02 25.3 +4.8
KLMR LQ LQ 23 11 27.1
KLMR LQ LQ 23 11 27.1
KLMR LR LR 23 16 13.0
KLMR AMP 23 19 37.2
comp=Z,619nm,16.7s
KLMR Klimovskoe 59.36 329 *e*P **P** 22 50 18.7 -2.4
KLMR *e 22 52 28.6
KLMR *eS **S** 22 58 20.3 -5.8
KLMR *eSS **SS** 23 02 25.3 +4.8
KLMR pmax pmax
comp=Z,25nm,1.4s
KLMR MLR MLR
comp=Z,619nm,17.0s
DLMT Dillon 59.51 55 *e*P **P** 22 50 22.9 +0.3
comp=Z,110nm,1.9s
HLID Hailey 59.65 57 P **P** 22 50 24.3 +0.7
baz=310,SNR=26
HLID Hailey 59.65 57 *e*P **P** 22 50 24.7 +1.1
comp=Z,42nm,1.5s
HLID LR LR
comp=Z,1µm,20.0s
CMB Columbia Colle 59.66 66 *e*P **P** 22 50 23.9 +0.3
comp=Z,23nm,1.4s
CMB LR LR
comp=Z,1µm,21.0s
CMB Columbia Colle 59.66 66 *e*P **P** 22 50 23.9 +0.3
CMB pmax pmax
comp=Z,23nm,1.4s
CMB MLR MLR
comp=Z,1µm,21.0s
MCMT McKenzie Canyo 59.71 55 *e*P **P** 22 50 24.3 +0.2
YERR Yerington 59.74 64 *e*P **P** 22 50 24.5 +0.1
comp=Z,22nm,0.8s
YERR *epP **pP** 22 50 38.3 +1.0
SAUI Saumlaki 59.80 207 *e*P **P** 22 50 25.5 +0.9
comp=Z,180nm,1.3s
SAO San Andreas Ge 59.82 67 PFAKE 22 50 40.0 +15
SAO LR LR
comp=Z,1µm,22.0s
BOZ Bozeman (W) 59.89 54 P **P** 22 50 25.8 +0.6
baz=310,SNR=50
BOZ Bozeman (W) 59.89 54 *e*P **P** 22 50 26.1 +0.9
comp=Z,142nm,1.5s
BOZ Bozeman (W) 59.89 54 *e*P **P** 22 50 26.1 +0.9
BOZ pmax pmax
comp=Z,140nm,1.5s
WAKR Walker 59.93 65 *e*P **P** 22 50 26.3 +0.6
comp=Z,15nm,1.0s
BMN Battle Mountai 60.02 62 *e*P **P** 22 50 26.9 +0.7
comp=Z,12nm,0.8s
BMN Battle Mountai 60.02 62 *e*P **P** 22 50 26.9 +0.7
BMN pmax pmax
comp=Z,12nm,0.8s
KSM Kuching 60.37 234 *e*P **P** 22 50 29.2 +0.6

comp=Z,79nm,2.0s
KSM LR LR
comp=Z,700nm,20.0s
KVN Kaiserville 60.38 63 eP P 22 50 28.4 -0.3
comp=Z,24nm,1.1s
KVN Kaiserville 60.38 63 eP P 22 50 28.4 -0.3
KVN pmax pmax
comp=Z,24nm,1.1s
RYN Ryan 60.40 64 eP P 22 50 29.2 +0.4
comp=Z,10nm,0.8s
JOF Joensuu 60.44 334 P P 22 50 29.0 +0.6
JOF pmax pmax
comp=Z,29nm,2.5s
QLMT Earthquake Lak 60.49 55 eP P 22 50 31.1 +1.7
NIL Nilore 60.53 289 eP P 22 50 30.3 +0.7
comp=Z,44nm,1.1s
NIL LR LR
comp=Z,10µm,20.0s
NIL Nilore 60.53 289 eP P 22 50 30.3 +0.7
PMPB Monarch Peak 60.57 68 PFAKE 22 50 40.0 +10
PMPB LR LR
comp=Z,1µm,21.0s
NV01 Mina Array Sit 60.66 64 eP P 22 50 30.7 0.0
NV01 ePP **PP 22 52 43.6 -0.7**
NVAR Mina Array Bea 60.66 64 P **P 22 50 30.6 0.0**
comp=Z,4.9nm,0.6s,baz=303,slow=7.2,SNR=18
YHB Horse Butte 60.67 55 eP P 22 50 32.0 +1.3
comp=Z,96nm,1.4s
YHB LR LR
comp=Z,1µm,19.0s
BNSI Bone 60.67 221 P **P 22 50 33.2 +2.6**
comp=Z,26nm,1.2s,comp=Z,743nm
MDPB Devils Postpil 60.71 65 PFAKE 22 50 40.0 +9.0
MDPB LR LR
comp=Z,1µm,22.0s
NV11 Mina Array Sit 60.75 64 eP P 22 50 30.6 -0.5
comp=Z,1.4nm,1.1s
NV11 LR LR
comp=Z,100nm,22.0s
GCMT Greycliff 60.81 53 eP P 22 50 33.2 +1.7
YHH Holmes Hill 60.83 54 eP P 22 50 32.7 +0.8
comp=Z,42nm,1.3s
YMR Madison River 60.84 55 eP P 22 50 32.8 +0.9
comp=Z,105nm,1.5s
YMR LR LR
comp=Z,1µm,20.0s
YFT Old Faithful 61.06 55 eP P 22 50 34.9 +1.6
comp=Z,26nm,1.0s
YPP Pitchstone Pla 61.19 55 eP P 22 50 36.1 +1.8
comp=Z,68nm,1.8s
ILULI Ilulissat 61.21 10⇑ iP P 22 50 33.3 -0.3
comp=Z,74nm,1.0s
ILULI Ilulissat 61.21 10 eP P 22 50 33.9 +0.3
comp=Z,79nm,1.0s
ILULI LR LR
comp=Z,4µm,20.0s
ILULI Ilulissat 61.21 10⇑ iP P 22 50 33.3 -0.3
ILULI pmax pmax
comp=Z,74nm,1.0s
PAGB Antelope Grade 61.22 68 eP P 22 50 35.3 +1.0
comp=Z,11nm,0.8s
H17A Grant Village 61.23 55 P **P 22 50 36.7 +2.1**
baz=311,SNR=25
H17A Grant Village 61.23 55 eP P 22 50 37.1 +2.6
comp=Z,88nm,1.4s
IMW Indian Meadow 61.36 55 eP P 22 50 37.6 +2.2
comp=Z,43nm,1.4s
KAPI Kappang 61.37 221 PFAKE 22 50 50.0 +15
KAPI LR LR
comp=Z,3µm,22.0s
RLMT Red Lodge 61.47 53 P **P 22 50 37.3 +1.3**
baz=311,SNR=41
RLMT Red Lodge 61.47 53 eP P 22 50 37.4 +1.4
comp=Z,92nm,1.3s
RLMT LR LR
comp=Z,1µm,19.0s
RCTC Rector, Farmer 61.47 67 P **P 22 50 35.8 0.0**
baz=311
SCO Scoresbysund 61.47 359⇑ iP P 22 50 35.8 +0.4
comp=Z,64nm,1.5s
SCO Scoresbysund 61.47 359 eP P 22 50 35.7 +0.4
comp=Z,68nm,1.5s
SCO LR LR
comp=Z,2µm,19.0s
SCO Scoresbysund 61.47 359 eP P 22 50 35.7 +0.4
SCO pmax pmax
comp=Z,68nm,1.5s
FXWY Fox Creek 61.48 56 eP P 22 50 37.5 +1.3
comp=Z,52nm,1.7s
MOOW Moose Ponds 61.56 55 eP P 22 50 38.0 +1.3
comp=Z,51nm,1.5s
TIN Tinemaha, Big 61.60 65 P **P 22 50 37.7 +0.8**
baz=311
TPAW Teton Pass 61.62 56 eP P 22 50 39.0 +1.8
comp=Z,93nm,1.4s
TPAW LR LR
comp=Z,600nm,20.0s
SMMC Simmler 61.65 68 P **P 22 50 37.8 +0.6**
baz=311
DGPR DIGLIPUR 61.67 258 eP P 22 50 38.7 +1.2
DGPR IAmb IAmb 22 50 40.1
comp=Z,18nm,0.5s
HVU Hansel Valley 61.72 58 eP P 22 50 38.7 +1.0
comp=Z,10nm,1.0s
HVU LR LR
comp=Z,1µm,20.0s
HVU Hansel Valley 61.72 58 eP P 22 50 38.7 +1.0
HVU pmax pmax
comp=Z,10.0nm,1.0s
HVU MLR MLR
comp=Z,1µm,20.0s
LOHW Long Hollow 61.73 55 eP P 22 50 39.2 +1.4
comp=Z,51nm,1.3s
LOHW LR LR
comp=Z,800nm,20.0s
SNOW Snow King Moun 61.74 56 PFAKE 22 50 50.0 +12
SNOW LR LR
comp=Z,800nm,19.0s
REDW Red Top Meadow 61.76 56 eP P 22 50 39.4 +1.4
comp=Z,127nm,1.5s
REDW LR LR
comp=Z,800nm,22.0s
DGMT Dagmar 61.86 48 P **P 22 50 39.0 +0.6**
baz=312,SNR=12
DGMT Dagmar 61.86 48 eP P 22 50 39.4 +1.0
comp=Z,227nm,1.5s
VES Vestal, Richgr 61.87 67 P **P 22 50 38.5 -0.1**
baz=311
AHID Auburn Hatcher 62.01 56 eP P 22 50 40.9 +1.2
comp=Z,80nm,1.7s
AHID LR LR
comp=Z,1µm,22.0s
LAO LASA Array 62.03 50 P **P 22 50 40.8 +1.2**
baz=312,SNR=20
LAO LASA Array 62.03 50 eP P 22 50 41.6 +2.0
comp=Z,154nm,1.4s
LAO LR LR
comp=Z,2µm,19.0s
PKM Mcpherson Peak 62.04 68 P **P 22 50 40.2 +0.2**
baz=311,SNR=8.3
CWC Cottonwood Cre 62.09 66 P **P 22 50 40.5 +0.3**
baz=311
BGU Big Grassy Mou 62.13 59 eP P 22 50 41.0 +0.5
comp=Z,18nm,1.3s
BGU LR LR
comp=Z,800nm,21.0s
GRAC Grapevine Rang 62.16 65 P **P 22 50 41.2 +0.7**
baz=311
SPUT South Promonto 62.21 58 eP P 22 50 42.0 +1.0
comp=Z,38nm,1.3s
R11A Troy Canyon, C 62.33 63 P **P 22 50 42.4 +0.4**
baz=311,SNR=25
R11A Troy Canyon, C 62.33 63 eP P 22 50 41.1 -0.8
comp=Z,16nm,1.1s
R11A LR LR
comp=Z,1µm,22.0s
ISA Isabella, Lake 62.36 67 P **P 22 50 41.5 -0.5**
baz=312
ISA Isabella, Lake 62.36 67 eP P 22 50 42.7 +0.7
comp=Z,7.4nm,1.0s
ISA LR LR
comp=Z,1µm,20.0s
ISA Isabella, Lake 62.36 67 eP P 22 50 42.7 +0.7
ISA pmax pmax
comp=Z,7.0nm,1.0s
SBC Santa Barbara 62.40 68 P **P 22 50 42.8 +0.7**
baz=312
DAC Darwin (Calif) 62.49 66 eP P 22 50 43.8 +0.8
comp=Z,32nm,1.8s
DAC LR LR
comp=Z,1µm,21.0s
DAC Darwin (Calif) 62.49 66 eP P 22 50 43.8 +0.8
DAC pmax pmax
comp=Z,32nm,1.8s
ARVC Arvin 62.49 67 P **P 22 50 42.8 0.0**
baz=312
HWUT Hardware Ranch 62.51 58 eP P 22 50 44.0 +0.9
comp=Z,58nm,1.5s
HWUT LR LR
comp=Z,1µm,22.0s
KBL Kabul 62.58 292 eP P 22 50 42.6 -1.0
comp=Z,12nm,0.9s
KBL LR LR
comp=Z,3µm,20.0s
KBL Kabul 62.58 292 eP P 22 50 42.6 -1.0
KBL pmax pmax
comp=Z,13nm,1.0s
MPMC Manual Prospec 62.70 66 P **P 22 50 44.4 0.0**
baz=312,SNR=15
DUG Dugway, Tooele 62.74 59 P **P 22 50 45.2 +0.7**
baz=312,SNR=24
DUG Dugway, Tooele 62.74 59 eP P 22 50 46.1 +1.6
DUG Dugway, Tooele 62.74 59 eP P 22 50 46.1 +1.6
comp=Z,54nm,1.4s
DUG LR LR
comp=Z,1µm,22.0s
DUG Dugway, Tooele 62.74 59 eP P 22 50 46.1 +1.6
DUG pmax pmax
comp=Z,54nm,1.4s
SCZ2 Santa Cruz Isl 62.74 69 P **P 22 50 44.8 +0.4**
baz=312
FURC Furnace Creek, 62.81 65 P **P 22 50 45.5 +0.7**
baz=312
KULM Kulim 62.82 245 eP P 22 50 45.5 +0.3
comp=Z,28nm,1.2s
KULM LR LR
comp=Z,2µm,22.0s
TPNV Topopah Spring 62.86 64 P **P 22 50 45.7 +0.2**
baz=312,SNR=11
TPNV Topopah Spring 62.86 64 eP P 22 50 46.6 +1.2
comp=Z,27nm,1.1s
TPNV LR LR
comp=Z,1µm,21.0s
TPNV Topopah Spring 62.86 64 eP P 22 50 46.6 +1.2
TPNV pmax pmax
comp=Z,27nm,1.1s
BW06 Boulder Array 62.86 55 P **P 22 50 46.0 +0.6**
baz=312,SNR=22
BW06 Boulder Array 62.86 55 eP P 22 50 46.1 +0.6
comp=Z,66nm,1.4s
BW06 LR LR
comp=Z,1µm,20.0s
PD31 Pinedale Array 62.86 55 eP P 22 50 45.8 +0.4
PDAR Pinedale Array 62.86 55 P **P 22 50 45.5 +0.1**
comp=Z,24nm,1.1s,baz=318,slow=2.0,SNR=83
PDAR LR LR 23 18 55.0
comp=Z,558nm,20.1s,baz=345,slow=37
PDAR Pinedale Array 62.86 55 eP P 22 50 45.1 -0.4
OSI Osito Audit: C 62.90 68 P **P 22 50 46.0 +0.5**
baz=312
PBA Port Blair 62.92 257 eP P 22 50 46.3 +0.4
TCUT Toone Canyon 62.93 58 eP P 22 50 47.6 +1.7
comp=Z,60nm,1.4s
LRMC Laurel Mtn Rad 62.96 66 P **P 22 50 46.1 0.0**
baz=312
CTU Camp Tracy 63.02 58 eP P 22 50 48.0 +1.5
comp=Z,23nm,1.4s
BLG Laguna Peak, P 63.02 68 P **P 22 50 45.9 -0.5**
baz=312
FIA1 FINESS Array S 63.11 335 eP P 22 50 46.0 -0.4
FINES FINESS Array B 63.11 335 P **P 22 50 46.3 -0.1**
comp=Z,4.6nm,0.4s,baz=32,slow=7.7,SNR=103
FINES LR LR 23 20 52.1
comp=Z,6µm,20.6s,baz=25,slow=38
EDW2 Edwards Air Fo 63.17 67 P **P 22 50 47.7 +0.3**
baz=312,SNR=7.4
IPM Ipoh 63.23 244 eP P 22 50 48.0 0.0
comp=Z,15nm,1.1s
IPM LR LR
comp=Z,2µm,22.0s
JLU Jordanelle 63.24 58 eP P 22 50 49.5 +1.5
comp=Z,36nm,1.4s
SNCC San Nicolas Is 63.31 69 P **P 22 50 48.6 +0.4**
baz=312
SNCC San Nicolas Is 63.31 69 eP P 22 50 49.0 +0.7
comp=Z,32nm,1.1s
SNCC LR LR
comp=Z,1µm,20.0s
NLU North Lily Min 63.32 59 eP P 22 50 48.3 -0.1
comp=Z,23nm,1.2s
DECC Green Verdugo 63.38 68 P **P 22 50 48.9 +0.2**
baz=312
SFJD Kangerlussuaq 63.38 11 P **P 22 50 47.5 -0.6**
comp=Z,16nm,0.4s,baz=338,slow=6.3,SNR=12
SFJD LR LR 23 20 37.1
comp=Z,3µm,20.0s,baz=352,slow=38
SFJD Kangerlussuaq 63.38 11 *i* P **P 22 50 47.5 -0.6**
PASC Pasadena Art C 63.52 68 PFAKE 22 51 00.0 +10
PASC LR LR
comp=Z,2µm,22.0s
MPU Maple Canyon 63.53 59 eP P 22 50 49.8 -0.1
comp=Z,18nm,0.9s
MPU LR LR
comp=Z,1µm,22.0s
SHOC Shoshone, Teco 63.54 65 P **P 22 50 49.9 +0.2**
baz=312
MWC Mount Wilson 63.57 68 eP P 22 50 50.2 0.0
comp=Z,31nm,1.1s
MWC LR LR
comp=Z,2µm,22.0s
MWC Mount Wilson 63.57 68 eP P 22 50 50.2 0.0
MWC pmax pmax
comp=Z,31nm,1.1s
MWC MLR MLR
comp=Z,2µm,22.0s
GSC Goldstone, Bar 63.62 66 P **P 22 50 50.5 +0.1**
baz=312
GSC Goldstone, Bar 63.62 66 eP P 22 50 50.5 +0.1
comp=Z,14nm,1.1s
GSC LR LR
comp=Z,900nm,19.0s
GSC Goldstone, Bar 63.62 66 eP P 22 50 50.5 +0.1
GSC pmax pmax
comp=Z,14nm,1.1s
GSC MLR MLR
comp=Z,900nm,19.0s
RRX Edison Barstow 63.78 66 P **P 22 50 51.6 +0.2**
baz=312
BFSC Mount Baldy Ra 63.80 67 P **P 22 50 51.7 0.0**
baz=312,SNR=7.6
SHPR Sheep Range 63.81 64 eP P 22 50 52.1 +0.4
comp=Z,20nm,1.3s
SHPR LR LR
comp=Z,1µm,22.0s
SOEI Soe 63.84 214 P **P 22 50 52.6 +0.6**
SOEI Soe 63.84 214 eP P 22 50 51.6 -0.3
comp=Z,50nm,1.2s
CIS Catalina Islan 63.89 68 P **P 22 50 52.1 0.0**
baz=312
TCRU Three Creeks R 64.00 61 eP P 22 50 53.3 +0.3
comp=Z,52nm,1.5s
TUQ Turquoise Moun 64.06 65 P **P 22 50 53.6 +0.2**
baz=312
SCI2 San Clemente I 64.09 69 P **P 22 50 53.6 +0.2**
baz=312
CCUT Cedar City 64.18 62 eP P 22 50 55.2 +1.0
comp=Z,18nm,1.1s
CCUT LR LR
comp=Z,1µm,22.0s
HEC Hector,Ludlow 64.22 66 P **P 22 50 54.5 +0.2**
baz=312,SNR=10
MSU Marysvale 64.22 60 eP P 22 50 55.9 +1.4
MSU Marysvale 64.22 60 eP P 22 50 55.9 +1.4
BBRC Big Bear Solar 64.24 67 P **P 22 50 54.7 +0.1**
baz=312
TMUT Trail Mountain 64.26 59 eP P 22 50 56.2 +1.4
comp=Z,19nm,1.1s
TMUT LR LR
comp=Z,698nm,21.0s
SZCU Shurtz Canyon 64.31 62 eP P 22 50 55.8 +0.8
comp=Z,22nm,1.3s
P17A Butcher Ranch, 64.41 59 eP P 22 50 55.7 +0.2
comp=Z,76nm,1.5s
MTN Manton Dam 64.45 206 eP P 22 50 56.5 +0.8
comp=Z,118nm,1.6s
BATI Baumata 64.48 214 P **P 22 50 56.2 +0.2**
comp=Z,8.9nm,0.5s,baz=148,slow=5.1,SNR=2.5
MURC Murrieta 64.52 68 P **P 22 50 56.3 +0.1**
baz=313
MDND Maddock 64.52 46 P **P 22 50 56.7 +0.7**
baz=315
MDND Maddock 64.52 46 PFAKE 22 51 10.0 +14
MDND LR LR
comp=Z,2µm,18.0s
MTPU Mount Pierson 64.54 61 eP P 22 50 57.6 +0.9
comp=Z,15nm,1.1s
ULM Lac du Bonnet 64.55 42 P **P 22 50 56.3 +0.2**
comp=Z,9.9nm,0.6s,baz=317,slow=6.8,SNR=21
ULM LR LR 23 20 08.7
comp=Z,1µm,20.7s,baz=322,slow=37
ULM Lac du Bonnet 64.55 42 eP P 22 50 55.7 -0.3
ULM Lac du Bonnet 64.55 42 eP P 22 50 55.8 -0.3
comp=Z,20nm,0.9s
ULM Lac du Bonnet 64.55 42 eP P 22 50 55.8 -0.3
ULM pmax pmax
comp=Z,21nm,0.9s
P18A Preston Nutter 64.58 58 eP P 22 50 57.1 +0.2
comp=Z,51nm,1.4s
K22A Casper 64.59 54 P **P 22 50 56.9 +0.2**
baz=313,SNR=9.2
K22A Casper 64.59 54 eP P 22 50 57.2 +0.5
comp=Z,101nm,1.5s
K22A LR LR
comp=Z,1µm,19.0s
LCMT Little Creek M 64.61 62 eP P 22 50 57.3 +0.4
comp=Z,26nm,1.1s
GMRC Granite Mounta 64.66 66 P **P 22 50 57.6 +0.3**
baz=313,SNR=12
OBN Obninsk 64.67 326 eP P 22 50 55.2 -1.5
OBN Obninsk 64.67 326 PFAKE 22 51 10.0 +13
OBN LR LR
comp=Z,3µm,18.0s
OBN Obninsk 64.67 326 *c iP* **P 22 50 54.9 -1.8**
OBN *e**PP **pP 22 51 04.9 -4.9**
OBN *e**SP **sP 22 51 18.6 +3.6**
OBN *e* 22 51 30.0
OBN *e*S **S 22 59 32.3 -0.8**
OBN pmax pmax
comp=Z,27nm,1.6s
OBN MLR MLR
comp=Z,3µm,17.0s
VIS Vishakhapatnam 64.74 269 eP P 22 50 57.0 -0.8
SRU San Rafael Swe 64.77 59 eP P 22 50 58.1 +0.1
comp=Z,37nm,1.0s
SRU LR LR
comp=Z,1µm,20.0s
SRU San Rafael Swe 64.77 59 eP P 22 50 58.1 +0.1
SRU pmax pmax
comp=Z,37nm,1.0s
SRU MLR MLR
comp=Z,1µm,20.0s
LDFC Landfair 64.80 65 PFAKE 22 51 10.0 +12
LDFC LR LR
comp=Z,1µm,20.0s
BHPL Bhopal 64.80 277 eP P 22 50 57.7 -0.6
BHPL IAmb IAmb 22 50 59.3
comp=Z,48nm,0.7s
KNB Kanab 64.86 62 eP P 22 50 59.6 +1.1
comp=Z,47nm,1.3s
KNB Kanab 64.86 62 eP P 22 50 59.6 +1.1
KNB pmax pmax
comp=Z,47nm,1.3s
PKCU Pink Cliffs 64.87 61 eP P 22 50 60.0 +1.2
comp=Z,90nm,1.9s
RWWY Rawlins 64.88 55 eP P 22 50 58.8 +0.1
comp=Z,60nm,1.5s
RWWY LR LR
comp=Z,1µm,20.0s
A31A Linda, St. Vin 64.89 44 P **P 22 50 58.5 +0.2**
baz=316
RSSD Black Hills 64.90 51 P **P 22 50 59.2 +0.5**
baz=314
RSSD Black Hills 64.90 51 eP P 22 50 59.3 +0.5
comp=Z,226nm,1.5s
RSSD LR LR
comp=Z,1µm,18.0s
RSSD Black Hills 64.90 51 eP P 22 50 59.3 +0.5
RSSD pmax pmax
comp=Z,230nm,1.5s
PFO Pinyon Flats O 64.96 67 P **P 22 50 59.3 +0.1**
baz=313
PFO Pinyon Flats O 64.96 67 eP P 22 50 57.1 -2.1
comp=Z,25nm,1.5s
PFO LR LR
comp=Z,2µm,22.0s
PFO Pinyon Flats O 64.96 67 eP P 22 50 57.1 -2.1
PFO pmax pmax
comp=Z,25nm,1.5s
PFO MLR MLR
comp=Z,2µm,22.0s
XPFO Piæon Flat 64.96 67 eP P 22 50 57.3 -1.9
comp=Z,27nm,1.5s
XPFO LR LR
comp=Z,2µm,22.0s
BELC Belle Mtn. Jos 64.98 66 P **P 22 50 59.4 0.0**
baz=313
B31A Greenbush Farm 65.04 44 P **P 22 50 60.0 +0.6**
baz=316
109C Camp Elliot, M 65.05 68 P **P 22 50 59.6 0.0**
baz=313
CPE Camp Elliot 65.05 68 eP P 22 50 59.0 -0.7
comp=Z,57nm,1.7s
LHMI Lhok Sumawe 65.14 248 PFAKE 22 51 10.0 +10
LHMI LR LR
comp=Z,2µm,22.0s
A32A Rocking H Ranc 65.22 44 P **P 22 51 00.7 +0.1**
baz=316,SNR=6.5
NEE2 Needles Airpor 65.30 65 P **P 22 51 01.2 0.0**
baz=313
O20A White River Ci 65.37 57 P **P 22 51 02.3 +0.4**
baz=313,SNR=5.8
O20A White River Ci 65.37 57 eP P 22 51 01.4 -0.5
comp=Z,25nm,1.0s
O20A LR LR
comp=Z,1µm,21.0s
IRM Iron Mountain 65.40 66 P **P 22 51 02.1 +0.2**
baz=313,SNR=8.0
C31A Landman Farms, 65.45 45 P **P 22 51 02.4 +0.3**
baz=316
BAR Barrett 65.46 68 eP P 22 51 01.3 -1.1
comp=Z,26nm,1.4s
MONP2 Monument Peak 65.47 68 P **P 22 51 02.8 +0.1**
baz=313,SNR=6.5
W13A Hualapai Mount 65.52 64 eP P 22 51 01.9 -1.0
comp=Z,9.8nm,1.0s
W13A LR LR
comp=Z,900nm,22.0s
BC3 Big Chuckawall 65.55 66 P **P 22 51 02.8 -0.2**
baz=313
VRH Novokhopyorsk 65.55 321 eP P 22 51 02.4 -0.1
VRH pmax pmax
comp=Z,10.0nm,0.7s
VRH MLR MLR
comp=Z,2µm,15.0s
U15A North Rim 65.57 62 eP P 22 51 03.6 +0.3
comp=Z,30nm,1.3s
U15A LR LR
comp=Z,2µm,22.0s
B32A Ashes, Strandq 65.58 44 P **P 22 51 03.0 +0.1**
baz=316
LPSR Galich'ya Gora 65.66 323 eP P 22 51 03.0 -0.2
LPSR pmax pmax
comp=Z,10.0nm,0.8s
LPSR MLR MLR
comp=Z,2µm,14.0s
A33A Warroad 65.72 43 P **P 22 51 03.9 +0.2**
baz=317,SNR=16
SWSC Sam W. Stewart 65.82 67 P **P 22 51 04.7 +0.1**
baz=313
IKP In-Ko-Pah, Jac 65.83 68 P **P 22 51 05.0 +0.2**
baz=313
PSI Prapat 65.83 245 P **P 22 51 05.3 +0.3**
comp=Z,3.5nm,0.3s
PSI Prapat 65.83 245 eP P 22 51 05.1 +0.1
comp=Z,17nm,1.0s
PSI LR LR
comp=Z,1µm,22.0s
PSI Prapat 65.83 245 eP P 22 51 05.1 +0.1
PSI pmax pmax
comp=Z,17nm,1.0s
PSI MLR MLR
comp=Z,1µm,22.0s
PDMCI Parker Dam,Lak 65.91 65 P **P 22 51 05.6 +0.4**

baz=313
AGMN Agassiz Nation 65.96 44 P P 22 51 05.4 +0.1
baz=317,SNR=14
AGMN Agassiz Nation 65.96 44 *e*P P 22 51 05.2 -0.1
comp=Z,81nm,1.4s
AGMN LR LR
comp=Z,2µm,20.0s
ANGG Ammassalik, Gr 65.98 6 *e*P P 22 51 04.0 -1.0
comp=Z,80nm,1.1s
PV09 Paradox Valley 65.99 59 *e*P P 22 51 06.6 +0.6
D31A Mcclaflin, Tow 65.99 46 P P 22 51 05.6 +0.1
baz=316
C32A Crookston 66.00 44 P P 22 51 05.8 +0.2
baz=316
Y12C Blythe 66.05 66 P P 22 51 06.3 +0.2
baz=313
Y12C Blythe 66.05 66 *e*P P 22 51 06.3 +0.2
comp=Z,25nm,1.3s
Y12C LR LR
comp=Z,1µm,21.0s
PHWY Pilot Hill 66.10 54 *e*P P 22 51 06.6 -0.1
comp=Z,20nm,1.4s
PHWY LR LR
comp=Z,900nm,18.0s
B33A Robert and Kas 66.11 44 P P 22 51 06.3 0.0
baz=317,SNR=6.0
N23A Red Feather La 66.11 55 P P 22 51 07.7 +1.0
baz=314,SNR=16
N23A Red Feather La 66.11 55 *e*P P 22 51 07.2 +0.4
comp=Z,89nm,1.5s
N23A LR LR
comp=Z,1µm,19.0s
PV10 Paradox Valley 66.12 59 *e*P P 22 51 07.6 +0.8
PV04 Paradox Valley 66.19 59 *e*P P 22 51 06.9 -0.2
D32A Dogwood Acres, 66.26 45 P P 22 51 07.1 -0.2
baz=316
E31A Nome 66.26 46 P P 22 51 07.2 -0.1
baz=316
PV05 Paradox Valley 66.29 59 *e*P P 22 51 08.5 +0.6
GLA Glamis 66.34 66 P P 22 51 08.4 +0.4
baz=314
GLA Glamis 66.34 66 *e*P P 22 51 08.2 +0.2
comp=Z,28nm,1.1s
GLA LR LR
comp=Z,1µm,21.0s
GLA Glamis 66.34 66 *e*P P 22 51 08.2 +0.2
GLA pmax pmax
comp=Z,28nm,1.1s
GLA MLR MLR
comp=Z,1µm,21.0s
B34A Aery, Baudette 66.38 43 P P 22 51 07.6 -0.3
baz=317,SNR=14
C33A Trail 66.39 44 P P 22 51 08.0 0.0
baz=317
PV15 Paradox Valley 66.47 58 *e*P P 22 51 09.6 +0.6
BKNI Bangkinang 66.54 242 *e*P P 22 51 10.3 +0.9
comp=Z,81nm,1.2s
BKNI LR LR
comp=Z,1µm,18.0s
PV01 Paradox Valley 66.56 59 *e*P P 22 51 10.0 +0.4
F31A Hecla 66.59 47 P P 22 51 09.2 -0.2
baz=316
VSR Storozhevoye 66.61 322 *e*P P 22 51 08.9 -0.4
VSR pmax pmax
comp=Z,10.0nm,1.2s
VSR MLR MLR
comp=Z,3µm,22.0s
DOMB Dombas 66.62 343 *e*P P 22 51 11.1 +1.7
E32A Braaten, Kindr 66.63 46 P P 22 51 09.6 0.0
baz=316
WUAZ Wupatki 66.73 62 P P 22 51 11.6 +0.9
baz=314
WUAZ Wupatki 66.73 62 *e*P P 22 51 10.4 -0.2
comp=Z,52nm,1.5s
WUAZ LR LR
comp=Z,2µm,22.0s
SMCO Snowmass 66.74 57 *e*P P 22 51 11.8 +0.9
comp=Z,18nm,0.8s
SMCO LR LR
comp=Z,1µm,22.0s
GEYT Alibeck 66.80 301 P P 22 51 10.4 -0.5
comp=Z,4.0nm,0.9s,baz=46,slow=4.3,SNR=11
GEYT LR LR 23 22 34.2
comp=Z,5µm,18.7s,baz=45,slow=38
GYA0B ALIBECK ARRAY 66.80 301 *e*P P 22 51 09.7 -1.2
comp=Z,29nm,1.6s
GYA0B LR LR
comp=Z,5µm,19.0s
D33A AnnSam, Waubun 66.81 45 P P 22 51 10.8 0.0
baz=317,SNR=5.2
C34A RKJ Ranch, Bem 66.87 44 P P 22 51 11.1 -0.1
baz=317,SNR=7.0
B35A Bob, Littlefor 66.89 42 P P 22 51 11.1 -0.1
baz=318,SNR=14
NC303 NORSAR Array S 66.90 342 *e*P P 22 51 11.5 +0.4
NC405 NORSAR Array S 66.93 342 *e*P P 22 51 10.7 -0.6
NC204 NORSAR Array S 66.98 342 *e*P P 22 51 12.1 +0.4
ISCO Idaho Springs 67.06 56 P P 22 51 13.8 +1.0
baz=315,SNR=34
ISCO Idaho Springs 67.06 56 *e*P P 22 51 13.8 +1.0
comp=Z,63nm,1.4s
ISCO LR LR
comp=Z,1µm,20.0s
ISCO Idaho Springs 67.06 56 *e*P P 22 51 13.8 +1.0
ISCO pmax pmax
comp=Z,63nm,1.4s
G31A Conde 67.07 47 P P 22 51 12.4 0.0
baz=316
NB201 NORSAR Array S 67.08 342 *e*P P 22 51 11.6 -0.6
NB2 NORSAR Subarra 67.10 342 P P 22 51 12.0 -0.4
comp=Z,164nm,2.0s,baz=25,slow=6.5
NB2 NORSAR Subarra 67.10 342 P P 22 51 12.0 -0.4
baz=25,slow=6.5
NB2 NORSAR Subarra 67.10 342 P P 22 51 12.0 -0.4
NB2 pmax pmax
comp=Z,136nm,2.0s
NOA NORSAR Array B 67.10 342 P P 22 51 11.9 -0.4
comp=Z,6.1nm,0.7s,baz=30,slow=6.3,SNR=35
NOA LR LR 23 24 37.8
comp=Z,2µm,20.2s,baz=25,slow=40
F32A Veblen 67.13 46 P P 22 51 12.9 +0.1
baz=317
D34A Park Rapids 67.16 44 P P 22 51 13.0 0.0
baz=317,SNR=15
NBO02 NORSAR Array S 67.17 342 *e*P P 22 51 13.6 +0.8
113A Mohawk Valley, 67.18 66 *e*P P 22 51 11.9 -1.4
comp=Z,23nm,1.4s
E33A Westby DABS, E 67.20 45 P P 22 51 13.1 -0.1
baz=317,SNR=9.7
NBO00 NORSAR Array S 67.20 342 *e*P P 22 51 14.2 +1.1
BORG Borgarnes 67.22 358 LR LR 23 21 06.9
comp=Z,789nm,19.0s,baz=22,slow=36
BORG Borgarnes 67.22 358 *e*P P 22 51 13.0 0.0
comp=Z,482nm,1.8s
BORG Borgarnes 67.22 358 *e*P P 22 51 13.0 0.0
BORG pmax pmax
comp=Z,482nm,1.8s
MVCO Mesa Verde 67.24 59 P P 22 51 14.2 +0.2
baz=314,SNR=12
MVCO Mesa Verde 67.24 59 *e*P P 22 51 12.9 -1.0
comp=Z,71nm,1.5s
MVCO LR LR
comp=Z,1µm,21.0s
SUSD Miller 67.26 48 P P 22 51 13.3 -0.3
baz=316
C35A Jirik Farms, M 67.26 43 P P 22 51 13.1 -0.5
baz=318,SNR=13
NC602 NORSAR Array S 67.31 341 *e*P P 22 51 14.0 +0.4
NAO01 NORSAR Array S 67.35 342 *e*P P 22 51 13.0 -0.9
HFS Hagfors 67.38 340 P P 22 51 14.0 -0.1
comp=Z,9.8nm,0.5s,baz=46,slow=4.3,SNR=19
HFS LR LR 23 25 56.2
comp=Z,3µm,18.2s,baz=24,slow=41
G32A Webster 67.39 47 P P 22 51 14.4 -0.1
baz=317
X16A Lo Mia Camp, P 67.45 63 *e*P P 22 51 15.0 -0.2
comp=Z,17nm,1.1s
H31A Wolsey 67.47 48 P P 22 51 14.9 -0.1
baz=316
F33A 5 Mile Ranch, 67.55 46 P P 22 51 15.5 +0.1
baz=317
E34A Wadena 67.59 45 P P 22 51 15.6 -0.1
baz=318
D35A Remer 67.69 44 P P 22 51 16.1 -0.2
baz=318,SNR=8.9
C36A Pine Crest Far 67.74 42 P P 22 51 16.7 +0.1
baz=318,SNR=10

IZAR Zarasai 67.74 331 *e*P P 22 51 16.9 +0.5
IZAR IAmb IAmb 22 51 20.3
comp=Z,7,8nm,0.5s
I31A Royce, Wessing 67.77 48 P P 22 51 16.5 -0.3
baz=316
S22A 4UR Ranch, Cre 67.81 58 P P 22 51 18.0 +0.4
baz=315,SNR=236
S22A 4UR Ranch, Cre 67.81 58 PFAKE 22 51 30.0 +12
S22A LR LR
comp=Z,3µm,20.0s
Q24A Divide 67.90 56 P P 22 51 18.8 +0.6
baz=315
Q24A Divide 67.90 56 *e*P P 22 51 18.8 +0.6
comp=Z,11nm,0.9s
Q24A LR LR
comp=Z,800nm,20.0s
E35A Pequot Lakes 67.91 44 P P 22 51 17.4 -0.3
baz=318
IDID Didziasalis 67.94 331 *e*P P 22 51 18.1 +0.4
IDID IAmb IAmb 22 51 19.7
comp=Z,6.6nm,1.0s
G33A Ortonville 67.95 46 P P 22 51 18.2 +0.2
baz=317,SNR=5.8
H32A Carlson Farm, 67.97 47 P P 22 51 17.9 -0.3
baz=317
W18A Petrified Fore 67.97 62 P P 22 51 19.4 +0.9
baz=314,SNR=8.5
W18A Petrified Fore 67.97 62 *e*P P 22 51 18.8 +0.3
comp=Z,14nm,1.0s
W18A LR LR
comp=Z,1µm,22.0s
D36A Goodland 68.02 43 P P 22 51 18.3 -0.1
baz=318
C37A Embarrass 68.05 42 P P 22 51 18.4 -0.2
baz=319,SNR=7.7
F34A Alexandria 68.07 45 P P 22 51 18.6 -0.1
baz=318,SNR=6.5
IIGN Ignalina 68.08 331 *e*P P 22 51 19.1 +0.5
IIGN IAmb IAmb 22 51 20.5
comp=Z,9.0nm,0.5s
HYB Hyderabad 68.14 272 *i*P P 22 51 19.0 -0.6
HYB Hyderabad 68.14 272 *e*P P 22 51 19.3 -0.3
HYB IAmb IAmb 22 51 20.6
comp=Z,18nm,0.5s
H33A Prehn Over Nor 68.18 47 P P 22 51 19.3 -0.1
baz=317
OGNE Ogallala 68.18 53 P P 22 51 20.4 +0.7
baz=316,SNR=9.5
OGNE Ogallala 68.18 53 *e*P P 22 51 20.1 +0.4
comp=Z,125nm,0.9s
EYMN Ely 68.19 42 P P 22 51 19.3 -0.2
baz=319,SNR=12
EYMN Ely 68.19 42 *e*P P 22 51 19.4 0.0
comp=Z,25nm,0.9s
EYMN LR LR
comp=Z,1µm,18.0s
J31A Geddes 68.20 49 P P 22 51 19.5 -0.1
baz=317
KRJI Kerinci 68.25 240 P P 22 51 21.9 +1.6
X18A Snowflake 68.26 62 *e*P P 22 51 21.1 +0.7
comp=Z,58nm,1.6s
X18A LR LR
comp=Z,2µm,22.0s
G34A Benson 68.30 46 P P 22 51 20.3 +0.1
baz=318
I32A Karley and Nic 68.30 48 P P 22 51 19.7 -0.5
baz=317
214A Organ Pipe Nat 68.33 66 P P 22 51 21.0 +0.4
baz=314,SNR=8.8
214A Organ Pipe Nat 68.33 66 *e*P P 22 51 21.4 +0.8
comp=Z,86nm,1.2s
F35A Swanville 68.35 45 P P 22 51 20.6 +0.2
baz=318,SNR=7.3
D37A Cotton 68.37 43 P P 22 51 20.3 -0.3
baz=319,SNR=7.7
C38A Sawbill Land. 68.47 42 P P 22 51 21.0 -0.2
baz=319,SNR=9.3
E36A McGregor 68.47 44 P P 22 51 21.3 0.0
baz=318,SNR=13
CTAO Charters Tower 68.54 189 *e*P P 22 51 22.2 +0.4
comp=Z,10nm,1.0s
CTAO LR LR
comp=Z,1µm,21.0s
CTAO Charters Tower 68.54 189 *e*P P 22 51 22.2 +0.4
CTAO pmax pmax
comp=Z,10.0nm,1.0s
SDCO Great Sand Dun 68.56 57 P P 22 51 23.1 +0.8
baz=315,SNR=21
SDCO Great Sand Dun 68.56 57 *e*P P 22 51 23.6 +1.2
comp=Z,54nm,1.6s
SDCO LR LR
comp=Z,1µm,22.0s
J32A Parkston 68.59 48 P P 22 51 21.7 -0.3
baz=317
I33A Coleman 68.61 47 P P 22 51 22.1 -0.1
baz=317
H34A Spellman Lake, 68.66 46 P P 22 51 22.6 +0.2
baz=318
MASI Maura Aman, Be 68.66 238 P P 22 51 24.1 +1.3
MDSI Maura Dua 68.68 236 P P 22 51 36.2 +13
K31A O'Neill 68.68 49 P P 22 51 22.6 -0.1
baz=317
AFI Afiamalu 68.70 145 LR LR 23 17 14.5
comp=Z,2µm,19.9s,baz=342,slow=32
KONO Kongsberg 68.71 342 *e*P P 22 51 23.7 +1.3
comp=Z,90nm,1.6s
KONO LR LR
comp=Z,3µm,19.0s
KONO Kongsberg 68.71 342 *e*P P 22 51 23.7 +1.3
KONO Kongsberg 68.71 342 *e*P P 22 51 23.7 +1.3
KONO pmax pmax
comp=Z,90nm,1.6s
LEM Lembang 68.78 231 LR LR 23 21 08.2
comp=Z,625nm,21.7s,baz=1.5,slow=36
ASK Askoy 68.79 344 *e*P P 22 51 24.1 +1.2
E37A Wrenshall 68.83 43 P P 22 51 23.0 -0.4
baz=319
F36A Milaca 68.84 44 P P 22 51 23.3 -0.2
baz=318,SNR=9.6
BER Bergen 68.85 344 *e*P P 22 51 24.5 +1.2
G35A Watkins 68.86 45 P P 22 51 23.6 -0.1
baz=318
C39A Grand Marais 68.89 41 P P 22 51 23.4 -0.4
baz=320,SNR=8.0
MAK Makhachkala 68.92 311 *e*P P 22 51 22.6 -1.5
MAK *e* 22 53 53.7
MAK *eS* **S** **23 00 23.7 -1.2**
MAK pmax pmax
comp=Z,14nm,0.5s
ECSD EROS Data Cent 68.94 47 P P 22 51 24.0 -0.2
baz=318,SNR=25
ECSD EROS Data Cent 68.94 47 *e*P P 22 51 24.2 +0.1
comp=Z,146nm,1.7s
ECSD LR LR
comp=Z,2µm,19.0s
K32A Vendigre 69.05 49 P P 22 51 24.7 -0.2
baz=317
ODD1 Odda 69.05 344 *e*P P 22 51 26.1 +1.4
J33A Davis 69.07 48 P P 22 51 24.8 -0.2
baz=318
I34A Hadley 69.08 47 P P 22 51 25.0 -0.1
baz=318
H35A Sunnyside Ranc 69.09 46 P P 22 51 25.6 +0.5
baz=318,SNR=20
E38A The Farm, Brul 69.18 43 P P 22 51 25.2 -0.4
baz=319,SNR=14
G36A St. Michael 69.20 45 P P 22 51 25.8 0.0
baz=319
C40A Isle Royale Na 69.24 40 P P 22 51 25.7 -0.2
baz=320
KSCO Kaye Shedlock' 69.25 54 P P 22 51 26.6 +0.3
baz=316
KSCO Kaye Shedlock' 69.25 54 *e*P P 22 51 27.1 +0.8
comp=Z,70nm,1.4s
KSCO LR LR
comp=Z,1µm,19.0s
TUC Tucson 69.31 64 P P 22 51 27.3 +0.5
baz=315
TUC Tucson 69.31 64 *e*P P 22 51 26.1 -0.7
comp=Z,23nm,1.4s
TUC Tucson 69.31 64 *e*P P 22 51 26.1 -0.7
TUC pmax pmax
comp=Z,23nm,1.4s
F37A Hinrichs Farm, 69.36 44 P P 22 51 26.6 -0.1
baz=319
MHTCO State Highway 69.45 57 *e*P P 22 51 29.6 +1.8
comp=Z,72nm,1.2s

L32A Elgin 69.51 49 P P 22 51 27.6 -0.1
baz=317
F38A Pierce - Schro 69.52 43 P P 22 51 27.9 +0.1
baz=319,SNR=20
GOF Gofitskoye 69.54 315⇑ *e*P P 22 51 28.6 +0.8
GOF pmax pmax
comp=Z,27nm,0.6s
BLS5 Blasjo 69.54 343 *e*P P 22 51 29.1 +1.5
K33A Hardington 69.57 48 P P 22 51 28.0 -0.1
baz=318
J34A George 69.59 47 P P 22 51 28.2 0.0
baz=318
GROC Groznyy 69.60 312 *e*P P 22 51 26.9 -1.3
GROC *e* 22 51 49.8
GROC pmax pmax
comp=Z,5.0nm,0.6s
T25A Trinidad 69.60 57 P P 22 51 29.2 +0.5
baz=316,SNR=16
T25A Trinidad 69.60 57 *e*P P 22 51 29.3 +0.6
comp=Z,81nm,1.5s
T25A LR LR
comp=Z,1µm,19.0s
H36A Jessenland, He 69.61 45 P P 22 51 29.1 +0.8
baz=319,SNR=9.3
I35A Creekview Farm 69.64 46 P P 22 51 28.4 -0.1
baz=318
NRS Narsarsuaq 69.64 10 PFAKE 22 51 40.0 +12
NRS LR LR
comp=Z,5µm,20.0s
SPMN Marine on St. 69.65 44 P P 22 51 28.6 +0.1
baz=319,SNR=6.5
SPMN Marine on St. 69.65 44 *e*P P 22 51 28.3 -0.2
comp=Z,162nm,1.8s
SPMN LR LR
comp=Z,2µm,20.0s
L33A Hoskins 69.76 49 P P 22 51 29.3 -0.1
baz=318
E39A Mellen 69.80 42 P P 22 51 29.3 -0.2
baz=320,SNR=15
BGNE Belgrade 69.87 50 P P 22 51 29.8 -0.2
baz=317
BGNE Belgrade 69.87 50 *e*P P 22 51 29.7 -0.2
comp=Z,128nm,1.3s
BGNE LR LR
comp=Z,2µm,18.0s
AKT Akhty 69.89 310⇓ *i*P P 22 51 30.9 +0.6
AKT *e* 22 51 50.0
AKT pmax pmax
comp=Z,11nm,0.7s
J35A Milford 69.90 47 P P 22 51 29.9 -0.3
baz=318
K34A Le Mars 69.96 48 P P 22 51 30.5 -0.1
baz=318
KMY Karmoy 69.97 344 *e*P P 22 51 31.9 +1.7
I36A Fitzsimmons Fa 69.98 46 P P 22 51 30.3 -0.3
baz=319,SNR=5.3
F39A Loretta 69.99 43 P P 22 51 30.7 0.0
baz=320,SNR=13
LAZ Ladron 69.99 61 *e*P P 22 51 32.3 +1.2
ANMO Albuquerque 70.00 60 P P 22 51 31.7 +0.6
baz=316
ANMO Albuquerque 70.00 60 *e*P P 22 51 32.0 +0.8
comp=Z,43nm,1.6s
ANMO LR LR
comp=Z,1µm,22.0s
ANMO Albuquerque 70.00 60 *e*P P 22 51 32.0 +0.8
ANMO pmax pmax
comp=Z,43nm,1.6s
E40A Wakefield 70.04 42 P P 22 51 31.0 0.0
baz=320,SNR=26
H37A Dierke Farm, C 70.08 45 P P 22 51 31.5 +0.3
baz=319
G38A Ridgeland 70.13 44 P P 22 51 31.2 -0.3
baz=320,SNR=12
STAV Stavanger 70.14 344 *e*P P 22 51 32.4 +1.2
D41A Chassel 70.16 41 P P 22 51 31.7 +0.1
baz=321,SNR=9.0
SUW Suwalki 70.16 332 *e*P P 22 51 31.6 +0.1
comp=Z,74nm,1.2s
SUW LR LR
comp=Z,3µm,20.0s
SUW Suwalki 70.16 332 *e*P P 22 51 31.6 +0.1
SUW pmax pmax
comp=Z,74nm,1.2s
I37A Lemond, Waseca 70.28 45 P P 22 51 32.9 +0.5
baz=319,SNR=21
H38A Maiden Rock 70.31 44 P P 22 51 32.7 +0.1
baz=319
J36A Seneca 1, Swea 70.34 46 P P 22 51 32.9 0.0
baz=319
F40A Park Falls 70.35 42 P P 22 51 32.5 -0.3
baz=320,SNR=9.1
LPM Los Pinos Moun 70.35 60 *e*P P 22 51 34.4 +1.2
Y22D IRIS PASSCAL I 70.35 61 P P 22 51 33.0 -0.2
baz=316
Y22D IRIS PASSCAL I 70.35 61 PFAKE 22 51 50.0 +17
Y22D LR LR
comp=Z,2µm,22.0s
Y22E IRIS PASSCAL I 70.35 61 P P 22 51 33.1 -0.1
baz=316
G39A Holcombe 70.36 43 P P 22 51 32.5 -0.4
baz=320,SNR=7.9
L34A Svendsen Farm, 70.36 49 P P 22 51 32.6 -0.4
baz=318
K35A Storm Lake 70.36 47 P P 22 51 32.7 -0.3
baz=318
WRAB Tennant Creek 70.39 200 *e*P P 22 51 34.0 +0.8
comp=Z,40nm,0.9s
WRAB LR LR
comp=Z,900nm,22.0s
WRAB Tennant Creek 70.39 200 *e*P P 22 51 34.0 +0.8
WRAB pmax pmax
comp=Z,40nm,1.0s
WB2 Warramunga Arr 70.40 200 *e*P P 22 51 33.4 +0.1
comp=Z,41nm,0.9s
SNART Snartemo 70.40 343 *e*P P 22 51 34.1 +1.2
WRA Warramunga Arr 70.40 200 P P 22 51 33.2 -0.1
comp=Z,25nm,0.8s,baz=18,slow=6.5,SNR=106
WRA LR LR 23 19 53.2
comp=Z,768nm,21.9s,baz=35,slow=34
WC3 Warramunga Arr 70.41 200 *e*P P 22 51 33.3 -0.1
comp=Z,39nm,0.9s
E41A Kenton 70.44 41 P P 22 51 33.3 -0.1
baz=321,SNR=10
NCK Nalchik 70.45 314⇓ *e*P P 22 51 34.2 +0.7
NCK pmax pmax
comp=Z,9.0nm,0.6s
BNM Barren Site 70.47 60 *e*P P 22 51 35.2 +1.2
POO Poona 70.48 276 *e*P P 22 51 35.0 +1.0
KBZ Khabaz 70.61 315 P P 22 51 34.2 -0.1
comp=Z,3.9nm,0.6s,baz=84,slow=4.6,SNR=19
KBZ LR LR 23 25 26.4
comp=Z,4µm,21.2s,baz=35,slow=38
COWI Conover 70.65 42 *e*P P 22 51 34.1 -0.6
comp=Z,72nm,1.6s
COWI LR LR
comp=Z,2µm,19.0s
L35A Bielow Farm, R 70.66 48 P P 22 51 34.1 -0.7
baz=318
DDFL Dedoflistskaro 70.74 311 P P 22 51 36.1 +0.8
J37A Redenius Farm, 70.74 46 P P 22 51 35.3 0.0
baz=319,SNR=8.8
I38A Scanlan Farm, 70.77 45 P P 22 51 35.4 0.0
baz=320
H39A Augusta 70.77 44 P P 22 51 35.3 -0.1
baz=320
K36A Gilmore City 70.81 47 P P 22 51 35.4 -0.3
baz=319
G40A Rib Lake 70.81 43 P P 22 51 35.4 -0.2
baz=320,SNR=6.2
ZEI Tsey 70.83 313 *e*P P 22 51 36.0 -0.1
ZEI pmax pmax
comp=Z,13nm,1.4s
DZM Mont Dzumac 70.84 169 LR LR 23 18 17.5
comp=Z,2µm,20.3s,baz=12,slow=32
DZM Mont Dzumac 70.84 169 *e*LR LR 23 13 00.5
comp=Z,4µm,24.7s
319A Douglas 70.87 64 *e*P P 22 51 37.1 +0.7
comp=Z,40nm,0.9s
319A LR LR
comp=Z,1µm,21.0s
AKASG Malin Array Be 70.88 327 P P 22 51 34.9 -1.1
comp=Z,3.8nm,0.5s,baz=33,slow=6.4,SNR=33
AKASG LR LR 23 25 19.8
comp=Z,3µm,21.8s,baz=15,slow=38
AKBB Malin Array Si 70.88 327 *e*P P 22 51 35.5 -0.5
comp=Z,61nm,1.8s

AKBB LR LR
comp=Z,3µm,21.0s
AKBB Malin Array Si 70.88 327 *e*P **P 22 51 35.5 -0.5**
AKBB pmax pmax
comp=Z,61nm,1.8s
AKBB MLR MLR
comp=Z,3µm,21.0s
KIEV Kiev 70.89 327 *e*P **P 22 51 35.5 -0.5**
comp=Z,64nm,1.8s
KIEV LR LR
comp=Z,3µm,22.0s
KIEV Kiev 70.89 327 *i* P **P 22 51 36.7 +0.7**
SNR=8.4
KIEV Kiev 70.89 327 *e*P **P 22 51 35.5 -0.5**
KIEV pmax pmax
comp=Z,64nm,1.8s
AK11 Malin Array Si 70.92 327 *e*P **P 22 51 36.4 +0.2**
E42A Champion 70.93 41 P **P 22 51 36.4 +0.1**
baz=321,SNR=13
F41A Three Lakes 70.94 42 P **P 22 51 36.6 +0.2**
baz=321,SNR=14
121A Cookes Peak, D 70.94 62 P **P 22 51 38.0 +1.2**
baz=316,SNR=7.0
121A Cookes Peak, D 70.94 62 *e*P **P 22 51 38.1 +1.2**
comp=Z,42nm,1.4s
CBKS Cedar Bluff 70.94 53 P **P 22 51 36.2 -0.4**
baz=317
CBKS Cedar Bluff 70.94 53 *e*P **P 22 51 35.8 -0.8**
comp=Z,93nm,1.5s
CBKS Cedar Bluff 70.94 53 *e*P **P 22 51 35.8 -0.8**
CBKS pmax pmax
comp=Z,93nm,1.5s
DUS Dusheti 70.96 312 P **P 22 51 34.6 -2.1**
DUS Dusheti 70.96 312 *e*P **P 22 51 34.6 -2.1**
NEY Neytrino 71.05 314⇓ *e*P **P 22 51 38.1 +0.7**
NEY pmax pmax
comp=Z,8.0nm,2.1s
M35A Neola 71.07 49 P **P 22 51 37.3 0.0**
baz=318
L36A Harm Buss Farm 71.11 47 P **P 22 51 37.4 -0.1**
baz=319
K37A Belmond 71.11 46 P **P 22 51 37.2 -0.2**
baz=319
DGRG David-gareji 71.11 311 P **P 22 51 34.8 -2.8**
DGRG David-gareji 71.11 311 *e*P **P 22 51 34.7 -2.8**
ONI Oni 71.20 313 P P 22 51 32.0 -6.1
ONI Oni 71.20 313 *e*P P 22 51 32.0 -6.1
TBLG Delisi 71.21 312 P **P 22 51 36.2 -2.0**
TBLG Delisi 71.21 312 *e*P **P 22 51 38.1 -0.1**
comp=Z,81nm,1.7s
TBLG Delisi 71.21 312 *e*P **P 22 51 36.1 -2.0**
H40A Chili 71.22 43 P **P 22 51 38.1 0.0**
baz=320,SNR=7.4
J38A Wedel Dairy, R 71.25 45 P **P 22 51 38.1 -0.3**
baz=320
I39A Houston 71.29 44 P **P 22 51 38.1 -0.5**
baz=320,SNR=5.9
G41A Antigo 71.31 42 P **P 22 51 38.8 +0.1**
baz=321
F42A Maple Grove Fa 71.35 41 P **P 22 51 38.7 -0.2**
baz=321
E43A Lone Tree Farm 71.37 40 P **P 22 51 38.9 -0.1**
baz=322
SCHQ Schefferville 71.38 24 P **P 22 51 39.4 +0.4**
comp=Z,18nm,0.7s,baz=329,slow=3.9,SNR=8.4
SCHQ LR LR 23 26 39.7
comp=Z,2µm,19.7s,baz=342,slow=39
SCHQ Schefferville 71.38 24 *e*P **P 22 51 39.3 +0.4**
comp=Z,32nm,0.9s
M36A Felix, Anita 71.52 48 P **P 22 51 40.0 0.0**
baz=319
HSIG 71.53 67 *e*P **P 22 51 38.9 -1.3**
L37A Phoenix Point, 71.53 47 P **P 22 51 40.0 0.0**
baz=319
H41A Junction City 71.56 43 P **P 22 51 39.8 -0.4**
baz=321,SNR=7.5
H41A Junction City 71.56 43 *e*P **P 22 51 40.8 +0.6**
comp=Z,99nm,1.5s
H41A LR LR
comp=Z,2µm,21.0s
BSD Bornholm Skovb 71.57 337⇑ *i*P **P 22 51 39.9 -0.1**
comp=Z,96nm,1.4s
comp=Z,4µm,15.0s
BSD Bornholm Skovb 71.57 337 *i*P **P 22 51 39.9 -0.1**
BSD pmax pmax
comp=Z,97nm,1.4s
BSD MLR MLR
comp=Z,4µm,15.0s
J39A Decorah 71.60 45 P **P 22 51 39.6 -0.8**
baz=320,SNR=6.7
K38A Parkersburg 71.61 46 P **P 22 51 40.3 -0.2**
baz=320
G42A Mountain 71.63 42 P **P 22 51 40.6 0.0**
baz=321
G42A Mountain 71.63 42 *e*P **P 22 51 41.3 +0.7**
comp=Z,127nm,2.0s
E44A Grand Marais A 71.63 39 P **P 22 51 40.5 -0.1**
baz=322
I40A Norwalk 71.68 44 P **P 22 51 40.7 -0.2**
baz=320,SNR=6.2
COP Copenhagen 71.68 339⇑ *i*P **P 22 51 41.9 +1.2**
COP *i* 22 52 00.1
COP Copenhagen 71.68 339⇑ *i*P **P 22 51 41.9 +1.2**
COP *i* 22 52 00.1
F43A Flat Rock, Esc 71.72 41 P **P 22 51 41.1 0.0**
baz=322,SNR=5.7
MUD Monsted U'grnd 71.73 341 *i* P **P 22 51 41.4 +0.5**
comp=Z,146nm,1.7s
comp=Z,4µm,18.0s
MUD Monsted U'grnd 71.73 341 *e*P **P 22 51 42.6 +1.7**
MUD Monsted U'grnd 71.73 341 *i* P **P 22 51 41.4 +0.5**
MUD pmax pmax
comp=Z,150nm,1.7s
MUD MLR MLR
comp=Z,4µm,18.0s
I41A Arkdale 71.89 43 P **P 22 51 42.2 0.0**
baz=321
L38A Oak Wood Farm, 71.91 46 P **P 22 51 42.0 -0.3**
baz=320,SNR=6.3
N36A Muff Farm, Cla 71.92 49 P **P 22 51 42.4 0.0**
baz=319
F44A Big Bay de Noc 71.93 40 P **P 22 51 42.4 0.0**
baz=322
M37A Trindle Farm, 71.93 48 P **P 22 51 42.6 +0.1**
baz=319
SRIG Santa Rosalia 71.94 69 *e*P **P 22 51 43.3 +0.6**
SRIG LR LR
comp=Z,1µm,21.0s
G43A Wallace 71.94 41 P **P 22 51 42.1 -0.4**
baz=322,SNR=8.4
G43A Wallace 71.94 41 *e*P **P 22 51 43.3 +0.9**
comp=Z,179nm,1.6s
G43A LR LR
comp=Z,2µm,18.0s
SCIA State Center 71.96 47 P **P 22 51 42.6 0.0**
baz=320,SNR=7.5
SCIA State Center 71.96 47 *e*P **P 22 51 42.9 +0.3**
comp=Z,329nm,1.6s
SCIA LR LR
comp=Z,2µm,20.0s
K39A Oelwein 71.99 45 P **P 22 51 42.2 -0.6**
baz=320
J40A Soldiers Grove 72.00 44 P **P 22 51 42.1 -0.7**
baz=320,SNR=5.3
LLD Lille Linde 72.05 339 *i* P **P 22 51 43.7 +0.8**
comp=Z,52nm,0.7s
LLD Lille Linde 72.05 339 *i* P **P 22 51 43.7 +0.8**
LLD pmax pmax
comp=Z,52nm,0.7s
AKH Akhalkalaki 72.07 313⇑ *i*P **P 22 51 45.8 +2.3**
AKH Akhalkalaki 72.07 313 *e*P **P 22 51 43.5 0.0**
comp=Z,46nm,1.6s
AKH Akhalkalaki 72.07 313 *e*P **P 22 51 43.5 0.0**
AKH pmax pmax
comp=Z,46nm,1.6s
H42A Shiocton 72.15 42 P **P 22 51 43.5 -0.2**
baz=321
H42A Shiocton 72.15 42 PFAKE 22 52 00.0 +16
H42A LR LR
comp=Z,2µm,18.0s
E45A Wooded Hills, 72.16 39 P **P 22 51 43.6 -0.1**
baz=323
SOC Sochi 72.21 316*c i*P **P 22 51 43.2 -0.9**
SOC *e**PP **pP 22 51 55.7 -1.6**
SOC *e**SP **sP 22 52 02.9 +0.4**
SOC *e*PPP PPP 22 56 13.0
SOC *e*S **S 23 00 56.1 -7.0**
SOC pmax pmax
comp=Z,13nm,0.6s
EPT El Paso 72.24 62 PFAKE 22 52 00.0 +15
EPT LR LR
comp=Z,700nm,21.0s
ANN Anapa 72.29 318 *e*P **P 22 51 43.3 -1.2**
ANN *i* *PP **pP 22 51 56.2 -1.6**
ANN *e**SP **sP 22 52 03.0 +0.1**
ANN *e*S **S 23 01 00.7 -3.3**
ANN pmax pmax
comp=Z,55nm,1.4s
M38A Pleasantville 72.34 47 P **P 22 51 45.0 +0.1**
baz=320,SNR=6.0
N37A Lee Faris, Mou 72.34 48 P **P 22 51 45.0 +0.1**
baz=319,SNR=12
K40A Colesburg 72.35 45 P **P 22 51 44.6 -0.3**
baz=320,SNR=7.5
J41A Loganville 72.36 44 P **P 22 51 44.9 -0.1**
baz=321,SNR=5.5
L39A Vinton 72.38 46 P **P 22 51 45.1 -0.1**
baz=320,SNR=11
GNI Garni 72.40 311 P **P 22 51 46.1 +0.6**
comp=Z,5.7nm,0.6s,baz=186,slow=5.0,SNR=4.8
GNI LR LR 23 26 13.7
comp=Z,3µm,21.4s,baz=20,slow=38
GNI Garni 72.40 311 *e*P **P 22 51 46.4 +1.0**
comp=Z,25nm,1.0s
GNI Garni 72.40 311 P **P 22 51 46.3 +0.8**
SNR=10
GNI Garni 72.40 311 *i* P **P 22 51 46.4 +1.0**
SNR=7.9
GNI Garni 72.40 311*c i*P **P 22 51 46.5 +1.0**
GNI pmax pmax
comp=Z,124nm,1.5s
I42A Draeger Farm, 72.46 43 P **P 22 51 45.6 0.0**
baz=321,SNR=5.9
I42A Draeger Farm, 72.46 43 *e*P **P 22 51 44.6 -0.9**
comp=Z,90nm,1.6s
I42A LR LR
comp=Z,1µm,21.0s
RGN Rugen 72.49 338 *e*P **P 22 51 46.3 +0.8**
comp=Z,299nm,1.6s
RGN LR LR
comp=Z,2µm,20.0s
H43A Windswept, Lux 72.52 42 P **P 22 51 45.8 -0.1**
baz=322
H43A Windswept, Lux 72.52 42 *e*P **P 22 51 45.5 -0.4**
comp=Z,122nm,1.6s
F45A CMU Biological 72.55 40 P **P 22 51 45.6 -0.4**
baz=323
JFWS Jewell Farm 72.60 44 P **P 22 51 45.9 -0.5**
baz=321
JFWS Jewell Farm 72.60 44 *e*P **P 22 51 45.3 -1.2**
comp=Z,21nm,1.1s
JFWS LR LR
comp=Z,2µm,20.0s
JFWS Jewell Farm 72.60 44 *e*P **P 22 51 45.3 -1.2**
JFWS pmax pmax
comp=Z,21nm,1.1s
JFWS MLR MLR
comp=Z,2µm,20.0s
AMTX Amarillo 72.76 57 P **P 22 51 47.7 +0.1**
baz=317
AMTX Amarillo 72.76 57 *e*P **P 22 51 48.0 +0.3**
comp=Z,51nm,1.2s
AMTX LR LR
comp=Z,1µm,22.0s
BEL Belsk 72.78 332 P **P 22 51 49.8 +2.5**
BEL pmax pmax
comp=Z,175nm,1.3s
M39A Webster 72.79 46 P **P 22 51 47.7 +0.1**
baz=320,SNR=13
F46A Macinaw City C 72.80 39 P **P 22 51 47.6 +0.1**
baz=323
N38A Joes South For 72.80 48 P **P 22 51 47.4 -0.2**
baz=320
L40A Anamosa 72.80 45 P **P 22 51 47.1 -0.5**
baz=320,SNR=7.5
J42A Columbus 72.81 43 P **P 22 51 47.2 -0.5**
baz=321,SNR=7.0
I43A Langenfeld Bro 72.81 42 P **P 22 51 47.7 +0.1**
baz=322
MSTX Muleshoe 72.81 58 P **P 22 51 48.1 0.0**
baz=317,SNR=13
MSTX Muleshoe 72.81 58 *e*P **P 22 51 48.0 0.0**
comp=Z,46nm,1.1s
MSTX LR LR
comp=Z,700nm,20.0s
K41A Shullsburg 72.81 45 P **P 22 51 47.4 -0.3**
baz=321
O37A Wolven Farm, M 72.82 48 P **P 22 51 47.7 -0.1**
baz=320,SNR=6.3
MCD Coleburn Disti 72.90 348 *e*P **P 22 51 47.8 -0.2**
MNTX Cornudas Mount 72.96 61 P **P 22 51 49.3 +0.5**
baz=317,SNR=28
MNTX Cornudas Mount 72.96 61 *e*P **P 22 51 49.6 +0.8**
comp=Z,59nm,1.5s
MNTX LR LR
comp=Z,700nm,21.0s
ARTV Artvin 73.00 313⇑ *i*P **P 22 51 47.7 -1.4**
DBOC Borcka 73.01 314⇑ *i*P **P 22 51 48.5 -0.4**
J43A Natural Harves 73.08 43 P **P 22 51 49.1 -0.2**
baz=322
N39A Derby Farms, D 73.09 47 P **P 22 51 49.5 +0.1**
baz=320,SNR=8.3
K42A Prairie Point, 73.13 44 P **P 22 51 48.9 -0.6**
baz=321
L41A Preston 73.13 45 P **P 22 51 49.1 -0.5**
baz=321,SNR=6.0
P37A Lathrop 73.16 49 P **P 22 51 49.0 -0.8**
baz=320,SNR=6.8
M40A Post Highland 73.17 46 P **P 22 51 49.6 -0.2**
baz=320
GDL2 Guadalupe Moun 73.19 60 *e*P **P 22 51 50.7 +0.5**
O38A Galt 73.19 48 P **P 22 51 49.6 -0.4**
baz=320,SNR=5.4
MDO Dochfour 73.19 348 *e*P **P 22 51 49.9 +0.2**
DBAD Bademkaya 73.25 313⇑ *i*P **P 22 51 50.2 -0.3**
DDEM Demirkent 73.31 313⇑ *i*P **P 22 51 50.4 -0.4**
SORM Soroca 73.32 326⇓ *i*P **P 22 51 50.8 +0.2**
LVV L'vov 73.45 329 *e*P **P 22 51 51.5 +0.2**
LVV *e* 22 52 06.2
LVV *e* 22 54 36.6
LVV *e*PPP PPP 22 56 15.3
LVV *e*S **S 23 01 12.5 -4.6**
LVV *e*PS PnS 23 02 09.2 +15
LVV MLR MLR
comp=N,2µm,16.0s
LVV MLR MLR
comp=Z,2µm,16.0s
KPL Plockton 73.46 349 *e*P **P 22 51 52.0 +0.7**
KPL IAmb IAmb 22 51 52.5
comp=Z,170nm,1.5s
KPL Plockton 73.46 349 *e*P **P 22 51 52.3 +1.1**
N40A Mertquake, Sal 73.53 46 P **P 22 51 51.9 -0.1**
baz=321,SNR=6.3
P38A Dawn 73.54 48 P **P 22 51 52.0 0.0**
baz=320,SNR=14
O39A Kirkaville 73.55 47 P **P 22 51 52.0 -0.1**
baz=320
KSB Sheil Bridge 73.56 349 *e*P **P 22 51 52.2 +0.4**
CLDR Caldiran 73.58 311⇑ *i*P **P 22 51 52.4 -0.2**
L42A Oliver, Polo 73.58 45 P **P 22 51 51.8 -0.4**
baz=321
SIM Simferopol' 73.61 320 *e*P **P 22 51 52.4 0.0**
SIM *e* 22 52 11.0
SIM *e* 22 54 32.0
SIM *e*S **SKiKP 23 01 18.0 0.0**
SIM pmax pmax
comp=Z,14nm,1.3s
GLMI Grayling 73.61 40 P **P 22 51 52.5 +0.1**
baz=323
GLMI Grayling 73.61 40 PFAKE 22 52 00.0 +7.6
GLMI LR LR
comp=Z,2µm,20.0s
Q37A Longview Farm, 73.64 50 P **P 22 51 51.6 -1.1**
baz=320
K43A Burlington 73.65 43 P **P 22 51 52.2 -0.4**
baz=322
M41A Milan 73.66 45 P **P 22 51 52.4 -0.3**
baz=321,SNR=5.5
L43A Garden Prairie 73.87 44 P **P 22 51 53.7 -0.3**
baz=322
M42A Sheffield 73.96 45 P **P 22 51 53.8 -0.7**
baz=321
O40A La Belle 73.98 47 P **P 22 51 54.4 -0.2**
baz=321,SNR=11
Q38A Cooks Store, C 74.00 49 P **P 22 51 54.3 -0.4**
baz=320,SNR=23
N41A Harden Midland 74.02 46 P **P 22 51 54.8 0.0**
baz=321,SNR=6.7
P39B Salisbury 74.03 48 P **P 22 51 54.8 -0.2**
baz=320,SNR=9.5
KWP Kalwaria Pacla 74.06 330 *e*P **P 22 51 56.9 +2.0**
KWP Kalwaria Pacla 74.06 330 *e*P **P 22 51 55.8 +0.9**
comp=Z,2µm,1.3s
KWP LR LR
comp=Z,27µm,22.0s
KWP Kalwaria Pacla 74.06 330 *e*P **P 22 51 55.8 +0.9**
PALK Pallekele 74.08 263 PFAKE 22 52 10.0 +14
PALK LR LR
comp=Z,900nm,18.0s
AS01 Alice Springs 74.08 200 *e*P **P 22 51 56.2 +0.9**
KIS Kishinev 74.08 325⇑ *i*P **P 22 51 54.0 -1.1**
comp=Z,200nm,2.0s
KIS Kishinev 74.08 325 *i* PcP **PcP 22 52 14.0 +3.9**
KIS Kishinev 74.08 325 *e*PP PP 22 54 58.0 +18
KIS Kishinev 74.08 325 *e*PS 23 01 50.0
KIS LRM MLR 23 26 05.0
comp=Z,2µm,20.0s
KIS Kishinev 74.08 325α *i*P **P 22 51 54.0 -1.1**
KIS *i* 22 52 14.0
KIS *e*S **SKiKP 23 01 18.0 -0.7**
KIS *e*PS **PnS 23 01 50.0 -12**
KIS pmax pmax
comp=Z,200nm,2.0s
KIS pmax pmax
comp=Z,500nm,4.0s
KIS MLR MLR
comp=E,1µm,14.0s
AS31 Alice Springs 74.09 200 *e*P **P 22 51 55.8 +0.5**
comp=E,3.9nm,0.7s
ASAR Alice Springs 74.09 200 P **P 22 51 55.9 +0.6**
comp=E,13nm,0.8s,baz=12,slow=5.5,SNR=97
ASAR LR LR 23 22 07.5
comp=E,780nm,21.6s,baz=20,slow=34
L44A Lake County Fo 74.26 43 P **P 22 51 55.7 -0.5**
baz=322
Q39A Willow Grove F 74.26 49 P **P 22 51 55.9 -0.3**
baz=320,SNR=8.6
N42A Yates City 74.32 46 P **P 22 51 56.4 -0.2**
baz=321,SNR=6.8
P40A Paris 74.35 48 P **P 22 51 56.9 +0.1**
baz=321,SNR=14
M43A Waltham Townsh 74.35 44 P **P 22 51 56.4 -0.3**
baz=322
EAB Aberfoyle 74.41 348 *e*P **P 22 51 56.7 -0.1**
R38A Fenwick Farm, 74.45 50 P **P 22 51 56.3 -1.0**
baz=320,SNR=11
O41A Passleys Farm, 74.47 47 P **P 22 51 57.5 +0.1**
baz=321,SNR=15
WMOK Wichita Mounta 74.47 55 P **P 22 51 57.9 +0.3**
baz=319,SNR=20
WMOK Wichita Mounta 74.47 55 *e*P **P 22 51 57.8 +0.2**
comp=E,20nm,0.9s
WMOK LR LR
comp=Z,900nm,19.0s
WMOK Wichita Mounta 74.47 55 *e*P **P 22 51 57.8 +0.2**
WMOK pmax pmax
comp=Z,20nm,0.9s
WMOK MLR MLR
comp=Z,900nm,19.0s
OJC Ojcow 74.49 332 *e*P **P 22 51 58.7 +1.2**
OJC Ojcow 74.49 332 *e*P **P 22 51 57.8 +0.4**
comp=Z,148nm,1.5s
OJC Ojcow 74.49 332 *e*P **P 22 51 57.8 +0.4**
OJC pmax pmax
comp=Z,148nm,1.5s
EDI Edinburgh 74.50 347 *e*P **P 22 51 57.9 +0.6**
BAYB BAYBURT 74.53 314⇑ *i*P **P 22 51 58.5 +0.4**
N43A Stutzman Famil 74.64 45 P **P 22 51 58.2 -0.2**
baz=322
P41A Barry, Barry 74.72 47 P **P 22 51 58.9 0.0**
baz=321,SNR=5.9
STHS Stebnicka Huta 74.73 331 *e*P **P 22 51 59.5 +0.7**
STHS Stebnicka Huta 74.73 331 *e*P **P 22 51 59.5 +0.7**
STHS pmax pmax
comp=Z,25nm,0.9s
LEOM Leova 74.74 325⇓ *i*P **P 22 52 00.2 +1.3**
Q40A Laux Farm, Aux 74.75 48 P **P 22 51 58.9 -0.2**
baz=321,SNR=8.1
PRAR RASCA 74.75 327⇓ *i*P **P 22 52 00.5 +1.5**
R39A Chumby, Stover 74.79 49 P **P 22 51 58.7 -0.6**
baz=320,SNR=23
O42A Bath 74.79 46 P **P 22 51 59.0 -0.3**
baz=321
PGBU Glenifferbraes 74.79 348 *e*P **P 22 51 59.2 +0.2**
PGBU IAmb IAmb 22 52 00.7
comp=Z,516nm,1.6s
M44A Midewin, Midew 74.82 44 P **P 22 51 59.2 -0.2**
baz=322
S38A Stockton 74.87 50 P **P 22 51 58.9 -0.9**
baz=320,SNR=12
HDIL Hopedale 74.89 45 P **P 22 51 59.7 -0.1**
baz=322,SNR=5.9
HDIL Hopedale 74.89 45 *e*P **P 22 51 59.3 -0.5**
comp=Z,174nm,1.4s
HDIL LR LR
comp=Z,2µm,20.0s
BUR08 Bucovina Ar. S 74.89 327 *e*P **P 22 52 00.5 +0.6**
BUR04 Bucovina Ar. S 74.91 327 *e*P **P 22 51 59.8 -0.2**
BURAR Bucovina Array 74.91 327⇓ *i*P **P 22 52 01.0 +1.0**
BURAR Bucovina Array 74.91 327 P **P 22 52 00.5 +0.5**
KSP Ksiaz 75.00 334 *e*P **P 22 51 59.8 -0.5**
KSP Ksiaz 75.00 334 *e*P **P 22 51 59.8 -0.5**
NIE Niedzica 75.03 331 *e*P **P 22 52 02.3 +1.7**
NIE Niedzica 75.03 331 P **P 22 52 01.6 +1.0**
UZH Uzhgorod 75.06 330⇓ *i*P **P 22 52 00.4 -0.3**
UZH *e* 22 52 14.8
UZH *e*S **S 23 01 31.2 -3.9**
EKA Eskdalemuir Ar 75.07 347 P **P 22 52 01.0 +0.4**
comp=Z,18nm,0.6s,baz=21,slow=5.4,SNR=56
EKA LR LR 23 28 18.6
comp=Z,363nm,18.3s,baz=40,slow=38
Q43A Sugar Creek Fa 75.09 45 P **P 22 52 00.9 -0.1**
baz=322
ESK Eskdalemuir 75.09 347 *e*P **P 22 52 00.2 -0.5**
comp=Z,129nm,1.6s
ESK Eskdalemuir 75.09 347 *e*P **P 22 52 00.3 -0.5**
ESK Eskdalemuir 75.09 347 *e*P **P 22 52 00.3 -0.5**
ESK pmax pmax
comp=Z,129nm,1.6s
CRVS Cervenica-Dubn 75.10 330 *e*P **P 22 52 00.6 -0.4**
CRVS *e*L L 23 30 21.3
CRVS Cervenica-Dubn 75.10 330 *e*P **P 22 52 00.6 -0.4**
CRVS pmax pmax
comp=Z,63nm,1.7s
S39A Bolivar 75.12 50 P **P 22 52 00.6 -0.7**
baz=320,SNR=8.7
T38A Diamond 75.13 51 P **P 22 52 01.0 -0.3**
baz=320,SNR=30
P42A Winchester 75.14 47 P **P 22 52 01.4 +0.1**
baz=321,SNR=6.1
M45A Boilermakers S 75.18 43 P **P 22 52 01.3 -0.2**
baz=323
R40A Maddies Statio 75.19 49 P **P 22 52 01.4 -0.2**
baz=321,SNR=15
Q41A Truxton 75.20 48 P **P 22 52 01.9 +0.2**
baz=321,SNR=20
TUL1 Leonard 75.20 52 P **P 22 52 01.7 -0.1**
baz=320,SNR=9.7
TUL1 Leonard 75.20 52 *e*P **P 22 52 01.6 -0.1**
comp=Z,154nm,1.6s
TUL1 LR LR
comp=Z,2µm,18.0s
ECK Cauldkaine Hil 75.21 347 *e*P **P 22 52 01.6 +0.1**
N44A Piper City 75.24 44 P **P 22 52 01.6 -0.3**
baz=322
BHH Howats Hill 75.31 347 *e*P **P 22 52 02.9 +0.8**
OKC Ostrava-Krasne 75.34 333 *e*P **P 22 52 03.0 +0.7**
OKC *e*pP **PcP 22 52 10.9 -4.5**
OKC *e*S **S 23 01 34.9 -3.3**
OKC AMS AMS 23 30 30.0
comp=Z,4µm,18.3s
OKC Ostrava-Krasne 75.34 333 *e*P **P 22 52 03.0 +0.7**
OKC *e* 22 52 10.9
OKC *e*S **S 23 01 34.9 -3.3**
OKC MLR MLR
comp=Z,4µm,18.3s
UPC Upice 75.38 334 *e*P **P 22 52 03.3 +0.7**
UPC AMS AMS 23 30 40.0
comp=Z,4µm,16.7s
UPC Upice 75.38 334 *e*P **P 22 52 03.3 +0.7**

UPC MLR MLR
comp=Z,4µm,16.7s
GMK Mull of Kintyr 75.40 349 eP P 22 52 02.9 +0.4
TRPA Tarpa 75.41 329⇑iP P 22 52 03.9 +1.3
TRPA Tarpa 75.41 329⇓eP P 22 52 04.0 +1.3
DPC Dobruska-Polom 75.43 334 eP P 22 52 03.9 +1.0
DPC eS S 23 01 36.6 -2.7
DPC ex x 23 06 48.8
DPC AMS AMS 23 29 20.0
comp=Z,3µm,18.4s
DPC Dobruska-Polom 75.43 334 eP P 22 52 03.9 +1.0
DPC eS S 23 01 36.6 -2.7
DPC MLR MLR
comp=Z,3µm,18.4s
LPIG La Paz 75.46 70 P P 22 52 04.5 +1.1
comp=Z,23nm,0.3s,baz=294,slow=2.1,SNR=1.7
LPIG LR LR 23 19 29.2
comp=Z,349nm,21.5s,baz=294,slow=31
N45A Kentland 75.49 44 P P 22 52 03.3 -0.1
baz=323
P43A Skaggs, Pawnee 75.49 46 P P 22 52 03.3 0.0
baz=322
CLL Collm 75.50 336 eP P 22 52 02.9 -0.3
CLL Collm 75.50 336⇑iP P 22 52 03.1 -0.1
comp=Z,201nm,1.6s
CLL e 22 52 22.0
CLL ePP PP 22 55 00.0 +8.0
CLL ePPP PPP 22 56 42.0
CLL eS S 23 01 41.0 +1.1
CLL eSS SS 23 06 36.0 +6.1
CLL e 23 07 18.0
CLL e(SSS) 23 09 42.0
CLL e 23 10 36.0
CLL Lm MLR 23 28 00.0
comp=N,2µm,19.5s
CLL Lm MLR 23 28 00.0
comp=E,2µm,18.3s
CLL Lm MLR 23 28 00.0
comp=Z,4µm,21.3s
CLL Collm 75.50 336 eP P 22 52 03.0 -0.3
comp=Z,218nm,1.6s
CLL LR LR
comp=Z,4µm,21.0s
CLL Collm 75.50 336⇑iP P 22 52 03.1 -0.1
CLL eS S 23 01 41.0 +1.1
CLL pmax pmax
comp=Z,201nm,1.6s
CLL MLR MLR
comp=Z,4µm,21.3s
LANS Liptovska Anna 75.53 332 eP P 22 52 04.3 +0.8
LANS Liptovska Anna 75.53 332 eP P 22 52 04.3 +0.8
KRLC Kraliky 75.54 334 eP P 22 52 04.6 +1.1
KRLC Kraliky 75.54 334 eP P 22 52 04.6 +1.1
ABTX Abilene, Hawle 75.57 57 P P 22 52 04.2 +0.3
baz=319,SNR=5.6
ABTX Abilene, Hawle 75.57 57 eP P 22 52 04.3 +0.3
comp=Z,66nm,1.5s
ABTX LR LR
comp=Z,1µm,22.0s
Q42A Golden Eagle 75.57 47 P P 22 52 04.0 +0.2
baz=321,SNR=9.8
M46A Old House Fiel 75.58 43 P P 22 52 03.7 -0.1
baz=323
MORC Moravsky Berou 75.58 333 eP P 22 52 04.2 +0.4
comp=Z,712nm,1.6s
MORC LR LR
comp=Z,19µm,20.0s
MORC Moravsky Berou 75.58 333 eP P 22 52 04.2 +0.4
TLCR 75.59 324⇓iP P 22 52 04.9 +1.1
O44A Mansfield 75.59 45 P P 22 52 03.7 -0.2
baz=322
T39A Clever 75.61 50 P P 22 52 03.3 -0.8
baz=320
S40A Lebanon 75.61 49 P P 22 52 03.6 -0.5
baz=321,SNR=14
R41A Rosebud 75.63 48 P P 22 52 04.0 -0.2
baz=321,SNR=10.0
BRG Berggiesshubel 75.64 336⇓iP P 22 52 03.9 -0.1
comp=Z,50nm,1.3s
BRG Berggiesshubel 75.64 336⇓iP P 22 52 03.9 -0.1
BRG pmax pmax
comp=Z,50nm,1.3s
ARCR ARCALIA 75.67 328⇓iP P 22 52 06.3 +2.1
TX31 Lajitas Ar. Si 75.69 62 eP P 22 52 05.1 +0.3
TXAR Lajitas Array 75.69 62 P P 22 52 05.2 +0.4
comp=Z,15nm,0.6s,baz=298,slow=4.2,SNR=229
CLGH Cloghs, Cushen 75.72 349 eP P 22 52 05.4 +1.0
CLGH lAmb lAmb 22 52 05.9
comp=Z,229nm,1.6s
GAL1 Galloway 75.74 348 eP P 22 52 05.0 +0.5
GAL1 lAmb lAmb 22 52 05.7
comp=Z,105nm,1.6s
PETR Petresti 75.75 325⇓iP P 22 52 07.1 +2.4
PVCC Panska Ves 75.78 335 eP P 22 52 05.8 +1.0
PVCC AMS AMS 23 28 00.0
comp=Z,4µm,20.9s
PVCC Panska Ves 75.78 335 eP P 22 52 05.8 +1.0
PVCC MLR MLR
comp=Z,4µm,20.9s
KESW Keswick, Cumbr 75.78 347 eP P 22 52 04.9 +0.2
KESW lAmb lAmb 22 52 06.4
comp=Z,340nm,1.6s
ODBI Odobesti 75.79 325⇓iP P 22 52 07.3 +2.4
N46A Monticello 75.81 43 P P 22 52 04.6 -0.6
baz=323
VRI Vrincioaia 75.83 325⇑iP P 22 52 06.1 +0.9
VRI Vrincioaia 75.83 325 P P 22 52 05.0 -0.2
VRI pmax pmax
comp=Z,229nm,1.4s
CFR Carcaliu 75.86 324⇑iP P 22 52 05.8 +0.5
O45A Potomac 75.86 44 P P 22 52 05.8 +0.3
baz=323
BTMN Batman 75.87 312⇑iP P 22 52 06.7 +1.1
PLOR Plostina 75.87 326⇓iP P 22 52 06.6 +1.1
HHAR Hobbs 75.89 51 eP P 22 52 05.3 -0.4
comp=Z,22nm,0.7s
CCM Cathedral Cave 75.89 48 P P 22 52 05.5 -0.1
baz=321
CCM Cathedral Cave 75.89 48 eP P 22 52 05.3 -0.3
comp=Z,35nm,1.1s
CCM LR LR
comp=Z,2µm,21.0s
CCM Cathedral Cave 75.89 48 eP P 22 52 05.3 -0.3
CCM pmax pmax
comp=Z,35nm,1.1s
CCM MLR MLR
comp=Z,2µm,21.0s
SLM Saint Louis 75.93 47 eP P 22 52 05.3 -0.6
comp=Z,164nm,1.7s
SLM LR LR
comp=Z,2µm,21.0s
SLM Saint Louis 75.93 47 eP P 22 52 05.3 -0.6
SLM pmax pmax
comp=Z,165nm,1.7s
SLM MLR MLR
comp=Z,2µm,21.0s
R42A Luebbering 75.93 48 P P 22 52 06.1 +0.2
baz=321,SNR=8.9
T40A Mansfield 75.95 49 P P 22 52 05.7 -0.3
baz=321,SNR=10
Q43A New Douglas 75.95 47 P P 22 52 05.9 -0.1
baz=322
S41A Jillco Farms, 76.00 49 P P 22 52 06.0 -0.3
baz=321,SNR=9.1
CUZAR Zara_SIVAS 76.00 315⇑iP P 22 52 06.0 -0.5
U39A Green Forest 76.05 51 P P 22 52 06.4 -0.2
baz=320,SNR=33
SFIN Lafayette 76.05 44 P P 22 52 06.4 -0.1
baz=323
SFIN Lafayette 76.05 44 eP P 22 52 07.2 +0.6
comp=Z,108nm,1.7s
SFIN LR LR
comp=Z,2µm,21.0s
AAM Ann Arbor 76.06 41 P P 22 52 06.6 +0.1
baz=324
AAM Ann Arbor 76.06 41 PFAKE 22 52 20.0 +13
AAM LR LR
comp=Z,2µm,20.0s
P44A Sand Creek, Wi 76.06 46 P P 22 52 06.7 +0.1
baz=322,SNR=8.3
BOYT Boyabat 76.10 318 iP P 22 52 06.9 +0.1
HPK Haverah Park 76.16 346 eP P 22 52 06.9 0.0
HPK lAmb lAmb 22 52 09.4
comp=Z,149nm,1.0s
PRA Prague 76.23 335 eP P 22 52 08.6 +1.2
PRA eS S 23 01 43.7 -4.2
PRA ex x 23 06 59.6
PRA AMS AMS 23 28 20.0
comp=Z,4µm,21.0s
PRA Prague 76.23 335 eP P 22 52 08.6 +1.2
PRA eS S 23 01 43.7 -4.2
PRA MLR MLR
comp=Z,4µm,21.0s
DOPR Dopca 76.24 326⇑iP P 22 52 09.6 +2.0
HPIG 76.26 65 eP P 22 52 07.8 -0.4
comp=Z,21nm,0.7s
HPIG LR LR
comp=Z,700nm,22.0s
GOPC GO Pecny, Ondr 76.27 335 eP P 22 52 08.8 +1.2
GOPC eS S 23 01 44.4 -4.1
GOPC ex x 23 06 58.2
GOPC AMS AMS 23 31 20.0
comp=Z,4µm,15.3s
GOPC GO Pecny, Ondr 76.27 335 eP P 22 52 08.8 +1.2
GOPC eS S 23 01 44.4 -4.1
GOPC MLR MLR
comp=Z,4µm,15.3s
PRU Pruhonice 76.27 335 eP P 22 52 08.7 +1.1
PRU epP PcP 22 52 19.8 +0.4
PRU eS S 23 01 43.8 -4.6
PRU ex x 23 07 00.4
PRU AMS AMS 23 27 30.0
comp=Z,4µm,21.7s
PRU Pruhonice 76.27 335 eP P 22 52 08.7 +1.1
PRU e 22 52 19.8
PRU eS S 23 01 43.8 -4.6
PRU MLR MLR
comp=Z,4µm,21.7s
VRAC Vranov 76.28 333⇑iP P 22 52 09.0 +1.3
VYHS Vyhne 76.31 332 eP P 22 52 08.3 +0.4
VYHS Vyhne 76.31 332 eP P 22 52 08.4 +0.5
VYHS pmax pmax
comp=Z,56nm,1.6s
Q44A Meyer Farm, Va 76.31 46 P P 22 52 08.0 0.0
baz=322
S42A Caledonia 76.33 48 P P 22 52 08.0 -0.2
baz=322,SNR=14
TIRR Tirgusor 76.35 324⇓iP P 22 52 09.3 +1.1
TIRR Tirgusor 76.35 324 eP P 22 52 06.4 -1.7
comp=Z,124nm,1.6s
TIRR LR LR
comp=Z,3µm,18.0s
TIRR Tirgusor 76.35 324 eP P 22 52 06.4 -1.7
TIRR pmax pmax
comp=Z,124nm,1.6s
TIRR MLR MLR
comp=Z,3µm,18.0s
R43A Red Bud 76.36 47 P P 22 52 08.2 -0.2
baz=322
V39A Pettigrew 76.38 51 P P 22 52 08.2 -0.3
baz=320,SNR=23
U40A Yellville 76.39 50 P P 22 52 08.2 -0.3
baz=321,SNR=34
T41A Mountain View 76.41 49 P P 22 52 08.1 -0.6
baz=321,SNR=8.9
WTSB Winterswijk 76.42 340 eP P 22 52 08.6 +0.3
comp=Z,335nm,1.8s
P45A Graceland, Par 76.43 45 P P 22 52 09.0 +0.3
baz=323
TRQ Mont Tremblant 76.43 33 eP P 22 52 09.0 +0.4
MLR Muntele Rosu 76.44 326 P P 22 52 09.3 +0.5
comp=Z,4.7nm,0.6s,baz=2.2,slow=6.1,SNR=36
MLR LR LR 23 28 14.7
comp=Z,449nm,21.5s,baz=22,slow=38
MLR Muntele Rosu 76.44 326⇓iP P 22 52 10.1 +1.3
MLR Muntele Rosu 76.44 326 eP P 22 52 08.5 -0.3
comp=Z,199nm,1.7s
MLR Muntele Rosu 76.44 326 eP P 22 52 08.5 -0.3
BANOM Banah 76.45 294 P P 22 52 09.1 +0.1
PSZ Piszkesteto 76.47 331⇓iP P 22 52 10.6 +1.7
PSZ Piszkesteto 76.47 331⇓eP P 22 52 10.4 +1.5
PSZ Piszkesteto 76.47 331 eP P 22 52 09.3 +0.4
comp=Z,140nm,1.6s
PSZ LR LR
comp=Z,2µm,19.0s
PSZ Piszkesteto 76.47 331 eP P 22 52 09.3 +0.4
O47A Sheridan 76.59 44 P P 22 52 08.8 -0.8
baz=323
CUKAN kangal_SIVAS 76.60 315⇑iP P 22 52 10.5 +0.6
P46A Rosedale 76.61 45 P P 22 52 09.9 +0.2
baz=323,SNR=8.3
TREC Trest 76.62 334 eP P 22 52 10.7 +1.1
TREC ex x 22 52 24.0
TREC AMS AMS 23 31 50.0
comp=Z,4µm,18.1s
TREC Trest 76.62 334 eP P 22 52 10.7 +1.1
TREC e 22 52 24.0
TREC MLR MLR
comp=Z,4µm,18.1s
NKC Novy Kostel 76.63 336 eP P 22 52 10.6 +0.9
NKC AMS AMS 23 31 40.0
comp=Z,3µm,16.8s
NKC Novy Kostel 76.63 336 eP P 22 52 10.6 +0.9
NKC MLR MLR
comp=Z,3µm,16.8s
AMRR Amara 76.65 324⇓iP P 22 52 11.3 +1.5
LBWR Ladybower, Pea 76.71 346 eP P 22 52 10.2 +0.1
LBWR lAmb lAmb 22 52 11.7
comp=Z,391nm,1.6s
Q45A Warren Harvey, 76.73 46 P P 22 52 10.7 +0.3
baz=323,SNR=7.2
SMOL Smolenice 76.73 332 eP P 22 52 11.3 +1.0
SMOL Smolenice 76.73 332 eP P 22 52 11.3 +1.0
T42A Van Buren 76.76 49 P P 22 52 10.2 -0.4
baz=322,SNR=5.1
CTAK Corum_Osmancik 76.77 317⇑iP P 22 52 11.5 +0.7
R44A Waltonville 76.80 47 P P 22 52 10.7 -0.1
baz=322,SNR=5.4
W39A Magazine 76.80 52 P P 22 52 10.8 -0.1
baz=321,SNR=10.0
VOIR 76.82 326⇑iP P 22 52 12.3 +1.4
VOIR 76.82 326 P P 22 52 11.6 +0.7
VOIR pmax pmax
comp=Z,50nm,1.2s
V40A Witts Springs 76.83 51 P P 22 52 10.8 -0.2
baz=321,SNR=20
S43A Fulton Ridge, 76.84 48 P P 22 52 11.0 -0.1
baz=322,SNR=7.8
U41A Viola 76.87 50 P P 22 52 11.0 -0.3
baz=321,SNR=8.5
OLIL Olney 76.89 46 eP P 22 52 11.2 -0.1
comp=Z,155nm,1.8s
OLIL epP pP 22 52 23.8 -0.8
OLIL LR LR
comp=Z,2µm,20.0s
MODS Modra-Piesok 76.90 333 eP P 22 52 11.1 -0.2
MODS eL L 23 31 21.1
MODS Modra-Piesok 76.90 333 eP P 22 52 11.1 -0.2
MODS pmax pmax
comp=Z,102nm,1.5s
ILGA Ilgaz 76.92 318 eP P 22 52 13.1 +1.3
comp=Z,204nm,1.5s
CUALT Altinyayla-SIV 76.96 315⇑iP P 22 52 12.3 +0.4
WSAR Wadi Sarin 76.96 290 P P 22 52 10.5 -1.5
comp=Z,9.1nm,1.0s,baz=50,slow=5.4,SNR=5.8
WSAR LR LR 23 30 56.2
comp=Z,4µm,19.5s,baz=60,slow=39
WSAR Wadi Sarin 76.96 290 P P 22 52 12.9 +0.9
COAL Corum-Alaca 77.00 317⇑iP P 22 52 12.8 +0.7
Q46A CEJHS Indians, 77.01 45 P P 22 52 12.1 +0.2
baz=323
ARR Arges 77.03 326⇑iP P 22 52 14.0 +1.9
SRO Srobarova 77.08 332 eP P 22 52 13.2 +1.1
SRO Srobarova 77.08 332 eP P 22 52 13.3 +1.1
JCT Junction City 77.08 59 P P 22 52 12.7 +0.1
baz=319,SNR=13
JCT Junction City 77.08 59 eP P 22 52 12.7 +0.1
comp=Z,103nm,1.5s
JCT LR LR
comp=Z,1µm,21.0s
JCT Junction City 77.08 59 eP P 22 52 12.7 +0.1
PSN Preselentsi 77.09 323 iP P 22 52 13.2 +0.9
BTIN Bart¯–n 77.09 320⇑iP P 22 52 11.7 -0.7
SRO2 Moca 77.09 332 eP P 22 52 12.2 -0.1
SRO2 Moca 77.09 332 eP P 22 52 12.2 -0.1
ZST Bratislava 77.11 333 eP P 22 52 12.6 +0.2
ZST eL L 23 31 23.1
ZST Bratislava 77.11 333 eP P 22 52 12.6 +0.2
ZST pmax pmax
comp=Z,101nm,1.8s
T43A Greenville 77.12 48 P P 22 52 12.8 +0.1
baz=322,SNR=7.7
BUD Budapest 77.14 331⇓eP P 22 52 14.2 +1.7
BUD Budapest 77.14 331 P P 22 52 14.0 +1.5
BUD pmax pmax
comp=Z,64nm,1.4s
R45A Skylar, Fairfi 77.15 46 P P 22 52 13.1 +0.4
baz=323
P47A Martinsville 77.15 44 P P 22 52 13.0 +0.2
baz=323
S44A Carbondale 77.15 47 P P 22 52 13.1 +0.3
baz=322
SIUC Southern Illin 77.15 47 eP P 22 52 12.7 -0.1
comp=Z,70nm,1.4s
SIUC ePcP PcP 22 52 24.1 +0.6
SIUC LR LR
comp=Z,2µm,20.0s
X39A Fountain Ranch 77.15 52 P P 22 52 13.3 +0.4
baz=320,SNR=11
CUGUR Gurin_S¯VAS 77.16 315⇑iP P 22 52 14.3 +1.3
W40A Ferguson Farm, 77.17 51 P P 22 52 12.8 -0.1
baz=321,SNR=9.4
W40A Ferguson Farm, 77.17 51 eP P 22 52 12.6 -0.3
comp=Z,44nm,0.8s
W40A LR LR
comp=Z,2µm,19.0s
V41A Mountainview 77.19 50 P P 22 52 12.6 -0.5
baz=321,SNR=14
AKCD Akcadag 77.19 314⇑iP P 22 52 14.1 +0.9
U42A Revenden 77.21 49 P P 22 52 13.0 -0.2
baz=322
DEV Deva 77.22 328⇓iP P 22 52 14.2 +1.2
DEV Deva 77.22 328 P P 22 52 15.2 +2.2
DEV pmax pmax
comp=Z,42nm,1.3s
UOSS Minazif 77.22 293 eP P 22 52 13.0 -0.4
comp=Z,124nm,1.5s
UOSS LR LR
comp=Z,2µm,22.0s
UOSS Minazif 77.22 293 iP P 22 52 13.4 0.0
SNR=8.3
WHTX Lake Whitney, 77.26 56 P P 22 52 13.8 +0.4
baz=320,SNR=8.3
WHTX Lake Whitney, 77.26 56 eP P 22 52 13.9 +0.4
comp=Z,64nm,1.4s
WHTX LR LR
comp=Z,1µm,18.0s
LOT Lotru 77.28 327⇑iP P 22 52 14.5 +1.0
CWF Charnwood Fore 77.28 345 eP P 22 52 12.4 -0.9
BLO Bloomington 77.28 44 PFAKE 22 52 30.0 +16
BLO LR LR
comp=Z,2µm,19.0s
PBMO Poplar Bluff 77.29 48 eP P 22 52 13.5 -0.1
comp=Z,126nm,1.6s
PBMO LR LR
comp=Z,2µm,21.0s
KHC Kasperske Hory 77.31 335 eP P 22 52 14.5 +0.9
KHC ePP PP 22 55 08.1 +0.7
KHC eS S 23 01 57.9 -2.1
KHC ex x 23 07 12.6
KHC AMS AMS 23 29 20.0
comp=Z,5µm,19.8s
KHC Kasperske Hory 77.31 335 eP P 22 52 14.3 +0.8
comp=Z,94nm,1.6s
KHC LR LR
comp=Z,2µm,20.0s
KHC Kasperske Hory 77.31 335 eP P 22 52 14.4 +0.9
SIRR Siria 77.32 329⇓iP P 22 52 14.7 +1.1
HATD Hatta, Dubai 77.35 293 P P 22 52 14.5 +0.4
SNR=14
HATD Hatta, Dubai 77.35 293 iP P 22 52 14.5 +0.4
SNR=12
MIAR Mount Ida 77.41 52 P P 22 52 14.4 +0.1
baz=321,SNR=14
MIAR Mount Ida 77.41 52 eP P 22 52 14.2 -0.1
comp=Z,91nm,1.6s
MIAR LR LR
comp=Z,2µm,18.0s
MIAR Mount Ida 77.41 52 eP P 22 52 14.2 -0.1
MIAR pmax pmax
comp=Z,91nm,1.6s
MIAR MLR MLR
comp=Z,2µm,18.0s
GRF Grafenberg Arr 77.45 337 P P 22 52 15.8 +1.5
GRF pmax pmax
comp=Z,124nm,1.5s
GRFO Grafenberg 77.45 337 eP P 22 52 14.8 +0.6
comp=Z,306nm,1.6s
GRFO LR LR
comp=Z,3µm,20.0s
GRFO Grafenberg 77.45 337 eP P 22 52 14.8 +0.6
GRFO pmax pmax
comp=Z,306nm,1.6s
GRFO MLR MLR
comp=Z,3µm,20.0s
T44A Benton 77.46 48 P P 22 52 14.6 0.0
baz=322
CSKK Cs¯ákako 77.49 331⇓eP P 22 52 16.0 +1.5
S45A Carrier Mills 77.49 47 P P 22 52 14.8 +0.1
baz=322
WET Wettzell 77.50 336 P P 22 52 15.5 +0.9
WET pmax pmax
comp=Z,74nm,1.5s
WHAR Wooly Hollow 77.50 51 eP P 22 52 15.3 +0.5
comp=Z,104nm,1.5s
ASHO Ashiyiah 77.50 293 P P 22 52 15.4 +0.3
SNR=14
ASHO Ashiyiah 77.50 293 iP P 22 52 16.7 +1.7
SNR=15
Q47A Bedord North L 77.52 44 P P 22 52 14.9 +0.1
baz=323
NAZ Nazwa, Dubai 77.52 293 P P 22 52 14.9 -0.2
SNR=6.0
NAZ Nazwa, Dubai 77.52 293 iP P 22 52 16.0 +0.9
SNR=8.3
NAZ iP PcP 22 52 17.0 -8.3
SNR=6.6
GEC2 GERESS Array S 77.54 335 eP P 22 52 15.2 +0.3
comp=Z,123nm,1.6s
GEC2 LR LR
comp=Z,4µm,20.0s
GEC2 GERESS Array S 77.54 335 eP P 22 52 15.2 +0.3
GERES GERESS Array B 77.54 335 P P 22 52 15.4 +0.5
comp=Z,8.9nm,0.6s,baz=36,slow=5.5,SNR=82
GERES LR LR 23 29 52.2
comp=Z,4µm,20.2s,baz=14,slow=38
GEA0 GERESS Array S 77.55 335 eP P 22 52 14.2 -0.7
V42A Cord 77.56 50 P P 22 52 14.8 -0.4
baz=322,SNR=10.0
R46A Gibson Southern 77.58 46 P P 22 52 15.4 +0.2
baz=323
SOHO SOHO 77.61 292 iP P 22 52 17.0 +1.4
SNR=7.7
W41B Gary Mavity, V 77.61 51 P P 22 52 15.3 -0.2
baz=321,SNR=14
U43A Rector 77.62 49 P P 22 52 15.3 -0.1
baz=322
USIN University of 77.70 46 eP P 22 52 15.8 -0.1
comp=Z,52nm,0.9s
USIN epP pP 22 52 28.6 -0.7
USIN LR LR
comp=Z,2µm,18.0s
CONA Conrad Observa 77.73 333 iP P 22 52 16.8 +0.8
comp=Z,92nm,1.5s,SNR=35
SOP Sopron 77.74 333⇓eP P 22 52 17.8 +1.9
SOP Sopron 77.74 333 P P 22 52 17.5 +1.6
SOP pmax pmax
comp=Z,63nm,1.7s
HGN Heimansgroeve 77.74 340 eP P 22 52 16.2 +0.4
comp=Z,271nm,1.5s
HGN epP sP 22 52 37.9 +3.6
HGN eS S 23 02 09.2 +4.8
HGN eSS SS 23 07 41.1 +37
HLM1 Long Mynd 77.75 346 eP P 22 52 16.1 +0.2
HLM1 lAmb lAmb 22 52 17.6
comp=Z,176nm,1.7s
BEBN Eben Emael 77.77 341 ⇑iP P 22 52 16.6 +0.6
ERPA Erie 77.77 38 P P 22 52 16.3 +0.1
baz=326
ERPA Erie 77.77 38 PFAKE 22 52 30.0 +14
ERPA LR LR
comp=Z,1µm,19.0s
LONY Lake Ozonia 77.79 34 P P 22 52 15.5 -0.8
baz=329
LONY Lake Ozonia 77.79 34 PFAKE 22 52 30.0 +14
LONY LR LR
comp=Z,1µm,20.0s
PRD Provadia 77.81 324 iP P 22 52 16.7 +0.4

X40A Basin Creek Fa 77.84 51 P P 22 52 16.7 0.0
baz=321,SNR=7.4

BCAM Yenicaga 77.84 319⇑*i*P P 22 52 17.3 +0.5
MEM Membach 77.87 340⇑P P 22 52 17.1 +0.6
comp=Z,70nm,1.5s

U44A Portageville 77.87 48 P P 22 52 17.2 +0.3
baz=322

BZS Buzias 77.90 328⇑*i*P P 22 52 17.2 +0.4
S46A Don Dixon Farm 77.90 46 P P 22 52 17.2 +0.2
baz=323

W42A Bald Knob 77.91 50 P P 22 52 17.1 0.0
baz=322

CMDR Camlidere-ANKA 77.93 319⇑*i*P P 22 52 17.6 +0.4
PVMO Portageville 77.94 48 PFAKE 22 52 30.0 +13
PVMO LR LR
comp=Z,2µm,21.0s

FRNY Flat Rock 77.97 33 PFAKE
FRNY LR LR 22 52 30.0 +13
comp=Z,2µm,20.0s

Y40A Okolona 77.97 52 P P 22 52 17.4 0.0
baz=321

T45A Paducah 77.98 47 P P 22 52 17.6 +0.2
baz=323

R47A Wooly Knot Far 77.98 45 P P 22 52 17.7 +0.3
baz=323,SNR=5.3

X41A Kaden, Bauxite 78.00 51 P P 22 52 17.6 0.0
baz=321

V43A Jonesboro 78.01 49 P P 22 52 18.1 +0.5
baz=322

BR131 Keskin Array S 78.03 318*eP* P 22 52 18.6 +0.8
BRTR Keskin Array B 78.03 318 P P 22 52 18.3 +0.4
comp=Z,29nm,1.2s,baz=48,slow=1.8,SNR=76
BRTR LR LR 23 32 19.3
comp=Z,1µm,18.1s,baz=26,slow=40

ACSO Alum Creek Sta 78.04 41 P P 22 52 18.0 +0.3
baz=325

ACSO Alum Creek Sta 78.04 41 PFAKE 22 52 30.0 +12
ACSO LR LR
comp=Z,2µm,19.0s

UCC Uccle 78.05 341⇓P P 22 52 15.5 -2.0
UCC Uccle 78.05 341*eP* P 22 52 17.4 -0.2
UCC LR LR
comp=Z,3µm,18.0s

UCC Uccle 78.05 341*eP* P 22 52 17.4 -0.2
UCC MLR MLR
comp=Z,3µm,18.0s

ALLY Alegheny Colle 78.09 39 PFAKE 22 52 30.0 +12
ALLY LR LR
comp=Z,2µm,19.0s

435B Jarrell 78.11 57 P P 22 52 18.6 +0.3
baz=320

MMNY Mt. Morris Dam 78.11 37*eP* P 22 52 16.9 -1.1
comp=Z,213nm,1.8s

WCI Wyandotte Cave 78.14 45 P P 22 52 18.8 +0.4
baz=324

WCI Wyandotte Cave 78.14 45*eP* P 22 52 18.6 +0.3
comp=Z,33nm,0.7s
WCI LR LR
comp=Z,2µm,19.0s

WCI Wyandotte Cave 78.14 45*eP* P 22 52 18.6 +0.3
WCI pmax pmax
comp=Z,33nm,0.7s
WCI MLR MLR
comp=Z,2µm,19.0s

ALNE Al Ain 78.15 293 *i* P P 22 52 19.0 +0.4
SNR=11

U44B Burton Farm, H 78.17 48 P P 22 52 18.8 +0.3
baz=322

BCLA Clavier 78.20 341⇑P P 22 52 18.8 +0.4
comp=Z,36nm,1.1s

R48A Northridge Ran 78.20 44 P P 22 52 18.8 +0.2
baz=324,SNR=8.8

AVNS Nevsehir-Avano 78.23 316⇑*i*P P 22 52 19.1 +0.2
BANR Banloc 78.27 329⇓*i*P P 22 52 20.1 +1.2
MOA Molln 78.28 334 *i* P P 22 52 19.5 +0.6
comp=Z,26nm,1.1s,SNR=7.0

ANTO Ankara 78.30 318⇓*i*P P 22 52 21.0 +1.8
ANTO Ankara 78.30 318*eP* P 22 52 19.9 +0.7
comp=Z,128nm,1.5s

ANTO Ankara 78.30 318 P P 22 52 20.5 +1.2
SNR=24

ANTO Ankara 78.30 318*eP* P 22 52 19.9 +0.7
ANTO pmax pmax
comp=Z,128nm,1.5s

WLAR White Oak Lake 78.31 52*eP* P 22 52 19.1 -0.2
comp=Z,121nm,1.6s

SZH Strazhica 78.33 325 *i* P P 22 52 19.0 -0.2
BR231 Keskin MP Arra 78.33 318*eP* P 22 52 19.9 +0.4
T46A Princeton 78.33 47 P P 22 52 19.4 0.0
baz=323,SNR=14

SNF Seneffe 78.34 341⇓P P 22 52 20.2 +1.0
STRD Stroud 78.35 346*eP* P 22 52 20.2 +1.0
STRD IAmb IAmb 22 52 21.6
comp=Z,400nm,1.4s

MORH M˜‡r˙gy, Hung 78.38 331⇑*eP* P 22 52 19.1 -0.4
MONM Monmouth 78.40 346*eP* P 22 52 19.5 0.0
MONM IAmb IAmb 22 52 21.2
comp=Z,341nm,1.6s

M54A Oil Creek Stat 78.41 39 P P 22 52 20.0 +0.2
baz=326

M54A Oil Creek Stat 78.41 39 PFAKE 22 52 30.0 +10
M54A LR LR
comp=Z,2µm,20.0s

BBAL Bala 78.41 318⇑*i*P P 22 52 21.1 +1.1
X42A Stuttgart 78.42 51 P P 22 52 20.2 +0.3
baz=322

Y41A Eaglette Beard 78.43 52 P P 22 52 20.3 +0.3
baz=321

ARSA Arzberg 78.44 333 *i* P P 22 52 20.6 +0.8
comp=Z,50nm,1.3s,SNR=19

ARMA Armidale 78.45 183 PFAKE 22 52 30.0 +10
ARMA LR LR
comp=Z,1µm,21.0s

U45A Rockin P Farm, 78.45 48 P P 22 52 20.2 +0.1
baz=323

W43A Forest City 78.47 50 P P 22 52 20.5 +0.4
baz=322

Z40A Long Farm, Mag 78.49 53 P P 22 52 20.9 +0.6
baz=321

BTAS Taskesti 78.50 320⇑*i*P P 22 52 19.8 -0.6
ANDN Andirin 78.51 315⇑*i*P P 22 52 21.4 +0.9
SWN1 Swindon 78.55 345*eP* P 22 52 20.4 +0.2
SWN1 IAmb IAmb 22 52 23.0
comp=Z,217nm,1.0s

HGH Gray Hill 78.59 346*eP* P 22 52 21.6 +1.0
PVL Pavlikeni 78.60 325 *i* P P 22 52 21.1 +0.4
GIVF Givet 78.61 341*eP* P 22 52 21.0 +0.3
GIVF pmax pmax
comp=Z,133nm,1.5s

WOL Wolverton 78.64 345*eP* P 22 52 21.9 +1.1
WOL IAmb IAmb 22 52 23.1
comp=Z,73nm,0.9s

DOU Dourbes 78.66 341⇑P P 22 52 21.1 +0.1
comp=Z,38nm,1.7s

S48A Wiedeman Farm, 78.71 45 P P 22 52 21.4 -0.1
baz=324,SNR=6.0

WLF Walferdange 78.72 340⇑P P 22 52 22.7 +1.4
comp=Z,45nm,2.0s

WLF Walferdange 78.72 340*eP* P 22 52 21.8 +0.5
comp=Z,163nm,1.9s
WLF LR LR
comp=Z,5µm,22.0s

WLF Walferdange 78.72 340*eP* P 22 52 21.8 +0.5
WLF pmax pmax
comp=Z,163nm,1.9s
WLF MLR MLR
comp=Z,5µm,22.0s

N54A Moraine State 78.73 39 P P 22 52 21.9 +0.4
baz=326

N54A Moraine State 78.73 39*eP* P 22 52 22.2 +0.6
comp=Z,32nm,0.9s
N54A LR LR
comp=Z,2µm,20.0s

U46A Springville 78.73 47 P P 22 52 22.1 +0.5
baz=323

BEHE Becsehely 78.75 332⇑*eP* P 22 52 22.3 +0.8
BAIF Baives 78.78 341*eP* P 22 52 22.1 +0.5
BAIF pmax pmax
comp=Z,90nm,1.4s

Z41A Richland Creek 78.81 52 P P 22 52 22.5 +0.4
baz=321

STU Stuttgart 78.82 338*eP* P 22 52 22.3 +0.4
comp=Z,232nm,1.7s
STU LR LR
comp=Z,2µm,22.0s

STU Stuttgart 78.82 338*eP* P 22 52 22.3 +0.4
STU pmax pmax
comp=Z,232nm,1.7s
STU MLR MLR
comp=Z,2µm,22.0s

X43A Marvell 78.83 50 P P 22 52 22.7 +0.6
baz=322

MET Memphis--Engin 78.83 49*eP* P 22 52 23.9 +1.7
comp=Z,171nm,0.6s
MET LR LR
comp=Z,2µm,20.0s

V45A Humboldt 78.83 48 P P 22 52 22.3 +0.2
baz=323

CCAR Cane Creek 78.84 51*eP* P 22 52 22.4 +0.2
comp=Z,54nm,0.5s

AKSY AKSARAY - Alti 78.85 317⇑*i*P P 22 52 22.6 +0.2
AUMIH MIHALICIK 78.87 319⇑*i*P P 22 52 22.4 -0.1
140A Cam and Jess, 78.88 53 P P 22 52 23.3 +0.8
baz=321

W44A Shelby Farms P 78.88 49 P P 22 52 22.8 +0.4
baz=322

Y42A Garnett, Star 78.89 51 P P 22 52 23.4 +0.9
baz=322

833A Chaparral WMA, 78.94 60 P P 22 52 23.7 +0.9
baz=319

LANF Langenberg 78.97 339*eP* P 22 52 24.0 +1.3
T48A Bowling Green 78.99 46 P P 22 52 23.2 +0.2
baz=324

BUY Buyukada 79.07 321⇑*i*P P 22 52 23.1 -0.2
LBNH Lisbon 79.08 32 P P 22 52 23.2 -0.2
baz=330

LBNH Lisbon 79.08 32 PFAKE 22 52 30.0 +6.6
LBNH LR LR
comp=Z,2µm,18.0s

WVT Waverly 79.08 47 P P 22 52 24.0 +0.5
baz=323

WVT Waverly 79.08 47*eP* P 22 52 24.0 +0.5
comp=Z,16nm,1.0s
WVT LR LR
comp=Z,1µm,19.0s

WVT Waverly 79.08 47*eP* P 22 52 24.0 +0.5
WVT pmax pmax
comp=Z,17nm,1.0s
WVT MLR MLR
comp=Z,1µm,19.0s

PKME Peaks-Kenny Pk 79.09 30 P P 22 52 24.0 +0.6
baz=332

PKME Peaks-Kenny Pk 79.09 30 PFAKE 22 52 30.0 +6.6
PKME LR LR
comp=Z,2µm,19.0s

U47A Clarksville 79.10 47 P P 22 52 23.7 +0.1
baz=323,SNR=6.6

SOKA Soboth 79.10 333 *i* P P 22 52 23.9 +0.3
comp=Z,125nm,1.4s,SNR=36

PERS Pernice 79.12 333*eP* P 22 52 23.7 +0.1
GROS Grobnik 79.16 333 *i* P P 22 52 23.9 0.0
W45A Hickory Valley 79.18 49 P P 22 52 24.7 +0.6
baz=323

V46A Holladay 79.20 47 P P 22 52 24.4 +0.2
baz=323,SNR=5.8

X44A Crenshaw 79.22 50 P P 22 52 24.6 +0.4
baz=322

KBA Koelnbreinsper 79.24 334 *i* P P 22 52 25.3 +0.9
comp=Z,130nm,1.0s,SNR=48

KBA Koelnbreinsper 79.24 334 P P 22 52 25.5 +1.1
KBA pmax pmax
comp=Z,100nm,1.3s

240A Hunter Patters 79.24 54 P P 22 52 25.4 +0.9
baz=321

Z42A Norrel Spur, H 79.25 52 P P 22 52 25.1 +0.7
baz=322

141A Papa Simpson, 79.26 53 P P 22 52 25.4 +0.9
baz=321

Y43A Makayla and Ka 79.28 51 P P 22 52 25.4 +0.8
baz=322

VAL Valentia 79.30 351 P P 22 52 27.5 +3.1
VAL pmax pmax
comp=Z,123nm,1.2s

BORA Eskisehir 79.31 320⇑*i*P P 22 52 24.8 0.0
BINY Binghamton 79.32 36 P P 22 52 24.9 +0.1
baz=328

OBKA Obir 79.40 333 *i* P P 22 52 25.7 +0.5
comp=Z,32nm,0.9s,SNR=14

U48A Cassie Pea, Po 79.40 46 P P 22 52 25.6 +0.4
baz=324,SNR=6.4

AUKUT KUTAHYA 79.43 320⇑*i*P P 22 52 28.4 +2.9
BFO Black Forest 79.44 338*eP* P 22 52 25.0 -0.4
comp=Z,128nm,1.5s
BFO LR LR
comp=Z,2µm,21.0s

BFO Black Forest 79.44 338 *i* P P 22 52 26.2 +0.9
AUBOZ BOZOYUK 79.47 320⇑*i*P P 22 52 25.5 -0.2
V47A Nunnelly 79.47 47 P P 22 52 25.8 +0.1
baz=323,SNR=5.3

WATA Walderalm 79.51 336 *i* P P 22 52 26.7 +0.9
comp=Z,184nm,1.4s,SNR=42

WTTA Wattenberg 79.56 336 *i* P P 22 52 27.4 +1.2
comp=Z,138nm,1.2s,SNR=27

MYKA Terra Mystica 79.56 334 *i* P P 22 52 26.0 -0.1
comp=Z,39nm,1.2s,SNR=9.9

LHI Lord Howe Isla 79.58 176 PFAKE 22 52 40.0 +14
LHI LR LR
comp=Z,2µm,22.0s

OXF Oxford 79.58 49 P P 22 52 26.7 +0.5
baz=323

OXF Oxford 79.58 49*eP* P 22 52 25.8 -0.5
comp=Z,78nm,1.1s
OXF LR LR
comp=Z,2µm,20.0s

OXF Oxford 79.58 49*eP* P 22 52 25.8 -0.5
OXF pmax pmax
comp=Z,78nm,1.1s
OXF MLR MLR
comp=Z,2µm,20.0s

RETA Reutte 79.59 336 *i* P P 22 52 27.2 +1.0
comp=Z,74nm,1.4s,SNR=13

W46A Michie 79.60 48 P P 22 52 26.8 +0.4
baz=323

Y44A Strider, Charl 79.61 50 P P 22 52 27.2 +0.8
baz=322

PGB Panagyurishte 79.61 325 *i* P P 22 52 26.7 +0.3
CDF Champ du Feu 79.63 339 P P 22 52 25.5 -0.9
CDF pmax pmax
comp=Z,130nm,1.4s

MOTA Moosalm 79.63 336 *i* P P 22 52 27.1 +0.6
comp=Z,142nm,1.2s,SNR=47

X45A UM Field Stati 79.66 49 P P 22 52 26.9 +0.2
baz=323

Z43A Armstrong Fami 79.66 51 P P 22 52 27.1 +0.4
baz=322

241A Mo Tay, Goldon 79.71 53 P P 22 52 27.7 +0.7
baz=321

HKT Hockley 79.72 56*eP* P 22 52 25.2 -1.7
comp=Z,28nm,1.5s
HKT LR LR
comp=Z,1µm,18.0s

HKT Hockley 79.72 56*eP* P 22 52 25.3 -1.7
HKT pmax pmax
comp=Z,28nm,1.5s
HKT MLR MLR
comp=Z,1µm,18.0s

ABTA Abfaltersbach 79.78 335 *i* P P 22 52 27.4 +0.1
comp=Z,62nm,1.5s,SNR=17

DIVS Divibare 79.79 329*eP* P 22 52 26.6 -0.7
comp=Z,126nm,1.7s
DIVS LR LR
comp=Z,3µm,22.0s

142A Monroe 79.81 52 P P 22 52 28.7 +1.2
baz=322

LJU Ljubljana 79.83 333 *i* P P 22 52 27.2 -0.2
ECH Echery 79.84 339*eP* P 22 52 27.1 -0.3
comp=Z,148nm,1.5s
ECH LR LR
comp=Z,3µm,22.0s

ECH Echery 79.84 339*eP* P 22 52 27.1 -0.3
ECH pmax pmax
comp=Z,148nm,1.5s
ECH MLR MLR
comp=Z,3µm,22.0s

MCWV Mont Chateau 79.87 40 P P 22 52 28.2 +0.4
baz=327

MCWV Mont Chateau 79.87 40 PFAKE 22 52 40.0 +12
MCWV LR LR
comp=Z,2µm,20.0s

PLAL Pickwick Lake 79.87 48*eP* P 22 52 27.1 -0.7
comp=Z,20nm,0.9s
PLAL LR LR
comp=Z,1µm,22.0s

SSPA Standing Stone 79.88 38 P P 22 52 28.2 +0.4
baz=328

SSPA Standing Stone 79.88 38 PFAKE 22 52 40.0 +12
SSPA LR LR
comp=Z,1µm,18.0s

V48A Smith Brothers 79.88 47 P P 22 52 28.2 +0.3
baz=324,SNR=5.1

CADS Cadrg 79.90 334 *i* P P 22 52 26.3 -1.5
W47A Westpoint 79.90 47 P P 22 52 28.5 +0.5
baz=323

O56A Blue Knob Stat 79.90 39 P P 22 52 28.5 +0.5
baz=327

O56A Blue Knob Stat 79.90 39 PFAKE 22 52 40.0 +12
O56A LR LR
comp=Z,1µm,20.0s

SLE Schleitheim 79.93 338 P P 22 52 28.9 +0.9
SLE pmax pmax
comp=Z,54nm,1.3s

VTS Vitosha 79.94 326⇓*i*P P 22 52 29.4 +1.1
VTS Vitosha 79.94 326*eP* P 22 52 28.3 0.0
comp=Z,143nm,1.4s
VTS LR LR
comp=Z,3µm,20.0s

VTS Vitosha 79.94 326 P P 22 52 25.9 -2.4
VTS Vitosha 79.94 326*eP* P 22 52 28.3 0.0
X46A Booneville 79.96 49 P P 22 52 28.6 +0.3
baz=323

143A Socs Landing, 79.98 52 P P 22 52 29.3 +0.9
baz=322

DAVA Damuels 80.01 337 *i* P P 22 52 29.4 +0.8
comp=Z,89nm,1.5s,SNR=10

Y45A Yeager Farm, C 80.02 50 P P 22 52 29.4 +0.7
baz=323

FETA Feichten 80.03 336 *i* P P 22 52 29.5 +0.9
comp=Z,86nm,1.3s,SNR=23

Z44A Pea Ridge, Bel 80.03 51 P P 22 52 29.5 +0.8
baz=322

BOLV Bolvadin 80.06 319⇑*i*P P 22 52 29.2 +0.2
242A Grayson 80.08 53 P P 22 52 29.8 +0.8
baz=322

341A Kurthwood 80.11 54 P P 22 52 29.6 +0.5
baz=321

BLY Banja Luka 80.16 331⇑*i*P P 22 52 29.8 +0.6
BLY Banja Luka 80.16 331 PFAKE 22 52 40.0 +11
BLY LR LR
comp=Z,2µm,18.0s

MOF Molkenrain 80.18 339 P P 22 52 30.3 +0.9
HAU Haudompre 80.23 339*eP* P 22 52 29.9 +0.3
HAU pmax pmax
comp=Z,77nm,1.3s

RAR Rarotonga 80.24 138 LR LR 23 19 51.8
comp=Z,1µm,20.1s,baz=285,slow=30

RDO Rodhopi 80.28 324 P P 22 52 29.4 -0.5
RDO Rodhopi 80.28 324 P P 22 52 29.4 -0.5
HINF Hinteralfeld 80.28 339*eP* P 22 52 30.0 +0.1
HINF pmax pmax
comp=Z,81nm,1.6s

ALN Alexandroupoli 80.29 323 P P 22 52 27.2 -2.8
ALN Alexandroupoli 80.29 323 P P 22 52 27.2 -2.8
ALN Alexandroupoli 80.29 323 P P 22 52 30.9 +0.9
ALN pmax pmax
comp=Z,38nm,1.4s

W48A Pulaski 80.31 47 P P 22 52 30.3 +0.1
baz=324,SNR=11

MZR Muzera 80.33 294 *i* P P 22 52 31.6 +1.1
SNR=33

Z45A Winona 80.34 50 P P 22 52 31.0 +0.7
baz=323

X47A Russelville 80.35 48 P P 22 52 30.2 -0.2
baz=323

Y46A Houston 80.36 49 P P 22 52 30.6 +0.2
baz=323,SNR=6.8

TRI Trieste 80.36 333*eP* P 22 52 29.0 -1.3
comp=Z,157nm,1.7s
TRI LR LR
comp=Z,3µm,22.0s

TRI Trieste 80.36 333*eP* P 22 52 29.0 -1.3
TRI pmax pmax
comp=Z,157nm,1.7s
TRI MLR MLR
comp=Z,3µm,22.0s

ENEZ Enez 80.38 323 P P 22 52 30.2 -0.3
N59A State Game Lan 80.49 36 P P 22 52 31.4 +0.2
baz=329

N59A State Game Lan 80.49 36 PFAKE 22 52 40.0 +8.9
N59A LR LR
comp=Z,1µm,20.0s

TAOE Nuku Hiva Isla 80.51 115*e*LR LR 23 17 41.7
comp=Z,5µm,22.9s,baz=327

FUORN Ofenpass-Fuorn 80.52 336*eP* P 22 52 32.5 +1.1
comp=Z,275nm,1.6s
FUORN LR LR
comp=Z,3µm,20.0s

342A Flagon Creek P 80.53 53 P P 22 52 32.4 +1.0
baz=322

144A Alexander Plac 80.54 51 P P 22 52 32.3 +0.9
baz=322

243A Waterproof 80.58 52 P P 22 52 32.7 +1.1
baz=322

KKB Krupnik 80.61 326 *i* P P 22 52 32.5 +0.8
BALY Balya 80.63 322⇑*i*P P 22 52 30.5 -1.4
PAGS Pennsylvania G 80.69 37 PFAKE 22 52 40.0 +7.8
PAGS LR LR
comp=Z,2µm,21.0s

HRV Adam Dziewonsk 80.72 33 P P 22 52 32.5 +0.2
baz=331

STKA Stephens Creek 80.73 191 P P 22 52 33.1 +0.9
comp=Z,4.5nm,0.8s,baz=325,slow=11,SNR=5.1
STKA LR LR 23 28 57.9
comp=Z,859nm,19.7s,baz=14,slow=36

BAGO Egridir - ISPA 80.73 318⇑*i*P P 22 52 32.5 0.0
SWET Sewanee 80.74 46*eP* P 22 52 32.9 +0.3
comp=Z,7.0nm,0.9s

NVR Nevrokopi 80.76 325 P P 22 52 29.6 -3.0
TZTN Tazewell 80.79 44 P P 22 52 33.0 +0.2
baz=325

TZTN Tazewell 80.79 44 PFAKE 22 52 40.0 +7.2
TZTN LR LR
comp=Z,2µm,20.0s

X48A Hartselle 80.81 48 P P 22 52 32.7 -0.1
baz=324

KAVA Kavala 80.81 324 P P 22 52 29.6 -3.2
KAVA Kavala 80.81 324 P P 22 52 29.6 -3.2
VBMS Vicksburg 80.82 51 P P 22 52 33.7 +0.8
baz=322

VBMS Vicksburg 80.82 51 PFAKE 22 52 40.0 +7.1
VBMS LR LR
comp=Z,2µm,19.0s

145A Houston Renfro 80.82 51 P P 22 52 33.6 +0.7
baz=322

Y47A UCPARC, Winfie 80.85 48 P P 22 52 33.1 0.0
baz=323

SMTH Samothraki Isl 80.86 323 P P 22 52 31.4 -1.7
Z46A Louisville 80.86 50 P P 22 52 33.8 +0.6
baz=323

244A Avery, Jackson 80.87 52 P P 22 52 33.7 +0.4
baz=322

TUE Stuetta 80.90 337*eP* P 22 52 34.5 +1.0
comp=Z,225nm,1.6s
TUE LR LR
comp=Z,3µm,20.0s

LUPA Lehigh Univers 80.92 36 PFAKE 22 52 40.0 +6.6
LUPA LR LR
comp=Z,100nm,22.0s

GADA Gvkgeada 80.95 323 P P 22 52 31.4 -2.1
GADA Gvkgeada 80.95 323 P P 22 52 31.4 -2.1
FLN La Foliniere 80.96 344*eP* P 22 52 33.7 +0.3
FLN pmax pmax
comp=Z,118nm,1.3s

343A Vidalia 80.97 53 P P 22 52 34.7 +0.9
baz=322

ISP Isparta 80.98 319 P P 22 52 32.9 -1.0
ISP Isparta 80.98 319 P P 22 52 32.9 -1.0
ISP Isparta 80.98 319 P P 22 52 32.9 -1.0
442A Mamou 80.99 54 P P 22 52 34.5 +0.7
baz=322

SRS Serrai 81.06 325 P P 22 52 31.7 -2.5
SRS Serrai 81.06 325 P P 22 52 34.1 -0.1
SRS pmax pmax
comp=Z,55nm,1.6s

BAYC CANAKKALE_Bayr 81.07 322⇑*i*P P 22 52 33.5 -0.7
EZN Ezine 81.09 322 P P 22 52 32.5 -1.7
EZN Ezine 81.09 322 P P 22 52 32.5 -1.7
EZN Ezine 81.09 322 P P 22 52 32.5 -1.7
X49A Woodville 81.11 47 P P 22 52 34.6 +0.1
baz=324,SNR=8.8

SKO Skopje 81.13 327 P P 22 52 31.7 -2.8
SKO Skopje 81.13 327 P P 22 52 31.7 -2.8
SKO Skopje 81.13 327 *i* P P 22 52 34.6 +0.2
SKO Skopje 81.13 327 P P 22 52 31.7 -2.8
PAL Palisades 81.14 35 P P 22 52 34.5 -0.1
baz=330
BRNJ Basking Ridge 81.17 36 PFAKE 22 52 50.0 +15
BRNJ LR LR
comp=Z,2μm,19.0s
Y48A Jasper 81.18 48 P P 22 52 34.5 -0.4
baz=324
BOZC Bozcaada 81.18 323 ⇑*i*P P 22 52 33.7 -1.1
ZAIG Zacatecas 81.22 66 *e*P P 22 52 36.0 +0.4
ZAIG *e*pP pP 22 52 48.9 -0.2
ZAIG LR LR
comp=Z,1μm,22.0s
146A Union 81.24 50 P P 22 52 35.9 +0.7
baz=323
YLE Yale 81.25 34 PFAKE 22 52 50.0 +15
YLE LR LR
comp=Z,1μm,19.0s
AKHS Akhisar 81.27 321 ⇑*i*P P 22 52 34.4 -0.9
VAY Valandovo 81.28 326 P P 22 52 34.3 -0.9
VAY Valandovo 81.28 326 *i* P P 22 52 35.5 +0.3
MANT Manisa 81.28 320 *e*P P 22 52 35.1 -0.5
comp=Z,606nm,1.6s
MANT LR LR
comp=Z,6μm,19.0s
245A Little AP, Sta 81.29 51 P P 22 52 36.2 +0.8
baz=323
KNT Kendrikon 81.29 325 P P 22 52 34.1 -1.2
KNT Kendrikon 81.29 325 P P 22 52 34.1 -1.2
KNT Kendrikon 81.29 325 P P 22 52 34.1 -1.2
BRDR BURDUR-Merkez 81.29 319 ⇑*i*P P 22 52 35.3 -0.2
Z47A Carrollton 81.30 49 P P 22 52 35.9 +0.5
baz=323
344A Westbrook Farm 81.31 52 P P 22 52 36.5 +1.0
baz=322
SDMD Soldier's Deli 81.34 38 PFAKE 22 52 50.0 +14
SDMD LR LR
comp=Z,500nm,20.0s
AYVA Ayvalik 81.38 322 ⇑*i*P P 22 52 35.3 -0.5
GRR Gorron 81.39 344 *e*P P 22 52 36.2 +0.5
GRR pmax pmax
comp=Z,145nm,1.3s
TKL Tuckaleechee C 81.41 45 P P 22 52 36.6 +0.5
comp=Z,7.2nm,0.9s,baz=246,slow=2.6,SNR=3.9
TKL LR LR 23 32 32.3
comp=Z,2μm,18.9s,baz=333,slow=38
SOH Sokhos 81.41 325 P P 22 52 35.1 -0.9
SOH Sokhos 81.41 325 P P 22 52 35.1 -0.9
SOH Sokhos 81.41 325 P P 22 52 35.1 -0.9
Z48A Northport 81.41 49 P P 22 52 35.8 -0.3
baz=324
LNIG Linares 81.48 62 *e*P P 22 52 36.2 -0.4
comp=Z,18nm,1.3s
LNIG LR LR
comp=Z,600nm,20.0s
LIA Limnos Island 81.49 323 P P 22 52 34.3 -2.1
LIA Limnos Island 81.49 323 P P 22 52 34.3 -2.1
PDG Podgorica 81.51 328 ⇓*i*P P 22 52 36.8 +0.4
PDG Podgorica 81.51 328 P P 22 52 34.5 -1.9
TTG Podgorica 81.51 328 *e*P P 22 52 36.3 -0.2
comp=Z,300nm,1.8s
TTG LR LR
comp=Z,4μm,18.0s
TTG Podgorica 81.51 328 *e*P P 22 52 36.3 -0.2
SENIN Lac Senin/Sane 81.53 338 *e*P P 22 52 35.5 -1.3
comp=Z,109nm,1.5s
SENIN LR LR
comp=Z,3μm,22.0s
OUR Ouranopolis 81.59 324 P P 22 52 35.9 -1.0
OUR Ouranopolis 81.59 324 P P 22 52 35.9 -1.0
OUR Ouranopolis 81.59 324 P P 22 52 35.9 -1.0
Y49A Blount Mountai 81.59 48 P P 22 52 37.1 0.0
baz=324
CABF La Chapelle 81.60 339 *e*P P 22 52 37.6 +0.6
CABF pmax pmax
comp=Z,109nm,1.5s
PRK Paraskevi 81.60 322 P P 22 52 36.9 -0.1
PRK Paraskevi 81.60 322 P P 22 52 36.9 -0.1
PRK Paraskevi 81.60 322 P P 22 52 36.9 -0.1
147A Livingston 81.61 50 P P 22 52 37.5 +0.3
baz=323,SNR=5.8
GRG Griva 81.66 326 P P 22 52 35.7 -1.6
GRG Griva 81.66 326 P P 22 52 35.7 -1.6
GRG Griva 81.66 326 P P 22 52 35.7 -1.6
BLA Blacksburg 81.66 42 P P 22 52 37.4 0.0
baz=327
BLA Blacksburg 81.66 42 PFAKE 22 52 50.0 +13
BLA LR LR
comp=Z,1μm,19.0s
246A Jackson Lee, B 81.70 50 P P 22 52 38.6 +0.9
baz=323
HORT Hortiatis 81.70 325 P P 22 52 37.0 -0.6
HORT Hortiatis 81.70 325 P P 22 52 37.0 -0.6
KRUS Krusevo 81.73 327 *i* P P 22 52 37.4 -0.4
PHP Peshkopia 81.74 327 P P 22 52 35.0 -2.8
PHP Peshkopia 81.74 327 P P 22 52 35.0 -2.8
PHP Peshkopia 81.74 327 P P 22 52 35.0 -2.8
PLG Polygyros 81.76 325 P P 22 52 37.6 -0.3
PLG Polygyros 81.76 325 P P 22 52 37.6 -0.3
PLG Polygyros 81.76 325 P P 22 52 37.6 -0.3
543A St. Martinvill 81.78 54 P P 22 52 39.8 +1.7
baz=322
345A Thompson Farm, 81.79 52 P P 22 52 38.6 +0.5
baz=323
SIGR SIGRI 81.80 322 P P 22 52 36.3 -1.7
SIGR SIGRI 81.80 322 P P 22 52 36.3 -1.7
444A Pine Grove 81.88 52 P P 22 52 39.8 +1.2
baz=322
Y50A Piedmont 81.90 47 P P 22 52 38.7 0.0
baz=324,SNR=5.5
IP04 Greensprings 81.93 40 *e*P P 22 52 38.6 -0.2
comp=Z,24nm,1.0s
247A Quitman 81.94 50 P P 22 52 39.9 +1.0
baz=323
LRAL Lakeview Retre 81.97 48 P P 22 52 39.2 +0.2
baz=324
LRAL Lakeview Retre 81.97 48 *e*P P 22 52 37.8 -1.2
comp=Z,23nm,1.4s
LRAL LR LR
comp=Z,1μm,19.0s
148A Greensboro 81.99 49 P P 22 52 39.3 +0.2
baz=324
BIA Bitola 82.00 326 *i* P P 22 52 38.7 -0.4
346A Big Creek Wild 82.02 51 P P 22 52 40.5 +1.1
baz=323
IP03 Louisa 82.02 39 *e*P P 22 52 40.3 +1.1
IP03 LR LR
comp=Z,2μm,19.0s
PAIG Paliouri 82.05 324 P P 22 52 36.2 -3.2
PAIG Paliouri 82.05 324 P P 22 52 36.2 -3.2
PAIG Paliouri 82.05 324 P P 22 52 36.2 -3.2
CSS Mathiatis 82.06 315 *e*P P 22 52 39.6 +0.1
comp=Z,63nm,1.8s
CSS Mathiatis 82.06 315 P P 22 52 36.0 -3.5
AVF Avril sur Loir 82.06 341 *e*P P 22 52 39.4 +0.1
AVF pmax pmax
comp=Z,66nm,1.1s
CVRD Centerville Ro 82.07 39 *e*P P 22 52 40.6 +1.1
Z49A Columbiana 82.07 48 P P 22 52 39.5 -0.1
baz=324,SNR=5.8
445A Amite 82.08 52 P P 22 52 40.2 +0.5
baz=322
OHR Ohrid 82.11 327 *i* P P 22 52 39.2 -0.6
CBN Corbin Frederi 82.14 39 P P 22 52 40.4 +0.5
baz=328
CBN Corbin Frederi 82.14 39 PFAKE 22 52 50.0 +10
CBN LR LR
comp=Z,1μm,21.0s
PPT Papeete 82.15 127 LR LR 23 21 47.2
comp=Z,2μm,21.4s,baz=335,slow=30
PPT2 Papeete2 82.17 127 *e*S S 23 02 55.3 +3.5
comp=Z,3μm,29.0s
PPT2 Papeete2 82.17 127 *e*LR LR 23 18 18.8
comp=Z,3μm,22.0s,baz=322
FNA Florina 82.19 326 P P 22 52 35.6 -4.5
FNA Florina 82.19 326 P P 22 52 35.6 -4.5
FNA Florina 82.19 326 P P 22 52 35.6 -4.5
TIR Tirane 82.25 327 ⇓*i*P P 22 52 40.9 +0.5
TIR Tirane 82.25 327 *e*P P 22 52 40.0 -0.4
comp=Z,169nm,1.5s
TIR LR LR
comp=Z,3μm,19.0s
TIR Tirane 82.25 327 *e*P P 22 52 40.0 -0.4
TIR pmax pmax
comp=Z,169nm,1.5s
TIR MLR MLR
comp=Z,3μm,19.0s
AYDN Tasoluk 82.27 320 ⇑*i*P P 22 52 41.0 +0.4
IP05 Hopewell Churc 82.29 39 PFAKE 22 52 50.0 +9.4
IP05 LR LR
comp=Z,2μm,18.0s
Z50A Ashland 82.32 48 P P 22 52 41.1 +0.2
baz=324,SNR=12
FORT Forrest 82.34 203 *e*P P 22 52 42.4 +1.8
comp=Z,1μm,0.8s
BG3 Lake Jocassee 82.34 45 *e*P P 22 52 41.7 +0.7
comp=Z,94nm,1.5s
248A Dixon Mills 82.35 49 P P 22 52 41.9 +0.9
baz=324
LIT Litokhoron 82.36 325 P P 22 52 39.7 -1.3
LIT Litokhoron 82.36 325 P P 22 52 42.6 +1.6
LIT pmax pmax
comp=Z,27nm,1.1s
149A Jones 82.42 49 P P 22 52 41.9 +0.5
baz=324
CHOS Chios island 82.42 322 P P 22 52 39.1 -2.3
CHOS Chios island 82.42 322 P P 22 52 39.1 -2.3
KZN Kozani 82.46 326 P P 22 52 40.1 -1.5
KZN Kozani 82.46 326 P P 22 52 40.1 -1.5
KZN Kozani 82.46 326 P P 22 52 40.1 -1.5
LPL La Plagne 82.46 338 *e*P P 22 52 42.9 +1.2
LPL pmax pmax
comp=Z,84nm,1.1s
LPG La Plagne 82.48 338 *e*P P 22 52 43.2 +1.3
LPG pmax pmax
comp=Z,153nm,1.2s
347A Saraland 82.49 50 P P 22 52 43.2 +1.4
baz=323
KBN Korca 82.55 327 P P 22 52 39.7 -2.3
KBN Korca 82.55 327 P P 22 52 39.7 -2.3
KBN Korca 82.55 327 P P 22 52 39.7 -2.3
446A Poplarville 82.55 51 P P 22 52 43.2 +1.2
baz=323
ASF Jabal al Asfar 82.57 311 P P 22 52 43.2 +0.9
comp=Z,32nm,1.3s,baz=320,slow=1.7,SNR=17
ASF LR LR 23 32 58.6
comp=Z,2μm,21.7s,baz=349,slow=38
FETY Fethiye 82.61 319 P P 22 52 39.4 -3.0
FETY Fethiye 82.61 319 P P 22 52 39.4 -3.0
NEST Nestorio 82.63 326 P P 22 52 41.1 -1.4
MMAI Mount Meron Ar 82.64 312 P P 22 52 43.3 +0.7
comp=Z,15nm,0.6s,baz=45,slow=6.1,SNR=38
MMAI LR LR 23 36 33.5
comp=Z,1μm,18.1s,baz=25,slow=41
SMG Samos 82.67 321 P P 22 52 41.0 -1.6
SMG Samos 82.67 321 P P 22 52 41.0 -1.6
XOR Xorichti 82.73 324 P P 22 52 39.1 -3.8
VLC Villacollemand 82.75 335 *e*P P 22 52 43.6 +0.7
comp=Z,259nm,1.6s
VLC LR LR
comp=Z,4μm,20.0s
249A Camden 82.75 49 P P 22 52 44.0 +0.8
baz=324
NEO Neokhori 82.77 324 P P 22 52 40.7 -2.5
TCF Toulx Ste Croi 82.78 341 *e*P P 22 52 43.8 +0.7
TCF pmax pmax
comp=Z,79nm,1.2s
FYTO Fytoko, Volos 82.79 324 P P 22 52 41.4 -1.8
FYTO Fytoko, Volos 82.79 324 P P 22 52 41.4 -1.8
KSL Kastellorizon 82.79 318 P P 22 52 40.7 -2.6
KSL Kastellorizon 82.79 318 P P 22 52 40.7 -2.6
SKIA Skiathos 82.79 324 P P 22 52 41.8 -1.5
150A Eclectic 82.80 48 P P 22 52 43.5 +0.2
baz=324,SNR=6.3
546A Slidell 82.80 52 P P 22 52 44.7 +1.3
baz=323
348A Jackson 82.81 50 P P 22 52 44.6 +1.2
baz=324
NCAT North Carolina 82.89 42 *e*P P 22 52 42.0 -1.8
comp=Z,54nm,1.4s
NCAT LR LR
comp=Z,2μm,19.0s
BNI Bardonecchia 82.91 338 *e*P P 22 52 43.0 -1.0
comp=Z,134nm,1.5s
BNI LR LR
comp=Z,3μm,22.0s
BNI Bardonecchia 82.91 338 *e*P P 22 52 43.0 -1.0
BNI pmax pmax
comp=Z,133nm,1.5s
BNI MLR MLR
comp=Z,3μm,22.0s
447A Lucedale 82.91 51 P P 22 52 45.2 +1.2
baz=323
KPRO Kipourio 82.92 326 P P 22 52 41.9 -2.1
KMSC Kings Mountain 82.96 43 P P 22 52 44.4 +0.2
baz=326
KMSC Kings Mountain 82.96 43 *e*P P 22 52 43.8 -0.4
comp=Z,115nm,2.0s
KMSC LR LR
comp=Z,2μm,21.0s
THL Klokotos Trika 83.01 325 P P 22 52 42.0 -2.3
BODT Bodrum 83.02 320 P P 22 52 42.8 -1.7
BODT Bodrum 83.02 320 P P 22 52 42.8 -1.7
SMIA Simia 83.14 324 P P 22 52 43.4 -1.7
250A Grady 83.18 49 P P 22 52 46.2 +0.8
baz=324
MBDF Montbardon 83.19 338 *e*P P 22 52 46.1 +0.7
MBDF pmax pmax
comp=Z,85nm,1.5s
151A Opelika 83.20 48 P P 22 52 46.1 +0.6
baz=325
448A Bay Minette 83.21 50 P P 22 52 46.9 +1.4
baz=324
SSB Saint Sauveur 83.22 339 *e*P P 22 52 46.3 +0.9
comp=Z,199nm,1.6s
SSB Saint Sauveur 83.22 339 *e*P P 22 52 46.3 +0.9
349A Repton 83.22 50 P P 22 52 46.7 +1.1
baz=324
EREA Eretria 83.25 323 P P 22 52 43.4 -2.3
AGG Agios Georgios 83.36 325 *e*P P 22 52 45.0 -1.2
comp=Z,97nm,1.5s
AGG LR LR
comp=Z,6μm,21.0s
AGG Agios Georgios 83.36 325 P P 22 52 41.7 -4.5
AGG Agios Georgios 83.36 325 *e*P P 22 52 45.0 -1.2
JAN Janina 83.37 326 P P 22 52 45.0 -1.3
ARG Arkhangelos 83.38 319 P P 22 52 45.8 -0.5
ARG Arkhangelos 83.38 319 P P 22 52 45.8 -0.5
ARG Arkhangelos 83.38 319 P P 22 52 45.8 -0.5
KARY Karystos 83.38 323 P P 22 52 45.1 -1.2
GOGA Godfrey 83.39 46 P P 22 52 46.9 +0.5
baz=325
GOGA Godfrey 83.39 46 PFAKE 22 53 00.0 +14
GOGA LR LR
comp=Z,2μm,19.0s
LKR Lokris 83.42 324 P P 22 52 40.4 -6.1
CAN Canberra 83.45 185 PFAKE 22 53 00.0 +14
CAN LR LR
comp=Z,2μm,20.0s
AXAR Agios Charalam 83.45 324 P P 22 52 46.2 -0.5
AXAR Agios Charalam 83.45 324 P P 22 52 46.2 -0.5
NISR Nisiros 83.47 320 P P 22 52 44.9 -1.9
SRN Sarande 83.49 327 P P 22 52 45.3 -1.5
SRN Sarande 83.49 327 P P 22 52 45.3 -1.5
AQU L'Aquila 83.51 332 *e*P P 22 52 46.0 -1.0
comp=Z,62nm,1.3s
AQU LR LR
comp=Z,2μm,18.0s
AQU L'Aquila 83.51 332 *e*P P 22 52 46.0 -1.0
AQU pmax pmax
comp=Z,62nm,1.3s
AQU MLR MLR
comp=Z,2μm,18.0s
251A Midway 83.52 48 P P 22 52 47.5 +0.4
baz=325
VIVF Saint-Julien-l 83.58 339 *e*P P 22 52 48.3 +1.0
VIVF pmax pmax
comp=Z,188nm,1.6s
350A Dozier 83.60 49 P P 22 52 48.4 +0.9
baz=324
PTL Penteli 83.60 323 P P 22 52 45.1 -2.4
PTL Penteli 83.60 323 P P 22 52 45.1 -2.4
SGD Sagiada 83.64 326 P P 22 52 41.5 -6.1
EVR Evrytania 83.65 325 P P 22 52 46.9 -0.9
EVR Evrytania 83.65 325 P P 22 52 46.9 -0.9
IGT Igoumenitsa 83.67 326 P P 22 52 45.6 -2.2
IGT Igoumenitsa 83.67 326 P P 22 52 45.6 -2.2
IGT Igoumenitsa 83.67 326 P P 22 52 45.6 -2.2
449A Pace 83.68 50 P P 22 52 48.5 +0.6
baz=324
ATHU Athens Univers 83.70 323 P P 22 52 45.0 -3.0
ATHU Athens Univers 83.70 323 P P 22 52 45.0 -3.0
KEK Kerkira 83.71 327 P P 22 52 44.9 -3.1
KEK Kerkira 83.71 327 P P 22 52 44.9 -3.1
VILL Villia 83.72 324 P P 22 52 45.7 -2.4
DSL Palaion Diasel 83.73 326 P P 22 52 45.7 -2.4
DSL Palaion Diasel 83.73 326 P P 22 52 45.7 -2.4
APE Apeiranthos 83.76 322 ⇑*i*P P 22 52 46.7 -1.6
APE Apeiranthos 83.76 322 P P 22 52 46.4 -1.9
APE Apeiranthos 83.76 322 P P 22 52 46.4 -1.9
APE Apeiranthos 83.76 322 P P 22 52 46.4 -1.9
VLY Voula,Athens 83.80 323 P P 22 52 45.3 -3.1
PROD Prodromos 83.80 324 P P 22 52 46.4 -2.1
DSF Desfina 83.81 324 P P 22 52 45.8 -2.8
RJF Les Rejaudoux 83.87 341 *e*P P 22 52 49.3 +0.6
RJF pmax pmax
comp=Z,124nm,1.4s
ANX Ano Chora 83.89 325 P P 22 52 47.1 -1.9
252A Lumpkin 83.93 47 P P 22 52 49.7 +0.5
baz=325
450A Crestview 83.97 49 P P 22 52 50.5 +1.1
baz=324
LTK Loutraki 83.98 324 P P 22 52 44.0 -5.4
LTK Loutraki 83.98 324 P P 22 52 44.0 -5.4
KALE Kalithea 83.98 325 P P 22 52 45.2 -4.3
KALE Kalithea 83.98 325 P P 22 52 45.2 -4.3
SERG Sergoula 83.99 325 P P 22 52 47.3 -2.2
TRIZ Trizonia 84.03 325 P P 22 52 47.2 -2.4
EFP Efpalio 84.04 325 P P 22 52 46.5 -3.2
JRQG Juriquilla Cam 84.07 66 *e*P P 22 52 51.6 +1.3
comp=Z,55nm,0.5s
351A Pinckard 84.08 49 P P 22 52 50.8 +0.8
baz=324
THAL Thalero 84.08 324 P P 22 52 47.8 -2.1
SERI Serifos 84.11 322 P P 22 52 46.5 -3.6
CAF Calviac 84.11 341 *e*P P 22 52 51.0 +1.0
CAF pmax pmax
comp=Z,211nm,1.7s
PDO Prodromos 84.17 325 P P 22 52 48.8 -1.5
253A Americus 84.17 47 P P 22 52 51.1 +0.7
baz=325
LAKA Lakka 84.17 325 P P 22 52 48.1 -2.3
LAKA Lakka 84.17 325 P P 22 52 48.1 -2.3
LKD2 Lefkada island 84.20 326 P P 22 52 45.6 -4.9
154A Montrose 84.21 46 P P 22 52 51.4 +0.8
baz=326
352A Blakely 84.25 48 P P 22 52 51.6 +0.8
baz=325
KLV Kalavryta, Ach 84.28 324 P P 22 52 46.6 -4.4
KLV Kalavryta, Ach 84.28 324 P P 22 52 46.6 -4.4
GUR Goura 84.30 324 P P 22 52 46.5 -4.6
GUR Goura 84.30 324 P P 22 52 46.5 -4.6
FRF La Foret Royal 84.31 337 *e*P P 22 52 51.3 +0.3
FRF pmax pmax
comp=Z,132nm,1.4s
KARP Karpathos 84.36 320 *e*P P 22 52 50.2 -1.2
comp=Z,17nm,1.0s
KARP Karpathos 84.36 320 P P 22 52 49.9 -1.5
SANT Santorini 84.38 321 *e*P P 22 52 49.4 -2.1
comp=Z,104nm,1.8s
SANT LR LR
comp=Z,2μm,20.0s
CNNC Cliffs of the 84.42 41 PFAKE 22 53 00.0 +8.4
CNNC LR LR
comp=Z,2μm,20.0s
KRND KRANIDI 84.46 323 P P 22 52 47.2 -4.6
155A Kite 84.51 46 P P 22 52 53.0 +0.8
baz=326
DRO Drossia 84.53 325 P P 22 52 51.6 -0.6
RLS Riolos of Patr 84.53 325 P P 22 52 51.4 -0.7
RLS Riolos of Patr 84.53 325 P P 22 52 51.4 -0.7
451A Vernon 84.54 49 P P 22 52 53.3 +1.0
baz=324
452A Marianna 84.64 48 P P 22 52 53.9 +1.1
baz=325
254A Abbeville 84.67 46 P P 22 52 53.3 +0.3
baz=326,SNR=5.4
RAYN Ar Rayn 84.69 300 *e*P P 22 52 53.6 +0.3
comp=Z,123nm,1.4s
RAYN LR LR
comp=Z,3μm,19.0s
RAYN Ar Rayn 84.69 300 P P 22 52 53.6 +0.3
353A Camilla 84.71 47 P P 22 52 54.1 +1.0
baz=325
KFL Anninata 84.75 325 P P 22 52 51.6 -1.6
VLS Valsamata 84.76 325 P P 22 52 51.6 -1.7
VLS Valsamata 84.76 325 P P 22 52 51.6 -1.7
VLS Valsamata 84.76 325 P P 22 52 51.6 -1.7
VLX Vlachokerasia 84.77 324 P P 22 52 51.3 -2.2
VLX Vlachokerasia 84.77 324 P P 22 52 51.3 -2.2
OUZ Omahuta 84.85 165 PFAKE 22 53 10.0 +17
OUZ LR LR
comp=Z,2μm,21.0s
CUC Castrocucco 84.86 330 PFAKE 22 53 00.0 +6.1
CUC LR LR
comp=Z,2μm,20.0s
TIGA Tifton 84.94 47 P P 22 52 55.2 +0.9
baz=325
453A Whigham 85.06 48 P P 22 52 56.0 +1.1
baz=325
ITM Ithomi 85.12 324 P P 22 52 50.7 -4.5
ITM Ithomi 85.12 324 P P 22 52 50.7 -4.5
VLI Veliai 85.12 323 P P 22 52 48.6 -6.5
ZKR Zakros 85.13 320 P P 22 52 53.5 -1.8
ZKR Zakros 85.13 320 P P 22 52 53.5 -1.8
552A Lynn Haven 85.16 49 P P 22 52 56.6 +1.1
baz=325
NHSC New Hope 85.18 44 P P 22 52 56.1 +0.6
baz=327
NPS Neapolis 85.27 321 P P 22 52 52.7 -3.2
NPS Neapolis 85.27 321 P P 22 52 52.7 -3.2
NPS Neapolis 85.27 321 P P 22 52 52.7 -3.2
TIP Timpagrande 85.27 329 ⇓*i*P P 22 52 57.1 +1.2
TIP Timpagrande 85.27 329 *e*P P 22 52 56.1 +0.2
comp=Z,125nm,1.5s
TIP LR LR
comp=Z,4μm,20.0s
TIP Timpagrande 85.27 329 P P 22 52 55.5 -0.4
256A Glennville 85.32 45 P P 22 52 57.6 +1.4
baz=326
DYR Agios Nikonas 85.32 324 P P 22 52 53.1 -3.1
355A Pearson 85.38 47 P P 22 52 57.6 +1.1
baz=326
LAST Lasithi 85.41 321 P P 22 52 52.0 -4.7
LAST Lasithi 85.41 321 P P 22 52 52.0 -4.7
KYTH Kithira 85.47 323 P P 22 52 54.3 -2.6
KYTH Kithira 85.47 323 P P 22 52 54.3 -2.6
454A Quitman 85.52 47 P P 22 52 58.3 +1.1
baz=325
553A Crawfordville 85.55 48 P P 22 52 58.3 +0.9
baz=325
IDI Anoyia 85.55 321 P P 22 52 55.8 -1.6
comp=Z,9.6nm,0.6s,baz=25,slow=7.7,SNR=16
IDI LR LR 23 35 53.1
comp=Z,989nm,19.9s,baz=19,slow=39
IDI Anoyia 85.55 321 ⇓*i*P P 22 52 56.6 -0.8
IDI Anoyia 85.55 321 *e*P P 22 52 55.3 -2.1
comp=Z,89nm,1.6s
ANKY Antikythira Is 85.71 322 P P 22 52 55.8 -2.3
ANKY Antikythira Is 85.71 322 P P 22 52 55.8 -2.3
257A Skidaway Islan 85.73 45 P P 22 52 59.5 +1.3
baz=327
VAM Vamos 85.73 322 P P 22 52 53.8 -4.4
VAM Vamos 85.73 322 P P 22 52 53.8 -4.4
VAM Vamos 85.73 322 P P 22 52 53.8 -4.4
356A Blackshear 85.74 46 P P 22 52 59.3 +1.0
baz=326
IMMV Iera Moni Meta 85.78 322 P P 22 52 53.4 -5.1
455A Stateville 85.79 47 P P 22 52 59.2 +0.6
baz=326
SIVA Sivas 85.81 321 P P 22 52 57.5 -1.1
SIVA Sivas 85.81 321 P P 22 52 57.5 -1.1
357A Townsend 85.97 46 P P 22 52 59.8 +0.4
baz=326
554A Perry 86.00 48 P P 22 52 59.9 +0.3
baz=325
GVD Gavdhos 86.27 321 P P 22 52 59.6 -1.3
GVD Gavdhos 86.27 321 P P 22 52 59.6 -1.3
CEL Celeste 86.39 329 *e*P P 22 53 00.7 -0.8
comp=Z,27nm,0.9s
CEL LR LR

comp=Z,2µm,20.0s
556A Lake Butler 86.70 47 P **P 22 53 03.8 +0.7**
baz=326
557A Orange Park 87.02 46 P **P 22 53 05.5 +0.9**
baz=326
LVIG Laguna Verde 87.24 63 PFAKE 22 53 20.0 +14
LVIG LR LR
comp=Z,500nm,20.0s
VSL Villasalto 87.34 334 *e*P **P 22 53 07.0 +0.9**
comp=Z,104nm,1.6s
VSL LR LR
comp=Z,2µm,21.0s
VAE Valguarnera 87.60 330 LR LR 23 36 51.1
comp=Z,2µm,19.2s,baz=34,slow=39
NWAO Narrogin (SRO) 87.62 211 PFAKE 22 53 20.0 +13
NWAO LR LR
comp=Z,800nm,20.0s
658A Bunnell 87.74 46 P **P 22 53 08.9 +0.8**
baz=327
757A Oxford 87.74 47 P **P 22 53 09.1 +1.0**
baz=326
CLTB Caltabellotta 87.91 330 PFAKE 22 53 20.0 +11
CLTB LR LR
comp=Z,4µm,18.0s
MXZ Matakaoa Point 88.03 162 PFAKE 22 53 20.0 +11
MXZ LR LR
comp=Z,2µm,21.0s
857A Zephyrhills 88.22 48 P **P 22 53 11.5 +1.1**
baz=326
HIZ Hauiti 88.28 164 PFAKE 22 53 20.0 +10
HIZ LR LR
comp=Z,2µm,21.0s
URZ Urewera 88.46 163 PFAKE 22 53 20.0 +9.1
URZ LR LR
comp=Z,2µm,22.0s
858A St. Cloud 88.69 47 P **P 22 53 13.6 +1.0**
baz=326
957A Wimauma 88.71 48 P **P 22 53 13.6 +0.9**
baz=326
DWPF Disney Wildern 88.74 47 PFAKE 22 53 20.0 +7.2
DWPF LR LR
comp=Z,2µm,21.0s
WDD Wied Dalam 89.04 329 PFAKE 22 53 20.0 +5.9
WDD LR LR
comp=Z,1µm,19.0s
859A Kempfer Cattle 89.04 47 P **P 22 53 15.4 +1.2**
baz=327
BKZ Black Stump Fm 89.21 163 *e*P **P 22 53 12.8 -1.8**
comp=Z,26nm,1.3s
BKZ LR LR
comp=Z,1µm,20.0s
060A Indiantown 90.16 47 P **P 22 53 19.9 +0.4**
baz=327
ES19 SONSECA Array 90.34 344 *e*P **P 22 53 19.3 -1.0**
ESDC Sonseca Array 90.38 344 P **P 22 53 19.9 -0.5**
comp=Z,2.4nm,0.8s,baz=8.1,slow=4.8,SNR=13
ESDC LR LR 23 38 53.4
comp=Z,2µm,20.4s,baz=10.0,slow=39
ESLA Sonseca Array 90.38 344 *e*P **P 22 53 19.9 -0.5**
comp=Z,64nm,1.7s
ESLA LR LR
comp=Z,3µm,20.0s
PAB San Pablo 90.58 344 *e*P **P 22 53 21.0 -0.4**
comp=Z,50nm,1.8s
PAB San Pablo 90.58 344 *e*P **P 22 53 21.0 -0.4**
PAB pmax pmax
comp=Z,50nm,1.8s
BFZ Birch Farm 90.63 164 PFAKE 22 53 30.0 +8.9
BFZ LR LR
comp=Z,2µm,21.0s
KEST Kesra 90.83 333 P **P 22 53 23.1 +0.5**
comp=Z,7.3nm,0.8s,baz=349,slow=1.0,SNR=9.7
KEST LR LR 23 39 11.8
comp=Z,3µm,20.1s,baz=338,slow=39
KEST Kesra 90.83 333 *e*P **P 22 53 23.4 +0.8**
comp=Z,72nm,1.8s
SNZO South Karori 90.97 165 PFAKE 22 53 30.0 +7.4
SNZO LR LR
comp=Z,2µm,22.0s
THZ Tophouse 91.12 167 PFAKE 22 53 40.0 +17
THZ LR LR
comp=Z,2µm,22.0s
TEIG Tepich 91.56 57 PFAKE 22 53 40.0 +14
TEIG LR LR
comp=Z,600nm,22.0s
PESTR Estremoz 91.79 346 PFAKE 22 53 40.0 +13
PESTR LR LR
comp=Z,1µm,20.0s
KHZ Kahutara 91.86 166 PFAKE 22 53 40.0 +13
KHZ LR LR
comp=Z,2µm,22.0s
LTZ Lake Taylor 92.02 167 PFAKE 22 53 40.0 +12
LTZ LR LR
comp=Z,2µm,22.0s
DAMY Dhamar 92.28 295 PFAKE 22 53 40.0 +10
DAMY LR LR
comp=Z,5µm,20.0s
CRLZ Canterbury Las 92.85 167 PFAKE 22 53 40.0 +8.8
CRLZ LR LR
comp=Z,2µm,21.0s
MQZ McQueen's Vall 92.98 167 PFAKE 22 53 40.0 +8.2
MQZ LR LR
comp=Z,2µm,21.0s
PFVI Vila Bisbo 93.68 347 PFAKE 22 53 50.0 +14
PFVI LR LR
comp=Z,2µm,20.0s
SFS San Fernando 93.90 345 PFAKE 22 53 50.0 +13
SFS LR LR
comp=Z,2µm,21.0s
RKT Rikitea 94.72 120 *e*SKSac **SKSac 23 04 15.8 +3.9**
comp=Z,483nm,29.0s
RKT Rikitea 94.72 120 *e*PS PS 23 06 09.2 -2.9
comp=Z,842nm,31.5s
RKT *e*SS SS 23 11 18.0 +2.7
comp=Z,788nm,26.8s
RKT Rikitea 94.72 120 *e*LR LR 23 24 04.0
comp=Z,1µm,34.2s,baz=318
ATD Arta Tunnel 95.58 294 LR LR 23 42 37.3
comp=Z,3µm,18.7s,baz=33,slow=39
RTC Rabat Centre 96.43 345 PFAKE 22 54 00.0 +12
RTC LR LR
comp=Z,5µm,19.0s
TGUH Tegucigalpa,Un 97.06 60 PFAKE 22 54 00.0 +8.6
TGUH LR LR
comp=Z,600nm,22.0s
GTBY Guantanamo Bay 98.71 47 PFAKE 22 54 10.0 +11
GTBY LR LR
comp=Z,1µm,19.0s
SDDR Presa de Saban 101.34 44 PFAKE 22 54 20.0 +9.5
SDDR LR LR
comp=Z,1µm,20.0s
TAM Tamanrasset 104.06 331 PFAKE 22 54 30.0 +7.3
TAM LR LR
comp=Z,2µm,22.0s
CRPR Cabo Rojo, PR 104.08 41 PFAKE 22 54 30.0 +7.4
CRPR LR LR
comp=Z,2µm,20.0s
SJG San Juan 104.40 40 PFAKE 22 54 40.0 +16
SJG LR LR
comp=Z,700nm,20.0s
HUMP Col San Antoni 104.50 40 PFAKE 22 54 40.0 +15
HUMP LR LR
comp=Z,1µm,20.0s
ABVI Anegada Island 104.62 38 PFAKE 22 54 40.0 +15
ABVI LR LR
comp=Z,1µm,22.0s
SMRT St. Maarten 105.74 37 PFAKE 22 58 50.0
SMRT LR LR
comp=Z,1µm,21.0s
SABA Saba 106.06 38 PFAKE 22 58 50.0
SABA LR LR
comp=Z,1µm,22.0s
SEUS St. Eustatius 106.28 38 PFAKE 22 59 00.0
SEUS LR LR
comp=Z,1µm,22.0s
SKI Saint Kitts 106.52 37 PFAKE 22 59 00.0
SKI LR LR
comp=Z,2µm,20.0s
ANWB Willy Bob 106.60 36 PFAKE 22 59 00.0
ANWB LR LR
comp=Z,700nm,22.0s
KMBO Kilima Mbogo 108.89 291 PFAKE 22 59 00.0
KMBO LR LR
comp=Z,2µm,20.0s
NAI Nairobi 109.28 291 PFAKE 22 59 00.0
NAI LR LR
comp=Z,2µm,20.0s
FDF Fort de France 109.51 37 PFAKE 22 59 00.0
FDF LR LR
comp=Z,900nm,21.0s
HELC Santa Helena 110.07 55 PFAKE 22 59 00.0
HELC LR LR
comp=Z,2µm,20.0s
SDV Santo Domingo 110.36 49 PFAKE 22 59 00.0
SDV LR LR
comp=Z,800nm,22.0s
RUSC La Rusia 111.63 53 PFAKE 22 59 10.0
RUSC LR LR
comp=Z,200nm,22.0s
GRGR Grenville 111.65 39 PFAKE 22 59 10.0
GRGR LR LR
comp=Z,600nm,20.0s
MBAR Mbarara 112.47 296 PFAKE 22 59 10.0
MBAR LR LR
comp=Z,3µm,18.0s
PRAC Prado 112.48 56 PFAKE 22 59 10.0
PRAC LR LR
comp=Z,400nm,21.0s
TOC1 Torodi Ar. Sit 114.29 331 PFAKE 22 59 10.0 +11
TOC1 LR LR
comp=Z,2µm,21.0s
TOC2 Torodi Ar. Sit 114.30 331 PFAKE 22 59 10.0 +11
TOC2 LR LR
comp=Z,1µm,20.0s
TOB2 Torodi Ar. Sit 114.30 331 PFAKE 22 59 10.0 +11
TOB2 LR LR
comp=Z,2µm,22.0s
TOC7 Torodi Ar. Sit 114.30 331 PFAKE 22 59 10.0 +11
TOC7 LR LR
comp=Z,1µm,21.0s
TOA1 Torodi Ar. Sit 114.31 331 PFAKE 22 59 10.0 +11
TOA1 LR LR
comp=Z,2µm,22.0s
TOA2 Torodi Ar. Sit 114.31 331 PFAKE 22 59 10.0 +11
TOA2 LR LR
comp=Z,1µm,21.0s
TOB5 Torodi Ar. Sit 114.31 331 PFAKE 22 59 10.0 +11
TOB5 LR LR
comp=Z,1µm,20.0s
TOA0 Torodi Ar. Sit 114.31 331 PFAKE 22 59 10.0 +11
TOA0 LR LR
comp=Z,2µm,22.0s
TORD Torodi Ar. Bea 114.31 331 PKiKP **PKiKP 22 58 58.8 -0.1**
comp=Z,0.5nm,0.5s,baz=37,slow=2.1,SNR=4.8
TOC3 Torodi Ar. Sit 114.31 331 PFAKE 22 59 10.0 +11
TOC3 LR LR
comp=Z,2µm,22.0s
TOA3 Torodi Ar. Sit 114.32 331 PFAKE 22 59 10.0 +11
TOA3 LR LR
comp=Z,4µm,21.0s
TOB3 Torodi Ar. Sit 114.32 331 PFAKE 22 59 10.0 +11
TOB3 LR LR
comp=Z,2µm,22.0s
TOC6 Torodi Ar. Sit 114.32 331 PFAKE 22 59 10.0 +11
TOC6 LR LR
comp=Z,2µm,22.0s
TOB4 Torodi Ar. Sit 114.32 331 PFAKE 22 59 10.0 +11
TOB4 LR LR
comp=Z,2µm,22.0s
TOC4 Torodi Ar. Sit 114.33 331 PFAKE 22 59 10.0 +11
TOC4 LR LR
comp=Z,1µm,21.0s
TOC5 Torodi Ar. Sit 114.34 331 PFAKE 22 59 10.0 +11
TOC5 LR LR
comp=Z,2µm,22.0s
KOWA Kowa 114.69 337 PFAKE 22 59 10.0 +10
KOWA LR LR
comp=Z,900nm,22.0s
SACV Santiago Islan 116.97 358 PFAKE 22 59 20.0 +16
SACV LR LR
comp=Z,400nm,20.0s
DBIC Dimbokro 122.40 336 PKP **PKPdf 22 59 14.9 +0.4**
comp=Z,2.6nm,0.9s,baz=324,slow=2.5,SNR=3.9
PTGA Pitinga 123.86 43 PFAKE 22 59 30.0 +13
PTGA LR LR
comp=Z,600nm,22.0s
VNDA Vanda 125.65 178 PKP **PKPdf 22 59 18.9 +0.2**
comp=Z,1.4nm,0.7s,baz=332,slow=4.1,SNR=9.4
VNDA Vanda 125.65 178 *e*PKPdf **PKPdf 22 59 19.5 +0.7**
VNDA Vanda 125.65 178 PKiKP **PKPdf 22 59 19.0 +0.2**
VNDA pmax pmax
comp=Z,1.0nm,0.7s
SAML Samuel 129.37 52 PFAKE 22 59 40.0 +12
SAML LR LR
comp=Z,800nm,21.0s
LPAZ La Paz 132.56 63 PKP **PKPdf 22 59 34.8 +0.2**
comp=Z,2.3nm,1.0s,baz=22,slow=5.9,SNR=6.7
LPAZ La Paz 132.56 63 *e*PKPdf **PKPdf 22 59 35.3 +0.8**
RCBR Riachuelo 136.66 16 PFAKE 22 59 50.0 +8.4
RCBR LR LR
comp=Z,15µm,22.0s
AROD Rodeo 141.79 78 *e*P **PKPdf 22 59 46.2 -4.6**
ROC1 El Roble 142.56 83 *e*PKPdf **PKPdf 22 59 50.2 -1.8**
AMOG MOGNA 142.93 78 *e*P **PKPdf 22 59 50.9 -1.7**
AUSP Uspallata 143.16 81 *e*P PKPbc 22 59 51.8 +1.5
GO05 HualaæØ 143.17 86 *e*PKPdf **PKPdf 22 59 53.7 +0.9**
APLL PUNTA DE LOS L 143.85 76 *e*P PKPbc 22 59 52.0 0.0
ACAN Cantantal 144.64 79 *e*P **PKPab 22 59 52.1 -2.1**
CANA Caviahue 145.36 90 *e*P **PKPbc 22 59 55.5 -1.1**
CANA *e*P **PKPdf 22 59 55.9 -0.7**
TCA Tanti 145.72 75 *e*P **PKPdf 22 59 55.7 -1.7**
CPUP Villa Florida 146.65 60 PKPbc **PKPdf 22 59 59.8 +0.9**
comp=Z,12nm,0.7s,baz=315,slow=2.4,SNR=30
PLCA Paso Flores 147.15 94 PKPbc **PKPbc 23 00 02.2 +0.4**
comp=Z,11nm,0.7s,baz=360,slow=3.2,SNR=34
PLCA Paso Flores 147.15 94 *e*PKPbc **PKPbc 23 00 02.5 +0.7**
CHRN Cochrane 148.50 106 *e*PKPbc **PKPbc 23 00 06.3 +1.3**
TRQA Tornquist 151.49 83 *e*PKPbc **PKPbc 23 00 12.7 +0.1**
SNAA Sanae 154.41 196 PKP **PKPab 23 00 33.9 +1.3**
SNAA Sanae 154.41 196 PKPbc **PKPbc 23 00 17.4 -0.6**
comp=Z,3.6nm,0.7s,baz=178,slow=2.0,SNR=8.3
SNAA PKPab **PKPab 23 00 33.5 +1.0**
comp=Z,8.4nm,0.8s,baz=118,slow=3.3,SNR=10
SNAA Sanae 154.41 196 *e*PKPbc **PKPbc 23 00 17.5 -0.6**
SNAA *e*PKPab **PKPab 23 00 33.2 +0.7**
SNAA LR LR
comp=Z,2µm,22.0s
VNA2 Neumayer--Watz 155.83 194 PKP **PKPab 23 00 39.6 +1.0**
baz=26,slow=4.8
VNA3 Neumayer Olymp 155.90 192 PKP **PKPab 23 00 39.4 +0.5**

mb1 4.3/41,mb1mx4.2/71,mbtmp4.3/41,ML3.3/8,MS3.5/3, Ms1 3.5/3,ms1mx3.2/60,Error ellipse: s-maj=13.5km s-min=9.8km az=165.0
SGS ***23*** *23:00:32.4,33.06N×46.90E,h18km*
CSEM ***23*** *23:00:34.5±0.1,32.50N×46.78E,h10km,mb4.7/37,Error ellipse: s-maj=4.9km s-min=3.3km az=173.0*
ISCJB ***23*** *23:00:34.9±0.2,32.57N±0.02×46.71E±0.02,h20km, mb4.5/99,MS4.5/1,Error ellipse: s-maj=3.1km s-min=2.0km az=171.2*
MOS ***23*** *23:00:35.5±1.2,32.53N×46.72E,h27km,mb4.8/48,Error ellipse: s-maj=5.3km s-min=3.1km az=106.6*
GII ***23*** *23:00:36.5±0.3,32.55N×46.78E,h10km*
TEH ***23*** *23:00:36.0,32.60N×46.78E,h5km,ML4.4*
NEIC ***23*** *23:00:37.1±0.0,32.78N×46.78E,h15km,mb4.6/26, ML4.0(THR),MN4.4(TEH),After THR.*
THR ***23*** *23:00:37.1±0.6,32.78N×47.04E,h15km,ML4.0*
ISC 23 23:00:36.9±0.3,32.61N±0.04×46.74E±0.03,h20km,n563,
σ1§62/583,mb4.6/102,35C-17D,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKFM	**Kafar-mosalman**	**1.30**	**45**	*e*Pg	**Pn**	**23 00 58.0**	**-1.9**
IKFM				*e*AMB	AMB	23 01 25.8	
	comp=Z,99nm,0.4s						
IKFM	**Kafar-mosalman**	**1.30**	**45**	*e*Pg	**Pn**	**23 00 58.0**	**-1.9**
NSR	**Nassriya**	**1.67**	**198**	*e*Pn	**Pn**	**23 01 03.0**	**-2.0**
	SNR=4.0						
NSR				*e*Sn	**Sn**	**23 01 25.0**	**-0.9**
	SNR=4.0						
IKOM	**Komasi**	**1.69**	**22**	*e*Sg	**Sb**	**23 01 28.8**	**+0.5**
IKOM				*e*Pn	**Pn**	**23 01 06.2**	**+0.8**
IKOM				*e*AMB	AMB	23 01 31.0	
	comp=Z,76µm,0.4s						
IGHG	**Ghaleghazi**	**1.72**	**355**	*e*AMB	AMB	23 01 35.3	
	comp=Z,54µm,0.4s						
IGHG				*e*Pn	**Pb**	**23 01 07.2**	**-0.8**
SHGR	**Shooshtar-Gavs**	**1.81**	**105**	Pn	**Pn**	**23 01 07.0**	**+0.1**
SHGR	**Shooshtar-Gavs**	**1.81**	**105**	Pn	**Pn**	**23 01 07.0**	**+0.1**
SHGR	**Shooshtar-Gavs**	**1.81**	**105**	*e*Pn	**Pn**	**23 01 07.2**	**+0.3**
SHGR				AML	AML	23 01 41.9	
	comp=E,1µm,0.6s						
IVIS	**Veis**	**1.92**	**3**	*e*AMB	AMB	23 01 40.6	
	comp=Z,52µm,0.3s						
IVIS				*e*Pn	**Pn**	**23 01 09.2**	**+0.7**
BHD	**Baghdad**	**2.10**	**289**	*e*Pn	**Pn**	**23 01 10.0**	**-0.8**
	SNR=4.0						
BHD				*e*Sn	**Sn**	**23 01 38.0**	**+1.7**
	SNR=4.0						
IDHR	**Dehrash**	**2.11**	**352**	*e*AMB	AMB	23 01 43.6	
	comp=Z,59µm,0.2s						
ILIN	**Lien**	**2.31**	**4**	*e*Pn	**Pn**	**23 01 14.7**	**+0.6**
ILIN				*e*AMB	AMB	23 01 52.3	
	comp=Z,34µm,0.5s						
ILIN	**Lien**	**2.31**	**4**	Pn	**Pn**	**23 01 14.7**	**+0.6**
ILIN	**Lien**	**2.31**	**4**	*e*Pn	**Pn**	**23 01 14.7**	**+0.6**
SNGE	**Sanandaj**	**2.53**	**11**	Pn	**Pn**	**23 01 16.0**	**-1.0**
SNGE	**Sanandaj**	**2.53**	**11**	*e*Pn	**Pn**	**23 01 16.9**	**-0.1**
SNGE	**Sanandaj**	**2.53**	**11**	*e*Pn	**Pn**	**23 01 16.9**	**-0.1**
SNGE				AML	AML	23 01 58.3	
	comp=N,2µm,0.8s						
SNGE				AML	AML	23 01 59.3	
	comp=E,2µm,0.6s						
KHMZ	**Khomeyn**	**2.92**	**66**	Pn	**Pn**	**23 01 21.0**	**-1.4**
KHMZ	**Khomeyn**	**2.92**	**66**	*e*Pn	**Pn**	**23 01 21.2**	**-1.2**
KHMZ	**Khomeyn**	**2.92**	**66**	*e*Pn	**Pn**	**23 01 21.2**	**-1.2**
HAGD	**Aghdareh**	**2.98**	**41**	*e*Pn	**Pn**	**23 01 23.5**	**+0.3**
HAGD				*e*AMB	AMB	23 02 00.8	
	comp=Z,99nm,0.3s						
HAGD	**Aghdareh**	**2.98**	**41**	*e*Pn	**Pn**	**23 01 23.5**	**+0.3**
HKZM	**Kohzaman**	**3.29**	**32**	*e*Pn	**Pn**	**23 01 28.3**	**+0.7**
HKZM				*e*AMB	AMB	23 02 36.6	
	comp=Z,99nm,0.6s						
HKZM	**Kohzaman**	**3.29**	**32**	*e*Pn	**Pn**	**23 01 28.3**	**+0.7**
ASAO	**Ashtian**	**3.35**	**54**	Pn	**Pn**	**23 01 27.0**	**-1.4**
ASAO	**Ashtian**	**3.35**	**54**	*e*Pn	**Pn**	**23 01 27.4**	**-1.0**
ASAO	**Ashtian**	**3.35**	**54**	*e*Pn	**Pn**	**23 01 27.4**	**-1.0**
IRAZ	**Razeghan**	**3.84**	**43**	*e*Pn	**Pn**	**23 01 35.4**	**+0.3**
IRAZ				*e*AMB	AMB	23 02 53.6	
	comp=Z,5µm,0.5s						
IRAZ	**Razeghan**	**3.84**	**43**	Pn	**Pn**	**23 01 35.4**	**+0.3**
IRAZ	**Razeghan**	**3.84**	**43**	*e*Pn	**Pn**	**23 01 35.4**	**+0.3**
QAM	**Ghamsar**	**4.10**	**72**	*e*Pn	**Pn**	**23 01 39.9**	**+1.3**
QAM				*e*AMB	AMB	23 02 38.9	
	comp=Z,2µm,0.3s						
IKLH	**Kolahrood**	**4.13**	**79**	*e*Pn	**Pn**	**23 01 39.3**	**+0.3**
IKLH				*e*AMB	AMB	23 02 57.9	
	comp=Z,4µm,0.5s						
IKLH	**Kolahrood**	**4.13**	**79**	Pn	**Pn**	**23 01 39.3**	**+0.3**
IKLH	**Kolahrood**	**4.13**	**79**	*e*Pn	**Pn**	**23 01 39.3**	**+0.3**
GHVR	**GHOM**	**4.23**	**63**	Pn	**Pn**	**23 01 38.0**	**-2.3**
GHVR	**GHOM**	**4.23**	**63**	*e*Pn	**Pn**	**23 01 38.2**	**-2.1**
GHVR	**GHOM**	**4.23**	**63**	*e*Pn	**Pn**	**23 01 38.2**	**-2.1**
GHVR				AML	AML	23 02 56.7	
	comp=E,143nm,0.7s						
IMHD	**Mahdasht**	**4.47**	**46**	*e*Pn	**Pn**	**23 01 44.0**	**+0.4**
IMHD				*e*AMB	AMB	23 02 05.2	
	comp=Z,3µm,0.3s						
IMHD	**Mahdasht**	**4.47**	**46**	Pn	**Pn**	**23 01 44.0**	**+0.4**
IMHD	**Mahdasht**	**4.47**	**46**	*e*Pn	**Pn**	**23 01 44.0**	**+0.4**
IZEF	**Zefreh**	**4.71**	**85**	*e*Pn	**Pn**	**23 01 46.8**	**-0.4**
IZEF				*e*AMB	AMB	23 03 15.0	
	comp=Z,1µm,0.4s						
IZEF	**Zefreh**	**4.71**	**85**	Pn	**Pn**	**23 01 46.7**	**-0.4**
IZEF	**Zefreh**	**4.71**	**85**	Pn	**Pn**	**23 01 46.7**	**-0.4**
IGZV	**Ghazvin**	**4.74**	**36**	*e*Pn	**Pn**	**23 01 46.6**	**-0.8**
IGZV				*e*AMB	AMB	23 03 20.0	
	comp=Z,3µm,0.7s						
IGZV	**Ghazvin**	**4.74**	**36**	Pn	**Pn**	**23 01 46.5**	**-0.8**
IGZV	**Ghazvin**	**4.74**	**36**	*e*Pn	**Pn**	**23 01 46.6**	**-0.8**
IVRN	**Varamin**	**4.78**	**59**	*e*Pn	**Pn**	**23 01 48.1**	**+0.2**
IVRN				*e*AMB	AMB	23 03 18.6	
	comp=Z,6µm,0.7s						
IVRN	**Varamin**	**4.78**	**59**	Pn	**Pn**	**23 01 48.0**	**+0.2**
IVRN	**Varamin**	**4.78**	**59**	Pn	**Pn**	**23 01 48.0**	**+0.2**
IRAM	**Ramesheh**	**4.84**	**98**	*e*Pn	**Pn**	**23 01 47.9**	**-0.9**
IRAM				*e*AMB	AMB	23 03 33.6	
	comp=Z,2µm,0.5s						
IRAM	**Ramesheh**	**4.84**	**98**	Pn	**Pn**	**23 01 47.8**	**-1.0**
IRAM	**Ramesheh**	**4.84**	**98**	Pn	**Pn**	**23 01 47.8**	**-1.0**
IDMV	**Damavand**	**5.29**	**55**	*e*Pn	**Pn**	**23 01 54.3**	**-0.8**
IDMV				*e*AMB	AMB	23 03 46.5	
	comp=Z,4µm,0.7s						
IDMV	**Damavand**	**5.29**	**55**	Pn	**Pn**	**23 01 54.3**	**-0.8**
IDMV	**Damavand**	**5.29**	**55**	*e*Pn	**Pn**	**23 01 54.3**	**-0.8**
RTB	**Rutbah**	**5.43**	**276**	*e*Pn	**Pn**	**23 01 56.0**	**-0.8**
	SNR=4.0						
RTB				*e*Sn	**Sn**	**23 02 59.0**	**+0.2**
	SNR=4.0						
ASYS		**5.50**	**203**	P	**Pn**	**23 01 58.2**	**+0.6**
SIRT	**Sirnak**	**6.03**	**325**	*e*P	**Pb**	**23 02 21.9**	**+0.7**
LKRN	**Lenkeran, Azer**	**6.31**	**15**	P	**Pn**	**23 02 09.0**	**+0.3**
LKRN	**Lenkeran, Azer**	**6.31**	**15**	P	**Pn**	**23 02 09.0**	**+0.3**
VANB	**Van**	**6.57**	**336**	*e*P	**Pn**	**23 02 13.3**	**+0.9**
NAX	**Nakhchivan**	**6.63**	**352**	P	**Pn**	**23 02 13.6**	**+0.4**
NAX	**Nakhchivan**	**6.63**	**352**	P	**Pn**	**23 02 13.6**	**+0.4**
GURO	**Guroymak-BITLI**	**7.06**	**328**	*e*P	**Pn**	**23 02 19.6**	**+0.4**
MAZI	**Mazidag**	**7.08**	**315**	*e*P	**Pn**	**23 02 16.8**	**-2.6**
BOQSS		**7.10**	**160**	P	**Pn**	**23 02 19.5**	**-0.1**
AGRB	**Hanur-Agry**	**7.59**	**337**	*e*P	Pb	23 02 38.6	-9.3
TASB	**TASBURUN-IGDIR**	**7.63**	**345**	*e*P	**Pb**	**23 02 50.6**	**+2.0**
GNI	**Garni**	**7.70**	**348**	Pn	**Pn**	**23 02 28.4**	**+0.5**
	comp=Z,0.1nm,0.3s,baz=128,slow=18,SNR=1.9						
GNI				Lg	Lg	23 04 40.8	
	baz=150,slow=20,SNR=1.8						
GNI	**Garni**	**7.70**	**348**	*e*Pn	**Pn**	**23 02 30.1**	**+2.1**
GNI				*e*S	**Sb**	**23 04 19.1**	**-2.0**
GNI				Lg	Lg	23 04 40.8	
GNI	**Garni**	**7.70**	**348**	*i* P	**Pn**	**23 02 29.2**	**+1.2**
GNI	**Garni**	**7.70**	**348**	*e*Pn	**Pn**	**23 02 30.0**	**+2.1**
GNI				*e*S	**Sb**	**23 04 19.1**	**-2.0**
GNI	**Garni**	**7.70**	**348**	*i* P	**Pn**	**23 02 29.2**	**+1.2**
GANJ	**Ganja**	**8.03**	**358**	P	**Pn**	**23 02 32.9**	**+0.5**
GANJ	**Ganja**	**8.03**	**358**	P	**Pn**	**23 02 32.9**	**+0.5**
URFA	**Urfa**	**8.09**	**309**	*e*P	Pb	23 02 47.2	-9.2
MNGR	**Mingechevir, A**	**8.15**	**2**	P	**Pn**	**23 02 34.5**	**+0.5**
MNGR	**Mingechevir, A**	**8.15**	**2**	P	**Pn**	**23 02 34.5**	**+0.5**
ASF	**Jabal al Asfar**	**8.34**	**270**	Pn	**Pn**	**23 02 35.4**	**-1.3**
	comp=Z,0.8nm,0.3s,baz=47,slow=6.3,SNR=10.0						
ASF				Sn	**Sn**	**23 04 06.6**	**-3.8**
	comp=Z,3.0nm,0.3s,baz=126,slow=23,SNR=5.6						
ASF				Lg	Lg	23 05 00.1	
	comp=Z,1.9nm,0.3s,baz=233,slow=19,SNR=2.8						

JMA 23 22:50:02.2±0.2,38.19N×144.74E,h46km,M3.6,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**2.56**	**291**	P	Pn	22 50 42.6	+1.4
MIYJ	**Miyakonagasawa**	**2.67**	**302**	P	Pn	22 50 43.8	+1.2
MIYJ				*e*S	Sn	22 51 14.4	+0.7
JIO	**Ouri**	**2.68**	**277**	P	Pn	22 50 44.3	+1.5
JIO				*e*S	Sn	22 51 15.0	+1.0
JMK	**Ichinoseki**	**2.86**	**286**	P	Pn	22 50 47.0	+1.7
JMK				*e*S	Sn	22 51 20.4	+1.9
JOM	**Ohasama**	**2.98**	**297**	P	Pn	22 50 48.7	+1.7
JOM				*e*S	Sn	22 51 23.2	+1.7
JANG	**Nango**	**3.32**	**312**	P	Pn	22 50 52.3	+0.7
JANG				*e*S	Sn	22 51 31.2	+1.4
JYK	**Kaneyama**	**3.51**	**283**	P	Pn	22 50 56.7	+2.5
JYK				*e*S	Sn	22 51 37.0	+2.5
JFT	**Otama**	**3.55**	**260**	P	Pn	22 50 56.8	+2.0
JFT				S	Sn	22 51 37.2	+1.7
JOT	**Ohata**	**4.27**	**319**	*e*S	Sn	22 51 52.9	-0.3
JCH	**Churui**	**4.54**	**347**	P	Pn	22 51 08.2	-0.2
JKB	**Kayabe**	**4.66**	**324**	P	Pn	22 51 12.4	+2.4
JRY	**Ryogami san**	**5.15**	**247**	*e*S	Sn	22 52 14.2	-0.6
NEM2	**Nemuro 2**	**5.22**	**8**	P	Pn	22 51 14.8	-2.9
NEM2				*e*S	Sn	22 52 10.2	-6.4
JOD2	**Odawara 2**	**5.40**	**239**	P	Pn	22 51 21.9	+1.7
JOD2				*e*S	Sn	22 52 18.6	-2.4
JOSM	**Okushiri--Mats**	**5.60**	**316**	P	Pn	22 51 24.3	+1.4
JTKR	**Abashiri--Toko**	**5.81**	**354**	P	Pn	22 51 25.6	-0.1
JTKR				*e*S	Sn	22 52 28.0	-3.0

BJI ***23*** *23:00:29.1,32.42N×46.10E,h10km,mb4.6/26,mB5.0/7, Ms5.0/7,Ms7 4.8/7*
ISN ***23*** *23:00:31.6±1.4,32.54N×46.75E,h0km±5km,ML4.4*
IDC ***23*** *23:00:32.8±0.6,32.56N×46.77E,h0km,mb4.3/30,*

ASF LR LR 23 06 20.7
comp=Z,200nm,21.0s,baz=78,slow=42
SEKA Sheki 8.59 2 P **Pn** **23 02 40.5 +0.4**
SEKA Sheki 8.59 2 P **Pn** **23 02 40.5 +0.4**
PTK Pertek 8.66 318 *eP* **Pn** **23 02 40.1 -1.1**
AKT Akhty 8.89 5 *i P* **Pn** **23 02 46.8 +2.5**
comp=Z,11nm,0.5s
AKT *eS* **Sn** **23 04 24.6 +0.7**
comp=Z,50nm,2.0s
AKT Akhty 8.89 5⇓ *i*P **Pn** **23 02 46.8 +2.5**
AKT *eS* **Sn** **23 04 24.6 +0.7**
AKT pmax pmax
comp=Z,11nm,0.5s
AKT MLR MLR
comp=Z,50nm,2.0s
ZKTA Zakatala 9.02 359 P **Pn** **23 02 46.3 +0.4**
ZKTA Zakatala 9.02 359 P **Pn** **23 02 46.3 +0.4**
RAYN Ar Rayn 9.12 187 *e*Pn **Pn** **23 02 46.0 -1.4**
RAYN Ar Rayn 9.12 187 P **Pn** **23 02 45.2 -2.2**
RAYN Ar Rayn 9.12 187 *e*Pn **Pn** **23 02 46.0 -1.4**
RAYN Ar Rayn 9.12 187 P **Pn** **23 02 45.2 -2.2**
AKH Akhalkalaki 9.16 344 *e*Pn **Pn** **23 02 50.3 +2.3**
AKH Akhalkalaki 9.16 344 *e*P **Pn** **23 02 50.3 +2.3**
AKH Akhalkalaki 9.16 344 *e*P **Pn** **23 02 50.3 +2.3**
KSHT Keshet 9.21 275 Pn **Pn** **23 02 50.3 +1.6**
TBLG Delisi 9.25 351 *e*Pn **Pn** **23 02 51.6 +2.5**
TBLG Delisi 9.25 351 *e*P **Pn** **23 02 51.6 +2.5**
TBLG Delisi 9.25 351 *e*P **Pn** **23 02 51.6 +2.5**
HMDT Nahal Hemdat 9.49 271 Pn **Pn** **23 02 54.5 +2.1**
MMA0B Mount Meron ar 9.55 275 Pn **Pn** **23 02 54.0 +0.6**
MMAI Mount Meron Ar 9.55 275 Pn **Pn** **23 02 52.7 -0.7**
comp=Z,0.7nm,0.3s,baz=84,slow=15,SNR=5.2
MMAI Sn **Sn** **23 04 39.4 -0.8**
comp=Z,2.6nm,0.3s,baz=94,slow=19,SNR=5.8
MMAI Lg Lg 23 05 38.8
comp=Z,3.8nm,0.3s,baz=99,slow=33,SNR=4.1
MMAI LR LR 23 07 19.2
comp=Z,285nm,19.8s,baz=140,slow=42
MMLI Mount Malkishu 9.56 272 Pn **Pn** **23 02 55.5 +2.1**
DUS Dusheti 9.60 351 P **Pn** **23 02 56.5 +2.5**
DUS Dusheti 9.60 351 *e*P **Pn** **23 02 56.5 +2.5**
DUS Dusheti 9.60 351 *e*P **Pn** **23 02 56.5 +2.5**
BLGI Bet Lehem HaGe 9.74 274 Pn **Pn** **23 02 57.6 +1.8**
MZDA Masada 9.76 265 Pn **Pn** **23 02 58.0 +2.0**
SLTI Sal'it 9.90 271 Pn **Pn** **23 02 59.5 +1.5**
OFRI 'Ofer 9.92 273 Pn **Pn** **23 02 59.6 +1.3**
ZFRI Zfri 10.08 261 Pn **Pn** **23 03 02.0 +1.6**
PRNI Paran 10.27 260 Pn **Pn** **23 03 03.3 +0.1**
ONI Oni 10.30 346 P **Pn** **23 03 06.3 +2.8**
ONI Oni 10.30 346 *e*P **Pn** **23 03 06.3 +2.8**
HRFI Mount Harif 10.34 259 Pn **Pn** **23 03 05.5 +1.5**
ZEI Tsey 10.41 348 *e*P **Pn** **23 03 07.9 +2.8**
ZEI pmax pmax
comp=Z,15nm,1.6s
MBRI Mt Berech 10.51 258 Pn **Pn** **23 03 06.8 +0.3**
EIL Elat 10.52 257 Pn **Pn** **23 03 06.5 -0.1**
comp=Z,0.2nm,0.3s,baz=51,slow=13,SNR=2.3
EIL Lg Lg 23 06 14.7
comp=Z,2.1nm,0.3s,baz=250,slow=18,SNR=2.5
EIL Elat 10.52 257 Pn **Pn** **23 03 06.8 +0.3**
GROC Groznyy 10.60 356 *e*P **Pn** **23 03 11.8 +4.2**
GROC *eS* **Sn** **23 05 13.2 +7.5**
GROC pmax pmax
comp=Z,17nm,1.4s
KZIT Kziot 10.65 264 Pn **Pn** **23 03 09.6 +1.3**
GEYT Alibeck 10.70 57 Pn **Pn** **23 03 09.0 0.0**
comp=Z,0.3nm,0.3s,baz=257,slow=10,SNR=4.5
GYA0B ALIBECK ARRAY 10.70 57 *e*Pn **Pn** **23 03 09.2 +0.1**
GYA0B ALIBECK ARRAY 10.70 57 *e*Pn **Pn** **23 03 09.1 +0.1**
NEY Neytrino 11.09 345 *e*P **Pn** **23 03 17.0 +2.6**
comp=Z,8.0nm,1.1s
NEY Neytrino 11.09 345⇑ *e*P **Pn** **23 03 17.0 +2.6**
NEY pmax pmax
comp=Z,8.0nm,1.1s
NCK Nalchik 11.15 348 *e*P **Pn** **23 03 17.3 +2.2**
comp=Z,3.0nm,0.7s
NCK Nalchik 11.15 348 *e*P **Pn** **23 03 17.3 +2.2**
NCK pmax pmax
comp=Z,3.0nm,0.7s
UOSS Minazif 11.27 130 *e*Pn **Pn** **23 03 15.2 -1.6**
UOSS Minazif 11.27 130 *e*Pn **Pn** **23 03 15.2 -1.6**
CSS Mathiatis 11.41 286 *e*Pn **Pn** **23 03 21.7 +3.0**
comp=Z,6.6nm,1.3s
CSS Mathiatis 11.41 286 *e*Pn **Pn** **23 03 21.7 +3.0**
comp=Z,6.6nm,1.3s
KBZ Khabaz 11.51 346 Pn **Pn** **23 03 21.1 +1.1**
comp=Z,0.1nm,0.3s,baz=173,slow=12,SNR=9.1
KVAR Kislovodsk Arr 11.77 346 Pn **Pn** **23 03 26.0 +2.4**
baz=233,slow=5.1,SNR=7.0
SOC Sochi 12.27 335 *e*P **Pn** **23 03 33.1 +2.7**
comp=Z,27nm,1.1s
SOC Sochi 12.27 335 *e*P **Pn** **23 03 33.1 +2.7**
SOC *e* 23 05 58.6
SOC pmax pmax
comp=Z,27nm,1.1s
SOC MLR MLR
comp=Z,267nm,11.0s
BRTR Keskin Array B 12.74 308 Pn **Pn** **23 03 39.5 +2.5**
comp=Z,0.0nm,0.3s,baz=130,slow=13,SNR=12
BR131 Keskin Array S 12.74 308 *e*Pn **Pn** **23 03 39.9 +2.9**
BR131 Keskin Array S 12.74 308 *e*Pn **Pn** **23 03 39.9 +2.9**
GOF Gofitskoye 12.76 348⇑ *e*P **P** **23 03 47.5 -0.6**
GOF pmax pmax
comp=Z,11nm,0.6s
BR231 Keskin MP Arra 13.38 307 *e*Pn **Pn** **23 03 48.4 +2.6**
BR231 Keskin MP Arra 13.38 307 *e*Pn **Pn** **23 03 48.3 +2.6**
ANTO Ankara 13.38 307 *e*Pn **Pn** **23 03 46.3 +0.6**
ANTO Ankara 13.38 307 *e*P **Pn** **23 03 46.3 +0.6**
ANTO Ankara 13.38 307 *e*P **Pn** **23 03 46.3 +0.6**
ILGA Ilgaz 13.40 313 *e*Pn **Pn** **23 03 47.9 +1.8**
ILGA Ilgaz 13.40 313 *e*Pn **Pn** **23 03 47.9 +1.8**
WSAR Wadi Sarin 14.04 129 Pn **Pn** **23 03 51.0 -3.7**
comp=Z,0.7nm,0.3s,baz=335,slow=9.4,SNR=11
WSAR LR LR 23 10 47.1
comp=Z,280nm,21.3s,baz=334,slow=44
WSAR Wadi Sarin 14.04 129 Pn **Pn** **23 03 51.0 -3.7**
ANN Anapa 14.17 332 P **Pn** **23 03 56.6 +0.3**
ANN S **Sn** **23 06 37.6 +4.8**
ANN pmax pmax
comp=Z,38nm,1.6s
ANN MLR MLR
comp=Z,694nm,18.0s
ANN MLR MLR
comp=E,475nm,18.0s
ANN MLR MLR
comp=N,561nm,18.0s
MANT Manisa 15.91 297 *e*Pn **Pn** **23 04 21.6 +1.7**
comp=N,317nm,1.3s
MANT Manisa 15.91 297 *e*Pn **Pn** **23 04 21.6 +1.7**
comp=N,317nm,1.3s
KARP Karpathos 16.49 286 *e*Pn **P** **23 04 28.6 -1.0**
comp=N,10.0nm,0.9s
KARP Karpathos 16.49 286 *e*Pn **P** **23 04 28.6 -1.0**
comp=N,10.0nm,0.9s
CHOS Chios island 17.79 295 P **Pn** **23 04 43.1 -0.3**
CHOS Chios island 17.79 295 P **Pn** **23 04 43.1 -0.3**
CHOS Chios island 17.79 295 P **Pn** **23 04 43.1 -0.3**
LAST Lasithi 17.84 284 P **Pn** **23 04 43.1 -0.8**
LAST Lasithi 17.84 284 P **Pn** **23 04 43.1 -0.8**
LAST Lasithi 17.84 284 P **Pn** **23 04 43.1 -0.8**
SANT Santorini 17.94 288⇓ *i*P **Pn** **23 04 45.1 0.0**
SANT Santorini 17.94 288 *e*Pn **Pn** **23 04 44.6 -0.5**
comp=N,45nm,1.1s
SANT Santorini 17.94 288 *e*Pn **Pn** **23 04 44.6 -0.5**
comp=N,45nm,1.1s
APE Apeiranthos 17.97 290⇓ *i*P **P** **23 04 46.2 +0.3**
APE Apeiranthos 17.97 290 P **Pn** **23 04 45.6 +0.1**
APE Apeiranthos 17.97 290 P **Pn** **23 04 45.6 +0.1**
APE Apeiranthos 17.97 290 P **Pn** **23 04 45.6 +0.1**
APE Apeiranthos 17.97 290 P **Pn** **23 04 45.6 +0.1**
THR6 Thira Island, 17.99 288 P **Pn** **23 04 45.5 -0.2**
THR6 Thira Island, 17.99 288 P **Pn** **23 04 45.5 -0.2**
THR6 Thira Island, 17.99 288 P **Pn** **23 04 45.5 -0.2**
DAMY Dhamar 18.08 187 *e*Pn **P** **23 04 52.3 +4.8**
comp=N,26nm,1.1s
DAMY Dhamar 18.08 187 *e*Pn **P** **23 04 52.3 +4.8**
comp=N,26nm,1.1s
IDI Anoyia 18.32 284 P **P** **23 04 49.9 -0.1**
comp=N,1.2nm,0.3s,baz=87,slow=11,SNR=42
IDI Anoyia 18.32 284⇑ *i*P **Pn** **23 04 50.7 +0.8**
IDI Anoyia 18.32 284 *e*Pn **Pn** **23 04 50.3 +0.4**
IDI Anoyia 18.32 284 *e*Pn **Pn** **23 04 50.3 +0.4**
TIRR Tirgusor 18.54 315⇑ *i*P **P** **23 04 52.2 +0.1**
TIRR Tirgusor 18.54 315 *e*Pn **P** **23 04 51.7 -0.4**
comp=N,69nm,1.8s
TIRR Tirgusor 18.54 315 *e*P **P** **23 04 51.7 -0.4**
comp=N,69nm,1.8s
TIRR Tirgusor 18.54 315 *e*P **P** **23 04 51.7 -0.4**
TIRR pmax pmax
comp=Z,69nm,1.8s
KBL Kabul 18.68 78 *e*P **Pn** **23 04 54.2 -0.2**
comp=Z,12nm,0.9s
KBL Kabul 18.68 78 *e*P **Pn** **23 04 54.2 -0.2**
comp=Z,12nm,0.9s
KBL Kabul 18.68 78 *e*P **Pn** **23 04 54.2 -0.2**
KBL pmax pmax
comp=Z,12nm,0.9s
MHLO Agia Marina, M 18.82 289 P **Pn** **23 04 55.9 +0.1**
VAM Vamos 18.89 285 P **Pn** **23 04 57.1 +0.4**
VAM Vamos 18.89 285 P **Pn** **23 04 57.1 +0.4**
VAM Vamos 18.89 285 P **Pn** **23 04 57.1 +0.4**
VAM Vamos 18.89 285 P **Pn** **23 04 57.1 +0.4**
VRH Novokhopyorsk 18.95 350 *e*P **P** **23 04 54.7 -1.8**
comp=Z,8.0nm,0.5s
VRH Novokhopyorsk 18.95 350 *e*P **P** **23 04 54.7 -1.8**
VRH pmax pmax
comp=Z,8.0nm,0.5s
RDO Rodhopi 18.95 303 P **Pn** **23 04 57.9 +0.5**
RDO Rodhopi 18.95 303 P **Pn** **23 04 57.9 +0.5**
RDO Rodhopi 18.95 303 P **Pn** **23 04 57.9 +0.5**
IMMV Iera Moni Meta 19.07 285 P **P** **23 04 58.4 +0.3**
CFR Carcaliu 19.11 316⇓ *i*P **P** **23 04 58.0 -0.3**
CFR Carcaliu 19.11 316 P **P** **23 04 58.3 -0.1**
comp=Z,11nm,1.5s
CFR Carcaliu 19.11 316 P **P** **23 04 58.3 -0.1**
CFR pmax pmax
comp=Z,11nm,1.5s
AB31 Akbulak array 19.34 27 *e*P **P** **23 04 59.6 -1.3**
comp=Z,5.0nm,0.7s
AB31 Akbulak array 19.34 27 *ce*P **P** **23 04 59.6 -1.3**
AB31 pmax pmax
comp=Z,5.0nm,0.7s
ABKAR Akbulak array 19.34 27 *e*P **P** **23 04 59.9 -1.0**
comp=Z,3.7nm,0.6s
ABKAR Akbulak array 19.34 27 *e*P **P** **23 04 59.9 -1.0**
comp=Z,3.7nm,0.6s
VSR Storozhevoye 19.41 346 *e*P **P** **23 05 00.8 -0.8**
VSR *eS* **Sn** **23 08 34.2 -5.7**
VSR pmax pmax
comp=Z,30nm,1.1s
VSR smax smax
comp=N,50nm,1.0s
ANKY Antikythira Is 19.64 286 P **P** **23 05 04.1 -0.2**
ANKY Antikythira Is 19.64 286 P **P** **23 05 04.1 -0.2**
ANKY Antikythira Is 19.64 286 P **P** **23 05 04.1 -0.2**
AKTK Aktyubinsk 19.67 22 *i* P **P** **23 05 02.6 -1.9**
comp=N,24nm,1.4s
AKTO Aktyubinsk 19.67 22 P **P** **23 05 03.2 -1.3**
comp=N,0.9nm,0.3s,baz=197,slow=10,SNR=13
AKTO Aktyubinsk 19.67 22 *i* P **P** **23 05 02.6 -1.9**
AKTO pmax pmax
comp=Z,24nm,1.4s
LEOM Leova 19.81 320⇓ *i*P **P** **23 05 05.6 -0.4**
KIS Kishinev 19.84 322 *e*P **P** **23 05 05.0 -1.3**
KIS *eS* **S** **23 08 44.0 -4.8**
KIS Kishinev 19.84 322 *e*P **P** **23 05 05.0 -1.3**
KIS Kishinev 19.84 322 *e*P **P** **23 05 05.0 -1.3**
KIS *eS* **S** **23 08 44.0 -4.8**
KYTH Kithira 19.87 287 P **P** **23 05 06.1 -0.7**
KYTH Kithira 19.87 287 P **P** **23 05 06.1 -0.7**
KYTH Kithira 19.87 287 P **P** **23 05 06.1 -0.7**
VILL Villia 19.87 293 P **P** **23 05 07.3 +0.5**
KRND KRANIDI 19.89 290 P **P** **23 05 05.7 -1.3**
PAIG Paliouri 19.95 298 P **Pn** **23 05 09.7 +0.4**
PAIG pmax pmax
comp=Z,18nm,1.1s
VLI Veliai 19.99 288 P **P** **23 05 06.5 -1.6**
VLI Veliai 19.99 288 P **P** **23 05 06.5 -1.6**
VLI Veliai 19.99 288 P **P** **23 05 06.5 -1.6**
SMIA Simia 20.08 295 P Pn 23 05 10.1 -0.8
LTK Loutraki 20.12 292 P **P** **23 05 09.1 -0.4**
LTK Loutraki 20.12 292 P **P** **23 05 09.1 -0.4**
LTK Loutraki 20.12 292 P **P** **23 05 09.1 -0.4**
NEO Neokhori 20.15 296 P **P** **23 05 09.7 -0.1**
NEO Neokhori 20.15 296 P **P** **23 05 09.7 -0.1**
NEO Neokhori 20.15 296 P **P** **23 05 09.7 -0.1**
XOR Xorichti 20.19 296 P **P** **23 05 08.5 -1.7**
XOR Xorichti 20.19 296 P **P** **23 05 08.5 -1.7**
XOR Xorichti 20.19 296 P **P** **23 05 08.5 -1.7**
LKR Lokris 20.20 294 P **P** **23 05 10.8 +0.5**
LKR Lokris 20.20 294 P **P** **23 05 10.8 +0.5**
LKR Lokris 20.20 294 P **P** **23 05 10.8 +0.5**
NVR Nevrokopi 20.21 302 P **P** **23 05 09.7 -0.8**
NVR Nevrokopi 20.21 302 P **P** **23 05 09.7 -0.8**
NVR Nevrokopi 20.21 302 P **P** **23 05 09.7 -0.8**
VRI Vrincioaia 20.32 316⇓ *i*P **P** **23 05 12.5 +0.9**
VRI Vrincioaia 20.32 316 P Pn 23 05 12.9 -0.7
comp=Z,80nm,0.8s
VRI Vrincioaia 20.32 316 P Pn 23 05 12.9 -0.7
VRI pmax pmax
comp=Z,80nm,0.8s
SRS Serrai 20.34 301 P **P** **23 05 11.0 -0.8**
SRS Serrai 20.34 301 P **P** **23 05 11.0 -0.8**
SRS Serrai 20.34 301 P **P** **23 05 11.0 -0.8**
SRS Serrai 20.34 301 P **P** **23 05 11.0 -0.8**
PLOR Plostina 20.35 316⇓ *i*P **P** **23 05 13.0 +1.0**
THAL Thalero 20.36 292 P **P** **23 05 11.2 -0.9**
SOH Sokhos 20.42 300 P **P** **23 05 11.9 -0.9**
SOH Sokhos 20.42 300 P **P** **23 05 11.9 -0.9**
SOH Sokhos 20.42 300 P **P** **23 05 11.9 -0.9**
SOH Sokhos 20.42 300 P **P** **23 05 11.9 -0.9**
AXAR Agios Charalam 20.48 294 P **P** **23 05 14.2 +0.8**
AXAR Agios Charalam 20.48 294 P **P** **23 05 14.2 +0.8**
AXAR Agios Charalam 20.48 294 P **P** **23 05 14.2 +0.8**
DYR Agios Nikonas 20.48 288 P **P** **23 05 11.9 -1.5**
VLX Vlachokerasia 20.50 290 P **P** **23 05 11.6 -2.1**
VLX Vlachokerasia 20.50 290 P **P** **23 05 11.6 -2.1**
VLX Vlachokerasia 20.50 290 P **P** **23 05 11.6 -2.1**
DSF Desfina 20.52 293 P **P** **23 05 13.0 -0.9**
DSF Desfina 20.52 293 P **P** **23 05 13.0 -0.9**
DSF Desfina 20.52 293 P **P** **23 05 13.0 -0.9**
MLR Muntele Rosu 20.58 315 P **P** **23 05 14.6 +0.1**
comp=Z,2.8nm,1.0s,baz=63,slow=4.5
MLR Muntele Rosu 20.58 315 *e*P Pn 23 05 16.2 -0.6
MLR Muntele Rosu 20.58 315 *e*P Pn 23 05 16.2 -0.6
MLR Muntele Rosu 20.58 315 *e*P Pn 23 05 16.2 -0.6
GUR Goura 20.60 292 P **P** **23 05 13.8 -1.0**
GUR Goura 20.60 292 P **P** **23 05 13.8 -1.0**
GUR Goura 20.60 292 P **P** **23 05 13.8 -1.0**
THE Thessaloniki 20.66 300 P **P** **23 05 16.5 +1.3**
comp=Z,52nm,1.3s
THE Thessaloniki 20.66 300 P **P** **23 05 16.5 +1.3**
THE pmax pmax
comp=Z,52nm,1.3s
HUMR Humele 20.70 311⇓ *i*P **P** **23 05 16.7 +1.0**
KLV Kalavryta, Ach 20.76 292 P **P** **23 05 14.8 -1.7**
KLV Kalavryta, Ach 20.76 292 P **P** **23 05 14.8 -1.7**
KLV Kalavryta, Ach 20.76 292 P **P** **23 05 14.8 -1.7**
LPSR Galich'ya Gora 20.77 346 *e*P **P** **23 05 14.5 -1.9**
comp=Z,100nm,0.9s
LPSR Galich'ya Gora 20.77 346 *e*P **P** **23 05 14.5 -1.9**
LPSR *eS* **S** **23 09 00.7 -6.5**
LPSR pmax pmax
comp=Z,100nm,0.9s
LPSR smax smax
comp=E,130nm,1.2s
AGG Agios Georgios 20.78 295 *e*P **P** **23 05 17.6 +1.0**
comp=E,220nm,1.1s
AGG Agios Georgios 20.78 295 P **P** **23 05 14.7 -1.9**
AGG Agios Georgios 20.78 295 *e*P **P** **23 05 17.6 +1.0**
comp=E,220nm,1.1s
AGG Agios Georgios 20.78 295 *e*P **P** **23 05 17.6 +1.0**
AGG pmax pmax
comp=Z,220nm,1.1s
SORM Soroca 20.82 324⇑ *i*P **P** **23 05 17.8 +0.8**
SORM Soroca 20.82 324 P **P** **23 05 17.7 +0.8**
SORM Soroca 20.82 324 P **P** **23 05 17.7 +0.8**
KNT Kendrikon 20.85 301 P **P** **23 05 16.7 -0.7**
KNT Kendrikon 20.85 301 P **P** **23 05 16.7 -0.7**
KNT Kendrikon 20.85 301 P **P** **23 05 16.7 -0.7**
KNT Kendrikon 20.85 301 P **P** **23 05 16.7 -0.7**
SERG Sergoula 20.89 293 P **P** **23 05 17.3 -0.5**
LAKA Lakka 20.92 293 P **P** **23 05 14.9 -3.3**
LAKA Lakka 20.92 293 P **P** **23 05 14.9 -3.3**
LAKA Lakka 20.92 293 P **P** **23 05 14.9 -3.3**
PYL PYLOS 20.96 289 P **P** **23 05 14.1 -4.5**
PYL PYLOS 20.96 289 P **P** **23 05 14.1 -4.5**
PYL PYLOS 20.96 289 P **P** **23 05 14.1 -4.5**
ANX Ano Chora 21.02 293 P **P** **23 05 22.4 +3.1**
AMT Artemida-Makis 21.05 290 P **P** **23 05 18.1 -1.5**
VTS Vitosha 21.08 305⇑ *i*P **P** **23 05 20.5 +0.5**
VTS Vitosha 21.08 305 *e*P **P** **23 05 20.3 +0.3**
comp=Z,17nm,1.2s
VTS Vitosha 21.08 305 *e*P **P** **23 05 20.3 +0.3**
comp=Z,17nm,1.2s
VTS Vitosha 21.08 305 *e*P **P** **23 05 20.3 +0.3**
VTS pmax pmax
comp=Z,17nm,1.2s
VOIR 21.09 314⇑ *i*P **P** **23 05 21.3 +1.3**
DRO Drossia 21.09 292 P **P** **23 05 20.0 -0.1**
THL Klokotos Trika 21.12 296 P **P** **23 05 20.9 +0.6**
GRG Griva 21.16 300 P **P** **23 05 19.8 -0.9**
GRG Griva 21.16 300 P **P** **23 05 19.8 -0.9**
GRG Griva 21.16 300 P **P** **23 05 19.8 -0.9**
GRG Griva 21.16 300 P **P** **23 05 19.8 -0.9**
DOPR Dopca 21.16 315⇓ *i*P **P** **23 05 21.4 +0.7**
EVR Evrytania 21.16 294 P **P** **23 05 19.9 -0.9**
EVR Evrytania 21.16 294 P **P** **23 05 19.9 -0.9**
EVR Evrytania 21.16 294 P **P** **23 05 19.9 -0.9**
ARR Arges 21.31 313⇑ *i*P **P** **23 05 23.3 +0.9**
KK31 Karatay Array 21.43 54 *e*P **P** **23 05 23.5 -0.1**
KK31 Karatay Array 21.43 54 *e*P **P** **23 05 23.1 -0.5**
comp=Z,6.0nm,0.6s
KK31 Karatay Array 21.43 54 *ce*P **P** **23 05 23.1 -0.5**
KK31 pmax pmax
comp=Z,6.0nm,0.6s
KKAR Karatay Array 21.43 54 *e*P **P** **23 05 23.7 +0.1**
comp=Z,0.8nm,0.4s
KKAR Karatay Array 21.43 54 *e*P **P** **23 05 23.7 +0.1**
comp=Z,0.8nm,0.4s
KKAR Karatay Array 21.43 54 *e*P **P** **23 05 23.7 +0.1**
KKAR pmax pmax
comp=Z,1.0nm,0.4s
PRAR RASCA 21.45 319⇑ *i*P **P** **23 05 24.2 +0.4**
KFL Anninata 21.84 292 P **P** **23 05 26.3 -1.7**
KFL Anninata 21.84 292 P **P** **23 05 26.3 -1.7**
FNA Florina 21.86 299 P **P** **23 05 28.0 -0.3**
FNA Florina 21.86 299 P **P** **23 05 28.0 -0.3**
FNA Florina 21.86 299 P **P** **23 05 28.0 -0.3**
FNA Florina 21.86 299 P **P** **23 05 28.0 -0.3**
LOT Lotru 21.89 313⇑ *i*P **P** **23 05 22.6 -6.0**
VLS Valsamata 22.00 292 P **P** **23 05 28.0 -1.8**
VLS Valsamata 22.00 292 P **P** **23 05 28.0 -1.8**
VLS Valsamata 22.00 292 P **P** **23 05 28.0 -1.8**
VLS Valsamata 22.00 292 P **P** **23 05 28.0 -1.8**
LKD2 Lefkada island 22.02 294 P **P** **23 05 27.2 -2.9**
LKD2 Lefkada island 22.02 294 P **P** **23 05 27.2 -2.9**
LKD2 Lefkada island 22.02 294 P **P** **23 05 27.2 -2.9**
BURAR Bucovina Array 22.16 319⇓ *i*P **P** **23 05 32.0 +0.5**
BURAR Bucovina Array 22.16 319⇓ *i*P **P** **23 05 32.0 +0.5**
BURAR Bucovina Array 22.16 319 P **P** **23 05 31.9 +0.5**
BUR04 Bucovina Ar. S 22.16 319 *e*P **P** **23 05 30.7 -0.9**
BUR04 Bucovina Ar. S 22.16 319 *e*P **P** **23 05 30.7 -0.9**
BUR08 Bucovina Ar. S 22.19 319 *e*P **P** **23 05 30.6 -1.2**
BUR08 Bucovina Ar. S 22.19 319 *e*P **P** **23 05 30.6 -1.2**
NIL Nilore 22.21 80 *e*P **P** **23 05 32.5 +0.4**
comp=Z,29nm,0.8s
NIL Nilore 22.21 80 *e*P **P** **23 05 32.5 +0.4**
comp=Z,29nm,0.8s
NIL Nilore 22.21 80 *e*P **P** **23 05 32.5 +0.4**
NIL pmax pmax
comp=Z,29nm,0.8s
AKASG Malin Array Ba 22.22 330 P **P** **23 05 29.8 -2.2**
comp=Z,5.9nm,0.7s,baz=138,slow=9.0,SNR=28
AKBB Malin Array Si 22.22 330 *e*P **P** **23 05 30.8 -1.2**
comp=Z,14nm,0.8s
AKBB Malin Array Si 22.22 330 *e*P **P** **23 05 30.8 -1.2**
comp=Z,14nm,0.8s
AKBB Malin Array Si 22.22 330 *e*P **P** **23 05 30.8 -1.2**
AKBB pmax pmax
comp=Z,14nm,0.8s
KIEV Kiev 22.22 330 *e*P **P** **23 05 30.4 -1.6**
comp=Z,14nm,0.8s
KIEV Kiev 22.22 330 *e*P **P** **23 05 30.9 -1.1**
comp=Z,15nm,0.8s
KIEV Kiev 22.22 330⇑ *e*P **P** **23 05 30.9 -1.1**
KIEV pmax pmax
comp=Z,15nm,0.8s
AK11 Malin Array Si 22.23 329 *e*P **P** **23 05 33.2 +1.2**
AK11 Malin Array Si 22.23 329 *e*P **P** **23 05 33.2 +1.2**
KBN Korca 22.26 298 P **P** **23 05 32.8 +0.2**
KBN Korca 22.26 298 P **P** **23 05 32.8 +0.2**
KBN Korca 22.26 298 P **P** **23 05 32.8 +0.2**
KBN Korca 22.26 298 P **P** **23 05 32.8 +0.2**
MNAS Manas 22.61 57 *i* P **P** **23 05 36.9 +0.5**
comp=Z,11nm,0.8s
MNAS Manas 22.61 57 *i* P **P** **23 05 36.9 +0.5**
MNAS pmax pmax
comp=Z,11nm,0.8s
SFK Sufi-Kurgan 22.74 63 *i* P **P** **23 05 36.6 -1.3**
comp=Z,26nm,0.9s
SFK Sufi-Kurgan 22.74 63 *i* P **P** **23 05 36.6 -1.3**
SFK pmax pmax
comp=Z,26nm,0.9s
SELS Selova 22.74 305⇑ *i*P **P** **23 05 35.1 -2.6**
KEK Kerkira 22.83 296 P **P** **23 05 37.1 -1.5**
KEK Kerkira 22.83 296 P **P** **23 05 37.1 -1.5**
KEK Kerkira 22.83 296 P **P** **23 05 37.1 -1.5**
TIR Tirane 23.11 300 *e*P **P** **23 05 42.2 +0.8**
comp=Z,44nm,1.0s
TIR Tirane 23.11 300 *e*P **P** **23 05 42.2 +0.8**
comp=Z,44nm,1.0s
TIR Tirane 23.11 300 *e*P **P** **23 05 42.3 +0.8**
TIR pmax pmax
comp=Z,44nm,1.0s
DRGR 23.17 315⇑ *i*P **P** **23 05 42.6 +0.4**
DRGR 23.17 315⇑ *i*P **P** **23 05 42.6 +0.4**
GRUS Gruza 23.24 306 *e*P **P** **23 05 41.1 -1.7**
BZS Buzias 23.32 311⇓ *i*P **P** **23 05 43.2 -0.3**
BZS Buzias 23.32 311⇓ *i*P **P** **23 05 43.2 -0.3**
AML Almayashu 23.35 58 P **P** **23 05 43.7 -0.7**
SNR=13
BANR Banloc 23.53 310⇑ *i*P **P** **23 05 46.3 +0.8**
BANR Banloc 23.53 310⇑ *i*P **P** **23 05 46.3 +0.8**
SIRR Siria 23.57 313⇑ *i*P **P** **23 05 46.5 +0.5**
SIRR Siria 23.57 313⇑ *i*P **P** **23 05 46.5 +0.5**
OBN Obninsk 23.62 345 P **P** **23 05 45.5 -0.8**
comp=Z,29nm,0.8s,baz=302,slow=5.3,SNR=8.9
OBN Obninsk 23.62 345 *e*P **P** **23 05 45.2 -1.1**
comp=Z,6.2nm,0.6s
OBN Obninsk 23.62 345 *i* P **P** **23 05 46.0 -0.3**
comp=Z,80nm,1.2s
OBN Obninsk 23.62 345 *d*P **P** **23 05 46.0 -0.3**
OBN *i* *PP **pP** **23 05 48.9 -3.4**
OBN *e*PPP PPP 23 06 27.3
OBN *eS* **S** **23 09 55.6 -4.0**
OBN *e* 23 10 07.6
OBN SS **SnSn** **23 10 43.0 +5.9**
OBN *e*SSS SSS 23 10 57.2
OBN pmax pmax
comp=Z,80nm,1.2s
DIVS Divibare 23.80 307 *e*P **P** **23 05 48.0 -0.4**
comp=Z,25nm,1.4s
DIVS Divibare 23.80 307 *e*P **P** **23 05 48.0 -0.4**
comp=Z,25nm,1.4s
TRPA Tarpa 23.95 317⇑ *i*P **P** **23 05 49.5 -0.1**
TRPA Tarpa 23.95 317⇑ *i*P **P** **23 05 49.5 -0.1**
UCH Uchtor 23.97 58 P **P** **23 05 51.5 +1.1**
SNR=7.8
MOS Moscow 23.99 347 *e*P **P** **23 05 47.8 -2.1**
MOS *eS* **S** **23 10 02.9 -2.7**
MOS pmax pmax
comp=Z,282nm,1.8s
MOS pmax pmax
comp=Z,200nm,1.7s
AAK Ala-Archa 24.06 57 P **P** **23 05 50.8 -0.1**
comp=Z,4.5nm,0.9s,baz=220,slow=7.0,SNR=18
AAK Ala-Archa 24.06 57 P **P** **23 05 54.8 +3.9**
SNR=6.9
AAK Ala-Archa 24.06 57 *e*P **P** **23 05 51.4 +0.5**
AAK Ala-Archa 24.06 57 *e*P **P** **23 05 51.4 +0.5**
AAK Ala-Archa 24.06 57⇑ *e*P **P** **23 05 53.4 +2.5**
AAK pmax pmax
comp=Z,8.0nm,1.0s
LVV L'vov 24.09 322 *e*P **P** **23 05 50.7 -0.2**
BBLS Lazići 24.13 306 *e*P **P** **23 05 50.9 -0.5**
FRU1 Bishkek 24.20 57 P **P** **23 05 53.6 +1.5**
USP Ospenovka 24.24 56 P **P** **23 05 55.6 +3.2**
SNR=6.5
TEKS Tekeris 24.27 307 *e*P **P** **23 05 50.6 -2.1**

FGSL	**Fruska Gora**	**24.30**	**309**	⇑*i*	P		**P**	**23 05 52.6**	**-0.3**
CHMS	**Chumysh**	**24.34**	**57**		P		**P**	**23 05 53.6**	**+0.3**
	SNR=8.1								
UZH	**Uzhgorod**	**24.36**	**318**		*e*P		**P**	**23 05 55.0**	**+1.7**
UZH					*e*			23 06 29.8	
KBK	**Karagaybulak**	**24.39**	**58**		P		**P**	**23 05 54.3**	**+0.4**
	SNR=27								
KZA	**Kyzart**	**24.46**	**59**		P		**P**	**23 05 55.5**	**+0.6**
	SNR=11								
KSH	**Kashi**	**24.54**	**65**		P		**P**	**23 05 52.4**	**-2.9**
KSH					sP		pP	23 05 59.1	-2.3
KSH					PP		**PnPn**	**23 06 27.0**	**+0.4**
KSH					S		**S**	**23 10 05.8**	**-9.3**
KSH					pmax		pmax		
	comp=Z,28nm,0.6s								
KSH					LR		LR		
	comp=Z,3μm,14.6s								
KSH					LR		LR		
	comp=Z,2μm,12.8s								
KSH					LR		LR		
	comp=Z,3μm,13.9s								
KWP	**Kalwaria Pacla**	**24.68**	**321**		*e*P		**P**	**23 05 56.6**	**+0.3**
	comp=Z,1μm,1.9s								
KWP	**Kalwaria Pacla**	**24.68**	**321**		*e*P		**P**	**23 05 56.6**	**+0.3**
	comp=Z,1μm,1.9s								
KWP	**Kalwaria Pacla**	**24.68**	**321**		*e*P		**P**	**23 05 56.6**	**+0.3**
OTUK	**Ortayu**	**24.81**	**43**		*i* P		**P**	**23 05 56.8**	**-0.7**
OTUK					pmax		pmax		
	comp=Z,26nm,1.4s								
NRN	**Naryn**	**24.87**	**61**		P		**P**	**23 05 59.0**	**+0.5**
TKM2	**Tokmak 2**	**24.91**	**57**		P		**P**	**23 06 01.6**	**+2.8**
	SNR=25								
TKM2	**Tokmak 2**	**24.91**	**57**		*i* P		**P**	**23 05 59.2**	**+0.4**
TKM2					pmax		pmax		
	comp=Z,26nm,1.2s								
CRVS	**Cervenica-Dubn**	**24.97**	**318**		*e*P		**P**	**23 05 59.0**	**+0.1**
CRVS	**Cervenica-Dubn**	**24.97**	**318**		*e*P		**P**	**23 05 59.1**	**+0.1**
CRVS					pmax		pmax		
	comp=Z,12nm,1.0s								
TIP	**Timpagrande**	**25.09**	**294**	⇓	*i* P		**P**	**23 06 01.0**	**+0.8**
TIP	**Timpagrande**	**25.09**	**294**		*e*P		**P**	**23 06 00.2**	**0.0**
	comp=Z,12nm,0.8s								
TIP	**Timpagrande**	**25.09**	**294**		*e*P		**P**	**23 06 00.2**	**0.0**
	comp=Z,12nm,0.8s								
ARU	**Arti**	**25.19**	**16**		P		**P**	**23 06 00.4**	**-0.4**
	comp=Z,7.1nm,0.7s,baz=206,slow=6.4,SNR=14								
ARU					ScP		**ScP**	**23 13 10.7**	**-1.5**
	comp=Z,2.5nm,0.8s,baz=257,slow=2.6,SNR=4.7								
ARU	**Arti**	**25.19**	**16**		*e*P		**P**	**23 05 60.0**	**-0.8**
	comp=Z,11nm,0.7s								
ARU					ScP		**ScP**	**23 13 10.7**	**-1.5**
ARU	**Arti**	**25.19**	**16**	*c*	*i*P		**P**	**23 06 01.2**	**+0.4**
ARU								23 06 35.9	
ARU								23 09 30.1	
ARU					S		**S**	**23 10 29.2**	**+4.3**
ARU					SS		**SnSn**	**23 11 18.8**	**+3.2**
ARU					pmax		pmax		
	comp=Z,26nm,1.2s								
ULHL	**Ulahol**	**25.22**	**59**		P		**P**	**23 06 03.2**	**+1.7**
	SNR=11								
STHS	**Stebnicka Huta**	**25.36**	**319**		*e*P		**P**	**23 06 03.1**	**+0.6**
STHS	**Stebnicka Huta**	**25.36**	**319**		*e*P		**P**	**23 06 03.1**	**+0.6**
STHS					pmax		pmax		
	comp=Z,15nm,1.2s								
PSZ	**Piszkesteto**	**25.39**	**315**	⇓	*i* P		**P**	**23 06 04.6**	**+1.7**
PSZ	**Piszkesteto**	**25.39**	**315**		*e*P		**P**	**23 06 03.7**	**+0.8**
	comp=Z,9.3nm,0.8s								
PSZ	**Piszkesteto**	**25.39**	**315**		*e*P		**P**	**23 06 03.7**	**+0.8**
PSZ					pmax		pmax		
	comp=Z,9.0nm,0.8s								
MICGM	**Minsk**	**25.65**	**334**		*e*P		**P**	**23 06 07.0**	**+2.0**
MICGM					*e*LR		LR	23 16 30.0	
MNK	**Minsk**	**25.65**	**334**		*e*P		**P**	**23 06 07.0**	**+2.0**
BUD	**Budapest**	**25.73**	**313**		P		**P**	**23 06 07.9**	**+2.1**
BUD					pmax		pmax		
	comp=Z,23nm,0.9s								
KDJ	**Kajisay**	**25.88**	**60**		*e*P		**P**	**23 06 08.5**	**+1.1**
KDJ	**Kajisay**	**25.88**	**60**		*e*P		**P**	**23 06 08.5**	**+1.1**
KDJ	**Kajisay**	**25.88**	**60**		P		**P**	**23 06 08.5**	**+1.1**
CUC	**Castrocucco**	**25.90**	**295**		*e*P		**P**	**23 06 06.8**	**-0.7**
	comp=Z,2.3nm,0.6s								
CUC	**Castrocucco**	**25.90**	**295**		*e*P		**P**	**23 06 06.8**	**-0.7**
	comp=Z,2.3nm,0.6s								
BLY	**Banja Luka**	**25.92**	**306**	⇑	*i*P		**P**	**23 06 08.3**	**+0.7**
BLY	**Banja Luka**	**25.92**	**306**		*e*P		**P**	**23 06 09.0**	**+1.5**
	comp=Z,56nm,1.4s								
BLY	**Banja Luka**	**25.92**	**306**	⇑	*i*P		**P**	**23 06 08.3**	**+0.7**
SVE	**Sverdlovsk**	**26.05**	**17**		*e*P		**P**	**23 06 10.0**	**+1.4**
SVE					pmax		pmax		
	comp=Z,26nm,1.5s								
LANS	**Liptovska Anna**	**26.23**	**317**		*e*P		**P**	**23 06 10.9**	**+0.5**
LANS	**Liptovska Anna**	**26.23**	**317**		*e*P		**P**	**23 06 10.9**	**+0.5**
VYHS	**Vyhne**	**26.29**	**315**		*e*P		**P**	**23 06 11.7**	**+0.8**
VYHS	**Vyhne**	**26.29**	**315**		*e*P		**P**	**23 06 11.7**	**+0.8**
VYHS					pmax		pmax		
	comp=Z,5.0nm,1.2s								
BRVK	**Borovoye**	**26.54**	**33**		*e*P		**P**	**23 06 12.5**	**-0.6**
	comp=Z,31nm,1.5s								
BRVK	**Borovoye**	**26.54**	**33**		*e*P		**P**	**23 06 12.5**	**-0.6**
	comp=Z,31nm,1.5s								
BRVK	**Borovoye**	**26.54**	**33**	⇓	*e*P		**P**	**23 06 12.5**	**-0.6**
BRVK					pmax		pmax		
	comp=Z,13nm,1.0s								
BVAR	**Borovoye Array**	**26.56**	**33**		P		**P**	**23 06 12.5**	**-0.9**
	comp=Z,6.6nm,0.7s,baz=220,slow=8.8,SNR=33								
BVAR					ScP		**ScP**	**23 13 15.3**	**-0.9**
	comp=Z,0.3nm,0.4s,baz=199,slow=3.1,SNR=4.3								
OJC	**Ojcow**	**26.58**	**319**		*e*P		**P**	**23 06 13.7**	**+0.2**
	comp=Z,24nm,1.1s								
OJC	**Ojcow**	**26.58**	**319**		*e*P		**P**	**23 06 13.7**	**+0.2**
	comp=Z,24nm,1.1s								
OJC	**Ojcow**	**26.58**	**319**		*e*P		**P**	**23 06 13.7**	**+0.2**
OJC					pmax		pmax		
	comp=Z,24nm,1.1s								
IDID	**Didziasalis**	**26.70**	**334**		*e*P		**P**	**23 06 13.9**	**-0.5**
IDID					IAmb		IAmb	23 06 18.0	
	comp=Z,6.9nm,0.9s								
PRZ	**Przheval'sk**	**26.83**	**59**		P		**P**	**23 06 19.4**	**+3.3**
IIGN	**Ignalina**	**26.91**	**334**		*e*P		**P**	**23 06 16.2**	**-0.3**
IIGN					IAmb		IAmb	23 06 20.1	
	comp=Z,13nm,0.8s								
MODS	**Modra-Piesok**	**27.17**	**314**		*e*P		**P**	**23 06 21.2**	**+2.4**
MODS	**Modra-Piesok**	**27.17**	**314**		*e*P		**P**	**23 06 21.3**	**+2.4**
MODS					pmax		pmax		
	comp=Z,21nm,1.5s								
SUW	**Suwalki**	**27.18**	**329**		*e*P		**P**	**23 06 18.3**	**-0.6**
	comp=Z,66nm,1.0s								
SUW	**Suwalki**	**27.18**	**329**		*e*P		**P**	**23 06 18.3**	**-0.6**
SUW					pmax		pmax		
	comp=Z,66nm,1.0s								
IZAR	**Zarasai**	**27.21**	**334**		*e*P		**P**	**23 06 18.6**	**-0.5**
IZAR					IAmb		IAmb	23 06 23.8	
	comp=Z,21nm,0.9s								
OKC	**Ostrava-Krasne**	**27.31**	**318**		*e*P		**P**	**23 06 22.2**	**+2.1**
OKC	**Ostrava-Krasne**	**27.31**	**318**		*e*P		**P**	**23 06 22.2**	**+2.1**
SOP	**Sopron**	**27.34**	**312**		P		**P**	**23 06 24.0**	**+3.7**
PDGK	**Podgornoye**	**27.78**	**58**		*i* P		**P**	**23 06 25.8**	**+1.2**
PDGK					pmax		pmax		
	comp=Z,5.0nm,1.0s								
CONA	**Conrad Observa**	**27.86**	**312**		P		**P**	**23 06 25.4**	**+0.3**
	comp=Z,6.1nm,1.3s								
CONA	**Conrad Observa**	**27.86**	**312**		*e*P		**P**	**23 06 25.4**	**+0.3**
	comp=Z,6.1nm,1.3s								
VRAC	**Vranov**	**27.97**	**316**		P		**P**	**23 06 25.2**	**-0.9**
	comp=Z,1.2nm,0.5s,baz=126,slow=12,SNR=3.9								
OBKA	**Obir**	**28.22**	**309**		*i* P		**P**	**23 06 30.3**	**+2.0**
	comp=Z,13nm,1.4s								
DPC	**Dobruska-Polom**	**28.59**	**317**		*e*P		**P**	**23 06 31.7**	**+0.1**
DPC					*ex*		x	23 06 39.5	
DPC	**Dobruska-Polom**	**28.59**	**317**		*e*P		**P**	**23 06 31.7**	**+0.1**
DPC	**Dobruska-Polom**	**28.59**	**317**		*e*P		**P**	**23 06 31.7**	**+0.1**
DPC					*e*			23 06 39.5	
KLMR	**Klimovskoe**	**28.65**	**353**		*e*P		**P**	**23 06 30.2**	**-1.7**
KLMR					AMP			23 06 34.7	
	comp=Z,36nm,1.5s								
KLMR	**Klimovskoe**	**28.65**	**353**		*e*P		**P**	**23 06 30.1**	**-1.8**
KLMR					pmax		pmax		
	comp=Z,36nm,1.5s								
MOA	**Molln**	**28.84**	**311**		*e*P		**P**	**23 06 34.0**	**+0.2**
	comp=Z,8.6nm,1.4s								
VSU	**Vasula**	**29.18**	**338**	*c*	*e*P		**P**	**23 06 38.6**	**+2.0**
VSU					pmax		pmax		
	comp=Z,98nm,1.7s								
KBA	**Koelnbreinsper**	**29.18**	**310**		*i* P		**P**	**23 06 37.4**	**+0.4**
	comp=Z,8.0nm,1.4s								
KURBB	**Kurchatov Arra**	**29.49**	**43**		P		**P**	**23 06 38.7**	**-0.8**
	comp=Z,4.1nm,0.8s,baz=249,slow=9.2,SNR=12								
GERES	**GERESS Array B**	**29.54**	**313**		P		**P**	**23 06 39.5**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=120,slow=9.2,SNR=3.3								
GERES					PcP		**PcP**	**23 09 43.6**	**-1.2**
	comp=Z,0.9nm,0.8s,baz=116,slow=2.3,SNR=4.7								
KURK	**Kurchatov**	**29.58**	**43**		P		**P**	**23 06 38.7**	**-1.6**
KURK	**Kurchatov**	**29.58**	**43**	*c*	*e*P		**P**	**23 06 41.3**	**+1.0**
KURK					pmax		pmax		
	comp=Z,11nm,1.7s								
BRG	**Berggiesshubel**	**30.18**	**317**		*e*P		**P**	**23 06 45.6**	**0.0**
	comp=Z,27nm,2.0s								
BRG	**Berggiesshubel**	**30.18**	**317**		*e*P		**P**	**23 06 45.6**	**0.0**
BRG					pmax		pmax		
	comp=Z,27nm,2.0s								
WTTA	**Wattenberg**	**30.35**	**309**		*e*P		**P**	**23 06 47.2**	**-0.2**
	comp=Z,9.8nm,1.2s								
WATA	**Walderalm**	**30.41**	**309**		P		**P**	**23 06 47.9**	**+0.1**
	comp=Z,3.2nm,0.5s								
WATA	**Walderalm**	**30.41**	**309**		*i* P		**P**	**23 06 47.9**	**+0.1**
	comp=Z,3.2nm,0.5s								
MK31	**Makanchi Array**	**30.51**	**52**		*e*P		**P**	**23 06 48.7**	**+0.1**
MK31	**Makanchi Array**	**30.51**	**52**		*e*P		**P**	**23 06 48.7**	**+0.1**
MK31	**Makanchi Array**	**30.51**	**52**	*c*	*e*P		**P**	**23 06 47.8**	**-0.8**
MK31					pmax		pmax		
	comp=Z,2.0nm,0.6s								
MKAR	**Makanchi Array**	**30.51**	**52**		P		**P**	**23 06 48.2**	**-0.4**
	comp=Z,2.6nm,0.6s,baz=248,slow=7.3,SNR=18								
MK01	**Makanchi Array**	**30.51**	**52**		*e*P		**P**	**23 06 48.4**	**-0.2**
MK01	**Makanchi Array**	**30.51**	**52**		*e*P		**P**	**23 06 48.4**	**-0.2**
MOTA	**Moosalm**	**30.72**	**309**		*i* P		**P**	**23 06 49.9**	**-0.7**
	comp=Z,4.9nm,0.6s								
CLL	**Collm**	**30.90**	**317**		*e*P		**P**	**23 06 53.0**	**+1.1**
	comp=Z,15nm,1.8s								
CLL	**Collm**	**30.90**	**317**		*e*P		**P**	**23 06 53.0**	**+1.1**
CLL					pmax		pmax		
	comp=Z,15nm,1.8s								
KEST	**Kesra**	**30.98**	**286**		P		**P**	**23 06 52.9**	**-0.1**
	comp=Z,7.4nm,1.1s,baz=293,slow=9.1,SNR=3.9								
DAVA	**Damuels**	**31.51**	**309**		P		**P**	**23 06 57.0**	**-0.5**
	comp=Z,9.8nm,0.6s								
DAVA	**Damuels**	**31.51**	**309**		*e*P		**P**	**23 06 57.0**	**-0.5**
	comp=Z,9.8nm,0.6s								
FIA1	**FINESS Array S**	**31.81**	**341**		*e*P		**P**	**23 06 59.2**	**-0.6**
FINES	**FINESS Array B**	**31.81**	**341**		P		**P**	**23 06 59.0**	**-0.8**
	comp=Z,14nm,0.8s,baz=138,slow=12,SNR=25								
FINES	**FINESS Array B**	**31.81**	**341**		P		**P**	**23 06 59.0**	**-0.8**
FINES					pmax		pmax		
	comp=Z,14nm,0.8s								
TMCR	**Tamitsa**	**32.04**	**353**		*e*P		**P**	**23 07 03.4**	**+1.6**
TMCR					pmax		pmax		
	comp=Z,27nm,1.1s								
SENIN	**Lac Senin/Sane**	**33.04**	**306**		*e*P		**P**	**23 07 13.9**	**+2.8**
	comp=Z,82nm,1.8s								
SENIN	**Lac Senin/Sane**	**33.04**	**306**		*e*P		**P**	**23 07 13.9**	**+2.8**
	comp=Z,82nm,1.8s								
BNI	**Bardonecchia**	**33.26**	**304**		*e*P		**P**	**23 07 12.7**	**-0.2**
	comp=Z,48nm,1.3s								
BNI	**Bardonecchia**	**33.26**	**304**		*e*P		**P**	**23 07 12.7**	**-0.2**
	comp=Z,48nm,1.3s								
BNI	**Bardonecchia**	**33.26**	**304**		*e*P		**P**	**23 07 12.7**	**-0.2**
BNI					pmax		pmax		
	comp=Z,48nm,1.3s								
WMQ	**Urumqi**	**33.75**	**59**		P		**P**	**23 07 18.9**	**+1.8**
WMQ					pP		sP	23 07 26.1	+0.3
WMQ					sP		pP	23 07 29.3	+6.0
WMQ					pmax		pmax		
	comp=Z,30nm,1.1s								
NVS	**Novosibirsk**	**33.90**	**38**		*e*P		**P**	**23 07 20.2**	**+2.0**
NVS					*e*			23 08 44.2	
NVS					pmax		pmax		
	comp=N,11nm,1.6s								
NVS					pmax		pmax		
	comp=Z,16nm,1.6s								
NVS					pmax		pmax		
	comp=E,6.0nm,1.2s								
ZAA0	**Zalesovo Array**	**34.38**	**40**		*e*P		**P**	**23 07 21.8**	**-0.6**
ZALV	**Zalesovo Beam**	**34.38**	**40**		P		**P**	**23 07 21.5**	**-0.9**
	comp=E,5.8nm,0.6s,baz=257,slow=10,SNR=16								
DGZ	**Jazzator, Alta**	**34.57**	**48**		*i* P		**P**	**23 07 24.4**	**+0.1**
DGZ					pmax		pmax		
	comp=Z,2.0nm,1.0s								
HFS	**Hagfors**	**35.08**	**332**		P		**P**	**23 07 27.8**	**-0.5**
	comp=Z,12nm,0.7s,baz=134,slow=10,SNR=24								
MUD	**Monsted U'grnd**	**35.17**	**324**		*i* P		**P**	**23 07 29.6**	**+0.5**
	comp=Z,39nm,1.0s								
MUD	**Monsted U'grnd**	**35.17**	**324**		*i* P		**P**	**23 07 29.6**	**+0.5**
MUD					pmax		pmax		
	comp=Z,39nm,1.0s								
NB2	**NORSAR Subarra**	**36.60**	**332**		P		**P**	**23 07 40.0**	**-1.4**
	comp=Z,1.2nm,0.7s,baz=123,slow=8.6								
NOA	**NORSAR Array B**	**36.60**	**332**		P		**P**	**23 07 40.2**	**-1.2**
	comp=Z,2.0nm,0.8s,baz=124,slow=8.5,SNR=5.9								
TAM	**Tamanrasset**	**37.59**	**266**		*e*P		**P**	**23 07 51.6**	**+1.2**
	comp=Z,21nm,1.3s								
TAM	**Tamanrasset**	**37.59**	**266**		*e*P		**P**	**23 07 51.6**	**+1.2**
TAM					pmax		pmax		
	comp=Z,21nm,1.3s								
ARCES	**ARCESS Array B**	**38.86**	**348**		P		**P**	**23 08 00.1**	**-0.2**
	comp=Z,4.0nm,0.8s,baz=165,slow=8.4,SNR=14								
ARCES	**ARCESS Array B**	**38.86**	**348**		P		**P**	**23 08 00.1**	**-0.2**
ARCES					pmax		pmax		
	comp=Z,7.0nm,1.0s								
SHL	**Shillong**	**39.83**	**88**		*e*P		**P**	**23 08 08.5**	**-0.7**
ES19	**SONSECA Array**	**41.05**	**295**		*e*P		**P**	**23 08 19.9**	**+0.9**
ES19	**SONSECA Array**	**41.05**	**295**		*e*P		**P**	**23 08 19.9**	**+0.9**
ESDC	**Sonseca Array**	**41.10**	**295**		P		**P**	**23 08 19.0**	**-0.4**
	comp=Z,3.0nm,1.0s,baz=82,slow=8.6,SNR=8.4								
ESDC	**Sonseca Array**	**41.10**	**295**		P		**P**	**23 08 19.0**	**-0.4**
EKA	**Eskdalemuir Ar**	**41.34**	**319**		P		**P**	**23 08 20.3**	**-0.8**
	comp=Z,1.8nm,0.7s,baz=103,slow=9.5,SNR=5.1								
GTA	**Gaotai**	**42.95**	**65**	⇑	P		**P**	**23 08 37.1**	**+2.5**
GTA					pP		sP	23 08 43.9	+0.6
GTA					sP		pP	23 08 46.5	+5.7
GTA					pmax		pmax		
	comp=Z,10.0nm,1.5s								
ZAK	**Zakamensk**	**44.77**	**49**		*e*P		**P**	**23 08 50.2**	**+1.2**
ZAK					pmax		pmax		
	comp=Z,3.0nm,1.8s								
TOA0	**Torodi Ar. Sit**	**45.41**	**255**		*e*P		**P**	**23 08 54.5**	**+0.1**
TORD	**Torodi Ar. Bea**	**45.41**	**255**		P		**P**	**23 08 53.9**	**-0.5**
	comp=Z,6.1nm,0.8s,baz=54,slow=8.2,SNR=43								
LZH	**Lanzhou**	**46.70**	**69**		*e*P		**P**	**23 09 07.3**	**+2.7**
LZH					pP		pP	23 09 10.5	-0.3
LZH					sP		sP	23 09 12.0	-1.3
LZH					*e*PP		**PP**	**23 10 56.5**	**+2.1**
LZH					pmax		pmax		
	comp=Z,25nm,1.3s								
LZH					pmax		pmax		
	comp=Z,87nm,6.5s								
LZH					LR		LR		
	comp=Z,380nm,14.5s								
LZH					LR		LR		
	comp=Z,400nm,14.3s								
LZH					LR		LR		
	comp=Z,470nm,17.8s								
SONM	**Songino Array**	**46.87**	**53**		P		**P**	**23 09 05.5**	**-0.2**
	comp=Z,1.1nm,0.9s,baz=262,slow=9.4,SNR=9.7								
ULN	**Ulaanbaatar**	**47.31**	**53**		*e*P		**P**	**23 09 08.8**	**-0.4**
	comp=Z,11nm,1.2s								
ULN	**Ulaanbaatar**	**47.31**	**53**	*c*	*e*P		**P**	**23 09 09.2**	**0.0**
ULN					pmax		pmax		
	comp=Z,13nm,1.7s								
SPITS	**Spitsbergen Ar**	**47.55**	**352**		P		**P**	**23 09 10.4**	**0.0**
	comp=Z,20nm,1.2s,baz=137,slow=7.2,SNR=8.2								
CHTO	**Chiang Mai**	**48.55**	**93**		P		**P**	**23 09 22.9**	**+3.9**
	comp=Z,23nm,1.3s								
CMMT	**Chiang Mai**	**48.56**	**93**		P		**P**	**23 09 21.8**	**+2.8**
	comp=Z,6.7nm,1.4s								
CMAR	**Chiang Mai Arr**	**48.72**	**94**		P		**P**	**23 09 18.5**	**-1.7**
	comp=Z,1.3nm,0.6s,baz=294,slow=8.8,SNR=10								
KMI	**Kunming**	**49.13**	**84**		P		**P**	**23 09 24.3**	**+0.7**
KMI					pmax		pmax		
	comp=Z,10.0nm,1.1s								
KMI					pmax		pmax		
	comp=Z,2μm,14.4s								
KOWA	**Kowa**	**49.42**	**261**		P		**P**	**23 09 25.2**	**-0.4**
	comp=Z,9.0nm,0.8s,baz=51,slow=10.0,SNR=26								
KOWA	**Kowa**	**49.42**	**261**		*e*P		**P**	**23 09 25.7**	**+0.1**
NANT	**Nan**	**50.04**	**92**		P		**P**	**23 09 33.1**	**+2.8**
	comp=Z,2.4nm,1.2s								
BOD	**Bodaibo**	**51.12**	**39**		*e*P		**P**	**23 09 36.5**	**-1.5**
BOD					pmax		pmax		
	comp=Z,16nm,1.6s								
XAN	**Xi'an**	**51.25**	**70**		P		**P**	**23 09 39.4**	**+0.1**
XAN					pmax		pmax		
	comp=Z,8.0nm,0.9s								
PBKT	**Sadao Pong**	**51.30**	**95**		P		**P**	**23 09 41.4**	**+1.5**
	comp=Z,8.3nm,1.2s								
HHC	**Hu-ho-hao-te**	**51.55**	**61**		*e*P		**P**	**23 09 42.0**	**+0.4**
HHC					pmax		pmax		
	comp=Z,24nm,1.1s								
HHC					pmax		pmax		
	comp=Z,64nm,6.1s								
DBIC	**Dimbokro**	**54.36**	**253**		P		**P**	**23 10 00.1**	**-2.4**
	comp=Z,7.1nm,1.1s,baz=42,slow=7.2,SNR=4.3								
KIC	**Kosan Boka**	**54.45**	**253**		*e*PKIKP		**P**	**23 10 02.5**	**-0.6**
	comp=Z,65nm,1.5s								
TIC	**Toumodi**	**54.51**	**253**		*e*PKIKP		**P**	**23 10 03.1**	**-0.5**
LIC	**Lamto**	**54.76**	**253**		*e*PKIKP		**P**	**23 10 02.7**	**-2.7**
	comp=Z,54nm,1.7s								
TIXI	**Tiksi**	**56.95**	**22**		P		**P**	**23 10 18.2**	**-2.1**
	comp=Z,1.5nm,0.6s,baz=293,slow=3.7,SNR=5.0								
TIXI	**Tiksi**	**56.95**	**22**	*c*	*e*P		**P**	**23 10 19.2**	**-1.1**
TIXI					pmax		pmax		
	comp=Z,4.0nm,1.0s								
NJ2	**Nanjing**	**59.77**	**69**		*e*P		**P**	**23 10 41.8**	**+1.2**
NJ2					pmax		pmax		
	comp=Z,13nm,0.7s								
CN2	**Changchun**	**60.69**	**55**		*e*P		**P**	**23 10 47.5**	**+0.8**
CN2					pmax		pmax		
	comp=Z,10.0nm,0.6s								
KLR	**Kul'dur**	**63.05**	**47**		*i* P		**P**	**23 11 03.3**	**+0.8**
BOSA	**Boshof**	**64.22**	**201**		P		**P**	**23 11 09.4**	**-1.0**
	comp=Z,5.0nm,0.8s,baz=16,slow=6.6,SNR=5.9								
SEY	**Seymchan**	**68.11**	**28**		P		**P**	**23 11 34.6**	**-0.3**
	comp=Z,8.0nm,0.9s,baz=273,slow=4.2,SNR=9.8								
SEY	**Seymchan**	**68.11**	**28**	*c*	*e*P		**P**	**23 11 36.8**	**+1.9**
MA2	**Magadan**	**69.05**	**32**		*i* P		**P**	**23 11 42.4**	**+1.5**
BILL	**Bilibino**	**70.09**	**20**	⇑	*e*P		**P**	**23 11 48.3**	**+1.1**
BILL					*e*			23 12 06.5	
BILL					*e*			23 14 23.0	
BILL					*e*S		SKiKP	23 21 45.3	+13
BILL					pmax		pmax		
	comp=Z,12nm,1.3s								
BILL					MLR		MLR		
	comp=Z,201nm,16.0s								
INK	**Inuvik**	**79.39**	**0**		P		**P**	**23 12 42.3**	**+1.3**
	comp=Z,3.9nm,1.1s,baz=3.8,slow=10,SNR=5.5								
INK	**Inuvik**	**79.39**	**0**		*e*P		**P**	**23 12 42.7**	**+1.7**
INK	**Inuvik**	**79.39**	**0**		*e*P		**P**	**23 12 42.7**	**+1.7**
ILAR	**Eielson Array**	**82.36**	**6**		P		**P**	**23 12 56.1**	**-0.8**
	comp=Z,1.2nm,0.8s,baz=328,slow=3.7,SNR=13								
FCC	**Fort Churchill**	**83.30**	**341**		*e*P		**P**	**23 13 01.5**	**-0.3**
	comp=Z,14nm,1.5s								
FCC	**Fort Churchill**	**83.30**	**341**		*e*P		**P**	**23 13 01.5**	**-0.3**
FCC					pmax		pmax		
	comp=Z,14nm,1.5s								
YKA	**Yellowknife Ar**	**84.05**	**351**		P		**P**	**23 13 04.6**	**-1.1**
	comp=Z,1.3nm,0.9s,baz=11,slow=5.2,SNR=16								
FFC	**Flin Flon**	**88.94**	**342**		*e*P		**P**	**23 13 29.1**	**-0.7**
FFC	**Flin Flon**	**88.94**	**342**		*e*P		**P**	**23 13 29.1**	**-0.7**
DLBC	**Dease Lake**	**89.26**	**358**		*e*P		**P**	**23 13 31.7**	**+0.4**
	comp=Z,13nm,1.3s								

KRSC ***23*** *23:01:44.1±1.8, 48°.44N×154°.87E, h77km±29km, ML4.0*
MOS ***23*** *23:01:46.3±0.6, 48°.41N×155°.13E, h63km, mb4.0/4, Error ellipse: s-maj=21.1km s-min=5.2km az=71.7*
ISCJB ***23*** *23:01:48.1±0.6, 48°.58N±0°.08×154°.9E±0°.1, h77km, mb3.4/11, Error ellipse: s-maj=16.9km s-min=3.7km az=42.1*
IDC ***23*** *23:01:50.0±2.9, 48°.47N×154°.75E, h71km±26km, mb3.3/11, mb1 3.7/14, mb1mx3.3/72, mbtmp3.7/

comp=Z,0.5nm,0.8s,baz=264,slow=1.5,SNR=4.1
WRA Warramunga Arr 70.64 201 P P 23 12 55.7 -0.8
comp=Z,0.6nm,0.8s,baz=28,slow=6.4,SNR=3.2
ASAR Alice Springs 74.33 200 P P 23 13 19.1 +0.8
comp=Z,0.5nm,1.0s,baz=1.1,slow=4.6,SNR=3.7
TXAR Lajitas Array 75.54 62 P P 23 13 28.3 +2.7
comp=Z,0.6nm,0.7s,baz=295,slow=4.2,SNR=10
GERES GERESS Array B 77.35 335 P P 23 13 36.0 +0.5
comp=Z,0.2nm,0.3s,baz=42,slow=6.6,SNR=3.0
GERES GERESS Array B 77.35 335 P P 23 13 36.0 +0.5
BRTR Keskin Array B 77.90 318 P P 23 13 39.3 +0.5
comp=Z,0.3nm,0.7s,baz=36,slow=5.9,SNR=2.8
MMAI Mount Meron Ar 82.52 312 P P 23 14 06.0 +2.4
comp=Z,0.7nm,0.6s,baz=37,slow=5.6,SNR=2.5

IDC 23 23:05:44.6±3.3, 24°78S×179°24W, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.7/37, mbtmp3.9/3, Error ellipse: s-maj=162.1km s-min=45.9km az=153.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**35.05**	**249**	P		P	23 12 38.8	-0.5
	0.6nm,0.4s,baz=90,slow=11,SNR=3.2							
ASAR	**Alice Springs**	**42.58**	**261**	P		P	23 13 42.3	-0.3
	0.7nm,0.4s,baz=95,slow=7.9,SNR=15							
WRA	**Warramunga Arr**	**43.05**	**267**	P		P	23 13 46.7	+0.4
	0.8nm,0.4s,baz=104,slow=7.6,SNR=12							
NB2	**NORSAR Subarra**	**143.06**	**352**	PKP		PKPdf	23 25 20.3	+0.4
	comp=Z,0.8nm,0.7s,baz=17,slow=2.6							
NOA	**NORSAR Array B**	**143.06**	**352**	PKP		PKPdf	23 25 19.3	-0.7
	comp=Z,0.4nm,0.8s,baz=25,slow=4.1,SNR=4.3							
HFS	**Hagfors**	**143.54**	**349**	PKP		PKPdf	23 25 20.7	0.0
	comp=Z,0.9nm,0.4s,baz=72,slow=4.7,SNR=13							
BRTR	**Keskin Array B**	**148.66**	**306**	PKPbc		PKPbc	23 25 33.4	-0.7
	comp=Z,0.3nm,0.5s,baz=43,slow=6.5,SNR=2.8							

*MOS **23** 23:06:35.0±2.5, 48°.50N×156°.49E, h5km, mb4.0/1, Error ellipse: s-maj=73.7km s-min=6.4km az=81.7*
KRSC 23 23:06:35.0±1.6, 48°.50N×156°.49E, h6km±36km, ML4.1, 1D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**2.20**	**354**	*e*P		Pn	23 07 13.0	+0.9
SKR				*e*S		Sn	23 07 40.0	+0.4
SKR	**Severo-Kuril's**	**2.20**	**354**	⇓*i*PN		Pn	23 07 08.0	-4.1
SKR				*e*S		Sn	23 07 39.9	+0.3
SKR				smax		smax		
	comp=N,133nm,0.3s							
SKR				smax		smax		
	comp=E,216nm,0.4s							
PAU	**Pauzhetka**	**2.98**	**4**	*e*P		Pn	23 07 25.0	+2.2
PAU				*e*S		Sb	23 08 03.2	-1.9
PAU	**Pauzhetka**	**2.98**	**4**	PN		Pn	23 07 25.0	+2.2
PAU				S		Sb	23 08 03.2	-1.9
KDTR	**Khodutka, Kamc**	**3.47**	**17**	*e*P		Pn	23 07 31.7	+2.2
KDTR				*e*S		Sb	23 08 15.3	-3.8
MIPR	**Malaya Ipel'ka**	**3.78**	**3**	*e*P		Pn	23 07 37.5	+3.6
MIPR	**Malaya Ipel'ka**	**3.78**	**3**	PN		Pn	23 07 37.5	+3.6
ASAK	**Asacha**	**3.99**	**13**	*e*P		Pn	23 07 40.2	+3.4
ASAK	**Asacha**	**3.99**	**13**	PN		Pn	23 07 40.2	+3.4
MTVR	**Mutnovka**	**4.13**	**15**	*e*P		Pn	23 07 42.0	+3.2
MTVR	**Mutnovka**	**4.13**	**15**	PN		Pn	23 07 42.0	+3.2
RUS	**Russkaya**	**4.14**	**17**	*e*P		Pn	23 07 41.8	+3.0
RUS				*e*S		Sn	23 08 32.1	+4.5
RUS	**Russkaya**	**4.14**	**17**	PN		Pn	23 07 41.8	+3.0
RUS				S		Sn	23 08 32.1	+4.5
KRMR	**Karymshinskiy**	**4.46**	**13**	*e*P		Pn	23 07 47.7	+4.5
KRMR				*e*S		Sn	23 08 41.3	+6.0
KRMR	**Karymshinskiy**	**4.46**	**13**	PN		Pn	23 07 47.7	+4.5
KRMR				S		Sn	23 08 41.3	+6.0
UGLR	**Uglovaya**	**4.94**	**17**	*e*P		Pn	23 07 54.0	+4.1
UGLR	**Uglovaya**	**4.94**	**17**	PN		Pn	23 07 54.0	+4.1
AVH	**Avacha**	**4.98**	**16**	*e*P		Pn	23 07 55.5	+5.1
AVH	**Avacha**	**4.98**	**16**	PN		Pn	23 07 55.5	+5.1
SMAR	**Somma**	**4.99**	**16**	*e*P		Pn	23 07 55.0	+4.4
SMAR	**Somma**	**4.99**	**16**	PN		Pn	23 07 55.0	+4.4
NLC	**Nalychevo**	**5.01**	**20**	*e*S		Sn	23 08 54.7	+5.7
KRER	**Koryakskii**	**5.02**	**16**	*e*P		Pn	23 07 55.5	+4.5
KRER	**Koryakskii**	**5.02**	**16**	PN		Pn	23 07 55.5	+4.5
SDLR	**Sedlovina**	**5.02**	**17**	*e*P		Pn	23 07 54.1	+3.1
SDLR	**Sedlovina**	**5.02**	**17**	PN		Pn	23 07 54.1	+3.1
KRX	**Arik**	**5.05**	**15**	*e*P		Pn	23 07 57.0	+5.5
KRX	**Arik**	**5.05**	**15**	PN		Pn	23 07 57.0	+5.5
SPN	**Mys Shipunski**	**5.12**	**25**	*e*P		Pn	23 07 56.4	+4.2
SPN				*e*S		Sn	23 08 57.0	+5.4
SPN	**Mys Shipunski**	**5.12**	**25**	PN		Pn	23 07 56.4	+4.2
SPN				S		Sn	23 08 57.0	+5.4
GNL	**Ganaly**	**5.28**	**9**	*e*P		Pn	23 07 57.6	+3.0
GNL	**Ganaly**	**5.28**	**9**	PN		Pn	23 07 57.6	+3.0
KBTR	**Krutoberegovo**	**8.63**	**24**	*e*P		Pn	23 08 45.0	+4.6

*ISCJB **23** 23:47:37.7±0.4, 39°.13N±0°.02×29°.13E±0°.02, h8km±3km, Error ellipse: s-maj=3.0km s-min=2.7km az=20.4*
*CSEM **23** 23:47:37.9±0.1, 39°.11N×29°.15E, h5km, ML3.6, Error ellipse: s-maj=2.3km s-min=1.9km az=96.0*
*ISK **23** 23:47:37.3, 39°.14N×29°.13E, h7km, ML3.6/52*
*DDA **23** 23:47:38.0, 39°.10N×29°.16E, h7km, Ml3.8*
ISC 23 23:47:38.0±0.9, 39°13N±0°.02×29°15E±0°.02, h6km±8km, n203, σ0°72/221, 13C-18D, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
SIMA	**Simav-Kutahya**	**0.14**	**252**	PG		**Pg**	**23 47 41.0**	**+0.2**
SIMA				SG		**Sg**	**23 47 42.9**	**+0.2**
SIMA	**Simav-Kutahya**	**0.14**	**252**	*e*Pg		**Pg**	**23 47 41.0**	**+0.2**
SIMA				*e*Sg		**Sg**	**23 47 42.9**	**+0.2**
GDZ	**Gediz**	**0.26**	**98**	*i* P		**Pg**	**23 47 42.9**	**-0.2**
GDZ				*i* S		**Sg**	**23 47 47.2**	**+0.6**
GDZ	**Gediz**	**0.26**	**98**	P		**Pg**	**23 47 42.9**	**-0.2**
GDZ				S		**Sg**	**23 47 47.2**	**+0.6**
DEMI	**Demirci**	**0.35**	**256**	*i* P		**Pg**	**23 47 44.9**	**+0.1**
DEMI				*i* S		**Sg**	**23 47 49.5**	**+0.2**
DEMI	**Demirci**	**0.35**	**256**	P		**Pg**	**23 47 44.9**	**+0.1**
DEMI				S		**Sg**	**23 47 49.5**	**+0.2**
TVSB	**Tavsanli**	**0.40**	**37**	PG		**Pg**	**23 47 45.5**	**-0.3**
TVSB				SG		**Sg**	**23 47 51.2**	**0.0**
TVSB	**Tavsanli**	**0.40**	**37**	*e*Pg		**Pg**	**23 47 45.5**	**-0.3**
TVSB				*e*Sg		**Sg**	**23 47 51.2**	**0.0**
DURS	**Dursunbey**	**0.71**	**312**	*i* P		**Pg**	**23 47 51.9**	**+0.3**
DURS				*i* S		**Sb**	**23 48 02.0**	**-0.8**
DURS	**Dursunbey**	**0.71**	**312**	P		**Pg**	**23 47 51.9**	**+0.3**
DURS				S		**Sb**	**23 48 02.0**	**-0.8**
KULA	**Kula-Manisa**	**0.72**	**212**	PG		**Pg**	**23 47 51.3**	**-0.5**
KULA	**Kula-Manisa**	**0.72**	**212**	*e*Pg		**Pg**	**23 47 51.3**	**-0.5**
MANT	**Manisa**	**0.79**	**216**	*i* P		**Pg**	**23 47 52.7**	**-0.3**
MANT				*i* S		**Sg**	**23 48 02.5**	**-0.8**
MANT	**Manisa**	**0.79**	**216**	P		**Pg**	**23 47 52.7**	**-0.3**
MANT				S		**Sg**	**23 48 02.5**	**-0.8**
KHAL	**Karahalli**	**0.80**	**160**	*i* P		**Pg**	**23 47 53.8**	**-0.6**
KHAL				*i* S		**Sg**	**23 48 04.1**	**+0.4**
KHAL	**Karahalli**	**0.80**	**160**	P		**Pb**	**23 47 53.8**	**-0.6**
KHAL				S		**Sg**	**23 48 04.1**	**+0.4**
KHL	**Karahalli**	**0.85**	**160**	PG		**Pg**	**23 47 54.3**	**0.0**
KHL	**Karahalli**	**0.85**	**160**	*e*Pg		**Pg**	**23 47 54.3**	**0.0**
ORLT	**Orhaneli**	**0.94**	**348**	PG		**Pg**	**23 47 55.4**	**-0.6**
ORLT	**Orhaneli**	**0.94**	**348**	*e*Pg		**Pg**	**23 47 55.4**	**-0.6**
AKHS	**Akhisar**	**1.07**	**257**	*i* P		**Pb**	**23 47 58.7**	**-0.2**
AKHS				*i* S		**Sb**	**23 48 12.9**	**-0.3**
AKHS	**Akhisar**	**1.07**	**257**	P		**Pb**	**23 47 58.7**	**-0.2**
AKHS				S		**Sb**	**23 48 12.9**	**-0.3**
AKS	**Akhisar**	**1.07**	**257**	PG		**Pg**	**23 47 57.9**	**-0.6**
AKS	**Akhisar**	**1.07**	**257**	*e*Pg		**Pg**	**23 47 57.9**	**-0.6**
BALB	**Balikesir**	**1.11**	**298**	PN		**Pg**	**23 47 58.9**	**-0.4**
BALB	**Balikesir**	**1.11**	**298**	*e*Pn		**Pg**	**23 47 58.9**	**-0.4**
STEP	**BALIKESIR_Sava**	**1.14**	**283**	*i* P		**Pn**	**23 48 00.6**	**+0.1**
STEP				*i* S		**Sn**	**23 48 17.5**	**+1.0**
STEP	**BALIKESIR_Sava**	**1.14**	**283**	P		**Pn**	**23 48 00.6**	**+0.1**
STEP				S		**Sn**	**23 48 17.5**	**+1.0**
CAVI	**Cavuskoy**	**1.20**	**26**	PN		**Pg**	**23 48 00.8**	**-0.2**
CAVI	**Cavuskoy**	**1.20**	**26**	*e*Pn		**Pg**	**23 48 00.8**	**-0.2**
IZI	**Iznik**	**1.23**	**12**	PN		**Pb**	**23 48 01.5**	**-0.3**
IZI	**Iznik**	**1.23**	**12**	*e*Pn		**Pb**	**23 48 01.5**	**-0.3**
SHUT	**Suhut-Afyon**	**1.23**	**117**	PN		**Pn**	**23 48 02.3**	**+0.4**
SHUT	**Suhut-Afyon**	**1.23**	**117**	*e*Pn		**Pn**	**23 48 02.3**	**+0.4**
MDNY	**Mudanya-Bursa**	**1.26**	**351**	PN		**Pn**	**23 48 01.6**	**-0.5**
MDNY	**Mudanya-Bursa**	**1.26**	**351**	*e*Pn		**Pn**	**23 48 01.6**	**-0.5**
KCTX	**Karacabey (Bur**	**1.29**	**332**	PN		**Pn**	**23 48 01.6**	**-1.0**
KCTX	**Karacabey (Bur**	**1.29**	**332**	*e*Pn		**Pn**	**23 48 01.6**	**-1.0**
GEMT	**Gemlik**	**1.31**	**1**	PN		**Pn**	**23 48 02.2**	**-0.6**
GEMT	**Gemlik**	**1.31**	**1**	*e*Pn		**Pn**	**23 48 02.2**	**-0.6**
DENT	**Denizli**	**1.37**	**184**	PN		**Pb**	**23 48 03.8**	**-0.3**
DENT	**Denizli**	**1.37**	**184**	*e*Pn		**Pb**	**23 48 03.8**	**-0.3**
ESKT	**Eskisehir**	**1.38**	**73**	PN		**Pn**	**23 48 03.6**	**-0.3**
ESKT	**Eskisehir**	**1.38**	**73**	*e*Pn		**Pn**	**23 48 03.6**	**-0.3**
ADVT	**Abdulvahap**	**1.38**	**19**	PN		**Pn**	**23 48 02.9**	**-0.9**
ADVT	**Abdulvahap**	**1.38**	**19**	*e*Pn		**Pn**	**23 48 02.9**	**-0.9**
YLV	**Yalova**	**1.45**	**7**	PN		**Pn**	**23 48 04.5**	**-0.3**
YLV	**Yalova**	**1.45**	**7**	*e*Pn		**Pn**	**23 48 04.5**	**-0.3**
ARMT	**Armutlu**	**1.46**	**351**	PN		**Pn**	**23 48 04.7**	**-0.2**
ARMT	**Armutlu**	**1.46**	**351**	*e*Pn		**Pn**	**23 48 04.7**	**-0.2**
GONE	**Gonen-Balikesi**	**1.46**	**310**	PN		**Pn**	**23 48 04.3**	**-0.6**
GONE	**Gonen-Balikesi**	**1.46**	**310**	*e*Pn		**Pn**	**23 48 04.3**	**-0.6**
GPA	**Golpazari**	**1.47**	**37**	PN		**Pn**	**23 48 04.9**	**-0.1**
GPA	**Golpazari**	**1.47**	**37**	*e*Pn		**Pn**	**23 48 04.9**	**-0.1**
AYDB	**Zeytinkoy-Aydi**	**1.54**	**220**	PN		**Pn**	**23 48 05.5**	**-0.6**
AYDB	**Zeytinkoy-Aydi**	**1.54**	**220**	*e*Pn		**Pn**	**23 48 05.5**	**-0.6**
EDC	**Edincik**	**1.57**	**321**	PN		**Pn**	**23 48 05.9**	**-0.5**
EDC	**Edincik**	**1.57**	**321**	*e*Pn		**Pn**	**23 48 05.9**	**-0.5**
GULT	**Gulveren**	**1.68**	**38**	PN		**Pn**	**23 48 08.3**	**+0.3**
GULT	**Gulveren**	**1.68**	**38**	*e*Pn		**Pn**	**23 48 08.3**	**+0.3**
ISP	**Isparta**	**1.69**	**140**	PN		**Pn**	**23 48 07.9**	**-0.2**
ISP	**Isparta**	**1.69**	**140**	⇑*i*P		**Pg**	**23 48 10.2**	**-0.2**
ISP	**Isparta**	**1.69**	**140**	P		**Pb**	**23 48 09.7**	**+0.2**
ISP	**Isparta**	**1.69**	**140**	*e*Pn		**Pn**	**23 48 07.9**	**-0.2**
ISP	**Isparta**	**1.69**	**140**	P		**Pb**	**23 48 09.7**	**+0.2**
BUY	**Buyukada**	**1.73**	**359**	PN		**Pn**	**23 48 08.5**	**0.0**
BUY	**Buyukada**	**1.73**	**359**	*e*Pn		**Pn**	**23 48 08.5**	**0.0**
HRT	**Hereke**	**1.74**	**13**	PN		**Pn**	**23 48 08.5**	**-0.3**
HRT	**Hereke**	**1.74**	**13**	*e*Pn		**Pn**	**23 48 08.5**	**-0.3**
DKL	**Dikili**	**1.75**	**269**	PN		**Pn**	**23 48 08.5**	**-0.3**
DKL	**Dikili**	**1.75**	**269**	*e*Pn		**Pn**	**23 48 08.5**	**-0.3**
SPNC	**Sapanca-Adapaz**	**1.79**	**29**	PN		**Pn**	**23 48 09.9**	**+0.4**
SPNC	**Sapanca-Adapaz**	**1.79**	**29**	*e*Pn		**Pn**	**23 48 09.9**	**+0.4**
BLCB	**Balcova**	**1.81**	**246**	PN		**Pn**	**23 48 08.5**	**-1.1**
BLCB	**Balcova**	**1.81**	**246**	*e*Pn		**Pn**	**23 48 08.5**	**-1.1**
SAUV	**Serdivan-Sakar**	**1.85**	**29**	PN		**Pn**	**23 48 10.7**	**+0.5**
SAUV	**Serdivan-Sakar**	**1.85**	**29**	*e*Pn		**Pn**	**23 48 10.7**	**+0.5**
SVRH	**Sivrihisar-ESK**	**1.87**	**79**	PN		**Pn**	**23 48 10.8**	**+0.2**
SVRH	**Sivrihisar-ESK**	**1.87**	**79**	*e*Pn		**Pn**	**23 48 10.8**	**+0.2**
KRBG	**Karabiga-Canak**	**1.91**	**312**	PN		**Pn**	**23 48 10.6**	**-0.4**
KRBG	**Karabiga-Canak**	**1.91**	**312**	*e*Pn		**Pn**	**23 48 10.6**	**-0.4**
ISK	**Istanbul-Kandi**	**1.94**	**358**	PN		**Pn**	**23 48 11.1**	**-0.4**
ISK	**Istanbul-Kandi**	**1.94**	**358**	*e*Pn		**Pn**	**23 48 11.1**	**-0.4**
SBT3	**Marmara-Eregli**	**1.98**	**333**	PN		**Pn**	**23 48 12.2**	**+0.4**
SBT3	**Marmara-Eregli**	**1.98**	**333**	*e*Pn		**Pn**	**23 48 12.2**	**+0.4**
SILT	**Sile**	**2.06**	**10**	PN		**Pn**	**23 48 13.9**	**+0.8**
SILT	**Sile**	**2.06**	**10**	*e*Pn		**Pn**	**23 48 13.9**	**+0.8**
GCAM	**G?zlecaml?**	**2.07**	**227**	PN		**Pn**	**23 48 13.9**	**+0.6**
GCAM	**G?zlecaml?**	**2.07**	**227**	*e*Pn		**Pn**	**23 48 13.9**	**+0.6**
MDUB	**Mudurnu**	**2.07**	**49**	PN		**Pn**	**23 48 13.4**	**0.0**
MDUB	**Mudurnu**	**2.07**	**49**	*e*Pn		**Pn**	**23 48 13.4**	**0.0**
BGKT	**Bogazkoy**	**2.07**	**352**	PN		**Pn**	**23 48 13.2**	**-0.1**
BGKT	**Bogazkoy**	**2.07**	**352**	*e*Pn		**Pn**	**23 48 13.2**	**-0.1**
MLSB	**Milas**	**2.12**	**211**	PN		**Pn**	**23 48 13.6**	**-0.5**
MLSB	**Milas**	**2.12**	**211**	*e*Pn		**Pn**	**23 48 13.6**	**-0.5**
KLYT	**Kilyos**	**2.13**	**358**	PN		**Pn**	**23 48 13.9**	**-0.1**
KLYT	**Kilyos**	**2.13**	**358**	*e*Pn		**Pn**	**23 48 13.9**	**-0.1**
URLA	**Izmir**	**2.14**	**250**	PN		**Pn**	**23 48 13.9**	**-0.4**
URLA	**Izmir**	**2.14**	**250**	*e*Pn		**Pn**	**23 48 13.9**	**-0.4**
CTKS	**Kestanelik-??a**	**2.17**	**347**	PN		**Pn**	**23 48 14.3**	**-0.3**
CTKS	**Kestanelik-??a**	**2.17**	**347**	*e*Pn		**Pn**	**23 48 14.3**	**-0.3**
RKY	**Sarkoy-Tekirda**	**2.17**	**316**	PN		**Pn**	**23 48 15.3**	**+0.5**
RKY	**Sarkoy-Tekirda**	**2.17**	**316**	*e*Pn		**Pn**	**23 48 15.3**	**+0.5**
SUTC	**Sutluce-Ispart**	**2.20**	**138**	PN		**Pn**	**23 48 15.7**	**+0.5**
SUTC	**Sutluce-Ispart**	**2.20**	**138**	*e*Pn		**Pn**	**23 48 15.7**	**+0.5**
SLVT	**Silivri**	**2.22**	**341**	PN		**Pn**	**23 48 15.7**	**+0.3**
SLVT	**Silivri**	**2.22**	**341**	*e*Pn		**Pn**	**23 48 15.7**	**+0.3**
LPK	**Lapseki**	**2.22**	**305**	PN		**Pn**	**23 48 15.0**	**-0.4**
LPK	**Lapseki**	**2.22**	**305**	*e*Pn		**Pn**	**23 48 15.0**	**-0.4**
TKR	**Tekirdag**	**2.24**	**327**	PN		**Pn**	**23 48 15.5**	**-0.1**
TKR	**Tekirdag**	**2.24**	**327**	*e*Pn		**Pn**	**23 48 15.5**	**-0.1**
PRK	**Paraskevi**	**2.24**	**274**	P		**Pn**	**23 48 15.7**	**+0.1**
PRK	**Paraskevi**	**2.24**	**274**	P		**Pn**	**23 48 15.7**	**+0.1**
CRLT	**Corlu**	**2.27**	**332**	PN		**Pn**	**23 48 15.7**	**-0.4**
CRLT	**Corlu**	**2.27**	**332**	*e*Pn		**Pn**	**23 48 15.7**	**-0.4**
TURN	**Turunc**	**2.29**	**191**	PN		**Pb**	**23 48 19.0**	**-0.7**
EZN	**Ezine**	**2.29**	**289**	PN		**Pn**	**23 48 16.2**	**-0.2**
EZN	**Ezine**	**2.29**	**289**	P		**Pn**	**23 48 16.2**	**-0.2**
EZN	**Ezine**	**2.29**	**289**	P		**Pn**	**23 48 16.2**	**-0.2**
SMG	**Samos**	**2.30**	**233**	P		**Pn**	**23 48 15.9**	**-0.6**
SMG	**Samos**	**2.30**	**233**	P		**Pn**	**23 48 15.9**	**-0.6**
KORT	**Korkueli**	**2.32**	**156**	PN		**Pn**	**23 48 17.1**	**+0.2**
KORT	**Korkueli**	**2.32**	**156**	*e*Pn		**Pn**	**23 48 17.1**	**+0.2**
GELI	**Tayfur-Gelibol**	**2.42**	**302**	PN		**Pn**	**23 48 19.0**	**+0.9**
GELI	**Tayfur-Gelibol**	**2.42**	**302**	*e*Pn		**Pn**	**23 48 19.0**	**+0.9**
CTYL	**Yalikoy Yolu**	**2.44**	**345**	PN		**Pn**	**23 48 18.8**	**+0.5**
CTYL	**Yalikoy Yolu**	**2.44**	**345**	*e*Pn		**Pn**	**23 48 18.8**	**+0.5**
KIYI	**Yal¯¯koy-Catal**	**2.44**	**345**	PN		**Pn**	**23 48 19.0**	**+0.6**
KIYI	**Yal¯¯koy-Catal**	**2.44**	**345**	*e*Pn		**Pn**	**23 48 19.0**	**+0.6**
ELL	**Elmali**	**2.45**	**166**	PN		**Pn**	**23 48 19.3**	**+0.7**
ELL	**Elmali**	**2.45**	**166**	*e*Pn		**Pn**	**23 48 19.3**	**+0.7**
FETY	**Fethiye**	**2.49**	**181**	PN		**Pn**	**23 48 18.8**	**-0.2**
FETY	**Fethiye**	**2.49**	**181**	P		**Pn**	**23 48 17.8**	**-1.2**
FETY	**Fethiye**	**2.49**	**181**	P		**Pn**	**23 48 17.8**	**-1.2**
FETY	**Fethiye**	**2.49**	**181**	*e*Pn		**Pn**	**23 48 18.8**	**-0.2**
BOZC	**Bozcaada**	**2.50**	**288**	PN		**Pn**	**23 48 19.3**	**+0.1**
BOZC	**Bozcaada**	**2.50**	**288**	*e*Pn		**Pn**	**23 48 19.3**	**+0.1**
ANTB	**Antalya**	**2.52**	**151**	PN		**Pn**	**23 48 20.4**	**+1.0**
ANTB	**Antalya**	**2.52**	**151**	*e*Pn		**Pn**	**23 48 20.4**	**+1.0**
BODT	**Bodrum**	**2.52**	**216**	PN		**Pn**	**23 48 19.3**	**-0.2**
BODT	**Bodrum**	**2.52**	**216**	P		**Pn**	**23 48 17.6**	**-1.9**
BODT	**Bodrum**	**2.52**	**216**	P		**Pn**	**23 48 17.6**	**-1.9**
BODT	**Bodrum**	**2.52**	**216**	*e*Pn		**Pn**	**23 48 19.3**	**-0.2**
CHOS	**Chios island**	**2.53**	**254**	PN		**Pn**	**23 48 20.1**	**+0.4**
CHOS	**Chios island**	**2.53**	**254**	P		**Pn**	**23 48 18.1**	**-1.6**
CHOS	**Chios island**	**2.53**	**254**	P		**Pn**	**23 48 18.1**	**-1.6**
CHOS	**Chios island**	**2.53**	**254**	*e*Pn		**Pn**	**23 48 20.1**	**+0.4**
ERIK	**Erikli-Kesan**	**2.55**	**308**	PN		**Pn**	**23 48 20.2**	**+0.4**
ERIK	**Erikli-Kesan**	**2.55**	**308**	*e*Pn		**Pn**	**23 48 20.2**	**+0.4**
SIGR	**SIGRI**	**2.56**	**273**	PN		**Pn**	**23 48 20.2**	**+0.2**
SIGR	**SIGRI**	**2.56**	**273**	P		**Pb**	**23 48 25.1**	**+0.8**
SIGR	**SIGRI**	**2.56**	**273**	*e*Pn		**Pn**	**23 48 20.2**	**+0.2**
GADA	**Gvkgeada**	**2.73**	**294**	PN		**Pn**	**23 48 22.5**	**+0.2**
GADA	**Gvkgeada**	**2.73**	**294**	P		**Pn**	**23 48 23.2**	**+0.9**
GADA	**Gvkgeada**	**2.73**	**294**	*e*Pn		**Pn**	**23 48 22.5**	**+0.2**
GADA	**Gvkgeada**	**2.73**	**294**	P		**Pn**	**23 48 23.2**	**+0.9**
ENEZ	**Enez**	**2.81**	**306**	P		**Pn**	**23 48 23.9**	**+0.5**
ENEZ	**Enez**	**2.81**	**306**	P		**Pn**	**23 48 23.9**	**+0.5**
ANTO	**Ankara**	**2.92**	**74**	⇓*i*P		**Pb**	**23 48 28.7**	**-1.7**
ANTO	**Ankara**	**2.92**	**74**	⇓*i*P		**Pb**	**23 48 28.7**	**-1.7**
ALN	**Alexandroupoli**	**2.97**	**308**	P		**Pn**	**23 48 26.1**	**+0.5**
ALN	**Alexandroupoli**	**2.97**	**308**	P		**Pn**	**23 48 26.1**	**+0.5**
KSL	**Kastellorizon**	**2.99**	**173**	P		**Pn**	**23 48 27.1**	**+1.2**
ARG	**Arkhangelos**	**3.02**	**196**	P		**Pn**	**23 48 27.8**	**+1.5**
ARG	**Arkhangelos**	**3.02**	**196**	P		**Pn**	**23 48 27.8**	**+1.5**
SMTH	**Samothraki Isl**	**3.10**	**297**	P		**Pn**	**23 48 26.7**	**-0.7**
SMTH	**Samothraki Isl**	**3.10**	**297**	P		**Pn**	**23 48 26.7**	**-0.7**
LIA	**Limnos Island**	**3.16**	**285**	P		**Pn**	**23 48 29.1**	**+0.8**
LIA	**Limnos Island**	**3.16**	**285**	P		**Pn**	**23 48 29.1**	**+0.8**
RDO	**Rodhopi**	**3.43**	**307**	P		**Pn**	**23 48 32.4**	**+0.5**
RDO	**Rodhopi**	**3.43**	**307**	P		**Pn**	**23 48 32.4**	**+0.5**
APE	**Apeiranthos**	**3.52**	**235**	⇑*i*P		**Pn**	**23 48 32.5**	**-0.7**
APE	**Apeiranthos**	**3.52**	**235**	⇑*i*P		**Pn**	**23 48 32.5**	**-0.7**
KARP	**Karpathos**	**3.91**	**205**	P		**Pn**	**23 48 38.2**	**-0.4**
KARP	**Karpathos**	**3.91**	**205**	P		**Pn**	**23 48 38.2**	**-0.4**
NVR	**Nevrokopi**	**4.62**	**300**	P		**Pn**	**23 48 48.0**	**-0.3**
NVR	**Nevrokopi**	**4.62**	**300**	P		**Pn**	**23 48 48.0**	**-0.3**
IDI	**Anoyia**	**5.12**	**223**	⇓*i*P		**Pn**	**23 48 55.7**	**+0.4**
IDI	**Anoyia**	**5.12**	**223**	⇓*i*P		**Pn**	**23 48 55.7**	**+0.4**
TIRR	**Tirgusor**	**5.36**	**354**	⇓*i*P		**Pn**	**23 48 59.5**	**+1.1**
TIRR	**Tirgusor**	**5.36**	**354**	⇓*i*P		**Pn**	**23 48 59.5**	**+1.1**
SGRR	**Singureni**	**5.62**	**336**	⇓*i*P		**Pn**	**23 49 03.4**	**+1.4**
SGRR	**Singureni**	**5.62**	**336**	⇓*i*P		**Pn**	**23 49 03.4**	**+1.4**
VTS	**Vitosha**	**5.68**	**309**	⇓*i*P		**Pn**	**23 49 03.1**	**+0.1**
VTS	**Vitosha**	**5.68**	**309**	⇓*i*P		**Pn**	**23 49 03.1**	**+0.1**
TLCR		**6.06**	**358**	⇑*i*P		**Pn**	**23 49 09.6**	**+1.5**
TLCR		**6.06**	**358**	⇑*i*P		**Pn**	**23 49 09.6**	**+1.5**
MLR	**Muntele Rosu**	**6.79**	**341**	⇑*i*P		**Pn**	**23 49 19.9**	**+1.7**
MLR	**Muntele Rosu**	**6.79**	**341**	⇑*i*P		**Pn**	**23 49 19.9**	**+1.7**
PLOR	**Plostina**	**6.97**	**345**	⇓*i*P		**Pn**	**23 49 22.3**	**+1.7**
PLOR	**Plostina**	**6.97**	**345**	⇓*i*P		**Pn**	**23 49 22.3**	**+1.7**
VRI	**Vrincioaia**	**6.97**	**346**	⇓*i*P		**Pn**	**23 49 21.9**	**+1.3**
VRI	**Vrincioaia**	**6.97**	**346**	⇓*i*P		**Pn**	**23 49 21.9**	**+1.3**
VOIR		**7.00**	**336**	⇓*i*P		**Pn**	**23 49 22.0**	**+0.9**
VOIR		**7.00**	**336**	⇓*i*P		**Pn**	**23 49 22.0**	**+0.9**
ARR	**Arges**	**7.08**	**333**	⇑*i*P		**Pn**	**23 49 23.3**	**+1.1**
ARR	**Arges**	**7.08**	**333**	⇑*i*P		**Pn**	**23 49 23.3**	**+1

ARMT	**Armutlu**	**1.52**	**351**	PN	**Pb**	**00 10 45.1**	**+0.3**
ARMT	**Armutlu**	**1.52**	**351**	*e*Pn	**Pb**	**00 10 45.1**	**+0.3**
EDC	**Edincik**	**1.63**	**322**	PN	**Pb**	**00 10 46.4**	**-0.4**
EDC	**Edincik**	**1.63**	**322**	*e*Pn	**Pb**	**00 10 46.4**	**-0.4**
GULT	**Gulveren**	**1.70**	**37**	PN	**Pb**	**00 10 47.5**	**-0.5**
GULT	**Gulveren**	**1.70**	**37**	*e*Pn	**Pb**	**00 10 47.5**	**-0.5**

*ISN **24** 00:12:53.1±1.0,35°27.N×44°.61E,h2km±4km,ML2.6*
TEH 24 00:12:55.4,35°.36N×44°.58E,h10km,ML2.6,Iraq

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDHR	**Dehrash**	**1.62**	**113**	*e*Pn	Pn	00 13 23.6	-0.6
IDHR				*e*AMB	AMB	00 13 53.4	
	comp=Z,838nm,0.1s						
IGHG	**Ghaleghazi**	**1.93**	**122**	*e*Pn	Pn	00 13 28.4	-0.1
IGHG				*e*AMB	AMB	00 14 00.7	
	comp=N,619nm,0.1s						
IVIS	**Veis**	**2.04**	**113**	*e*Pn	Pn	00 13 30.3	+0.4
IVIS				*e*Sg	Sb	00 13 59.1	+1.0
IVIS				*e*AMB	AMB	00 14 05.2	
	comp=Z,234nm,0.2s						

*ISN **24** 00:17:29.0±3.0,35°.29N×44°.40E,h14km±10km,ML2.7*
TEH 24 00:17:28.7,35°.28N×44°.42E,h8km,ML2.7,Iraq

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDHR	**Dehrash**	**1.72**	**109**	*e*Pn	Pn	00 17 59.0	-0.1
IDHR				*e*AMB	AMB	00 18 28.7	
	comp=Z,884nm,0.1s						
IGHG	**Ghaleghazi**	**2.01**	**118**	*e*Pn	Pn	00 18 03.0	-0.1
IGHG				*e*AMB	AMB	00 18 44.9	
	comp=Z,425nm,0.3s						
IVIS	**Veis**	**2.14**	**110**	*e*Sg	Sb	00 18 35.4	+1.0
IVIS				*e*Pn	Pn	00 18 04.6	-0.2
IVIS				*e*AMB	AMB	00 18 37.6	
	comp=N,385nm,0.2s						

*ISK **24** 00:29:55.7,40°.00N×41°.37E,h22km,ML2.1/4*
*ATA **24** 00:29:59.5±1.4,39°.85N×41°.81E,h1km±4km,ML2.1, MW2.3*
*ISCJB **24** 00:30:00.4±0.5,39°.81N±0°.03×41°.83E±0°.03,h5km±5km, Error ellipse: s-maj=4.4km s-min=4.0km az=162.9*
*CSEM **24** 00:30:00.0±0.2,39°.77N×41°.78E,h10km,ML2.5,Error ellipse: s-maj=5.2km s-min=4.4km az=19.0*
*DDA **24** 00:30:00.6,39°.80N×41°.81E,h7km,Ml2.5*
ISC 24 00:30:00.1±1.0,39°.82N±0°.02×41°.82E±0°.02,h10km±8km, n31,σ0°91/55,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOMI	**Horasan**	**0.23**	**17**	*e*P	**Pg**	**00 30 04.4**	**-0.6**
HOMI				*e*S	**Sg**	**00 30 09.3**	**+0.9**
HOMI				IAML		00 30 12.6	
	comp=Z,47nm,0.7s						
HOMI	**Horasan**	**0.23**	**17**	*i* P	**Pg**	**00 30 04.1**	**-0.9**
HOMI				*i* S	**Sg**	**00 30 09.4**	**+1.0**
ERZM	**Erzurum**	**0.36**	**284**	*e*P	**Pg**	**00 30 07.5**	**+0.2**
ERZM				*e*S	**Sb**	**00 30 13.3**	**-1.1**
ERZM	**Erzurum**	**0.36**	**284**	*i* P	**Pg**	**00 30 07.3**	**+0.1**
ERZM				*i* S	**Sb**	**00 30 13.3**	**-1.1**
ERZM	**Erzurum**	**0.36**	**284**	P	**Pg**	**00 30 07.3**	**+0.1**
ERZM				S	**Sb**	**00 30 13.3**	**-1.1**
EATA	**Eleskirt**	**0.52**	**85**	*e*P	**Pb**	**00 30 11.5**	**-0.1**
EATA				*e*S	**Sb**	**00 30 19.6**	**+0.3**
EATA				IAML		00 30 25.8	
	comp=Z,3.7nm,0.6s						
EATA	**Eleskirt**	**0.52**	**85**	*i* P	**Pb**	**00 30 11.4**	**-0.1**
EATA				*i* S	**Sb**	**00 30 19.9**	**+0.6**
EATA	**Eleskirt**	**0.52**	**85**	P	**Pb**	**00 30 11.4**	**-0.1**
EATA				S	**Sb**	**00 30 19.9**	**+0.6**
EKAR	**Karacoban**	**0.60**	**161**	*e*P	**Pg**	**00 30 12.1**	**+0.4**
EKAR				*e*S	**Sn**	**00 30 23.7**	**-0.9**
EKAR				IAML		00 30 27.9	
	comp=Z,13nm,0.3s						
EKAR	**Karacoban**	**0.60**	**161**	*i* P	**Pg**	**00 30 11.7**	**0.0**
EKAR				*i* S	**Sn**	**00 30 24.4**	**-0.2**
EKAR	**Karacoban**	**0.60**	**161**	P	**Pg**	**00 30 11.7**	**0.0**
ECAT	**Cat-ERZURUM**	**0.68**	**252**	*e*P	**Pg**	**00 30 13.6**	**+0.3**
ECAT				*e*S	**Sb**	**00 30 24.3**	**+0.5**
ECAT				IAML		00 30 34.2	
	comp=Z,3.7nm,0.5s						
ECAT	**Cat-ERZURUM**	**0.68**	**252**	*i* P	**Pg**	**00 30 12.6**	**-0.7**
ECAT				*i* S	**Sb**	**00 30 24.2**	**+0.5**
ECAT	**Cat-ERZURUM**	**0.68**	**252**	P	**Pg**	**00 30 12.5**	**-0.7**
VRTB	**Varto-Mus**	**0.71**	**203**	PG	**Pg**	**00 30 12.5**	**-1.4**
VRTB				SG	**Sb**	**00 30 25.1**	**+0.5**
VRTB	**Varto-Mus**	**0.71**	**203**	*e*Pg	**Pg**	**00 30 12.5**	**-1.4**
VRTB				*e*Sg	**Sb**	**00 30 25.1**	**+0.5**
SENK	**Senkaya-Erzuru**	**0.85**	**29**	PG	**Pg**	**00 30 14.0**	**-2.4**
SENK				SG	**Sg**	**00 30 27.6**	**+0.1**
SENK	**Senkaya-Erzuru**	**0.85**	**29**	*e*Pg	**Pg**	**00 30 14.0**	**-2.4**
SENK				*e*Sg	**Sg**	**00 30 27.6**	**+0.1**
TUTA	**Tutak**	**0.88**	**118**	*e*P	**Pg**	**00 30 17.1**	**+0.1**
TUTA				*e*S	**Sn**	**00 30 31.8**	**+0.1**
TUTA				IAML		00 30 33.5	
	comp=Z,9.6nm,0.2s						
TUTA	**Tutak**	**0.88**	**118**	*i* P	**Pg**	**00 30 17.1**	**+0.1**
TUTA				*i* S	**Sb**	**00 30 30.2**	**+0.8**
TUTA	**Tutak**	**0.88**	**118**	P	**Pg**	**00 30 17.1**	**+0.1**
TUTA				S	**Sb**	**00 30 30.2**	**+0.8**
AGRB	**Hanur-Agry**	**0.94**	**105**	PN	**Pn**	**00 30 19.1**	**-0.4**
AGRB	**Hanur-Agry**	**0.94**	**105**	*e*Pn	**Pn**	**00 30 19.1**	**-0.4**
KOPT	**Kop Dagi**	**1.03**	**281**	*e*P	**Pn**	**00 30 20.9**	**+0.1**
KOPT				IAML		00 30 46.7	
	comp=Z,3.5nm,0.5s						
KOPT	**Kop Dagi**	**1.03**	**281**	*i* P	**Pn**	**00 30 20.7**	**-0.2**
KOPT				*i* S	**Sn**	**00 30 36.5**	**+1.0**
KOPT	**Kop Dagi**	**1.03**	**281**	P	**Pn**	**00 30 20.7**	**-0.2**
DDEM	**Demirkent**	**1.07**	**357**	*i* P	**Pg**	**00 30 20.8**	**+0.1**
DDEM				*i* S	**Sn**	**00 30 38.2**	**+1.9**
DDEM	**Demirkent**	**1.07**	**357**	P	**Pg**	**00 30 20.8**	**+0.1**
DDEM				S	**Sn**	**00 30 38.2**	**+1.9**
BAYB	**BAYBURT**	**1.27**	**291**	*e*P	**Pb**	**00 30 24.2**	**0.0**
BAYB				IAML		00 30 51.0	
	comp=Z,1.3nm,0.5s						
GURO	**Guroymak-BITLI**	**1.28**	**172**	PN	**Pn**	**00 30 22.7**	**-1.4**
GURO				SN	**Sg**	**00 30 42.0**	**+0.8**
GURO	**Guroymak-BITLI**	**1.28**	**172**	*e*Pn	**Pn**	**00 30 22.7**	**-1.4**
GURO				*e*Sn	**Sg**	**00 30 42.0**	**+0.8**

*IDC **24** 00:30:53.6±1.6,2°.44N×90°.24E,h0km,mb3.8/5,mb1 3.9/7, mb1mx3.5/67,mbtmp3.9/7,ML4.1/2,Error ellipse: s-maj=46.1km s-min=26.9km az=47.0*
*ISCJB **24** 00:30:56.2±1.3,2°.4N±0°.2×90°.2E±0°.1,h33km,mb3.8/5, Error ellipse: s-maj=26.5km s-min=18.6km az=16.5*
ISC 24 00:30:58.7±1.4,2°.4N±0°.2×90°.2E±0°.2,h35km,n8,σ0°76/8, mb3.9/5,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**10.64**	**297**	Pn	**Pn**	**00 33 29.0**	**+0.2**
	0.9nm,0.3s,baz=114,slow=12,SNR=4.8						
PALK				Sn	Sn	00 35 17.0	-10
	1.8nm,0.3s,baz=285,slow=1.3,SNR=6.9						
CMAR	**Chiang Mai Arr**	**18.07**	**28**	P	**P**	**00 35 08.1**	**+0.8**
	0.3nm,0.3s,baz=217,slow=9.6,SNR=3.7						
MKAR	**Makanchi Array**	**44.72**	**352**	P	**P**	**00 39 08.0**	**-0.5**
	0.6nm,0.5s,baz=168,slow=7.4,SNR=7.0						
SONM	**Songino Array**	**47.33**	**15**	P	**P**	**00 39 29.2**	**0.0**
	1.1nm,0.6s,baz=193,slow=9.9,SNR=9.1						
WRA	**Warramunga Arr**	**48.65**	**119**	P	**P**	**00 39 39.6**	**-0.1**
	0.6nm,0.7s,baz=296,slow=8.6,SNR=3.8						
ZALV	**Zalesovo Beam**	**51.54**	**356**	P	**P**	**00 39 59.6**	**-1.3**
	0.7nm,0.4s,baz=176,slow=7.7,SNR=3.7						
HFS	**Hagfors**	**81.20**	**330**	P	**P**	**00 43 11.2**	**+0.4**
	0.9nm,0.7s,baz=83,slow=12,SNR=3.2						
TXAR	**Lajitas Array**	**145.72**	**22**	PKPbc	**PKPbc**	**00 50 35.0**	**+0.2**
	0.3nm,0.7s,baz=222,slow=1.2,SNR=4.2						

*CSEM **24** 00:34:55.4,41°.56N×20°.21E,h30km,ML2.9*
*SKO **24** 00:34:56.1,41°.68N×20°.16E,h7km*
TIR 24 00:34:55.4,41°.56N×20°.21E,h30km,Md2.9/5,3C, Albania

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

PHP	**Peshkopia**	**0.22**	**54**	*i* Pg	Pb	00 35 02.2	+0.3
PHP				*i* Sg	Sb	00 35 07.0	+0.7
PHP	**Peshkopia**	**0.22**	**54**	*i* PG	Pb	00 35 02.2	+0.3
PHP				*i* SG	Sb	00 35 07.0	+0.7
TIR	**Tirane**	**0.33**	**231**	*i* Pg	Pb	00 35 03.2	-0.1
TIR				*i* Sg	Sn	00 35 09.9	-0.1
TIR	**Tirane**	**0.33**	**231**	*i* PG	Pb	00 35 03.2	-0.1
TIR				*i* SG	Sn	00 35 09.9	-0.1
PUK	**Puka**	**0.54**	**334**	*i* Pg	Pn	00 35 07.9	+0.8
PUK				*i* Sg	Sn	00 35 15.0	-0.2
PUK	**Puka**	**0.54**	**334**	*i* PG	Pn	00 35 07.9	+0.7
PUK				*i* SG	Sn	00 35 15.0	-0.2
OHR	**Ohrid**	**0.63**	**135**	*i* Pg	Pn	00 35 09.2	+0.8
OHR				*i* Sg	Sn	00 35 20.2	+2.8
KRUS	**Krusevo**	**0.81**	**103**	*i* Pg	Pb	00 35 11.6	+0.6
KRUS				*i* Sg	Sn	00 35 24.3	+2.5
BCI	**Bajram Curri**	**0.81**	**353**	*i* Pg	Pn	00 35 10.1	-0.8
BCI				*i* Sg	Sn	00 35 24.1	+2.1
BCI	**Bajram Curri**	**0.81**	**353**	*i* PG	Pn	00 35 10.1	-0.8
BCI				*i* SG	Sn	00 35 24.1	+2.2
BIA	**Bitola**	**1.00**	**122**	*i* Pg	Pb	00 35 15.8	+1.7
BIA				*i* Sg	Sb	00 35 30.8	+3.8

*IDC **24** 01:05:46.2±0.5,32°.50S×178°.60W,h0km,mb4.7/13, mb1 4.8/15,mb1mx4.5/45,mbtmp4.7/15,ML4.7/2,MS3.9/21, Ms1 3.9/21,ms1mx3.7/41,Error ellipse: s-maj=18.5km s-min=15.8km az=76.0*
*BJI **24** 01:05:46.0,33°.10S×177°.40W,h57km,mb5.2/11, mB5.5/10,Ms5.1/4,Ms7 4.7/5*
*ISCJB **24** 01:05:47.7±0.2,32°.77S±0°.03×178°.90W±0°.05,h10km, mb4.9/46,MS4.0/20,Error ellipse: s-maj=7.1km s-min=2.3km az=25.6*
*WEL **24** 01:05:47.0,32°.70S×178°.56W,h12km,ML5.6/26,ML5.6/4*
*NEIC **24** 01:05:47.8±2.9,32°.70S×178°.56W,h12km±3km,mb4.9/39, Error ellipse: s-maj=18.2km s-min=11.1km az=104.0*
ISC 24 01:05:47.3±0.3,32°.79S±0°.04×178°.48W±0°.06,h10km, n315,σ2°23/316,mb4.9/45,MS4.0/20,1C,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.55**	**8**	P	**Pn**	**01 06 42.8**	**+0.4**
GLKZ	**Green Lake**	**3.55**	**8**	S	**Sn**	**01 07 20.0**	**-4.4**
RAO	**Raoul Island**	**3.56**	**8**	Pn	**Pn**	**01 06 41.0**	**-1.5**
	89nm,0.3s,baz=0.0,slow=20,SNR=2.0						
RAO				Sn	**Sn**	**01 07 20.1**	**-4.6**
	200nm,0.3s,baz=107,slow=19,SNR=4.1						
RAO				LR	LR	01 07 46.2	
	comp=Z,712nm,20.2s,baz=145,slow=36						
RAO	**Raoul Island**	**3.56**	**8**	*e*Pn	**Pn**	**01 06 41.0**	**-1.5**
RAO				*e*Pn	Pb	01 06 43.9	-6.4
RAO				*e*Sn	**Sn**	**01 07 20.1**	**-4.6**
RAO				*e*Sn	Sb	01 07 23.8	-10
RIZ	**Raoul Island**	**3.56**	**8**	S	**Sn**	**01 07 21.6**	**-3.2**
RIZ	**Raoul Island**	**3.56**	**8**	P	**Pn**	**01 06 43.1**	**+0.4**
MXZ	**Matakaoa Point**	**5.44**	**208**	*e*Pn	**Pn**	**01 07 08.6**	**+0.2**
MXZ				*e*Sn	**Sn**	**01 08 10.6**	**-0.4**
MXZ	**Matakaoa Point**	**5.44**	**208**	P	**Pn**	**01 07 09.5**	**+1.2**
WMGZ	**Waiomatatini S**	**5.62**	**206**	P	**Pn**	**01 07 12.5**	**+1.6**
WMGZ	**Waiomatatini S**	**5.62**	**206**	S	**Sn**	**01 08 15.8**	**+0.3**
PKGZ	**Pakihiroa**	**5.81**	**208**	P	**Pn**	**01 07 15.2**	**+1.6**
PKGZ	**Pakihiroa**	**5.81**	**208**	S	**Sn**	**01 08 18.6**	**-1.7**
HAZ	**Te Kaha**	**5.82**	**211**	P	**Pn**	**01 07 14.7**	**+1.1**
HAZ	**Te Kaha**	**5.82**	**211**	S	**Sn**	**01 08 21.4**	**+1.0**
PUZ	**Puketiti**	**5.90**	**206**	P	**Pn**	**01 07 14.7**	**-0.1**
PUZ	**Puketiti**	**5.90**	**206**	S	**Sn**	**01 08 21.0**	**-1.6**
WIZ	**White Island**	**5.91**	**216**	P	**Pn**	**01 07 19.0**	**+4.2**
RUGZ	**Raukumara Rang**	**6.04**	**210**	P	**Pn**	**01 07 17.7**	**+1.0**
RUGZ	**Raukumara Rang**	**6.04**	**210**	S	**Sn**	**01 08 24.5**	**-1.5**
TWGZ	**Tauwhareparae**	**6.10**	**207**	P	**Pn**	**01 07 17.9**	**+0.4**
TWGZ	**Tauwhareparae**	**6.10**	**207**	P	**Pn**	**01 07 18.6**	**+1.1**
TWGZ	**Tauwhareparae**	**6.10**	**207**	S	**Sn**	**01 08 28.5**	**+1.1**
WHRZ	**Whale Island**	**6.27**	**215**	P	**Pn**	**01 07 24.5**	**+4.6**
CNGZ	**Carnagh Statio**	**6.29**	**204**	P	**Pn**	**01 07 20.5**	**+0.4**
CNGZ	**Carnagh Statio**	**6.29**	**204**	S	**Sn**	**01 08 32.4**	**+0.5**
TKGZ	**Te Karaka**	**6.38**	**207**	P	**Pn**	**01 07 23.2**	**+1.9**
TKGZ	**Te Karaka**	**6.38**	**207**	S	**Sn**	**01 08 31.6**	**-2.6**
MWZ	**Matawai**	**6.42**	**209**	P	**Pn**	**01 07 22.3**	**+0.4**
MWZ	**Matawai**	**6.42**	**209**	S	**Sn**	**01 08 33.6**	**-1.6**
OPRZ	**Ohinepanea**	**6.47**	**217**	P	**Pn**	**01 07 25.8**	**+3.2**
MARZ	**Manawahe**	**6.52**	**216**	P	**Pn**	**01 07 26.5**	**+3.3**
URZ	**Urewera**	**6.53**	**212**	Pn	**Pn**	**01 07 25.3**	**+1.9**
	15nm,0.3s,baz=284,slow=4.2,SNR=41						
URZ				Sn	**Sn**	**01 08 38.1**	**+0.1**
	21nm,0.3s,baz=230,slow=17,SNR=9.8						
URZ				LR	LR	01 09 05.8	
	comp=Z,130nm,20.6s,baz=46,slow=30						
URZ	**Urewera**	**6.53**	**212**	*e*Pn	**Pn**	**01 07 24.6**	**+1.2**
URZ				*e*Pn	**Pn**	**01 07 25.3**	**+1.9**
URZ				*e*Sn	**Sn**	**01 08 38.1**	**+0.1**
URZ				*e*Sn	**Sn**	**01 08 38.7**	**+0.7**
URZ	**Urewera**	**6.53**	**212**	P	**Pn**	**01 07 23.8**	**+0.4**
RIGZ	**Rimuhau**	**6.65**	**206**	P	**Pn**	**01 07 25.2**	**+0.2**
MKRZ	**Makatiti**	**6.74**	**216**	P	Pn	01 07 31.4	+5.1
KARZ	**Kaharoa**	**6.76**	**218**	P	**Pn**	**01 07 31.0**	**+4.4**
OMRZ	**Omania**	**6.76**	**217**	P	**Pn**	**01 07 29.9**	**+3.3**
OMRZ	**Omania**	**6.76**	**217**	P	**Pn**	**01 07 29.9**	**+3.3**
PRGZ	**Paritu Road**	**6.79**	**205**	P	**Pn**	**01 07 27.3**	**+0.2**
KMRZ	**Kaimai**	**6.80**	**221**	P	**Pn**	**01 07 31.4**	**+4.3**
TARZ	**Mount Tarawera**	**6.80**	**216**	P	**Pn**	**01 07 30.4**	**+3.3**
MUGZ	**Murupara**	**6.87**	**213**	P	**Pn**	**01 07 28.7**	**+0.7**
SNGZ	**Shannon Statio**	**6.88**	**208**	P	**Pn**	**01 07 30.7**	**+2.6**
RTZ	**Ruatahuna**	**6.88**	**211**	P	**Pn**	**01 07 28.5**	**+0.2**
KNZ	**Kokohu**	**6.96**	**206**	P	**Pn**	**01 07 28.9**	**-0.3**
MHGZ	**Mahia Peninsul**	**6.99**	**204**	P	**Pn**	**01 07 28.4**	**-0.3**
MHGZ	**Mahia Peninsul**	**6.99**	**204**	S	**Sn**	**01 08 46.2**	**-3.0**
OUZ	**Omahuta**	**7.01**	**248**	*e*Pn	**Pn**	**01 07 33.9**	**+3.9**
OUZ				*e*Sn	**Sn**	**01 08 51.0**	**+1.3**
OUZ	**Omahuta**	**7.01**	**248**	P	**Pn**	**01 07 34.2**	**+4.3**
PRRZ	**Plateau Road**	**7.06**	**215**	P	**Pn**	**01 07 33.1**	**+2.5**
ALRZ	**Allen Road**	**7.13**	**215**	P	**Pn**	**01 07 34.6**	**+2.9**
ALRZ	**Allen Road**	**7.13**	**215**	S	**Sn**	**01 08 51.0**	**-1.8**
MTHZ	**Maungataniwha**	**7.14**	**211**	P	**Pn**	**01 07 33.5**	**+1.7**
WHHZ	**Waihua**	**7.17**	**208**	P	**Pn**	**01 07 35.2**	**+3.0**
MRHZ	**Matea Rd**	**7.32**	**213**	P	**Pn**	**01 07 34.5**	**+0.2**
NMHZ	**Naumai**	**7.36**	**210**	P	**Pn**	**01 07 36.9**	**+2.0**
TLZ	**Tolley Road**	**7.37**	**220**	P	**Pn**	**01 07 38.4**	**+3.5**
WHTZ	**Whakaora**	**7.40**	**216**	P	Pn	01 07 40.2	+4.8
ARHZ	**Aropaoanui**	**7.43**	**208**	P	**Pn**	**01 07 36.7**	**+1.1**
WATZ	**Wairara**	**7.55**	**217**	P	**Pn**	**01 07 39.4**	**+2.1**
BKZ	**Black Stump Fm**	**7.55**	**211**	*e*Pn	**Pn**	**01 07 37.9**	**+0.4**
BKZ				*e*Sn	**Sn**	**01 09 02.2**	**-1.0**
BKZ	**Black Stump Fm**	**7.55**	**211**	P	**Pn**	**01 07 38.0**	**+0.6**
BKZ	**Black Stump Fm**	**7.55**	**211**	S	**Sn**	**01 09 00.4**	**-2.7**
RITZ	**Rihia Road**	**7.69**	**215**	P	**Pn**	**01 07 42.6**	**+3.2**
MCHZ	**McNeill Hill**	**7.70**	**209**	P	**Pn**	**01 07 42.2**	**+2.8**
CKHZ	**Cape Kidnapper**	**7.74**	**206**	P	**Pn**	**01 07 39.8**	**-0.1**
KATZ	**Kakaramea**	**7.77**	**216**	P	**Pn**	**01 07 43.8**	**+3.3**
KWHZ	**Kaweka Forest**	**7.80**	**210**	P	**Pn**	**01 07 41.4**	**+0.5**
KWHZ	**Kaweka Forest**	**7.80**	**210**	S	**Sn**	**01 09 07.2**	**-2.1**
HIZ	**Hauiti**	**7.87**	**222**	*e*Pn	**Pn**	**01 07 43.7**	**+1.9**
KRVZ	**Karewarewa**	**7.89**	**215**	P	**Pn**	**01 07 44.4**	**+2.2**
KAHZ	**Kahuranaki**	**7.93**	**207**	P	**Pn**	**01 07 41.2**	**-1.5**
WTVZ	**West Tongariro**	**7.93**	**216**	P	**Pn**	**01 07 43.8**	**+1.1**
TWVZ	**Taurewa**	**7.97**	**216**	P	**Pn**	**01 07 45.0**	**+1.7**
NGZ	**Ngauruhoe**	**7.97**	**215**	P	**Pn**	**01 07 44.5**	**+1.2**
NGZ	**Ngauruhoe**	**7.97**	**215**	P	**Pn**	**01 07 44.5**	**+1.2**
KRHZ	**Kereru**	**8.00**	**210**	P	**Pn**	**01 07 43.3**	**-0.4**
BHHZ	**Black Hill Sta**	**8.01**	**212**	P	**Pn**	**01 07 43.8**	**0.0**
TUVZ	**Tukino**	**8.02**	**215**	P	**Pn**	**01 07 44.9**	**+0.9**
TUVZ	**Tukino**	**8.02**	**215**	S	**Sn**	**01 09 10.3**	**-4.5**
COVZ	**Chateau Observ**	**8.02**	**215**	P	**Pn**	**01 07 46.0**	**+2.1**
FWVZ	**Far West T-bar**	**8.06**	**215**	P	**Pn**	**01 07 45.4**	**+0.9**
WHVZ	**Whangaehu Hut**	**8.06**	**215**	P	**Pn**	**01 07 46.2**	**+1.6**
WHVZ	**Whangaehu Hut**	**8.06**	**215**	S	**Sn**	**01 09 13.1**	**-2.9**
MOVZ	**Moawhango**	**8.08**	**214**	P	**Pn**	**01 07 45.7**	**+0.9**
TRVZ	**Turoa**	**8.10**	**215**	P	**Pn**	**01 07 46.9**	**+1.9**
PKVZ	**Pokaka**	**8.19**	**216**	P	**Pn**	**01 07 48.2**	**+2.0**
PNHZ	**Pukenui**	**8.30**	**210**	P	**Pn**	**01 07 46.6**	**-1.1**
PNHZ	**Pukenui**	**8.30**	**210**	S	**Sn**	**01 09 17.4**	**-4.2**
VRZ	**Vera Road**	**8.36**	**219**	P	**Pn**	**01 07 52.8**	**+4.2**
PRHZ	**Porangahau**	**8.43**	**206**	P	**Pn**	**01 07 48.6**	**-0.9**
TSZ	**Takapari Road**	**8.52**	**210**	P	**Pn**	**01 07 49.7**	**-1.1**
DVHZ	**Dannevirke**	**8.64**	**208**	P	**Pn**	**01 07 52.0**	**-0.4**
WAZ	**Wanganui**	**8.72**	**215**	P	**Pn**	**01 07 54.7**	**+1.2**
POWZ	**Post Office Ro**	**8.88**	**210**	P	**Pn**	**01 07 57.2**	**+1.6**
PRWZ	**Pori Road**	**8.94**	**208**	P	**Pn**	**01 07 56.6**	**+0.2**
BFZ	**Birch Farm**	**8.94**	**207**	*e*Pn	**Pn**	**01 07 55.5**	**-0.9**
BFZ				*e*Sn	**Sn**	**01 09 31.1**	**-6.1**
BFZ	**Birch Farm**	**8.94**	**207**	P	**Pn**	**01 07 54.7**	**-1.7**
MRZ	**Mangatainoka R**	**9.19**	**210**	P	**Pn**	**01 07 58.4**	**-1.4**
OGWZ	**Otaki Gorge**	**9.49**	**211**	P	**Pn**	**01 08 02.4**	**-1.5**
MTW	**Mount Morrison**	**9.64**	**208**	P	**Pn**	**01 08 03.6**	**-2.4**
TRWZ	**Traveller**	**9.77**	**207**	P	**Pn**	**01 08 06.0**	**-1.8**
PAWZ	**Paruwai Farm**	**9.86**	**208**	P	**Pn**	**01 08 08.0**	**-1.0**
DUWZ	**D'Urville Isla**	**10.05**	**215**	P	**Pn**	**01 08 13.8**	**+2.2**
THZ	**Tophouse**	**11.28**	**215**	*e*Pn	**Pn**	**01 08 26.9**	**-1.5**
THZ				*e*Sn	**Sn**	**01 10 27.5**	**-7.1**
KHZ	**Kahutara**	**11.50**	**211**	*e*Pn	**Pn**	**01 08 27.8**	**-3.6**
OXZ	**Oxford**	**12.89**	**213**	*e*Pn	**Pn**	**01 08 48.7**	**-1.8**
OXZ				*e*Sn	Sn	01 10 59.5	-15
MOZ	**McQueen's Vall**	**12.93**	**210**	*e*Sn	Sn	01 11 01.9	-13
RPZ	**Rata Peaks**	**13.65**	**214**	Pn	Pn	01 08 54.7	-6.1
	1.0nm,0.3s,baz=200,slow=4.7,SNR=4.9						
RPZ				Sn	Sn	01 11 18.5	-14
	2.5nm,0.3s,baz=293,slow=22,SNR=7.6						
MSVF	**Nonsavu**	**15.31**	**347**	*e*Pn	**Pn**	**01 09 22.2**	**-1.4**
	60nm,1.2s						
WKZ	**Wanaka**	**15.45**	**215**	*e*Pn	Pn	01 09 16.9	-8.3
	159nm,1.8s						
MLZ	**Mavora Lakes**	**16.28**	**216**	*e*Pn	**Pn**	**01 09 32.1**	**-3.9**
	132nm,1.8s						
DZM	**Mont Dzumac**	**17.10**	**305**	Pn	**Pn**	**01 09 47.8**	**+1.3**
	0.3nm,0.3s,baz=104,slow=14,SNR=8.9						
DZM				LR	LR	01 15 08.1	
	comp=Z,1μm,19.1s,baz=130,slow=33						
DZM	**Mont Dzumac**	**17.10**	**305**	*e*P	**P**	**01 09 50.8**	**+2.5**
	198nm,1.2s						
DZM				*e*LR	LR	01 14 07.6	
	2μm,23.6s						
DZM	**Mont Dzumac**	**17.10**	**305**	*e*Pn	**P**	**01 09 50.2**	**+2.0**
	122nm,1.3s						
RAR	**Rarotonga**	**20.23**	**60**	LR	LR	01 18 28.5	
	comp=Z,169nm,18.9s,baz=266,slow=38						
ARMA	**Armidale**	**25.53**	**267**	*e*P	**P**	**01 11 17.6**	**+1.4**
	62nm,1.9s						
EIDS	**Eidsvold**	**27.54**	**278**	*e*P	**P**	**01 11 35.5**	**+1.1**
	50nm,1.8s						
TAU	**Tasmania Unive**	**28.66**	**239**	*e*P	**P**	**01 11 43.4**	**-0.7**
	49nm,1.2s						
PAE	**Paea**	**30.05**	**67**	*e*T	T	01 43 14.0	
	13nm,0.3s						
PPT2	**Papeete2**	**30.09**	**67**	*e*LR	LR	01 19 10.6	
	393nm,24.5s						
PPT2	**Papeete2**	**30.09**	**67**	*e*T	T	01 43 18.0	
	12nm,0.3s						
PPT	**Papeete**	**30.11**	**67**	LR	LR	01 24 41.5	
	comp=Z,123nm,18.2s,baz=226,slow=38						
TIAR	**Tiarei**	**30.29**	**67**	*e*T	T	01 43 31.9	
	3.6nm,0.3s						
PMOR	**Pomariorio Ree**	**32.93**	**65**	*e*T	T	01 46 50.2	
	3.6nm,0.2s						
VAH	**Vaihoa**	**32.99**	**65**	*e*T	T	01 46 55.0	
	34nm,0.3s						
STKA	**Stephens

	4.5nm,0.9s								
PETK	**Petropavlovsk-**	**88.02**	**346**		P		**P**	**01 18 37.0**	**-0.2**
	5.0nm,0.9s,baz=144,slow=12,SNR=3.0								
PEA1	**Petropavlovsk-**	**88.02**	**346**		*e*P		**P**	**01 18 37.0**	**-0.2**
EDW2	**Edwards Air Fo**	**88.03**	**46**		P		**P**	**01 18 40.8**	**+3.0**
	baz=227								
VES	**Vestal, Richgr**	**88.04**	**44**		P		**P**	**01 18 40.6**	**+2.9**
	baz=226								
TPFO	**Pinon Flats**	**88.12**	**48**		P		**P**	**01 18 41.4**	**+3.0**
	baz=228								
PFO	**Pinyon Flats O**	**88.12**	**48**		P		**P**	**01 18 41.5**	**+3.2**
	baz=228								
PFO	**Pinyon Flats O**	**88.12**	**48**		*e*P		**P**	**01 18 42.1**	**+3.8**
	6.3nm,0.9s								
XPFO	**Pæon Flat**	**88.12**	**48**		*e*P		**P**	**01 18 42.1**	**+3.8**
	7.2nm,1.0s								
ISA	**Isabella, Lake**	**88.28**	**45**		P		**P**	**01 18 42.1**	**+3.2**
	baz=227								
ISA	**Isabella, Lake**	**88.28**	**45**		*e*P		**P**	**01 18 42.6**	**+3.7**
	8.6nm,1.0s								
BELC	**Belle Mtn. Jos**	**88.67**	**47**		P		**P**	**01 18 44.6**	**+3.7**
	baz=228								
CMB	**Columbia Colle**	**88.81**	**42**		*e*P		**P**	**01 18 44.3**	**+3.0**
	5.6nm,1.1s								
USRK	**Ussuriysk Ar.**	**88.92**	**327**		P		**P**	**01 18 41.1**	**-0.6**
	1.9nm,0.6s,baz=170,slow=4.5,SNR=5.2								
HEC	**Hector,Ludlow**	**89.01**	**47**		P		**P**	**01 18 45.7**	**+3.3**
	baz=226								
GSC	**Goldstone, Bar**	**89.04**	**46**		P		**P**	**01 18 45.2**	**+2.7**
	baz=228								
GSC	**Goldstone, Bar**	**89.04**	**46**		*e*P		**P**	**01 18 45.9**	**+3.3**
	8.9nm,1.3s								
MPMC	**Manual Prospec**	**89.13**	**45**		P		**P**	**01 18 46.2**	**+3.0**
	baz=227								
GMRC	**Granite Mounta**	**89.39**	**47**		P		**P**	**01 18 47.8**	**+3.5**
	baz=228								
GMRC	**Granite Mounta**	**89.39**	**47**		*e*P		**P**	**01 18 47.4**	**+3.0**
TUQ	**Turquoise Moun**	**89.66**	**46**		*e*P		**P**	**01 18 45.3**	**-0.2**
WAKR	**Walker**	**89.67**	**42**		*e*P		**P**	**01 18 49.0**	**+3.4**
	8.9nm,1.3s								
YBH	**Yreka Blue Hor**	**90.16**	**38**		LR		LR	01 52 01.7	
	comp=Z,55nm,20.9s,baz=192,slow=31								
NV01	**Mina Array Sit**	**90.27**	**43**		*e*P		**P**	**01 18 50.9**	**+2.4**
NVAR	**Mina Array Bea**	**90.27**	**43**		P		**P**	**01 18 49.0**	**+0.6**
	4.4nm,1.1s,baz=220,slow=8.0,SNR=12								
NVAR					LR		LR	01 54 19.1	
	comp=Z,46nm,18.1s,baz=96,slow=32								
NV11	**Mina Array Sit**	**90.35**	**43**		*e*P		**P**	**01 18 51.4**	**+2.6**
	0.4nm,1.3s								
TPNV	**Topopah Spring**	**90.47**	**45**		P		**P**	**01 18 52.3**	**+3.0**
	baz=228								
TPNV	**Topopah Spring**	**90.47**	**45**		*e*P		**P**	**01 18 52.8**	**+3.5**
	3.2nm,0.9s								
W13A	**Hualapai Mount**	**90.70**	**48**		*e*P		**P**	**01 18 54.3**	**+3.8**
	12nm,1.7s								
KVN	**Kaiserville**	**90.81**	**43**		*e*P		**P**	**01 18 53.7**	**+2.8**
	6.8nm,1.5s								
TUC	**Tucson**	**90.92**	**52**		*e*P		**P**	**01 18 55.7**	**+4.3**
	17nm,1.6s								
X16A	**Lo Mia Camp, P**	**91.81**	**50**		*e*P		**P**	**01 18 59.9**	**+4.2**
	5.1nm,1.1s								
J05D	**Fort Rock, OR**	**92.03**	**38**		P		**P**	**01 18 59.0**	**+2.6**
	baz=225								
MONO	**Monmouth DOGAM**	**92.14**	**36**		*e*P		**P**	**01 18 53.8**	**-2.8**
GYA	**Guiyang**	**92.38**	**300**		*e*P		**P**	**01 18 56.0**	**-2.4**
GYA					pP		sP	01 19 12.8	+10
GYA					PP		**PP**	**01 22 43.0**	**+3.4**
GYA					SKS		**SKSac**	**01 29 23.4**	**-8.7**
GYA					S		**S**	**01 29 56.8**	**-5.4**
GYA					sS		sS	01 30 24.3	+17
GYA					pmax		pmax		
	comp=Z,10.0nm,1.0s								
GYA					pmax		pmax		
	comp=Z,120nm,6.3s								
U15A	**North Rim**	**92.55**	**48**		*e*P		**P**	**01 19 02.6**	**+3.5**
	2.6nm,1.0s								
WVOR	**Wild Horse Val**	**92.81**	**40**		*e*S		**S**	**01 30 04.2**	**-1.2**
CM31	**Chiang Mai Arr**	**93.80**	**289**		*e*PP		PP	01 22 49.0	-1.7
CM31					*e*S		**S**	**01 30 17.8**	**+3.0**
CMAR	**Chiang Mai Arr**	**93.80**	**289**		PP		PP	01 22 49.0	-1.7
	1.6nm,0.3s,baz=140,slow=6.9,SNR=6.6								
NIHS	**Ingelmoor High**	**94.70**	**34**		*e*P		**P**	**01 19 11.5**	**+3.2**
CD2	**Chengdu**	**97.01**	**302**		*e*P		P	01 19 15.5	-3.9
HHC	**Hu-ho-hao-te**	**97.59**	**314**		*e*P		**P**	**01 19 19.1**	**-2.8**
HHC					S		S	01 30 36.8	-10
HHC					pmax		pmax		
	comp=Z,16nm,1.4s								
HHC					pmax		pmax		
	comp=Z,61nm,8.1s								
HHC					LR		LR		
	comp=N,240nm,18.0s								
HHC					LR		LR		
	comp=E,200nm,17.8s								
HHC					LR		LR		
	comp=Z,220nm,17.4s								
PDAR	**Pinedale Array**	**98.14**	**44**		LR		LR	01 54 35.4	
	comp=Z,45nm,20.2s,baz=288,slow=30								
HRY	**Holter Researc**	**99.29**	**40**		*e*P		**Pdif**	**01 19 27.6**	**-1.8**
WHY	**Whitehorse**	**99.71**	**20**		*e*Pdif		**Pdif**	**01 19 31.9**	**+1.0**
	14nm,1.8s								
LZH	**Lanzhou**	**99.81**	**307**		*e*P		**Pdif**	**01 19 26.1**	**-5.9**
LZH					pP		sP	01 19 47.3	+11
LZH					sP		pP	01 19 53.8	+18
LZH					*e*PP		**PP**	**01 23 44.3**	**+7.3**
LZH					pmax		pmax		
	comp=Z,26nm,0.9s								
LZH					pmax		pmax		
	comp=Z,110nm,6.4s								
LZH					LR		LR		
	comp=N,170nm,15.0s								
LZH					LR		LR		
	comp=E,170nm,15.3s								
LZH					LR		LR		
	comp=Z,240nm,18.4s								
YKA	**Yellowknife Ar**	**107.77**	**26**		PKiKP		**PKiKP**	**01 24 13.8**	**-0.1**
	0.3nm,0.7s,baz=242,slow=1.6,SNR=7.1								
YKA					PKKPbc		**PKKPbc**	**01 35 28.3**	**-0.8**
	0.6nm,0.7s,baz=40,slow=3.1,SNR=10								
YKB5	**Yellowknife Ar**	**107.77**	**26**		*e*PKiKP		**PKiKP**	**01 24 13.8**	**-0.1**
YKB5					*e*PKKPbc		**PKKPbc**	**01 35 28.3**	**-0.8**
WMQ	**Urumqi**	**114.36**	**308**		*e*PKP		PKPdf	01 24 21.1	-6.0
MK01	**Makanchi Array**	**118.96**	**309**		*e*PKPdf		**PKPdf**	**01 24 34.5**	**-1.3**
MK31	**Makanchi Array**	**118.97**	**309**		*e*PKPdf		**PKPdf**	**01 24 35.0**	**-0.8**
MK32	**Makanchi Array**	**118.97**	**309**		*e*PKPdf		**PKPdf**	**01 24 34.9**	**-0.9**
MKAR	**Makanchi Array**	**118.97**	**309**		PKP		**PKPdf**	**01 24 34.9**	**-0.9**
	1.2nm,0.6s,baz=167,slow=1.1,SNR=12								
MKAR	**Makanchi Array**	**118.97**	**309**		*e*PKPdf		**PKPdf**	**01 24 35.0**	**-0.9**
ZALV	**Zalesovo Beam**	**119.53**	**318**		PKP		**PKPdf**	**01 24 35.3**	**-1.3**
	1.6nm,0.6s,baz=122,slow=0.8,SNR=6.4								
ZAA1	**Zalesovo Array**	**119.53**	**318**		*e*PKPdf		**PKPdf**	**01 24 35.3**	**-1.3**
RES	**Resolute Bay**	**119.64**	**18**		*e*PKPdf		**PKPdf**	**01 24 36.5**	**+0.2**
KURK	**Kurchatov**	**122.38**	**313**		*e*PKPdf		**PKPdf**	**01 24 41.0**	**-1.2**
KURK					*e*PKPdf		**PKiKP**	**01 24 41.4**	**-1.0**
KURBB	**Kurchatov Arra**	**122.42**	**313**		PKP		**PKPdf**	**01 24 41.0**	**-1.2**
	3.1nm,0.5s,baz=116,slow=2.2,SNR=19								
KK31	**Karatay Array**	**126.02**	**302**		*e*PKPdf		**PKPdf**	**01 24 49.2**	**-0.3**
KKAR	**Karatay Array**	**126.02**	**302**		*e*PKPdf		**PKPdf**	**01 24 49.2**	**-0.3**
BVAR	**Borovoye Array**	**127.80**	**315**		PKP		**PKPdf**	**01 24 52.1**	**-0.5**
	3.1nm,0.5s,baz=93,slow=2.9,SNR=24								
BRVK	**Borovoye**	**127.87**	**315**		*e*PKPdf		**PKPdf**	**01 24 52.6**	**-0.1**
SPA0	**Spitsbergen Ar**	**134.05**	**356**		*e*PKPdf		**PKPdf**	**01 25 04.1**	**+0.4**
SPITS	**Spitsbergen Ar**	**134.05**	**356**		PKP		**PKPdf**	**01 25 04.1**	**+0.4**
	7.7nm,0.8s,baz=34,slow=5.9,SNR=9.4								
ABKAR	**Akbulak array**	**134.12**	**309**		*e*PKPdf		**PKPdf**	**01 25 04.6**	**0.0**
GEYT	**Alibeck**	**134.15**	**293**		PKP		**PKPdf**	**01 25 05.0**	**-0.1**
	1.5nm,0.6s,baz=194,slow=3.1,SNR=4.4								
ARU	**Arti**	**134.65**	**319**		*e*PKPdf		**PKPdf**	**01 25 05.3**	**0.0**
AKTO	**Aktyubinsk**	**135.37**	**311**		PKP		**PKPdf**	**01 25 07.0**	**0.0**
	1.5nm,0.6s,baz=74,slow=8.7,SNR=6.9								
ARA0	**ARCESS Array S**	**140.82**	**347**		*e*PKPdf		**PKPdf**	**01 25 15.9**	**-0.5**
ARA0					*e*SKPbc		**SKPbc**	**01 28 52.6**	**-0.4**
ARCES	**ARCESS Array B**	**140.82**	**347**		PKP		**PKPdf**	**01 25 15.9**	**-0.5**
	4.5nm,0.7s,baz=56,slow=1.4,SNR=9.1								
ARCES					SKPbc		**SKPbc**	**01 28 52.6**	**-0.4**
	2.9nm,0.9s,baz=46,slow=3.9,SNR=3.8								
KONS	**Konsvik**	**145.55**	**352**		*e*P		**PKPdf**	**01 25 25.2**	**+0.4**
MOR8	**Moi Rana**	**145.69**	**351**		*e*PKPbc		**PKPdf**	**01 25 24.8**	**-0.3**
STOK	**Stokkvaagen**	**145.72**	**352**		*e*PKPbc		**PKPdf**	**01 25 25.6**	**+0.6**
KBZ	**Khabaz**	**146.04**	**301**		PKPbc		**PKPdf**	**01 25 26.2**	**-0.1**
	2.1nm,0.8s,baz=74,slow=2.1,SNR=7.2								
OBN	**Obninsk**	**146.86**	**323**		*e*PKPdf		**PKPdf**	**01 25 28.7**	**+1.4**
FIA1	**FINESS Array S**	**147.22**	**338**		*e*PKPdf		**PKPdf**	**01 25 28.3**	**+0.5**
FIA1					*e*PKPdf		**PKPbc**	**01 25 29.7**	**-0.3**
FIA0	**FINESS Array S**	**147.22**	**338**		*e*PKPbc		**PKPdf**	**01 25 29.7**	**+2.0**
FINES	**FINESS Array B**	**147.22**	**338**		PKPbc		**PKPdf**	**01 25 29.7**	**+2.0**
	20nm,0.5s,baz=39,slow=4.1,SNR=231								
MOL	**Molde**	**149.95**	**354**		*e*P		**PKPbc**	**01 25 36.5**	**-0.5**
DOMB	**Dombas**	**150.33**	**353**		*e*P		**PKPbc**	**01 25 38.5**	**+0.5**
AKN	**Aaknes**	**150.38**	**355**		*e*P		**PKPbc**	**01 25 38.9**	**+0.7**
NC303	**NORSAR Array S**	**150.84**	**350**		*e*PKPbc		**PKPbc**	**01 25 39.6**	**+0.4**
NC405	**NORSAR Array S**	**150.89**	**350**		*e*PKPbc		**PKPbc**	**01 25 38.5**	**-0.8**
NB201	**NORSAR Array S**	**151.02**	**350**		*e*PKPbc		**PKPbc**	**01 25 39.2**	**-0.5**
NB2	**NORSAR Subarra**	**151.04**	**350**		PKP		**PKPbc**	**01 25 39.5**	**-0.3**
	comp=Z,15nm,0.7s,baz=18,slow=2.6								
NB2	**NORSAR Subarra**	**151.04**	**350**		PKP		**PKPbc**	**01 25 39.5**	**-0.3**
	baz=18,slow=2.6								
NB200	**NORSAR Array S**	**151.04**	**350**		*e*PKPbc		**PKPbc**	**01 25 39.8**	**+0.1**
NOA	**NORSAR Array B**	**151.04**	**350**		PKPbc		**PKPbc**	**01 25 39.8**	**+0.1**
	comp=Z,12nm,0.7s,baz=17,slow=4.1,SNR=42								
NBO02	**NORSAR Array S**	**151.08**	**351**		*e*PKPdf		**PKPdf**	**01 25 34.7**	**+0.7**
FOO	**Floro**	**151.09**	**357**		*e*P		**PKPbc**	**01 25 40.5**	**+0.8**
NBO00	**NORSAR Array S**	**151.11**	**351**		*e*PKPbc		**PKPbc**	**01 25 40.3**	**+0.4**
NAO01	**NORSAR Array S**	**151.27**	**350**		*e*PKPbc		**PKPbc**	**01 25 40.9**	**+0.6**
NC602	**NORSAR Array S**	**151.28**	**350**		*e*PKPbc		**PKPbc**	**01 25 40.5**	**+0.2**
NC602	**NORSAR Array S**	**151.28**	**350**		*e*PKPbc		**PKPbc**	**01 25 40.2**	**0.0**
IZAR	**Zarasai**	**151.30**	**330**		*e*P		**PKPbc**	**01 25 40.8**	**+0.4**
IZAR					IAmb		IAmb	01 25 41.1	
	comp=Z,7.9nm,0.7s								
IDID	**Didziasalis**	**151.38**	**329**		*e*P		**PKPbc**	**01 25 41.0**	**+0.3**
IDID					IAmb		IAmb	01 25 42.2	
	comp=Z,9.5nm,0.8s								
HYA	**Hoyanger**	**151.45**	**355**		*e*P		**PKPbc**	**01 25 41.2**	**+0.6**
HFS	**Hagfors**	**151.49**	**347**		PKPbc		**PKPbc**	**01 25 40.1**	**-0.6**
	comp=Z,15nm,0.6s,baz=111,slow=3.2,SNR=67								
IIGN	**Ignalina**	**151.58**	**330**		*e*P		**PKPbc**	**01 25 41.5**	**+0.4**
IIGN					IAmb		IAmb	01 25 42.6	
	comp=Z,15nm,0.8s								
MMAI	**Mount Meron Ar**	**151.62**	**280**		PKPbc		**PKPbc**	**01 25 42.1**	**+0.1**
	comp=Z,16nm,0.6s,baz=82,slow=6.1,SNR=71								
SUE	**Sulen**	**151.64**	**357**		*e*		**PKPbc**	**01 25 41.9**	**+0.9**
ASK	**Askoy**	**152.19**	**356**		*e*P		**PKPbc**	**01 25 42.5**	**+0.2**
BER	**Bergen**	**152.28**	**356**		*e*P		**PKPbc**	**01 25 42.2**	**-0.3**
KONO	**Kongsberg**	**152.60**	**351**		*e*PKPbc		**PKPbc**	**01 25 43.8**	**+0.5**
KONO	**Kongsberg**	**152.60**	**351**		*e*P		**PKPbc**	**01 25 43.7**	**+0.4**
ODD1	**Odda**	**152.66**	**354**		*e*PKPbc		**PKPbc**	**01 25 44.2**	**+0.8**
LIC	**Lamto**	**152.88**	**166**		*e*PKIKP		**PKPbc**	**01 25 44.7**	**-0.6**
	comp=Z,21nm,0.9s								
AKASG	**Malin Array Be**	**152.90**	**320**		PKPbc		**PKPbc**	**01 25 43.7**	**-0.5**
	comp=Z,3.1nm,0.6s,baz=51,slow=2.4,SNR=20								
AKBB	**Malin Array Si**	**152.90**	**320**		*e*PKPbc		**PKPbc**	**01 25 44.0**	**-0.2**
KIEV	**Kiev**	**152.91**	**320**		*e*PKPbc		**PKPbc**	**01 25 44.0**	**-0.2**
AK11	**Malin Array Si**	**152.94**	**320**		*e*PKPbc		**PKPbc**	**01 25 43.7**	**-0.6**
KIC	**Kosan Boka**	**153.07**	**166**		*e*PKIKP		**PKPbc**	**01 25 44.7**	**-1.1**
	comp=Z,20nm,0.8s								
ILGA	**Ilgaz**	**153.09**	**297**		*e*PKPbc		**PKPbc**	**01 25 45.6**	**+0.3**
BLS5	**Blasjo**	**153.16**	**354**		*e*		**PKPbc**	**01 25 45.5**	**+0.9**
TIC	**Toumodi**	**153.28**	**165**		*e*PKIKP		**PKPbc**	**01 25 44.6**	**-1.7**
BR101	**Keskin Array S**	**153.29**	**294**		*e*PKPdf		**PKPdf**	**01 25 37.2**	**-0.9**
BR101					*e*PKPbc		**sPKPdf**	**01 25 45.0**	**+2.2**
BR131	**Keskin Array S**	**153.29**	**294**		*e*PKPbc		**PKPbc**	**01 25 44.8**	**-0.9**
BRTR	**Keskin Array B**	**153.29**	**294**		PKP		**PKPdf**	**01 25 37.2**	**-0.9**
	comp=Z,0.6nm,1.0s,baz=132,slow=1.8,SNR=4.1								
BRTR					PKPbc		**sPKPdf**	**01 25 45.0**	**+2.2**
	comp=Z,2.9nm,0.5s,baz=147,slow=4.0,SNR=38								
DBIC	**Dimbokro**	**153.34**	**166**		PKPbc		**PKPbc**	**01 25 47.0**	**+0.7**
	comp=Z,3.9nm,0.8s,baz=216,slow=3.8,SNR=3.6								
KMY	**Karmoy**	**153.45**	**356**		*e*P		**PKPbc**	**01 25 46.0**	**+0.8**
SUW	**Suwalki**	**153.78**	**330**		*e*PKPbc		**PKPbc**	**01 25 46.2**	**+0.1**
ANTO	**Ankara**	**153.92**	**295**		*e*PKPbc		**PKPbc**	**01 25 46.8**	**-0.1**
HOMB	**Homborsund**	**154.08**	**352**		*e*P		**PKPbc**	**01 25 47.3**	**+0.8**
SNART	**Snartemo**	**154.16**	**353**		*e*PKPbc		**PKPbc**	**01 25 47.5**	**+0.7**
MUD	**Monsted U'grnd**	**155.75**	**350**		*e*		PKPbc	01 25 56.0	
KWP	**Kalwaria Pacla**	**156.95**	**323**		*e*PKPab		**PKPab**	**01 26 12.7**	**-0.1**
EKA	**Eskdalemuir Ar**	**157.22**	**7**		PKPab		**PKPab**	**01 26 13.1**	**-0.6**
	comp=Z,1.2nm,0.6s,baz=335,slow=2.1,SNR=6.6								
VYHS	**Vyhne**	**159.61**	**325**		*e*PKP		**PKPab**	**01 26 23.6**	**-0.7**
CLL	**Collm**	**159.67**	**339**		*e*PKPab		**PKPab**	**01 26 20.0**	**+1.6**
TOA0	**Torodi Ar. Sit**	**160.45**	**181**		*e*PKPdf		**PKPdf**	**01 25 46.2**	**-1.6**
TOA0					*e*PKPab		**PKPab**	**01 26 30.0**	**+1.4**
TOA0					*e*PKPab		**PKPab**	**01 26 30.0**	**+1.4**
TORD	**Torodi Ar. Bea**	**160.45**	**181**		PKP		**PKPdf**	**01 25 47.9**	**+0.1**
	comp=Z,1.7nm,1.1s,baz=24,slow=1.0,SNR=5.4								
TORD					PKPab		**PKPab**	**01 26 29.6**	**+1.0**
	comp=Z,7.8nm,0.7s,baz=180,slow=2.3,SNR=27								
TORD					PP		**PP**	**01 30 07.6**	**-1.9**
	comp=Z,0.9nm,1.1s,baz=187,slow=10,SNR=3.6								
TOA1	**Torodi Ar. Sit**	**160.45**	**181**		*e*PKPdf		**PKPdf**	**01 25 47.9**	**+0.1**
TOA1					*e*PKPab		**PKPab**	**01 26 29.6**	**+0.9**
TOA1					*e*PP		**PP**	**01 30 07.6**	**-2.0**
GEC2	**GERESS Array S**	**161.54**	**334**		*e*PKPdf		**PKPdf**	**01 25 47.0**	**-1.1**
GERES	**GERESS Array B**	**161.54**	**334**		PKP		**PKPdf**	**01 25 47.0**	**-1.1**
	comp=Z,0.4nm,0.6s,baz=232,slow=1.5,SNR=4.0								

NIED ***24*** *01:13:00,35˚.80N×141˚.00E,h11km,Mw3.5 Best double couple: M0 2.36000×10^14 NP1:φ=184.00000°, δ=32.00000°, λ=-82.00000°. NP2:φ=355.00000°, δ=58.00000°, λ=-95.00000°.*

ISCJB ***24*** *01:13:36.9±0.9,35˚.74N±0˚.04×140˚.99E±0˚.08,h20km±5km, mb3.5/3,Error ellipse: s-maj=11.2km s-min=5.8km az=169.7*

IDC ***24*** *01:13:36.4±1.4,35˚.63N×140˚.79E,h0km,mb3.5/3, mb1 3.6/5,mb1mx3.3/69,mbtmp3.4/5,ML3.0/2,Error ellipse: s-maj=29.1km s-min=21.4km az=80.0*

JMA ***24*** *01:13:37.7±0.1,35˚.75N×140˚.94E,h13km±1km,M3.8*

JMA Felt I J1.

ISC 24 01:13:37.7±1.0,**35˚72N**±0˚.04×**140˚89E**±0˚.08,**h14**km±5km, **n19**,σ0**86**/20,**mb3.5**/3,**2C-1D**,**Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.03**	**239**	↑P	**Pg**	**01 13 40.4**	**+0.1**
CHOJ				S	**Sg**	**01 13 42.4**	**+0.4**
JCN	**Nagara**	**0.64**	**242**	↑P	**Pn**	**01 13 51.9**	**-0.4**
JCN				*e*S	**Sn**	**01 14 02.3**	**+0.1**
JYT	**Yasato**	**0.76**	**312**	P	**Pg**	**01 13 52.1**	**-0.4**
JYT				*e*S	**Sg**	**01 14 02.1**	**-0.4**
BSO4	**Boso 4**	**0.86**	**212**	P	**Pn**	**01 13 55.4**	**+0.2**
JHO	**Hitachi**	**0.93**	**344**	P	**Pb**	**01 13 54.3**	**-1.3**
JHO				*e*S	**Sb**	**01 14 06.6**	**-1.1**
BSO3	**Boso 3**	**0.97**	**199**	↓P	**Pg**	**01 13 56.2**	**-0.2**
BSO1	**Boso 1**	**1.07**	**176**	P	**Pb**	**01 13 56.6**	**-1.0**
MJAR	**Matsushiro Arr**	**2.32**	**291**	Pn	**Pn**	**01 14 15.1**	**-0.4**
MJAR	5.0nm,0.3s,baz=89,slow=9.0,SNR=12			Sn	**Sn**	**01 14 44.2**	**+0.4**
	3.8nm,0.3s,baz=87,slow=27,SNR=7.1						
MAT	**Matsushiro**	**2.33**	**291**	P	**Pn**	**01 14 16.0**	**+0.5**
MAT				*e*S	**Sb**	**01 14 49.3**	**+1.3**
JHJ	**Hachijo jima 2**	**2.75**	**200**	Pn	**Pn**	**01 14 21.0**	**-0.4**
	6.9nm,0.3s,baz=280,slow=18,SNR=2.4						
JHJ				Sn	**Sn**	**01 14 53.4**	**-1.1**
	12nm,0.3s,baz=73,slow=17,SNR=3.0						
H11N2	**WAKE ISLAND Hy**	**27.87**	**118**	T	T	01 48 23.4	
	baz=311,slow=75,SNR=144						
H11N1	**WAKE ISLAND Hy**	**27.88**	**118**	T	T	01 48 23.6	
	baz=311,slow=75,SNR=132						
H11N3	**WAKE ISLAND Hy**	**27.89**	**118**	T	T	01 48 24.4	
	baz=311,slow=75,SNR=146						
H11S3	**WAKE ISLAND Hy**	**28.53**	**120**	T	T	01 49 10.3	
	baz=312,slow=75,SNR=314						
H11S1	**WAKE ISLAND Hy**	**28.53**	**120**	T	T	01 49 09.9	
	baz=312,slow=75,SNR=232						
H11S2	**WAKE ISLAND Hy**	**28.55**	**120**	T	T	01 49 11.0	
	baz=312,slow=75,SNR=220						
MKAR	**Makanchi Array**	**44.47**	**303**	P	**P**	**01 21 48.7**	**+0.4**
	0.8nm,0.8s,baz=95,slow=7.9,SNR=5.1						
ILAR	**Eielson Array**	**50.83**	**32**	P	**P**	**01 22 39.2**	**+1.9**
	0.3nm,0.6s,baz=248,slow=6.2,SNR=4.7						
WRA	**Warramunga Arr**	**55.70**	**187**	P	**P**	**01 23 13.5**	**-0.2**
	0.2nm,0.4s,baz=4.9,slow=7.4,SNR=3.5						

ISCJB ***24*** *01:26:44.8±0.4, 12˚.48N±0˚.06×87˚.62W±0˚.06,h72km±6km, mb3.6/6, Error ellipse: s-maj=13.5km s-min=3.9km az=40.5*

UCR ***24*** *01:26:45.2±2.8, 12˚.45N×87˚.67W,h52km±71km, ML4.0*

IDC ***24*** *01:26:46.7±0.8, 12˚.92N×87˚.06W,h67km±8km, mb3.2/5, mb1 3.6/8,mb1mx3.4/46,mbtmp3.6/8, Error ellipse: s-maj=48.1km s-min=9.8km az=52.0*

ISC 24 01:26:45.7±0.8,**12˚50N**±0˚.07×**87˚59W**±0˚.07,**h68**km±7km, **n35**,σ1**45**/44,**mb3.6**/6,**2C**,**Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNCH	**Conchagua**	**0.81**	**343**	*e*P	**Pn**	**01 27 02.2**	**+0.3**
CNCH				*e*S	**Sn**	**01 27 13.7**	**-0.2**
LCND	**La Caˆ–ada**	**0.86**	**340**	*e*P	**Pn**	**01 27 02.1**	**-0.2**
LCND				*e*S	**Sn**	**01 27 14.4**	**-0.2**
LCND				IAML		01 27 18.7	
	comp=Z,11µm,0.3s						
CNGN	**Cerro Negro**	**0.87**	**90**	*e*P	**Pn**	**01 27 02.1**	**-0.5**
CNGN				*e*S	**Sn**	**01 27 14.6**	**-0.4**
COPN	**Copaltepe**	**1.03**	**108**	↑*e*P	**Pn**	**01 27 04.2**	**-0.2**
MOMN	**Momotombo**	**1.03**	**95**	*e*P	**Pn**	**01 27 04.5**	**0.0**
VSM	**San Miguel**	**1.14**	**324**	*e*P	**Pn**	**01 27 06.4**	**+0.3**
LCY	**Lacayo**	**1.15**	**324**	*e*P	**Pn**	**01 27 05.8**	**-0.3**
BRAN	**Las Pilas**	**1.23**	**79**	*e*P	**Pn**	**01 27 07.8**	**+0.7**
XAVN	**Gruta Xavier**	**1.28**	**105**	*e*P	**Pn**	**01 27 07.8**	**+0.1**
TECA	**Tecapa**	**1.33**	**318**	*e*P	**Pn**	**01 27 06.3**	**-2.2**
MGAN	**Managua**	**1.36**	**105**	*e*P	**Pn**	**01 27 08.5**	**-0.2**
MGAN				*e*S	**Sn**	**01 27 25.8**	**-0.3**
MGAN				AML	AML	01 27 28.6	
	comp=N,983nm,0.3s						
CAHU	**Cacacuatique**	**1.40**	**335**	*e*P	**Pn**	**01 27 10.3**	**+0.8**
CAHU				*e*S	**Sn**	**01 27 28.4**	**+1.0**
MASN	**Masaya**	**1.50**	**110**	*e*P	**Pn**	**01 27 10.3**	**-0.3**
MATN	**Matagalpa**	**1.68**	**75**	*e*P	**Pn**	**01 27 13.6**	**+0.5**
LFRS	**El Faro**	**1.82**	**308**	*e*P	Pn	01 27 11.6	-3.4
LBRS	**Las Brisas**	**1.88**	**311**	*e*P	**Pn**	**01 27 13.5**	**-2.2**
LFU	**La Fuente**	**1.94**	**310**	*e*P	Pn	01 27 13.5	-3.0
CRZ1	**La Cruz**	**2.38**	**126**	*e*P	**Pn**	**01 27 21.1**	**-1.4**
JTS	**JuntasAbangare**	**3.39**	**130**	P	**Pn**	**01 27 37.0**	**+0.8**
	comp=N,4.2nm,0.3s,baz=352,slow=14,SNR=12						
JTS				S	**Sn**	**01 28 15.4**	**+0.1**
	comp=N,10.0nm,

TORD				LR	LR	02 13 05.6		
	comp=Z,53nm,21.6s,baz=175,slow=30							
ROSC	**El Rosal**	**72.41**	**296**	LR	LR	02 24 33.2		
	comp=Z,44nm,18.9s,baz=161,slow=35							
RPN	**Rapa Nui**	**73.76**	**248**	LR	LR	02 23 18.1		
	comp=Z,44nm,19.3s,baz=74,slow=33							
ATD	**Arta Tunnel**	**77.22**	**59**	LR	LR	02 27 14.2		
	comp=Z,81nm,18.5s,baz=148,slow=35							
SJG	**San Juan**	**78.26**	**311**	LR	LR	02 27 24.3		
	comp=Z,34nm,18.3s,baz=99,slow=34							
BRTR	**Keskin Array B**	**95.58**	**36**	P	P	01 56 06.2	+0.5	
	0.6nm,0.9s,baz=197,slow=3.9,SNR=4.4							
BRTR				LR	LR	02 39 50.8		
	comp=Z,30nm,18.4s,baz=125,slow=36							
WSAR	**Wadi Sarin**	**95.81**	**63**	LR	LR	02 35 39.2		
	comp=Z,106nm,21.6s,baz=203,slow=33							
GERES	**GERESS Array B**	**97.36**	**19**	LR	LR	02 35 37.4		
	comp=Z,33nm,19.5s,baz=54,slow=33							
ILAR	**Eielson Array**	**147.35**	**323**	PKPbc	PKPbc	02 02 22.6	-0.6	
	0.3nm,0.7s,baz=52,slow=1.5,SNR=4.2							

*ISCJB **24** 01:50:36.5±0.4, 16.08N±0.02×60.81W±0.04, h56km±4km, mb3.7/10, MS3.5/1, Error ellipse: s-maj=7.3km s-min=2.5km az=158.8*

*NEIC **24** 01:50:36.5±0.0, 16.05N×60.89W, h29km, mb4.0/2, MD4.0(TRN), After TRN.*

*TRN **24** 01:50:36.3, 16.04N×60.88W, h30km, MD4.0*

*IDC **24** 01:50:36.3±6.3, 16.19N×60.74W, h41km±51km, mb3.4/9, mb1 3.8/11, mb1mx3.4/64, mbtmp3.7/11, ML4.0/2, MS3.2/2, Ms1 3.2/2, ms1mx2.6/37, Error ellipse: s-maj=67.7km s-min=18.6km az=74.0*

ISC 24 01:50:36.6±0.9, 16.07N±0.03×60.80W±0.05, h37km±1km, n100, σ1§52/142, mb3.8/10, 7C-6D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
DEG	**La Desirade**	**0.35**	**314**	*i*	P	**Pn**		**01 50 45.6**	**+0.5**
DEG					S	**Sn**		**01 50 51.8**	**-0.2**
DEG	**La Desirade**	**0.35**	**314**	↑	*i*P	**Pn**		**01 50 45.6**	**+0.5**
DEG					eS	**Sn**		**01 50 51.8**	**-0.2**
H05N1	**Guadeloupe/Mar**	**0.35**	**315**		P	**Pn**		**01 50 45.4**	**+0.4**
H05N1					S	**Sn**		**01 50 51.2**	**-0.7**
SFG	**Saint Francois**	**0.42**	**296**	↑	*i*P	**Pn**		**01 50 46.7**	**+0.7**
MGG	**Marie-Galante**	**0.52**	**253**	*i*	P	**Pn**		**01 50 48.2**	**+0.7**
MGG	**Marie-Galante**	**0.52**	**253**	↑	*i*P	**Pn**		**01 50 48.2**	**+0.7**
MDVC	**Dominica, Viel**	**0.74**	**232**	*e*	P	**Pn**		**01 50 50.9**	**+0.4**
MDVC					eS	**Sn**		**01 51 01.7**	**+1.3**
MDPV	**Dominica, Penn**	**0.74**	**234**	↑	*i*P	**Pn**		**01 50 51.3**	**+0.7**
MDPV					eS	**Sn**		**01 52 02.6**	**+2.0**
MDMP	**Dominica, Moor**	**0.75**	**231**	↑	*i*P	**Pn**		**01 50 51.1**	**+0.4**
MDMP					eS	**Sn**		**01 52 02.1**	**+1.2**
SEG	**Port Louis**	**0.75**	**296**	↓	*i*P	**Pn**		**01 50 51.5**	**+0.8**
MDPO	**Dominica; Chan**	**0.80**	**232**	*e*	P	**Pn**		**01 50 51.7**	**+0.4**
MDPO					eS	**Sn**		**01 51 02.9**	**+1.0**
BBL	**Barber's Block**	**0.84**	**230**	*e*	P	**Pn**		**01 50 52.2**	**+0.3**
BBL					eS	**Sn**		**01 51 03.8**	**+0.7**
BBL	**Barber's Block**	**0.84**	**230**	*e*	P	**Pn**		**01 50 52.8**	**+0.3**
BBL					eS	**Sn**		**01 51 03.8**	**+0.7**
TBG	**Guadaloupe-3**	**0.84**	**255**	*e*	P	**Pn**		**01 50 52.7**	**+0.8**
TBG					eS	**Sn**		**01 51 04.4**	**+1.3**
SSG	**Sans Toucher**	**0.84**	**271**	↓	*e*P	**Pn**		**01 50 53.0**	**+0.9**
DLPL	**La Plaine**	**0.85**	**210**	*i*	P	**Pn**		**01 50 52.4**	**+0.3**
DLPL					eS	**Sn**		**01 51 03.8**	**+0.5**
DLPL	**La Plaine**	**0.85**	**210**	↓	*i*P	**Pn**		**01 50 52.4**	**+0.3**
DLPL					eS	**Sn**		**01 51 03.8**	**+0.5**
LZG	**Guadaloupe-1**	**0.94**	**274**	↓	*e*P	**Pn**		**01 50 52.8**	**-0.4**
GDHS	**Morne Mazeau,**	**0.95**	**282**	*e*	Pn	**Pn**		**01 50 53.9**	**+0.5**
GDHS					eSn	**Sn**		**01 51 07.4**	**+1.6**
SVN	**Savane Anatole**	**1.27**	**196**	*e*	P	**Pn**		**01 50 58.2**	**+0.4**
BAMF	**Morne Balai**	**1.29**	**195**	*e*	P	**Pn**		**01 50 58.5**	**+0.3**
CXM	**Morne La Croix**	**1.30**	**196**	*e*	P	**Pn**		**01 50 58.7**	**+0.4**
CXM					eS	**Sn**		**01 51 14.8**	**+0.3**
PCM	**Pelee Case Pet**	**1.31**	**198**	*e*	P	**Pn**		**01 50 58.5**	**+0.2**
PCM	**Pelee Case Pet**	**1.31**	**198**	*e*	P	**Pn**		**01 50 58.7**	**+0.4**
PML	**Morne Lenard**	**1.33**	**196**	*e*	P	**Pn**		**01 51 00.0**	**+1.3**
FDF	**Fort de France**	**1.37**	**194**	*e*	Pn	**Pn**		**01 50 59.7**	**+0.5**
FDF					eSn	**Sn**		**01 51 15.5**	**-0.7**
FDF	**Fort de France**	**1.37**	**194**	↑	*i*P	**Pn**		**01 50 59.7**	**+0.5**
FDF					eS	**Sn**		**01 51 16.1**	**-0.1**
BPA	**Boggy Peak**	**1.40**	**314**	*e*	P	**Pn**		**01 51 01.1**	**+1.4**
BPA					eS	**Sn**		**01 51 18.6**	**+1.6**
BPA	**Boggy Peak**	**1.40**	**314**	*e*	P	**Pn**		**01 51 01.1**	**+1.4**
BPA					eS	**Sn**		**01 51 18.6**	**+1.6**
MLYT	**Lee's Yard**	**1.48**	**296**	*e*	P	**Pn**		**01 51 02.3**	**+1.5**
MLYT					eS	**Sn**		**01 51 20.4**	**+1.5**
MBWH		**1.49**	**297**	↓	*i*P	**Pn**		**01 51 01.9**	**+1.0**
LPMF	**Morne Lapointe**	**1.50**	**186**	*e*	P	**Pn**		**01 51 01.4**	**+0.5**
ZAM	**Aeronautique**	**1.50**	**188**	↓	*e*P	**Pn**		**01 51 01.7**	**+0.7**
TRMF	**Trois Ilets**	**1.54**	**189**	*e*	P	**Pn**		**01 51 02.3**	**+0.7**
BIM	**Bigot**	**1.56**	**190**	*e*	P	**Pn**		**01 51 03.1**	**+1.2**
BIM					eS	**Sn**		**01 51 22.0**	**+1.1**
H05S1	**Guadeloupe/Mar**	**1.64**	**181**		P	**Pn**		**01 51 04.0**	**+1.1**
H05S1					S	**Sn**		**01 51 23.9**	**+1.3**
	SNR=5509								
ANWB	**Willy Bob**	**1.85**	**329**	*e*	Pn	**Pn**		**01 51 06.8**	**+1.0**
ANWB					eSn	**Sn**		**01 51 29.0**	**+1.1**
ANWB	**Willy Bob**	**1.85**	**329**	*e*	P	**Pn**		**01 51 06.5**	**+0.7**
ANWB					eS	**Sn**		**01 51 31.0**	**+3.1**
NEV	**Hard Times**	**2.00**	**302**	*e*	P	**Pn**		**01 51 09.5**	**+1.6**
NEV					eS	**Sn**		**01 51 33.6**	**+1.9**
NEV	**Hard Times**	**2.00**	**302**	*e*	P	**Pn**		**01 51 09.5**	**+1.6**
NEV					eS	**Sn**		**01 51 33.6**	**+1.9**
NVBH	**Bath Hotel, Ne**	**2.03**	**301**	*e*	P	**Pn**		**01 51 09.7**	**+1.5**
SLW	**Petit Monier**	**2.04**	**184**	*e*	P	**Pn**		**01 51 10.1**	**+1.6**
NVRH	**Round Hill, Ne**	**2.05**	**303**	*e*	P	**Pn**		**01 51 10.7**	**+2.1**
SLB	**Belfond**	**2.24**	**186**	*i*	P	**Pn**		**01 51 14.0**	**+2.7**
SLB					eS	**Sn**		**01 51 40.1**	**+2.4**
SLB	**Belfond**	**2.24**	**186**	↑	*i*P	**Pn**		**01 51 14.0**	**+2.7**
SLB					eS	**Sn**		**01 51 40.1**	**+2.4**
SKI	**Saint Kitts**	**2.24**	**304**	*e*	Pn	**Pn**		**01 51 13.3**	**+2.1**
SKI					eSn	**Sn**		**01 51 41.1**	**+3.4**
SKI	**Saint Kitts**	**2.24**	**304**	*e*	P	**Pn**		**01 51 13.4**	**+2.2**
SKI					eS	**Sn**		**01 51 39.0**	**+1.4**
MCLT	**Moule a Chique**	**2.35**	**183**	*e*	P	**Pn**		**01 51 14.3**	**+1.6**
MCLT					eS	**Sn**		**01 51 42.7**	**+2.4**
MCLT	**Moule a Chique**	**2.35**	**183**	*e*	P	**Pn**		**01 51 14.3**	**+1.6**
MCLT					eS	**Sn**		**01 51 42.7**	**+2.4**
SEUS	**St. Eustatius**	**2.52**	**304**	*e*	Pn	**Pn**		**01 51 15.5**	**+0.5**
SEUS					eSn	**Sn**		**01 51 48.2**	**+3.6**
SEUS	**St. Eustatius**	**2.52**	**304**	*e*	P	**Pn**		**01 51 16.9**	**+1.8**
SEUS					eS	**Sn**		**01 51 45.8**	**+1.3**
SSV	**Crater Summit**	**2.75**	**188**	*e*	P	**Pn**		**01 51 20.5**	**+2.2**
SSV					eS	**Sn**		**01 51 51.5**	**+1.2**
SSV	**Crater Summit**	**2.75**	**188**	*e*	P	**Pn**		**01 51 20.5**	**+2.2**
SSV					eS	**Sn**		**01 51 51.5**	**+1.2**
SVV	**Soufriere Volc**	**2.77**	**188**	*e*	P	**Pn**		**01 51 20.9**	**+2.6**
SVV					eS	**Sn**		**01 51 52.3**	**+1.8**
SVV	**Soufriere Volc**	**2.77**	**188**	*e*	P	**Pn**		**01 51 20.9**	**+2.6**
SVV					eS	**Sn**		**01 51 52.3**	**+1.8**
SVCV	**St. Vincent, C**	**2.80**	**187**	*e*	P	**Pn**		**01 51 20.3**	**+1.4**
SVCV					eS	**Sn**		**01 51 53.3**	**+1.9**
SABA	**Saba**	**2.80**	**304**	*e*	Pn	**Pn**		**01 51 19.3**	**+0.4**
SABA					eSn	**Sn**		**01 51 52.2**	**+0.8**
SABA	**Saba**	**2.80**	**304**	*e*	P	**Pn**		**01 51 19.8**	**+0.9**
SABA					eS	**Sn**		**01 51 51.4**	**-0.1**
SVB	**Belmont**	**2.81**	**189**	*e*	Pn	**Pn**		**01 51 20.7**	**+1.6**
SVB					eSn	**Sn**		**01 51 49.8**	**-2.0**
SVB	**Belmont**	**2.81**	**189**	*e*	P	**Pn**		**01 51 20.5**	**+1.5**
SVB					eS	**Sn**		**01 51 53.2**	**+1.4**
SMRT	**St. Maarten**	**2.94**	**312**	*e*	Pn	**Pn**		**01 51 21.1**	**+0.3**
SMRT					eSn	**Sn**		**01 51 54.2**	**-0.6**
SMRT	**St. Maarten**	**2.94**	**312**	*e*	P	**Pn**		**01 51 22.4**	**+1.7**
SMRT					eS	**Sn**		**01 51 55.9**	**+1.2**
BBGH	**Gun Hill**	**3.15**	**157**	*e*	P	**Pn**		**01 51 26.1**	**+2.4**
BBSP	**Saint Philip**	**3.22**	**156**	*e*	P	**Pn**		**01 51 26.3**	**+1.7**
GRGR	**Grenville**	**4.00**	**192**	*e*	Pn	**Pn**		**01 51 37.3**	**+1.9**
GRGR					eSn	**Sn**		**01 52 20.1**	**-0.9**
GRGR	**Grenville**	**4.00**	**192**	*e*	P	**Pn**		**01 51 37.2**	**+1.9**
GRGR					eS	**Sn**		**01 52 21.9**	**+0.8**
ABVI	**Anegada Island**	**4.29**	**309**	*e*	Pn	**Pn**		**01 51 41.4**	**+2.1**
TOSP	**Speyside**	**4.75**	**177**	*e*	P	**Pn**		**01 51 47.9**	**+2.2**
TOSP					eS	**Sn**		**01 52 40.0**	**+0.5**
TOSP	**Speyside**	**4.75**	**177**	*e*	P	**Pn**		**01 51 47.9**	**+2.2**
MTP	**Monte Pirata**	**4.97**	**295**	*e*	Pn	**Pn**		**01 51 50.3**	**+1.6**
HUMP	**Col San Antoni**	**5.25**	**294**	*e*	Pn	**Pn**		**01 51 53.6**	**+1.0**
CBYP	**Canovanas**	**5.31**	**295**	*e*	Pn	**Pn**		**01 51 55.4**	**+2.0**
CBYP					eSn	**Sn**		**01 52 54.3**	**+0.9**
TRN	**Trinidad (W)**	**5.42**	**186**	*e*	P	**Pn**		**01 51 57.2**	**+2.3**
TRN	**Trinidad (W)**	**5.42**	**186**	*e*	S	**Sn**		**01 52 55.0**	**-1.1**
SJG	**San Juan**	**5.50**	**292**		P	**Pn**		**01 51 55.7**	**-0.4**
	6.7nm,0.3s,baz=218,slow=22,SNR=12								
SJG					LR	LR		01 54 23.8	
	comp=Z,90nm,19.2s,baz=101,slow=41								
SJG	**San Juan**	**5.50**	**292**	*e*	Pn	**Pn**		**01 51 58.2**	**+2.2**
ICMP	**Isla Caja de M**	**5.77**	**289**	*e*	Pn	**Pn**		**01 52 00.6**	**+0.9**
OBIP	**Obispado Ponce**	**5.89**	**290**	*e*	Pn	**Pn**		**01 52 02.0**	**+0.6**
AOPR	**Arecibo Observ**	**6.12**	**293**	*e*	Pn	**Pn**		**01 52 06.8**	**+2.2**
CRPR	**Cabo Rojo, PR**	**6.33**	**289**	*e*	Pn	**Pn**		**01 52 07.1**	**-0.4**
CRPR					eSn	**Sn**		**01 53 15.0**	**-3.6**
PCRV	**Puerto La Cruz**	**6.95**	**213**		P	**Pn**		**01 52 17.9**	**+2.0**
	2.1nm,0.3s,baz=53,slow=2.6,SNR=10								
BANI	**BANI**	**9.42**	**286**	*e*	Pn	**Pn**		**01 52 49.1**	**-0.8**
RUSC	**La Rusia**	**15.73**	**231**	*e*	Pn	**Pn**		**01 54 15.4**	**-0.5**
	5.2nm,1.6s								
SIV	**San Ignacio**	**31.86**	**180**		P	**P**		**01 56 59.0**	**+0.7**
	0.5nm,0.4s,baz=9.0,slow=9.1,SNR=3.7								
LPAZ	**La Paz**	**32.96**	**193**		P	**P**		**01 57 08.6**	**0.0**
	0.8nm,0.7s,baz=330,slow=10,SNR=2.5								
TXAR	**Lajitas Array**	**41.46**	**296**		P	**P**		**01 58 19.0**	**-1.2**
	0.2nm,0.5s,baz=101,slow=4.9,SNR=2.7								
T25A	**Trinidad**	**43.81**	**307**	*e*	P	**P**		**01 58 42.8**	**+3.6**
	7.9nm,0.9s								
ULM	**Lac du Bonnet**	**44.27**	**328**		P	**P**		**01 58 40.5**	**-1.9**
	0.9nm,0.5s,baz=135,slow=5.7,SNR=3.5								
PDAR	**Pinedale Array**	**49.24**	**313**		P	**P**		**01 59 21.1**	**-0.8**
	1.0nm,0.6s,baz=116,slow=9.3,SNR=13								
SFJD	**Kangerlussuaq**	**51.33**	**5**		LR	LR		02 22 28.0	
	comp=Z,46nm,18.2s,baz=300,slow=37								
H10N3	**ASCENSION HYDR**	**51.62**	**114**		T	T		02 55 32.5	
	baz=298,slow=75,SNR=69								
H10N2	**ASCENSION HYDR**	**51.63**	**114**		T	T		02 55 31.7	
	baz=298,slow=75,SNR=53								
H10N1	**ASCENSION HYDR**	**51.64**	**114**		T	T		02 55 34.0	
	baz=298,slow=75,SNR=79								
H10S3	**ASCENSION HYDR**	**52.00**	**115**		T	T		02 55 46.0	
	baz=299,slow=74,SNR=39								
H10S1	**ASCENSION HYDR**	**52.01**	**115**		T	T		02 55 46.5	
	baz=299,slow=74,SNR=36								
H10S2	**ASCENSION HYDR**	**52.02**	**115**		T	T		02 55 47.4	
	baz=299,slow=74,SNR=39								
NVAR	**Mina Array Bea**	**54.83**	**306**		P	**P**		**02 00 03.2**	**-0.3**
	0.2nm,0.4s,baz=96,slow=7.4,SNR=2.6								
YKA	**Yellowknife Ar**	**59.52**	**334**		P	**P**		**02 00 34.5**	**-1.3**
	0.6nm,0.4s,baz=106,slow=7.5,SNR=21								
INK	**Inuvik**	**68.81**	**338**		P	**P**		**02 01 35.2**	**-1.4**
	0.7nm,0.6s,baz=83,slow=5.3,SNR=4.8								
ILAR	**Eielson Array**	**73.94**	**334**		P	**P**		**02 02 07.0**	**-0.8**
	0.2nm,0.5s,baz=76,slow=7.5,SNR=3.9								

IDC 24 01:53:43.9±1.9, 3.01N×90.37E, h0km, mb3.9/4, mb1 4.0/5, mb1mx3.5/68, mbtmp3.9/5, ML3.7/1, MS3.2/2, Ms1 3.2/2, ms1mx2.6/63, Error ellipse: s-maj=58.6km s-min=27.9km az=49.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
PALK	**Pallekele**	**10.51**	**294**			Pn	Pn	01 56 16.7	+0.7
	0.6nm,0.3s,baz=115,slow=16,SNR=4.3								
PALK						Sn	Sn	01 58 05.6	-9.1
	3.5nm,0.3s,baz=117,slow=1.8,SNR=6.8								
CMAR	**Chiang Mai Arr**	**17.50**	**28**		LR	LR		02 04 29.0	
	comp=Z,37nm,18.7s,baz=20,slow=37								
H01W3	**Cape Leeuwin H**	**43.81**	**151**		T	T		02 48 42.4	
	baz=328,SNR=3.1								
H01W2	**Cape Leeuwin H**	**43.82**	**151**		T	T		02 48 42.0	
	baz=328,slow=74,SNR=4.2								
H01W1	**Cape Leeuwin H**	**43.82**	**151**		T	T		02 48 48.0	
	baz=328,slow=74,SNR=4.6								
MKAR	**Makanchi Array**	**44.18**	**352**		P	P		02 01 54.7	+0.1
	0.6nm,0.4s,baz=169,slow=9.2,SNR=8.0								
SONM	**Songino Array**	**46.75**	**15**		P	P		02 02 15.6	+0.5
	1.6nm,0.5s,baz=195,slow=9.2,SNR=8.6								
WRA	**Warramunga Arr**	**48.82**	**120**		P	P		02 02 31.6	+0.2
	0.9nm,0.8s,baz=296,slow=8.5,SNR=6.6								
ZALV	**Zalesovo Beam**	**50.98**	**356**		P	P		02 02 46.6	-0.7
	0.9nm,0.4s,baz=184,slow=8.8,SNR=4.0								
IDI	**Anoyia**	**68.34**	**307**		LR	LR		02 36 38.5	
	comp=Z,28nm,20.8s,baz=80,slow=38								
TXAR	**Lajitas Array**	**145.14**	**22**		PKPbc	PKPbc		02 13 21.6	-2.2
	0.2nm,0.7s,baz=245,slow=1.9,SNR=3.7								

*ISCJB **24** 02:13:16.8±0.3, 13.64N±0.03×120.64E±0.05, h138km±3km, mb3.8/20, Error ellipse: s-maj=8.1km s-min=5.0km az=179.9*

*IDC **24** 02:13:17.4±0.5, 13.67N×120.86E, h136km±3km, mb3.7/19, mb1 3.8/19, mb1mx3.6/58, mbtmp4.1/19, Error ellipse: s-maj=20.9km s-min=10.9km az=68.0*

*MAN **24** 02:13:17, 13.66N×120.59E, h119km, mb4.5, ML3.4, MS3.2*

ISC 24 02:13:17.7±0.6, 13.67N±0.03×120.69E±0.05, h136km±5km, n45, σ1§49/60, mb4.0/20, 3C-2D, Mindoro

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
LUBP	**Lubang**	**0.43**	**279**	*e*	P	**Pn**		**02 13 36.7**	**-0.5**
LUBP					eS	**Sn**		**02 13 50.5**	**-1.4**
TGY	**Tagaytay City**	**0.49**	**29**		P	**Pn**		**02 13 37.9**	**+0.3**
	778nm,0.3s,baz=231,slow=2.3,SNR=68								
TGY					S	**Sn**		**02 13 53.1**	**+0.5**
	681nm,0.3s,baz=344,slow=22,SNR=15								
TGY	**Tagaytay City**	**0.49**	**29**	↑	*e*P	**Pn**		**02 13 37.8**	**+0.2**
TGY					*i* S	**Sn**		**02 13 52.1**	**-0.6**
LQP	**Lukban**	**0.94**	**62**	↑	*e*P	**Pn**		**02 13 42.0**	**+1.1**
BOAC	**Boac**	**1.14**	**100**	*e*	P	**Pn**		**02 13 43.0**	**+0.5**
BOAC					eS	**Sn**		**02 14 02.8**	**+1.3**
SJMP	**San Jose**	**1.27**	**161**	*e*	P	**Pn**		**02 13 44.2**	**+0.4**
SJMP					eS	**Sn**		**02 14 03.4**	**-0.4**
BUSP	**Coron**	**1.72**	**196**	*e*	P	**Pn**		**02 13 48.8**	**0.0**
BUSP					eS	**Sn**		**02 14 11.3**	**-1.3**
GQP	**Guinayangan**	**1.72**	**82**	↑	*e*P	**Pn**		**02 13 44.9**	**-3.9**
OTRP	**Odiongan**	**1.84**	**135**	*e*	P	**Pn**		**02 13 49.9**	**-0.2**
OTRP					eS	**Sn**		**02 14 14.7**	**-0.2**
PCPH	**Palayan**	**1.92**	**12**	↓	*e*P	**Pn**		**02 13 50.7**	**-0.5**
PCPH					eS	**Sn**		**02 14 16.7**	**0.0**
BALP	**Baler**	**2.23**	**23**	*e*	P	**Pn**		**02 13 55.8**	**+0.9**
BALP					eS	**Sn**		**02 14 25.0**	**+1.5**
ENPP	**El Nido**	**2.74**	**207**	*e*	P	**Pn**		**02 14 01.0**	**-0.3**
ENPP					eS	**Sn**		**02 14 32.0**	**-2.9**
BOLP	**Bolinao**	**2.80**	**345**	*e*	P	**Pn**		**02 14 01.9**	**-0.1**
BOLP					eS	**Sn**		**02 14 35.3**	**-0.8**
RCP	**Roxas**	**2.90**	**136**	↓	*e*P	**Pn**		**02 14 05.0**	**+1.7**
APYP	**Conner**	**4.20**	**7**	*e*	P	**Pn**		**02 14 21.6**	**+1.3**
APYP					eS	**Sn**		**02 15 01.6**	**-7.4**
CMAR	**Chiang Mai Arr**	**21.43**	**286**		P	**P**		**02 17 56.9**	**+1.7**
	2.4nm,0.4s,baz=94,slow=7.7,SNR=16								
ODAN	**Odare**	**33.77**	**298**	*e*	P	**P**		**02 19 48.2**	**+1.3**
	18nm,0.6s								
RAMN	**Ramite**	**34.47**	**298**	*e*	P	**P**		**02 19 54.6**	**+1.6**
	18nm,0.7s								
JIRN	**Jiri**	**35.01**	**299**	*e*	P	**P**		**02 19 59.1**	**+1.3**
	34nm,0.4s								
GUN	**Gumba**	**35.35**	**299**	*e*	P	**P**		**02 20 01.9**	**+1.2**
	17nm,0.4s								
PKIN	**Phulchoki**	**35.67**	**298**	*e*	P	**P**		**02 20 03.9**	**+0.6**
	11nm,0.4s								
KKN	**Kakani**	**35.83**	**299**	*e*	P	**P**		**02 20 05.5**	**+0.9**
	14nm,0.5s								
DMN	**Daman**	**35.92**	**298**	*e*	P	**P**		**02 20 06.2**	**+0.7**
	7.3nm,0.4s								
WRA	**Warramunga Arr**	**36.00**	**158**		P	**P**		**02 20 04.2**	**-1.6**
	0.3nm,0.4s,baz=340,slow=8.9,SNR=7.8								
WRA					pP	**pP**		**02 20 34.4**	**-1.2**
	1.1nm,0.7s,baz=336,slow=9.7,SNR=4.7								
SONM	**Songino Array**	**36.08**	**344**		P	**P**		**02 20 06.8**	**+0.4**
	1.5nm,0.6s,baz=164,slow=10,SNR=11								
KLR	**Kul'dur**	**36.61**	**12**		P	**P**		**02 20 10.1**	**-0.6**
	0.1nm,0.5s,baz=233,slow=8.5,SNR=3.8								
KLR					pP	**pP**		**02 20 40.8**	**+0.3**
	0.1nm,0.2s,baz=98,slow=7.1,SNR=1.9								
KOLN	**Koldanda**	**37.26**	**298**	*e*	P	**P**		**02 20 17.5**	**+0.8**
	3.2nm,0.3s								
PYUN	**Puthan**	**37.86**	**298**	*e*	P	**P**		**02 20 22.9**	**+1.1**
	10nm,0.6s								
ASAR	**Alice Springs**	**39.29**	**161**		P	**P**		**02 20 33.4**	**-0.1**
	0.7nm,0.4s,baz=337,slow=6.4,SNR=12								
ASAR					pP	**pP**		**02 21 03.5**	**-0.1**
	0.6nm,0.7s,baz=334,slow=8.3,SNR=2.8								
MKAR	**Makanchi Array**	**46.05**	**324**		P	**P**		**02 21 29.0**	**+1.2**
	1.2nm,0.3s,baz=119,slow=8.1,SNR=21								
ZALV	**Zalesovo Beam**	**49.08**	**333**		P	**P**		**02 21 51.1**	**+0.1**
	3.6nm,0.4s,baz=125,slow=6.2,SNR=12								

KURBB	**Kurchatov Arra**	**50.21**	**326**		P	**P**		**02 22 00.7**	**+1.0**
	4.9nm,0.6s,baz=130,slow=7.6,SNR=43								
BVAR	**Borovoye Array**	**55.79**	**326**		P	**P**		**02 22 41.4**	**+0.9**
	0.9nm,0.6s,baz=119,slow=9.2,SNR=5.8								
WSAR	**Wadi Sarin**	**59.26**	**289**		P	**P**		**02 23 05.5**	**+0.1**
	3.2nm,0.7s,baz=90,slow=11,SNR=3.7								
GEYT	**Alibeck**	**60.14**	**306**		P	**P**		**02 23 12.7**	**+1.5**
	2.3nm,0.7s,baz=116,slow=3.4,SNR=6.1								
AKTO	**Aktyubinsk**	**62.23**	**320**		P	**P**		**02 23 25.4**	**+0.5**
	1.8nm,0.6s,baz=90,slow=12,SNR=7.9								
KBZ	**Khabaz**	**71.89**	**312**		P	**P**		**02 24 26.1**	**0.0**
	1.4nm,0.8s,baz=196,slow=1.5,SNR=4.1								
ILAR	**Eielson Array**	**78.78**	**26**		P	**P**		**02 25 04.1**	**-1.0**
	0.2nm,0.5s,baz=283,slow=4.5,SNR=3.4								
ARCES	**ARCESS Array B**	**79.11**	**339**		P	**P**		**02 25 06.7**	**-0.1**
	4.0nm,1.0s,baz=72,slow=6.7,SNR=12								
BRTR	**Keskin Array B**	**79.16**	**308**		P	**P**		**02 25 07.0**	**-0.8**
	0.3nm,0.5s,baz=78,slow=5.7,SNR=4.0								
FINES	**FINESS Array B**	**80.31**	**331**		P	**P**		**02 25 12.4**	**-0.9**
	0.7nm,0.7s,baz=58,slow=4.7,SNR=5.2								
HFS	**Hagfors**	**86.50**	**331**		P	**P**		**02 25 44.0**	**-1.1**
	0.9nm,0.5s,baz=96,slow=2.9,SNR=11								
NOA	**NORSAR Array B**	**87.28**	**333**		P	**P**		**02 25 47.4**	**-1.5**
	1.0nm,0.8s,baz=66,slow=4.5,SNR=3.4								
YKA	**Yellowknife Ar**	**92.81**	**22**		P	**P**		**02 26 14.6**	**0.0**
	0.4nm,0.5s,baz=308,slow=4.5,SNR=15								
TXAR	**Lajitas Array**	**119.50**	**45**		PKP	**PKPdf**		**02 31 52.5**	**+0.4**
	0.3nm,0.5s,baz=0.9,slow=0.9,SNR=4.1								

IDC 24 02:14:21.9±6.6, 15.80S×71.27W, h163km±30km, mb3.1/3, mb1 3.2/4, mb1mx3.0/40, mbtmp3.5/4, Error ellipse: s-maj=173.9km s-min=34.6km az=25.0, Southern Peru

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

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MCLT	**Moule a Chique**	**0.54**	**257**	*e*P	Pn	02 35 24.4	+0.3
MCLT				*e*S	Sn	02 35 33.2	+0.6
SLB	**Belfond**	**0.63**	**270**	*e*P	Pn	02 35 26.0	+0.7
SLB				*e*S	Sn	02 35 36.1	+1.3
SVCV	**St. Vincent, C**	**0.92**	**233**	*e*P	Pn	02 35 30.7	+1.4
SVCV				*e*S	Sn	02 35 44.9	+3.1
SSV	**Crater Summit**	**0.92**	**237**	*e*P	Pn	02 35 30.1	+0.7
SSV				*e*S	Sn	02 35 43.7	+1.5
LPMF	**Morne Lapointe**	**0.92**	**323**	*e*P	Pn	02 35 29.6	+0.2
BIM	**Bigot**	**0.95**	**316**	*e*P	Pn	02 35 30.7	+1.0
SVV	**Soufriere Volc**	**0.95**	**238**	*e*P	Pn	02 35 30.7	+1.0
SVV				*e*S	Sn	02 35 45.3	+2.7
TRMF	**Trois Ilets**	**0.95**	**318**	*e*P	Pn	02 35 30.0	+0.4
ZAM	**Aeronautique**	**0.96**	**320**	*e*P	Pn	02 35 30.3	+0.4
SVB	**Belmont**	**1.00**	**236**	*e*P	Pn	02 35 31.6	+1.2
SVB				*e*S	Sn	02 35 45.7	+1.8
BBGH	**Gun Hill**	**1.06**	**130**	*e*P	Pn	02 35 32.0	+0.7
BBGH				*e*S	Sn	02 35 48.1	+2.6
FDF	**Fort de France**	**1.16**	**321**	*e*P	Pb	02 35 34.2	+1.3
FDF				*e*S	Sn	02 35 50.0	+2.1
PML	**Morne Lenard**	**1.22**	**321**	*e*P	Pb	02 35 35.0	+1.1
BAMF	**Morne Balai**	**1.22**	**323**	*e*P	Pb	02 35 34.6	+0.6
CXM	**Morne La Croix**	**1.23**	**323**	*e*P	Pb	02 35 35.0	+0.9
CXM				*e*S	Sn	02 35 51.1	+1.3
PCM	**Pelee Case Pet**	**1.26**	**321**	*e*P	Pn	02 35 34.0	-0.1
PCM	**Pelee Case Pet**	**1.26**	**321**	*e*P	Pb	02 35 35.0	+0.4
GRGR	**Grenville**	**2.09**	**216**	*e*P	Pn	02 35 46.9	+1.5
GRGR				*e*S	Sn	02 36 12.5	+1.7

IDC ***24*** *02:36:09.7±1.0, 32.°42S×178.°65W, h0km, mb4.1/5, mb1 4.2/6, mb1mx4.0/40, mbtmp4.1/6, ML4.2/1, MS3.4/2, Ms1 3.5/2, ms1mx2.8/39, Error ellipse: s-maj=32.2km s-min=24.1km az=68.0*

WEL ***24*** *02:36:10.5±0.7, 33.°S×17.°9W±2.°0, h0km, ML4.8/9, ML4.8/14*

ISCJB ***24*** *02:36:13.5±0.4, 32.°80S±0.°04×178.°76W±0.°09, h33km, mb4.5/10, MS3.7/1, Error ellipse: s-maj=11.7km s-min=3.6km az=21.9*

NEIC ***24*** *02:36:14.8±1.9, 32.°72S×178.°65W, h36km±17km, mb4.5/4, Error ellipse: s-maj=16.8km s-min=13.0km az=48.0*

ISC 24 02:36:14.4±0.6, 32.°74S±0.°06×178.°6W±0.°1, h33km, n69, σ1§78/71, mb4.4/10, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.51**	**9**	P	**Pn**	**02 37 07.0**	**+0.4**
GLKZ	**Green Lake**	**3.51**	**9**	S	**Sn**	**02 37 42.9**	**-4.1**
MXZ	**Matakaoa Point**	**5.45**	**207**	*e*Pn	**Pn**	**02 37 35.6**	**+2.3**
MXZ	**Matakaoa Point**	**5.45**	**207**	P	**Pn**	**02 37 35.5**	**+2.1**
MXZ	**Matakaoa Point**	**5.45**	**207**	S	**Sn**	**02 38 34.3**	**-0.6**
WMGZ	**Waiomatatini S**	**5.64**	**205**	P	**Pn**	**02 37 37.0**	**+1.1**
WMGZ	**Waiomatatini S**	**5.64**	**205**	S	**Sn**	**02 38 39.8**	**+0.3**
PKGZ	**Pakihiroa**	**5.83**	**207**	P	**Pn**	**02 37 38.8**	**+0.3**
PKGZ	**Pakihiroa**	**5.83**	**207**	S	**Sn**	**02 38 42.9**	**-1.4**
HAZ	**Te Kaha**	**5.83**	**210**	P	**Pn**	**02 37 38.6**	**+0.1**
HAZ	**Te Kaha**	**5.83**	**210**	S	**Sn**	**02 38 45.2**	**+1.0**
PUZ	**Puketiti**	**5.92**	**205**	P	**Pn**	**02 37 39.1**	**-0.7**
PUZ	**Puketiti**	**5.92**	**205**	S	**Sn**	**02 38 45.4**	**-1.1**
RUGZ	**Raukumara Rang**	**6.05**	**209**	P	**Pn**	**02 37 42.2**	**+0.5**
RUGZ	**Raukumara Rang**	**6.05**	**209**	S	**Sn**	**02 38 49.9**	**0.0**
TWGZ	**Tauwhareparae**	**6.12**	**206**	P	**Pn**	**02 37 40.9**	**-1.5**
TWGZ	**Tauwhareparae**	**6.12**	**206**	S	**Sn**	**02 38 50.3**	**-1.1**
CNGZ	**Carnagh Station**	**6.31**	**204**	P	**Pn**	**02 37 46.7**	**+1.6**
TKGZ	**Te Karaka**	**6.39**	**206**	S	**Sn**	**02 38 55.6**	**-2.5**
TKGZ	**Te Karaka**	**6.39**	**206**	P	**Pn**	**02 37 47.1**	**+0.8**
MWZ	**Matawai**	**6.43**	**209**	P	**Pn**	**02 37 46.1**	**-0.7**
MWZ	**Matawai**	**6.43**	**209**	S	**Sn**	**02 38 57.2**	**-1.8**
URZ	**Urewera**	**6.54**	**211**	Pn	**Pn**	**02 37 48.2**	**-0.1**
	4.8nm,0.3s,baz=289,slow=4.2,SNR=9.0						
URZ				Sn	**Sn**	**02 39 02.0**	**+0.3**
	4.2nm,0.3s,baz=139,slow=20,SNR=4.7						
URZ	**Urewera**	**6.54**	**211**	P	**Pn**	**02 37 48.2**	**-0.1**
URZ	**Urewera**	**6.54**	**211**	S	**Sn**	**02 38 59.5**	**-2.3**
RAGZ	**Rawiri**	**6.61**	**209**	P	**Pn**	**02 37 49.0**	**-0.3**
RIGZ	**Rimuhau**	**6.66**	**206**	P	**Pn**	**02 37 49.5**	**-0.4**
RIGZ	**Rimuhau**	**6.66**	**206**	S	**Sn**	**02 39 02.1**	**-2.7**
WCZ	**Waipu Caves**	**6.68**	**239**	P	**Pn**	**02 37 53.6**	**+3.4**
PRGZ	**Paritu Road**	**6.81**	**204**	P	**Pn**	**02 37 51.5**	**-0.6**
PRGZ	**Paritu Road**	**6.81**	**204**	S	**Sn**	**02 39 06.8**	**-1.7**
MUGZ	**Murupara**	**6.87**	**212**	P	**Pn**	**02 37 52.4**	**-0.5**
MUGZ	**Murupara**	**6.87**	**212**	S	**Sn**	**02 39 07.1**	**-2.8**
KNZ	**Kokohu**	**6.97**	**205**	P	**Pn**	**02 37 52.1**	**-2.1**
KNZ	**Kokohu**	**6.97**	**205**	S	**Sn**	**02 39 08.8**	**-3.5**
BKZ	**Black Stump Fm**	**7.56**	**211**	*e*Pn	**Pn**	**02 37 59.9**	**-2.5**
BKZ				*e*Sn	**Sn**	**02 39 26.1**	**-0.9**
BFZ	**Birch Farm**	**8.96**	**206**	*e*Pn	**Pn**	**02 38 20.0**	**-1.4**
BFZ				*e*Sn	**Sn**	**02 39 54.5**	**-6.6**
DZM	**Mont Dzumac**	**17.01**	**305**	LR	LR	02 45 09.1	
	comp=Z,112nm,20.6s,baz=148,slow=32						
DZM	**Mont Dzumac**	**17.01**	**305**	*e*Pn	**P**	**02 40 10.5**	**-1.1**
	50nm,1.6s						
CTA	**Charters Tower**	**33.78**	**283**	P	**P**	**02 42 53.6**	**+0.2**
	1.8nm,0.5s,baz=112,slow=11,SNR=3.9						
AS31	**Alice Springs**	**42.56**	**270**	*e*P	**P**	**02 44 06.6**	**-0.7**
	3.2nm,1.6s						
ASAR	**Alice Springs**	**42.56**	**270**	P	**P**	**02 44 06.6**	**-0.7**
	0.9nm,0.5s,baz=114,slow=6.7,SNR=8.4						
WB2	**Warramunga Arr**	**43.75**	**275**	*e*P	**P**	**02 44 16.0**	**-0.9**
WR1	**Warramunga Arr**	**43.76**	**275**	*e*P	**P**	**02 44 16.1**	**-0.9**
	25nm,1.8s						
WRA	**Warramunga Arr**	**43.76**	**275**	P	**P**	**02 44 16.1**	**-0.9**
	1.3nm,0.3s,baz=114,slow=8.2,SNR=50						
VNDA	**Vanda**	**45.73**	**186**	P	**P**	**02 44 36.2**	**+4.3**
	0.5nm,0.4s,baz=45,slow=4.3,SNR=7.4						
VNDA	**Vanda**	**45.73**	**186**	*e*P	**P**	**02 44 32.4**	**+0.5**
VNDA				*e*PcP	**PcP**	**02 46 09.1**	**-0.1**
QSPA	**South Pole Qui**	**57.38**	**180**	P	**P**	**02 46 02.0**	**+2.7**
	5.4nm,1.0s,baz=124,slow=2.1,SNR=7.5						
SNAA	**Sanae**	**75.84**	**179**	P	**P**	**02 47 57.8**	**+0.9**
VNA3	**Neumayer Olymp**	**76.01**	**176**	P	**P**	**02 47 58.9**	**+1.0**
VNA2	**Neumayer--Watz**	**76.44**	**177**	P	**P**	**02 48 01.5**	**+1.3**
	baz=180,slow=3.3						
VNA1	**Neumayer--Stat**	**76.67**	**177**	P	**P**	**02 48 02.9**	**+1.4**
SBI	**Santa Barbara**	**86.47**	**46**	*e*P	**P**	**02 48 54.9**	**+1.2**
BAKC	**Calstate**	**87.70**	**45**	*e*P	**P**	**02 48 56.2**	**-3.4**
BLKC	**Black Mountain**	**88.66**	**46**	*e*P	**P**	**02 49 02.6**	**-1.7**
SRTC	**Snort**	**88.74**	**45**	*e*P	**P**	**02 49 06.2**	**+1.6**
YERR	**Yerington**	**90.12**	**42**	*e*P	**P**	**02 49 12.6**	**+1.4**
	44nm,1.1s						
NVAR	**Mina Array Bea**	**90.27**	**43**	LR	LR	03 21 48.9	
	comp=Z,28nm,21.3s,baz=280,slow=30						
P17A	**Butcher Ranch,**	**95.42**	**46**	*e*P	**P**	**02 49 35.1**	**-0.6**
	5.4nm,1.0s						
TCUT	**Toone Canyon**	**96.05**	**44**	*e*P	**P**	**02 49 37.2**	**-1.4**
	12nm,1.0s						
FIA0	**FINESS Array S**	**147.15**	**338**	*e*PKPbc	**PKPbc**	**02 55 52.9**	**-0.4**
FINES	**FINESS Array B**	**147.15**	**338**	PKPbc	**PKPbc**	**02 55 52.9**	**-0.4**
	2.0nm,0.5s,baz=45,slow=4.3,SNR=22						
NB200	**NORSAR Array S**	**150.97**	**350**	*e*PKPbc	**PKPbc**	**02 56 03.0**	**0.0**
NOA	**NORSAR Array B**	**150.97**	**350**	PKPbc	**PKPbc**	**02 56 03.0**	**0.0**
	1.4nm,0.7s,baz=15,slow=4.2,SNR=6.2						
HFS	**Hagfors**	**151.42**	**347**	PKPbc	**PKPbc**	**02 56 03.5**	**-0.6**
	1.4nm,0.5s,baz=106,slow=5.1,SNR=6.6						
BR101	**Keskin Array S**	**153.21**	**294**	*e*PKPbc	**PKPbc**	**02 56 07.9**	**-1.1**
BRTR	**Keskin Array B**	**153.21**	**294**	PKPbc	**PKPbc**	**02 56 07.9**	**-1.1**
	0.2nm,0.4s,baz=147,slow=4.5,SNR=3.6						
TORD	**Torodi Ar. Bea**	**160.50**	**181**	PKPab	**PKPab**	**02 56 52.4**	**0.0**
	0.9nm,0.7s,baz=163,slow=3.5,SNR=4.7						
TOA1	**Torodi Ar. Sit**	**160.50**	**181**	*e*PKPab	**PKPab**	**02 56 52.4**	**0.0**

IDC ***24*** *02:40:14.7±6.0, 35.°84N×71.°27E, h93km±45km, mb3.4/8, mb1 3.4/13, mb1mx3.2/69, mbtmp3.7/13, Error ellipse: s-maj=55.0km s-min=33.4km az=155.0*

ISCJB ***24*** *02:40:20.1±1.0, 36.°60N±0.°07×70.°77E±0.°07, h100km, mb3.6/7, Error ellipse: s-maj=11.4km s-min=6.4km az=152.7*

NNC ***24*** *02:40:21.6±4.6, 36.°69N×70.°42E, h75km±132km, mb3.7, mpv4.0, Error ellipse: s-maj=42.1km s-min=33.2km az=124.0*

ISC 24 02:40:21.2±1.3, 36.°6N±0.°1×70.°67E±0.°08, h100km, n29, σ1§82/38, mb3.8/7, 8C-6D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**4.05**	**33**	⇑P	**Pn**	**02 41 22.0**	**+0.7**
	11nm,0.3s						
SFK				⇑S	**Sn**	**02 42 10.7**	**+2.9**
	27nm,0.4s						
AML	**Almayashu**	**5.98**	**22**	P	**Pn**	**02 41 47.4**	**-0.1**
	SNR=31						
MNAS	**Manas**	**6.02**	**13**	⇓P	**Pn**	**02 41 48.6**	**+0.7**
	10nm,0.9s						
MNAS				⇑S	**Sn**	**02 42 57.0**	**+1.5**
	17nm,0.5s						
UCH	**Uchtor**	**6.34**	**27**	P	**Pn**	**02 41 52.1**	**-0.3**
	SNR=14						
KK31	**Karatay Array**	**6.47**	**359**	⇓P	**Pn**	**02 41 55.3**	**+1.4**
	2.6nm,0.3s,baz=186,slow=14,SNR=33						
KK31				⇑S	**Sn**	**02 43 07.1**	**+0.9**
	15nm,0.4s,baz=188,slow=23						
EKS2	**Erkin-Say**	**6.49**	**21**	P	**Pn**	**02 41 54.6**	**+0.4**
	SNR=9.9						
KZA	**Kyzart**	**6.50**	**32**	P	**Pn**	**02 41 54.0**	**-0.6**
	SNR=7.8						
AAK	**Ala-Archa**	**6.69**	**25**	P	**Pn**	**02 41 57.2**	**+0.3**
	8.6nm,0.3s,baz=147,slow=3.9,SNR=50						
AAK				S	**Sn**	**02 43 11.6**	**-0.1**
	1.6nm,0.3s,baz=339,slow=23,SNR=10.0						
AAK	**Ala-Archa**	**6.69**	**25**	⇑P	**Pn**	**02 41 57.1**	**+0.1**
	9.4nm,0.4s						
AAK				⇓S	**Sn**	**02 43 12.3**	**+0.6**
	11nm,0.7s						
AAK	**Ala-Archa**	**6.69**	**25**	P	**Pn**	**02 41 57.2**	**+0.3**
	SNR=27						
CHMS	**Chumysh**	**7.10**	**25**	P	**Pn**	**02 42 02.4**	**0.0**
	SNR=10						
USP	**Ospenovka**	**7.26**	**23**	P	**Pn**	**02 42 04.2**	**-0.3**
	SNR=11						
TKM2	**Tokmak 2**	**7.34**	**30**	⇑P	**Pn**	**02 42 04.7**	**-1.1**
	3.8nm,0.5s						
TKM2				⇓S	**Sn**	**02 43 27.1**	**-0.6**
	7.2nm,0.9s						
GEYT	**Alibeck**	**10.09**	**281**	S	**Sn**	**02 44 36.1**	**+1.9**
	1.2nm,0.3s,baz=153,slow=29,SNR=6.4						
MKAR	**Makanchi Array**	**13.35**	**37**	P	**Pn**	**02 43 26.5**	**0.0**
	0.1nm,0.3s,baz=211,slow=9.5,SNR=3.2						
AB31	**Akbulak array**	**14.85**	**332**	⇑P	**P**	**02 43 47.3**	**-1.7**
	0.3nm,0.4s,baz=164,slow=11,SNR=16						
AB31				⇑S	**Sn**	**02 46 24.5**	**-4.8**
	1.7nm,0.6s,baz=158,slow=24,SNR=7.8						
KURBB	**Kurchatov Arra**	**15.09**	**20**	P	**Pn**	**02 43 50.7**	**+1.8**
	0.0nm,0.3s,baz=207,slow=10,SNR=3.3						
BVAR	**Borovoye Array**	**16.40**	**359**	P	**P**	**02 44 09.5**	**+3.3**
	0.2nm,0.3s,baz=174,slow=7.8,SNR=5.3						
AKTO	**Aktyubinsk**	**16.54**	**331**	P	**P**	**02 44 11.1**	**+3.3**
	0.3nm,0.3s,baz=158,slow=9.2,SNR=8.8						
AKTO				S	**Sn**	**02 47 07.8**	**-2.4**
	0.2nm,0.3s,baz=320,slow=9.9,SNR=6.6						
AKTO	**Aktyubinsk**	**16.54**	**331**	⇓P	**P**	**02 44 09.8**	**+2.0**
	2.3nm,0.8s						
AKTO				⇓S	**Sn**	**02 47 07.5**	**-2.7**
	3.5nm,0.8s						
ZALV	**Zalesovo Beam**	**19.91**	**25**	P	**P**	**02 44 43.4**	**-1.3**
	1.2nm,0.4s,baz=214,slow=10,SNR=4.3						
AKASG	**Malin Array Be**	**32.66**	**309**	P	**P**	**02 46 45.2**	**+1.8**
	0.2nm,0.3s,baz=82,slow=7.5,SNR=4.7						
FINES	**FINESS Array B**	**37.23**	**326**	P	**P**	**02 47 25.2**	**+2.6**
	0.6nm,0.5s,baz=120,slow=11,SNR=5.1						
ARCES	**ARCESS Array B**	**40.93**	**338**	P	**P**	**02 47 54.7**	**+1.4**
	2.9nm,1.0s,baz=111,slow=9.7,SNR=3.8						
HFS	**Hagfors**	**42.80**	**322**	P	**P**	**02 48 10.1**	**+1.4**
	1.0nm,0.5s,baz=102,slow=12,SNR=11						
NB2	**NORSAR Subarra**	**44.12**	**323**	P	**P**	**02 48 19.9**	**+0.6**
	comp=Z,0.7nm,0.5s,baz=95,slow=7.9						
NOA	**NORSAR Array B**	**44.12**	**323**	P	**P**	**02 48 20.2**	**+1.0**
	comp=Z,0.7nm,0.5s,baz=96,slow=7.8,SNR=5.3						
TORD	**Torodi Ar. Bea**	**65.45**	**268**	P	**P**	**02 50 51.1**	**-2.7**
	comp=Z,0.6nm,0.7s,baz=48,slow=5.9,SNR=5.7						
YKA	**Yellowknife Ar**	**81.13**	**2**	P	**P**	**02 52 23.4**	**-1.6**
	comp=Z,0.1nm,0.5s,baz=352,slow=4.8,SNR=4.5						

ISCJB ***24*** *02:42:05.1±0.3, 15.°21S±0.°04×75.°53W±0.°06, h28km, mb4.4/30, MS3.9/14, Error ellipse: s-maj=9.8km s-min=3.5km az=146.5*

NEIC ***24*** *02:42:08.1±2.1, 15.°21S×75.°49W, h29km±15km, mb4.5/26, ML4.7(ARE), Error ellipse: s-maj=11.7km s-min=5.7km az=68.0*

NEIC Felt [II] at Ica, Nazca and Palpa. Also felt at Los Aquijes.

IDC ***24*** *02:42:13.1±2.9, 15.°16S×75.°54W, h74km±25km, mb3.8/13, mb1 4.0/15, mb1mx3.8/40, mbtmp4.1/15, MS3.8/15, Ms1 3.8/15, ms1mx3.5/37, Error ellipse: s-maj=24.4km s-min=14.2km az=58.0*

ISC 24 02:42:07.2±0.5, 15.°22S±0.°06×75.°50W±0.°08, h28km, n128, σ1§68/114, mb4.5/30, MS3.8/14, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**3.47**	**338**	*e*Pn	**Pn**	**02 42 58.5**	**-0.8**
NNA				*e*Sn	**Sn**	**02 43 39.7**	**+0.1**
ARE	**Arequipa**	**4.05**	**108**	*e*P	Pn	02 43 13.0	+5.4
ARE				*e*S	**Sb**	**02 44 03.0**	**-3.6**
MNMC	**Minye Minye**	**6.85**	**125**	*e*Pn	**Pn**	**02 43 47.7**	**+1.6**
MNMC				*e*Sn	**Sn**	**02 45 06.4**	**+3.1**
LPAZ	**La Paz**	**7.17**	**100**	P	Pn	02 43 57.6	+6.8
	7.5nm,0.3s,baz=279,slow=9.1,SNR=184						
LPAZ				LR	LR	02 47 24.4	
	comp=Z,895nm,18.2s,baz=283,slow=43						
LPAZ	**La Paz**	**7.17**	**100**	*e*Pn	Pn	02 43 56.8	+6.0
PB11	**IPOC Station P**	**7.17**	**130**	*e*Pn	**Pn**	**02 43 52.0**	**+1.6**
PB11				*e*Sn	**Sn**	**02 45 12.4**	**+1.3**
PB01	**IPOC Station P**	**8.13**	**136**	*e*Pn	**Pn**	**02 44 05.0**	**+1.5**
PB01				*e*Sn	**Sn**	**02 45 34.2**	**-0.4**
ATAH	**Atahualpa**	**8.52**	**340**	P	Pn	02 44 15.2	+6.1
	4.3nm,0.3s,baz=3.5,slow=4.1,SNR=11						
PB04	**IPOC Station P**	**8.70**	**145**	*e*Pn	**Pn**	**02 44 10.4**	**-0.9**
PB04				*e*Sn	**Sn**	**02 45 45.8**	**-2.9**
PB10	**IPOC Station P**	**9.48**	**151**	*e*Pn	**Pn**	**02 44 21.1**	**-0.8**
PB10				*e*Sn	Sn	02 45 57.0	-11
GO02	**Mina Guanaco**	**11.34**	**152**	*e*Pn	**Pn**	**02 44 47.5**	**-0.1**
GO02				*e*Sn	**Sn**	**02 46 47.5**	**-6.1**
SAML	**Samuel**	**13.55**	**64**	*e*Pn	**Pn**	**02 45 19.7**	**+2.0**
SIV	**San Ignacio**	**13.92**	**95**	P	**Pn**	**02 45 21.5**	**-1.2**
	0.4nm,0.3s,baz=285,slow=12,SNR=15						
GO04	**Tololo Observa**	**15.50**	**165**	*e*Pn	**Pn**	**02 45 46.0**	**+1.9**
	38nm,1.2s						
OTAV	**Otavalo**	**15.63**	**349**	*e*P	**Pn**	**02 45 46.0**	**-0.1**
	17nm,1.7s						
OTAV	**Otavalo**	**15.63**	**349**	*e*P	**Pn**	**02 45 40.1**	**-6.0**
SOTA	**Rioblanco**	**17.28**	**356**	*e*P	**P**	**02 46 08.2**	**-0.1**
PCON	**Cinco Dias**	**17.46**	**357**	*e*P	**P**	**02 46 11.0**	**+0.6**
PEL	**Peldehue**	**18.37**	**167**	*e*P	**Pn**	**02 46 21.6**	**+1.6**
	52nm,1.8s						
ROSC	**El Rosal**	**19.96**	**3**	LR	LR	02 55 07.8	
	comp=Z,181nm,18.0s,baz=221,slow=39						
PLMC	**San Jos¨ del**	**20.01**	**358**	*e*P	P	02 46 29.3	-8.6
CPUP	**Villa Florida**	**20.24**	**126**	P	Pn	02 46 43.0	+0.7
	6.7nm,1.1s,baz=290,slow=12,SNR=3.7						
CPUP				LR	LR	02 56 02.9	
	comp=Z,144nm,18.8s,baz=304,slow=41						
CPUP	**Villa Florida**	**20.24**	**126**	*e*P	Pn	02 46 43.5	+1.2
	12nm,1.3s						
NORC	**Norcasia**	**20.66**	**2**	*e*P	**P**	**02 46 45.4**	**+0.5**
PTGA	**Pitinga**	**21.03**	**48**	P	**P**	**02 46 49.2**	**+0.2**
	4.1nm,0.4s,baz=208,slow=14,SNR=7.4						
PTGA	**Pitinga**	**21.03**	**48**	*e*P	**P**	**02 46 48.4**	**-0.6**
	34nm,1.2s						
RUSC	**La Rusia**	**21.11**	**7**	*e*P	**P**	**02 46 51.7**	**+1.4**
	49nm,1.7s						
HELC	**Santa Helena**	**21.27**	**360**	*e*P	**P**	**02 46 54.6**	**+2.8**
	15nm,0.7s						
ZARC	**Zaragoza, Cauc**	**22.57**	**2**	*e*P	**P**	**02 47 06.8**	**+1.3**
SDV	**Santo Domingo**	**24.43**	**12**	P	**P**	**02 47 23.4**	**-0.4**
	3.4nm,0.6s,baz=234,slow=4.6,SNR=7.2						
SDV	**Santo Domingo**	**24.43**	**12**	*e*P	**P**	**02 47 24.2**	**+0.3**
	11nm,0.8s						
GO06	**Curarrehue**	**24.53**	**172**	*e*P	**P**	**02 47 24.2**	**-0.3**
	6.6nm,1.0s						
PLCA	**Paso Flores**	**25.78**	**171**	P	**P**	**02 47 36.2**	**+0.4**
	1.5nm,0.8s,baz=343,slow=8.3,SNR=4.1						
PLCA	**Paso Flores**	**25.78**	**171**	*e*P	**P**	**02 47 35.8**	**0.0**
	24nm,1.7s						
JTS	**JuntasAbangare**	**27.02**	**339**	LR	LR	02 57 31.5	
	comp=Z,182nm,19.6s,baz=184,slow=34						
APG	**El Apazote**	**33.48**	**333**	LR	LR	03 01 14.8	
	comp=Z,197nm,18.3s,baz=68,slow=34						
RPN	**Rapa Nui**	**33.60**	**244**	LR	LR	02 58 30.4	
	comp=Z,262nm,19.3s,baz=77,slow=29						
MPR	**Mayaguez**	**34.23**	**14**	*e*P	**P**	**02 48 49.4**	**-1.3**
	413nm,0.8s						
758A	**Lake Helen**	**44.27**	**353**	P	**P**	**02 50 11.4**	**-3.0**
	baz=172						
Y47A	**UCPARC, Winfie**	**50.25**	**347**	P	**P**	**02 50 59.3**	**-1.6**
	baz=164						
X48A	**Hartselle**	**50.60**	**348**	P	**P**	**02 51 02.2**	**-1.4**
	baz=166						
TKL	**Tuckaleechee C**	**51.20**	**351**	LR	LR	03 14 43.8	
	comp=Z,66nm,18.3s,baz=148,slow=38						
WLAR	**White Oak Lake**	**51.45**	**341**	*e*P	**P**	**02 51 10.8**	**+0.8**
	35nm,1.1s						
V48A	**Smith Brothers**	**51.80**	**348**	P	**P**	**02 51 10.7**	**-1.9**
	baz=166						
TX31	**Lajitas Ar. Si**	**51.98**	**328**	*e*P	**P**	**02 51 14.8**	**+0.6**
TXAR	**Lajitas Array**	**51.98**	**328**	P	**P**	**02 51 14.6**	**+0.4**
	0.5nm,0.5s,baz=155,slow=9.2,SNR=11						
TXAR				LR	LR	03 11 54.8	
	comp=Z,75nm,18.5s,baz=0.0,slow=34						
X39A	**Fountain Ranch**	**52.53**	**341**	P	**P**	**02 51 18.4**	**+0.4**
	baz=157						
ABTX	**Abilene, Hawle**	**52.89**	**334**	P	**P**	**02 51 22.3**	**+1.5**
	baz=150						
ABTX	**Abilene, Hawle**	**52.89**	**334**	*e*P	**P**	**02 51 22.6**	**+1.9**
	11nm,1.2s						
W39A	**Magazine**	**53.06**	**341**	P	**P**	**02 51 23.6**	**+1.7**
	baz=158						
W39A	**Magazine**	**53.06**	**341**	*e*P	**P**	**02 51 24.9**	**+3.0**
	18nm,1.3s						
U42A	**Revenden**	**53.41**	**344**	P	**P**	**02 51 23.2**	**-1.2**
	baz=161						
S48A	**Wiedeman Farm,**	**53.52**	**350**	P	**P**	**02 51 23.4**	**-1.9**
	baz=167						
U41A	**Viola**	**53.58**	**344**	P	**P**	**02 51 24.0**	**-1.7**
	baz=160						
V39A	**Pettigrew**	**53.61**	**342**	P	**P**	**02 51 25.2**	**-0.9**
	baz=158						
U40A	**Yellville**	**53.85**	**343**	P	**P**	**02 51 27.2**	**-0.5**
	baz=159						
T43A	**Greenville**	**53.86**	**345**	P	**P**	**02 51 26.1**	**-1.7**
	baz=162						
T42A	**Van Buren**	**54.01**	**345**	P	**P**	**02 51 27.3**	**-1.6**
	baz=161						
U39A	**Green Forest**	**54.06**	**342**	P	**P**	**02 51 28.4**	**-0.9**
	baz=158						
HHAR	**Hobbs**	**54.11**	**342**	*e*P	**P**	**02 51 31.2**	**+1.6**
	15nm,1.4s						
WCI	**Wyandotte Cave**	**54.12**	**350**	P	**P**	**02 51 28.2**	**-1.5**
	baz=167						
WCI	**Wyandotte Cave**	**54.12**	**350**	*e*P	**P**	**02 51 28.3**	**-1.3**
	15nm,0.9s						
S44A	**Carbondale**	**54.20**	**347**	P	**P**	**02 51 28.8**	**-1.4**
	baz=164						
TUL1	**Leonard**	**54.36**	**340**	P	**P**	**02 51 30.6**	**-0.8**
	baz=156						
TUL1	**Leonard**	**54.36**	**340**	*e*P	**P**	**02 51 32.6**	**+1.2**
	23nm,1.2s						
R45A	**Skylar, Fairfi**	**54.56**	**348**	P	**P**	**02 51 31.7**	**-1.1**
	baz=165						
S41A	**Jillco Farms,**	**54.70**	**344**	P	**P**	**02 51 32.3**	**-1.6**
	baz=161						
MNTX	**Cornudas Mount**	**54.76**	**329**	P	**P**	**02 51 34.2**	**-0.2**
	baz=144						
T38A	**Diamond**	**54.91**	**342**	P	**P**	**02 51 35.4**	**0.0**
	baz=158						
Q45A	**Warren Harvey,**	**55.12**	**348**	P	**P**	**02 51 35.3**	**-1.6**
	baz=165						
S39A	**Bolivar**	**55.23**	**343**	P	**P**	**02 51 36.8**	**-1.0**
	baz=159						
Q44A	**Meyer Farm, Va**	**55.30**	**347**	P	**P**	**02 51 36.6**	**-

SONM	**Songino Array**	**147.44**	**358**	PKPbc	**PKPbc**	**03 01 49.1**	**+0.4**
	comp=Z,2.7nm,0.5s,baz=331,slow=2.1,SNR=15						
LZH	**Lanzhou**	**159.21**	**2**	*e*PKP	**PKPdf**	**03 02 01.1**	**-2.4**
LZH				pPKP	pPKPdf	03 02 11.3	-1.5
LZH				sPKP		03 02 14.3	
LZH				LR	LR		
	comp=N,78nm,18.1s						
LZH				LR	LR		
	comp=E,72nm,18.3s						
LZH				LR	LR		
	comp=Z,120nm,20.2s						

*IDC **24** 02:46:48.4±1.1,37.89N×73.27E,h0km,mb3.5/9, mb1 3.7/16,mb1mx3.5/71,mbtmp3.6/16,ML3.2/7,MS3.4/3, Ms1 3.4/3,ms1mx2.5/62,Error ellipse: s-maj=21.8km s-min=17.4km az=139.0*
*ISCJB **24** 02:46:49.1±0.8,38.08N±0.06×73.2E±0.1,h10km,mb3.5/9, MS3.7/2,Error ellipse: s-maj=12.3km s-min=8.2km az=5.8*
*NNC **24** 02:46:55.4±4.5,38.47N×74.16E,h12km±29km,mb4.1, mpv3.7,Error ellipse: s-maj=46.9km s-min=30.1km az=84.0*

ISC 24 02:46:49.0±0.6,**37.90N**±0.05×**73.30E**±0.08,**h10**km,**n29, σ2s43/33,mb3.7/9,11C-6D,Tajikistan**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**2.12**	**4**	⇑P		**Pn**		**02 47 23.9**	**-0.8**
	19nm,0.4s								
SFK				⇑S		**Sn**		**02 47 46.4**	**-4.8**
	170nm,0.7s								
CEP	**Cherat**	**4.22**	**196**	P		**Pg**		**02 48 07.8**	**-2.0**
CHCP	**Chirah Chowk**	**4.23**	**180**	P		**Pg**		**02 48 09.0**	**-1.0**
MNAS	**Manas**	**4.63**	**353**	⇑Pn		**Pn**		**02 47 59.8**	**+0.8**
	14nm,0.6s								
MNAS				⇓Sn		**Sn**		**02 48 48.5**	**-4.4**
	34nm,0.8s								
MNAS				⇓Lg		Lg		02 49 05.5	
	52nm,0.9s								
AAK	**Ala-Archa**	**4.82**	**11**	Pn		Pn		02 48 06.1	+4.3
	1.0nm,0.3s,baz=192,slow=9.8,SNR=25								
AAK				Sn		**Sn**		**02 49 01.0**	**+3.3**
	1.6nm,0.3s,baz=324,slow=16,SNR=5.3								
AAK				LR		LR		02 50 02.1	
	comp=Z,83nm,21.1s,baz=188,slow=40								
AAK	**Ala-Archa**	**4.82**	**11**	⇑Pg		**Pb**		**02 48 09.7**	**-3.9**
	21nm,0.8s								
AAK				⇑Lg		Lg		02 49 06.5	
	46nm,0.8s								
THW	**Thamme Wali**	**5.25**	**195**	P		**Pb**		**02 48 20.0**	**-0.8**
TKM2	**Tokmak 2**	**5.32**	**19**	⇑Pn		**Pn**		**02 48 06.4**	**-2.2**
	3.1nm,0.8s								
TKM2				⇑Pg		**Pb**		**02 48 21.2**	**-0.8**
	14nm,0.8s								
TKM2				⇓Lg		Lg		02 49 23.5	
	24nm,0.8s								
KK31	**Karatay Array**	**5.62**	**339**	⇑Pn		**Pn**		**02 48 12.8**	**+0.2**
	8.3nm,0.5s,baz=157,slow=12								
KK31				⇓Sn		**Sn**		**02 49 16.0**	**-1.2**
	26nm,0.6s,baz=149,slow=24								
KK31				⇓Lg		Lg		02 49 44.7	
	20nm,0.6s,baz=137,slow=26								
MKAR	**Makanchi Array**	**11.10**	**34**	Pn		**Pn**		**02 49 28.9**	**+1.2**
	0.1nm,0.3s,baz=204,slow=9.5,SNR=2.9								
GEYT	**Alibeck**	**12.00**	**275**	Pn		**Pn**		**02 49 39.2**	**-0.9**
	0.8nm,0.3s,baz=110,slow=13,SNR=6.0								
KURBB	**Kurchatov Arra**	**13.26**	**15**	Pn		**Pn**		**02 49 57.3**	**+0.2**
	0.0nm,0.3s,baz=206,slow=12,SNR=3.0								
AB31	**Akbulak array**	**14.89**	**324**	⇑Pn		**P**		**02 50 24.9**	**-0.3**
	0.7nm,0.5s,baz=136,slow=12,SNR=12								
AB31				⇑Sn		**Sn**		**02 53 11.2**	**+6.7**
	2.9nm,0.9s,baz=142,slow=22,SNR=4.0								
BVAR	**Borovoye Array**	**15.27**	**353**	Pn		**Pn**		**02 50 24.0**	**-0.4**
	0.1nm,0.3s,baz=151,slow=9.4,SNR=3.5								
AKTO	**Aktyubinsk**	**16.61**	**324**	Pn		**Pn**		**02 50 41.1**	**-0.7**
	0.2nm,0.3s,baz=126,slow=10,SNR=6.4								
AKTO	**Aktyubinsk**	**16.61**	**324**	⇑Pn		**P**		**02 50 47.3**	**+3.1**
	5.0nm,0.9s								
AKTO				⇓Sn		**S**		**02 53 53.0**	**-4.8**
	3.0nm,1.2s								
ZALV	**Zalesovo Beam**	**17.90**	**23**	P		**P**		**02 50 59.0**	**+0.5**
	0.2nm,0.3s,baz=215,slow=12,SNR=2.9								
BRTR	**Keskin Array B**	**30.79**	**286**	P		**P**		**02 53 05.9**	**+1.0**
	0.2nm,0.4s,baz=92,slow=12,SNR=3.0								
FINES	**FINESS Array B**	**37.38**	**324**	P		**P**		**02 54 02.3**	**+0.8**
	1.6nm,0.9s,baz=144,slow=10.0,SNR=3.5								
ARCES	**ARCESS Array B**	**40.58**	**336**	P		**P**		**02 54 30.1**	**+1.9**
	6.0nm,1.0s,baz=122,slow=10,SNR=4.1								
HFS	**Hagfors**	**43.12**	**321**	P		**P**		**02 54 49.2**	**0.0**
	0.6nm,0.4s,baz=106,slow=11,SNR=6.1								
NB2	**NORSAR Subarra**	**44.39**	**322**	P		**P**		**02 54 59.0**	**-0.4**
	comp=Z,1.2nm,0.8s,baz=91,slow=7.9								
NOA	**NORSAR Array B**	**44.39**	**322**	P		**P**		**02 54 58.5**	**-0.9**
	comp=Z,0.6nm,0.8s,baz=92,slow=7.9,SNR=2.7								
DAV	**Davao City (W)**	**56.27**	**109**	LR		LR		03 21 17.1	
	comp=Z,67nm,21.5s,baz=266,slow=37								
OPO	**Ambohidratompo**	**61.30**	**208**	LR		LR		03 22 17.0	
	comp=Z,59nm,18.4s,baz=214,slow=35								
TORD	**Torodi Ar. Bea**	**67.58**	**269**	P		**P**		**02 57 47.0**	**+1.0**
	comp=Z,0.6nm,1.2s,baz=52,slow=5.8,SNR=3.6								
ILAR	**Eielson Array**	**72.92**	**17**	P		**P**		**02 58 19.7**	**+1.8**
	comp=Z,0.2nm,0.8s,baz=309,slow=5.7,SNR=3.5								
YKA	**Yellowknife Ar**	**79.75**	**4**	P		**P**		**02 58 57.2**	**+0.5**
	comp=Z,0.2nm,0.8s,baz=349,slow=5.4,SNR=3.9								
WRA	**Warramunga Arr**	**81.20**	**124**	P		**P**		**02 59 06.7**	**+1.6**
	comp=Z,0.3nm,0.7s,baz=335,slow=8.3,SNR=2.5								

*ISCJB **24** 02:49:04.8±0.7,23.98N±0.01×122.32E±0.01,h12km±4km, Error ellipse: s-maj=2.3km s-min=1.9km az=40.1*
*JMA **24** 02:49:04.8±0.2,23.96N×122.32E,h11km±4km,M3.2*
*TAP **24** 02:49:05.5,24.04N×122.32E,h22km,ML3.3,D*

ISC 24 02:49:04.9±1.0,**23.99N**±0.02×**122.31E**±0.02,**h17**km±8km, **n81,σ0s71/156,Taiwan region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
EOS1	**EOS1**	**0.58**	**344**	P		**Pg**		**02 49 16.6**	**+0.1**
	baz=340								
EOS1				S		**Sg**		**02 49 24.4**	**+0.2**
	baz=340								
ENAH	**Nanao**	**0.65**	**315**	*e*P		**Pg**		**02 49 17.4**	**-0.3**
	baz=311								
ENAH				*e*S		**Sb**		**02 49 26.8**	**+0.3**
	baz=311								
ENLB	**Shoufeng**	**0.65**	**263**	*e*P		**Pb**		**02 49 18.4**	**+0.5**
	baz=245								
ENLB				*e*S		**Sb**		**02 49 27.9**	**+1.2**
	baz=245								
TWD	**Chiawan**	**0.66**	**278**	P		**Pg**		**02 49 18.2**	**+0.3**
	baz=273								
TWD				S		**Sb**		**02 49 27.8**	**+0.9**
	baz=273								
NANB	**Nanao**	**0.67**	**311**	P		**Pg**		**02 49 18.0**	**-0.1**
	baz=316								
NANB				*e*S		**Sg**		**02 49 26.9**	**-0.2**
	baz=316								
ENA	**Nanau**	**0.68**	**310**	*i* P		**Pg**		**02 49 18.1**	**-0.2**
	baz=315								
ENA				*e*S		**Sg**		**02 49 27.3**	**0.0**
	baz=315								
NACB	**Ninganchiao**	**0.68**	**286**	P		**Pg**		**02 49 18.6**	**+0.4**
	baz=266								
NACB				*e*S		**Sb**		**02 49 27.9**	**+0.4**
	baz=266								
JYNG	**Yonaguni jima**	**0.74**	**52**	P		**Pg**		**02 49 19.0**	**-0.5**
JYNG				*e*S		**Sb**		**02 49 29.2**	**-0.1**
TWC	**Suao**	**0.75**	**326**	P		**Pb**		**02 49 18.8**	**-0.8**
	baz=323								
TWC				S		**Sg**		**02 49 28.2**	**-1.2**
	baz=323								
YOJ	**Yonaguni jima**	**0.80**	**54**	P		**Pb**		**02 49 20.3**	**0.0**
	baz=55								
YOJ				S		**Sg**		**02 49 31.5**	**+0.6**
	baz=55								
YOJ	**Yonaguni jima**	**0.80**	**54**	P		**Pb**		**02 49 20.2**	**-0.2**
YOJ				S		**Sg**		**02 49 31.6**	**+0.6**
EGFH	**Guangfu**	**0.87**	**249**	*e*P		**Pb**		**02 49 21.2**	**-0.4**
	baz=246								
EGFH				*e*S		**Sb**		**02 49 33.3**	**+0.3**
	baz=246								
TWE	**Neicheng**	**0.94**	**321**	*e*P		**Pb**		**02 49 22.7**	**-0.1**
	baz=327								
TWE				*e*S		**Sb**		**02 49 35.0**	**+0.2**
	baz=327								
ENTT	**Nioudou**	**0.94**	**314**	*i* P		**Pb**		**02 49 23.0**	**+0.2**
	baz=323								
ENTT				*e*S		**Sb**		**02 49 34.7**	**-0.3**
	baz=323								
HGSD	**Ruisui**	**0.95**	**239**	P		**Pb**		**02 49 22.6**	**-0.3**
	baz=237								
HGSD				*e*S		**Sb**		**02 49 35.5**	**+0.2**
	baz=237								
NNSB	**Datong**	**0.95**	**298**	P		**Pb**		**02 49 23.3**	**+0.2**
	baz=294								
NNSB				*e*S		**Sg**		**02 49 36.1**	**+0.1**
	baz=294								
NNSH	**Datong**	**0.95**	**298**	P		**Pb**		**02 49 23.2**	**+0.1**
	baz=294								
NNSH				*e*S		**Sb**		**02 49 35.8**	**+0.3**
	baz=294								
NNS	**Nan Shan**	**0.96**	**298**	P		**Pb**		**02 49 23.5**	**+0.2**
	baz=294								
NNS				*e*S		**Sb**		**02 49 36.4**	**+0.5**
	baz=294								
NTC	**Toucheng**	**0.97**	**333**	*e*P		**Pb**		**02 49 23.6**	**+0.3**
	baz=330								
NTC				*e*S		**Sb**		**02 49 35.8**	**+0.1**
	baz=330								
WHF	**Hehuan Shan**	**0.97**	**279**	*e*P		**Pb**		**02 49 23.5**	**-0.1**
	baz=263								
WHF				*e*S		**Sb**		**02 49 36.2**	**0.0**
	baz=263								
EHY	**Hungye**	**1.02**	**242**	*e*P		**Pb**		**02 49 24.0**	**-0.2**
	baz=240								
EHY				*e*S		**Sb**		**02 49 37.6**	**+0.2**
	baz=240								
OWD	**Renai**	**1.04**	**268**	*e*P		**Pb**		**02 49 24.5**	**-0.1**
	baz=265								
OWD				*e*S		**Sb**		**02 49 37.7**	**-0.3**
	baz=265								
CHGB	**Renai**	**1.04**	**274**	*e*P		**Pb**		**02 49 24.5**	**-0.1**
	baz=258								
CHGB				*e*S		**Sb**		**02 49 37.7**	**-0.4**
	baz=258								
TWB1	**Santiao Chiao**	**1.06**	**344**	*e*P		**Pb**		**02 49 24.6**	**-0.2**
	baz=329								
TWB1				*e*S		**Sb**		**02 49 38.2**	**-0.2**
	baz=329								
TIPB	**Shuangxi**	**1.07**	**336**	P		**Pb**		**02 49 23.9**	**-1.2**
	baz=333								
TIPB				*e*S		**Sb**		**02 49 37.0**	**-1.9**
	baz=333								
NWLT	**Wulai**	**1.07**	**317**	P		**Pb**		**02 49 25.4**	**+0.2**
	baz=323								
NWLT				*e*S		**Sb**		**02 49 39.3**	**+0.3**
	baz=323								
TDCB	**Techi**	**1.08**	**284**	*e*P		**Pb**		**02 49 25.4**	**0.0**
	baz=271								
TDCB				*e*S		**Sb**		**02 49 39.5**	**+0.2**
	baz=271								
YHNB	**Yeheng**	**1.09**	**309**	P		**Pb**		**02 49 25.5**	**+0.1**
	baz=305								
YHNB				*e*S		**Sb**		**02 49 39.6**	**+0.3**
	baz=305								
YULB	**Yu-li**	**1.10**	**238**	*e*P		**Pb**		**02 49 25.0**	**-0.6**
	baz=253								
YULB				S		**Sb**		**02 49 39.2**	**-0.4**
	baz=253								
TWF1	**Yuli**	**1.12**	**236**	P		**Pn**		**02 49 25.5**	**-0.5**
	baz=222								
TWF1				S		**Sb**		**02 49 40.1**	**-0.2**
	baz=222								
NWF	**Wu-fen Shan**	**1.18**	**336**	*e*P		**Pn**		**02 49 26.3**	**-0.5**
	baz=333								
NWF				*e*S		**Sb**		**02 49 41.3**	**-0.8**
	baz=333								
WFSB	**Wu-fen Shan**	**1.18**	**336**	*e*P		**Pn**		**02 49 26.8**	**0.0**
	baz=332								
WFSB				*e*S		**Sb**		**02 49 41.4**	**-0.5**
	baz=332								
FULB	**Fuli**	**1.22**	**230**	*e*P		**Pn**		**02 49 26.2**	**-1.1**
	baz=216								
FULB				*e*S		**Sb**		**02 49 43.2**	**+0.2**
	baz=216								
TATO	**Taipei**	**1.23**	**323**	*e*P		**Pb**		**02 49 27.9**	**0.0**
	baz=319								
TATO				*e*S		**Sb**		**02 49 43.4**	**-0.1**
	baz=319								
CHKT	**Chengkung**	**1.24**	**225**	*e*P		**Pn**		**02 49 26.5**	**-1.0**
	baz=212								
CHKT				*e*S		**Sb**		**02 49 41.5**	**-2.1**
	baz=212								
SSLB	**Suanglung**	**1.26**	**261**	*e*P		**Pn**		**02 49 27.4**	**-0.4**
	baz=259								
SSLB				*e*S		**Sb**		**02 49 43.3**	**-0.8**
	baz=259								
DPDB	**Guoxing**	**1.27**	**272**	*e*P		**Pn**		**02 49 28.4**	**+0.4**
	baz=261								
DPDB				*e*S		**Sb**		**02 49 44.0**	**-0.4**
	baz=261								
SMLT	**Sun Moon Lake**	**1.29**	**266**	*e*P		**Pn**		**02 49 28.6**	**+0.2**
	baz=252								
SMLT				*e*S		**Sb**		**02 49 43.8**	**-1.5**
	baz=252								
TYC	**Yuchr**	**1.33**	**267**	*e*P		**Pn**		**02 49 28.8**	**0.0**
	baz=264								
TYC				*e*S		**Sn**		**02 49 46.0**	**-0.2**
	baz=264								
YM07	**YM07**	**1.34**	**332**	*e*P		**Pn**		**02 49 29.4**	**+0.4**
	baz=329								
YM07				*e*S		**Sn**		**02 49 45.6**	**-0.8**
	baz=329								
YUS	**Yu-Shan**	**1.34**	**248**	*e*P		**Pn**		**02 49 29.6**	**+0.2**
	baz=247								
YUS				*e*S		**Sb**		**02 49 45.9**	**-1.1**
	baz=247								
IRIF	**Iriomote-Funau**	**1.34**	**75**	P		**Pn**		**02 49 29.3**	**+0.3**
IRIF				S		**Sg**		**02 49 47.6**	**-0.8**
YM10	**YM10**	**1.35**	**330**	*e*P		**Pb**		**02 49 29.8**	**0.0**
	baz=341								
YM10				*e*S		**Sb**		**02 49 46.9**	**+0.1**
	baz=341								
LIOB	**Emei**	**1.35**	**299**	*e*P		**Pb**		**02 49 30.2**	**+0.4**
	baz=296								
LIOB				*e*S		**Sb**		**02 49 47.2**	**+0.4**
	baz=296								
YM05	**YM05**	**1.35**	**330**	*e*P		**Pb**		**02 49 29.7**	**-0.2**
	baz=342								
YM05				*e*S		**Sn**		**02 49 45.9**	**-0.9**
	baz=342								
NSTT	**Nanjuang**	**1.35**	**298**	*e*P		**Pb**		**02 49 30.4**	**+0.5**
	baz=296								
NSTT				*e*S		**Sb**		**02 49 47.2**	**+0.3**
	baz=296								
YM04	**YM04**	**1.36**	**329**	*e*P		**Pn**		**02 49 29.7**	**+0.5**
	baz=341								
YM04				*e*S		**Sn**		**02 49 46.7**	**-0.1**
	baz=341								
YM08	**YM08**	**1.36**	**331**	*e*P		**Pb**		**02 49 30.3**	**+0.2**
	baz=328								
YM08				*e*S		**Sb**		**02 49 47.5**	**+0.4**
	baz=328								
HATJ	**Hateruma jima**	**1.37**	**87**	P		**Pb**		**02 49 30.8**	**+0.6**
HATJ				*e*S		**Sb**		**02 49 47.9**	**+0.5**
TWS1	**Kuangyinshan**	**1.37**	**324**	*e*P		**Pb**		**02 49 30.3**	**+0.1**
	baz=332								
TWS1				*e*S		**Sb**		**02 49 48.0**	**+0.5**
	baz=332								
ELDTW	**Lidau**	**1.43**	**236**	*e*P		**Pn**		**02 49 29.5**	**-0.7**
	baz=236								
ELDTW				*e*S		**Sn**		**02 49 46.8**	**-2.0**
	baz=236								
TWY	**Chenhua**	**1.43**	**333**	*e*P		**Pb**		**02 49 30.9**	**-0.4**
	baz=330								
TWY				*e*S		**Sb**		**02 49 49.5**	**+0.3**
	baz=330								
TWQ1	**Liyutan**	**1.45**	**285**	*e*P		**Pb**		**02 49 31.6**	**+0.2**
	baz=282								
TWQ1				*e*S		**Sg**		**02 49 51.1**	**-0.6**
	baz=282								
WJS	**Zhushan**	**1.46**	**264**	*e*P		**Pb**		**02 49 32.6**	**+1.0**
	baz=262								
WJS				*e*S		**Sg**		**02 49 52.5**	**+0.5**
	baz=262								
ALS	**Alishan**	**1.46**	**251**	*e*P		**Pn**		**02 49 31.2**	**+0.4**
	baz=250								
ALS				*e*S		**Sn**		**02 49 50.2**	**+0.5**
	baz=250								
TWH	**Lutao**	**1.48**	**211**	P		**Pn**		**02 49 30.2**	**-0.7**
	baz=211								
TWH				*e*S		**Sn**		**02 49 47.3**	**-2.7**
	baz=211								
WNT	**Mingjian**	**1.49**	**266**	*e*S		**Sg**		**02 49 52.6**	**-0.4**
	baz=264								
JKRS	**Kuro-shima**	**1.57**	**81**	P		**Pb**		**02 49 33.7**	**+0.1**
JKRS				*e*S		**Sb**		**02 49 53.6**	**+0.3**
TWGBT	**Beinan**	**1.62**	**224**	*e*P		**Pn**		**02 49 32.1**	**-0.7**
	baz=237								
TWGBT				*e*S		**Sn**		**02 49 51.6**	**-1.8**
	baz=237								
TWG	**Pinlang**	**1.63**	**225**	*e*P		**Pn**		**02 49 32.7**	**-0.2**
	baz=237								
TWG				*e*S		**Sn**		**02 49 51.7**	**-1.7**
	baz=237								
STYT	**Tauyuan**	**1.64**	**240**	*e*P		**Pn**		**02 49 33.9**	**+0.7**
	baz=228								
STYT				*e*S		**Sn**		**02 49 54.2**	**+0.3**
	baz=228								
WDLH	**Douliu**	**1.65**	**260**	*e*P		**Pb**		**02 49 34.9**	**0.0**
	baz=258								
WDLH				*e*S		**Sb**		**02 49 56.6**	**+1.2**
	baz=258								
TPUB	**Ta-pu**	**1.69**	**246**	*e*P		**Pb**		**02 49 35.1**	**-0.5**
	baz=246								
TPUB				*e*S		**Sb**		**02 49 57.0**	**+0.5**
	baz=246								
CHN4	**Tsaushan**	**1.70**	**248**	*e*P		**Pb**		**02 49 36.0**	**+0.3**
	baz=247								
CHN4				*e*S		**Sb**		**02 49 57.6**	**+0.8**
	baz=247								
JIJ	**Ishigaki jima**	**1.72**	**77**	P		**Pn**		**02 49 34.6**	**+0.5**
JIJ				*e*S		**Sb**		**02 49 56.6**	**-0.8**
WTP	**Ta-pu**	**1.72**	**245**	*e*P		**Pb**		**02 49 36.0**	**-0.2**
	baz=244								
WTP				*e*S		**Sb**		**02 49 57.9**	**+0.3**
	baz=244								
TWK	**Hsinying**	**1.82**	**247**	*e*P		**Pb**		**02 49 37.2**	**-0.6**
	baz=246								
TWK				*e*S		**Sb**		**02 50 00.4**	**+0.1**
	baz=246								
CHN1	**Nanshi**	**1.82**	**244**	*e*P		**Pb**		**02 49 37.8**	**0.0**
	baz=244								
CHN1				*e*S		**Sb**		**02 50 01.1**	**+0.7**
	baz=244								
SLGT	**Liugui**	**1.82**	**237**	*e*P		**Pn**		**02 49 37.1**	**+1.5**
	baz=228								
SLGT				*e*S		**Sb**		**02 49 60.0**	**-0.4**
	baz=228								
SGST	**Jiashian**	**1.82**	**241**	*e*S		**Sb**		**02 50 01.2**	**+0.7**
	baz=229								
SSD	**Sandimen**	**1.98**	**232**	*e*P		**Pn**		**02 49 39.2**	**+1.5**
	baz=225								
SSD				*e*S		**Sn**		**02 50 04.0**	**+1.9**
	baz=225								
MASBT	**Mashibuluo**	**2.06**	**229**	*e*P		**Pn**		**02 49 39.5**	**+0.7**
	baz=222								
MASBT				*e*S		**Sn**		**02 50 05.4**	**+1.2**
	baz=222								
EAST	**Anshuo**	**2.09**	**220**	*e*P		**Pn**		**02 49 39.3**	**0.0**
	baz=221								
EAST				*e*S		**Sn**		**02 50 04.3**	**-0.6**
	baz=221								
SCZT	**Fangliau**	**2.24**	**224**	*e*P		**Pn**		**02 49 42.8**	**+1.6**
	baz=218								
SCZT				*e*S		**Sn**		**02 50 09.7**	**+1.2**
	baz=218								
WLCH	**Liuqiu**	**2.41**	**228**	*e*P		**Pb**		**02 49 48.5**	**+0.6**
	baz=228								
TWKBT	**Hengchun**	**2.46**	**214**	*e*P		**Pn**		**02 49 45.2**	**+0.9**
	baz=216								
TWKBT				*e*S		**Sn**		**02 50 13.3**	**-0.8**
	baz=216								
PHUB	**P'eng-hu**	**2.55**	**260**	*e*P		**Pn**		**02 49 46.7**	**+1.1**
	baz=259								
PHUB				*e*S		**Sn**		**02 50 16.7**	**+0.4**
	baz=259								
PNG	**Penghu**	**2.56**	**261**	*e*S		**Sn**		**02 50 17.3**	**+0.9**
	baz=260								
VWUC	**VWUC**	**2.79**	**292**	*e*P		**Pn**		**02 49 48.6**	**-0.3**
	baz=289								
JIKM	**Ikemajima**	**2.84**	**70**	P		**Pn**		**02 49 50.3**	**+0.8**
JIKM				*e*S		**Sn**		**02 50 24.0**	**+0.7**
MATB	**Ma-tsu**	**3.04**	**316**	*e*P		**Pn**		**02 49 51.8**	**-0.5**
	baz=312								

*TIR **24** 02:50:58.6,39.72N×20.23E,h21km,Md2.8/3*
*CSEM **24** 02:50:59.3,39.70N×20.26E,h17km,ML1.6/9*

ATH 24 02:50:59.3,39.70N×20.26E,h17km±4km,**ML1.6**/9,**Error ellipse: s-maj=4.2km s-min=0.9km az=225.0, Greece-Albania border region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
IGT	**Igoumenitsa**	**0.18**	**161**	P		Pg		02 51 03.4	-0.4
IGT				S		Sb		02 51 08.0	+0.6
IGT				AML		AML		02 51 11.0	
	comp=N,810μm,0.3s								
IGT				AML		AML		02 51 12.0	
	comp=E,664μm,0.2s								
IGT	**Igoumenitsa**	**0.18**	**161**	P		Pg		02 51 03.6	-0.3
IGT				S		Sb		02 51 07.6	+0.2
KASA	**Kassiopi**	**0.25**	**280**	P		Pg		02 51 04.5	-0.5
KASA				S		Sb		02 51 09.6	+0.1
KASA	**Kassiopi**	**0.25**	**280**	P		Pg		02 51 04.7	-0.3
KASA				S		Sb		02 51 09.4	-0.1
SRN	**Sarande**	**0.27**	**312**	*i* PG		Pg		02 51 04.2	-1.1
SRN				*i* SG		Sg		02 51 09.3	0.0
KEK	**Kerkira**	**0.35**	**272**	P		Pg		02 51 06.8	0.0
KEK				S		Sb		02 51 12.4	-0.1
KEK				AML		AML		02 51 14.2	
	comp=E,313μm,0.1s								
KEK				AML		AML		02 51 15.3	
	comp=N,361μm,0.4s								
KEK	**Kerkira**	**0.35**	**272**	P		Pg		02 51 06.7	0.0
KEK				S		Sb		02 51 12.2	-0.3
JAN	**Janina**	**0.46**	**96**	P		Pg		02 51 08.1	-0.5
JAN				S		Sb		02 51 15.6	+0.1
JAN				AML		AML		02 51 17.5	
	comp=N,307μm,0.3s								
JAN				AML		AML		02 51 17.8	
	comp=E,268μm,0.1s								
JAN	**Janina**	**0.46**	**96**	P		Pg		02 51 08.3	-0.3
JAN				S		Sb		02 51 15.3	-0.2
PENT	**Pentalofos**	**0.84**	**54**	P		Pb		02 51 14.8	-0.7
PENT				S		Sb		02 51 26.6	+0.2
PENT				AML		AML		02 51 29.3	
	comp=E,54μm,0.3s								
PENT				AML		AML		02 51 32.5	
	comp=N

EVR AML AML 02 51 56.5
comp=E,24µm,0.4s

*KRSC **24** 03:02:13.1±2.0, 49°.19N×155°.97E, h66km±22km, ML5.0, FELT [III] at Severo-Kurilsk.*
*MOS **24** 03:02:14.2±1.0, 49°.22N×155°.66E, h53km, mb4.6/19, Error ellipse: s-maj=9.7km s-min=3.2km az=72.1*
MOS Felt (II-III) at Severo-Kuril'sk.
*ISCJB **24** 03:02:14.1±0.5, 49°.24N±0°.04×155°.59E±0°.05, h49km±4km, mb4.3/71, MS3.2/6, Error ellipse: s-maj=8.0km s-min=2.6km az=137.6*
*SKHL **24** 03:02:14.0±0.7, 49°.08N×155°.97E, h72km±5km, mb5.8/8*
SKHL Felt (II-III) at Severo-Kurilsk.
*IDC **24** 03:02:15.3±0.6, 49°.26N×155°.55E, h45km±6km, mb3.7/20, mb1 4.0/26, mb1mx3.8/76, mbtmp4.0/26, ML3.5/4, MS3.0/11, Ms1 3.0/11, ms1mx2.8/75, Error ellipse: s-maj=15.8km s-min=10.2km az=139.0*
*NEIC **24** 03:02:16.2±0.3, 49°.23N×155°.77E, mb4.5/49, Error ellipse: s-maj=10.8km s-min=4.5km az=144.0*

ISC 24 03:02:15.1±0.6, 49°.15N±0°.06×155°.84E±0°.06, h45km±5km, h45km:pP-P, n239, σ1§38/277, mb4.5/71, MS3.1/6, 2C-1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	
SKR	**Severo-Kuril's**	**1.54**	**7**	*e*P		**Pn**	**03 02 39.0**	**-1.1**
SKR						AMB AMB	03 02 41.1	
	2µm,0.4s							
SKR					*e*S	**Sn**	**03 02 58.3**	**-0.6**
SKR					A	A	03 02 59.8	
	8µm,0.2s							
SKR					A	A	03 02 59.8	
	14µm,0.2s							
SKR	**Severo-Kuril's**	**1.54**	**7**	*e*P		**Pn**	**03 02 38.9**	**-1.1**
SKR					*e*S	**Sn**	**03 02 57.6**	**-1.3**
SKR	**Severo-Kuril's**	**1.54**	**7**	*i* P	N	**Pn**	**03 02 39.0**	**-1.1**
SKR					*e*S	**Sn**	**03 02 59.2**	**+0.3**
SKR					pmax	pmax		
	comp=Z,2µm,0.4s							
SKR					smax	smax		
	comp=E,9µm,0.2s							
SKR					smax	smax		
	comp=N,6µm,0.3s							
PAU	**Pauzhetka**	**2.40**	**15**	*e*P		**Pn**	**03 02 51.6**	**-0.2**
PAU					AMB	AMB	03 02 53.4	
	comp=N,700nm,0.3s							
PAU					*e*S	**Sn**	**03 03 19.7**	**-0.2**
PAU					A	A	03 03 24.8	
	comp=N,4µm,0.2s							
PAU					A	A	03 03 24.8	
	comp=N,3µm,0.2s							
PAU	**Pauzhetka**	**2.40**	**15**	*e*P		**Pn**	**03 02 51.4**	**-0.4**
PAU				*e*S		**Sn**	**03 03 19.1**	**-0.8**
PAU	**Pauzhetka**	**2.40**	**15**	P	N	**Pn**	**03 02 51.4**	**-0.4**
PAU				S		**Sn**	**03 03 19.1**	**-0.8**
KDTR	**Khodutka, Kamc**	**3.02**	**27**	*e*P		**Pn**	**03 02 59.2**	**-1.1**
KDTR				*e*S		**Sn**	**03 03 33.9**	**-1.3**
MIPR	**Malaya Ipel'ka**	**3.18**	**10**	*e*P		**Pn**	**03 03 02.2**	**-0.4**
MIPR				*e*S		**Sn**	**03 03 39.3**	**+0.1**
MIPR	**Malaya Ipel'ka**	**3.18**	**10**	P	N	**Pn**	**03 03 02.2**	**-0.4**
MIPR				S		**Sn**	**03 03 39.3**	**+0.1**
ASAK	**Asacha**	**3.49**	**21**	*e*P		**Pn**	**03 03 07.4**	**+0.6**
ASAK	**Asacha**	**3.49**	**21**	P	N	**Pn**	**03 03 07.4**	**+0.6**
MTVR	**Mutnovka**	**3.65**	**23**	*e*P		**Pn**	**03 03 09.9**	**+0.8**
MTVR				*e*S		**Sn**	**03 03 50.2**	**-0.8**
MTVR	**Mutnovka**	**3.65**	**23**	P	N	**Pn**	**03 03 09.9**	**+0.8**
MTVR				S		**Sn**	**03 03 50.2**	**-0.8**
RUS	**Russkaya**	**3.70**	**26**	*e*P		**Pn**	**03 03 09.4**	**-0.2**
RUS				*e*S		**Sn**	**03 03 50.5**	**-1.3**
RUS	**Russkaya**	**3.70**	**26**	P	N	**Pn**	**03 03 09.4**	**-0.2**
RUS				S		**Sn**	**03 03 50.5**	**-1.3**
KRMR	**Karymshinskiy**	**3.96**	**21**	*e*P		**Pn**	**03 03 14.2**	**+1.0**
KRMR				*e*S		**Sn**	**03 03 59.1**	**+0.9**
KRMR	**Karymshinskiy**	**3.96**	**21**	P	N	**Pn**	**03 03 14.2**	**+1.0**
KRMR				S		**Sn**	**03 03 59.1**	**+0.9**
PEA0B	**Petropavlovsk-**	**4.13**	**16**	*e*Pn		**Pn**	**03 03 16.8**	**+1.2**
PEA0B				*e*Sn		**Sn**	**03 04 03.5**	**+0.9**
PETK	**Petropavlovsk-**	**4.13**	**16**	P		**Pn**	**03 03 16.5**	**+0.9**
	comp=N,16nm,0.3s,baz=191,slow=12,SNR=75							
PETK					LR	LR	03 05 10.0	
	comp=N,314nm,18.4s,baz=222,slow=43							
PETK	**Petropavlovsk-**	**4.13**	**16**	*e*Pn		**Pn**	**03 03 16.2**	**+0.7**
PETK				*e*Sn		**Sn**	**03 04 01.6**	**-1.0**
PET	**Petropavlovsk**	**4.26**	**24**	*e*P		**Pn**	**03 03 17.5**	**+0.1**
PET					AMB	AMB	03 03 18.7	
	comp=N,105nm,0.3s							
PET				*e*S		**Sn**	**03 04 04.6**	**-1.2**
PET				A		A	03 04 16.2	
	comp=N,456nm,0.4s							
PET				A		A	03 04 16.2	
	comp=N,350nm,0.4s							
PET	**Petropavlovsk**	**4.26**	**24**	*e*Pn		**Pn**	**03 03 18.2**	**+0.8**
PET				*e*Sn		**Sn**	**03 04 03.3**	**-2.5**
PET	**Petropavlovsk**	**4.26**	**24**	*e*PN		**Pn**	**03 03 18.0**	**+0.6**
PET				*e*S		**Sn**	**03 04 06.1**	**+0.3**
PET				pmax	pmax			
	comp=Z,200nm,0.8s							
PET				pmax	pmax			
	comp=Z,162nm,0.6s							
PET				smax	smax			
	comp=E,700nm,1.2s							
PET				smax	smax			
	comp=N,600nm,1.3s							
PET				smax	smax			
	comp=N,569nm,0.7s							
PET				smax	smax			
	comp=E,657nm,0.7s							
PET				MLR	MLR			
	comp=Z,200nm,14.0s							
DALK	**Dalny**	**4.30**	**24**	*e*P		**Pn**	**03 03 18.5**	**+0.7**
DALK				*e*S		**Sn**	**03 04 05.7**	**-0.9**
DALK	**Dalny**	**4.30**	**24**	P	N	**Pn**	**03 03 18.5**	**+0.7**
DALK				S		**Sn**	**03 04 05.7**	**-0.9**
UGLR	**Uglovaya**	**4.47**	**24**	*e*P		**Pn**	**03 03 21.8**	**+1.4**
UGLR				*e*S		**Sn**	**03 04 12.7**	**+1.5**
UGLR	**Uglovaya**	**4.47**	**24**	P	N	**Pn**	**03 03 21.8**	**+1.4**
UGLR				S		**Sn**	**03 04 12.7**	**+1.5**
KOK	**Koryaka**	**4.50**	**22**	*e*P		**Pn**	**03 03 22.7**	**+1.9**
KOK	**Koryaka**	**4.50**	**22**	P	N	**Pn**	**03 03 22.7**	**+1.9**
AVH	**Avacha**	**4.50**	**23**	*e*P		**Pn**	**03 03 22.8**	**+2.1**
AVH	**Avacha**	**4.50**	**23**	P	N	**Pn**	**03 03 22.8**	**+2.1**
SMAR	**Somma**	**4.52**	**23**	*e*P		**Pn**	**03 03 22.3**	**+1.2**
SMAR	**Somma**	**4.52**	**23**	P	N	**Pn**	**03 03 22.3**	**+1.2**
KRER	**Koryakskii**	**4.54**	**23**	*e*P		**Pn**	**03 03 23.1**	**+1.7**
KRER	**Koryakskii**	**4.54**	**23**	P	N	**Pn**	**03 03 23.1**	**+1.7**
SDLR	**Sedlovina**	**4.55**	**24**	*e*P		**Pn**	**03 03 22.1**	**+0.6**
SDLR	**Sedlovina**	**4.55**	**24**	P	N	**Pn**	**03 03 22.1**	**+0.6**
KRX	**Arik**	**4.57**	**22**	*e*P		**Pn**	**03 03 23.3**	**+1.6**
KRX	**Arik**	**4.57**	**22**	P	N	**Pn**	**03 03 23.3**	**+1.6**
NLC	**Nalytchevo**	**4.59**	**27**	*e*P		**Pn**	**03 03 20.7**	**-1.1**
NLC				*e*S		**Sn**	**03 04 11.3**	**-2.5**
NLC	**Nalytchevo**	**4.59**	**27**	P	N	**Pn**	**03 03 20.7**	**-1.1**
GNL	**Ganaly**	**4.74**	**15**	*e*P		**Pn**	**03 03 26.0**	**+2.0**
GNL	**Ganaly**	**4.74**	**15**	P	N	**Pn**	**03 03 26.0**	**+2.0**
SPN	**Mys Shipunski**	**4.75**	**32**	*e*P		**Pn**	**03 03 24.1**	**+0.1**
SPN				*e*S		**Sn**	**03 04 16.5**	**-1.2**
SPN	**Mys Shipunski**	**4.75**	**32**	P	N	**Pn**	**03 03 24.1**	**+0.1**
KII	**Karymskiy**	**5.38**	**23**	*e*P		**Pn**	**03 03 35.1**	**+2.3**
KII	**Karymskiy**	**5.38**	**23**	P	N	**Pn**	**03 03 35.1**	**+2.3**
KZV	**Kizimen**	**6.57**	**23**	*e*P		**Pn**	**03 03 50.3**	**+1.2**
KZV	**Kizimen**	**6.57**	**23**	P	N	**Pn**	**03 03 50.3**	**+1.2**
TUMR	**Tumrok**	**6.69**	**22**	*e*P		**Pn**	**03 03 52.1**	**+1.4**
TUMR	**Tumrok**	**6.69**	**22**	P	N	**Pn**	**03 03 52.1**	**+1.4**
KUR	**Kuril'sk**	**6.70**	**237**	*e*P		**Pn**	**03 03 52.2**	**+1.4**
KUR					AMB	AMB	03 03 55.1	
	comp=Z,440nm,0.5s							
KUR				*e*S		**Sn**	**03 05 03.6**	**-2.1**
KUR				A		A	03 05 25.4	
	comp=Z,650nm,1.6s							
KUR				A		A	03 05 25.4	
	comp=Z,442nm,1.6s							
KUR				A		A	03 05 37.4	
	comp=Z,140nm,0.5s							
KUR				A		A	03 05 37.4	
	comp=Z,310nm,0.5s							
KUR	**Kuril'sk**	**6.70**	**237**	*c i*	PN	**Pn**	**03 03 53.5**	**+2.7**
KUR				*e*S		**Sn**	**03 05 09.9**	**+4.2**
KUR				pmax	pmax			
	comp=N,53nm,0.6s							
KUR				pmax	pmax			
	comp=Z,217nm,0.6s							
KUR					pmax	pmax		
	comp=E,43nm,0.2s							
KUR					smax	smax		
	comp=E,646nm,1.6s							
KUR					smax	smax		
	comp=N,442nm,1.4s							
KUR					smax	smax		
	comp=N,134nm,0.5s							
KUR					smax	smax		
	comp=E,31nm,0.1s							
ESO	**Esso**	**7.00**	**13**	*e*P		**Pn**	**03 03 57.2**	**+2.2**
ESO	**Esso**	**7.00**	**13**	P	N	**Pn**	**03 03 57.2**	**+2.2**
KMNR	**Kamenistaya**	**7.14**	**20**	*e*P		**Pn**	**03 03 58.5**	**+1.6**
KMNR	**Kamenistaya**	**7.14**	**20**	P	N	**Pn**	**03 03 58.5**	**+1.6**
KPT	**Kopyto**	**7.33**	**20**	*e*P		**Pn**	**03 04 00.4**	**+0.9**
KPT	**Kopyto**	**7.33**	**20**	P	N	**Pn**	**03 04 00.4**	**+0.9**
KOZ	**Kozyrevsk**	**7.34**	**18**	*e*P		**Pn**	**03 04 02.3**	**+2.7**
KOZ	**Kozyrevsk**	**7.34**	**18**	P	N	**Pn**	**03 04 02.3**	**+2.7**
BZMR	**Bezymyannaya**	**7.36**	**21**	*e*P		**Pn**	**03 04 01.6**	**+1.6**
BZMR	**Bezymyannaya**	**7.36**	**21**	P	N	**Pn**	**03 04 01.6**	**+1.6**
BZWR	**Bezymyannyi-We**	**7.39**	**21**	*e*P		**Pn**	**03 04 02.3**	**+1.9**
BZWR	**Bezymyannyi-We**	**7.39**	**21**	P	N	**Pn**	**03 04 02.3**	**+1.9**
ZLN	**Zelenaya**	**7.51**	**22**	*e*P		**Pn**	**03 04 03.7**	**+1.7**
ZLN	**Zelenaya**	**7.51**	**22**	P	N	**Pn**	**03 04 03.7**	**+1.7**
KLY	**Klyuchi**	**7.74**	**20**	*e*P		**Pn**	**03 04 06.7**	**+1.7**
KLY	**Klyuchi**	**7.74**	**20**	P	N	**Pn**	**03 04 06.7**	**+1.7**
BDR	**Baidarnaya**	**8.11**	**22**	*e*P		**Pn**	**03 04 10.0**	**-0.1**
BDR	**Baidarnaya**	**8.11**	**22**	P	N	**Pn**	**03 04 10.0**	**-0.1**
SHO	**Shikotan**	**8.15**	**233**	*e*P		Pn	03 04 08.7	-2.0
SHO					AMB	AMB	03 04 13.0	
	comp=E,130nm,0.3s							
SHO				*e*S		**Sn**	**03 05 37.1**	**-4.4**
SHO	**Shikotan**	**8.15**	**233**	*e*PN		Pn	03 04 07.9	-2.8
SHO				pmax	pmax			
	comp=Z,128nm,0.3s							
SHO				pmax	pmax			
	comp=E,82nm,0.2s							
SHO				pmax	pmax			
	comp=N,43nm,0.4s							
SRKR	**Sorokina**	**8.17**	**21**	*e*P		**Pn**	**03 04 11.2**	**+0.2**
SRKR	**Sorokina**	**8.17**	**21**	P	N	**Pn**	**03 04 11.2**	**+0.2**
SMKR	**Semkarok**	**8.18**	**22**	*e*P		**Pn**	**03 04 10.6**	**-0.5**
SMKR	**Semkarok**	**8.18**	**22**	P	N	**Pn**	**03 04 10.6**	**-0.5**
KBTR	**Krutoberegovo**	**8.24**	**28**	*e*P		**Pn**	**03 04 11.3**	**-0.5**
KBTR	**Krutoberegovo**	**8.24**	**28**	P	N	**Pn**	**03 04 11.3**	**-0.5**
YUK	**Yuzh-Kuril'sk**	**8.56**	**237**	*e*P		**Pn**	**03 04 16.4**	**0.0**
YUK					AMB	AMB	03 04 18.9	
	comp=N,450nm,0.5s							
YUK				*e*S		**Sn**	**03 05 49.0**	**-2.6**
YUK	**Yuzh-Kuril'sk**	**8.56**	**237**	*e*PN		**Pn**	**03 04 16.4**	**0.0**
YUK				pmax	pmax			
	comp=N,125nm,0.5s							
YUK				pmax	pmax			
	comp=Z,447nm,0.5s							
YUK				pmax	pmax			
	comp=E,210nm,0.4s							
LAGR	**Lagunnoye**	**8.59**	**237**	*e*P		**Pn**	**03 04 17.3**	**+0.6**
LAGR					AMB	AMB	03 04 20.2	
	comp=E,580nm,0.5s							
LAGR				*e*S		**Sn**	**03 05 51.6**	**-0.6**
LAGR	**Lagunnoye**	**8.59**	**237**	*e*PN		**Pn**	**03 04 17.3**	**+0.6**
LAGR				pmax	pmax			
	comp=N,381nm,0.5s							
LAGR				pmax	pmax			
	comp=Z,582nm,0.5s							
LAGR				pmax	pmax			
	comp=E,152nm,0.6s							
GRPR	**Tuman**	**8.64**	**237**	*e*P		**Pn**	**03 04 17.4**	**0.0**
GRPR					AMB	AMB	03 04 19.6	
	comp=E,350nm,0.4s							
GRPR				*e*S		**Sn**	**03 05 51.8**	**-1.6**
GRPR	**Tuman**	**8.64**	**237**	*e*PN		**Pn**	**03 04 17.4**	**0.0**
GRPR				pmax	pmax			
	comp=N,130nm,0.4s							
GRPR				pmax	pmax			
	comp=Z,350nm,0.4s							
GRPR				pmax	pmax			
	comp=E,166nm,0.5s							
TYV	**Tymovskoe**	**8.66**	**286**	*e*P		**Pn**	**03 04 19.0**	**+1.3**
TYV					AMB	AMB	03 04 26.1	
	comp=E,4.0nm,0.3s							
TYV	**Tymovskoe**	**8.66**	**286**	*e*PN		**Pn**	**03 04 18.5**	**+0.8**
TYV				pmax	pmax			
	comp=Z,6.0nm,1.0s							
BKI	**Bering**	**8.68**	**42**	*e*P		**Pn**	**03 04 16.3**	**-1.6**
BKI	**Bering**	**8.68**	**42**	P	N	**Pn**	**03 04 16.3**	**-1.6**
GLVR	**Golovnino**	**8.95**	**237**	*e*P		**Pn**	**03 04 21.7**	**+0.1**
GLVR					AMB	AMB	03 04 27.4	
	comp=Z,340nm,0.5s							
GLVR				*e*S		**Sn**	**03 05 59.2**	**-1.7**
GLVR	**Golovnino**	**8.95**	**237**	*e*PN		**Pn**	**03 04 21.7**	**+0.1**
GLVR				pmax	pmax			
	comp=E,104nm,0.5s							
GLVR				pmax	pmax			
	comp=Z,335nm,0.5s							
GLVR				pmax	pmax			
	comp=N,281nm,0.3s							
UGL	**Uglegorsk**	**9.04**	**275**	*e*P		**Pn**	**03 04 24.2**	**+1.4**
UGL					AMB	AMB	03 04 27.0	
	comp=N,81nm,0.9s							
UGL				*e*S		**Sn**	**03 06 01.8**	**-1.3**
UGL				A		A	03 06 04.0	
	comp=N,56nm,0.5s							
UGL				A		A	03 06 04.0	
	comp=N,44nm,0.5s							
YSS	**Yuzh-Sakhalins**	**9.04**	**261**	*e*P		**Pn**	**03 04 24.6**	**+1.8**
YSS					AMB	AMB	03 04 25.8	
	comp=N,40nm,0.3s							
YSS	**Yuzh-Sakhalins**	**9.04**	**261**	*e*Pn		**Pn**	**03 04 25.6**	**+2.8**
YSS	**Yuzh-Sakhalins**	**9.04**	**261**	*e*PN		**Pn**	**03 04 25.6**	**+2.8**
YSS				pmax	pmax			
	comp=Z,40nm,0.3s							
NKL	**Nikolayevsk**	**10.33**	**299**	*e*PN		**Pn**	**03 04 40.0**	**-0.4**
ASAJ	**Asahikawa**	**10.40**	**246**	P		**Pn**	**03 04 41.8**	**+0.2**
	comp=Z,10nm,0.3s,baz=78,slow=14,SNR=43							
ASAJ	**Asahikawa**	**10.40**	**246**	*e*Pn		**Pn**	**03 04 43.3**	**+1.8**
MA2	**Magadan**	**10.85**	**346**	P		**Pn**	**03 04 46.2**	**-1.3**
	comp=Z,2.0nm,0.3s,baz=167,slow=8.0,SNR=7.6							
MA2					LR	LR	03 09 08.1	
	comp=Z,12nm,21.4s,baz=140,slow=39							
MA2	**Magadan**	**10.85**	**346**	*e*Pn		**Pn**	**03 04 46.8**	**-0.8**
MA2	**Magadan**	**10.85**	**346**	*e*PN		**Pn**	**03 04 46.8**	**-0.8**
ERM	**Erimo**	**11.39**	**236**	*e*Pn		**Pn**	**03 04 54.5**	**-0.5**
ERM				*e*Sn		**Sn**	**03 07 00.8**	**+0.1**
ERM	**Erimo**	**11.39**	**236**	*i* PN		**Pn**	**03 04 54.2**	**-0.8**
SEY	**Seymchan**	**13.95**	**353**	P		**Pn**	**03 05 29.6**	**-0.1**
	comp=Z,0.5nm,0.3s,baz=156,slow=9.8,SNR=4.5							
SEY	**Seymchan**	**13.95**	**353**	*e*P		**Pn**	**03 05 30.4**	**+0.7**
SEY	**Seymchan**	**13.95**	**353**	*i* P		**Pn**	**03 05 30.4**	**+0.7**
KLR	**Kul'dur**	**15.74**	**279**	P		**Pn**	**03 05 52.3**	**-1.2**
	comp=Z,0.0nm,0.3s,baz=96,slow=18,SNR=2.6							
KLR					LR	LR	03 12 24.1	
	comp=E,6.1nm,20.0s,baz=110,slow=39							
KLR	**Kul'dur**	**15.74**	**279**	*i* P		**Pn**	**03 05 54.4**	**+1.0**
USRK	**Ussuriysk Ar.**	**17.07**	**262**	P		**Pn**	**03 06 09.2**	**-1.1**
	comp=Z,0.3nm,0.3s,baz=65,slow=13,SNR=5.5							
USRK					LR	LR	03 12 25.3	
	comp=Z,85nm,20.9s,baz=69,slow=36							
MJA0	**Matsu Arr-Jizo**	**17.98**	**232**	*e*P		**P**	**03 06 23.5**	**+1.8**
MJA0					pmax	pmax		
	comp=Z,1.0nm,0.3s							
MAJO	**Matsushiro**	**18.00**	**232**	*e*P		**P**	**03 06 21.2**	**-0.7**
MAJO	**Matsushiro**	**18.00**	**232**	*e*Pn		**P**	**03 06 23.9**	**+2.0**
	comp=Z,13nm,0.8s							
MAJO	**Matsushiro**	**18.00**	**232**	*e*P		**P**	**03 06 21.2**	**-0.7**
MAJO					pmax	pmax		
	comp=Z,8.0nm,0.8s							
MJAR	**Matsushiro Arr**	**18.00**	**232**	P		**P**	**03 06 20.1**	**-1.7**
	comp=Z,0.5nm,0.3s,baz=36,slow=12,SNR=4.5							
MJAR					LR	LR	03 13 42.5	
	comp=Z,75nm,20.7s,baz=45,slow=38							
MDJ	**Mudanjiang**	**18.46**	**266**	P		**P**	**03 06 28.8**	**+1.9**
MDJ					pmax	pmax		
	comp=Z,10.0nm,0.8s							
MDJ					pmax	pmax		
	comp=Z,100nm,3.5s							
INU	**Inuyama**	**19.53**	**232**	*e*P		**P**	**03 06 38.6**	**0.0**
	comp=Z,16nm,0.9s							
BILL	**Bilibino**	**19.65**	**12**	*i* P		**P**	**03 06 38.3**	**-1.4**
BILL					pmax	pmax		
	comp=Z,2.0nm,0.7s							
BILL					MLR	MLR		
	comp=Z,72nm,20.0s							
KSRS	**Korea Array**	**23.30**	**250**	P		**P**	**03 07 17.9**	**-0.9**
	comp=Z,1.4nm,0.6s,baz=37,slow=9.0,SNR=9.6							
KS01	**Wonju Array Si**	**23.30**	**250**	*e*P		**P**	**03 07 18.5**	**-0.3**
KS15	**Wonju Array Si**	**23.33**	**250**	*e*P		**P**	**03 07 22.6**	**+3.5**
JNU	**Nakatsue**	**24.53**	**239**	P		**P**	**03 07 29.4**	**-0.9**
	comp=Z,8.6nm,0.9s,baz=46,slow=11,SNR=5.8							
JNU	**Nakatsue**	**24.53**	**239**	*e*P		**P**	**03 07 30.8**	**+0.5**
TIXI	**Tiksi**	**25.74**	**341**	*e*P		**P**	**03 07 39.5**	**-1.3**
TIXI	**Tiksi**	**25.74**	**341**	*e*P		**P**	**03 07 39.5**	**-1.3**
TIXI				pmax	pmax			
	comp=Z,2.0nm,0.9s							
H11N2	**WAKE ISLAND Hy**	**30.67**	**159**	T		T	03 41 12.5	
	baz=346,slow=76,SNR=158							
H11N1	**WAKE ISLAND Hy**	**30.68**	**159**	T		T	03 41 11.0	
	baz=346,slow=76,SNR=146							
H11N3	**WAKE ISLAND Hy**	**30.68**	**159**	T		T	03 41 17.7	
	baz=346,slow=76,SNR=137							
IM3	**Indian Mountai**	**30.75**	**38**	*e*P		**P**	**03 08 25.5**	**0.0**
IM3				*e*pP		**pP**	**03 08 36.8**	**-0.7**
BPAW	**Bear Paw Mtn.**	**31.74**	**42**	*e*P		**P**	**03 08 35.4**	**+1.0**
	comp=Z,4.5nm,0.8s							
KTH	**Kantishna Hill**	**31.75**	**43**	*e*P		**P**	**03 08 35.8**	**+1.3**
KTH				*e*pP		**pP**	**03 08 45.0**	**-1.5**
H11S1	**WAKE ISLAND Hy**	**31.80**	**160**	T		T	03 42 38.6	
	baz=347,slow=76,SNR=1822							
H11S3	**WAKE ISLAND Hy**	**31.81**	**160**	T		T	03 42 46.2	
	baz=347,slow=76,SNR=3962							
H11S2	**WAKE ISLAND Hy**	**31.82**	**160**	T		T	03 42 27.4	
	baz=347,slow=76,SNR=1561							
MLY	**Manley**	**31.89**	**40**	*e*P		**P**	**03 08 36.8**	**+1.0**
MLY				*e*pP		**pP**	**03 08 48.6**	**+0.9**
TRF	**Thorofare Moun**	**32.03**	**43**	*e*P		**P**	**03 08 38.0**	**+0.9**
	comp=Z,5.4nm,0.9s							
COLD	**Coldfoot**	**32.31**	**36**	*e*P		**P**	**03 08 39.9**	**+0.6**
COLD				*e*pP		**pP**	**03 08 51.3**	**0.0**
SONM	**Songino Array**	**32.33**	**287**	LR		LR	03 22 40.2	
	comp=Z,38nm,21.4s,baz=34,slow=38							
MCK	**McKinley**	**32.64**	**43**	*e*P		**P**	**03 08 42.8**	**+0.6**
	comp=Z,7.5nm,0.9s							
MCK				*e*pP		**pP**	**03 08 54.8**	**+0.6**
MCK	**McKinley**	**32.64**	**43**	*e*P		**P**	**03 08 42.8**	**+0.6**
MCK				*e**PP		**pP**	**03 08 54.8**	**+0.6**
MCK				pmax	pmax			
	comp=Z,8.0nm,0.9s							
RND	**Reindeer**	**32.67**	**43**	*e*P		**P**	**03 08 42.8**	**+0.2**
	comp=Z,9.1nm,0.9s							
RND	**Reindeer**	**32.67**	**43**	*e*P		**P**	**03 08 42.8**	**+0.2**
RND				pmax	pmax			
	comp=Z,9.0nm,0.9s							
TOLK	**Toolik Lake Re**	**32.73**	**34**	*e*P		**P**	**03 08 43.2**	**+0.2**
	comp=Z,8.8nm,0.5s							
TLY	**Talaya**	**32.77**	**295**	LR		LR	03 21 46.3	
	comp=Z,27nm,19.4s,baz=49,slow=36							
MDM	**Murphy Dome**	**32.96**	**40**	*e*P		**P**	**03 08 46.4**	**+1.4**
	comp=Z,5.3nm,0.8s							
SML	**Sawmill**	**32.97**	**46**	*e*P		**P**	**03 08 45.6**	**+0.4**
	comp=Z,23nm,0.7s							
SML	**Sawmill**	**32.97**	**46**	*e*P		**P**	**03 08 45.6**	**+0.4**
SML				pmax	pmax			
	comp=Z,23nm,0.7s							
WRH	**Wood River Hil**	**33.01**	**41**	*e*P		**P**	**03 08 45.7**	**+0.3**
WRH				*e*pP		**pP**	**03 08 58.2**	**+0.8**
COLA	**College**	**33.12**	**41**	*e*P		**P**	**03 08 45.9**	**-0.4**
COLA	**College**	**33.12**	**41**	*i* P		**P**	**03 08 45.9**	**-0.4**
COLA				pmax	pmax			
	comp=Z,12nm,0.9s							
CCB	**Clear Creek Bu**	**33.13**	**41**	*e*P		**P**	**03 08 46.7**	**+0.2**
	comp=Z,6.0nm,1.1s							
CCB				*e*pP		**pP**	**03 08 60.0**	**+1.5**
DHY	**Denali Highway**	**33.35**	**44**	*e*P		**P**	**03 08 48.9**	**+0.3**
	comp=Z,6.6nm,1.0s							
ILAR	**Eielson Array**	**33.53**	**41**	P		**P**	**03 08 49.9**	**-0.1**
	comp=Z,2.9nm,0.7s,baz=253,slow=6.6,SNR=42							
ILAR				pP		**pP**	**03 09 01.6**	**-0.4**
	comp=Z,3.1nm,0.9s,baz=262,slow=8.7,SNR=12							
ILB	**Eielson Array**	**33.53**	**41**	*e*P		**P**	**03 08 50.2**	**+0.3**
IL1	**Eielson Array**	**33.53**	**41**	*e*P		**P**	**03 08 49.8**	**-0.2**
FYU	**Fort Yukon**	**34.22**	**38**	*e*P		**P**	**03 08 57.4**	**+1.5**
FYU				*e*pP		**pP**	**03 09 08.8**	**+0.9**
RIDG	**Independ'e Rid**	**34.46**	**43**	*e*P		**P**	**03 08 58.5**	**+0.4**
RIDG				*e*pP		**pP**	**03 09 09.8**	**-0.3**
DOT	**Dot Lake**	**34.81**	**43**	*e*P		**P**	**03 09 00.9**	**-0.2**
	comp=Z,10nm,0.7s							
SCRK	**Sand Creek**	**34.82**	**42**	*e*P		**P**	**03 09 01.1**	**-0.2**
	comp=Z,6.3nm,0.9s							
BMRM	**Bremner River**	**34.84**	**47**	*e*P		**P**	**03 09 02.6**	**+1.1**
	comp=Z,10nm,1.1s							
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	comp=Z,5.0nm,1.0s								
SRTC	**Snort**	**61.87**	**67**	*eP*	**P**		**03 12 32.0**	**+2.4**	
BW06	**Boulder Array**	**61.87**	**56**	*eP*	**P**		**03 12 31.4**	**+1.6**	
	comp=Z,3.6nm,0.8s								
PD31	**Pinedale Array**	**61.87**	**56**	*eP*	**P**		**03 12 31.4**	**+1.5**	
PDAR	**Pinedale Array**	**61.87**	**56**	P	**P**		**03 12 31.2**	**+1.5**	
	comp=Z,2.5nm,0.8s,baz=305,slow=3.0,SNR=24								
PDAR	**Pinedale Array**	**61.87**	**56**	*eP*	**P**		**03 12 30.7**	**+1.0**	
FINES	**FINESS Array B**	**62.63**	**335**	P	**P**		**03 12 32.4**	**-1.8**	
	comp=Z,0.5nm,0.5s,baz=56,slow=7.3,SNR=6.8								
TMUT	**Trail Mountain**	**63.29**	**60**	*eP*	**P**		**03 12 41.2**	**+1.8**	
	comp=Z,5.5nm,1.0s								
BBSC	**Beaumont Base**	**63.52**	**68**	*eP*	**P**		**03 12 43.1**	**+2.4**	
LCMT	**Little Creek M**	**63.66**	**63**	*eP*	**P**		**03 12 43.7**	**+2.0**	
	comp=Z,3.7nm,0.9s								
SRU	**San Rafael Swe**	**63.80**	**60**	*eP*	**P**		**03 12 44.3**	**+1.7**	
	comp=Z,5.6nm,0.9s								
SRU	**San Rafael Swe**	**63.80**	**60**	*eP*	**P**		**03 12 44.3**	**+1.7**	
SRU				pmax	pmax				
	comp=Z,6.0nm,0.9s								
RSSD	**Black Hills**	**63.89**	**52**	*eP*	**P**		**03 12 44.4**	**+1.2**	
	comp=Z,6.1nm,0.8s								
RSSD	**Black Hills**	**63.89**	**52**	*eP*	**P**		**03 12 44.4**	**+1.2**	
RSSD				pmax	pmax				
	comp=Z,6.0nm,0.8s								
KNB	**Kanab**	**63.90**	**63**	*eP*	**P**		**03 12 45.5**	**+2.2**	
	comp=Z,5.5nm,1.2s								
KNB	**Kanab**	**63.90**	**63**	*eP*	**P**		**03 12 45.5**	**+2.2**	
KNB				pmax	pmax				
	comp=Z,6.0nm,1.2s								
CTCC	**Cactus City**	**64.31**	**68**	*eP*	**P**		**03 12 46.7**	**+0.8**	
OBN	**Obninsk**	**64.35**	**326**	*eP*	**P**		**03 12 46.5**	**+0.9**	
OBN				pmax	pmax				
	comp=Z,2.0nm,0.8s								
SWSC	**Sam W. Stewart**	**64.91**	**68**	*eP*	**P**		**03 12 49.1**	**-0.7**	
SMCO	**Snowmass**	**65.75**	**58**	*eP*	**P**		**03 12 57.1**	**+1.5**	
	comp=Z,3.7nm,0.8s								
ISCO	**Idaho Springs**	**66.06**	**56**	*eP*	**P**		**03 12 59.4**	**+1.9**	
	comp=Z,3.2nm,0.8s								
ISCO	**Idaho Springs**	**66.06**	**56**	*eP*	**P**		**03 12 59.4**	**+1.9**	
ISCO				pmax	pmax				
	comp=Z,3.0nm,0.8s								
X16A	**Lo Mia Camp, P**	**66.51**	**64**	*eP*	**P**		**03 13 02.3**	**+2.0**	
	comp=Z,7.7nm,1.9s								
NOA	**NORSAR Array B**	**66.52**	**342**	LR	LR		03 45 26.0		
	comp=Z,7.5nm,19.1s,baz=200,slow=39								
HFS	**Hagfors**	**66.82**	**340**	P	**P**		**03 13 00.6**	**-1.0**	
	comp=Z,0.6nm,0.4s,baz=15,slow=6.0,SNR=6.0								
S22A	**4UR Ranch, Cre**	**66.83**	**59**	*eP*	**P**		**03 13 04.5**	**+2.0**	
	comp=Z,17nm,2.0s								
ANMO	**Albuquerque**	**69.03**	**61**	*eP*	**P**		**03 13 17.8**	**+1.6**	
	comp=Z,9.7nm,1.9s								
ANMO	**Albuquerque**	**69.03**	**61**	*eP*	**P**		**03 13 17.8**	**+1.6**	
ANMO				pmax	pmax				
	comp=Z,10.0nm,1.9s								
319A	**Douglas**	**69.94**	**65**	*eP*	**P**		**03 13 23.5**	**+1.8**	
	comp=Z,9.0nm,1.3s								
AKASG	**Malin Array Be**	**70.54**	**327**	P	**P**		**03 13 23.2**	**-1.7**	
	comp=Z,0.4nm,0.4s,baz=27,slow=6.3,SNR=2.8								
AKASG				LR	LR		03 46 50.2		
	comp=Z,28nm,18.4s,baz=100,slow=38								
WB2	**Warramunga Arr**	**71.40**	**201**	*eP*	**P**		**03 13 30.5**	**+0.2**	
WRA	**Warramunga Arr**	**71.40**	**201**	*eP*	**P**		**03 13 29.6**	**-0.8**	
	comp=Z,0.8nm,0.5s,baz=17,slow=6.6,SNR=12								
WRA				pP	**pP**		**03 13 43.1**	**-0.3**	
	comp=Z,0.6nm,0.6s,baz=96,slow=8.3,SNR=3.5								
WMOK	**Wichita Mounta**	**73.47**	**56**	*eP*	**P**		**03 13 43.6**	**+0.8**	
	comp=Z,6.1nm,1.1s								
WMOK	**Wichita Mounta**	**73.47**	**56**	*eP*	**P**		**03 13 43.6**	**+0.8**	
WMOK				pmax	pmax				
	comp=Z,6.0nm,1.1s								
EKA	**Eskdalemuir Ar**	**74.41**	**348**	P	**P**		**03 13 46.1**	**-1.7**	
	comp=Z,0.2nm,0.3s,baz=15,slow=4.8,SNR=4.0								
TX31	**Lajitas Ar. Si**	**74.74**	**63**	*eP*	**P**		**03 13 51.5**	**+1.2**	
TX31				*ep*P	**pP**		**03 14 02.8**	**-0.7**	
TXAR	**Lajitas Array**	**74.74**	**63**	P	**P**		**03 13 51.4**	**+1.1**	
	comp=Z,3.5nm,0.8s,baz=298,slow=4.7,SNR=26								
ASAR	**Alice Springs**	**75.09**	**201**	P	**P**		**03 13 53.2**	**+1.1**	
	comp=Z,1.1nm,0.7s,baz=11,slow=5.3,SNR=9.1								
ASAR				pP	**PcP**		**03 14 06.0**	**+0.5**	
	comp=Z,1.3nm,0.7s,baz=14,slow=4.9,SNR=6.0								
MLR	**Muntele Rosu**	**76.12**	**326**	P	**P**		**03 13 56.2**	**-1.8**	
	comp=Z,0.3nm,0.5s,baz=185,slow=5.7,SNR=3.6								
BRTR	**Keskin Array B**	**77.86**	**318**	P	**P**		**03 14 06.6**	**-1.3**	
	comp=Z,0.3nm,0.6s,baz=53,slow=2.1,SNR=2.7								
HMDM	**Hanimaadhoo**	**80.11**	**269**	*eP*	**P**		**03 14 23.3**	**+2.9**	
	comp=Z,21nm,1.0s								
MMAI	**Mount Meron Ar**	**82.55**	**313**	P	**P**		**03 14 32.8**	**-0.4**	
	comp=Z,1.5nm,0.4s,baz=44,slow=7.3,SNR=6.2								
CMIG	**Matias Romero**	**89.25**	**65**	LR	LR		03 50 40.8		
	comp=Z,17nm,21.3s,baz=16,slow=32								

IDC 24 03:05:07.3±5.2, 24°.57S×175°.58W, h0km, mb4.2/5, mb1 4.4/5, mb1mx3.8/42, mbtmp4.2/5, MS3.4/3, Ms1 3.4/3, ms1mx2.9/38, Error ellipse: s-maj=243.5km s-min=33.4km az=152.0, South of Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**16.70**	**275**	LR	LR	03 14 35.1	
	comp=Z,90nm,18.9s,baz=26,slow=34						
HNR	**Honiara**	**27.75**	**299**	LR	LR	03 19 48.5	
	comp=Z,56nm,20.6s,baz=140,slow=32						
CTA	**Charters Tower**	**35.51**	**269**	P	P	03 12 06.2	+0.1
	2.7nm,0.3s,baz=113,slow=14,SNR=4.3						
STKA	**Stephens Creek**	**38.24**	**249**	LR	LR	03 26 39.1	
	comp=Z,83nm,19.6s,baz=30,slow=34						
ASAR	**Alice Springs**	**45.90**	**260**	P	P	03 13 31.6	-0.5
	0.6nm,0.4s,baz=88,slow=8.3,SNR=8.2						
WRA	**Warramunga Arr**	**46.38**	**265**	P	P	03 13 35.4	-0.4
	1.8nm,0.8s,baz=90,slow=6.0,SNR=42						
ILAR	**Eielson Array**	**91.79**	**12**	P	P	03 18 15.9	-0.5
	0.8nm,1.1s,baz=206,slow=6.0,SNR=3.6						
CMAR	**Chiang Mai Arr**	**93.55**	**289**	P	P	03 18 26.4	+0.7
	1.1nm,0.5s,baz=133,slow=2.9,SNR=8.3						
AKASG	**Malin Array Be**	**147.64**	**330**	PKPbc	PKPbc	03 24 52.6	-0.9
	0.4nm,0.4s,baz=40,slow=3.7,SNR=6.8						
BRTR	**Keskin Array B**	**151.17**	**309**	PKPbc	PKPbc	03 25 03.0	+0.1
	0.7nm,0.9s,baz=108,slow=2.7,SNR=4.5						

*NEIC **24** 03:10:20.7±0.0, 37°.56S×176°.55E, h176km, ML4.1(WEL), After WEL.*

WEL 24 03:10:20.3, 38°.5S±2°.×17°.7E±°, h182km±3km, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPRZ	**Ohinepanea**	**0.27**	**174**	P	Pn	03 10 44.3	-0.3
OPRZ	**Ohinepanea**	**0.27**	**174**	S	Sn	03 11 02.9	-0.6
MARZ	**Manawahe**	**0.42**	**164**	P	Pn	03 10 45.2	+0.1
KARZ	**Kaharoa**	**0.49**	**206**	P	Pn	03 10 45.4	+0.1
KMRZ	**Kaimai**	**0.53**	**240**	P	Pn	03 10 45.7	+0.1
OMRZ	**Omania**	**0.54**	**193**	P	Pn	03 10 45.7	+0.1
TARZ	**Mount Tarawera**	**0.66**	**181**	Pn	Pn	03 10 46.4	+0.2
TARZ	**Mount Tarawera**	**0.66**	**181**	P	Pn	03 10 46.9	+0.7
HLRZ	**Highlands Stat**	**0.69**	**191**	P	Pn	03 10 47.0	+0.7
RRRZ	**Republican Roa**	**0.76**	**180**	P	Pn	03 10 47.0	+0.3
TOZ	**Tahuroa Road**	**0.82**	**259**	Pn	Pn	03 10 47.3	+0.3
TOZ	**Tahuroa Road**	**0.82**	**259**	P	Pn	03 10 47.3	+0.3
URZ	**Urewera**	**0.83**	**146**	Pn	Pn	03 10 46.5	-0.5
URZ				Sn	Sn	03 11 06.1	-1.6
URZ	**Urewera**	**0.83**	**146**	P	Pn	03 10 46.6	-0.4
URZ	**Urewera**	**0.83**	**146**	S	Sn	03 11 06.3	-1.4
HRRZ	**Handcock Road**	**0.83**	**193**	P	Pn	03 10 47.8	+0.6
GRRZ	**Galatos Road**	**0.84**	**203**	P	Pn	03 10 47.5	+0.3
MUGZ	**Murupara**	**0.92**	**168**	P	Pn	03 10 47.4	-0.3
PRRZ	**Plateau Road**	**0.93**	**186**	P	Pn	03 10 48.1	+0.4
ALRZ	**Allen Road**	**0.99**	**188**	Pn	Pn	03 10 45.8	-2.4
ALRZ	**Allen Road**	**0.99**	**188**	P	Pn	03 10 48.5	+0.3
RUGZ	**Raukumara Rang**	**0.99**	**113**	P	Pn	03 10 47.3	-1.1
RUGZ	**Raukumara Rang**	**0.99**	**113**	S	Sn	03 11 07.9	-2.1
HAZ	**Te Kaha**	**1.02**	**101**	P	Pn	03 10 47.7	-0.6
HAZ	**Te Kaha**	**1.02**	**101**	S	Sn	03 11 08.4	-1.5
KUZ	**Kuaotunu**	**1.05**	**322**	P	Pn	03 10 48.4	-0.2
KUTZ	**Kaahu Road**	**1.06**	**211**	P	Pn	03 10 49.5	+0.8
TLZ	**Tolley Road**	**1.08**	**226**	Pn	Pn	03 10 49.2	+0.3
TLZ	**Tolley Road**	**1.08**	**226**	P	Pn	03 10 49.2	+0.4
MWZ	**Matawai**	**1.10**	**134**	Pn	Pn	03 10 48.5	-0.5
MWZ	**Matawai**	**1.10**	**134**	P	Pn	03 10 48.9	-0.1
MWZ	**Matawai**	**1.10**	**134**	S	Sn	03 11 09.9	-1.4
RTZ	**Ruatahuna**	**1.10**	**161**	P	Pn	03 10 48.8	-0.3
RTZ	**Ruatahuna**	**1.10**	**161**	S	Sn	03 11 10.4	-1.1
RAGZ	**Rawiri**	**1.16**	**143**	Pn	Pn	03 10 49.5	0.0
RAGZ	**Rawiri**	**1.16**	**143**	P	Pn	03 10 49.7	+0.2
RAGZ	**Rawiri**	**1.16**	**143**	S	Sn	03 11 11.4	-0.8
WHTZ	**Whakaora**	**1.18**	**202**	P	Pn	03 10 50.5	+0.8
MKAZ	**Moumakai**	**1.18**	**293**	P	Pn	03 10 49.9	+0.2
MKAZ	**Moumakai**	**1.18**	**293**	S	Sn	03 11 12.7	+0.4
MRHZ	**Matea Rd**	**1.26**	**184**	P	Pn	03 10 50.2	-0.1
MRHZ	**Matea Rd**	**1.26**	**184**	S	Sn	03 11 12.5	-1.2
PKGZ	**Pakihiroa**	**1.27**	**105**	P	Pn	03 10 50.7	+0.3
WATZ	**Wairara**	**1.29**	**209**	P	Pn	03 10 51.2	+0.6
MTHZ	**Maungataniwha**	**1.30**	**169**	P	Pn	03 10 50.6	0.0
MTHZ	**Maungataniwha**	**1.30**	**169**	S	Sn	03 11 13.5	-0.9
TWGZ	**Tauwhareparae**	**1.30**	**118**	Pn	Pn	03 10 50.8	+0.1
TWGZ				Sn	Sn	03 11 14.6	+0.4
TWGZ	**Tauwhareparae**	**1.30**	**118**	P	Pn	03 10 50.9	+0.2
TWGZ	**Tauwhareparae**	**1.30**	**118**	S	Sn	03 11 14.8	+0.5
HATZ	**Hinemaiaia**	**1.35**	**194**	P	Pn	03 10 51.3	+0.2
TKGZ	**Te Karaka**	**1.36**	**130**	P	Pn	03 10 51.3	+0.2
TKGZ	**Te Karaka**	**1.36**	**130**	S	Sn	03 11 13.6	-1.4
WIAZ	**Waiheke Island**	**1.36**	**305**	P	Pn	03 10 51.3	+0.2
SNGZ	**Shannon Statio**	**1.36**	**152**	Pn	Pn	03 10 51.2	0.0
SNGZ	**Shannon Statio**	**1.36**	**152**	P	Pn	03 10 51.3	0.0
RAHZ	**Arahi**	**1.41**	**162**	P	Pn	03 10 52.5	+0.9
RATZ	**Rangitukua**	**1.42**	**204**	Pn	Pn	03 10 52.0	+0.3
RATZ	**Rangitukua**	**1.42**	**204**	P	Pn	03 10 52.0	+0.3
MXZ	**Matakaoa Point**	**1.42**	**90**	Pn	Pn	03 10 51.6	0.0
MXZ	**Matakaoa Point**	**1.42**	**90**	P	Pn	03 10 51.7	+0.1
PUZ	**Puketiti**	**1.46**	**110**	Pn	Pn	03 10 51.6	-0.5
PUZ	**Puketiti**	**1.46**	**110**	P	Pn	03 10 51.9	-0.2
RIGZ	**Rimuhau**	**1.49**	**139**	P	Pn	03 10 52.7	+0.3
RITZ	**Rihia Road**	**1.49**	**200**	Pn	Pn	03 10 52.9	+0.5
RITZ	**Rihia Road**	**1.49**	**200**	P	Pn	03 10 53.0	+0.6
WMGZ	**Waiomatatini S**	**1.52**	**100**	Pn	Pn	03 10 52.5	-0.1
WMGZ				Sn	Sn	03 11 16.3	-1.3
WMGZ	**Waiomatatini S**	**1.52**	**100**	P	Pn	03 10 52.6	0.0
NMHZ	**Naumai**	**1.54**	**172**	Pn	Pn	03 10 53.2	+0.4
NMHZ				Sn	Sn	03 11 19.3	+1.1
NMHZ	**Naumai**	**1.54**	**172**	P	Pn	03 10 53.3	+0.5
KATZ	**Kakaramea**	**1.54**	**205**	Pn	Pn	03 10 53.7	+0.8
KATZ	**Kakaramea**	**1.54**	**205**	P	Pn	03 10 52.7	-0.3
GRZ	**Great Barrier**	**1.57**	**327**	P	Pn	03 10 53.3	+0.1
AWAZ	**Awhitu Peninsu**	**1.58**	**288**	P	Pn	03 10 53.1	-0.1
BKZ	**Black Stump Fm**	**1.59**	**181**	Pn	Pn	03 10 52.8	-0.6
BKZ				Sn	Sn	03 11 17.3	-1.8
BKZ	**Black Stump Fm**	**1.59**	**181**	P	Pn	03 10 52.8	-0.5
WHHZ	**Waihua**	**1.60**	**160**	P	Pn	03 10 53.5	+0.2
CNGZ	**Carnagh Statio**	**1.61**	**125**	Pn	Pn	03 10 54.2	+0.7
CNGZ	**Carnagh Statio**	**1.61**	**125**	P	Pn	03 10 54.3	+0.8
HIZ	**Hauiti**	**1.61**	**234**	Pn	Pn	03 10 54.0	+0.5
HIZ	**Hauiti**	**1.61**	**234**	P	Pn	03 10 54.0	+0.5
ABAZ	**Army Bay**	**1.67**	**305**	P	Pn	03 10 54.6	+0.6
KRVZ	**Karewarewa**	**1.67**	**204**	Pn	Pn	03 10 54.1	0.0
KRVZ	**Karewarewa**	**1.67**	**204**	P	Pn	03 10 54.2	+0.1
WTVZ	**West Tongariro**	**1.70**	**205**	Pn	Pn	03 10 54.5	0.0
WTVZ	**West Tongariro**	**1.70**	**205**	P	Pn	03 10 54.6	+0.1
KNZ	**Kokohu**	**1.70**	**148**	Pn	Pn	03 10 54.2	-0.1
KNZ	**Kokohu**	**1.70**	**148**	P	Pn	03 10 54.3	-0.1
PRGZ	**Paritu Road**	**1.72**	**142**	Pn	Pn	03 10 54.7	+0.1
PRGZ	**Paritu Road**	**1.72**	**142**	P	Pn	03 10 54.7	+0.1
TWVZ	**Taurewa**	**1.72**	**209**	Pn	Pn	03 10 54.8	+0.2
TWVZ	**Taurewa**	**1.72**	**209**	P	Pn	03 10 54.9	+0.2
OTVZ	**Oturere**	**1.72**	**203**	Pn	Pn	03 10 54.8	+0.1
ARHZ	**Aropaoanui**	**1.73**	**168**	Pn	Pn	03 10 54.8	+0.2
ARHZ	**Aropaoanui**	**1.73**	**168**	P	Pn	03 10 54.9	+0.3
NGZ	**Ngauruhoe**	**1.75**	**204**	Pn	Pn	03 10 55.1	0.0
NGZ	**Ngauruhoe**	**1.75**	**204**	P	Pn	03 10 55.3	+0.2
COVZ	**Chateau Observ**	**1.79**	**205**	P	Pn	03 10 55.5	0.0
TUVZ	**Tukino**	**1.82**	**202**	Pn	Pn	03 10 55.7	0.0
TUVZ	**Tukino**	**1.82**	**202**	P	Pn	03 10 55.8	0.0
FWVZ	**Far West T-bar**	**1.84**	**204**	Pn	Pn	03 10 55.7	-0.4
FWVZ	**Far West T-bar**	**1.84**	**204**	P	Pn	03 10 55.7	-0.3
KWHZ	**Kaweka Forest**	**1.85**	**182**	P	Pn	03 10 55.7	-0.2
WHVZ	**Whangaehu Hut**	**1.85**	**203**	Pn	Pn	03 10 56.1	-0.1
WHVZ	**Whangaehu Hut**	**1.85**	**203**	P	Pn	03 10 56.0	-0.2
DRZ	**Dome Shelter**	**1.86**	**204**	Pn	Pn	03 10 56.4	+0.1
DRZ	**Dome Shelter**	**1.86**	**204**	P	Pn	03 10 56.5	+0.2
MCHZ	**McNeill Hill**	**1.87**	**176**	P	Pn	03 10 56.5	+0.4
TRVZ	**Turoa**	**1.88**	**204**	Pn	Pn	03 10 56.2	-0.3
TRVZ	**Turoa**	**1.88**	**204**	P	Pn	03 10 56.2	-0.2
WNVZ	**Wahianoa**	**1.89**	**202**	Pn	Pn	03 10 56.3	-0.2
MHGZ	**Mahia Peninsul**	**1.91**	**146**	Pn	Pn	03 10 56.7	+0.1
MHGZ	**Mahia Peninsul**	**1.91**	**146**	P	Pn	03 10 56.7	+0.1
MOVZ	**Moawhango**	**1.93**	**198**	Pn	Pn	03 10 56.0	-0.7
MOVZ	**Moawhango**	**1.93**	**198**	P	Pn	03 10 56.0	-0.7
BHHZ	**Black Hill Sta**	**1.94**	**191**	Pn	Pn	03 10 56.2	-0.7
BHHZ	**Black Hill Sta**	**1.94**	**191**	P	Pn	03 10 56.3	-0.7
PKVZ	**Pokaka**	**1.94**	**208**	Pn	Pn	03 10 57.0	+0.1
PKVZ	**Pokaka**	**1.94**	**208**	P	Pn	03 10 57.0	+0.1
MTVZ	**Mangateitei**	**1.98**	**204**	Pn	Pn	03 10 57.3	-0.1
MTVZ	**Mangateitei**	**1.98**	**204**	P	Pn	03 10 57.3	-0.1
KRHZ	**Kereru**	**2.07**	**183**	P	Pn	03 10 57.6	-0.6
VRZ	**Vera Road**	**2.08**	**221**	Pn	Pn	03 10 59.0	+0.7
VRZ	**Vera Road**	**2.08**	**221**	P	Pn	03 10 59.2	+0.9
CKHZ	**Cape Kidnapper**	**2.12**	**168**	Pn	Pn	03 10 58.6	-0.2
CKHZ	**Cape Kidnapper**	**2.12**	**168**	P	Pn	03 10 58.7	-0.1
KAHZ	**Kahuranaki**	**2.23**	**173**	Pn	Pn	03 10 59.8	-0.3
KAHZ	**Kahuranaki**	**2.23**	**173**	P	Pn	03 10 59.8	-0.3
PNHZ	**Pukenui**	**2.35**	**186**	Pn	Pn	03 11 00.3	-1.1
PNHZ				Sn	Sn	03 11 30.8	-2.7
PNHZ	**Pukenui**	**2.35**	**186**	P	Pn	03 11 00.3	-1.0
WCZ	**Waipu Caves**	**2.39**	**312**	P	Pn	03 11 02.1	+0.3
PXZ	**Pawanui**	**2.46**	**174**	Pn	Pn	03 11 01.8	-0.8
PXZ	**Pawanui**	**2.46**	**174**	P	Pn	03 11 01.8	-0.8
WAZ	**Wanganui**	**2.48**	**208**	Pn	Pn	03 11 02.4	-0.5
WAZ	**Wanganui**	**2.48**	**208**	P	Pn	03 11 02.5	-0.4
WPHZ	**Waipukurau**	**2.48**	**181**	Pn	Pn	03 11 01.9	-1.0
WPHZ	**Waipukurau**	**2.48**	**181**	P	Pn	03 11 01.9	-1.0
LREZ	**Lake Rotokare**	**2.51**	**221**	P	Pn	03 11 04.0	+0.9
TSZ	**Takapari Road**	**2.52**	**190**	Pn	Pn	03 11 02.0	-1.3
TSZ	**Takapari Road**	**2.52**	**190**	P	Pn	03 11 02.1	-1.2
NEZ	**North Egmont**	**2.55**	**228**	Pn	Pn	03 11 05.1	+1.4
PREZ	**Palmer Road**	**2.56**	**226**	P	Pn	03 11 05.2	+1.4
PKE	**Pukeiti**	**2.56**	**230**	P	Pn	03 11 05.0	+1.2
PRHZ	**Porangahau**	**2.69**	**178**	Pn	Pn	03 11 04.0	-1.2
PRHZ	**Porangahau**	**2.69**	**178**	P	Pn	03 11 04.1	-1.1
DVHZ	**Dannevirke**	**2.73**	**186**	Pn	Pn	03 11 04.2	-1.6
DVHZ	**Dannevirke**	**2.73**	**186**	P	Pn	03 11 04.3	-1.5
POWZ	**Post Office Ro**	**2.87**	**192**	Pn	Pn	03 11 05.9	-1.5
POWZ	**Post Office Ro**	**2.87**	**192**	P	Pn	03 11 06.0	-1.5
ANWZ	**Angora Road**	**2.88**	**181**	P	Pn	03 11 06.4	-1.1
PRWZ	**Pori Road**	**3.00**	**188**	Pn	Pn	03 11 07.8	-1.3
PRWZ	**Pori Road**	**3.00**	**188**	P	Pn	03 11 07.8	-1.3
BFZ	**Birch Farm**	**3.11**	**184**	Pn	Pn	03 11 08.5	-1.8
BFZ	**Birch Farm**	**3.11**	**184**	P	Pn	03 11 08.5	-1.8
MRZ	**Mangatainoka R**	**3.17**	**193**	Pn	Pn	03 11 08.9	-2.1
MRZ	**Mangatainoka R**	**3.17**	**193**	P	Pn	03 11 09.0	-2.0
TIWZ	**Tintock**	**3.23**	**189**	Pn	Pn	03 11 10.0	-1.8
TIWZ	**Tintock**	**3.23**	**189**	P	Pn	03 11 10.1	-1.7
OUZ	**Omahuta**	**3.33**	**314**	P	Pn	03 11 13.4	+0.3
CPWZ	**Castlepoint**	**3.34**	**184**	Pn	Pn	03 11 11.7	-1.4
CPWZ	**Castlepoint**	**3.34**	**184**	P	Pn	03 11 11.7	-1.3
OGWZ	**Otaki Gorge**	**3.40**	**198**	Pn	Pn	03 11 11.7	-2.2
OGWZ	**Otaki Gorge**	**3.40**	**198**	P	Pn	03 11 11.7	-2.1
HOWZ	**Holdsworth Sta**	**3.41**	**193**	Pn	Pn	03 11 11.6	-2.4
HOWZ	**Holdsworth Sta**	**3.41**	**193**	P	Pn	03 11 11.7	-2.3
KIW	**Kapiti Island**	**3.51**	**200**	Pn	Pn	03 11 12.7	-2.5
KIW	**Kapiti Island**	**3.51**	**200**	P	Pn	03 11 12.8	-2.5
TMWZ	**Te Maipa**	**3.56**	**188**	Pn	Pn	03 11 13.5	-2.4
TMWZ	**Te Maipa**	**3.56**	**188**	P	Pn	03 11 13.5	-2.4
MTW	**Mount Morrison**	**3.66**	**192**	Pn	Pn	03 11 14.3	-2.9
MTW	**Mount Morrison**	**3.66**	**192**	P	Pn	03 11 14.4	-2.8
CAW	**Cannon Point**	**3.70**	**197**	Pn	Pn	03 11 15.0	-2.6
CAW	**Cannon Point**	**3.70**	**197**	P	Pn	03 11 15.0	-2.6
TRWZ	**Traveller**	**3.87**	**189**	Pn	Pn	03 11 17.2	-2.5
TRWZ	**Traveller**	**3.87**	**189**	P	Pn	03 11 17.1	-2.7
PAWZ	**Paruwai Farm**	**3.89**	**192**	P	Pn	03 11 17.1	-3.0
MSWZ	**Moikau Station**	**3.96**	**194**	Pn	Pn	03 11 17.7	-3.2
MSWZ	**Moikau Station**	**3.96**	**194**	P	Pn	03 11 17.8	-3.1
TCW	**Tory Channel**	**4.02**	**205**	Pn	Pn	03 11 18.8	-2.9
TCW	**Tory Channel**	**4.02**	**205**	P	Pn	03 11 18.8	-2.9
BHW	**Baring Head**	**4.03**	**198**	Pn	Pn	03 11 18.7	-3.1
BHW	**Baring Head**	**4.03**	**198**	P	Pn	03 11 18.7	-3.1
PLWZ	**Palliser**	**4.11**	**193**	Pn	Pn	03 11 19.5	-3.3
PLWZ	**Palliser**	**4.11**	**193**	P	Pn	03 11 19.5	-3.3
TUWZ	**Tuamarina**	**4.33**	**207**	Pn	Pn	03 11 22.6	-3.0
TUWZ	**Tuamarina**	**4.33**	**207**	P	Pn	03 11 22.6	-3.0
NNZ	**Nelson**	**4.38**	**213**	Pn	Pn	03 11 23.0	-3.2
NNZ	**Nelson**	**4.38**	**213**	P	Pn	03 11 23.0	-3.1
QRZ	**Quartz Range**	**4.49**	**222**	Pn	Pn	03 11 24.4	-3.2
QRZ	**Quartz Range**	**4.49**	**222**	P	Pn	03 11 24.4	-3.2
THZ	**Tophouse**	**5.03**	**213**	Pn	Pn	03 11 31.6	-3.0
THZ	**Tophouse**	**5.03**	**213**	P	Pn	03 11 31.8	-2.9
KHZ	**Kahutara**	**5.35**	**204**	Pn	Pn	03 11 35.1	-3.6
KHZ	**Kahutara**	**5.35**	**204**	P	Pn	03 11 35.1	-3.5
LTZ	**Lake Taylor**	**6.13**	**211**	P	Pn	03 11 45.2	-3.8
INZ	**Inchbonnie**	**6.45**	**216**	P	Pn	03 11 48.9	-4.1
OKCZ	**Okains Bay**	**6.68**	**202**	P	Pn	03 11 52.1	-4.1
OXZ	**Oxford**	**6.68**	**209**	Pn	Pn	03 11 51.3	-4.9
OXZ	**Oxford**	**6.68**	**209**	P	Pn	03 11 51.5	-4.7
MQZ	**McQueen's Vall**	**6.79**	**204**	Pn	Pn	03 11 52.2	-5.4
MQZ	**McQueen's Vall**	**6.79**	**204**	P	Pn	03 11 52.1	-5.4
AKCZ	**Akaroa Harbour**	**6.86**	**202**	P	Pn	03 11 53.7	-4.8
RPZ	**Rata Peaks**	**7.41**	**212**	Pn	Pn	03 12 01.4	-4.3
RPZ	**Rata Peaks**	**7.41**	**212**	P	Pn	03 12 01.5	-4.2
LBZ	**Lake Benmore**	**8.32**	**213**	Pn	Pn	03 12 13.0	-4.7

MA2	**Magadan**	**22.86**	**14**	P		**P**	**03 33 06.1**	**+0.2**
	comp=Z,18nm,0.7s,baz=196,slow=8.4,SNR=13								
MA2	**Magadan**	**22.86**	**14**	*e*P		**P**	**03 33 07.3**	**+1.3**
	comp=Z,24nm,0.9s								
MA2	**Magadan**	**22.86**	**14⇑**	*e*P		**P**	**03 33 07.0**	**+1.0**
YAK	**Yakutsk**	**25.09**	**349**	LR		LR	03 43 30.9		
	comp=Z,39nm,20.5s,baz=275,slow=37								
XAN	**Xi'an**	**25.39**	**271**	P		**P**	**03 33 31.6**	**+1.4**
XAN				pP		sP	03 33 34.4	-2.3
XAN				S		**S**	**03 37 53.8**	**-2.5**
XAN				pmax	pmax				
	comp=Z,4.0nm,0.7s								
XAN				pmax	pmax				
	comp=Z,70nm,6.1s								
XAN				LR	LR				
	comp=Z,120nm,13.3s								
XAN				LR	LR				
	comp=Z,120nm,13.3s								
ULN	**Ulaanbaatar**	**26.00**	**303**	*c*eP		**P**	**03 33 36.1**	**+0.4**
ULN				pmax	pmax				
	comp=Z,2.0nm,1.2s								
SONA1	**Songino Array**	**26.42**	**303**	*e*P		**P**	**03 33 40.3**	**+0.7**
SONA0	**Songino Array**	**26.43**	**303**	*e*P		**P**	**03 33 40.2**	**+0.6**
SONM	**Songino Array**	**26.43**	**303**	P		**P**	**03 33 40.2**	**+0.6**
	comp=Z,1.2nm,0.7s,baz=106,slow=8.4,SNR=4.8								
LZH	**Lanzhou**	**28.84**	**278**	*e*P		**P**	**03 34 02.9**	**+1.5**
LZH				pP		sP	03 34 08.0	+0.1
LZH				sP		pP	03 34 10.4	+4.4
LZH				*e*PP		**PnPn**	**03 34 54.4**	**+2.0**
LZH				pmax	pmax				
	comp=Z,23nm,0.9s								
LZH				pmax	pmax				
	comp=Z,130nm,5.8s								
LZH				LR	LR				
	comp=Z,54nm,14.3s								
LZH				LR	LR				
	comp=Z,62nm,14.0s								
LZH				LR	LR				
	comp=Z,85nm,16.8s								
TLY	**Talaya**	**28.98**	**310**	LR		LR	03 45 31.3		
	comp=Z,27nm,19.8s,baz=102,slow=36								
GTA	**Gaotai**	**31.27**	**286**	*e*P		**P**	**03 34 22.1**	**-0.7**
GTA				pP		sP	03 34 27.5	-1.9
GTA				sP		pP	03 34 30.4	+3.0
GTA				pmax	pmax				
	comp=Z,5.0nm,1.0s								
DAV	**Davao City (W)**	**33.28**	**207**	LR		LR	03 48 56.0		
	comp=Z,26nm,18.3s,baz=146,slow=38								
BILL	**Bilibino**	**33.62**	**17**	*i* P		**P**	**03 34 43.0**	**+0.1**
BILL				pmax	pmax				
	comp=Z,5.0nm,1.1s								
BILL				MLR	MLR				
	comp=Z,48nm,16.0s								
KMI	**Kunming**	**33.99**	**259**	P		**P**	**03 34 46.4**	**-0.4**
KMI				pmax	pmax				
	comp=Z,16nm,0.9s								
TIXI	**Tiksi**	**34.40**	**354**	P		**P**	**03 34 48.7**	**-0.8**
	comp=Z,1.3nm,0.3s,baz=60,slow=1.9,SNR=5.7								
TIXI	**Tiksi**	**34.40**	**354**	*e*P		**P**	**03 34 48.4**	**-1.2**
	comp=Z,3.5nm,0.9s								
TIXI				*e*P		**P**	**03 34 48.7**	**-0.8**
TIXI	**Tiksi**	**34.40**	**354**	*c*eP		**P**	**03 34 48.5**	**-1.1**
TIXI				pmax	pmax				
	comp=Z,4.0nm,0.9s								
DGZ	**Jazzator, Alta**	**39.03**	**305**	*i* P		**P**	**03 35 29.6**	**+0.1**
DGZ				pmax	pmax				
	comp=Z,2.0nm,0.7s								
WMQ	**Urumqi**	**39.49**	**296**	P		**P**	**03 35 35.8**	**+2.5**
WMQ				pP		sP	03 35 40.8	+0.8
WMQ				sP		pP	03 35 45.1	+7.0
WMQ				pmax	pmax				
	comp=Z,22nm,0.9s								
WMQ				LR	LR				
	comp=Z,73nm,27.3s								
ZAA1	**Zalesovo Array**	**40.57**	**312**	*e*P		**P**	**03 35 42.0**	**0.0**
ZAA1				*e*PcP		**PcP**	**03 37 43.8**	**-0.2**
ZALV	**Zalesovo Beam**	**40.57**	**312**	P		**P**	**03 35 42.0**	**0.0**
	comp=Z,1.2nm,0.5s,baz=79,slow=7.7,SNR=5.0								
ZALV				PcP		**PcP**	**03 37 43.8**	**-0.2**
	comp=Z,1.7nm,0.5s,baz=81,slow=2.7,SNR=4.9								
ZALV	**Zalesovo Beam**	**40.57**	**312**	*e*P		**P**	**03 35 42.0**	**0.0**
ZALV				*e*PcP		**PcP**	**03 37 43.5**	**-0.5**
ZALV	**Zalesovo Beam**	**40.57**	**312**	*e*P		**P**	**03 35 42.1**	**+0.1**
ZALV				*e*			03 37 43.5		
CMAR	**Chiang Mai Arr**	**40.62**	**253**	LR		LR	03 52 07.8		
	comp=Z,20nm,18.1s,baz=325,slow=36								
MK01	**Makanchi Array**	**42.76**	**301**	*e*P		**P**	**03 35 59.8**	**-0.3**
MK32	**Makanchi Array**	**42.76**	**301**	*e*P		**P**	**03 35 59.9**	**-0.3**
MKAR	**Makanchi Array**	**42.76**	**301**	P		**P**	**03 35 59.9**	**-0.3**
	comp=Z,0.8nm,0.8s,baz=78,slow=11,SNR=5.7								
KURK	**Kurchatov**	**44.58**	**307**	*e*P		**P**	**03 36 14.5**	**-0.1**
	comp=Z,7.4nm,0.8s								
KURK				*e*P		**P**	**03 36 15.0**	**+0.4**
KURK	**Kurchatov**	**44.58**	**307**	*e*P		**P**	**03 36 14.5**	**-0.1**
KURK				pmax	pmax				
	comp=Z,7.0nm,0.8s								
KURBB	**Kurchatov Arra**	**44.65**	**307**	P		**P**	**03 36 15.0**	**-0.2**
	comp=Z,4.4nm,0.2s,baz=85,slow=8.1,SNR=30								
SVW2	**Sparrevohn**	**45.60**	**38**	*e*P		**P**	**03 36 24.6**	**+2.0**
	comp=Z,8.6nm,0.9s								
IM3	**Indian Mountai**	**46.57**	**31**	*e*P		**P**	**03 36 31.3**	**+1.2**
CAST	**Castle Rocks**	**47.23**	**35**	*e*P		**P**	**03 36 37.6**	**+2.2**
	comp=Z,3.7nm,0.8s								
BPAW	**Bear Paw Mtn.**	**47.70**	**34**	*e*P		**P**	**03 36 41.0**	**+1.9**
	comp=Z,3.0nm,0.8s								
KTH	**Kantishna Hill**	**47.74**	**34**	*e*P		**P**	**03 36 41.5**	**+2.0**
	comp=Z,7.0nm,0.9s								
MLY	**Manley**	**47.80**	**32**	*e*P		**P**	**03 36 41.5**	**+1.7**
	comp=Z,4.7nm,0.8s								
SUA	**Susitna One**	**47.92**	**37**	*e*P		**P**	**03 36 43.5**	**+2.5**
	comp=Z,8.3nm,0.8s								
COLD	**Coldfoot**	**48.03**	**29**	*e*P		**P**	**03 36 43.3**	**+1.7**
	comp=Z,7.3nm,1.4s								
TRF	**Thorofare Moun**	**48.03**	**35**	*e*P		**P**	**03 36 44.5**	**+2.7**
	comp=Z,5.4nm,1.1s								
TOLK	**Toolik Lake Re**	**48.30**	**28**	*e*P		**P**	**03 36 45.5**	**+1.7**
	comp=Z,3.8nm,0.9s								
MCK	**McKinley**	**48.62**	**34**	*e*P		**P**	**03 36 47.4**	**+1.2**
	comp=Z,5.5nm,1.0s								
MCK	**McKinley**	**48.62**	**34**	*e*P		**P**	**03 36 47.4**	**+1.2**
MCK				pmax	pmax				
	comp=Z,5.0nm,1.0s								
RND	**Reindeer**	**48.68**	**35**	*e*P		**P**	**03 36 47.7**	**+1.0**
	comp=Z,5.9nm,0.9s								
RND	**Reindeer**	**48.68**	**35**	*e*P		**P**	**03 36 47.7**	**+1.0**
RND				pmax	pmax				
	comp=Z,6.0nm,0.9s								
GHO	**Glory Hole Cre**	**48.77**	**37**	*e*P		**P**	**03 36 48.7**	**+1.3**
	comp=Z,6.3nm,0.8s								
MDM	**Murphy Dome**	**48.87**	**32**	*e*P		**P**	**03 36 49.7**	**+1.6**
	comp=Z,8.4nm,1.0s								
KSH	**Kashi**	**49.07**	**293**	P		**P**	**03 36 54.3**	**+4.2**
AAK	**Ala-Archa**	**49.14**	**297**	P		**P**	**03 36 50.7**	**0.0**
	comp=Z,1.7nm,0.5s,baz=135,slow=8.6,SNR=5.1								
BVAR	**Borovoye Array**	**49.23**	**312**	P		**P**	**03 36 51.1**	**+0.1**
	comp=Z,2.1nm,0.7s,baz=70,slow=11,SNR=12								
BRVK	**Borovoye**	**49.28**	**312**	*i* P		**P**	**03 36 51.5**	**+0.1**
BRVK				pmax	pmax				
	comp=Z,5.0nm,1.1s								
DHY	**Denali Highway**	**49.37**	**35**	*e*P		**P**	**03 36 53.6**	**+1.5**
	comp=Z,4.5nm,1.0s								
HDA	**Harding Lake**	**49.45**	**33**	*e*P		**P**	**03 36 53.7**	**+1.2**
	comp=Z,5.7nm,0.9s								
ILAR	**Eielson Array**	**49.45**	**33**	P		**P**	**03 36 52.9**	**+0.3**
	comp=Z,4.1nm,0.8s,baz=271,slow=6.3,SNR=27								
ILB	**Eielson Array**	**49.45**	**33**	*e*P		**P**	**03 36 52.8**	**+0.3**
IL1	**Eielson Array**	**49.45**	**33**	*e*P		**P**	**03 36 52.3**	**-0.2**
FYU	**Fort Yukon**	**50.01**	**30**	*e*P		**P**	**03 36 59.2**	**+2.5**
	comp=Z,8.8nm,1.0s								
KLU	**Klutina**	**50.22**	**37**	*e*P		**P**	**03 37 00.2**	**+1.7**
	comp=Z,6.1nm,1.0s								
SCRK	**Sand Creek**	**50.78**	**34**	*e*P		**P**	**03 37 03.6**	**+0.9**
	comp=Z,4.5nm,1.0s								
BMRM	**Bremner River**	**50.93**	**37**	*e*P		**P**	**03 37 05.7**	**+1.9**
	comp=Z,18nm,1.5s								
PSI	**Prapat**	**51.24**	**237**	P		**P**	**03 37 07.2**	**+0.4**
	comp=Z,3.0nm,0.4s,baz=102,slow=5.6,SNR=3.8								
PSI	**Prapat**	**51.24**	**237**	*e*P		**P**	**03 37 07.2**	**+0.4**
	comp=Z,6.0nm,1.0s								
CRQM	**Cirque**	**51.67**	**38**	*e*P		**P**	**03 37 11.5**	**+1.9**
	comp=Z,7.8nm,1.0s								
BALM	**Baldy**	**52.00**	**37**	*e*P		**P**	**03 37 13.5**	**+1.6**
	comp=Z,4.4nm,0.9s								
BALM	**Baldy**	**52.00**	**37**	*e*P		**P**	**03 37 13.5**	**+1.6**
BALM				pmax	pmax				
	comp=Z,4.0nm,0.9s								
NIL	**Nilore**	**53.31**	**287**	*e*P		**P**	**03 37 23.1**	**+1.2**
	comp=Z,16nm,0.8s								
NIL	**Nilore**	**53.31**	**287**	*e*P		**P**	**03 37 23.1**	**+1.2**
NIL				pmax	pmax				
	comp=Z,16nm,0.8s								
INK	**Inuvik**	**54.22**	**27**	P		**P**	**03 37 28.4**	**+0.4**
	comp=Z,2.9nm,0.8s,baz=301,slow=6.0,SNR=12								
INK	**Inuvik**	**54.22**	**27**	*e*P		**P**	**03 37 28.9**	**+1.0**
	comp=Z,4.8nm,1.0s								
INK	**Inuvik**	**54.22**	**27**	*e*P		**P**	**03 37 28.9**	**+1.0**
INK				pmax	pmax				
	comp=Z,5.0nm,1.0s								
HYT	**Haines Junctio**	**54.35**	**37**	*e*P		**P**	**03 37 30.9**	**+1.7**
	comp=Z,21nm,1.6s								
ARU	**Arti**	**55.04**	**318**	P		**P**	**03 37 33.4**	**-0.7**
	comp=Z,1.7nm,0.3s,baz=85,slow=12,SNR=3.4								
ARU	**Arti**	**55.04**	**318**	*e*P		**P**	**03 37 33.4**	**-0.7**
	comp=Z,4.9nm,0.9s								
ARU	**Arti**	**55.04**	**318**	*d i*P		**P**	**03 37 33.5**	**-0.7**
ARU							03 38 29.5		
ARU							03 39 37.5		
ARU				S		**S**	**03 45 13.3**	**-2.4**
ARU				SS		**SS**	**03 48 55.9**	**-3.0**
ARU				pmax	pmax				
	comp=Z,5.0nm,0.8s								
ABKAR	**Akbulak array**	**56.59**	**309**	*e*P		**P**	**03 37 45.2**	**-0.1**
	comp=Z,18nm,0.6s								
AKTO	**Aktyubinsk**	**57.33**	**311**	P		**P**	**03 37 49.9**	**-0.7**
	comp=Z,1.7nm,0.7s,baz=61,slow=14,SNR=6.2								
WRAB	**Tennant Creek**	**57.67**	**186**	*c*eP		**P**	**03 37 53.2**	**0.0**
WRAB				pmax	pmax				
	comp=Z,14nm,2.5s								
WR1	**Warramunga Arr**	**57.68**	**186**	*e*P		**P**	**03 37 52.1**	**-1.2**
	comp=Z,6.4nm,0.8s								
WRA	**Warramunga Arr**	**57.68**	**186**	P		**P**	**03 37 52.1**	**-1.2**
	comp=Z,5.4nm,0.8s,baz=4.5,slow=7.4,SNR=38								
AS01	**Alice Springs**	**61.40**	**186**	*e*P		**P**	**03 38 19.0**	**+0.1**
AS31	**Alice Springs**	**61.41**	**186**	*e*P		**P**	**03 38 18.3**	**-0.7**
	comp=Z,5.0nm,1.8s								
ASAR	**Alice Springs**	**61.41**	**186**	P		**P**	**03 38 18.3**	**-0.7**
	comp=Z,2.3nm,0.9s,baz=5.2,slow=5.2,SNR=20								
RES	**Resolute Bay**	**62.13**	**14**	P		**P**	**03 38 22.6**	**-0.6**
	comp=Z,2.9nm,0.8s,baz=304,slow=7.0,SNR=15								
RES	**Resolute Bay**	**62.13**	**14**	*e*P		**P**	**03 38 23.2**	**0.0**
	comp=Z,5.6nm,1.0s								
RES	**Resolute Bay**	**62.13**	**14**	*e*P		**P**	**03 38 23.3**	**0.0**
RES				pmax	pmax				
	comp=Z,6.0nm,1.0s								
KLMR	**Klimovskoe**	**62.51**	**327**	*e*P		**P**	**03 38 24.7**	**-1.2**
KLMR				AMP			03 38 29.3		
	comp=Z,5.0nm,1.1s								
KLMR	**Klimovskoe**	**62.51**	**327**	*e*P		**P**	**03 38 24.7**	**-1.2**
KLMR				pmax	pmax				
	comp=Z,5.0nm,1.1s								
ARA0	**ARCESS Array S**	**62.88**	**339**	*e*P		**P**	**03 38 28.5**	**+0.1**
ARCES	**ARCESS Array B**	**62.88**	**339**	P		**P**	**03 38 28.5**	**+0.1**
	comp=Z,3.7nm,0.9s,baz=51,slow=7.9,SNR=5.7								
YKA	**Yellowknife Ar**	**63.71**	**30**	P		**P**	**03 38 34.4**	**+0.5**
	comp=Z,0.7nm,0.6s,baz=302,slow=6.5,SNR=16								
OBN	**Obninsk**	**66.81**	**323**	*e*P		**P**	**03 38 52.9**	**-1.2**
OBN				*e*			03 39 21.2		
OBN				*e*			03 41 23.1		
OBN				*e*PPP		PPP	03 42 58.2		
OBN				pmax	pmax				
	comp=Z,5.0nm,0.9s								
FIA0	**FINESS Array S**	**67.61**	**332**	*e*P		**P**	**03 38 59.0**	**0.0**
FIA0	**FINESS Array S**	**67.61**	**332**	*e*P		**P**	**03 38 59.1**	**0.0**
FINES	**FINESS Array B**	**67.61**	**332**	P		**P**	**03 38 59.0**	**0.0**
	comp=Z,4.3nm,0.9s,baz=57,slow=7.0,SNR=7.4								
KBZ	**Khabaz**	**69.55**	**310**	P		**P**	**03 39 12.0**	**+0.5**
	comp=Z,2.0nm,0.7s,baz=57,slow=5.1,SNR=6.5								
KBZ	**Khabaz**	**69.55**	**310**	P		**P**	**03 39 12.0**	**+0.5**
KBZ				pmax	pmax				
	comp=Z,3.0nm,0.9s								
KVAR	**Kislovodsk Arr**	**69.55**	**310**	P		**P**	**03 39 12.5**	**+0.8**
	comp=Z,6.9nm,0.8s,baz=171,slow=5.6,SNR=4.1								
KIV	**Kislovodsk**	**69.56**	**310**	*e*P		**P**	**03 39 12.5**	**+0.8**
	comp=Z,7.1nm,0.6s								
KIV	**Kislovodsk**	**69.56**	**310**	*e*P		**P**	**03 39 12.5**	**+0.8**
KIV				pmax	pmax				
	comp=Z,7.0nm,0.6s								
YBH	**Yreka Blue Hor**	**70.76**	**52**	P		**P**	**03 39 19.6**	**+0.5**
	comp=Z,3.9nm,0.8s,baz=217,slow=4.8,SNR=8.8								
K05A	**Summer Lake**	**71.32**	**50**	*e*P		**P**	**03 39 25.1**	**+2.5**
	comp=Z,11nm,0.9s								
JTMT	**Jette**	**72.20**	**43**	*e*P		**P**	**03 39 29.6**	**+1.8**
	comp=Z,5.2nm,0.9s								
J08A	**Circle Bar Ran**	**72.41**	**49**	*e*P		**P**	**03 39 30.9**	**+1.8**
	comp=Z,8.6nm,1.1s								
ORV	**Oroville**	**72.74**	**53**	*e*P		**P**	**03 39 32.2**	**+1.2**
	comp=Z,2.7nm,0.9s								
ORV	**Oroville**	**72.74**	**53**	*e*P		**P**	**03 39 32.2**	**+1.2**
ORV				pmax	pmax				
	comp=Z,3.0nm,0.9s								
HFS	**Hagfors**	**72.92**	**335**	P		**P**	**03 39 31.8**	**+0.2**
	comp=Z,1.9nm,0.8s,baz=55,slow=12,SNR=6.9								
HFS	**Hagfors**	**72.92**	**335**	P		**P**	**03 39 31.8**	**+0.2**
HFS				pmax	pmax				
	comp=Z,3.0nm,1.0s								
AKASG	**Malin Array Be**	**73.00**	**322**	P		**P**	**03 39 31.8**	**-0.5**
	comp=Z,1.3nm,0.6s,baz=47,slow=6.6,SNR=12								
AKBB	**Malin Array Si**	**73.00**	**322**	*e*P		**P**	**03 39 32.6**	**+0.4**
	comp=Z,5.4nm,0.9s								
AKBB	**Malin Array Si**	**73.00**	**322**	*e*P		**P**	**03 39 32.7**	**+0.4**
AKBB				pmax	pmax				
	comp=Z,5.0nm,0.9s								
KIEV	**Kiev**	**73.01**	**322**	*e*P		**P**	**03 39 32.1**	**-0.2**
	comp=Z,4.8nm,0.9s								
KIEV	**Kiev**	**73.01**	**322**	*i* P		**P**	**03 39 32.0**	**-0.3**
KIEV				pmax	pmax				
	comp=Z,6.0nm,1.0s								
NB2	**NORSAR Subarra**	**73.04**	**337**	P		**P**	**03 39 32.2**	**-0.2**
	comp=Z,3.8nm,0.8s,baz=39,slow=6.2								
NB200	**NORSAR Array S**	**73.04**	**337**	*e*P		**P**	**03 39 32.5**	**+0.1**
NOA	**NORSAR Array B**	**73.04**	**337**	P		**P**	**03 39 32.5**	**+0.1**
	comp=Z,2.6nm,0.8s,baz=38,slow=5.9,SNR=10								
NOA				LR		LR	04 14 52.2		
	comp=Z,19nm,19.3s,baz=25,slow=38								
BEKR	**Beckworth**	**73.28**	**52**	*e*P		**P**	**03 39 36.0**	**+1.6**
	comp=Z,5.2nm,0.9s								
MFID	**Camas Ranch**	**73.94**	**47**	*e*P		**P**	**03 39 40.0**	**+1.8**
	comp=Z,3.6nm,0.9s								
PAHR	**Pah Rah Range**	**73.99**	**52**	*e*P		**P**	**03 39 40.0**	**+1.5**
	comp=Z,3.7nm,0.9s								
CMB	**Columbia Colle**	**74.33**	**54**	*e*P		**P**	**03 39 41.9**	**+1.5**
CMB	**Columbia Colle**	**74.33**	**54**	*e*P		**P**	**03 39 41.9**	**+1.5**
LRM	**Limekiln Ridge**	**74.38**	**44**	*e*P		**P**	**03 39 42.5**	**+1.7**
HLID	**Hailey**	**74.66**	**47**	*e*P		**P**	**03 39 44.3**	**+1.8**
	comp=Z,4.6nm,1.2s								
NV01	**Mina Array Sit**	**75.42**	**53**	*e*P		**P**	**03 39 48.5**	**+1.5**
NVAR	**Mina Array Bea**	**75.42**	**53**	P		**P**	**03 39 48.7**	**+1.7**
	comp=Z,3.4nm,0.7s,baz=293,slow=5.7,SNR=24								
ELK	**Elko**	**75.90**	**49**	P		**P**	**03 39 51.9**	**+2.2**
	comp=Z,1.5nm,0.6s,baz=342,slow=7.8,SNR=5.7								
YHH	**Holmes Hill**	**75.90**	**44**	*e*P		**P**	**03 39 51.7**	**+2.0**
	comp=Z,8.4nm,1.8s								
FRB	**Frobisher Bay**	**76.28**	**13**	P		**P**	**03 39 50.6**	**-0.4**
	comp=Z,2.0nm,0.7s,baz=10,slow=11,SNR=4.8								
H17A	**Grant Village**	**76.31**	**44**	*e*P		**P**	**03 39 55.5**	**+3.6**
	comp=Z,6.1nm,0.9s								
IMW	**Indian Meadow**	**76.42**	**45**	*e*P		**P**	**03 39 55.1**	**+2.4**
	comp=Z,3.8nm,0.9s								
FXWY	**Fox Creek**	**76.54**	**45**	*e*P		**P**	**03 39 55.6**	**+2.3**
	comp=Z,2.6nm,1.0s								
MOOW	**Moose Ponds**	**76.62**	**45**	*e*P		**P**	**03 39 56.0**	**+2.3**
	comp=Z,3.0nm,1.1s								
ILGA	**Ilgaz**	**76.63**	**312**	*e*P		**P**	**03 39 55.2**	**+1.5**
	comp=Z,5.9nm,0.7s								
TPAW	**Teton Pass**	**76.67**	**45**	*e*P		**P**	**03 39 56.4**	**+2.3**
	comp=Z,4.3nm,1.0s								
HVU	**Hansel Valley**	**76.72**	**47**	*e*P		**P**	**03 39 56.3**	**+2.1**
	comp=Z,4.4nm,0.8s								
HVU	**Hansel Valley**	**76.72**	**47**	*e*P		**P**	**03 39 56.3**	**+2.1**
HVU				pmax	pmax				
	comp=Z,4.0nm,0.8s								
WLHM	**Little Horse**	**76.78**	**55**	*e*P		**P**	**03 39 57.2**	**+2.4**
BUR08	**Bucovina Ar. S**	**77.00**	**321**	*e*P		**P**	**03 39 56.2**	**+0.6**
BUR04	**Bucovina Ar. S**	**77.01**	**321**	*e*P		**P**	**03 39 55.8**	**+0.1**
BURAR	**Bucovina Array**	**77.01**	**321**	⇓*i*P		**P**	**03 39 56.4**	**+0.8**
BURAR	**Bucovina Array**	**77.01**	**321**	⇓P		**P**	**03 39 56.4**	**+0.8**
BGU	**Big Grassy Mou**	**77.11**	**48**	*e*P		**P**	**03 39 58.1**	**+1.7**
	comp=Z,1.6nm,0.9s								
R11A	**Troy Canyon, C**	**77.17**	**51**	*e*P		**P**	**03 39 58.4**	**+1.6**
	comp=Z,6.7nm,1.1s								
DAC	**Darwin (Calif)**	**77.17**	**54**	*e*P		**P**	**03 39 58.0**	**+1.1**
	comp=Z,5.1nm,1.1s								
DAC	**Darwin (Calif)**	**77.17**	**54**	*e*P		**P**	**03 39 58.0**	**+1.1**
DAC				pmax	pmax				
	comp=Z,5.0nm,1.1s								
BR101	**Keskin Array S**	**77.50**	**311**	*e*P		**P**	**03 39 59.0**	**+0.3**
BR131	**Keskin Array S**	**77.50**	**311**	*e*P		**P**	**03 39 59.1**	**+0.5**
BRTR	**Keskin Array B**	**77.50**	**311**	P		**P**	**03 39 59.0**	**+0.4**
	comp=Z,1.2nm,0.6s,baz=94,slow=4.0,SNR=12								
BRTR	**Keskin Array B**	**77.50**	**311**	P		**P**	**03 39 59.0**	**+0.4**
BRTR				pmax	pmax				
	comp=Z,1.0nm,0.6s								
HWUT	**Hardware Ranch**	**77.53**	**47**	*e*P		**P**	**03 40 00.8**	**+2.0**
	comp=Z,6.5nm,1.1s								
TPNV	**Topopah Spring**	**77.61**	**53**	*e*P		**P**	**03 40 00.8**	**+1.5**
	comp=Z,8.2nm,0.9s								
TPNV	**Topopah Spring**	**77.61**	**53**	*e*P		**P**	**03 40 00.8**	**+1.5**
TPNV				pmax	pmax				
	comp=Z,8.0nm,0.9s								
DUG	**Dugway, Tooele**	**77.69**	**49**	*e*P		**P**	**03 40 01.7**	**+2.0**
	comp=Z,5.9nm,0.8s								
DUG	**Dugway, Tooele**	**77.69**	**49**	*e*P		**P**	**03 40 01.7**	**+2.0**
DUG				pmax	pmax				
	comp=Z,6.0nm,0.8s								
PD31	**Pinedale Array**	**77.92**	**45**	*e*P		**P**	**03 40 02.2**	**+1.2**
PDAR	**Pinedale Array**	**77.92**	**45**	P		**P**	**03 40 01.9**	**+0.9**
	comp=Z,1.9nm,0.8s,baz=274,slow=2.8,SNR=14								
PDAR	**Pinedale Array**	**77.92**	**45**	*e*P		**P**	**03 40 01.7**	**+0.7**
SBI	**Santa Barbara**	**77.92**	**57**	*e*P		**P**	**03 40 02.2**	**+1.3**
TRPA	**Tarpa**	**77.97**	**323**	⇑*i*P		**P**	**03 40 01.7**	**+0.9**
CHFC	**Chilao Flat St**	**78.07**	**56**	*e*P		**P**	**03 40 05.8**	**+3.9**
MLR	**Muntele Rosu**	**78.07**	**319**	LR		LR	04 15 16.4		
	comp=Z,8.8nm,19.3s,baz=62,slow=36								
GSC	**Goldstone, Bar**	**78.27**	**54**	*e*P		**P**	**03 40 04.6**	**+1.7**
	comp=Z,3.3nm,0.9s								
GSC	**Goldstone, Bar**	**78.27**	**54**	*e*P		**P**	**03 40 04.6**	**+1.7**
GSC				pmax	pmax				
	comp=Z,3.0nm,0.9s								
NLU	**North Lily Min**	**78.28**	**48**	*e*P		**P**	**03 40 05.0**	**+2.0**
	comp=Z,3.9nm,0.9s								
MPU	**Maple Canyon**	**78.50**	**48**	*e*P		**P**	**03 40 06.2**	**+2.0**
	comp=Z,5.5nm,0.9s								
SHPR	**Sheep Range**	**78.57**	**53**	*e*P		**P**	**03 40 06.8**	**+2.1**
	comp=Z,4.7nm,0.9s								
ARR	**Arges**	**78.83**	**320**	⇑*i*P		**P**	**03 40 07.5**	**+1.7**
CCUT	**Cedar City**	**79.03**	**51**	*e*P		**P**	**03 40 09.3**	**+2.1**
	comp=Z,1.9nm,0.8s								
DGR	**Domenigoni Val**	**79.15**	**56**	*e*P		**P**	**03 40 07.0**	**-0.7**
P17A	**Butcher Ranch,**	**79.38**	**48**	*e*P		**P**	**03 40 11.1**	**+2.1**
	comp=Z,6.9nm,0.9s								
MTPU	**Mount Pierson**	**79.44**	**50**	*e*P		**P**	**03 40 12.1**	**+2.5**
	comp=Z,3.3nm,0.8s								
LCMT	**Little Creek M**	**79.45**	**51**	*e*P		**P**	**03 40 11.3**	**+1.9**
	comp=Z,4.1nm,1.0s								
P18A	**Preston Nutter**	**79.57**	**48**	*e*P		**P**	**03 40 12.5**	**+2.3**
	comp=Z,11nm,1.3s								
HWB	**Hans Werner Br**	**79.57**	**56**	*e*P		**P**	**03 40 10.8**	**+0.8**
KNB	**Kanab**	**79.71**	**51**	*e*P		**P**	**03 40 13.2**	**+2.4**
	comp=Z,8.7nm,1.4s								
KNB	**Kanab**	**79.71**	**51**	*e*P		**P**	**03 40 13.2**	**+2.4**
KNB				pmax	pmax				
	comp=Z,9.0nm,1.4s								
SRU	**San Rafael Swe**	**79.74**	**48**	*e*P		**P**	**03 40 12.7**	**+1.7**
	comp=Z,6.4nm,0.8s								
SRU	**San Rafael Swe**	**79.74**	**48**	*e*P		**P**	**03 40 12.7**	**+1.7**
SRU				pmax	pmax				
	comp=Z,6.0nm,0.8s								
CLL	**Collm**	**79.87**	**329**	*e*P		**P**	**03 40 11.0**	**-0.2**
	comp=Z,5.0nm,0.9s								
CLL	**Collm**

KURBB	**Kurchatov Arra**	**47.78**	**303**	P		**P**	**03 37 48.2**	**-0.5**
	1.0nm,0.4s,baz=68,slow=8.3,SNR=3.5							
YKA	**Yellowknife Ar**	**49.83**	**37**	P		**P**	**03 38 04.4**	**+0.2**
	0.1nm,0.6s,baz=296,slow=7.1,SNR=3.1							
BVAR	**Borovoye Array**	**51.07**	**309**	P		**P**	**03 38 14.1**	**+0.4**
	1.3nm,0.6s,baz=126,slow=2.0,SNR=4.9							
PDAR	**Pinedale Array**	**63.62**	**55**	P		**P**	**03 39 42.0**	**-0.8**
	0.1nm,0.3s,baz=328,slow=5.3,SNR=3.5							
WR1	**Warramunga Arr**	**69.48**	**200**	*e*P		**P**	**03 40 19.1**	**-0.9**
	4.8nm,1.2s							
WRA	**Warramunga Arr**	**69.48**	**200**	P		**P**	**03 40 19.1**	**-0.9**
	0.5nm,0.9s,baz=23,slow=6.5,SNR=3.1							
TX31	**Lajitas Ar. Si**	**76.39**	**62**	*e*P		**P**	**03 41 02.3**	**+1.2**
TX31				*e*P		**P**	**03 41 02.5**	**+1.4**
TXAR	**Lajitas Array**	**76.39**	**62**	P		**P**	**03 41 02.3**	**+1.2**
TXAR	**Lajitas Array**	**76.39**	**62**	P		**P**	**03 41 02.3**	**+1.2**
TXAR				pmax	pmax			
	comp=Z,1.0nm,0.7s							

KRSC 24 03:29:48.5±0.9, 60°15N×164°61E, h6km±9km, ML3.9, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TILK	**Tilichiki**	**0.82**	**68**	*e*P	Pb	03 30 05.1	+0.1
TILK				*e*S	Sb	03 30 16.5	+0.2
OSSR	**Ossora**	**1.20**	**222**	*e*P	Pg	03 30 10.6	-0.8
OSSR				*e*S	Sg	03 30 26.2	-0.7
KMSK	**Kamenskaya**	**2.45**	**18**	*e*P	Pn	03 30 30.8	+2.0
KMSK				*e*S	Sb	03 31 01.2	-1.9
PALN	**Palana**	**2.59**	**248**	*e*P	Pn	03 30 32.8	+2.1
PALN				*e*S	Sb	03 31 06.1	-1.0

KRNET 24 03:36:14.2±0.1, 41°.64N×79°.32E, h16km, mb2.6
SOME 24 03:36:14.7, 41°.73N×79°.30E, h5km
ISC 24 03:36:14.0±2.2, 41°.64N±0°.07×79°.29E±0°.07, h6km±11km, n22,σ1°27/43,16C, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRZ	**Przheval'sk**	**1.08**	**322**	⇑*i*P	**Pg**	**03 36 34.9**	**+0.2**
	baz=22						
PRZ				⇑*i*S	**Sg**	**03 36 49.3**	**+0.6**
	baz=22						
TARG	**Taragay, Kyrgy**	**1.12**	**275**	*e*P	**Pg**	**03 36 36.0**	**+0.4**
	19nm,0.4s						
TARG	**Taragay, Kyrgy**	**1.12**	**275**	⇑*i*P	**Pg**	**03 36 35.5**	**0.0**
	baz=75						
TARG				⇑*i*S	**Sn**	**03 36 51.8**	**-0.7**
	baz=75						
UZB	**Uzynbulak**	**1.52**	**352**	*e*P	**Pn**	**03 36 41.3**	**-0.6**
	10.0nm,0.2s						
UZB				*e*S	**Sn**	**03 37 00.8**	**-1.4**
	15nm,0.2s						
SHLS	**Shalkode**	**1.53**	**5**	*e*P	**Pn**	**03 36 42.1**	**+0.2**
	20nm,0.2s						
SHLS				*e*S	**Sn**	**03 37 01.6**	**-0.5**
	101nm,0.3s						
SATY	**Saty**	**1.57**	**335**	*e*P	**Pn**	**03 36 42.6**	**+0.1**
	19nm,0.2s						
SATY				*e*S	**Sn**	**03 37 02.4**	**-0.8**
	58nm,0.2s						
KDJ	**Kajisay**	**1.65**	**288**	⇑*i*P	**Pb**	**03 36 45.2**	**+0.2**
	baz=88						
KDJ				⇑*i*S	**Sg**	**03 37 07.5**	**+0.3**
	baz=88						
ZHN	**Zhinishke**	**1.66**	**338**	*e*P	**Pb**	**03 36 44.6**	**-0.4**
	13nm,0.1s						
ZHN				*e*S	**Sb**	**03 37 05.7**	**-0.5**
	145nm,0.2s						
PDGK	**Podgornoye**	**1.70**	**5**	⇑*i*P	**Pb**	**03 36 45.6**	**-0.1**
	baz=4.0						
PDGK				⇑*i*S	**Sg**	**03 37 08.8**	**+0.2**
	baz=4.0						
KPKS	**Kokpek**	**1.88**	**346**	*e*P	**Pb**	**03 36 48.4**	**-0.5**
	22nm,0.2s						
KPKS				*e*S	**Sb**	**03 37 12.4**	**-0.3**
	91nm,0.4s						
KURS	**Kuram**	**2.03**	**336**	*e*P	**Pb**	**03 36 51.0**	**-0.3**
	1.6nm,0.2s						
KURS				*e*S	**Sb**	**03 37 16.8**	**0.0**
	9.8nm,0.4s						
TNSS	**Tian-Shan**	**2.23**	**310**	*e*P	**Pb**	**03 36 55.6**	**+0.6**
	5.6nm,0.3s						
TNSS				*e*S	**Sg**	**03 37 25.0**	**-0.8**
	12nm,0.3s						
ULHL	**Ulahol**	**2.36**	**286**	⇑*i*P	**Pb**	**03 36 55.8**	**-1.2**
	baz=86						
ULHL				⇑*i*S	**Sb**	**03 37 27.0**	**+0.6**
	baz=86						
IZV	**Izvestkoviy**	**2.43**	**306**	*e*P	**Pg**	**03 36 59.7**	**-0.9**
	8.4nm,0.1s						
IZV				*e*S	**Sg**	**03 37 32.0**	**-0.1**
	33nm,0.2s						
NRN	**Naryn**	**2.48**	**266**	⇑*i*P	**Pb**	**03 36 58.5**	**-0.7**
	baz=66						
NRN				⇑*i*S	**Sb**	**03 37 29.8**	**-0.3**
	baz=66						
ARXS	**Arharly**	**2.79**	**338**	*e*P	**Pb**	**03 37 04.1**	**-0.3**
	3.1nm,0.2s						
ARXS				*e*S	**Sb**	**03 37 39.5**	**+0.7**
	19nm,0.5s						
CHKK	**Chushkaly**	**2.79**	**323**	*e*P	**Pb**	**03 37 05.3**	**+1.0**
	8.4nm,0.2s						
CHKK				*e*S	**Sb**	**03 37 41.2**	**+2.4**
	62nm,0.5s						
KTBS	**Karatobe**	**2.83**	**318**	*e*P	**Pb**	**03 37 05.6**	**+0.7**
	2.9nm,0.2s						
KTBS				*e*S	**Sb**	**03 37 42.1**	**+2.2**
	34nm,0.3s						
TKM2	**Tokmak 2**	**3.03**	**296**	⇑*i*P	**Pn**	**03 37 05.2**	**+2.5**
	baz=96						
TKM2				⇑*i*S	**Sb**	**03 37 42.7**	**-3.1**
	baz=96						
KZA	**Kyzart**	**3.05**	**280**	⇑*i*P	**Pn**	**03 37 05.9**	**+2.7**
	baz=80						
KZA				⇑*i*S	**Sb**	**03 37 43.8**	**-2.8**
	baz=80						
DGS	**Degeres**	**3.06**	**303**	*e*P	**Pb**	**03 37 10.2**	**+1.3**
	3.3nm,0.5s						
DGS				*e*S	**Sg**	**03 37 49.9**	**-2.5**
	9.0nm,0.3s						
KAPS	**Kapalarasan**	**3.65**	**1**	*e*P	**Pb**	**03 37 19.0**	**+0.1**
	1.5nm,0.3s						
KAPS				*e*S	**Sb**	**03 38 04.7**	**+1.2**
	7.7nm,0.5s						

IDC 24 03:39:21.2±0.9, 22°.58S×176°.80W, h0km, mb4.1/8, mb1 4.4/8, mb1mx4.0/48, mbtmp4.1/8, MS3.5/3, Ms1 3.5/3, ms1mx2.9/43, Error ellipse: s-maj=45.7km s-min=22.1km az=158.0
ISCJB 24 03:39:29.0±0.6, 22°.6S±0°.2×177°.0W±0°.1, h69km, mb4.2/14, Error ellipse: s-maj=27.1km s-min=12.7km az=156.8
NEIC 24 03:39:30.1±0.9, 22°.62S×176°.87W, h69km±7km, mb4.6/6, Error ellipse: s-maj=22.7km s-min=10.7km az=156.0
ISC 24 03:39:30.2±0.7, 22°.6S±0°.2×176°.9W±0°.2, h69km, n31, σ1°31/27, mb4.4/14, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPT	**Papeete**	**26.08**	**84**	LR	LR	03 53 54.1	
	comp=Z,76nm,18.8s,baz=302,slow=34						
CTA	**Charters Tower**	**34.40**	**267**	P	**P**	**03 46 12.5**	**+1.3**
	3.8nm,0.7s,baz=98,slow=12,SNR=7.3						
CTAO	**Charters Tower**	**34.40**	**267**	*e*P	**P**	**03 46 10.2**	**-0.9**
	4.0nm,0.8s						
PMG	**Port Moresby**	**36.89**	**285**	LR	LR	03 58 33.7	
	comp=Z,61nm,21.2s,baz=172,slow=31						
STKA	**Stephens Creek**	**37.89**	**247**	LR	LR	04 00 14.7	
	comp=Z,105nm,18.0s,baz=25,slow=33						
AS31	**Alice Springs**	**45.11**	**259**	*e*P	**P**	**03 47 39.2**	**-0.9**
	1.7nm,1.3s						
ASAR	**Alice Springs**	**45.12**	**259**	P	**P**	**03 47 39.2**	**-0.9**
	1.3nm,0.9s,baz=98,slow=8.3,SNR=10						
WB2	**Warramunga Arr**	**45.39**	**264**	*e*P	**P**	**03 47 41.8**	**-0.5**
	8.4nm,1.3s						
WR1	**Warramunga Arr**	**45.40**	**264**	*e*P	**P**	**03 47 41.3**	**-1.1**
	21nm,1.7s						
WRA	**Warramunga Arr**	**45.40**	**264**	P	**P**	**03 47 41.3**	**-1.1**
	2.5nm,0.7s,baz=102,slow=8.2,SNR=14						
FORT	**Forrest**	**49.48**	**248**	*e*P	**P**	**03 48 13.1**	**-0.7**
	69nm,1.8s						
QSPA	**South Pole Qui**	**67.47**	**180**	*e*P	**P**	**03 50 18.3**	**-0.3**
	18nm,1.6s						
CARC	**Carrizo Plain**	**78.95**	**44**	*e*P	**P**	**03 51 29.8**	**+3.2**
EML	**El Monte Cty P**	**79.51**	**48**	*e*P	**P**	**03 51 27.9**	**-1.7**
NV01	**Mina Array Sit**	**81.83**	**43**	*e*P	**P**	**03 51 42.5**	**+0.3**
NVAR	**Mina Array Bea**	**81.83**	**43**	P	**P**	**03 51 42.4**	**+0.2**
	0.2nm,0.6s,baz=246,slow=8.8,SNR=2.9						
SNAA	**Sanae**	**85.88**	**178**	P	**P**	**03 52 03.0**	**+0.8**
	3.1nm,0.8s,baz=174,slow=3.6,SNR=8.0						
SNAA	**Sanae**	**85.88**	**178**	*e*P	**P**	**03 52 03.0**	**+0.8**
	18nm,1.7s						
TXAR	**Lajitas Array**	**87.30**	**57**	P	**P**	**03 52 10.3**	**+0.4**
	0.5nm,1.0s,baz=198,slow=5.4,SNR=3.0						
AHID	**Auburn Hatcher**	**88.80**	**42**	*e*P	**P**	**03 52 13.7**	**-3.1**
	9.4nm,0.6s						
BOZ	**Bozeman (W)**	**90.01**	**40**	*e*pP	pP	03 52 41.6	+0.3
ILAR	**Eielson Array**	**90.13**	**12**	P	**P**	**03 52 21.9**	**-0.3**
	0.8nm,1.0s,baz=221,slow=7.4,SNR=4.8						
ILB	**Eielson Array**	**90.13**	**12**	*e*P	**P**	**03 52 21.9**	**-0.3**
CM31	**Chiang Mai Arr**	**91.82**	**289**	*e*P	**P**	**03 52 33.2**	**+2.0**
CMAR	**Chiang Mai Arr**	**91.82**	**289**	P	**P**	**03 52 33.2**	**+2.0**
	1.6nm,0.3s,baz=135,slow=3.4,SNR=12						
AKASG	**Malin Array Be**	**145.37**	**331**	PKPbc	**PKPdf**	**03 58 60.0**	**-0.1**
	1.4nm,0.6s,baz=38,slow=4.2,SNR=8.4						
AKBB	**Malin Array Si**	**145.37**	**331**	*e*PKPbc	**PKPdf**	**03 58 60.0**	**-0.1**
AK11	**Malin Array Si**	**145.41**	**331**	*e*PKPdf	**PKPbc**	**03 59 00.1**	**0.0**
BR101	**Keskin Array S**	**149.03**	**311**	*e*PKPbc	**PKPbc**	**03 59 10.2**	**-0.7**
BRTR	**Keskin Array B**	**149.03**	**311**	PKPbc	**PKPbc**	**03 59 10.2**	**-0.7**
	1.0nm,0.8s,baz=72,slow=4.0,SNR=6.2						
CLL	**Collm**	**150.34**	**347**	*e*PKPbc	**PKPbc**	**03 59 13.0**	**-0.5**

ISCJB 24 03:44:43.9±0.4, 12°.31N±0°.07×86°.68W±0°.06, h135km±4km, mb3.8/5, Error ellipse: s-maj=14.7km s-min=3.7km az=36.0
IDC 24 03:44:44.1±1.1, 12°.36N×86°.51W, h134km±14km, mb3.6/5, mb1 3.8/8, mb1mx3.3/52, mbtmp4.1/8, Error ellipse: s-maj=35.8km s-min=12.6km az=53.0
UCR 24 03:44:45.1±1.9, 12°.16N×86°.83W, h120km±9km, ML3.6
ISC 24 03:44:44.2±0.8, 12°.27N±0°.07×86°.73W±0°.07, h132km±6km, n41,σ1°18/52, mb3.9/5, 2C-1D, Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COPN	**Copaltepe**	**0.16**	**125**	*e*P	**Pn**	**03 45 02.2**	**0.0**
CNGN	**Cerro Negro**	**0.23**	**7**	*e*P	**Pn**	**03 45 01.6**	**-0.8**
CNGN				*e*S	**Sn**	**03 45 15.9**	**-0.3**
CNGN				AML	AML	03 45 20.9	
	comp=N,1μm,0.6s						
MOMN	**Momotombo**	**0.23**	**54**	*e*P	**Pn**	**03 45 02.6**	**+0.2**
XAVN	**Gruta Xavier**	**0.41**	**107**	*e*P	**Pn**	**03 45 03.3**	**+0.3**
MGAN	**Managua**	**0.49**	**105**	*e*P	**Pn**	**03 45 03.4**	**0.0**
MGAN				*e*S	**Sn**	**03 45 17.9**	**0.0**
MGAN				AML	AML	03 45 19.6	
	comp=N,429nm,0.7s						
BRAN	**Las Pilas**	**0.58**	**40**	*e*P	**Pn**	**03 45 03.5**	**-0.5**
MASN	**Masaya**	**0.63**	**117**	*e*S	**Sn**	**03 45 20.8**	**+1.2**
MATN	**Matagalpa**	**1.02**	**50**	*e*P	**Pn**	**03 45 08.4**	**+0.8**
CONN	**Concepcion**	**1.29**	**123**	*e*P	**Pn**	**03 45 10.6**	**+0.4**
RCON	**San Juan de Ri**	**1.33**	**25**	*e*P	**Pn**	**03 45 12.2**	**+1.5**
CNCH	**Conchagua**	**1.47**	**313**	*e*P	**Pn**	**03 45 13.3**	**+1.1**
LCND	**La Ca˜–ada**	**1.53**	**312**	*e*P	**Pn**	**03 45 13.3**	**+0.5**
LCND				*e*S	**Sn**	**03 45 35.1**	**+0.5**
LCND				IAML		03 45 39.9	
	comp=Z,844nm,0.3s						
CRZ1	**La Cruz**	**1.60**	**138**	⇓*i*P	**Pn**	**03 45 13.9**	**+0.3**
TECA	**Tecapa**	**2.11**	**305**	*e*P	**Pn**	**03 45 21.3**	**+1.4**
TECA				*e*S	**Sn**	**03 45 47.6**	**+0.5**
CUI	**Cuipilapa**	**2.22**	**136**	*e*P	**Pn**	**03 45 20.8**	**-0.2**
JTS	**JuntasAbangare**	**2.63**	**138**	P	**Pn**	**03 45 26.6**	**+0.4**
	comp=Z,47nm,0.3s,baz=181,slow=24,SNR=72						
JTS				S	**Sn**	**03 45 57.1**	**-1.3**
	comp=Z,17nm,0.3s,baz=7.4,slow=5.8,SNR=6.6						
JTS	**JuntasAbangare**	**2.63**	**138**	*e*P	**Pn**	**03 45 26.6**	**+0.4**
LFRS	**El Faro**	**2.64**	**301**	*e*P	**Pn**	**03 45 27.8**	**+1.4**
LFRS				*e*S	**Sn**	**03 45 58.2**	**-0.7**
SNET	**Serv Nac Est T**	**2.82**	**300**	*e*P	**Pn**	**03 45 30.4**	**+1.8**
SNET				IAML		03 46 06.5	
	comp=Z,442nm,0.3s						
UEES	**San Salvador**	**2.85**	**301**	*e*P	**Pn**	**03 45 30.2**	**+1.2**
UEES				*e*S	**Sn**	**03 46 03.7**	**+0.2**
COLS	**Colinas**	**2.86**	**299**	*e*P	**Pn**	**03 45 31.0**	**+1.8**
COLS				*e*S	**Sn**	**03 46 03.5**	**-0.4**
BOQS	**Boqueron**	**2.88**	**301**	*e*P	**Pn**	**03 45 31.5**	**+2.0**
BOQS				*e*S	**Sn**	**03 46 05.9**	**+1.4**
CGA2	**Cerro Gallo 2**	**3.15**	**135**	*e*P	**Pn**	**03 45 33.9**	**+0.9**
SNJE	**San Jose**	**3.22**	**300**	*e*P	**Pn**	**03 45 35.8**	**+1.8**
SBLS	**San Blas**	**3.22**	**299**	*e*P	**Pn**	**03 45 35.6**	**+1.6**
SBLS				*e*S	**Sn**	**03 46 12.5**	**0.0**
RTR	**El Retiro**	**3.27**	**300**	*e*P	**Pn**	**03 45 36.7**	**+2.1**
LCR2	**La Lucha 2**	**3.67**	**133**	*e*P	**Pn**	**03 45 40.6**	**+0.8**
URSC	**Urasca**	**3.77**	**130**	*e*P	**Pn**	**03 45 42.2**	**+1.0**
QCR1	**Quepos**	**3.79**	**138**	*e*P	**Pn**	**03 45 42.0**	**+0.8**
BUS	**Buena Vista**	**3.97**	**133**	⇓*e*P	**Pn**	**03 45 45.2**	**+1.1**
APG	**El Apazote**	**4.54**	**307**	P	**Pn**	**03 45 53.9**	**+2.6**
	comp=Z,6.0nm,0.3s,baz=117,slow=8.9,SNR=25						
DRK0	**Durika**	**4.54**	**131**	⇑*e*P	**Pn**	**03 45 53.7**	**+2.3**
CMIG	**Matias Romero**	**9.23**	**302**	P	**Pn**	**03 46 54.6**	**+0.4**
	comp=Z,1.8nm,0.3s,baz=150,slow=8.2,SNR=45						
CMIG				S	**Sn**	**03 48 33.9**	**-2.5**
	comp=Z,0.8nm,0.3s,baz=327,slow=17,SNR=3.9						
TXAR	**Lajitas Array**	**23.16**	**320**	P	**P**	**03 49 40.1**	**+0.9**
	comp=Z,1.7nm,0.8s,baz=132,slow=9.1,SNR=14						
SADO	**Sadowa**	**33.03**	**10**	P	**P**	**03 51 06.5**	**-0.3**
	comp=Z,24nm,1.1s,baz=288,slow=6.0,SNR=3.4						
ULM	**Lac du Bonnet**	**38.61**	**351**	P	**P**	**03 51 52.6**	**-1.7**
	comp=Z,0.9nm,0.4s,baz=162,slow=12,SNR=4.3						
YKA	**Yellowknife Ar**	**53.97**	**344**	P	**P**	**03 53 53.0**	**-1.0**
	comp=Z,0.2nm,0.4s,baz=138,slow=7.4,SNR=5.1						
PLCA	**Paso Flores**	**54.82**	**165**	P	**P**	**03 54 00.4**	**-0.3**
	comp=Z,2.5nm,1.1s,baz=356,slow=9.8,SNR=5.0						
STKA	**Stephens Creek**	**131.60**	**238**	PKP	**PKPdf**	**04 03 42.6**	**+0.8**
	comp=Z,1.5nm,0.5s,baz=38,slow=6.0,SNR=3.6						
ASAR	**Alice Springs**	**139.86**	**248**	PKhKP	PKPpre	04 03 50.0	
	comp=Z,0.3nm,0.5s,baz=103,slow=2.0,SNR=3.4						
ASAR				PKP	**PKPdf**	**04 03 57.6**	**+0.1**
	comp=Z,1.0nm,0.6s,baz=115,slow=3.3,SNR=4.7						
WRA	**Warramunga Arr**	**139.90**	**254**	PKhKP	PKPpre	04 03 52.0	
	comp=Z,0.3nm,0.4s,baz=89,slow=2.3,SNR=6.7						
WRA				PKP	**PKPdf**	**04 03 57.9**	**+0.3**
	comp=Z,1.9nm,0.5s,baz=90,slow=2.3,SNR=40						

ISK 24 04:05:40.8, 38°.96N×43°.23E, h5km, ML2.2/4
ISCJB 24 04:05:43.0±1.2, 38°.73N±0°.07×43°.5E±0°.1, h33km±14km, Error ellipse: s-maj=17.0km s-min=6.7km az=38.6
CSEM 24 04:05:44.0±0.6, 38°.81N×43°.31E, h5km, ML2.6, Error ellipse: s-maj=15.8km s-min=12.0km az=128.0
DDA 24 04:05:44.8, 38°.75N×43°.38E, h7km, Ml2.6
ISC 24 04:05:42.8±1.1, 38°.74N±0°.04×43°.50E±0°.06, h31km±7km, n16,σ0°89/23, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.17**	**211**	PG	**Pn**	**04 05 50.6**	**+1.3**
VANB	**Van**	**0.17**	**211**	*e*Pg	**Pn**	**04 05 50.6**	**+1.3**
TVAN	**Van**	**0.22**	**199**	*i* P	**Pb**	**04 05 49.7**	**+0.1**
TVAN				*i* S	**Sb**	**04 05 53.8**	**-0.5**
TVAN	**Van**	**0.22**	**199**	P	**Pb**	**04 05 49.7**	**+0.1**
TVAN				S	**Sb**	**04 05 53.8**	**-0.5**
VMUR	**Van-Muradiye**	**0.26**	**13**	*i* P	**Pb**	**04 05 50.0**	**0.0**
VMUR				*i* S	**Sb**	**04 05 55.5**	**+0.6**
VMUR	**Van-Muradiye**	**0.26**	**13**	P	**Pb**	**04 05 50.0**	**0.0**
VMUR				S	**Sb**	**04 05 55.5**	**+0.6**
CLDR	**Caldiran**	**0.52**	**39**	PG	**Pb**	**04 05 53.2**	**-0.5**
CLDR				SG	**Sb**	**04 06 02.2**	**+1.0**
CLDR	**Caldiran**	**0.52**	**39**	*i* P	**Pb**	**04 05 53.2**	**-0.5**
CLDR	**Caldiran**	**0.52**	**39**	P	**Pb**	**04 05 53.2**	**-0.5**
CLDR				*e*Sg	**Sb**	**04 06 02.2**	**+1.0**
GEVA	**Gevas**	**0.55**	**219**	*i* P	**Pb**	**04 05 54.6**	**+0.4**
GEVA	**Gevas**	**0.55**	**219**	P	**Pb**	**04 05 54.6**	**+0.4**
TUTA	**Tutak**	**0.85**	**321**	*i* P	**Pb**	**04 06 00.3**	**+1.1**
TUTA	**Tutak**	**0.85**	**321**	P	**Pb**	**04 06 00.3**	**+1.1**
AGRB	**Hanur-Agry**	**0.92**	**335**	PG	Pn	04 05 54.0	-5.8
GURO	**Guroymak-BITLI**	**1.17**	**261**	PG	**Pn**	**04 06 01.8**	**-1.2**
GURO				SG	**Sn**	**04 06 16.9**	**-1.0**
GURO	**Guroymak-BITLI**	**1.17**	**261**	*e*Pg	**Pn**	**04 06 01.8**	**-1.2**
GURO				*e*Sg	**Sn**	**04 06 16.9**	**-1.0**

IDC 24 04:06:11.9±0.7, 1°.03N×95°.40E, h0km, mb4.0/21, mb1 4.1/23, mb1mx4.0/72, mbtmp4.0/23, ML4.2/2, MS3.5/13, Ms1 3.5/13, ms1mx3.1/67, Error ellipse: s-maj=22.0km s-min=14.4km az=45.0
NEIC 24 04:06:13.5±0.4, 1°.02N×95°.54E, h10km, mb4.6/7, Error ellipse: s-maj=10.0km s-min=8.3km az=215.0
ISCJB 24 04:06:15.4±0.3, 1°.13N±0°.03×95°.61E±0°.03, h33km, mb4.2/29, MS3.6/10, Error ellipse: s-maj=5.2km s-min=4.3km az=40.4
DJA 24 04:06:15.1±1.0, 1°N±3°×9°5E±°, h37km±34km, M4.7/14, mb4.8/10, mB5.3/7, MLv4.7/14, Mw(mB)4.7/7
ISC 24 04:06:17.8±0.5, 1°.15N±0°.06×95°.59E±0°.06, h35km, n87, σ1°62/77, mb4.3/29, MS3.6/10, 1C, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSI	**Gunungsitoli**	**2.00**	**86**	P	**Pn**	**04 06 47.9**	**-1.2**
GSI				S	**Sn**	**04 07 14.2**	**+1.3**
GSI	**Gunungsitoli**	**2.00**	**86**	*e*Pn	**Pn**	**04 06 47.5**	**-1.6**
GSI				Sn	**Sn**	**04 07 12.2**	**-0.7**
TPTI		**2.63**	**37**	P	**Pn**	**04 06 55.3**	**-2.6**
TPTI				S	**Sn**	**04 07 27.8**	**-0.9**
MLSI	**Meulaboh, Aceh**	**3.20**	**15**	P	**Pn**	**04 07 03.9**	**-1.9**
MLSI				S	**Sn**	**04 07 40.8**	**-1.9**
KCSI	**Kotacane, Aceh**	**3.21**	**43**	P	**Pn**	**04 07 03.6**	**-2.3**
KCSI				S	**Sn**	**04 07 42.7**	**-0.3**
PSI	**Prapat**	**3.72**	**64**	Pn	**Pn**	**04 07 11.6**	**-1.3**
	4.7nm,0.3s,baz=181,slow=1.4,SNR=8.2						
PSI				LR	LR	04 09 00.9	
	comp=Z,1μm,20.6s,baz=296,slow=43						
PSI	**Prapat**	**3.72**	**64**	*e*Pg	**Pn**	**04 07 11.2**	**-1.7**
TSI	**Tuntungan**	**3.78**	**52**	P	**Pn**	**04 07 12.2**	**-1.5**
MNSI	**Mandailing Nat**	**4.01**	**95**	P	**Pn**	**04 07 16.4**	**-0.4**
LHMI	**Lhok Sumawe**	**4.28**	**18**	P	**Pn**	**04 07 17.7**	**-2.8**
LHMI	**Lhok Sumawe**	**4.28**	**18**	*e*Pn	**Pn**	**04 07 19.7**	**-0.8**
SISI	**Saibi**	**4.28**	**125**	P	**Pn**	**04 07 19.9**	**-0.6**
BSI	**Banda Aceh**	**4.33**	**356**	P	**Pn**	**04 07 17.5**	**-3.8**
PDSI	**Padang**	**5.29**	**113**	P	**Pn**	**04 07 34.3**	**-0.1**
	67nm,0.8s						
BKNI	**Bangkinang**	**5.51**	**98**	P	**Pn**	**04 07 36.9**	**-0.6**
PPSI	**Pulau Pagai**	**5.89**	**131**	P	**Pn**	**04 07 41.6**	**-1.0**
	98nm,1.1s,0.5nm						
IPM	**Ipoh**	**6.36**	**59**	*e*Pn	**Pn**	**04 07 47.8**	**-1.4**
	15nm,0.6s						
KULM	**Kulim**	**6.52**	**51**	*e*Pn	Pn	04 07 45.0	-6.3
KRJI	**Kerinci**	**6.70**	**119**	P	**Pn**	**04 07 53.5**	**-0.4**
PKDT	**Phuket**	**7.24**	**22**	P	**Pn**	**04 08 04.5**	**+3.3**
	26nm,0.7s						
TRTT	**Trang**	**7.80**	**31**	P	**Pn**	**04 08 05.7**	**-3.3**
	9.0nm,0.8s,0.0nm						
MASI	**Maura Aman, Be**	**7.90**	**123**	P	**Pn**	**04 08 10.8**	**+0.5**
	103nm,0.7s,2μm						
MNAI	**Manna**	**9.17**	**127**	P	**Pn**	**04 08 27.7**	**-0.1**
	122nm,1.3s						
MDSI	**Maura Dua**	**10.25**	**123**	P	**Pn**	**04 08 41.0**	**-1.5**
	29nm,0.8s,491nm						
CGJI	**Cibinong**	**12.70**	**128**	P	**Pn**	**04 09 15.5**	**-0.5**
LEM	**Lembang**	**14.38**	**124**	LR	LR	04 15 41.1	
	comp=Z,92nm,19.9s,baz=221,slow=39						
CHAI	**Chaiyaphum**	**15.96**	**23**	P	**P**	**04 10 03.8**	**+0.7**
	5.1nm,0.8s						
PALK	**Pallekele**	**16.04**	**293**	LR	LR	04 15 11.8	
	comp=Z,282nm,18.9s,baz=116,slow=34						
PBKT	**Sadao Pong**	**16.22**	**19**	P	**P**	**04 10 05.1**	**-0.8**
	23nm,0.8s						
UBPT	**Khong Chiam**	**17.10**	**34**	P	**Pn**	**04 10 14.1**	**-0.2**
	25nm,0.3s						
CM01	**Chiang Mai Arr**	**17.48**	**11**	*e*P	**P**	**04 10 20.0**	**+0.1**
CMAR	**Chiang Mai Arr**	**17.52**	**11**	P	**Pn**	**04 10 19.6**	**+0.1**
	0.7nm,0.3s,baz=196,slow=11,SNR=20						
CMAR				LR	LR	04 18 05.6	
	comp=Z,48nm,18.3s,baz=200,slow=40						
CHTO	**Chiang Mai**	**17.86**	**10**	*e*P	**P**	**04 10 24.1**	**-0.1**
	39nm,2.0s						
CMMT	**Chiang Mai**	**17.86**	**10**	P	**P**	**04 10 30.9**	**+6.7**
	7.3nm,1.6s						
KKM	**Kota Kinabalu**	**21.15**	**76**	*e*P	**P**	**04 10 59.2**	**-1.0**
	21nm,1.1s						
SHL	**Shillong**	**24.54**	**352**	*e*P	**P**	**04 11 39.0**	**+4.4**
H08S2	**Diego Garcia H**	**24.63**	**249**	T	T	04 39 16.6	
	baz=71,slow=74,SNR=37						
**H08S3

comp=Z,1.4nm,0.8s,baz=128,slow=6.7,SNR=12
LSZ Lusaka 68.55 253 P **P 04 17 17.3 -0.5**
comp=Z,1.1nm,0.4s,baz=115,slow=11,SNR=3.9
LSZ LR LR 04 42 39.2
comp=Z,103nm,19.5s,baz=93,slow=32
KARP Karpathos 71.86 307 *eP* **P 04 17 38.4 +0.8**
comp=Z,3.7nm,0.9s
BOSA Boshof 73.36 240 LR LR 04 46 14.7
comp=Z,50nm,18.0s,baz=124,slow=33
AKASG Malin Array Be 74.32 323 P **P 04 17 50.4 -1.4**
comp=Z,0.3nm,0.4s,baz=75,slow=7.3,SNR=4.7
BUR04 Bucovina Ar. S 76.00 319 *eP* **P 04 18 01.9 +0.2**
BUR08 Bucovina Ar. S 76.02 319 *eP* **P 04 18 02.4 +0.6**
FINES FINESS Array B 79.30 333 P **P 04 18 18.5 -1.1**
comp=Z,0.6nm,0.6s,baz=108,slow=6.2,SNR=4.1
ARCES ARCESS Array B 82.04 340 P **P 04 18 34.4 +0.2**
comp=Z,1.4nm,0.8s,baz=104,slow=5.1,SNR=6.6
GERES GERESS Array B 83.79 319 P **P 04 18 42.1 -1.6**
comp=Z,0.4nm,0.3s,baz=101,slow=6.9,SNR=6.5
HFS Hagfors 84.96 330 P **P 04 18 49.4 +0.1**
comp=Z,1.8nm,0.8s,baz=133,slow=11,SNR=4.3
TORD Torodi Ar. Bea 93.53 283 P **P 04 19 30.0 -1.0**
comp=Z,0.5nm,0.9s,baz=94,slow=4.5,SNR=3.3
KOWA Kowa 99.01 285 LR LR 05 03 33.2
comp=Z,29nm,18.1s,baz=48,slow=35
TXAR Lajitas Array 144.54 30 PKP PKPbc 04 25 50.5 +0.4
comp=Z,0.3nm,0.4s,baz=34,slow=0.5,SNR=6.2

CSEM ***24*** *04:10:36.3, 38˚.45N×27˚.16W, h0km, ML2.5*
PDA 24 04:10:36.3±1.1, 38˚.45N×27˚.16W, h0km±6km, MD3.7, ML2.5, 2D, Error ellipse: s-maj=3.2km s-min=3.0km az=24.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ADH	**Angra Heroismo**	**0.21**	**345** ⇓	*i*P	Pg	04 10 39.9	-0.5
ADH				*e*S	Sg	04 10 44.2	+1.0
ADH				A	A	04 10 48.9	
	716nm,0.3s						
ADH	**Angra Heroismo**	**0.21**	**345** ⇓	*i*P	Pg	04 10 39.9	-0.5
ADH				*e*S	Sg	04 10 44.2	+1.0
PMAN	**Manadas**	**0.75**	**285**	*e*P	Pg	04 10 49.2	-1.4
PMAN				*e*S	Sg	04 10 59.0	-1.4
PMAN				A	A	04 11 00.5	
	156nm,0.1s						
PMAN	**Manadas**	**0.75**	**285**	*e*P	Pg	04 10 49.2	-1.4
PMAN				*e*S	Sg	04 10 59.0	-1.4
PGRA	**Graciosa**	**0.86**	**312**	*e*P	Pg	04 10 50.8	-2.1
PGRA				*e*S	Sg	04 11 01.5	-2.6
PGRA				A	A	04 11 02.5	
	58nm,0.2s						
PGRA	**Graciosa**	**0.86**	**312**	*e*P	Pg	04 10 50.8	-2.1
PGRA				*e*S	Sg	04 11 01.5	-2.6
ROSA	**Rosais**	**0.89**	**288**	*e*P	Pg	04 10 51.1	-2.2
ROSA				*e*S	Sg	04 11 02.4	-2.4
ROSA				A	A	04 11 03.6	
	70nm,0.3s						
ROSA	**Rosais**	**0.89**	**288**	*e*P	Pg	04 10 51.1	-2.2
ROSA				*e*S	Sg	04 11 02.4	-2.4
PICO	**Pico**	**0.99**	**273**	*e*S	Sg	04 11 04.9	-3.3
PICO				A	A	04 11 06.6	
	110nm,0.2s						
PICO	**Pico**	**0.99**	**273**	*e*S	Sg	04 11 04.9	-3.3
PCAN	**Candelaria**	**1.04**	**271**	*e*P	Pg	04 10 53.2	-3.0
PCAN				*e*S	Sg	04 11 06.2	-3.4
PCAN				A	A	04 11 09.6	
	58nm,0.2s						
PCAN	**Candelaria**	**1.04**	**271**	*e*P	Pg	04 10 53.2	-3.0
PCAN				*e*S	Sg	04 11 06.2	-3.4
HOR	**Horta**	**1.15**	**274**	*e*P	Pg	04 10 55.1	-3.3
HOR				*e*S	Sg	04 11 08.4	-5.0
HOR				A	A	04 11 10.1	
	69nm,0.2s						
HOR	**Horta**	**1.15**	**274**	*e*P	Pg	04 10 55.1	-3.3
HOR				*e*S	Sg	04 11 08.4	-5.0
CALA	**Caldeira**	**1.21**	**277**	*e*S	Sg	04 11 10.4	-4.9
CALA	**Caldeira**	**1.21**	**277**	*e*S	Sg	04 11 10.4	-4.9
PCED	**Cedros**	**1.22**	**279**	*e*S	Sg	04 11 10.1	-5.4
PCED				A	A	04 11 10.8	
	41nm,0.5s						
PCED	**Cedros**	**1.22**	**279**	*e*S	Sg	04 11 10.1	-5.4
PSET	**Sete Cidades**	**1.30**	**118**	*e*P	Pg	04 10 56.9	-4.3
PSET				A	A	04 11 23.7	
	39nm,0.5s						
PSET	**Sete Cidades**	**1.30**	**118**	*e*P	Pg	04 10 56.9	-4.3
PDA	**Ponta Delgada**	**1.38**	**120**	*e*P	Pg	04 10 57.9	-4.8
PDA	**Ponta Delgada**	**1.38**	**120**	*e*P	Pg	04 10 57.9	-4.8
GRON	**Grota Negra**	**1.46**	**117**	*e*P	Sg	04 11 19.4	-3.6
CMLA	**Cha da Macela**	**1.46**	**117**	*e*S	Sg	04 11 16.4	-6.9
CMLA				A	A	04 11 20.1	
	42nm,0.3s						
CMLA	**Cha da Macela**	**1.46**	**117**	*e*S	Sg	04 11 16.4	-6.9

DDA ***24*** *04:13:54.7, 39˚.11N×29˚.12E, h7km, Ml2.5*
ISK ***24*** *04:13:54.5, 39˚.05N×29˚.16E, h5km, ML2.2/7*
CSEM ***24*** *04:13:55.4±0.1, 39˚.09N×29˚.12E, h2km, ML2.2, Error ellipse: s-maj=3.4km s-min=2.5km az=144.0*
ISC 24 04:13:55.0±0.9, 39˚.08N±0˚.03×29˚.14E±0˚.02, h9km±8km, n32, σ0s30/44, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIMA	**Simav-Kutahya**	**0.12**	**271**		**Pg**	**04 13 57.9**	**+0.1**
SIMA	**Simav-Kutahya**	**0.12**	**271**	*e*Pg	**Pg**	**04 13 57.9**	**+0.1**
GDZ	**Gediz**	**0.27**	**88**	*i*P	**Pg**	**04 14 00.0**	**-0.5**
GDZ				*i*S	**Sg**	**04 14 04.2**	**0.0**
GDZ	**Gediz**	**0.27**	**88**	P	**Pg**	**04 14 00.0**	**-0.5**
GDZ				S	**Sg**	**04 14 04.2**	**0.0**
DEMI	**Demirci**	**0.33**	**263**	*i*P	**Pg**	**04 14 01.7**	**+0.2**
DEMI				*i*S	**Sg**	**04 14 06.1**	**+0.2**
DEMI	**Demirci**	**0.33**	**263**	P	**Pg**	**04 14 01.7**	**+0.2**
DEMI				S	**Sg**	**04 14 06.1**	**+0.2**
TVSB	**Tavsanli**	**0.45**	**34**	PG	**Pg**	**04 14 03.7**	**-0.1**
TVSB	**Tavsanli**	**0.45**	**34**	*e*Pg	**Pg**	**04 14 03.7**	**-0.1**
KULA	**Kula-Manisa**	**0.68**	**213**	PG	**Pg**	**04 14 08.3**	**+0.2**
KULA				SG	**Sb**	**04 14 18.1**	**-0.4**
KULA	**Kula-Manisa**	**0.68**	**213**	*e*Pg	**Pg**	**04 14 08.3**	**+0.2**
KULA				*e*Sg	**Sb**	**04 14 18.1**	**-0.4**
DURS	**Dursunbey**	**0.73**	**316**	*i*P	**Pg**	**04 14 08.9**	**-0.2**
DURS	**Dursunbey**	**0.73**	**316**	P	**Pg**	**04 14 08.9**	**-0.2**
MANT	**Manisa**	**0.74**	**218**	*i*P	**Pb**	**04 14 09.9**	**-0.4**
MANT				*i*S	**Sg**	**04 14 19.3**	**+0.2**
MANT	**Manisa**	**0.74**	**218**	P	**Pb**	**04 14 09.9**	**-0.4**
MANT				S	**Sg**	**04 14 19.3**	**+0.2**
KHAL	**Karahalli**	**0.76**	**158**	*i*P	**Pb**	**04 14 11.2**	**+0.7**
KHAL	**Karahalli**	**0.76**	**158**	P	**Pb**	**04 14 11.2**	**+0.7**
AKHS	**Akhisar**	**1.05**	**259**	*i*P	**Pb**	**04 14 15.2**	**-0.1**
AKHS				*i*S	**Sb**	**04 14 29.3**	**+0.1**
AKHS	**Akhisar**	**1.05**	**259**	P	**Pb**	**04 14 15.2**	**-0.1**
AKHS				S	**Sb**	**04 14 29.3**	**+0.1**
STEP	**BALIKESIR_Sava**	**1.14**	**285**	*i*P	**Pn**	**04 14 17.3**	**+0.1**
STEP				*i*S	**Sb**	**04 14 31.6**	**-0.2**
STEP	**BALIKESIR_Sava**	**1.14**	**285**	P	**Pn**	**04 14 17.3**	**+0.1**
STEP				S	**Sb**	**04 14 31.6**	**-0.2**
BORA	**Eskisehir**	**1.29**	**52**	*i*P	**Pb**	**04 14 19.8**	**+0.2**
BORA	**Eskisehir**	**1.29**	**52**	P	**Pb**	**04 14 19.8**	**+0.2**
BALY	**Balya**	**1.35**	**300**	*i*P	**Pn**	**04 14 19.7**	**-0.3**
BALY	**Balya**	**1.35**	**300**	P	**Pn**	**04 14 19.7**	**-0.3**
YLV	**Yalova**	**1.49**	**7**	PN	**Pg**	**04 14 24.2**	**+0.5**
YLV	**Yalova**	**1.49**	**7**	*e*Pn	**Pg**	**04 14 24.2**	**+0.5**
AYDB	**Zeytinkoy-Aydi**	**1.50**	**221**	PN	**Pg**	**04 14 23.6**	**-0.1**
AYDB	**Zeytinkoy-Aydi**	**1.50**	**221**	*e*Pn	**Pg**	**04 14 23.6**	**-0.1**
ARMT	**Armutlu**	**1.50**	**352**	PN	**Pg**	**04 14 23.9**	**+0.2**
ARMT	**Armutlu**	**1.50**	**352**	*e*Pn	**Pg**	**04 14 23.9**	**+0.2**
GULT	**Gulveren**	**1.72**	**38**	PN	**Pb**	**04 14 26.8**	**0.0**
GULT	**Gulveren**	**1.72**	**38**	*e*Pn	**Pb**	**04 14 26.8**	**0.0**

IDC ***24*** *04:16:23.2±1.1, 1˚.76S×134˚.32E, h0km, mb3.8/6, mb1 4.0/8, mb1mx3.7/57, mbtmp3.8/8, ML3.8/2, MS3.1/4, Ms1 3.1/4, ms1mx2.7/53, Error ellipse: s-maj=31.8km s-min=20.2km az=75.0*
ISCJB ***24*** *04:16:25.3±0.6, 1˚.67S±0˚.06×134˚.39E±0˚.04, h29km, mb3.8/6, MS2.9/2, Error ellipse: s-maj=8.7km s-min=6.0km az=173.2*
DJA ***24*** *04:16:25.2±0.5, 2˚.5S±4˚×13˚.4E±˚, h11km±3km, M4.5/8, mB4.9/2, mb4.7/5, MLv4.5/8, Mw(mB)4.2/2*
ISC 24 04:16:26.9±0.8, 1˚.68S±0˚.07×134˚.38E±0˚.07, h29km, n20, σ1s78/21, mb3.9/6, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RKPI	**Ransiki, Papua**	**0.26**	**310**	P	Pb	04 16 29.3	-4.4
RKPI				S	**Sb**	**04 16 33.6**	**-4.8**
BAKI	**Biak**	**1.80**	**74**	P	**Pn**	**04 16 54.5**	**-1.4**
KMPI	**Kaimana, Papua**	**2.08**	**199**	P	**Pb**	**04 17 03.3**	**-0.7**
FAKI	**Fak Fak**	**2.46**	**240**	P	**Pn**	**04 17 06.8**	**+1.8**
FAKI				S	**Sn**	**04 17 35.1**	**+1.0**
SIJI	**Sorong**	**3.21**	**284**	Pn	**Pn**	**04 17 15.2**	**-0.2**
	11nm,0.3s,baz=264,slow=23,SNR=31						
SIJI				Sn	**Sn**	**04 17 53.9**	**+1.1**
	24nm,0.3s,baz=13,slow=13,SNR=4.8						
BNDI	**Bandanaira**	**5.28**	**238**	P	**Pn**	**04 17 45.9**	**+2.0**
MSAI	**Masohi**	**5.69**	**253**	P	**Pn**	**04 17 51.0**	**+1.5**
MSAI				S	**Sn**	**04 18 54.3**	**+0.4**
GENI	**Genyem**	**5.86**	**99**	P	**Pn**	**04 17 52.3**	**+0.5**
NLAI	**Namlea**	**7.43**	**258**	P	**Pn**	**04 18 13.9**	**+0.4**
BATI	**Baumata**	**13.61**	**231**	LR	LR	04 26 38.8	
	comp=Z,115nm,18.0s,baz=309,slow=46						
PMG	**Port Moresby**	**14.85**	**122**	LR	LR	04 26 54.7	
	comp=Z,87nm,19.1s,baz=334,slow=42						
WRA	**Warramunga Arr**	**18.15**	**180**	P	**Pn**	**04 20 35.9**	**-1.1**
	0.3nm,0.3s,baz=1.2,slow=12,SNR=18						
FITZ	**Fitzroy Crossi**	**18.43**	**207**	P	**P**	**04 20 39.3**	**-0.8**
	baz=90,slow=8.5						
ASAR	**Alice Springs**	**21.86**	**181**	P	**P**	**04 21 16.6**	**-0.9**
	4.9nm,0.7s,baz=8.8,slow=11,SNR=32						
ASAR				S	**S**	**04 25 14.8**	**-2.9**
	1.3nm,0.9s,baz=4.9,slow=23,SNR=5.3						
CMAR	**Chiang Mai Arr**	**40.19**	**301**	P	**P**	**04 24 01.3**	**+0.2**
	0.7nm,0.3s,baz=116,slow=6.1,SNR=3.3						
CMAR				LR	LR	04 41 28.7	
	comp=Z,8.1nm,20.3s,baz=220,slow=38						
URZ	**Urewera**	**53.42**	**138**	LR	LR	04 46 32.6	
	comp=Z,28nm,20.1s,baz=304,slow=34						
MKAR	**Makanchi Array**	**66.37**	**324**	P	**P**	**04 27 14.9**	**+1.7**
	0.5nm,0.6s,baz=109,slow=7.4,SNR=4.0						
ZALV	**Zalesovo Beam**	**68.91**	**331**	P	**P**	**04 27 29.2**	**+0.3**
	0.6nm,0.5s,baz=132,slow=2.1,SNR=2.4						
KURBB	**Kurchatov Arra**	**70.43**	**326**	P	**P**	**04 27 39.8**	**+1.4**
	0.8nm,0.9s,baz=122,slow=6.0,SNR=4.0						
ILAR	**Eielson Array**	**86.71**	**25**	P	**P**	**04 29 09.7**	**+1.9**
	0.2nm,0.8s,baz=282,slow=4.2,SNR=2.9						

ISCJB ***24*** *04:29:09.0±0.6, 2˚.8N±0˚.1×89˚.58E±0˚.08, h10km, mb3.9/11, MS3.9/2, Error ellipse: s-maj=17.0km s-min=7.6km az=35.3*
IDC ***24*** *04:29:09.7±1.3, 2˚.75N×89˚.48E, h0km, mb3.6/7, mb1 3.8/9, mb1mx3.5/75, mbtmp3.7/9, ML3.8/2, MS3.9/2, Ms1 3.9/2, ms1mx2.7/59, Error ellipse: s-maj=43.0km s-min=18.8km az=44.0*
NEIC ***24*** *04:29:11.2±0.5, 2˚.80N×89˚.59E, h10km, mb4.2/5, Error ellipse: s-maj=13.7km s-min=6.2km az=214.0*
ISC 24 04:29:11.1±0.9, 2˚.8N±0˚.2×89˚.6E±0˚.1, h10km, n31, σ0s90/26, mb3.8/11, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GSI	**Gunungsitoli**	**8.15**	**100**	*e*Pn	**Pn**	**04 31 08.8**	**-0.8**
PSI	**Prapat**	**9.35**	**90**	Pn	**Pn**	**04 31 27.3**	**+1.0**
	1.3nm,0.3s,baz=304,slow=11,SNR=5.4						
PSI	**Prapat**	**9.35**	**90**	*e*Pn	**Pn**	**04 31 25.5**	**-0.8**
PALK	**Pallekele**	**9.88**	**297**	Pn	**Pn**	**04 31 33.4**	**0.0**
	0.5nm,0.3s,baz=115,slow=13,SNR=2.9						
PALK				Sn	Sn	04 33 14.4	-10
	3.9nm,0.3s,baz=117,slow=4.4,SNR=5.3						
KULM	**Kulim**	**11.33**	**77**	*e*Pn	**Pn**	**04 31 51.5**	**-1.7**
IPM	**Ipoh**	**11.56**	**81**	*e*Pn	**Pn**	**04 31 56.6**	**+0.2**
XMIS	**Christmas Isla**	**20.76**	**130**	*e*P	**P**	**04 33 52.6**	**+0.2**
	58nm,1.1s						
H01W3	**Cape Leeuwin H**	**44.02**	**151**	T	T	05 24 21.6	
	baz=326,slow=74,SNR=4.8						
H01W2	**Cape Leeuwin H**	**44.03**	**151**	T	T	05 24 46.4	
	baz=326,slow=74,SNR=3.7						
H01W1	**Cape Leeuwin H**	**44.04**	**151**	T	T	05 24 22.6	
	baz=326,slow=74,SNR=6.0						
MK01	**Makanchi Array**	**44.25**	**353**	*e*P	**P**	**04 37 20.4**	**-0.4**
MK32	**Makanchi Array**	**44.27**	**353**	*e*P	**P**	**04 37 20.7**	**-0.3**
MKAR	**Makanchi Array**	**44.27**	**353**	P	**P**	**04 37 20.7**	**-0.3**
	0.8nm,0.7s,baz=167,slow=8.5,SNR=5.8						
SONA0	**Songino Array**	**47.15**	**15**	*e*P	**P**	**04 37 44.1**	**+0.2**
SONM	**Songino Array**	**47.15**	**15**	P	**P**	**04 37 44.1**	**+0.2**
	2.9nm,0.7s,baz=196,slow=9.5,SNR=6.1						
SONA1	**Songino Array**	**47.17**	**15**	*e*P	**P**	**04 37 45.8**	**+1.8**
KURBB	**Kurchatov Arra**	**48.55**	**351**	P	**P**	**04 37 54.0**	**-0.5**
	0.3nm,0.4s,baz=174,slow=6.9,SNR=4.7						
KURK	**Kurchatov**	**48.63**	**351**	*e*P	**P**	**04 37 54.0**	**-1.0**
WR1	**Warramunga Arr**	**49.42**	**119**	*e*P	**P**	**04 38 02.3**	**+0.6**
	7.7nm,1.4s						
WRA	**Warramunga Arr**	**49.42**	**119**	P	**P**	**04 38 02.3**	**+0.6**
	0.7nm,0.5s,baz=297,slow=8.6,SNR=7.4						
WB2	**Warramunga Arr**	**49.43**	**119**	*e*P	**P**	**04 38 00.9**	**-0.9**
	4.7nm,1.1s						
AS31	**Alice Springs**	**50.54**	**124**	*e*P	**P**	**04 38 10.2**	**0.0**
	0.8nm,1.0s						
ASAR	**Alice Springs**	**50.54**	**124**	P	**P**	**04 38 10.2**	**0.0**
	0.2nm,0.6s,baz=308,slow=4.6,SNR=3.2						
ZALV	**Zalesovo Beam**	**51.13**	**356**	P	**P**	**04 38 15.8**	**+1.8**
	0.9nm,0.4s,baz=146,slow=10,SNR=2.6						
ZAA1	**Zalesovo Array**	**51.13**	**356**	*e*P	**P**	**04 38 15.8**	**+1.8**
ABKAR	**Akbulak array**	**52.73**	**336**	*e*P	**P**	**04 38 25.7**	**-0.3**
	0.7nm,0.6s						
MMAI	**Mount Meron Ar**	**58.82**	**307**	LR	LR	05 05 42.7	
	comp=Z,20nm,18.7s,baz=215,slow=37						
BR101	**Keskin Array S**	**62.45**	**314**	*e*P	**P**	**04 39 34.5**	**-0.5**
BRTR	**Keskin Array B**	**62.45**	**314**	P	**P**	**04 39 34.5**	**-0.5**
	0.3nm,0.5s,baz=129,slow=5.6,SNR=2.8						
NRIK	**Noril'sk**	**66.44**	**359**	LR	LR	05 14 08.5	
	comp=Z,319nm,18.0s,baz=245,slow=41						
TXAR	**Lajitas Array**	**145.62**	**21**	PKPbc	**PKPab**	**04 48 51.4**	**+0.2**
	0.1nm,0.5s,baz=233,slow=0.6,SNR=6.1						

CSEM ***24*** *04:38:28.3±0.1, 32˚.45N×16˚.42W, h20km, ML3.1, Error ellipse: s-maj=4.2km s-min=2.5km az=110.0*
MDD ***24*** *04:38:29.6±0.5, 32˚.52N×16˚.46W, h28km±7km, mb4.5/27, Error ellipse: s-maj=6.2km s-min=3.8km az=127.0, PRXIMO*
INMG ***24*** *04:38:32.9±1.4, 32˚.57N×16˚.46W, h10km, MD3.2, ML3.1, Error ellipse: s-maj=3.9km s-min=2.3km az=95.0*
ISC 24 04:38:25.3±0.7, 32˚.49N±0˚.04×16˚.38W±0˚.04, h10km, n110, σ2s80/143, 8C, Madeira Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FUL	**Funchal**	**0.46**	**290**	*i*P	**Pn**	**04 38 38.4**	**+0.6**
FUL				*e*S	**Sb**	**04 38 43.1**	**+0.9**
FUL				A	A	04 38 44.1	
	2µm,0.2s						
FUL	**Funchal**	**0.46**	**290**	P	**Pn**	**04 38 38.4**	**+0.6**
FUL				S	**Sb**	**04 38 43.1**	**+0.9**
	910nm,0.2s						
FUL	**Funchal**	**0.46**	**290** ⇑	*i*P	**Pn**	**04 38 38.4**	**+0.6**
FUL				S	**Sb**	**04 38 43.1**	**+0.9**
	910nm,0.2s						
PMAR	**Madeira**	**0.50**	**297** ⇑	*i*P	**Pn**	**04 38 39.1**	**+0.4**
PMAR				*e*S	**Sb**	**04 38 44.6**	**+0.8**
PMAR				A	A	04 38 49.0	
	3µm,0.4s						
PMAR	**Madeira**	**0.50**	**297**	P	**Pn**	**04 38 39.1**	**+0.4**
PMAR				S	**Sb**	**04 38 44.6**	**+0.8**
	2µm,0.4s						
PMAR	**Madeira**	**0.50**	**297** ⇑	*i*P	**Pn**	**04 38 39.1**	**+0.4**
PMAR				S	**Sb**	**04 38 44.6**	**+0.8**
	2µm,0.4s						
PMPS	**Porto Santo**	**0.56**	**4** ⇑	*i*P	**Pb**	**04 38 40.1**	**+2.9**
PMPS				*e*S	**Sb**	**04 38 46.5**	**+1.2**
PMPS				A	A	04 38 51.4	
	640nm,0.2s						
PMPS	**Porto Santo**	**0.56**	**4**	P	**Pb**	**04 38 40.1**	**+2.9**
PMPS				S	**Sb**	**04 38 46.5**	**+1.2**
	320nm,0.2s						
PMPS	**Porto Santo**	**0.56**	**4** ⇑	*i*P	**Pb**	**04 38 40.1**	**+2.9**
PMPS				S	**Sb**	**04 38 46.5**	**+1.2**
	320nm,0.2s						
PMOZ	**Porto Moniz, M**	**0.76**	**296** ⇑	*e*P	**Pn**	**04 38 42.9**	**+0.7**
PMOZ				*e*S	**Sb**	**04 38 51.3**	**+0.2**
PMOZ				A	A	04 38 54.5	
	1µm,0.4s						
PMOZ	**Porto Moniz, M**	**0.76**	**296** ⇑	P	**Pn**	**04 38 42.8**	**+0.7**
	66nm,0.2s,SNR=18						
PMOZ				S	**Sb**	**04 38 51.4**	**+0.2**
	1µm,0.5s,SNR=7.9						
PMOZ	**Porto Moniz, M**	**0.76**	**296**	P	**Pn**	**04 38 42.8**	**+0.7**
	66nm,0.2s,SNR=18						
PMOZ				S	**Sb**	**04 38 51.4**	**+0.2**
	1µm,0.5s,SNR=7.9						
EBAJ	**Bajamar**	**3.94**	**179**	P	**Pn**	**04 39 27.7**	**+1.9**
	5.6nm,0.2s,SNR=20						
EBAJ				S	**Sn**	**04 40 10.6**	**-1.5**
	11nm,0.2s						
EBAJ	**Bajamar**	**3.94**	**179**	P	**Pn**	**04 39 27.7**	**+1.9**
	5.6nm,0.2s,SNR=20						
EBAJ				S	**Sn**	**04 40 10.6**	**-1.5**
	11nm,0.2s						
EHIG	**Higuera**	**4.11**	**198**	P	**Pn**	**04 39 30.4**	**+2.2**
	76nm,0.4s,SNR=7.9						
EHIG				S	**Sn**	**04 40 14.3**	**-2.1**
	59nm,0.2s,SNR=7.9						
EHIG	**Higuera**	**4.11**	**198**	P	**Pn**	**04 39 30.4**	**+2.2**
	76nm,0.4s,SNR=7.9						
EHIG				S	**Sn**	**04 40 14.3**	**-2.1**
	59nm,0.2s,SNR=7.9						
EFAM	**Famara**	**4.16**	**143**	P	**Pn**	**04 39 31.8**	**+3.0**
	2.4nm,0.1s,SNR=7.9						
EFAM				S	**Sn**	**04 40 16.7**	**-0.7**
	3.0nm,0.2s,SNR=7.9						
EFAM	**Famara**	**4.16**	**143**	P	**Pn**	**04 39 31.8**	**+3.0**
	2.4nm,0.1s,SNR=7.9						
EFAM				S	**Sn**	**04 40 16.7**	**-0.7**
	3.0nm,0.2s,SNR=7.9						
CRAJ	**Montana Rajada**	**4.22**	**183**	P	**Pn**	**04 39 32.3**	**+2.4**
	15nm,0.2s,SNR=4.0						
CRAJ				S	**Sn**	**04 40 17.8**	**-1.6**
	36nm,0.2s,SNR=7.9						
CRAJ	**Montana Rajada**	**4.22**	**183**	P	**Pn**	**04 39 32.3**	**+2.4**
	15nm,0.2s,SNR=4.0						
CRAJ				S	**Sn**	**04 40 17.8**	**-1.6**
	36nm,0.2s,SNR=7.9						
CCAN	**Las Canadas**	**4.26**	**183**	P	**Pn**	**04 39 31.6**	**+1.1**
	2.1nm,0.2s,SNR=7.9						
CCAN				S	**Sn**	**04 40 18.2**	**-2.2**
	3.9nm,0.1s,SNR=7.9						
CCAN	**Las Canadas**	**4.26**	**183**	P	**Pn**	**04 39 31.6**	**+1.1**
	2.1nm,0.2s,SNR=7.9						
CCAN				S	**Sn**	**04 40 18.2**	**-2.2**
	3.9nm,0.1s,SNR=7.9						
CFUE	**Fuerteventura**	**4.38**	**151**	P	**Pn**	**04 39 34.8**	**+3.0**
	3.0nm,0.1s,SNR=7.9						
CFUE				S	**Sn**	**04 40 21.2**	**-1.7**
	28nm,0.1s,SNR=7.9						
CFUE	**Fuerteventura**	**4.38**	**151**	P	**Pn**	**04 39 34.8**	**+3.0**
	3.0nm,0.1s,SNR=7.9						
CFUE				S	**Sn**	**04 40 21.2**	**-1.7**
	28nm,0.1s,SNR=7.9						
EGOM	**La Gomera**	**4.38**	**190**	P	**Pn**	**04 39 32.4**	**+0.6**
	16nm,0.1s,SNR=15						
EGOM				S	**Sn**	**04 40 20.9**	**-2.0**
	31nm,0.1s,SNR=5.9						
EGOM	**La Gomera**	**4.38**	**190**	P	**Pn**	**04 39 32.4**	**+0.6**
	16nm,0.1s,SNR=15						
EGOM				S	**Sn**	**04 40 20.9**	**-2.0**
	31nm,0.1s,SNR=5.9						
EOSO	**Osorio**	**4.47**	**171**	P	**Pn**	**04 39 35.7**	**+2.6**
	1.3nm,0.1s,SNR=7.1						
EOSO				S	**Sn**	**04 40 23.5**	**-1.6**
	11nm,0.2s						
EOSO	**Osorio**	**4.47**	**171**	P	**Pn**	**04 39 35.7**	**+2.6**
	1.3nm,0.1s,SNR=7.1						
EOSO				S	**Sn**	**04 40 23.5**	**-1.6**
	11nm,0.2s						
CFTV	**Fuerteventura**	**4.53**	**153**	P	**Pn**	**04 39 36.4**	**+2.5**
	1.2nm,0.1s,SNR=7.9						
CFTV				S	**Sn**	**04 40 23.8**	**-2.8**
	1.5nm,0.1s,SNR=7.9						
CFTV	**Fuerteventura**	**4.53**	**153**	P	**Pn**	**04 39 36.4**	**+2.5**
	1.2nm,0.1s,SNR=7.9						
CFTV				S	**Sn**	**04 40 23.8**	**-2.8**
	1.5nm,0.1s,SNR=7.9						
CTIG	**El Hierro**	**4.88**	**196**	P	**Pn**	**04 39 39.6**	**+1.0**
	10nm,0.1s,SNR=7.9						
CTIG				S	**Sn**	**04 40 32.3**	**-2.9**
	18nm,0.1s,SNR=7.9						
CTIG	**El Hierro**	**4.88**	**196**	P	**Pn**	**04 39 39.6**	**+1.0**
	10nm,0.1s,SNR=7.9						
CTIG				S	**Sn**	**04 40 32.3**	**-2.9**
	18nm,0.1s,SNR=7.9						
CTAN	**El Hierro**	**4.94**	**197**	P	**Pn**	**04 39 40.4**	**+0.9**
	25nm,0.2s,SNR=7.9						
CTAN				S	**Sn**	**04 40 33.5**	**-3.3**
	27nm,0.3s,SNR=7.9						
CCUM	**Cumbre, El Hie**	**4.94**	**197**	P	**Pn**	**04 39 40.3**	**+0.7**
	12nm,0

	1.3nm,0.3s,SNR=7.9							
EMIN				S		Sn	04 42 23.9	-5.9
	1.3nm,0.4s,SNR=7.9							
EMIN	**Mina Concepcio**	**9.53**	**54**	P		**Pn**	**04 40 45.1**	**+2.5**
	1.3nm,0.3s,SNR=7.9							
EMIN				S		**Sn**	**04 42 23.9**	**-5.9**
	1.3nm,0.4s,SNR=7.9							
PESTR	**Estremoz**	**9.57**	**46**	*e*Sn		**Sn**	**04 42 25.8**	**-4.8**
ESPR	**Espera**	**9.70**	**60**	P		**Pn**	**04 40 46.6**	**+1.7**
	1.3nm,0.2s,SNR=7.9							
ESPR				S		**Sn**	**04 42 28.3**	**-5.7**
	3.0nm,0.3s,SNR=7.9							
ESPR	**Espera**	**9.70**	**60**	P		**Pn**	**04 40 46.6**	**+1.7**
	1.3nm,0.2s,SNR=7.9							
ESPR				S		**Sn**	**04 42 28.3**	**-5.7**
	3.0nm,0.3s,SNR=7.9							
EBAD	**Badajoz**	**9.86**	**48**	P		**Pn**	**04 40 49.3**	**+2.3**
	0.5nm,0.1s,SNR=7.9							
EBAD				S		Sn	04 42 31.1	-6.6
	2.9nm,0.2s,SNR=7.9							
EBAD	**Badajoz**	**9.86**	**48**	P		**Pn**	**04 40 49.3**	**+2.3**
	0.5nm,0.1s,SNR=7.9							
EBAD				S		Sn	04 42 31.1	-6.6
	2.9nm,0.2s,SNR=7.9							
PCAS	**Casmilo, Conde**	**9.87**	**38**	*e*Pn		**Pn**	**04 40 49.0**	**+1.9**
PCAS	**Casmilo, Conde**	**9.87**	**38**	*e*Pn		**Pn**	**04 40 49.0**	**+1.9**
PMRV	**Marv??o**	**10.04**	**44**	*e*Pn		**Pn**	**04 40 52.6**	**+3.0**
PMRV				*e*Sn		Sn	04 42 33.7	-8.7
PMRV				A		A	04 42 44.5	
	2.2nm,0.8s							
PMRV	**Marv??o**	**10.04**	**44**	P		**Pn**	**04 40 52.6**	**+3.0**
PMRV	**Marv??o**	**10.04**	**44**	P		**Pn**	**04 40 52.6**	**+3.0**
PCBR	**Castelo Branco**	**10.27**	**42**	*e*Pn		**Pn**	**04 40 55.4**	**+2.7**
PCBR	**Castelo Branco**	**10.27**	**42**	P		**Pn**	**04 40 55.4**	**+2.7**
PCBR	**Castelo Branco**	**10.27**	**42**	P		**Pn**	**04 40 55.4**	**+2.7**
EMIJ	**Mijas**	**10.40**	**64**	P		**Pn**	**04 40 56.9**	**+2.4**
	2.1nm,2.3s,SNR=7.9							
EMIJ				S		Sn	04 42 45.2	-5.9
	22nm,0.8s,SNR=4.0							
EMIJ	**Mijas**	**10.40**	**64**	P		**Pn**	**04 40 56.9**	**+2.4**
	2.1nm,2.3s,SNR=7.9							
EMIJ				S		Sn	04 42 45.2	-5.9
	22nm,0.8s,SNR=4.0							
ECAB	**El Cabril**	**10.55**	**55**	P		**Pn**	**04 40 59.1**	**+2.6**
	0.5nm,0.2s,SNR=7.9							
ECAB				S		Sn	04 42 48.0	-6.7
	0.3nm,0.1s,SNR=7.9							
ECAB	**El Cabril**	**10.55**	**55**	P		**Pn**	**04 40 59.1**	**+2.6**
	0.5nm,0.2s,SNR=7.9							
ECAB				S		Sn	04 42 48.0	-6.7
	0.3nm,0.1s,SNR=7.9							
PVIS	**Viseu**	**10.67**	**37**	*e*Pn		**Pn**	**04 41 01.2**	**+3.1**
PVIS				*e*Sn		Sn	04 42 49.9	-7.7
PVIS	**Viseu**	**10.67**	**37**	P		**Pn**	**04 41 01.2**	**+3.1**
PVIS				S		Sn	04 42 49.9	-7.7
PVIS	**Viseu**	**10.67**	**37**	P		**Pn**	**04 41 01.2**	**+3.1**
PVIS				S		Sn	04 42 49.9	-7.7
EADA	**Adamuz**	**11.18**	**56**	P		**Pn**	**04 41 07.8**	**+2.7**
	0.5nm,0.1s,SNR=7.9							
EADA				S		Sn	04 43 03.1	-7.1
	0.3nm,0.2s,SNR=7.9							
EADA	**Adamuz**	**11.18**	**56**	P		**Pn**	**04 41 07.8**	**+2.7**
	0.5nm,0.1s,SNR=7.9							
EADA				S		Sn	04 43 03.1	-7.1
	0.3nm,0.2s,SNR=7.9							
POLO	**Lamas de Olo**	**11.21**	**35**	*e*Sn		Sn	04 43 04.4	-6.6
EPLA	**Plasencia**	**11.23**	**45**	P		**Pn**	**04 41 08.3**	**+2.5**
	0.7nm,0.2s,SNR=7.9							
EPLA				S		Sn	04 43 04.1	-7.3
	1.0nm,7.6s,SNR=7.9							
EPLA	**Plasencia**	**11.23**	**45**	P		**Pn**	**04 41 08.3**	**+2.5**
	0.7nm,0.2s,SNR=7.9							
EPLA				S		Sn	04 43 04.1	-7.3
	1.0nm,7.6s,SNR=7.9							
MVO	**Moncorvo**	**11.44**	**38**	*e*Pn		**Pn**	**04 41 11.9**	**+3.1**
MVO				*e*Sn		Sn	04 43 07.8	-8.9
MVO	**Moncorvo**	**11.44**	**38**	P		**Pn**	**04 41 10.5**	**+1.7**
	0.6nm,0.2s,SNR=4.0							
MVO				S		Sn	04 43 08.8	-7.9
	0.8nm,0.4s,SNR=7.9							
MVO	**Moncorvo**	**11.44**	**38**	P		**Pn**	**04 41 10.5**	**+1.7**
	0.6nm,0.2s,SNR=4.0							
MVO	**Moncorvo**	**11.44**	**38**	*e*Pn		**Pn**	**04 41 11.9**	**+3.1**
MVO				S		Sn	04 43 08.8	-7.9
	0.8nm,0.4s,SNR=7.9							
PGAV	**Gavieira, Arco**	**11.45**	**32**	*e*Pn		**Pn**	**04 41 12.5**	**+3.6**
PGAV				*e*Sn		Sn	04 43 08.0	-8.8
PGAV	**Gavieira, Arco**	**11.45**	**32**	*e*Pn		**Pn**	**04 41 12.5**	**+3.6**
ELOB	**Lobios**	**11.46**	**33**	P		**Pn**	**04 41 10.7**	**+1.6**
	0.3nm,0.1s,SNR=7.9							
ELOB				S		Sn	04 43 09.2	-8.0
	0.9nm,0.4s,SNR=7.9							
ELOB	**Lobios**	**11.46**	**33**	P		**Pn**	**04 41 10.7**	**+1.6**
	0.3nm,0.1s,SNR=7.9							
ELOB				S		Sn	04 43 09.2	-8.0
	0.9nm,0.4s,SNR=7.9							
EQUE	**Quentar**	**11.62**	**63**	P		**Pn**	**04 41 14.2**	**+2.9**
	1.1nm,3.8s,SNR=7.9							
EQUE				S		Sn	04 43 14.5	-6.7
	0.9nm,3.6s,SNR=7.9							
EQUE	**Quentar**	**11.62**	**63**	P		**Pn**	**04 41 14.2**	**+2.9**
	1.1nm,3.8s,SNR=7.9							
EQUE				S		Sn	04 43 14.5	-6.7
	0.9nm,3.6s,SNR=7.9							
PAB	**San Pablo**	**12.01**	**51**	P		**Pn**	**04 41 19.2**	**+2.6**
	0.1nm,0.1s,SNR=7.9							
PAB	**San Pablo**	**12.01**	**51**	P		**Pn**	**04 41 19.2**	**+2.6**
	0.1nm,0.1s,SNR=7.9							
PBRG	**Braganca**	**12.06**	**37**	*e*Pn		**Pn**	**04 41 17.2**	**+0.1**
EQES	**Quesada**	**12.11**	**60**	S		Sn	04 43 25.7	-7.5
	0.4nm,0.2s,SNR=7.9							
EQES	**Quesada**	**12.11**	**60**	S		Sn	04 43 25.7	-7.5
	0.4nm,0.2s,SNR=7.9							
ECAL	**Calabor**	**12.16**	**36**	P		**Pn**	**04 41 21.0**	**+2.5**
	3.2nm,1.6s,SNR=7.9							
ECAL	**Calabor**	**12.16**	**36**	P		**Pn**	**04 41 21.0**	**+2.5**
	3.2nm,1.6s,SNR=7.9							
EAGO	**Agolada(Pontev**	**12.20**	**30**	P		**Pn**	**04 41 21.5**	**+2.4**
	4.0nm,3.8s,SNR=7.9							
EAGO	**Agolada(Pontev**	**12.20**	**30**	P		**Pn**	**04 41 21.5**	**+2.4**
	4.0nm,3.8s,SNR=7.9							
ESDC	**Sonseca Array**	**12.33**	**51**	P		**Pn**	**04 41 23.0**	**+2.1**
	0.9nm,0.2s,baz=244,slow=13,SNR=5.7							
ESDC	**Sonseca Array**	**12.33**	**51**	P		**Pn**	**04 41 23.0**	**+2.1**
	0.9nm,0.2s,SNR=5.7							

ISK ***24*** *04:45:42.9, 39.°04N×29.°20E, h5km, ML2.0/4*
DDA ***24*** *04:45:43.6, 39.°15N×29.°16E, h7km, Ml2.5*
CSEM ***24*** *04:45:44.1±0.3, 39.°09N×29.°14E, h2km, ML2.0, Error ellipse: s-maj=8.6km s-min=6.0km az=128.0*

ISC 24 04:45:43.2±1.1, 39.°08N±0.°04×29.°15E±0.°04, h15km±8km, n20, σ0s98/24, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIMA	**Simav-Kutahya**	**0.13**	**272**	PG	**Pg**	**04 45 47.0**	**0.0**
SIMA	**Simav-Kutahya**	**0.13**	**272**	*e*Pg	**Pg**	**04 45 47.0**	**0.0**
GDZ	**Gediz**	**0.26**	**88**	*i* P	**Pg**	**04 45 49.1**	**+0.2**
GDZ	**Gediz**	**0.26**	**88**	P	**Pg**	**04 45 49.1**	**+0.2**
TVSB	**Tavsanli**	**0.44**	**33**	PG	**Pg**	**04 45 52.3**	**+0.2**
TVSB	**Tavsanli**	**0.44**	**33**	*e*Pg	**Pg**	**04 45 52.3**	**+0.2**
KULA	**Kula-Manisa**	**0.68**	**214**	PG	**Pb**	**04 45 57.1**	**+0.3**
KULA				SG	**Sb**	**04 46 07.3**	**+1.2**
KULA	**Kula-Manisa**	**0.68**	**214**	*e*Pg	**Pb**	**04 45 57.1**	**+0.3**
KULA				*e*Sg	**Sb**	**04 46 07.3**	**+1.2**
DURS	**Dursunbey**	**0.74**	**315**	*i* P	**Pb**	**04 45 58.3**	**+0.5**
DURS	**Dursunbey**	**0.74**	**315**	P	**Pb**	**04 45 58.3**	**+0.5**
MANT	**Manisa**	**0.75**	**218**	*i* P	**Pn**	**04 45 59.0**	**-0.4**
MANT	**Manisa**	**0.75**	**218**	P	**Pn**	**04 45 59.0**	**-0.4**
STEP	**BALIKESIR_Sava**	**1.15**	**285**	*i* P	**Pg**	**04 46 06.3**	**+0.9**
STEP	**BALIKESIR_Sava**	**1.15**	**285**	P	**Pg**	**04 46 06.3**	**+0.9**
BALY	**Balya**	**1.36**	**300**	*i* P	**Pb**	**04 46 08.0**	**-0.3**
BALY				*i* S	**Sn**	**04 46 23.2**	**-2.1**
BALY	**Balya**	**1.36**	**300**	P	**Pb**	**04 46 08.0**	**-0.3**
BALY				S	**Sn**	**04 46 23.2**	**-2.1**
YLV	**Yalova**	**1.50**	**6**	PN	**Pg**	**04 46 12.6**	**+0.7**
YLV	**Yalova**	**1.50**	**6**	*e*Pn	**Pg**	**04 46 12.6**	**+0.7**
ARMT	**Armutlu**	**1.50**	**352**	PN	**Pg**	**04 46 13.3**	**+1.2**
ARMT	**Armutlu**	**1.50**	**352**	*e*Pn	**Pg**	**04 46 13.3**	**+1.2**

ISCJB ***24*** *04:57:54.1±0.6, 22.°2S±0.°1×179.°6W±0.°1, h592km, mb3.6/13, Error ellipse: s-maj=17.5km s-min=12.1km az=147.1*
IDC ***24*** *04:57:55.8±2.5, 22.°11S×179.°64W, h595km±28km, mb3.2/13, mb1 3.4/14, mb1mx3.2/46, mbtmp4.1/14, Error ellipse: s-maj=17.6km s-min=14.4km az=157.0*

ISC 24 04:57:55.2±0.6, 22.°2S±0.°1×179.°6W±0.°1, h592km, n30, σ0s94/30, mb3.8/12, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**12.97**	**268**	P	**P**	**05 00 44.9**	**+1.0**
	0.8nm,0.3s,baz=117,slow=20,SNR=6.8						
URZ	**Urewera**	**16.25**	**189**	P	**P**	**05 01 12.4**	**-2.5**
	2.5nm,0.3s,baz=198,slow=22,SNR=7.2						
CTA	**Charters Tower**	**31.91**	**267**	P	**P**	**05 03 33.6**	**-0.2**
	1.9nm,0.3s,baz=90,slow=8.1,SNR=4.0						
STKA	**Stephens Creek**	**35.75**	**246**	P	**P**	**05 04 05.5**	**-0.2**
	1.2nm,0.4s,baz=96,slow=14,SNR=4.7						
ASAR	**Alice Springs**	**42.73**	**259**	P	**P**	**05 05 01.6**	**-0.2**
	2.6nm,0.8s,baz=94,slow=8.3,SNR=24						
ASAR				PcP	**PcP**	**05 06 39.8**	**+0.1**
	0.3nm,0.7s,baz=112,slow=3.6,SNR=6.6						
ASAR				S	**S**	**05 10 43.6**	**-0.3**
	0.5nm,0.8s,baz=95,slow=15,SNR=4.2						
WRA	**Warramunga Arr**	**42.95**	**264**	P	**P**	**05 05 02.8**	**-0.8**
	1.0nm,0.4s,baz=96,slow=7.9,SNR=26						
VNDA	**Vanda**	**56.09**	**185**	P	**P**	**05 06 40.2**	**+1.4**
	0.4nm,0.7s,baz=346,slow=7.0,SNR=3.9						
QSPA	**South Pole Qui**	**67.86**	**180**	P	**P**	**05 07 56.0**	**+0.7**
	1.6nm,0.5s,baz=196,slow=0.9,SNR=5.3						
PETK	**Petropavlovsk-**	**77.56**	**346**	P	**P**	**05 08 50.2**	**-0.5**
	2.8nm,0.7s,baz=99,slow=7.7,SNR=3.8						
NVAR	**Mina Array Bea**	**83.26**	**44**	P	**P**	**05 09 21.8**	**+0.9**
	1.6nm,0.9s,baz=233,slow=8.4,SNR=8.3						
TXAR	**Lajitas Array**	**89.20**	**58**	P	**P**	**05 09 50.0**	**+0.9**
	1.0nm,0.8s,baz=219,slow=5.6,SNR=10						
CMAR	**Chiang Mai Arr**	**89.32**	**290**	P	**P**	**05 09 51.0**	**+1.2**
	0.6nm,0.3s,baz=97,slow=5.8,SNR=5.0						
ILAR	**Eielson Array**	**90.30**	**13**	P	**P**	**05 09 51.8**	**-1.6**
	0.3nm,0.6s,baz=227,slow=3.8,SNR=5.5						
PDAR	**Pinedale Array**	**91.20**	**44**	P	**P**	**05 09 58.0**	**-0.3**
	0.3nm,0.6s,baz=248,slow=4.0,SNR=5.5						
YKA	**Yellowknife Ar**	**98.67**	**25**	P	Pdif	05 10 30.5	-0.8
	0.2nm,0.8s,baz=241,slow=4.9,SNR=3.1						
BVAR	**Borovoye Array**	**119.44**	**319**	PKP	**PKPdf**	**05 15 37.3**	**-0.7**
	1.2nm,0.4s,baz=130,slow=3.7,SNR=8.1						
ARCES	**ARCESS Array B**	**130.32**	**349**	PKP	**PKPdf**	**05 15 58.1**	**-0.2**
	2.2nm,0.8s,baz=52,slow=2.2,SNR=8.7						
FINES	**FINESS Array B**	**136.98**	**342**	PKP	**PKPdf**	**05 16 11.9**	**+1.0**
	0.7nm,0.5s,baz=93,slow=3.8,SNR=5.1						
HFS	**Hagfors**	**140.97**	**349**	PKhKP	PKPpre	05 16 12.4	
	1.8nm,0.4s,baz=113,slow=3.3,SNR=13						
AKASG	**Malin Array Be**	**143.76**	**329**	PKP	PKPbc	05 16 22.0	-0.7
	2.0nm,0.4s,baz=43,slow=3.9,SNR=19						
EKA	**Eskdalemuir Ar**	**146.82**	**4**	PKPbc	**PKPbc**	**05 16 30.9**	**-0.6**
	0.6nm,0.4s,baz=15,slow=2.9,SNR=7.2						
BRTR	**Keskin Array B**	**146.85**	**309**	PKPbc	**PKPbc**	**05 16 31.9**	**-0.3**
	1.5nm,0.7s,baz=143,slow=4.8,SNR=9.2						
MMAI	**Mount Meron Ar**	**147.34**	**297**	PKPbc	**PKPbc**	**05 16 34.6**	**+0.9**
	1.6nm,0.3s,baz=50,slow=7.7,SNR=5.6						
MLR	**Muntele Rosu**	**148.81**	**324**	PKPbc	**PKPbc**	**05 16 35.6**	**-1.4**
	0.2nm,0.3s,baz=108,slow=18,SNR=4.0						
DPC	**Dobruska-Polom**	**149.27**	**340**	*e*P	**PKPbc**	**05 16 38.6**	**+0.8**
BRG	**Berggiesshubel**	**149.51**	**343**	*i* PKP	**PKPbc**	**05 16 38.7**	**+0.4**
	6.9nm,0.5s						
PVCC	**Panska Ves**	**149.64**	**342**	*e*P	**PKPbc**	**05 16 39.4**	**+0.8**
GOPC	**GO Pecny, Ondr**	**150.13**	**341**	*e*P	**PKPbc**	**05 16 40.2**	**+0.4**
GERES	**GERESS Array B**	**151.40**	**342**	PKPbc	**PKPbc**	**05 16 43.0**	**+0.1**
	0.7nm,0.3s,baz=52,slow=2.2,SNR=5.7						
TORD	**Torodi Ar. Bea**	**170.91**	**188**	PKP	**PKPdf**	**05 16 56.0**	**-1.1**
	0.6nm,0.9s,baz=274,slow=2.2,SNR=3.4						
TORD				PKPab	**PKPab**	**05 18 19.4**	**-0.4**
	0.4nm,0.7s,baz=171,slow=4.8,SNR=3.5						

NEIC ***24*** *05:03:52.7±0.0, 15.°87N×98.°20W, h7km, MD4.1(MEX), After MEX.*

MEX 24 05:03:52.7±0.9, 15.°87N×98.°20W, h7km±8km, MD4.1, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.52**	**7**	*i* P	Pg	05 04 02.7	-0.1
PNIG				*e*S	Sg	05 04 09.9	+0.2
PNIG	**Pinotepa**	**0.52**	**7**	*i* P	Pg	05 04 02.7	-0.1
PNIG				*e*S	Sg	05 04 09.9	+0.2
TLIG	**Tlapa**	**1.72**	**348**	*e*P	Pn	05 04 19.1	-4.2
TLIG				*e*S	Sn	05 04 41.5	-4.0
TLIG	**Tlapa**	**1.72**	**348**	*e*P	Pn	05 04 19.1	-4.2
TLIG				*e*S	Sn	05 04 41.5	-4.0
VHO	**Vista Hermosa**	**1.84**	**49**	*e*P	Pn	05 04 24.7	-0.3
VHO				*e*S	Sn	05 04 49.4	+0.6
VHO	**Vista Hermosa**	**1.84**	**49**	*e*P	Pn	05 04 24.7	-0.3
VHO				*e*S	Sn	05 04 49.4	+0.6
CAIG	**El Cayaco**	**2.31**	**301**	*e*P	Pn	05 04 28.2	-3.0
CAIG				*e*S	Sn	05 04 55.6	-4.3
CAIG	**El Cayaco**	**2.31**	**301**	*e*P	Pn	05 04 28.2	-3.0
CAIG				*e*S	Sn	05 04 55.6	-4.3

ISCJB ***24*** *05:07:18.5±0.6, 6.°2S±0.°1×154.°95E±0.°08, h56km, mb3.9/12, Error ellipse: s-maj=16.1km s-min=9.4km az=148.0*
IDC ***24*** *05:07:24.9±3.7, 6.°33S×154.°84E, h101km±32km, mb3.7/12, mb1 3.9/14, mb1mx3.7/50, mbtmp4.0/14, MS2.9/1, Ms1 2.9/1, ms1mx2.3/43, Error ellipse: s-maj=21.4km s-min=18.5km az=90.0*

ISC 24 05:07:19.9±0.7, 6.°3S±0.°1×155.°0E±0.°1, h56km, n15, σ1s36/18, mb3.9/12, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**8.40**	**248**	P	**Pn**	**05 09 20.2**	**+1.2**
	10.0nm,0.3s,baz=60,slow=8.3,SNR=17						
PMG				S	**Sn**	**05 10 53.1**	**+0.6**
	1.4nm,0.3s,baz=18,slow=20,SNR=2.6						
PMG				LR	LR	05 12 23.8	
	comp=Z,80nm,20.1s,baz=122,slow=36						
DZM	**Mont Dzumac**	**19.20**	**146**	P	**Pn**	**05 11 41.0**	**+0.2**
	0.6nm,0.3s,baz=341,slow=18,SNR=4.6						
WRA	**Warramunga Arr**	**24.27**	**234**	P	**P**	**05 12 31.9**	**-0.1**
	3.5nm,0.8s,baz=56,slow=10.0,SNR=26						
WRA				PcP	**PcP**	**05 16 10.4**	**-0.8**
	0.4nm,0.4s,baz=48,slow=2.7,SNR=5.3						
ASAR	**Alice Springs**	**26.69**	**227**	P	**P**	**05 12 53.1**	**-0.8**
	1.5nm,0.6s,baz=57,slow=8.9,SNR=21						
ASAR				PcP	**PcP**	**05 16 16.5**	**-0.1**
	0.2nm,0.6s,baz=64,slow=4.2,SNR=4.3						
PETK	**Petropavlovsk-**	**59.19**	**2**	P	**P**	**05 17 17.5**	**+2.6**
	1.8nm,0.6s,baz=178,slow=8.7,SNR=2.9						
CMAR	**Chiang Mai Arr**	**60.51**	**295**	P	**P**	**05 17 24.7**	**0.0**
	3.4nm,0.7s,baz=122,slow=5.2,SNR=17						
SONM	**Songino Array**	**68.75**	**327**	P	**P**	**05 18 17.9**	**-0.1**
	0.3nm,0.4s,baz=134,slow=6.2,SNR=3.3						
ILAR	**Eielson Array**	**82.68**	**22**	P	**P**	**05 19 36.8**	**-0.4**
	0.3nm,0.6s,baz=235,slow=5.5,SNR=5.3						
MKAR	**Makanchi Array**	**82.88**	**319**	P	**P**	**05 19 37.9**	**-0.7**
	0.9nm,0.6s,baz=96,slow=6.0,SNR=9.1						
QSPA	**South Pole Qui**	**83.71**	**180**	P	**P**	**05 19 42.7**	**+0.1**
	2.0nm,0.6s,baz=342,slow=0.7,SNR=9.6						
KURBB	**Kurchatov Arra**	**86.32**	**322**	P	**P**	**05 19 53.9**	**-1.8**
	0.3nm,0.5s,baz=102,slow=4.7,SNR=4.8						
NVAR	**Mina Array Bea**	**91.24**	**52**	P	**P**	**05 20 21.5**	**+1.8**
	0.4nm,0.7s,baz=251,slow=8.1,SNR=4.0						
BVAR	**Borovoye Array**	**91.74**	**323**	P	**P**	**05 20 19.2**	**-2.2**
	0.4nm,0.5s,baz=98,slow=6.4,SNR=3.8						
YKA	**Yellowknife Ar**	**95.67**	**28**	P	**P**	**05 20 38.8**	**-0.4**
	0.1nm,0.6s,baz=265,slow=4.7,SNR=5.5						
TORD	**Torodi Ar. Bea**	**152.86**	**287**	PKPbc	**PKPbc**	**05 27 09.4**	**-2.4**
	0.5nm,0.7s,baz=80,slow=2.5,SNR=3.8						

IDC 24 05:10:08.3±6.7, 20.°26S×177.°61W, h0km, mb3.6/2, mb1 3.8/2, mb1mx3.4/42, mbtmp3.6/2, Error ellipse: s-maj=296.4km s-min=104.3km az=155.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**44.93**	**256**	P	P	05 18 25.1	-0.3
	0.3nm,0.5s,baz=102,slow=8.4,SNR=4.9						
WRA	**Warramunga Arr**	**45.00**	**262**	P	P	05 18 25.9	0.0
	0.7nm,0.6s,baz=96,slow=8.5,SNR=15						
AKASG	**Malin Array Be**	**142.98**	**332**	PKP	PKPdf	05 29 43.2	-0.7
	0.5nm,0.5s,baz=49,slow=4.5,SNR=4.4						

ISCJB ***24*** *05:13:48.7±0.5, 22.°41S±0.°05×179.°6W±0.°1, h579km, mb4.0/13, Error ellipse: s-maj=13.9km s-min=6.2km az=174.7*
IDC ***24*** *05:13:48.3±2.5, 22.°27S×179.°60W, h561km, 27km, mb3.5/13, mb1 3.7/15, mb1mx3.4/43, mbtmp4.5/15, Error ellipse: s-maj=19.9km s-min=13.7km az=59.0*
WEL ***24*** *05:13:55.6±1.2, 23.°S±12.°×17.°9W±3.°6, h590km±15km*

ISC 24 05:13:49.3±0.7, 22.°49S±0.°08×179.°5W±0.°1, h579km, n58, σ1s79/57, mb3.9/13, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RIZ	**Raoul Island**	**6.88**	**168**	P	**P**	**05 15 33.9**	**-3.2**
GLKZ	**Green Lake**	**6.89**	**168**	P	**P**	**05 15 38.1**	**+0.8**
DZM	**Mont Dzumac**	**12.99**	**269**	P	**P**	**05 16 38.3**	**+0.1**
	2.0nm,0.3s,baz=124,slow=17,SNR=14						
OUZ	**Omahuta**	**14.03**	**204**	P	**P**	**05 16 50.7**	**+2.2**
WCZ	**Waipu Caves**	**14.42**	**200**	P	**P**	**05 16 54.0**	**+1.7**
MKAZ	**Moumakai**	**15.27**	**196**	P	**P**	**05 17 03.2**	**+2.8**
HAZ	**Te Kaha**	**15.39**	**188**	P	**P**	**05 17 03.2**	**+1.7**
HAZ	**Te Kaha**	**15.39**	**188**	S	**S**	**05 19 35.8**	**-3.0**
RUGZ	**Raukumara Rang**	**15.61**	**188**	P	**P**	**05 17 04.0**	**+0.1**
TWGZ	**Tauwhareparae**	**15.78**	**187**	P	**P**	**05 17 07.3**	**+2.0**
TWGZ	**Tauwhareparae**	**15.78**	**187**	S	**S**	**05 19 44.4**	**-1.0**
URZ	**Urewera**	**15.98**	**190**	P	**P**	**05 17 06.6**	**-0.5**
	2.4nm,0.3s,baz=15,slow=3.5,SNR=14						
URZ	**Urewera**	**15.98**	**190**	P	**P**	**05 17 05.7**	**-1.4**
URZ	**Urewera**	**15.98**	**190**	S	**S**	**05 19 44.5**	**-4.0**
MWZ	**Matawai**	**15.99**	**188**	P	**P**	**05 17 07.3**	**0.0**
MWZ	**Matawai**	**15.99**	**188**	S	**S**	**05 19 45.5**	**-3.3**
MUGZ	**Murupara**	**16.25**	**190**	P	**P**	**05 17 09.7**	**0.0**
MTHZ	**Maungataniwha**	**16.60**	**190**	P	**P**	**05 17 14.1**	**+1.2**
MTHZ	**Maungataniwha**	**16.60**	**190**	S	**S**	**05 19 54.6**	**-4.2**
KNZ	**Kokohu**	**16.65**	**188**	P	**P**	**05 17 08.6**	**-4.6**
NMHZ	**Naumai**	**16.84**	**190**	P	**P**	**05 17 15.4**	**+0.2**
BKZ	**Black Stump Fm**	**16.96**	**191**	P	**P**	**05 17 15.5**	**-0.7**
BKZ	**Black Stump Fm**	**16.96**	**191**	S	S	05 19 53.2	-12
KRVZ	**Karewarewa**	**17.05**	**193**	P	P	05 17 08.9	-8.2
TWVZ	**Taurewa**	**17.07**	**193**	P	**P**	**05 17 18.9**	**+1.6**
NGZ	**Ngauruhoe**	**17.14**	**193**	P	**P**	**05 17 19.7**	**+1.8**
TUVZ	**Tukino**	**17.22**	**193**	P	**P**	**05 17 18.9**	**+0.2**
FWVZ	**Far West T-bar**	**17.23**	**193**	P	**P**	**05 17 19.1**	**+0.2**
KWHZ	**Kaweka Forest**	**17.23**	**191**	P	**P**	**05 17 19.0**	**+0.4**
KWHZ	**Kaweka Forest**	**17.23**	**191**	S	**S**	**05 20 09.1**	**+0.1**
TRVZ	**Turoa**	**17.27**	**193**	P	**P**	**05 17 19.9**	**+0.7**
VRZ	**Vera Road**	**17.28**	**195**	P	**P**	**05 17 23.0**	**+4.0**
MOVZ	**Moawhango**	**17.33**	**192**	P	**P**	**05 17 21.0**	**+1.4**
BHHZ	**Black Hill Sta**	**17.35**	**191**	P	**P**	**05 17 18.8**	**-1.0**
KRHZ	**Kereru**	**17.45**	**191**	P	**P**	**05 17 21.0**	**+0.4**
KAHZ	**Kahuranaki**	**17.52**	**189**	P	**P**	**05 17 22.5**	**+1.3**
KAHZ	**Kahuranaki**	**17.52**	**189**	S	**S**	**05 20 12.1**	**-1.6**
PNHZ	**Pukenui**	**17.74**	**191**	P	**P**	**05 17 23.7**	**+0.4**
TSZ	**Takapari Road**	**17.93**	**191**	P	**P**	**05 17 24.0**	**-0.9**
PMG	**Port Moresby**	**34.47**	**287**	P	**P**	**05 19 49.3**	**-0.9**
	25nm,0.8s,baz=

*SJA **24** 05:58:27.5±0.7, 32°.94S×71°.82W, h59km±10km, ML3.1, MW3.5*
*GUC **24** 05:58:29.5±0.4, 32°.58S×71°.38W, h34km±2km, ML3.4*
ISC 24 05:58:29.6±3.6, 32.73S±0'.04×71.6W±0'.1, h9km±17km, n12, σ1s61/21, 2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ROCH	**El Roble**	**0.52**	**118**	‖	*eP*		**Pb**	**05 58 41.2**	**+0.1**
ROCH					*eS*		**Sg**	**05 58 49.8**	**+3.1**
ROCH					IAML			05 58 50.7	
	comp=E,5μm,0.6s								
PEL	**Peldehue**	**0.84**	**120**		*eP*		**Pb**	**05 58 45.3**	**-1.2**
PEL					*eS*		**Sb**	**05 58 57.4**	**-0.5**
ANTU	**Antumapu**	**1.14**	**138**		*eP*		**Pn**	**05 58 50.9**	**-0.9**
ANTU					*eS*		**Sb**	**05 59 07.0**	**+0.4**
ANTU					IAML			05 59 10.0	
	comp=N,1μm,0.4s								
FCH	**Farellones**	**1.22**	**120**	‖	*eP*		**Pn**	**05 58 51.8**	**-1.4**
FCH					*eS*		**Sb**	**05 59 08.8**	**-0.2**
FCH					IAML			05 59 10.4	
	comp=N,1μm,0.2s								
LMEL	**Las Melosas**	**1.59**	**135**		*eP*		**Pn**	**05 58 57.8**	**-0.4**
LMEL					*eS*		**Sb**	**05 59 19.5**	**-0.1**
LMEL					IAML			05 59 22.0	
	comp=N,873nm,0.3s								
AUSP	**Uspallata**	**1.90**	**75**		*eP*		**Pb**	**05 59 03.8**	**-0.8**
AUSP					*eS*		**Sg**	**05 59 30.5**	**-0.2**
RTLS	**Leoncito**	**2.13**	**65**		*eP*		**Pb**	**05 59 07.1**	**-1.4**
RTLS					IAML			05 59 18.1	
	comp=Z,97nm,0.5s								
RTLS					*eS*		**Sg**	**05 59 36.8**	**-1.2**
RTCV	**Cerro Valdivia**	**2.70**	**72**		*eP*		**Pb**	**05 59 15.2**	**-2.8**
AROD	**Rodeo**	**3.11**	**35**		*eP*		**Pn**	**05 59 20.4**	**+1.2**
AROD					*eS*		**Sb**	**06 00 01.5**	**-1.9**
AMOG	**MOGNA**	**3.16**	**56**		*eP*		**Pn**	**05 59 21.4**	**+1.8**
AGUA	**GUANDACOL**	**4.16**	**40**		*eP*		**Pn**	**05 59 35.3**	**+1.9**
APLL	**PUNTA DE LOS L**	**4.88**	**63**		*eP*		**Pn**	**05 59 44.2**	**+1.0**
APLL					IAML			05 59 47.6	
	comp=Z,11nm,0.3s								
APLL					*eS*		**Sn**	**06 00 42.1**	**+2.2**

KRSC 24 05:59:32.8±2.6, 49°.31N×156°.16E, h17km±30km, ML3.6, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.38**	**359**		*eS*		Sb	06 00 15.6	+0.3
KDTR	**Khodutka, Kamc**	**2.79**	**25**		*eP*		Pn	06 00 18.1	+1.5
KDTR					*eS*		Sn	06 00 51.0	+1.3
MIPR	**Malaya Ipel'ka**	**3.00**	**7**		*eP*		Pn	06 00 22.0	+2.5
ASAK	**Asacha**	**3.27**	**19**		*eP*		Pb	06 00 27.1	-3.3
RUS	**Russkaya**	**3.46**	**25**		*eP*		Pn	06 00 28.9	+3.0
RUS					*eS*		Sn	06 01 09.2	+2.7
UGLR	**Uglovaya**	**4.25**	**22**		*eP*		Pb	06 00 42.1	-4.9
AVH	**Avacha**	**4.28**	**21**		*eP*		Pn	06 00 41.7	+4.5
SMAR	**Somma**	**4.29**	**22**		P		Pn	06 00 42.2	+4.7
KRER	**Koryakskii**	**4.32**	**21**		*eP*		Pn	06 00 42.7	+4.9
SDLR	**Sedlovina**	**4.33**	**22**		P		Pn	06 00 41.2	+3.3
SPN	**Mys Shipunski**	**4.50**	**31**		S		Sb	06 01 39.0	-6.3
GNL	**Ganaly**	**4.53**	**14**		*eP*		Pn	06 00 44.6	+3.9

*ATA **24** 06:10:26.8±1.7, 38°.71N×43°.36E, h7km±63km, ML3.0, MW3.0*
*ISK **24** 06:10:27.9, 38°.68N×43°.12E, h18km, ML2.6/5*
*CSEM **24** 06:10:28.9±0.2, 38°.67N×43°.21E, h20km, ML2.6, Error ellipse: s-maj=5.8km s-min=5.2km az=121.0*
*ISCJB **24** 06:10:29.6±0.5, 38°.66N±0'.03×43°.20E±0'.04, h22km±6km, Error ellipse: s-maj=5.7km s-min=4.6km az=13.6*
*DDA **24** 06:10:29.1, 38°.72N×43°.21E, h7km, Ml2.9*
ISC 24 06:10:29.0±0.9, 38°.69N±0'.02×43°.21E±0'.02, h19km±2km, n34, σ1s13/58, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.17**	**125**		PG		**Pg**	**06 10 34.6**	**+0.9**
VANB					SG		**Sg**	**06 10 38.9**	**+2.0**
VANB	**Van**	**0.17**	**125**		*e*Pg		**Pg**	**06 10 34.6**	**+0.9**
VANB					*e*Sg		**Sg**	**06 10 38.9**	**+2.0**
TVAN	**Van**	**0.23**	**137**		*i* P		**Pb**	**06 10 34.4**	**+0.1**
TVAN					*i* S		**Sg**	**06 10 38.9**	**+0.5**
TVAN	**Van**	**0.23**	**137**		P		**Pb**	**06 10 34.4**	**+0.1**
TVAN					S		**Sg**	**06 10 38.9**	**+0.5**
ADCV	**BITLIS_Adilcev**	**0.40**	**287**		*i* P		**Pg**	**06 10 37.2**	**-0.1**
ADCV					*i* S		**Sb**	**06 10 43.9**	**+0.4**
ADCV	**BITLIS_Adilcev**	**0.40**	**287**		P		**Pg**	**06 10 37.2**	**-0.1**
ADCV					S		**Sb**	**06 10 43.8**	**+0.4**
GEVA	**Gevas**	**0.40**	**197**		*e*P		**Pg**	**06 10 36.6**	**-0.8**
GEVA					*e*S		**Sg**	**06 10 43.1**	**+0.1**
GEVA					IAML			06 10 47.9	
	comp=Z,101nm,0.3s								
GEVA	**Gevas**	**0.40**	**197**		*i* P		**Pg**	**06 10 36.8**	**-0.6**
GEVA					*i* S		**Sb**	**06 10 43.7**	**+0.2**
GEVA	**Gevas**	**0.40**	**197**		P		**Pg**	**06 10 36.8**	**-0.6**
GEVA					S		**Sb**	**06 10 43.7**	**+0.2**
VMUR	**Van-Muradiye**	**0.41**	**44**		*i* P		**Pb**	**06 10 37.9**	**+0.1**
VMUR					*i* S		**Sn**	**06 10 45.4**	**-1.9**
VMUR	**Van-Muradiye**	**0.41**	**44**		P		**Pb**	**06 10 37.9**	**+0.1**
VMUR					S		**Sn**	**06 10 45.4**	**-1.9**
CLDR	**Caldiran**	**0.71**	**51**		PG		**Pn**	**06 10 43.8**	**-0.5**
CLDR	**Caldiran**	**0.71**	**51**		*i* P		**Pb**	**06 10 42.1**	**-0.8**
CLDR					*i* S		**Sg**	**06 10 53.1**	**+0.5**
CLDR	**Caldiran**	**0.71**	**51**		P		**Pb**	**06 10 42.1**	**-0.8**
CLDR	**Caldiran**	**0.71**	**51**		*e*Pg		**Pn**	**06 10 43.8**	**-0.5**
CLDR					S		**Sg**	**06 10 53.1**	**+0.5**
TUTA	**Tutak**	**0.77**	**337**		*e*P		**Pb**	**06 10 43.6**	**-0.4**
TUTA					*e*S		**Sg**	**06 10 54.7**	**+0.2**
TUTA					IAML			06 10 57.4	
	comp=Z,97nm,0.2s								
TUTA	**Tutak**	**0.77**	**337**		*i* P		**Pb**	**06 10 43.6**	**-0.4**
TUTA					*i* S		**Sb**	**06 10 53.9**	**-0.4**
TUTA	**Tutak**	**0.77**	**337**		P		**Pb**	**06 10 43.6**	**-0.4**
TUTA					S		**Sb**	**06 10 53.8**	**-0.4**
AGRB	**Hanur-Agry**	**0.90**	**349**		PG		**Pb**	**06 10 45.7**	**-0.4**
AGRB					SG		**Sn**	**06 10 58.7**	**-0.7**
AGRB	**Hanur-Agry**	**0.90**	**349**		*e*Pg		**Pb**	**06 10 45.7**	**-0.4**
AGRB					*e*Sg		**Sn**	**06 10 58.7**	**-0.7**
GURO	**Guroymak-BITLI**	**0.93**	**262**		PG		**Pb**	**06 10 45.3**	**-1.3**
GURO	**Guroymak-BITLI**	**0.93**	**262**		*e*Pg		**Pb**	**06 10 45.3**	**-1.3**
EKAR	**Karacoban**	**1.05**	**303**		*e*P		**Pg**	**06 10 49.2**	**-0.3**
EKAR					*e*S		**Sn**	**06 11 07.6**	**+4.3**
EKAR					IAML			06 11 16.9	
	comp=Z,18nm,0.8s								
EKAR	**Karacoban**	**1.05**	**303**		*i* P		**Pg**	**06 10 50.7**	**+1.2**
EKAR					*i* S		**Sn**	**06 11 07.2**	**+3.8**
EKAR	**Karacoban**	**1.05**	**303**		P		**Pg**	**06 10 50.7**	**+1.2**
SRTM	**Siirt_Merkez**	**1.23**	**236**		*i* P		**Pg**	**06 10 52.4**	**-0.4**
SRTM					*i* S		**Sg**	**06 11 10.4**	**+1.4**
SRTM	**Siirt_Merkez**	**1.23**	**236**		P		**Pg**	**06 10 52.4**	**-0.4**
EATA	**Eleskirt**	**1.29**	**335**		*e*P		**Pb**	**06 10 52.8**	**-0.1**
EATA					*e*S		**Sg**	**06 11 11.8**	**+0.7**
EATA					IAML			06 11 15.2	
	comp=Z,5.6nm,0.3s								
EATA	**Eleskirt**	**1.29**	**335**		*i* P		**Pb**	**06 10 53.0**	**+0.1**
EATA					*i* S		**Sg**	**06 11 11.7**	**+0.6**
EATA	**Eleskirt**	**1.29**	**335**		P		**Pb**	**06 10 53.0**	**+0.1**
EATA					S		**Sg**	**06 11 11.6**	**+0.6**
SIRT	**Sirnak**	**1.34**	**207**		PN		**Pn**	**06 10 51.5**	**-1.2**
SIRT	**Sirnak**	**1.34**	**207**		*e*Pn		**Pn**	**06 10 51.5**	**-1.2**
HOMI	**Horasan**	**1.69**	**324**		*e*P		**Pg**	**06 11 00.7**	**-0.8**
HOMI					IAML			06 11 21.0	
	comp=Z,6.7nm,0.4s								
DIGO	**Kars**	**1.72**	**4**		*e*P		**Pb**	**06 11 00.1**	**-0.1**
DIGO					IAML			06 11 05.2	
	comp=Z,4.5nm,0.7s								

*KRSC **24** 06:14:31.7±1.5, 48°.24N×156°.42E, h40km±26km, ML4.5*
*ISCJB **24** 06:14:32.6±0.5, 48°.52N±0'.05×154°.76E±0'.08, h51km, mb3.9/30, MS3.4/17, Error ellipse: s-maj=10.5km s-min=2.8km az=44.6*
*MOS **24** 06:14:32.4±1.0, 48°.50N×154°.75E, h48km, mb4.1/20, Error ellipse: s-maj=11.2km s-min=4.6km az=73.7*
*SKHL **24** 06:14:34.2±0.2, 48°.48N×154°.68E, h68km±2km, mb4.9/7*
*IDC **24** 06:14:35.9±3.2, 48°.50N×154°.73E, h61km±28km, mb3.6/21, mb1 3.8/24, mb1mx3.6/77, mbtmp3.9/24, ML2.9/3, MS3.2/20, Ms1 3.2/20, ms1mx3.0/61, Error ellipse: s-maj=20.8km s-min=12.8km az=146.0*
ISC 24 06:14:34.4±0.6, 48°.51N±0'.06×154°.78E±0'.07, h51km, n127, σ1s38/130, mb4.0/30, MS3.4/17, 3C-11D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.34**	**21**		*e*P		**Pn**	**06 15 11.1**	**+0.7**
SKR					AMB		AMB	06 15 13.1	
	133nm,0.6s								
SKR					*e*S		**Sn**	**06 15 38.6**	**+0.6**
SKR					A		A	06 15 46.2	
	650nm,0.6s								
SKR	**Severo-Kuril's**	**2.34**	**21**		*e*P		**Pn**	**06 15 11.1**	**+0.7**
SKR					*e*S		**Sn**	**06 15 40.2**	**+2.2**
SKR	**Severo-Kuril's**	**2.34**	**21**		*e*P		**Pn**	**06 15 11.1**	**+0.7**
SKR					*e*S		**Sn**	**06 15 39.8**	**+1.8**
SKR					pmax		pmax		
	comp=Z,134nm,0.6s								
SKR					smax		smax		
	comp=N,652nm,0.6s								
SKR					smax		smax		
	comp=E,649nm,0.6s								
KDTR	**Khodutka, Kamc**	**3.93**	**31**		*e*P		**Pn**	**06 15 30.9**	**-1.2**
KDTR					*e*S		**Sn**	**06 16 15.2**	**-1.6**
MIPR	**Malaya Ipel'ka**	**3.98**	**18**		*e*P		**Pn**	**06 15 34.5**	**+1.7**
MIPR	**Malaya Ipel'ka**	**3.98**	**18**		PN		**Pn**	**06 15 34.5**	**+1.7**
ASAK	**Asacha**	**4.36**	**26**		*e*P		**Pn**	**06 15 38.8**	**+0.7**
ASAK	**Asacha**	**4.36**	**26**		PN		**Pn**	**06 15 38.8**	**+0.7**
MTVR	**Mutnovka**	**4.53**	**27**		*e*P		**Pn**	**06 15 40.4**	**-0.2**
MTVR					*e*S		**Sn**	**06 16 31.2**	**-0.8**
MTVR	**Mutnovka**	**4.53**	**27**		PN		**Pn**	**06 15 40.4**	**-0.2**
MTVR					S		**Sn**	**06 16 31.2**	**-0.8**
RUS	**Russkaya**	**4.60**	**30**		*e*P		**Pn**	**06 15 40.0**	**-1.3**
RUS					*e*S		**Sn**	**06 16 31.4**	**-1.9**
RUS	**Russkaya**	**4.60**	**30**		PN		**Pn**	**06 15 40.0**	**-1.3**
KRMR	**Karymshinskiy**	**4.82**	**25**		*e*P		**Pn**	**06 15 43.6**	**-0.8**
KRMR					*e*S		**Sn**	**06 16 37.3**	**-1.6**
KRMR	**Karymshinskiy**	**4.82**	**25**		PN		**Pn**	**06 15 43.6**	**-0.8**
PETK	**Petropavlovsk-**	**4.96**	**21**		P		**Pn**	**06 15 48.1**	**+1.8**
	comp=E,3.2nm,0.3s,baz=175,slow=11,SNR=25								
PETK					S		Sn	06 16 50.5	+8.1
	comp=E,0.4nm,0.3s,baz=237,slow=12,SNR=2.3								
PETK					LR		LR	06 18 07.6	
	comp=E,301nm,18.2s,baz=182,slow=42								
PET	**Petropavlovsk**	**5.15**	**27**		*e*P		**Pn**	**06 15 50.0**	**+1.2**
PET					AMB		AMB	06 15 50.7	
	comp=E,24nm,0.8s								
PET					*e*S		**Sn**	**06 16 47.0**	**+0.2**
PET					A		A	06 17 09.0	
	comp=E,166nm,0.8s								
PET					A		A	06 17 09.0	
	comp=E,120nm,0.8s								
PET	**Petropavlovsk**	**5.15**	**27**		*e*P		**Pn**	**06 15 48.7**	**-0.1**
PET					*e*S		**Sn**	**06 16 46.3**	**-0.5**
PET	**Petropavlovsk**	**5.15**	**27**		PN		**Pn**	**06 15 48.7**	**-0.1**
DALK	**Dalny**	**5.18**	**28**		*e*P		**Pn**	**06 15 49.2**	**-0.1**
DALK					*e*S		**Sn**	**06 16 47.6**	**-0.1**
DALK	**Dalny**	**5.18**	**28**		PN		**Pn**	**06 15 49.2**	**-0.1**
DALK					S		**Sn**	**06 16 47.6**	**-0.1**
UGLR	**Uglovaya**	**5.36**	**27**		*e*P		**Pn**	**06 15 52.2**	**+0.4**
UGLR	**Uglovaya**	**5.36**	**27**		PN		**Pn**	**06 15 52.2**	**+0.4**
AVH	**Avacha**	**5.38**	**26**		*e*P		**Pn**	**06 15 53.5**	**+1.4**
AVH	**Avacha**	**5.38**	**26**		PN		**Pn**	**06 15 53.5**	**+1.4**
SMAR	**Somma**	**5.40**	**27**		*e*P		**Pn**	**06 15 52.3**	**-0.2**
SMAR	**Somma**	**5.40**	**27**		PN		**Pn**	**06 15 52.3**	**-0.2**
SDLR	**Sedlovina**	**5.44**	**27**		*e*P		**Pn**	**06 15 52.4**	**-0.5**
SDLR	**Sedlovina**	**5.44**	**27**		PN		**Pn**	**06 15 52.4**	**-0.5**
KRX	**Arik**	**5.44**	**25**		*e*P		**Pn**	**06 15 53.2**	**+0.2**
KRX	**Arik**	**5.44**	**25**		PN		**Pn**	**06 15 53.2**	**+0.2**
GNL	**Ganaly**	**5.56**	**20**		*e*P		**Pn**	**06 15 55.9**	**+1.3**
GNL	**Ganaly**	**5.56**	**20**		PN		**Pn**	**06 15 55.9**	**+1.3**
SPN	**Mys Shipunski**	**5.67**	**34**		*e*P		**Pn**	**06 15 53.4**	**-2.6**
SPN	**Mys Shipunski**	**5.67**	**34**		PN		**Pn**	**06 15 53.4**	**-2.6**
KUR	**Kuril'sk**	**5.76**	**238**		*i* P		**Pn**	**06 15 57.9**	**+0.7**
KUR					AMB		AMB	06 16 00.7	
	comp=E,162nm,0.7s								
KUR					*e*S		**Sn**	**06 16 59.2**	**-2.7**
KUR					A		A	06 17 12.0	
	comp=E,227nm,0.7s								
KUR					A		A	06 17 12.0	
	comp=E,216nm,0.7s								
KUR	**Kuril'sk**	**5.76**	**238**	*d*	*i*PN		**Pn**	**06 15 59.2**	**+2.0**
KUR					*e*S		**Sn**	**06 17 05.2**	**+3.3**
KUR					pmax		pmax		
	comp=Z,84nm,0.5s								
KUR					smax		smax		
	comp=N,112nm,0.4s								
KUR					smax		smax		
	comp=E,55nm,0.4s								
KUR					smax		smax		
	comp=E,714nm,1.9s								
KUR					smax		smax		
	comp=N,607nm,1.6s								
YUK	**Yuzh-Kuril'sk**	**7.63**	**237**		*e*P		**Pn**	**06 16 22.5**	**-0.3**
YUK					AMB		AMB	06 16 24.8	
	comp=N,97nm,0.6s								
YUK					*e*S		**Sn**	**06 17 44.4**	**-3.4**
YUK	**Yuzh-Kuril'sk**	**7.63**	**237**		PN		**Pn**	**06 16 22.5**	**-0.3**
YUK					pmax		pmax		
	comp=Z,97nm,0.3s								
YUK					pmax		pmax		
	comp=N,36nm,0.2s								
YUK					pmax		pmax		
	comp=E,66nm,0.2s								
LAGR	**Lagunnoye**	**7.66**	**238**		*e*P		**Pn**	**06 16 23.4**	**+0.2**
LAGR					AMB		AMB	06 16 32.3	
	comp=E,143nm,0.7s								
LAGR					*e*S		**Sn**	**06 17 48.5**	**0.0**
LAGR	**Lagunnoye**	**7.66**	**238**		PN		**Pn**	**06 16 23.4**	**+0.2**
LAGR					pmax		pmax		
	comp=Z,143nm,0.5s								
GRPR	**Tuman**	**7.70**	**237**		*e*P		**Pn**	**06 16 23.6**	**-0.3**
GRPR					AMB		AMB	06 16 24.3	
	comp=Z,54nm,0.6s								
GRPR					*e*S		**Sn**	**06 17 48.9**	**-0.8**
GRPR	**Tuman**	**7.70**	**237**		PN		**Pn**	**06 16 23.6**	**-0.3**
GRPR					pmax		pmax		
	comp=Z,54nm,0.3s								
GRPR					pmax		pmax		
	comp=N,78nm,0.1s								
GRPR					pmax		pmax		
	comp=E,62nm,0.2s								
GLVR	**Golovnino**	**8.01**	**237**		*e*P		**Pn**	**06 16 27.9**	**-0.1**
GLVR					AMB		AMB	06 16 32.5	
	comp=E,110nm,0.6s								
GLVR					*e*S		**Sn**	**06 17 56.9**	**-0.2**
GLVR	**Golovnino**	**8.01**	**237**		PN		**Pn**	**06 16 27.9**	**-0.1**
GLVR					pmax		pmax		
	comp=Z,110nm,0.4s								
TYV	**Tymovskoe**	**8.21**	**291**		*e*P		**Pn**	**06 16 30.3**	**-0.4**
TYV					AMB		AMB	06 16 36.7	
	comp=Z,11nm,0.8s								
TYV					*e*S		**Sn**	**06 17 58.0**	**-4.0**
TYV					A		A	06 18 08.4	
	comp=Z,6.0nm,0.6s								
TYV	**Tymovskoe**	**8.21**	**291**		*e*PN		Pn	06 16 35.4	+4.7
TYV					*e*S		**Sn**	**06 18 05.6**	**+3.6**
TYV					pmax		pmax		
	comp=Z,15nm,1.0s								
TYV					smax		smax		
	comp=E,6.0nm,0.6s								
YSS	**Yuzh-Sakhalins**	**8.26**	**264**		*e*P		**Pn**	**06 16 31.1**	**-0.3**
YSS	**Yuzh-Sakhalins**	**8.26**	**264**		*e*PN		**Pn**	**06 16 32.2**	**+0.8**
YSS					pmax		pmax		
	comp=Z,10.0nm,0.5s								
YSS					MLR		MLR		
	comp=Z,200nm,13.0s								
BKI	**Bering**	**9.63**	**42**		*e*S		Sn	06 18 25.4	-11
MA2	**Magadan**	**11.34**	**350**		LR		LR	06 21 45.7	
	comp=Z,115nm,19.8s,baz=151,slow=38								
MA2	**Magadan**	**11.34**	**350**	‖	*e*PN		**Pn**	**06 17 12.5**	**-0.9**
MA2					pmax		pmax		
	comp=Z,1.0nm,0.3s								
SEY	**Seymchan**	**14.52**	**356**		P		**P**	**06 17 58.5**	**-3.5**
	comp=Z,0.0nm,0.3s,baz=169,slow=11,SNR=4.4								
SEY	**Seymchan**	**14.52**	**356**	‖	*i* P		**P**	**06 17 58.2**	**-3.8**
KLR	**Kul'dur**	**15.16**	**281**		P		**P**	**06 18 09.3**	**0.0**
	comp=Z,0.0nm,0.3s,baz=85,slow=13,SNR=3.4								
KLR					LR		LR	06 23 59.1	
	comp=Z,12nm,19.9s,baz=90,slow=37								
KLR	**Kul'dur**	**15.16**	**281**	‖	*i* P		**P**	**06 18 08.3**	**-1.0**
USRK	**Ussuriysk Ar.**	**16.30**	**263**		P		**P**	**06 18 21.1**	**-0.7**
	comp=Z,0.7nm,0.3s,baz=68,slow=12,SNR=12								
USRK					LR		LR	06 24 11.9	
	comp=Z,70nm,18.9s,baz=52,slow=35								

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MAJO	**Matsushiro**	**17.05**	**232**		*e*P		**Pn**	**06 18 25.1**	**-4.0**
MAJO	**Matsushiro**	**17.05**	**232**	‖	*e*P		**P**	**06 18 32.1**	**+1.8**
MAJO					pmax		pmax		
	comp=Z,4.0nm,0.7s								
MJAR	**Matsushiro Arr**	**17.05**	**232**		LR		LR	06 24 55.8	
	comp=Z,15nm,21.4s,baz=105,slow=36								
BILL	**Bilibino**	**20.43**	**12**	*i*	P		**P**	**06 19 04.3**	**-2.7**
BILL				*i*				06 19 19.0	
BILL				*i*				06 19 25.1	
BILL					pmax		pmax		
	comp=Z,3.0nm,1.0s								
BILL					MLR		MLR		
	comp=Z,64nm,16.0s								
KSRS	**Korea Array**	**22.42**	**250**		P		**P**	**06 19 28.8**	**+0.1**
	comp=Z,4.6nm,0.6s,baz=51,slow=9.8,SNR=16								
KSRS					LR		LR	06 27 48.6	
	comp=Z,66nm,19.2s,baz=86,slow=35								
KSRS	**Korea Array**	**22.42**	**250**		*e*P		**P**	**06 19 28.9**	**+0.2**
KSRS	**Korea Array**	**22.42**	**250**		P		**P**	**06 19 28.8**	**+0.1**
KSRS					pmax		pmax		
	comp=Z,4.0nm,0.6s								
KSRS					MLR		MLR		
	comp=Z,66nm,19.2s								
JNU	**Nakatsue**	**23.60**	**238**		LR		LR	06 29 03.2	
	comp=Z,41nm,18.3s,baz=113,slow=37								
TIXI	**Tiksi**	**26.12**	**342**		*e*P		**P**	**06 20 02.3**	**-0.8**
TIXI	**Tiksi**	**26.12**	**342**	‖	*e*P		**P**	**06 20 02.3**	**-0.8**
TIXI					pmax		pmax		
	comp=Z,3.0nm,1.1s								
H11N2	**WAKE ISLAND Hy**	**30.33**	**157**		T		T	06 52 19.2	
	baz=345,slow=76,SNR=66								
H11N1	**WAKE ISLAND Hy**	**30.35**	**157**		T		T	06 52 24.5	
	baz=345,slow=76,SNR=134								
H11N3	**WAKE ISLAND Hy**	**30.35**	**157**		T		T	06 52 19.2	
	baz=345,slow=76,SNR=62								
H11S1	**WAKE ISLAND Hy**	**31.45**	**158**		T		T	06 53 46.7	
	baz=345,slow=76,SNR=1590								
H11S3	**WAKE ISLAND Hy**	**31.46**	**158**		T		T	06 53 47.5	
	baz=345,slow=76,SNR=1922								
H11S2	**WAKE ISLAND Hy**	**31.47**	**158**		T		T	06 53 46.0	
	baz=345,slow=76,SNR=1434								
SONM	**Songino Array**	**31.85**	**287**		P		**P**	**06 20 53.7**	**-0.7**
	comp=Z,0.4nm,0.5s,baz=88,slow=10,SNR=3.8								
SONM	**Songino Array**	**31.85**	**287**		*e*P		**P**	**06 20 54.8**	**+0.4**
TLY	**Talaya**	**32.41**	**295**		*e*P		**P**	**06 20 59.3**	**+0.1**
TLY	**Talaya**	**32.41**	**295**	‖	*i* P		**P**	**06 20 59.3**	**+0.1**
TLY					pmax		pmax		
	comp=Z,4.0nm,1.4s								
COLA	**College**	**34.06**	**40**		*e*P		**P**	**06 21 14.5**	**+1.2**
COLA	**College**	**34.06**	**40**	‖	*e*P		**P**	**06 21 14.5**	**+1.2**
COLA					pmax		pmax		
	comp=Z,1.0nm,0.9s								
ILAR	**Eielson Array**	**34.47**	**40**		P		**P**	**06 21 17.5**	**+0.6**
	comp=Z,0.4nm,0.9s,baz=304,slow=7.9,SNR=4.2								
INK	**Inuvik**	**39.56**	**34**		P		**P**	**06 22 01.2**	**+1.3**
	comp=Z,1.5nm,0.9s,baz=256,slow=8.6,SNR=6.6								
ZALV	**Zalesovo Beam**	**42.52**	**305**		LR		LR	06 39 58.7	
	comp=Z,47nm,19.1s,baz=56,slow=36								
DGZ	**Jazzator, Alta**	**42.75**	**298**	‖	*e*P		**P**	**06 22 26.4**	**-0.2**
DGZ					pmax		pmax		
	comp=Z,1.0nm,1.1s								
MKAR	**Makanchi Array**	**47.15**	**297**		P		**P**	**06 23 01.0**	**-0.4**
	comp=Z,2.0nm,0.9s,baz=67,slow=8.0,SNR=7.4								
MKAR					LR		LR	06 44 11.3	
	comp=Z,40nm,19.5s,baz=18,slow=38								
MKAR	**Makanchi Array**	**47.15**	**297**		*e*P		**P**	**06 23 01.4**	**0.0**
MKAR	**Makanchi Array**	**47.15**	**297**		*e*P		**P**	**06 23 01.4**	**0.0**
MKAR					pmax		pmax		
	comp=Z,1.0nm,0.5s								
KURK	**Kurchatov**	**47.34**	**303**		*e*P		**P**	**06 23 03.1**	**+0.3**
KURK	**Kurchatov**	**47.34**	**303**	‖	*i* P		**P**	**06 23 03.1**	**+0.3**
KURK					pmax		pmax		
	comp=Z,3.0nm,0.8s								
KURBB	**Kurchatov Arra**	**47.44**	**303**		P		**P**	**06 23 03.5**	**0.0**
	comp=Z,1.0nm,0.5s,baz=67,slow=7.8,SNR=4.8								
RES	**Resolute Bay**	**48.81**	**19**		P		**P**	**06 23

s-min=5.5km az=19.5
IDC 24 06:14:44.5±0.8, 43.17N×141.63E, h163km±7km, mb3.2/8, mb1 3.3/9, mb1mx3.1/72, mbtmp3.6/9, Error ellipse: s-maj=19.5km s-min=14.6km az=108.0
JMA 24 06:14:45.1±0.1, 43.12N×141.68E, h166km±1km, M3.4

ISC 24 06:14:44.5±0.7, 43.11N±0.04×141.70E±0.05, h168km±6km, n28, σ0.92/43, mb3.5/7, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JEW	**Eniwo**	**0.33**	**214**	P	**Pn**	**06 15 07.7**	**+0.4**
JEW				eS	**Sn**	**06 15 24.4**	**-0.3**
JAB	**Ashibetsu**	**0.55**	**44**	P	**Pn**	**06 15 08.8**	**+0.7**
JAB				eS	**Sn**	**06 15 26.4**	**+0.1**
JBT2	**Biratori 2**	**0.59**	**124**	P	**Pn**	**06 15 08.7**	**+0.3**
JBT2				eS	**Sn**	**06 15 26.7**	**+0.1**
JFR	**Furan**	**0.66**	**85**	P	**Pn**	**06 15 08.7**	**0.0**
JFR				eS	**Sn**	**06 15 27.4**	**+0.1**
JSK	**Shakotan**	**0.93**	**286**	P	**Pn**	**06 15 10.6**	**+0.2**
JKK2	**Kamakawa 2**	**1.08**	**45**	P	**Pn**	**06 15 12.0**	**+0.4**
JKK2				eS	**Sn**	**06 15 32.3**	**-0.3**
JNBK	**Urakawa-nobuka**	**1.14**	**137**	P	**Pn**	**06 15 13.2**	**+1.1**
JNBK				eS	**Sn**	**06 15 35.0**	**+1.7**
ASAJ	**Asahikawa**	**1.20**	**33**	P	**Pn**	**06 15 12.9**	**+0.3**
	37nm,0.3s,baz=221,slow=8.4,SNR=73						
ASAJ				S	**Sn**	**06 15 33.0**	**-1.4**
	6.4nm,0.3s,baz=34,slow=26,SNR=9.1						
JKB	**Kayabe**	**1.32**	**202**	P	**Pn**	**06 15 14.0**	**+0.3**
JKB				eS	**Sn**	**06 15 35.3**	**-0.9**
JCH	**Churui**	**1.32**	**112**	P	**Pn**	**06 15 13.3**	**-0.4**
JCH				eS	**Sn**	**06 15 34.1**	**-2.1**
JYG	**Yagishiri**	**1.33**	**352**	P	**Pn**	**06 15 13.9**	**+0.1**
JYG				eS	**Sn**	**06 15 35.6**	**-0.9**
JAR	**Ashorobuto**	**1.53**	**82**	P	**Pn**	**06 15 16.4**	**+0.7**
JAR				eS	**Sn**	**06 15 39.9**	**+0.1**
JOT	**Ohata**	**1.79**	**196**	P	**Pn**	**06 15 18.7**	**+0.2**
JOT				eS	**Sn**	**06 15 44.0**	**-0.7**
JTKR	**Abashiri--Toko**	**1.82**	**61**	P	**Pn**	**06 15 19.8**	**+1.0**
JTKR				eS	**Sn**	**06 15 45.4**	**+0.1**
JOSM	**Okushiri--Mats**	**1.94**	**239**	P	**Pn**	**06 15 20.0**	**0.0**
JSE	**Soyaes**	**1.96**	**19**	eS	**Sn**	**06 15 46.6**	**-1.3**
JAK	**Akkeshi**	**2.20**	**92**	P	**Pn**	**06 15 22.5**	**-0.5**
JAK				eS	**Sn**	**06 15 50.8**	**-2.0**
JWK2	**Keihoku**	**2.21**	**4**	P	**Pn**	**06 15 24.1**	**+1.0**
JWK2				eS	**Sn**	**06 15 54.0**	**+0.9**
MJAR	**Matsushiro Arr**	**7.09**	**203**	P	**Pn**	**06 16 26.7**	**+0.9**
	0.6nm,0.3s,baz=22,slow=11,SNR=5.6						
KLR	**Kul'dur**	**9.22**	**315**	P	**Pn**	**06 16 53.5**	**-0.3**
	0.0nm,0.3s,baz=113,slow=17,SNR=5.2						
SEY	**Seymchan**	**20.82**	**14**	P	**P**	**06 19 11.3**	**-1.1**
	1.8nm,0.5s,baz=166,slow=5.2,SNR=5.5						
MKAR	**Makanchi Array**	**41.34**	**296**	P	**P**	**06 22 12.0**	**-1.6**
	0.3nm,0.5s,baz=73,slow=8.5,SNR=4.4						
KURBB	**Kurchatov Arra**	**42.65**	**303**	P	**P**	**06 22 24.0**	**-0.2**
	1.1nm,0.4s,baz=75,slow=8.8,SNR=3.9						
BVAR	**Borovoye Array**	**46.81**	**308**	P	**P**	**06 22 57.7**	**+0.7**
	0.4nm,0.4s,baz=73,slow=9.1,SNR=3.7						
INK	**Inuvik**	**48.94**	**29**	P	**P**	**06 23 13.4**	**+0.3**
	0.9nm,0.8s,baz=300,slow=8.0,SNR=3.9						
YKA	**Yellowknife Ar**	**58.49**	**32**	P	**P**	**06 24 23.2**	**+0.7**
	0.2nm,0.4s,baz=303,slow=7.3,SNR=3.4						
WRA	**Warramunga Arr**	**63.10**	**188**	P	**P**	**06 24 53.7**	**-0.4**
	0.3nm,0.5s,baz=5.1,slow=7.0,SNR=5.8						
ASAR	**Alice Springs**	**66.83**	**188**	P	**P**	**06 25 20.0**	**+1.9**
	0.6nm,0.8s,baz=17,slow=6.8,SNR=4.9						

IDC 24 06:21:33.6±3.2, 23.48S×176.14W, h0km, mb4.1/6, mb1 4.3/7, mb1mx3.9/44, mbtmp4.1/7, ML4.3/1, MS3.1/3, Ms1 3.1/3, ms1mx2.7/42, Error ellipse: s-maj=124.9km s-min=25.2km az=142.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**10.38**	**24**	Pn	Pn	06 24 02.8	-1.1
	2.5nm,0.3s,baz=261,slow=4.1,SNR=3.3						
AFI				Sn	Sn	06 25 50.0	-11
	1.1nm,0.3s,baz=121,slow=20,SNR=2.6						
DZM	**Mont Dzumac**	**16.13**	**272**	LR	LR	06 30 22.4	
	comp=Z,74nm,18.6s,baz=339,slow=33						
PPT	**Papeete**	**25.54**	**82**	LR	LR	06 36 23.8	
	comp=Z,49nm,18.4s,baz=292,slow=35						
CTA	**Charters Tower**	**35.02**	**268**	P	P	06 28 28.8	+0.6
	2.5nm,0.4s,baz=93,slow=8.2,SNR=5.8						
STKA	**Stephens Creek**	**38.16**	**248**	P	P	06 28 55.0	+0.1
	1.1nm,0.6s,baz=92,slow=6.5,SNR=3.3						
ASAR	**Alice Springs**	**45.59**	**259**	P	P	06 29 55.0	-0.9
	0.9nm,0.7s,baz=91,slow=7.7,SNR=7.4						
WRA	**Warramunga Arr**	**45.97**	**264**	P	P	06 29 58.0	-0.8
	1.6nm,0.6s,baz=103,slow=8.2,SNR=16						
KSRS	**Korea Array**	**80.25**	**316**	LR	LR	07 04 39.5	
	comp=Z,11nm,21.0s,baz=225,slow=32						
ILAR	**Eielson Array**	**90.84**	**12**	P	P	06 34 38.4	0.0
	0.3nm,0.7s,baz=214,slow=6.2,SNR=3.0						
CMAR	**Chiang Mai Arr**	**92.72**	**289**	P	P	06 34 49.7	+1.4
	0.8nm,0.3s,baz=135,slow=3.4,SNR=8.0						
AKASG	**Malin Array Be**	**146.45**	**330**	PKPbc	PKPbc	06 41 15.8	-0.6
	1.1nm,0.5s,baz=42,slow=3.5,SNR=7.1						
BRTR	**Keskin Array B**	**150.09**	**310**	PKPbc	PKPbc	06 41 25.7	-1.0
	0.8nm,0.8s,baz=132,slow=2.1,SNR=4.0						

IDC 24 06:26:27.3±2.4, 3.32N×92.90E, h0km, mb3.6/3, mb1 3.8/5, mb1mx3.5/63, mbtmp3.7/5, ML4.2/2, Error ellipse: s-maj=71.6km s-min=25.7km az=48.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**6.04**	**95**	Pn	Pn	06 27 59.8	+1.8
	3.0nm,0.3s,baz=323,slow=12,SNR=11						
PSI				Sn	Sn	06 29 02.3	-5.7
	1.2nm,0.3s,baz=331,slow=19,SNR=2.5						
CMAR	**Chiang Mai Arr**	**16.17**	**21**	Pn	Pn	06 30 15.0	-1.1
	0.5nm,0.3s,baz=209,slow=12,SNR=3.1						
MKAR	**Makanchi Array**	**44.28**	**350**	P	P	06 34 37.7	-1.0
	0.7nm,0.7s,baz=171,slow=8.4,SNR=6.1						
WRA	**Warramunga Arr**	**46.80**	**121**	P	P	06 34 58.4	-0.7
	0.6nm,0.6s,baz=299,slow=9.0,SNR=6.4						
BVAR	**Borovoye Array**	**52.92**	**343**	P	P	06 35 46.1	+0.9
	0.3nm,0.4s,baz=130,slow=5.8,SNR=2.5						

ISK 24 06:32:41.7, 39.15N×29.16E, h5km, ML2.5/9
DDA 24 06:32:41.9, 39.12N×29.15E, h7km, Ml2.6
ISCJB 24 06:32:42.1±0.5, 39.12N±0.03×29.15E±0.03, h8km±4km, Error ellipse: s-maj=5.4km s-min=3.9km az=143.5
CSEM 24 06:32:42.1±0.1, 39.13N×29.15E, h8km, ML2.5, Error ellipse: s-maj=3.3km s-min=2.4km az=129.0

ISC 24 06:32:42.2±0.9, 39.13N±0.03×29.15E±0.02, h10km±7km, n30, σ0.45/48, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIMA	**Simav-Kutahya**	**0.14**	**252**	PG	**Pg**	**06 32 45.6**	**+0.2**
SIMA				SG	**Sg**	**06 32 47.8**	**+0.1**
SIMA	**Simav-Kutahya**	**0.14**	**252**	*e*Pg	**Pg**	**06 32 45.6**	**+0.2**
SIMA				*e*Sg	**Sg**	**06 32 47.8**	**+0.1**
GDZ	**Gediz**	**0.26**	**99**	*i* P	**Pg**	**06 32 47.2**	**-0.3**
GDZ				*i* S	**Sg**	**06 32 51.1**	**0.0**
GDZ	**Gediz**	**0.26**	**99**	P	**Pg**	**06 32 47.2**	**-0.3**
GDZ				S	**Sg**	**06 32 51.1**	**0.0**
DEMI	**Demirci**	**0.35**	**256**	*i* P	**Pg**	**06 32 49.3**	**+0.2**
DEMI				*i* S	**Sg**	**06 32 53.9**	**+0.1**
DEMI	**Demirci**	**0.35**	**256**	P	**Pg**	**06 32 49.3**	**+0.2**
DEMI				S	**Sg**	**06 32 53.9**	**+0.1**
TVSB	**Tavsanli**	**0.40**	**37**	PG	**Pg**	**06 32 49.7**	**-0.4**
TVSB				SG	**Sg**	**06 32 55.4**	**-0.1**
TVSB	**Tavsanli**	**0.40**	**37**	*e*Pg	**Pg**	**06 32 49.7**	**-0.4**
TVSB				*e*Sg	**Sg**	**06 32 55.4**	**-0.1**
DURS	**Dursunbey**	**0.71**	**312**	*i* P	**Pg**	**06 32 55.6**	**-0.3**
DURS				*i* S	**Sn**	**06 33 09.6**	**+0.2**
DURS	**Dursunbey**	**0.71**	**312**	P	**Pg**	**06 32 55.6**	**-0.3**
DURS				S	**Sn**	**06 33 09.6**	**+0.2**
MANT	**Manisa**	**0.79**	**216**	*i* P	**Pg**	**06 32 57.1**	**-0.3**
MANT				*i* S	**Sg**	**06 33 06.8**	**-0.9**
MANT	**Manisa**	**0.79**	**216**	P	**Pg**	**06 32 57.1**	**-0.3**
MANT				S	**Sg**	**06 33 06.8**	**-0.9**
KHAL	**Karahalli**	**0.80**	**161**	*i* P	**Pb**	**06 32 57.8**	**-0.5**
KHAL				*i* S	**Sg**	**06 33 08.3**	**+0.2**
KHAL	**Karahalli**	**0.80**	**161**	P	**Pb**	**06 32 57.8**	**-0.5**
KHAL				S	**Sg**	**06 33 08.3**	**+0.2**
CAVI	**Cavuskoy**	**1.20**	**26**	PN	**Pg**	**06 33 04.2**	**-1.0**
CAVI	**Cavuskoy**	**1.20**	**26**	*e*Pn	**Pg**	**06 33 04.2**	**-1.0**
BORA	**Eskisehir**	**1.26**	**53**	*i* P	**Pg**	**06 33 06.8**	**+0.5**
BORA				*i* S	**Sn**	**06 33 23.5**	**+0.6**
BORA	**Eskisehir**	**1.26**	**53**	P	**Pg**	**06 33 06.8**	**+0.5**
BORA				S	**Sn**	**06 33 23.5**	**+0.6**
MDNY	**Mudanya-Bursa**	**1.26**	**351**	PN	**Pn**	**06 33 05.5**	**-0.3**
MDNY				SN	**Sn**	**06 33 23.2**	**+0.4**
MDNY	**Mudanya-Bursa**	**1.26**	**351**	*e*Pn	**Pn**	**06 33 05.5**	**-0.3**
MDNY				*e*Sn	**Sn**	**06 33 23.2**	**+0.4**
ARMT	**Armutlu**	**1.45**	**351**	PN	**Pn**	**06 33 08.7**	**+0.2**
ARMT	**Armutlu**	**1.45**	**351**	*e*Pn	**Pn**	**06 33 08.7**	**+0.2**
GONE	**Gonen-Balikesi**	**1.46**	**309**	PN	**Pb**	**06 33 09.2**	**-0.2**
GONE	**Gonen-Balikesi**	**1.46**	**309**	*e*Pn	**Pb**	**06 33 09.2**	**-0.2**
AYDB	**Zeytinkoy-Aydi**	**1.54**	**220**	PN	**Pb**	**06 33 10.6**	**-0.3**
AYDB	**Zeytinkoy-Aydi**	**1.54**	**220**	*e*Pn	**Pb**	**06 33 10.6**	**-0.8**
GULT	**Gulveren**	**1.67**	**38**	PN	**Pn**	**06 33 12.2**	**+0.6**
GULT	**Gulveren**	**1.67**	**38**	*e*Pn	**Pn**	**06 33 12.2**	**+0.6**
BUY	**Buyukada**	**1.72**	**359**	PN	**Pn**	**06 33 12.9**	**+0.7**
BUY	**Buyukada**	**1.72**	**359**	*e*Pn	**Pn**	**06 33 12.9**	**+0.7**

NIED 24 06:43:00, 36.90N×141.40E, h5km, Mw3.5 Best double couple: Mo1.74000×10^14 NP1:φs=26.00000°, δ24.00000°, λ-123.00000°. NP2:φs=241.00000°, δ70.00000°, λ-76.00000°.

JMA 24 06:43:39.8±0.1, 36.93N×141.41E, h31km±1km, M3.5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.52**	**289**	P	Pb	06 43 50.2	-0.4
ONAJ				S	Sb	06 43 57.4	-0.6
JFK	**Kawauchi**	**0.61**	**316**	P	Pb	06 43 51.6	-0.5
JFK				S	Sb	06 43 59.7	-0.8
JHO	**Hitachi**	**0.75**	**245**	P	Pn	06 43 53.8	-0.4
JHO				S	Sb	06 44 03.9	-0.3
JFT	**Otama**	**1.04**	**305**	P	Pb	06 43 59.1	-0.1
JFT				S	Sb	06 44 12.6	+0.1
JMM	**Marumori**	**1.06**	**332**	P	Pn	06 43 58.7	+0.2
JMM				S	Sn	06 44 12.2	+0.1
JSB	**Shiboa**	**1.19**	**272**	P	Pb	06 44 02.3	+0.4
JSB				S	Sb	06 44 17.6	+0.6
JYT	**Yasato**	**1.20**	**235**	P	Pn	06 44 00.4	-0.1
JYT				S	Sb	06 44 16.8	-0.4
JFY	**Yanaizu**	**1.44**	**290**	P	Pb	06 44 05.5	-0.6
JFY				S	Sb	06 44 23.7	-0.4
JIO	**Ouri**	**1.52**	**358**	P	Pn	06 44 05.8	+0.9
JIO				S	Sn	06 44 24.2	+0.6
JOU	**Okura**	**1.55**	**338**	P	Pb	06 44 07.1	-0.8
JOU				S	Sb	06 44 26.6	-0.6
MAT	**Matsushiro**	**2.60**	**262**	P	Pn	06 44 22.1	+2.4
MAT				S	Sb	06 44 55.2	-2.1

IDC 24 06:45:10.8±1.9, 7.00N×92.09E, h0km, mb3.9/5, mb1 4.1/7, mb1mx3.6/64, mbtmp3.9/7, ML4.0/2, MS2.8/1, Ms1 2.8/1, ms1mx2.3/61, Error ellipse: s-maj=75.2km s-min=18.8km az=57.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**7.99**	**121**	Pn	Pn	06 47 08.4	+0.1
	0.5nm,0.3s,baz=309,slow=16,SNR=3.3						
CMAR	**Chiang Mai Arr**	**13.20**	**30**	Pn	Pn	06 48 21.2	+1.6
	0.7nm,0.3s,baz=232,slow=14,SNR=8.4						
MKAR	**Makanchi Array**	**40.53**	**350**	P	P	06 52 51.3	-0.4
	0.3nm,0.5s,baz=171,slow=9.0,SNR=4.1						
MKAR				LR	LR	07 13 21.1	
	comp=Z,13nm,19.6s,baz=352,slow=42						
KURBB	**Kurchatov Arra**	**44.39**	**348**	P	P	06 53 27.2	-0.1
	2.4nm,0.2s,baz=165,slow=7.4,SNR=4.1						
BVAR	**Borovoye Array**	**49.18**	**343**	P	P	06 54 00.3	-0.3
	0.1nm,0.3s,baz=134,slow=6.2,SNR=2.3						
WRA	**Warramunga Arr**	**49.45**	**124**	P	P	06 54 02.9	-0.2
	3.0nm,0.8s,baz=303,slow=8.9,SNR=21						
ASAR	**Alice Springs**	**50.95**	**128**	P	P	06 54 14.6	+0.1
	1.3nm,0.8s,baz=313,slow=7.7,SNR=12						

NEIC 24 06:47:51.0±0.0, 40.33S×173.50E, h174km, ML4.1(WEL), After WEL.

WEL 24 06:47:51.3, 40°S±3'×17°3E±', h167km±4km, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUWZ	**D'Urville Isla**	**0.57**	**145**	Pn	Pn	06 48 15.6	+0.7
DUWZ				Sn	Sn	06 48 33.6	+0.4
DUWZ	**D'Urville Isla**	**0.57**	**145**	P	Pn	06 48 15.7	+0.8
DUWZ	**D'Urville Isla**	**0.57**	**145**	S	Sn	06 48 33.1	-0.1
QRZ	**Quartz Range**	**0.88**	**236**	Pn	Pn	06 48 16.9	+0.1
QRZ	**Quartz Range**	**0.88**	**236**	P	Pn	06 48 17.0	+0.7
QRZ	**Quartz Range**	**0.88**	**236**	S	Sn	06 48 35.8	-0.7
NNZ	**Nelson**	**0.89**	**185**	Pn	Pn	06 48 17.2	+0.3
NNZ				Sn	Sn	06 48 36.5	-0.1
NNZ	**Nelson**	**0.89**	**185**	P	Pn	06 48 17.2	+0.4
NNZ	**Nelson**	**0.89**	**185**	S	Sn	06 48 36.6	0.0
NMEZ	**Namu Road**	**0.97**	**18**	Pn	Pn	06 48 17.7	+0.2
NMEZ				Sn	Sn	06 48 38.4	+0.9
NMEZ	**Namu Road**	**0.97**	**18**	P	Pn	06 48 17.7	+0.2
NMEZ	**Namu Road**	**0.97**	**18**	S	Sn	06 48 38.4	+0.9
TCW	**Tory Channel**	**1.06**	**146**	Pn	Pn	06 48 19.1	+0.9
TCW				Sn	Sn	06 48 38.5	-0.4
TCW	**Tory Channel**	**1.06**	**146**	P	Pn	06 48 19.1	+1.0
TCW	**Tory Channel**	**1.06**	**146**	S	Sn	06 48 38.5	-0.4
NWEZ	**Newall Road**	**1.10**	**15**	Pn	Pn	06 48 18.7	+0.2
NWEZ				Sn	Sn	06 48 40.6	+1.2
KHEZ	**Kahui Hut**	**1.11**	**21**	Pn	Pn	06 48 18.9	+0.1
KHEZ				Sn	Sn	06 48 40.2	+0.4
PREZ	**Palmer Road**	**1.12**	**28**	Pn	Pn	06 48 18.8	0.0
PREZ	**Palmer Road**	**1.12**	**28**	P	Pn	06 48 18.8	+0.1
LREZ	**Lake Rotokare**	**1.12**	**39**	P	Pn	06 48 19.0	+0.3
TUWZ	**Tuamarina**	**1.15**	**163**	Pn	Pn	06 48 19.4	+0.5
TUWZ				Sn	Sn	06 48 39.7	-0.5
TUWZ	**Tuamarina**	**1.15**	**163**	P	Pn	06 48 19.4	+0.5
TUWZ	**Tuamarina**	**1.15**	**163**	S	Sn	06 48 39.7	-0.6
NEZ	**North Egmont**	**1.16**	**24**	Pn	Pn	06 48 19.0	-0.2
PKE	**Pukeiti**	**1.20**	**19**	Pn	Pn	06 48 19.4	0.0
PKE	**Pukeiti**	**1.20**	**19**	P	Pn	06 48 19.4	0.0
KIW	**Kapiti Island**	**1.20**	**116**	Pn	Pn	06 48 19.7	+0.3
KIW				Sn	Sn	06 48 39.7	-1.4
KIW	**Kapiti Island**	**1.20**	**116**	P	Pn	06 48 19.7	+0.4
KIW	**Kapiti Island**	**1.20**	**116**	S	Sn	06 48 39.7	-1.3
DREZ	**Durham Road**	**1.27**	**26**	Pn	Pn	06 48 20.0	0.0
DREZ				Sn	Sn	06 48 42.3	+0.2
DREZ	**Durham Road**	**1.27**	**26**	P	Pn	06 48 20.1	+0.1
WAZ	**Wanganui**	**1.28**	**64**	Pn	Pn	06 48 20.7	+0.6
WAZ	**Wanganui**	**1.28**	**64**	P	Pn	06 48 20.8	+0.7
WEL	**Wellington**	**1.36**	**135**	Pn	Pn	06 48 21.2	+0.5
OGWZ	**Otaki Gorge**	**1.37**	**111**	Pn	Pn	06 48 21.3	+0.5
OGWZ	**Otaki Gorge**	**1.37**	**111**	P	Pn	06 48 21.3	+0.5
OHWZ	**Ohakea**	**1.40**	**85**	P	Pn	06 48 21.9	+0.7
BSWZ	**Blackbirch Sta**	**1.41**	**168**	Pn	Pn	06 48 21.8	+0.6
BSWZ	**Blackbirch Sta**	**1.41**	**168**	P	Pn	06 48 21.9	+0.6
CAW	**Cannon Point**	**1.43**	**123**	Pn	Pn	06 48 21.9	+0.4
CAW	**Cannon Point**	**1.43**	**123**	P	Pn	06 48 21.8	+0.4
THZ	**Tophouse**	**1.49**	**197**	Pn	Pn	06 48 22.2	0.0
THZ	**Tophouse**	**1.49**	**197**	P	Pn	06 48 22.2	+0.1
BHW	**Baring Head**	**1.50**	**136**	Pn	Pn	06 48 22.3	+0.2
BHW	**Baring Head**	**1.50**	**136**	P	Pn	06 48 22.3	+0.2
CMWZ	**Cape Campbell**	**1.52**	**159**	P	Pn	06 48 23.3	+1.0
VRZ	**Vera Road**	**1.55**	**39**	Pn	Pn	06 48 22.1	-0.6
VRZ	**Vera Road**	**1.55**	**39**	P	Pn	06 48 22.2	-0.6
MRZ	**Mangatainoka R**	**1.62**	**102**	Pn	Pn	06 48 22.1	-1.4
MRZ	**Mangatainoka R**	**1.62**	**102**	P	Pn	06 48 22.4	-1.0
HOWZ	**Holdsworth Sta**	**1.64**	**111**	Pn	Pn	06 48 23.8	+0.1
HOWZ	**Holdsworth Sta**	**1.64**	**111**	P	Pn	06 48 23.8	+0.1
MSWZ	**Moikau Station**	**1.72**	**130**	Pn	Pn	06 48 24.4	+0.1
MSWZ	**Moikau Station**	**1.72**	**130**	P	Pn	06 48 24.5	+0.1
MTW	**Mount Morrison**	**1.73**	**119**	Pn	Pn	06 48 24.6	+0.1
MTW	**Mount Morrison**	**1.73**	**119**	P	Pn	06 48 24.7	+0.1
POWZ	**Post Office Ro**	**1.74**	**93**	Pn	Pn	06 48 24.5	-0.1
POWZ	**Post Office Ro**	**1.74**	**93**	P	Pn	06 48 24.6	0.0
PKVZ	**Pokaka**	**1.77**	**54**	Pn	Pn	06 48 24.6	-0.5
PKVZ	**Pokaka**	**1.77**	**54**	P	Pn	06 48 24.6	-0.5
MTVZ	**Mangateitei**	**1.79**	**59**	Pn	Pn	06 48 24.8	-0.5
MTVZ	**Mangateitei**	**1.79**	**59**	P	Pn	06 48 24.9	-0.5
PAWZ	**Paruwai Farm**	**1.80**	**126**	Pn	Pn	06 48 25.4	0.0
PAWZ	**Paruwai Farm**	**1.80**	**126**	P	Pn	06 48 25.4	+0.1
PLWZ	**Palliser**	**1.82**	**133**	Pn	Pn	06 48 25.4	-0.1
PLWZ	**Palliser**	**1.82**	**133**	P	Pn	06 48 25.4	-0.1
TIWZ	**Tintock**	**1.88**	**104**	Pn	Pn	06 48 26.2	0.0
TIWZ	**Tintock**	**1.88**	**104**	P	Pn	06 48 26.3	+0.2
TRVZ	**Turoa**	**1.89**	**58**	Pn	Pn	06 48 25.7	-0.8
TRVZ	**Turoa**	**1.89**	**58**	P	Pn	06 48 25.8	-0.8
DSZ	**Denniston Nort**	**1.90**	**222**	Pn	Pn	06 48 26.0	-0.4
DSZ	**Denniston Nort**	**1.90**	**222**	P	Pn	06 48 26.1	-0.3
PRWZ	**Pori Road**	**1.91**	**97**	Pn	Pn	06 48 26.6	+0.2
PRWZ	**Pori Road**	**1.91**	**97**	P	Pn	06 48 26.7	+0.2
WNVZ	**Wahianoa**	**1.91**	**59**	Pn	Pn	06 48 25.9	-0.7
TSZ	**Takapari Road**	**1.91**	**83**	Pn	Pn	06 48 26.1	-0.4
TSZ	**Takapari Road**	**1.91**	**83**	P	Pn	06 48 26.2	-0.4
DRZ	**Dome Shelter**	**1.92**	**57**	Pn	Pn	06 48 26.4	-0.5
DRZ	**Dome Shelter**	**1.92**	**57**	P	Pn	06 48 26.3	-0.6
FWVZ	**Far West T-bar**	**1.92**	**57**	Pn	Pn	06 48 25.9	-0.9
FWVZ	**Far West T-bar**	**1.92**	**57**	P	Pn	06 48 26.0	-0.9
WHVZ	**Whangaehu Hut**	**1.93**	**58**	Pn	Pn	06 48 26.1	-0.9
WHVZ	**Whangaehu Hut**	**1.93**	**58**	P	Pn	06 48 26.2	-0.8
COVZ	**Chateau Observ**	**1.94**	**55**	P	Pn	06 48 26.3	-0.7
TWVZ	**Taurewa**	**1.96**	**51**	Pn	Pn	06 48 26.2	-1.0
TWVZ	**Taurewa**	**1.96**	**51**	P	Pn	06 48 26.2	-1.0
MOVZ	**Moawhango**	**1.97**	**63**	Pn	Pn	06 48 26.2	-1.0
MOVZ	**Moawhango**	**1.97**	**63**	P	Pn	06 48 26.2	-1.0
TRWZ	**Traveller**	**1.98**	**123**	Pn	Pn	06 48 27.4	+0.2
TRWZ	**Traveller**	**1.98**	**123**	P	Pn	06 48 27.5	+0.3
TUVZ	**Tukino**	**1.98**	**58**	Pn	Pn	06 48 26.8	-0.6
TUVZ	**Tukino**	**1.98**	**58**	P	Pn	06 48 26.8	-0.6
TMWZ	**Te Maipa**	**1.98**	**114**	Pn	Pn	06 48 27.3	0.0
TMWZ	**Te Maipa**	**1.98**	**114**	P	Pn	06 48 27.4	+0.1
NGZ	**Ngauruhoe**	**2.00**	**55**	Pn	Pn	06 48 26.7	-0.9
NGZ	**Ngauruhoe**	**2.00**	**55**	P	Pn	06 48 26.7	-0.9
WTVZ	**West Tongariro**	**2.02**	**54**	Pn	Pn	06 48 26.9	-1.0
WTVZ	**West Tongariro**	**2.02**	**54**	P	Pn	06 48 27.1	-0.8
OTVZ	**Oturere**	**2.04**	**56**	Pn	Pn	06 48 27.2	-0.8
DVHZ	**Dannevirke**	**2.05**	**90**	Pn	Pn	06 48 27.6	-0.4
DVHZ	**Dannevirke**	**2.05**	**90**	P	Pn	06 48 27.6	-0.4
KRVZ	**Karewarewa**	**2.07**	**54**	Pn	Pn	06 48 27.4	-1.0
KRVZ	**Karewarewa**	**2.07**	**54**	P	Pn	06 48 27.4	-1.0
KHZ	**Kahutara**	**2.08**	**179**	Pn	Pn	06 48 27.9	-0.5
KHZ	**Kahutara**	**2.08**	**179**	P	Pn	06 48 28.1	-0.2
HIZ	**Hauiti**	**2.10**	**31**	Pn	Pn	06 48 27.6	-1.1
HIZ	**Hauiti**	**2.10**	**31**	P	Pn	06 48 27.7	-1.0
PNHZ	**Pukenui**	**2.12**	**79**	Pn	Pn	06 48 28.4	-0.5
PNHZ	**Pukenui**	**2.12**	**79**	P	Pn	06 48 28.4	-0.5
BFZ	**Birch Farm**	**2.13**	**100**	Pn	Pn	06 48 28.7	-0.2
BFZ	**Birch Farm**	**2.13**	**100**	P	Pn	06 48 28.8	-0.2
CPWZ	**Castlepoint**	**2.14**	**106**	Pn	Pn	06 48 29.5	+0.5
CPWZ	**Castlepoint**	**2.14**	**106**	P	Pn	06 48 29.5	+0.5
BHHZ	**Black Hill Sta**	**2.15**	**68**	Pn	Pn	06 48 28.1	-1.2
BHHZ	**Black Hill Sta**	**2.15**	**68**	P	Pn	06 48 28.1	-1.2
KATZ

comp=N,5μm,0.1s
ARCH Arica 0.84 5 *e*P Pb 07 01 52.2 -0.9
ARCH *e*S Sb 07 02 03.2 -0.8
PB08 IPOC Station P 1.40 125↑ *e*P Pn 07 02 02.1 +0.5
PB08 *e*S Sb 07 02 20.7 +0.3
PB08 IAML 07 02 21.7
comp=E,827nm,0.3s
PB01 IPOC Station P 1.89 154 *e*P Pn 07 02 09.0 +0.9
PB01 *e*S Sb 07 02 33.7 -0.6
PB01 IAML 07 02 35.1
comp=E,570nm,0.3s
PB02 IPOC Station P 2.02 167↓ *i*P Pn 07 02 11.3 +1.4
PB02 *i* S Sb 07 02 37.8 -0.3
PB07 IPOC Station P 2.42 169 *e*P Pb 07 02 17.9 -2.3
PB07 *i* S Sb 07 02 48.2 -1.5
PB07 IAML 07 02 59.6
comp=E,338nm,0.6s

IDC 24 07:20:51.9±8.9, 5°55'S×150°99'E, h81km±63km, mb2.8/2, mb1 3.2/3, mb1mx2.8/48, mbtmp3.3/3, ML1.6/1, Error ellipse: s-maj=141.8km s-min=57.0km az=124.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.39**	**225**	P	Pn	07 22 10.0	+0.2
	1.3nm,0.3s,baz=92,slow=9.1,SNR=2.7						
PMG				S	Sn	07 23 11.6	+1.0
	1.3nm,0.3s,baz=97,slow=1.6,SNR=2.4						
WRA	**Warramunga Arr**	**21.60**	**227**	P	P	07 25 34.3	-1.1
	0.3nm,0.5s,baz=52,slow=10.0,SNR=5.2						
ASAR	**Alice Springs**	**24.39**	**221**	P	P	07 26 03.3	+0.5
	0.3nm,0.5s,baz=56,slow=7.3,SNR=6.2						
TORD	**Torodi Ar. Bea**	**148.80**	**286**	PKPbc	PKPbc	07 40 30.7	-0.5
	0.5nm,0.8s,baz=78,slow=2.7,SNR=5.2						

TRN 24 07:29:16.3, 13°91N×60°41W, h24km, MD3.5, Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MCLT	**Moule a Chique**	**0.55**	**249**	*e*P	Pn	07 29 29.9	+1.3
MCLT				*e*S	Sn	07 29 37.9	+0.8
SLB	**Belfond**	**0.62**	**263**	*e*S	Sn	07 29 40.3	+1.6
LPMF	**Morne Lapointe**	**0.85**	**321**	*e*P	Pn	07 29 33.4	+0.6
BIM	**Bigot**	**0.88**	**314**	*e*P	Pn	07 29 33.4	+0.2
BIM				*e*S	Sn	07 29 47.5	+2.2
TRMF	**Trois Ilets**	**0.88**	**315**	*e*P	Pn	07 29 33.8	+0.6
SVCV	**St. Vincent, C**	**0.95**	**229**	*e*P	Pn	07 29 34.5	+0.3
SVCV				*e*S	Sn	07 29 48.7	+1.7
SVB	**Belmont**	**1.03**	**232**	*e*P	Pb	07 29 36.0	+0.4
SVB				*e*S	Sn	07 29 51.0	+2.1
PML	**Morne Lenard**	**1.15**	**319**	*e*P	Pb	07 29 38.4	+0.9
BAMF	**Morne Balai**	**1.15**	**322**	*e*P	Pb	07 29 38.5	+0.9
PCM	**Pelee Case Pet**	**1.19**	**320**	*e*P	Pb	07 29 39.3	+1.0
GRGR	**Grenville**	**2.14**	**215**	*e*P	Pn	07 29 51.7	+1.2
GRGR				*e*S	Sb	07 30 18.8	-1.7

*NIED **24** 07:29:00.39°80'N×137°50'E, h17km, Mw3.7 Best double couple: M₀4.60000×10¹⁴ NP1:φ₀192.00000°, δ22.00000°, λ66.00000°. NP2:φ₀37.00000°, δ70.00000°, λ99.00000°.*
*JMA **24** 07:29:22.6±0.2, 39°.76N×143°.49E, h18km±4km, M3.9*
*IDC **24** 07:29:27.9±3.3, 39°.64N×143°.24E, h41km±30km, mb3.5/11, mb1 3.6/13, mb1mx3.4/64, mbtmp3.7/13, ML3.2/2, MS2.6/6, Ms1 2.6/6, ms1mx2.4/49, Error ellipse: s-maj=25.1km s-min=18.3km az=102.0*
ISC 24 07:29:23.1±2.1, 39°.76N±0°.05×143°.33E±0°.06, h6km±12km, n40, σ1°29/39, mb3.8/11, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**1.14**	**279**	P	**Pb**	**07 29 45.4**	**+0.1**
JTH				S	**Sn**	**07 30 02.1**	**+0.4**
MIYJ	**Miyakonagasawa**	**1.18**	**261**	P	**Pg**	**07 29 45.9**	**+0.1**
JANG	**Nango**	**1.52**	**294**	P	**Pn**	**07 29 50.8**	**-0.1**
JANG				S	**Sb**	**07 30 11.5**	**+0.2**
JOM	**Ohasama**	**1.60**	**260**	P	**Pb**	**07 29 52.7**	**-0.4**
JOM				S	**Sg**	**07 30 14.8**	**+0.2**
JMK	**Ichinoseki**	**1.83**	**244**	P	**Pn**	**07 29 55.2**	**+0.1**
JTM	**Tenmabayashi**	**2.01**	**301**	P	**Pn**	**07 29 58.6**	**+1.0**
JTM				S	**Sn**	**07 30 24.4**	**+1.3**
JIO	**Ouri**	**2.02**	**230**	P	**Pn**	**07 29 57.2**	**-0.6**
JIO				S	**Sb**	**07 30 25.1**	**-0.6**
JAH	**Hinai**	**2.12**	**282**	P	**Pn**	**07 30 00.2**	**+1.1**
JRG	**Rokugo**	**2.12**	**261**	P	**Pn**	**07 30 00.0**	**+0.9**
JRG				S	**Sb**	**07 30 27.3**	**-1.2**
JOT	**Ohata**	**2.38**	**314**	P	**Pb**	**07 30 05.1**	**-1.2**
JYK	**Kaneyama**	**2.45**	**251**	P	**Pn**	**07 30 04.7**	**+1.0**
JNBK	**Urakawa-nobuka**	**2.55**	**350**	P	**Pn**	**07 30 06.2**	**+1.1**
JNBK				S	**Sn**	**07 30 36.3**	**-0.2**
JKB	**Kayabe**	**2.75**	**321**	P	**Pn**	**07 30 10.4**	**+2.4**
JCH	**Churui**	**2.85**	**0**	P	**Pn**	**07 30 09.2**	**+0.0**
JCH				S	**Sn**	**07 30 43.2**	**-0.6**
ASAJ	**Asahikawa**	**4.38**	**353**	P	**Pn**	**07 30 31.6**	**+1.3**
	0.8nm,0.3s,baz=216,slow=16,SNR=9.1						
ASAJ				S	**Sb**	**07 31 31.2**	**-2.5**
	1.2nm,0.3s,baz=128,slow=19,SNR=3.0						
MAT	**Matsushiro**	**5.16**	**233**	P	**Pn**	**07 30 42.7**	**+1.7**
MAT				*e*S	**Sn**	**07 31 39.6**	**-1.3**
MJAR	**Matsushiro Arr**	**5.16**	**233**	P	**Pn**	**07 30 42.2**	**+1.3**
	1.4nm,0.3s,baz=43,slow=12,SNR=14						
MJAR				LR	LR	07 32 53.7	
	comp=Z,68nm,18.4s,baz=60,slow=41						
USRK	**Ussuriysk Ar.**	**9.54**	**301**	P	**Pn**	**07 31 37.5**	**-3.4**
	0.2nm,0.3s,baz=98,slow=17,SNR=2.5						
JNU	**Nakatsue**	**12.01**	**240**	LR	LR	07 37 12.2	
	comp=Z,57nm,18.6s,baz=79,slow=39						
KSRS	**Korea Array**	**12.27**	**264**	LR	LR	07 36 45.3	
	comp=Z,46nm,18.6s,baz=75,slow=36						
KLR	**Kul'dur**	**12.55**	**323**	LR	LR	07 37 34.4	
	comp=Z,4.5nm,18.6s,baz=74,slow=39						
MA2	**Magadan**	**20.38**	**11**	LR	LR	07 42 11.7	
	comp=Z,18nm,18.1s,baz=196,slow=37						
SEY	**Seymchan**	**23.83**	**10**	P	**P**	**07 34 38.4**	**+1.6**
	1.1nm,0.4s,baz=206,slow=10,SNR=5.4						
SONM	**Songino Array**	**27.64**	**299**	P	**P**	**07 35 12.2**	**+0.6**
	0.8nm,0.6s,baz=92,slow=8.0,SNR=5.1						
H11N2	**WAKE ISLAND Hy**	**28.44**	**128**	T	T	08 05 16.1	
	baz=320						
H11N1	**WAKE ISLAND Hy**	**28.45**	**128**	T	T	08 05 06.8	
	baz=320,slow=74						
H11N3	**WAKE ISLAND Hy**	**28.45**	**128**	T	T	08 05 15.9	
	baz=320,slow=74						
H11S1	**WAKE ISLAND Hy**	**29.26**	**130**	T	T	08 06 13.8	
	baz=322,slow=76,SNR=5.9						
H11S3	**WAKE ISLAND Hy**	**29.27**	**130**	T	T	08 06 17.7	
	baz=322,slow=76,SNR=3.8						
H11S2	**WAKE ISLAND Hy**	**29.27**	**130**	T	T	08 06 14.1	
	baz=322,slow=76,SNR=3.7						
TLY	**Talaya**	**29.79**	**307**	LR	LR	07 48 25.0	
	comp=Z,13nm,18.7s,baz=136,slow=38						
ZALV	**Zalesovo Beam**	**41.25**	**310**	P	**P**	**07 37 08.6**	**-0.2**
	1.5nm,0.4s,baz=94,slow=7.2,SNR=5.1						
KURBB	**Kurchatov Arra**	**45.56**	**306**	P	**P**	**07 37 43.5**	**-0.2**
	1.5nm,0.7s,baz=80,slow=8.2,SNR=13						
ILAR	**Eielson Array**	**46.39**	**34**	P	**P**	**07 37 50.3**	**+0.3**
	0.3nm,0.7s,baz=255,slow=7.1,SNR=5.3						
BVAR	**Borovoye Array**	**49.89**	**311**	P	**P**	**07 38 17.0**	**-0.2**
	0.7nm,0.6s,baz=84,slow=16,SNR=4.2						
WRA	**Warramunga Arr**	**59.98**	**190**	P	**P**	**07 39 29.0**	**-1.5**
	0.5nm,0.9s,baz=7.8,slow=6.9,SNR=4.1						
ASAR	**Alice Springs**	**63.71**	**190**	P	**P**	**07 39 53.2**	**-2.3**
	0.1nm,0.3s,baz=14,slow=7.9,SNR=3.7						
NVAR	**Mina Array Bea**	**72.17**	**55**	P	**P**	**07 40 51.1**	**+2.0**
	0.1nm,0.4s,baz=328,slow=4.7,SNR=3.2						
HFS	**Hagfors**	**72.22**	**336**	P	**P**	**07 40 48.4**	**-0.3**
	1.1nm,0.6s,baz=132,slow=10,SNR=4.6						
NOA	**NORSAR Array B**	**72.25**	**338**	P	**P**	**07 40 48.9**	**0.0**
	0.6nm,0.7s,baz=76,slow=12,SNR=2.6						

MEX 24 07:50:28.4±0.9, 16°32N×98°44W, h5km±31km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.31**	**76**	*i* P	Pg	07 50 34.2	-0.3
PNIG				*e*S	Sg	07 50 38.4	-0.3
TLIG	**Tlapa**	**1.25**	**355**	*e*P	Pg	07 50 49.0	-3.4
TLIG				*e*S	Sg	07 51 04.3	-4.2
VHO	**Vista Hermosa**	**1.80**	**65**	*e*P	Pn	07 50 58.5	-1.9
VHO				*e*S	Sn	07 51 21.3	-2.5
CAIG	**El Cayaco**	**1.89**	**293**	*e*P	Pn	07 50 58.1	-3.3
CAIG				*e*S	Sn	07 51 20.5	-5.3

*NEIC **24** 07:56:58.8±0.0, 16°.08N×98°.47W, h15km, MD4.0(MEX), After MEX.*
MEX 24 07:56:58.8±0.4, 16°08N×98°47W, h15km, MD4.0, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.46**	**47**	*e*P	Pg	07 57 06.8	-1.1
PNIG				*i* S	Sg	07 57 12.8	-1.4
PNIG	**Pinotepa**	**0.46**	**47**	*e*P	Pg	07 57 06.8	-1.1
PNIG				*i* S	Sg	07 57 12.8	-1.4
TLIG	**Tlapa**	**1.48**	**357**	*e*P	Pn	07 57 21.2	-3.8
TLIG				*e*S	Sn	07 57 39.0	-5.1
TLIG	**Tlapa**	**1.48**	**357**	*e*Pn	Pn	07 57 21.1	-3.9
TLIG				*e*Sn	Sn	07 57 40.6	-3.5
VHO	**Vista Hermosa**	**1.94**	**59**	*e*P	Pn	07 57 29.5	-1.9
VHO				*e*S	Sn	07 57 55.1	-0.6
VHO	**Vista Hermosa**	**1.94**	**59**	*e*P	Pn	07 57 29.5	-1.9
VHO				*e*S	Sn	07 57 55.1	-0.6
CAIG	**El Cayaco**	**1.97**	**300**	*e*P	Pn	07 57 28.4	-3.3
CAIG				*e*S	Sn	07 57 51.7	-4.5
CAIG	**El Cayaco**	**1.97**	**300**	*e*P	Pn	07 57 28.4	-3.3
CAIG				*e*S	Sn	07 57 51.7	-4.5

*ISCJB **24** 08:09:21.5±0.3, 8°.97S±0°.04×79°.50W±0°.06, h45km, mb4.7/69, MS3.7/12, Error ellipse: s-maj=8.5km s-min=5.4km az=155.9*
*NEIC **24** 08:09:24.7±0.8, 8°.93S×79°.39W, h58km±7km, mb4.7/64, ML4.6(ARE), Error ellipse: s-maj=10.0km s-min=4.4km az=68.0*
NEIC Felt [II] at Chimbote and Trujillo.
*IDC **24** 08:09:25.4±2.6, 8°.90S×79°.45W, h64km±21km, mb4.0/13, mb1 4.1/17, mb1mx3.9/43, mbtmp4.3/17, MS3.6/16, Ms1 3.6/16, ms1mx3.3/41, Error ellipse: s-maj=21.0km s-min=12.8km az=68.0*
ISC 24 08:09:23.4±0.4, 8°.97S±0°.05×79°.47W±0°.09, h45km, n138, σ1°29/124, mb4.7/69, MS3.6/12, Near coast of northern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATAH	**Atahualpa**	**2.11**	**30**	P	**Pn**	**08 09 57.4**	**+0.8**
	105nm,0.3s,baz=196,slow=5.6,SNR=558						
ATAH				S	**Sn**	**08 10 23.4**	**+1.5**
	288nm,0.3s,baz=105,slow=16,SNR=9.1						
ATAH				LR	LR	08 10 53.6	
	comp=Z,1μm,20.1s,baz=217,slow=43						
NNA	**Nana**	**3.95**	**140**	*e*Pn	**Pn**	**08 10 21.5**	**-0.1**
NNA				*e*Sn	**Sn**	**08 11 11.8**	**+5.0**
OTAV	**Otavalo**	**9.21**	**6**	*e*Pn	**Pn**	**08 11 35.0**	**+0.9**
OTAV				*e*Sn	**Sn**	**08 13 23.4**	**+6.8**
OTAV	**Otavalo**	**9.21**	**6**	*e*P	**Pn**	**08 11 35.7**	**+1.6**
ARE	**Arequipa**	**10.76**	**135**	*e*P	Pn	08 12 06.0	+11
CRUC	**La Cruz**	**10.77**	**14**	*e*P	**Pn**	**08 11 56.3**	**+0.9**
SOTA	**Rioblanco**	**11.39**	**15**	*e*P	**Pn**	**08 12 06.2**	**+2.1**
LPAZ	**La Paz**	**13.23**	**124**	P	**Pn**	**08 12 30.0**	**+0.7**
	0.1nm,0.3s,baz=309,slow=13,SNR=4.2						
LPAZ				LR	LR	08 17 22.0	
	comp=Z,71nm,21.5s,baz=310,slow=36						
LPAZ	**La Paz**	**13.23**	**124**	*e*Pn	**Pn**	**08 12 30.8**	**+1.5**
PRAC	**Prado**	**13.40**	**20**	*e*Pn	**Pn**	**08 12 31.9**	**+0.7**
PRAC	**Prado**	**13.40**	**20**	*e*P	**P**	**08 12 42.8**	**+3.2**
MNMC	**Minye Minye**	**13.91**	**138**	*e*Pn	**P**	**08 12 43.7**	**-1.7**
PB11	**IPOC Station P**	**14.32**	**140**	*e*Pn	**Pn**	**08 12 42.8**	**-0.9**
RREF	**El Recreo**	**14.38**	**17**	*e*P	**P**	**08 12 52.1**	**+1.1**
ROSC	**El Rosal**	**14.65**	**21**	LR	LR	08 19 05.0	
	comp=Z,191nm,18.0s,baz=216,slow=40						
GUYC	**Guyana, Colomb**	**14.68**	**16**	*e*P	**P**	**08 12 54.1**	**0.0**
HELC	**Santa Helena**	**15.56**	**15**	*e*P	**P**	**08 13 04.2**	**+0.3**
	15nm,0.8s						
RUSC	**La Rusia**	**16.08**	**24**	*e*Pn	**Pn**	**08 13 05.9**	**-1.1**
	37nm,1.3s						
SAML	**Samuel**	**16.09**	**91**	*e*Pn	**Pn**	**08 13 02.0**	**-4.6**
	20nm,0.8s						
SIV	**San Ignacio**	**19.26**	**113**	P	**P**	**08 13 44.8**	**+0.5**
	0.4nm,0.3s,baz=316,slow=9.8,SNR=13						
HDC	**Heredia**	**19.41**	**346**	*e*P	**Pn**	**08 13 47.8**	**+0.2**
	34nm,0.6s						
SDV	**Santo Domingo**	**19.80**	**27**	P	**Pn**	**08 13 50.6**	**-1.7**
	0.4nm,0.3s,baz=238,slow=11,SNR=7.2						
SDV				LR	LR	08 22 56.8	
	comp=Z,178nm,19.0s,baz=174,slow=41						
SDV	**Santo Domingo**	**19.80**	**27**	*e*P	**Pn**	**08 13 50.9**	**-1.4**
	7.8nm,0.9s						
JTS	**JuntasAbangare**	**19.90**	**344**	LR	LR	08 20 27.8	
	comp=Z,141nm,20.8s,baz=206,slow=33						
PTGA	**Pitinga**	**21.07**	**68**	P	**P**	**08 14 02.6**	**-1.4**
	14nm,0.4s,baz=251,slow=13,SNR=45						
PTGA	**Pitinga**	**21.07**	**68**	*e*P	**P**	**08 14 02.6**	**-1.4**
	28nm,1.1s						
PCRV	**Puerto La Cruz**	**24.08**	**38**	LR	LR	08 25 21.7	
	comp=Z,227nm,19.6s,baz=180,slow=40						
APG	**El Apazote**	**26.20**	**335**	LR	LR	08 23 22.0	
	comp=Z,119nm,21.1s,baz=96,slow=32						
CPUP	**Villa Florida**	**27.18**	**132**	LR	LR	08 27 59.9	
	comp=Z,101nm,19.1s,baz=318,slow=41						
PLCA	**Paso Flores**	**32.61**	**167**	P	**P**	**08 15 51.8**	**+1.0**
	4.1nm,1.1s,baz=360,slow=8.2,SNR=5.4						
PLCA	**Paso Flores**	**32.61**	**167**	*e*P	**P**	**08 15 52.2**	**+1.3**
	10nm,1.3s						
RPN	**Rapa Nui**	**33.51**	**234**	LR	LR	08 25 43.2	
	comp=Z,213nm,20.7s,baz=44,slow=29						
GOGA	**Godfrey**	**42.32**	**355**	*e*P	**P**	**08 17 11.8**	**-1.1**
	16nm,1.2s						
KMSC	**Kings Mountain**	**43.91**	**358**	*e*P	**P**	**08 17 25.1**	**-0.7**
	8.8nm,0.8s						
TKL	**Tuckaleechee C**	**44.58**	**355**	LR	LR	08 35 59.2	
	comp=Z,62nm,19.0s,baz=186,slow=36						
TXAR	**Lajitas Array**	**44.66**	**329**	P	**P**	**08 17 31.8**	**-0.2**
	0.2nm,0.7s,baz=138,slow=8.4,SNR=2.9						
TXAR				PcP	**PcP**	**08 19 14.1**	**0.0**
	0.5nm,0.8s,baz=158,slow=5.6,SNR=4.4						
TXAR				LR	LR	08 34 03.8	
	comp=Z,48nm,18.6s,baz=0.0,slow=33						
TX31	**Lajitas Ar. Si**	**44.66**	**329**	*e*P	**P**	**08 17 33.0**	**+1.0**
MIAR	**Mount Ida**	**45.30**	**344**	*e*P	**P**	**08 17 37.4**	**+0.5**
	28nm,2.0s						
WVT	**Waverly**	**45.55**	**351**	*e*P	**P**	**08 17 37.4**	**-1.4**
	5.2nm,1.0s						
WHAR	**Wooly Hollow**	**45.66**	**345**	*e*P	**P**	**08 17 40.0**	**+0.3**
	8.3nm,1.0s						
W40A	**Ferguson Farm,**	**45.77**	**344**	*e*P	**P**	**08 17 41.4**	**+0.8**
	14nm,1.1s						
PBMO	**Poplar Bluff**	**46.66**	**348**	*e*P	**P**	**08 17 47.5**	**-0.1**
	27nm,1.7s						
IP01	**Cuckoo**	**46.71**	**2**	*e*P	**P**	**08 17 47.1**	**-0.8**
	47nm,1.7s						
SPRD	**Spring Road, M**	**46.77**	**2**	*e*P	**P**	**08 17 48.1**	**-0.3**
	10nm,0.9s						
TUL1	**Leonard**	**47.22**	**342**	*e*P	**P**	**08 17 52.3**	**+0.4**
	9.2nm,0.7s						
SIUC	**Southern Illin**	**47.33**	**349**	*e*P	**P**	**08 17 52.3**	**-0.5**
	13nm,0.8s						
CCM	**Cathedral Cave**	**48.06**	**347**	*e*P	**P**	**08 17 58.0**	**-0.4**
	34nm,1.9s						
EPT	**El Paso**	**48.07**	**329**	*e*P	**P**	**08 17 57.5**	**-1.2**
	5.2nm,0.6s						
OLIL	**Olney**	**48.14**	**351**	*e*P	**P**	**08 17 57.9**	**-1.1**
	12nm,0.8s						
O56A	**Blue Knob Stat**	**49.00**	**1**	*e*P	**P**	**08 18 04.3**	**-1.4**
	14nm,1.3s						
ACSO	**Alum Creek Sta**	**49.06**	**356**	*e*P	**P**	**08 18 04.8**	**-1.4**
	11nm,0.8s						
N59A	**State Game Lan**	**49.76**	**4**	*e*P	**P**	**08 18 11.5**	**0.0**
HDIL	**Hopedale**	**50.11**	**350**	*e*P	**P**	**08 18 12.7**	**-1.4**
	13nm,0.6s						
ANMO	**Albuquerque**	**50.59**	**331**	*e*P	**P**	**08 18 18.9**	**+0.8**
	1.4nm,0.8s						
BINY	**Binghamton**	**51.02**	**3**	*e*P	**P**	**08 18 21.1**	**+0.2**
	62nm,1.8s						
SDCO	**Great Sand Dun**	**52.47**	**334**	*e*P	**P**	**08 18 32.8**	**+0.6**
	2.4nm,1.0s						
I42A	**Draeger Farm,**	**53.31**	**351**	*e*P	**P**	**08 18 36.5**	**-1.4**
	7.2nm,0.8s						
LONY	**Lake Ozonia**	**53.52**	**4**	*e*P	**P**	**08 18 38.3**	**-1.1**
	60nm,1.9s						
PLVO	**Plevna**	**53.80**	**2**	*e*P	**P**	**08 18 40.3**	**-1.2**
	83nm,1.9s						
ECSD	**EROS Data Cent**	**54.72**	**345**	*e*P	**P**	**08 18 47.1**	**-1.1**
	19nm,1.9s						
HWUT	**Hardware Ranch**	**58.32**	**332**	*e*P	**P**	**08 19 14.0**	**-0.2**
	25nm,1.9s						
PDAR	**Pinedale Array**	**58.36**	**334**	P	**P**	**08 19 13.2**	**-1.1**
	0.3nm,0.7s,baz=116,slow=6.8,SNR=4.1						
PDAR				PcP	**PcP**	**08 20 04.0**	**-0.9**
	0.5nm,0.6s,baz=120,slow=5.4,SNR=3.0						
PDAR				LR	LR	08 43 43.1	
	comp=Z,26nm,21.9s,baz=186,slow=35						
AGMN	**Agassiz Nation**	**58.83**	**347**	*e*P	**P**	**08 19 16.5**	**-0.8**
	3.3nm,0.8s						
NVAR	**Mina Array Bea**	**59.44**	**325**	P	**P**	**08 19 22.0**	**0.0**
	0.7nm,0.8s,baz=142,slow=6.9,SNR=5.6						
NVAR				LR	LR	08 41 35.2	
	comp=Z,42nm,19.2s,baz=268,slow=32						
FXWY	**Fox Creek**	**59.69**	**334**	*e*P	**P**	**08 19 23.6**	**0.0**
	1.1nm,0.9s						
YHB	**Horse Butte**	**60.66**	**335**	*e*P	**P**	**08 19 30.1**	**-0.1**
	24nm,1.9s						
ULM	**Lac du Bonnet**	**60.69**	**348**	P	**P**	**08 19 28.2**	**-1.7**
	1.5nm,0.6s,baz=170,slow=6.5,SNR=4.9						
ULM	**Lac du Bonnet**	**60.69**	**348**	*e*P	**P**	**08 19 28.9**	**-1.1**
	4.4nm,1.1s						
GCMT	**Greycliff**	**60.88**	**336**	*e*P	**P**	**08 19 32.0**	**+0.5**
DLMT	**Dillon**	**61.75**	**334**	*e*P	**P**	**08 19 35.0**	**-2.5**
	4.9nm,0.3s						
YBH	**Yreka Blue Hor**	**64.16**	**325**	LR	LR	08 45 29.5	
	comp=Z,39nm,18.6s,baz=164,slow=34						
SCHQ	**Schefferville**	**64.44**	**8**	LR	LR	08 50 03.2	
	comp=Z,28nm,20.7s,baz=64,slow=38						
PINE	**Pine Mountain**	**64.58**	**328**	*e*P	**P**	**08 19 58.8**	**+2.4**
	3.9nm,0.8s						
PPT	**Papeete**	**68.46**	**255**	LR	LR	08 44 39.6	
	comp=Z,140nm,18.8s,baz=125,slow=31						
FCC	**Fort Churchill**	**68.53**	**352**	*e*P	**P**	**08 20 20.4**	**-0.5**
	8.2nm,1.5s						
VNA3	**Neumayer Olymp**	**75.11**	**162**	P	**P**	**08 21 00.6**	**+0.1**
LIC	**Lamto**	**75.71**	**81**	*e*P	**P**	**08 21 04.3**	**-0.6**
	65nm,1.7s						
VNA2	**Neumayer--Watz**	**75.74**	**161**	P	**P**	**08 21 03.9**	**-0.1**
	baz=299,slow=6.5						
TIC	**Toumodi**	**75.80**	**81**	*e*P	**P**	**08 21 04.8**	**-0.6**
DBIC	**Dimbokro**	**75.96**	**81**	P	**P**	**08 21 05.8**	**-0.5**
	5.6nm,0.7s,baz=243,slow=6.7,SNR=8.4						
DBIC	**Dimbokro**	**75.96**	**81**	*e*P	**P**	**08 21 06.4**	**+0.1**
	8.4nm,0.8s						
KIC	**Kosan Boka**	**76.02**	**81**	*e*P	**P**	**08 21 06.4**	**-0.3**
	16nm,0.7s						
YKA	**Yellowknife Ar**	**76.24**	**344**	P	**P**	**08 21 05.9**	**-0.9**
	1.2nm,0.7s,baz=139,slow=5.9,SNR=37						
SNAA	**Sanae**	**77.33**	**162**	P	**P**	**08 21 13.6**	**+0.6**
SNAA	**Sanae**	**77.33**	**162**	P	**P**	**08 21 13.4**	**+0.3**
	4.3nm,0.8s,baz=262,slow=5.7,SNR=16						
SNAA	**Sanae**	**77.33**	**162**	*e*P	**P**	**08 21 13.7**	**+0.6**
	4.6nm,0.9s						
KOWA	**Kowa**	**78.35**	**73**	P	**P**	**08 21 19.6**	**-0.1**
	12nm,0.5s,baz=259,slow=8.1,SNR=32						
DLBC	**Dease Lake**	**78.56**	**336**	*e*P	**P**	**08 21 21.5**	**+1.5**
	3.3nm,1.0s						
QSPA	**South Pole Qui**	**81.14**	**180**	P	**P**	**08 21 35.0**	**+0.9**
	6.5nm,1.1s,baz=134,slow=7.4,SNR=8.6						
TOA0	**Torodi Ar. Sit**	**83.52**	**76**	*e*P	**P**	**08 21 46.6**	**-0.7**
	6.4nm,0.8s						
TORD	**Torodi Ar. Bea**	**83.52**	**76**	P	**P**	**08 21 46.6**	**-0.7**
	5.1nm,0.8s,baz=268,slow=4.4,SNR=25						
ESDC	**Sonseca Array**	**84.70**	**49**	P	**P**	**08 21 53.1**	**+0.3**
	0.7nm,0.5s,baz=259,slow=5.5,SNR=4.0						
BALM	**Baldy**	**85.19**	**334**	*e*P	**P**	**08 21 55.0**	**+0.1**
	1.9nm,0.9s						
DAWY	**Dawson**	**85.50**	**338**	*e*P	**P**	**08 21 56.1**	**-0.2**
	12nm,1.9s						
SUMG	**Summit**	**85.59**	**11**	*e*P	**P**	**08 21 57.4**	**+0.3**
	32nm,1.8s						
INK	**Inuvik**	**85.88**	**342**	*e*P	**P**	**08 21 57.0**	**-1.0**
	5.8nm,1.1s						
RAGM	**Ragged Mountai**	**85.91**	**333**	*e*P	**P**	**08 21 58.9**	**+0.5**
	9.4nm,1.2s						
EGAK	**Eagle**	**86.52**	**338**	*e*P	**P**	**08 22 00.9**	**-0.4**
	4.9nm,0.8s						
KLU	**Klutina**	**86.94**	**334**	*e*P	**P**	**08 22 03.6**	**+0.1**
DOT	**Dot Lake**	**87.11**	**336**	*e*P	**P**	**08 22 04.0**	**-0.2**
	4.9nm,0.7s						
SCRK	**Sand Creek**	**87.22**	**337**	*e*P	**P**	**08 22 04.5**	**-0.4**
	7.3nm,1.6s						
RIDG	**Independ'e Rid**	**87.46**	**336**	*e*P	**P**	**08 22 05.2**	**-0.7**
	3.7nm,1.2s						
SML	**Sawmill**	**88.12**	**334**	*e*P	**P**	**08 22 08.5**	**-0.6**
	11nm,1.4s						
SCO	**Scoresbysund**	**88.14**	**16**	*e*P	**P**	**08 22 09.0**	**+0.1**
	19nm,1.8s						
IL1	**Eielson Array**	**88.71**	**337**	*e*P

PNIG			*e*S	Sg	08 09 47.8	+0.1
TLIG	**Tlapa**	**1.36 357**	*e*P	Pn	08 09 56.9	-3.8
TLIG			*e*S	Sg	08 10 14.2	-4.3
VHO	**Vista Hermosa**	**1.89 62**	*e*P	Pn	08 10 03.8	-4.3
VHO			*e*S	Sn	08 10 30.6	-1.9

SJA 24 08:16:14.5±0.7, 32°.67S×68°.77W, h10km±4km, ML2.5, MW3.9, Mendoza Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AUSP	**Uspallata**	**0.69**	**310**	*e*P	Pb	08 16 29.1	+0.2
AUSP				*e*S	Sb	08 16 39.1	+0.6
RTCV	**Cerro Valdivia**	**0.83**	**13**	*e*P	Pb	08 16 30.9	-0.2
RTLS	**Leoncito**	**0.98**	**333**	*e*P	Pb	08 16 33.7	-0.1
RTLS				IAML		08 16 47.5	
	comp=Z,122nm,0.4s						
RTLL	**Cerro Villicun**	**1.36**	**11**	*e*P	Pg	08 16 40.5	-0.2
RTLL				*e*S	Sg	08 16 59.3	+0.9
ACAN	**Cantantal**	**1.39**	**74**	*e*P	Pg	08 16 41.0	-0.2
ACAN				*e*S	Sg	08 16 59.9	+0.6
AMOG	**MOGNA**	**1.75**	**8**	*e*P	Pb	08 16 46.5	-0.2
ACDV	**Cuesta del Vie**	**2.51**	**353**	*e*P	Pb	08 16 58.3	-1.5
ACDV				*e*S	Sb	08 17 30.8	-0.1

DJA 24 08:29:53.5±1.2, 0°.N3°×12°.5E±°, h27km±11km, M3.7/10, mb3.5/1, MLv3.8/10, Northern Moluca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**1.52**	**289**	P	Pn	08 30 18.4	-0.5
KMSI				S	Sn	08 30 36.8	-1.1
SANI	**Sanana**	**2.19**	**165**	P	Pn	08 30 27.9	-0.3
SANI				S	Sn	08 30 54.2	-0.2
LBMI	**Labuha**	**2.20**	**109**	P	Pn	08 30 27.8	-0.5
LUWI	**Luwuk**	**2.87**	**247**	P	Pn	08 30 38.5	+0.9
MRSI	**Marisa**	**3.50**	**276**	P	Pn	08 30 46.0	-0.2
SGSI	**Sangihe**	**3.58**	**2**	P	Pn	08 30 47.3	-0.1
NLAI	**Namlea**	**3.70**	**153**	P	Pn	08 30 48.7	-0.2
APSI	**Ampana**	**3.90**	**255**	P	Pn	08 30 51.5	-0.2
MPSI	**Mapaga**	**5.53**	**273**	P	Pn	08 31 15.8	+1.7

*IDC **24** 08:35:15.8±1.1, 5°.41N×61°.37E, h0km, mb3.9/10, mb1 4.0/10, mb1mx3.7/69, mbtmp3.9/10, MS3.7/43, Ms1 3.7/43, ms1mx3.6/62, Error ellipse: s-maj=30.7km s-min=21.3km az=38.0*

*ISCJB **24** 08:35:16.2±1.0, 5°.4N±0°.2×61°.4E±0°.1, h14km, mb3.9/10, MS3.7/41, Error ellipse: s-maj=24.8km s-min=18.5km az=28.9*

*GCMT **24** 08:35:20.0±0.4, 5°.43N×61°.65E, h12km±1km, MW4.8/69, Moment Tensor Solution. s14,c15; s69,c85; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_T-1.52±.14; $M_{\theta\theta}$1.05±.09; $M_{\phi\phi}$0.47±.09; $M_{r\theta}$-0.73±.29; $M_{r\phi}$-0.65±.06; $M_{\theta\phi}$-1.29±.32; Best double couple: $M_0$1.94200×10^{16} NP1:ϕ_s333.00000°, δ56.00000°, λ-52.00000°. NP2: ϕ_s98.00000°, δ50.00000°, λ-132.00000°. Principal axes: T 1.4740, Plg4.0000°, Azm37.0000°; N 0.9420, Plg31.0000°, Azm129.0000°; P -2.4100, Plg59.0000°, Azm301.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 24 08:35:18.1±1.3, 5°.5N×0°.2×61°.4E±0°.2, h14km, n50, σ0s76/10, mb3.9/10, MS3.6/41, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08N2	**Diego Garcia H**	**15.14**	**140**	T	T	08 54 16.6	
	baz=321,slow=76,SNR=186						
H08N3	**Diego Garcia H**	**15.15**	**141**	T	T	08 54 23.6	
	baz=321,slow=76,SNR=244						
H08N1	**Diego Carcia H**	**15.16**	**140**	T	T	08 54 21.8	
	baz=321,slow=76,SNR=187						
WSAR	**Wadi Sarin**	**17.88**	**352**	LR	LR	08 44 51.8	
	comp=Z,298nm,18.8s,baz=197,slow=32						
ATD	**Arta Tunnel**	**19.29**	**289**	LR	LR	08 46 10.6	
	comp=Z,110nm,18.8s,baz=158,slow=34						
OPO	**Ambohidratompo**	**27.66**	**210**	LR	LR	08 49 50.7	
	comp=Z,290nm,18.6s,baz=7,slow=32						
GEYT	**Alibeck**	**32.47**	**355**	LR	LR	08 55 47.6	
	comp=Z,46nm,19.0s,baz=295,slow=38						
EIL	**Elat**	**34.68**	**317**	LR	LR	08 55 45.3	
	comp=Z,171nm,18.6s,baz=66,slow=35						
ASF	**Jabal al Asfar**	**35.08**	**322**	LR	LR	08 55 25.7	
	comp=Z,110nm,20.5s,baz=78,slow=34						
MMAI	**Mount Meron Ar**	**36.57**	**322**	LR	LR	08 56 32.6	
	comp=Z,118nm,20.1s,baz=165,slow=35						
PSI	**Prapat**	**37.4**	**91**	LR	LR	08 56 23.7	
	comp=Z,103nm,18.8s,baz=304,slow=34						
GNI	**Garni**	**37.65**	**339**	LR	LR	08 58 16.9	
	comp=Z,96nm,21.6s,baz=144,slow=37						
AAK	**Ala-Archa**	**38.82**	**15**	P	**P**	**08 42 44.2**	**+1.4**
	0.7nm,0.3s,baz=190,slow=12,SNR=4.4						
CMAR	**Chiang Mai Arr**	**38.86**	**67**	P	**P**	**08 42 42.9**	**-0.3**
	1.2nm,0.3s,baz=257,slow=8.1,SNR=2.5						
CMAR				LR	LR	08 58 46.4	
	comp=Z,44nm,18.1s,baz=246,slow=36						
KBZ	**Khabaz**	**41.45**	**340**	LR	LR	09 02 46.7	
	comp=Z,50nm,18.6s,baz=156,slow=40						
KVAR	**Kislovodsk Arr**	**41.72**	**340**	LR	LR	09 01 28.9	
	comp=Z,39nm,19.3s,baz=345,slow=38						
BRTR	**Keskin Array B**	**42.30**	**328**	P	**P**	**08 43 11.4**	**-0.2**
	2.6nm,1.1s,baz=128,slow=8.0,SNR=6.7						
BRTR				LR	LR	09 01 03.3	
	comp=Z,87nm,20.3s,baz=118,slow=37						
AKTO	**Aktyubinsk**	**44.92**	**357**	LR	LR	09 02 51.4	
	comp=Z,112nm,21.3s,baz=163,slow=37						
MKAR	**Makanchi Array**	**44.97**	**20**	P	**P**	**08 43 33.1**	**+0.3**
	0.5nm,0.7s,baz=219,slow=9.4,SNR=4.0						
MKAR				LR	LR	09 04 34.5	
	comp=Z,69nm,18.3s,baz=230,slow=39						
KURBB	**Kurchatov Arra**	**47.26**	**15**	P	**P**	**08 43 51.1**	**+0.3**
	0.3nm,0.3s,baz=213,slow=8.6,SNR=5.0						
BVAR	**Borovoye Array**	**48.00**	**7**	LR	LR	09 05 39.6	
	comp=Z,198nm,19.9s,baz=190,slow=38						
MLR	**Muntele Rosu**	**50.38**	**328**	LR	LR	09 07 21.6	
	comp=Z,20nm,18.9s,baz=146,slow=38						
ARU	**Arti**	**50.89**	**358**	LR	LR	09 06 29.0	
	comp=Z,63nm,19.9s,baz=164,slow=37						
ZALV	**Zalesovo Beam**	**51.98**	**17**	LR	LR	09 06 58.8	
	comp=Z,92nm,20.4s,baz=62,slow=37						
AKASG	**Malin Array Be**	**52.50**	**335**	LR	LR	09 11 49.3	
	comp=Z,24nm,18.2s,baz=170,slow=42						
OBN	**Obninsk**	**53.39**	**343**	LR	LR	09 10 13.7	
	comp=Z,33nm,18.8s,baz=158,slow=39						
KEST	**Kesra**	**56.41**	**310**	LR	LR	09 09 54.2	
	comp=Z,36nm,19.3s,baz=318,slow=37						
SONM	**Songino Array**	**57.05**	**35**	P	**P**	**08 45 04.0**	**+0.1**
	0.6nm,0.7s,baz=222,slow=7.8,SNR=3.5						
SONM				LR	LR	09 10 26.4	
	comp=Z,123nm,18.0s,baz=240,slow=37						
GERES	**GERESS Array B**	**59.09**	**325**	LR	LR	09 11 39.6	
	comp=Z,34nm,19.0s,baz=86,slow=37						
TGY	**Tagaytay City**	**59.19**	**77**	LR	LR	09 10 12.8	
	comp=Z,92nm,19.1s,baz=142,slow=35						
TORD	**Torodi Ar. Bea**	**59.28**	**282**	P	**P**	**08 45 20.4**	**+0.6**
	1.0nm,0.9s,baz=92,slow=5.7,SNR=4.8						
TORD				LR	LR	09 12 40.6	
	comp=Z,40nm,18.4s,baz=315,slow=38						
FINES	**FINESS Array B**	**61.76**	**342**	LR	LR	09 14 43.3	
	comp=Z,46nm,19.4s,baz=166,slow=38						
KOWA	**Kowa**	**64.85**	**283**	LR	LR	09 13 09.4	
	comp=Z,44nm,18.2s,baz=38,slow=35						
HFS	**Hagfors**	**65.35**	**336**	P	**P**	**08 45 58.6**	**-1.1**
	1.4nm,0.7s,baz=116,slow=5.3,SNR=3.2						
HFS				LR	LR	09 16 23.5	
	comp=Z,49nm,19.8s,baz=132,slow=38						
DBIC	**Dimbokro**	**65.83**	**275**	LR	LR	09 13 51.9	
	comp=Z,76nm,20.9s,baz=70,slow=35						
NOA	**NORSAR Array B**	**66.87**	**336**	LR	LR	09 17 20.6	
	comp=Z,39nm,21.1s,baz=120,slow=38						
JOW	**Kunigami**	**66.96**	**63**	LR	LR	09 18 07.9	
	comp=Z,49nm,19.1s,baz=36,slow=38						
JNU	**Nakatsue**	**69.89**	**57**	LR	LR	09 19 10.7	
	comp=Z,40nm,19.5s,baz=274,slow=38						
MAW	**Mawson**	**72.89**	**179**	LR	LR	09 10 51.9	
	comp=Z,108nm,20.0s,baz=56,slow=29						
WRA	**Warramunga Arr**	**75.97**	**112**	P	**P**	**08 47 04.9**	**-0.4**
	2.5nm,0.9s,baz=289,slow=5.0,SNR=12						
MJAR	**Matsushiro Arr**	**76.20**	**54**	LR	LR	09 23 06.8	
	comp=Z,23nm,19.3s,baz=270,slow=38						
SPITS	**Spitsbergen Ar**	**76.26**	**351**	LR	LR	09 24 56.0	
	comp=Z,65nm,18.2s,baz=110,slow=39						
ASAR	**Alice Springs**	**76.33**	**116**	P	**P**	**08 47 07.8**	**+0.5**
	1.2nm,0.8s,baz=278,slow=5.7,SNR=12						
JHJ	**Hachijo jima 2**	**77.34**	**57**	LR	LR	09 22 05.3	
	comp=Z,26nm,21.4s,baz=93,slow=36						
GUMO	**Guam**	**82.43**	**77**	LR	LR	09 22 30.7	
	comp=Z,17nm,19.4s,baz=236,slow=34						
STKA	**Stephens Creek**	**84.59**	**123**	LR	LR	09 21 36.6	
	comp=Z,60nm,20.0s,baz=207,slow=33						
SNAA	**Sanae**	**87.28**	**197**	LR	LR	09 19 37.1	
	comp=Z,71nm,21.2s,baz=155,slow=30						
PETK	**Petropavlovsk-**	**89.47**	**37**	LR	LR	09 31 12.1	
	comp=Z,66nm,19.4s,baz=272,slow=38						
QSPA	**South Pole Qui**	**95.41**	**180**	LR	LR	09 25 44.1	
	comp=Z,112nm,21.2s,baz=254,slow=32						
VNDA	**Vanda**	**97.55**	**168**	LR	LR	09 28 19.2	
	comp=Z,66nm,18.3s,baz=258,slow=33						

*NEIC **24** 08:35:27.8±0.0, 16°.18N×98°.45W, h20km, MD4.0(MEX), After MEX.*

MEX 24 08:35:27.8±0.7, 16°.18N×98°.45W, h20km±52km, MD4.0, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.37**	**56**	*e*P	Pb	08 35 34.2	-1.6
PNIG				*e*S	Sb	08 35 40.0	-1.2
PNIG	**Pinotepa**	**0.37**	**56**	*e*P	Pb	08 35 34.2	-1.6
PNIG				*e*S	Sb	08 35 40.0	-1.2
TLIG	**Tlapa**	**1.38**	**355**	*e*P	Pb	08 35 48.7	-3.3
TLIG				*e*S	Sn	08 36 04.9	-4.9
TLIG	**Tlapa**	**1.38**	**355**	*e*Pn	Pn	08 35 48.5	-3.5
TLIG				*e*Sn	Sn	08 36 08.5	-1.3
VHO	**Vista Hermosa**	**1.87**	**61**	*e*P	Pn	08 35 56.9	-2.0
VHO				*e*S	Sn	08 36 22.6	+0.7
VHO	**Vista Hermosa**	**1.87**	**61**	*e*P	Pn	08 35 56.9	-2.0
VHO				*e*S	Sn	08 36 22.6	+0.7
CAIG	**El Cayaco**	**1.95**	**297**	*e*P	Pn	08 35 57.5	-2.2
CAIG				*e*S	Sn	08 36 19.9	-3.7
CAIG	**El Cayaco**	**1.95**	**297**	*e*P	Pn	08 35 57.5	-2.2
CAIG				*e*S	Sn	08 36 19.9	-3.7

*ISCJB **24** 08:42:53.1±0.9, 15°.92S±0°.07×167°.4E±0°.2, h39km, mb3.8/5, MS3.0/2, Error ellipse: s-maj=26.8km s-min=10.3km az=5.6*

*IDC **24** 08:42:58.3±8.2, 16°.06S×167°.46E, h78km±84km, mb3.7/6, mb1 3.8/7, mb1mx3.5/43, mbtmp4.0/7, ML4.1/1, MS3.1/4, Ms1 3.1/4, ms1mx2.8/38, Error ellipse: s-maj=61.5km s-min=33.9km az=167.0*

ISC 24 08:42:54.6±1.1, 15°.86S±0°.10×167°.4E±0°.2, h39km, n10, σ0s88/8, mb3.9/5, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**6.25**	**188**	P	**Pn**	**08 44 25.1**	**+0.7**
	4.5nm,0.3s,baz=54,slow=7.4,SNR=73						
DZM				S	**Sn**	**08 45 34.1**	**-0.6**
	1.4nm,0.3s,baz=342,slow=20,SNR=3.8						
DZM				LR	LR	08 46 43.1	
	comp=Z,200nm,18.3s,baz=322,slow=37						
HNR	**Honiara**	**9.70**	**310**	LR	LR	08 48 37.9	
	comp=Z,111nm,18.7s,baz=185,slow=34						
CTA	**Charters Tower**	**20.58**	**255**	P	**P**	**08 47 31.3**	**+1.0**
	3.2nm,0.8s,baz=77,slow=12,SNR=6.6						
PMG	**Port Moresby**	**20.79**	**286**	LR	LR	08 55 05.6	
	comp=Z,114nm,18.5s,baz=164,slow=35						
ASAR	**Alice Springs**	**32.44**	**251**	P	**P**	**08 49 20.0**	**-1.3**
	0.3nm,0.6s,baz=77,slow=8.8,SNR=5.5						
GUMO	**Guam**	**36.80**	**321**	LR	LR	09 04 15.9	
	comp=Z,12nm,18.1s,baz=126,slow=35						
SONM	**Songino Array**	**83.49**	**324**	P	**P**	**08 55 18.7**	**+0.3**
	1.5nm,0.9s,baz=134,slow=4.2,SNR=5.9						
ILAR	**Eielson Array**	**87.54**	**18**	P	**P**	**08 55 37.6**	**-0.5**
	0.4nm,0.5s,baz=239,slow=5.3,SNR=11						
MKAR	**Makanchi Array**	**98.12**	**316**	P	**P**	**08 56 27.8**	**+0.5**
	0.6nm,0.8s,baz=92,slow=4.7,SNR=3.6						
YKA	**Yellowknife Ar**	**98.47**	**27**	P	**P**	**08 56 28.3**	**-0.1**
	0.1nm,0.6s,baz=266,slow=4.7,SNR=3.4						

*THR **24** 08:57:58.6±0.4, 32°.73N×47°.15E, h14km±3km, ML3.6*

*ISCJB **24** 08:57:59.3±0.6, 32°.70N±0°.05×47°.07E±0°.07, h20km, Error ellipse: s-maj=8.8km s-min=6.1km az=30.8*

*TEH **24** 08:57:59.4, 32°.75N×47°.01E, h10km, ML3.6*

*ISN **24** 08:57:59.1±1.2, 32°.72N×47°.02E, h25km±6km, ML3.6*

*CSEM **24** 08:58:00.2±0.2, 32°.70N×47°.07E, h20km, ML3.6, Error ellipse: s-maj=4.6km s-min=3.9km az=20.0*

ISC 24 08:57:60.0±1.1, 32°.70N±0°.05×47°.07E±0°.06, h20km, n27, σ0s75/28, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKFM	**Kafar-mosalman**	**1.05**	**38**	*e*Pg	**Pb**	**08 58 17.7**	**-1.8**
IKOM	**Komasi**	**1.52**	**14**	*e*Pn	**Pb**	**08 58 26.9**	**-0.6**
IKOM				*e*AMB	AMB	08 59 02.4	
	comp=Z,14μm,0.4s						
IKOM	**Komasi**	**1.52**	**14**	*e*Pn	**Pb**	**08 58 26.9**	**-0.6**
SHGR	**Shooshtar-Gavs**	**1.58**	**111**	*e*Pg	**Pn**	**08 58 26.7**	**-0.1**
SHGR	**Shooshtar-Gavs**	**1.58**	**111**	*e*Pg	**Pn**	**08 58 26.7**	**-0.1**
SHGR				AML	AML	08 58 53.3	
	comp=N,1μm,0.5s						
SHGR				AML	AML	08 58 54.0	
	comp=E,1μm,0.7s						
IGHG	**Ghaleghazi**	**1.68**	**346**	*e*Pn	**Pn**	**08 58 27.8**	**-0.6**
IGHG				*e*AMB	AMB	08 58 57.2	
	comp=Z,10μm,0.3s						
IGHG	**Ghaleghazi**	**1.68**	**346**	*e*Pn	**Pn**	**08 58 27.8**	**-0.6**
IVIS	**Veis**	**1.83**	**354**	*e*Pn	**Pn**	**08 58 30.0**	**-0.4**
IVIS				*e*AMB	AMB	08 59 06.9	
	comp=Z,4μm,0.2s						
IVIS	**Veis**	**1.83**	**354**	*e*Pn	**Pn**	**08 58 30.0**	**-0.4**
NSR	**Nassriya**	**1.86**	**205**	*e*Pn	**Pn**	**08 58 31.0**	**+0.3**
	SNR=5.0						
NSR				*e*Sn	**Sn**	**08 58 54.0**	**+0.4**
	SNR=5.0						
SNGE	**Sanandaj**	**2.40**	**5**	*e*Pn	**Pn**	**08 58 39.1**	**+0.8**
SNGE	**Sanandaj**	**2.40**	**5**	*e*Pn	**Pn**	**08 58 39.1**	**+0.8**
SNGE				*e*Sg	**Sb**	**08 59 13.0**	**+1.2**
KHMZ	**Khomeyn**	**2.63**	**66**	*e*Pn	**Pn**	**08 58 42.1**	**+0.5**
KHMZ	**Khomeyn**	**2.63**	**66**	*e*Pn	**Pn**	**08 58 42.1**	**+0.5**
KHMZ				AML	AML	08 59 34.7	
	comp=E,144nm,0.6s						
HAGD	**Aghdareh**	**2.73**	**39**	*e*Pn	**Pn**	**08 58 43.4**	**+0.5**
HAGD				*e*AMB	AMB	08 59 27.4	
	comp=Z,99nm,0.4s						
HAGD	**Aghdareh**	**2.73**	**39**	*e*Pn	**Pn**	**08 58 43.4**	**+0.5**
HKZM	**Kohzaman**	**3.08**	**29**	*e*AMB	AMB	08 59 48.1	
	comp=Z,99nm,0.4s						
QAM	**Ghamsar**	**3.81**	**73**	*e*AMB	AMB	09 00 13.8	
	comp=N,2μm,0.4s						
IKLH	**Kolahrood**	**3.84**	**80**	*e*Pn	**Pn**	**08 58 59.1**	**+0.9**
IKLH				*e*Pn	**Pn**	**08 58 59.1**	**+0.9**
IKLH				*e*AMB	AMB	09 00 12.5	
	comp=Z,1μm,0.4s						
IKLH				*e*AMB	AMB	09 00 12.5	
	comp=Z,1μm,0.4s						
IKLH	**Kolahrood**	**3.84**	**80**	*e*Pn	**Pn**	**08 58 59.1**	**+0.9**
GHVR	**GHOM**	**3.95**	**62**	*e*Pn	**Pn**	**08 58 59.4**	**-0.1**
GHVR	**GHOM**	**3.95**	**62**	*e*Pn	**Pn**	**08 58 59.4**	**-0.1**
GHVR				AML	AML	08 59 52.9	
	comp=E,89nm,0.8s						
ZNJK	**Zanjan**	**4.18**	**18**	*e*Pn	**Pn**	**08 59 03.8**	**+1.0**
ZNJK	**Zanjan**	**4.18**	**18**	*e*Pn	**Pn**	**08 59 03.8**	**+1.0**
IZEF	**Zefreh**	**4.43**	**86**	*e*Pn	**Pn**	**08 59 06.2**	**-0.2**
IZEF				*e*AMB	AMB	09 00 36.9	
	comp=Z,384nm,0.3s						
IZEF	**Zefreh**	**4.43**	**86**	*e*Pn	**Pn**	**08 59 06.2**	**-0.2**
RTB	**Rutbah**	**5.70**	**275**	*e*Pn	**Pn**	**08 59 24.0**	**+0.5**
	SNR=5.0						

*HEL **24** 08:59:56.3±0.1, 64°.74N×30°.62E, h0km, ML1.9, Explosion*

*CSEM **24** 08:59:56.3, 64°.74N×30°.62E, h0km, ML1.9, Mining explosion.*

*IDC **24** 08:59:58.5±1.9, 64°.74N×30°.33E, h0km, mb1 3.0/4, mb1mx2.9/72, mbtmp2.9/4, ML2.9/3, Error ellipse: s-maj=24.4km s-min=8.3km az=102.0*

ISC 24 08:59:54.2±1.1, 64°.87N±0°.03×30°.98E±0°.05, h0km, n38, σ1s50/66, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KU6	**Riekki**	**1.25**	**339**	Pg	**Pn**	**09 00 20.0**	**+1.2**
KU6				Sb	**Sn**	**09 00 37.7**	**+1.3**
KU6	**Riekki**	**1.25**	**339**	PG	**Pn**	**09 00 20.0**	**+1.2**
	baz=168						
KU6				MSG		09 00 36.5	
	comp=Z,5.9nm,0.2s						
KU6				SB	**Sn**	**09 00 37.6**	**+1.3**
MSF	**Maaselka**	**1.32**	**323**	Pg	**Pb**	**09 00 20.6**	**+0.7**
MSF				Sg	**Sn**	**09 00 38.3**	**+0.1**
MSF	**Maaselka**	**1.32**	**323**	PG	**Pb**	**09 00 20.6**	**+0.7**
	baz=153						
MSF				SG	**Sn**	**09 00 38.4**	**+0.1**
JOF	**Joensuu**	**1.96**	**175**	Pg	**Pn**	**09 00 29.5**	**+0.8**
JOF				Sg	**Sn**	**09 00 53.5**	**-0.5**
JOF	**Joensuu**	**1.96**	**175**	PG	**Pn**	**09 00 29.5**	**+0.8**
	baz=352						
JOF				SG	**Sn**	**09 00 53.5**	**-0.5**
OUL	**Oulu**	**2.17**	**278**	Pg	**Pn**	**09 00 32.8**	**+1.3**
OUL				Sg	**Sn**	**09 00 59.3**	**+0.2**
OUL	**Oulu**	**2.17**	**278**	PG	**Pn**	**09 00 32.8**	**+1.3**
	baz=96						
OUL				SG	**Sn**	**09 00 59.3**	**+0.2**
RNF	**Rovaniemi**	**2.69**	**313**	Pb	**Pb**	**09 00 42.9**	**-0.3**
RNF				Sb	**Sb**	**09 01 16.7**	**0.0**
RNF	**Rovaniemi**	**2.69**	**313**	PB	**Pb**	**09 00 42.9**	**-0.3**
	baz=134						
RNF				SB	**Sb**	**09 01 16.7**	**0.0**
OUF	**Merijarvi**	**2.74**	**262**	Pb	**Pn**	**09 00 40.3**	**+1.0**
OUF				Sg	**Sn**	**09 01 14.5**	**+1.5**
	comp=Z,15nm,0.2s						
OUF	**Merijarvi**	**2.74**	**262**	PB	**Pn**	**09 00 40.3**	**+1.0**
OUF				MSG		09 01 12.0	
	comp=Z,15nm,0.2s						
OUF				SG	**Sn**	**09 01 14.5**	**+1.5**
VRF	**Varrio**	**2.94**	**350**	Pb	**Pb**	**09 00 46.7**	**-0.8**
VRF	**Varrio**	**2.94**	**350**	PB	**Pb**	**09 00 46.7**	**-0.8**
	baz=176						
VRF				MSG		09 01 25.9	
	comp=Z,1.7nm,0.2s						
TOF	**Tornio**	**3.03**	**297**	Pn	**Pn**	**09 00 42.0**	**-1.3**
TOF				Sg	**Sb**	**09 01 25.4**	**-1.0**
	comp=Z,3.0nm,0.2s						
TOF	**Tornio**	**3.03**	**297**	PN	**Pn**	**09 00 42.0**	**-1.3**
TOF				MSG		09 01 23.1	
	comp=Z,3.0nm,0.2s						
TOF				SG	**Sb**	**09 01 25.4**	**-1.0**
SGF	**Sodankyl**	**3.15**	**327**	Pb	**Pb**	**09 00 50.9**	**-0.1**
SGF	**Sodankyl**	**3.15**	**327**	PB	**Pb**	**09 00 50.9**	**-0.1**
KALU	**Kalix**	**3.34**	**291**	Pg	**Pb**	**09 00 54.6**	**+0.4**
KALU	**Kalix**	**3.34**	**291**	PG	**Pb**	**09 00 54.6**	**+0.4**
	baz=104						
KEF	**Keuruu**	**3.85**	**228**	Pb	**Pn**	**09 00 56.2**	**+1.6**
KEF				Sn	**Sn**	**09 01 39.4**	**-1.1**
KEF	**Keuruu**	**3.85**	**228**	PB	**Pn**	**09 00 56.2**	**+1.6**
	baz=39						
KEF				SN	**Sn**	**09 01 39.4**	**-1.1**
ERTU	**Ertsjaerv**	**4.00**	**299**	Pn	**Pn**	**09 01 00.1**	**+3.4**
ERTU				Sg	**Sg**	**09 02 00.5**	**-2.2**
ERTU	**Ertsjaerv**	**4.00**	**299**	PN	**Pn**	**09 01 00.1**	**+3.4**
ERTU				SG	**Sg**	**09 02 00.5**	**-2.2**
FIA0	**FINESS Array S**	**4.09**	**215**	Pn	**Pn**	**09 00 57.9**	**0.0**
FIA0				Sg	**Sb**	**09 01 57.2**	**+0.2**
FIA0	**FINESS Array S**	**4.09**	**215**	PN	**Pn**	**09 00 57.9**	**0.0**
	baz=26						
FIA0				SG	**Sb**	**09 01 57.2**	**+0.2**
FINES	**FINESS Array B**	**4.09**	**215**	Pn	**Pn**	**09 00 58.0**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=32,slow=14,SNR=5.7						
FINES				Lg	Lg	09 01 59.0	
	comp=Z,1.0nm,0.3s,baz=31,slow=28,SNR=13						
VAF	**Ylistaro**	**4.09**	**247**	Pb	**Pn**	**09 00 59.7**	**+1.7**
VAF				Sg	**Sb**	**09 01 58.8**	**+1.8**
VAF	**Ylistaro**	**4.09**	**247**	PB	**Pn**	**09 00 59.7**	**+1.7**
	baz=58						
VAF				SG	**Sb**	**09 01 58.8**	**+1.8**
BURU	**Burvik**	**4.13**	**270**	Pg	**Pb**	**09 01 09.0**	**+1.4**
BURU				Sn	**Sn**	**09 01 45.4**	**-1.8**
BURU	**Burvik**	**4.13**	**270**	PG	**Pb**	**09 01 09.0**	**+1.4**
BURU				SN	**Sn**	**09 01 45.4**	**-1.8**
HEF	**Hetta**	**4.59**	**324**	Pg	**Pb**	**09 01 17.4**	**+1.9**
HEF				Sg	**Sg**	**09 02 17.8**	**-3.8**
HEF	**Hetta**	**4.59**	**324**	PG	**Pb**	**09 01 17.4**	**+1.9**
	baz=138						
HEF				SG	**Sg**	**09 02 17.8**	**-3.8**
VJF	**Virojoki**	**4.62**	**201**	Pn	**Pn**	**09 01 04.4**	**-0.8**
VJF				Sg	**Sb**	**09 02 12.8**	**+0.6**
VJF	**Virojoki**	**4.62**	**201**	PN	**Pn**	**09 01 04.4**	**-0.8**
VJF				SG	**Sb**	**09 02 12.8**	**+0.6**
ARCES	**ARCESS Array B**	**5.14**	**338**	Pn	**Pn**	**09 01 14.9**	**+2.5**
	comp=Z,0.6nm,0.3s,baz=156,slow=14,SNR=29						
ARCES				Sn	**Sn**	**09 02 14.4**	**+2.0**
	comp=Z,0.6nm,0.3s,baz=153,slow=26,SNR=7.6						
ARCES				Lg	Lg	09 02 38.5	
	comp=Z,0.9nm,0.3s,baz=156,slow=30,SNR=7.5						
HFS	**Hagfors**	**9.28**	**247**	Pn	Pn	09 02 04.9	-4.2
	comp=Z,0.2nm,0.3s,baz=

ENLB	**Shoufeng** baz=266	**0.14**	**284**	⇓*i*P	**Pb**	09 13 19.1	+1.7
ENLB				S	**Sb**	09 13 23.3	+2.8
HWA	**Hwalien** baz=318	**0.17**	**308**	P	**Pb**	09 13 19.2	+1.3
HWA				S	**Sb**	09 13 23.5	+2.2
TWD	**Chiawan** baz=345	**0.26**	**325**	⇓*i*P	**Pb**	09 13 19.8	+0.4
TWD				*i* S	**Sb**	09 13 24.0	+0.3
ESL	**Shilin** baz=255	**0.30**	**260**	*e*P	**Pb**	09 13 20.3	+0.2
ESL				*e*S	**Sb**	09 13 25.0	0.0
NACB	**Ninganchiao** baz=344	**0.34**	**334**	⇓P	**Pb**	09 13 20.8	+0.1
NACB				S	**Sb**	09 13 25.6	-0.4
HGSD	**Ruisui** baz=207	**0.48**	**219**	P	**Pb**	09 13 24.3	+1.1
HGSD				S	**Sn**	09 13 32.5	-1.2
WHF	**Hehuan Shan** baz=297	**0.53**	**302**	⇓*i*P	**Pg**	09 13 23.7	+0.3
WHF				*i* S	**Sg**	09 13 30.6	+0.1
EHY	**Hungye** baz=227	**0.54**	**228**	⇑P	**Pb**	09 13 24.0	-0.1
OWD	**Renai** baz=282	**0.54**	**279**	*e*P	**Pb**	09 13 23.9	-0.3
OWD				*e*S	**Sg**	09 13 31.1	+0.4
NANB	**Nanao** baz=14	**0.56**	**359**	P	**Pb**	09 13 24.5	0.0
NANB				S	**Sb**	09 13 32.5	+0.1
ENA	**Nanau** baz=14	**0.56**	**359**	*e*P	**Pb**	09 13 24.5	0.0
ENA				S	**Sb**	09 13 32.6	+0.3
CHGB	**Renai** baz=288	**0.56**	**290**	⇓P	**Pb**	09 13 24.5	-0.3
CHGB				S	**Sg**	09 13 31.7	+0.1
ENAH	**Nanao** baz=11	**0.58**	**5**	*e*P	**Pb**	09 13 24.8	-0.1
YULB	**Yu-li** baz=225	**0.63**	**222**	⇑P	**Pg**	09 13 25.6	+0.3
NNSB	**Datong** baz=333	**0.65**	**329**	⇓P	**Pg**	09 13 25.9	+0.2
NNSB				S	**Sg**	09 13 34.2	-0.1
NNSH	**Datong** baz=332	**0.65**	**329**	*e*P	**Pg**	09 13 25.9	+0.1
NNSH				*e*S	**Sg**	09 13 34.2	-0.2
TWT	**Tachien** baz=298	**0.65**	**306**	⇓*i*P	**Pb**	09 13 26.2	-0.1
TWT				S	**Sg**	09 13 34.4	-0.1
TWF1	**Yuli** baz=224	**0.66**	**219**	P	**Pg**	09 13 26.1	+0.2
TDCB	**Techi** baz=306	**0.67**	**305**	⇓P	**Pb**	09 13 26.3	-0.2
TDCB				S	**Sg**	09 13 34.2	-0.6
NNS	**Nan Shan** baz=333	**0.67**	**329**	P	**Pg**	09 13 26.1	+0.1
NNS				S	**Sg**	09 13 34.5	-0.3
SSLB	**Suanglung** baz=266	**0.74**	**264**	⇑P	**Pg**	09 13 27.2	0.0
SSLB				S	**Sg**	09 13 36.1	-0.9
TWC	**Suao** baz=7.0	**0.74**	**7**	P	**Pb**	09 13 27.9	+0.3
TWC				*e*S	**Sn**	09 13 39.1	-1.1
EOS1	**EOS1** baz=46	**0.76**	**27**	*e*P	**Pn**	09 13 29.9	+0.7
DPDB	**Guoxing** baz=287	**0.78**	**282**	⇓*i*P	**Pg**	09 13 28.1	+0.1
SMLT	**Sun Moon Lake** baz=268	**0.78**	**271**	P	**Pb**	09 13 28.3	-0.1
SMLT				S	**Sg**	09 13 37.9	-0.6
ENTT	**Nioudou** baz=353	**0.79**	**347**	*e*P	**Pg**	09 13 28.2	0.0
FULB	**Fuli** baz=220	**0.79**	**212**	P	**Pb**	09 13 28.9	+0.5
TYC	**Yuchr** baz=270	**0.82**	**273**	⇓*i*P	**Pg**	09 13 28.7	-0.1
TYC				S	**Sg**	09 13 38.5	-1.2
YUS	**Yu-Shan** baz=237	**0.83**	**243**	P	**Pb**	09 13 29.4	0.0
YUS				S	**Sg**	09 13 39.5	-0.5
CHKT	**Chengkung** baz=183	**0.84**	**205**	*e*P	**Pg**	09 13 29.5	+0.2
CHKT				*e*S	**Sn**	09 13 42.5	-0.2
TWE	**Neicheng** baz=350	**0.85**	**355**	*e*P	**Pb**	09 13 29.7	+0.2
YHNB	**Yeheng** baz=341	**0.87**	**337**	⇓P	**Pg**	09 13 29.6	-0.2
YHNB				*e*S	**Sg**	09 13 39.0	-2.2
NWLT	**Wulai** baz=351	**0.93**	**346**	*e*P	**Pn**	09 13 31.4	-0.3
WJS	**Zhushan** baz=264	**0.94**	**267**	*e*P	**Pb**	09 13 31.0	0.0
WJS				*e*S	**Sn**	09 13 44.4	-0.7
ELDTW	**Lidau** baz=210	**0.96**	**225**	*e*P	**Pb**	09 13 30.6	-0.8
TWQ1	**Liyutan** baz=305	**1.02**	**298**	P	**Pg**	09 13 32.6	0.0
TWQ1				S	**Sg**	09 13 46.0	+0.1
CHN5	**Tsauling** baz=252	**1.02**	**255**	⇑P	**Pn**	09 13 33.0	0.0
CHN5				*e*S	**Sg**	09 13 46.5	+0.5
NSTT	**Nanjuang** baz=320	**1.02**	**318**	*e*P	**Pb**	09 13 32.0	-0.5
TCU	**Taichung** baz=284	**1.02**	**286**	*e*P	**Pn**	09 13 33.2	+0.3
LIOB	**Emei** baz=313	**1.03**	**319**	*e*P	**Pg**	09 13 32.7	-0.1
NSY	**Sanyi** baz=301	**1.06**	**301**	*e*P	**Pn**	09 13 33.4	0.0
TIPB	**Shuangxi** baz=357	**1.10**	**3**	*e*P	**Pb**	09 13 32.9	-0.9
NMLH	**Miaoli** baz=308	**1.10**	**307**	*e*P	**Pg**	09 13 35.0	+0.8
WGK	**Gukeng** baz=257	**1.11**	**261**	*e*P	**Pg**	09 13 34.7	+0.4
TATO	**Taipei** baz=352	**1.13**	**348**	*e*P	**Pg**	09 13 35.0	+0.3
WDLH	**Douliu** baz=257	**1.13**	**261**	*e*P	**Pb**	09 13 34.3	0.0
STYT	**Tauyuan** baz=216	**1.15**	**233**	P	**Pb**	09 13 34.7	0.0
TWB1	**Santiao Chiao** baz=14	**1.15**	**11**	*e*P	**Pg**	09 13 35.8	+0.6
TWB1				*e*S	**Sn**	09 13 51.2	+0.9
TPUB	**Ta-pu** baz=238	**1.18**	**242**	P	**Pb**	09 13 35.4	+0.3
TPUB				*e*S	**Sn**	09 13 51.2	+0.3
TWH	**Lutao** baz=189	**1.18**	**193**	*e*P	**Pn**	09 13 33.9	-1.2
CHN4	**Tsaushan** baz=232	**1.18**	**244**	⇑*e*P	**Pb**	09 13 35.4	+0.2
CHN4				*e*S	**Sg**	09 13 51.5	+0.3
NWF	**Wu-fen Shan** baz=353	**1.20**	**1**	*e*P	**Pg**	09 13 36.6	+0.6
WFSB	**Wu-fen Shan** baz=353	**1.20**	**1**	*e*P	**Pg**	09 13 36.2	+0.2
TWGBT	**Beinan** baz=195	**1.22**	**211**	*e*P	**Pn**	09 13 34.1	-1.4
TWG	**Pinlang** baz=195	**1.22**	**211**	*e*P	**Pn**	09 13 33.7	-1.9
WTP	**Ta-pu** baz=236	**1.22**	**240**	P	**Pb**	09 13 36.0	+0.2
WTP				*e*S	**Sg**	09 13 52.8	+0.5
TWS1	**Kuangyinshan** baz=350	**1.27**	**346**	*e*P	**Pb**	09 13 36.6	0.0
CHY	**Chiayi** baz=249	**1.27**	**253**	*e*P	**Pg**	09 13 37.3	-0.1
RLNB	**Erlin** baz=269	**1.28**	**271**	*e*P	**Pb**	09 13 36.8	0.0
RLNB				*e*S	**Sn**	09 13 53.2	-0.1
YOJ	**Yonaguni jima** baz=65	**1.29**	**63**	*e*P	**Pn**	09 13 36.7	+0.1
YOJ	**Yonaguni jima**	**1.29**	**63**	P	**Pn**	09 13 36.7	+0.1
YOJ				S	**Sb**	09 13 53.7	+0.2
YM05	**YM05** baz=357	**1.30**	**352**	*e*P	**Pn**	09 13 36.3	-0.5
YM07	**YM07** baz=344	**1.31**	**355**	*e*P	**Pn**	09 13 35.5	-1.3
TWK	**Hsinying** baz=240	**1.31**	**243**	*e*P	**Pb**	09 13 37.4	0.0
TWK				*e*S	**Sg**	09 13 55.7	+0.5
CHN1	**Nanshi** baz=234	**1.32**	**239**	*e*P	**Pg**	09 13 38.0	-0.2
SGST	**Jiashian** baz=231	**1.33**	**234**	*e*P	**Pb**	09 13 37.8	0.0
SGST				*e*S	**Sg**	09 13 56.6	+0.8
SLGT	**Liugui** baz=216	**1.34**	**230**	*e*P	**Pb**	09 13 37.8	-0.1
SSD	**Sandimen** baz=221	**1.52**	**223**	*e*P	**Pb**	09 13 40.8	-0.1
SSD				*e*S	**Sb**	09 14 00.9	+0.8
MASBT	**Mashibuluo** baz=218	**1.62**	**220**	*e*P	**Pn**	09 13 41.5	+0.4
MASBT				*e*S	**Sb**	09 14 03.5	+0.5
EAST	**Anshuo** baz=197	**1.70**	**210**	*e*P	**Pn**	09 13 42.4	+0.2
SCZT	**Fangliau** baz=212	**1.82**	**215**	*e*P	**Pb**	09 13 45.4	-0.7
IRIF	**Iriomote-Funau**	**1.86**	**75**	P	**Pn**	09 13 45.2	+0.8
IRIF				*e*S	**Sn**	09 14 08.3	+0.5
HATJ	**Hateruma jima**	**1.89**	**84**	*e*S	**Sn**	09 14 08.4	+0.1
WDGT	**Dungji** baz=249	**2.02**	**253**	*e*P	**Pn**	09 13 46.2	-0.3
PHUB	**P'eng-hu** baz=260	**2.03**	**260**	*e*P	**Pn**	09 13 46.7	0.0
PHUB				*e*S	**Sn**	09 14 11.1	-0.9
PNG	**Penghu** baz=258	**2.04**	**262**	*e*P	**Pn**	09 13 46.5	-0.4
JKRS	**Kuro-shima**	**2.09**	**79**	P	**Pn**	09 13 48.7	+1.1
JKRS				S	**Sb**	09 14 16.0	-0.6
JIJ	**Ishigaki jima**	**2.24**	**77**	P	**Pn**	09 13 49.9	+0.3
JIJ				S	**Sn**	09 14 16.4	-0.6
VWUC	**VWUC** baz=298	**2.38**	**298**	*e*P	**Pn**	09 13 50.8	-0.7
JISG	**Ishigakijimahi**	**2.44**	**72**	P	**Pn**	09 13 52.6	+0.2
JISG				*e*S	**Sn**	09 14 21.5	-0.6
KNMB	**Chin-men Tao** baz=279	**3.13**	**282**	*e*P	**Pn**	09 14 01.2	-0.7

WEL 24 09:13:56.6, 38.3S±1.0×17.8E±, **h72**km±1km, **ML3.6**/36, **North Island**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
MWZ	**Matawai**	**0.17**	**240**	P		Pn	09 14 07.4	+0.1
MWZ	**Matawai**	**0.17**	**240**	S		Sn	09 14 15.0	-0.2
TKGZ	**Te Karaka**	**0.22**	**150**	P		Pn	09 14 07.8	+0.3
TKGZ	**Te Karaka**	**0.22**	**150**	S		Sn	09 14 16.0	+0.6
TWGZ	**Tauwhareparae**	**0.22**	**71**	P		Pn	09 14 08.1	+0.5
TWGZ	**Tauwhareparae**	**0.22**	**71**	S		Sn	09 14 17.4	+1.8
RUGZ	**Raukumara Rang**	**0.29**	**354**	P		Pn	09 14 08.4	+0.3
RUGZ	**Raukumara Rang**	**0.29**	**354**	S		Sn	09 14 17.0	+0.6
RAGZ	**Rawiri**	**0.34**	**224**	P		Pn	09 14 08.8	+0.4
RAGZ	**Rawiri**	**0.34**	**224**	S		Sn	09 14 17.6	+0.6
CNGZ	**Carnagh Statio**	**0.45**	**121**	P		Pn	09 14 10.2	+1.0
RIGZ	**Rimuhau**	**0.46**	**175**	P		Pn	09 14 09.8	+0.5
RIGZ	**Rimuhau**	**0.46**	**175**	S		Sn	09 14 19.6	+1.1
PKGZ	**Pakihiroa**	**0.46**	**38**	P		Pn	09 14 09.7	+0.4
PKGZ	**Pakihiroa**	**0.46**	**38**	S		Sn	09 14 19.3	+0.7
PUZ	**Puketiti**	**0.47**	**67**	P		Pn	09 14 09.6	+0.3
PUZ	**Puketiti**	**0.47**	**67**	S		Sn	09 14 19.0	+0.4
URZ	**Urewera**	**0.47**	**269**	P		Pn	09 14 09.5	+0.2
URZ	**Urewera**	**0.47**	**269**	S		Sn	09 14 18.9	+0.2
HAZ	**Te Kaha**	**0.50**	**6**	P		Pn	09 14 09.8	+0.3
HAZ	**Te Kaha**	**0.50**	**6**	S		Sn	09 14 19.0	0.0
SNGZ	**Shannon Statio**	**0.60**	**209**	P		Pn	09 14 11.2	+0.6
RTZ	**Ruatahuna**	**0.68**	**237**	P		Pn	09 14 11.7	+0.2
PRRZ	**Paritu Road**	**0.68**	**169**	P		Pn	09 14 11.7	+0.2
WMGZ	**Waiomatatini S**	**0.70**	**52**	P		Pn	09 14 12.1	+0.5
WHRZ	**Whale Island**	**0.70**	**304**	P		Pn	09 14 12.3	+0.6
KNZ	**Kokohu**	**0.77**	**182**	P		Pn	09 14 12.6	+0.2
MUGZ	**Murupara**	**0.77**	**253**	P		Pn	09 14 12.7	+0.3
EDRZ	**Edgecumbe**	**0.78**	**280**	P		Pn	09 14 13.3	+0.7
RAHZ	**Arahi**	**0.83**	**216**	P		Pn	09 14 13.7	+0.6
MXZ	**Matakaoa Point**	**0.83**	**34**	P		Pn	09 14 13.9	+0.8
WIZ	**White Island**	**0.83**	**330**	P		Pn	09 14 12.8	-0.3
MARZ	**Manawahe**	**0.86**	**288**	P		Pn	09 14 13.5	0.0
WHHZ	**Waihua**	**0.91**	**204**	P		Pn	09 14 14.7	+0.7
MTHZ	**Maungataniwha**	**0.91**	**228**	P		Pn	09 14 14.6	+0.5
MHGZ	**Mahia Peninsul**	**0.91**	**170**	P		Pn	09 14 14.6	+0.4
RRRZ	**Republican Roa**	**0.95**	**264**	P		Pn	09 14 15.0	+0.5
TARZ	**Mount Tarawera**	**0.95**	**271**	P		Pn	09 14 15.5	+0.8
MKRZ	**Makatiti**	**0.99**	**276**	P		Pn	09 14 16.6	+1.5
OPRZ	**Ohinepanea**	**1.00**	**294**	P		Pn	09 14 15.0	-0.2
PRRZ	**Plateau Road**	**1.07**	**256**	P		Pn	09 14 16.3	+0.3
OMRZ	**Omania**	**1.07**	**277**	P		Pn	09 14 16.5	+0.4
HLRZ	**Highlands Stat**	**1.07**	**270**	P		Pn	09 14 16.9	+0.8
LIRZ	**Lichensteins R**	**1.08**	**283**	P		Pn	09 14 16.4	+0.3
NMHZ	**Naumai**	**1.10**	**220**	P		Pn	09 14 17.3	+0.8
ALRZ	**Allen Road**	**1.12**	**254**	P		Pn	09 14 17.1	+0.4
HRRZ	**Handcock Road**	**1.13**	**263**	P		Pn	09 14 17.3	+0.4
ARHZ	**Aropaoanui**	**1.16**	**209**	P		Pn	09 14 17.6	+0.5
HSRZ	**Hossack Road**	**1.16**	**267**	P		Pn	09 14 17.9	+0.7
MRHZ	**Matea Rd**	**1.17**	**240**	P		Pn	09 14 17.7	+0.3
KARZ	**Kaharoa**	**1.18**	**281**	P		Pn	09 14 17.6	+0.1
NGRZ	**Ngongotaha**	**1.21**	**277**	P		Pn	09 14 18.8	+0.9
WPRZ	**Whakapapatarin**	**1.25**	**257**	P		Pn	09 14 19.1	+0.7
BKZ	**Black Stump Fm**	**1.32**	**226**	P		Pn	09 14 19.6	+0.3
MCHZ	**McNeill Hill**	**1.43**	**213**	P		Pn	09 14 21.0	+0.3
MCHZ	**McNeill Hill**	**1.43**	**213**	P		Pn	09 14 21.0	+0.3
KMRZ	**Kaimai**	**1.46**	**286**	P		Pn	09 14 21.0	0.0
CKHZ	**Cape Kidnapper**	**1.49**	**199**	P		Pn	09 14 21.1	-0.4
KUTZ	**Kaahu Road**	**1.50**	**260**	P		Pn	09 14 22.3	+0.6
KWHZ	**Kaweka Forest**	**1.54**	**220**	P		Pn	09 14 22.2	-0.1
RITZ	**Rihia Road**	**1.62**	**243**	P		Pn	09 14 23.8	+0.5
RATZ	**Rangitukua**	**1.64**	**247**	P		Pn	09 14 24.1	+0.6
KAHZ	**Kahuranaki**	**1.67**	**203**	P		Pn	09 14 23.5	-0.5
TLZ	**Tolley Road**	**1.71**	**267**	P		Pn	09 14 24.8	+0.3
KATZ	**Kakaramea**	**1.74**	**245**	P		Pn	09 14 25.3	+0.4
KRHZ	**Kereru**	**1.74**	**217**	P		Pn	09 14 24.2	-0.6
BHHZ	**Black Hill Sta**	**1.79**	**226**	P		Pn	09 14 25.5	0.0
TOZ	**Tahuroa Road**	**1.82**	**286**	P		Pn	09 14 26.1	+0.3
KRVZ	**Karewarewa**	**1.83**	**242**	P		Pn	09 14 26.3	+0.2
WTVZ	**West Tongariro**	**1.87**	**242**	P		Pn	09 14 27.0	+0.3
NGZ	**Ngauruhoe**	**1.89**	**240**	P		Pn	09 14 27.1	+0.1
PXZ	**Pawanui**	**1.90**	**200**	P		Pn	09 14 25.5	-1.3
TUVZ	**Tukino**	**1.90**	**237**	P		Pn	09 14 27.2	+0.1
MOVZ	**Moawhango**	**1.92**	**232**	P		Pn	09 14 26.9	-0.3
COVZ	**Chateau Observ**	**1.94**	**240**	P		Pn	09 14 27.8	+0.2
WHVZ	**Whangaehu Hut**	**1.95**	**238**	P		Pn	09 14 27.8	0.0
TWVZ	**Taurewa**	**1.96**	**245**	P		Pn	09 14 27.8	0.0
FWVZ	**Far West T-bar**	**1.96**	**239**	P		Pn	09 14 28.0	0.0
TRVZ	**Turoa**	**1.99**	**238**	P		Pn	09 14 28.3	-0.1
PNHZ	**Pukenui**	**2.04**	**215**	P		Pn	09 14 27.7	-1.1
WPHZ	**Waipukurau**	**2.06**	**208**	P		Pn	09 14 28.1	-1.0
MTVZ	**Mangateitei**	**2.08**	**236**	P		Pn	09 14 29.5	0.0
PKVZ	**Pokaka**	**2.12**	**240**	P		Pn	09 14 30.3	+0.4
PRHZ	**Porangahau**	**2.18**	**202**	P		Pn	09 14 29.3	-1.4
KUZ	**Kuaotunu**	**2.18**	**313**	P		Pn	09 14 30.4	-0.3
HIZ	**Hauiti**	**2.26**	**262**	P		Pn	09 14 33.0	+1.2
TSZ	**Takapari Road**	**2.26**	**216**	P		Pn	09 14 30.4	-1.4
MKAZ	**Moumakai**	**2.33**	**299**	P		Pn	09 14 33.0	+0.4
DVHZ	**Dannevirke**	**2.37**	**210**	P		Pn	09 14 31.3	-2.0
ANWZ	**Angora Road**	**2.41**	**203**	P		Pn	09 14 32.1	-1.6
WIAZ	**Waiheke Island**	**2.52**	**305**	P		Pn	09 14 35.6	+0.4
ETAZ	**East Tamaki Re**	**2.56**	**300**	P		Pn	09 14 36.7	+0.9
WAZ	**Wanganui**	**2.60**	**234**	P		Pn	09 14 36.8	+0.4
POWZ	**Post Office Ro**	**2.62**	**215**	P		Pn	09 14 35.1	-1.5
PRWZ	**Pori Road**	**2.67**	**210**	P		Pn	09 14 35.7	-1.6
BFZ	**Birch Farm**	**2.68**	**205**	P		Pn	09 14 35.4	-2.0
GRZ	**Great Barrier**	**2.69**	**317**	P		Pn	09 14 37.8	+0.3
AWAZ	**Awhitu Peninsu**	**2.71**	**295**	P		Pn	09 14 38.8	+1.0
EPAZ	**Eden Park BICE**	**2.73**	**299**	P		Pn	09 14 39.5	+1.3
HBAZ	**Herne Bay Bore**	**2.75**	**300**	P		Pn	09 14 39.6	+1.2
WTAZ	**Waiatarua**	**2.82**	**297**	P		Pn	09 14 40.5	+1.1
ABAZ	**Army Bay**	**2.82**	**305**	P		Pn	09 14 40.4	+1.0
RVAZ	**Riverhead Bore**	**2.90**	**300**	P		Pn	09 14 41.4	+1.0
CPWZ	**Castlepoint**	**2.90**	**203**	P		Pn	09 14 38.6	-1.8
MRZ	**Mangatainoka R**	**2.92**	**214**	P		Pn	09 14 38.3	-2.4
PKE	**Pukeiti**	**3.06**	**251**	P		Pn	09 14 44.9	+2.2
HOWZ	**Holdsworth Sta**	**3.14**	**212**	P		Pn	09 14 40.9	-2.9
TMWZ	**Te Maipa**	**3.18**	**206**	P		Pn	09 14 41.6	-2.7
OGWZ	**Otaki Gorge**	**3.23**	**217**	P		Pn	09 14 42.4	-2.6
KIW	**Kapiti Island**	**3.39**	**219**	P		Pn	09 14 44.6	-2.5
CAW	**Cannon Point**	**3.51**	**215**	P		Pn	09 14 45.7	-3.0
TRWZ	**Traveller**	**3.51**	**206**	P		Pn	09 14 45.5	-3.2
WCZ	**Waipu Caves**	**3.55**	**310**	P		Pn	09 14 50.3	+1.0
PAWZ	**Paruwai Farm**	**3.59**	**209**	P		Pn	09 14 47.4	-2.4
TCW	**Tory Channel**	**3.97**	**221**	P		Pn	09 14 52.1	-2.9
TUWZ	**Tuamarina**	**4.30**	**221**	P		Pn	09 14 57.1	-2.4
OUZ	**Omahuta**	**4.48**	**311**	P		Pn	09 15 03.6	+1.6
QRZ	**Quartz Range**	**4.76**	**236**	P		Pn	09 15 04.1	-1.7
CTZ	**Chatham Island**	**6.96**	**144**	P		Pn	09 15 36.1	+0.3

IDC **24** *09:17:19.8±1.0, 5.50N×61.41E, h0km, mb3.8/9, mb1 3.9/9, mb1mx3.6/67, mbtmp3.8/9, MS3.2/6, Ms1 3.2/6, ms1mx2.8/65, Error ellipse: s-maj=29.2km s-min=20.7km az=39.0*

ISCJB **24** *09:17:20.3±1.0, 5.5N±0.2×61.4E±0.2, h14km, mb3.7/9, MS3.1/5, Error ellipse: s-maj=26.1km s-min=20.3km az=35.1*

ISC 24 09:17:22.1±1.2, **5.5N**±0.2×**61.4E**±0.2, **h14**km, **n17**, σ0.6**6**/9, **mb3.8**/9, **MS3.1**/5, **Carlsberg Ridge**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
H08N2	**Diego Garcia H** baz=321,slow=76,SNR=59	**15.16**	**141**	T		T	09 36 17.9	
H08N3	**Diego Garcia H** baz=321,slow=76,SNR=48	**15.17**	**141**	T		T	09 36 25.9	
H08N1	**Diego Garcia H** baz=321,slow=76,SNR=52	**15.18**	**141**	T		T	09 36 19.6	
WSAR	**Wadi Sarin** comp=Z,71nm,19.9s,baz=204,slow=32	**17.82**	**352**	LR		LR	09 26 46.8	
KMBO	**Kilima Mbogo** comp=Z,52nm,20.9s,baz=74,slow=33	**25.03**	**255**	LR		LR	09 31 10.1	
MMAI	**Mount Meron Ar** comp=Z,32nm,18.6s,baz=165,slow=36	**36.55**	**322**	LR		LR	09 39 16.1	
GNI	**Garni** comp=Z,33nm,20.5s,baz=153,slow=37	**37.61**	**339**	LR		LR	09 40 19.8	
AAK	**Ala-Archa** 0.7nm,0.4s,baz=210,slow=14,SNR=3.4	**38.74**	**15**	P		**P**	**09 24 47.2**	**+1.0**
CMAR	**Chiang Mai Arr** comp=Z,23nm,21.0s,baz=295,slow=33	**38.79**	**67**	LR		LR	09 38 41.2	
BRTR	**Keskin Array B** 1.2nm,1.0s,baz=146,slow=9.0,SNR=3.9	**42.27**	**328**	P		**P**	**09 25 16.0**	**+0.5**
BRTR	comp=Z,32nm,20.7s,baz=116,slow=37			LR		LR	09 43 19.0	
AKTO	**Aktyubinsk** 1.7nm,0.9s,baz=183,slow=8.7,SNR=3.9	**44.86**	**357**	P		**P**	**09 25 35.8**	**-0.2**
MKAR	**Makanchi Array** 0.7nm,0.9s,baz=200,slow=7.7,SNR=3.3	**44.89**	**20**	P		**P**	**09 25 35.8**	**-0.5**
SONM	**Songino Array** 0.5nm,0.8s,baz=235,slow=5.1,SNR=2.9	**56.97**	**35**	P		**P**	**09 27 07.0**	**-0.4**
TORD	**Torodi Ar. Bea** 0.9nm,0.9s,baz=97,slow=2.7,SNR=4.4	**59.31**	**282**	P		**P**	**09 27 24.4**	**+0.3**
ESDC	**Sonseca Array** 0.2nm,0.3s,baz=90,slow=4.0,SNR=3.2	**67.62**	**311**	P		**P**	**09 28 18.0**	**-0.9**
WRA	**Warramunga Arr** 1.8nm,0.8s,baz=294,slow=4.4,SNR=14	**75.95**	**112**	P		**P**	**09 29 09.5**	**+0.3**
ASAR	**Alice Springs** 1.1nm,0.7s,baz=288,slow=5.8,SNR=20	**76.31**	**116**	P		**P**	**09 29 11.3**	**+0.1**

ISCJB **24** *09:26:45.3±0.8, 5.6N±0.1×61.4E±0.1, h14km, mb3.7/11, MS3.1/1, Error ellipse: s-maj=21.6km s-min=18.4km az=155.1*

IDC **24** *09:26:45.0±0.8, 5.58N×61.41E, h0km, mb3.8/11, mb1 3.8/11, mb1mx3.6/67, mbtmp3.8/11, MS3.2/3, Ms1 3.2/3, ms1mx2.7/62, Error ellipse: s-maj=26.4km s-min=18.9km az=50.0*

ISC 24 09:26:47.1±1.0, **5.6N**±0.2×**61.4E**±0.2, **h14**km, **n17**, σ0.**78**/**11**, **mb3.9**/**11**, **Carlsberg Ridge**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
H08N2	**Diego Garcia H** baz=321,slow=76,SNR=85	**15.21**	**141**	T		T	09 45 49.2	
H08N3	**Diego Garcia H** baz=321,slow=76,SNR=115	**15.22**	**141**	T		T	09 45 50.0	
H08N1	**Diego Garcia H** baz=321,slow=76,SNR=95	**15.24**	**141**	T		T	09 45 50.9	
WSAR	**Wadi Sarin** comp=Z,86nm,20.2s,baz=220,slow=31	**17.77**	**352**	LR		LR	09 35 49.0	
ATD	**Arta Tunnel** comp=Z,50nm,21.2s,baz=34,slow=33	**19.27**	**289**	LR		LR	09 37 17.3	
KMBO	**Kilima Mbogo** comp=Z,64nm,20.1s,baz=90,slow=34	**25.02**	**255**	LR		LR	09 40 47.6	
BRTR	**Keskin Array B** 0.4nm,0.6s,baz=140,slow=9.1,SNR=3.3	**42.21**	**328**	P		**P**	**09 34 40.3**	**+0.3**
IDI	**Anoyia** 2.1nm,0.7s,baz=82,slow=7.1,SNR=3.3	**44.77**	**316**	P		**P**	**09 35 01.1**	**+0.5**
AKTO	**Aktyubinsk** 1.2nm,0.8s,baz=158,slow=11,SNR=3.4	**44.80**	**357**	P		**P**	**09 35 00.9**	**+0.4**
MKAR	**Makanchi Array** 0.4nm,0.8s,baz=214,slow=7.0,SNR=2.3	**44.85**	**20**	P		**P**	**09 34 59.9**	**-1.0**
KURBB	**Kurchatov Arra** 0.3nm,0.4s,baz=221,slow=6.2,SNR=4.2	**47.14**	**15**	P		**P**	**09 35 18.9**	**0.0**
SUR	**Sutherland** 1.2nm,1.1s,baz=118,slow=6.1,SNR=3.3	**53.97**	**223**	P		**P**	**09 36 10.5**	**-0.5**
SONM	**Songino Array** 0.2nm,0.4s,baz=210,slow=8.3,SNR=2.4	**56.94**	**35**	P		**P**	**09 36 32.4**	**+0.2**
HFS	**Hagfors** 1.5nm,0.6s,baz=150,slow=3.3,SNR=3.6	**65.25**	**336**	P		**P**	**09 37 26.8**	**-1.3**
ESDC	**Sonseca Array** 0.4nm,0.5s,baz=117,slow=6.1,SNR=3.2	**67.57**	**311**	P		**P**	**09 37 44.4**	**+0.8**
WRA	**Warramunga Arr** 1.2nm,0.7s,baz=295,slow=4.5,SNR=16	**75.99**	**112**	P		**P**	**09 38 35.0**	**+0.6**
ASAR	**Alice Springs** 1.0nm,0.6s,baz=286,slow=5.6,SNR=24	**76.36**	**116**	P		**P**	**09 38 36.8**	**+0

λ-67.00000°. Principal axes: T 3.3520, Plg17.0000°, Azm27.0000°; N -0.0330, Plg11.0000°, Azm294.0000°; P -3.3170, Plg69.0000°, Azm171.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.

NEIC **24** *09:51:16.4±0.0,6°.12N×61°.05E,h21km,Moment Tensor Solution. s46 Moment tensor: Scale 10^{17}Nm; Mrr-3.29; Mθθ1.87; Mφφ1.43; Mrθ0.90; Mrφ-1.37; Mθφ-1.18; Best double couple: M₀3.50000×10^{17} NP1:φ₁315.00000°, δ58.00000°,λ-85.00000°. NP2:φ₂126.00000°,δ33.00000°, λ-98.00000°. Principal axes: T 3.3600, Plg12.0000°, Azm42.0000°; N 0.2800, Plg4.0000°, Azm133.0000°; P -3.6400, Plg77.0000°, Azm241.0000°;*

ISC 24 09:50:59.3±0.4, 5.70N±0°.04×61°.56E±0°.04, h11km±2km, h11km:pP-P,n672,σ1s78/652,mb5.2/201,MS5.1/228, 44C-26D,Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
H08N2	**Diego Garcia H**	**15.22**	**142**	T	T		10 09 55.7	
	baz=321,slow=76,SNR=2399							
H08N3	**Diego Garcia H**	**15.23**	**142**	T	T		10 10 04.1	
	baz=321,slow=76,SNR=2424							
H08N1	**Diego Garcia H**	**15.24**	**142**	T	T		10 09 57.4	
	baz=321,slow=76,SNR=2124							
GOA	**Goa**	**15.48**	**50**	*e*P	**Pn**		**09 54 37.5**	**-0.4**
GOA				IAmb	IAmb		09 54 41.4	
BOM	**Bombay**	**17.10**	**39**	*i* P	**Pn**		**09 54 58.2**	**-0.3**
H08S3	**Diego Garcia H**	**17.15**	**140**	T	T		10 12 46.5	
	baz=313,slow=71,SNR=8.7							
H08S1	**Diego Garcia H**	**17.16**	**140**	T	T		10 12 41.5	
	baz=313,slow=71,SNR=12							
H08S2	**Diego Garcia H**	**17.17**	**140**	T	T		10 12 39.2	
	baz=313,slow=71,SNR=14							
POO	**Poona**	**17.51**	**42**	*e*P	**Pn**		**09 55 03.9**	**+0.3**
SMDO	**Samad**	**17.59**	**349**	P	**P**		**09 55 06.0**	**+0.3**
	SNR=32							
WSAR	**Wadi Sarin**	**17.67**	**351**	P	**Pn**		**09 55 04.3**	**-1.3**
	0.1nm,0.3s,baz=207,slow=9.3,SNR=5.3							
WSAR				LR	LR		10 00 33.0	
	comp=Z,7μm,19.0s,baz=192,slow=32							
WSAR	**Wadi Sarin**	**17.67**	**351**	P	**Pn**		**09 55 04.7**	**-0.9**
BIDO	**Bidbid**	**18.02**	**350**	P	**Pn**		**09 55 09.6**	**-0.4**
	SNR=44							
ARQ	**Araqi**	**18.20**	**345**	P	**P**		**09 55 13.3**	**+1.0**
	SNR=14							
HOQ	**Hoqain**	**18.25**	**347**	P	**P**		**09 55 15.7**	**+2.9**
	SNR=12							
MZR	**Muzera**	**18.89**	**336**	*i* P	**Pn**		**09 55 20.6**	**+0.1**
	SNR=7.7							
SOHO	**SOHO**	**18.96**	**346**	*i* P	**Pn**		**09 55 21.2**	**-0.1**
	SNR=40							
DAMY	**Dhamar**	**19.05**	**299**	*e*P	**P**		**09 55 19.2**	**-2.8**
	192nm,1.6s							
ALNE	**Al Ain**	**19.09**	**344**	*i* P	**P**		**09 55 22.3**	**+0.2**
	SNR=41							
PALK	**Pallekele**	**19.09**	**84**	P	**Pn**		**09 55 24.7**	**+1.6**
BHJ	**Bhuj**	**19.12**	**23**	*e*P	**P**		**09 55 21.7**	**-0.7**
ATD	**Arta Tunnel**	**19.38**	**289**	P	**P**		**09 55 25.4**	**-0.1**
	0.6nm,0.3s,baz=86,slow=5.3,SNR=15							
ATD				LR	LR		10 01 50.5	
	comp=Z,3μm,18.5s,baz=106,slow=34							
ASHO	**Ashiyiah**	**19.60**	**345**	P	**P**		**09 55 27.0**	**-0.8**
	SNR=35							
ASHO	**Ashiyiah**	**19.60**	**345**	*i* P	**P**		**09 55 28.1**	**+0.3**
	SNR=17							
HATD	**Hatta, Dubai**	**19.72**	**345**	P	**P**		**09 55 28.9**	**-0.1**
	SNR=34							
HATD	**Hatta, Dubai**	**19.72**	**345**	*i* P	**P**		**09 55 29.3**	**+0.2**
	SNR=13							
AJN	**Ajban**	**19.79**	**342**	*i* P	**Pn**		**09 55 31.1**	**-0.2**
	SNR=14							
UOSS	**Minazif**	**19.82**	**346**	*e*P	**P**		**09 55 30.6**	**+0.6**
	428nm,1.9s							
UOSS	**Minazif**	**19.82**	**346**	P	**P**		**09 55 28.8**	**-1.2**
UOSS	**Minazif**	**19.82**	**346**	*i* P	**P**		**09 55 29.8**	**-0.3**
	SNR=27							
MDRS	**Chennai**	**19.83**	**67**	*e*P	**P**		**09 55 28.3**	**-2.0**
NAZ	**Nazwa, Dubai**	**20.00**	**344**	P	**P**		**09 55 31.8**	**-0.2**
	SNR=16							
NAZ	**Nazwa, Dubai**	**20.00**	**344**	*i* P	**P**		**09 55 31.9**	**-0.2**
	SNR=15							
MSFE	**Esma-Masafi**	**20.22**	**346**	*i* P	**P**		**09 55 35.0**	**+0.5**
	SNR=7.8							
HYB	**Hyderabad**	**20.30**	**54**	*i* P	Pn		09 55 38.0	+0.6
	100nm,1.2s							
HYB				*e*S	Sn		09 59 26.0	-0.2
HYB	**Hyderabad**	**20.30**	**54**	*e*P	**P**		**09 55 34.8**	**-0.7**
HYB				IAmb	IAmb		09 55 41.1	
	comp=Z,45nm,1.1s							
BANOM	**Banah**	**20.73**	**347**	P	**P**		**09 55 39.5**	**-0.5**
	SNR=8.7							
BANOM				S	Sn		09 59 36.0	-0.4
BANOM	**Banah**	**20.73**	**347**	*i* P	**P**		**09 55 40.3**	**+0.3**
	SNR=11							
SHME	**Shamm**	**20.89**	**346**	P	**P**		**09 55 41.9**	**+0.2**
ANKE	**Ethiopia-Afar**	**21.97**	**281**	*i* P	**P**		**09 55 55.4**	**+1.5**
ANKE				*i* S	**S**		**09 59 59.2**	**+2.4**
ANKE	**Ethiopia-Afar**	**21.97**	**281**	*i* P	**P**		**09 55 55.4**	**+1.5**
ANKE				*i* S	**S**		**09 59 59.2**	**+2.4**
DESE	**Dese**	**22.34**	**285**	*i* P	**P**		**09 55 59.7**	**+1.9**
DESE				*i* S	Sn		10 00 13.7	-2.0
DESE	**Dese**	**22.34**	**285**	*i* P	**P**		**09 55 59.7**	**+1.9**
DESE				*i* S	Sn		10 00 13.7	-2.0
AAE	**Adis Abeba**	**22.84**	**280**	*i* P	**P**		**09 56 04.7**	**+1.6**
AAE				*i* S	**S**		**10 00 17.3**	**+4.3**
AAE	**Adis Abeba**	**22.84**	**280**	*e*P	**P**		**09 56 02.4**	**-0.7**
AAE				*e*S	Sn		10 00 20.4	-7.4
AAE	**Adis Abeba**	**22.84**	**280**	*i* P	**P**		**09 56 04.7**	**+1.6**
AAE				*i* S	**S**		**10 00 17.3**	**+4.3**
NGP	**Nagpur**	**22.88**	**46**	*e*P	**P**		**09 56 02.5**	**-0.7**
NGP				IAmb	IAmb		09 56 09.6	
	comp=Z,29nm,0.6s							
BHPL	**Bhopal**	**23.20**	**40**	*e*P	**P**		**09 56 04.4**	**-2.1**
BHPL				IAmb	IAmb		09 56 11.7	
	comp=Z,235nm,1.8s							
RAYN	**Ar Rayn**	**23.52**	**320**	*e*P	**P**		**09 56 07.2**	**-2.4**
	comp=Z,102nm,1.4s							
RAYN				LR	LR			
	comp=Z,4μm,22.0s							
RAYN	**Ar Rayn**	**23.52**	**320**	P	**P**		**09 56 07.7**	**-2.0**
RAYN				pmax	pmax			
	comp=Z,102nm,1.4s							
VIS	**Vishakhapatnam**	**24.40**	**59**	*e*P	**P**		**09 56 18.0**	**0.0**
KMBO	**Kilima Mbogo**	**25.20**	**255**	P	**P**		**09 56 24.6**	**-0.9**
	comp=Z,16nm,1.0s,baz=54,slow=12,SNR=10							
KMBO				LR	LR		10 04 59.6	
	comp=Z,6μm,21.5s,baz=68,slow=34							
KMBO	**Kilima Mbogo**	**25.20**	**255**	*e*P	**P**		**09 56 23.9**	**-1.7**
	comp=Z,254nm,2.0s							
KMBO				LR	LR			
	comp=Z,6μm,20.0s							
KMBO	**Kilima Mbogo**	**25.20**	**255**	P	**P**		**09 56 25.7**	**+0.2**
	SNR=28							
KMBO	**Kilima Mbogo**	**25.20**	**255**	*i* P	**P**		**09 56 25.8**	**+0.2**
	SNR=12							
KMBO	**Kilima Mbogo**	**25.20**	**255**	*e*P	**P**		**09 56 23.9**	**-1.7**
KMBO				pmax	pmax			
	comp=Z,254nm,2.0s							
KMBO				MLR	MLR			
	comp=Z,6μm,20.0s							
RER	**Riviere de l'E**	**27.29**	**192**	PFAKE			09 56 50.0	+5.8
RER				LR	LR			
	comp=Z,4μm,19.0s							
OPO	**Ambohidratompo**	**27.97**	**210**	P	**P**		**09 56 51.9**	**+1.5**
	comp=Z,12nm,1.1s,baz=3.7,slow=6.5,SNR=6.7							
OPO				LR	LR		10 05 31.1	
	comp=Z,6μm,18.3s,baz=18,slow=31							
ABPO	**Ambohimpanom**	**28.33**	**210**	PFAKE			09 57 00.0	+6.4
ABPO				LR	LR			
	comp=Z,4μm,19.0s							
DDI	**Dehra Dun**	**29.00**	**30**	*e*P	**P**		**09 56 57.9**	**-1.5**
DDI				IAmb	IAmb		09 56 59.5	
	comp=Z,66nm,0.2s							
SMLA	**Simla**	**29.23**	**28**	*e*P	**P**		**09 57 01.4**	**+0.1**
SMLA				IAmb	IAmb		09 57 07.9	
	comp=Z,54nm,1.8s							
BOK	**Bokaro**	**29.52**	**50**	*e*P	**P**		**09 57 01.2**	**-2.9**
BOK				IAmb	IAmb		09 57 03.5	
	comp=Z,22nm,0.2s							
KBL	**Kabul**	**29.52**	**13**	*e*P	**P**		**09 57 03.3**	**-0.8**
	comp=Z,103nm,1.8s							
KBL	**Kabul**	**29.52**	**13**	*e*P	**P**		**09 57 03.3**	**-0.8**
KBL				pmax	pmax			
	comp=Z,103nm,1.8s							
DHRM	**DHARAMSHALA**	**29.79**	**26**	*e*P	**P**		**09 57 06.1**	**-0.5**
DHRM				IAmb	IAmb		09 57 09.1	
	comp=Z,18nm,1.2s							
NIL	**Nilore**	**29.86**	**20**	*e*P	**P**		**09 57 06.8**	**-0.1**
	comp=Z,62nm,1.3s							
NIL				LR	LR			
	comp=Z,3μm,19.0s							
NIL	**Nilore**	**29.86**	**20**	*e*P	**P**		**09 57 06.8**	**-0.1**
NIL				pmax	pmax			
	comp=Z,62nm,1.3s							
NIL				MLR	MLR			
	comp=Z,3μm,19.0s							
PYUN	**Piuthan**	**30.17**	**40**	*e*P	**P**		**09 57 12.0**	**+2.0**
	comp=Z,58nm,1.2s							
KOLN	**Koldanda**	**30.34**	**41**	*e*P	**P**		**09 57 12.8**	**+1.3**
	comp=Z,70nm,1.2s							
GKN	**Gorkha**	**31.18**	**42**	*e*P	**P**		**09 57 19.9**	**+1.1**
	comp=Z,95nm,1.4s							
DMN	**Daman**	**31.24**	**43**	*e*P	**P**		**09 57 20.8**	**+1.3**
	comp=Z,102nm,1.0s							
PKIN	**Phulchoki**	**31.42**	**43**	*e*P	**P**		**09 57 22.5**	**+1.4**
	comp=Z,64nm,1.3s							
KKN	**Kakani**	**31.47**	**43**	*e*P	**P**		**09 57 22.6**	**+1.1**
	comp=Z,97nm,1.2s							
DGPR	**DIGLIPUR**	**31.80**	**74**	*e*P	**P**		**09 57 23.1**	**-1.2**
DGPR				IAmb	IAmb		09 57 29.2	
	comp=Z,18nm,0.5s							
GUN	**Gumba**	**31.96**	**44**	*e*P	**P**		**09 57 26.2**	**+0.3**
	comp=Z,116nm,1.0s							
GEYT	**Alibeck**	**32.23**	**355**	P	**P**		**09 57 29.1**	**+1.3**
	comp=Z,1.4nm,0.3s,baz=175,slow=8.9,SNR=5.4							
DZET	**Dzherino**	**33.61**	**10**	P	**P**		**09 57 43.0**	**+3.1**
EIL	**Elat**	**34.62**	**317**	P	**P**		09 57 55.4	+6.7
	comp=Z,9.4nm,1.0s,baz=311,slow=17,SNR=4.2							
EIL				LR	LR		10 11 22.2	
	comp=Z,4μm,18.9s,baz=128,slow=35							
ASF	**Jabal al Asfar**	**34.99**	**322**	P	**P**		**09 57 54.1**	**+2.1**
	comp=Z,5.3nm,0.9s,baz=65,slow=4.4,SNR=6.7							
ASF				PP	**PP**		**09 59 10.5**	**-1.0**
	comp=Z,0.8nm,0.3s,baz=67,slow=4.3,SNR=2.4							
ASF				LR	LR		10 11 06.5	
	comp=Z,2μm,21.6s,baz=92,slow=34							
SHL	**Shillong**	**35.10**	**52**	*e*P	**P**		**09 57 53.0**	**-0.1**
SHL				*ex*	x		10 03 36.0	
LHMI	**Lhok Sumawe**	**35.23**	**89**	*e*P	**P**		**09 57 52.5**	**-1.6**
	comp=Z,137nm,1.1s							
SFK	**Sufi-Kurgan**	**35.82**	**16**	P	**P**		**09 58 00.3**	**+1.1**
SFK				pmax	pmax			
	comp=Z,26nm,1.4s							
KSH	**Kashi**	**36.10**	**19**	P	**P**		**09 57 58.3**	**-3.1**
KSH				sP	pP		09 58 04.8	+0.1
KSH				PP	**PnPn**		**09 59 17.3**	**-5.3**
KSH				S	**S**		**10 03 36.1**	**-4.8**
KSH				ScS	**ScS**		**10 08 18.5**	**-1.2**
KSH				pmax	pmax			
	comp=Z,52nm,1.2s							
KSH				pmax	pmax			
	comp=Z,1μm,5.1s							
KSH				LR	LR			
	comp=Z,4μm,15.8s							
KSH				LR	LR			
	comp=Z,4μm,17.4s							
KSH				LR	LR			
	comp=Z,6μm,17.1s							
NAX	**Nakhchivan**	**36.35**	**339**	P	**P**		**09 58 04.2**	**+0.6**
MMAI	**Mount Meron Ar**	**36.49**	**321**	P	**P**		**09 58 05.9**	**+1.1**
	comp=Z,0.8nm,0.3s,baz=110,slow=9.1,SNR=6.8							
MMAI				PP	**PP**		**09 59 29.4**	**+1.5**
	comp=Z,0.5nm,0.3s,baz=134,slow=12,SNR=4.1							
MMAI				PcP	**PcP**		**10 00 29.9**	**+1.2**
	comp=Z,0.6nm,0.3s,baz=82,slow=3.1,SNR=2.3							
MMAI				LR	LR		10 12 13.9	
	comp=Z,3μm,20.7s,baz=155,slow=35							
LSA	**Lhasa**	**36.73**	**46**	*e*P	**P**		**09 58 05.5**	**-1.8**
	comp=Z,25nm,1.1s							
LSA				LR	LR			
	comp=Z,4μm,22.0s							
LSA	**Lhasa**	**36.73**	**46**	P	**P**		**09 58 07.8**	**+0.4**
LSA	**Lhasa**	**36.73**	**46**	*e*P	**P**		**09 58 05.5**	**-1.8**
LSA				pmax	pmax			
	comp=Z,25nm,1.1s							
LSA				MLR	MLR			
	comp=Z,4μm,22.0s							
PSI	**Prapat**	**37.37**	**93**	P	**P**		**09 58 14.7**	**+2.0**
	comp=Z,3.3nm,0.3s,baz=278,slow=9.1,SNR=6.6							
PSI				LR	LR		10 11 13.3	
	comp=Z,3μm,20.3s,baz=264,slow=33							
PSI	**Prapat**	**37.37**	**93**	*e*P	**P**		**09 58 13.0**	**+0.4**
	comp=Z,72nm,1.7s							
PSI	**Prapat**	**37.37**	**93**	*e*P	**P**		**09 58 13.0**	**+0.4**
PSI				pmax	pmax			
	comp=Z,72nm,1.7s							
GNI	**Garni**	**37.49**	**339**	P	**P**		**09 58 14.3**	**+1.0**
	comp=Z,4.7nm,0.4s,baz=206,slow=1.1,SNR=13							
GNI				PP	**PnPn**		**09 59 41.1**	**+1.5**
	comp=Z,4.3nm,0.6s,baz=258,slow=5.7,SNR=3.9							
GNI				LR	LR		10 13 46.9	
	comp=Z,2μm,21.6s,baz=138,slow=36							
GNI	**Garni**	**37.49**	**339**	*e*P	**P**		**09 58 12.5**	**-0.8**
	comp=Z,113nm,1.5s							
GNI				*e*PP	**PnPn**		**09 59 41.1**	**+1.5**
GNI				LR	LR			
	comp=Z,3μm,21.0s							
GNI	**Garni**	**37.49**	**339**	P	**P**		**09 58 15.0**	**+1.7**
	SNR=22							
GNI	**Garni**	**37.49**	**339**	*i* P	**P**		**09 58 15.5**	**+2.2**
	SNR=18							
GNI	**Garni**	**37.49**	**339**	*c i*P	**P**		**09 58 14.9**	**+1.6**
GNI				pmax	pmax			
	comp=Z,165nm,1.7s							
JORH	**JORHAT**	**37.53**	**52**	*e*P	**P**		**09 58 14.3**	**+0.7**
MOKO	**MOKOCHONG**	**37.54**	**53**	*e*P	**P**		**09 58 14.3**	**+0.4**
AKT	**Akhty**	**37.71**	**343**	*e*P	**P**		**09 58 17.9**	**+2.8**
AKT				*e*			09 59 43.8	
AKT				pmax	pmax			
	comp=Z,36nm,1.4s							
NRN	**Naryn**	**37.85**	**18**	*e*P	**P**		**09 58 15.9**	**-0.6**
	comp=Z,15nm,1.2s							
NRN	**Naryn**	**37.85**	**18**	P	**P**		**09 58 17.9**	**+1.4**
NRN				S	**S**		**10 04 12.5**	**+4.6**
NRN				smax	smax			
	comp=N,15nm,1.2s							
TRTT	**Trang**	**37.92**	**85**	P	P		09 58 24.1	+7.0
	comp=N,6.7nm,1.1s							
SRDT	**SRDT**	**37.93**	**74**	P	P		09 58 29.1	+12
KK31	**Karatay Array**	**38.08**	**11**	*e*P	**P**		**09 58 17.7**	**-0.5**
KK31	**Karatay Array**	**38.08**	**11**	*e*P	**P**		**09 58 17.7**	**-0.5**
KKAR	**Karatay Array**	**38.08**	**11**	*e*P	**P**		**09 58 18.6**	**+0.5**
KKAR	**Karatay Array**	**38.08**	**11**	*e*P	**P**		**09 58 18.6**	**+0.5**
DDFL	**Dedoflistskaro**	**38.17**	**341**	P	**P**		**09 58 22.8**	**+3.8**
DGRG	**David-gareji**	**38.42**	**340**	P	P		09 58 27.1	+6.0
DGRG	**David-gareji**	**38.42**	**340**	*e*P	P		09 58 27.0	+6.0
AAK	**Ala-Archa**	**38.53**	**15**	P	**P**		**09 58 23.4**	**+1.3**
	comp=N,10nm,0.7s,baz=193,slow=3.7,SNR=25							
AAK				LR	LR		10 16 13.6	
	comp=N,3μm,18.1s,baz=196,slow=39							
AAK	**Ala-Archa**	**38.53**	**15**	*e*P	**P**		**09 58 23.4**	**+1.3**
	comp=N,28nm,0.9s							
AAK				LR	LR			
	comp=Z,4μm,22.0s							
AAK	**Ala-Archa**	**38.53**	**15**	P	**P**		**09 58 22.9**	**+0.8**
	SNR=25							
AAK	**Ala-Archa**	**38.53**	**15**	*i* P	**P**		**09 58 23.4**	**+1.3**
	SNR=13							
AAK	**Ala-Archa**	**38.53**	**15**↑	*e*P	**P**		**09 58 23.2**	**+1.1**
AAK				pmax	pmax			
	comp=Z,12nm,0.8s							
CMAR	**Chiang Mai Arr**	**38.60**	**67**	P	**P**		**09 58 22.9**	**0.0**
	comp=Z,1.1nm,0.3s,baz=259,slow=7.6,SNR=9.4							
CMAR				PcP	**PcP**		**10 00 36.8**	**+1.5**
	comp=Z,2.4nm,0.4s,baz=261,slow=4.5,SNR=5.9							
CMAR				LR	LR		10 13 05.2	
	comp=Z,2μm,22.0s,baz=264,slow=34							
CM01	**Chiang Mai Arr**	**38.60**	**68**	*e*P	**P**		**09 58 23.3**	**+0.4**
CHTO	**Chiang Mai**	**38.69**	**67**	*e*P	**P**		**09 58 22.0**	**-1.6**
	comp=Z,41nm,1.5s							
CHTO				LR	LR			
	comp=Z,2μm,22.0s							
CHTO	**Chiang Mai**	**38.69**	**67**	P	**P**		**09 58 23.8**	**+0.2**
	SNR=12							
CHTO	**Chiang Mai**	**38.69**	**67**	*e*P	**P**		**09 58 22.0**	**-1.6**
CHTO				pmax	pmax			
	comp=Z,41nm,1.5s							
CHTO				MLR	MLR			
	comp=Z,2μm,22.0s							
CMMT	**Chiang Mai**	**38.69**	**67**	P	**P**		**09 58 25.8**	**+2.2**
	comp=Z,20nm,1.9s							
TARG	**Taragay, Kyrgy**	**38.69**	**20**	*e*P	**P**		**09 58 23.4**	**-0.3**
	comp=Z,16nm,1.3s							
FRU	**Bishkek**	**38.75**	**15**	*e*P	**P**		**09 58 26.0**	**+2.2**
FRU				*e*S	**S**		**10 04 27.0**	**+6.0**
FRU				pmax	pmax			
	comp=Z,160nm,1.9s							
FRU				MLR	MLR			
	comp=E,3.0nm,17.0s							
SKLT	**Songkhla**	**38.84**	**86**	P	P		09 58 31.4	+6.5
	comp=E,25nm,0.9s							
KDJ	**Kajisay**	**38.85**	**19**	*e*P	**P**		**09 58 23.9**	**-0.9**
	comp=E,112nm,1.9s							
KDJ	**Kajisay**	**38.85**	**19**	P	**P**		**09 58 26.9**	**+2.1**
TBLG	**Delisi**	**38.89**	**340**	P	**P**		**09 58 26.2**	**+1.3**
TBLG	**Delisi**	**38.89**	**340**	*e*P	**P**		**09 58 26.2**	**+1.3**
KULM	**Kulim**	**38.91**	**89**	*e*P	**P**		**09 58 23.9**	**-1.6**
	comp=E,35nm,1.0s							
KULM				LR	LR			
	comp=Z,1μm,21.0s							
AKH	**Akhalkalaki**	**39.05**	**338**	P	**P**		**09 58 29.3**	**+2.9**
AKH	**Akhalkalaki**	**39.05**	**338**↑	*i*P	**P**		**09 58 28.0**	**+1.5**
AKH	**Akhalkalaki**	**39.05**	**338**	*e*P	**P**		**09 58 24.3**	**-2.1**
	comp=Z,93nm,1.7s							
AKH	**Akhalkalaki**	**39.05**	**338**	*e*P	**P**		**09 58 29.3**	**+2.9**
LKP	**Lekhapani**	**39.06**	**53**	*e*P	**P**		**09 58 24.4**	**-2.2**
CSS	**Mathiatis**	**39.07**	**322**	PFAKE			09 58 40.0	+13
CSS				LR	LR			
	comp=Z,480nm,20.0s							
CMAI	**Chiengmai2**	**39.08**	**65**	P	P		09 58 32.0	+5.0
	comp=Z,117nm,1.7s							
LSZ	**Lusaka**	**39.08**	**237**	P	**P**		**09 58 26.2**	**-0.8**
	comp=Z,5.8nm,0.9s,baz=64,slow=7.7,SNR=10							
LSZ				PcP	**PcP**		**10 00 35.6**	**-1.4**
	comp=Z,1.8nm,0.7s,baz=36,slow=2.4,SNR=3.2							
LSZ	**Lusaka**	**39.08**	**237**	*e*P	**P**		**09 58 25.4**	**-1.6**
LSZ				*ep*P	**P**		**09 58 25.8**	**-1.2**
LSZ				LR	LR			
	comp=Z,6μm,20.0s							
LSZ	**Lusaka**	**39.08**	**237**	P	**P**		**09 58 27.2**	**+0.2**
	SNR=5.8							
LSZ	**Lusaka**	**39.08**	**237**	*e*P	**P**		**09 58 25.4**	**-1.6**
LSZ				*e**PP	**P**		**09 58 25.8**	**-1.2**
LSZ				MLR	MLR			
	comp=Z,6μm,20.0s							
MAK	**Makhachkala**	**39.14**	**344**	*e*P	**P**		**09 58 26.9**	**0.0**
MAK				*e*			09 59 54.3	
MAK				*e*S	**S**		**10 04 26.2**	**-0.5**
MAK				pmax	pmax			
	comp=Z,26nm,0.4s							
MAK				MLR	MLR			
	comp=Z,1μm,16.0s							
AAA	**Alma-Ata**	**39.74**	**18**	*e*P	**P**		**09 58 30.2**	**-1.9**
AAA				*e*S	**S**		**10 04 30.2**	**-5.8**
AAA				pmax	pmax			
	comp=Z,300nm,5.4s							
AAA				smax	smax			
	comp=N,700nm,14.8s							
GROC	**Groznyy**	**39.86**	**342**	*e*P	**P**		**09 58 32.0**	**-1.0**
GROC				*e*			10 00 05.2	
GROC				*e*			10 00 36.2	
GROC				*e*S	**S**		**10 04 36.2**	**-1.4**
GROC				pmax	pmax			
	comp=Z,21nm,0.4s							
PBKT	**Sadao Pong**	**40.07**	**71**	P	**P**		**09 58 38.3**	**+3.2**
PBKT	**Sadao Pong**	**40.07**	**71**	*e*P	**P**		**09 58 36.4**	**+1.3**
	comp=Z,47nm,1.5s							
ONI	**Oni**	**40.09**	**339**	P	**P**		**09 58 37.4**	**+2.3**
ONI	**Oni**	**40.09**	**339**	*e*P	**P**		**09 58 37.3**	**+2.3**
ZEI	**Tsey**	**40.11**	**340**	*e*P	**P**		**09 58 35.5**	**+0.2**
ZEI				pmax	pmax			
	comp=Z,10.0nm,1.1s							
PDGK	**Podgornoye**	**40.68**	**20**	P	**P**		**09 58 40.9**	**+0.9**
PDGK				pmax	pmax			
	comp=Z,13nm,0.9s							
NCK	**Nalchik**	**40.84**	**340**↓	*e*P	**P**		**09 58 41.7**	**+0.6**
NCK				pmax	pmax			
	comp=Z,5.0nm,0.1s							
NEY	**Neytrino**	**40.93**	**339**↓	*e*P	**P**		**09 58 45.0**	**+2.9**
NEY				pmax	pmax			
	comp=Z,18nm,2.6s							
KBZ	**Khabaz**	**41.29**	**339**	P	**P**		**09 58 45.7**	**+1.0**
	comp=Z,13nm,0.9s,baz=157,slow=7.2,SNR=26							
KBZ				PP	**PnPn**		**10 00 23.1**	**-1.6**
	comp=Z,3.0nm,0.9s,baz=124,slow=7.3,SNR=5.2							
KBZ				LR	LR		10 16 53.1	
	comp=Z,1μm,19.2s,baz=146,slow=38							
KVAR	**Kislovodsk Arr**	**41.55**	**339**	P	**P**		**09 58 47.9**	**+0.8**
	comp=Z,9.0nm,0.6s,baz=209,slow=2.8,SNR=16							
KVAR				PP	**PnPn**		**10 00 25.9**	**-2.1**
	comp=Z,6.4nm,0.5s,baz=135,slow=14,SNR=2.8							
KIV	**Kislovodsk**	**41.56**	**339**	*e*P	**P**		**09 58 47.1**	**-0.1**
	comp=Z,22nm,0.7s							
KIV				LR	LR			
	comp=Z,1μm,20.0s							
KIV	**Kislovodsk**	**41.56**	**339**	P	**P**		**09 58 48.2**	**+1.1**
	SNR=9.3							
KIV	**Kislovodsk**	**41.56**	**339**	*i* P	**P**		**09 58 48.7**	**+1.6**
	SNR=11							
KIV	**Kislovodsk**	**41.56**	**339**	*e*P	**P**		**09 58 49.7**	**+2.6**
KIV				*e*			10 00 25.4	
KIV				*e*S	**S**		**10 05 06.5**	**+3.4**
KIV

KMI LR LR
comp=Z,2μm,19.7s
BODT Bodrum 44.18 320 P P 09 59 07.6 -0.8
MANT Manisa 44.27 322 eP P 09 59 09.2 -0.1
comp=Z,269nm,1.5s
ANN Anapa 44.29 335 eP P 09 59 07.1 -2.0
ANN e*PP **pP 09 59 10.9 -1.5**
ANN eS **S 10 05 40.9 -2.0**
ANN eSSS SSS 10 09 03.8
ANN pmax pmax
comp=Z,25nm,1.1s
ANN MLR MLR
comp=Z,2μm,18.0s
ANN MLR MLR
comp=N,2μm,18.0s
ANN MLR MLR
comp=E,774nm,18.0s
WMQ Urumqi 44.38 27 P P 09 59 12.3 +2.3
WMQ sP sP 09 59 18.0 +3.3
WMQ PP **PcP 10 00 54.0 +0.1**
WMQ S **S 10 05 45.9 +1.4**
WMQ ScS **ScS 10 09 09.5 +0.9**
WMQ pmax pmax
comp=E,76nm,1.7s
WMQ pmax pmax
comp=E,780nm,7.7s
WMQ LR LR
comp=E,4μm,21.5s
WMQ LR LR
comp=E,7μm,19.3s
WMQ LR LR
comp=E,6μm,23.7s
MAKZ Makanchi 44.58 20 eP P 09 59 12.4 +0.9
comp=E,98nm,2.0s
MAKZ Makanchi 44.58 20 eP P 09 59 12.4 +0.9
MAKZ pmax pmax
comp=Z,98nm,2.0s
MK01 Makanchi Array 44.66 20 eP P 09 59 11.7 -0.4
MK31 Makanchi Array 44.67 20 eP P 09 59 13.1 +0.9
MK31 Makanchi Array 44.67 20 eP P 09 59 13.1 +0.9
MK32 Makanchi Array 44.67 20 eP P 09 59 12.0 -0.3
MK32 ePcP **PcP 10 00 53.9 -0.9**
MKAR Makanchi Array 44.67 20 P P 09 59 12.0 -0.3
comp=Z,3.9nm,0.9s,baz=206,slow=8.4,SNR=19
MKAR PcP **PcP 10 00 53.8 -0.9**
comp=Z,1.9nm,0.9s,baz=241,slow=2.5,SNR=3.7
MKAR LR LR 10 19 36.3
comp=Z,1μm,19.7s,baz=212,slow=38
MKAR Makanchi Array 44.67 20 eP P 09 59 13.2 +1.0
comp=Z,30nm,0.9s
MKAR Makanchi Array 44.67 20 eP P 09 59 13.3 +1.0
MKAR pmax pmax
comp=Z,30nm,0.9s
AKTO Aktyubinsk 44.68 357 P P 09 59 12.9 +0.7
comp=Z,21nm,0.9s,baz=174,slow=8.0,SNR=39
AKTO LR LR 10 18 32.0
comp=Z,3μm,21.3s,baz=165,slow=37
IDI Anoyia 44.79 316 P P 09 59 14.3 +0.9
comp=Z,23nm,0.8s,baz=105,slow=7.9,SNR=18
IDI Anoyia 44.79 316⇑ iP P 09 59 13.6 +0.2
IDI Anoyia 44.79 316 eP P 09 59 13.1 -0.3
comp=Z,288nm,1.9s
SANT Santorini 44.99 318⇑ iP P 09 59 15.3 +0.3
SANT Santorini 44.99 318 eP P 09 59 15.2 +0.2
comp=Z,174nm,1.4s
SANT LR LR
comp=Z,688nm,19.0s
APE Apeiranthos 45.34 319⇑ iP P 09 59 18.5 +0.7
APE Apeiranthos 45.34 319 P P 09 59 13.9 -3.8
APE Apeiranthos 45.34 319c iP P 09 59 18.4 +0.7
APE pmax pmax
comp=Z,58nm,1.3s
CHOS Chios island 45.76 320 P P 09 59 22.1 +1.0
SIM Simferopol' 45.85 333 eP P 09 59 22.2 +0.7
SIM eS **S 10 06 06.4 +0.9**
SIM eSS **SS 10 09 29.0 -1.2**
SIM pmax pmax
comp=Z,140nm,9.7s
ANKY Antikythira Is 46.19 316 P P 09 59 25.2 +0.8
LBTB Lobatse 46.42 227 P P 09 59 27.3 +0.8
comp=Z,15nm,1.1s,baz=84,slow=4.6,SNR=5.9
LBTB Lobatse 46.42 227 eP P 09 59 25.2 -1.3
LBTB Lobatse 46.42 227 eP P 09 59 25.2 -1.3
KYTH Kithira 46.58 316 P P 09 59 25.4 -2.1
CD2 Chengdu 46.84 52 P P 09 59 30.4 +0.7
CD2 pP sP 09 59 33.6 -0.8
CD2 PP **PP 10 01 20.5 +0.6**
CD2 PcS **PcS 10 04 57.5 -0.2**
CD2 S S **10 06 22.9 +2.5**
CD2 sS sS 10 06 28.3 +2.3
CD2 pmax pmax
comp=Z,20nm,0.5s
CD2 pmax pmax
comp=Z,240nm,7.0s
CD2 LR LR
comp=Z,3μm,21.9s
CD2 LR LR
comp=Z,4μm,19.9s
CD2 LR LR
comp=Z,4μm,17.9s
KURBB Kurchatov Arra 46.98 15 P P 09 59 31.0 +0.7
comp=Z,5.0nm,0.9s,baz=214,slow=8.1,SNR=20
KURBB PcP **PcP 10 01 02.7 0.0**
comp=Z,1.7nm,1.0s,baz=209,slow=3.8,SNR=2.5
SKY Skiros Island 47.01 320 P P 09 59 35.2 +4.4
KURK Kurchatov 47.09 15 eP P 09 59 31.1 0.0
comp=Z,22nm,1.3s
KURK ePcP **PcP 10 01 02.7 -0.3**
KURK LR LR
comp=Z,5μm,20.0s
KURK Kurchatov 47.09 15 eP P 09 59 31.1 0.0
KURK e 10 01 02.7
KURK pmax pmax
comp=Z,22nm,1.3s
KURK MLR MLR
comp=Z,5μm,20.0s
DID Didima 47.10 318 P P 09 59 27.8 -3.8
VILL Villia 47.41 318 P P 09 59 31.7 -2.3
LTK Loutraki 47.56 318 P P 09 59 32.8 -2.3
LEM Lembang 47.62 105 P P 09 59 37.7 +1.6
comp=Z,13nm,0.5s,baz=185,slow=12,SNR=8.1
LEM LR LR 10 15 59.6
comp=Z,976nm,21.5s,baz=271,slow=32
GYA Guiyang 47.68 59⇑ iP P 09 59 36.8 +0.5
GYA PP **PP 10 01 30.0 +1.9**
GYA ScP **ScP 10 05 00.3 0.0**
GYA S **S 10 06 40.4 +7.8**
GYA SS **SS 10 09 56.8 -4.1**
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,130nm,5.4s
GYA LR LR
comp=Z,730nm,18.4s
GYA LR LR
comp=Z,630nm,19.6s
GYA LR LR
comp=Z,650nm,19.0s
BVAR Borovoye Array 47.73 7 P P 09 59 35.8 -0.4
comp=Z,2.6nm,0.9s,baz=175,slow=7.1,SNR=12
BVAR PcP **PcP 10 01 04.1 -1.2**
comp=Z,2.7nm,0.8s,baz=196,slow=4.1,SNR=5.1
BVAR LR LR 10 21 20.6
comp=Z,3μm,20.2s,baz=197,slow=38
RDO Rodhopi 47.74 323 P P 09 59 36.9 +0.5
BRVK Borovoye 47.75 7 eP P 09 59 36.5 +0.2
comp=Z,40nm,1.4s
BRVK LR LR
comp=Z,2μm,20.0s
BRVK Borovoye 47.75 7 P P 09 59 36.3 0.0
SNR=14
BRVK Borovoye 47.75 7⇑ eP P 09 59 36.5 +0.2
BRVK pmax pmax
comp=Z,4.0nm,1.0s
ITM Ithomi 47.82 317 eP P 09 59 36.8 -0.3
comp=Z,220nm,1.8s
GUR Goura 47.93 318 P P 09 59 36.5 -1.6
GTA Gaotai 48.11 40 ⇓P P 09 59 41.0 +1.5
GTA pP sP 09 59 45.8 +1.6
GTA sP pP 09 59 48.0 +5.1
GTA PcP **PcP 10 01 07.1 0.0**
GTA PP **PP 10 01 32.3 +0.5**
GTA S **S 10 06 39.5 +1.2**
GTA sS sS 10 06 47.3 +3.4
GTA SS **SS 10 10 04.0 -3.5**

GTA pmax pmax
comp=Z,6.0nm,1.2s
GTA pmax pmax
comp=Z,290nm,6.7s
GTA LR LR
comp=Z,4μm,23.3s
GTA LR LR
comp=Z,4μm,20.4s
GTA LR LR
comp=Z,5μm,20.2s
KLV Kalavryta, Ach 48.12 318 P P 09 59 38.5 -1.0
VRH Novokhopyorsk 48.27 343 eP P 09 59 39.7 -0.6
VRH pmax pmax
comp=Z,50nm,1.4s
VRH MLR MLR
comp=Z,860nm,16.0s
TIRR Tirgusor 48.28 328⇑ iP P 09 59 40.6 +0.1
TIRR Tirgusor 48.28 328 eP P 09 59 39.5 -1.0
comp=Z,87nm,1.4s
TIRR Tirgusor 48.28 328 eP P 09 59 39.5 -1.0
TIRR pmax pmax
comp=Z,87nm,1.4s
KALE Kalithea 48.31 318 P P 09 59 38.3 -2.7
TRIZ Trizonia 48.34 318 P P 09 59 41.0 -0.1
SERG Sergoula 48.38 318 P P 09 59 41.4 0.0
AGG Agios Georgios 48.52 319 eP P 09 59 40.0 -2.6
comp=Z,160nm,1.2s
AGG Agios Georgios 48.52 319 P P 09 59 39.9 -2.6
AGG Agios Georgios 48.52 319 eP P 09 59 40.0 -2.6
AGG pmax pmax
comp=Z,160nm,1.2s
HARR Harsova 48.69 328⇓ iP P 09 59 44.6 +0.9
KSM Kuching 48.82 93 eP P 09 59 45.5 +0.3
comp=Z,33nm,1.2s
KSM LR LR
comp=Z,1μm,21.0s
QIZ Qiongzhong 48.82 70 P P 09 59 45.6 +0.4
QIZ S **S 10 06 50.9 +2.2**
QIZ LR LR
comp=Z,950nm,26.3s
QIZ LR LR
comp=Z,1μm,28.0s
BOSA Boshof 48.84 224 P P 09 59 43.8 -1.5
comp=Z,23nm,1.3s,baz=33,slow=7.0,SNR=5.8
BOSA LR LR 10 18 30.2
comp=Z,5μm,19.0s,baz=42,slow=34
NVR Nevrokopi 48.87 322 P P 09 59 45.7 +0.5
SRS Serrai 48.90 322 P P 09 59 44.5 -0.9
SRS Serrai 48.90 322 P P 09 59 46.4 +1.0
CFR Carcaliu 48.91 329⇑ iP P 09 59 46.7 +1.3
CFR Carcaliu 48.91 329 P P 09 59 47.6 +2.2
LIT Litokhoron 49.01 320 eP P 09 59 46.0 -0.3
comp=Z,33nm,1.1s
LIT Litokhoron 49.01 320 eP P 09 59 46.0 -0.3
LIT pmax pmax
comp=Z,33nm,1.1s
VSR Storozhevoye 49.05 342 eP P 09 59 45.7 -0.7
VSR pmax pmax
comp=Z,30nm,0.9s
VSR MLR MLR
comp=Z,1μm,19.0s
LZH Lanzhou 49.15 46 ⇓P P 09 59 49.3 +1.7
LZH pP sP 09 59 54.4 +2.1
LZH sP pP 09 59 55.9 +4.9
LZH PP **PP 10 01 42.4 +1.1**
LZH S **S 10 06 53.8 +0.7**
LZH sS sS 10 07 00.4 +1.7
LZH SS **SS 10 10 21.9 -2.6**
LZH pmax pmax
comp=Z,46nm,1.0s
LZH pmax pmax
comp=Z,460nm,5.7s
LZH LR LR
comp=Z,2μm,17.1s
LZH LR LR
comp=Z,4μm,17.1s
LZH LR LR
comp=Z,5μm,18.6s
KNT Kendrikon 49.35 322 P P 09 59 47.5 -1.4
VAY Valandovo 49.65 322 P P 09 59 52.3 +1.2
ISR Istrita 49.71 328⇑ iP P 09 59 51.9 +0.3
KIS Kishinev 49.85 331 ⇓ iP P 09 59 53.0 +0.5
comp=Z,300nm,2.0s
KIS Kishinev 49.85 331 ePcP PcP 10 01 02.0 -11
KIS Kishinev 49.85 331 ePP PP 10 01 54.0 +6.7
KIS eScP ScP 10 04 40.0 -29
KIS eS **S 10 07 04.0 +1.8**
KIS Kishinev 49.85 331κ iP P 09 59 53.0 +0.5
KIS e 10 01 54.0
KIS eS **S 10 07 04.0 +1.8**
KIS ePS PKiKP 10 07 08.0 -52
KIS e 10 09 40.0
KIS eSS **SS 10 10 36.0 +1.0**
KIS pmax pmax
comp=Z,300nm,2.0s
KIS pmax pmax
comp=Z,400nm,0.5s
KIS MLR MLR
comp=Z,900nm,21.0s
TSUM Tsumeb 49.87 239 eP P 09 59 52.2 -1.0
comp=Z,25nm,1.3s
VTS Vitosha 50.00 323 ⇓ iP P 09 59 54.0 +0.1
VTS Vitosha 50.00 323 eP P 09 59 51.7 -2.2
comp=Z,174nm,1.6s
VTS Vitosha 50.00 323 P P 09 59 51.8 -2.1
VTS Vitosha 50.00 323 eP P 09 59 51.7 -2.2
VTS pmax pmax
comp=Z,174nm,1.6s
FNA Florina 50.10 320 eP P 09 59 53.9 -0.7
comp=Z,42nm,1.3s
FNA Florina 50.10 320 eP P 09 59 53.9 -0.7
FNA pmax pmax
comp=Z,42nm,1.3s
NEST Nestorio 50.10 320 P P 09 59 54.7 0.0
VRI Vrincioaia 50.11 329 ⇓ iP P 09 59 55.2 +0.6
VRI Vrincioaia 50.11 329 P P 09 59 55.1 +0.5
PLOR Plostina 50.14 329⇑ iP P 09 59 56.1 +1.3
PLOR Plostina 50.14 329 P P 09 59 56.1 +1.3
MLR Muntele Rosu 50.27 328 P P 09 59 55.7 -0.2
comp=Z,2.8nm,1.0s,baz=132,slow=7.2,SNR=12
MLR LR LR 10 23 01.8
comp=Z,368nm,18.6s,baz=138,slow=38
MLR Muntele Rosu 50.27 328⇑ iP P 09 59 56.5 +0.6
MLR Muntele Rosu 50.27 328 eP P 09 59 55.7 -0.2
comp=Z,142nm,1.6s
MLR Muntele Rosu 50.27 328 eP P 09 59 55.7 -0.2
MLR pmax pmax
comp=Z,142nm,1.6s
LPSR Galich'ya Gora 50.33 342 eP P 09 59 56.2 +0.2
LPSR pmax pmax
comp=Z,10.0nm,1.0s
SBUM Sibu 50.62 91 eP P 09 59 59.8 +0.8
comp=Z,46nm,1.1s
ARU Arti 50.65 358 eP P 09 59 58.9 +0.5
comp=Z,161nm,2.0s
ARU LR LR
comp=Z,2μm,20.0s
ARU Arti 50.65 358c iP P 09 59 58.8 +0.4
ARU 10 01 15.1
ARU 10 01 55.0
ARU PPP PPP 10 02 52.4
ARU S **S 10 07 15.5 +2.4**
ARU 10 09 46.9
ARU pmax pmax
comp=Z,37nm,2.5s
ARU MLR MLR
comp=Z,2μm,19.0s
VOIR 50.71 327 ⇓ iP P 10 00 00.2 +1.0
VOIR 50.71 327 P P 10 00 00.1 +0.9
DOPR Dopca 50.88 328⇑ iP P 10 00 01.3 +0.9
ARR Arges 50.89 327⇑ iP P 10 00 00.6 0.0
SVE Sverdlovsk 50.99 359 eP P 10 00 00.0 -1.0
SVE eS **S 10 07 16.0 -1.9**
SVE e 10 10 57.3
SVE pmax pmax
comp=Z,46nm,1.5s
SVE MLR MLR
comp=Z,2μm,17.0s
ENH Enshi 51.22 55 PFAKE 10 00 10.0 +6.7
ENH LR LR
comp=Z,2μm,20.0s
TIR Tirane 51.36 320 PFAKE 10 00 20.0 +16
TIR LR LR
comp=Z,802nm,21.0s
LOT Lotru 51.42 327⇑ iP P 10 00 04.5 -0.1

ZALV Zalesovo Beam 51.69 17 P P 10 00 06.0 -0.3
comp=Z,7.5nm,1.0s,baz=225,slow=10,SNR=11
ZALV PcP **PcP 10 01 19.1 -0.6**
comp=Z,0.7nm,0.3s,baz=219,slow=45,SNR=2.3
ZALV LR LR 10 22 40.0
comp=Z,2μm,20.6s,baz=238,slow=37
ZALV Zalesovo Beam 51.69 17 eP P 10 00 06.3 +0.1
ZALV Zalesovo Beam 51.69 17 eP P 10 00 06.4 +0.1
ZAL1 Zalesovo Array 51.69 17 eP P 10 00 06.0 -0.3
ZAA1 ePcP **PcP 10 01 19.1 -0.6**
HERR Herculane 51.82 325⇑ iP P 10 00 07.6 +0.1
NVS Novosibirsk 52.02 16⇑ iP P 10 00 08.4 -0.3
NVS *i* 10 01 26.9
NVS pmax pmax
comp=Z,71nm,2.4s
NVS pmax pmax
comp=N,41nm,1.9s
NVS pmax pmax
comp=E,13nm,1.6s
BURAR Bucovina Array 52.05 329 ⇓ iP P 10 00 10.8 +1.6
BURAR Bucovina Array 52.05 329 P P 10 00 10.8 +1.6
BUR04 Bucovina Ar. S 52.05 329 eP P 10 00 08.0 -1.3
XAN Xi'an 52.07 51 P P 10 00 10.5 +0.9
XAN PP **PP 10 02 10.1 +2.2**
XAN S **S 10 07 28.9 -4.8**
XAN SS **SS 10 11 09.9 -1.1**
XAN pmax pmax
comp=E,36nm,1.2s
XAN pmax pmax
comp=E,430nm,6.8s
XAN LR LR
comp=E,1μm,16.2s
XAN LR LR
comp=E,2μm,19.6s
XAN LR LR
comp=E,2μm,19.0s
BUR08 Bucovina Ar. S 52.08 329 eP P 10 00 09.7 +0.2
TIP Timpagrande 52.34 316 eP P 10 00 12.7 +1.1
comp=E,34nm,1.6s
TIP LR LR
comp=Z,563nm,22.0s
AKASG Malin Array Be 52.35 335 P P 10 00 09.8 -1.5
comp=Z,7.2nm,1.0s,baz=129,slow=6.3,SNR=17
AKASG PcP **PcP 10 01 21.6 -0.6**
comp=Z,0.3nm,0.2s,baz=119,slow=3.2,SNR=5.3
AKASG LR LR 10 24 26.3
comp=Z,684nm,19.4s,baz=120,slow=38
AKBB Malin Array Si 52.35 335 eP P 10 00 10.0 -1.2
comp=Z,20nm,1.1s
AKBB Malin Array Si 52.35 335 eP P 10 00 10.0 -1.2
AKBB pmax pmax
comp=Z,20nm,1.1s
KIEV Kiev 52.35 335 eP P 10 00 09.6 -1.7
comp=Z,19nm,1.1s
KIEV LR LR
comp=Z,618nm,20.0s
KIEV Kiev 52.35 335 *i* P **P 10 00 10.6 -0.7**
SNR=6.7
KIEV Kiev 52.35 335c *i* P **P 10 00 10.6 -0.7**
KIEV pmax pmax
comp=Z,44nm,2.6s
AK11 Malin Array Si 52.36 335 eP P 10 00 11.4 +0.1
AK11 ePcP **PcP 10 01 21.7 -0.6**
WDD Wied Dalam 52.51 311 PFAKE 10 00 20.0 +7.3
WDD LR LR
comp=Z,850nm,22.0s
CEL Celeste 52.53 315 PFAKE 10 00 20.0 +7.1
CEL LR LR
comp=Z,371nm,21.0s
HVS Khovu-Aksy 52.59 25⇓ eP P 10 00 14.4 +1.2
HVS pmax pmax
comp=Z,44nm,1.2s
BZS Buzias 52.72 326⇑ iP P 10 00 14.3 +0.2
DIVS Divibare 52.78 323 eP P 10 00 14.1 -0.6
comp=Z,58nm,1.4s
BMR Baia Mare 52.97 329⇑ iP P 10 00 17.5 +1.6
OBN Obninsk 53.20 342 PFAKE 10 00 30.0 +13
OBN LR LR
comp=Z,1μm,20.0s
OBN Obninsk 53.20 342 eP P 10 00 18.3 +0.8
OBN *e* 10 00 23.2
OBN *e* 10 01 24.8
OBN pmax pmax
comp=Z,8.0nm,0.5s
VAE Valguarnera 53.26 313 LR LR 10 21 27.9
comp=Z,375nm,21.6s,baz=121,slow=34
CUC Castrocucco 53.37 317 eP P 10 00 19.2 +0.2
comp=Z,25nm,1.2s
CUC LR LR
comp=Z,492nm,19.0s
MOS Moscow 53.43 343 eP P 10 00 18.2 -0.9
MOS *e* 10 00 24.6
MOS *e* 10 02 18.4
MOS pmax pmax
comp=Z,77nm,0.8s
MOS MLR MLR
comp=Z,1μm,21.0s
TRPA Tarpa 53.76 328⇑ eP P 10 00 22.2 +0.5
LVV L'vov 54.10 331 eP P 10 00 26.0 +1.8
CLTB Caltabellotta 54.17 313 PFAKE 10 00 40.0 +15
CLTB LR LR
comp=Z,237nm,19.0s
SUR Sutherland 54.17 223 PFAKE 10 00 40.0 +15
SUR LR LR
comp=Z,3μm,19.0s
UZH Uzhgorod 54.20 329 eP P 10 00 25.8 +0.9
UZH *e* 10 00 29.2
KKM Kota Kinabalu 54.35 87 eP P 10 00 27.7 +1.0
comp=Z,34nm,1.1s
KKM LR LR
comp=Z,2μm,20.0s
KWP Kalwaria Pacla 54.63 330 eP P 10 00 28.2 +0.1
KWP LMZ LR 10 21 56.4
comp=Z,1μm,30.5s
KWP Kalwaria Pacla 54.63 330 eP P 10 00 28.2 +0.1
comp=Z,646nm,1.4s
KWP Kalwaria Pacla 54.63 330 eP P 10 00 28.2 +0.1
MORH M¯ŧr¡gy, Hung 54.76 325⇑ eP P 10 00 29.1 +0.1
BLY Banja Luka 54.83 322⇑ iP P 10 00 30.0 +0.4
BLY Banja Luka 54.83 322 eP P 10 00 28.9 -0.6
comp=Z,64nm,1.3s
PSZ Piszkesteto 55.03 327⇑ eP P 10 00 30.3 -0.8
PSZ Piszkesteto 55.03 327 eP P 10 00 30.6 -0.5
comp=Z,55nm,1.5s
PSZ LR LR
comp=Z,950nm,20.0s
PSZ Piszkesteto 55.03 327 eP P 10 00 30.6 -0.5
PSZ pmax pmax
comp=Z,55nm,1.5s
PSZ MLR MLR
comp=Z,950nm,20.0s
STHS Stebnicka Huta 55.23 329 eP P 10 00 33.1 +0.7
STHS Stebnicka Huta 55.23 329 eP P 10 00 33.1 +0.7
STHS pmax pmax
comp=Z,10.0nm,1.3s
WHN Wuhan 55.32 57 ⇑P P 10 00 33.3 -0.1
WHN S **S 10 08 19.3 +1.7**
WHN LR LR
comp=Z,4μm,16.6s
WHN LR LR
comp=Z,2μm,16.3s
WHN LR LR
comp=Z,8μm,32.7s
CSKK Cs˙‡kako 55.62 326⇑ eP P 10 00 36.3 +1.1
NIE Niedzica 55.72 329 eP P 10 00 36.1 +0.1
NIE eS **S 10 08 30.6 +8.1**
NIE LMZ LR 10 24 50.7
comp=Z,700nm,22.5s
NIE Niedzica 55.72 329 eP P 10 00 36.1 +0.1
NIE eS **S 10 08 30.6 +8.1**
NIE MLR MLR
comp=Z,700nm,22.5s
MICGM Minsk 55.73 337 eP P 10 00 40.0 +4.2
MICGM eS **S 10 08 26.0 +3.7**
MICGM eLR LR 10 24 14.0
MNK Minsk 55.73 337 eP P 10 00 40.0 +4.2
MNK eS **S 10 08 26.0 +3.7**
VYHS Vyhne 55.95 327 eP P 10 00 37.1 -0.5
VYHS eSP **sP 10 00 43.8 +1.5**
VYHS Vyhne 55.95 327 eP P 10 00 37.1 -0.5
VYHS *e* 10 00 43.8
VYHS pmax pmax
comp=Z,34nm,1.5s
BEHE Becsehely 55.98 324⇑ eP P 10 00 44.0 +6.2
LANS Liptovska Anna 55.99 328 eP P 10 00 38.5 +0.5

LANS Liptovska Anna 55.99 328 eP P 10 00 38.5 +0.5
KRAR Krasnoyarsk 56.01 21⇓iP P 10 00 39.7 +1.9
AQU L'Aquila 56.06 318 PFAKE 10 00 50.0 +11
AQU LR LR
comp=Z,770nm,20.0s
TIY Taiyuan 56.08 48 eP P 10 00 39.8 +1.0
TIY S S **10 08 26.4 -1.4**
TIY ScS **ScS 10 10 30.8 +2.3**
TIY pmax pmax
comp=Z,250nm,8.2s
TIY LR LR
comp=Z,470nm,13.8s
TIY LR LR
comp=Z,1μm,15.3s
TIY LR LR
comp=Z,2μm,17.3s
MOY Mondy 56.23 28 eP P 10 00 41.4 +1.7
BOJS Bojanci 56.39 322 i P P 10 00 40.8 +0.1
KEST Kesra 56.40 309 P P 10 00 42.5 +1.4
comp=Z,5.3nm,1.0s,baz=55,slow=2.2,SNR=4.1
KEST PcP **PcP 10 01 39.9 +1.7**
comp=Z,14nm,0.9s,baz=31,slow=2.9,SNR=6.8
KEST LR LR 10 25 52.6
comp=Z,662nm,18.4s,baz=32,slow=37
OJC Ojcow 56.46 329 eP P 10 00 40.5 -0.8
OJC eS **S 10 08 37.8 +5.5**
OJC LMZ LR 10 26 40.4
comp=Z,2μm,20.7s
OJC Ojcow 56.46 329 eP P 10 00 40.1 -1.1
comp=Z,58nm,1.6s
OJC Ojcow 56.46 329 eP P 10 00 40.5 -0.8
OJC eS **S 10 08 37.8 +5.5**
OJC MLR MLR
comp=Z,2μm,20.7s
ZAK Zakamensk 56.55 31 eP P 10 00 42.5 +0.5
ZAK pmax pmax
comp=Z,6.0nm,1.3s
TAM Tamanrasset 56.56 293 eP P 10 00 41.8 -0.8
comp=Z,48nm,1.4s
TAM LR LR
comp=Z,1μm,20.0s
TAM Tamanrasset 56.56 293 eP P 10 00 41.8 -0.8
TAM pmax pmax
comp=Z,49nm,1.4s
TAM MLR MLR
comp=Z,1μm,20.0s
HHC Hu-ho-hao-te 56.67 44 eP P 10 00 45.0 +2.0
HHC sP sP 10 00 52.3 +4.5
HHC S **S 10 08 38.0 +2.4**
HHC sS sS 10 08 45.4 +4.1
HHC SS **SS 10 12 26.1 +2.7**
HHC pmax pmax
comp=Z,40nm,1.1s
HHC pmax pmax
comp=Z,120nm,6.8s
HHC LR LR
comp=Z,2μm,16.5s
HHC LR LR
comp=Z,2μm,16.5s
HHC LR LR
comp=Z,2μm,16.0s
MODS Modra-Piesok 56.73 326 eP P 10 00 42.5 -0.7
MODS Modra-Piesok 56.73 326 eP P 10 00 42.5 -0.7
MODS pmax pmax
comp=Z,71nm,1.7s
SONA0 Songino Array 56.75 35 eP P 10 00 42.8 -0.7
SONA0 ePP **PP 10 02 43.0 -6.7**
SONM Songino Array 56.75 35 P P 10 00 42.8 -0.7
comp=Z,5.8nm,0.9s,baz=230,slow=6.8,SNR=22
SONM PP **PP 10 02 43.0 -6.7**
comp=Z,3.0nm,0.9s,baz=231,slow=7.2,SNR=3.8
SONM LR LR 10 25 32.7
comp=Z,3μm,18.7s,baz=244,slow=36
SOP Sopron 56.76 325⇓eP P 10 00 43.0 -0.4
SOP Sopron 56.76 325 P P 10 00 44.4 +1.0
SONA1 Songino Array 56.76 35 eP P 10 00 42.8 -0.8
IDID Didziasalis 56.77 337 eP P 10 00 42.2 -1.1
VISS Visnje 56.79 323 eP P 10 00 43.5 -0.1
BEL Belsk 56.98 331 eP P 10 00 46.7 +1.9
BEL Belsk 56.98 331 eP P 10 00 46.7 +1.9
IIGN Ignalina 57.00 337 eP P 10 00 43.8 -1.2
PERS Pernice 57.04 323 eP P 10 00 45.8 +0.3
OKC Ostrava-Krasne 57.09 328 eS S 10 08 41.0 +0.4
OKC AMS AMS 10 25 50.0
comp=Z,1μm,23.9s
SOKA Soboth 57.11 323 eP P 10 00 45.7 -0.4
comp=Z,28nm,1.3s
ARSA Arzberg 57.12 324 eP P 10 00 46.5 +0.5
comp=Z,41nm,1.5s
IZAR Zarasai 57.28 337 eP P 10 00 46.0 -0.9
CONA Conrad Observa 57.28 325 eP P 10 00 47.4 +0.2
comp=Z,65nm,1.5s
JAVS Javornik 57.30 322 eP P 10 00 47.7 +0.3
SUW Suwalki 57.31 334 eP P 10 00 46.8 -0.4
SUW LMZ LR 10 25 19.1
comp=Z,2μm,28.8s
SUW Suwalki 57.31 334 eP P 10 00 46.9 -0.2
comp=Z,72nm,1.1s
SUW Suwalki 57.31 334 eP P 10 00 46.9 -0.2
SUW pmax pmax
comp=Z,72nm,1.1s
OBKA Obir 57.32 323 eP P 10 00 48.3 +0.8
comp=Z,52nm,1.5s
MORC Moravsky Berou 57.38 328 eP P 10 00 46.9 -0.9
comp=Z,351nm,1.7s
MORC Moravsky Berou 57.38 328 eP P 10 00 46.9 -0.9
MORC pmax pmax
comp=Z,351nm,1.7s
TRI Trieste 57.40 322 eP P 10 00 47.8 -0.1
comp=Z,80nm,1.4s
TRI Trieste 57.40 322 eP P 10 00 47.8 -0.1
TRI pmax pmax
comp=Z,80nm,1.4s
KLMR Klimovskoe 57.48 347 eP P 10 00 46.5 -1.7
KLMR AMP 10 00 54.9
comp=Z,56nm,1.2s
KLMR ePcP **PcP 10 01 41.2 -0.6**
KLMR ePP **PP 10 02 59.2 +3.4**
KLMR eS **S 10 08 42.5 -2.8**
KLMR eS **S 10 08 42.5 -2.8**
KLMR LQ LQ 10 21 51.7
KLMR LQ LQ 10 21 51.7
KLMR LR LR 10 25 23.1
KLMR Klimovskoe 57.48 347 eP P 10 00 46.5 -1.7
KLMR e 10 01 41.1
KLMR e 10 02 59.1
KLMR eS **S 10 08 42.5 -2.8**
KLMR pmax pmax
comp=Z,56nm,1.2s
TLY Talaya 57.52 30 eP P 10 00 49.9 +1.1
comp=Z,41nm,2.0s
TLY LR LR
comp=Z,3μm,21.0s
TLY Talaya 57.52 30 P P 10 00 49.0 +0.2
SNR=5.4
TLY Talaya 57.52 30c iP P 10 00 48.1 -0.6
TLY e 10 03 05.4
TLY ePPP PPP 10 04 18.7
TLY eS **S 10 08 43.8 -2.5**
TLY pmax pmax
comp=Z,17nm,2.1s
TLY MLR MLR
comp=Z,2μm,19.0s
VSL Villasalto 57.68 314 PFAKE 10 01 00.0 +10
VSL LR LR
comp=Z,358nm,21.0s
QZH Quanzhou 57.80 64⇑iP P 10 00 51.4 +0.3
QZH S **S 10 08 56.3 +5.6**
QZH pmax pmax
comp=Z,330nm,2.5s
QZH LR LR
comp=Z,870nm,21.3s
QZH LR LR
comp=Z,810nm,18.0s
QZH LR LR
comp=Z,1μm,19.4s
MYKA Terra Mystica 57.92 323 eP P 10 00 51.9 +0.2
comp=Z,51nm,1.3s
MOA Molln 58.16 324 eP P 10 00 52.7 -0.6
comp=Z,63nm,1.3s
IRK Irkutsk 58.17 29 eP P 10 00 55.9 +2.6
IRK pmax pmax
comp=Z,56nm,2.7s
TREC Trest 58.23 326 AMS AMS 10 27 10.0
comp=Z,1μm,22.8s

KBA Koelnbreinsper 58.32 323 eP P 10 00 53.4 -1.2
comp=Z,28nm,1.3s
DPC Dobruska-Polom 58.35 328 eP P 10 00 53.5 -1.1
DPC epP **sP 10 00 59.9 +0.5**
DPC Dobruska-Polom 58.35 328 eP P 10 00 53.5 -1.1
DPC e 10 00 59.9
UPC Upice 58.61 328 eS S 10 09 01.2 +0.8
UPC AMS AMS 10 26 20.0
comp=Z,1μm,24.0s
KSP Ksiaz 58.65 328 eP P 10 00 57.7 +1.1
KSP eS **S 10 09 00.4 -0.5**
KSP LMZ LR 10 26 40.7
comp=Z,2μm,22.6s
KSP Ksiaz 58.65 328 eP P 10 00 57.7 +1.1
KSP eS **S 10 09 00.4 -0.5**
KSP MLR MLR
comp=Z,2μm,22.6s
ABTA Abfaltersbach 58.66 323 eP P 10 00 55.2 -1.6
comp=Z,39nm,1.4s
VLC Villacollemand 58.83 319 PFAKE 10 01 10.0 +12
VLC LR LR
comp=Z,625nm,19.0s
GOPC GO Pecny, Ondr 58.94 327 eS S 10 09 06.3 +1.4
GOPC AMS AMS 10 26 50.0
comp=Z,700nm,20.9s
TGY Tagaytay City 58.96 77 LR LR 10 24 15.1
comp=Z,1μm,21.3s,baz=280,slow=34
PUL Pulkovo 58.96 342⇑eP P 10 01 01.2 +2.6
PUL pmax pmax
comp=Z,56nm,0.8s
GEA0 GERESS Array S 58.99 325 eP P 10 00 57.4 -1.7
GERES GERESS Array B 58.99 325 P P 10 00 57.5 -1.7
comp=Z,0.9nm,0.8s,baz=169,slow=7.6,SNR=6.7
GERES PP **PP 10 03 11.8 +2.2**
comp=Z,0.2nm,0.2s,baz=126,slow=6.3,SNR=3.3
GERES LR LR 10 27 43.6
comp=Z,651nm,21.9s,baz=114,slow=37
KAPI Kappang 59.08 99 PFAKE 10 01 10.0 +10
KAPI LR LR
comp=Z,762nm,22.0s
VSU Vasula 59.12 340⇑iP P 10 00 59.3 -0.4
VSU pmax pmax
comp=Z,100nm,1.7s
PRU Pruhonice 59.12 327 eS S 10 09 06.1 -1.0
PRU AMS AMS 10 31 10.0
comp=Z,700nm,15.9s
TIA Tai'an 59.13 51 P P 10 01 02.4 +2.1
TIA pmax pmax
comp=Z,10.0nm,2.1s
KHC Kasperske Hory 59.21 325 eP P 10 00 57.9 -2.7
KHC epP **sP 10 01 04.8 -0.6**
KHC eS **S 10 09 06.5 -1.9**
KHC AMS AMS 10 27 20.0
comp=Z,1μm,18.5s
KHC Kasperske Hory 59.21 325 eP P 10 00 59.7 -0.9
comp=Z,12nm,1.3s
KHC Kasperske Hory 59.21 325 eP P 10 00 59.7 -0.9
KHC pmax pmax
comp=Z,12nm,1.3s
PVCC Panska Ves 59.39 327 AMS AMS 10 26 00.0
comp=Z,1μm,22.9s
TOA0 Torodi Ar. Sit 59.40 282 eP P 10 01 00.9 -1.6
TORD Torodi Ar. Bea 59.40 282 P P 10 01 01.0 -1.5
comp=Z,10nm,1.0s,baz=90,slow=4.6,SNR=25
TORD PcP **PcP 10 01 48.5 -1.9**
comp=Z,6.5nm,1.1s,baz=80,slow=3.8,SNR=5.2
TORD LR LR 10 27 54.1
comp=Z,2μm,18.0s,baz=90,slow=37
TOA1 Torodi Ar. Sit 59.41 282 eP P 10 01 01.0 -1.5
TOA1 ePcP **PcP 10 01 48.5 -1.9**
NJ2 Nanjing 59.43 56 eP P 10 01 02.6 +0.2
NJ2 S **S 10 09 11.8 +0.1**
NJ2 sS **sS 10 09 19.0 +1.6**
NJ2 pmax pmax
comp=Z,20nm,0.5s
NJ2 pmax pmax
comp=Z,410nm,6.0s
NJ2 LR LR
comp=Z,1μm,13.6s
NJ2 LR LR
comp=Z,1μm,18.4s
NJ2 LR LR
comp=Z,2μm,19.5s
WTTA Wattenberg 59.43 323 eP P 10 01 00.5 -1.8
comp=Z,32nm,1.5s
WATA Walderalm 59.50 323 eP P 10 01 01.2 -1.6
comp=Z,21nm,1.0s
GKP Gorka Klasztor 59.57 331 eP P 10 01 09.2 +6.3
GKP Gorka Klasztor 59.57 331 eP P 10 01 09.2 +6.3
BJT Baijiatuau 59.62 47 eP P 10 01 03.2 -0.4
comp=Z,25nm,1.1s
BJT LR LR
comp=Z,3μm,22.0s
BJT Baijiatuau 59.62 47 eP P 10 01 03.2 -0.4
BJT pmax pmax
comp=Z,25nm,1.1s
BJT MLR MLR
comp=Z,3μm,22.0s
MOTA Moosalm 59.79 323 eP P 10 01 03.3 -1.5
comp=Z,16nm,1.1s
FETA Feichten 59.87 322 eP P 10 01 03.3 -2.1
comp=Z,22nm,1.3s
BRG Berggiesshubel 59.91 327 eP P 10 01 06.9 +1.5
comp=Z,52nm,2.1s
BRG e 10 01 11.5
comp=Z,72nm,2.1s
BRG PP **PP 10 03 20.0 +2.4**
BRG S **S 10 09 18.0 +0.7**
comp=N,1μm,21.0s
comp=E,562nm,24.2s
comp=Z,1μm,21.7s
BRG Berggiesshubel 59.91 327 eP P 10 01 06.9 +1.5
BRG e 10 01 11.5
BRG 10 03 20.0
BRG S **S 10 09 18.0 +0.7**
BRG pmax pmax
comp=Z,52nm,2.1s
BRG MLR MLR
comp=N,1μm,21.0s
BRG MLR MLR
comp=E,562nm,24.2s
BRG MLR MLR
comp=Z,1μm,21.7s
RETA Reutte 60.06 323 eP P 10 01 05.0 -1.5
comp=Z,19nm,1.6s
YHNB Yeheng 60.26 65 PFAKE 10 01 20.0 +12
YHNB LR LR
comp=Z,1μm,19.0s
NKC Novy Kostel 60.40 326 eP P 10 01 07.5 -1.3
NKC eS **S 10 09 25.8 +2.1**
NKC AMS AMS 10 27 40.0
NKC Novy Kostel 60.40 326 eP P 10 01 07.5 -1.3
NKC eS **S 10 09 25.8 +2.1**
TATO Taipei 60.40 65 eP P 10 01 08.3 -0.8
comp=Z,226nm,1.5s
TUE Stuetta 60.48 321 eP P 10 01 11.0 +1.4
comp=Z,45nm,1.5s
TUE LR LR
comp=Z,696nm,21.0s
DAVA Damuels 60.51 322 eP P 10 01 08.8 -0.9
comp=Z,51nm,1.5s
CLL Collm 60.64 327⇓iP P 10 01 11.6 +1.2
comp=Z,47nm,1.8s
CLL ⇓i(sP) **sP 10 01 16.5 +1.4**
comp=Z,115nm,2.0s
CLL ePP **PP 10 03 24.0 0.0**
CLL ePPP PPP 10 05 00.0
CLL eS **S 10 09 26.0 -0.7**
comp=N,300nm,21.8s
CLL eS **S 10 09 26.0 -0.7**
comp=E,600nm,39.5s
CLL eSS **SS 10 13 30.0 +4.8**
CLL eSSS SSS 10 16 00.0
CLL LmV 10 30 00.0
comp=Z,500nm,18.3s
CLL Collm 60.64 327⇓iP P 10 01 11.6 +1.2
CLL i 10 01 16.5
CLL eS **S 10 09 26.0 -0.7**
CLL pmax pmax
comp=Z,5.0nm,1.8s
CLL MLR MLR
comp=Z,500nm,18.3s
TMCR Tamitsa 60.76 348 eP P 10 01 09.8 -1.1
TMCR pmax pmax
comp=Z,19nm,0.6s
SSE Sheshan 61.16 58 P P 10 01 11.1 -3.2

SSE S **S 10 09 34.8 +0.8**
SSE sS **sS 10 09 40.6 +0.9**
SSE pmax pmax
comp=Z,16nm,0.7s
SSE pmax pmax
comp=Z,120nm,3.5s
SSE LR LR
comp=Z,450nm,19.2s
FIA0 FINESS Array S 61.58 342 eP P 10 01 15.3 -1.2
FIA0 FINESS Array S 61.58 342 eP P 10 01 15.3 -1.2
FIA1 FINESS Array S 61.58 342 eP P 10 01 15.6 -0.9
FINES FINESS Array B 61.58 342 P P 10 01 15.3 -1.2
comp=Z,6.2nm,1.1s,baz=96,slow=5.7,SNR=8.7
BNI Bardonecchia 61.62 319 PFAKE 10 01 30.0 +13
BNI LR LR
comp=Z,865nm,20.0s
SENIN Lac Senin/Sane 61.72 320 eP P 10 01 15.8 -2.3
comp=Z,34nm,0.9s
BFO Black Forest 61.90 323 eP P 10 01 18.3 -0.7
comp=Z,102nm,1.6s
BFO LR LR
comp=Z,542nm,20.0s
BFO Black Forest 61.90 323 iP P 10 01 20.7 +1.7
ECH Echery 62.56 322 eP P 10 01 23.0 -0.4
comp=Z,111nm,1.8s
ECH LR LR
comp=Z,565nm,20.0s
ECH Echery 62.56 322 eP P 10 01 23.0 -0.4
ECH pmax pmax
comp=Z,111nm,1.8s
ECH MLR MLR
comp=Z,565nm,20.0s
MBWA Marble Bar 62.97 117 PFAKE 10 01 40.0 +13
MBWA LR LR
comp=Z,476nm,20.0s
SSB Saint Sauveur 63.10 318 eP P 10 01 25.2 -1.9
comp=Z,44nm,1.3s
SSB LR LR
comp=Z,223nm,19.0s
SSB Saint Sauveur 63.10 318 eP P 10 01 25.3 -1.9
SSB pmax pmax
comp=Z,45nm,1.3s
SSB MLR MLR
comp=Z,223nm,19.0s
DAV Davao City (W) 63.60 85 LR LR 10 28 20.1
comp=Z,464nm,21.5s,baz=290,slow=35
DAV Davao City (W) 63.60 85 PFAKE 10 01 40.0 +9.1
DAV LR LR
comp=Z,461nm,19.0s
WLF Walferdange 63.76 323 PFAKE 10 01 40.0 +8.7
WLF LR LR
comp=Z,677nm,19.0s
H01W3 Cape Leeuwin H 63.83 133 T T 11 10 53.4
baz=299,slow=75,SNR=6.6
BATI Baumata 63.84 104 P P 10 01 36.0 +3.5
comp=Z,25nm,0.8s,baz=308,slow=12,SNR=3.0
H01W2 Cape Leeuwin H 63.84 133 T T 11 10 52.9
baz=299,slow=75,SNR=5.2
H01W1 Cape Leeuwin H 63.85 133 T T 11 10 53.4
baz=299,slow=75,SNR=6.3
MEM Membach 64.23 324⇑P P 10 01 36.9 +2.5
BCLA Clavier 64.57 324⇑P P 10 01 35.7 -0.9
LVZ Lovozero 64.72 349 PFAKE 10 01 50.0 +13
LVZ LR LR
comp=Z,2μm,19.0s
LVZ Lovozero 64.72 349⇓eP P 10 01 37.8 +0.5
LVZ pmax pmax
comp=Z,65nm,2.2s
DOU Dourbes 64.86 323 ⇓P P 10 01 38.8 +0.3
comp=Z,26nm,1.9s
KOWA Kowa 64.97 283 P P 10 01 38.6 -1.3
comp=Z,7.9nm,1.0s,baz=101,slow=4.9,SNR=13
KOWA LR LR 10 31 24.2
comp=Z,993nm,18.1s,baz=92,slow=37
KOWA Kowa 64.97 283 eP P 10 01 38.8 -1.1
HFS Hagfors 65.19 336 P P 10 01 39.6 -0.9
comp=Z,15nm,0.8s,baz=117,slow=8.8,SNR=24
HFS LR LR 10 32 05.0
comp=Z,938nm,21.7s,baz=132,slow=38
NWAO Narrogin (SRO) 65.26 130 P P 10 01 40.3 -1.1
comp=Z,10nm,0.8s,baz=166,slow=8.8,SNR=5.1
NWAO Narrogin (SRO) 65.26 130 eP P 10 01 40.6 -0.8
NWAO LR LR
comp=Z,945nm,19.0s
NWAO Narrogin (SRO) 65.26 130 eP P 10 01 40.6 -0.8
NWAO MLR MLR
comp=Z,945nm,19.0s
HIA Hailar 65.28 38 PFAKE 10 01 50.0 +8.7
HIA LR LR
comp=Z,4μm,19.0s
SNY Shenyang 65.52 46 ⇓P P 10 01 35.5 -7.4
SNY S **S 10 10 26.3 -1.7**
SNY pmax pmax
comp=Z,290nm,9.3s
SNY LR LR
comp=N,2μm,19.9s
SNY LR LR
comp=E,460nm,22.4s
SNY LR LR
comp=Z,2μm,18.9s
KIC Kosan Boka 65.89 274 ePKIKP P 10 01 46.0 +0.1
comp=Z,115nm,1.6s
BOD Bodaibo 65.93 28 eP P 10 01 44.6 -0.7
BOD pmax pmax
comp=Z,11nm,2.4s
DBIC Dimbokro 65.99 275 P P 10 01 44.8 -1.7
comp=Z,6.6nm,0.9s,baz=82,slow=8.0,SNR=7.2
DBIC LR LR 10 29 43.4
comp=Z,2μm,21.1s,baz=70,slow=35
DBIC Dimbokro 65.99 275 eP P 10 01 44.6 -1.9
comp=Z,64nm,1.8s
DBIC Dimbokro 65.99 275 eP P 10 01 44.6 -1.9
DBIC pmax pmax
comp=Z,64nm,1.8s
TIC Toumodi 66.15 275 ePKIKP P 10 01 45.7 -1.9
LIC Lamto 66.19 274 ePKIKP P 10 01 45.7 -2.1
comp=Z,99nm,1.7s
NC602 NORSAR Array S 66.42 336 eP P 10 01 48.0 -0.3
NC405 NORSAR Array S 66.56 336 eP P 10 01 48.1 -1.1
KONO Kongsberg 66.65 334 eP P 10 01 49.8 0.0
comp=Z,174nm,1.8s
KONO Kongsberg 66.65 334⇓iP P 10 01 50.7 +0.9
KONO pmax pmax
comp=Z,107nm,2.5s
JOW Kunigami 66.69 63 LR LR 10 34 17.0
comp=Z,1μm,18.5s,baz=284,slow=39
NB2 NORSAR Subarra 66.72 336 P P 10 01 49.3 -1.0
comp=Z,39nm,1.4s,baz=118,slow=7.4
NB2 NORSAR Subarra 66.72 336 P P 10 01 49.3 -1.0
baz=118,slow=7.4
NB200 NORSAR Array S 66.72 336 eP P 10 01 49.5 -0.9
NOA NORSAR Array B 66.72 336 P P 10 01 49.5 -0.9
comp=Z,3.1nm,0.9s,baz=121,slow=6.9,SNR=7.8
NOA LR LR 10 33 01.4
comp=Z,896nm,21.7s,baz=115,slow=38
INCN Inchon 66.84 52 PFAKE 10 02 00.0 +8.5
INCN LR LR
comp=Z,2μm,19.0s
NBO02 NORSAR Array S 66.87 336 eP P 10 01 49.3 -1.9
NBO00 NORSAR Array S 66.89 336 eP P 10 01 50.7 -0.7
TJN Taejon 67.21 53⇑eP P 10 01 53.6 -0.3
CN2 Changchun 67.35 45 eP P 10 01 55.1 +0.5
CN2 eSP sP 10 02 02.0 +2.6
CN2 pmax pmax
comp=Z,10.0nm,0.8s
CN2 pmax pmax
comp=Z,200nm,8.0s
CN2 LR LR
comp=Z,1μm,18.0s
CN2 LR LR
comp=Z,1μm,18.0s
CN2 LR LR
comp=Z,2μm,18.0s
ES19 SONSECA Array 67.56 311 eP P 10 01 54.0 -2.1
ESDC Sonseca Array 67.61 311 P P 10 01 54.4 -2.1
comp=Z,15nm,0.9s,baz=89,slow=5.2,SNR=32
ESDC LR LR 10 33 05.0
comp=Z,170nm,18.4s,baz=105,slow=37
ESLA Sonseca Array 67.61 311 eP P 10 01 56.4 -0.1
comp=Z,4.1nm,1.3s
KEV Kevo 67.81 348 PFAKE 10 02 10.0 +13
KEV LR LR
comp=Z,1μm,20.0s
KS01 Wonju Array Si 67.82 52 eP P 10 01 56.1 -1.6
KSRS Korea Array 67.84 52 P P 10 01 56.1 -1.8
comp=Z,3.9nm,1.0s,baz=259,slow=7.3,SNR=15

KSRS LR LR 10 34 36.8
comp=Z,1µm,18.4s,baz=267,slow=39
PAB San Pablo 67.87 310 *e*P **P 10 01 58.0 -0.1**
comp=Z,74nm,1.8s
PAB LR LR
comp=Z,291nm,22.0s
PAB San Pablo 67.87 310 *e*P **P 10 01 58.0 -0.1**
PAB pmax pmax
comp=Z,74nm,1.8s
PAB MLR MLR
comp=Z,291nm,22.0s
ARA0 ARCESS Array S 67.96 347 *e*P **P 10 01 56.4 -1.6**
ARCES ARCESS Array B 67.96 347 P **P 10 01 56.4 -1.6**
comp=Z,5.8nm,0.9s,baz=149,slow=5.7,SNR=10
ARCES LR LR 10 34 00.2
comp=Z,732nm,21.2s,baz=138,slow=38
ARCES ARCESS Array B 67.96 347 *e*P **P 10 01 57.7 -0.3**
ARCES ARCESS Array B 67.96 347 *e*P **P 10 01 57.7 -0.3**
RTC Rabat Centre 68.96 304 PFAKE 10 02 20.0 +15
RTC LR LR
comp=Z,3µm,20.0s
JNU Nakatsue 69.60 57 P **P 10 02 06.7 -2.3**
comp=Z,9.4nm,1.0s,baz=226,slow=12,SNR=3.9
JNU LR LR 10 35 01.8
comp=Z,965nm,19.4s,baz=276,slow=38
JNU Nakatsue 69.60 57 *e*P **P 10 02 09.0 0.0**
comp=Z,52nm,1.5s
SHEL Horse Pasture 69.97 251 PFAKE 10 02 20.0 +8.4
SHEL LR LR
comp=Z,548nm,20.0s
PBRG Braganca 70.08 312 *e*P **P 10 02 12.6 +0.8**
MVO Moncorvo 70.18 312 *e*P **P 10 02 11.9 -0.6**
MDJ Mudanjiang 70.44 45 P **P 10 02 13.4 -0.4**
MDJ pP pP 10 02 16.8 -0.6
MDJ PP **PP 10 04 49.8 0.0**
MDJ S **S 10 11 29.0 +2.2**
MDJ pmax pmax
comp=Z,13nm,0.9s
MDJ pmax pmax
comp=Z,440nm,7.5s
MDJ LR LR
comp=Z,2µm,21.6s
MDJ LR LR
comp=Z,860nm,17.5s
MDJ LR LR
comp=Z,3µm,18.2s
MDJ Mudanjiang 70.44 45 PFAKE 10 02 30.0 +16
MDJ LR LR
comp=Z,2µm,19.0s
PVIS Viseu 70.75 311 *e*P **P 10 02 15.2 -0.8**
PTOM Tomar 70.98 310 *e*P **P 10 02 17.2 0.0**
EKA Eskdalemuir Ar 71.11 327 P **P 10 02 16.4 -1.3**
comp=Z,3.3nm,0.8s,baz=116,slow=8.1,SNR=10
EKA LR LR 10 37 39.7
comp=Z,257nm,18.6s,baz=95,slow=39
PCAS Casmilo, Conde 71.11 310 *e*P **P 10 02 18.7 +0.6**
FAKI Fak Fak 71.12 95 *e*P **P 10 02 17.5 -1.1**
comp=Z,40nm,1.2s
ESK Eskdalemuir 71.13 327 PFAKE 10 02 30.0 +12
ESK LR LR
comp=Z,934nm,19.0s
ZEA Zeya 71.17 35 *e*P **P 10 02 20.9 +2.8**
ZEA pmax pmax
comp=Z,30nm,1.6s
ZEA MLR MLR
comp=Z,1µm,16.0s
ZEA MLR MLR
comp=N,700nm,15.0s
USRK Ussuriysk Ar. 72.05 45 LR LR 10 35 47.1
comp=N,3µm,19.6s,baz=264,slow=37
KLR Kul'dur 72.81 40 P **P 10 02 26.2 -1.9**
comp=N,0.4nm,0.9s,baz=275,slow=5.5,SNR=10
KLR LR LR 10 35 59.8
comp=N,256nm,18.8s,baz=258,slow=37
KLR Kul'dur 72.81 40*c i*P **P 10 02 27.1 -1.0**
MAW Mawson 73.14 179 P **P 10 02 28.2 -1.3**
comp=N,7.7nm,0.8s,baz=33,slow=8.1,SNR=8.4
MAW LR LR 10 26 56.2
comp=N,1µm,21.0s,baz=22,slow=30
MAW Mawson 73.14 179 *e*P **P 10 02 28.7 -0.8**
comp=N,5.5nm,1.3s
MAW Mawson 73.14 179 *e*P **P 10 02 28.7 -0.8**
MAW pmax pmax
comp=Z,6.0nm,1.3s
YAK Yakutsk 74.82 27 P **P 10 02 40.0 +0.5**
comp=Z,12nm,0.3s,baz=77,slow=4.5,SNR=3.6
YAK LR LR 10 38 23.1
comp=Z,2µm,19.7s,baz=266,slow=38
YAK Yakutsk 74.82 27 *e*P **P 10 02 37.7 -1.9**
YAK *e**PP **sP 10 02 44.1 -0.3**
YAK *e* 10 02 48.8
YAK *e*S **S 10 12 14.2 -2.0**
YAK pmax pmax
comp=Z,15nm,0.9s
YAK pmax pmax
comp=E,12nm,1.1s
YAK pmax pmax
comp=N,4.0nm,1.0s
YAK smax smax
comp=N,21nm,2.5s
YAK smax smax
comp=E,108nm,4.3s
YAK MLR MLR
comp=Z,2µm,21.0s
YAK MLR MLR
comp=N,2µm,22.0s
YAK MLR MLR
comp=E,737nm,21.0s
HSPB Hornsund (broa 75.38 350 *e*P **P 10 02 44.4 +1.9**
HSPB *e*S S 10 12 31.1 +9.2
MIR Mirnyy 75.56 168 *e*P **P 10 02 46.0 +2.3**
MIR pmax pmax
comp=Z,42nm,1.0s
WRA Warramunga Ar 75.90 112 P **P 10 02 45.1 -1.5**
comp=Z,9.0nm,0.7s,baz=294,slow=4.5,SNR=81
WRA LR LR 10 32 45.1
comp=Z,400nm,20.9s,baz=290,slow=33
WR1 Warramunga Ar 75.90 112 *e*P **P 10 02 45.1 -1.5**
comp=Z,46nm,1.1s
WRAB Tennant Creek 75.91 112 *e*P **P 10 02 45.1 -1.6**
comp=Z,51nm,1.2s
WRAB LR LR
comp=Z,566nm,20.0s
WRAB Tennant Creek 75.91 112*d i*P **P 10 02 45.5 -1.2**
WRAB pmax pmax
comp=Z,12nm,0.7s
MAJO Matsushiro 75.91 54 *e*P **P 10 02 46.4 0.0**
MAJO LR LR
comp=Z,581nm,20.0s
MAJO Matsushiro 75.91 54⇓*i*P **P 10 02 46.4 0.0**
MAJO pmax pmax
comp=Z,17nm,1.8s
MAT Matsushiro 75.91 54 P **P 10 02 47.8 +1.4**
MAT *e*S **S 10 12 27.4 -1.9**
MJAR Matsushiro Arr 75.91 54 P **P 10 02 46.4 0.0**
comp=Z,2.2nm,0.8s,baz=273,slow=9.3,SNR=6.1
MJAR LR LR 10 38 47.6
comp=Z,622nm,19.5s,baz=270,slow=38
WB2 Warramunga Arr 75.91 112 *e*P **P 10 02 44.4 -2.3**
GRNR Gornyy 76.04 39 *i* P **P 10 02 45.6 -1.3**
SPITS Spitsbergen Ar 76.05 351 LR LR 10 40 37.5
comp=Z,2µm,18.2s,baz=125,slow=39
SYO Syowa Base 76.08 188⇑*e*P **P 10 02 44.4 -2.2**
ASAR Alice Springs 76.27 116 P **P 10 02 46.5 -2.3**
comp=Z,7.0nm,0.7s,baz=285,slow=5.3,SNR=110
ASAR LR LR 10 31 55.6
comp=Z,503nm,21.5s,baz=291,slow=32
AS31 Alice Springs 76.27 116 *e*P **P 10 02 46.5 -2.3**
comp=Z,12nm,1.4s
AS01 Alice Springs 76.31 116 *e*P **P 10 02 45.6 -3.4**
ASCN Ascension 76.92 261 PFAKE 10 03 00.0 +7.5
ASCN LR LR
comp=Z,982nm,20.0s
JHJ Hachijo jima 2 77.05 57 LR LR 10 37 57.5
comp=Z,592nm,21.6s,baz=266,slow=37
BBTS Babate 77.08 284 P **P 10 02 52.0 -1.3**
comp=Z,41nm,0.8s,baz=229,slow=2.2,SNR=5.4
BBTS LR LR 10 38 11.1
comp=Z,954nm,18.5s,baz=94,slow=37
KBS Kingsbay 77.21 351 PFAKE 10 03 00.0 +7.1
KBS LR LR
comp=Z,2µm,19.0s
TIXI Tiksi 77.58 17 P **P 10 02 53.9 -1.2**
comp=Z,10nm,1.0s,baz=298,slow=3.7,SNR=11
TIXI Tiksi 77.58 17 *e*P **P 10 02 54.4 -0.6**
comp=Z,25nm,1.2s
TIXI Tiksi 77.58 17 *e*P **P 10 02 54.4 -0.6**
TIXI pmax pmax
comp=Z,25nm,1.2s
NKL Nikolayevsk 78.94 37 *e*P **P 10 03 06.0 +3.0**
NKL *e* 10 12 53.0
NKL *e* 10 18 13.0
NKL pmax pmax
comp=Z,500nm,8.0s
NKL MLR MLR
comp=N,1µm,18.0s
NKL MLR MLR
comp=E,1µm,18.0s
NKL MLR MLR
comp=Z,2µm,18.0s
JCJ Chichijima 79.10 64 LR LR 10 38 23.8
comp=Z,404nm,21.5s,baz=268,slow=36
ASAJ Asahikawa 79.63 46 P **P 10 03 06.1 -0.8**
comp=Z,0.6nm,0.4s,baz=65,slow=6.1,SNR=2.6
ASAJ Asahikawa 79.63 46 *e*P **P 10 03 05.9 -1.0**
comp=Z,4.3nm,1.1s
YSS Yuzh-Sakhalins 79.85 43 *e*P **P 10 03 07.5 -0.6**
comp=Z,60nm,1.5s
YSS Yuzh-Sakhalins 79.85 43 *e*P **P 10 03 06.5 -1.6**
YSS *e**SP **sP 10 03 13.2 +0.3**
YSS *e* 10 03 17.2
YSS *e* 10 06 11.0
YSS *e*S **S 10 13 08.0 -3.4**
YSS *e*PPS PPS 10 14 01.0
YSS *e*SS **SS 10 18 16.0 -4.6**
YSS pmax pmax
comp=Z,10.0nm,1.1s
ERM Erimo 79.97 48 PFAKE 10 03 20.0 +11
ERM LR LR
comp=Z,1µm,21.0s
CASY Casey 79.98 162 PFAKE 10 03 20.0 +12
CASY LR LR
comp=Z,235nm,19.0s
TYV Tymovskoe 79.99 39 *e*P **P 10 03 05.4 -3.3**
TYV pmax pmax
comp=Z,6.0nm,1.3s
TYV pmax pmax
comp=Z,200nm,7.4s
BORG Borgarnes 81.84 335 LR LR 10 43 06.3
comp=Z,542nm,20.0s,baz=56,slow=38
BORG Borgarnes 81.84 335 PFAKE 10 03 30.0 +12
BORG LR LR
comp=Z,342nm,19.0s
YUK Yuzh-Kuril'sk 81.98 46 *e*P **P 10 03 21.5 +2.0**
YUK *e* 10 06 22.7
YUK *e*PPP PPP 10 08 27.2
YUK S **S 10 13 37.5 +3.8**
YUK *e*SS **SS 10 18 51.3 -1.1**
YUK MLR MLR
comp=Z,1µm,19.0s
YUK MLR MLR
comp=N,703nm,21.0s
YUK MLR MLR
comp=E,434nm,19.0s
GUMO Guam 82.20 77 LR LR 10 37 34.9
comp=E,336nm,19.8s,baz=271,slow=34
GUMO Guam 82.20 77 PFAKE 10 03 30.0 +8.8
GUMO LR LR
comp=Z,607nm,20.0s
NVL N'lazarevskaya 83.10 195 *e*P **P 10 03 27.1 +2.4**
NVL pmax pmax
comp=Z,19nm,1.0s
KUR Kuril'sk 83.39 45 *e*P **P 10 03 29.8 +3.0**
KUR *e*S **S 10 13 51.6 +3.5**
KUR smax smax
comp=N,392nm,15.0s
KUR smax smax
comp=E,510nm,17.0s
SACV Santiago Islan 83.89 284 PFAKE 10 03 40.0 +10
SACV LR LR
comp=Z,509nm,22.0s
STKA Stephens Creek 84.57 123 P **P 10 03 31.9 -1.3**
comp=Z,3.4nm,0.7s,baz=308,slow=9.9,SNR=5.9
STKA LR LR 10 37 17.5
comp=Z,1µm,20.4s,baz=266,slow=33
STKA Stephens Creek 84.57 123 *e*P **P 10 03 31.5 -1.6**
comp=Z,4.9nm,1.3s
STKA Stephens Creek 84.57 123 *e*P **P 10 03 31.5 -1.6**
STKA pmax pmax
comp=Z,5.0nm,1.3s
MA2 Magadan 84.73 31 P **P 10 03 31.5 -1.9**
comp=Z,8.6nm,0.9s,baz=241,slow=5.0,SNR=4.5
MA2 LR LR 10 43 53.9
comp=Z,953nm,18.1s,baz=273,slow=38
MA2 Magadan 84.73 31 *e*P **P 10 03 33.1 -0.3**
comp=Z,54nm,1.7s
MA2 LR LR
comp=Z,1µm,21.0s
MA2 Magadan 84.73 31⇑*e*P **P 10 03 32.6 -0.8**
MA2 pmax pmax
comp=Z,11nm,1.1s
SEY Seymchan 85.34 27 P **P 10 03 36.2 -0.2**
comp=Z,1.4nm,0.6s,baz=296,slow=3.3,SNR=6.3
SEY Seymchan 85.34 27⇓*i*P **P 10 03 36.9 +0.5**
PMG Port Moresby 86.60 100 LR LR 10 43 52.2
comp=Z,166nm,18.9s,baz=300,slow=37
PMG Port Moresby 86.60 100 PFAKE 10 03 50.0 +6.4
PMG LR LR
comp=Z,325nm,19.0s
CTAO Charters Tower 86.98 110 PFAKE 10 04 00.0 +15
CTAO LR LR
comp=Z,782nm,21.0s
SNAA Sanae 87.56 197 P **P 10 03 48.3 +1.1**
SNAA Sanae 87.56 197 P **P 10 03 47.2 +0.1**
comp=Z,8.8nm,1.3s,baz=8.1,slow=5.5,SNR=5.0
SNAA LR LR 10 35 17.7
comp=Z,2µm,21.8s,baz=60,slow=30
SNAA Sanae 87.56 197 *e*P **P 10 03 47.7 +0.5**
comp=Z,17nm,1.4s
SNAA Sanae 87.56 197⇑*e*P **P 10 03 48.9 +1.7**
SUMG Summit 87.60 343 *i* P **P 10 03 47.5 -0.3**
SUMG Summit 87.60 343 *e*P **P 10 03 47.5 -0.3**
VNA2 Neumayer--Watz 88.60 198 P **P 10 03 51.5 -0.6**
baz=42,slow=5.5
VNA1 Neumayer--Stat 88.77 198 P **P 10 03 53.8 +1.0**
PETK Petropavlovsk- 89.17 37 LR LR 10 47 02.2
comp=Z,1µm,18.9s,baz=271,slow=38
VNA3 Neumayer Olymp 89.41 198 P **P 10 03 55.2 -0.6**
PET Petropavlovsk 89.75 37 PFAKE 10 04 10.0 +12
PET LR LR
comp=Z,1µm,20.0s
BILL Bilibino 90.21 21*c i*P **P 10 04 00.0 +0.3**
BILL *i* 10 04 05.3
BILL *i* 10 07 32.8
BILL *i* S **SKSac 10 14 30.7 +0.1**
BILL pmax pmax
comp=Z,9.0nm,1.2s
BILL MLR MLR
comp=Z,1µm,20.0s
CAN Canberra 91.17 125 PFAKE 10 04 20.0 +15
CAN LR LR
comp=Z,470nm,20.0s
TULEG Thule 93.16 350 *e*P **P 10 04 13.1 -0.1**
comp=Z,20nm,1.5s
SFJD Kangerlussuaq 93.26 339 LR LR 10 49 43.0
comp=Z,423nm,18.2s,baz=60,slow=38
QSPA South Pole Qui 95.65 180 LR LR 10 41 12.4
comp=Z,2µm,20.6s,baz=267,slow=32
VNDA Vanda 97.76 168 LR LR 10 42 57.6
comp=Z,1µm,20.2s,baz=250,slow=32
HNR Honiara 99.17 99 LR LR 10 52 44.5
comp=Z,175nm,19.5s,baz=272,slow=37
HNR Honiara 99.17 99 PFAKE 10 04 50.0 +8.2
HNR LR LR
comp=Z,355nm,22.0s
HOPE Hope Point 99.30 216 PFAKE 10 04 50.0 +8.6
HOPE LR LR
comp=Z,937nm,20.0s
DZM Mont Dzumac 105.90 111 *e*LR LR 10 40 08.6
comp=Z,602nm,27.9s
COLA College 106.32 13 PFAKE 10 09 30.0
COLA LR LR
comp=Z,1µm,20.0s
ILAR Eielson Array 106.61 12 PP PP 10 09 41.3 +3.0
comp=Z,0.7nm,1.1s,baz=300,slow=4.8,SNR=5.2
EGAK Eagle 107.71 10 PFAKE 10 09 40.0
EGAK LR LR
comp=Z,789nm,20.0s
KDAK Kodiak Island 110.97 19 PFAKE 10 09 40.0
KDAK LR LR
comp=Z,480nm,21.0s
YKA Yellowknife Ar 111.94 358 PKiKP **PKiKP 10 09 32.1 -2.2**
comp=Z,0.2nm,0.8s,baz=5.5,slow=1.9,SNR=3.5
YKA PP **PP 10 10 11.8 -4.9**
comp=Z,1.2nm,1.1s,baz=2.9,slow=6.1,SNR=5.1
EFI East Falkland 112.55 216 PFAKE 10 09 50.0
EFI LR LR
comp=Z,2µm,22.0s
PKME Peaks-Kenny Pk 112.94 325 PFAKE 10 09 50.0
PKME LR LR
comp=Z,425nm,21.0s
BBSR BB Station 116.45 310 PFAKE 10 09 50.0 +6.1
BBSR LR LR
comp=Z,310nm,20.0s
FUNA Funafuti 118.11 97 PFAKE 10 10 00.0 +12
FUNA LR LR
comp=Z,4µm,19.0s
FFC Flin Flon 118.25 349 PFAKE 10 10 00.0 +13
FFC LR LR
comp=Z,852nm,19.0s
BINY Binghamton 118.65 325 PFAKE 10 10 00.0 +12
BINY LR LR
comp=Z,748nm,22.0s
ANWB Willy Bob 119.45 294 PFAKE 10 10 00.0 +10
ANWB LR LR
comp=Z,696nm,22.0s
FDF Fort de France 119.69 290 PFAKE 10 10 00.0 +9.4
FDF LR LR
comp=Z,461nm,21.0s
GRGR Grenville 120.83 288 PFAKE 10 10 00.0 +7.2
GRGR LR LR
comp=Z,452nm,21.0s
GLMI Grayling 121.27 332 PFAKE 10 10 00.0 +7.2
GLMI LR LR
comp=Z,682nm,21.0s
EYMN Ely 121.56 339 PFAKE 10 10 00.0 +6.7
EYMN LR LR
comp=Z,1µm,21.0s
CBN Corbin Frederi 122.03 322 PFAKE 10 10 10.0 +16
CBN LR LR
comp=Z,492nm,21.0s
COWI Conover 122.20 336 PFAKE 10 10 10.0 +15
COWI LR LR
comp=Z,547nm,21.0s
AGMN Agassiz Nation 122.69 342 PFAKE 10 10 10.0 +15
AGMN LR LR
comp=Z,1µm,22.0s
AAM Ann Arbor 122.69 330 PFAKE 10 10 10.0 +14
AAM LR LR
comp=Z,632nm,20.0s
ACSO Alum Creek Sta 123.85 328 PFAKE 10 10 10.0 +12
ACSO LR LR
comp=Z,764nm,19.0s
CNNC Cliffs of the 124.21 320 PFAKE 10 10 10.0 +11
CNNC LR LR
comp=Z,643nm,20.0s
BLA Blacksburg 124.50 323 PFAKE 10 10 10.0 +11
BLA LR LR
comp=Z,592nm,20.0s
DGMT Dagmar 124.63 349 PFAKE 10 10 10.0 +11
DGMT LR LR
comp=Z,951nm,20.0s
PLCA Paso Flores 124.83 223 PKP **PKPdf 10 10 00.3 +0.4**
comp=Z,4.3nm,1.2s,baz=196,slow=23,SNR=3.0
JFWS Jewell Farm 125.27 335 PFAKE 10 10 10.0 +9.4
JFWS LR LR
comp=Z,779nm,22.0s
EGMT Eagleton 125.96 353 PFAKE 10 10 10.0 +8.1
EGMT LR LR
comp=Z,658nm,20.0s
NEW Newport 126.25 359 PFAKE 10 10 10.0 +7.6
NEW LR LR
comp=Z,557nm,20.0s
LAO LASA Array 126.72 350 PFAKE 10 10 10.0 +6.6
LAO LR LR
comp=Z,732nm,21.0s
HDIL Hopedale 126.75 332 PFAKE 10 10 10.0 +6.5
HDIL LR LR
comp=Z,744nm,21.0s
NLWA Neilton Lookou 126.92 5 PFAKE 10 10 10.0 +6.3
NLWA LR LR
comp=Z,663nm,20.0s
ECSD EROS Data Cent 126.99 340 PFAKE 10 10 10.0 +6.1
ECSD LR LR
comp=Z,983nm,22.0s
NHSC New Hope 127.03 319 PFAKE 10 10 10.0 +5.8
NHSC LR LR
comp=Z,481nm,20.0s
HAWA Hanford 128.13 1 PFAKE 10 10 20.0 +14
HAWA LR LR
comp=Z,481nm,20.0s
BOZ Bozeman (W) 128.57 354 *e*PKPdf **PKPdf 10 10 07.1 +0.1**
BOZ LR LR
comp=Z,615nm,19.0s
BOZ Bozeman (W) 128.57 354 *e*PKIKP **PKPdf 10 10 07.1 +0.1**
BOZ MLR MLR
comp=Z,615nm,19.0s
RSSD Black Hills 128.74 347 *e*PKPdf **PKPdf 10 10 07.9 +0.4**
RSSD Black Hills 128.74 347 *e*PKIKP **PKPdf 10 10 07.9 +0.4**
RLMT Red Lodge 128.74 352 PFAKE 10 10 20.0 +13
RLMT LR LR
comp=Z,988nm,21.0s
DLMT Dillon 128.90 355 *e*PKPdf **PKPdf 10 10 08.1 +0.5**
GOGA Godfrey 128.90 322 PFAKE 10 10 20.0 +12
GOGA LR LR
comp=Z,613nm,19.0s
LCO Las Campanas 129.33 237 PFAKE 10 10 20.0 +11
LCO LR LR
comp=Z,1µm,20.0s
LKWY Lake 129.44 353 PFAKE 10 10 20.0 +11
LKWY LR LR
comp=Z,356nm,21.0s
LPAZ La Paz 129.63 254 PKP **PKPdf 10 10 10.3 0.0**
comp=Z,3.5nm,1.1s,baz=355,slow=3.5,SNR=6.1
BMO Blue Mountains 129.67 359 PFAKE 10 10 20.0 +11
BMO LR LR
comp=Z,702nm,21.0s
GTBY Guantanamo Bay 130.36 302 PFAKE 10 10 20.0 +9.1
GTBY LR LR
comp=Z,374nm,19.0s
HLID Hailey 130.83 356 PFAKE 10 10 20.0 +8.6
HLID LR LR
comp=Z,914nm,21.0s
BW06 Boulder Array 131.09 351 PFAKE 10 10 20.0 +8.0
BW06 LR LR
comp=Z,756nm,19.0s
PDAR Pinedale Array 131.09 351 PKP **PKPdf 10 10 09.4 -2.6**
comp=Z,0.7nm,0.6s,baz=42,slow=2.0,SNR=7.4
OGNE Ogallala 131.20 343 PFAKE 10 10 20.0 +7.9
OGNE LR LR
comp=Z,600nm,21.0s
AHID Auburn Hatcher 131.31 353 PFAKE 10 10 20.0 +7.6
AHID LR LR
comp=Z,805nm,22.0s
CBKS Cedar Bluff 132.44 340 PFAKE 10 10 30.0 +16
CBKS LR LR
comp=Z,893nm,22.0s
HWUT Hardware Ranch 132.50 353 PFAKE 10 10 30.0 +15
HWUT LR LR
comp=Z,700nm,22.0s
BRAL Brewton 132.64 323 PFAKE 10 10 30.0 +15
BRAL LR LR
comp=Z,623nm,22.0s
MTDJ Mount Denham 133.17 301 PFAKE 10 10 30.0 +14
MTDJ LR LR
comp=Z,356nm,21.0s
ISCO Idaho Springs 133.21 346 PFAKE 10 10 30.0 +14
ISCO LR LR
comp=Z,612nm,20.0s
MIAR Mount Ida 133.60 331 PFAKE 10 10 30.0 +13
MIAR LR LR
comp=Z,751nm,22.0s
DUG Dugway, Tooele 134.04 354 PFAKE 10 10 30.0 +12
DUG LR LR
comp=Z,701nm,21.0s
SDCO Great Sand Dun 135.13 345 PFAKE 10 10 30.0 +10
SDCO LR LR
comp=Z,516nm,20.0s
NVAR Mina Array Bea 136.10 360 PKP **PKPdf 10 10 21.9 +0.3**
comp=Z,1.2nm,0.8s,baz=3.0,slow=1.1,SNR=9.0
MVCO Mesa Verde 136.31 348 PFAKE 10 10 30.0 +8.0
MVCO LR LR
comp=Z,541nm,20.0s
NATX Nacogdoches 136.39 330 PFAKE 10 10 30.0 +8.1
NATX LR LR
comp=Z,758nm,19.0s
ANMO Albuquerque 138.02 345 PFAKE 10 10 40.0 +15

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ANMO				LR	LR		
	comp=Z,628nm,21.0s						
NNA	Nana	138.46	258	PFAKE		10 10 40.0	+14
NNA				LR	LR		
	comp=Z,456nm,22.0s						
BCIP	Isla Barro Col	138.78	291	PFAKE		10 10 40.0	+13
BCIP				LR	LR		
	comp=Z,443nm,19.0s						
OTAV	Otavalo	139.64	277	PFAKE		10 10 40.0	+11
OTAV				LR	LR		
	comp=Z,1µm,19.0s						
JCT	Junction City	139.84	335	PFAKE		10 10 40.0	+12
JCT				LR	LR		
	comp=Z,562nm,20.0s						
MNTX	Cornudas Mount	140.78	342	PFAKE		10 10 40.0	+10
MNTX				LR	LR		
	comp=Z,685nm,21.0s						
PFO	Pinyon Flats O	140.86	357	PFAKE		10 10 40.0	+10
PFO				LR	LR		
	comp=Z,581nm,19.0s						
KVTX	Kingsville	141.44	330	PFAKE		10 10 40.0	+8.7
KVTX				LR	LR		
	comp=Z,653nm,20.0s						
TXAR	Lajitas Array	142.38	339	PKhKP	PKPpre	10 10 25.2	
	comp=Z,1.1nm,0.9s,baz=58,slow=0.5,SNR=9.9						
JTS	JuntasAbangare	143.06	295	PFAKE		10 10 50.0	+15
JTS				LR	LR		
	comp=Z,393nm,20.0s						
APG	El Apazote	145.47	307	PKPbc	PKPbc	10 10 38.4	-0.6
	comp=Z,25nm,0.8s,baz=332,slow=5.5,SNR=16						
PPT2	Papeete2	147.36	114	eLR	LR	10 59 26.6	
	comp=Z,775nm,28.8s						
RKT	Rikitea	156.46	139	eLR	LR	11 03 36.5	
	comp=Z,590nm,22.8s						
TAOE	Nuku Hiva Isla	158.25	100	eLR	LR	11 04 37.0	
	comp=Z,570nm,23.2s						

ISCJB 24 09:56:30.7±1.0, 6°.4N±0°.2×61°.7E±0°.2, h10km, mb3.7/7, Error ellipse: s-maj=31.8km s-min=21.6km az=26.7
IDC 24 09:56:30.9±1.1, 6°.34N×61°.70E, h0km, mb3.8/7, mb1 4.0/7, mb1mx3.6/70, mbtmp3.8/7, Error ellipse: s-maj=35.4km s-min=23.4km az=25.0
ISC 24 09:56:32.6±1.2, 6°.4N±0°.2×61°.7E±0°.2, h10km, n10, σ1s.14/7, mb4.0/7, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
H08N2	Diego Garcia H	15.66	143	T	T	10 15 39.5	
	baz=322						
H08N3	Diego Garcia H	15.67	144	T	T	10 15 38.2	
	baz=322,slow=74						
H08N1	Diego Carcia H	15.68	143	T	T	10 15 41.2	
	baz=322,slow=74						
BRTR	Keskin Array B	41.71	327	P	P	10 04 20.6	-1.3
	0.6nm,0.8s,baz=124,slow=7.7,SNR=3.6						
MKAR	Makanchi Array	44.01	20	P	P	10 04 40.8	+0.5
	0.5nm,0.8s,baz=220,slow=8.8,SNR=2.1						
SONM	Songino Array	56.13	35	P	P	10 06 12.1	-0.3
	0.3nm,0.4s,baz=204,slow=9.5,SNR=3.3						
TORD	Torodi Ar. Bea	59.40	281	P	P	10 06 35.6	-0.3
	1.0nm,0.9s,baz=102,slow=5.5,SNR=4.0						
ESDC	Sonseca Array	67.28	310	P	P	10 07 29.3	+1.6
	1.5nm,0.8s,baz=104,slow=7.9,SNR=5.1						
WRA	Warramunga Arr	76.02	112	P	P	10 08 21.1	+0.4
	2.0nm,1.0s,baz=289,slow=5.0,SNR=5.0						
ASAR	Alice Springs	76.44	116	P	P	10 08 22.4	-0.7
	2.6nm,1.2s,baz=262,slow=5.2,SNR=5.2						

ISCJB 24 09:57:05.5±0.2, 59°.91N±0°.02×152°.15W±0°.04, h87km±2km, mb3.7/10, Error ellipse: s-maj=3.9km s-min=3.1km az=146.6
IDC 24 09:57:05.7±1.4, 59°.92N×152°.25W, h65km±21km, mb3.5/10, mb1 3.5/15, mb1mx3.3/82, mbtmp3.7/15, MS3.1/1, Ms1 3.1/1, ms1mx2.5/49, Error ellipse: s-maj=22.0km s-min=9.5km az=118.0
NEIC 24 09:57:07.7±0.0, 59°.92N×152°.26W, h73km, ML3.4(AEIC), After AEIC.
NEIC Felt at Ninilchik and Soldotna.
ISC 24 09:57:06.8±0.7, 59°.90N±0°.03×152°.21W±0°.03, h78km±6km, n102, σ0s.94/122, mb3.8/10, Southern Alaska

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HOM	Homer	0.37	130	P	Pn	09 57 19.6	+0.3
HOM				S	Sn	09 57 29.7	+1.1
ILIM	Iliamna	0.42	296	P	Pn	09 57 19.2	-0.6
ILW	Iliamna West	0.49	290	P	Pn	09 57 20.0	-0.5
REF	Redoubt East F	0.64	337	P	Pn	09 57 21.6	-0.4
REF				S	Sn	09 57 32.7	-0.4
RDWB	Redoubt West	0.67	332	P	Pn	09 57 21.7	-0.5
RDWB				S	Sn	09 57 33.2	-0.4
BRLK	Bradley Lake	0.68	101	P	Pn	09 57 22.0	-0.2
BRLK				S	Sn	09 57 33.7	+0.2
DFR	Drift River	0.74	341	P	Pn	09 57 22.4	-0.4
DFR				S	Sn	09 57 33.9	-0.8
RDJH	Redoubt Jeurge	0.76	337	P	Pn	09 57 22.9	-0.2
RDJH				S	Sn	09 57 34.9	-0.3
NCT	North Crescent	0.76	332	P	Pn	09 57 22.7	-0.4
AUNW	Augustine NWes	0.83	232	P	Pn	09 57 23.8	0.0
AUW	Augustine West	0.83	231	P	Pn	09 57 23.9	+0.1
AUI	Augustine Isla	0.84	228	P	Pn	09 57 23.9	+0.1
AUI				S	Sn	09 57 36.4	-0.2
SLKM	Skilak Lake	1.16	57	P	Pn	09 57 27.3	-0.5
CDD	Cape Douglas	1.22	218	P	Pn	09 57 28.5	0.0
CKL	Chakachamna La	1.30	357	P	Pn	09 57 29.7	+0.1
FOSS	Fourpeaked Sta	1.34	215	P	Pn	09 57 30.1	+0.1
SPCP	Crater Peak Br	1.37	1	P	Pn	09 57 30.8	+0.2
FONW	Fourpeaked Sta	1.38	220	P	Pn	09 57 30.5	-0.1
SPWE	Spurr West	1.39	353	P	Pn	09 57 31.0	+0.2
STLK	Strandline Lak	1.62	6	P	Pn	09 57 34.0	+0.4
RC01	Rabbit Creek A	1.71	45	P	Pn	09 57 35.0	+0.2
RC01				S	Sn	09 57 56.4	+0.5
SUA	Susitna One	1.73	24	P	Pn	09 57 35.6	+0.5
SUA				S	Sn	09 57 58.5	+1.9
KARR	Katmai Rainbow	1.90	224	P	Pn	09 57 37.6	+0.2
KAHC	Katmai Hardscr	1.91	230	P	Pn	09 57 37.1	-0.4
SVW2	Sparrevohn	2.06	307	P	Pn	09 57 38.6	-0.8
SVW2				S	Sn	09 58 02.3	-2.0
SKT	Skwentna	2.12	9	P	Pn	09 57 40.2	+0.1
KDAK	Kodiak Island	2.13	185	P	Pn	09 57 39.9	-0.5
	19nm,0.3s,baz=48,slow=8.0,SNR=1378						
KDAK				S	Sn	09 58 05.0	-1.0
	28nm,0.3s,baz=205,slow=21,SNR=4.4						
KDAK	Kodiak Island	2.13	185	P	Pn	09 57 39.9	-0.5
KDAK				S	Sn	09 58 05.0	-1.0
KDAK				S	Sn	09 58 05.2	-0.7
PMR	Palmer	2.27	40	P	Pn	09 57 42.1	-0.1
PMR				S	Sn	09 58 08.4	-0.9
KABU	Katmai Buttres	2.28	226	P	Pn	09 57 42.8	+0.3
KELA	Mount Kelaz	2.33	233	P	Pn	09 57 43.0	-0.2
KNK	Knik Glacier	2.39	49	P	Pn	09 57 43.6	-0.3
KNK				S	Sn	09 58 11.4	-0.8
GHO	Glory Hole Cre	2.47	39	P	Pn	09 57 44.9	-0.2
SML	Sawmill	2.69	43	P	Pn	09 57 48.0	0.0
JPK	Jack Peak	3.01	65	P	Pn	09 57 51.3	-1.0
PPLA	Purkeypile	3.01	0	P	Pn	09 57 53.1	+0.8
SCM	Sheep Creek Mo	3.08	49	P	Pn	09 57 52.9	-0.3
VLZ	Valdez	3.16	64	P	Pn	09 57 53.4	-0.7
EYAK	Cordova Ski Ar	3.29	76	P	Pn	09 57 54.4	-1.5
DIV	Divide	3.41	66	ePn	Pn	09 57 56.5	-1.2
DIV				eSn	Sn	09 58 34.4	-2.6
KLU	Klutina	3.48	60	P	Pn	09 57 58.0	-0.6
TT01	Tatalina	3.53	330	P	Pn	09 57 59.0	-0.2
CAST	Castle Rocks	3.53	1	P	Pn	09 57 59.5	+0.1
TRF	Thorofare Moun	3.68	14	P	Pn	09 58 01.1	-0.3
KTH	Kantishna Hill	3.72	9	P	Pn	09 58 02.1	+0.2
RAGM	Ragged Mountai	3.80	79	P	Pn	09 58 01.4	-1.5
RND	Reindeer	3.87	23	P	Pn	09 58 04.0	+0.1
BMRM	Bremner River	3.92	71	P	Pn	09 58 03.1	-1.5
DHY	Denali Highway	3.94	34	P	Pn	09 58 05.5	+0.5
MCK	McKinley	4.15	21	P	Pn	09 58 07.8	+0.2
SUCK	Suckling Hills	4.24	84	P	Pn	09 58 09.0	+0.1
HARP	HAARP	4.24	51	P	Pn	09 58 09.5	+0.5
BPAW	Bear Paw Mtn.	4.26	7	P	Pn	09 58 08.5	-0.7
PAX	Paxson	4.47	43	P	Pn	09 58 12.5	+0.4
VRDI	Verde Repeater	4.52	69	P	Pn	09 58 11.6	-1.3
PS10	TAPS Pump St10	4.68	38	P	Pn	09 58 16.3	+1.3
MCARA	McCarthy VSAT	4.76	68	P	Pn	09 58 15.1	-0.9
ISLE	Juniper Island	4.97	78	P	Pn	09 58 17.3	-1.6
WRH	Wood River Hil	4.98	21	P	Pn	09 58 18.4	-0.5
KIAG	Kiagna River	4.99	74	P	Pn	09 58 18.2	-1.1
BALM	Baldy	5.01	73	P	Pn	09 58 18.2	-1.3
HDA	Harding Lake	5.15	26	P	Pn	09 58 21.4	0.0
CCB	Clear Creek Bu	5.19	21	P	Pn	09 58 20.9	-0.9
RIDG	Independ'e Rid	5.20	39	P	Pn	09 58 22.3	+0.3
PS08	TAPS Pump Stn8	5.30	26	P	Pn	09 58 23.6	+0.3
BARN	Barnard Glacie	5.34	73	P	Pn	09 58 23.7	-0.5
COLA	College	5.39	20	P	Pn	09 58 24.6	+0.2
DOT	Dot Lake	5.39	42	P	Pn	09 58 25.1	+0.5
MDM	Murphy Dome	5.40	18	P	Pn	09 58 24.3	-0.5
RKAV	Rock Avalanche	5.45	81	P	Pn	09 58 25.8	+0.2
ILAR	Eielson Array	5.48	25	P	Pn	09 58 25.6	-0.2
	4.1nm,0.3s,baz=208,slow=14,SNR=106						
ILAR				S	Sn	09 59 26.1	-1.2
	3.6nm,0.3s,baz=207,slow=17,SNR=5.3						
ILB	Eielson Array	5.48	25	P	Pn	09 58 25.6	-0.2
CTGM	Chitina Glacie	5.49	74	P	Pn	09 58 25.9	-0.2
SCRK	Sand Creek	5.64	40	P	Pn	09 58 27.8	-0.2
LOGN	Logan Glacier	5.64	76	P	Pn	09 58 27.8	-0.3
PS06	TAPS Pump Stn6	6.08	10	P	Pn	09 58 34.6	+0.6
IM3	Indian Mountai	6.15	354	P	Pn	09 58 34.6	-0.3
PRP	Porcupine Dome	6.42	26	P	Pn	09 58 38.7	0.0
EGAK	Eagle	7.09	42	P	Pn	09 58 47.6	-0.2
YUK5	Granite Creek	7.19	74	P	Pn	09 58 48.4	-0.9
DAWY	Dawson	7.33	50	P	Pn	09 58 51.4	+0.3
COLD	Coldfoot	7.41	6	ePn	Pn	09 58 52.6	+0.5
	3.2nm,0.7s						
COLD				eSn	Sn	10 00 12.9	-1.6
BM3	Burnt Mountain	8.26	21	P	Pn	09 59 02.9	-0.9
SKAG	Skagway	8.55	86	ePn	Pn	09 59 07.9	+0.2
	16nm,0.4s						
SKAG				eSn	Sn	10 00 46.2	+3.9
WHY	Whitehorse	8.64	77	P	Pn	09 59 08.6	-0.5
DLBC	Dease Lake	11.46	88	P	Pn	09 59 48.1	+0.7
	2.2nm,0.3s,baz=269,slow=8.5,SNR=58						
DLBC				S	Sn	10 01 51.1	-2.4
	0.3nm,0.3s,baz=116,slow=23,SNR=4.3						
INK	Inuvik	11.68	36	P	Pn	09 59 49.9	-0.3
	0.1nm,0.3s,baz=232,slow=10,SNR=8.6						
INK				S	Sn	10 01 54.2	-4.3
	0.1nm,0.3s,baz=252,slow=11,SNR=2.3						
BBB	Bella Bella	15.45	109	P	Pn	10 00 40.8	+0.9
	0.1nm,0.3s,baz=137,slow=22,SNR=3.9						
YKA	Yellowknife Ar	18.13	66	P	Pn	10 01 13.2	+0.2
	0.1nm,0.3s,baz=275,slow=9.9,SNR=9.3						
RES	Resolute Bay	25.18	32	LR	LR	10 14 22.8	
	comp=Z,44nm,18.9s,baz=67,slow=41						
SEY	Seymchan	25.99	301	P	P	10 02 33.0	+1.3
	0.6nm,0.3s,baz=358,slow=19,SNR=3.4						
PETK	Petropavlovsk-	27.87	278	P	P	10 02 48.2	-0.6
	0.7nm,0.4s,baz=62,slow=12,SNR=3.9						
KLR	Kul'dur	42.95	291	P	P	10 04 57.1	-0.5
	0.1nm,0.3s,baz=76,slow=6.4,SNR=4.3						
KSRS	Korea Array	53.59	283	P	P	10 06 20.4	+0.8
	2.5nm,0.8s,baz=42,slow=7.2,SNR=7.6						
KSAR	Wonju Array Be	53.62	283	P	P	10 06 20.4	+0.6
SONM	Songino Array	55.17	306	P	P	10 06 31.7	+0.6
	0.6nm,0.3s,baz=57,slow=5.5,SNR=5.1						
ZALV	Zalesovo Beam	57.69	324	P	P	10 06 48.6	-0.1
	0.9nm,0.4s,baz=358,slow=3.7,SNR=3.1						
HFS	Hagfors	59.80	8	P	P	10 07 04.5	+1.3
	0.3nm,0.3s,baz=22,slow=4.7,SNR=3.5						
KURK	Kurchatov	62.34	326	P	P	10 07 20.8	+0.3
BVAR	Borovoye Array	62.34	333	P	P	10 07 19.9	-0.7
	0.3nm,0.4s,baz=38,slow=7.3,SNR=3.7						
KURBB	Kurchatov Arra	62.45	326	P	P	10 07 20.8	-0.5
	0.4nm,0.4s,baz=26,slow=6.7,SNR=4.8						
MKAR	Makanchi Array	64.76	322	P	P	10 07 35.1	-1.5
	0.4nm,0.5s,baz=47,slow=6.7,SNR=4.7						

ISCJB 24 10:02:38.3±1.0, 28°.1S±0°.1×178°.2W±0°.2, h200km, mb3.6/7, Error ellipse: s-maj=22.4km s-min=16.2km az=150.7
IDC 24 10:02:40.0±1.0, 28°.21S×178°.15W, h205km±6km, mb3.5/6, mb1 3.7/7, mb1mx3.4/40, mbtmp4.1/7, Error ellipse: s-maj=22.6km s-min=18.9km az=46.0
ISC 24 10:02:39.8±0.9, 28°.2S±0°.1×178°.1W±0°.2, h200km, n16, σ1s.17/17, mb3.8/7, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	1.08	172	P	Pn	10 03 11.9	+1.8
	119nm,0.3s,baz=346,slow=2.4,SNR=4.7						
RAO				S	Sn	10 03 34.7	+1.0
	301nm,0.3s,baz=70,slow=23,SNR=7.8						
URZ	Urewera	10.82	201	P	Pn	10 05 08.6	-0.9
	0.2nm,0.3s,baz=275,slow=5.2,SNR=5.8						
URZ				S	Sn	10 07 00.4	-10
	4.3nm,0.3s,baz=142,slow=21,SNR=15						
STKA	Stephens Creek	34.96	254	P	P	10 09 14.9	+2.0
	2.2nm,0.8s,baz=90,slow=10,SNR=3.0						
ASAR	Alice Springs	43.19	265	P	P	10 10 20.4	-0.8
	2.0nm,1.0s,baz=94,slow=7.1,SNR=17						
WRA	Warramunga Arr	43.98	270	P	P	10 10 26.9	-0.6
	3.4nm,0.7s,baz=108,slow=7.6,SNR=23						
VNDA	Vanda	50.29	186	P	P	10 11 14.8	-0.5
	0.5nm,0.5s,baz=0.3,slow=8.4,SNR=5.9						
QSPA	South Pole Qui	61.92	180	P	P	10 12 38.2	+0.2
	2.8nm,0.7s,baz=54,slow=1.8,SNR=8.3						
SNAA	Sanae	80.37	178	P	P	10 14 27.4	-1.0
SNAA	Sanae	80.37	178	P	P	10 14 27.4	-1.0
	2.2nm,0.9s,baz=187,slow=11,SNR=7.2						
VNA3	Neumayer Olymp	80.52	176	P	P	10 14 28.0	-1.1
VNA2	Neumayer--Watz	80.95	177	P	P	10 14 30.7	-0.7
	baz=174,slow=3.9						
NVAR	Mina Array Bea	86.67	43	P	P	10 15 01.1	0.0
	0.7nm,0.8s,baz=216,slow=8.9,SNR=5.2						
YKA	Yellowknife Ar	103.48	25	PKiKP	PKiKP	10 20 35.8	+1.3
	0.5nm,1.0s,baz=182,slow=4.5,SNR=5.2						
NOA	NORSAR Array B	146.55	352	PKPbc	PKPdf	10 21 55.2	0.0
	0.9nm,0.8s,baz=16,slow=4.5,SNR=3.4						
AKASG	Malin Array Be	149.47	325	PKPbc	PKPbc	10 22 03.5	-1.4
	1.2nm,0.8s,baz=42,slow=2.9,SNR=7.0						
TORD	Torodi Ar. Bea	165.04	179	PKPab	PKPab	10 23 17.1	-1.1
	0.4nm,0.6s,baz=186,slow=2.3,SNR=3.7						

MEX 24 10:22:08.9±0.6, 16°.50N×98°.58W, h16km±681km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.45	104	eP	Pg	10 22 16.4	-1.6
PNIG				i S	Sg	10 22 22.5	-1.6
TLIG	Tlapa	1.06	1	eP	Pb	10 22 25.5	-3.4
TLIG				eS	Sb	10 22 37.6	-5.0
CAIG	El Cayaco	1.70	289	eP	Pn	10 22 35.2	-2.8
CAIG				eS	Sn	10 22 54.0	-5.4
VHO	Vista Hermosa	1.86	72	eP	Pn	10 22 38.0	-2.3
VHO				eS	Sn	10 23 01.8	-1.8

MEX 24 10:24:28.2±0.6, 16°.62N×98°.41W, h4km±11km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.35	130	eP	Pg	10 24 34.6	-0.4
PNIG				eS	Sg	10 24 39.9	+0.3
TLIG	Tlapa	0.95	351	eP	Pg	10 24 44.3	-2.2
TLIG				i S	Sg	10 24 56.9	-1.9
CAIG	El Cayaco	1.83	284	eP	Pn	10 24 57.8	-2.7
CAIG				eS	Sn	10 25 19.2	-4.9

ISCJB 24 10:30:17.3±0.9, 36°.53N±0°.04×142°.39E±0°.08, h19km, mb3.7/6, Error ellipse: s-maj=9.7km s-min=4.6km az=24.6
JMA 24 10:30:18.5±0.1, 36°.51N×142°.38E, h75km, M3.2
IDC 24 10:30:22.3±1.6, 37°.04N×141°.81E, h0km, mb3.8/6, mb1 3.8/8, mb1mx3.4/71, mbtmp3.7/8, ML3.2/2, Error ellipse: s-maj=43.4km s-min=19.9km az=70.0
ISC 24 10:30:19.8±1.5, 36°.56N±0°.06×142°.23E±0°.09, h19km, n27, σ1s.10/32, mb3.9/6, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JHO	Hitachi	1.33	273	P	Pn	10 30 43.3	-0.1
JHO				eS	Sb	10 31 01.5	+0.6
JFK	Kawauchi	1.35	307	P	Pb	10 30 43.7	-0.8
CHOJ	Chosi	1.40	233	P	Pn	10 30 43.9	-0.4
JMM	Marumori	1.73	319	P	Pn	10 30 48.9	0.0
JFT	Otama	1.79	303	P	Pn	10 30 50.3	+0.6
JIO	Ouri	2.01	340	P	Pn	10 30 52.2	-0.6
JIO				S	Sb	10 31 17.9	-2.6
BSO1	Boso 1	2.16	208	P	Pn	10 30 52.7	-1.6
JAG	Ashikaga	2.24	267	P	Pn	10 30 56.3	+0.4
JMK	Ichinoseki	2.52	342	P	Pn	10 30 59.7	0.0
JMK				S	Sn	10 31 30.5	+0.7
JRY	Ryogami san	2.74	260	P	Pn	10 31 03.0	+0.2
JRY				S	Sn	10 31 36.8	+1.4
JYK	Kaneyama	2.78	328	P	Pn	10 31 03.3	0.0
JYK				S	Sn	10 31 37.1	+0.8
JOD2	Odawara 2	2.86	244	P	Pn	10 31 04.2	-0.2
JOM	Ohasama	3.00	346	P	Pn	10 31 06.2	-0.1
JOM				S	Sn	10 31 42.4	+0.7
JYN	Shimob	3.17	251	P	Pn	10 31 08.7	0.0
JYN				S	Sn	10 31 46.4	+0.4
MJAR	Matsushiro Arr	3.23	271	Pn	Pn	10 31 10.6	+1.0
	2.5nm,0.3s,baz=92,slow=8.2,SNR=22						
MJAR				Sn	Sb	10 31 52.4	-3.3
	1.1nm,0.3s,baz=356,slow=10,SNR=4.1						
MAT	Matsushiro	3.23	271	P	Pn	10 31 11.2	+1.6
MAT				eS	Sn	10 31 46.2	-1.4
MAT	Matsushiro	3.23	271	P	Pn	10 31 09.8	+0.2
ASAJ	Asahikawa	7.55	2	Pn	Pn	10 32 08.1	-0.7
	0.4nm,0.3s,baz=198,slow=6.0,SNR=7.2						
ASAJ				Sn	Sn	10 33 34.6	+0.7
	0.4nm,0.3s,baz=316,slow=31,SNR=6.5						
H11N2	WAKE ISLAND Hy	27.35	121	T	T	11 04 25.1	
	baz=313,slow=75,SNR=5.3						
H11N1	WAKE ISLAND Hy	27.35	121	T	T	11 04 27.3	
	baz=313,slow=75,SNR=3.3						
H11N3	WAKE ISLAND Hy	27.36	121	T	T	11 04 35.4	
	baz=313,slow=75,SNR=4.8						
SONM	Songino Array	28.59	304	P	P	10 36 15.5	+0.8
	1.9nm,0.7s,baz=107,slow=9.0,SNR=12						
ZALV	Zalesovo Beam	42.71	313	P	P	10 38 16.7	+1.3
	0.4nm,0.3s,baz=73,slow=6.4,SNR=2.9						
MKAR	Makanchi Array	44.92	303	P	P	10 38 34.1	+0.8
	1.1nm,0.7s,baz=87,slow=12,SNR=8.5						
KURBB	Kurchatov Arra	46.80	308	P	P	10 38 48.2	+0.2
	0.6nm,0.2s,baz=83,slow=7.7,SNR=9.9						
WRA	Warramunga Arr	56.69	189	P	P	10 40 09.2	+7.1
	0.6nm,0.6s,baz=2.7,slow=7.7,SNR=11						
ASAR	Alice Springs	60.42	189	P	P	10 40 37.9	+10
	0.1nm,0.4s,baz=8.5,slow=8.5,SNR=7.2						

ISK 24 10:38:25.3, 39°.05N×29°.19E, h2km, ML2.7/11
DDA 24 10:38:26.1, 39°.09N×29°.18E, h7km, Ml2.6
CSEM 24 10:38:26.2±0.1, 39°.08N×29°.17E, h0km±1km, ML2.7, Error ellipse: s-maj=3.0km s-min=2.1km az=150.0
ISC 24 10:38:26.2±1.0, 39°.08N±0°.03×29°.17E±0°.02, h5km±12km, n40, σ0s.44/46, Turkey

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SIMA	Simav-Kutahya	0.15	273	PG	Pg	10 38 29.2	-0.1
SIMA	Simav-Kutahya	0.15	273	ePg	Pg	10 38 29.2	-0.1
GDZ	Gediz	0.24	87	i P	Pg	10 38 30.9	0.0
GDZ				i S	Sg	10 38 34.8	+0.6
GDZ	Gediz	0.24	87	P	Pg	10 38 30.9	0.0
GDZ				S	Sg	10 38 34.8	+0.6
DEMI	Demirci	0.36	265	i P	Pg	10 38 33.1	-0.1
DEMI				i S	Sg	10 38 37.6	-0.3
DEMI	Demirci	0.36	265	P	Pg	10 38 33.1	-0.1
DEMI				S	Sg	10 38 37.6	-0.3
TVSB	Tavsanli	0.43	31	PG	Pg	10 38 34.1	-0.6
TVSB	Tavsanli	0.43	31	ePg	Pg	10 38 34.1	-0.6
KULA	Kula-Manisa	0.69	216	PG	Pg	10 38 39.3	-0.2
KULA				SG	Sg	10 38 48.9	+0.5
KULA	Kula-Manisa	0.69	216	ePg	Pg	10 38 39.3	-0.2
KULA				eSg	Sg	10 38 48.9	+0.5
KHAL	Karahalli	0.75	160	i P	Pb	10 38 41.5	-0.3
KHAL	Karahalli	0.75	160	P	Pb	10 38 41.5	-0.3
DURS	Dursunbey	0.75	314	i P	Pg	10 38 40.2	-0.5
DURS	Dursunbey	0.75	314	P	Pg	10 38 40.2	-0.5
MANT	Manisa	0.76	220	i P	Pg	10 38 40.7	-0.1
MANT	Manisa	0.76	220	P	Pg	10 38 40.7	-0.1
AKHS	Akhisar	1.08	260	i P	Pg	10 38 47.1	+0.2
AKHS	Akhisar	1.08	260	P	Pg	10 38 47.1	+0.2
STEP	BALIKESIR_Sava	1.17	285	i P	Pb	10 38 48.9	-0.1
STEP	BALIKESIR_Sava	1.17	285	P	Pb	10 38 48.9	-0.1
CAVI	Cavuskoy	1.24	24	PN	Pn	10 38 50.4	+0.2
CAVI	Cavuskoy	1.24	24	ePn	Pn	10 38 50.4	+0.2
BORA	Eskisehir	1.27	51	i P	Pn	10 38 50.5	-0.3
BORA	Eskisehir	1.27	51	P	Pn	10 38 50.5	-0.3
MDNY	Mudanya-Bursa	1.31	350	PN	Pg	10 38 51.6	+0.2
MDNY	Mudanya-Bursa	1.31	350	ePn	Pg	10 38 51.6	+0.2
KCTX	Karacabey (Bur	1.34	332	PN	Pb	10 38 51.9	0.0
KCTX	Karacabey (Bur	1.34	332	ePn	Pb	10 38 51.9	0.0
YLV	Yalova	1.50	6	PN	Pb	10 38 54.3	-0.2
YLV	Yalova	1.50	6	ePn	Pb	10 38 54.3	-0.2
GONE	Gonen-Balikesi	1.50	311	PN	Pb	10 38 54.6	0.0
GONE	Gonen-Balikesi	1.50	311	ePn	Pb	10 38 54.6	0.0
ARMT	Armutlu	1.51	351	PN	Pb	10 38 54.6	-0.1
ARMT	Armutlu	1.51	351	ePn	Pb	10 38 54.6	-0.1
AYDB	Zeytinkoy-Aydi	1.51	222	PN	Pn	10 38 53.9	-0.2
AYDB	Zeytinkoy-Aydi	1.51	222	ePn	Pn	10 38 53.9	-0.2
KRBG	Karabiga-Canak	1.96	313	PN	Pb	10 39 01.2	-1.1
KRBG	Karabiga-Canak	1.96	313	ePn	Pb	10 39 01.2	-1.1
SBT3	Marmara-Eregli	2.03	333	PN	Pn	10 39 01.9	+1.0
SBT3	Marmara-Eregli	2.03	333	ePn	Pn	10 39 01.9	+1.0

ISCJB 24 10:38:48.9±0.5, 39°.11N±0°.04×29°.17E±0°.04, h8km±5km, Error ellipse: s-maj=7.0km s-min=4.5km az=155.0
CSEM 24 10:38:48.7±0.1, 39°.12N×29°.17E, h5km, ML2.3, Error ellipse: s-maj=2.5km s-min=1.6km az=124.0
ISK 24 10:38:48.3, 39°.12N×29°.17E, h6km, ML2.3/9
DDA 24 10:38:49.5, 39°.05N×29°.20E, h7km, Ml2.7
ISC 24 10:38:48.9±0.9, 39°.12N±0°.03×29°.17E±0°.03, h9km±8km, n30, σ0s.34/38, Turkey

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SIMA	Simav-Kutahya	0.15	257	PG	Pg	10 38 52.3	0.0
SIMA				SG	Sg	10 38 54.4	-0.2
SIMA	Simav-Kutahya	0.15	257	ePg	Pg	10 38 52.3	0.0
SIMA				eSg	Sg	10 38 54.4	-0.2
GDZ	Gediz	0.24	97	i P	Pg	10 38 53.9	-0.1
GDZ				i S	Sg	10 38 57.7	+0.4
GDZ	Gediz	0.24	97	P	Pg	10 38 53.9	-0.1
GDZ				S	Sg	10 38 57.7	+0.4
DEMI	Demirci	0.36	258	i P	Pg	10 38 56.1	0.0
DEMI				i S	Sg	10 39 00.7	-0.2
DEMI	Demirci	0.36	258	P	Pg	10 38 56.1	0.0
DEMI				S	Sg	10 39 00.7	-0.2
TVSB	Tavsanli	0.40	34	PG	Pg	10 38 56.6	-0.3
TVSB				SG	Sg	10 39 02.1	-0.1
TVSB	Tavsanli	0.40	34	ePg	Pg	10 38 56.6	-0.3
TVSB				eSg	Sg	10 39 02.1	-0.1
KULA	Kula-Manisa	0.72	214	PG	Pg	10 39 02.6	-0.2
KULA	Kula-Manisa	0.72	214	ePg	Pg	10 39 02.6	-0.2
DURS	Dursunbey	0.72	312	i P	Pn	10 39 06.0	+0.6
DURS	Dursunbey	0.72	312	P	Pn	10 39 06.0	+0.6
KHAL	Karahalli	0.79	161	i P	Pb	10 39 04.5	-0.3
KHAL	Karahalli	0.79	161	P	Pb	10 39 04.5	-0.3
MANT	Manisa	0.79	218	i P	Pg	10 39 03.6	-0.5
MANT	Manisa	0.79	218	P	Pg	10 39 03.6	-0.5
CAVI	Cavuskoy	1.20	25	PN	Pg	10 39 11.7	-0.3
CAVI	Cavuskoy	1.20	25	ePn	Pg	10 39 11.7	-0.3
MDNY	Mudanya-Bursa	1.27	350	PN	Pg	10 39 13.2	-0.1
MDNY	Mudanya-Bursa	1.27	350	ePn	Pg	10 39 13.2	-0.1
KCTX	Karacabey (Bur	1.31	332	PN	Pg	10 39 13.9	-0.1
KCTX	Karacabey (Bur	1.31	332	ePn	Pg	10 39 13.9	-0.1
YLV	Yalova	1.46	6	PN	Pn	10 39 15.9	+0.4
YLV	Yalova	1.46	6	ePn	Pn	10 39 15.9	+0.4
ARMT	Armutlu	1.47	351	PN	Pn	10 39 15.6	+0.1
ARMT	Armutlu	1.47	351	ePn	Pn	10 39 15.6	+0.1
AYDB	Zeytinkoy-Aydi	1.54	221	PN	Pn	10 39 17.2	+0.6
AYDB	Zeytinkoy-Aydi	1.54	221	ePn	Pn	10 39 17.2	+0.6
EDC	Edincik	1.59	321	PN	Pn	10 39 17.7	+0.5
EDC	Edincik	1.59	321	ePn	Pn	10 39 17.7	+0.5

ISCJB 24 10:39:47.6±0.9, 36°.13N±0°.04×142°.10E±0°.08, h23km, mb3.3/4, Error ellipse: s-maj=9.7km s-min=6.3km az=3.4
JMA 24 10:39:49.6±0.2, 36°.18N×141°.93E, h62km, M3.1
IDC 24 10:39:57.7±3.5, 35°.77N×141°.36E, h64km±32km, mb3.1/4, mb1 3.3/6, mb1mx3.1/64, mbtmp3.4/6, ML2.9/2, Error ellipse: s-maj=37.9km s-min=22.7km az=75.0
ISC 24 10:39:50.0±1.3, 36°.13N±0°.05×142°.02E±0°.09, h23km, n25,

σ1♀32/23, mb3.4/4, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	Chosi	1.03	246	P	Pn	10 40 07.8	-1.3
CHOJ				eS	Sb	10 40 22.3	0.0
JHO	Hitachi	1.27	293	P	Pn	10 40 10.1	-2.2
ONAJ	Iwakimizuishiy	1.38	315	P	Pn	10 40 11.8	-2.1
JFK	Kawauchi	1.54	324	P	Pn	10 40 14.2	-1.9
BSO1	Boso 1	1.70	210	P	Pn	10 40 17.7	0.0
BSO1				eS	Sb	10 40 39.7	-1.2
BSO3	Boso 3	1.81	223	P	Pn	10 40 19.2	-0.3
JFT	Otama	1.94	316	P	Pn	10 40 20.7	-0.8
JMM	Marumori	2.00	331	P	Pn	10 40 21.5	-0.8
JAG	Ashikaga	2.10	279	P	Pn	10 40 22.1	-1.6
JKT	Katashina	2.33	267	P	Pn	10 40 26.0	-0.9
JRY	Ryogami san	2.53	268	P	Pn	10 40 28.2	-1.5
JOD2	Odawara 2	2.54	251	P	Pn	10 40 28.9	-0.9
MJAR	Matsushiro Arr 3.1nm,0.3s,baz=113,slow=7.3,SNR=32	3.11	279	P	Pn	10 40 37.2	-0.4
MJAR				S	Sn	10 41 15.3	+1.3
MAT	Matsushiro 1.5nm,0.3s,baz=72,slow=8.3,SNR=5.0	3.11	279	P	Pn	10 40 37.6	0.0
MAT				eS	Sn	10 41 15.2	+1.2
JHJ	Hachijo jima 2 3.6nm,0.3s,baz=27,slow=21,SNR=4.4	3.52	212	P	Pn	10 40 42.9	-0.5
JHJ				S	Sn	10 41 22.3	-2.0
H11N2	WAKE ISLAND Hy 27.27 120 baz=312,slow=75,SNR=5.2			T	T	11 14 12.1	
H11N1	WAKE ISLAND Hy 27.27 120 baz=312,slow=75,SNR=5.0			T	T	11 14 11.2	
H11N3	WAKE ISLAND Hy 27.29 120 baz=312,slow=75,SNR=4.7			T	T	11 14 15.7	
H11S1	WAKE ISLAND Hy 27.96 122 baz=314,slow=76,SNR=7.6			T	T	11 15 02.0	
H11S3	WAKE ISLAND Hy 27.96 122 baz=314,slow=76,SNR=5.5			T	T	11 15 04.1	
H11S2	WAKE ISLAND Hy 27.98 122 baz=314,slow=76,SNR=5.2			T	T	11 15 03.2	
SONM	Songino Array 0.5nm,0.5s,baz=96,slow=10,SNR=3.6	28.70	305	P	P	10 45 46.6	+1.2
MKAR	Makanchi Array 0.3nm,0.5s,baz=87,slow=11,SNR=3.3	45.02	303	P	P	10 48 05.1	+1.4
WRA	Warramunga Arr 0.2nm,0.7s,baz=8.5,slow=7.9,SNR=3.3	56.24	189	P	P	10 49 28.0	-0.5
YKA	Yellowknife Ar 0.2nm,0.8s,baz=296,slow=5.0,SNR=2.6	64.34	30	P	P	10 50 30.0	+6.6

*IDC **24** 10:49:17.8±1.0, 5°.51N×61°.43E, h0km, mb3.9/11, mb1 4.1/11, mb1mx3.7/66, mbtmp3.9/11, MS4.3/2, Ms1 4.2/2, ms1mx3.0/72, Error ellipse: s-maj=32.1km s-min=17.9km az=34.0*

*ISCJB **24** 10:49:18.2±0.9, 5°.5N±0°.2×61°.4E±0°.1, h14km, mb3.9/11, MS4.4/2, Error ellipse: s-maj=28.1km s-min=17.0km az=29.3*

ISC 24 10:49:20.0±1.2, 5°.5N±0°.2×61°.4E±0°.2, h14km, n16, σ0♀96/11, mb3.9/11, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08N2	Diego Garcia H baz=321,slow=76,SNR=80	15.15	141	T	T	11 08 19.1	
H08N3	Diego Garcia H baz=321,slow=76,SNR=118	15.16	141	T	T	11 08 19.9	
H08N1	Diego Carcia H baz=321,slow=76,SNR=100	15.17	141	T	T	11 08 20.8	
AAK	Ala-Archa 1.2nm,0.6s,baz=189,slow=7.4,SNR=4.0	38.76	15	P	P	10 56 45.3	+1.0
CMAR	Chiang Mai Arr 0.4nm,0.3s,baz=249,slow=7.6,SNR=2.9	38.80	67	P	P	10 56 45.4	+0.7
KBZ	Khabaz 1.2nm,0.8s,baz=146,slow=7.3,SNR=3.4	41.42	340	P	P	10 57 06.7	+0.6
BRTR	Keskin Array B 1.2nm,0.9s,baz=144,slow=11,SNR=6.1	42.28	328	P	P	10 57 12.8	-0.7
AKTO	Aktyubinsk 2.4nm,0.9s,baz=166,slow=10,SNR=4.4	44.87	357	P	P	10 57 34.2	+0.3
BOSA	Boshof comp=Z,122nm,19.5s,baz=19,slow=34	48.61	224	LR	LR	11 16 51.9	
TORD	Torodi Ar. Bea 0.9nm,0.9s,baz=80,slow=6.1,SNR=4.7	59.31	282	P	P	10 59 22.8	+0.7
BATI	Baumata comp=Z,775nm,21.3s,baz=300,slow=32	63.92	104	LR	LR	11 23 55.2	
HFS	Hagfors 1.5nm,0.7s,baz=146,slow=10,SNR=3.7	65.32	336	P	P	11 00 00.7	-0.8
ESDC	Sonseca Array 1.5nm,0.9s,baz=86,slow=5.1,SNR=4.6	67.63	311	P	P	11 00 16.6	-0.2
KSRS	Korea Array 0.5nm,0.5s,baz=251,slow=7.3,SNR=3.5	68.07	52	P	P	11 00 17.6	-1.9
WRA	Warramunga Arr 3.4nm,0.8s,baz=294,slow=4.4,SNR=26	75.95	112	P	P	11 01 07.3	+0.2
ASAR	Alice Springs 2.1nm,0.8s,baz=287,slow=5.6,SNR=39	76.31	116	P	P	11 01 09.5	+0.3

*NEIC **24** 11:04:59.2±0.0, 14°.78N×93°.26W, h16km, MD4.0(MEX), After MEX.*

MEX 24 11:04:59.2±0.7, 14°.78N×93°.26W, h16km±42km, MD4.0, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		0.92	2	eP	Pb	11 05 13.5	-3.3
PCIG				eS	Sb	11 05 25.0	-3.9
PCIG		0.92	2	eP	Pb	11 05 13.5	-3.3
PCIG				eS	Sb	11 05 25.0	-3.9
CCIG	Comitan	1.85	36	eP	Pn	11 05 27.9	-2.5
CCIG	Comitan	1.85	36	ePn	Pn	11 05 28.4	-2.0
CCIG				eSn	Sn	11 05 52.6	-0.9
TGIG		1.99	4	eP	Pn	11 05 29.1	-3.2
TGIG				eS	Sn	11 05 51.3	-5.7
TGIG		1.99	4	eP	Pn	11 05 29.1	-3.2
TGIG				eS	Sn	11 05 51.3	-5.7
TLIG	Tlapa	5.80	299	ePn	Pn	11 06 23.7	-1.1

*ISCJB **24** 11:11:52.2±0.7, 16°.56N±0°.03×98°.21W±0°.03, h4km±5km, mb4.0/70, Error ellipse: s-maj=6.4km s-min=4.2km az=140.9*

*NEIC **24** 11:11:52.2±0.0, 16°.37N×98°.33W, h8km, mb4.1/80, MD4.3(MEX), After MEX.*

*MEX **24** 11:11:52.2±0.9, 16°.37N×98°.33W, h8km±12km, MD4.3*

*IDC **24** 11:11:57.8±7.8, 16°.68N×98°.14W, h35km±54km, mb3.8/6, mb1 4.1/9, mb1mx3.7/50, mbtmp3.9/9, ML3.2/3, Error ellipse: s-maj=67.9km s-min=19.4km az=37.0*

ISC 24 11:11:51.7±1.3, 16°.44N±0°.05×98°.36W±0°.04, h4km±8km, n127, σ1♀95/143, mb4.2/70, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.23	102	eP	Pg	11 11 55.5	-0.7
PNIG				i S	Sg	11 11 59.0	-0.3
PNIG	Pinotepa	0.23	102	ePg	Pg	11 11 55.5	-0.7
PNIG				eSg	Sg	11 11 59.0	-0.3
TLIG	Tlapa	1.13	350	i P	Pg	11 12 11.7	-1.8
TLIG				eS	Sg	11 12 26.1	-2.1
TLIG	Tlapa	1.13	350	ePg	Pg	11 12 11.8	-1.8
TLIG				eSg	Sg	11 12 26.1	-2.1
VHO	Vista Hermosa	1.68	68	eP	Pn	11 12 20.8	-1.4
VHO				eS	Sn	11 12 41.2	-3.1
VHO	Vista Hermosa	1.68	68	ePn	Pn	11 12 20.8	-1.4
VHO				eSn	Sn	11 12 41.2	-3.1
CAIG	El Cayaco	1.92	289	eP	Pn	11 12 23.0	-2.3
CAIG				eS	Sn	11 12 46.5	-3.4
CAIG	El Cayaco	1.92	289	ePn	Pn	11 12 23.0	-2.3
CAIG				eSn	Sn	11 12 46.5	-3.4
HUIG	Huatulco	2.27	107	eP	Pn	11 12 28.8	-1.3
HUIG				eS	Sn	11 12 51.7	-6.8
HUIG	Huatulco	2.27	107	ePn	Pn	11 12 28.8	-1.3
HUIG				eSn	Sn	11 12 51.7	-6.8
UNM	Universidad Na	2.98	345	ePn	Pn	11 12 41.8	+1.7
CMIG	Matias Romero 2.9nm,0.3s,baz=243,slow=12,SNR=29	3.40	79	Pn	Pn	11 12 44.1	-1.5
CMIG				Lg	Lg	11 13 39.2	
LVIG	Laguna Verde 244nm,0.3s,baz=159,slow=13,SNR=23	3.75	29	ePn	Pn	11 12 51.5	+1.0
LVIG				eSg	Sg	11 13 53.3	+0.9
MOIG	Morelia	4.19	321	ePn	Pn	11 12 59.0	+2.2
JRQG	Juriquilla Cam	4.68	335	ePn	Pn	11 13 01.5	-1.9
JRQG				eSg	Sg	11 14 19.8	-2.4
CCIG	Comitan	5.98	91	ePn	Pn	11 13 20.9	-0.4
ZAIG	Zacatecas	7.44	328	ePn	Pn	11 13 44.8	+3.3
TXAR	Lajitas Array 0.0nm,0.3s,baz=161,slow=15,SNR=5.8	13.73	340	Pn	Pn	11 15 09.1	+1.7
TXAR				Lg	Lg	11 19 08.3	
TX31	Lajitas Ar. Si 0.0nm,0.3s,baz=145,slow=18,SNR=3.8	13.73	340	ePn	Pn	11 15 09.3	+1.9
JCT	Junction City	14.04	355	eP	P	11 15 20.8	+1.2
JTS	JuntasAbangare 0.2nm,0.3s,baz=110,slow=17,SNR=3.5	14.40	113	Pn	Pn	11 15 18.9	+2.3
WHTX	Lake Whitney, 10nm,0.8s	15.50	3	ePn	Pn	11 15 32.8	+1.5
ABTX	Abilene, Hawle 16nm,1.0s	16.15	356	ePn	P	11 15 43.3	+0.2
MNTX	Cornudas Mount 2.4nm,0.9s	16.48	338	ePn	P	11 15 45.5	-1.2
MSTX	Muleshoe 8.8nm,1.0s	17.90	348	ePn	P	11 16 02.4	-0.1
WMOK	Wichita Mounta 3.4nm,0.9s	18.23	359	ePn	Pn	11 16 04.1	-1.7
MIAR	Mount Ida 6.2nm,0.9s	18.53	13	eP	P	11 16 09.2	-0.1
AMTX	Amarillo 5.8nm,0.6s	18.61	351	eP	Pn	11 16 10.8	+0.4
X40A	Basin Creek Fa 7.6nm,1.3s	18.64	14	eP	Pn	11 16 11.3	+0.5
W39A	Magazine 12nm,1.1s	19.12	12	eP	Pn	11 16 16.3	-0.3
BNM	Barren Site	19.14	339	eP	Pn	11 16 18.1	+1.0
LPM	Los Pinos Moun	19.28	339	eP	Pn	11 16 22.4	+3.6
TUC	Tucson 3.3nm,1.1s	19.40	327	eP	Pn	11 16 22.1	+1.9
DWPF	Disney Wildern 119nm,1.3s	19.48	50	eP	P	11 16 19.3	-0.4
TUL1	Leonard 8.2nm,0.8s	19.53	6	eP	P	11 16 20.5	+0.3
WHAR	Wooly Hollow 10nm,1.2s	19.54	15	eP	Pn	11 16 21.2	-0.4
OXF	Oxford 29nm,0.9s	19.71	22	eP	Pn	11 16 23.1	-0.6
ANMO	Albuquerque 3.8nm,0.9s	19.80	340	eP	Pn	11 16 25.0	0.0
ANMO				eP	Pn	11 16 25.3	+0.3
V40A	Witts Springs 8.5nm,0.9s	19.91	13	eP	P	11 16 22.9	-1.5
PLAL	Pickwick Lake 14nm,1.0s	20.63	25	eP	P	11 16 32.6	+0.3
X18A	Snowflake 6.7nm,1.0s	20.80	332	eP	P	11 16 33.8	-0.5
T25A	Trinidad 16nm,0.9s	21.30	347	eP	P	11 16 42.4	+2.7
MHTCO	State Highway 5.7nm,1.0s	21.35	346	eP	P	11 16 40.8	+0.5
X16A	Lo Mia Camp, P 8.3nm,0.9s	21.41	329	eP	P	11 16 42.7	+1.8
PBMO	Poplar Bluff	21.45	18	eP	P	11 16 41.4	+0.4
GOGA	Godfrey 10.0nm,1.0s	21.59	36	eP	P	11 16 41.7	-0.9
WVT	Waverly 5.4nm,0.8s	21.73	24	eP	P	11 16 44.1	0.0
SWET	Sewanee 9.7nm,0.9s	21.75	28	eP	P	11 16 44.3	-0.1
Y14A	Wickenburg 12nm,0.8s	21.84	326	eP	P	11 16 47.5	+2.1
SDCO	Great Sand Dun 3.0nm,0.8s	22.14	345	eP	P	11 16 50.1	+1.2
SDCO				eP	P	11 16 50.2	+1.4
GLA	Glamis 4.0nm,0.8s	22.24	321	eP	P	11 16 49.6	-0.2
WUAZ	Wupatki 19nm,1.3s	22.27	331	eP	P	11 16 51.7	+1.6
CCM	Cathedral Cave 12nm,0.9s	22.43	15	eP	P	11 16 53.2	+1.7
S22A	4UR Ranch, Cre 6.6nm,1.2s	22.50	342	eP	P	11 16 55.2	+2.5
MVCO	Mesa Verde 17nm,1.4s	22.55	339	eP	P	11 16 55.3	+2.1
BORC	Borrego Spring	23.37	319	eP	P	11 17 03.5	+2.0
PV01	Paradox Valley 8.7nm,1.2s	23.40	339	eP	P	11 17 03.7	+1.7
PV01				eP	P	11 17 03.8	+1.8
U15A	North Rim 12nm,1.3s	23.44	331	eP	P	11 17 04.8	+2.4
PV03	Paradox Valley 6.2nm,1.1s	23.61	339	eP	P	11 17 05.5	+1.4
XPFO	Plæon Flat 3.3nm,1.3s	23.62	320	eP	P	11 17 06.8	+2.7
PFO	Pinyon Flats O 2.8nm,1.3s	23.62	320	eP	P	11 17 06.8	+2.6
FRD	Ford Ranch, An	23.64	319	eP	P	11 17 05.8	+1.6
PV07	Paradox Valley 4.6nm,1.0s	23.70	340	eP	P	11 17 06.1	+1.1
LDFC	Landfair 9.3nm,1.0s	23.85	324	eP	P	11 17 09.2	+2.8
SMCO	Snowmass 3.7nm,0.9s	23.87	343	eP	P	11 17 08.4	+1.6
PV09	Paradox Valley	23.92	339	eP	P	11 17 09.5	+2.3
PV09				eS	S	11 21 21.1	-3.5
TZTN	Tazewell 18nm,1.5s	23.95	30	eP	P	11 17 07.8	+0.6
ISCO	Idaho Springs 10nm,0.9s	24.12	346	eP	P	11 17 10.5	+1.4
KNB	Kanab 11nm,1.3s	24.16	331	eP	P	11 17 10.8	+1.4
LCMT	Little Creek M 1.9nm,1.0s	24.36	330	eP	P	11 17 13.6	+2.4
MTPU	Mount Pierson 17nm,1.0s	24.72	333	eP	P	11 17 16.7	+2.0
SZCU	Shurtz Canyon 2.9nm,1.0s	24.76	331	eP	P	11 17 18.3	+3.5
CCUT	Cedar City 3.0nm,1.2s	24.85	331	eP	P	11 17 17.9	+2.3
SRU	San Rafael Swe 4.2nm,0.9s	24.97	337	eP	P	11 17 17.6	+0.9
MSU	Marysvale	25.11	334	eP	P	11 17 20.7	+2.7
O20A	White River Ci 9.8nm,0.9s	25.12	342	eP	P	11 17 19.6	+1.6
N23A	Red Feather La 6.8nm,1.1s	25.24	346	eP	P	11 17 19.2	+0.1
HDIL	Hopedale 15nm,0.9s	25.29	16	eP	P	11 17 19.4	+0.1
TCRU	Three Creeks R 3.0nm,1.0s	25.31	334	eP	P	11 17 20.0	+0.2
P18A	Preston Nutter 4.7nm,0.8s	25.32	338	eP	P	11 17 21.9	+2.0
P17A	Butcher Ranch, 3.4nm,0.8s	25.36	337	eP	P	11 17 22.2	+2.0
SNCC	San Nicolas Is 22nm,1.5s	25.39	315	eP	P	11 17 22.8	+2.5
TMUT	Trail Mountain 4.8nm,1.2s	25.39	336	eP	P	11 17 22.2	+1.6
OTAV	Otavalo 4.4nm,1.4s	25.39	127	eP	P	11 17 22.6	+1.6
PHWY	Pilot Hill 3.8nm,0.8s	25.52	348	eP	P	11 17 23.3	+1.6
TPNV	Toopah Spring 7.6nm,1.3s	25.85	326	eP	P	11 17 26.9	+2.3
SDDR	Presa de Saban 11nm,1.0s	25.91	80	eP	P	11 17 26.6	+1.4
MPU	Maple Canyon 4.4nm,1.0s	26.18	336	eP	P	11 17 28.7	+1.1
RWWY	Rawlins 7.7nm,0.9s	26.29	345	eP	P	11 17 31.0	+2.3
NLU	North Lily Min 3.7nm,0.9s	26.29	336	eP	P	11 17 30.1	+1.4
DUG	Dugway, Tooele 2.1nm,0.9s	26.80	335	eP	P	11 17 34.5	+1.4
CARC	Carrizo Plain	26.85	318	eP	P	11 17 37.3	+3.7
K22A	Casper	27.04	347	eP	P	11 17 36.6	+1.2
TCUT	Toone Canyon	27.05	338	eP	P	11 17 37.0	+1.4
ECSD	EROS Data Cent 5.0nm,1.2s	27.25	3	eP	P	11 17 40.9	+3.9
PAGB	Antelope Grade 8.2nm,1.3s	27.37	319	eP	P	11 17 43.0	+4.7
HWUT	Hardware Ranch 3.0nm,1.1s	27.54	338	eP	P	11 17 40.4	+0.5
OMMB	Old Mammoth Mi 1.6nm,1.0s	27.86	323	eP	P	11 17 46.2	+3.3
PD31	Pinedale Array	27.93	342	eP	P	11 17 43.9	+0.4
PDAR	Pinedale Array 1.0nm,0.7s,baz=125,slow=9.3,SNR=10	27.93	342	P	P	11 17 43.8	+0.4
NV11	Mina Array Sit 0.2nm,1.0s	27.96	325	eP	P	11 17 45.7	+2.0
PMPB	Monarch Peak 19nm,1.4s	28.02	319	eP	P	11 17 45.1	+0.9
NV01	Mina Array Sit	28.04	325	eP	P	11 17 45.7	+1.3
NVAR	Mina Array Bea 1.9nm,0.9s,baz=151,slow=10,SNR=16	28.04	325	P	P	11 17 46.5	+2.1
SDV	Santo Domingo	28.05	102	P	P	11 17 44.8	0.0
HVU	Hansel Valley 5.4nm,1.0s	28.13	337	eP	P	11 17 46.2	+1.1
RYN	Ryan 1.9nm,1.0s	28.30	325	eP	P	11 17 49.2	+2.5
KVN	Kaiserville 2.8nm,1.3s	28.38	326	eP	P	11 17 49.4	+2.0
SNOW	Snow King Moun 6.6nm,1.2s	28.93	341	eP	P	11 17 53.4	+1.1
TPAW	Teton Pass 4.1nm,1.0s	29.01	341	eP	P	11 17 54.4	+1.3
LOHW	Long Hollow 2.7nm,0.8s	29.02	341	eP	P	11 17 54.0	+1.0
IMW	Indian Meadow	29.38	341	eP	P	11 17 57.2	+0.9
RLMT	Red Lodge	30.03	344	eP	P	11 18 03.4	+1.4
BEKR	Beckworth 2.3nm,1.0s	30.19	325	eP	P	11 18 05.3	+1.9
BOZ	Bozeman (W) 4.6nm,1.5s	31.12	342	eP	P	11 18 12.4	+0.8
DLMT	Dillon	31.21	340	eP	P	11 18 14.0	+1.6
MOD	Modoc Plateau	31.61	328	eP	P	11 18 16.6	+0.6
J08A	Circle Bar Ran 4.4nm,0.8s	31.82	332	eP	P	11 18 19.1	+1.3
G08A	Pilot Rock 2.7nm,0.9s	33.56	333	eP	P	11 18 34.0	+1.0
FFC	Flin Flon 3.0nm,0.8s	38.31	357	eP	P	11 19 12.8	-0.5
LLLB	Lilooet 13nm,1.4s	38.97	336	eP	P	11 19 19.7	+0.6
RPN	Rapa Nui 172nm,1.4s	44.60	194	eP	P	11 20 05.4	+0.2
YKA	Yellowknife Ar 1.7nm,0.8s,baz=157,slow=7.4,SNR=20	47.40	350	P	P	11 20 25.9	-1.0
YKB5	Yellowknife Ar	47.40	350	eP	P	11 20 25.9	-1.0
INK	Inuvik 1.5nm,0.7s,baz=128,slow=6.7,SNR=11	56.44	345	P	P	11 21 34.4	+0.2
ILAR	Eielson Array 1.3nm,1.1s,baz=140,slow=5.2,SNR=8.2	58.23	338	P	P	11 21 47.2	+0.2
ILB	Eielson Array	58.23	338	eP	P	11 21 47.2	+0.2

*NIED **24** 11:17:00, 29°.70N×130°.20E, h56km, Mw4.2 Best double couple: M0 2.28000×10^15 NP1:φs275.00000°, δ11.00000°, λ-41.00000°. NP2:φs45.00000°, δ83.00000°, λ-98.00000°.*

*ISCJB **24** 11:17:32.7±0.2, 29°.72N±0°.02×130°.18E±0°.04, h67km±2km, mb4.2/34, Error ellipse: s-maj=6.6km s-min=2.8km az=29.2*

*JMA **24** 11:17:33.5, 29°.73N×130°.16E, h58km±1km, M3.9*

JMA Felt II J1.

*BJI **24** 11:17:33.2, 29°.67N×130°.13E, h68km, mb4.2/12, mB4.5/10, Ms4.2/4, Ms7 3.9/4*

*NEIC **24** 11:17:34.6±0.7, 29°.70N×130°.14E, h70km±7km, mb4.6/20, Error ellipse: s-maj=16.5km s-min=7.3km az=126.0*

NEIC Recorded [2 JMA] on Nakano-shima.

*IDC **24** 11:17:35.6±1.1, 29°.74N×129°.99E, h80km±10km, mb3.5/14, mb1 3.7/19, mb1mx3.5/70, mbtmp3.9/19, MS2.7/2, Ms1 2.7/2, ms1mx2.3/52, Error ellipse: s-maj=18.4km s-min=7.9km az=108.0*

ISC 24 11:17:34.0±0.6, 29°.71N±0°.04×130°.17E±0°.05, h61km±6km, n78, σ1♀49/102, mb4.4/34, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNN	Nakanoshima	0.29	297	P	Pn	11 17 43.2	-0.9
JNN				S	Sn	11 17 50.5	-0.9
JYAK	Yakushimahirau	0.60	29	P	Pn	11 17 46.3	-0.8
JYAK				S	Sn	11 17 55.5	-1.3
JKC	Kuchinoerabu	0.75	2	P	Pn	11 17 48.2	-0.7
JKC				S	Sn	11 17 58.8	-1.0
JTAJ	Takarajima	1.01	237	P	Pn	11 17 51.9	-0.2
JTAJ				eS	Sn	11 18 04.6	-0.9
JTN	Tanegashima 3	1.18	37	P	Pn	11 17 54.0	-0.4
JTN				eS	Sn	11 18 08.9	-0.6
JAM	Amami Oshima	1.38	201	P	Pn	11 17 56.8	-0.3
JAM				eS	Sn	11 18 14.7	+0.2
JZK	Kikaishima	1.40	187	P	Pn	11 17 58.6	+1.3
JZK				eS	Sn	11 18 17.8	+2.9
JTSR	Tashiro 2	1.59	24	P	Pn	11 17 59.6	-0.3
JTSR				eS	Sn	11 18 18.9	-0.6
JAMN	Amaminishikomi	1.70	211	P	Pn	11 18 01.2	-0.2
JAMN				eS	Sn	11 18 21.5	-0.6
JSU	Suzuyama	1.81	8	P	Pn	11 18 02.6	-0.3
JSU				eS	Sn	11 18 23.7	-1.1
JTK	Tokunoshima	2.19	209	P	Pn	11 18 08.2	+0.1
JTK				eS	Sn	11 18 34.3	+0.2
JOKE	Okinoerabujima	2.73	211	P	Pn	11 18 15.7	+0.3
JOKE				eS	Sn	11 18 48.2	+1.0
JIH	Iheya	3.29	217	P	Pn	11 18 24.5	+1.4
JIH				eS	Sn	11 19 01.8	+0.7
JOW	Kunigami 14nm,0.3s,baz=288,slow=20,SNR=44	3.32	211	P	Pn	11 18 23.9	+0.5
JOW				S	Sn	11 19 02.8	+1.1
JOW	Kunigami 30nm,0.3s,baz=230,slow=24,SNR=4.6	3.32	211	P	Pn	11 18 23.8	+0.4
JOW				eS	Sn	11 19 02.0	+0.4
JOW	Kunigami	3.32	211	ePn	Pn	11 18 23.9	+0.4
JOW				eSn	Sn	11 19 01.3	-0.3
JNU	Nakatsue 20nm,0.3s,baz=192,slow=11,SNR=149	3.46	10	P	Pn	11 18 26.9	+1.6
JNU	5.2nm,0.3s,baz=8.4,slow=18,SNR=12			S	Sn	11 19 07.8	+2.7
JNU	comp=Z,79nm,21.8s,baz=122,slow=38			LR	LR	11 19 48.7	
JNU	Nakatsue	3.46	10	ePn	Pn	11 18 26.8	+1.5
JNU				eSn	Sn	11 19 08.1	+3.0
JMZ	Minamidaito 2	3.99	166	P	Pn	11 18 31.6	-1.0
JMZ				eS	Sn	11 19 15.8	-2.3
JKE	Kume jima 2	4.50	222	P	Pn	11 18 39.8	+0.1
JKE				eS	Sn	11 19 30.8	0.0
KSRS	Korea Array 0.5nm,0.3s,baz=161,slow=14,SNR=9.7	7.95	347	P	Pn	11 19 29.1	+2.4
KSRS	comp=Z,78nm,19.8s,baz=256,slow=38			LR	LR	11 22 38.8	
INU	Inuyama	8.06	44	ePn	Pn	11 19 29.6	+1.3
INU				eSn	Sn	11 20 57.9	-0.2
JHJ	Hachijo jima 2 6.0nm,0.3s,baz=38,slow=22,SNR=4.5	8.89	65	P	Pn	11 19 43.0	+3.2
MAJO	Matsushiro	9.58	43	ePn	Pn	11 19 50.1	+0.9
MAJO				eSn	Sn	11 21 43.3	+8.0
MJAR	Matsushiro Arr 1.0nm,0.3s,baz=245,slow=14,SNR=9.8	9.58	43	P	Pn	11 19 50.4	+1.2
NJ2	Nanjing	10.00	286	eP	Pn	11 19 56.1	+1.3
NJ2	comp=Z,13nm,0.5s			pmax	pmax		
YULB	Yu-li	10.13	234	ePn	Pn	11 19 56.6	-0.1
YULB				eSn	Sn	11 21 51.2	+2.4
JCJ	Chichijima 3.8nm,0.3s,baz=285,slow=20,SNR=3.3	10.90	101	P	Pn	11 20 07.6	+0.4
CN2	Changchun	14.56	346	eP	Pn	11 20 58.8	+2.2
ASAJ	Asahikawa 0.4nm,0.3s,baz=231,slow=7.2,SNR=8.2	17.45	31	P	Pn	11 21 31.5	-1.6
ASAJ	Asahikawa 4.4nm,0.6s	17.45	31	ePn	Pn	11 21 31.4	-1.6
XAN	Xi'an	18.55	289	P	Pn	11 21 46.3	-0.3
XAN				pP	pP	11 22 00.1	+1.3
XAN	comp=Z,5.0nm,0.7s			pmax	pmax		
XAN	comp=Z,72nm,4.1s			pmax	pmax		
HHC	Hu-ho-hao-te	18.78	311	eP	Pn	11 21 49.3	-0.1
HHC	comp=Z,34nm,0.7s			pmax	pmax		
HHC	comp=Z,83nm,3.9s			pmax	pmax		
KLR	Kul'dur 0.0nm,0.3s,baz=156,slow=9.0,SNR=4.2	19.53	3	P	Pn	11 21 58.0	-0.1
CD2	Chengdu	22.82	280	eP	P	11 22 30.3	-1.6
LZH	Lanzhou	22.96	293	eP	P	11 22 32.4	-1.1
LZH				pP	pP	11 22 49.3	+2.4
LZH				sP	sP	11 22 58.3

1.2nm,0.6s,baz=142,slow=9.8,SNR=8.8

SONA1	Songino Array	25.74	321	*e*P	P	11 22 57.8	-1.1
FAKI	Fak Fak	32.51	176	*e*P	P	11 23 59.0	-0.1
	9.6nm,1.0s						
H11N2	WAKE ISLAND Hy	34.69	98	T	T	12 00 41.9	
	baz=293,slow=74						
H11N1	WAKE ISLAND Hy	34.69	98	T	T	12 00 42.7	
	baz=293						
H11N3	WAKE ISLAND Hy	34.70	98	T	T	12 00 47.2	
	baz=293,slow=74						
WMQ	Urumqi	36.42	305	P	P	11 24 34.3	+1.6
KURBB	Kurchatov Arra	43.61	314	P	P	11 25 30.6	-1.5
	0.8nm,0.6s,baz=95,slow=8.7,SNR=4.7						
BVAR	Borovoye Array	48.89	316	P	P	11 26 13.4	-0.1
	1.2nm,0.6s,baz=89,slow=9.5,SNR=7.5						
BVAR				PcP	PcP	11 27 36.4	-0.7
	0.4nm,0.5s,baz=96,slow=1.4,SNR=3.2						
BRVK	Borovoye	48.96	316	*e*P	P	11 26 14.4	+0.3
	2.5nm,0.4s						
WRA	Warramunga Arr	49.53	175	P	P	11 26 18.4	-0.2
	0.5nm,0.7s,baz=355,slow=8.3,SNR=4.8						
WRA				pP	pP	11 26 33.7	-0.7
	1.7nm,0.7s,baz=354,slow=8.3,SNR=10						
ASAR	Alice Springs	53.19	176	P	P	11 26 47.1	+1.0
	0.2nm,0.7s,baz=10,slow=12,SNR=5.5						
ASAR				pP	pP	11 27 02.2	+0.3
	0.9nm,0.6s,baz=7.0,slow=14,SNR=10						
PPLA	Purkeypile	58.43	32	*e*P	P	11 27 23.0	-0.3
	21nm,1.6s						
CAST	Castle Rocks	58.44	31	*e*P	P	11 27 23.8	+0.6
	9.1nm,1.6s						
BPAW	Bear Paw Mtn.	58.88	30	*e*P	P	11 27 27.0	+0.8
	1.4nm,0.9s						
MLY	Manley	58.91	29	*e*P	P	11 27 27.3	+0.8
	7.6nm,1.6s						
SUA	Susitna One	59.23	33	*e*P	P	11 27 28.5	-0.3
	7.1nm,0.9s						
MCK	McKinley	59.81	31	*e*P	P	11 27 32.6	-0.1
	2.2nm,0.8s						
RND	Reindeer	59.89	31	*e*P	P	11 27 33.0	-0.2
	3.3nm,0.8s						
MDM	Murphy Dome	59.98	29	*e*P	P	11 27 34.1	+0.3
	3.9nm,0.7s						
PMR	Palmer	59.98	33	*e*P	P	11 27 33.9	+0.1
	6.2nm,1.2s						
GHO	Glory Hole Cre	60.06	33	*e*P	P	11 27 31.6	-2.8
	6.9nm,1.3s						
CCB	Clear Creek Bu	60.20	29	*e*P	P	11 27 35.5	+0.2
	4.0nm,1.4s						
IL1	Eielson Array	60.57	29	*e*P	P	11 27 37.5	-0.3
ILAR	Eielson Array	60.57	29	P	P	11 27 36.9	-1.0
	0.9nm,0.7s,baz=283,slow=7.1,SNR=13						
ILB	Eielson Array	60.57	29	*e*P	P	11 27 38.3	+0.5
HDA	Harding Lake	60.60	30	*e*P	P	11 27 37.7	-0.3
	22nm,1.8s						
SCRK	Sand Creek	61.95	30	*e*P	P	11 27 46.9	-0.4
	1.9nm,0.6s						
DOT	Dot Lake	61.97	30	*e*P	P	11 27 46.9	-0.4
	5.5nm,0.7s						
INK	Inuvik	65.03	24	P	P	11 28 07.0	-0.3
	0.4nm,0.5s,baz=307,slow=7.2,SNR=5.9						
FINES	FINESS Array B	70.69	330	P	P	11 28 40.9	-2.2
	0.6nm,0.4s,baz=69,slow=5.0,SNR=10						
YKA	Yellowknife Ar	74.66	26	P	P	11 29 06.8	+0.2
	1.2nm,0.7s,baz=306,slow=5.6,SNR=30						
HFS	Hagfors	76.54	333	P	P	11 29 15.1	-2.3
	0.8nm,0.7s,baz=54,slow=14,SNR=3.7						
GERES	GERESS Array B	83.45	323	P	P	11 29 53.9	-1.2
	0.6nm,0.6s,baz=20,slow=4.3,SNR=4.2						
J08A	Circle Bar Ran	83.90	43	*e*P	P	11 29 58.7	+1.2
	16nm,1.8s						
FCC	Fort Churchill	84.48	21	*e*P	P	11 29 59.7	-0.2
	3.3nm,0.8s						
FFC	Flin Flon	84.72	27	*e*P	P	11 30 01.2	0.0
	6.1nm,0.6s						
NVAR	Mina Array Bea	86.88	47	P	P	11 30 13.1	+0.6
	0.2nm,0.5s,baz=288,slow=7.5,SNR=3.7						
GCMT	Greycliff	87.34	37	*e*P	P	11 30 13.0	-1.5
SRTC	Snort	88.84	49	*e*P	P	11 30 19.6	-2.2
PDAR	Pinedale Array	89.39	39	P	P	11 30 24.7	+0.3
	0.1nm,0.4s,baz=270,slow=0.8,SNR=2.6						
ULM	Lac du Bonnet	90.55	28	P	P	11 30 28.9	-0.5
	1.9nm,0.7s,baz=333,slow=6.8,SNR=4.5						

GUC 24 11:20:18.4±0.6, 22°.92S×70°.86W, h44km±3km, ML3.5, 1C-3D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PB10	IPOC Station P	0.66	155	*e*P	Pn	11 20 31.7	+0.3
PB10	IPOC Station P	0.66	155	*e*P	Pn	11 20 31.6	+0.2
PB10				*e*S	Sn	11 20 41.0	+0.2
PB10				IAML		11 20 42.9	
	comp=E,20μm,0.5s						
PB04	IPOC Station P	0.88	49	*e*P	Pn	11 20 35.0	+0.6
PB04				*e*S	Sn	11 20 47.4	+1.2
PB04				IAML		11 20 48.6	
	comp=N,2μm,0.3s						
PB06	IPOC Station P	1.21	80	*e*P	Pn	11 20 40.1	+1.1
PB06				*e*S	Sn	11 20 56.9	+2.7
PB06				IAML		11 20 58.3	
	comp=E,968nm,0.2s						
PB07	IPOC Station P	1.49	37	*e*P	Pn	11 20 44.3	+1.5
PB07				*e*S	Sn	11 21 03.4	+2.2
PB07				IAML		11 21 13.0	
	comp=E,731nm,0.2s						

MEX 24 11:23:22.7±0.8, 15°.92N×98°.18W, h4km±8km, MD3.7, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PNIG	Pinotepa	0.48	6	*e*P	Pg	11 23 31.5	-0.4
PNIG				*e*S	Sg	11 23 38.6	+0.4
TLIG	Tlapa	1.68	347	*e*P	Pn	11 23 49.0	-4.0
TLIG				*e*S	Sn	11 24 10.8	-4.3

*CSEM **24** 11:29:53.5±0.1, 39°.11N×29°.17E, h2km, ML2.7, Error ellipse: s-maj=3.0km s-min=2.2km az=124.0*
*DDA **24** 11:29:53.3, 39°.09N×29°.14E, h7km, Ml2.6*
*ISK **24** 11:29:53.1, 39°.10N×29°.24E, h5km, ML2.7/3*
ISC 24 11:29:53.5±1.0, 39°.11N±0°.02×29°.17E±0°.02, h6km±11km, n30, σ0°.38/42, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIMA	Simav-Kutahya	0.15	262	PG	Pg	11 29 56.8	+0.2
SIMA	Simav-Kutahya	0.15	262	*e*Pg	Pg	11 29 56.8	+0.2
GDZ	Gediz	0.24	94	*i* P	Pg	11 29 58.2	-0.1
GDZ				*i* S	Sg	11 30 02.1	+0.6
GDZ	Gediz	0.24	94	P	Pg	11 29 58.2	-0.1
GDZ				S	Sg	11 30 02.1	+0.6
DEMI	Demirci	0.36	260	*i* P	Pg	11 30 00.6	0.0
DEMI				*i* S	Sg	11 30 05.2	-0.1
DEMI	Demirci	0.36	260	P	Pg	11 30 00.6	0.0
DEMI				S	Sg	11 30 05.2	-0.1
TVSB	Tavsanli	0.41	33	PG	Pg	11 30 00.9	-0.6
TVSB				SG	Sg	11 30 06.3	-0.6
TVSB	Tavsanli	0.41	33	*e*Pg	Pg	11 30 00.9	-0.6
TVSB				*e*Sg	Sg	11 30 06.3	-0.6
KULA	Kula-Manisa	0.71	214	PG	Pg	11 30 07.6	+0.4
KULA	Kula-Manisa	0.71	214	*e*Pg	Pg	11 30 07.6	+0.4
DURS	Dursunbey	0.73	313	*i* P	Pg	11 30 07.4	-0.2
DURS				*i* S	Sg	11 30 17.4	+0.2
DURS	Dursunbey	0.73	313	P	Pg	11 30 07.4	-0.2
DURS				S	Sg	11 30 17.4	+0.2
KHAL	Karahalli	0.78	161	*i* P	Pb	11 30 08.9	-0.5
KHAL				*i* S	Sg	11 30 19.0	+0.5
KHAL	Karahalli	0.78	161	P	Pb	11 30 08.9	-0.5
KHAL				S	Sg	11 30 19.0	+0.5
MANT	Manisa	0.78	218	*i* P	Pg	11 30 08.2	-0.3
MANT				*i* S	Sg	11 30 18.1	-0.5
MANT	Manisa	0.78	218	P	Pg	11 30 08.2	-0.3
MANT				S	Sg	11 30 18.1	-0.5
BALB	Balikesir	1.14	298	PN	Pn	11 30 16.2	+0.3
BALB	Balikesir	1.14	298	*e*Pn	Pn	11 30 16.2	+0.3
CAVI	Cavuskoy	1.21	25	PN	Pn	11 30 17.0	0.0
CAVI	Cavuskoy	1.21	25	*e*Pn	Pn	11 30 17.0	0.0
BORA	Eskisehir	1.26	52	*i* P	Pg	11 30 17.9	+0.3
BORA	Eskisehir	1.26	52	P	Pg	11 30 17.9	+0.3
MDNY	Mudanya-Bursa	1.28	350	PN	Pg	11 30 18.4	+0.3
MDNY	Mudanya-Bursa	1.28	350	*e*Pn	Pg	11 30 18.4	+0.3
YLV	Yalova	1.47	6	PN	Pb	11 30 21.4	+0.2
YLV	Yalova	1.47	6	*e*Pn	Pb	11 30 21.4	+0.2
ARMT	Armutlu	1.48	351	PN	Pg	11 30 22.1	+0.2
ARMT	Armutlu	1.48	351	*e*Pn	Pg	11 30 22.1	+0.2
AYDB	Zeytinkoy-Aydi	1.53	221	PN	Pg	11 30 22.9	0.0
AYDB	Zeytinkoy-Aydi	1.53	221	*e*Pn	Pg	11 30 22.9	0.0

MEX 24 11:31:18.8±0.7, 15°.86N×98°.16W, h10km, MD3.6, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PNIG	Pinotepa	0.53	4	*e*P	Pg	11 31 28.3	-0.9
PNIG				*e*S	Sg	11 31 35.2	-1.0
TLIG	Tlapa	1.74	347	*e*P	Pn	11 31 45.5	-3.7
TLIG				*e*S	Sn	11 32 07.5	-4.0

*IDC **24** 11:34:25.6±5.5, 16°.03N×98°.32W, h0km, mb3.6/4, mb1 3.8/6, mb1mx3.6/47, mbtmp3.4/6, ML3.1/2, Error ellipse: s-maj=101.2km s-min=19.4km az=1.0*
*ISCJB **24** 11:34:28.3±1.1, 16°.40N±0°.08×98°.36W±0°.04, h11km±6km, mb3.5/4, Error ellipse: s-maj=14.4km s-min=6.2km az=10.7*
*MEX **24** 11:34:30.2±1.0, 16°.37N×98°.31W, h10km, MD4.1*
*NEIC **24** 11:34:30.2±0.0, 16°.37N×98°.31W, h10km, MD4.1(MEX), After MEX.*
ISC 24 11:34:28.8±1.5, 16°.41N±0°.09×98°.36W±0°.04, h4km±10km, n16, σ2s18/26, mb3.6/4, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PNIG	Pinotepa	0.22	94	*e*P	Pg	11 34 33.3	+0.1
PNIG				*e*S	Sg	11 34 36.5	+0.4
PNIG	Pinotepa	0.22	94	*e*P	Pg	11 34 33.3	+0.1
PNIG				*e*S	Sg	11 34 36.5	+0.4
TLIG	Tlapa	1.17	350	*e*P	Pb	11 34 49.2	-2.4
TLIG				*e*S	Sb	11 35 04.0	-3.2
TLIG	Tlapa	1.17	350	*e*P	Pb	11 34 49.2	-2.4
TLIG				*e*S	Sb	11 35 04.0	-3.2
VHO	Vista Hermosa	1.69	67	*e*P	Pn	11 34 58.7	-0.7
VHO				*e*S	Sn	11 35 19.7	-1.9
VHO	Vista Hermosa	1.69	67	*e*P	Pn	11 34 58.7	-0.7
VHO				*e*S	Sn	11 35 19.7	-1.9
CAIG	El Cayaco	1.94	289	*e*P	Pn	11 35 00.7	-1.8
CAIG				*e*S	Sn	11 35 24.9	-2.5
CAIG	El Cayaco	1.94	289	*e*P	Pn	11 35 00.7	-1.8
CAIG				*e*S	Sn	11 35 24.9	-2.5
CMIG	Matias Romero	3.40	78	Pn	Pn	11 35 21.5	-1.1
	1.7nm,0.3s,baz=233,slow=12,SNR=36						
CMIG				Sn	Sn	11 36 03.2	-0.3
	11nm,0.3s,baz=290,slow=18,SNR=4.0						
CMIG				Lg	Lg	11 36 15.9	
	69nm,0.3s,baz=240,slow=13,SNR=20						
MOIG	Morelia	4.22	321	*e*Pn	Pn	11 35 36.5	+2.2
MOIG				*e*Sn	Sn	11 36 26.2	+2.0
TXAR	Lajitas Array	13.76	340	Pn	Pn	11 37 49.6	+4.7
	0.0nm,0.3s,baz=169,slow=10,SNR=3.1						
CCM	Cathedral Cave	22.46	15	*e*P	P	11 39 32.1	+3.1
PDAR	Pinedale Array	27.96	342	P	P	11 40 21.5	+0.8
	0.4nm,0.7s,baz=133,slow=12,SNR=3.5						
NVAR	Mina Array Bea	28.07	325	P	P	11 40 23.0	+1.2
	0.9nm,0.9s,baz=160,slow=8.1,SNR=4.9						
YKA	Yellowknife Ar	47.43	350	P	P	11 43 03.6	-0.7
	0.5nm,0.7s,baz=157,slow=7.3,SNR=7.3						
INK	Inuvik	56.47	345	P	P	11 44 11.4	-0.2
	0.7nm,0.7s,baz=121,slow=8.1,SNR=5.2						

MAN 24 11:43:42, 11°.19N×124°.66E, h28km, mb4.3, ML3.2, MS2.9, 1D, Leyte

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OCLP	Ormoc	0.14	198	*e*P	Pn	11 43 48.9	+0.4
OCLP				*e*S	Sb	11 43 52.0	+0.8
PLP	Palo	0.32	94	*e*P	Pn	11 43 51.1	+0.3
MSLP	Maasin	1.07	169	*e*P	Pb	11 44 01.6	-0.3
MSLP				*e*S	Sb	11 44 16.2	+0.7

IDC 24 11:49:48.5±1.9, 0°.38N×102°.06E, h0km, mb3.5/5, mb1 3.6/6, mb1mx3.3/63, mbtmp3.5/6, ML3.7/1, MS3.7/1, Ms1 3.7/1, ms1mx2.6/48, Error ellipse: s-maj=97.0km s-min=19.5km az=50.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PSI	Prapat	3.95	307	Pn	Pn	11 50 50.0	-0.5
	4.9nm,0.3s,baz=354,slow=3.3,SNR=11						
WRA	Warramunga Arr	37.52	124	P	P	11 57 05.5	+0.9
	0.2nm,0.6s,baz=302,slow=9.5,SNR=3.9						
ASAR	Alice Springs	39.09	130	P	P	11 57 16.5	-1.3
	0.2nm,0.6s,baz=311,slow=7.9,SNR=4.0						
MKAR	Makanchi Array	49.35	342	P	P	11 58 39.3	-0.4
	0.4nm,0.3s,baz=155,slow=8.6,SNR=13						
KURBB	Kurchatov Arra	53.91	342	P	P	11 59 13.6	-0.1
	0.3nm,0.5s,baz=184,slow=7.4,SNR=3.8						
ZALV	Zalesovo Beam	55.26	348	P	P	11 59 23.5	+0.1
	0.7nm,0.4s,baz=176,slow=4.5,SNR=6.6						
ZALV				LR	LR	12 26 13.6	
	comp=Z,67nm,20.9s,baz=65,slow=40						

*IDC **24** 12:02:46.4±1.2, 36°.82N×143°.30E, h0km, mb3.4/3, mb1 3.6/6, mb1mx3.3/70, mbtmp3.5/6, ML3.4/3, Error ellipse: s-maj=33.6km s-min=21.5km az=116.0*
*ISCJB **24** 12:02:48.4±0.7, 36°.92N±0°.04×143°.22E±0°.05, h25km, mb3.5/3, Error ellipse: s-maj=6.3km s-min=5.1km az=9.6*
*JMA **24** 12:02:50.0±0.2, 36°.95N×143°.18E, h44km, M3.4*
ISC 24 12:02:49.9±1.2, 36°.93N±0°.05×143°.21E±0°.08, h25km, n23, σ1s23/35, mb3.6/4, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JFK	Kawauchi	1.92	284	P	Pn	12 03 20.8	-0.1
JFK				*e*S	Sn	12 03 43.0	-1.3
ONAJ	Iwakimizuishiy	1.94	276	*e*S	Sn	12 03 43.8	-1.0
JIO	Ouri	2.12	316	P	Pn	12 03 23.6	-0.1
JIO				S	Sn	12 03 48.2	-1.0
JMM	Marumori	2.14	297	P	Pn	12 03 23.9	-0.1
JMM				*e*S	Sn	12 03 49.1	-0.6
JHO	Hitachi	2.14	262	P	Pn	12 03 24.1	+0.1
JFT	Otama	2.37	285	P	Pn	12 03 27.2	+0.1
JFT				S	Sn	12 03 55.5	+0.1
JMK	Ichinoseki	2.56	323	P	Pn	12 03 29.9	+0.2
JMK				*e*S	Sn	12 03 59.2	-0.9
BSO1	Boso 1	2.91	219	P	Pn	12 03 34.2	+0.2
BSO1				*e*S	Sn	12 04 08.7	+0.8
JOM	Ohasama	2.95	330	P	Pn	12 03 36.9	+1.7
JOM				S	Sn	12 04 10.0	+0.2
JYK	Kaneyama	3.00	312	P	Pn	12 03 36.6	+0.7
JAG	Ashikaga	3.06	262	P	Pn	12 03 36.8	+0.1
JAG				S	Sn	12 04 11.3	-1.2
JRY	Ryogami san	3.59	257	P	Pn	12 03 44.0	+0.1
JANG	Nango	3.69	339	P	Pn	12 03 45.4	+0.2
JYN	Shimob	4.03	251	P	Pn	12 03 51.0	+0.9
JYN				*e*S	Sn	12 04 36.2	-0.4
MJAR	Matsushiro Arr	4.03	266	Pn	Pn	12 03 51.3	+1.2
	1.3nm,0.3s,baz=89,slow=15,SNR=14						
MJAR				Sn	Sn	12 04 37.9	+1.3
	0.6nm,0.3s,baz=67,slow=14,SNR=4.3						
MAT	Matsushiro	4.04	266	P	Pn	12 03 51.6	+1.5
MAT				S	Sn	12 04 38.0	+1.4
MAT	Matsushiro	4.04	266	P	Pn	12 03 51.8	+1.7
JHJ	Hachijo jima 2	4.73	217	Pn	Pn	12 03 59.1	-0.5
	6.4nm,0.3s,baz=80,slow=22,SNR=4.2						
JHJ				Sn	Sn	12 04 49.6	-4.0
	6.1nm,0.3s,baz=81,slow=22,SNR=3.5						
ASAJ	Asahikawa	7.19	356	Pn	Pn	12 04 32.6	-0.8
	0.6nm,0.3s,baz=213,slow=18,SNR=12						
ASAJ				Sn	Sn	12 05 51.6	-2.7
	0.4nm,0.3s,baz=137,slow=32,SNR=3.7						
KURBB	Kurchatov Arra	47.20	308	pP	pP	12 11 28.0	+0.1
	0.6nm,0.4s,baz=82,slow=8.1,SNR=6.2						
ILAR	Eielson Array	48.81	32	P	P	12 11 33.9	+1.2
	0.3nm,0.8s,baz=263,slow=7.0,SNR=3.3						
WRA	Warramunga Arr	57.18	190	P	P	12 12 34.1	-0.6
	0.4nm,0.6s,baz=6.8,slow=7.2,SNR=6.2						
ASAR	Alice Springs	60.91	190	P	P	12 13 00.1	-0.4
	0.2nm,0.5s,baz=3.1,slow=7.2,SNR=7.2						

IDC 24 12:07:41.3±399.0, 51°.30N×116°.01E, h0km, Error ellipse: s-maj=151.1km s-min=135.3km az=81.0, East of Lake Baykal

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I34MN	SONGINO INFRAS	7.16	244	*i*		12 53 20.0	
	baz=56,slow=338,SNR=1.6						
I45RU	USSURIYSK INFR	12.86	117	*i*		13 23 40.0	
	baz=309,slow=324,SNR=1.2						
I44RU	PETROPAVLOVSK	25.37	69	*i*		14 44 00.0	
	baz=284,slow=313,SNR=0.8						

*ROM **24** 12:10:46.6±0.1, 43°.37N×13°.20E, h7km, Ml3.0/27, Error ellipse: s-maj=1.1km s-min=0.8km az=68.0*
*ISCJB **24** 12:10:47.0±0.4, 43°.36N±0°.02×13°.22E±0°.03, h7km±5km, Error ellipse: s-maj=3.9km s-min=3.3km az=157.6*
*CSEM **24** 12:10:47.1±0.1, 43°.34N×13°.22E, h2km, ML3.6/12, Error ellipse: s-maj=2.7km s-min=2.2km az=77.0*
ISC 24 12:10:46.6±0.9, 43°.35N±0°.02×13°.26E±0°.02, h6km±6km, n63, σ1s25/93, 2D, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CING	Cingoli	0.05	301	Pg	Pg	12 10 48.2	0.0
CING				Sg	Sg	12 10 49.0	-0.3
CING	Cingoli	0.05	301	Pg	Pg	12 10 48.2	0.0
CING				Sg	Sg	12 10 49.0	-0.3
SNTG	Esanatoglia	0.25	248	Pg	Pg	12 10 51.8	+0.3
SNTG				Sg	Sg	12 10 55.7	+0.9
	5μm,0.2s						
SNTG	Esanatoglia	0.25	248	Pg	Pg	12 10 51.8	+0.3
SNTG				Sg	Sg	12 10 55.7	+0.9
	5μm,0.2s						
ARVD	Arcevia	0.28	303	Pg	Pg	12 10 51.8	-0.2
ARVD				Sg	Sg	12 10 55.8	+0.1
	691nm,0.2s						
ARVD	Arcevia	0.28	303	Pg	Pg	12 10 51.8	-0.2
ARVD				Sg	Sg	12 10 55.8	+0.1
	691nm,0.2s						
AOI	Ancona	0.32	51	Pg	Pg	12 10 54.4	+1.5
AOI				Sg	Sb	12 11 00.1	-0.2
	1μm,0.4s						
AOI	Ancona	0.32	51	Pg	Pg	12 10 54.4	+1.5
AOI				Sg	Sb	12 11 00.1	-0.2
	1μm,0.4s						
FDMO	Fiordimonte	0.34	202	*i* Pg	Pg	12 10 54.0	+0.9
	956nm,0.1s						
FDMO	Fiordimonte	0.34	202	*i* Pg	Pg	12 10 54.0	+0.9
	956nm,0.1s						
SENI	Senigallia	0.36	357	Pg	Pb	12 10 54.7	-0.7
	662μm,22.0s						
SENI	Senigallia	0.36	357	Pg	Pb	12 10 54.7	-0.7
	662μm,22.0s						
SSFR	Montelago di S	0.36	284	Pg	Pb	12 10 54.4	-1.0
	2μm,0.2s						
SSFR	Montelago di S	0.36	284	Pg	Pb	12 10 54.4	-1.0
	2μm,0.2s						
FRON	Frontone	0.42	294	Pg	Pg	12 10 54.5	-0.3
FRON				Sg	Sb	12 11 01.1	-2.1
	707nm,0.6s						
FRON	Frontone	0.42	294	Pg	Pg	12 10 54.5	-0.3
FRON				Sg	Sb	12 11 01.1	-2.1
	707nm,0.6s						
CESI	CESI - Serrava	0.43	217	Pg	Pg	12 10 55.6	+0.7
CESI	CESI - Serrava	0.43	217	Pg	Pg	12 10 55.6	+0.7
CESI				Sg	Sb	12 11 02.8	-0.6
	287nm,0.4s						
MPAG	Monte Paganucc	0.46	308	Pg	Pg	12 10 55.3	-0.2
MPAG				Sg	Sg	12 11 02.2	+0.7
	450nm,0.5s						
MPAG	Monte Paganucc	0.46	308	Pg	Pg	12 10 55.3	-0.2
MPAG				Sg	Sg	12 11 02.2	+0.7
	450nm,0.5s						
ATCC	AVT- Casa Cast	0.48	250	Pg	Pg	12 10 56.0	+0.1
ATCC				Sg	Sb	12 11 03.5	-1.3
	1μm,0.3s						
ATCC	AVT- Casa Cast	0.48	250	Pg	Pg	12 10 56.0	+0.1
ATCC				Sg	Sb	12 11 03.5	-1.3
	1μm,0.3s						
FSSB	Fossombrone	0.49	315	Pg	Pg	12 10 55.9	-0.2
FSSB				Sg	Sb	12 11 03.4	-1.7
	2μm,0.3s						
FSSB	Fossombrone	0.49	315	Pg	Pg	12 10 55.9	-0.2
FSSB				Sg	Sb	12 11 03.4	-1.7
	2μm,0.3s						
NRCA	Norcia	0.53	192	Pg	Pg	12 10 57.4	+0.7
NRCA	Norcia	0.53	192	Pg	Pg	12 10 57.4	+0.7
NRCA				Sg	Sb	12 11 06.8	+0.7
	1μm,0.1s						
MURB	Monte Urbino	0.54	261	Pg	Pg	12 10 57.0	-0.1
MURB				Sg	Sb	12 11 05.2	-1.4
	2μm,0.3s						
MURB	Monte Urbino	0.54	261	Pg	Pg	12 10 57.0	-0.1
MURB				Sg	Sb	12 11 05.2	-1.4
	2μm,0.3s						
PIEI	Pieia	0.56	290	Pg	Pg	12 10 56.8	-0.6
PIEI				Sg	Sg	12 11 04.8	+0.1
	438nm,0.2s						
PIEI	Pieia	0.56	290	Pg	Pg	12 10 56.8	-0.6
PIEI				Sg	Sg	12 11 04.8	+0.1
	438nm,0.2s						
GUMA	Gualdo di Mace	0.57	120	Pg	Pg	12 10 54.1	-3.5
GUMA				Sg	Sg	12 11 00.0	-5.0
	9μm,0.3s						
ATPC	Poggio Castell	0.60	283	Pg	Pg	12 10 57.8	-0.3
ATPC				Sg	Sb	12 11 07.1	-1.1
	910nm,0.3s						
ATPC	Poggio Castell	0.60	283	Pg	Pg	12 10 57.8	-0.3
ATPC				Sg	Sb	12 11 07.1	-1.1
	910nm,0.3s						
ATVO	AVT- Monte Val	0.62	273	Pg	Pg	12 10 58.2	-0.4
ATVO				Sg	Sb	12 11 07.3	-1.6
	711nm,0.3s						
ATVO	AVT- Monte Val	0.62	273	Pg	Pg	12 10 58.2	-0.4
ATVO				Sg	Sb	12 11 07.3	-1.6
	711nm,0.3s						
PESA	Pesaro	0.67	333	Pg	Pg	12 10 59.8	+0.4
	561nm,0.3s						
PESA

	1.2nm,0.3s								
KBA	**Koelnbreinsper**	**3.73**	**1**	*i* Pn	**Pn**	**12 11 46.5**	**+1.6**
	1.2nm,0.3s								
FETA	**Feichten**	**4.08**	**335**	Pn	**Pn**	**12 11 53.8**	**+4.1**
	2.4nm,0.3s								
FETA	**Feichten**	**4.08**	**335**	*i* Pn	**Pn**	**12 11 53.8**	**+4.1**
	2.4nm,0.3s								
MOTA	**Moosalm**	**4.28**	**340**	Pn	**Pn**	**12 11 52.3**	**0.0**
	1.3nm,0.2s								
MOTA	**Moosalm**	**4.28**	**340**	*i* Pn	**Pn**	**12 11 52.3**	**0.0**
	1.3nm,0.2s								

*ISCJB **24** 12:13:23.5±0.3, 42.93N±0.02×18.45E±0.03, h21km±3km, Error ellipse: s-maj=3.4km s-min=3.0km az=34.8*
*CSEM **24** 12:13:23.5±0.1, 42.94N×18.52E, h10km, ML2.9, Error ellipse: s-maj=2.9km s-min=2.5km az=85.0*
*BEO **24** 12:13:23.3±0.4, 42.90N×18.47E, h17km±2km*
*PDG **24** 12:13:23.9±0.2, 42.90N×18.54E, h17km, MD2.9/6, ML2.9/10, Error ellipse: s-maj=0.2km s-min=0.4km az=0.0*

ISC 24 12:13:23.7±0.8, 42.92N±0.02×18.51E±0.02, h18km±4km, n85, σ0.87/151, 28C-19D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BRY	**Bratogost**	**0.03**	**133**	↑*i*Pg	**Pg**	**12 13 26.9**	**-0.1**
BRY				*i* Sg	**Sg**	**12 13 29.6**	**+0.3**
BRY	**Bratogost**	**0.03**	**133**	↑*i*Pg	**Pg**	**12 13 26.9**	**-0.1**
BRY				*e*Sg	**Sg**	**12 13 28.6**	**-0.7**
TREB	**Trebinje**	**0.23**	**211**	↓*i*Pg	**Pg**	**12 13 28.7**	**-0.5**
TREB				*e*Sg	**Sb**	**12 13 33.1**	**-0.1**
NKME	**Niksic**	**0.36**	**115**	↓*i*Pg	**Pg**	**12 13 30.5**	**-0.7**
NKME				*e*Sg	**Sb**	**12 13 36.6**	**-0.3**
NKME	**Niksic**	**0.36**	**115**	↓*i*Pg	**Pg**	**12 13 30.5**	**-0.7**
NKME				*e*Sg	**Sb**	**12 13 36.6**	**-0.3**
NKY	**Niksic**	**0.37**	**107**	↑*i*Pg	**Pg**	**12 13 30.8**	**-0.7**
NKY				*e*Sg	**Sb**	**12 13 37.0**	**-0.3**
NKY	**Niksic**	**0.37**	**107**	↑*i*Pg	**Pg**	**12 13 30.8**	**-0.7**
NKY				*e*Sg	**Sb**	**12 13 37.0**	**-0.3**
UPM	**Unac-Piva**	**0.40**	**45**	↓*i*Pg	**Pg**	**12 13 31.6**	**-0.5**
UPM				*e*Sg	**Sb**	**12 13 38.7**	**+0.3**
UPM	**Unac-Piva**	**0.40**	**45**	↓*i*Pg	**Pg**	**12 13 31.6**	**-0.5**
UPM				*e*Sg	**Sb**	**12 13 38.7**	**+0.3**
HCY	**Herceg Novi**	**0.47**	**182**	↑*i*Pg	**Pg**	**12 13 32.3**	**-1.0**
HCY				*e*Sg	**Sb**	**12 13 40.4**	**+0.2**
HCY	**Herceg Novi**	**0.47**	**182**	↑*i*Pg	**Pg**	**12 13 32.3**	**-1.0**
HCY				*e*Sg	**Sb**	**12 13 40.3**	**+0.1**
CEME	**Cevo**	**0.48**	**141**	↑*i*Pg	**Pg**	**12 13 32.2**	**-1.2**
CEME				*e*Sg	**Sb**	**12 13 40.0**	**-0.4**
CEME	**Cevo**	**0.48**	**141**	↑*i*Pg	**Pg**	**12 13 32.2**	**-1.2**
CEME				*e*Sg	**Sb**	**12 13 40.0**	**-0.4**
STON	**Ston**	**0.60**	**266**	↑*i*Pg	**Pg**	**12 13 33.4**	**-2.2**
STON				*e*Sg	**Sg**	**12 13 43.0**	**-0.6**
BUM	**Brajici-Budva**	**0.68**	**155**	↓*i*Pg	**Pg**	**12 13 36.4**	**-0.7**
BUM				*e*Sg	**Sb**	**12 13 46.8**	**+0.6**
BUM	**Brajici-Budva**	**0.68**	**155**	↓*i*Pg	**Pg**	**12 13 36.4**	**-0.7**
BUM				*e*Sg	**Sb**	**12 13 46.8**	**+0.6**
PDG	**Podgorica**	**0.73**	**132**	↓*i*P	**Pb**	**12 13 37.1**	**-0.9**
PDG				S	**Sn**	**12 13 49.4**	**-0.5**
PDG	**Podgorica**	**0.73**	**132**	↓*i*Pg	**Pb**	**12 13 37.2**	**-0.8**
PDG				*e*Sg	**Sn**	**12 13 48.2**	**-1.3**
TTG	**Podgorica**	**0.73**	**132**	↓*i*Pg	**Pb**	**12 13 37.2**	**-0.8**
TTG				*e*Sg	**Sn**	**12 13 48.7**	**-1.2**
KOME	**Kolasin**	**0.74**	**95**	↑*i*Pg	**Pb**	**12 13 37.8**	**-0.3**
KOME				*e*Sg	**Sn**	**12 13 49.1**	**-1.2**
KOME	**Kolasin**	**0.74**	**95**	↑*i*Pg	**Pb**	**12 13 37.8**	**-0.3**
KOME				*e*Sg	**Sn**	**12 13 49.1**	**-1.2**
PLE	**Pljevlja**	**0.76**	**57**	↓*i*Pg	**Pb**	**12 13 38.2**	**-0.3**
PLE				*e*Sg	**Sn**	**12 13 50.2**	**-0.6**
PLE	**Pljevlja**	**0.76**	**57**	↓*i*Pg	**Pb**	**12 13 38.2**	**-0.3**
PLE				*e*Sg	**Sn**	**12 13 50.2**	**-0.6**
DRME	**Dracevica, Mon**	**0.89**	**146**	↑*i*Pg	**Pg**	**12 13 40.4**	**-0.5**
DRME				*e*Sg	**Sn**	**12 13 54.0**	**+0.3**
DRME	**Dracevica, Mon**	**0.89**	**146**	↑*i*Pg	**Pg**	**12 13 40.4**	**-0.5**
DRME				*e*Sg	**Sn**	**12 13 52.8**	**-0.9**
BEY	**Berane**	**1.02**	**92**	↑*i*Pg	**Pb**	**12 13 42.7**	**-0.1**
BEY				*e*Sg	**Sn**	**12 13 58.4**	**+1.3**
IVA	**Berane**	**1.02**	**92**	↑*i*Pg	**Pb**	**12 13 42.7**	**-0.1**
IVA				*e*Sg	**Sn**	**12 13 58.4**	**+1.3**
ULC	**Ulcinj**	**1.10**	**150**	↓*i*Pg	**Pn**	**12 13 44.1**	**-0.2**
ULC				*e*Sg	**Sg**	**12 14 00.9**	**+1.5**
ULC	**Ulcinj**	**1.10**	**150**	↓*i*Pg	**Pn**	**12 13 44.1**	**-0.2**
ULC				*e*Sg	**Sg**	**12 14 00.9**	**+1.5**
PVY	**Plav**	**1.11**	**106**	↓*i*Pg	**Pn**	**12 13 44.4**	**-0.2**
PVY				*e*Sg	**Sg**	**12 14 01.6**	**+1.7**
PVY	**Plav**	**1.11**	**106**	↓*i*Pg	**Pn**	**12 13 44.4**	**-0.2**
PVY				*e*Sg	**Sg**	**12 14 01.6**	**+1.7**
SJES	**Sjenica**	**1.12**	**72**	*e*Pg	**Pn**	**12 13 44.9**	**+0.2**
SJES				*e*Sg	**Sg**	**12 14 00.3**	**+0.1**
BBLS	**Lazi?i**	**1.15**	**34**	*e*Pg	**Pg**	**12 13 45.6**	**-0.3**
BBLS				*e*Sg	**Sg**	**12 14 01.4**	**+0.4**
BBLS	**Lazi?i**	**1.15**	**34**	*e*Pg	**Pg**	**12 13 45.6**	**-0.3**
BBLS				*e*Sg	**Sg**	**12 14 01.4**	**+0.4**
HAPS	**Han Pijesak,Bl**	**1.21**	**15**	*e*Pg	**Pn**	**12 13 45.7**	**-0.2**
HAPS				*e*Sg	**Sn**	**12 14 02.1**	**+0.2**
IVAS	**Ivanjica**	**1.37**	**61**	*e*Pg	**Pb**	**12 13 45.7**	**-0.2**
IVAS				*e*Sg	**Sg**	**12 14 07.5**	**-0.4**
IVAS	**Ivanjica**	**1.37**	**61**	*e*Pg	**Pb**	**12 13 48.6**	**-0.2**
IVAS				*e*Sg	**Sg**	**12 14 07.5**	**-0.4**
DIVS	**Divibare**	**1.59**	**42**	*e*Pg	**Pb**	**12 13 52.1**	**-0.6**
DIVS				*e*Sg	**Sg**	**12 14 14.9**	**-0.3**
DIVS	**Divibare**	**1.59**	**42**	*e*Pn	**Pn**	**12 13 51.6**	**+0.4**
DIVS	**Divibare**	**1.59**	**42**	*e*Pg	**Pb**	**12 13 52.1**	**-0.6**
DIVS				*e*Sn	**Sb**	**12 14 13.5**	**+0.9**
DIVS				*e*Sg	**Sg**	**12 14 14.9**	**-0.3**
TEKS	**Tekeris**	**1.79**	**24**	*e*Pn	**Pn**	**12 13 54.3**	**+0.6**
TEKS				*e*Sn	**Sn**	**12 14 16.8**	**+0.8**
TEKS	**Tekeris**	**1.79**	**24**	↑*i*Pn	**Pn**	**12 13 54.1**	**+0.4**
TEKS				*e*Sn	**Sn**	**12 14 16.8**	**+0.8**
TIR	**Tirane**	**1.86**	**147**	↑*i*P	**Pb**	**12 13 57.0**	**-0.3**
TIR	**Tirane**	**1.86**	**147**	↑*i*P	**Pb**	**12 13 57.0**	**-0.3**
GRUS	**Gruza**	**1.88**	**58**	*e*Pn	**Pn**	**12 13 55.5**	**+0.6**
GRUS				*e*Sn	**Sn**	**12 14 18.4**	**+0.3**
GRUS	**Gruza**	**1.88**	**58**	*e*Pn	**Pn**	**12 13 55.5**	**+0.6**
GRUS				*e*Sn	**Sn**	**12 14 18.4**	**+0.3**
TRUS	**Trudelj**	**1.90**	**46**	*e*Pn	**Pn**	**12 13 55.5**	**+0.3**
TRUS				*e*Sn	**Sb**	**12 14 20.2**	**-0.9**
TRUS	**Trudelj**	**1.90**	**46**	*e*Pn	**Pn**	**12 13 55.5**	**+0.3**
TRUS				*e*Sn	**Sb**	**12 14 20.2**	**-0.9**
SELS	**Selova**	**1.93**	**80**	*e*Pn	**Pn**	**12 13 56.6**	**+0.9**
SELS				*e*Sn	**Sn**	**12 14 19.7**	**+0.1**
SELS	**Selova**	**1.93**	**80**	*e*Pn	**Pn**	**12 13 56.6**	**+0.9**
SELS				*e*Sn	**Sn**	**12 14 19.7**	**+0.1**
BLY	**Banja Luka**	**2.07**	**333**	↓*i*P	**Pb**	**12 13 59.7**	**-1.0**
BLY	**Banja Luka**	**2.07**	**333**	S	**Sb**	**12 14 27.7**	**+1.7**
BLY	**Banja Luka**	**2.07**	**333**	*e*Pn	**Pn**	**12 13 58.2**	**+0.7**
BLY	**Banja Luka**	**2.07**	**333**	↓*i*P	**Pb**	**12 13 59.7**	**-1.0**
BLY				*e*Sn	**Sn**	**12 14 23.3**	**+0.5**
BAI	**Bari**	**2.18**	**214**	*e*Pn	**Pb**	**12 14 02.6**	**-0.1**
MS1	**Monte Sant'Ang**	**2.26**	**238**	*e*Pn	**Pb**	**12 14 04.9**	**+0.9**
FGSL	**Fruska Gora**	**2.42**	**22**	*e*Pn	**Pn**	**12 14 02.6**	**+0.1**
FGSL				*e*Sn	**Sn**	**12 14 32.8**	**+1.1**
FRGS	**Fruska Gora**	**2.42**	**22**	*e*Pn	**Pn**	**12 14 02.6**	**+0.1**
FRGS				*e*Sn	**Sn**	**12 14 32.8**	**+1.1**
BARS	**Barje**	**2.43**	**91**	*e*Pn	**Pn**	**12 14 03.5**	**+0.9**
BARS				*e*Sn	**Sn**	**12 14 32.5**	**+0.7**
BARS	**Barje**	**2.43**	**91**	*e*Pn	**Pn**	**12 14 03.5**	**+0.9**
BARS				*e*Sn	**Sn**	**12 14 32.5**	**+0.7**
OHR	**Ohrid**	**2.48**	**136**	*e*Pn	**Pb**	**12 14 06.8**	**-1.0**
OHR				*e*Sn	**Sg**	**12 14 42.4**	**-1.2**
KRUS	**Krusevo**	**2.56**	**126**	*i* Pn	**Pn**	**12 14 06.4**	**+2.0**
KRUS				*e*Sn	**Sb**	**12 14 40.9**	**+0.6**
MATE	**Matera**	**2.64**	**211**	↓*i*P	**Pb**	**12 14 11.5**	**+1.0**
KUBS	**Kucevo**	**2.74**	**56**	*e*Pn	**Pn**	**12 14 05.6**	**-1.2**
KUBS				*e*Sn	**Sn**	**12 14 38.6**	**-0.8**
KUBS	**Kucevo**	**2.74**	**56**	*e*Pn	**Pn**	**12 14 05.6**	**-1.2**
KUBS				*e*Sn	**Sn**	**12 14 38.6**	**-0.8**
ZAGS	**Zajecar**	**2.86**	**71**	*e*Pn	**Pn**	**12 14 08.6**	**+0.2**
ZAGS				*e*Sn	**Sn**	**12 14 43.5**	**+1.2**
ZAGS	**Zajecar**	**2.86**	**71**	*e*Pn	**Pn**	**12 14 08.6**	**+0.2**
ZAGS				*e*Sn	**Sn**	**12 14 43.5**	**+1.2**
ZAPS	**Zavoj**	**3.04**	**82**	*e*Pn	**Pn**	**12 14 12.2**	**+1.2**
ZAPS				*e*Sn	**Sn**	**12 14 47.9**	**+1.0**
BANR	**Banloc**	**3.10**	**37**	↑*i*P	**Pn**	**12 14 12.7**	**+0.9**
BANR	**Banloc**	**3.10**	**37**	↑*i*P	**Pn**	**12 14 12.7**	**+0.9**
MORH	**M¯‡r¯igy, Hung**	**3.30**	**2**	↑*e*Pn	**Pn**	**12 14 14.7**	**+0.3**
MORH				*e*Sn	**Sn**	**12 14 52.1**	**-1.1**
MORH	**M¯‡r¯igy, Hung**	**3.30**	**2**	↑*e*Pn	**Pn**	**12 14 14.7**	**+0.3**
MORH				*e*Sn	**Sn**	**12 14 52.1**	**-1.1**
VTS	**Vitosha**	**3.47**	**94**	↑*i*P	**Pn**	**12 14 18.7**	**+1.7**
VTS	**Vitosha**	**3.47**	**94**	S	**Sn**	**12 14 59.8**	**+2.0**
VTS	**Vitosha**	**3.47**	**94**	↑*i*P	**Pn**	**12 14 18.7**	**+1.7**
BZS	**Buzias**	**3.50**	**39**	↑*i*P	**Pn**	**12 14 17.5**	**+0.3**
BZS	**Buzias**	**3.50**	**39**	↑*i*P	**Pn**	**12 14 17.5**	**+0.3**
BZS				S	**Sn**	**12 14 57.2**	**-1.0**
CRES	**Cresnjev**	**3.64**	**324**	*e*Pn	**Pn**	**12 14 20.3**	**+1.1**
CRES				*e*Sn	**Sn**	**12 15 01.8**	**+0.1**
SIRR	**Siria**	**4.03**	**33**	↑*i*P	**Pn**	**12 14 24.2**	**-0.4**
SIRR	**Siria**	**4.03**	**33**	↑*i*P	**Pn**	**12 14 24.2**	**-0.4**
CEY	**Cerknica**	**4.07**	**315**	*e*Sn	**Sn**	**12 15 12.0**	**-0.2**
VOIR		**5.33**	**60**	S	**Sn**	**12 15 43.1**	**-0.4**
VOIR		**5.33**	**60**	S	**Sn**	**12 15 43.1**	**-0.4**
KHC	**Kasperske Hory**	**7.10**	**333**	*e*PN	**Pn**	**12 15 09.5**	**+2.8**
KHC				*e*SN	**Sn**	**12 16 26.9**	**0.0**
KHC				*ex*	x	12 16 31.4	
KHC	**Kasperske Hory**	**7.10**	**333**	Pn	**Pn**	**12 15 09.5**	**+2.8**
KHC				Sn	**Sn**	**12 16 26.9**	**0.0**

*NIED **24** 12:13:00, 35.20N×137.70E, h11km, Mw3.5 Best double couple: M0=1.72000×10^14 NP1:φs=54.00000°, δ50.00000°, λ170.00000°. NP2:φs150.00000°, δ83.00000°, λ40.00000°.*

JMA 24 12:13:25.6, 35.21N×137.75E, h19km, M3.6, 3D Broadband fault plane solution: P waves. NP1: φs129.00000°, δ86.00000°, λ19.00000°. **NP2:**φs38.00000°, δ71.00000°, λ176.00000°. **Principal axes:** T Plg16.0000°, Azm355.0000°; N Plg71.0000°, Azm141.0000°; P Plg10.0000°, Azm262.0000°; **Eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JNY	**Yasuok**	**0.17**	**32**	↓P	Pg	12 13 30.3	-0.1
JNY				S	Sg	12 13 33.1	-0.5
JYZW	**Yoshizawa**	**0.21**	**184**	P	Pg	12 13 39.7	-0.1
SHZ3	**Shizuoka 3**	**0.40**	**111**	↓P	Pg	12 13 34.1	+0.1
SHZ3				S	Sg	12 13 39.8	+0.1
JYN	**Shimob**	**0.71**	**66**	↓P	Pb	12 13 39.3	-0.1
JYN				*e*S	Sg	12 13 49.3	+0.2
MAT	**Matsushiro**	**1.38**	**15**	P	Pn	12 13 50.1	+0.2
MAT				S	Sb	12 14 08.0	-0.1

*ISCJB **24** 12:22:36.5±0.5, 43.38N±0.02×13.26E±0.04, h11km±4km Error ellipse: s-maj=4.6km s-min=3.4km az=156.6*
*ROM **24** 12:22:36.8±0.1, 43.37N×13.20E, h7km, Ml2.8/24, Error ellipse: s-maj=1.3km s-min=0.8km az=64.0*
*CSEM **24** 12:22:37.1±0.2, 43.36N×13.22E, h10km, ML3.5/16, Error ellipse: s-maj=3.3km s-min=2.5km az=79.0*

ISC 24 12:22:36.5±0.9, 43.37N±0.02×13.28E±0.02, h8km±5km, n56, σ1.12/90, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CING	**Cingoli**	**0.06**	**276**	Pg	**Pg**	**12 22 38.4**	**+0.1**
CING				Sg	**Sg**	**12 22 39.3**	**-0.2**
	16μm,0.1s						
CING	**Cingoli**	**0.06**	**276**	Pg	**Pg**	**12 22 38.4**	**+0.1**
CING				Sg	**Sg**	**12 22 39.3**	**-0.2**
	16μm,0.1s						
ARVD	**Arcevia**	**0.28**	**298**	Pg	**Pg**	**12 22 42.1**	**+0.2**
ARVD				Sg	**Sg**	**12 22 46.1**	**+0.5**
	743nm,0.2s						
ARVD	**Arcevia**	**0.28**	**298**	Pg	**Pg**	**12 22 42.1**	**+0.2**
ARVD				Sg	**Sg**	**12 22 46.1**	**+0.5**
	743nm,0.2s						
AOI	**Ancona**	**0.30**	**53**	Pg	**Pb**	**12 22 44.5**	**+0.4**
AOI	**Ancona**	**0.30**	**53**	Pg	**Pb**	**12 22 44.5**	**+0.4**
AOI				Sg	**Sb**	**12 22 50.6**	**+1.3**
	842nm,0.4s						
SENI	**Senigallia**	**0.34**	**355**	Pg	**Pb**	**12 22 45.1**	**+0.4**
	784nm,0.7s						
SENI	**Senigallia**	**0.34**	**355**	Pg	**Pb**	**12 22 45.1**	**+0.4**
	784nm,0.7s						
FDMO	**Fiordimonte**	**0.36**	**202**	Pg	**Pg**	**12 22 44.2**	**+0.7**
	767nm,0.4s						
FDMO	**Fiordimonte**	**0.36**	**202**	Pg	**Pg**	**12 22 44.2**	**+0.7**
	767nm,0.4s						
FRON	**Frontone**	**0.43**	**290**	Pg	**Pg**	**12 22 44.8**	**0.0**
FRON				Sg	**Sb**	**12 22 51.3**	**-1.6**
	713nm,0.4s						
FRON	**Frontone**	**0.43**	**290**	Pg	**Pg**	**12 22 44.8**	**0.0**
FRON				Sg	**Sb**	**12 22 51.3**	**-1.6**
	713nm,0.4s						
CESI	**CESI - Serrava**	**0.45**	**217**	Pg	**Pg**	**12 22 45.7**	**+0.4**
CESI				Sg	**Sb**	**12 22 52.9**	**-0.8**
	212nm,0.4s						
CESI	**CESI - Serrava**	**0.45**	**217**	Pg	**Pg**	**12 22 45.7**	**+0.4**
CESI				Sg	**Sb**	**12 22 52.9**	**-0.8**
	212nm,0.4s						
MPAG	**Monte Paganucc**	**0.46**	**305**	Pg	**Pg**	**12 22 45.3**	**0.0**
MPAG				Sg	**Sb**	**12 22 52.2**	**-1.6**
	394nm,0.5s						
MPAG	**Monte Paganucc**	**0.46**	**305**	Pg	**Pg**	**12 22 45.3**	**0.0**
MPAG				Sg	**Sb**	**12 22 52.2**	**-1.6**
	394nm,0.5s						
FSSB	**Fossombrone**	**0.48**	**312**	Pg	**Pg**	**12 22 46.1**	**+0.2**
FSSB				Sg	**Sb**	**12 22 53.6**	**-1.0**
	1μm,0.3s						
FSSB	**Fossombrone**	**0.48**	**312**	Pg	**Pg**	**12 22 46.1**	**+0.2**
FSSB				Sg	**Sb**	**12 22 53.6**	**-1.0**
	1μm,0.3s						
ATCC	**AVT- Casa Cast**	**0.50**	**249**	Pg	**Pg**	**12 22 46.3**	**+0.2**
ATCC				Sg	**Sb**	**12 22 53.7**	**-1.3**
	886nm,0.3s						
ATCC	**AVT- Casa Cast**	**0.50**	**249**	Pg	**Pg**	**12 22 46.3**	**+0.2**
ATCC				Sg	**Sb**	**12 22 53.7**	**-1.3**
	886nm,0.3s						
NRCA	**Norcia**	**0.55**	**192**	Pg	**Pg**	**12 22 47.6**	**+0.5**
NRCA				Sg	**Sb**	**12 22 56.4**	**-0.1**
	773nm,0.1s						
NRCA	**Norcia**	**0.55**	**192**	Pg	**Pg**	**12 22 47.6**	**+0.5**
NRCA				Sg	**Sb**	**12 22 56.4**	**-0.1**
	773nm,0.1s						
MURB	**Monte Urbino**	**0.56**	**259**	Pg	**Pg**	**12 22 47.5**	**+0.3**
MURB				Sg	**Sb**	**12 22 55.5**	**-1.2**
	2μm,0.2s						
MURB	**Monte Urbino**	**0.56**	**259**	Pg	**Pg**	**12 22 47.5**	**+0.3**
MURB				Sg	**Sb**	**12 22 55.5**	**-1.2**
	2μm,0.2s						
PIEI	**Pieia**	**0.56**	**287**	Pg	**Pg**	**12 22 47.1**	**-0.3**
PIEI				Sg	**Sb**	**12 22 55.1**	**-1.8**
	531nm,0.2s						
PIEI	**Pieia**	**0.56**	**287**	Pg	**Pg**	**12 22 47.1**	**-0.3**
PIEI				Sg	**Sb**	**12 22 55.1**	**-1.8**
	531nm,0.2s						
GUMA	**Gualdo di Mace**	**0.57**	**122**	Pg	**Pg**	**12 22 44.3**	**-3.2**
GUMA				Sg	**Sg**	**12 22 50.3**	**-4.7**
	5μm,0.3s						
ATPC	**Poggio Castell**	**0.61**	**281**	Pg	**Pg**	**12 22 48.1**	**-0.1**
ATPC				Sg	**Sb**	**12 22 56.7**	**-1.4**
	910nm,0.3s						
ATPC	**Poggio Castell**	**0.61**	**281**	Pg	**Pg**	**12 22 48.1**	**-0.1**
ATPC				Sg	**Sb**	**12 22 56.7**	**-1.4**
	910nm,0.3s						
ATVO	**AVT- Monte Val**	**0.63**	**271**	Pg	**Pg**	**12 22 48.4**	**-0.3**
ATVO				Sg	**Sb**	**12 22 57.6**	**-1.3**
	596nm,0.3s						
ATVO	**AVT- Monte Val**	**0.63**	**271**	Pg	**Pg**	**12 22 48.4**	**-0.3**
ATVO				Sg	**Sb**	**12 22 57.6**	**-1.3**
	596nm,0.3s						
PESA	**Pesaro**	**0.65**	**331**	Pg	**Pg**	**12 22 49.5**	**+0.5**
	518nm,0.3s						
PESA	**Pesaro**	**0.65**	**331**	Pg	**Pg**	**12 22 49.5**	**+0.5**
	518nm,0.3s						
ATTE	**AVT- Monte Tez**	**0.69**	**256**	Pg	**Pg**	**12 22 49.8**	**0.0**
	162nm,0.3s						
ATTE	**AVT- Monte Tez**	**0.69**	**256**	Pg	**Pg**	**12 22 49.8**	**0.0**
	162nm,0.3s						
SMA1	**SAN MARTINO**	**0.74**	**177**	Pg	**Pg**	**12 22 51.3**	**+0.6**
SMA1				Sg	**Sb**	**12 23 03.3**	**+1.3**
	1μm,0.4s						
SMA1	**SAN MARTINO**	**0.74**	**177**	Pg	**Pg**	**12 22 51.3**	**+0.6**
SMA1				Sg	**Sb**	**12 23 03.3**	**+1.3**
	1μm,0.4s						
BADI	**Badiali**	**0.76**	**281**	Pg	**Pg**	**12 22 50.8**	**-0.3**
BADI				Sg	**Sb**	**12 23 02.2**	**-0.4**
	572nm,0.3s						
BADI	**Badiali**	**0.76**	**281**	Pg	**Pg**	**12 22 50.8**	**-0.3**
BADI				Sg	**Sb**	**12 23 02.2**	**-0.4**
	572nm,0.3s						

LNSS	**Leonessa**	**0.79**	**193**	Pg	**Pg**	**12 22 51.8**	**+0.2**
	378nm,0.4s						
LNSS	**Leonessa**	**0.79**	**193**	Pg	**Pg**	**12 22 51.8**	**+0.2**
	378nm,0.4s						
ATMC	**Monte Cedrone**	**0.79**	**276**	Pg	**Pg**	**12 22 51.3**	**-0.4**
	203nm,0.3s						
ATMC	**Monte Cedrone**	**0.79**	**276**	Pg	**Pg**	**12 22 51.3**	**-0.4**
	203nm,0.3s						
PARC	**Parchiule**	**0.80**	**291**	Pg	**Pg**	**12 22 51.6**	**-0.3**
	134nm,0.3s						
PARC	**Parchiule**	**0.80**	**291**	Pg	**Pg**	**12 22 51.6**	**-0.3**
	134nm,0.3s						
CAMP	**Campotosto**	**0.84**	**173**	Pg	**Pg**	**12 22 52.9**	**+0.3**
	409nm,0.4s						
CAMP	**Campotosto**	**0.84**	**173**	Pg	**Pg**	**12 22 52.9**	**+0.3**
	409nm,0.4s						
CESX	**Cesi**	**0.92**	**214**	Pg	**Pg**	**12 22 53.3**	**-0.7**
	180nm,0.5s						
CESX	**Cesi**	**0.92**	**214**	Pg	**Pg**	**12 22 53.3**	**-0.7**
	180nm,0.5s						
ASQU	**Asqua**	**1.16**	**292**	Pg	**Pg**	**12 22 58.0**	**-0.7**
ASQU	**Asqua**	**1.16**	**292**	Pg	**Pg**	**12 22 58.0**	**-0.7**
OBKA	**Obir**	**3.27**	**16**	Pg	**Pg**	**12 23 39.2**	**+0.2**
	2.9nm,0.4s						
OBKA				Sn	**Sn**	**12 24 05.9**	**-1.3**
	4.9nm,0.4s						
OBKA	**Obir**	**3.27**	**16**	Pg	**Pg**	**12 23 39.2**	**+0.2**
	2.9nm,0.4s						
OBKA				*e*Sn	**Sn**	**12 24 05.9**	**-1.3**
	4.9nm,0.4s						
KBA	**Koelnbreinsper**	**3.71**	**1**	Pn	**Pn**	**12 23 36.5**	**+2.3**
	0.8nm,0.2s						
KBA				Sn	**Sn**	**12 24 20.3**	**+2.1**
	1.9nm,0.3s						
KBA	**Koelnbreinsper**	**3.71**	**1**	*e*Pn	**Pn**	**12 23 36.5**	**+2.3**
	0.8nm,0.2s						
KBA				*e*Sn	**Sn**	**12 24 20.3**	**+2.1**
	1.9nm,0.3s						
FETA	**Feichten**	**4.07**	**335**	*i* Pn	**Pb**	**12 23 46.1**	**-2.4**

*ISCJB **24** 12:26:42.0±0.4, 18.09S±0.07×178.41W±0.08, h579km, mb4.3/39, Error ellipse: s-maj=10.9km s-min=8.2km az=38.5*
*BJI **24** 12:26:43.9, 17.64S×177.86W, h606km, mb4.5/16, mB4.9/8*
*NEIC **24** 12:26:45.0±0.8, 18.08S×178.39W, h606km±9km, mb4.5/16, Error ellipse: s-maj=18.2km s-min=10.7km az=135.0*
*IDC **24** 12:26:44.8±1.6, 17.91S×178.38W, h602km±18km, mb3.5/17, mb1 3.6/19, mb1mx3.3/52, mbtmp4.4/19, Error ellipse: s-maj=16.0km s-min=12.5km az=139.0*

ISC 24 12:26:42.8±0.4, 18.12S±0.08×178.32W±0.09, h579km, n77, σ1.50/82, mb4.4/39, 1D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**3.48**	**276**	*e*P	P	12 28 08.9	+5.6
AFI	**Afiamalu**	**7.56**	**57**	P	**P**	**12 28 39.2**	**+1.8**
	2.2nm,0.3s,baz=299,slow=20,SNR=3.8						
AFI	**Afiamalu**	**7.56**	**57**	*e*P	**P**	**12 28 40.3**	**+2.9**
DZM	**Mont Dzumac**	**14.84**	**252**	P	**P**	**12 29 51.6**	**+1.4**
	0.7nm,0.3s,baz=122,slow=23,SNR=5.9						
KNTN	**Kanton**	**16.57**	**24**	*e*P	**P**	**12 30 04.8**	**-1.7**
	72nm,1.0s						
LHI	**Lord Howe Isla**	**24.41**	**233**	*e*P	**P**	**12 31 14.7**	**-2.1**
	265nm,1.4s						
THZ	**Tophouse**	**24.73**	**196**	*e*P	**P**	**12 31 21.7**	**+2.2**
	16nm,1.5s						
KHZ	**Kahutara**	**25.19**	**194**	*e*P	**P**	**12 31 24.5**	**+1.0**

LZH				sP	sP	12 41 56.6	+6.1		
LZH				*e*PP	**PP**	**12 42 37.8**	**+3.5**		
LZH				pmax	pmax				
	comp=Z,30nm,0.9s								
LZH				pmax	pmax				
	comp=Z,240nm,6.3s								
INK	**Inuvik**	**92.07**	**15**	P	**P**	**12 38 48.3**	**-1.9**		
	0.8nm,1.0s,baz=246,slow=6.4,SNR=3.1								
GTA	**Gaotai**	**95.23**	**310**	*e*P	**P**	**12 39 08.4**	**+2.9**		
GTA				pmax	pmax				
	comp=Z,2.0nm,0.8s								
MKAR	**Makanchi Array**	**109.34**	**314**	PKiKP	**PKiKP**	**12 44 05.9**	**-2.0**		
	0.6nm,0.5s,baz=84,slow=0.8,SNR=6.3								
KURBB	**Kurchatov Arra**	**112.09**	**318**	PKiKP	**PKiKP**	**12 44 10.5**	**-2.4**		
	0.5nm,0.6s,baz=94,slow=2.0,SNR=4.0								
BVAR	**Borovoye Array**	**117.06**	**321**	PKP	**PKPdf**	**12 44 20.2**	**-2.2**		
	1.1nm,0.5s,baz=105,slow=1.2,SNR=4.6								
BUR08	**Bucovina Ar. S**	**144.83**	**332**	*e*PKPdf	PKPbc	12 45 15.0	-0.2		
BUR04	**Bucovina Ar. S**	**144.84**	**332**	*e*PKPdf	**PKPdf**	**12 45 14.5**	**-0.1**		
BR131	**Keskin Array S**	**144.99**	**315**	*e*PKPdf	**PKPdf**	**12 45 14.7**	**-0.5**		
BRTR	**Keskin Array B**	**144.99**	**315**	PKP	**PKPdf**	**12 45 14.5**	**-0.7**		
	2.2nm,0.6s,baz=142,slow=4.2,SNR=12								
STHS	**Stebnicka Huta**	**145.02**	**338**	*e*PKP	**PKPdf**	**12 45 13.9**	**-0.9**		
NIE	**Niedzica**	**145.35**	**338**	*e*PKP	**PKPdf**	**12 45 16.0**	**+0.6**		
CLL	**Collm**	**145.69**	**347**	*i* PKPbc	**PKPdf**	**12 45 16.2**	**+0.4**		
	comp=Z,8.0nm,0.7s								
CLL				*e*		12 45 27.0			
CLL	**Collm**	**145.69**	**347**	*e*PKPdf	**PKPdf**	**12 45 16.6**	**+0.8**		
DPC	**Dobruska-Polom**	**145.78**	**343**	*e*PKP	**PKPbc**	**12 45 17.3**	**-0.5**		
DPC				*ex*	x	12 45 19.2			
LANS	**Liptovska Anna**	**145.87**	**339**	*e*PKP	**PKPbc**	**12 45 18.1**	**0.0**		
BRG	**Berggiesshubel**	**145.89**	**346**	*e*PKP	**PKPdf**	**12 45 17.1**	**+1.0**		
	comp=Z,9.2nm,1.4s								
MLR	**Muntele Rosu**	**146.06**	**329**	PKPbc	**PKPbc**	**12 45 18.4**	**-0.4**		
	comp=Z,0.5nm,0.6s,baz=67,slow=7.7,SNR=3.8								
MMAI	**Mount Meron Ar**	**146.33**	**303**	PKPbc	**PKPbc**	**12 45 19.4**	**-0.5**		
	comp=Z,3.4nm,0.5s,baz=54,slow=5.7,SNR=6.5								
VYHS	**Vyhne**	**146.65**	**339**	*e*PKP	**PKPbc**	**12 45 19.5**	**-0.7**		
VYHS				*e*		12 45 22.2			
KHC	**Kasperske Hory**	**147.60**	**345**	*e*PKP	**PKPbc**	**12 45 22.0**	**-0.7**		
KHC				*ex*	x	12 45 25.8			
GERES	**GERESS Array B**	**147.84**	**345**	PKPbc	**PKPbc**	**12 45 22.5**	**-0.9**		
	comp=Z,2.3nm,0.6s,baz=26,slow=3.1,SNR=13								
GEA0	**GERESS Array S**	**147.85**	**345**	*e*PKPbc	**PKPbc**	**12 45 22.1**	**-1.4**		
VISS	**Visnje**	**150.31**	**341**	*i* PKPbc	**PKPbc**	**12 45 28.4**	**-1.0**		
BOJS	**Bojanci**	**150.45**	**340**	*i* PKPbc	**PKPbc**	**12 45 29.1**	**-0.6**		
IDI	**Anoyia**	**153.23**	**314**	PKPbc	**PKPbc**	**12 45 36.1**	**-0.2**		
	comp=Z,3.4nm,0.6s,baz=329,slow=9.7,SNR=4.3								
TORD	**Torodi Ar. Bea**	**175.05**	**180**	PKP	**PKPdf**	**12 45 46.1**	**-1.6**		
	comp=Z,0.6nm,1.0s,baz=354,slow=3.8,SNR=3.3								

DJA 24 12:27:43.8±0.2, 0°S±2°×12°3E±°, h50km±8km, M4.0/12, mB5.1/1, mb4.5/3, MLv3.7/12, Mw(mB)4.5/1, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LUWI	**Luwuk**	**0.72**	**195**	P	Pn	12 27 58.6	+0.7
LUWI				S	Sn	12 28 09.9	+1.9
MRSI	**Marisa**	**1.30**	**309**	P	Pn	12 28 05.4	-0.2
MRSI				S	Sn	12 28 22.2	+0.3
KMSI	**Cibinong**	**1.37**	**48**	P	Pn	12 28 06.9	+0.4
KMSI				S	Sn	12 28 24.3	+0.8
APSI	**Ampana**	**1.43**	**247**	P	Pn	12 28 07.8	+0.5
APSI				S	Sn	12 28 25.9	+0.9
MPSI	**Mapaga**	**3.13**	**282**	P	Pn	12 28 30.7	0.0
MPSI				S	Sn	12 29 07.6	+0.6
PCI	**Palu**	**3.17**	**260**	P	Pn	12 28 31.4	+0.1
PCI				S	Sn	12 29 08.2	+0.3
SANI	**Sanana**	**3.47**	**119**	P	Pn	12 28 33.3	-2.0
SANI				S	Sn	12 29 16.9	+1.7
KDI	**Kendari**	**3.61**	**185**	S	Sn	12 29 19.5	+0.9
TTSI	**Tana Toraja**	**4.13**	**229**	P	Pn	12 28 44.5	+0.1
TTSI				S	Sn	12 29 31.5	0.0
LBMI	**Labuha**	**4.55**	**94**	P	Pn	12 28 49.8	-0.4
LBMI				S	Sn	12 29 42.2	+0.4
SGSI	**Sangihe**	**4.75**	**33**	P	Pn	12 28 53.4	+0.4
BNSI	**Bone**	**4.94**	**215**	P	Pn	12 28 56.0	+0.5
NLAI	**Namlea**	**5.04**	**125**	P	Pn	12 28 56.8	-0.1
SGKI	**Sangatta, Kali**	**5.36**	**268**	P	Pn	12 29 01.4	+0.1
MSAI	**Masohi**	**6.67**	**117**	P	Pn	12 29 23.7	+4.4

*NIED **24** 12:34:00, 39.10N×142.30E, h44km, Mw4.0 Best double couple: M0 1.03000×10^15 NP1:φ=179.00000°, δ=15.00000°, λ=70.00000°. NP2:φ=20.00000°, δ=76.00000°, λ=95.00000°.*
*ISCJB **24** 12:34:17.4±0.5, 39.10N±0.03×142.29E±0.05, h50km±3km, mb4.2/40, Error ellipse: s-maj=7.7km s-min=4.0km az=29.3*
*MOS **24** 12:34:17.9±1.0, 39.14N×142.31E, h57km, mb4.4/20, Error ellipse: s-maj=9.2km s-min=6.2km az=93.2*
*JMA **24** 12:34:18.4±0.1, 39.10N×142.21E, h44km±1km, M3.9 JMA Felt II J1.*
*NEIC **24** 12:34:20.3±0.7, 39.16N×142.24E, h61km±6km, mb4.3/11, Error ellipse: s-maj=11.8km s-min=5.8km az=124.0*
NEIC Recorded [2 JMA] in Iwate and Miyagi.
*IDC **24** 12:34:20.6±1.9, 39.05N×142.16E, h63km±17km, mb3.7/20, mb1 3.8/24, mb1mx3.6/72, mbtmp4.0/24, MS2.8/6, Ms1 2.8/6, ms1mx2.6/67, Error ellipse: s-maj=18.2km s-min=11.0km az=106.0*

ISC 24 12:34:19.5±0.7, 39.09N±0.04×142.28E±0.05, h50km±6km, n112, σ1§89/122, mb4.1/40, 7C-7D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OFUJ	**Ofunato**	**0.47**	**269**	P	**Pn**	**12 34 28.4**	**-2.0**
OFUJ				S	**Sn**	**12 34 35.2**	**-3.1**
MIYJ	**Miyakonagasawa**	**0.60**	**324**	P	**Pn**	**12 34 30.0**	**-2.0**
MIYJ				S	**Sn**	**12 34 37.9**	**-3.1**
JMK	**Ichinoseki**	**0.84**	**261**	P	**Pn**	**12 34 33.1**	**-1.9**
JMK				S	**Sn**	**12 34 43.7**	**-2.6**
JOM	**Ohasama**	**0.86**	**297**	P	**Pn**	**12 34 33.5**	**-1.8**
JOM				S	**Sn**	**12 34 44.1**	**-2.7**
JTH	**Tanohata**	**0.91**	**339**	P	**Pn**	**12 34 34.1**	**-1.8**
JIO	**Ouri**	**0.97**	**229**	P	**Pn**	**12 34 34.7**	**-2.0**
JIO				S	**Sn**	**12 34 45.9**	**-3.5**
JKZ	**Kuzumaki**	**1.16**	**321**	P	**Pn**	**12 34 38.2**	**-1.1**
JKZ				S	**Sn**	**12 34 52.1**	**-2.0**
JRG	**Rokugo**	**1.31**	**284**	P	**Pn**	**12 34 39.9**	**-1.5**
JANG	**Nango**	**1.41**	**336**	P	**Pn**	**12 34 41.3**	**-1.4**
JOU	**Okura**	**1.46**	**241**	P	**Pn**	**12 34 41.7**	**-1.7**
JYK	**Kaneyama**	**1.51**	**264**	P	**Pn**	**12 34 42.7**	**-1.3**
ERM	**Erimo**	**3.00**	**13**	*e*Pn	**Pn**	**12 35 04.0**	**-0.4**
ERM				*e*Sn	**Sn**	**12 35 39.8**	**+0.7**
ERM	**Erimo**	**3.00**	**13**	*c e*P	**Pn**	**12 35 05.6**	**+1.2**
MJAR	**Matsushiro Arr**	**4.11**	**233**	P	**Pn**	**12 35 20.8**	**+1.1**
	4.7nm,0.3s,baz=37,slow=11,SNR=66						
MJAR				LR	LR	12 37 03.9	
	comp=Z,98nm,18.8s,baz=5.0,slow=41						
MAJO	**Matsushiro**	**4.11**	**233**	*e*Pn	**Pn**	**12 35 20.4**	**+0.7**
MAJO				*e*Sn	**Sn**	**12 36 07.7**	**+1.2**
MAJO	**Matsushiro**	**4.11**	**233**	*de*P	**Pn**	**12 35 21.0**	**+1.3**
MAT	**Matsushiro**	**4.11**	**233**	P	**Pn**	**12 35 20.3**	**+0.6**
MAT				S	**Sn**	**12 36 11.8**	**+5.3**
MJB9	**Matsu-Tunnel**	**4.11**	**233**	*e*Pn	**Pn**	**12 35 20.5**	**+0.8**
MJB9				*e*Sn	**Sn**	**12 36 07.7**	**+1.2**
ASAJ	**Asahikawa**	**5.03**	**3**	P	**Pn**	**12 35 32.8**	**+0.5**
ASAJ	2.5nm,0.3s,baz=213,slow=9.2,SNR=24			S	**Sn**	**12 36 32.1**	**+3.1**
	1.7nm,0.3s,baz=159,slow=16,SNR=3.7						
ASAJ	**Asahikawa**	**5.03**	**3**	*e*Pn	**Pn**	**12 35 32.2**	**-0.1**
INU	**Inuyama**	**5.62**	**230**	*e*Pn	**Pn**	**12 35 42.2**	**+1.8**
YUK	**Yuzh-Kuril'sk**	**5.62**	**27**	*c i*P	**Pn**	**12 35 39.2**	**-1.2**
YUK				*i* S	**Sn**	**12 36 39.1**	**-4.5**
YUK				pmax	pmax		
	comp=Z,105nm,0.3s						
YUK				pmax	pmax		
	comp=N,32nm,0.2s						
YUK				pmax	pmax		
	comp=E,29nm,0.1s						
YUK				smax	smax		
	comp=E,178nm,0.4s						
YUK				smax	smax		
	comp=N,304nm,0.5s						
SHO	**Shikotan**	**5.87**	**34**	⇑*i*P	**Pn**	**12 35 40.9**	**-2.9**
SHO				*i* S	**Sn**	**12 36 42.2**	**-7.5**
SHO				pmax	pmax		
	comp=N,8.0nm,0.3s						
SHO				pmax	pmax		
	comp=E,6.0nm,0.3s						
SHO				pmax	pmax		
	comp=Z,16nm,0.3s						
SHO				smax	smax		
	comp=E,121nm,0.3s						
SHO				smax	smax		
	comp=N,8.0nm,0.2s						
JHJ	**Hachijo jima 2**	**6.29**	**199**	P	**Pn**	**12 35 48.9**	**-0.8**
	comp=N,5.7nm,0.3s,baz=320,slow=23,SNR=5.6						
JHJ				S	**Sn**	**12 36 56.3**	**-3.9**
	comp=N,16nm,0.3s,baz=269,slow=22,SNR=5.0						
KUR	**Kuril'sk**	**7.41**	**32**	*c i*P	**Pn**	**12 36 05.1**	**+0.2**
KUR				*i* S	**Sn**	**12 37 23.8**	**-3.6**
KUR				pmax	pmax		
	comp=N,9.0nm,0.3s						
KUR				pmax	pmax		
	comp=Z,17nm,0.3s						
KUR				pmax	pmax		
	comp=E,9.0nm,0.1s						
YSS	**Yuzh-Sakhalins**	**7.87**	**2**	*e*Pn	**Pn**	**12 36 11.7**	**+0.5**
YSS	**Yuzh-Sakhalins**	**7.87**	**2**	*e*P	**Pn**	**12 36 09.8**	**-1.3**
YSS				pmax	pmax		
	comp=Z,10.0nm,0.7s						
VLA	**Vladivostok**	**8.82**	**300**	⇑*e*P	**Pn**	**12 36 25.9**	**+1.7**
VLA				pmax	pmax		
	comp=Z,16nm,0.7s						
MSHR	**Mys Shultsa**	**9.12**	**296**	⇓*e*P	**Pn**	**12 36 28.5**	**+0.1**
USRK	**Ussuriysk Ar.**	**9.24**	**307**	P	**Pn**	**12 36 31.9**	**+2.0**
	comp=Z,0.4nm,0.3s,baz=69,slow=6.3,SNR=8.3						
MDJ	**Mudanjiang**	**10.95**	**304**	P	**Pn**	**12 36 55.9**	**+2.5**
MDJ				pmax	pmax		
	comp=Z,14nm,0.9s						
MDJ				pmax	pmax		
	comp=Z,140nm,4.7s						
JNU	**Nakatsue**	**10.97**	**241**	P	**Pn**	**12 36 56.7**	**+2.9**
	comp=Z,0.3nm,0.3s,baz=35,slow=1.4,SNR=3.1						
KSRS	**Korea Array**	**11.40**	**266**	P	**Pn**	**12 37 02.6**	**+3.0**
	comp=Z,0.2nm,0.3s,baz=79,slow=13,SNR=5.2						
KSRS				LR	LR	12 40 21.4	
	comp=Z,54nm,20.9s,baz=66,slow=32						
JCJ	**Chichijima**	**11.96**	**180**	P	Pn	12 37 13.7	+6.4
	comp=Z,2.4nm,0.3s,baz=290,slow=23,SNR=2.5						
KLR	**Kul'dur**	**12.63**	**327**	P	**P**	**12 37 25.9**	**-0.3**
	comp=Z,0.0nm,0.3s,baz=122,slow=11,SNR=8.7						
KLR				LR	LR	12 41 55.2	
	comp=Z,8.6nm,20.0s,baz=140,slow=36						
KLR	**Kul'dur**	**12.63**	**327**	P	**P**	**12 37 26.0**	**-0.3**
KLR				MLR	MLR		
	comp=Z,9.0nm,20.0s						
CN2	**Changchun**	**13.47**	**296**	*e*P	**Pn**	**12 37 27.0**	**-0.8**
MA2	**Magadan**	**21.20**	**12**	P	**P**	**12 38 59.8**	**-0.7**
	comp=Z,3.5nm,0.7s,baz=186,slow=14,SNR=5.9						
MA2	**Magadan**	**21.20**	**12**	⇓*e*P	**P**	**12 39 01.1**	**+0.5**
MA2				pmax	pmax		
	comp=Z,2.0nm,0.7s						
HHC	**Hu-ho-hao-te**	**23.55**	**284**	*e*P	**P**	**12 39 23.3**	**-2.0**
HHC				pmax	pmax		
	comp=E,28nm,0.7s						
HHC				pmax	pmax		
	comp=Z,77nm,4.0s						
YAK	**Yakutsk**	**24.23**	**345**	P	**P**	**12 39 30.8**	**-0.4**
	comp=Z,6.3nm,0.3s,baz=129,slow=1.2,SNR=5.6						
YAK	**Yakutsk**	**24.23**	**345**	*e*P	**P**	**12 39 30.5**	**-0.8**
	comp=Z,15nm,0.9s						
YAK	**Yakutsk**	**24.23**	**345**	*e*P	**P**	**12 39 28.8**	**-2.4**
YAK				pmax	pmax		
	comp=Z,11nm,0.9s						
SEY	**Seymchan**	**24.64**	**11**	P	**P**	**12 39 35.5**	**+0.6**
	comp=Z,2.1nm,0.6s,baz=190,slow=5.5,SNR=11						
SEY	**Seymchan**	**24.64**	**11**	⇓*i*P	**P**	**12 39 35.9**	**+0.9**
GUMO	**Guam**	**25.50**	**174**	LR	LR	12 50 40.8	
	comp=Z,9.2nm,19.3s,baz=228,slow=38						
SONM	**Songino Array**	**27.27**	**300**	P	**P**	**12 39 58.4**	**-0.6**
	comp=Z,0.4nm,0.6s,baz=93,slow=10,SNR=3.2						
SONM				LR	LR	12 51 26.6	
	comp=Z,34nm,20.2s,baz=92,slow=38						
H11N2	**WAKE ISLAND Hy**	**28.69**	**125**	T	T	13 10 36.9	
	baz=318,slow=75,SNR=1652						
H11N1	**WAKE ISLAND Hy**	**28.70**	**125**	T	T	13 10 45.0	
	baz=318,slow=75,SNR=2501						
H11N3	**WAKE ISLAND Hy**	**28.71**	**125**	T	T	13 10 37.9	
	baz=318,slow=75,SNR=3375						
H11S1	**WAKE ISLAND Hy**	**29.48**	**127**	T	T	13 11 32.4	
	baz=319,slow=76,SNR=240						
H11S3	**WAKE ISLAND Hy**	**29.48**	**127**	T	T	13 11 34.6	
	baz=319,slow=76,SNR=332						
H11S2	**WAKE ISLAND Hy**	**29.50**	**127**	T	T	13 11 35.7	
	baz=319,slow=76,SNR=245						
LZH	**Lanzhou**	**30.45**	**277**	*e*P	**P**	**12 40 27.9**	**+0.4**
LZH				pP	pP	12 40 42.3	+1.9
LZH				sP	sP	12 40 51.8	+5.4
LZH				*e*PP	**PnPn**	**12 41 27.6**	**0.0**
LZH				pmax	pmax		
	comp=Z,39nm,1.1s						
LZH				pmax	pmax		
	comp=Z,140nm,5.0s						
LZH				LR	LR		
	comp=N,54nm,14.3s						
LZH				LR	LR		
	comp=E,62nm,14.0s						
LZH				LR	LR		
	comp=Z,85nm,16.8s						
BILL	**Bilibino**	**31.86**	**17**	*i* P	**P**	**12 40 38.3**	**-1.0**
BILL				pmax	pmax		
	comp=Z,2.0nm,1.2s						
DGZ	**Jazzator, Alta**	**39.78**	**304**	*e*P	**P**	**12 41 47.8**	**+0.3**
DGZ				pmax	pmax		
	comp=Z,2.0nm,0.8s						
WMQ	**Urumqi**	**40.56**	**295**	P	**P**	**12 41 55.0**	**+1.1**
WMQ				pP	pP	12 42 08.4	+1.2
WMQ				sP	sP	12 42 18.1	+5.1
WMQ				pmax	pmax		
	comp=Z,28nm,1.1s						
WMQ				pmax	pmax		
	comp=Z,190nm,5.3s						
ZAA0	**Zalesovo Array**	**41.06**	**311**	*e*P	**P**	**12 41 57.2**	**-0.6**
	comp=Z,2.5nm,0.7s						
ZALV	**Zalesovo Beam**	**41.06**	**311**	P	**P**	**12 41 57.3**	**-0.5**
	comp=Z,2.1nm,0.5s,baz=85,slow=9.0,SNR=11						
CMAR	**Chiang Mai Arr**	**42.70**	**254**	P	**P**	**12 42 10.8**	**-0.8**
	comp=Z,0.6nm,0.4s,baz=43,slow=5.0,SNR=4.3						
FAKI	**Fak Fak**	**42.81**	**195**	*e*P	**P**	**12 42 13.0**	**+0.5**
	comp=Z,9.0nm,1.0s						
MK01	**Makanchi Array**	**43.63**	**300**	*e*P	**P**	**12 42 17.5**	**-1.4**
MK31	**Makanchi Array**	**43.64**	**300**	*e*P	**P**	**12 42 18.4**	**-0.5**
MK31	**Makanchi Array**	**43.64**	**300**	*e*P	**P**	**12 42 18.4**	**-0.5**
MKAR	**Makanchi Array**	**43.64**	**300**	P	**P**	**12 42 18.2**	**-0.6**
	comp=Z,2.5nm,0.6s,baz=85,slow=10.0,SNR=21						
MKAR	**Makanchi Array**	**43.64**	**300**	*e*P	**P**	**12 42 18.4**	**-0.5**
	comp=Z,23nm,0.6s						
MKAR	**Makanchi Array**	**43.64**	**300**	*e*P	**P**	**12 42 18.4**	**-0.5**
MKAR				pmax	pmax		
	comp=Z,23nm,0.6s						
MAKZ	**Makanchi**	**43.84**	**301**	*e*P	**P**	**12 42 19.4**	**-1.2**
	comp=Z,2.7nm,0.7s						
MAKZ	**Makanchi**	**43.84**	**301**	*e*P	**P**	**12 42 19.4**	**-1.2**
MAKZ				pmax	pmax		
	comp=Z,3.0nm,0.7s						
KURK	**Kurchatov**	**45.23**	**307**	*e*P	**P**	**12 42 30.6**	**-0.8**
	comp=Z,6.8nm,0.8s						
KURK	**Kurchatov**	**45.23**	**307**	*c i*P	**P**	**12 42 30.5**	**-1.0**
KURK				pmax	pmax		
	comp=Z,8.0nm,0.9s						
KURBB	**Kurchatov Arra**	**45.30**	**307**	P	**P**	**12 42 31.2**	**-0.8**
	comp=Z,6.4nm,0.5s,baz=80,slow=8.3,SNR=52						
CCB	**Clear Creek Bu**	**47.01**	**34**	*e*P	**P**	**12 42 42.9**	**-2.3**
	comp=Z,0.7nm,1.1s						
ILAR	**Eielson Array**	**47.40**	**33**	P	**P**	**12 42 49.2**	**+0.9**
	comp=Z,0.7nm,0.7s,baz=268,slow=6.2,SNR=11						
IL1	**Eielson Array**	**47.40**	**33**	*e*P	**P**	**12 42 49.0**	**+0.7**
SCRK	**Sand Creek**	**48.72**	**34**	*e*P	**P**	**12 42 59.7**	**+1.0**
	comp=Z,0.6nm,0.9s						
BVAR	**Borovoye Array**	**49.71**	**311**	P	**P**	**12 43 05.8**	**-0.5**
	comp=Z,1.9nm,0.5s,baz=72,slow=8.4,SNR=14						
BRVK	**Borovoye**	**49.77**	**311**	*e*P	**P**	**12 43 06.2**	**-0.5**
	comp=Z,2.9nm,0.8s						
BRVK	**Borovoye**	**49.77**	**311**	⇑*e*P	**P**	**12 43 06.2**	**-0.5**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.8s						
OTUK	**Ortayu**	**49.80**	**305**	P	**P**	**12 43 06.6**	**-0.4**
OTUK				pmax	pmax		
	comp=Z,3.0nm,0.7s						
AAK	**Ala-Archa**	**50.14**	**297**	*e*P	**P**	**12 43 09.6**	**-0.3**
	comp=Z,2.1nm,0.9s						
AAK	**Ala-Archa**	**50.14**	**297**	⇓*e*P	**P**	**12 43 09.5**	**-0.3**
AAK				pmax	pmax		
	comp=Z,2.0nm,0.9s						
INK	**Inuvik**	**52.25**	**28**	P	**P**	**12 43 26.3**	**+1.2**
	comp=Z,0.7nm,0.9s,baz=274,slow=5.7,SNR=3.1						
KK31	**Karatay Array**	**52.70**	**299**	*e*P	**P**	**12 43 27.8**	**-1.1**
KK31	**Karatay Array**	**52.70**	**299**	*e*P	**P**	**12 43 27.8**	**-1.1**
KKAR	**Karatay Array**	**52.70**	**299**	*e*P	**P**	**12 43 27.8**	**-1.1**
KKAR	**Karatay Array**	**52.70**	**299**	*e*P	**P**	**12 43 27.8**	**-1.1**
PSI	**Prapat**	**53.44**	**239**	LR	LR	13 07 16.1	
	comp=Z,60nm,20.2s,baz=132,slow=37						
ARU	**Arti**	**55.28**	**318**	*d i*P		**12 43 47.2**	**-0.2**
ARU				S	**S**	**12 51 28.6**	**+1.2**
ARU				SS	**SS**	**12 55 12.3**	**+0.7**
ARU				pmax	pmax		
	comp=Z,14nm,1.7s						
ABKAR	**Akbulak array**	**57.15**	**309**	*e*P	**P**	**12 44 00.3**	**-0.6**
AKTO	**Aktyubinsk**	**57.82**	**311**	P	**P**	**12 44 05.1**	**-0.5**
	comp=Z,2.3nm,0.7s,baz=69,slow=14,SNR=9.2						
WRA	**Warramunga Arr**	**59.19**	**189**	P	**P**	**12 44 14.1**	**-1.3**
	comp=Z,0.5nm,0.4s,baz=6.6,slow=7.0,SNR=22						
YKA	**Yellowknife Ar**	**61.69**	**31**	P	**P**	**12 44 32.6**	**+0.7**
	comp=Z,0.3nm,0.8s,baz=301,slow=6.2,SNR=4.1						
ARCES	**ARCESS Array B**	**62.32**	**339**	P	**P**	**12 44 36.0**	**-0.1**
	comp=Z,1.9nm,0.7s,baz=54,slow=9.1,SNR=4.0						
ARCES	**ARCESS Array B**	**62.32**	**339**	P	**P**	**12 44 36.0**	**-0.1**
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.7s						
ASAR	**Alice Springs**	**62.92**	**189**	P	**P**	**12 44 40.5**	**-0.1**
	comp=Z,0.3nm,0.8s,baz=18,slow=10.0,SNR=6.5						
OBN	**Obninsk**	**66.86**	**323**	*e*P	**P**	**12 45 05.1**	**-0.7**
OBN				*e*		12 45 33.2	
OBN				*e*		12 47 33.2	
OBN				pmax	pmax		
	comp=Z,7.0nm,0.4s						
FIA1	**FINESS Array S**	**67.31**	**332**	*e*P	**P**	**12 45 07.8**	**-0.8**
FINES	**FINESS Array B**	**67.32**	**332**	P	**P**	**12 45 08.2**	**-0.4**
	comp=Z,2.1nm,0.6s,baz=54,slow=9.7,SNR=8.4						
NCK	**Nalchik**	**69.81**	**310**	*i* P	**P**	**12 45 22.1**	**-2.4**
KIV	**Kislovodsk**	**70.08**	**311**	*e*P	**P**	**12 45 27.5**	**+1.2**
KIV				pmax	pmax		
	comp=Z,8.0nm,1.0s						
HFS	**Hagfors**	**72.50**	**336**	P	**P**	**12 45 40.5**	**0.0**
	comp=Z,0.9nm,0.5s,baz=28,slow=6.5,SNR=5.4						
NB2	**NORSAR Subarra**	**72.55**	**337**	P	**P**	**12 45 40.4**	**-0.5**
	comp=Z,0.6nm,0.5s,baz=36,slow=6.5						
NOA	**NORSAR Array B**	**72.55**	**337**	P	**P**	**12 45 40.6**	**-0.3**
	comp=Z,1.2nm,0.8s,baz=38,slow=6.1,SNR=4.1						
AKASG	**Malin Array Be**	**73.09**	**322**	P	**P**	**12 45 43.2**	**-0.9**
	comp=Z,0.9nm,0.5s,baz=40,slow=6.1,SNR=4.8						
KIEV	**Kiev**	**73.10**	**322**	⇓*e*P	**P**	**12 45 43.1**	**-1.1**
KIEV				pmax	pmax		
	comp=Z,2.0nm,0.7s						
DAC	**Darwin (Calif)**	**74.97**	**55**	*e*P	**P**	**12 45 60.0**	**+4.3**
	comp=Z,2.3nm,0.8s						
DAC	**Darwin (Calif)**	**74.97**	**55**	*e*P	**P**	**12 46 00.0**	**+4.3**
DAC				pmax	pmax		
	comp=Z,2.0nm,0.8s						
SRTC	**Snort**	**75.22**	**56**	*e*P	**P**	**12 45 55.6**	**-1.4**
UZH	**Uzhgorod**	**77.77**	**324**	*e*P	**P**	**12 46 15.6**	**+4.6**
UZH				*i*		12 46 21.4	
UZH				*e*		12 46 27.6	
CLL	**Collm**	**79.65**	**330**	*e*P	**P**	**12 46 21.0**	**-0.3**
	comp=Z,7.0nm,0.9s						
CLL				*es*P	**sP**	**12 46 46.0**	**+4.6**
CLL	**Collm**	**79.65**	**330**	*e*P	**P**	**12 46 21.0**	**-0.3**
CLL				*e*		12 46 46.0	
CLL				pmax	pmax		
	comp=Z,8.0nm,0.9s						

*CSEM **24** 12:34:32.1, 39.07N×29.14E, h7km, ML2.3*
DDA 24 12:34:32.1, 39.07N×29.14E, h7km, Ml2.3, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GDZ	**Gediz**	**0.26**	**85**	*i* P	Pg	12 34 37.5	+0.1
GDZ				*i* S	Sg	12 34 41.3	+0.4
GDZ	**Gediz**	**0.26**	**85**	P	Pg	12 34 37.5	+0.1
GDZ				S	Sg	12 34 41.3	+0.4
DEMI	**Demirci**	**0.33**	**266**	*i* P	Pb	12 34 39.6	-0.8
DEMI				*i* S	Sg	12 34 43.9	+0.8
DEMI	**Demirci**	**0.33**	**266**	P	Pb	12 34 39.6	-0.8
DEMI				S	Sg	12 34 43.9	+0.8
MANT	**Manisa**	**0.73**	**219**	*i* P	Pg	12 34 45.5	-0.8
MANT				*i* S	Sb

TCW	Tory Channel	1.73	43	Pn	Pb	12 54 06.5	-0.7
TCW	Tory Channel	1.73	43	P	Pb	12 54 06.5	-0.6
SNZO	South Karori	1.90	52	*e*Pn	Pn	12 54 08.6	+0.9
SNZO				*e*Sn	Sb	12 54 34.0	+0.3
DUWZ	D'Urville Isla	1.92	28	Pn	Pb	12 54 09.8	-0.6
DUWZ	D'Urville Isla	1.92	28	P	Pb	12 54 09.9	-0.4
BHW	Baring Head	1.94	57	Pn	Pn	12 54 08.8	+0.5
BHW	Baring Head	1.94	57	P	Pn	12 54 08.8	+0.6
WEL	Wellington	1.95	52	Pn	Pn	12 54 09.3	+0.9
PLWZ	Palliser	2.10	65	Pn	Pn	12 54 10.4	-0.2
PLWZ	Palliser	2.10	65	P	Pn	12 54 10.5	-0.1
MSWZ	Moikau Station	2.17	61	Pn	Pn	12 54 11.4	-0.1
MSWZ	Moikau Station	2.17	61	P	Pn	12 54 11.5	0.0
CAW	Cannon Point	2.24	52	Pn	Pn	12 54 12.8	+0.4
CAW	Cannon Point	2.24	52	P	Pn	12 54 12.9	+0.6
PAWZ	Paruwai Farm	2.31	62	Pn	Pn	12 54 13.2	-0.2
PAWZ	Paruwai Farm	2.31	62	P	Pn	12 54 13.2	-0.1
KIW	Kapiti Island	2.32	46	Pn	Pn	12 54 14.6	+1.1
KIW	Kapiti Island	2.32	46	P	Pn	12 54 14.7	+1.2
FOZ	Fox Glacier	2.37	243	Pn	Pn	12 54 15.4	+1.3
FOZ	Fox Glacier	2.37	243	P	Pn	12 54 15.6	+1.4
TRWZ	Traveller	2.47	65	Pn	Pn	12 54 15.0	-0.6
TRWZ	Traveller	2.47	65	P	Pn	12 54 15.1	-0.5
TRWZ	Traveller	2.47	65	P	Pn	12 54 15.1	-0.5
MTW	Mount Morrison	2.47	58	Pn	Pn	12 54 15.2	-0.4
MTW	Mount Morrison	2.47	58	P	Pn	12 54 15.3	-0.3
OGWZ	Otaki Gorge	2.49	48	Pn	Pn	12 54 16.4	+0.6
OGWZ	Otaki Gorge	2.49	48	P	Pn	12 54 16.5	+0.7
HOWZ	Holdsworth Sta	2.63	54	Pn	Pn	12 54 17.6	-0.3
HOWZ	Holdsworth Sta	2.63	54	P	Pn	12 54 17.7	-0.2
LBZ	Lake Benmore	2.64	224	Pn	Pn	12 54 18.2	+0.2
LBZ	Lake Benmore	2.64	224	P	Pn	12 54 18.4	+0.3
TMWZ	Te Maipa	2.75	61	P	Pn	12 54 18.8	-0.6
MRZ	Mangatainoka R	2.82	50	Pn	Pn	12 54 20.4	-0.1
MRZ	Mangatainoka R	2.82	50	P	Pn	12 54 20.5	+0.1
TIWZ	Tintock	2.93	55	P	Pn	12 54 21.8	-0.2
ODZ	Otahua Downs	2.96	210	Pn	Pn	12 54 21.8	-0.5
ODZ	Otahua Downs	2.96	210	P	Pn	12 54 21.9	-0.4
OHWZ	Ohakea	3.01	41	P	Pn	12 54 24.8	+1.8
POWZ	Post Office Ro	3.11	48	P	Pn	12 54 24.4	0.0
PRWZ	Pori Road	3.12	53	Pn	Pn	12 54 24.1	-0.4
PRWZ	Pori Road	3.12	53	P	Pn	12 54 24.1	-0.4
NMEZ	Namu Road	3.20	16	Pn	Pn	12 54 28.7	+3.0
NMEZ	Namu Road	3.20	16	P	Pn	12 54 28.5	+2.9
BFZ	Birch Farm	3.21	57	Pn	Pn	12 54 24.4	-1.3
BFZ	Birch Farm	3.21	57	P	Pn	12 54 24.5	-1.2
BFZ	Birch Farm	3.21	57	P	Pn	12 54 24.5	-1.2
WAZ	Wanganui	3.23	33	Pn	Pn	12 54 28.6	+2.5
WAZ	Wanganui	3.23	33	P	Pn	12 54 28.8	+2.8
JCZ	Jackson Bay	3.28	240	Pn	Pn	12 54 32.3	-4.4
NWEZ	Newall Road	3.33	15	Pn	Pn	12 54 30.4	+3.0
PREZ	Palmer Road	3.33	20	Pn	Pb	12 54 31.0	-3.5
PREZ	Palmer Road	3.33	20	P	Pb	12 54 31.1	-3.3
KHEZ	Kahui Hut	3.35	17	Pn	Pn	12 54 30.8	+3.1
NEZ	North Egmont	3.39	18	Pn	Pn	12 54 31.3	+3.0
DVHZ	Dannevirke	3.40	51	Pn	Pn	12 54 27.4	-1.0
DVHZ	Dannevirke	3.40	51	P	Pn	12 54 27.4	-0.9
PKE	Pukeiti	3.44	17	Pn	Pn	12 54 31.4	+2.5
PKE	Pukeiti	3.44	17	P	Pn	12 54 31.9	+3.0
TSZ	Takapari Road	3.45	46	Pn	Pn	12 54 28.8	-0.2
TSZ	Takapari Road	3.45	46	P	Pn	12 54 28.9	-0.2
ANWZ	Angora Road	3.48	55	P	Pn	12 54 28.5	-0.9
DREZ	Durham Road	3.49	19	Pn	Pn	12 54 32.3	+2.7
DREZ	Durham Road	3.49	19	P	Pn	12 54 32.4	+2.8
WKZ	Wanaka	3.56	228	Pn	Pn	12 54 30.0	-0.6
WKZ	Wanaka	3.56	228	P	Pn	12 54 30.0	-0.5
MHEZ	Mangahewa	3.63	28	Pn	Pn	12 54 35.5	+4.0
PNHZ	Pukenui	3.68	47	P	Pn	12 54 31.7	-0.5
EAZ	Earnscleugh	3.68	221	Pn	Pn	12 54 32.1	-0.1
EAZ	Earnscleugh	3.68	221	P	Pn	12 54 32.2	0.0
PRHZ	Porangahau	3.69	54	P	Pn	12 54 31.4	-1.0
VRZ	Vera Road	3.71	25	Pn	Pn	12 54 35.7	+3.1
VRZ	Vera Road	3.71	25	P	Pn	12 54 35.7	+3.1
WPHZ	Waipukurau	3.71	50	P	Pn	12 54 32.0	-0.7
WPHZ	Waipukurau	3.71	50	P	Pn	12 54 32.0	-0.7
HHSZ	Highcliff Hill	3.71	204	Pn	Pn	12 54 32.4	-0.3
HHSZ	Highcliff Hill	3.71	204	P	Pn	12 54 32.6	0.0
MTVZ	Mangateitei	3.74	35	Pn	Pn	12 54 34.9	+1.8
MTVZ	Mangateitei	3.74	35	P	Pn	12 54 35.1	+1.9
PKVZ	Pokaka	3.77	33	Pn	Pn	12 54 35.3	+1.8
PKVZ	Pokaka	3.77	33	P	Pn	12 54 35.3	+1.8
WNVZ	Wahianoa	3.84	35	Pn	Pn	12 54 36.1	+1.5
TRVZ	Turoa	3.85	35	Pn	Pn	12 54 36.3	+1.6
TRVZ	Turoa	3.85	35	P	Pn	12 54 36.4	+1.7
MOVZ	Moawhango	3.86	35	P	Pn	12 54 35.2	+0.7
DRZ	Dome Shelter	3.87	35	Pn	Pn	12 54 36.9	+1.7
DRZ	Dome Shelter	3.87	35	P	Pn	12 54 37.0	+1.9
WHVZ	Whangaehu Hut	3.88	35	Pn	Pn	12 54 36.7	+1.5
WHVZ	Whangaehu Hut	3.88	35	P	Pn	12 54 36.8	+1.6
FWVZ	Far West T-bar	3.89	34	Pn	Pn	12 54 36.6	+1.4
FWVZ	Far West T-bar	3.89	34	P	Pn	12 54 36.9	+1.7
TUVZ	Tukino	3.92	36	Pn	Pn	12 54 37.1	+1.5
TUVZ	Tukino	3.92	36	P	Pn	12 54 37.2	+1.6
BHHZ	Black Hill Sta	3.93	41	Pn	Pn	12 54 36.0	+0.3
BHHZ	Black Hill Sta	3.93	41	P	Pn	12 54 36.0	+0.4
COVZ	Chateau Observ	3.93	34	P	Pn	12 54 37.4	+1.7
NGZ	Ngauruhoe	3.97	34	Pn	Pn	12 54 38.0	+1.6
NGZ	Ngauruhoe	3.97	34	P	Pn	12 54 38.1	+1.7
PXZ	Pawanui	3.98	53	Pn	Pn	12 54 34.9	-1.3
PXZ	Pawanui	3.98	53	P	Pn	12 54 34.8	-1.5
TWVZ	Taurewa	4.00	32	Pn	Pn	12 54 38.2	+1.6
TWVZ	Taurewa	4.00	32	P	Pn	12 54 38.3	+1.7
OTVZ	Oturere	4.01	35	Pn	Pn	12 54 38.4	+1.5
WTVZ	West Tongariro	4.02	34	Pn	Pn	12 54 38.5	+1.6
WTVZ	West Tongariro	4.02	34	P	Pn	12 54 38.6	+1.6
KRVZ	Karewarewa	4.06	34	Pn	Pn	12 54 39.1	+1.6
KRVZ	Karewarewa	4.06	34	P	Pn	12 54 39.2	+1.7
MSZ	Milford Sound	4.11	236	Pn	Pn	12 54 37.8	-0.2
MSZ	Milford Sound	4.11	236	P	Pn	12 54 37.8	-0.2
MSZ	Milford Sound	4.11	236	P	Pn	12 54 40.0	+2.0
TUZ	Tuapeka	4.11	212	Pn	Pn	12 54 37.8	-0.3
TUZ	Tuapeka	4.11	212	P	Pn	12 54 37.8	-0.3
KAHZ	Kahuranaki	4.14	51	Pn	Pn	12 54 37.5	-1.0
KAHZ	Kahuranaki	4.14	51	P	Pn	12 54 37.6	-1.0
KWHZ	Kaweka Forest	4.16	44	P	Pn	12 54 39.3	+0.5
KATZ	Kakaramea	4.18	34	Pn	Pn	12 54 40.8	+1.6
KATZ	Kakaramea	4.18	34	P	Pn	12 54 40.9	+1.7
RITZ	Rihia Road	4.25	35	Pn	Pn	12 54 41.1	+1.1
RITZ	Rihia Road	4.25	35	P	Pn	12 54 41.2	+1.1
MCHZ	McNeill Hill	4.26	46	P	Pn	12 54 44.3	+3.4
HIZ	Hauiti	4.30	23	Pn	Pn	12 54 43.0	+2.2
HIZ	Hauiti	4.30	23	P	Pn	12 54 43.1	+2.4
RATZ	Rangitukua	4.30	34	Pn	Pn	12 54 42.8	+2.0
RATZ	Rangitukua	4.30	34	P	Pn	12 54 43.0	+2.1
BKZ	Black Stump Fm	4.39	42	Pn	Pn	12 54 41.1	-0.9
BKZ	Black Stump Fm	4.39	42	P	Pn	12 54 41.3	-0.7
MLZ	Mavora Lakes	4.39	228	Pn	Pn	12 54 41.5	-0.5
MLZ	Mavora Lakes	4.39	228	P	Pn	12 54 41.9	-0.1
WATZ	Wairara	4.42	32	P	Pn	12 54 44.6	+2.1
ARHZ	Aropaoanui	4.58	47	P	Pn	12 54 44.4	-0.1
ARHZ	Aropaoanui	4.58	47	P	Pn	12 54 47.4	+2.9
NMHZ	Naumai	4.60	44	P	Pn	12 54 44.0	-0.9
MRHZ	Matea Rd	4.61	39	P	Pn	12 54 44.4	-0.7
KUTZ	Kaahu Road	4.65	32	P	Pn	12 54 48.3	+2.7
KUTZ	Kaahu Road	4.65	32	P	Pn	12 54 48.3	+2.7
TLZ	Tolley Road	4.69	28	Pn	Pn	12 54 47.3	+1.2
TLZ	Tolley Road	4.69	28	P	Pn	12 54 47.4	+1.4
WPRZ	Whakapapatarin	4.76	35	P	Pn	12 54 47.3	+0.2
SYZ	Scrubby Hill	4.78	211	Pn	Pn	12 54 47.1	-0.2
SYZ	Scrubby Hill	4.78	211	P	Pn	12 54 47.1	-0.2
ALRZ	Allen Road	4.80	36	P	Pn	12 54 47.4	-0.2
MTHZ	Maungataniwha	4.80	42	P	Pn	12 54 46.9	-0.8
PRRZ	Plateau Road	4.88	36	P	Pn	12 54 48.4	-0.3
RAHZ	Arahi	4.88	44	P	Pn	12 54 51.5	+2.8
RAHZ	Arahi	4.88	44	P	Pn	12 54 51.8	+3.1
RRRZ	Republican Roa	5.06	36	P	Pn	12 54 54.0	+2.7
MUGZ	Murupara	5.07	39	P	Pn	12 54 50.3	-0.9
KNZ	Kokohu	5.12	49	Pn	Pn	12 54 50.7	-1.3
KNZ	Kokohu	5.12	49	P	Pn	12 54 50.8	-1.2
MHGZ	Mahia Peninsul	5.16	51	P	Pn	12 54 51.7	-0.8
TOZ	Tahuroa Road	5.22	25	Pn	Pn	12 54 54.7	+1.4
TOZ	Tahuroa Road	5.22	25	P	Pn	12 54 55.0	+1.7
TOZ	Tahuroa Road	5.22	25	P	Pn	12 54 55.1	+1.8
KARZ	Kaharoa	5.22	32	P	Pn	12 54 54.6	+1.2
KMRZ	Kaimai	5.26	29	P	Pn	12 54 58.1	+4.2
PRGZ	Paritu Road	5.30	49	P	Pn	12 54 52.7	-1.8
RIGZ	Rimuhau	5.39	47	P	Pn	12 54 54.7	-1.1
URZ	Urewera	5.40	40	Pn	Pn	12 54 53.8	-2.0
APZ	The Paps	5.49	216	Pn	Pn	12 54 56.8	-0.3
AWAZ	Awhitu Peninsu	5.62	16	P	Pn	12 55 01.3	+2.4
MKAZ	Moumakai	5.71	20	Pn	Pn	12 55 02.1	+2.1
MKAZ	Moumakai	5.71	20	P	Pn	12 55 02.2	+2.2
TWGZ	Tauwhareparae	5.90	45	P	Pn	12 55 02.1	-0.6
RUGZ	Raukumara Rang	5.91	42	P	Pn	12 55 01.1	-1.8

IDC 24 13:05:05.0±7.3, 20.76S×178.28W, h0km, mb3.8/3, mb1 4.1/4, mb1mx3.7/42, mbtmp3.9/4, ML3.8/1, Error ellipse: s-maj=305.8km s-min=33.8km az=146.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**9.21**	**43**	Pn	Pn	13 07 18.4	-0.9
	1.0nm,0.3s,baz=66,slow=19,SNR=2.7						
AFI				Sn	Sn	13 08 58.4	-5.4
	baz=196,slow=20,SNR=1.8						
ASAR	**Alice Springs**	**44.21**	**257**	P	P	13 13 15.0	-1.2
	0.4nm,0.4s,baz=92,slow=7.8,SNR=5.7						
WRA	**Warramunga Arr**	**44.31**	**262**	P	P	13 13 16.9	-0.1
	0.6nm,0.3s,baz=96,slow=8.3,SNR=35						
CMAR	**Chiang Mai Arr**	**89.95**	**290**	P	P	13 18 08.0	+1.3
	0.4nm,0.5s,baz=140,slow=2.7,SNR=4.4						

MOS 24 13:05:43.6±1.2,48.12N×155.37E, h19km,mb4.0/8, Error ellipse: s-maj=15.2km s-min=5.1km az=72.4
ISCJB 24 13:05:46.3±0.6,48.26N±0.06×155.2E±0.1, h36km, mb3.7/12, MS3.3/4, Error ellipse: s-maj=14.4km s-min=4.2km az=36.9
KRSC 24 13:05:46.2±1.6,48.25N×156.65E, h17km±22km, ML4.1
IDC 24 13:05:52.0±2.9,48.46N×154.70E, h68km±25km, mb3.4/11, mb1 3.7/14, mb1mx3.4/67, mbtmp3.7/14, MS3.2/6, Ms1 3.2/6, ms1mx2.7/53, Error ellipse: s-maj=25.4km s-min=14.5km az=133.0

ISC 24 13:05:47.8±0.8, 48.25N±0.10×155.2E±0.1, h36km, n61, σ1s37/56, mb3.8/12, MS3.4/4, 1C, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**2.50**	**13**	*e*P	**Pn**	**13 06 25.9**	**0.0**
SKR				*e*S	**Sn**	**13 06 56.0**	**+0.8**
SKR	**Severo-Kuril's**	**2.50**	**13**	*e*PN	**Pn**	**13 06 26.7**	**+0.8**
SKR				*e*S	**Sn**	**13 06 55.3**	**+0.1**
SKR				pmax	pmax		
	comp=Z,100nm,0.6s						
SKR				smax	smax		
	comp=N,241nm,0.6s						
SKR				smax	smax		
	comp=E,243nm,0.7s						
PAU	**Pauzhetka**	**3.38**	**17**	*e*P	**Pn**	**13 06 38.7**	**+0.7**
PAU				*e*S	**Sn**	**13 07 17.9**	**+1.1**
PAU	**Pauzhetka**	**3.38**	**17**	PN	**Pn**	**13 06 38.7**	**+0.7**
KDTR	**Khodutka, Kamc**	**4.01**	**26**	*e*P	**Pn**	**13 06 46.5**	**-0.1**
KDTR				*e*S	**Sn**	**13 07 30.6**	**-1.6**
ASAK	**Asacha**	**4.48**	**21**	*e*P	**Pn**	**13 06 54.1**	**+1.0**
ASAK	**Asacha**	**4.48**	**21**	PN	**Pn**	**13 06 54.1**	**+1.0**
MTVR	**Mutnovka**	**4.64**	**23**	*e*P	**Pn**	**13 06 56.1**	**+0.7**
MTVR				*e*S	**Sn**	**13 07 47.6**	**-0.5**
MTVR	**Mutnovka**	**4.64**	**23**	PN	**Pn**	**13 06 56.1**	**+0.7**
RUS	**Russkaya**	**4.69**	**25**	*e*P	**Pn**	**13 06 55.1**	**-0.8**
RUS				*e*S	**Sn**	**13 07 46.5**	**-2.4**
RUS	**Russkaya**	**4.69**	**25**	PN	**Pn**	**13 06 55.1**	**-0.8**
KRMR	**Karymshinskiy**	**4.94**	**21**	*e*P	**Pn**	**13 06 59.9**	**+0.4**
KRMR	**Karymshinskiy**	**4.94**	**21**	PN	**Pn**	**13 06 59.9**	**+0.4**
PETK	**Petropavlovsk-**	**5.11**	**17**	P	**Pn**	**13 07 03.3**	**+1.5**
	comp=E,1.1nm,0.3s,baz=168,slow=13,SNR=63						
PETK				S	Sn	13 08 09.9	+10
	baz=152,slow=16,SNR=2.1						
PETK				LR	LR	13 09 21.5	
	comp=E,138nm,18.1s,baz=203,slow=42						
DALK	**Dalny**	**5.29**	**24**	*e*P	**Pn**	**13 07 03.7**	**-0.4**
DALK				*e*S	**Sn**	**13 08 02.3**	**-1.4**
DALK	**Dalny**	**5.29**	**24**	PN	**Pn**	**13 07 03.7**	**-0.4**
UGLR	**Uglovaya**	**5.46**	**23**	*e*P	**Pn**	**13 07 07.5**	**+0.8**
UGLR	**Uglovaya**	**5.46**	**23**	PN	**Pn**	**13 07 07.5**	**+0.8**
AVH	**Avacha**	**5.49**	**23**	*e*P	**Pn**	**13 07 08.4**	**+1.3**
AVH	**Avacha**	**5.49**	**23**	PN	**Pn**	**13 07 08.4**	**+1.3**
SMAR	**Somma**	**5.51**	**23**	*e*P	**Pn**	**13 07 08.6**	**+1.2**
SMAR	**Somma**	**5.51**	**23**	PN	**Pn**	**13 07 08.6**	**+1.2**
KRER	**Koryakskii**	**5.53**	**22**	*e*P	**Pn**	**13 07 08.5**	**+0.8**
KRER	**Koryakskii**	**5.53**	**22**	PN	**Pn**	**13 07 08.5**	**+0.8**
SDLR	**Sedlovina**	**5.54**	**23**	*e*P	**Pn**	**13 07 08.0**	**+0.2**
SDLR	**Sedlovina**	**5.54**	**23**	PN	**Pn**	**13 07 08.0**	**+0.2**
KRX	**Arik**	**5.55**	**22**	*e*P	**Pn**	**13 07 09.3**	**+1.3**
KRX	**Arik**	**5.55**	**22**	PN	**Pn**	**13 07 09.3**	**+1.3**
GNL	**Ganaly**	**5.71**	**16**	*e*P	**Pn**	**13 07 11.8**	**+1.6**
GNL	**Ganaly**	**5.71**	**16**	PN	**Pn**	**13 07 11.8**	**+1.6**
KUR	**Kuril'sk**	**5.89**	**242**	*e*PN	**Pn**	**13 07 14.2**	**+1.7**
KUR				pmax	pmax		
	comp=Z,51nm,0.4s						
KUR				pmax	pmax		
	comp=N,19nm,0.3s						
KUR				pmax	pmax		
	comp=E,7.0nm,0.2s						
SHO	**Shikotan**	**7.30**	**236**	*e*PN	Pn	13 07 29.0	-2.9
SHO				pmax	pmax		
	comp=E,6.0nm,0.3s						
SHO				pmax	pmax		
	comp=N,8.0nm,0.4s						
YUK	**Yuzh-Kuril'sk**	**7.75**	**241**	*e*PN	**Pn**	**13 07 37.6**	**-0.5**
YUK				pmax	pmax		
	comp=Z,65nm,0.5s						
YUK				pmax	pmax		
	comp=E,18nm,0.2s						
YUK				pmax	pmax		
	comp=N,36nm,0.6s						
YSS	**Yuzh-Sakhalins**	**8.54**	**266**	*e*PN	**Pn**	**13 07 52.8**	**+4.0**
YSS				pmax	pmax		
	comp=Z,10.0nm,0.9s						
KBTR	**Krutoberegovo**	**9.22**	**27**	*e*P	**Pn**	**13 07 56.7**	**-1.4**
KBTR	**Krutoberegovo**	**9.22**	**27**	PN	**Pn**	**13 07 56.7**	**-1.4**
ASAJ	**Asahikawa**	**9.69**	**249**	P	**Pn**	**13 08 06.8**	**+2.1**
	comp=Z,1.0nm,0.3s,baz=70,slow=12,SNR=12						
MA2	**Magadan**	**11.65**	**349**	LR	LR	13 13 10.3	
	comp=Z,43nm,19.8s,baz=164,slow=38						
SEY	**Seymchan**	**14.81**	**355**	P	**Pn**	**13 09 15.2**	**+1.0**
	comp=Z,0.1nm,0.3s,baz=163,slow=19,SNR=4.8						
KLR	**Kul'dur**	**15.52**	**282**	P	**Pn**	**13 09 25.6**	**+1.9**
	comp=Z,0.0nm,0.3s,baz=38,slow=4.5,SNR=2.9						
KSRS	**Korea Array**	**22.63**	**252**	P	**P**	**13 10 43.9**	**-1.6**
	comp=Z,1.1nm,0.6s,baz=50,slow=9.9,SNR=5.7						
KSRS				LR	LR	13 19 02.2	
	comp=Z,34nm,19.3s,baz=45,slow=35						
H11N2	**WAKE ISLAND Hy**	**29.97**	**158**	T	T	13 43 40.5	
	baz=345,slow=76,SNR=20						
H11N1	**WAKE ISLAND Hy**	**29.99**	**158**	T	T	13 43 37.8	
	baz=345,slow=76,SNR=26						
H11N3	**WAKE ISLAND Hy**	**29.99**	**158**	T	T	13 43 38.7	
	baz=345,slow=76,SNR=22						
H11S1	**WAKE ISLAND Hy**	**31.10**	**159**	T	T	13 45 00.1	
	baz=345,slow=76,SNR=175						
H11S3	**WAKE ISLAND Hy**	**31.11**	**159**	T	T	13 45 03.4	
	baz=345,slow=76,SNR=222						
H11S2	**WAKE ISLAND Hy**	**31.11**	**159**	T	T	13 45 00.8	
	baz=345,slow=76,SNR=203						
SONM	**Songino Array**	**32.22**	**288**	LR	LR	13 26 25.9	
	comp=Z,63nm,18.8s,baz=139,slow=39						
ILAR	**Eielson Array**	**34.48**	**40**	P	**P**	**13 12 34.2**	**+2.4**
	comp=Z,0.3nm,0.9s,baz=255,slow=6.5,SNR=3.3						
KURK	**Kurchatov**	**47.74**	**303**	P	**P**	**13 14 18.5**	**-2.3**
KURK				pmax	pmax		
	comp=Z,1.0nm,0.7s						
KURBB	**Kurchatov Arra**	**47.84**	**303**	P	P	13 14 18.5	-3.1
	comp=Z,0.7nm,0.7s,baz=70,slow=7.4,SNR=4.9						
YKA	**Yellowknife Ar**	**48.86**	**38**	P	**P**	**13 14 30.3**	**+1.0**
	comp=Z,0.5nm,0.9s,baz=297,slow=7.8,SNR=6.0						
BVAR	**Borovoye Array**	**51.02**	**309**	LR	LR	13 38 18.1	
	comp=Z,41nm,18.2s,baz=130,slow=38						
CMAR	**Chiang Mai Arr**	**54.12**	**257**	P	**P**	**13 15 08.2**	**-1.0**
	comp=Z,0.4nm,0.3s,baz=45,slow=6.5,SNR=3.5						
JMIC	**Jan Mayen**	**60.50**	**354**	LR	LR	13 40 18.3	
	comp=Z,49nm,21.6s,baz=36,slow=34						
FINES	**FINESS Array B**	**69.29**	**335**	P	**P**	**13 16 09.9**	**-2.5**
	comp=Z,1.4nm,0.7s,baz=46,slow=6.0,SNR=3.5						
WRA	**Warramunga Arr**	**70.41**	**201**	P	**P**	**13 16 58.2**	**+0.1**
	comp=Z,0.9nm,0.8s,baz=15,slow=6.6,SNR=5.1						
ASAR	**Alice Springs**	**74.10**	**200**	P	**P**	**13 17 21.4**	**+1.3**
	comp=Z,0.3nm,0.4s,baz=13,slow=5.5,SNR=5.4						
EKA	**Eskdalemuir Ar**	**75.21**	**347**	P	**P**	**13 17 25.4**	**-0.8**
	comp=Z,1.2nm,0.6s,baz=21,slow=6.1,SNR=6.2						
TXAR	**Lajitas Array**	**75.51**	**62**	P	**P**	**13 17 30.2**	**+1.7**
	comp=Z,0.5nm,0.7s,baz=307,slow=6.6,SNR=7.0						
GERES	**GERESS Array B**	**77.72**	**335**	P	**P**	**13 17 40.0**	**-0.7**
	comp=Z,0.7nm,0.5s,baz=38,slow=5.4,SNR=3.5						

JMA 24 13:16:49.6, 36.31N×138.04E, h4km±1km, M0.3, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JNG	**Nsakai**	**0.11**	**27**	P	Pg	13 16 52.1	+0.2
JNG				S	Sg	13 16 53.9	+0.5
MAT	**Matsushiro**	**0.27**	**30**	P	Pg	13 16 54.8	0.0
MAT				S	Sg	13 16 58.6	+0.2
MAT	**Matsushiro**	**0.27**	**30**	P	Pg	13 16 54.8	0.0

IDC 24 13:26:29.7±1.1, 17.55S×167.13E, h0km, mb3.9/8, mb1 4.2/9, mb1mx3.9/43, mbtmp3.9/9, ML3.7/1, MS3.2/8, Ms1 3.2/8, ms1mx2.9/39, Error ellipse: s-maj=31.3km s-min=24.0km az=125.0
ISCJB 24 13:26:30.2±0.8, 17.74S±0.07×167.2E±0.1, h12km, mb3.9/8, MS3.2/6, Error ellipse: s-maj=20.1km s-min=10.3km az=4.4
NEIC 24 13:26:34.9±0.9, 17.67S×167.26E, h35km, mb4.2/1, Error ellipse: s-maj=20.8km s-min=16.9km az=125.0

ISC 24 13:26:31.5±0.9, 17.69S±0.10×167.2E±0.2, h12km, n18, σ1s25/13, mb3.8/8, MS3.0/6, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**4.41**	**189**	Pn	**Pn**	**13 27 39.3**	**+0.8**
	3.8nm,0.3s,baz=110,slow=17,SNR=22						
DZM				Sn	**Sn**	**13 28 27.7**	**-2.2**
	4.3nm,0.3s,baz=158,slow=22,SNR=5.6						
DZM				LR	LR	13 29 06.7	
	comp=Z,84nm,18.8s,baz=192,slow=35						
HNR	**Honiara**	**10.82**	**318**	LR	LR	13 32 03.2	
	comp=Z,94nm,21.8s,baz=180,slow=31						
CTA	**Charters Tower**	**19.96**	**260**	P	**Pn**	**13 31 06.0**	**+0.6**
	0.2nm,0.3s,baz=91,slow=11,SNR=6.3						
CTAO	**Charters Tower**	**19.96**	**260**	*e*P	**Pn**	**13 31 06.2**	**+0.7**
	8.2nm,0.6s						
PMG	**Port Moresby**	**21.14**	**290**	LR	LR	13 38 28.1	
	comp=Z,68nm,19.2s,baz=154,slow=34						
URZ	**Urewera**	**22.25**	**159**	LR	LR	13 38 42.7	
	comp=Z,51nm,20.8s,baz=23,slow=33						
STKA	**Stephens Creek**	**27.11**	**234**	P	**P**	**13 32 15.4**	**+1.0**
	6.3nm,0.8s,baz=54,slow=7.9,SNR=7.7						
WRA	**Warramunga Arr**	**31.16**	**261**	P	**P**	**13 32 48.8**	**-1.8**
	0.7nm,0.8s,baz=92,slow=9.0,SNR=9.2						
RAR	**Rarotonga**	**31.31**	**102**	LR	LR	13 44 30.9	
	comp=Z,184nm,18.3s,baz=270,slow=34						
ASAR	**Alice Springs**	**31.66**	**254**	P	**P**	**13 32 55.0**	**-0.1**
	1.2nm,0.6s,baz=80,slow=8.7,SNR=40						
ASAR				LR	LR	13 45 34.4	
	comp=Z,85nm,18.6s,baz=73,slow

BALY	**Balya**	**1.35**	**299**	*i* P		**Pg**	**13 36 03.9**	**+0.2**
BALY				*i* S		**Sg**	**13 36 20.1**	**-1.1**
BALY	**Balya**	**1.35**	**299**	P		**Pg**	**13 36 03.9**	**+0.2**
BALY				S		**Sg**	**13 36 20.1**	**-1.1**
YLV	**Yalova**	**1.47**	**6**	PN		**Pb**	**13 36 05.8**	**+0.2**
YLV	**Yalova**	**1.47**	**6**	*e*Pn		**Pb**	**13 36 05.8**	**+0.2**
GONE	**Gonen-Balikesi**	**1.48**	**310**	PN		**Pg**	**13 36 06.1**	**0.0**
GONE	**Gonen-Balikesi**	**1.48**	**310**	*e*Pn		**Pg**	**13 36 06.1**	**0.0**
ARMT	**Armutlu**	**1.48**	**351**	PN		**Pg**	**13 36 06.1**	**-0.1**
ARMT	**Armutlu**	**1.48**	**351**	*e*Pn		**Pg**	**13 36 06.1**	**-0.1**
EDC	**Edincik**	**1.59**	**322**	PN		**Pb**	**13 36 07.7**	**+0.1**
EDC	**Edincik**	**1.59**	**322**	*e*Pn		**Pb**	**13 36 07.7**	**+0.1**
GULT	**Gulveren**	**1.69**	**38**	PN		**Pn**	**13 36 08.2**	**+0.4**
GULT	**Gulveren**	**1.69**	**38**	*e*Pn		**Pn**	**13 36 08.2**	**+0.4**
SBT3	**Marmara-Eregli**	**2.00**	**333**	PN		**Pb**	**13 36 13.6**	**-0.8**
SBT3	**Marmara-Eregli**	**2.00**	**333**	*e*Pn		**Pb**	**13 36 13.6**	**-0.8**

*ISCJB **24** 13:50:32.6±1.4,5°.6N±0°.2×61°.3E±0°.2, h10km, mb3.5/8, MS3.4/24, Error ellipse: s-maj=39.5km s-min=20.0km az=136.7*
*IDC **24** 13:50:32.4±1.5,5°.53N×61°.24E, h0km, mb3.6/8, mb1 3.7/8, mb1mx3.5/66, mbtmp3.6/8, MS3.4/26, Ms1 3.4/26, ms1mx3.3/50, Error ellipse: s-maj=46.0km s-min=21.9km az=51.0*

ISC 24 13:50:34.3±1.9,5°.6N±0°.3×61°.3E±0°.3, h10km, n32, σ1§03/8, mb3.5/8, MS3.5/24, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H08N2	**Diego Garcia H**	**15.30**	**140**	T	T	14 09 36.1	
	baz=321,slow=76,SNR=89						
H08N3	**Diego Garcia H**	**15.31**	**140**	T	T	14 09 38.3	
	baz=321,slow=76,SNR=94						
H08N1	**Diego Garcia H**	**15.32**	**140**	T	T	14 09 37.7	
	baz=321,slow=76,SNR=93						
WSAR	**Wadi Sarin**	**17.75**	**352**	LR	LR	14 00 18.4	
	comp=Z,137nm,18.6s,baz=200,slow=33						
ATD	**Arta Tunnel**	**19.14**	**289**	LR	LR	14 01 18.4	
	comp=Z,84nm,19.2s,baz=50,slow=34						
GEYT	**Alibeck**	**32.34**	**355**	LR	LR	14 10 32.6	
	comp=Z,32nm,21.1s,baz=220,slow=37						
MMAI	**Mount Meron Ar**	**32.40**		LR	LR	14 12 09.8	
	comp=Z,50nm,18.5s,baz=150,slow=36						
GNI	**Garni**	**37.50**	**339**	LR	LR	14 13 22.5	
	comp=Z,43nm,20.8s,baz=164,slow=36						
CMAR	**Chiang Mai Arr**	**38.92**	**67**	P	**P**	**13 58 01.9**	**+1.3**
	0.2nm,0.4s,baz=249,slow=7.5,SNR=2.8						
CMAR				LR	LR	14 11 18.6	
	comp=Z,42nm,21.9s,baz=200,slow=32						
KBZ	**Khabaz**	**41.30**	**340**	LR	LR	14 16 38.1	
	comp=Z,39nm,19.6s,baz=154,slow=38						
BRTR	**Keskin Array B**	**42.14**	**328**	P	**P**	**13 58 28.1**	**+0.9**
	0.4nm,0.6s,baz=132,slow=4.7,SNR=3.7						
BRTR				LR	LR	14 16 20.1	
	comp=Z,40nm,20.7s,baz=118,slow=37						
AKTO	**Aktyubinsk**	**44.80**	**357**	LR	LR	14 18 07.3	
	comp=Z,50nm,21.2s,baz=156,slow=37						
MKAR	**Makanchi Array**	**44.90**	**20**	LR	LR	14 19 41.5	
	comp=Z,39nm,18.6s,baz=226,slow=39						
KURBB	**Kurchatov Arra**	**47.18**	**15**	P	**P**	**13 59 06.3**	**-0.7**
	0.2nm,0.6s,baz=213,slow=8.1,SNR=3.2						
BVAR	**Borovoye Array**	**47.90**	**7**	P	**P**	**13 59 11.2**	**-1.3**
	0.3nm,0.6s,baz=182,slow=6.9,SNR=3.0						
BVAR				LR	LR	14 21 06.2	
	comp=Z,60nm,19.7s,baz=202,slow=38						
BOSA	**Boshof**	**48.55**	**224**	LR	LR	14 18 25.5	
	comp=Z,108nm,18.4s,baz=82,slow=34						
MLR	**Muntele Rosu**	**50.22**	**328**	LR	LR	14 21 38.2	
	comp=Z,79nm,19.8s,baz=170,slow=37						
AKASG	**Malin Array Be**	**52.34**	**335**	LR	LR	14 26 47.1	
	comp=Z,27nm,18.2s,baz=275,slow=42						
SONM	**Songino Array**	**57.02**	**35**	P	**P**	**14 00 20.2**	**-0.3**
	0.3nm,0.7s,baz=248,slow=7.6,SNR=2.6						
SONM				LR	LR	14 25 07.3	
	comp=Z,60nm,18.9s,baz=192,slow=36						
TORD	**Torodi Ar. Bea**	**59.14**	**282**	LR	LR	14 27 22.8	
	comp=Z,33nm,18.4s,baz=100,slow=37						
FINES	**FINESS Array B**	**61.61**	**342**	LR	LR	14 29 38.2	
	comp=Z,36nm,20.2s,baz=170,slow=38						
KOWA	**Kowa**	**64.71**	**283**	LR	LR	14 30 35.0	
	comp=Z,31nm,18.3s,baz=213,slow=37						
HFS	**Hagfors**	**65.19**	**336**	P	**P**	**14 01 15.6**	**+0.1**
	1.1nm,0.6s,baz=123,slow=5.3,SNR=3.4						
HFS				LR	LR	14 31 39.3	
	comp=Z,37nm,18.8s,baz=138,slow=38						
DBIC	**Dimbokro**	**65.70**	**275**	LR	LR	14 29 21.1	
	comp=Z,38nm,20.2s,baz=98,slow=36						
NOA	**NORSAR Array B**	**66.71**	**336**	LR	LR	14 32 47.9	
	comp=Z,18nm,20.5s,baz=75,slow=38						
KSRS	**Korea Array**	**68.15**	**52**	LR	LR	14 30 40.9	
	comp=Z,40nm,21.4s,baz=218,slow=35						
JNU	**Nakatsue**	**69.92**	**57**	LR	LR	14 34 55.6	
	comp=Z,25nm,18.5s,baz=256,slow=38						
USRK	**Ussuriysk Ar.**	**72.35**	**45**	LR	LR	14 35 02.5	
	comp=Z,67nm,20.2s,baz=224,slow=37						
WRA	**Warramunga Arr**	**76.12**	**112**	P	**P**	**14 02 22.6**	**-0.4**
	0.7nm,0.6s,baz=296,slow=4.3,SNR=14						
SPITS	**Spitsbergen Ar**	**76.13**	**351**	LR	LR	14 40 12.8	
	comp=Z,29nm,18.1s,baz=155,slow=39						
ASAR	**Alice Springs**	**76.48**	**116**	P	**P**	**14 02 24.6**	**-0.5**
	0.9nm,0.6s,baz=285,slow=5.4,SNR=27						
BORG	**Borgarnes**	**81.82**	**335**	LR	LR	14 43 00.6	
	comp=Z,14nm,18.4s,baz=342,slow=38						

*SOME **24** 13:54:25.0,41°.18N×71°.02E, h10km*
*KRNET **24** 13:54:25.7±0.1,41°.33N×71°.02E, h18km, mb2.6*

ISC 24 13:54:25.5±1.3,41°.39N±0°.04×71°.08E±0°.03, h12km±11km, n16, σ1§47/32, 16C-6D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARK	**Arkit**	**0.78**	**58**	*i* P	**Pn**	**13 54 42.3**	**-0.2**
ARK	baz=58			⇑*i* S	**Sn**	**13 54 54.5**	**+0.4**
	baz=58						
IUG	**Iuzhnay**	**1.09**	**314**	*e*P	**Pn**	**13 54 47.4**	**+0.7**
IUG	41nm,0.2s			*e*S	**Sn**	**13 55 03.6**	**+1.8**
	42nm,0.6s						
BTK	**Batken**	**1.35**	**189**	⇑*i* P	**Pn**	**13 54 50.2**	**-0.1**
BTK	baz=87			⇑*i* S	**Sb**	**13 55 07.8**	**-0.2**
	baz=87						
ARSB	**Arslanbob**	**1.43**	**92**	⇑*i* P	**Pg**	**13 54 53.0**	**-0.1**
ARSB	baz=90			⇑*i* S	**Sg**	**13 55 13.9**	**+2.2**
	baz=90						
MNAS	**Manas**	**1.53**	**44**	⇓*i* P	**Pg**	**13 54 55.6**	**+0.7**
MNAS	baz=43			⇓*i* S	**Sg**	**13 55 17.6**	**+2.9**
	baz=43						
BRLS	**Boroldaу**	**1.88**	**331**	*e*P	**Pg**	**13 55 00.4**	**-1.2**
BRLS				*e*S	**Sg**	**13 55 26.0**	**-0.1**
AML	**Almayashu**	**2.09**	**68**	⇑*i* P	**Pg**	**13 55 05.0**	**-0.7**
AML	baz=67			⇑*i* S	**Sg**	**13 55 34.0**	**+1.2**
	baz=67						
MRKS	**Merke**	**2.09**	**49**	*e*P	**Pg**	**13 55 06.3**	**+0.6**
MRKS	14nm,0.3s			*e*S	**Sg**	**13 55 36.0**	**+3.2**
	16nm,0.3s						
SFK	**Sufi-Kurgan**	**2.30**	**126**	⇑*e*P	**Pb**	**13 55 06.8**	**-0.3**
SFK	baz=24			⇑*i* S	**Sb**	**13 55 37.1**	**+1.6**
	baz=24						
EKS2	**Erkin-Say**	**2.38**	**57**	⇑*e*P	**Pb**	**13 55 08.7**	**+0.3**
EKS2	baz=56			⇑*i* S	**Sg**	**13 55 40.1**	**-1.8**
	baz=56						
UCH	**Uchtor**	**2.70**	**71**	⇑*e*P	**Pb**	**13 55 13.6**	**-0.4**
UCH	baz=70			⇑*i* S	**Sb**	**13 55 48.6**	**+1.3**
	baz=70						
AAK	**Ala-Archa**	**2.83**	**63**	⇓*i* P	**Pb**	**13 55 15.2**	**-0.9**
AAK	baz=62			⇓*i* S	**Sb**	**13 55 51.0**	**+0.2**
	baz=62						
KBK	**Karagaybulak**	**3.15**	**65**	⇑*i* P	**Pb**	**13 55 19.7**	**-1.8**
KBK	baz=64			⇑*i* S	**Sb**	**13 55 58.8**	**-1.1**
	baz=64						
KZA	**Kyzart**	**3.19**	**76**	⇓*e*P	**Pb**	**13 55 20.3**	**-2.2**
KZA	baz=75			⇓*i* S	**Sb**	**13 56 00.0**	**-1.5**
	baz=75						
DGS	**Degeres**	**3.94**	**60**	*e*P	**Pg**	**13 55 38.7**	**-2.3**
DGS	3.0nm,0.5s			*e*S	**Sg**	**13 56 32.1**	**+0.1**
	1.6nm,0.2s						
KST	**Kastek**	**3.98**	**64**	*e*P	**Pg**	**13 55 40.1**	**-1.8**
KST	1.0nm,0.2s			*e*S	**Sg**	**13 56 33.8**	**+0.4**
	3.7nm,0.3s						

MEX 24 14:01:21.6±0.4,16°.13N×98°.66W, h14km±9km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.57**	**63**	*i* P	Pg	14 01 31.4	-1.6
PNIG				*i* S	Sg	14 01 39.2	-1.4
TLIG	**Tlapa**	**1.42**	**4**	*e*P	Pn	14 01 45.0	-2.2
TLIG				*e*S	Sn	14 02 01.1	-4.7
CAIG	**El Cayaco**	**1.79**	**301**	*e*P	Pn	14 01 48.8	-3.2
CAIG				*i* S	Sn	14 02 09.8	-4.7
VHO	**Vista Hermosa**	**2.07**	**63**	*i* P	Pn	14 01 52.9	-3.3
VHO				*e*S	Sn	14 02 17.3	-4.6
PLIG	**Platanillo**	**2.38**	**340**	*e*P	Pn	14 02 00.4	+0.1
PLIG				*e*S	Sn	14 02 24.8	-4.6

*IDC **24** 14:05:24.9±1.0,23°.81S×176°.01W, h0km, mb4.3/9, mb1 4.5/9, mb1mx4.0/42, mbtmp4.2/9, MS3.7/7, Ms1 3.6/7, ms1mx3.2/45, Error ellipse: s-maj=38.3km s-min=23.9km az=140.0*
*NEIC **24** 14:05:26.6±0.6,23°.79S×176°.00W, h10km, mb5.0/3, Error ellipse: s-maj=14.6km s-min=14.1km az=53.0*
*ISCJB **24** 14:05:28.3±0.7,23°.8S±0°.1×176°.1W±0°.1, h31km, mb4.3/10, MS3.6/5, Error ellipse: s-maj=19.9km s-min=14.9km az=149.9*

ISC 24 14:05:29.7±0.8,23°.8S±0°.1×176°.0W±0°.2, h31km, n29, σ0§83/20, mb4.4/10, MS3.5/5, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**8.18**	**316**	Pn	**Pn**	**14 07 25.8**	**-0.7**
	32nm,0.8s						
AFI	**Afiamalu**	**10.61**	**23**	Pn	Pn	14 07 54.3	-5.5
	3.9nm,0.3s,baz=38,slow=14,SNR=8.7						
AFI				Sn	Sn	14 09 43.7	-14
	1.4nm,0.3s,baz=102,slow=20,SNR=2.6						
RAR	**Rarotonga**	**15.24**	**84**	LR	LR	14 15 19.7	
	comp=Z,267nm,18.8s,baz=274,slow=39						
DZM	**Mont Dzumac**	**16.24**	**273**	LR	LR	14 14 39.5	
	comp=Z,177nm,18.7s,baz=88,slow=34						
DZM	**Mont Dzumac**	**16.24**	**273**	*e*LR	LR	14 13 15.1	
	203nm,23.9s						
DZM	**Mont Dzumac**	**16.24**	**273**	*e*Pn	Pn	14 09 05.7	-10
	11nm,0.5s						
PPT2	**Papeete2**	**25.48**	**81**	*e*LR	LR	14 17 08.8	
	109nm,22.0s						
PPT	**Papeete**	**25.48**	**81**	LR	LR	14 21 05.1	
	comp=Z,130nm,18.3s,baz=272,slow=37						
HNR	**Honiara**	**27.02**	**298**	LR	LR	14 21 32.5	
	comp=Z,80nm,18.3s,baz=218,slow=36						
CTA	**Charters Tower**	**35.11**	**269**	P	**P**	**14 12 21.4**	**+0.8**
	7.1nm,0.3s,baz=94,slow=11,SNR=25						
CTAO	**Charters Tower**	**35.11**	**269**	*e*P	**P**	**14 12 20.7**	**+0.1**
	43nm,0.4s						
STKA	**Stephens Creek**	**38.14**	**248**	LR	LR	14 27 35.2	
	comp=Z,122nm,18.3s,baz=58,slow=35						
ASAR	**Alice Springs**	**45.64**	**264**	P	**P**	**14 13 47.0**	**-0.7**
	1.2nm,0.5s,baz=92,slow=7.7,SNR=23						
ASAR				PcP	**PcP**	**14 15 24.9**	**-0.8**
	0.6nm,0.7s,baz=106,slow=4.7,SNR=4.2						
WRA	**Warramunga Arr**	**46.04**	**265**	P	**P**	**14 13 49.8**	**-1.1**
	3.8nm,0.7s,baz=102,slow=8.2,SNR=35						
WRA				PcP	**PcP**	**14 15 26.6**	**-0.5**
	0.6nm,0.6s,baz=92,slow=3.3,SNR=3.1						
GUMO	**Guam**	**53.30**	**310**	LR	LR	14 35 22.1	
	comp=Z,18nm,21.9s,baz=142,slow=34						
SOEI	**Soe**	**58.47**	**273**	*e*P	**P**	**14 15 23.9**	**+0.5**
	12nm,0.8s						
QSPA	**South Pole Qui**	**66.30**	**180**	LR	LR	14 37 51.1	
	comp=Z,301nm,21.0s,baz=65,slow=29						
QSPA	**South Pole Qui**	**66.30**	**180**	*e*P	**P**	**14 16 15.1**	**+0.1**
MJAR	**Matsushiro Arr**	**73.92**	**323**	P	**P**	**14 17 01.9**	**0.0**
	0.9nm,0.7s,baz=164,slow=6.2,SNR=2.9						
MAW	**Mawson**	**79.10**	**200**	P	**P**	**14 17 31.1**	**+0.4**
	2.1nm,0.6s,baz=117,slow=7.2,SNR=3.8						
PETK	**Petropavlovsk-**	**79.91**	**344**	P	**P**	**14 17 35.5**	**+0.3**
	3.1nm,0.7s,baz=219,slow=7.7,SNR=8.4						
NVAR	**Mina Array Bea**	**82.19**	**42**	P	**P**	**14 17 48.2**	**+0.2**
	0.5nm,0.7s,baz=211,slow=4.9,SNR=3.7						
VNA3	**Neumayer Olymp**	**84.75**	**176**	P	**P**	**14 17 59.3**	**-1.2**
VNA2	**Neumayer--Watz**	**85.21**	**176**	P	**P**	**14 18 02.5**	**-0.3**
	baz=200,slow=2.1						
ILAR	**Eielson Array**	**91.11**	**12**	P	**P**	**14 18 30.4**	**-0.4**
	0.4nm,0.6s,baz=219,slow=4.2,SNR=5.0						
CMAR	**Chiang Mai Arr**	**92.92**	**289**	P	**P**	**14 18 42.3**	**+2.0**
	2.4nm,0.8s,baz=125,slow=3.2,SNR=14						
AKASG	**Malin Array Be**	**146.76**	**330**	PKPbc	**PKPbc**	**14 25 07.7**	**-0.7**
	2.3nm,0.5s,baz=41,slow=3.8,SNR=6.7						
BRTR	**Keskin Array B**	**150.36**	**309**	PKPbc	**PKPbc**	**14 25 18.0**	**-0.3**
	1.2nm,0.6s,baz=131,slow=4.7,SNR=6.7						
MMAI	**Mount Meron Ar**	**150.95**	**296**	PKPbc	**PKPbc**	**14 25 20.8**	**+0.9**
	1.6nm,0.5s,baz=64,slow=6.6,SNR=5.7						

*ISK **24** 14:07:35.5,37°.88N×34°.74E, h21km, ML2.5/6*
*CSEM **24** 14:07:36.7±0.3,37°.93N×34°.76E, h10km, ML2.5, Error ellipse: s-maj=6.6km s-min=4.9km az=70.0*
*DDA **24** 14:07:36.7,37°.95N×34°.72E, h7km, Ml2.8*

ISC 24 14:07:36.9±1.0,37°.91N±0°.02×34°.76E±0°.03, h11km±10km, n21, σ1§04/34, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIG	**Nigde**	**0.24**	**329**	PG	**Pg**	**14 07 41.4**	**-0.6**
NIG	**Nigde**	**0.24**	**329**	*e*Pg	**Pg**	**14 07 41.4**	**-0.6**
YAHY	**KAYSERI_Yahyal**	**0.51**	**68**	*i* P	**Pg**	**14 07 46.9**	**0.0**
YAHY				*i* S	**Sg**	**14 07 54.7**	**+1.1**
GULA	**Gulagac**	**0.60**	**317**	PG	**Pg**	**14 07 48.3**	**-0.3**
GULA	**Gulagac**	**0.60**	**317**	*e*Pg	**Pg**	**14 07 48.3**	**-0.3**
GULE	**Gulek**	**0.62**	**179**	*i* P	**Pb**	**14 07 49.7**	**-0.2**
GULE				*i* S	**Sb**	**14 07 59.8**	**+1.1**
GULE	**Gulek**	**0.62**	**179**	P	**Pb**	**14 07 49.7**	**-0.2**
KARA	**Karaisali**	**0.69**	**160**	PG	**Pg**	**14 07 49.0**	**-1.2**
KARA				SG	**Sg**	**14 07 59.2**	**+0.1**
KARA	**Karaisali**	**0.69**	**160**	*e*Pg	**Pg**	**14 07 49.0**	**-1.2**
KARA				*e*Sg	**Sg**	**14 07 59.2**	**+0.1**
KERG	**Konya-Eregli**	**0.71**	**226**	*i* P	**Pg**	**14 07 50.7**	**+0.1**
KERG				*i* S	**Sb**	**14 08 02.2**	**+1.2**
AVNS	**Nevsehir-Avano**	**0.90**	**4**	*i* P	**Pg**	**14 07 53.5**	**-0.8**
AVNS				*i* S	**Sb**	**14 08 07.0**	**+0.4**
AVNS	**Nevsehir-Avano**	**0.90**	**4**	P	**Pg**	**14 07 53.5**	**-0.8**
AVNS				S	**Sb**	**14 08 07.0**	**+0.4**
KOZT	**Kozan**	**0.94**	**116**	PG	**Pg**	**14 07 54.3**	**-0.8**
KOZT				SG	**Sg**	**14 08 07.5**	**+0.1**
KOZT	**Kozan**	**0.94**	**116**	*e*Pg	**Pg**	**14 07 54.3**	**-0.8**
KOZT				*e*Sg	**Sg**	**14 08 07.5**	**+0.1**
SAIM	**ADANA**	**1.04**	**86**	*i* P	**Pn**	**14 07 57.9**	**+0.4**
SAIM				*i* S	**Sb**	**14 08 12.0**	**+1.3**
SAIM	**ADANA**	**1.04**	**86**	P	**Pn**	**14 07 57.9**	**+0.4**
SAIM				S	**Sb**	**14 08 12.0**	**+1.3**
KIZK	**Mersin**	**1.51**	**199**	PN	**Pn**	**14 08 01.3**	**-2.5**
KIZK	**Mersin**	**1.51**	**199**	*i* P	**Pb**	**14 08 05.0**	**+0.2**
KIZK				*i* S	**Sg**	**14 08 27.7**	**+2.3**
KIZK	**Mersin**	**1.51**	**199**	P	**Pb**	**14 08 05.0**	**+0.2**
KIZK				S	**Sg**	**14 08 27.7**	**+2.3**
YOZ	**Yozgat**	**1.78**	**14**	PN	**Pn**	**14 08 06.7**	**-1.1**
YOZ	**Yozgat**	**1.78**	**14**	*e*Pn	**Pn**	**14 08 06.7**	**-1.1**

MEX 24 14:08:08.2±0.3,14°.25N×93°.10W, h16km±999km, MD3.9, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		**1.45**	**355**	*e*P	Pn	14 08 30.3	-3.4
PCIG				*i* S	Sn	14 08 47.3	-5.1
CCIG	**Comitan**	**2.22**	**25**	*e*P	Pn	14 08 44.6	0.0
CCIG				*e*S	Sn	14 09 07.4	-4.3
TGIG		**2.51**	**359**	*i* S	Sn	14 09 15.1	-3.6

*ISK **24** 14:28:01.1,38°.94N×43°.58E, h5km, ML3.4/10*
*ATA **24** 14:28:01.6±1.4,38°.92N×43°.55E, h17km±8km, ML4.0, MW3.9*
*IASPEI **24** 14:28:02.5±1.0,38°.94N±0°.02×43°.54E±0°.03, h9km±6km, Error ellipse: s-maj=4.7km s-min=2.9km az=114.5, GT5 selection from ISC bulletin GT5 identified by Bond˜ǰr and McLaughlin (2009) selection criteria Bond˜ǰr and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009*
*DDA **24** 14:28:02.2, 38°.96N×43°.53E, h14km, MI3.6*
*CSEM **24** 14:28:03.1±0.2, 38°.95N×43°.43E, h5km, ML3.6, Error ellipse: s-maj=4.9km s-min=4.0km az=103.0*

ISC 24 14:28:02.4±0.8,38°.95N±0°.02×43°.56E±0°.02, h13km±5km, n74, σ1§68/107, 7C-4D, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VMUR	**Van-Muradiye**	**0.04**	**8**	*i* P	**Pg**	**14 28 04.4**	**-0.7**
VMUR				*i* S	**Sg**	**14 28 06.8**	**-0.1**
ERCV	**ERCIS-VAN**	**0.19**	**293**	PG	**Pg**	**14 28 06.3**	**-0.5**
ERCV	**ERCIS-VAN**	**0.19**	**293**	*e*Pg	**Pg**	**14 28 06.3**	**-0.5**
CLDR	**Caldiran**	**0.34**	**54**	*i* P	**Pg**	**14 28 08.5**	**-0.9**
CLDR				*i* S	**Sb**	**14 28 15.8**	**-0.1**
VANB	**Van**	**0.38**	**201**	PG	**Pb**	**14 28 10.5**	**-0.6**
VANB				SG	**Sn**	**14 28 18.7**	**-2.2**
VANB	**Van**	**0.38**	**201**	*e*Pg	**Pb**	**14 28 10.5**	**-0.6**
VANB				*e*Sg	**Sn**	**14 28 18.7**	**-2.2**
TVAN	**Van**	**0.43**	**196**	*i* P	**Pg**	**14 28 10.4**	**-0.7**
TVAN				*i* S	**Sb**	**14 28 18.8**	**+0.1**
TVAN	**Van**	**0.43**	**196**	P	**Pg**	**14 28 10.4**	**-0.7**
TVAN				S	**Sb**	**14 28 18.8**	**+0.1**
DYDN	**Diyadin**	**0.60**	**9**	*i* P	**Pg**	**14 28 14.2**	**0.0**
DYDN				*e*S	**Sn**	**14 28 24.8**	**-1.9**
DYDN				IAML		14 28 27.3	
	comp=Z,458nm,0.3s						
DYDN	**Diyadin**	**0.60**	**9**	*i* P	**Pg**	**14 28 14.3**	**0.0**
DYDN				*i* S	**Sn**	**14 28 24.9**	**-1.9**
DYDN	**Diyadin**	**0.60**	**9**	P	**Pg**	**14 28 14.3**	**0.0**
DYDN				S	**Sn**	**14 28 24.9**	**-1.9**
ADCV	**BITLIS_Adilcev**	**0.67**	**258**	*i* P	**Pg**	**14 28 14.8**	**-0.7**
ADCV				*i* S	**Sb**	**14 28 25.2**	**-0.1**
ADCV	**BITLIS_Adilcev**	**0.67**	**258**	P	**Pg**	**14 28 14.8**	**-0.7**
TUTA	**Tutak**	**0.74**	**308**	*i* P	**Pg**	**14 28 15.9**	**-0.8**
TUTA				*e*S	**Sn**	**14 28 28.9**	**-1.2**
TUTA				IAML		14 28 31.4	
	comp=Z,800nm,0.5s						
TUTA	**Tutak**	**0.74**	**308**	*i* P	**Pg**	**14 28 16.0**	**-0.8**
TUTA				*i* S	**Sb**	**14 28 26.9**	**-0.6**
TUTA	**Tutak**	**0.74**	**308**	P	**Pg**	**14 28 16.0**	**-0.8**
GEVA	**Gevas**	**0.75**	**212**	*i* P	**Pg**	**14 28 15.1**	**-1.8**
GEVA				*e*S	**Sn**	**14 28 28.7**	**-1.4**
GEVA				IAML		14 28 39.4	
	comp=Z,354nm,0.5s						
GEVA	**Gevas**	**0.75**	**212**	*i* P	**Pg**	**14 28 15.1**	**-1.8**
GEVA				*i* S	**Sn**	**14 28 28.8**	**-1.4**
GEVA	**Gevas**	**0.75**	**212**	P	**Pg**	**14 28 15.1**	**-1.8**
AGRB	**Hanur-Agry**	**0.77**	**325**	PG	**Pg**	**14 28 17.3**	**-0.1**
AGRB	**Hanur-Agry**	**0.77**	**325**	*e*Pg	**Pg**	**14 28 17.3**	**-0.1**
IGDI	**IGDIR**	**1.00**	**23**	*e*P	**Pn**	**14 28 21.9**	**-0.4**
IGDI				IAML		14 28 43.4	
	comp=Z,89nm,0.5s						
IGDI	**IGDIR**	**1.00**	**23**	*i* P	**Pn**	**14 28 21.9**	**-0.4**
IGDI				*i* S	**Sn**	**14 28 41.5**	**+5.1**
TASB	**TASBURUN-IGDIR**	**1.16**	**27**	PN	**Pg**	**14 28 24.7**	**-0.1**
TASB	**TASBURUN-IGDIR**	**1.16**	**27**	*e*Pn	**Pg**	**14 28 24.7**	**-0.1**
EKAR	**Karacoban**	**1.21**	**285**	*e*P	**Pn**	**14 28 24.4**	**-0.9**
EKAR				*e*S	**Sn**	**14 28 43.0**	**+1.4**
EKAR	**Karacoban**	**1.21**	**285**	*i* P	**Pn**	**14 28 23.8**	**-1.5**
EKAR				*i* S	**Sn**	**14 28 44.8**	**+3.1**
EKAR	**Karacoban**	**1.21**	**285**	P	**Pn**	**14 28 23.8**	**-1.5**
EATA	**Eleskirt**	**1.23**	**318**	*i* P	**Pn**	**14 28 25.3**	**-0.4**
EATA				*e*S	**Sg**	**14 28 44.9**	**+2.6**
EATA				IAML		14 28 46.3	
	comp=Z,58nm,0.3s						
EATA	**Eleskirt**	**1.23**	**318**	*i* P	**Pn**	**14 28 25.4**	**-0.4**
EATA				*i* S	**Sg**	**14 28 45.0**	**+2.6**
EATA	**Eleskirt**	**1.23**	**318**	P	**Pn**	**14 28 25.4**	**-0.4**
GURO	**Guroymak-BITLI**	**1.26**	**252**	PN	**Pn**	**14 28 25.6**	**-0.3**
GURO	**Guroymak-BITLI**	**1.26**	**252**	*e*Pn	**Pn**	**14 28 25.6**	**-0.3**
HYR	**Heyderabad**	**1.26**	**52**	⇑P	**Pg**	**14 28 28.4**	**+1.7**
	SNR=16						
HYR				⇑S	Sg	14 28 52.5	+9.3
HAKT	**HAKKARI**	**1.39**	**175**	*i* P	**Pn**	**14 28 26.4**	**-1.4**
HAKT				*i* S	**Sg**	**14 28 49.3**	**+2.0**
YOVA	**Hakkari_Y˜...kse**	**1.47**	**157**	*i* P	**Pb**	**14 28 29.9**	**+0.1**
YOVA				*i* S	**Sg**	**14 28 52.7**	**+2.8**
YOVA	**Hakkari_Y˜...kse**	**1.47**	**157**	P	**Pb**	**14 28 29.9**	**+0.1**
YOVA				S

MAN 24 14:34:53.9±1.1N×126°27E, h30km, **mb4.6, ML3.4, MS3.3, 2C-5D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUTP	**Butuan**	**0.66**	**258**	*eP*	Pn	14 35 06.8	+0.5
BUTP				*eS*	Sn	14 35 17.7	+2.0
BIPH	**Bislig**	**0.92**	**175**	*i P*	Pb	14 35 10.3	-0.2
BIPH				*i* S	Sn	14 35 21.8	-0.4
SCPH	**Surigao**	**1.02**	**311**	*eP*	Pn	14 35 11.7	+0.4
SCPH				*eS*	Sn	14 35 24.8	+0.2
CGP	**Cagayan de Oro**	**1.69**	**248**	*eP*	Pn	14 35 21.6	+1.1
CGP				*eS*	Sn	14 35 41.9	+0.8
BUKP	**Musuan**	**1.71**	**225**	*eP*	Pb	14 35 22.5	-1.4
BUKP				*eS*	Sb	14 35 46.1	+1.1
MSLP	**Maasin**	**1.73**	**306**	*eP*	Pb	14 35 22.7	-1.4
MSLP				*eS*	Sb	14 35 46.0	+0.6
MATI	**Mati**	**2.15**	**180**	*eP*	Pb	14 35 29.1	-2.2
DMPH	**Davao City--Mi**	**2.15**	**201**	*eP*	Pb	14 35 31.3	0.0
DMPH				*eS*	Sb	14 36 02.8	+5.2
PLP	**Palo**	**2.41**	**328**	*eP*	Pn	14 35 32.4	+2.0
PLP				*eS*	Sb	14 36 02.4	-2.6
TBP	**Tagbilaran**	**2.45**	**284**	*eP*	Pn	14 35 32.8	+1.9
TBP				*i* S	Sn	14 36 02.1	+2.2
OCLP	**Ormoc**	**2.53**	**320**	*eP*	Pn	14 35 34.2	+2.1
LLP	**Lapu-Lapu**	**2.57**	**298**	*eP*	Pn	14 35 35.4	+2.7
LLP				*eS*	Sn	14 36 05.9	+2.9
BESP	**Borongan**	**2.61**	**342**	*eP*	Pn	14 35 34.2	+1.1
BESP				*eS*	Sb	14 36 11.6	+0.9
CNP	**Catarman**	**3.73**	**335**	*eP*	Pn	14 35 50.4	+1.8
CNP				*eS*	Sn	14 36 33.5	+1.9
IPIL	**Ipil**	**3.89**	**251**	*eP*	Pn	14 35 52.9	+2.1
GUIM	**Jordan**	**3.93**	**293**	*eP*	Pn	14 35 53.1	+1.8
RCP	**Roxas**	**4.24**	**305**	*eP*	Pn	14 35 58.9	+3.2

*ISK **24** 14:37:51.6, 38°.92N×43°.59E, h5km, ML3.2/8*
*DDA **24** 14:37:52.5, 38°.92N×43°.59E, h13km, Ml3.5*
*CSEM **24** 14:37:52.8±0.3, 38°.94N×43°.58E, h8km, ML3.5, Error ellipse: s-maj=6.7km s-min=4.7km az=99.0*
*ISCJB **24** 14:37:53.8±0.4, 38°.97N±0°.02×43°.52E±0°.04, h8km±3km, Error ellipse: s-maj=5.6km s-min=3.5km az=20.5*

ISC 24 14:37:53.1±0.8, **38°.93N**±0°.02×**43°.55E**±0°.02, **h11**km±5km, **n46**, σ1=**907**/68, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VMUR	**Van-Muradiye**	**0.06**	**20**	*i P*	**Pg**	**14 37 55.1**	**-0.4**
VMUR				*i* S	**Sg**	**14 37 57.9**	**+0.6**
VMUR	**Van-Muradiye**	**0.06**	**20**	P	**Pg**	**14 37 55.1**	**-0.4**
VMUR				S	**Sg**	**14 37 57.9**	**+0.6**
ERCV	**ERCIS-VAN**	**0.18**	**298**	PG	**Pg**	**14 37 56.9**	**-0.3**
ERCV	**ERCIS-VAN**	**0.18**	**298**	*e*Pg	**Pg**	**14 37 56.9**	**-0.3**
CLDR	**Caldiran**	**0.36**	**54**	PG	**Pg**	**14 37 59.2**	**-1.0**
CLDR	**Caldiran**	**0.36**	**54**	*i* P	**Pg**	**14 37 59.3**	**-1.0**
CLDR				*i* S	**Sb**	**14 38 07.0**	**-0.4**
CLDR	**Caldiran**	**0.36**	**54**	P	**Pg**	**14 37 59.3**	**-1.0**
VANB	**Van**	**0.36**	**200**	PG	**Pb**	**14 38 01.3**	**-0.3**
VANB				SG	**Sb**	**14 38 08.6**	**+1.2**
VANB	**Van**	**0.36**	**200**	*e*Pg	**Pb**	**14 38 01.3**	**-0.3**
VANB				*e*Sg	**Sb**	**14 38 08.6**	**+1.2**
TVAN	**Van**	**0.42**	**195**	*i* P	**Pg**	**14 38 01.1**	**-0.3**
TVAN				*i* S	**Sb**	**14 38 08.6**	**-0.6**
TVAN	**Van**	**0.42**	**195**	P	**Pg**	**14 38 01.1**	**-0.3**
TVAN				S	**Sb**	**14 38 08.6**	**-0.6**
DYDN	**Diyadin**	**0.62**	**10**	*i* P	**Pb**	**14 38 05.5**	**-0.6**
DYDN				*i* S	**Sb**	**14 38 15.6**	**+0.6**
DYDN	**Diyadin**	**0.62**	**10**	P	**Pb**	**14 38 05.5**	**-0.6**
ADCV	**BITLIS_Adilcev**	**0.65**	**259**	*i* P	**Pg**	**14 38 05.6**	**-0.2**
ADCV				*i* S	**Sb**	**14 38 15.8**	**-0.1**
ADCV	**BITLIS_Adilcev**	**0.65**	**259**	P	**Pg**	**14 38 05.6**	**-0.2**
ADCV				S	**Sb**	**14 38 15.8**	**-0.1**
GEVA	**Gevas**	**0.73**	**212**	*i* P	**Pg**	**14 38 05.9**	**-1.3**
GEVA				*i* S	**Sn**	**14 38 19.8**	**-1.0**
GEVA	**Gevas**	**0.73**	**212**	P	**Pg**	**14 38 05.9**	**-1.3**
GEVA				S	**Sn**	**14 38 19.8**	**-1.0**
TUTA	**Tutak**	**0.74**	**310**	*i* P	**Pg**	**14 38 06.6**	**-0.8**
TUTA				*i* S	**Sg**	**14 38 17.2**	**+0.1**
TUTA	**Tutak**	**0.74**	**310**	P	**Pg**	**14 38 06.6**	**-0.8**
TUTA				S	**Sg**	**14 38 17.2**	**+0.1**
IGDI	**IGDIR**	**1.02**	**24**	*i* P	**Pb**	**14 38 12.6**	**-0.3**
IGDI				*i* S	**Sn**	**14 38 30.5**	**+2.6**
TASB	**TASBURUN-IGDIR**	**1.18**	**27**	PN	**Pn**	**14 38 15.4**	**-0.3**
TASB	**TASBURUN-IGDIR**	**1.18**	**27**	*e*Pn	**Pn**	**14 38 15.4**	**-0.3**
EKAR	**Karacoban**	**1.20**	**286**	*i* P	**Pg**	**14 38 14.7**	**-1.5**
EKAR				*i* S	**Sn**	**14 38 34.6**	**+2.1**
EKAR	**Karacoban**	**1.20**	**286**	P	**Pg**	**14 38 14.6**	**-1.5**
EKAR				S	**Sn**	**14 38 34.6**	**+2.1**
EATA	**Eleskirt**	**1.24**	**319**	*i* P	**Pn**	**14 38 16.0**	**-0.7**
EATA				*i* S	**Sn**	**14 38 35.4**	**+1.9**
EATA	**Eleskirt**	**1.24**	**319**	P	**Pn**	**14 38 16.0**	**-0.7**
EATA				S	**Sn**	**14 38 35.4**	**+1.9**
GURO	**Guroymak-BITLI**	**1.24**	**253**	PN	**Pn**	**14 38 16.3**	**-0.3**
GURO	**Guroymak-BITLI**	**1.24**	**253**	*e*Pn	**Pn**	**14 38 16.3**	**-0.3**
HAKT	**HAKKARI**	**1.38**	**175**	*i* P	**Pn**	**14 38 17.6**	**-1.1**
HAKT				*i* S	**Sn**	**14 38 40.4**	**+3.4**
HAKT	**HAKKARI**	**1.38**	**175**	P	**Pn**	**14 38 17.5**	**-1.1**
SRTM	**Siirt_Merkez**	**1.58**	**234**	*i* P	**Pb**	**14 38 21.8**	**-0.7**
SRTM				*i* S	**Sg**	**14 38 45.2**	**+1.1**
SRTM	**Siirt_Merkez**	**1.58**	**234**	P	**Pb**	**14 38 21.8**	**-0.7**
VRTB	**Varto-Mus**	**1.64**	**279**	PN	**Pb**	**14 38 23.5**	**0.0**
VRTB	**Varto-Mus**	**1.64**	**279**	*e*Pn	**Pb**	**14 38 23.5**	**0.0**
SIRT	**Sirnak**	**1.68**	**212**	PN	**Pb**	**14 38 23.5**	**-0.5**
SIRT	**Sirnak**	**1.68**	**212**	*e*Pn	**Pb**	**14 38 23.5**	**-0.5**
SIRN	**S¯¯rnak**	**1.69**	**212**	*i* P	**Pb**	**14 38 24.4**	**+0.1**
SIRN				*i* S	**Sg**	**14 38 49.3**	**+1.8**
SIRN	**S¯¯rnak**	**1.69**	**212**	P	**Pb**	**14 38 24.4**	**+0.1**
KARS	**Kars**	**1.73**	**348**	PN	**Pb**	**14 38 24.2**	**-0.8**
KARS	**Kars**	**1.73**	**348**	*e*Pn	**Pb**	**14 38 24.2**	**-0.8**
SENK	**Senkaya-Erzuru**	**1.87**	**331**	PN	**Pb**	**14 38 26.5**	**-0.9**
SENK	**Senkaya-Erzuru**	**1.87**	**331**	*e*Pn	**Pb**	**14 38 26.5**	**-0.9**
SVAN	**Silvan-Diyarba**	**2.00**	**248**	PN	**Pb**	**14 38 28.5**	**-1.1**
SVAN	**Silvan-Diyarba**	**2.00**	**248**	*e*Pn	**Pb**	**14 38 28.5**	**-1.1**
BNGB	**Bing¯¶l**	**2.24**	**272**	PN	**Pb**	**14 38 32.1**	**-1.5**
BINT	**Bingol**	**2.39**	**270**	*e*Pn	**Pn**	**14 38 32.1**	**-0.2**

*ATA **24** 14:44:23.8±1.5, 38°.89N×43°.56E, h0km±5km, ML3.4, MW3.6*
*ISK **24** 14:44:24.6, 38°.91N×43°.56E, h2km, ML3.1/8*
*ISCJB **24** 14:44:25.7±0.6, 38°.89N±0°.03×43°.56E±0°.04, h4km±5km, Error ellipse: s-maj=6.4km s-min=4.0km az=32.9*
*CSEM **24** 14:44:25.5±0.2, 38°.91N×43°.56E, h8km, ML3.4, Error ellipse: s-maj=6.1km s-min=3.9km az=128.0*
*DDA **24** 14:44:25.1, 38°.89N×43°.56E, h1km, Ml3.4*

ISC 24 14:44:25.7±0.9, **38°.90N**±0°.02×**43°.57E**±0°.03, **h8**km±6km, **n42**, σ1=**923**/62, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VMUR	**Van-Muradiye**	**0.09**	**1**	*i* P	**Pg**	**14 44 27.8**	**-0.4**
VMUR				*i* S	**Sg**	**14 44 30.5**	**+0.6**
VMUR	**Van-Muradiye**	**0.09**	**1**	P	**Pg**	**14 44 27.8**	**-0.4**
VMUR				S	**Sg**	**14 44 30.5**	**+0.6**
ERCV	**ERCIS-VAN**	**0.22**	**303**	PG	**Pg**	**14 44 29.7**	**-0.5**
ERCV	**ERCIS-VAN**	**0.22**	**303**	*e*Pg	**Pg**	**14 44 29.7**	**-0.5**
VANB	**Van**	**0.34**	**205**	PG	**Pb**	**14 44 33.9**	**-0.1**
VANB	**Van**	**0.34**	**205**	*e*Pg	**Pb**	**14 44 33.9**	**-0.1**
CLDR	**Caldiran**	**0.36**	**48**	PG	**Pg**	**14 44 32.4**	**-0.5**
CLDR				SG	**Sb**	**14 44 38.7**	**-1.7**
CLDR	**Caldiran**	**0.36**	**48**	*i* P	**Pg**	**14 44 32.1**	**-0.9**
CLDR				*i* S	**Sb**	**14 44 39.0**	**-1.4**
CLDR	**Caldiran**	**0.36**	**48**	P	**Pg**	**14 44 32.1**	**-0.9**
CLDR	**Caldiran**	**0.36**	**48**	*e*Pg	**Pg**	**14 44 32.4**	**-0.5**
CLDR				*e*Sg	**Sb**	**14 44 38.7**	**-1.7**
CLDR				S	**Sb**	**14 44 39.0**	**-1.4**
TVAN	**Van**	**0.39**	**199**	*i* P	**Pg**	**14 44 33.3**	**-0.2**
TVAN				*i* S	**Sb**	**14 44 42.1**	**+0.8**
TVAN	**Van**	**0.39**	**199**	P	**Pg**	**14 44 33.3**	**-0.2**
DYDN	**Diyadin**	**0.65**	**8**	*e*P	**Pb**	**14 44 38.3**	**-1.1**
DYDN				*e*S	**Sb**	**14 44 48.6**	**0.0**
DYDN				IAML		14 44 50.9	
	comp=Z,119nm,0.4s						
DYDN	**Diyadin**	**0.65**	**8**	*i* P	**Pb**	**14 44 38.3**	**-1.1**
DYDN				*i* S	**Sb**	**14 44 48.4**	**-0.3**
DYDN	**Diyadin**	**0.65**	**8**	P	**Pb**	**14 44 38.3**	**-1.1**
DYDN				S	**Sb**	**14 44 48.4**	**-0.3**
ADCV	**BITLIS_Adilcev**	**0.67**	**262**	*i* P	**Pg**	**14 44 38.0**	**-0.6**
ADCV				*i* S	**Sb**	**14 44 47.9**	**-1.2**
ADCV	**BITLIS_Adilcev**	**0.67**	**262**	P	**Pg**	**14 44 38.0**	**-0.6**
ADCV				S	**Sb**	**14 44 47.9**	**-1.2**
GEVA	**Gevas**	**0.71**	**214**	*i* P	**Pg**	**14 44 38.4**	**-1.0**
GEVA				*e*S	**Sb**	**14 44 49.8**	**-0.5**
GEVA				IAML		14 44 56.4	
	comp=Z,93nm,0.3s						
GEVA	**Gevas**	**0.71**	**214**	*i* P	**Pg**	**14 44 38.5**	**-1.0**
GEVA				*i* S	**Sn**	**14 44 53.9**	**+0.6**
GEVA	**Gevas**	**0.71**	**214**	P	**Pg**	**14 44 38.5**	**-1.0**
TUTA	**Tutak**	**0.77**	**311**	*i* P	**Pg**	**14 44 39.5**	**-1.2**
TUTA				*e*S	**Sb**	**14 44 52.0**	**-0.2**
TUTA				IAML		14 44 53.3	
	comp=Z,240nm,0.2s						
TUTA	**Tutak**	**0.77**	**311**	*i* P	**Pg**	**14 44 39.4**	**-1.2**
TUTA				*i* S	**Sb**	**14 44 51.1**	**-1.0**
TUTA	**Tutak**	**0.77**	**311**	P	**Pg**	**14 44 39.4**	**-1.2**
TUTA				S	**Sb**	**14 44 51.2**	**-1.0**
IGDI	**IGDIR**	**1.04**	**22**	*e*P	**Pb**	**14 44 45.4**	**-0.6**
TASB	**TASBURUN-IGDIR**	**1.20**	**25**	PN	**Pn**	**14 44 48.5**	**-0.3**
TASB	**TASBURUN-IGDIR**	**1.20**	**25**	*e*Pn	**Pn**	**14 44 48.5**	**-0.3**
EKAR	**Karacoban**	**1.22**	**287**	*e*P	**Pg**	**14 44 47.9**	**-1.3**
EKAR				*e*S	**Sn**	**14 45 08.9**	**+2.8**
EKAR				IAML		14 45 15.1	
	comp=Z,70nm,0.5s						
GURO	**Guroymak-BITLI**	**1.25**	**254**	PN	**Pn**	**14 44 48.5**	**-1.1**
GURO	**Guroymak-BITLI**	**1.25**	**254**	*e*Pn	**Pn**	**14 44 48.5**	**-1.1**
EATA	**Eleskirt**	**1.27**	**319**	*e*P	**Pg**	**14 44 48.7**	**-1.4**
EATA				*e*S	**Sn**	**14 45 09.0**	**+1.5**
EATA				IAML		14 45 09.8	
	comp=Z,18nm,0.3s						
DIGO	**Kars**	**1.52**	**354**	*e*P	**Pg**	**14 44 54.0**	**-0.9**
DIGO				IAML		14 45 25.0	
	comp=Z,12nm,0.6s						
SIRT	**Sirnak**	**1.66**	**213**	PN	**Pb**	**14 44 56.1**	**-0.4**
SIRT	**Sirnak**	**1.66**	**213**	*e*Pn	**Pb**	**14 44 56.1**	**-0.4**
VRTB	**Varto-Mus**	**1.67**	**280**	PN	**Pb**	**14 44 55.8**	**-0.9**
VRTB	**Varto-Mus**	**1.67**	**280**	*e*Pn	**Pb**	**14 44 55.8**	**-0.9**
HOMI	**Horasan**	**1.72**	**312**	*e*P	**Pb**	**14 44 57.2**	**-0.5**
EAK	**Akyaka**	**1.78**	**1**	*e*P	**Pg**	**14 45 00.1**	**+0.2**
EAK				*e*S	**Sg**	**14 45 28.9**	**+5.8**
EAK				IAML		14 45 45.9	
	comp=Z,18nm,0.5s						
SENK	**Senkaya-Erzuru**	**1.91**	**331**	PN	**Pn**	**14 44 58.9**	**+0.3**
SENK	**Senkaya-Erzuru**	**1.91**	**331**	*e*Pn	**Pn**	**14 44 58.9**	**+0.3**
ERZM	**Erzurum**	**1.98**	**301**	*e*P	**Pb**	**14 45 02.0**	**-0.1**
KOPT	**Kop Dagi**	**2.63**	**296**	*e*P	**Pg**	**14 45 14.3**	**-1.7**
BAYB	**BAYBURT**	**2.90**	**299**	*e*P	**Pb**	**14 45 17.7**	**0.0**

*ISCJB **24** 14:53:23.3±0.6, 37°.23N±0°.04×28°.17E±0°.05, h0km, Error ellipse: s-maj=6.5km s-min=3.9km az=43.2*
*CSEM **24** 14:53:23.5±0.2, 37°.22N×28°.18E, h2km, ML2.4, Error ellipse: s-maj=4.8km s-min=3.0km az=38.0, Suspected Mining explosion.*
*ISK **24** 14:53:23.3, 37°.19N×28°.15E, h5km, ML2.4/4*
*DDA **24** 14:53:23.1, 37°.24N×28°.20E, h7km, Ml2.5, Suspected Mining explosion.*

ISC 24 14:53:23.7±1.1, **37°.22N**±0°.03×**28°.18E**±0°.03, **h0**km, **n22**, σ0=**60**/28, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YER	**Yerkesik**	**0.12**	**135**	PG	**Pg**	**14 53 26.1**	**+0.1**
YER				SG	**Sg**	**14 53 28.6**	**+1.0**
YER	**Yerkesik**	**0.12**	**135**	*e*Pg	**Pg**	**14 53 26.1**	**+0.1**
YER				*e*Sg	**Sg**	**14 53 28.6**	**+1.0**
MLSB	**Milas**	**0.33**	**283**	PG	**Pg**	**14 53 30.1**	**+0.1**
MLSB	**Milas**	**0.33**	**283**	*e*Pg	**Pg**	**14 53 30.1**	**+0.1**
TURN	**Turunc**	**0.49**	**135**	PG	**Pg**	**14 53 32.2**	**-0.8**
TURN	**Turunc**	**0.49**	**135**	*i* P	Pg	14 53 28.5	-4.5
TURN				*i* S	**Sg**	**14 53 39.4**	**+0.1**
TURN	**Turunc**	**0.49**	**135**	P	Pg	14 53 28.5	-4.5
TURN	**Turunc**	**0.49**	**135**	*e*Pg	**Pg**	**14 53 32.2**	**-0.8**
TURN				S	**Sg**	**14 53 39.4**	**+0.1**
AYDN	**Tasoluk**	**0.50**	**332**	*i* P	**Pg**	**14 53 33.4**	**+0.1**
AYDN				*i* S	**Sg**	**14 53 39.8**	**0.0**
AYDN	**Tasoluk**	**0.50**	**332**	P	**Pg**	**14 53 33.4**	**+0.1**
AYDN				S	**Sg**	**14 53 39.8**	**0.0**
TAVA	**DENIZLI_Tavas**	**0.64**	**67**	*i* P	**Pg**	**14 53 34.8**	**-1.1**
TAVA				*i* S	**Sg**	**14 53 44.7**	**+0.5**
TAVA	**DENIZLI_Tavas**	**0.64**	**67**	P	**Pg**	**14 53 34.8**	**-1.1**
TAVA				S	**Sg**	**14 53 44.7**	**+0.5**
BODT	**Bodrum**	**0.71**	**257**	PG	**Pg**	**14 53 36.7**	**-0.6**
BODT	**Bodrum**	**0.71**	**257**	*e*Pg	**Pg**	**14 53 36.7**	**-0.6**
AYDB	**Zeytinkoy-Aydi**	**0.76**	**343**	PG	**Pg**	**14 53 38.8**	**+0.5**
AYDB	**Zeytinkoy-Aydi**	**0.76**	**343**	*e*Pg	**Pg**	**14 53 38.8**	**+0.5**
FETY	**Fethiye**	**0.93**	**128**	PG	**Pg**	**14 53 42.2**	**+0.6**
FETY	**Fethiye**	**0.93**	**128**	*e*Pg	**Pg**	**14 53 42.2**	**+0.6**
AKAS	**Kas**	**1.51**	**130**	PN	**Pn**	**14 53 52.2**	**0.0**
AKAS	**Kas**	**1.51**	**130**	*e*Pn	**Pn**	**14 53 52.2**	**0.0**
KARP	**Karpathos**	**1.86**	**206**	PN	**Pn**	**14 53 56.4**	**-0.4**
KARP	**Karpathos**	**1.86**	**206**	*e*Pn	**Pn**	**14 53 56.4**	**-0.4**

*ISCJB **24** 14:57:07.6±0.5, 8°.89N±0°.02×93°.94E±0°.02, h4km±3km, mb5.3/283, MS5.6/491, Error ellipse: s-maj=3.3km s-min=2.0km az=43.5*
*BJI **24** 14:57:07.1, 8°.67N×93°.79E, h15km, mb5.4/83, mB5.6/76, Ms5.8/95, Ms7 5.5/89*
*IDC **24** 14:57:08.1±0.3, 8°.91N×93°.98E, h0km, mb4.8/46, mb1 4.9/46, mb1mx4.8/63, mbtmp4.8/46, MS5.2/53, Ms1 5.2/53, ms1mx5.1/70, Error ellipse: s-maj=11.9km s-min=8.9km az=46.0*
*NEIC **24** 14:57:10.1±0.7, 8°.87N×93°.95E, h14km±4km, mb5.5/139, MS5.6/298, MW5.5, Error ellipse: s-maj=3.9km s-min=2.8km az=224.0, Moment Tensor Solution. s52 Moment tensor: Scale 10^17^Nm; Mrr=0.59; Mθθ=1.06; Mφφ 1.65; Mrθ-0.57; Mrφ 1.24; Mθφ0.11; Best double couple: Mo2.00000×10^17^ NP1:ϕs159.00000°, δ71.00000°, λ-163.00000°. NP2:ϕs63.00000°, δ74.00000°, λ-20.00000°. Principal axes: T 2.1300, Plg2.0000°, Azm112.0000°; N -0.3200, Plg65.0000°, Azm206.0000°; P -1.8100, Plg25.0000°, Azm21.0000°;*
*MOS **24** 14:57:10.2±1.0, 8°.84N×93°.97E, h26km, mb5.6/122, MS5.4/83 Error ellipse: s-maj=6.1km s-min=3.6km az=114.4*
*GCMT **24** 14:57:10.1±0.1, 8°.88N×94°.06E, h13km, MW5.7/119, Moment Tensor Solution. s101,c184; s119,c313; Duration: 1ᵍ6 Moment tensor: Scale 10^17^Nm; Mrr-1.00±.03; Mθθ-1.79±.03; Mφφ2.79±.04; Mrθ-1.00±.10; Mθφ2.47±.03; Mrφ0.37±.08; Best double couple: Mo3.61000×10^17^ NP1:ϕs66.00000°, δ74.00000°, λ-18.00000°. NP2:ϕs161.00000°, δ72.00000°, λ-163.00000°. Principal axes: T 3.8690, Plg1.0000°, Azm114.0000°; N -0.5180, Plg66.0000°, Azm205.0000°; P -3.3510, Plg24.0000°, Azm23.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*DJA **24** 14:57:12.7±0.7, 9°.N±2°.×9°.4E±°, h18km±5km, M5.4/134, mb5.5/134, mB5.8/80, MLv5.7/9, Mw(mB)5.4/80, Mwp5.7/8*

ISC 24 14:57:12.1±0.4, **8°.87N**±0°.03×**93°.88E**±0°.03, **h23**km±2km, **h23**km:**pP-P, n1132**, σ1=**973**/968, **mb5.4**/289, **MS5.6**/493, **31C-39D, Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**2.99**	**338**	*e*P	Pn	14 57 58.5	+0.3
BSI	**Banda Aceh**	**3.63**	**157**	P	**Pn**	**14 58 08.7**	**+1.7**
DGPR	**DIGLIPUR**	**4.38**	**348**	*e*P	**Pn**	**14 58 18.3**	**+1.0**
PKDT	**Phuket**	**4.51**	**102**	P	**Pn**	**14 58 15.4**	**-3.7**
LHMI	**Lhok Sumawe**	**4.73**	**140**	P	**Pn**	**14 58 22.3**	**+0.3**
LHMI				S	**Sn**	**14 59 15.6**	**-0.6**
LHMI	**Lhok Sumawe**	**4.73**	**140**	*e*Pn	**Pn**	**14 58 21.0**	**-1.1**
MLSI	**Meulaboh, Aceh**	**5.21**	**151**	P	**Pn**	**14 58 30.6**	**+1.9**
TRTT	**Trang**	**5.84**	**100**	P	**Pn**	**14 58 33.7**	**-3.7**
	426nm,0.7s,4μm1.5nm						
TPTI		**6.46**	**149**	P	**Pn**	**14 58 46.7**	**+0.7**
KCSI	**Kotacane, Aceh**	**6.57**	**144**	P	**Pn**	**14 58 47.9**	**+0.5**
SKLT	**Songkhla**	**6.89**	**104**	P	**Pn**	**14 58 49.5**	**-2.2**
	376nm,1.0s,5μm2.7nm						
PHET	**Kaeng Krachan**	**6.93**	**54**	P	**Pn**	**14 58 49.8**	**-2.6**
	203nm,0.8s						
TSI	**Tuntungan**	**7.08**	**139**	P	**Pn**	**14 58 56.0**	**+1.6**
SRDT	**SRDT**	**7.49**	**43**	P	**Pn**	**14 58 58.0**	**-2.0**
	205nm,0.8s,3μm0.7nm						
KULM	**Kulim**	**7.60**	**117**	*e*Pn	**Pn**	**14 58 58.3**	**-3.3**
PSI	**Prapat**	**7.84**	**140**	*e*Pn	**Pn**	**14 59 05.3**	**+0.3**
PSI	**Prapat**	**7.84**	**140**	*e*P	**Pn**	**14 59 05.3**	**+0.3**
IPM	**Ipoh**	**8.33**	**121**	*e*Pn	**Pn**	**14 59 07.6**	**-4.0**
GSI	**Gunungsitoli**	**8.37**	**154**	P	**Pn**	**14 59 12.1**	**0.0**
GSI	**Gunungsitoli**	**8.37**	**154**	*e*Pn	**Pn**	**14 59 10.2**	**-1.8**
NAYO	**Nakonayok**	**9.08**	**53**	P	**Pn**	**14 59 20.2**	**-1.7**
	61nm,0.9s,4μm0.3nm						
CHBT	**CHBT**	**9.16**	**64**	P	**Pn**	**14 59 25.5**	**+2.6**
	422nm,0.5s,71μm1.9nm						
MNSI	**Mandailing Nat**	**9.82**	**144**	P	**Pn**	**14 59 32.1**	**0.0**
PBKT	**Sadao Pong**	**10.32**	**41**	P	**Pn**	**14 59 36.8**	**-2.0**
	140nm,0.7s,2μm						
PHIT	**Phitsanulok**	**10.44**	**37**	P	**Pn**	**14 59 40.2**	**-0.3**
	239nm,0.9s,2μm						
CHAI	**Chaiyaphum**	**10.56**	**48**	P	**Pn**	**14 59 41.5**	**-0.7**
	45nm,0.9s						
CM01	**Chiang Mai Arr**	**10.70**	**27**	*e*Pn	**Pn**	**14 59 43.7**	**-0.4**
CM31	**Chiang Mai Arr**	**10.73**	**27**	*e*Pn	**Pn**	**14 59 41.5**	**-2.9**
CMAR	**Chiang Mai Arr**	**10.73**	**27**	Pn	**Pn**	**14 59 44.9**	**+0.4**
	3.9nm,0.3s,baz=213,slow=14,SNR=205						
CMAR				LR	LR	15 04 03.5	
	comp=Z,19μm,18.5s,baz=224,slow=39						
CHTO	**Chiang Mai**	**11.04**	**26**	P	**Pn**	**14 59 50.6**	**+1.8**
	290nm,1.4s,11μm						
CHTO	**Chiang Mai**	**11.04**	**26**	*e*Pn	**Pn**	**14 59 49.1**	**+0.3**
CHTO	**Chiang Mai**	**11.04**	**26**	*e*P	**Pn**	**14 59 49.1**	**+0.3**
BKNI	**Bangkinang**	**11.08**	**140**	P	**Pn**	**14 59 49.3**	**0.0**
BKNI	**Bangkinang**	**11.08**	**140**	*e*Pn	**Pn**	**14 59 48.9**	**-0.4**
LAMP	**Lampang**	**11.11**	**30**	P	**Pn**	**14 59 51.0**	**+1.4**
	61nm,0.9s,416nm						
SISI	**Saibi**	**11.38**	**153**	P	**Pn**	**14 59 54.1**	**+0.7**
PAYA	**Payao**	**11.94**	**28**	P	**Pn**	**15 00 03.0**	**+2.0**
	56nm,0.9s,589nm						
CMAI	**Chiengmai2**	**12.08**	**24**	P	**Pn**	**15 00 05.5**	**+2.3**
	902nm,1.2s,20μm						
MYKOM	**Kota Tinggi**	**12.16**	**125**	*e*Pn	**Pn**	**15 00 01.3**	**-2.8**
SDSI	**Sungai Dareh**	**12.30**	**142**	P	**Pn**	**15 00 05.2**	**-0.8**
RGRI	**Rengat**	**12.44**	**137**	P	**Pn**	**15 00 07.8**	**-0.1**
SKNT	**Sakolnakorn**	**12.72**	**50**	P	**Pn**	**15 00 10.5**	**-1.2**
	26nm,1.9s						
UBPT	**Khong Chiam**	**13.00**	**60**	P	**Pn**	**15 00 14.9**	**-0.7**
	184nm,1.1s,3μm						
PPSI	**Pulau Pagai**	**13.07**	**152**	P	**Pn**	**15 00 18.0**	**+1.5**
PALK	**Pallekele**	**13.14**	**264**	*e*Pn	**Pn**	**15 00 19.4**	**+1.8**
PALK	**Pallekele**	**13.14**	**264**	*e*P	**Pn**	**15 00 19.4**	**+1.8**
TPRI	**Tanjung Pinang**	**13.22**	**126**	P	**Pn**	**15 00 17.8**	**-0.8**
KRJI	**Kerinci**	**13.25**	**145**	P	**Pn**	**15 00 19.1**	**0.0**
CHLP	**Challavanipeta**	**13.52**	**316**	*e*P	**Pn**	**15 00 21.9**	**-0.6**
VIS	**Vishakhapatnam**	**13.52**	**312**	*i* P	**Pn**	**15 00 22.2**	**-0.4**
VIS				*i* x	x	15 02 42.9	
BWNR	**Bhubaneshwar**	**13.78**	**326**	*e*P	**Pn**	**15 00 26.4**	**+0.2**
BWNR				IAmb	IAmb	15 00 37.9	
	comp=Z,342nm,0.8s						
MDRS	**Chennai**	**14.02**	**289**	*e*P	**Pn**	**15 00 29.8**	**+0.3**
DSRI	**Dabo**	**14.14**	**131**	P	**Pn**	**15 00 30.0**	**-1.1**
PVM	**Polavaram**	**14.55**	**306**	*e*P	**Pn**	**15 00 36.9**	**+0.1**
MASI	**Maura Aman, Be**	**14.55**	**145**	P	**Pn**	**15 00 37.0**	**+0.2**
SKHT	**Srikalahasti**	**14.71**	**291**	*e*P	**Pn**	**15 00 40.5**	**+1.5**
ADKI	**Addanki**	**

LSA	**Lhasa**	**20.88**	**353**	*e*P	**P**	**15 01 52.2**	**-1.1**
LSA				pmax	pmax		
	comp=Z,212nm,0.9s						
LSA				MLR	MLR		
	comp=Z,3µm,20.0s						
GKN	**Gorkha**	**20.94**	**337**	*e*P	**P**	**15 01 53.9**	**+0.3**
	comp=Z,571nm,0.7s						
JCJI	**Jatiwangi**	**20.94**	**136**	P	Pn	15 01 56.1	0.0
COCO	**West Island**	**21.12**	**172**	P	**P**	**15 01 53.5**	**-2.0**
	comp=Z,2µm,1.1s						
COCO				LR	LR		
	comp=Z,6µm,20.0s						
COCO	**West Island**	**21.12**	**172**	P	**P**	**15 01 53.5**	**-2.0**
COCO				pmax	pmax		
	comp=Z,2µm,1.1s						
COCO				MLR	MLR		
	comp=Z,6µm,20.0s						
PBKI	**Pangkalan Bun**	**21.14**	**122**	P	**P**	**15 01 54.7**	**-1.0**
KOLN	**Kolḍanḍa**	**21.16**	**334**	*e*P	**P**	**15 01 56.6**	**+0.6**
	comp=Z,493nm,0.7s						
BHPL	**Bhopal**	**21.28**	**314**	*e*P	**P**	**15 01 57.7**	**+0.5**
BHPL				IAmb	IAmb	15 02 09.6	
	comp=Z,140nm,1.1s						
GYA	**Guiyang**	**21.29**	**33**⇓	*i*P	**P**	**15 01 57.3**	**0.0**
GYA				PP	**PnPn**	**15 02 22.0**	**+4.6**
GYA				S	**S**	**15 05 54.8**	**+1.8**
GYA				PcP	**PcP**	**15 06 02.4**	**+0.6**
GYA				SS	**SnSn**	**15 06 24.4**	**+8.3**
GYA				ScP	**ScP**	**15 09 38.6**	**+1.1**
GYA				pmax	pmax		
	comp=Z,210nm,1.0s						
GYA				pmax	pmax		
	comp=Z,2µm,8.4s						
GYA				LR	LR		
	comp=Z,11µm,15.5s						
GYA				LR	LR		
	comp=Z,9µm,17.4s						
GYA				LR	LR		
	comp=Z,16µm,16.5s						
DANN	**Dangsing**	**21.60**	**335**	*e*P	**P**	**15 02 01.2**	**+0.4**
	comp=Z,40nm,1.0s						
POO	**Poona**	**21.68**	**298**	*e*P	**P**	**15 02 02.2**	**+0.7**
PYUN	**Piuthan**	**21.71**	**333**	*e*P	**P**	**15 02 02.9**	**+0.9**
	comp=Z,585nm,1.1s						
KPJI	**Karang Pucung**	**22.00**	**137**	P	**P**	**15 02 05.0**	**+0.1**
CMJI	**Cimerak**	**22.01**	**138**	P	**P**	**15 02 05.2**	**+0.2**
KKM	**Kota Kinabalu**	**22.32**	**96**	*e*P	**P**	**15 02 07.0**	**-1.6**
	comp=Z,357nm,1.4s						
KKM				LR	LR		
	comp=Z,8µm,20.0s						
XMIS	**Christmas Isla**	**22.51**	**148**	*e*P	**P**	**15 02 09.0**	**-1.4**
	comp=Z,270nm,0.9s						
SMRI	**Semarang**	**22.86**	**133**	P	**P**	**15 02 14.0**	**-0.1**
SMRI	**Semarang**	**22.86**	**133**	*e*P	**P**	**15 02 13.0**	**-1.1**
	comp=Z,346nm,1.0s						
SMRI				LR	LR		
	comp=Z,17µm,18.0s						
MTKI	**Muara Teweh, K**	**23.10**	**114**	P	**P**	**15 02 16.5**	**-0.1**
GZH	**Guangzhou**	**23.41**	**51**	P	**P**	**15 02 24.9**	**+5.3**
GZH				S	Sn	15 06 42.6	-8.8
GZH				SS	SnSn	15 07 37.8	+30
GZH				pmax	pmax		
	comp=Z,3µm,5.3s						
UGM	**Wanagama**	**23.51**	**135**	P	**P**	**15 02 20.8**	**+0.1**
UGM	**Wanagama**	**23.51**	**135**	PFAKE		15 02 30.0	+9.3
UGM				LR	LR		
	comp=Z,12µm,19.0s						
TBJI	**Tambak Boyo**	**23.74**	**130**	P	**P**	**15 02 24.0**	**+1.1**
WOJI	**Wonogiri, Jawa**	**23.75**	**134**	P	**P**	**15 02 23.5**	**+0.6**
BWJI	**Bawean**	**23.75**	**127**	P	**P**	**15 02 23.4**	**+0.4**
CD2	**Chengdu**	**23.79**	**21**⇓	*i*P	**P**	**15 02 22.8**	**-0.5**
CD2				pP	pP	15 02 26.3	-3.7
CD2				sP	sP	15 02 28.0	-4.9
CD2				S	**S**	**15 06 39.3**	**+1.5**
CD2				sS	pS	15 06 45.8	+0.5
CD2				pmax	pmax		
	comp=Z,720nm,0.9s						
CD2				pmax	pmax		
	comp=Z,3µm,5.2s						
CD2				LR	LR		
	comp=Z,13µm,12.4s						
CD2				LR	LR		
	comp=Z,13µm,15.4s						
CD2				LR	LR		
	comp=Z,14µm,14.3s						
NGJI	**Ngawi**	**23.82**	**132**	P	**P**	**15 02 24.4**	**+0.8**
PCJI	**Pacitan**	**24.17**	**134**	P	**P**	**15 02 27.4**	**+0.5**
BBKI	**Banjar Baru**	**24.22**	**119**	P	**P**	**15 02 27.1**	**-0.4**
GRJI	**Gresik**	**24.28**	**130**	P	**P**	**15 02 28.6**	**+0.7**
PWJI	**Pagerwojo**	**24.50**	**133**	P	**P**	**15 02 31.7**	**+1.7**
MYLDM	**Lahad Datu**	**24.70**	**97**	*e*P	**P**	**15 02 32.8**	**+1.0**
	comp=Z,720nm,1.4s						
MYLDM				LR	LR		
	comp=Z,12µm,20.0s						
SMKI	**Samarinda**	**25.02**	**111**	P	**P**	**15 02 34.5**	**-0.2**
BKB	**Balikpapan**	**25.05**	**113**	P	**P**	**15 02 33.6**	**-1.3**
ENPP	**El Nido**	**25.26**	**83**	*e*P	**P**	**15 02 35.5**	**-1.4**
KBKI	**Kotabaru**	**25.30**	**118**	P	**P**	**15 02 37.8**	**+0.6**
SGKI	**Sangatta, Kali**	**25.41**	**110**	P	**P**	**15 02 37.9**	**-0.4**
BLJI	**Banyuglugur**	**25.66**	**129**	P	**P**	**15 02 40.9**	**+0.5**
ENH	**Enshi**	**25.82**	**32**	*e*P	**P**	**15 02 40.3**	**-1.5**
	comp=Z,160nm,1.1s						
ENH				LR	LR		
	comp=Z,14µm,19.0s						
GMJI	**Gumukmas**	**25.88**	**131**	P	**P**	**15 02 42.9**	**+0.4**
LUBP	**Lubang**	**26.30**	**77**	*e*P	**P**	**15 02 48.4**	**+2.2**
JAGI	**Jajag, Banyuwa**	**26.54**	**130**	P	**P**	**15 02 49.2**	**+0.7**
JAGI	**Jajag, Banyuwa**	**26.54**	**130**	PFAKE		15 03 00.0	+12
JAGI				LR	LR		
	comp=Z,12µm,22.0s						
DGAR	**Diego Garcia**	**26.79**	**234**	PFAKE		15 03 00.0	+9.3
DGAR				LR	LR		
	comp=Z,4µm,18.0s						
H08S3	**Diego Garcia H**	**26.89**	**233**	T	T	15 29 52.3	
	baz=52,slow=75,SNR=442						
H08S2	**Diego Garcia H**	**26.89**	**233**	T	T	15 29 51.7	
	baz=52,slow=75,SNR=451						
H08S1	**Diego Carcia H**	**26.91**	**233**	T	T	15 29 52.8	
	baz=52,slow=75,SNR=471						
TGY	**Tagaytay City**	**27.01**	**76**	LR	LR	15 12 59.1	
	comp=Z,7µm,18.2s,baz=254,slow=35						
SMLA	**Simla**	**27.08**	**327**	*e*P	**P**	**15 02 53.7**	**+0.6**
SMLA				IAmb	IAmb	15 02 55.9	
	comp=Z,114nm,1.1s						
SRBI	**Singaraja**	**27.12**	**128**	P	**P**	**15 02 53.7**	**0.0**
MPSI	**Mapaga**	**27.26**	**107**	P	**P**	**15 02 55.2**	**+0.2**
DNP	**Denpasar**	**27.48**	**129**	P	**P**	**15 02 57.2**	**+0.3**
ABRA	**Dolores**	**27.51**	**69**	*e*P	**P**	**15 02 58.1**	**+0.9**
IGBI	**Denpasar**	**27.52**	**129**	P	**P**	**15 02 58.0**	**+0.7**
PCI	**Palu**	**27.63**	**109**	P	**P**	**15 02 57.8**	**-0.5**
	comp=Z,145nm,1.2s,comp=Z,2µm						
PCI	**Palu**	**27.63**	**109**	P		**15 03 01.9**	**+3.6**
PCI				pmax	pmax		
	comp=Z,145nm,1.2s						
APYP	**Conner**	**28.05**	**69**	*e*P	**P**	**15 03 01.8**	**-0.2**
GUIM	**Jordan**	**28.35**	**84**	*e*P	**P**	**15 03 03.6**	**-1.1**
DHRM	**DHARAMSHALA**	**28.41**	**327**	*e*P	**P**	**15 03 04.8**	**-0.5**
DHRM				IAmb	IAmb	15 03 06.8	
	comp=Z,117nm,1.0s						
TTSI	**Tana Toraja**	**28.44**	**113**	P	**P**	**15 03 04.9**	**-0.6**
QZH	**Quanzhou**	**28.46**	**53**⇓	*i*P	**P**	**15 03 06.4**	**+0.8**
QZH				S	**S**	**15 07 51.6**	**-0.3**
QZH				PcS	**PcS**	**15 09 58.3**	**-1.7**
QZH				pmax	pmax		
	comp=Z,660nm,7.5s						
QZH				LR	LR		
	comp=Z,13µm,11.8s						
QZH				LR	LR		
	comp=Z,7µm,13.7s						
QZH				LR	LR		
	comp=Z,18µm,14.1s						
LZH	**Lanzhou**	**28.58**	**17**	⇑P	**P**	**15 03 06.8**	**+0.1**
LZH				pP	pP	15 03 12.9	-0.7
LZH				sP	sP	15 03 16.4	0.0
LZH				PP	**PnPn**	**15 04 00.8**	**+3.9**
LZH				S	**S**	**15 07 53.8**	**-0.1**
LZH				sS	pS	15 08 01.5	-0.1
LZH				SS	**SnSn**	**15 09 21.0**	**+6.8**
LZH				pmax	pmax		
	comp=Z,120nm,1.4s						
LZH				pmax	pmax		
	comp=Z,770nm,5.0s						
LZH				LR	LR		
	comp=Z,17µm,12.2s						
LZH				LR	LR		
	comp=Z,14µm,13.7s						
LZH				LR	LR		
	comp=Z,17µm,15.9s						
XAN	**Xi'an**	**28.62**	**27**	P	**P**	**15 03 05.6**	**-1.4**
XAN				pP	pP	15 03 10.3	-3.5
XAN				PP	**PnPn**	**15 04 02.5**	**+5.0**
XAN				S	**S**	**15 07 53.4**	**-1.0**
XAN				SS	**SnSn**	**15 09 18.1**	**+2.9**
XAN				pmax	pmax		
	comp=Z,140nm,1.1s						
XAN				LR	LR		
	comp=Z,8µm,14.5s						
XAN				LR	LR		
	comp=Z,7µm,16.7s						
XAN				LR	LR		
	comp=Z,13µm,16.9s						
WHN	**Wuhan**	**28.82**	**39**⇓	P	**P**	**15 03 09.8**	**+1.1**
WHN				S	**S**	**15 07 59.8**	**+2.4**
WHN				pmax	pmax		
	comp=Z,72nm,0.8s						
WHN				LR	LR		
	comp=Z,16µm,10.0s						
WHN				LR	LR		
	comp=Z,5µm,8.3s						
WHN				LR	LR		
	comp=Z,23µm,19.5s						
TWSI	**Taliwang, Sumb**	**28.82**	**127**	P	**P**	**15 03 09.3**	**+0.4**
MRSI	**Marisa**	**29.16**	**105**	P	**P**	**15 03 12.0**	**+0.1**
BNSI	**Bone**	**29.28**	**116**	P	**P**	**15 03 13.2**	**+0.2**
APSI	**Ampana**	**29.32**	**108**	P	**P**	**15 03 13.6**	**+0.2**
TPUB	**Ta-pu**	**29.36**	**58**	PFAKE		15 03 20.0	+6.3
TPUB				LR	LR		
	comp=Z,9µm,18.0s						
TWG	**Pinlang**	**29.54**	**59**	PFAKE		15 03 30.0	+15
TWG				LR	LR		
	comp=Z,36µm,19.0s						
PLAI	**Plampang**	**29.59**	**126**	P	**P**	**15 03 15.5**	**-0.2**
LLP	**Lapu-Lapu**	**29.70**	**85**	*e*P	**P**	**15 03 18.8**	**+2.1**
BKSI	**Bulukumba**	**29.72**	**117**	P	**P**	**15 03 17.6**	**+0.7**
SSLB	**Suanglung**	**29.84**	**57**	*e*P	**P**	**15 03 18.1**	**+0.2**
	comp=Z,60nm,1.2s						
SSLB				LR	LR		
	comp=Z,9µm,18.0s						
YULB	**Yu-li**	**29.96**	**58**	*e*P	**P**	**15 03 21.0**	**+2.0**
	comp=Z,85nm,1.3s						
YULB				LR	LR		
	comp=Z,8µm,18.0s						
LUWI	**Luwuk**	**30.43**	**107**	P	**P**	**15 03 22.5**	**-0.6**
LUWI	**Luwuk**	**30.43**	**107**	*e*P	**P**	**15 03 20.4**	**-2.7**
	comp=Z,339nm,1.0s						
LUWI				LR	LR		
	comp=Z,7µm,20.0s						
BSSI	**Bau Bau, Buton**	**30.43**	**118**	P	**P**	**15 03 23.0**	**-0.2**
NACB	**Ninganchiao**	**30.53**	**57**	P	**P**	**15 03 22.6**	**-1.4**
	comp=Z,104nm,1.4s						
NACB				LR	LR		
	comp=Z,9µm,19.0s						
YHNB	**Yeheng**	**30.57**	**56**	*e*P	**P**	**15 03 22.3**	**-2.0**
	comp=Z,150nm,1.6s						
YHNB				LR	LR		
	comp=Z,9µm,18.0s						
PLP	**Palo**	**30.70**	**83**⇓	*e*P	**P**	**15 03 28.5**	**+2.9**
TATO	**Taipei**	**30.79**	**55**	PFAKE		15 03 40.0	+14
TATO				LR	LR		
	comp=Z,5µm,18.0s						
GTA	**Gaotai**	**30.88**	**9**	⇑P	**P**	**15 03 27.1**	**+0.1**
GTA				pP	pP	15 03 34.3	+0.5
GTA				sP	sP	15 03 37.5	+0.8
GTA				PcP	**PcP**	**15 06 25.4**	**+1.8**
GTA				S	**S**	**15 08 28.8**	**-1.0**
GTA				sS	sS	15 08 40.8	-0.3
GTA				ScP	**ScP**	**15 10 02.4**	**-2.7**
GTA				PcS	**PcS**	**15 10 07.0**	**-0.6**
GTA				SS	**SnSn**	**15 10 14.3**	**+4.2**
GTA				pmax	pmax		
	comp=Z,17nm,1.7s						
GTA				pmax	pmax		
	comp=Z,540nm,5.2s						
GTA				LR	LR		
	comp=Z,4µm,21.4s						
GTA				LR	LR		
	comp=Z,4µm,17.1s						
GTA				LR	LR		
	comp=Z,6µm,21.9s						
KMSI	**Cibinong**	**31.08**	**104**	P	**P**	**15 03 28.0**	**-1.0**
NIL	**Nilore**	**31.14**	**325**	*e*P	**P**	**15 03 28.9**	**-0.4**
	comp=Z,148nm,0.9s						
NIL				LR	LR		
	comp=Z,6µm,20.0s						
NIL	**Nilore**	**31.14**	**325**	*e*P	**P**	**15 03 28.9**	**-0.4**
NIL				pmax	pmax		
	comp=Z,148nm,0.9s						
NIL				MLR	MLR		
	comp=Z,6µm,20.0s						
WBSI	**Waikabubak, Su**	**31.36**	**125**	P	**P**	**15 03 31.2**	**-0.2**
KDI	**Kendari**	**31.36**	**113**	P	**P**	**15 03 31.1**	**-0.3**
	comp=Z,63nm,0.9s,comp=Z,789nm						
DAV	**Davao City (W)**	**31.44**	**91**	LR	LR	15 16 47.0	
	comp=Z,5µm,21.0s,baz=306,slow=38						
YOJ	**Yonaguni jima**	**31.82**	**57**	PFAKE		15 03 50.0	+15
YOJ				LR	LR		
	comp=Z,7µm,19.0s						
WSI	**Waingapu**	**32.11**	**124**	P	**P**	**15 03 38.1**	**+0.2**
BASI	**Baing, Sumba**	**32.65**	**125**	P	**P**	**15 03 42.6**	**-0.1**
NJ2	**Nanjing**	**32.70**	**42**	*e*P	**P**	**15 03 42.9**	**0.0**
NJ2				PP	**PP**	**15 04 55.9**	**-1.1**
NJ2				S	**S**	**15 08 54.6**	**-3.5**
NJ2				pmax	pmax		
	comp=Z,70nm,0.9s						
NJ2				pmax	pmax		
	comp=Z,910nm,5.4s						
NJ2				LR	LR		
	comp=Z,8µm,10.8s						
NJ2				LR	LR		
	comp=Z,8µm,11.7s						
NJ2				LR	LR		
	comp=Z,10µm,16.8s						
EDFI	**Ende, Flores**	**32.77**	**122**	P	**P**	**15 03 43.7**	**-0.2**
TIY	**Taiyuan**	**33.25**	**27**	*e*P	**P**	**15 03 48.4**	**+0.6**
TIY				S	**S**	**15 09 10.5**	**+3.6**
TIY				pmax	pmax		
	comp=Z,41nm,0.6s						
TIY				pmax	pmax		
	comp=Z,590nm,6.7s						
TIY				LR	LR		
	comp=Z,11µm,12.3s						
TIY				LR	LR		
	comp=Z,8µm,10.5s						
TIY				LR	LR		
	comp=Z,16µm,12.1s						
SSE	**Sheshan**	**33.70**	**45**	P	**P**	**15 03 52.0**	**+0.3**
SSE				S	**S**	**15 09 16.3**	**+2.5**
SSE				pmax	pmax		
	comp=Z,27nm,0.8s						
SSE				pmax	pmax		
	comp=Z,320nm,6.3s						
SSE				LR	LR		
	comp=Z,3µm,10.9s						
SSE				LR	LR		
	comp=Z,6µm,9.8s						
SANI	**Sanana**	**33.79**	**107**	P	**P**	**15 03 51.4**	**-1.3**
KBL	**Kabul**	**34.23**	**322**	*e*P	**P**	**15 03 56.0**	**-0.6**
	comp=Z,49nm,0.8s						
KBL				LR	LR		
	comp=Z,6µm,21.0s						
KBL	**Kabul**	**34.23**	**322**	*e*P	**P**	**15 03 56.0**	**-0.6**
KBL				pmax	pmax		
	comp=Z,49nm,0.8s						
KBL				MLR	MLR		
	comp=Z,6µm,21.0s						
TNTI	**Ternate**	**34.30**	**102**	PFAKE		15 04 10.0	+13
TNTI				LR	LR		
	comp=Z,1µm,22.0s						
KSH	**Kashi**	**34.47**	**335**	P	**P**	**15 03 57.1**	**-1.3**
KSH				sP	pP	15 04 04.8	-0.5
KSH				PP	**PnPn**	**15 05 12.4**	**-1.3**
KSH				S	**S**	**15 09 22.1**	**-3.6**
KSH				SS	**SnSn**	**15 11 29.1**	**-8.2**
KSH				pmax	pmax		
	comp=Z,130nm,0.9s						
KSH				pmax	pmax		
	comp=Z,400nm,4.5s						
KSH				LR	LR		
	comp=Z,2µm,8.7s						
KSH				LR	LR		
	comp=Z,2µm,10.5s						
KSH				LR	LR		
	comp=Z,3µm,12.0s						
TIA	**Tai'an**	**34.48**	**34**	P	**P**	**15 03 58.3**	**-0.1**
TIA				S	**S**	**15 09 29.0**	**+3.3**
TIA				pmax	pmax		
	comp=Z,46nm,1.0s						
TIA				pmax	pmax		
	comp=Z,590nm,5.7s						
TIA				LR	LR		
	comp=Z,4µm,12.0s						
TIA				LR	LR		
	comp=Z,10µm,15.3s						
TIA				LR	LR		
	comp=Z,4µm,14.2s						
BTO	**Baotou**	**34.72**	**22**	*e*P	**P**	**15 03 59.5**	**-1.0**
LBMI	**Labuha**	**34.80**	**104**	P	**P**	**15 03 59.9**	**-1.6**
BATI	**Baumata**	**35.18**	**122**	P	**P**	**15 04 02.1**	**-2.7**
	comp=Z,7.8nm,0.4s,baz=275,slow=16,SNR=5.4						
BATI				LR	LR	15 19 16.4	
	comp=Z,10µm,21.6s,baz=312,slow=38						
BATI	**Baumata**	**35.18**	**122**	P	**P**	**15 04 02.6**	**-2.2**
NLAI	**Namlea**	**35.23**	**109**	P	**P**	**15 04 05.4**	**+0.2**
WMQ	**Urumqi**	**35.24**	**352**	P	**P**	**15 04 06.4**	**+1.5**
WMQ				sP	sP	15 04 13.4	-1.3
WMQ				S	**S**	**15 09 36.6**	**-0.7**
WMQ				SS	**SnSn**	**15 11 51.9**	**-3.8**
WMQ				ScS	**ScS**	**15 14 20.3**	**-3.8**
WMQ				pmax	pmax		
	comp=Z,78nm,1.7s						
WMQ				pmax	pmax		
	comp=Z,860nm,5.7s						
WMQ				LR	LR		
	comp=Z,8µm,15.1s						
WMQ				LR	LR		
	comp=Z,11µm,18.9s						
WMQ				LR	LR		
	comp=Z,5µm,20.1s						
SOEI	**Soe**	**35.46**	**121**	P	**P**	**15 04 08.0**	**+0.7**
SOEI	**Soe**	**35.46**	**121**	*e*P	**P**	**15 04 04.5**	**-2.8**
	comp=Z,120nm,0.9s						
SOEI				LR	LR		
	comp=Z,12µm,21.0s						
HHC	**Hu-ho-hao-te**	**35.51**	**23**	*e*P	**P**	**15 04 07.8**	**+0.4**
HHC				sP	pP	15 04 15.4	+1.1
HHC				S	**S**	**15 09 42.0**	**+0.3**
HHC				ScS	**ScS**	**15 14 23.3**	**-2.5**
HHC				pmax	pmax		
	comp=Z,110nm,1.0s						
HHC				pmax	pmax		
	comp=Z,640nm,4.6s						
HHC				LR	LR		
	comp=Z,4µm,12.0s						
HHC				LR	LR		
	comp=Z,6µm,12.8s						
HHC				LR	LR		
	comp=Z,5µm,13.3s						
TARG	**Taragay, Kyrgy**	**35.68**	**339**	*e*P	**P**	**15 04 08.5**	**-0.7**
	comp=Z,55nm,0.9s						
TARG				LR	LR		
	comp=Z,5µm,20.0s						
SFK	**Sufi-Kurgan**	**35.95**	**333**	P	**P**	**15 04 11.5**	**+0.2**
SFK				pmax	pmax		
	comp=Z,83nm,1.3s						
NRN	**Naryn**	**36.09**	**337**	P	**P**	**15 04 11.6**	**-1.0**
NRN				pmax	pmax		
	comp=Z,42nm,1.1s						
KDJ	**Kajisay**	**36.25**	**339**	*e*P	**P**	**15 04 13.5**	**-0.3**
	comp=Z,66nm,0.9s						
KDJ				LR	LR		
	comp=Z,6µm,20.0s						
KDJ	**Kajisay**	**36.25**	**339**	P	**P**	**15 04 13.5**	**-0.3**
KDJ				pmax	pmax		
	comp=Z,66nm,0.9s						
AAI	**Ambon**	**36.41**	**109**	P	**P**	**15 04 15.3**	**0.0**
AAI	**Ambon**	**36.41**	**109**	P	**P**	**15 04 19.2**	**+3.9**
AAI				pmax	pmax		
	comp=Z,169nm,0.8s						
SHLS	**Shalkode**	**36.42**	**342**⇓	*i*P	**P**	**15 04 15.6**	**+0.4**
	comp=Z,442nm,1.4s						
SHLS				*i* S	**S**	**15 09 55.6**	**0.0**
SHLS				LR	LR	15 19 53.0	
	comp=Z,900nm,15.2s						
UZB	**Uzynbulak**	**36.54**	**342**⇓	*i*P	**P**	**15 04 17.6**	**+1.3**
	comp=Z,189nm,1.3s						
UZB				*i* S	**S**	**15 09 59.7**	**+2.2**
PDGK	**Podgornoye**	**36.56**	**342**	P	**P**	**15 04 17.0**	**+0.6**
PDGK				pmax	pmax		
	comp=Z,30nm,1.0s						
WSAR	**Wadi Sarin**	**36.64**	**297**	P	**P**	**15 04 19.9**	**+2.8**
	comp=Z,5.5nm,0.7s,baz=143,slow=7.7,SNR=5.4						
WSAR				LR	LR	15 18 03.4	
	comp=Z,5µm,21.3s,baz=118,slow=34						
SATY	**Saty**	**36.66**	**341**	*e*P	**P**	**15 04 17.9**	**+0.7**
	comp=Z,409nm,1.7s						
SATY				*e*S	**S**	**15 10 01.6**	**+2.3**
ZHN	**Zhinishke**	**36.75**	**341**	*e*P	**P**	**15 04 19.1**	**+1.2**
	comp=Z,148nm,1.2s						
ZHN				*e*S	**S**	**15 10 02.2**	**+1.6**
BJT	**Baijiatuau**	**36.84**	**29**	*e*P	**P**	**15 04 19.2**	**+0.6**
	comp=Z,136nm,0.9s						
BJT				LR	LR		
	comp=Z,6µm,21.0s						
BJT	**Baijiatuau**	**36.84**	**29**	*e*P	**P**	**15 04 19.2**	**+0.6**
BJT				pmax	pmax		
	comp=Z,136nm,0.9s						
BJT				MLR	MLR		
	comp=Z,6µm,21.0s						
BJI	**Beijing**	**36.86**	**29**	P	**P**	**15 04 19.6**	**+0.8**
BJI				PP	**PnPn**	**15 05 45.1**	**+2.0**
BJI				S	**S**	**15 10 00.8**	**-1.4**
BJI				SS	**SnSn**	**15 12 36.8**	**+1.7**
BJI				pmax	pmax		
	comp=Z,95nm,1.4s						
BJI				pmax	pmax		
	comp=Z,1µm,7.4s						
BJI				LR	LR		
	comp=Z,4µm,19.4s						
BJI				LR	LR		
	comp=Z,6µm,22.3s						
BJI				LR	LR		
	comp=Z,6µm,24.2s						
KZA	**Kyzart**	**36.93**	**337**	P	**P**	**15 04 20.0**	**+0.1**
	SNR=28						
KPKS	**Kokpek**	**36.94**	**341**⇓	*i*P	**P**	**15 04 20.6**	**+1.0**
	comp=Z,319nm,1.2s						
KPKS				*i* S	**S**	**15 10 05.2**	**+1.7**
MSAI	**Masohi**	**36.99**	**108**	P	**P**	**15 04 19.0**	**-1.2**
JOW	**Kunigami**	**37.12**	**57**	LR	LR	15 22 22.6	
	comp=Z,5µm,18.0s,baz=259,slow=41						
AAA	**Alma-Ata**	**37.29**	**339**	*e*S	**S**	**15 10 10.3**	**+1.5**
AAA				LR	LR	15 20 14.1	
	comp=Z,512nm,14.6s						
AAA	**Alma-Ata**	**37.29**	**339**	*e*P	**P**	**15 04 23.1**	**+0.6**
AAA				*e*S	**S**	**15 10 10.7**	**+1.9**
AAA				pmax	pmax		
	comp=Z,400nm,2.5s						
AAA				smax	smax		
	comp=E,900nm,4.6s						
UCH	**Uchtor**	**37.35**	**336**	P	**P**	**15 04 23.4**	**-0.1**
	SNR=44						
TKM2	**Tokmak 2**	**37.52**	**338**	P	**P**	**15 04 24.6**	**-0.1**
	SNR=35						
KBK	**Karagaybulak**	**37.54**	**337**	P	**P**	**15 04 25.3**	**+0.6**
	SNR=40						
AML	**Almayashu**	**37.60**	**335**	P	**P**	**15 04 25.8**	**+0.3**
	SNR=121						
BMNS	**Besmoynak**	**37.65**	**338**	*e*P	**P**	**15 04 25.9**	**+0.2**
	comp=E,635nm,0.8s						
BMNS				*i* S	**S**	**15 10 16.4**	**+2.0**
AAK	**Ala-Archa**	**37.70**	**336**	P	**P**	**15 04 26.3**	**+0.2**
	comp=E,52nm,0.9s,baz=146,slow=11,SNR=4.0						
AAK				LR	LR	15 21 28.7	
	comp=E,10µm,21.3s,baz=142,slow=39						
AAK	**Ala-Archa**	**37.70**	**336**	P	**P**	**15 04 27.2**	**+1.1**
	SNR=60						
AAK	**Ala-Archa**	**37.70**	**336**	*e*P	**P**	**15 04 26.7**	**+0.6**
	comp=E,64nm,0.9s						
AAK	**Ala-Archa**	**37.70**	**336**	*i* P	**P**	**15 04 27.1**	**+1.0**
	SNR=87						
AAK	**Ala-Archa**	**37.70**	**336**	*c**e*P	**P**	**15 04 26.9**	**+0.8**
AAK				pmax	pmax		
	comp=Z,80nm,1.4s						
FRU1	**Bishkek**	**37.79**	**337**	P	**P**	**15 04 27.0**	**+0.2**
FRU1				pmax	pmax		
	comp=Z,62nm,0.9s						
FRU	**Bishkek**	**37.82**	**337**	*e*P	**P**	**15 04 29.0**	**+2.1**

FRU *i* 15 04 35.0
FRU *e* 15 05 59.0
FRU *eS* **S** **15 10 17.0 +0.3**
FRU *e* 15 13 30.0
FRU pmax pmax
comp=Z,110nm,1.9s
FRU MLR MLR
comp=Z,3μm,16.0s
CHMS Chumysh **37.91 337** P **P** **15 04 27.6 0.0**
SNR=35
EKS2 Erkin-Say **38.01 336** P **P** **15 04 29.4 +0.7**
SNR=51
KUU Kurty **38.09 339** *eP* **P** **15 04 29.8 +0.6**
comp=Z,141nm,1.4s
KUU *eS* **S** **15 10 22.1 +1.2**
KUU LR LR 15 23 29.0
comp=Z,547nm,15.5s
USP Ospenovka **38.23 337** P **P** **15 04 30.5 +0.1**
SNR=49
BNDI Bandanaira **38.30 109** P **P** **15 04 30.1 -1.2**
MNAS Manas **38.40 334** P **P** **15 04 32.4 +0.4**
MNAS pmax pmax
comp=Z,44nm,1.2s
SOHO SOHO **38.74 298** *i* P **P** **15 04 37.1 +2.2**
SNR=8.6
DL2 Dalian **38.91 35**⇓ *i*P **P** **15 04 36.8 +0.7**
DL2 PP **PnPn** **15 06 11.5 +3.6**
DL2 PcP **PcP** **15 06 45.3 -1.4**
DL2 S **S** **15 10 36.8 +3.6**
DL2 SS **SnSn** **15 13 20.3 -4.2**
DL2 pmax pmax
comp=Z,130nm,1.1s
DL2 pmax pmax
comp=Z,1μm,6.0s
DL2 LR LR
comp=Z,4μm,15.0s
DL2 LR LR
comp=Z,6μm,15.4s
DL2 LR LR
comp=Z,6μm,16.4s
MK01 Makanchi Array **39.05 347** *eP* **P** **15 04 37.3 +0.1**
MK31 Makanchi Array **39.07 347** *eP* **P** **15 04 37.2 -0.2**
MK31 Makanchi Array **39.07 347** *eP* **P** **15 04 37.2 -0.2**
MKAR Makanchi Array **39.07 347** P **P** **15 04 37.3 -0.1**
comp=Z,12nm,0.9s,baz=168,slow=7.1,SNR=45
MKAR PcP **PcP** **15 06 46.6 -0.5**
comp=Z,2.0nm,0.7s,baz=184,slow=3.5,SNR=2.2
MKAR LR LR 15 25 09.5
comp=Z,446nm,21.0s,baz=164,slow=43
MBWA Marble Bar **39.18 140** PFAKE 15 04 50.0 +11
MBWA LR LR
comp=Z,4μm,20.0s
ZSN Zaisan **39.21 350**⇓ *i*P **P** **15 04 39.9 +1.4**
comp=Z,64nm,1.7s
ZSN *i* S **S** **15 10 41.0 +3.5**
DZA Taraz **39.23 334** *eP* **P** **15 04 40.0 +1.2**
comp=Z,290nm,0.8s
DZA *eS* **S** **15 10 41.0 +2.9**
IUG Iuzhnay **39.24 332** *i* LR LR 15 20 54.9
UOSS Minazif **39.26 299** *eP* **P** **15 04 40.1 +0.8**
comp=Z,48nm,1.3s
UOSS LR LR
comp=Z,2μm,20.0s
UOSS Minazif **39.26 299** *i* P **P** **15 04 41.8 +2.5**
SNR=7.4
HATD Hatta, Dubai **39.29 299** *i* P **P** **15 04 42.8 +3.3**
SNR=8.0
ASHO Ashiyiah **39.31 298** *i* P **P** **15 04 42.7 +3.0**
SNR=12
MSFE Esma-Masafi **39.42 299** P **P** **15 04 44.2 +3.5**
BANOM Banah **39.48 300** P **P** **15 04 43.3 +2.2**
CHM Chimkent **39.57 331** *eP* **P** **15 04 43.3 +1.7**
comp=Z,557nm,1.7s
CHM *eS* **S** **15 10 45.8 +2.6**
CHM LR LR 15 20 05.1
comp=Z,2μm,19.8s
SHME Shamm **39.66 300** P **P** **15 04 46.5 +3.9**
KK31 Karatay Array **39.77 333** *eP* **P** **15 04 43.3 0.0**
KK31 Karatay Array **39.77 333** *eP* **P** **15 04 43.3 0.0**
BTLS Baital **39.91 338**⇓ *i*P **P** **15 04 45.2 +0.8**
comp=Z,244nm,0.9s
BTLS *eS* **S** **15 10 48.7 +0.6**
FAKI Fak Fak **40.00 105** P **P** **15 04 45.6 0.0**
FAKI Fak Fak **40.00 105** *eP* **P** **15 04 45.3 -0.3**
comp=Z,52nm,0.9s
FAKI LR LR
comp=Z,1μm,21.0s
AJN Ajban **40.21 298** P **P** **15 04 49.6 +2.4**
SONM Songino Array **40.26 13** P **P** **15 04 46.4 -1.0**
comp=Z,7.6nm,1.0s,baz=196,slow=8.8,SNR=29
SONM PcP **PcP** **15 06 50.3 -0.7**
comp=Z,5.4nm,1.0s,baz=203,slow=3.5,SNR=5.8
SONM LR LR 15 22 57.6
comp=Z,6μm,18.7s,baz=188,slow=38
SONA1 Songino Array **40.27 13** *eP* **P** **15 04 46.5 -1.0**
SAUI Saumlaki **40.87 113** P **P** **15 04 51.6 -1.2**
SAUI Saumlaki **40.87 113** PFAKE 15 05 00.0 +7.2
SAUI LR LR
comp=Z,6μm,19.0s
TJN Taejon **40.92 43***c* *i*P **P** **15 04 52.0 -0.9**
DGZ Jazzator, Alta **41.06 354** *eP* **P** **15 04 54.5 +0.5**
DGZ pmax pmax
comp=Z,10.0nm,1.5s
INCN Inchon **41.07 41** *eP* **P** **15 04 53.0 -1.2**
comp=Z,118nm,1.3s
INCN LR LR
comp=Z,7μm,19.0s
MZR Muzera **41.16 295** *i* P **P** **15 04 57.7 +2.7**
SNR=7.7
RKPI Ransiki, Papua **41.46 102** P **P** **15 04 58.0 +0.4**
KMPI Kaimana, Papua **41.61 106** P **P** **15 04 58.2 -0.6**
JNU Nakatsue **41.79 49** P **P** **15 05 00.1 -0.1**
comp=Z,32nm,0.8s,baz=163,slow=1.7,SNR=28
JNU LR LR 15 23 09.3
comp=Z,4μm,19.5s,baz=242,slow=37
JNU Nakatsue **41.79 49** *eP* **P** **15 04 59.7 -0.5**
comp=Z,41nm,0.9s
KS15 Wonju Array Si **41.86 42** *eP* **P** **15 05 00.0 -0.6**
KSAR Wonju Array Be **41.86 42** P **P** **15 05 00.1 -0.5**
KSAR Wonju Array Be **41.86 42** P **P** **15 05 00.1 -0.5**
KS01 Wonju Array Si **41.89 42** *eP* **P** **15 04 59.8 -1.0**
KSRS Korea Array **41.90 42** P **P** **15 05 00.1 -0.8**
comp=Z,40nm,1.2s,baz=243,slow=8.6,SNR=55
KSRS LR LR 15 24 25.2
comp=Z,3μm,19.1s,baz=230,slow=39
SNY Shenyang **41.99 34** ⇓P **P** **15 05 01.4 -0.1**
SNY S **S** **15 11 21.0 +1.9**
SNY pmax pmax
comp=Z,150nm,1.2s
SNY LR LR
comp=Z,4μm,13.2s
SNY LR LR
comp=Z,4μm,15.0s
SNY LR LR
comp=Z,6μm,13.2s
ZAK Zakamensk **42.12 9** *eP* **P** **15 05 01.8 -0.8**
ZAK *e* 15 06 56.9
ZAK pmax pmax
comp=Z,14nm,1.2s
HVS Khovu-Aksy **42.14 360***ce*P **P** **15 05 02.7 -0.1**
HVS pmax pmax
comp=Z,133nm,1.2s
KNRA Kununurra **42.29 125** P P 15 05 12.2 +7.9
baz=43,SNR=4.1
MEEK Meekatharra **42.69 146** P P 15 05 12.7 +5.2
baz=43,SNR=9.2
MTN Manton Dam **42.84 120** PFAKE 15 05 20.0 +11
MTN LR LR
comp=Z,3μm,22.0s
SEM Semipalatinsk **42.93 347** *eP* **P** **15 05 09.7 +0.4**
comp=Z,156nm,1.2s
MOY Mondy **43.07 6** *eP* **P** **15 05 11.4 +1.0**
MOY pmax pmax
comp=Z,46nm,3.7s
BAKI Biak **43.25 101** P **P** **15 05 10.5 -1.7**
OTUK Ortayu **43.26 339** P **P** **15 05 11.4 -0.4**
OTUK pmax pmax
comp=Z,94nm,0.8s
GEYT Alibeck **43.30 318** P **P** **15 05 13.9 +1.6**
comp=Z,47nm,0.8s,baz=141,slow=8.7,SNR=56
GEYT LR LR 15 24 53.1
comp=Z,6μm,21.5s,baz=135,slow=38
MORW Morawa **43.35 151** P **P** **15 05 16.9 +4.2**
baz=44,SNR=5.8
TLY Talaya **43.43 9** P **P** **15 05 12.9 -0.3**
comp=Z,3.2nm,0.8s,baz=189,slow=9.6,SNR=3.0
TLY LR LR 15 27 24.8
comp=Z,2μm,18.1s,baz=175,slow=42
TLY Talaya **43.43 9** *eP* **P** **15 05 12.5 -0.7**
comp=Z,16nm,1.1s
TLY Talaya **43.43 9***ce*P **P** **15 05 13.7 +0.5**
TLY *e* 15 06 50.8
TLY *e*PPP PPP 15 07 29.9
TLY *eS* **S** **15 11 33.6 -6.6**
TLY *e*SSS SSS 15 15 06.2
TLY pmax pmax
comp=Z,14nm,1.0s
TLY MLR MLR
comp=Z,2μm,16.0s
KURBB Kurchatov Arra **43.53 346** P **P** **15 05 13.0 -0.9**
comp=Z,24nm,1.0s,baz=163,slow=7.4,SNR=49
KURBB PcP **PcP** **15 07 00.4 -1.1**
comp=Z,2.6nm,0.7s,baz=156,slow=2.3,SNR=3.2
KURK Kurchatov **43.59 346** *eP* **P** **15 05 13.6 -0.8**
comp=Z,105nm,1.4s
KURK PcP **PcP** **15 07 00.4 -1.3**
KURK LR LR
comp=Z,5μm,21.0s
KURK Kurchatov **43.59 346***c* *i*P **P** **15 05 14.3 -0.1**
KURK pmax pmax
comp=Z,66nm,1.7s
IRK Irkutsk **44.08 9** *eP* **P** **15 05 17.0 -1.3**
IRK *e* 15 07 03.4
IRK pmax pmax
comp=Z,45nm,2.4s
CN2 Changchun **44.34 33** *eP* **P** **15 05 20.5 0.0**
CN2 *es*P pP 15 05 27.8 +0.2
CN2 *eS* **S** **15 11 54.3 +0.8**
CN2 pmax pmax
comp=Z,80nm,1.2s
CN2 pmax pmax
comp=Z,900nm,6.0s
CN2 LR LR
comp=Z,4μm,15.0s
CN2 LR LR
comp=Z,5μm,15.0s
CN2 LR LR
comp=Z,4μm,15.0s
BRZS Berezniki **44.62 341**⇓ *i*P **P** **15 05 19.9 -2.9**
comp=Z,21nm,1.0s
BRZS *i* S **S** **15 11 57.0 -0.6**
BLDU Ballidu **44.96 152** P **P** **15 05 29.8 +4.1**
baz=46,SNR=7.1
ZAA0 Zalesovo Array **45.55 353** *eP* **P** **15 05 29.2 -0.8**
comp=Z,131nm,1.2s
ZAA0 LR LR
comp=Z,2μm,19.0s
ZALV Zalesovo Beam **45.55 353** P **P** **15 05 29.4 -0.6**
comp=Z,104nm,1.0s,baz=177,slow=8.3,SNR=54
ZALV LR LR 15 27 08.2
comp=Z,2μm,19.9s,baz=174,slow=40
ZALV Zalesovo Beam **45.55 353** *eP* **P** **15 05 29.1 -0.9**
ZALV Zalesovo Beam **45.55 353** *eP* **P** **15 05 29.1 -0.9**
HIA Hailar **45.72 24** *eP* **P** **15 05 31.3 -0.2**
comp=Z,68nm,1.0s
HIA LR LR
comp=Z,4μm,21.0s
HIA Hailar **45.72 24** *eP* **P** **15 05 31.3 -0.2**
HIA pmax pmax
comp=Z,68nm,1.0s
HIA MLR MLR
comp=Z,4μm,21.0s
MUN Mundaring **45.88 153** P **P** **15 05 36.6 +3.7**
baz=46,SNR=6.3
KLBR Kellerberrin **46.27 151** P **P** **15 05 39.9 +3.9**
baz=47,SNR=8.8
NVS Novosibirsk **46.63 352**⇓ *i*P **P** **15 05 38.3 -0.2**
NVS *i* 15 07 22.6
NVS *eS* **S** **15 12 28.3 +2.0**
NVS pmax pmax
comp=N,50nm,1.1s
NVS pmax pmax
comp=E,47nm,1.1s
NVS pmax pmax
comp=Z,86nm,1.1s
NVS smax smax
comp=N,25nm,2.0s
NVS smax smax
comp=E,27nm,2.3s
MSHR Mys Shultsa **46.84 38***d* *i*P **P** **15 05 41.5 +1.1**
KRAR Krasnoyarsk **47.03 359**⇓ *e*P **P** **15 05 40.5 -1.1**
MDJ Mudanjiang **47.14 35** P **P** **15 05 41.6 -1.1**
MDJ PP **PP** **15 07 33.0 -0.7**
MDJ ScP **ScP** **15 11 05.6 -1.3**
MDJ PcS **PcS** **15 11 07.8 -1.4**
MDJ S **S** **15 12 36.3 +2.4**
MDJ ScS **ScS** **15 15 37.0 +1.3**
MDJ pmax pmax
comp=E,79nm,1.3s
MDJ pmax pmax
comp=E,960nm,5.5s
MDJ LR LR
comp=E,4μm,14.9s
MDJ LR LR
comp=E,4μm,12.2s
MDJ LR LR
comp=E,6μm,17.2s
MDJ Mudanjiang **47.14 35** *eP* **P** **15 05 42.5 -0.2**
comp=E,142nm,1.4s
MDJ LR LR
comp=Z,4μm,20.0s
NWAO Narrogin (SRO) **47.14 153** P **P** **15 05 42.7 -0.1**
comp=Z,30nm,0.9s,baz=196,slow=8.8,SNR=2.7
NWAO LR LR 15 24 15.3
comp=Z,5μm,21.6s,baz=239,slow=34
NWAO Narrogin (SRO) **47.14 153** P **P** **15 05 47.0 +4.1**
baz=48,SNR=11
NWAO P **P** **15 05 47.0 +4.1**
baz=48,SNR=11
NWAO Narrogin (SRO) **47.14 153** *eP* **P** **15 05 42.2 -0.6**
comp=Z,79nm,0.8s
INU Inuyama **47.34 49** *eP* **P** **15 05 43.3 -1.1**
comp=Z,47nm,1.1s
INU LR LR
comp=Z,4μm,20.0s
GENI Genyem **47.52 102** P **P** **15 05 45.6 -0.5**
WRKA Warakurna **47.54 136** P P 15 05 53.4 +7.3
baz=48,SNR=4.9
BVAR Borovoye Array **47.97 341** P **P** **15 05 48.2 -0.8**
comp=Z,13nm,0.9s,baz=142,slow=11,SNR=44
BVAR PcP **PcP** **15 07 17.4 +0.5**
comp=Z,2.2nm,0.7s,baz=160,slow=2.8,SNR=1.5
BVAR LR LR 15 29 29.7
comp=Z,1μm,18.2s,baz=156,slow=40
BRVK Borovoye **48.03 341** *eP* **P** **15 05 47.8 -1.7**
comp=Z,18nm,0.6s
BRVK LR LR
comp=Z,2μm,18.0s
BRVK Borovoye **48.03 341***ce*P **P** **15 05 48.5 -1.0**
BRVK pmax pmax
comp=Z,30nm,1.2s
USRK Ussuriysk Ar. **48.27 36** P **P** **15 05 51.0 -0.4**
comp=Z,42nm,1.0s,baz=242,slow=4.1,SNR=58
USRK LR LR 15 29 10.2
comp=Z,3μm,18.3s,baz=217,slow=40
RAYN Ar Rayn **48.45 294** *eP* **P** **15 05 54.2 +0.9**
comp=Z,66nm,1.1s
RAYN LR LR
comp=Z,4μm,21.0s
RAYN Ar Rayn **48.45 294** P **P** **15 05 54.2 +0.9**
RAYN pmax pmax
comp=Z,67nm,1.1s
JHJ Hachijo jima 2 **48.67 53** LR LR 15 27 10.2
comp=Z,2μm,20.7s,baz=260,slow=37
MJB9 Matsu-Tunnel **48.69 49** *eP* **P** **15 05 54.2 -0.7**
comp=Z,18nm,0.8s
MAJO Matsushiro **48.70 49** *eP* **P** **15 05 54.1 -0.8**
comp=Z,18nm,0.8s
MAJO LR LR
comp=Z,3μm,19.0s
MAJO Matsushiro **48.70 49***d* *i*P **P** **15 05 55.4 +0.5**
MAJO pmax pmax
comp=Z,29nm,1.3s
MAT Matsushiro **48.70 49** P **P** **15 05 55.2 +0.3**
MAT S **S** **15 12 58.4 +2.1**
MJAR Matsushiro Arr **48.70 49** P **P** **15 05 54.3 -0.6**
comp=Z,9.1nm,0.9s,baz=236,slow=8.2,SNR=22
MJAR PcP **PcP** **15 07 20.0 0.0**
comp=Z,7.6nm,1.1s,baz=228,slow=1.9,SNR=3.1
MJAR LR LR 15 28 36.1
comp=Z,3μm,18.2s,baz=245,slow=39
DAMY Dhamar **48.71 282** *eP* **P** **15 05 56.8 +1.1**
comp=Z,135nm,1.5s
DAMY LR LR
comp=Z,4μm,22.0s
WRA Warramunga Arr **49.05 126** P **P** **15 05 56.5 -1.3**
comp=Z,5.1nm,0.9s,baz=304,slow=8.9,SNR=24
WRAB Tennant Creek **49.05 126** *eP* **P** **15 05 56.9 -1.0**
comp=Z,40nm,0.8s
WRAB LR LR
comp=Z,2μm,22.0s
WRAB Tennant Creek **49.05 126**⇑ *eP* **P** **15 05 57.2 -0.6**
WRAB pmax pmax
comp=Z,8.0nm,0.9s
WB2 Warramunga Arr **49.06 126** *eP* **P** **15 05 56.6 -1.3**
comp=Z,39nm,0.8s
GUMO Guam **50.16 80** LR LR 15 26 46.9
comp=Z,2μm,20.4s,baz=228,slow=36
ATD Arta Tunnel **50.24 278** P **P** **15 06 09.0 +1.9**
comp=Z,14nm,0.7s,baz=41,slow=9.9,SNR=7.6
ATD LR LR 15 24 20.3
comp=Z,4μm,21.1s,baz=80,slow=32
AS31 Alice Springs **50.75 130** *eP* **P** **15 06 08.6 -2.2**
comp=Z,5.8nm,0.8s
ASAR Alice Springs **50.75 130** P **P** **15 06 07.9 -2.8**
comp=Z,1.2nm,0.7s,baz=308,slow=6.2,SNR=16
AS01 Alice Springs **50.78 130** *eP* **P** **15 06 09.3 -1.7**
AKTO Aktyubinsk **50.96 331** P **P** **15 06 10.2 -1.7**
comp=Z,10.0nm,0.7s,baz=130,slow=5.1,SNR=23
AKTO LR LR 15 30 24.4
comp=Z,1μm,21.6s,baz=142,slow=39
KLR Kul'dur **51.17 31** LR LR 15 28 11.5
comp=Z,294nm,21.9s,baz=224,slow=36
KLR Kul'dur **51.17 31***de*P **P** **15 06 13.0 -0.5**
BOD Bodaibo **51.25 14**⇑ *i*P **P** **15 06 12.6 -1.3**
BOD pmax pmax
comp=Z,27nm,1.3s
FORT Forrest **51.27 142** *eP* **P** **15 06 11.5 -2.9**
comp=Z,644nm,1.0s
FORT LR LR
comp=Z,66μm,20.0s
TEY Ternei **51.49 38** *eP* **P** **15 06 14.0 -1.9**
TEY *e* 15 08 13.0
TEY pmax pmax
comp=N,28nm,1.2s
TEY pmax pmax
comp=Z,127nm,1.4s
TEY MLR MLR
comp=Z,4μm,10.0s
AKT Akhty **52.02 317** *eP* **P** **15 06 20.4 +0.3**
AKT *e* 15 08 14.7
AKT *eS* **S** **15 13 45.7 +3.2**
AKT pmax pmax
comp=Z,85nm,1.4s
ZEA Zeya **52.16 24** *eP* **P** **15 06 21.0 +0.2**
ZEA *e* 15 08 20.0
ZEA *eS* **S** **15 13 50.0 +6.1**
ZEA pmax pmax
comp=N,43nm,1.2s
ZEA pmax pmax
comp=E,29nm,1.2s
ZEA pmax pmax
comp=Z,74nm,1.4s
ZEA pmax pmax
comp=Z,500nm,7.0s
ZEA smax smax
comp=Z,200nm,10.0s
ZEA smax smax
comp=E,500nm,14.0s
ZEA smax smax
comp=N,400nm,16.0s
ZEA MLR MLR
comp=Z,6μm,16.0s
ZEA MLR MLR
comp=E,3μm,14.0s
MAK Makhachkala **52.81 318** *eP* **P** **15 06 24.3 -1.4**
MAK *e* 15 08 30.4
MAK *eS* **S** **15 13 50.8 -2.2**
MAK pmax pmax
comp=Z,20nm,0.3s
MAK MLR MLR
comp=Z,2μm,18.0s
OPO Ambohidratompo **53.52 239** P **P** **15 06 34.5 +3.0**
comp=Z,11nm,1.0s,baz=72,slow=8.9,SNR=5.4
OPO LR LR 15 26 35.8
comp=Z,2μm,18.4s,baz=58,slow=33
GNI Garni **53.56 314** P **P** **15 06 30.2 -1.4**
comp=Z,6.8nm,0.4s,baz=124,slow=18,SNR=7.9
GNI LR LR 15 34 09.0
comp=Z,1μm,18.2s,baz=102,slow=41
GNI Garni **53.56 314** *eP* **P** **15 06 30.8 -0.8**
comp=Z,135nm,1.5s
GNI Garni **53.56 314** *i* P **P** **15 06 33.9 +2.3**
SNR=11
GNI Garni **53.56 314***c* *i*P **P** **15 06 32.9 +1.3**
GNI pmax pmax
comp=Z,193nm,1.6s
CLNS Chul'man **53.60 21** *eP* **P** **15 06 31.3 -0.1**
CLNS *e**PP **pP** **15 06 39.9 +1.3**
CLNS *e* 15 07 34.4
CLNS *e* 15 08 31.7
CLNS *e*PPP PPP 15 09 39.6
CLNS *eS* **S** **15 14 04.7 +1.2**
CLNS pmax pmax
comp=Z,14nm,0.9s
CLNS pmax pmax
comp=N,10.0nm,1.2s
CLNS pmax pmax
comp=E,11nm,0.9s
CLNS smax smax
comp=E,336nm,12.9s
CLNS smax smax
comp=N,163nm,11.5s
CLNS MLR MLR
comp=E,3μm,16.0s
CLNS MLR MLR
comp=E,2μm,12.0s
CLNS MLR MLR
comp=Z,4μm,14.0s
QIS Mount Isa **53.63 124** P **P** **15 06 36.2 +4.0**
baz=54,SNR=4.6
ABPO Ambohimpanom **53.69 239** *eP* **P** **15 06 32.8 0.0**
comp=Z,69nm,1.0s
ABPO LR LR
comp=Z,2μm,18.0s
ABPO Ambohimpanom **53.69 239** *eP* **P** **15 06 32.8 0.0**
ABPO pmax pmax
comp=Z,69nm,1.0s
ABPO MLR MLR
comp=Z,2μm,18.0s
COEN Coen **53.92 114** P **P** **15 06 36.2 +1.9**
baz=54,SNR=4.3
COEN Coen **53.92 114** *eP* **P** **15 06 32.5 -1.9**
comp=Z,16nm,0.8s
COEN LR LR
comp=Z,2μm,21.0s
GROC Groznyy **54.04 318** *eP* **P** **15 06 34.1 -0.7**
GROC *e* 15 07 38.5
GROC *eS* **S** **15 14 07.0 -2.8**
GROC pmax pmax
comp=Z,57nm,0.7s
TBLG Delisi **54.17 316** *eP* **P** **15 06 36.2 +0.4**
comp=Z,39nm,0.9s
TBLG Delisi **54.17 316** *eP* **P** **15 06 36.2 +0.4**
TBLG pmax pmax
comp=Z,39nm,0.9s
ERM Erimo **54.37 44** *eP* **P** **15 06 37.0 -0.2**
comp=Z,52nm,1.0s
ERM LR LR
comp=Z,2μm,22.0s
ERM Erimo **54.37 44**⇓ *eP* **P** **15 06 38.5 +1.3**
ERM pmax pmax
comp=Z,26nm,0.9s
SVE Sverdlovsk **54.39 338***ce*P **P** **15 06 37.0 -0.1**
SVE *eS* **S** **15 14 12.1 -1.9**
SVE pmax pmax
comp=Z,81nm,1.0s
SVE MLR MLR
comp=Z,6μm,22.0s
GRNR Gornyy **54.51 32** *eP* **P** **15 06 38.1 0.0**
GRNR pmax pmax
comp=Z,100nm,1.1s
ASAJ Asahikawa **54.84 41** P **P** **15 06 40.6 0.0**
comp=Z,44nm,1.1s,baz=249,slow=13,SNR=38
ASAJ LR LR 15 31 42.6
comp=Z,7.3nm,18.1s,baz=248,slow=38
ASAJ Asahikawa **54.84 41** *eP* **P** **15 06 40.8 +0.2**
comp=Z,59nm,1.0s
ARU Arti **54.88 337** *eP* **P** **15 06 39.1 -1.6**
comp=Z,24nm,0.7s

ARU LR LR
comp=Z,8μm,21.0s
ARU Arti 54.88 337*c i*P **P 15 06 40.5 -0.2**
ARU 15 07 44.3
ARU 15 08 44.6
ARU PPP PPP 15 09 57.4
ARU S **S 15 14 24.6 +3.9**
ARU 15 16 28.8
ARU SS **SS 15 18 05.2 +1.0**
ARU SSS SSS 15 19 59.9
ARU pmax pmax
comp=Z,69nm,1.7s
ARU MLR MLR
comp=Z,7μm,19.0s
AKH Akhalkalaki 54.91 315‖ *i*P **P 15 06 43.0 +1.6**
AKH Akhalkalaki 54.91 315 *e*P **P 15 06 41.7 +0.3**
comp=Z,26nm,1.1s
AKH LR LR
comp=Z,2μm,22.0s
AKH Akhalkalaki 54.91 315 *e*P **P 15 06 41.7 +0.3**
AKH pmax pmax
comp=Z,26nm,1.1s
AKH MLR MLR
comp=Z,2μm,22.0s
ZEI Tsey 55.15 317 *e*P **P 15 06 42.9 -0.2**
ZEI pmax pmax
comp=Z,24nm,0.8s
NCK Nalchik 55.63 317‖ *e*P **P 15 06 47.5 +1.1**
NCK pmax pmax
comp=Z,11nm,0.4s
PMG Port Moresby 56.07 108 P **P 15 06 49.7 -0.3**
comp=Z,12nm,0.8s,baz=302,slow=13,SNR=3.3
PMG LR LR 15 37 24.0
comp=Z,3μm,18.2s,baz=236,slow=43
PMG Port Moresby 56.07 108 *e*P **P 15 06 48.5 -1.4**
comp=Z,72nm,0.8s
PMG Port Moresby 56.07 108 *e*P **P 15 06 48.5 -1.4**
PMG pmax pmax
comp=Z,72nm,0.8s
NEY Neytrino 56.12 317⇑ *e*P **P 15 06 51.9 +1.8**
NEY pmax pmax
comp=Z,3.0nm,1.3s
YSS Yuzh-Sakhalins 56.17 38 *e*P **P 15 06 50.0 -0.1**
comp=Z,223nm,1.2s
YSS LR LR
comp=Z,1μm,18.0s
YSS Yuzh-Sakhalins 56.17 38κ *e*P **P 15 06 50.3 +0.2**
YSS *e**SP **pP 15 06 57.5 +0.2**
YSS *e* 15 07 00.5
YSS *e*S **S 15 14 33.0 -5.1**
YSS *e*SS **SS 15 18 19.0 -5.8**
YSS pmax pmax
comp=N,100nm,6.0s
YSS pmax pmax
comp=Z,600nm,6.0s
YSS pmax pmax
comp=E,300nm,5.0s
YSS pmax pmax
comp=Z,130nm,1.2s
KBZ Khabaz 56.19 317 P **P 15 06 50.1 -0.2**
comp=Z,8.5nm,0.9s,baz=121,slow=4.5,SNR=20
KBZ LR LR 15 34 03.6
comp=Z,1μm,21.5s,baz=118,slow=39
KIV Kislovodsk 56.41 318 *e*P **P 15 06 52.0 -0.1**
comp=Z,58nm,0.8s
KIV LR LR
comp=Z,2μm,20.0s
KIV Kislovodsk 56.41 318 *i* P **P 15 06 52.4 +0.3**
SNR=12
KIV Kislovodsk 56.41 318 *e*P **P 15 06 52.4 +0.3**
KIV *e*S **S 15 14 44.2 +2.4**
KIV pmax pmax
comp=Z,70nm,6.0s
KIV pmax pmax
comp=Z,52nm,1.1s
KIV MLR MLR
comp=Z,1μm,16.0s
MTSU Mount Surprise 56.55 119 P **P 15 06 57.5 +4.2**
baz=57,SNR=6.3
GOF Gofitskoye 56.61 319⇑ *e*P **P 15 06 52.5 -0.8**
GOF pmax pmax
comp=Z,74nm,1.2s
YUK Yuzh-Kuril'sk 56.97 43 *e*P P 15 06 49.2 -6.7
YUK *e* 15 07 49.1
YUK *e* 15 08 59.4
YUK *e*PPP PPP 15 10 16.6
YUK *e*S **S 15 14 47.3 -1.6**
YUK *e* 15 16 43.1
YUK *e*SS **SS 15 18 41.6 +4.0**
YUK pmax pmax
comp=Z,47nm,1.2s
YUK pmax pmax
comp=N,27nm,1.0s
YUK pmax pmax
comp=E,238nm,1.2s
YUK pmax pmax
comp=Z,246nm,1.2s
YUK MLR MLR
comp=N,832nm,17.0s
YUK MLR MLR
comp=Z,1μm,17.0s
YUK MLR MLR
comp=E,463nm,15.0s
KMBO Kilima Mbogo 57.28 263 P **P 15 06 59.4 +0.5**
comp=E,2.6nm,0.3s,baz=48,slow=11,SNR=8.5
KMBO Kilima Mbogo 57.28 263 *e*P **P 15 06 59.1 +0.2**
comp=E,21nm,1.0s
KMBO LR LR
comp=Z,3μm,22.0s
KMBO Kilima Mbogo 57.28 263 P **P 15 07 01.3 +2.4**
KMBO Kilima Mbogo 57.28 263 *e*P **P 15 06 59.1 +0.2**
KMBO pmax pmax
comp=Z,21nm,1.0s
KMBO MLR MLR
comp=Z,3μm,22.0s
ASF Jabal al Asfar 57.47 302 P **P 15 06 59.8 +0.1**
comp=Z,3.9nm,0.8s,baz=90,slow=2.0,SNR=7.5
ASF LR LR 15 34 59.2
comp=Z,2μm,19.7s,baz=46,slow=40
BBOO Buckleboo 57.72 138 P P 15 07 07.7 +6.4
baz=58
BBOO Buckleboo 57.72 138 PFAKE 15 07 10.0 +8.7
BBOO LR LR
comp=Z,5μm,20.0s
NAI Nairobi 57.75 263 PFAKE 15 07 10.0 +7.8
NAI LR LR
comp=Z,3μm,21.0s
TYV Tymovskoe 57.92 34 *e*P **P 15 07 04.1 +1.7**
TYV *e*S **S 15 15 07.5 +6.4**
TYV pmax pmax
comp=Z,35nm,1.3s
TYV pmax pmax
comp=Z,700nm,7.1s
TYV smax smax
comp=N,500nm,8.7s
TYV MLR MLR
comp=Z,2μm,16.0s
NKL Nikolayevsk 58.02 31 *e*P **P 15 07 03.7 +0.6**
NKL *e* 15 14 56.0
NKL *e* 15 18 47.0
NKL pmax pmax
comp=Z,73nm,1.0s
NKL pmax pmax
comp=Z,700nm,6.0s
NKL MLR MLR
comp=N,2μm,15.0s
NKL MLR MLR
comp=Z,6μm,15.0s
SOC Sochi 58.29 316 *e*P **P 15 07 03.3 -1.9**
SOC *e* 15 09 16.9
SOC *e*PPP PPP 15 10 33.2
SOC *e*S **S 15 15 06.9 +0.7**
SOC pmax pmax
comp=Z,19nm,0.4s
SOC MLR MLR
comp=Z,1μm,13.0s
KUR Kuril'sk 58.74 42 *e*P **P 15 07 08.0 -0.3**
KUR *e*PPP PPP 15 10 42.6
KUR *e*S **S 15 15 17.9 +5.9**
KUR pmax pmax
comp=Z,188nm,1.3s
KUR pmax pmax
comp=E,50nm,1.5s
KUR pmax pmax
comp=N,86nm,1.4s
KUR pmax pmax
comp=Z,710nm,5.0s
KUR MLR MLR
comp=N,1μm,15.0s
KUR MLR MLR
comp=E,609nm,15.0s
KUR MLR MLR
comp=Z,1μm,15.0s
MMAI Mount Meron Ar 58.86 303 P **P 15 07 09.7 +0.2**
comp=Z,0.6nm,0.4s,baz=64,slow=3.4,SNR=4.1
MMAI LR LR 15 36 12.9
comp=Z,3μm,18.5s,baz=95,slow=40
CTA Charters Tower 59.02 120 LR LR 15 35 30.1
comp=Z,3μm,18.7s,baz=306,slow=39
CTAO Charters Tower 59.02 120 *e*P **P 15 07 09.6 -1.0**
comp=Z,28nm,0.9s
CTAO LR LR
comp=Z,5μm,19.0s
CTAO Charters Tower 59.02 120 *e*P **P 15 07 09.6 -1.0**
CTAO pmax pmax
comp=Z,28nm,0.9s
CTAO MLR MLR
comp=Z,5μm,19.0s
YAK Yakutsk 59.14 19 *e*P **P 15 07 08.6 -2.2**
comp=Z,50nm,0.8s
YAK LR LR
comp=Z,3μm,20.0s
YAK Yakutsk 59.14 19 *e*P **P 15 07 08.6 -2.2**
YAK *e**PP **sP 15 07 20.6 -0.1**
YAK *e* 15 07 52.3
YAK *e*S **S 15 15 13.9 -2.8**
YAK *e**SS **pS 15 15 26.3 +0.9**
YAK *e* 15 16 58.3
YAK *e*SSS SSS 15 21 41.7
YAK pmax pmax
comp=Z,26nm,1.0s
YAK pmax pmax
comp=E,14nm,1.2s
YAK pmax pmax
comp=N,9.0nm,1.0s
YAK smax smax
comp=E,45nm,1.5s
YAK smax smax
comp=N,23nm,1.6s
YAK MLR MLR
comp=Z,4μm,15.0s
YAK MLR MLR
comp=N,5μm,18.0s
YAK MLR MLR
comp=E,2μm,14.0s
RABL Rabaul 59.54 100 PFAKE 15 07 30.0 +16
RABL LR LR
comp=Z,3μm,18.0s
VRH Novokhopyorsk 59.97 325 *e*P **P 15 07 16.3 -0.4**
VRH *e*S **S 15 15 25.4 -2.3**
VRH pmax pmax
comp=Z,20nm,0.6s
VRH smax smax
comp=N,1μm,7.0s
VRH MLR MLR
comp=Z,2μm,18.0s
QLP Quilpie 60.23 127 P **P 15 07 22.7 +3.8**
baz=61,SNR=16
ANN Anapa 60.24 317 *e*P P 15 07 13.2 -5.4
ANN *e**PP pP 15 07 17.9 -8.0
ANN *e* 15 09 29.6
ANN *e*S **S 15 15 22.6 -8.8**
ANN pmax pmax
comp=Z,10.0nm,0.9s
ANN MLR MLR
comp=E,2μm,20.0s
ANN MLR MLR
comp=N,1μm,20.0s
ANN MLR MLR
comp=Z,2μm,20.0s
CSS Mathiatis 60.89 305 PFAKE 15 07 40.0 +17
CSS LR LR
comp=Z,700nm,22.0s
STKA Stephens Creek 60.98 134 P **P 15 07 22.1 -1.8**
comp=Z,6.1nm,1.0s,baz=93,slow=18,SNR=3.2
STKA LR LR 15 37 42.8
comp=Z,9μm,18.1s,baz=232,slow=40
STKA Stephens Creek 60.98 134 P **P 15 07 25.0 +1.2**
baz=61,SNR=4.4
STKA Stephens Creek 60.98 134 *e*P **P 15 07 22.4 -1.5**
comp=Z,4.9nm,0.9s
STKA Stephens Creek 60.98 134 *e*P **P 15 07 22.4 -1.5**
STKA pmax pmax
comp=Z,5.0nm,0.9s
VSR Storozhevoye 61.44 324 *e*P **P 15 07 25.9 -0.8**
VSR *e*S **S 15 15 41.2 -5.3**
VSR pmax pmax
comp=Z,10.0nm,0.8s
VSR smax smax
comp=N,320nm,3.9s
VSR MLR MLR
comp=Z,4μm,21.0s
BR131 Keskin Array S 61.59 310 *e*P **P 15 07 26.2 -1.9**
BRTR Keskin Array B 61.59 310 P **P 15 07 26.6 -1.5**
comp=Z,11nm,0.8s,baz=117,slow=6.1,SNR=26
BRTR LR LR 15 36 53.2
comp=Z,980nm,21.9s,baz=106,slow=39
ILGA Ilgaz 61.83 312 *e*P **P 15 07 28.8 -1.1**
comp=Z,29nm,1.0s
ILGA LR LR
comp=Z,2μm,20.0s
LPSR Galich'ya Gora 62.13 326 *e*P **P 15 07 31.0 -0.3**
LPSR *e*S **S 15 15 56.1 +0.9**
LPSR pmax pmax
comp=Z,20nm,1.1s
LPSR smax smax
comp=N,330nm,2.6s
ANTO Ankara 62.26 310 *e*P **P 15 07 31.2 -1.3**
comp=N,18nm,0.8s
ANTO LR LR
comp=Z,1μm,22.0s
ANTO Ankara 62.26 310 *e*P **P 15 07 31.2 -1.3**
ANTO pmax pmax
comp=Z,18nm,0.8s
ANTO MLR MLR
comp=Z,1μm,22.0s
SIM Simferopol' 62.54 316*de*P **P 15 07 34.8 +0.6**
SIM *e*S **S 15 16 01.0 +0.4**
MBAR Mbarara 63.59 265 *e*P **P 15 07 42.5 +0.6**
comp=Z,56nm,1.2s
MBAR Mbarara 63.59 265 *e*P **P 15 07 42.5 +0.6**
MBAR pmax pmax
comp=Z,56nm,1.2s
ISP Isparta 63.61 308 PFAKE 15 07 50.0 +8.4
ISP LR LR
comp=Z,900nm,18.0s
ISP Isparta 63.61 308*de*P **P 15 07 41.8 +0.2**
ISP pmax pmax
comp=Z,46nm,1.8s
CMSA Cobar Meteorol 63.77 132 P **P 15 07 42.9 +0.3**
baz=64,SNR=7.2
MOS Moscow 64.10 328 *e*P **P 15 07 43.4 -0.9**
MOS *e* 15 07 53.8
MOS *e* 15 10 02.8
MOS *e*S **S 15 16 16.9 -2.9**
MOS *e* 15 17 34.1
MOS pmax pmax
comp=Z,74nm,0.8s
MOS MLR MLR
comp=N,4μm,20.0s
MOS MLR MLR
comp=Z,4μm,20.0s
OBN Obninsk 64.41 328 *e*P **P 15 07 46.2 -0.1**
comp=Z,115nm,1.4s
OBN LR LR
comp=Z,2μm,21.0s
OBN Obninsk 64.41 328*d i*P **P 15 07 46.8 +0.5**
OBN *e* 15 07 56.1
OBN *e* 15 08 23.5
OBN *e* 15 10 06.7
OBN *e*PPP PPP 15 11 39.2
OBN pmax pmax
comp=Z,77nm,1.6s
OBN MLR MLR
comp=Z,4μm,23.0s
EIDS Eidsvold 65.23 123 P **P 15 07 56.9 +4.7**
baz=66,SNR=3.7
EIDS Eidsvold 65.23 123 *e*P **P 15 07 52.1 -0.2**
comp=Z,34nm,1.2s
EIDS LR LR
comp=Z,9μm,19.0s
MANT Manisa 65.25 308 PFAKE 15 08 00.0 +7.5
MANT LR LR
comp=Z,4μm,21.0s
KLMR Klimovskoe 65.45 334 *e*P **P 15 07 51.8 -1.3**
KLMR AMP 15 07 55.3
comp=Z,57nm,1.4s
KLMR *e*S **S 15 16 37.0 +0.7**
KLMR *e*S **S 15 16 37.0 +0.7**
KLMR LQ LQ 15 32 39.2
KLMR LQ LQ 15 32 39.2
KLMR LR LR 15 36 25.0
KLMR Klimovskoe 65.45 334 *e*P **P 15 07 51.8 -1.3**
KLMR *e*S **S 15 16 36.9 +0.7**
KLMR pmax pmax
comp=Z,57nm,1.4s
SKR Severo-Kuril's 65.73 38 *e*P **P 15 07 51.2 -3.8**
SKR *e*PPP PPP 15 11 55.2
SKR *e*S **S 15 16 42.4 +2.4**
SKR *e* 15 17 47.7
SKR *e*SSS SSS 15 23 41.2
SKR pmax pmax
comp=Z,126nm,1.1s
SKR pmax pmax
comp=Z,600nm,8.3s
SKR pmax pmax
comp=Z,300nm,4.5s
SKR MLR MLR
comp=Z,2μm,18.0s
KARP Karpathos 65.97 305 *e*P **P 15 07 56.0 -1.0**
comp=Z,27nm,0.8s
KARP LR LR
comp=Z,700nm,22.0s
MA2 Magadan 66.01 28 *e*P **P 15 07 56.1 -0.6**
comp=Z,42nm,0.8s
MA2 LR LR
comp=Z,3μm,18.0s
MA2 Magadan 66.01 28 *e*P **P 15 07 56.0 -0.7**
MA2 pmax pmax
comp=Z,55nm,1.7s
TIRR Tirgusor 66.38 315⇑ *i*P **P 15 07 59.5 +0.2**
TIRR Tirgusor 66.38 315 PFAKE 15 08 10.0 +11
TIRR LR LR
comp=Z,800nm,21.0s
KIS Kishinev 66.62 317 *e*P **P 15 08 04.0 +3.2**
KIS Kishinev 66.62 317 *e*PP PP 15 10 33.0 +5.4
KIS Kishinev 66.62 317 *e*PPP PPP 15 12 15.0
KIS *e*S **S 15 16 49.0 -1.9**
KIS LRM MLR 15 41 18.0
comp=Z,2μm,20.0s
KIS Kishinev 66.62 317 *e*P **P 15 08 04.0 +3.2**
KIS *e* 15 08 11.0
KIS *e* 15 08 19.0
KIS *e* 15 10 33.0
KIS *e*S **S 15 16 49.0 -1.9**
KIS MLR MLR
comp=N,600nm,16.0s
KIS MLR MLR
comp=Z,2μm,20.0s
CFR Carcaliu 66.71 315‖ *i*P **P 15 08 02.0 +0.6**
TOO Toolangi 66.76 137 P P 15 08 06.8 +4.9
baz=67,SNR=7.3
PRD Provadia 66.87 313 P **P 15 08 02.2 -0.3**
SORM Soroca 67.17 319‖ *i*P **P 15 08 04.6 +0.2**
SORM Soroca 67.17 319 P **P 15 08 04.5 +0.2**
AKASG Malin Array Be 67.22 321 P **P 15 08 02.7 -1.8**
comp=Z,7.2nm,0.8s,baz=85,slow=5.5,SNR=22
AKASG PP **PP 15 10 31.9 -0.9**
comp=Z,9.9nm,1.1s,baz=94,slow=8.0,SNR=9.6
AKASG LR LR 15 41 43.9
comp=Z,993nm,20.9s,baz=120,slow=40
AKBB Malin Array Si 67.22 321 *e*P **P 15 08 03.0 -1.6**
comp=Z,16nm,0.9s
AKBB LR LR
comp=Z,2μm,22.0s
AKBB Malin Array Si 67.22 321 *e*P **P 15 08 03.0 -1.6**
AKBB pmax pmax
comp=Z,17nm,0.9s
AKBB MLR MLR
comp=Z,2μm,22.0s
KIEV Kiev 67.23 321 *e*P **P 15 08 02.9 -1.7**
comp=Z,16nm,0.9s
KIEV LR LR
comp=Z,2μm,22.0s
KIEV Kiev 67.23 321 P **P 15 08 05.0 +0.4**
KIEV Kiev 67.23 321*ce*P **P 15 08 03.4 -1.2**
KIEV pmax pmax
comp=Z,13nm,1.2s
AK11 Malin Array Si 67.25 321 *e*P **P 15 08 02.8 -2.0**
JMB Yambol 67.34 312 P **P 15 08 05.9 +0.4**
PEA0B Petropavlovsk- 67.36 36 PFAKE 15 08 20.0 +15
PEA0B LR LR
comp=Z,2μm,20.0s
PETK Petropavlovsk- 67.36 36 P **P 15 08 03.5 -2.0**
comp=Z,6.7nm,1.0s,baz=197,slow=4.5,SNR=5.6
PETK PKKP **PKKPdf 15 28 11.5 -2.8**
comp=Z,12nm,0.9s,baz=235,slow=10,SNR=5.6
PETK LR LR 15 40 21.7
comp=Z,2μm,18.8s,baz=220,slow=39
PETK Petropavlovsk- 67.36 36 *e*P **P 15 08 03.3 -2.1**
SANT Santorini 67.43 306 PFAKE 15 08 20.0 +14
SANT LR LR
comp=Z,800nm,20.0s
APE Apeiranthos 67.45 306*de*P **P 15 08 06.2 -0.2**
APE pmax pmax
comp=Z,11nm,1.0s
TMCR Tamitsa 67.62 337 *e*P **P 15 08 07.3 +0.5**
TMCR pmax pmax
comp=Z,25nm,0.4s
ARMA Armidale 67.77 128 P **P 15 08 12.2 +3.7**
baz=68,SNR=4.1
ARMA Armidale 67.77 128 PFAKE 15 08 20.0 +11
ARMA LR LR
comp=Z,9μm,18.0s
IDI Anoyia 67.79 304 P **P 15 08 07.9 -0.7**
comp=Z,9.6nm,0.8s,baz=71,slow=4.6,SNR=6.8
IDI LR LR 15 42 06.1
comp=Z,1μm,21.9s,baz=88,slow=40
IDI Anoyia 67.79 304 *e*P **P 15 08 07.8 -0.8**
comp=Z,18nm,0.8s
VRI Vrincioaia 67.81 316⇑ *i*P **P 15 08 09.0 +0.5**
VRI Vrincioaia 67.81 316 P **P 15 08 09.0 +0.5**
VRI pmax pmax
comp=Z,683nm,1.3s
PLOR Plostina 67.86 316⇑ *i*P **P 15 08 09.4 +0.6**
PLOR Plostina 67.86 316 P **P 15 08 09.3 +0.5**
PET Petropavlovsk 67.89 36 *e*P **P 15 08 06.8 -1.9**
comp=Z,23nm,1.1s
PET LR LR
comp=Z,2μm,19.0s
PET Petropavlovsk 67.89 36 *e*P **P 15 08 07.8 -0.9**
PET pmax pmax
comp=Z,23nm,1.1s
PET MLR MLR
comp=Z,2μm,18.0s
PET MLR MLR
comp=Z,2μm,16.0s
KDZ Kurdzhali 68.08 311 P **P 15 08 09.9 -0.3**
SEY Seymchan 68.14 25⇑ *e*P **P 15 08 09.2 -0.9**
HNR Honiara 68.25 104 P P 15 08 21.0 +9.3
HNR Honiara 68.25 104 P **P 15 08 10.7 -1.0**
comp=Z,20nm,0.4s,baz=219,slow=13,SNR=4.5
MLR Muntele Rosu 68.28 315 P **P 15 08 11.5 -0.1**
comp=Z,10.0nm,1.2s,baz=38,slow=3.7,SNR=25
MLR LR LR 15 42 29.4
comp=Z,433nm,21.7s,baz=95,slow=40
MLR Muntele Rosu 68.28 315 *e*P **P 15 08 11.4 -0.2**
comp=Z,100nm,1.3s
MLR Muntele Rosu 68.28 315 *e*P **P 15 08 11.4 -0.2**
MLR pmax pmax
comp=Z,100nm,1.3s
RZN Rozhen 68.61 311 P **P 15 08 13.6 -0.2**
DOPR Dopca 68.75 316‖ *i*P **P 15 08 14.0 -0.3**
MICGM Minsk 68.97 325 *e*P P 15 08 05.0 -10
MICGM *e*PcP **PcP 15 08 33.0 -6.7**
MICGM *e*S S 15 17 08.0 -11
MICGM *e*LR LR 15 40 06.0
MNK Minsk 68.97 325 *e*P P 15 08 05.0 -10
MNK *e* 15 08 33.0
MNK *e*S S 15 17 08.0 -11
BURAR Bucovina Array 69.14 318‖ *i*P **P 15 08 17.1 +0.2**
BURAR Bucovina Array 69.14 318 P **P 15 08 17.1 +0.2**
BUR04 Bucovina Ar. S 69.15 318 *e*P **P 15 08 16.3 -0.6**
BUR08 Bucovina Ar. S 69.16 318 *e*P **P 15 08 16.5 -0.5**
PUL Pulkovo 69.22 331⇑ *e*P **P 15 08 18.3 +1.4**
PUL pmax pmax
comp=Z,54nm,0.7s

MMB	**Musomiste**	**69.33 311**	P	**P**	**15 08 19.2**	**+1.1**
LSZ	**Lusaka**	**69.36 250**	*e*P	**P**	**15 08 19.2**	**+0.4**
	comp=Z,19nm,0.9s						
LSZ			LR	LR			
	comp=Z,2µm,21.0s						
LSZ	**Lusaka**	**69.36 250**	*e*P	**P**	**15 08 19.2**	**+0.4**
LSZ			pmax	pmax			
	comp=Z,19nm,0.9s						
LSZ			MLR	MLR			
	comp=Z,2µm,21.0s						
SRS	**Serrai**	**69.38 311**	P	**P**	**15 08 19.3**	**+0.9**
SRS			pmax	pmax			
	comp=Z,13nm,1.0s						
NACGM	**Naroch**	**69.69 325**	*e*	**P**	**15 08 18.0**	**-1.9**
NACGM			*e*LQ	LQ	15 32 45.0		
NACGM			*e*LR	LR	15 36 37.0		
LOT	**Lotru**	**69.79 315** ⇓	*i*P	**P**	**15 08 20.5**	**-0.4**
IDID	**Didziasalis**	**69.81 326**	*e*P	**P**	**15 08 21.2**	**+0.5**
IDID			IAmb	IAmb	15 08 32.3		
	comp=Z,27nm,0.7s						
VTS	**Vitosha**	**69.83 312** ⇓	*i*P	**P**	**15 08 20.7**	**-0.5**
VTS	**Vitosha**	**69.83 312**	*e*P	**P**	**15 08 20.4**	**-0.9**
	comp=Z,13nm,0.9s						
VTS			LR	LR			
	comp=Z,1µm,22.0s						
VTS	**Vitosha**	**69.83 312**	P	**P**	**15 08 20.8**	**-0.5**
VTS	**Vitosha**	**69.83 312**	*e*P	**P**	**15 08 20.4**	**-0.9**
VTS			pmax	pmax			
	comp=Z,13nm,0.9s						
VTS			MLR	MLR			
	comp=Z,1µm,22.0s						
KKB	**Krupnik**	**69.84 311**	P	**P**	**15 08 20.5**	**-0.7**
JOF	**Joensuu**	**69.85 334**	P	**P**	**15 08 21.2**	**+0.5**
JOF			pmax	pmax			
	comp=Z,71nm,1.0s						
IIGN	**Ignalina**	**70.11 326**	*e*P	**P**	**15 08 23.0**	**+0.5**
IIGN			IAmb	IAmb	15 08 34.2		
	comp=Z,30nm,0.9s						
LIT	**Litokhoron**	**70.11 309**	P	**P**	**15 08 23.0**	**+0.1**
LIT			pmax	pmax			
	comp=Z,30nm,1.0s						
AGG	**Agios Georgios**	**70.14 308**	*e*P	**P**	**15 08 21.7**	**-1.4**
	comp=Z,28nm,0.8s						
AGG	**Agios Georgios**	**70.14 308**	*e*P	**P**	**15 08 21.7**	**-1.4**
AGG			pmax	pmax			
	comp=Z,28nm,0.8s						
VAY	**Valandovo**	**70.17 311**	*e*P	**P**	**15 08 21.3**	**-1.9**
IZAR	**Zarasai**	**70.19 326**	*e*P	**P**	**15 08 23.5**	**+0.5**
IZAR			IAmb	IAmb	15 08 34.5		
	comp=Z,18nm,0.7s						
GRG	**Griva**	**70.26 310**	P	**P**	**15 08 23.5**	**-0.3**
GRG			pmax	pmax			
	comp=Z,20nm,0.9s						
LVV	**L'vov**	**70.29 320**	*e*P	**P**	**15 08 24.4**	**+0.6**
LVZ	**Lovozero**	**70.55 340**	*e*P	**P**	**15 08 24.6**	**-0.4**
	comp=Z,84nm,1.0s						
LVZ			LR	LR			
	comp=Z,6µm,20.0s						
LVZ	**Lovozero**	**70.55 340**	*c i*P	**P**	**15 08 26.0**	**+1.0**
LVZ			pmax	pmax			
	comp=Z,33nm,0.9s						
VSU	**Vasula**	**70.61 329**	*d i*P	**P**	**15 08 25.6**	**+0.1**
VSU			pmax	pmax			
	comp=Z,130nm,1.7s						
TAU	**Tasmania Unive**	**70.82 141**	PFAKE		15 08 40.0	+13	
TAU			LR	LR			
	comp=Z,6µm,18.0s						
TRPA	**Tarpa**	**71.00 318** ⇑	*i*P	**P**	**15 08 28.4**	**+0.3**
FNA	**Florina**	**71.02 310**	P	**P**	**15 08 32.5**	**+4.0**
FNA			pmax	pmax			
	comp=Z,19nm,1.0s						
SKO	**Skopje**	**71.07 311**	*e*P	**P**	**15 08 27.2**	**-1.5**
KWP	**Kalwaria Pacla**	**71.11 319**	*e*P	**P**	**15 08 28.9**	**+0.1**
KWP	**Kalwaria Pacla**	**71.11 319**	*e*P	**P**	**15 08 28.5**	**-0.3**
	comp=Z,390nm,0.9s						
KWP			LR	LR			
	comp=Z,8µm,21.0s						
KWP	**Kalwaria Pacla**	**71.11 319**	*e*P	**P**	**15 08 28.9**	**+0.1**
KRUS	**Krusevo**	**71.16 311**	*i*P	**P**	**15 08 28.8**	**-0.5**
UZH	**Uzhgorod**	**71.24 318**	*e*P	**P**	**15 08 28.6**	**-0.9**
UZH			*e*		15 08 50.2		
UZH			*e*		15 11 04.0		
UZH			*e*S	**S**	**15 17 42.6**	**-3.0**
UZH			*e*SS	**SS**	**15 22 19.8**	**+0.2**
BZS	**Buzias**	**71.31 315** ⇑	*i*P	**P**	**15 08 29.9**	**-0.2**
SIRR	**Siria**	**71.36 316** ⇑	*i*P	**P**	**15 08 30.5**	**+0.1**
SUW	**Suwalki**	**71.55 324**	*e*P	**P**	**15 08 31.0**	**-0.3**
SUW	**Suwalki**	**71.55 324**	*e*P	**P**	**15 08 30.6**	**-0.7**
	comp=Z,118nm,0.9s						
SUW			LR	LR			
	comp=Z,2µm,22.0s						
SUW	**Suwalki**	**71.55 324**	*e*P	**P**	**15 08 31.0**	**-0.3**
FIA1	**FINESS Array S**	**71.72 332**	*e*P	**P**	**15 08 31.1**	**-1.1**
FINES	**FINESS Array B**	**71.72 332**	P	**P**	**15 08 31.1**	**-1.1**
	comp=Z,8.8nm,0.7s,baz=95,slow=5.6,SNR=34						
FINES			LR	LR	15 43 54.8		
	comp=Z,1µm,22.0s,baz=108,slow=39						
MSF	**Maaselka**	**71.81 337**	P	**P**	**15 08 33.5**	**+0.8**
MSF			pmax	pmax			
	comp=Z,125nm,1.0s						
STHS	**Stebnicka Huta**	**72.03 319**	*e*P	**P**	**15 08 36.4**	**+2.1**
STHS	**Stebnicka Huta**	**72.03 319**	*e*P	**P**	**15 08 36.4**	**+2.1**
STHS			pmax	pmax			
	comp=Z,22nm,1.0s						
TIR	**Tirane**	**72.20 311**	PFAKE		15 08 50.0	+15	
TIR			LR	LR			
	comp=Z,700nm,21.0s						
DIVS	**Divibare**	**72.31 313**	*e*P	**P**	**15 08 35.3**	**-0.9**
	comp=Z,12nm,1.0s						
NIE	**Niedzica**	**72.64 319**	*e*P	**P**	**15 08 39.2**	**+1.2**
NIE	**Niedzica**	**72.64 319**	*e*P	**P**	**15 08 39.2**	**+1.2**
TTG	**Podgorica**	**72.73 312**	*e*P	**P**	**15 08 37.9**	**-0.7**
	comp=Z,20nm,0.7s						
TTG			LR	LR			
	comp=Z,1µm,22.0s						
TTG	**Podgorica**	**72.73 312**	*e*P	**P**	**15 08 37.9**	**-0.7**
TTG			pmax	pmax			
	comp=Z,20nm,0.7s						
TTG			MLR	MLR			
	comp=Z,1µm,22.0s						
PSZ	**Piszkesteto**	**72.74 317**	*e*P	**P**	**15 08 39.1**	**+0.4**
PSZ	**Piszkesteto**	**72.74 317**	*e*P	**P**	**15 08 38.8**	**+0.1**
	comp=Z,23nm,1.0s						
PSZ	**Piszkesteto**	**72.74 317**	*e*P	**P**	**15 08 38.8**	**+0.1**
PSZ			pmax	pmax			
	comp=Z,23nm,1.0s						
OUL	**Oulu**	**72.80 336**	P	**P**	**15 08 39.8**	**+1.2**
OUL			pmax	pmax			
	comp=Z,53nm,0.8s						
OJC	**Ojcow**	**73.05 320**	*e*P	**P**	**15 08 40.9**	**+0.5**
OJC	**Ojcow**	**73.05 320**	*e*P	**P**	**15 08 39.9**	**-0.5**
	comp=Z,42nm,0.9s						
OJC	**Ojcow**	**73.05 320**	*e*P	**P**	**15 08 40.9**	**+0.5**
LANS	**Liptovska Anna**	**73.15 319**	*e*P	**P**	**15 08 41.5**	**+0.5**
LANS	**Liptovska Anna**	**73.15 319**	*e*P	**P**	**15 08 41.5**	**+0.5**
SGF	**Sodankyl**	**73.26 338**	P	**P**	**15 08 42.4**	**+1.2**
SGF			pmax	pmax			
	comp=Z,152nm,0.9s						
KLNR	**Kaliningrad**	**73.37 324**	*ce*P	**P**	**15 08 42.9**	**+0.8**
KLNR			pmax	pmax			
	comp=Z,125nm,0.9s						
MORH	**M¨‡r¡gy, Hung**	**73.44 316**	*e*P	**P**	**15 08 43.0**	**+0.3**
VYHS	**Vyhne**	**73.50 318**	*e*P	**P**	**15 08 43.8**	**+0.7**
VYHS	**Vyhne**	**73.50 318**	*e*P	**P**	**15 08 43.8**	**+0.7**
VYHS			pmax	pmax			
	comp=Z,10.0nm,1.0s						
VAF	**Ylistaro**	**73.66 333**	P	**P**	**15 08 44.2**	**+0.6**
VAF			pmax	pmax			
	comp=Z,86nm,0.8s						
KEV	**Kevo**	**73.82 341**	*e*P	**P**	**15 08 45.0**	**+0.5**
	comp=Z,54nm,0.9s						
KEV			LR	LR			
	comp=Z,5µm,22.0s						
KEV	**Kevo**	**73.82 341**	*e*P	**P**	**15 08 45.0**	**+0.5**
KEV			pmax	pmax			
	comp=Z,54nm,0.9s						
KEV			MLR	MLR			
	comp=Z,5µm,22.0s						
OKC	**Ostrava-Krasne**	**74.07 319**	*e*P	**P**	**15 08 46.7**	**+0.3**
OKC			*ex*	x	15 08 55.3		
OKC			AMS	AMS	15 47 30.0		
	comp=Z,800nm,15.5s						
OKC	**Ostrava-Krasne**	**74.07 319**	*e*P	**P**	**15 08 46.7**	**+0.3**
OKC			*e*		15 08 55.3		
OKC			MLR	MLR			
	comp=Z,800nm,15.5s						
ARCES	**ARCESS Array B**	**74.25 340**	P	**P**	**15 08 46.5**	**-0.5**
	comp=Z,11nm,0.9s,baz=99,slow=5.3,SNR=24						
ARCES			LR	LR	15 44 06.7		
	comp=Z,6µm,21.4s,baz=116,slow=38						
ARCES	**ARCESS Array B**	**74.25 340**	*e*P	**P**	**15 08 46.1**	**-0.9**
ARCES	**ARCESS Array B**	**74.25 340**	*e*P	**P**	**15 08 46.1**	**-0.9**
ARE0	**ARCESS Array S**	**74.25 340**	*e*P	**P**	**15 08 45.5**	**-1.5**
	comp=Z,74nm,1.1s						
ARE0			LR	LR			
	comp=Z,7µm,21.0s						
BLY	**Banja Luka**	**74.37 314**	PFAKE		15 09 00.0	+12	
BLY			LR	LR			
	comp=Z,900nm,20.0s						
MORC	**Moravsky Berou**	**74.46 319** ⇑	*i*P	**P**	**15 08 49.1**	**+0.4**
MORC	**Moravsky Berou**	**74.46 319**	*e*P	**P**	**15 08 47.5**	**-1.2**
	comp=Z,153nm,1.0s						
MORC			LR	LR			
	comp=Z,3µm,21.0s						
MORC	**Moravsky Berou**	**74.46 319**	*e*P	**P**	**15 08 47.5**	**-1.2**
MORC			pmax	pmax			
	comp=Z,153nm,1.0s						
MORC			MLR	MLR			
	comp=Z,3µm,21.0s						
TIP	**Timpagrande**	**74.48 308**	PFAKE		15 09 00.0	+11	
TIP			LR	LR			
	comp=Z,1µm,22.0s						
LBTB	**Lobatse**	**74.49 241**	*e*P	**P**	**15 08 49.7**	**+0.3**
	comp=Z,56nm,0.9s						
LBTB	**Lobatse**	**74.49 241**	*e*P	**P**	**15 08 49.7**	**+0.3**
LBTB			pmax	pmax			
	comp=Z,56nm,0.9s						
MODS	**Modra-Piesok**	**74.53 318**	*e*P	**P**	**15 08 49.1**	**0.0**
MODS	**Modra-Piesok**	**74.53 318**	*e*P	**P**	**15 08 49.1**	**0.0**
MODS			pmax	pmax			
	comp=Z,31nm,1.2s						
SOP	**Sopron**	**74.96 317**	P	**P**	**15 08 53.9**	**+2.3**
SOP			pmax	pmax			
	comp=Z,25nm,0.9s						
KRLC	**Kraliky**	**74.97 319**	*e*P	**P**	**15 08 52.9**	**+1.2**
KRLC			*ex*	x	15 09 01.4		
KRLC			*ex*	x	15 09 08.1		
KRLC	**Kraliky**	**74.97 319**	*e*P	**P**	**15 08 52.9**	**+1.2**
KRLC			*e*		15 09 01.4		
KRLC			*e*		15 09 08.1		
MIR	**Mirnyy**	**75.22 180**	*e*P	P	15 09 03.0	+10	
MIR			pmax	pmax			
	comp=Z,63nm,1.0s						
CUC	**Castrocucco**	**75.22 309**	PFAKE		15 09 00.0	+6.7	
CUC			LR	LR			
	comp=Z,500nm,21.0s						
BILL	**Bilibino**	**75.27 22***d*	*i*P	**P**	**15 08 51.5**	**-1.4**
BILL			*i*		15 09 04.7		
BILL			*i* SS	SS	15 23 19.1	-1.2	
BILL			pmax	pmax			
	comp=Z,12nm,1.1s						
BILL			MLR	MLR			
	comp=Z,4µm,16.0s						
DPC	**Dobruska-Polom**	**75.29 320**	*e*P	**P**	**15 08 54.1**	**+0.6**
DPC			*ex*	x	15 09 02.7		
DPC			*e*S	**S**	**15 18 30.1**	**-1.5**
DPC			AMS	AMS	15 48 50.0		
	comp=Z,1µm,18.9s						
DPC	**Dobruska-Polom**	**75.29 320**	*e*P	**P**	**15 08 54.1**	**+0.6**
DPC			*e*		15 09 02.7		
DPC			*e*S	**S**	**15 18 30.1**	**-1.5**
DPC			MLR	MLR			
	comp=Z,1µm,18.9s						
KSP	**Ksiaz**	**75.34 320**	*e*P	**P**	**15 08 54.4**	**+0.7**
KSP	**Ksiaz**	**75.34 320**	*e*P	**P**	**15 08 54.4**	**+0.7**
CONA	**Conrad Observa**	**75.44 317**	*i*P	**P**	**15 08 54.9**	**+0.4**
	comp=Z,9.3nm,1.0s						
UPC	**Upice**	**75.49 320**	*e*P	**P**	**15 08 55.9**	**+1.3**
UPC			*e*PCP	**sP**	**15 09 04.6**	**-0.1**
UPC			*e*S	**S**	**15 18 29.5**	**-4.3**
UPC			AMS	AMS	15 46 20.0		
	comp=Z,1µm,15.5s						
UPC	**Upice**	**75.49 320**	*e*P	**P**	**15 08 55.9**	**+1.3**
UPC			*e*		15 09 04.6		
UPC			*e*S	**S**	**15 18 29.5**	**-4.3**
UPC			MLR	MLR			
	comp=Z,1µm,15.5s						
ARSA	**Arzberg**	**75.64 316**	P	**P**	**15 08 57.0**	**+1.5**
	SNR=6.5						
TREC	**Trest**	**75.76 319**	AMS	AMS	15 46 50.0		
	comp=Z,1µm,17.7s						
BOJS	**Bojanci**	**75.76 315**	*e*P	**P**	**15 08 58.1**	**+1.9**
BOSA	**Boshof**	**75.89 238**	P	**P**	**15 08 59.0**	**+1.6**
	comp=Z,6.1nm,0.7s,baz=69,slow=4.2,SNR=11						
BOSA			LR	LR	15 37 21.5		
	comp=Z,1µm,21.1s,baz=66,slow=32						
BOSA	**Boshof**	**75.89 238**	*e*P	**P**	**15 08 57.5**	**+0.1**
	comp=Z,49nm,1.0s						
BOSA	**Boshof**	**75.89 238**	*e*P	**P**	**15 08 57.5**	**+0.1**
BOSA			pmax	pmax			
	comp=Z,49nm,1.0s						
PERS	**Pernice**	**75.90 316**	*e*P	**P**	**15 08 59.2**	**+2.1**
CASY	**Casey**	**75.94 173**	*e*P	**P**	**15 08 56.9**	**+0.2**
	comp=Z,55nm,1.6s						
SOKA	**Soboth**	**75.95 316**	*i*P	**P**	**15 08 57.8**	**+0.4**
	comp=Z,27nm,1.2s,SNR=8.4						
VISS	**Visnje**	**76.06 315**	*e*P	**P**	**15 09 02.4**	**+4.4**
GOPC	**GO Pecny, Ondr**	**76.25 319**	*e*P	**P**	**15 09 00.4**	**+1.4**
GOPC			*ex*	x	15 09 08.6		
GOPC			*e*S	**S**	**15 18 41.4**	**-0.8**
GOPC			AMS	AMS	15 48 40.0		
	comp=Z,900nm,19.1s						
GOPC	**GO Pecny, Ondr**	**76.25 319**	*e*P	**P**	**15 09 00.4**	**+1.4**
GOPC			*e*		15 09 08.6		
GOPC			*e*S	**S**	**15 18 41.4**	**-0.8**
GOPC			MLR	MLR			
	comp=Z,900nm,19.1s						
WDD	**Wied Dalam**	**76.25 305**	PFAKE		15 09 10.0	+11	
WDD			LR	LR			
	comp=Z,1µm,18.0s						
OBKA	**Obir**	**76.28 316**	*i*P	**P**	**15 09 00.2**	**+0.9**
	comp=Z,28nm,1.4s						
VAE	**Valguarnera**	**76.32 306**	LR	LR	15 46 37.3		
	comp=Z,236nm,18.4s,baz=113,slow=39						
PRU	**Pruhonice**	**76.41 319**	*e*P	**P**	**15 09 01.1**	**+1.3**
PRU			*e*pP	**pP**	**15 09 06.4**	**-0.8**
PRU			*ex*	x	15 09 09.0		
PRU			*e*S	**S**	**15 18 44.1**	**+0.2**
PRU			AMS	AMS	15 51 30.0		
	comp=Z,800nm,15.6s						
PRU	**Pruhonice**	**76.41 319**	*e*P	**P**	**15 09 01.1**	**+1.3**
PRU			*e*		15 09 06.4		
PRU			*e*		15 09 09.0		
PRU			*e*S	**S**	**15 18 44.1**	**+0.2**
PRU			MLR	MLR			
	comp=Z,800nm,15.6s						
PVCC	**Panska Ves**	**76.42 320**	AMS	AMS	15 49 30.0		
	comp=Z,1µm,19.8s						
TRO	**Tromso**	**76.51 340**	P	**P**	**15 09 02.7**	**+2.7**
TRO			pmax	pmax			
	comp=Z,2.0nm,1.2s						
MOA	**Molln**	**76.52 317**	P	**P**	**15 09 01.1**	**+0.5**
	comp=Z,25nm,1.2s						
JAVS	**Javornik**	**76.61 315**	*e*P	P	15 09 10.5	+9.3	
TRI	**Trieste**	**76.81 315**	PFAKE		15 09 10.0	+7.8	
TRI			LR	LR			
	comp=Z,700nm,21.0s						
BRG	**Berggiesshubel**	**76.83 320**	*e*P	**P**	**15 09 03.7**	**+1.5**
	comp=Z,24nm,1.2s						
BRG			*i*		15 09 12.8		
	comp=Z,46nm,1.5s						
BRG			*i*		15 09 22.5		
	comp=Z,33nm,1.1s						
BRG			PP	**PP**	**15 11 49.9**	**-5.1**	
	comp=Z,11nm,1.5s						
BRG			S	**S**	**15 18 50.0**	**+1.6**
BRG			SS	**SS**	**15 23 52.0**	**+7.4**
	comp=N,1µm,18.7s						
	comp=E,625nm,19.1s						
	comp=Z,1µm,20.5s						
BRG	**Berggiesshubel**	**76.83 320**	*e*P	**P**	**15 09 03.7**	**+1.5**
BRG			*i*		15 09 12.8		
BRG					15 11 49.9		
BRG			S	**S**	**15 18 50.0**	**+1.6**
BRG			SS	**SS**	**15 23 52.0**	**+7.4**
BRG			pmax	pmax			
	comp=Z,24nm,1.2s						
BRG			MLR	MLR			
	comp=N,1µm,18.7s						
BRG			MLR	MLR			
	comp=E,625nm,19.1s						
BRG			MLR	MLR			
	comp=Z,1µm,20.5s						
MYKA	**Terra Mystica**	**76.91 316**	*i*P	**P**	**15 09 04.2**	**+1.4**
	comp=Z,14nm,1.0s						
GEA0	**GERESS Array S**	**76.92 318**	*e*P	**P**	**15 09 02.4**	**-0.5**
GEC2	**GERESS Array S**	**76.92 318**	*e*P	**P**	**15 09 02.5**	**-0.3**
	comp=Z,38nm,0.8s						
GEC2			LR	LR			
	comp=Z,1µm,22.0s						
GEC2	**GERESS Array S**	**76.92 318**	*e*P	**P**	**15 09 02.6**	**-0.3**
GEC2			pmax	pmax			
	comp=Z,38nm,0.8s						
GEC2			MLR	MLR			
	comp=Z,1µm,22.0s						
GERES	**GERESS Array B**	**76.92 318**	P	**P**	**15 09 03.0**	**+0.1**
	comp=Z,8.4nm,0.7s,baz=83,slow=5.5,SNR=33						
GERES			LR	LR	15 48 11.2		
	comp=Z,720nm,18.6s,baz=94,slow=40						
GERES	**GERESS Array B**	**76.92 318**	P	**P**	**15 09 03.0**	**+0.1**
GERES			pmax	pmax			
	comp=Z,8.0nm,0.7s						
KHC	**Kasperske Hory**	**77.01 318**	*e*P	**P**	**15 09 03.5**	**+0.2**
KHC			*ex*	x	15 09 12.1		
KHC			*ex*	x	15 09 18.6		
KHC			*e*S	**S**	**15 18 48.6**	**-2.0**
KHC			AMS	AMS	15 47 30.0		
	comp=Z,1µm,19.0s						
KHC	**Kasperske Hory**	**77.01 318**	*e*P	**P**	**15 09 02.0**	**-1.3**
	comp=Z,11nm,1.2s						
KHC			LR	LR			
	comp=Z,400nm,20.0s						
KHC	**Kasperske Hory**	**77.01 318**	*e*P	**P**	**15 09 03.5**	**+0.2**
KHC			*e*		15 09 12.1		
KHC			*e*		15 09 18.6		
KHC			*e*S	**S**	**15 18 48.6**	**-2.0**
KHC			MLR	MLR			
	comp=Z,1µm,19.0s						
AQU	**L'Aquila**	**77.06 311**	PFAKE		15 09 10.0	+6.3	
AQU			LR	LR			
	comp=Z,1µm,21.0s						
KBA	**Koelnbreinsper**	**77.12 316**	*i*P	**P**	**15 09 04.8**	**+0.6**
	comp=Z,9.6nm,0.9s						
KBA	**Koelnbreinsper**	**77.12 316**	P	**P**	**15 09 05.3**	**+1.1**
KBA			pmax	pmax			
	comp=Z,27nm,1.1s						
CLTB	**Caltabellotta**	**77.27 307**	PFAKE		15 09 20.0	+15	
CLTB			LR	LR			
	comp=Z,1µm,22.0s						
RGN	**Rugen**	**77.36 324**	PFAKE		15 09 20.0	+15	
RGN			LR	LR			
	comp=Z,2µm,21.0s						
CLL	**Collm**	**77.43 321**	*e*P	**P**	**15 09 03.0**	**-2.6**
	comp=Z,31nm,1.7s						
CLL			*es*P	**pP**	**15 09 11.0**	**-2.0**
CLL			*i* PcP	**PcP**	**15 09 16.1**	**+0.2**
	comp=Z,21nm,1.0s						
CLL			*e*PP	**PP**	**15 11 58.0**	**-2.1**
CLL			*e*PPP	PPP	15 13 54.0		
CLL			*e*PPPP		15 15 06.0		
CLL			*e*S	**S**	**15 18 53.0**	**-2.0**
CLL			*e*SP	**SPn**	**15 19 28.0**	**-4.8**
CLL			*e*PPS	PPS	15 19 51.0		
CLL			*e*SS	**SS**	**15 23 54.0**	**+0.3**
CLL			*e*		15 24 42.0		
CLL			*e*SSS	SSS	15 27 18.0		
CLL			*e*		15 28 48.0		
CLL			LmV		15 49 00.0		
	comp=Z,1µm,21.4s						
CLL	**Collm**	**77.43 321**	*e*P	**P**	**15 09 03.7**	**-1.9**
	comp=Z,18nm,1.0s						
CLL			LR	LR			
	comp=Z,1µm,19.0s						
CLL	**Collm**	**77.43 321**	*e*P	**P**	**15 09 03.7**	**-1.9**
CLL			pmax	pmax			
	comp=Z,18nm,1.0s						
CLL			MLR	MLR			
	comp=Z,1µm,19.0s						
DZM	**Mont Dzumac**	**77.44 115**	*e*P	**P**	**15 09 04.2**	**-2.1**
	comp=Z,82nm,1.6s						
DZM	**Mont Dzumac**	**77.44 115**	*e*LR	LR	15 33 00.8		
	comp=Z,3µm,24.9s						
WET	**Wettzell**	**77.47 318**	P	**P**	**15 09 07.4**	**+1.5**
WET			pmax	pmax			
	comp=Z,31nm,1.1s						
HFS	**Hagfors**	**77.47 330**	P	**P**	**15 09 04.9**	**-0.7**
	comp=Z,17nm,0.8s,baz=104,slow=6.1,SNR=23						
HFS			LR	LR	15 47 37.8		
	comp=Z,2µm,19.9s,baz=96,slow=39						
ABTA	**Abfaltersbach**	**77.69 316**	*i*P	**P**	**15 09 07.6**	**+0.3**
	comp=Z,21nm,1.7s						
NKC	**Novy Kostel**	**77.76 319**	*e*P	**P**	**15 09 08.6**	**+1.1**
NKC			*ex*	x	15 09 16.5		
NKC			*e*S	**S**	**15 18 58.9**	**+0.2**
NKC			AMS	AMS	15 49 30.0		
	comp=Z,1µm,18.0s						
NKC	**Novy Kostel**	**77.76 319**	*e*P	**P**	**15 09 08.6**	**+1.1**
NKC			*e*		15 09 16.5		
NKC			*e*S	**S**	**15 18 58.9**	**+0.2**
NKC			MLR	MLR			
	comp=Z,1µm,18.0s						
WTTA	**Wattenberg**	**78.29 316**	*i*P	**P**	**15 09 11.2**	**+0.6**
	comp=Z,18nm,1.0s						
WATA	**Walderalm**	**78.33 317**	*i*P	**P**	**15 09 10.6**	**-0.3**
	comp=Z,12nm,0.9s						
NC405	**NORSAR Array S**	**78.50 331**	*e*P	**P**	**15 09 09.2**	**-2.1**
GRFO	**Grafenberg**	**78.55 319**	*e*P	**P**	**15 09 11.2**	**-0.6**
	comp=Z,21nm,0.8s						
GRFO			LR	LR			
	comp=Z,1µm,19.0s						
GRFO	**Grafenberg**	**78.55 319**	*e*P	**P**	**15 09 11.3**	**-0.6**
GRFO			pmax	pmax			
	comp=Z,21nm,0.8s						
GRFO			MLR	MLR			
	comp=Z,1µm,19.0s						
NC602	**NORSAR Array S**	**78.57 330**	*e*P	**P**	**15 09 10.4**	**-1.3**
NC602	**NORSAR Array S**	**78.57 330**	*e*P	**P**	**15 09 10.1**	**-1.6**
MOTA	**Mooosalm**	**78.65 317**	*i*P	**P**	**15 09 12.4**	**-0.2**
	comp=Z,9.3nm,0.7s,SNR=6.2						
NC303	**NORSAR Array S**	**78.68 331**	*e*P	**P**	**15 09 10.9**	**-1.4**
NB201	**NORSAR Array S**	**78.71 331**	*e*P	**P**	**15 09 10.6**	**-1.9**
NB2	**NORSAR Subarra**	**78.75 331**	P	**P**	**15 09 11.7**	**-1.0**
	comp=Z,50nm,1.1s,baz=91,slow=5.9						
NB2	**NORSAR Subarra**	**78.75 331**	P	**P**	**15 09 11.7**	**-1.0**
	baz=91,slow=5.9						
NOA	**NORSAR Array B**	**78.75 331**	P	**P**	**15 09 11.6**	**-1.1**
	comp=Z,8.1nm,0.8s,baz=91,slow=5.7,SNR=22						
NOA			LR	LR	15 47 50.9		
	comp=Z,2µm,21.1s,baz=105,slow=39						
HSPB	**Hornsund (broa**	**78.79 347**	*e*P	P	15 09 18.2	+5.6	
HSPB			*e*S	S	15 19 18.0	+9.2	
SPA0	**Spitsbergen Ar**	**78.82 348**	*e*P	**P**	**15 09 12.0**	**-0.8**
SPITS	**Spitsbergen Ar**	**78.82 348**	P	**P**	**15 09 12.3**	**-0.5**
	comp=Z,4.6nm,0.4s,baz=75,slow=7.0,SNR=39						
SPITS			LR	LR	15 50 24.8		
	comp=Z,2µm,20.5s,baz=95,slow=41						
RETA	**Reutte**	**78.88 317**	*i*P	**P**	**15 09 14.2**	**+0.4**
	comp=Z,41nm,1.0s,SNR=7.2						
NAO01	**NORSAR Array S**	**78.90 330**	*e*P	**P**	**15 09 12.8**	**-0.8**
FETA	**Feichten**	**78.91 316**	*i*P	**P**	**15 09 14.4**	**+0.3**
	comp=Z,18nm,1.0s					

KBS LR LR
comp=Z,2µm,19.0s
TUE Stuetta 79.88 316 *e*P **P 15 09 18.0 -1.4**
comp=Z,28nm,0.9s
TUE LR LR
comp=Z,1µm,20.0s
STU Stuttgart 79.90 318 PFAKE 15 09 30.0 +11
STU LR LR
comp=Z,1µm,22.0s
TSUM Tsumeb 80.14 249 *e*P **P 15 09 22.8 +1.6**
comp=Z,21nm,0.9s
TSUM LR LR
comp=Z,2µm,18.0s
KEST Kesra 80.47 305 P **P 15 09 22.8 +0.2**
comp=Z,6.3nm,0.9s,baz=2.5,slow=4.8,SNR=4.1
KEST LR LR 15 50 16.8
comp=Z,867nm,18.6s,baz=26,slow=40
KEST Kesra 80.47 305 *e*P **P 15 09 20.7 -1.9**
comp=Z,21nm,1.1s
BFO Black Forest 80.49 318 *e*P **P 15 09 19.9 -2.6**
comp=Z,24nm,1.0s
BFO Black Forest 80.49 318 *i* P **P 15 09 23.9 +1.4**
MOL Molde 80.50 332 *e*P **P 15 09 22.5 +0.4**
SUR Sutherland 80.68 235 *e*P **P 15 09 26.6 +2.6**
comp=Z,81nm,0.8s
ODD1 Odda 81.02 329 *e*P **P 15 09 26.4 +1.4**
BLS5 Blasjo 81.12 329 *e*P **P 15 09 25.8 +0.2**
SENIN Lac Senin/Sane 81.30 316 *e*P **P 15 09 28.4 +1.3**
comp=Z,17nm,0.8s
BNI Bardonecchia 81.82 314 *e*P **P 15 09 28.9 -0.9**
comp=Z,41nm,0.8s
BNI Bardonecchia 81.82 314 *e*P **P 15 09 28.9 -0.9**
BNI pmax pmax
comp=Z,41nm,0.8s
WLF Walferdange 81.84 319 ⇓P **P 15 09 31.6 +2.0**
MEM Membach 81.87 320 ⇑P **P 15 09 28.7 -1.0**
MEM ⇑AP **PcP 15 09 31.1 -4.2**
MEM ⇑XP **pP 15 09 34.3 -2.8**
BCLA Clavier 82.33 320 ⇑P **P 15 09 33.4 +1.3**
DOU Dourbes 82.81 320 ⇓P **P 15 09 35.3 +0.6**
SSB Saint Sauveur 83.31 315 *e*P **P 15 09 37.3 -0.1**
comp=Z,25nm,1.1s
SSB Saint Sauveur 83.31 315 *e*P **P 15 09 37.3 -0.1**
SSB pmax pmax
comp=Z,25nm,1.1s
TAM Tamanrasset 85.11 292 *e*P **P 15 09 47.5 +0.4**
comp=Z,26nm,1.5s
TAM LR LR
comp=Z,4µm,22.0s
TAM Tamanrasset 85.11 292 *e*P **P 15 09 47.5 +0.4**
TAM pmax pmax
comp=Z,26nm,1.5s
TAM MLR MLR
comp=Z,4µm,22.0s
SYO Syowa Base 86.27 197⇓ *e*P **P 15 09 51.6 0.0**
SYO Syowa Base 86.27 197⇓ *e*PcP **PcP 15 09 55.2 +1.1**
DAG Danmarks Havn 86.46 348 *i* P **P 15 09 54.8 +2.3**
comp=Z,13nm,1.0s
DAG Danmarks Havn 86.46 348 *e*P **P 15 09 54.8 +2.3**
DAG pmax pmax
comp=Z,13nm,1.0s
EKA Eskdalemuir Ar 86.76 325 P **P 15 09 54.1 -0.3**
comp=Z,10nm,0.8s,baz=92,slow=5.5,SNR=18
EKA LR LR 15 52 55.8
comp=Z,1µm,20.8s,baz=75,slow=39
ESK Eskdalemuir 86.79 325 *e*P **P 15 09 55.6 +1.0**
comp=Z,51nm,1.1s
ESK LR LR
comp=Z,2µm,19.0s
ESK Eskdalemuir 86.79 325 *e*P **P 15 09 55.6 +1.0**
ESK pmax pmax
comp=Z,51nm,1.1s
ESK MLR MLR
comp=Z,2µm,19.0s
OXZ Oxford 87.52 134 PFAKE 15 10 10.0 +12
OXZ LR LR
comp=Z,3µm,21.0s
UNV Unalaska Valle 88.54 36 PFAKE 15 10 10.0 +7.1
UNV LR LR
comp=Z,1µm,20.0s
SCO Scoresbysund 90.03 342 *i* P **P 15 10 14.2 +4.6**
comp=Z,11nm,1.0s
SCO Scoresbysund 90.03 342 PFAKE 15 10 20.0 +10
SCO LR LR
comp=Z,3µm,22.0s
SCO Scoresbysund 90.03 342 *e*P **P 15 10 14.2 +4.6**
SCO pmax pmax
comp=Z,11nm,1.0s
TOC2 Torodi Ar. Sit 90.09 283 PFAKE 15 10 20.0 +8.9
TOC2 LR LR
comp=Z,2µm,22.0s
TOC3 Torodi Ar. Sit 90.09 283 PFAKE 15 10 20.0 +8.9
TOC3 LR LR
comp=Z,2µm,22.0s
TOB2 Torodi Ar. Sit 90.11 283 PFAKE 15 10 20.0 +8.9
TOB2 LR LR
comp=Z,2µm,20.0s
TOC1 Torodi Ar. Sit 90.11 283 PFAKE 15 10 20.0 +8.9
TOC1 LR LR
comp=Z,2µm,22.0s
TOB3 Torodi Ar. Sit 90.11 283 PFAKE 15 10 20.0 +8.9
TOB3 LR LR
comp=Z,1µm,21.0s
TOA2 Torodi Ar. Sit 90.11 283 PFAKE 15 10 20.0 +8.8
TOA2 LR LR
comp=Z,2µm,22.0s
TOA0 Torodi Ar. Sit 90.12 283 *e*P **P 15 10 11.4 +0.2**
TOA0 LR LR
comp=Z,2µm,22.0s
TOC4 Torodi Ar. Sit 90.12 283 PFAKE 15 10 20.0 +8.8
TOC4 LR LR
comp=Z,1µm,21.0s
TORD Torodi Ar. Bea 90.12 283 P **P 15 10 11.7 +0.5**
comp=Z,3.0nm,0.7s,baz=85,slow=3.7,SNR=15
TORD PP **PP 15 13 46.7 +1.9**
comp=Z,0.6nm,0.9s,baz=63,slow=3.9,SNR=2.5
TORD PKKPbc **PKKPbc 15 27 44.4 +3.2**
comp=Z,0.8nm,1.0s,baz=233,slow=2.5,SNR=2.8
TORD LR LR 15 49 30.4
comp=Z,1µm,20.4s,baz=75,slow=35
TOA1 Torodi Ar. Sit 90.12 283 PFAKE 15 10 20.0 +8.8
TOA1 LR LR
comp=Z,2µm,21.0s
TOB4 Torodi Ar. Sit 90.13 283 PFAKE 15 10 20.0 +8.8
TOB4 LR LR
comp=Z,2µm,22.0s
TOB5 Torodi Ar. Sit 90.13 283 PFAKE 15 10 20.0 +8.8
TOB5 LR LR
comp=Z,2µm,22.0s
TOC7 Torodi Ar. Sit 90.13 283 PFAKE 15 10 20.0 +8.8
TOC7 LR LR
comp=Z,2µm,22.0s
TOC5 Torodi Ar. Sit 90.14 283 PFAKE 15 10 20.0 +8.7
TOC5 LR LR
comp=Z,2µm,22.0s
TOC6 Torodi Ar. Sit 90.15 283 PFAKE 15 10 20.0 +8.7
TOC6 LR LR
comp=Z,1µm,21.0s
ES19 SONSECA Array 90.33 310 *e*P **P 15 10 12.2 +0.5**
ESDC Sonseca Array 90.38 310 P **P 15 10 12.4 +0.3**
comp=Z,4.0nm,0.7s,baz=72,slow=4.6,SNR=14
ESDC LR LR 15 55 15.2
comp=Z,602nm,20.3s,baz=125,slow=39
PAB San Pablo 90.70 310 *e*P **P 15 10 13.4 -0.2**
comp=Z,16nm,1.1s
PAB San Pablo 90.70 310 *e*P **P 15 10 13.4 -0.2**
PAB pmax pmax
comp=Z,16nm,1.1s
IM3 Indian Mountai 90.82 22 *e*P **P 15 10 13.3 -0.1**
TOLK Toolik Lake Re 91.11 19 P **P 15 10 14.7 -0.1**
baz=298
TOLK Toolik Lake Re 91.11 19 *e*P **P 15 10 14.9 +0.1**
comp=Z,26nm,1.1s
TOLK LR LR
comp=Z,3µm,20.0s
COLD Coldfoot 91.55 21 *e*P **P 15 10 16.7 -0.1**
comp=Z,17nm,1.2s
SVW2 Sparrevohn 91.98 27 *e*P **P 15 10 20.0 +1.1**
comp=Z,28nm,1.3s
SVW2 LR LR
comp=Z,1µm,20.0s
MVO Moncorvo 92.34 312 *e*P **P 15 10 23.9 +2.8**
MVO Moncorvo 92.34 312 *e*LR LR 15 43 47.3
comp=Z,717nm,20.0s
MLY Manley 92.36 23 *e*P **P 15 10 20.4 -0.2**
comp=Z,32nm,1.5s
MLY LR LR
comp=Z,1µm,18.0s
CAST Castle Rocks 92.54 24 *e*P **P 15 10 21.4 -0.1**
comp=Z,41nm,1.0s
BPAW Bear Paw Mtn. 92.68 23 *e*P **P 15 10 21.8 -0.3**
comp=Z,62nm,1.3s
PPLA Purkeypile 92.72 25 *e*P **P 15 10 22.4 -0.1**
comp=Z,36nm,1.3s
PPLA LR LR
comp=Z,2µm,19.0s
SFS San Fernando 92.80 307 PFAKE 15 10 30.0 +6.8
SFS LR LR
comp=Z,900nm,20.0s
MTE Manteigas 92.90 311 *e*LR LR 15 43 52.0
comp=Z,865nm,20.0s
KTH Kantishna Hill 92.95 24 *e*P **P 15 10 24.1 +0.7**
comp=Z,21nm,0.4s
KTH LR LR
comp=Z,1µm,19.0s
PCBR Castelo Branco 92.99 311 *e*P **P 15 10 24.5 +0.5**
PMRV Marv??o 93.02 310 *e*P **P 15 10 25.3 +1.1**
PMRV Marv??o 93.02 310 *e*LR LR 15 43 26.6
comp=Z,672nm,18.0s
PGAV Gavieira, Arco 93.04 313 *e*LR LR 15 43 47.3
comp=Z,656nm,20.0s
PBAR Barrancos 93.05 309 *e*P **P 15 10 27.1 +2.8**
SUMG Summit 93.12 347 *i* P **P 15 10 26.5 +2.0**
comp=Z,15nm,1.1s
SUMG Summit 93.12 347 *e*P **P 15 10 24.3 -0.2**
comp=Z,20nm,1.1s
SUMG LR LR
comp=Z,1µm,22.0s
SUMG Summit 93.12 347 *e*P **P 15 10 26.5 +2.0**
SUMG pmax pmax
comp=Z,15nm,1.1s
TRF Thorofare Moun 93.25 24 *e*P **P 15 10 23.0 -2.0**
comp=Z,25nm,0.8s
TRF LR LR
comp=Z,1µm,20.0s
MDM Murphy Dome 93.34 22 *e*P **P 15 10 24.1 -1.0**
comp=Z,30nm,1.2s
MDM LR LR
comp=Z,800nm,19.0s
COLA College 93.52 22 *e*P **P 15 10 24.8 -1.0**
comp=Z,5.4nm,0.8s
COLA LR LR
comp=Z,1µm,19.0s
COLA College 93.52 22 *e*P **P 15 10 24.8 -1.0**
COLA pmax pmax
comp=Z,5.0nm,0.8s
COLA MLR MLR
comp=Z,1µm,19.0s
FYU Fort Yukon 93.59 20 *e*P **P 15 10 26.5 +0.3**
comp=Z,39nm,1.3s
FYU LR LR
comp=Z,2µm,19.0s
WRH Wood River Hil 93.63 23 *e*P **P 15 10 26.2 -0.2**
comp=Z,45nm,1.4s
WRH LR LR
comp=Z,2µm,19.0s
CCB Clear Creek Bu 93.65 22 *e*P **P 15 10 24.7 -1.8**
comp=Z,31nm,1.4s
MCK McKinley 93.66 23 *e*P **P 15 10 25.8 -0.8**
comp=Z,30nm,1.2s
MCK McKinley 93.66 23 *e*P **P 15 10 25.8 -0.8**
MCK pmax pmax
comp=Z,30nm,1.2s
PVAQ Vaqueiros 93.76 309 *e*LR LR 15 44 01.1
comp=Z,814nm,20.0s
RND Reindeer 93.84 24 *e*P **P 15 10 26.4 -1.2**
comp=Z,28nm,0.7s
RND LR LR
comp=Z,2µm,21.0s
RND Reindeer 93.84 24 *e*P **P 15 10 26.4 -1.2**
RND pmax pmax
comp=Z,28nm,0.7s
RND MLR MLR
comp=Z,2µm,21.0s
RTC Rabat Centre 93.88 305 PFAKE 15 10 40.0 +12
RTC LR LR
comp=Z,3µm,20.0s
IL1 Eielson Array 93.93 22 *e*P **P 15 10 25.9 -1.9**
ILAR Eielson Array 93.93 22 P **P 15 10 25.9 -2.0**
comp=Z,2.1nm,0.7s,baz=306,slow=3.7,SNR=28
ILAR PP **PP 15 14 09.9 -3.3**
comp=Z,4.8nm,1.2s,baz=295,slow=7.9,SNR=6.2
ILAR PKKPbc **PKKPbc 15 27 37.9 +4.7**
comp=Z,0.5nm,0.7s,baz=158,slow=2.8,SNR=5.1
ILAR LR LR 15 54 52.8
comp=Z,904nm,21.9s,baz=289,slow=37
ILB Eielson Array 93.93 22 *e*P **P 15 10 26.5 -1.3**
VNDA Vanda 93.95 168 P **P 15 10 26.2 -1.3**
comp=Z,0.3nm,0.5s,baz=323,slow=5.1,SNR=2.5
VNDA LR LR 15 49 46.4
comp=Z,1µm,18.8s,baz=332,slow=34
VNDA Vanda 93.95 168 *e*P **P 15 10 26.4 -1.1**
comp=Z,32nm,1.9s
VNDA Vanda 93.95 168 *e*P **P 15 10 26.4 -1.1**
VNDA pmax pmax
comp=Z,32nm,1.9s
SUA Susitna One 93.96 26 *e*P **P 15 10 27.1 -1.0**
comp=Z,29nm,0.8s
SUA LR LR
comp=Z,2µm,20.0s
HDA Harding Lake 94.09 22 *e*P **P 15 10 26.1 -2.4**
comp=Z,11nm,0.8s
HDA LR LR
comp=Z,1µm,19.0s
TULEG Thule 94.14 356 *e*P **P 15 10 27.2 -1.4**
comp=Z,23nm,1.2s
TULEG LR LR
comp=Z,1µm,20.0s
RC01 Rabbit Creek A 94.56 26 *e*P **P 15 10 29.9 -0.8**
comp=Z,38nm,1.2s
PMR Palmer 94.59 25 *e*P **P 15 10 30.1 -0.8**
comp=Z,23nm,1.2s
PMR LR LR
comp=Z,1µm,20.0s
PMR Palmer 94.59 25 *e*P **P 15 10 30.1 -0.8**
PMR pmax pmax
comp=Z,23nm,1.2s
PMR MLR MLR
comp=Z,1µm,20.0s
DHY Denali Highway 94.59 24 PFAKE 15 10 40.0 +8.9
DHY LR LR
comp=Z,1µm,19.0s
BRLK Bradley Lake 94.66 27 *e*P **P 15 10 30.2 -1.0**
comp=Z,31nm,0.8s
KDAK Kodiak Island 94.71 30 PFAKE 15 10 40.0 +8.5
KDAK LR LR
comp=Z,3µm,22.0s
SML Sawmill 94.82 25 *e*P **P 15 10 31.4 -0.6**
comp=Z,26nm,1.0s
SML LR LR
comp=Z,1µm,19.0s
SML Sawmill 94.82 25 *e*P **P 15 10 31.4 -0.6**
SML pmax pmax
comp=Z,26nm,1.0s
SML MLR MLR
comp=Z,1µm,19.0s
SBA Scott Base 95.05 168 PFAKE 15 10 40.0 +7.4
SBA LR LR
comp=Z,2µm,18.0s
SCM Sheep Creek Mo 95.22 25 *e*P **P 15 10 34.1 +0.2**
comp=Z,24nm,0.7s
SCM LR LR
comp=Z,1µm,19.0s
SCM Sheep Creek Mo 95.22 25 *e*P **P 15 10 34.1 +0.2**
SCM pmax pmax
comp=Z,24nm,0.7s
SCM MLR MLR
comp=Z,1µm,19.0s
RIDG Independ'e Rid 95.23 22 *e*P **P 15 10 32.8 -1.0**
comp=Z,12nm,1.0s
RIDG LR LR
comp=Z,2µm,20.0s
KOWA Kowa 95.36 286 LR LR 15 54 36.4
comp=Z,2µm,18.1s,baz=58,slow=36
PAX Paxson 95.39 23 *e*P **P 15 10 33.6 -1.1**
comp=Z,7.3nm,0.9s
PAX LR LR
comp=Z,2µm,19.0s
PAX Paxson 95.39 23 *e*P **P 15 10 33.6 -1.1**
PAX pmax pmax
comp=Z,7.0nm,0.9s
PAX MLR MLR
comp=Z,2µm,19.0s
SCRK Sand Creek 95.42 22 *e*P **P 15 10 33.7 -1.1**
comp=Z,9.7nm,1.0s
SCRK LR LR
comp=Z,1µm,20.0s
DOT Dot Lake 95.57 22 *e*P **P 15 10 34.7 -0.7**
comp=Z,20nm,0.8s
NVL N'lazarevskaya 95.69 199 *e*P **P 15 10 33.9 -1.7**
NVL pmax pmax
comp=Z,10.0nm,0.6s
HARP HAARP 95.81 24 *e*P **P 15 10 38.0 +1.5**
comp=Z,21nm,0.8s
HARP LR LR
comp=Z,1µm,18.0s
KLU Klutina 95.98 25 *e*P **P 15 10 37.0 -0.3**
comp=Z,10.0nm,1.2s
KLU LR LR
comp=Z,1µm,21.0s
EGAK Eagle 95.99 21 *e*P **P 15 10 36.1 -1.1**
comp=Z,13nm,1.3s
EGAK LR LR
comp=Z,2µm,20.0s
INK Inuvik 96.12 16 *e*P **P 15 10 36.9 -0.8**
comp=Z,19nm,1.1s
INK LR LR
comp=Z,2µm,20.0s
INK Inuvik 96.12 16 *e*P **P 15 10 36.9 -0.8**
INK pmax pmax
comp=Z,19nm,1.1s
INK MLR MLR
comp=Z,2µm,20.0s
DIV Divide 96.23 25 PFAKE 15 10 50.0 +12
DIV LR LR
comp=Z,2µm,19.0s
RES Resolute Bay 96.43 2 *e*P **P 15 10 38.6 -0.4**
comp=Z,23nm,1.0s
RES LR LR
comp=Z,1µm,20.0s
RES Resolute Bay 96.43 2 *e*P **P 15 10 38.6 -0.4**
RES pmax pmax
comp=Z,23nm,1.0s
RES MLR MLR
comp=Z,1µm,20.0s
EYAK Cordova Ski Ar 96.53 25 *e*P **P 15 10 40.1 +0.3**
comp=Z,7.9nm,0.8s
EYAK LR LR
comp=Z,2µm,21.0s
BMRM Bremner River 96.80 25 *e*P **P 15 10 41.1 0.0**
comp=Z,16nm,0.8s
MID Middleton Isla 96.85 27 PFAKE 15 10 50.0 +8.8
MID LR LR
comp=Z,2µm,20.0s
DAWY Dawson 97.03 21 *e*P **P 15 10 41.4 -0.6**
comp=Z,9.0nm,1.0s
DAWY LR LR
comp=Z,2µm,19.0s
RAGM Ragged Mountai 97.07 25 PFAKE 15 10 50.0 +7.6
RAGM LR LR
comp=Z,2µm,19.0s
DBIC Dimbokro 97.55 278 LR LR 15 52 55.6
comp=Z,2µm,21.0s,baz=67,slow=34
BALM Baldy 97.68 24 *e*P **P 15 10 44.1 -0.9**
comp=Z,17nm,0.7s
BALM Baldy 97.68 24 *e*P **P 15 10 44.2 -0.9**
BALM pmax pmax
comp=Z,17nm,0.7s
ILULI Ilulissat 98.39 348 PFAKE 15 11 00.0 +12
ILULI LR LR
comp=Z,2µm,21.0s
QSPA South Pole Qui 98.76 180 PFAKE 15 11 00.0 +10
QSPA LR LR
comp=Z,2µm,20.0s
SFJD Kangerlussuaq 100.10 347 PFAKE 15 11 10.0 +14
SFJD LR LR
comp=Z,2µm,20.0s
SNAA Sanae 100.48 199 P **Pdif 15 11 01.7 +4.5**
SNAA Sanae 100.48 199 PFAKE 15 11 10.0 +13
SNAA LR LR
comp=Z,2µm,18.0s
WHY Whitehorse 100.81 22 PFAKE 15 11 10.0 +11
WHY LR LR
comp=Z,2µm,20.0s
SKAG Skagway 101.42 23 PFAKE 15 11 10.0 +8.3
SKAG LR LR
comp=Z,2µm,21.0s
VNA2 Neumayer--Watz 102.01 199 P **Pdif 15 11 12.5 +8.5**
baz=78,slow=4.7
VNA1 Neumayer--Stat 102.34 199 P **Pdif 15 11 13.0 +7.6**
PMOZ Porto Moniz, M 102.51 306 *e*LR LR 15 48 42.7
comp=Z,1µm,20.0s
DLBC Dease Lake 104.14 22 PFAKE 15 11 20.0 +6.1
DLBC LR LR
comp=Z,2µm,20.0s
WRAK Wrangell Islan 104.63 24 PFAKE 15 11 30.0 +14
WRAK LR LR
comp=Z,2µm,20.0s
CRAG Craig 104.94 26 PFAKE 15 11 30.0 +13
CRAG LR LR
comp=Z,1µm,20.0s
YKA Yellowknife Ar 105.53 13 Pdiff **Pdif 15 11 19.2 -0.7**
comp=Z,0.4nm,0.9s,baz=331,slow=4.5,SNR=8.3
YKA PKKPbc **PKKPbc 15 26 59.0 -1.1**
comp=Z,0.3nm,0.7s,baz=152,slow=2.6,SNR=6.5
DIB Dawson Inlet, 106.74 27 PFAKE 15 15 50.0
DIB LR LR
comp=Z,1µm,21.0s
BBB Bella Bella 109.36 26 PFAKE 15 15 50.0
BBB LR LR
comp=Z,2µm,20.0s
FCC Fort Churchill 112.29 4 PFAKE 15 16 00.0
FCC LR LR
comp=Z,2µm,22.0s
LLLB Lillooet 113.14 24 PFAKE 15 16 00.0
LLLB LR LR
comp=Z,4µm,18.0s
SACV Santiago Islan 113.67 291 PFAKE 15 16 00.0
SACV LR LR
comp=Z,500nm,19.0s
PGC Sidney 113.98 26 PFAKE 15 16 00.0
PGC LR LR
comp=Z,2µm,19.0s
SCHQ Schefferville 114.50 348 PFAKE 15 16 00.0 +10
SCHQ LR LR
comp=Z,2µm,22.0s
NLWA Neilton Lookou 114.74 27 PFAKE 15 16 00.0 +8.9
NLWA LR LR
comp=Z,4µm,18.0s
FFC Flin Flon 115.26 10 PFAKE 15 16 00.0 +8.2
FFC LR LR
comp=Z,3µm,19.0s
LON Longmire 116.15 27 PFAKE 15 16 00.0 +6.2
LON LR LR
comp=Z,1µm,21.0s
C09A Chrisman Ranch 116.81 24 PFAKE 15 16 10.0 +15
C09A LR LR
comp=Z,4µm,18.0s
NEW Newport 116.88 23 PFAKE 15 16 10.0 +15
NEW LR LR
comp=Z,4µm,18.0s
COR Corvallis 117.09 29 PFAKE 15 16 10.0 +14
COR LR LR
comp=Z,5µm,18.0s
WALA Waterton Lakes 117.37 20 PFAKE 15 16 10.0 +14
WALA LR LR
comp=Z,4µm,18.0s
HAWA Hanford 117.42 25 PFAKE 15 16 10.0 +14
HAWA LR LR
comp=Z,5µm,18.0s
G06A Carlson Farm, 117.84 27 PFAKE 15 16 10.0 +13
G06A LR LR
comp=Z,4µm,18.0s
KEBM Edson Butte 117.84 31 PFAKE 15 16 10.0 +13
KEBM LR LR
comp=Z,4µm,18.0s
PPT2 Papeete2 117.86 105 *e*LR LR 15 51 55.4
comp=Z,1µm,23.8s
JTMT Jette 118.36 21 PFAKE 15 16 10.0 +12
JTMT LR LR
comp=Z,4µm,18.0s
KBO Bosley Butte 118.37 31 PFAKE 15 16 10.0 +12
KBO LR LR
comp=Z,3µm,18.0s
HUMO Hull Mountain 118.73 30 *e*PKPdf **PKPdf 15 15 58.6 -0.2**
HUMO LR LR
comp=Z,2µm,19.0s
MSO Missoula 119.26 22 PFAKE 15 16 10.0 +10
MSO LR LR

comp=Z,3µm,20.0s
JCC **Jacoby Creek,** **119.48** **32** PFAKE 15 16 10.0 +10
JCC LR LR
comp=Z,2µm,20.0s
YBH **Yreka Blue Hor** **119.50** **31** PFAKE 15 16 10.0 +10
YBH LR LR
comp=Z,2µm,20.0s
BMO **Blue Mountains** **119.58** **25** PFAKE 15 16 10.0 +9.5
BMO LR LR
comp=Z,2µm,20.0s
EGMT **Eagleton** **119.62** **18** PFAKE 15 16 10.0 +10
EGMT LR LR
comp=Z,2µm,19.0s
HOPE **Hope Point** **119.95** **211** PFAKE 15 16 10.0 +9.3
HOPE LR LR
comp=Z,2µm,19.0s
KMRM **Mail Ridge** **120.07** **33** PFAKE 15 16 10.0 +8.4
KMRM LR LR
comp=Z,3µm,18.0s
WDC **Whiskeytown Da** **120.43** **32** PFAKE 15 16 10.0 +7.9
WDC LR LR
comp=Z,2µm,18.0s
ULM **Lac du Bonnet** **120.52** **7** PKP **PKPdf** **15 16 02.7 +0.7**
comp=Z,3.0nm,0.7s,baz=324,slow=5.2,SNR=5.2
ULM **Lac du Bonnet** **120.52** **7** PKP **PKPdf** **15 16 02.7 +0.7**
ULM LR LR
comp=Z,3µm,18.0s
KCPM **Cahto Peak** **120.52** **33** PFAKE 15 16 10.0 +7.5
KCPM LR LR
comp=Z,3µm,18.0s
MOD **Modoc Plateau** **120.56** **29** *e*PKPdf **PKPdf** **15 16 01.7 -0.8**
MOD LR LR
comp=Z,2µm,19.0s
DGMT **Dagmar** **120.72** **14** PFAKE 15 16 10.0 +7.5
DGMT LR LR
comp=Z,2µm,18.0s
WVOR **Wild Horse Val** **120.93** **28** PFAKE 15 16 10.0 +6.8
WVOR LR LR
comp=Z,2µm,19.0s
DLMT **Dillon** **121.00** **22** PFAKE 15 16 10.0 +6.7
DLMT LR LR
comp=Z,1µm,18.0s
BOZ **Bozeman (W)** **121.14** **21** PFAKE 15 16 10.0 +6.4
BOZ LR LR
comp=Z,2µm,19.0s
HOPS **Hopland Field** **121.30** **33** PFAKE 15 16 10.0 +6.1
HOPS LR LR
comp=Z,2µm,18.0s
MFID **Camas Ranch** **121.37** **25** *e*PKPdf **PKPdf** **15 16 02.7 -1.3**
MFID LR LR
comp=Z,1µm,19.0s
GDXM **Geysers** **121.58** **33** PFAKE 15 16 20.0 +15
GDXM LR LR
comp=Z,2µm,19.0s
ORV **Oroville** **121.72** **32** PFAKE 15 16 20.0 +15
ORV LR LR
comp=Z,1µm,19.0s
HLID **Hailey** **121.83** **24** P **PKPdf** **15 16 06.0 +1.0**
baz=327
HLID **Hailey** **121.83** **24** *e*PKPdf **PKPdf** **15 16 06.0 +1.0**
HLID LR LR
comp=Z,1µm,18.0s
LAO **LASA Array** **121.86** **16** PFAKE 15 16 20.0 +15
LAO LR LR
comp=Z,2µm,19.0s
MCCM **Marconi Confer** **122.01** **34** PFAKE 15 16 20.0 +15
MCCM LR LR
comp=Z,2µm,18.0s
YHB **Horse Butte** **122.03** **21** PFAKE 15 16 20.0 +15
YHB LR LR
comp=Z,1µm,20.0s
BEKR **Beckworth** **122.07** **31** *e*PKPdf **PKPdf** **15 16 05.4 -0.2**
BEKR LR LR
comp=Z,1µm,19.0s
YHH **Holmes Hill** **122.12** **21** PFAKE 15 16 20.0 +14
YHH LR LR
comp=Z,1µm,20.0s
YMR **Madison River** **122.18** **21** PFAKE 15 16 20.0 +14
YMR LR LR
comp=Z,1µm,19.0s
MDND **Maddock** **122.28** **11** PFAKE 15 16 20.0 +14
MDND LR LR
comp=Z,2µm,19.0s
RLMT **Red Lodge** **122.36** **19** PFAKE 15 16 20.0 +14
RLMT LR LR
comp=Z,2µm,20.0s
YFT **Old Faithful** **122.42** **21** PFAKE 15 16 20.0 +14
YFT LR LR
comp=Z,2µm,19.0s
AGMN **Agassiz Nation** **122.44** **8** PFAKE 15 16 20.0 +14
AGMN LR LR
comp=Z,2µm,22.0s
AFDM **Forest Hills D** **122.45** **32** PFAKE 15 16 20.0 +14
AFDM LR LR
comp=Z,2µm,18.0s
LKWY **Lake** **122.47** **20** PFAKE 15 16 20.0 +14
LKWY LR LR
comp=Z,1µm,18.0s
H17A **Grant Village** **122.56** **21** PFAKE 15 16 20.0 +14
H17A LR LR
comp=Z,2µm,19.0s
YPP **Pitchstone Pla** **122.58** **21** PFAKE 15 16 20.0 +13
YPP LR LR
comp=Z,2µm,19.0s
PAHR **Pah Rah Range** **122.68** **30** PFAKE 15 16 20.0 +13
PAHR LR LR
comp=Z,2µm,18.0s
RUBR **Rubicon Trail** **122.79** **31** PFAKE 15 16 20.0 +13
RUBR LR LR
comp=Z,2µm,19.0s
IMW **Indian Meadow** **122.86** **21** PFAKE 15 16 20.0 +13
IMW LR LR
comp=Z,1µm,20.0s
VCNR **Virginia City** **122.86** **31** PFAKE 15 16 20.0 +13
VCNR LR LR
comp=Z,2µm,18.0s
MOOW **Moose Ponds** **123.06** **21** PFAKE 15 16 20.0 +13
MOOW LR LR
comp=Z,2µm,20.0s
RDG13 **Poverty Ridge** **123.15** **34** PFAKE 15 16 20.0 +12
RDG13 LR LR
comp=Z,3µm,18.0s
BMN **Battle Mountai** **123.16** **28** PFAKE 15 16 20.0 +12
BMN LR LR
comp=Z,2µm,19.0s
TPAW **Teton Pass** **123.21** **21** *e*PKPdf **PKPdf** **15 16 06.9 -0.9**
TPAW LR LR
comp=Z,2µm,19.0s
LOHW **Long Hollow** **123.23** **21** *e*PKPdf **PKPdf** **15 16 07.3 -0.4**
LOHW LR LR
comp=Z,2µm,19.0s
EYMN **Ely** **123.24** **4** PFAKE 15 16 20.0 +13
EYMN LR LR
comp=Z,2µm,20.0s
SNOW **Snow King Moun** **123.31** **21** PFAKE 15 16 20.0 +12
SNOW LR LR
comp=Z,2µm,18.0s
YERR **Yerington** **123.31** **31** PFAKE 15 16 20.0 +12
YERR LR LR
comp=Z,2µm,18.0s
REDW **Red Top Meadow** **123.36** **21** *e*PKPdf **PKPdf** **15 16 07.6 -0.4**
REDW LR LR
comp=Z,2µm,18.0s
CMB **Columbia Colle** **123.43** **32** PFAKE 15 16 20.0 +12
CMB LR LR
comp=Z,2µm,18.0s
WAKR **Walker** **123.57** **31** PFAKE 15 16 20.0 +11
WAKR LR LR
comp=Z,2µm,18.0s
AHID **Auburn Hatcher** **123.78** **22** PFAKE 15 16 20.0 +11
AHID LR LR
comp=Z,2µm,19.0s
SAO **San Andreas Ge** **123.79** **34** PFAKE 15 16 20.0 +11
SAO LR LR
comp=Z,3µm,18.0s
KVN **Kaiserville** **123.82** **30** PFAKE 15 16 20.0 +11
KVN LR LR
comp=Z,1µm,18.0s
RYN **Ryan** **123.94** **30** *e*PKPdf **PKPdf** **15 16 08.9 -0.3**
HVU **Hansel Valley** **123.98** **24** *e*PKPdf **PKPdf** **15 16 09.2 0.0**
HVU LR LR
comp=Z,3µm,18.0s
HVU **Hansel Valley** **123.98** **24** *e*PKIKP **PKPdf** **15 16 09.2 0.0**
HVU MLR MLR
comp=Z,3µm,18.0s
NV01 **Mina Array Sit** **124.20** **30** *e*PKPdf **PKPdf** **15 16 09.1 -0.6**
NVAR **Mina Array Bea** **124.20** **30** PKP **PKPdf** **15 16 08.8 -1.0**
comp=Z,2.0nm,0.8s,baz=329,slow=1.6,SNR=12
NV11 **Mina Array Sit** **124.27** **30** *e*PKPdf **PKPdf** **15 16 09.7 -0.1**
NV11 LR LR
comp=Z,200nm,18.0s
BW06 **Boulder Array** **124.34** **21** *e*PKPdf **PKPdf** **15 16 08.6 -1.3**
BW06 LR LR
comp=Z,2µm,20.0s
PD31 **Pinedale Array** **124.34** **21** *e*PKPdf **PKPdf** **15 16 08.4 -1.5**
PDAR **Pinedale Array** **124.34** **21** PKP **PKPdf** **15 16 08.8 -1.1**
comp=Z,2.3nm,0.9s,baz=229,slow=1.6,SNR=14
PDAR PKKPbc **PKKPab** **15 25 54.5 -0.1**
comp=Z,0.4nm,0.7s,baz=144,slow=7.8,SNR=3.7
MDPB **Devils Postpil** **124.42** **32** PFAKE 15 16 20.0 +10
MDPB LR LR
comp=Z,2µm,18.0s
SPUT **South Promonto** **124.51** **24** PFAKE 15 16 20.0 +10
SPUT LR LR
comp=Z,2µm,18.0s
PMPB **Monarch Peak** **124.55** **34** PFAKE 15 16 20.0 +10
PMPB LR LR
comp=Z,3µm,18.0s
BGU **Big Grassy Mou** **124.60** **25** PFAKE 15 16 20.0 +10
BGU LR LR
comp=Z,2µm,18.0s
HWUT **Hardware Ranch** **124.61** **23** *e*PKPdf **PKPdf** **15 16 10.0 -0.4**
HWUT LR LR
comp=Z,2µm,19.0s
RSSD **Black Hills** **124.82** **16** *e*PKPdf **PKPdf** **15 16 09.5 -1.3**
RSSD LR LR
comp=Z,3µm,19.0s
RSSD **Black Hills** **124.82** **16** *e*PKIKP **PKPdf** **15 16 09.5 -1.3**
RSSD MLR MLR
comp=Z,3µm,19.0s
TCUT **Toone Canyon** **125.08** **23** PFAKE 15 16 20.0 +8.6
TCUT LR LR
comp=Z,3µm,20.0s
COWI **Conover** **125.22** **3** PFAKE 15 16 20.0 +8.8
COWI LR LR
comp=Z,2µm,21.0s
DUG **Dugway, Tooele** **125.30** **25** *e*PKPdf **PKPdf** **15 16 10.7 -1.0**
DUG LR LR
comp=Z,2µm,18.0s
DUG **Dugway, Tooele** **125.30** **25** *e*PKIKP **PKPdf** **15 16 10.7 -1.0**
DUG MLR MLR
comp=Z,2µm,18.0s
CTU **Camp Tracy** **125.31** **24** PFAKE 15 16 20.0 +8.2
CTU LR LR
comp=Z,2µm,18.0s
FRNY **Flat Rock** **125.36** **349** PFAKE 15 16 20.0 +8.5
FRNY LR LR
comp=Z,3µm,18.0s
K22A **Casper** **125.45** **18** PFAKE 15 16 20.0 +8.0
K22A LR LR
comp=Z,3µm,18.0s
JLU **Jordanelle** **125.51** **24** PFAKE 15 16 20.0 +7.8
JLU LR LR
comp=Z,3µm,18.0s
R11A **Troy Canyon, C** **125.58** **28** P **PKPdf** **15 16 12.7 +0.3**
baz=323
R11A **Troy Canyon, C** **125.58** **28** *e*PKPdf **PKPdf** **15 16 12.3 -0.1**
R11A LR LR
comp=Z,2µm,18.0s
LBNH **Lisbon** **125.60** **347** PFAKE 15 16 20.0 +8.0
LBNH LR LR
comp=Z,2µm,18.0s
LONY **Lake Ozonia** **125.75** **350** PFAKE 15 16 20.0 +7.7
LONY LR LR
comp=Z,3µm,20.0s
NLU **North Lily Min** **125.81** **25** *e*PKPdf **PKPdf** **15 16 11.5 -1.3**
SPMN **Marine on St.** **125.82** **6** PFAKE 15 16 20.0 +7.6
SPMN LR LR
comp=Z,4µm,22.0s
CWC **Cottonwood Cre** **125.84** **32** P **PKPdf** **15 16 13.0 +0.1**
baz=320
MPU **Maple Canyon** **125.94** **24** PFAKE 15 16 20.0 +7.0
MPU LR LR
comp=Z,2µm,19.0s
RWWY **Rawlins** **126.09** **19** *e*PKPdf **PKPdf** **15 16 11.9 -1.4**
RWWY LR LR
comp=Z,2µm,20.0s
G42A **Mountain** **126.10** **2** PFAKE 15 16 20.0 +7.1
G42A LR LR
comp=Z,3µm,20.0s
G43A **Wallace** **126.11** **1** PFAKE 15 16 20.0 +7.1
G43A LR LR
comp=Z,3µm,19.0s
DAC **Darwin (Calif)** **126.22** **32** *e*PKPdf **PKPdf** **15 16 13.3 -0.3**
DAC LR LR
comp=Z,2µm,19.0s
DAC **Darwin (Calif)** **126.22** **32** *e*PKIKP **PKPdf** **15 16 13.3 -0.3**
DAC MLR MLR
comp=Z,2µm,19.0s
ISA **Isabella, Lake** **126.22** **33** *e*Pdif **Pdif** **15 12 52.9 +0.2**
ISA LR LR
comp=Z,2µm,18.0s
ISA **Isabella, Lake** **126.22** **33** *e*P **Pdif** **15 12 53.1 +0.5**
comp=Z,5.4nm,0.9s
SADO **Sadowa** **126.24** **354** PFAKE 15 16 20.0 +6.8
SADO LR LR
comp=Z,3µm,18.0s
NCB **Newcomb** **126.32** **349** PFAKE 15 16 20.0 +6.6
NCB LR LR
comp=Z,3µm,18.0s
TPNV **Topopah Spring** **126.38** **30** PFAKE 15 16 20.0 +6.1
TPNV LR LR
comp=Z,2µm,18.0s
MPMC **Manual Prospec** **126.44** **32** P **PKPdf** **15 16 13.7 -0.4**
baz=320
GLMI **Grayling** **126.54** **359** PFAKE 15 16 20.0 +6.2
GLMI LR LR
comp=Z,3µm,20.0s
TAOE **Nuku Hiva Isla** **126.66** **94** *e*LR LR 15 55 39.4
comp=Z,1µm,32.8s
H41A **Junction City** **126.67** **3** PFAKE 15 16 20.0 +6.0
H41A LR LR
comp=Z,3µm,22.0s
TMUT **Trail Mountain** **126.72** **24** PFAKE 15 16 30.0 +15
TMUT LR LR
comp=Z,2µm,18.0s
P17A **Butcher Ranch,** **126.76** **24** PFAKE 15 16 30.0 +15
P17A LR LR
comp=Z,2µm,18.0s
ACCN **Adirondack Com** **126.78** **349** PFAKE 15 16 30.0 +16
ACCN LR LR
comp=Z,2µm,19.0s
LRMC **Laurel Mtn Rad** **126.78** **32** P **PKPdf** **15 16 14.9 +0.2**
baz=320
TCRU **Three Creeks R** **126.78** **26** PFAKE 15 16 30.0 +15
TCRU LR LR
comp=Z,2µm,18.0s
ECSD **EROS Data Cent** **126.79** **9** *e*PKPdf **PKPdf** **15 16 13.2 -1.1**
ECSD LR LR
comp=Z,4µm,19.0s
P18A **Preston Nutter** **126.82** **23** *e*PKPdf **PKPdf** **15 16 14.0 -0.9**
P18A LR LR
comp=Z,2µm,20.0s
H42A **Shiocton** **126.83** **2** PFAKE 15 16 30.0 +16
H42A LR LR
comp=Z,3µm,19.0s
OSI **Osito Audit: C** **126.87** **34** PFAKE 15 16 30.0 +15
OSI LR LR
comp=Z,2µm,18.0s
H43A **Windswept, Lux** **126.89** **1** PFAKE 15 16 20.0 +5.6
H43A LR LR
comp=Z,3µm,20.0s
MSU **Marysvale** **126.98** **26** *e*PKPdf **PKPdf** **15 16 15.3 +0.2**
MSU **Marysvale** **126.98** **26** *e*PKIKP **PKPdf** **15 16 15.3 +0.2**
PHWY **Pilot Hill** **127.00** **18** PFAKE 15 16 30.0 +15
PHWY LR LR
comp=Z,1µm,20.0s
O20A **White River Ci** **127.12** **21** P **PKPdf** **15 16 15.7 +0.4**
baz=332
O20A **White River Ci** **127.12** **21** *e*PKPdf **PKPdf** **15 16 15.2 0.0**
O20A LR LR
comp=Z,2µm,19.0s
SRU **San Rafael Swe** **127.15** **24** PFAKE 15 16 30.0 +15
SRU LR LR
comp=Z,2µm,20.0s
HRV **Adam Dziewonsk** **127.17** **347** PFAKE 15 16 30.0 +15
HRV LR LR
comp=Z,3µm,19.0s
N23A **Red Feather La** **127.22** **19** PFAKE 15 16 30.0 +14
N23A LR LR
comp=Z,2µm,21.0s
CCUT **Cedar City** **127.26** **27** PFAKE 15 16 30.0 +14
CCUT LR LR
comp=Z,2µm,18.0s
SHPR **Sheep Range** **127.26** **29** PFAKE 15 16 30.0 +14
SHPR LR LR
comp=Z,2µm,18.0s
SZCU **Shurtz Canyon** **127.34** **27** PFAKE 15 16 30.0 +14
SZCU LR LR
comp=Z,2µm,18.0s
MTPU **Mount Pierson** **127.37** **26** PFAKE 15 16 30.0 +14
MTPU LR LR
comp=Z,2µm,18.0s
GSC **Goldstone, Bar** **127.38** **32** *e*PKPdf **PKPdf** **15 16 15.0 -0.7**
GSC LR LR
comp=Z,2µm,18.0s
GSC **Goldstone, Bar** **127.38** **32** *e*PKIKP **PKPdf** **15 16 15.0 -0.7**
GSC MLR MLR
comp=Z,2µm,18.0s
I42A **Draeger Farm,** **127.43** **3** PFAKE 15 16 30.0 +15
I42A LR LR
comp=Z,3µm,21.0s
PASC **Pasadena Art C** **127.50** **34** PFAKE 15 16 30.0 +14
PASC LR LR
comp=Z,2µm,18.0s
MWC **Mount Wilson** **127.53** **34** PFAKE 15 16 30.0 +14
MWC LR LR
comp=Z,2µm,18.0s
LCMT **Little Creek M** **127.75** **27** *e*PKPdf **PKPdf** **15 16 15.3 -1.2**
LCMT LR LR
comp=Z,2µm,18.0s
PKCU **Pink Cliffs** **127.81** **26** PFAKE 15 16 30.0 +13
PKCU LR LR
comp=Z,3µm,20.0s
MMNY **Mt. Morris Dam** **128.11** **352** PFAKE 15 16 30.0 +13
MMNY LR LR
comp=Z,3µm,20.0s
OGNE **Ogallala** **128.31** **15** PFAKE 15 16 30.0 +13
OGNE LR LR
comp=Z,4µm,18.0s
ISCO **Idaho Springs** **128.32** **19** PFAKE 15 16 30.0 +12
ISCO LR LR
comp=Z,2µm,19.0s
JFWS **Jewell Farm** **128.33** **4** PFAKE 15 16 30.0 +13
JFWS LR LR
comp=Z,2µm,21.0s
BINY **Binghamton** **128.34** **350** PFAKE 15 16 30.0 +13
BINY LR LR
comp=Z,3µm,21.0s
GMRC **Granite Mounta** **128.37** **31** P **PKPdf** **15 16 18.0 +0.3**
baz=322
LDFC **Landfair** **128.42** **30** PFAKE 15 16 30.0 +12
LDFC LR LR
comp=Z,2µm,18.0s
SMCO **Snowmass** **128.42** **21** *e*PKPdf **PKPdf** **15 16 16.9 -1.1**
SMCO LR LR
comp=Z,2µm,19.0s
U15A **North Rim** **128.66** **27** *e*PKPdf **PKPdf** **15 16 18.7 +0.3**
BGNE **Belgrade** **128.76** **12** PFAKE 15 16 30.0 +12
BGNE LR LR
comp=Z,2µm,19.0s
PFO **Pinyon Flats O** **128.86** **33** PFAKE 15 16 30.0 +11
PFO LR LR
comp=Z,3µm,18.0s
XPFO **Piæon Flat** **128.86** **33** PFAKE 15 16 30.0 +11
XPFO LR LR
comp=Z,3µm,18.0s
ERPA **Erie** **128.96** **354** PFAKE 15 16 30.0 +12
ERPA LR LR
comp=Z,2µm,21.0s
AAM **Ann Arbor** **129.03** **358** PFAKE 15 16 30.0 +11
AAM LR LR
comp=Z,3µm,19.0s
SCIA **State Center** **129.06** **7** PFAKE 15 16 30.0 +11
SCIA LR LR
comp=Z,3µm,20.0s
PAL **Palisades** **129.12** **348** PFAKE 15 16 30.0 +11
PAL LR LR
comp=Z,3µm,19.0s
IRM **Iron Mountain** **129.12** **31** P **PKPdf** **15 16 19.8 +0.7**
baz=322
ODNJ **Ogdensburg** **129.18** **349** PFAKE 15 16 30.0 +11
ODNJ LR LR
comp=Z,2µm,20.0s
Q24A **Divide** **129.23** **19** PFAKE 15 16 30.0 +11
Q24A LR LR
comp=Z,3µm,18.0s
ALLY **Alegheny Colle** **129.44** **354** PFAKE 15 16 30.0 +11
ALLY LR LR
comp=Z,2µm,21.0s
BAR **Barrett** **129.45** **34** PFAKE 15 16 30.0 +10
BAR LR LR
comp=Z,3µm,18.0s
M54A **Oil Creek Stat** **129.52** **354** PFAKE 15 16 30.0 +10
M54A LR LR
comp=Z,3µm,21.0s
N59A **State Game Lan** **129.55** **350** PFAKE 15 16 30.0 +10
N59A LR LR
comp=Z,3µm,19.0s
BRNJ **Basking Ridge** **129.56** **349** PFAKE 15 16 30.0 +10
BRNJ LR LR
comp=Z,4µm,19.0s
MVCO **Mesa Verde** **129.59** **23** PFAKE 15 16 30.0 +10
MVCO LR LR
comp=Z,3µm,18.0s
S22A **4UR Ranch, Cre** **129.75** **21** P **PKPdf** **15 16 21.1 +0.6**
baz=333
S22A **4UR Ranch, Cre** **129.75** **21** PFAKE 15 16 30.0 +10
S22A LR LR
comp=Z,3µm,18.0s
Y12C **Blythe** **129.76** **31** PFAKE 15 16 30.0 +10
Y12C LR LR
comp=Z,3µm,18.0s
LUPA **Lehigh Univers** **129.79** **349** PFAKE 15 16 30.0 +10
LUPA LR LR
comp=Z,300nm,19.0s
WUAZ **Wupatki** **129.83** **27** PFAKE 15 16 30.0 +9.5
WUAZ LR LR
comp=Z,3µm,18.0s
KSCO **Kaye Shedlock'** **129.95** **17** PFAKE 15 16 30.0 +9.4
KSCO LR LR
comp=Z,2µm,19.0s
N54A **Moraine State** **130.10** **354** PFAKE 15 16 30.0 +9.3
N54A LR LR
comp=Z,3µm,20.0s
RCBR **Riachuelo** **130.13** **270** PFAKE 15 16 30.0 +8.5
RCBR LR LR
comp=Z,900nm,20.0s
GLA **Glamis** **130.15** **32** PFAKE 15 16 30.0 +9.0
GLA LR LR
comp=Z,3µm,18.0s
SSPA **Standing Stone** **130.16** **352** PFAKE 15 16 30.0 +9.2
SSPA LR LR
comp=Z,3µm,21.0s
SDCO **Great Sand Dun** **130.21** **20** PFAKE 15 16 30.0 +8.6
SDCO LR LR
comp=Z,2µm,19.0s
PAGS **Pennsylvania G** **130.38** **351** PFAKE 15 16 30.0 +8.8
PAGS LR LR
comp=Z,3µm,20.0s
PSUB **Penn St. - Bra** **130.46** **349** PFAKE 15 16 30.0 +8.7
PSUB LR LR
comp=Z,2µm,18.0s
MVL **Millersville** **130.55** **350** PFAKE 15 16 30.0 +8.5
MVL LR LR
comp=Z,3µm,21.0s
O56A **Blue Knob Stat** **130.62** **352** PFAKE 15 16 30.0 +8.3
O56A LR LR
comp=Z,3µm,21.0s
HDIL **Hopedale** **130.74** **3** PFAKE 15 16 30.0 +8.1
HDIL LR LR
comp=Z,3µm,20.0s
W18A **Petrified Fore** **130.89** **26** PFAKE 15 16 30.0 +7.4
W18A LR LR
comp=Z,2µm,18.0s
CBKS **Cedar Bluff** **130.90** **14** PFAKE 15 16 30.0 +7.7
CBKS LR LR
comp=Z,3µm,19.0s
SFIN **Lafayette** **131.00** **1** PFAKE 15 16 30.0 +7.7
SFIN LR LR
comp=Z,3µm,20.0s
MHTCO **State Highway** **131.05** **20** *e*PKPdf **PKPdf** **15 16 22.4 -0.4**
ACSO **Alum Creek Sta** **131.06** **357** PFAKE 15 16 30.0 +7.5
ACSO LR LR
comp=Z,3µm,18.0s

T25A	**Trinidad**	**131.13**	**19**	PFAKE			15 16 30.0	+7.0	
T25A				LR	LR				
comp=Z,2µm,19.0s									
RKT	**Rikitea**	**131.18**	**113**	*e*LR	LR		15 57 42.7		
comp=Z,1µm,36.5s									
SDMD	**Soldier's Deli**	**131.20**	**350**	PFAKE			15 16 30.0	+7.2	
SDMD				LR	LR				
comp=Z,2µm,20.0s									
MCWV	**Mont Chateau**	**131.37**	**354**	PFAKE			15 16 30.0	+6.9	
MCWV				LR	LR				
comp=Z,3µm,20.0s									
EFI	**East Falkland**	**131.52**	**203**	PFAKE			15 16 30.0	+7.1	
EFI				LR	LR				
comp=Z,2µm,20.0s									
BLO	**Bloomington**	**132.21**	**0**	PFAKE			15 16 40.0	+15	
BLO				LR	LR				
comp=Z,2µm,19.0s									
ANMO	**Albuquerque**	**132.37**	**23**	PKPdf	**PKPdf**		**15 16 25.7**	**+0.3**	
ANMO				LR	LR				
comp=Z,4µm,18.0s									
ANMO	**Albuquerque**	**132.37**	**23**	PKIKP	**PKPdf**		**15 16 25.7**	**+0.3**	
ANMO				MLR	MLR				
comp=Z,4µm,18.0s									
CBN	**Corbin Frederi**	**132.47**	**351**	PFAKE			15 16 40.0	+15	
CBN				LR	LR				
comp=Z,3µm,19.0s									
SLM	**Saint Louis**	**132.59**	**4**	PFAKE			15 16 40.0	+15	
SLM				LR	LR				
comp=Z,3µm,19.0s									
OLIL	**Olney**	**132.61**	**2**	PFAKE			15 16 40.0	+15	
OLIL				LR	LR				
comp=Z,2µm,20.0s									
TUC	**Tucson**	**132.77**	**29**	PFAKE			15 16 40.0	+14	
TUC				LR	LR				
comp=Z,3µm,19.0s									
Y22D	**IRIS PASSCAL I**	**132.95**	**24**	PFAKE			15 16 40.0	+14	
Y22D				LR	LR				
comp=Z,3µm,18.0s									
BNM	**Barren Site**	**133.00**	**23**	*e*PKPdf	**PKPdf**		**15 16 25.2**	**-1.5**	
CCM	**Cathedral Cave**	**133.08**	**6**	PFAKE			15 16 40.0	+14	
CCM				LR	LR				
comp=Z,3µm,19.0s									
WCI	**Wyandotte Cave**	**133.15**	**0**	PFAKE			15 16 40.0	+14	
WCI				LR	LR				
comp=Z,3µm,19.0s									
USIN	**University of**	**133.39**	**2**	PFAKE			15 16 40.0	+13	
USIN				LR	LR				
comp=Z,3µm,20.0s									
SIUC	**Southern Illin**	**133.57**	**3**	PFAKE			15 16 40.0	+13	
SIUC				LR	LR				
comp=Z,2µm,20.0s									
BLA	**Blacksburg**	**133.85**	**354**	PFAKE			15 16 40.0	+12	
BLA				LR	LR				
comp=Z,3µm,21.0s									
AMTX	**Amarillo**	**134.06**	**18**	PFAKE			15 16 40.0	+12	
AMTX				LR	LR				
comp=Z,3µm,18.0s									
PBMO	**Poplar Bluff**	**134.42**	**5**	PFAKE			15 16 40.0	+11	
PBMO				LR	LR				
comp=Z,3µm,21.0s									
TUL1	**Leonard**	**134.54**	**11**	PFAKE			15 16 40.0	+11	
TUL1				LR	LR				
comp=Z,2µm,20.0s									
MSTX	**Muleshoe**	**134.56**	**20**	PFAKE			15 16 40.0	+11	
MSTX				LR	LR				
comp=Z,2µm,18.0s									
TZTN	**Tazewell**	**134.77**	**357**	PFAKE			15 16 40.0	+10	
TZTN				LR	LR				
comp=Z,2µm,21.0s									
PVMO	**Portageville**	**134.84**	**4**	PFAKE			15 16 40.0	+10	
PVMO				LR	LR				
comp=Z,3µm,18.0s									
NCAT	**North Carolina**	**134.90**	**353**	PFAKE			15 16 40.0	+10	
NCAT				LR	LR				
comp=Z,3µm,22.0s									
WMOK	**Wichita Mounta**	**135.01**	**15**	PFAKE			15 16 40.0	+10	
WMOK				LR	LR				
comp=Z,2µm,20.0s									
EPT	**El Paso**	**135.13**	**25**	PFAKE			15 16 40.0	+9.4	
EPT				LR	LR				
comp=Z,2µm,18.0s									
WVT	**Waverly**	**135.22**	**2**	PFAKE			15 16 40.0	+10	
WVT				LR	LR				
comp=Z,3µm,19.0s									
HSIG		**135.37**	**32**	PFAKE			15 16 40.0	+9.1	
HSIG				LR	LR				
comp=Z,2µm,19.0s									
CNNC	**Cliffs of the**	**135.45**	**350**	PFAKE			15 16 40.0	+9.1	
CNNC				LR	LR				
comp=Z,3µm,20.0s									
MNTX	**Cornudas Mount**	**135.65**	**24**	PFAKE			15 16 40.0	+8.6	
MNTX				LR	LR				
comp=Z,1µm,18.0s									
TKL	**Tuckaleechee C**	**135.66**	**357**	PFAKE			15 16 40.0	+8.7	
TKL				LR	LR				
comp=Z,2µm,18.0s									
W40A	**Ferguson Farm,**	**135.69**	**8**	PFAKE			15 16 40.0	+8.7	
W40A				LR	LR				
comp=Z,4µm,18.0s									
KMSC	**Kings Mountain**	**136.00**	**354**	PFAKE			15 16 40.0	+8.1	
KMSC				LR	LR				
comp=Z,2µm,21.0s									
MET	**Memphis--Engin**	**136.10**	**5**	PFAKE			15 16 40.0	+7.9	
MET				LR	LR				
comp=Z,2µm,19.0s									
UALR	**University of**	**136.20**	**7**	PFAKE			15 16 40.0	+7.7	
UALR				LR	LR				
comp=Z,2µm,22.0s									
MIAR	**Mount Ida**	**136.25**	**9**	PFAKE			15 16 40.0	+7.6	
MIAR				LR	LR				
comp=Z,2µm,20.0s									
PLAL	**Pickwick Lake**	**136.35**	**2**	PFAKE			15 16 40.0	+7.4	
PLAL				LR	LR				
comp=Z,3µm,18.0s									
OXF	**Oxford**	**136.75**	**4**	PFAKE			15 16 40.0	+6.7	
OXF				LR	LR				
comp=Z,3µm,18.0s									
ABTX	**Abilene, Hawle**	**136.77**	**17**	PFAKE			15 16 40.0	+6.5	
ABTX				LR	LR				
comp=Z,4µm,18.0s									
CCAR	**Cane Creek**	**137.12**	**7**	PFAKE			15 16 50.0	+16	
CCAR				LR	LR				
comp=Z,2µm,19.0s									
NHSC	**New Hope**	**137.88**	**353**	PFAKE			15 16 50.0	+15	
NHSC				LR	LR				
comp=Z,2µm,19.0s									
GOGA	**Godfrey**	**137.88**	**357**	PFAKE			15 16 50.0	+15	
GOGA				LR	LR				
comp=Z,2µm,20.0s									
WHTX	**Lake Whitney,**	**137.95**	**14**	PFAKE			15 16 50.0	+14	
WHTX				LR	LR				
comp=Z,2µm,18.0s									
LRAL	**Lakeview Retre**	**138.32**	**1**	PFAKE			15 16 50.0	+14	
LRAL				LR	LR				
comp=Z,2µm,19.0s									
TX31	**Lajitas Ar. Si**	**138.43**	**23**	*e*PKPdf	**PKPdf**		**15 16 36.2**	**-0.5**	
TXAR	**Lajitas Array**	**138.43**	**23**	PKhKP	PKPpre		15 16 26.0		
comp=Z,0.2nm,0.5s,baz=258,slow=5.9,SNR=2.6									
TXAR				PKP	**PKPdf**		**15 16 37.5**	**+0.7**	
comp=Z,0.7nm,0.4s,baz=180,slow=0.4,SNR=15									
JCT	**Junction City**	**138.73**	**18**	P	**PKPdf**		**15 16 37.1**	**-0.1**	
baz=339									
JCT	**Junction City**	**138.73**	**18**	*e*PKPdf	**PKPdf**		**15 16 36.1**	**-1.1**	
JCT				LR	LR				
comp=Z,2µm,19.0s									
JCT	**Junction City**	**138.73**	**18**	*e*PKIKP	**PKPdf**		**15 16 36.1**	**-1.1**	
JCT				MLR	MLR				
comp=Z,2µm,19.0s									
NATX	**Nacogdoches**	**138.79**	**11**	PFAKE			15 16 50.0	+13	
NATX				LR	LR				
comp=Z,2µm,21.0s									
VBMS	**Vicksburg**	**138.93**	**6**	PFAKE			15 16 50.0	+13	
VBMS				LR	LR				
comp=Z,2µm,19.0s									
TIGA	**Tifton**	**139.85**	**357**	PFAKE			15 16 50.0	+11	
TIGA				LR	LR				
comp=Z,2µm,21.0s									
BRAL	**Brewton**	**140.18**	**1**	PFAKE			15 16 50.0	+10	
BRAL				LR	LR				
comp=Z,2µm,20.0s									
HKT	**Hockley**	**140.29**	**13**	PFAKE			15 16 50.0	+10	
HKT				LR	LR				
comp=Z,2µm,18.0s									
KVTX	**Kingsville**	**142.05**	**17**	PFAKE			15 16 50.0	+6.9	
KVTX				LR	LR				

comp=Z,2µm,18.0s									
DWPF	**Disney Wildern**	**142.96**	**353**	PFAKE			15 17 00.0	+15	
DWPF				LR	LR				
comp=Z,2µm,20.0s									
ANWB	**Willy Bob**	**144.32**	**318**	PFAKE			15 17 00.0	+13	
ANWB				LR	LR				
comp=Z,1µm,20.0s									
ZAIG	**Zacatecas**	**144.67**	**27**	*e*PKPdf	**PKPab**		**15 16 46.9**	**0.0**	
SKI	**Saint Kitts**	**145.19**	**318**	PFAKE			15 17 00.0	+11	
SKI				LR	LR				
comp=Z,2µm,20.0s									
PLCA	**Paso Flores**	**145.38**	**201**	PKPbc	**PKPab**		**15 16 49.0**	**+0.3**	
comp=Z,30nm,0.9s,baz=179,slow=4.3,SNR=18									
PLCA	**Paso Flores**	**145.38**	**201**	*e*PKPbc	**PKPbc**		**15 16 48.6**	**0.0**	
PLCA	**Paso Flores**	**145.38**	**201**	*e*PKIKP	**PKPbc**		**15 16 48.6**	**0.0**	
HUMP	**Col San Antoni**	**146.52**	**323**	PFAKE			15 17 00.0	+6.5	
HUMP				LR	LR				
comp=Z,900nm,20.0s									
SJG	**San Juan**	**146.72**	**324**	PFAKE			15 17 00.0	+5.8	
SJG				LR	LR				
comp=Z,1µm,20.0s									
SVB	**Belmont**	**146.93**	**311**	PFAKE			15 17 00.0	+4.8	
SVB				LR	LR				
comp=Z,600nm,21.0s									
MPR	**Mayaguez**	**147.21**	**325**	PFAKE			15 17 00.0	+3.9	
MPR				LR	LR				
comp=Z,1µm,18.0s									
CPUP	**Villa Florida**	**147.65**	**234**	PKPbc	**PKPbc**		**15 16 55.7**	**+0.2**	
comp=Z,12nm,1.0s,baz=110,slow=3.1,SNR=13									
CPUP	**Villa Florida**	**147.65**	**234**	*e*PKPbc	**PKPbc**		**15 16 54.6**	**-0.9**	
CPUP	**Villa Florida**	**147.65**	**234**	*e*PKP2	**PKPbc**		**15 16 54.6**	**-0.9**	
GRGR	**Grenville**	**147.96**	**310**	PFAKE			15 17 00.0	+0.7	
GRGR				LR	LR				
comp=Z,900nm,20.0s									
CANA	**Caviahue**	**148.07**	**203**	*e*P	**PKPab**		**15 17 00.6**	**+1.3**	
CANA				*e*P	**pPKPdf**		**15 17 01.5**	**+0.3**	
SDD	**Santo Domingo**	**148.49**	**330**	PFAKE			15 17 10.0	+8.8	
SDD				LR	LR				
comp=Z,1µm,20.0s									
SDDR	**Presa de Saban**	**148.70**	**332**	*e*PKPdf	**PKPdf**		**15 16 55.9**	**+1.0**	
SDDR				LR	LR				
comp=Z,1µm,18.0s									
GTBY	**Guantanamo Bay**	**149.40**	**339**	PFAKE			15 17 10.0	+5.2	
GTBY				LR	LR				
comp=Z,1µm,20.0s									
TLIG	**Tlapa**	**151.00**	**25**	*e*pPKPdf	**PKPbc**		**15 17 01.9**	**-2.4**	
TEIG	**Tepich**	**151.01**	**4**	PFAKE			15 17 10.0	-1.4	
TEIG				LR	LR				
comp=Z,1µm,21.0s									
AAGR	**Agrelo**	**151.08**	**211**	*e*P	**PKPbc**		**15 17 05.1**	**+1.0**	
ARCO	**CERRO ARCO**	**151.33**	**211**	*e*P	**PKPbc**		**15 17 03.2**	**-1.6**	
PCRV	**Puerto La Cruz**	**151.45**	**311**	PKPbc	**PKPbc**		**15 17 03.0**	**-2.3**	
comp=Z,6.1nm,0.5s,baz=21,slow=5.5,SNR=3.3									
ASAL	**Salagasta**	**151.48**	**212**	*e*P	**PKPbc**		**15 17 05.7**	**+0.7**	
MTDJ	**Mount Denham**	**151.78**	**343**	PFAKE			15 17 10.0	+3.9	
MTDJ				LR	LR				
comp=Z,900nm,20.0s									
RTCV	**Cerro Valdivia**	**151.89**	**213**	*e*P	**PKPbc**		**15 17 06.2**	**+0.2**	
AUSP	**Uspallata**	**152.05**	**211**	*e*P	**PKPbc**		**15 17 07.1**	**+0.5**	
RTLS	**Leoncito**	**152.34**	**212**	*e*P	**PKPbc**		**15 17 08.0**	**+0.7**	
AMOG	**MOGNA**	**152.57**	**214**	*e*P	**PKPbc**		**15 17 09.8**	**+2.2**	
PTGA	**Pitinga**	**152.73**	**286**	PKPbc	**PKPbc**		**15 17 09.2**	**+0.9**	
comp=Z,2.0nm,0.3s,baz=49,slow=9.3,SNR=4.8									
PTGA	**Pitinga**	**152.73**	**286**	PKPbc	**PKPbc**		**15 17 09.2**	**+0.9**	
PTGA				LR	LR				
comp=Z,2µm,19.0s									
CMIG	**Matias Romero**	**152.79**	**19**	PKPbc	**PKPbc**		**15 17 08.0**	**-0.3**	
comp=Z,9.9nm,0.9s,baz=0.6,slow=3.8,SNR=3.5									
AGUA	**GUANDACOL**	**153.65**	**217**	*e*P	**PKPbc**		**15 17 10.6**	**+0.6**	
SIV	**San Ignacio**	**154.55**	**251**	PKP	**PKPdf**		**15 17 02.7**	**-1.0**	
comp=Z,0.7nm,0.7s,baz=63,slow=4.8,SNR=4.5									
SIV				PKPbc	**PKiKP**		**15 17 12.9**	**+0.8**	
comp=Z,1.9nm,0.8s,baz=126,slow=4.7,SNR=9.0									
APG	**El Apazote**	**155.90**	**10**	PKPab	**PKPab**		**15 17 29.5**	**-2.9**	
comp=Z,21nm,1.0s,baz=336,slow=9.1,SNR=7.9									
SDV	**Santo Domingo**	**156.57**	**318**	PKP	**PKPdf**		**15 17 06.4**	**-0.3**	
comp=Z,1.6nm,0.4s,baz=135,slow=4.3,SNR=2.9									
SDV	**Santo Domingo**	**156.57**	**318**	*e*PKPdf	**PKPdf**		**15 17 06.3**	**-0.4**	
SDV				LR	LR				
comp=Z,1µm,20.0s									
SAML	**Samuel**	**157.34**	**268**	PKPdf	**PKPdf**		**15 17 07.3**	**-0.1**	
SAML				LR	LR				
comp=Z,2µm,18.0s									
LPAZ	**La Paz**	**160.97**	**245**	PKP	**PKPdf**		**15 17 09.9**	**-2.4**	
comp=Z,0.7nm,0.5s,baz=134,slow=8.5,SNR=2.8									
LPAZ				PKPab	**PKPab**		**15 17 55.2**	**+0.1**	
comp=Z,5.8nm,0.7s,baz=191,slow=6.4,SNR=7.1									

*IDC **24** 15:01:47.9±1.2, 18°.45S×177°.82W, h506km±13km, mb4.1/32, mb1 4.2/35, mb1mx4.1/51, mbtmp4.9/35, Error ellipse: s-maj=9.7km s-min=8.2km az=144.0*

*MOS **24** 15:01:47.6±0.9, 18°.33S×177°.88W, h514km, mb4.8/17, Error ellipse: s-maj=10.6km s-min=8.9km az=135.3*

*NEIC **24** 15:01:48.2±0.6, 18°.42S×177°.90W, h514km±6km, mb4.5/112, Error ellipse: s-maj=5.9km s-min=3.9km az=147.0*

*ISCJB **24** 15:01:50.8±0.1, 18°.52S±0°.02×177°.96W±0°.04, h557km, mb4.5/151, Error ellipse: s-maj=4.8km s-min=3.0km az=19.3*

ISC 24 15:01:51.7±0.3, 18°.48S±0°.05×177°.93W±0°.06, h557km, n477, σ1$27/484, mb4.5/151, 31C-46D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.90**	**280**	*e*P		**P**		**15 03 11.8**	**-1.6**
MSVF	**Nonsavu**	**3.90**	**280**	*c* i P		**P**		**15 03 11.9**	**-1.6**
AFI	**Afiamalu**	**7.45**	**53**	P		P		15 03 38.0	-6.5
8.0nm,0.3s,baz=72,slow=1.8,SNR=14									
AFI				S		S		15 05 01.2	-16
0.8nm,0.3s,baz=217,slow=20,SNR=2.9									
FUNA	**Funafuti**	**10.28**	**344**	*e*P		**P**		**15 04 09.8**	**-3.0**
GLKZ	**Green Lake**	**10.73**	**180**	S		**S**		**15 06 14.7**	**-2.0**
GLKZ	**Green Lake**	**10.73**	**180**	P		**P**		**15 04 13.3**	**-3.8**
DZM	**Mont Dzumac**	**15.09**	**254**	P		P		**15 04 59.4**	**-2.7**
1.2nm,0.3s,baz=116,slow=24,SNR=12									
DZM	**Mont Dzumac**	**15.09**	**254**	*e*P		**P**		**15 04 59.5**	**-2.7**
14nm,0.6s									
DZM	**Mont Dzumac**	**15.09**	**254**	*e*P		**P**		**15 04 59.9**	**-2.3**
20nm,1.2s									
KNTN	**Kanton**	**16.75**	**22**	*e*P		**P**		**15 05 15.0**	**-3.0**
72nm,0.6s									
RAR	**Rarotonga**	**17.29**	**102**	P		**P**		**15 05 19.8**	**-3.0**
2.5nm,0.3s,baz=253,slow=9.0,SNR=6.8									
RAR	**Rarotonga**	**17.29**	**102**	*e*P		**P**		**15 05 21.4**	**-1.4**
33nm,0.8s									
RAR	**Rarotonga**	**17.29**	**102**	*e*P		**P**		**15 05 21.4**	**-1.4**
RAR				pmax		pmax			
comp=Z,33nm,0.8s									
OUZ	**Omahuta**	**18.29**	**203**	*e*P		**P**		**15 05 34.0**	**+2.2**
comp=Z,29nm,0.9s									
OUZ	**Omahuta**	**18.29**	**203**	P		**P**		**15 05 30.4**	**-1.3**
WCZ	**Waipu Caves**	**18.69**	**200**	P		**P**		**15 05 32.7**	**-2.7**
KUZ	**Kuaotunu**	**19.04**	**196**	P		**P**		**15 05 39.5**	**+1.0**
MXZ	**Matakaoa Point**	**19.30**	**189**	*e*P		**P**		**15 05 39.6**	**-1.3**
comp=Z,34nm,0.9s									
MXZ	**Matakaoa Point**	**19.30**	**189**	P		**P**		**15 05 40.6**	**-0.2**
WMGZ	**Waiomatatini S**	**19.53**	**189**	P		**P**		**15 05 42.4**	**-0.7**
WMGZ	**Waiomatatini S**	**19.53**	**189**	S		**S**		**15 08 59.2**	**+8.5**
HAZ	**Te Kaha**	**19.57**	**190**	P		**P**		**15 05 41.7**	**-1.6**
HAZ	**Te Kaha**	**19.57**	**190**	S		S		15 09 12.2	+21
RUGZ	**Raukumara Rang**	**19.79**	**190**	P		**P**		**15 05 44.6**	**-1.0**
PUZ	**Puketiti**	**19.80**	**189**	P		**P**		**15 05 45.1**	**-0.4**
PUZ	**Puketiti**	**19.80**	**189**	S		S		15 09 11.0	+16
TGRZ	**Tauranga**	**19.84**	**194**	P		**P**		**15 05 47.6**	**+1.8**
TWGZ	**Tauwhareparae**	**19.95**	**189**	P		**P**		**15 05 45.6**	**-1.2**
TWGZ	**Tauwhareparae**	**19.95**	**189**	S		S		15 09 17.2	+20
KMRZ	**Kaimai**	**20.03**	**194**	P		**P**		**15 05 49.3**	**+1.8**
KARZ	**Kahakoa**	**20.13**	**193**	P		**P**		**15 05 48.5**	**+0.1**
MWZ	**Matawai**	**20.18**	**190**	P		**P**		**15 05 47.0**	**-1.9**
URZ	**Urewera**	**20.18**	**191**	P		**P**		**15 05 46.2**	**-2.7**
comp=Z,36nm,0.3s,baz=284,slow=2.8,SNR=123									
URZ				S		**S**		**15 08 56.6**	**-4.3**
comp=Z,4.1nm,0.7s,baz=198,slow=20,SNR=3.9									
URZ	**Urewera**	**20.18**	**191**	*e*P		**P**		**15 05 46.0**	**-2.9**
comp=Z,41nm,0.3s									
URZ				S		**S**		**15 08 56.6**	**-4.3**
URZ	**Urewera**	**20.18**	**191**	P		**P**		**15 05 46.2**	**-2.7**
URZ	**Urewera**	**20.18**	**191**	S		S		15 09 22.3	+21
OMRZ	**Omania**	**20.18**	**193**	P		**P**		**15 05 49.7**	**+0.7**
MKRZ	**Makatiti**	**20.19**	**193**	P		**P**		**15 05 49.8**	**+0.7**
CNGZ	**Carnagh Statio**	**20.22**	**189**	P		**P**		**15 05 49.0**	**-0.2**
TKGZ	**Te Karaka**	**20.23**	**190**	P		**P**		**15 05 49.4**	**+0.1**

TARZ	**Mount Tarawera**	**20.28**	**193**	P		**P**		**15 05 49.9**	**0.0**
RRRZ	**Republican Roa**	**20.37**	**193**	P		**P**		**15 05 49.9**	**-0.8**
MUGZ	**Murupara**	**20.46**	**192**	P		**P**		**15 05 50.4**	**-1.0**
HRRZ	**Handcock Road**	**20.47**	**193**	P		**P**		**15 05 51.5**	**-0.1**
RIGZ	**Rimuhau**	**20.50**	**190**	P		**P**		**15 05 51.1**	**-0.7**
RTZ	**Ruatahuna**	**20.55**	**191**	P		**P**		**15 05 50.7**	**-1.6**
PRRZ	**Plateau Road**	**20.55**	**193**	P		**P**		**15 05 51.7**	**-0.6**
TLZ	**Tolley Road**	**20.59**	**195**	P		**P**		**15 05 54.6**	**+1.9**
SNGZ	**Shannon Statio**	**20.64**	**191**	P		**P**		**15 05 52.9**	**-0.2**
PRGZ	**Paritu Road**	**20.69**	**189**	P		**P**		**15 05 54.3**	**+0.7**
MTHZ	**Maungataniwha**	**20.80**	**192**	P		**P**		**15 05 53.9**	**-0.7**
RAHZ	**Arahi**	**20.82**	**191**	P		**P**		**15 05 53.7**	**-1.1**
KNZ	**Kokohu**	**20.82**	**190**	P		**P**		**15 05 53.5**	**-1.2**
MRHZ	**Matea Rd**	**20.87**	**192**	P		**P**		**15 05 53.6**	**-1.6**
MHGZ	**Mahia Peninsul**	**20.92**	**189**	P		**P**		**15 05 56.3**	**+0.8**
RATZ	**Rangitukua**	**21.04**	**194**	P		**P**		**15 05 56.1**	**-0.6**
NMHZ	**Naumai**	**21.05**	**191**	P		**P**		**15 05 56.2**	**-0.7**
RITZ	**Rihia Road**	**21.13**	**194**	P		**P**		**15 05 57.0**	**-0.5**
BKZ	**Black Stump Fm**	**21.18**	**192**	*e*P		**P**		**15 05 54.9**	**-3.1**
comp=Z,43nm,1.8s									
MCHZ	**McNeill Hill**	**21.41**	**191**	P		**P**		**15 05 59.8**	**-0.2**
THZ	**Tophouse**	**24.49**	**197**	*e*P		**P**		**15 06 26.0**	**-1.4**
comp=Z,83nm,1.9s									
RPZ	**Rata Peaks**	**26.82**	**198**	P		**P**		**15 06 48.1**	**+0.2**
comp=Z,3.5nm,0.3s,baz=37,slow=5.1,SNR=4.0									
PAE	**Paea**	**26.95**	**93**	*e*P		**P**		**15 06 49.0**	**-0.4**
comp=Z,8.8nm,0.8s									
PPT2	**Papeete2**	**26.96**	**93**	*e*P		**P**		**15 06 49.8**	**+0.2**
comp=Z,47nm,1.2s									
PPT	**Papeete**	**26.96**	**93**	P		**P**		**15 06 47.6**	**-2.0**
comp=Z,44nm,0.7s,baz=259,slow=5.2,SNR=5.7									
PPTF	**Pamatai, Papee**	**26.97**	**93**	*e*P		**P**		**15 06 47.5**	**-2.2**
comp=Z,41nm,0.7s									
TIAR	**Tiarei**	**27.18**	**93**	*e*P		**P**		**15 06 51.0**	**-0.5**
comp=Z,14nm,0.8s									
PMOR	**Pomariorio Ree**	**28.95**	**88**	*e*P		**P**		**15 07 06.2**	**-0.6**
comp=Z,103nm,1.0s									
WHZ	**Wether Hill Ro**	**29.74**	**200**	*e*P		**P**		**15 07 13.5**	**+0.2**
comp=Z,28nm,0.8s									
PMG	**Port Moresby**	**35.01**	**280**	P		**P**		**15 07 59.3**	**+0.9**
comp=Z,26nm,0.8s,baz=106,slow=7.4,SNR=2.8									
PMG	**Port Moresby**	**35.01**	**280**	*i* P		**P**		**15 07 59.4**	**+1.0**
PMG				pmax		pmax			
comp=Z,101nm,0.8s									
MANU	**Manus Island**	**37.73**	**292**	*e*P		**P**		**15 08 21.4**	**+0.5**
comp=Z,42nm,0.9s									
STKA	**Stephens Creek**	**38.76**	**242**	P		**P**		**15 08 30.1**	**+1.1**
comp=Z,18nm,0.8s,baz=77,slow=5.7,SNR=20									
KIP	**Kipapa**	**44.19**	**27**	*e*P		**P**		**15 09 11.9**	**+0.1**
KIP				pmax		pmax			
comp=Z,769nm,1.2s									
WB2	**Warramunga Arr**	**44.97**	**260**	*e*P		**P**		**15 09 17.6**	**-0.4**
comp=Z,24nm,0.6s									
WRAB	**Tennant Creek**	**44.97**	**260**	*e*P		**P**		**15 09 17.4**	**-0.6**
comp=Z,20nm,0.6s									
WRAB	**Tennant Creek**	**44.97**	**260**	*d i* P		**P**		**15 09 17.9**	**-0.1**
WRAB				pmax		pmax			
comp=Z,15nm,0.6s									
WRA	**Warramunga Arr**	**44.98**	**260**	P		**P**		**15 09 17.8**	**-0.3**
comp=Z,16nm,0.5s,baz=91,slow=7.0,SNR=187									
WRA				PcP		**PcP**		**15 10 48.5**	**+1.2**
comp=Z,2.7nm,0.4s,baz=98,slow=3.7,SNR=5.0									
WRA				ScP		**ScP**		**15 13 52.8**	**+5.8**
comp=Z,0.4nm,0.8s,baz=96,slow=3.5,SNR=3.0									
WRA				S		**S**		**15 15 14.4**	**-2.2**
comp=Z,1.8nm,0.9s,baz=100,slow=13,SNR=4.9									
AS01	**Alice Springs**	**45.04**	**255**	*e*P		**P**		**15 09 18.6**	**+0.1**
AS01				*e*PcP		**PcP**		**15 10 48.3**	**+0.7**
ASAR	**Alice Springs**	**45.08**	**255**	P		**P**		**15 09 19.4**	**+0.5**
comp=Z,78nm,0.6s,baz=88,slow=9.4,SNR=431									
ASAR				PcP		**PcP**		**15 10 48.6**	**+1.0**
comp=Z,7.1nm,0.6s,baz=105,slow=3.9,SNR=9.5									
ASAR				ScP		**ScP**		**15 13 52.0**	**+4.6**
comp=Z,0.5nm,0.5s,baz=102,slow=4.3,SNR=4.3									
ASAR				S		**S**		**15 15 18.6**	**+0

ORV Oroville 78.11 41 *e*P P 15 12 54.2 +0.6
ORV pmax pmax
comp=Z,7.0nm,1.2s
PFO Pinyon Flats O 78.19 49 *i* P P 15 12 55.7 +1.4
MDPB Devils Postpil 78.56 44 *e*P P 15 12 57.2 +0.8
comp=Z,11nm,1.2s
NJ2 Nanjing 78.65 309 *e*P P 15 12 55.8 -0.8
NJ2 pmax pmax
comp=Z,15nm,0.5s
YBH Yreka Blue Hor 78.68 39 P P 15 12 58.0 +1.3
comp=Z,3.8nm,0.7s,baz=266,slow=2.2,SNR=11
YBH Yreka Blue Hor 78.68 39 *e*P P 15 12 57.4 +0.7
comp=Z,5.8nm,0.9s
YBH Yreka Blue Hor 78.68 39 *e*P P 15 12 57.4 +0.7
YBH pmax pmax
comp=Z,6.0nm,0.9s
DAC Darwin (Calif) 78.81 46 *e*P P 15 12 58.4 +0.8
comp=Z,21nm,2.0s
DAC Darwin (Calif) 78.81 46 *e*P P 15 12 58.4 +0.8
DAC pmax pmax
comp=Z,21nm,2.0s
WAKR Walker 78.82 43 *e*P P 15 12 58.4 +0.7
comp=Z,7.7nm,1.0s
KDAK Kodiak Island 78.84 14 *i* P P 15 12 56.9 -0.1
MDJ Mudanjiang 78.91 325 P P 15 12 57.8 +0.1
MDJ pmax pmax
comp=Z,70nm,0.9s
MDJ pmax pmax
comp=Z,690nm,8.3s
MDJ Mudanjiang 78.91 325 *e*P P 15 12 59.2 +1.5
comp=Z,51nm,0.9s
BEKR Beckworth 79.01 41 *e*P P 15 12 59.2 +0.6
comp=Z,11nm,1.3s
HUMO Hull Mountain 79.06 38 *e*P P 15 13 00.0 +1.4
comp=Z,14nm,1.3s
VCNR Virginia City 79.13 42 *e*P P 15 13 00.4 +1.1
comp=Z,4.1nm,0.7s
YERR Yerington 79.22 43 *e*P P 15 13 00.5 +0.8
comp=Z,8.2nm,0.7s
NV01 Mina Array Sit 79.52 44 *e*P P 15 13 01.9 +0.6
NVAR Mina Array Bea 79.52 44 P P 15 13 02.3 +0.9
comp=Z,3.9nm,0.7s,baz=224,slow=8.5,SNR=33
PAHR Pah Rah Range 79.54 42 *e*P P 15 13 02.0 +0.7
comp=Z,6.6nm,0.9s
NV11 Mina Array Sit 79.62 44 *e*P P 15 13 02.5 +0.7
comp=Z,0.7nm,1.4s
GRNR Gornyy 79.75 333 *e*P P 15 13 02.8 +0.8
GRNR pmax pmax
comp=Z,88nm,1.0s
NKL Nikolayevsk 79.78 336 *e*P P 15 13 01.8 -0.3
TPNV Topopah Spring 80.09 46 *e*P P 15 13 05.3 +1.0
comp=Z,5.4nm,1.1s
TPNV Topopah Spring 80.09 46 *e*P P 15 13 05.3 +1.0
TPNV pmax pmax
comp=Z,5.0nm,1.1s
MOD Modoc Plateau 80.23 40 *e*P P 15 13 05.6 +0.7
comp=Z,7.8nm,0.8s
K05A Summer Lake 80.35 39 *e*P P 15 13 06.8 +1.1
comp=Z,10.0nm,0.8s
CN2 Changchun 80.75 322 *e*P P 15 13 09.8 +2.4
H04A Detroit Lake 80.77 37 *e*P P 15 13 07.8 +0.2
comp=Z,7.1nm,0.7s
KLR Kul'dur 80.83 329 *i* P P 15 13 08.8 +1.1
PINE Pine Mountain 80.95 38 *e*P P 15 13 09.5 +0.8
comp=Z,17nm,1.0s
BRLK Bradley Lake 81.02 13 *e*P P 15 13 07.8 -0.6
comp=Z,12nm,0.7s
WVOR Wild Horse Val 81.55 40 *e*P P 15 13 11.9 +0.3
comp=Z,10nm,1.1s
TUC Tucson 81.69 52 *e*P P 15 13 14.4 +1.8
comp=Z,5.5nm,0.9s
MA2 Magadan 81.86 345 *e*P P 15 13 11.9 -0.8
comp=Z,16nm,0.9s
MA2 Magadan 81.86 345 *i* P P 15 13 12.1 -0.6
MA2 pmax pmax
comp=Z,25nm,1.2s
I07A Izee 81.97 38 *e*P P 15 13 14.4 +0.7
comp=Z,7.8nm,1.0s
GAMB Gambell 82.13 3 *e*P P 15 13 14.1 +0.2
comp=Z,13nm,1.0s
J08A Circle Bar Ran 82.17 39 *e*P P 15 13 14.9 +0.2
comp=Z,18nm,1.3s
LCMT Little Creek M 82.18 47 *e*P P 15 13 15.8 +0.7
comp=Z,6.7nm,1.1s
X16A Lo Mia Camp, P 82.20 50 *e*P P 15 13 16.7 +1.5
comp=Z,6.6nm,1.1s
CCUT Cedar City 82.37 46 *e*P P 15 13 16.8 +0.7
comp=Z,6.5nm,0.8s
319A Douglas 82.39 53 *e*P P 15 13 17.1 +0.9
comp=Z,9.7nm,1.0s
U15A North Rim 82.56 48 *e*P P 15 13 18.1 +1.0
comp=Z,8.0nm,0.8s
SUA Susitna One 82.58 13 *e*P P 15 13 15.8 -0.7
comp=Z,18nm,0.6s
BBB Bella Bella 82.60 28 P P 15 13 17.2 +0.6
comp=Z,6.7nm,0.9s,baz=279,slow=4.1,SNR=4.9
IPM Ipoh 82.95 277 *e*P P 15 13 19.4 +0.1
comp=Z,24nm,0.9s
G08A Pilot Rock 82.98 38 *e*P P 15 13 19.3 +0.5
comp=Z,13nm,1.3s
PMR Palmer 83.05 13 *e*P P 15 13 17.3 -1.3
comp=Z,10.0nm,0.6s
PMR Palmer 83.05 13 *e*P P 15 13 17.3 -1.3
PMR pmax pmax
comp=Z,10.0nm,0.6s
LTY Liberty 83.17 35 *e*P P 15 13 19.9 +0.3
comp=Z,5.4nm,1.0s
MTPU Mount Pierson 83.42 46 *e*P P 15 13 23.0 +1.5
comp=Z,5.5nm,0.9s
DIV Divide 83.42 15 *e*P P 15 13 18.8 -1.8
comp=Z,15nm,0.7s
BMRM Bremner River 83.58 16 *e*P P 15 13 20.9 -0.4
comp=Z,16nm,0.8s
PPLA Purkeypile 83.60 12 *e*P P 15 13 20.4 -1.1
MSU Marysvale 83.66 46 *e*P P 15 13 23.9 +1.4
SCM Sheep Creek Mo 83.67 14 *e*P P 15 13 21.5 -0.3
comp=Z,24nm,0.7s
SCM Sheep Creek Mo 83.67 14 *e*P P 15 13 21.5 -0.3
SCM pmax pmax
comp=Z,24nm,0.7s
BMO Blue Mountains 83.70 39 *e*P P 15 13 22.7 +0.3
comp=Z,3.6nm,0.9s
BMO Blue Mountains 83.70 39 *e*P P 15 13 22.7 +0.3
BMO pmax pmax
comp=Z,4.0nm,0.9s
KLU Klutina 83.70 15 *e*P P 15 13 21.3 -0.7
comp=Z,8.1nm,1.1s
MFID Camas Ranch 83.81 40 *e*P P 15 13 23.7 +0.7
comp=Z,6.4nm,1.0s
CAST Castle Rocks 84.09 11 *e*P P 15 13 22.3 -1.5
comp=Z,19nm,0.9s
BALM Baldy 84.23 17 *e*P P 15 13 24.4 -0.2
comp=Z,17nm,0.7s
BALM Baldy 84.23 17 *e*P P 15 13 24.4 -0.2
BALM pmax pmax
comp=Z,17nm,0.7s
F10A Beach Ranch, E 84.37 38 *e*P P 15 13 25.8 +0.1
comp=Z,10nm,0.9s
PSI Prapat 84.39 275 *e*P P 15 13 26.6 0.0
comp=Z,13nm,0.7s
PSI *e*S S 15 23 04.8 -2.5
PSI Prapat 84.39 275 *e*P P 15 13 26.6 0.0
PSI *e*S S 15 23 04.8 -2.5
PSI pmax pmax
comp=Z,13nm,0.7s
SEY Seymchan 84.43 347 ⇓ *i*P P 15 13 25.5 +0.1
KTH Kantishna Hill 84.44 12 *e*P P 15 13 24.3 -1.3
comp=Z,12nm,0.9s
TRF Thorofare Moun 84.47 12 *e*P P 15 13 24.8 -1.1
comp=Z,25nm,0.8s
BJT Baijiatuan 84.50 315 *e*P P 15 13 27.1 +0.7
comp=Z,44nm,1.4s
B08A Colville Reser 84.54 35 *e*P P 15 13 26.2 -0.1
comp=Z,7.8nm,1.0s
RND Reindeer 84.72 13 *e*P P 15 13 26.6 -0.3
comp=Z,28nm,0.7s
RND Reindeer 84.72 13 *e*P P 15 13 26.7 -0.3
RND pmax pmax
comp=Z,28nm,0.7s
DHY Denali Highway 84.75 13 *e*P P 15 13 26.4 -0.8
comp=Z,6.0nm,0.6s
HLID Hailey 84.76 41 *e*P P 15 13 28.6 +0.9
comp=Z,3.2nm,0.8s
BPAW Bear Paw Mtn. 84.92 12 *e*P P 15 13 26.3 -1.5
comp=Z,4.9nm,0.8s
ENH Enshi 84.97 304 *e*P P 15 13 29.6 +0.7
comp=Z,24nm,0.8s

MCK McKinley 85.00 13 *e*P P 15 13 27.6 -0.6
comp=Z,26nm,1.2s
PAX Paxson 85.09 14 *e*P P 15 13 27.1 -1.7
comp=Z,7.3nm,0.9s
PAX Paxson 85.09 14 *e*P P 15 13 27.1 -1.7
PAX pmax pmax
comp=Z,7.0nm,0.9s
HYT Haines Junctio 85.45 19 *e*P P 15 13 29.9 -0.7
comp=Z,7.7nm,0.9s
NEW Newport 85.70 36 *e*P P 15 13 30.6 -1.4
comp=Z,4.5nm,0.8s
NEW Newport 85.70 36 *e*P P 15 13 30.6 -1.4
NEW pmax pmax
comp=Z,5.0nm,0.8s
GYA Guiyang 85.72 300 *e*P P 15 13 33.0 +0.3
GYA pmax pmax
comp=Z,10.0nm,1.0s
MLY Manley 85.81 11 *e*P P 15 13 31.2 -0.9
comp=Z,10nm,1.1s
WRH Wood River Hil 85.82 12 *e*P P 15 13 31.4 -0.7
comp=Z,45nm,1.4s
RIDG Independ'e Rid 85.90 14 *e*P P 15 13 32.1 -0.5
comp=Z,8.0nm,0.9s
ZEA Zeya 85.91 331 *e*P P 15 13 33.1 +0.3
ZEA pmax pmax
comp=N,31nm,0.8s
ZEA pmax pmax
comp=Z,49nm,1.0s
TX31 Lajitas Ar. Si 85.91 57 *e*P P 15 13 34.6 +1.1
TXAR Lajitas Array 85.91 57 P P 15 13 35.5 +1.9
comp=Z,2.3nm,0.8s,baz=224,slow=5.5,SNR=12
DOT Dot Lake 86.00 14 *e*P P 15 13 32.8 -0.2
comp=Z,20nm,0.8s
HDA Harding Lake 86.01 13 *e*P P 15 13 32.4 -0.6
comp=Z,11nm,0.8s
CCB Clear Creek Bu 86.04 13 *e*P P 15 13 32.1 -1.0
comp=Z,31nm,1.4s
ANMO Albuquerque 86.09 51⇑ *e*P P 15 13 35.9 +1.5
ANMO pmax pmax
comp=Z,3.0nm,1.0s
WHY Whitehorse 86.14 20 *e*P P 15 13 34.5 +0.6
comp=Z,5.8nm,0.8s
IM3 Indian Mountai 86.16 10 *e*P P 15 13 33.2 -0.5
DLBC Dease Lake 86.17 23 *e*P P 15 13 34.4 +0.3
comp=Z,14nm,1.4s
MDM Murphy Dome 86.23 12 *e*P P 15 13 33.4 -0.7
comp=Z,14nm,1.0s
COLA College 86.23 12 *e*P P 15 13 33.4 -0.6
comp=Z,41nm,1.4s
COLA College 86.23 12 *e*P P 15 13 33.4 -0.6
COLA pmax pmax
comp=Z,41nm,1.4s
SCRK Sand Creek 86.30 14 *e*P P 15 13 34.4 -0.1
comp=Z,8.2nm,1.2s
ILAR Eielson Array 86.34 13 P P 15 13 34.1 -0.4
comp=Z,2.6nm,0.4s,baz=221,slow=5.2,SNR=66
ILAR PP PP 15 17 08.8 +2.3
comp=Z,1.3nm,1.0s,baz=225,slow=7.3,SNR=4.6
ILAR PKiKP PKiKP 15 18 37.1 -0.4
comp=Z,0.3nm,0.9s,baz=271,slow=2.8,SNR=4.0
ILB Eielson Array 86.34 13 *e*P P 15 13 33.6 -1.0
IL1 Eielson Array 86.34 13 *e*P P 15 13 32.8 -1.8
MCMT McKenzie Canyo 86.37 40 *e*P P 15 13 36.4 +0.9
DLMT Dillon 86.80 40 *e*P P 15 13 38.4 +1.0
comp=Z,6.6nm,0.9s
XAN Xi'an 86.97 307 P P 15 13 40.0 +1.7
XAN pP pP 15 15 32.6 -6.9
XAN pmax pmax
comp=Z,27nm,1.0s
S22A 4UR Ranch, Cre 87.04 49 *e*P P 15 13 40.0 +1.1
comp=Z,2.8nm,0.8s
BILL Bilibino 87.04 354 *i* P P 15 13 37.2 -0.6
BILL *i* *PP pP 15 15 35.3 -3.7
BILL *i* 15 17 09.3
BILL pmax pmax
comp=Z,5.0nm,0.9s
IMW Indian Meadow 87.10 42 *e*P P 15 13 40.2 +1.1
comp=Z,6.9nm,1.0s
QLMT Earthquake Lak 87.25 41 *e*P P 15 13 41.0 +1.4
YHB Horse Butte 87.36 41 *e*P P 15 13 41.5 +1.3
comp=Z,14nm,1.1s
PD31 Pinedale Array 87.45 43 *e*P P 15 13 40.9 +0.2
PDAR Pinedale Array 87.45 43 P P 15 13 41.2 +0.6
comp=Z,1.8nm,0.8s,baz=215,slow=2.6,SNR=18
PDAR Pinedale Array 87.45 43 *e*P P 15 13 40.7 +0.1
YMR Madison River 87.46 41 *e*P P 15 13 42.3 +1.7
comp=Z,7.7nm,0.9s
BOZ Bozeman (W) 87.50 40 *e*P P 15 13 39.8 -0.9
comp=Z,6.5nm,1.2s
BOZ Bozeman (W) 87.50 40 *e*P P 15 13 39.8 -0.9
BOZ pmax pmax
comp=Z,7.0nm,1.2s
DAWY Dawson 87.51 16 *e*P P 15 13 40.4 +0.2
comp=Z,12nm,1.3s
H17A Grant Village 87.57 41 *e*P P 15 13 40.5 -0.7
comp=Z,5.0nm,0.9s
YHH Holmes Hill 87.59 41 *e*P P 15 13 41.1 -0.2
comp=Z,5.5nm,1.2s
EGAK Eagle 87.64 15 *e*P P 15 13 40.9 +0.2
comp=Z,13nm,1.3s
COLD Coldfoot 87.89 10 *e*P P 15 13 41.9 +0.1
comp=Z,7.4nm,0.8s
HHC Hu-ho-hao-te 88.00 314 *e*P P 15 13 43.8 +0.7
HHC pmax pmax
comp=Z,14nm,1.3s
HHC pmax pmax
comp=Z,23nm,7.9s
KMI Kunming 88.50 297 P P 15 13 48.3 +2.4
KMI pmax pmax
comp=Z,22nm,1.1s
SYO Syowa Base 88.70 193 ⇑ *e*P P 15 13 46.2 +0.5
RLMT Red Lodge 88.74 41 *e*P P 15 13 47.1 +0.5
comp=Z,3.3nm,0.7s
CM01 Chiang Mai Arr 89.48 290 *e*P P 15 13 52.0 +1.7
CM31 Chiang Mai Arr 89.51 290 *e*P P 15 13 52.2 +1.8
CMAR Chiang Mai Arr 89.51 290 P P 15 13 52.5 +2.0
comp=Z,6.7nm,0.9s,baz=109,slow=2.9,SNR=33
CHTO Chiang Mai 89.62 290 *e*P P 15 13 52.4 +1.4
comp=Z,8.8nm,0.8s
SNAA Sanae 90.02 178 P P 15 13 52.7 +0.8
comp=Z,1.9nm,0.9s,baz=180,slow=15,SNR=4.2
SNAA Sanae 90.02 178 ⇑ *e*P P 15 13 53.3 +1.4
VNA3 Neumayer Olymp 90.14 176 P P 15 13 53.5 +1.1
YAK Yakutsk 90.27 338 *e*P P 15 13 52.3 -0.7
comp=Z,18nm,0.9s
YAK Yakutsk 90.27 338 *e*P P 15 13 51.7 -1.2
YAK pmax pmax
comp=Z,10.0nm,0.9s
VNA2 Neumayer--Watz 90.59 177 P P 15 13 55.8 +1.3
baz=200,slow=3.4
PLCA Paso Flores 90.61 134 P P 15 13 56.8 +1.5
comp=Z,3.9nm,0.7s,baz=234,slow=4.8,SNR=5.6
VNA1 Neumayer--Stat 90.81 177 P P 15 13 57.2 +1.7
LZH Lanzhou 91.60 308 *e*P P 15 14 01.6 +1.6
LZH pP pP 15 15 55.4 -6.7
LZH sP sP 15 16 42.8 -15
LZH PP PP 15 17 50.3 +1.7
LZH pmax pmax
comp=Z,35nm,0.9s
LZH pmax pmax
comp=Z,290nm,7.0s
INK Inuvik 92.31 15 P P 15 14 01.6 -0.6
comp=Z,7.0nm,0.9s,baz=229,slow=3.9,SNR=13
INK Inuvik 92.31 15 *e*P P 15 14 01.7 -0.5
comp=Z,12nm,1.1s
INK Inuvik 92.31 15 *e*P P 15 14 01.7 -0.5
INK pmax pmax
comp=Z,12nm,1.1s
SONA1 Songino Array 94.28 319 *e*P P 15 14 11.6 -0.3
SONM Songino Array 94.28 319 P P 15 14 11.8 -0.1
comp=Z,1.4nm,0.6s,baz=130,slow=4.5,SNR=8.3
YKA Yellowknife Ar 94.66 25 P P 15 14 12.8 -0.2
comp=Z,1.5nm,0.6s,baz=243,slow=4.4,SNR=28
ZALV Zalesovo Beam 108.96 322 PKiKP PKiKP 15 19 17.7 -0.2
comp=Z,1.0nm,0.5s,baz=132,slow=2.2,SNR=4.1
MKAR Makanchi Array 109.86 314 PKiKP PKiKP 15 19 19.7 -0.2
comp=Z,1.5nm,0.5s,baz=169,slow=0.7,SNR=26
KURK Kurchatov 112.56 318 PKiKP PKiKP 15 19 24.8 -0.1
KURK PP PP 15 20 19.9 -2.6
KURK Kurchatov 112.56 318 *d* iPKiKP PKiKP 15 19 24.9 +0.1
KURK pmax pmax
comp=Z,7.0nm,2.5s
KURBB Kurchatov Arra 112.61 318 PKiKP PKiKP 15 19 24.8 -0.2
comp=Z,2.1nm,0.8s,baz=98,slow=1.9,SNR=16
KURBB PP PP 15 20 19.9 -3.0
comp=Z,1.4nm,1.0s,baz=84,slow=7.4,SNR=5.9

AAK Ala-Archa 115.10 309 PKP PKPdf 15 19 30.4 +0.2
comp=Z,0.9nm,0.5s,baz=146,slow=11,SNR=3.8
AAK Ala-Archa 115.10 309 ⇓ *i*PKIKP PKPdf 15 19 29.9 -0.3
BVAR Borovoye Array 117.58 321 PKP PKPdf 15 19 34.6 +0.2
comp=Z,2.1nm,0.4s,baz=106,slow=3.2,SNR=27
BVAR PP PP 15 20 54.0 -3.2
comp=Z,1.0nm,0.8s,baz=47,slow=6.7,SNR=3.5
BRVK Borovoye 117.64 321 ⇑ *i*PKIKP PKPdf 15 19 34.7 +0.1
BRVK pmax pmax
comp=Z,2.0nm,0.8s
KK31 Karatay Array 118.03 309 *e*PKPdf PKPdf 15 19 35.4 -0.3
KK31 Karatay Array 118.03 309 *e*PKIKP PKPdf 15 19 35.4 -0.3
SPITS Spitsbergen Ar 119.86 357 PKP PKPdf 15 19 38.5 +0.3
comp=Z,8.2nm,0.8s,baz=28,slow=3.4,SNR=9.2
ARU Arti 123.58 326 *e*PKPdf PKPdf 15 19 45.8 0.0
ARU Arti 123.58 326 *i* PKIKP PKPdf 15 19 46.3 +0.4
ARU 15 21 33.3
ARU 15 26 05.5
ARU SS SS 15 37 40.5 -1.5
AKTO Aktyubinsk 125.60 319 PKP PKPdf 15 19 50.7 +0.8
comp=Z,3.3nm,0.8s,baz=46,slow=2.5,SNR=9.1
SCO Scoresbysund 126.02 10 *e*PKPdf PKPdf 15 19 50.8 +0.6
ARCES ARCESS Array B 126.95 350 PKHKP PKPpre 15 19 43.9
comp=Z,2.1nm,0.8s,baz=326,slow=1.2,SNR=5.9
ARCES PKP PKiKP 15 19 52.3 -0.2
comp=Z,4.0nm,0.4s,baz=79,slow=0.7,SNR=44
GEYT Alibeck 127.74 304 PKP PKPdf 15 19 55.4 +0.9
comp=Z,1.4nm,0.5s,baz=255,slow=2.9,SNR=6.7
KLMR Klimovskoe 130.06 337 *e*PKPdf PKPdf 15 19 57.2 -0.9
KLMR AMP 15 19 59.8
comp=Z,6.0nm,0.8s
KLMR *e*PP PP 15 22 22.7 +3.6
KLMR Klimovskoe 130.06 337 *e*PKIKP PKPdf 15 19 57.1 -1.0
KLMR *e* 15 22 22.7
KLMR pmax pmax
comp=Z,6.0nm,0.8s
FINES FINESS Array B 133.86 344 PKHKP PKPpre 15 19 49.7
comp=Z,0.5nm,0.7s,baz=306,slow=30,SNR=3.5
FINES PKP sPdif 15 20 05.6 -0.3
comp=Z,4.3nm,0.5s,baz=98,slow=2.8,SNR=18
OBN Obninsk 135.01 333 *e*PKIKP PKPdf 15 20 08.2 +0.7
OBN pmax pmax
comp=Z,8.0nm,0.5s
VSU Vasula 136.17 342 *c* *i*PKIKP PKPdf 15 20 11.8 +2.2
NB2 NORSAR Subarra 136.99 353 PKP PKPpre 15 20 04.1
comp=Z,2.2nm,0.8s,baz=16,slow=3.2
NOA NORSAR Array B 136.99 353 PKHKP PKPpre 15 19 59.0
comp=Z,0.9nm,0.8s,baz=17,slow=4.3,SNR=2.4
NOA PKP PKiKP 15 20 13.4 +0.3
comp=Z,1.0nm,0.6s,baz=6.7,slow=3.8,SNR=6.5
NOA PP PP 15 22 56.8 -5.4
comp=Z,0.8nm,0.7s,baz=13,slow=4.5,SNR=3.7
NCK Nalchik 137.15 315 ⇓ *e*PKIKP PKPdf 15 20 11.9 -0.1
GNI Garni 137.50 310 ⇓ *i*PKIKP PKPdf 15 20 15.8 +2.9
KBZ Khabaz 137.53 315 PKP PKPdf 15 20 14.0 +1.4
comp=Z,1.9nm,0.8s,baz=58,slow=0.7,SNR=5.3
HFS Hagfors 137.56 351 PKHKP PKPpre 15 20 00.4
comp=Z,1.5nm,0.4s,baz=20,slow=1.7,SNR=14
ONI Oni 137.59 314 *e*PKHKP PKPpre 15 19 48.2
NEY Neytrino 137.84 315 ⇑ *i*PKIKP PKPdf 15 20 16.1 +2.6
AKASG Malin Array Be 141.28 332 PKHKP PKPpre 15 20 14.0
comp=Z,3.6nm,0.3s,baz=43,slow=4.0,SNR=30
AKASG PKP PKiKP 15 20 22.2 +0.1
comp=Z,3.4nm,0.5s,baz=43,slow=2.8,SNR=9.5
AKBB Malin Array Si 141.28 332 *e*PKPpre PKPpre 15 20 13.6
AKBB Malin Array Si 141.28 332 *e*PKHKP PKPpre 15 20 13.6
KIEV Kiev 141.29 332 *e*PKPpre PKPpre 15 20 13.8
KIEV Kiev 141.29 332 *c* *i*PKIKP PKPdf 15 20 22.2 +3.0
AK11 Malin Array Si 141.32 332 *e*PKPpre PKPpre 15 20 13.5
SIM Simferopol' 142.48 322 *i* PKIKP PKPdf 15 20 20.0 -1.5
SIM pmax pmax
comp=Z,28nm,0.7s
EKA Eskdalemuir Ar 143.00 5 PKHKP PKPpre 15 20 19.8
comp=Z,1.9nm,0.5s,baz=327,slow=2.9,SNR=12
GAL1 Galloway 143.31 7 *e*P PKPab 15 20 20.9 +0.1
SQRM Soroca 143.51 330 ⇑ PKIKP PKPbc 15 20 22.4 +0.5
BEL Belsk 143.59 340 *e*PKP PKPdf 15 20 23.3 +0.1
BEL Belsk 143.59 340 *e*PKIKP PKPdf 15 20 23.3 +0.1
GMM Mts of Mourne 143.78 8 *e*P PKPbc 15 20 22.5 -0.1
IOMK Kirk Michael 143.92 7 *e*P PKPbc 15 20 22.8 -0.2
KIS Kishinev 144.08 328 *e*PKP PKPbc 15 20 22.0 -1.8
comp=Z,200nm,0.9s
LVV L'vov 144.11 336 *e*PKIKP PKPdf 15 20 24.7 +0.5
HPK Haverah Park 144.47 4 *e*P PKPab 15 20 25.4 +0.1
DSB Dublin 144.69 9 *e*PKPdf PKPbc 15 20 25.7 +0.2
KWP Kalwaria Pacla 144.77 337 *e*PKPdf PKPab 15 20 26.9 +0.3
KWP Kalwaria Pacla 144.77 337 *e*PKPdf PKPab 15 20 26.6 0.0
KWP Kalwaria Pacla 144.77 337 ⇓ *e*PKIKP PKPab 15 20 26.9 +0.3
ILGA Ilgaz 144.80 316 *e*PKPdf PKPbc 15 20 26.9 +0.3
WLF1 Llynfaes 144.90 7 *e*P PKPbc 15 20 26.4 +0.4
LBWR Ladybower, Pea 145.02 4 *e*P PKPbc 15 20 26.7 +0.3
TLCR 145.30 326 ⇓ PKP2 PKPab 15 20 28.9 +0.2
OJC Ojcow 145.30 340 *e*PKPdf PKPab 15 20 28.3 -0.3
OJC Ojcow 145.30 340 *e*PKPdf PKPbc 15 20 27.8 +0.4
OJC Ojcow 145.30 340 *e*PKP2 PKPbc 15 20 27.8 +0.4
BUR08 Bucovina Ar. S 145.31 332 *e*PKPdf PKPab 15 20 28.3 -0.6
BUR04 Bucovina Ar. S 145.33 332 *e*PKPdf PKPab 15 20 28.5 -0.5
BURAR Bucovina Array 145.33 332 ⇓ PKP2 PKPab 15 20 29.1 +0.1
LLW Llanuwchllyn 145.41 6 *e*P PKPbc 15 20 27.8 +0.2
FOEL Foel Wylfa 145.41 6 *e*P PKPbc 15 20 27.4 -0.3
STHS Stebnicka Huta 145.49 338 *e*PKP PKPab 15 20 29.3 -0.1
STHS Stebnicka Huta 145.49 338 *e*PKP2 PKPab 15 20 29.3 -0.1
BR131 Keskin Array S 145.51 315 *e*PKPdf PKPbc 15 20 28.8 +0.3
BRTR Keskin Array B 145.51 315 PKPbc PKPab 15 20 29.4 -0.6
comp=Z,11nm,0.7s,baz=134,slow=4.5,SNR=49
CFR Carcaliu 145.66 327 ⇓ PKP2 PKPab 15 20 29.8 -0.4
UZH Uzhgorod 145.75 336 ⇑ *i*PKP2 PKPbc 15 20 29.0 +0.3
UZH *i* 15 20 31.0
KSP Ksiaz 145.78 344 *e*PKP PKPab 15 20 30.1 -0.4
KSP Ksiaz 145.78 344 *e*PKP2 PKPab 15 20 30.1 -0.4
HLM1 Long Mynd 145.81 5 *e*P PKPbc 15 20 28.8 0.0
NIE Niedzica 145.82 339 *e*PKPdf PKPab 15 20 30.4 -0.3
NIE Niedzica 145.82 339 PKP2 PKPab 15 20 30.5 -0.3
ASF Jabal al Asfar 145.86 300 PKPbc PKPab 15 20 30.7 -0.8
comp=Z,7.9nm,0.7s,baz=26,slow=3.1,SNR=15
VRI Vrincioaia 145.90 329 ⇓ PKP2 PKPbc 15 20 29.7 +0.4
PLOR Plostina 145.95 329 ⇑ PKP2 PKPbc 15 20 30.4 +0.9
TIRR Tirgusor 146.00 325 ⇓ *i*P PKPbc 15 20 29.9 +0.4
TIRR Tirgusor 146.00 325 *e*PKPdf PKPbc 15 20 29.6 0.0
TIRR Tirgusor 146.00 325 ⇓ PKP2 PKPbc 15 20 29.9 +0.4
ANTO Ankara 146.01 315 ⇓ *i*P PKPdf 15 20 27.8 -0.1
ANTO Ankara 146.01 315 *e*PKPbc PKPab 15 20 30.9 -1.0
ANTO Ankara 146.01 315 ⇓ *e*PKIKP PKPdf 15 20 27.8 -0.1
TRPA Tarpa 146.06 335 ⇓ *e*PKIKP PKPab 15 20 30.7 -0.9
HARR Harsova 146.10 326 ⇑ *i*P PKPab 15 20 31.3 -0.6
HARR Harsova 146.10 326 ⇑ PKP2 PKPab 15 20 31.3 -0.6
CLL Collm 146.12 348 ⇓ *i*PKPbc PKPbc 15 20 30.5 +0.8
comp=Z,88nm,0.7s
CLL Collm 146.12 348 *e*PKPbc PKPbc 15 20 30.3 +0.6
CLL Collm 146.12 348 ⇓ *i*PKP2 PKPbc 15 20 30.5 +0.8
CLL pmax pmax
comp=Z,31nm,0.7s
OKC Ostrava-Krasne 146.16 341 ⇓ *e*PKP PKPab 15 20 31.0 -1.0
OKC *ex* x 15 20 33.5
OKC Ostrava-Krasne 146.16 341 *e*PKP2 PKPab 15 20 31.0 -1.0
UPC Upice 146.16 344 ⇓ *e*PKP PKPab 15 20 31.2 -0.8
UPC *ex* x 15 20 33.2
UPC Upice 146.16 344 ⇓ *e*PKP2 PKPab 15 20 31.2 -0.8
DPC Dobruska-Polom 146.22 344 ⇓ *e*PKP PKPab 15 20 31.7 -0.6
DPC Dobruska-Polom 146.22 344 ⇓ *e*PKP2 PKPab 15 20 31.7 -0.6
MCH1 Michaelchurch 146.31 6 *e*P PKPbc 15 20 30.0 -0.2
MANR Mangalia 146.32 324 ⇑ *i*P PKPab 15 20 31.8 -1.0
LANS Liptovska Anna 146.33 339 *e*PKP PKPab 15 20 32.1 -0.7
LANS Liptovska Anna 146.33 339 *e*PKP2 PKPab 15 20 32.1 -0.7
KRLC Kraliky 146.35 343 ⇓ *i*PKP PKPab 15 20 31.7 -1.1
KRLC Kraliky 146.35 343 ⇓ *i*PKP2 PKPab 15 20 31.7 -1.1
WTSB Winterswijk 146.38 355 *e*PKPbc PKPbc 15 20 30.9 +0.6
comp=Z,81nm,0.9s
MORC Moravsky Berou 146.39 342 *e*PKPdf PKPdf 15 20 28.6 +0.4
MORC *e*PKPbc PKPbc 15 20 31.1 +0.6
MORC Moravsky Berou 146.39 342 *e*PKIKP PKPdf 15 20 28.6 +0.4
MORC *e* 15 20 31.1
MONM Monmouth 146.49 5 *e*P PKPbc 15 20 30.8 +0.1
PVCC Panska Ves 146.50 346 ⇓ *e*PKP PKPab 15 20 32.2 -1.2
PVCC Panska Ves 146.50 346 *e*PKP2 PKPab 15 20 32.2 -1.2
ISR Istrita 146.52 328 ⇓ *i*P PKPab 15 20 32.5 -1.2
ISR Istrita 146.52 328 ⇓ PKP2 PKPab 15 20 32.5 -1.2
MLR Muntele Rosu 146.56 329 PKPbc PKPbc 15 20 32.0 +0.8
comp=Z,4.0nm,0.6s,baz=0.0,slow=14,SNR=27
MLR Muntele Rosu 146.56 329 *e*PKPbc PKPbc 15 20 31.4 +0.2
MLR Muntele Rosu 146.56 329 *e*PKP2 PKPbc 15 20 31.4 +0.2
HGH Gray Hill 146.69 6 *e*P PKPbc 15 20 31.2 0.0
CJR Cluj-Napoca 146.73 333 ⇑ PKP2 PKPab 15 20 33.2 -1.3

SECR			146.82 328	⇑	*i*P	PKPbc	15 20 32.2	+0.4
MMAI	Mount Meron Ar		146.84 302		PKPbc	PKPab	15 20 33.9	-1.5
	comp=Z,17nm,0.5s,baz=66,slow=3.5,SNR=43							
BATH	Bath		146.92 5		*e*P	PKPbc	15 20 32.2	+0.4
PRU	Pruhonice		147.01 345	‖	*e*PKP	PKPbc	15 20 33.3	+1.2
PRU					*ex*	x	15 20 35.5	
PRU	Pruhonice		147.01 345	‖	*e*PKP2	PKPbc	15 20 33.3	+1.2
GOPC	GO Pecny, Ondr		147.02 345	‖	*e*PKP	PKPbc	15 20 33.4	+1.2
GOPC					*ex*	x	15 20 36.5	
GOPC	GO Pecny, Ondr		147.02 345		*e*PKP2	PKPbc	15 20 33.4	+1.2
VOIR			147.03 330	⇑	*i*P	PKPbc	15 20 33.6	+1.2
VOIR			147.03 330	⇑	PKP2	PKPbc	15 20 33.6	+1.2
DRGR			147.05 334	⇑	PKP2	PKPbc	15 20 33.8	+1.3
VRAC	Vranov		147.09 342	‖	PKP2	PKPbc	15 20 33.5	+1.1
VYHS	Vyhne		147.11 339		*e*PKP	PKPbc	15 20 33.8	+1.3
VYHS					*e*		15 20 36.6	
VYHS	Vyhne		147.11 339		*e*PKP2	PKPbc	15 20 33.8	+1.3
PSZ	Piszkesteto		147.24 338	‖	*e*PKiKP	PKiKP	15 20 33.9	-0.7
PSZ	Piszkesteto		147.24 338		*e*PKPbc	PKPbc	15 20 33.3	+0.4
PSZ	Piszkesteto		147.24 338	⇑	PKP2	PKPbc	15 20 34.3	+1.4
NKC	Novy Kostel		147.25 348	‖	*e*PKP	PKPbc	15 20 34.1	+1.3
NKC	Novy Kostel		147.25 348	‖	*e*PKP2	PKPbc	15 20 34.1	+1.3
ARR	Arges		147.28 330	⇑	*i*P	PKPbc	15 20 34.5	+1.4
TREC	Trest		147.41 344	‖	*e*PKP	PKPbc	15 20 34.3	+1.1
TREC					*ex*	x	15 20 37.9	
TREC	Trest		147.41 344		*e*PKP2	PKPbc	15 20 34.3	+1.1
SMOL	Smolenice		147.55 341		*e*PKP	PKPbc	15 20 35.4	+1.8
SMOL					*e*		15 20 39.4	
SMOL	Smolenice		147.55 341		*e*PKP2	PKPbc	15 20 35.4	+1.8
HGN	Heimansgroeve		147.64 355		*e*PKPbc	PKPbc	15 20 33.8	+0.1
	comp=Z,20nm,0.8s							
MODS	Modra-Piesok		147.72 341		*e*PKP	PKPbc	15 20 34.6	+0.5
MODS	Modra-Piesok		147.72 341		*e*PKP2	PKPbc	15 20 34.6	+0.5
CSS	Mathiatis		147.79 307		*e*PKPbc	PKPbc	15 20 34.5	-0.2
MEM	Membach		147.79 355	‖	PKPbc	PKPbc	15 20 34.9	+0.8
SRO	Srobarova		147.88 339		*e*PKP	PKPbc	15 20 36.4	+2.0
SRO					*e*		15 20 40.6	
SRO	Srobarova		147.88 339		*e*PKP2	PKPbc	15 20 36.4	+2.0
SNF	Seneffe		148.00 357	‖	PKPbc	PKPbc	15 20 35.5	+0.9
SNF				⇑	PKPab	PKPab	15 20 39.0	-0.3
GRFO	Grafenberg		148.00 349		*e*PKPbc	PKPbc	15 20 35.5	+0.8
BCLA	Clavier		148.03 356	⇑	PKPab	PKPab	15 20 39.5	-0.1
KHC	Kasperske Hory		148.04 346	‖	*e*PKP	PKPbc	15 20 36.2	+1.3
KHC					*ex*	x	15 20 40.7	
KHC	Kasperske Hory		148.04 346		*e*PKPbc	PKPbc	15 20 35.5	+0.6
KHC	Kasperske Hory		148.04 346	‖	*e*PKP2	PKPbc	15 20 36.2	+1.3
GEC2	GERESS Array S		148.28 345		*e*PKPbc	PKPbc	15 20 36.1	+0.6
GEC2	GERESS Array S		148.28 345		*e*PKP2	PKPbc	15 20 36.2	+0.6
GERES	GERESS Array B		148.28 345		PKP	PKPdf	15 20 32.0	+0.6
	comp=Z,20nm,0.7s,baz=301,slow=10,SNR=19							
GERES					PKPbc	PKiKP	15 20 36.5	-0.3
	comp=Z,2.3nm,0.6s,baz=90,slow=1.3,SNR=6.1							
CSKK	Cs˘‡kako		148.28 339	‖	*e*PKiKP	PKiKP	15 20 36.2	-0.5
GEA0	GERESS Array S		148.29 345		*e*PKPdf	PKPdf	15 20 32.2	+0.8
GEA0					*e*PKPbc	PKiKP	15 20 36.4	-0.4
DOU	Dourbes		148.39 357	‖	PKPbc	PKPbc	15 20 36.6	+1.0
BZS	Buzias		148.45 333	⇑	*i*P	PKPbc	15 20 37.0	+1.1
BZS	Buzias		148.45 333	⇑	PKP2	PKPbc	15 20 37.1	+1.1
CONA	Conrad Observa		148.54 342		*i* PKiKP	PKiKP	15 20 37.6	+0.3
	comp=Z,45nm,1.3s,SNR=16							
WLF	Walferdange		148.72 355	⇑	PKPbc	PKPbc	15 20 37.8	+1.4
WLF	Walferdange		148.72 355		*e*PKPbc	PKPbc	15 20 37.4	+0.9
WLF	Walferdange		148.72 355		*e*PKP2	PKPbc	15 20 37.4	+0.9
MOA	Molln		149.06 344		*i* PKiKP	PKiKP	15 20 38.3	0.0
	comp=Z,8.7nm,0.7s							
MORH	M˘‡r¡gy, Hung		149.13 337	‖	*e*PKiKP	PKiKP	15 20 38.6	+0.2
ARSA	Arzberg		149.26 342		*i* PKPbc	PKPbc	15 20 37.7	-0.2
	comp=Z,9.5nm,0.9s							
MANT	Manisa		149.53 316		*e*PKPbc	PKPbc	15 20 39.6	+0.5
BFO	Black Forest		149.79 352		*e*PKPbc	PKPbc	15 20 39.8	+0.6
SOKA	Soboth		149.92 342		*i* PKPbc	PKPbc	15 20 39.9	+0.4
	comp=Z,26nm,1.1s,SNR=7.2							
PERS	Pernice		149.93 342		*i* PKPbc	PKPbc	15 20 39.8	+0.2
PERS					*i* PKPab	PKPab	15 20 47.5	-0.1
KBA	Koelnbreinsper		150.01 344		*i* PKPbc	PKPbc	15 20 40.1	+0.2
	comp=Z,20nm,0.6s,SNR=7.2							
VTS	Vitosha		150.01 328	‖	*i*P	PKPbc	15 20 40.7	+0.6
VTS	Vitosha		150.01 328		*e*PKPbc	PKPbc	15 20 40.6	+0.6
WATA	Walderalm		150.18 347		*i* PKiKP	PKiKP	15 20 41.0	+0.2
	comp=Z,19nm,0.5s,SNR=11							
RETA	Reutte		150.21 348		*i* PKiKP	PKiKP	15 20 40.9	+0.1
	comp=Z,10nm,0.6s							
OBKA	Obir		150.21 343		*i* PKPbc	PKPbc	15 20 40.4	+0.2
	comp=Z,10.0nm,0.6s							
WTTA	Wattenberg		150.24 347		*i* PKiKP	PKiKP	15 20 41.3	+0.3
	comp=Z,32nm,0.6s,SNR=11							
MOTA	Moosalm		150.27 348		*i* PKiKP	PKiKP	15 20 41.2	+0.2
	comp=Z,21nm,0.8s,SNR=7.7							
MYKA	Terra Mystica		150.35 344		*i* PKPbc	PKPbc	15 20 40.7	+0.1
	comp=Z,20nm,0.5s,SNR=6.6							
DIVS	Divibare		150.35 333		*e*PKPbc	PKPbc	15 20 41.4	+0.7
ABTA	Abfaltersbach		150.53 345		*i* PKPbc	PKPbc	15 20 41.3	+0.3
	comp=Z,44nm,0.6s,SNR=11							
DAVA	Damuels		150.56 349		*i* PKPbc	PKPbc	15 20 41.5	+0.3
	comp=Z,19nm,0.6s,SNR=5.9							
FETA	Feichten		150.66 348		*i* PKiKP	PKiKP	15 20 42.4	+0.6
	comp=Z,32nm,1.0s,SNR=5.6							
BOJS	Bojanci		150.91 341		*i* PKPbc	PKPbc	15 20 42.9	+1.2
BOJS					*i* PKPab	PKPab	15 20 52.1	+0.5
JAVS	Javornik		150.91 343		*i* PKPbc	PKPbc	15 20 42.4	+0.5
JAVS					*i* PKPab	PKPab	15 20 51.6	-0.1
BLY	Banja Luka		150.92 338	⇑	*i*P	PKPbc	15 20 42.6	+0.8
BLY	Banja Luka		150.92 338		*e*PKPbc	PKPbc	15 20 42.1	+0.3
FUORN	Ofenpass-Fuorn		151.13 348		*e*PKPbc	PKPbc	15 20 43.5	+0.9
VAY	Valandovo		151.26 327		*i* PKP	PKPbc	15 20 42.7	0.0
SKO	Skopje		151.35 329		*i* PKP	PKPbc	15 20 43.7	+0.8
TUE	Stuetta		151.44 349		*e*PKPbc	PKPbc	15 20 44.0	+0.7
KRUS	Krusevo		151.90 328		*i* PKP	PKPbc	15 20 44.5	+0.3
PDG	Podgorica		152.01 332	⇑	*i*P	PKPbc	15 20 45.0	+0.7
KARP	Karpathos		152.04 312		*e*PKPbc	PKPbc	15 20 45.1	+0.4
OHR	Ohrid		152.32 329		*i* PKP	PKPbc	15 20 46.0	+0.9
SANT	Santorini		152.76 316		*e*PKPbc	PKPbc	15 20 45.4	-0.9
SANT					*e*PKPab	PKPab	15 20 59.2	-0.7
AGG	Agios Georgios		153.01 324		*e*PKPbc	PKPbc	15 20 46.3	-0.4
AGG					*e*PKPab	PKPab	15 21 00.4	-0.5
AGG	Agios Georgios		153.01 324		*e*PKIKP	PKPbc	15 20 46.3	-0.4
AGG					*e*		15 21 00.4	
IDI	Anoyia		153.75 314		PKPbc	PKPbc	15 20 50.4	+2.0
	comp=Z,3.5nm,0.4s,baz=35,slow=10,SNR=4.6							
ESDC	Sonseca Array		158.24 13		PKPab	PKPab	15 21 23.4	+0.1
	comp=Z,0.2nm,0.3s,baz=339,slow=3.7,SNR=6.8							
KEST	Kesra		161.65 341		PKPab	PKPab	15 21 39.1	+0.7
	comp=Z,6.9nm,0.6s,baz=294,slow=0.8,SNR=8.1							
TOA0	Torodi Ar. Sit		174.69 176		*e*PKPdf	PKPdf	15 20 58.6	-0.1
TORD	Torodi Ar. Bea		174.69 176		PKP	PKPdf	15 20 58.5	-0.2
	comp=Z,1.0nm,0.7s,baz=314,slow=1.4,SNR=6.0							

*IDC **24** 15:02:19.9±1.9,9.°02N×93.°94E,h0km,mb4.1/11, mb1 4.1/11,mb1mx3.8/71,mbtmp4.1/11,Error ellipse: s-maj=65.4km s-min=25.5km az=98.0*
*ISCJB **24** 15:02:21.1±0.7,9.°0N±0.°1×94.°2E±0.°1,h22km,mb4.2/15, Error ellipse: s-maj=21.9km s-min=12.9km az=144.0*
*NEIC **24** 15:02:21.2±0.6,9.°03N×93.°99E,h10km,mb4.6/4,Error ellipse: s-maj=21.6km s-min=12.5km az=52.0*

ISC 24 15:02:23.0±0.7,9.°0N±0.°1×94.°1E±0.°2,h22km,n20, σ1ᵖ05/20,mb4.2/15,1C,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
IPM	Ipoh	8.25	123	*e*Pn		Pn	15 04 21.1	-0.4
AAK	Ala-Archa	37.62	336	P		P	15 09 37.2	+0.8
	4.6nm,0.9s,baz=178,slow=7.1,SNR=5.2							
MKAR	Makanchi Array	38.95	347	P		P	15 09 47.3	-0.1
	1.3nm,0.8s,baz=143,slow=7.0,SNR=3.5							
GEYT	Alibeck	43.30	317	P		P	15 10 24.3	+0.8
	2.2nm,0.6s,baz=126,slow=7.3,SNR=3.2							
KURBB	Kurchatov Arra	43.41	346	P		P	15 10 24.6	+0.6
	1.9nm,0.9s,baz=160,slow=7.2,SNR=3.2							
KURK	Kurchatov	43.47	346	P		P	15 10 24.6	+0.1
ZALV	Zalesovo Beam	45.40	352	P		P	15 10 39.9	0.0
	4.6nm,0.8s,baz=177,slow=8.9,SNR=5.1							
BVAR	Borovoye Array	47.87	341	P		P	15 10 58.4	-0.9
	1.0nm,0.8s,baz=134,slow=8.3,SNR=3.2							
BRVK	Borovoye	47.94	341	*e*P		P	15 11 01.4	+1.6
	5.3nm,0.6s							
ABKAR	Akbulak array	49.19	331	*e*P		P	15 11 06.9	-2.6
	1.2nm,0.6s							
YSS	Yuzh-Sakhalins	55.91	38	*e*P		P	15 11 59.8	+0.6
	5.4nm,0.9s							
BRTR	Keskin Array B	61.63	310	P		P	15 12 39.3	-0.2
	1.1nm,0.8s,baz=102,slow=7.1,SNR=3.7							
TIXI	Tiksi	66.11	11	*e*P		P	15 13 07.5	-0.6
	4.4nm,0.9s							
FINES	FINESS Array B	71.66	332	P		P	15 13 41.5	-1.3
	1.5nm,0.7s,baz=100,slow=5.8,SNR=3.2							
BOSA	Boshof	76.16	238	P		P	15 14 09.2	-0.7
	1.6nm,0.7s,baz=115,slow=4.9,SNR=2.3							
HFS	Hagfors	77.43	330	P		P	15 14 16.3	-0.1
	1.4nm,0.6s,baz=98,slow=8.0,SNR=3.9							
CLL	Collm	77.43	321	*e*P		P	15 14 18.0	+1.4
SPITS	Spitsbergen Ar	78.69	348	P		P	15 14 24.3	+1.2
	2.0nm,0.6s,baz=140,slow=7.6,SNR=5.5							
SYO	Syowa Base	86.50	197	‖	*e*P	P	15 15 04.2	+0.5
PLCA	Paso Flores	145.62	201	PKPbc		PKPab	15 22 01.1	+0.5
	4.0nm,1.0s,baz=192,slow=6.5,SNR=4.0							

*NEIC **24** 15:02:33.4±0.2,22.°24S×70.°24W,h10km,mb4.6/9, ML4.4(GUC),Error ellipse: s-maj=8.6km s-min=5.9km az=66.0*
NEIC Felt [III] at Tocopilla and [II] at Calama and Oficina Maria Elena.
*GUC **24** 15:02:38.4±0.5,22.°34S×70.°25W,h45km±1km,ML4.4*
*IDC **24** 15:02:39.1±3.2,22.°30S×70.°11W,h48km±29km,mb4.0/12, mb1 4.1/15,mb1mx3.9/48,mbtmp4.2/15,ML3.9/3,MS3.2/2, Ms1 3.3/2,ms1mx3.0/40,Error ellipse: s-maj=27.3km s-min=14.1km az=75.0*

ISC 24 15:02:37.2±0.6,22.°41S±0.°03×70.°39W±0.°06,h33km±2km, n72,σ1ᵖ42/80,mb4.5/19,2C-5D,Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
PB04	IPOC Station P	0.24	72	*e*Pn		Pb	15 02 45.9	+1.5
PB04				*e*Sn		Sb	15 02 51.2	+1.9
PB04	IPOC Station P	0.24	72	⇑ *i*P		Pb	15 02 46.0	+1.6
PB04				*e*S		Sb	15 02 51.5	+2.2
PB04				IAML			15 02 51.8	
	comp=E,84μm,0.2s							
PB06	IPOC Station P	0.81	111	*e*P		Pn	15 02 52.9	+0.4
PB06				*e*S		Sn	15 03 03.6	+0.2
PB06				IAML			15 03 04.8	
	comp=E,30μm,0.3s							
PB07	IPOC Station P	0.83	35	‖ *i*P		Pb	15 02 52.7	-0.5
PB07				*e*S		Sn	15 03 03.3	-0.4
PB07				IAML			15 03 03.7	
	comp=N,20μm,0.7s							
PB10	IPOC Station P	1.11	188	*e*Pn		Pb	15 02 57.8	-0.1
PB10	IPOC Station P	1.11	188	‖ *i*P		Pb	15 02 57.9	-0.1
PB10				IAML			15 03 13.4	
	comp=N,18μm,0.6s							
PB02	IPOC Station P	1.18	23	‖ *i*P		Pn	15 02 57.6	+0.2
PB02				*e*S		Sn	15 03 12.4	0.0
PB02				IAML			15 03 12.8	
	comp=E,10μm,0.2s							
PB09	IPOC Station P	1.23	61	‖ *i*P		Pb	15 02 58.9	-1.1
PB09				*e*S		Sn	15 03 14.1	+0.3
PB01	IPOC Station P	1.60	32	*e*Pn		Pn	15 03 03.6	+0.5
PB01	IPOC Station P	1.60	32	*e*P		Pn	15 03 03.7	+0.5
PB01				*e*S		Sn	15 03 22.9	+0.1
PB11	IPOC Station P	2.72	15	*e*Pn		Pn	15 03 19.9	+1.1
MNMC	Minye Minye	3.34	13	*e*Pn		Pn	15 03 28.1	+0.7
AHML	Horco Molle	6.34	134	*e*P		Pn	15 04 11.2	+2.9
AHML				*e*S		Sb	15 05 42.5	+0.3
LPAZ	La Paz	6.45	20	P		Pn	15 04 13.2	+2.7
	comp=E,1.7nm,0.3s,baz=164,slow=3.9,SNR=34							
LPAZ				LR		LR	15 06 57.6	
	comp=E,218nm,18.3s,baz=211,slow=41							
LPAZ	La Paz	6.45	20	*e*Pn		Pn	15 04 13.1	+2.6
VCA	Vinchina	6.60	163	*e*P		Pn	15 04 15.8	+3.7
VCA				IAML			15 04 26.1	
	comp=Z,110nm,0.6s							
VCA				*e*S		Sb	15 05 50.7	+0.8
AGUA	GUANDACOL	7.25	167	*e*P		Pn	15 04 24.1	+3.2
AGUA				*e*S		Sb	15 06 05.7	-2.8
CYA	Choya	7.30	146	*e*P		Pn	15 04 20.6	-0.9
CYA				IAML			15 04 31.5	
	comp=Z,20nm,0.5s							
ACDV	Cuesta del Vie	7.81	172	*e*P		Pn	15 04 31.2	+2.5
AMOG	MOGNA	8.66	169	*e*P		Pn	15 04 40.1	-0.1
APLL	PUNTA DE LOS L	8.68	157	*e*P		Pn	15 04 40.2	-0.2
RTLS	Leoncito	9.40	174	*e*P		Pn	15 04 52.7	+2.1
RTCV	Cerro Valdivia	9.56	170	*e*P		Pn	15 04 52.9	+0.4
AUSP	Uspallata	9.82	175	*e*P		Pn	15 04 58.0	+1.7
ASAL	Salagasta	10.24	173	*e*P		Pn	15 05 03.4	+1.5
ROC1	El Roble	10.54	183	*e*Pn		Pn	15 05 07.4	+1.3
SIV	San Ignacio	10.87	56	P		Pn	15 05 09.8	-0.8
	comp=Z,1.2nm,0.3s,baz=253,slow=11,SNR=17							
CPUP	Villa Florida	12.53	111	P		Pn	15 05 32.4	-0.8
	comp=Z,0.1nm,0.3s,baz=276,slow=9.2,SNR=2.0							
CPUP				LR		LR	15 10 42.9	
	comp=Z,105nm,20.1s,baz=290,slow=39							
TRQA	Tornquist	17.19	157	*e*Pn		Pn	15 06 35.2	+0.4
	comp=Z,76nm,2.0s							
PLCA	Paso Flores	18.27	180	P		Pn	15 06 50.0	+1.9
	comp=Z,0.1nm,0.3s,baz=10,slow=17,SNR=4.0							
PLCA	Paso Flores	18.27	180	*e*P		Pn	15 06 48.7	+0.6
	comp=Z,12nm,1.4s							
PTGA	Pitinga	23.82	27	P		P	15 07 45.2	-2.1
	comp=Z,1.4nm,0.3s,baz=311,slow=19,SNR=3.6							
TKL	Tuckaleechee C	59.12	347	P		P	15 12 33.3	-1.1
	comp=Z,3.3nm,0.7s,baz=196,slow=7.4,SNR=3.3							
TXAR	Lajitas Array	60.60	327	P		P	15 12 45.4	+0.5
	comp=Z,1.0nm,0.8s,baz=140,slow=10.0,SNR=4.6							
MIAR	Mount Ida	60.78	338	*e*P		P	15 12 45.0	-0.8
	comp=Z,9.7nm,1.0s							
SNAA	Sanae	61.88	161	P		P	15 12 53.3	+0.4
SNAA	Sanae	61.88	161	P		P	15 12 53.0	+0.1
	comp=Z,3.2nm,0.8s,baz=284,slow=9.3,SNR=12							
QSPA	South Pole Qui	67.79	180	P		P	15 13 31.8	+0.2
	comp=Z,2.4nm,0.5s,baz=175,slow=1.0,SNR=5.0							
SDCO	Great Sand Dun	68.34	331	*e*P		P	15 13 33.4	-2.2
	comp=Z,5.0nm,1.0s							
SRU	San Rafael Swe	71.80	328	*e*P		P	15 13 55.7	-0.9
	comp=Z,6.7nm,0.7s							
MSU	Marysvale	72.16	327	*e*P		P	15 13 58.0	-0.9
TPNV	Topopah Spring	73.17	323	*e*P		P	15 14 03.3	-1.5
	comp=Z,5.4nm,1.1s							
R11A	Troy Canyon, C	73.83	324	*e*P		P	15 14 07.9	-0.8
	comp=Z,8.6nm,0.9s							
PDAR	Pinedale Array	74.22	331	P		P	15 14 11.4	+0.5
	comp=Z,0.6nm,0.5s,baz=132,slow=7.1,SNR=7.6							
HWUT	Hardware Ranch	74.24	329	*e*P		P	15 14 09.3	-1.7
	comp=Z,4.2nm,0.7s							
LOHW	Lo Hollow	75.36	331	*e*P		P	15 14 15.2	-2.2
	comp=Z,5.2nm,0.8s							
NVAR	Mina Array Bea	75.37	323	P		P	15 14 19.1	+1.5
	comp=Z,1.3nm,0.7s,baz=164,slow=6.0,SNR=7.4							
ULM	Lac du Bonnet	75.78	343	P		P	15 14 18.9	-0.5
	comp=Z,1.1nm,0.5s,baz=180,slow=8.1,SNR=3.2							
SYO	Syowa Base	76.14	160	‖ *e*P		P	15 14 15.8	-5.5
SYO	Syowa Base	76.14	160	‖ *e*pP		P	15 14 25.0	+3.7
TORD	Torodi Ar. Bea	78.95	71	P		P	15 14 36.7	-1.3
	comp=Z,3.1nm,0.8s,baz=254,slow=5.1,SNR=13							
TORD				pP		pP	15 14 49.3	+0.8
	comp=Z,2.2nm,0.5s,baz=252,slow=5.4,SNR=5.4							
MAW	Mawson	83.85	164	P		P	15 15 03.4	+0.4
	comp=Z,2.1nm,0.5s,baz=232,slow=6.6,SNR=3.2							
BOSA	Boshof	84.23	118	P		P	15 15 05.4	-0.5
	comp=Z,1.7nm,0.6s,baz=250,slow=4.7,SNR=3.0							
YKA	Yellowknife Ar	91.59	341	P		P	15 15 40.0	-0.1
	comp=Z,1.1nm,0.6s,baz=139,slow=4.3,SNR=22							
H11S2	WAKE ISLAND Hyd	26.62	277	T		T	17 41 04.0	
	baz=105,slow=75,SNR=382							
H11S1	WAKE ISLAND Hyd	26.63	277	T		T	17 41 10.8	
	baz=105,slow=75,SNR=193							
H11S3	WAKE ISLAND Hyd	26.64	277	T		T	17 41 07.7	
	baz=105,slow=75,SNR=236							
H11N3	WAKE ISLAND Hyd	26.73	278	T		T	17 41 27.8	
	baz=104,slow=75,SNR=151							
H11N2	WAKE ISLAND Hyd	26.75	278	T		T	17 41 29.7	
	baz=104,slow=75,SNR=140							
H11N1	WAKE ISLAND Hyd	26.75	278	T		T	17 41 26.9	
	baz=104,slow=75,SNR=77							
ASAR	Alice Springs	128.47	209	PKP		PKPdf	15 21 41.0	-0.4
	comp=Z,1.2nm,0.8s,baz=135,slow=2.1,SNR=13							
ASAR				pPKP		sPKPdf	15 21 54.3	-1.8
	comp=Z,0.7nm,0.7s,baz=129,slow=2.0,SNR=5.4							
ARU	Arti	129.67	34	*e*PKPdf		PKPdf	15 21 41.2	-1.2
WRA	Warramunga Arr	131.47	212	PKP		PKPdf	15 21 47.0	-0.1
	comp=Z,0.8nm,0.6s,baz=145,slow=1.6,SNR=15							
WRA				pPKP		sPKPdf	15 22 00.0	-1.8
	comp=Z,0.6nm,0.6s,baz=158,slow=2.0,SNR=3.6							
ZALV	Zalesovo Beam	143.35	25	PKP		PKPdf	15 22 08.2	+0.4
	comp=Z,3.3nm,0.7s,baz=280,slow=2.6,SNR=8.9							
ZALV				pPKP		sPKPdf	15 22 21.2	-1.3
	comp=Z,1.8nm,0.6s,baz=237,slow=1.0,SNR=3.6							
AAK	Ala-Archa	144.53	47	PKP		PKPdf	15 22 09.9	-0.6
	comp=Z,1.7nm,0.5s,baz=218,slow=6.5,SNR=6.2							
AAK	Ala-Archa	144.53	47	*e*PKPdf		PKPbc	15 22 09.6	+0.5
ASAJ	Asahikawa	145.28	316	PKPbc		PKPdf	15 22 12.1	+0.6
	comp=Z,4.8nm,0.9s,baz=210,slow=6.6,SNR=7.3							
MKAR	Makanchi Array	147.17	36	PKPbc		PKPdf	15 22 14.9	+0.2
	comp=Z,4.3nm,0.8s,baz=352,slow=1.4,SNR=21							
LEM	Lembang	150.88	176	PKPbc		PKPbc	15 22 28.4	+0.9
	comp=Z,14nm,0.6s,baz=293,slow=14,SNR=4.5							
USRK	Ussuriysk Ar.	151.49	325	PKPbc		PKPbc	15 22 28.1	+0.4
	comp=Z,1.0nm,0.7s,baz=56,slow=2.8,SNR=4.1							
MJAR	Matsushiro Arr	151.52	306	PKPbc		PKPbc	15 22 28.5	+0.4
	comp=Z,0.6nm,0.4s,baz=138,slow=1.3,SNR=4.4							
SONM	Songino Array	154.50	5	PKP		PKPdf	15 22 26.3	+0.2
	comp=Z,0.5nm,0.6s,baz=180,slow=1.4,SNR=3.2							
SONM				PKPbc		PKiKP	15 22 34.5	0.0
	comp=Z,0.4nm,0.5s,baz=270,slow=1.4,SNR=2.9							
SONM				PKPab		PKPab	15 22 48.0	-0.9
	comp=Z,0.5nm,0.6s,baz=329,slow=2.0,SNR=3.7							

*ISCJB **24** 15:09:02.7±0.5,29.°02S±0.°04×175.°95W±0.°08,h38km, mb4.3/12,Error ellipse: s-maj=11.1km s-min=4.4km az=23.0*
*IDC **24** 15:09:06.8±3.7,28.°65S×176.°08W,h50km±31km,mb3.9/10, mb1 4.1/11,mb1mx3.8/46,mbtmp4.1/11,ML4.3/1,Error ellipse: s-maj=26.3km s-min=21.6km az=152.0*
*NEIC **24** 15:09:08.6±1.2,28.°65S×176.°19W,h66km±10km,mb4.6/2, Error ellipse: s-maj=14.1km s-min=8.5km az=122.0*
*WEL **24** 15:09:09.8±1.3,29.°S±9.°×17.°6W±2.°0,h106km±27km*

ISC 24 15:09:05.0±0.5,28.°93S±0.°06×175.°91W±0.°08,h38km,n78, σ2ᵖ68/76,mb4.2/12,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
RAO	Raoul Island	1.79	259	P		Pn	15 09 35.3	+1.9
	310nm,0.3s,baz=90,slow=20,SNR=8.9							
RAO				S		Sn	15 09 53.2	-1.6
	502nm,0.3s,baz=114,slow=20,SNR=6.3							
RAO	Raoul Island	1.79	259	*e*Pn		Pn	15 09 34.8	+1.4
RAO				S		Sn	15 09 53.2	-1.6
GLKZ	Green Lake	1.79	259	P		Pn	15 09 36.0	+2.6
GLKZ	Green Lake	1.79	259	S		Sn

ellipse: s-maj=206.1km s-min=56.6km az=154.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.17**	**24**	Pn	Pn	15 16 03.9	-1.1
	0.3nm,0.3s,baz=213,slow=15,SNR=3.9						
GEYT	**Alibeck**	**44.01**	**318**	P	P	15 21 32.9	-0.4
	1.0nm,0.6s,baz=126,slow=7.3,SNR=2.9						
KURBB	**Kurchatov Arra**	**44.24**	**346**	P	P	15 21 33.4	-1.5
	0.2nm,0.4s,baz=166,slow=6.9,SNR=3.3						
ZALV	**Zalesovo Beam**	**46.23**	**352**	P	P	15 21 52.6	+1.8
	0.8nm,0.6s,baz=169,slow=8.1,SNR=3.3						

*ISCJB **24** 15:15:36.9±0.1,24.32S±0.02×175.92W±0.03,h10km, mb5.3/227,MS5.5/428,Error ellipse: s-maj=4.6km s-min=2.7km az=34.0*

*BJI **24** 15:15:37.7,23.615S×175.53W,h6km,mb5.6/49,mB5.9/10, Ms5.4/30,Ms7 5.3/30*

*IDC **24** 15:15:37.5±0.4,24.14S×175.98W,h0km,mb4.9/31, mb1 5.0/32,mb1mx4.9/45,mbtmp4.9/32,ML5.4/1,MS5.1/32, Ms1 5.1/32,ms1mx5.0/51,Error ellipse: s-maj=14.2km s-min=12.6km az=131.0*

*GCMT **24** 15:15:38.2±0.1,24.27S×175.31W,h18km,MW5.6/130, Moment Tensor Solution. s100,c177; s130,c297; Duration: 1s5 Moment tensor: Scale 10^17^Nm; Mrr2.32±.04; Mθθ-0.03±.03; Mφφ-2.29±.03; Mrθ0.33±.07; Mθφ-0.18±.02; Mφr1.70±.07; Best double couple: M0 2.88900×10^17^ NP1:φs8.00000°,δ63.00000°, λ93.00000°. NP2:φs181.00000°,δ27.00000°,λ83.00000°. Principal axes: T 2.9010, Plg71.0000°, Azm286.0000°; N -0.0260, Plg3.0000°, Azm187.0000°; P -2.8760, Plg18.0000°, Azm96.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

*NEIC **24** 15:15:38.2±0.1,24.23S×175.95W,h10km,mb5.3/167, MS5.6/295,MW5.6 Error ellipse: s-maj=5.5km s-min=3.3km az=139.0,Moment Tensor Solution. s17 Moment tensor: Scale 10^17^Nm; Mrr1.90; Mθθ-0.58; Mφφ-1.32; Mrθ0.37; Mθφ-1.57; Mφr1.96; Best double couple: M0 3.00000×10^17^ NP1:φs242.00000°,δ30.00000°, λ130.00000°. NP2:φs18.00000°,δ67.00000°,λ69.00000°. Principal axes: T 2.8600, Plg62.0000°, Azm256.0000°; N 0.3400, Plg19.0000°, Azm26.0000°; P -3.2000, Plg20.0000°, Azm123.0000°;*

*MOS **24** 15:15:39.6±0.9,24.18S×176.02W,h25km,mb5.4/70, MS5.4/52 Error ellipse: s-maj=9.5km s-min=8.2km az=71.4*

ISC 24 15:15:40.2±0.5,24.40S±0.04×175.71W±0.04,h26km±3km, h26km:pP-P,n948,σ1s79/714,mb5.3/225,MS5.6/428, 40C-27D,South of Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RIZ	**Raoul Island**	**5.21**	**202**	S	**Sn**	**15 18 00.4**	**+4.6**
RAO	**Raoul Island**	**5.22**	**202**	Pn	**Pn**	**15 16 59.3**	**+2.8**
	114nm,0.3s,baz=120,slow=20,SNR=4.3						
RAO				Sn	**Sn**	15 17 57.6	+1.7
	119nm,0.3s,baz=72,slow=20,SNR=4.2						
RAO	**Raoul Island**	**5.22**	**202**	*e*Pn	**Pn**	**15 16 58.2**	**+1.7**
RAO				Sn	**Sn**	15 17 57.6	+1.7
RAO	**Raoul Island**	**5.22**	**202**	*e*P	**Pn**	**15 16 58.3**	**+1.7**
RAO						15 17 57.6	
GLKZ	**Green Lake**	**5.23**	**202**	S	**Sn**	**15 17 59.9**	**+3.8**
GLKZ	**Green Lake**	**5.23**	**202**	P	Pn	15 17 01.6	+5.0
MSVF	**Nonsavu**	**8.83**	**318**	*e*Pn	**Pn**	**15 17 47.5**	**+1.2**
MSVF	**Nonsavu**	**8.83**	**318**	*e*P	**Pn**	**15 17 47.5**	**+1.2**
AFI	**Afiamalu**	**11.08**	**20**	Pn	Pn	15 18 08.0	-9.1
	14nm,0.3s,baz=163,slow=0.6,SNR=19						
AFI				Sn	Sn	15 20 04.1	-16
	15nm,0.3s,baz=233,slow=20,SNR=5.6						
AFI	**Afiamalu**	**11.08**	**20**	*e*Pn	Pn	15 18 08.5	-8.6
AFI				Sn	Sn	15 20 04.1	-16
AFI	**Afiamalu**	**11.08**	**20**	*e*P	Pn	15 18 08.5	-8.6
WMGZ	**Waiomatatini S**	**14.28**	**199**	P	**Pn**	**15 19 01.5**	**+0.8**
WMGZ	**Waiomatatini S**	**14.28**	**199**	S	**Sn**	**15 21 30.6**	**-7.7**
HAZ	**Te Kaha**	**14.43**	**201**	P	Pn	15 18 57.0	-5.6
HAZ	**Te Kaha**	**14.43**	**201**	S	**Sn**	**15 21 34.6**	**-7.1**
PUZ	**Puketiti**	**14.56**	**199**	P	**Pn**	**15 19 00.3**	**-4.3**
PUZ	**Puketiti**	**14.56**	**199**	S	**Sn**	**15 21 36.8**	**-8.4**
RUGZ	**Raukumara Rang**	**14.65**	**201**	P	**Pn**	**15 19 02.6**	**-3.2**
RUGZ	**Raukumara Rang**	**14.65**	**201**	S	Sn	15 21 38.0	-9.4
TWGZ	**Tauwhareparae**	**14.75**	**200**	P	**Pn**	**15 19 05.3**	**-1.8**
TWGZ	**Tauwhareparae**	**14.75**	**200**	S	**Sn**	**15 21 43.5**	**-6.2**
CNGZ	**Carnagh Statio**	**14.96**	**199**	P	**Pn**	**15 19 06.7**	**-3.2**
CNGZ	**Carnagh Statio**	**14.96**	**199**	S	**Sn**	**15 21 47.3**	**-7.5**
RAR	**Rarotonga**	**15.03**	**81**	Pn	**Pn**	**15 19 04.9**	**-6.0**
	30nm,0.3s,baz=235,slow=8.8,SNR=20						
RAR				Sn	Sn	15 21 32.3	-24
	2.9nm,0.3s,baz=60,slow=20,SNR=2.9						
RAR				LR	LR	15 25 21.8	
	comp=Z,12μm,18.1s,baz=254,slow=38						
RAR	**Rarotonga**	**15.03**	**81**	*e*Pn	**Pn**	**15 19 04.6**	**-6.3**
	581nm,0.9s						
RAR				Sn	Sn	15 21 32.3	-24
RAR	**Rarotonga**	**15.03**	**81**	P	**Pn**	**15 19 04.9**	**-6.0**
MWZ	**Matawai**	**15.03**	**201**	P	**Pn**	**15 19 07.0**	**-4.0**
MWZ	**Matawai**	**15.03**	**201**	S	**Sn**	**15 21 46.6**	**-10**
URZ	**Urewera**	**15.11**	**202**	Pn	**Pn**	**15 19 09.0**	**-2.8**
	0.5nm,0.3s,baz=281,slow=16,SNR=4.5						
URZ				Sn	Sn	15 21 47.4	-11
	0.8nm,0.3s,baz=243,slow=16,SNR=4.3						
URZ				LR	LR	15 23 49.7	
	comp=Z,7μm,21.3s,baz=14,slow=32						
URZ	**Urewera**	**15.11**	**202**	*e*Pn	**Pn**	**15 19 12.3**	**+0.5**
	69nm,1.3s						
URZ				Sn	Sn	15 21 47.4	-11
URZ	**Urewera**	**15.11**	**202**	P	**Pn**	**15 19 10.6**	**-1.2**
RIGZ	**Rimuhau**	**15.30**	**200**	P	**P**	**15 19 17.4**	**-1.6**
SNGZ	**Shannon Statio**	**15.50**	**201**	P	**Pn**	**15 19 15.7**	**-1.4**
KNZ	**Kokohu**	**15.62**	**199**	P	**Pn**	**15 19 16.2**	**-2.3**
TLZ	**Tolley Road**	**15.76**	**206**	P	**P**	**15 19 24.5**	**+0.5**
NMHZ	**Naumai**	**15.96**	**202**	P	**P**	**15 19 27.4**	**+1.0**
BKZ	**Black Stump Fm**	**16.13**	**202**	*e*Pn	**Pn**	**15 19 23.7**	**-1.5**
	36nm,1.0s						
BKZ	**Black Stump Fm**	**16.13**	**202**	P	**Pn**	**15 19 23.7**	**-1.5**
HIZ	**Hauiti**	**16.19**	**207**	*e*Pn	**Pn**	**15 19 27.3**	**+1.4**
	41nm,1.0s						
TWVZ	**Taurewa**	**16.43**	**205**	P	**P**	**15 19 32.0**	**+0.3**
NGZ	**Ngauruhoe**	**16.46**	**204**	P	**P**	**15 19 33.7**	**+1.6**
FUNA	**Funafuti**	**16.52**	**342**	*e*Pn	**Pn**	**15 19 27.4**	**-2.9**
	222nm,1.1s						
FWVZ	**Far West T-bar**	**16.55**	**204**	P	**Pn**	**15 19 31.3**	**+0.6**
BHHZ	**Black Hill Sta**	**16.57**	**203**	P	**Pn**	**15 19 31.6**	**+0.8**
DZM	**Mont Dzumac**	**16.57**	**274**	Pn	**P**	**15 19 34.9**	**+1.7**
	1.5nm,0.3s,baz=86,slow=17,SNR=18						
DZM				Sn	**Sn**	**15 22 31.8**	**-2.5**
	0.2nm,0.3s,baz=49,slow=19,SNR=2.3						
DZM				LR	LR	15 23 32.7	
	comp=Z,3μm,20.1s,baz=128,slow=29						
DZM	**Mont Dzumac**	**16.57**	**274**	*e*P	**P**	**15 19 35.4**	**+2.1**
	524nm,1.3s						
DZM				*e*LR	LR	15 23 31.2	
	14μm,23.7s						
DZM	**Mont Dzumac**	**16.57**	**274**	*e*Pn	**Pn**	**15 19 31.2**	**+0.3**
	197nm,1.1s						
DZM				Sn	**Sn**	**15 22 31.8**	**-2.5**
KAHZ	**Kahuranaki**	**16.57**	**200**	P	**Pn**	**15 19 27.6**	**-3.2**
TRVZ	**Turoa**	**16.59**	**204**	P	**P**	**15 19 33.1**	**-0.5**
KRHZ	**Kereru**	**16.60**	**202**	P	**P**	**15 19 32.7**	**-0.7**
PKVZ	**Pokaka**	**16.66**	**205**	P	**P**	**15 19 34.6**	**+0.5**
PXZ	**Pawanui**	**16.79**	**200**	P	**Pn**	**15 19 34.4**	**+0.9**
PNHZ	**Pukenui**	**16.90**	**202**	P	**Pn**	**15 19 34.9**	**-0.1**
PRHZ	**Porangahau**	**17.08**	**200**	P	**Pn**	**15 19 34.8**	**-2.3**
DVHZ	**Dannevirke**	**17.26**	**201**	P	**P**	**15 19 44.1**	**+3.4**
ANWZ	**Angora Road**	**17.30**	**200**	P	**P**	**15 19 41.6**	**+0.5**
BFZ	**Birch Farm**	**17.58**	**201**	*e*Pn	**Pn**	**15 19 37.9**	**-5.4**
	79nm,0.9s						
MRZ	**Mangatainoka R**	**17.78**	**202**	P	**Pn**	**15 19 45.1**	**-0.8**
HOWZ	**Holdsworth Sta**	**18.01**	**202**	P	**Pn**	**15 19 47.5**	**-1.2**
TRWZ	**Traveller**	**18.41**	**201**	P	**P**	**15 19 53.0**	**-0.3**
SNZO	**South Karori**	**18.66**	**203**	*e*P	**P**	**15 19 55.2**	**-0.9**
	102nm,1.1s						
THZ	**Tophouse**	**19.73**	**206**	*e*P	**P**	**15 20 05.1**	**-2.9**
	22nm,1.0s						
KHZ	**Kahutara**	**20.05**	**204**	*e*P	**P**	**15 20 07.9**	**-3.4**
	39nm,0.7s						
KHZ				LR	LR		
	comp=Z,12μm,19.0s						
LTZ	**Lake Taylor**	**20.85**	**206**	*e*P	**P**	**15 20 19.9**	**-0.1**
	comp=Z,107nm,2.0s						
LTZ				LR	LR		
	comp=Z,10μm,20.0s						
CRLZ	**Canterbury Las**	**21.39**	**204**	PFAKE		15 20 40.0	+14
CRLZ				LR	LR		
	comp=Z,7μm,20.0s						
OXZ	**Oxford**	**21.40**	**205**	*e*P	**P**	**15 20 25.4**	**-0.5**
	comp=Z,44nm,1.1s						
MQZ	**McQueen's Vall**	**21.49**	**204**	PFAKE		15 20 40.0	+13
MQZ				LR	LR		
	comp=Z,7μm,18.0s						
KNTN	**Kanton**	**21.84**	**11**	*e*P	**P**	**15 20 28.8**	**-2.0**
	comp=Z,258nm,1.1s						
RPZ	**Rata Peaks**	**22.11**	**206**	P	**P**	**15 20 30.7**	**-2.9**
	comp=Z,12nm,0.8s,baz=27,slow=9.0,SNR=3.4						
RPZ				S	S	15 24 24.8	-11
	comp=Z,7.4nm,0.8s,baz=28,slow=18,SNR=4.5						
RPZ				LR	LR	15 29 17.6	
	comp=Z,10μm,19.1s,baz=16,slow=37						
RPZ	**Rata Peaks**	**22.11**	**206**	*e*P	**P**	**15 20 34.9**	**+1.3**
	comp=Z,24nm,1.1s						
RPZ				S	S	15 24 24.8	-11
FOZ	**Fox Glacier**	**22.48**	**208**	PFAKE		15 20 50.0	+13
FOZ				LR	LR		
	comp=Z,10μm,18.0s						
LBZ	**Lake Benmore**	**23.02**	**207**	PFAKE		15 20 50.0	+6.8
LBZ				LR	LR		
	comp=Z,12μm,18.0s						
LHI	**Lord Howe Isla**	**23.35**	**247**	PFAKE		15 21 00.0	+13
LHI				LR	LR		
	comp=Z,15μm,18.0s						
ODZ	**Otahua Downs**	**23.39**	**205**	*e*P	**P**	**15 20 47.8**	**+1.0**
	comp=Z,28nm,1.4s						
ODZ				LR	LR		
	comp=Z,7μm,20.0s						
WKZ	**Wanaka**	**23.86**	**208**	PFAKE		15 21 00.0	+8.5
WKZ				LR	LR		
	comp=Z,9μm,18.0s						
MLZ	**Mavora Lakes**	**24.68**	**208**	PFAKE		15 21 10.0	+11
MLZ				LR	LR		
	comp=Z,9μm,19.0s						
WHZ	**Wether Hill Ro**	**25.17**	**208**	PFAKE		15 21 20.0	+17
WHZ				LR	LR		
	comp=Z,6μm,18.0s						
DCZ	**Deep Cove**	**25.18**	**209**	PFAKE		15 21 20.0	+17
DCZ				LR	LR		
	comp=Z,7μm,20.0s						
PAE	**Paea**	**25.27**	**80**	*e*P	**P**	**15 21 02.8**	**-1.6**
	comp=Z,4.9nm,0.6s						
PAE	**Paea**	**25.27**	**80**	*e*T	T	15 46 59.8	
	comp=Z,5.2nm,0.3s						
PPT2	**Papeete2**	**25.29**	**79**	*e*P	**P**	**15 21 03.4**	**-1.4**
	comp=Z,74nm,1.3s						
PPT2				*e*S	**S**	**15 25 23.5**	**-5.9**
	comp=Z,2μm,27.5s						
PPT2				*e*LQ	LQ	15 25 53.5	
	comp=Z,4μm,23.2s						
PPT2				*e*LR	LR	15 27 08.7	
	comp=Z,7μm,22.0s,baz=244						
PPT2	**Papeete2**	**25.29**	**79**	*e*T	T	15 47 03.3	
	comp=Z,4.3nm,0.3s						
PPT	**Papeete**	**25.30**	**79**	P	**P**	**15 21 04.8**	**0.0**
	comp=Z,31nm,0.8s,baz=271,slow=4.6,SNR=3.7						
PPT				LR	LR	15 30 25.3	
	comp=Z,9μm,18.4s,baz=258,slow=35						
PPTF	**Pamatai, Papee**	**25.30**	**79**	PFAKE		15 21 20.0	+15
PPTF				LR	LR		
	comp=Z,9μm,20.0s						
TIAR	**Tiarei**	**25.51**	**80**	*e*P	**P**	**15 21 05.3**	**-1.4**
	comp=Z,29nm,1.1s						
TVO	**Taravao**	**25.52**	**80**	*e*P	**P**	**15 21 05.1**	**-1.8**
	comp=Z,34nm,1.1s						
PYZ	**Puysegur Point**	**25.93**	**209**	PFAKE		15 21 20.0	+10
PYZ				LR	LR		
	comp=Z,9μm,19.0s						
HNR	**Honiara**	**27.57**	**299**	P	**P**	**15 21 22.6**	**-2.7**
	comp=Z,45nm,1.0s,baz=162,slow=8.8,SNR=2.8						
HNR				LR	LR	15 30 43.5	
	comp=Z,5μm,20.5s,baz=184,slow=33						
TARA	**Tarawa**	**27.88**	**335**	PFAKE		15 21 40.0	+12
TARA				LR	LR		
	comp=Z,4μm,19.0s						
ARMA	**Armidale**	**29.54**	**251**	PFAKE		15 21 50.0	+7.1
ARMA				LR	LR		
	comp=Z,9μm,18.0s						
EIDS	**Eidsvold**	**30.10**	**261**	*e*P	**P**	**15 21 45.0**	**-2.8**
	comp=Z,48nm,1.2s						
EIDS				LR	LR		
	comp=Z,9μm,19.0s						
XMAS	**Kiritimati**	**31.71**	**37**	PFAKE		15 22 10.0	+8.0
XMAS				LR	LR		
	comp=Z,6μm,18.0s						
CTA	**Charters Tower**	**35.40**	**269**	P	**P**	**15 22 33.8**	**-0.3**
	comp=Z,52nm,0.9s,baz=95,slow=12,SNR=57						
CTAO	**Charters Tower**	**35.40**	**269**	*e*P	**P**	**15 22 33.5**	**-0.6**
	comp=Z,87nm,1.1s						
CTAO	**Charters Tower**	**35.40**	**269**	*e*P	**P**	**15 22 33.5**	**-0.6**
CTAO				pmax	pmax		
	comp=Z,87nm,1.1s						
TAU	**Tasmania Unive**	**35.52**	**230**	PFAKE		15 22 50.0	+15
TAU				LR	LR		
	comp=Z,6μm,19.0s						
RKT	**Rikitea**	**37.21**	**97**	*e*S	**S**	**15 28 31.8**	**-3.3**
	comp=Z,672nm,26.0s						
RKT				*e*LR	LR	15 32 23.9	
	comp=Z,5μm,32.8s,baz=263						
RKT	**Rikitea**	**37.21**	**97**	*e*T	T	16 01 53.1	
	comp=Z,3.2nm,0.3s						
TAOE	**Nuku Hiva Isla**	**37.27**	**72**	*e*S	**S**	**15 28 31.5**	**-4.8**
	comp=Z,960nm,24.7s						
TAOE				*e*LQ	LQ	15 31 14.1	
	comp=Z,2μm,22.8s						
TAOE				*e*LR	LR	15 32 52.0	
	comp=Z,3μm,22.0s						
STKA	**Stephens Creek**	**38.19**	**249**	P	**P**	**15 22 57.9**	**+0.1**
	comp=Z,4.0nm,0.8s,baz=99,slow=11,SNR=12						
STKA	**Stephens Creek**	**38.19**	**249**	*e*P	**P**	**15 22 57.5**	**-0.3**
	comp=Z,6.3nm,1.4s						
STKA				LR	LR		
	comp=Z,2μm,18.0s						
STKA	**Stephens Creek**	**38.19**	**249**	*e*P	**P**	**15 22 57.5**	**-0.3**
STKA				pmax	pmax		
	comp=Z,6.0nm,1.4s						
STKA				MLR	MLR		
	comp=Z,2μm,18.0s						
PMG	**Port Moresby**	**38.38**	**286**	P	**P**	**15 22 58.3**	**-1.2**
	comp=Z,254nm,1.0s,baz=107,slow=5.4,SNR=32						
PMG	**Port Moresby**	**38.38**	**286**	*e*P	**P**	**15 22 57.6**	**-2.0**
	comp=Z,260nm,0.9s						
PMG				LR	LR		
	comp=Z,6μm,18.0s						
PMG	**Port Moresby**	**38.38**	**286**	*d i*P	**P**	**15 22 56.8**	**-2.7**
COEN	**Coen**	**40.07**	**277**	*e*P	**P**	**15 23 11.8**	**-1.9**
	comp=Z,25nm,1.0s						
COEN				LR	LR		
	comp=Z,10μm,20.0s						
PATS	**Pohnpei**	**40.07**	**317**	PFAKE		15 23 20.0	+6.4
PATS				LR	LR		
	comp=Z,7μm,18.0s						
MANU	**Manus Island**	**42.02**	**296**	*e*P	**P**	**15 23 29.2**	**-0.6**
	comp=Z,89nm,1.8s						
MANU				LR	LR		
	comp=Z,2μm,18.0s						
BBOO	**Buckleboo**	**42.86**	**247**	*e*P	**P**	**15 23 35.7**	**-0.8**
	comp=Z,37nm,1.3s						
AS01	**Alice Springs**	**45.77**	**260**	*e*P	**P**	**15 23 58.7**	**-1.2**
AS31	**Alice Springs**	**45.82**	**260**	*e*P	**P**	**15 23 58.8**	**-1.5**
	comp=Z,9.7nm,0.9s						
AS31				LR	LR		
	comp=Z,100nm,19.0s						
ASAR	**Alice Springs**	**45.82**	**260**	P	**P**	**15 23 59.8**	**-0.5**
	comp=Z,33nm,0.9s,baz=96,slow=8.2,SNR=114						
ASAR				PcP	**PcP**	**15 25 36.2**	**-1.3**
	comp=Z,3.6nm,0.8s,baz=101,slow=4.8,SNR=2.8						
ASAR				ScP	**ScP**	**15 29 32.7**	**+3.8**
	comp=Z,2.0nm,1.0s,baz=98,slow=2.8,SNR=3.8						
ASAR				S	**S**	**15 30 39.6**	**-3.2**
	comp=Z,1.7nm,1.0s,baz=103,slow=15,SNR=3.0						
ASAR				LR	LR	15 42 57.5	
	comp=Z,8μm,18.5s,baz=111,slow=36						
WR0	**Warramunga Arr**	**46.09**	**265**	PFAKE		15 24 10.0	+7.6
WR0				LR	LR		
	comp=Z,7μm,19.0s						
WR9	**Warramunga Arr**	**46.12**	**265**	PFAKE		15 24 10.0	+7.4
WR9				LR	LR		
	comp=Z,7μm,19.0s						
WR8	**Warramunga Arr**	**46.13**	**265**	PFAKE		15 24 10.0	+7.3
WR8				LR	LR		
	comp=Z,8μm,19.0s						
WR7	**Warramunga Arr**	**46.15**	**265**	PFAKE		15 24 10.0	+7.1
WR7				LR	LR		
	comp=Z,7μm,19.0s						
WR6	**Warramunga Arr**	**46.17**	**265**	PFAKE		15 24 10.0	+7.0
WR6				LR	LR		
	comp=Z,7μm,18.0s						
WR5	**Warramunga Arr**	**46.19**	**265**	PFAKE		15 24 10.0	+6.8
WR5				LR	LR		
	comp=Z,7μm,19.0s						
WR4	**Warramunga Arr**	**46.22**	**265**	PFAKE		15 24 10.0	+6.6
WR4				LR	LR		
	comp=Z,7μm,19.0s						
WR3	**Warramunga Arr**	**46.23**	**265**	PFAKE		15 24 10.0	+6.5
WR3				LR	LR		
	comp=Z,7μm,19.0s						
WC3	**Warramunga Arr**	**46.24**	**265**	PFAKE		15 24 10.0	+6.4
WC3				LR	LR		
	comp=Z,7μm,19.0s						
WR2	**Warramunga Arr**	**46.26**	**265**	PFAKE		15 24 10.0	+6.3
WR2				LR	LR		
	comp=Z,7μm,19.0s						
WC2	**Warramunga Arr**	**46.26**	**265**	PFAKE		15 24 10.0	+6.3
WC2				LR	LR		
	comp=Z,8μm,19.0s						
WB2	**Warramunga Arr**	**46.27**	**265**	*e*P	**P**	**15 24 01.2**	**-2.6**
WB3	**Warramunga Arr**	**46.27**	**265**	PFAKE		15 24 10.0	+6.2
WB3				LR	LR		
	comp=Z,7μm,19.0s						
WB4	**Warramunga Arr**	**46.27**	**265**	PFAKE		15 24 10.0	+6.2
WB4				LR	LR		
	comp=Z,7μm,19.0s						
WB5	**Warramunga Arr**	**46.27**	**265**	PFAKE		15 24 10.0	+6.2
WB5				LR	LR		
	comp=Z,7μm,19.0s						
WRAB	**Tennant Creek**	**46.27**	**265**	*e*P	**P**	**15 24 02.7**	**-1.1**
	comp=Z,42nm,1.0s						
WRAB				LR	LR		
	comp=Z,8μm,19.0s						
WRAB	**Tennant Creek**	**46.27**	**265**	*e*P	**P**	**15 24 01.7**	**-2.1**
WRAB				pmax	pmax		
	comp=Z,42nm,1.0s						
WC4	**Warramunga Arr**	**46.27**	**265**	PFAKE		15 24 10.0	+6.2
WC4				LR	LR		
	comp=Z,7μm,19.0s						
WB8	**Warramunga Arr**	**46.27**	**265**	PFAKE		15 24 10.0	+6.2
WB8				LR	LR		
	comp=Z,7μm,19.0s						
WB0	**Warramunga Arr**	**46.28**	**265**	PFAKE		15 24 10.0	+6.2
WB0				LR	LR		
	comp=Z,8μm,19.0s						
WB6	**Warramunga Arr**	**46.28**	**265**	PFAKE		15 24 10.0	+6.1
WB6				LR	LR		
	comp=Z,7μm,19.0s						
WB9	**Warramunga Arr**	**46.28**	**265**	PFAKE		15 24 10.0	+6.1
WB9				LR	LR		
	comp=Z,15μm,19.0s						
WR1	**Warramunga Arr**	**46.28**	**265**	PFAKE		15 24 10.0	+6.1
WR1				LR	LR		
	comp=Z,7μm,19.0s						
WRA	**Warramunga Arr**	**46.28**	**265**	P	**P**	**15 24 01.9**	**-1.9**
	comp=Z,27nm,0.9s,baz=102,slow=8.0,SNR=65						
WRA				PcP	**PcP**	**15 25 38.6**	**-0.6**
	comp=Z,7.2nm,1.0s,baz=102,slow=3.5,SNR=3.4						
WRA				S	**S**	**15 30 45.6**	**-3.8**
	comp=Z,3.6nm,1.0s,baz=102,slow=14,SNR=3.6						
WRA				LR	LR	15 42 59.0	
	comp=Z,8μm,18.9s,baz=100,slow=36						
WC1	**Warramunga Arr**	**46.28**	**265**	PFAKE		15 24 10.0	+6.1
WC1				LR	LR		
	comp=Z,5μm,19.0s						
JAY	**Jayapura**	**47.34**	**291**	P	**P**	**15 24 11.0**	**-1.2**
JAY				pmax	pmax		
	comp=Z,306nm,0.8s						
FORT	**Forrest**	**49.81**	**249**	*e*P	**P**	**15 24 29.4**	**-1.6**
	comp=Z,1μm,1.4s						
FORT				LR	LR		
	comp=Z,150μm,18.0s						
MTN	**Manton Dam**	**51.40**	**273**	PFAKE		15 24 50.0	+6.8
MTN				LR	LR		
	comp=Z,5μm,19.0s						
SAUI	**Saumlaki**	**53.12**	**279**	PFAKE		15 25 10.0	+14
SAUI				LR	LR		
	comp=Z,4μm,18.0s						
GUMO	**Guam**	**53.92**	**310**	LR	LR	15 45 38.9	
	comp=Z,814nm,21.3s,baz=160,slow=34						
SBA	**Scott Base**	**54.15**	**185**	*e*P	P	15 25 08.0	+5.4
	comp=Z,104nm,1.6s						
SBA				LR	LR		
	comp=Z,2μm,18.0s						
SBA	**Scott Base**	**54.15**	**185**	*e*P	P	15 25 08.0	+5.4
SBA				pmax	pmax		
	comp=Z,104nm,1.6s						
SBA				MLR	MLR		
	comp=Z,2μm,18.0s						
VNDA	**Vanda**	**54.24**	**186**	P	**P**	**15 25 07.7**	**+4.3**
	comp=Z,10nm,1.0s,baz=6.9,slow=7.2,SNR=22						
VNDA	**Vanda**	**54.24**	**186**	*e*P	**P**	**15 25 07.6**	**+4.3**
	comp=Z,18nm,1.0s						
VNDA	**Vanda**	**54.24**	**186**	*e*P	**P**	**15 25 07.6**	**+4.3**
VNDA				pmax	pmax		
	comp=Z,18nm,1.0s						
FAKI	**Fak Fak**	**54.49**	**285**	*e*P	**P**	**15 25 03.3**	**-2.8**
	comp=Z,62nm,1.3s						
FAKI				LR	LR		
	comp=Z,3μm,21.0s						
SIJI	**Sorong**	**56.33**	**286**	P	**P**	**15 25 17.9**	**-1.4**
	comp=Z,74nm,0.9s,baz=76,slow=6.0,SNR=17						
AAI	**Ambon**	**57.74**	**282**	P	**P**	**15 25 27.8**	**-1.5**
AAI				pmax	pmax		
	comp=Z,45nm,1.3s						
NWAO	**Narrogin (SRO)**	**58.59**	**245**	P	**P**	**15 25 36.1**	**+1.1**
	comp=Z,9.6nm,0.9s,baz=25,slow=5.1,SNR=3.2						
NWAO				LR	LR	15 47 29.3	
	comp=Z,1μm,21.3s,slow=33						
SOEI	**Soe**	**58.79**	**273**	*e*P	**P**	**15 25 35.6**	**-1.2**
	comp=Z,78nm,1.0s						
SOEI				LR	LR		
	comp=Z,5μm,20.0s						
MBWA	**Marble Bar**	**59.14**	**259**	PFAKE		15 25 50.0	+11
MBWA				LR	LR		
	comp=Z

MJAR **Matsushiro Arr** 74.59 323 P **P** 15 27 16.0 -1.0
MJAR pmax pmax
comp=Z,9.0nm,1.0s
MAJO **Matsushiro** 74.59 323 *e*P **P** 15 27 15.7 -1.3
comp=Z,12nm,0.9s
MAJO LR LR
comp=Z,1µm,19.0s
MAJO **Matsushiro** 74.59 323 *e*P **P** 15 27 15.7 -1.3
MAJO pmax pmax
comp=Z,13nm,0.9s
MAJO MLR MLR
comp=Z,1µm,19.0s
MAT **Matsushiro** 74.59 323 P **P** 15 27 16.0 -1.0
MJB9 **Matsu-Tunnel** 74.60 323 *e*P **P** 15 27 15.6 -1.4
comp=Z,13nm,1.0s
MJB9 LR LR
comp=Z,1µm,20.0s
SBUM **Sibu** 74.76 280 *e*P **P** 15 27 16.8 -1.7
comp=Z,17nm,1.2s
SBUM *e*PcP **PcP** 15 27 32.3 -0.2
LEM **Lembang** 75.10 269 P **P** 15 27 19.4 -1.2
comp=Z,23nm,0.7s,baz=163,slow=20,SNR=5.0
LEM LR LR 16 00 56.6
comp=Z,3µm,19.7s,baz=121,slow=36
XMIS **Christmas Isla** 75.47 265 PFAKE 15 27 30.0 +7.4
XMIS LR LR
comp=Z,2µm,19.0s
KSM **Kuching** 76.06 278 *e*P **P** 15 27 25.4 -0.5
comp=Z,40nm,1.1s
ATKA **Atka Island** 76.29 1 *e*P **P** 15 27 26.0 -0.3
comp=Z,98nm,1.0s
JNU **Nakatsue** 76.55 316 P **P** 15 27 27.2 -1.1
comp=Z,16nm,1.0s,baz=75,slow=3.9,SNR=11
JNU LR LR 15 57 15.1
comp=Z,1µm,20.6s,baz=128,slow=33
JNU **Nakatsue** 76.55 316 *e*P **P** 15 27 27.2 -1.1
comp=Z,50nm,0.9s
KUR **Kuril'sk** 76.84 334↑ *i*P **P** 15 27 30.7 +1.1
PMSA **Palmer Station** 76.88 156 PFAKE 15 27 40.0 +10
PMSA LR LR
comp=Z,199nm,22.0s
TWG **Pinlang** 77.26 302 PFAKE 15 27 40.0 +7.5
TWG LR LR
comp=Z,4µm,19.0s
SMY **Shemya** 77.32 354 PFAKE 15 27 40.0 +8.0
SMY LR LR
comp=Z,3µm,20.0s
YULB **Yu-li** 77.40 303 PFAKE 15 27 40.0 +6.7
YULB LR LR
comp=Z,1µm,19.0s
NACB **Ninganchiao** 77.61 304 *e*P **P** 15 27 32.5 -1.9
comp=Z,81nm,1.2s
TPUB **Ta-pu** 77.86 303 *e*P **P** 15 27 34.0 -1.9
comp=Z,43nm,0.8s
TPUB LR LR
comp=Z,1µm,19.0s
SSLB **Suanglung** 77.88 303 *e*P **P** 15 27 34.0 -2.0
comp=Z,18nm,0.8s
SSLB LR LR
comp=Z,1µm,20.0s
YHNB **Yeheng** 78.05 304 *e*P **P** 15 27 36.4 -0.5
YHNB LR LR
comp=Z,1µm,20.0s
ASAJ **Asahikawa** 78.15 331 P **P** 15 27 38.0 +1.0
comp=Z,40nm,1.0s,baz=221,slow=8.8,SNR=49
ASAJ **Asahikawa** 78.15 331 *e*P **P** 15 27 38.0 +1.0
comp=Z,47nm,1.0s
UNV **Unalaska Valle** 78.33 6 PFAKE 15 27 50.0 +12
UNV LR LR
comp=Z,1µm,20.0s
SNCC **San Nicolas Is** 78.40 45 PFAKE 15 27 50.0 +11
SNCC LR LR
comp=Z,2µm,18.0s
MAW **Mawson** 78.62 199 P **P** 15 27 42.3 +3.0
comp=Z,7.9nm,0.9s,baz=139,slow=9.2,SNR=8.0
MAW LR LR 16 02 50.8
comp=Z,2µm,18.3s,baz=110,slow=36
MAW **Mawson** 78.62 199 *e*P **P** 15 27 43.0 +3.7
comp=Z,7.8nm,1.2s
CIS **Catalina Islan** 79.22 46 P **P** 15 27 45.0 +1.9
baz=232
SAO **San Andreas Ge** 79.47 42 *e*P **P** 15 27 46.3 +1.9
comp=Z,17nm,1.0s
SAO LR LR
comp=Z,3µm,18.0s
SAO **San Andreas Ge** 79.47 42 *e*P **P** 15 27 46.3 +1.9
SAO pmax pmax
comp=Z,17nm,1.0s
SAO MLR MLR
comp=Z,3µm,18.0s
PMPB **Monarch Peak** 79.50 42 *e*P **P** 15 27 46.3 +1.6
comp=Z,77nm,1.7s
PMPB LR LR
comp=Z,3µm,18.0s
PAGB **Antelope Grade** 79.53 43 PFAKE 15 28 00.0 +15
PAGB LR LR
comp=Z,2µm,19.0s
MCCM **Marconi Confer** 79.53 40 PFAKE 15 28 00.0 +15
MCCM LR LR
comp=Z,2µm,18.0s
LPIG **La Paz** 79.63 58 LR LR 15 57 47.4
comp=Z,2µm,18.1s,baz=268,slow=32
FALS **False Pass** 79.64 7 PFAKE 15 28 00.0 +15
FALS LR LR
comp=Z,3µm,20.0s
SLBS **Sierra La Lagu** 79.69 58 PFAKE 15 28 00.0 +14
SLBS LR LR
comp=Z,2µm,18.0s
RDG13 **Poverty Ridge** 79.73 41 *e*P **P** 15 27 47.1 +1.2
comp=Z,70nm,1.6s
RDG13 LR LR
comp=Z,3µm,18.0s
OSI **Osito Audit: C** 79.78 45 PFAKE 15 28 00.0 +14
OSI LR LR
comp=Z,2µm,18.0s
PASC **Pasadena Art C** 79.85 45 PFAKE 15 28 00.0 +13
PASC LR LR
comp=Z,2µm,18.0s
BAR **Barrett** 79.93 47 *e*P **P** 15 27 47.0 -0.1
BAR LR LR
comp=Z,3µm,18.0s
SRIG **Santa Rosalia** 79.93 54 PFAKE 15 28 00.0 +13
SRIG LR LR
comp=Z,3µm,18.0s
MWC **Mount Wilson** 79.97 45 PFAKE 15 28 00.0 +13
MWC LR LR
comp=Z,2µm,18.0s
HOPS **Hopland Field** 80.00 39 PFAKE 15 28 00.0 +13
HOPS LR LR
comp=Z,2µm,18.0s
GDXM **Geysers** 80.03 39 PFAKE 15 28 00.0 +13
GDXM LR LR
comp=Z,2µm,19.0s
KCPM **Cahto Peak** 80.18 38 PFAKE 15 28 00.0 +12
KCPM LR LR
comp=Z,3µm,18.0s
MONP2 **Monument Peak** 80.23 47 P **P** 15 27 50.9 +2.0
baz=233
PET **Petropavlovsk** 80.27 345 *e*P **P** 15 27 47.5 -0.8
PET *e*S **S** 15 37 52.5 +0.8
PET pmax pmax
comp=Z,26nm,1.2s
YSS **Yuzh-Sakhalins** 80.32 333 *e*P **P** 15 27 49.0 +0.3
comp=Z,143nm,1.1s
YSS **Yuzh-Sakhalins** 80.32 333 *α i*P **P** 15 27 49.5 +0.8
YSS *e* 15 27 57.4
YSS *e* 15 27 58.9
YSS pmax pmax
comp=Z,100nm,1.2s
VES **Vestal, Richgr** 80.33 43 P **P** 15 27 50.2 +1.1
baz=231
EDW2 **Edwards Air Fo** 80.42 45 P **P** 15 27 51.4 +1.7
baz=232
KMRM **Mail Ridge** 80.47 38 *e*P **P** 15 27 51.4 +1.5
comp=Z,24nm,0.5s
KMRM LR LR
comp=Z,3µm,18.0s
PEA0B **Petropavlovsk-** 80.58 344 *e*P **P** 15 27 50.1 +0.1
comp=Z,82nm,1.1s
PETK **Petropavlovsk-** 80.58 344 P **P** 15 27 50.0 0.0
comp=Z,29nm,0.9s,baz=122,slow=7.2,SNR=26
PETK LR LR 16 00 13.8
comp=Z,1µm,19.6s,baz=174,slow=33
PETK **Petropavlovsk-** 80.58 344 *e*P **P** 15 27 49.8 -0.2
PETK **Petropavlovsk-** 80.58 344 *e*P **P** 15 27 49.8 -0.2
ISA **Isabella, Lake** 80.60 44 P **P** 15 27 52.4 +1.7
baz=231

ISA **Isabella, Lake** 80.60 44 *e*P **P** 15 27 51.8 +1.2
comp=Z,18nm,1.0s
ISA LR LR
comp=Z,2µm,18.0s
ISA **Isabella, Lake** 80.60 44 *e*P **P** 15 27 51.8 +1.2
ISA pmax pmax
comp=Z,18nm,1.0s
ISA MLR MLR
comp=Z,2µm,18.0s
PFO **Pinyon Flats O** 80.64 47 P **P** 15 27 52.1 +1.1
baz=233
PFO **Pinyon Flats O** 80.64 47 *e*P **P** 15 27 51.8 +0.8
comp=Z,12nm,1.1s
PFO LR LR
comp=Z,3µm,18.0s
PFO **Pinyon Flats O** 80.64 47 *e*P **P** 15 27 51.8 +0.8
PFO pmax pmax
comp=Z,12nm,1.1s
PFO MLR MLR
comp=Z,3µm,18.0s
XPFO **Piæon Flat** 80.64 47 *e*P **P** 15 27 51.9 +0.9
comp=Z,14nm,1.2s
XPFO LR LR
comp=Z,3µm,18.0s
JCC **Jacoby Creek,** 80.70 37 PFAKE 15 28 00.0 +9.1
JCC LR LR
comp=Z,2µm,19.0s
KHMM **Horse Mountain** 80.91 37 PFAKE 15 28 00.0 +7.8
KHMM LR LR
comp=Z,2µm,19.0s
CMB **Columbia Colle** 80.94 41 *e*P **P** 15 27 53.6 +1.3
comp=Z,31nm,1.5s
CMB LR LR
comp=Z,2µm,18.0s
CMB **Columbia Colle** 80.94 41 *e*P **P** 15 27 53.6 +1.3
CMB pmax pmax
comp=Z,31nm,1.5s
CMB MLR MLR
comp=Z,2µm,18.0s
LRMC **Laurel Mtn Rad** 80.99 45 P **P** 15 27 54.7 +1.9
baz=232
BELC **Belle Mtn. Jos** 81.18 47 P **P** 15 27 55.7 +1.9
baz=233
AFDM **Forest Hills D** 81.19 40 *e*P **P** 15 27 54.5 +0.9
comp=Z,25nm,1.7s
AFDM LR LR
comp=Z,2µm,18.0s
KSRS **Korea Array** 81.20 318 P **P** 15 27 54.2 +0.6
comp=Z,9.8nm,1.0s,baz=133,slow=5.5,SNR=27
KSRS LR LR 15 59 50.2
comp=Z,1µm,20.2s,baz=155,slow=33
KSAR **Wonju Array Be** 81.21 318 P **P** 15 27 54.2 +0.5
KSAR **Wonju Array Be** 81.21 318 P **P** 15 27 54.2 +0.5
KS01 **Wonju Array Si** 81.23 318 *e*P **P** 15 27 52.4 -1.4
ORV **Oroville** 81.28 39 PFAKE 15 28 10.0 +16
ORV LR LR
comp=Z,1µm,19.0s
CWC **Cottonwood Cre** 81.33 44 P **P** 15 27 56.8 +2.1
baz=231
WDC **Whiskeytown Da** 81.37 38 *e*P **P** 15 27 55.7 +1.2
comp=Z,61nm,1.9s
WDC LR LR
comp=Z,2µm,18.0s
WDC **Whiskeytown Da** 81.37 38 *e*P **P** 15 27 55.7 +1.2
WDC pmax pmax
comp=Z,61nm,1.9s
WDC MLR MLR
comp=Z,2µm,18.0s
GLA **Glamis** 81.40 48 PFAKE 15 28 10.0 +15
GLA LR LR
comp=Z,3µm,18.0s
GSC **Goldstone, Bar** 81.44 45 P **P** 15 27 57.2 +2.1
baz=232
GSC **Goldstone, Bar** 81.44 45 *e*P **P** 15 27 56.7 +1.5
comp=Z,19nm,0.3s
GSC LR LR
comp=Z,2µm,18.0s
GSC **Goldstone, Bar** 81.44 45 *e*P **P** 15 27 56.7 +1.5
GSC pmax pmax
comp=Z,19nm,0.3s
GSC MLR MLR
comp=Z,2µm,18.0s
HEC **Hector,Ludlow** 81.46 46 P **P** 15 27 56.3 +1.0
baz=233
MDPB **Devils Postpil** 81.47 42 *e*P **P** 15 27 56.6 +1.2
comp=Z,21nm,1.2s
MDPB LR LR
comp=Z,2µm,18.0s
MPMC **Manual Prospec** 81.47 44 P **P** 15 27 57.2 +1.8
baz=232
DAC **Darwin (Calif)** 81.54 44 *e*P **P** 15 27 57.7 +1.9
comp=Z,35nm,1.8s
DAC LR LR
comp=Z,2µm,19.0s
DAC **Darwin (Calif)** 81.54 44 *e*P **P** 15 27 57.7 +1.9
DAC pmax pmax
comp=Z,35nm,1.8s
DAC MLR MLR
comp=Z,2µm,19.0s
N02D **Trinity Center** 81.54 38 P **P** 15 27 57.9 +2.4
baz=228
KBO **Bosley Butte** 81.56 36 PFAKE 15 28 10.0 +14
KBO LR LR
comp=Z,3µm,18.0s
O03D **Paynes Creek** 81.60 39 P **P** 15 27 57.2 +1.3
baz=228
MLAC **Mammoth, Mammo** 81.62 42 P **P** 15 27 58.3 +2.1
baz=231
TIN **Tinemaha, Big** 81.63 43 P **P** 15 27 58.5 +2.4
baz=231
CHGN **Chignik** 81.71 10 PFAKE 15 28 10.0 +14
CHGN LR LR
comp=Z,2µm,19.0s
RUBR **Rubicon Trail** 81.73 40 PFAKE 15 28 10.0 +13
RUBR LR LR
comp=Z,2µm,19.0s
M02C **Callahan** 81.74 37 P **P** 15 27 58.7 +2.1
baz=227
WAKR **Walker** 81.81 41 *e*P **P** 15 27 58.3 +1.1
comp=Z,84nm,1.7s
WAKR LR LR
comp=Z,2µm,18.0s
HSIG 81.82 53 PFAKE 15 28 10.0 +13
HSIG LR LR
comp=Z,2µm,19.0s
IRM **Iron Mountain** 81.84 47 P **P** 15 27 59.6 +2.4
baz=234
GMRC **Granite Mounta** 81.87 46 P **P** 15 27 59.3 +1.8
baz=233
113A **Mohawk Valley,** 81.95 49 *e*P **P** 15 27 59.0 +1.3
comp=Z,24nm,1.5s
KEBM **Edson Butte** 81.96 35 PFAKE 15 28 10.0 +12
KEBM LR LR
comp=Z,4µm,18.0s
INCN **Inchon** 82.01 317 PFAKE 15 28 10.0 +12
INCN LR LR
comp=Z,800nm,20.0s
Y12C **Blythe** 82.01 47 PFAKE 15 28 10.0 +12
Y12C LR LR
comp=Z,3µm,18.0s
YBH **Yreka Blue Hor** 82.05 37 P **P** 15 27 59.4 +1.2
comp=Z,3.8nm,1.0s,baz=235,slow=7.2,SNR=5.4
YBH LR LR 15 59 14.8
comp=Z,2µm,19.5s,baz=281,slow=32
TUQ **Turquoise Moun** 82.09 45 P **P** 15 28 00.6 +1.9
baz=233
GRAC **Grapevine Rang** 82.13 43 P **P** 15 28 00.6 +2.0
baz=232
214A **Organ Pipe Nat** 82.14 50 *e*P **P** 15 27 58.6 -0.2
comp=Z,94nm,1.4s
BEKR **Beckworth** 82.14 40 *e*P **P** 15 27 59.0 +0.1
comp=Z,30nm,1.5s
BEKR LR LR
comp=Z,1µm,19.0s
SHOC **Shoshone, Teco** 82.15 45 P **P** 15 28 01.2 +2.5
baz=233
VCNR **Virginia City** 82.19 41 *e*P **P** 15 27 59.3 +0.2
comp=Z,44nm,1.6s
VCNR LR LR
comp=Z,2µm,18.0s
YERR **Yerington** 82.24 41 *e*P **P** 15 27 60.0 +0.6
comp=Z,71nm,1.8s
YERR LR LR
comp=Z,2µm,18.0s
LDFC **Landfair** 82.41 46 *e*P **P** 15 28 02.2 +1.9
comp=Z,57nm,1.2s
LDFC LR LR

comp=Z,2µm,18.0s
RYN **Ryan** 82.44 42 *e*P **P** 15 28 01.5 +1.1
comp=Z,56nm,1.8s
NVAR **Mina Array Bea** 82.45 42 P **P** 15 28 02.5 +1.9
comp=Z,6.9nm,0.8s,baz=220,slow=8.3,SNR=34
NVAR LR LR 15 59 41.7
comp=Z,2µm,18.9s,baz=86,slow=32
HUMO **Hull Mountain** 82.51 36 *e*P **P** 15 28 01.7 +1.1
comp=Z,78nm,2.0s
HUMO LR LR
comp=Z,2µm,19.0s
NV11 **Mina Array Sit** 82.54 42 *e*P **P** 15 28 01.9 +1.0
comp=Z,2.2nm,1.3s
NV11 LR LR
comp=Z,200nm,18.0s
M04C **Macdoel** 82.57 38 P **P** 15 28 03.2 +2.2
baz=228
PDMCI **Parker Dam,Lak** 82.59 47 P **P** 15 28 03.5 +2.4
baz=234
PAHR **Pah Rah Range** 82.61 40 *e*P **P** 15 28 02.4 +1.1
comp=Z,56nm,1.9s
PAHR LR LR
comp=Z,2µm,18.0s
MSHR **Mys Shultsa** 82.70 323↓ *e*P **P** 15 28 01.8 +0.4
TPNV **Topopah Spring** 82.81 44 P **P** 15 28 03.8 +1.4
baz=232
TPNV **Topopah Spring** 82.81 44 *e*P **P** 15 28 03.3 +1.0
comp=Z,39nm,1.5s
TPNV LR LR
comp=Z,2µm,18.0s
TPNV **Topopah Spring** 82.81 44 *e*P **P** 15 28 03.3 +1.0
TPNV pmax pmax
comp=Z,39nm,1.5s
TPNV MLR MLR
comp=Z,2µm,18.0s
KVN **Kaiserville** 82.96 41 PFAKE 15 28 20.0 +17
KVN LR LR
comp=Z,1µm,18.0s
Y14A **Wickenburg** 83.15 48 *e*P **P** 15 28 05.2 +1.1
comp=Z,18nm,1.0s
W13A **Hualapai Mount** 83.23 47 *e*P **P** 15 28 05.7 +1.0
comp=Z,16nm,1.3s
SHPR **Sheep Range** 83.23 45 *e*P **P** 15 28 05.8 +1.2
comp=Z,19nm,1.2s
SHPR LR LR
comp=Z,2µm,18.0s
USRK **Ussuriysk Ar.** 83.37 325 P **P** 15 28 06.0 +1.2
comp=Z,76nm,1.0s,baz=126,slow=3.2,SNR=98
USRK LR LR 16 05 04.9
comp=Z,709nm,18.0s,baz=133,slow=36
SYO **Syowa Base** 83.39 192↑ *e*P **P** 15 28 05.2 +0.5
TYV **Tymovskoe** 83.45 335 *e*P **P** 15 28 05.6 +0.5
TYV pmax pmax
comp=Z,600nm,3.2s
TYV pmax pmax
comp=Z,55nm,1.2s
MOD **Modoc Plateau** 83.51 38 *e*P **P** 15 28 06.5 +0.7
comp=Z,31nm,1.3s
MOD LR LR
comp=Z,2µm,19.0s
COR **Corvallis** 83.68 35 PFAKE 15 28 20.0 +14
COR LR LR
comp=Z,5µm,18.0s
K05A **Summer Lake** 83.72 37 *e*P **P** 15 28 07.8 +0.9
comp=Z,127nm,1.7s
TUC **Tucson** 83.76 50 P **P** 15 28 09.5 +2.3
baz=236
TUC **Tucson** 83.76 50 *e*P **P** 15 28 08.6 +1.3
comp=Z,14nm,1.1s
TUC LR LR
comp=Z,3µm,19.0s
TUC **Tucson** 83.76 50 *e*P **P** 15 28 08.6 +1.3
TUC pmax pmax
comp=Z,14nm,1.1s
TUC MLR MLR
comp=Z,3µm,19.0s
J05D **Fort Rock, OR** 83.90 37 P **P** 15 28 09.4 +1.6
baz=228
NJ2 **Nanjing** 83.98 309 *e*P **P** 15 28 10.0 +1.7
NJ2 sP **pP** 15 28 16.5 -0.3
NJ2 S **S** 15 38 35.8 +4.9
NJ2 pmax pmax
comp=Z,34nm,0.9s
NJ2 LR LR
comp=Z,660nm,18.4s
NJ2 LR LR
comp=Z,480nm,20.1s
NJ2 LR LR
comp=Z,960nm,20.0s
BKNI **Bangkinang** 83.99 273 PFAKE 15 28 20.0 +11
BKNI LR LR
comp=Z,3µm,20.0s
SNAA **Sanae** 84.06 178 P **P** 15 28 10.6 +2.4
SNAA **Sanae** 84.06 178 P **P** 15 28 10.3 +2.1
comp=Z,20nm,1.1s,baz=184,slow=6.4,SNR=20
SNAA LR LR 16 01 00.7
comp=Z,772nm,21.0s,baz=122,slow=32
SNAA **Sanae** 84.06 178 *e*P **P** 15 28 10.2 +2.1
comp=Z,49nm,1.2s
SNAA **Sanae** 84.06 178↑ *e*P **P** 15 28 09.5 +1.3
R11A **Troy Canyon, C** 84.07 43 P **P** 15 28 10.2 +1.4
baz=233
R11A **Troy Canyon, C** 84.07 43 *e*P **P** 15 28 09.7 +0.8
comp=Z,9.5nm,1.2s
R11A LR LR
comp=Z,2µm,18.0s
VNA3 **Neumayer Olymp** 84.11 176 P **P** 15 28 10.7 +2.2
KDAK **Kodiak Island** 84.13 12 P **P** 15 28 10.3 +1.9
comp=Z,6.2nm,0.9s,baz=270,slow=2.0,SNR=2.2
KDAK **Kodiak Island** 84.13 12 P **P** 15 28 10.3 +1.9
KDAK LR LR
comp=Z,3µm,22.0s
319A **Douglas** 84.32 52 *e*P **P** 15 28 10.8 +0.6
comp=Z,12nm,0.9s
H04A **Detroit Lake** 84.33 35 *e*P **P** 15 28 10.5 +0.7
comp=Z,21nm,1.1s
BMN **Battle Mountai** 84.36 41 PFAKE 15 28 20.0 +10
BMN LR LR
comp=Z,2µm,19.0s
PINE **Pine Mountain** 84.40 36 *e*P **P** 15 28 11.0 +0.5
comp=Z,32nm,1.1s
X16A **Lo Mia Camp, P** 84.49 48 *e*P **P** 15 28 12.3 +1.2
comp=Z,24nm,1.1s
VNA2 **Neumayer--Watz** 84.58 176 P **P** 15 28 13.4 +2.6
baz=184,slow=3.8
HPIG 84.68 57 PFAKE 15 28 20.0 +7.8
HPIG LR LR
comp=Z,2µm,18.0s
MOIG **Morelia** 84.73 66 PFAKE 15 28 30.0 +17
MOIG LR LR
comp=Z,2µm,19.0s
LCMT **Little Creek M** 84.77 45 *e*P **P** 15 28 13.4 +1.0
comp=Z,21nm,1.1s
LCMT LR LR
comp=Z,2µm,18.0s
VNA1 **Neumayer--Stat** 84.79 176 P **P** 15 28 14.5 +2.7
WVOR **Wild Horse Val** 84.80 39 *e*P **P** 15 28 12.9 +0.5
comp=Z,17nm,1.0s
WVOR LR LR
comp=Z,2µm,19.0s
WVOR **Wild Horse Val** 84.80 39 *e*P **P** 15 28 12.9 +0.5
WVOR pmax pmax
comp=Z,17nm,1.0s
WVOR MLR MLR
comp=Z,2µm,19.0s
MDJ **Mudanjiang** 84.91 324 P **P** 15 28 11.8 -0.9
MDJ pmax pmax
comp=Z,87nm,1.1s
MDJ pmax pmax
comp=Z,5µm,13.7s
MDJ **Mudanjiang** 84.91 324 *e*P **P** 15 28 12.5 -0.2
comp=Z,94nm,1.1s
NVL **N'lazarevskaya** 84.94 183 *e*P **P** 15 28 10.7 -1.9
NVL *e*S **S** 15 38 36.1 -3.3
NVL pmax pmax
comp=Z,7.0nm,0.8s
CCUT **Cedar City** 85.01 45 *e*P **P** 15 28 14.7 +1.0
comp=Z,24nm,1.1s
CCUT LR LR
comp=Z,2µm,18.0s
KNB **Kanab** 85.05 46 *e*P **P** 15 28 15.2 +1.4
comp=Z,48nm,1.3s
KNB LR LR
comp=Z,2µm,18.0s
KNB **Kanab** 85.05 46 *e*P **P** 15 28 15.2 +1.4
KNB pmax pmax
comp=Z,48nm,1.3s

KNB MLR MLR
comp=Z,2μm,18.0s
U15A North Rim 85.06 46 *e*P **P 15 28 15.9 +1.9**
comp=Z,40nm,1.1s
ZAIG Zacatecas 85.07 62 PFAKE 15 28 30.0 +16
ZAIG LR LR
comp=Z,1μm,18.0s
PLCA Paso Flores 85.07 133 P **P 15 28 17.6 +3.7**
comp=Z,6.0nm,1.1s,baz=256,slow=6.5,SNR=2.9
PLCA LR LR 16 00 23.9
comp=Z,790nm,18.8s,baz=217,slow=31
PLCA Paso Flores 85.07 133 P **P 15 28 17.6 +3.7**
PLCA pmax pmax
comp=Z,5.0nm,1.1s
WUAZ Wupatki 85.15 48 P **P 15 28 15.9 +1.5**
baz=236
WUAZ Wupatki 85.15 48 *e*P **P 15 28 15.6 +1.2**
comp=Z,16nm,1.0s
WUAZ LR LR
comp=Z,3μm,18.0s
SZCU Shurtz Canyon 85.21 45 *e*P **P 15 28 16.4 +1.7**
comp=Z,29nm,1.2s
SZCU LR LR
comp=Z,2μm,18.0s
NLWA Neilton Lookou 85.34 32 PFAKE 15 28 30.0 +15
NLWA LR LR
comp=Z,4μm,18.0s
J08A Circle Bar Ran 85.48 38 *e*P **P 15 28 16.8 +1.1**
comp=Z,22nm,1.3s
G06A Carlson Farm, 85.52 36 PFAKE 15 28 30.0 +14
G06A LR LR
comp=Z,4μm,18.0s
X18A Snowflake 85.57 49 *e*P **P 15 28 17.6 +1.1**
comp=Z,18nm,1.0s
PKCU Pink Cliffs 85.63 46 PFAKE 15 28 30.0 +13
PKCU LR LR
comp=Z,3μm,20.0s
IPM Ipoh 85.72 277 *e*P **P 15 28 16.8 -0.7**
comp=Z,78nm,1.2s
IPM LR LR
comp=Z,2μm,18.0s
JRQG Juriquilla Cam 85.83 65 PFAKE 15 28 30.0 +12
JRQG LR LR
comp=Z,4μm,18.0s
DIB Dawson Inlet, 85.91 24 PFAKE 15 28 30.0 +13
DIB LR LR
comp=Z,1μm,21.0s
LON Longmire 85.92 34 PFAKE 15 28 30.0 +12
LON LR LR
comp=Z,1μm,21.0s
GRNR Gornyy 85.93 332 *e*P **P 15 28 17.7 0.0**
GRNR pmax pmax
comp=Z,55nm,1.0s
TLIG Tlapa 85.97 69 PFAKE 15 28 30.0 +11
TLIG LR LR
comp=Z,3μm,19.0s
NKL Nikolayevsk 86.01 335 *e*P **P 15 28 17.5 -0.4**
121A Cookes Peak, D 86.01 52 *e*P **P 15 28 19.6 +0.8**
comp=Z,64nm,2.2s
W18A Petrified Fore 86.04 49 P **P 15 28 20.4 +1.5**
baz=237
W18A Petrified Fore 86.04 49 *e*P **P 15 28 20.1 +1.3**
comp=Z,26nm,1.3s
W18A LR LR
comp=Z,2μm,18.0s
MTPU Mount Pierson 86.05 45 *e*P **P 15 28 20.9 +1.9**
comp=Z,26nm,1.1s
MTPU LR LR
comp=Z,2μm,18.0s
TCRU Three Creeks R 86.21 45 PFAKE 15 28 30.0 +10
TCRU LR LR
comp=Z,2μm,18.0s
UNM Universidad Na 86.25 67 PFAKE 15 28 30.0 +10
UNM LR LR
comp=Z,900nm,19.0s
MSU Marysvale 86.33 45 *e*P **P 15 28 21.1 +0.9**
MSU Marysvale 86.33 45 *e*P **P 15 28 21.1 +0.9**
UBPT Khong Chiam 86.39 288 P **P 15 28 21.9 +1.2**
comp=Z,52nm,1.0s
KULM Kulim 86.39 277 *e*P **P 15 28 19.9 -0.9**
comp=Z,31nm,1.0s
PGC Sidney 86.41 32 PFAKE 15 28 30.0 +10
PGC LR LR
comp=Z,2μm,19.0s
WHN Wuhan 86.45 306 ⇑P **P 15 28 22.4 +1.7**
WHN pmax pmax
comp=Z,88nm,0.9s
G08A Pilot Rock 86.45 36 *e*P **P 15 28 21.4 +0.8**
comp=Z,13nm,1.1s
EPT El Paso 86.53 53 PFAKE 15 28 30.0 +8.8
EPT LR LR
comp=Z,2μm,18.0s
CN2 Changchun 86.67 322 *e*P **P 15 28 21.4 0.0**
CN2 *es*P sP 15 28 31.1 -1.9
CN2 *e*S **S 15 38 56.1 -0.8**
CN2 pmax pmax
comp=Z,80nm,1.2s
CN2 LR LR
comp=Z,590nm,18.0s
CN2 LR LR
comp=Z,510nm,18.0s
CN2 LR LR
comp=Z,600nm,18.0s
SVW2 Sparrevohn 86.75 10 *e*P **P 15 28 21.3 -0.1**
comp=Z,9.7nm,1.0s
GO05 HualaæØ 86.77 127 PFAKE 15 28 40.0 +18
GO05 LR LR
comp=Z,2μm,20.0s
B05A Bryant 86.81 33 P **P 15 28 23.4 +1.4**
baz=228
LTY Liberty 86.84 34 PFAKE 15 28 30.0 +7.7
LTY LR LR
comp=Z,2μm,20.0s
BBB Bella Bella 86.86 27 P **P 15 28 23.6 +1.5**
comp=Z,6.3nm,1.0s,baz=204,slow=10.0,SNR=2.0
BBB Bella Bella 86.86 27 P **P 15 28 23.6 +1.5**
BBB LR LR
comp=Z,2μm,20.0s
HAWA Hanford 86.86 35 PFAKE 15 28 30.0 +7.7
HAWA LR LR
comp=Z,5μm,18.0s
DUG Dugway, Tooele 86.90 43 PFAKE 15 28 30.0 +7.1
DUG LR LR
comp=Z,2μm,18.0s
PSI Prapat 86.93 274 P **P 15 28 23.7 +0.1**
comp=Z,56nm,1.0s,baz=138,slow=5.2
PSI Prapat 86.93 274 *e*P **P 15 28 21.3 -2.3**
comp=Z,87nm,1.1s
PSI LR LR
comp=Z,2μm,19.0s
PSI Prapat 86.93 274 *e*P **P 15 28 21.3 -2.3**
PSI pmax pmax
comp=Z,87nm,1.1s
PSI MLR MLR
comp=Z,2μm,19.0s
KLR Kul'dur 86.95 329 P **P 15 28 22.4 -0.3**
comp=Z,1.7nm,1.0s,baz=108,slow=3.6,SNR=36
KLR LR LR 16 04 02.7
comp=Z,102nm,19.3s,baz=134,slow=34
KLR Kul'dur 86.95 329⇑ *e*P **P 15 28 23.1 +0.4**
MID Middleton Isla 86.96 15 PFAKE 15 28 30.0 +7.6
MID LR LR
comp=Z,2μm,18.0s
MFID Camas Ranch 87.02 39 *e*P **P 15 28 24.0 +0.7**
comp=Z,19nm,1.6s
MFID LR LR
comp=Z,1μm,19.0s
BMO Blue Mountains 87.08 37 *e*P **P 15 28 23.8 +0.3**
comp=Z,20nm,1.6s
BMO LR LR
comp=Z,2μm,20.0s
BMO Blue Mountains 87.08 37 *e*P **P 15 28 23.8 +0.3**
BMO pmax pmax
comp=Z,20nm,1.6s
BMO MLR MLR
comp=Z,2μm,20.0s
BGU Big Grassy Mou 87.19 42 PFAKE 15 28 40.0 +16
BGU LR LR
comp=Z,2μm,18.0s
NLU North Lily Min 87.22 44 *e*P **P 15 28 24.7 +0.1**
comp=Z,15nm,1.7s
NLU LR LR
comp=Z,2μm,18.0s
MNTX Cornudas Mount 87.32 53 P **P 15 28 26.4 +1.4**
baz=239
MNTX Cornudas Mount 87.32 53 *e*P **P 15 28 25.6 +0.6**
comp=Z,24nm,1.1s
MNTX LR LR
comp=Z,1μm,18.0s
TMUT Trail Mountain 87.40 45 *e*P **P 15 28 26.9 +1.3**
comp=Z,23nm,1.0s
TMUT LR LR
comp=Z,2μm,18.0s
TX31 Lajitas Ar. Si 87.41 56 *e*P **P 15 28 25.7 +0.1**
TXAR Lajitas Array 87.41 56 P **P 15 28 27.3 +1.8**
comp=Z,3.7nm,1.0s,baz=212,slow=8.7,SNR=10
TXAR Lajitas Array 87.41 56 P **P 15 28 27.3 +1.8**
TXAR pmax pmax
comp=Z,3.0nm,0.9s
Y22D IRIS PASSCAL I 87.44 51 PFAKE 15 28 40.0 +14
Y22D LR LR
comp=Z,3μm,18.0s
CRAG Craig 87.45 23 PFAKE 15 28 40.0 +15
CRAG LR LR
comp=Z,1μm,20.0s
TIA Tai'an 87.45 312 P **P 15 28 26.1 +0.6**
TIA pmax pmax
comp=Z,89nm,1.1s
LAZ Ladron 87.46 50 *e*P **P 15 28 26.5 +0.7**
MPU Maple Canyon 87.54 44 PFAKE 15 28 40.0 +14
MPU LR LR
comp=Z,2μm,19.0s
GSI Gunungsitoli 87.54 273 *e*P **P 15 28 24.9 -1.5**
comp=Z,120nm,0.6s
BNM Barren Site 87.68 51 *e*P **P 15 28 28.4 +1.5**
SRU San Rafael Swe 87.73 45 *e*P **P 15 28 27.1 +0.2**
comp=Z,13nm,1.0s
SRU LR LR
comp=Z,2μm,20.0s
SRU San Rafael Swe 87.73 45 *e*P **P 15 28 27.2 +0.2**
SRU pmax pmax
comp=Z,13nm,1.0s
SRU MLR MLR
comp=Z,2μm,20.0s
RC01 Rabbit Creek A 87.75 12 *e*P **P 15 28 26.6 +0.4**
comp=Z,50nm,1.2s
RC01 LR LR
comp=Z,2μm,21.0s
LPM Los Pinos Moun 87.77 51 *e*P **P 15 28 28.7 +1.5**
SPUT South Promonto 87.77 42 PFAKE 15 28 40.0 +13
SPUT LR LR
comp=Z,2μm,18.0s
P17A Butcher Ranch, 87.80 45 *e*P **P 15 28 28.7 +1.5**
comp=Z,12nm,1.0s
P17A LR LR
comp=Z,2μm,18.0s
HVU Hansel Valley 87.85 42 *e*P **P 15 28 28.1 +0.8**
comp=Z,10nm,1.2s
HVU LR LR
comp=Z,3μm,18.0s
HVU Hansel Valley 87.85 42 *e*P **P 15 28 28.2 +0.8**
HVU pmax pmax
comp=Z,10.0nm,1.2s
HVU MLR MLR
comp=Z,3μm,18.0s
CTU Camp Tracy 87.85 43 PFAKE 15 28 40.0 +13
CTU LR LR
comp=Z,2μm,18.0s
SUA Susitna One 87.91 12 *e*P **P 15 28 27.5 +0.4**
comp=Z,99nm,1.9s
SUA LR LR
comp=Z,2μm,20.0s
HLID Hailey 87.93 40 P **P 15 28 28.6 +0.8**
baz=233
HLID Hailey 87.93 40 *e*P **P 15 28 28.6 +0.8**
comp=Z,11nm,1.4s
HLID LR LR
comp=Z,1μm,18.0s
JLU Jordanelle 87.98 43 *e*P **P 15 28 27.7 -0.5**
comp=Z,18nm,1.5s
JLU LR LR
comp=Z,3μm,18.0s
MVCO Mesa Verde 88.02 47 PFAKE 15 28 40.0 +12
MVCO LR LR
comp=Z,3μm,18.0s
CHBT CHBT 88.04 285 P **P 15 28 31.7 +3.0**
comp=Z,259nm,1.3s,comp=Z,90μm
EYAK Cordova Ski Ar 88.10 14 *e*P **P 15 28 27.5 -0.4**
comp=Z,25nm,1.0s
MA2 Magadan 88.10 344 *e*P **P 15 28 26.9 -1.1**
comp=Z,26nm,1.0s
MA2 Magadan 88.10 344 *i* P **P 15 28 27.5 -0.5**
MA2 pmax pmax
comp=Z,33nm,1.1s
P18A Preston Nutter 88.20 45 *e*P **P 15 28 29.4 +0.1**
comp=Z,9.3nm,1.1s
P18A LR LR
comp=Z,2μm,20.0s
RAGM Ragged Mountai 88.20 15 PFAKE 15 28 40.0 +12
RAGM LR LR
comp=Z,4μm,18.0s
ANMO Albuquerque 88.22 50 P **P 15 28 31.0 +1.6**
baz=239
ANMO Albuquerque 88.22 50 *e*P **P 15 28 30.8 +1.5**
ANMO LR LR
comp=Z,4μm,18.0s
ANMO Albuquerque 88.22 50*c i*P **P 15 28 30.9 +1.5**
ANMO pmax pmax
comp=Z,40nm,2.5s
PV09 Paradox Valley 88.30 46 *e*P **P 15 28 30.3 +0.5**
TCUT Toone Canyon 88.31 43 *e*P **P 15 28 29.8 0.0**
comp=Z,28nm,1.0s
TCUT LR LR
comp=Z,3μm,20.0s
TRTT Trang 88.32 279 P **P 15 28 31.5 +1.4**
comp=Z,38nm,1.3s
PMR Palmer 88.33 12 *e*P **P 15 28 29.4 +0.4**
comp=Z,36nm,1.2s
PMR Palmer 88.33 12 *e*P **P 15 28 29.4 +0.4**
PMR pmax pmax
comp=Z,36nm,1.2s
SKNT Sakolnakorn 88.42 289 P **P 15 28 30.7 +0.2**
comp=Z,72nm,1.1s
C09A Chrisman Ranch 88.43 35 PFAKE 15 28 40.0 +10
C09A LR LR
comp=Z,4μm,18.0s
WRAK Wrangell Islan 88.47 22 PFAKE 15 28 40.0 +10
WRAK LR LR
comp=Z,2μm,20.0s
PV01 Paradox Valley 88.47 47 *e*P **P 15 28 30.8 +0.2**
comp=Z,678nm,1.2s
HWUT Hardware Ranch 88.49 42 PFAKE 15 28 40.0 +10
HWUT LR LR
comp=Z,2μm,19.0s
LLLB Lillooet 88.50 31 PFAKE 15 28 40.0 +10
LLLB LR LR
comp=Z,4μm,18.0s
PEL Peldehue 88.55 126 PFAKE 15 28 40.0 +9.0
PEL LR LR
comp=Z,1μm,21.0s
LNIG Linares 88.57 62 *e*P **P 15 28 30.7 -0.4**
comp=Z,35nm,1.4s
LNIG LR LR
comp=Z,900nm,18.0s
DIV Divide 88.61 14 *e*P **P 15 28 31.0 +0.6**
comp=Z,33nm,1.0s
SML Sawmill 88.69 13 *e*P **P 15 28 30.8 0.0**
comp=Z,31nm,1.2s
SML LR LR
comp=Z,1μm,18.0s
SML Sawmill 88.69 13 *e*P **P 15 28 30.8 0.0**
SML pmax pmax
comp=Z,31nm,1.2s
SML MLR MLR
comp=Z,1μm,18.0s
BMRM Bremner River 88.73 15 *e*P **P 15 28 31.2 +0.2**
comp=Z,45nm,1.1s
LVIG Laguna Verde 88.75 68 PFAKE 15 28 40.0 +8.0
LVIG LR LR
comp=Z,2μm,18.0s
SRAK Srakaew 88.83 286 P **P 15 28 32.9 +0.5**
comp=Z,93nm,1.2s,comp=Z,1μm
KLU Klutina 88.91 14 *e*P **P 15 28 31.0 -0.8**
comp=Z,19nm,1.1s
SCM Sheep Creek Mo 88.91 13 *e*P **P 15 28 31.2 -0.7**
comp=Z,48nm,1.1s
SCM Sheep Creek Mo 88.91 13 *e*P **P 15 28 31.2 -0.7**
SCM pmax pmax
comp=Z,48nm,1.1s
PPLA Purkeypile 88.99 11 PFAKE 15 28 40.0 +7.7
PPLA LR LR
comp=Z,2μm,19.0s
KHON Khomkaen 89.14 288 P **P 15 28 36.4 +2.5**
comp=Z,28nm,1.2s
NEW Newport 89.32 35 PFAKE 15 28 50.0 +16
NEW LR LR
comp=Z,4μm,18.0s
BALM Baldy 89.33 16 *e*P **P 15 28 33.2 -0.7**
comp=Z,38nm,1.1s
BALM Baldy 89.33 16 *e*P **P 15 28 33.2 -0.7**
BALM pmax pmax
comp=Z,38nm,1.1s
S22A 4UR Ranch, Cre 89.43 48 P **P 15 28 36.7 +1.5**
baz=238
S22A 4UR Ranch, Cre 89.43 48 *e*P **P 15 28 35.2 0.0**
comp=Z,16nm,1.3s
S22A LR LR
comp=Z,3μm,18.0s
AHID Auburn Hatcher 89.43 42 PFAKE 15 28 50.0 +15
AHID LR LR
comp=Z,2μm,19.0s
CAST Castle Rocks 89.49 10 *e*P **P 15 28 33.4 -1.0**
comp=Z,26nm,1.0s
PKDT Phuket 89.56 279 P **P 15 28 38.3 +2.4**
comp=Z,25nm,1.4s
MCMT McKenzie Canyo 89.58 39 *e*P **P 15 28 34.8 -0.8**
NAYO Nakonayok 89.59 286 P **P 15 28 38.4 +2.4**
comp=Z,53nm,1.1s
CHAI Chaiyaphum 89.68 288 P **P 15 28 38.3 +1.9**
comp=Z,11nm,1.1s,comp=Z,122nm
O20A White River Ci 89.77 45 PFAKE 15 28 50.0 +13
O20A LR LR
comp=Z,2μm,19.0s
KTH Kantishna Hill 89.81 11 *e*P **P 15 28 35.3 -0.7**
comp=Z,20nm,0.9s
KTH LR LR
comp=Z,3μm,20.0s
TRF Thorofare Moun 89.83 11 *e*P **P 15 28 35.7 -0.6**
comp=Z,52nm,0.9s
TRF LR LR
comp=Z,3μm,21.0s
HARP HAARP 89.89 14 *e*P **P 15 28 36.0 -0.3**
comp=Z,32nm,1.0s
HARP LR LR
comp=Z,2μm,20.0s
REDW Red Top Meadow 89.92 41 *e*P **P 15 28 37.2 -0.1**
comp=Z,32nm,1.6s
REDW LR LR
comp=Z,2μm,18.0s
SKAG Skagway 89.92 19 *e*P **P 15 28 35.1 -1.4**
comp=Z,97nm,1.8s
SKAG LR LR
comp=Z,2μm,21.0s
TPAW Teton Pass 89.93 41 *e*P **P 15 28 41.1 +3.8**
comp=Z,43nm,2.0s
TPAW LR LR
comp=Z,2μm,19.0s
ENH Enshi 89.96 303 *e*P **P 15 28 35.2 -2.3**
comp=Z,240nm,1.3s
FXWY Fox Creek 89.97 41 *e*P **P 15 28 37.6 +0.2**
comp=Z,28nm,1.9s
DHY Denali Highway 90.03 12 *e*P **P 15 28 35.8 -1.4**
comp=Z,33nm,1.3s
DHY LR LR
comp=Z,2μm,19.0s
SNOW Snow King Moun 90.03 41 PFAKE 15 28 50.0 +12
SNOW LR LR
comp=Z,2μm,18.0s
DLMT Dillon 90.04 39 PFAKE 15 28 50.0 +12
DLMT LR LR
comp=Z,200nm,21.0s
RND Reindeer 90.05 12 *e*P **P 15 28 36.0 -1.2**
comp=Z,39nm,1.0s
RND LR LR
comp=Z,2μm,19.0s
RND Reindeer 90.05 12 *e*P **P 15 28 36.0 -1.2**
RND pmax pmax
comp=Z,39nm,1.0s
RND MLR MLR
comp=Z,2μm,19.0s
SMCO Snowmass 90.08 46 PFAKE 15 28 50.0 +12
SMCO LR LR
comp=Z,2μm,19.0s
BJT Baijiatuau 90.13 315 *e*P **P 15 28 37.3 -0.7**
comp=Z,15nm,0.8s
BJT LR LR
comp=Z,1μm,19.0s
BJT Baijiatuau 90.13 315 *e*P **P 15 28 37.3 -0.7**
BJT pmax pmax
comp=Z,15nm,0.8s
BJT MLR MLR
comp=Z,1μm,19.0s
MSO Missoula 90.15 37 P **P 15 28 39.6 +1.5**
baz=234
MSO Missoula 90.15 37 PFAKE 15 28 50.0 +12
MSO LR LR
comp=Z,3μm,20.0s
IMW Indian Meadow 90.17 41 *e*P **P 15 28 39.1 +0.7**
comp=Z,9.3nm,1.1s
IMW LR LR
comp=Z,1μm,20.0s
MOOW Moose Ponds 90.20 41 *e*P **P 15 28 39.6 +1.1**
comp=Z,26nm,1.9s
MOOW LR LR
comp=Z,2μm,20.0s
LOHW Long Hollow 90.21 41 *e*P **P 15 28 39.3 +0.7**
comp=Z,39nm,2.0s
LOHW LR LR
comp=Z,2μm,19.0s
833A Chaparral WMA, 90.21 59 P **P 15 28 39.5 +0.9**
baz=242
BPAW Bear Paw Mtn. 90.31 11 *e*P **P 15 28 37.4 -0.9**
comp=Z,23nm,1.5s
PAX Paxson 90.32 13 *e*P **P 15 28 37.8 -0.7**
comp=Z,14nm,1.1s
PAX Paxson 90.32 13 *e*P **P 15 28 37.8 -0.7**
PAX pmax pmax
comp=Z,14nm,1.1s
SDCO Great Sand Dun 90.33 48 P **P 15 28 40.7 +1.3**
baz=239
SDCO Great Sand Dun 90.33 48 *e*P **P 15 28 39.5 +0.2**
comp=Z,7.7nm,1.1s
SDCO LR LR
comp=Z,2μm,19.0s
MCK McKinley 90.33 12 *e*P **P 15 28 37.8 -0.6**
comp=Z,28nm,1.0s
MCK LR LR
comp=Z,2μm,21.0s
MCK McKinley 90.33 12 *e*P **P 15 28 37.8 -0.6**
MCK pmax pmax
comp=Z,28nm,1.0s
MCK MLR MLR
comp=Z,2μm,21.0s
MSTX Muleshoe 90.35 53 *e*P **P 15 28 39.0 -0.4**
comp=Z,19nm,1.0s
MSTX LR LR
comp=Z,2μm,18.0s
BW06 Boulder Array 90.37 42 P **P 15 28 40.3 +0.9**
baz=237
BW06 Boulder Array 90.37 42 *e*P **P 15 28 40.0 +0.6**
comp=Z,5.3nm,1.0s
BW06 LR LR
comp=Z,2μm,20.0s
PD31 Pinedale Array 90.37 42 *e*P **P 15 28 39.6 +0.2**
PDAR Pinedale Array 90.37 42 P **P 15 28 40.2 +0.9**
comp=Z,2.8nm,0.9s,baz=209,slow=3.7,SNR=9.8
PDAR Pinedale Array 90.37 42 *e*P **P 15 28 39.7 +0.3**
GYA Guiyang 90.40 299 P **P 15 28 40.3 +0.6**
GYA PP **PP 15 32 16.5 +1.9**
GYA SKS **SKSac 15 39 09.3 -0.4**
GYA S **S 15 39 32.8 -0.4**
GYA SS **SS 15 45 34.0 -0.4**
GYA pmax pmax
comp=Z,30nm,1.0s
GYA pmax pmax
comp=Z,160nm,6.8s
GYA LR LR
comp=Z,660nm,20.1s
GYA LR LR
comp=Z,540nm,20.4s
GYA LR LR
comp=Z,640nm,20.8s
HYT Haines Junctio 90.41 18 *e*P **P 15 28 39.3 +0.3**
QLMT Earthquake Lak 90.41 40 *e*P **P 15 28 38.4 -1.1**
YPP Pitchstone Pla 90.46 41 *e*P **P 15 28 38.6 -1.2**
comp=Z,30nm,1.9s
YPP LR LR
comp=Z,2μm,19.0s
LCO Las Campanas 90.49 122 PFAKE 15 28 50.0 +10
LCO LR LR
comp=Z,1μm,18.0s

PHET **Kaeng Krachan** **90.49 284** P **P** **15 28 43.4 +3.2**
comp=Z,40nm,1.1s,comp=Z,325nm
YHB **Horse Butte** **90.50 40** *e*P **P** **15 28 39.8 -0.1**
comp=Z,23nm,1.5s
YHB LR LR
comp=Z,1μm,20.0s
JTMT **Jette** **90.51 36** PFAKE 15 28 50.0 +10
JTMT LR LR
comp=Z,4μm,18.0s
YFT **Old Faithful** **90.54 40** PFAKE 15 28 50.0 +10
YFT LR LR
comp=Z,2μm,19.0s
YMR **Madison River** **90.59 40** *e*P **P** **15 28 40.6 +0.3**
comp=Z,39nm,1.6s
YMR LR LR
comp=Z,1μm,19.0s
SEY **Seymchan** **90.65 346**⇓ *e*P **P** **15 28 40.3 +0.5**
H17A **Grant Village** **90.66 41** *e*P **P** **15 28 41.5 +0.7**
comp=Z,20nm,1.6s
H17A LR LR
comp=Z,2μm,19.0s
YHH **Holmes Hill** **90.72 40** *e*P **P** **15 28 41.4 +0.4**
comp=Z,26nm,1.6s
YHH LR LR
comp=Z,1μm,20.0s
BOZ **Bozeman (W)** **90.73 39** P **P** **15 28 42.0 +1.2**
baz=235
BOZ **Bozeman (W)** **90.73 39** *e*P **P** **15 28 40.5 -0.4**
comp=Z,19nm,1.3s
BOZ LR LR
comp=Z,2μm,19.0s
BOZ **Bozeman (W)** **90.73 39** *e*P **P** **15 28 40.5 -0.4**
BOZ pmax pmax
comp=Z,19nm,1.3s
BOZ MLR MLR
comp=Z,2μm,19.0s
T25A **Trinidad** **90.77 49** *e*P **P** **15 28 41.3 -0.1**
comp=Z,45nm,1.9s
T25A LR LR
comp=Z,2μm,19.0s
DLBC **Dease Lake** **90.82 22** *e*P **P** **15 28 40.2 -0.7**
comp=Z,16nm,1.2s
PBKT **Sadao Pong** **90.85 288** P **P** **15 28 43.2 +1.4**
comp=Z,110nm,1.3s
LKWY **Lake** **90.86 41** PFAKE 15 28 50.0 +8.4
LKWY LR LR
comp=Z,1μm,18.0s
JCT **Junction City** **90.90 57** PFAKE 15 28 50.0 +8.1
JCT LR LR
comp=Z,2μm,19.0s
CCIG **Comitan** **90.94 73** PFAKE 15 28 50.0 +7.5
CCIG LR LR
comp=Z,2μm,19.0s
WHY **Whitehorse** **91.02 19** *e*P **P** **15 28 41.9 +0.1**
comp=Z,10nm,1.1s
KVTX **Kingsville** **91.04 60** PFAKE 15 28 50.0 +7.5
KVTX LR LR
comp=Z,2μm,18.0s
RIDG **Independ'e Rid** **91.14 13** *e*P **P** **15 28 41.9 -0.2**
comp=Z,33nm,1.1s
WRH **Wood River Hil** **91.16 12** *e*P **P** **15 28 42.0 -0.2**
comp=Z,29nm,1.1s
Q24A **Divide** **91.19 47** PFAKE 15 29 00.0 +17
Q24A LR LR
comp=Z,3μm,18.0s
MLY **Manley** **91.21 10** *e*P **P** **15 28 42.3 -0.2**
comp=Z,8.9nm,1.0s
DOT **Dot Lake** **91.22 14** *e*P **P** **15 28 42.5 0.0**
comp=Z,79nm,1.1s
RWWY **Rawlins** **91.26 44** PFAKE 15 29 00.0 +16
RWWY LR LR
comp=Z,2μm,20.0s
ISCO **Idaho Springs** **91.31 46** PFAKE 15 29 00.0 +16
ISCO LR LR
comp=Z,2μm,19.0s
HDA **Harding Lake** **91.32 12** *e*P **P** **15 28 42.3 -0.7**
comp=Z,17nm,1.0s
CCB **Clear Creek Bu** **91.37 12** *e*P **P** **15 28 42.2 -0.9**
comp=Z,21nm,1.2s
WALA **Waterton Lakes** **91.49 35** PFAKE 15 29 00.0 +16
WALA LR LR
comp=Z,4μm,18.0s
SCRK **Sand Creek** **91.53 13** *e*P **P** **15 28 43.9 -0.1**
comp=Z,12nm,1.0s
SRDT **SRDT** **91.54 285** P **P** **15 28 47.3 +2.2**
comp=Z,66nm,1.0s,comp=Z,5μm
COLA **College** **91.57 12** *e*P **P** **15 28 42.9 -1.1**
comp=Z,101nm,0.2s
COLA **College** **91.57 12** *i* P **P** **15 28 44.8 +0.8**
COLA pmax pmax
comp=Z,30nm,1.5s
MDM **Murphy Dome** **91.58 11** *e*P **P** **15 28 43.1 -1.1**
comp=Z,21nm,1.1s
AMTX **Amarillo** **91.58 52** PFAKE 15 29 00.0 +15
AMTX LR LR
comp=Z,3μm,18.0s
PHIT **Phitsanulok** **91.59 288** P **P** **15 28 47.6 +2.3**
comp=Z,49nm,1.1s,comp=Z,414nm
IM3 **Indian Mountai** **91.65 9** *e*P **P** **15 28 43.7 -0.7**
N23A **Red Feather La** **91.65 45** PFAKE 15 29 00.0 +15
N23A LR LR
comp=Z,2μm,21.0s
IL1 **Eielson Array** **91.66 12** *e*P **P** **15 28 43.9 -0.6**
ILAR **Eielson Array** **91.66 12** P **P** **15 28 44.5 0.0**
comp=Z,4.6nm,1.1s,baz=219,slow=5.5,SNR=13
ILB **Eielson Array** **91.66 12** *e*P **P** **15 28 43.6 -0.9**
RLMT **Red Lodge** **91.84 40** P **P** **15 28 48.1 +2.0**
baz=237
RLMT **Red Lodge** **91.84 40** *e*P **P** **15 28 48.8 +2.7**
comp=Z,18nm,1.4s
RLMT LR LR
comp=Z,2μm,20.0s
ABTX **Abilene, Hawle** **92.02 55** *e*P **P** **15 28 48.2 +1.3**
comp=Z,24nm,1.1s
ABTX LR LR
comp=Z,4μm,18.0s
ZEA **Zeya** **92.06 330** *e*P **P** **15 28 47.8 +1.2**
ZEA pmax pmax
comp=N,18nm,1.0s
ZEA pmax pmax
comp=Z,20nm,1.0s
TRQA **Tornquist** **92.14 134** PFAKE 15 29 00.0 +12
TRQA LR LR
comp=Z,2μm,18.0s
XAN **Xi'an** **92.16 306** P **P** **15 28 48.9 +1.3**
XAN pP pP 15 28 55.3 -0.9
XAN pmax pmax
comp=Z,53nm,1.1s
PHWY **Pilot Hill** **92.18 45** PFAKE 15 29 00.0 +12
PHWY LR LR
comp=Z,1μm,20.0s
SNET **Serv Nac Est T** **92.41 76** PFAKE 15 29 00.0 +11
SNET LR LR
comp=Z,1μm,18.0s
DAWY **Dawson** **92.64 15** *e*P **P** **15 28 47.5 -1.6**
comp=Z,22nm,1.1s
LAMP **Lampang** **92.82 289** P **P** **15 28 53.3 +2.3**
comp=Z,43nm,1.0s,comp=Z,335nm
EGAK **Eagle** **92.84 14** *e*P **P** **15 28 49.0 -0.9**
comp=Z,16nm,1.1s
EGAK LR LR
comp=Z,2μm,19.0s
KSCO **Kaye Shedlock'** **92.92 48** *e*P **P** **15 28 51.7 +0.6**
KSCO LR LR
comp=Z,2μm,18.0s
PAYA **Payao** **92.97 290** P **P** **15 28 53.5 +1.8**
comp=Z,20nm,1.0s,comp=Z,295nm
KMI **Kunming** **92.98 296** P **P** **15 28 53.4 +1.5**
KMI pP pP 15 29 00.4 0.0
KMI sP sP 15 29 04.5 +1.0
KMI pmax pmax
comp=Z,49nm,1.5s
KMI LR LR
comp=Z,630nm,21.3s
KMI LR LR
comp=Z,490nm,18.2s
KMI LR LR
comp=Z,930nm,18.3s
NNA **Nana** **93.02 105** PFAKE 15 29 00.0 +7.9
NNA LR LR
comp=Z,2μm,20.0s
HIA **Hailar** **93.08 324** PFAKE 15 29 00.0 +8.5
HIA LR LR
comp=Z,700nm,20.0s
HIA **Hailar** **93.08 324**⇓ *e*P **P** **15 28 52.3 +0.8**
HIA pmax pmax
comp=Z,17nm,1.3s

BILL **Bilibino** **93.13 353**⇓ *i* P **P** **15 28 51.3 +0.1**
BILL *i* 15 29 03.4
BILL *i* 15 32 36.2
BILL pmax pmax
comp=Z,9.0nm,1.0s
BILL MLR MLR
comp=Z,1μm,20.0s
EGMT **Eagleton** **93.16 38** PFAKE 15 29 00.0 +8.0
EGMT LR LR
comp=Z,2μm,19.0s
COLD **Coldfoot** **93.33 10** *e*P **P** **15 28 52.8 +0.6**
comp=Z,10nm,1.2s
CM01 **Chiang Mai Arr** **93.36 289** *e*P **P** **15 28 54.4 +1.0**
WHTX **Lake Whitney,** **93.38 56** PFAKE 15 29 10.0 +17
WHTX LR LR
comp=Z,2μm,18.0s
CM31 **Chiang Mai Arr** **93.39 289** *e*P **P** **15 28 55.2 +1.6**
CMAR **Chiang Mai Arr** **93.39 289** P **P** **15 28 55.3 +1.7**
comp=Z,46nm,1.0s,baz=132,slow=3.1,SNR=112
CMAR LR LR 16 13 18.8
comp=Z,198nm,18.0s,baz=50,slow=37
CHTO **Chiang Mai** **93.54 289** P **P** **15 28 56.0 +1.7**
comp=Z,456nm,0.9s
CHTO **Chiang Mai** **93.54 289** *e*P **P** **15 28 55.2 +0.9**
comp=Z,95nm,1.1s
CHTO **Chiang Mai** **93.54 289** *e*P **P** **15 28 55.2 +0.9**
CHTO pmax pmax
comp=Z,95nm,1.1s
HHC **Hu-ho-hao-te** **93.58 313** *e*P **P** **15 28 54.5 +0.4**
HHC S **S** **15 39 59.1 -2.0**
HHC pmax pmax
comp=Z,67nm,1.0s
HHC pmax pmax
comp=Z,310nm,8.0s
HHC LR LR
comp=Z,510nm,17.1s
HHC LR LR
comp=Z,720nm,17.7s
HHC LR LR
comp=Z,890nm,17.8s
WMOK **Wichita Mounta** **93.62 53** PFAKE 15 29 10.0 +16
WMOK LR LR
comp=Z,1μm,20.0s
HKT **Hockley** **93.72 59** PFAKE 15 29 10.0 +15
HKT LR LR
comp=Z,2μm,18.0s
CMAI **Chiengmai2** **93.91 290** P **P** **15 28 58.3 +2.1**
comp=Z,406nm,1.2s
OGNE **Ogallala** **94.25 47** PFAKE 15 29 10.0 +13
OGNE LR LR
comp=Z,4μm,18.0s
TGUH **Tegucigalpa,Un** **94.30 77** PFAKE 15 29 10.0 +12
TGUH LR LR
comp=Z,900nm,18.0s
LAO **LASA Array** **94.48 40** PFAKE 15 29 10.0 +12
LAO LR LR
comp=Z,2μm,19.0s
RSSD **Black Hills** **94.50 43** P **P** **15 28 59.3 +0.8**
baz=240
RSSD **Black Hills** **94.50 43** *e*P **P** **15 28 58.8 +0.4**
comp=Z,17nm,1.3s
RSSD LR LR
comp=Z,3μm,19.0s
RSSD **Black Hills** **94.50 43** *e*P **P** **15 28 58.8 +0.4**
RSSD pmax pmax
comp=Z,17nm,1.3s
RSSD MLR MLR
comp=Z,3μm,19.0s
CD2 **Chengdu** **94.66 302** *e*P **P** **15 28 58.0 -1.2**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CBKS **Cedar Bluff** **94.81 50** PFAKE 15 29 10.0 +10
CBKS LR LR
comp=Z,3μm,19.0s
MYIG **MØrida** **94.94 69** PFAKE 15 29 10.0 +9.3
MYIG LR LR
comp=Z,2μm,19.0s
NATX **Nacogdoches** **95.41 58** PFAKE 15 29 10.0 +7.4
NATX LR LR
comp=Z,2μm,18.0s
HDC **Heredia** **95.50 82** PFAKE 15 29 20.0 +16
HDC LR LR
comp=Z,1μm,19.0s
TEIG **Tepich** **95.90 71** PFAKE 15 29 20.0 +15
TEIG LR LR
comp=Z,1μm,18.0s
MNMC **Minye Minye** **96.05 114** PFAKE 15 29 20.0 +14
MNMC LR LR
comp=Z,1μm,19.0s
TUL1 **Leonard** **96.33 54** PFAKE 15 29 20.0 +13
TUL1 LR LR
comp=Z,2μm,20.0s
YAK **Yakutsk** **96.51 337** LR LR 16 09 41.8
comp=Z,444nm,19.9s,baz=98,slow=34
YAK **Yakutsk** **96.51 337** *e*P **P** **15 29 05.7 -1.1**
YAK pmax pmax
comp=Z,10.0nm,1.1s
YAK pmax pmax
comp=E,3.0nm,1.1s
DGMT **Dagmar** **96.56 39** PFAKE 15 29 20.0 +13
DGMT LR LR
comp=Z,2μm,18.0s
OTAV **Otavalo** **96.71 93** PFAKE 15 29 20.0 +10
OTAV LR LR
comp=Z,1μm,18.0s
LZH **Lanzhou** **96.80 306** *e*P **P** **15 29 10.3 +1.3**
LZH pP pP 15 29 15.5 -2.1
LZH sP sP 15 29 18.1 -2.5
LZH *e*PP **PP** **15 33 05.5 +0.9**
LZH SKS **SKSac** **15 39 43.8 -0.7**
LZH *e*S **S** **15 40 29.4 -0.1**
LZH sS ScS 15 40 33.0 +3.1
LZH pmax pmax
comp=Z,45nm,1.1s
LZH LR LR
comp=Z,850nm,17.1s
LZH LR LR
comp=Z,1μm,19.2s
LZH LR LR
comp=Z,2μm,19.8s
BGNE **Belgrade** **97.06 48** PFAKE 15 29 20.0 +10
BGNE LR LR
comp=Z,2μm,19.0s
TUMC **Tumaco** **97.11 91** PFAKE 15 29 20.0 +9.2
TUMC LR LR
comp=Z,2μm,19.0s
MIAR **Mount Ida** **97.41 56** PFAKE 15 29 20.0 +8.4
MIAR LR LR
comp=Z,2μm,20.0s
INK **Inuvik** **97.48 15** *e*P **P** **15 29 10.9 -0.2**
comp=Z,8.2nm,1.2s
INK **Inuvik** **97.48 15** *e*P **P** **15 29 10.9 -0.2**
INK pmax pmax
comp=Z,8.0nm,1.2s
W40A **Ferguson Farm,** **98.05 55** PFAKE 15 29 30.0 +16
W40A LR LR
comp=Z,4μm,18.0s
UALR **University of** **98.43 56** PFAKE 15 29 30.0 +14
UALR LR LR
comp=Z,2μm,22.0s
CCAR **Cane Creek** **98.52 57** PFAKE 15 29 30.0 +13
CCAR LR LR
comp=Z,2μm,19.0s
VBMS **Vicksburg** **98.81 59** PFAKE 15 29 30.0 +12
VBMS LR LR
comp=Z,2μm,19.0s
MDND **Maddock** **98.99 41** PFAKE 15 29 30.0 +12
MDND LR LR
comp=Z,2μm,19.0s
BCIP **Isla Barro Col** **99.04 84** PFAKE 15 29 30.0 +11
BCIP LR LR
comp=Z,800nm,19.0s
ECSD **EROS Data Cent** **99.09 46** PFAKE 15 29 30.0 +11
ECSD LR LR
comp=Z,4μm,19.0s
YKA **Yellowknife Ar** **99.17 24** P **Pdif** **15 29 19.0 +0.3**
comp=Z,0.2nm,0.7s,baz=239,slow=4.5,SNR=4.4
YKA PKKPbc **PKKPbc** **15 45 45.0 -1.0**
comp=Z,0.2nm,0.5s,baz=33,slow=2.7,SNR=4.4
SONA1 **Songino Array** **100.07 318** *e*P **Pdif** **15 29 24.2 +0.9**
SONM **Songino Array** **100.07 318** P **Pdif** **15 29 24.1 +0.8**
comp=Z,1.5nm,1.0s,baz=151,slow=3.3,SNR=5.2
SONM LR LR 16 15 11.6
comp=Z,449nm,18.0s,baz=104,slow=36
MET **Memphis--Engin** **100.38 56** PFAKE 15 29 40.0 +15
MET LR LR

comp=Z,2μm,19.0s
CCM **Cathedral Cave** **100.53 53** PFAKE 15 29 40.0 +15
CCM LR LR
comp=Z,3μm,19.0s
OXF **Oxford** **100.55 57** PFAKE 15 29 40.0 +14
OXF LR LR
comp=Z,3μm,18.0s
SCIA **State Center** **100.63 49** PFAKE 15 29 40.0 +14
SCIA LR LR
comp=Z,3μm,20.0s
PBMO **Poplar Bluff** **100.64 55** PFAKE 15 29 40.0 +14
PBMO LR LR
comp=Z,3μm,21.0s
FFC **Flin Flon** **100.75 35** PFAKE 15 29 40.0 +14
FFC LR LR
comp=Z,3μm,19.0s
PVMO **Portageville** **101.05 55** PFAKE 15 29 40.0 +12
PVMO LR LR
comp=Z,3μm,18.0s
GTA **Gaotai** **101.06 308** ⇑P **Pdif** **15 29 29.5 +1.5**
GTA PP **PP** **15 33 40.8 +3.8**
GTA S **Sdif** **15 41 02.8 -2.5**
GTA SS **SS** **15 48 04.4 -0.8**
GTA pmax pmax
comp=Z,5.0nm,1.7s
GTA LR LR
comp=Z,300nm,18.5s
GTA LR LR
comp=Z,760nm,20.0s
GTA LR LR
comp=Z,860nm,19.5s
BRAL **Brewton** **101.14 61** PFAKE 15 29 40.0 +12
BRAL LR LR
comp=Z,2μm,22.0s
PRAC **Prado** **101.38 91** PFAKE 15 29 40.0 +10
PRAC LR LR
comp=Z,2μm,19.0s
AGMN **Agassiz Nation** **101.45 42** PFAKE 15 29 40.0 +11
AGMN LR LR
comp=Z,2μm,22.0s
SLM **Saint Louis** **101.48 53** PFAKE 15 29 40.0 +10
SLM LR LR
comp=Z,3μm,19.0s
PLAL **Pickwick Lake** **101.75 57** PFAKE 15 29 40.0 +9.1
PLAL LR LR
comp=Z,3μm,18.0s
HELC **Santa Helena** **101.78 89** PFAKE 15 29 40.0 +7.9
HELC LR LR
comp=Z,4μm,19.0s
LRAL **Lakeview Retre** **101.87 59** PFAKE 15 29 40.0 +8.5
LRAL LR LR
comp=Z,2μm,19.0s
SIUC **Southern Illin** **101.89 54** PFAKE 15 29 40.0 +8.5
SIUC LR LR
comp=Z,2μm,20.0s
SPMN **Marine on St.** **102.19 46** PFAKE 15 29 40.0 +7.4
SPMN LR LR
comp=Z,4μm,22.0s
ULM **Lac du Bonnet** **102.22 40** PFAKE 15 29 40.0 +7.3
ULM LR LR
comp=Z,3μm,18.0s
WVT **Waverly** **102.35 56** PFAKE 15 29 50.0 +16
WVT LR LR
comp=Z,3μm,19.0s
HDIL **Hopedale** **102.86 51** PFAKE 15 29 50.0 +14
HDIL LR LR
comp=Z,3μm,20.0s
ZAK **Zakamensk** **102.97 320** *e*P **Pdif** **15 29 39.1 +3.0**
ZAK pmax pmax
comp=Z,3.0nm,1.3s
JFWS **Jewell Farm** **103.05 49** PFAKE 15 29 50.0 +13
JFWS LR LR
comp=Z,2μm,21.0s
OLIL **Olney** **103.08 53** PFAKE 15 29 50.0 +13
OLIL LR LR
comp=Z,2μm,20.0s
USIN **University of** **103.12 54** PFAKE 15 29 50.0 +13
USIN LR LR
comp=Z,3μm,20.0s
RUSC **La Rusia** **103.89 90** PFAKE 15 29 50.0 +8.4
RUSC LR LR
comp=Z,400nm,21.0s
TIGA **Tifton** **104.01 62** PFAKE 15 29 50.0 +8.9
TIGA LR LR
comp=Z,2μm,21.0s
EYMN **Ely** **104.02 44** PFAKE 15 29 50.0 +9.2
EYMN LR LR
comp=Z,2μm,20.0s
H41A **Junction City** **104.05 47** PFAKE 15 29 50.0 +9.0
H41A LR LR
comp=Z,3μm,22.0s
WCI **Wyandotte Cave** **104.23 54** PFAKE 15 29 50.0 +8.1
WCI LR LR
comp=Z,3μm,19.0s
LSA **Lhasa** **104.24 296** PFAKE 15 29 50.0 +7.2
LSA LR LR
comp=Z,799nm,20.0s
I42A **Draeger Farm,** **104.30 48** PFAKE 15 29 50.0 +7.9
I42A LR LR
comp=Z,3μm,21.0s
SFIN **Lafayette** **104.37 52** PFAKE 15 29 50.0 +7.5
SFIN LR LR
comp=Z,3μm,20.0s
BLO **Bloomington** **104.38 53** PFAKE 15 29 50.0 +7.4
BLO LR LR
comp=Z,2μm,19.0s
MTDJ **Mount Denham** **104.53 76** PFAKE 15 30 00.0 +16
MTDJ LR LR
comp=Z,900nm,20.0s
DWPF **Disney Wildern** **104.63 66** PFAKE 15 30 00.0 +16
DWPF LR LR
comp=Z,2μm,20.0s
H42A **Shiocton** **104.77 48** PFAKE 15 30 00.0 +16
H42A LR LR
comp=Z,3μm,19.0s
GOGA **Godfrey** **104.77 60** PFAKE 15 30 00.0 +16
GOGA LR LR
comp=Z,2μm,20.0s
COWI **Conover** **104.90 46** PFAKE 15 30 00.0 +15
COWI LR LR
comp=Z,2μm,21.0s
G42A **Mountain** **105.08 47** PFAKE 15 34 10.0
G42A LR LR
comp=Z,3μm,20.0s
H43A **Windswept, Lux** **105.27 48** PFAKE 15 34 10.0
H43A LR LR
comp=Z,3μm,20.0s
TKL **Tuckaleechee C** **105.28 58** PFAKE 15 34 10.0
TKL LR LR
comp=Z,2μm,18.0s
PALK **Pallekele** **105.32 271** PFAKE 15 34 10.0
PALK LR LR
comp=Z,1μm,20.0s
G43A **Wallace** **105.58 47** PFAKE 15 34 10.0
G43A LR LR
comp=Z,3μm,19.0s
TZTN **Tazewell** **105.74 57** PFAKE 15 34 10.0
TZTN LR LR
comp=Z,2μm,21.0s
FCC **Fort Churchill** **106.34 32** PFAKE 15 34 10.0
FCC LR LR
comp=Z,2μm,19.0s
SAML **Samuel** **106.35 108** PFAKE 15 34 20.0
SAML LR LR
comp=Z,2μm,18.0s
KMSC **Kings Mountain** **107.00 59** PFAKE 15 34 20.0
KMSC LR LR
comp=Z,2μm,21.0s
GTBY **Guantanamo Bay** **107.27 76** PFAKE 15 34 20.0
GTBY LR LR
comp=Z,1μm,20.0s
NHSC **New Hope** **107.28 61** PFAKE 15 34 20.0
NHSC LR LR
comp=Z,2μm,19.0s
SDV **Santo Domingo** **107.30 88** PFAKE 15 34 20.0
SDV LR LR
comp=Z,1μm,20.0s
ACSO **Alum Creek Sta** **107.31 53** PFAKE 15 34 20.0
ACSO LR LR
comp=Z,3μm,18.0s
AAM **Ann Arbor** **107.44 51** PFAKE 15 34 20.0
AAM LR LR
comp=Z,3μm,19.0s
BLA **Blacksburg** **108.33 57** PFAKE 15 34 20.0
BLA LR LR

comp=Z,3µm,21.0s
NCAT North Carolina 108.50 58 PFAKE 15 34 20.0
NCAT LR LR
comp=Z,3µm,22.0s
MCWV Mont Chateau 109.45 55 PFAKE 15 34 20.0
MCWV LR LR
comp=Z,3µm,20.0s
N54A Moraine State 109.70 53 PFAKE 15 34 20.0
N54A LR LR
comp=Z,3µm,20.0s
CNNC Cliffs of the 109.72 59 PFAKE 15 34 20.0
CNNC LR LR
comp=Z,3µm,20.0s
ALLY Alegheny Colle 109.77 52 PFAKE 15 34 20.0
ALLY LR LR
comp=Z,2µm,21.0s
ERPA Erie 110.00 52 PFAKE 15 34 20.0
ERPA LR LR
comp=Z,2µm,21.0s
M54A Oil Creek Stat 110.08 53 PFAKE 15 34 20.0
M54A LR LR
comp=Z,3µm,21.0s
SDDR Presa de Saban 110.34 78 PFAKE 15 34 20.0
SDDR LR LR
comp=Z,1µm,18.0s
O56A Blue Knob Stat 110.56 54 PFAKE 15 34 20.0
O56A LR LR
comp=Z,3µm,21.0s
KRAR Krasnoyarsk 110.65 323⇑*i*PKIKP **PKiKP 15 34 12.3 +2.3**
CBN Corbin Frederi 110.92 57 PFAKE 15 34 20.0
CBN LR LR
comp=Z,3µm,19.0s
WMQ Urumqi 111.06 310 *e*PKP **PKiKP 15 34 11.3 -0.1**
WMQ LR LR
comp=Z,840nm,17.5s
WMQ LR LR
comp=Z,1µm,18.7s
WMQ LR LR
comp=Z,1µm,20.1s
SSPA Standing Stone 111.16 54 PFAKE 15 34 20.0
SSPA LR LR
comp=Z,3µm,21.0s
SADO Sadowa 111.26 49 PFAKE 15 34 20.0
SADO LR LR
comp=Z,3µm,18.0s
SDD Santo Domingo 111.40 79 PFAKE 15 34 30.0
SDD LR LR
comp=Z,1µm,20.0s
SDMD Soldier's Deli 111.63 55 PFAKE 15 34 20.0
SDMD LR LR
comp=Z,2µm,20.0s
MMNY Mt. Morris Dam 111.65 52 PFAKE 15 34 20.0
MMNY LR LR
comp=Z,3µm,20.0s
PAGS Pennsylvania G 111.92 55 PFAKE 15 34 30.0
PAGS LR LR
comp=Z,3µm,20.0s
DGZ Jazzator, Alta 112.53 316⇓*e*PKIKP **PKiKP 15 34 14.2 +0.1**
N59A State Game Lan 112.79 54 PFAKE 15 34 30.0
N59A LR LR
comp=Z,3µm,18.0s
PSUB Penn St. - Bra 112.80 55 PFAKE 15 34 30.0
PSUB LR LR
comp=Z,2µm,18.0s
PTGA Pitinga 113.00 102 PFAKE 15 34 30.0
PTGA LR LR
comp=Z,2µm,19.0s
LUPA Lehigh Univers 113.01 54 PFAKE 15 34 30.0
LUPA LR LR
comp=Z,300nm,19.0s
BRNJ Basking Ridge 113.63 55 PFAKE 15 34 30.0
BRNJ LR LR
comp=Z,4µm,19.0s
PAL Palisades 114.18 54 PFAKE 15 34 30.0 +13
PAL LR LR
comp=Z,3µm,19.0s
AOPR Arecibo Observ 114.19 80 PFAKE 15 34 30.0 +12
AOPR LR LR
comp=Z,2µm,21.0s
SJG San Juan 114.66 80 PFAKE 15 34 30.0 +11
SJG LR LR
comp=Z,1µm,20.0s
ZALV Zalesovo Beam 114.84 320 PKP PKPdf 15 34 17.6 -0.5
comp=Z,2.3nm,0.7s,baz=102,slow=1.8,SNR=7.5
HUMP Col San Antoni 114.94 81 PFAKE 15 34 30.0 +11
HUMP LR LR
comp=Z,900nm,20.0s
YLE Yale 114.96 54 PFAKE 15 34 30.0 +11
YLE LR LR
comp=Z,3µm,21.0s
MKAR Makanchi Array 115.39 312 PKP **PKPdf 15 34 19.5 0.0**
comp=Z,3.5nm,0.9s,baz=82,slow=3.6,SNR=13
MKAR Makanchi Array 115.39 312 PKIKP **PKPdf 15 34 19.5 0.0**
MKAR pmax pmax
comp=Z,3.0nm,0.9s
HRV Adam Dziewonsk 116.19 53 PFAKE 15 34 30.0 +8.9
HRV LR LR
comp=Z,3µm,19.0s
LBNH Lisbon 116.22 51 PFAKE 15 34 30.0 +8.9
LBNH LR LR
comp=Z,2µm,18.0s
ABVI Anegada Island 116.49 80 PFAKE 15 34 30.0 +7.7
ABVI LR LR
comp=Z,1µm,19.0s
GRGR Grenville 116.69 88 PFAKE 15 34 40.0 +17
GRGR LR LR
comp=Z,900nm,20.0s
SKI Saint Kitts 117.48 82 PFAKE 15 34 40.0 +16
SKI LR LR
comp=Z,2µm,21.0s
TARG Taragay, Kyrgy 117.78 306 *e*PKPdf **PKPdf 15 34 27.2 +2.4**
KURK Kurchatov 118.28 316 *e*PKPdf **PKPdf 15 34 23.7 -1.1**
KURK LR LR
comp=Z,1µm,19.0s
KURK Kurchatov 118.28 316⇑*i*PKIKP **PKPdf 15 34 24.2 -0.6**
KURBB Kurchatov Arra 118.33 316 PKP **PKPdf 15 34 24.2 -0.7**
comp=Z,1.6nm,0.3s,baz=94,slow=2.0,SNR=17
ANWB Willy Bob 118.45 82 PFAKE 15 34 40.0 +14
ANWB LR LR
comp=Z,1µm,20.0s
KSH Kashi 118.82 303 PKP **PKPdf 15 34 28.0 +1.6**
NIL Nilore 119.98 296 PFAKE 15 34 40.0 +11
NIL LR LR
comp=Z,700nm,19.0s
FRU Bishkek 120.27 307 *e*PKIKP **PKPdf 15 34 29.0 0.0**
AAK Ala-Archa 120.34 306 *e*PKPdf **PKPdf 15 34 28.3 -1.0**
AAK LR LR
comp=Z,600nm,20.0s
AAK Ala-Archa 120.34 306⇓*i*PKIKP **PKPdf 15 34 29.3 0.0**
KK31 Karatay Array 123.30 307 *e*PKPdf **PKPdf 15 34 34.2 -0.6**
KK31 Karatay Array 123.30 307 *e*PKIKP **PKPdf 15 34 34.2 -0.6**
BVAR Borovoye Array 123.41 319 PKP **PKPdf 15 34 35.0 +0.4**
comp=Z,5.2nm,0.9s,baz=90,slow=2.9,SNR=25
BRVK Borovoye 123.47 319 *e*PKPdf **PKPdf 15 34 33.8 -0.9**
BRVK Borovoye 123.47 319*c i*PKIKP **PKPdf 15 34 35.4 +0.6**
BRVK pmax pmax
comp=Z,9.0nm,1.0s
BOSA Boshof 123.56 202 PKP **PKPdf 15 34 38.3 +2.3**
comp=Z,6.0nm,0.9s,baz=171,slow=3.0,SNR=5.0
KBL Kabul 123.57 296 *e*PKPdf **PKPdf 15 34 34.5 -1.4**
KBL LR LR
comp=Z,400nm,20.0s
KBL Kabul 123.57 296 *e*PKIKP **PKPdf 15 34 34.5 -1.4**
KBL MLR MLR
comp=Z,400nm,20.0s
DAG Danmarks Havn 126.38 6 *i* P **PKPdf 15 34 36.7 -3.0**
comp=Z,5.1nm,1.0s
DAG Danmarks Havn 126.38 6 *i* PKIKP **PKPdf 15 34 36.7 -3.0**
DAG pmax pmax
comp=Z,5.0nm,1.0s
SUMG Summit 126.40 15 *i* P **PKPdf 15 34 41.6 +1.2**
SUMG Summit 126.40 15 *e*PKIKP **PKPdf 15 34 41.6 +1.2**
SVE Sverdlovsk 128.39 324 *e*PKIKP **PKPdf 15 34 45.4 +1.4**
SVE pmax pmax
comp=Z,20nm,1.5s
ARU Arti 129.60 324 *e*PKPdf **PKPdf 15 34 46.8 +0.4**
ARU Arti 129.60 324 *i* PKIKP **PKPdf 15 34 47.9 +1.5**
ARU 15 36 59.5
ARU SP SP 15 46 59.4 -3.6
ARU SS SS 15 54 44.6 +27
AKTO Aktyubinsk 131.36 317 PKP **PKPdf 15 34 50.3 +0.4**
comp=Z,1.9nm,0.6s,baz=95,slow=1.7,SNR=7.6
SCO Scoresbysund 131.44 11 *i* P **PKPdf 15 34 49.4 0.0**
SCO Scoresbysund 131.44 11 *i* PKIKP **PKPdf 15 34 49.4 0.0**
GEYT Alibeck 132.61 300 PKP **PKPdf 15 34 54.3 +1.6**
comp=Z,5.4nm,0.9s,baz=270,slow=2.3,SNR=11
GEYT SKPbc **SKPab 15 38 22.4 +2.8**
comp=Z,3.5nm,1.1s,baz=131,slow=4.0,SNR=6.0
ARCES ARCESS Array B 133.12 350 PKP **PKPdf 15 34 52.4 -0.3**
comp=Z,6.0nm,0.9s,baz=45,slow=1.9,SNR=7.9
LSZ Lusaka 134.18 213 *e*PKPdf **PKPdf 15 34 59.1 +2.6**
LSZ LR LR
comp=Z,1µm,21.0s
LSZ Lusaka 134.18 213 *e*PKIKP **PKPdf 15 34 59.1 +2.6**
LSZ MLR MLR
comp=Z,1µm,21.0s
TSUM Tsumeb 134.76 198 PFAKE 15 35 10.0 +12
TSUM LR LR
comp=Z,2µm,19.0s
KLMR Klimovskoe 136.29 336 *e*PKPdf **PKPdf 15 34 55.4 -3.4**
KLMR AMP 15 35 07.6
comp=Z,12nm,1.2s
KLMR Klimovskoe 136.29 336 *e*PKIKP **PKPdf 15 34 55.3 -3.5**
KLMR pmax pmax
comp=Z,12nm,1.2s
KMBO Kilima Mbogo 139.18 236 PFAKE 15 35 20.0 +14
KMBO LR LR
comp=Z,900nm,19.0s
NAI Nairobi 139.43 236 PFAKE 15 35 20.0 +14
NAI LR LR
comp=Z,1µm,19.0s
FIA1 FINESS Array S 140.09 344 *e*PKPpre PKPpre 15 34 57.9
FIA1 *e*PKPdf **PKPdf 15 35 06.9 +1.1**
FIA1 *e*PKPdf **PKiKP 15 35 08.7 +0.4**
FINES FINESS Array B 140.09 344 PKhKP PKPpre 15 34 56.6
comp=Z,1.3nm,0.7s,baz=11,slow=1.9,SNR=3.4
FINES PKP **PKPdf 15 35 05.5 -0.3**
comp=Z,4.5nm,0.8s,baz=50,slow=3.2,SNR=8.6
AKT Akhty 140.22 306 *i* PKIKP **PKPdf 15 35 08.9 +2.1**
AKT *e* 15 38 12.9
AKT pmax pmax
comp=Z,14nm,1.1s
DAMY Dhamar 141.07 263 PFAKE 15 35 20.0 +11
DAMY LR LR
comp=Z,900nm,20.0s
OBN Obninsk 141.18 331 *e*PKIKP **PKPdf 15 35 09.3 +1.4**
OBN *e* 15 35 19.4
OBN *e* 15 38 11.7
OBN pmax pmax
comp=Z,9.0nm,0.9s
RAYN Ar Rayn 142.43 277 PFAKE 15 35 20.0 +8.7
RAYN LR LR
comp=Z,1µm,20.0s
ZEI Tsey 142.67 309 *i* PKHKP PKPpre 15 35 06.7
ZEI pmax pmax
comp=Z,11nm,1.0s
GNI Garni 142.72 305 *e*PKPpre PKPpre 15 35 10.6
GNI LR LR
comp=Z,500nm,20.0s
GNI Garni 142.72 305*de*PKIKP **PKPdf 15 35 10.3 -1.1**
NB2 NORSAR Subarra 143.07 354 PKP PKPbc 15 35 09.4 +1.3
comp=Z,0.7nm,0.7s,baz=17,slow=3.3
NOA NORSAR Array B 143.07 354 PKP **PKPdf 15 35 10.9 -0.4**
comp=Z,1.6nm,0.9s,baz=18,slow=2.5,SNR=3.6
KBZ Khabaz 143.08 311 PKhKP PKPpre 15 35 08.2
comp=Z,4.0nm,0.9s,baz=154,slow=3.6,SNR=7.9
KIV Kislovodsk 143.15 312 PFAKE 15 35 20.0 +8.0
KIV LR LR
comp=Z,599nm,20.0s
KIV Kislovodsk 143.15 312 *e*PKIKP PKPbc 15 35 09.4 +0.5
KIV pmax pmax
comp=Z,10.0nm,1.1s
AKH Akhalkalaki 143.34 307⇑*i*P **PKPdf 15 35 11.3 -1.2**
AKH Akhalkalaki 143.34 307 *e*PKPdf PKPbc 15 35 10.8 +1.2
AKH Akhalkalaki 143.34 307 *e*PKIKP PKPbc 15 35 10.8 +1.1
NEY Neytrino 143.36 310⇑*e*PKIKP **PKPdf 15 35 13.9 +1.4**
HFS Hagfors 143.69 352 PKP PKPbc
comp=Z,2.3nm,0.5s,baz=87,slow=3.2,SNR=11
MBAR Mbarara 144.29 230 *e*PKPdf **PKPdf 15 35 14.7 -0.3**
MBAR LR LR
comp=Z,1µm,18.0s
MBAR Mbarara 144.29 230 *e*PKIKP **PKPdf 15 35 14.7 -0.3**
MBAR MLR MLR
comp=Z,1µm,18.0s
SENK Senkaya-Erzuru 144.39 306 *e*P **PKPdf 15 35 14.1 -0.3**
KONO Kongsberg 144.58 355 *e*PKPdf **PKPdf 15 35 14.1 +0.3**
KONO Kongsberg 144.58 355*de*PKIKP PKPbc 15 35 13.0 +0.5
BCA Borcka 144.68 308 *e*P **PKPdf 15 35 14.1 -0.5**
IZAR Zarasai 144.78 338 *e*P **PKPdf 15 35 14.4 +0.1**
IZAR IAmb IAmb 15 35 18.3
comp=Z,16nm,0.6s
IDID Didziasalis 144.97 338 *e*P **PKPdf 15 35 14.5 -0.1**
IDID IAmb IAmb 15 35 16.7
comp=Z,14nm,1.0s
IIGN Ignalina 145.11 338 *e*P **PKPdf 15 35 14.9 0.0**
IIGN IAmb IAmb 15 35 17.4
comp=Z,38nm,1.3s
MICGM Minsk 145.19 336⇓*e*P **PKPdf 15 35 15.0 0.0**
MICGM PM 15 35 17.0
comp=Z,0.3nm,1.5s
MICGM *e*LR LR 16 43 00.0
MNK Minsk 145.19 336⇓*e*PKIKP **PKPdf 15 35 15.0 0.0**
MNK pmax pmax
comp=Z,260nm,1.5s
NACGM Naroch 145.28 337 *e*P **PKPab 15 35 15.0 -0.1**
NACGM PM 15 35 29.0
comp=Z,0.5nm,1.0s
NACGM *e*LR LR 16 38 14.0
SOC Sochi 145.30 312*c i*PKIKP **PKPbc 15 35 14.3 -1.1**
SOC *e* 15 35 26.5
SOC *e*SS SS 15 57 26.4 +1.4
SOC *e*SSS SSS 16 02 49.8
SOC pmax pmax
comp=Z,18nm,0.6s
CHOM Cayeli-Rize 145.40 308 *e*P **PKPab 15 35 16.2 +0.2**
BAYT Ayd¨–ntepe-Bay 146.06 307 *e*P **PKPab 15 35 19.4 +0.7**
ANN Anapa 146.31 315 *i* PKP2 **PKPbc 15 35 18.7 +0.3**
ANN pmax pmax
comp=Z,88nm,1.5s
ESPY Espiye-Giresun 146.92 308 *e*P **PKPdf 15 35 19.1 +0.6**
PTK Pertek 147.04 304 *e*P **PKPab 15 35 22.0 -0.6**
SUW Suwalki 147.22 339 *e*PKP **PKPbc 15 35 21.5 +0.7**
SUW Suwalki 147.22 339 *e*PKPdf **PKPbc 15 35 20.0 -0.8**
SUW LR LR
comp=Z,800nm,21.0s
SUW Suwalki 147.22 339 *e*PKP2 **PKPbc 15 35 20.0 -0.8**
SUW MLR MLR
comp=Z,800nm,21.0s
AKASG Malin Array Be 147.44 330 PKPbc **PKPbc 15 35 20.8 -0.7**
comp=Z,6.4nm,0.6s,baz=41,slow=4.0,SNR=32
AKBB Malin Array Si 147.44 330 *e*PKPdf **PKPbc 15 35 20.4 -1.1**
AKBB Malin Array Si 147.44 330 *e*PKP2 **PKPbc 15 35 20.4 -1.1**
KIEV Kiev 147.45 330 *e*PKPbc **PKPbc 15 35 20.6 -0.9**
KIEV Kiev 147.45 330*c i*PKP2 **PKPbc 15 35 21.0 -0.5**
AK11 Malin Array Si 147.48 330 *e*PKPbc **PKPbc 15 35 20.8 -0.8**
ILIC ilic-Erzincan 147.49 306 *e*P **PKPab 15 35 23.9 -0.4**
KLNR Kaliningrad 147.59 343*d i*PKP2 **PKPab 15 35 23.3 -0.6**
MUD Monsted U'grnd 147.78 355 *i* P **PKPbc 15 35 21.2 -1.0**
MUD Monsted U'grnd 147.78 355 *e*PKP2 **PKPbc 15 35 21.2 -1.0**
URFA Urfa 147.84 302 *e*P **PKPbc 15 35 22.6 -0.6**
MALT Malatya 147.92 304 *e*P **PKPbc 15 35 24.4 +1.0**
COP Copenhagen 148.18 351 *i* P **PKPbc 15 35 24.3 +1.0**
comp=Z,880nm,17.0s
COP Copenhagen 148.18 351 *i* PKP2 **PKPbc 15 35 24.3 +1.0**
COP MLR MLR
comp=Z,890nm,17.0s
SIM Simferopol' 148.31 318⇑*i*PKP2 **PKPbc 15 35 25.5 +1.4**
SIM pmax pmax
comp=Z,35nm,0.7s
BSD Bornholm Skovb 148.33 348 *i* P **PKPbc 15 35 22.9 -0.8**
comp=Z,1µm,20.0s
BSD Bornholm Skovb 148.33 348 *i* PKP2 **PKPbc 15 35 22.9 -0.8**
BSD MLR MLR
comp=Z,2µm,20.0s
SVSK Karacayir 148.50 307 *e*P **PKPbc 15 35 25.3 +0.6**
DARE Darende-Malaty 148.56 305 *e*P **PKPbc 15 35 25.5 +0.5**
EKA Eskdalemuir Ar 148.62 8 PKPbc **PKPbc 15 35 23.5 -1.0**
comp=Z,5.1nm,0.6s,baz=46,slow=2.1,SNR=8.4
KVT Kavak 148.76 310 *e*P **PKPab 15 35 28.1 -1.1**
KMRS Kahramanmaras 149.30 303 *e*P **PKPbc 15 35 27.1 +0.2**
GKP Gorka Klasztor 149.56 345 *e*PKP **PKPbc 15 35 28.4 +1.6**
GKP Gorka Klasztor 149.56 345 *e*PKP2 **PKPbc 15 35 28.5 +1.6**
SORM Soroca 149.62 327⇑*i*P **PKPbc 15 35 27.6 +0.4**
SORM Soroca 149.62 327⇑PKP2 **PKPbc 15 35 27.6 +0.4**
BNN Bunyan 149.69 306 *e*P **PKPbc 15 35 25.7 -2.2**
YOZ Yozgat 149.81 308 *e*P **PKPbc 15 35 29.0 +0.8**
BEL Belsk 149.84 339 *e*PKP **PKPbc 15 35 29.6 +1.9**
BEL Belsk 149.84 339 *e*PKP2 **PKPbc 15 35 29.6 +1.9**
DSB Dublin 150.09 13 *e*PKPbc **PKPbc 15 35 29.1 +0.9**
DSB LR LR
comp=Z,900nm,18.0s
CORM Corum 150.10 309 *e*P **PKPbc 15 35 28.1 -0.8**
KOZT Kozan 150.13 303 *e*P **PKPbc 15 35 28.5 -0.4**
KIS Kishinev 150.14 325 *e*PKP **PKPbc 15 35 28.0 -0.5**
comp=Z,100nm,2.0s
KIS LRM MLR 16 42 14.0
comp=Z,700nm,20.0s
KIS Kishinev 150.14 325 *e*PKP2 **PKPbc 15 35 28.0 -0.5**
KIS pmax pmax
comp=Z,130nm,2.0s
YAYL Yayladag 150.29 300 *e*P **PKPbc 15 35 29.4 -0.1**
LVV L'vov 150.33 334 *e*PKIKP **PKPbc 15 35 30.2 +1.3**
ASF Jabal al Asfar 150.35 293 PKPbc **PKPbc 15 35 31.2 +1.5**
comp=Z,16nm,0.9s,baz=53,slow=1.0,SNR=19
ILGA Ilgaz 150.39 311 *e*PKPbc **PKPbc 15 35 30.4 +0.8**
YURE YUREGIR 150.46 302 *e*P **PKPbc 15 35 30.8 +1.1**
KARA Karaisali 150.78 303 *e*P **PKPbc 15 35 30.6 +0.2**
BR131 Keskin Array S 150.98 309 *e*PKPbc **PKPbc 15 35 30.5 -0.5**
BRTR Keskin Array B 150.98 309 PKP **PKPdf 15 35 26.0 +0.8**
comp=Z,0.5nm,0.5s,baz=145,slow=4.5,SNR=6.8
BRTR PKPbc **PKiKP 15 35 31.4 -0.1**
comp=Z,16nm,0.9s,baz=126,slow=2.7,SNR=54
BRTR Keskin Array B 150.98 309 PKIKP **PKPdf 15 35 26.0 +0.8**
BRTR 15 35 31.5
BRTR pmax pmax
comp=Z,2.0nm,1.2s
KWP Kalwaria Pacla 151.00 335 *e*PKP **PKPbc 15 35 31.6 +1.1**
KWP *e* 15 35 39.5
KWP Kalwaria Pacla 151.00 335 PFAKE 15 35 40.0 +2.0
KWP LR LR
comp=Z,8µm,20.0s
KWP Kalwaria Pacla 151.00 335 *e*PKIKP **PKPbc 15 35 31.6 +1.1**
KWP *e* 15 35 39.5
GULA Gulagac 151.05 306 *e*P **PKPbc 15 35 30.4 -0.7**
BUR08 Bucovina Ar. S 151.47 330 *e*PKPbc **PKPbc 15 35 31.8 -0.1**
MMAI Mount Meron Ar 151.48 295 PKPbc **PKPbc 15 35 33.9 +1.6**
comp=Z,35nm,0.8s,baz=60,slow=3.8,SNR=29
BUR04 Bucovina Ar. S 151.49 330 *e*PKPdf **PKPdf 15 35 25.7 0.0**
BUR04 *e*PKPbc **PKiKP 15 35 33.0 +0.6**
BURAR Bucovina Array 151.49 330⇑*i*P **PKPbc 15 35 33.7 +1.9**
BURAR Bucovina Array 151.49 330⇑PKIKP **PKPbc 15 35 33.7 +1.9**
AFSR Af´ar-Bala (A 151.49 309 *e*P **PKPbc 15 35 30.4 -1.7**
ANTO Ankara 151.52 310⇑*i*P **PKPbc 15 35 32.8 +0.7**
ANTO Ankara 151.52 310 *e*PKPbc **PKPbc 15 35 31.8 -0.4**
ANTO Ankara 151.52 310 *e*PKIKP **PKPbc 15 35 31.8 -0.4**
BR231 Keskin MP Arra 151.54 310 *e*PKPbc **PKPbc 15 35 32.7 +0.4**
OJC Ojcow 151.55 339 *e*PKP **PKPbc 15 35 32.8 +1.0**
OJC Ojcow 151.55 339 *e*PKPbc **PKPbc 15 35 32.4 +0.6**
OJC Ojcow 151.55 339 *e*PKIKP **PKPbc 15 35 32.4 +0.6**
CFR Carcaliu 151.67 323⇑*i*P **PKPbc 15 35 32.6 +0.4**
CFR Carcaliu 151.67 323⇑PKIKP **PKPbc 15 35 32.6 +0.4**
KIZK Mersin 151.71 302 *e*P **PKPbc 15 35 32.9 +0.3**
STHS Stebnicka Huta 151.72 336 *e*PKP **PKPbc 15 35 34.1 +1.9**
STHS *e* 15 35 43.0
STHS Stebnicka Huta 151.72 336 *e*PKIKP **PKPbc 15 35 34.1 +1.9**
STHS *e* 15 35 43.0
TIRR Tirgusor 151.96 321 PFAKE 15 35 40.0 -2.2
TIRR LR LR
comp=Z,800nm,20.0s
UZH Uzhgorod 151.96 334 *e*PKIKP **PKPbc 15 35 33.4 +0.7**
UZH *i* 15 35 36.2
UZH *e* 15 35 40.8
UZH *i* 15 35 45.8
VRI Vrincioaia 151.97 325⇑*i*P **PKPbc 15 35 33.7 +0.8**
VRI Vrincioaia 151.97 325⇑PKIKP **PKPbc 15 35 33.7 +0.8**
KSP Ksiaz 152.02 344 *e*PKP **PKPbc 15 35 34.5 +1.7**
KSP Ksiaz 152.02 344 *e*PKIKP **PKPbc 15 35 34.5 +1.7**
NIE Niedzica 152.06 337 *e*PKP **PKPbc 15 35 35.0 +2.0**
NIE Niedzica 152.06 337 *e*PKIKP **PKPbc 15 35 35.0 +2.0**
HARR Harsova 152.09 322⇓*i*P **PKPbc 15 35 34.8 +1.6**
HARR Harsova 152.09 322⇓PKIKP **PKPbc 15 35 34.8 +1.6**
SACV Santiago Islan 152.15 104 PFAKE 15 35 40.0 -3.9
SACV LR LR
comp=Z,400nm,18.0s
AKKU Akkuyu-Mersin 152.26 302 *e*P **PKPbc 15 35 33.2 -0.6**
TEVE Tevekalti-Mers 152.26 302 *e*P **PKPbc 15 35 32.6 -1.3**
TRPA Tarpa 152.26 333⇑*i*P **PKPbc 15 35 34.3 +0.9**
CLL Collm 152.31 348 *e*PKPdf **PKPdf 15 35 28.0 +1.3**
CLL ⇑*i*PKPbc **PKiKP 15 35 33.8 +0.1**
comp=Z,29nm,0.9s
CLL *i* pPKPbc **sPKPdf 15 35 36.6 -1.9**
CLL *e*PKPab **pPKPbc 15 35 42.0 -0.2**
comp=Z,24nm,1.0s
CLL *i* pPKPab **sPKPbc 15 35 46.1 +0.9**
CLL *e*PP **PP 15 39 14.0 -1.0**
CLL LmV 16 51 00.0
comp=Z,700nm,20.0s
CLL Collm 152.31 348 *e*PKPdf **PKPdf 15 35 26.8 +0.1**
CLL *e*PKPbc **PKiKP 15 35 33.6 -0.1**
CLL LR LR
comp=Z,700nm,20.0s
CLL Collm 152.31 348 *e*PKIKP **PKPdf 15 35 26.8 +0.1**
CLL *e* 15 35 33.6
CLL MLR MLR
comp=Z,700nm,20.0s
MDUB Mudurnu 152.36 312 *e*P **PKPbc 15 35 31.7 -2.4**
UPC Upice 152.40 344⇑*e*PKP **PKPbc 15 35 35.3 +1.6**
UPC *e*PKPAB **sPKPbc 15 35 46.3 +0.8**
UPC *ex* x 15 35 53.5
UPC AMS AMS 16 48 10.0
comp=Z,1µm,16.7s
UPC Upice 152.40 344 *e*PKIKP **PKPbc 15 35 35.3 +1.6**
UPC *e* 15 35 46.3
UPC MLR MLR
comp=Z,1µm,16.7s
OKC Ostrava-Krasne 152.41 340 *e*PKPAB **PKPab 15 35 40.3 -3.5**
OKC AMS AMS 16 57 10.0
comp=Z,800nm,19.3s
OKC Ostrava-Krasne 152.41 340 *e*PKIKP **PKPab 15 35 40.3 -3.5**
OKC MLR MLR
comp=Z,800nm,19.3s
DPC Dobruska-Polom 152.46 343⇑*e*PKP **PKPbc 15 35 34.8 +0.9**
DPC *e*PKPAB **sPKPbc 15 35 45.1 -0.6**
DPC *ex* x 15 35 58.0
DPC AMS AMS 16 53 40.0
comp=Z,600nm,15.7s
DPC Dobruska-Polom 152.46 343 *e*PKIKP **PKPbc 15 35 34.8 +0.9**
DPC *e* 15 35 45.1
DPC MLR MLR
comp=Z,600nm,15.7s
LADK Ladik-KONYA 152.48 307 *e*P **PKPbc 15 35 31.7 -2.7**
BRG Berggiesshubel 152.54 347 *e*PKP **PKPbc 15 35 33.5 -0.5**
comp=Z,24nm,1.0s
BRG Berggiesshubel 152.54 347 *e*PKIKP **PKPbc 15 35 33.5 -0.5**
BRG pmax pmax
comp=Z,24nm,1.0s
LANS Liptovska Anna 152.58 338 *e*PKP **PKPbc 15 35 35.3 +1.1**
LANS *e* 15 35 47.3
LANS Liptovska Anna 152.58 338 *e*PKIKP **PKPbc 15 35 35.3 +1.1**
LANS *e* 15 35 47.3
KRLC Kraliky 152.59 342⇑*e*PKP **PKPbc 15 35 34.6 +0.4**
KRLC *e*PKPAB **sPKPbc 15 35 45.6 -0.4**
KRLC Kraliky 152.59 342 *e*PKIKP **PKPbc 15 35 34.6 +0.4**
KRLC *e* 15 35 45.6
MLR Muntele Rosu 152.63 326 PKP **PKPdf 15 35 28.5 +1.0**
comp=Z,0.3nm,0.3s,baz=304,slow=11,SNR=3.8
MLR PKPbc **PKiKP 15 35 35.1 +0.3**
comp=Z,3.0nm,1.0s,baz=90,slow=4.0,SNR=8.1
MLR Muntele Rosu 152.63 326⇑*i*P **PKPdf 15 35 30.7 +3.2**
MLR Muntele Rosu 152.63 326 *e*PKPdf **PKPbc 15 35 26.7 -0.8**
MLR *e*PKPdf **PKPbc 15 35 30.1 -4.5**
MLR *e*PKPbc **PKiKP 15 35 34.4 -0.3**
MLR Muntele Rosu 152.63 326 *e*PKIKP **PKPdf 15 35 26.7 -0.8**
MLR *e* 15 35 30.1
MLR *e* 15 35 34.4
MORC Moravsky Berou 152.64 341⇓*i*P **PKPbc 15 35 35.8 +1.5**
MORC Moravsky Berou 152.64 341 *e*PKPbc **PKPbc 15 35 32.9 -1.4**
MORC LR LR
comp=Z,3µm,18.0s
MORC Moravsky Berou 152.64 341 *e*PKIKP **PKPbc 15 35 32.9 -1.4**
MORC MLR MLR
comp=Z,3µm,18.0s
PVCC Panska Ves 152.73 346⇑*e*PKP **PKPbc 15 35 34.5 +0.1**
PVCC *e*PKPAB **sPKPbc 15 35 46.9 +0.7**
PVCC *ex* x 15 35 52.9
PVCC AMS AMS 16 45 50.0
comp=Z,800nm,17.3s
PVCC Panska Ves 152.73 346 *e*PKIKP **PKPbc 15 35 34.5 +0.1**
PVCC *e* 15 35 46.9
PVCC MLR MLR
comp=Z,800nm,17.3s
CSS Mathiatis 152.75 299 *e*PKPbc **PKPbc 15 35 35.6 +0.6**

CSS				LR	LR			
	comp=Z,200nm,20.0s							
CJR	**Cluj-Napoca**	**152.90**	**330**	⇓*i*P	**PKPbc**	**15**	**35**	**36.5 +1.5**
CJR	**Cluj-Napoca**	**152.90**	**330**	⇓PKIKP	**PKPbc**	**15**	**35**	**36.5 +1.5**
VOIR		**153.13**	**326**	⇑*i*P	**PKPbc**	**15**	**35**	**38.0 +2.4**
VOIR		**153.13**	**326**	⇑PKIKP	**PKPbc**	**15**	**35**	**38.0 +2.4**
PRU	**Pruhonice**	**153.24**	**345**	*e*PKPAB	**PKPab**	**15**	**35**	**47.9 +0.6**
PRU				*ex*	x	15	36	01.9
PRU				AMS	AMS	16	46	40.0
	comp=Z,900nm,17.5s							
PRU	**Pruhonice**	**153.24**	**345**	*e*PKP2	**PKPab**	**15**	**35**	**47.9 +0.6**
PRU				MLR	MLR			
	comp=Z,900nm,17.5s							
GOPC	**GO Pecny, Ondr**	**153.25**	**345**	⇑*e*PKP	**PKPbc**	**15**	**35**	**36.7 +1.1**
GOPC				*e*PKPAB	**PKPab**	**15**	**35**	**48.8 +1.4**
GOPC				AMS	AMS	16	47	00.0
	comp=Z,900nm,20.6s							
GOPC	**GO Pecny, Ondr**	**153.25**	**345**	*e*PKIKP	**PKPbc**	**15**	**35**	**36.7 +1.1**
GOPC				*e*		15	35	48.8
GOPC				MLR	MLR			
	comp=Z,900nm,20.6s							
VYHS	**Vyhne**	**153.35**	**338**	*e*PKP	**PKPbc**	**15**	**35**	**37.1 +1.2**
VYHS				*e*		15	35	48.2
VYHS	**Vyhne**	**153.35**	**338**	*e*PKIKP	**PKPbc**	**15**	**35**	**37.1 +1.2**
VYHS				*e*		15	35	48.2
ARR	**Arges**	**153.38**	**327**	⇓*i*P	**PKPdf**	**15**	**35**	**30.1 +1.6**
CAVI	**Cavuskoy**	**153.40**	**312**	*e*P	**PKPbc**	**15**	**35**	**38.1 +1.8**
NKC	**Novy Kostel**	**153.45**	**348**	⇑*e*PKP	**PKPbc**	**15**	**35**	**38.0 +2.0**
NKC				*e*PKPAB	**PKPab**	**15**	**35**	**49.2 +1.0**
NKC				*ex*	x	15	35	55.0
NKC				*ex*	x	15	36	00.7
NKC				AMS	AMS	16	50	00.0
	comp=Z,800nm,17.3s							
NKC	**Novy Kostel**	**153.45**	**348**	*e*PKIKP	**PKPbc**	**15**	**35**	**38.0 +2.0**
NKC				*e*		15	35	49.2
NKC				MLR	MLR			
	comp=Z,800nm,17.3s							
PSZ	**Piszkesteto**	**153.47**	**336**	⇓*i*P	**PKPbc**	**15**	**35**	**40.8 +4.6**
PSZ	**Piszkesteto**	**153.47**	**336**	*e*PKPdf	**PKPdf**	**15**	**35**	**28.5 -0.1**
PSZ				LR	LR			
	comp=Z,700nm,20.0s							
PSZ	**Piszkesteto**	**153.47**	**336**	*e*PKIKP	**PKPdf**	**15**	**35**	**28.5 -0.1**
PSZ				MLR	MLR			
	comp=Z,700nm,20.0s							
TREC	**Trest**	**153.65**	**343**	AMS	AMS	16	54	20.0
	comp=Z,1μm,19.8s							
SUTC	**Sutluce-Ispart**	**153.75**	**306**	*e*P	**PKPbc**	**15**	**35**	**35.9 -1.4**
MEM	**Membach**	**153.81**	**358**	⇓PKP	**PKPbc**	**15**	**35**	**36.4 -0.4**
ISP	**Isparta**	**153.97**	**307**	PFAKE		15	35	40.0 +2.3
ISP				LR	LR			
	comp=Z,800nm,19.0s							
ISP	**Isparta**	**153.97**	**307**	⇓*i*PKIKP	**PKPbc**	**15**	**35**	**37.7 0.0**
MODS	**Modra-Piesok**	**153.97**	**340**	*e*PKP	**PKPbc**	**15**	**35**	**38.2 +1.0**
MODS				*e*		15	35	50.6
MODS	**Modra-Piesok**	**153.97**	**340**	*e*PKIKP	**PKPbc**	**15**	**35**	**38.2 +1.0**
MODS				*e*		15	35	50.6
GRFO	**Grafenberg**	**154.18**	**350**	PFAKE		15	35	40.0 +2.4
GRFO				LR	LR			
	comp=Z,1μm,19.0s							
KHC	**Kasperske Hory**	**154.26**	**346**	*e*PKPDF	**PKPdf**	**15**	**35**	**30.7 +1.1**
KHC				⇑*e*PKP	**pPKPdf**	**15**	**35**	**39.4 +1.0**
KHC				*e*PKPAB	**PKPab**	**15**	**35**	**51.7 -0.1**
KHC				*ex*	x	15	36	04.1
KHC				AMS	AMS	16	47	20.0
	comp=Z,1μm,20.3s							
KHC	**Kasperske Hory**	**154.26**	**346**	*e*PKPdf	**PKPdf**	**15**	**35**	**29.3 -0.3**
KHC				LR	LR			
	comp=Z,500nm,21.0s							
KHC	**Kasperske Hory**	**154.26**	**346**	*e*PKIKP	**PKPdf**	**15**	**35**	**29.3 -0.3**
KHC				MLR	MLR			
	comp=Z,500nm,21.0s							
DOU	**Dourbes**	**154.35**	**360**	⇑PKP	**PKPbc**	**15**	**35**	**38.8 +0.8**
KORT	**Korkueli**	**154.41**	**306**	*e*P	**PKPbc**	**15**	**35**	**39.2 +0.5**
GEC2	**GERESS Array S**	**154.50**	**345**	*e*PKPab	**PKPab**	**15**	**35**	**51.8 -1.1**
GEC2				LR	LR			
	comp=Z,2μm,20.0s							
GEC2	**GERESS Array S**	**154.50**	**345**	*e*PKP2	**PKPab**	**15**	**35**	**51.8 -1.1**
GEC2				MLR	MLR			
	comp=Z,2μm,20.0s							
GERES	**GERESS Array B**	**154.50**	**345**	PKP	**PKPdf**	**15**	**35**	**31.2 +1.1**
	comp=Z,2.8nm,1.1s,baz=221,slow=5.3,SNR=3.5							
GERES				PKPbc	**PKiKP**	**15**	**35**	**38.7 +0.2**
	comp=Z,0.9nm,0.5s,baz=48,slow=2.0,SNR=4.4							
GEA0	**GERESS Array S**	**154.51**	**345**	*e*PKPdf	**PKPdf**	**15**	**35**	**29.8 -0.3**
GEA0				*e*PKPab	**sPKPbc**	**15**	**35**	**51.0 +0.8**
BZS	**Buzias**	**154.62**	**331**	⇓*i*P	**PKPdf**	**15**	**35**	**30.4 +0.2**
BZS	**Buzias**	**154.62**	**331**	⇓PKIKP	**PKPdf**	**15**	**35**	**30.4 +0.2**
WLF	**Walferdange**	**154.74**	**357**	⇑E	**PKPab**	**15**	**35**	**57.1 +3.4**
CONA	**Conrad Observa**	**154.79**	**342**	*i* sPKPdf	**PKPbc**	**15**	**35**	**36.5 -2.6**
	comp=Z,8.3nm,1.4s							
CONA				*i* PKPab	**PKPab**	**15**	**35**	**53.3 -0.8**
	comp=Z,29nm,1.6s							
MOA	**Molln**	**155.30**	**344**	*i* pPKPab	**PKPab**	**15**	**35**	**58.6 +2.4**
	comp=Z,14nm,1.5s							
ARSA	**Arzberg**	**155.50**	**341**	*i* PKPab	**PKPab**	**15**	**35**	**54.4 -2.7**
	comp=Z,16nm,1.6s							
VTS	**Vitosha**	**156.06**	**324**	⇓*i*P	**PKPdf**	**15**	**35**	**38.6 +6.2**
VTS	**Vitosha**	**156.06**	**324**	⇓PKIKP	**PKPdf**	**15**	**35**	**38.6 +6.2**
ECH	**Echery**	**156.13**	**355**	*e*PKPab	**PKPab**	**15**	**36**	**02.3 +2.6**
ECH	**Echery**	**156.13**	**355**	*e*PKP2	**PKPab**	**15**	**36**	**02.3 +2.6**
SOKA	**Soboth**	**156.16**	**341**	*i* PKPdf	**PKPdf**	**15**	**35**	**32.9 +0.6**
	comp=Z,9.8nm,1.4s							
SOKA				*i* pPKPab	**PKPab**	**15**	**36**	**00.9 +0.9**
	comp=Z,29nm,1.4s							
KBA	**Koelnbreinsper**	**156.24**	**345**	*i* pPKPab	**PKPab**	**15**	**36**	**02.3 +1.8**
	comp=Z,18nm,1.2s							
OBKA	**Obir**	**156.45**	**342**	pPKPab	**PKPab**	**15**	**36**	**02.5 +1.2**
	comp=Z,8.3nm,0.9s							
MYKA	**Terra Mystica**	**156.59**	**344**	*i* PKPab	**PKPab**	**15**	**36**	**02.4 +0.6**
	comp=Z,18nm,1.6s							
FETA	**Feichten**	**156.85**	**349**	*i* pPKPdf	**PKPdf**	**15**	**35**	**34.8 +1.5**
	comp=Z,15nm,1.3s							
FETA				*i* sPKPab	**PKPab**	**15**	**36**	**06.4 +3.4**
	comp=Z,16nm,1.1s							
BLY	**Banja Luka**	**157.15**	**336**	PFAKE		15	35	40.0 +6.4
BLY				LR	LR			
	comp=Z,900nm,20.0s							
VAY	**Valandovo**	**157.27**	**322**	*i* PKP	**PKPab**	**15**	**36**	**05.8 +0.9**
VAY	**Valandovo**	**157.27**	**322**	*i* PKP	**PKPab**	**15**	**36**	**05.8 +0.9**
KARP	**Karpathos**	**157.34**	**305**	PFAKE		15	35	50.0 -15
KARP				LR	LR			
	comp=Z,200nm,20.0s							
TRI	**Trieste**	**157.41**	**343**	PFAKE		15	35	50.0 -15
TRI				LR	LR			
	comp=Z,700nm,20.0s							
SKO	**Skopje**	**157.43**	**325**	*i* PKP	**PKPab**	**15**	**36**	**06.3 +0.7**
SKO	**Skopje**	**157.43**	**325**	*i* PKP	**PKPab**	**15**	**36**	**06.3 +0.7**
KRUS	**Krusevo**	**157.95**	**324**	*i* PKP	**PKPab**	**15**	**36**	**06.7 -1.2**
KRUS	**Krusevo**	**157.95**	**324**	*i* PKP	**PKPab**	**15**	**36**	**06.7 -1.2**
SANT	**Santorini**	**158.24**	**308**	*e*PKPab	**PKPab**	**15**	**36**	**07.5 -1.9**
SANT				LR	LR			
	comp=Z,500nm,20.0s							
TIR	**Tirane**	**158.69**	**326**	PFAKE		15	35	50.0 +14
TIR				LR	LR			
	comp=Z,1μm,21.0s							
LIC	**Lamto**	**159.83**	**152**	*e*P	**PKPdf**	**15**	**35**	**35.8 -1.9**
	comp=Z,74nm,1.9s							
KIC	**Kosan Boka**	**160.07**	**153**	*e*P	**PKPdf**	**15**	**35**	**38.4 +0.4**
	comp=Z,57nm,1.7s							
TIC	**Toumodi**	**160.21**	**152**	*e*P	**PKPdf**	**15**	**35**	**34.6 -3.6**
ES19	**SONSECA Array**	**163.25**	**22**	*e*PKPdf	**PKPdf**	**15**	**35**	**40.8 +0.1**
ESDC	**Sonseca Array**	**163.26**	**23**	PKP	**PKPdf**	**15**	**35**	**41.8 +1.1**
	comp=Z,0.4nm,0.4s,baz=351,slow=3.5,SNR=5.1							
KOWA	**Kowa**	**167.41**	**140**	PKP	**PKPdf**	**15**	**35**	**45.4 +0.7**
	comp=Z,1.2nm,0.6s,baz=101,slow=1.3,SNR=4.9							
KEST	**Kesra**	**167.89**	**340**	PKPab	**PKPab**	**15**	**36**	**50.7 -0.9**
	comp=Z,13nm,1.1s,baz=30,slow=1.1,SNR=5.4							
TOA0	**Torodi Ar. Sit**	**168.54**	**167**	*e*PKPdf	**PKPdf**	**15**	**35**	**44.2 -1.3**
TOA0				*e*PKPdf	**PKPdf**	**15**	**35**	**44.6 -0.8**
TORD	**Torodi Ar. Bea**	**168.54**	**167**	PKP	**PKPdf**	**15**	**35**	**46.3 +0.8**
	comp=Z,3.6nm,1.1s,baz=323,slow=1.8,SNR=13							
TORD				PKPab	**PKPab**	**15**	**36**	**56.6 +1.9**
	comp=Z,5.8nm,1.0s,baz=184,slow=3.1,SNR=7.2							
TORD				PP	**PP**	**15**	**40**	**48.2 +5.8**
	comp=Z,1.7nm,1.0s,baz=188,slow=5.2,SNR=4.1							

*CSEM **24** 15:18:13.5±0.3,35.95N×22.47E,h10km,ML2.0,Error ellipse: s-maj=6.7km s-min=2.9km az=41.0*
*THE **24** 15:18:14.0,35.97N×22.49E,h13km±1km,ML1.9/5,Error ellipse: s-maj=2.2km s-min=0.7km az=45.0*
ATH 24 15:18:13.1,35.95N×22.46E,h20km±2km,ML2.0/4,Error ellipse: s-maj=3.4km s-min=0.8km az=41.0,Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KYTH	**Kithira**	**0.57**	**56**	P	Pb	15 18 24.5	+0.1
KYTH				S	Sb	15 18 31.7	-0.5
KYTH				AML	AML	15 18 34.0	
	comp=E,290μm,0.3s						
KYTH				AML	AML	15 18 34.2	
	comp=N,422μm,0.2s						
KYTH	**Kithira**	**0.57**	**56**	P	Pb	15 18 24.8	+0.3
KYTH				S	Sb	15 18 32.1	-0.1
KYTH	**Kithira**	**0.57**	**56**	P	Pb	15 18 24.5	+0.1
KYTH				S	Sb	15 18 32.2	0.0
ANKY	**Antikythira Is**	**0.69**	**96**	P	Pb	15 18 26.2	-0.2
ANKY				S	Sb	15 18 35.7	+0.3
ANKY				AML	AML	15 18 39.0	
	comp=N,320μm,0.2s						
ANKY				AML	AML	15 18 40.2	
	comp=E,318μm,0.3s						
ANKY	**Antikythira Is**	**0.69**	**96**	P	Pb	15 18 26.1	-0.3
ANKY				S	Sn	15 18 36.7	-1.0
ANKY	**Antikythira Is**	**0.69**	**96**	P	Pb	15 18 26.3	-0.1
ANKY				S	Sn	15 18 36.7	-1.0
DYR	**Agios Nikonas**	**0.82**	**353**	P	Pb	15 18 28.8	0.0
DYR				S	Sn	15 18 41.6	+0.5
DYR				AML	AML	15 18 42.1	
	comp=E,151μm,0.6s						
DYR				AML	AML	15 18 47.3	
	comp=N,108μm,0.7s						
DYR	**Agios Nikonas**	**0.82**	**353**	P	Pb	15 18 28.8	+0.1
DYR				S	Sn	15 18 41.5	+0.3
DYR	**Agios Nikonas**	**0.82**	**353**	P	Pb	15 18 28.8	+0.1
DYR				S	Sn	15 18 41.5	+0.3
VLI	**Veliai**	**0.86**	**26**	P	Pn	15 18 29.9	-0.2
VLI				S	Sn	15 18 41.8	-0.3
VLI	**Veliai**	**0.86**	**26**	P	Pb	15 18 29.6	+0.2
VLI				S	Sn	15 18 41.8	-0.3
VLI	**Veliai**	**0.86**	**26**	P	Pb	15 18 29.6	+0.2
VLI				S	Sn	15 18 41.8	-0.3
PYL	**PYLOS**	**1.11**	**329**	P	Pb	15 18 29.6	0.0
PYL				S	Sn	15 18 50.3	+2.0
PYL				AML	AML	15 18 54.1	
	comp=E,153μm,0.5s						
PYL				AML	AML	15 18 55.1	
	comp=N,118μm,0.2s						
PYL	**PYLOS**	**1.11**	**329**	P	Pb	15 18 34.4	+0.7
PYL				S	Sn	15 18 49.9	+1.6
PYL	**PYLOS**	**1.11**	**329**	P	Pb	15 18 34.4	+0.7
PYL				S	Sn	15 18 49.9	+1.6
ITM	**Ithomi**	**1.30**	**341**	P	Pb	15 18 38.2	+1.3
ITM				S	Sb	15 18 54.4	+1.1
ITM	**Ithomi**	**1.30**	**341**	P	Pb	15 18 38.0	+1.0
ITM				S	Sb	15 18 55.1	+1.8
IMMV	**Iera Moni Meta**	**1.33**	**111**	P	Pb	15 18 37.9	+0.6
IMMV				S	Sb	15 18 57.0	+3.1
IMMV	**Iera Moni Meta**	**1.33**	**111**	P	Pb	15 18 37.5	+0.2
IMMV				S	Sb	15 18 55.3	+1.4
IMMV	**Iera Moni Meta**	**1.33**	**111**	P	Pb	15 18 37.5	+0.2
IMMV				S	Sb	15 18 55.3	+1.4
MES3	**Kyparissia**	**1.45**	**334**	P	Pb	15 18 40.2	+0.9
MES3	**Kyparissia**	**1.45**	**334**	P	Pb	15 18 40.3	+0.9
VAM	**Vamos**	**1.51**	**110**	P	Pb	15 18 41.6	+1.1
VAM				S	Sb	15 19 00.7	+1.4
VAM	**Vamos**	**1.51**	**110**	P	Pb	15 18 41.4	+0.9
VAM				S	Sb	15 19 01.2	+2.0

*IDC **24** 15:21:02.3±0.7,8.86N×93.79E,h0km,mb4.1/18, mb1 4.2/20,mb1mx3.9/74,mbtmp4.1/20,ML4.4/1,Error ellipse: s-maj=27.7km s-min=15.1km az=53.0*
*ISCJB **24** 15:21:03.4±0.5,8.79N±0.06×93.84E±0.06,h22km, mb4.3/31,MS4.3/1,Error ellipse: s-maj=9.4km s-min=6.7km az=41.3*
*NEIC **24** 15:21:05.6±3.0,8.84N×93.84E,h21km±21km,mb4.5/7, Error ellipse: s-maj=15.4km s-min=5.9km az=67.0*
ISC 24 15:21:05.5±0.6,8.79N±0.08×93.78E±0.08,h22km,n69, σ1ᵖ15/68,mb4.3/34,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**3.02**	**340**	*e*P	Pn	15 21 53.1	+1.1
DGPR	**DIGLIPUR**	**4.44**	**349**	*e*P	**Pn**	**15**	**22**	**12.4 +0.9**
KULM	**Kulim**	**7.66**	**117**	*e*Pn	Pn	15 22 50.7	-5.2
PSI	**Prapat**	**7.85**	**139**	Pn	**Pn**	**15**	**22**	**59.6 +1.1**
	baz=0.0,slow=20							
PSI	**Prapat**	**7.85**	**139**	*e*Pn	**Pn**	**15**	**23**	**00.2 +1.6**
IPM	**Ipoh**	**8.38**	**120**	*e*Pn	**Pn**	**15**	**23**	**03.6 -2.1**
CM01	**Chiang Mai Arr**	**10.81**	**27**	*e*Pn	**Pn**	**15**	**23**	**38.3 -0.8**
CM31	**Chiang Mai Arr**	**10.84**	**27**	*e*Pn	**Pn**	**15**	**23**	**39.1 -0.4**
CMAR	**Chiang Mai Arr**	**10.84**	**27**	Pn	**Pn**	**15**	**23**	**39.2 -0.2**
	0.8nm,0.3s,baz=213,slow=15,SNR=14							
CHTO	**Chiang Mai**	**11.15**	**26**	*e*Pn	**Pn**	**15**	**23**	**43.2 -0.6**
VIS	**Vishakhapatnam**	**13.49**	**312**	*e*P	**Pn**	**15**	**24**	**15.9 +0.1**
VIS				IAmb	IAmb	15	24	19.6
	comp=Z,20nm,1.3s							
MDRS	**Chennai**	**13.95**	**289**	*e*P	**Pn**	**15**	**24**	**21.1 -0.8**
BOK	**Bokaro**	**16.72**	**334**	*e*P	**Pn**	**15**	**24**	**58.1 -0.5**
SHL	**Shillong**	**16.78**	**354**	*e*P	**Pn**	**15**	**24**	**59.1 -0.4**
SHL				IAmb	IAmb	15	25	00.4
	comp=Z,35nm,1.2s							
HYB	**Hyderabad**	**17.12**	**302**	*e*P	**Pn**	**15**	**25**	**02.0 -1.5**
RAMN	**Ramite**	**19.30**	**340**	*e*P	**Pn**	**15**	**25**	**30.7 +0.3**
	comp=Z,61nm,0.7s							
JIRN	**Jiri**	**20.09**	**340**	*e*P	**P**	**15**	**25**	**38.9 +0.8**
	comp=Z,133nm,1.1s							
PKIN	**Phulchoki**	**20.29**	**338**	*e*P	**P**	**15**	**25**	**41.2 +1.0**
	comp=Z,17nm,0.7s							
GUN	**Gumba**	**20.43**	**340**	*e*P	**P**	**15**	**25**	**42.8 +1.0**
	comp=Z,55nm,0.8s							
DMN	**Daman**	**20.43**	**337**	*e*P	**P**	**15**	**25**	**42.6 +0.9**
	comp=Z,29nm,1.0s							
KKN	**Kakani**	**20.53**	**338**	*e*P	**P**	**15**	**25**	**43.6 +0.9**
	comp=Z,20nm,0.7s							
LSA	**Lhasa**	**20.95**	**354**	*e*P	**P**	**15**	**25**	**46.2 -1.2**
	comp=Z,17nm,0.6s							
GKN	**Gorkha**	**20.96**	**337**	*e*P	**P**	**15**	**25**	**48.4 +1.0**
	comp=Z,45nm,0.6s							
KOLN	**Koldanda**	**21.18**	**334**	*e*P	**P**	**15**	**25**	**51.0 +1.2**
	comp=Z,28nm,0.7s							
BHPL	**Bhopal**	**21.26**	**314**	*e*P	**P**	**15**	**25**	**48.4 -2.1**
BHPL				IAmb	IAmb	15	25	58.0
	comp=Z,8.8nm,1.0s							
PYUN	**Piuthan**	**21.73**	**333**	*e*P	**P**	**15**	**25**	**57.3 +1.6**
	comp=Z,36nm,0.8s							
SMLA	**Simla**	**27.08**	**327**	*e*P	**P**	**15**	**26**	**48.0 +1.3**
SMLA				IAmb	IAmb	15	26	52.3
	comp=Z,30nm,1.8s							
DHRM	**DHARAMSHALA**	**28.42**	**328**	*e*P	**P**	**15**	**26**	**58.5 -0.5**
DHRM				IAmb	IAmb	15	26	59.5
	comp=Z,7.7nm,0.7s							
LZH	**Lanzhou**	**28.68**	**17**	*e*P	**P**	**15**	**27**	**03.1 +2.0**
LZH				pP	pP	15	27	06.8 -1.0
LZH				sP	sP	15	27	09.9 -0.6
LZH				PP	**PnPn**	**15**	**27**	**55.5 +3.7**
LZH				pmax	pmax			
	comp=Z,29nm,0.8s							
LZH				pmax	pmax			
	comp=Z,2μm,5.0s							
LZH				LR	LR			
	comp=N,350nm,14.3s							
LZH				LR	LR			
	comp=E,300nm,10.5s							
LZH				LR	LR			
	comp=Z,440nm,15.6s							
XAN	**Xi'an**	**28.73**	**27**	P	**P**	**15**	**27**	**00.6 -0.9**
XAN				pP	pP	15	27	06.3 -1.8
XAN				pmax	pmax			
	comp=Z,8.0nm,1.1s							
GTA	**Gaotai**	**30.96**	**9**	*e*P	**P**	**15**	**27**	**21.4 +0.1**
GTA				pP	pP	15	27	28.9 +1.0
GTA				sP	sP	15	27	32.4 +1.7
GTA				pmax	pmax			
	comp=Z,3.0nm,1.1s							
NIL	**Nilore**	**31.14**	**326**	*e*P	**P**	**15**	**27**	**23.8 +1.0**
	comp=Z,15nm,0.9s							
NJ2	**Nanjing**	**32.82**	**42**	*e*P	**P**	**15**	**27**	**35.8 -1.7**
NJ2				pmax	pmax			
	comp=Z,12nm,0.5s							
KSH	**Kashi**	**34.49**	**335**	P	**P**	**15**	**27**	**51.0 -1.2**
KSH				pmax	pmax			
	comp=Z,11nm,0.7s							
WMQ	**Urumqi**	**35.30**	**352**	P	**P**	**15**	**28**	**01.3 +2.3**
WMQ				pmax	pmax			
	comp=Z,20nm,0.7s							
HHC	**Hu-ho-hao-te**	**35.62**	**23**	*e*P	**P**	**15**	**28**	**02.3 +0.5**
HHC				pmax	pmax			
	comp=Z,20nm,0.7s							
HHC				pmax	pmax			
	comp=Z,370nm,7.5s							
TARG	**Taragay, Kyrgy**	**35.71**	**339**	*e*P	**P**	**15**	**28**	**02.7 -0.2**
	comp=Z,5.3nm,0.8s							
KDJ	**Kajisay**	**36.28**	**339**	*e*P	**P**	**15**	**28**	**08.2 +0.6**
	comp=Z,5.2nm,0.8s							
AAK	**Ala-Archa**	**37.73**	**337**	*e*P	**P**	**15**	**28**	**20.9 +1.1**
	comp=Z,6.3nm,1.0s							
MK01	**Makanchi Array**	**39.09**	**347**	*e*P	**P**	**15**	**28**	**31.0 -0.1**
MK31	**Makanchi Array**	**39.12**	**347**	*e*P	**P**	**15**	**28**	**31.3 -0.1**
MKAR	**Makanchi Array**	**39.12**	**347**	P	**P**	**15**	**28**	**30.9 -0.5**
	comp=Z,1.8nm,0.6s,baz=165,slow=7.9,SNR=13							
SONM	**Songino Array**	**40.35**	**13**	P	**P**	**15**	**28**	**41.3 -0.4**
	comp=Z,0.6nm,0.6s,baz=189,slow=8.8,SNR=3.6							
GEYT	**Alibeck**	**43.28**	**318**	P	**P**	**15**	**29**	**06.3 +0.6**
	comp=Z,2.6nm,0.4s,baz=136,slow=9.1,SNR=9.6							
KURBB	**Kurchatov Arra**	**43.57**	**346**	P	**P**	**15**	**29**	**07.6 -0.2**
	comp=Z,2.5nm,0.8s,baz=162,slow=7.3,SNR=12							
KURK	**Kurchatov**	**43.64**	**346**	*e*P	**P**	**15**	**29**	**08.4 +0.1**
	comp=Z,3.8nm,0.9s							
CN2	**Changchun**	**44.45**	**33**	*e*P	**P**	**15**	**29**	**16.8 +1.8**
ZAA0	**Zalesovo Array**	**45.60**	**353**	*e*P	**P**	**15**	**29**	**24.0 +0.1**
	comp=Z,6.9nm,0.9s							
ZALV	**Zalesovo Beam**	**45.60**	**353**	P	**P**	**15**	**29**	**24.0 0.0**
	comp=Z,3.8nm,0.4s,baz=176,slow=8.5,SNR=20							
ZALV	**Zalesovo Beam**	**45.60**	**353**	*e*P	**P**	**15**	**29**	**23.5 -0.5**
BVAR	**Borovoye Array**	**48.01**	**341**	P	**P**	**15**	**29**	**42.5 -0.4**
	comp=Z,0.7nm,0.4s,baz=148,slow=9.6,SNR=5.0							
WRA	**Warramunga Arr**	**49.09**	**126**	P	**P**	**15**	**29**	**51.5 -0.1**
	comp=Z,2.0nm,0.9s,baz=101,slow=4.1,SNR=7.7							
ASAR	**Alice Springs**	**50.78**	**130**	P	**P**	**15**	**30**	**05.1 +0.6**
	comp=Z,0.4nm,0.8s,baz=304,slow=7.8,SNR=3.8							
AKTO	**Aktyubinsk**	**50.98**	**331**	P	**P**	**15**	**30**	**05.8 +0.2**
	comp=Z,1.2nm,0.4s,baz=119,slow=12,SNR=4.5							
ASAJ	**Asahikawa**	**54.96**	**41**	P	**P**	**15**	**30**	**34.4 -0.7**
	comp=Z,2.0nm,0.8s,baz=240,slow=16,SNR=2.7							
BRTR	**Keskin Array B**	**61.56**	**310**	P	**P**	**15**	**31**	**20.3 -1.2**
	comp=Z,0.5nm,0.6s,baz=120,slow=8.5,SNR=3.6							
FINES	**FINESS Array B**	**71.74**	**332**	P	**P**	**15**	**32**	**24.9 -0.8**
	comp=Z,1.7nm,0.5s,baz=92,slow=5.5,SNR=16							
STHS	**Stebnicka Huta**	**72.02**	**319**	*e*P	**P**	**15**	**32**	**27.1 -0.7**
LANS	**Liptovska Anna**	**73.14**	**319**	*e*P	**P**	**15**	**32**	**31.6 -2.9**
ARCES	**ARCESS Array B**	**74.28**	**340**	P	**P**	**15**	**32**	**41.0 +0.3**
	comp=Z,3.9nm,0.9s,baz=101,slow=8.3,SNR=8.3							
GERES	**GERESS Array B**	**76.91**	**318**	P	**P**	**15**	**32**	**57.4 +1.0**
	comp=Z,1.5nm,0.7s,baz=94,slow=5.8,SNR=5.9							
HFS	**Hagfors**	**77.49**	**330**	P	**P**	**15**	**32**	**59.4 +0.2**
	comp=Z,1.3nm,0.4s,baz=110,slow=7.8,SNR=12							
NB2	**NORSAR Subarra**	**78.76**	**331**	P	**P**	**15**	**33**	**06.0 -0.3**
	comp=Z,1.3nm,0.7s,baz=95,slow=5.1							
NOA	**NORSAR Array B**	**78.76**	**331**	P	**P**	**15**	**33**	**06.3 -0.1**
	comp=Z,1.1nm,0.6s,baz=91,slow=5.7,SNR=5.7							
SPITS	**Spitsbergen Ar**	**78.87**	**348**	P	**P**	**15**	**33**	**06.6 0.0**
	comp=Z,7.9nm,1.0s,baz=79,slow=7.5,SNR=9.5							
TORD	**Torodi Ar. Bea**	**90.04**	**283**	P	**P**	**15**	**34**	**04.0 -0.3**
	comp=Z,0.6nm,1.0s,baz=90,slow=1.9,SNR=3.6							
NVAR	**Mina Array Bea**	**124.31**	**30**	PKP	**PKPdf**	**15**	**40**	**04.9 +1.4**
	comp=Z,0.1nm,0.4s,baz=29,slow=2.1,SNR=3.6							
PDAR	**Pinedale Array**	**124.44**	**21**	PKP	**PKPdf**	**15**	**40**	**02.4 -1.2**

IDC 24 15:39:08.7±5.8, 5°59'N×124°70'E, h112km±64km, mb3.2/4, mb1 3.4/4, mb1mx2.9/58, mbtmp3.5/4, 1C, Error ellipse: s-maj=98.3km s-min=17.1km az=70.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**1.71**	**31**	P	Pn	15 39 39.5	+1.2
	baz=74,slow=20,SNR=3.3						
DAV				S	Sn	15 40 00.6	-0.1
	152nm,0.3s,baz=43,slow=19,SNR=7.5						
BIPH	**Bislig**	**3.06**	**33**	*e*P	Pn	15 39 52.7	-2.9
BIPH				*e*S	Sn	15 40 19.5	-12
WRA	**Warramunga Arr**	**27.09**	**160**	P	P	15 44 40.2	-0.9
	0.2nm,0.4s,baz=335,slow=11,SNR=8.4						
ASAR	**Alice Springs**	**30.43**	**163**	P	P	15 45 11.3	+0.5
	0.8nm,0.5s,baz=341,slow=6.9,SNR=35						
MKAR	**Makanchi Array**	**54.88**	**325**	P	P	15 48 27.6	0.0
	0.3nm,0.5s,baz=111,slow=7.3,SNR=4.3						
KURBB	**Kurchatov Arra**	**59.09**	**328**	P	P	15 48 57.1	-0.1
	0.2nm,0.4s,baz=131,slow=6.4,SNR=4.8						

IDC 24 15:41:55.3±2.0, 54°.60N×166°.20E, h0km, mb3.3/3, mb1 3.6/4, mb1mx3.1/70, mbtmp3.2/4, ML2.3/1, Error ellipse: s-maj=95.8km s-min=31.1km az=157.0
KRSC 24 15:41:58.9±1.1, 55°.95N×164°.73E, h67km±24km, ML3.8
ISCJB 24 15:41:59.4±0.4, 55°.96N±0°.03×164°.71E±0°.05, h19km, mb3.2/3, Error ellipse: s-maj=4.5km s-min=4.2km az=154.9

ISC 24 15:41:59.8±0.9, 55°.97N±0°.04×164°.66E±0°.04, h19km, n40, σ1s55/53, mb3.2/3, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBTR	**Krutoberegovo**	**1.06**	**284**	*e*P	**Pb**	**15 42 18.0**	**-1.5**
KBTR				*e*S	**Sb**	**15 42 32.2**	**-0.7**
BKI	**Bering**	**1.07**	**135**	*i* P	**Pn**	**15 42 19.5**	**-0.2**
BKI				*i* S	**Sb**	**15 42 33.2**	**0.0**
SMKR	**Semkarok**	**1.88**	**291**	*i* P	**Pn**	**15 42 31.5**	**+0.5**
SMKR				*e*S	**Sb**	**15 42 55.3**	**-1.4**
BDR	**Baidarnaya**	**2.02**	**289**	*e*P	**Pn**	**15 42 34.3**	**+1.5**
SRKR	**Sorokina**	**2.06**	**291**	*e*P	**Pn**	**15 42 34.2**	**+0.7**
SRKR				*e*S	**Sb**	**15 43 00.8**	**-1.1**
ZLN	**Zelenaya**	**2.16**	**273**	*e*P	**Pn**	**15 42 36.4**	**+1.5**
ZLN				*e*S	**Sb**	**15 43 03.7**	**-1.2**
CIRR	**Tsirk**	**2.20**	**276**	*e*P	**Pn**	**15 42 36.8**	**+1.4**
LGNR	**Loginova**	**2.23**	**275**	*e*P	**Pn**	**15 42 37.1**	**+1.1**
KLY	**Klyuchi**	**2.27**	**281**	*e*P	**Pn**	**15 42 35.5**	**-0.7**
KRSR	**Krestovskiy**	**2.31**	**278**	*e*P	**Pn**	**15 42 37.1**	**+0.3**
BZWR	**Bezymyannyi-We**	**2.34**	**272**	*e*P	**Pn**	**15 42 38.8**	**+1.4**
BZMR	**Bezymyannaya**	**2.34**	**271**	*e*P	**Pn**	**15 42 38.9**	**+1.5**
KIRR	**Kirishev**	**2.42**	**272**	*e*P	**Pn**	**15 42 40.1**	**+1.6**
KPT	**Kopyto**	**2.49**	**272**	*e*P	**Pn**	**15 42 41.1**	**+1.7**
KMNR	**Kamenistaya**	**2.50**	**267**	*e*P	**Pn**	**15 42 41.4**	**+1.9**
KZV	**Kizimen**	**2.62**	**253**	*e*P	**Pn**	**15 42 42.4**	**+1.2**
TUMR	**Tumrok**	**2.65**	**257**	*e*P	**Pn**	**15 42 43.5**	**+2.0**
TUMR				*e*S	**Sn**	**15 43 15.8**	**+2.7**
KOZ	**Kozyrevsk**	**2.69**	**274**	*e*P	**Pn**	**15 42 44.1**	**+2.1**
ESO	**Esso**	**3.35**	**272**	*e*P	**Pn**	**15 42 51.4**	**+0.3**
OSSR	**Ossora**	**3.40**	**346**	*e*P	**Pn**	**15 42 52.1**	**+0.3**
OSSR				*e*S	**Sn**	**15 43 28.6**	**-3.0**
SPN	**Mys Shipunski**	**3.94**	**225**	*e*P	**Pn**	**15 42 58.0**	**-1.2**
SPN				*e*S	**Sn**	**15 43 41.3**	**-3.6**
PALN	**Palana**	**4.03**	**323**	*e*P	**Pn**	**15 43 01.4**	**+1.1**
NLC	**Nalytchevo**	**4.17**	**230**	*e*P	**Pn**	**15 43 01.8**	**-0.5**
NLC				*e*S	**Sn**	**15 43 49.4**	**-1.1**
SDLR	**Sedlovina**	**4.30**	**234**	*e*P	**Pn**	**15 43 05.9**	**+1.6**
KRER	**Koryakskii**	**4.34**	**235**	*e*P	**Pn**	**15 43 06.9**	**+1.9**
SMAR	**Somma**	**4.35**	**234**	*e*P	**Pn**	**15 43 06.8**	**+1.8**
KRX	**Arik**	**4.36**	**236**	*e*P	**Pn**	**15 43 05.8**	**+0.7**
UGLR	**Uglovaya**	**4.37**	**233**	*e*P	**Pn**	**15 43 07.1**	**+1.8**
AVH	**Avacha**	**4.38**	**234**	*e*P	**Pn**	**15 43 07.3**	**+2.0**
GNL	**Ganaly**	**4.50**	**242**	*e*P	**Pn**	**15 43 09.4**	**+2.4**
DALK	**Dalny**	**4.52**	**232**	*e*P	**Pn**	**15 43 08.3**	**+1.1**
DALK				*e*S	**Sn**	**15 43 58.3**	**-0.9**
TILK	**Tilichiki**	**4.56**	**9**	*e*P	**Pn**	**15 43 09.1**	**+1.4**
TILK				*e*S	**Sn**	**15 44 02.0**	**+1.9**
KRMR	**Karymshinskiy**	**4.94**	**233**	*e*P	**Pn**	**15 43 14.9**	**+2.0**
KRMR				*e*S	**Sn**	**15 44 10.1**	**+0.7**
PETK	**Petropavlovsk-**	**4.96**	**238**	Pn	**Pn**	**15 43 15.1**	**+1.9**
	0.5nm,0.3s,baz=69,slow=18,SNR=22						
PETK				Sn	**Sn**	**15 44 11.1**	**+1.1**
	0.3nm,0.3s,baz=84,slow=34,SNR=3.5						
RUS	**Russkaya**	**5.05**	**228**	*e*P	**Pn**	**15 43 15.0**	**+0.6**
ASAK	**Asacha**	**5.35**	**231**	*e*P	**Pn**	**15 43 20.6**	**+2.0**
KMSK	**Kamenskaya**	**6.57**	**6**	*e*P	**Pn**	**15 43 36.5**	**+1.2**
KMSK				*e*S	**Sn**	**15 44 49.2**	**-0.3**
ILAR	**Eielson Array**	**24.91**	**50**	P	**P**	**15 47 21.8**	**+0.6**
	0.5nm,0.8s,baz=266,slow=9.2,SNR=4.7						
YKA	**Yellowknife Ar**	**39.25**	**46**	P	**P**	**15 49 27.5**	**+1.0**
	0.2nm,0.5s,baz=296,slow=7.7,SNR=2.9						
TXAR	**Lajitas Array**	**67.13**	**71**	P	P	15 52 48.1	-4.0
	0.4nm,1.0s,baz=299,slow=3.7,SNR=3.2						

IDC 24 15:52:02.6±0.5, 36°.19N×141°.28E, h0km, mb4.3/33, mb1 4.4/37, mb1mx4.3/77, mbtmp4.3/37, ML4.2/3, MS4.1/1, Ms1 4.1/1, ms1mx3.2/77, Error ellipse: s-maj=12.8km s-min=11.0km az=127.0
BJI 24 15:52:02.6, 35°.90N×141°.70E, h35km, mb4.5/24, mB5.0/13, Ms4.6/8, Ms7 4.4/8
JMA 24 15:52:04.5±0.1, 36°.20N×141°.35E, h49km±3km, M4.2
JMA Felt I J1.
ISCJB 24 15:52:04.9±0.3, 36°.23N±0°.03×141°.35E±0°.03, h26km, mb4.4/68, Error ellipse: s-maj=4.9km s-min=3.5km az=147.6
NEIC 24 15:52:06.3±1.3, 36°.23N×141°.26E, h22km±9km, mb4.6/17, Error ellipse: s-maj=4.9km s-min=3.8km az=153.0
NEIC Felt at Tokai. Recorded [1 JMA] in Fukushima, Ibaraki and Tochigi.
MOS 24 15:52:07.8±1.0, 36°.56N×141°.22E, h33km, mb4.6/35, Error ellipse: s-maj=8.5km s-min=5.7km az=106.5

ISC 24 15:52:06.1±0.4, 36°.24N±0°.04×141°.41E±0°.05, h26km, n176, σ1s44/182, mb4.5/68, 6C-8D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHOJ	**Chosi**	**0.70**	**220**	P	**Pb**	**15 52 17.6**	**-2.0**
CHOJ				S	**Sb**	**15 52 26.8**	**-2.0**
JHO	**Hitachi**	**0.77**	**299**	P	**Pb**	**15 52 19.0**	**-1.9**
JHO				S	**Sn**	**15 52 30.4**	**-1.6**
JYT	**Yasato**	**0.98**	**270**	P	**Pn**	**15 52 21.5**	**-2.7**
ONAJ	**Iwakimizuishiy**	**0.99**	**331**	P	**Pn**	**15 52 22.1**	**-2.3**
JFK	**Kawauchi**	**1.20**	**339**	P	**Pn**	**15 52 25.2**	**-2.1**
MJAR	**Matsushiro Arr**	**2.60**	**278**	Pn	**Pn**	**15 52 45.7**	**-0.8**
	38nm,0.3s,baz=238,slow=28,SNR=286						
MJAR				Sn	**Sn**	**15 53 15.1**	**-2.1**
	15nm,0.3s,baz=84,slow=11,SNR=7.2						
MAJO	**Matsushiro**	**2.60**	**278**	*e*Pn	**Pn**	**15 52 45.8**	**-0.7**
MAJO	**Matsushiro**	**2.60**	**278**	*d* iP	**Pn**	**15 52 45.8**	**-0.7**
MAT	**Matsushiro**	**2.60**	**278**	P	**Pn**	**15 52 46.0**	**-0.5**
MAT				S	**Sn**	**15 53 17.8**	**+0.6**
MJB9	**Matsu-Tunnel**	**2.60**	**278**	*e*Pn	**Pn**	**15 52 45.7**	**-0.8**
JHJ2	**Mitsune**	**3.38**	**203**	*e*Pn	**Pn**	**15 52 57.2**	**0.0**
JHJ	**Hachijo jima 2**	**3.39**	**204**	Pn	**Pn**	**15 52 56.8**	**-0.5**
	44nm,0.3s,baz=333,slow=23,SNR=18						
JHJ				Sn	**Sn**	**15 53 35.2**	**-1.5**
	95nm,0.3s,baz=236,slow=23,SNR=9.1						
INU	**Inuyama**	**3.68**	**257**	*e*Pn	**Pn**	**15 53 01.5**	**+0.2**
ERM	**Erimo**	**5.92**	**13**	*e*Pn	**Pn**	**15 53 31.4**	**-0.7**
ERM	**Erimo**	**5.92**	**13**	*ce*P	**Pn**	**15 53 34.4**	**+2.3**
ASAJ	**Asahikawa**	**7.92**	**6**	Pn	**Pn**	**15 53 58.5**	**-1.1**
	3.9nm,0.3s,baz=220,slow=10,SNR=39						
ASAJ				Sn	**Sn**	**15 55 27.1**	**-1.1**
	0.5nm,0.3s,baz=90,slow=18,SNR=1.5						
ASAJ	**Asahikawa**	**7.92**	**6**	*e*Pn	**Pn**	**15 53 58.0**	**-1.5**
ASAJ				Sn	**Sn**	**15 55 27.1**	**-1.1**
YUK	**Yuzh-Kuril'sk**	**8.50**	**22**	*e*P	**Pn**	**15 54 04.8**	**-2.6**
YUK				*e*S	**Sn**	**15 55 34.7**	**-7.7**
YUK				pmax	pmax		
	comp=Z,47nm,0.3s						
SHO	**Shikotan**	**8.68**	**27**	*e*P	**Pn**	**15 54 06.2**	**-3.7**
SHO				*e*S	Sn	15 55 36.8	-10
CBIJ	**Chichi jima**	**9.14**	**176**	*e*Pn	**Pn**	**15 54 13.3**	**-3.1**
CBIJ				Sn	Sn	15 55 46.7	-12
JCJ	**Chichijima**	**9.14**	**176**	Pn	**Pn**	**15 54 13.4**	**-2.9**
	comp=Z,22nm,0.3s,baz=340,slow=1.8,SNR=24						
JCJ				Sn	Sn	15 55 46.7	-12
	comp=Z,4.4nm,0.3s,baz=234,slow=19,SNR=2.4						

JNU	**Nakatsue**	**9.21**	**253**	Pn	**Pn**	**15 54 18.4**	**+1.1**
	comp=Z,0.2nm,0.3s,baz=206,slow=13,SNR=2.9						
JNU	**Nakatsue**	**9.21**	**253**	*e*Pn	**Pn**	**15 54 15.3**	**-2.0**
KUR	**Kuril'sk**	**10.23**	**27**	*e*P	**Pn**	**15 54 31.3**	**+0.2**
KUR				*e*S	**Sn**	**15 56 19.1**	**-5.8**
KUR				pmax	pmax		
	comp=Z,272nm,2.8s						
KUR				pmax	pmax		
	comp=Z,13nm,0.9s						
USRK	**Ussuriysk Ar.**	**10.72**	**321**	Pn	**Pn**	**15 54 40.3**	**+2.4**
	comp=Z,0.4nm,0.3s,baz=124,slow=13,SNR=13						
YSS	**Yuzh-Sakhalins**	**10.75**	**5**	*e*Pn	**Pn**	**15 54 36.6**	**-1.7**
YSS	**Yuzh-Sakhalins**	**10.75**	**5**	*e*P	**Pn**	**15 54 37.4**	**-0.9**
YSS				pmax	pmax		
	comp=Z,10.0nm,0.7s						
KSRS	**Korea Array**	**10.87**	**280**	Pn	**Pn**	**15 54 42.8**	**+2.8**
	comp=Z,0.1nm,0.3s,baz=93,slow=15,SNR=5.9						
KSAR	**Wonju Array Be**	**10.90**	**280**	Pn	**Pn**	**15 54 42.8**	**+2.3**
KSAR	**Wonju Array Be**	**10.90**	**280**	P	**Pn**	**15 54 42.8**	**+2.3**
CN2	**Changchun**	**14.36**	**307**	*e*P	**Pn**	**15 55 30.0**	**+2.4**
KLR	**Kul'dur**	**14.78**	**334**	Pn	**Pn**	**15 55 31.8**	**-1.5**
	comp=Z,0.0nm,0.3s,baz=198,slow=20,SNR=5.3						
NJ2	**Nanjing**	**19.12**	**264**	*e*P	**Pn**	**15 56 27.1**	**-0.9**
NJ2				pmax	pmax		
	comp=Z,12nm,0.5s						
ZEA	**Zeya**	**20.09**	**335**	*e*P	**P**	**15 56 35.7**	**-1.8**
ZEA				pmax	pmax		
	comp=Z,14nm,0.9s						
PETK	**Petropavlovsk-**	**20.38**	**29**	P	**P**	**15 56 41.7**	**+1.1**
	comp=Z,2.5nm,0.8s,baz=223,slow=5.3,SNR=6.0						
PET	**Petropavlovsk**	**20.70**	**30**	*e*P	Pn	15 56 46.0	-0.5
PET				pmax	pmax		
	comp=Z,22nm,1.4s						
HHC	**Hu-ho-hao-te**	**23.73**	**290**	*e*P	**P**	**15 57 15.5**	**-0.7**
HHC				pmax	pmax		
	comp=Z,10.0nm,0.9s						
MA2	**Magadan**	**24.13**	**12**	P	**P**	**15 57 20.4**	**+0.8**
	comp=Z,2.3nm,0.6s,baz=200,slow=9.0,SNR=4.3						
XAN	**Xi'an**	**26.59**	**275**	P	**P**	**15 57 42.3**	**0.0**
XAN				pP	pP	15 57 50.6	+0.7
XAN				pmax	pmax		
	comp=Z,6.0nm,0.7s						
YAK	**Yakutsk**	**26.84**	**348**	P	**P**	**15 57 43.9**	**-0.3**
	comp=Z,4.3nm,0.3s,baz=226,slow=1.5,SNR=4.6						
YAK	**Yakutsk**	**26.84**	**348**	*e*P	**P**	**15 57 43.1**	**-1.0**
YAK				pmax	pmax		
	comp=Z,14nm,1.1s						
YAK				pmax	pmax		
	comp=N,6.0nm,1.2s						
SEY	**Seymchan**	**27.57**	**11**	P	**P**	**15 57 52.0**	**+1.4**
	comp=N,1.9nm,0.7s,baz=188,slow=8.9,SNR=8.7						
SEY	**Seymchan**	**27.57**	**11**	*e*P	**P**	**15 57 51.7**	**+1.0**
H11N2	**WAKE ISLAND Hy**	**27.75**	**119**	T	T	16 27 04.1	
	baz=318,slow=75						
H11N1	**WAKE ISLAND Hy**	**27.76**	**120**	T	T	16 26 49.7	
	baz=318						
H11N3	**WAKE ISLAND Hy**	**27.77**	**119**	T	T	16 26 50.5	
	baz=318,slow=75						
BOD	**Bodaibo**	**28.20**	**329**	*e*P	**P**	**15 57 55.4**	**-1.0**
BOD				pmax	pmax		
	comp=Z,4.0nm,1.3s						
SONA1	**Songino Array**	**28.23**	**305**	*e*P	**P**	**15 57 56.8**	**-0.1**
SONM	**Songino Array**	**28.23**	**305**	P	**P**	**15 57 56.7**	**-0.2**
	comp=Z,2.2nm,0.6s,baz=110,slow=9.1,SNR=15						
H11S1	**WAKE ISLAND Hy**	**28.44**	**122**	T	T	16 27 50.1	
	baz=314,slow=75,SNR=426						
H11S3	**WAKE ISLAND Hy**	**28.44**	**122**	T	T	16 27 41.0	
	baz=314,slow=75,SNR=118						
H11S2	**WAKE ISLAND Hy**	**28.46**	**122**	T	T	16 27 51.7	
	baz=314,slow=75,SNR=277						
LZH	**Lanzhou**	**30.20**	**281**	*e*P	**P**	**15 58 17.3**	**+2.7**
LZH				pP	sP	15 58 25.8	+0.3
LZH				sP	pP	15 58 30.5	+8.2
LZH				*e*PP	**PnPn**	**15 59 14.4**	**+1.9**
LZH				*e*S	**S**	**16 03 13.9**	**+1.4**
LZH				sS	sS	16 03 26.8	+1.6
LZH				SS	**SnSn**	**16 04 49.1**	**+2.3**
LZH				pmax	pmax		
	comp=Z,17nm,0.8s						
LZH				pmax	pmax		
	comp=Z,280nm,5.7s						
LZH				LR	LR		
	comp=Z,860nm,14.1s						
LZH				LR	LR		
	comp=Z,900nm,14.5s						
LZH				LR	LR		
	comp=Z,1μm,16.8s						
TLY	**Talaya**	**30.85**	**312**	P	**P**	**15 58 20.7**	**+0.7**
	comp=Z,3.2nm,0.7s,baz=170,slow=6.1,SNR=3.9						
TLY	**Talaya**	**30.85**	**312**	*e*P	**P**	**15 58 20.5**	**+0.5**
TLY				pmax	pmax		
	comp=Z,4.0nm,0.8s						
TLY				MLR	MLR		
	comp=Z,807nm,22.0s						
CD2	**Chengdu**	**31.68**	**271**	*e*P	**P**	**15 58 26.0**	**-1.5**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,120nm,5.0s						
GTA	**Gaotai**	**32.80**	**288**	P	**P**	**15 58 37.3**	**-0.1**
GTA				pP	pP	15 58 44.3	-0.8
GTA				sP	sP	15 58 48.3	0.0
GTA				pmax	pmax		
	comp=Z,5.0nm,0.9s						
BILL	**Bilibino**	**34.79**	**16**	*i* P	**P**	**15 58 52.3**	**-1.8**
BILL				*i*		15 59 02.9	
BILL				*i*		16 01 24.0	
BILL				pmax	pmax		
	comp=Z,1.0nm,1.1s						
DGZ	**Jazzator, Alta**	**40.85**	**307**	*i* P	**P**	**15 59 46.9**	**+1.1**
DGZ				pmax	pmax		
	comp=Z,7.0nm,0.7s						
WMQ	**Urumqi**	**41.20**	**298**	P	**P**	**15 59 50.9**	**+2.3**
WMQ				LR	LR		
	comp=Z,490nm,21.9s						
WMQ				LR	LR		
	comp=Z,1μm,19.5s						
WMQ				LR	LR		
	comp=Z,1μm,20.7s						
CMAR	**Chiang Mai Arr**	**41.30**	**256**	P	**P**	**15 59 49.0**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=54,slow=9.1,SNR=3.1						
ZAA0	**Zalesovo Array**	**42.45**	**313**	*e*P	**P**	**15 59 58.7**	**+0.1**
	comp=Z,6.8nm,0.6s						
ZALV	**Zalesovo Beam**	**42.45**	**313**	P	**P**	**15 59 58.9**	**+0.4**
	comp=Z,6.2nm,0.5s,baz=92,slow=7.1,SNR=25						
ZALV				PcP	**PcP**	**16 01 51.4**	**+0.3**
	comp=Z,1.0nm,0.6s,baz=113,slow=4.2,SNR=4.4						
ZALV	**Zalesovo Beam**	**42.45**	**313**	*e*P	**P**	**15 59 58.6**	**0.0**
ZALV				PcP	**PcP**	**16 01 51.4**	**+0.3**
ZALV	**Zalesovo Beam**	**42.45**	**313**	*e*P	**P**	**15 59 58.6**	**0.0**
ZALV						16 01 51.4	
MK01	**Makanchi Array**	**44.53**	**303**	*e*P	**P**	**16 00 15.6**	**+0.1**
MK31	**Makanchi Array**	**44.54**	**303**	*e*P	**P**	**16 00 15.8**	**+0.3**
MK31	**Makanchi Array**	**44.54**	**303**	*e*P	**P**	**16 00 15.8**	**+0.3**
MKAR	**Makanchi Array**	**44.54**	**303**	P	**P**	**16 00 15.8**	**+0.2**
	comp=Z,1.7nm,0.7s,baz=86,slow=10,SNR=16						
MKAR	**Makanchi Array**	**44.54**	**303**	*e*P	**P**	**16 00 15.9**	**+0.3**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
SVW2	**Sparrevohn**	**46.16**	**37**	*e*P	**P**	**16 00 30.4**	**+2.2**
	comp=Z,15nm,1.5s						
KURK	**Kurchatov**	**46.42**	**309**	*e*P	**P**	**16 00 30.2**	**-0.1**
	comp=Z,15nm,0.6s						
KURK	**Kurchatov**	**46.42**	**309**	*d* iP	**P**	**16 00 30.2**	**-0.1**
KURK				pmax	pmax		
	comp=Z,15nm,0.7s						
KURBB	**Kurchatov Arra**	**46.49**	**309**	P	**P**	**16 00 30.8**	**0.0**
	comp=Z,13nm,0.4s,baz=82,slow=7.6,SNR=111						
RAMN	**Ramite**	**47.06**	**275**	*e*P	**P**	**16 00 36.3**	**+0.3**
	comp=Z,20nm,0.8s						
JIRN	**Jiri**	**47.09**	**276**	*e*P	**P**	**16 00 37.1**	**+0.8**
	comp=Z,21nm,0.8s						
PDGK	**Podgornoye**	**47.14**	**299**	P	**P**	**16 00 36.4**	**+0.1**
PDGK				pmax	pmax		
	comp=Z,10.0nm,0.8s						
GUN	**Gumba**	**47.23**	**276**	*e*P	**P**	**16 00 38.0**	**+0.6**
	comp=Z,26nm,1.0s						
KDAK	**Kodiak Island**	**47.69**	**41**	P	**P**	**16 00 41.3**	**+1.2**
	comp=Z,10nm,0.7s,baz=297,slow=7.8,SNR=8.0						
PKIN	**Phulchoki**	**47.76**	**276**	*e*P	**P**	**16 00 41.5**	**0.0**
	comp=Z,5.8nm,0.7s						
KKN	**Kakani**	**47.76**	**277**	*e*P	**P**	**16 00 41.8**	**+0.4**
	comp=Z,2.5nm,0.4s						
DMN	**Daman**	**47.98**	**276**	*e*P	**P**	**16 00 43.4**	**+0.3**
	comp=Z,3.4nm,0.5s						
GKN	**Gorkha**	**48.19**	**277**	*e*P	**P**	**16 00 44.7**	**+0.1**

	comp=Z,37nm,0.9s						
MLY	**Manley**	**48.52**	**32**	*e*P	**P**	**16 00 48.2**	**+1.6**
	comp=Z,3.9nm,0.8s						
DANN	**Dangsing**	**48.75**	**278**	*e*P	**P**	**16 00 50.0**	**+0.9**
	comp=Z,4.6nm,1.0s						
TARG	**Taragay, Kyrgy**	**48.75**	**297**	*e*P	**P**	**16 00 50.2**	**+1.1**
KDJ	**Kajisay**	**49.09**	**298**	*e*P	**P**	**16 00 51.9**	**+0.5**
	comp=Z,3.2nm,0.7s						
PYUN	**Piuthan**	**49.47**	**278**	*e*P	**P**	**16 00 55.0**	**+0.5**
	comp=Z,62nm,1.1s						
MDM	**Murphy Dome**	**49.59**	**32**	*e*P	**P**	**16 00 56.9**	**+2.2**
	comp=Z,7.4nm,0.8s						
COLA	**College**	**49.75**	**32**	*e*P	**P**	**16 00 58.1**	**+2.2**
COLA				pmax	pmax		
	comp=Z,4.0nm,0.8s						
HDA	**Harding Lake**	**50.15**	**32**	*e*P	**P**	**16 00 59.8**	**+0.9**
	comp=Z,3.2nm,0.8s						
IL1	**Eielson Array**	**50.17**	**32**	*e*P	**P**	**16 01 00.4**	**+1.4**
ILAR	**Eielson Array**	**50.17**	**32**	P	**P**	**16 01 00.3**	**+1.3**
	comp=Z,3.9nm,0.7s,baz=269,slow=6.4,SNR=45						
ILB	**Eielson Array**	**50.17**	**32**	*e*P	**P**	**16 01 00.6**	**+1.5**
KSH	**Kashi**	**50.73**	**295**	P	P	16 01 08.5	+4.7
AAK	**Ala-Archa**	**50.86**	**299**	*e*P	**P**	**16 01 03.9**	**-0.9**
	comp=Z,2.2nm,0.7s						
AAK	**Ala-Archa**	**50.86**	**299**	*e*P	**P**	**16 01 05.2**	**+0.3**
AAK				pmax	pmax		
	comp=Z,3.0nm,1.0s						
OTUK	**Ortayu**	**50.89**	**306**	P	**P**	**16 01 05.1**	**+0.3**
OTUK				pmax	pmax		
	comp=Z,7.0nm,1.2s						
BVAR	**Borovoye Array**	**51.10**	**313**	P	**P**	**16 01 06.6**	**+0.3**
	comp=Z,1.3nm,0.6s,baz=76,slow=6.7,SNR=9.9						
BRVK	**Borovoye**	**51.16**	**313**	*d* iP	**P**	**16 01 06.8**	**+0.1**
BRVK				pmax	pmax		
	comp=Z,6.0nm,1.7s						
DOT	**Dot Lake**	**51.47**	**33**	*e*P	**P**	**16 01 09.9**	**+1.0**
	comp=Z,6.0nm,0.7s						
MNAS	**Manas**	**52.31**	**299**	P	**P**	**16 01 16.5**	**+0.8**
MNAS				pmax	pmax		
	comp=Z,8.0nm,0.9s						
SFK	**Sufi-Kurgan**	**52.37**	**296**	P	**P**	**16 01 17.0**	**+0.7**
SFK				pmax	pmax		
	comp=Z,6.0nm,0.7s						
EGAK	**Eagle**	**52.62**	**32**	*e*P	**P**	**16 01 18.4**	**+1.1**
	comp=Z,2.1nm,0.8s						
LEM	**Lembang**	**53.30**	**224**	P	**P**	**16 01 23.1**	**0.0**
	comp=Z,12nm,0.5s,baz=336,slow=20,SNR=3.3						
KK31	**Karatay Array**	**53.52**	**301**	*e*P	**P**	**16 01 24.4**	**0.0**
KK31	**Karatay Array**	**53.52**	**301**	*e*P	**P**	**16 01 24.4**	**0.0**
INK	**Inuvik**	**55.10**	**27**	P	**P**	**16 01 36.9**	**+1.4**
	comp=Z,2.2nm,0.5s,baz=293,slow=6.3,SNR=19						
INK	**Inuvik**	**55.10**	**27**	*e*P	**P**	**16 01 36.8**	**+1.4**
	comp=Z,8.7nm,1.4s						
INK	**Inuvik**	**55.10**	**27**	*e*P	**P**	**16 01 36.8**	**+1.4**
INK				pmax	pmax		
	comp=Z,9.0nm,1.4s						
WRA	**Warramunga Arr**	**56.28**	**188**	P	**P**	**16 01 43.8**	**-0.6**
	comp=Z,2.0nm,0.7s,baz=5.4,slow=7.5,SNR=17						
ARU	**Arti**	**56.95**	**319**	P	**P**	**16 01 48.7**	**-0.2**
	comp=Z,2.6nm,0.4s,baz=89,slow=5.9,SNR=7.1						
ARU	**Arti**	**56.95**	**319**	*e*P	**P**	**16 01 48.6**	**-0.2**
	comp=Z,4.6nm,0.7s						
ARU	**Arti**	**56.95**	**319**	*d* iP	**P**	**16 01 48.9**	**0.0**
ARU						16 03 50.4	
ARU				S	**S**	**16 09 40.3**	**-0.9**
ARU				SS	**SS**	**16 13 28.8**	**-0.4**
ARU				pmax	pmax		
	comp=Z,7.0nm,1.0s						
AKTO	**Aktyubinsk**	**59.20**	**312**	P	**P**	**16 02 04.7**	**-0.1**
	comp=Z,1.5nm,0.6s,baz=78,slow=12,SNR=4.7						
DLBC	**Dease Lake**	**59.25**	**38**	LR	LR	16 30 04.9	
	comp=Z,165nm,19.7s,baz=264,slow=38						
ASAR	**Alice Springs**	**60.00**	**188**	P	**P**	**16 02 10.7**	**+0.2**
	comp=Z,0.8nm,0.8s,baz=1.0,slow=5.7,SNR=14						
GEYT	**Alibeck**	**64.22**	**299**	P	**P**	**16 02 38.3**	**-0.5**
	comp=Z,1.7nm,0.6s,baz=60,slow=7.2,SNR=4.4						
KLMR	**Klimovskoe**	**64.42**	**328**	*e*P	**P**	**16

	comp=Z,3.0nm,0.9s							
LANS	Liptovska Anna	80.61	326	*e*P		P	16 04 17.8	+1.4
LANS	Liptovska Anna	80.61	326	*e*P		P	16 04 17.8	+1.4
DPC	Dobruska-Polom	81.13	328	*e*P		P	16 04 20.6	+1.5
DPC	Dobruska-Polom	81.13	328	*e*P		P	16 04 20.6	+1.5
VYHS	Vyhne	81.37	325	*e*P		P	16 04 21.6	+1.2
VYHS	Vyhne	81.37	325	*e*P		P	16 04 21.6	+1.2
VYHS				pmax	pmax			
	comp=Z,1.0nm,0.7s							
CLL	Collm	81.78	330	*e*P		P	16 04 23.0	+0.6
	comp=Z,5.0nm,0.6s							
CLL				*e*sP		sP	16 04 34.0	+0.1
CLL	Collm	81.78	330	*e*P		P	16 04 23.0	+0.6
CLL				*e*			16 04 34.0	
CLL				pmax	pmax			
	comp=Z,24nm,0.6s							
KHC	Kasperske Hory	83.22	329	*e*P		P	16 04 31.1	+1.1
KHC	Kasperske Hory	83.22	329	*e*P		P	16 04 31.1	+1.1
GERES	GERESS Array B	83.38	328	P		P	16 04 31.0	0.0
	comp=Z,0.9nm,0.5s,baz=45,slow=5.8,SNR=5.9							
GERES	GERESS Array B	83.38	328	*e*P		P	16 04 31.7	+0.7
GERES				pmax	pmax			
	comp=Z,1.0nm,0.5s							
BCLA	Clavier	85.43	334	⇑P		P	16 04 39.6	-1.6
TXAR	Lajitas Array	90.61	52	P		P	16 05 07.6	+1.1
	comp=Z,0.7nm,0.7s,baz=295,slow=3.2,SNR=11							
TXAR	Lajitas Array	90.61	52	*e*P		P	16 05 07.8	+1.3
TXAR				pmax	pmax			
	comp=Z,1.0nm,0.7s							
LPAZ	La Paz	147.09	61	PKPbc		PKPbc	16 11 48.3	+0.4
	comp=Z,2.5nm,0.6s,baz=278,slow=0.1,SNR=6.0							

DDA ***24*** *15:52:46.1, 39.°08N× 29.°16E, h7km, Ml2.7*
ISK ***24*** *15:52:46.6, 39.°11N× 29.°11E, h5km, ML2.6/14*
CSEM ***24*** *15:52:46.5± 0.1, 39.°10N× 29.°15E, h2km, ML2.6, Error ellipse: s-maj=2.8km s-min=2.4km az=130.0*

ISC 24 15:52:46.6± 1.1, 39.°11N± 0.°02× 29.°16E± 0.°02, h3km± 13km, n49, σ0.°45/59, Turkey

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
SIMA	Simav-Kutahya	0.14	261	PG	Pg		15 52 49.7	+0.3
SIMA				SG	Sg		15 52 51.6	+0.3
SIMA	Simav-Kutahya	0.14	261	*e*Pg	Pg		15 52 49.7	+0.3
SIMA				*e*Sg	Sg		15 52 51.6	+0.3
GDZ	Gediz	0.25	94	*i* P	Pg		15 52 51.0	-0.4
GDZ				*i* S	Sg		15 52 54.9	+0.3
GDZ	Gediz	0.25	94	P	Pg		15 52 51.0	-0.4
GDZ				S	Sg		15 52 54.9	+0.3
DEMI	Demirci	0.35	260	*i* P	Pg		15 52 53.4	0.0
DEMI				*i* S	Sg		15 52 58.2	+0.2
DEMI	Demirci	0.35	260	P	Pg		15 52 53.4	0.0
DEMI				S	Sg		15 52 58.2	+0.2
TVSB	Tavsanli	0.41	34	PG	Pg		15 52 53.8	-0.8
TVSB	Tavsanli	0.41	34	*e*Pg	Pg		15 52 53.8	-0.8
KULA	Kula-Manisa	0.71	214	PG	Pg		15 53 00.0	-0.2
KULA	Kula-Manisa	0.71	214	*e*Pg	Pg		15 53 00.0	-0.2
DURS	Dursunbey	0.73	313	*i* P	Pg		15 53 00.6	0.0
DURS	Dursunbey	0.73	313	P	Pg		15 53 00.6	0.0
MANT	Manisa	0.78	218	*i* P	Pg		15 53 00.8	-0.6
MANT				*i* S	Sg		15 53 11.1	-0.4
MANT	Manisa	0.78	218	P	Pg		15 53 00.9	-0.6
MANT				S	Sg		15 53 11.1	-0.4
KHAL	Karahalli	0.78	161	*i* P	Pg		15 53 01.8	+0.3
KHAL				*i* S	Sg		15 53 12.1	+0.6
KHAL	Karahalli	0.78	161	P	Pg		15 53 01.8	+0.3
KHAL				S	Sg		15 53 12.1	+0.6
ORLT	Orhaneli	0.96	348	PG	Pg		15 53 05.4	+0.4
ORLT	Orhaneli	0.96	348	*e*Pg	Pg		15 53 05.4	+0.4
BALB	Balikesir	1.13	299	PN	Pg		15 53 08.2	0.0
BALB	Balikesir	1.13	299	*e*Pn	Pg		15 53 08.2	0.0
IGD	Bursa	1.16	1	*i* P	Pg		15 53 08.7	-0.1
CAVI	Cavuskoy	1.22	25	PN	Pn		15 53 10.7	+0.2
CAVI	Cavuskoy	1.22	25	*e*Pn	Pn		15 53 10.7	+0.2
SHUT	Suhut-Afyon	1.22	117	PN	Pn		15 53 10.9	+0.3
SHUT	Suhut-Afyon	1.22	117	*e*Pn	Pn		15 53 10.9	+0.3
BORA	Eskisehir	1.26	52	*i* P	Pg		15 53 10.6	-0.2
BORA	Eskisehir	1.26	52	P	Pg		15 53 10.6	-0.2
MDNY	Mudanya-Bursa	1.28	350	PN	Pb		15 53 11.2	-0.1
MDNY	Mudanya-Bursa	1.28	350	*e*Pn	Pb		15 53 11.2	-0.1
KCTX	Karacabey (Bur	1.32	332	PN	Pn		15 53 11.2	-0.7
KCTX	Karacabey (Bur	1.32	332	*e*Pn	Pn		15 53 11.2	-0.7
ADVT	Abdulvahap	1.40	18	PN	Pg		15 53 13.6	+0.2
ADVT	Abdulvahap	1.40	18	*e*Pn	Pg		15 53 13.6	+0.2
YLV	Yalova	1.47	6	PN	Pb		15 53 14.3	-0.3
YLV	Yalova	1.47	6	*e*Pn	Pb		15 53 14.3	-0.3
ARMT	Armutlu	1.48	351	PN	Pb		15 53 14.6	-0.1
ARMT	Armutlu	1.48	351	*e*Pn	Pb		15 53 14.6	-0.1
GONE	Gonen-Balikesi	1.48	310	PN	Pb		15 53 14.3	-0.4
GONE	Gonen-Balikesi	1.48	310	*e*Pn	Pb		15 53 14.3	-0.4
EDC	Edincik	1.59	321	PN	Pb		15 53 16.0	-0.7
EDC	Edincik	1.59	321	*e*Pn	Pb		15 53 16.0	-0.7
BUY	Buyukada	1.75	359	PN	Pn		15 53 18.3	+0.6
BUY	Buyukada	1.75	359	*e*Pn	Pn		15 53 18.3	+0.6
HRT	Hereke	1.76	13	PN	Pn		15 53 18.5	+0.5
HRT	Hereke	1.76	13	*e*Pn	Pn		15 53 18.5	+0.5
SVRH	Sivrihisar-ESK	1.86	79	PN	Pb		15 53 20.6	-0.7
SVRH	Sivrihisar-ESK	1.86	79	*e*Pn	Pb		15 53 20.6	-0.7
MDUB	Mudurnu	2.08	48	PN	Pn		15 53 23.5	+1.1
MDUB	Mudurnu	2.08	48	*e*Pn	Pn		15 53 23.5	+1.1

IDC ***24*** *15:57:39.5± 1.6, 25.°35N× 142.°15E, h0km, mb3.7/5, mb1 3.8/5, mb1mx3.3/66, mbtmp3.7/5, Error ellipse: s-maj=73.6km s-min=17.4km az=88.0*

ISC 24 15:57:44.1± 2.0, 25.°3N± 0.°1× 142.°4E± 0.°7, h35km, n6, σ0.°98/7, mb3.8/5, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
JCJ	Chichijima	1.77	354	Pn	Pn		15 58 11.3	-0.8
	43nm,0.3s,baz=55,slow=20,SNR=20							
JCJ				Sn	Sn		15 58 34.9	+1.5
	54nm,0.3s,baz=284,slow=23,SNR=8.3							
WRA	Warramunga Arr	45.68	191	P	P		16 06 02.5	+0.9
	0.5nm,0.4s,baz=9.8,slow=8.7,SNR=14							
ASAR	Alice Springs	49.40	190	P	P		16 06 30.5	+0.1
	0.2nm,0.7s,baz=8.6,slow=6.8,SNR=3.1							
KURBB	Kurchatov Arra	54.40	315	P	P		16 07 07.3	-0.1
	0.5nm,0.5s,baz=90,slow=8.7,SNR=4.1							
BVAR	Borovoye Array	59.46	318	P	P		16 07 43.4	0.0
	0.6nm,0.5s,baz=82,slow=6.3,SNR=7.2							
FINES	FINESS Array B	79.60	334	P	P		16 09 46.8	-0.5
	0.9nm,0.5s,baz=57,slow=7.0,SNR=6.5							

IDC 24 15:59:09.4± 7.8, 25.°73S× 175.°15W, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.5/40, mbtmp3.7/3, Error ellipse: s-maj=374.3km s-min=56.3km az=153.0, South of Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
ASAR	Alice Springs	46.10	261	P	P		16 07 36.1	+0.5
	0.7nm,0.9s,baz=97,slow=6.6,SNR=5.7							
WRA	Warramunga Arr	46.69	266	P	P		16 07 39.2	-1.0
	0.6nm,0.7s,baz=106,slow=8.0,SNR=4.4							
CMAR	Chiang Mai Arr	94.29	288	P	P		16 12 31.8	+0.6
	0.4nm,0.5s,baz=128,slow=3.8,SNR=5.1							
AKASG	Malin Array Be	148.84	330	PKPbc	PKPbc		16 18 57.8	-0.9
	0.2nm,0.3s,baz=42,slow=4.3,SNR=2.2							

IDC ***24*** *16:09:12.8± 1.2, 5.°68S× 151.°34E, h0km, mb3.8/7, mb1 4.0/8, mb1mx3.6/54, mbtmp3.8/8, ML2.1/1, MS4.0/1, Ms1 4.0/1, ms1mx3.1/43, Error ellipse: s-maj=57.5km s-min=19.3km az=129.0*
ISCJB ***24*** *16:09:17.0± 0.8, 5.°8S± 0.°1× 151.°3E± 0.°1, h41km, mb3.7/8, MS3.9/1, Error ellipse: s-maj=24.1km s-min=9.6km az=39.5*
NEIC ***24*** *16:09:20.4± 3.4, 5.°86S× 151.°36E, h59km± 30km, mb4.0/2, Error ellipse: s-maj=29.0km s-min=22.6km az=119.0*

ISC 24 16:09:18.4± 0.8, 5.°8S± 0.°1× 151.°4E± 0.°2, h41km, n15, σ1.°58/16, mb3.7/8, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
PMG	Port Moresby	5.48	230	Pn	Pn		16 10 38.4	+0.8
	4.0nm,0.3s,baz=52,slow=12,SNR=14							
PMG				Sn	Sn		16 11 39.9	+0.4
	6.5nm,0.3s,baz=122,slow=16,SNR=8.7							
PMG	Port Moresby	5.48	230	*e*P	Pn		16 10 40.3	+2.6
PMG				Sn	Sn		16 11 39.9	+0.4
COEN	Coen	11.41	224	Pn	Pn		16 11 55.6	-3.5
CTAO	Charters Tower	15.01	199	*e*P	Pn		16 12 46.3	-1.6
EIDS	Eidsvold	19.42	181	*e*P	P		16 13 43.0	+1.6
	19nm,1.4s							
WRAB	Tennant Creek	21.69	228	*e*P	P		16 14 06.3	+0.3
	3.0nm,0.7s							
WRA	Warramunga Arr	21.70	228	P	P		16 14 06.1	0.0
	1.6nm,0.5s,baz=53,slow=11,SNR=29							
ASAR	Alice Springs	24.43	222	P	P		16 14 34.8	+1.3
	1.1nm,0.6s,baz=55,slow=9.3,SNR=27							
BATI	Baumata	27.78	259	LR	LR		16 29 06.0	
	comp=Z,267nm,18.3s,baz=51,slow=43							
FITZ	Fitzroy Crossi	27.92	242	P	P		16 15 04.2	-0.8
	1.1nm,0.5s,baz=78,slow=10							
SONM	Songino Array	66.47	329	P	P		16 20 04.1	+0.2
	0.3nm,0.5s,baz=142,slow=5.4,SNR=2.5							
ILAR	Eielson Array	83.65	22	P	P		16 21 41.0	-1.4
	0.3nm,0.5s,baz=249,slow=5.4,SNR=5.4							
NVAR	Mina Array Bea	93.83	52	P	P		16 22 33.6	+1.6
	0.6nm,0.8s,baz=267,slow=7.1,SNR=5.3							
YKA	Yellowknife Ar	97.00	28	P	P		16 22 45.3	-0.3
	0.2nm,0.8s,baz=268,slow=4.9,SNR=3.2							
TORD	Torodi Ar. Bea	149.26	286	PKPbc	PKPbc		16 29 03.5	-0.3
	4.0nm,0.9s,baz=70,slow=2.5,SNR=19							

IDC 24 16:09:38.5± 8.3, 23.°91S× 176.°70W, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.5/49, mbtmp3.7/4, Error ellipse: s-maj=274.6km s-min=98.5km az=147.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
CTA	Charters Tower	34.50	269	P	P		16 16 29.5	+1.0
	0.7nm,0.4s,baz=87,slow=12,SNR=4.4							
ASAR	Alice Springs	45.01	260	P	P		16 17 55.8	-0.3
	0.9nm,1.1s,baz=90,slow=7.4,SNR=5.2							
WRA	Warramunga Arr	45.42	265	P	P		16 17 58.4	-1.0
	0.3nm,0.7s,baz=103,slow=8.2,SNR=6.5							
CMAR	Chiang Mai Arr	92.37	289	P	P		16 22 51.6	+0.1
	0.6nm,0.9s,baz=140,slow=3.5,SNR=4.6							

MEX 24 16:10:49.3± 0.3, 14.°95N× 93.°24W, h20km± 44km, MD3.6, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
PCIG		0.75	2	*e*P	Pb		16 11 01.2	-2.4
PCIG				*e*S	Sb		16 11 10.7	-2.7

ISCJB ***24*** *16:15:13.6± 1.1, 57.°0S± 0.°2× 23.°2W± 0.°6, h10km, mb4.1/2, Error ellipse: s-maj=46.6km s-min=15.0km az=158.5*
IDC ***24*** *16:15:13.7± 1.3, 56.°98S× 23.°16W, h0km, mb4.1/2, mb1 4.1/3, mb1mx3.7/29, mbtmp4.0/3, ML3.7/1, MS3.2/1, Ms1 3.2/1, ms1mx3.1/29, Error ellipse: s-maj=48.9km s-min=38.5km az=48.0*

ISC 24 16:15:14.8± 1.0, 57.°1S± 0.°2× 23.°1W± 0.°3, h10km, n9, σ0.°62/9, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
VNA3	Neumayer Olymp	15.34	163	P	Pn		16 18 51.4	+0.4
VNA2	Neumayer--Watz	15.45	160	P	Pn		16 18 52.0	-0.5
	baz=324,slow=15							
SNAA	Sanae	16.93	158	P	P		16 19 13.9	+0.3
SNAA	Sanae	16.93	158	P	P		16 19 13.8	+0.3
	0.2nm,0.3s,baz=326,slow=15,SNR=13							
SNAA				LR	LR		16 24 27.6	
	comp=Z,83nm,20.5s,baz=161,slow=33							
LPAZ	La Paz	52.81	302	P	P		16 24 31.1	+0.1
	1.3nm,0.5s,baz=136,slow=5.8,SNR=5.6							
TORD	Torodi Ar. Bea	72.92	25	P	P		16 26 44.5	+0.5
	1.6nm,0.7s,baz=197,slow=6.5,SNR=12							
YKA	Yellowknife Ar	138.44	316	PKP	PKPdf		16 34 38.2	-0.7
	0.1nm,0.4s,baz=126,slow=1.8,SNR=3.8							
SONM	Songino Array	148.56	85	PKPbc	PKPbc		16 35 00.1	-1.0
	0.3nm,0.5s,baz=208,slow=2.2,SNR=2.9							
ILAR	Eielson Array	152.48	310	PKPbc	PKPbc		16 35 09.9	+0.2
	0.3nm,0.7s,baz=110,slow=2.2,SNR=4.0							

IDC ***24*** *16:16:26.2± 0.5, 1.°70S× 134.°39E, h0km, mb4.2/18, mb1 4.4/22, mb1mx4.2/54, mbtmp4.4/22, ML4.5/3, MS3.8/10, Ms1 3.8/10, ms1mx3.5/49, Error ellipse: s-maj=16.1km s-min=11.4km az=69.0*
ISCJB ***24*** *16:16:29.0± 0.3, 1.°75S± 0.°03× 134.°25E± 0.°03, h29km, mb4.3/30, MS3.9/8, Error ellipse: s-maj=4.6km s-min=4.5km az=142.4*
DJA ***24*** *16:16:30.3± 0.4, 2.°S± 3.°× 13.°4E± *, h16km± 5km, M4.8/20, mb4.9/20, mB5.3/11, MLv5.0/13, Mw(mB)4.7/11, Mwp5.7/1*
NEIC ***24*** *16:16:31.2± 0.2, 1.°76S× 134.°35E, h35km, mb4.5/12, Error ellipse: s-maj=5.7km s-min=4.2km az=75.0*

ISC 24 16:16:30.5± 0.4, 1.°74S± 0.°04× 134.°34E± 0.°05, h29km, n104, σ1.°69/106, mb4.4/30, MS3.9/8, 1C, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
RKPI	Ransiki, Papua	0.28	324	P	Pb		16 16 33.7	-3.9
KMPI	Kaimana, Papua	2.01	198	P	Pb		16 17 05.4	-1.0
KMPI				S	Sb		16 17 31.8	+0.7
FAKI	Fak Fak	2.40	241	P	Pn		16 17 08.5	+0.7
FAKI				S	Sn		16 17 37.8	+1.6
FAKI	Fak Fak	2.40	241	*e*Pn	Pn		16 17 08.6	+0.7
SIJI	Sorong	3.19	286	Pn	Pn		16 17 17.2	-1.6
	50nm,0.3s,baz=86,slow=13,SNR=173							
SIJI				Pg	Pb		16 17 26.5	0.0
	166nm,0.3s,baz=83,slow=12,SNR=32							
SIJI				Sn	Sn		16 17 53.4	-2.5
	284nm,0.3s,baz=271,slow=23,SNR=20							
SIJI				Lg	Lg		16 18 07.2	
	176nm,0.3s,baz=296,slow=21,SNR=9.4							
BNDI	Bandanaira	5.22	238	P	Pn		16 17 47.1	+0.4
BNDI				S	Sn		16 18 47.1	+1.1
MSAI	Masohi	5.64	253	P	Pn		16 17 52.5	+0.1
	46nm,0.5s,40μm							
GENI	Genyem	5.88	98	P	Pn		16 17 59.2	+3.4
JAY	Jayapura	6.41	97	P	Pn		16 18 07.3	+4.3
AAI	Ambon	6.44	252	P	Pn		16 18 02.6	-0.8
SAUI	Saumlaki	6.90	206	P	Pn		16 18 12.5	+2.7
LBMI	Labuha	6.92	279	P	Pn		16 18 08.6	-1.5
NLAI	Namlea	7.39	258	P	Pn		16 18 16.3	-0.1
TNTI	Ternate	7.41	290	*e*Pn	Pn		16 18 12.6	-4.2
SANI	Sanana	8.35	268	P	Pn		16 18 28.0	-1.7
KMSI	Cibinong	10.61	282	P	Pn		16 18 59.1	-1.6
MTN	Manton Dam	11.48	196	*e*Pn	Pn		16 19 12.2	-0.4
LUWI	Luwuk	11.59	273	P	Pn		16 19 13.4	-0.6
LUWI	Luwuk	11.59	273	*e*Pn	Pn		16 19 13.2	-0.9
KDI	Kendari	11.91	259	P	Pn		16 19 17.9	-0.6
	21nm,1.1s							
DAV	Davao City (W)	12.37	315	LR	LR		16 23 53.2	
	comp=Z,237nm,19.2s,baz=147,slow=36							
MRSI	Marisa	12.59	280	P	Pn		16 19 26.3	-1.5
APSI	Ampana	12.71	274	P	Pn		16 19 28.7	-0.8
SOEI	Soe	12.80	231	P	Pn		16 19 31.2	+0.5
SOEI	Soe	12.80	231	*e*Pn	Pn		16 19 30.1	-0.6
BATI	Baumata	13.54	231	Pn	Pn		16 19 39.6	-1.2
	2.3nm,0.3s,baz=154,slow=1.1,SNR=11							
BATI	Baumata	13.54	231	P	Pn		16 19 36.2	-4.6
EDFI	Ende, Flores	14.39	241	P	Pn		16 19 52.3	-0.2
BNSI	Bone	14.46	259	P	Pn		16 19 51.8	-1.5
BSSI	Bau Bau, Buton	14.49	252	P	Pn		16 19 53.2	-0.6
PCI	Palu	14.52	273	P	Pn		16 19 53.2	-1.0
TTSI	Tana Toraja	14.57	265	P	Pn		16 19 52.8	-2.0
MPSI	Mapaga	14.59	278	P	Pn		16 19 53.0	-2.1
BKSI	Bulukumba	14.63	256	P	Pn		16 19 54.9	-0.7
PMG	Port Moresby	14.85	121	LR	LR		16 26 38.6	
	comp=Z,357nm,19.7s,baz=282,slow=41							
COEN	Coen	14.96	145	*e*Pn	Pn		16 20 00.5	+0.4
RABL	Rabaul	17.96	98	*e*Pn	Pn		16 20 36.4	-1.9
	33nm,1.2s							
WRAB	Tennant Creek	18.08	180	*e*Pn	P		16 20 39.1	-0.9
	18nm,0.9s							
WB2	Warramunga Arr	18.09	180	*e*Pn	P		16 20 39.6	-0.4
WRA	Warramunga Arr	18.09	180	P	Pn		16 20 38.5	-1.4
	2.0nm,0.3s,baz=360,slow=11,SNR=132							
WRA				S	Sn		16 23 52.1	-8.9
	0.2nm,0.3s,baz=6.3,slow=21,SNR=4.3							
WRA				LR	LR		16 27 50.1	
	comp=Z,215nm,22.0s,baz=40,slow=38							
FITZ	Fitzroy Crossi	18.36	207	P	Pn		16 20 43.1	0.0
	baz=40,slow=12							
KKM	Kota Kinabalu	19.68	293	*e*P	Pn		16 20 58.0	-1.2
	12nm,0.8s							
CTA	Charters Tower	21.64	148	P	P		16 21 19.0	+0.4
	6.8nm,0.9s,baz=314,slow=10,SNR=11							
CTAO	Charters Tower	21.64	148	*e*P	P		16 21 18.7	0.0
	7.6nm,0.9s							
AS01	Alice Springs	21.80	181	*e*P	P		16 21 20.3	-0.1
AS31	Alice Springs	21.80	181	*e*P	P		16 21 20.3	-0.1
	9.0nm,0.9s							
ASAR	Alice Springs	21.80	181	P	P		16 21 20.5	+0.1
	8.9nm,0.6s,baz=9.0,slow=10,SNR=131							
ASAR				S	S		16 25 19.4	-0.8
	9.5nm,1.1s,baz=7.1,slow=22,SNR=13							
ASAR				LR	LR		16 30 08.1	
	comp=Z,315nm,22.0s,baz=4.5,slow=38							
MBWA	Marble Bar	23.99	215	*e*P	P		16 21 43.1	+0.4
	144nm,1.9s							
KSM	Kuching	24.24	277	*e*P	P		16 21 45.3	+0.1
	24nm,0.8s							
SMRI	Semarang	24.40	257	*e*P	P		16 21 46.6	-0.1
	93nm,0.8s							
LEM	Lembang	27.11	258	P	P		16 22 12.8	+1.4
	20nm,0.7s,baz=80,slow=5.4,SNR=6.5							
STKA	Stephens Creek	30.75	168	P	P		16 22 42.9	-0.5
	7.6nm,0.9s,baz=344,slow=9.7,SNR=12							
STKA				LR	LR		16 36 37.2	
	comp=Z,276nm,18.5s,baz=342,slow=39							
STKA	Stephens Creek	30.75	168	*e*P	P		16 22 42.9	-0.5
	2.2nm,0.9s							
JNU	Nakatsue	34.83	355	P	P		16 23 18.1	-1.0
	6.2nm,0.9s,baz=162,slow=8.9,SNR=4.6							
JHJ	Hachijo jima 2	35.05	8	LR	LR		16 38 01.2	
	comp=Z,196nm,18.2s,baz=159,slow=37							
NJ2	Nanjing	36.67	338	*e*P	P		16 23 35.0	+0.2
NJ2				pmax	pmax			
	comp=Z,10.0nm,0.5s							
DZM	Mont Dzumac	37.19	125	LR	LR		16 40 49.1	
	comp=Z,125nm,18.5s,baz=351,slow=39							
KSAR	Wonju Array Be	39.44	352	P	P		16 23 58.4	+0.3
KSRS	Korea Array	39.45	352	P	P		16 23 58.4	+0.3
	comp=Z,1.3nm,0.8s,baz=159,slow=7.6,SNR=5.1							
KSRS				LR	LR		16 41 52.0	
	comp=Z,54nm,18.1s,baz=320,slow=39							
CM01	Chiang Mai Arr	40.16	302	*e*P	P		16 24 05.0	+0.6
CMAR	Chiang Mai Arr	40.19	302	P	P		16 24 05.5	+0.8
	comp=Z,3.4nm,0.9s,baz=122,slow=6.8,SNR=16							
CMAR				PcP	PcP		16 26 08.8	+0.2
	comp=Z,0.5nm,0.6s,baz=118,slow=1.9,SNR=4.0							
CHTO	Chiang Mai	40.35	302	*e*P	P		16 24 05.2	-0.8
XAN	Xi'an	42.87	328	P	P		16 24 25.8	-0.7
XAN				pP	pP		16 24 30.8	-4.4
XAN				pmax	pmax			
	comp=Z,5.0nm,0.8s							
USRK	Ussuriysk Ar.	45.78	358	P	P		16 24 49.6	+0.1
	comp=Z,5.4nm,1.0s,baz=163,slow=6.0,SNR=5.5							
CN2	Changchun	46.03	351	*e*P	P		16 24 54.3	+2.8
LZH	Lanzhou	47.16	326	*e*P	P		16 25 02.9	+2.2
LZH				pP	pP		16 25 07.0	-2.5
LZH				sP	sP		16 25 10.3	-2.6
LZH				*e*PP	PP		16 26 56.6	+4.7
LZH				pmax	pmax			
	comp=Z,19nm,0.9s							
LZH				pmax	pmax			
	comp=Z,290nm,5.7s							
LZH				LR	LR			
	comp=N,54nm,14.3s							
LZH				LR	LR			
	comp=E,62nm,14.0s							
LZH				LR	LR			
	comp=Z,85nm,16.8s							
HHC	Hu-ho-hao-te	47.20	336	*e*P	P		16 25 01.3	+0.5
HHC				pmax	pmax			
	comp=Z,17nm,1.1s							
HHC				pmax	pmax			
	comp=Z,28nm,6.4s							
KLR	Kul'dur	50.82	358	P	P		16 25 28.1	-0.2
	comp=Z,0.3nm,0.9s,baz=192,slow=3.4,SNR=7.3							
GTA	Gaotai	51.76	326	⇑P	P		16 25 40.5	+4.8
GTA				pP	sP		16 25 49.3	+1.2
GTA				sP	pP		16 25 53.0	+8.4
GTA				pmax	pmax			
	comp=Z,3.0nm,1.5s							
RPZ	Rata Peaks	53.00	147	LR	LR		16 45 55.2	
	comp=Z,125nm,19.1s,baz=345,slow=33							
ODAN	Odare	53.42	306	*e*P	P		16 25 50.8	+2.5
	comp=Z,9.9nm,0.6s							
RAMN	Ramite	54.10	305	*e*P	P		16 25 56.3	+3.0
	comp=Z,4.8nm,0.4s							
JIRN	Jiri	54.72	306	*e*P	P		16 25 59.2	+1.2
	comp=Z,20nm,1.2s							
SON

OFUJ	**Ofunato**	**0.88**	**348**	P	**Pb**	**16 27 48.5 +0.1**
OFUJ				S	**Sb**	**16 27 59.2 -0.6**
JMK	**Ichinoseki**	**0.91**	**324**	P	**Pb**	**16 27 49.1 +0.2**
JMK				S	**Sb**	**16 28 00.5 -0.1**
JMM	**Marumori**	**0.95**	**249**	P	**Pn**	**16 27 49.5 +0.3**
JMM				S	**Sb**	**16 28 01.2 -0.6**
JOU	**Okura**	**0.99**	**279**	P	**Pn**	**16 27 50.4 +0.6**
JFK	**Kawauchi**	**1.18**	**224**	P	**Pn**	**16 27 53.1 +0.6**
JFK				S	**Sn**	**16 28 07.7 0.0**
JOM	**Ohasama**	**1.34**	**339**	P	**Pn**	**16 27 55.2 +0.6**
JOM				S	**Sn**	**16 28 11.3 -0.3**
JYK	**Kaneyama**	**1.40**	**300**	P	**Pn**	**16 27 55.8 +0.3**
JYK				S	**Sn**	**16 28 12.8 -0.3**
JFT	**Otama**	**1.43**	**241**	P	**Pn**	**16 27 56.9 +1.1**
JFT				S	**Sn**	**16 28 14.0 +0.3**
JYS	**Shirataka**	**1.45**	**271**	P	**Pn**	**16 27 57.0 +0.8**
JYS				S	**Sn**	**16 28 14.3 0.0**
JRG	**Rokugo**	**1.54**	**320**	P	**Pn**	**16 27 58.3 +0.9**
JYA	**Atsumi**	**1.77**	**283**	P	**Pn**	**16 28 01.2 +0.7**
MJAR	**Matsushiro Arr**	**3.39**	**242**	P	**Pn**	**16 28 26.1 +3.2**
	1.4nm,0.3s,baz=51,slow=10.0,SNR=16					
MAT	**Matsushiro**	**3.39**	**242**	P	**Pn**	**16 28 27.2 +4.4**
MAT				S	**Sb**	**16 29 09.0 -2.9**
JHJ	**Hachijo jima 2**	**5.38**	**199**	P	**Pn**	**16 28 51.3 +1.2**
	4.7nm,0.3s,baz=41,slow=20,SNR=6.9					
JHJ				S	**Sn**	**16 29 50.7 -0.4**
	7.4nm,0.3s,baz=66,slow=15,SNR=2.7					
ASAJ	**Asahikawa**	**5.91**	**5**	P	**Pn**	**16 28 57.7 +0.2**
	0.7nm,0.3s,baz=180,slow=20,SNR=9.5					
ASAJ				S	**Sn**	**16 30 03.7 -0.6**
	0.4nm,0.3s,baz=183,slow=17,SNR=3.9					
USRK	**Ussuriysk Ar.**	**9.57**	**312**	P	**Pn**	**16 29 49.8 +2.2**
	0.3nm,0.3s,baz=121,slow=14,SNR=3.0					
SEY	**Seymchan**	**25.55**	**11**	P	**P**	**16 32 57.5 -0.4**
	0.4nm,0.4s,baz=216,slow=17,SNR=6.0					
H11N2	**WAKE ISLAND Hy**	**28.44**	**123**	T	T	17 03 46.6
	baz=316,slow=75,SNR=67					
H11N1	**WAKE ISLAND Hy**	**28.45**	**123**	T	T	17 03 41.2
	baz=316,slow=75,SNR=76					
H11N3	**WAKE ISLAND Hy**	**28.46**	**123**	T	T	17 03 41.7
	baz=316,slow=75,SNR=67					
H11S1	**WAKE ISLAND Hy**	**29.20**	**125**	T	T	17 04 37.2
	baz=318,slow=76,SNR=61					
H11S3	**WAKE ISLAND Hy**	**29.20**	**125**	T	T	17 04 37.1
	baz=318,slow=76,SNR=81					
H11S2	**WAKE ISLAND Hy**	**29.21**	**125**	T	T	17 04 38.4
	baz=318,slow=76,SNR=74					
KURBB	**Kurchatov Arra**	**45.59**	**307**	P	**P**	**16 35 48.4 -0.8**
	0.6nm,0.4s,baz=82,slow=8.2,SNR=3.6					
BVAR	**Borovoye Array**	**50.07**	**312**	P	**P**	**16 36 25.0 +1.0**
	0.2nm,0.4s,baz=68,slow=8.0,SNR=2.7					
WRA	**Warramunga Arr**	**58.29**	**188**	P	**P**	**16 37 22.8 -1.2**
	0.4nm,0.6s,baz=5.7,slow=7.1,SNR=6.6					
ASAR	**Alice Springs**	**62.02**	**188**	P	**P**	**16 37 48.7 -0.8**
	0.2nm,0.6s,baz=19,slow=6.2,SNR=4.8					
TXAR	**Lajitas Array**	**89.09**	**53**	P	**P**	**16 40 24.8 0.0**
	0.1nm,0.5s,baz=321,slow=1.2,SNR=3.1					

IDC 24 16:34:49.7±1.4,1°19N×91°64E,h0km,mb3.7/5,mb1 3.9/6, mb1mx3.4/63,mbtmp3.6/6,ML3.7/1,Error ellipse: s-maj=52.7km s-min=21.8km az=59.0,North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**18.60**	**22**	P	Pn	16 39 09.5	+0.6
	0.1nm,0.3s,baz=214,slow=13,SNR=7.2						
MKAR	**Makanchi Array**	**46.15**	**351**	P	P	16 43 15.1	-0.9
	0.4nm,0.7s,baz=166,slow=9.0,SNR=3.3						
WRA	**Warramunga Arr**	**46.82**	**119**	P	P	16 43 20.2	-1.6
	0.7nm,0.6s,baz=296,slow=8.8,SNR=9.4						
ASAR	**Alice Springs**	**47.92**	**124**	P	P	16 43 31.1	+0.8
	0.4nm,1.0s,baz=306,slow=7.6,SNR=3.4						
ASAR				PcP	PcP	16 44 58.8	-0.1
	0.2nm,0.8s,baz=297,slow=2.8,SNR=3.4						
SONM	**Songino Array**	**48.20**	**13**	P	P	16 43 31.9	-0.3
	1.3nm,0.7s,baz=188,slow=9.0,SNR=7.2						
GERES	**GERESS Array B**	**81.17**	**319**	P	P	16 47 07.5	-0.1
	1.7nm,0.8s,baz=46,slow=4.2,SNR=7.7						
TXAR	**Lajitas Array**	**146.30**	**25**	PKPbc	PKPab	16 54 33.7	-0.3
	0.4nm,0.9s,baz=298,slow=1.9,SNR=3.3						

IDC 24 16:43:28.8±1.3,8°.86N×93°.73E,h0km,mb3.5/8,mb1 3.6/9, mb1mx3.4/60,mbtmp3.5/9,ML4.0/1,MS3.4/2,Ms1 3.5/2, ms1mx3.0/52,Error ellipse: s-maj=50.2km s-min=21.7km az=56.0

ISCJB 24 16:43:30.8±0.9,8°.8N±0°.1×93°.9E±0°.2,h23km,mb3.4/8, MS3.4/1,Error ellipse: s-maj=25.3km s-min=12.1km az=144.3

ISC 24 16:43:32.4±1.2,8°.8N±0°.2×93°.8E±0°.2,h23km,n20, σ1°03/20,mb3.5/8,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**10.83**	**27**	Pn	**Pn**	**16 46 06.8**	**+0.7**
	0.4nm,0.3s,baz=211,slow=15,SNR=15						
CMAR				LR	LR	16 50 31.9	
	comp=Z,143nm,18.3s,baz=244,slow=39						
ODAN	**Odare**	**18.96**	**342**	*e*P	**Pn**	**16 47 53.8**	**+0.7**
RAMN	**Ramite**	**19.29**	**340**	*e*P	**Pn**	**16 47 57.7**	**+0.5**
	7.1nm,0.4s						
JIRN	**Jiri**	**20.09**	**340**	*e*P	**P**	**16 48 05.7**	**+0.8**
PKIN	**Phulchoki**	**20.29**	**338**	*e*P	**P**	**16 48 08.2**	**+1.2**
GUN	**Gumba**	**20.42**	**340**	*e*P	**P**	**16 48 09.3**	**+0.8**
	18nm,0.7s						
DMN	**Daman**	**20.43**	**337**	*e*P	**P**	**16 48 09.3**	**+0.8**
KKN	**Kakani**	**20.53**	**338**	*e*P	**P**	**16 48 10.4**	**+0.9**
GKN	**Gorkha**	**20.96**	**337**	*e*P	**P**	**16 48 15.0**	**+0.9**
	12nm,0.5s						
KOLN	**Koldanda**	**21.18**	**334**	*e*P	**P**	**16 48 17.8**	**+1.3**
	5.4nm,0.5s						
PYUN	**Piuthan**	**21.73**	**333**	*e*P	**P**	**16 48 24.0**	**+1.5**
DAV	**Davao City (W)**	**31.53**	**91**	LR	LR	17 03 23.1	
	comp=Z,79nm,19.1s,baz=341,slow=38						
MKAR	**Makanchi Array**	**39.11**	**347**	P	**P**	**16 50 56.4**	**-1.6**
	0.4nm,0.8s,baz=153,slow=13,SNR=3.6						
SONM	**Songino Array**	**40.34**	**13**	P	**P**	**16 51 06.6**	**-1.8**
	0.2nm,0.3s,baz=198,slow=7.4,SNR=2.8						
SONM				PcP	**PcP**	**16 53 12.4**	**+0.8**
	0.3nm,0.9s,baz=232,slow=3.5,SNR=2.2						
GEYT	**Alibeck**	**43.28**	**318**	P	**P**	**16 51 32.0**	**-0.5**
	0.6nm,0.4s,baz=123,slow=10,SNR=3.1						
KURBB	**Kurchatov Arra**	**43.57**	**346**	P	**P**	**16 51 34.0**	**-0.5**
	0.7nm,0.8s,baz=159,slow=8.0,SNR=5.4						
BVAR	**Borovoye Array**	**48.01**	**341**	P	**P**	**16 52 09.0**	**-0.6**
	0.4nm,0.6s,baz=131,slow=6.5,SNR=4.0						
WRA	**Warramunga Arr**	**49.08**	**126**	P	**P**	**16 52 18.8**	**+0.4**
	0.6nm,1.1s,baz=303,slow=9.2,SNR=3.5						
ASAR	**Alice Springs**	**50.78**	**130**	P	**P**	**16 52 31.5**	**+0.3**
	0.2nm,0.8s,baz=301,slow=6.6,SNR=3.5						
NOA	**NORSAR Array B**	**78.76**	**331**	P	**P**	**16 55 33.0**	**-0.1**
	0.6nm,0.7s,baz=96,slow=6.0,SNR=2.7						

MEX 24 16:47:42.3±0.4,17°.81N×101°.32W,h38km±5km,MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ZIIG	**Zihuatanejo**	**0.25**	**214**	*i* P	Pn	16 47 48.1	-2.5
ZIIG				*i* S	Sn	16 47 53.4	-4.6
ARIG	**Puente Sto Nin**	**1.04**	**63**	*e*P	Pn	16 47 58.7	-1.6
ARIG				*i* S	Sn	16 48 11.1	-2.5
CAIG	**El Cayaco**	**1.26**	**127**	*e*P	Pn	16 48 01.9	-1.5
CAIG				*e*S	Sn	16 48 16.7	-2.3
MEIG	**Mezcala**	**1.62**	**86**	*e*P	Pn	16 48 06.8	-1.6
MEIG				*e*S	Sn	16 48 26.1	-2.1
PLIG	**Platanillo**	**1.82**	**71**	*e*P	Pn	16 48 09.9	-1.3
PLIG				*i* S	Sn	16 48 31.0	-2.1
MMIG	**Aquila**	**1.99**	**284**	*i* P	Pn	16 48 11.7	-1.7
MMIG				*i* S	Sn	16 48 35.3	-1.7
TLIG	**Tlapa**	**2.64**	**95**	*e*P	Pn	16 48 35.4	+13
TLIG				*i* S	Sn	16 48 51.2	-2.0

ISCJB 24 16:52:37.5±0.6,22°.46N±0°.06×142°.9E±0°.2,h150km, mb3.6/15,Error ellipse: s-maj=23.8km s-min=8.7km az=174.8

IDC 24 16:52:40.1±2.0,22°.52N×142°.94E,h158km±18km, mb3.4/15,mb1 3.5/17,mb1mx3.3/59,mbtmp3.9/17,Error ellipse: s-maj=21.2km s-min=11.1km az=90.0

ISC 24 16:52:39.4±0.7,22°.48N±0°.08×142°.9E±0°.2,h150km,n19, σ1°06/20,mb3.7/15,Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**4.64**	**352**	P	**Pn**	**16 53 49.8**	**+1.7**
	63nm,0.3s,baz=67,slow=23,SNR=117						
JCJ				S	**Sn**	**16 54 41.0**	**-0.6**
	17nm,0.3s,baz=100,slow=18,SNR=4.0						
JHJ	**Hachijo jima 2**	**10.96**	**346**	P	**Pn**	**16 55 09.6**	**-2.3**
	3.9nm,0.3s,baz=76,slow=22,SNR=2.9						
MJAR	**Matsushiro Arr**	**14.60**	**345**	P	**Pn**	**16 55 57.7**	**-1.0**
	0.4nm,0.3s,baz=164,slow=10,SNR=5.1						
ASAJ	**Asahikawa**	**21.59**	**359**	P	**P**	**16 57 18.6**	**+1.5**
	1.2nm,0.4s,baz=220,slow=7.7,SNR=6.4						
KLR	**Kul'dur**	**28.12**	**344**	P	**P**	**16 58 17.6**	**+0.5**
	0.1nm,0.5s,baz=125,slow=4.6,SNR=6.7						
SONM	**Songino Array**	**38.58**	**320**	P	**P**	**16 59 48.4**	**+0.7**
	0.2nm,0.3s,baz=107,slow=6.1,SNR=3.2						
WRA	**Warramunga Arr**	**42.98**	**192**	P	**P**	**17 00 23.7**	**-0.2**
	0.8nm,0.4s,baz=17,slow=9.6,SNR=21						
ASAR	**Alice Springs**	**46.69**	**191**	P	**P**	**17 00 53.0**	**-0.2**
	0.4nm,0.6s,baz=16,slow=7.8,SNR=16						
MKAR	**Makanchi Array**	**53.98**	**312**	P	**P**	**17 01 47.8**	**0.0**
	0.2nm,0.4s,baz=86,slow=8.2,SNR=4.8						
STKA	**Stephens Creek**	**54.06**	**181**	P	**P**	**17 01 48.9**	**+0.6**
	1.6nm,0.4s,baz=16,slow=8.1,SNR=7.3						
KURBB	**Kurchatov Arra**	**56.78**	**317**	P	**P**	**17 02 07.5**	**-0.2**
	1.0nm,0.5s,baz=92,slow=7.7,SNR=15						
ILAR	**Eielson Array**	**61.47**	**27**	P	**P**	**17 02 38.2**	**-1.5**
	0.6nm,0.6s,baz=256,slow=5.2,SNR=8.3						
BVAR	**Borovoye Array**	**61.91**	**319**	P	**P**	**17 02 43.1**	**+0.2**
	1.2nm,0.3s,baz=92,slow=7.1,SNR=21						
INK	**Inuvik**	**66.96**	**24**	P	**P**	**17 03 14.9**	**-0.5**
	0.7nm,0.5s,baz=257,slow=2.2,SNR=6.6						
YKA	**Yellowknife Ar**	**75.89**	**28**	P	**P**	**17 04 08.6**	**-0.4**
	0.8nm,0.4s,baz=291,slow=5.7,SNR=16						
ARCES	**ARCESS Array B**	**78.10**	**341**	P	**P**	**17 04 20.7**	**-0.6**
	2.7nm,0.9s,baz=68,slow=8.0,SNR=4.7						
FINES	**FINESS Array B**	**82.37**	**334**	P	**P**	**17 04 42.5**	**-1.7**
	0.4nm,0.3s,baz=72,slow=4.5,SNR=7.6						
NVAR	**Mina Array Bea**	**82.86**	**51**	P	**P**	**17 04 47.9**	**+0.3**
	0.7nm,0.7s,baz=278,slow=5.3,SNR=5.2						
PLCA	**Paso Flores**	**146.46**	**131**	PKPbc	**PKPbc**	**17 12 03.6**	**+0.5**
	1.9nm,1.0s,baz=264,slow=9.3,SNR=3.4						

CSEM 24 17:01:52.8±0.1,38°.98N×29°.97E,h2km,ML3.0,Error ellipse: s-maj=2.9km s-min=2.7km az=58.0

DDA 24 17:01:52.2,38°.98N×29°.99E,h8km,Ml3.0

ISK 24 17:01:52.8,38°.97N×29°.96E,h5km,ML2.4/12

ISC 24 17:01:52.5±1.1,38°.98N±0°.02×29°.96E±0°.02,h2km±11km, n50,σ0°59/66,Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GDZ	**Gediz**	**0.39**	**287**	*i* P	**Pg**	**17 01 59.3**	**-0.8**
GDZ				*i* S	**Sg**	**17 02 05.5**	**+0.4**
GDZ	**Gediz**	**0.39**	**287**	P	**Pg**	**17 01 59.3**	**-0.8**
GDZ				S	**Sg**	**17 02 05.5**	**+0.4**
TVSB	**Tavsanli**	**0.61**	**321**	PG	**Pg**	**17 02 03.6**	**-0.7**
TVSB	**Tavsanli**	**0.61**	**321**	*e*Pg	**Pg**	**17 02 03.6**	**-0.7**
SHUT	**Suhut-Afyon**	**0.63**	**132**	PG	**Pg**	**17 02 05.3**	**+0.8**
SHUT				SG	**Sb**	**17 02 14.2**	**-1.4**
SHUT	**Suhut-Afyon**	**0.63**	**132**	*e*Pg	**Pg**	**17 02 05.3**	**+0.8**
SHUT				*e*Sg	**Sb**	**17 02 14.2**	**-1.4**
KHAL	**Karahalli**	**0.71**	**211**	*i* P	**Pg**	**17 02 06.6**	**+0.5**
KHAL				*i* S	**Sb**	**17 02 16.7**	**-1.2**
KHAL	**Karahalli**	**0.71**	**211**	P	**Pg**	**17 02 06.6**	**+0.5**
KHAL				S	**Sb**	**17 02 16.7**	**-1.2**
KZIL	**AFYON_Kizioren**	**0.73**	**169**	*i* P	**Pg**	**17 02 06.5**	**-0.1**
KZIL				*i* S	**Sg**	**17 02 16.6**	**+0.6**
KZIL	**AFYON_Kizioren**	**0.73**	**169**	P	**Pg**	**17 02 06.5**	**-0.1**
KZIL				S	**Sg**	**17 02 16.6**	**+0.6**
KHL	**Karahalli**	**0.74**	**208**	PG	**Pb**	**17 02 07.7**	**-0.5**
KHL	**Karahalli**	**0.74**	**208**	*e*Pg	**Pb**	**17 02 07.7**	**-0.5**
SIMA	**Simav-Kutahya**	**0.77**	**278**	PG	**Pg**	**17 02 08.2**	**+0.9**
SIMA	**Simav-Kutahya**	**0.77**	**278**	*e*Pg	**Pg**	**17 02 08.2**	**+0.9**
BOLV	**Bolvadin**	**0.81**	**108**	*i* P	**Pg**	**17 02 07.6**	**-0.6**
BOLV				*i* S	**Sg**	**17 02 18.9**	**+0.2**
BOLV	**Bolvadin**	**0.81**	**108**	P	**Pg**	**17 02 07.6**	**-0.6**
BOLV				S	**Sg**	**17 02 18.9**	**+0.2**
ESKT	**Eskisehir**	**0.88**	**52**	PG	**Pb**	**17 02 10.2**	**-0.4**
ESKT	**Eskisehir**	**0.88**	**52**	*e*Pg	**Pb**	**17 02 10.2**	**-0.4**
AUKUT	**KUTAHYA**	**0.98**	**3**	*i* P	Pg	17 02 01.4	-10
AUKUT				*i* S	Sg	17 02 07.0	-17
BORA	**Eskisehir**	**0.98**	**23**	*i* P	**Pg**	**17 02 11.3**	**0.0**
BORA				*i* S	**Sg**	**17 02 24.3**	**+0.2**
BORA	**Eskisehir**	**0.98**	**23**	P	**Pg**	**17 02 11.3**	**0.0**
BORA				S	**Sg**	**17 02 24.3**	**+0.2**
KULA	**Kula-Manisa**	**1.12**	**246**	PN	**Pg**	**17 02 14.3**	**+0.4**
KULA	**Kula-Manisa**	**1.12**	**246**	*e*Pn	**Pg**	**17 02 14.3**	**+0.4**
MANT	**Manisa**	**1.20**	**247**	*i* P	**Pn**	**17 02 16.6**	**0.0**
MANT				*i* S	**Sg**	**17 02 31.3**	**+0.2**
MANT	**Manisa**	**1.20**	**247**	P	**Pn**	**17 02 16.6**	**0.0**
MANT				S	**Sg**	**17 02 31.3**	**+0.2**
CAVI	**Cavuskoy**	**1.23**	**356**	PN	**Pn**	**17 02 16.7**	**-0.1**
CAVI	**Cavuskoy**	**1.23**	**356**	*e*Pn	**Pn**	**17 02 16.7**	**-0.1**
SVRH	**Sivrihisar-ESK**	**1.30**	**68**	PN	**Pb**	**17 02 18.0**	**+0.2**
SVRH	**Sivrihisar-ESK**	**1.30**	**68**	*e*Pn	**Pb**	**17 02 18.0**	**+0.2**
DURS	**Dursunbey**	**1.31**	**299**	*i* P	**Pn**	**17 02 17.8**	**-0.2**
DURS				*i* S	**Sn**	**17 02 37.0**	**+0.8**
DURS	**Dursunbey**	**1.31**	**299**	P	**Pn**	**17 02 17.8**	**-0.2**
DURS				S	**Sn**	**17 02 37.0**	**+0.8**
ORLT	**Orhaneli**	**1.35**	**323**	PN	**Pg**	**17 02 18.8**	**+0.4**
ORLT	**Orhaneli**	**1.35**	**323**	*e*Pn	**Pg**	**17 02 18.8**	**+0.4**
IGD	**Bursa**	**1.41**	**336**	*i* P	**Pg**	**17 02 20.0**	**+0.4**
IGD				*i* S	**Sb**	**17 02 38.1**	**-0.1**
GULT	**Gulveren**	**1.52**	**16**	PN	**Pb**	**17 02 21.2**	**-0.3**
GULT	**Gulveren**	**1.52**	**16**	*e*Pn	**Pb**	**17 02 21.2**	**-0.3**
MDNY	**Mudanya-Bursa**	**1.62**	**329**	PN	**Pb**	**17 02 22.8**	**-0.4**
MDNY	**Mudanya-Bursa**	**1.62**	**329**	*e*Pn	**Pb**	**17 02 22.8**	**-0.4**
YLV	**Yalova**	**1.65**	**344**	PN	**Pb**	**17 02 23.3**	**-0.5**
YLV	**Yalova**	**1.65**	**344**	*e*Pn	**Pb**	**17 02 23.3**	**-0.5**
BALB	**Balikesir**	**1.75**	**293**	PN	**Pb**	**17 02 24.9**	**-0.4**
BALB	**Balikesir**	**1.75**	**293**	*e*Pn	**Pb**	**17 02 24.9**	**-0.4**
KCTX	**Karacabey (Bur**	**1.79**	**317**	PN	**Pb**	**17 02 25.5**	**-0.5**
KCTX	**Karacabey (Bur**	**1.79**	**317**	*e*Pn	**Pb**	**17 02 25.5**	**-0.5**
ARMT	**Armutlu**	**1.80**	**332**	PN	**Pn**	**17 02 25.2**	**+0.6**
ARMT	**Armutlu**	**1.80**	**332**	*e*Pn	**Pn**	**17 02 25.2**	**+0.6**
HRT	**Hereke**	**1.86**	**353**	PN	**Pn**	**17 02 25.9**	**+0.4**
HRT	**Hereke**	**1.86**	**353**	*e*Pn	**Pn**	**17 02 25.9**	**+0.4**
SILT	**Sile**	**2.19**	**354**	PN	**Pn**	**17 02 31.0**	**+1.1**
SILT	**Sile**	**2.19**	**354**	*e*Pn	**Pn**	**17 02 31.0**	**+1.1**

MEX 24 17:02:02.2±0.4,16°.36N×93°.50W,h64km±54km,MD3.8, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TGIG		**0.56**	**41**	*e*P	Pn	17 02 24.1	+8.9
TGIG				*e*S	Sn	17 02 34.5	+10
PCIG		**0.70**	**157**	*i* P	Pn	17 02 15.1	-1.6
PCIG				*e*S	Sn	17 02 25.9	-1.5

ISCJB 24 17:06:49.6±1.6,36°.74N±0°.09×27°.69E±0°.07,h13km,Error ellipse: s-maj=14.1km s-min=5.0km az=26.8

CSEM 24 17:06:53.8±0.3,36°.92N×27°.65E,h2km,ML2.8,Error ellipse: s-maj=5.3km s-min=4.8km az=42.0

DDA 24 17:06:53.7,36°.90N×27°.61E,h7km,Ml2.8

ISK 24 17:06:53.1,36°.95N×27°.62E,h4km,ML2.1/7

ISC 24 17:06:53.7±1.0,36°.91N±0°.04×27°.67E±0°.03,h13km,n23, σ1°50/29,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BDRM	**Kayabasi**	**0.24**	**311**	*i* P	**Pg**	**17 06 58.5**	**-0.4**
BDRM				*i* S	**Sg**	**17 07 01.9**	**-0.4**
BDRM	**Kayabasi**	**0.24**	**311**	P	**Pg**	**17 06 58.5**	**-0.4**
BDRM				S	**Sg**	**17 07 02.0**	**-0.4**
BODT	**Bodrum**	**0.33**	**298**	PG	**Pg**	**17 06 58.8**	**-1.6**
BODT				SG	**Sg**	**17 07 03.7**	**-1.2**
BODT	**Bodrum**	**0.33**	**298**	*e*Pg	**Pg**	**17 06 58.8**	**-1.6**
BODT				*e*Sg	**Sg**	**17 07 03.7**	**-1.2**
MLSB	**Milas**	**0.40**	**12**	PG	**Pg**	**17 07 01.0**	**-0.7**
MLSB	**Milas**	**0.40**	**12**	*e*Pg	**Pg**	**17 07 01.0**	**-0.7**
YER	**Yerkesik**	**0.54**	**65**	PG	**Pg**	**17 07 04.8**	**+0.4**
YER	**Yerkesik**	**0.54**	**65**	*e*Pg	**Pg**	**17 07 04.8**	**+0.4**
TURN	**Turunc**	**0.75**	**92**	PG	Pg	17 07 04.1	-4.2
TURN	**Turunc**	**0.75**	**92**	*i* P	Pg	17 07 03.5	-4.8
TURN				*i* S	**Sg**	**17 07 11.9**	**-6.1**
TURN	**Turunc**	**0.75**	**92**	*e*Pg	Pg	17 07 04.1	-4.2
AYDN	**Tasoluk**	**0.77**	**12**	*i* P	**Pg**	**17 07 08.6**	**-0.1**
AYDN				*i* S	**Sg**	**17 07 19.7**	**+0.9**
AYDN	**Tasoluk**	**0.77**	**12**	P	**Pg**	**17 07 08.6**	**-0.1**
AYDN				S	**Sg**	**17 07 19.7**	**+0.9**
GCAM	**G?zelcaml?**	**0.86**	**336**	PG	**Pg**	**17 07 09.7**	**-0.8**
GCAM	**G?zelcaml?**	**0.86**	**336**	*i* P	**Pb**	**17 07 11.1**	**+0.5**
GCAM				*i* S	**Sg**	**17 07 21.5**	**-0.3**
GCAM	**G?zelcaml?**	**0.86**	**336**	*e*Pg	**Pg**	**17 07 09.7**	**-0.8**
GCAM	**G?zelcaml?**	**0.86**	**336**	P	**Pb**	**17 07 11.1**	**+0.5**
GCAM				S	**Sg**	**17 07 21.5**	**-0.3**
AYDB	**Zeytinkoy-Aydi**	**1.05**	**10**	PG	**Pb**	**17 07 13.2**	**-0.7**
AYDB	**Zeytinkoy-Aydi**	**1.05**	**10**	*e*Pg	**Pb**	**17 07 13.2**	**-0.7**
FETY	**Fethiye**	**1.17**	**103**	PN	**Pn**	**17 07 17.2**	**+1.4**
FETY	**Fethiye**	**1.17**	**103**	*e*Pn	**Pn**	**17 07 17.2**	**+1.4**
KARP	**Karpathos**	**1.42**	**197**	PN	**Pb**	**17 07 21.1**	**+1.0**
KARP	**Karpathos**	**1.42**	**197**	*e*Pn	**Pb**	**17 07 21.1**	**+1.0**

ISCJB 24 17:10:56.8±1.1,39°.0N±0°.1×110°.6E±0°.3,h10km,mb3.3/5, Error ellipse: s-maj=30.4km s-min=16.2km az=168.0

IDC 24 17:10:57.1±1.2,38°.95N×110°.60E,h0km,mb3.4/5, mb1 3.7/6,mb1mx3.3/65,mbtmp3.5/6,ML3.0/1,Error ellipse: s-maj=34.7km s-min=20.2km az=77.0

ISC 24 17:10:58.8±1.2,38°.9N±0°.1×110°.5E±0°.2,h10km,n7, σ1°31/6,mb3.5/5,Western Nei Mongol

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SONM	**Songino Array**	**9.39**	**343**	Pn	**Pn**	**17 13 14.5**	**+0.3**
	0.2nm,0.3s,baz=156,slow=13,SNR=27						
SONM				Lg	Lg	17 15 55.5	
	0.2nm,0.3s,baz=157,slow=27,SNR=4.7						
TLY	**Talaya**	**13.63**	**342**	Lg	Lg	17 18 08.5	
	0.0nm,0.3s,baz=203,slow=8.2,SNR=3.5						
MKAR	**Makanchi Array**	**22.05**	**300**	P	**P**	**17 15 51.9**	**-1.7**
	0.6nm,0.8s,baz=96,slow=12,SNR=4.9						
CMAR	**Chiang Mai Arr**	**22.75**	**210**	P	**P**	**17 16 01.8**	**+0.7**
	2.9nm,0.8s,baz=14,slow=9.3,SNR=25						
KURBB	**Kurchatov Arra**	**25.34**	**308**	P	**P**	**17 16 26.9**	**+1.3**
	0.3nm,0.5s,baz=107,slow=9.6,SNR=4.2						
ASAR	**Alice Springs**	**66.00**	**157**	P	**P**	**17 21 45.0**	**-0.4**
	0.3nm,0.7s,baz=340,slow=6.1,SNR=4.2						
YKA	**Yellowknife Ar**	**72.62**	**20**	P	**P**	**17 22 25.8**	**-0.1**
	0.3nm,0.7s,baz=326,slow=5.5,SNR=6.9						

IDC 24 17:11:50.2±1.0,13°.04N×120°.29E,h0km,mb3.7/5, mb1 3.8/5,mb1mx3.4/64,mbtmp3.7/5,MS2.8/1,Ms1 2.8/1, ms1mx2.4/58,Error ellipse: s-maj=37.5km s-min=17.7km az=76.0

MAN 24 17:11:55,13°.18N×120°.40E,h40km,mb4.5,ML3.4,MS3.2

ISC 24 17:11:55.7±1.1,13°.13N±0°.03×120°.43E±0°.04,h32km±9km, n19,σ1°36/29,mb3.6/6,2C-2D,Mindoro

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LUBP	**Lubang**	**0.62**	**344**	*e*P	**Pb**	**17 12 07.5**	**-0.7**
LUBP				*e*S	**Sb**	**17 12 17.1**	**+0.2**
SJMP	**San Jose**	**0.95**	**135**	*e*P	**Pn**	**17 12 12.2**	**-0.6**
SJMP				*e*S	**Sn**	**17 12 27.8**	**+2.6**
TGY	**Tagaytay City**	**1.08**	**27**	Pn	**Pn**	**17 12 14.8**	**+0.1**
	180nm,0.3s,baz=22,slow=1.8,SNR=9.0						
TGY				Sn	**Sn**	**17 12 29.2**	**+0

SKR						smax		smax	
	comp=E,233nm,0.3s								
PAU	**Pauzhetka**	**3.27**	**14**	*e*P		**Pn**	**17 28 20.7**	**+2.0**
PAU					AMB	AMB	17 28 21.8	
	comp=E,118nm,1.0s								
PAU					*e*S	**Sn**	**17 28 55.4**	**-0.9**
PAU					A	A	17 29 12.2	
	comp=E,300nm,0.3s								
PAU	**Pauzhetka**	**3.27**	**14**	*e*P		**Pn**	**17 28 19.8**	**+1.1**
PAU				*e*S		**Sn**	**17 28 55.7**	**-0.6**
PAU	**Pauzhetka**	**3.27**	**14**	PN		**Sn**	**17 28 19.8**	**+1.1**
PAU				S		**Sn**	**17 28 55.7**	**-0.6**
KDTR	**Khodutka, Kamc**	**3.86**	**24**	*e*P		**Pn**	**17 28 28.3**	**+1.5**
KDTR				*e*S		**Sn**	**17 29 09.6**	**-1.3**
MIPR	**Malaya Ipel'ka**	**4.05**	**10**	*e*P		**Pn**	**17 28 32.7**	**+3.2**
MIPR	**Malaya Ipel'ka**	**4.05**	**10**	PN		**Pn**	**17 28 32.7**	**+3.2**
ASAK	**Asacha**	**4.35**	**19**	*e*P		**Pn**	**17 28 35.9**	**+2.3**
ASAK	**Asacha**	**4.35**	**19**	PN		**Pn**	**17 28 35.9**	**+2.3**
MTVR	**Mutnovka**	**4.51**	**21**	*e*P		**Pn**	**17 28 37.5**	**+1.7**
MTVR				*e*S		**Sn**	**17 29 25.4**	**-1.5**
MTVR	**Mutnovka**	**4.51**	**21**	PN		**Pn**	**17 28 37.5**	**+1.7**
RUS	**Russkaya**	**4.54**	**23**	*e*P		**Pn**	**17 28 37.3**	**+1.2**
RUS				*e*S		**Sn**	**17 29 25.0**	**-2.6**
RUS	**Russkaya**	**4.54**	**23**	PN		**Pn**	**17 28 37.3**	**+1.2**
KRMR	**Karymshinskiy**	**4.82**	**19**	*e*P		**Pn**	**17 28 42.1**	**+2.2**
KRMR	**Karymshinskiy**	**4.82**	**19**	PN		**Pn**	**17 28 42.1**	**+2.2**
PET	**Petropavlovsk**	**5.12**	**21**	*e*P		**Pn**	**17 28 46.2**	**+2.2**
PET					AMB	AMB	17 28 47.6	
	comp=E,9.0nm,0.4s								
PET				*e*S		**Sn**	**17 29 41.8**	**+0.1**
PET				A		A	17 29 55.5	
	comp=E,35nm,0.4s								
PET				A		A	17 29 55.5	
	comp=E,135nm,0.4s								
PET	**Petropavlovsk**	**5.12**	**21**	*e*P		**Pn**	**17 28 46.2**	**+2.2**
PET				*e*S		**Sn**	**17 29 40.9**	**-0.8**
PET	**Petropavlovsk**	**5.12**	**21**	*e*PN		**Pn**	**17 28 46.1**	**+2.1**
DALK	**Dalny**	**5.15**	**22**	*e*P		**Pn**	**17 28 46.3**	**+1.9**
DALK				*e*S		**Sn**	**17 29 40.8**	**-1.7**
DALK	**Dalny**	**5.15**	**22**	PN		**Pn**	**17 28 46.3**	**+1.9**
UGLR	**Uglovaya**	**5.33**	**21**	*e*P		**Pn**	**17 28 49.8**	**+2.8**
UGLR	**Uglovaya**	**5.33**	**21**	PN		**Pn**	**17 28 49.8**	**+2.8**
AVH	**Avacha**	**5.36**	**21**	*e*P		**Pn**	**17 28 50.5**	**+3.1**
AVH	**Avacha**	**5.36**	**21**	PN		**Pn**	**17 28 50.5**	**+3.1**
SMAR	**Somma**	**5.37**	**21**	*e*P		**Pn**	**17 28 50.3**	**+2.6**
SMAR	**Somma**	**5.37**	**21**	PN		**Pn**	**17 28 50.3**	**+2.6**
KRER	**Koryakskii**	**5.40**	**21**	*i* P		**Pn**	**17 28 51.0**	**+2.9**
KRER	**Koryakskii**	**5.40**	**21**	PN		**Pn**	**17 28 51.0**	**+2.9**
SDLR	**Sedlovina**	**5.41**	**22**	*e*P		**Pn**	**17 28 49.8**	**+1.7**
SDLR	**Sedlovina**	**5.41**	**22**	PN		**Pn**	**17 28 49.8**	**+1.7**
KRX	**Arik**	**5.42**	**20**	*e*P		**Pn**	**17 28 51.1**	**+2.7**
KRX	**Arik**	**5.42**	**20**	PN		**Pn**	**17 28 51.1**	**+2.7**
NLC	**Nalytchevo**	**5.43**	**25**	*e*S		**Sn**	**17 29 45.8**	**-3.6**
SPN	**Mys Shipunski**	**5.57**	**29**	*e*P		**Pn**	**17 28 51.8**	**+1.6**
SPN				*e*S		**Sn**	**17 29 50.4**	**-2.5**
SPN	**Mys Shipunski**	**5.57**	**29**	PN		**Pn**	**17 28 51.8**	**+1.6**
GNL	**Ganaly**	**5.60**	**14**	*e*P		**Pn**	**17 28 53.4**	**+2.6**
GNL	**Ganaly**	**5.60**	**14**	PN		**Pn**	**17 28 53.4**	**+2.6**
KUR	**Kuril'sk**	**6.12**	**243**	*e*P		**Pn**	**17 28 57.7**	**-0.1**
KUR					AMB	AMB	17 29 01.5	
	comp=E,18nm,0.5s								
KUR				*e*S		**Sn**	**17 29 59.7**	**-6.8**
KUR				A		A	17 30 08.5	
	comp=E,29nm,0.4s								
KUR				A		A	17 30 08.5	
	comp=E,18nm,0.4s								
KUR	**Kuril'sk**	**6.12**	**243**	*e*PN		**Pn**	**17 28 57.7**	**-0.1**
KUR					pmax	pmax		
	comp=Z,20nm,0.5s								
KZV	**Kizimen**	**7.42**	**21**	*e*P		**Pn**	**17 29 19.5**	**+3.7**
KZV	**Kizimen**	**7.42**	**21**	PN		**Pn**	**17 29 19.5**	**+3.7**
SHO	**Shikotan**	**7.53**	**237**	*e*P		**Pn**	**17 29 17.1**	**0.0**
SHO	**Shikotan**	**7.53**	**237**	PN		**Pn**	**17 29 17.1**	**0.0**
YUK	**Yuzh-Kuril'sk**	**7.98**	**241**	*e*P		**Pn**	**17 29 23.5**	**+0.2**
YUK	**Yuzh-Kuril'sk**	**7.98**	**241**	*e*PN		**Pn**	**17 29 23.5**	**+0.2**
KMNR	**Kamenistaya**	**8.00**	**19**	*e*P		**Pn**	**17 29 27.5**	**+3.9**
KMNR	**Kamenistaya**	**8.00**	**19**	PN		**Pn**	**17 29 27.5**	**+3.9**
TYV	**Tymovskoe**	**8.79**	**292**	*e*P		Pn	17 29 27.0	-7.3
TYV	**Tymovskoe**	**8.79**	**292**	*e*PN		Pn	17 29 27.0	-7.3
KBTR	**Krutoberegovo**	**9.07**	**26**	*i* P		**Pn**	**17 29 39.1**	**+0.9**
KBTR	**Krutoberegovo**	**9.07**	**26**	PN		**Pn**	**17 29 39.1**	**+0.9**
BKI	**Bering**	**9.44**	**39**	*e*S		**Sn**	**17 31 23.0**	**-4.8**

*IDC **24** 17:42:26.3±5.5,0.72N×99.05E,h95km±32km, mb3.1/4, mb1 3.2/5, mb1mx2.9/59, mbtmp3.4/5, Error ellipse: s-maj=129.1km s-min=20.6km az=60.0*

ISC 24 17:42:23.8±2.8,0.6N±0.3×98.9E±0.6, h76km, n6, σ0^{s}42/6, mb3.5/4, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**2.17**	**0**	P	**Pn**	**17 42 58.5**	**+0.4**
	baz=194,slow=4.2						
CMAR	**Chiang Mai Arr**	**17.73**	**0**	P	**Pn**	**17 46 25.5**	**-0.3**
	0.1nm,0.3s,baz=193,slow=14,SNR=5.6						
WRA	**Warramunga Arr**	**40.27**	**122**	P	**P**	**17 49 53.6**	**-0.2**
	0.2nm,0.3s,baz=303,slow=9.0,SNR=6.6						
ASAR	**Alice Springs**	**41.68**	**128**	P	**P**	**17 50 05.7**	**+0.3**
	0.2nm,0.5s,baz=299,slow=8.1,SNR=6.8						
SONM	**Songino Array**	**47.48**	**7**	P	**P**	**17 50 50.8**	**-0.4**
	0.4nm,0.6s,baz=190,slow=10,SNR=4.7						
MKAR	**Makanchi Array**	**48.23**	**345**	P	**P**	**17 50 57.0**	**0.0**
	0.3nm,0.5s,baz=151,slow=9.4,SNR=5.0						

GUC 24 17:49:59.9±0.6, 23.09S×68.32W, h149km±9km, ML3.6, 4C-1D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB06	**IPOC Station P**	**1.21**	**288**	*i* P	Pn	17 50 27.7	+1.0
PB06				*e*S	Sn	17 50 48.2	+1.1
PB06				IAML		17 50 49.5	
	comp=N,939nm,0.1s						
PB09	**IPOC Station P**	**1.54**	**326**	*e*P	Pn	17 50 31.1	+1.1
PB09				*e*S	Sn	17 50 54.2	+1.2
PB09				IAML		17 51 00.1	
	comp=N,824nm,0.4s						
PB04	**IPOC Station P**	**1.84**	**294**	*e*P	Pn	17 50 34.5	+1.1
PB04				*e*S	Sn	17 51 00.6	+1.6
PB04				IAML		17 51 05.5	
	comp=N,379nm,0.4s						
PB07	**IPOC Station P**	**1.98**	**313**	*i* P	Pn	17 50 36.1	+1.1
PB07				*e*S	Sn	17 51 03.0	+1.2
PB02	**IPOC Station P**	**2.28**	**320**	*e*P	Pn	17 50 39.4	+0.9
PB02				*e*S	Sn	17 51 07.9	-0.2
PB02				IAML		17 51 10.1	
	comp=E,359nm,0.2s						
PB01	**IPOC Station P**	**2.30**	**332**	*i* P	Pn	17 50 39.4	+0.7
PB01				*e*S	Sn	17 51 08.4	-0.1
PB01				IAML		17 51 08.8	
	comp=E,222nm,0.1s						
GO02	**Mina Guanaco**	**2.37**	**209**	*e*P	Pn	17 50 40.7	+1.0
GO02				*e*S	Sn	17 51 11.2	+0.9

*UPP **24** 18:01:58.8±1.5,58.98N×22.06E, h0km, ML2.3*
*ISCJB **24** 18:01:58.7±0.4,59.00N±0.03×22.00E±0.04, h0km, Error ellipse: s-maj=4.1km s-min=3.3km az=9.1*
*HEL **24** 18:01:59.5±0.1,58.98N×21.99E, h0km, ML1.8, ML2.3(UPP), Explosion*
*CSEM **24** 18:01:59.4±0.2,58.96N×21.99E, h2km, ML1.8, Error ellipse: s-maj=5.8km s-min=4.3km az=15.0, Mining explosion.*
*NAO **24** 18:02:00.6±1.6,59.08N×21.94E, ML2.2*
*IDC **24** 18:02:01.5±2.2,59.12N×21.93E, h0km, mb1 3.2/4, mb1mx2.9/66, mbtmp3.1/4, ML2.7/4, Error ellipse: s-maj=27.9km s-min=7.5km az=163.0*
*BER **24** 18:02:02.4±3.8,59.07N×21.83E, h0km, ML2.2(NAO), Suspected explosion*

ISC 24 18:01:57.1±0.8, 59.01N±0.03×22.20E±0.03, h0km, n57, σ1^{s}35/85, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MTSE	**Matsula**	**0.89**	**108**	*e*P	**Pn**	**18 02 16.9**	**0.0**
MTSE				*e*S	**Sn**	**18 02 30.0**	**-0.4**
MTSE	**Matsula**	**0.89**	**108**	*e*P	**Pn**	**18 02 16.9**	**0.0**
MTSE				*e*S	**Sn**	**18 02 30.0**	**-0.4**
SLIT	**Slitere, Latvi**	**1.38**	**178**	*e*P	**Pg**	**18 02 23.3**	**-0.3**
SNR=68							
SLIT				*e*S	**Sn**	**18 02 43.9**	**+1.4**
	88nm,0.2s,SNR=68						
AAL	**Aland**	**1.62**	**317**	*e*P	**Pn**	**18 02 27.1**	**+0.1**
AAL				*e*Sg	**Sn**	**18 02 48.1**	**-0.5**
AAL	**Aland**	**1.62**	**317**	*e*P	**Pn**	**18 02 27.1**	**+0.1**
AAL				*e*SG	**Sn**	**18 02 48.1**	**-0.5**
MEF	**Metsahovi**	**1.65**	**42**	*e*P	**Pg**	**18 02 30.6**	**+1.8**
SNR=68							
MEF				*e*S	**Sg**	**18 02 53.0**	**+2.8**
MEF	**Metsahovi**	**1.65**	**42**	*e*P	**Pg**	**18 02 30.5**	**+1.8**
MEF				*e*S	**Sg**	**18 02 53.0**	**+2.8**
NRTU	**Norrtaelje**	**1.95**	**292**	P	**Pn**	**18 02 32.3**	**+0.9**
NRTU				S	**Sn**	**18 02 57.0**	**+0.5**
NRTU	**Norrtaelje**	**1.95**	**292**	*e*P	**Pn**	**18 02 32.3**	**+0.9**
NRTU				*e*S	**Sn**	**18 02 57.0**	**+0.5**
NRTU	**Norrtaelje**	**1.95**	**292**	*e*P	**Pn**	**18 02 32.3**	**+0.9**
NRTU				*e*S	**Sn**	**18 02 57.0**	**+0.5**
RAF	**Rauma**	**2.04**	**354**	*e*P	**Pg**	**18 02 35.7**	**-0.4**
SNR=50							
RAF				*e*Sb	**Sb**	**18 03 01.7**	**+0.9**
RAF				*e*S	**Sg**	**18 03 02.8**	**+0.3**
	10nm,0.7s,SNR=50						
RAF	**Rauma**	**2.04**	**354**	*e*PB	**Pb**	**18 02 35.5**	**+0.6**
RAF				*e*SB	**Sb**	**18 03 01.7**	**+0.9**
RAF				MSG		18 03 05.3	
	comp=Z,3.0nm,0.2s						
NYNU	**Nynaeshamn**	**2.17**	**272**	P	**Pn**	**18 02 35.4**	**+0.9**
NYNU				S	**Sn**	**18 03 03.0**	**+1.1**
NYNU	**Nynaeshamn**	**2.17**	**272**	*e*P	**Pn**	**18 02 35.3**	**+0.9**
NYNU				*e*S	**Sn**	**18 03 03.0**	**+1.1**
NYNU	**Nynaeshamn**	**2.17**	**272**	*e*P	**Pn**	**18 02 35.4**	**+0.9**
NYNU				*e*S	**Sn**	**18 03 03.0**	**+1.1**
GRAU	**Graesoe**	**2.29**	**307**	P	**Pn**	**18 02 37.1**	**+1.1**
GRAU				S	**Sb**	**18 03 07.1**	**-0.9**
GRAU	**Graesoe**	**2.29**	**307**	*e*P	**Pn**	**18 02 37.1**	**+1.1**
GRAU				*e*S	**Sb**	**18 03 07.1**	**-0.9**
GRAU	**Graesoe**	**2.29**	**307**	*e*P	**Pn**	**18 02 37.1**	**+1.1**
GRAU				*e*S	**Sb**	**18 03 07.1**	**-0.9**
GOTU	**Gotland**	**2.33**	**237**	P	**Pn**	**18 02 37.5**	**+0.9**
GOTU	**Gotland**	**2.33**	**237**	*e*P	**Pn**	**18 02 37.5**	**+0.9**
GOTU	**Gotland**	**2.33**	**237**	*e*P	**Pn**	**18 02 37.5**	**+0.9**
PVF	**Pernaja**	**2.41**	**49**	*e*P	**Pb**	**18 02 42.1**	**+0.7**
PVF	**Pernaja**	**2.41**	**49**	*e*P	**Pb**	**18 02 42.1**	**+0.7**
PVF				*e*SB	**Sg**	**18 03 14.6**	**0.0**
PVF				MSG		18 03 17.6	
	comp=Z,5.2nm,0.1s						
VSU	**Vasula**	**2.43**	**101**	Pn	**Pg**	**18 02 43.4**	**-0.2**
VSU				Sn	**Sg**	**18 03 16.2**	**+1.1**
VSU	**Vasula**	**2.43**	**101**	Pn	**Pg**	**18 02 43.4**	**-0.2**
VSU	**Vasula**	**2.43**	**101**	Pn	**Pg**	**18 02 43.4**	**-0.2**
VSU				Sn	**Sg**	**18 03 16.2**	**+1.1**
FORU	**Forsmark**	**2.46**	**306**	P	**Pn**	**18 02 39.8**	**+1.3**
FORU	**Forsmark**	**2.46**	**306**	*e*P	**Pn**	**18 02 39.8**	**+1.3**
FORU	**Forsmark**	**2.46**	**306**	*e*P	**Pn**	**18 02 39.8**	**+1.3**
FLYU	**Flymyra**	**2.47**	**299**	P	**Pn**	**18 02 40.1**	**+1.5**
FLYU	**Flymyra**	**2.47**	**299**	*e*P	**Pn**	**18 02 40.1**	**+1.5**
FLYU	**Flymyra**	**2.47**	**299**	*e*P	**Pn**	**18 02 40.1**	**+1.5**
FIBU	**Brunna**	**2.63**	**292**	P	**Pn**	**18 02 42.3**	**+1.5**
FIBU	**Brunna**	**2.63**	**292**	P	**Pn**	**18 02 42.3**	**+1.5**
BACU	**Backbrunna**	**2.74**	**290**	P	**Pn**	**18 02 43.3**	**+1.1**
BACU	**Backbrunna**	**2.74**	**290**	*e*P	**Pn**	**18 02 43.3**	**+1.1**
BACU	**Backbrunna**	**2.74**	**290**	*e*P	**Pn**	**18 02 43.3**	**+1.1**
OSTU	**Oestervaala**	**2.85**	**298**	P	**Pn**	**18 02 44.9**	**+1.0**
OSTU	**Oestervaala**	**2.85**	**298**	*e*P	**Pn**	**18 02 44.8**	**+1.0**
OSTU	**Oestervaala**	**2.85**	**298**	*e*P	**Pn**	**18 02 44.9**	**+1.0**
FIA0	**FINESS Array S**	**3.12**	**37**	Pn	**Pb**	**18 02 51.3**	**-2.1**
	baz=206,slow=14						
FIA0				Sn	**Sb**	**18 03 30.1**	**-1.9**
	baz=239,slow=28						
FIA0	**FINESS Array S**	**3.12**	**37**	Pn	**Pb**	**18 02 51.3**	**-2.1**
	SNR=9.5						
FIA0				Sn	**Sb**	**18 03 30.1**	**-1.9**
	SNR=4.4						
FIA0	**FINESS Array S**	**3.12**	**37**	MSG		18 03 40.1	
	comp=Z,2.6nm,0.1s						
FIA0	**FINESS Array S**	**3.12**	**37**	Pn	**Pb**	**18 02 51.3**	**-2.1**
	baz=206,slow=14						
FIA0				Sn	**Sb**	**18 03 30.1**	**-1.9**
	baz=239,slow=28						
FINES	**FINESS Array B**	**3.12**	**37**	Pn	**Pb**	**18 02 51.5**	**-2.0**
	comp=Z,0.4nm,0.3s,baz=205,slow=12,SNR=20						
FINES				Sn	**Sb**	**18 03 31.4**	**-0.6**
	comp=Z,0.6nm,0.3s,baz=216,slow=24,SNR=9.8						
FINES				Lg	Lg	18 03 39.5	
	comp=Z,0.7nm,0.3s,baz=231,slow=30,SNR=8.5						
HFS	**Hagfors**	**4.47**	**288**	Pn	**Pn**	**18 03 07.2**	**+1.1**
	baz=105,slow=12						
HFS				Lg	Lg	18 04 14.8	
	baz=106,slow=37						
HFS	**Hagfors**	**4.47**	**288**	Pn	**Pn**	**18 03 07.1**	**+1.1**
	comp=Z,0.5nm,0.3s,baz=109,slow=13,SNR=17						
HFS				Lg	Lg	18 04 14.7	
	comp=Z,1.5nm,0.3s,baz=107,slow=29,SNR=12						
HFS	**Hagfors**	**4.47**	**288**	Pn	**Pn**	**18 03 07.2**	**+1.1**
	baz=105,slow=12						
HFS				Lg	Lg	18 04 14.8	
	baz=106,slow=37						
NRA0	**NORESS Array S**	**5.64**	**292**	Pn	**Pn**	**18 03 21.6**	**-0.5**
	baz=94,slow=12						
NRA0				Sn	**Sn**	**18 04 24.1**	**-3.5**
	baz=102,slow=22						
NRA0	**NORESS Array S**	**5.64**	**292**	Pn	**Pn**	**18 03 21.6**	**-0.5**
	SNR=9.1						
NRA0	**NORESS Array S**	**5.64**	**292**	Pn	**Pn**	**18 03 21.6**	**-0.5**
	baz=94,slow=12						
NRA0				Sn	**Sn**	**18 04 24.1**	**-3.5**
	baz=102,slow=22						
NB2	**NORSAR Subarra**	**5.87**	**295**	Pn	**Pn**	**18 03 25.8**	**+0.4**
	baz=104,slow=14						
NB2	**NORSAR Subarra**	**5.87**	**295**	Pn	**Pn**	**18 03 25.8**	**+0.4**
	baz=104,slow=14						
NOA	**NORSAR Array B**	**5.87**	**295**	Pn	**Pn**	**18 03 25.6**	**+0.2**
	comp=Z,0.5nm,0.3s,baz=90,slow=18,SNR=19						
NOA				Sn	**Sn**	**18 04 28.9**	**-4.4**
	comp=Z,0.1nm,0.3s,baz=217,slow=2.1,SNR=2.4						
NOA				Lg	Lg	18 05 01.3	
	comp=Z,0.6nm,0.3s,baz=103,slow=18,SNR=4.7						
ARA0	**ARCESS Array S**	**10.67**	**6**	Pn	**Pn**	**18 04 30.9**	**-0.1**
	baz=186,slow=14						
ARA0	**ARCESS Array S**	**10.67**	**6**	Pn	**Pn**	**18 04 30.9**	**-0.1**
	baz=186,slow=14						
ARCES	**ARCESS Array B**	**10.67**	**6**	Pn	**Pn**	**18 04 30.9**	**0.0**
	comp=Z,0.2nm,0.3s,baz=187,slow=14,SNR=10						

IDC 24 18:02:50.7±3.1, 32.23S×178.38W, h0km, mb3.4/2, mb1 3.7/3, mb1mx3.5/43, mbtmp3.5/3, ML3.2/1, Error ellipse: s-maj=73.0km s-min=46.5km az=118.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**7.05**	**210**	Pn	Pn	18 04 34.5	-0.7
	0.4nm,0.3s,baz=12,slow=17,SNR=5.8						
URZ				Sn	Sn	18 05 49.3	-6.8
	0.8nm,0.3s,baz=183,slow=18,SNR=7.1						
ASAR	**Alice Springs**	**42.72**	**269**	P	P	18 10 49.9	0.0
	0.4nm,0.8s,baz=108,slow=7.3,SNR=6.0						
WRA	**Warramunga Arr**	**43.87**	**274**	P	P	18 10 59.1	-0.1
	0.3nm,0.3s,baz=114,slow=8.0,SNR=7.9						
FINES	**FINESS Array B**	**146.74**	**339**	PKPbc	PKPbc	18 22 33.0	-0.8
	2.2nm,1.0s,baz=54,slow=7.1,SNR=4.8						

NDI 24 18:11:11.5±2.5, 24.72N×93.47E, h30km, ML3.0, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IMP	**Imphal**	**0.45**	**76**	*e*P	Pn	18 11 21.9	0.0
IMP				*e*S	Sn	18 11 30.2	+1.1
KOHI	**KOHIMA**	**1.15**	**30**	*e*P	Pb	18 11 33.5	+0.6
KOHI				*e*S	Sb	18 11 51.3	+3.8
KOHI				IAML		18 11 52.1	
	comp=N,461nm,0.4s						
KOHI				IAML		18 11 52.2	
	comp=E,490nm,0.3s						
AZL	**Aizawl**	**1.21**	**216**	*e*P	Pn	18 11 31.9	-0.7
AZL				*e*S	Sb	18 11 49.4	+0.1
AZL				IAML		18 11 51.7	
	comp=E,573nm,0.2s						
AZL				IAML		18 11 51.8	
	comp=N,448nm,0.2s						
SHL	**Shillong**	**1.67**	**301**	*e*P	Pn	18 11 39.9	+1.0
SHL				*e*S	Sb	18 12 01.2	-1.1
SHL				IAML		18 12 09.8	
	comp=E,104nm,0.2s						
SHL				IAML		18 12 10.5	
	comp=N,231nm,0.1s						
TEZP	**TEZPUR**	**1.98**	**342**	*e*P	Pn	18 11 43.6	+0.7
TEZP				*ex*	Sb	18 12 16.1	+5.0
TEZP				IAML		18 12 18.2	
	comp=E,265nm,0.2s						
TEZP				IAML		18 12 19.2	
	comp=N,334nm,0.1s						
GUWA	**GUWAHATI**	**2.17**	**313**	*e*P	Pn	18 11 45.7	+0.1
SAIH	**SAIHA**	**2.27**	**191**	*e*P	Pn	18 11 45.8	-1.3
SAIH				*e*S	Sn	18 12 14.2	+0.1
SAIH				IAML		18 12 18.3	
	comp=N,29nm,0.3s						
SAIH				IAML		18 12 19.1	
	comp=E,46nm,0.5s						
TURI	**Tura**	**2.96**	**287**	*e*P	Pn	18 11 56.9	+0.4
TURI				*e*S	Sn	18 12 32.2	+1.2
TURI				IAML		18 12 35.8	
	comp=N,55nm,0.2s						
TURI				IAML		18 12 36.4	
	comp=E,63nm,0.2s						

KRSC 24 18:11:52.8±0.8, 56.09N×161.24E, h104km±6km, ML3.6, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZLN	**Zelenaya**	**0.26**	**254**	*e*P	Pn	18 12 09.1	+1.3
ZLN				*e*S	Sn	18 12 20.1	+1.0
CIRR	**Tsirk**	**0.28**	**276**	*e*P	Pn	18 12 09.0	+1.0
CIRR				*e*S	Sn	18 12 20.2	+0.9
LGNR	**Loginova**	**0.31**	**269**	*i* P	Pn	18 12 09.7	+1.4
KLY	**Klyuchi**	**0.40**	**305**	*e*P	Pn	18 12 08.8	+0.5
KLY				*e*S	Sn	18 12 20.8	+0.8
KRSR	**Krestovskiy**	**0.40**	**289**	*e*P	Pn	18 12 09.1	+0.6
KRSR				*e*S	Sn	18 12 21.2	+0.9
BZWR	**Bezymyannyi-We**	**0.44**	**254**	*e*P	Pn	18 12 09.9	+1.1
BZWR				*e*S	Sn	18 12 22.5	+1.7
BZMR	**Bezymyannaya**	**0.45**	**250**	*e*P	Pn	18 12 10.0	+1.1
BZMR				*e*S	Sn	18 12 22.9	+2.0
BDR	**Baidarnaya**	**0.48**	**358**	*e*P	Pn	18 12 10.2	+1.2
BDR				*e*S	Sn	18 12 22.4	+1.2
SMKR	**Semkarok**	**0.51**	**14**	*e*P	Pn	18 12 10.6	+1.4
SMKR				*e*S	Sn	18 12 23.6	+2.1
SRKR	**Sorokina**	**0.57**	**356**	*e*P	Pn	18 12 10.7	+1.1
SRKR				*e*S	Sn	18 12 24.0	+1.8
KPT	**Kopyto**	**0.58**	**258**	*i* P	Pn	18 12 10.3	+0.5
KPT				*e*S	Sn	18 12 23.4	+0.9
KMNR	**Kamenistaya**	**0.66**	**240**	*e*P	Pn	18 12 11.3	+1.0
KMNR				*e*S	Sn	18 12 24.9	+1.4
KOZ	**Kozyrevsk**	**0.77**	**268**	*i* P	Pn	18 12 11.8	+0.6
KOZ				*e*S	Sn	18 12 26.4	+1.3
KBTR	**Krutoberegovo**	**0.89**	**82**	*e*P	Pn	18 12 13.9	+1.5
KBTR				*e*S	Sn	18 12 28.6	+1.5
TUMR	**Tumrok**	**1.02**	**218**	*e*P	Pn	18 12 15.3	+1.5
TUMR				*e*S	Sn	18 12 31.1	+1.4
KZV	**Kizimen**	**1.12**	**209**	*e*P	Pn	18 12 16.0	+1.0
ESO	**Esso**	**1.44**	**264**	*e*P	Pn	18 12 18.9	+0.4
ESO				*e*S	Sn	18 12 38.2	+0.2
KII	**Karymskiy**	**2.30**	**207**	*e*P	Pn	18 12 31.3	+1.8
BKI	**Bering**	**2.83**	**106**	*e*P	Pn	18 12 37.6	+1.4
BKI				*e*S	Sn	18 13 10.1	+0.4
GNL	**Ganaly**	**3.06**	**220**	*e*P	Pn	18 12 40.1	+0.6
KRX	**Arik**	**3.12**	**210**	*e*P	Pn	18 12 42.4	+2.1
NLC	**Nalytchevo**	**3.12**	**201**	*e*P	Pn	18 12 41.7	+1.5
NLC				*e*S	Sn	18 13 18.3	+1.5
SDLR	**Sedlovina**	**3.13**	**207**	*e*P	Pn	18 12 43.0	+2.5
KRER	**Koryakskii**	**3.14**	**208**	*e*P	Pn	18 12 44.2	+3.5
SMAR	**Somma**	**3.17**	**208**	*e*P	Pn	18 12 42.9	+1.9
AVH	**Avacha**	**3.18**	**208**	*e*P	Pn	18 12 44.9	+3.8
UGLR	**Uglovaya**	**3.21**	**207**	*e*P	Pn	18 12 44.7	+3.2
PET	**Petropavlovsk**	**3.42**	**207**	*e*P	Pn	18 12 46.4	+2.2
PET				*e*S	Sn	18 13 25.0	+1.1
KRMR	**Karymshinskiy**	**3.74**	**210**	*e*P	Pn	18 12 51.1	+2.7
KRMR				*e*S	Sn	18 13 33.3	+1.8
RUS	**Russkaya**	**4.00**	**205**	*e*P	Pn	18 12 54.4	+2.5
RUS				*e*S	Sn	18 13 39.7	+2.0

*IDC **24** 18:16:33.3±0.7,32.47N×47.12E, h0km, mb4.0/28, mb1 4.0/39, mb1mx3.9/72, mb

IKLH comp=Z,7μm,0.6s eAMB AMB 18 18 54.8

IKLH Kolahrood 3.90 75 ePn **Pn 18 17 37.5 +2.4**
QAM Ghamsar 3.91 68 ePn **Pn 18 17 38.1 +2.8**
QAM eAMB AMB 18 17 51.7
comp=Z,2μm,0.3s
GHVR GHOM 4.10 58 ePn **Pn 18 17 38.8 +1.0**
GHVR GHOM 4.10 58 ePn **Pn 18 17 38.8 +1.0**
IGAR Gharneh 4.19 88 ePn **Pn 18 17 42.1 +3.0**
IGAR eAMB AMB 18 18 56.5
comp=Z,2μm,0.5s
IZEF Zefreh 4.46 82 ePn **Pn 18 17 45.3 +2.5**
IZEF eAMB AMB 18 19 17.8
comp=Z,2μm,0.7s
IZEF Zefreh 4.46 82 ePn **Pn 18 17 45.3 +2.5**
IRAM Ramesheh 4.53 96 ePn **Pn 18 17 45.8 +2.1**
IRAM eAMB AMB 18 19 21.0
comp=Z,1μm,0.6s
IRAM Ramesheh 4.53 96 ePn **Pn 18 17 45.8 +2.1**
IKAZ Kazeroun 4.82 121 ePn **Pn 18 17 50.4 +2.5**
IKAZ eAMB AMB 18 19 44.3
comp=Z,3μm,0.6s
IKAZ Kazeroun 4.82 121 ePn **Pn 18 17 50.4 +2.5**
ANAR Anarak 5.66 80 eAMB AMB 18 20 00.0
comp=Z,99nm,0.6s
RTB Rutbah 5.75 278 ePn **Pn 18 18 02.0 +1.6**
SNR=5.0
RTB eSn **Sn 18 19 05.0 -0.9**
SNR=5.0
GNI Garni 8.00 347 Pn **Pn 18 18 33.5 +2.2**
comp=Z,0.4nm,0.3s,baz=36,slow=14,SNR=2.4
GNI Pg Pb 18 18 59.5 +5.4
comp=Z,0.6nm,0.3s,baz=191,slow=11,SNR=5.6
GNI Sn **Sn 18 20 02.0 +0.7**
comp=Z,1.0nm,0.3s,baz=183,slow=18,SNR=3.1
GNI Lg Lg 18 20 54.3
comp=Z,0.7nm,0.3s,baz=90,slow=20,SNR=2.3
GNI LR LR 18 21 24.6
comp=Z,90nm,18.7s,baz=160,slow=37
GNI Garni 8.00 347 ePn **Pn 18 18 33.2 +1.9**
GNI eSn **Sn 18 20 02.0 +0.7**
GNI Garni 8.00 347 ePn **Pn 18 18 33.2 +1.9**
ASF Jabal al Asfar 8.63 271 Pn **Pn 18 18 39.3 -0.6**
comp=Z,1.0nm,0.3s,baz=44,slow=12,SNR=5.7
ASF Sn **Sn 18 20 10.5 -6.3**
comp=Z,0.9nm,0.3s,baz=112,slow=1.4,SNR=4.8
ASF Lg Lg 18 21 08.5
comp=Z,2.9nm,0.3s,baz=53,slow=23,SNR=4.2
RAYN Ar Rayn 8.92 189 ePn **Pn 18 18 45.1 +1.2**
RAYN eSn **Sn 18 20 21.0 -2.8**
RAYN Ar Rayn 8.92 189 P **Pn 18 18 45.1 +1.2**
RAYN Ar Rayn 8.92 189 P **Pn 18 18 45.1 +1.2**
AKT Akhty 9.12 3 eP **Pn 18 18 49.8 +3.2**
comp=Z,3.0nm,0.8s
AKT Akhty 9.12 3 eP **Pn 18 18 49.8 +3.2**
AKT eS **Sn 18 20 32.4 +3.7**
AKT pmax pmax
comp=Z,3.0nm,0.8s
AKT smax smax
comp=E,4.0nm,0.4s
AKT smax smax
comp=N,3.0nm,0.3s
AKH Akhalkalaki 9.48 343 ePn **Pn 18 18 52.0 +0.4**
AKH Akhalkalaki 9.48 343 eP **Pn 18 18 52.0 +0.4**
AKH Akhalkalaki 9.48 343 eP **Pn 18 18 52.0 +0.4**
TBLG Delisi 9.54 349 ePn **Pn 18 18 54.1 +1.8**
TBLG Delisi 9.54 349 eP **Pn 18 18 54.1 +1.8**
TBLG Delisi 9.54 349 eP **Pn 18 18 54.1 +1.8**
HMDT Nahal Hemdat 9.79 272 Sn **Sn 18 20 48.8 +3.8**
MMLI Mount Malkishu 9.86 274 Pn **Pn 18 18 59.8 +3.0**
MMLI Sn **Sn 18 20 50.5 +3.5**
MMA0B Mount Meron ar 9.87 277 Sn **Sn 18 20 48.8 +1.6**
MMAI Mount Meron Ar 9.87 277 Pn **Pn 18 18 58.2 +1.3**
comp=N,0.7nm,0.3s,baz=88,slow=16,SNR=4.9
MMAI Sn **Sn 18 20 50.3 +3.1**
comp=N,1.5nm,0.3s,baz=80,slow=19,SNR=3.1
MMAI Lg Lg 18 21 42.3
comp=N,2.0nm,0.3s,baz=99,slow=19,SNR=3.2
DSI Dead Sea 9.98 269 Sn **Sn 18 20 53.0 +3.3**
MZDA Masada 10.03 267 Sn **Sn 18 20 53.7 +2.8**
BLGI Bet Lehem HaGe 10.05 275 Sn **Sn 18 20 54.2 +2.7**
HNTI Hanita 10.06 277 Sn **Sn 18 20 55.1 +3.3**
SLTI Sal'it 10.20 273 Sn **Sn 18 20 58.9 +3.8**
OFRI 'Ofer 10.22 275 Sn **Sn 18 20 59.6 +3.7**
ZFRI Zfri 10.33 263 Sn **Sn 18 21 01.4 +3.0**
AMAZ Amatzia 10.38 269 Sn **Sn 18 21 02.0 +2.5**
PRNI Paran 10.52 262 Sn **Sn 18 21 05.9 +2.7**
HRFI Mount Harif 10.58 261 Sn **Sn 18 21 06.5 +2.0**
MAK Makhachkala 10.59 2 eP **Pn 18 19 06.0 -0.6**
comp=N,13nm,0.3s
MAK eS **Sn 18 21 04.9 +0.4**
comp=N,169nm,18.0s
MAK Makhachkala 10.59 2 eP **Pn 18 19 06.0 -0.6**
MAK eS **Sn 18 21 04.9 +0.4**
MAK pmax pmax
comp=Z,13nm,0.3s
MAK MLR MLR
comp=Z,169nm,18.0s
GEYT Alibeck 10.60 55 Pn **Pn 18 19 06.6 -0.3**
comp=Z,0.4nm,0.3s,baz=251,slow=16,SNR=3.1
GEYT LR LR 18 23 55.4
comp=Z,310nm,18.4s,baz=175,slow=42
ZEI Tsey 10.71 347 eP Pn 18 19 13.2 +4.7
ZEI pmax pmax
comp=Z,7.0nm,1.6s
EIL Elat 10.75 259 Pn **Pn 18 19 10.4 +1.5**
comp=Z,0.1nm,0.3s,baz=55,slow=11,SNR=1.7
EIL Lg Lg 18 22 27.3
comp=Z,1.0nm,0.3s,baz=311,slow=9.8,SNR=3.5
EIL LR LR 18 24 35.3
comp=Z,162nm,18.3s,baz=64,slow=45
EIL Elat 10.75 259 Sn **Sn 18 21 12.1 +3.3**
UOSS Minazif 10.89 130 ePn **Pn 18 19 11.2 +0.3**
UOSS Minazif 10.89 130 ePn **Pn 18 19 11.2 +0.3**
CSS Mathiatis 11.75 286 ePn **Pn 18 19 24.8 +2.1**
CSS Mathiatis 11.75 286 ePn **Pn 18 19 24.8 +2.1**
KBZ Khabaz 11.82 345 Pn **Pn 18 19 24.7 +1.3**
comp=Z,0.1nm,0.3s,baz=154,slow=8.6,SNR=2.9
KBZ LR LR 18 24 28.8
comp=Z,103nm,21.0s,baz=146,slow=41
KVAR Kislovodsk Arr 12.08 345 Pn **Pn 18 19 28.2 +1.1**
baz=186,slow=9.2,SNR=5.5
KVAR LR LR 18 23 44.4
comp=Z,51nm,20.0s,baz=260,slow=36
KIV Kislovodsk 12.08 345 ePn **Pn 18 19 28.3 +1.2**
KIV Kislovodsk 12.08 345 ePn **Pn 18 19 28.3 +1.2**
KIV Kislovodsk 12.08 345 eP **Pn 18 19 29.1 +2.0**
comp=Z,6.0nm,1.0s
KIV Kislovodsk 12.08 345 eP **Pn 18 19 29.1 +2.0**
KIV pmax pmax
comp=Z,6.0nm,1.0s
BR101 Keskin Array S 13.12 308 ePn **Pn 18 19 42.4 +0.9**
BR101 Keskin Array S 13.12 308 ePn **Pn 18 19 42.3 +0.9**
BR131 Keskin Array S 13.12 308 ePn **Pn 18 19 42.1 +0.6**
BR131 Keskin Array S 13.12 308 ePn **Pn 18 19 42.1 +0.6**
BRTR Keskin Array B 13.12 308 Pn **Pn 18 19 42.4 +0.9**
comp=Z,0.1nm,0.3s,baz=134,slow=12,SNR=8.3
WSAR Wadi Sarin 13.66 129 Pn **Pn 18 19 48.0 -0.8**
comp=Z,1.2nm,0.3s,baz=332,slow=12,SNR=15
WSAR LR LR 18 27 11.5
comp=Z,106nm,18.8s,baz=289,slow=46
ANTO Ankara 13.76 307 ePn **Pn 18 19 51.3 +1.2**
ANTO Ankara 13.76 307 ePn **Pn 18 19 51.3 +1.2**
ANTO Ankara 13.76 307 eP **Pn 18 19 51.3 +1.2**
ISP Isparta 14.61 296 ePn **Pn 18 20 03.1 +1.3**
ISP Isparta 14.61 296 ePn **Pn 18 20 03.1 +1.3**
ISP Isparta 14.61 296‖ eP **Pn 18 20 04.2 +2.4**
MANT Manisa 16.28 297 ePn **Pn 18 20 23.9 +0.1**
comp=Z,137nm,1.1s
MANT Manisa 16.28 297 ePn **Pn 18 20 23.9 +0.1**
comp=Z,137nm,1.1s
KARP Karpathos 16.83 286 ePn **P 18 20 32.8 +0.1**
comp=Z,24nm,1.4s
KARP Karpathos 16.83 286 ePn **P 18 20 32.8 +0.1**
comp=Z,24nm,1.4s
SANT Santorini 18.29 289 eP **Pn 18 20 46.5 -2.2**
comp=Z,37nm,0.8s
SANT Santorini 18.29 289 eP **Pn 18 20 46.5 -2.2**
comp=Z,37nm,0.8s
APE Apeiranthos 18.32 291‖ iP **Pn 18 20 49.2 +0.1**
APE Apeiranthos 18.32 291 *i* P **Pn 18 20 47.8 -1.3**
comp=Z,33nm,1.0s
APE Apeiranthos 18.32 291*d* iP **Pn 18 20 47.8 -1.3**
APE pmax pmax
comp=Z,33nm,1.0s

KBL Kabul 18.45 77 eP **P 18 20 50.5 -0.2**
comp=Z,11nm,1.1s
KBL Kabul 18.45 77 eP **P 18 20 50.5 -0.2**
comp=Z,11nm,1.1s
KBL Kabul 18.45 77 eP **P 18 20 50.5 -0.2**
KBL pmax pmax
comp=Z,11nm,1.1s
IDI Anoyia 18.67 285 P **Pn 18 20 54.2 +0.9**
comp=Z,0.6nm,0.3s,baz=105,slow=11,SNR=12
IDI Anoyia 18.67 285‖ iP **Pn 18 20 54.3 +0.9**
IDI Anoyia 18.67 285 eP **P 18 20 53.6 +0.6**
comp=Z,28nm,1.0s
IDI Anoyia 18.67 285 eP **P 18 20 53.6 +0.6**
comp=Z,28nm,1.0s
PRD Provadia 18.91 311 P **Pn 18 20 56.4 +0.3**
JMB Yambol 19.11 308 P **P 18 20 57.9 +0.2**
VRH Novokhopyorsk 19.24 350 eP **P 18 20 58.3 -0.6**
comp=Z,10.0nm,0.9s
VRH Novokhopyorsk 19.24 350 eP **P 18 20 58.3 -0.6**
VRH pmax pmax
comp=Z,10.0nm,0.9s
ABKAR Akbulak array 19.43 26 eP **P 18 21 00.5 -0.6**
comp=Z,44nm,0.9s
ABKAR Akbulak array 19.43 26 eP **P 18 21 00.5 -0.6**
comp=Z,44nm,0.9s
CFR Carcaliu 19.49 316‖ iP **P 18 21 02.0 +0.3**
CFR Carcaliu 19.49 316 P **Pn 18 21 03.7 +0.7**
comp=Z,9.0nm,1.0s
CFR Carcaliu 19.49 316 P **Pn 18 21 03.7 +0.7**
CFR pmax pmax
comp=Z,9.0nm,1.0s
KDZ Kurdzhali 19.59 304 P **P 18 21 03.4 +0.4**
VSR Storozhevoye 19.72 345 eP **P 18 21 02.1 -2.1**
comp=Z,20nm,1.5s
VSR Storozhevoye 19.72 345 eP **P 18 21 02.1 -2.1**
VSR pmax pmax
comp=Z,20nm,1.5s
AKTK Aktyubinsk 19.79 21 P **P 18 21 05.2 +0.1**
comp=Z,69nm,18.9s
AKTO Aktyubinsk 19.79 21 P **P 18 21 05.2 +0.2**
comp=Z,0.2nm,0.3s,baz=198,slow=12,SNR=6.4
AKTO LR LR 18 31 04.2
comp=Z,69nm,18.9s,baz=201,slow=44
RZN Rozhen 20.09 304 P **P 18 21 08.9 +0.3**
VRI Vrincioaia 20.69 317‖ iP **P 18 21 15.4 +0.5**
VRI Vrincioaia 20.69 317 P **P 18 21 15.4 +0.5**
VRI Vrincioaia 20.69 317 P **P 18 21 15.4 +0.5**
SRS Serrai 20.71 302 P **P 18 21 16.4 +1.3**
comp=Z,11nm,1.2s
SRS Serrai 20.71 302 P **P 18 21 16.4 +1.3**
SRS pmax pmax
comp=Z,11nm,1.2s
PLOR Plostina 20.73 316‖ iP **P 18 21 16.0 +0.7**
PLOR Plostina 20.73 316 P **P 18 21 16.0 +0.7**
PLOR Plostina 20.73 316 P **P 18 21 16.0 +0.7**
MMB Musomiste 20.76 303 P **P 18 21 15.3 -0.4**
PGB Panagyurishte 20.79 306 P **P 18 21 15.8 -0.2**
SOH Sokhos 20.80 301 P Pn 18 21 19.2 +0.6
SOH pmax pmax
comp=Z,9.0nm,1.3s
MLR Muntele Rosu 20.95 315 P **P 18 21 18.2 +0.3**
comp=Z,1.4nm,0.9s,baz=228,slow=14,SNR=4.7
MLR Muntele Rosu 20.95 315‖ iP **P 18 21 19.0 +1.1**
MLR Muntele Rosu 20.95 315 eP **P 18 21 17.9 +0.1**
comp=Z,18nm,1.3s
MLR Muntele Rosu 20.95 315 eP **P 18 21 18.0 +0.1**
comp=Z,18nm,1.3s
MLR Muntele Rosu 20.95 315 eP **P 18 21 18.0 +0.1**
MLR pmax pmax
comp=Z,18nm,1.3s
LPSR Galich'ya Gora 21.08 346 eP **P 18 21 16.1 -2.8**
LPSR pmax pmax
comp=Z,50nm,0.8s
ATD Arta Tunnel 21.10 192 LR LR 18 30 12.3
comp=Z,73nm,19.8s,baz=356,slow=39
AGG Agios Georgios 21.14 295 eP **P 18 21 19.4 -0.4**
comp=Z,98nm,1.2s
AGG Agios Georgios 21.14 295 eP **P 18 21 19.4 -0.4**
comp=Z,98nm,1.2s
AGG Agios Georgios 21.14 295 eP **P 18 21 19.4 -0.4**
AGG pmax pmax
comp=Z,98nm,1.2s
SORM Soroca 21.19 323‖ iP **P 18 21 20.5 +0.3**
SORM Soroca 21.19 323 P **P 18 21 20.5 +0.3**
SORM Soroca 21.19 323 P **P 18 21 20.5 +0.3**
ITM Ithomi 21.20 290 eP **P 18 21 19.8 -0.6**
comp=Z,48nm,0.8s
ITM Ithomi 21.20 290 eP **P 18 21 19.8 -0.6**
comp=Z,48nm,0.8s
LIT Litokhoron 21.25 298 eP **P 18 21 20.1 -0.9**
comp=Z,17nm,1.2s
LIT Litokhoron 21.25 298 eP **P 18 21 20.1 -0.9**
comp=Z,17nm,1.2s
LIT Litokhoron 21.25 298 eP **P 18 21 20.1 -0.9**
LIT pmax pmax
comp=Z,17nm,1.2s
KKB Krupnik 21.31 303 P **P 18 21 26.1 +4.5**
KK31 Karatay Array 21.34 53 eP **P 18 21 22.9 +1.0**
KK31 Karatay Array 21.34 53 eP **P 18 21 22.9 +1.0**
KK31 Karatay Array 21.34 53 eP **P 18 21 22.9 +1.0**
KKAR Karatay Array 21.34 53 eP **P 18 21 22.6 +0.7**
KKAR Karatay Array 21.34 53 eP **P 18 21 22.6 +0.7**
KKAR Karatay Array 21.34 53 eP **P 18 21 22.6 +0.7**
VTS Vitosha 21.46 305‖ iP **P 18 21 23.5 +0.1**
VTS Vitosha 21.46 305 eP **P 18 21 23.5 +0.1**
comp=Z,9.1nm,1.4s
VTS Vitosha 21.46 305 P **P 18 21 26.3 +2.9**
VTS Vitosha 21.46 305 eP **P 18 21 23.5 +0.1**
comp=Z,9.1nm,1.4s
VTS Vitosha 21.46 305 eP **P 18 21 23.5 +0.1**
VTS pmax pmax
comp=Z,9.0nm,1.4s
GRG Griva 21.53 300 P **P 18 21 26.6 +2.6**
GRG pmax pmax
comp=Z,13nm,0.8s
DOPR Dopca 21.54 315‖ iP **P 18 21 24.7 +0.7**
DOPR Dopca 21.54 315‖ iP **P 18 21 24.7 +0.7**
ARR Arges 21.69 313‖ iP **P 18 21 26.6 +0.9**
ARR Arges 21.69 313‖ iP **P 18 21 26.6 +0.9**
NIL Nilore 21.96 80 eP **P 18 21 27.9 -0.8**
comp=Z,16nm,1.0s
NIL Nilore 21.96 80 eP **P 18 21 27.9 -0.8**
comp=Z,16nm,1.0s
NIL Nilore 21.96 80 eP **P 18 21 27.9 -0.8**
NIL pmax pmax
comp=Z,15nm,1.0s
FNA Florina 22.24 299 eP **P 18 21 31.8 +0.2**
comp=Z,13nm,1.0s
FNA Florina 22.24 299 eP **P 18 21 31.8 +0.2**
comp=Z,13nm,1.0s
FNA Florina 22.24 299 eP **P 18 21 31.8 +0.2**
FNA pmax pmax
comp=Z,13nm,1.0s
LOT Lotru 22.26 313‖ iP **P 18 21 33.0 +1.1**
LOT Lotru 22.26 313‖ iP **P 18 21 33.0 +1.1**
MNAS Manas 22.50 56 P **P 18 21 36.7 +2.2**
comp=Z,7.0nm,1.3s
MNAS Manas 22.50 56 P **P 18 21 36.7 +2.2**
MNAS pmax pmax
comp=Z,7.0nm,1.3s
BURAR Bucovina Array 22.54 319‖ iP **P 18 21 36.8 +2.0**
BURAR Bucovina Array 22.54 319‖ iP **P 18 21 36.8 +2.0**
BURAR Bucovina Array 22.54 319 P **P 18 21 36.8 +2.0**
BUR04 Bucovina Ar. S 22.54 319 eP **P 18 21 34.0 -0.8**
BUR04 Bucovina Ar. S 22.54 319 eP **P 18 21 34.0 -0.8**
BUR08 Bucovina Ar. S 22.56 319 eP **P 18 21 33.6 -1.5**
BUR08 Bucovina Ar. S 22.56 319 eP **P 18 21 33.6 -1.5**
AKASG Malin Array Be 22.58 329 P **P 18 21 35.2 +0.1**
comp=Z,2.1nm,0.6s,baz=136,slow=9.4,SNR=6.9
AKBB Malin Array Si 22.58 329 eP **P 18 21 34.4 -0.7**
comp=Z,6.1nm,0.8s
AKBB Malin Array Si 22.58 329 eP **P 18 21 34.4 -0.7**
comp=Z,6.1nm,0.8s
AKBB Malin Array Si 22.58 329 eP **P 18 21 34.4 -0.7**
AKBB pmax pmax
comp=Z,6.0nm,0.8s
KIEV Kiev 22.58 329 eP **P 18 21 35.1 0.0**
comp=Z,6.3nm,0.9s
KIEV Kiev 22.58 329 eP **P 18 21 35.1 0.0**
comp=Z,6.2nm,0.9s
KIEV Kiev 22.58 329‖ eP **P 18 21 35.3 +0.2**
KIEV pmax pmax
comp=Z,10.0nm,1.4s
TIR Tirane 23.48 300 eP **P 18 21 44.6 +0.2**
comp=Z,46nm,1.1s

TIR Tirane 23.48 300 *e*P **P 18 21 44.6 +0.2**
comp=Z,46nm,1.1s
TIR Tirane 23.48 300 eP **P 18 21 44.6 +0.2**
TIR pmax pmax
comp=Z,46nm,1.1s
OBN Obninsk 23.93 345 P **P 18 21 47.5 -1.1**
comp=Z,9.0nm,0.5s,baz=60,slow=2.5,SNR=7.5
OBN Obninsk 23.93 345 eP **P 18 21 47.7 -0.8**
comp=Z,69nm,1.6s
OBN Obninsk 23.93 345*d*eP **P 18 21 47.8 -0.8**
OBN ePPP PPP 18 22 25.4
OBN pmax pmax
comp=Z,47nm,1.7s
OBN MLR MLR
comp=Z,28nm,15.0s
AAK Ala-Archa 23.95 57 P **P 18 21 50.4 +1.3**
comp=Z,1.4nm,0.8s,baz=221,slow=16,SNR=4.1
AAK Ala-Archa 23.95 57 eP **P 18 21 50.3 +1.2**
comp=Z,4.7nm,1.2s
AAK Ala-Archa 23.95 57 eP **P 18 21 50.3 +1.2**
comp=Z,4.7nm,1.2s
AAK Ala-Archa 23.95 57*d* iP **P 18 21 50.6 +1.5**
AAK pmax pmax
comp=Z,9.0nm,1.7s
FRU Bishkek 24.09 56 eP **P 18 21 52.0 +1.7**
comp=Z,30nm,2.4s
FRU Bishkek 24.09 56 eP **P 18 21 52.0 +1.7**
FRU pmax pmax
comp=Z,30nm,2.4s
FRU1 Bishkek 24.09 56 P **P 18 21 51.2 +0.8**
comp=Z,8.0nm,0.5s
FRU1 Bishkek 24.09 56 P **P 18 21 51.2 +0.8**
FRU1 pmax pmax
comp=Z,8.0nm,0.5s
MOS Moscow 24.29 347 eP **P 18 21 51.1 -0.9**
MOS eS **S 18 26 08.5 -1.2**
MOS pmax pmax
comp=Z,52nm,1.3s
KSH Kashi 24.38 65 P **P 18 21 51.8 -1.4**
KSH pmax pmax
comp=Z,20nm,0.9s
UZH Uzhgorod 24.73 318 eP **P 18 21 57.2 +1.2**
UZH Uzhgorod 24.73 318 eP **P 18 21 57.2 +1.2**
UZH *i* 18 22 06.2
NRN Naryn 24.74 60 eP **P 18 21 56.6 0.0**
comp=Z,6.0nm,0.9s
NRN Naryn 24.74 60 eP **P 18 21 56.6 0.0**
comp=Z,6.0nm,0.9s
NRN Naryn 24.74 60 eP **P 18 21 56.6 0.0**
NRN pmax pmax
comp=Z,6.0nm,0.9s
OTUK Ortayu 24.79 43 P **P 18 21 57.2 +0.6**
OTUK pmax pmax
comp=Z,5.0nm,1.0s
KWP Kalwaria Pacla 25.05 321 eP **P 18 21 57.8 -1.1**
comp=Z,336nm,1.5s
KWP Kalwaria Pacla 25.05 321 eP **P 18 21 57.8 -1.1**
comp=Z,336nm,1.5s
KWP Kalwaria Pacla 25.05 321 eP **P 18 21 57.8 -1.1**
ARU Arti 25.35 15 P **P 18 22 00.5 -1.0**
comp=Z,5.3nm,1.0s,baz=217,slow=5.3,SNR=8.7
ARU LR LR 18 33 04.6
comp=Z,43nm,18.8s,baz=167,slow=39
ARU Arti 25.35 15 eP **P 18 21 60.0 -1.6**
comp=Z,14nm,1.2s
ARU Arti 25.35 15*d* iP **P 18 22 01.0 -0.5**
ARU 18 22 36.8
ARU 18 25 33.9
ARU S **S 18 26 26.9 +0.2**
ARU SS **SnSn 18 27 21.0 +2.2**
ARU pmax pmax
comp=Z,17nm,1.7s
TIP Timpagrande 25.45 294 eP **P 18 22 03.7 +1.0**
comp=Z,20nm,1.1s
TIP Timpagrande 25.45 294 eP **P 18 22 03.7 +1.0**
comp=Z,20nm,1.1s
STHS Stebnicka Huta 25.73 319 eP **P 18 22 06.3 +1.2**
STHS Stebnicka Huta 25.73 319 eP **P 18 22 06.3 +1.2**
STHS pmax pmax
comp=Z,5.0nm,1.2s
KDJ Kajisay 25.75 59 eP **P 18 22 07.8 +2.3**
comp=Z,16nm,1.3s
KDJ Kajisay 25.75 59 P **P 18 22 07.9 +2.3**
KDJ pmax pmax
comp=Z,16nm,1.3s
PSZ Piszkesteto 25.77 315 eP **P 18 22 06.3 +0.7**
comp=Z,6.1nm,0.9s
PSZ Piszkesteto 25.77 315 eP **P 18 22 06.3 +0.7**
PSZ pmax pmax
comp=Z,6.0nm,0.9s
TARG Taragay, Kyrgy 26.12 60 eP **P 18 22 10.2 +1.0**
comp=Z,5.7nm,1.0s
SVE Sverdlovsk 26.20 17 eP **P 18 22 09.0 -0.2**
SVE pmax pmax
comp=Z,16nm,1.3s
CUC Castrocucco 26.27 296 eP **P 18 22 11.0 +0.8**
comp=Z,6.6nm,0.8s
BLY Banja Luka 26.30 307 eP **P 18 22 10.7 +0.5**
comp=Z,47nm,1.6s
BRVK Borovoye 26.59 32 eP **P 18 22 11.8 -1.0**
comp=Z,8.0nm,0.9s
BRVK Borovoye 26.59 32*d* iP **P 18 22 12.7 -0.1**
BRVK pmax pmax
comp=Z,6.0nm,0.7s
LANS Liptovska Anna 26.60 317 eP **P 18 22 13.8 +0.8**
LANS Liptovska Anna 26.60 317 eP **P 18 22 13.8 +0.8**
BVAR Borovoye Array 26.61 32 P **P 18 22 12.4 -0.6**
comp=Z,0.6nm,0.4s,baz=228,slow=8.9,SNR=6.3
BVAR LR LR 18 35 11.0
comp=Z,71nm,19.9s,baz=258,slow=42
PRZ Przheval'sk 26.71 59 eP **P 18 22 14.8 +0.5**
comp=Z,8.8nm,1.0s
PRZ Przheval'sk 26.71 59 eP **P 18 22 14.8 +0.5**
PRZ pmax pmax
comp=Z,9.0nm,1.0s
OJC Ojcow 26.95 319 eP **P 18 22 15.1 -1.0**
comp=Z,5.6nm,0.9s
OJC Ojcow 26.95 319 eP **P 18 22 15.1 -1.0**
OJC pmax pmax
comp=Z,6.0nm,0.9s
IDID Didziasalis 27.04 334 eP **P 18 22 15.9 -0.9**
IDID IAmb IAmb 18 22 26.5
comp=Z,3.2nm,0.7s
IIGN Ignalina 27.26 334 eP **P 18 22 17.9 -0.9**
IIGN IAmb IAmb 18 22 28.6
comp=Z,10nm,1.1s
SUW Suwalki 27.54 329 eP **P 18 22 19.3 -2.0**
comp=Z,15nm,0.8s
SUW Suwalki 27.54 329 eP **P 18 22 19.3 -2.0**
SUW pmax pmax
comp=Z,15nm,0.8s
IZAR Zarasai 27.55 334 eP **P 18 22 20.5 -1.0**
MORC Moravsky Berou 28.00 317 eP **P 18 22 24.1 -1.5**
comp=Z,109nm,1.8s
MORC Moravsky Berou 28.00 317 eP **P 18 22 24.1 -1.5**
MORC pmax pmax
comp=Z,109nm,1.8s
KLMR Klimovskoe 28.93 352 eP **P 18 22 30.8 -2.9**
KLMR AMP 18 22 34.1
comp=Z,8.0nm,1.2s
KLMR Klimovskoe 28.93 352 eP **P 18 22 30.7 -2.9**
KLMR pmax pmax
comp=Z,8.0nm,1.2s
KURBB Kurchatov Arra 29.48 42 P **P 18 22 38.1 -0.5**
comp=Z,2.8nm,1.1s,baz=250,slow=9.5,SNR=6.9
VSU Vasula 29.51 338‖ eP **P 18 22 38.1 -0.7**
VSU pmax pmax
comp=Z,13nm,0.7s
KURK Kurchatov 29.57 42 eP **P 18 22 38.1 -1.3**
KURK Kurchatov 29.57 42‖ eP **P 18 22 40.6 +1.2**
KURK pmax pmax
comp=Z,51nm,1.2s
GEA0 GERESS Array S 29.91 313 eP **P 18 22 40.2 -2.5**
GEC2 GERESS Array S 29.92 313 eP **P 18 22 40.5 -2.2**
comp=Z,11nm,1.6s
GEC2 GERESS Array S 29.92 313 eP **P 18 22 40.5 -2.2**
GEC2 pmax pmax
comp=Z,11nm,1.6s
GERES GERESS Array B 29.92 313 P **P 18 22 42.0 -0.7**
comp=Z,0.2nm,0.3s,baz=133,slow=6.9,SNR=3.1
GERES GERESS Array B 29.92 313 P **P 18 22 42.0 -0.7**
MK01 Makanchi Array 30.44 51 eP **P 18 22 47.0 -0.2**
MK31 Makanchi Array 30.44 51 eP **P 18 22 46.0 -1.2**
MK31 Makanchi Array 30.44 51 eP **P 18 22 46.0 -1.2**
MK32 Makanchi Array 30.44 51 eP **P 18 22 47.6 +0.4**
MKAR Makanchi Array 30.44 51 P **P 18 22 47.6 +0.4**

comp=Z,2.9nm,0.9s,baz=249,slow=8.2,SNR=14
MKAR LR LR 18 36 47.0
comp=Z,73nm,18.1s,baz=244,slow=40
MKAR Makanchi Array 30.44 51 *eP* **P 18 22 46.3 -0.9**
comp=Z,15nm,0.9s
MKAR Makanchi Array 30.44 51 *eP* **P 18 22 46.3 -0.9**
MKAR pmax pmax
comp=Z,15nm,0.9s
PYUN Piuthan 31.22 88 *eP* **P 18 22 56.0 +1.5**
CLL Collm 31.28 317 *eP* **P 18 22 53.0 -1.5**
KEST Kesra 31.33 287 P **P 18 22 57.3 +2.1**
comp=Z,3.8nm,0.9s,baz=56,slow=2.6,SNR=3.6
KEST Kesra 31.33 287 *eP* **P 18 22 56.3 +1.0**
comp=Z,12nm,1.3s
FIA0 FINESS Array S 32.14 341 *eP* **P 18 23 00.8 -1.1**
FIA0 FINESS Array S 32.14 341 *eP* **P 18 23 00.8 -1.1**
FIA1 FINESS Array S 32.14 341 *eP* **P 18 23 00.5 -1.4**
FINES FINESS Array B 32.14 341 P **P 18 23 00.8 -1.1**
comp=Z,1.5nm,0.7s,baz=144,slow=10,SNR=7.0
FINES LR LR 18 37 10.8
comp=Z,49nm,18.6s,baz=76,slow=39
GKN Gorkha 32.64 88 *eP* **P 18 23 07.5 +0.6**
DMN Daman 33.15 88 *eP* **P 18 23 12.8 +1.2**
comp=Z,24nm,1.0s
KKN Kakani 33.24 88 *eP* **P 18 23 13.4 +1.1**
PKIN Phulchoki 33.41 88 *eP* **P 18 23 15.0 +1.2**
SENIN Lac Senin/Sane 33.42 306 *eP* **P 18 23 12.4 -1.3**
comp=Z,23nm,1.6s
WMQ Urumqi 33.63 58 P **P 18 23 16.5 +1.1**
BNI Bardonecchia 33.64 304 *eP* **P 18 23 14.8 -0.7**
comp=Z,33nm,1.5s
BNI Bardonecchia 33.64 304 *eP* **P 18 23 14.8 -0.7**
BNI pmax pmax
comp=Z,33nm,1.5s
GUN Gumba 33.72 87 *eP* **P 18 23 17.3 +0.7**
comp=Z,41nm,1.1s
JIRN Jiri 34.05 88 *eP* **P 18 23 20.5 +1.0**
DGZ Jazzator, Alta 34.52 48‖ *eP* **P 18 23 23.8 +0.7**
DGZ pmax pmax
comp=Z,2.0nm,1.4s
RAMN Ramite 34.62 89 *eP* **P 18 23 24.9 +0.6**
comp=Z,24nm,1.0s
HFS Hagfors 35.43 332 P **P 18 23 30.0 -0.6**
comp=Z,2.2nm,0.5s,baz=132,slow=10,SNR=13
HFS Hagfors 35.43 332 P **P 18 23 30.0 -0.6**
HFS pmax pmax
comp=Z,2.0nm,0.5s
LVZ Lovozero 36.31 352 *eP* **P 18 23 36.4 -1.7**
comp=Z,59nm,1.4s
LVZ Lovozero 36.31 352 *eP* **P 18 23 36.4 -1.7**
LVZ pmax pmax
comp=Z,59nm,1.4s
NB2 NORSAR Subarra 36.95 332 P **P 18 23 41.7 -2.0**
comp=Z,1.3nm,0.7s,baz=127,slow=7.9
NB200 NORSAR Array S 36.95 332 *eP* **P 18 23 42.4 -1.3**
NOA NORSAR Array B 36.95 332 P **P 18 23 42.3 -1.3**
comp=Z,0.4nm,0.5s,baz=126,slow=8.6,SNR=3.0
NC204 NORSAR Array S 37.27 332 *eP* **P 18 23 46.5 +0.2**
LSA Lhasa 37.66 82 *eP* **P 18 23 50.3 -0.2**
comp=Z,12nm,1.6s
LSA Lhasa 37.66 82 *eP* **P 18 23 50.3 -0.2**
LSA pmax pmax
comp=Z,12nm,1.6s
TAM Tamanrasset 37.86 266 *eP* **P 18 23 53.7 +1.8**
comp=Z,13nm,1.3s
TAM Tamanrasset 37.86 266 *eP* **P 18 23 53.7 +1.8**
TAM pmax pmax
comp=Z,13nm,1.3s
SHL Shillong 39.55 88 *eP* **P 18 24 05.7 -0.5**
comp=Z,9.5nm,1.0s
SHL Shillong 39.55 88 *eP* **P 18 24 05.7 -0.5**
SHL pmax pmax
comp=Z,10.0nm,1.0s
ES19 SONSECA Array 41.41 295 *eP* **P 18 24 21.7 +0.4**
ESDC Sonseca Array 41.47 295 P **P 18 24 21.8 +0.1**
comp=Z,0.9nm,0.6s,baz=75,slow=8.2,SNR=5.5
ESLA Sonseca Array 41.47 295 *eP* **P 18 24 21.3 -0.4**
comp=Z,13nm,1.3s
EKA Eskdalemuir Ar 41.72 319 P **P 18 24 22.6 -0.9**
comp=Z,1.6nm,0.7s,baz=105,slow=8.3,SNR=5.8
GTA Gaotai 42.79 65 *eP* **P 18 24 33.4 +0.8**
GTA pP sP 18 24 42.0 +0.9
GTA sP pP 18 24 46.3 +7.6
GTA pmax pmax
comp=Z,3.0nm,2.4s
TLY Talaya 44.99 47 LR LR 18 44 33.9
comp=Z,585nm,20.0s,baz=121,slow=37
TOA0 Torodi Ar. Sit 45.63 256 *eP* **P 18 24 54.9 -0.5**
TOA1 Torodi Ar. Sit 45.63 256 *eP* **P 18 24 56.0 +0.6**
TORD Torodi Ar. Bea 45.63 256 P **P 18 24 56.0 +0.6**
comp=Z,3.6nm,0.8s,baz=59,slow=7.8,SNR=21
TORD LR LR 18 46 10.0
comp=Z,32nm,22.0s,baz=130,slow=39
LZH Lanzhou 46.51 69 *eP* **P 18 25 03.3 +0.9**
LZH pP sP 18 25 15.9 +4.9
LZH sP pP 18 25 19.8 +11
LZH *e*PP **PP 18 26 51.4 -0.3**
LZH pmax pmax
comp=Z,26nm,1.1s
LZH pmax pmax
comp=Z,170nm,5.0s
LZH LR LR
comp=N,170nm,15.0s
LZH LR LR
comp=E,170nm,15.3s
LZH LR LR
comp=Z,240nm,18.4s
SONA0 Songino Array 46.79 53 *eP* **P 18 25 04.8 +0.4**
SONM Songino Array 46.79 53 P **P 18 25 04.8 +0.4**
comp=Z,0.7nm,1.0s,baz=260,slow=5.9,SNR=5.4
SONM LR LR 18 48 30.9
comp=Z,34nm,18.0s,baz=280,slow=41
SONA1 Songino Array 46.79 53 *eP* **P 18 25 03.9 -0.5**
SPA0 Spitsbergen Ar 47.83 352 *eP* **P 18 25 11.6 -0.3**
SPITS Spitsbergen Ar 47.83 352 P **P 18 25 11.3 -0.6**
comp=Z,13nm,1.1s,baz=150,slow=6.1,SNR=3.8
CM31 Chiang Mai Arr 48.41 94 *eP* P 18 25 12.9 -4.2
CMAR Chiang Mai Arr 48.41 94 P **P 18 25 17.0 -0.1**
comp=Z,0.8nm,0.7s,baz=294,slow=7.4,SNR=7.7
CM01 Chiang Mai Arr 48.44 94 *eP* **P 18 25 16.9 -0.5**
KMI Kunming 48.87 84 P **P 18 25 20.9 0.0**
KMI pmax pmax
comp=Z,12nm,0.8s
KOWA Kowa 49.67 261 P **P 18 25 26.5 -0.3**
comp=Z,2.9nm,0.6s,baz=61,slow=10.0,SNR=7.6
KOWA LR LR 18 47 19.9
comp=Z,55nm,18.1s,baz=26,slow=37
KOWA Kowa 49.67 261 *eP* **P 18 25 26.3 -0.5**
comp=Z,20nm,1.7s
PBKT Sadao Pong 51.00 95 *eP* P 18 25 34.9 -1.9
comp=Z,3.7nm,1.0s
XAN Xi'an 51.06 70 P **P 18 25 38.5 +1.3**
XAN pP PcP 18 26 52.3 -0.7
XAN pmax pmax
comp=Z,4.0nm,0.9s
HHC Hu-ho-hao-te 51.41 61 *eP* **P 18 25 38.4 -1.4**
HHC pmax pmax
comp=Z,11nm,1.2s
HHC pmax pmax
comp=Z,27nm,6.6s
SCO Scoresbysund 52.88 337 *eP* **P 18 25 50.2 +0.1**
comp=Z,26nm,2.0s
SCO Scoresbysund 52.88 337 *eP* **P 18 25 50.2 +0.1**
SCO pmax pmax
comp=Z,26nm,2.0s
DBIC Dimbokro 54.57 254 LR LR 18 53 39.9
comp=Z,40nm,18.4s,baz=39,slow=41
GSI Gunungsitoli 56.61 113 *eP* P 18 26 16.0 -1.9
comp=Z,14nm,1.0s
PSI Prapat 56.76 110 *eP* **P 18 26 18.4 -0.7**
comp=Z,11nm,1.2s
PSI Prapat 56.76 110 *eP* **P 18 26 18.4 -0.7**
PSI pmax pmax
comp=Z,11nm,1.2s
TIXI Tiksi 57.07 22 *eP* **P 18 26 18.8 -1.6**
comp=Z,5.7nm,1.4s
TIXI Tiksi 57.07 22 *eP* **P 18 26 18.8 -1.6**
TIXI pmax pmax
comp=Z,6.0nm,1.4s
TSUM Tsumeb 58.54 213 *eP* **P 18 26 30.9 -0.6**
comp=Z,19nm,1.6s
YAK Yakutsk 58.59 33 P **P 18 26 30.9 -0.2**
comp=Z,1.8nm,0.3s,baz=113,slow=3.5
YAK Yakutsk 58.59 33‖ *eP* **P 18 26 29.8 -1.4**
comp=Z,8.3nm,1.1s
YAK Yakutsk 58.59 33‖ *eP* **P 18 26 33.7 +2.5**
YAK pmax pmax
comp=Z,6.0nm,1.3s
NJ2 Nanjing 59.59 69 *eP* **P 18 26 37.6 -1.0**
NJ2 pmax pmax
comp=Z,13nm,0.5s
CN2 Changchun 60.59 54 *eP* **P 18 26 46.1 +0.8**
KLR Kul'dur 63.01 47 P **P 18 27 00.5 -1.0**
comp=Z,0.1nm,0.7s,baz=291,slow=6.8,SNR=4.4
KLR Kul'dur 63.01 47‖ *eP* **P 18 27 00.8 -0.7**
BOSA Boshof 64.09 201 P **P 18 27 10.6 +1.7**
comp=Z,4.5nm,1.0s,baz=19,slow=3.4,SNR=4.3
KS01 Wonju Array Si 64.51 60 *eP* **P 18 27 10.9 -0.7**
KSAR Wonju Array Be 64.52 60 P **P 18 27 11.0 -0.6**
KSAR Wonju Array Be 64.52 60 P **P 18 27 11.0 -0.6**
KSRS Korea Array 64.54 60 P **P 18 27 11.0 -0.8**
comp=Z,0.4nm,0.4s,baz=262,slow=7.8,SNR=3.3
KSRS LR LR 18 57 47.2
comp=Z,16nm,20.4s,baz=115,slow=38
SEY Seymchan 68.19 28 P **P 18 27 34.7 0.0**
comp=Z,0.8nm,0.7s,baz=279,slow=6.7,SNR=5.6
SEY Seymchan 68.19 28‖ *eP* **P 18 27 34.9 +0.2**
BILL Bilibino 70.22 20 *i* P **P 18 27 45.2 -2.0**
BILL *i* 18 27 54.4
BILL *e* 18 28 05.1
BILL pmax pmax
comp=Z,2.0nm,1.2s
BILL MLR MLR
comp=Z,46nm,19.0s
YSS Yuzh-Sakhalins 70.68 46 *eP* P 18 27 48.2 -2.2
comp=Z,8.5nm,1.1s
YSS Yuzh-Sakhalins 70.68 46 *eP* **P 18 27 50.4 0.0**
YSS *e* 18 27 57.6
YSS pmax pmax
comp=Z,10.0nm,0.9s
MYLDM Lahad Datu 71.55 96 *eP* P 18 27 53.9 -2.3
comp=Z,12nm,1.2s
ASAJ Asahikawa 71.88 49 P **P 18 27 56.9 -0.8**
comp=Z,0.8nm,0.6s,baz=45,slow=20,SNR=3.0
MAJO Matsushiro 72.39 58‖ *eP* **P 18 28 00.0 -1.0**
TOLK Toolik Lake Re 78.54 6 *eP* **P 18 28 35.6 -0.2**
comp=Z,4.4nm,0.8s
IM3 Indian Mountai 80.66 8 *eP* **P 18 28 46.3 -0.9**
MDM Murphy Dome 82.26 7 *eP* **P 18 28 55.5 -0.3**
comp=Z,5.5nm,1.2s
IL1 Eielson Array 82.57 6 *eP* **P 18 28 55.4 -1.9**
ILAR Eielson Array 82.57 6 P **P 18 28 56.6 -0.7**
comp=Z,0.7nm,1.1s,baz=351,slow=4.6,SNR=4.9
ILB Eielson Array 82.57 6 *eP* **P 18 28 56.1 -1.2**
SCRK Sand Creek 83.59 5 *eP* **P 18 29 02.0 -0.7**
comp=Z,2.8nm,1.0s
YKA Yellowknife Ar 84.33 352 P **P 18 29 05.7 -0.7**
comp=Z,0.6nm,0.7s,baz=12,slow=5.5,SNR=14
FFC Flin Flon 89.27 343 *iP* **P 18 29 31.3 +0.7**
ULM Lac du Bonnet 91.45 337 P **P 18 29 40.2 -0.6**
comp=Z,2.8nm,0.8s,baz=24,slow=10.0,SNR=3.7

CSEM ***24*** *18:19:26.6≙0.1,40.°49N×29.°21E,h2km,ML2.5,Error ellipse: s-maj=1.8km s-min=1.5km az=173.0*
DDA ***24*** *18:19:26.4,40.°49N×29.°22E,h10km,Ml2.9*
ISK 24 18:19:26.2,40.°49N×29.°21E,h6km,ML2.5/27,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GEMT	**Gemlik**	**0.05**	**200**	PG	Pg	18 19 28.3	+0.7
GEMT	**Gemlik**	**0.05**	**200**	*e*Pg	Pg	18 19 28.3	+0.7
YLV	**Yalova**	**0.15**	**56**	PG	Pg	18 19 29.8	+0.6
YLV				SG	Sg	18 19 32.1	+0.9
YLV	**Yalova**	**0.15**	**56**	*e*Pg	Pg	18 19 29.8	+0.6
YLV				*e*Sg	Sg	18 19 32.1	+0.9
IGD	**Bursa**	**0.22**	**182**	*i* P	Pg	18 19 31.5	+1.0
IGD				*i* S	Sg	18 19 34.6	+1.2
IZI	**Iznik**	**0.25**	**127**	PG	Pg	18 19 31.6	+0.5
IZI	**Iznik**	**0.25**	**127**	*e*Pg	Pg	18 19 31.6	+0.5
MDNY	**Mudanya-Bursa**	**0.28**	**245**	PG	Pg	18 19 32.5	+0.9
MDNY	**Mudanya-Bursa**	**0.28**	**245**	*e*Pg	Pg	18 19 32.5	+0.9
ARMT	**Armutlu**	**0.28**	**287**	PG	Pg	18 19 32.1	+0.4
ARMT	**Armutlu**	**0.28**	**287**	*e*Pg	Pg	18 19 32.1	+0.4
BUY	**Buyukada**	**0.37**	**349**	PG	Pg	18 19 33.7	+0.3
BUY	**Buyukada**	**0.37**	**349**	P	Pg	18 19 34.2	+0.8
BUY				*i* S	Sg	18 19 39.7	+1.3
BUY	**Buyukada**	**0.37**	**349**	*e*Pg	Pg	18 19 33.7	+0.3
BUY	**Buyukada**	**0.37**	**349**	P	Pg	18 19 34.2	+0.8
BUY				S	Sg	18 19 39.7	+1.3
ADVT	**Abdulvahap**	**0.40**	**97**	PG	Pg	18 19 34.7	+0.7
ADVT	**Abdulvahap**	**0.40**	**97**	*e*Pg	Pg	18 19 34.7	+0.7
HRT	**Hereke**	**0.48**	**46**	PG	Pg	18 19 35.8	+0.3
HRT	**Hereke**	**0.48**	**46**	*e*Pg	Pg	18 19 35.8	+0.3
ORLT	**Orhaneli**	**0.50**	**209**	PG	Pg	18 19 36.3	+0.4
ORLT	**Orhaneli**	**0.50**	**209**	*e*Pg	Pg	18 19 36.3	+0.4
CAVI	**Cavuskoy**	**0.56**	**120**	PG	Pg	18 19 37.3	+0.4
CAVI	**Cavuskoy**	**0.56**	**120**	*e*Pg	Pg	18 19 37.3	+0.4
ISK	**Istanbul-Kandi**	**0.59**	**349**	PG	Pg	18 19 38.2	+0.6
ISK	**Istanbul-Kandi**	**0.59**	**349**	*e*Pg	Pg	18 19 38.2	+0.6
KCTX	**Karacabey (Bur**	**0.69**	**252**	PG	Pg	18 19 39.9	+0.4
KCTX	**Karacabey (Bur**	**0.69**	**252**	*e*Pg	Pg	18 19 39.9	+0.4
SILE	**Sile**	**0.74**	**26**	PG	Pg	18 19 40.9	+0.4
SILT	**Sile**	**0.74**	**26**	*e*Pg	Pg	18 19 40.9	+0.4
BGKT	**Bogazkoy**	**0.77**	**334**	PG	Pg	18 19 41.0	0.0
BGKT	**Bogazkoy**	**0.77**	**334**	*e*Pg	Pg	18 19 41.0	0.0
KLYT	**Kilyos**	**0.78**	**350**	PG	Pg	18 19 41.6	+0.5
KLYT	**Kilyos**	**0.78**	**350**	*e*Pg	Pg	18 19 41.6	+0.5
GEYV	**SAKARYA_Geyve**	**0.83**	**90**	*i* P	Pg	18 19 42.3	+0.3
GEYV	**SAKARYA_Geyve**	**0.83**	**90**	P	Pg	18 19 42.3	+0.3
AUBOZ	**BOZOYUK**	**0.85**	**132**	*i* P	Pb	18 19 43.6	+0.1
AUBOZ	**BOZOYUK**	**0.85**	**132**	P	Pb	18 19 43.6	+0.1
SPNC	**Sapanca-Adapaz**	**0.86**	**76**	PG	Pg	18 19 43.0	+0.3
SPNC	**Sapanca-Adapaz**	**0.86**	**76**	*e*Pg	Pg	18 19 43.0	+0.3
SAUV	**Serdivan-Sakar**	**0.89**	**73**	PG	Pg	18 19 43.5	+0.3
SAUV	**Serdivan-Sakar**	**0.89**	**73**	*e*Pg	Pg	18 19 43.5	+0.3
ELBA	**Catalca**	**0.89**	**318**	*i* P	Pb	18 19 44.0	-0.1
ELBA	**Catalca**	**0.89**	**318**	P	Pb	18 19 44.0	-0.1
CTKS	**Kestanelik-??a**	**0.92**	**325**	PG	Pg	18 19 44.2	+0.3
CTKS	**Kestanelik-??a**	**0.92**	**325**	*e*Pg	Pg	18 19 44.2	+0.3
KAND	**Kocaeli-Kandir**	**0.96**	**50**	*i* P	Pg	18 19 44.4	-0.2
KAND				*i* S	Sg	18 19 56.7	-0.4
KAND	**Kocaeli-Kandir**	**0.96**	**50**	P	Pg	18 19 44.4	-0.2
KAND				S	Sg	18 19 56.7	-0.4
GULT	**Gulveren**	**0.99**	**93**	PG	Pb	18 19 45.8	-0.1
GULT	**Gulveren**	**0.99**	**93**	*e*Pg	Pb	18 19 45.8	-0.1
SBT3	**Marmara-Eregli**	**1.02**	**293**	PG	Pb	18 19 46.4	+0.2
SBT3	**Marmara-Eregli**	**1.02**	**293**	*e*Pg	Pb	18 19 46.4	+0.2
EDC	**Edincik**	**1.04**	**263**	PG	Pg	18 19 46.1	0.0
EDC	**Edincik**	**1.04**	**263**	*e*Pg	Pg	18 19 46.1	0.0
DURS	**Dursunbey**	**1.05**	**213**	*i* P	Pn	18 19 47.6	0.0
DURS				*i* S	Sb	18 20 00.6	-0.3
DURS	**Dursunbey**	**1.05**	**213**	P	Pn	18 19 47.6	0.0
DURS				S	Sb	18 20 00.6	-0.3
TVSB	**Tavsanli**	**1.05**	**169**	PG	Pg	18 19 46.2	-0.2
TVSB	**Tavsanli**	**1.05**	**169**	*e*Pg	Pg	18 19 46.2	-0.2
SLVT	**Silivri**	**1.06**	**315**	PG	Pb	18 19 47.1	0.0
SLVT	**Silivri**	**1.06**	**315**	*e*Pg	Pb	18 19 47.1	0.0
BORA	**Eskisehir**	**1.13**	**122**	*i* P	Pg	18 19 47.6	-0.2
BORA	**Eskisehir**	**1.13**	**122**	P	Pg	18 19 47.6	-0.2
CTYL	**Yalikoy Yolu**	**1.21**	**325**	PN	Pn	18 19 49.9	+0.2
CTYL	**Yalikoy Yolu**	**1.21**	**325**	*e*Pn	Pn	18 19 49.9	+0.2
GONE	**Gonen-Balikesi**	**1.25**	**250**	PN	Pn	18 19 50.5	+0.3
GONE	**Gonen-Balikesi**	**1.25**	**250**	*e*Pn	Pn	18 19 50.5	+0.3
CRLT	**Corlu**	**1.29**	**300**	PN	Pg	18 19 51.2	+0.2
CRLT	**Corlu**	**1.29**	**300**	*e*Pn	Pg	18 19 51.2	+0.2
SAHE	**Sakarya_HENDEK**	**1.30**	**73**	*i* P	Pn	18 19 50.5	-0.5
SAHE				*i* S	Sn	18 20 08.6	-0.1
SAHE	**Sakarya_HENDEK**	**1.30**	**73**	P	Pn	18 19 50.5	-0.5
SAHE				S	Sn	18 20 08.6	-0.1
BALB	**Balikesir**	**1.33**	**231**	PN	Pg	18 19 51.9	+0.3
BALB	**Balikesir**	**1.33**	**231**	*e*Pn	Pg	18 19 51.9	+0.3
BTAS	**Taskesti**	**1.36**	**86**	*i* P	Pn	18 19 51.7	-0.2
BTAS	**Taskesti**	**1.36**	**86**	P	Pn	18 19 51.7	-0.2
GDZ	**Gediz**	**1.41**	**171**	*i* P	Pb	18 19 53.0	-0.1
GDZ	**Gediz**	**1.41**	**171**	P	Pb	18 19 53.0	0.0
SIMA	**Simav-Kutahya**	**1.41**	**187**	PN	Pg	18 19 53.3	0.0
SIMA	**Simav-Kutahya**	**1.41**	**187**	*e*Pn	Pg	18 19 53.3	0.0
BALY	**Balya**	**1.43**	**239**	*i* P	Pn	18 19 52.7	-0.1
BALY	**Balya**	**1.43**	**239**	P	Pn	18 19 52.7	-0.1
KRBG	**Karabiga-Canak**	**1.47**	**267**	PN	Pb	18 19 53.8	-0.1
KRBG	**Karabiga-Canak**	**1.47**	**267**	*e*Pn	Pb	18 19 53.8	-0.1
DEMI	**Demirci**	**1.49**	**195**	*i* P	Pg	18 19 54.8	0.0
DEMI	**Demirci**	**1.49**	**195**	P	Pg	18 19 54.8	0.0
MDUB	**Mudurnu**	**1.51**	**90**	PN	Pb	18 19 54.5	-0.3
MDUB	**Mudurnu**	**1.51**	**90**	*e*Pn	Pb	18 19 54.5	-0.3
RKY	**Sarkoy-Tekirda**	**1.56**	**278**	PN	Pb	18 19 55.3	-0.3
RKY	**Sarkoy-Tekirda**	**1.56**	**278**	*e*Pn	Pb	18 19 55.3	-0.3
STEP	**BALIKESIR_Sava**	**1.60**	**227**	*i* P	Pn	18 19 55.4	+0.4
STEP				*i* S	Sg	18 20 19.2	+1.7
STEP	**BALIKESIR_Sava**	**1.60**	**227**	P	Pn	18 19 55.4	+0.3
STEP				S	Sg	18 20 19.2	+1.7
AUMIH	**MIHALICIK**	**1.85**	**109**	*i* P	Pb	18 20 00.8	+0.3
AUMIH	**MIHALICIK**	**1.85**	**109**	P	Pb	18 20 00.8	+0.3
LPK	**Lapseki**	**1.88**	**267**	PN	Pn	18 19 59.5	+0.6
LPK	**Lapseki**	**1.88**	**267**	*e*Pn	Pn	18 19 59.5	+0.6
AKHS	**Akhisar**	**1.93**	**214**	*i* P	Pb	18 20 01.8	-0.1
AKHS	**Akhisar**	**1.93**	**214**	P	Pb	18 20 01.8	-0.1
KESN	**Edirne-Kesan**	**1.96**	**281**	*i* P	Pn	18 20 00.1	-0.2
KESN	**Edirne-Kesan**	**1.96**	**281**	P	Pn	18 20 00.1	-0.2
MANT	**Manisa**	**2.06**	**194**	*i* P	Pb	18 20 04.8	+0.7
MANT	**Manisa**	**2.06**	**194**	P	Pb	18 20 04.8	+0.7
ERIK	**Erikli-Kesan**	**2.06**	**276**	PN	Pn	18 20 02.2	+0.8
ERIK	**Erikli-Kesan**	**2.06**	**276**	*e*Pn	Pn	18 20 02.2	+0.8

ISCJB ***24*** *18:31:55.2≙0.2,72.°23N×0.°03×131.°30W≙0.°09,h10km, mb4.0/32,MS3.9/2,Error ellipse: s-maj=4.1km s-min=3.5km az=33.0*
NEIC ***24*** *18:31:57.3≙0.2,72.°36N×131.°34W,h10km,mb4.3/10, Error ellipse: s-maj=5.6km s-min=3.5km az=132.0*
IDC ***24*** *18:31:57.2≙0.5,72.°59N×131.°21W,h0km,mb3.9/23, mb1 4.0/26,mb1mx3.9/76,mbtmp3.9/26,ML4.0/4,MS3.4/1, Ms1 3.3/1,ms1mx2.3/71,Error ellipse: s-maj=14.1km s-min=12.2km az=50.0*
PGC ***24*** *18:31:59.7≙5.7,72.°48N×131.°68W,h35km,ML3.8/1, 225km west of Sachs Harbour, Nt Beaufort Sea*
ISC 24 18:31:57.2≙0.4,72.°24N≙0.°05×131.°43W≙0.°05,h10km, n118,σ2°27/134,mb4.0/32,Beaufort Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
INK	**Inuvik**	**4.02**	**191**	Pn	**Pn**	**18 33 01.5**	**+2.8**
	2.0nm,0.3s,baz=18,slow=18,SNR=53						
INK				Sn	**Sn**	**18 33 45.8**	**+0.1**
	16nm,0.3s,baz=251,slow=31,SNR=7.2						
INK	**Inuvik**	**4.02**	**191**	Pn	**Pn**	**18 33 01.4**	**+2.8**
INK				Sn	**Sn**	**18 33 45.7**	**-0.1**
INK	**Inuvik**	**4.02**	**191**	*e*Pn	**Pn**	**18 33 01.5**	**+2.8**
INK				*e*Sn	**Sn**	**18 33 42.6**	**-3.1**
PS01	**TAPS Pump Stn**	**5.88**	**259**	P	**Pn**	**18 33 26.1**	**+1.9**
PS01				S	**Sn**	**18 34 26.2**	**-5.3**
LDBN	**Lake De Bois**	**5.99**	**155**	Pn	**Pn**	**18 33 28.0**	**+2.2**
LDBN				Sn	**Sn**	**18 34 33.1**	**-1.3**
BM3	**Burnt Mountain**	**6.63**	**230**	P	**Pn**	**18 33 35.8**	**+1.1**
DHRN	**Dharma Camp**	**6.67**	**136**	Pn	**Pn**	**18 33 35.7**	**+0.6**
DHRN				Sn	**Sn**	**18 34 48.0**	**-3.0**
TOLK	**Toolik Lake Re**	**7.06**	**248**	P	**Pn**	**18 33 41.2**	**+0.7**
TOLK				S	**Sn**	**18 34 55.4**	**-5.3**
KUKN	**Kugluktuk,NWT**	**7.12**	**120**	Pn	**Pn**	**18 33 41.9**	**+0.7**
KUKN				Sn	**Sn**	**18 34 59.3**	**-2.7**
KUKN	**Kugluktuk,NWT**	**7.12**	**120**	Pn	**Pn**	**18 33 41.9**	**+0.7**
KUKN				Sn	**Sn**	**18 34 59.3**	**-2.7**
FYU	**Fort Yukon**	**7.47**	**227**	*e*Pn	**Pn**	**18 33 46.9**	**+0.8**
FYU				*e*Sn	Sn	**18 35 03.0**	**-7.8**
HPLN	**Hepburn Lake,**	**8.19**	**128**	Pn	**Pn**	**18 33 58.8**	**+0.9**
HPLN				Sn	**Sn**	**18 35 23.6**	**-4.8**
COLD	**Coldfoot**	**8.20**	**241**	Pn	**Pn**	**18 33 56.1**	**+0.1**
COLD	**Coldfoot**	**8.20**	**241**	Pn	**Pn**	**18 33 56.1**	**+0.1**
EGAK	**Eagle**	**8.29**	**210**	*e*Pn	**Pn**	**18 33 58.0**	**+0.7**
EGAK				*e*Sn	**Sn**	**18 35 26.7**	**-4.1**
PRP	**Porcupine Dome**	**8.43**	**224**	P	**Pn**	**18 34 00.0**	**+0.7**
PRP				S	**Sn**	**18 35 30.6**	**-3.8**
DAWY	**Dawson**	**8.72**	**204**	Pn	**Pn**	**18 34 04.1**	**+0.8**
DAWY				Sn	**Sn**	**18 35 37.0**	**-4.5**
IL1	**Eielson Array**	**9.37**	**225**	*e*Pn	**Pn**	**18 34 12.7**	**+0.7**
IL1				*e*Sn	**Sn**	**18 35 50.9**	**-6.3**
ILAR	**Eielson Array**	**9.37**	**225**	Pn	**Pn**	**18 34 13.1**	**+1.1**
	0.2nm,0.3s,baz=29,slow=13,SNR=12						
ILAR				Sn	**Sn**	**18 35 54.2**	**-3.0**
	0.4nm,0.3s,baz=28,slow=21,SNR=6.6						
ILB	**Eielson Array**	**9.37**	**225**	*e*Pn	**Pn**	**18 34 10.3**	**-1.7**
ILB				*e*Sn	**Sn**	**18 35 53.1**	**-4.1**
COLA	**College**	**9.49**	**227**	*e*Pn	**Pn**	**18 34 14.8**	**+1.1**
COLA				*e*Sn	**Sn**	**18 35 56.2**	**-4.0**
MDM	**Murphy Dome**	**9.50**	**228**	P	**Pn**	**18 34 14.7**	**+0.7**
SCRK	**Sand Creek**	**9.50**	**216**	*e*Pn	**Pn**	**18 34 16.0**	**+2.0**
SCRK				*e*Sn	**Sn**	**18 35 55.1**	**-5.7**
CCB	**Clear Creek Bu**	**9.67**	**226**	*e*Pn	**Pn**	**18 34 17.9**	**+1.7**
CCB				*e*Sn	Sn	18 35 54.5	-10
HDA	**Harding Lake**	**9.69**	**224**	*e*Pn	**Pn**	**18 34 18.9**	**+2.3**
DOT	**Dot Lake**	**9.82**	**215**	Pn	**Pn**	**18 34 19.6**	**+1.3**
DOT				Sn	**Sn**	**18 36 03.7**	**-4.7**
DOT	**Dot Lake**	**9.82**	**215**	*e*Pn	**Pn**	**18 34 19.7**	**+1.4**
DOT				*e*Sn	Sn	18 36 00.1	-8.4
RIDG	**Independ'e Rid**	**9.88**	**217**	P	**Pn**	**18 34 21.2**	**+2.1**
WRH	**Wood River Hil**	**9.89**	**226**	*e*Pn	**Pn**	**18 34 19.8**	**+0.6**
WRH				*e*Sn	**Sn**	**18 36 04.3**	**-5.7**
BCA3	**Beaver Creek A**	**10.00**	**208**	P	**Pn**	**18 34 21.1**	**+0.3**
MLY	**Manley**	**10.04**	**234**	*e*Pn	**Pn**	**18 34 22.1**	**+0.8**
MLY				*e*Sn	Sn	18 36 05.5	-8.3
IM3	**Indian Mountai**	**10.08**	**243**	P	**Pn**	**18 34 21.6**	**-0.1**
RES	**Resolute Bay**	**10.56**	**60**	Pn	**Pn**	**18 34 25.0**	**-3.3**
	1.4nm,0.3s,baz=254,slow=18,SNR=23						
RES				Sn	Sn	18 36 11.9	-15
	4.0nm,0.3s,baz=162,slow=21,SNR=11						
RES	**Resolute Bay**	**10.56**	**60**	Pn	**Pn**	**18 34 25.1**	**-3.3**
RES				Sn	Sn	18 36 12.1	-14
RES	**Resolute Bay**	**10.56**	**60**	*e*Pn	**Pn**	**18 34 24.9**	**-3.3**
RES				*e*Sn	Sn	18 36 09.9	-17
PAX	**Paxson**	**10.70**	**217**	*e*Pn	**Pn**	**18 34 31.8**	**+1.5**
MCK	**McKinley**	**10.72**	**226**	*e*Pn	**Pn**	**18 34 31.3**	**+0.8**
BPAW	**Bear Paw Mtn.**	**10.87**	**231**	*e*Pn	**Pn**	**18

PD31	**Pinedale Array**	**31.39**	**148**	*eP*	**P**	**18 38 18.3**	**+0.2**
PDAR	**Pinedale Array**	**31.39**	**148**	P	**P**	**18 38 22.4**	**+4.2**
	1.0nm,0.6s,baz=12,slow=7.7,SNR=12						
SCHQ	**Schefferville**	**31.52**	**88**	LR	LR	18 51 35.4	
	comp=Z,58nm,18.4s,baz=48,slow=38						
MA2	**Magadan**	**31.54**	**288**	P	**P**	**18 38 20.3**	**+1.3**
	0.7nm,0.3s,baz=143,slow=20,SNR=3.2						
HVU	**Hansel Valley**	**31.88**	**153**	*eP*	**P**	**18 38 24.6**	**+2.3**
	3.2nm,0.8s						
NV01	**Mina Array Sit**	**34.53**	**162**	*eP*	**P**	**18 38 48.1**	**+2.5**
NVAR	**Mina Array Bea**	**34.53**	**162**	P	P	18 38 50.8	+5.2
	0.2nm,0.4s,baz=353,slow=6.4,SNR=3.0						
PEA1	**Petropavlovsk-**	**34.91**	**276**	*eP*	**P**	**18 38 50.2**	**+1.8**
PETK	**Petropavlovsk-**	**34.92**	**276**	P	**P**	**18 38 50.3**	**+1.7**
	1.3nm,0.6s,baz=59,slow=12,SNR=3.0						
NB200	**NORSAR Array S**	**44.54**	**25**	*eP*	**P**	**18 40 06.6**	**-1.9**
NOA	**NORSAR Array B**	**44.54**	**25**	P	**P**	**18 40 06.6**	**-1.9**
	0.7nm,0.7s,baz=348,slow=8.1,SNR=2.6						
TXAR	**Lajitas Array**	**45.49**	**145**	P	**P**	**18 40 20.0**	**+3.6**
	0.4nm,0.8s,baz=1.6,slow=6.3,SNR=3.3						
FIA0	**FINESS Array S**	**45.70**	**15**	*eP*	**P**	**18 40 16.0**	**-1.6**
FINES	**FINESS Array B**	**45.70**	**15**	P	**P**	**18 40 16.0**	**-1.6**
	1.3nm,0.7s,baz=0.2,slow=9.1,SNR=5.9						
HFS	**Hagfors**	**45.73**	**24**	P	**P**	**18 40 16.1**	**-1.8**
	0.6nm,0.6s,baz=328,slow=5.1,SNR=4.2						
EKA	**Eskdalemuir Ar**	**47.74**	**37**	P	**P**	**18 40 33.1**	**-0.5**
	1.1nm,0.4s,baz=336,slow=7.1,SNR=19						
SONA0	**Songino Array**	**53.61**	**315**	*eP*	**P**	**18 41 18.9**	**+0.7**
SONM	**Songino Array**	**53.61**	**315**	P	**P**	**18 41 18.9**	**+0.7**
	0.6nm,0.8s,baz=357,slow=6.2,SNR=6.5						
KURK	**Kurchatov**	**55.54**	**337**	*eP*	**P**	**18 41 30.9**	**-1.1**
	13nm,1.4s						
KURBB	**Kurchatov Arra**	**55.64**	**337**	P	**P**	**18 41 32.1**	**-0.6**
	3.0nm,0.6s,baz=12,slow=7.2,SNR=33						
AKASG	**Malin Array Be**	**56.60**	**15**	P	**P**	**18 41 38.3**	**-1.2**
	0.4nm,0.4s,baz=357,slow=7.3,SNR=1.9						
STHS	**Stebnicka Huta**	**57.13**	**21**	*eP*	**P**	**18 41 46.7**	**+3.4**
KSRS	**Korea Array**	**57.91**	**293**	P	**P**	**18 41 50.4**	**+1.4**
	0.7nm,0.6s,baz=9.2,slow=8.0,SNR=4.3						
KS15	**Wonju Array Si**	**57.93**	**293**	*eP*	**P**	**18 41 49.9**	**+0.8**
KSAR	**Wonju Array Be**	**57.93**	**293**	P	**P**	**18 41 50.4**	**+1.2**
MK32	**Makanchi Array**	**58.92**	**334**	*eP*	**P**	**18 41 54.7**	**-1.3**
MKAR	**Makanchi Array**	**58.92**	**334**	P	**P**	**18 41 54.7**	**-1.3**
	0.6nm,0.6s,baz=32,slow=10.0,SNR=6.7						
MK01	**Makanchi Array**	**58.95**	**334**	*eP*	**P**	**18 41 55.1**	**-1.0**
HHC	**Hu-ho-hao-te**	**59.04**	**308**	*eP*	**P**	**18 41 57.9**	**+1.0**
HHC				pmax	pmax		
	comp=Z,10.0nm,1.1s						
HHC				pmax	pmax		
	comp=Z,23nm,6.4s						
WMQ	**Urumqi**	**61.03**	**329**	P	**P**	**18 42 12.6**	**+2.1**
KDJ	**Kajisay**	**64.17**	**337**	*eP*	**P**	**18 42 31.2**	**-0.4**
	comp=Z,2.3nm,0.9s						
KBZ	**Khabaz**	**64.26**	**5**	P	**P**	**18 42 32.6**	**+0.7**
	comp=Z,2.3nm,0.7s,baz=351,slow=5.5,SNR=8.3						
LZH	**Lanzhou**	**65.38**	**313**	*eP*	**P**	**18 42 40.1**	**+0.5**
LZH				pP	sP	18 42 49.6	+5.6
LZH				sP	pP	18 42 54.1	+11
LZH				PP	**PP**	**18 45 05.3**	**+2.4**
LZH				pmax	pmax		
	comp=Z,18nm,0.9s						
LZH				pmax	pmax		
	comp=Z,110nm,4.3s						
LZH				LR	LR		
	comp=N,190nm,14.5s						
LZH				LR	LR		
	comp=E,200nm,14.3s						
LZH				LR	LR		
	comp=Z,270nm,17.8s						
BR101	**Keskin Array S**	**67.84**	**12**	*eP*	**P**	**18 42 55.3**	**+0.1**
BRTR	**Keskin Array B**	**67.84**	**12**	P	**P**	**18 42 55.3**	**+0.1**
	comp=Z,1.1nm,0.9s,baz=352,slow=3.9,SNR=4.7						
KEST	**Kesra**	**68.90**	**33**	P	**P**	**18 43 01.6**	**-0.2**
	comp=Z,2.4nm,0.6s,baz=356,slow=2.2,SNR=5.0						
CM31	**Chiang Mai Arr**	**83.47**	**313**	*eP*	**P**	**18 44 23.0**	**-1.7**
CMAR	**Chiang Mai Arr**	**83.47**	**313**	P	**P**	**18 44 25.1**	**+0.3**
	comp=Z,1.3nm,0.8s,baz=359,slow=5.9,SNR=12						
CM01	**Chiang Mai Arr**	**83.50**	**313**	*eP*	**P**	**18 44 25.0**	**0.0**
TOA1	**Torodi Ar. Sit**	**89.38**	**45**	*eP*	**P**	**18 44 53.3**	**-0.5**
TORD	**Torodi Ar. Bea**	**89.38**	**45**	P	**P**	**18 44 53.3**	**-0.5**
	comp=Z,0.2nm,0.4s,baz=356,slow=8.7,SNR=2.5						

*ISN **24** 18:35:55.0±1.9,32°.32N×46°.89E, h0km±7km, ML3.4*
*TEH **24** 18:35:57.8, 32°.36N×46°.89E, h5km, ML3.4*
*CSEM **24** 18:35:58.1±0.5,32°.30N×47°.11E, h30km, ML3.4, Error ellipse: s-maj=13.0km s-min=10.6km az=152.0*

ISC 24 18:35:56.0±1.5, 32°.38N±0°.04×46°.90E±0°.05, h2km±14km, n18,σ1ş23/25, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKFM	**Kafar-mosalman**	**1.39**	**35**	*eP*g	**Pb**	**18 36 22.2**	**-0.5**
IKFM				*eS*g	**Sg**	**18 36 42.1**	**+1.4**
IKFM				*eAMB*	AMB	18 36 48.8	
	comp=Z,99nm,0.3s						
NSR	**Nassriya**	**1.51**	**206**	*ePn*	**Pb**	**18 36 24.0**	**-0.8**
NSR	SNR=4.0			Sn	**Sg**	**18 36 45.0**	**+0.4**
	SNR=4.0						
SHGR	**Shooshtar-Gavs**	**1.63**	**99**	*ePg*	**Pg**	**18 36 27.3**	**0.0**
IKOM	**Komasi**	**1.86**	**16**	*ePn*	**Pb**	**18 36 30.9**	**0.0**
IKOM				*eSg*	**Sg**	**18 36 56.4**	**+0.5**
IKOM				*eAMB*	AMB	18 36 57.6	
	comp=Z,9μm,0.4s						
IGHG	**Ghaleghazi**	**1.96**	**352**	*ePn*	**Pb**	**18 36 32.9**	**+0.2**
IVIS	**Veis**	**2.14**	**359**	*ePn*	**Pb**	**18 36 34.0**	**-1.6**
IVIS				*eSg*	**Sg**	**18 37 04.8**	**-0.1**
IVIS				*eAMB*	AMB	18 37 06.8	
	comp=Z,4μm,0.3s						
BHD	**Baghdad**	**2.30**	**293**	*ePn*	**Pn**	**18 36 36.0**	**+1.0**
BHD	SNR=4.0			Sn	**Sb**	**18 37 06.0**	**-1.2**
	SNR=4.0						
ILIN	**Lien**	**2.53**	**1**	*ePn*	**Pn**	**18 36 39.1**	**+0.7**
ILIN				*eAMB*	AMB	18 37 22.3	
	comp=Z,3μm,0.3s						
SNGE	**Sanandaj**	**2.73**	**8**	*ePn*	**Pn**	**18 36 39.6**	**-1.5**
SNGE				*eSg*	**Sn**	**18 37 15.9**	**+1.1**
KHMZ	**Khomeyn**	**2.90**	**61**	*ePn*	**Pn**	**18 36 41.4**	**-2.1**
HKZM	**Kohzaman**	**3.42**	**29**	*ePn*	**Pn**	**18 36 52.1**	**+1.4**
HKZM				*eAMB*	AMB	18 37 45.8	
	comp=Z,99nm,0.4s						
IKLH	**Kolahrood**	**4.04**	**75**	*ePn*	**Pn**	**18 37 00.7**	**+1.5**
IKLH				*eAMB*	AMB	18 38 22.4	
	comp=Z,349nm,0.4s						
QAM	**Ghamsar**	**4.05**	**69**	*ePn*	**Pn**	**18 37 00.2**	**+1.0**
QAM				*eAMB*	AMB	18 38 18.0	
	comp=N,371nm,0.4s						
GHVR	**GHOM**	**4.23**	**59**	*ePn*	**Pn**	**18 36 58.7**	**-2.9**
IZEF	**Zefreh**	**4.61**	**82**	*eAMB*	AMB	18 37 30.1	
	comp=Z,141nm,0.3s						
IZEF				*ePn*	**Pn**	**18 37 07.6**	**+0.7**
IRAM	**Ramesheh**	**4.68**	**96**	*ePn*	**Pn**	**18 37 08.4**	**+0.4**
IRAM				*eAMB*	AMB	18 38 51.9	
	comp=Z,131nm,0.4s						
IKAZ	**Kazeroun**	**4.96**	**120**	*ePn*	**Pn**	**18 37 12.5**	**+0.6**
IKAZ				*eAMB*	AMB	18 38 17.3	
	comp=Z,368nm,0.3s						
RTB	**Rutbah**	**5.60**	**278**	*ePn*	**Pn**	**18 37 20.0**	**-0.4**
RTB	SNR=4.0			Sn	**Sn**	**18 38 26.0**	**+0.7**
	SNR=4.0						

IDC 24 18:40:27.0±1.2, 0°.32N×125°.16E, h0km, mb3.4/4, mb1 3.6/5, mb1mx3.3/55, mbtmp3.5/5, ML3.2/1, MS2.9/1, Ms1 2.9/1, ms1mx2.3/33, Error ellipse: s-maj=55.7km s-min=21.0km az=59.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**6.22**	**101**	Pn	Pn	18 42 01.0	+0.8
	0.6nm,0.3s,baz=302,slow=15,SNR=7.2						
WRA	**Warramunga Arr**	**22.06**	**156**	P	P	18 45 22.5	-1.1
	1.9nm,0.8s,baz=336,slow=10,SNR=21						
ASAR	**Alice Springs**	**25.32**	**161**	P	P	18 45 56.2	+0.6
	0.5nm,0.7s,baz=340,slow=7.4,SNR=17						
JNU	**Nakatsue**	**33.07**	**9**	LR	LR	19 00 22.8	
	comp=Z,21nm,20.6s,baz=306,slow=36						
MKAR	**Makanchi Array**	**59.49**	**327**	P	P	18 50 32.5	+0.4
	0.2nm,0.4s,baz=123,slow=5.3,SNR=6.2						
KURBB	**Kurchatov Arra**	**63.78**	**329**	P	P	18 51 00.1	-0.8
	0.2nm,0.4s,baz=136,slow=6.5,SNR=2.9						

MAN 24 18:41:42,10°.74N×125°.05E, h18km, mb4.1, ML2.9, MS2.5, 1D, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLP	**Palo**	**0.43**	**351**	*eP*	Pn	18 41 52.6	-0.7
PLP				*eS*	Sn	18 42 02.4	+1.6
MSLP	**Maasin**	**0.63**	**198**	*eP*	Pn	18 41 55.6	-0.4
MSLP				*eS*	Sn	18 42 08.1	+2.5
CNP	**Catarman**	**1.80**	**348**	*eP*	Pn	18 42 13.3	+1.1
CNP				*eS*	Sg	18 42 39.5	-0.7

*ISCJB **24** 18:51:12.9±0.2, 26°.78N±0°.03×140°.26E±0°.05, h369km, mb4.0/86, Error ellipse: s-maj=5.7km s-min=3.5km az=179.1*
*NEIC **24** 18:51:14.8±0.4, 26°.79N×140°.25E, h375km±4km, mb4.2/60, Error ellipse: s-maj=5.5km s-min=3.7km az=109.0*
*IDC **24** 18:51:15.3±1.0, 26°.78N×140°.24E, h379km±10km, mb3.5/30, mb1 3.6/36, mb1mx3.5/66, mbtmp4.3/36, Error ellipse: s-maj=12.2km s-min=7.4km az=92.0*
*JMA **24** 18:51:17.8±0.2, 27°.10N×140°.75E, h369km±3km, M4.4*

ISC 24 18:51:15.3±0.6, 26°.92N±0°.07×140°.33E±0°.08, h369km, n139,σ1ş43/129, mb4.1/86, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.67**	**84**	P	**Pn**	**18 52 07.0**	**+0.7**
CBIJ				S	**S**	**18 52 45.4**	**-1.9**
CBIJ	**Chichi jima**	**1.67**	**84**	*ePn*	**Pn**	**18 52 07.2**	**+1.0**
CBIJ				*eS*	**S**	**18 52 45.0**	**-2.2**
JCJ	**Chichijima**	**1.67**	**84**	P	**Pn**	**18 52 07.4**	**+1.1**
	baz=270,slow=20						
JCJ				S	**S**	**18 52 44.7**	**-2.6**
	366nm,0.3s,baz=258,slow=20,SNR=24						
JHHJ	**Haha-jima-NKT**	**1.68**	**99**	P	**Pn**	**18 52 07.4**	**+1.0**
JHHJ				S	**S**	**18 52 45.8**	**-1.6**
JHCJ	**Hachijojimakas**	**6.15**	**356**	P	**Pn**	**18 52 50.2**	**+1.8**
JHCJ				*eS*	**S**	**18 54 03.9**	**-0.2**
JHJ2	**Mitsune**	**6.19**	**356**	P	**Pn**	**18 52 50.7**	**+1.9**
JHJ2	**Mitsune**	**6.19**	**356**	*ePn*	**Pn**	**18 52 50.1**	**+1.3**
JHJ2				*eS*	**S**	**18 54 00.6**	**-4.2**
JHJ	**Hachijo jima 2**	**6.20**	**356**	P	**Pn**	**18 52 50.7**	**+1.8**
	55nm,0.3s,baz=274,slow=16,SNR=22						
JHJ				S	**S**	**18 53 59.9**	**-5.2**
	14nm,0.3s,baz=70,slow=15,SNR=2.2						
BSO1	**Boso 1**	**7.73**	**4**	P	**P**	**18 53 07.5**	**+0.6**
BSO1				*eS*	**S**	**18 54 33.5**	**-2.9**
JIE	**Ise**	**8.07**	**338**	P	**P**	**18 53 14.9**	**+2.5**
JOD2	**Odawara 2**	**8.38**	**353**	P	**Pn**	**18 53 15.9**	**+1.7**
JOD2				*eS*	**S**	**18 54 49.4**	**-2.1**
JYN	**Shimob**	**8.69**	**350**	P	**Pn**	**18 53 19.7**	**+1.9**
JTO	**Tosashimizu**	**8.81**	**314**	P	**Pn**	**18 53 23.3**	**+4.1**
INU	**Inuyama**	**8.87**	**342**	*ePn*	**Pn**	**18 53 19.6**	**-0.2**
JRY	**Ryogami san**	**9.15**	**353**	P	**Pn**	**18 53 24.6**	**+1.4**
JRY				*eS*	**S**	**18 55 05.1**	**-3.0**
MJAR	**Matsushiro Arr**	**9.76**	**350**	P	**Pn**	**18 53 30.2**	**-0.2**
	0.8nm,0.3s,baz=167,slow=10,SNR=12						
MJAR				S	**S**	**18 55 18.1**	**-3.0**
	0.9nm,0.3s,baz=348,slow=31,SNR=7.4						
MAJO	**Matsushiro**	**9.76**	**350**	*ePn*	**Pn**	**18 53 29.8**	**-0.6**
MAT	**Matsushiro**	**9.76**	**350**	P	**Pn**	**18 53 31.4**	**+1.0**
MAT				S	**S**	**18 55 19.0**	**-2.2**
MJB9	**Matsu-Tunnel**	**9.77**	**350**	*ePn*	**Pn**	**18 53 29.6**	**-0.8**
JHS	**Saijyo**	**10.15**	**324**	P	**P**	**18 53 39.0**	**+3.4**
JNU	**Nakatsue**	**10.26**	**309**	P	Pn	18 53 35.5	-0.8
	0.1nm,0.3s,baz=150,slow=20,SNR=2.2						
JNU	**Nakatsue**	**10.26**	**309**	*ePn*	**Pn**	**18 53 37.3**	**+1.0**
JOI	**OKI**	**11.12**	**329**	P	**Pn**	**18 53 50.4**	**+4.1**
JMK	**Ichinoseki**	**12.02**	**3**	P	**Pn**	**18 53 58.9**	**+2.0**
KSRS	**Korea Array**	**14.84**	**318**	P	**P**	**18 54 28.2**	**+1.1**
	0.3nm,0.3s,baz=129,slow=10,SNR=10						
KS01	**Wonju Array Si**	**14.87**	**318**	*eP*	**P**	**18 54 27.6**	**+0.1**
ERM	**Erimo**	**15.24**	**8**	*eP*	**Pn**	**18 54 34.0**	**-0.1**
	46nm,1.4s						
ASAJ	**Asahikawa**	**17.26**	**6**	P	**P**	**18 54 54.8**	**+1.6**
	0.7nm,0.3s,baz=220,slow=11,SNR=7.6						
ASAJ				S	**S**	**18 57 58.8**	**+5.0**
	0.2nm,0.3s,baz=282,slow=14,SNR=2.2						
ASAJ	**Asahikawa**	**17.26**	**6**	*eP*	**P**	**18 54 54.7**	**+1.5**
	3.0nm,0.6s						
USRK	**Ussuriysk Ar.**	**18.51**	**341**	P	**P**	**18 55 07.8**	**+1.2**
	0.6nm,0.3s,baz=159,slow=10,SNR=16						
YSS	**Yuzh-Sakhalins**	**20.09**	**5**	*eP*	**P**	**18 55 22.8**	**+0.2**
	8.2nm,1.0s						
KLR	**Kul'dur**	**23.25**	**346**	P	**P**	**18 55 52.0**	**+0.9**
	0.2nm,0.4s,baz=164,slow=9.1,SNR=20						
XAN	**Xi'an**	**27.91**	**292**	P	**P**	**18 56 34.0**	**+1.0**
XAN				pP	PP	18 57 56.8	+12
XAN				pmax	pmax		
	comp=Z,4.0nm,1.2s						
SIJI	**Sorong**	**28.97**	**199**	P	P	18 56 39.5	-3.0
	comp=Z,4.1nm,0.4s,baz=187,slow=7.6,SNR=5.7						
PETK	**Petropavlovsk-**	**29.19**	**22**	P	**P**	**18 56 44.8**	**+0.8**
	comp=Z,0.8nm,0.6s,baz=189,slow=7.5,SNR=5.3						
PETK	**Petropavlovsk-**	**29.19**	**22**	*eP*	**P**	**18 56 45.7**	**+1.7**
FAKI	**Fak Fak**	**30.67**	**196**	*eP*	P	18 56 55.9	-1.5
	comp=Z,31nm,1.2s						
LUWI	**Luwuk**	**32.54**	**214**	*eP*	P	18 57 10.7	-2.8
	comp=Z,16nm,0.8s						
MA2	**Magadan**	**33.43**	**10**	P	**P**	**18 57 21.3**	**+0.6**
	comp=Z,3.2nm,0.6s,baz=178,slow=10,SNR=8.1						
MA2	**Magadan**	**33.43**	**10**	*eP*	**P**	**18 57 21.2**	**+0.5**
	comp=Z,6.4nm,1.2s						
SONM	**Songino Array**	**33.71**	**317**	P	**P**	**18 57 22.7**	**-0.7**
	comp=Z,0.5nm,0.5s,baz=127,slow=7.2,SNR=3.7						
SONA1	**Songino Array**	**33.71**	**317**	*eP*	**P**	**18 57 23.1**	**-0.3**
SEY	**Seymchan**	**36.88**	**9**	P	**P**	**18 57 50.5**	**+0.8**
	comp=Z,3.6nm,0.5s,baz=189,slow=8.1,SNR=40						
SOEI	**Soe**	**39.65**	**205**	*eP*	P	18 58 11.2	-2.0
	comp=Z,13nm,1.0s						
BATI	**Baumata**	**40.29**	**206**	P	P	18 58 16.3	-2.1
	comp=Z,4.7nm,0.3s,baz=11,slow=5.2,SNR=3.2						
MTN	**Manton Dam**	**40.52**	**194**	*eP*	P	18 58 18.2	-2.0
	comp=Z,15nm,0.5s						
COEN	**Coen**	**40.73**	**176**	*eP*	P	18 58 20.3	-1.5
	comp=Z,26nm,1.5s						
ATKA	**Atka Island**	**42.25**	**41**	*eP*	**P**	**18 58 34.7**	**+1.0**
	comp=Z,105nm,1.4s						
LSA	**Lhasa**	**43.13**	**286**	*eP*	P	18 58 41.6	0.0
	comp=Z,12nm,2.0s						
TIXI	**Tiksi**	**45.23**	**355**	*eP*	**P**	**18 58 56.1**	**-0.7**
	comp=Z,2.3nm,0.7s						
WRAB	**Tennant Creek**	**46.93**	**188**	*eP*	P	18 59 08.8	-1.8
	comp=Z,26nm,1.8s						
WB2	**Warramunga Arr**	**46.94**	**188**	*eP*	P	18 59 07.3	-3.4
WRA	**Warramunga Arr**	**46.94**	**188**	P	P	18 59 08.8	-1.9
	comp=Z,6.1nm,0.4s,baz=4.0,slow=7.5,SNR=210						
CTA	**Charters Tower**	**47.08**	**172**	P	**P**	**18 59 10.4**	**-1.3**
	comp=Z,2.0nm,0.8s,baz=5.7,slow=10,SNR=4.1						
MK01	**Makanchi Array**	**49.30**	**310**	*eP*	P	18 59 27.3	-1.1
MK31	**Makanchi Array**	**49.31**	**310**	*eP*	**P**	**18 59 28.0**	**-0.4**
MKAR	**Makanchi Array**	**49.31**	**310**	P	**P**	**18 59 28.1**	**-0.3**
	comp=Z,1.5nm,0.6s,baz=91,slow=9.4,SNR=14						
MKAR	**Makanchi Array**	**49.31**	**310**	*eP*	**P**	**18 59 28.1**	**-0.3**
	comp=Z,11nm,0.9s						
MAKZ	**Makanchi**	**49.53**	**310**	*eP*	P	18 59 28.9	-1.1
	comp=Z,4.6nm,1.2s						
AS01	**Alice Springs**	**50.66**	**188**	*eP*	P	18 59 36.2	-2.4
AS31	**Alice Springs**	**50.67**	**188**	*eP*	P	18 59 36.8	-1.9
	comp=Z,2.2nm,1.5s						
ASAR	**Alice Springs**	**50.67**	**188**	P	P	18 59 36.7	-2.0
	comp=Z,0.8nm,0.4s,baz=358,slow=4.9,SNR=40						
SDPT	**Sand Point**	**50.89**	**39**	*eP*	**P**	**18 59 39.5**	**-0.4**
	comp=Z,398nm,2.0s						
MBWA	**Marble Bar**	**51.79**	**205**	*eP*	P	18 59 45.2	-1.7
	comp=Z,53nm,1.6s						
KURK	**Kurchatov**	**51.93**	**315**	*eP*	**P**	**18 59 46.6**	**-1.0**
	comp=Z,4.8nm,0.6s						
KURBB	**Kurchatov Arra**	**51.98**	**315**	P	**P**	**18 59 47.2**	**-0.7**
	comp=Z,5.7nm,0.5s,baz=93,slow=8.0,SNR=47						
SVW2	**Sparrevohn**	**54.33**	**33**	*eP*	**P**	**19 00 05.8**	**+1.1**
	comp=Z,12nm,1.4s						
KDAK	**Kodiak Island**	**55.50**	**37**	P	**P**	**19 00 13.0**	**+0.1**
	comp=Z,7.8nm,0.9s,baz=255,slow=20,SNR=5.3						
IM3	**Indian Mountai**	**55.95**	**27**	*eP*	**P**	**19 00 16.8**	**+0.8**
IM3				*ePcP*	**PcP**	**19 01 09.8**	**+0.2**
PPLA	**Purkeypile**	**56.16**	**31**	*eP*	**P**	**19 00 17.7**	**-0.1**
	comp=Z,32nm,1.9s						
CAST	**Castle Rocks**	**56.27**	**30**	*eP*	**P**	**19 00 18.7**	**+0.3**
	comp=Z,2.5nm,0.5s						
SKT	**Skwentna**	**56.36**	**32**	*eP*	**P**	**19 00 19.1**	**+0.1**
	comp=Z,5.3nm,1.1s						
BRLK	**Bradley Lake**	**56.50**	**34**	*eP*	**P**	**19 00 19.2**	**-0.9**
KTH	**Kantishna Hill**	**56.80**	**30**	*eP*	**P**	**19 00 22.9**	**+0.7**
	comp=Z,13nm,1.7s						
BPAW	**Bear Paw Mtn.**	**56.83**	**29**	*eP*	**P**	**19 00 23.1**	**+0.8**
	comp=Z,14nm,1.8s						
MLY	**Manley**	**57.05**	**28**	*eP*	**P**	**19 00 24.4**	**+0.6**
	comp=Z,2.6nm,0.6s						
BVAR	**Borovoye Array**	**57.05**	**317**	P	**P**	**19 00 23.8**	**-0.2**
	comp=Z,5.6nm,0.4s,baz=86,slow=7.1,SNR=64						
TRF	**Thorofare Moun**	**57.07**	**30**	*eP*	**P**	**19 00 24.4**	**+0.2**
	comp=Z,22nm,1.8s						
BRVK	**Borovoye**	**57.11**	**317**	*eP*	**P**	**19 00 24.1**	**-0.3**
	comp=Z,6.1nm,0.8s						
RC01	**Rabbit Creek A**	**57.15**	**33**	*eP*	**P**	**19 00 24.2**	**-0.3**
	comp=Z,14nm,1.4s						
NIL	**Nilore**	**57.42**	**294**	*eP*	P	19 00 26.1	-0.8
	comp=Z,5.0nm,0.6s						
COLD	**Coldfoot**	**57.54**	**26**	*eP*	**P**	**19 00 28.0**	**+0.8**
	comp=Z,14nm,2.0s						
MCK	**McKinley**	**57.70**	**30**	*eP*	**P**	**19 00 28.2**	**-0.1**
	comp=Z,5.3nm,0.8s						
RND	**Reindeer**	**57.71**	**30**	*eP*	**P**	**19 00 28.1**	**-0.4**
	comp=Z,4.2nm,0.6s						
KK31	**Karatay Array**	**57.84**	**306**	*eP*	**P**	**19 00 29.5**	**-0.2**
KKAR	**Karatay Array**	**57.84**	**306**	*eP*	**P**	**19 00 29.4**	**-0.2**
SML	**Sawmill**	**57.86**	**32**	*eP*	**P**	**19 00 29.5**	**0.0**
	comp=Z,5.2nm,0.8s						
MDM	**Murphy Dome**	**58.10**	**28**	*eP*	**P**	**19 00 31.2**	**+0.1**
	comp=Z,4.3nm,0.6s						
WRH	**Wood River Hil**	**58.12**	**29**	*eP*	**P**	**19 00 31.2**	**0.0**
	comp=Z,9.7nm,1.6s						
SCM	**Sheep Creek Mo**	**58.34**	**32**	*eP*	**P**	**19 00 32.9**	**+0.1**
	comp=Z,10nm,0.8s						
STKA	**Stephens Creek**	**58.48**	**179**	P	P	19 00 32.0	-1.9
	comp=Z,1.7nm,0.9s,baz=0.0,slow=12,SNR=2.9						
STKA	**Stephens Creek**	**58.48**	**179**	*eP*	P	19 00 31.4	-2.6
	comp=Z,6.6nm,1.8s						
FORT	**Forrest**	**58.56**	**192**	*eP*	P	19 00 32.5	-2.0
	comp=Z,39nm,1.4s						
HDA	**Harding Lake**	**58.62**	**29**	*eP*	**P**	**19 00 33.3**	**-1.2**
	comp=Z,13nm,1.4s						
ILAR	**Eielson Array**	**58.66**	**29**	P	**P**	**19 00 34.0**	**-0.9**
	comp=Z,1.2nm,0.6s,baz=258,slow=5.8,SNR=13						
ILB	**Eielson Array**	**58.66**	**29**	*eP*	**P**	**19 00 34.2**	**-0.7**
IL1	**Eielson Array**	**58.66**	**29**	*eP*	**P**	**19 00 34.1**	**-0.8**
KLU	**Klutina**	**59.01**	**32**	*eP*	**P**	**19 00 37.8**	**+0.5**
	comp=Z,6.8nm,1.2s						
PAX	**Paxson**	**59.23**	**31**	*eP*	**P**	**19 00 38.9**	**+0.1**
	comp=Z,9.3nm,1.4s						
HARP	**HAARP**	**59.37**	**31**	*eP*	**P**	**19 00 40.6**	**+0.9**
	comp=Z,39nm,1.6s						
RIDG	**Independ'e Rid**	**59.52**	**30**	*eP*	**P**	**19 00 40.7**	**-0.1**
	comp=Z,19nm,1.7s						
BBOO	**Buckleboo**	**59.54**	**184**	*eP*	P	19 00 39.5	-1.7
	comp=Z,42nm,1.5s						
RAGM	**Ragged Mountai**	**59.63**	**34**	*eP*	**P**	**19 00 42.0**	**+0.5**
	comp=Z,10nm,0.9s						
BMRM	**Bremner River**	**59.65**	**33**	*eP*	**P**	**19 00 41.8**	**+0.1**
	comp=Z,8.2nm,1.1s						
DOT	**Dot Lake**	**59.87**	**30**	*eP*	**P**	**19 00 42.5**	**-0.6**
	comp=Z,12nm,0.8s						
SCRK	**Sand Creek**	**59.90**	**30**	*eP*	**P**	**19 00 43.0**	**-0.4**
	comp=Z,5.8nm,0.6s						
BALM	**Baldy**	**60.74**	**33**	*eP*	**P**	**19 00 49.0**	**-0.2**
	comp=Z,20nm,2.0s						
EGAK	**Eagle**	**61.11**	**29**	*eP*	**P**	**19 00 51.1**	**-0.2**
	comp=Z,16nm,2.0s						
DAWY	**Dawson**	**61.92**	**29**	*eP*	**P**	**19 00

*MAN **24** 19:04:23, 18˚09N×119˚85E, h12km, mb5.1, ML4.0, MS4.1*
ISC 24 19:04:18.0±2.0, **18˚37N**±0˚04×**119˚88E**±0˚07, **h2**km±12km, **n52**, σ2≧**12**/**54**, **mb4.1**/20, **Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m s	ISC
ABRA	**Dolores**	**1.07**	**132**	*eP*		**Pn**	**19**	**04 40.2**	**+0.2**
ABRA				*eS*		**Sn**	**19**	**04 55.0**	**-0.5**
APYP	**Conner**	**1.39**	**111**	*eP*		**Pg**	**19**	**04 45.4**	**+0.7**
APYP				*eS*		**Sn**	**19**	**05 02.8**	**-0.5**
CVP	**Callao Caves**	**1.96**	**110**	*eP*		**Pg**	**19**	**04 55.0**	**-0.7**
CVP				*i S*		**Sg**	**19**	**05 19.3**	**-1.8**
BOLP	**Bolinao**	**1.98**	**179**	*eP*		**Pn**	**19**	**04 51.5**	**-1.0**
BOLP				*eS*		**Sn**	**19**	**05 14.9**	**-3.1**
CAUP	**Cauayan**	**2.33**	**127**	*eP*		**Pb**	**19**	**05 00.8**	**0.0**
CAUP				*eS*		**Sg**	**19**	**05 35.6**	**+2.6**
PCPH	**Palayan**	**3.03**	**157**	*eP*		**Pn**	**19**	**05 08.7**	**+1.7**
BALP	**Baler**	**3.08**	**148**	*eP*		**Pb**	**19**	**05 10.6**	**-2.9**
BALP				*eS*		**Sn**	**19**	**05 44.5**	**-0.6**
TGY	**Tagaytay City**	**4.37**	**166**	Pn		**Pn**	**19**	**05 21.2**	**-4.2**
	23nm,0.3s,baz=79,slow=16,SNR=2.3								
TGY				Sn		**Sn**	**19**	**06 16.2**	**-0.7**
	22nm,0.3s,baz=133,slow=20,SNR=1.8								
TWG	**Pinlang**	**4.56**	**14**	*e*Pn		**Pn**	**19**	**05 28.7**	**+0.5**
TWG				*e*Sn		**Sn**	**19**	**06 15.5**	**-6.3**
TPUB	**Ta-pu**	**4.95**	**8**	*e*Pn		**Pn**	**19**	**05 34.4**	**+0.9**
TPUB				*e*Sn		**Sn**	**19**	**06 24.5**	**-6.9**
YULB	**Yu-li**	**5.17**	**15**	*e*Pn		**Pn**	**19**	**05 37.8**	**+1.3**
YULB				*e*Sn		**Sn**	**19**	**06 33.3**	**-3.4**
SSLB	**Suanglung**	**5.48**	**10**	*e*Pn		**Pn**	**19**	**05 40.5**	**-0.2**
JNU	**Nakatsue**	**17.69**	**32**	P		**P**	**19**	**08 26.8**	**+0.1**
	0.2nm,0.3s,baz=193,slow=9.9,SNR=4.8								
JNU				LR		LR	19	15 23.0	
	comp=Z,33nm,19.8s,baz=282,slow=37								
JNU	**Nakatsue**	**17.69**	**32**	*e*Pn		**P**	**19**	**08 27.8**	**+1.1**
	13nm,1.0s								
LUWI	**Luwuk**	**19.50**	**171**	*e*P		**P**	**19**	**08 46.2**	**-0.4**
	25nm,1.0s								
CMAR	**Chiang Mai Arr**	**19.87**	**274**	P		**P**	**19**	**08 51.1**	**+0.4**
	0.1nm,0.3s,baz=87,slow=10,SNR=2.7								
KS15	**Wonju Array Si**	**20.25**	**19**	*e*P		Pn	19	08 56.3	-0.3
KSAR	**Wonju Array Be**	**20.25**	**19**	P		Pn	19	08 57.3	+0.7
KSRS	**Korea Array**	**20.28**	**19**	P		Pn	19	08 57.3	+0.5
	5.3nm,0.7s,baz=201,slow=12,SNR=19								
KSRS				LR		LR	19	16 49.5	
	comp=Z,30nm,20.1s,baz=217,slow=37								
KS01	**Wonju Array Si**	**20.29**	**19**	*e*P		**P**	**19**	**08 54.5**	**-0.6**
JHJ	**Hachijo jima 2**	**23.11**	**47**	LR		LR	19	17 55.1	
	comp=Z,14nm,19.6s,baz=216,slow=35								
GUMO	**Guam**	**24.48**	**98**	LR		LR	19	19 32.3	
	comp=Z,28nm,18.1s,baz=294,slow=38								
BATI	**Baumata**	**28.64**	**172**	P		**P**	**19**	**10 15.7**	**-0.6**
	12nm,0.7s,baz=17,slow=1.4,SNR=4.4								
SONM	**Songino Array**	**31.38**	**342**	LR		LR	19	23 07.9	
	comp=Z,26nm,18.0s,baz=177,slow=36								
KLR	**Kul'dur**	**32.24**	**15**	P		**P**	**19**	**10 50.2**	**+2.5**
	0.3nm,0.9s,baz=235,slow=7.2,SNR=10								
TLY	**Talaya**	**35.63**	**343**	LR		LR	19	26 06.1	
	comp=Z,20nm,19.1s,baz=148,slow=36								
WR1	**Warramunga Arr**	**40.63**	**159**	*e*P		**P**	**19**	**11 57.8**	**-1.9**
	5.4nm,0.7s								
WRA	**Warramunga Arr**	**40.63**	**159**	P		**P**	**19**	**11 57.8**	**-1.9**
	3.0nm,0.5s,baz=341,slow=8.9,SNR=47								
WB2	**Warramunga Arr**	**40.64**	**159**	*e*P		**P**	**19**	**11 57.5**	**-2.3**
	5.8nm,0.8s								
MK32	**Makanchi Array**	**41.87**	**321**	*e*P		**P**	**19**	**12 12.8**	**+3.1**
MKAR	**Makanchi Array**	**41.87**	**321**	P		**P**	**19**	**12 12.8**	**+3.1**
	0.2nm,0.5s,baz=110,slow=12,SNR=3.9								
AS31	**Alice Springs**	**43.97**	**161**	*e*P		**P**	**19**	**12 26.0**	**-0.9**
	2.5nm,0.8s								
ASAR	**Alice Springs**	**43.97**	**161**	P		**P**	**19**	**12 26.1**	**-0.8**
	3.7nm,0.4s,baz=340,slow=7.1,SNR=87								
AS01	**Alice Springs**	**43.98**	**161**	*e*P		**P**	**19**	**12 25.8**	**-1.2**
YAK	**Yakutsk**	**44.15**	**7**	LR		LR	19	31 28.2	
	comp=Z,22nm,21.4s,baz=135,slow=37								
YAK	**Yakutsk**	**44.15**	**7**	*e*P		**P**	**19**	**12 27.3**	**-0.6**
	5.0nm,0.5s								
KURBB	**Kurchatov Arra**	**45.93**	**324**	P		**P**	**19**	**12 45.0**	**+2.8**
	1.1nm,0.7s,baz=123,slow=8.2,SNR=9.3								
BVAR	**Borovoye Array**	**51.52**	**324**	P		**P**	**19**	**13 27.5**	**+2.4**
	0.1nm,0.4s,baz=94,slow=9.3,SNR=2.7								
TIXI	**Tiksi**	**53.54**	**4**	P		**P**	**19**	**13 40.2**	**+0.4**
	0.8nm,0.5s,baz=229,slow=2.8,SNR=7.8								
TIXI	**Tiksi**	**53.54**	**4**	*e*P		**P**	**19**	**13 39.3**	**-0.5**
	7.2nm,1.7s								
STKA	**Stephens Creek**	**54.13**	**157**	P		**P**	**19**	**13 43.7**	**-0.9**
	0.9nm,0.6s,baz=352,slow=8.1,SNR=5.4								
STKA	**Stephens Creek**	**54.13**	**157**	*e*P		**P**	**19**	**13 43.2**	**-1.4**
	6.7nm,1.8s								
CAST	**Castle Rocks**	**72.87**	**28**	*e*P		**P**	**19**	**15 49.6**	**+1.3**
	3.6nm,0.8s								
MDM	**Murphy Dome**	**74.32**	**26**	*e*P		**P**	**19**	**15 58.6**	**+1.7**
	5.3nm,1.1s								
ILAR	**Eielson Array**	**74.92**	**26**	P		**P**	**19**	**16 00.5**	**+0.2**
	0.5nm,0.6s,baz=268,slow=4.2,SNR=5.6								
ILB	**Eielson Array**	**74.92**	**26**	*e*P		**P**	**19**	**16 00.7**	**+0.4**
FIA0	**FINESS Array S**	**75.85**	**330**	*e*P		**P**	**19**	**16 06.9**	**+1.3**
FINES	**FINESS Array B**	**75.85**	**330**	P		**P**	**19**	**16 06.9**	**+1.3**
	0.6nm,0.5s,baz=73,slow=4.8,SNR=5.9								
HFS	**Hagfors**	**82.03**	**331**	P		**P**	**19**	**16 40.2**	**+0.6**
	1.2nm,0.9s,baz=101,slow=15,SNR=2.5								
NB200	**NORSAR Array S**	**82.78**	**332**	*e*P		**P**	**19**	**16 43.1**	**-0.5**
NOA	**NORSAR Array B**	**82.78**	**332**	P		**P**	**19**	**16 43.1**	**-0.5**
	1.0nm,0.9s,baz=67,slow=4.9,SNR=3.4								
YKA	**Yellowknife Ar**	**88.78**	**22**	P		**P**	**19**	**17 14.5**	**+1.4**
	0.4nm,0.6s,baz=314,slow=4.5,SNR=12								

*BJI **24** 19:14:35.4, 8˚48N×93˚90E, h6km, mb4.5/40, mB4.7/26, Ms4.3/21, Ms7 4.0/20*
*IDC **24** 19:14:37.7±0.5, 8˚83N×94˚04E, h0km, mb4.1/26, mb1 4.3/26, mb1mx4.0/74, mbtmp4.1/26, MS3.6/12, Ms1 3.6/12, ms1mx3.3/54, Error ellipse: s-maj=20.0km s-min=14.4km az=61.0*
*ISCJB **24** 19:14:40.0±0.2, 8˚88N±0˚02×93˚94E±0˚03, h22km, mb4.7/98, MS3.8/19, Error ellipse: s-maj=5.0km s-min=2.5km az=147.4*
*MOS **24** 19:14:40.4±1.0, 8˚78N×93˚94E, h29km, mb4.9/35, Error ellipse: s-maj=10.7km s-min=5.2km az=107.6*
*NEIC **24** 19:14:40.5±2.0, 8˚86N×93˚93E, h15km±12km, mb4.8/51, Error ellipse: s-maj=6.1km s-min=3.4km az=64.0*
*DJA **24** 19:14:43.4±0.8, 9˚N±2˚×9˚4E±˚, h110km±16km, M4.5/14, mb4.4/14, mB5.1/7, ML v4.6/8, Mw(mB)4.5/7*
ISC 24 19:14:41.9±0.3, **8.79N**±0˚04×**93˚85E**±0˚05, **h22**km, **n271**, σ1≦**84**/278, **mb4.7**/100, **MS3.7**/20, **10C-8D**, **Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m s	ISC
PBA	**Port Blair**	**3.05**	**339**	*e*P		Pn	19	15 27.4	-1.4
PBA	**Port Blair**	**3.05**	**339**	*e*Pn		Pn	19	15 26.7	-2.2
BSI	**Banda Aceh**	**3.57**	**156**	P		**Pn**	**19**	**15 39.2**	**+3.2**
DGPR	**DIGLIPUR**	**4.46**	**348**	*e*P		**Pn**	**19**	**15 50.0**	**+1.8**
PKDT	**Phuket**	**4.52**	**101**	P		**Pn**	**19**	**15 47.3**	**-1.8**
LHMI	**Lhok Sumawe**	**4.68**	**139**	P		**Pn**	**19**	**15 53.4**	**+2.1**
LHMI				S		**Sn**	**19**	**16 47.5**	**+2.5**
LHMI	**Lhok Sumawe**	**4.68**	**139**	*e*Pn		**Pn**	**19**	**15 49.7**	**-1.6**
MLSI	**Meulaboh, Aceh**	**5.16**	**150**	P		**Pn**	**19**	**16 01.0**	**+3.1**
MLSI				S		**Sn**	**19**	**17 00.7**	**+4.0**
TRTT	**Trang**	**5.86**	**99**	P		**Pn**	**19**	**16 05.3**	**-2.1**
	24nm,0.9s,336nm0.1nm								
TPTI		**6.41**	**149**	P		**Pn**	**19**	**16 18.0**	**+2.9**
TPTI				S		**Sn**	**19**	**17 30.7**	**+3.0**
KCSI	**Kotacane, Aceh**	**6.52**	**143**	P		**Pn**	**19**	**16 18.1**	**+1.5**
KCSI				S		**Sn**	**19**	**17 34.0**	**+3.6**
SKLT	**Songkhla**	**6.89**	**103**	P		**Pn**	**19**	**16 25.2**	**+3.5**
	45nm,1.1s,574nm0.1nm								
PHET	**Kaeng Krachan**	**7.00**	**54**	P		**Pn**	**19**	**16 20.8**	**-2.4**
	23nm,0.5s,288nm0.1nm								
TSI	**Tuntungan**	**7.04**	**138**	P		**Pn**	**19**	**16 26.9**	**+3.2**
KULM	**Kulim**	**7.59**	**117**	*e*Pn		**Pn**	**19**	**16 29.8**	**-1.5**
PSI	**Prapat**	**7.80**	**139**	*e*Pn		**Pn**	**19**	**16 34.7**	**+0.4**
PSI	**Prapat**	**7.80**	**139**	*e*P		**Pn**	**19**	**16 34.7**	**+0.4**
GSI	**Gunungsitoli**	**8.31**	**153**	P		**Pn**	**19**	**16 43.0**	**+1.8**
GSI	**Gunungsitoli**	**8.31**	**153**	*e*Pn		**Pn**	**19**	**16 41.9**	**+0.8**
IPM	**Ipoh**	**8.31**	**121**	*e*Pn		**Pn**	**19**	**16 39.5**	**-1.7**
CHBT	**CHBT**	**9.21**	**64**	P		**Pn**	**19**	**16 57.1**	**+3.5**
	82nm,0.7s,27μm0.3nm								
SRAK	**Srakaew**	**9.56**	**56**	P		Pn	19	17 04.7	+6.4
	86nm,0.7s,866nm								
MNSI	**Mandailing Nat**	**9.78**	**144**	P		**Pn**	**19**	**17 02.2**	**+0.9**
	19nm,0.7s								
PBKT	**Sadao Pong**	**10.39**	**41**	P		**Pn**	**19**	**17 12.5**	**+2.8**
	7.3nm,1.1s								
PBKT	**Sadao Pong**	**10.39**	**41**	*e*Pn		**Pn**	**19**	**17 06.2**	**-3.5**
PHIT	**Phitsanulok**	**10.52**	**37**	P		**Pn**	**19**	**17 11.3**	**-0.1**
	8.1nm,0.8s								
CHAI	**Chaiyaphum**	**10.63**	**48**	P		Pn	19	17 23.8	+11
CM01	**Chiang Mai Arr**	**10.78**	**27**	*e*Pn		**Pn**	**19**	**17 13.4**	**-1.7**
CM31	**Chiang Mai Arr**	**10.81**	**27**	*e*Pn		**Pn**	**19**	**17 12.7**	**-2.8**
CMAR	**Chiang Mai Arr**	**10.81**	**27**	Pn		**Pn**	**19**	**17 14.8**	**-0.6**
	1.9nm,0.3s,baz=212,slow=15,SNR=69								
BKNI	**Bangkinang**	**11.04**	**139**	P		Pn	19	17 29.9	+11
BKNI	**Bangkinang**	**11.04**	**139**	*e*Pn		**Pn**	**19**	**17 19.5**	**+0.9**
CHTO	**Chiang Mai**	**11.12**	**26**	P		Pn	19	17 27.7	+7.9
	28nm,1.3s								
CHTO	**Chiang Mai**	**11.12**	**26**	*e*Pn		**Pn**	**19**	**17 19.1**	**-0.7**
CHTO	**Chiang Mai**	**11.12**	**26**	*e*P		**Pn**	**19**	**17 19.1**	**-0.7**
SISI	**Saibi**	**11.32**	**152**	P		**Pn**	**19**	**17 22.9**	**+0.4**
PDSI	**Padang**	**11.67**	**145**	P		**Pn**	**19**	**17 28.2**	**+0.9**
MYKOM	**Kota Tinggi**	**12.14**	**124**	*e*Pn		**Pn**	**19**	**17 32.5**	**-1.1**
VIS	**Vishakhapatnam**	**13.55**	**312**	*i* P		**Pn**	**19**	**17 51.7**	**-1.2**
VIS					IAmb	IAmb	19	17 54.9	
	comp=Z,13nm,0.8s								
VIS				*i* x		x	19	20 14.4	
MDRS	**Chennai**	**14.02**	**289**	*e*P		**Pn**	**19**	**18 00.2**	**+0.8**
MDRS					IAmb	IAmb	19	18 09.9	
	comp=Z,40nm,0.4s								
MASI	**Maura Aman, Be**	**14.50**	**144**	P		**P**	**19**	**18 16.7**	**+4.2**
MNAI	**Manna**	**15.90**	**145**	*e*Pn		**P**	**19**	**18 26.4**	**-1.7**
	comp=Z,111nm,1.0s								
IMP	**Imphal**	**15.96**	**0**	*e*P		**Pn**	**19**	**18 24.0**	**-1.2**
BOK	**Bokaro**	**16.76**	**334**	*e*P		**Pn**	**19**	**18 34.6**	**-0.8**
SHL	**Shillong**	**16.79**	**354**	*e*P		**Pn**	**19**	**18 33.1**	**-2.9**
SHL					IAmb	IAmb	19	18 37.9	
	comp=Z,30nm,1.2s								
KOHI	**KOHIMA**	**16.84**	**1**	*e*P		**Pn**	**19**	**18 33.3**	**-3.3**
TURI	**Tura**	**17.00**	**349**	*e*P		**Pn**	**19**	**18 36.1**	**-2.4**
MOKO	**MOKOCHONG**	**17.45**	**2**	*e*P		**Pn**	**19**	**18 43.4**	**-0.8**
TEZP	**TEZPUR**	**17.76**	**357**	*e*P		**P**	**19**	**18 48.1**	**-0.4**
KSM	**Kuching**	**17.92**	**113**	*e*Pn		**Pn**	**19**	**18 44.6**	**-5.3**
	comp=Z,11nm,1.0s								
ITAN	**ITANAGAR**	**18.26**	**360**	*e*P		**Pn**	**19**	**18 52.0**	**-2.0**
KMI	**Kunming**	**18.32**	**26**	P		**P**	**19**	**18 59.0**	**+4.0**
KMI				pP		sP	19	19 03.5	-0.5
KMI				sP		pP	19	19 06.3	+5.2
KMI				S		**S**	**19**	**22 23.3**	**-0.3**
KMI				SS		**SnSn**	**19**	**22 44.6**	**+11**
KMI				pmax		pmax			
	comp=Z,11nm,1.0s								
KMI				pmax		pmax			
	comp=Z,170nm,4.8s								
KMI				LR		LR			
	comp=Z,150nm,9.3s								
KMI				LR		LR			
	comp=Z,400nm,9.5s								
KMI				LR		LR			
	comp=Z,330nm,14.6s								
LKP	**Lekhapani**	**18.54**	**6**	*e*P		**P**	**19**	**18 54.3**	**-2.8**
QIZ	**Qiongzhong**	**18.55**	**55**	P		**Pn**	**19**	**18 56.9**	**-0.6**
QIZ				S		**Sn**	**19**	**22 23.8**	**-0.6**
QIZ				LR		LR			
	comp=Z,1μm,13.0s								
QIZ				LR		LR			
	comp=Z,460nm,10.0s								
QIZ				LR		LR			
	comp=Z,470nm,9.7s								
ZIRO	**ZIRO**	**18.64**	**360**	*e*P		**P**	**19**	**18 57.5**	**-0.9**
NGP	**Nagpur**	**18.83**	**312**	*e*P		**P**	**19**	**19 00.7**	**+0.2**
NGP					IAmb	IAmb	19	19 11.1	
	comp=Z,647nm,5.0s								
ODAN	**Odare**	**18.99**	**342**	*e*P		**Pn**	**19**	**19 02.8**	**-0.3**
GTK	**Tadong**	**19.09**	**346**	*e*P		**P**	**19**	**19 02.5**	**-0.9**
SBUM	**Sibu**	**19.32**	**108**	*e*P		**P**	**19**	**19 04.8**	**-1.1**
	comp=Z,10nm,1.0s								
RAMN	**Ramite**	**19.33**	**340**	*e*P		**P**	**19**	**19 06.3**	**+0.2**
	comp=Z,77nm,0.9s								
JIRN	**Jiri**	**20.12**	**340**	*e*P		**P**	**19**	**19 14.5**	**-0.3**
PKIN	**Phulchoki**	**20.33**	**338**	*e*P		**P**	**19**	**19 17.2**	**+0.2**
	comp=Z,44nm,0.6s								
GUN	**Gumba**	**20.46**	**339**	*e*P		**P**	**19**	**19 17.9**	**-0.6**
	comp=Z,61nm,0.6s								
DMN	**Daman**	**20.46**	**337**	*e*P		**P**	**19**	**19 18.1**	**-0.4**
	comp=Z,37nm,0.8s								
KKN	**Kakani**	**20.56**	**338**	*e*P		**P**	**19**	**19 18.8**	**-0.7**
	comp=Z,29nm,0.5s								
LEM	**Lembang**	**20.71**	**138**	LR		LR	19	27 28.8	
	comp=Z,297nm,19.7s,baz=305,slow=37								
LSA	**Lhasa**	**20.96**	**353**	*e*P		**P**	**19**	**19 22.0**	**-2.0**
	comp=Z,22nm,0.8s								
LSA	**Lhasa**	**20.96**	**353**	*e*P		**P**	**19**	**19 22.0**	**-2.0**
LSA				pmax		pmax			
	comp=Z,22nm,0.8s								
GKN	**Gorkha**	**21.00**	**337**	*e*P		**P**	**19**	**19 23.6**	**-0.5**
	comp=Z,48nm,0.6s								
KOLN	**Koldanda**	**21.22**	**334**	*e*P		**P**	**19**	**19 25.7**	**-0.9**
	comp=Z,24nm,0.5s								
GYA	**Guiyang**	**21.37**	**33**↑	*i* P		**P**	**19**	**19 28.0**	**-0.1**
GYA				PP		**PnPn**	**19**	**19 52.3**	**+4.0**
GYA				S		**S**	**19**	**23 21.0**	**-3.5**
GYA				SS		**SnSn**	**19**	**23 54.3**	**+6.4**
GYA				pmax		pmax			
	comp=Z,20nm,0.7s								
GYA				pmax		pmax			
	comp=Z,120nm,5.0s								
GYA				LR		LR			
	comp=Z,520nm,17.1s								
GYA				LR		LR			
	comp=Z,440nm,16.4s								
GYA				LR		LR			
	comp=Z,480nm,16.8s								
PYUN	**Piuthan**	**21.77**	**333**	*e*P		**P**	**19**	**19 31.6**	**-0.9**
	comp=Z,47nm,0.8s								
KKM	**Kota Kinabalu**	**22.34**	**95**	*e*P		**P**	**19**	**19 36.2**	**-2.4**
	comp=Z,15nm,1.1s								
CD2	**Chengdu**	**23.87**	**21**	P		**P**	**19**	**19 53.5**	**-0.5**
CD2				pP		pP	19	19 58.0	-2.6
CD2				sP		sP	19	20 00.0	-3.3
CD2				S		**S**	**19**	**24 10.1**	**+1.1**
CD2				sS		sS	19	24 17.8	-2.1
CD2				pmax		pmax			
	comp=Z,70nm,0.6s								
CD2				pmax		pmax			
	comp=Z,220nm,5.0s								
CD2				LR		LR			
	comp=Z,520nm,10.7s								
CD2				LR		LR			
	comp=Z,440nm,9.5s								
MYLDM	**Lahad Datu**	**24.72**	**97**	*e*P		**P**	**19**	**20 02.8**	**+0.9**
	comp=Z,64nm,1.6s								
ENH	**Enshi**	**25.90**	**32**	*e*P		**P**	**19**	**20 10.5**	**-1.9**
	comp=Z,14nm,1.3s								
JAGI	**Jajag, Banyuwa**	**26.51**	**130**	*e*P		**P**	**19**	**20 17.7**	**-0.4**
	comp=Z,35nm,1.2s								
DGAR	**Diego Garcia**	**26.72**	**234**	*e*P		**P**	**19**	**20 18.7**	**-1.3**
	comp=Z,584nm,1.7s								
DGAR	**Diego Garcia**	**26.72**	**234**	*e*P		**P**	**19**	**20 18.7**	**-1.3**
TGY	**Tagaytay City**	**27.05**	**76**	LR		LR	19	30 36.1	
	comp=Z,198nm,18.9s,baz=93,slow=36								
SMLA	**Simla**	**27.13**	**327**	*e*P		**P**	**19**	**20 22.8**	**-0.6**
SMLA					IAmb	IAmb	19	20 26.3	
	comp=Z,12nm,0.2s								
DHRM	**DHARAMSHALA**	**28.46**	**328**	*e*P		**P**	**19**	**20 34.3**	**-1.4**
DHRM					IAmb	IAmb	19	20 36.4	
	comp=Z,9.7nm,0.8s								
LZH	**Lanzhou**	**28.66**	**17**	*e*P		**P**	**19**	**20 40.0**	**+2.7**
LZH				pP		pP	19	20 43.0	-1.0
LZH				sP		sP	19	20 46.0	-0.7
LZH				PP		**PnPn**	**19**	**21 30.3**	**+2.4**
LZH				S		**S**	**19**	**25 26.4**	**+1.3**
LZH				sS		pS	19	25 33.6	+0.9
LZH				pmax		pmax			
	comp=Z,15nm,0.9s								
LZH				pmax		pmax			
	comp=Z,240nm,5.0s								
LZH				LR		LR			
	comp=Z,780nm,14.2s								
LZH				LR		LR			
	comp=Z,840nm,15.4s								
LZH				LR		LR			
	comp=Z,870nm,16.8s								
XAN	**Xi'an**	**28.70**	**27**	P		**P**	**19**	**20 36.6**	**-1.0**
XAN				pP		pP	19	20 43.0	-1.3
XAN				S		**S**	**19**	**25 32.6**	**+7.0**
XAN				pmax		pmax			
	comp=Z,9.0nm,1.0s								
XAN				pmax		pmax			
	comp=Z,99nm,6.1s								
XAN				LR		LR			
	comp=Z,220nm,14.7s								
XAN				LR		LR			
	comp=Z,200nm,14.9s								
XAN				LR		LR			
	comp=Z,330nm,14.7s								
GTA	**Gaotai**	**30.96**	**9**	⇓P		P	19	21 04.1	+6.5
GTA				pP		sP	19	21 09.1	+2.1
GTA				sP		pP	19	21 11.3	+7.0
GTA				S		**S**	**19**	**26 07.3**	**+6.2**
GTA				pmax		pmax			
	comp=Z,5.0nm,1.5s								
GTA				pmax		pmax			
	comp=Z,100nm,4.0s								
GTA				LR		LR			
	comp=N,120nm,14.3s								
GTA				LR		LR			
	comp=E,110nm,13.8s								
GTA				LR		LR			
	comp=Z,79nm,15.0s								
GTA	**Gaotai**	**30.96**	**9**	⇓P		**P**	**19**	**20 59.0**	**+1.4**
GTA				pP		pP	19	21 04.3	0.0
GTA				sP		sP	19	21 06.9	-0.1
GTA				pmax		pmax			
	comp=Z,4.0nm,1.1s								
NIL	**Nilore**	**31.19**	**325**	*e*P		**P**	**19**	**20 59.1**	**-0.5**
	comp=Z,35nm,1.2s								
NIL	**Nilore**	**31.19**	**325**	*e*P		**P**	**19**	**20 59.1**	**-0.5**
NIL				pmax		pmax			
	comp=Z,35nm,1.2s								
NJ2	**Nanjing**	**32.77**	**42**	*e*P		**P**	**19**	**21 12.3**	**-1.2**
NJ2				pmax		pmax			
	comp=Z,15nm,0.5s								
KBL	**Kabul**	**34.28**	**322**	*e*P		**P**	**19**	**21 26.2**	**-0.6**
	comp=Z,5.1nm,0.8s								
KBL	**Kabul**	**34.28**	**322**	*e*P		**P**	**19**	**21 26.3**	**-0.6**
KBL				pmax		pmax			
	comp=Z,5.0nm,0.8s								
KSH	**Kashi**	**34.53**	**335**	P		**P**	**19**	**21 28.3**	**-0.6**
KSH				pP		pP	19	21 32.3	-3.3
KSH				pmax		pmax			
	comp=Z,24nm,0.6s								
WMQ	**Urumqi**	**35.31**	**352**	P		**P**	**19**	**21 37.8**	**+2.3**
WMQ				sP		pP	19	21 42.8	+0.6
WMQ				pmax		pmax			
	comp=Z,6.0nm,0.7s								
SOEI	**Soe**	**35.44**	**121**	*e*P		**P**	**19**	**21 36.1**	**-1.0**
	comp=Z,18nm,1.1s								
HHC	**Hu-ho-hao-te**	**35.59**	**23**	*e*P		**P**	**19**	**21 38.5**	**+0.5**
HHC				S		**S**	**19**	**27 06.0**	**-7.0**
HHC				pmax		pmax			
	comp=Z,22nm,0.9s								
HHC				pmax		pmax			
	comp=Z,65nm,4.7s								
HHC				LR		LR			
	comp=Z,770nm,12.3s								
HHC				LR		LR			
	comp=Z,830nm,11.9s								
HHC				LR		LR			
	comp=Z,880nm,12.2s								
TARG	**Taragay, Kyrgy**	**35.74**	**339**	*e*P		**P**	**19**	**21 39.0**	**-0.7**
	comp=Z,8.9nm,0.9s								
SFK	**Sufi-Kurgan**	**36.01**	**333**	P		**P**	**19**	**21 41.7**	**0.0**
SFK				pmax		pmax			
	comp=Z,13nm,0.9s								
NRN	**Naryn**	**36.15**	**337**	*e*P		**P**	**19**	**21 42.2**	**-0.8**
	comp=Z,5.1nm,1.0s								
PRZ	**Przheval'sk**	**36.21**	**341**	*e*P		**P**	**19**	**21 41.9**	**-1.4**
	comp=Z,8.7nm,0.8s								
PRZ	**Przheval'sk**	**36.21**	**341**	*e*P		**P**	**19**	**21 41.9**	**-1.4**
PRZ				pmax		pmax			
	comp=Z,9.0nm,0.8s								
KDJ	**Kajisay**	**36.31**	**339**	*e*P		**P**	**19**	**21 43.5**	**-0.8**
	comp=Z,10nm,0.9s								
KDJ	**Kajisay**	**36.31**	**339**	*e*P		**P**	**19**	**21 43.5

comp=E,8.0nm,1.2s
NVS pmax pmax
comp=Z,14nm,1.2s
NWAO Narrogin (SRO) 47.09 153 *e*P **P 19 23 11.1 -1.2**
comp=Z,78nm,1.9s
NWAO Narrogin (SRO) 47.09 153 *e*P **P 19 23 11.1 -1.2**
NWAO pmax pmax
comp=Z,78nm,1.9s
KRAR Krasnoyarsk 47.11 359⇑*e*P **P 19 23 12.7 +0.6**
RER Riviere de l'E 47.82 231 *e*P **P 19 23 19.2 +0.9**
comp=Z,132nm,1.3s
BVAR Borovoye Array 48.04 341 P **P 19 23 17.9 -1.5**
comp=Z,0.7nm,0.5s,baz=143,slow=8.8,SNR=10
BVAR LR LR 19 45 13.7
comp=Z,30nm,22.0s,baz=136,slow=38
BRVK Borovoye 48.10 341 *e*P **P 19 23 19.6 -0.3**
comp=Z,3.8nm,0.7s
BRVK Borovoye 48.10 341⇓*e*P **P 19 23 20.7 +0.8**
BRVK pmax pmax
comp=Z,9.0nm,0.8s
RAYN Ar Rayn 48.46 294 *e*P **P 19 23 23.6 +0.4**
comp=Z,9.1nm,1.0s
RAYN Ar Rayn 48.46 294 *e*P **P 19 23 23.6 +0.4**
RAYN pmax pmax
comp=Z,9.0nm,1.0s
WR1 Warramunga Arr 49.02 126 *e*P **P 19 23 26.2 -1.4**
comp=Z,37nm,0.9s
WRA Warramunga Arr 49.02 126 P **P 19 23 26.2 -1.3**
comp=Z,1.2nm,0.7s,baz=303,slow=9.3,SNR=12
WRAB Tennant Creek 49.03 126 *e*P **P 19 23 25.9 -1.6**
comp=Z,33nm,0.8s
WRAB Tennant Creek 49.03 126 *e*P **P 19 23 26.0 -1.6**
WRAB pmax pmax
comp=Z,33nm,0.8s
WB2 Warramunga Arr 49.03 126 *e*P **P 19 23 25.6 -1.9**
comp=Z,32nm,0.8s
ABKAR Akbulak array 49.30 331 *e*P **P 19 23 28.0 -1.2**
comp=Z,67nm,0.5s
ATD Arta Tunnel 50.23 278 LR LR 19 42 09.0
comp=Z,74nm,19.8s,baz=342,slow=33
ASAR Alice Springs 50.72 130 P **P 19 23 38.0 -2.4**
comp=Z,0.8nm,0.8s,baz=302,slow=6.5,SNR=9.2
ASAR PcP **PcP 19 24 56.3 -1.2**
comp=Z,0.3nm,0.8s,baz=316,slow=5.2,SNR=2.6
AS31 Alice Springs 50.72 130 *e*P **P 19 23 38.6 -1.8**
comp=Z,2.7nm,1.0s
AS01 Alice Springs 50.75 130 *e*P **P 19 23 38.3 -2.4**
AKTO Aktyubinsk 51.02 331 LR LR 19 47 30.4
comp=Z,42nm,21.0s,baz=141,slow=39
KLR Kul'dur 51.25 31⇑*e*P **P 19 23 43.5 -0.5**
GNI Garni 53.60 314 *e*P **P 19 24 00.7 -1.1**
comp=Z,7.0nm,1.2s
GNI Garni 53.60 314 *e*P **P 19 24 00.7 -1.1**
GNI pmax pmax
comp=Z,7.0nm,1.2s
SVE Sverdlovsk 54.45 338 *e*P **P 19 24 08.5 +1.0**
SVE pmax pmax
comp=Z,14nm,1.0s
ASAJ Asahikawa 54.92 41 *e*P **P 19 24 11.1 0.0**
comp=Z,3.4nm,1.0s
ARU Arti 54.94 337 *e*P **P 19 24 11.6 +0.6**
comp=Z,5.7nm,1.0s
ARU Arti 54.94 337 *d i*P **P 19 24 11.4 +0.4**
ARU 19 26 12.3
ARU S **S 19 31 54.4 +2.9**
ARU SS **SS 19 35 36.2 +1.1**
ARU pmax pmax
comp=Z,13nm,2.5s
KBZ Khabaz 56.23 317 P **P 19 24 22.0 +1.5**
comp=Z,0.8nm,0.5s,baz=135,slow=1.4,SNR=3.5
YSS Yuzh-Sakhalins 56.24 38 *e*P **P 19 24 19.5 -1.1**
comp=Z,11nm,1.0s
YSS Yuzh-Sakhalins 56.24 38⇑*e*P **P 19 24 20.4 -0.2**
YSS pmax pmax
comp=Z,11nm,1.0s
KIV Kislovodsk 56.45 318 *e*P **P 19 24 22.9 +0.6**
comp=Z,7.1nm,1.0s
KIV Kislovodsk 56.45 318 *e*P **P 19 24 23.9 +1.6**
KIV pmax pmax
comp=Z,8.0nm,1.1s
KIV MLR MLR
comp=Z,28nm,16.0s
KMBO Kilima Mbogo 57.25 263 *e*P **P 19 24 28.3 -0.3**
comp=Z,6.1nm,1.1s
KMBO Kilima Mbogo 57.25 263 *e*P **P 19 24 28.3 -0.3**
KMBO pmax pmax
comp=Z,6.0nm,1.1s
BBOO Buckleboo 57.68 138 *e*P **P 19 24 30.9 0.0**
comp=Z,88nm,1.9s
MMAI Mount Meron Ar 58.88 303 LR LR 19 53 31.8
comp=Z,54nm,18.5s,baz=220,slow=40
YAK Yakutsk 59.23 19⇓*e*P **P 19 24 41.8 +0.6**
YAK pmax pmax
comp=Z,7.0nm,0.6s
BR101 Keskin Array S 61.62 310 *e*P **P 19 24 57.5 -0.8**
BRTR Keskin Array B 61.62 310 P **P 19 24 57.5 -0.8**
comp=Z,1.1nm,0.7s,baz=148,slow=10,SNR=4.4
OBN Obninsk 64.46 328 *e*P **P 19 25 19.8 +3.2**
OBN *e* 19 25 52.0
OBN *e* 19 27 38.5
OBN pmax pmax
comp=Z,7.0nm,0.9s
OBN MLR MLR
comp=Z,61nm,20.0s
KLMR Klimovskoe 65.51 334 *e*P **P 19 25 27.0 +3.6**
KLMR AMP 19 25 30.8
comp=Z,12nm,1.4s
KLMR Klimovskoe 65.51 334 *e*P **P 19 25 26.9 +3.6**
KLMR pmax pmax
comp=Z,12nm,1.4s
KARP Karpathos 66.00 305 *e*P **P 19 25 27.6 +0.5**
comp=Z,5.4nm,1.2s
MA2 Magadan 66.09 28 P **P 19 25 26.0 -1.1**
comp=Z,0.7nm,0.3s,baz=180,slow=16,SNR=2.0
MA2 Magadan 66.09 28⇑*e*P **P 19 25 28.3 +1.2**
MA2 pmax pmax
comp=Z,4.0nm,1.2s
TIXI Tiksi 66.40 11 *e*P **P 19 25 26.1 -2.8**
comp=Z,5.0nm,0.8s
TIXI Tiksi 66.40 11 *e*P **P 19 25 26.1 -2.8**
TIXI pmax pmax
comp=Z,5.0nm,0.8s
AKASG Malin Array Be 67.27 321 P **P 19 25 33.7 -1.0**
comp=Z,0.4nm,0.5s,baz=82,slow=6.9,SNR=3.0
AKBB Malin Array Si 67.27 321 *e*P **P 19 25 33.9 -0.9**
comp=Z,12nm,1.8s
AKBB Malin Array Si 67.27 321 *e*P **P 19 25 33.9 -0.9**
AKBB pmax pmax
comp=Z,12nm,1.8s
KIEV Kiev 67.27 321⇓*e*P **P 19 25 38.0 +3.2**
KIEV pmax pmax
comp=Z,12nm,3.2s
TMCR Tamitsa 67.68 337 *e*P **P 19 25 36.3 -0.8**
TMCR pmax pmax
comp=Z,16nm,1.3s
VRI Vrincioaia 67.85 316 P **P 19 25 39.6 +1.0**
VRI pmax pmax
comp=Z,94nm,1.3s
MLR Muntele Rosu 68.32 315 P **P 19 25 43.1 +1.4**
comp=Z,0.7nm,0.9s,baz=104,slow=4.2,SNR=6.0
BUR04 Bucovina Ar. S 69.19 318 *e*P **P 19 25 47.5 +0.4**
BUR08 Bucovina Ar. S 69.20 318 *e*P **P 19 25 46.5 -0.7**
JOF Joensuu 69.91 334 P **P 19 25 50.0 -1.0**
JOF pmax pmax
comp=Z,8.0nm,1.3s
WAKE Wake Island 70.98 73 *e*P **P 19 25 57.6 -0.8**
comp=Z,346nm,1.4s
SUW Suwalki 71.60 324 *e*P **P 19 26 01.7 +0.2**
comp=Z,18nm,1.0s
FIA1 FINESS Array S 71.77 332 *e*P **P 19 26 01.5 -0.9**
FIA0 FINESS Array S 71.78 332 *e*P **P 19 26 01.4 -1.0**
FIA0 FINESS Array S 71.78 332 *e*P **P 19 26 01.4 -1.0**
FINES FINESS Array B 71.78 332 P **P 19 26 01.4 -1.0**
comp=Z,3.3nm,0.8s,baz=92,slow=9.7,SNR=10.0
NIE Niedzica 72.68 319 P **P 19 26 08.6 +0.4**
NIE pmax pmax
comp=Z,3.0nm,2.6s
LANS Liptovska Anna 73.19 319 *e*P **P 19 26 11.0 -0.2**
LANS Liptovska Anna 73.19 319 *e*P **P 19 26 11.0 -0.2**
KEV Kevo 73.89 341 *e*P **P 19 26 14.6 -0.2**
comp=Z,63nm,1.7s
KEV Kevo 73.89 341 *e*P **P 19 26 14.6 -0.2**
KEV pmax pmax
comp=Z,63nm,1.7s
ARA0 ARCESS Array S 74.31 340 *e*P **P 19 26 16.7 -0.7**
ARCES ARCESS Array B 74.31 340 P **P 19 26 16.7 -0.7**
comp=Z,4.4nm,0.9s,baz=93,slow=6.3,SNR=6.8
ARCES LR LR 20 01 46.0
comp=Z,112nm,20.5s,baz=120,slow=38
ARCES ARCESS Array B 74.31 340 *e*P **P 19 26 16.9 -0.5**
ARCES ARCESS Array B 74.31 340 *e*P **P 19 26 16.9 -0.5**
ARE0 ARCESS Array S 74.31 340 *e*P **P 19 26 16.6 -0.7**
comp=Z,26nm,1.3s
LBTB Lobatse 74.43 241 P **P 19 26 20.4 +1.4**
comp=Z,4.1nm,0.9s,baz=46,slow=5.0,SNR=3.7
LBTB Lobatse 74.43 241 *e*P **P 19 26 20.0 +1.0**
comp=Z,51nm,1.9s
LBTB Lobatse 74.43 241 *e*P **P 19 26 20.0 +1.0**
LBTB pmax pmax
comp=Z,51nm,1.9s
MORC Moravsky Berou 74.50 319 *e*P **P 19 26 18.4 -0.5**
comp=Z,22nm,0.9s
MORC Moravsky Berou 74.50 319 *e*P **P 19 26 18.4 -0.5**
MORC pmax pmax
comp=Z,22nm,0.9s
DPC Dobruska-Polom 75.33 320 *e*P **P 19 26 25.6 +2.0**
DPC Dobruska-Polom 75.33 320 *e*P **P 19 26 25.6 +2.0**
BOSA Boshof 75.83 238 P **P 19 26 26.2 -0.8**
comp=Z,2.2nm,0.6s,baz=72,slow=7.2,SNR=6.0
CASY Casey 75.86 173 *e*P **P 19 26 26.3 +0.1**
comp=Z,18nm,1.6s
TRI Trieste 76.85 315 *e*P **P 19 26 32.9 +0.6**
comp=Z,33nm,1.0s
TRI Trieste 76.85 315 P **P 19 26 32.9 +0.6**
GEA0 GERESS Array S 76.96 318 *e*P **P 19 26 32.7 -0.3**
GEC2 GERESS Array S 76.96 318 *e*P **P 19 26 33.8 +0.8**
comp=Z,4.7nm,1.0s
GEC2 GERESS Array S 76.96 318 *e*P **P 19 26 33.8 +0.8**
GEC2 pmax pmax
comp=Z,5.0nm,1.0s
GERES GERESS Array B 76.96 318 P **P 19 26 32.8 -0.2**
comp=Z,1.9nm,0.8s,baz=98,slow=7.0,SNR=11
KHC Kasperske Hory 77.05 318 *e*pP pP 19 26 39.1 -1.5
HFS Hagfors 77.53 330 P **P 19 26 34.9 -0.9**
comp=Z,1.6nm,0.4s,baz=72,slow=4.7,SNR=12
NC405 NORSAR Array S 78.56 331 *e*P **P 19 26 40.3 -1.3**
NC602 NORSAR Array S 78.63 330 *e*P **P 19 26 39.3 -2.6**
NC303 NORSAR Array S 78.73 331 *e*P **P 19 26 42.5 0.0**
NB201 NORSAR Array S 78.76 331 *e*P **P 19 26 42.9 +0.2**
NB2 NORSAR Subarra 78.80 331 P **P 19 26 42.6 -0.3**
comp=Z,3.9nm,0.7s,baz=91,slow=5.9
NB200 NORSAR Array S 78.80 331 *e*P **P 19 26 42.5 -0.5**
NOA NORSAR Array B 78.80 331 P **P 19 26 42.5 -0.5**
comp=Z,2.3nm,0.9s,baz=94,slow=5.5,SNR=7.1
SPA0 Spitsbergen Ar 78.89 348 *e*P **P 19 26 43.1 0.0**
SPITS Spitsbergen Ar 78.89 348 P **P 19 26 42.5 -0.6**
comp=Z,2.3nm,0.6s,baz=103,slow=3.1,SNR=5.3
NAO01 NORSAR Array S 78.95 330 *e*P **P 19 26 43.0 -0.7**
NBO02 NORSAR Array S 78.97 331 *e*P **P 19 26 44.3 +0.5**
NBO00 NORSAR Array S 79.01 331 *e*P **P 19 26 43.6 -0.5**
NC204 NORSAR Array S 79.03 331 *e*P **P 19 26 43.8 -0.4**
SYO Syowa Base 86.19 197⇑*e*PcP **PcP 19 27 25.0 +1.3**
EKA Eskdalemuir Ar 86.81 325 P **P 19 27 23.8 -0.8**
comp=Z,2.6nm,0.8s,baz=93,slow=5.2,SNR=6.3
ESK Eskdalemuir 86.84 325 *i* P **P 19 27 27.9 +3.2**
TOA0 Torodi Ar. Sit 90.11 283 *e*P **P 19 27 41.9 +0.8**
TORD Torodi Ar. Bea 90.11 283 P **P 19 27 41.7 +0.7**
comp=Z,0.5nm,0.8s,baz=38,slow=3.6,SNR=2.8
TOA1 Torodi Ar. Sit 90.11 283 *e*P **P 19 27 41.7 +0.7**
ES19 SONSECA Array 90.36 310 *e*P **P 19 27 41.8 0.0**
ESDC Sonseca Array 90.41 310 P **P 19 27 42.1 0.0**
comp=Z,1.0nm,0.8s,baz=48,slow=4.5,SNR=5.2
CAST Castle Rocks 92.62 24 *e*P **P 19 27 52.0 +0.2**
comp=Z,12nm,1.4s
BPAW Bear Paw Mtn. 92.76 23 *e*P **P 19 27 52.1 -0.3**
comp=Z,12nm,1.4s
MDM Murphy Dome 93.42 22 *e*P **P 19 27 54.6 -0.8**
comp=Z,4.9nm,0.5s
ILAR Eielson Array 94.01 22 P **P 19 27 56.9 -1.3**
comp=Z,0.5nm,0.8s,baz=287,slow=3.5,SNR=6.6
INK Inuvik 96.20 16 *e*P **P 19 28 08.9 +0.9**
comp=Z,8.8nm,1.6s
INK Inuvik 96.20 16 *e*P **P 19 28 08.9 +0.9**
INK pmax pmax
comp=Z,9.0nm,1.6s
RES Resolute Bay 96.50 2 *e*P **P 19 28 10.4 +1.1**
comp=Z,3.2nm,0.9s
RES Resolute Bay 96.50 2 *e*P **P 19 28 10.4 +1.1**
RES pmax pmax
comp=Z,3.0nm,0.9s
NVAR Mina Array Bea 124.28 30 PKP **PKPdf 19 33 40.4 +0.6**
comp=Z,0.7nm,0.8s,baz=298,slow=1.9,SNR=2.1
PDAR Pinedale Array 124.42 21 *e*PKPpre PKPpre 19 33 23.6
PDAR *e*PKPdf **PKPdf 19 33 37.5 -2.5**
TXAR Lajitas Array 138.51 23 PKP **PKPdf 19 34 08.0 +1.3**
comp=Z,0.3nm,0.7s,baz=318,slow=1.2,SNR=2.6
PLCA Paso Flores 145.30 201 PKPbc **PKPbc 19 34 17.8 -0.5**
comp=Z,2.4nm,0.7s,baz=199,slow=7.5,SNR=9.9
PLCA Paso Flores 145.30 201 *e*PKPbc **PKPbc 19 34 17.3 -0.9**
PLCA Paso Flores 145.30 201 *e*PKIKP **PKPbc 19 34 17.3 -0.9**
CPUP Villa Florida 147.58 234 PKPbc **PKPbc 19 34 24.7 -0.6**
comp=Z,1.7nm,0.7s,baz=90,slow=1.4,SNR=3.6
CPUP Villa Florida 147.58 234 *e*PKPbc **PKPbc 19 34 25.0 -0.3**
CPUP Villa Florida 147.58 234 *e*PKP2 **PKPbc 19 34 25.0 -0.3**
APG El Apazote 155.98 10 PKPab **PKPab 19 35 00.6 -2.1**
comp=Z,5.4nm,1.0s,baz=355,slow=11,SNR=3.3
SDV Santo Domingo 156.61 318 PKPab **PKPab 19 35 04.9 -0.6**
comp=Z,1.4nm,0.3s,baz=54,slow=14,SNR=3.2
LPAZ La Paz 160.91 245 PKPab **PKPab 19 35 24.6 -0.1**
comp=Z,0.8nm,0.7s,baz=70,slow=9.4,SNR=2.1

*IDC **24** 19:19:43.1±0.6, 7.°14S×155.°01E, h0km, mb4.3/22, mb1 4.4/24, mb1mx4.2/55, mbtmp4.3/24, ML3.3/2, MS4.0/12, Ms1 4.0/12, ms1mx3.6/41, Error ellipse: s-maj=17.5km s-min=12.8km az=124.0*
*BJI **24** 19:19:46.8, 7.°33S×154.°46E, h21km, mb4.7/38, mB5.0/24, Ms5.0/19, Ms7 4.7/18*
*MOS **24** 19:19:46.2±1.0, 7.°14S×155.°05E, h31km, mb5.0/25, Error ellipse: s-maj=9.4km s-min=9.0km az=80.3*
*NEIC **24** 19:19:47.8±1.7, 7.°15S×155.°06E, h32km±11km, mb4.9/80, Error ellipse: s-maj=5.0km s-min=4.6km az=120.0*
*ISCJB **24** 19:19:47.6±0.2, 7.°16S±0.°04×155.°00E±0.°03, h41km, mb4.7/112, MS4.2/16, Error ellipse: s-maj=5.6km s-min=4.4km az=138.6*
*GCMT **24** 19:19:47.8±0.3, 7.°26S×154.°88E, h18km±1km, MW5.0/67, Moment Tensor Solution. s19,c22; s67,c87; Duration: 0 Moment tensor: Scale 10^16^Nm; M~rr~2.22±.16; M~θθ~-1.02±.11; M~φφ~-1.20±.10; M~rθ~0.59±.27; M~rφ~1.30±.08; M~θφ~-2.18±.27; Best double couple: M~0~3.23900×10^16^ NP1:~0~s156.00000°, δ68.00000°, λ106.00000°. NP2: ~0~s299.00000°, δ27.00000°, λ57.00000°. Principal axes: T 3.2810, Plg64.0000°, Azm91.0000°; N -0.0840, Plg14.0000°, Azm330.0000°; P -3.1970, Plg21.0000°, Azm234.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 24 19:19:49.3±0.3, 7.°17S±0.°05×155.°07E±0.°05, h41km, n206, σ1§53/210, mb4.8/112, MS4.0/17, 6C-4D, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**4.14**	**316**	*e*Pn		**Pn**	**19 20 48.0**	**-2.1**
HNR	**Honiara**	**5.32**	**115**	P		**Pn**	**19 21 10.0**	**+3.7**
HNR				S		Sn	19 22 19.0	+13
HNR	**Honiara**	**5.32**	**115**	Pn		**Pn**	**19 21 10.1**	**+3.8**
	6.6nm,0.3s,baz=225,slow=16,SNR=2.8							
HNR				Sn		Sn	19 22 20.2	+14
	8.5nm,0.3s,baz=248,slow=16,SNR=2.2							
HNR				LR		LR	19 23 10.4	
	comp=Z,2μm,19.2s,baz=262,slow=38							
HNR	**Honiara**	**5.32**	**115**	*e*Pn		**Pn**	**19 21 03.1**	**-3.1**
HNR				*e*Sn		Sn	19 22 20.2	+14
HNR	**Honiara**	**5.32**	**115**	*e*P		**Pn**	**19 21 03.2**	**-3.1**
PMG	**Port Moresby**	**8.14**	**254**	*e*Pn		**Pn**	**19 21 44.0**	**-0.9**
PMG				*e*Sn		**Sn**	**19 23 17.8**	**+2.1**
PMG	**Port Moresby**	**8.14**	**254**⇑	*e*P		**Pn**	**19 21 43.9**	**-1.0**
MANU	**Manus Island**	**9.21**	**303**	*e*Pn		**Pn**	**19 21 59.2**	**-0.5**
COEN	**Coen**	**13.49**	**239**	*e*Pn		**Pn**	**19 22 58.1**	**-0.2**
PATS	**Pohnpei**	**14.29**	**13**	*e*Pn		**Pn**	**19 23 07.4**	**-1.7**
CTA	**Charters Tower**	**15.43**	**213**	Pn		**Pn**	**19 23 20.6**	**-3.5**
	0.1nm,0.3s,baz=129,slow=2.9,SNR=3.0							
CTA				LR		LR	19 29 12.1	
	comp=Z,832nm,19.5s,baz=28,slow=37							
CTAO	**Charters Tower**	**15.43**	**213**	*e*Pn		**Pn**	**19 23 24.1**	**-0.1**
	22nm,1.0s							
CTAO	**Charters Tower**	**15.43**	**213**	*e*P		**Pn**	**19 23 24.1**	**-0.1**
CTAO				pmax	pmax			

comp=Z,22nm,1.0s
DZM Mont Dzumac 18.43 145 P **P 19 24 00.3 -1.2**
comp=Z,0.1nm,0.3s,baz=131,slow=20,SNR=2.3
DZM Mont Dzumac 18.43 145 *e*P **P 19 24 00.5 -1.1**
comp=Z,29nm,1.2s
EIDS Eidsvold 18.49 191 *e*P **Pn 19 24 04.4 +2.0**
comp=Z,49nm,1.8s
ARMA Armidale 23.35 188 *e*P **P 19 24 55.6 +1.3**
comp=Z,79nm,1.5s
WRAB Tennant Creek 23.76 236 *e*P **P 19 24 56.9 -1.3**
comp=Z,33nm,0.8s
WRAB Tennant Creek 23.76 236⇓*e*P **P 19 24 56.5 -1.7**
WRAB pmax pmax
comp=Z,32nm,1.1s
WB2 Warramunga Arr 23.77 236 *e*P **P 19 24 56.9 -1.4**
comp=Z,32nm,0.8s
WR1 Warramunga Arr 23.78 236 *e*P **P 19 24 56.8 -1.5**
comp=Z,37nm,0.9s
WR1 *e*PcP **PcP 19 28 42.2 +0.8**
WRA Warramunga Arr 23.78 236 P **P 19 24 56.8 -1.6**
comp=Z,22nm,1.0s,baz=60,slow=9.5,SNR=30
WRA PcP **PcP 19 28 42.2 +0.8**
comp=Z,1.7nm,0.9s,baz=63,slow=2.5,SNR=5.8
WRA LR LR 19 34 41.2
comp=Z,421nm,18.4s,baz=55,slow=38
MTN Manton Dam 24.23 255 *e*P **P 19 25 01.0 -1.5**
comp=Z,74nm,1.1s
SIJI Sorong 24.55 284 P **P 19 25 03.3 -2.2**
comp=Z,16nm,0.9s,baz=27,slow=13,SNR=6.7
SIJI LR LR 19 35 45.0
comp=Z,304nm,18.8s,baz=94,slow=39
MSVF Nonsavu 24.74 117 *e*P **P 19 25 10.3 +3.1**
comp=Z,33nm,1.1s
MSVF Nonsavu 24.74 117 *e*P **P 19 25 10.3 +3.1**
MSVF pmax pmax
comp=Z,33nm,1.1s
AS01 Alice Springs 26.08 229 *e*P **P 19 25 18.0 -1.3**
AS31 Alice Springs 26.11 229 *e*P **P 19 25 18.2 -1.4**
comp=Z,3.0nm,1.0s
ASAR Alice Springs 26.11 229 P **P 19 25 18.6 -1.1**
comp=Z,3.9nm,0.7s,baz=62,slow=8.7,SNR=34
ASAR ScP **ScP 19 32 28.5 +5.3**
comp=Z,2.2nm,1.1s,baz=58,slow=2.7,SNR=9.1
ASAR LR LR 19 35 53.5
comp=Z,320nm,18.4s,baz=45,slow=37
STKA Stephens Creek 27.61 205 P **P 19 25 33.5 +0.6**
comp=Z,17nm,0.9s,baz=22,slow=11,SNR=15
STKA Stephens Creek 27.61 205 *e*P **P 19 25 34.3 +1.4**
comp=Z,5.2nm,1.0s
STKA Stephens Creek 27.61 205 *e*P **P 19 25 34.3 +1.4**
STKA pmax pmax
comp=Z,5.0nm,1.0s
H11S3 WAKE ISLAND Hy 27.96 24 T T 19 54 06.4
baz=202,slow=74,SNR=27
H11S2 WAKE ISLAND Hy 27.96 24 T T 19 53 58.0
baz=202,slow=74,SNR=20
H11S1 WAKE ISLAND Hy 27.98 24 T T 19 54 05.3
baz=202,slow=74,SNR=12
SOEI Soe 30.57 263 *e*P **P 19 26 00.1 +0.5**
comp=Z,51nm,1.3s
BBOO Buckleboo 31.03 212 *e*P **P 19 26 02.7 -0.6**
comp=Z,88nm,1.9s
BATI Baumata 31.18 262 LR LR 19 40 42.1
comp=Z,315nm,19.1s,baz=98,slow=40
AFI Afiamalu 33.25 104 LR LR 19 38 57.1
comp=Z,202nm,18.5s,baz=276,slow=35
FORT Forrest 34.51 224 *e*P **P 19 26 32.1 -1.7**
comp=Z,27nm,0.9s
MBWA Marble Bar 36.87 244 *e*P **P 19 26 52.4 -1.7**
comp=Z,31nm,1.3s
BKZ Black Stump Fm 37.24 152 *e*P **P 19 26 56.1 -1.0**
comp=Z,46nm,1.6s
MYLDM Lahad Datu 38.50 288 *e*P **P 19 27 08.8 +0.8**
comp=Z,26nm,1.3s
KHZ Kahutara 38.71 158 *e*P **P 19 27 08.0 -1.3**
comp=Z,26nm,1.2s
MQZ McQueen's Vall 39.52 160 *e*P **P 19 27 16.1 0.0**
comp=Z,39nm,1.5s
TPUB Ta-pu 45.28 313 *e*P **P 19 28 00.5 -2.8**
comp=Z,54nm,1.5s
SSLB Suanglung 45.35 314 *e*P **P 19 28 03.2 -0.6**
comp=Z,77nm,1.9s
RAR Rarotonga 45.77 113 LR LR 19 46 38.2
comp=Z,218nm,18.8s,baz=280,slow=35
RAR Rarotonga 45.77 113 *e*P **P 19 28 07.7 +0.5**
comp=Z,113nm,1.6s
RAR Rarotonga 45.77 113 *e*P **P 19 28 07.7 +0.5**
RAR pmax pmax
comp=Z,113nm,1.6s
JNU Nakatsue 46.20 332 *e*P **P 19 28 13.3 +2.9**
comp=Z,10nm,1.1s
LEM Lembang 47.08 267 P **P 19 28 16.9 -0.9**
comp=Z,4.6nm,0.4s,baz=343,slow=19,SNR=2.9
LEM S **S 19 35 10.9 +3.4**
comp=Z,15nm,0.6s,baz=323,slow=20,SNR=3.3
KSRS Korea Array 51.13 332 P **P 19 28 47.4 -0.8**
comp=Z,0.5nm,0.6s,baz=170,slow=6.4,SNR=2.8
KS15 Wonju Array Si 51.14 332 *e*P **P 19 28 47.2 -0.9**
KSAR Wonju Array Be 51.14 332 P **P 19 28 47.4 -0.8**
KSAR Wonju Array Be 51.14 332 P **P 19 28 47.4 -0.8**
MNAI Manna 51.90 270 *e*P **P 19 28 53.7 -0.7**
comp=Z,126nm,0.9s
NJ2 Nanjing 52.10 321 *e*P **P 19 28 57.6 +2.1**
NJ2 pmax pmax
comp=Z,9.0nm,0.6s
ASAJ Asahikawa 52.28 349 P **P 19 28 56.3 -0.3**
comp=Z,0.8nm,0.6s,baz=132,slow=15,SNR=2.5
ASAJ Asahikawa 52.28 349 *e*P **P 19 28 56.8 +0.2**
comp=Z,3.0nm,1.0s
WHN Wuhan 54.12 316⇑P **P 19 29 11.3 +0.9**
BKNI Bangkinang 54.40 276 *e*P **P 19 29 12.1 -0.7**
comp=Z,26nm,0.9s
PPT Papeete 54.88 106 LR LR 19 49 12.8
comp=Z,84nm,18.9s,baz=291,slow=32
YSS Yuzh-Sakhalins 54.99 350 *e*P **P 19 29 18.0 +1.6**
YSS MLR MLR
comp=Z,100nm,16.0s
KULM Kulim 55.70 281 *e*P **P 19 29 20.9 -1.3**
comp=Z,14nm,1.1s
MDJ Mudanjiang 56.43 338 P **P 19 29 28.6 +1.8**
MDJ pmax pmax
comp=Z,5.0nm,0.5s
CN2 Changchun 57.38 335 *e*P **P 19 29 37.3 +3.7**
ENH Enshi 57.41 313 *e*P **P 19 29 33.5 -0.6**
comp=Z,25nm,1.1s
GSI Gunungsitoli 57.98 276 *e*P **P 19 29 38.6 +0.2**
comp=Z,32nm,1.1s
PBKT Sadao Pong 58.48 294 *e*P **P 19 29 42.0 +0.3**
comp=Z,7.4nm,1.2s
KLR Kul'dur 59.76 343 P **P 19 29 49.0 -1.0**
comp=Z,0.1nm,0.9s,baz=169,slow=8.0,SNR=3.8
XAN Xi'an 59.88 316 P **P 19 29 51.3 0.0**
XAN pP pP 19 29 59.4 -3.8
XAN pmax pmax
comp=Z,10.0nm,1.3s
XAN pmax pmax
comp=Z,71nm,4.5s
PEA0B Petropavlovsk- 60.09 2 *e*P **P 19 29 54.8 +2.6**
comp=Z,36nm,1.3s
PETK Petropavlovsk- 60.09 2 P **P 19 29 52.2 0.0**
comp=Z,1.8nm,0.9s,baz=144,slow=6.6,SNR=2.6
PETK LR LR 19 57 10.9
comp=Z,38nm,18.6s,baz=171,slow=37
PETK Petropavlovsk- 60.09 2 *e*P **P 19 29 53.2 +1.0**
PETK Petropavlovsk- 60.09 2 *e*P **P 19 29 53.2 +1.0**
PEA1 Petropavlovsk- 60.09 2 *e*P **P 19 29 52.2 0.0**
KMI Kunming 60.18 304 P **P 19 29 55.3 +1.7**
KMI pP pP 19 30 02.6 -3.0
KMI pmax pmax
comp=Z,11nm,1.2s
CM01 Chiang Mai Arr 60.90 296 *e*P **P 19 29 59.6 +1.2**
CM31 Chiang Mai Arr 60.93 296 *e*P **P 19 29 58.3 -0.3**
CMAR Chiang Mai Arr 60.93 296 P **P 19 29 58.8 +0.2**
comp=Z,4.9nm,1.0s,baz=114,slow=5.0,SNR=20
CHTO Chiang Mai 61.05 296 *e*P **P 19 29 59.7 +0.3**
comp=Z,13nm,1.1s
CHTO Chiang Mai 61.05 296 *e*P **P 19 29 59.7 +0.3**
CHTO pmax pmax
comp=Z,13nm,1.1s
CD2 Chengdu 61.98 311 *e*P **P 19 30 05.5 -0.1**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
HHC Hu-ho-hao-te 62.28 324 *e*P **P 19 30 09.1 +1.7**
HHC S **S 19 38 27.9 -2.9**
HHC pmax pmax
comp=Z,28nm,1.2s
HHC pmax pmax

comp=Z,68nm,7.0s
HHC LR LR
comp=Z,690nm,16.9s
HHC LR LR
comp=Z,1μm,17.1s
HHC LR LR
comp=Z,850nm,17.3s
LZH Lanzhou 64.49 316 eP P 19 30 25.8 +3.5
LZH pP pP 19 30 32.8 -1.5
LZH sP sP 19 30 35.3 -3.7
LZH ePP **PP 19 32 48.6 +4.0**
LZH eS **S 19 39 01.8 +3.1**
LZH sS pS 19 39 13.3 0.0
LZH pmax pmax
comp=Z,26nm,0.9s
LZH pmax pmax
comp=Z,270nm,5.7s
LZH LR LR
comp=Z,370nm,16.9s
LZH LR LR
comp=Z,280nm,15.9s
LZH LR LR
comp=Z,360nm,17.1s
MA2 Magadan 66.62 358 eP P 19 30 34.8 -0.5
comp=Z,7.7nm,1.2s
MA2 Magadan 66.62 358 eP P 19 30 34.8 -0.5
MA2 pmax pmax
comp=Z,8.0nm,1.2s
GTA Gaotai 68.92 317 ⇓P P 19 30 50.9 +0.5
GTA pP pP 19 30 58.8 -3.7
GTA sP sP 19 31 02.0 -5.2
GTA S **S 19 39 53.4 +1.3**
GTA pmax pmax
comp=Z,5.0nm,1.6s
GTA pmax pmax
comp=Z,93nm,6.2s
GTA LR LR
comp=Z,140nm,17.6s
GTA LR LR
comp=Z,110nm,19.0s
GTA LR LR
comp=Z,150nm,17.8s
SHL Shillong 69.45 301 eP P 19 30 51.0 -3.0
comp=Z,12nm,1.0s
SHL Shillong 69.45 301 eP P 19 30 51.0 -3.0
SHL pmax pmax
comp=Z,12nm,1.0s
SONA0 Songino Array 69.53 327 eP P 19 30 53.5 -0.4
SONM Songino Array 69.53 327 P P 19 30 53.5 -0.4
comp=Z,2.5nm,1.0s,baz=136,slow=6.6,SNR=11
SONA1 Songino Array 69.53 327 eP P 19 30 53.3 -0.7
SEY Seymchan 69.93 359 P P 19 30 55.0 -1.0
comp=Z,1.2nm,1.0s,baz=194,slow=8.3,SNR=3.3
SEY Seymchan 69.93 359⇑eP P 19 30 55.2 -0.7
LSA Lhasa 71.43 304 eP P 19 31 06.5 +0.1
comp=Z,5.9nm,0.8s
YAK Yakutsk 71.75 348 P P 19 31 07.0 +0.1
comp=Z,3.5nm,0.3s,baz=228,slow=0.5,SNR=2.9
YAK Yakutsk 71.75 348 eP P 19 31 06.4 -0.5
comp=Z,15nm,1.1s
YAK Yakutsk 71.75 348⇓eP P 19 31 06.7 -0.2
YAK pmax pmax
comp=Z,9.0nm,1.0s
ZAK Zakamensk 72.68 328 eP P 19 31 12.4 -0.6
ZAK pmax pmax
comp=Z,3.0nm,1.2s
ODAN Odare 73.69 301 eP P 19 31 20.0 +0.4
comp=Z,20nm,0.6s
RAMN Ramite 74.39 300 eP P 19 31 24.0 +0.3
comp=Z,5.3nm,0.5s
JIRN Jiri 74.94 301 eP P 19 31 27.1 +0.1
GUN Gumba 75.27 301 eP P 19 31 28.8 -0.1
comp=Z,24nm,0.8s
BILL Bilibino 75.45 4 i P P 19 31 27.8 -0.8
BILL i 19 31 38.9
BILL i 19 34 22.1
BILL i SS SS 19 45 57.9 +1.0
BILL pmax pmax
comp=Z,5.0nm,1.0s
BILL MLR MLR
comp=Z,58nm,15.0s
PKIN Phulchoki 75.59 301 eP P 19 31 30.9 +0.2
comp=Z,7.2nm,0.8s
KKN Kakani 75.75 301 eP P 19 31 31.4 -0.1
comp=Z,12nm,0.8s
DMN Daman 75.85 301 eP P 19 31 32.4 +0.3
GKN Gorkha 76.35 301 eP P 19 31 34.5 -0.4
comp=Z,75nm,1.6s
SVW2 Sparrevohn 78.13 22 eP P 19 31 45.0 +1.1
comp=Z,43nm,1.8s
WMQ Urumqi 79.00 317 P P 19 31 51.3 +2.1
WMQ pP PcP 19 31 57.3 -0.3
WMQ sP pP 19 32 01.3 -0.3
WMQ pmax pmax
comp=Z,21nm,0.7s
WMQ LR LR
comp=Z,490nm,34.7s
WMQ LR LR
comp=Z,560nm,28.5s
WMQ LR LR
comp=Z,730nm,28.5s
SUA Susitna One 80.21 23 eP P 19 31 54.9 -0.5
comp=Z,7.0nm,0.7s
RC01 Rabbit Creek A 80.40 24 eP P 19 31 56.2 0.0
comp=Z,55nm,2.0s
TIXI Tiksi 80.54 352 P P 19 31 57.1 +0.3
comp=Z,0.2nm,0.3s,baz=313,slow=7.2,SNR=2.9
CAST Castle Rocks 80.86 21 eP P 19 31 57.9 -0.8
comp=Z,8.4nm,1.0s
PMR Palmer 80.92 24 eP P 19 31 58.4 -0.6
comp=Z,26nm,1.5s
PMR Palmer 80.92 24 eP P 19 31 58.4 -0.6
PMR pmax pmax
comp=Z,26nm,1.5s
GHO Glory Hole Cre 81.10 24 eP P 19 32 00.2 +0.1
comp=Z,23nm,1.3s
DGZ Jazzator, Alta 81.33 323⇑eP P 19 32 00.3 -1.4
DGZ pmax pmax
comp=Z,1.0nm,1.3s
SML Sawmill 81.36 24 eP P 19 32 01.2 -0.2
comp=Z,15nm,0.9s
SML Sawmill 81.36 24 eP P 19 32 01.2 -0.2
SML pmax pmax
comp=Z,15nm,0.9s
KTH Kantishna Hill 81.36 21 eP P 19 32 00.7 -0.7
comp=Z,17nm,1.4s
TRF Thorofare Moun 81.53 22 eP P 19 32 02.2 -0.3
comp=Z,14nm,1.3s
BPAW Bear Paw Mtn. 81.66 21 eP P 19 32 03.1 +0.2
comp=Z,13nm,1.4s
IM3 Indian Mountai 81.87 19 eP P 19 32 03.9 -0.1
RND Reindeer 82.04 22 eP P 19 32 04.2 -0.9
comp=Z,6.9nm,0.9s
RND Reindeer 82.04 22 eP P 19 32 04.2 -0.9
RND pmax pmax
comp=Z,7.0nm,0.9s
KLU Klutina 82.17 25 eP P 19 32 05.8 0.0
comp=Z,23nm,1.3s
MCK McKinley 82.19 22 eP P 19 32 04.8 -1.0
comp=Z,12nm,1.0s
MCK McKinley 82.19 22 eP P 19 32 04.8 -1.0
MCK pmax pmax
comp=Z,12nm,1.0s
MLY Manley 82.29 20 eP P 19 32 05.8 -0.5
comp=Z,12nm,1.4s
DHY Denali Highway 82.42 23 eP P 19 32 06.9 -0.3
comp=Z,11nm,1.1s
BMRM Bremner River 82.45 25 eP P 19 32 07.8 +0.6
comp=Z,29nm,1.5s
QSPA South Pole Qui 82.80 180 P P 19 32 08.6 -0.5
comp=Z,4.8nm,0.8s,baz=75,slow=2.5,SNR=10
WRH Wood River Hil 82.91 21 eP P 19 32 08.9 -0.5
comp=Z,17nm,1.4s
CCB Clear Creek Bu 83.11 21 eP P 19 32 08.9 -1.6
comp=Z,6.1nm,1.1s
MDM Murphy Dome 83.13 21 eP P 19 32 09.9 -0.7
comp=Z,14nm,1.5s
COLA College 83.22 21⇑eP P 19 32 09.8 -1.2
COLA pmax pmax
comp=Z,11nm,1.5s
BALM Baldy 83.45 26 eP P 19 32 11.4 -1.1
comp=Z,9.1nm,1.0s
IL1 Eielson Array 83.51 21 eP P 19 32 10.8 -1.8
ILAR Eielson Array 83.51 21 P P 19 32 11.0 -1.6
comp=Z,1.6nm,0.9s,baz=264,slow=4.4,SNR=13
ILAR LR LR 20 06 50.0
comp=Z,96nm,18.6s,baz=267,slow=34

ILB Eielson Array 83.51 21 eP P 19 32 11.6 -1.0
MK01 Makanchi Array 83.57 319 eP P 19 32 12.1 -1.2
MK31 Makanchi Array 83.59 319 eP P 19 32 11.7 -1.7
MK31 Makanchi Array 83.59 319 eP P 19 32 11.7 -1.7
MK32 Makanchi Array 83.59 319 eP P 19 32 12.7 -0.7
MKAR Makanchi Array 83.59 319 P P 19 32 12.7 -0.7
comp=Z,3.7nm,1.1s,baz=100,slow=6.6,SNR=9.4
MKAR Makanchi Array 83.59 319 eP P 19 32 12.0 -1.4
comp=Z,36nm,1.0s
MKAR Makanchi Array 83.59 319 eP P 19 32 12.0 -1.4
MKAR pmax pmax
comp=Z,36nm,1.0s
RIDG Independ'e Rid 83.74 23 eP P 19 32 12.4 -1.4
comp=Z,19nm,1.4s
COLD Coldfoot 83.75 19 eP P 19 32 11.8 -2.0
comp=Z,16nm,1.8s
MAKZ Makanchi 83.80 319 eP P 19 32 14.4 0.0
comp=Z,12nm,1.0s
MAKZ Makanchi 83.80 319 eP P 19 32 14.4 0.0
MAKZ pmax pmax
comp=Z,12nm,1.0s
DOT Dot Lake 84.00 23 eP P 19 32 14.6 -0.5
comp=Z,19nm,0.9s
SCRK Sand Creek 84.19 23 eP P 19 32 15.1 -1.1
comp=Z,12nm,1.4s
PDGK Podgornoye 84.52 315 P P 19 32 19.5 +1.2
PDGK pmax pmax
comp=Z,4.0nm,1.0s
TOLK Toolik Lake Re 84.77 18 eP P 19 32 19.1 +0.2
comp=Z,4.1nm,0.8s
PRZ Przheval'sk 85.08 314 eP P 19 32 21.5 +0.3
comp=Z,21nm,1.1s
PRZ Przheval'sk 85.08 314 eP P 19 32 21.5 +0.3
PRZ pmax pmax
comp=Z,21nm,1.1s
HYT Haines Junctio 85.50 27 eP P 19 32 22.3 -0.5
comp=Z,9.9nm,0.9s
EGAK Eagle 85.65 23 eP P 19 32 23.2 -0.1
comp=Z,9.3nm,1.0s
KDJ Kajisay 85.87 313 eP P 19 32 25.2 0.0
comp=Z,9.7nm,1.1s
KDJ Kajisay 85.87 313 eP P 19 32 25.2 0.0
KDJ pmax pmax
comp=Z,10.0nm,1.1s
SKAG Skagway 85.99 29 eP P 19 32 24.9 -0.2
comp=Z,15nm,1.4s
DAWY Dawson 86.03 24 eP P 19 32 24.8 -0.5
comp=Z,28nm,1.8s
KSH Kashi 86.18 310 P P 19 32 28.1 +1.4
KSH sP pP 19 32 39.0 -0.2
KSH S **S 19 43 04.4 +5.5**
KSH pmax pmax
comp=Z,24nm,1.2s
KSH pmax pmax
comp=Z,320nm,6.9s
KSH LR LR
comp=Z,470nm,13.5s
KSH LR LR
comp=Z,290nm,10.3s
KSH LR LR
comp=Z,490nm,7.4s
NRN Naryn 86.58 312 eP P 19 32 29.0 +0.1
comp=Z,6.4nm,1.2s
NRN Naryn 86.58 312 eP P 19 32 29.0 +0.1
NRN pmax pmax
comp=Z,6.0nm,1.2s
KURK Kurchatov 87.02 322 eP P 19 32 29.2 -1.1
comp=Z,6.6nm,1.4s
KURK Kurchatov 87.02 322 eP P 19 32 29.2 -1.1
KURK pmax pmax
comp=Z,7.0nm,1.4s
KURBB Kurchatov Arra 87.05 322 P P 19 32 30.7 +0.2
comp=Z,0.1nm,0.3s,baz=104,slow=2.2,SNR=3.3
NIL Nilore 87.17 304 eP P 19 32 30.6 -1.0
comp=Z,29nm,1.8s
NIL Nilore 87.17 304 eP P 19 32 30.6 -1.0
NIL pmax pmax
comp=Z,29nm,1.8s
FRU Bishkek 87.88 313 eP P 19 32 40.0 +5.2
FRU e 19 32 53.0
AAK Ala-Archa 87.93 313 eP P 19 32 33.3 -1.8
comp=Z,5.2nm,1.3s
AAK Ala-Archa 87.93 313 eP P 19 32 33.3 -1.8
AAK pmax pmax
comp=Z,5.0nm,1.3s
SFK Sufi-Kurgan 88.15 311 P P 19 32 37.0 +0.6
SFK pmax pmax
comp=Z,5.0nm,1.0s
DLBC Dease Lake 88.25 31 P P 19 32 36.9 +0.7
comp=Z,1.9nm,0.9s,baz=274,slow=11,SNR=3.6
DLBC Dease Lake 88.25 31 eP P 19 32 36.1 -0.1
comp=Z,9.5nm,1.2s
YBH Yreka Blue Hor 88.95 48 LR LR 20 04 56.6
comp=Z,140nm,21.9s,baz=272,slow=30
MNAS Manas 89.34 313 P P 19 32 43.7 +1.9
MNAS pmax pmax
comp=Z,3.0nm,1.0s
INK Inuvik 89.86 21 P P 19 32 43.0 -0.4
comp=Z,1.2nm,0.6s,baz=274,slow=4.6,SNR=5.0
INK Inuvik 89.86 21 eP P 19 32 43.8 +0.4
comp=Z,17nm,1.6s
INK Inuvik 89.86 21 eP P 19 32 43.8 +0.4
INK pmax pmax
comp=Z,17nm,1.6s
ISA Isabella, Lake 91.26 54 eP P 19 32 51.0 +0.1
comp=Z,6.6nm,1.4s
ISA Isabella, Lake 91.26 54 eP P 19 32 51.0 +0.1
ISA pmax pmax
comp=Z,7.0nm,1.4s
NV01 Mina Array Sit 91.77 52 eP P 19 32 52.9 -0.4
NVAR Mina Array Bea 91.77 52 P P 19 32 54.1 +0.8
comp=Z,3.5nm,1.1s,baz=244,slow=6.2,SNR=14
NV11 Mina Array Sit 91.89 52 eP P 19 32 54.2 +0.4
comp=Z,0.9nm,1.4s
KVN Kaiserville 92.01 51 eP P 19 32 54.8 +0.4
comp=Z,10.0nm,1.5s
DAC Darwin (Calif) 92.05 54 eP P 19 32 55.7 +1.1
comp=Z,8.1nm,1.3s
DAC Darwin (Calif) 92.05 54 P P 19 32 55.7 +1.1
DAC pmax pmax
comp=Z,8.0nm,1.3s
BVAR Borovoye Array 92.48 323 P P 19 32 54.5 -1.4
comp=Z,0.8nm,1.0s,baz=71,slow=6.2,SNR=3.1
TPNV Topopah Spring 93.21 53 eP P 19 33 00.6 +0.7
comp=Z,17nm,1.7s
TPNV Topopah Spring 93.21 53 eP P 19 33 00.6 +0.7
TPNV pmax pmax
comp=Z,17nm,1.7s
R11A Troy Canyon, C 93.88 52 eP P 19 33 04.0 +1.0
comp=Z,7.9nm,1.4s
YKA Yellowknife Ar 96.46 28 P P 19 33 13.7 -0.2
comp=Z,2.7nm,1.1s,baz=268,slow=4.8,SNR=24
KIV Kislovodsk 111.02 314⇑ePKIKP PKiKP 19 38 18.1 -0.5
NEY Neytrino 111.12 314⇓iPKIKP PKiKP 19 38 17.3 -1.7
LPAZ La Paz 131.31 119 PKP PKPdf 19 38 59.6 +0.7
comp=Z,0.6nm,0.3s,baz=288,slow=5.4,SNR=5.1
PTGA Pitinga 144.18 101 ePKPdf PKPbc 19 39 19.4 -0.6
TOA0 Torodi Ar. Sit 153.14 285 ePKPdf PKPdf 19 39 31.2 -5.1
TOA0 ePKPdf PKPbc 19 39 35.4 -8.3
TOA0 ePKPbc PKiKP 19 39 42.9 -0.9
TOA0 ePKPbc pPKPdf 19 39 43.5 -5.8
TORD Torodi Ar. Bea 153.14 285 PKP PKPdf 19 39 36.2 -0.1
comp=Z,0.9nm,1.0s,baz=64,slow=3.4,SNR=3.4
TORD PKPbc PKiKP 19 39 43.7 -0.1
comp=Z,3.5nm,1.0s,baz=43,slow=2.0,SNR=11
TOA1 Torodi Ar. Sit 153.15 285 ePKPdf PKPdf 19 39 36.2 -0.1
TOA1 ePKPbc PKiKP 19 39 43.7 -0.1
KOWA Kowa 158.22 291 PKPab PKPab 19 40 17.2 +0.1
comp=Z,1.9nm,0.7s,baz=57,slow=4.1,SNR=4.6

*ISCJB **24** 19:20:59.8±0.5, 36°.33N±0°.04×140°.04E±0°.05, h84km±4km, mb3.4/6, Error ellipse: s-maj=7.4km s-min=6.1km az=28.8*
*NIED **24** 19:21:00, 36°.30N×140°.00E, h77km, Mw3.5 Best double couple: M○2.36000×10¹⁴ NP1:φ₈215.00000°, δ32.00000°, λ-84.00000°. NP2:φ₈29.00000°, δ59.00000°, λ-94.00000°.*
*JMA **24** 19:21:01.1, 36°.31N×140°.03E, h72km±1km, M3.5 Broadband fault plane solution: P waves. NP1: φ₈32.00000°, δ51.00000°, λ-81.00000°. NP2:φ₈197.00000°, δ40.00000°, λ-101.00000°. Principal axes: T Plg5.0000°, Azm115.0000°; N Plg7.0000°, Azm206.0000°; P Plg81.0000°, Azm349.0000°;*
JMA Felt I J1.
*IDC **24** 19:21:02.1±2.1, 36°.30N×139°.93E, h91km±18km, mb3.2/6, mb1 3.3/8, mb1mx3.1/69, mbtmp3.5/8, MS3.7/1, Ms1 3.7/1, ms1mx2.3/24 Error ellipse: s-maj=31.3km s-min=9.7km az=61.0*

ISC 24 19:21:00.7±0.9, 36°.33N±0°.04×140°.03E±0°.05, h77km±6km, n25, σ0°63/29, mb3.6/6, 5C-1D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JYT	**Yasato**	**0.16**	**128**	⇓P	**Pn**	**19 21 11.9**	**0.0**
JYT				S	**Sn**	**19 21 19.8**	**-0.4**
JAG	**Ashikaga**	**0.48**	**282**	⇑P	**Pn**	**19 21 14.0**	**+0.1**
JAG				S	**Sn**	**19 21 23.4**	**-0.3**
JKT	**Katashina**	**0.77**	**305**	⇑P	**Pn**	**19 21 17.2**	**+0.2**
JKT				S	**Sn**	**19 21 29.4**	**+0.4**
JRY	**Ryogami san**	**0.97**	**252**	⇑P	**Pn**	**19 21 19.5**	**+0.3**
JRY				eS	**Sn**	**19 21 33.5**	**+0.5**
JFY	**Yanaizu**	**1.11**	**346**	P	**Pn**	**19 21 21.2**	**+0.3**
JFY				S	**Sn**	**19 21 36.2**	**+0.2**
JFT	**Otama**	**1.21**	**11**	⇑P	**Pn**	**19 21 22.8**	**+0.6**
JFT				S	**Sn**	**19 21 39.3**	**+1.0**
JHK	**Hiroka**	**1.23**	**319**	⇑P	**Pn**	**19 21 22.9**	**+0.5**
JHK				eS	**Sn**	**19 21 39.0**	**+0.3**
JFK	**Kawauchi**	**1.24**	**33**	P	**Pn**	**19 21 22.7**	**+0.2**
JFK				S	**Sn**	**19 21 38.9**	**0.0**
MJAR	**Matsushiro Arr**	**1.49**	**279**	P	**Pn**	**19 21 26.1**	**+0.4**
	14nm,0.3s,baz=94,slow=14,SNR=153						
MJAR				S	**Sn**	**19 21 44.6**	**0.0**
	14nm,0.3s,baz=86,slow=17,SNR=7.5						
MAT	**Matsushiro**	**1.49**	**279**	P	**Pn**	**19 21 26.3**	**+0.6**
MAT				S	**Sn**	**19 21 45.1**	**+0.4**
JHJ	**Hachijo jima 2**	**3.21**	**184**	P	**Pn**	**19 21 48.7**	**-0.1**
	20nm,0.3s,baz=317,slow=21,SNR=25						
JHJ				S	**Sn**	**19 22 28.0**	**+2.1**
	29nm,0.3s,baz=93,slow=22,SNR=6.6						
KSRS	**Korea Array**	**9.77**	**280**	P	**Pn**	**19 23 18.5**	**+0.2**
	0.1nm,0.3s,baz=76,slow=15,SNR=2.2						
SONM	**Songino Array**	**27.27**	**305**	P	**P**	**19 26 38.0**	**+0.1**
	0.2nm,0.5s,baz=108,slow=9.1,SNR=2.0						
H11N2	**WAKE ISLAND Hy**	**28.77**	**118**	T	T	19 57 06.0	
	baz=311						
H11N1	**WAKE ISLAND Hy**	**28.78**	**118**	T	T	19 57 07.1	
	baz=311						
H11N3	**WAKE ISLAND Hy**	**28.79**	**118**	T	T	19 57 07.9	
	baz=311						
H11S1	**WAKE ISLAND Hy**	**29.44**	**120**	T	T	19 57 56.7	
	baz=315						
H11S3	**WAKE ISLAND Hy**	**29.44**	**120**	T	T	19 57 54.7	
	baz=315						
H11S2	**WAKE ISLAND Hy**	**29.45**	**120**	T	T	19 57 53.1	
	baz=315						
DAV	**Davao City (W)**	**31.98**	**208**	LR	LR	19 41 23.3	
	comp=Z,121nm,18.6s,baz=242,slow=38						
MKAR	**Makanchi Array**	**43.56**	**303**	P	**P**	**19 28 56.8**	**-0.1**
	0.4nm,0.8s,baz=88,slow=8.1,SNR=3.4						
KURBB	**Kurchatov Arra**	**45.56**	**308**	P	**P**	**19 29 11.6**	**-1.1**
	0.3nm,0.3s,baz=84,slow=8.1,SNR=3.2						
ILAR	**Eielson Array**	**50.68**	**32**	P	**P**	**19 29 52.5**	**+0.6**
	0.5nm,0.7s,baz=272,slow=6.8,SNR=6.0						
WRA	**Warramunga Arr**	**56.22**	**186**	P	**P**	**19 30 32.2**	**-0.7**
	0.4nm,0.7s,baz=2.6,slow=7.6,SNR=4.8						
EKA	**Eskdalemuir Ar**	**83.42**	**340**	P	**P**	**19 33 18.9**	**-0.4**
	0.6nm,0.7s,baz=17,slow=5.6,SNR=1.4						

*BJI **24** 19:43:51.2, 0°.94N×91°.70E, h14km, mb4.7/53, mB4.8/38, Ms4.7/43, Ms7 4.4/41*
*ISCJB **24** 19:43:51.7±0.2, 1°.11N±0°.02×91°.80E±0°.02, h10km, mb4.8/140, MS4.4/39, Error ellipse: s-maj=3.7km s-min=2.4km az=21.6*
*MOS **24** 19:43:51.8±0.9, 1°.15N×91°.73E, h10km, mb4.9/61, MS4.3/14, Error ellipse: s-maj=7.3km s-min=4.6km az=116.2*
*IDC **24** 19:43:52.1±0.4, 1°.13N×91°.71E, h0km, mb4.4/39, mb1 4.5/41, mb1mx4.4/64, mbtmp4.4/41, ML4.6/1, MS4.2/25, Ms1 4.2/25, ms1mx4.0/61, Error ellipse: s-maj=13.9km s-min=10.8km az=35.0*
*GCMT **24** 19:43:53.3±0.2, 1°.09N×91°.83E, h15km, MW5.2/110, Moment Tensor Solution. s71,c100; s110,c192; Duration: 1ᵗ0 Moment tensor: Scale 10¹⁶Nm; Mrr0.32±.13; Mθθ-6.10±.09; Mφφ5.78±.11; Mrθ-5.15±.33; Mθφ0.70±.10; Mφr-1.36±.37; Best double couple: M○7.72300×10¹⁶ NP1:φ₈50.00000°, δ85.00000°, λ-37.00000°. NP2:φ₈143.00000°, δ53.00000°, λ-174.00000°. Principal axes: T 6.4870, Plg22.0000°, Azm103.0000°; N 2.4690, Plg52.0000°, Azm224.0000°; P -8.9590, Plg29.0000°, Azm360.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **24** 19:43:53.3±0.2, 1°.15N×91°.72E, h10km, mb5.1/63 Error ellipse: s-maj=4.7km s-min=3.0km az=200.0*
*DJA **24** 19:43:56.6±0.3, 1°N±2°×9°E±°, h66km±5km, M5.1/49, mb5.2/49, mB5.5/33, MLv5.8/9, Mw(mB)4.9/33*

ISC 24 19:43:53.3±0.3, 1°.15N±0°.04×91°.73E±0°.04, h10km, n434, σ1s64/451, mb5.0/151, MS4.4/39, 25C-15D, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSI	**Banda Aceh**	**5.60**	**39**	P	**Pn**	**19 45 16.7**	**0.0**
BSI				S	**Sn**	**19 46 18.5**	**-2.6**
MLSI	**Meulaboh, Aceh**	**5.60**	**56**	P	**Pn**	**19 45 16.6**	**-0.2**
MLSI				S	**Sn**	**19 46 18.2**	**-3.1**
TPTI		**5.84**	**69**	P	**Pn**	**19 45 19.9**	**-0.1**
TPTI				S	**Sn**	**19 46 24.2**	**-2.8**
GSI	**Gunungsitoli**	**5.85**	**88**	P	**Pn**	**19 45 20.5**	**+0.3**
GSI				S	**Sn**	**19 46 25.9**	**-1.4**
GSI	**Gunungsitoli**	**5.85**	**88**	ePn	**Pn**	**19 45 20.4**	**+0.3**
GSI				eSn	**Sn**	**19 46 21.6**	**-5.7**
KCSI	**Kotacane, Aceh**	**6.48**	**69**	P	**Pn**	**19 45 28.6**	**-0.3**
KCSI				S	**Sn**	**19 46 39.6**	**-3.4**
LHMI	**Lhok Sumawe**	**6.60**	**52**	P	**Pn**	**19 45 30.1**	**-0.4**
LHMI				S	**Sn**	**19 46 43.1**	**-2.7**
LHMI	**Lhok Sumawe**	**6.60**	**52**	ePn	**Pn**	**19 45 31.9**	**+1.5**
LHMI				eSn	**Sn**	**19 46 41.0**	**-4.8**
TSI	**Tuntungan**	**7.22**	**71**	P	**Pn**	**19 45 38.7**	**-0.3**
TSI				S	**Sn**	**19 46 58.2**	**-2.9**
PSI	**Prapat**	**7.38**	**77**	ePn	**Pn**	**19 45 40.9**	**-0.3**
PSI				eSn	Sn	19 46 54.1	-11
PSI	**Prapat**	**7.38**	**77**	eP	**Pn**	**19 45 40.9**	**-0.3**
SISI	**Saibi**	**7.76**	**108**	P	**Pn**	**19 45 46.5**	**+0.1**
MNSI	**Mandailing Nat**	**7.86**	**92**	P	**Pn**	**19 45 47.8**	**0.0**
PDSI	**Padang**	**8.97**	**103**	P	**Pn**	**19 46 03.2**	**+0.1**
PPSI	**Pulau Pagai**	**9.15**	**115**	P	**Pn**	**19 46 05.9**	**+0.5**
BKNI	**Bangkinang**	**9.35**	**95**	P	**Pn**	**19 46 08.2**	**0.0**
BKNI	**Bangkinang**	**9.35**	**95**	ePn	**Pn**	**19 46 05.5**	**-2.7**
PKDT	**Phuket**	**9.39**	**44**	P	**Pn**	**19 46 08.2**	**-0.6**
	46nm,0.8s,979nm0.3nm						
KULM	**Kulim**	**9.81**	**65**	ePn	**Pn**	**19 46 14.5**	**0.0**
KULM				eSn	**Sn**	**19 47 58.0**	**-6.9**
IPM	**Ipoh**	**9.86**	**70**	ePn	**Pn**	**19 46 15.5**	**+0.2**
IPM				eSn	Sn	19 47 56.8	-9.3
SDSI	**Sungai Dareh**	**9.92**	**102**	P	**Pn**	**19 46 16.0**	**0.0**
KRJI	**Kerinci**	**10.25**	**108**	P	**Pn**	**19 46 20.8**	**+0.1**
TRTT	**Trang**	**10.35**	**50**	P	**Pn**	**19 46 21.2**	**-0.7**
	24nm,0.8s,369nm						
PBA	**Port Blair**	**10.49**	**5**	eP	Pn	19 46 21.2	-2.6
PBA	**Port Blair**	**10.49**	**5**	ePn	Pn	19 46 21.4	-2.4
PBA				eSn	Sn	19 48 08.7	-13
SKLT	**Songkhla**	**10.69**	**56**	P	**Pn**	**19 46 26.5**	**-0.2**
	68nm,0.8s,904nm						
RGRI	**Rengat**	**10.71**	**98**	P	**Pn**	**19 46 27.2**	**+0.3**
MASI	**Maura Aman, Be**	**11.34**	**112**	P	**Pn**	**19 46 34.6**	**-0.9**
DGPR	**DIGLIPUR**	**12.01**	**6**	eP	**Pn**	**19 46 42.1**	**-2.5**
MYKOM	**Kota Tinggi**	**12.14**	**87**	ePn	**Pn**	**19 46 46.8**	**+0.4**
MNAI	**Manna**	**12.48**	**116**	P	**Pn**	**19 46 51.3**	**+0.1**
MNAI	**Manna**	**12.48**	**116**	ePn	**Pn**	**19 46 50.5**	**-0.7**
MNAI				eSn	Sn	19 48 58.8	-12
PALK	**Pallekele**	**12.56**	**299**	ePn	**Pn**	**19 46 50.1**	**-2.2**
PALK				eSn	Sn	19 48 57.1	-15
PALK	**Pallekele**	**12.56**	**299**	eP	**Pn**	**19 46 50.1**	**-2.2**
TPRI	**Tanjung Pinang**	**12.80**	**91**	P	**Pn**	**19 46 56.1**	**+0.6**
	76nm,0.9s,1μm						
DSRI	**Dabo**	**12.95**	**97**	P	**Pn**	**19 46 57.5**	**-0.1**
MDSI	**Maura Dua**	**13.64**	**114**	P	**Pn**	**19 47 06.6**	**-0.4**
LWLI	**Liwa**	**13.76**	**117**	P	**Pn**	**19 47 08.5**	**-0.2**
PHET	**Kaeng Krachan**	**14.07**	**33**	P	**Pn**	**19 47 16.4**	**+3.6**
	8.3nm,0.9s,157nm						
KASI	**Kota Agung**	**14.37**	**118**	P	**Pn**	**19 47 16.3**	**-0.7**

PPBI Pangkal Pinang 14.78 103 P **Pn** **19 47 21.6 -0.9**
BLSI Bandar Lampung 14.97 116 P **Pn** **19 47 24.5 -0.7**
SRDT SRDT 15.02 29 P **Pn** **19 47 27.4 +1.7**
26nm,0.9s,4µm
CHBT CHBT 15.60 42 P **P** **19 47 39.4 +1.7**
CGJI Cibinong 15.93 119 P **Pn** **19 47 36.7 -1.0**
SBJI Serang 16.09 117 P P 19 47 51.6 +8.4
SRAK Srakaew 16.35 38 P **P** **19 47 50.0 +3.9**
MDRS Chennai 16.42 317 *eP* **Pn** **19 47 44.0 0.0**
MDRS IAmb IAmb 19 47 47.6
comp=Z,321nm,1.8s
DBJI Dramaga 16.83 117 P **Pn** **19 47 48.0 -1.3**
SKJI Sukabumi 16.87 119 P **Pn** **19 47 48.2 -1.5**
LEM Lembang 17.73 117 P **Pn** **19 48 00.8 +0.2**
baz=299,slow=16,SNR=6.2
LEM LR LR 19 54 01.2
comp=Z,524nm,20.5s,baz=296,slow=34
LEM Lembang 17.73 117 P **Pn** **19 47 59.8 -0.8**
CHAI Chaiyaphum 17.81 34 P **P** **19 48 02.0 -0.2**
comp=Z,14nm,1.0s,comp=Z,122nm
PBKT Sadao Pong 17.82 30 P **Pn** **19 48 00.6 -1.0**
comp=Z,53nm,1.0s,comp=Z,735nm
PBKT Sadao Pong 17.82 30 *e*Pn **Pn** **19 47 59.7 -1.9**
comp=Z,32nm,0.8s
PHIT Phitsanulok 18.09 28 P **P** **19 48 05.2 0.0**
comp=Z,46nm,0.9s,comp=Z,323nm
JCJI Jatiwangi 18.17 115 P P 19 48 18.9 +13
VIS Vishakhapatnam 18.42 334 *i* P **P** **19 48 08.9 0.0**
VIS IAmb IAmb 19 48 11.8
comp=Z,269nm,1.0s
VIS *i* x x 19 51 18.9
CM01 Chiang Mai Arr 18.57 22 *eP* **P** **19 48 09.8 -0.8**
KSM Kuching 18.58 89 *eP* **Pn** **19 48 12.5 +1.6**
comp=Z,69nm,0.8s
CM31 Chiang Mai Arr 18.60 22 *eP* **P** **19 48 09.9 -1.0**
CMAR Chiang Mai Arr 18.60 22 P **P** **19 48 10.8 -0.1**
comp=Z,0.8nm,0.3s,baz=214,slow=11,SNR=64
CMAR LR LR 19 55 30.1
comp=Z,496nm,19.8s,baz=208,slow=38
KHON Khomkaen 18.64 35 P **Pn** **19 48 14.5 +2.9**
comp=Z,16nm,0.9s
CMJI Cimerak 18.89 118 P **P** **19 48 12.5 -1.6**
CHTO Chiang Mai 18.93 22 P **Pn** **19 48 15.8 +0.7**
comp=Z,180nm,1.0s,comp=Z,4µm
CHTO Chiang Mai 18.93 22 *eP* **P** **19 48 14.5 0.0**
comp=Z,29nm,0.8s
CHTO Chiang Mai 18.93 22 *eP* **P** **19 48 14.5 0.0**
CHTO pmax pmax
comp=Z,29nm,0.8s
LAMP Lampang 18.93 24 P **Pn** **19 48 16.0 +0.9**
comp=Z,13nm,0.8s
KPJI Karang Pucung 19.12 116 P **P** **19 48 15.0 -1.6**
UBPT Khong Chiam 19.52 43 P **Pn** **19 48 24.2 +1.9**
comp=Z,29nm,1.2s
PAYA Payao 19.78 23 P **Pn** **19 48 25.6 +0.3**
comp=Z,13nm,0.9s,comp=Z,158nm
STKI Sintang 19.78 93 P **P** **19 48 21.1 -2.8**
SKNT Sakolnakorn 19.82 37 P **P** **19 48 24.6 +0.3**
comp=Z,27nm,0.9s
BWNR Bhubaneshwar 19.89 343 *eP* **Pn** **19 48 27.0 +0.4**
BWNR IAmb IAmb 19 48 34.5
comp=Z,15µm,5.6s
CMAI Chiengmai2 19.99 21 P **Pn** **19 48 29.3 +1.3**
comp=Z,500nm,0.8s,comp=Z,57µm
PBKI Pangkalan Bun 20.30 101 P **P** **19 48 27.4 -2.2**
SMRI Semarang 20.37 114 P **P** **19 48 27.8 -2.6**
SMRI Semarang 20.37 114 *eP* Pn 19 48 32.1 -0.3
comp=Z,93nm,0.9s
SBUM Sibu 20.52 86 *eP* Pn 19 48 33.8 -0.4
comp=Z,92nm,1.1s
HYB Hyderabad 20.72 322 *i* P Pn 19 48 36.0 -0.4
HYB *e*S **S** **19 52 21.0 -4.6**
UGM Wanagama 20.79 116 P **P** **19 48 32.3 -2.6**
UGM Wanagama 20.79 116 *eP* Pn 19 48 38.1 +0.8
comp=Z,108nm,0.9s
H08S2 Diego Garcia H 21.08 245 T T 20 10 31.4
baz=65,slow=75,SNR=104
H08S3 Diego Garcia H 21.08 245 T T 20 10 29.9
baz=65,slow=75,SNR=149
H08S1 Diego Carcia H 21.10 245 T T 20 10 30.5
baz=65,slow=75,SNR=20
WOJI Wonogiri, Jawa 21.12 115 P P 19 48 46.2 +7.7
SAIH SAIHA 21.25 3 *eP* **P** **19 48 39.8 0.0**
NGJI Ngawi 21.43 114 P P 19 48 52.0 +10
PCJI Pacitan 21.50 116 P P 19 48 55.7 +13
BELO BELONIA 21.97 359 *eP* **P** **19 48 49.7 +2.3**
PWJI Pagerwojo 22.00 115 P P 19 49 00.7 +13
AZL Aizawl 22.47 2 *eP* **P** **19 48 54.4 +1.4**
AGT Agartala 22.60 359 *ex* **P** **19 49 00.8 +6.5**
GOA Goa 22.70 310 *eP* **P** **19 48 56.6 +1.2**
GOA IAmb IAmb 19 48 59.1
comp=Z,102nm,1.7s
BOK Bokaro 23.21 346 *eP* **P** **19 49 01.3 +0.7**
BOK *eP* sP 19 49 17.0 +12
BOK IAmb IAmb 19 49 19.0
comp=Z,910nm,2.3s
MTKI Muara Teweh, K 23.26 95 P **P** **19 49 03.9 +2.7**
NGP Nagpur 23.41 329 *ex* **P** **19 49 06.8 +4.1**
NGP IAmb IAmb 19 49 22.6
comp=Z,114nm,1.7s
IMP Imphal 23.64 5 *eP* **P** **19 49 05.4 +0.4**
IMP *ex* x 19 49 23.0
SHL Shillong 24.28 0 *eP* **P** **19 49 10.4 -0.7**
SHL *eP* **P** **19 49 10.9 -0.2**
SHL IAmb IAmb 19 49 31.7
comp=Z,28nm,0.8s
SHL Shillong 24.28 0 *e*PN **P** **19 49 16.0 +4.9**
TURI Tura 24.30 357 *eP* **P** **19 49 10.5 -0.6**
TURI *ex* x 19 49 30.6
JAGI Jajag, Banyuwa 24.31 114 *eP* **P** **19 49 11.6 +0.2**
comp=Z,26nm,0.7s
KOHI KOHIMA 24.54 5 *eP* **P** **19 49 12.9 -0.5**
POO Poona 24.62 316 *eP* **P** **19 49 14.4 +0.3**
POO Poona 24.62 316 ⇓ *i* P 19 49 33.0 +19
comp=Z,68nm,1.2s
POO *e*PP PnPn 19 50 03.0 +17
POO *e*PPP PPP 19 50 13.0
POO *i* S **S** **19 53 40.0 +4.4**
POO *i* LQ LQ 19 54 05.0
POO *i* SS **SnSn** **19 54 26.0 +4.9**
POO *i* SSS SSS 19 54 39.0
POO *e*LR LR 19 55 11.0
DHUB DHUBRI 24.78 356 *eP* **P** **19 49 15.7 +0.2**
DHUB IAmb IAmb 19 49 28.1
comp=Z,38nm,1.1s
GUWA GUWAHATI 24.90 360 *eP* **P** **19 49 16.6 +0.1**
KKM Kota Kinabalu 24.91 78 *eP* **P** **19 49 17.4 +0.5**
comp=Z,74nm,1.1s
QIZ Qiongzhong 25.12 44 P **P** **19 49 19.6 +1.0**
QIZ S **S** **19 53 45.9 +2.3**
QIZ pmax pmax
comp=Z,17nm,1.4s
QIZ LR LR
comp=Z,1µm,16.9s
QIZ LR LR
comp=Z,980nm,17.7s
QIZ LR LR
comp=Z,570nm,13.9s
MOKO MOKOCHONG 25.17 6 *eP* **P** **19 49 19.1 -0.1**
TEZP TEZPUR 25.34 2 *eP* **P** **19 49 21.0 +0.5**
ODAN Odare 25.90 351 *eP* **P** **19 49 27.4 +1.5**
comp=Z,59nm,0.7s
ITAN ITANAGAR 25.92 4 *eP* **P** **19 49 26.8 +1.1**
BHPL Bhopal 25.98 329 *eP* **P** **19 49 27.0 +0.5**
BHPL IAmb IAmb 19 49 30.9
comp=Z,11nm,0.7s
KMI Kunming 26.10 23 P **P** **19 49 29.9 +2.2**
KMI pP sP 19 49 34.4 +2.4
KMI sP pP 19 49 37.6 +6.8
KMI S **S** **19 53 57.0 -2.4**
KMI sS sS 19 54 07.5 +3.1
KMI SS **SnSn** **19 55 06.4 +8.9**
KMI pmax pmax
comp=Z,32nm,0.7s
KMI pmax pmax
comp=Z,170nm,4.8s
KMI LR LR
comp=Z,480nm,18.2s
KMI LR LR
comp=Z,1µm,17.3s
KMI LR LR
comp=Z,980nm,13.9s
RAMN Ramite 26.12 350 *eP* **P** **19 49 29.8 +1.9**
comp=Z,56nm,0.7s

GTK Tadong 26.19 354 *eP* **P** **19 49 29.2 +0.8**
GTK IAmb IAmb 19 49 32.6
comp=Z,35nm,0.5s
ZIRO ZIRO 26.31 4 *eP* **P** **19 49 30.3 +0.9**
LKP Lekhapani 26.33 8 *eP* **P** **19 49 29.7 +0.2**
JIRN Jiri 26.89 349 *eP* **P** **19 49 36.5 +1.5**
PKIN Phulchoki 26.97 348 *eP* **P** **19 49 36.8 +1.2**
comp=Z,15nm,0.7s
MYLDM Lahad Datu 27.02 81 *eP* **P** **19 49 37.3 +1.4**
comp=Z,45nm,1.0s
DMN Daman 27.06 347 *eP* **P** **19 49 38.7 +2.3**
comp=Z,23nm,0.8s
GUN Gumba 27.19 349 *eP* **P** **19 49 39.0 +1.3**
comp=Z,28nm,0.8s
KKN Kakani 27.20 347 *eP* **P** **19 49 39.3 +1.7**
GKN Gorkha 27.55 346 *eP* **P** **19 49 41.9 +1.2**
KOLN Koldanda 27.59 344 *eP* **P** **19 49 42.6 +1.5**
comp=Z,12nm,0.7s
PYUN Piuthan 28.07 343 *eP* **P** **19 49 47.3 +1.9**
LUWI Luwuk 31.12 94 *eP* **P** **19 50 11.0 -1.4**
comp=Z,43nm,1.0s
TGY Tagaytay City 31.62 65 P **P** **19 50 16.9 0.0**
comp=Z,80nm,0.3s,baz=235,slow=12,SNR=2.5
TGY LR LR 20 02 00.2
comp=Z,288nm,21.2s,baz=274,slow=34
CD2 Chengdu 31.72 20 P **P** **19 50 18.4 +0.9**
CD2 pP sP 19 50 22.8 +1.0
CD2 sP pP 19 50 24.6 +4.0
CD2 S **S** **19 55 29.4 +2.0**
CD2 sS sS 19 55 36.8 +4.4
CD2 pmax pmax
comp=Z,40nm,0.6s
CD2 pmax pmax
comp=Z,120nm,5.0s
CD2 LR LR
comp=Z,2µm,13.9s
CD2 LR LR
comp=Z,2µm,15.1s
CD2 LR LR
comp=Z,770nm,13.7s
ENH Enshi 33.52 29 *eP* **P** **19 50 32.6 -0.7**
comp=Z,20nm,0.7s
BATI Baumata 33.73 110 LR LR 20 05 10.2
comp=Z,726nm,21.7s,baz=310,slow=38
SOEI Soe 34.16 109 *eP* **P** **19 50 38.5 -0.7**
comp=Z,35nm,1.0s
DHRM DHARAMSHALA 34.19 336 *eP* **P** **19 50 38.7 -0.6**
DHRM IAmb IAmb 19 50 51.9
comp=Z,13nm,0.7s
DAV Davao City (W) 34.26 79 LR LR 20 07 45.6
comp=Z,236nm,18.0s,baz=317,slow=42
QZH Quanzhou 35.11 45 *eP* P 19 50 56.8 +10
QZH S **S** **19 56 24.4 +4.4**
QZH LR LR
comp=N,2µm,14.8s
QZH LR LR
comp=E,1µm,15.3s
QZH LR LR
comp=Z,840nm,14.5s
MBWA Marble Bar 35.23 131 *eP* **P** **19 50 46.8 -1.5**
comp=Z,33nm,1.4s
TNTI Ternate 35.64 90 *eP* **P** **19 50 49.8 -2.0**
comp=Z,153nm,0.5s
TPUB Ta-pu 35.65 50 *eP* **P** **19 50 51.9 0.0**
comp=Z,40nm,1.4s
YULB Yu-li 36.21 50 *eP* **P** **19 50 55.5 -1.2**
comp=Z,63nm,1.6s
LZH Lanzhou 36.54 17 *eP* **P** **19 51 01.8 +2.4**
LZH pP sP 19 51 07.6 +3.9
LZH sP pP 19 51 09.8 +7.3
LZH *e*PP **PP** **19 52 23.8 +1.2**
LZH S **S** **19 56 44.3 +2.4**
LZH sS sS 19 56 52.8 +5.8
LZH SS **SnSn** **19 59 10.9 -0.1**
LZH pmax pmax
comp=Z,36nm,1.0s
LZH pmax pmax
comp=Z,170nm,5.0s
LZH LR LR
comp=Z,670nm,13.4s
LZH LR LR
comp=Z,1µm,12.8s
LZH LR LR
comp=Z,1µm,15.5s
FITZ Fitzroy Crossi 38.46 121 P **P** **19 51 16.9 +1.1**
comp=Z,2.7nm,0.9s,baz=292,slow=5.4,SNR=5.0
GTA Gaotai 38.79 10 ⇓ P **P** **19 51 19.3 +0.9**
GTA pP sP 19 51 26.4 +3.7
GTA sP pP 19 51 30.8 +9.3
GTA S **S** **19 57 17.5 +1.5**
GTA sS sS 19 57 28.6 +7.5
GTA SS **SnSn** **20 00 00.8 -4.6**
GTA pmax pmax
comp=Z,12nm,0.7s
GTA pmax pmax
comp=Z,94nm,5.9s
GTA LR LR
comp=Z,360nm,17.6s
GTA LR LR
comp=Z,450nm,15.7s
GTA LR LR
comp=Z,310nm,16.4s
WSAR Wadi Sarin 38.90 307 P **P** **19 51 20.0 +0.6**
comp=Z,5.6nm,0.9s,baz=208,slow=9.0,SNR=5.5
WSAR LR LR 20 05 09.6
comp=Z,744nm,20.5s,baz=138,slow=33
KBL Kabul 39.40 330 *eP* **P** **19 51 23.9 +0.2**
comp=Z,5.5nm,0.9s
KBL Kabul 39.40 330 *eP* **P** **19 51 23.9 +0.2**
KBL pmax pmax
comp=Z,6.0nm,0.9s
MRIV Mauritius Mete 39.73 236 *eP* **P** **19 51 25.4 -1.0**
NJ2 Nanjing 39.99 37 *eP* **P** **19 51 29.0 +0.7**
NJ2 pmax pmax
comp=Z,8.0nm,0.5s
NJ2 LR LR
comp=Z,220nm,15.5s
NJ2 LR LR
comp=Z,330nm,16.1s
NJ2 LR LR
comp=Z,440nm,17.0s
SAUI Saumlaki 40.49 104 *eP* **P** **19 51 31.8 -1.0**
comp=Z,158nm,0.8s
FAKI Fak Fak 40.71 96 *eP* **P** **19 51 35.1 +0.5**
comp=Z,40nm,1.1s
KSH Kashi 40.80 341 P **P** **19 51 34.4 -0.7**
KSH pP sP 19 51 41.5 +2.0
KSH S **S** **19 57 39.8 -6.4**
KSH pmax pmax
comp=Z,190nm,4.3s
KSH LR LR
comp=Z,240nm,7.8s
KSH LR LR
comp=Z,280nm,8.0s
KSH LR LR
comp=Z,410nm,12.8s
TIY Taiyuan 41.08 25 *eP* **P** **19 51 41.6 +4.3**
TIY S **S** **19 57 53.5 +3.3**
TIY pmax pmax
comp=Z,24nm,0.5s
TIY pmax pmax
comp=Z,100nm,3.8s
TIY LR LR
comp=Z,580nm,16.1s
TIY LR LR
comp=Z,680nm,14.3s
TIY LR LR
comp=Z,420nm,14.5s
MTN Manton Dam 41.49 111 *eP* **P** **19 51 42.4 +1.4**
comp=Z,29nm,1.3s
H01W3 Cape Leeuwin H 41.54 152 T T 20 36 07.7
baz=327,slow=75,SNR=20
H01W2 Cape Leeuwin H 41.55 152 T T 20 36 08.4
baz=327,slow=75,SNR=22
H01W1 Cape Leeuwin H 41.55 152 T T 20 36 08.8
baz=327,slow=75,SNR=23
NRN Naryn 42.54 342 *eP* **P** **19 51 48.5 -1.1**
comp=Z,3.4nm,0.9s
NRN Naryn 42.54 342 *eP* **P** **19 51 48.5 -1.1**
NRN pmax pmax
comp=Z,3.0nm,0.9s
WMQ Urumqi 42.64 356 P **P** **19 51 51.4 +1.4**
WMQ LR LR
comp=Z,670nm,24.9s
WMQ LR LR
comp=Z,640nm,20.5s
WMQ LR LR
comp=Z,720nm,27.5s
KDJ Kajisay 42.85 344 *eP* **P** **19 51 51.0 -0.9**
comp=Z,4.7nm,1.0s
KDJ Kajisay 42.85 344 P **P** **19 51 51.0 -0.9**
KDJ pmax pmax
comp=Z,5.0nm,1.0s
PRZ Przheval'sk 42.85 345 *eP* **P** **19 51 52.8 +0.9**
comp=Z,15nm,1.1s
PRZ Przheval'sk 42.85 345 *eP* **P** **19 51 52.8 +0.9**
PRZ pmax pmax
comp=Z,15nm,1.1s
HHC Hu-ho-hao-te 43.41 22 *eP* **P** **19 51 58.3 +1.9**
HHC sP sP 19 52 05.4 +4.6
HHC S **S** **19 58 26.4 +1.7**
HHC ScS **ScS** **20 01 58.6 +1.7**
HHC pmax pmax
comp=Z,35nm,1.0s
HHC pmax pmax
comp=Z,92nm,5.9s
HHC LR LR
comp=Z,430nm,15.0s
HHC LR LR
comp=Z,680nm,14.8s
HHC LR LR
comp=Z,540nm,15.0s
AAK Ala-Archa 44.10 342 P **P** **19 52 01.8 -0.2**
comp=Z,0.5nm,0.3s,baz=148,slow=7.1,SNR=3.4
AAK Ala-Archa 44.10 342 *eP* **P** **19 52 01.8 -0.2**
comp=Z,17nm,1.7s
AAK Ala-Archa 44.10 342 ⇓ *eP* **P** **19 52 03.4 +1.4**
AAK pmax pmax
comp=Z,3.0nm,1.2s
FRU Bishkek 44.24 342 *eP* P 19 52 16.0 +13
BJT Baijiatuau 44.62 27 *eP* **P** **19 52 07.8 +1.8**
comp=Z,20nm,0.8s
BJT Baijiatuau 44.62 27 *eP* **P** **19 52 07.8 +1.8**
BJT pmax pmax
comp=Z,20nm,0.8s
KK31 Karatay Array 45.88 338 *eP* **P** **19 52 16.4 +0.5**
KK31 Karatay Array 45.88 338 *eP* **P** **19 52 16.4 +0.5**
KKAR Karatay Array 45.88 338 *eP* **P** **19 52 16.4 +0.4**
KKAR Karatay Array 45.88 338 *eP* **P** **19 52 16.4 +0.4**
MK01 Makanchi Array 46.18 351 *eP* **P** **19 52 18.0 -0.3**
MK31 Makanchi Array 46.20 351 *eP* **P** **19 52 18.4 0.0**
MK31 Makanchi Array 46.20 351 *eP* **P** **19 52 18.5 0.0**
MK32 Makanchi Array 46.20 351 *eP* **P** **19 52 18.8 +0.4**
MKAR Makanchi Array 46.20 351 P **P** **19 52 18.8 +0.4**
comp=Z,3.5nm,0.6s,baz=169,slow=8.7,SNR=41
MKAR LR LR 20 13 38.9
comp=Z,292nm,20.0s,baz=174,slow=39
MKAR Makanchi Array 46.20 351 *eP* **P** **19 52 18.3 -0.1**
comp=Z,25nm,0.6s
MKAR Makanchi Array 46.20 351 *eP* **P** **19 52 18.3 -0.1**
MKAR pmax pmax
comp=Z,25nm,0.6s
MAKZ Makanchi 46.27 351 *eP* **P** **19 52 19.7 +0.8**
comp=Z,9.9nm,1.4s
MAKZ Makanchi 46.27 351 *eP* **P** **19 52 19.7 +0.8**
MAKZ pmax pmax
comp=Z,10.0nm,1.4s
WRA Warramunga Arr 46.73 119 P **P** **19 52 22.9 -0.1**
comp=Z,4.5nm,0.8s,baz=296,slow=8.6,SNR=20
WRA Warramunga Arr 46.73 119 P **P** **19 52 22.9 -0.1**
WRA pmax pmax
comp=Z,3.0nm,0.8s
WR1 Warramunga Arr 46.73 119 *eP* **P** **19 52 22.9 -0.1**
comp=Z,17nm,0.9s
WRAB Tennant Creek 46.73 119 *eP* **P** **19 52 21.4 -1.6**
comp=Z,17nm,0.9s
WRAB Tennant Creek 46.73 119 ⇓ *eP* **P** **19 52 24.1 +1.1**
WRAB pmax pmax
comp=Z,16nm,1.7s
WB2 Warramunga Arr 46.74 119 *eP* **P** **19 52 20.7 -2.4**
FORT Forrest 46.92 136 *eP* **P** **19 52 25.3 +1.0**
comp=Z,246nm,0.9s
ASAR Alice Springs 47.83 124 P **P** **19 52 31.1 -0.4**
comp=Z,0.8nm,0.9s,baz=298,slow=7.3,SNR=6.6
ASAR PcP **PcP** **19 54 00.6 +0.1**
comp=Z,0.7nm,0.7s,baz=309,slow=5.9,SNR=2.4
AS31 Alice Springs 47.83 124 *eP* **P** **19 52 31.2 -0.3**
comp=Z,1.5nm,0.9s
AS01 Alice Springs 47.86 124 *eP* **P** **19 52 31.5 -0.3**
GEYT Alibeck 47.88 324 P **P** **19 52 32.6 +0.8**
comp=Z,9.0nm,0.6s,baz=147,slow=8.8,SNR=30
GEYT LR LR 20 13 04.3
comp=Z,321nm,20.1s,baz=150,slow=37
OPO Ambohidratompo 47.96 244 P **P** **19 52 33.6 +0.9**
comp=Z,8.9nm,0.7s,baz=51,slow=4.5,SNR=9.9
OPO LR LR 20 09 11.1
comp=Z,165nm,21.5s,baz=58,slow=32
ABPO Ambohimpanom 48.07 243 *eP* **P** **19 52 34.3 +0.7**
comp=Z,10nm,0.8s
ABPO Ambohimpanom 48.07 243 *eP* **P** **19 52 34.3 +0.7**
ABPO pmax pmax
comp=Z,10.0nm,0.8s
SONA0 Songino Array 48.21 13 *eP* **P** **19 52 35.4 +1.2**
SONM Songino Array 48.21 13 P **P** **19 52 35.4 +1.2**
comp=Z,15nm,0.7s,baz=193,slow=9.1,SNR=102
SONM LR LR 20 15 07.5
comp=Z,167nm,18.0s,baz=198,slow=39
SONA1 Songino Array 48.23 13 *eP* **P** **19 52 34.7 +0.4**
DGZ Jazzator, Alta 48.51 356 *i* P **P** **19 52 38.2 +1.7**
DGZ pmax pmax
comp=Z,2.0nm,0.7s
DAMY Dhamar 48.62 288 *eP* **P** **19 52 38.0 -0.2**
comp=Z,114nm,1.9s
KS15 Wonju Array Si 49.11 38 *eP* **P** **19 52 40.6 -0.6**
KSAR Wonju Array Be 49.11 38 P **P** **19 52 42.0 +0.9**
KSAR Wonju Array Be 49.11 38 P **P** **19 52 42.1 +0.9**
KS01 Wonju Array Si 49.14 38 *eP* **P** **19 52 41.7 +0.3**
KSRS Korea Array 49.14 38 P **P** **19 52 42.0 +0.7**
comp=Z,1.7nm,0.7s,baz=224,slow=9.0,SNR=7.4
ATD Arta Tunnel 49.58 284 LR LR 20 09 14.7
comp=Z,163nm,21.8s,baz=80,slow=31
HVS Khovu-Aksy 49.83 2 ⇑ *eP* **P** **19 52 47.6 +1.0**
HVS pmax pmax
comp=Z,24nm,0.9s
RAYN Ar Rayn 50.00 300 *eP* **P** **19 52 47.7 -0.5**
comp=Z,5.8nm,0.8s
RAYN Ar Rayn 50.00 300 P **P** **19 52 47.7 -0.5**
RAYN pmax pmax
comp=Z,6.0nm,0.8s
ZAK Zakamensk 50.03 10 *eP* **P** **19 52 49.2 +1.1**
ZAK pmax pmax
comp=Z,3.0nm,1.2s
KURBB Kurchatov Arra 50.55 349 P **P** **19 52 52.2 +0.3**
comp=Z,4.2nm,0.8s,baz=171,slow=7.2,SNR=35
KURK Kurchatov 50.62 349 *eP* **P** **19 52 52.2 -0.3**
KURK Kurchatov 50.62 349 *d* *i* P **P** **19 52 52.9 +0.5**
KURK pmax pmax
comp=Z,12nm,1.2s
TLY Talaya 51.34 9 ⇑ *eP* **P** **19 52 59.9 +2.0**
TLY pmax pmax
comp=Z,4.0nm,1.1s
CN2 Changchun 51.98 31 *eP* **P** **19 53 05.8 +3.0**
NVS Novosibirsk 53.97 354 *i* P **P** **19 53 16.9 -0.3**
NVS pmax pmax
comp=N,7.0nm,1.1s
NVS pmax pmax
comp=E,4.0nm,1.1s
NVS pmax pmax
comp=Z,9.0nm,1.1s
KMBO Kilima Mbogo 54.52 268 P **P** **19 53 21.1 -1.2**
comp=Z,1.8nm,0.3s,baz=64,slow=9.9,SNR=4.8
KMBO LR LR 20 13 51.2
comp=Z,326nm,19.4s,baz=94,slow=33
KMBO Kilima Mbogo 54.52 268 *eP* **P** **19 53 21.6 -0.7**
comp=Z,5.4nm,0.9s
KMBO Kilima Mbogo 54.52 268 *eP* **P** **19 53 21.6 -0.7**
KMBO pmax pmax
comp=Z,5.0nm,0.9s
BVAR Borovoye Array 54.66 344 P **P** **19 53 22.0 -0.3**
comp=Z,0.5nm,0.4s,baz=264,slow=39,SNR=6.8
BVAR LR LR 20 17 16.4
comp=Z,333nm,20.6s,baz=158,slow=37
KRAR Krasnoyarsk 54.70 1 ⇑ *iP* **P** **19 53 24.5 +2.0**
BRVK Borovoye 54.72 344 ⇑ *iP* **P** **19 53 22.7 0.0**
BRVK pmax pmax
comp=Z,4.0nm,1.2s
ABKAR Akbulak array 55.12 335 *eP* **P** **19 53 25.1 -0.6**
MAJO Matsushiro 55.51 45 *eP* **P** **19 53 30.1 +1.3**
MAJO Matsushiro 55.51 45 *eP* **P** **19 53 30.1 +1.3**
MAT Matsushiro 55.51 45 P **P** **19 53 29.1 +0.3**
MAT S **S** **20 01 06.4 -7.9**
MJAR Matsushiro Arr 55.51 45 P **P** **19 53 30.1 +1.3**

comp=Z,0.8nm,0.5s,baz=247,slow=7.8,SNR=3.7
MANU Manus Island 55.72 93 *e*P **P 19 53 32.2 +1.6**
comp=Z,18nm,0.9s
USRK Ussuriysk Ar. 55.77 34 P **P 19 53 30.5 +0.1**
comp=Z,1.6nm,0.7s,baz=252,slow=7.5,SNR=3.0
MAK Makhachkala 57.35 323 *e*P **P 19 53 37.1 -4.6**
MAK *e* 19 55 44.7
MAK *e*S **S 20 01 32.8 -5.5**
MAK pmax pmax
comp=Z,24nm,0.4s
MAK MLR MLR
comp=Z,330nm,16.0s
CTA Charters Tower 57.42 115 P **P 19 53 42.6 0.0**
comp=Z,1.6nm,0.2s,baz=276,slow=13,SNR=4.3
CTAO Charters Tower 57.42 115 *e*P **P 19 53 41.8 -0.8**
comp=Z,21nm,1.0s
CTAO Charters Tower 57.42 115 *e*P **P 19 53 41.8 -0.8**
CTAO pmax pmax
comp=Z,21nm,1.0s
STKA Stephens Creek 57.47 130 P **P 19 53 44.0 +1.2**
comp=Z,1.7nm,0.9s,baz=301,slow=12,SNR=2.2
STKA LR LR 20 17 39.1
comp=Z,153nm,20.0s,baz=277,slow=35
STKA Stephens Creek 57.47 130 *e*P **P 19 53 43.9 +1.1**
comp=Z,6.2nm,1.6s
STKA Stephens Creek 57.47 130 *e*P **P 19 53 43.9 +1.1**
STKA pmax pmax
comp=Z,6.0nm,1.6s
GNI Garni 57.62 318*c i*P **P 19 53 44.9 +1.0**
GNI pmax pmax
comp=Z,35nm,1.2s
TBLG Delisi 58.42 320 *e*P **P 19 53 49.9 +0.6**
comp=Z,18nm,0.9s
TBLG Delisi 58.42 320 *e*P **P 19 53 49.9 +0.6**
TBLG pmax pmax
comp=Z,18nm,0.9s
KLR Kul'dur 58.87 30⇑ *e*P **P 19 53 53.5 +1.2**
BOD Bodaibo 59.21 14 *e*P **P 19 53 54.5 +0.1**
BOD pmax pmax
comp=Z,18nm,1.2s
ZEI Tsey 59.49 321 *e*P **P 19 53 55.5 -1.5**
ZEI pmax pmax
comp=Z,7.0nm,1.1s
NCK Nalchik 60.05 321⇑ *e*P **P 19 54 01.7 +1.1**
NCK pmax pmax
comp=Z,16nm,0.8s
ASF Jabal al Asfar 60.07 307 P **P 19 54 02.1 +1.1**
comp=Z,1.6nm,0.6s,baz=146,slow=11,SNR=3.3
ASF LR LR 20 19 43.7
comp=Z,464nm,20.4s,baz=67,slow=36
NEY Neytrino 60.47 321⇓ *i*P **P 19 54 05.5 +1.8**
NEY pmax pmax
comp=Z,2.0nm,0.7s
KBZ Khabaz 60.60 321 P **P 19 54 05.2 +1.0**
comp=Z,8.1nm,0.8s,baz=112,slow=5.5,SNR=27
KBZ LR LR 20 22 42.5
comp=Z,154nm,19.3s,baz=126,slow=38
SVE Sverdlovsk 60.84 341 *e*P **P 19 54 05.5 -0.1**
KIV Kislovodsk 60.85 321 *e*P **P 19 54 06.2 +0.1**
comp=Z,13nm,0.9s
KIV Kislovodsk 60.85 321 *e*P **P 19 54 06.9 +0.8**
KIV *e*S **S 20 02 24.1 +0.1**
KIV pmax pmax
comp=Z,14nm,1.0s
KIV MLR MLR
comp=Z,135nm,17.0s
ARU Arti 61.22 340*c i*P **P 19 54 07.7 -0.5**
ARU 19 56 22.4
ARU S **S 20 02 28.2 +0.3**
ARU SS **SS 20 06 21.7 -6.5**
ARU pmax pmax
comp=Z,5.0nm,1.2s
ARU MLR MLR
comp=Z,233nm,24.0s
MMAI Mount Meron Ar 61.54 307 P **P 19 54 12.8 +1.8**
comp=Z,2.6nm,0.7s,baz=128,slow=9.3,SNR=4.7
MMAI LR LR 20 20 51.4
comp=Z,649nm,20.1s,baz=110,slow=36
ASAJ Asahikawa 62.08 39 P **P 19 54 15.5 +1.2**
comp=Z,1.1nm,0.4s,baz=162,slow=6.4,SNR=4.8
ASAJ Asahikawa 62.08 39 *e*P **P 19 54 15.3 +1.0**
comp=Z,3.3nm,1.0s
YSS Yuzh-Sakhalins 63.56 36⇑ *e*P **P 19 54 26.3 +2.2**
YSS pmax pmax
comp=Z,2.0nm,0.5s
LSZ Lusaka 64.87 253 *e*P **P 19 54 33.0 -0.4**
comp=Z,7.4nm,0.9s
LSZ Lusaka 64.87 253 *e*P **P 19 54 33.0 -0.4**
LSZ pmax pmax
comp=Z,7.0nm,0.9s
BRTR Keskin Array B 65.15 314 P **P 19 54 34.8 -0.1**
comp=Z,5.6nm,0.7s,baz=133,slow=6.8,SNR=43
BRTR LR LR 20 23 30.6
comp=Z,204nm,20.4s,baz=108,slow=36
BR101 Keskin Array S 65.15 314 *e*P **P 19 54 34.8 -0.1**
BR131 Keskin Array S 65.15 314 *e*P **P 19 54 34.1 -0.8**
VRH Novokhopyorsk 65.18 328 *e*P **P 19 54 33.8 -0.8**
VRH pmax pmax
comp=Z,10.0nm,0.7s
ILGA Ilgaz 65.57 315 *e*P **P 19 54 38.2 +0.5**
comp=Z,16nm,1.0s
ANTO Ankara 65.81 314 *e*P **P 19 54 39.3 +0.2**
comp=Z,13nm,0.8s
ANTO Ankara 65.81 314 *e*P **P 19 54 39.3 +0.2**
ANTO pmax pmax
comp=Z,13nm,0.8s
KUR Kuril'sk 65.94 40⇓ *e*P **P 19 54 41.0 +1.3**
VSR Storozhevoye 66.56 327 *e*P **P 19 54 42.4 -1.2**
VSR pmax pmax
comp=Z,10.0nm,1.3s
SIM Simferopol' 66.78 319 *e*P **P 19 54 45.5 +0.4**
SIM *e*S **S 20 03 36.2 -1.2**
SIM pmax pmax
comp=Z,9.0nm,0.8s
YAK Yakutsk 67.09 18 *e*P **P 19 54 45.6 -1.1**
YAK *e*S **S 20 03 34.7 -5.9**
YAK *e* 20 04 41.3
YAK *e*SS **SS 20 08 03.7 +4.1**
YAK pmax pmax
comp=Z,11nm,0.9s
YAK pmax pmax
comp=N,3.0nm,1.3s
YAK pmax pmax
comp=E,5.0nm,1.3s
YAK smax smax
comp=E,91nm,3.5s
YAK smax smax
comp=N,40nm,3.3s
YAK MLR MLR
comp=Z,364nm,20.0s
YAK MLR MLR
comp=N,614nm,19.0s
LPSR Galich'ya Gora 67.39 328 *e*P **P 19 54 47.9 -0.9**
LPSR pmax pmax
comp=Z,10.0nm,0.8s
KARP Karpathos 68.80 308 *e*P **P 19 54 58.4 +0.4**
comp=Z,26nm,1.1s
LBTB Lobatse 68.98 243 *e*P **P 19 54 59.2 -0.3**
comp=Z,14nm,0.7s
LBTB Lobatse 68.98 243 *e*P **P 19 54 59.2 -0.3**
LBTB pmax pmax
comp=Z,14nm,0.7s
MOS Moscow 69.64 331 *e*P **P 19 55 01.4 -1.4**
MOS pmax pmax
comp=Z,37nm,0.8s
OBN Obninsk 69.85 330*de*P **P 19 55 04.5 +0.4**
OBN pmax pmax
comp=Z,13nm,0.8s
BOSA Boshof 70.04 239 P **P 19 55 05.5 -0.5**
comp=Z,5.5nm,0.8s,baz=69,slow=4.6,SNR=9.6
BOSA LR LR 20 23 35.3
comp=Z,247nm,18.2s,baz=78,slow=34
TIRR Tirgusor 70.40 317⇑ *i*P **P 19 55 08.2 +0.5**
TIRR Tirgusor 70.40 317 P **P 19 55 08.2 +0.5**
APE Apeiranthos 70.44 309*de*P **P 19 55 09.3 +1.1**
APE pmax pmax
comp=Z,15nm,1.3s
IDI Anoyia 70.54 307 P **P 19 55 09.8 +0.9**
comp=Z,17nm,0.5s,baz=100,slow=10,SNR=38
IDI Anoyia 70.54 307⇓ *i*P **P 19 55 09.9 +1.0**
IDI Anoyia 70.54 307 *e*P **P 19 55 09.2 +0.4**
comp=Z,23nm,0.6s
CFR Carcaliu 70.82 318⇓ *i*P **P 19 55 10.6 +0.4**
CFR Carcaliu 70.82 318 P **P 19 55 10.6 +0.4**
KLMR Klimovskoe 71.50 336 *e*P **P 19 55 11.5 -2.6**
KLMR AMP 19 55 27.2
comp=Z,11nm,1.3s
KLMR LQ LQ 20 21 20.5
KLMR LQ LQ 20 21 20.5
KLMR LR LR 20 24 51.9
KLMR Klimovskoe 71.50 336 *e*P **P 19 55 11.4 -2.6**
KLMR pmax pmax
comp=Z,11nm,1.3s
MAW Mawson 71.51 191 LR LR 20 21 17.6
comp=Z,117nm,19.9s,baz=56,slow=31
SORM Soroca 71.64 321⇑ *i*P **P 19 55 15.1 -0.1**
SORM Soroca 71.64 321 P **P 19 55 15.1 -0.1**
VRI Vrincioaia 71.97 318⇓ *i*P **P 19 55 18.2 +0.9**
VRI Vrincioaia 71.97 318 P **P 19 55 18.1 +0.8**
AKASG Malin Array Be 72.01 324 P **P 19 55 16.9 -0.4**
comp=Z,3.2nm,0.6s,baz=92,slow=4.9,SNR=12
AKASG LR LR 20 28 52.0
comp=Z,206nm,21.6s,baz=70,slow=38
AKBB Malin Array Si 72.01 324 *e*P **P 19 55 16.5 -0.8**
comp=Z,14nm,1.4s
AKBB Malin Array Si 72.01 324 *e*P **P 19 55 16.5 -0.8**
AKBB pmax pmax
comp=Z,14nm,1.4s
KIEV Kiev 72.01 324 *e*P **P 19 55 16.1 -1.3**
comp=Z,14nm,1.4s
KIEV Kiev 72.01 324*ce*P **P 19 55 16.9 -0.4**
KIEV pmax pmax
comp=Z,11nm,1.5s
PLOR Plostina 72.02 318⇑ *i*P **P 19 55 18.8 +1.2**
PLOR Plostina 72.02 318 P **P 19 55 18.7 +1.2**
MLR Muntele Rosu 72.38 318 P **P 19 55 21.1 +1.2**
comp=Z,6.2nm,0.8s,baz=104,slow=3.4
MLR Muntele Rosu 72.38 318⇑ *i*P **P 19 55 20.9 +1.0**
MLR Muntele Rosu 72.38 318 *e*P **P 19 55 20.1 +0.2**
comp=Z,31nm,0.8s
MLR Muntele Rosu 72.38 318 *e*P **P 19 55 20.1 +0.2**
MLR pmax pmax
comp=Z,31nm,0.8s
PRAR RASCA 72.75 320⇑ *i*P **P 19 55 22.1 +0.2**
DOPR Dopca 72.89 318⇑ *i*P **P 19 55 23.2 +0.4**
VOIR 72.97 317⇑ *i*P **P 19 55 23.7 +0.4**
VOIR 72.97 317 P **P 19 55 23.6 +0.3**
ARR Arges 73.23 317⇑ *i*P **P 19 55 24.8 -0.1**
BURAR Bucovina Array 73.48 320⇑ *i*P **P 19 55 27.5 +1.2**
BURAR Bucovina Array 73.48 320 P **P 19 55 27.5 +1.2**
BUR04 Bucovina Ar. S 73.49 320 *e*P **P 19 55 26.7 +0.3**
BUR08 Bucovina Ar. S 73.50 320 *e*P **P 19 55 26.3 -0.1**
VTS Vitosha 73.51 314⇑ *i*P **P 19 55 26.8 +0.1**
VTS Vitosha 73.51 314 *e*P **P 19 55 26.1 -0.6**
comp=Z,7.7nm,0.8s
VTS Vitosha 73.51 314 *e*P **P 19 55 26.1 -0.6**
VTS pmax pmax
comp=Z,8.0nm,0.8s
TMCR Tamitsa 73.90 338 *e*P **P 19 55 28.0 -0.2**
TIXI Tiksi 74.25 11 *e*P **P 19 55 29.2 -1.0**
comp=Z,10nm,0.7s
TIXI Tiksi 74.25 11 *e*P **P 19 55 29.2 -1.0**
TIXI pmax pmax
comp=Z,10.0nm,0.7s
IDID Didziasalis 75.05 328 *e*P **P 19 55 35.7 +0.6**
IDID IAmb IAmb 19 55 36.1
comp=Z,4.4nm,0.8s
IIGN Ignalina 75.34 328 *e*P **P 19 55 37.4 +0.6**
IIGN IAmb IAmb 19 55 37.9
comp=Z,2.9nm,0.6s
BZS Buzias 75.35 317⇓ *i*P **P 19 55 37.3 +0.2**
BZS Buzias 75.35 317 P **P 19 55 37.3 +0.2**
TRPA Tarpa 75.36 320⇑ *i*P **P 19 55 37.9 +0.8**
IZAR Zarasai 75.46 328 *e*P **P 19 55 38.1 +0.6**
IZAR IAmb IAmb 19 55 38.6
comp=Z,4.8nm,0.6s
KWP Kalwaria Pacla 75.65 321 *e*P **P 19 55 39.6 +0.9**
KWP Kalwaria Pacla 75.65 321 *e*P **P 19 55 38.5 -0.2**
comp=Z,59nm,0.8s
KWP Kalwaria Pacla 75.65 321 *e*P **P 19 55 38.5 -0.2**
KWP pmax pmax
comp=Z,59nm,0.8s
UZH Uzhgorod 75.65 320 *e*P **P 19 55 36.1 -2.6**
UZH *e* 19 55 39.5
SEY Seymchan 76.00 24⇑ *e*P **P 19 55 42.3 +1.9**
VSU Vasula 76.17 331⇓ *i*P **P 19 55 41.8 +0.4**
VSU pmax pmax
comp=Z,32nm,1.1s
STHS Stebnicka Huta 76.51 321 *e*P **P 19 55 44.7 +1.0**
STHS Stebnicka Huta 76.51 321 *e*P **P 19 55 44.7 +1.0**
STHS pmax pmax
comp=Z,7.0nm,1.0s
SUW Suwalki 76.59 326 *e*P **P 19 55 43.9 0.0**
SUW Suwalki 76.59 326 *e*P **P 19 55 43.7 -0.3**
comp=Z,79nm,1.1s
SUW Suwalki 76.59 326 *e*P **P 19 55 43.7 -0.3**
SUW pmax pmax
comp=Z,79nm,1.1s
NIE Niedzica 77.11 321 *e*P **P 19 55 48.1 +1.0**
NIE Niedzica 77.11 321 *e*P **P 19 55 48.1 +1.0**
FIA0 FINESS Array S 77.55 333 *e*P **P 19 55 49.4 +0.2**
FIA0 FINESS Array S 77.55 333 *e*P **P 19 55 49.4 +0.2**
FINES FINESS Array B 77.55 333 P **P 19 55 49.4 +0.2**
comp=Z,2.9nm,0.8s,baz=107,slow=6.6,SNR=9.7
OJC Ojcow 77.61 321 *e*P **P 19 55 50.7 +0.8**
OJC Ojcow 77.61 321 *e*P **P 19 55 50.1 +0.3**
comp=Z,38nm,1.8s
OJC Ojcow 77.61 321 *e*P **P 19 55 50.1 +0.3**
OJC pmax pmax
comp=Z,38nm,1.8s
VYHS Vyhne 77.85 319 *e*P **P 19 55 51.6 +0.4**
VYHS Vyhne 77.85 319 *e*P **P 19 55 51.6 +0.4**
VYHS pmax pmax
comp=Z,6.0nm,1.4s
KLNR Kaliningrad 78.43 326⇓ *e*P **P 19 55 54.1 -0.1**
OKC Ostrava-Krasne 78.57 321 *e*P **P 19 55 56.0 +0.9**
OKC Ostrava-Krasne 78.57 321 *e*P **P 19 55 56.0 +0.9**
MODS Modra-Piesok 78.84 319 *e*P **P 19 55 56.4 -0.3**
MODS Modra-Piesok 78.84 319 *e*P **P 19 55 56.4 -0.3**
MODS pmax pmax
comp=Z,27nm,1.3s
MORC Moravsky Berou 78.94 321 *e*P **P 19 55 57.3 0.0**
comp=Z,98nm,1.7s
MORC Moravsky Berou 78.94 321 *e*P **P 19 55 57.3 0.0**
MORC pmax pmax
comp=Z,98nm,1.7s
CONA Conrad Observa 79.69 318 P **P 19 56 01.8 +0.4**
comp=Z,3.9nm,0.9s
ARSA Arzberg 79.80 318 *i*P **P 19 56 03.4 +1.4**
comp=Z,15nm,1.0s,SNR=8.4
DPC Dobruska-Polom 79.82 321 *e*P **P 19 56 03.6 +1.5**
DPC *ex* x 19 56 14.3
DPC Dobruska-Polom 79.82 321 *e*P **P 19 56 03.6 +1.5**
DPC *e* 19 56 14.3
KSP Ksiaz 79.93 321 *e*P **P 19 56 04.2 +1.6**
KSP Ksiaz 79.93 321 *e*P **P 19 56 04.2 +1.6**
SOKA Soboth 80.05 317 *i*P **P 19 56 04.6 +1.2**
comp=Z,9.3nm,0.9s
UPC Upice 80.05 321 *e*P **P 19 56 04.5 +1.3**
UPC Upice 80.05 321 *e*P **P 19 56 04.5 +1.3**
OBKA Obir 80.35 317 *i*P **P 19 56 05.0 0.0**
comp=Z,5.1nm,0.8s
GOPC GO Pecny, Ondr 80.72 320 *e*P **P 19 56 08.2 +1.3**
GOPC GO Pecny, Ondr 80.72 320 *e*P **P 19 56 08.2 +1.3**
ARA0 ARCESS Array S 80.77 341 *e*P **P 19 56 06.8 0.0**
ARCES ARCESS Array B 80.77 341 P **P 19 56 06.8 0.0**
comp=Z,4.5nm,0.8s,baz=91,slow=6.4,SNR=13
PRU Pruhonice 80.89 320 *e*P **P 19 56 08.9 +1.2**
PRU Pruhonice 80.89 320 *e*P **P 19 56 08.9 +1.2**
PVCC Panska Ves 80.96 321 *e*P **P 19 56 09.4 +1.3**
PVCC Panska Ves 80.96 321 *e*P **P 19 56 09.4 +1.3**
MYKA Terra Mystica 80.98 317 *i*P **P 19 56 09.3 +0.9**
comp=Z,11nm,0.8s
KBA Koelnbreinsper 81.25 317 *i*P **P 19 56 10.5 +0.5**
comp=Z,8.9nm,0.9s
GEA0 GERESS Array S 81.26 319 *e*P **P 19 56 10.4 +0.6**
GEC2 GERESS Array S 81.26 319 *e*P **P 19 56 10.0 +0.1**
comp=Z,42nm,1.0s
GEC2 GERESS Array S 81.26 319 *e*P **P 19 56 10.0 +0.1**
GEC2 pmax pmax
comp=Z,42nm,1.0s
GERES GERESS Array B 81.26 319 P **P 19 56 10.9 +1.0**
comp=Z,16nm,0.8s,baz=101,slow=5.6,SNR=71
KHC Kasperske Hory 81.38 319 *e*P **P 19 56 11.3 +0.9**
KHC *ex* x 19 56 18.0
KHC Kasperske Hory 81.38 319 *e*P **P 19 56 10.6 +0.2**
comp=Z,3.9nm,1.1s
KHC Kasperske Hory 81.38 319 *e*P **P 19 56 10.6 +0.2**
KHC pmax pmax
comp=Z,4.0nm,1.1s
BRG Berggiesshubel 81.41 321 *e*P **P 19 56 11.4 +1.0**
comp=Z,8.3nm,0.9s
BRG *e* 19 56 22.3
comp=Z,19nm,1.7s
BRG Berggiesshubel 81.41 321 *e*P **P 19 56 11.4 +1.0**
BRG pmax pmax
comp=Z,8.0nm,1.0s
ABTA Abfaltersbach 81.77 317 *i*P **P 19 56 13.1 +0.4**
comp=Z,7.5nm,1.1s
CLL Collm 82.06 322⇑ *i*P **P 19 56 14.4 +0.5**
comp=Z,10.0nm,1.0s
CLL *e*S **S 20 06 31.0 +2.6**
CLL *e*SS **SS 20 11 42.0 -5.5**
CLL *e* 20 13 18.0
CLL *e*SSS SSS 20 15 18.0
CLL *e* 20 17 18.0
CLL *e*SSSS 20 17 54.0
CLL LmV 20 38 00.0
comp=Z,200nm,18.5s
CLL Collm 82.06 322 *e*P **P 19 56 13.3 -0.6**
comp=Z,9.2nm,1.0s
CLL Collm 82.06 322 *e*P **P 19 56 13.3 -0.6**
CLL pmax pmax
comp=Z,9.0nm,1.0s
NKC Novy Kostel 82.26 320 *e*P **P 19 56 15.9 +0.9**
NKC Novy Kostel 82.26 320 *e*P **P 19 56 15.9 +0.9**
WTTA Wattenberg 82.43 317 *i*P **P 19 56 16.4 +0.2**
comp=Z,9.5nm,0.9s
WATA Walderalm 82.48 317 P **P 19 56 16.6 +0.2**
comp=Z,23nm,1.3s
MOTA Moosalm 82.80 317 *i*P **P 19 56 18.4 +0.3**
comp=Z,8.9nm,0.7s,SNR=7.2
FETA Feichten 83.02 317 *i*P **P 19 56 20.2 +1.0**
comp=Z,19nm,1.3s
RETA Reutte 83.04 318 *i*P **P 19 56 19.8 +0.5**
comp=Z,10nm,0.9s,SNR=5.2
HFS Hagfors 83.05 330 P **P 19 56 19.1 +0.2**
comp=Z,1.6nm,0.7s,baz=126,slow=9.7,SNR=6.7
KEST Kesra 83.14 306 P **P 19 56 21.1 +1.1**
comp=Z,9.7nm,0.8s,baz=334,slow=1.4,SNR=10
KEST Kesra 83.14 306 *e*P **P 19 56 18.9 -1.1**
comp=Z,13nm,0.9s
BILL Bilibino 83.18 21 *i*P **P 19 56 19.9 +0.5**
BILL *i* 19 56 28.3
BILL pmax pmax
comp=Z,1.0nm,0.9s
BILL MLR MLR
comp=Z,357nm,18.0s
DAVA Damuels 83.62 317 *i*P **P 19 56 23.1 +0.8**
comp=Z,11nm,0.6s,SNR=5.7
TUE Stuetta 83.91 316 *e*P **P 19 56 23.6 -0.3**
comp=Z,12nm,1.1s
NB200 NORSAR Array S 84.40 331 *e*P **P 19 56 25.5 -0.4**
NOA NORSAR Array B 84.40 331 P **P 19 56 25.5 -0.4**
comp=Z,1.4nm,0.8s,baz=96,slow=5.0,SNR=3.0
BFO Black Forest 84.75 318 *i*P **P 19 56 28.6 +0.7**
KONO Kongsberg 85.03 330⇑ *e*P **P 19 56 30.1 +1.1**
KONO pmax pmax
comp=Z,22nm,1.9s
SENIN Lac Senin/Sane 85.32 316 *e*P **P 19 56 30.9 -0.1**
comp=Z,10nm,0.8s
SPA0 Spitsbergen Ar 85.89 348 *e*P **P 19 56 33.2 +0.2**
SPITS Spitsbergen Ar 85.89 348 P **P 19 56 33.0 0.0**
comp=Z,5.2nm,0.9s,baz=74,slow=15,SNR=3.5
SPITS Spitsbergen Ar 85.89 348 P **P 19 56 33.0 0.0**
SPITS pmax pmax
comp=Z,5.0nm,0.9s
TAM Tamanrasset 86.06 293 *e*P **P 19 56 35.9 +0.8**
comp=Z,17nm,1.0s
TAM Tamanrasset 86.06 293 *e*P **P 19 56 35.9 +0.8**
TAM pmax pmax
comp=Z,17nm,1.0s
VNDA Vanda 86.88 168 LR LR 20 28 35.9
comp=Z,100nm,21.9s,baz=269,slow=31
TOA0 Torodi Ar. Sit 89.77 283 *e*P **P 19 56 51.7 -1.2**
TORD Torodi Ar. Bea 89.77 283 P **P 19 56 52.6 -0.3**
comp=Z,1.3nm,0.9s,baz=91,slow=4.6,SNR=8.5
TORD LR LR 20 35 04.9
comp=Z,184nm,19.8s,baz=80,slow=34
TOA1 Torodi Ar. Sit 89.78 283 *e*P **P 19 56 52.6 -0.3**
QSPA South Pole Qui 91.10 180 P **P 19 56 58.8 +0.7**
comp=Z,1.7nm,0.7s,baz=315,slow=14,SNR=4.6
EKA Eskdalemuir Ar 91.85 325 P **P 19 57 02.7 +1.1**
comp=Z,0.5nm,0.4s,baz=91,slow=5.7,SNR=5.0
SNAA Sanae 92.53 198 P **P 19 57 05.0 +0.5**
comp=Z,1.9nm,0.9s,baz=233,slow=5.1,SNR=4.3
SNAA Sanae 92.53 198 *e*P **P 19 57 05.4 +0.8**
comp=Z,15nm,1.6s
SNAA Sanae 92.53 198 P **P 19 57 05.0 +0.5**
SNAA pmax pmax
comp=Z,2.0nm,0.9s
ES19 SONSECA Array 93.61 310 *e*P **P 19 57 10.1 -0.1**
ESDC Sonseca Array 93.66 310 P **P 19 57 11.4 +1.0**
comp=Z,0.9nm,0.6s,baz=60,slow=3.7,SNR=7.4
KOWA Kowa 95.28 285 P **P 19 57 19.1 +0.8**
comp=Z,5.3nm,0.8s,baz=78,slow=5.8,SNR=14
KOWA LR LR 20 39 36.5
comp=Z,220nm,18.2s,baz=45,slow=35
KOWA Kowa 95.28 285 *e*P **P 19 57 18.4 +0.1**
comp=Z,13nm,1.0s
DBIC Dimbokro 96.41 277 P **P 19 57 24.2 +0.7**
comp=Z,6.4nm,1.1s,baz=90,slow=6.1,SNR=2.3
DBIC LR LR 20 38 02.0
comp=Z,129nm,21.8s,baz=92,slow=34
DBIC Dimbokro 96.41 277 *e*P **P 19 57 24.6 +1.1**
comp=Z,27nm,1.6s
COLA College 101.43 22⇑ *e*P **Pdif 19 57 45.8 +1.0**
COLA pmax pmax
comp=Z,3.0nm,0.7s
YKA Yellowknife Ar 113.48 13 PP PP 20 03 26.2 +4.2
comp=Z,0.2nm,0.7s,baz=324,slow=6.5,SNR=4.2
TX31 Lajitas Ar. Si 146.30 25 *e*PKPdf **PKPdf 20 03 34.2 +0.2**
TX31 *e*PKPdf **PKPbc 20 03 34.5 -0.7**
TXAR Lajitas Array 146.30 25 PKPbc **PKPbc 20 03 35.1 -0.1**
comp=Z,2.0nm,0.7s,baz=233,slow=0.4,SNR=25
GO04 Tololo Observa 146.70 208 *e*PKPdf **PKPdf 20 03 35.6 +0.7**
PTGA Pitinga 151.69 271 *e*PKPbc **PKPbc 20 03 48.2 -1.1**
SAML Samuel 153.85 252 *e*PKPdf **PKPdf 20 03 46.9 +0.8**
SAML *e*PKPbc **PKPbc 20 03 53.9 -0.2**
SAML *e*PKPab **PKPab 20 04 04.9 -2.2**
LPAZ La Paz 155.09 232 PKP **PKPdf 20 03 49.3 +0.8**
comp=Z,1.1nm,0.8s,baz=100,slow=6.1,SNR=3.1
LPAZ PKPab **PKPab 20 04 12.8 -0.1**
comp=Z,1.0nm,0.6s,baz=95,slow=3.9,SNR=3.6
LPAZ La Paz 155.09 232 *e*PKPdf **PKPdf 20 03 47.8 -0.8**
LPAZ *e*PKPbc pPKPbc 20 03 57.4 -3.4
LPAZ *e*PKPab **PKPab 20 04 11.5 -1.4**
LPAZ La Paz 155.09 232 *e*PKIKP **PKPdf 20 03 47.8 -0.8**
LPAZ *e* 20 04 11.5
SDV Santo Domingo 159.79 300 PKPab **PKPab 20 04 32.6 -0.2**
comp=Z,1.6nm,0.4s,baz=37,slow=18,SNR=2.8

*ISCJB **24** 19:44:08.6±0.4,33.70N±0.01×116.86W±0.02,h11km±3km, Error ellipse: s-maj=2.6km s-min=2.2km az=144.5*
*NEIC **24** 19:44:10.0±0.0,33.72N×116.84W,h15km,ML3.3(PAS), After PAS.*
NEIC Felt [III] at Hemet, Idyllwild, Nuevo, Palm Springs, San Jacinto and Temecula. Felt from Chino Hills to Desert Hot Springs and from Big Bear City to Aguanga.
*ECX **24** 19:44:11.2±0.7,33.61N×116.90W,h0km±17km,ML3.2*
ISC 24 19:44:07.8±1.1,33.69N±0.02×116.86W±0.02,h8km±10km, n77,σ1.38/117,2C,Southern California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MURC	**Murrieta**	**0.30**	**252**	P	**Pb**	**19 44 16.1**	**+0.6**
	baz=70,SNR=916						
MURC				S	**Sb**	**19 44 20.9**	**+0.3**
	baz=70						
PFO	**Pinyon Flats O**	**0.34**	**104**	P	**Pb**	**19 44 16.3**	**0.0**
	baz=287,SNR=607						
PFO				S	**Sb**	**19 44 21.0**	**-1.0**
	baz=287						
PFO	**Pinyon Flats O**	**0.34**	**104**	*e*Pg	**Pb**	**19 44 16.4**	**+0.1**
PFO				*e*Sg	**Sb**	**19 44 20.9**	**-1.0**
XPFO	**Piæon Flat**	**0.35**	**104**	*e*Pg	**Pb**	**19 44 16.3**	**0.0**
XPFO				*e*Sg	**Sb**	**19 44 21.0**	**-1.1**
BBRC	**Big Bear Solar**	**0.57**	**355**	P	**Pb**	**19 44 20.3**	**0.0**
	baz=173,SNR=29						
BBRC				S	**Sb**	**19 44 27.9**	**-0.7**
	baz=173						
BELC	**Belle Mtn. Jos**	**0.78**	**67**	P	**Pb**	**19 44 23.8**	**0.0**
	baz=247,SNR=438						
BELC				S	**Sg**	**19 44 33.9**	**+0.9**

baz=247
109C Camp Elliot, M 0.83 195 P Pb 19 44 24.7 +0.2
baz=15,SNR=20
109C S Sb 19 44 35.7 -0.2
baz=15
CPE Camp Elliot 0.83 195 *e*Pn Pb 19 44 24.7 +0.2
CPE *e*Sg Sb 19 44 36.0 +0.1
BFSC Mount Baldy Ra 0.86 309 P Pb 19 44 24.9 -0.2
baz=128,SNR=87
BFSC S Sb 19 44 36.2 -0.7
baz=128
MONP2 Monument Peak 0.88 155 P Pn 19 44 26.1 -0.6
baz=337,SNR=100
MONP2 S Sb 19 44 37.5 0.0
baz=337
SDRC San Diego Road 0.96 184 *e*P Pb 19 44 26.8 +0.1
BAR Barrett 1.02 171 *e*Pn Pb 19 44 28.0 +0.2
BAR *e*Sn Sb 19 44 41.6 +0.1
BAR Barrett 1.02 171 *e*P Pb 19 44 28.0 +0.2
BAR *e*S Sb 19 44 41.3 -0.2
MWC Mount Wilson 1.13 298 *e*Pg Pb 19 44 29.6 -0.1
MWC *e*Sn Sb 19 44 44.6 -0.1
SWSC Sam W. Stewart 1.16 130 P Pb 19 44 29.1 -1.0
baz=312,SNR=40
SWSC S Sn 19 44 46.2 -0.3
baz=312
BC3 Big Chuckawall 1.17 92 P Pb 19 44 29.7 -0.8
baz=273,SNR=100
BC3 S Sg 19 44 45.4 -0.1
baz=273
RRX Edison Barstow 1.18 354 P Pn 19 44 31.0 +0.2
baz=173,SNR=11
RRX S Sn 19 44 46.7 -0.5
baz=173
FMP Fort Macarthur 1.20 271 S Sn 19 44 47.1 -0.3
baz=90
PASC Pasadena Art C 1.20 294 *e*Pg Pb 19 44 30.7 -0.2
HEC Hector,Ludlow 1.21 21 P Pb 19 44 30.9 -0.2
baz=200,SNR=178
HEC S Sb 19 44 47.0 0.0
baz=200
IKP In-Ko-Pah, Jac 1.22 149 P Pb 19 44 31.0 -0.2
baz=330,SNR=65
IKP S Sn 19 44 48.0 +0.1
baz=330
IKP In-Ko-Pah, Jac 1.22 149 *e*P Pb 19 44 31.2 0.0
RMX La Rumorosa 1.27 149 *e*P Pg 19 44 34.4 +2.2
RMX *e*S Sn 19 44 51.6 +2.2
CIS Catalina Islan 1.33 258 P Pb 19 44 32.8 -0.3
baz=76,SNR=28
CIS S Sg 19 44 50.9 +0.2
baz=76
DECC Green Verdugo 1.35 295 P Pn 19 44 32.8 -0.2
baz=113
DECC S Sg 19 44 51.3 +0.1
baz=113
CBX Cerro Bola 1.39 173 *e*P Pb 19 44 34.3 +0.2
CBX *e*S Sg 19 44 52.4 0.0
CBX IAML 19 44 54.2
comp=E,618nm,0.3s
CBX ⇑*e* 19 44 54.2
CBX IAML 19 44 55.8
comp=N,519nm,0.5s
CBX ⇑*e* 19 44 55.8
GMRC Granite Mounta 1.47 42 P Pn 19 44 34.4 -0.5
baz=222,SNR=41
GMRC Sb Sb 19 44 54.7 +0.1
baz=222
IRM Iron Mountain 1.50 72 P Pn 19 44 34.3 -0.8
baz=253,SNR=131
IRM Sb Sb 19 44 55.7 +0.5
baz=253
EDW2 Edwards Air Fo 1.51 322 P Pb 19 44 35.8 -0.5
baz=140,SNR=94
EDW2 Sb Sg 19 44 56.6 +0.1
baz=140
SCI2 San Clemente I 1.58 244 P Pb 19 44 36.6 -0.8
baz=63
GSC Goldstone, Bar 1.60 2 P Pn 19 44 36.8 +0.1
baz=181
GSC Sb Sg 19 44 59.3 -0.1
baz=181
GSC Goldstone, Bar 1.60 2 *e*Pn Pn 19 44 37.0 +0.4
GSC *e*Sn Sg 19 44 59.6 +0.1
OSI Osito Audit: C 1.80 301 P Pn 19 44 39.7 +0.4
baz=120
OSI Osito Audit: C 1.80 301 *e*Pn Pb 19 44 40.5 -0.6
GLA Glamis 1.82 110 P Pn 19 44 38.9 -0.6
baz=292,SNR=8.6
GLA Glamis 1.82 110 *e*Pn Pn 19 44 39.4 -0.1
BLG Laguna Peak, P 1.88 283 P Pn 19 44 40.2 -0.2
baz=102
Y12C Blythe 1.95 88 P Pn 19 44 40.3 -0.9
baz=269,SNR=35
Y12C Blythe 1.95 88 *e*Pn Pb 19 44 44.3 +0.7
LDFC Landfair 2.00 46 *e*Pn Pg 19 44 45.9 -0.2
LDFC *e*Sn Sg 19 45 12.0 -0.1
ARVC Arvin 2.17 312 P Pn 19 44 44.7 +0.4
baz=130
SNCC San Nicolas Is 2.27 259 P Pn 19 44 45.6 -0.1
baz=78
SNCC San Nicolas Is 2.27 259 *e*Pn Pn 19 44 45.0 -0.7
ISA Isabella, Lake 2.37 326 P Pn 19 44 47.6 +0.4
baz=145,SNR=18
ISA Isabella, Lake 2.37 326 *e*Pn Pn 19 44 47.5 +0.4
ISA *e*Sn Sg 19 45 22.7 -1.4
MPMC Manual Prospec 2.42 348 P Pn 19 44 48.4 +0.5
baz=167
DAC Darwin (Calif) 2.65 347 *e*Pn Pn 19 44 52.0 +0.9
DAC *e*Sn Sg 19 45 32.1 -0.8
PKM Mcpherson Peak 2.72 297 P Pn 19 44 52.8 +0.7
baz=115
W13A Hualapai Mount 2.83 59 *e*Pn Pn 19 44 53.1 -0.5
W13A *e*Sn Sg 19 45 36.6 -2.1
SPIG San Pedro Mart 2.89 156 *e*P Pb 19 44 58.3 -1.6
SPX San Pedro Mart 2.89 156 *e*P Pb 19 44 58.2 -1.7
SMMC Simmler 3.05 303 P Pn 19 44 57.9 +1.4
baz=121
SHPR Sheep Range 3.13 26 *e*Pn Pn 19 44 58.5 +0.8
SHPR *e*Sg Sg 19 45 47.6 -0.8
Y14A Wickenburg 3.22 85 *e*Pn Pn 19 44 58.1 -0.6
TPNV Topopah Spring 3.29 9 P Pn 19 45 00.8 +0.9
baz=189,SNR=6.9
TPNV Topopah Spring 3.29 9 *e*Pn Pn 19 45 00.6 +0.8
PAGB Antelope Grade 3.46 307 *e*Pn Pn 19 45 02.6 +0.6
PMPB Monarch Peak 4.10 309 *e*Pn Pn 19 45 11.3 +0.3
OMMB Old Mammoth Mi 4.28 337 *e*Pn Pn 19 45 15.5 +1.9
OMMB *e*Sg Sg 19 46 22.1 -3.3
MDPB Devils Postpil 4.33 336 *e*Pn Pn 19 45 16.9 +2.7
MDPB *e*Sg Sg 19 46 23.9 -2.9
LCMT Little Creek M 4.44 41 *e*Pn Pn 19 45 16.9 +1.3
LCMT *e*Sg Sg 19 46 26.3 -4.0
X16A Lo Mia Camp, P 4.55 79 *e*Pn Pn 19 45 17.7 +0.4
U15A North Rim 4.63 53 *e*Pn Pn 19 45 19.6 +1.1
U15A *e*Sg Sg 19 46 33.5 -3.1
KNB Kanab 4.68 44 *e*Pn Pn 19 45 19.7 +0.7
KNB *e*Sg Sb 19 46 31.5 +4.7
R11A Troy Canyon, C 4.76 12 *e*Pn Pn 19 45 21.3 +1.2
CCUT Cedar City 4.79 35 *e*Pn Pn 19 45 22.6 +2.0
NV11 Mina Array Sit 4.84 348 *e*Pn Pn 19 45 23.3 +2.0
NV01 Mina Array Sit 4.87 346 *e*Pn Pn 19 45 23.0 +1.4
WUAZ Wupatki 4.87 67 *e*Pn Pn 19 45 21.9 +0.3
RYN Ryan 5.11 345 *e*Pn Pn 19 45 26.9 +2.1
WAKR Walker 5.24 337 *e*Pn Pn 19 45 32.3 +5.6
WAKR *e*Sg Sg 19 46 54.1 -1.9
KVN Kaiserville 5.44 350 *e*Pg Pg 19 45 52.5 +0.4
MTPU Mount Pierson 5.76 40 *e*Pn Pn 19 45 35.9 +1.9
MTPU *e*Sg Sg 19 47 07.4 -5.5
RUBR Rubicon Trail 5.97 335 *e*Pn Pn 19 45 34.2 -2.5
RUBR *e*Sg Sg 19 47 16.3 -3.3
VCNR Virginia City 6.03 339 *e*Pn Pn 19 45 35.1 -2.4
MSU Marysvale 6.12 37 *e*Pn Pn 19 45 40.2 +1.4
MSU *e*Pg Pb 19 45 58.2 +3.4
ORV Oroville 6.94 329 *e*Pn Pn 19 45 50.4 +0.6

*IDC **24** 19:51:17.7±1.7,0.˚84N×126.˚56E,h0km,mb3.4/4, mb1 3.6/4,mb1mx3.3/47,mbtmp3.5/4,MS4.2/1,Ms1 4.2/1, ms1mx3.1/32,Error ellipse: s-maj=175.1km s-min=21.8km az=66.0*
*ISCJB **24** 19:51:20.8±0.7,0.˚93N±0.˚09×126.˚78E±0.˚08,h39km, mb3.6/5,MS4.1/1,Error ellipse: s-maj=12.8km s-min=11.1km az=171.8*

*NEIC **24** 19:51:24.1±1.2,0.˚80N×126.˚72E,h54km±13km,mb4.2/1, Error ellipse: s-maj=17.4km s-min=13.3km az=52.0*
ISC 24 19:51:23.7±1.1,**0.˚9N**±0.˚2×**126.˚69E**±0.˚06,**h39**km,**n11,**
σ2s12/12,mb3.7/5,Northern Moluca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**0.69**	**101**	*e*Pn	**Pn**	**19 51 37.5**	**+0.5**
TNTI				*e*Sn	**Sn**	**19 51 49.3**	**+2.7**
LUWI	**Luwuk**	**4.36**	**244**	*e*Pn	**Pn**	**19 52 27.7**	**+0.2**
LUWI				*e*Sn	**Sn**	**19 53 20.1**	**+3.0**
WR1	**Warramunga Arr**	**22.03**	**160**	*e*P	**P**	**19 56 12.4**	**-2.7**
	20nm,1.8s						
WRA	**Warramunga Arr**	**22.03**	**160**	P	**P**	**19 56 12.4**	**-2.7**
	0.6nm,0.4s,baz=339,slow=11,SNR=6.5						
WB2	**Warramunga Arr**	**22.04**	**160**	*e*P	**P**	**19 56 12.5**	**-2.6**
ASAR	**Alice Springs**	**25.41**	**164**	P	**P**	**19 56 48.1**	**+0.4**
	0.5nm,0.7s,baz=344,slow=12,SNR=5.7						
JNU	**Nakatsue**	**32.29**	**7**	LR	LR	20 15 34.6	
	comp=Z,347nm,18.2s,baz=238,slow=45						
MK32	**Makanchi Array**	**59.85**	**326**	*e*P	**P**	**20 01 24.4**	**-1.1**
MKAR	**Makanchi Array**	**59.85**	**326**	P	**P**	**20 01 24.4**	**-1.1**
	0.2nm,0.3s,baz=119,slow=7.8,SNR=7.8						
KURBB	**Kurchatov Arra**	**64.09**	**328**	P	**P**	**20 01 54.0**	**+0.2**
	0.4nm,0.5s,baz=119,slow=6.9,SNR=3.7						
KURK	**Kurchatov**	**64.10**	**328**	*e*P	**P**	**20 01 54.0**	**+0.2**

*ISCJB **24** 20:04:06.3±0.7,26.˚99S±0.˚05×69.˚17W±0.˚06,h119km, Error ellipse: s-maj=7.5km s-min=7.1km az=4.5*
*GUC **24** 20:04:07.2±0.5,26.˚96S×69.˚48W,h129km±7km,ML3.4*
*SJA **24** 20:04:09.7±0.4,27.˚19S×68.˚86W,h132km±12km,ML2.5, MW2.4*
ISC 24 20:04:06.6±1.4,**26.˚97S**±0.˚05×**69.˚18W**±0.˚06,**h119**km,**n12,**
σ1s34/16,Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CPCH	**Copiapo**	**1.12**	**250**	*e*P	**Pn**	**20 04 29.0**	**-0.7**
CPCH				*e*S	**Sn**	**20 04 46.2**	**-1.0**
GO03	**Copiap**	**1.13**	**237**	*e*P	**Pn**	**20 04 30.2**	**+0.3**
GO03				*e*S	**Sn**	**20 04 47.3**	**-0.3**
GO03				IAML		20 04 47.5	
	comp=E,1μm,0.3s						
LCO	**Las Campanas**	**2.44**	**213**	*e*P	**Pn**	**20 04 46.4**	**+0.6**
LCO				*e*S	**Sn**	**20 05 16.2**	**+0.3**
LCO				IAML		20 05 21.4	
	comp=N,168nm,0.4s						
AGUA	**GUANDACOL**	**2.58**	**167**	*e*P	**Pn**	**20 04 48.5**	**+1.1**
AGUA				*e*S	**Sn**	**20 05 17.5**	**-1.3**
FSA	**Cafayete**	**2.99**	**74**	IAML		20 04 57.0	
	comp=Z,10nm,0.5s						
AROD	**Rodeo**	**3.19**	**185**	*e*P	**Pn**	**20 04 58.3**	**+2.7**
CYA	**Choya**	**3.33**	**117**	*e*P	**Pn**	**20 04 57.2**	**0.0**
CYA				IAML		20 04 58.5	
	comp=Z,14nm,0.3s						
AHML	**Horco Molle**	**3.44**	**88**	*e*P	**Pn**	**20 04 59.5**	**+0.8**
PB10	**IPOC Station P**	**3.66**	**340**	*e*P	**Pn**	**20 05 01.7**	**0.0**
PB15	**IPOC Station P**	**3.76**	**356**	*e*P	**Pn**	**20 05 04.5**	**+1.4**
AMOG	**MOGNA**	**4.00**	**172**	*e*P	**Pn**	**20 05 07.4**	**+1.3**
AMOG				*e*S	**Sn**	**20 05 49.6**	**-2.6**
APLL	**PUNTA DE LOS L**	**4.13**	**146**	*e*P	**Pn**	**20 05 07.9**	**+0.1**

*IDC **24** 20:21:23.1±4.1,36.˚73N×71.˚23E,h64km±29km,mb3.5/9, mb1 3.7/13,mb1mx3.4/67,mbtmp3.9/13,ML4.1/4,MS3.5/1, Ms1 3.5/1,ms1mx2.6/58,Error ellipse: s-maj=48.1km s-min=25.4km az=138.0*
*ISCJB **24** 20:21:25.7±0.2,36.˚99N±0.˚02×71.˚47E±0.˚04,h106km, mb4.0/20,Error ellipse: s-maj=4.5km s-min=3.2km az=7.6*
*BJI **24** 20:21:25.2,37.˚03N×71.˚46E,h61km,mb3.7/2*
*NEIC **24** 20:21:27.0±0.6,37.˚02N×71.˚40E,h100km±7km,mb4.0/13, Error ellipse: s-maj=7.6km s-min=5.6km az=116.0*
*NNC **24** 20:21:31.1±2.6,37.˚54N×69.˚93E,h0km,mb4.8,mpv4.5, Error ellipse: s-maj=23.3km s-min=17.4km az=122.0*
ISC 24 20:21:27.0±0.5,**37.˚02N**±0.˚04×**71.˚47E**±0.˚06,**h106**km,**n90,**
σ2s00/97,mb3.9/20,1C-6D,Afghanistan-Tajikistan
border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBL	**Kabul**	**3.17**	**219**	*e*Pn	**Pn**	**20 22 15.0**	**-0.3**
KBL				*e*Sn	**Sn**	**20 22 52.0**	**-0.5**
CEP	**Cherat**	**3.21**	**173**	P	**Pn**	**20 22 16.8**	**+0.9**
CEP				S	**Sn**	**20 22 55.0**	**+1.5**
CHCP	**Chirah Chowk**	**3.66**	**156**	⇓P	**Pn**	**20 22 23.7**	**+1.9**
NIL	**Nilore**	**3.67**	**156**	*e*Pn	**Pn**	**20 22 23.5**	**+1.7**
NIL				*e*Sn	**Sn**	**20 23 03.3**	**-1.0**
THW	**Thamme Wali**	**4.22**	**177**	P	**Pn**	**20 22 30.1**	**+0.7**
SARP	**Sargodha**	**5.18**	**169**	P	**Pn**	**20 22 41.7**	**-0.6**
AML	**Almayashu**	**5.38**	**18**	P	**Pn**	**20 22 46.7**	**+1.4**
	SNR=130						
NRN	**Naryn**	**5.64**	**37**	*e*Pn	**Pn**	**20 22 49.7**	**+1.0**
NRN				*e*Sn	**Sn**	**20 23 52.6**	**+0.4**
UCH	**Uchtor**	**5.70**	**23**	P	**Pn**	**20 22 51.3**	**+1.6**
	SNR=36						
KZA	**Kyzart**	**5.83**	**29**	P	**Pn**	**20 22 52.8**	**+1.4**
	SNR=17						
EKS2	**Erkin-Say**	**5.91**	**17**	P	**Pn**	**20 22 53.8**	**+1.7**
	SNR=55						
AAK	**Ala-Archa**	**6.07**	**22**	P	**Pn**	**20 22 56.5**	**+2.1**
	12nm,0.3s,baz=176,slow=6.1,SNR=198						
AAK				S	**Sn**	**20 24 02.6**	**+0.1**
	4.7nm,0.3s,baz=0.5,slow=17,SNR=7.7						
AAK	**Ala-Archa**	**6.07**	**22**	P	**Pn**	**20 22 56.4**	**+2.0**
	SNR=61						
AAK	**Ala-Archa**	**6.07**	**22**	*e*Pn	**Pn**	**20 22 56.2**	**+1.8**
AAK				*e*Sn	**Sn**	**20 24 01.0**	**-1.6**
KK31	**Karatay Array**	**6.12**	**353**	⇓P	**Pn**	**20 22 55.0**	**0.0**
	20nm,0.3s,baz=175,slow=8.3,SNR=358						
KK31				⇓S	**Sn**	**20 24 01.5**	**-2.0**
	6.0nm,0.3s,baz=185,slow=25,SNR=4.6						
KK31	**Karatay Array**	**6.12**	**353**	*e*Pn	**Pn**	**20 22 54.9**	**0.0**
KK31				*e*Sn	**Sn**	**20 23 59.6**	**-3.9**
KKAR	**Karatay Array**	**6.12**	**353**	*e*Pn	**Pn**	**20 22 54.9**	**0.0**
KKAR				*e*Sn	**Sn**	**20 23 59.5**	**-4.0**
KBK	**Karagaybulak**	**6.23**	**24**	P	**Pn**	**20 22 58.8**	**+2.2**
	SNR=12						
ULHL	**Ulahol**	**6.38**	**34**	P	**Pn**	**20 23 01.3**	**+2.6**
	SNR=11						
CHMS	**Chunysh**	**6.48**	**22**	P	**Pn**	**20 23 01.6**	**+1.8**
	SNR=21						
USP	**Ospenovka**	**6.66**	**19**	P	**Pn**	**20 23 03.4**	**+1.2**
	SNR=34						
TKM2	**Tokmak 2**	**6.69**	**27**	P	**Pn**	**20 23 04.7**	**+1.9**
	SNR=6.6						
KDJ	**Kajisay**	**6.74**	**39**	*e*Pn	**Pn**	**20 23 05.2**	**+1.6**
TARG	**Taragay, Kyrgy**	**6.79**	**44**	*e*Pn	**Pn**	**20 23 03.8**	**-0.6**
PRZ	**Przheval'sk**	**7.63**	**42**	*e*Pn	**Pn**	**20 23 14.6**	**-0.9**
GEYT	**Alibeck**	**10.65**	**279**	P	Pn	20 23 50.6	-5.9
	1.4nm,0.3s,baz=68,slow=16,SNR=25						
GEYT				S	Sn	20 25 43.6	-10
	4.4nm,0.3s,baz=317,slow=33,SNR=17						
MAKZ	**Makanchi**	**12.51**	**35**	*e*Pn	**Pn**	**20 24 19.6**	**-1.6**
MK01	**Makanchi Array**	**12.63**	**36**	*e*Pn	**Pn**	**20 24 22.8**	**0.0**
MK31	**Makanchi Array**	**12.65**	**36**	*e*Pn	**Pn**	**20 24 23.3**	**+0.3**
MK32	**Makanchi Array**	**12.65**	**36**	*e*Pn	**Pn**	**20 24 23.9**	**+0.9**
MKAR	**Makanchi Array**	**12.65**	**36**	P	**Pn**	**20 24 23.9**	**+0.9**
	0.1nm,0.3s,baz=228,slow=15,SNR=9.6						
MKAR	**Makanchi Array**	**12.65**	**36**	*e*Pn	**Pn**	**20 24 23.3**	**+0.3**
PYUN	**Piuthan**	**13.16**	**129**	*e*P	**Pn**	**20 24 26.7**	**-3.3**
	15nm,0.3s						
KOLN	**Koldanda**	**13.78**	**129**	*e*P	**Pn**	**20 24 34.7**	**-3.3**
	7.6nm,0.2s						
GKN	**Gorkha**	**14.28**	**125**	*e*P	**Pn**	**20 24 40.6**	**-3.8**
	14nm,0.3s						
KURBB	**Kurchatov Arra**	**14.51**	**18**	P	**Pn**	**20 24 45.6**	**-1.5**
	0.1nm,0.3s,baz=210,slow=9.8,SNR=5.2						
KURK	**Kurchatov**	**14.62**	**18**	*e*Pn	**Pn**	**20 24 45.6**	**-2.8**
AB31	**Akbulak array**	**14.82**	**329**	⇓P	**Pn**	**20 24 48.1**	**-2.9**
	4.8nm,0.5s,baz=135,slow=13,SNR=124						
AB31				⇓S	Sn	20 27 20.6	-14
	4.6nm,0.8s,baz=153,slow=23,SNR=6.0						
ABKAR	**Akbulak array**	**14.82**	**329**	*e*Pn	**Pn**	**20 24 47.9**	**-3.1**
KKN	**Kakani**	**14.84**	**124**	*e*P	**Pn**	**20 24 47.9**	**-3.8**
DMN	**Daman**	**14.85**	**125**	*e*P	**Pn**	**20 24 48.0**	**-3.8**
	8.8nm,0.3s						
PKIN	**Phulchoki**	**15.06**	**125**	*e*P	**Pn**	**20 24 50.9**	**-3.6**
	7.7nm,0.3s						
GUN	**Gumba**	**15.16**	**123**	*e*P	**Pn**	**20 24 52.3**	**-3.6**
	6.2nm,0.3s						
JIRN	**Jiri**	**15.54**	**123**	*e*P	**Pn**	**20 24 57.4**	**-3.2**
BVAR	**Borovoye Array**	**16.02**	**358**	P	**Pn**	**20 25 04.4**	**-1.6**
	0.8nm,0.3s,baz=152,slow=12,SNR=13						
BVAR				LR	LR	20 31 48.1	
	comp=Z,181nm,21.9s,baz=198,slow=38						
BRVK	**Borovoye**	**16.06**	**357**	*e*Pn	**Pn**	**20 25 06.6**	**+0.1**
	5.7nm,0.6s						
RAMN	**Ramite**	**16.28**	**124**	*e*P	**Pn**	**20 25 07.4**	**-2.2**
	41nm,0.6s						
AKTO	**Aktyubinsk**	**16.52**	**328**	P	**Pn**	**20 25 11.2**	**-1.1**
	1.6nm,0.3s,baz=138,slow=12,SNR=22						
AKTO				S	Sn	20 28 04.5	-11
	0.1nm,0.3s,baz=60,slow=20,SNR=3.3						
AKTO	**Aktyubinsk**	**16.52**	**328**	⇑P	**Pn**	**20 25 10.8**	**-1.4**
	10nm,0.6s						
AKTO				⇓S	Sn	20 28 04.1	-11
	2.4nm,0.7s						
ODAN	**Odare**	**16.87**	**122**	*e*P	**Pn**	**20 25 16.3**	**-0.6**
	15nm,0.5s						
UOSS	**Minazif**	**17.75**	**232**	*e*P	**P**	**20 25 25.0**	**-1.8**
	7.8nm,0.8s						
LSA	**Lhasa**	**17.97**	**108**	*e*P	**Pn**	**20 25 30.6**	**+0.1**
	10nm,1.8s						
SHL	**Shillong**	**20.80**	**118**	*e*P	**P**	**20 26 01.6**	**+1.5**
	6.0nm,0.7s						
TBLG	**Delisi**	**21.16**	**291**	*e*P	**P**	**20 26 02.5**	**-1.1**
	4.8nm,0.8s						
ARU	**Arti**	**21.27**	**340**	P	**P**	**20 26 01.1**	**-3.4**
	1.3nm,0.4s,baz=90,slow=20,SNR=2.1						
ARU	**Arti**	**21.27**	**340**	*e*P	**P**	**20 26 04.2**	**-0.3**
	3.3nm,0.9s						
AKH	**Akhalkalaki**	**22.07**	**290**	*e*P	**P**	**20 26 14.5**	**+1.1**
	5.9nm,1.0s						
GTA	**Gaotai**	**22.36**	**75**	*e*P	**P**	**20 26 20.8**	**+4.4**
GTA				pmax	pmax		
	comp=Z,3.0nm,1.0s						
KBZ	**Khabaz**	**22.70**	**296**	P	**P**	**20 26 19.0**	**-0.7**
	1.4nm,1.3s,baz=135,slow=2.9,SNR=3.6						
RAYN	**Ar Rayn**	**26.05**	**246**	*e*P	**P**	**20 26 51.0**	**+0.4**
	3.4nm,1.1s						
BR101	**Keskin Array S**	**29.64**	**287**	*e*P	**P**	**20 27 22.5**	**0.0**
BRTR	**Keskin Array B**	**29.64**	**287**	P	**P**	**20 27 22.5**	**0.0**
	0.4nm,0.5s,baz=64,slow=6.7,SNR=3.3						
MLR	**Muntele Rosu**	**34.86**	**299**	*e*P	**P**	**20 28 12.2**	**+4.1**
	15nm,1.9s						
ALN	**Alexandroupoli**	**35.23**	**291**	*e*P	**P**	**20 28 15.1**	**+4.0**
	14nm,1.2s						
BUR04	**Bucovina Ar. S**	**35.33**	**302**	*e*P	**P**	**20 28 15.5**	**+3.5**
VTS	**Vitosha**	**37.09**	**294**	*e*P	**P**	**20 28 30.6**	**+3.6**
	3.0nm,0.9s						
FIA1	**FINESS Array S**	**37.26**	**326**	*e*P	P	20 28 33.9	+5.8
	18nm,1.6s						
FIA0	**FINESS Array S**	**37.27**	**326**	*e*P	**P**	**20 28 29.2**	**+1.0**
FINES	**FINESS Array B**	**37.27**	**326**	P	**P**	**20 28 29.2**	**+1.0**
	0.6nm,0.4s,baz=122,slow=9.8,SNR=12						
PSZ	**Piszkesteto**	**38.90**	**303**	*e*P	**P**	**20 28 46.1**	**+3.9**
	5.2nm,1.1s						
ARA0	**ARCESS Array S**	**40.81**	**337**	*e*P	**P**	**20 28 59.2**	**+1.6**
ARCES	**ARCESS Array B**	**40.81**	**337**	P	**P**	**20 28 59.2**	**+1.6**
	1.9nm,0.6s,baz=106,slow=8.9,SNR=13						
ARCES	**ARCESS Array B**	**40.81**	**337**	*e*P	**P**	**20 28 59.0**	**+1.4**
ARE0	**ARCESS Array S**	**40.81**	**337**	*e*P	**P**	**20 28 58.2**	**+0.6**
	89nm,1.9s						
HFS	**Hagfors**	**42.89**	**322**	P	**P**	**20 29 15.8**	**+1.2**
	1.1nm,0.4s,baz=116,slow=9.8,SNR=12						
NC405	**NORSAR Array S**	**43.96**	**323**	*e*P	**P**	**20 29 23.3**	**+0.1**
NC602	**NORSAR Array S**	**44.01**	**322**	*e*P	**P**	**20 29 24.4**	**+0.8**
NC303	**NORSAR Array S**	**44.13**	**323**	*e*P	**P**	**20 29 26.2**	**+1.6**
NB201	**NORSAR Array S**	**44.16**	**323**	*e*P	**P**	**20 29 24.3**	**-0.5**
NB2	**NORSAR Subarra**	**44.19**	**323**	P	**P**	**20 29 25.6**	**+0.5**
	comp=Z,0.5nm,0.5s,baz=94,slow=7.9						
NB200	**NORSAR Array S**	**44.19**	**323**	*e*P	**P**	**20 29 26.0**	**+0.9**
NOA	**NORSAR Array B**	**44.19**	**323**	P	**P**	**20 29 26.0**	**+0.9**
	comp=Z,0.3nm,0.4s,baz=107,slow=7.8,SNR=5.8						
NBO02	**NORSAR Array S**	**44.37**	**323**	*e*P	**P**	**20 29 27.6**	**+1.2**
NBO00	**NORSAR Array S**	**44.41**	**323**	*e*P	**P**	**20 29 27.5**	**+0.8**
NC204	**NORSAR Array S**	**44.43**	**323**	*e*P	**P**	**20 29 27.9**	**+0.9**
ESDC	**Sonseca Array**	**57.55**	**298**	P	**P**	**20 31 06.3**	**+0.8**
	comp=Z,0.5nm,0.7s,baz=154,slow=21,SNR=3.8						
TOA1	**Torodi Ar. Sit**	**66.11**	**269**	*e*P	**P**	**20 32 02.2**	**-0.9**
TOA0	**Torodi Ar. Sit**	**66.11**	**269**	*e*P	**P**	**20 32 01.9**	**-1.2**
TORD	**Torodi Ar. Bea**	**66.11**	**269**	P	**P**	**20 32 02.2**	**-0.9**
	comp=Z,1.3nm,0.5s,baz=50,slow=6.0,SNR=19						
KOWA	**Kowa**	**69.92**	**273**	P	**P**	**20 32 26.7**	**-0.3**
	comp=Z,1.0nm,0.4s,baz=35,slow=8.5,SNR=6.2						

*NIED **24** 20:22:00,35.˚70N×140.˚70E,h47km,Mw5.5 Best double couple: M0 2.12000×10^17 NP1:φs178.00000°,δ22.00000°, λ76.00000°. NP2:φs13.00000°,δ69.00000°,λ96.00000°.*
*BJI **24** 20:22:03.2,35.˚57N×140.˚92E,h35km,mb5.4/86,mB5.4/56, Ms5.1/92,Ms7 5.0/86*
*ISCJB **24** 20:22:09.3±0.2,35.˚58N±0.˚01×140.˚57E±0.˚02,h57km±1km, mb5.4/504,MS4.9/212,Error ellipse: s-maj=2.4km s-min=2.0km az=153.2*
*IDC **24** 20:22:10.0±1.4,35.˚67N×140.˚56E,h46km±13km,mb5.1/53, mb1 5.1/56,mb1mx5.1/65,mbtmp5.3/56,ML4.3/3,MS4.7/68, Ms1 4.7/68,ms1mx4.7/72,Error ellipse: s-maj=10.1km s-min=8.3km az=91.0*
*JMA **24** 20:22:09.4±0.1,35.˚72N×140.˚68E,h43km±1km,M5.5 Broadband fault plane solution: P waves. NP1: φs7.00000°,δ68.00000°,λ85.00000°. NP2:φs201.00000°, δ22.00000°,λ103.00000°. Principal axes: T Plg66.0000°, Azm268.0000°; N Plg5.0000°, Azm9.0000°; P Plg23.0000°, Azm101.0000°;*
JMA Felt IV J1.
*GCMT **24** 20:22:10.4±0.1,35.˚68N×140.˚80E,h45km,MW5.5/130, Moment Tensor Solution. s99,c184; s130,c242; Duration: 1s4 Moment tensor: Scale 10^17Nm; Mrr1.92±.04; Mθθ0.08±.03; Mφφ-2.00±.02; Mrθ0.33±.02; Mθφ-0.37±.02; Mφr1.19±.02; Best double couple: M0 2.34500×10^17 NP1:φs13.00000°,δ61.00000°, λ93.00000°. NP2:φs186.00000°,δ29.00000°,λ84.00000°. Principal axes: T 2.2760, Plg74.0000°, Azm291.0000°; N 0.1360, Plg3.0000°, Azm191.0000°; P -2.4140, Plg16.0000°, Azm101.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*MOS **24** 20:22:10.1±0.8,35.˚69N×140.˚55E,h66km,mb5.8/156, MS4.9/82 Error ellipse: s-maj=6.6km s-min=4.2km az=112.3*
*NEIC **24** 20:22:10.4±0.4,35.˚62N×140.˚47E,h54km±4km,mb5.3/295, MW5.5,Error ellipse: s-maj=2.5km s-min=1.9km az=142.0, Moment Tensor Solution. s43 Moment tensor: Scale 10^17Nm; Mrr1.44; Mθθ-0.23; Mφφ-1.21; Mrθ0.70; Mθφ0.07; Mφr1.86; Best double couple: M0 2.40000×10^17 NP1: φs168.00000°,δ18.00000°,λ64.00000°. NP2:φs16.00000°, δ74.00000°,λ98.00000°. Principal axes: T 2.5500, Plg61.0000°, Azm298.0000°; N -0.3400, Plg8.0000°, Azm193.0000°; P -2.2100, Plg28.0000°,

JRY S **Sn** **20 22 57.8 +7.1**
JKT Katashina 1.58 314 ⇓P **Pn** **20 22 35.0 +0.9**
JYN Shimob 1.74 265 ⇓P **Pn** **20 22 37.7 +1.4**
JIZS Izushimoda 1.75 237 S **Sn** **20 23 01.9 +4.5**
JKO Kozu shima 1.95 221 P **Pn** **20 22 40.1 +1.1**
JHK Hiroka 2.06 320 ⇓P **Pn** **20 22 42.4 +1.8**
JNT Takato 2.07 276 S **Sn** **20 23 10.9 +5.5**
SHZ3 Shizuoka 3 2.10 254 ⇓P **Pn** **20 22 43.3 +2.1**
SHZ3 S **Sn** **20 23 12.1 +6.0**
MJAR Matsushiro Arr 2.17 294 P **Pn** **20 22 43.7 +1.6**
467nm,0.3s,baz=118,slow=5.4,SNR=1838
MJAR S **Sn** **20 23 11.8 +4.0**
462nm,0.3s,baz=143,slow=13,SNR=7.8
MJAR LR LR 20 23 44.5
comp=Z,48μm,19.7s,baz=115,slow=46
MAJO Matsushiro 2.17 294 *e*Pn **Pn** **20 22 43.7 +1.5**
MAJO *e*Sn **Sn** **20 23 11.8 +4.0**
MAJO Matsushiro 2.17 294 *d i*P **Pn** **20 22 44.4 +2.2**
MAT Matsushiro 2.17 294 P **Pn** **20 22 44.5 +2.3**
MAT S **Sn** **20 23 10.1 +2.2**
MAT Matsushiro 2.17 294 P **Pn** **20 22 44.2 +2.0**
MJB9 Matsu-Tunnel 2.18 294 *e*Pn **Pn** **20 22 43.7 +1.5**
JMM Marumori 2.19 3 ⇑P **Pn** **20 22 43.5 +1.2**
JNG Nsakai 2.21 290 ⇓P **Pn** **20 22 44.6 +1.9**
JSG Sagara 2.27 245 P **Pn** **20 22 46.0 +2.6**
JNY Yasuok 2.31 263 ⇓P **Pn** **20 22 46.9 +2.8**
JNS Sasagawa 2.40 333 P **Pn** **20 22 47.4 +2.2**
JIZZ Izumozaki 2.43 320 P **Pn** **20 22 48.8 +3.1**
JJN Nakama 2.48 306 ⇓P **Pn** **20 22 48.9 +2.6**
JYZW Yoshizawa 2.50 255 P **Pn** **20 22 49.0 +2.5**
HMMJ Hamamatsu 2 2.55 252 ⇓P **Pn** **20 22 49.6 +2.3**
JHJ2 Mitsune 2.65 196 P **Pn** **20 22 49.2 +0.5**
JHJ2 Mitsune 2.65 196 *e*Pn **Pn** **20 22 49.6 +0.9**
JHJ Hachijo jima 2 2.65 196 P **Pn** **20 22 49.4 +0.7**
359nm,0.3s,baz=325,slow=23,SNR=75
JHJ S **Sn** **20 23 22.2 +2.6**
999nm,0.3s,baz=67,slow=21,SNR=8.5
JHJ LR LR 20 24 05.7
comp=Z,15μm,19.6s,baz=358,slow=44
JGF Kuroka 2.70 269 ⇓P **Pn** **20 22 52.5 +3.1**
JGN Niukaw 2.78 282 ⇓P **Pn** **20 22 53.5 +3.0**
JAO Obara 2.81 263 P **Pn** **20 22 53.5 +2.5**
INU Inuyama 3.00 265 *e*Pn **Pn** **20 22 55.8 +2.3**
JAW Awa shima 3.00 338 P **Pn** **20 22 55.5 +2.0**
JSD Sado 3.05 321 ⇓P **Pn** **20 22 55.5 +1.3**
JSZ Suzu 3.20 305 ⇓P **Pn** **20 22 58.0 +1.8**
JYK Kaneyama 3.25 356 ⇑P **Pn** **20 22 58.8 +1.9**
JJH Hakui 3.38 293 P **Pn** **20 23 01.5 +2.8**
JKG Kaga 3.57 281 P **Pn** **20 23 04.5 +3.2**
TSUJ Tsu 2 3.61 256 P **Pn** **20 23 04.6 +2.7**
JKN2 Miekihoku 3.88 250 P **Pn** **20 23 08.1 +2.5**
ERM Erimo 6.62 16 *e*Pn **Pn** **20 23 42.2 -0.9**
ERM Erimo 6.62 16 *ce*P **Pn** **20 23 41.8 -1.4**
ERM pmax pmax
comp=Z,415nm,0.8s
JNU Nakatsue 8.48 255 P **Pn** **20 24 12.1 +3.2**
comp=Z,1.8nm,0.3s,baz=67,slow=9.9,SNR=32
JNU LR LR 20 27 49.9
comp=Z,28μm,18.7s,baz=76,slow=40
JNU Nakatsue 8.48 255 *e*Pn **Pn** **20 24 11.3 +2.4**
ASAJ Asahikawa 8.56 9 P **Pn** **20 24 08.3 -1.5**
comp=Z,12nm,0.3s,baz=225,slow=13,SNR=76
ASAJ S **Sn** **20 25 44.4 -0.7**
comp=Z,9.9nm,0.3s,baz=285,slow=20,SNR=3.0
ASAJ LR LR 20 28 06.3
comp=Z,15nm,19.0s,baz=212,slow=42
ASAJ Asahikawa 8.56 9 *e*Pn **Pn** **20 24 07.8 -2.0**
ASAJ *e*Sn **Sn** **20 25 38.3 -6.7**
ASAJ S **Sn** **20 25 44.4 -0.7**
CBIJ Chichi jima 8.65 171 P **Pn** **20 24 09.6 -1.5**
CBIJ Chichi jima 8.65 171 *e*Pn **Pn** **20 24 09.0 -2.1**
CBIJ *e*Sn **Sn** **20 25 38.7 -8.6**
JCJ Chichijima 8.65 171 P **Pn** **20 24 09.6 -1.6**
comp=Z,65nm,0.3s,baz=280,slow=23,SNR=57
JCJ S **Sn** **20 25 39.6 -7.8**
baz=90,slow=20,SNR=1.8
GRPR Tuman 9.19 24 *e*P **Pn** **20 24 17.3 -1.1**
GRPR pmax pmax
comp=Z,353nm,0.5s
GRPR pmax pmax
comp=N,279nm,0.4s
GRPR pmax pmax
comp=E,152nm,0.3s
LAGR Lagunnoye 9.25 24 *e*P **Pn** **20 24 19.3 +0.1**
LAGR pmax pmax
comp=Z,555nm,0.7s
LAGR pmax pmax
comp=N,178nm,0.4s
LAGR pmax pmax
comp=E,307nm,0.4s
YUK Yuzh-Kuril'sk 9.25 24 *c i*P **Pn** **20 24 18.6 -0.7**
YUK pmax pmax
comp=N,201nm,0.5s
YUK pmax pmax
comp=E,273nm,0.5s
YUK pmax pmax
comp=E,81nm,0.3s
SHO Shikotan 9.46 28 *d i*P **Pn** **20 24 20.1 -1.9**
SHO pmax pmax
comp=E,61nm,0.5s
SHO pmax pmax
comp=Z,90nm,0.5s
SHO pmax pmax
comp=N,43nm,0.5s
TEY Ternei 9.85 343 *e*P **Pn** **20 24 27.0 -0.5**
TEY pmax pmax
comp=N,86nm,1.0s
TEY pmax pmax
comp=Z,110nm,1.1s
VLA Vladivostok 10.07 320 *c i*P **Pn** **20 24 33.8 +3.3**
VLA pmax pmax
comp=Z,269nm,1.1s
MSHR Mys Shultsa 10.10 316 *c i*P **Pn** **20 24 33.9 +3.0**
KSRS Korea Array 10.41 284 P Pn 20 24 40.9 +5.8
comp=Z,3.8nm,0.3s,baz=99,slow=13,SNR=229
KSRS LR LR 20 28 42.3
comp=Z,10μm,19.2s,baz=106,slow=38
KS01 Wonju Array Si 10.43 284 *e*Pn **Pn** **20 24 39.2 +3.7**
KS15 Wonju Array Si 10.44 283 *e*Pn Pn 20 24 40.7 +5.1
KSAR Wonju Array Be 10.44 283 P Pn 20 24 40.9 +5.4
KSAR Wonju Array Be 10.44 283 P Pn 20 24 40.9 +5.4
TJN Taejon 10.80 278 ⇑ *e*P **Pn** **20 24 44.4 +3.9**
USRK Ussuriysk Ar. 10.81 325 P **Pn** **20 24 43.4 +2.8**
comp=Z,2.0nm,0.3s,baz=136,slow=12,SNR=120
USRK LR LR 20 28 35.2
comp=Z,8μm,19.5s,baz=135,slow=36
KUR Kuril'sk 11.00 28 *e*P **Pn** **20 24 42.2 -1.0**
KUR pmax pmax
comp=Z,661nm,1.7s
KUR pmax pmax
comp=Z,199nm,0.9s
KUR pmax pmax
comp=N,87nm,1.0s
KUR pmax pmax
comp=E,77nm,0.5s
YSS Yuzh-Sakhalins 11.38 7 *e*Pn **Pn** **20 24 46.8 -1.5**
YSS Yuzh-Sakhalins 11.38 7 ⇑ *i*P **Pn** **20 24 47.1 -1.2**
YSS pmax pmax
comp=Z,90nm,0.7s
INCN Inchon 11.43 283 *e*Pn **Pn** **20 24 53.3 +4.1**
MDJ Mudanjiang 12.30 320 P **Pn** **20 25 01.1 +0.1**
MDJ S **Sn** **20 27 22.5 +5.8**
MDJ ScP **ScP** **20 34 05.1 -6.0**
MDJ PcS **PcS** **20 34 09.3 -5.9**
MDJ ScS **ScS** **20 37 42.8 -4.2**
MDJ pmax pmax
comp=Z,36nm,1.5s
MDJ pmax pmax
comp=Z,3μm,7.8s
MDJ LR LR
comp=Z,6μm,20.4s
MDJ LR LR
comp=Z,5μm,15.5s
MDJ LR LR
comp=Z,10μm,28.4s
MDJ Mudanjiang 12.30 320 *e*Pn **Pn** **20 25 02.7 +1.7**
JOW Kunigami 13.78 234 P **Pn** **20 25 21.8 +0.5**
comp=Z,1.0nm,0.3s,baz=112,slow=15,SNR=2.3
JOW LR LR 20 30 29.0
comp=Z,5μm,21.3s,baz=50,slow=36
JOW Kunigami 13.78 234 *e*Pn **Pn** **20 25 19.7 -1.5**
CN2 Changchun 14.23 309 *e*P **Pn** **20 25 27.8 +0.4**
CN2 *e*S **Sn** **20 28 05.3 +1.4**
CN2 pmax pmax
comp=Z,100nm,1.2s
CN2 pmax pmax
comp=Z,2μm,9.0s
CN2 LR LR
comp=Z,4μm,17.0s
CN2 LR LR
comp=Z,4μm,17.0s
CN2 LR LR
comp=Z,4μm,16.0s
SNY Shenyang 14.68 300 ⇑P **Pn** **20 25 34.9 +1.6**
SNY S **Sn** **20 28 23.3 +8.7**
SNY pmax pmax
comp=Z,85nm,1.4s
SNY LR LR
comp=Z,4μm,13.2s
SNY LR LR
comp=Z,5μm,19.2s
SNY LR LR
comp=Z,8μm,25.6s
KLR Kul'dur 15.04 337 P **Pn** **20 25 35.2 -3.0**
comp=Z,0.2nm,0.3s,baz=138,slow=12,SNR=36
KLR LR LR 20 31 09.7
comp=Z,520nm,20.1s,baz=151,slow=36
KLR Kul'dur 15.04 337 *de*P **Pn** **20 25 35.8 -2.4**
TYV Tymovskoe 15.25 5 *e*P **Pn** **20 25 38.4 -2.5**
TYV *e*S **Sn** **20 28 21.8 -6.7**
TYV pmax pmax
comp=Z,1μm,4.0s
TYV pmax pmax
comp=Z,221nm,1.1s
TYV smax smax
comp=E,11nm,1.6s
TYV smax smax
comp=E,1μm,8.2s
GRNR Gornyy 15.40 350 *e*P **Pn** **20 25 38.8 -4.1**
GRNR *i* 20 28 37.8
GRNR pmax pmax
comp=Z,42nm,1.0s
DL2 Dalian 15.50 288 ⇑ *i*P **P** **20 25 46.6 -1.5**
DL2 S **S** **20 28 42.5 -6.8**
DL2 pmax pmax
comp=Z,370nm,1.3s
DL2 pmax pmax
comp=Z,2μm,6.1s
DL2 LR LR
comp=Z,3μm,17.3s
DL2 LR LR
comp=Z,6μm,24.9s
DL2 LR LR
comp=Z,10μm,23.5s
SSE Sheshan 16.90 260 P **P** **20 26 03.5 -0.2**
SSE pmax pmax
comp=Z,37nm,1.2s
SSE pmax pmax
comp=Z,830nm,5.4s
SSE LR LR
comp=Z,1μm,16.4s
SSE LR LR
comp=Z,3μm,15.2s
NKL Nikolayevsk 17.47 0 *e*P **Pn** **20 26 03.0 -6.0**
NKL pmax pmax
comp=Z,290nm,2.0s
NKL MLR MLR
comp=N,1μm,16.0s
NKL MLR MLR
comp=Z,2μm,16.0s
NJ2 Nanjing 18.47 265 *e*P **P** **20 26 20.1 -1.0**
NJ2 pP **pP** **20 26 27.3 -3.4**
NJ2 sP **sP** **20 26 33.0 -2.5**
NJ2 S **Sn** **20 29 48.6 +1.8**
NJ2 pmax pmax
comp=Z,34nm,0.8s
NJ2 LR LR
comp=Z,4μm,18.4s
NJ2 LR LR
comp=Z,6μm,20.3s
NJ2 LR LR
comp=Z,6μm,21.1s
SKR Severo-Kuril's 18.70 32 *e*P **Pn** **20 26 24.9 +0.8**
SKR *e*S **Sn** **20 29 48.7 -3.3**
SKR pmax pmax
comp=Z,700nm,2.9s
SKR pmax pmax
comp=Z,258nm,0.9s
SKR pmax pmax
comp=Z,200nm,4.3s
SKR MLR MLR
comp=Z,2μm,17.0s
YOJ Yonaguni jima 18.90 239 *e*P **P** **20 26 24.1 -1.8**
comp=Z,208nm,1.2s
YOJ Yonaguni jima 18.90 239 *e*P **P** **20 26 24.1 -1.8**
YOJ pmax pmax
comp=Z,208nm,1.2s
TIA Tai'an 19.07 279 P **P** **20 26 26.8 -0.8**
TIA PP **sP** **20 26 44.8 +2.7**
TIA pmax pmax
comp=Z,220nm,1.3s
TIA LR LR
comp=Z,3μm,18.0s
TIA LR LR
comp=Z,3μm,14.3s
TIA LR LR
comp=Z,7μm,25.5s
TATO Taipei 19.66 242 *e*P **P** **20 26 31.7 -2.5**
comp=Z,166nm,1.2s
BJI Beijing 19.81 290 P **P** **20 26 33.1 -2.5**
BJI S **S** **20 30 14.5 -2.1**
BJI pmax pmax
comp=Z,130nm,1.8s
BJI LR LR
comp=Z,4μm,19.0s
BJI LR LR
comp=Z,4μm,23.7s
BJI LR LR
comp=Z,8μm,28.4s
BJT Baijiatuan 19.81 290 *e*P **P** **20 26 33.4 -2.3**
comp=Z,218nm,1.0s
BJT Baijiatuan 19.81 290 *e*P **P** **20 26 33.4 -2.3**
BJT pmax pmax
comp=Z,218nm,1.0s
YHNB Yeheng 19.93 242 *e*P **P** **20 26 34.9 -2.3**
comp=Z,268nm,1.7s
NACB Ninganchiao 20.08 240 *e*P **P** **20 26 37.4 -1.4**
comp=Z,88nm,1.1s
ZEA Zeya 20.36 337 *e*P **P** **20 26 38.7 -2.9**
ZEA *e*S Sn 20 30 30.0 -2.1
ZEA pmax pmax
comp=N,130nm,1.0s
ZEA pmax pmax
comp=E,71nm,1.0s
ZEA pmax pmax
comp=Z,210nm,1.0s
ZEA pmax pmax
comp=N,500nm,3.0s
ZEA pmax pmax
comp=E,200nm,3.0s
ZEA pmax pmax
comp=Z,600nm,3.0s
ZEA smax smax
comp=N,2μm,10.0s
ZEA smax smax
comp=E,2μm,10.0s
ZEA MLR MLR
comp=E,1μm,15.0s
HIA Hailar 20.47 318 *e*P **P** **20 26 39.7 -3.2**
comp=E,59nm,1.0s
HIA LR LR
comp=Z,5μm,19.0s
HIA Hailar 20.47 318 *e*P **P** **20 26 39.7 -3.2**
HIA pmax pmax
comp=Z,59nm,1.0s
HIA MLR MLR
comp=Z,5μm,19.0s
SSLB Suanglung 20.78 241 *e*P **P** **20 26 43.7 -2.7**
comp=Z,54nm,0.9s
YULB Yu-li 20.79 239 *e*P **P** **20 26 43.4 -3.0**
comp=Z,37nm,0.9s
PEA0B Petropavlovsk- 21.16 29 *e*P **P** **20 26 50.8 +0.6**
comp=Z,163nm,1.0s
PETK Petropavlovsk- 21.16 29 P **P** **20 26 51.9 +1.6**
comp=Z,70nm,0.8s,baz=217,slow=7.4,SNR=75
PETK LR LR 20 36 09.7
comp=Z,508nm,19.0s,baz=217,slow=40
PETK Petropavlovsk- 21.16 29 *eP* **P** **20 26 51.3 +1.1**
PETK Petropavlovsk- 21.16 29 *eP* **P** **20 26 51.3 +1.1**
PEA1 Petropavlovsk- 21.17 29 *eP* **P** **20 26 51.9 +1.6**
TPUB Ta-pu 21.31 240 *eP* **P** **20 26 49.2 -2.9**
comp=Z,67nm,0.8s
TWG Pinlang 21.32 238 *e*P **P** **20 26 49.1 -3.0**
comp=Z,948nm,1.6s
PET Petropavlovsk 21.49 31 *e*P **P** **20 26 54.3 +0.6**
comp=Z,449nm,1.3s
PET LR LR
comp=Z,2μm,20.0s
PET Petropavlovsk 21.49 31 *e*P **P** **20 26 54.6 +0.9**
PET *i* S **S** **20 30 48.0 -1.8**
PET pmax pmax
comp=Z,304nm,1.2s
PET MLR MLR
comp=Z,1μm,16.0s
PET MLR MLR
comp=Z,1μm,15.0s
QZH Quanzhou 21.81 247 ⇓ *i*P **P** **20 26 55.1 -2.3**
QZH PP **PnPn** **20 27 18.3 -1.0**
QZH LR LR
comp=Z,3μm,16.5s
QZH LR LR
comp=Z,3μm,14.9s
QZH LR LR
comp=Z,5μm,16.7s
GUMO Guam 22.31 169 P **P** **20 27 04.0 +1.2**
comp=Z,80nm,0.7s,baz=66,slow=2.1,SNR=3.6
GUMO Guam 22.31 169 *e*P **P** **20 27 03.2 +0.4**
comp=Z,431nm,1.0s
GUMO LR LR
comp=Z,2μm,20.0s
WHN Wuhan 22.60 264 ⇓ *i*P **P** **20 27 04.5 -1.4**
WHN S **S** **20 31 08.3 -2.7**
WHN pmax pmax
comp=Z,300nm,0.8s
WHN LR LR
comp=Z,9μm,18.9s
WHN LR LR
comp=Z,7μm,13.2s
WHN LR LR
comp=Z,13μm,15.5s
TIY Taiyuan 22.70 284 *e*P **P** **20 27 07.8 +0.8**
TIY S **S** **20 31 07.0 -5.8**
TIY pmax pmax
comp=Z,120nm,1.2s
TIY pmax pmax
comp=Z,530nm,5.8s
TIY LR LR
comp=Z,1μm,10.9s
TIY LR LR
comp=Z,3μm,16.1s
TIY LR LR
comp=Z,5μm,18.9s
HHC Hu-ho-hao-te 23.37 292 *e*P **P** **20 27 11.1 -2.7**
HHC sP pP 20 27 24.5 +0.6
HHC PP **PnPn** **20 27 43.5 +2.8**
HHC S **S** **20 31 18.3 -5.8**
HHC sS sS 20 31 37.9 -3.8
HHC SS **SnSn** **20 32 05.0 +4.1**
HHC pmax pmax
comp=Z,120nm,0.8s
HHC pmax pmax
comp=Z,380nm,4.1s
HHC LR LR
comp=Z,9μm,12.3s
HHC LR LR
comp=Z,8μm,12.0s
HHC LR LR
comp=Z,9μm,11.8s
CLNS Chul'man 23.70 338 *e*P **P** **20 27 14.5 -2.2**
CLNS *e* 20 30 58.4
CLNS *e*S **S** **20 31 27.5 -1.4**
CLNS pmax pmax
comp=N,130nm,1.4s
CLNS pmax pmax
comp=E,47nm,1.2s
CLNS pmax pmax
comp=Z,149nm,1.1s
CLNS smax smax
comp=N,1μm,10.9s
CLNS smax smax
comp=E,983nm,10.6s
CLNS MLR MLR
comp=E,1μm,14.0s
CLNS MLR MLR
comp=Z,2μm,18.0s
CLNS MLR MLR
comp=N,1μm,17.0s
BTO Baotou 24.54 291 *e*P **P** **20 27 18.0 -6.6**
MA2 Magadan 24.81 12 P **P** **20 27 27.4 +0.7**
comp=N,107nm,0.7s,baz=200,slow=8.3,SNR=86
MA2 LR LR 20 38 47.7
comp=N,2μm,18.4s,baz=196,slow=40
MA2 Magadan 24.81 12 *e*P **P** **20 27 26.6 -0.1**
comp=N,146nm,0.8s
MA2 Magadan 24.81 12 *i* P **P** **20 27 27.2 +0.5**
MA2 pmax pmax
comp=Z,178nm,0.9s
CIT Chita 25.27 319 *e*P **P** **20 27 28.9 -2.2**
CIT *e* 20 27 41.3
CIT pmax pmax
comp=Z,220nm,1.1s
XAN Xi'an 26.05 276 P **P** **20 27 36.8 -1.5**
XAN pP pP 20 27 49.3 +0.4
XAN PP **PnPn** **20 28 16.9 -0.3**
XAN S **S** **20 31 59.4 -7.5**
XAN pmax pmax
comp=Z,130nm,0.8s
XAN pmax pmax
comp=Z,650nm,7.9s
XAN LR LR
comp=Z,3μm,17.7s
XAN LR LR
comp=Z,3μm,21.2s
XAN LR LR
comp=Z,4μm,22.2s
ENH Enshi 26.64 267 *e*P **P** **20 27 41.8 -2.0**
comp=Z,383nm,0.8s
ENH LR LR
comp=Z,5μm,19.0s
GZH Guangzhou 26.82 250 P **P** **20 27 39.8 -5.4**
GZH S **S** **20 32 14.9 -4.1**
GZH pmax pmax
comp=Z,280nm,4.4s
YAK Yakutsk 27.27 349 P **P** **20 27 48.4 -0.5**
comp=Z,166nm,0.8s,baz=14,slow=4.7,SNR=81
YAK LR LR 20 38 25.7
comp=Z,3μm,21.8s,baz=137,slow=36
YAK Yakutsk 27.27 349 *e*P **P** **20 27 48.1 -0.9**
comp=Z,275nm,0.9s
YAK Yakutsk 27.27 349 *c i*P **P** **20 27 48.5 -0.5**
YAK *e*PPP PPP 20 28 40.2
YAK *e* 20 31 07.6
YAK *e*S **S** **20 32 23.4 -2.1**
YAK *e*SSS SSS 20 34 04.6
YAK pmax pmax
comp=Z,227nm,1.1s
YAK pmax pmax
comp=E,49nm,1.4s
YAK pmax pmax
comp=N,154nm,1.4s
YAK smax smax
comp=E,177nm,2.3s
YAK smax smax
comp=N,78nm,1.4s
YAK MLR MLR
comp=Z,3μm,21.0s
YAK MLR MLR
comp=N,9μm,24.0s
TGY Tagaytay City 27.85 225 LR LR 20 39 41.9
comp=N,348nm,18.5s,baz=31,slow=38
H11N2 WAKE ISLAND Hy 28.01 118 T T 20 57 43.5
baz=309,slow=75,SNR=76
H11N1 WAKE ISLAND Hy 28.02 118 T T 20 57 45.3
baz=309,slow=75,SNR=87
H11N3 WAKE ISLAND Hy 28.03 118 T T 20 57 44.8
baz=309,slow=75,SNR=78
SONA1 Songino Array 28.07 306 *e*P **P** **20 27 55.4 -1.1**
SONA0 Songino Array 28.07 306 *e*P **P** **20 27 55.9 -0.6**
SONA0 *e*PcP **PcP** **20 31 10.9 +0.7**
SONA0 *e*ScP **ScP** **20 34 46.7 -1.4**
SONM Songino Array 28.07 306 P **P** **20 27 55.9 -0.6**
comp=N,77nm,1.1s,baz=109,slow=8.7,SNR=86
SONM PcP **PcP** **20 31 10.9 +0.7**
comp=N,6.6nm,1.0s,baz=106,slow=1.5,SNR=3.5
SONM ScP **ScP** **20 34 46.7 -1.4**
comp=N,4.7nm,1.1s,baz=107,slow=1.5,SNR=6.4
SONM LR LR 20 39 25.9

comp=N,3µm,18.8s,baz=107,slow=37
SEY Seymchan 28.24 11 P **P** **20 27 58.6 +1.0**
comp=N,41nm,0.9s,baz=208,slow=9.6,SNR=59
SEY LR LR 20 40 49.2
comp=N,2µm,18.5s,baz=156,slow=40
SEY Seymchan 28.24 11⇑ *eP* **P** **20 27 58.7 +1.1**
BOD Boraibo 28.38 330⇓ *iP* **P** **20 27 58.3 -0.6**
BOD pmax pmax
comp=Z,147nm,1.4s
H11S1 WAKE ISLAND Hy 28.67 120 T T 20 58 40.0
baz=312,slow=75,SNR=199
H11S3 WAKE ISLAND Hy 28.67 120 T T 20 58 20.6
baz=312,slow=75,SNR=119
H11S2 WAKE ISLAND Hy 28.68 120 T T 20 58 33.6
baz=312,slow=75,SNR=162
LZH Lanzhou 29.73 282 ⇓P **P** **20 28 10.6 -0.8**
LZH pP pP 20 28 22.3 +0.3
LZH sP sP 20 28 25.8 -0.8
LZH PP **PnPn** **20 29 10.3 +2.8**
LZH S **S** **20 33 03.6 -1.4**
LZH sS sS 20 33 21.5 -1.2
LZH SS **SnSn** **20 34 40.3 +4.0**
LZH pmax pmax
comp=Z,220nm,1.7s
LZH pmax pmax
comp=Z,880nm,6.4s
LZH LR LR
comp=Z,4µm,14.8s
LZH LR LR
comp=Z,6µm,15.5s
LZH LR LR
comp=Z,9µm,16.5s
GYA Guiyang 30.42 262⇑ *iP* **P** **20 28 15.5 -2.0**
GYA pP pP 20 28 29.3 +1.2
GYA sP sP 20 28 33.8 +1.1
GYA PP **PnPn** **20 29 19.0 +2.2**
GYA PcP **PcP** **20 31 18.4 +1.9**
GYA S **S** **20 33 15.6 -0.3**
GYA sS sS 20 33 33.0 -0.6
GYA SS **ScP** **20 34 55.4 -0.5**
GYA ScS **ScS** **20 38 51.9 -0.4**
GYA pmax pmax
comp=Z,170nm,1.0s
GYA pmax pmax
comp=Z,190nm,5.4s
GYA LR LR
comp=Z,1µm,20.2s
GYA LR LR
comp=Z,1µm,23.9s
GYA LR LR
comp=Z,2µm,18.6s
IRK Irkutsk 30.59 314 *eP* **P** **20 28 17.4 -1.2**
IRK *e* 20 28 39.0
IRK pmax pmax
comp=Z,60nm,1.1s
ZAK Zakamensk 30.67 310 *eP* **P** **20 28 18.6 -0.8**
ZAK *e* 20 31 11.9
ZAK pmax pmax
comp=Z,27nm,1.4s
TLY Talaya 30.79 313 P **P** **20 28 20.1 -0.2**
comp=Z,17nm,0.8s,baz=124,slow=5.5
TLY LR LR 20 41 09.6
comp=Z,2µm,18.9s,baz=108,slow=37
TLY Talaya 30.79 313 *eP* **P** **20 28 19.4 -1.0**
comp=Z,34nm,1.0s
TLY Talaya 30.79 313*c iP* **P** **20 28 19.9 -0.5**
TLY *e* 20 29 23.8
TLY *e*PPP PPP 20 29 36.5
TLY *e*S **S** **20 33 16.2 -4.9**
TLY pmax pmax
comp=Z,38nm,1.2s
TLY MLR MLR
comp=Z,2µm,17.0s
CD2 Chengdu 31.10 272 P **P** **20 28 22.5 -0.8**
CD2 pP pP 20 28 32.8 -1.2
CD2 sP sP 20 28 37.6 -0.9
CD2 S **S** **20 33 25.3 -1.0**
CD2 sS sS 20 33 43.3 -0.7
CD2 pmax pmax
comp=Z,150nm,0.7s
CD2 pmax pmax
comp=Z,350nm,6.0s
CD2 LR LR
comp=Z,7µm,16.7s
CD2 LR LR
comp=Z,8µm,19.5s
CD2 LR LR
comp=Z,8µm,21.5s
DAV Davao City (W) 31.66 209 LR LR 20 41 21.2
comp=Z,974nm,19.6s,baz=47,slow=36
MOY Mondy 32.38 312 *eP* **P** **20 28 33.4 -1.1**
MOY pmax pmax
comp=Z,38nm,2.3s
GTA Gaotai 32.41 289 ⇑P **P** **20 28 33.6 -1.3**
GTA pP pP 20 28 42.0 -3.6
GTA sP sP 20 28 45.8 -4.4
GTA PcP **PcP** **20 31 23.1 +1.4**
GTA S **S** **20 33 43.8 -3.1**
GTA ScP **ScP** **20 35 03.8 +1.4**
GTA PcS **PcS** **20 35 06.3 -0.5**
GTA ScS **ScS** **20 38 59.0 -2.8**
GTA pmax pmax
comp=Z,56nm,1.6s
GTA pmax pmax
comp=Z,440nm,5.9s
GTA LR LR
comp=Z,1µm,22.3s
GTA LR LR
comp=Z,2µm,23.3s
GTA LR LR
comp=Z,3µm,23.3s
PATS Pohnpei 32.95 146 *eP* **P** **20 28 40.0 +0.4**
comp=Z,349nm,1.6s
KMI Kunming 34.18 263 P **P** **20 28 49.3 -1.3**
KMI pP pP 20 28 57.3 -4.0
KMI sP sP 20 29 02.9 -2.9
KMI PP **PP** **20 30 07.4 -0.9**
KMI S **S** **20 34 14.0 -0.7**
KMI sS sS 20 34 31.1 -1.3
KMI SS **SnSn** **20 36 29.1 +4.3**
KMI pmax pmax
comp=Z,99nm,1.3s
KMI pmax pmax
comp=Z,340nm,6.2s
KMI LR LR
comp=Z,2µm,23.8s
KMI LR LR
comp=Z,1µm,23.2s
KMI LR LR
comp=Z,3µm,28.0s
BILL Bilibino 35.50 16*c iP* **P** **20 29 01.0 -0.2**
BILL *i* 20 30 20.5
BILL *i* 20 31 29.1
BILL *i* S **S** **20 34 26.3 -7.3**
BILL pmax pmax
comp=Z,58nm,1.1s
BILL MLR MLR
comp=Z,1µm,18.0s
ATKA Atka Island 35.80 48 *eP* **P** **20 29 04.8 +0.9**
comp=Z,57nm,1.0s
TIXI Tiksi 36.57 354 P **P** **20 29 09.7 -0.6**
comp=Z,44nm,1.0s,baz=148,slow=7.7,SNR=29
TIXI LR LR 20 45 56.5
comp=Z,1µm,18.2s,baz=156,slow=39
MYLDM Lahad Datu 36.58 219 *eP* **P** **20 29 09.7 -1.2**
comp=Z,51nm,1.1s
HVS Khovu-Aksy 36.78 310*d iP* **P** **20 29 13.6 +1.1**
HVS pmax pmax
comp=Z,69nm,1.0s
TNTI Ternate 36.87 203 *eP* **P** **20 29 12.5 -0.9**
comp=Z,70nm,1.3s
BAKI Biak 36.92 188 P **P** **20 29 14.4 +0.6**
KKM Kota Kinabalu 37.08 223 *eP* **P** **20 29 14.2 -1.1**
comp=Z,18nm,1.1s
KKM LR LR
comp=Z,1µm,21.0s
UBPT Khong Chiam 37.43 246 P **P** **20 29 17.2 -1.0**
comp=Z,46nm,1.0s,comp=Z,678nm
RKPI Ransiki, Papua 37.49 191 P **P** **20 29 19.3 +0.7**
SKNT Sakolnakorn 37.51 250 P **P** **20 29 17.4 -1.5**
comp=Z,25nm,1.1s
JAY Jayapura 37.99 180 P **P** **20 29 22.4 -0.5**
MANU Manus Island 38.04 169 *eP* **P** **20 29 22.6 -0.7**
comp=Z,44nm,1.4s
KRAR Krasnoyarsk 38.04 318*d iP* **P** **20 29 23.4 +0.5**

GENI Genyem 38.07 181 P **P** **20 29 24.3 +0.8**
LBMI Labuha 38.16 202 P **P** **20 29 22.3 -2.0**
comp=Z,47nm,0.9s,comp=Z,668nm
KMSI Cibinong 38.22 208 P **P** **20 29 23.2 -1.6**
comp=Z,120nm,0.8s
KHON Khomkaen 38.78 250 P **P** **20 29 29.5 0.0**
comp=Z,24nm,1.1s
MRSI Marisa 39.12 211 P **P** **20 29 31.3 -1.1**
NIKH Nikolski High 39.13 48 *eP* **P** **20 29 33.8 +1.7**
comp=Z,79nm,0.9s
FAKI Fak Fak 39.19 193 P **P** **20 29 32.9 -0.1**
FAKI Fak Fak 39.19 193 *eP* **P** **20 29 32.3 -0.7**
comp=Z,45nm,0.7s
PAYA Payao 39.36 257 P **P** **20 29 34.9 +0.5**
comp=Z,9.7nm,1.0s,comp=Z,122nm
KMPI Kaimana, Papua 39.67 191 P **P** **20 29 37.5 +0.6**
CHAI Chaiyaphum 39.68 250 P **P** **20 29 35.9 -1.2**
comp=Z,31nm,1.1s,comp=Z,238nm
CMAI Chiengmai2 39.70 258 P **P** **20 29 38.5 +1.0**
comp=Z,848nm,0.9s,comp=Z,42µm
SANI Sanana 39.96 203 P **P** **20 29 37.2 -2.2**
LAMP Lampang 40.00 256 P **P** **20 29 39.7 -0.1**
comp=Z,17nm,1.0s,comp=Z,162nm
PBKT Sadao Pong 40.07 252 P **P** **20 29 38.4 -1.9**
comp=Z,87nm,0.9s,comp=Z,938nm
PBKT Sadao Pong 40.07 252 *eP* **P** **20 29 38.7 -1.6**
comp=Z,109nm,1.1s
MPSI Mapaga 40.12 213 P **P** **20 29 38.5 -2.2**
PHIT Phitsanulok 40.14 253 P **P** **20 29 40.9 0.0**
comp=Z,20nm,1.2s,comp=Z,222nm
LUWI Luwuk 40.17 208 P **P** **20 29 41.3 +0.2**
LUWI Luwuk 40.17 208 *eP* **P** **20 29 40.2 -0.9**
comp=Z,46nm,0.9s
GAMB Gambell 40.19 31 *eP* **P** **20 29 41.5 +0.7**
comp=Z,22nm,1.2s
MSAI Masohi 40.35 198 P **P** **20 29 41.9 -0.7**
CHTO Chiang Mai 40.39 257 P **P** **20 29 42.4 -0.6**
comp=Z,150nm,1.2s,comp=Z,3µm
CHTO Chiang Mai 40.39 257 *eP* **P** **20 29 41.9 -1.1**
comp=Z,59nm,1.4s
CHTO LR LR
comp=Z,2µm,22.0s
CHTO Chiang Mai 40.39 257 *eP* **P** **20 29 41.9 -1.1**
CHTO pmax pmax
comp=Z,59nm,1.4s
CHTO MLR MLR
comp=Z,2µm,22.0s
APSI Ampana 40.49 210 P **P** **20 29 41.7 -2.1**
CM31 Chiang Mai Arr 40.58 256 *eP* **P** **20 29 43.8 -0.8**
CM31 *e*PcP **PcP** **20 31 44.7 -1.6**
CMAR Chiang Mai Arr 40.58 256 P **P** **20 29 44.2 -0.4**
comp=Z,7.7nm,0.7s,baz=51,slow=7.5,SNR=33
CMAR PcP **PcP** **20 31 47.8 +1.5**
comp=Z,9.1nm,0.9s,baz=28,slow=2.1,SNR=8.8
CMAR LR LR 20 48 13.2
comp=Z,2µm,18.5s,baz=68,slow=39
CM01 Chiang Mai Arr 40.59 256 *eP* **P** **20 29 43.2 -1.5**
UNV Unalaska Valle 40.61 47 *eP* **P** **20 29 43.5 -0.8**
comp=Z,137nm,1.6s
DGZ Jazzator, Alta 40.72 307 *i* P **P** **20 29 46.5 +1.0**
DGZ pmax pmax
comp=Z,146nm,0.9s
NLAI Namlea 40.74 201 P **P** **20 29 46.4 +0.6**
SRAK Srakaew 40.79 248 P **P** **20 29 42.3 -4.0**
comp=Z,132nm,1.0s,comp=Z,968nm
AAI Ambon 40.87 199 P **P** **20 29 46.4 -0.5**
WMQ Urumqi 40.93 298 P **P** **20 29 48.5 +1.2**
WMQ sP sP 20 30 06.4 +3.7
WMQ PcP **PcP** **20 31 48.3 +1.1**
WMQ ScP **ScP** **20 35 32.6 -1.2**
WMQ S **S** **20 35 57.5 +1.0**
WMQ pmax pmax
comp=Z,430nm,1.1s
WMQ pmax pmax
comp=Z,730nm,3.7s
WMQ LR LR
comp=Z,3µm,15.5s
WMQ LR LR
comp=Z,3µm,22.9s
WMQ LR LR
comp=Z,4µm,24.5s
AKUT Akutan 41.06 46 *eP* **P** **20 29 49.8 +1.8**
comp=Z,110nm,1.2s
RABL Rabaul 41.10 162 *eP* **P** **20 29 49.0 +0.3**
comp=Z,84nm,1.5s
NAYO Nakonayok 41.15 249 P **P** **20 29 49.2 -0.1**
comp=Z,31nm,1.1s
BNDI Bandanaira 41.24 196 P **P** **20 29 49.9 0.0**
PCI Palu 41.26 213 P **P** **20 29 48.3 -1.8**
comp=Z,60nm,1.2s,comp=Z,912nm
CHBT CHBT 41.38 246 P P 20 29 56.4 +5.3
LSA Lhasa 41.75 276 *eP* **P** **20 29 55.5 +0.9**
comp=Z,156nm,1.0s
LSA LR LR
comp=Z,2µm,20.0s
LSA Lhasa 41.75 276 P **P** **20 29 55.2 +0.5**
LSA Lhasa 41.75 276 *eP* **P** **20 29 55.5 +0.9**
LSA pmax pmax
comp=Z,156nm,1.0s
LSA MLR MLR
comp=Z,2µm,20.0s
SGKI Sangatta, Kali 41.95 216 P **P** **20 29 55.9 +0.1**
SMKI Samarinda 42.07 216 P **P** **20 29 57.6 +0.9**
SBUM Sibu 42.28 225 *eP* **P** **20 29 56.2 -2.3**
comp=Z,31nm,1.3s
ZSN Zaisan 42.53 304⇑ *iP* **P** **20 30 01.1 +0.9**
comp=Z,800nm,1.0s
ZSN *i* pP **sP** **20 30 15.2 -0.4**
ZSN LR LR 20 47 44.1
comp=Z,246nm,13.4s
SHL Shillong 42.80 270 *eP* P 20 30 08.0 +5.1
SHL *e*S **S** **20 36 26.0 +1.3**
SHL Shillong 42.80 270 *eP* **P** **20 30 01.4 -1.5**
comp=Z,84nm,1.1s
SHL Shillong 42.80 270 *eP* **P** **20 30 01.4 -1.5**
SHL pmax pmax
comp=Z,84nm,1.1s
SRDT SRDT 42.81 251 P **P** **20 30 01.9 -1.0**
comp=Z,61nm,1.0s,comp=Z,5µm
KDI Kendari 42.90 207 P **P** **20 30 02.7 -0.8**
comp=Z,22nm,1.1s,comp=Z,518nm
TTSI Tana Toraja 43.18 211 P **P** **20 30 05.7 -0.1**
PHET Kaeng Krachan 43.31 249 P **P** **20 30 07.9 +1.0**
comp=Z,21nm,1.0s,comp=Z,194nm
NVS Novosibirsk 43.36 315⇓ *iP* **P** **20 30 07.5 +0.7**
NVS *e*S **S** **20 36 35.2 +3.4**
NVS pmax pmax
comp=N,32nm,1.0s
NVS pmax pmax
comp=Z,145nm,1.0s
NVS pmax pmax
comp=E,109nm,1.2s
NVS smax smax
comp=N,18nm,1.5s
NVS smax smax
comp=E,32nm,2.0s
MTKI Muara Teweh, K 43.65 219 P **P** **20 30 08.7 -0.8**
KSM Kuching 44.18 226 *eP* **P** **20 30 12.4 -1.5**
comp=E,25nm,0.9s
KSM LR LR
comp=Z,344nm,20.0s
SDPT Sand Point 44.18 45 *eP* **P** **20 30 14.4 +1.0**
comp=Z,353nm,1.8s
NRIK Noril'sk 44.26 336 P **P** **20 30 14.4 +0.6**
comp=Z,49nm,0.9s
BNSI Bone 44.29 210 P **P** **20 30 14.8 +0.2**
SAUI Saumlaki 44.31 193 P **P** **20 30 15.2 +0.4**
SAUI Saumlaki 44.31 193 *eP* **P** **20 30 15.3 +0.4**
comp=Z,201nm,0.9s
MK01 Makanchi Array 44.34 303 *eP* **P** **20 30 14.7 -0.1**
MK31 Makanchi Array 44.34 303 *eP* **P** **20 30 14.6 -0.3**
MK31 Makanchi Array 44.34 303 *eP* **P** **20 30 14.6 -0.3**
MK32 Makanchi Array 44.34 303 *eP* **P** **20 30 15.2 +0.2**
MK32 *e*ScP **ScP** **20 35 46.0 -1.5**
MKAR Makanchi Array 44.34 303 P **P** **20 30 15.2 +0.2**
comp=Z,60nm,0.7s,baz=90,slow=9.8,SNR=368
MKAR ScP **ScP** **20 35 46.0 -1.5**
comp=Z,4.1nm,1.0s,baz=72,slow=4.7,SNR=2.9
MKAR LR LR 20 49 20.5
comp=Z,2µm,18.6s,baz=86,slow=37
MKAR Makanchi Array 44.34 303 *eP* **P** **20 30 14.9 0.0**
comp=Z,515nm,0.8s
MKAR ScP **ScP** **20 35 46.0 -1.5**
MKAR Makanchi Array 44.34 303 *eP* **P** **20 30 14.9 0.0**
MKAR pmax pmax
comp=Z,515nm,0.8s

MAKZ Makanchi 44.56 303 *eP* **P** **20 30 16.3 -0.3**
comp=Z,126nm,1.0s
MAKZ Makanchi 44.56 303 *eP* **P** **20 30 16.3 -0.3**
MAKZ pmax pmax
comp=Z,126nm,1.0s
STKI Sintang 44.65 224 P **P** **20 30 17.5 -0.1**
KAPI Kappang 44.99 210 PFAKE 20 30 30.0 +10
KAPI LR LR
comp=Z,448nm,22.0s
KBKI Kotabaru 45.05 216 P **P** **20 30 20.5 -0.3**
BKSI Bulukumba 45.12 210 P **P** **20 30 21.8 +0.5**
PMG Port Moresby 45.25 171 *eP* **P** **20 30 24.0 +1.7**
comp=Z,93nm,1.3s
PMG LR LR
comp=Z,388nm,19.0s
PMG Port Moresby 45.25 171 *eP* **P** **20 30 24.0 +1.7**
PMG pmax pmax
comp=Z,93nm,1.3s
PMG MLR MLR
comp=Z,388nm,19.0s
SEM Semipalatinsk 45.30 308⇑ *iP* **P** **20 30 22.1 -0.6**
comp=Z,1µm,1.0s
SEM *e*S **S** **20 36 58.3 -2.4**
SEM LR LR 20 49 22.8
comp=Z,1µm,15.1s
CHGN Chignik 45.36 43 *eP* **P** **20 30 25.5 +2.8**
comp=Z,248nm,2.0s
TARA Tarawa 45.41 131 *eP* **P** **20 30 24.3 +0.6**
comp=Z,104nm,1.0s
BSSI Bau Bau, Buton 45.72 209 P **P** **20 30 23.8 -2.2**
ODAN Odare 45.91 274 *eP* **P** **20 30 27.4 -0.4**
comp=Z,82nm,0.6s
KURK Kurchatov 46.31 309 *eP* **P** **20 30 29.8 -0.5**
comp=Z,424nm,1.0s
KURK LR LR
comp=Z,3µm,19.0s
KURK Kurchatov 46.31 309*c iP* **P** **20 30 30.0 -0.3**
KURK pmax pmax
comp=Z,452nm,1.0s
KURK MLR MLR
comp=Z,2µm,15.0s
SKLT Songkhla 46.34 242 P **P** **20 30 30.5 -0.5**
comp=Z,41nm,1.0s,comp=Z,830nm
KURBB Kurchatov Arra 46.38 309 P **P** **20 30 30.7 -0.1**
comp=Z,300nm,1.1s,baz=83,slow=8.3,SNR=411
RAMN Ramite 46.51 275 *eP* **P** **20 30 32.3 -0.3**
comp=Z,384nm,0.8s
JIRN Jiri 46.55 276 *eP* **P** **20 30 33.2 +0.2**
TRTT Trang 46.56 243 P **P** **20 30 32.2 -0.5**
comp=Z,14nm,1.0s
GUN Gumba 46.70 277 *eP* **P** **20 30 34.3 +0.1**
comp=Z,333nm,0.9s
PBKI Pangkalan Bun 46.84 222 P **P** **20 30 33.5 -1.3**
SHLS Shalkode 46.95 299⇑ *iP* **P** **20 30 33.4 -2.3**
comp=Z,1µm,0.9s
SHLS *e*S **S** **20 37 20.8 -3.6**
SHLS LR LR 20 51 02.2
comp=Z,523nm,15.3s
SVW2 Sparrevohn 46.97 37 *eP* **P** **20 30 37.2 +1.8**
comp=Z,31nm,1.0s
PKIN Phulchoki 47.23 276 *eP* **P** **20 30 38.3 +0.1**
comp=Z,86nm,0.6s
KKN Kakani 47.24 277 *eP* **P** **20 30 38.1 -0.1**
comp=Z,183nm,0.8s
UZB Uzynbulak 47.27 299⇑ *iP* **P** **20 30 38.2 +0.1**
comp=Z,1µm,0.9s
UZB *e*S **S** **20 37 29.0 +0.2**
UZB LR LR 20 51 12.0
comp=Z,398nm,14.9s
KPKS Kokpek 47.44 299⇑ *iP* **P** **20 30 39.7 +0.3**
comp=Z,971nm,0.7s
KPKS *e*S **S** **20 37 32.1 +0.9**
KPKS LR LR 20 51 13.9
comp=Z,2µm,19.0s
DMN Daman 47.45 277 *eP* **P** **20 30 39.6 -0.3**
comp=Z,93nm,0.8s
PKDT Phuket 47.51 245 P **P** **20 30 40.0 -0.2**
comp=Z,28nm,1.0s
KULM Kulim 47.62 240 *eP* **P** **20 30 40.0 -1.0**
comp=Z,31nm,1.1s
KULM LR LR
comp=Z,919nm,21.0s
GKN Gorkha 47.67 277 *eP* **P** **20 30 41.5 0.0**
comp=Z,283nm,0.8s
ZHN Zhinishke 47.68 299⇑ *iP* **P** **20 30 41.6 +0.2**
comp=Z,399nm,1.3s
ZHN LR LR 20 51 23.7
comp=Z,510nm,17.2s
SATY Saty 47.72 299⇑ *iP* **P** **20 30 42.0 +0.3**
comp=Z,941nm,1.1s
SATY *i* pP **pP** **20 30 52.5 -0.3**
SATY LR LR 20 51 38.1
comp=Z,472nm,14.2s
SOEI Soe 47.77 202 P **P** **20 30 42.1 -0.1**
SOEI Soe 47.77 202 *eP* **P** **20 30 41.0 -1.2**
comp=Z,168nm,0.9s
SOEI *e*S **S** **20 37 36.4 +0.2**
PRZ Przheval'sk 47.86 298 *eP* **P** **20 30 44.2 +1.4**
comp=Z,165nm,0.9s
PRZ Przheval'sk 47.86 298 *eP* **P** **20 30 44.2 +1.4**
PRZ pmax pmax
comp=Z,165nm,0.9s
IPM Ipoh 47.93 239 *eP* **P** **20 30 41.9 -1.5**
comp=Z,45nm,0.9s
JOHN Johnston Islan 47.96 100 *eP* **P** **20 30 45.1 +1.5**
comp=Z,362nm,1.3s
MYKOM Kota Tinggi 47.97 234 *eP* **P** **20 30 42.1 -1.7**
comp=Z,16nm,1.0s
IM3 Indian Mountai 48.12 30 *eP* **P** **20 30 45.1 +0.8**
IM3 *e*PcP **PcP** **20 32 13.1 +1.8**
TPRI Tanjung Pinang 48.19 232 P **P** **20 30 45.2 -0.2**
RSO Redoubt South 48.34 37 *eP* **P** **20 30 46.7 +0.4**
BATI Baumata 48.38 203 P **P** **20 30 46.7 -0.1**
comp=Z,112nm,0.8s,baz=20,slow=1.0,SNR=37
BATI LR LR 20 50 21.6
comp=Z,628nm,21.7s,baz=38,slow=35
BATI Baumata 48.38 203 P **P** **20 30 46.4 -0.4**
HNR Honiara 48.41 154 P **P** **20 30 43.4 -3.6**
comp=Z,19nm,0.4s,baz=235,slow=12,SNR=3.0
HNR LR LR 20 50 52.0
comp=Z,482nm,20.2s,baz=324,slow=36
TARG Taragay, Kyrgy 48.48 297 *eP* **P** **20 30 48.1 +0.3**
comp=Z,133nm,0.8s
KDAK Kodiak Island 48.51 41 LR LR 20 50 52.5
comp=Z,874nm,21.6s,baz=257,slow=36
KDAK Kodiak Island 48.51 41 *eP* **P** **20 30 48.1 +0.7**
KDAK Kodiak Island 48.51 41 *i* P **P** **20 30 48.3 +1.0**
KOLN Koldanda 48.60 277 *eP* **P** **20 30 48.8 0.0**
comp=Z,101nm,0.7s
PPLA Purkeypile 48.63 34 *eP* **P** **20 30 50.3 +2.0**
comp=Z,80nm,1.4s
SPU Mount Spurr 48.68 37 *eP* **P** **20 30 50.9 +2.2**
CAST Castle Rocks 48.69 34 *eP* **P** **20 30 50.7 +2.0**
comp=Z,22nm,0.9s
AAA Alma-Ata 48.75 299⇑ *iP* **P** **20 30 50.6 +1.1**
comp=Z,739nm,0.9s
AAA LR LR 20 51 45.3
comp=Z,540nm,19.1s
AAA Alma-Ata 48.75 299 *eP* **P** **20 30 50.0 +0.5**
AAA *e*S **S** **20 37 47.9 -1.8**
AAA pmax pmax
comp=Z,400nm,2.7s
AAA smax smax
comp=N,500nm,14.0s
KDJ Kajisay 48.83 298 *eP* **P** **20 30 50.9 +0.7**
comp=N,85nm,1.0s
HOM Homer 48.92 39 *eP* **P** **20 30 51.8 +1.4**
comp=N,285nm,1.8s
SKT Skwentna 48.92 35 *eP* **P** **20 30 51.6 +1.1**
comp=N,18nm,1.0s
PYUN Piuthan 48.96 278 *eP* **P** **20 30 51.7 +0.2**
comp=N,912nm,1.0s
BWJI Bawean 48.98 218 P **P** **20 30 49.7 -1.7**
KUU Kurty 49.00 300⇑ *iP* **P** **20 30 51.3 0.0**
comp=N,712nm,1.3s
KUU *e*S **S** **20 37 52.3 -0.8**
KUU LR LR 20 51 53.8
comp=N,403nm,16.9s
MTN Manton Dam 49.09 192 *eP* **P** **20 30 51.1 -1.1**
comp=N,82nm,1.0s
BPAW Bear Paw Mtn. 49.19 33 *eP* **P** **20 30 54.0 +1.5**
comp=N,26nm,1.0s
KTH Kantishna Hill 49.21 33 *eP* **P** **20 30 54.3 +1.6**
comp=N,72nm,1.2s
DSRI Dabo 49.23 231 P **P** **20 30 51.7 -1.6**
PLAI Plampang 49.25 210 P **P** **20 30 51.7 -1.8**
BRLK Bradley Lake 49.30 38 *eP* **P** **20 30 54.3 +0.9**

BRLK ePcP **PcP** **20 32 16.7 +1.0**
comp=N,24nm,0.8s
SUA **Susitna One** 49.31 36 eP **P** **20 30 54.4 +0.8**
comp=N,36nm,1.0s
SUA ePcP **PcP** **20 32 19.4 +3.6**
MLY **Manley** 49.32 31 eP **P** **20 30 55.5 +2.0**
comp=N,51nm,0.9s
MLY ePcP **PcP** **20 32 18.2 +2.4**
WBSI **Waikabubak, Su** 49.34 208 P **P** **20 30 55.2 +1.0**
PBA **Port Blair** 49.38 253 eP P 20 30 53.8 -0.8
comp=N,49nm,0.7s
COEN **Coen** 49.42 177 eP **P** **20 30 54.9 +0.2**
comp=N,52nm,0.9s
BASI **Baing, Sumba** 49.43 206 P **P** **20 30 55.0 +0.2**
ULHL **Ulaholo** 49.47 298 P **P** **20 30 55.9 +0.7**
SNR=20
TRF **Thorofare Moun** 49.49 33 eP **P** **20 30 56.1 +1.1**
comp=N,23nm,1.0s
TWSI **Taliwang, Sumb** 49.54 212 P **P** **20 30 53.6 -2.1**
COLD **Coldfoot** 49.63 29 eP **P** **20 30 57.4 +1.5**
comp=N,18nm,1.1s
BMNS **Besmoynak** 49.66 299 *i* P **P** **20 30 57.5 +0.9**
comp=N,4µm,0.7s
BMNS eS **S** **20 38 03.0 +0.3**
BMNS LR LR 20 52 17.3
comp=N,490nm,15.6s
SRBI **Singaraja** 49.70 214 P **P** **20 30 56.4 -0.5**
TKM2 **Tokmak 2** 49.76 299 P **P** **20 30 58.3 +0.8**
SNR=182
RC01 **Rabbit Creek A** 49.80 37 eP **P** **20 30 57.9 +0.7**
comp=N,33nm,0.9s
RC01 ePcP **PcP** **20 32 17.9 +0.4**
NRN **Naryn** 49.86 297 eP **P** **20 30 58.7 +0.4**
comp=N,126nm,1.4s
NRN **Naryn** 49.86 297 eP **P** **20 30 58.7 +0.4**
NRN pmax pmax
comp=Z,126nm,1.4s
ABJI **Asem Bagus** 49.90 215 P **P** **20 30 59.1 +0.7**
TOLK **Toolik Lake Re** 49.95 27 P **P** **20 30 59.7 +1.4**
baz=266
TOLK **Toolik Lake Re** 49.95 27 eP **P** **20 30 59.3 +1.0**
comp=Z,38nm,1.0s
GRJI **Gresik** 49.98 218 P **P** **20 30 58.7 -0.3**
PMR **Palmer** 50.07 36 eP **P** **20 30 59.4 +0.2**
comp=Z,72nm,1.4s
PMR **Palmer** 50.07 36 eP **P** **20 30 59.4 +0.2**
PMR pmax pmax
comp=Z,72nm,1.4s
MCK **McKinley** 50.09 33 eP **P** **20 31 00.1 +0.7**
comp=Z,45nm,1.1s
MCK **McKinley** 50.09 33 eP **P** **20 31 00.1 +0.7**
MCK pmax pmax
comp=Z,45nm,1.1s
RND **Reindeer** 50.14 34 eP **P** **20 31 00.6 +0.8**
comp=Z,42nm,1.0s
RND **Reindeer** 50.14 34 eP **P** **20 31 00.6 +0.8**
RND pmax pmax
comp=Z,42nm,1.0s
GHO **Glory Hole Cre** 50.16 36 eP **P** **20 31 00.9 +0.9**
comp=Z,43nm,0.9s
BRZS **Berezniki** 50.18 309⇑ *i* P **P** **20 31 00.2 -0.1**
comp=Z,196nm,0.9s
BRZS eS **S** **20 38 08.7 -0.8**
KZA **Kyzart** 50.23 298 P **P** **20 31 02.3 +1.1**
SNR=80
KBK **Karagaybulak** 50.29 299 P **P** **20 31 02.1 +0.7**
SNR=104
LHMI **Lhok Sumawe** 50.32 243 eP **P** **20 31 02.0 +0.3**
comp=Z,81nm,1.0s
BTLS **Baital** 50.32 302⇑ *i* P **P** **20 31 01.4 0.0**
comp=Z,1µm,1.1s
BTLS eS **S** **20 38 10.7 -0.8**
CHMS **Chumysh** 50.34 300 P **P** **20 31 02.1 +0.5**
SNR=37
MDM **Murphy Dome** 50.38 32 eP **P** **20 31 02.8 +1.2**
comp=Z,116nm,1.0s
KSH **Kashi** 50.42 295 P **P** **20 31 06.3 +3.9**
KSH sP sP 20 31 20.8 +2.9
KSH PcP **PcP** **20 32 24.4 +4.1**
KSH PP **PP** **20 33 03.6 +5.6**
KSH S **S** **20 38 17.5 +4.2**
KSH ScS **ScS** **20 40 52.4 +1.9**
KSH pmax pmax
comp=Z,83nm,1.0s
KSH pmax pmax
comp=Z,1µm,3.5s
KSH LR LR
comp=Z,450nm,6.8s
KSH LR LR
comp=Z,690nm,10.4s
KSH LR LR
comp=Z,1µm,11.9s
SML **Sawmill** 50.44 36 eP **P** **20 31 03.0 +0.9**
comp=Z,40nm,0.8s
SML **Sawmill** 50.44 36 eP **P** **20 31 03.0 +0.9**
SML pmax pmax
comp=Z,40nm,0.8s
USP **Ospenovka** 50.45 300 P **P** **20 31 02.8 +0.4**
SNR=60
WRH **Wood River Hil** 50.45 32 eP **P** **20 31 03.1 +1.0**
WRH ePcP **PcP** **20 32 20.3 +0.5**
FRU **Bishkek** 50.48 299⇑ *i* P **P** **20 31 03.5 +0.9**
FRU eS **S** **20 38 16.0 +2.2**
FRU *e* 20 38 26.0
FRU pmax pmax
comp=Z,240nm,2.0s
JAGI **Jajag, Banyuwa** 50.53 215 P **P** **20 31 02.4 -0.8**
JAGI **Jajag, Banyuwa** 50.53 215 eP **P** **20 31 01.5 -1.6**
comp=Z,36nm,1.1s
COLA **College** 50.55 32 eP **P** **20 31 03.9 +1.2**
comp=Z,48nm,0.8s
COLA LR LR
comp=Z,478nm,20.0s
COLA **College** 50.55 32 *i* P **P** **20 31 04.2 +1.5**
COLA pmax pmax
comp=Z,42nm,0.8s
CCB **Clear Creek Bu** 50.57 32 eP **P** **20 31 03.9 +0.9**
comp=Z,16nm,0.9s
CCB ePcP **PcP** **20 32 21.3 +1.1**
PSI **Prapat** 50.59 239 eP **P** **20 31 02.6 -1.3**
comp=Z,30nm,0.9s
PSI **Prapat** 50.59 239 eP **P** **20 31 02.6 -1.3**
PSI pmax pmax
comp=Z,30nm,0.9s
AAK **Ala-Archa** 50.62 299 P **P** **20 31 04.3 +0.4**
comp=Z,30nm,0.6s,baz=88,slow=6.3,SNR=55
AAK **Ala-Archa** 50.62 299 P **P** **20 31 04.4 +0.4**
SNR=54
AAK **Ala-Archa** 50.62 299 eP **P** **20 31 04.0 +0.2**
comp=Z,77nm,0.9s
AAK LR LR
comp=Z,3µm,20.0s
AAK **Ala-Archa** 50.62 299 *i* P **P** **20 31 03.4 -0.4**
SNR=70
AAK **Ala-Archa** 50.62 299*c i* P **P** **20 31 04.2 +0.4**
AAK pmax pmax
comp=Z,47nm,1.1s
UCH **Uchtor** 50.71 299 P **P** **20 31 05.8 +0.9**
SNR=54
DHY **Denali Highway** 50.82 34 eP **P** **20 31 05.6 +0.5**
comp=Z,35nm,1.2s
NGJI **Ngawi** 50.88 219 P **P** **20 31 05.8 -0.1**
SCM **Sheep Creek Mo** 50.92 36 eP **P** **20 31 06.9 +1.2**
comp=Z,40nm,0.9s
SCM **Sheep Creek Mo** 50.92 36 eP **P** **20 31 06.9 +1.2**
SCM pmax pmax
comp=Z,40nm,0.9s
BKNI **Bangkinang** 50.92 235 eP **P** **20 31 04.7 -1.6**
comp=Z,151nm,0.8s
HDA **Harding Lake** 50.95 32 eP **P** **20 31 06.4 +0.6**
comp=Z,48nm,0.9s
IL1 **Eielson Array** 50.96 32 eP **P** **20 31 06.4 +0.5**
ILAR **Eielson Array** 50.96 32 P **P** **20 31 06.4 +0.5**
comp=Z,31nm,0.8s,baz=269,slow=5.9,SNR=288
ILAR LR LR 20 53 44.8
comp=Z,313nm,20.7s,baz=268,slow=37
ILB **Eielson Array** 50.96 32 eP **P** **20 31 06.1 +0.2**
BVAR **Borovoye Array** 51.05 313 P **P** **20 31 06.9 +0.1**
comp=Z,68nm,0.9s,baz=79,slow=7.7,SNR=150
BVAR LR LR 20 53 48.0
comp=Z,1µm,19.1s,baz=77,slow=37
BRVK **Borovoye** 51.11 313 eP **P** **20 31 06.9 -0.3**
comp=Z,125nm,0.9s
BRVK LR LR
comp=Z,689nm,20.0s
BRVK **Borovoye** 51.11 313*c i* P **P** **20 31 07.1 -0.1**

BRVK pmax pmax
comp=Z,147nm,1.0s
EKS2 **Erkin-Say** 51.12 299 P **P** **20 31 07.9 +0.3**
SNR=44
SMRI **Semarang** 51.14 220 P **P** **20 31 07.8 0.0**
SMRI **Semarang** 51.14 220 eP **P** **20 31 06.2 -1.6**
comp=Z,70nm,1.1s
PWJI **Pagerwojo** 51.27 218 P **P** **20 31 07.5 -1.3**
AML **Almayashu** 51.33 299 P **P** **20 31 10.6 +1.1**
SNR=177
BSI **Banda Aceh** 51.35 245 P **P** **20 31 09.3 -0.2**
MLSI **Meulaboh, Aceh** 51.37 243 P **P** **20 31 07.9 -1.7**
WOJI **Wonogiri, Jawa** 51.56 219 P **P** **20 31 10.3 -0.6**
MNSI **Mandailing Nat** 51.57 237 P **P** **20 31 10.2 -0.9**
FYU **Fort Yukon** 51.58 29 eP **P** **20 31 12.5 +2.0**
comp=Z,71nm,1.0s
SDSI **Sungai Dareh** 51.60 234 P **P** **20 31 10.6 -0.7**
KLU **Klutina** 51.61 36 eP **P** **20 31 12.0 +1.0**
comp=Z,43nm,1.1s
PAX **Paxson** 51.69 34 eP **P** **20 31 12.2 +0.6**
comp=Z,21nm,1.2s
PAX **Paxson** 51.69 34 eP **P** **20 31 12.2 +0.6**
PAX pmax pmax
comp=Z,21nm,1.2s
DIV **Divide** 51.72 36 eP **P** **20 31 13.2 +1.4**
comp=Z,50nm,1.0s
PCJI **Pacitan** 51.73 218 P **P** **20 31 11.1 -1.1**
EYAK **Cordova Ski Ar** 51.80 37 eP **P** **20 31 14.0 +1.8**
comp=Z,53nm,1.0s
UGM **Wanagama** 51.83 219 P **P** **20 31 11.8 -1.2**
UGM **Wanagama** 51.83 219 eP **P** **20 31 11.4 -1.6**
comp=Z,257nm,1.3s
HARP **HAARP** 51.89 35 eP **P** **20 31 14.8 +1.9**
comp=Z,46nm,0.8s
RIDG **Independ'e Rid** 51.91 33 eP **P** **20 31 13.5 +0.4**
comp=Z,30nm,0.9s
RIDG ePcP **PcP** **20 32 26.2 +0.8**
KPJI **Karang Pucung** 52.18 221 P **P** **20 31 14.2 -1.3**
DOT **Dot Lake** 52.27 33 eP **P** **20 31 15.8 +0.1**
comp=Z,53nm,0.8s
SCRK **Sand Creek** 52.27 33 eP **P** **20 31 16.2 +0.3**
comp=Z,48nm,0.9s
BMRM **Bremner River** 52.30 36 eP **P** **20 31 17.0 +0.9**
comp=Z,83nm,1.1s
RAGM **Ragged Mountai** 52.34 37 eP **P** **20 31 17.8 +1.5**
comp=Z,40nm,0.8s
KRJI **Kerinci** 52.45 233 P **P** **20 31 16.9 -0.9**
LEM **Lembang** 52.48 223 P **P** **20 31 16.8 -1.2**
comp=Z,44nm,0.7s,baz=27,slow=9.0,SNR=20
LEM LR LR 20 54 57.5
comp=Z,373nm,19.9s,baz=22,slow=38
LEM **Lembang** 52.48 223 P **P** **20 31 16.8 -1.2**
KLI **Kotabumi** 52.48 227 P **P** **20 31 17.2 -0.6**
GSI **Gunungsitoli** 52.59 239 P **P** **20 31 17.5 -1.2**
GSI **Gunungsitoli** 52.59 239 eP **P** **20 31 16.7 -2.0**
comp=Z,257nm,1.1s
MDSI **Maura Dua** 52.59 228 P **P** **20 31 17.2 -1.4**
BLSI **Bandar Lampung** 52.65 227 P **P** **20 31 18.0 -1.1**
DBJI **Dramaga** 52.74 224 P **P** **20 31 18.5 -1.2**
SBJI **Serang** 52.74 225 P **P** **20 31 19.1 -0.6**
MASI **Maura Aman, Be** 52.75 231 P **P** **20 31 19.5 -0.4**
DZA **Taraz** 52.78 300⇑ eP **P** **20 31 20.4 +0.5**
comp=Z,948nm,1.7s
LWLI **Liwa** 53.09 228 P **P** **20 31 21.9 -0.5**
SKJI **Sukabumi** 53.22 224 P **P** **20 31 22.7 -0.6**
KASI **Kota Agung** 53.22 227 P **P** **20 31 20.7 -2.6**
MNAI **Manna** 53.24 230 P **P** **20 31 23.7 +0.2**
MNAI **Manna** 53.24 230 eP **P** **20 31 25.0 +1.5**
comp=Z,118nm,0.9s
KK31 **Karatay Array** 53.29 301 eP **P** **20 31 23.4 -0.2**
KK31 **Karatay Array** 53.29 301 eP **P** **20 31 23.4 -0.2**
KKAR **Karatay Array** 53.29 301 eP **P** **20 31 23.1 -0.5**
KKAR **Karatay Array** 53.29 301 eP **P** **20 31 23.1 -0.5**
BALM **Baldy** 53.38 36 eP **P** **20 31 25.2 +1.1**
comp=Z,38nm,1.1s
BALM **Baldy** 53.38 36 eP **P** **20 31 25.2 +1.1**
BALM pmax pmax
comp=Z,38nm,1.1s
EGAK **Eagle** 53.41 31 eP **P** **20 31 24.7 +0.6**
comp=Z,22nm,0.9s
EGAK LR LR
comp=Z,516nm,20.0s
SISI **Saibi** 53.45 236 P **P** **20 31 23.4 -1.6**
CHM **Chimkent** 54.17 300⇑ *i* P **P** **20 31 30.9 +0.8**
comp=Z,625nm,1.2s
CHM *e* S **S** **20 39 05.3 +1.0**
CHM LR LR 20 54 54.2
comp=Z,388nm,16.4s
DAWY **Dawson** 54.27 32 eP **P** **20 31 30.6 +0.1**
comp=Z,14nm,0.9s
NIL **Nilore** 54.48 289 eP **P** **20 31 32.4 0.0**
comp=Z,82nm,0.9s
NIL LR LR
comp=Z,632nm,21.0s
NIL **Nilore** 54.48 289 eP **P** **20 31 32.4 0.0**
NIL pmax pmax
comp=Z,82nm,0.9s
NIL MLR MLR
comp=Z,632nm,21.0s
KIP **Kipapa** 54.90 87 eP **P** **20 31 37.0 +1.4**
comp=Z,463nm,1.8s
KIP **Kipapa** 54.90 87 eP **P** **20 31 37.0 +1.4**
KIP pmax pmax
comp=Z,463nm,1.8s
WRAB **Tennant Creek** 55.63 187 eP **P** **20 31 40.1 -0.5**
comp=Z,132nm,1.0s
WRAB **Tennant Creek** 55.63 187*c i* P **P** **20 31 39.8 -0.8**
WRAB pmax pmax
comp=Z,46nm,1.0s
WB2 **Warramunga Arr** 55.64 187 eP **P** **20 31 39.1 -1.6**
WR1 **Warramunga Arr** 55.64 187 eP **P** **20 31 40.0 -0.7**
comp=Z,172nm,1.3s
WR1 ⇑ *e* 21 01 57.8
WRA **Warramunga Arr** 55.64 187 P **P** **20 31 40.0 -0.7**
comp=Z,26nm,0.8s,baz=4.0,slow=7.5,SNR=103
WRA LR LR 20 56 34.1
comp=Z,338nm,18.2s,baz=0.0,slow=37
WRA PKP2bc 21 01 57.8
comp=Z,1.0nm,0.9s,baz=173,slow=2.0,SNR=3.2
WRA **Warramunga Arr** 55.64 187 P **P** **20 31 40.0 -0.7**
WRA pmax pmax
comp=Z,26nm,0.8s
WRA MLR MLR
comp=Z,338nm,18.2s
CTA **Charters Tower** 55.71 174 LR LR 20 55 15.2
comp=Z,284nm,20.6s,slow=36
CTA PKP2bc 21 01 54.1
comp=Z,2.3nm,1.0s,baz=243,slow=4.2,SNR=2.2
CTAO **Charters Tower** 55.71 174 eP **P** **20 31 41.1 -0.1**
comp=Z,29nm,1.4s
CTAO LR LR
comp=Z,882nm,20.0s
CTAO **Charters Tower** 55.71 174 eP **P** **20 31 41.1 -0.1**
CTAO pmax pmax
comp=Z,29nm,1.4s
CTAO MLR MLR
comp=Z,882nm,20.0s
HYT **Haines Junctio** 55.75 36 eP **P** **20 31 42.5 +1.2**
comp=Z,42nm,0.9s
SVE **Sverdlovsk** 55.77 319*d i* P **P** **20 31 41.9 +0.6**
SVE *e* S **S** **20 39 24.4 -0.9**
SVE pmax pmax
comp=Z,237nm,1.0s
SVE MLR MLR
comp=Z,2µm,17.0s
INK **Inuvik** 55.87 27 P **P** **20 31 42.9 +1.1**
comp=Z,34nm,1.0s,baz=276,slow=6.5,SNR=84
INK LR LR 20 56 17.6
comp=Z,345nm,21.7s,baz=267,slow=37
INK PKPPKP **P'P'df** **21 01 47.5 -0.7**
comp=Z,1.2nm,0.9s,baz=203,slow=3.3,SNR=3.0
INK **Inuvik** 55.87 27 eP **P** **20 31 42.5 +0.7**
comp=Z,30nm,0.9s
INK P'P' 21 01 47.5
INK **Inuvik** 55.87 27 eP **P** **20 31 42.5 +0.7**
INK pmax pmax
comp=Z,30nm,0.9s
KHLH **Kahului Airpor** 56.45 87 eP **P** **20 31 45.8 -0.9**
comp=Z,210nm,1.3s
XMIS **Christmas Isla** 56.57 223 eP **P** **20 31 44.5 -3.0**
comp=Z,112nm,1.3s
ARU **Arti** 56.98 319 P **P** **20 31 45.8 -4.2**
comp=Z,123nm,0.8s,baz=313,slow=18,SNR=2.1
ARU **Arti** 56.98 319 eP **P** **20 31 49.8 -0.1**
comp=Z,245nm,0.9s
ARU LR LR
comp=Z,2µm,19.0s
ARU **Arti** 56.98 319*c i* P **P** **20 31 49.7 -0.3**
ARU 20 32 44.6
ARU 20 33 53.5
ARU *e* S **S** **20 39 42.0 +0.6**
ARU *SS **sS** **20 40 00.7 +0.7**
ARU 20 41 30.2
ARU SS **SS** **20 43 31.0 +1.3**
ARU SSS SSS 20 45 46.3
ARU pmax pmax
comp=Z,316nm,1.0s
ARU MLR MLR
comp=Z,2µm,17.0s
WHY **Whitehorse** 57.04 36 eP **P** **20 31 52.1 +1.6**
comp=Z,30nm,0.9s
SKAG **Skagway** 57.14 37 eP **P** **20 31 52.6 +1.7**
comp=Z,87nm,1.6s
KBL **Kabul** 57.35 291 eP **P** **20 31 52.2 -0.9**
comp=Z,43nm,0.9s
KBL **Kabul** 57.35 291 eP **P** **20 31 52.2 -0.9**
KBL pmax pmax
comp=Z,43nm,0.9s
HPAH **Hawaii Prepara** 57.47 88 eP **P** **20 31 53.8 -0.2**
comp=Z,436nm,1.8s
HYB **Hyderabad** 57.57 269 *i* P **P** **20 31 56.0 +1.3**
comp=Z,180nm,1.0s
ABKAR **Akbulak array** 58.36 311 eP **P** **20 31 59.5 -0.3**
comp=Z,548nm,0.6s
AKTO **Aktyubinsk** 59.14 312 P **P** **20 32 04.9 -0.3**
comp=Z,57nm,1.0s,baz=68,slow=11,SNR=48
AKTO LR LR 20 58 46.2
comp=Z,1µm,18.0s,baz=77,slow=37
AS01 **Alice Springs** 59.36 187 eP **P** **20 32 05.8 -1.1**
AS31 **Alice Springs** 59.36 187 eP **P** **20 32 06.5 -0.4**
comp=Z,14nm,1.2s
ASAR **Alice Springs** 59.37 187 P **P** **20 32 07.0 +0.1**
comp=Z,7.4nm,0.8s,baz=2.2,slow=6.5,SNR=59
ASAR LR LR 20 58 58.4
comp=Z,255nm,18.9s,baz=18,slow=37
ASAR PKP2bc 21 01 49.9
comp=Z,2.3nm,1.0s,baz=175,slow=2.5,SNR=9.5
ASAR PKP2ab 21 02 00.9
comp=Z,4.2nm,1.0s,baz=169,slow=2.8,SNR=4.6
MBWA **Marble Bar** 59.91 203 eP **P** **20 32 10.3 -0.3**
comp=Z,59nm,1.0s
MBWA LR LR
comp=Z,552nm,21.0s
DLBC **Dease Lake** 60.07 37 LR LR 20 57 42.3
comp=Z,140nm,21.3s,baz=292,slow=36
DLBC **Dease Lake** 60.07 37 eP **P** **20 32 12.9 +1.4**
comp=Z,29nm,1.1s
POO **Poona** 60.83 273⇓ *i* PN **P** **20 32 14.0 -3.2**
comp=Z,150nm,1.0s
HOPEN **Hopen** 61.21 346 eP **P** **20 32 19.7 +0.8**
PALK **Pallekele** 61.49 258 eP **P** **20 32 21.8 0.0**
comp=Z,126nm,1.4s
PALK **Pallekele** 61.49 258 *i* P **P** **20 32 23.1 +1.3**
EIDS **Eidsvold** 61.51 169 eP **P** **20 32 22.4 +0.9**
comp=Z,27nm,1.1s
SPA0 **Spitsbergen Ar** 61.74 349 eP **P** **20 32 23.4 +0.9**
SPITS **Spitsbergen Ar** 61.74 349 P **P** **20 32 23.2 +0.7**
comp=Z,37nm,0.9s,baz=116,slow=9.4,SNR=13
SPITS PP **PP** **20 34 37.6 -0.6**
comp=Z,15nm,1.0s,baz=354,slow=5.9,SNR=2.5
SPITS LR LR 21 02 23.4
comp=Z,414nm,18.1s,baz=30,slow=39
KBS **Kingsbay** 61.89 350 eP **P** **20 32 24.6 +1.1**
comp=Z,114nm,1.0s
KBS LR LR
comp=Z,535nm,19.0s
KBS **Kingsbay** 61.89 350 eP **P** **20 32 25.0 +1.6**
KBS **Kingsbay** 61.89 350 eP **P** **20 32 24.6 +1.1**
KBS pmax pmax
comp=Z,114nm,1.0s
KBS MLR MLR
comp=Z,535nm,19.0s
DZM **Mont Dzumac** 62.41 153 P **P** **20 32 29.9 +2.1**
comp=Z,22nm,1.0s,baz=52,slow=12,SNR=7.0
DZM LR LR 20 59 47.0
comp=Z,710nm,19.6s,baz=22,slow=36
DZM **Mont Dzumac** 62.41 153 eS **S** **20 40 54.9 +2.9**
comp=Z,534nm,34.2s
DZM **Mont Dzumac** 62.41 153 eLR LR 20 51 05.7
comp=Z,3µm,34.0s
DZM **Mont Dzumac** 62.41 153 eP **P** **20 32 29.8 +2.1**
comp=Z,49nm,1.1s
HSPB **Hornsund (broa** 62.65 348 eP **P** **20 32 29.9 +1.4**
HSPB **Hornsund (broa** 62.65 348 eP **P** **20 32 29.8 +1.3**
HSPB *eSP **sP** **20 32 43.0 -1.3**
HSPB eS **S** **20 40 57.0 +3.3**
HSPB MLR MLR
comp=Z,1µm,27.1s
COCO **West Island** 63.10 229 eP **P** **20 32 32.6 +0.3**
comp=Z,136nm,1.1s
COCO **West Island** 63.10 229 eP **P** **20 32 32.6 +0.3**
COCO pmax pmax
comp=Z,136nm,1.1s
LVZ **Lovozero** 63.10 336 eP **P** **20 32 31.9 +0.1**
comp=Z,68nm,1.2s
LVZ LR LR
comp=Z,2µm,20.0s
LVZ **Lovozero** 63.10 336*c i* P **P** **20 32 31.5 -0.3**
LVZ pmax pmax
comp=Z,63nm,1.2s
TMCR **Tamitsa** 63.65 332 eP **P** **20 32 34.1 -1.2**
TMCR pmax pmax
comp=Z,88nm,0.9s
MSVF **Nonsavu** 63.84 140 eP **P** **20 32 39.2 +1.9**
comp=Z,28nm,1.0s
MSVF LR LR
comp=Z,1µm,21.0s
MSVF **Nonsavu** 63.84 140 eP **P** **20 32 39.2 +1.9**
MSVF pmax pmax
comp=Z,28nm,1.0s
MSVF MLR MLR
comp=Z,1µm,21.0s
GEYT **Alibeck** 63.97 299 P **P** **20 32 38.4 +0.4**
comp=Z,46nm,1.1s,baz=56,slow=3.7,SNR=82
GEYT LR LR 21 03 01.4
comp=Z,1µm,18.1s,baz=55,slow=38
RES **Resolute Bay** 64.06 14 eP **P** **20 32 38.0 +0.1**
comp=Z,79nm,1.1s
RES **Resolute Bay** 64.06 14 eP **P** **20 32 38.0 +0.1**
RES pmax pmax
comp=Z,79nm,1.1s
KEV **Kevo** 64.50 339 eP **P** **20 32 41.1 +0.3**
comp=Z,77nm,1.0s
KEV LR LR
comp=Z,839nm,20.0s
KEV **Kevo** 64.50 339 eP **P** **20 32 41.1 +0.3**
KEV pmax pmax
comp=Z,77nm,1.0s
KEV MLR MLR
comp=Z,839nm,20.0s
KLMR **Klimovskoe** 64.58 328 eP **P** **20 32 39.1 -2.4**
KLMR AMP 20 32 43.4
comp=Z,87nm,1.1s
KLMR ePP **PP** **20 34 59.4 -4.0**
KLMR eS **S** **20 41 15.7 -2.4**
KLMR eS **S** **20 41 15.7 -2.4**
KLMR LQ LQ 20 55 58.6
KLMR LQ LQ 20 55 58.6
KLMR LR LR 21 00 39.6
KLMR **Klimovskoe** 64.58 328 eP **P** **20 32 39.1 -2.4**
KLMR *e* 20 34 59.4
KLMR eS **S** **20 41 15.6 -2.5**
KLMR pmax pmax
comp=Z,87nm,1.1s
HAMF **Hammerfest** 64.90 341 eP **P** **20 32 42.7 -0.8**
ARA0 **ARCESS Array S** 65.06 339 eP **P** **20 32 44.4 -0.1**
ARCES **ARCESS Array B** 65.06 339 P **P** **20 32 44.4 -0.1**
comp=Z,45nm,0.8s,baz=59,slow=7.7,SNR=55
ARCES LR LR 21 04 20.4
comp=Z,1µm,20.1s,baz=62,slow=39
ARE0 **ARCESS Array S** 65.06 339 eP **P** **20 32 44.5 -0.1**
comp=Z,66nm,0.9s
ARE0 **ARCESS Array S** 65.06 339 eP **P** **20 32 44.8 +0.3**
YKA **Yellowknife Ar** 65.28 30 P **P** **20 32 46.4 +0.4**
comp=Z,9.3nm,0.8s,baz=301,slow=6.6,SNR=146
YKA PKPPKP P'P'df 21 01 23.8 -9.3
comp=Z,0.6nm,0.9s,baz=129,slow=2.5,SNR=4.6
YKA PKP2bc 21 01 32.2
comp=Z,0.4nm,0.8s,baz=122,slow=1.9,SNR=4.1
YKB5 **Yellowknife Ar** 65.28 30 eP **P** **20 32 46.4 +0.4**
YKB5 *e* 21 01 23.8
YKB5 eP'P'ab P'P'ab 21 01 32.2 -10

SGF Sodankyl 65.97 337 P P 20 32 50.9 +0.5
KTK1 Kautokeino 66.02 340 eP P 20 32 51.5 +0.8
MSF Maaselka 66.03 335 P P 20 32 51.3 +0.4
MSF pmax pmax
comp=Z,110nm,1.4s
TULEG Thule 66.52 7 eP P 20 32 53.9 0.0
comp=Z,120nm,1.4s
ARMA Armidale 66.55 170 eP P 20 32 54.3 -0.3
comp=Z,45nm,1.4s
AFI Afiamalu 66.74 129 LR LR 20 57 25.7
comp=Z,654nm,19.9s,baz=316,slow=32
AFI Afiamalu 66.74 129 eP P 20 32 56.4 +0.3
AFI Afiamalu 66.74 129 eP P 20 32 56.4 +0.3
TRO Tromso 66.80 341 eP P 20 32 56.1 +0.4
JOF Joensuu 66.88 332 P P 20 32 56.1 -0.2
JOF pmax pmax
comp=Z,78nm,1.2s
DAG Danmarks Havn 67.07 355⇑ iP P 20 32 57.3 0.0
comp=Z,53nm,1.2s
DAG i 20 33 11.2
DAG Danmarks Havn 67.07 355⇑ iP P 20 32 57.3 0.0
DAG i 20 33 11.2
DAG pmax pmax
comp=Z,53nm,1.2s
FORT Forrest 67.16 192 eP P 20 32 58.4 +0.1
comp=Z,76nm,0.7s
STKA Stephens Creek 67.20 179 P P 20 32 59.0 +0.4
comp=Z,9.1nm,0.8s,baz=342,slow=6.8,SNR=16
STKA LR LR 21 03 00.1
comp=Z,386nm,20.3s,baz=4.7,slow=36
STKA Stephens Creek 67.20 179 eP P 20 32 58.4 -0.2
comp=Z,3.1nm,0.9s
OUL Oulu 67.58 335 P P 20 33 00.9 +0.2
OUL pmax pmax
comp=Z,122nm,1.2s
LLLB Lillooet 67.65 43 eP P 20 33 01.9 +0.4
comp=Z,14nm,0.9s
PGC Sidney 67.71 45 eP P 20 33 02.5 +0.7
comp=Z,19nm,1.0s
MOS Moscow 67.98 324 eP P 20 33 01.7 -1.7
MOS i 20 33 16.2
MOS e 20 35 31.3
MOS eS **S 20 41 56.8 -2.7**
MOS pmax pmax
comp=Z,400nm,1.6s
MOS pmax pmax
comp=Z,213nm,1.3s
MOS MLR MLR
comp=N,1μm,15.0s
MOS MLR MLR
comp=E,900nm,15.0s
MOS MLR MLR
comp=Z,2μm,15.0s
NLWA Neilton Lookou 68.08 47 eP P 20 33 05.9 +1.7
comp=Z,27nm,0.9s
NLWA LR LR
comp=Z,473nm,22.0s
A04D Lummi Island 68.11 45 P P 20 33 05.6 +1.3
baz=300
VRH Novokhopyorsk 68.19 318 eP P 20 33 04.1 -0.6
VRH pmax pmax
comp=Z,100nm,0.7s
VRH MLR MLR
comp=Z,1μm,13.0s
BBOO Buckleboo 68.27 184 eP P 20 33 04.9 -0.4
comp=Z,37nm,1.1s
E03A Lebam 68.67 47 eP P 20 33 09.4 +1.5
comp=Z,32nm,0.9s
B05A Bryant 68.69 45 P P 20 33 09.2 +1.3
baz=300
MAK Makhachkala 68.82 308 eP P 20 33 07.6 -1.3
MAK eS **S 20 42 09.0 -1.0**
MAK pmax pmax
comp=Z,83nm,1.1s
MAK MLR MLR
comp=Z,2μm,17.0s
OBN Obninsk 68.82 323 P P 20 33 08.4 -0.3
comp=Z,38nm,0.7s,baz=33,slow=1.8,SNR=36
OBN Obninsk 68.82 323 eP P 20 33 08.0 -0.6
comp=Z,265nm,1.6s
OBN LR LR
comp=Z,1μm,21.0s
OBN Obninsk 68.82 323 c iP P 20 33 08.3 -0.3
OBN i 20 33 21.2
OBN e 20 33 32.4
OBN e 20 35 38.9
OBN ePPP PPP 20 37 20.6
OBN i S **S 20 42 06.5 -3.0**
OBN eSS **SS 20 46 32.9 -1.3**
OBN pmax pmax
comp=Z,165nm,1.5s
OBN MLR MLR
comp=Z,1μm,15.0s
B06A Marblemount 68.91 45 eP P 20 33 10.2 +0.8
comp=Z,51nm,1.3s
STEI Steigen 68.95 341 eP P 20 33 10.0 +0.8
LPSR Galich'ya Gora 68.96 320 eP P 20 33 09.3 -0.3
LPSR pmax pmax
comp=Z,130nm,0.8s
LPSR MLR MLR
comp=Z,3μm,17.0s
PUL Pulkovo 69.06 329⇑ eP P 20 33 11.0 +1.0
PUL pmax pmax
comp=Z,86nm,0.5s
F04D Rainier, OR 69.24 48 P P 20 33 12.0 +0.6
baz=300
D05A Enumclaw 69.29 46 eP P 20 33 13.8 +2.1
comp=Z,80nm,1.5s
VORR Voronezh 69.30 319⇓ iP P 20 33 10.0 -1.7
KULLO Kullorsuaq 69.38 5⇑ iP P 20 33 12.0 +0.2
comp=Z,102nm,1.1s
KULLO Kullorsuaq 69.38 5⇑ iP P 20 33 12.0 +0.2
KULLO pmax pmax
comp=Z,100nm,1.1s
AKT Akhty 69.41 307⇑ iP P 20 33 12.5 -0.2
AKT e 20 33 36.8
AKT e 20 35 43.7
AKT eS **S 20 42 22.4 +5.2**
AKT pmax pmax
comp=Z,134nm,1.0s
G03D McMinnville, O 69.52 49 P P 20 33 14.9 +1.7
baz=300
VSR Storozhevoye 69.56 319 eP P 20 33 12.9 -0.4
VSR pmax pmax
comp=Z,120nm,0.9s
VSR MLR MLR
comp=Z,1μm,16.0s
LON Longmire 69.62 47 eP P 20 33 15.2 +1.3
comp=Z,11nm,1.0s
LON Longmire 69.62 47 eP P 20 33 15.2 +1.3
LON pmax pmax
comp=Z,11nm,1.0s
FIA1 FINESS Array S 69.73 332 eP P 20 33 13.8 -0.3
FIA0 FINESS Array S 69.73 332 eP P 20 33 14.1 -0.1
FIA0 FINESS Array S 69.73 332 eP P 20 33 14.1 -0.1
FINES FINESS Array B 69.73 332 P P 20 33 14.1 -0.1
comp=Z,54nm,0.9s,baz=64,slow=8.7,SNR=116
FINES LR LR 21 06 00.9
comp=Z,976nm,18.0s,baz=48,slow=38
GROC Groznyy 69.79 309 eP P 20 33 13.8 -1.1
GROC e 20 33 37.1
GROC pmax pmax
comp=Z,116nm,1.3s
VAF Ylistaro 69.97 335 P P 20 33 15.9 +0.3
VAF pmax pmax
comp=Z,97nm,1.5s
LTY Liberty 70.03 46 eP P 20 33 17.5 +1.1
comp=Z,83nm,1.9s
KEBM Edson Butte 70.03 51 eP P 20 33 18.3 +1.8
comp=Z,332nm,2.0s
B08A Colville Reser 70.22 44 eP P 20 33 18.4 +0.9
comp=Z,27nm,1.2s
I03D Drain, OR 70.23 50 P P 20 33 19.6 +2.0
baz=301
MOR8 Moi Rana 70.43 340 eP P 20 33 17.4 -1.0
KBO Bosley Butte 70.44 52 eP P 20 33 20.5 +1.5
comp=Z,90nm,1.6s
H04A Detroit Lake 70.45 49 eP P 20 33 20.2 +1.2
comp=Z,35nm,1.2s
GOF Gofitskoye 70.55 312⇑ iP P 20 33 19.5 0.0
GOF pmax pmax
comp=Z,264nm,1.4s
KONS Konsvik 70.56 340 eP P 20 33 19.3 +0.2
WSAR Wadi Sarin 70.64 285 P P 20 33 20.9 +0.4
comp=Z,36nm,1.0s,baz=91,slow=6.7,SNR=22
WSAR LR LR 21 06 58.8
comp=Z,464nm,20.8s,baz=78,slow=38
G05D Wamic, OR 70.69 48 P P 20 33 22.1 +1.7
baz=302
STOK Stokkvaagen 70.71 340 eP P 20 33 20.4 +0.3
I04A Tendick Farm, 70.77 50 P P 20 33 22.1 +1.2
baz=301
L02D Cave Junction, 70.86 52 P P 20 33 23.3 +1.8
baz=301
E07A Sunnyside 70.87 46 eP P 20 33 22.7 +1.2
comp=Z,21nm,0.8s
NCK Nalchik 71.02 310⇑ eP P 20 33 22.6 +0.2
NCK pmax pmax
comp=Z,89nm,1.0s
HUMO Hull Mountain 71.04 51 eP P 20 33 24.2 +1.6
comp=Z,42nm,1.8s
CAN Canberra 71.06 173 eP P 20 33 24.8 +2.3
comp=Z,72nm,1.5s
CAN LR LR
comp=Z,722nm,20.0s
CAN Canberra 71.06 173 eP P 20 33 24.8 +2.3
CAN pmax pmax
comp=Z,72nm,1.5s
CAN MLR MLR
comp=Z,722nm,20.0s
BANOM Banah 71.07 289 i P P 20 33 23.4 +0.3
SNR=11
BANOM P P 20 33 23.5 +0.4
G06A Carlson Farm, 71.10 48 eP P 20 33 24.4 +1.5
comp=Z,60nm,1.7s
C09A Chrisman Ranch 71.12 44 eP P 20 33 24.4 +1.4
comp=Z,27nm,1.0s
SHME Shamm 71.13 289 i P P 20 33 23.1 -0.3
SNR=23
HAWA Hanford 71.14 46 eP P 20 33 24.6 +1.5
comp=Z,17nm,1.0s
HAWA LR LR
comp=Z,354nm,20.0s
I05D Terrebonne, OR 71.14 49 P P 20 33 24.3 +1.1
baz=302
D08A Wollman Farm, 71.15 45 eP P 20 33 24.3 +1.1
comp=Z,24nm,1.0s
F07A Phinny Hill Vi 71.18 47 eP P 20 33 24.4 +1.2
comp=Z,29nm,0.8s
SMDO Samad 71.19 285 P P 20 33 23.5 -0.4
SNR=7.2
ZEI Tsey 71.20 309 eP P 20 33 18.4 -5.4
ZEI pmax pmax
comp=Z,60nm,1.1s
TBLG Delisi 71.21 308 eP P 20 33 23.8 +0.1
comp=Z,86nm,1.0s
TBLG Delisi 71.21 308 eP P 20 33 23.8 +0.1
TBLG pmax pmax
comp=Z,86nm,1.0s
J04D Umpqua Nationa 71.24 50 P P 20 33 25.4 +1.4
baz=302
JCC Jacoby Creek, 71.28 53 eP P 20 33 26.4 +2.4
comp=Z,56nm,1.1s
VSU Vasula 71.32 330 c iP P 20 33 23.7 -0.2
VSU pmax pmax
comp=Z,335nm,1.1s
KBZ Khabaz 71.33 311 P P 20 33 24.7 +0.5
comp=Z,88nm,0.9s,baz=65,slow=4.8,SNR=155
KBZ LR LR 21 06 28.9
comp=Z,888nm,21.2s,baz=62,slow=37
KVAR Kislovodsk Arr 71.34 311 P P 20 33 25.1 +0.7
comp=Z,150nm,1.1s,baz=221,slow=0.6,SNR=123
KIV Kislovodsk 71.34 311 eP P 20 33 25.0 +0.5
comp=Z,211nm,0.9s
KIV LR LR
comp=Z,1μm,20.0s
KIV Kislovodsk 71.34 311 i P P 20 33 24.4 -0.1
SNR=82
KIV Kislovodsk 71.34 311 eP P 20 33 24.9 +0.5
KIV e 20 36 03.7
KIV eS **S 20 42 40.8 +1.1**
KIV eSS **SS 20 47 17.0 +3.3**
KIV pmax pmax
comp=Z,277nm,1.1s
KIV pmax pmax
comp=Z,103nm,3.5s
KIV MLR MLR
comp=Z,760nm,18.0s
E08A Dider Farm, El 71.37 46 eP P 20 33 25.3 +0.9
comp=Z,23nm,1.0s
KHMM Horse Mountain 71.44 53 eP P 20 33 26.4 +1.2
comp=Z,15nm,0.9s
MSFE Esma-Masafi 71.47 288 i P P 20 33 24.9 -0.6
SNR=7.5
HOQ Hoqain 71.50 286 P P 20 33 27.1 +1.5
SNR=6.3
NEW Newport 71.52 44 LR LR 21 02 46.2
comp=Z,115nm,21.1s,baz=316,slow=34
NEW Newport 71.52 44 P P 20 33 26.2 +0.8
baz=303
NEW Newport 71.52 44 eP P 20 33 26.2 +0.8
comp=Z,15nm,0.9s
NEW Newport 71.52 44 eP P 20 33 26.3 +0.8
NEW pmax pmax
comp=Z,15nm,0.9s
UOSS Minazif 71.65 288 eP P 20 33 26.1 -0.4
comp=Z,76nm,1.1s
UOSS Minazif 71.65 288 P P 20 33 26.1 -0.4
UOSS Minazif 71.65 288 i P P 20 33 25.4 -1.2
SNR=18
YBH Yreka Blue Hor 71.65 52 P P 20 33 28.4 +2.0
comp=Z,9.7nm,1.0s,baz=304,slow=3.6,SNR=18
YBH Yreka Blue Hor 71.65 52 eP P 20 33 28.1 +1.7
comp=Z,11nm,0.9s
YBH Yreka Blue Hor 71.65 52 eP P 20 33 28.1 +1.7
YBH pmax pmax
comp=Z,11nm,0.9s
PINE Pine Mountain 71.68 49 eP P 20 33 28.7 +2.1
comp=Z,27nm,0.8s
NWAO Narrogin (SRO) 71.69 201 eP P 20 33 26.5 +0.2
comp=Z,123nm,1.7s
NWAO LR LR
comp=Z,393nm,20.0s
NWAO Narrogin (SRO) 71.69 201 eP P 20 33 26.5 +0.2
NWAO pmax pmax
comp=Z,123nm,1.7s
NWAO MLR MLR
comp=Z,393nm,20.0s
NEY Neytrino 71.69 310⇓ eP P 20 33 27.6 +0.9
NEY pmax pmax
comp=Z,8.0nm,0.8s
M02C Callahan 71.74 52 P P 20 33 28.0 +1.1
baz=302,SNR=9.1
J05D Fort Rock, OR 71.76 50 P P 20 33 27.8 +0.7
baz=302
HATD Hatta, Dubai 71.77 288 P P 20 33 25.7 -1.5
SNR=13
HATD Hatta, Dubai 71.77 288 i P P 20 33 27.2 0.0
SNR=28
K04D Chiloquin, OR 71.79 50 P P 20 33 28.4 +1.2
baz=302
KMRM Mail Ridge 71.80 53 eP P 20 33 28.8 +1.5
comp=Z,17nm,1.0s
SOHO SOHO 71.82 287 i P P 20 33 27.0 -0.5
SNR=48
E09A Wood Farm, Sta 71.89 45 eP P 20 33 29.4 +1.8
comp=Z,34nm,1.0s
ASHO Ashiyiah 71.90 288 i P P 20 33 27.5 -0.6
SNR=25
GNI Garni 72.04 307 P P 20 33 30.0 +1.2
comp=Z,74nm,1.1s,baz=168,slow=1.3,SNR=56
GNI LR LR 21 07 53.6
comp=Z,1μm,18.5s,baz=58,slow=38
GNI Garni 72.04 307 eP P 20 33 29.5 +0.7
comp=Z,160nm,1.3s
GNI Garni 72.04 307 i P P 20 33 29.2 +0.4
SNR=22
GNI Garni 72.04 307 eP P 20 33 29.5 +0.7
GNI pmax pmax
comp=Z,160nm,1.3s
SUMG Summit 72.04 360 i P P 20 33 29.6 +1.1
SUMG i 20 33 43.8
SUMG Summit 72.04 360 eP P 20 33 29.4 +0.9
comp=Z,82nm,1.2s
SUMG Summit 72.04 360 i P P 20 33 29.6 +1.1
SUMG i 20 33 43.8
NAZ Nazwa, Dubai 72.05 288 P P 20 33 20.3 -8.7
SNR=5.4
NAZ Nazwa, Dubai 72.05 288 i P P 20 33 30.0 +1.1
SNR=9.6
N02D Trinity Center 72.05 52 P P 20 33 30.3 +1.6
baz=302,SNR=13
G08A Pilot Rock 72.07 47 eP P 20 33 30.4 +1.5
comp=Z,26nm,1.5s
KCPM Cahto Peak 72.16 54 eP P 20 33 30.6 +1.1
comp=Z,23nm,0.9s
AKH Akhalkalaki 72.18 308⇓ iP P 20 33 30.6 +1.0
AKH Akhalkalaki 72.18 308 eP P 20 33 30.4 +0.7
comp=Z,71nm,0.9s
AKH Akhalkalaki 72.18 308 eP P 20 33 30.4 +0.7
AKH pmax pmax
comp=Z,71nm,0.9s
M04C Macdoel 72.18 51 P P 20 33 30.6 +1.0
baz=302,SNR=8.9
K05A Summer Lake 72.27 50 eP P 20 33 31.8 +1.6
comp=Z,68nm,1.3s
NSS Namsos 72.34 339 eP P 20 33 30.2 +0.3
WDC Whiskeytown Da 72.37 53 eP P 20 33 31.7 +1.2
comp=Z,18nm,1.0s
WDC Whiskeytown Da 72.37 53 eP P 20 33 31.7 +1.2
WDC pmax pmax
comp=Z,18nm,1.0s
I07A Izee 72.40 48 eP P 20 33 31.0 +0.1
comp=Z,17nm,1.4s
ALNE Al Ain 72.47 287 i P P 20 33 31.3 -0.2
SNR=22
EPOS Posof 72.62 309 i P P 20 33 32.3 +0.1
IGDI IGDIR 72.62 307 i P P 20 33 33.4 +1.2
F10A Beach Ranch, E 72.72 46 eP P 20 33 32.9 +0.2
comp=Z,16nm,1.1s
WALA Waterton Lakes 72.85 42 eP P 20 33 34.8 +1.4
comp=Z,19nm,1.0s
HOPS Hopland Field 72.86 54 eP P 20 33 34.4 +0.9
comp=Z,27nm,1.1s
O03D Paynes Creek 73.00 52 P P 20 33 35.2 +0.8
baz=303
MOD Modoc Plateau 73.08 50 eP P 20 33 35.9 +0.8
comp=Z,9.9nm,0.9s
GDXM Geysers 73.14 54 eP P 20 33 37.7 +2.4
comp=Z,16nm,1.2s
IZAR Zarasai 73.23 327 eP P 20 33 35.9 +0.6
IZAR IAmb IAmb 20 33 37.6
comp=Z,62nm,1.3s
MICGM Minsk 73.28 326⇓ iP P 20 33 36.0 +0.3
MICGM PM 20 33 37.0
comp=Z,0.3nm,1.5s
MNK Minsk 73.28 326⇓ iP P 20 33 36.0 +0.3
MNK pmax pmax
comp=Z,260nm,1.5s
IDID Didziasalis 73.29 327 eP P 20 33 36.3 +0.6
IDID IAmb IAmb 20 33 37.8
comp=Z,31nm,1.0s
ARTV Artvin 73.29 309 i P P 20 33 35.6 -0.8
BMO Blue Mountains 73.29 47 eP P 20 33 37.2 +1.1
comp=Z,15nm,1.0s
BMO LR LR
comp=Z,359nm,22.0s
BMO Blue Mountains 73.29 47 eP P 20 33 37.2 +1.1
BMO pmax pmax
comp=Z,15nm,1.0s
BMO MLR MLR
comp=Z,359nm,22.0s
SOC Sochi 73.36 312 c iP P 20 33 36.1 -0.2
SOC e*SP **PcP 20 33 51.8 -0.7**
SOC e 20 36 18.3
SOC eS **SKiKP 20 43 04.4 +0.1**
SOC pmax pmax
comp=Z,86nm,1.1s
SOC MLR MLR
comp=Z,641nm,15.0s
DBOC Borcka 73.37 309 i P P 20 33 36.9 +0.4
JTMT Jette 73.39 43 eP P 20 33 38.2 +1.5
comp=Z,32nm,0.8s
SCO Scoresbysund 73.40 354⇑ iP P 20 33 37.4 +1.3
SCO i 20 33 51.3
SCO Scoresbysund 73.40 354 eP P 20 33 37.0 +0.9
comp=Z,115nm,1.5s
SCO Scoresbysund 73.40 354 eP P 20 33 37.0 +0.9
SCO pmax pmax
comp=Z,115nm,1.5s
J08A Circle Bar Ran 73.42 48 eP P 20 33 38.0 +1.1
comp=Z,23nm,1.1s
MCCM Marconi Confer 73.44 55 eP P 20 33 36.9 0.0
comp=Z,58nm,1.3s
IIGN Ignalina 73.49 327 eP P 20 33 37.5 +0.5
IIGN IAmb IAmb 20 33 39.1
comp=Z,44nm,1.1s
NACGM Naroch 73.53 327 eP P 20 33 36.0 -1.1
NACGM eS **SKiKP 20 43 06.0 +1.8**
NACGM eLQ LQ 21 00 16.0
NACGM eLR LR 21 05 24.0
DBAD Bademkaya 73.53 309 i P P 20 33 38.0 +0.4
DDEM Demirkent 73.57 309 i P P 20 33 45.0 +7.2
ORV Oroville 73.59 53 eP P 20 33 38.3 +0.5
comp=Z,12nm,0.9s
ORV Oroville 73.59 53 eP P 20 33 38.3 +0.5
ORV pmax pmax
comp=Z,12nm,0.9s
EATA Eleskirt 73.65 307 i P P 20 33 45.8 +7.3
TUTA Tutak 73.69 307 i P P 20 33 39.9 +1.2
TVAN Van 73.78 306 i P P 20 33 40.3 +1.1
TBLU Trondheim 73.80 339 eP P 20 33 37.3 -1.3
WVOR Wild Horse Val 73.83 49 eP P 20 33 40.9 +1.6
comp=Z,11nm,1.0s
WVOR Wild Horse Val 73.83 49 eP P 20 33 40.9 +1.6
WVOR pmax pmax
comp=Z,11nm,1.0s
ANN Anapa 74.04 314 c iP P 20 33 39.8 -0.5
ANN e*PP **pP 20 33 52.1 +0.2**
ANN e 20 36 28.0
ANN eS **S 20 43 11.5 +1.4**
ANN pmax pmax
comp=Z,177nm,1.3s
ANN MLR MLR
comp=E,596nm,22.0s
ANN MLR MLR
comp=Z,1μm,22.0s
ANN MLR MLR
comp=N,557nm,22.0s
ADCV BITLIS_Adilcev 74.07 306 i P P 20 33 40.2 -0.7
MSO Missoula 74.11 43 P P 20 33 41.5 +0.6
baz=306
MSO Missoula 74.11 43 eP P 20 33 41.5 +0.6
comp=N,22nm,1.0s
BEKR Beckworth 74.16 52 eP P 20 33 42.2 +0.8
comp=N,32nm,1.0s
EKAR Karacoban 74.26 307 i P P 20 33 43.1 +1.1
AFDM Forest Hills D 74.26 53 eP P 20 33 42.0 +0.2
comp=N,14nm,1.2s
ERZM Erzurum 74.35 308 i P P 20 33 43.6 +1.0
RDG13 Poverty Ridge 74.58 55 eP P 20 33 44.4 +0.6
comp=N,18nm,1.1s
RUBR Rubicon Trail 74.74 53 eP P 20 33 46.2 +1.4
comp=N,31nm,1.1s
MZR Muzera 74.79 287 i P P 20 33 44.7 -0.4
SNR=29
KOPT Kop Dagi 74.84 308 i P P 20 33 47.1 +1.7
BAYB BAYBURT 74.86 309 i P P 20 33 46.6 +1.1
PAHR Pah Rah Range 74.87 52 eP P 20 33 46.5 +1.0
comp=N,19nm,1.0s
VCNR Virginia City 74.93 52 eP P 20 33 45.5 -0.4
comp=N,12nm,1.0s
MFID Camas Ranch 74.98 47 eP P 20 33 47.1 +1.1
comp=N,40nm,1.4s
NC405 NORSAR Array S 74.99 337 eP P 20 33 44.3 -1.3
SIRN S¨–rnak 75.00 305 i P P 20 33 47.1 +1.0
AKASG Malin Array Be 75.00 322 P P 20 33 45.4 -0.4
comp=N,62nm,0.8s,baz=48,slow=6.2,SNR=161
AKASG PP **PP 20 36 30.4 -3.0**
comp=N,4.9nm,0.8s,baz=40,slow=7.6,SNR=4.3
AKASG LR LR 21 09 42.6
comp=N,3μm,18.7s,baz=50,slow=38
AKBB Malin Array Si 75.00 322 eP P 20 33 45.1 -0.7
comp=N,92nm,0.9s
AKBB Malin Array Si 75.00 322 eP P 20 33 45.1 -0.7
AKBB pmax pmax
comp=Z,92nm,0.9s
NC303 NORSAR Array S 75.01 337 eP P 20 33 45.9 +0.2
KIEV Kiev 75.02 322 eP P 20 33 45.2 -0.7
comp=Z,90nm,0.9s
KIEV LR LR
comp=Z,3μm,19.0s
KIEV Kiev 75.02 322 i P P 20 33 45.4 -0.5
SNR=60
KIEV Kiev 75.02 322 c iP P 20 33 45.5 -0.4
KIEV pmax pmax
comp=Z,103nm,0.9s
AK11 Malin Array Si 75.05 322 eP P 20 33 45.3 -0.7
SRTM Siirt_Merkez 75.05 306 i P P 20 33 47.5 +1.1

ILULI Ilulissat 75.06 4 *i* P P 20 33 46.6 +0.8
comp=Z,59nm,1.0s
ILULI Ilulissat 75.06 4 *e*P P 20 33 45.8 0.0
comp=Z,56nm,1.0s
ILULI Ilulissat 75.06 4 *e*P P 20 33 45.8 0.0
ILULI pmax pmax
comp=Z,56nm,1.0s
HFS Hagfors 75.08 336 P P 20 33 46.0 0.0
comp=Z,43nm,0.9s,baz=85,slow=3.2,SNR=71
HFS LR LR 21 09 14.5
comp=Z,2μm,19.9s,baz=38,slow=38
DOMB Dombas 75.09 339 *e*P P 20 33 46.6 +0.4
MOL Molde 75.12 340 *e*P P 20 33 46.2 0.0
SAO San Andreas Ge 75.15 55 *e*P P 20 33 47.1 +0.2
comp=Z,9.1nm,0.8s
SAO San Andreas Ge 75.15 55 *e*P P 20 33 47.1 +0.2
SAO pmax pmax
comp=Z,9.0nm,0.8s
CMB Columbia Colle 75.15 54 *e*P P 20 33 47.9 +0.9
comp=Z,11nm,0.8s
CMB Columbia Colle 75.15 54 *e*P P 20 33 47.9 +0.9
CMB pmax pmax
comp=Z,11nm,0.8s
NC204 NORSAR Array S 75.17 337 *e*P P 20 33 46.5 -0.1
FFC Flin Flon 75.17 32 *e*P P 20 33 46.9 +0.2
comp=Z,42nm,0.9s
FFC LR LR
comp=Z,338nm,21.0s
FFC Flin Flon 75.17 32 *e*P P 20 33 46.9 +0.2
FFC pmax pmax
comp=Z,42nm,0.9s
FFC MLR MLR
comp=Z,338nm,21.0s
NB201 NORSAR Array S 75.17 337 *e*P P 20 33 45.3 -1.3
NB2 NORSAR Subarra 75.20 337 P P 20 33 46.9 +0.1
comp=Z,154nm,1.2s,baz=41,slow=5.9
NB2 NORSAR Subarra 75.20 337 P P 20 33 46.9 +0.1
baz=41,slow=5.9
NB2 NORSAR Subarra 75.20 337 P P 20 33 47.2 +0.3
NB2 pmax pmax
comp=Z,135nm,1.2s
NB200 NORSAR Array S 75.20 337 *e*P P 20 33 47.0 +0.1
NB200 *e*PP PP 20 36 32.7 -2.1
NOA NORSAR Array B 75.20 337 P P 20 33 47.0 +0.1
comp=Z,60nm,0.9s,baz=39,slow=5.8,SNR=143
NOA PP PP 20 36 32.7 -2.1
comp=Z,11nm,1.0s,baz=41,slow=8.7,SNR=3.7
NOA LR LR 21 09 32.1
comp=Z,1μm,19.9s,baz=50,slow=38
NOA NORSAR Array B 75.20 337 P P 20 33 47.0 +0.1
NOA pmax pmax
comp=Z,61nm,0.9s
NOA MLR MLR
comp=Z,1μm,19.9s
NBO02 NORSAR Array S 75.31 337 *e*P P 20 33 46.8 -0.6
NC602 NORSAR Array S 75.33 337 *e*P P 20 33 47.1 -0.5
NC602 NORSAR Array S 75.33 337 *e*P P 20 33 47.3 -0.2
NBO00 NORSAR Array S 75.35 337 *e*P P 20 33 47.4 -0.2
HRY Holter Researc 75.36 43 *e*P P 20 33 48.8 +0.7
YERR Yerington 75.37 52 *e*P P 20 33 50.0 +1.6
comp=Z,23nm,1.0s
NAO01 NORSAR Array S 75.46 337 *e*P P 20 33 47.8 -0.5
FCC Fort Churchill 75.48 26 *e*P P 20 33 48.8 +0.4
comp=Z,61nm,1.1s
FCC Fort Churchill 75.48 26 *e*P P 20 33 48.8 +0.4
FCC pmax pmax
comp=Z,61nm,1.1s
WAKR Walker 75.51 53 *e*P P 20 33 50.3 +1.0
comp=Z,14nm,0.9s
BTMN Batman 75.53 306 *i* P P 20 33 50.2 +1.0
LRM Limekiln Ridge 75.54 44 *e*P P 20 33 51.1 +1.7
KELT Kelkit 75.56 309 *i* P P 20 33 50.5 +1.0
AKN Aaknes 75.58 339 *e*P P 20 33 50.2 +1.2
EGMT Eagleton 75.69 41 P P 20 33 50.6 +0.7
baz=308
EGMT Eagleton 75.69 41 *e*P P 20 33 51.2 +1.3
comp=Z,54nm,1.0s
EGMT LR LR
comp=Z,401nm,22.0s
SUW Suwalki 75.71 327 *e*P P 20 33 49.4 -0.4
SUW LMZ LR 21 03 09.0
comp=Z,900nm,34.7s
SUW Suwalki 75.71 327 *e*P P 20 33 48.9 -0.9
comp=Z,164nm,1.1s
SUW Suwalki 75.71 327⇑ *e*P P 20 33 49.4 -0.4
SUW MLR MLR
comp=Z,900nm,34.7s
DLMT Dillon 75.73 44 *e*P P 20 33 51.1 +0.8
comp=Z,68nm,1.3s
GRSN GIRESUNGRSN 75.74 310 *i* P P 20 33 48.8 -1.5
HLID Hailey 75.74 46 P P 20 33 51.3 +0.9
baz=306
HLID Hailey 75.74 46 *e*P P 20 33 51.8 +1.4
comp=Z,10nm,1.0s
HLID LR LR
comp=Z,234nm,22.0s
SHAO Shalim 75.79 282 P P 20 33 51.7 +0.8
HANI Diyarbakir_Han 75.81 307 *i* P P 20 33 51.9 +1.1
BMN Battle Mountai 75.83 50 *e*P P 20 33 52.6 +1.6
comp=Z,16nm,0.8s
BMN Battle Mountai 75.83 50 *e*P P 20 33 52.6 +1.6
BMN pmax pmax
comp=Z,16nm,0.8s
SIM Simferopol' 75.87 315 *ce*P P 20 33 51.0 +0.1
SIM *e* 20 34 04.0
SIM *e*S S 20 43 27.2 -3.4
SIM pmax pmax
comp=Z,78nm,0.9s
MCMT McKenzie Canyo 75.90 45 *e*P P 20 33 52.6 +1.2
RYN Ryan 76.03 52 *e*P P 20 33 53.3 +1.2
comp=Z,16nm,1.0s
KVN Kaiserville 76.06 52 *e*P P 20 33 53.6 +1.3
comp=Z,26nm,1.0s
KVN Kaiserville 76.06 52 *e*P P 20 33 53.7 +1.3
KVN pmax pmax
comp=Z,26nm,1.0s
BOZ Bozeman (W) 76.14 44 P P 20 33 53.8 +1.1
baz=307
BOZ Bozeman (W) 76.14 44 *e*P P 20 33 53.9 +1.3
comp=Z,26nm,1.0s
BOZ LR LR
comp=Z,319nm,20.0s
BOZ Bozeman (W) 76.14 44 *e*P P 20 33 53.9 +1.3
BOZ pmax pmax
comp=Z,26nm,1.0s
BOZ MLR MLR
comp=Z,319nm,20.0s
MARD Mardin 76.18 306 *i* P P 20 33 52.9 -0.1
SUSE Susehri 76.19 310 *i* P P 20 33 50.0 -3.1
OSL Oslo 76.21 337 *e*P P 20 33 53.8 +1.3
MDPB Devils Postpil 76.23 54 *e*P P 20 33 54.7 +1.3
comp=Z,9.7nm,0.8s
NV01 Mina Array Sit 76.28 53 *e*P P 20 33 54.8 +1.1
NVAR Mina Array Bea 76.28 53 P P 20 33 55.1 +1.4
comp=Z,16nm,0.9s,baz=284,slow=5.8,SNR=88
NVAR LR LR 21 03 36.7
comp=Z,290nm,20.0s,baz=90,slow=32
OMMB Old Mammoth Mi 76.30 54 *e*P P 20 33 55.2 +1.3
comp=Z,10nm,1.2s
REFA Refahiye_ERZ 76.30 309 *i* P P 20 33 52.4 -1.3
NV11 Mina Array Sit 76.38 52 *e*P P 20 33 55.6 +1.4
comp=Z,1.6nm,1.4s
KEMA Kemaliye 76.54 309 *i* P P 20 33 56.3 +1.3
KLNR Kaliningrad 76.58 329 *c* *i*P P 20 33 54.6 -0.1
KLNR pmax pmax
comp=Z,156nm,1.1s
FOO Floro 76.61 340 *e*P P 20 33 55.5 +0.8
HYA Hoyanger 76.63 339 *e*P P 20 33 55.8 +0.9
CUZAR Zara_SIVAS 76.64 310 *i* P P 20 33 55.9 +0.3
ELZG Elazig 76.67 308 *i* P P 20 33 57.1 +1.3
KONO Kongsberg 76.79 337 *e*P P 20 33 55.9 0.0
comp=Z,62nm,1.2s
KONO Kongsberg 76.79 337 *e*P P 20 33 56.2 +0.3
KONO Kongsberg 76.79 337 *c* *i*P P 20 33 55.8 0.0
KONO pmax pmax
comp=Z,49nm,1.0s
ELK Elko 76.89 49 LR LR 21 08 31.1
comp=Z,142nm,18.1s,baz=16,slow=36
YHB Horse Butte 76.89 44 *e*P P 20 33 57.9 +0.9
comp=Z,26nm,1.0s
SORM Soroca 77.06 321 ||*i*P P 20 33 57.7 +0.2
SORM Soroca 77.06 321 P P 20 33 57.7 +0.2
YHH Holmes Hill 77.06 44 *e*P P 20 33 58.9 +0.8
comp=Z,12nm,1.0s
GCMT Greycliff 77.11 43 *e*P P 20 33 59.4 +1.3

HEKM Malatya_Hekimh 77.11 309 *i* P P 20 33 59.3 +1.0
SUE Sulen 77.12 340 *e*P P 20 33 58.1 +0.5
CUKAN kangal_SIVAS 77.17 309 *i* P P 20 33 59.0 +0.4
HAVZ Havza 77.22 311 *i* P P 20 33 59.9 +1.2
VES Vestal, Richgr 77.24 55 P P 20 34 00.3 +1.5
baz=305
YFT Old Faithful 77.28 44 *e*P P 20 34 02.0 +2.8
comp=Z,18nm,0.9s
SFJD Kangerlussuaq 77.29 5 P P 20 33 59.2 +0.7
comp=Z,28nm,1.0s,baz=346,slow=5.2,SNR=11
SFJD LR LR 21 09 00.8
comp=Z,315nm,21.8s,baz=348,slow=36
SFJD Kangerlussuaq 77.29 5⇑ *i*P P 20 33 59.2 +0.7
SFJD Kangerlussuaq 77.29 5 *e*P P 20 33 59.0 +0.5
comp=Z,34nm,1.0s
PKM Mcpherson Peak 77.30 56 P P 20 34 00.9 +1.5
baz=305
YPP Pitchstone Pla 77.41 44 *e*P P 20 34 02.2 +2.2
comp=Z,15nm,1.0s
LKWY Lake 77.45 44 PFAKE 20 34 10.0 +10
LKWY LR LR
comp=Z,333nm,22.0s
H17A Grant Village 77.46 44 P P 20 34 03.2 +3.0
baz=308
H17A Grant Village 77.46 44 *e*P P 20 34 02.6 +2.4
comp=Z,39nm,0.9s
ASK Askoy 77.47 339 *e*P P 20 34 00.4 +0.8
AKCD Akcadag 77.47 308 *i* P P 20 34 01.7 +1.4
ODD1 Odda 77.51 338 *e*P P 20 34 01.1 +1.2
BER Bergen 77.51 339 *e*P P 20 34 00.4 +0.5
BOYT Boyabat 77.51 312 *i* P P 20 34 00.4 +0.1
KIS Kishinev 77.53 319 *e*P P 20 33 58.5 -1.7
KIS Kishinev 77.53 319 *e*PcP PcP 20 34 12.5 +2.0
KIS Kishinev 77.53 319 *e*PP PP 20 36 52.0 -2.8
KIS *e*L L 21 02 00.0
KIS LRM MLR 21 10 59.0
comp=Z,2μm,17.0s
KIS Kishinev 77.53 319 *e*P P 20 33 58.5 -1.7
KIS *e* 20 34 12.5
KIS *e* 20 36 52.0
KIS MLR MLR
comp=Z,2μm,17.0s
CWC Cottonwood Cre 77.57 54 P P 20 34 02.2 +1.3
baz=305
MILM Milestii Mici 77.59 319⇑ *i*P P 20 34 00.3 -0.2
CUALT Altinyayla-SIV 77.64 310 *i* P P 20 34 02.0 +0.8
FXWY Fox Creek 77.67 45 *e*P P 20 34 02.9 +1.6
comp=Z,27nm,1.4s
RLMT Red Lodge 77.74 43 P P 20 34 03.0 +1.3
baz=309
RLMT Red Lodge 77.74 43 *e*P P 20 34 03.4 +1.6
comp=Z,36nm,1.4s
RLMT LR LR
comp=Z,340nm,20.0s
ISA Isabella, Lake 77.75 55 P P 20 34 02.8 +1.0
baz=305
ISA Isabella, Lake 77.75 55 *e*P P 20 34 02.0 +0.2
comp=Z,4.6nm,0.8s
ISA Isabella, Lake 77.75 55 *e*P P 20 34 02.0 +0.2
ISA pmax pmax
comp=Z,5.0nm,0.8s
MOOW Moose Ponds 77.76 45 *e*P P 20 34 03.5 +1.6
comp=Z,13nm,1.1s
HVU Hansel Valley 77.77 47 *e*P P 20 34 03.2 +1.3
comp=Z,16nm,0.8s
HVU Hansel Valley 77.77 47 *e*P P 20 34 03.2 +1.3
HVU pmax pmax
comp=Z,16nm,0.8s
TPAW Teton Pass 77.80 45 *e*P P 20 34 03.3 +1.1
comp=Z,14nm,0.8s
SURC SANLIURFA_SURC 77.84 307 *i* P P 20 34 02.1 -0.2
LOHW Long Hollow 77.92 45 *e*P P 20 34 04.0 +1.2
comp=Z,11nm,1.0s
SNOW Snow King Moun 77.93 45 *e*P P 20 34 04.7 +1.8
comp=Z,19nm,1.0s
REDW Red Top Meadow 77.93 45 *e*P P 20 34 03.9 +1.0
comp=Z,26nm,1.2s
BLS5 Blasjo 77.95 338 *e*P P 20 34 03.2 +0.8
CTAK Corum_Osmancik 78.04 312 *i* P P 20 34 04.3 +0.8
IAS Iasi 78.07 320 ||*i*P P 20 34 04.0 +0.8
R11A Troy Canyon, C 78.07 51 P P 20 34 04.9 +1.2
baz=306
R11A Troy Canyon, C 78.07 51 *e*P P 20 34 04.5 +0.8
comp=Z,40nm,1.6s
LVV L'vov 78.12 324 *e*P P 20 34 04.4 +0.9
LVV *e* 20 37 04.1
LVV *e*S S 20 43 55.6 +0.7
LVV *e*PS PnS 20 44 52.4 +13
BGU Big Grassy Mou 78.13 48 *e*P P 20 34 05.5 +1.6
comp=Z,14nm,1.1s
AHID Auburn Hatcher 78.16 46 *e*P P 20 34 05.1 +1.0
comp=Z,15nm,0.9s
AHID LR LR
comp=Z,538nm,21.0s
LEOM Leova 78.17 319⇑ *i*P P 20 34 04.8 +1.0
MPMC Manual Prospec 78.18 54 P P 20 34 05.4 +1.1
baz=306
HOMB Homborsund 78.22 336 *e*P P 20 34 04.3 +0.5
BLG Laguna Peak, P 78.25 57 P P 20 34 06.0 +1.5
baz=305
SPUT South Promonto 78.25 47 *e*P P 20 34 05.9 +1.3
comp=Z,17nm,1.1s
BEL Belsk 78.25 327 *e*P P 20 34 04.8 +0.7
BEL *e*pP sP 20 34 18.6 -1.5
BEL *e*PP PP 20 37 04.2 +3.6
BEL LMZ LR 21 08 35.9
comp=Z,900nm,25.1s
BEL Belsk 78.25 327⇑ *e*P P 20 34 04.8 +0.7
BEL *e**PP sP 20 34 18.6 -1.5
BEL *e* 20 37 04.2
BEL MLR MLR
comp=Z,900nm,25.1s
DGMT Dagmar 78.28 38 P P 20 34 05.1 +0.7
baz=311
DGMT Dagmar 78.28 38 *e*P P 20 34 05.0 +0.6
comp=Z,85nm,1.4s
DGMT LR LR
comp=Z,541nm,20.0s
FURC Furnace Creek, 78.35 53 P P 20 34 06.5 +1.5
baz=306
BSD Bornholm Skovb 78.35 332⇑ *i*P P 20 34 04.4 -0.2
comp=Z,114nm,1.1s
BSD *i* 20 34 18.2
BSD Bornholm Skovb 78.35 332⇑ *i*P P 20 34 04.4 -0.2
BSD *i* 20 34 18.2
BSD pmax pmax
comp=Z,110nm,1.1s
LAO LASA Array 78.39 40 P P 20 34 06.4 +1.3
baz=310
LAO LASA Array 78.39 40 PFAKE 20 34 20.0 +15
LAO LR LR
comp=Z,500nm,20.0s
ILGA Ilgaz 78.45 312 *i* P P 20 34 06.9 +1.1
ILGA Ilgaz 78.45 312 *e*P P 20 34 06.7 +1.0
comp=Z,86nm,0.9s
TPNV Topopah Spring 78.47 53 P P 20 34 07.0 +1.1
baz=306
TPNV Topopah Spring 78.47 53 *e*P P 20 34 07.0 +1.1
comp=Z,24nm,1.0s
TPNV Topopah Spring 78.47 53 *e*P P 20 34 07.0 +1.1
TPNV pmax pmax
comp=Z,24nm,1.0s
KMY Karmoy 78.49 338 *e*P P 20 34 06.6 +1.3
EDW2 Edwards Air Fo 78.52 55 P P 20 34 07.2 +1.1
baz=306
STAV Stavanger 78.58 338 *e*P P 20 34 06.4 +0.6
SNART Snartemo 78.59 337 *e*P P 20 34 07.1 +1.2
HWUT Hardware Ranch 78.59 47 *e*P P 20 34 08.2 +1.7
comp=Z,23nm,1.0s
HWUT LR LR
comp=Z,311nm,21.0s
TLCR 78.69 318 ||*i*P P 20 34 07.5 +0.8
DUG Dugway, Tooele 78.70 48 P P 20 34 08.5 +1.4
baz=307
DUG Dugway, Tooele 78.70 48 *e*P P 20 34 08.4 +1.4
comp=Z,19nm,0.9s
DUG LR LR
comp=Z,374nm,20.0s
DUG Dugway, Tooele 78.70 48 *e*P P 20 34 08.4 +1.4
DUG pmax pmax
comp=Z,19nm,0.9s
DUG MLR MLR
comp=Z,374nm,20.0s
GKP Gorka Klasztor 78.77 329 *e*P P 20 34 07.2 +0.2
GKP *e*PP PP 20 37 01.4 -3.5
GKP *e*SKSac SKSac 20 44 18.1 -1.0
GKP LMZ LR 21 11 44.2
comp=Z,2μm,18.3s
GKP Gorka Klasztor 78.77 329⇑ *e*P P 20 34 07.2 +0.2
GKP *e* 20 37 01.4
GKP *e* 20 44 18.1
GKP MLR MLR
comp=Z,2μm,18.3s
COP Copenhagen 78.86 333⇑ *i*P P 20 34 08.9 +1.5
comp=Z,113nm,0.9s
COP *i* 20 34 22.7
COP Copenhagen 78.86 333⇑ *i*P P 20 34 08.9 +1.5
COP *i* 20 34 22.7
COP pmax pmax
comp=Z,110nm,0.9s
KWP Kalwaria Pacla 78.88 324 *e*P P 20 34 08.5 +0.9
KWP *e*pP sP 20 34 22.2 -1.5
KWP *e*PP PP 20 37 06.7 +0.7
KWP LMZ LR 21 07 54.0
comp=Z,800nm,28.6s
KWP Kalwaria Pacla 78.88 324 *e*P P 20 34 07.2 -0.5
comp=Z,2μm,1.2s
KWP Kalwaria Pacla 78.88 324 *e*P P 20 34 07.2 -0.5
ANDN Andirin 78.90 308 *i* P P 20 34 08.8 +0.6
KUZU Kuzuini 78.91 307 *i* P P 20 34 08.6 +0.4
BORG Borgarnes 78.91 352 P P 20 34 09.8 +2.3
comp=Z,51nm,0.9s,baz=20,slow=6.3,SNR=8.0
BORG LR LR 21 10 27.4
comp=Z,142nm,19.7s,baz=353,slow=37
BORG Borgarnes 78.91 352 *e*P P 20 34 09.4 +1.9
comp=Z,120nm,1.1s
BORG Borgarnes 78.91 352 *e*P P 20 34 09.4 +1.9
BORG pmax pmax
comp=Z,120nm,1.1s
CDAG Cicekdag 78.91 311 *i* P P 20 34 07.8 -0.4
ELDT Eldivan 78.96 312 *i* P P 20 34 08.9 +0.4
BUR08 Bucovina Ar. S 78.99 322 *e*P P 20 34 08.3 -0.1
BUR04 Bucovina Ar. S 79.00 322 *e*P P 20 34 09.4 +0.8
BURAR Bucovina Array 79.00 322⇑ *i*P P 20 34 09.0 +0.4
BURAR Bucovina Array 79.00 322 P P 20 34 08.9 +0.4
CTU Camp Tracy 79.04 48 *e*P P 20 34 11.4 +2.4
comp=Z,14nm,0.8s
BW06 Boulder Array 79.05 45 P P 20 34 09.8 +0.7
baz=309
BW06 Boulder Array 79.05 45 *e*P P 20 34 09.6 +0.6
comp=Z,11nm,0.9s
BW06 LR LR
comp=Z,323nm,22.0s
PD31 Pinedale Array 79.05 45 *e*P P 20 34 09.9 +0.9
PDAR Pinedale Array 79.05 45 P P 20 34 10.0 +1.0
comp=Z,7.0nm,0.7s,baz=265,slow=2.5,SNR=67
PDAR LR LR 21 03 39.4
comp=Z,223nm,21.8s,baz=326,slow=32
PDAR Pinedale Array 79.05 45 *e*P P 20 34 09.8 +0.7
CFR Carcaliu 79.06 318 *i* P P 20 34 09.0 +0.3
CFR Carcaliu 79.06 318 P P 20 34 09.0 +0.3
SHOC Shoshone, Teco 79.07 54 P P 20 34 10.1 +1.1
baz=306
GSC Goldstone, Bar 79.07 54 P P 20 34 10.2 +1.1
baz=306
GSC Goldstone, Bar 79.07 54 *e*P P 20 34 10.0 +0.9
comp=Z,12nm,1.1s
GSC Goldstone, Bar 79.07 54 *e*P P 20 34 10.0 +0.9
GSC pmax pmax
comp=Z,12nm,1.1s
AVNS Nevsehir-Avano 79.11 310 *i* P P 20 34 09.2 -0.1
BFSC Mount Baldy Ra 79.12 56 P P 20 34 10.4 +1.0
baz=306
PETR Petresti 79.20 319⇑ *i*P P 20 34 11.1 +1.7
ODBI Odobesti 79.26 319⇑ *i*P P 20 34 11.0 +1.2
JLU Jordanelle 79.28 48 *e*P P 20 34 11.4 +1.1
comp=Z,12nm,0.9s
NLU North Lily Min 79.30 48 *e*P P 20 34 11.2 +0.8
comp=Z,12nm,0.8s
BR101 Keskin Array S 79.30 311 *e*P P 20 34 10.6 +0.2
BR101 *e*PP PP 20 37 09.3 -0.6
BR131 Keskin Array S 79.30 311 *e*P P 20 34 10.2 -0.2
BRTR Keskin Array B 79.30 311 P P 20 34 10.6 +0.2
comp=Z,33nm,0.9s,baz=99,slow=3.9,SNR=129
BRTR PP PP 20 37 09.3 -0.6
comp=Z,18nm,1.2s,baz=90,slow=7.4,SNR=5.5
BRTR LR LR 21 13 40.4
comp=Z,313nm,19.7s,baz=54,slow=39
VRI Vrincioaia 79.37 319 ||*i*P P 20 34 11.1 +0.6
VRI Vrincioaia 79.37 319 P P 20 34 11.0 +0.6
TIRR Tirgusor 79.37 318⇑ *i*P P 20 34 10.9 +0.5
TIRR Tirgusor 79.37 318 *e*P P 20 34 10.0 -0.4
comp=Z,38nm,1.1s
TIRR Tirgusor 79.37 318 *e*P P 20 34 10.0 -0.4
TIRR pmax pmax
comp=Z,38nm,1.1s
PLOR Plostina 79.42 320⇑ *i*P P 20 34 11.4 +0.6
PLOR Plostina 79.42 320 P P 20 34 11.3 +0.5
MUD Monsted U'grnd 79.43 335⇑ *i*P P 20 34 10.9 +0.4
MUD Monsted U'grnd 79.43 335⇑ *i*P P 20 34 10.9 +0.4
SHPR Sheep Range 79.44 53 *e*P P 20 34 12.4 +1.3
comp=Z,27nm,1.4s
HARR Harsova 79.49 318 ||*i*P P 20 34 12.1 +1.0
HARR Harsova 79.49 318 P P 20 34 12.0 +1.0
MPU Maple Canyon 79.53 48 *e*P P 20 34 12.6 +1.0
comp=Z,14nm,0.9s
CMDR Camlidere-ANKA 79.53 313 *i* P P 20 34 10.9 -0.6
TUQ Turquoise Moun 79.57 54 P P 20 34 13.5 +1.6
baz=306
HEC Hector,Ludlow 79.66 55 P P 20 34 13.5 +1.2
baz=306
STHS Stebnicka Huta 79.72 325 *e*P P 20 34 12.9 +0.6
STHS *e*pP pP 20 34 26.4 +2.4
STHS Stebnicka Huta 79.72 325 *e*P P 20 34 12.9 +0.6
STHS *e* 20 34 26.4
STHS pmax pmax
comp=Z,58nm,1.2s
ANTO Ankara 79.73 312⇑ *i*P P 20 34 13.0 +0.4
ANTO Ankara 79.73 312 *e*P P 20 34 13.0 +0.4
comp=Z,63nm,0.9s
ANTO LR LR
comp=Z,433nm,19.0s
ANTO Ankara 79.73 312 *e*P P 20 34 13.0 +0.4
ANTO pmax pmax
comp=Z,63nm,0.9s
ANTO MLR MLR
comp=Z,433nm,19.0s
BR231 Keskin MP Arra 79.75 312 *e*P P 20 34 13.2 +0.4
UZH Uzhgorod 79.76 324⇑ *i*P P 20 34 13.0 +0.5
UZH *i* 20 34 21.3
UZH *i* 20 37 08.9
YURE YUREGIR 79.81 308 *i* P P 20 34 13.5 +0.5
BMR Baia Mare 79.83 322 ||*i*P P 20 34 14.2 +1.3
OJC Ojcow 79.83 326 *e*P P 20 34 13.3 +0.5
OJC *e*pP pP 20 34 27.2 +2.7
OJC *e*S S 20 44 11.0 -2.1
OJC LMZ LR 21 09 08.9
comp=Z,800nm,25.2s
OJC Ojcow 79.83 326 *e*P P 20 34 12.9 +0.1
comp=Z,141nm,1.2s
OJC Ojcow 79.83 326 *e*P P 20 34 12.9 +0.1
OJC pmax pmax
comp=Z,141nm,1.2s
RAR Rarotonga 79.86 125 LR LR 21 03 13.7
comp=Z,692nm,20.0s,baz=289,slow=31
AMRR Amara 79.86 318 ||*i*P P 20 34 13.4 +0.3
AKSY AKSARAY - Alti 79.88 310 *i* P P 20 34 13.7 +0.3
ISR Istrita 79.96 319⇑ *i*P P 20 34 14.6 +0.9
CCUT Cedar City 79.96 51 *e*P P 20 34 15.5 +1.4
comp=Z,8.1nm,0.9s
YAYL Yayladag 79.97 307 *i* P P 20 34 14.7 +0.6
TRPA Tarpa 79.99 323 ||*i*P P 20 34 14.5 +0.9
TRPA Tarpa 79.99 323⇑ *e*P P 20 34 14.6 +0.9
DOPR Dopca 80.01 320 ||*i*P P 20 34 15.0 +1.1
MLR Muntele Rosu 80.03 320 P P 20 34 14.3 +0.2
comp=Z,2.4nm,0.9s,baz=13,slow=5.1,SNR=19
MLR PP PP 20 37 14.7 -1.1
comp=Z,2.5nm,1.2s,baz=54,slow=8.0,SNR=3.1
MLR LR LR 21 13 19.7
comp=Z,411nm,18.2s,baz=50,slow=38
MLR Muntele Rosu 80.03 320⇑ *i*P P 20 34 14.2 0.0
MLR Muntele Rosu 80.03 320 *e*P P 20 34 13.4 -0.7
comp=Z,101nm,1.7s
MLR *e*PP PP 20 37 14.7 -1.1
GULE Gulek 80.08 309 *i* P P 20 34 14.9 +0.3
KKUL Konya-Kulu 80.08 311 *i* P P 20 34 14.8 +0.2
MSU Marysvale 80.11 50 *e*P P 20 34 16.0 +1.1
MSU Marysvale 80.11 50 *e*P P 20 34 16.0 +1.1
GMRC Granite Mounta 80.13 54 P P 20 34 16.1 +1.1

baz=307
NIE Niedzica 80.16 325 *e*P **P** **20 34 15.7 +1.0**
NIE *e*pP **sP** **20 34 29.4 -1.3**
NIE *e*PP **PP** **20 37 18.5 +1.9**
NIE LMZ LR 21 12 49.4
comp=Z,600nm,18.2s
NIE Niedzica 80.16 325⇑ *e*P **P** **20 34 15.7 +1.0**
NIE *e**PP **sP** **20 34 29.4 -1.3**
NIE *e* 20 37 18.5
NIE MLR MLR
comp=Z,600nm,18.2s
TMUT Trail Mountain 80.23 48 *e*P **P** **20 34 15.1 -0.5**
comp=Z,16nm,1.1s
TMUT *e*P **PcP** **20 34 18.1 -4.6**
SECR 80.27 319⇑ *i*P **P** **20 34 16.4 +1.1**
PFO Pinyon Flats O 80.30 56 P **P** **20 34 16.6 +0.8**
baz=306
PFO Pinyon Flats O 80.30 56 *e*P **P** **20 34 16.4 +0.6**
comp=Z,39nm,1.4s
PFO LR LR
comp=Z,1µm,22.0s
PFO Pinyon Flats O 80.30 56 *e*P **P** **20 34 16.4 +0.6**
PFO pmax pmax
comp=Z,39nm,1.4s
PFO MLR MLR
comp=Z,1µm,22.0s
XPFO Piæon Flat 80.30 56 *e*P **P** **20 34 16.7 +0.8**
comp=Z,42nm,1.4s
LCMT Little Creek M 80.36 51 *e*P **P** **20 34 17.3 +1.1**
comp=Z,34nm,1.3s
MTPU Mount Pierson 80.40 50 *e*P **P** **20 34 17.9 +1.3**
comp=Z,14nm,0.9s
P17A Butcher Ranch, 80.40 48 *e*P **P** **20 34 17.8 +1.4**
comp=Z,20nm,0.8s
KERG Konya-Eregli 80.41 309 *i* P **P** **20 34 15.8 -0.6**
CJR Cluj-Napoca 80.43 322⇑ *i*P **P** **20 34 17.5 +1.3**
KAND Kocaeli-Kandir 80.51 314 *i* P **P** **20 34 16.4 -0.3**
VOIR 80.54 320⇑ *i*P **P** **20 34 17.4 +0.6**
VOIR 80.54 320 P **P** **20 34 17.4 +0.6**
P18A Preston Nutter 80.61 48 *e*P **P** **20 34 19.1 +1.5**
comp=Z,39nm,1.4s
RAYN Ar Rayn 80.61 292 *e*P **P** **20 34 17.1 -0.5**
comp=Z,119nm,1.0s
RAYN LR LR
comp=Z,582nm,19.0s
RAYN Ar Rayn 80.61 292 P **P** **20 34 17.7 +0.1**
KNB Kanab 80.63 51 *e*P **P** **20 34 19.5 +1.9**
comp=Z,34nm,1.1s
KNB Kanab 80.63 51 *e*P **P** **20 34 19.5 +1.9**
KNB pmax pmax
comp=Z,34nm,1.1s
BAR Barrett 80.70 56 *e*P **P** **20 34 18.0 +0.1**
comp=Z,72nm,1.7s
LANS Liptovska Anna 80.74 325 *e*P **P** **20 34 18.7 +0.9**
LANS *e*pP **sP** **20 34 34.9 +1.1**
LANS *e* 20 36 59.8
LANS *e* 20 36 59.9
LANS Liptovska Anna 80.74 325 *e*P **P** **20 34 18.7 +0.9**
LANS *e* 20 34 34.9
LANS *e* 20 37 21.7
MONP2 Monument Peak 80.75 56 P **P** **20 34 19.2 +0.8**
baz=307
PRD Provadia 80.75 317 *i* P **P** **20 34 18.6 +0.7**
SRU San Rafael Swe 80.76 48 *e*P **P** **20 34 19.1 +0.9**
comp=Z,32nm,0.8s
SRU San Rafael Swe 80.76 48 *e*P **P** **20 34 19.2 +0.9**
SRU pmax pmax
comp=Z,32nm,0.8s
ARR Arges 80.80 320⇑ *i*P **P** **20 34 19.1 +0.9**
DRGR 80.82 322‖ *i*P **P** **20 34 19.4 +1.1**
DRGR 80.82 322 P **P** **20 34 19.3 +1.0**
K22A Casper 80.84 44 P **P** **20 34 19.5 +0.9**
baz=311
K22A Casper 80.84 44 *e*P **P** **20 34 19.6 +0.9**
comp=Z,14nm,0.8s
IRM Iron Mountain 80.85 55 P **P** **20 34 19.9 +1.3**
baz=307
OKC Ostrava-Krasne 80.85 326⇑ *e*P **P** **20 34 18.6 +0.3**
OKC *e*PCP **PcP** **20 34 26.0 +1.2**
OKC *e*pP **pP** **20 34 32.0 +2.0**
OKC *ex* x 20 34 37.2
OKC *e*PP **PP** **20 37 24.1 +1.9**
OKC AMS AMS 21 13 50.0
comp=Z,1µm,16.0s
OKC Ostrava-Krasne 80.85 326 *e*P **P** **20 34 18.6 +0.3**
OKC *e* 20 34 37.2
OKC *e* 20 37 24.1
OKC MLR MLR
comp=Z,1µm,16.0s
URZ Urewera 80.93 152 LR LR 21 12 24.8
comp=Z,63nm,18.1s,baz=0.5,slow=37
KSP Ksiaz 80.94 328 *e*P **P** **20 34 19.3 +0.5**
KSP *e*pP **sP** **20 34 33.2 -1.6**
KSP *e*PP **PP** **20 37 23.8 +0.9**
KSP LMZ LR 21 06 12.1
comp=Z,800nm,33.0s
KSP Ksiaz 80.94 328⇑ *e*P **P** **20 34 19.3 +0.5**
KSP *e**PP **sP** **20 34 33.2 -1.6**
KSP *e* 20 37 23.8
KSP MLR MLR
comp=Z,800nm,33.0s
BC3 Big Chuckawall 80.94 55 P **P** **20 34 20.4 +1.2**
baz=307
MDND Maddock 80.96 36 P **P** **20 34 19.6 +0.7**
baz=314
ULM Lac du Bonnet 80.97 33 P **P** **20 34 19.2 +0.3**
comp=Z,13nm,0.8s,baz=314,slow=5.9,SNR=22
ULM LR LR 21 12 28.1
comp=Z,189nm,20.1s,baz=332,slow=37
ULM Lac du Bonnet 80.97 33 *e*P **P** **20 34 18.8 -0.1**
comp=Z,26nm,1.0s
RWWY Rawlins 81.08 45 *e*P **P** **20 34 20.3 +0.3**
comp=Z,26nm,0.8s
IKP In-Ko-Pah, Jac 81.10 56 P **P** **20 34 20.8 +0.7**
baz=307
W13A Hualapai Mount 81.11 53 *e*P **P** **20 34 20.2 -0.1**
comp=Z,16nm,1.4s
BORA Eskisehir 81.12 313 *i* P **P** **20 34 19.6 -0.5**
SWSC Sam W. Stewart 81.14 56 P **P** **20 34 20.9 +0.7**
baz=307
MORC Moravsky Berou 81.17 327⇑ *i*P **P** **20 34 20.9 +0.8**
MORC Moravsky Berou 81.17 327 *e*P **P** **20 34 19.9 -0.2**
comp=Z,258nm,1.1s
MORC Moravsky Berou 81.17 327 *e*P **P** **20 34 19.9 -0.2**
MORC pmax pmax
comp=Z,258nm,1.1s
LOT Lotru 81.20 321⇑ *i*P **P** **20 34 21.4 +1.0**
RSSD Black Hills 81.24 41 P **P** **20 34 21.2 +0.4**
baz=312
RSSD Black Hills 81.24 41 *e*P **P** **20 34 21.3 +0.5**
comp=Z,23nm,1.3s
RSSD Black Hills 81.24 41 *e*P **P** **20 34 21.3 +0.5**
RSSD pmax pmax
comp=Z,23nm,1.3s
DPC Dobruska-Polom 81.29 328 *e*P **P** **20 34 21.4 +0.7**
DPC *e*pP **pP** **20 34 33.8 +1.4**
DPC *e*PP **PP** **20 37 22.9 -3.0**
DPC AMS AMS 21 14 00.0
comp=Z,900nm,18.4s
DPC Dobruska-Polom 81.29 328 *e*P **P** **20 34 21.4 +0.7**
DPC *e* 20 37 22.9
DPC MLR MLR
comp=Z,900nm,18.4s
KRLC Kraliky 81.29 327⇑ *e*P **P** **20 34 21.2 +0.5**
KRLC *e*pP **pP** **20 34 33.5 +1.1**
KRLC *es*P **sP** **20 34 40.5 +3.8**
KRLC *e*PP **PP** **20 37 22.8 -3.1**
KRLC Kraliky 81.29 327 *e*P **P** **20 34 21.2 +0.5**
KRLC *e* 20 34 40.5
KRLC *e* 20 37 22.8
UPC Upice 81.31 328⇑ *e*P **P** **20 34 21.5 +0.8**
UPC *e*pP **pP** **20 34 34.3 +1.9**
UPC *e*PP **PP** **20 37 25.3 -0.7**
UPC *e*S **S** **20 44 26.1 -2.4**
UPC AMS AMS 21 14 50.0
comp=Z,1µm,13.4s
UPC Upice 81.31 328 *e*P **P** **20 34 21.5 +0.8**
UPC *e* 20 37 25.3
UPC *e*S **S** **20 44 26.1 -2.4**
UPC MLR MLR
comp=Z,1µm,13.4s
U15A North Rim 81.32 51 *e*P **P** **20 34 22.8 +1.4**
comp=Z,17nm,1.0s
PSZ Piszkesteto 81.41 324⇑ *i*P **P** **20 34 22.2 +0.8**
PSZ Piszkesteto 81.41 324⇑ *e*P **P** **20 34 21.9 +0.5**
comp=Z,156nm,1.3s
PSZ LR LR
comp=Z,768nm,20.0s
PSZ Piszkesteto 81.41 324 *e*P **P** **20 34 20.8 -0.7**
PSZ pmax pmax
comp=Z,156nm,1.3s
PSZ MLR MLR
comp=Z,768nm,20.0s
PDMCI Parker Dam,Lak 81.42 54 P **P** **20 34 22.5 +0.9**
baz=308
B31A Greenbush Farm 81.48 35 P **P** **20 34 21.8 +0.1**
baz=316
O20A White River Ci 81.48 46 P **P** **20 34 22.6 +0.6**
baz=310
O20A White River Ci 81.48 46 *e*P **P** **20 34 22.7 +0.6**
comp=Z,68nm,1.6s
VYHS Vyhne 81.50 325 *e*P **P** **20 34 22.5 +0.7**
VYHS *e* 20 34 35.5
VYHS *e* 20 37 08.6
VYHS *e*pP PP 20 37 09.1 -19
VYHS *e*PP PP 20 37 24.8 -2.8
VYHS *e* 20 37 24.8
VYHS Vyhne 81.50 325 *e*P **P** **20 34 22.5 +0.7**
VYHS *e* 20 34 35.5
VYHS *e* 20 37 24.8
VYHS pmax pmax
comp=Z,46nm,1.3s
Y12C Blythe 81.50 55 P **P** **20 34 23.1 +1.0**
baz=307
Y12C Blythe 81.50 55 *e*P **P** **20 34 22.4 +0.3**
comp=Z,22nm,1.1s
ZIMR 81.56 318‖ *i*P **P** **20 34 23.4 +1.2**
IGD Bursa 81.62 314 *i* P **P** **20 34 21.9 -0.6**
ERMK Ermenek 81.65 309 *i* P **P** **20 34 22.7 -0.3**
A32A Rocking H Ranc 81.66 34 P **P** **20 34 23.2 +0.6**
baz=316
JMB Yambol 81.68 317 *i* P **P** **20 34 23.2 +0.3**
GLA Glamis 81.72 55 P **P** **20 34 24.4 +1.1**
baz=307
GLA Glamis 81.72 55 *e*P **P** **20 34 24.8 +1.5**
comp=Z,17nm,0.8s
GLA Glamis 81.72 55 *e*P **P** **20 34 24.8 +1.5**
GLA pmax pmax
comp=Z,17nm,0.8s
ASF Jabal al Asfar 81.76 304 P **P** **20 34 24.4 +0.7**
comp=Z,28nm,0.9s,baz=18,slow=2.2,SNR=47
ASF PP **PP** **20 37 31.0 +0.5**
comp=Z,2.6nm,0.9s,baz=41,slow=2.0,SNR=3.9
ASF LR LR 21 13 52.2
comp=Z,378nm,21.3s,baz=30,slow=38
C31A Landman Farms, 81.89 35 P **P** **20 34 23.9 0.0**
baz=316
PVCC Panska Ves 81.91 329⇑ *e*P **P** **20 34 24.5 +0.6**
PVCC *e*PCP **PcP** **20 34 32.0 +2.5**
PVCC *e*pP **pP** **20 34 37.8 +2.2**
PVCC AMS AMS 21 13 30.0
comp=Z,1µm,17.7s
PVCC Panska Ves 81.91 329 *e*P **P** **20 34 24.5 +0.6**
PVCC *e**PP **pP** **20 34 37.8 +2.2**
PVCC MLR MLR
comp=Z,1µm,17.7s
BRG Berggiesshubel 81.91 329⇑ *i*P **P** **20 34 24.1 +0.2**
comp=Z,46nm,1.0s
BRG *i* 20 34 37.7
comp=Z,60nm,1.2s
BRG *i* PP **PP** **20 37 24.1 -6.9**
comp=Z,20nm,1.2s
BRG S S 20 44 52.0 +17
comp=N,1µm,15.7s
comp=E,419nm,17.1s
comp=Z,908nm,17.4s
BRG Berggiesshubel 81.91 329⇑ *i*P **P** **20 34 24.1 +0.2**
BRG *i* 20 34 37.7
BRG pmax pmax
comp=Z,46nm,1.0s
BRG MLR MLR
comp=N,1µm,15.7s
BRG MLR MLR
comp=E,419nm,17.1s
BRG MLR MLR
comp=Z,908nm,17.4s
VRAC Vranov 81.93 327⇑ *i*P **P** **20 34 25.1 +1.0**
CLL Collm 81.97 330⇑ *i*P **P** **20 34 24.1 -0.1**
comp=Z,106nm,1.0s
CLL *e*PcP **PcP** **20 34 31.0 +1.3**
CLL *i* pP **pP** **20 34 38.0 +2.1**
comp=Z,146nm,1.3s
CLL *e*PP **PP** **20 37 32.0 +0.6**
CLL *e*S **S** **20 44 37.0 +1.7**
CLL *e*SS SS 20 50 12.0 +19
CLL *e* 20 50 54.0
CLL *e* 20 55 18.0
CLL *e*SSSS 20 56 18.0
CLL Lm MLR 21 13 00.0
comp=N,800nm,20.3s
CLL Lm MLR 21 13 00.0
comp=E,600nm,18.6s
CLL Lm MLR 21 13 00.0
comp=Z,1µm,19.0s
CLL Collm 81.97 330 *e*P **P** **20 34 23.6 -0.6**
comp=Z,95nm,1.0s
CLL Collm 81.97 330⇑ *i*P **P** **20 34 24.1 -0.1**
CLL *i**SP **pP** **20 34 38.0 +2.1**
CLL *e*S **S** **20 44 37.0 +1.7**
CLL pmax pmax
comp=Z,10.0nm,1.0s
CLL MLR MLR
comp=Z,1µm,19.0s
PV09 Paradox Valley 81.99 48 *e*P **P** **20 34 22.9 -2.0**
B32A Ashes, Strandq 82.01 34 P **P** **20 34 24.4 -0.1**
baz=316
BAGO Egridir - ISPA 82.12 311 *i* P **P** **20 34 24.2 -1.2**
BUD Budapest 82.13 324⇑ *e*P **P** **20 34 25.4 +0.3**
A33A Warroad 82.14 34 P **P** **20 34 25.1 -0.1**
baz=317
BZS Buzias 82.18 322⇑ *i*P **P** **20 34 26.0 +0.6**
GDZ Gediz 82.21 313 *i* P **P** **20 34 24.8 -1.1**
SRO2 Moca 82.23 325 *e*P **P** **20 34 26.0 +0.4**
SRO2 Moca 82.23 325 *e*P **P** **20 34 26.1 +0.4**
SRO Srobarova 82.23 325 *e*P **P** **20 34 26.8 +1.2**
SRO *e*pP **pP** **20 34 39.1 +1.8**
SRO Srobarova 82.23 325 *e*P **P** **20 34 26.8 +1.2**
MMAI Mount Meron Ar 82.26 305 P **P** **20 34 27.1 +1.0**
comp=Z,32nm,0.9s,baz=39,slow=6.8,SNR=40
MMAI LR LR 21 14 44.5
comp=Z,999nm,19.0s,baz=40,slow=38
GOPC GO Pecny, Ondr 82.27 328 *e*P **P** **20 34 26.6 +0.7**
GOPC *e*PCP **PcP** **20 34 33.5 +2.4**
GOPC *e*pP **pP** **20 34 37.9 +0.3**
GOPC *e*PP **PP** **20 37 36.0 +2.0**
GOPC AMS AMS 21 15 40.0
comp=Z,900nm,13.6s
GOPC GO Pecny, Ondr 82.27 328 *e*P **P** **20 34 26.6 +0.7**
GOPC *e* 20 37 36.0
GOPC MLR MLR
comp=Z,900nm,13.6s
PV05 Paradox Valley 82.28 48 *e*P **P** **20 34 28.4 +2.0**
MODS Modra-Piesok 82.30 326 *e*P **P** **20 34 26.1 0.0**
MODS *e*pP **pP** **20 34 39.9 +2.1**
MODS Modra-Piesok 82.30 326 *e*P **P** **20 34 26.1 0.0**
MODS *e* 20 34 39.9
MODS pmax pmax
comp=Z,71nm,1.2s
N23A Red Feather La 82.32 45 P **P** **20 34 28.1 +1.5**
baz=311
N23A Red Feather La 82.32 45 *e*P **P** **20 34 27.5 +0.9**
comp=Z,33nm,1.0s
PRU Pruhonice 82.32 328⇑ *e*P **P** **20 34 26.6 +0.5**
PRU *e*PCP **PcP** **20 34 33.2 +1.9**
PRU *e*pP **pP** **20 34 38.1 +0.3**
PRU *ex* x 20 37 23.8
PRU *e*S **S** **20 44 39.7 +0.7**
PRU AMS AMS 21 15 30.0
comp=Z,1µm,14.9s
PRU Pruhonice 82.32 328 *e*P **P** **20 34 26.6 +0.5**
PRU *e*S **S** **20 44 39.7 +0.7**
PRU MLR MLR
comp=Z,1µm,14.9s
PHWY Pilot Hill 82.33 44 *e*P **P** **20 34 26.1 -0.6**
comp=Z,12nm,0.9s
ISP Isparta 82.39 311 PFAKE 20 34 40.0 +13
ISP LR LR
comp=Z,442nm,20.0s
ISP Isparta 82.39 311 *i* P **P** **20 34 26.4 -0.4**
ISP pmax pmax
comp=Z,32nm,1.0s
Y14A Wickenburg 82.39 54 *e*P **P** **20 34 27.9 +1.1**
comp=Z,42nm,1.5s
AGMN Agassiz Nation 82.39 34 P **P** **20 34 26.3 -0.2**
baz=317
AGMN Agassiz Nation 82.39 34 *e*P **P** **20 34 26.2 -0.3**
comp=Z,15nm,0.8s
AGMN LR LR
comp=Z,542nm,21.0s
CSS Mathiatis 82.42 308 P **P** **20 34 26.2 -0.7**
CSS *e*P **P** **20 34 26.6 -0.3**
CSS LR LR
comp=Z,174nm,22.0s
CSS Mathiatis 82.42 308 P **P** **20 34 26.2 -0.7**
D31A Mcclaflin, Tow 82.42 36 P **P** **20 34 26.3 -0.4**
baz=316
C32A Crookston 82.43 35 P **P** **20 34 26.2 -0.5**
baz=316
TREC Trest 82.43 327⇑ *e*P **P** **20 34 27.1 +0.4**
TREC *e*PCP **PcP** **20 34 33.9 +2.1**
TREC *e*pP **pP** **20 34 40.4 +2.0**
TREC AMS AMS 21 15 20.0
comp=Z,700nm,15.1s
TREC Trest 82.43 327 *e*P **P** **20 34 27.1 +0.4**
TREC *e**PP **pP** **20 34 40.4 +2.0**
TREC MLR MLR
comp=Z,700nm,15.1s
WUAZ Wupatki 82.47 52 P **P** **20 34 28.5 +1.1**
baz=309
WUAZ Wupatki 82.47 52 *e*P **P** **20 34 28.4 +1.1**
comp=Z,18nm,1.0s
THZ Tophouse 82.53 156 *e*P **P** **20 34 28.8 +1.7**
comp=Z,100nm,1.7s
PV01 Paradox Valley 82.56 48 *e*P **P** **20 34 29.8 +1.9**
CSKK Cs¸‡kako 82.58 325⇑ *e*P **P** **20 34 27.8 +0.3**
113A Mohawk Valley, 82.61 55 *e*P **P** **20 34 27.8 -0.1**
comp=Z,36nm,1.6s
KHAL Karahalli 82.66 312 *i* P **P** **20 34 27.1 -1.2**
E31A Nome 82.69 36 P **P** **20 34 28.8 +0.7**
baz=316
KESN Edirne-Kesan 82.71 316 *i* P **P** **20 34 28.9 +0.2**
B34A Aery, Baudette 82.80 33 P **P** **20 34 28.7 +0.1**
baz=318
C33A Trail 82.83 35 P **P** **20 34 28.8 0.0**
baz=317
SMCO Snowmass 82.84 46 *e*P **P** **20 34 30.3 +0.7**
comp=Z,16nm,1.0s
KAC Achnashellach 82.85 342 *e*P **P** **20 34 29.3 +0.6**
KDZ Kurdzhali 82.87 317 *i* P **P** **20 34 30.0 +0.9**
PGB Panagyurishte 82.95 318 *i* P **P** **20 34 30.4 +0.8**
F31A Hecla 83.02 37 P **P** **20 34 30.1 +0.3**
baz=316
NKC Novy Kostel 83.02 329⇑ *e*P **P** **20 34 30.1 +0.3**
NKC *ex* x 20 34 40.1
NKC *e*pP **pP** **20 34 43.3 +1.8**
NKC AMS AMS 21 15 00.0
comp=Z,1µm,17.0s
NKC Novy Kostel 83.02 329 *e*P **P** **20 34 30.1 +0.3**
NKC *e**PP **pP** **20 34 43.3 +1.8**
NKC MLR MLR
comp=Z,1µm,17.0s
ALN Alexandroupoli 83.02 316 *e*P **P** **20 34 29.5 -0.4**
comp=Z,44nm,1.2s
ALN Alexandroupoli 83.02 316 *e*P **P** **20 34 29.5 -0.4**
ALN pmax pmax
comp=Z,44nm,1.2s
MOX Moxa 83.04 330 P **P** **20 34 30.0 +0.1**
E32A Braaten, Kindr 83.06 36 P **P** **20 34 30.2 +0.2**
baz=316
KPL Plockton 83.08 342 *e*P **P** **20 34 30.4 +0.6**
KPL IAmb IAmb 20 34 32.1
comp=Z,92nm,1.0s
X16A Lo Mia Camp, P 83.11 52 *e*P **P** **20 34 31.0 +0.2**
comp=Z,24nm,1.1s
SOP Sopron 83.14 326⇑ *e*P **P** **20 34 31.3 +0.9**
SOP Sopron 83.14 326 P **P** **20 34 31.3 +0.9**
KSB Sheil Bridge 83.14 342 *e*P **P** **20 34 30.6 +0.4**
RDO Rodhopi 83.14 316 *e*P **P** **20 34 29.8 -0.7**
RDO Rodhopi 83.14 316 P **P** **20 34 29.8 -0.7**
MANT Manisa 83.14 313 *i* P **P** **20 34 30.3 -0.6**
MANT Manisa 83.14 313 *e*P **P** **20 34 30.5 -0.4**
comp=Z,189nm,1.1s
MVCO Mesa Verde 83.20 49 P **P** **20 34 32.4 +1.2**
baz=310
MVCO Mesa Verde 83.20 49 *e*P **P** **20 34 31.9 +0.7**
comp=Z,16nm,0.8s
MVCO LR LR
comp=Z,278nm,20.0s
MORH M¨‡r¨igy, Hung 83.22 324⇑ *e*P **P** **20 34 30.7 -0.1**
ISCO Idaho Springs 83.23 45 P **P** **20 34 32.8 +1.4**
baz=312
ISCO Idaho Springs 83.23 45 *e*P **P** **20 34 32.1 +0.7**
comp=Z,8.4nm,0.8s
ISCO LR LR
comp=Z,401nm,22.0s
ISCO Idaho Springs 83.23 45 *e*P **P** **20 34 32.1 +0.7**
ISCO pmax pmax
comp=Z,8.0nm,0.8s
ISCO MLR MLR
comp=Z,401nm,22.0s
RZN Rozhen 83.23 317 *i* P **P** **20 34 31.7 +0.5**
D33A AnnSam, Waubun 83.25 35 P **P** **20 34 30.9 0.0**
baz=317
CONA Conrad Observa 83.28 326 *i* PcP **P** **20 34 32.2 +1.0**
comp=Z,78nm,1.3s,SNR=32
CONA *i* pP **sP** **20 34 46.4 -0.8**
comp=Z,62nm,1.3s
CONA *i* PP **PP** **20 37 45.6 +3.2**
comp=Z,22nm,1.2s
C34A RKJ Ranch, Bem 83.30 34 P **P** **20 34 31.1 -0.1**
baz=318
B35A Bob, Littlefor 83.31 33 P **P** **20 34 31.7 +0.4**
baz=318
GOLH Golhisar 83.35 311 *i* P **P** **20 34 30.3 -1.5**
KHC Kasperske Hory 83.38 328⇑ *e*P **P** **20 34 31.8 +0.1**
KHC *e*PCP **PcP** **20 34 39.0 +3.0**
KHC *e*pP **pP** **20 34 44.7 +1.3**
KHC *e*PP PP 20 37 35.5 -7.6
KHC *e*S **S** **20 44 54.1 +4.2**
KHC AMS AMS 21 15 40.0
comp=Z,1µm,18.0s
KHC Kasperske Hory 83.38 328 *e*P **P** **20 34 31.6 -0.1**
comp=Z,40nm,1.3s
KHC Kasperske Hory 83.38 328 *e*P **P** **20 34 31.6 -0.1**
KHC pmax pmax
comp=Z,40nm,1.3s
VTS Vitosha 83.44 319⇑ *i*P **P** **20 34 32.7 +0.5**
VTS Vitosha 83.44 319 P **P** **20 34 30.8 -1.4**
VTS *e*P **P** **20 34 32.0 -0.2**
VTS Vitosha 83.44 319 *i* P **P** **20 34 32.5 +0.3**
VTS Vitosha 83.44 319 P **P** **20 34 30.8 -1.4**
VTS Vitosha 83.44 319 P **P** **20 34 30.8 -1.4**
G31A Conde 83.49 38 P **P** **20 34 32.6 +0.3**
baz=316
ESY Stoneypath 83.55 340 *e*P **P** **20 34 32.7 +0.4**
GEC2 GERESS Array S 83.55 328 *e*P **P** **20 34 32.0 -0.5**
comp=Z,43nm,1.2s
GEC2 GERESS Array S 83.55 328 *e*P **P** **20 34 32.1 -0.5**
GEC2 pmax pmax
comp=Z,43nm,1.2s
GERES GERESS Array B 83.55 328 P **P** **20 34 32.6 0.0**
comp=Z,16nm,0.9s,baz=36,slow=5.0,SNR=38
GERES PP **PP** **20 37 42.4 -2.1**
comp=Z,5.0nm,1.0s,baz=34,slow=8.1,SNR=4.7
GERES LR LR 21 15 53.2
comp=Z,992nm,18.3s,baz=49,slow=39
GEA0 GERESS Array S 83.55 328 *e*P **P** **20 34 32.2 -0.4**
EZN Ezine 83.58 315 *e*P **P** **20 34 31.7 -1.1**
EZN Ezine 83.58 315 P **P** **20 34 31.7 -1.1**
EZN Ezine 83.58 315 *e*P **P** **20 34 31.7 -1.1**
D34A Park Rapids 83.59 35 P **P** **20 34 32.6 -0.1**
baz=318
E33A Westby DABS, E 83.64 36 P **P** **20 34 33.1 +0.1**
baz=317
SUSD Miller 83.67 38 P **P** **20 34 33.4 +0.2**
baz=315
WET Wettzell 83.67 329 P **P** **20 34 34.1 +1.0**
C35A Jirik Farms, M 83.69 34 P **P** **20 34 33.0 -0.2**
baz=318
RPZ Rata Peaks 83.72 158 LR LR 21 08 53.8
comp=Z,102nm,20.1s,baz=22,slow=34
214A Organ Pipe Nat 83.74 55 P **P** **20 34 35.2 +1.4**
baz=308
W18A Petrified Fore 83.76 51 P **P** **20 34 34.9 +0.8**

baz=310
EAB Aberfoyle 83.77 341 eP P 20 34 33.9 +0.5
KAVA Kavala 83.81 317 eP P 20 34 33.8 -0.2
KAVA Kavala 83.81 317 P P 20 34 33.8 -0.2
G32A Webster 83.82 37 P P 20 34 34.3 +0.3
baz=316
MMB Musomiste 83.85 318 i P P 20 34 34.6 +0.4
WTSB Winterswijk 83.86 333 eP P 20 34 33.7 -0.2
comp=Z,56nm,1.0s
WTSB epP pP 20 34 47.2 +1.5
S22A 4UR Ranch, Cre 83.86 47 P P 20 34 36.3 +1.7
baz=311
S22A 4UR Ranch, Cre 83.86 47 eP P 20 34 35.5 +0.8
comp=Z,75nm,0.4s
BEHE Becsehely 83.93 325⇑eP P 20 34 34.5 0.0
ARSA Arzberg 83.93 326 i PcP P 20 34 34.9 +0.4
comp=Z,49nm,1.5s,SNR=16
ARSA i PP PP 20 37 50.4 +2.7
comp=Z,16nm,1.2s
NVR Nevrokopi 83.94 317 eP P 20 34 33.1 -1.6
NVR Nevrokopi 83.94 317 P P 20 34 33.1 -1.6
GRF Grafenberg Arr 83.94 330 P P 20 34 35.3 +0.8
GRFO Grafenberg 83.94 330 eP P 20 34 34.8 +0.3
comp=Z,112nm,1.0s
GRFO Grafenberg 83.94 330 eP P 20 34 34.8 +0.3
GRFO pmax pmax
comp=Z,112nm,1.0s
AKAS Kas 83.97 311 i P P 20 34 33.4 -1.6
F33A 5 Mile Ranch, 83.98 36 P P 20 34 35.1 +0.3
baz=317
PRK Paraskevi 83.99 315 eP P 20 34 34.5 -0.4
PRK Paraskevi 83.99 315 P P 20 34 34.5 -0.4
PRK Paraskevi 83.99 315 eP P 20 34 34.5 -0.4
X18A Snowflake 84.00 52 eP P 20 34 36.5 +1.2
comp=Z,29nm,1.2s
KKB Krupnik 84.01 318 i P P 20 34 35.6 +0.6
E34A Wadena 84.02 35 P P 20 34 35.2 +0.2
baz=318
FETY Fethiye 84.03 311 P P 20 34 32.5 -2.7
FETY Fethiye 84.03 311 P P 20 34 32.5 -2.7
KSL Kastellorizon 84.04 311 eP P 20 34 33.8 -1.4
KSL Kastellorizon 84.04 311 P P 20 34 33.8 -1.4
MOA Molln 84.05 327 i P P 20 34 35.0 -0.1
comp=Z,62nm,1.3s,SNR=18
MOA i PP PP 20 37 49.2 +0.7
comp=Z,21nm,1.3s
Q24A Divide 84.05 46 P P 20 34 36.8 +1.1
baz=312
DIVS Divibare 84.07 321 eP P 20 34 35.0 -0.4
comp=Z,75nm,1.1s
LBZ Lake Benmore 84.07 159 eP P 20 34 34.5 -0.4
comp=Z,38nm,1.0s
AYDN Tasoluk 84.09 313 i P P 20 34 35.7 +0.2
D35A Remer 84.12 34 P P 20 34 34.9 -0.6
baz=318
PGBU Glenifferbraes 84.14 341 eP P 20 34 35.5 +0.2
PGBU lAmb lAmb 20 34 37.0
comp=Z,85nm,1.2s
C36A Pine Crest Far 84.16 33 P P 20 34 35.4 -0.2
baz=319
I31A Royce, Wessing 84.18 39 P P 20 34 35.9 +0.1
baz=316
YER Yerkesik 84.19 312 eP P 20 34 35.4 -0.7
YER Yerkesik 84.19 312 P P 20 34 35.4 -0.7
YER Yerkesik 84.19 312 eP P 20 34 35.4 -0.7
PMOR Pomariorio Ree 84.19 113 eT T 22 07 00.9
comp=Z,13nm,0.2s
EKA Eskdalemuir Ar 84.21 340 P P 20 34 36.6 +0.9
comp=Z,5.0nm,0.6s,baz=33,slow=5.1,SNR=25
EKA PP PP 20 37 48.1 -1.5
comp=Z,4.5nm,0.9s,baz=33,slow=7.1,SNR=4.4
EKA LR LR 21 15 59.8
comp=Z,666nm,18.7s,baz=15,slow=38
ESK Eskdalemuir 84.23 340 eP P 20 34 36.1 +0.3
comp=Z,67nm,1.5s
ESK LR LR
comp=Z,1μm,19.0s
ESK Eskdalemuir 84.23 340 eP P 20 34 35.4 -0.5
ESK Eskdalemuir 84.23 340 eP P 20 34 36.1 +0.3
ESK pmax pmax
comp=Z,67nm,1.5s
ESK MLR MLR
comp=Z,1μm,19.0s
SRS Serrai 84.24 317 eP P 20 34 35.5 -0.7
SRS Serrai 84.24 317 P P 20 34 35.5 -0.7
SRS Serrai 84.24 317 eP P 20 34 35.5 -0.7
E35A Pequot Lakes 84.34 35 P P 20 34 36.5 -0.1
baz=318
G33A Ortonville 84.38 37 P P 20 34 37.3 +0.5
baz=317
H32A Carlson Farm, 84.39 38 P P 20 34 36.8 -0.1
baz=316
D36A Goodland 84.45 34 P P 20 34 37.0 -0.1
baz=319
C37A Embarrass 84.47 33 P P 20 34 37.1 -0.1
baz=320
OGNE Ogallala 84.48 43 P P 20 34 38.1 +0.6
baz=314
OGNE Ogallala 84.48 43 eP P 20 34 38.1 +0.6
comp=Z,182nm,2.0s
OGNE LR LR
comp=Z,429nm,22.0s
F34A Alexandria 84.51 36 P P 20 34 37.6 +0.2
baz=318
ZEY İzmir 84.53 314 i P P 20 34 37.4 -0.3
OUR Ouranopolis 84.56 317 eP P 20 34 37.0 -0.8
OUR Ouranopolis 84.56 317 P P 20 34 37.0 -0.8
OUR Ouranopolis 84.56 317 eP P 20 34 37.0 -0.8
PPT Papeete 84.57 116 LR LR 21 05 45.9
comp=Z,604nm,21.9s,baz=306,slow=31
PERS Pernice 84.58 326 eP P 20 34 37.9 +0.1
SOH Sokhos 84.58 317 eP P 20 34 36.4 -1.5
SOH Sokhos 84.58 317 P P 20 34 36.4 -1.5
SOH Sokhos 84.58 317 eP P 20 34 36.4 -1.5
SOKA Soboth 84.58 326 i PcP P 20 34 38.1 +0.2
comp=Z,114nm,1.2s,SNR=34
SOKA i PP PP 20 37 55.7 +2.7
comp=Z,20nm,1.1s
PPT2 Papeete2 84.58 116 eLR LR 21 01 04.2
comp=Z,4μm,30.2s,baz=314
KNT Kendrikon 84.59 318 eP P 20 34 37.6 -0.4
KNT Kendrikon 84.59 318 P P 20 34 37.6 -0.4
KNT Kendrikon 84.59 318 eP P 20 34 37.6 -0.4
J31A Geddes 84.60 39 P P 20 34 37.9 0.0
baz=315
H33A Prehn Over Nor 84.60 37 P P 20 34 38.5 +0.5
baz=317
EYMN Ely 84.60 32 P P 20 34 38.3 +0.4
baz=320
EYMN Ely 84.60 32 eP P 20 34 37.6 -0.3
comp=Z,24nm,1.0s
EYMN LR LR
comp=Z,400nm,20.0s
EIL Elat 84.61 303 P P 20 34 43.5 +5.3
comp=Z,94nm,1.0s,baz=46,slow=2.2,SNR=41
SDCO Great Sand Dun 84.65 47 P P 20 34 39.7 +1.1
baz=312
SDCO Great Sand Dun 84.65 47 eP P 20 34 39.5 +0.8
comp=Z,21nm,1.0s
SDCO LR LR
comp=Z,278nm,19.0s
VAY Valandovo 84.66 318 eP P 20 34 38.0 -0.3
VAY Valandovo 84.66 318 P P 20 34 38.0 -0.3
VAY Valandovo 84.66 318 i P P 20 34 38.6 +0.3
VAY Valandovo 84.66 318 eP P 20 34 38.0 -0.3
SMG Samos 84.68 313 eP P 20 34 36.4 -2.1
SMG Samos 84.68 313 P P 20 34 36.4 -2.1
CHOS Chios island 84.69 314 eP P 20 34 37.6 -1.0
CHOS Chios island 84.69 314 P P 20 34 37.6 -1.0
I32A Karley and Nic 84.72 38 P P 20 34 38.8 +0.2
baz=316
G34A Benson 84.73 36 P P 20 34 38.9 +0.3
baz=317
BDRM Kayabasi 84.74 312 i P P 20 34 38.7 -0.1
F35A Swanville 84.78 35 P P 20 34 38.9 0.0
baz=318
D37A Cotton 84.79 33 P P 20 34 38.7 -0.2
baz=319
SKO Skopje 84.82 319 i P P 20 34 40.0 +0.9
BODT Bodrum 84.83 312 eP P 20 34 37.2 -2.0
BODT Bodrum 84.83 312 P P 20 34 37.2 -2.0
PLG Polygyros 84.83 317 eP P 20 34 38.0 -1.2
PLG Polygyros 84.83 317 P P 20 34 38.0 -1.2
PLG Polygyros 84.83 317 eP P 20 34 38.0 -1.2
KESW Keswick, Cumbr 84.85 340 eP P 20 34 39.0 0.0
KESW lAmb lAmb 20 34 40.7
comp=Z,85nm,1.2s
GMK Mull of Kintyr 84.85 341 eP P 20 34 39.4 +0.5
TUC Tucson 84.86 54 P P 20 34 40.5 +1.0
baz=309
TUC Tucson 84.86 54 eP P 20 34 40.7 +1.1
comp=Z,13nm,1.0s
TUC Tucson 84.86 54 eP P 20 34 40.7 +1.1
TUC pmax pmax
comp=Z,13nm,1.0s
C38A Sawbill Land. 84.88 32 P P 20 34 39.0 -0.3
baz=320
E36A McGregor 84.90 34 P P 20 34 39.3 -0.1
baz=319
OBKA Obir 84.93 326 i PcP P 20 34 39.5 -0.1
comp=Z,29nm,1.2s
OBKA i PP PP 20 37 52.8 -3.0
comp=Z,23nm,1.2s
HPK Haverah Park 84.97 339 eP P 20 34 39.7 +0.2
HPK lAmb lAmb 20 34 41.1
comp=Z,177nm,1.5s
BLY Banja Luka 85.00 323⇑iP P 20 34 40.2 +0.3
BLY Banja Luka 85.00 323 eP P 20 34 39.2 -0.6
comp=Z,67nm,1.2s
J32A Parkston 85.00 39 P P 20 34 39.7 -0.2
baz=316
GRG Griva 85.01 318 eP P 20 34 39.0 -1.1
GRG Griva 85.01 318 P P 20 34 39.0 -1.1
GRG Griva 85.01 318 eP P 20 34 39.0 -1.1
CRES Cresnjev 85.02 325 i P P 20 34 39.6 -0.4
I33A Coleman 85.03 38 P P 20 34 39.8 -0.3
baz=317
GAL1 Galloway 85.04 341 eP P 20 34 40.2 +0.3
GAL1 lAmb lAmb 20 34 41.3
comp=Z,38nm,0.9s
KBA Koelnbreinsper 85.04 327 i P P 20 34 39.9 -0.4
comp=Z,35nm,1.3s,SNR=8.5
KBA i PP PP 20 37 46.4 -10
comp=Z,28nm,1.1s
KBA Koelnbreinsper 85.04 327 P P 20 34 40.6 +0.3
K31A O'Neill 85.06 40 P P 20 34 41.1 +0.8
baz=316
H34A Spellman Lake, 85.09 37 P P 20 34 40.5 +0.1
baz=317
HGN Heimansgroeve 85.15 333 eP P 20 34 40.0 -0.5
comp=Z,96nm,1.3s
HGN epP pP 20 34 54.7 +2.4
CLGH Cloghs, Cushen 85.22 342 eP P 20 34 41.2 +0.5
CLGH lAmb lAmb 20 34 42.4
comp=Z,90nm,1.0s
BEBN Eben Emael 85.22 333 ⇑P P 20 34 40.8 0.0
BEBN ⇑AP pP 20 34 54.0 +1.4
MEM Membach 85.25 333 ⇑P P 20 34 40.3 -0.7
comp=Z,43nm,1.2s
MEM ⇑AP pP 20 34 54.2 +1.4
MEM Membach 85.25 333 P P 20 34 41.5 +0.5
MYKA Terra Mystica 85.25 326 i P P 20 34 40.8 -0.4
comp=Z,34nm,1.2s,SNR=6.7
F36A Milaca 85.27 35 P P 20 34 40.9 -0.3
baz=319
C39A Grand Marais 85.29 32 P P 20 34 41.2 -0.2
baz=321
VISS Visnje 85.33 325 eP P 20 34 41.7 +0.2
KRUS Krusevo 85.34 319 i P P 20 34 41.8 0.0
ECSD EROS Data Cent 85.36 38 P P 20 34 41.9 +0.1
baz=317
ECSD EROS Data Cent 85.36 38 eP P 20 34 42.2 +0.5
comp=Z,24nm,0.8s
ECSD LR LR
comp=Z,376nm,19.0s
BOJS Bojanci 85.36 325 i P P 20 34 41.9 +0.2
KSCO Kaye Shedlock' 85.47 44 P P 20 34 43.0 +0.4
baz=313
KSCO Kaye Shedlock' 85.47 44 eP P 20 34 43.5 +0.9
comp=Z,38nm,1.0s
LBWR Ladybower, Pea 85.48 338 eP P 20 34 42.5 +0.3
LBWR lAmb lAmb 20 34 43.6
comp=Z,160nm,1.0s
STU Stuttgart 85.49 330 eP P 20 34 42.8 +0.5
comp=Z,114nm,1.0s
STU Stuttgart 85.49 330 eP P 20 34 42.8 +0.5
STU pmax pmax
comp=Z,113nm,1.0s
H35A Sunnyside Ranc 85.52 36 P P 20 34 43.1 +0.6
baz=318
IOMK Kirk Michael 85.54 340 eP P 20 34 42.7 +0.3
IOMK lAmb lAmb 20 34 43.8
comp=Z,92nm,1.2s
MHTCO State Highway 85.55 47 eP P 20 34 44.6 +1.6
comp=Z,52nm,1.3s
BIA Bitola 85.55 319 i P P 20 34 43.8 +1.0
PHP Peshkopia 85.55 320 eP P 20 34 42.1 -0.7
PHP Peshkopia 85.55 320 P P 20 34 42.1 -0.7
PHP Peshkopia 85.55 320 eP P 20 34 42.1 -0.7
LIT Litokhoron 85.55 317 P P 20 34 39.6 -3.2
LIT Litokhoron 85.55 317 P P 20 34 39.6 -3.2
LIT Litokhoron 85.55 317 P P 20 34 39.6 -3.2
RUP Ruppelstein 85.59 332 P P 20 34 43.5 +0.7
E38A The Farm, Brul 85.60 33 P P 20 34 43.1 +0.2
baz=320
JAVS Javornik 85.61 326 i P P 20 34 42.6 -0.5
WATA Walderalm 85.62 328 ePcP P 20 34 43.2 +0.1
comp=Z,18nm,1.1s,SNR=6.0
C40A Isle Royale Na 85.63 31 P P 20 34 42.9 -0.1
baz=322
PDG Podgorica 85.64 321⇑iP P 20 34 43.5 +0.4
TTG Podgorica 85.64 321 eP P 20 34 42.6 -0.5
comp=Z,187nm,1.2s
TTG Podgorica 85.64 321 eP P 20 34 42.6 -0.5
TTG pmax pmax
comp=Z,187nm,1.2s
WTTA Wattenberg 85.65 328 i PcP P 20 34 43.4 +0.1
comp=Z,15nm,1.3s
ABTA Abfaltersbach 85.66 327 i P P 20 34 42.5 -0.8
comp=Z,39nm,1.1s,SNR=12
BCLA Clavier 85.66 333 ⇑P P 20 34 42.9 -0.2
comp=Z,46nm,1.3s
BCLA ⇑AP pP 20 34 57.2 +2.3
FNA Florina 85.68 318 P P 20 34 39.5 -4.0
FNA eP P 20 34 43.1 -0.4
FNA Florina 85.68 318 P P 20 34 39.5 -4.0
FNA Florina 85.68 318 P P 20 34 39.5 -4.0
UCC Uccle 85.69 334 ⇑P P 20 34 42.9 -0.3
UCC ⇑AP pP 20 34 57.3 +2.3
UCC Uccle 85.69 334 eP P 20 34 42.9 -0.3
comp=Z,49nm,1.2s
UCC Uccle 85.69 334 eP P 20 34 42.9 -0.3
UCC pmax pmax
comp=Z,49nm,1.2s
T25A Trinidad 85.70 47 P P 20 34 45.0 +1.1
baz=312
T25A Trinidad 85.70 47 eP P 20 34 44.8 +0.9
comp=Z,40nm,1.0s
OHR Ohrid 85.76 319 i P P 20 34 43.5 -0.3
OHR Ohrid 85.76 319 P P 20 34 45.5 +1.6
FYTO Fytoko, Volos 85.78 317 eP P 20 34 42.0 -1.9
FYTO Fytoko, Volos 85.78 317 P P 20 34 42.0 -1.9
MOTA Moosalm 85.81 328 i PcP P 20 34 44.0 -0.2
comp=Z,39nm,1.2s,SNR=12
MOTA PP PP 20 38 04.5 +1.4
comp=Z,14nm,1.1s
RETA Reutte 85.85 329 i PcP P 20 34 44.2 0.0
comp=Z,71nm,1.3s,SNR=15
LANF Langenberg 85.88 331 P P 20 34 45.1 +0.9
APE Apeiranthos 85.88 313⇑iP P 20 34 43.3 -1.2
APE Apeiranthos 85.88 313⇑eP P 20 34 43.4 -1.1
APE pmax pmax
comp=Z,24nm,0.9s
L32A Elgin 85.89 40 P P 20 34 44.9 +0.4
baz=316
KARP Karpathos 85.92 311 eP P 20 34 43.3 -1.4
KARP Karpathos 85.92 311 P P 20 34 43.3 -1.4
ANMO Albuquerque 85.92 49 P P 20 34 46.2 +1.3
baz=311
ANMO Albuquerque 85.92 49 eP P 20 34 45.3 +0.3
comp=Z,22nm,1.0s
ANMO LR LR
comp=Z,333nm,22.0s
ANMO Albuquerque 85.92 49c iP P 20 34 46.4 +1.4
ANMO pmax pmax
comp=Z,20nm,1.2s
GMM Mts of Mourne 85.93 341 eP P 20 34 43.9 -0.5
F38A Pierce - Schro 85.95 34 P P 20 34 45.2 +0.6
baz=320
SNF Seneffe 85.96 334 ⇓P P 20 34 44.9 +0.3
comp=Z,74nm,1.3s
SNF ⇑AP pP 20 34 58.7 +2.4
WLF Walferdange 85.96 332 ⇑P P 20 34 45.3 +0.7
WLF ⇑AP sP 20 34 59.1 -1.6
comp=Z,349nm,2.4s
WLF Walferdange 85.96 332 eP P 20 34 44.6 0.0
comp=Z,110nm,1.3s
WLF Walferdange 85.96 332 eP P 20 34 44.6 0.0
WLF pmax pmax
comp=Z,110nm,1.3s
K33A Hardington 85.98 39 P P 20 34 45.1 +0.3
baz=317
H36A Jessenland, He 86.04 36 P P 20 34 45.5 +0.4
baz=318
TIR Tirane 86.09 320 PFAKE 20 35 00.0 +15
TIR LR LR
comp=Z,3μm,20.0s
GIVF Givet 86.10 333 eP P 20 34 45.1 -0.2
KBN Korca 86.11 319 eP P 20 34 44.5 -1.1
KBN Korca 86.11 319 P P 20 34 44.5 -1.1
KBN Korca 86.11 319 eP P 20 34 44.5 -1.1
NEST Nestorio 86.12 318 P P 20 34 44.5 -1.2
L33A Hoskins 86.16 39 P P 20 34 46.0 +0.3
baz=316
DOU Dourbes 86.19 333 ⇑P P 20 34 45.3 -0.4
comp=Z,26nm,1.4s
DOU ⇑AP pP 20 34 59.7 +2.3
BFO Black Forest 86.19 330 eP P 20 34 45.5 -0.3
comp=Z,104nm,1.1s
BFO LR LR
comp=Z,618nm,20.0s
BFO Black Forest 86.19 330 i P P 20 34 46.0 +0.2
E39A Mellen 86.22 33 P P 20 34 46.0 0.0
baz=321
FETA Feichten 86.23 328 i PcP P 20 34 46.2 0.0
comp=Z,29nm,1.1s,SNR=8.6
FETA i PP PP 20 37 60.0 -6.4
comp=Z,17nm,1.2s
LPM Los Pinos Moun 86.23 50 eP P 20 34 47.0 +0.5
BGNE Belgrade 86.25 40 P P 20 34 46.1 -0.1
baz=316
LKR Lokris 86.27 316 eP P 20 34 43.3 -3.0
LKR Lokris 86.27 316 P P 20 34 43.3 -3.0
J35A Milford 86.32 37 P P 20 34 46.5 0.0
baz=318
BNM Barren Site 86.34 50 eP P 20 34 48.0 +0.9
WLF1 Llynfaes 86.35 340 eP P 20 34 46.6 +0.2
WLF1 lAmb lAmb 20 34 47.8
comp=Z,168nm,1.2s
BAIF Baives 86.36 334 eP P 20 34 46.2 -0.3
BAIF pmax pmax
comp=Z,53nm,1.2s
FOEL Foel Wylfa 86.36 339 eP P 20 34 46.0 -0.5
FOEL lAmb lAmb 20 34 47.1
comp=Z,105nm,0.9s
K34A Le Mars 86.38 38 P P 20 34 46.8 0.0
baz=317
DAVA Damuels 86.38 329 i PcP P 20 34 47.0 +0.1
comp=Z,76nm,1.2s,SNR=16
AGG Agios Georgios 86.39 317 eP P 20 34 45.9 -1.1
comp=Z,39nm,0.9s
AGG Agios Georgios 86.39 317 eP P 20 34 45.9 -1.1
AGG pmax pmax
comp=Z,39nm,0.9s
SANT Santorini 86.39 313 PFAKE 20 35 00.0 +13
SANT LR LR
comp=Z,536nm,20.0s
F39A Loretta 86.41 33 P P 20 34 47.2 +0.2
baz=320
TAOE Nuku Hiva Isla 86.43 103 eLR LR 21 01 58.4
comp=Z,3μm,29.5s,baz=318
319A Douglas 86.44 54 eP P 20 34 48.7 +1.2
comp=Z,31nm,1.3s
E40A Wakefield 86.45 32 P P 20 34 47.7 +0.6
baz=321
H37A Dierke Farm, C 86.52 35 P P 20 34 47.6 +0.2
baz=319
LLW Llanuwchllyn 86.53 339 eP P 20 34 47.7 +0.3
LLW lAmb lAmb 20 34 48.7
comp=Z,377nm,1.1s
CDF Champ du Feu 86.54 331 eP P 20 34 47.3 -0.3
CDF pmax pmax
comp=Z,85nm,1.0s
D41A Chassel 86.55 31 P P 20 34 48.1 +0.6
baz=322
G38A Ridgeland 86.56 34 P P 20 34 47.7 0.0
baz=320
SLE Schleitheim 86.58 330 P P 20 34 47.9 +0.2
HLM1 Long Mynd 86.60 339 eP P 20 34 47.7 0.0
HLM1 lAmb lAmb 20 34 48.9
comp=Z,35nm,1.2s
DAMY Dhamar 86.62 285 eP P 20 34 49.5 +0.7
comp=Z,122nm,1.5s
SKP1 Kophill 86.66 337 eP P 20 34 48.0 0.0
121A Cookes Peak, D 86.67 52 P P 20 34 49.4 +0.7
baz=311
I37A Lemond, Waseca 86.71 36 P P 20 34 48.8 +0.4
baz=319
FUORN Ofenpass-Fuorn 86.74 328 eP P 20 34 49.1 +0.3
comp=Z,86nm,1.1s
H38A Maiden Rock 86.74 35 P P 20 34 48.9 +0.4
baz=320
ECH Echery 86.75 331 eP P 20 34 48.0 -0.6
comp=Z,54nm,1.0s
ECH LR LR
comp=Z,778nm,19.0s
ECH Echery 86.75 331 eP P 20 34 48.0 -0.6
ECH pmax pmax
comp=Z,54nm,1.0s
ECH MLR MLR
comp=Z,778nm,19.0s
L34A Svendsen Farm, 86.76 39 P P 20 34 48.7 0.0
baz=317
F40A Park Falls 86.77 33 P P 20 34 48.5 -0.1
baz=321
SSW Stow on the Wo 86.77 338 eP P 20 34 49.1 +0.6
J36A Seneca 1, Swea 86.77 37 P P 20 34 48.9 +0.2
baz=318
ZKR Zakros 86.78 312 eP P 20 34 47.3 -1.6
ZKR Zakros 86.78 312 P P 20 34 47.3 -1.6
K35A Storm Lake 86.78 38 P P 20 34 49.1 +0.3
baz=318
G39A Holcombe 86.78 34 P P 20 34 48.9 +0.2
baz=320
SCHQ Schefferville 86.81 16 P P 20 34 49.9 +1.2
comp=Z,27nm,0.9s,baz=340,slow=5.1,SNR=11
SCHQ LR LR 21 15 21.3
comp=Z,386nm,21.4s,baz=332,slow=37
SCHQ Schefferville 86.81 16 eP P 20 34 49.5 +0.8
comp=Z,34nm,0.9s
E41A Kenton 86.84 32 P P 20 34 49.3 +0.3
baz=322
DSB Dublin 86.94 341 eP P 20 34 49.3 0.0
comp=Z,202nm,1.8s
DSL Palaion Diasel 87.00 317 eP P 20 34 48.5 -1.4
DSL Palaion Diasel 87.00 317 P P 20 34 48.5 -1.4
STRD Stroud 87.03 338 eP P 20 34 50.1 +0.3
STRD lAmb lAmb 20 34 51.1
comp=Z,245nm,1.0s
MOF Molkenrain 87.05 331 P P 20 34 50.4 +0.3
COWI Conover 87.05 32 eP P 20 34 49.5 -0.6
comp=Z,40nm,1.5s
COWI LR LR
comp=Z,507nm,22.0s
L35A Bielow Farm, R 87.08 38 P P 20 34 50.0 -0.2
baz=318
MCH1 Michaelchurch 87.09 338 eP P 20 34 50.1 +0.1
MCH1 lAmb lAmb 20 34 51.3
comp=Z,62nm,0.8s
WOL Wolverton 87.14 337 eP P 20 34 50.1 -0.2
WOL lAmb lAmb 20 34 51.9
comp=Z,86nm,0.9s
SWN1 Swindon 87.15 338 eP P 20 34 50.8 +0.4
SWN1 lAmb lAmb 20 34 51.9
comp=Z,242nm,1.2s
J37A Redenius Farm, 87.17 36 P P 20 34 50.7 0.0
baz=319
MONM Monmouth 87.17 338 eP P 20 34 50.6 +0.1
MONM lAmb lAmb 20 34 51.7
comp=Z,102nm,0.9s
HINF Hinteralfeld 87.19 331 eP P 20 34 50.0 -0.7
HINF pmax pmax
comp=Z,25nm,1.1s
LAST Lasithi 87.20 312 P P 20 34 47.2 -3.8
LAST Lasithi 87.20 312 P P 20 34 47.2 -3.8
I38A Scanlan Farm, 87.20 35 P P 20 34 51.1 +0.3

baz=320
CBKS Cedar Bluff 87.23 43 P P 20 34 51.1 0.0
baz=315
CBKS Cedar Bluff 87.23 43 eP P 20 34 50.9 -0.2
comp=Z,30nm,0.9s
CBKS LR LR
comp=Z,388nm,20.0s
CBKS Cedar Bluff 87.23 43 eP P 20 34 50.9 -0.2
CBKS pmax pmax
comp=Z,30nm,0.9s
CBKS MLR MLR
comp=Z,388nm,20.0s
K36A Gilmore City 87.23 37 P P 20 34 51.3 +0.3
baz=318
G40A Rib Lake 87.23 33 P P 20 34 51.1 +0.1
baz=321
HAU Haudompre 87.24 331 eP P 20 34 50.3 -0.6
HAU pmax pmax
comp=Z,24nm,1.0s
TUE Stuetta 87.25 329 eP P 20 34 51.2 -0.1
comp=Z,39nm,1.2s
TUE LR LR
comp=Z,1µm,20.0s
LPW Lampeter 87.30 339 eP P 20 34 51.2 +0.1
LPW IAmb IAmb 20 34 52.8
comp=Z,74nm,0.9s
E42A Champion 87.32 31 P P 20 34 51.6 +0.3
baz=322
HGH Gray Hill 87.35 338 eP P 20 34 51.6 +0.3
F41A Three Lakes 87.35 32 P P 20 34 52.0 +0.5
baz=322
IDI Anoyia 87.47 312 P P 20 34 51.6 -0.8
comp=Z,26nm,1.0s,baz=81,slow=2.6,SNR=7.4
IDI Anoyia 87.47 312 ⇑ iP P 20 34 51.5 -0.8
IDI Anoyia 87.47 312 eP P 20 34 51.2 -1.1
comp=Z,37nm,0.9s
L36A Harm Buss Farm 87.52 38 P P 20 34 52.7 +0.3
baz=318
K37A Belmond 87.53 37 P P 20 34 52.7 +0.3
baz=319
H40A Chili 87.65 34 P P 20 34 53.2 +0.2
baz=321
J38A Wedel Dairy, R 87.68 36 P P 20 34 53.3 +0.2
baz=320
I39A Houston 87.72 35 P P 20 34 53.0 -0.3
baz=320
E43A Lone Tree Farm 87.75 31 P P 20 34 53.9 +0.5
baz=323
ITM Ithomi 87.90 316 eP P 20 34 53.5 -0.8
comp=Z,158nm,1.5s
M36A Felix, Anita 87.94 38 P P 20 34 54.6 +0.2
baz=318
L37A Phoenix Point, 87.96 37 P P 20 34 54.7 +0.3
baz=319
H41A Junction City 87.98 33 P P 20 34 54.6 +0.1
baz=321
H41A Junction City 87.98 33 eP P 20 34 54.8 +0.2
comp=Z,55nm,1.4s
J39A Decorah 88.03 35 P P 20 34 54.6 -0.2
baz=320
G42A Mountain 88.04 32 P P 20 34 55.2 +0.4
baz=322
G42A Mountain 88.04 32 eP P 20 34 55.4 +0.7
comp=Z,90nm,1.5s
F43A Flat Rock, Esc 88.11 31 P P 20 34 55.8 +0.7
baz=323
I40A Norwalk 88.11 34 P P 20 34 55.7 +0.6
baz=321
SENIN Lac Senin/Sane 88.19 330 eP P 20 34 55.5 -0.2
comp=Z,100nm,2.0s
F44A Big Bay de Noc 88.31 31 P P 20 34 56.4 +0.4
baz=324
I41A Arkdale 88.32 34 P P 20 34 56.5 +0.3
baz=321
N36A Muff Farm, Cla 88.33 39 P P 20 34 57.0 +0.7
baz=318
L38A Oak Wood Farm, 88.34 37 P P 20 34 56.5 +0.3
baz=319
G43A Wallace 88.34 32 P P 20 34 56.7 +0.5
baz=323
G43A Wallace 88.34 32 eP P 20 34 57.2 +0.9
comp=Z,62nm,1.1s
M37A Trindle Farm, 88.35 38 P P 20 34 57.1 +0.8
baz=318
K39A Oelwein 88.42 36 P P 20 34 56.5 -0.2
baz=320
J40A Soldiers Grove 88.44 35 P P 20 34 56.6 -0.1
baz=321
AQU L'Aquila 88.61 324 eP P 20 34 57.8 +0.2
comp=Z,92nm,1.1s
AQU LR LR
comp=Z,2µm,19.0s
AQU L'Aquila 88.61 324 eP P 20 34 57.8 +0.2
AQU pmax pmax
comp=Z,92nm,1.1s
AQU MLR MLR
comp=Z,2µm,19.0s
KSU1 Kansas State U 88.72 41 P P 20 34 58.1 -0.1
baz=317
KSU1 Kansas State U 88.72 41 PFAKE 20 35 10.0 +12
KSU1 LR LR
comp=Z,444nm,20.0s
MNTX Cornudas Mount 88.75 51 P P 20 34 59.0 +0.5
baz=312
MNTX Cornudas Mount 88.75 51 eP P 20 34 59.3 +0.9
comp=Z,9.6nm,1.4s
MNTX LR LR
comp=Z,369nm,20.0s
N37A Lee Faris, Mou 88.75 38 P P 20 34 58.8 +0.5
baz=318
M38A Pleasantville 88.77 37 P P 20 34 58.4 +0.1
baz=319
K40A Colesburg 88.78 35 P P 20 34 58.3 0.0
baz=320
J41A Loganville 88.80 34 P P 20 34 58.6 +0.2
baz=321
L39A Vinton 88.81 36 P P 20 34 58.9 +0.4
baz=320
MSTX Muleshoe 88.83 48 P P 20 34 59.1 +0.2
baz=313
MSTX Muleshoe 88.83 48 eP P 20 34 59.7 +0.8
comp=Z,13nm,1.2s
AMTX Amarillo 88.86 47 P P 20 34 60.0 +1.0
baz=314
AMTX Amarillo 88.86 47 eP P 20 35 00.4 +1.4
comp=Z,40nm,1.1s
I42A Draeger Farm, 88.88 33 P P 20 34 59.1 +0.3
baz=322
I42A Draeger Farm, 88.88 33 eP P 20 34 59.0 +0.3
comp=Z,21nm,0.8s
F45A CMU Biological 88.92 30 P P 20 34 59.6 +0.7
baz=324
H43A Windswept, Lux 88.93 32 P P 20 34 59.4 +0.4
baz=323
H43A Windswept, Lux 88.93 32 eP P 20 35 00.1 +1.1
comp=Z,51nm,1.1s
JFWS Jewell Farm 89.04 35 P P 20 34 59.8 +0.2
baz=321
JFWS Jewell Farm 89.04 35 PFAKE 20 35 10.0 +10
JFWS LR LR
comp=Z,716nm,19.0s
FLN La Foliniere 89.10 335 eP P 20 34 59.6 -0.1
FLN pmax pmax
comp=Z,43nm,1.3s
LPL La Plagne 89.10 330 eP P 20 34 59.8 -0.3
LPL pmax pmax
comp=Z,24nm,1.0s
SSF Saint Saulge 89.11 332 eP P 20 34 59.7 -0.1
SSF pmax pmax
comp=Z,27nm,1.0s
LPG La Plagne 89.11 330 eP P 20 34 59.9 -0.3
LPG pmax pmax
comp=Z,21nm,1.0s
F46A Macinaw City C 89.15 30 P P 20 35 00.2 +0.2
baz=325
CUC Castrocucco 89.19 321 eP P 20 34 58.9 -1.5
comp=Z,19nm,1.2s
CUC LR LR
comp=Z,635nm,20.0s
N38A Joes South For 89.22 38 P P 20 35 00.6 +0.2
baz=319
O37A Wolven Farm, M 89.22 39 P P 20 35 00.8 +0.4
baz=318
I43A Langenfeld Bro 89.23 33 P P 20 35 00.9 +0.5
baz=322
L40A Anamosa 89.23 36 P P 20 35 00.6 +0.2
baz=320
J42A Columbus 89.24 34 P P 20 35 00.6 +0.1
baz=322
K41A Shullsburg 89.25 35 P P 20 35 00.6 +0.1
baz=321
TIP Timpagrande 89.30 320 PFAKE 20 35 10.0 +9.1
TIP LR LR
comp=Z,1µm,20.0s
AVF Avril sur Loir 89.39 332 eP P 20 35 01.1 0.0
AVF pmax pmax
comp=Z,69nm,1.1s
BNI Bardonecchia 89.50 329 eP P 20 35 02.1 +0.3
comp=Z,40nm,1.3s
BNI LR LR
comp=Z,934nm,19.0s
BNI Bardonecchia 89.50 329 eP P 20 35 02.1 +0.3
BNI pmax pmax
comp=Z,40nm,1.3s
BNI MLR MLR
comp=Z,934nm,19.0s
J43A Natural Harves 89.51 33 P P 20 35 01.9 +0.2
baz=322
N39A Derby Farms, D 89.52 37 P P 20 35 02.2 +0.4
baz=320
GRR Gorron 89.55 336 eP P 20 35 01.8 0.0
GRR pmax pmax
comp=Z,46nm,1.1s
P37A Lathrop 89.55 39 P P 20 35 02.3 +0.3
baz=318
K42A Prairie Point, 89.56 34 P P 20 35 01.8 -0.2
baz=322
L41A Preston 89.57 35 P P 20 35 02.2 +0.2
baz=321
O38A Galt 89.60 38 P P 20 35 02.3 +0.1
baz=319
ATD Arta Tunnel 89.62 284 P P 20 35 03.4 +0.6
comp=Z,13nm,0.9s,baz=0.0,slow=6.1,SNR=5.6
ATD LR LR 21 17 45.1
comp=Z,280nm,21.4s,baz=53,slow=37
MBDF Montbardon 89.73 329 eP P 20 35 02.0 -0.9
MBDF pmax pmax
comp=Z,20nm,1.1s
ORIF Oris-en-Rattie 89.94 330 eP P 20 35 03.4 -0.5
ORIF pmax pmax
comp=Z,37nm,1.4s
P38A Dawn 89.94 39 P P 20 35 04.4 +0.5
baz=319
N40A Mertquake, Sal 89.96 37 P P 20 35 04.7 +0.8
baz=320
O39A Kirksville 89.97 38 P P 20 35 03.9 0.0
baz=320
GLMI Grayling 89.98 30 P P 20 35 05.0 +1.0
baz=325
GLMI Grayling 89.98 30 PFAKE 20 35 20.0 +16
GLMI LR LR
comp=Z,2µm,21.0s
L42A Oliver, Polo 90.01 35 P P 20 35 04.5 +0.4
baz=321
Q37A Longview Farm, 90.03 40 P P 20 35 04.0 -0.3
baz=318
K43A Burlington 90.08 34 P P 20 35 04.4 0.0
baz=322
M41A Milan 90.09 36 P P 20 35 04.7 +0.2
baz=321
SSB Saint Sauveur 90.19 331 eP P 20 35 04.9 0.0
comp=Z,27nm,1.2s
SSB LR LR
comp=Z,694nm,19.0s
SSB Saint Sauveur 90.19 331 eP P 20 35 04.9 0.0
SSB pmax pmax
comp=Z,27nm,1.2s
SSB MLR MLR
comp=Z,694nm,19.0s
L43A Garden Prairie 90.30 34 P P 20 35 05.6 +0.1
baz=322
LPIG La Paz 90.39 60 LR LR 21 14 51.7
comp=Z,156nm,18.1s,baz=272,slow=35
Q38A Cocks Store, C 90.40 39 P P 20 35 06.1 +0.1
baz=319
O40A La Belle 90.40 37 P P 20 35 06.6 +0.6
baz=320
CEL Celeste 90.43 320 PFAKE 20 35 20.0 +14
CEL LR LR
comp=Z,1µm,19.0s
P39B Salisbury 90.44 38 P P 20 35 06.5 +0.3
baz=319
N41A Harden Midland 90.45 37 P P 20 35 06.5 +0.3
baz=320
VIVF Saint-Julien-l 90.48 330 eP P 20 35 06.1 -0.2
VIVF pmax pmax
comp=Z,35nm,1.1s
WMOK Wichita Mounta 90.66 45 P P 20 35 07.9 +0.7
baz=316
WMOK Wichita Mounta 90.66 45 eP P 20 35 08.0 +0.7
comp=Z,20nm,1.0s
WMOK Wichita Mounta 90.66 45 eP P 20 35 08.0 +0.7
WMOK pmax pmax
comp=Z,20nm,1.0s
Q39A Willow Grove F 90.66 39 P P 20 35 07.7 +0.5
baz=319
L44A Lake County Fo 90.69 34 P P 20 35 07.5 +0.2
baz=323
FRF La Foret Royal 90.72 328 eP P 20 35 06.5 -0.9
FRF pmax pmax
comp=Z,51nm,1.1s
N42A Yates City 90.75 36 P P 20 35 07.8 +0.2
baz=321
P40A Paris 90.77 38 P P 20 35 08.1 +0.4
baz=320
M43A Waltham Townsh 90.79 35 P P 20 35 07.9 +0.1
baz=322
R38A Fenwick Farm, 90.83 40 P P 20 35 07.9 -0.1
baz=319
O41A Passleys Farm, 90.89 37 P P 20 35 08.7 +0.4
baz=321
N43A Stutzman Famil 91.08 35 P P 20 35 09.4 +0.3
baz=322
P41A Barry, Barry 91.14 37 P P 20 35 09.8 +0.4
baz=320
Q40A Laux Farm, Aux 91.16 38 P P 20 35 09.9 +0.4
baz=320
R39A Chumby, Stover 91.18 39 P P 20 35 09.7 +0.1
baz=319
S38A Stockton 91.24 40 P P 20 35 09.9 0.0
baz=319
M44A Midewin, Midew 91.25 34 P P 20 35 10.3 +0.4
baz=322
HDIL Hopedale 91.32 36 P P 20 35 10.8 +0.6
baz=322
HDIL Hopedale 91.32 36 PFAKE 20 35 20.0 +10
HDIL LR LR
comp=Z,420nm,20.0s
TX31 Lajitas Ar. Si 91.43 52 eP P 20 35 11.7 +0.7
TXAR Lajitas Array 91.43 52 P P 20 35 12.3 +1.2
comp=Z,7.2nm,0.8s,baz=300,slow=3.3,SNR=43
TXAR LR LR 21 12 07.6
comp=Z,335nm,20.0s,baz=0.0,slow=33
CAF Calviac 91.45 332 eP P 20 35 11.3 +0.5
T38A Diamond 91.48 41 P P 20 35 11.4 +0.3
baz=318
TUL1 Leonard 91.50 43 P P 20 35 11.5 +0.3
baz=317
TUL1 Leonard 91.50 43 eP P 20 35 11.5 +0.3
comp=Z,24nm,0.8s
S39A Bolivar 91.50 40 P P 20 35 11.3 +0.1
baz=319
P42A Winchester 91.57 37 P P 20 35 11.8 +0.4
baz=321
R40A Maddies Statio 91.59 39 P P 20 35 11.9 +0.3
baz=320
Q41A Truxton 91.61 38 P P 20 35 12.0 +0.4
baz=320
ABTX Abilene, Hawle 91.65 47 P P 20 35 12.8 +0.9
baz=315
ABTX Abilene, Hawle 91.65 47 eP P 20 35 12.8 +0.9
comp=Z,92nm,1.6s
HPIG 91.73 55 eP P 20 35 13.9 +1.3
comp=Z,7.6nm,0.7s
VAE Valguarnera 91.80 320 LR LR 21 20 26.7
comp=Z,842nm,18.1s,baz=34,slow=38
N45A Kentland 91.92 34 P P 20 35 13.3 +0.3
baz=323
T39A Clever 91.97 40 P P 20 35 13.5 +0.1
baz=319
S40A Lebanon 92.00 40 P P 20 35 13.6 +0.1
baz=320
R41A Rosebud 92.04 38 P P 20 35 14.0 +0.4
baz=320
HHAR Hobbs 92.23 41 eP P 20 35 15.0 +0.4
N46A Monticello 92.24 34 P P 20 35 15.2 +0.7
baz=323
CCM Cathedral Cave 92.30 38 P P 20 35 15.0 +0.2
baz=320
CCM Cathedral Cave 92.30 38 eP P 20 34 14.1 -0.7
comp=Z,23nm,1.1s
CCM Cathedral Cave 92.30 38 eP P 20 34 14.1 -0.7
CCM pmax pmax
comp=Z,23nm,1.1s
O45A Potomac 92.30 35 P P 20 35 14.9 +0.2
baz=323
T40A Mansfield 92.33 40 P P 20 35 14.8 -0.1
baz=320
CLTB Caltabellotta 92.34 321 PFAKE 20 35 30.0 +15
CLTB LR LR
comp=Z,545nm,21.0s
R42A Luebbering 92.35 38 P P 20 35 15.2 +0.1
baz=321
Q43A New Douglas 92.38 37 P P 20 35 15.2 0.0
baz=321
S41A Jillco Farms, 92.40 39 P P 20 35 15.1 -0.2
baz=320
U39A Green Forest 92.40 41 P P 20 35 15.4 0.0
baz=319
AAM Ann Arbor 92.45 31 PFAKE 20 35 30.0 +15
AAM LR LR
comp=Z,679nm,22.0s
SFIN Lafayette 92.49 34 P P 20 35 15.9 +0.3
baz=323
P44A Sand Creek, Wi 92.49 36 P P 20 35 15.9 +0.3
baz=322
TRQ Mont Tremblant 92.52 24 eP P 20 35 15.8 +0.1
V39A Pettigrew 92.72 41 P P 20 35 16.8 -0.1
baz=319
S42A Caledonia 92.74 38 P P 20 35 17.1 +0.3
baz=321
Q44A Meyer Farm, Va 92.74 37 P P 20 35 16.8 -0.1
baz=322
U40A Yellville 92.75 41 P P 20 35 17.0 0.0
baz=319
R43A Red Bud 92.78 38 P P 20 35 17.2 +0.2
baz=321
T41A Mountain View 92.80 39 P P 20 35 17.2 0.0
baz=320
P45A Graceland, Par 92.86 35 P P 20 35 17.4 0.0
baz=323
O47A Sheridan 93.02 34 P P 20 35 17.9 -0.2
baz=324
P46A Rosedale 93.04 35 P P 20 35 18.4 +0.3
baz=323
JCT Junction City 93.06 49 P P 20 35 18.8 +0.2
baz=315
JCT Junction City 93.06 49 eP P 20 35 19.4 +0.9
comp=Z,68nm,1.8s
JCT LR LR
comp=Z,429nm,22.0s
JCT Junction City 93.06 49 eP P 20 35 19.4 +0.9
JCT pmax pmax
comp=Z,68nm,1.8s
JCT MLR MLR
comp=Z,429nm,22.0s
W39A Magazine 93.12 42 P P 20 35 18.9 +0.2
baz=319
W39A Magazine 93.12 42 eP P 20 35 19.7 +1.0
comp=Z,54nm,1.6s
T42A Van Buren 93.16 39 P P 20 35 18.6 -0.1
baz=320
V40A Witts Springs 93.19 41 P P 20 35 19.1 +0.1
baz=319
V40A Witts Springs 93.19 41 eP P 20 35 19.3 +0.3
comp=Z,19nm,1.4s
R44A Waltonville 93.22 37 P P 20 35 19.3 +0.3
baz=322
U41A Viola 93.25 40 P P 20 35 19.2 -0.1
baz=320
S43A Fulton Ridge, 93.26 38 P P 20 35 19.7 +0.4
baz=321
WHTX Lake Whitney, 93.39 46 P P 20 35 20.3 +0.4
baz=316
WHTX Lake Whitney, 93.39 46 eP P 20 35 21.0 +1.1
comp=Z,51nm,1.1s
Q46A CEJHS Indians, 93.44 35 P P 20 35 20.0 0.0
baz=323
X39A Fountain Ranch 93.46 43 P P 20 35 20.9 +0.6
baz=318
W40A Ferguson Farm, 93.52 41 P P 20 35 20.9 +0.5
baz=319
W40A Ferguson Farm, 93.52 41 eP P 20 35 20.8 +0.3
comp=Z,67nm,1.4s
T43A Greenville 93.53 38 P P 20 35 20.6 +0.1
baz=321
V41A Mountainview 93.56 40 P P 20 35 21.1 +0.4
baz=320
S44A Carbondale 93.57 37 P P 20 35 21.2 +0.5
baz=322
EPF Esparros 93.71 332 eP P 20 35 20.9 -0.4
EPF pmax pmax
comp=Z,30nm,1.4s
MIAR Mount Ida 93.72 42 P P 20 35 21.8 +0.4
baz=319
MIAR Mount Ida 93.72 42 eP P 20 35 21.9 +0.4
comp=Z,34nm,1.0s
MIAR LR LR
comp=Z,365nm,19.0s
MIAR Mount Ida 93.72 42 eP P 20 35 21.9 +0.4
MIAR pmax pmax
comp=Z,35nm,1.0s
MIAR MLR MLR
comp=Z,365nm,19.0s
WHAR Wooly Hollow 93.86 41 eP P 20 35 22.6 +0.6
S45A Carrier Mills 93.92 37 P P 20 35 22.5 +0.3
baz=322
LONY Lake Ozonia 93.92 24 PFAKE 20 35 30.0 +7.8
LONY LR LR
comp=Z,558nm,21.0s
V42A Cord 93.94 40 P P 20 35 22.3 -0.1
baz=320
Q47A Bedord North L 93.95 35 P P 20 35 22.3 -0.1
baz=324
W41B Gary Mavity, V 93.97 41 P P 20 35 22.8 +0.3
baz=320
R46A Gibon Southern 94.01 36 P P 20 35 22.8 +0.2
baz=323
ETSF Etsaut 94.17 333 eP P 20 35 23.8 +0.4
ETSF pmax pmax
comp=Z,29nm,1.3s
X40A Basin Creek Fa 94.17 42 P P 20 35 24.1 +0.6
baz=319
X40A Basin Creek Fa 94.17 42 eP P 20 35 24.8 +1.3
comp=Z,18nm,1.1s
ACSO Alum Creek Sta 94.44 32 P P 20 35 24.8 +0.2
baz=326
ACSO Alum Creek Sta 94.44 32 eP P 20 35 25.5 +0.8
comp=Z,29nm,0.9s
ACSO LR LR
comp=Z,390nm,20.0s
WCI Wyandotte Cave 94.58 35 P P 20 35 25.5 +0.2
baz=324
M54A Oil Creek Stat 94.75 29 P P 20 35 26.7 +0.6
baz=328
T46A Princeton 94.75 37 P P 20 35 26.9 +0.8
baz=322
833A Chaparral WMA, 94.83 50 P P 20 35 27.2 +0.6
baz=315
PKME Peaks-Kenny Pk 95.00 21 PFAKE 20 35 40.0 +13
PKME LR LR
comp=Z,602nm,20.0s
N54A Moraine State 95.08 30 P P 20 35 28.1 +0.5
baz=328
S48A Wiedeman Farm, 95.15 35 P P 20 35 28.4 +0.4
baz=324
NATX Nacogdoches 95.19 45 PFAKE 20 35 40.0 +12
NATX LR LR
comp=Z,553nm,21.0s
BINY Binghamton 95.55 26 PFAKE 20 35 40.0 +10
BINY LR LR
comp=Z,718nm,19.0s
KEST Kesra 95.73 322 P P 20 35 30.6 -0.1
comp=Z,11nm,1.1s,baz=215,slow=3.4,SNR=5.2
KEST PP PP 20 39 21.6 -0.1
comp=Z,11nm,1.1s,baz=345,slow=5.6,SNR=3.9
KEST LR LR 21 23 40.6
comp=Z,697nm,18.4s,baz=341,slow=39
KEST Kesra 95.73 322 eP P 20 35 30.7 0.0
comp=Z,63nm,1.8s
KEST PP PP 20 39 21.6 -0.1
HKT Hockley 95.83 47 ‖ eP P 20 35 32.3 +1.2
HKT pmax pmax
comp=Z,44nm,1.4s

SSPA	**Standing Stone**	**96.19**	**28**	P		**P**	**20 35 32.9**	**+0.3**
	baz=330							
O56A	**Blue Knob Stat**	**96.24**	**29**	P		**P**	**20 35 33.2**	**+0.3**
	baz=329							
V48A	**Smith Brothers**	**96.31**	**37**	P		**P**	**20 35 33.6**	**+0.3**
	baz=323							
KVTX	**Kingsville**	**96.31**	**50**	PFAKE			20 35 50.0	+17
KVTX				LR	LR			
	comp=Z,529nm,19.0s							
TKL	**Tuckaleechee C**	**97.84**	**35**	LR	LR		21 23 52.7	
	comp=Z,160nm,18.5s,baz=340,slow=38							
TKL	**Tuckaleechee C**	**97.84**	**35**	*e*P	Pdif		20 35 40.2	0.0
	comp=Z,10nm,0.9s							
TKL	**Tuckaleechee C**	**97.84**	**35**	*e*P	Pdif		20 35 40.2	0.0
TKL				pmax	pmax			
	comp=Z,10.0nm,0.9s							
BLA	**Blacksburg**	**98.06**	**32**	PFAKE			20 35 50.0	+8.8
BLA				LR	LR			
	comp=Z,398nm,21.0s							
ES19	**SONSECA Array**	**98.19**	**333**	*e*P		**P**	**20 35 41.2**	**-0.5**
ESDC	**Sonseca Array**	**98.23**	**333**	P		Pdif	20 35 42.0	0.0
	comp=Z,2.7nm,0.9s,baz=25,slow=3.7,SNR=10							
ESDC				PP		**PP**	**20 39 39.6**	**-1.1**
	comp=Z,6.6nm,1.1s,baz=28,slow=7.9,SNR=4.2							
ESDC				LR	LR		21 26 18.7	
	comp=Z,428nm,18.3s,baz=355,slow=39							
CBN	**Corbin Frederi**	**98.49**	**29**	PFAKE			20 35 50.0	+7.0
CBN				LR	LR			
	comp=Z,460nm,22.0s							
PAB	**San Pablo**	**98.49**	**333**	PFAKE			20 35 50.0	+6.9
PAB				LR	LR			
	comp=Z,1µm,20.0s							
RKT	**Rikitea**	**98.80**	**112**	*e*LR	LR		21 07 44.8	
	comp=Z,2µm,28.2s,baz=311							
MTE	**Manteigas**	**98.84**	**336**	PFAKE			20 36 00.0	+15
MTE				LR	LR			
	comp=Z,1µm,19.0s							
BRAL	**Brewton**	**99.82**	**40**	PFAKE			20 36 00.0	+11
BRAL				LR	LR			
	comp=Z,384nm,19.0s							
GOGA	**Godfrey**	**99.82**	**36**	PFAKE			20 36 00.0	+11
GOGA				LR	LR			
	comp=Z,405nm,20.0s							
CNNC	**Cliffs of the**	**100.82**	**31**	PFAKE			20 36 10.0	+17
CNNC				LR	LR			
	comp=Z,829nm,21.0s							
KMBO	**Kilima Mbogo**	**101.55**	**277**	PP	PP		20 40 06.4	-1.2
	comp=Z,0.8nm,0.4s,baz=89,slow=7.5,SNR=3.2							
KMBO	**Kilima Mbogo**	**101.55**	**277**	PP	PP		20 40 06.4	-1.2
KMBO				LR	LR			
	comp=Z,519nm,20.0s							
NHSC	**New Hope**	**101.61**	**34**	PFAKE			20 36 10.0	+13
NHSC				LR	LR			
	comp=Z,500nm,19.0s							
ABPO	**Ambohimpanom**	**103.55**	**256**	PFAKE			20 36 20.0	+14
ABPO				LR	LR			
	comp=Z,248nm,19.0s							
658A	**Bunnell**	**104.17**	**37**	P		**Pdif**	**20 36 08.0**	**-0.5**
	baz=326							
RTC	**Rabat Centre**	**104.34**	**333**	PFAKE			20 36 20.0	+11
RTC				LR	LR			
	comp=Z,2µm,20.0s							
MBAR	**Mbarara**	**106.48**	**281**	PFAKE			20 40 40.0	
MBAR				LR	LR			
	comp=Z,750nm,19.0s							
TAM	**Tamanrasset**	**108.00**	**317**	PFAKE			20 40 40.0	
TAM				LR	LR			
	comp=Z,252nm,19.0s							
VNDA	**Vanda**	**113.67**	**175**	PKiKP		**PKiKP**	**20 40 41.7**	**+0.2**
	comp=Z,1.7nm,0.7s,baz=355,slow=4.5,SNR=4.4							
VNDA	**Vanda**	**113.67**	**175**	*e*PKiKP		**PKiKP**	**20 40 42.0**	**+0.5**
VNDA	**Vanda**	**113.67**	**175**	*e*PKiKP		**PKiKP**	**20 40 42.0**	**+0.5**
GTBY	**Guantanamo Bay**	**115.14**	**37**	PFAKE			20 41 00.0	+14
GTBY				LR	LR			
	comp=Z,440nm,19.0s							
MTDJ	**Mount Denham**	**115.31**	**41**	PFAKE			20 41 00.0	+13
MTDJ				LR	LR			
	comp=Z,428nm,21.0s							
LSZ	**Lusaka**	**116.91**	**270**	PFAKE			20 41 00.0	+10
LSZ				LR	LR			
	comp=Z,487nm,19.0s							
JTS	**JuntasAbangare**	**117.22**	**52**	PFAKE			20 41 00.0	+10
JTS				LR	LR			
	comp=Z,307nm,21.0s							
TOA1	**Torodi Ar. Sit**	**117.85**	**314**	*e*PKPdf		**PKPdf**	**20 40 51.2**	**-0.2**
TOA1				*e*PP		**PP**	**20 42 01.8**	**-2.7**
TOA1				*e*PKKPbc		**PKKPbc**	**20 51 12.3**	**+1.4**
TOA0	**Torodi Ar. Sit**	**117.85**	**314**	*e*PKPdf		**PKPdf**	**20 40 50.5**	**-1.0**
TOA0				*e*PKPdf		**PKPdf**	**20 40 51.0**	**-0.4**
TOA0				*e*PP		**PP**	**20 42 01.4**	**-3.2**
TOA0				*e*PP		**PP**	**20 42 03.0**	**-1.5**
TORD	**Torodi Ar. Bea**	**117.85**	**314**	PKP		**PKPdf**	**20 40 51.2**	**-0.2**
	comp=Z,4.7nm,0.9s,baz=26,slow=1.9,SNR=22							
TORD				PP		**PP**	**20 42 01.8**	**-2.7**
	comp=Z,24nm,1.4s,baz=23,slow=4.0,SNR=9.9							
TORD				PKKPbc		**PKKPbc**	**20 51 12.3**	**+1.4**
	comp=Z,0.4nm,0.5s,baz=222,slow=3.3,SNR=9.2							
MAW	**Mawson**	**118.06**	**205**	PKP		**PKPdf**	**20 40 51.6**	**+1.4**
	comp=Z,4.3nm,0.8s,baz=310,slow=6.8,SNR=4.6							
MAW				PP		**PP**	**20 42 06.3**	**+0.4**
	comp=Z,2.4nm,0.8s,baz=301,slow=5.9,SNR=2.5							
MAW				PKKPbc		**PKKPab**	**20 51 10.3**	**0.0**
	comp=Z,3.3nm,0.9s,baz=316,slow=6.0,SNR=3.2							
MAW	**Mawson**	**118.06**	**205**	*e*PKPdf		**PKPdf**	**20 40 50.8**	**+0.7**
MAW				*e*PP		**PP**	**20 42 05.8**	**-0.2**
MAW				PKKPbc		**PKKPab**	**20 51 10.3**	**0.0**
KOWA	**Kowa**	**119.94**	**320**	PKP		**PKPdf**	**20 40 55.4**	**-0.1**
	comp=Z,9.1nm,0.8s,baz=51,slow=3.2,SNR=21							
KOWA				PP		**PP**	**20 42 17.3**	**-1.5**
	comp=Z,13nm,1.0s,baz=34,slow=3.0,SNR=6.6							
KOWA	**Kowa**	**119.94**	**320**	*e*PKPdf		**PKPdf**	**20 40 55.2**	**-0.3**
KOWA				*e*PKPdf		**PKPdf**	**20 40 55.4**	**-0.1**
KOWA				*e*PP		**PP**	**20 42 16.5**	**-2.3**
RPN	**Rapa Nui**	**120.76**	**103**	PP		PP	20 42 24.4	-1.2
	comp=Z,43nm,0.7s,baz=43,slow=3.6,SNR=2.9							
BCIP	**Isla Barro Col**	**121.29**	**49**	PFAKE			20 41 10.0	+12
BCIP				LR	LR			
	comp=Z,311nm,19.0s							
ANWB	**Willy Bob**	**122.84**	**26**	PFAKE			20 41 10.0	+9.0
ANWB				LR	LR			
	comp=Z,248nm,21.0s							
LBTB	**Lobatse**	**123.86**	**262**	*e*PKPdf		**PKPdf**	**20 41 02.8**	**0.0**
LBTB	**Lobatse**	**123.86**	**262**	*e*PKIKP		**PKPdf**	**20 41 02.8**	**0.0**
QSPA	**South Pole Qui**	**125.42**	**180**	PKP		**PKPdf**	**20 41 05.0**	**+0.5**
	comp=Z,20nm,1.0s,baz=330,slow=1.5,SNR=33							
QSPA	**South Pole Qui**	**125.42**	**180**	*e*PKPdf		**PKPdf**	**20 41 04.1**	**-0.3**
QSPA				*e*PKPdf		**PKPdf**	**20 41 05.0**	**+0.5**
BBTS	**Babate**	**125.48**	**333**	PKP		**PKPdf**	**20 41 07.0**	**+1.0**
	comp=Z,24nm,0.9s,baz=47,slow=1.5,SNR=2.7							
BOSA	**Boshof**	**125.72**	**258**	PKP		**PKPdf**	**20 41 06.9**	**+0.6**
	comp=Z,6.6nm,1.0s,baz=100,slow=4.7,SNR=5.2							
FDF	**Fort de France**	**125.77**	**26**	PFAKE			20 41 20.0	+13
FDF				LR	LR			
	comp=Z,324nm,22.0s							
OCAC	**Ocana**	**125.84**	**43**	*e*P		**PKPdf**	**20 41 06.5**	**-0.5**
PTBC	**PUERTO BERRIO**	**126.58**	**45**	*e*P		**PKPdf**	**20 41 08.5**	**+0.2**
SDV	**Santo Domingo**	**126.75**	**40**	PKP		**PKPdf**	**20 41 08.7**	**-0.1**
	comp=Z,19nm,0.8s,baz=299,slow=3.5,SNR=22							
SDV	**Santo Domingo**	**126.75**	**40**	*e*PKPdf		**PKPdf**	**20 41 08.2**	**-0.7**
SDV	**Santo Domingo**	**126.75**	**40**	*e*P		**PKPdf**	**20 41 08.0**	**-0.8**
DBIC	**Dimbokro**	**126.85**	**315**	PKP		**PKPdf**	**20 41 08.2**	**-0.6**
	comp=Z,12nm,1.0s,baz=36,slow=2.8,SNR=8.9							
DBIC	**Dimbokro**	**126.85**	**315**	*e*PKPdf		**PKPdf**	**20 41 07.4**	**-1.4**
TIC	**Toumodi**	**126.97**	**316**	*e*PKP2		**PKPdf**	**20 41 07.6**	**-1.4**
KIC	**Kosan Boka**	**127.04**	**315**	*e*PKP2		**PKPdf**	**20 41 08.5**	**-0.7**
	comp=Z,59nm,1.2s							
LIC	**Lamto**	**127.31**	**315**	*e*PKP2		**PKPdf**	**20 41 09.2**	**-0.5**
	comp=Z,47nm,1.0s							
SACV	**Santiago Islan**	**127.48**	**341**	PFAKE			20 41 20.0	+10
SACV				LR	LR			
	comp=Z,145nm,19.0s							
TSUM	**Tsumeb**	**127.58**	**272**	*e*PKPdf		**PKPdf**	**20 41 09.0**	**-1.1**
RUSC	**La Rusia**	**127.89**	**44**	*e*PKPpre		PKPpre	20 41 07.0	
RUSC	**La Rusia**	**127.89**	**44**	*e*P		**PKPdf**	**20 41 11.5**	**+0.1**
GRGR	**Grenville**	**127.97**	**28**	PFAKE			20 41 20.0	+9.1
GRGR				LR	LR			
	comp=Z,309nm,20.0s							
ROSC	**El Rosal**	**128.03**	**47**	PKP		**PKPdf**	**20 41 12.5**	**+1.0**
	comp=Z,3.9nm,0.3s,baz=94,slow=14,SNR=5.0							
ROSC	**El Rosal**	**128.03**	**47**	*e*PKPdf		**PKPdf**	**20 41 12.2**	**+0.7**
OTAV	**Otavalo**	**129.00**	**54**	PFAKE			20 41 30.0	+17
OTAV				LR	LR			
	comp=Z,301nm,19.0s							
SUR	**Sutherland**	**130.72**	**256**	PFAKE			20 41 30.0	+14
SUR				LR	LR			
	comp=Z,947nm,19.0s							
NNA	**Nana**	**138.74**	**65**	PFAKE			20 41 40.0	+8.9
NNA				LR	LR			
	comp=Z,350nm,21.0s							
NNA	**Nana**	**138.74**	**65**	*i* PKIKP		**PKPdf**	**20 41 34.7**	**+3.6**
SNAA	**Sanae**	**139.28**	**197**	P		PKPpre	20 41 17.8	
SNAA	**Sanae**	**139.28**	**197**	PKhKP		PKPpre	20 41 21.3	
	comp=Z,3.0nm,0.7s,baz=123,slow=6.0,SNR=11							
SNAA	**Sanae**	**139.28**	**197**	*e*PKPpre		PKPpre	20 41 21.0	
SNAA				*e*PKPdf		**PKPdf**	**20 41 30.2**	**-0.2**
SNAA	**Sanae**	**139.28**	**197**	*e*PKHKP		PKPpre	20 41 21.0	
SNAA				*e*			20 41 30.2	
PTGA	**Pitinga**	**140.29**	**33**	*e*PKPpre		PKPpre	20 41 27.1	
PTGA				*e*PKPdf		**PKPdf**	**20 41 34.5**	**+0.5**
VNA2	**Neumayer--Watz**	**140.85**	**196**	P		PKPpre	20 41 27.0	
	baz=91,slow=2.2							
VNA3	**Neumayer Olymp**	**141.10**	**195**	P		PKPpre	20 41 22.7	
VNA1	**Neumayer--Stat**	**141.25**	**196**	P		PKPpre	20 41 21.9	
ASCN	**Ascension**	**144.17**	**314**	PFAKE			20 41 50.0	+9.2
ASCN				LR	LR			
	comp=Z,656nm,21.0s							
SAML	**Samuel**	**145.63**	**45**	*e*PKPdf		**PKPdf**	**20 41 43.1**	**-0.3**
LPAZ	**La Paz**	**147.89**	**61**	PKPbc		**PKPbc**	**20 41 49.5**	**-1.4**
	comp=Z,23nm,0.9s,baz=350,slow=4.8,SNR=36							
MNMC	**Minye Minye**	**148.65**	**66**	*e*PKPdf		**PKPbc**	**20 41 50.8**	**-1.5**
MNMC				*e*PKPbc		**PKiKP**	**20 41 54.1**	**+0.3**
PB11	**IPOC Station P**	**148.99**	**67**	*e*PKPdf		**PKPdf**	**20 41 49.5**	**+0.5**
PB11				*e*PKPbc		**PKiKP**	**20 41 54.6**	**+0.3**
PB01	**IPOC Station P**	**149.87**	**69**	*e*PKPdf		**PKPdf**	**20 41 51.4**	**+1.2**
PB01				*e*PKPbc		**PKiKP**	**20 41 55.9**	**-0.1**
PB04	**IPOC Station P**	**150.08**	**72**	*e*PKPbc		**PKPbc**	**20 41 57.0**	**+1.4**
RCBR	**Riachuelo**	**150.13**	**353**	*e*PKPbc		**PKPbc**	**20 41 55.9**	**0.0**
GO09	**Cerro Castillo**	**151.72**	**134**	*e*PKPdf		**PKPdf**	**20 41 53.8**	**+1.8**
GO09				*e*PKPbc		**PKiKP**	**20 41 59.6**	**+0.8**
GO02	**Mina Guanaco**	**151.98**	**76**	*e*PKPbc		**PKPbc**	**20 42 01.0**	**+0.8**
GO03	**Copiap**	**152.56**	**82**	*e*PKPdf		**PKPdf**	**20 41 54.7**	**+0.5**
GO03				*e*PKPbc		**PKiKP**	**20 42 02.2**	**+0.8**
LCO	**Las Campanas**	**152.75**	**85**	*e*PKPdf		**PKPdf**	**20 41 55.5**	**+0.9**
LCO				*e*PKPbc		**PKiKP**	**20 42 02.7**	**+0.7**
LCO				LR	LR			
	comp=Z,282nm,20.0s							
GO04	**Tololo Observa**	**153.09**	**87**	*e*PKPdf		**PKPdf**	**20 41 55.3**	**+0.2**
GO04				*e*PKPbc		**PKiKP**	**20 42 02.9**	**+0.3**
PLCA	**Paso Flores**	**155.03**	**111**	PKP		**PKPdf**	**20 41 56.6**	**-0.7**
	comp=Z,3.0nm,1.1s,baz=166,slow=9.9,SNR=2.8							
PLCA	**Paso Flores**	**155.03**	**111**	*e*PKPdf		**PKPdf**	**20 41 56.3**	**-1.0**
PLCA	**Paso Flores**	**155.03**	**111**	PKIKP		**PKPdf**	**20 41 56.6**	**-0.7**
PLCA				pmax	pmax			
	comp=Z,2.0nm,1.0s							
HOPE	**Hope Point**	**161.29**	**185**	PFAKE			20 42 10.0	+5.7
HOPE				LR	LR			
	comp=Z,267nm,20.0s							
CPUP	**Villa Florida**	**162.00**	**64**	PKP		**PKPdf**	**20 42 06.3**	**+0.3**
	comp=Z,3.3nm,1.0s,baz=148,slow=1.1,SNR=3.6							
CPUP				PKPab		**PKPab**	**20 42 52.8**	**+0.5**
	comp=Z,3.6nm,1.0s,baz=297,slow=3.7,SNR=3.7							
CPUP	**Villa Florida**	**162.00**	**64**	*e*PKPdf		**PKPdf**	**20 42 05.7**	**-0.2**
CPUP				*e*PKPab		**PKPab**	**20 42 51.6**	**-0.7**

JMA 24 20:22:43.9±0.2, 35.71N×140.70E, h49km±2km, M4.3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHOJ	**Chosi**	**0.13**	**93**	P	Pn	20 22 51.7	0.0
CHOJ				*e*S	Sn	20 22 57.3	+0.1

*IDC **24** 20:30:03.3±1.6, 35.98N×141.18E, h0km, mb3.7/4, mb1 3.7/7, mb1mx3.4/72, mbtmp3.7/7, ML2.8/3, Error ellipse: s-maj=37.5km s-min=21.4km az=66.0*
*ISCJB **24** 20:30:06.9±1.2, 35.74N±0.06×141.0E±0.1, h31km, mb3.9/4, Error ellipse: s-maj=15.1km s-min=7.1km az=153.6*
*JMA **24** 20:30:10.8±0.1, 35.73N×140.67E, h45km±2km, M2.8*
ISC 24 20:30:06.3±1.0, 35.84N±0.06×141.18E±0.07, h31km, n12, σ2§83/15, mb3.9/4, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHOJ	**Chosi**	**0.29**	**242**	P	**Pn**	**20 30 18.1**	**+3.6**
JYT	**Yasato**	**0.89**	**296**	P	**Pb**	**20 30 23.4**	**+0.2**
JYT				S	**Sn**	**20 30 32.7**	**-1.7**
JCN	**Nagara**	**0.90**	**242**	P	**Pb**	**20 30 22.4**	**-1.0**
JHO	**Hitachi**	**0.91**	**328**	P	**Pb**	**20 30 27.2**	**+3.6**
MJAR	**Matsushiro Arr**	**2.50**	**287**	Pn	**Pn**	**20 30 45.2**	**+0.4**
	3.6nm,0.3s,baz=102,slow=7.2,SNR=17						
MJAR				Sn	**Sb**	**20 31 15.0**	**-5.9**
	2.6nm,0.3s,baz=56,slow=3.9,SNR=3.5						
MAT	**Matsushiro**	**2.50**	**287**	P	**Pn**	**20 30 46.1**	**+1.2**
JHJ	**Hachijo jima 2**	**2.95**	**203**	Pn	**Pn**	**20 30 51.8**	**+0.7**
	8.0nm,0.3s,baz=52,slow=13,SNR=1.5						
JHJ				Sn	**Sn**	**20 31 23.2**	**-2.1**
	15nm,0.3s,baz=88,slow=22,SNR=6.8						
ASAJ	**Asahikawa**	**8.34**	**7**	Pn	**Pn**	**20 32 02.6**	**-2.4**
	0.1nm,0.3s,baz=162,slow=9.6,SNR=2.3						
MKAR	**Makanchi Array**	**44.60**	**303**	P	**P**	**20 38 16.2**	**+0.7**
	0.7nm,0.8s,baz=96,slow=6.1,SNR=1.6						
KURBB	**Kurchatov Arra**	**46.59**	**309**	P	**P**	**20 38 32.3**	**+1.1**
	1.3nm,1.0s,baz=80,slow=7.5,SNR=2.0						
WRA	**Warramunga Arr**	**55.85**	**188**	P	**P**	**20 39 41.9**	**+1.0**
	4.3nm,1.3s,baz=4.4,slow=12,SNR=3.5						
ASAR	**Alice Springs**	**59.58**	**188**	P	**P**	**20 40 11.1**	**+4.0**
	1.3nm,0.9s,baz=12,slow=13,SNR=8.3						

*ISCJB **24** 20:31:03.1±0.4, 35.68N±0.04×140.74E±0.06, h50km, mb3.9/17, Error ellipse: s-maj=7.2km s-min=5.6km az=156.2*
*JMA **24** 20:31:04.5±0.1, 35.73N×140.67E, h45km±1km, M3.6*
JMA Felt II J1.
*IDC **24** 20:31:05.1±2.3, 35.66N×140.66E, h54km±21km, mb3.6/16, mb1 3.7/20, mb1mx3.6/72, mbtmp3.8/20, ML3.6/3, Error ellipse: s-maj=19.4km s-min=13.2km az=79.0*
ISC 24 20:31:04.2±0.6, 35.70N±0.05×140.80E±0.06, h50km, n42, σ1§32/41, mb3.9/17, 1C-2D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHOJ	**Chosi**	**0.05**	**84**	↑P	**Pn**	**20 31 11.9**	**0.0**
JCN	**Nagara**	**0.56**	**240**	↓P	**Pn**	**20 31 16.2**	**0.0**
JYT	**Yasato**	**0.72**	**317**	↓P	**Pn**	**20 31 17.1**	**-1.1**
JYT				S	**Sn**	**20 31 26.6**	**-1.8**
BSO4	**Boso 4**	**0.80**	**208**	P	**Pn**	**20 31 19.8**	**+0.6**
JHO	**Hitachi**	**0.93**	**348**	P	**Pn**	**20 31 20.8**	**-0.2**
MJAR	**Matsushiro Arr**	**2.26**	**293**	P	**Pn**	**20 31 39.5**	**+0.4**
	22nm,0.3s,baz=115,slow=8.0,SNR=22						
MJAR				S	**Sn**	**20 32 04.6**	**-1.2**
	19nm,0.3s,baz=168,slow=12,SNR=6.2						
MAT	**Matsushiro**	**2.26**	**293**	P	**Pn**	**20 31 39.6**	**+0.5**
MAT				S	**Sn**	**20 32 04.9**	**-0.9**
JHJ	**Hachijo jima 2**	**2.71**	**198**	P	**Pn**	**20 31 45.5**	**+0.3**
	79nm,0.3s,baz=74,slow=22,SNR=9.8						
JHJ				S	**Sn**	**20 32 14.7**	**-2.0**
	80nm,0.3s,baz=72,slow=21,SNR=7.3						
ASAJ	**Asahikawa**	**8.52**	**9**	P	**Pn**	**20 33 03.6**	**-1.3**
	1.1nm,0.3s,baz=214,slow=11,SNR=8.0						
ASAJ				S	**Sn**	**20 34 34.6**	**-5.0**
	0.3nm,0.3s,baz=180,slow=20,SNR=1.8						
JCJ	**Chichijima**	**8.66**	**172**	P	**Pn**	**20 33 04.3**	**-2.5**
	16nm,0.3s,baz=305,slow=18,SNR=7.1						
JCJ				S	Sn	20 34 32.3	-11
	baz=41,slow=19						
KSRS	**Korea Array**	**10.50**	**283**	P	**Pn**	**20 33 31.5**	**-0.5**
	0.1nm,0.3s,baz=96,slow=14,SNR=2.7						
USRK	**Ussuriysk Ar.**	**10.85**	**324**	P	**Pn**	**20 33 35.9**	**-0.9**
	0.1nm,0.3s,baz=110,slow=12,SNR=2.7						
H11N2	**WAKE ISLAND Hy**	**27.93**	**118**	T	T	21 05 52.2	
	baz=311,slow=75,SNR=14						
H11N1	**WAKE ISLAND Hy**	**27.93**	**118**	T	T	21 05 55.9	
	baz=311,slow=75,SNR=13						
H11N3	**WAKE ISLAND Hy**	**27.95**	**118**	T	T	21 05 58.9	
	baz=311,slow=75,SNR=14						
SONM	**Songino Array**	**28.15**	**306**	P	**P**	**20 36 49.7**	**-2.0**
	1.0nm,0.8s,baz=117,slow=7.9,SNR=3.1						
H11S1	**WAKE ISLAND Hy**	**28.59**	**120**	T	T	21 06 49.0	
	baz=312,slow=75,SNR=17						
H11S3	**WAKE ISLAND Hy**	**28.59**	**120**	T	T	21 06 46.6	
	baz=312,slow=75,SNR=15						
H11S2	**WAKE ISLAND Hy**	**28.60**	**120**	T	T	21 06 53.8	
	baz=312,slow=75,SNR=13						
MKAR	**Makanchi Array**	**44.42**	**303**	P	**P**	**20 39 10.2**	**+0.2**
	1.4nm,0.6s,baz=85,slow=9.3,SNR=12						
KURBB	**Kurchatov Arra**	**46.44**	**309**	P	**P**	**20 39 25.9**	**+0.1**
	1.7nm,0.5s,baz=81,slow=7.4,SNR=11						
RAMN	**Ramite**	**46.62**	**275**	*e*P	**P**	**20 39 27.5**	**-0.3**
	8.7nm,0.5s						
JIRN	**Jiri**	**46.66**	**276**	*e*P	**P**	**20 39 28.4**	**+0.1**
	13nm,0.5s						
GUN	**Gumba**	**46.80**	**277**	*e*P	**P**	**20 39 29.3**	**-0.1**
	13nm,0.8s						
KKN	**Kakani**	**47.34**	**277**	*e*P	**P**	**20 39 33.8**	**+0.4**
	9.8nm,0.8s						
GKN	**Gorkha**	**47.77**	**277**	*e*P	**P**	**20 39 37.3**	**+0.6**
	10nm,0.7s						
BATI	**Baumata**	**48.44**	**203**	P	**P**	**20 39 41.1**	**-0.6**
	10nm,0.5s,baz=56,slow=7.3,SNR=7.0						
PYUN	**Piuthan**	**49.06**	**278**	*e*P	**P**	**20 39 47.4**	**+0.7**
ILAR	**Eielson Array**	**50.89**	**32**	P	**P**	**20 40 01.9**	**+2.1**
	0.8nm,0.7s,baz=268,slow=6.6,SNR=7.6						
BVAR	**Borovoye Array**	**51.11**	**313**	P	**P**	**20 40 02.1**	**+0.4**
	0.4nm,0.3s,baz=65,slow=8.4,SNR=4.2						
WRA	**Warramunga Arr**	**55.67**	**187**	P	**P**	**20 40 35.2**	**-0.2**
	1.3nm,0.4s,baz=1.5,slow=7.6,SNR=21						
ASAR	**Alice Springs**	**59.40**	**187**	P	**P**	**20 41 01.6**	**+0.1**
	0.8nm,0.5s,baz=21,slow=11,SNR=17						
YKA	**Yellowknife Ar**	**65.21**	**30**	P	**P**	**20 41 39.3**	**-0.7**
	0.3nm,0.6s,baz=306,slow=7.6,SNR=4.0						
FINES	**FINESS Array B**	**69.76**	**332**	P	**P**	**20 42 08.3**	**-0.4**
	0.7nm,0.5s,baz=54,slow=4.8,SNR=5.3						
AKASG	**Malin Array Be**	**75.05**	**322**	P	**P**	**20 42 41.1**	**+0.7**
	0.3nm,0.4s,baz=48,slow=4.5,SNR=3.5						
HFS	**Hagfors**	**75.10**	**336**	P	**P**	**20 42 41.2**	**+0.7**
	0.8nm,0.5s,baz=75,slow=1.6,SNR=7.3						
NB2	**NORSAR Subarra**	**75.22**	**337**	P	**P**	**20 42 41.8**	**+0.6**
	comp=Z,0.8nm,0.6s,baz=41,slow=5.9						
NOA	**NORSAR Array B**	**75.22**	**337**	P	**P**	**20 42 41.9**	**+0.6**
	comp=Z,1.2nm,0.8s,baz=43,slow=5.5,SNR=4.9						
NVAR	**Mina Array Bea**	**76.19**	**53**	P	**P**	**20 42 48.6**	**+1.2**
	comp=Z,0.2nm,0.5s,baz=280,slow=5.1,SNR=2.1						
PDAR	**Pinedale Array**	**78.96**	**45**	P	**P**	**20 43 04.7**	**+1.8**
	comp=Z,0.3nm,0.5s,baz=349,slow=0.9,SNR=3.1						
BRTR	**Keskin Array B**	**79.36**	**311**	P	**P**	**20 43 06.5**	**+1.6**
	comp=Z,0.6nm,0.8s,baz=100,slow=4.2,SNR=3.6						
TXAR	**Lajitas Array**	**91.33**	**52**	P	**P**	**20 44 05.9**	**+1.0**
	comp=Z,0.3nm,0.6s,baz=331,slow=5.4,SNR=3.2						

*ISN **24** 20:38:20.5±1.6, 32.49N×46.86E, h41km±36km, ML2.9*
TEH 24 20:38:18.6, 32.43N×46.93E, h5km, ML2.9, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IKFM	**Kafar-mosalman**	**1.33**	**35**	*e*Pg	Pn	20 38 42.2	-1.6
IKFM				*e*AMB	AMB	20 39 08.3	
	comp=Z,99nm,0.3s						
IKOM	**Komasi**	**1.80**	**15**	*e*Pn	Pn	20 38 50.2	-0.3
IKOM				*e*AMB	AMB	20 38 53.8	
	comp=Z,2µm,0.2s						
IGHG	**Ghaleghazi**	**1.92**	**351**	*e*Pn	Pn	20 38 52.3	+0.2
IVIS	**Veis**	**2.09**	**358**	*e*Pn	Pn	20 38 53.8	-0.6
IVIS				*e*Sg	Sb	20 39 23.9	+0.5
IVIS				*e*AMB	AMB	20 39 26.5	
	comp=Z,680nm,0.2s						
IDHR	**Dehrash**	**2.31**	**349**	*e*Sg	Sb	20 39 30.7	+1.0
IDHR				*e*AMB	AMB	20 39 33.9

	15nm,0.8s							
MBWA	**Marble Bar**	**36.81**	**241**	*e*P		**P**	**20 58 59.3**	**-0.3**
	38nm,1.4s							
TAU	**Tasmania Unive**	**37.92**	**188**	*e*P		**P**	**20 59 09.8**	**+1.2**
	145nm,1.8s							
HIZ	**Hauiti**	**38.07**	**153**	*e*P		**P**	**20 59 11.7**	**+1.6**
	26nm,0.4s							
OPRZ	**Ohinepanea**	**38.33**	**151**	P		pP	20 59 28.4	-1.7
ALRZ	**Allen Road**	**38.80**	**152**	P		pP	20 59 36.2	+2.1
HAZ	**Te Kaha**	**38.87**	**149**	P		**P**	**20 59 18.7**	**+1.9**
URZ	**Urewera**	**38.93**	**151**	P		P	20 59 28.0	+11
MUGZ	**Murupara**	**38.94**	**151**	P		pP	20 59 32.7	-2.5
RUGZ	**Raukumara Rang**	**38.98**	**150**	P		P	20 59 23.2	+5.3
MXZ	**Matakaoa Point**	**38.99**	**149**	*e*P		**P**	**20 59 15.8**	**-1.9**
	63nm,1.2s							
MXZ	**Matakaoa Point**	**38.99**	**149**	P		**P**	**20 59 17.2**	**-0.6**
MRHZ	**Matea Rd**	**39.05**	**152**	P		pP	20 59 36.3	0.0
PKGZ	**Pakihiroa**	**39.12**	**149**	P		**P**	**20 59 18.2**	**-0.7**
MWZ	**Matawai**	**39.19**	**150**	P		P	20 59 28.4	+8.9
WMGZ	**Waiomatatini S**	**39.24**	**149**	P		**P**	**20 59 19.0**	**-0.9**
MTHZ	**Maungataniwha**	**39.27**	**151**	P		pP	20 59 36.4	-1.7
TWGZ	**Tauwhareparae**	**39.30**	**150**	P		P	20 59 26.5	+6.2
BKZ	**Black Stump Fm**	**39.35**	**152**	*e*P		**P**	**20 59 20.5**	**-0.3**
	37nm,1.5s							
BKZ	**Black Stump Fm**	**39.35**	**152**	P		pP	20 59 41.3	+2.5
PUZ	**Puketiti**	**39.36**	**149**	P		**P**	**20 59 19.7**	**-1.2**
KKM	**Kota Kinabalu**	**39.42**	**286**	*e*P		**P**	**20 59 22.2**	**+0.4**
	10nm,1.1s							
NMHZ	**Naumai**	**39.44**	**152**	P		pP	20 59 39.5	-0.1
RIGZ	**Rimuhau**	**39.60**	**150**	P		P	20 59 31.7	+8.8
CNGZ	**Carnagh Statio**	**39.65**	**150**	P		**P**	**20 59 26.7**	**+3.5**
ARHZ	**Aropaoanui**	**39.66**	**152**	P		pP	20 59 40.1	-1.2
KRHZ	**Kereru**	**39.68**	**153**	P		pP	20 59 45.6	+4.2
KNZ	**Kokohu**	**39.80**	**151**	P		P	20 59 34.6	+10
PRGZ	**Paritu Road**	**39.83**	**151**	P		P	20 59 35.5	+11
THZ	**Tophouse**	**40.01**	**158**	*e*P		**P**	**20 59 25.7**	**-0.5**
	15nm,0.8s							
MHGZ	**Mahia Peninsul**	**40.02**	**151**	P		P	20 59 37.1	+11
CKHZ	**Cape Kidnapper**	**40.02**	**152**	P		pP	20 59 44.5	+0.3
KAHZ	**Kahuranaki**	**40.03**	**152**	P		pP	20 59 46.4	+1.9
BFZ	**Birch Farm**	**40.46**	**154**	*e*P		**P**	**20 59 29.4**	**-0.5**
	54nm,1.3s							
FOZ	**Fox Glacier**	**40.53**	**162**	*e*P		**P**	**20 59 29.9**	**-0.5**
	98nm,1.5s							
JOW	**Kunigami**	**40.54**	**323**	*e*P		**P**	**20 59 31.4**	**+0.6**
	63nm,1.2s							
LTZ	**Lake Taylor**	**40.67**	**159**	*e*P		**P**	**20 59 31.3**	**-0.4**
	20nm,0.7s							
KHZ	**Kahutara**	**40.81**	**158**	*e*P		**P**	**20 59 31.6**	**-1.1**
	29nm,1.3s							
OXZ	**Oxford**	**41.06**	**160**	*e*P		**P**	**20 59 33.0**	**-1.8**
	12nm,0.7s							
RPZ	**Rata Peaks**	**41.08**	**161**	P		**P**	**20 59 34.4**	**-0.6**
	24nm,0.7s,baz=284,slow=1.6,SNR=10							
LBZ	**Lake Benmore**	**41.42**	**162**	*e*P		**P**	**20 59 36.8**	**-1.0**
	16nm,0.7s							
WKZ	**Wanaka**	**41.49**	**164**	*e*P		**P**	**20 59 37.8**	**-0.6**
DCZ	**Deep Cove**	**41.60**	**166**	*e*P		**P**	**20 59 38.6**	**-0.6**
	40nm,1.2s							
MQZ	**McQueen's Vall**	**41.61**	**160**	*e*P		**P**	**20 59 38.3**	**-1.0**
	39nm,1.4s							
MLZ	**Mavora Lakes**	**41.75**	**165**	*e*P		**P**	**20 59 40.0**	**-0.4**
	22nm,0.9s							
ODZ	**Otahua Downs**	**42.15**	**162**	*e*P		**P**	**20 59 42.9**	**-0.8**
	84nm,1.9s							
JNU	**Nakatsue**	**44.09**	**332**	P		**P**	**20 59 59.1**	**-0.4**
	12nm,0.7s,baz=157,slow=2.2,SNR=16							
JNU	**Nakatsue**	**44.09**	**332**	*e*P		**P**	**20 59 59.1**	**-0.4**
	11nm,0.7s							
MAJO	**Matsushiro**	**44.19**	**342**	*e*P		**P**	**21 00 00.6**	**+0.3**
	10nm,1.3s							
MJB9	**Matsu-Tunnel**	**44.20**	**342**	*e*P		**P**	**21 00 00.7**	**+0.4**
	11nm,1.3s							
KSRS	**Korea Array**	**49.02**	**332**	P		**P**	**21 00 37.3**	**-0.7**
	2.5nm,0.7s,baz=143,slow=7.6,SNR=8.1							
KS15	**Wonju Array Si**	**49.03**	**332**	*e*P		**P**	**21 00 36.7**	**-1.3**
KSAR	**Wonju Array Be**	**49.03**	**332**	P		**P**	**21 00 37.3**	**-0.7**
ASAJ	**Asahikawa**	**50.27**	**349**	P		**P**	**21 00 48.2**	**+0.9**
	4.9nm,0.6s,baz=190,slow=7.5,SNR=13							
ASAJ	**Asahikawa**	**50.27**	**349**	*e*P		**P**	**21 00 47.8**	**+0.4**
	4.9nm,0.7s							
ENH	**Enshi**	**55.41**	**312**	*e*P		**P**	**21 01 25.0**	**-0.6**
	35nm,1.9s							
PEA0B	**Petropavlovsk-**	**58.28**	**3**	*e*P		**P**	**21 01 45.9**	**+0.5**
	38nm,1.5s							
PETK	**Petropavlovsk-**	**58.28**	**3**	P		**P**	**21 01 44.9**	**-0.5**
	0.9nm,0.5s,baz=150,slow=6.4,SNR=5.6							
PETK	**Petropavlovsk-**	**58.28**	**3**	*e*P		**P**	**21 01 46.4**	**+1.0**
PEA1	**Petropavlovsk-**	**58.28**	**3**	*e*P		**P**	**21 01 44.9**	**-0.6**
CM31	**Chiang Mai Arr**	**59.22**	**295**	*e*P		**P**	**21 01 50.4**	**-2.2**
CMAR	**Chiang Mai Arr**	**59.22**	**295**	P		**P**	**21 01 52.7**	**+0.1**
	1.0nm,0.9s,baz=121,slow=5.8,SNR=6.5							
MA2	**Magadan**	**64.73**	**358**	P		**P**	**21 02 28.7**	**0.0**
	1.5nm,0.3s,baz=175,slow=12,SNR=3.8							
SONA0	**Songino Array**	**67.42**	**327**	*e*P		**P**	**21 02 46.4**	**0.0**
SONM	**Songino Array**	**67.42**	**327**	P		**P**	**21 02 46.4**	**0.0**
	1.8nm,0.5s,baz=138,slow=6.1,SNR=17							
SONA1	**Songino Array**	**67.42**	**327**	*e*P		**P**	**21 02 45.5**	**-0.9**
LSA	**Lhasa**	**69.55**	**304**	*e*P		**P**	**21 03 00.9**	**+0.4**
	9.7nm,1.8s							
TLY	**Talaya**	**71.14**	**330**	*e*P		**P**	**21 03 08.4**	**-0.8**
	1.9nm,0.6s							
VNDA	**Vanda**	**72.28**	**178**	P		**P**	**21 03 15.1**	**-0.5**
	3.8nm,0.6s,baz=332,slow=8.6,SNR=10							
VNDA	**Vanda**	**72.28**	**178**	*e*P		**P**	**21 03 15.5**	**-0.1**
	4.4nm,0.6s							
RSO	**Redoubt South**	**77.54**	**24**	*e*P		**P**	**21 03 44.1**	**-2.3**
SML	**Sawmill**	**80.07**	**24**	*e*P		**P**	**21 04 00.3**	**+0.2**
	12nm,1.3s							
IM3	**Indian Mountai**	**80.45**	**19**	*e*P		**P**	**21 04 01.1**	**-0.9**
RND	**Reindeer**	**80.71**	**23**	*e*P		**P**	**21 04 02.5**	**-1.0**
	14nm,1.7s							
MLY	**Manley**	**80.91**	**21**	*e*P		**P**	**21 04 04.1**	**-0.4**
	16nm,2.0s							
MK01	**Makanchi Array**	**81.51**	**319**	*e*P		**P**	**21 04 07.0**	**-1.1**
MK31	**Makanchi Array**	**81.52**	**319**	*e*P		**P**	**21 04 06.4**	**-1.7**
MK32	**Makanchi Array**	**81.52**	**319**	*e*P		**P**	**21 04 07.4**	**-0.7**
MKAR	**Makanchi Array**	**81.52**	**319**	P		**P**	**21 04 07.4**	**-0.7**
	0.4nm,0.5s,baz=94,slow=7.4,SNR=6.3							
MKAR	**Makanchi Array**	**81.52**	**319**	*e*P		**P**	**21 04 06.4**	**-1.7**
	7.1nm,1.0s							
WRH	**Wood River Hil**	**81.56**	**22**	*e*P		**P**	**21 04 07.5**	**-0.4**
	15nm,1.8s							
MAKZ	**Makanchi**	**81.73**	**319**	*e*P		**P**	**21 04 07.6**	**-1.6**
	4.4nm,1.3s							
ILAR	**Eielson Array**	**82.16**	**22**	P		**P**	**21 04 09.5**	**-1.5**
	0.3nm,0.5s,baz=247,slow=4.9,SNR=6.9							
ILB	**Eielson Array**	**82.16**	**22**	*e*P		**P**	**21 04 08.6**	**-2.5**
KDJ	**Kajisay**	**83.87**	**313**	*e*P		**P**	**21 04 20.1**	**-0.5**
	1.9nm,0.8s							
HYT	**Haines Junctio**	**84.31**	**27**	*e*P		**P**	**21 04 21.3**	**-1.1**
	5.5nm,1.3s							
QSPA	**South Pole Qui**	**84.66**	**180**	P		**P**	**21 04 22.6**	**-1.5**
	4.0nm,0.7s,baz=38,slow=4.4,SNR=23							
KURK	**Kurchatov**	**84.93**	**322**	*e*P		**P**	**21 04 24.5**	**-1.0**
KURBB	**Kurchatov Arra**	**84.96**	**322**	P		**P**	**21 04 24.5**	**-1.2**
	0.2nm,0.4s,baz=93,slow=5.6,SNR=5.5							
MAW	**Mawson**		**85.58**	**203**	P	**P**	**21 04 27.6**	**-0.8**
	6.1nm,0.6s,baz=98,slow=6.6,SNR=25							
MAW	**Mawson**		**85.58**	**203**	*e*P	**P**	**21 04 27.0**	**-1.4**
	1.3nm,0.6s							
TORD	**Torodi Ar. Bea**	**151.65**	**288**	PKPbc		**PKPbc**	**21 11 42.8**	**-2.8**
	0.4nm,0.6s,baz=86,slow=1.6,SNR=8.0							
TORD				pPKPbc		**pPKPab**	**21 12 17.0**	**+2.1**
	0.8nm,0.7s,baz=71,slow=1.8,SNR=3.5							
TOA1	**Torodi Ar. Sit**	**151.65**	**288**	*e*PKPbc		**PKPbc**	**21 11 42.8**	**-2.8**
TOA1				*ep*PKPab		**pPKPab**	**21 12 17.0**	**+2.1**

*IDC **24** 21:01:03.9±2.3,35°.82N×141°.16E,h0km,mb3.2/3,*
mb1 3.3/5,mb1mx3.1/63,mbtmp3.3/5,ML3.1/2,Error
ellipse: s-maj=53.4km s-min=23.5km az=60.0
*ISCJB **24** 21:01:10.4±0.9,35°.67N±0°.05×140°.8E±0°.1,h54km±7km,*
mb3.3/3,Error ellipse: s-maj=14.0km s-min=7.9km
az=168.4
*JMA **24** 21:01:11.7±0.1,35°.72N×140°.66E,h45km±2km,M2.6*

ISC 24 21:01:11.2±1.2,35°.69N±0°.05×140°.82E±0°.09,h46km±9km,
n11,σ1°41/16,mb3.2/3,Near east coast of eastern
Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CHOJ	**Chosi**	**0.04**	**67**	P		**Pn**	**21 01 19.2**	**+0.8**
JCN	**Nagara**	**0.57**	**242**	P		**Pn**	**21 01 23.1**	**0.0**
JCN				*e*S		**Sn**	**21 01 30.2**	**-1.4**
JYT	**Yasato**	**0.74**	**317**	P		**Pn**	**21 01 24.3**	**-1.0**
JYT				S		**Sn**	**21 01 33.3**	**-2.2**
BSO3	**Boso 3**	**0.92**	**196**	P		**Pn**	**21 01 28.1**	**+0.6**
JHO	**Hitachi**	**0.94**	**348**	P		**Pn**	**21 01 28.1**	**+0.1**
MJAR	**Matsushiro Arr**	**2.28**	**293**	Pn		**Pn**	**21 01 46.2**	**-0.2**
	3.4nm,0.3s,baz=98,slow=14,SNR=28							
MJAR				Sn		**Sn**	**21 02 16.8**	**+3.6**
	3.0nm,0.3s,baz=98,slow=18,SNR=6.7							
MAT	**Matsushiro**	**2.28**	**293**	P		**Pn**	**21 01 46.7**	**+0.4**
MAT				S		**Sn**	**21 02 14.1**	**+0.9**
JHJ	**Hachijo jima 2**	**2.70**	**199**	Pn		**Pn**	**21 01 52.0**	**-0.1**
	7.8nm,0.3s,baz=143,slow=23,SNR=6.0							
JHJ				Sn		**Sn**	**21 02 22.6**	**-1.0**
	15nm,0.3s,baz=233,slow=20,SNR=3.1							
MKAR	**Makanchi Array**	**44.44**	**303**	P		**P**	**21 09 17.5**	**+0.1**
	0.2nm,0.5s,baz=83,slow=9.3,SNR=3.1							
KURBB	**Kurchatov Arra**	**46.46**	**309**	P		**P**	**21 09 33.2**	**-0.1**
	0.3nm,0.4s,baz=81,slow=7.2,SNR=5.4							
WRA	**Warramunga Arr**	**55.67**	**187**	P		**P**	**21 10 42.7**	**0.0**
	0.1nm,0.5s,baz=1.8,slow=7.6,SNR=4.5							

2012 APR

*ISCJB **24** 21:12:35.6±0.6,39°.11N±0°.05×29°.17E±0°.03,h2km±8km,*
Error ellipse: s-maj=8.0km s-min=4.5km az=177.5
*CSEM **24** 21:12:35.7±0.1,39°.11N×29°.17E,h2km,ML2.3,Error*
ellipse: s-maj=2.1km s-min=2.0km az=139.0
*DDA **24** 21:12:35.6,39°.11N×29°.17E,h7km,Ml2.6*
*ISK **24** 21:12:35.3,39°.09N×29°.18E,h6km,ML2.3/12*

ISC 24 21:12:35.8±0.9,39°.10N±0°.03×29°.17E±0°.02,h7km±9km,
n43,σ0°33/49,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SIMA	**Simav-Kutahya**	**0.15**	**263**	PG		**Pg**	**21 12 39.2**	**+0.3**
SIMA				SG		**Sg**	**21 12 40.8**	**-0.2**
SIMA	**Simav-Kutahya**	**0.15**	**263**	*e*Pg		**Pg**	**21 12 39.2**	**+0.3**
SIMA				*e*Sg		**Sg**	**21 12 40.8**	**-0.2**
GDZ	**Gediz**	**0.24**	**93**	*i* P		**Pg**	**21 12 40.4**	**-0.2**
GDZ				*i* S		**Sg**	**21 12 44.3**	**+0.4**
GDZ	**Gediz**	**0.24**	**93**	P		**Pg**	**21 12 40.4**	**-0.2**
GDZ				S		**Sg**	**21 12 44.3**	**+0.4**
DEMI	**Demirci**	**0.36**	**261**	*i* P		**Pg**	**21 12 42.9**	**+0.1**
DEMI				*i* S		**Sg**	**21 12 47.6**	**+0.1**
DEMI	**Demirci**	**0.36**	**261**	P		**Pg**	**21 12 42.9**	**+0.1**
DEMI				S		**Sg**	**21 12 47.6**	**+0.1**
TVSB	**Tavsanli**	**0.41**	**33**	PG		**Pg**	**21 12 43.3**	**-0.6**
TVSB	**Tavsanli**	**0.41**	**33**	*e*Pg		**Pg**	**21 12 43.3**	**-0.6**
KULA	**Kula-Manisa**	**0.71**	**214**	PG		**Pg**	**21 12 49.3**	**-0.1**
KULA	**Kula-Manisa**	**0.71**	**214**	*e*Pg		**Pg**	**21 12 49.3**	**-0.1**
DURS	**Dursunbey**	**0.73**	**313**	*i* P		**Pg**	**21 12 49.9**	**0.0**
DURS	**Dursunbey**	**0.73**	**313**	P		**Pg**	**21 12 49.9**	**0.0**
KHAL	**Karahalli**	**0.77**	**161**	*i* P		**Pb**	**21 12 51.3**	**-0.3**
KHAL	**Karahalli**	**0.77**	**161**	P		**Pb**	**21 12 51.3**	**-0.3**
MANT	**Manisa**	**0.77**	**218**	*i* P		**Pg**	**21 12 50.8**	**+0.1**
MANT	**Manisa**	**0.77**	**218**	P		**Pg**	**21 12 50.8**	**+0.1**
BALB	**Balikesir**	**1.14**	**299**	PN		**Pn**	**21 12 58.1**	**+0.1**
BALB	**Balikesir**	**1.14**	**299**	*e*Pn		**Pn**	**21 12 58.1**	**+0.1**
KZIL	**AFYON_Kizioren**	**1.14**	**138**	*i* P		**Pb**	**21 12 57.8**	**+0.1**
KZIL	**AFYON_Kizioren**	**1.14**	**138**	P		**Pb**	**21 12 57.8**	**+0.1**
STEP	**BALIKESIR_Sava**	**1.16**	**284**	*i* P		**Pg**	**21 12 57.8**	**-0.2**
STEP	**BALIKESIR_Sava**	**1.16**	**284**	P		**Pg**	**21 12 57.8**	**-0.2**
IGD	**Bursa**	**1.16**	**1**	*i* P		**Pg**	**21 12 57.8**	**-0.3**
CAVI	**Cavuskoy**	**1.22**	**25**	PN		**Pn**	**21 12 59.3**	**+0.1**
CAVI	**Cavuskoy**	**1.22**	**25**	*e*Pn		**Pn**	**21 12 59.3**	**+0.1**
MDNY	**Mudanya-Bursa**	**1.28**	**350**	PN		**Pg**	**21 13 00.7**	**+0.3**
MDNY	**Mudanya-Bursa**	**1.28**	**350**	*e*Pn		**Pg**	**21 13 00.7**	**+0.3**
KCTX	**Karacabey (Bur**	**1.32**	**332**	PN		**Pg**	**21 13 01.2**	**+0.1**
KCTX	**Karacabey (Bur**	**1.32**	**332**	*e*Pn		**Pg**	**21 13 01.2**	**+0.1**
BALY	**Balya**	**1.36**	**298**	*i* P		**Pn**	**21 13 00.3**	**-0.9**
BALY	**Balya**	**1.36**	**298**	P		**Pn**	**21 13 00.3**	**-0.9**
YLV	**Yalova**	**1.47**	**6**	PN		**Pb**	**21 13 03.4**	**-0.1**
YLV	**Yalova**	**1.47**	**6**	*e*Pn		**Pb**	**21 13 03.4**	**-0.1**
ARMT	**Armutlu**	**1.48**	**351**	PN		**Pb**	**21 13 03.6**	**0.0**
ARMT	**Armutlu**	**1.48**	**351**	*e*Pn		**Pb**	**21 13 03.6**	**0.0**
GONE	**Gonen-Balikesi**	**1.48**	**310**	PN		**Pb**	**21 13 03.6**	**-0.1**
GONE	**Gonen-Balikesi**	**1.48**	**310**	*e*Pn		**Pb**	**21 13 03.6**	**-0.1**
EDC	**Edincik**	**1.60**	**321**	PN		**Pb**	**21 13 05.5**	**-0.1**
EDC	**Edincik**	**1.60**	**321**	*e*Pn		**Pb**	**21 13 05.5**	**-0.1**
GULT	**Gulveren**	**1.69**	**38**	PN		**Pn**	**21 13 06.0**	**+0.3**
GULT	**Gulveren**	**1.69**	**38**	*e*Pn		**Pn**	**21 13 06.0**	**+0.3**
SILT	**Sile**	**2.08**	**10**	PN		**Pn**	**21 13 11.8**	**+0.8**
SILT	**Sile**	**2.08**	**10**	*e*Pn		**Pn**	**21 13 11.8**	**+0.8**

*ISN **24** 21:18:36.0±1.5,32°.51N×47°.16E,h33km±24km,ML2.7*

TEH 24 21:18:35.1,32°.49N×47°.15E,h5km,ML2.7,Iran-Iraq
border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
IKFM	**Kafar-mosalman**	**1.18**	**30**	*e*Pg		Pg	21 18 56.5	-1.3
IKFM				*e*AMB		AMB	21 18 58.4	
	comp=Z,99nm,0.2s							
IKFM				*e*Sg		Sg	21 19 11.3	-1.9
IKOM	**Komasi**	**1.70**	**10**	*e*Sg		Sb	21 19 29.3	+0.5
IKOM				*e*Pn		Pn	21 19 05.5	-0.1
IKOM				*e*AMB		AMB	21 19 32.1	
	comp=Z,824nm,0.1s							
IGHG	**Ghaleghazi**	**1.89**	**345**	*e*AMB		AMB	21 19 42.9	
IGHG	comp=N,498nm,0.1s							
				*e*Pn		Pb	21 19 09.6	-0.7
IVIS	**Veis**	**2.04**	**353**	*e*Sg		Sb	21 19 38.4	-0.1
IVIS				*e*Pn		Pn	21 19 09.8	-0.5
IVIS				*e*AMB		AMB	21 19 41.5	
	comp=Z,535nm,0.2s							
IDHR	**Dehrash**	**2.29**	**344**	*e*Pn		Pn	21 19 13.4	-0.4
IDHR				*e*AMB		AMB	21 19 16.5	
	comp=Z,410nm,0.1s							
QAM	**Ghamsar**	**3.81**	**70**	*e*Pn		Pn	21 19 34.5	-0.2
QAM				*e*AMB		AMB	21 19 50.6	
	comp=Z,110nm,0.1s							
IKLH	**Kolahrood**	**3.82**	**76**	*e*Pn		Pn	21 19 34.0	-0.8
IKLH				*e*AMB		AMB	21 19 49.0	
	comp=Z,77nm,0.2s							

*ISCJB **24** 21:37:31.0±0.6,17°.71S±0°.04×178°.71W±0°.04,*
h528km±7km,mb4.8/167,Error ellipse: s-maj=6.4km
s-min=4.3km az=136.4
*IDC **24** 21:37:31.7±0.8,17°.68S×178°.60W,h526km±8km,mb4.1/31,*
mb1 4.2/34,mb1mx4.1/51,mbtmp5.0/34,Error ellipse:
s-maj=9.5km s-min=7.8km az=116.0
*BJI **24** 21:37:32.5,17°.70S×178°.70W,h543km,mb4.8/40,*
mB4.8/20
*NEIC **24** 21:37:33.4±0.1,17°.73S×178°.65W,mb4.9/90,Error*
ellipse: s-maj=5.1km s-min=3.5km az=121.0
*MOS **24** 21:37:35.1±1.3,17°.53S×178°.86W,h561km,mb4.8/22,*
Error ellipse: s-maj=10.6km s-min=9.0km az=127.3

ISC 24 21:37:33.7±0.4,17°.61S±0°.05×178°.65W±0°.05,
h550km±4km,h551km:pP-P,n547,σ1°15/579,mb4.9/167,
37C-43D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MSVF	**Nonsavu**	**3.15**	**267**	*e*P		**P**	**21 38 51.4**	**+1.6**
MSVF	**Nonsavu**	**3.15**	**267**	*e*P		**P**	**21 38 51.4**	**+1.6**
AFI	**Afiamalu**	**7.57**	**62**	P		**P**	**21 39 24.5**	**-2.9**
	25nm,0.3s,baz=46,slow=2.9,SNR=25							
AFI				S		**S**	**21 40 54.8**	**-5.7**
	15nm,0.3s,baz=197,slow=23,SNR=4.8							
AFI	**Afiamalu**	**7.57**	**62**	*e*P		**P**	**21 39 24.8**	**-2.6**
AFI				*e*S		**S**	**21 40 55.0**	**-5.5**
AFI	**Afiamalu**	**7.57**	**62**	*e*P		**P**	**21 39 24.8**	**-2.6**
AFI				*e*S		**S**	**21 40 55.0**	**-5.5**
NIUE	**Niue**	**8.41**	**101**	P		**P**	**21 39 35.5**	**-0.1**
	baz=8.3,SNR=43							
FUNA	**Funafuti**	**9.27**	**347**	*e*P		**P**	**21 39 43.5**	**-0.9**
RAO	**Raoul Island**	**11.61**	**177**	S		**S**	**21 42 15.6**	**+0.5**
	81nm,0.3s,baz=53,slow=20,SNR=3.6							
DZM	**Mont Dzumac**	**14.71**	**250**	P		**P**	**21 40 38.7**	**-1.6**
	2.1nm,0.3s,baz=75,slow=19,SNR=12							
DZM				S		**S**	**21 43 11.9**	**-2.2**
	0.3nm,0.3s,baz=131,slow=20,SNR=3.0							
KNTN	**Kanton**	**16.24**	**26**	*e*P		**P**	**21 40 54.7**	**-1.0**
	320nm,0.8s							
RAR	**Rarotonga**	**18.16**	**104**	P		**P**	**21 41 13.6**	**+0.4**
	1.8nm,0.3s,baz=260,slow=7.3,SNR=5.3							
OUZ	**Omahuta**	**18.85**	**200**	*e*P		**P**	**21 41 21.3**	**+2.1**
	216nm,1.2s							
URZ	**Urewera**	**20.90**	**189**	P		**P**	**21 41 34.7**	**-3.1**
	65nm,0.8s,baz=360,slow=4.6,SNR=34							
URZ	**Urewera**	**20.90**	**189**	*e*P		**P**	**21 41 34.9**	**-2.9**
HIZ	**Hauiti**	**21.59**	**194**	*e*P		**P**	**21 41 43.4**	**-0.6**
	46nm,0.9s							
BKZ	**Black Stump Fm**	**21.89**	**190**	*e*P		**P**	**21 41 44.3**	**-2.5**
	28nm,0.8s							
HNR	**Honiara**	**22.32**	**289**	P		**P**	**21 41 52.1**	**+1.2**
	100nm,0.6s,baz=66,slow=0.7,SNR=7.2							
BFZ	**Birch Farm**	**23.41**	**190**	*e*P		**P**	**21 41 59.2**	**-1.0**
	30nm,0.6s							
THZ	**Tophouse**	**25.14**	**195**	*e*P		**P**	**21 42 13.7**	**-1.9**
	31nm,0.6s							
KHZ	**Kahutara**	**25.61**	**193**	*e*P		**P**	**21 42 17.5**	**-2.1**
	43nm,0.6s							
LTZ	**Lake Taylor**	**26.25**	**195**	*e*P		**P**	**21 42 23.2**	**-2.2**
	70nm,0.6s							
OXZ	**Oxford**	**26.82**	**195**	*e*P		**P**	**21 42 28.0**	**-2.3**
	116nm,0.7s							
CRLZ	**Canterbury Las**	**26.92**	**194**	*e*P		**P**	**21 42 30.5**	**-0.6**
	35nm,0.8s							
MQZ	**McQueen's Vall**	**27.03**	**194**	*e*P		**P**	**21 42 30.8**	**-1.4**
	24nm,0.6s							
RPZ	**Rata Peaks**	**27.44**	**196**	P		**P**	**21 42 34.5**	**-1.3**
	26nm,0.5s,baz=230,slow=0.9,SNR=14							
FOZ	**Fox Glacier**	**27.62**	**198**	*e*P		**P**	**21 42 36.2**	**-1.1**
	225nm,1.2s							
LBZ	**Lake Benmore**	**28.30**	**197**	*e*P		**P**	**21 42 40.6**	**-2.6**
	34nm,0.5s							
ODZ	**Otahua Downs**	**28.78**	**196**	*e*P		**P**	**21 42 45.6**	**-1.8**
	70nm,1.7s							
WKZ	**Wanaka**	**29.04**	**198**	*e*P		**P**	**21 42 48.1**	**-1.7**
	89nm,0.5s							
EIDS	**Eidsvold**	**29.15**	**249**	P		**P**	**21 42 50.2**	**-0.8**
	baz=29,SNR=20							
EIDS	**Eidsvold**	**29.15**	**249**	*e*P		**P**	**21 42 49.8**	**-1.2**
	51nm,0.8s							
MLZ	**Mavora Lakes**	**29.80**	**199**	*e*P		**P**	**21 42 56.0**	**-0.3**
	153nm,0.6s							
ARMA	**Armidale**	**29.89**	**239**	P		**P**	**21 42 57.9**	**+0.5**
	baz=30,SNR=33							
ARMA	**Armidale**	**29.89**	**239**	*e*P		**P**	**21 42 57.9**	**+0.5**
	38nm,0.7s							
DCZ	**Deep Cove**	**30.20**	**200**	*e*P		**P**	**21 42 57.7**	**-1.9**
	118nm,1.5s							
WHZ	**Wether Hill Ro**	**30.33**	**199**	*e*P		**P**	**21 42 58.9**	**-1.9**
	86nm,0.7s							
MGCD	**Mangrove Creek**	**31.28**	**234**	P		**P**	**21 43 09.6**	**+0.5**
	baz=31,SNR=5.3							
RMQ	**Roma**	**31.40**	**248**	P		**P**	**21 43 10.5**	**+0.1**
	baz=32,SNR=49							
RABL	**Rabaul**	**31.54**	**292**	*e*P		**P**	**21 43 11.0**	**-0.7**
	74nm,0.6s							
CTA	**Charters Tower**	**33.27**	**260**	P		**P**	**21 43 25.6**	**-0.7**
	49nm,0.8s,baz=91,slow=10,SNR=8.5							
CTA				ScP		**ScP**	**21 48 47.9**	**+3.1**
	4.8nm,0.6

KDI **Kendari** 59.04 276 P **P** 21 46 40.6 -1.1
NWAO **Narrogin (SRO)** 59.15 242 *e*P **P** 21 46 41.8 -0.3
comp=Z,22nm,0.8s
NWAO **Narrogin (SRO)** 59.15 242 *e*P **P** 21 46 41.8 -0.3
NWAO pmax pmax
comp=Z,22nm,0.8s
BASI **Baing, Sumba** 59.24 268 P **P** 21 46 43.0 0.0
KMSI **Cibinong** 59.25 282 P **P** 21 46 41.7 -1.4
comp=Z,133nm,0.7s,comp=Z,5µm
WSI **Waingapu** 59.65 269 P **P** 21 46 45.8 +0.1
BLDU **Ballidu** 59.70 244 P **P** 21 46 44.9 -1.0
baz=60,SNR=16
LUWI **Luwuk** 59.83 279 P **P** 21 46 47.5 +0.6
comp=Z,130nm,1.1s,comp=Z,1µm
LUWI **Luwuk** 59.83 279 *e*P **P** 21 46 46.4 -0.6
comp=Z,150nm,1.1s
MUN **Mundaring** 60.05 243 P **P** 21 46 48.0 -0.2
baz=60,SNR=4.4
MORW **Morawa** 60.39 246 P **P** 21 46 49.6 -0.8
baz=60,SNR=7.4
BSSI **Bau Bau, Buton** 60.41 273 P **P** 21 46 50.6 -0.2
WBSI **Waikabubak, Su** 60.52 269 P **P** 21 46 51.4 -0.2
VNDA **Vanda** 60.72 185 P **P** 21 46 52.5 +0.8
comp=Z,5.3nm,0.6s,baz=7.9,slow=7.8,SNR=15
APSI **Ampana** 60.93 279 P **P** 21 46 54.2 0.0
BKSI **Bulukumba** 61.00 274 P **P** 21 46 54.7 0.0
MRSI **Marisa** 61.13 281 P **P** 21 46 55.8 +0.3
comp=Z,32nm,0.9s,comp=Z,1µm
BNSI **Bone** 61.29 275 P **P** 21 46 56.8 +0.2
comp=Z,73nm,1.1s,comp=Z,1µm
TTSI **Tana Toraja** 61.98 276 P **P** 21 47 02.1 +1.1
comp=Z,29nm,0.8s,comp=Z,908nm
PLAI **Plampang** 62.27 269 P **P** 21 47 03.4 +0.5
comp=Z,127nm,0.9s,comp=Z,1µm
PCI **Palu** 62.64 278 P **P** 21 47 05.6 +0.2
comp=Z,158nm,1.0s,comp=Z,1µm
MPSI **Mapaga** 63.00 280 P **P** 21 47 07.3 -0.3
comp=Z,64nm,0.9s
TWSI **Taliwang, Sumb** 63.14 269 P **P** 21 47 08.3 -0.3
comp=Z,124nm,0.8s,comp=Z,1µm
JHJ **Hachijo jima 2** 64.20 322 P **P** 21 47 15.2 +0.4
comp=Z,130nm,0.7s,baz=166,slow=4.2,SNR=3.6
DNP **Denpasar** 64.75 269 P **P** 21 47 18.9 +0.1
IGBI **Denpasar** 64.78 268 P **P** 21 47 19.0 0.0
SRBI **Singaraja** 64.91 269 P **P** 21 47 19.3 -0.5
SMKI **Samarinda** 65.27 278 P **P** 21 47 21.9 -0.2
BKB **Balikpapan** 65.31 277 P **P** 21 47 23.1 +0.8
KBKI **Kotabaru** 65.36 275 P **P** 21 47 22.5 -0.2
JAGI **Jajag, Banyuwa** 65.82 268 P **P** 21 47 23.8 -1.7
JAGI **Jajag, Banyuwa** 65.82 268 *e*P **P** 21 47 24.1 -1.5
comp=Z,87nm,0.9s
MYLDM **Lahad Datu** 66.02 284 *e*P **P** 21 47 28.5 +1.8
comp=Z,65nm,1.2s
CASY **Casey** 66.31 205 *e*P **P** 21 47 27.6 0.0
comp=Z,19nm,1.2s
BLJI **Banyuglugur** 66.54 269 P **P** 21 47 29.1 -0.9
GMJI **Gumukmas** 66.55 268 P **P** 21 47 30.1 +0.1
comp=Z,67nm,0.9s
BBKI **Banjar Baru** 66.58 274 P **P** 21 47 30.6 +0.4
MTKI **Muara Teweh, K** 67.30 277 P **P** 21 47 34.6 -0.1
TGY **Tagaytay City** 67.41 294 P **P** 21 47 35.2 -0.1
comp=Z,115nm,0.3s,baz=55,slow=5.2,SNR=3.3
MJAR **Matsushiro Arr** 67.53 323 P **P** 21 47 35.7 +0.1
comp=Z,24nm,0.6s,baz=165,slow=6.6,SNR=67
MAJO **Matsushiro** 67.53 323 *e*P **P** 21 47 35.3 -0.3
comp=Z,29nm,0.8s
MAJO **Matsushiro** 67.53 323 *d i*P **P** 21 47 35.7 +0.1
MAJO pmax pmax
comp=Z,31nm,0.8s
MAT **Matsushiro** 67.53 323 P **P** 21 47 35.5 -0.1
MAT *e*S **S** 21 55 41.0 -8.1
MJB9 **Matsu-Tunnel** 67.54 323 *e*P **P** 21 47 35.8 +0.1
comp=Z,30nm,0.8s
GRJI **Gresik** 67.83 270 P **P** 21 47 37.9 0.0
BWJI **Bawean** 67.96 271 P **P** 21 47 38.2 -0.5
PWJI **Pagerwojo** 68.18 268 P **P** 21 47 40.0 0.0
comp=Z,56nm,0.8s
KKM **Kota Kinabalu** 68.45 284 *e*P **P** 21 47 41.5 -0.2
comp=Z,34nm,0.6s
NGJI **Ngawi** 68.68 269 P **P** 21 47 43.1 +0.1
PCJI **Pacitan** 68.73 268 P **P** 21 47 43.4 +0.1
WOJI **Wonogiri, Jawa** 69.06 268 P **P** 21 47 45.4 0.0
UGM **Wanagama** 69.43 268 P **P** 21 47 47.4 -0.2
comp=Z,166nm,0.7s
UGM **Wanagama** 69.43 268 *e*P **P** 21 47 47.6 0.0
comp=Z,108nm,0.7s
SMRI **Semarang** 69.74 269 P **P** 21 47 49.5 +0.1
JNU **Nakatsue** 69.77 316 P **P** 21 47 49.4 +0.2
comp=Z,12nm,0.8s,baz=40,slow=5.4,SNR=7.3
JNU **Nakatsue** 69.77 316 *e*P **P** 21 47 48.8 -0.4
comp=Z,22nm,1.0s
PBKI **Pangkalan Bun** 69.82 274 P **P** 21 47 51.1 +1.2
STKI **Sintang** 70.86 276 P **P** 21 47 57.1 +1.0
ASAJ **Asahikawa** 70.91 332 P **P** 21 47 57.4 +1.8
comp=Z,22nm,0.7s,baz=221,slow=5.7,SNR=44
ASAJ **Asahikawa** 70.91 332 *e*P **P** 21 47 56.9 +1.2
comp=Z,20nm,0.6s
SBUM **Sibu** 70.93 279 *e*P **P** 21 47 57.3 +0.8
comp=Z,16nm,0.8s
KPJI **Karang Pucung** 71.10 268 P **P** 21 47 57.4 -0.1
comp=Z,86nm,0.9s,comp=Z,927nm
YULB **Yu-li** 71.42 303 *e*P **P** 21 47 57.9 -1.2
comp=Z,15nm,0.8s
CMJI **Cimerak** 71.44 268 P **P** 21 47 58.2 -1.2
NACB **Ninganchiao** 71.56 304 *e*P **P** 21 47 60.0 +0.1
comp=Z,63nm,1.0s
SSLB **Suanglung** 71.88 303 *e*P **P** 21 48 00.3 -1.5
comp=Z,20nm,0.6s
TPUB **Ta-pu** 71.91 302 *e*P **P** 21 48 00.7 -1.3
comp=Z,64nm,0.7s
KSM **Kuching** 72.42 277 *e*P **P** 21 48 05.5 +0.3
comp=Z,81nm,0.9s
QSPA **South Pole Qui** 72.44 180 P **P** 21 48 04.8 +0.4
comp=Z,43nm,0.8s,baz=51,slow=1.9,SNR=105
LEM **Lembang** 72.49 268 P **P** 21 48 05.8 0.0
comp=Z,2µm,0.9s
YSS **Yuzh-Sakhalins** 73.05 333 *e*P **P** 21 48 08.8 +0.9
YSS **Yuzh-Sakhalins** 73.05 333 ⇑ *i*P **P** 21 48 09.7 +1.7
YSS pmax pmax
comp=Z,20nm,0.9s
PEA0B **Petropavlovsk-** 73.33 345 *e*P **P** 21 48 10.2 +0.7
comp=Z,25nm,0.8s
PETK **Petropavlovsk-** 73.33 345 P **P** 21 48 09.9 +0.4
comp=Z,23nm,0.8s,baz=128,slow=8.1,SNR=30
PETK **Petropavlovsk-** 73.33 345 *e*P **P** 21 48 09.8 +0.3
PETK **Petropavlovsk-** 73.33 345 *e*P **P** 21 48 09.8 +0.3
DBJI **Dramaga** 73.40 268 P **P** 21 48 10.4 -0.4
SKJI **Sukabumi** 73.46 268 P **P** 21 48 10.9 -0.2
comp=Z,275nm,0.7s,comp=Z,2µm
SBJI **Serang** 74.11 269 P **P** 21 48 14.5 -0.3
KSRS **Korea Array** 74.33 318 P **P** 21 48 16.3 +0.9
comp=Z,6.3nm,0.7s,baz=129,slow=6.1,SNR=21
KSAR **Wonju Array Be** 74.34 318 P **P** 21 48 16.3 +0.8
KSAR **Wonju Array Be** 74.34 318 P **P** 21 48 16.3 +0.8
KS01 **Wonju Array Si** 74.36 318 *e*P **P** 21 48 16.5 +0.8
CGJI **Cibinong** 74.39 268 P **P** 21 48 15.4 -0.9
comp=Z,150nm,0.7s,comp=Z,2µm
BLSI **Bandar Lampung** 75.17 269 P **P** 21 48 20.7 0.0
PPBI **Pangkal Pinang** 75.26 272 P **P** 21 48 21.6 +0.4
MSHR **Mys Shultsa** 75.63 324 *d i*P **P** 21 48 24.2 +1.6
KASI **Kota Agung** 75.84 269 P **P** 21 48 23.5 -0.9
comp=Z,157nm,0.8s,comp=Z,1µm
TYV **Tymovskoe** 76.17 336 *e*P **P** 21 48 26.2 +0.8
TYV pmax pmax
comp=Z,38nm,0.9s
USRK **Ussuriysk Ar.** 76.24 326 P **P** 21 48 26.5 +0.5
comp=Z,8.3nm,0.8s,baz=134,slow=2.9,SNR=15
LWLI **Liwa** 76.40 269 P **P** 21 48 27.4 -0.3
comp=Z,73nm,0.6s,comp=Z,9µm
MDSI **Maura Dua** 76.44 270 P **P** 21 48 26.2 -1.6
comp=Z,29nm,1.2s
DSRI **Dabo** 77.25 274 P **P** 21 48 32.8 +0.6
comp=Z,8.4nm,0.4s,comp=Z,3µm
NJ2 **Nanjing** 77.57 310 *e*P **P** 21 48 35.0 +1.5
NJ2 pmax pmax
comp=Z,29nm,0.9s
MNAI **Manna** 77.64 269 P **P** 21 48 34.3 0.0
TPRI **Tanjung Pinang** 77.73 275 P **P** 21 48 34.8 0.0
MDJ **Mudanjiang** 77.81 325 *e*P **P** 21 48 35.7 +1.2
comp=Z,39nm,0.8s
KDAK **Kodiak Island** 78.17 14 P **P** 21 48 36.5 +0.5
comp=Z,7.9nm,0.7s,baz=184,slow=2.7,SNR=7.8
KDAK **Kodiak Island** 78.17 14 *i*P **P** 21 48 37.2 +1.1
YBH **Yreka Blue Hor** 78.44 39 P **P** 21 48 38.3 +0.2
comp=Z,1.4nm,0.6s,baz=99,slow=4.1,SNR=5.0
MYKOM **Kota Tinggi** 78.64 276 *e*P **P** 21 48 40.1 +0.4
comp=Z,55nm,1.5s
GRNR **Gornyy** 78.67 333 *e*P **P** 21 48 39.8 +0.8
GRNR pmax pmax
comp=Z,56nm,0.8s
YERR **Yerington** 79.06 43 *e*P **P** 21 48 43.4 +1.8
comp=Z,10nm,1.0s
NV01 **Mina Array St** 79.37 44 *e*P **P** 21 48 45.0 +1.8
NVAR **Mina Array Bea** 79.37 44 P **P** 21 48 44.2 +0.9
comp=Z,1.5nm,0.7s,baz=226,slow=8.6,SNR=12
NVAR pP **pP** 21 50 41.2 +0.9
comp=Z,1.3nm,0.9s,baz=228,slow=10,SNR=2.6
CN2 **Changchun** 79.65 322 *e*P **P** 21 48 46.1 +1.8
KRJI **Kerinci** 79.73 271 P **P** 21 48 45.4 -0.2
KLR **Kul'dur** 79.74 330 P **P** 21 48 45.3 +0.7
comp=Z,0.8nm,1.1s,baz=101,slow=4.3,SNR=16
KLR **Kul'dur** 79.74 330 *d i*P **P** 21 48 45.5 +0.9
WHN **Wuhan** 80.25 306 ⇓ P **P** 21 48 48.8 +1.1
MA2 **Magadan** 80.85 345 P **P** 21 48 49.8 -0.4
comp=Z,11nm,0.6s,baz=150,slow=9.5,SNR=11
MA2 **Magadan** 80.85 345 *e*P **P** 21 48 49.7 -0.4
comp=Z,13nm,0.8s
MA2 **Magadan** 80.85 345 *e*P **P** 21 48 50.0 -0.2
MA2 pmax pmax
comp=Z,13nm,0.8s
PDSI **Padang** 81.04 272 P **P** 21 48 51.6 -0.7
GAMB **Gambell** 81.31 3 *e*P **P** 21 48 53.3 +0.9
comp=Z,9.7nm,0.7s
WVOR **Wild Horse Val** 81.33 40 *e*P **P** 21 48 55.0 +1.7
comp=Z,5.6nm,1.1s
WVOR **Wild Horse Val** 81.33 40 *e*P **P** 21 48 55.0 +1.7
WVOR pmax pmax
comp=Z,6.0nm,1.1s
SPU **Mount Spurr** 81.36 13 *e*P **P** 21 48 52.4 -0.4
SUA **Susitna One** 81.90 13 *e*P **P** 21 48 55.4 -0.3
comp=Z,13nm,0.8s
LCMT **Little Creek M** 82.10 47 *e*P **P** 21 48 57.6 +0.3
comp=Z,6.6nm,1.1s
IPM **Ipoh** 82.16 277 *e*P **P** 21 48 58.2 +0.2
comp=Z,42nm,0.8s
SISI **Saibi** 82.22 271 P **P** 21 48 57.2 -1.1
PMR **Palmer** 82.37 14 *e*P **P** 21 48 58.1 +0.3
comp=Z,15nm,1.3s
PMR **Palmer** 82.37 14 *e*P **P** 21 48 58.1 +0.3
PMR pmax pmax
comp=Z,15nm,1.3s
MNSI **Mandailing Nat** 82.39 273 P **P** 21 48 58.4 -0.8
U15A **North Rim** 82.49 48 *e*P **P** 21 49 02.0 +2.5
comp=Z,20nm,1.8s
KULM **Kulim** 82.77 278 *e*P **P** 21 49 01.1 +0.1
comp=Z,17nm,0.9s
DIV **Divide** 82.77 15 *e*P **P** 21 49 00.2 +0.1
comp=Z,9.5nm,0.7s
BMRM **Bremner River** 82.94 16 *e*P **P** 21 49 00.7 -0.2
comp=Z,12nm,0.9s
SCM **Sheep Creek Mo** 83.00 14 *e*P **P** 21 49 01.7 +0.5
comp=Z,22nm,0.8s
SCM **Sheep Creek Mo** 83.00 14 *e*P **P** 21 49 01.7 +0.5
SCM pmax pmax
comp=Z,23nm,0.8s
SKLT **Songkhla** 83.39 280 P **P** 21 49 04.4 +0.3
comp=Z,58nm,0.9s,comp=Z,528nm
BJT **Baijiatuan** 83.41 315 *e*P **P** 21 49 04.3 +0.7
comp=Z,9.2nm,0.6s
SEY **Seymchan** 83.44 347 P **P** 21 49 03.5 +0.3
comp=Z,32nm,0.6s,baz=144,slow=5.9,SNR=112
SEY **Seymchan** 83.44 347 ⇓ *i*P **P** 21 49 03.3 +0.1
SKNT **Sakolnakorn** 83.55 290 P **P** 21 49 04.4 -0.4
comp=Z,26nm,1.0s
BALM **Baldy** 83.60 17 *e*P **P** 21 49 04.9 +0.7
comp=Z,9.6nm,0.8s
BALM **Baldy** 83.60 17 *e*P **P** 21 49 04.9 +0.7
BALM pmax pmax
comp=Z,10.0nm,0.8s
CHBT **CHBT** 83.61 285 P **P** 21 49 07.2 +2.0
comp=Z,60nm,1.2s,comp=Z,54µm
PSI **Prapat** 83.63 275 P **P** 21 49 05.1 -0.4
comp=Z,30nm,0.8s,baz=26,slow=2.8
PSI **Prapat** 83.63 275 P **P** 21 49 05.1 -0.4
comp=Z,28nm,0.7s
KTH **Kantishna Hill** 83.73 12 *e*P **P** 21 49 03.3 -1.5
comp=Z,13nm,1.0s
TRF **Thorofare Moun** 83.77 12 *e*P **P** 21 49 04.4 -0.7
comp=Z,19nm,0.7s
ENH **Enshi** 83.92 304 *e*P **P** 21 49 07.2 +0.8
comp=Z,110nm,1.3s
HARP **HAARP** 84.02 15 *e*P **P** 21 49 06.9 +0.8
comp=Z,19nm,0.9s
RND **Reindeer** 84.03 13 *e*P **P** 21 49 06.5 +0.3
comp=Z,19nm,0.8s
RND **Reindeer** 84.03 13 *e*P **P** 21 49 06.5 +0.3
RND pmax pmax
comp=Z,19nm,0.8s
MAW **Mawson** 84.06 200 P **P** 21 49 06.6 +0.2
comp=Z,2.9nm,0.5s,baz=141,slow=4.6,SNR=10
BPAW **Bear Paw Mtn.** 84.21 12 *e*P **P** 21 49 06.0 -1.0
comp=Z,4.9nm,1.1s
MCK **McKinley** 84.30 13 *e*P **P** 21 49 07.0 -0.5
comp=Z,9.1nm,0.8s
MCK **McKinley** 84.30 13 *e*P **P** 21 49 07.0 -0.5
MCK pmax pmax
comp=Z,9.0nm,0.8s
KHON **Khomkaen** 84.37 289 P **P** 21 49 12.5 +3.6
comp=Z,9.7nm,0.9s,comp=Z,950nm
PAX **Paxson** 84.42 15 *e*P **P** 21 49 08.2 0.0
comp=Z,5.9nm,0.9s
PAX **Paxson** 84.42 15 *e*P **P** 21 49 08.2 0.0
PAX pmax pmax
comp=Z,6.0nm,0.9s
GSI **Gunungsitoli** 84.46 273 P **P** 21 49 09.7 +0.3
GSI **Gunungsitoli** 84.46 273 *e*P **P** 21 49 10.2 +0.7
comp=Z,48nm,0.8s
TRTT **Trang** 84.47 280 P **P** 21 49 09.8 +0.3
comp=Z,25nm,0.8s,comp=Z,230nm
GYA **Guiyang** 84.69 300 *e*P **P** 21 49 11.0 +0.6
GYA pP pP 21 51 08.4 -1.0
GYA sP sP 21 52 01.6 -3.5
GYA PP **PP** 21 52 39.3 +2.5
GYA SKS **SKSac** 21 58 41.9 -0.7
GYA S **S** 21 58 53.0 +0.1
GYA pmax pmax
comp=Z,10.0nm,1.0s
ZEA **Zeya** 84.82 331 *e*P **P** 21 49 11.3 +1.1
ZEA pmax pmax
comp=N,36nm,0.8s
ZEA pmax pmax
comp=Z,44nm,1.0s
CHAI **Chaiyaphum** 84.98 288 P **P** 21 49 12.5 +0.6
comp=Z,5.4nm,0.7s,comp=Z,61nm
NAYO **Nakonayok** 85.06 287 P **P** 21 49 13.9 +1.7
comp=Z,92nm,1.1s,comp=Z,4µm
MLY **Manley** 85.10 12 *e*P **P** 21 49 10.9 -0.6
comp=Z,3.7nm,0.8s
WRH **Wood River Hil** 85.13 13 *e*P **P** 21 49 11.4 -0.1
comp=Z,11nm,1.0s
RIDG **Independ'e Rid** 85.23 14 *e*P **P** 21 49 12.4 +0.3
comp=Z,9.3nm,0.9s
HDA **Harding Lake** 85.32 13 *e*P **P** 21 49 12.5 +0.1
comp=Z,6.9nm,0.8s
DOT **Dot Lake** 85.34 15 *e*P **P** 21 49 12.1 -0.5
comp=Z,20nm,0.8s
CCB **Clear Creek Bu** 85.35 13 *e*P **P** 21 49 12.0 -0.5
comp=Z,6.8nm,0.8s
TPTI 85.43 275 P **P** 21 49 14.6 +0.5
IM3 **Indian Mountai** 85.43 10 *e*P **P** 21 49 12.9 0.0
MDM **Murphy Dome** 85.53 12 *e*P **P** 21 49 12.8 -0.7
comp=Z,16nm,1.4s
COLA **College** 85.53 13 *e*P **P** 21 49 12.5 -0.9
comp=Z,8.4nm,1.0s
COLA **College** 85.53 13 *e*P **P** 21 49 12.5 -0.9
COLA pmax pmax
comp=Z,8.0nm,1.0s
SCRK **Sand Creek** 85.63 15 *e*P **P** 21 49 14.6 +0.5
comp=Z,3.7nm,0.8s
DLBC **Dease Lake** 85.65 23 P **P** 21 49 15.0 +0.7
comp=Z,2.6nm,0.8s,baz=256,slow=7.2,SNR=5.8
IL1 **Eielson Array** 85.65 13 *e*P **P** 21 49 13.2 -0.8
ILAR **Eielson Array** 85.65 13 P **P** 21 49 13.7 -0.4
comp=Z,2.5nm,0.4s,baz=224,slow=5.2,SNR=33
ILB **Eielson Array** 85.65 13 *e*P **P** 21 49 13.8 -0.2
XAN **Xi'an** 85.90 307 P **P** 21 49 17.0 +1.0
XAN pP pP 21 51 11.9 -3.5
XAN pmax pmax
comp=Z,51nm,0.9s
HIA **Hailar** 86.00 325 ⇑ *i*P **P** 21 49 17.0 +1.0
HIA pmax pmax
comp=Z,21nm,1.3s
TX31 **Lajitas Ar. Si** 86.03 58 *e*P **P** 21 49 19.4 +2.6
TXAR **Lajitas Array** 86.03 58 P **P** 21 49 17.4 +0.7
comp=Z,1.1nm,0.8s,baz=216,slow=5.8,SNR=12
TXAR pP **pP** 21 51 18.5 +2.2
comp=Z,0.7nm,0.9s,baz=230,slow=5.6,SNR=2.1
BILL **Bilibino** 86.11 354 *d i*P **P** 21 49 16.2 +0.1
BILL *i* *PP **pP** 21 51 19.1 +3.4
BILL pmax pmax
comp=Z,11nm,0.9s
PBKT **Sadao Pong** 86.12 289 P **P** 21 49 17.9 +0.6
comp=Z,15nm,1.1s
PHET **Kaeng Krachan** 86.15 285 P **P** 21 49 19.5 +2.0
comp=Z,24nm,0.9s,comp=Z,194nm
MLSI **Meulaboh, Aceh** 86.47 276 P **P** 21 49 19.5 +0.4
REDW **Red Top Meadow** 86.73 43 *e*P **P** 21 49 22.6 +2.7
comp=Z,7.1nm,1.1s
PHIT **Phitsanulok** 86.83 289 P **P** 21 49 22.0 +1.4
comp=Z,13nm,0.8s
HHC **Hu-ho-hao-te** 86.90 315 *e*P **P** 21 49 21.3 +0.7
HHC pmax pmax
comp=Z,21nm,1.3s
HHC pmax pmax
comp=Z,68nm,7.4s
CLNB **Carlsbad** 86.99 55 *e*P **P** 21 49 21.8 +0.5
SRDT **SRDT** 87.08 286 P **P** 21 49 22.9 +1.0
comp=Z,22nm,0.9s,comp=Z,5µm
NANT **Nan** 87.11 291 P **P** 21 49 22.9 +0.9
comp=Z,3.5nm,1.1s,comp=Z,46nm
PDAR **Pinedale Array** 87.30 44 P **P** 21 49 23.4 +0.8
comp=Z,1.1nm,0.6s,baz=186,slow=3.5,SNR=7.1
PDAR pP **pP** 21 51 23.3 +0.7
comp=Z,1.3nm,0.9s,baz=225,slow=4.0,SNR=5.3
KMI **Kunming** 87.49 297 P **P** 21 49 25.5 +1.6
KMI pmax pmax
comp=Z,26nm,1.1s
BSI **Banda Aceh** 87.89 276 P **P** 21 49 25.8 0.0
LAMP **Lampang** 87.97 290 P **P** 21 49 27.5 +1.5
comp=Z,8.5nm,0.8s
PAYA **Payao** 88.03 291 P **P** 21 49 27.3 +1.0
comp=Z,6.5nm,0.6s,comp=Z,127nm
CM01 **Chiang Mai Arr** 88.54 290 *e*P **P** 21 49 29.9 +1.2
CM31 **Chiang Mai Arr** 88.57 290 *e*P **P** 21 49 30.2 +1.4
CMAR **Chiang Mai Arr** 88.57 290 P **P** 21 49 30.0 +1.2
comp=Z,10nm,0.9s,baz=108,slow=2.9,SNR=55
CMAR PP **PP** 21 53 06.9 -0.6
comp=Z,0.5nm,0.8s,baz=81,slow=5.6,SNR=3.5
CHTO **Chiang Mai** 88.68 290 P **P** 21 49 30.3 +1.0
comp=Z,78nm,1.0s
CHTO **Chiang Mai** 88.68 290 *e*P **P** 21 49 29.7 +0.4
comp=Z,14nm,0.9s
CHTO **Chiang Mai** 88.68 290 *e*P **P** 21 49 29.7 +0.4
CHTO pmax pmax
comp=Z,14nm,0.9s
CD2 **Chengdu** 88.72 303 *e*P **P** 21 49 30.0 +0.7
YAK **Yakutsk** 89.22 338 ⇑ *e*P **P** 21 49 29.8 -0.9
YAK pmax pmax
comp=Z,10.0nm,0.5s
SYO **Syowa Base** 89.39 193 ⇑ *e*X **P** 21 49 35.9 +4.3
LZH **Lanzhou** 90.53 308 ⇓ P **P** 21 49 39.3 +1.6
LZH pP pP 21 51 37.9 -0.6
LZH sP sP 21 52 32.9 -0.7
LZH *e*PP **PP** 21 53 27.1 +4.3
LZH *e*S **S** 21 59 43.5 -3.2
LZH sS sS 22 03 19.5 -3.1
LZH SS **SS** 22 06 09.3 +4.2
LZH pmax pmax
comp=Z,58nm,0.8s
LZH pmax pmax
comp=Z,270nm,5.0s
SNAA **Sanae** 90.90 179 P **P** 21 49 38.3 -0.4
SNAA **Sanae** 90.90 179 P **P** 21 49 38.2 -0.5
comp=Z,4.6nm,0.6s,baz=187,slow=9.1,SNR=54
VNA3 **Neumayer Olymp** 91.05 176 P **P** 21 49 39.4 +0.1
VNA2 **Neumayer--Watz** 91.48 177 P **P** 21 49 41.2 -0.1
baz=186,slow=3.4
INK **Inuvik** 91.66 15 P **P** 21 49 41.8 -0.2
comp=Z,5.0nm,1.0s,baz=190,slow=8.3,SNR=13
INK **Inuvik** 91.66 15 *e*P **P** 21 49 41.7 -0.2
comp=Z,5.5nm,0.9s
INK **Inuvik** 91.66 15 *e*P **P** 21 49 41.7 -0.2
INK pmax pmax
comp=Z,6.0nm,0.9s
VNA1 **Neumayer--Stat** 91.71 177 P **P** 21 49 43.1 +0.8
SONA1 **Songino Array** 93.18 319 *e*P **P** 21 49 49.4 -0.2
SONM **Songino Array** 93.18 319 P **P** 21 49 49.9 +0.3
comp=Z,1.8nm,0.7s,baz=129,slow=4.1,SNR=13
SONM PP PP 21 53 33.8 -9.1
comp=Z,0.2nm,0.3s,baz=134,slow=6.4,SNR=3.5
BOD **Bodaibo** 93.29 330 *e*P **P** 21 49 48.4 -1.2
BOD pmax pmax
comp=Z,8.0nm,1.5s
YKA **Yellowknife Ar** 94.16 25 P **P** 21 49 53.7 +0.2
comp=Z,1.2nm,0.8s,baz=245,slow=4.3,SNR=23
GTA **Gaotai** 94.67 310 ⇓ P **P** 21 49 56.9 +0.3
GTA pP pP 21 51 57.1 -0.6
GTA sP sP 21 52 50.3 -2.4
GTA pmax pmax
comp=Z,5.0nm,1.3s
TLY **Talaya** 96.25 322 ⇑ *e*P **P** 21 50 03.3 0.0
TLY pmax pmax
comp=Z,9.0nm,2.5s
MKAR **Makanchi Array** 108.76 314 Pdiff **Pdif** 21 50 59.5 +0.5
comp=Z,0.4nm,0.7s,baz=80,slow=4.2,SNR=4.0
MKAR PKiKP **PKiKP** 21 54 59.9 -0.8
comp=Z,1.8nm,0.5s,baz=181,slow=0.6,SNR=33
MKAR PP **PP** 21 55 39.0 +0.5
comp=Z,1.5nm,1.1s,baz=93,slow=10,SNR=4.3
KURK **Kurchatov** 111.45 318 PKiKP **PKiKP** 21 55 04.9 -0.7
KURK **Kurchatov** 111.45 318 ⇑ *i*PKiKP **PKiKP** 21 55 04.8 -0.7
KURK pmax pmax
comp=Z,3.0nm,1.0s
KURBB **Kurchatov Arra** 111.51 318 PKiKP **PKiKP** 21 55 04.9 -0.7
comp=Z,2.1nm,0.6s,baz=113,slow=1.8,SNR=16
AAK **Ala-Archa** 114.02 309 ⇓ *i*PKiKP PKPdf 21 55 10.4 -0.5
BVAR **Borovoye Array** 116.47 321 PKP **PKPdf** 21 55 14.8 -0.3
comp=Z,2.5nm,0.4s,baz=119,slow=1.6,SNR=27
BVAR PP **PP** 21 56 33.4 +1.2
comp=Z,1.5nm,0.8s,baz=91,slow=6.1,SNR=4.5
BRVK **Borovoye** 116.53 321 *e*PKPdf **PKPdf** 21 55 14.9 -0.3
BRVK **Borovoye** 116.53 321 *d i*PKiKP **PKPdf** 21 55 14.5 -0.7
BRVK pmax pmax
comp=Z,4.0nm,1.0s
KK31 **Karatay Array** 116.95 310 *e*PKPdf **PKPdf** 21 55 16.0 -0.4
KK31 **Karatay Array** 116.95 310 *e*PKiKP **PKPdf** 21 55 16.0 -0.4
SPITS **Spitsbergen Ar** 118.96 356 PKP **PKPdf** 21 55 19.2 0.0
comp=Z,8.0nm,0.9s,baz=192,slow=1.3,SNR=6.6
SFJD **Kangerlussuaq** 120.49 21 PKP **PKPdf** 21 55 22.0 -0.4
comp=Z,4.2nm,0.7s,baz=180,slow=6.1,SNR=2.9
ARU **Arti** 122.48 326 *e*PKPdf **PKPdf** 21 55 25.4 -1.1
ARU **Arti** 122.48 326 *i* PKiKP **PKPdf** 21 55 26.0 -0.5
ARU 21 57 11.2
ARU 22 01 45.4
ARU SS SS 22 13 06.9 -4.4
AKTO **Aktyubinsk** 124.50 320 PKP **PKPdf** 21 55 30.5 -0.1
comp=Z,4.9nm,0.8s,baz=57,slow=2.6,SNR=14
ARCES **ARCESS Array B** 125.98 350 PKP **PKPdf** 21 55 32.5 -0.4
comp=Z,4.7nm,0.8s,baz=19,slow=1.5,SNR=9.1
GEYT **Alibeck** 126.68 304 PKhKP PKPpre 21 55 20.8
comp=Z,1.2nm,0.7s,baz=90,slow=1.9,SNR=4.4
GEYT PKP **PKPdf** 21 55 35.0 -0.2
comp=Z,5.0nm,0.8s,baz=230,slow=1.2,SNR=16
BOSA **Boshof** 128.56 207 SKPbc SKiKP 21 58 09.2 -15
comp=Z,4.1nm,0.9s,baz=176,slow=3.4,SNR=4.1
KLMR **Klimovskoe** 129.00 337 *e*PKPdf **PKPdf** 21 55 38.1 -0.8
KLMR AMP 21 55 40.0
comp=Z,9.0nm,1.3s
KLMR *e*PP **pPKPdf** 21 57 50.4 +2.9
KLMR *e*SKP 21 58 09.9
KLMR **Klimovskoe** 129.00 337 *e*PKiKP **PKPdf** 21 55 38.0 -0.8
KLMR pmax pmax
comp=Z,9.0nm,1.3s
BORG **Borgarnes** 130.47 13 *i* PKiKP **PKPdf** 21 55 39.8 -1.7
FINES **FINESS Array B** 132.84 344 PKhKP PKPpre 21 55 31.1
comp=Z,0.4nm,0.7s,baz=83,slow=4.3,SNR=3.2
FINES PKP sPdif 21 55 43.9 +1.8
comp=Z,1.3nm,0.7s,baz=64,slow=4.4,SNR=4.2
FINES SKPbc **SKPab** 21 58 24.1 -0.7
comp=Z,4.4nm,0.8s,baz=29,slow=3.2,SNR=8.3
VRH **Novokhopyorsk** 133.70 326 *e*PKiKP **PKPdf** 21 55 47.7 -0.3
VRH pmax pmax
comp=Z,10.0nm,0.7s
OBN **Obninsk** 133.93 333 *e*PKiKP **PKPdf** 21 55 47.0 -1.3
OBN *e* 21 58 26.3
OBN *e*PPP PPP 22 01 28.6
OBN pmax pmax

	comp=Z,5.0nm,0.9s								
LPSR	**Galich'ya Gora**	**134.37**	**329**	*e*PKIKP	**PKPdf**	**21**	**55**	**48.5**	**-0.7**
LPSR				pmax	pmax				
	comp=Z,8.0nm,0.7s								
GROC	**Groznyy**	**134.67**	**314**	*e*PKIKP	**PKPdf**	**21**	**55**	**50.0**	**-0.1**
GROC				*e*		21	57	57.5	
GROC				*e*		21	58	30.5	
GROC				*e*		21	58	51.2	
GROC				*e*		22	02	05.8	
GROC				pmax	pmax				
	comp=Z,9.0nm,1.2s								
VSR	**Storozhevoye**	**135.04**	**327**	*e*PKIKP	**PKPdf**	**21**	**55**	**50.2**	**-0.3**
VSR				pmax	pmax				
	comp=Z,10.0nm,1.1s								
VSU	**Vasula**	**135.13**	**341**	⇑*i*PKIKP	**PKPdf**	**21**	**55**	**49.3**	**-1.1**
NB2	**NORSAR Subarra**	**136.05**	**353**	PKP	PKPpre	21	55	42.8	
	comp=Z,1.3nm,1.0s,baz=17,slow=2.6								
NOA	**NORSAR Array B**	**136.05**	**353**	PKhKP	PKPpre	21	55	41.5	
	comp=Z,1.2nm,0.8s,baz=37,slow=2.2,SNR=3.8								
NOA				PKP	**PKPdf**	**21**	**55**	**52.0**	**-0.2**
	comp=Z,1.9nm,0.8s,baz=14,slow=4.1,SNR=6.1								
NOA				SKPbc	**SKPbc**	**21**	**58**	**33.9**	**+1.2**
	comp=Z,0.6nm,0.8s,baz=11,slow=4.5,SNR=3.2								
KBZ	**Khabaz**	**136.43**	**316**	PKP	**PKPdf**	**21**	**55**	**53.5**	**+0.2**
	comp=Z,1.2nm,0.7s,baz=318,slow=1.9,SNR=5.7								
KIV	**Kislovodsk**	**136.48**	**316**	*e*PKIKP	**PKPdf**	**21**	**55**	**52.9**	**-0.7**
KIV				pmax	pmax				
	comp=Z,4.0nm,1.1s								
HFS	**Hagfors**	**136.60**	**351**	PKhKP	PKPpre	21	55	40.6	
	comp=Z,2.6nm,0.9s,baz=64,slow=3.4,SNR=6.8								
HFS				SKPbc	**SKPbc**	**21**	**58**	**36.4**	**+2.1**
	comp=Z,3.5nm,0.9s,baz=176,slow=5.8,SNR=5.6								
NEY	**Neytrino**	**136.74**	**315**	⇑*i*PKIKP	**PKPdf**	**21**	**55**	**54.9**	**+0.7**
MCRS	**Metsamor**	**136.84**	**310**	PKIKP	PKPdf	21	56	07.8	+13
AKASG	**Malin Array Be**	**140.19**	**332**	PKhKP	PKPpre	21	55	52.7	
	comp=Z,1.5nm,0.4s,baz=42,slow=4.0,SNR=7.6								
AKASG				SKPbc	**SKiKP**	**21**	**58**	**46.2**	**-0.7**
	comp=Z,0.8nm,0.4s,baz=40,slow=3.4,SNR=8.5								
AKBB	**Malin Array Si**	**140.19**	**332**	*e*PKPpre	PKPpre	21	55	53.2	
KIEV	**Kiev**	**140.20**	**332**	*e*PKPpre	PKPpre	21	55	53.0	
KIEV	**Kiev**	**140.20**	**332**	⇓*i*PKIKP	**PKPdf**	**21**	**55**	**59.1**	**-0.9**
AK11	**Malin Array Si**	**140.23**	**332**	*e*PKPpre	PKPpre	21	55	53.2	
AK11				*e*PKPdf	**PKiKP**	**21**	**56**	**02.4**	**-0.4**
EKA	**Eskdalemuir Ar**	**142.19**	**4**	PKhKP	PKPpre	21	55	59.5	
	comp=Z,2.7nm,0.7s,baz=1.7,slow=2.5,SNR=7.3								
SORM	**Soroca**	**142.42**	**330**	⇑*i*P	**PKPdf**	**21**	**56**	**00.9**	**-3.1**
SORM	**Soroca**	**142.42**	**330**	⇑PKHKP	PKPpre	21	56	00.9	
LVV	**L'vov**	**143.04**	**335**	*e*PKIKP	PKPbc	21	56	03.4	+0.2
KWP	**Kalwaria Pacla**	**143.71**	**336**	*i* PKPdf	PKPbc	21	56	05.8	+0.5
KWP	**Kalwaria Pacla**	**143.71**	**336**	*e*PKPbc	**PKPdf**	**21**	**56**	**05.9**	**-0.4**
KWP	**Kalwaria Pacla**	**143.71**	**336**	*e*PKIKP	**PKPdf**	**21**	**56**	**05.9**	**-0.4**
TLCR		**144.20**	**326**	⇓*i*P	**PKPdf**	**21**	**56**	**07.8**	**+0.5**
TLCR		**144.20**	**326**	⇓PKIKP	**PKPdf**	**21**	**56**	**07.8**	**+0.5**
BUR08	**Bucovina Ar. S**	**144.23**	**332**	*e*PKPbc	**PKPab**	**21**	**56**	**07.8**	**+0.4**
BUR04	**Bucovina Ar. S**	**144.24**	**332**	*e*PKPbc	**PKPab**	**21**	**56**	**07.7**	**+0.1**
BURAR	**Bucovina Array**	**144.25**	**332**	⇑*i*P	**PKPab**	**21**	**56**	**08.2**	**+0.7**
BURAR	**Bucovina Array**	**144.25**	**332**	⇑PKIKP	**PKPab**	**21**	**56**	**08.2**	**+0.7**
OJC	**Ojcow**	**144.25**	**340**	*e*PKPdf	**PKPab**	**21**	**56**	**07.4**	**0.0**
OJC	**Ojcow**	**144.25**	**340**	*e*PKPbc	**PKPab**	**21**	**56**	**07.3**	**0.0**
OJC	**Ojcow**	**144.25**	**340**	*e*PKIKP	**PKPab**	**21**	**56**	**07.3**	**0.0**
BR131	**Keskin Array S**	**144.41**	**315**	*e*PKPbc	PKPbc	21	56	07.4	-0.6
BRTR	**Keskin Array B**	**144.41**	**315**	PKP	**PKPdf**	**21**	**56**	**08.1**	**0.0**
	comp=Z,18nm,0.8s,baz=122,slow=3.5,SNR=115								
BRTR				SKPbc	**SKiKP**	**21**	**58**	**57.1**	**+1.0**
	comp=Z,1.0nm,0.7s,baz=67,slow=4.9,SNR=4.2								
STHS	**Stebnicka Huta**	**144.43**	**338**	*e*PKP	**PKPab**	**21**	**56**	**08.4**	**+0.4**
STHS	**Stebnicka Huta**	**144.43**	**338**	*e*PKIKP	**PKPab**	**21**	**56**	**08.4**	**+0.4**
CFR	**Carcaliu**	**144.56**	**327**	⇓*i*P	**PKPab**	**21**	**56**	**08.6**	**0.0**
CFR	**Carcaliu**	**144.56**	**327**	⇓PKIKP	**PKPab**	**21**	**56**	**08.6**	**0.0**
UZH	**Uzhgorod**	**144.68**	**336**	*e*PKPbc	PKPbc	21	56	08.3	0.0
ODBI	**Odobesti**	**144.72**	**328**	⇑*i*P	**PKPab**	**21**	**56**	**10.4**	**+1.2**
KSP	**Ksiaz**	**144.76**	**344**	*i* PKPdf	**PKPab**	**21**	**56**	**09.4**	**+0.2**
KSP	**Ksiaz**	**144.76**	**344**	⇓*i*PKIKP	**PKPab**	**21**	**56**	**09.4**	**+0.2**
NIE	**Niedzica**	**144.77**	**338**	*i* PKPdf	**PKPab**	**21**	**56**	**09.6**	**+0.2**
NIE	**Niedzica**	**144.77**	**338**	⇓*i*PKIKP	**PKPab**	**21**	**56**	**09.6**	**+0.2**
VRI	**Vrincioaia**	**144.81**	**329**	⇓*i*P	**PKPab**	**21**	**56**	**09.6**	**0.0**
VRI	**Vrincioaia**	**144.81**	**329**	⇓PKIKP	**PKPab**	**21**	**56**	**09.6**	**0.0**
ASF	**Jabal al Asfar**	**144.83**	**301**	PKP	PKPbc	21	56	09.6	+0.2
	comp=Z,21nm,1.0s,baz=64,slow=2.9,SNR=24								
PLOR	**Plostina**	**144.86**	**329**	⇑*i*P	**PKPab**	**21**	**56**	**09.7**	**-0.1**
PLOR	**Plostina**	**144.86**	**329**	⇑PKIKP	**PKPab**	**21**	**56**	**09.7**	**-0.1**
TIRR	**Tirgusor**	**144.89**	**325**	⇓*i*P	**PKPdf**	**21**	**56**	**08.7**	**+0.2**
TIRR	**Tirgusor**	**144.89**	**325**	*e*PKPdf	**PKPdf**	**21**	**56**	**08.8**	**+0.3**
TIRR	**Tirgusor**	**144.89**	**325**	⇓PKIKP	**PKPdf**	**21**	**56**	**08.7**	**+0.3**
ANTO	**Ankara**	**144.91**	**316**	*e*PKPbc	**PKPab**	**21**	**56**	**09.9**	**-0.3**
BR231	**Keskin MP Arra**	**144.93**	**316**	*e*PKPdf	**PKPab**	**21**	**56**	**10.4**	**0.0**
BMR	**Baia Mare**	**144.95**	**334**	⇓*i*P	PKPbc	21	56	09.6	+0.4
BMR	**Baia Mare**	**144.95**	**334**	⇓PKIKP	PKPbc	21	56	09.6	+0.4
HARR	**Harsova**	**145.00**	**326**	⇑*i*P	**PKPab**	**21**	**56**	**10.1**	**-0.2**
HARR	**Harsova**	**145.00**	**326**	⇑PKIKP	**PKPab**	**21**	**56**	**10.1**	**-0.2**
ARCR	**ARCALIA**	**145.03**	**332**	⇓*i*P	**PKPab**	**21**	**56**	**10.4**	**0.0**
OKC	**Ostrava-Krasne**	**145.12**	**341**	⇓*e*PKP	**PKPab**	**21**	**56**	**10.4**	**-0.2**
OKC	**Ostrava-Krasne**	**145.12**	**341**	*e*PKIKP	**PKPab**	**21**	**56**	**10.4**	**-0.2**
CLL	**Collm**	**145.12**	**347**	*e*PKPdf	**PKPdf**	**21**	**56**	**09.0**	**+0.3**
CLL				⇓*i*PKPbc	**PKPbc**	**21**	**56**	**10.0**	**+0.4**
	comp=Z,46nm,0.7s								
CLL				*i* PKPab	**PKPab**	**21**	**56**	**11.2**	**+0.6**
	comp=Z,32nm,0.8s								
CLL	**Collm**	**145.12**	**347**	*e*PKPdf	**PKPbc**	**21**	**56**	**09.6**	**0.0**
CLL	**Collm**	**145.12**	**347**	*e*PKIKP	**PKPbc**	**21**	**56**	**09.6**	**0.0**
UPC	**Upice**	**145.14**	**344**	*e*PKP	**PKPab**	**21**	**56**	**10.6**	**-0.1**
UPC	**Upice**	**145.14**	**344**	*e*PKP2	**PKPab**	**21**	**56**	**10.6**	**-0.1**
DPC	**Dobruska-Polom**	**145.20**	**343**	*e*PKP	**PKPab**	**21**	**56**	**11.0**	**0.0**
DPC				*ex*	x	21	57	58.6	
DPC	**Dobruska-Polom**	**145.20**	**343**	*e*PKP2	**PKPab**	**21**	**56**	**11.0**	**0.0**
LANS	**Liptovska Anna**	**145.28**	**339**	*e*PKP	**PKPab**	**21**	**56**	**11.6**	**+0.2**
LANS	**Liptovska Anna**	**145.28**	**339**	*e*PKP2	**PKPab**	**21**	**56**	**11.6**	**+0.2**
BRG	**Berggiesshubel**	**145.32**	**346**	*i* PKP	**PKPbc**	**21**	**56**	**10.8**	**+0.6**
	comp=Z,24nm,0.8s								
BRG	**Berggiesshubel**	**145.32**	**346**	*i* PKP2	**PKPbc**	**21**	**56**	**10.8**	**+0.6**
BRG				pmax	pmax				
	comp=Z,24nm,0.8s								
MORC	**Moravsky Berou**	**145.36**	**341**	⇓*i*P	**PKPbc**	**21**	**56**	**10.7**	**+0.3**
MORC	**Moravsky Berou**	**145.36**	**341**	*e*PKPdf	**PKPdf**	**21**	**56**	**09.6**	**+0.4**
MORC				*e*PKPbc	**PKPbc**	**21**	**56**	**10.6**	**+0.2**
MORC	**Moravsky Berou**	**145.36**	**341**	*e*PKIKP	**PKPdf**	**21**	**56**	**09.6**	**+0.4**
AMRR	**Amara**	**145.37**	**327**	⇑*i*P	**PKPab**	**21**	**56**	**11.8**	**+0.1**
AMRR	**Amara**	**145.37**	**327**	⇑PKP2	**PKPab**	**21**	**56**	**11.8**	**+0.1**
DOPR	**Dopca**	**145.39**	**330**	⇑*i*P	**PKPbc**	**21**	**56**	**10.9**	**+0.3**
ISR	**Istrita**	**145.42**	**328**	⇑*i*P	**PKPab**	**21**	**56**	**11.8**	**-0.3**
ISR	**Istrita**	**145.42**	**328**	⇑PKP2	**PKPab**	**21**	**56**	**11.8**	**-0.3**
WTSB	**Winterswijk**	**145.45**	**354**	*e*PKP	**PKPbc**	**21**	**56**	**10.7**	**+0.2**
	comp=Z,42nm,0.8s								
MLR	**Muntele Rosu**	**145.46**	**329**	PKPbc	**PKPbc**	**21**	**56**	**10.8**	**-0.2**
	baz=349,slow=5.0								
MLR	**Muntele Rosu**	**145.46**	**329**	⇓*i*P	**PKPbc**	**21**	**56**	**11.3**	**+0.4**
MLR	**Muntele Rosu**	**145.46**	**329**	PKPbc	**PKPbc**	**21**	**56**	**10.8**	**-0.2**
MLR				*e*PKPdf	**PKPab**	**21**	**56**	**11.0**	**-1.3**
MLR	**Muntele Rosu**	**145.46**	**329**	⇓PKP2	**PKPab**	**21**	**56**	**11.3**	**+0.4**
PVCC	**Panska Ves**	**145.49**	**345**	⇓*e*PKP	**PKPab**	**21**	**56**	**11.7**	**-0.4**
PVCC	**Panska Ves**	**145.49**	**345**	*e*PKP2	**PKPab**	**21**	**56**	**11.7**	**-0.4**
CJR	**Cluj-Napoca**	**145.65**	**333**	⇑*i*P	**PKPab**	**21**	**56**	**12.5**	**-0.4**
CJR	**Cluj-Napoca**	**145.65**	**333**	⇑PKP2	**PKPab**	**21**	**56**	**12.5**	**-0.4**
SECR		**145.72**	**328**	⇓*i*P	**PKPbc**	**21**	**56**	**12.0**	**+0.5**
MMAI	**Mount Meron Ar**	**145.79**	**303**	PKPbc	**PKPbc**	**21**	**56**	**12.4**	**+0.2**
	comp=Z,30nm,0.6s,baz=66,slow=4.9,SNR=77								
MMAI				SKPbc	**SKiKP**	**21**	**59**	**01.0**	**+1.9**
	comp=Z,4.1nm,0.9s,baz=134,slow=4.2,SNR=4.1								
VOIR		**145.94**	**330**	⇓*i*P	**PKPbc**	**21**	**56**	**12.8**	**+0.6**
VOIR		**145.94**	**330**	⇓PKP2	**PKPbc**	**21**	**56**	**12.8**	**+0.6**
DRGR		**145.97**	**333**	⇓*i*P	**PKPbc**	**21**	**56**	**12.7**	**+0.4**
DRGR		**145.97**	**333**	⇓PKP2	**PKPbc**	**21**	**56**	**12.7**	**+0.4**
PRU	**Pruhonice**	**146.00**	**345**	⇓*e*PKP	**PKPbc**	**21**	**56**	**12.8**	**+0.7**
PRU				*ex*	x	21	56	14.7	
PRU	**Pruhonice**	**146.00**	**345**	*e*PKP2	**PKPbc**	**21**	**56**	**12.8**	**+0.7**
GOPC	**GO Pecny, Ondr**	**146.01**	**344**	*e*PKP	**PKPbc**	**21**	**56**	**12.9**	**+0.7**
GOPC				*ex*	x	21	56	14.9	
GOPC	**GO Pecny, Ondr**	**146.01**	**344**	*e*PKP2	**PKPbc**	**21**	**56**	**12.9**	**+0.7**
VRAC	**Vranov**	**146.06**	**342**	⇑*i*P	**PKPab**	**21**	**56**	**13.4**	**-1.0**
VRAC	**Vranov**	**146.06**	**342**	⇑PKP2	**PKPab**	**21**	**56**	**13.4**	**-1.0**
VYHS	**Vyhne**	**146.06**	**339**	*e*PKP	**PKPbc**	**21**	**56**	**13.0**	**+0.6**
VYHS				*e*		21	56	15.6	
VYHS	**Vyhne**	**146.06**	**339**	*e*PKP2	**PKPbc**	**21**	**56**	**13.0**	**+0.6**
PSZ	**Piszkesteto**	**146.17**	**337**	⇑*i*P	**PKPbc**	**21**	**56**	**13.6**	**+0.8**
PSZ	**Piszkesteto**	**146.17**	**337**	*e*PKPdf	**PKPdf**	**21**	**56**	**10.4**	**-0.3**
PSZ				*e*PKPbc	**PKPbc**	**21**	**56**	**13.1**	**+0.3**
PSZ	**Piszkesteto**	**146.17**	**337**	*e*PKIKP	**PKPdf**	**21**	**56**	**10.4**	**-0.3**
PSZ				*e*		21	56	13.1	
ARR	**Arges**	**146.19**	**330**	⇑*i*P	**PKPdf**	**21**	**56**	**11.6**	**+0.8**
NKC	**Novy Kostel**	**146.26**	**347**	⇓*e*PKP	**PKPbc**	**21**	**56**	**13.6**	**+0.7**
NKC				*ex*	x	21	56	16.2	
NKC	**Novy Kostel**	**146.26**	**347**	*e*PKP2	**PKPbc**	**21**	**56**	**13.6**	**+0.7**
PRD	**Provadia**	**146.27**	**325**	*i* P	**PKPbc**	**21**	**56**	**13.8**	**+0.7**
TREC	**Trest**	**146.38**	**343**	⇓*e*PKP	**PKPbc**	**21**	**56**	**14.0**	**+0.7**
TREC				*ex*	x	21	56	16.2	
TREC	**Trest**	**146.38**	**343**	*e*PKP2	**PKPbc**	**21**	**56**	**14.0**	**+0.7**
SMOL	**Smolenice**	**146.51**	**341**	*e*PKP	**PKPbc**	**21**	**56**	**14.9**	**+1.3**
SMOL	**Smolenice**	**146.51**	**341**	*e*PKP2	**PKPbc**	**21**	**56**	**14.9**	**+1.3**
LOT	**Lotru**	**146.53**	**331**	⇓*i*P	**PKPbc**	**21**	**56**	**13.7**	**-0.2**
HUMR	**Humele**	**146.63**	**329**	⇑*i*P	**PKPbc**	**21**	**56**	**13.9**	**-0.1**
MODS	**Modra-Piesok**	**146.68**	**341**	*e*PKP	**PKPbc**	**21**	**56**	**14.1**	**0.0**
MODS	**Modra-Piesok**	**146.68**	**341**	*e*PKIKP	**PKPbc**	**21**	**56**	**14.1**	**0.0**
CSS	**Mathiatis**	**146.72**	**308**	*e*PKPbc	**PKPbc**	**21**	**56**	**14.6**	**0.0**
CSS				*e*PKPab	**PKPab**	**21**	**56**	**17.7**	**+0.2**
CSS	**Mathiatis**	**146.72**	**308**	P	**PKPbc**	**21**	**56**	**13.4**	**-1.2**
MAMC	**Mammari**	**146.72**	**308**	P	**PKPbc**	**21**	**56**	**14.6**	**0.0**
HGN	**Heimansgroeve**	**146.72**	**355**	*e*PKP	**PKPbc**	**21**	**56**	**14.6**	**+0.5**
	comp=Z,27nm,1.0s								
UCC	**Uccle**	**146.80**	**357**	*e*PKPbc	**PKPbc**	**21**	**56**	**15.1**	**+0.8**
SRO	**Srobarova**	**146.82**	**339**	*e*PKP	**PKPbc**	**21**	**56**	**15.1**	**+0.7**
SRO				*e*		21	56	18.1	
SRO	**Srobarova**	**146.82**	**339**	*e*PKP2	**PKPbc**	**21**	**56**	**15.1**	**+0.7**
MEM	**Membach**	**146.87**	**355**	⇑PKP	**PKPbc**	**21**	**56**	**15.1**	**+0.6**
GRF	**Grafenberg Arr**	**147.02**	**348**	PKP2	**PKPbc**	**21**	**56**	**15.9**	**+0.9**
GRFO	**Grafenberg**	**147.02**	**348**	*e*PKPbc	**PKPbc**	**21**	**56**	**16.2**	**+1.2**
KHC	**Kasperske Hory**	**147.03**	**345**	⇓*i*PKP	**PKPbc**	**21**	**56**	**15.8**	**+0.8**
KHC				*ex*	x	21	56	19.2	
KHC	**Kasperske Hory**	**147.03**	**345**	*e*PKPdf	**PKPdf**	**21**	**56**	**12.1**	**0.0**
KHC				*e*PKPbc	**PKPbc**	**21**	**56**	**15.5**	**+0.4**
KHC				*e*PKPab	**PKPab**	**21**	**56**	**19.1**	**+0.8**
KHC	**Kasperske Hory**	**147.03**	**345**	*e*PKIKP	**PKPdf**	**21**	**56**	**12.1**	**0.0**
KHC				*e*		21	56	19.1	
SNF	**Seneffe**	**147.10**	**357**	⇑PKP	**PKPbc**	**21**	**56**	**15.0**	**-0.1**
BCLA	**Clavier**	**147.12**	**355**	⇑PKP	**PKPbc**	**21**	**56**	**15.5**	**+0.4**
SZAC	**Souni**	**147.14**	**307**	P	**PKPbc**	**21**	**56**	**16.0**	**+0.2**
ALFC	**Alefka**	**147.19**	**308**	P	**PKPbc**	**21**	**56**	**15.7**	**-0.2**
JMB	**Yambol**	**147.21**	**324**	*i* P	**PKPbc**	**21**	**56**	**15.8**	**+0.2**
GEC2	**GERESS Array S**	**147.27**	**345**	*e*PKPbc	**PKPbc**	**21**	**56**	**16.2**	**+0.4**
GERES	**GERESS Array B**	**147.27**	**345**	PKPbc	**PKPbc**	**21**	**56**	**16.1**	**+0.4**
	comp=Z,13nm,0.6s,baz=25,slow=3.1,SNR=55								
GEA0	**GERESS Array S**	**147.27**	**345**	*e*PKPbc	**PKPbc**	**21**	**56**	**16.1**	**+0.4**
BZS	**Buzias**	**147.37**	**333**	⇑*i*P	**PKPdf**	**21**	**56**	**13.6**	**+1.0**
BZS	**Buzias**	**147.37**	**333**	⇑PKIKP	**PKPdf**	**21**	**56**	**13.6**	**+1.0**
DOU	**Dourbes**	**147.49**	**356**	⇓PKP	**PKPbc**	**21**	**56**	**16.6**	**+0.5**
CONA	**Conrad Observa**	**147.51**	**342**	*i* PKiKP	**PKiKP**	**21**	**56**	**17.3**	**-0.6**
	comp=Z,23nm,0.7s,SNR=8.9								
WLF	**Walferdange**	**147.79**	**354**	⇑PKP	**PKPbc**	**21**	**56**	**17.9**	**+0.9**
WLF	**Walferdange**	**147.79**	**354**	*e*PKPbc	**PKPbc**	**21**	**56**	**17.6**	**+0.7**
MOA	**Molln**	**148.04**	**343**	*i* PKiKP	**PKPbc**	**21**	**56**	**18.2**	**+0.5**
	comp=Z,9.4nm,0.8s								
ARSA	**Arzberg**	**148.22**	**342**	*i* PKiKP	**PKPbc**	**21**	**56**	**18.4**	**+0.3**
	comp=Z,13nm,1.4s								
KDZ	**Kurdzhali**	**148.40**	**324**	*i* P	PKPdf	21	56	00.9	-14
MANT	**Manisa**	**148.43**	**317**	*e*PKPbc	**PKPbc**	**21**	**56**	**19.7**	**+0.5**
PGB	**Panagyurishte**	**148.45**	**327**	*i* P	**PKPbc**	**21**	**56**	**19.1**	**+0.2**
RDO	**Rodhopi**	**148.66**	**323**	P	**PKPbc**	**21**	**56**	**19.0**	**-0.4**
RZN	**Rozhen**	**148.76**	**325**	*i* P	**PKPbc**	**21**	**56**	**19.7**	**-0.1**
BFO	**Black Forest**	**148.84**	**351**	*e*PKPdf	**PKPdf**	**21**	**56**	**15.8**	**+0.9**
BFO				*e*PKPbc	**PKPbc**	**21**	**56**	**19.5**	**-0.1**
BFO				*e*PKPab	**PKPab**	**21**	**56**	**26.1**	**+0.4**
SOKA	**Soboth**	**148.88**	**342**	*i* PKPbc	**PKPbc**	**21**	**56**	**19.8**	**0.0**
	comp=Z,17nm,1.1s								
PERS	**Pernice**	**148.90**	**341**	*i* PKPbc	**PKPbc**	**21**	**56**	**19.6**	**-0.3**
VTS	**Vitosha**	**148.92**	**328**	*e*PKPbc	**PKPbc**	**21**	**56**	**20.5**	**+0.3**
VTS	**Vitosha**	**148.92**	**328**	*i* P	**PKPbc**	**21**	**56**	**20.4**	**+0.2**
VTS	**Vitosha**	**148.92**	**328**	P	**PKPbc**	**21**	**56**	**19.6**	**-0.6**
KBA	**Koelnbreinsper**	**148.99**	**344**	*i* PKPbc	**PKPbc**	**21**	**56**	**19.9**	**-0.3**
	comp=Z,14nm,0.5s,SNR=7.9								
OBKA	**Obir**	**149.18**	**342**	*i* PKPbc	**PKPbc**	**21**	**56**	**19.4**	**-1.1**
	comp=Z,9.0nm,1.0s								
WATA	**Walderalm**	**149.18**	**346**	*i* PKiKP	**PKPbc**	**21**	**56**	**20.9**	**+0.3**
	comp=Z,12nm,0.5s,SNR=11								
RETA	**Reutte**	**149.22**	**347**	*i* PKiKP	**PKPbc**	**21**	**56**	**21.0**	**+0.4**
	comp=Z,7.6nm,0.5s								
WTTA	**Wattenberg**	**149.24**	**346**	*i* PKiKP	**PKiKP**	**21**	**56**	**21.3**	**-0.4**
	comp=Z,17nm,0.5s,SNR=6.5								
DIVS	**Divibare**	**149.27**	**333**	*e*PKPbc	**PKPbc**	**21**	**56**	**20.9**	**0.0**
MOTA	**Moosalm**	**149.28**	**347**	*i* PKiKP	**PKPbc**	**21**	**56**	**21.1**	**+0.2**
	comp=Z,8.7nm,0.5s,SNR=8.9								
MYKA	**Terra Mystica**	**149.33**	**343**	*i* PKPbc	**PKPbc**	**21**	**56**	**20.6**	**-0.3**
	comp=Z,14nm,0.5s								
MMB	**Musomiste**	**149.36**	**326**	*i* P	**PKPbc**	**21**	**56**	**20.9**	**-0.2**
NVR	**Nevrokopi**	**149.46**	**325**	P	**PKPbc**	**21**	**56**	**20.8**	**-0.5**
KKB	**Krupnik**	**149.50**	**327**	*i* P	**PKPbc**	**21**	**56**	**21.5**	**+0.1**
ABTA	**Abfaltersbach**	**149.51**	**345**	*i* PKPbc	**PKPbc**	**21**	**56**	**21.2**	**-0.2**
	comp=Z,23nm,0.6s,SNR=6.8								
DAVA	**Damuels**	**149.58**	**348**	*i* PKiKP	**PKPbc**	**21**	**56**	**21.9**	**+0.3**
	comp=Z,17nm,0.8s								
FETA	**Feichten**	**149.67**	**347**	*i* PKiKP	**PKiKP**	**21**	**56**	**22.3**	**-0.2**
	comp=Z,20nm,1.0s								
VISS	**Visnje**	**149.73**	**341**	*e*PKPbc	**PKPbc**	**21**	**56**	**22.2**	**+0.4**
BLY	**Banja Luka**	**149.86**	**337**	*e*PKPbc	**PKPbc**	**21**	**56**	**22.8**	**+0.7**
BOJS	**Bojanci**	**149.87**	**340**	*e*PKPbc	**PKPbc**	**21**	**56**	**22.6**	**+0.5**
JAVS	**Javornik**	**149.88**	**342**	*i* PKPbc	**PKPbc**	**21**	**56**	**22.2**	**-0.1**
SMG	**Samos**	**149.99**	**317**	P	**PKPbc**	**21**	**56**	**22.2**	**-0.5**
BODT	**Bodrum**	**150.04**	**315**	P	**PKPbc**	**21**	**56**	**20.9**	**-1.9**
CHOS	**Chios island**	**150.09**	**319**	P	**PKPbc**	**21**	**56**	**22.4**	**-0.6**
FUORN	**Ofenpass-Fuorn**	**150.15**	**348**	*e*PKPbc	**PKPbc**	**21**	**56**	**23.8**	**+0.7**
VAY	**Valandovo**	**150.16**	**327**	*i* PKP	**PKPbc**	**21**	**56**	**22.4**	**-0.6**
SKO	**Skopje**	**150.26**	**329**	*i* PKP	**PKPbc**	**21**	**56**	**23.4**	**+0.3**
TUE	**Stuetta**	**150.47**	**349**	*e*PKPdf	**PKPdf**	**21**	**56**	**18.6**	**+0.8**
TUE				*e*PKPbc	**PKiKP**	**21**	**56**	**24.3**	**0.0**
TUE				*e*PKPab	**PKPab**	**21**	**56**	**33.9**	**+1.1**
KRUS	**Krusevo**	**150.80**	**328**	*i* PKP	**PKPbc**	**21**	**56**	**24.3**	**-0.2**
SENIN	**Lac Senin/Sane**	**150.91**	**352**	*e*PKPbc	**PKPbc**	**21**	**56**	**25.8**	**+1.0**
TTG	**Podgorica**	**150.93**	**332**	*e*PKPbc	**PKPbc**	**21**	**56**	**24.6**	**0.0**
TTG	**Podgorica**	**150.93**	**332**	*e*PKIKP	**PKPbc**	**21**	**56**	**24.6**	**0.0**
KARP	**Karpathos**	**150.95**	**313**	*e*PKPbc	**PKPbc**	**21**	**56**	**24.7**	**-0.3**
KARP	**Karpathos**	**150.95**	**313**	P	**PKPbc**	**21**	**56**	**24.5**	**-0.5**
BIA	**Bitola**	**151.03**	**328**	PKP	**PKPbc**	**21**	**56**	**25.1**	**0.0**
FNA	**Florina**	**151.17**	**327**	P	**PKPbc**	**21**	**56**	**24.8**	**-0.6**
FNA	**Florina**	**151.17**	**327**	PKIKP	**PKPbc**	**21**	**56**	**25.0**	**-0.4**
OHR	**Ohrid**	**151.22**	**328**	*i* PKP	**PKPbc**	**21**	**56**	**25.3**	**-0.2**
PTL	**Penteli**	**151.66**	**320**	P	**PKPbc**	**21**	**56**	**25.3**	**-1.2**
SANT	**Santorini**	**151.66**	**316**	⇓*i*P	**PKPbc**	**21**	**56**	**23.8**	**-2.8**
SANT	**Santorini**	**151.66**	**316**	*e*PKPdf	**PKPdf**	**21**	**56**	**20.0**	**+0.3**
SANT				*e*PKPbc	**PKPbc**	**21**	**56**	**24.8**	**-1.8**
SANT				*e*PKPab	**PKPab**	**21**	**56**	**36.9**	**-1.1**
AGG	**Agios Georgios**	**151.91**	**324**	*e*PKPbc	**PKPbc**	**21**	**56**	**26.5**	**-0.6**
AGG	**Agios Georgios**	**151.91**	**324**	*e*PKIKP	**PKPbc**	**21**	**56**	**26.5**	**-0.6**
DID	**Didima**	**152.39**	**320**	P	**PKPbc**	**21**	**56**	**26.4**	**-1.7**
ANX	**Ano Chora**	**152.44**	**323**	P	**PKPbc**	**21**	**56**	**27.9**	**-0.4**
SERG	**Sergoula**	**152.49**	**323**	P	**PKPbc**	**21**	**56**	**27.9**	**-0.4**
IDI	**Anoyia**	**152.65**	**315**	PKPbc	**PKPbc**	**21**	**56**	**29.6**	**+0.8**
	comp=Z,8.4nm,0.7s,baz=7.1,slow=8.1,SNR=12								
ES19	**SONSECA Array**	**157.52**	**11**	*e*PKPab	**PKPab**	**21**	**57**	**03.2**	**+0.3**
ESDC	**Sonseca Array**	**157.54**	**11**	PKPab	**PKPab**	**21**	**57**	**03.2**	**

	baz=310							
H11S1	**WAKE ISLAND Hy**	**28.61**	**120**	T	T	22 42 31.6		
	baz=311,SNR=5.5							
H11S3	**WAKE ISLAND Hy**	**28.61**	**120**	T	T	22 42 36.3		
	baz=311							
H11S2	**WAKE ISLAND Hy**	**28.63**	**120**	T	T	22 42 41.3		
	baz=311							
MKAR	**Makanchi Array**	**44.39**	**303**	P	**P**	**22 14 55.9**	**-2.3**	
	0.1nm,0.7s,baz=87,slow=7.5,SNR=2.3							
KURBB	**Kurchatov Arra**	**46.41**	**309**	P	**P**	**22 15 13.1**	**-1.1**	
	0.2nm,0.4s,baz=81,slow=7.9,SNR=2.8							
WRA	**Warramunga Arr**	**55.72**	**187**	P	**P**	**22 16 22.7**	**-1.6**	
	0.3nm,0.7s,baz=3.0,slow=7.9,SNR=6.7							

*IDC **24** 22:09:31.8±0.8, 8.˚84N×93.˚85E, h0km, mb3.8/19, mb1 4.0/20, mb1mx3.8/66, mbtmp3.8/20, ML4.4/1, MS3.5/9, Ms1 3.5/9, ms1mx3.1/60, Error ellipse: s-maj=30.4km s-min=16.7km az=54.0*

*ISCJB **24** 22:09:32.6±0.5, 8.˚79N±0.˚07×93.˚97E±0.˚07, h22km, mb4.0/24, MS3.5/9, Error ellipse: s-maj=13.3km s-min=7.2km az=45.0*

*NEIC **24** 22:09:32.1±4.2, 8.˚80N×93.˚90E, h4km±26km, mb4.5/6, Error ellipse: s-maj=17.5km s-min=6.7km az=54.0*

ISC 24 22:09:34.8±0.7, 8.˚8N±0.˚1×93.˚96E±0.˚09, h22km, n61, σ0s90/45, mb4.0/26, MS3.5/9, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**3.08**	**337**	*e*P	Pn	22 10 23.5	+1.2
PBA	**Port Blair**	**3.08**	**337**	Pn	Pn	22 10 20.8	-1.5
DGPR	**DIGLIPUR**	**4.47**	**347**	*e*P	**Pn**	**22 10 43.5**	**+2.2**
KULM	**Kulim**	**7.50**	**117**	*e*Pn	**Pn**	**22 11 22.5**	**-0.4**
	16nm,0.9s						
IPM	**Ipoh**	**8.22**	**121**	*e*Pn	**Pn**	**22 11 31.2**	**-1.7**
CMAR	**Chiang Mai Arr**	**10.75**	**26**	Pn	**Pn**	**22 12 09.5**	**+1.9**
	0.7nm,0.3s,baz=209,slow=16,SNR=8.3						
VIS	**Vishakhapatnam**	**13.62**	**312**	*e*P	**Pn**	**22 12 46.1**	**-0.7**
VIS				*i* x	x	22 15 04.0	
MDRS	**Chennai**	**14.12**	**289**	*e*P	**Pn**	**22 12 53.5**	**-0.1**
SHL	**Shillong**	**16.80**	**353**	*e*P	**Pn**	**22 13 28.3**	**-0.6**
SHL				IAmb	IAmb	22 13 29.7	
	comp=Z,9.5nm,0.4s						
SHL	**Shillong**	**16.80**	**353**	*e*Pn	**Pn**	**22 13 28.6**	**-0.4**
ODAN	**Odare**	**19.02**	**342**	*e*P	**Pn**	**22 13 55.0**	**-1.3**
RAMN	**Ramite**	**19.36**	**340**	*e*P	**Pn**	**22 13 59.9**	**-0.5**
	comp=Z,39nm,0.8s						
JIRN	**Jiri**	**20.15**	**340**	*e*P	Pn	22 14 08.1	-1.9
PKIN	**Phulchoki**	**20.36**	**338**	*e*P	Pn	22 14 09.9	-2.5
	comp=Z,32nm,1.0s						
GUN	**Gumba**	**20.49**	**339**	*e*P	Pn	22 14 11.4	-2.5
	comp=Z,35nm,0.8s						
DMN	**Daman**	**20.50**	**337**	*e*P	Pn	22 14 11.7	-2.3
	comp=Z,30nm,1.1s						
KKN	**Kakani**	**20.59**	**338**	*e*P	Pn	22 14 12.4	-2.7
	comp=Z,32nm,1.1s						
LEM	**Lembang**	**20.64**	**138**	LR	LR	22 22 33.5	
	comp=Z,116nm,21.0s,baz=238,slow=38						
LSA	**Lhasa**	**20.96**	**353**	*e*P	**P**	**22 14 16.4**	**-0.6**
GKN	**Gorkha**	**21.03**	**336**	*e*P	**P**	**22 14 17.0**	**-0.4**
KOLN	**Koldanda**	**21.26**	**334**	*e*P	**P**	**22 14 19.7**	**-0.2**
	comp=Z,15nm,0.6s						
BHPL	**Bhopal**	**21.39**	**314**	*e*P	**P**	**22 14 21.5**	**+0.4**
PYUN	**Piuthan**	**21.81**	**333**	*e*P	**P**	**22 14 26.3**	**+0.4**
	comp=Z,14nm,0.6s						
H08S3	**Diego Garcia H**	**26.91**	**233**	T	T	22 42 25.5	
	baz=52,slow=76,SNR=5.9						
H08S2	**Diego Garcia H**	**26.91**	**233**	T	T	22 42 17.4	
	baz=52,slow=76,SNR=4.9						
H08S1	**Diego Garcia H**	**26.93**	**233**	T	T	22 42 17.4	
	baz=52,slow=76,SNR=2.9						
TGY	**Tagaytay City**	**26.95**	**76**	LR	LR	22 25 20.5	
	comp=Z,104nm,18.8s,baz=199,slow=35						
SMLA	**Simla**	**27.18**	**327**	*e*P	**P**	**22 15 17.5**	**+0.6**
SMLA				IAmb	IAmb	22 15 18.5	
	comp=Z,7.3nm,0.4s						
DHRM	**DHARAMSHALA**	**28.51**	**327**	*e*P	**P**	**22 15 27.9**	**-1.2**
DHRM				IAmb	IAmb	22 15 28.2	
	comp=Z,5.6nm,0.6s						
NIL	**Nilore**	**31.24**	**325**	*e*P	**P**	**22 15 52.6**	**-0.4**
	comp=Z,28nm,0.8s						
WSAR	**Wadi Sarin**	**36.74**	**297**	LR	LR	22 33 08.8	
	comp=Z,67nm,18.0s,baz=188,slow=39						
AAK	**Ala-Archa**	**37.80**	**336**	P	**P**	**22 16 49.4**	**-0.4**
	comp=Z,2.7nm,0.8s,baz=141,slow=5.2,SNR=13						
AAK	**Ala-Archa**	**37.80**	**336**	*e*P	**P**	**22 16 49.7**	**0.0**
	comp=Z,3.8nm,0.8s						
MKAR	**Makanchi Array**	**39.16**	**347**	P	**P**	**22 17 00.5**	**-0.5**
	comp=Z,1.1nm,0.8s,baz=174,slow=8.2,SNR=10.0						
KKAR	**Karatay Array**	**39.87**	**333**	*e*P	**P**	**22 17 05.2**	**-1.7**
	comp=Z,1.8nm,0s						
SONM	**Songino Array**	**40.31**	**13**	P	**P**	**22 17 11.1**	**+0.4**
	comp=Z,0.4nm,0.8s,baz=190,slow=7.3,SNR=2.6						
SONM				LR	LR	22 35 42.8	
	comp=Z,53nm,21.3s,baz=196,slow=39						
GEYT	**Alibeck**	**43.40**	**318**	P	**P**	**22 17 36.6**	**+0.6**
	comp=Z,3.4nm,0.5s,baz=138,slow=7.8,SNR=9.1						
KURBB	**Kurchatov Arra**	**43.62**	**346**	P	**P**	**22 17 37.1**	**-0.3**
	comp=Z,2.2nm,1.0s,baz=167,slow=7.3,SNR=9.4						
KURK	**Kurchatov**	**43.68**	**346**	*e*P	**P**	**22 17 37.3**	**-0.7**
BVAR	**Borovoye Array**	**44.06**	**341**	P	**P**	**22 18 12.2**	**-0.3**
	comp=Z,0.4nm,0.4s,baz=144,slow=8.7,SNR=3.8						
RAYN	**Ar Rayn**	**48.55**	**294**	*e*P	**P**	**22 18 18.4**	**+1.6**
	comp=Z,3.3nm,0.8s						
WRA	**Warramunga Arr**	**48.94**	**126**	P	**P**	**22 18 20.0**	**+0.2**
	comp=Z,0.5nm,0.7s,baz=306,slow=8.5,SNR=9.3						
ABKAR	**Akbulak array**	**49.34**	**331**	*e*P	**P**	**22 18 22.2**	**-0.2**
	comp=Z,6.6nm,1.0s						
ATD	**Arta Tunnel**	**50.34**	**278**	LR	LR	22 38 51.6	
	comp=Z,9nm,18.8s,baz=186,slow=35						
ASAR	**Alice Springs**	**50.64**	**130**	P	**P**	**22 18 34.2**	**+1.4**
	comp=Z,0.3nm,0.7s,baz=304,slow=7.1,SNR=3.0						
ASAR				LR	LR	22 41 30.5	
	comp=Z,39nm,20.1s,baz=302,slow=38						
AKTO	**Aktyubinsk**	**51.06**	**331**	P	**P**	**22 18 34.8**	**-0.6**
	comp=Z,1.0nm,0.6s,baz=166,slow=8.3,SNR=3.7						
KBZ	**Khabaz**	**56.29**	**317**	P	**P**	**22 19 13.4**	**-0.5**
	comp=Z,0.8nm,0.7s,baz=90,slow=10,SNR=4.0						
BRTR	**Keskin Array B**	**61.70**	**310**	P	**P**	**22 19 50.8**	**-0.9**
	comp=Z,0.5nm,0.8s,baz=108,slow=8.2,SNR=4.4						
TIXI	**Tiksi**	**66.37**	**11**	*e*P	**P**	**22 20 20.5**	**-1.1**
	comp=Z,3.0nm,0.8s						
FINES	**FINESS Array B**	**71.82**	**332**	P	**P**	**22 20 54.9**	**-0.7**
	comp=Z,1.4nm,0.9s,baz=103,slow=6.1,SNR=6.3						
ARCES	**ARCESS Array B**	**74.34**	**340**	P	**P**	**22 21 10.3**	**-0.1**
	comp=Z,3.1nm,0.8s,baz=98,slow=6.5,SNR=3.9						
GERES	**GERESS Array B**	**77.03**	**318**	P	**P**	**22 21 26.2**	**-0.1**
	comp=Z,1.0nm,0.8s,baz=80,slow=5.4,SNR=3.6						
HFS	**Hagfors**	**77.58**	**330**	P	**P**	**22 21 28.4**	**-0.6**
	comp=Z,0.5nm,0.4s,baz=83,slow=4.5,SNR=4.7						
NB2	**NORSAR Subarra**	**78.84**	**331**	P	**P**	**22 21 35.1**	**-1.0**
	comp=Z,2.1nm,0.7s,baz=91,slow=5.9						
NOA	**NORSAR Array B**	**78.84**	**331**	P	**P**	**22 21 35.9**	**-0.2**
	comp=Z,1.3nm,0.9s,baz=91,slow=5.7,SNR=3.3						
NOA				LR	LR	23 00 11.4	
	comp=Z,22nm,20.0s,baz=210,slow=39						
SPITS	**Spitsbergen Ar**	**78.90**	**348**	LR	LR	23 02 37.6	
	comp=Z,42nm,20.3s,baz=50,slow=40						
EKA	**Eskdalemuir Ar**	**86.86**	**325**	P	**P**	**22 22 18.1**	**+0.4**
	comp=Z,1.1nm,0.8s,baz=92,slow=6.0,SNR=3.4						
TORD	**Torodi Ar. Bea**	**90.21**	**283**	P	**P**	**22 22 34.6**	**+0.2**
	comp=Z,0.2nm,0.6s,baz=66,slow=3.6,SNR=2.3						
ILAR	**Eielson Array**	**93.96**	**22**	P	**P**	**22 22 51.5**	**+0.7**
	comp=Z,0.2nm,0.9s,baz=282,slow=4.5,SNR=3.0						
DBIC	**Dimbokro**	**97.64**	**278**	LR	LR	23 05 28.7	
	comp=Z,31nm,19.9s,baz=116,slow=34						
PLCA	**Paso Flores**	**145.34**	**201**	PKPbc	**PKPdf**	**22 29 13.0**	**+1.5**
	comp=Z,2.9nm,0.9s,baz=270,slow=2.0,SNR=4.3						

*IDC **24** 22:11:38.5±2.2, 35.˚99N×141.˚44E, h0km, mb3.3/3, mb1 3.4/5, mb1mx3.2/65, mbtmp3.4/5, ML3.1/2, MS2.6/2, Ms1 2.6/2, ms1mx2.3/25, Error ellipse: s-maj=47.7km s-min=24.4km az=62.0*

*ISCJB **24** 22:11:46.6±1.0, 35.˚72N±0.˚06×140.˚9E±0.˚1, h64km±7km, mb3.3/3, Error ellipse: s-maj=17.1km s-min=8.5km az=165.3*

*JMA **24** 22:11:48.1±0.1, 35.˚73N×140.˚68E, h47km±1km, M2.7*

ISC 24 22:11:47.4±1.4, 35.˚74N±0.˚06×140.˚9E±0.˚1, h54km±10km, n19, σ1s37/14, mb3.4/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.07**	**243**	P	**Pn**	**22 11 55.6**	**0.0**
JYT	**Yasato**	**0.78**	**309**	P	**Pn**	**22 12 00.6**	**-1.7**
BSO4	**Boso 4**	**0.89**	**214**	P	**Pn**	**22 12 03.4**	**-0.3**
JHO	**Hitachi**	**0.92**	**341**	P	**Pn**	**22 12 04.6**	**+0.4**
BSO3	**Boso 3**	**1.00**	**201**	P	**Pn**	**22 12 05.0**	**+0.1**
MJAR	**Matsushiro Arr**	**2.35**	**291**	Pn	**Pn**	**22 12 23.4**	**-0.2**
	3.2nm,0.3s,baz=97,slow=14,SNR=19						
MJAR				Sn	**Sn**	**22 12 54.9**	**+3.6**
	2.5nm,0.3s,baz=44,slow=13,SNR=9.3						
MAT	**Matsushiro**	**2.35**	**291**	P	**Pn**	**22 12 23.3**	**-0.3**
MAT				*e*S	**Sn**	**22 12 50.6**	**-0.7**
JHJ	**Hachijo jima 2**	**2.78**	**200**	Pn	**Pn**	**22 12 30.0**	**+0.6**
	5.7nm,0.3s,baz=50,slow=7.9,SNR=3.2						
JHJ				Sn	**Sn**	**22 13 00.7**	**-1.1**
	19nm,0.3s,baz=58,slow=19,SNR=4.0						
JNU	**Nakatsue**	**8.71**	**255**	LR	LR	22 17 38.0	
	comp=Z,43nm,18.2s,baz=248,slow=39						
KSRS	**Korea Array**	**10.61**	**283**	LR	LR	22 18 21.1	
	comp=Z,24nm,19.3s,baz=100,slow=37						
H11N2	**WAKE ISLAND Hy**	**27.85**	**118**	T	T	22 46 46.9	
	baz=310,slow=75,SNR=4.4						
H11N1	**WAKE ISLAND Hy**	**27.85**	**118**	T	T	22 46 52.6	
	baz=310						
H11N3	**WAKE ISLAND Hy**	**27.86**	**118**	T	T	22 46 58.8	
	baz=310,slow=75,SNR=3.7						
H11S1	**WAKE ISLAND Hy**	**28.51**	**120**	T	T	22 47 37.1	
	baz=312,slow=75,SNR=8.4						
H11S3	**WAKE ISLAND Hy**	**28.51**	**120**	T	T	22 47 38.1	
	baz=312,slow=75,SNR=5.3						
H11S2	**WAKE ISLAND Hy**	**28.52**	**120**	T	T	22 47 38.2	
	baz=312,slow=75,SNR=4.9						
MKAR	**Makanchi Array**	**44.49**	**303**	P	**P**	**22 19 52.9**	**-0.4**
	0.2nm,0.6s,baz=81,slow=8.9,SNR=2.4						
KURBB	**Kurchatov Arra**	**46.51**	**309**	P	**P**	**22 20 08.6**	**-0.5**
	0.2nm,0.3s,baz=79,slow=7.1,SNR=2.8						
WRA	**Warramunga Arr**	**55.73**	**188**	P	**P**	**22 21 18.8**	**+0.3**
	0.2nm,0.5s,baz=2.3,slow=7.6,SNR=6.9						

*UPP **24** 22:13:19.4, 67.˚16N×20.˚58E, h0km, ML1.1, Mining explosion.*

HEL 24 22:13:20.4±0.2, 67.˚18N×20.˚56E, h0km, ML1.2, ML1.1 (UPP), Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MASU	**Masugnsbyn**	**0.62**	**63**	P	Pg	22 13 31.3	-1.0
MASU				S	Sg	22 13 39.3	-1.0
MASU	**Masugnsbyn**	**0.62**	**63**	*i* P	Pg	22 13 31.3	-1.0
MASU				*i* S	Sg	22 13 39.3	-1.0
ERTU	**Ertsjaerv**	**0.90**	**134**	P	Pg	22 13 36.0	-1.6
ERTU	**Ertsjaerv**	**0.90**	**134**	*e*P	Pg	22 13 35.9	-1.7
PAJU	**Pajala**	**1.01**	**98**	P	Pg	22 13 38.0	-1.7
PAJU				S	Sg	22 13 51.8	-1.0
PAJU	**Pajala**	**1.01**	**98**	*e*P	Pg	22 13 38.0	-1.7
PAJU				*e*S	Sg	22 13 51.8	-1.0
LANU	**Lannavaara**	**1.03**	**31**	P	Pg	22 13 38.6	-1.5
LANU	**Lannavaara**	**1.03**	**31**	*e*Pb	Pg	22 13 39.3	-0.8
LANU	**Lannavaara**	**1.03**	**31**	*e*PB	Pg	22 13 39.3	-0.8
HARU	**Harads**	**1.04**	**171**	P	Pg	22 13 37.8	-2.4
HARU	**Harads**	**1.04**	**171**	*e*P	Pg	22 13 37.9	-2.4
HEF	**Hetta**	**1.70**	**42**	*e*Pg	Pn	22 13 50.9	-0.4
HEF				*e*Sn	Sn	22 14 14.0	+0.2
HEF	**Hetta**	**1.70**	**42**	*e*PG	Pn	22 13 50.9	-0.4
HEF				MSG		22 14 11.4	
	comp=Z,1.1nm,0.2s						
HEF				*e*SN	Sn	22 14 14.0	+0.2
SJUU	**Sjulsmark**	**1.73**	**166**	P	Pn	22 13 50.8	-0.9
SJUU	**Sjulsmark**	**1.73**	**166**	*e*P	Pn	22 13 50.8	-0.9
KALU	**Kalix**	**1.74**	**139**	P	Pn	22 13 51.5	-0.2
KALU	**Kalix**	**1.74**	**139**	*e*Pn	Pn	22 13 52.1	+0.3
KALU				*e*Sn	Sg	22 14 15.8	-0.3
KALU	**Kalix**	**1.74**	**139**	*e*PN	Pn	22 13 52.1	+0.4
KALU				*e*SN	Sg	22 14 15.8	-0.3
KIF	**Kilpisjarvi**	**1.83**	**3**	*e*Sg	Sg	22 14 19.7	+0.5
KIF	**Kilpisjarvi**	**1.83**	**3**	MSG		22 14 17.4	
	comp=Z,0.9nm,0.2s						
KIF				*e*SG	Sg	22 14 19.7	+0.5
TOF	**Tornio**	**1.86**	**125**	*e*Pg	Pn	22 13 54.0	+0.5
TOF				*e*Sg	Sn	22 14 18.2	+0.5
	comp=Z,0.9nm,0.2s						
TOF	**Tornio**	**1.86**	**125**	*e*PG	Pn	22 13 54.0	+0.5
TOF				MSG		22 14 15.6	
	comp=Z,2.3nm,0.2s						
TOF				*e*SG	Sn	22 14 18.2	+0.5
LILU	**Lilltraesk**	**1.93**	**189**	P	Pn	22 13 54.3	-0.1
LILU	**Lilltraesk**	**1.93**	**189**	*e*P	Pn	22 13 54.3	-0.1
RNF	**Rovaniemi**	**2.23**	**102**	*e*Pg	Pn	22 13 59.7	+1.2
RNF				*e*Sg	Sb	22 14 28.8	-0.7
RNF	**Rovaniemi**	**2.23**	**102**	*e*PG	Pn	22 13 59.7	+1.2
RNF				*e*SG	Sb	22 14 28.8	-0.7
SGF	**Sodankyl**	**2.33**	**81**	*e*Pb	Pn	22 14 01.2	+1.3
SGF				*e*Sg	Sb	22 14 31.5	-0.9
SGF	**Sodankyl**	**2.33**	**81**	*e*PB	Pn	22 14 01.2	+1.3
	baz=270						
SGF				*e*SG	Sb	22 14 31.5	-0.9
ARE0	**ARCESS Array S**	**2.99**	**36**	*e*Pb	Pb	22 14 11.9	-2.5
ARE0				*e*Sb	Sb	22 14 50.2	-1.2
ARE0	**ARCESS Array S**	**2.99**	**36**	*e*PB	Pb	22 14 11.9	-2.5
ARE0				*e*SB	Sb	22 14 50.2	-1.2
MSF	**Maaselka**	**3.62**	**107**	*e*Pg	Pb	22 14 25.8	+0.6
MSF	**Maaselka**	**3.62**	**107**	*e*PG	Pb	22 14 25.8	+0.6

*IDC **24** 22:29:05.3±2.4, 35.˚93N×141.˚49E, h0km, mb3.4/4, mb1 3.5/6, mb1mx3.3/61, mbtmp3.4/6, ML3.1/2, Error ellipse: s-maj=59.6km s-min=24.6km az=73.0*

*ISCJB **24** 22:29:13.5±0.8, 35.˚68N±0.˚05×140.˚7E±0.˚1, h54km±5km, mb3.3/4, Error ellipse: s-maj=15.3km s-min=7.9km az=176.4*

*JMA **24** 22:29:14.3±0.1, 35.˚70N×140.˚68E, h47km±1km, M2.5*

ISC 24 22:29:14.2±1.0, 35.˚70N±0.˚05×140.˚75E±0.˚10, h47km±8km, n17, σ0s84/14, mb3.4/4, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.09**	**90**	P	**Pn**	**22 29 21.8**	**+0.2**
CHOJ				*e*S	**Sn**	**22 29 37.4**	**+0.6**
JCN	**Nagara**	**0.53**	**238**	*e*S	**Sn**	**22 29 32.6**	**-1.2**
JYT	**Yasato**	**0.69**	**319**	P	**Pn**	**22 29 27.4**	**-0.3**
JYT				S	**Sn**	**22 29 36.8**	**-0.6**
JHO	**Hitachi**	**0.92**	**351**	P	**Pn**	**22 29 31.2**	**+0.4**
BSO3	**Boso 3**	**0.92**	**192**	P	**Pn**	**22 29 30.9**	**+0.4**
MJAR	**Matsushiro Arr**	**2.22**	**293**	Pn	**Pn**	**22 29 50.3**	**+1.8**
	2.5nm,0.3s,baz=99,slow=15,SNR=10						
JHJ	**Hachijo jima 2**	**2.70**	**197**	Pn	**Pn**	**22 29 55.9**	**+0.8**
	9.2nm,0.3s,baz=66,slow=20,SNR=2.5						
JHJ				Sn	**Sn**	**22 30 26.1**	**-0.4**
	11nm,0.3s,baz=90,slow=20,SNR=2.2						
H11N2	**WAKE ISLAND Hy**	**27.97**	**118**	T	T	23 04 16.2	
	baz=310						
H11N1	**WAKE ISLAND Hy**	**27.97**	**118**	T	T	23 04 05.0	
	baz=310						
H11N3	**WAKE ISLAND Hy**	**27.98**	**118**	T	T	23 04 14.7	
	baz=310						
H11S1	**WAKE ISLAND Hy**	**28.62**	**120**	T	T	23 04 55.9	
	baz=311						
H11S3	**WAKE ISLAND Hy**	**28.62**	**120**	T	T	23 05 03.6	
	baz=311						
H11S2	**WAKE ISLAND Hy**	**28.64**	**120**	T	T	23 04 56.5	
	baz=311						
MKAR	**Makanchi Array**	**44.38**	**303**	P	**P**	**22 37 20.4**	**+0.4**
	0.3nm,0.7s,baz=85,slow=8.0,SNR=2.8						
KURBB	**Kurchatov Arra**	**46.41**	**309**	P	**P**	**22 37 36.1**	**+0.2**
	0.2nm,0.4s,baz=80,slow=8.3,SNR=3.5						
BVAR	**Borovoye Array**	**51.08**	**313**	P	**P**	**22 38 11.2**	**-0.5**
	0.3nm,0.6s,baz=134,slow=6.2,SNR=2.9						
WRA	**Warramunga Arr**	**55.67**	**187**	P	**P**	**22 38 45.4**	**-0.4**
	0.2nm,0.7s,baz=2.2,slow=7.5,SNR=5.1						

*NIED **24** 22:43:00, 35.˚70N×140.˚70E, h47km, Mw4.3 Best double couple: M0 3.37000×10^15 NP1:φs185.00000°, δ23.00000°, λ83.00000°. NP2:φs12.00000°, δ68.00000°, λ93.00000°.*

*JMA **24** 22:43:24.7±0.1, 35.˚73N×140.˚69E, h48km±1km, M3.8 Broadband fault plane solution: P waves. NP1: φs29.00000°, δ73.00000°, λ99.00000°. NP2:φs180.00000°, δ20.00000°, λ62.00000°. Principal axes: T Plg61.0000°, Azm313.0000°; N Plg9.0000°, Azm207.0000°; P Plg27.0000°, Azm112.0000°;*

JMA Felt II J1.

*ISCJB **24** 22:43:24.6±0.4, 35.˚72N±0.˚03×140.˚72E±0.˚04, h53km±3km, mb4.2/54, MS3.6/10 Error ellipse: s-maj=5.9km s-min=5.3km az=163.6*

*MOS **24** 22:43:24.3±0.8, 35.˚67N×140.˚68E, h55km, mb4.4/36, Error ellipse: s-maj=10.4km s-min=6.3km az=116.7*

*NEIC **24** 22:43:25.4±0.6, 35.˚69N×140.˚69E, h44km±5km, mb4.5/11, Error ellipse: s-maj=6.6km s-min=5.8km az=122.0*

NEIC Felt at Kawasaki, Shimodate and Tokyo. Recorded [2 JMA] in Chiba.

*IDC **24** 22:43:27.6±1.4, 35.˚66N×140.˚58E, h66km±12km, mb3.8/27, mb1 3.9/31, mb1mx3.8/68, mbtmp4.1/31, MS3.4/14, Ms1 3.4/14, ms1mx3.1/55, Error ellipse: s-maj=13.1km s-min=7.8km az=70.0*

ISC 24 22:43:25.4±0.7, 35.˚74N±0.˚05×140.˚82E±0.˚05, h48km±5km, n117, σ1s41/127, mb4.2/54, MS3.6/10, 8C-7D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.05**	**136**	↑P	**Pn**	**22 43 32.3**	**-0.5**
CHOJ				*e*S	**Sn**	**22 43 38.7**	**+0.7**
JYT	**Yasato**	**0.70**	**314**	P	**Pn**	**22 43 37.6**	**-1.4**
JYT				*e*S	**Sn**	**22 43 46.2**	**-2.7**
BSO4	**Boso 4**	**0.84**	**208**	P	**Pn**	**22 43 40.5**	**-0.3**
JHO	**Hitachi**	**0.89**	**347**	↓P	**Pn**	**22 43 41.4**	**-0.2**
BSO3	**Boso 3**	**0.97**	**195**	P	**Pn**	**22 43 42.0**	**-0.3**
BSO1	**Boso 1**	**1.09**	**173**	P	**Pn**	**22 43 43.6**	**-0.2**
MJAR	**Matsushiro Arr**	**2.26**	**292**	P	**Pn**	**22 43 59.8**	**-0.4**
	32nm,0.3s,baz=43,slow=7.2,SNR=119						
MJAR				S	**Sn**	**22 44 25.8**	**-1.1**
	24nm,0.3s,baz=74,slow=9.8,SNR=8.2						
MJAR				LR	LR	22 44 59.5	
	comp=Z,656nm,19.9s,baz=110,slow=44						
MAJO	**Matsushiro**	**2.26**	**292**	*e*P	**Pn**	**22 44 00.4**	**+0.2**
MAJO				S	**Sn**	**22 44 29.7**	**+2.8**
MAJO	**Matsushiro**	**2.26**	**292**	*d* P	**Pn**	**22 44 00.2**	**-0.1**
MAT	**Matsushiro**	**2.26**	**292**	P	**Pn**	**22 44 00.2**	**-0.1**
MAT				S	**Sn**	**22 44 26.4**	**-0.5**
MJB9	**Matsu-Tunnel**	**2.26**	**292**	*e*Pn	**Pn**	**22 44 00.5**	**+0.2**
JHJ2	**Mitsune**	**2.75**	**198**	*e*Pn	**Pn**	**22 44 07.0**	**+0.1**
JHJ	**Hachijo jima 2**	**2.75**	**198**	P	**Pn**	**22 44 07.0**	**0.0**
	37nm,0.3s,baz=340,slow=16,SNR=6.5						
JHJ				S	**Sn**	**22 44 39.0**	**0.0**
	109nm,0.3s,baz=97,slow=22,SNR=6.2						
JHJ				LR	LR	22 45 20.1	
	comp=Z,254nm,21.9s,baz=354,slow=43						
INU	**Inuyama**	**3.12**	**264**	*e*Pn	**Pn**	**22 44 10.8**	**-1.3**
ERM	**Erimo**	**6.53**	**16**	*e*Pn	**Pn**	**22 44 58.8**	**0.0**
ERM				*e*S	**Sn**	**22 46 10.2**	**-1.6**
ERM	**Erimo**	**6.53**	**16**	*d*eP	**Pn**	**22 45 00.5**	**+1.8**
ASAJ	**Asahikawa**	**8.48**	**9**	P	**Pn**	**22 45 24.1**	**-1.4**
	2.4nm,0.3s,baz=216,slow=15,SNR=14						
ASAJ				S	**Sn**	**22 46 56.6**	**-3.1**
	0.7nm,0.3s,baz=72,slow=20,SNR=2.7						
ASAJ	**Asahikawa**	**8.48**	**9**	*e*Pn	**Pn**	**22 45 24.0**	**-1.5**
ASAJ				*e*S	**Sn**	**22 46 55.0**	**-4.7**
JNU	**Nakatsue**	**8.61**	**255**	P	**Pn**	**22 45 29.5**	**+2.0**
	0.3nm,0.3s,baz=47,slow=8.6,SNR=2.7						
JNU				LR	LR	22 49 05.0	
	comp=Z,377nm,19.3s,baz=116,slow=40						
CBIJ	**Chichi jima**	**8.70**	**172**	*e*Pn	**Pn**	**22 45 26.2**	**-2.3**
CBIJ				*e*S	**Sn**	**22 47 01.7**	**-3.5**
JCJ	**Chichijima**	**8.70**	**172**	P	**Pn**	**22 45 25.7**	**-2.8**
	14nm,0.3s,baz=99,slow=22,SNR=12						
JCJ				S	Sn	22 46 54.6	-11
	baz=294,slow=19						
KSRS	**Korea Array**	**10.51**	**283**	P	**Pn**	**22 45 54.1**	**+0.8**
	0.3nm,0.3s,baz=101,slow=14,SNR=7.0						
KSRS				LR	LR	22 49 46.8	
	comp=Z,212nm,21.3s,baz=100,slow=37						
KSAR	**Wonju Array Be**	**10.54**	**283**	P	**Pn**	**22 45 54.1**	**+0.4**
KSAR	**Wonju Array Be**	**10.54**	**283**	P	**Pn**	**22 45 54.1**	**+0.4**
USRK	**Ussuriysk Ar.**	**10.82**	**324**	P	**Pn**	**22 45 59.2**	**+1.7**
	0.3nm,0.3s,baz=141,slow=

comp=Z,79nm,20.1s,baz=234,slow=37
KURK Kurchatov 46.36 309 *e*P P **22 51 45.8 -0.8**
comp=Z,9.7nm,0.9s
KURK PcP **PcP 22 53 20.6 -0.4**
KURK Kurchatov 46.36 309*ce*P P **22 51 45.8 -0.8**
KURK pmax pmax
comp=Z,15nm,1.2s
KURBB Kurchatov Arra 46.43 309 P P **22 51 46.6 -0.5**
comp=Z,2.5nm,0.3s,baz=81,slow=7.4,SNR=42
KURBB PcP **PcP 22 53 20.6 -0.6**
comp=Z,0.3nm,0.5s,baz=99,slow=3.8,SNR=1.9
PDGK Podgornoye 46.96 299 P P **22 51 51.0 -0.6**
PDGK pmax pmax
comp=Z,6.0nm,0.9s
PRZ Przheval'sk 47.94 298 P P **22 52 00.1 +0.8**
PRZ pmax pmax
comp=Z,4.0nm,1.1s
KDJ Kajisay 48.90 298 *e*P P **22 52 07.1 +0.4**
comp=Z,1.9nm,0.6s
KDJ Kajisay 48.90 298 P P **22 52 07.1 +0.4**
KDJ pmax pmax
comp=Z,2.0nm,0.6s
MDM Murphy Dome 50.27 32 *e*P P **22 52 19.1 +2.6**
comp=Z,4.7nm,0.7s
AAK Ala-Archa 50.69 299|| *e*P P **22 52 20.2 0.0**
AAK pmax pmax
comp=Z,3.0nm,1.5s
OTUK Ortayu 50.80 307 P P **22 52 20.7 -0.1**
OTUK pmax pmax
comp=Z,6.0nm,1.0s
IL1 Eielson Array 50.85 32 *e*P P **22 52 21.5 +0.6**
ILAR Eielson Array 50.85 32 P P **22 52 22.3 +1.4**
comp=Z,2.0nm,0.8s,baz=271,slow=6.3,SNR=26
ILB Eielson Array 50.85 32 *e*P P **22 52 22.6 +1.7**
BVAR Borovoye Array 51.09 313 P P **22 52 22.8 -0.1**
comp=Z,1.5nm,0.6s,baz=83,slow=7.8,SNR=13
BVAR PcP **PcP 22 53 38.0 -0.1**
comp=Z,0.4nm,0.4s,baz=81,slow=4.5,SNR=2.4
BRVK Borovoye 51.15 313 *e*P P **22 52 22.8 -0.5**
comp=Z,3.1nm,0.8s
BRVK Borovoye 51.15 313*ce*P P **22 52 22.4 -0.9**
BRVK pmax pmax
comp=Z,3.0nm,0.8s
MNAS Manas 52.14 299 P P **22 52 29.0 -2.1**
MNAS pmax pmax
comp=Z,2.0nm,1.0s
DOT Dot Lake 52.15 33 *e*P P **22 52 32.2 +1.5**
comp=Z,4.1nm,0.8s
SCRK Sand Creek 52.15 33 *e*P P **22 52 33.0 +2.2**
comp=Z,2.9nm,0.8s
WRAB Tennant Creek 55.70 187↑ *e*P P **22 52 56.4 -0.6**
WRAB pmax pmax
comp=Z,33nm,4.1s
WRA Warramunga Arr 55.72 187 P P **22 52 56.2 -0.9**
comp=Z,1.0nm,0.3s,baz=1.6,slow=7.5,SNR=21
INK Inuvik 55.76 27 P P **22 52 58.4 +1.6**
comp=Z,1.2nm,0.7s,baz=305,slow=7.0,SNR=7.7
SVE Sverdlovsk 55.80 319 *e*P P **22 52 57.6 +0.2**
SVE pmax pmax
comp=Z,7.0nm,0.9s
ARU Arti 57.02 319 *e*P P **22 53 05.6 -0.4**
comp=Z,8.5nm,0.9s
ARU Arti 57.02 319*c i*P P **22 53 05.7 -0.3**
ARU *PP **pP 22 53 19.9 +0.6**
ARU S **S 23 00 57.6 +0.8**
ARU SS **SS 23 04 40.5 -4.8**
ARU pmax pmax
comp=Z,9.0nm,1.0s
AKTO Aktyubinsk 59.19 312 P P **22 53 21.4 +0.2**
comp=Z,0.6nm,0.3s,baz=63,slow=11,SNR=3.6
ASAR Alice Springs 59.44 187 P P **22 53 22.8 -0.4**
comp=Z,0.8nm,0.6s,baz=8.7,slow=8.2,SNR=9.3
SPITS Spitsbergen Ar 61.70 349 P P **22 53 38.9 +0.9**
comp=Z,6.3nm,0.9s,baz=357,slow=10,SNR=3.4
RES Resolute Bay 63.97 14 *e*P P **22 53 54.2 +1.2**
comp=Z,2.1nm,0.6s
RES Resolute Bay 63.97 14 *e*P P **22 53 54.3 +1.2**
RES pmax pmax
comp=Z,2.0nm,0.6s
ARCES ARCESS Array B 65.04 339 P P **22 54 00.5 +0.3**
comp=Z,6.1nm,1.1s,baz=60,slow=7.2,SNR=4.1
ARCES ARCESS Array B 65.04 339 P P **22 54 00.5 +0.3**
ARCES pmax pmax
comp=Z,4.0nm,0.9s
YKA Yellowknife Ar 65.17 30 P P **22 54 02.1 +1.0**
comp=Z,0.6nm,0.7s,baz=302,slow=6.6,SNR=14
LLLB Lillooet 67.52 43 *e*P P **22 54 13.1 -3.4**
comp=Z,7.2nm,0.4s
OBN Obninsk 68.84 323 *e*P P **22 54 24.2 -0.3**
OBN *e* 22 54 49.7
OBN *e* 22 57 00.9
OBN pmax pmax
comp=Z,3.0nm,0.9s
FINES FINESS Array B 69.73 332 P P **22 54 29.8 -0.2**
comp=Z,1.3nm,0.5s,baz=62,slow=5.2,SNR=20
VSU Vasula 71.32 330|| *e*P P **22 54 39.1 -0.6**
VSU pmax pmax
comp=Z,16nm,1.0s
KBZ Khabaz 71.38 311 P P **22 54 39.4 -0.8**
comp=Z,2.5nm,0.8s,baz=46,slow=2.4,SNR=8.0
KIV Kislovodsk 71.39 311 *e*P P **22 54 41.3 +0.8**
KIV pmax pmax
comp=Z,8.0nm,1.0s
AKASG Malin Array Be 75.03 322 P P **22 55 00.8 -0.9**
comp=Z,2.1nm,0.6s,baz=49,slow=6.1,SNR=5.7
AKASG LR LR 23 31 07.1
comp=Z,49nm,18.0s,baz=230,slow=38
KIEV Kiev 75.04 322↑ *e*P P **22 55 01.3 -0.4**
KIEV pmax pmax
comp=Z,3.0nm,0.6s
HFS Hagfors 75.07 336 P P **22 55 01.9 +0.1**
comp=Z,1.5nm,0.4s,baz=49,slow=4.4,SNR=14
HFS LR LR 23 30 31.2
comp=Z,38nm,19.5s,baz=54,slow=38
NC204 NORSAR Array S 75.15 338 *e*P P **22 55 03.0 +0.6**
NB2 NORSAR Subarra 75.19 337 P P **22 55 02.7 +0.1**
comp=Z,1.8nm,0.5s,baz=41,slow=5.9
NB2 NORSAR Subarra 75.19 337 P P **22 55 02.2 -0.3**
NB2 pmax pmax
comp=Z,2.0nm,0.5s
NOA NORSAR Array B 75.19 337 P P **22 55 02.6 +0.1**
comp=Z,2.4nm,0.7s,baz=39,slow=5.8,SNR=10
NOA LR LR 23 30 37.2
comp=Z,18nm,20.2s,baz=50,slow=38
NOA NORSAR Array B 75.19 337 P P **22 55 02.6 +0.1**
NOA pmax pmax
comp=Z,3.0nm,0.7s
NOA MLR MLR
comp=Z,18nm,20.2s
NVAR Mina Array Bea 76.15 53 P P **22 55 10.7 +2.0**
comp=Z,0.7nm,0.7s,baz=280,slow=5.6,SNR=5.6
TCUT Toone Canyon 78.86 47 *e*P P **22 55 21.1 -2.7**
comp=Z,14nm,1.0s
PDAR Pinedale Array 78.92 45 P P **22 55 25.4 +1.4**
comp=Z,0.6nm,0.6s,baz=277,slow=4.2,SNR=7.2
BRTR Keskin Array B 79.35 311 P P **22 55 26.1 -0.3**
comp=Z,1.0nm,0.8s,baz=97,slow=3.5,SNR=6.8
MLR Muntele Rosu 80.06 320 LR LR 23 33 20.3
comp=Z,8.4nm,19.7s,baz=104,slow=37
RAYN Ar Rayn 80.70 292 *e*P P **22 55 33.5 -0.3**
comp=Z,2.4nm,0.7s
RAYN Ar Rayn 80.70 292 P P **22 55 33.8 0.0**
RAYN pmax pmax
comp=Z,2.0nm,0.7s
CLL Collm 81.97 330 *e*P P **22 55 40.0 0.0**
CLL Collm 81.97 330 *e*P P **22 55 40.0 0.0**
GERES GERESS Array B 83.55 328 P P **22 55 48.1 -0.2**
comp=Z,0.3nm,0.4s,baz=0.0,slow=5.9,SNR=1.8
GERES LR LR 23 35 22.2
comp=Z,25nm,18.4s,baz=266,slow=37
EKA Eskdalemuir Ar 84.19 340 P P **22 55 51.5 +0.2**
comp=Z,0.3nm,0.4s,baz=43,slow=5.3,SNR=4.6
TXAR Lajitas Array 91.29 52 P P **22 56 27.4 +1.3**
comp=Z,0.4nm,0.7s,baz=295,slow=4.5,SNR=5.3
PLVO Plevna 92.58 26 *e*P P **22 56 33.4 +1.7**
SAML Samuel 145.50 45 *e*PKPdf **PKPab 23 02 59.6 +0.5**
LPAZ La Paz 147.75 61 PKPbc **PKPbc 23 03 06.5 +0.4**
comp=Z,1.3nm,0.6s,baz=32,slow=14,SNR=6.1
LPAZ La Paz 147.75 61 *e*PKPbc **PKPab 23 03 07.5 -1.1**

TRN 24 22:46:54.2,15.98N×60.78W,h19km,MD3.5,Leeward Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DEG	**La Desirade**	**0.43**	**321**	*e*	Pb	22 47 04.0	+0.6
DEG	**La Desirade**	**0.43**	**321**	*e*P	Pn	22 47 05.5	-0.1
DEG				*e*S	Sn	22 47 12.7	-0.3
MGG	**Marie-Galante**	**0.52**	**264**	*e*P	Pn	22 47 06.7	-0.1
MGG				*e*S	Sn	22 47 16.4	+1.3
MDVC	**Dominica, Viel**	**0.71**	**239**	*e*	Pn	22 47 09.2	-0.1
MDVC	**Dominica, Viel**	**0.71**	**239**	*e*P	Pn	22 47 10.7	+1.5
MDVC				*e*S	Sn	22 47 22.5	+2.8
MDPV	**Dominica, Penn**	**0.71**	**241**	*e*	Pn	22 47 09.4	+0.1
MDPV	**Dominica, Penn**	**0.71**	**241**	*e*P	Pn	22 47 11.0	+1.6
MDPV				*e*S	Sn	22 47 22.5	+2.6
MDMP	**Dominica, Moor**	**0.72**	**238**	*e*	Pn	22 47 09.2	-0.3
MDMP	**Dominica, Moor**	**0.72**	**238**	*e*P	Pn	22 47 11.0	+1.5
MDMP				*e*S	Sn	22 47 22.5	+2.4
MDPO	**Dominica; Chan**	**0.76**	**238**	*e*	Pn	22 47 09.9	-0.1
MDPO	**Dominica; Chan**	**0.76**	**238**	*e*P	Pn	22 47 11.5	+1.5
MDPO				*e*S	Sn	22 47 23.6	+2.6
DLPL	**La Plaine**	**0.79**	**215**	*e*P	Pn	22 47 11.5	+1.1
DLPL				*e*S	Sn	22 47 25.1	+3.5
BBL	**Barber's Block**	**0.81**	**236**	*e*	Pg	22 47 10.3	+0.3
BBL	**Barber's Block**	**0.81**	**236**	*e*P	Pn	22 47 12.3	+1.6
BBL				*e*S	Sn	22 47 25.2	+3.0
TBG	**Guadaloupe-3**	**0.85**	**262**	*e*	Pn	22 47 11.3	+0.1
TBG	**Guadaloupe-3**	**0.85**	**262**	*e*P	Pn	22 47 12.9	+1.7
TBG				*e*S	Sn	22 47 26.9	+3.8
TAG	**Tarade**	**0.86**	**274**	*e*P	Pn	22 47 12.2	+0.7
SCG	**Saint Claude**	**0.87**	**273**	*e*P	Pn	22 47 11.9	+0.3
BAMF	**Morne Balai**	**1.21**	**197**	*e*P	Pg	22 47 17.4	-0.3
CXM	**Morne La Croix**	**1.22**	**198**	*e*P	Pg	22 47 17.5	-0.4
CXM				*e*S	Sg	22 47 34.3	+0.4
PCM	**Pelee Case Pet**	**1.23**	**200**	*e*P	Pb	22 47 17.4	+0.5
PCM	**Pelee Case Pet**	**1.23**	**200**	*e*P	Pb	22 47 17.6	-0.4
PML	**Morne Lenard**	**1.25**	**198**	*e*P	Pb	22 47 17.9	+0.6
FDF	**Fort de France**	**1.29**	**196**	*e*P	Pg	22 47 18.0	-0.5
FDF				*e*S	Sg	22 47 38.2	+2.1
LPMF	**Morne Lapointe**	**1.41**	**188**	*e*P	Pb	22 47 20.1	+0.1
ZAM	**Aeronautique**	**1.42**	**190**	*e*P	Pb	22 47 20.3	+0.2
TRMF	**Trois Ilets**	**1.46**	**191**	*e*P	Pb	22 47 20.9	+0.1
BIM	**Bigot**	**1.48**	**191**	*e*P	Pb	22 47 21.7	+0.5
BIM				*e*S	Sb	22 47 40.6	+0.9
BPA	**Boggy Peak**	**1.48**	**316**	*e*P	Pg	22 47 22.3	-0.6
BPA				*e*S	Sg	22 47 41.5	-0.7
MLYT	**Lee's Yard**	**1.55**	**299**	*e*P	Pb	22 47 23.0	+0.7
MLYT				*e*S	Sg	22 47 43.1	-1.2
MBWH		**1.56**	**299**	*e*P	Pb	22 47 22.3	-0.2
ANWB	**Willy Bob**	**1.94**	**330**	*e*P	Pb	22 47 27.8	-1.2
ANWB				*e*S	Sb	22 47 53.6	+0.7
SLB	**Belfond**	**2.15**	**187**	*e*P	Pb	22 47 31.6	-1.1
MCLT	**Moule a Chique**	**2.26**	**184**	*e*P	Pb	22 47 32.7	-1.8
MCLT				*e*S	Sb	22 48 01.7	-0.4
SKI	**Saint Kitts**	**2.31**	**306**	*e*P	Pb	22 47 33.8	-1.6
SKI				*e*S	Sb	22 48 02.2	-1.5
SSV	**Crater Summit**	**2.67**	**189**	*e*P	Pb	22 47 39.0	-2.5
SVV	**Soufriere Volc**	**2.68**	**189**	*e*P	Pn	22 47 38.8	+2.3
SVCV	**St. Vincent, C**	**2.71**	**188**	*e*P	Pn	22 47 39.5	+2.6
SVCV				*e*S	Sn	22 48 12.1	+2.9
SVB	**Belmont**	**2.73**	**190**	*e*P	Pb	22 47 40.0	-2.5
SVB				*e*S	Sn	22 48 12.2	+2.6

IDC 24 22:56:37.6±1.8,1.79S×134.36E,h0km,mb3.4/2, mb1 3.8/5,mb1mx3.5/48,mbtmp3.6/5,ML3.6/3,Error ellipse: s-maj=33.4km s-min=17.7km az=43.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**3.23**	**286**	Pn	Pn	22 57 29.2	-0.5
	5.9nm,0.3s,baz=207,slow=22,SNR=22						
SIJI				Pg	Pb	22 57 37.0	+1.0
	14nm,0.3s,baz=82,slow=15,SNR=16						
SIJI				Sn	Sn	22 58 08.3	-0.6
	9.1nm,0.3s,baz=97,slow=7.4,SNR=4.1						
SIJI				Lg	Lg	22 58 20.4	
	14nm,0.3s,baz=327,slow=22,SNR=14						
WRA	**Warramunga Arr**	**18.04**	**180**	P	Pn	23 00 50.2	+0.2
	0.2nm,0.3s,baz=360,slow=11,SNR=8.1						
FITZ	**Fitzroy Crossi**	**18.33**	**207**	P	Pn	23 00 53.4	-0.1
	0.2nm,0.3s,baz=39,slow=12,SNR=5.6						
ASAR	**Alice Springs**	**21.75**	**181**	P	P	23 01 30.8	-0.2
	1.8nm,0.7s,baz=6.5,slow=11,SNR=19						
MKAR	**Makanchi Array**	**66.45**	**324**	P	P	23 07 29.1	+0.1
	0.1nm,0.4s,baz=116,slow=7.1,SNR=3.6						

NDI 24 23:05:04.6±2.7,26.28N×93.57E,h35km,ML3.0, Northeastern India

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KOHI	**KOHIMA**	**0.74**	**139**	*e*P	Pn	23 05 23.3	+4.6
KOHI				*e*S	Sn	23 05 35.4	+6.6
KOHI				IAML		23 05 35.9	
	comp=E,284nm,0.3s						
KOHI				IAML		23 05 36.2	
	comp=N,349nm,0.2s						
TEZP	**TEZPUR**	**0.77**	**296**	*e*P	Pn	23 05 21.4	+2.5
TEZP				*e*S	Sn	23 05 31.2	+1.9
TEZP				IAML		23 05 32.6	
	comp=N,536nm,0.1s						
TEZP				IAML		23 05 32.6	
	comp=E,417nm,0.1s						
MOKO	**MOKOCHONG**	**0.85**	**87**	*e*P	Pn	23 05 22.4	+2.2
MOKO				*e*S	Sn	23 05 33.9	+2.4
MOKO				IAML		23 05 35.2	
	comp=E,459nm,0.1s						
MOKO				IAML		23 05 35.5	
	comp=N,357nm,0.1s						
ITAN	**ITANAGAR**	**0.87**	**9**	*e*P	Pn	23 05 21.6	+1.2
ITAN				*e*S	Sn	23 05 31.9	+0.1
ITAN				IAML		23 05 33.0	
	comp=N,582nm,0.1s						
ITAN				IAML		23 05 33.4	
	comp=E,509nm,0.1s						
ZIRO	**ZIRO**	**1.26**	**11**	*e*P	Pn	23 05 26.3	+0.3
ZIRO				*e*S	Sn	23 05 40.8	-1.0
ZIRO				IAML		23 05 41.9	
	comp=E,206nm,0.2s						
ZIRO				IAML		23 05 43.4	
	comp=N,213nm,0.3s						
IMP	**Imphal**	**1.48**	**167**	*ex*	Pn	23 05 33.6	+4.7
IMP				*e*S	Sn	23 05 46.4	-0.7
GTK	**Tadong**	**4.56**	**284**	*e*P	Pn	23 06 09.7	-1.6

*ISCJB **24** 23:20:38.6±1.5,39.45N±0.09×110.4E±0.3,h10km, mb3.5/5, Error ellipse: s-maj=31.6km s-min=12.2km az=176.9*
*IDC **24** 23:20:38.5±1.8,39.37N×110.37E,h0km,mb3.6/5, mb1 3.7/6,mb1mx3.4/68,mbtmp3.6/6,ML2.7/1, Error ellipse: s-maj=35.9km s-min=22.6km az=91.0*
ISC 24 23:20:40.1±1.7,39.4N±0.1×110.3E±0.3,h10km,n7, σ0°21/7,mb3.7/5,Western Nei Mongol

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I34MN	**SONGINO INFRAS**	**8.91**	**343**	*i*		00 15 10.0	
	baz=157,slow=333,SNR=1.3						
SONM	**Songino Array**	**8.94**	**343**	Pn	**Pn**	**23 22 49.3**	**-0.1**
	0.1nm,0.3s,baz=162,slow=12,SNR=7.4						
SONM				Sn	**Sn**	**23 24 30.1**	**-0.1**
	0.1nm,0.3s,baz=155,slow=21,SNR=3.6						
SONM				Lg	Lg	23 25 22.2	
	0.2nm,0.3s,baz=163,slow=25,SNR=7.6						
MKAR	**Makanchi Array**	**21.71**	**299**	P	**P**	**23 25 31.2**	**0.0**
	3.0nm,0.9s,baz=99,slow=12,SNR=23						
CMAR	**Chiang Mai Arr**	**23.04**	**209**	P	**P**	**23 25 45.3**	**-0.2**
	1.1nm,0.4s,baz=11,slow=10,SNR=8.2						
KURBB	**Kurchatov Arra**	**24.96**	**307**	P	**P**	**23 26 03.5**	**+0.1**
	1.6nm,0.9s,baz=108,slow=10,SNR=6.5						
AAK	**Ala-Archa**	**27.12**	**289**	P	**P**	**23 26 23.6**	**+0.3**
	0.5nm,0.4s,baz=102,slow=8.3,SNR=4.5						
YKA	**Yellowknife Ar**	**72.27**	**20**	P	**P**	**23 32 05.3**	**+0.1**
	0.3nm,0.8s,baz=326,slow=6.1,SNR=5.2						

*DDA **24** 23:28:48.9,37.22N×44.79E,h3km,Ml3.8*
*ISK **24** 23:28:50.8,37.22N×44.82E,h3km,ML3.8/8*
*IDC **24** 23:28:52.5±0.8,37.33N×44.60E,h0km,mb3.7/10, mb1 3.7/19,mb1mx3.6/67,mbtmp3.6/19,ML3.5/6,MS2.5/3, Ms1 2.5/3,ms1mx2.2/55,Error ellipse: s-maj=15.0km s-min=12.4km az=126.0*
*TEH **24** 23:28:52.5,37.51N×44.53E,h4km,ML3.7*
*ISN **24** 23:28:52.0±1.2,37.46N×44.19E,h0km±5km,ML3.7*
*CSEM **24** 23:28:54.1±0.2,37.31N×44.64E,h2km,ML3.8,Error ellipse: s-maj=4.5km s-min=3.8km az=41.0*
ISC 24 23:28:53.7±1.3,37.37N±0.04×44.65E±0.03,h8km±9km, n108,σ1°63/130,mb3.6/10,13C-8D,Turkey-Iran border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YOVA	**Hakkari_Y˜…kse**	**0.36**	**307**	*i* P	**Pg**	**23 28 60.0**	**-0.9**
YOVA				*i* S	**Sg**	**23 29 05.9**	**+0.3**
YOVA	**Hakkari_Y˜…kse**	**0.36**	**307**	P	**Pg**	**23 29 00.0**	**-0.9**
YOVA				S	**Sg**	**23 29 05.9**	**+0.3**
ISHB	**Shabestar**	**1.19**	**40**	*e*Pg	**Pb**	**23 29 13.5**	**-3.2**
ISHB				*e*Sg	**Sb**	**23 29 28.7**	**-3.7**
ISHB				*e*AMB	AMB	23 29 31.9	
	comp=Z,43μm,0.2s						
ITBZ	**Tabriz**	**1.47**	**54**	*e*Pn	**Pn**	**23 29 18.1**	**-2.5**
ITBZ				*e*AMB	AMB	23 29 21.2	
	comp=Z,9μm,0.2s						
ITBZ				*e*Sg	**Sn**	**23 29 38.1**	**-2.0**
ITBZ	**Tabriz**	**1.47**	**54**	*e*Pn	**Pn**	**23 29 18.1**	**-2.5**
ITBZ				*e*Sg	**Sn**	**23 29 38.1**	**-2.0**
TVAN	**Van**	**1.52**	**320**	*i* P	**Pn**	**23 29 21.0**	**-0.4**
TVAN				*i* S	**Sg**	**23 29 45.9**	**+3.3**
GEVA	**Gevas**	**1.57**	**307**	*i* P	**Pn**	**23 29 21.4**	**-0.7**
GEVA				*i* S	**Sg**	**23 29 46.5**	**+2.2**
VANB	**Van**	**1.58**	**321**	PN	**Pn**	**23 29 21.4**	**-0.7**
VANB				SN	**Sg**	**23 29 45.4**	**+0.9**
VANB	**Van**	**1.58**	**321**	*e*Pn	**Pn**	**23 29 21.4**	**-0.7**
VANB				*e*Sn	**Sg**	**23 29 45.4**	**+0.9**
IMRD	**Marand**	**1.58**	**31**	*e*Pn	**Pn**	**23 29 20.2**	**-2.0**
IMRD				*e*AMB	AMB	23 29 48.5	
	comp=Z,14μm,0.2s						
IMRD	**Marand**	**1.58**	**31**	*e*Pn	**Pn**	**23 29 20.2**	**-2.0**
SIRT	**Sirnak**	**1.76**	**275**	PN	**Pn**	**23 29 24.9**	**+0.3**
SIRT				SN	**Sg**	**23 29 50.6**	**+0.2**
SIRT	**Sirnak**	**1.76**	**275**	*e*Pn	**Pn**	**23 29 24.9**	**+0.3**
SIRT				*e*Sn	**Sg**	**23 29 50.6**	**+0.2**
SIRN	**S˜–rnak**	**1.78**	**275**	*i* P	**Pn**	**23 29 25.2**	**+0.3**
SIRN				*i* S	**Sg**	**23 29 52.4**	**+1.3**
SIRN	**S˜–rnak**	**1.78**	**275**	P	**Pn**	**23 29 25.2**	**+0.3**
IBST	**Bostanabad**	**1.81**	**79**	*e*Pn	**Pn**	**23 29 23.8**	**-1.6**
IBST				*e*AMB	AMB	23 29 52.9	
	comp=Z,10μm,0.2s						
IBST	**Bostanabad**	**1.81**	**79**	*e*Pn	**Pn**	**23 29 23.8**	**-1.6**
VMUR	**Van-Muradiye**	**1.83**	**333**	*i* P	**Pb**	**23 29 27.0**	**-0.5**
VMUR	**Van-Muradiye**	**1.83**	**333**	P	**Pb**	**23 29 27.0**	**-0.5**
CLDR	**Caldiran**	**1.86**	**342**	PN	**Pb**	**23 29 27.1**	**-1.0**
CLDR				SN	**Sg**	**23 29 53.9**	**+0.3**
CLDR	**Caldiran**	**1.86**	**342**	*i* P	**Pb**	**23 29 26.8**	**-1.3**
CLDR	**Caldiran**	**1.86**	**342**	P	**Pb**	**23 29 26.8**	**-1.3**
CLDR	**Caldiran**	**1.86**	**342**	*e*Pn	**Pb**	**23 29 27.1**	**-1.0**
CLDR				*e*Sn	**Sg**	**23 29 53.9**	**+0.3**
ORD	**Ordubad**	**1.88**	**34**	||P	**Pb**	**23 29 28.9**	**+0.5**
ORD				↑↑S	**Sg**	**23 29 58.4**	**+4.1**
NAX	**Nakhchivan**	**1.92**	**20**	P	**Pb**	**23 29 28.9**	**-0.1**
	SNR=37						
ADCV	**BITLIS_Adilcev**	**2.09**	**314**	*i* P	**Pb**	**23 29 31.6**	**-0.4**
ADCV	**BITLIS_Adilcev**	**2.09**	**314**	P	**Pb**	**23 29 31.6**	**-0.4**
IHRS	**Heris**	**2.12**	**63**	*e*Pn	**Pn**	**23 29 29.7**	**+0.1**
IHRS				*e*AMB	AMB	23 29 36.1	
	comp=Z,5μm,0.2s						
IHRS	**Heris**	**2.12**	**63**	*e*Pn	**Pn**	**23 29 29.7**	**+0.1**
SBZ	**Shahbuz**	**2.15**	**19**	P	**Pb**	**23 29 33.3**	**+0.4**
	SNR=72						
SRTM	**Siirt_Merkez**	**2.25**	**287**	*i* P	**Pb**	**23 29 33.1**	**-1.6**
SRTM	**Siirt_Merkez**	**2.25**	**287**	P	**Pb**	**23 29 33.1**	**-1.6**
DYDN	**Diyadin**	**2.30**	**341**	*i* P	**Pb**	**23 29 36.2**	**+0.6**
DYDN	**Diyadin**	**2.30**	**341**	P	**Pb**	**23 29 36.2**	**+0.6**
HYR	**Heyderabad**	**2.35**	**4**	↑↑P	**Pb**	**23 29 34.4**	**-2.0**
	SNR=63						
GURO	**Guroymak-BITLI**	**2.38**	**300**	PN	**Pb**	**23 29 34.9**	**-2.0**
GURO	**Guroymak-BITLI**	**2.38**	**300**	*e*Pn	**Pb**	**23 29 34.9**	**-2.0**
AGRB	**Hanur-Agry**	**2.56**	**330**	PN	**Pb**	**23 29 37.4**	**-2.6**
AGRB	**Hanur-Agry**	**2.56**	**330**	*e*Pn	**Pb**	**23 29 37.4**	**-2.6**
BTMN	**Batman**	**2.73**	**282**	*i* P	**Pn**	**23 29 36.9**	**-1.1**
GNI	**Garni**	**2.78**	**1**	Pn	**Pn**	**23 29 40.7**	**+2.1**
	comp=Z,5.8nm,0.3s,baz=194,slow=1.4,SNR=7.6						
GNI				Lg	Lg	23 30 30.4	
	comp=Z,6.4nm,0.3s,baz=187,slow=23,SNR=3.4						
SVAN	**Silvan-Diyarba**	**2.84**	**287**	PN	**Pn**	**23 29 41.1**	**+1.7**
SVAN	**Silvan-Diyarba**	**2.84**	**287**	*e*Pn	**Pn**	**23 29 41.1**	**+1.7**
EATA	**Eleskirt**	**3.01**	**326**	*i* P	**Pg**	**23 29 50.1**	**-1.3**
ILIN	**Lien**	**3.08**	**142**	*e*Pn	**Pn**	**23 29 43.8**	**+0.9**
ILIN				*e*AMB	AMB	23 30 40.8	
	comp=Z,2μm,0.3s						
ILIN	**Lien**	**3.08**	**142**	*e*Pn	**Pn**	**23 29 43.8**	**+0.9**
MARD	**Mardin**	**3.08**	**270**	*i* P	Pn	23 29 36.3	-6.5
VRTB	**Varto-Mus**	**3.08**	**306**	PN	**Pn**	**23 29 44.9**	**+2.1**
VRTB	**Varto-Mus**	**3.08**	**306**	*e*Pn	**Pn**	**23 29 44.9**	**+2.1**
LRK	**Lerik**	**3.18**	**65**	↑↑P	**Pn**	**23 29 44.8**	**+0.6**
	SNR=38						
LRK				↑↑S	**Sb**	**23 30 27.3**	**-2.2**
IVIS	**Veis**	**3.35**	**147**	*e*Pn	**Pn**	**23 29 47.0**	**+0.5**
IVIS				*e*AMB	AMB	23 30 52.8	
	comp=Z,2μm,0.4s						
IVIS	**Veis**	**3.35**	**147**	*e*Pn	**Pn**	**23 29 47.0**	**+0.5**
IGHG	**Ghaleghazi**	**3.41**	**152**	*e*Pn	**Pn**	**23 29 48.2**	**+0.8**
IGHG				*e*AMB	AMB	23 29 56.0	
	comp=Z,5μm,0.3s						
IGHG	**Ghaleghazi**	**3.41**	**152**	*e*Pn	**Pn**	**23 29 48.2**	**+0.8**
GDB	**GEDABAY**	**3.46**	**14**	↑↑P	**Pn**	**23 29 50.4**	**+2.4**
	SNR=18						
GDB				↑↑S	**Sb**	**23 30 37.3**	**-0.2**
ASTR	**Astara**	**3.48**	**69**	↑↑P	**Pn**	**23 29 48.7**	**+0.5**
	SNR=26						
ASTR				↑↑S	**Sb**	**23 30 34.3**	**-3.7**
GLBA	**Clilabad**	**3.49**	**56**	||P	**Pn**	**23 29 49.6**	**+1.4**
	SNR=6.9						
GLBA				||S	**Sb**	**23 30 36.0**	**-2.2**
BRDA	**Brd**	**3.50**	**34**	||P	**Pn**	**23 29 50.7**	**+2.3**
	SNR=20						
BRDA				||S	**Sb**	**23 30 38.0**	**-0.5**
GANJ	**Ganja**	**3.52**	**21**	↑↑P	**Pn**	**23 29 51.3**	**+2.5**
	SNR=15						
GANJ				↑↑S	**Sb**	**23 30 39.0**	**-0.2**
BNGB	**Bing˜¶l**	**3.52**	**299**	PN	**Pn**	**23 29 50.9**	**+2.1**
LKRN	**Lenkeran, Azer**	**3.52**	**66**	||P	**Pn**	**23 29 49.5**	**+0.8**
	SNR=33						
LKRN				↑↑S	**Sb**	**23 30 35.8**	**-3.4**
DIY	**Diyarbakir**	**3.55**	**280**	*e*Pn	**Pn**	**23 29 52.1**	**+2.9**
BINT	**Bingol**	**3.61**	**296**	*e*

IKLH				*e*AMB	AMB	23 33 08.1
	comp=Z,233nm,0.5s					
IKLH	**Kolahrood**	**6.96**	**123**	*e*Pn	**Pn**	**23 30 37.0 +0.9**
IZEF	**Zefreh**	**7.71**	**123**	*e*Pn	**Pn**	**23 30 48.6 +2.1**
IZEF				*e*AMB	AMB	23 31 28.3
	comp=Z,58nm,0.3s					
IZEF	**Zefreh**	**7.71**	**123**	*e*Pn	**Pn**	**23 30 48.6 +2.1**
ASF	**Jabal al Asfar**	**8.22**	**233**	Pn	**Pn**	**23 30 52.4 -0.9**
	comp=Z,0.3nm,0.3s,baz=353,slow=8.1,SNR=4.2					
ASF				Lg	Lg	23 33 14.0
	comp=Z,0.3nm,0.3s,baz=211,slow=19,SNR=4.0					
QRWL	**Qaraoun**	**8.25**	**245**	*e*P	**Pn**	**23 30 53.7 0.0**
DQRL	**Deir Qamar**	**8.25**	**246**	*e*P	**Pn**	**23 30 54.6 +0.8**
SHBL	**Chebaa**	**8.31**	**244**	*e*P	**Pn**	**23 30 54.8 +0.2**
IRAM	**Ramesheh**	**8.45**	**129**	*e*Pn	**Pn**	**23 30 57.3 +0.7**
IRAM				*e*AMB	AMB	23 33 33.0
	comp=Z,50nm,0.4s					
IRAM	**Ramesheh**	**8.45**	**129**	*e*Pn	**Pn**	**23 30 57.3 +0.7**
MMAI	**Mount Meron Ar**	**8.72**	**243**	Pn	**Pn**	**23 31 00.6 +0.3**
	comp=Z,1.5nm,0.3s,baz=66,slow=15,SNR=17					
MMAI				LR	LR	23 34 40.1
	comp=Z,45nm,21.2s,baz=60,slow=40					
BRTR	**Keskin Array B**	**8.94**	**289**	Pn	Pn	23 31 08.9 +5.6
	comp=Z,0.1nm,0.3s,baz=123,slow=10,SNR=3.5					
GEYT	**Alibeck**	**10.70**	**83**	Pn	**Pn**	**23 31 27.1 -0.1**
	comp=Z,0.2nm,0.3s,baz=274,slow=11,SNR=2.6					
EIL	**Elat**	**11.15**	**229**	Lg	Lg	23 34 55.0
	comp=Z,0.2nm,0.3s,baz=300,slow=20,SNR=4.3					
EIL				LR	LR	23 36 12.8
	comp=Z,16nm,20.5s,baz=304,slow=40					
AKTO	**Aktyubinsk**	**16.19**	**32**	Pn	**Pn**	**23 32 42.2 +0.8**
	comp=Z,0.1nm,0.3s,baz=220,slow=7.9,SNR=3.8					
AKASG	**Malin Array Be**	**17.29**	**325**	P	**Pn**	**23 32 55.5 +0.2**
	baz=133,slow=12,SNR=2.1					
WSAR	**Wadi Sarin**	**18.52**	**136**	P	**P**	**23 33 09.2 -1.3**
	comp=Z,0.6nm,0.3s,baz=338,slow=10,SNR=15					
ARU	**Arti**	**21.23**	**22**	P	**P**	**23 33 40.6 +0.8**
	comp=Z,1.7nm,0.6s,baz=121,slow=17,SNR=3.6					
GERES	**GERESS Array B**	**25.16**	**307**	P	**P**	**23 34 20.2 +0.7**
	comp=Z,0.5nm,0.6s,baz=121,slow=9.2,SNR=3.1					
FINES	**FINESS Array B**	**26.76**	**340**	P	**P**	**23 34 33.6 +0.1**
	comp=Z,1.4nm,0.9s,baz=171,slow=9.8,SNR=3.1					
KURBB	**Kurchatov Arra**	**27.48**	**50**	P	**P**	**23 34 41.1 +1.0**
	comp=Z,0.3nm,0.2s,baz=261,slow=8.6,SNR=2.8					
MKAR	**Makanchi Array**	**29.24**	**59**	P	**P**	**23 34 56.7 +0.7**
	comp=Z,0.6nm,0.8s,baz=260,slow=7.1,SNR=5.3					
HFS	**Hagfors**	**30.10**	**329**	P	**P**	**23 35 04.5 +1.1**
	comp=Z,1.4nm,0.7s,baz=165,slow=12,SNR=2.9					
EKA	**Eskdalemuir Ar**	**36.70**	**315**	P	**P**	**23 36 01.3 +0.4**
	comp=Z,0.5nm,0.5s,baz=111,slow=7.8,SNR=4.9					
TORD	**Torodi Ar. Bea**	**45.20**	**249**	P	**P**	**23 37 10.1 -1.3**
	comp=Z,0.4nm,0.6s,baz=69,slow=7.1,SNR=3.5					
KOWA	**Kowa**	**48.70**	**255**	P	**P**	**23 37 37.6 -1.2**
	comp=Z,1.2nm,0.6s,baz=50,slow=9.9,SNR=4.6					
CMAR	**Chiang Mai Arr**	**50.84**	**96**	P	**P**	**23 37 55.4 +0.3**
	comp=Z,0.7nm,0.3s,baz=302,slow=9.6,SNR=4.5					

*SOME **24** 23:32:11.3, 40.70N×78.73E, h5km*
*KRNET **24** 23:32:12.2±0.1, 40.82N×78.89E, h15km, mb2.6*
ISC 24 23:32:16.0±1.9, 40.90N±0.09×78.72E±0.05, h10km, n19, σ1§52/38, 14C-2D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TARG	**Taragay, Kyrgy**	**1.08**	**321**	⇑*i*P	**Pg**	**23 32 35.6**	**-1.2**
	baz=18						
TARG				⇑*i*S	**Sn**	**23 32 52.8**	**0.0**
	baz=18						
PRZ	**Przheval'sk**	**1.60**	**352**	⇑*e*P	**Pn**	**23 32 44.6**	**0.0**
	baz=48						
PRZ				⇑*i*S	**Sg**	**23 33 07.6**	**+0.1**
	baz=48						
KDJ	**Kajisay**	**1.69**	**317**	⇓*i*P	**Pb**	**23 32 46.4**	**-0.9**
	baz=16						
KDJ				⇓*i*S	**Sg**	**23 33 11.1**	**+0.8**
	baz=16						
NRN	**Naryn**	**2.12**	**285**	⇑*e*P	**Pb**	**23 32 53.4**	**-1.3**
	baz=86						
NRN				⇑*i*S	**Sg**	**23 33 23.5**	**-0.7**
	baz=86						
SATY	**Saty**	**2.17**	**354**	*e*P	**Pb**	**23 32 56.1**	**+0.6**
	5.0nm,0.5s						
SATY				*e*S	**Sg**	**23 33 28.4**	**+2.6**
	72nm,0.9s						
UZB	**Uzynbulak**	**2.26**	**6**	*e*P	**Pb**	**23 32 56.1**	**-0.8**
	2.4nm,0.6s						
UZB				*e*S	**Sg**	**23 33 28.3**	**-0.2**
	29nm,0.5s						
ULHL	**Ulahol**	**2.29**	**307**	⇑*e*P	**Pn**	**23 32 55.4**	**+1.3**
	baz=7.0						
ULHL				⇑*i*S	**Sb**	**23 33 26.9**	**+0.8**
	baz=7.0						
SHLS	**Shalkode**	**2.32**	**14**	*e*P	**Pg**	**23 32 59.0**	**-1.5**
	14nm,0.4s						
SHLS				*e*S	**Sg**	**23 33 33.2**	**+2.5**
	66nm,0.7s						
KPKS	**Kokpek**	**2.57**	**359**	*e*P	**Pb**	**23 33 01.6**	**-0.6**
	7.7nm,0.2s						
KPKS				*e*S	**Sg**	**23 33 38.1**	**-0.3**
	84nm,0.4s						
KOTS	**Kotyrbulak**	**2.62**	**333**	*e*P	**Pb**	**23 33 03.0**	**-0.2**
	7.8nm,0.5s						
KOTS				*e*S	**Sg**	**23 33 40.3**	**0.0**
	13nm,0.6s						
IZV	**Izvestkoviy**	**2.65**	**324**	*e*P	**Pb**	**23 33 02.3**	**-1.3**
	2.5nm,0.2s						
IZV				*e*S	**Sg**	**23 33 39.1**	**-2.1**
	12nm,0.5s						
KTMS	**Ketmen**	**2.82**	**25**	*e*P	**Pb**	**23 33 05.8**	**-0.7**
	0.4nm,0.3s						
KTMS				*e*S	**Sg**	**23 33 45.2**	**-1.4**
	17nm,0.4s						
KZA	**Kyzart**	**2.86**	**295**	⇑*e*P	**Pn**	**23 33 03.5**	**+1.4**
	baz=96						
KZA				⇑*e*S	**Sb**	**23 33 41.4**	**-1.2**
	baz=96						
TKM2	**Tokmak 2**	**3.08**	**312**	⇑*e*P	**Pn**	**23 33 06.1**	**+1.1**
	baz=12						
TKM2				⇑*i*S	**Sb**	**23 33 46.0**	**-2.9**
	baz=12						
MNBS	**Baschi**	**3.19**	**356**	*e*P	**Pb**	**23 33 12.8**	**0.0**
	3.5nm,0.2s						
MNBS				*e*S	**Sg**	**23 33 57.1**	**-1.3**
	9.0nm,0.4s						
DGS	**Degeres**	**3.21**	**318**	*e*P	**Pb**	**23 33 11.4**	**-1.7**
	2.7nm,0.5s						
DGS				*e*S	**Sb**	**23 33 54.5**	**+2.2**
	10nm,0.6s						
CHKK	**Chushkaly**	**3.22**	**337**	*e*P	**Pb**	**23 33 13.9**	**+0.6**
	4.0nm,0.4s						
CHKK				*e*S	**Sg**	**23 33 58.8**	**-0.6**
	12nm,0.4s						
ARXS	**Arharly**	**3.38**	**349**	*e*P	**Pb**	**23 33 16.1**	**+0.1**
	1.8nm,0.3s						
ARXS				*e*S	**Sg**	**23 34 02.7**	**-1.8**
	21nm,0.5s						
UCH	**Uchtor**	**3.42**	**294**	⇑*e*P	**Pn**	**23 33 11.5**	**+1.6**
	baz=95						
UCH				⇑*e*S	**Sn**	**23 33 55.1**	**+4.4**
	baz=95						

*NEIC **24** 23:48:49.8±3.7, 1.73S×134.43E, h6km±23km, mb4.6/17, Error ellipse: s-maj=9.6km s-min=5.4km az=48.0*
NEIC Felt [III] at Ransiki.
*IDC **24** 23:48:49.2±0.5, 1.77S×134.38E, h0km, mb4.3/16, mb1 4.5/20, mb1mx4.3/54, mbtmp4.4/20, ML4.4/4, MS3.4/12, Ms1 3.5/12, ms1mx3.1/44, Error ellipse: s-maj=15.5km s-min=9.8km az=69.0*
*ISCJB **24** 23:48:51.5±0.3, 1.73S±0.03×134.41E±0.03, h29km, mb4.6/37, MS3.5/13, Error ellipse: s-maj=4.5km s-min=4.1km az=0.4*
*BJI **24** 23:48:51.4, 1.78S×134.12E, h17km, mb4.5/18, mB4.9/12, Ms4.4/3, Ms7 4.1/3*
*DJA **24** 23:48:53.5±0.3, 2.2S±2.2×13.4E±.4°, h13km±2km, M4.7/20, mb4.8/20, mB5.2/10, MLv4.9/13, Mw(mB)4.5/10*
ISC 24 23:48:53.8±0.4, 1.68S±0.04×134.31E±0.04, h29km, n94, σ2§20/105, mb4.6/37, MS3.4/13, 1C, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RKPI	**Ransiki, Papua**	**0.22**	**322**	P	**Pb**	**23 48 56.4**	**-3.7**
RKPI				S	**Sb**	**23 49 00.7**	**-3.7**
KMPI	**Kaimana, Papua**	**2.06**	**197**	P	**Pb**	**23 49 29.7**	**-0.8**
KMPI				S	**Sb**	**23 49 57.6**	**+2.0**
FAKI	**Fak Fak**	**2.40**	**239**	P	**Pn**	**23 49 32.6**	**+1.5**
FAKI				S	**Sb**	**23 50 04.0**	**-1.5**
FAKI	**Fak Fak**	**2.40**	**239**	*e*Pn	**Pn**	**23 49 32.0**	**+0.9**
SIJI	**Sorong**	**3.15**	**285**	Pn	**Pn**	**23 49 41.2**	**-0.3**
	61nm,0.3s,baz=69,slow=17,SNR=44						
SIJI				Pg	**Pb**	**23 49 49.6**	**+0.5**
	105nm,0.3s,baz=85,slow=15,SNR=39						
SIJI				Sn	**Sn**	**23 50 20.8**	**+2.6**
	63nm,0.3s,baz=213,slow=23,SNR=8.7						
SIJI				Lg	Lg	23 50 32.9	
	150nm,0.3s,baz=324,slow=23,SNR=15						
BNDI	**Bandanaira**	**5.23**	**237**	P	**Pn**	**23 50 13.0**	**+3.0**
BNDI				S	**Sn**	**23 51 14.4**	**+5.0**
MSAI	**Masohi**	**5.62**	**253**	P	**Pn**	**23 50 17.8**	**+2.3**
MSAI				S	**Sn**	**23 51 23.1**	**+3.9**
GENI	**Genyem**	**5.92**	**99**	P	**Pn**	**23 50 21.6**	**+2.0**
GENI				S	**Sn**	**23 51 31.4**	**+4.8**
AAI	**Ambon**	**6.42**	**252**	P	**Pn**	**23 50 28.5**	**+2.0**
AAI				S	**Sn**	**23 51 42.6**	**+3.6**
JAY	**Jayapura**	**6.44**	**97**	P	**Pn**	**23 50 29.7**	**+2.9**
JAY				S	**Sn**	**23 51 43.3**	**+3.8**
LBMI	**Labuha**	**6.89**	**279**	P	**Pn**	**23 50 34.0**	**+1.1**
LBMI				S	**Sn**	**23 51 52.9**	**+2.5**
SAUI	**Saumlaki**	**6.94**	**206**	P	**Pn**	**23 50 37.7**	**+4.1**
SAUI				S	**Sn**	**23 51 57.6**	**+6.0**
NLAI	**Namlea**	**7.37**	**258**	P	**Pn**	**23 50 40.4**	**+0.9**
	91nm,0.9s,1μm						
NLAI				S	**Sn**	**23 52 05.3**	**+3.1**
	91nm,0.9s,1μm						
SANI	**Sanana**	**8.33**	**267**	P	**Pn**	**23 50 52.6**	**-0.1**
	26nm,0.8s						
MTN	**Manton Dam**	**11.53**	**196**	*e*Pn	**Pn**	**23 51 35.3**	**-1.2**
LUWI	**Luwuk**	**11.55**	**273**	P	**Pn**	**23 51 38.0**	**+1.1**
LUWI	**Luwuk**	**11.55**	**273**	*e*Pn	**Pn**	**23 51 37.4**	**+0.5**
	36nm,0.8s						
KDI	**Kendari**	**11.89**	**259**	P	**Pn**	**23 51 42.6**	**+1.0**
	28nm,0.9s						
DAV	**Davao City (W)**	**12.31**	**315**	LR	LR	23 57 05.3	
	comp=Z,178nm,18.1s,baz=145,slow=40						
APSI	**Ampana**	**12.68**	**273**	P	**Pn**	**23 51 52.9**	**+0.6**
SOEI	**Soe**	**12.81**	**231**	*e*Pn	**Pn**	**23 51 55.1**	**+1.0**
	16nm,0.6s						
BATI	**Baumata**	**13.55**	**231**	Pn	**Pn**	**23 52 03.8**	**-0.5**
	2.2nm,0.3s,baz=51,slow=6.5,SNR=2.6						
EDFI	**Ende, Flores**	**14.39**	**240**	P	**Pn**	**23 52 18.7**	**+2.9**
BNSI	**Bone**	**14.44**	**259**	P	**Pn**	**23 52 18.2**	**+1.9**
MPSI	**Mapaga**	**14.55**	**278**	P	**Pn**	**23 52 18.7**	**+0.8**
COEN	**Coen**	**15.02**	**145**	*e*Pn	**Pn**	**23 52 20.2**	**-4.0**
SGKI	**Sangatta, Kali**	**16.74**	**274**	P	**P**	**23 52 47.8**	**-0.7**
WBSI	**Waikabubak, Su**	**16.81**	**241**	P	**P**	**23 52 49.6**	**+0.4**
BKB	**Balikpapan**	**17.41**	**271**	P	**P**	**23 52 55.6**	**-0.3**
WRAB	**Tennant Creek**	**18.14**	**180**	*e*Pn	**Pn**	**23 53 00.8**	**-2.9**
	12nm,0.8s						
WB2	**Warramunga Arr**	**18.15**	**180**	*e*Pn	**Pn**	**23 53 01.5**	**-2.3**
	13nm,0.8s						
WRA	**Warramunga Arr**	**18.15**	**180**	P	**Pn**	**23 53 00.9**	**-2.9**
	1.0nm,0.3s,baz=1.2,slow=12,SNR=49						
WRA				S	**Sn**	**23 56 20.5**	**-5.1**
	0.2nm,0.3s,baz=6.5,slow=22,SNR=3.6						
KBKI	**Kotabaru**	**18.20**	**265**	P	**P**	**23 53 05.7**	**+1.2**
FITZ	**Fitzroy Crossi**	**18.40**	**207**	P	**P**	**23 53 05.7**	**-1.0**
	1.4nm,0.3s,baz=37,slow=10,SNR=27						
FITZ				S	**Sn**	**23 56 21.4**	**-10**
	0.6nm,0.3s,baz=173,slow=18,SNR=6.7						
KKM	**Kota Kinabalu**	**19.63**	**293**	*e*P	**Pn**	**23 53 21.8**	**-0.1**
	11nm,0.8s						
CTA	**Charters Tower**	**21.70**	**148**	P	**P**	**23 53 42.6**	**0.0**
	6.8nm,0.6s,baz=316,slow=12,SNR=9.7						
CTA				LR	LR	00 02 58.3	
	comp=Z,235nm,18.8s,baz=346,slow=39						
CTAO	**Charters Tower**	**21.70**	**148**	*e*P	**P**	**23 53 41.0**	**-1.7**
	60nm,1.9s						
AS01	**Alice Springs**	**21.85**	**181**	*e*P	**P**	**23 53 42.2**	**-2.0**
AS31	**Alice Springs**	**21.86**	**181**	*e*P	**P**	**23 53 43.5**	**-0.8**
	12nm,0.7s						
ASAR	**Alice Springs**	**21.86**	**181**	P	**P**	**23 53 43.5**	**-0.8**
	35nm,0.7s,baz=8.4,slow=11,SNR=114						
ASAR				S	**S**	**23 57 43.7**	**-0.8**
	3.2nm,1.0s,baz=4.4,slow=22,SNR=6.5						
MBWA	**Marble Bar**	**24.02**	**215**	*e*P	**P**	**23 54 05.9**	**-0.4**
	235nm,1.3s						
KSM	**Kuching**	**24.20**	**277**	*e*P	**P**	**23 54 09.8**	**+1.6**
	39nm,1.1s						
SMRI	**Semarang**	**24.38**	**257**	*e*P	**P**	**23 54 11.4**	**+1.5**
	92nm,1.2s						
HNR	**Honiara**	**26.63**	**108**	LR	LR	00 05 41.6	
	comp=Z,111nm,19.7s,baz=296,slow=38						
FORT	**Forrest**	**29.54**	**191**	*e*P	**P**	**23 54 54.9**	**-1.0**
STKA	**Stephens Creek**	**30.81**	**168**	P	**P**	**23 55 05.9**	**-1.3**
	5.6nm,0.7s,baz=342,slow=8.5,SNR=8.2						
STKA				LR	LR	00 09 01.4	
	comp=Z,128nm,18.0s,baz=352,slow=40						
BBOO	**Buckleboo**	**31.01**	**177**	*e*P	**P**	**23 55 06.8**	**-2.1**
	23nm,1.2s						
IPM	**Ipoh**	**33.82**	**281**	*e*P	**P**	**23 55 33.9**	**+0.1**
	10nm,0.8s						
NWAO	**Narrogin (SRO)**	**34.98**	**206**	P	**P**	**23 55 43.8**	**+0.2**
	6.3nm,0.8s,baz=333,slow=5.2,SNR=3.2						
PSI	**Prapat**	**35.66**	**277**	P	**P**	**23 55 49.7**	**-0.1**
	2.9nm,0.5s,baz=162,slow=14						
PSI	**Prapat**	**35.66**	**277**	*e*P	**P**	**23 55 48.3**	**-1.6**
	13nm,1.1s						
NJ2	**Nanjing**	**36.61**	**338**	*e*P	**P**	**23 55 58.1**	**+0.5**
NJ2				pmax	pmax		
	comp=Z,21nm,0.5s						
DZM	**Mont Dzumac**	**37.24**	**125**	LR	LR	00 12 35.4	
	comp=Z,49nm,18.1s,baz=68,slow=38						
MJAR	**Matsushiro Arr**	**38.20**	**5**	LR	LR	00 09 10.5	
	comp=Z,33nm,19.9s,baz=160,slow=32						
KSRS	**Korea Array**	**39.39**	**352**	LR	LR	00 14 05.1	
	comp=Z,21nm,18.4s,baz=185,slow=38						
CM01	**Chiang Mai Arr**	**40.11**	**301**	*e*P	**P**	**23 56 27.4**	**+0.2**
CMAR	**Chiang Mai Arr**	**40.14**	**302**	P	**P**	**23 56 27.8**	**+0.3**
	1.0nm,0.3s,baz=128,slow=8.5,SNR=8.4						
CMAR				PcP	**PcP**	**23 58 32.8**	**+1.1**
	1.3nm,0.7s,baz=138,slow=1.9,SNR=5.3						
CMAR				LR	LR	00 13 29.6	
	comp=Z,19nm,20.1s,baz=156,slow=37						
CHTO	**Chiang Mai**	**40.29**	**302**	*e*P	**P**	**23 56 28.8**	**0.0**
	1.4nm,0.5s						
CD2	**Chengdu**	**43.54**	**321**	*e*P	**P**	**23 56 55.5**	**+0.3**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,120nm,5.0s						
MSVF	**Nonsavu**	**45.80**	**113**	*e*P	**P**	**23 57 14.5**	**+1.0**
	11nm,0.9s						
LZH	**Lanzhou**	**47.10**	**326**	*e*P	**P**	**23 57 26.4**	**+2.9**
LZH				pP	pP	23 57 30.8	-1.5
LZH				sP	sP	23 57 34.0	-1.8
LZH				PP	**PP**	**23 59 15.3**	**+0.7**
LZH				pmax	pmax		
	comp=Z,16nm,0.9s						
LZH				pmax	pmax		
	comp=Z,240nm,4.3s						
LZH				LR	LR		
	comp=N,170nm,15.0s						
LZH				LR	LR		
	comp=E,170nm,15.3s						
LZH				LR	LR		
	comp=Z,240nm,18.4s						
HHC	**Hu-ho-hao-te**	**47.13**	**336**	*e*P	**P**	**23 57 26.4**	**+2.8**
HHC				pmax	pmax		
	comp=Z,15nm,1.1s						
HHC				pmax	pmax		
	comp=Z,33nm,6.2s						
KLR	**Kul'dur**	**50.76**	**358**	P	**P**	**23 57 51.3**	**+0.2**
	0.2nm,0.7s,baz=248,slow=3.8,SNR=5.1						
SONM	**Songino Array**	**55.00**	**337**	P	**P**	**23 58 23.9**	**+1.2**
	1.0nm,0.9s,baz=138,slow=6.4,SNR=4.9						
SONM				LR	LR	00 21 42.7	
	comp=Z,40nm,19.3s,baz=118,slow=36						
WMQ	**Urumqi**	**61.52**	**323**	P	**P**	**23 59 10.3**	**+2.0**
WMQ				LR	LR		
	comp=Z,54nm,23.3s						
SEY	**Seymchan**	**65.87**	**9**	P	**P**	**23 59 37.2**	**+0.7**
	1.1nm,0.3s,baz=184,slow=5.4,SNR=6.7						
MK01	**Makanchi Array**	**66.31**	**324**	*e*P	**P**	**23 59 39.7**	**0.0**
MK31	**Makanchi Array**	**66.33**	**324**	*e*P	**P**	**23 59 40.2**	**+0.4**
MKAR	**Makanchi Array**	**66.33**	**324**	P	**P**	**23 59 40.2**	**+0.4**
	3.5nm,0.8s,baz=112,slow=8.1,SNR=20						
MKAR				LR	LR	00 28 22.4	
	comp=Z,23nm,21.8s,baz=180,slow=36						
KSH	**Kashi**	**67.21**	**314**	P	**P**	**23 59 46.3**	**+0.6**
KDJ	**Kajisay**	**67.42**	**317**	*e*P	**P**	**23 59 47.8**	**+0.7**
	11nm,1.8s						
KURK	**Kurchatov**	**70.39**	**326**	*e*P	**P**	**00 00 04.8**	**-0.3**
	18nm,0.9s						
KURBB	**Kurchatov Arra**	**70.39**	**326**	P	**P**	**00 00 05.3**	**+0.2**
	2.4nm,1.0s,baz=119,slow=5.2,SNR=11						
TIXI	**Tiksi**	**73.29**	**358**	P	**P**	**00 00 21.5**	**-0.6**
	3.3nm,0.2s,baz=88,slow=6.3,SNR=3.7						
BVAR	**Borovoye Array**	**75.99**	**326**	P	**P**	**00 00 38.1**	**0.0**
	0.4nm,0.6s,baz=96,slow=7.4,SNR=4.4						
BRVK	**Borovoye**	**76.06**	**326**	*e*P	**P**	**00 00 38.3**	**-0.2**
	3.8nm,0.9s						
VNDA	**Vanda**	**77.22**	**174**	LR	LR	00 33 50.6	
	comp=Z,101nm,19.3s,baz=314,slow=35						
WSAR	**Wadi Sarin**	**77.53**	**294**	P	**P**	**00 00 48.7**	**+1.2**
	4.1nm,1.0s,baz=138,slow=4.5,SNR=3.6						
SDPT	**Sand Point**	**77.56**	**32**	*e*P	**P**	**00 00 45.0**	**-1.9**
	375nm,1.8s						
GEYT	**Alibeck**	**80.17**	**309**	P	**P**	**00 00 01.2**	**+0.6**
	1.4nm,0.7s,baz=59,slow=5.6,SNR=7.3						
AKTO	**Aktyubinsk**	**82.59**	**321**	LR	LR	00 42 37.2	
	comp=Z,13nm,19.0s,baz=112,slow=39						
IM3	**Indian Mountai**	**84.25**	**23**	*e*P	**P**	**00 01 20.6**	**-1.8**
MLY	**Manley**	**85.20**	**24**	*e*P	**P**	**00 01 28.1**	**+0.8**
	3.0nm,1.0s						
RND	**Reindeer**	**85.62**	**26**	*e*P	**P**	**00 01 29.3**	**-0.2**
	5.5nm,0.9s						
MCK	**McKinley**	**85.65**	**26**	*e*P	**P**	**00 01 28.7**	**-0.9**
	7.2nm,1.1s						
ILAR	**Eielson Array**	**86.74**	**25**	P	**P**	**00 01 33.6**	**-1.2**
	0.4nm,0.7s,baz=264,slow=5.0,SNR=5.1						
QSPA	**South Pole Qui**	**88.26**	**180**	P	**P**	**00 01 41.4**	**-0.9**
	2.3nm,0.7s,baz=154,slow=0.1,SNR=11						
RAYN	**Ar Rayn**	**89.57**	**293**	*e*P	**P**	**00 01 48.3**	**-1.0**
	5.2nm,0.9s						
SYO	**Syowa Base**	**90.14**	**201**	⇑*e*P	**P**	**00 01 50.2**	**-0.7**
TORD	**Torodi Ar. Bea**	**131.75**	**286**	PKP	**PKPdf**	**00 08 05.2**	**0.0**
	1.0nm,0.8s,baz=86,slow=2.0,SNR=6.1						
PLCA	**Paso Flores**	**132.09**	**155**	PKP	**PKPdf**	**00 08 05.3**	**0.0**
	1.1nm,0.7s,baz=243,slow=1.2,SNR=3.8						
CPUP	**Villa Florida**	**149.97**	**159**	PKPbc	**PKPbc**	**00 08 42.3**	**0.0**
	7.9nm,0.9s,baz=13,slow=0.8,SNR=12						
ROSC	**El Rosal**	**151.25**	**83**	PKPbc	**PKPbc**	**00 08 46.7**	**+0.6**
	4.3nm,0.4s,baz=72,slow=20,SNR=3.2						
LPAZ	**La Paz**	**151.54**	**130**	PKPbc	**PKPbc**	**00 08 47.7**	**+0.7**
	7.7nm,0.8s,baz=299,slow=1.8,SNR=26						

*NNC **25** 00:00:47.4±5.2, 43.51N×88.10E, h0km, mb3.6, mpv3.1, Error ellipse: s-maj=95.0km s-min=36.2km az=43.0*
IDC 25 00:00:47.1±1.1, 42.98N×87.39E, h0km, mb3.6/4, mb1 3.6/7, mb1mx3.3/68, mbtmp3.5/7, ML3.3/3, 6C-3D, Error ellipse: s-maj=42.8km s-min=15.6km az=48.0, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MK31	**Makanchi Array**	**5.26**	**318**	⇑Pn	Pn	00 02 08.4	+1.4
	0.7nm,0.2s,baz=134,slow=14,SNR=109						
MK31				⇑Sn	Sn	00 03 10.9	+2.5
	2.7nm,0.4s						
MK31				⇑Lg	Lg	00 03 29.9	
	7.1nm,0.5s,baz=137,slow=28,SNR=5.9						
MKAR	**Makanchi Array**	**5.26**	**318**	Pn	Pn	00 02 08.0	+1.0
	1.9nm,0.3s,baz=131,slow=15,SNR=93						
MKAR				Sn	Sn	00 03 08.5	+0.1
	2.1nm,0.3s,baz=132,slow=26,SNR=4.5						
MKAR				Lg	Lg	00 03 27.9	
	2.7nm,0.3s,baz=137,slow=28,SNR=7.2						
KURBB	**Kurchatov Arra**	**9.76**	**325**	Pn	Pn	00 03 07.1	-1.6
	0.1nm,0.3s,baz=134,slow=13,SNR=17						
KURBB				Sn	Sn	00 04 55.4	-3.5
	0.1nm,0.3s,baz=139,slow=26,SNR=3.6						
KURBB	**Kurchatov Arra**	**9.76**	**325**	⇑Pn	Pn	00 03 07.7	-0.9
	0.4nm,0.2s						
KURBB				⇓Sn	Sn	00 04 58.2	-0.6
	3.5nm,0.6s						
KURBB				⇓Lg	Lg	00 05 55.2	
	7.1nm,0.7s						
KURK	**Kurchatov**	**9.79**	**325**	⇑Pn	Pn	00 03 05.2	-3.9
	0.5nm,0.3s						
KURK				⇑Sn	Sn	00 04 56.7	-2.9
	2.7nm,0.9s						
KURK				⇓Lg	Lg	00 05 55.2	
	4.0nm,0.7s						
BVAR	**Borovoye Array**	**15.14**	**317**	Pn	Pn	00 04 20.1	-2.0
	0.9nm,0.3s,baz=124,slow=12,SNR=3.0						
GEYT	**Alibeck**	**22.78**	**267**	P	P	00 05 51.9	+0.8
	0.9nm,0.5s,baz=76,slow=12,SNR=2.6						
WRA	**Warramunga Arr**	**76.05**	**135**	P	P	00 12 36.4	0.0
	0.3n

JRY	**Ryogami san**	**2.78**	**252**	P	**Pn**	**01 18 11.4**	**+0.1**
JRY				S	**Sn**	**01 18 42.8**	**-1.5**
MJAR	**Matsushiro Arr**	**3.20**	**264**	Pn	**Pn**	**01 18 18.1**	**+1.1**
	5.6nm,0.3s,baz=88,slow=15,SNR=26						
MJAR				Sn	**Sn**	**01 18 56.3**	**+1.8**
	3.5nm,0.3s,baz=96,slow=13,SNR=7.2						
MJAR				LR	LR	01 19 52.1	
	comp=E,38nm,18.9s,baz=55,slow=46						
MAT	**Matsushiro**	**3.20**	**264**	P	**Pn**	**01 18 17.9**	**+0.9**
MAT				S	**Sn**	**01 18 55.4**	**+0.8**
JHJ	**Hachijo jima 2**	**4.27**	**208**	Pn	**Pn**	**01 18 30.9**	**-0.9**
	4.8nm,0.3s,baz=306,slow=14,SNR=3.0						
JHJ				Sn	**Sn**	**01 19 19.9**	**-1.2**
	13nm,0.3s,baz=72,slow=20,SNR=3.3						
KSRS	**Korea Array**	**11.37**	**277**	LR	LR	01 23 58.5	
	comp=Z,19nm,20.8s,baz=125,slow=34						
H11N2	**WAKE ISLAND Hy**	**27.59**	**122**	T	T	01 52 37.7	
	baz=314,slow=75,SNR=18						
H11N1	**WAKE ISLAND Hy**	**27.59**	**122**	T	T	01 52 34.9	
	baz=314,slow=75,SNR=18						
H11N3	**WAKE ISLAND Hy**	**27.60**	**122**	T	T	01 52 36.8	
	baz=314,slow=75,SNR=13						
H11S1	**WAKE ISLAND Hy**	**28.30**	**124**	T	T	01 53 35.5	
	baz=316,slow=76,SNR=15						
H11S3	**WAKE ISLAND Hy**	**28.31**	**124**	T	T	01 53 30.6	
	baz=316,slow=76,SNR=10.0						
H11S2	**WAKE ISLAND Hy**	**28.32**	**124**	T	T	01 53 28.4	
	baz=316,slow=76,SNR=13						
SONM	**Songino Array**	**28.34**	**304**	P	**P**	**01 23 21.9**	**+1.4**
	0.4nm,0.6s,baz=112,slow=8.7,SNR=3.2						
MKAR	**Makanchi Array**	**44.68**	**302**	P	**P**	**01 25 39.9**	**+0.7**
	0.3nm,0.6s,baz=86,slow=9.5,SNR=3.3						
KURBB	**Kurchatov Arra**	**46.53**	**308**	P	**P**	**01 25 54.7**	**+0.8**
	0.5nm,0.5s,baz=84,slow=8.0,SNR=5.4						
WRA	**Warramunga Arr**	**57.05**	**189**	P	**P**	**01 27 13.2**	**+0.7**
	0.5nm,0.9s,baz=6.5,slow=7.3,SNR=3.0						
ASAR	**Alice Springs**	**60.77**	**189**	P	**P**	**01 27 39.7**	**+1.3**
	0.2nm,0.7s,baz=20,slow=11,SNR=3.0						

IDC 25 01:22:49.8±7.2, 21°83'S×175°41'W, h0km, mb3.7/2, mb1 3.9/2, mb1mx3.5/39, mbtmp3.7/2, Error ellipse: s-maj=352.2km s-min=49.7km az=148.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**46.59**	**258**	P	P	01 31 19.9	-0.1
	1.1nm,1.0s,baz=93,slow=8.4,SNR=6.3						
WRA	**Warramunga Arr**	**46.83**	**263**	P	P	01 31 21.6	-0.2
	0.7nm,0.7s,baz=101,slow=7.8,SNR=5.0						
AKASG	**Malin Array Be**	**145.33**	**332**	PKPbc	PKPbc	01 42 28.6	-0.6
	0.5nm,0.4s,baz=39,slow=3.1,SNR=2.8						
BRTR	**Keskin Array B**	**149.52**	**312**	PKPbc	PKPbc	01 42 40.8	-0.7
	0.3nm,0.8s,baz=126,slow=2.5,SNR=3.5						

NIED ***25*** *01:27:00, 40.°40N×143.°30E, h20km, Mw3.5 Best double couple: M₀2.37000×10¹⁴ NP1:φs175.00000°, δ21.00000°, λ61.00000°. NP2:φs26.00000°, δ71.00000°, λ101.00000°.*

ISCJB ***25*** *01:27:26.7±1.4, 40.°33N±0.°05×143.°47E±0.°08, h16km±10km, mb3.3/4, Error ellipse: s-maj=10.8km s-min=6.1km az=31.1*

IDC ***25*** *01:27:26.6±5.7, 40.°45N×143.°30E, h0km, mb3.5/4, mb1 3.4/7, mb1mx3.2/60, mbtmp3.4/7, ML2.8/3, MS2.3/2, Ms1 2.3/2, ms1mx2.2/46, Error ellipse: s-maj=100.3km s-min=36.0km az=109.0*

JMA ***25*** *01:27:27.2±0.2, 40.°36N×143.°34E, h9km±2km, M3.7*

ISC 25 01:27:26.5±2.1, 40°42'N±0.°05×143°31'E±0.°08, h1km±12km, n27, σ0°79/29, mb3.3/4, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**1.21**	**247**	P	**Pg**	**01 27 49.9**	**+0.2**
JTH				*e*S	**Sg**	**01 28 06.0**	**+0.7**
JANG	**Nango**	**1.37**	**268**	P	**Pn**	**01 27 52.8**	**0.0**
JANG				*e*S	**Sb**	**01 28 11.0**	**0.0**
MIYJ	**Miyakonagasawa**	**1.42**	**234**	P	**Pn**	**01 27 52.9**	**-0.6**
JEM	**Erimo**	**1.59**	**356**	P	**Pb**	**01 27 57.0**	**+0.2**
JTM	**Tenmabayashi**	**1.75**	**283**	P	**Pb**	**01 27 59.1**	**-0.2**
JTM				*e*S	**Sb**	**01 28 21.5**	**-0.3**
JOM	**Ohasama**	**1.82**	**239**	P	**Pn**	**01 27 59.2**	**+0.2**
JOM				*e*S	**Sn**	**01 28 21.9**	**-0.8**
JNBK	**Urakawa-nobuka**	**1.90**	**347**	P	**Pb**	**01 28 01.6**	**-0.4**
JNBK				*e*S	**Sb**	**01 28 26.8**	**+0.5**
JOT	**Ohata**	**1.96**	**300**	P	**Pn**	**01 28 02.1**	**+1.2**
JAH	**Hinai**	**2.06**	**264**	P	**Pn**	**01 28 03.6**	**+1.4**
JAH				S	**Sb**	**01 28 31.2**	**+0.4**
JMK	**Ichinoseki**	**2.18**	**228**	P	**Pn**	**01 28 04.1**	**+0.2**
JCH	**Churui**	**2.19**	**1**	P	**Pn**	**01 28 04.8**	**+0.8**
JCH				S	**Sn**	**01 28 31.2**	**-0.6**
JKB	**Kayabe**	**2.26**	**311**	P	**Pb**	**01 28 07.2**	**-0.9**
JKB				*e*S	**Sb**	**01 28 36.9**	**+0.4**
JYK	**Kaneyama**	**2.73**	**238**	P	**Pn**	**01 28 12.3**	**+0.8**
ASAJ	**Asahikawa**	**3.73**	**352**	Pn	**Pn**	**01 28 26.1**	**+0.9**
	1.2nm,0.3s,baz=152,slow=17,SNR=2.4						
ASAJ				Sn	**Sg**	**01 29 24.3**	**-1.9**
	0.8nm,0.3s,baz=284,slow=32,SNR=3.8						
MJAR	**Matsushiro Arr**	**5.57**	**228**	Pn	**Pn**	**01 28 51.7**	**+1.1**
	0.5nm,0.3s,baz=39,slow=11,SNR=3.8						
MJAR				LR	LR	01 31 37.2	
	comp=Z,11nm,18.6s,baz=290,slow=45						
USRK	**Ussuriysk Ar.**	**9.20**	**298**	Pn	**Pn**	**01 29 41.3**	**+1.1**
	0.2nm,0.3s,baz=106,slow=14,SNR=2.7						
KSRS	**Korea Array**	**12.34**	**261**	LR	LR	01 34 52.0	
	comp=Z,28nm,18.1s,baz=75,slow=36						
SONM	**Songino Array**	**27.31**	**298**	P	**P**	**01 33 12.5**	**-0.3**
	0.2nm,0.5s,baz=89,slow=9.6,SNR=2.5						
H11N2	**WAKE ISLAND Hy**	**28.86**	**129**	T	T	02 03 37.6	
	baz=321,slow=75,SNR=17						
H11N1	**WAKE ISLAND Hy**	**28.87**	**129**	T	T	02 03 38.7	
	baz=321,slow=75,SNR=12						
H11N3	**WAKE ISLAND Hy**	**28.87**	**129**	T	T	02 03 35.9	
	baz=321,slow=75,SNR=13						
H11S1	**WAKE ISLAND Hy**	**29.69**	**130**	T	T	02 04 48.0	
	baz=322,slow=76,SNR=7.2						
H11S3	**WAKE ISLAND Hy**	**29.70**	**131**	T	T	02 04 45.6	
	baz=322,slow=76,SNR=11						
H11S2	**WAKE ISLAND Hy**	**29.71**	**131**	T	T	02 04 49.3	
	baz=322,slow=76,SNR=8.1						
MKAR	**Makanchi Array**	**43.66**	**299**	P	**P**	**01 35 32.3**	**-0.4**
	0.3nm,0.7s,baz=80,slow=9.1,SNR=4.2						
KURBB	**Kurchatov Arra**	**45.16**	**306**	P	**P**	**01 35 44.1**	**-0.5**
	1.2nm,0.7s,baz=79,slow=8.6,SNR=6.4						
BVAR	**Borovoye Array**	**49.45**	**311**	P	**P**	**01 36 18.4**	**+0.4**
	0.1nm,0.3s,baz=77,slow=9.5,SNR=2.5						

ISN ***25*** *01:31:27.7±1.0, 32.°51N×46.°88E, h40km±5km, ML3.0*

TEH 25 01:31:29.0, 32.°57N×46.°77E, h10km, ML3.0, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKFM	**Kafar-mosalman**	**1.31**	**43**	*e*Pg	Pn	01 31 51.8	-1.6
IKFM				*e*Sg	Sb	01 32 10.5	-0.2
IKFM				*e*AMB	AMB	01 32 17.9	
	comp=Z,99nm,0.3s						
IKOM	**Komasi**	**1.72**	**21**	*e*Pn	Pn	01 31 59.4	+0.3
IKOM				*e*AMB	AMB	01 32 02.4	
	comp=Z,2μm,0.1s						
IGHG	**Ghaleghazi**	**1.76**	**355**	*e*Pn	Pn	01 32 00.2	+0.4
IGHG				*e*AMB	AMB	01 32 31.9	
	comp=Z,1μm,0.4s						
IVIS	**Veis**	**1.95**	**2**	*e*Pn	Pn	01 32 02.3	0.0
IVIS				*e*AMB	AMB	01 32 33.1	
	comp=Z,660nm,0.2s						
IDHR	**Dehrash**	**2.15**	**352**	*e*Pn	Pn	01 32 04.9	-0.2
ILIN	**Lien**	**2.35**	**4**	*e*Pn	Pn	01 32 07.0	-0.9
IZEF	**Zefreh**	**4.70**	**85**	*e*Pn	Pn	01 32 39.8	-0.4
IZEF				*e*AMB	AMB	01 33 00.8	
	comp=Z,34nm,0.2s						

MEX 25 01:45:39.7±0.5, 16°06N×98°11W, h4km±4km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.33**	**357**	*e*P	Pg	01 45 45.7	-0.4
PNIG				*i* S	Sg	01 45 50.8	+0.3
TLIG	**Tlapa**	**1.56**	**344**	*e*P	Pn	01 46 04.6	-3.8
TLIG				*e*S	Sn	01 46 24.1	-5.0
VHO	**Vista Hermosa**	**1.66**	**52**	*e*P	Pn	01 46 06.2	-3.7
VHO				*e*S	Sn	01 46 27.9	-3.9
CAIG	**El Cayaco**	**2.29**	**296**	*e*P	Pn	01 46 15.2	-3.2
CAIG				*e*S	Sn	01 46 42.8	-4.3

ISCJB ***25*** *01:49:30.9±1.3, 9.°9S±0.°1×125.°21E±0.°08, h35km, mb3.5/1, Error ellipse: s-maj=19.0km s-min=6.5km az=28.3*

IDC ***25*** *01:49:30.1±1.8, 9.°54S×125.°13E, h0km, mb3.4/1, mb1 4.1/3, mb1mx3.5/47, mbtmp3.9/3, ML4.1/2, Error ellipse: s-maj=35.8km s-min=31.8km az=56.0*

DJA ***25*** *01:49:37.1±0.5, 10.°S±6.°×12.°5E±.°, h40km±9km, M4.4/6, mB4.9/1, mb4.6/3, MLv4.3/6, Mw(mB)4.1/1*

ISC 25 01:49:32.0±1.3, 9°.8S±0.°1×125°.14E±0.°09, h35km, n7, σ3°.34/12, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**0.86**	**275**	P	**Pn**	**01 49 49.5**	**+1.7**
SOEI				S	**Sn**	**01 49 59.6**	**+0.4**
BATI	**Baumata**	**1.50**	**256**	Pn	**Pn**	**01 49 59.5**	**+3.1**
	22nm,0.3s,baz=154,slow=3.9,SNR=55						
BATI				Sn	**Sn**	**01 50 16.7**	**+1.9**
	96nm,0.3s,baz=88,slow=18,SNR=17						
BASI	**Baing, Sumba**	**4.51**	**265**	P	**Pn**	**01 50 37.1**	**-0.7**
PLAI	**Plampang**	**7.33**	**277**	P	**Pn**	**01 51 17.4**	**+0.7**
PLAI				S	**Sn**	**01 52 31.4**	**-7.4**
WRA	**Warramunga Arr**	**13.41**	**140**	Pn	**P**	**01 52 46.0**	**-2.9**
	1.0nm,0.3s,baz=316,slow=13,SNR=24						
WRA				Sn	**Sn**	**01 55 09.2**	**+1.4**
	1.5nm,0.3s,baz=309,slow=23,SNR=8.6						
ASAR	**Alice Springs**	**16.10**	**150**	Pn	**P**	**01 53 20.6**	**+1.8**
	0.5nm,0.3s,baz=321,slow=11,SNR=45						
ASAR				Sn	**Sn**	**01 56 10.1**	**-3.4**
	0.1nm,0.3s,baz=328,slow=14,SNR=3.4						
MKAR	**Makanchi Array**	**68.09**	**330**	P	**P**	**02 00 30.2**	**+2.0**
	0.2nm,0.4s,baz=125,slow=7.6,SNR=2.8						

DJA 25 01:57:19.1±0.7, 2°S±5°×12°6E±°, h23km±8km, M3.5/6, MLv3.5/6, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANI	**Sanana**	**0.65**	**222**	P	Pb	01 57 31.5	-0.3
SANI				S	Sn	01 57 42.6	+0.1
LBMI	**Labuha**	**1.42**	**50**	P	Pn	01 57 42.7	-0.8
LBMI				S	Sn	01 58 01.5	+0.1
NLAI	**Namlea**	**1.80**	**158**	P	Pn	01 57 49.0	+0.2
APSI	**Ampana**	**4.81**	**278**	P	Pn	01 58 31.4	+1.2
APSI				S	Sn	01 59 25.1	-0.2

DJA 25 02:10:24.2±1.1, 4°N±6°×9°3E±°, h10km, M4.3/4, mb4.0/1, MLv4.4/4, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSI	**Banda Aceh**	**2.24**	**60**	P	Pn	02 10 59.7	-1.7
BSI				S	Sb	02 11 31.4	-1.3
MLSI	**Meulaboh, Aceh**	**3.05**	**92**	P	Pn	02 11 11.7	-0.8
MLSI				S	Sn	02 11 50.3	+1.2
TPTI		**3.98**	**106**	P	Pn	02 11 24.1	-1.2
TPTI				S	Sn	02 12 09.7	-2.3
KCSI	**Kotacane, Aceh**	**4.49**	**101**	P	Pn	02 11 32.4	0.0
KCSI				S	Sn	02 12 27.2	+2.5
GSI	**Gunungsitoli**	**5.20**	**126**	P	Pn	02 11 44.7	+2.6

DJA 25 02:13:10.8±0.9, 1°N±5°×9°3E±°, h10km, M4.7/7, mB5.4/1, mb4.7/6, MLv4.8/7, Mw(mB)4.9/1, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLSI	**Meulaboh, Aceh**	**4.80**	**53**	P	Pn	02 14 22.0	-1.2
MLSI				S	Sn	02 15 18.7	-0.1
BSI	**Banda Aceh**	**4.91**	**34**	P	Pn	02 14 21.6	-3.2
BSI				S	Sn	02 15 17.5	-4.2
TPTI		**4.99**	**68**	P	Pn	02 14 24.8	-1.0
TPTI				S	Sn	02 15 24.7	+1.1
GSI	**Gunungsitoli**	**5.04**	**91**	P	Pn	02 14 26.4	-0.1
KCSI	**Kotacane, Aceh**	**5.63**	**68**	P	Pn	02 14 36.3	+1.6
	245nm,0.7s,1.1nm						
LHMI	**Lhok Sumawe**	**5.81**	**49**	P	Pn	02 14 37.4	+0.2
	60nm,0.7s,3μm0.4nm						
LHMI				S	Sn	02 15 45.4	+1.4
	60nm,0.7s,3μm0.4nm						
MNSI	**Mandailing Nat**	**7.06**	**95**	P	Pn	02 14 54.1	-0.2
MNSI				S	Sn	02 16 15.6	+0.8
PDSI	**Padang**	**8.25**	**106**	P	Pn	02 15 09.5	-1.1

MEX 25 02:16:16.5±0.6, 16°28N×98°31W, h8km±4km, MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.21**	**57**	*i* P	Pg	02 16 20.3	-0.5
PNIG				*i* S	Sg	02 16 23.8	+0.1
TLIG	**Tlapa**	**1.30**	**349**	*e*P	Pn	02 16 37.2	-4.0
TLIG				*e*S	Sb	02 16 53.5	-4.8
VHO	**Vista Hermosa**	**1.71**	**62**	*e*P	Pn	02 16 43.6	-3.1
VHO				*i* S	Sn	02 17 03.6	-5.3
CAIG	**El Cayaco**	**2.03**	**293**	*e*P	Pn	02 16 47.2	-3.7
CAIG				*e*S	Sn	02 17 12.7	-3.9

NDI 25 02:17:58.3±2.4, 25°30N×93°54E, h12km, ML2.7, Northeastern India

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMP	**Imphal**	**0.59**	**142**	*e*P	Pg	02 18 09.7	-0.2
IMP				*e*S	Sb	02 18 18.9	-0.1
IMP				IAML		02 18 21.2	
	comp=E,179nm,0.5s						
IMP				IAML		02 18 22.1	
	comp=N,45nm,0.2s						
KOHI	**KOHIMA**	**0.66**	**51**	*e*P	Pg	02 18 10.7	-0.5
KOHI				*e*S	Sb	02 18 22.4	+1.2
KOHI				IAML		02 18 29.7	
	comp=E,142nm,0.4s						
KOHI				IAML		02 18 30.3	
	comp=N,150nm,0.6s						
MOKO	**MOKOCHONG**	**1.34**	**41**	*e*P	Pn	02 18 23.2	+0.2
MOKO				*e*S	Sg	02 18 42.6	+0.9
MOKO				IAML		02 18 46.0	
	comp=N,381nm,0.5s						
MOKO				IAML		02 18 49.1	
	comp=E,208nm,0.7s						
TEZP	**TEZPUR**	**1.47**	**333**	*e*P	Pn	02 18 25.0	+0.3
TEZP				*e*S	Sg	02 18 45.1	-0.7
TEZP				IAML		02 18 47.9	
	comp=E,127nm,0.1s						
TEZP				IAML		02 18 48.8	
	comp=N,138nm,0.1s						
SHL	**Shillong**	**1.52**	**280**	*e*P	Pn	02 18 24.4	-1.1
SHL				*e*S	Sg	02 18 47.8	+0.5
SHL				IAML		02 18 49.9	
	comp=N,293nm,0.2s						
SHL				IAML		02 18 50.5	
	comp=E,129nm,0.2s						

IDC 25 02:18:41.8±2.2, 4°85N×126°42E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.4/59, mbtmp3.5/4, Error ellipse: s-maj=134.2km s-min=25.3km az=69.0, Talaud Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**22.82**	**182**	P	P	02 23 46.5	+0.1
	2.3nm,0.5s,baz=339,slow=8.6						
WRA	**Warramunga Arr**	**25.84**	**163**	P	P	02 24 14.9	-0.2
	0.3nm,0.5s,baz=341,slow=10,SNR=6.5						
ASAR	**Alice Springs**	**29.27**	**166**	P	P	02 24 46.1	+0.2
	0.2nm,0.6s,baz=350,slow=8.3,SNR=5.1						
MKAR	**Makanchi Array**	**56.46**	**325**	P	P	02 28 25.4	-0.1
	0.2nm,0.4s,baz=116,slow=8.4,SNR=5.3						

ISN ***25*** *02:28:09.5±1.0, 32.°68N×46.°82E, h2km±5km, ML3.0*

TEH 25 02:28:10.4, 32.°60N×46.°82E, h6km, ML3.0, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKFM	**Kafar-mosalman**	**1.27**	**43**	*e*Pg	Pn	02 28 33.2	-1.5
IKFM				*e*Sg	Sg	02 28 50.0	-1.1
IKFM				*e*AMB	AMB	02 28 58.5	
	comp=Z,99nm,0.5s						
IKOM	**Komasi**	**1.68**	**20**	*e*Pn	Pn	02 28 40.2	-0.3
IKOM				*e*AMB	AMB	02 28 46.7	
	comp=Z,2μm,0.2s						
IGHG	**Ghaleghazi**	**1.74**	**353**	*e*Pn	Pn	02 28 41.3	-0.1
IGHG				*e*AMB	AMB	02 29 15.5	
	comp=E,3μm,0.3s						
IVIS	**Veis**	**1.92**	**1**	*e*Pn	Pn	02 28 43.9	+0.1
IVIS				*e*AMB	AMB	02 29 14.6	
	comp=E,976nm,0.6s						
IDHR	**Dehrash**	**2.13**	**350**	*e*Pn	Pn	02 28 46.4	-0.3
IDHR				*e*AMB	AMB	02 29 17.7	
	comp=Z,712nm,0.2s						
IZEF	**Zefreh**	**4.65**	**85**	*e*Pn	Pn	02 29 20.9	-0.6
IZEF				*e*AMB	AMB	02 29 42.1	
	comp=Z,46nm,0.3s						

IDC 25 02:41:01.4±5.3, 16°22S×176°24W, h0km, mb4.3/3, mb1 4.5/3, mb1mx3.7/42, mbtmp4.3/3, Error ellipse: s-maj=196.2km s-min=55.6km az=134.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**41.26**	**240**	P	P	02 48 48.6	0.0
	1.4nm,0.5s,baz=100,slow=6.1,SNR=3.2						
WRA	**Warramunga Arr**	**47.00**	**258**	P	P	02 49 34.5	-0.3
	1.0nm,0.5s,baz=92,slow=6.9,SNR=17						
ASAR	**Alice Springs**	**47.26**	**253**	P	P	02 49 36.6	-0.2
	10nm,0.6s,baz=88,slow=8.2,SNR=154						
BRTR	**Keskin Array B**	**145.00**	**318**	PKPbc	PKPab	03 00 39.6	-0.9
	0.4nm,0.9s,baz=7.6,slow=2.2,SNR=3.0						

CSEM ***25*** *03:05:23.7±0.2, 38.°27N×38.°66E, h5km, ML2.2, Error ellipse: s-maj=3.6km s-min=2.9km az=177.0*

DDA ***25*** *03:05:23.7, 38.°28N×38.°65E, h7km, Ml2.6*

ISK ***25*** *03:05:23.3, 38.°27N×38.°67E, h8km, ML2.2/7*

ISC 25 03:05:24.0±0.9, 38°27N±0.°02×38°65E±0.°02, h11km±7km, n38, σ0°45/58, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MALT	**Malatya**	**0.18**	**283**	PG	**Pg**	**03 05 27.9**	**-0.1**
MALT				SG	**Sg**	**03 05 31.1**	**+0.2**
MALT	**Malatya**	**0.18**	**283**	*e*Pg	**Pg**	**03 05 27.9**	**-0.1**
MALT				*e*Sg	**Sg**	**03 05 31.1**	**+0.2**
ELZG	**Elazig**	**0.34**	**49**	*i* P	**Pg**	**03 05 30.7**	**-0.2**
ELZG				*i* S	**Sg**	**03 05 35.5**	**-0.1**
ELZG	**Elazig**	**0.34**	**49**	P	**Pg**	**03 05 30.7**	**-0.2**
ELZG				S	**Sg**	**03 05 35.5**	**-0.1**
SVRC	**Sivrice-ELAZID**	**0.53**	**78**	PG	**Pg**	**03 05 33.7**	**-0.6**
SVRC				SG	**Sg**	**03 05 41.5**	**+0.2**
SVRC	**Sivrice-ELAZID**	**0.53**	**78**	*e*Pg	**Pg**	**03 05 33.7**	**-0.6**
SVRC				*e*Sg	**Sg**	**03 05 41.5**	**+0.2**
AKCD	**Akcadag**	**0.57**	**272**	*i* P	**Pg**	**03 05 34.9**	**-0.3**
AKCD				*i* S	**Sg**	**03 05 43.2**	**+0.4**
AKCD	**Akcadag**	**0.57**	**272**	P	**Pg**	**03 05 34.9**	**-0.3**
AKCD				S	**Sg**	**03 05 43.2**	**+0.4**
HEKM	**Malatya_Hekimh**	**0.81**	**318**	*i* P	**Pg**	**03 05 39.0**	**-0.7**
HEKM				*i* S	**Sb**	**03 05 51.3**	**0.0**
HEKM	**Malatya_Hekimh**	**0.81**	**318**	P	**Pg**	**03 05 39.0**	**-0.7**
HEKM				S	**Sb**	**03 05 51.3**	**0.0**
URFA	**Urfa**	**0.84**	**171**	PG	**Pg**	**03 05 39.7**	**-0.5**
URFA	**Urfa**	**0.84**	**171**	*e*Pg	**Pg**	**03 05 39.7**	**-0.5**
PTK	**Pertek**	**0.85**	**43**	PG	**Pg**	**03 05 39.9**	**-0.5**
PTK	**Pertek**	**0.85**	**43**	*e*Pg	**Pg**	**03 05 39.9**	**-0.5**
DARE	**Darende-Malaty**	**0.96**	**288**	PG	**Pg**	**03 05 42.3**	**-0.3**
DARE	**Darende-Malaty**	**0.96**	**288**	*e*Pg	**Pg**	**03 05 42.3**	**-0.3**
KEMA	**Kemaliye**	**1.00**	**353**	*i* P	**Pg**	**03 05 42.8**	**-0.5**
KEMA				*i* S	**Sb**	**03 05 57.5**	**+0.9**
KEMA	**Kemaliye**	**1.00**	**353**	P	**Pg**	**03 05 42.8**	**-0.5**
KEMA				S	**Sb**	**03 05 57.5**	**+0.9**
TNCL	**Tunceli-Merkez**	**1.09**	**39**	*i* P	**Pb**	**03 05 45.0**	**+0.1**
TNCL				*i* S	**Sb**	**03 05 59.9**	**+0.7**
TNCL	**Tunceli-Merkez**	**1.09**	**39**	P	**Pb**	**03 05 45.0**	**+0.1**
TNCL				S	**Sb**	**03 05 59.9**	**+0.7**
ILIC	**ilic-Erzincan**	**1.18**	**357**	PN	**Pg**	**03 05 46.3**	**-0.4**
ILIC	**ilic-Erzincan**	**1.18**	**357**	*e*Pn	**Pg**	**03 05 46.3**	**-0.4**
DIYA	**Diyarbakir**	**1.21**	**106**	*i* P	**Pg**	**03 05 46.8**	**-0.5**
DIYA	**Diyarbakir**	**1.21**	**106**	P	**Pg**	**03 05 46.8**	**-0.5**
DYBB	**Diyarbakir**	**1.22**	**105**	PN	**Pn**	**03 05 47.1**	**+0.2**
DIY	**Diyarbakir**	**1.30**	**106**	*e*Pn	**Pn**	**03 05 47.1**	**-1.0**
HANI	**Diyarbakir_Han**	**1.38**	**84**	*i* P	**Pb**	**03 05 49.8**	**0.0**
HANI				*i* S	**Sg**	**03 06 09.4**	**+0.9**
HANI	**Diyarbakir_Han**	**1.38**	**84**	P	**Pb**	**03 05 49.8**	**0.0**
HANI				S	**Sg**	**03 06 09.4**	**+0.9**
SURC	**SANLIURFA_SURC**	**1.39**	**181**	*i* P	**Pg**	**03 05 50.7**	**0.0**
SURC				*i* S	**Sb**	**03 06 08.0**	**+0.2**
SURC	**SANLIURFA_SURC**	**1.39**	**181**	P	**Pg**	**03 05 50.7**	**0.0**
SURC				S	**Sb**	**03 06 07.9**	**+0.2**
CUKAN	**kangal_SIVAS**	**1.39**	**319**	*i* P	**Pn**	**03 05 49.3**	**-0.2**
CUKAN	**kangal_SIVAS**	**1.39**	**319**	P	**Pn**	**03 05 49.3**	**-0.2**
KMRS	**Kahramanmaras**	**1.58**	**242**	PN	**Pb**	**03 05 52.9**	**-0.4**
KMRS	**Kahramanmaras**	**1.58**	**242**	*e*Pn	**Pb**	**03 05 52.9**	**-0.4**
GAZ	**Gaziantep**	**1.58**	**227**	PN	**Pn**	**03 05 52.2**	**+0.2**
GAZ	**Gaziantep**	**1.58**	**227**	*e*Pn	**Pn**	**03 05 52.2**	**+0.2**
KELT	**Kelkit**	**1.93**	**14**	*i* P	**Pb**	**03 05 59.4**	**+0.1**
KELT				*i* S	**Sg**	**03 06 25.9**	**-0.2**
KELT	**Kelkit**	**1.93**	**14**	P	**Pb**	**03 05 59.4**	**+0.1**
KELT				S	**Sg**	**03 06 25.9**	**-0.2**

ISK ***25*** *03:07:51.3, 38.°65N×43.°16E, h18km,

MOS ***25*** *03:18:17.7±1.1,36.5N×1.6E,h10km,mb4.7/65, MS4.1/36,Error ellipse: s-maj=6.0km s-min=2.6km az=63.5*

IDC ***25*** *03:18:17.5±0.4,36.5N×1.5E,h0km,mb4.3/41, mb1 4.5/48,mb1mx4.4/72,mbtmp4.4/48,ML4.7/5,MS4.0/42, Ms1 4.0/42,ms1mx3.9/60,Error ellipse: s-maj=10.9km s-min=9.3km az=159.0*

CSEM ***25*** *03:18:18.6±0.1,36.51N×1.60E,h10km,mb4.7/99,ML5.2/7, Error ellipse: s-maj=2.5km s-min=1.8km az=169.0*

GCMT ***25*** *03:18:18.0±0.3,36.50N×1.53E,h12km,MW4.8/91, Moment Tensor Solution. s27,c29; s91,c130; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr0.01±.06; Mθθ-0.72±.05; Mφφ0.70±.06; Mrθ-0.39±.16; Mrφ-1.62±.04; Mθφ-0.58±.15; Best double couple: M₀1.89400×10¹⁶ NP1:φs11.00000°,δ84.00000°,λ-19.00000°. NP2: φs103.00000°,δ71.00000°,λ-174.00000°. Principal axes: T 1.8060, Plg9.0000°, Azm58.0000°; N 0.1770, Plg70.0000°, Azm175.0000°; P -1.9830, Plg18.0000°, Azm325.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***25*** *03:18:18.9±0.1,36.5N×1.6E,h10km,mb4.6/101, ML5.0(ALG) Error ellipse: s-maj=3.5km s-min=2.5km az=163.0*

NEIC Felt [III] at Algiers. Also felt at Birkhadem, Bou Arfa, Bouinan, Boumerdes, Hadjout, Khemis Miliana and Souma. Felt at Crevillente, Spain.

CRAAG ***25*** *03:18:18.9,36.52N×1.58E,Ml5.5*

IGIL ***25*** *03:18:18.2,36.45N×1.68E,h0km,ML4.1*

MDD ***25*** *03:18:19.7±0.5,36.49N×1.62E,h17km±6km,mb5.4/56, Error ellipse: s-maj=5.3km s-min=2.8km az=156.0, PRXIMO*

MDD EMS: II INTENSIDAD MAXIMA ESPAA.

INMG ***25*** *03:18:20.4±2.4,36.48N×1.65E,h31km±9km,ML4.0,Error ellipse: s-maj=6.4km s-min=3.8km az=132.0*

LDG ***25*** *03:18:21.1,36.41N×1.65E,h30km*

CNRM ***25*** *03:18:25.2,36.39N×1.32E,h30km,MD4.7*

ISC 25 03:18:20.3±0.6, 36°53N±0.03×1°61E±0.03, h18km±3km, n1257, σ2s28/1451, mb4.7/166, MS4.1/52, 41C-41D, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
EBNR	**Beni Rached**	**0.24**	**196**	P		**Pg**	**03 18 24.6**	**-1.4**
EBNR	**Beni Rached**	**0.24**	**196**	P		**Pg**	**03 18 21.3**	**-4.7**
EBNR	**Beni Rached**	**0.24**	**196**	P		**Pg**	**03 18 24.6**	**-1.4**
ECHA	**Ech Chlef**	**0.42**	**208**	P		**Pg**	**03 18 27.5**	**-1.5**
ECHA	**Ech Chlef**	**0.42**	**208**	P		**Pg**	**03 18 27.5**	**-1.5**
ECHF	**Ech Chlef**	**0.43**	**211**	Pg		**Pg**	**03 18 27.5**	**-1.6**
ECHF	**Ech Chlef**	**0.43**	**211**	P		**Pg**	**03 18 27.5**	**-1.6**
ECHF	**Ech Chlef**	**0.43**	**211**	Pg		**Pg**	**03 18 27.5**	**-1.6**
EANR	**'Ain N'Sour**	**0.71**	**216**	P		**Pg**	**03 18 32.0**	**-2.3**
EANR	**'Ain N'Sour**	**0.71**	**216**	Pg		**Pg**	**03 18 32.0**	**-2.3**
EANR	**'Ain N'Sour**	**0.71**	**216**	P		**Pg**	**03 18 32.0**	**-2.3**
EANR	**'Ain N'Sour**	**0.71**	**216**	P		**Pg**	**03 18 32.0**	**-2.3**
OKGL	**Djebel Kef Gue**	**0.92**	**238**	P		Pn	03 18 49.0	+11
OKGL	**Djebel Kef Gue**	**0.92**	**238**	P		**Pb**	**03 18 36.8**	**-0.9**
OKGL	**Djebel Kef Gue**	**0.92**	**238**	P		**Pb**	**03 18 36.8**	**-0.9**
OKGL				Lg		Lg	03 18 49.0	
EMHD	**Djebel Mahouad**	**1.13**	**106**	P		**Pb**	**03 18 39.7**	**-1.7**
EMHD	**Djebel Mahouad**	**1.13**	**106**	Pg		**Pb**	**03 18 39.7**	**-1.7**
EMHD	**Djebel Mahouad**	**1.13**	**106**	P		**Pb**	**03 18 39.7**	**-1.7**
EMHD	**Djebel Mahouad**	**1.13**	**106**	P		**Pb**	**03 18 39.7**	**-1.7**
ETRT	**Tiaret**	**1.16**	**193**	P		**Pn**	**03 18 40.8**	**-0.9**
ETRT	**Tiaret**	**1.16**	**193**	Pg		**Pn**	**03 18 40.8**	**-0.9**
ETRT	**Tiaret**	**1.16**	**193**	P		**Pn**	**03 18 40.8**	**-0.9**
ETRT	**Tiaret**	**1.16**	**193**	P		**Pn**	**03 18 40.8**	**-0.9**
ABA	**Alger-Bouzaresa**	**1.18**	**76**	P		**Pn**	**03 18 40.5**	**-1.3**
ABA	**Alger-Bouzaresa**	**1.18**	**76**	Pg		**Pn**	**03 18 40.5**	**-1.3**
ABA	**Alger-Bouzaresa**	**1.18**	**76**	P		**Pn**	**03 18 40.5**	**-1.3**
OJGS	**Djebel Guires**	**1.24**	**215**	P		Pn	03 18 38.0	-4.7
OJGS	**Djebel Guires**	**1.24**	**215**	P		**Pn**	**03 18 40.1**	**-2.7**
OJGS	**Djebel Guires**	**1.24**	**215**	P		**Pn**	**03 18 40.1**	**-2.7**
OJBR	**Djebel Berber**	**1.39**	**228**	P		**Pn**	**03 18 43.0**	**-1.9**
OJBR	**Djebel Berber**	**1.39**	**228**	Pn		**Pn**	**03 18 43.0**	**-1.9**
OJBR	**Djebel Berber**	**1.39**	**228**	P		**Pn**	**03 18 43.0**	**-1.9**
OJBR	**Djebel Berber**	**1.39**	**228**	P		**Pn**	**03 18 43.0**	**-1.9**
ABMS	**Boumerdes**	**1.52**	**81**	P		**Pn**	**03 18 43.5**	**-3.0**
ABMS	**Boumerdes**	**1.52**	**81**	Pn		**Pn**	**03 18 43.5**	**-3.0**
ABMS	**Boumerdes**	**1.52**	**81**	P		**Pn**	**03 18 43.5**	**-3.0**
ABMS	**Boumerdes**	**1.52**	**81**	P		**Pn**	**03 18 43.5**	**-3.0**
ADJB	**Djebel Djouab**	**1.52**	**103**	P		**Pn**	**03 18 45.1**	**-1.5**
ADJB	**Djebel Djouab**	**1.52**	**103**	P		**Pn**	**03 18 45.1**	**-1.5**
ODJA	**Bouhanifia**	**1.86**	**231**	P		**Pn**	**03 18 50.0**	**-1.3**
ODJA	**Bouhanifia**	**1.86**	**231**	Pn		**Pn**	**03 18 50.0**	**-1.3**
ODJA	**Bouhanifia**	**1.86**	**231**	P		**Pn**	**03 18 50.0**	**-1.3**
AKET	**Djebel Ketaf**	**1.90**	**104**	P		**Pn**	**03 18 51.0**	**-0.8**
AKET	**Djebel Ketaf**	**1.90**	**104**	P		**Pn**	**03 18 51.0**	**-0.8**
USTO	**Oran**	**1.92**	**246**	P		**Pn**	**03 18 51.0**	**-1.0**
USTO	**Oran**	**1.92**	**246**	Pn		**Pn**	**03 18 51.0**	**-1.0**
USTO	**Oran**	**1.92**	**246**	P		**Pn**	**03 18 51.0**	**-1.0**
ATAF	**Djebel Tarf**	**2.25**	**106**	P		**Pb**	**03 18 59.0**	**-1.5**
ATAF	**Djebel Tarf**	**2.25**	**106**	Pg		**Pb**	**03 18 59.0**	**-1.5**
ATAF	**Djebel Tarf**	**2.25**	**106**	Pg		**Pb**	**03 18 59.0**	**-1.5**
CART	**Cartagena**	**2.34**	**298**	Pn		**Pn**	**03 18 55.1**	**-2.7**
CART	**Cartagena**	**2.34**	**298**	*e*Pn		**Pn**	**03 18 55.1**	**-2.7**
CART				*e*Sn		**Sn**	**03 19 21.7**	**-4.4**
CART	**Cartagena**	**2.34**	**298**	Pn		**Pn**	**03 18 55.1**	**-2.7**
EIBI	**Ibiza**	**2.50**	**355**	⇓Pn		**Pn**	**03 18 58.9**	**-1.2**
EIBI	500nm,0.2s,SNR=18			Sn		**Sn**	**03 19 27.5**	**-2.7**
	5μm,0.2s,SNR=7.9							
EIBI	**Ibiza**	**2.50**	**355**	P		**Pn**	**03 18 58.9**	**-1.2**
EIBI				S		**Sn**	**03 19 26.6**	**-3.6**
EIBI	**Ibiza**	**2.50**	**355**	Pn		**Pn**	**03 18 58.9**	**-1.2**
EIBI	500nm,0.2s,SNR=18			Sn		**Sn**	**03 19 27.5**	**-2.7**
	5μm,0.2s,SNR=7.9							
EMUR	**La Murta**	**2.63**	**301**	⇑Pn		**Pn**	**03 18 59.8**	**-2.0**
EMUR	258nm,0.3s,SNR=18			Sn		**Sn**	**03 19 30.9**	**-2.4**
	555nm,0.5s,SNR=8.3							
EMUR	**La Murta**	**2.63**	**301**	P		**Pn**	**03 18 59.6**	**-2.2**
EMUR				S		**Sn**	**03 19 31.4**	**-1.9**
EMUR	**La Murta**	**2.63**	**301**	Pn		**Pn**	**03 18 59.8**	**-2.0**
EMUR	258nm,0.3s,SNR=18			Sn		**Sn**	**03 19 30.9**	**-2.4**
	555nm,0.5s,SNR=8.3							
EMUR				S		**Sn**	**03 19 31.4**	**-1.9**
AFON	**Font Roja**	**2.73**	**322**	⇓Pn		**Pn**	**03 19 02.0**	**-1.4**
AFON	179nm,0.3s,SNR=18			Sn		**Sn**	**03 19 33.9**	**-2.1**
	1μm,0.4s,SNR=14							
AFON	**Font Roja**	**2.73**	**322**	Pn		**Pn**	**03 19 02.0**	**-1.4**
AFON	179nm,0.3s,SNR=18			Sn		**Sn**	**03 19 33.9**	**-2.1**
	1μm,0.4s,SNR=14							
OLHC	**Oulhaca**	**2.77**	**244**	P		**Pn**	**03 19 02.4**	**-1.4**
OLHC	**Oulhaca**	**2.77**	**244**	P		**Pn**	**03 19 02.4**	**-1.4**
SET	**Setif**	**3.08**	**95**	P		**Pn**	**03 19 08.0**	**0.0**
SET	**Setif**	**3.08**	**95**	Pn		**Pn**	**03 19 08.0**	**0.0**
SET	**Setif**	**3.08**	**95**	P		**Pn**	**03 19 08.0**	**0.0**
ENIJ	**Nijar**	**3.10**	**279**	⇑Pn		**Pn**	**03 19 05.6**	**-2.7**
ENIJ	135nm,0.3s,SNR=18			Sn		**Sn**	**03 19 42.0**	**-2.8**
	482nm,0.3s,SNR=7.9							
ENIJ	**Nijar**	**3.10**	**279**	P		**Pn**	**03 19 05.5**	**-2.8**
ENIJ				S		**Sn**	**03 19 42.1**	**-2.8**
ENIJ	**Nijar**	**3.10**	**279**	Pn		**Pn**	**03 19 05.6**	**-2.7**
ENIJ	135nm,0.3s,SNR=18			S		**Sn**	**03 19 42.1**	**-2.8**
ENIJ	**Nijar**	**3.10**	**279**	P		**Pn**	**03 19 05.5**	**-2.8**
ENIJ				S		**Sn**	**03 19 42.1**	**-2.8**
CKHR	**Kef el Ahmar**	**3.19**	**98**	P		**Pn**	**03 19 08.3**	**-1.3**
CKHR	**Kef el Ahmar**	**3.19**	**98**	Pn		**Pn**	**03 19 08.3**	**-1.3**
CKHR	**Kef el Ahmar**	**3.19**	**98**	P		**Pn**	**03 19 08.4**	**-1.3**
CKHR	**Kef el Ahmar**	**3.19**	**98**	P		**Pn**	**03 19 08.4**	**-1.3**
ETOB	**Tobarra**	**3.28**	**311**	⇓Pn		**Pn**	**03 19 10.0**	**-0.9**
ETOB	87nm,0.3s,SNR=18			Sn		**Sn**	**03 19 46.7**	**-2.7**
	915nm,0.4s,SNR=9.9							
ETOB	**Tobarra**	**3.28**	**311**	Pn		**Pn**	**03 19 10.0**	**-0.9**
ETOB	87nm,0.3s,SNR=18			Sn		**Sn**	**03 19 46.7**	**-2.7**
	915nm,0.4s,SNR=9.9							
ETOS	**Mallorca**	**3.37**	**16**	⇑Pn		**Pn**	**03 19 10.0**	**-2.1**
ETOS	269nm,0.3s,SNR=18			Sn		**Sn**	**03 19 48.6**	**-3.0**
	1μm,0.6s,SNR=6.9							
DFRA	**Djebel Bou Aff**	**3.44**	**88**	P		**Pn**	**03 19 11.1**	**-1.9**
DFRA	**Djebel Bou Aff**	**3.44**	**88**	Pn		**Pn**	**03 19 11.1**	**-1.9**
DFRA	**Djebel Bou Aff**	**3.44**	**88**	P		**Pn**	**03 19 11.1**	**-1.9**
EBER	**Berja**	**3.64**	**277**	Pn		**Pn**	**03 19 13.9**	**-1.9**
EBER	118nm,0.2s,SNR=178			Sn		**Sn**	**03 19 55.1**	**-3.2**
	416nm,0.3s,SNR=8.4							
EBER	**Berja**	**3.64**	**277**	Pn		**Pn**	**03 19 13.9**	**-1.9**
EBER	118nm,0.2s,SNR=178			Sn		**Sn**	**03 19 55.1**	**-3.2**
	416nm,0.3s,SNR=8.4							
SESP	**Santiago Espad**	**3.67**	**297**	⇓Pn		**Pn**	**03 19 15.3**	**-1.0**
SESP	367nm,0.4s,SNR=18			Sn		**Sn**	**03 19 56.4**	**-2.9**
	4μm,0.6s,SNR=7.9							
SESP	**Santiago Espad**	**3.67**	**297**	Pn		**Pn**	**03 19 15.3**	**-1.0**
SESP	367nm,0.4s,SNR=18			Sn		**Sn**	**03 19 56.4**	**-2.9**
	4μm,0.6s,SNR=7.9							
EALB	**Alboran**	**3.80**	**263**	Pn		**Pn**	**03 19 16.2**	**-1.7**
EALB	41nm,0.3s,SNR=9.0			Sn		**Sn**	**03 19 58.6**	**-3.5**
	588nm,0.6s,SNR=7.4							
EALB	**Alboran**	**3.80**	**263**	Pn		**Pn**	**03 19 16.2**	**-1.7**
EALB	41nm,0.3s,SNR=9.0			Sn		**Sn**	**03 19 58.6**	**-3.5**
	588nm,0.6s,SNR=7.4							
GORA	**Gorafe**	**3.84**	**286**	Pn		**Pn**	**03 19 17.6**	**-1.0**
GORA	102nm,0.3s,SNR=7.9			Sn		**Sn**	**03 19 59.8**	**-3.5**
	892nm,0.4s,SNR=7.9							
GORA	**Gorafe**	**3.84**	**286**	Pn		**Pn**	**03 19 17.6**	**-1.0**
GORA	102nm,0.3s,SNR=7.9			Sn		**Sn**	**03 19 59.8**	**-3.5**
	892nm,0.4s,SNR=7.9							
MELI	**Melilla**	**3.89**	**253**	Pn		**Pn**	**03 19 17.6**	**-1.5**
MELI	20nm,0.2s,SNR=7.9			Sn		**Sn**	**03 20 00.1**	**-4.2**
	552nm,0.6s,SNR=7.9							
MELI	**Melilla**	**3.89**	**253**	Pn		**Pn**	**03 19 17.6**	**-1.5**
MELI	20nm,0.2s,SNR=7.9			Sn		**Sn**	**03 20 00.1**	**-4.2**
	552nm,0.6s,SNR=7.9							
CTEI	**Djebel Teioual**	**3.90**	**95**	P		**Pn**	**03 19 18.7**	**-0.7**
CTEI	**Djebel Teioual**	**3.90**	**95**	Pn		**Pn**	**03 19 18.7**	**-0.7**
CTEI	**Djebel Teioual**	**3.90**	**95**	P		**Pn**	**03 19 18.7**	**-0.7**
EMLI	**Melilla**	**3.90**	**253**	Pn		**Pn**	**03 19 17.9**	**-1.3**
EMLI	31nm,0.1s,SNR=7.9			Sn		**Sn**	**03 20 00.9**	**-3.6**
	1μm,0.6s,SNR=7.9							
EMEL	**Melilla**	**3.91**	**253**	Pn		**Pn**	**03 19 17.9**	**-1.5**
EMEL	31nm,0.1s,SNR=7.9			Sn		**Sn**	**03 20 00.9**	**-3.8**
	1μm,0.6s,SNR=7.9							
CASM	**Ain Smara**	**3.94**	**92**	P		**Pn**	**03 19 18.6**	**-1.3**
CASM	**Ain Smara**	**3.94**	**92**	Pn		**Pn**	**03 19 18.6**	**-1.3**
CASM	**Ain Smara**	**3.94**	**92**	P		**Pn**	**03 19 18.6**	**-1.3**
EQES	**Quesada**	**3.95**	**290**	Pn		**Pn**	**03 19 19.4**	**-0.7**
EQES	173nm,0.4s,SNR=138			Sn		**Sn**	**03 20 02.6**	**-3.4**
	1μm,0.4s,SNR=9.9							
EQES	**Quesada**	**3.95**	**290**	Pn		**Pn**	**03 19 19.4**	**-0.7**
EQES	173nm,0.4s,SNR=138			Sn		**Sn**	**03 20 02.6**	**-3.4**
	1μm,0.4s,SNR=9.9							
EQUE	**Quentar**	**4.11**	**281**	⇑Pn		**Pn**	**03 19 21.1**	**-1.1**
EQUE	86nm,0.3s,SNR=18			Sn		**Sn**	**03 20 06.6**	**-3.2**
	393nm,0.4s,SNR=7.9							
EQUE	**Quentar**	**4.11**	**281**	Pn		**Pn**	**03 19 21.1**	**-1.1**
EQUE	86nm,0.3s,SNR=18			Sn		**Sn**	**03 20 06.6**	**-3.2**
	393nm,0.4s,SNR=7.9							
CKFL	**Kef-Lekhel**	**4.12**	**90**	P		**Pn**	**03 19 20.9**	**-1.5**
CKFL	**Kef-Lekhel**	**4.12**	**90**	Pn		**Pn**	**03 19 20.9**	**-1.5**
CKFL	**Kef-Lekhel**	**4.12**	**90**	P		**Pn**	**03 19 20.9**	**-1.5**
EMOS	**Mosqueruela**	**4.17**	**338**	⇓Pn		**Pn**	**03 19 22.0**	**-1.1**
EMOS	327nm,0.2s,SNR=18			Sn		**Sn**	**03 20 08.1**	**-3.3**
	2μm,0.3s,SNR=12							
EMOS	**Mosqueruela**	**4.17**	**338**	Pn		**Pn**	**03 19 22.0**	**-1.1**
EMOS	327nm,0.2s,SNR=18			Sn		**Sn**	**03 20 08.1**	**-3.3**
	2μm,0.3s,SNR=12							
CAEH	**'Ain El Ouahch**	**4.22**	**85**	P		**Pn**	**03 19 21.9**	**-1.8**
CAEH	**'Ain El Ouahch**	**4.22**	**85**	Pn		**Pn**	**03 19 21.9**	**-1.8**
CAEH	**'Ain El Ouahch**	**4.22**	**85**	P		**Pn**	**03 19 21.9**	**-1.8**
CAEH	**'Ain El Ouahch**	**4.22**	**85**	P		**Pn**	**03 19 21.9**	**-1.8**
ELGU	**Los Guajares,**	**4.22**	**276**	Pn		**Pn**	**03 19 21.9**	**-1.9**
ELGU	45nm,0.1s,SNR=7.9			Sn		**Sn**	**03 20 08.5**	**-4.2**
	432nm,0.6s,SNR=7.9							
ELGU	**Los Guajares,**	**4.22**	**276**	Pn		**Pn**	**03 19 21.9**	**-1.9**
ELGU	45nm,0.1s,SNR=7.9			Sn		**Sn**	**03 20 08.5**	**-4.2**
	432nm,0.6s,SNR=7.9							
ERTA	**Horta de San J**	**4.54**	**348**	⇓Pn		**Pn**	**03 19 27.1**	**-0.9**
ERTA	330nm,0.6s,SNR=293			Sn		**Sn**	**03 20 16.7**	**-3.6**
	382nm,0.2s,SNR=7.0							
ERTA	**Horta de San J**	**4.54**	**348**	Pn		**Pn**	**03 19 27.1**	**-0.9**
ERTA	330nm,0.6s,SNR=293			Sn		**Sn**	**03 20 16.7**	**-3.6**
	382nm,0.2s,SNR=7.0							
EGOR	**Sierra Gorda,**	**4.63**	**279**	Pn		**Pn**	**03 19 28.3**	**-1.1**
EGOR	104nm,0.5s,SNR=7.9			Sn		**Sn**	**03 20 18.6**	**-4.1**
	198nm,0.5s,SNR=7.9							
EGOR	**Sierra Gorda,**	**4.63**	**279**	Pn		**Pn**	**03 19 28.3**	**-1.1**
EGOR	104nm,0.5s,SNR=7.9			Sn		**Sn**	**03 20 18.6**	**-4.1**
	198nm,0.5s,SNR=7.9							
CMAH	**Djebel Manchou**	**4.67**	**87**	P		**Pn**	**03 19 28.1**	**-1.9**
CMAH	**Djebel Manchou**	**4.67**	**87**	Pn		**Pn**	**03 19 28.1**	**-1.9**
CMAH	**Djebel Manchou**	**4.67**	**87**	P		**Pn**	**03 19 28.1**	**-1.9**
MPAL	**Palemas**	**4.69**	**256**	*i* P		**Pn**	**03 19 30.0**	**-0.2**
MPAL				*i* S		**Sn**	**03 20 18.0**	**-6.2**
ABSA	**Djebel Ababsia**	**4.74**	**91**	P		**Pn**	**03 19 29.6**	**-1.3**
ABSA	**Djebel Ababsia**	**4.74**	**91**	P		**Pn**	**03 19 29.6**	**-1.3**
CABS	**Djebel Ababsia**	**4.74**	**91**	Pn		**Pn**	**03 19 29.6**	**-1.3**
CABS	**Djebel Ababsia**	**4.74**	**91**	Pn		**Pn**	**03 19 29.6**	**-1.3**
EPOB	**Poblet**	**4.84**	**355**	Pn		**Pn**	**03 19 30.9**	**-1.3**
EPOB	259nm,0.4s,SNR=258			Sn		**Sn**	**03 20 23.4**	**-4.4**
	324nm,0.5s,SNR=6.2							
EPOB	**Poblet**	**4.84**	**355**	Pn		**Pn**	**03 19 30.9**	**-1.3**
EPOB	259nm,0.4s,SNR=258			Sn		**Sn**	**03 20 23.4**	**-4.4**
	324nm,0.5s,SNR=6.2							
EMIJ	**Mijas**	**5.14**	**272**	Pn		**Pn**	**03 19 34.1**	**-2.3**
EMIJ	33nm,0.2s,SNR=61			Sn		**Sn**	**03 20 29.9**	**-5.3**
	96nm,0.4s,SNR=7.9							
EMIJ	**Mijas**	**5.14**	**272**	Pn		**Pn**	**03 19 34.1**	**-2.3**
EMIJ	33nm,0.2s,SNR=61			Sn		**Sn**	**03 20 29.9**	**-5.3**
	96nm,0.4s,SNR=7.9							
ETOR	**Torete**	**5.16**	**327**	⇓Pn		**Pn**	**03 19 36.0**	**-0.6**
ETOR	190nm,0.5s,SNR=71			Sn		**Sn**	**03 20 31.6**	**-4.1**
	49nm,0.3s,SNR=7.9							
ETOR	**Torete**	**5.16**	**327**	Pn		**Pn**	**03 19 36.0**	**-0.6**
ETOR	190nm,0.5s,SNR=71			Sn		**Sn**	**03 20 31.6**	**-4.1**
	49nm,0.3s,SNR=7.9							
EADA	**Adamuz**	**5.20**	**290**	Pn		**Pn**	**03 19 35.6**	**-1.5**
EADA	14nm,0.2s,SNR=56			Sn		**Sn**	**03 20 32.2**	**-4.4**
	70nm,0.4s,SNR=7.9							
EADA	**Adamuz**	**5.20**	**290**	Pn		**Pn**	**03 19 35.6**	**-1.5**
EADA	14nm,0.2s,SNR=56			Sn		**Sn**	**03 20 32.2**	**-4.4**
	70nm,0.4s,SNR=7.9							
CFON	**Fontmartina**	**5.27**	**7**	Pn		**Pn**	**03 19 37.1**	**-1.0**
CFON	68nm,0.2s,SNR=151			Sn		**Sn**	**03 20 33.6**	**-4.8**
	280nm,0.3s,SNR=7.9							
CFON	**Fontmartina**	**5.27**	**7**	Pn		**Pn**	**03 19 37.1**	**-1.0**
CFON	68nm,0.2s,SNR=151			Sn		**Sn**	**03 20 33.6**	**-4.8**
	280nm,0.3s,SNR=7.9							
ES19	**SONSECA Array**	**5.38**	**308**	*e*Pn		**Pn**	**03 19 37.6**	**-2.0**
ES19				*e*Sn		**Sn**	**03 20 40.5**	**-0.6**
EMIR	**Miracle**	**5.38**	**359**	⇓Pn		**Pn**	**03 19 38.5**	**-1.2**
EMIR	214nm,0.4s,SNR=134			Sn		**Sn**	**03 20 36.5**	**-4.7**
	1μm,0.4s,SNR=8.9							
EMIR	**Miracle**	**5.38**	**359**	Pn		**Pn**	**03 19 38.5**	**-1.2**
EMIR	214nm,0.4s,SNR=134			Sn		**Sn**	**03 20 36.5**	**-4.7**
	1μm,0.4s,SNR=8.9							
ESDC	**Sonseca Array**	**5.40**	**307**	Pn		**Pn**	**03 19 38.3**	**-1.7**
ESDC	15nm,0.3s,baz=122,slow=13,SNR=115			Sn		**Sn**	**03 20 39.6**	**-2.1**
	36nm,0.3s,baz=121,slow=25,SNR=6.6							
ESDC	comp=Z,2μm,18.4s,baz=130,slow=39			LR		LR	03 21 47.4	
ESDC	**Sonseca Array**	**5.40**	**307**	⇓Pn		**Pn**	**03 19 38.5**	**-1.5**
ESDC	12nm,0.3s,baz=122,slow=14,SNR=18			Sn		**Sn**	**03 20 37.3**	**-4.5**
	94nm,0.7s,baz=121,slow=23,SNR=8.3							
ESDC	**Sonseca Array**	**5.40**	**307**	Pn		**Pn**	**03 19 38.5**	**-1.5**
ESDC	12nm,0.3s,SNR=18			*e*Sn		**Sn**	**03 20 39.6**	**-2.1**
ESLA	**Sonseca Array**	**5.40**	**307**	*e*Pn		**Pn**	**03 19 38.5**	**-1.5**
ESLA				*e*Sn		**Sn**	**03 20 39.9**	**-1.9**
ESLA	**Sonseca Array**	**5.40**	**307**	*e*Pn		**Pn**	**03 19 38.5**	**-1.5**
ESLA				*e*Sn		**Sn**	**03 20 39.9**	**-1.9**
ESAC	**San Caprasio**	**5.43**	**343**	Pn		**Pn**	**03 19 39.3**	**-1.1**
ESAC	331nm,0.3s,SNR=51			Sn		**Sn**	**03 20 38.1**	**-4.4**
	3μm,0.4s,SNR=5.2							
ESAC	**San Caprasio**	**5.43**	**343**	Pn		**Pn**	**03 19 39.3**	**-1.1**
	331nm,0.3s,SNR=51							
PAB	**San Pablo**	**5.59**	**304**	⇓Pn		**Pn**	**03 19 41.0**	**-1.5**
PAB	79nm,0.4s,SNR=18			Sn		**Sn**	**03 20 41.5**	**-4.8**
	52nm,0.5s,SNR=7.9							
PAB	**San Pablo**	**5.59**	**304**	*e*Pn		**Pn**	**03 19 41.1**	**-1.5**
PAB				*e*Sn		**Sn**	**03 20 44.6**	**-1.6**
PAB	**San Pablo**	**5.59**	**304**	*e*P		**Pn**	**03 19 41.1**	**-1.5**
PAB				*e*S		**Sn**	**03 20 44.7**	**-1.6**
PAB	**San Pablo**	**5.59**	**304**	*e*P		**Pn**	**03 19 41.1**	**-1.5**
PAB				*e*			03 20 44.7	
CEU	**Ceuta**	**5.68**	**266**	Pn		**Pn**	**03 19 40.8**	**-2.9**
CEU	**Ceuta**	**5.68**	**266**	Pn		**Pn**	**03 19 40.8**	**-2.9**
ECEU	**Ceuta**	**5.69**	**266**	Pn		**Pn**	**03 19 41.7**	**-2.1**
ECEU	11nm,0.2s,SNR=6.4			Sn		**Sn**	**03 20 42.5**	**-6.1**
	53nm,0.6s,SNR=7.9							
ECEU	**Ceuta**	**5.69**	**266**	Pn		**Pn**	**03 19 41.7**	**-2.1**
	11nm,0.2s,SNR=6.4							
EJIF	**Jimena Fronter**	**5.71**	**271**	Pn		**Pn**	**03 19 42.5**	**-1.6**
EJIF	44nm,0.6s,SNR=7.9			Sn		**Sn**	**03 20 43.5**	**-5.6**
	36nm,0.6s,SNR=7.9							
EJIF	**Jimena Fronter**	**5.71**	**271**	Pn		**Pn**	**03 19 42.5**	**-1.6**
	44nm,0.6s,SNR=7.9							
ECAB	**El Cabril**	**5.81**	**288**	⇑Pn		**Pn**	**03 19 43.9**	**-1.7**
ECAB	19nm,0.2s,SNR=83			Sn		**Sn**	**03 20 46.5**	**-5.3**
	88nm,0.4s,SNR=6.7							
ECAB	**El Cabril**	**5.81**	**288**	Pn		**Pn**	**03 19 43.9**	**-1.7**
	19nm,0.2s,SNR=83							
CSOR	**Sort**	**5.85**	**357**	⇓Pn		**Pn**	**03 19 45.8**	**-0.4**
CSOR	243nm,0.4s,SNR=18			Sn		**Sn**	**03 20 48.1**	**-4.8**
	296nm,0.4s,SNR=7.0							
CSOR	**Sort**	**5.85**	**357**	Pn		**Pn**	**03 19 45.8**	**-0.4**
	243nm,0.4s,SNR=18							
CLLI	**Llivia**	**5.95**	**3**	⇑Pn		**Pn**	**03 19 47.2**	**-0.4**
CLLI	81nm,0.5s,SNR=241			Sn		**Sn**	**03 20 50.2**	**-5.2**
	214nm,0.5s,SNR=7.9							
CLLI	**Llivia**	**5.95**	**3**	Pn		**Pn**	**03 19 47.2**	**-0.4**
	81nm,0.5s,SNR=241							
EJON	**La Jonquera**	**6.00**	**9**	Pn		**Pn**	**03 19 47.3**	**-0.8**
EJON	22nm,0.3s,SNR=41			Sn		**Sn**	**03 20 51.1**	**-5.2**
	128nm,0.3s,SNR=5.1							
EJON	**La Jonquera**	**

VSL eSn Sn 03 21 09.4 -6.9
MTLF Montolieu 6.82 4 ePn Pn 03 19 59.2 -0.2
MTLF eSn Sn 03 21 06.9 -10
55nm,0.3s
MTLF Montolieu 6.82 4 Pn Pn 03 19 59.2 -0.2
MTLF Montolieu 6.82 4 ePn Pn 03 19 59.2 -0.2
SJPF Ste Jean 6.93 343 ePn Pn 03 20 01.1 +0.2
SJPF eSn Sn 03 21 11.5 -7.8
118nm,0.4s
SJPF Ste Jean 6.93 343 Pn Pn 03 20 01.1 +0.2
SJPF Sn Sn 03 21 11.5 -7.8
59nm,0.4s
SJPF Ste Jean 6.93 343 ePn Pn 03 20 01.1 +0.2
ORDF Ordiarp 6.96 344 eP Pn 03 20 01.6 +0.3
EPLA Plasencia 7.00 303 Pn Pn 03 20 00.7 -1.2
13nm,0.2s,SNR=22
EPLA Sn Sn 03 21 15.0 -6.1
27nm,0.4s,SNR=7.9
EPLA Plasencia 7.00 303 Pn Pn 03 20 00.7 -1.2
13nm,0.2s,SNR=22
PBAR Barrancos 7.08 286 eP Pn 03 20 02.1 -0.9
PBAR eS Sn 03 21 18.7 -4.3
PBAR A A 03 21 56.0
94nm,0.5s
PBAR Barrancos 7.08 286 Pn Pn 03 20 02.1 -0.9
PBAR Sn Sn 03 21 18.7 -4.3
94nm,0.5s
PBAR Barrancos 7.08 286 eP Pn 03 20 02.1 -0.9
EALK Alkurruntz 7.10 341 ⇑Pn Pn 03 20 02.0 -1.3
182nm,0.5s,SNR=18
EALK Sn Sn 03 21 17.8 -5.8
280nm,0.4s,SNR=7.9
EALK Alkurruntz 7.10 341 Pn Pn 03 20 02.0 -1.3
182nm,0.5s,SNR=18
EBAD Badajoz 7.20 291 Pn Pn 03 20 03.0 -1.5
26nm,0.4s,SNR=36
EBAD Sn Sn 03 21 19.7 -6.1
37nm,0.3s,SNR=7.9
EBAD Badajoz 7.20 291 Pn Pn 03 20 03.0 -1.5
26nm,0.4s,SNR=36
EGRO El Granado 7.34 281 Pn Pn 03 20 04.8 -1.8
26nm,0.5s,SNR=15
EGRO Sn Sn 03 21 23.1 -6.3
66nm,0.4s,SNR=7.9
EGRO El Granado 7.34 281 Pn Pn 03 20 04.8 -1.8
26nm,0.5s,SNR=15
KIB El Ksiba 7.44 240 *i* P Pn 03 20 09.0 +1.0
PVAQ Vaqueiros 7.52 279 eP Pn 03 20 07.3 -1.7
PVAQ eS Sn 03 21 27.6 -6.2
PVAQ A A 03 21 31.9
51nm,0.4s
PVAQ Vaqueiros 7.52 279 Pn Pn 03 20 07.3 -1.7
PVAQ Sn Sn 03 21 27.6 -6.2
51nm,0.4s
PVAQ Vaqueiros 7.52 279 eP Pn 03 20 07.3 -1.7
PESTR Estremoz 7.66 291 eP Pn 03 20 09.9 -1.0
PESTR eS Sn 03 21 32.7 -4.5
PESTR A A 03 22 18.5
57nm,0.8s
PESTR Estremoz 7.66 291 ePn Pn 03 20 09.9 -1.0
PESTR eSn Sn 03 21 33.9 -3.4
PESTR Estremoz 7.66 291 eP Pn 03 20 09.9 -1.0
PMRV Marv??o 7.68 295 eP Pn 03 20 10.4 -0.8
PMRV eS Sn 03 21 33.6 -4.1
PMRV A A 03 22 10.5
85nm,0.5s
PMRV Marv??o 7.68 295 Pn Pn 03 20 10.4 -0.8
PMRV Marv??o 7.68 295 eP Pn 03 20 10.4 -0.8
PBDV Barranco-do-Ve 7.68 278 eP Pn 03 20 09.7 -1.5
PBDV eS Sn 03 21 31.8 -6.0
PBDV A A 03 21 39.5
34nm,0.5s
PBDV Barranco-do-Ve 7.68 278 Pn Pn 03 20 09.7 -1.5
PBDV Sn Sn 03 21 31.8 -6.0
34nm,0.5s
PBDV Barranco-do-Ve 7.68 278 eP Pn 03 20 09.7 -1.5
PBEJ Beja 7.70 284 eP Pn 03 20 10.1 -1.4
PBEJ eS Sn 03 21 33.3 -5.0
PBEJ A A 03 21 37.5
43nm,0.5s
PBEJ Beja 7.70 284 Pn Pn 03 20 10.1 -1.4
PBEJ Sn Sn 03 21 33.3 -5.0
21nm,0.5s
PBEJ Beja 7.70 284 eP Pn 03 20 10.1 -1.4
LASF Ste Croix 7.73 12 ePn Pn 03 20 11.8 -0.1
LASF eSn Sn 03 21 30.0 -9.0
89nm,0.6s
LASF Ste Croix 7.73 12 Pn Pn 03 20 11.8 -0.1
LASF Ste Croix 7.73 12 ePn Pn 03 20 11.8 -0.1
ELAN Lanestosa 7.74 331 ⇑Pn Pn 03 20 11.7 -0.3
106nm,0.4s,SNR=18
ELAN Sn Sn 03 21 33.3 -5.8
165nm,0.7s,SNR=7.9
ELAN Lanestosa 7.74 331 Pn Pn 03 20 11.7 -0.3
106nm,0.4s,SNR=18
LMR La Mourre 7.77 27 ePn Pn 03 20 17.0 +4.6
LMR eSn Sn 03 21 28.0 -12
36nm,0.2s
PCVE Castro Verde 7.79 281 eP Pn 03 20 10.6 -2.1
PCVE eS Sn 03 21 34.7 -5.8
PCVE A A 03 21 48.6
32nm,0.6s
PCVE Castro Verde 7.79 281 Pn Pn 03 20 10.6 -2.1
PCVE Sn Sn 03 21 34.7 -5.8
32nm,0.6s
PCVE Castro Verde 7.79 281 eP Pn 03 20 10.6 -2.1
PCBR Castelo Branco 7.88 298 eP Pn 03 20 13.9 -0.1
PCBR eS Sn 03 21 38.5 -4.2
PCBR A A 03 21 40.6
63nm,0.5s
PCBR Castelo Branco 7.88 298 Pn Pn 03 20 13.9 -0.1
PCBR Castelo Branco 7.88 298 eP Pn 03 20 13.9 -0.1
EVO Évora 7.91 288 eP Pn 03 20 13.3 -1.0
EVO eS Sn 03 21 38.4 -4.8
EVO A A 03 21 40.9
63nm,0.5s
EVO Évora 7.91 288 Pn Pn 03 20 13.3 -1.0
EVO Évora 7.91 288 eP Pn 03 20 13.3 -1.0
TZC Tazercounte 8.00 239 *i* P Pn 03 20 15.0 -0.7
FRF La Foret Royal 8.02 27 ePn Pn 03 20 14.4 -1.4
FRF La Foret Royal 8.02 27 eP Pn 03 20 19.0 +3.2
FRF eSn Sn 03 21 37.9 -8.0
174nm,0.3s
FRF La Foret Royal 8.02 27 Pn Pn 03 20 14.4 -1.4
FRF Sn Sn 03 21 37.9 -8.0
87nm,0.3s
FRF La Foret Royal 8.02 27 ePn Pn 03 20 14.4 -1.4
FRF La Foret Royal 8.02 27 P Pn 03 20 14.9 -0.9
FRF La Foret Royal 8.02 27 P Pn 03 20 14.9 -0.9
SMRF Simiane la Rot 8.03 21 ePn Pn 03 20 16.1 +0.1
SMRF eSn Sn 03 21 41.6 -4.8
29nm,0.4s
SMRF Simiane la Rot 8.03 21 Pn Pn 03 20 16.1 +0.1
SMRF Sn Sn 03 21 41.6 -4.8
29nm,0.4s
SMRF Simiane la Rot 8.03 21 ePn Pn 03 20 16.1 +0.1
MTE Manteigas 8.16 301 eP Pn 03 20 17.4 -0.4
MTE eS Sn 03 21 45.2 -4.3
MTE A A 03 22 27.9
75nm,0.6s
MTE Manteigas 8.16 301 Pn Pn 03 20 17.4 -0.4
MTE Manteigas 8.16 301 ePn Pn 03 20 17.2 -0.6
MTE eSn Sn 03 21 48.2 -1.3
MTE Manteigas 8.16 301 ePn Pn 03 20 17.2 -0.6
MTE eSn Sn 03 21 48.2 -1.3
MVO Moncorvo 8.18 307 eP Pn 03 20 17.3 -0.8
MVO eS Sn 03 21 47.0 -3.0
MVO A A 03 21 55.2
49nm,0.5s
MVO Moncorvo 8.18 307 Pn Pn 03 20 17.3 -0.8
59nm,0.6s,SNR=16
MVO Sn Sn 03 21 43.5 -6.6
34nm,0.6s,SNR=7.9
MVO Moncorvo 8.18 307 eP Pn 03 20 17.3 -0.8
MVO eS Sn 03 21 47.0 -3.0
49nm,0.5s
PMTG Montargil 8.19 291 eP Pn 03 20 17.0 -1.2
PMTG eS Sn 03 21 44.1 -6.1
PMTG A A 03 21 47.4
78nm,0.6s
PMTG Montargil 8.19 291 eP Pn 03 20 17.0 -1.2
PNCL Nicolau / Gran 8.23 284 eP Pn 03 20 17.2 -1.6
PNCL eS Sn 03 21 45.4 -5.9
PNCL A A 03 22 33.3
34nm,0.6s
PNCL Nicolau / Gran 8.23 284 eP Pn 03 20 17.2 -1.6
MORF Marmelete 8.26 278 eP Pn 03 20 16.0 -3.1
MORF eS Sn 03 21 43.1 -8.9
MORF AML AML 03 21 50.1
comp=E,76nm,0.4s
MORF Marmelete 8.26 278 eP Pn 03 20 17.8 -1.4
MORF eS Sn 03 21 46.8 -5.2
MORF A A 03 21 56.1
comp=E,17nm,0.3s
MORF Marmelete 8.26 278 Pn Pn 03 20 17.8 -1.4
MORF Sn Sn 03 21 43.1 -8.9
comp=E,76nm,0.4s
MORF Marmelete 8.26 278 eP Pn 03 20 17.8 -1.4
PGF Pioggiola 8.29 41 ePn Pn 03 20 17.2 -2.4
PGF Pioggiola 8.29 41 eP Pn 03 20 23.0 +3.4
PGF eSn Sn 03 21 43.6 -9.2
comp=E,49nm,0.4s
PGF Pioggiola 8.29 41 Pn Pn 03 20 17.2 -2.4
PGF Sn Sn 03 21 43.6 -9.2
comp=E,24nm,0.4s
PGF Pioggiola 8.29 41 ePn Pn 03 20 17.2 -2.4
PGF Pioggiola 8.29 41 eP Pn 03 20 18.5 -1.1
PGF Pioggiola 8.29 41 eP Pn 03 20 18.5 -1.1
PTEO Sao Teotonio 8.33 280 eP Pn 03 20 18.1 -2.0
PTEO eS Sn 03 21 48.5 -5.1
PTEO A A 03 22 03.0
comp=E,36nm,0.7s
PTEO Sao Teotonio 8.33 280 Pn Pn 03 20 18.1 -2.0
PTEO Sao Teotonio 8.33 280 eP Pn 03 20 18.1 -2.0
PBRG Braganca 8.36 312 eP Pn 03 20 19.8 -0.7
PBRG eS Sn 03 21 49.2 -5.2
PBRG A A 03 22 41.3
comp=E,40nm,0.6s
PBRG Braganca 8.36 312 Pn Pn 03 20 19.8 -0.7
PBRG Sn Sn 03 21 49.2 -5.2
comp=E,20nm,0.6s
PBRG Braganca 8.36 312 eP Pn 03 20 19.8 -0.7
PFVI Vila Bisbo 8.39 277 eP Pn 03 20 19.1 -1.9
PFVI eS Sn 03 21 50.4 -4.8
PFVI A A 03 22 10.6
comp=E,30nm,0.5s
PFVI Vila Bisbo 8.39 277 Pn Pn 03 20 19.8 -1.2
comp=E,6.0nm,0.2s,SNR=9.4
PFVI Sn Sn 03 21 47.8 -7.4
comp=E,6.8nm,0.3s,SNR=7.9
PFVI Vila Bisbo 8.39 277 ePn Pn 03 20 19.3 -1.7
PFVI eSn Sn 03 21 45.7 -10
PFVI Vila Bisbo 8.39 277 eP Pn 03 20 19.1 -1.9
PFVI Vila Bisbo 8.39 277 Pn Pn 03 20 19.8 -1.2
comp=E,6.0nm,0.2s,SNR=9.4
CAF Calviac 8.40 2 ePn Pn 03 20 20.8 -0.2
CAF eSn Sn 03 21 48.7 -6.7
comp=E,94nm,0.5s
CAF Calviac 8.40 2 Pn Pn 03 20 20.8 -0.2
CAF Sn Sn 03 21 48.7 -6.7
comp=E,47nm,0.5s
CAF Calviac 8.40 2 ePn Pn 03 20 20.8 -0.2
CAF Calviac 8.40 2 eP Pn 03 20 21.5 +0.5
CAF Calviac 8.40 2 eP Pn 03 20 21.5 +0.5
LFF La Frestale 8.43 356 ePn Pn 03 20 20.9 -0.5
LFF eSn Sn 03 21 51.9 -4.2
comp=E,119nm,0.4s
LFF La Frestale 8.43 356 Pn Pn 03 20 20.9 -0.5
LFF La Frestale 8.43 356 ePn Pn 03 20 20.9 -0.5
LFF La Frestale 8.43 356 P Pn 03 20 21.5 +0.1
LFF La Frestale 8.43 356 P Pn 03 20 21.5 +0.1
ECAL Calabor 8.44 312 Pn Pn 03 20 20.2 -1.4
comp=E,150nm,0.5s,SNR=42
ECAL Sn Sn 03 21 48.9 -7.5
comp=E,85nm,0.4s,SNR=7.9
ECAL Calabor 8.44 312 Pn Pn 03 20 20.2 -1.4
comp=E,150nm,0.5s,SNR=42
ALMR Almeirim 8.48 291 eP Pn 03 20 18.9 -3.2
ALMR eS Sn 03 21 48.1 -9.1
ALMR AML AML 03 21 53.5
comp=N,140nm,0.7s
ALMR Almeirim 8.48 291 eP Pn 03 20 21.6 -0.5
ALMR eS Sn 03 21 51.4 -5.9
ALMR A A 03 21 56.0
comp=N,176nm,0.6s
ALMR Almeirim 8.48 291 Pn Pn 03 20 21.6 -0.5
ALMR Sn Sn 03 21 48.1 -9.1
comp=N,70nm,0.7s
ALMR Almeirim 8.48 291 eP Pn 03 20 21.6 -0.5
PTOM Tomar 8.48 294 eP Pn 03 20 22.0 -0.2
PTOM eS Sn 03 21 52.3 -5.2
PTOM A A 03 22 31.3
comp=N,60nm,0.5s
PTOM Tomar 8.48 294 Pn Pn 03 20 22.0 -0.2
PTOM Tomar 8.48 294 eP Pn 03 20 22.0 -0.2
PVIS Viseu 8.53 302 eP Pn 03 20 22.4 -0.5
PVIS eS Sn 03 21 53.7 -5.1
PVIS A A 03 22 18.5
comp=N,37nm,0.6s
PVIS Viseu 8.53 302 Pn Pn 03 20 22.4 -0.5
PVIS Viseu 8.53 302 eP Pn 03 20 22.4 -0.5
OG25 Le Caire 8.54 22 eP Pn 03 20 23.2 +0.2
EARI Arriondas 8.55 324 Pn Pn 03 20 22.6 -0.6
comp=N,102nm,0.5s,SNR=115
EARI Sn Sn 03 21 52.5 -6.8
comp=N,80nm,0.7s,SNR=7.9
EARI Arriondas 8.55 324 Pn Pn 03 20 22.6 -0.6
comp=N,102nm,0.5s,SNR=115
SBF Sospel 8.57 29 ePn Pn 03 20 22.9 -0.6
SBF Sospel 8.57 29 eP Pn 03 20 27.5 +4.0
SBF eSn Sn 03 21 52.5 -7.2
comp=N,97nm,0.4s
SBF Sospel 8.57 29 Pn Pn 03 20 22.9 -0.6
SBF Sn Sn 03 21 52.5 -7.2
comp=N,48nm,0.4s
SBF Sospel 8.57 29 Pn Pn 03 20 22.9 -0.6
VIVF Saint-Julien-l 8.64 15 ePn Pn 03 20 24.2 -0.1
VIVF eSn Sn 03 21 53.5 -7.8
comp=N,33nm,0.5s
VIVF Saint-Julien-l 8.64 15 Pn Pn 03 20 24.2 -0.1
VIVF Sn Sn 03 21 53.5 -7.8
comp=N,16nm,0.5s
VIVF Saint-Julien-l 8.64 15 P Pn 03 20 24.0 -0.3
VIVF Saint-Julien-l 8.64 15 P Pn 03 20 24.0 -0.3
PVRL Vila Real 8.68 306 eP Pn 03 20 24.1 -0.8
PVRL eS Sn 03 21 57.6 -4.7
PVRL A A 03 22 56.9
comp=N,26nm,0.6s
PVRL Vila Real 8.68 306 Pn Pn 03 20 24.1 -0.8
PVRL Vila Real 8.68 306 eP Pn 03 20 24.1 -0.8
COI Coimbra 8.69 298 Pn Pn 03 20 25.1 +0.1
COI Sn Sn 03 21 56.4 -6.0
COI Coimbra 8.69 298 eP Pn 03 20 25.1 +0.1
PCAS Casmilo, Conde 8.69 297 eP Pn 03 20 24.4 -0.7
PCAS eS Sn 03 21 57.5 -5.1
PCAS A A 03 22 01.5
comp=N,45nm,0.5s
PCAS Casmilo, Conde 8.69 297 eP Pn 03 20 24.4 -0.7
SAOF Saorge 8.72 30 P Pn 03 20 26.6 +1.1
SAOF pmax pmax
comp=Z,87nm,0.7s
RJF Les Rejaudoux 8.77 360 ePn Pn 03 20 26.1 0.0
RJF eSn Sn 03 21 54.0 -10
comp=Z,75nm,0.5s
RJF Les Rejaudoux 8.77 360 Pn Pn 03 20 26.1 0.0
RJF Les Rejaudoux 8.77 360 ePn Pn 03 20 26.1 0.0
RJF Les Rejaudoux 8.77 360 P Pn 03 20 27.0 +0.9
RJF Les Rejaudoux 8.77 360 P Pn 03 20 27.0 +0.9
POLO Lamas de Olo 8.78 306 eP Pn 03 20 25.2 -1.2
POLO eS Sn 03 21 58.5 -6.4
POLO A A 03 22 48.3
comp=Z,16nm,0.6s
POLO Lamas de Olo 8.78 306 eP Pn 03 20 25.2 -1.2
LBL Lubilhac 8.78 8 eP Pn 03 20 26.0 -0.4
PMAFR Mafra 8.96 289 eP Pn 03 20 28.4 -0.4
PMAFR eS Sn 03 22 03.6 -5.7
PMAFR A A 03 23 05.8
comp=Z,56nm,0.6s
PMAFR Mafra 8.96 289 Pn Pn 03 20 27.8 -1.0
comp=Z,48nm,0.6s,SNR=7.9
PMAFR Sn Sn 03 22 01.2 -8.1
comp=Z,370nm,0.9s,SNR=7.9
PMAFR Mafra 8.96 289 Pn Pn 03 20 27.8 -1.0
comp=Z,48nm,0.6s,SNR=7.9
PMAFR Mafra 8.96 289 eP Pn 03 20 28.4 -0.4
ORIF Oris-en-Rattie 8.98 20 ePn Pn 03 20 29.8 +0.6
ORIF eSn Sn 03 22 03.4 -6.5
comp=Z,11nm,0.3s
ORIF Oris-en-Rattie 8.98 20 Pn Pn 03 20 29.8 +0.6
ORIF Sn Sn 03 22 03.4 -6.5
comp=Z,5.7nm,0.3s
ORIF Oris-en-Rattie 8.98 20 ePn Pn 03 20 29.8 +0.6
ORIF Oris-en-Rattie 8.98 20 P Pn 03 20 30.5 +1.3
ORIF Oris-en-Rattie 8.98 20 P Pn 03 20 30.5 +1.3
SSB Saint Sauveur 9.02 13 ePn Pn 03 20 29.7 +0.1
SSB eSn Sn 03 22 03.6 -7.1
SSB Saint Sauveur 9.02 13 eP Pn 03 20 29.7 +0.1
SSB Saint Sauveur 9.02 13 eP Pn 03 20 29.7 +0.1
SSB e 03 22 03.6
MBDF Montbardon 9.08 24 ePn Pn 03 20 31.0 +0.5
MBDF eSn Sn 03 22 08.5 -3.8
comp=Z,57nm,0.6s
MBDF Montbardon 9.08 24 Pn Pn 03 20 31.0 +0.5
MBDF Montbardon 9.08 24 Pn Pn 03 20 31.0 +0.5
PCAB Cabril 9.10 308 eP Pn 03 20 30.9 +0.2
PCAB eS Sn 03 22 09.0 -3.7
PCAB A A 03 23 02.4
comp=Z,35nm,0.4s
PCAB Cabril 9.10 308 Pn Pn 03 20 30.9 +0.2
PCAB Cabril 9.10 308 eP Pn 03 20 30.9 +0.2
ELOB Lobios 9.21 308 Pn Pn 03 20 30.6 -1.6
comp=Z,17nm,0.4s,SNR=7.9
ELOB Sn Sn 03 22 08.1 -7.2
comp=Z,44nm,0.6s,SNR=7.9
ELOB Lobios 9.21 308 Pn Pn 03 20 30.6 -1.6
comp=Z,17nm,0.4s,SNR=7.9
GRN Grenoble 9.25 18 eP Pn 03 20 34.7 +1.9
PYM Petit Puy Mans 9.28 6 eP Pn 03 20 33.4 +0.3
GDM Grand'Maison 9.31 20 eP Pn 03 20 34.4 +0.7
CLTB Caltabellotta 9.34 80 ePn Pn 03 20 31.9 -2.1
CLTB eSn Sn 03 22 15.0 -3.6
CLTB Caltabellotta 9.34 80 ePn Pn 03 20 31.9 -2.1
BNI Bardonecchia 9.34 23 ePn Pn 03 20 34.8 +0.7
BNI eSn Sn 03 22 14.2 -4.5
BNI Bardonecchia 9.34 23 ePn Pn 03 20 34.8 +0.7
BNI Bardonecchia 9.34 23 eP Pn 03 20 34.8 +0.7
BNI e 03 22 14.2
PGAV Gavieira, Arco 9.39 308 eP Pn 03 20 34.5 -0.2
PGAV eS Sn 03 22 13.9 -6.0
PGAV A A 03 23 13.2
comp=Z,34nm,0.5s
PGAV Gavieira, Arco 9.39 308 eP Pn 03 20 34.5 -0.2
EPON Pontenova 9.56 318 ⇑Pn Pn 03 20 36.0 -0.9
comp=Z,52nm,0.4s,SNR=18
EPON Sn Sn 03 22 16.0 -7.8
comp=Z,21nm,0.3s,SNR=7.9
EPON Pontenova 9.56 318 Pn Pn 03 20 36.0 -0.9
comp=Z,52nm,0.4s,SNR=18
AGO Saint Agoulin 9.59 6 eP Pn 03 20 38.0 +0.7
EAGO Agolada(Pontev 9.75 313 Pn Pn 03 20 38.7 -0.9
comp=Z,24nm,0.4s,SNR=4.0
EAGO Agolada(Pontev 9.75 313 Pn Pn 03 20 38.7 -0.9
comp=Z,24nm,0.4s,SNR=4.0
TCF Toulx Ste Croi 9.76 2 ePn Pn 03 20 39.1 -0.7
TCF eSn Sn 03 22 21.1 -7.8
comp=Z,44nm,0.6s
TCF Toulx Ste Croi 9.76 2 Pn Pn 03 20 39.1 -0.7
TCF Sn Sn 03 22 21.1 -7.8
comp=Z,22nm,0.6s
TCF Toulx Ste Croi 9.76 2 ePn Pn 03 20 39.1 -0.7
LPG La Plagne 9.76 22 ePn Pn 03 20 41.4 +1.4
LPG La Plagne 9.76 22 ePn Pn 03 20 41.4 +1.4
LPG La Plagne 9.76 22 eP Pn 03 20 42.0 +2.0
LPG La Plagne 9.76 22 eP Pn 03 20 42.0 +2.0
LPL La Plagne 9.78 22 ePn Pn 03 20 41.6 +1.5
LPL eSn Sn 03 22 22.3 -7.2
comp=Z,64nm,0.7s
LPL La Plagne 9.78 22 ePn Pn 03 20 41.6 +1.5
LPL La Plagne 9.78 22 eP Pn 03 20 42.0 +1.9
LPL La Plagne 9.78 22 eP Pn 03 20 42.0 +1.9
BGF Bois d'Agland 10.06 5 ePn Pn 03 20 43.8 -0.1
BGF Bois d'Agland 10.06 5 Pn Pn 03 20 43.8 -0.1
BGF Bois d'Agland 10.06 5 ePn Pn 03 20 43.8 -0.1
VLC Villacollemand 10.14 39 ePn Pn 03 20 43.9 -1.1
VLC Villacollemand 10.14 39 ePn Pn 03 20 43.8 -1.1
MFF Saint Martin d 10.15 353 ePn Pn 03 20 44.0 -1.0
MFF eSn Sn 03 22 29.8 -8.6
comp=Z,78nm,0.5s
MFF Saint Martin d 10.15 353 Pn Pn 03 20 44.0 -1.0
MFF Sn Sn 03 22 29.8 -8.6
comp=Z,39nm,0.5s
MFF Saint Martin d 10.15 353 ePn Pn 03 20 44.0 -1.0
SMF Signal de Mont 10.25 9 ePn Pn 03 20 46.7 +0.3
SMF eSn Sn 03 22 33.4 -7.3
comp=Z,10.0nm,0.4s
SMF Signal de Mont 10.25 9 Pn Pn 03 20 46.7 +0.3
SMF Sn Sn 03 22 33.4 -7.3
comp=Z,0.0nm,0.4s
SMF Signal de Mont 10.25 9 ePn Pn 03 20 46.7 +0.3
VAE Valguarnera 10.28 81 Pn Pn 03 20 45.4 -1.6
comp=Z,0.6nm,0.3s,baz=227,slow=17,SNR=2.2
VAE Sn Sn 03 22 44.0 +2.3
comp=Z,2.8nm,0.3s,baz=214,slow=7.3,SNR=4.4
VAE LR LR 03 25 09.4
comp=Z,3µm,18.7s,baz=210,slow=40
AVF Avril sur Loir 10.34 7 ePn Pn 03 20 47.8 +0.2
AVF Avril sur Loir 10.34 7 Pn Pn 03 20 47.8 +0.2
AVF Avril sur Loir 10.34 7 ePn Pn 03 20 47.8 +0.2
AVF Avril sur Loir 10.34 7 eP Pn 03 20 48.6 +1.0
AVF Avril sur Loir 10.34 7 eP Pn 03 20 48.6 +1.0
EMAZ Mazaricos 10.37 311 Pn Pn 03 20 47.1 -0.9
comp=Z,26nm,0.5s,SNR=7.9
EMAZ Sn Sn 03 22 35.7 -8.0
comp=Z,12nm,0.3s,SNR=7.9
EMAZ Mazaricos 10.37 311 Pn Pn 03 20 47.1 -0.9
comp=Z,26nm,0.5s,SNR=7.9
CABF La Chapelle 10.62 17 ePn Pn 03 20 51.3 -0.2
CABF La Chapelle 10.62 17 Pn Pn 03 20 51.3 -0.2
CABF La Chapelle 10.62 17 ePn Pn 03 20 51.3 -0.2
CABF La Chapelle 10.62 17 eP Pn 03 20 52.1 +0.6
CABF La Chapelle 10.62 17 eP Pn 03 20 52.1 +0.6
SSF Saint Saulge 10.62 7 ePn Pn 03 20 51.4 -0.1
SSF Saint Saulge 10.62 7 Pn Pn 03 20 51.4 -0.1
SSF Saint Saulge 10.62 7 ePn Pn 03 20 51.4 -0.1
SENIN Lac Senin/Sane 10.71 22 ePn Pn 03 20 53.1 +0.2
SENIN eSn Sn 03 22 46.9 -5.5
SENIN Lac Senin/Sane 10.71 22 ePn Pn 03 20 53.1 +0.2
HYF Humbligny 10.76 4 ePn Pn 03 20 53.4 0.0
HYF Humbligny 10.76 4 Pn Pn 03 20 53.4 0.0
HYF Humbligny 10.76 4 ePn Pn 03 20 53.4 0.0
AQU L'Aquila 10.81 54 ePn Pn 03 20 52.4 -1.7
AQU L'Aquila 10.81 54 eP Pn 03 20 52.4 -1.7
AQU L'Aquila 10.81 54 eP Pn 03 20 52.4 -1.7
LOR Lormes 10.86 8 ePn Pn 03 20 55.7 +0.9
baz=192
LOR Lormes 10.86 8 Pn Pn 03 20 55.7 +0.9
LOR Lormes 10.86 8 ePn Pn 03 20 55.7 +0.9
LOMF Lomont 11.49 18 eP Pn 03 21 02.5 -0.9
TUE Stuetta 11.50 28 ePn Pn 03 21 04.4 +0.8
TUE Stuetta 11.50 28 ePn Pn 03 21 04.4 +0.8
CUC Castrocucco 11.69 68 ePn Pn 03 21 04.7 -1.5
CUC Castrocucco 11.69 68 ePn Pn 03 21 04.7 -1.5
QUIF Quistinic 11.92 344 ePn Pn 03 21 08.6 -0.6
QUIF eSn Sn 03 23 13.9 -7.6
comp=Z,26nm,0.3s
QUIF Quistinic 11.92 344 Pn Pn 03 21 08.6 -0.6
QUIF Sn Sn 03 23 13.9 -7.6
comp=Z,13nm,0.3s
QUIF Quistinic 11.92 344 ePn Pn 03 21 08.6 -0.6
HINF Hinteralfeld 11.93 17 ePn Pn 03 21 08.1 -1.3
HINF eSn Sn 03 23 13.6 -8.4
comp=Z,8.1nm,0.4s
HINF Hinteralfeld 11.93 17 Pn Pn 03 21 08.1 -1.3
HINF Sn Sn 03 23 13.6 -8.4
comp=Z,4.1nm,0.4s
HINF Hinteralfeld 11.93 17 ePn Pn 03 21 08.1 -1.3
SFTF Sexfontaines 11.94 11 ePn Pn 03 21 09.9 +0.4
baz=180
SFTF Sexfontaines 11.94 11 Pn Pn 03 21 09.9 +0.4
SFTF Sexfontaines 11.94 11 ePn Pn 03 21 09.9 +0.4
FUORN Ofenpass-Fuorn 11.98 30 ePn Pn 03 21 12.2 +1.9
FUORN Ofenpass-Fuorn 11.98 30 ePn Pn 03 21 12.1 +1.9
GRR Gorron 11.99 352 ePn Pn 03 21 08.6 -1.6
GRR eSn Sn 03 23 14.9 -8.5
comp=Z,23nm,0.4s
GRR Gorron 11.99 352 Pn Pn 03 21 08.6 -1.6
GRR Sn Sn 03 23 14.9 -8.5
comp=Z,12nm,0.4s
GRR Gorron 11.99 352 ePn Pn 03 21 08.6 -1.6
GRR Gorron 11.99 352 eP Pn 03 21 09.6 -0.6
GRR Gorron 11.99 352 eP Pn 03 21 09.6 -0.6

HAU	Haudompre	11.99	15	ePn	Pn	03 21 09.5	-0.7		
HAU	Haudompre	11.99	15	Pn	Pn	03 21 09.5	-0.7		
HAU	Haudompre	11.99	15	ePn	Pn	03 21 09.5	-0.7		
HAU	Haudompre	11.99	15	eP	Pn	03 21 10.6	+0.4		
HAU	Haudompre	11.99	15	eP	Pn	03 21 10.6	+0.4		
MOF	Molkenrain	12.03	18	eP	Pn	03 21 09.9	-0.9		
SGMF	Saint Gilles	12.12	347	ePn	Pn	03 21 11.2	-0.7		
SGMF	Saint Gilles	12.12	347	Pn	Pn	03 21 11.2	-0.7		
SGMF	Saint Gilles	12.12	347	ePn	Pn	03 21 11.2	-0.7		
LDF	La Druitiere	12.13	355	ePn	Pn	03 21 10.6	-1.4		
LDF				eSn	Sn	03 23 17.2	-10		
	comp=Z,28nm,0.5s								
LDF	La Druitiere	12.13	355	ePn	Pn	03 21 10.6	-1.4		
LDF	La Druitiere	12.13	355	eP	Pn	03 21 11.1	-0.9		
LDF	La Druitiere	12.13	355	eP	Pn	03 21 11.1	-0.9		
THEF	They Montfort	12.13	14	eP	Pn	03 21 10.9	-1.2		
MEZF	Maizieres J'vi	12.23	11	ePn	Pn	03 21 13.1	-0.4		
	baz=187								
MEZF	Maizieres J'vi	12.23	11	Pn	Pn	03 21 13.1	-0.4		
MEZF	Maizieres J'vi	12.23	11	ePn	Pn	03 21 13.1	-0.4		
FELD	Feldberg im Sc	12.29	21	eP	Pn	03 21 12.4	-2.0		
FLN	La Foliniere	12.32	353	ePn	Pn	03 21 13.6	-1.1		
FLN				eSn	Sn	03 23 22.6	-8.9		
	comp=Z,49nm,0.4s								
FLN	La Foliniere	12.32	353	Pn	Pn	03 21 13.6	-1.1		
FLN				Sn	Sn	03 23 22.6	-8.9		
	comp=Z,25nm,0.4s								
FLN	La Foliniere	12.32	353	ePn	Pn	03 21 13.6	-1.1		
FLN	La Foliniere	12.32	353	eP	Pn	03 21 14.6	-0.1		
FLN	La Foliniere	12.32	353	eP	Pn	03 21 14.6	-0.1		
SLE	Schleitheim	12.33	22	P	Pn	03 21 14.3	-0.5		
	comp=Z,26nm,1.2s								
SLE	Schleitheim	12.33	22	P	Pn	03 21 14.3	-0.5		
SLE				pmax	pmax				
	comp=Z,26nm,1.2s								
ROSF	Rostrenen	12.34	345	ePn	Pn	03 21 13.9	-1.0		
ROSF	Rostrenen	12.34	345	Pn	Pn	03 21 13.9	-1.0		
ROSF	Rostrenen	12.34	345	ePn	Pn	03 21 13.9	-1.0		
ECH	Echery	12.38	18	ePn	Pn	03 21 14.3	-1.2		
ECH	Echery	12.38	18	eP	Pn	03 21 14.3	-1.2		
ECH	Echery	12.38	18	eP	Pn	03 21 14.3	-1.2		
DAVA	Damuels	12.38	27	P	Pn	03 21 17.9	+2.2		
	comp=Z,22nm,1.1s								
DAVA	Damuels	12.38	27	eP	Pn	03 21 17.9	+2.2		
	comp=Z,22nm,1.1s								
PAGF	Fort de Pagny	12.39	13	eP	Pn	03 21 19.6	+3.9		
FETA	Feichten	12.49	30	eP	Pn	03 21 19.9	+2.8		
	comp=Z,12nm,0.8s								
CDF	Champ du Feu	12.59	18	ePn	Pn	03 21 16.8	-1.6		
CDF	Champ du Feu	12.59	18	Pn	Pn	03 21 16.8	-1.6		
CDF	Champ du Feu	12.59	18	ePn	Pn	03 21 16.8	-1.6		
CDF	Champ du Feu	12.59	18	eP	Pn	03 21 17.7	-0.7		
CDF	Champ du Feu	12.59	18	eP	Pn	03 21 17.7	-0.7		
BFO	Black Forest	12.79	21	ePn	Pn	03 21 19.6	-1.5		
BFO				eSn	Sn	03 23 34.7	-8.2		
BFO	Black Forest	12.79	21	eP	Pn	03 21 19.6	-1.5		
BFO	Black Forest	12.79	21	eP	Pn	03 21 19.6	-1.5		
BFO				e		03 23 34.7			
RETA	Reutte	12.88	29	eP	Pn	03 21 25.1	+2.6		
	comp=Z,33nm,1.1s								
MOTA	Moosalm	12.90	30	P	Pn	03 21 25.2	+2.4		
	comp=Z,13nm,0.6s,SNR=9.9								
MOTA	Moosalm	12.90	30	eP	Pn	03 21 25.2	+2.4		
	comp=Z,13nm,0.6s,SNR=9.9								
ABTA	Abfaltersbach	13.05	35	P	Pn	03 21 26.3	+1.5		
	comp=Z,24nm,0.9s								
ABTA	Abfaltersbach	13.05	35	eP	Pn	03 21 26.3	+1.5		
	comp=Z,24nm,0.9s								
WTTA	Wattenberg	13.06	32	P	Pn	03 21 27.0	+2.1		
	comp=Z,16nm,0.9s								
WTTA	Wattenberg	13.06	32	eP	Pn	03 21 27.0	+2.1		
	comp=Z,16nm,0.9s								
WATA	Walderalm	13.09	31	*i* P	Pn	03 21 28.7	+3.4		
	comp=Z,10nm,0.7s								
MYKA	Terra Mystica	13.51	38	P	Pn	03 21 32.9	+1.9		
	comp=Z,28nm,1.0s								
MYKA	Terra Mystica	13.51	38	eP	Pn	03 21 32.9	+1.9		
	comp=Z,28nm,1.0s								
WLF	Walferdange	13.54	13	⇑P	Pn	03 21 35.4	+4.0		
WLF	Walferdange	13.54	13	ePn	Pn	03 21 30.6	-0.7		
WLF	Walferdange	13.54	13	eP	Pn	03 21 30.6	-0.7		
WLF	Walferdange	13.54	13	eP	Pn	03 21 30.6	-0.7		
BAIF	Baives	13.66	7	ePn	Pn	03 21 33.3	+0.4		
BAIF	Baives	13.66	7	Pn	Pn	03 21 33.3	+0.4		
BAIF	Baives	13.66	7	ePn	Pn	03 21 33.3	+0.4		
KBA	Koelnbreinsper	13.68	36	P	Pn	03 21 35.8	+2.3		
	comp=Z,24nm,0.8s								
KBA	Koelnbreinsper	13.68	36	eP	Pn	03 21 35.8	+2.3		
	comp=Z,24nm,0.8s								
KBA	Koelnbreinsper	13.68	36	P	Pn	03 21 37.2	+3.7		
DOU	Dourbes	13.73	8	⇓P	Pn	03 21 35.2	+1.2		
OBKA	Obir	13.89	40	eP	Pn	03 21 38.0	+1.8		
	comp=Z,26nm,1.0s								
TAM	Tamanrasset	14.10	165	ePn	Pn	03 21 36.3	-3.0		
TAM				eSn	Sn	03 24 10.6	-4.8		
TAM	Tamanrasset	14.10	165	ePn	Pn	03 21 36.3	-3.0		
TAM	Tamanrasset	14.10	165	eP	Pn	03 21 36.3	-3.0		
TAM				e		03 24 10.6			
SNF	Seneffe	14.11	7	⇑P	Pn	03 21 39.2	+0.2		
BCLA	Clavier	14.14	10	⇑P	Pn	03 21 41.8	+2.3		
SOKA	Soboth	14.25	40	eP	Pn	03 21 42.0	+0.9		
	comp=Z,21nm,0.8s,SNR=7.7								
MEM	Membach	14.43	11	⇓P	Pn	03 21 46.5	+3.1		
	comp=Z,19nm,0.9s								
MEM	Membach	14.43	11	eP	P	03 21 48.4	-1.8		
	comp=Z,30nm,0.9s								
MEM	Membach	14.43	11	eP	P	03 21 48.4	-1.8		
MEM				pmax	pmax				
	comp=Z,30nm,0.9s								
DYA	Yadsworthy	14.47	346	eP	Pn	03 21 41.1	-2.9		
DYA	Yadsworthy	14.47	346	eP	Pn	03 21 41.1	-2.9		
HGN	Heimansgroeve	14.57	11	eP	Pn	03 21 47.1	+1.8		
	comp=Z,21nm,1.1s								
HGN				eL	L	03 26 29.0			
	comp=Z,645nm,19.7s								
MOA	Molln	14.67	36	eP	Pn	03 21 47.8	+1.0		
	comp=Z,25nm,1.1s,SNR=6.7								
PDG	Podgorica	14.84	61	⇑*i* P	P	03 21 54.3	-0.5		
TTG	Podgorica	14.84	61	ePn	Pn	03 21 49.4	+0.3		
TTG	Podgorica	14.84	61	ePn	Pn	03 21 49.4	+0.3		
TTG	Podgorica	14.84	61	eP	Pn	03 21 49.4	+0.3		
SRN	Sarande	14.84	71	*i* PG	P	03 21 54.5	-0.3		
SRN				*i* SG		03 22 03.8			
ARSA	Arzberg	14.88	40	eP	Pn	03 21 50.6	+0.9		
	comp=Z,21nm,1.0s								
GRFO	Grafenberg	14.89	25	ePn	Pn	03 21 49.2	-0.6		
GRFO	Grafenberg	14.89	25	eP	Pn	03 21 49.2	-0.6		
GRF	Grafenberg Arr	14.89	25	P	Pn	03 21 49.8	0.0		
WOL	Wolverton	14.92	353	eP	Pn	03 21 49.0	-1.1		
WOL				IAmb	IAmb	03 21 51.9			
	comp=Z,689nm,2.0s								
WET	Wettzell	15.05	30	P	P	03 21 55.2	-2.0		
	comp=Z,10.0nm,0.9s								
WET	Wettzell	15.05	30	P	P	03 21 55.2	-2.0		
WET				pmax	pmax				
	comp=Z,10.0nm,0.9s								
GEA0	GERESS Array S	15.15	32	ePn	Pn	03 21 51.7	-1.7		
GEA0	GERESS Array S	15.15	32	ePn	Pn	03 21 51.7	-1.7		
GEC2	GERESS Array S	15.16	32	ePn	Pn	03 21 52.4	-1.0		
	comp=Z,23nm,1.1s								
GEC2				eSn	Sn	03 24 38.9	-1.9		
GEC2	GERESS Array S	15.16	32	ePn	Pn	03 21 52.4	-1.0		
	comp=Z,23nm,1.1s								
GEC2	GERESS Array S	15.16	32	eP	Pn	03 21 52.4	-1.0		
GEC2				e		03 24 38.9			
GEC2				pmax	pmax				
	comp=Z,23nm,1.1s								
GERES	GERESS Array B	15.16	32	Pn	Pn	03 21 51.4	-2.1		
	comp=Z,0.6nm,0.3s,baz=220,slow=12,SNR=24								
GERES				Sn	Sn	03 24 38.9	-1.9		
	comp=Z,0.3nm,0.3s,baz=234,slow=22,SNR=3.2								
GERES				LR	LR	03 27 26.8			
	comp=Z,562nm,19.2s,baz=244,slow=36								
BATH	Bath	15.18	351	eP	Pn	03 21 51.9	-1.6		
BATH	Bath	15.18	351	eP	Pn	03 21 51.9	-1.6		
SWN1	Swindon	15.18	352	eP	Pn	03 21 51.8	-1.8		
SWN1	Swindon	15.18	352	eP	Pn	03 21 51.8	-1.8		
SWN1				IAmb	IAmb	03 21 56.8			
	comp=Z,142nm,1.3s								
SKP1	Kophill	15.29	354	eP	Pn	03 21 53.5	-1.5		
KHC	Kasperske Hory	15.33	31	eP	Pn	03 21 54.5	-1.1		
KHC				epP	P	03 22 01.3	+1.0		
KHC				eS	Sn	03 24 40.8	-4.1		
KHC				AMS	AMS	03 30 20.0			
	comp=Z,1μm,8.1s								
KHC	Kasperske Hory	15.33	31	ePn	Pn	03 21 54.1	-1.5		
	comp=Z,8.2nm,0.9s								
KHC	Kasperske Hory	15.33	31	eP	Pn	03 21 54.1	-1.5		
	comp=Z,8.2nm,0.9s								
KHC	Kasperske Hory	15.33	31	eP	Pn	03 21 54.5	-1.1		
KHC				eS	Sn	03 24 40.8	-4.1		
KHC				MLR	MLR				
	comp=Z,1μm,8.1s								
OLDB	Oldbury-Upon-S	15.42	350	eP	Pn	03 21 54.5	-2.2		
OLDB	Oldbury-Upon-S	15.42	350	eP	Pn	03 21 54.5	-2.2		
OLDB				IAmb	IAmb	03 21 55.9			
	comp=Z,85nm,0.5s								
BBLS	Lazići	15.43	56	eP	P	03 22 01.4	-0.1		
STRD	Stroud	15.48	351	eP	Pn	03 21 55.5	-2.0		
STRD				IAmb	IAmb	03 21 56.7			
	comp=Z,68nm,0.6s								
CONA	Conrad Observa	15.50	38	ePn	Pn	03 21 58.2	+0.3		
	comp=Z,37nm,1.2s,SNR=11								
SSW	Stow on the Wo	15.63	352	eP	Pn	03 21 57.8	-1.7		
OHR	Ohrid	15.63	67	eP	Pn	03 21 58.2	-1.5		
SOP	Sopron	15.70	40	P	P	03 22 03.1	-1.2		
	comp=Z,20nm,0.9s								
SOP	Sopron	15.70	40	P	P	03 22 03.1	-1.2		
SOP				pmax	pmax				
	comp=Z,20nm,0.9s								
NKC	Novy Kostel	15.78	26	eP	P	03 22 05.1	-0.1		
NKC				AMS	AMS	03 28 00.0			
	comp=Z,900nm,14.6s								
NKC	Novy Kostel	15.78	26	eP	P	03 22 05.1	-0.1		
	comp=Z,900nm,14.6s								
NKC	Novy Kostel	15.78	26	eP	P	03 22 05.1	-0.1		
NKC				MLR	MLR				
	comp=Z,900nm,14.6s								
TEKS	Tekeris	15.78	54	⇑*i* P	P	03 22 05.2	-0.1		
MCH1	Michaelchurch	15.81	349	eP	Pn	03 22 00.4	-1.4		
MCH1				IAmb	IAmb	03 22 05.6			
	comp=Z,17nm,0.8s								
WTSB	Winterswijk	15.87	12	eP	P	03 22 09.8	+3.7		
	comp=Z,17nm,0.7s								
DIVS	Divibare	15.91	56	ePn	Pn	03 22 04.1	+0.9		
	comp=Z,29nm,1.1s								
DIVS	Divibare	15.91	56	ePn	Pn	03 22 04.1	+0.9		
	comp=Z,29nm,1.1s								
DIVS	Divibare	15.91	56	eP	Pn	03 22 04.4	+1.2		
MORH	M¨‡r¨gy, Hung	16.01	48	⇓ePn	Pn	03 22 02.6	-1.7		
BIA	Bitola	16.01	68	*i* P	Pn	03 22 03.0	-1.5		
FNA	Florina	16.01	69	ePn	Pn	03 22 04.2	-0.3		
	comp=Z,35nm,1.4s								
FNA	Florina	16.01	69	ePn	Pn	03 22 04.2	-0.3		
	comp=Z,35nm,1.4s								
FNA	Florina	16.01	69	eP	Pn	03 22 04.2	-0.3		
FNA				pmax	pmax				
	comp=Z,35nm,1.4s								
KRUS	Krusevo	16.02	66	*i* P	Pn	03 22 02.4	-2.2		
LPW	Lampeter	16.10	347	eP	Pn	03 22 05.4	-0.1		
LPW	Lampeter	16.10	347	eP	Pn	03 22 05.4	-0.1		
TRUS	Trudelj	16.23	56	eP	P	03 22 10.7	+0.4		
ANX	Ano Chora	16.24	77	P	Pn	03 22 06.5	-1.0		
ITM	Ithomi	16.28	82	ePn	Pn	03 22 06.2	-1.7		
	comp=Z,54nm,1.1s								
ITM	Ithomi	16.28	82	ePn	Pn	03 22 06.2	-1.7		
	comp=Z,54nm,1.1s								
TREC	Trest	16.28	34	eP	Pn	03 22 08.5	+0.6		
TREC				epP	P	03 22 10.9	+0.1		
TREC				AMS	AMS	03 30 10.0			
	comp=Z,1μm,11.0s								
TREC	Trest	16.28	34	eP	Pn	03 22 08.5	+0.6		
	comp=Z,1μm,11.0s								
TREC	Trest	16.28	34	eP	Pn	03 22 08.5	+0.6		
TREC				MLR	MLR				
	comp=Z,1μm,11.0s								
SKO	Skopje	16.28	64	*i* P	Pn	03 22 09.6	+1.7		
HLM1	Long Mynd	16.30	350	eP	Pn	03 22 06.3	-1.8		
PRU	Pruhonice	16.39	31	eP	Pn	03 22 08.9	-0.3		
PRU				*ex*	x	03 22 11.0			
PRU				AMS	AMS	03 30 10.0			
	comp=Z,1μm,11.8s								
PRU	Pruhonice	16.39	31	eP	Pn	03 22 08.9	-0.3		
PRU				MLR	MLR				
	comp=Z,1μm,11.8s								
PRA	Prague	16.41	30	eP	Pn	03 22 09.4	-0.1		
PRA				AMS	AMS	03 30 30.0			
	comp=Z,2μm,8.6s								
PRA	Prague	16.41	30	eP	Pn	03 22 09.4	-0.1		
PRA				MLR	MLR				
	comp=Z,2μm,8.6s								
GOPC	GO Pecny, Ondr	16.43	31	eP	Pn	03 22 09.2	-0.6		
GOPC				AMS	AMS	03 30 20.0			
	comp=Z,800nm,9.7s								
GOPC	GO Pecny, Ondr	16.43	31	eP	Pn	03 22 09.2	-0.6		
GOPC				MLR	MLR				
	comp=Z,800nm,9.7s								
MODS	Modra-Piesok	16.51	39	eP	Pn	03 22 11.6	+0.8		
	comp=Z,93nm,2.0s								
MODS	Modra-Piesok	16.51	39	eP	Pn	03 22 11.6	+0.8		
MODS	Modra-Piesok	16.51	39	eP	Pn	03 22 11.6	+0.8		
MODS				pmax	pmax				
	comp=Z,93nm,2.0s								
AGG	Agios Georgios	16.57	75	ePn	Pn	03 22 11.3	-0.3		
	comp=Z,70nm,1.0s								
AGG	Agios Georgios	16.57	75	P	Pn	03 22 10.0	-1.6		
AGG	Agios Georgios	16.57	75	ePn	Pn	03 22 11.4	-0.3		
	comp=Z,70nm,1.0s								
AGG	Agios Georgios	16.57	75	eP	Pn	03 22 11.4	-0.3		
AGG				pmax	pmax				
	comp=Z,70nm,1.0s								
GUR	Goura	16.57	79	P	P	03 22 15.0	+0.8		
GUR	Goura	16.57	79	P	P	03 22 15.0	+0.8		
GUR	Goura	16.57	79	P	P	03 22 15.0	+0.8		
FOEL	Foel Wylfa	16.71	350	eP	Pn	03 22 11.2	-2.1		
FOEL	Foel Wylfa	16.71	350	eP	Pn	03 22 11.2	-2.1		
FOEL				IAmb	IAmb	03 22 12.7			
	comp=Z,29nm,0.7s								
BARS	Barje	16.76	62	⇓*i* P	P	03 22 15.9	-0.2		
LIT	Litokhoron	16.77	71	ePn	Pn	03 22 12.1	-2.0		
	comp=Z,19nm,1.0s								
LIT	Litokhoron	16.77	71	ePn	Pn	03 22 12.1	-2.0		
	comp=Z,19nm,1.0s								
LIT	Litokhoron	16.77	71	eP	Pn	03 22 12.1	-2.0		
LIT				pmax	pmax				
	comp=Z,19nm,1.0s								
VRAC	Vranov	16.80	36	Pn	Pn	03 22 14.0	-0.5		
	baz=223,slow=12,SNR=4.6								
VRAC				LR	LR	03 28 08.3			
	comp=Z,765nm,21.3s,baz=240,slow=35								
VRAC	Vranov	16.80	36	⇓*i* P	Pn	03 22 14.3	-0.2		
VRAC	Vranov	16.80	36	P	Pn	03 22 14.0	-0.5		
	comp=Z,765nm,21.3s								
VRAC	Vranov	16.80	36	P	Pn	03 22 14.0	-0.5		
VRAC				MLR	MLR				
	comp=Z,765nm,21.3s								
PVCC	Panska Ves	16.82	30	AMS	AMS	03 30 30.0			
	comp=Z,900nm,8.6s								
BRG	Berggiesshubel	16.85	28	eP	P	03 22 17.4	+0.3		
	comp=Z,11nm,1.1s								
BRG				*i*		03 22 19.1			
	comp=Z,11nm,0.9s								
BRG				S	Sn	03 25 12.0	-10		
	comp=N,905nm,9.4s								
	comp=E,1μm,11.7s								
	comp=Z,1μm,11.1s								
BRG	Berggiesshubel	16.85	28	eP	P	03 22 17.4	+0.3		
	comp=Z,11nm,1.1s								
BRG	Berggiesshubel	16.85	28	eP	P	03 22 17.4	+0.3		
BRG				S	Sn	03 25 12.0	-10		
BRG				pmax	pmax				
	comp=Z,11nm,1.1s								
BRG				MLR	MLR				
	comp=N,905nm,9.4s								
BRG				MLR	MLR				
	comp=E,1μm,11.7s								
BRG				MLR	MLR				
	comp=Z,1μm,11.1s								
CLL	Collm	16.87	25	eP	Pn	03 22 16.0	+0.7		
CLL				*i* sP	P	03 22 19.8	+2.5		
	comp=Z,71nm,2.1s								
CLL				e(PP)		03 22 27.0			
CLL				eS	Sn	03 25 26.0	+3.8		
CLL				LmV		03 27 00.0			
	comp=N,1μm,18.3s								
CLL				LmV		03 27 00.0			
	comp=E,900nm,19.9s								
CLL				LmV		03 27 00.0			
	comp=Z,600nm,20.9s								
CLL				Lmax		03 30 00.0			
CLL	Collm	16.87	25	ePn	Pn	03 22 15.1	-0.2		
	comp=Z,21nm,1.5s								
CLL	Collm	16.87	25	ePn	Pn	03 22 15.1	-0.2		
	comp=Z,21nm,1.5s								
CLL	Collm	16.87	25	eP	Pn	03 22 16.0	+0.7		
CLL	Collm	16.87	25	eP	Pn	03 22 16.0	+0.7		
CLL				eS	Sn	03 25 26.0	+3.8		
CLL				MLR	MLR				
	comp=Z,600nm,20.9s								
BUD	Budapest	16.91	44	P	P	03 22 20.5	+2.7		
BOVS	Bovan	16.92	59	⇓*i* P	Pn	03 22 15.6	-0.3		
VAY	Valandovo	16.99	67	*i* P	Pn	03 22 15.1	-1.8		
LBWR	Ladybower, Pea	17.04	353	eP	Pn	03 22 15.2	-2.2		
LBWR	Ladybower, Pea	17.04	353	eP	Pn	03 22 15.2	-2.2		
KNT	Kendrikon	17.21	68	P	Pn	03 22 13.5	-6.1		
KNT	Kendrikon	17.21	68	P	Pn	03 22 13.5	-6.1		
KNT	Kendrikon	17.21	68	P	Pn	03 22 13.5	-6.1		
ZAGS	Zajecar	17.33	59	⇑*i* P	Pn	03 22 20.4	-0.8		
VYHS	Vyhne	17.39	41	eP	Pn	03 22 22.3	+0.3		
	comp=Z,74nm,2.6s								
VYHS	Vyhne	17.39	41	eP	Pn	03 22 22.2	+0.3		
VYHS	Vyhne	17.39	41	eP	Pn	03 22 22.3	+0.3		
VYHS				pmax	pmax				
	comp=Z,74nm,2.6s								
UPC	Upice	17.40	32	eP	Pn	03 22 21.5	-0.5		
UPC				AMS	AMS	03 30 40.0			
	comp=Z,800nm,10.7s								
UPC	Upice	17.40	32	eP	Pn	03 22 21.5	-0.5		
	comp=Z,800nm,10.7s								
UPC	Upice	17.40	32	eP	Pn	03 22 21.5	-0.5		
UPC				MLR	MLR				
	comp=Z,800nm,10.7s								
DPC	Dobruska-Polom	17.42	33	eP	Pn	03 22 21.5	-0.7		
DPC				epP	P	03 22 23.9	+0.5		
DPC				eSP	sP	03 22 30.3	-0.7		
DPC				AMS	AMS	03 29 20.0			
	comp=Z,900nm,14.8s								
DPC	Dobruska-Polom	17.42	33	eP	Pn	03 22 21.5	-0.7		
	comp=Z,900nm,14.8s								
DPC	Dobruska-Polom	17.42	33	eP	Pn	03 22 21.5	-0.7		
DPC				MLR	MLR				
	comp=Z,900nm,14.8s								
KRLC	Kraliky	17.43	34	eP	P	03 22 25.5	+2.0		
KRLC	Kraliky	17.43	34	eP	P	03 22 25.5	+2.0		
KRLC	Kraliky	17.43	34	eP	P	03 22 25.5	+2.0		
ZAPS	Zavoj	17.46	61	eP	Pn	03 22 22.6	-0.2		
KKB	Krupnik	17.46	66	*i* P	Pn	03 22 22.4	-0.4		
SOH	Sokhos	17.50	69	P	Pn	03 22 22.9	-0.4		
SOH	Sokhos	17.50	69	P	Pn	03 22 22.9	-0.4		
BZS	Buzias	17.57	53	⇑*i* P	Pn	03 22 23.9	-0.2		
MORC	Moravsky Berou	17.57	36	⇑*i* P	Pn	03 22 23.6	-0.5		
MORC	Moravsky Berou	17.57	36	ePn	Pn	03 22 23.7	-0.5		
	comp=Z,80nm,1.0s								
MORC	Moravsky Berou	17.57	36	eP	Pn	03 22 23.7	-0.5		
	comp=Z,80nm,1.0s								
MORC	Moravsky Berou	17.57	36	eP	Pn	03 22 23.7	-0.5		
MORC				pmax	pmax				
	comp=Z,80nm,1.0s								
HPK	Haverah Park	17.58	354	eP	Pn	03 22 22.7	-1.4		
HPK	Haverah Park	17.58	354	eP	Pn	03 22 22.7	-1.4		
DSB	Dublin	17.63	344	ePn	P	03 22 25.4	-0.2		
	comp=Z,29nm,1.1s								
DSB	Dublin	17.63	344	ePn	P	03 22 25.5	-0.2		
	comp=Z,29nm,1.1s								
PSZ	Piszkesteto	17.64	44	⇑*i* P	Pn	03 22 25.2	+0.2		
PSZ	Piszkesteto	17.64	44	⇓ePn	P	03 22 25.8	-0.1		
PSZ	Piszkesteto	17.64	44	ePn	Pn	03 22 25.4	+0.4		
	comp=Z,35nm,1.1s								
PSZ	Piszkesteto	17.64	44	eP	Pn	03 22 25.4	+0.4		
	comp=Z,35nm,1.1s								
PSZ	Piszkesteto	17.64	44	eP	Pn	03 22 25.4	+0.4		
PSZ				pmax	pmax				
	comp=Z,35nm,1.1s								
VTS	Vitosha	17.70	63	⇓*i* P	Pn	03 22 24.5	-1.4		
VTS	Vitosha	17.70	63	ePn	Pn	03 22 25.0	-0.9		
	comp=Z,16nm,1.0s								
VTS	Vitosha	17.70	63	*i* P	Pn	03 22 24.0	-1.9		
VTS	Vitosha	17.70	63	P	Pn	03 22 24.4	-1.4		
VTS	Vitosha	17.70	63	eP	Pn	03 22 25.0	-0.9		
	comp=Z,16nm,1.0s								
VTS	Vitosha	17.70	63	eP	Pn	03 22 25.0	-0.9		
VTS				pmax	pmax				
	comp=Z,16nm,1.0s								
SRS	Serrai	17.72	68	P	Pn	03 22 25.5	-

STHS *e* 03 22 54.7
STHS Stebnicka Huta 19.22 42 *e*P **Pn 03 22 44.7 +0.4**
STHS pmax pmax
comp=Z,15nm,1.1s
TRPA Tarpa 19.27 46⇑ *i*P **P 03 22 44.0 +0.3**
TRPA Tarpa 19.27 46⇓ *e*P **Pn 03 22 44.7 0.0**
TRPA Tarpa 19.27 46⇓ *e*P **Pn 03 22 44.7 0.0**
UZH Uzhgorod 19.38 45 *e*P **P 03 22 43.9 -1.0**
UZH Uzhgorod 19.38 45 *e*P **P 03 22 43.9 -1.0**
UZH *e*S **Sn 03 26 15.7 -7.1**
UZH MLR MLR
comp=Z,500nm,13.0s
LAST Lasithi 19.39 87 P **P 03 22 45.5 +0.2**
LAST Lasithi 19.39 87 P **P 03 22 45.5 +0.2**
LAST Lasithi 19.39 87 P **P 03 22 45.5 +0.2**
ARR Arges 19.45 56⇓ *i*P **P 03 22 46.6 +0.7**
ALN Alexandroupoli 19.54 70 *e*P **Pn 03 22 48.1 0.0**
comp=Z,17nm,1.3s
ALN Alexandroupoli 19.54 70 *e*P **Pn 03 22 48.1 0.0**
comp=Z,17nm,1.3s
ALN Alexandroupoli 19.54 70 *e*P **Pn 03 22 48.1 0.0**
ALN pmax pmax
comp=Z,17nm,1.3s
VOIR 19.75 56⇑ *i*P **P 03 22 49.9 +0.7**
BAYC CANAKKALE_Bayr 19.86 73 *i* P **P 03 22 49.5 -0.8**
URLA Izmir 19.91 77 *i* P **P 03 22 50.1 -0.8**
ZKR Zakros 19.99 87 P **P 03 22 52.7 +0.9**
ZKR Zakros 19.99 87 P **P 03 22 52.7 +0.9**
ZKR Zakros 19.99 87 P **P 03 22 52.7 +0.9**
GKP Gorka Klasztor 19.99 28 *e*P **Pn 03 22 53.6 +0.3**
GKP Gorka Klasztor 19.99 28 *e*P **Pn 03 22 53.6 +0.3**
JMB Yambol 20.13 65 *i* P **P 03 22 52.2 -1.0**
KWP Kalwaria Pacla 20.14 43 *e*P Pn 03 22 54.5 -0.6
KWP Kalwaria Pacla 20.14 43 *e*P **P 03 22 53.6 +0.4**
comp=Z,484nm,1.1s
KWP Kalwaria Pacla 20.14 43 *e*P **P 03 22 53.6 +0.4**
comp=Z,484nm,1.1s
KWP Kalwaria Pacla 20.14 43 *e*P Pn 03 22 54.5 -0.6
SMG Samos 20.14 79 P **P 03 22 53.0 -0.3**
SMG Samos 20.14 79 P **P 03 22 53.0 -0.3**
SMG Samos 20.14 79 P **P 03 22 53.0 -0.3**
DGB ˙zmir 20.15 78 *i* P **P 03 22 53.1 -0.3**
DOPR Dopca 20.15 55⇓ *i*P **P 03 22 53.5 +0.1**
SECR 20.32 58⇓ *i*P **P 03 22 56.5 +1.3**
MLR Muntele Rosu 20.37 56 P **P 03 22 57.0 +1.1**
comp=Z,6.5nm,0.7s,baz=289,slow=5.7
MLR S Sn 03 26 48.6 +1.6
comp=Z,0.1nm,0.7s,baz=217,slow=20,SNR=1.4
MLR LR LR 03 31 21.0
comp=Z,229nm,18.9s,baz=261,slow=38
MLR Muntele Rosu 20.37 56⇑ *i*P **P 03 22 56.2 +0.3**
MLR Muntele Rosu 20.37 56 *e*P **P 03 22 56.0 +0.1**
comp=Z,42nm,0.9s
MLR *e*S Sn 03 26 48.6 +1.6
MLR Muntele Rosu 20.37 56 *e*P **P 03 22 56.0 +0.1**
comp=Z,42nm,0.9s
NISR Nisiros 20.48 82 P **P 03 22 56.3 -0.7**
NISR Nisiros 20.48 82 P **P 03 22 56.3 -0.7**
NISR Nisiros 20.48 82 P **P 03 22 56.3 -0.7**
BODT Bodrum 20.57 81 P **P 03 22 56.9 -1.2**
BODT Bodrum 20.57 81 P **P 03 22 56.9 -1.2**
BODT Bodrum 20.57 81 P **P 03 22 56.9 -1.2**
BUR04 Bucovina Ar. S 20.65 50 *e*P **P 03 22 59.4 +0.5**
BUR04 Bucovina Ar. S 20.65 50 *e*P **P 03 22 59.4 +0.5**
BURAR Bucovina Array 20.65 50⇓ *i*P **P 03 22 59.5 +0.5**
BURAR Bucovina Array 20.65 50 P **P 03 22 59.4 +0.5**
BUR08 Bucovina Ar. S 20.65 50 *e*P **P 03 23 00.1 +1.2**
BUR08 Bucovina Ar. S 20.65 50 *e*P **P 03 23 00.1 +1.2**
KARP Karpathos 20.67 85 *e*P **P 03 22 58.8 -0.4**
comp=Z,15nm,0.8s
KARP Karpathos 20.67 85 P **P 03 22 59.1 -0.1**
KARP Karpathos 20.67 85 *e*P **P 03 22 58.8 -0.4**
comp=Z,15nm,0.8s
BDRM Kayabasi 20.68 81 *i* P **P 03 22 59.4 +0.2**
PRD Provadia 20.84 63 *i* P **P 03 23 00.7 -0.2**
PLOR Plostina 20.95 56⇑ *i*P **P 03 23 02.5 +0.4**
LVV L'vov 20.96 44 *e*P Pn 03 23 06.8 +1.0
LVV *e* 03 23 20.3
LVV *e*S **S 03 26 56.6 +1.7**
LVV *e*SS **SnSn 03 27 26.6 +11**
LVV MLR MLR
comp=N,300nm,13.0s
LVV MLR MLR
comp=E,300nm,13.0s
LVV MLR MLR
comp=Z,500nm,14.0s
AYDN Tasoluk 20.97 79 *i* P **P 03 23 03.0 +0.7**
VRI Vrincioaia 21.00 56⇑ *i*P **P 03 23 03.0 +0.3**
ODBI Odobesti 21.19 56⇓ *i*P **P 03 23 06.1 +1.4**
ARG Arkhangelos 21.33 83 P **P 03 23 04.2 -2.1**
ARG Arkhangelos 21.33 83 P **P 03 23 04.2 -2.1**
ARG Arkhangelos 21.33 83 P **P 03 23 04.2 -2.1**
ARG Arkhangelos 21.33 83 P **P 03 23 04.2 -2.1**
YER Yerkesik 21.34 80 P **P 03 23 06.2 -0.2**
YER Yerkesik 21.34 80 P **P 03 23 06.2 -0.2**
YER Yerkesik 21.34 80 P **P 03 23 06.2 -0.2**
YER Yerkesik 21.34 80 P **P 03 23 06.2 -0.2**
DURS Dursunbey 21.34 74 *i* P **P 03 23 06.2 -0.3**
HARR Harsova 21.51 60⇓ *i*P **P 03 23 07.9 -0.2**
CFR Carcaliu 21.77 58⇓ *i*P **P 03 23 09.9 -0.9**
TIRR Tirgusor 21.80 60⇑ *i*P **P 03 23 10.8 -0.4**
TIRR Tirgusor 21.80 60 *e*P **P 03 23 12.3 +1.1**
comp=Z,21nm,0.9s
TIRR Tirgusor 21.80 60 *e*P **P 03 23 12.3 +1.1**
comp=Z,21nm,0.9s
TIRR Tirgusor 21.80 60 *e*P **P 03 23 12.3 +1.1**
TIRR pmax pmax
comp=Z,21nm,0.9s
TAVA DENIZLI_Tavas 21.80 79 *i* P **P 03 23 11.2 -0.2**
FETY Fethiye 22.04 81 P P 03 23 06.8 -7.1
FETY Fethiye 22.04 81 P P 03 23 06.8 -7.1
FETY Fethiye 22.04 81 P **P 03 23 12.0 -1.9**
KLNR Kaliningrad 22.16 29*de*P **P 03 23 14.5 -0.4**
KLNR pmax pmax
comp=Z,62nm,0.8s
KHAL Karahalli 22.18 77 *i* P **P 03 23 15.8 +0.4**
LEOM Leova 22.19 55⇑ *i*P **P 03 23 14.7 -0.7**
KOWA Kowa 22.51 194 P **P 03 23 17.9 -1.0**
comp=Z,15nm,0.9s,baz=15,slow=9.5,SNR=27
KOWA S **S 03 27 19.1 -6.1**
comp=Z,4.3nm,0.9s,baz=11,slow=19,SNR=3.4
KOWA Lg Lg 03 30 18.7
comp=Z,6.3nm,1.1s,baz=14,slow=19,SNR=2.0
KOWA LR LR 03 33 13.1
comp=Z,800nm,18.1s,baz=20,slow=40
KSL Kastellorizon 22.51 83 P **P 03 23 17.9 -1.0**
KSL Kastellorizon 22.51 83 P **P 03 23 17.9 -1.0**
KSL Kastellorizon 22.51 83 P **P 03 23 17.9 -1.0**
AKAS Kas 22.51 82 *i* P **P 03 23 18.9 -0.2**
KIS Kishinev 22.72 54 *e*P **P 03 23 18.0 -3.1**
KIS Kishinev 22.72 54 *e*PP **PnPn 03 23 51.0 +6.0**
KIS *e*S **S 03 27 30.0 +1.3**
KIS *e*L L 03 30 00.0
KIS LRM MLR 03 32 40.0
comp=Z,800nm,16.0s
SORM Soroca 22.80 51⇓ *i*P **P 03 23 19.6 -2.3**
SORM Soroca 22.80 51 P **P 03 23 19.5 -2.3**
SORM Soroca 22.80 51 P **P 03 23 19.5 -2.3**
SUW Suwalki 23.00 34 *e*P **P 03 23 22.5 -1.4**
SUW Suwalki 23.00 34 *e*P **P 03 23 22.8 -1.1**
comp=Z,92nm,0.9s
SUW Suwalki 23.00 34 *e*P **P 03 23 22.8 -1.1**
comp=Z,92nm,0.9s
SUW Suwalki 23.00 34 *e*P **P 03 23 22.8 -1.1**
SUW pmax pmax
comp=Z,92nm,0.9s
ISP Isparta 23.04 78 *e*P **P 03 23 24.8 +0.3**
comp=Z,13nm,0.8s
ISP Isparta 23.04 78*de*P **P 03 23 24.8 +0.3**
ISP pmax pmax
comp=Z,13nm,0.8s
TOA1 Torodi Ar. Sit 23.27 180 *e*P **P 03 23 26.4 -0.6**
TOA1 *e*S **S 03 27 35.4 -3.0**
TOA0 Torodi Ar. Sit 23.28 180 *e*P **P 03 23 27.2 +0.2**
TORD Torodi Ar. Bea 23.28 180 P **P 03 23 26.4 -0.6**
comp=Z,11nm,0.9s,baz=357,slow=9.8,SNR=54
TORD S **S 03 27 35.4 -3.1**
comp=Z,3.1nm,1.1s,baz=359,slow=20,SNR=2.9
TORD Lg Lg 03 30 33.5
comp=Z,2.0nm,0.9s,baz=46,slow=26,SNR=3.1
TORD LR LR 03 32 24.0
comp=Z,387nm,19.2s,baz=355,slow=36
KONO Kongsberg 23.71 10⇑ *e*P **P 03 23 32.8 +1.9**
KONO pmax pmax
comp=Z,26nm,1.3s
AK11 Malin Array Si 24.28 46 *e*P **P 03 23 33.2 -3.1**
KIEV Kiev 24.31 46 *e*P **P 03 23 34.1 -2.4**
comp=Z,22nm,1.0s
KIEV Kiev 24.31 46 *e*P **P 03 23 34.2 -2.4**
comp=Z,22nm,1.0s
KIEV Kiev 24.31 46*c i*P **P 03 23 34.1 -2.4**
KIEV pmax pmax
comp=Z,36nm,1.4s
AKASG Malin Array Be 24.32 46 P **P 03 23 34.1 -2.6**
comp=Z,8.2nm,0.7s,baz=244,slow=9.6,SNR=16
AKASG LR LR 03 32 42.9
comp=Z,110nm,21.4s,baz=245,slow=36
AKBB Malin Array Si 24.32 46 *e*P **P 03 23 34.3 -2.4**
comp=Z,21nm,0.9s
AKBB Malin Array Si 24.32 46 *e*P **P 03 23 34.3 -2.4**
AKBB pmax pmax
comp=Z,21nm,0.9s
ANTO Ankara 24.67 73 *e*P **P 03 23 38.6 -1.4**
comp=Z,15nm,0.9s
ANTO Ankara 24.67 73 *e*P **P 03 23 38.6 -1.4**
comp=Z,15nm,0.9s
ANTO Ankara 24.67 73 *e*P **P 03 23 38.6 -1.4**
ANTO pmax pmax
comp=Z,15nm,0.9s
HFS Hagfors 24.87 14 P **P 03 23 40.7 -0.9**
comp=Z,5.2nm,0.6s,baz=188,slow=9.0,SNR=17
HFS LR LR 03 32 59.7
comp=Z,180nm,18.5s,baz=204,slow=36
NC602 NORSAR Array S 25.04 12 *e*P **P 03 23 43.4 +0.3**
NAO01 NORSAR Array S 25.04 11 *e*P **P 03 23 43.5 +0.3**
ALFC Alefka 25.11 84 P **P 03 23 45.4 +1.4**
NACGM Naroch 25.20 35 *e* **P 03 23 43.0 -1.6**
NACGM *e*LQ LQ 03 32 20.0
NACGM *e*LR LR 03 35 40.0
NBO00 NORSAR Array S 25.21 10 *e*P **P 03 23 46.5 +1.9**
IIGN Ignalina 25.22 34 *e*P **P 03 23 44.4 -0.3**
IIGN IAmb IAmb 03 23 48.2
comp=Z,18nm,1.1s
NB2 NORSAR Subarra 25.28 11 P **P 03 23 45.5 +0.2**
comp=Z,7.3nm,0.8s,baz=198,slow=9.3
NB2 NORSAR Subarra 25.28 11 P **P 03 23 43.0 -2.3**
NB2 pmax pmax
comp=Z,3.0nm,0.6s
NB200 NORSAR Array S 25.28 11 *e*P **P 03 23 45.3 0.0**
NOA NORSAR Array B 25.28 11 P **P 03 23 45.3 0.0**
comp=Z,3.0nm,0.6s,baz=197,slow=10,SNR=19
NOA LR LR 03 33 54.1
comp=Z,148nm,18.1s,baz=200,slow=37
NB201 NORSAR Array S 25.30 11 *e*P **P 03 23 44.5 -1.0**
BR101 Keskin Array S 25.32 73 *e*P **P 03 23 45.2 -0.9**
BR101 Keskin Array S 25.32 73 *e*P **P 03 23 45.2 -0.9**
BR131 Keskin Array S 25.32 73 *e*P **P 03 23 45.5 -0.6**
BR131 Keskin Array S 25.32 73 *e*P **P 03 23 45.5 -0.6**
BRTR Keskin Array B 25.32 73 P **P 03 23 45.2 -0.9**
comp=Z,4.2nm,0.8s,baz=266,slow=7.1,SNR=25
ILGA Ilgaz 25.35 70 *e*P **P 03 23 46.4 0.0**
comp=Z,18nm,0.9s
ILGA Ilgaz 25.35 70 *e*P **P 03 23 46.3 0.0**
comp=Z,18nm,0.9s
SZAC Souni 25.42 85 P **P 03 23 47.7 +0.8**
IDID Didziasalis 25.43 34 *e*P **P 03 23 46.3 -0.4**
IDID IAmb IAmb 03 23 50.0
comp=Z,9.3nm,1.0s
NC405 NORSAR Array S 25.43 11 *e*P **P 03 23 45.9 -0.8**
IZAR Zarasai 25.48 33 *e*P **P 03 23 46.8 -0.2**
IZAR IAmb IAmb 03 23 50.8
comp=Z,12nm,1.1s
NC303 NORSAR Array S 25.48 11 *e*P **P 03 23 49.2 +2.1**
MAMC Mammari 25.60 84 P **P 03 23 48.9 +0.5**
CSS Mathiatis 25.73 84 *e*P **P 03 23 50.4 +0.7**
comp=Z,6.6nm,0.9s
CSS Mathiatis 25.73 84 P **P 03 23 50.2 +0.5**
CSS Mathiatis 25.73 84 *e*P **P 03 23 50.4 +0.7**
comp=Z,6.6nm,0.9s
SIM Simferopol' 25.89 61 P **P 03 23 50.0 -1.0**
comp=Z,12nm,0.9s
SIM Simferopol' 25.89 61 P **P 03 23 50.0 -1.0**
SIM S **S 03 28 24.7 +4.7**
SIM pmax pmax
comp=Z,12nm,0.9s
SIM MLR MLR
comp=Z,340nm,14.0s
VSU Vasula 27.44 29⇓ *e*P **P 03 24 03.9 -0.9**
VSU pmax pmax
comp=Z,72nm,1.8s
MMAI Mount Meron Ar 27.89 87 P **P 03 24 10.4 +1.1**
comp=Z,1.0nm,0.2s,baz=107,slow=4.5,SNR=4.5
MMAI LR LR 03 37 36.4
comp=Z,158nm,21.1s,baz=255,slow=42
ANN Anapa 28.22 62 *e*P **P 03 24 08.4 -3.5**
ANN pmax pmax
comp=Z,56nm,1.6s
ANN MLR MLR
comp=Z,459nm,15.0s
EIL Elat 28.66 94 P **P 03 24 14.6 -1.4**
comp=Z,3.8nm,0.7s,baz=352,slow=7.1,SNR=2.4
EIL LR LR 03 38 18.5
comp=Z,222nm,18.9s,baz=298,slow=42
FIA0 FINESS Array S 29.31 24 *e*P **P 03 24 20.5 -0.9**
FIA0 FINESS Array S 29.31 24 *e*P **P 03 24 20.5 -0.9**
FINES FINESS Array B 29.31 24 P **P 03 24 20.5 -0.9**
comp=Z,4.3nm,0.6s,baz=210,slow=6.5,SNR=21
FINES LR LR 03 35 43.2
comp=Z,273nm,18.8s,baz=224,slow=36
FIA1 FINESS Array S 29.31 24 *e*P **P 03 24 20.7 -0.7**
ASF Jabal al Asfar 29.35 88 P **P 03 24 23.3 +1.1**
comp=Z,1.6nm,0.6s,baz=254,slow=7.4,SNR=3.6
PUL Pulkovo 29.70 29⇑ *e*P **P 03 24 25.9 +1.1**
OBN Obninsk 30.19 41 LR LR 03 37 16.4
comp=Z,517nm,20.2s,baz=258,slow=38
OBN Obninsk 30.19 41⇓ *e*P **P 03 24 28.9 -0.4**
OBN *e* 03 25 23.8
OBN *i*S **S 03 29 20.3 -7.2**
OBN pmax pmax
comp=Z,27nm,1.7s
OBN MLR MLR
comp=Z,386nm,15.0s
DBIC Dimbokro 30.30 193 P **P 03 24 30.1 -0.5**
comp=Z,3.6nm,0.6s,baz=354,slow=11,SNR=11
DBIC LR LR 03 37 02.9
comp=Z,388nm,18.6s,baz=357,slow=37
DBIC Dimbokro 30.30 193 *e*P **P 03 24 30.1 -0.5**
comp=Z,16nm,1.3s
TIC Toumodi 30.36 193 *e*P **P 03 24 30.4 -0.7**
VSR Storozhevoye 30.42 49 *e*P **P 03 24 30.7 -0.6**
VSR pmax pmax
comp=Z,4.0nm,0.5s
KIC Kosan Boka 30.58 192 *e*P **P 03 24 32.2 -0.9**
comp=Z,38nm,1.1s
LPSR Galich'ya Gora 30.64 47 *e*P **P 03 24 32.2 -1.1**
LPSR pmax pmax
comp=Z,10.0nm,0.6s
LIC Lamto 30.77 193 *e*P **P 03 24 33.6 -1.1**
comp=Z,57nm,1.3s
LIC Lamto 30.77 193 *e*P **P 03 24 34.2 -0.5**
comp=Z,7.8nm,0.5s,baz=23
BORG Borgarnes 31.40 341 LR LR 03 36 18.2
comp=Z,368nm,20.3s,baz=194,slow=34
KIV Kislovodsk 31.96 64 *e*P **P 03 24 44.9 -0.2**
comp=Z,132nm,15.0s
KIV Kislovodsk 31.96 64 *e*P **P 03 24 44.9 -0.2**
KIV pmax pmax
comp=Z,8.0nm,1.1s
KIV MLR MLR
comp=Z,132nm,15.0s
VRH Novokhopyorsk 31.98 50 *e*P **P 03 24 44.3 -0.8**
VRH pmax pmax
comp=Z,6.0nm,0.5s
NEY Neytrino 32.00 65 *i* P **P 03 24 46.9 +1.3**
comp=Z,2.0nm,1.1s
NEY Neytrino 32.00 65⇑ *i*P **P 03 24 46.9 +1.3**
NEY pmax pmax
comp=Z,2.0nm,1.1s
KBZ Khabaz 32.12 64 P **P 03 24 46.4 +0.1**
comp=Z,6.6nm,0.9s,baz=281,slow=6.5,SNR=12
KBZ LR LR 03 39 39.7
comp=Z,140nm,20.1s,baz=258,slow=40
GOF Gofitskoye 32.21 62⇑ *i*P **P 03 24 46.5 -0.7**
GOF pmax pmax
comp=Z,73nm,0.8s
NCK Nalchik 32.63 65 *e*P **P 03 24 52.4 +1.5**
comp=Z,10.0nm,0.4s
NCK Nalchik 32.63 65⇑ *e*P **P 03 24 52.4 +1.5**
NCK pmax pmax
comp=Z,10.0nm,0.4s
ZEI Tsey 32.89 66 *e*P **P 03 24 53.4 0.0**
ZEI pmax pmax
comp=Z,5.0nm,1.0s
GNI Garni 33.78 70 P **P 03 25 01.2 0.0**
comp=Z,11nm,0.8s,baz=2.9,slow=3.2,SNR=6.8
GNI Garni 33.78 70 *e*P **P 03 25 01.2 0.0**
comp=Z,16nm,1.0s
GNI Garni 33.78 70 *e*P **P 03 25 01.2 0.0**
comp=Z,16nm,1.0s
GNI Garni 33.78 70⇑ *e*P **P 03 25 00.6 -0.6**
GNI pmax pmax
comp=Z,49nm,1.0s
KLMR Klimovskoe 34.12 32 *e*P **P 03 25 01.1 -2.6**
KLMR AMP 03 25 06.8
comp=Z,14nm,1.2s
KLMR *e*S **S 03 30 27.0 -1.6**
KLMR *e*S **S 03 30 27.0 -1.6**
KLMR LQ LQ 03 35 41.7
KLMR LQ LQ 03 35 41.7
KLMR Klimovskoe 34.12 32 *e*P **P 03 25 01.0 -2.6**
KLMR *e*S **S 03 30 27.0 -1.6**
KLMR pmax pmax
comp=Z,14nm,1.2s
GROC Groznyy 34.25 65 *e*P **P 03 25 04.5 -0.5**
comp=Z,18nm,1.1s
GROC Groznyy 34.25 65 *e*P **P 03 25 04.5 -0.5**
GROC *e* 03 26 19.2
GROC pmax pmax
comp=Z,18nm,1.1s
MAK Makhachkala 35.52 65 *e*P **P 03 25 11.8 -4.1**
MAK *e* 03 26 30.5
MAK *e*S **S 03 30 43.2 -7.2**
MAK pmax pmax
comp=Z,73nm,1.0s
MAK MLR MLR
comp=Z,280nm,20.0s
ARA0 ARCESS Array S 35.53 14 *e*P **P 03 25 15.2 -0.6**
ARCES ARCESS Array B 35.53 14 P **P 03 25 15.2 -0.6**
comp=Z,4.9nm,0.7s,baz=211,slow=4.2,SNR=17
ARCES ARCESS Array B 35.53 14 *e*P **P 03 25 15.3 -0.5**
LVZ Lovozero 36.48 20⇓ *e*P **P 03 25 22.6 -1.3**
LVZ pmax pmax
comp=Z,29nm,1.5s
SUMG Summit 41.34 343 *i* P **P 03 26 07.1 +2.1**
SUMG Summit 41.34 343 *e*P **P 03 26 03.5 -1.5**
comp=Z,9.6nm,1.0s
SUMG Summit 41.34 343 *e*P **P 03 26 07.1 +2.1**
AKTO Aktyubinsk 42.22 52 P **P 03 26 11.3 -0.7**
comp=Z,8.0nm,0.8s,baz=277,slow=11,SNR=23
AKTO LR LR 03 45 10.5
comp=Z,164nm,19.1s,baz=285,slow=38
SPA0 Spitsbergen Ar 42.23 4 *e*P **P 03 26 14.5 +2.8**
SPITS Spitsbergen Ar 42.23 4 P **P 03 26 14.5 +2.8**
comp=Z,12nm,1.1s,baz=240,slow=14,SNR=4.8
SPITS LR LR 03 45 20.1
comp=Z,180nm,18.4s,baz=205,slow=38
SFJD Kangerlussuaq 42.37 333 P **P 03 26 12.7 -0.3**
comp=Z,9.2nm,1.2s,baz=143,slow=8.5,SNR=2.3
SFJD LR LR 03 41 43.5
comp=Z,261nm,20.7s,baz=100,slow=33
ARU Arti 42.54 44 *e*P **P 03 26 14.1 -0.5**
comp=Z,32nm,0.8s
ARU Arti 42.54 44*c i*P **P 03 26 14.0 -0.5**
ARU 03 27 50.4
ARU 03 28 05.5
ARU S **S 03 32 36.8 +0.9**
ARU SS **SS 03 35 46.8 +1.4**
ARU pmax pmax
comp=Z,35nm,0.8s
ARU MLR MLR
comp=Z,332nm,22.0s
AB31 Akbulak array 43.55 54 *i* P **P 03 26 22.1 -0.7**
AB31 pmax pmax
comp=Z,7.0nm,1.0s
ABKAR Akbulak array 43.55 54 *e*P **P 03 26 22.2 -0.6**
SVE Sverdlovsk 43.70 43 *e*P **P 03 26 24.3 +0.4**
SVE pmax pmax
comp=Z,31nm,1.2s
SVE MLR MLR
comp=Z,353nm,15.0s
GEYT Alibeck 44.42 70 P **P 03 26 29.9 -0.1**
comp=Z,1.0nm,0.5s,baz=5.7,slow=1.5,SNR=4.2
GEYT LR LR 03 48 33.3
comp=Z,54nm,19.2s,baz=290,slow=41
ATD Arta Tunnel 44.65 113 LR LR 03 45 47.3
comp=Z,293nm,18.9s,baz=318,slow=37
UOSS Minazif 47.76 88 *e*P **P 03 26 56.1 -0.4**
comp=Z,28nm,1.2s
UOSS Minazif 47.76 88 *e*P **P 03 26 56.1 -0.4**
comp=Z,28nm,1.2s
SCHQ Schefferville 49.11 315 LR LR 03 44 22.7
comp=Z,100nm,20.9s,baz=88,slow=32
BRVK Borovoye 49.51 48 *e*P **P 03 27 10.3 +0.8**
comp=Z,13nm,0.8s
BRVK Borovoye 49.51 48*ce*P **P 03 27 09.9 +0.4**
BRVK pmax pmax
comp=Z,43nm,1.6s
BRVK MLR MLR
comp=Z,241nm,17.0s
BVA0 Borovoye Array 49.58 48 P **P 03 27 10.0 0.0**
BVA0 pmax pmax
comp=Z,16nm,1.1s
BVAR Borovoye Array 49.58 48 P **P 03 27 10.5 +0.4**
comp=Z,4.6nm,0.8s,baz=269,slow=5.8,SNR=23
BVAR LR LR 03 49 52.6
comp=Z,241nm,18.9s,baz=278,slow=38
KMBO Kilima Mbogo 49.99 130 P **P 03 27 16.0 +2.1**
comp=Z,2.4nm,0.4s,baz=271,slow=6.6,SNR=3.7
KMBO Kilima Mbogo 49.99 130 *e*P **P 03 27 16.0 +2.1**
comp=Z,8.2nm,1.2s
WSAR Wadi Sarin 50.52 89 P **P 03 27 17.4 -0.2**
comp=Z,7.3nm,1.0s,baz=307,slow=9.3,SNR=4.1
WSAR LR LR 03 51 58.5
comp=Z,208nm,20.6s,baz=309,slow=40
KK31 Karatay Array 51.98 60 *e*P **P 03 27 28.2 -0.1**
KK31 Karatay Array 51.98 60 *i* P **P 03 27 27.1 -1.2**
KK31 pmax pmax
comp=Z,3.0nm,0.8s
KKAR Karatay Array 51.98 60 *e*P **P 03 27 28.2 -0.1**
KKAR Karatay Array 51.98 60 *e*P **P 03 27 28.2 -0.1**
AAK Ala-Archa 54.91 60 LR LR 03 54 17.9
comp=Z,158nm,19.8s,baz=290,slow=39
AAK Ala-Archa 54.91 60 *e*P **P 03 27 50.7 +0.7**
comp=Z,17nm,1.4s
AAK Ala-Archa 54.91 60*ce*P **P 03 27 50.5 +0.5**
AAK pmax pmax
comp=Z,5.0nm,0.8s
FRU Bishkek 54.93 59 *i* P **P 03 27 51.0 +1.0**
FRU pmax pmax
comp=Z,60nm,2.1s
KURBB Kurchatov Arra 55.04 49 P **P 03 27 50.5 -0.2**
comp=Z,11nm,0.7s,baz=290,slow=8.1,SNR=42
KURK Kurchatov 55.07 49 *e*P **P 03 27 50.5 -0.4**
KURK Kurchatov 55.07 49*c i*P **P 03 27 50.4 -0.4**
KURK pmax pmax
comp=Z,12nm,1.0s
NRN Naryn 56.38 60 *e*P **P 03 28 01.7 +0.9**
comp=Z,5.1nm,0.7s
NRN Naryn 56.38 60 *e*P **P 03 28 01.7 +0.9**
NRN pmax pmax
comp=Z,5.0nm,0.7s
NVS Novosibirsk 56.54 43 *i* P **P 03 28 02.3 +1.0**
RES Resolute Bay 56.84 342 *e*P **P 03 28 06.2 +3.1**
comp=Z,4.7nm,1.1s
RES Resolute Bay 56.84 342 *e*P **P 03 28 06.2 +3.1**
RES pmax pmax
comp=Z,5.0nm,1.1s
KDJ Kajisay 56.95 59 *e*P **P 03 28 05.2 +0.6**
comp=Z,7.6nm,0.8s
KDJ Kajisay 56.95 59 P **P 03 28 05.2 +0.6**
KDJ pmax pmax
comp=Z,8.0nm,0.8s
KSH Kashi 57.08 63 P **P 03 28 05.4 -0.1**
KSH sP sP 03 28 12.3 -1.3
KSH S **S 03 35 56.1 -3.5**
KSH ScS **ScS 03 37 48.9 -5.3**
KSH SS **SS 03 39 44.4 -3.6**
KSH pmax pmax
comp=Z,68nm,1.1s
KSH LR LR
comp=Z,220nm,6.0s
KSH LR LR
comp=Z,210nm,6.6s
KSH LR LR
comp=Z,310nm,10.6s

LSZ Lusaka 57.31 149 *e*P P 03 28 08.8 +1.5
comp=Z,6.2nm,1.0s
LSZ Lusaka 57.31 149 *e*P P 03 28 08.8 +1.5
LSZ pmax pmax
comp=Z,6.0nm,1.0s
NIL Nilore 57.42 70 *e*P P 03 28 08.6 +0.7
comp=Z,33nm,1.2s
NIL Nilore 57.42 70 *e*P P 03 28 08.6 +0.7
comp=Z,33nm,1.2s
NIL Nilore 57.42 70 *e*P P 03 28 08.6 +0.7
NIL pmax pmax
comp=Z,33nm,1.2s
TARG Taragay, Kyrgy 57.53 59 *e*P P 03 28 10.2 +1.2
comp=Z,18nm,1.0s
ZAA1 Zalesovo Array 57.70 44 *e*P P 03 28 09.6 0.0
ZAA0 Zalesovo Array 57.70 44 *e*P P 03 28 09.6 +0.1
comp=Z,4.1nm,0.7s
ZALV Zalesovo Beam 57.70 44 P P 03 28 09.6 0.0
comp=Z,4.2nm,0.7s,baz=268,slow=5.7,SNR=9.4
ZALV LR LR 03 54 19.8
comp=Z,261nm,20.8s,baz=244,slow=38
ZALV Zalesovo Beam 57.70 44 *e*P P 03 28 09.1 -0.4
MAKZ Makanchi 58.45 53 *e*P P 03 28 15.1 +0.2
comp=Z,7.6nm,1.1s
MAKZ Makanchi 58.45 53 *e*P P 03 28 15.1 +0.2
MAKZ pmax pmax
comp=Z,8.0nm,1.1s
MK31 Makanchi Array 58.65 53 *e*P P 03 28 16.4 0.0
MK31 Makanchi Array 58.65 53 *i* P P 03 28 15.8 -0.5
MK31 pmax pmax
comp=Z,6.0nm,0.8s
MK32 Makanchi Array 58.65 53 *e*P P 03 28 16.1 -0.2
MKAR Makanchi Array 58.65 53 P P 03 28 16.1 -0.2
comp=Z,3.6nm,0.6s,baz=288,slow=5.8,SNR=29
MKAR LR LR 03 55 34.2
comp=Z,178nm,18.6s,baz=298,slow=38
MKAR Makanchi Array 58.65 53 *e*P P 03 28 16.4 0.0
comp=Z,39nm,0.7s
MKAR Makanchi Array 58.65 53 *e*P P 03 28 16.4 0.0
MKAR pmax pmax
comp=Z,39nm,0.7s
MK01 Makanchi Array 58.67 53 *e*P P 03 28 16.1 -0.4
SSPA Standing Stone 60.25 300 P P 03 28 26.8 -0.7
baz=66
DGZ Jazzator, Alta 60.74 48 *e*P P 03 28 31.6 +0.8
DGZ pmax pmax
comp=Z,1.0nm,0.4s
O56A Blue Knob Stat 60.88 300 P P 03 28 31.0 -0.8
baz=65
KRAR Krasnoyarsk 61.29 40⇑ *e*P P 03 28 34.9 +0.7
FCC Fort Churchill 62.35 324 *e*P P 03 28 41.2 -0.1
comp=Z,4.9nm,1.1s
FCC Fort Churchill 62.35 324 *e*P P 03 28 41.2 -0.1
FCC pmax pmax
comp=Z,5.0nm,1.1s
E45A Wooded Hills, 62.70 309 P P 03 28 43.0 -0.9
baz=65
WMQ Urumqi 63.34 54 P P 03 28 49.4 +1.1
WMQ pP pP 03 28 53.1 -1.1
WMQ sP sP 03 28 57.4 +1.0
WMQ pmax pmax
comp=Z,35nm,0.7s
WMQ pmax pmax
comp=Z,120nm,3.7s
WMQ LR LR
comp=Z,1μm,18.3s
WMQ LR LR
comp=Z,430nm,19.7s
HVS Khovu-Aksy 63.79 45⇓ *e*P P 03 28 51.7 +0.6
HVS pmax pmax
comp=Z,8.0nm,0.7s
E43A Lone Tree Farm 63.82 310 P P 03 28 50.9 -0.4
baz=64
ACSO Alum Creek Sta 63.94 302 P P 03 28 51.6 -0.6
baz=63
F43A Flat Rock, Esc 64.17 309 P P 03 28 53.2 -0.4
baz=63
E42A Champion 64.37 310 P P 03 28 54.2 -0.8
baz=63
E41A Kenton 65.00 310 P P 03 28 57.4 -1.6
baz=63
C39A Grand Marais 65.08 312 P P 03 28 58.5 -1.0
baz=62
G42A Mountain 65.23 309 P P 03 28 59.7 -0.9
baz=62
F41A Three Lakes 65.42 310 P P 03 29 00.9 -0.9
baz=62
E40A Wakefield 65.58 311 P P 03 29 02.1 -0.8
baz=62
EYMN Ely 65.84 313 P P 03 29 04.3 -0.2
baz=62
F40A Park Falls 65.96 310 P P 03 29 04.7 -0.6
baz=62
E39A Mellen 66.01 311 P P 03 29 04.9 -0.7
baz=62
F39A Loretta 66.45 310 P P 03 29 07.8 -0.6
baz=61
J42A Columbus 66.57 307 P P 03 29 08.5 -0.7
baz=61
TKL Tuckaleechee C 66.63 298 P P 03 29 10.2 +0.5
comp=Z,3.8nm,1.0s,baz=78,slow=9.3,SNR=4.1
TKL LR LR 03 55 49.7
comp=Z,99nm,19.5s,baz=38,slow=34
TKL Tuckaleechee C 66.63 298 *e*P P 03 29 10.2 +0.5
comp=Z,17nm,1.5s
N45A Kentland 66.70 304 P P 03 29 11.2 +1.1
baz=61
H40A Chili 66.75 309 P P 03 29 10.1 -0.2
baz=61
G39A Holcombe 66.91 310 P P 03 29 10.3 -1.0
baz=61
K42A Prairie Point, 66.98 307 P P 03 29 11.3 -0.5
baz=61
F38A Pierce - Schro 67.02 311 P P 03 29 11.6 -0.5
baz=61
WCI Wyandotte Cave 67.15 301 P P 03 29 12.4 -0.6
baz=61
ULM Lac du Bonnet 67.23 316 P P 03 29 12.9 -0.4
comp=Z,2.5nm,0.9s,baz=2.0,slow=1.5,SNR=3.5
ULM LR LR 03 54 25.9
comp=Z,140nm,21.6s,baz=48,slow=32
R47A Wooly Knot Far 67.27 302 P P 03 29 13.2 -0.6
baz=61
H39A Augusta 67.28 309 P P 03 29 13.0 -0.7
baz=61
M43A Waltham Townsh 67.38 305 P P 03 29 13.6 -0.7
baz=61
G38A Ridgeland 67.39 310 P P 03 29 13.9 -0.5
baz=60
PYUN Piuthan 67.40 71 *e*P P 03 29 15.1 +0.1
comp=Z,83nm,1.1s
C35A Jirik Farms, M 67.42 313 P P 03 29 14.4 -0.2
baz=60
GOGA Godfrey 67.50 296 P P 03 29 15.6 +0.3
baz=60
MOY Mondy 67.55 42 *e*P P 03 29 17.0 +1.6
356A Blackshear 67.56 293 P P 03 29 16.0 +0.3
baz=60
J40A Soldiers Grove 67.57 308 P P 03 29 15.2 -0.3
baz=60
T48A Bowling Green 67.76 300 P P 03 29 16.2 -0.7
baz=60
D35A Remer 67.77 313 P P 03 29 16.3 -0.5
baz=60
H38A Maiden Rock 67.90 310 P P 03 29 16.9 -0.7
baz=60
PTGA Pitinga 67.92 252 *e*P P 03 29 19.7 +1.5
comp=Z,6.7nm,0.9s
SPMN Marine on St. 67.95 311 P P 03 29 17.2 -0.7
baz=60
SPMN Marine on St. 67.95 311 *e*P P 03 29 17.9 -0.1
comp=Z,11nm,1.2s
KOLN Koldanda 68.03 71 *e*P P 03 29 19.7 +0.7
comp=Z,10nm,0.8s
L41A Preston 68.06 307 P P 03 29 18.3 -0.4
baz=60
F36A Milaca 68.07 311 P P 03 29 17.8 -0.9
baz=60
Q45A Warren Harvey, 68.09 303 P P 03 29 18.1 -0.8
baz=60
254A Abbeville 68.11 294 P P 03 29 19.3 +0.2
baz=60
J39A Decorah 68.21 308 P P 03 29 19.2 -0.4
baz=60
859A Kempfer Cattle 68.28 289 P P 03 29 19.7 -0.5
baz=59
BOSA Boshof 68.51 158 P P 03 29 22.2 +0.6
comp=Z,6.5nm,1.1s,baz=348,slow=5.2,SNR=6.3
BOSA LR LR 04 01 07.1
comp=Z,251nm,19.2s,baz=340,slow=38
L40A Anamosa 68.54 307 P P 03 29 20.6 -1.0
baz=60
TIGA Tifton 68.58 294 P P 03 29 21.8 -0.3
baz=59
K39A Oelwein 68.64 308 P P 03 29 21.1 -1.2
baz=60
253A Americus 68.66 295 P P 03 29 22.3 -0.3
baz=60
Q44A Meyer Farm, Va 68.67 303 P P 03 29 21.5 -1.0
baz=60
GKN Gorkha 68.70 70 *e*P P 03 29 22.7 -0.4
comp=Z,20nm,0.7s
U47A Clarksville 68.72 300 P P 03 29 22.5 -0.4
baz=60
T46A Princeton 68.84 301 P P 03 29 22.8 -0.8
baz=60
YKA Yellowknife Ar 68.92 333 P P 03 29 23.5 -0.1
comp=Z,3.2nm,0.8s,baz=54,slow=6.1,SNR=36
YKB5 Yellowknife Ar 68.92 333 *e*P P 03 29 23.6 -0.1
TLY Talaya 68.95 41 *e*P P 03 29 24.2 +0.1
comp=Z,7.1nm,1.1s
TLY Talaya 68.95 41 *e*P P 03 29 26.0 +1.9
TLY *e*S S 03 38 30.4 +2.8
TLY pmax pmax
comp=Z,11nm,1.4s
TLY MLR MLR
comp=Z,205nm,18.0s
L39A Vinton 69.01 307 P P 03 29 23.9 -0.7
baz=59
X49A Woodville 69.01 298 P P 03 29 24.1 -0.7
baz=59
R44A Waltonville 69.04 303 P P 03 29 24.2 -0.7
baz=60
353A Camilla 69.09 294 P P 03 29 25.5 +0.3
baz=59
Q43A New Douglas 69.11 303 P P 03 29 24.9 -0.4
baz=59
V47A Nunnelly 69.19 300 P P 03 29 25.0 -0.8
baz=59
P42A Winchester 69.21 304 P P 03 29 25.2 -0.7
baz=59
DMN Daman 69.26 71 *e*P P 03 29 26.7 0.0
comp=Z,46nm,1.1s
KKN Kakani 69.30 70 *e*P P 03 29 26.7 -0.2
comp=Z,24nm,0.8s
O41A Passleys Farm, 69.30 305 P P 03 29 25.6 -0.9
baz=59
Z50A Ashland 69.36 297 P P 03 29 26.6 -0.4
baz=59
M39A Webster 69.45 307 P P 03 29 26.3 -1.0
baz=59
H35A Sunnyside Ranc 69.45 311 P P 03 29 26.9 -0.5
baz=59
ZAK Zakamensk 69.45 42 *e*P P 03 29 27.5 +0.1
ZAK pmax pmax
comp=Z,7.0nm,1.6s
W47A Westpoint 69.53 299 P P 03 29 27.0 -1.0
baz=59
X48A Hartselle 69.55 298 P P 03 29 27.2 -0.9
baz=59
R43A Red Bud 69.60 303 P P 03 29 27.1 -1.3
baz=59
L38A Oak Wood Farm, 69.61 308 P P 03 29 27.0 -1.3
baz=59
V46A Holladay 69.62 300 P P 03 29 27.5 -1.0
baz=59
P41A Barry, Barry 69.64 305 P P 03 29 27.9 -0.7
baz=59
Q42A Golden Eagle 69.68 304 P P 03 29 27.8 -1.0
baz=59
GUN Gumba 69.69 70 *e*P P 03 29 29.3 -0.2
comp=Z,31nm,0.9s
K37A Belmond 69.72 309 P P 03 29 27.9 -1.0
baz=59
O40A La Belle 69.95 305 P P 03 29 29.6 -0.9
baz=59
N39A Derby Farms, D 69.97 306 P P 03 29 29.4 -1.2
baz=59
PLAL Pickwick Lake 70.01 299 *e*P P 03 29 30.2 -0.7
comp=Z,7.7nm,0.9s
JIRN Jiri 70.05 70 *e*P P 03 29 31.3 -0.4
comp=Z,28nm,0.8s
452A Marianna 70.06 294 P P 03 29 29.8 -1.5
baz=59
X47A Russelville 70.10 299 P P 03 29 30.8 -0.7
baz=59
Q41A Truxton 70.13 304 P P 03 29 30.7 -0.9
baz=59
M38A Pleasantville 70.14 307 P P 03 29 30.8 -0.7
baz=58
R42A Luebbering 70.18 303 P P 03 29 31.5 -0.4
baz=59
LRAL Lakeview Retre 70.25 297 P P 03 29 32.7 +0.3
baz=59
INK Inuvik 70.25 344 P P 03 29 31.1 -0.7
comp=Z,0.9nm,0.7s,baz=28,slow=10,SNR=5.0
INK Inuvik 70.25 344 *e*P P 03 29 31.1 -0.7
comp=Z,3.5nm,1.2s
149A Joes 70.33 296 P P 03 29 32.1 -0.8
baz=59
BOD Bodaibo 70.34 32 *e*P P 03 29 31.9 -0.6
BOD pmax pmax
comp=Z,10.0nm,1.6s
P40A Paris 70.37 305 P P 03 29 31.5 -1.6
baz=58
T43A Greenville 70.46 302 P P 03 29 32.4 -1.3
baz=58
Z48A Northport 70.47 297 P P 03 29 33.7 0.0
baz=59
N38A Joes South For 70.49 307 P P 03 29 32.7 -1.0
baz=58
SDV Santo Domingo 70.51 267 P P 03 29 34.9 +0.5
comp=Z,1.1nm,0.4s,baz=24,slow=10.0,SNR=3.2
R41A Rosebud 70.57 304 P P 03 29 33.9 -0.4
baz=58
X46A Booneville 70.59 299 P P 03 29 32.9 -1.5
baz=58
CCM Cathedral Cave 70.60 303 P P 03 29 33.8 -0.6
baz=58
CCM Cathedral Cave 70.60 303 *e*P P 03 29 33.9 -0.6
comp=Z,5.3nm,0.7s
CCM Cathedral Cave 70.60 303 *e*P P 03 29 33.9 -0.6
CCM pmax pmax
comp=Z,5.0nm,0.7s
Q40A Laux Farm, Aux 70.67 305 P P 03 29 33.7 -1.1
baz=58
RAMN Ramite 70.73 70 *e*P P 03 29 35.1 -0.7
comp=Z,17nm,0.9s
P39B Salisbury 70.86 305 P P 03 29 35.0 -1.0
baz=58
Z47A Carrollton 70.93 297 P P 03 29 35.3 -1.2
baz=58
T42A Van Buren 71.04 302 P P 03 29 35.7 -1.4
baz=58
ECSD EROS Data Cent 71.05 311 P P 03 29 35.8 -1.3
baz=57
H32A Carlson Farm, 71.14 312 P P 03 29 37.7 +0.1
baz=57
R40A Maddies Statio 71.17 304 P P 03 29 36.8 -1.1
baz=58
S41A Jillco Farms, 71.19 303 P P 03 29 37.5 -0.5
baz=58,SNR=11
OXF Oxford 71.19 299 P P 03 29 37.8 -0.4
baz=58
X45A UM Field Stati 71.23 299 P P 03 29 37.1 -1.2
baz=58
Q39A Willow Grove F 71.24 305 P P 03 29 37.3 -1.0
baz=58
P38A Dawn 71.30 306 P P 03 29 37.7 -1.0
baz=58
T41A Mountain View 71.49 303 P P 03 29 39.5 -0.4
baz=58
U42A Revenden 71.49 302 P P 03 29 39.5 -0.4
baz=58
Z46A Louisville 71.56 298 P P 03 29 40.0 -0.3
baz=58
R39A Chumby, Stover 71.67 304 P P 03 29 40.6 -0.4
baz=58,SNR=7.9
S40A Lebanon 71.69 303 P P 03 29 40.8 -0.3
baz=58,SNR=9.3
Q38A Cooks Store, C 71.71 305 P P 03 29 41.3 +0.2
baz=58
V42A Cord 71.89 301 P P 03 29 41.5 -0.8
baz=58,SNR=5.9
T40A Mansfield 71.94 303 P P 03 29 42.2 -0.4
baz=58,SNR=5.4
U41A Viola 71.96 302 P P 03 29 42.0 -0.7
baz=58
S39A Bolivar 72.19 304 P P 03 29 43.6 -0.5
baz=57,SNR=7.6
R38A Fenwick Farm, 72.31 305 P P 03 29 44.4 -0.4
baz=57
V41A Mountainview 72.42 302 P P 03 29 44.9 -0.6
baz=57
SONA1 Songino Array 72.57 43 *e*P P 03 29 46.5 +0.2
SONA0 Songino Array 72.58 43 *e*P P 03 29 46.8 +0.4
SONM Songino Array 72.58 43 P P 03 29 46.8 +0.4
comp=Z,1.3nm,0.8s,baz=283,slow=6.2,SNR=7.5
SONM LR LR 04 03 44.0
comp=Z,233nm,19.3s,baz=282,slow=38
T39A Clever 72.59 303 P P 03 29 46.1 -0.4
baz=57,SNR=5.6
U40A Yellville 72.59 302 P P 03 29 46.0 -0.6
baz=57,SNR=5.6
S38A Stockton 72.61 304 P P 03 29 46.2 -0.4
baz=57,SNR=11
X42A Stuttgart 72.72 300 P P 03 29 46.9 -0.4
baz=57
WHAR Wooly Hollow 72.78 301 *e*P P 03 29 47.3 -0.3
comp=Z,6.0nm,0.8s
W41B Gary Mavity, V 72.82 301 P P 03 29 47.5 -0.4
baz=57
245A Little AP, Sta 72.85 297 P P 03 29 48.7 +0.6
baz=57
V40A Witts Springs 72.87 302 P P 03 29 47.2 -1.0
baz=57
V40A Witts Springs 72.87 302 *e*P P 03 29 47.9 -0.3
comp=Z,6.5nm,0.9s
U39A Green Forest 73.00 303 P P 03 29 48.6 -0.4
baz=57
YAK Yakutsk 73.23 23⇓ *e*P P 03 29 51.7 +1.9
YAK pmax pmax
comp=Z,31nm,1.3s
BGNE Belgrade 73.28 309 P P 03 29 49.4 -1.1
baz=56
HHAR Hobbs 73.37 303 *e*P P 03 29 50.9 -0.2
comp=Z,7.1nm,0.7s
W40A Ferguson Farm, 73.37 302 P P 03 29 50.8 -0.4
baz=57
GTA Gaotai 73.40 53 *e*P P 03 29 50.1 -1.3
GTA pP pP 03 29 54.3 -3.1
GTA sP sP 03 29 57.9 -1.7
GTA pmax pmax
comp=Z,6.0nm,0.8s
X40A Basin Creek Fa 73.59 301 P P 03 29 50.9 -1.5
baz=57
X40A Basin Creek Fa 73.59 301 *e*P P 03 29 52.1 -0.3
comp=Z,13nm,1.4s
W39A Magazine 73.86 302 P P 03 29 53.7 -0.3
baz=56,SNR=5.5
W39A Magazine 73.86 302 *e*P P 03 29 53.8 -0.2
comp=Z,8.0nm,0.8s
MIAR Mount Ida 74.07 301 P P 03 29 54.9 -0.4
baz=56
MIAR Mount Ida 74.07 301 *e*P P 03 29 55.4 +0.1
comp=Z,7.4nm,1.0s
MIAR Mount Ida 74.07 301 *e*P P 03 29 55.4 +0.1
MIAR pmax pmax
comp=Z,7.0nm,1.0s
TUL1 Leonard 74.82 303 P P 03 29 58.9 -0.7
baz=56
LAO LASA Array 74.93 317 P P 03 30 00.4 +0.3
baz=52
DAWY Dawson 75.11 343 *e*P P 03 30 02.3 +1.5
comp=Z,7.4nm,1.2s
BILL Bilibino 75.11 6 *i* P P 03 30 01.5 +0.8
BILL *i* 03 30 10.5
BILL pmax pmax
comp=Z,2.0nm,1.4s
BILL MLR MLR
comp=Z,87nm,20.0s
SHL Shillong 75.47 69 *e*P P 03 30 03.7 0.0
comp=Z,19nm,1.0s
SHL Shillong 75.47 69 *e*P P 03 30 03.7 0.0
comp=Z,19nm,1.0s
SHL Shillong 75.47 69 *e*P P 03 30 03.7 0.0
SHL pmax pmax
comp=Z,19nm,1.0s
341A Kurthwood 75.57 298 P P 03 30 04.2 +0.3
baz=56
CBKS Cedar Bluff 75.75 308 P P 03 30 05.0 0.0
baz=54
IL1 Eielson Array 76.05 347 *e*P P 03 30 10.1 +4.0
ILAR Eielson Array 76.05 347 P P 03 30 07.0 +0.8
comp=Z,0.4nm,0.4s,baz=12,slow=4.6,SNR=7.0
ILAR LR LR 04 04 48.0
comp=Z,82nm,21.4s,baz=46,slow=37
ILAR Eielson Array 76.05 347 P P 03 30 07.0 +0.8
ILAR MLR MLR
comp=Z,82nm,21.4s
ILB Eielson Array 76.05 347 *e*P P 03 30 11.9 +5.8
IM3 Indian Mountai 76.05 350 *e*P P 03 30 07.5 +1.4
COLA College 76.13 347 *e*P P 03 30 08.4 +1.9
comp=Z,41nm,0.2s
COLA College 76.13 347 *e*P P 03 30 08.4 +1.9
SCRK Sand Creek 76.19 345 *e*P P 03 30 08.8 +1.7
comp=Z,4.4nm,1.2s
CCB Clear Creek Bu 76.33 347 *e*P P 03 30 09.4 +1.7
comp=Z,9.9nm,0.4s
WRH Wood River Hil 76.54 347 *e*P P 03 30 11.7 +2.8
comp=Z,5.5nm,1.1s
K22A Casper 77.58 314 P P 03 30 14.4 -1.0
baz=52
K22A Casper 77.58 314 *e*P P 03 30 15.2 -0.2
comp=Z,5.7nm,1.0s
PHWY Pilot Hill 77.79 313 *e*P P 03 30 17.7 +0.9
comp=Z,31nm,1.5s
LZH Lanzhou 77.92 54 *e*P P 03 30 16.9 -0.5
LZH pP pP 03 30 20.4 -3.0
LZH sP sP 03 30 23.8 -1.8
LZH *e*PP PP 03 33 12.5 -0.4
LZH pmax pmax
comp=Z,29nm,1.1s
LZH pmax pmax
comp=Z,120nm,4.3s
LZH LR LR
comp=Z,170nm,15.0s
LZH LR LR
comp=Z,170nm,15.3s
LZH LR LR
comp=Z,240nm,18.4s
SEY Seymchan 78.15 13 P P 03 30 17.2 -0.7
comp=Z,0.8nm,0.3s,baz=2.5,slow=18,SNR=2.7
N23A Red Feather La 78.33 312 P P 03 30 19.8 +0.1
baz=52
N23A Red Feather La 78.33 312 *e*P P 03 30 20.6 +0.9
comp=Z,8.3nm,1.0s
BOZ Bozeman (W) 78.53 319 P P 03 30 20.1 -0.5
baz=49
BOZ Bozeman (W) 78.53 319 *e*P P 03 30 22.0 +1.4
comp=Z,4.3nm,1.3s
BOZ Bozeman (W) 78.53 319 *e*P P 03 30 22.0 +1.4
BOZ pmax pmax
comp=Z,4.0nm,1.3s
RWWY Rawlins 78.58 314 *e*P P 03 30 22.1 +1.0
comp=Z,17nm,1.4s
YHH Holmes Hill 78.64 318 *e*P P 03 30 24.1 +2.7
comp=Z,4.3nm,1.4s
H17A Grant Village 78.75 317 P P 03 30 23.2 +1.2
baz=49
ISCO Idaho Springs 78.81 311 P P 03 30 22.4 -0.1
baz=52
ISCO Idaho Springs 78.81 311 *e*P P 03 30 23.3 +0.8
comp=Z,3.6nm,0.8s
ISCO Idaho Springs 78.81 311 *e*P P 03 30 23.3 +0.8
ISCO pmax pmax
comp=Z,4.0nm,0.8s
SIV San Ignacio 78.86 241 P P 03 30 24.0 +1.4
comp=Z,4.5nm,0.8s,baz=82,slow=7.1,SNR=25
BW06 Boulder Array 79.24 316 P P 03 30 24.5 -0.1
baz=50
BW06 Boulder Array 79.24 316 *e*P P 03 30 24.9 +0.3
comp=Z,6.4nm,1.1s
PD31 Pinedale Array 79.24 316 *e*P P 03 30 24.9 +0.2
PDAR Pinedale Array 79.24 316 P P 03 30 23.9 -0.7
comp=Z,1.0nm,0.6s,baz=50,slow=5.5,SNR=12
PDAR LR LR 04 02 25.5
comp=Z,109nm,20.9s,baz=71,slow=33
PDAR Pinedale Array 79.24 316 *e*P P 03 30 24.3 -0.3
ABTX Abilene, Hawle 79.32 303 P P 03 30 24.8 -0.2
baz=53
FXWY Fox Creek 79.49 317 *e*P P 03 30 28.1 +2.1

comp=Z,4.1nm,1.2s
REDW Red Top Meadow 79.57 317 *e*P P 03 30 27.7 +1.2
comp=Z,9.1nm,1.5s
T25A Trinidad 79.71 309 P P 03 30 27.7 +0.4
baz=52
HHC Hu-ho-hao-te 79.77 46 *e*P P 03 30 27.3 -0.1
HHC PP **PP** 03 33 29.5 +1.4
HHC S **S** 03 40 27.3 -2.1
HHC pmax pmax
comp=Z,13nm,1.4s
HHC pmax pmax
comp=Z,26nm,8.0s
HHC LR LR
comp=Z,170nm,16.9s
HHC LR LR
comp=Z,240nm,17.0s
HHC LR LR
comp=Z,220nm,17.3s
GAMB Gambell 79.89 357 *e*P P 03 30 28.7 +1.3
comp=Z,8.2nm,1.3s
MHTCO State Highway 79.89 309 *e*P P 03 30 29.3 +1.0
comp=Z,13nm,1.5s
SDCO Great Sand Dun 80.02 310 P P 03 30 29.4 +0.3
baz=51
SDCO Great Sand Dun 80.02 310 *e*P P 03 30 29.5 +0.5
comp=Z,3.8nm,0.8s
SMCO Snowmass 80.02 312 *e*P P 03 30 28.1 -1.1
comp=Z,9.6nm,1.1s
O20A White River Ci 80.17 313 P P 03 30 29.5 -0.2
baz=50
MSTX Muleshoe 80.60 305 P P 03 30 32.0 0.0
baz=52
S22A 4UR Ranch, Cre 80.83 310 P P 03 30 33.8 +0.4
baz=51
S22A 4UR Ranch, Cre 80.83 310 *e*P P 03 30 34.4 +0.9
comp=Z,4.9nm,0.9s
MA2 Magadan 80.90 15 P P 03 30 32.5 -0.5
comp=Z,2.8nm,0.4s,baz=300,slew=11,SNR=3.9
MA2 Magadan 80.90 15‖ *e*P P 03 30 34.8 +1.8
MA2 pmax pmax
comp=Z,8.0nm,1.3s
HWUT Hardware Ranch 81.12 316 *e*P P 03 30 35.6 +0.9
comp=Z,4.6nm,1.0s
HLID Hailey 81.37 319 P P 03 30 36.6 +0.6
baz=47
HLID Hailey 81.37 319 *e*P P 03 30 37.6 +1.6
comp=Z,3.2nm,1.0s
P18A Preston Nutter 81.67 314 *e*P P 03 30 38.7 +0.8
comp=Z,7.6nm,1.1s
JLU Jordanelle 81.72 315 *e*P P 03 30 39.3 +1.3
comp=Z,5.2nm,1.3s
PV09 Paradox Valley 81.75 312 *e*P P 03 30 39.4 +1.1
PV10 Paradox Valley 81.77 312 *e*P P 03 30 39.6 +1.3
BMO Blue Mountains 81.98 321 *e*P P 03 30 40.4 +1.3
comp=Z,2.7nm,0.8s
BMO Blue Mountains 81.98 321 *e*P P 03 30 40.4 +1.3
BMO pmax pmax
comp=Z,3.0nm,0.8s
P17A Butcher Ranch, 82.06 314 *e*P P 03 30 40.5 +0.7
comp=Z,7.5nm,1.3s
SRU San Rafael Swe 82.17 313 *e*P P 03 30 41.0 +0.6
comp=Z,4.3nm,0.6s
SRU San Rafael Swe 82.17 313 *e*P P 03 30 41.0 +0.6
SRU pmax pmax
comp=Z,4.0nm,0.6s
MVCO Mesa Verde 82.20 311 P P 03 30 40.6 0.0
baz=50
MVCO Mesa Verde 82.20 311 *e*P P 03 30 42.0 +1.4
comp=Z,7.0nm,1.1s
ANMO Albuquerque 82.38 308 P P 03 30 42.3 +0.8
baz=50
ANMO Albuquerque 82.38 308 *e*P P 03 30 42.9 +1.4
comp=Z,1.9nm,0.8s
ANMO Albuquerque 82.38 308 *e*P P 03 30 42.9 +1.4
ANMO pmax pmax
comp=Z,2.0nm,0.8s
TMUT Trail Mountain 82.45 314 *e*P P 03 30 43.0 +1.0
comp=Z,12nm,1.5s
XAN Xi'an 82.46 53 P P 03 30 44.1 +2.3
XAN pmax pmax
comp=Z,10.0nm,1.0s
NLU North Lily Min 82.51 315 *e*P P 03 30 43.1 +0.9
comp=Z,6.1nm,1.1s
DUG Dugway, Tooele 82.77 315 P P 03 30 44.2 +0.8
baz=48
DUG Dugway, Tooele 82.77 315 *e*P P 03 30 44.9 +1.5
comp=Z,3.8nm,1.1s
DUG Dugway, Tooele 82.77 315 *e*P P 03 30 44.9 +1.5
DUG pmax pmax
comp=Z,4.0nm,1.1s
APG El Apazote 82.86 283 P P 03 30 44.0 -0.3
comp=Z,1.6nm,0.3s,baz=63,slew=18,SNR=2.4
MSU Marysvale 83.53 314 *e*P P 03 30 48.7 +1.2
MSU Marysvale 83.53 314 *e*P P 03 30 48.7 +1.2
CPUP Villa Florida 83.60 231 P P 03 30 48.1 +0.6
comp=Z,2.8nm,0.8s,baz=30,slew=7.3,SNR=7.4
CPUP LR LR 04 06 48.7
comp=Z,165nm,20.4s,baz=46,slew=35
CPUP Villa Florida 83.60 231 *e*P P 03 30 48.1 +0.6
comp=Z,11nm,1.5s
KMI Kunming 83.72 63 P P 03 30 50.8 +2.1
KMI pmax pmax
comp=Z,19nm,0.8s
MNTX Cornudas Mount 83.73 305 P P 03 30 48.8 +0.4
baz=51
MNTX Cornudas Mount 83.73 305 *e*P P 03 30 48.9 +0.6
comp=Z,7.5nm,1.4s
KLR Kul'dur 83.85 30 P P 03 30 48.4 -0.2
comp=Z,0.1nm,0.6s,baz=284,slew=5.0,SNR=4.7
KLR Kul'dur 83.85 30 *e*P P 03 30 48.6 0.0
MTPU Mount Pierson 83.85 313 *e*P P 03 30 50.9 +1.6
comp=Z,7.8nm,1.2s
TX31 Lajitas Ar. Si 84.06 302 *e*P P 03 30 50.9 +0.8
TXAR Lajitas Array 84.06 302 P P 03 30 51.3 +1.1
comp=Z,1.0nm,0.7s,baz=76,slew=5.6,SNR=17
TXAR LR LR 04 05 28.3
comp=Z,127nm,21.7s,baz=0.0,slew=34
LPAZ La Paz 84.11 245 P P 03 30 51.1 0.0
comp=Z,1.4nm,0.8s,baz=60,slew=8.0,SNR=5.5
LPAZ LR LR 04 06 23.2
comp=Z,46nm,20.2s,baz=46,slew=34
LPAZ La Paz 84.11 245 *e*P P 03 30 49.8 -1.3
W18A Petrified Fore 84.32 310 P P 03 30 51.6 +0.1
baz=49
GRNR Gornyy 84.41 27 *i*P P 03 30 50.4 -1.1
121A Cookes Peak, D 84.77 307 P P 03 30 54.9 +1.1
baz=50
121A Cookes Peak, D 84.77 307 *e*P P 03 30 53.4 -0.4
comp=Z,10nm,0.9s
CCUT Cedar City 84.87 314 *e*P P 03 30 55.8 +1.5
comp=Z,2.6nm,0.8s
CM31 Chiang Mai Arr 84.90 71 *e*P P 03 30 54.7 +0.3
CM31 Chiang Mai Arr 84.90 71 *e*P P 03 30 54.7 +0.3
CMAR Chiang Mai Arr 84.90 71 P P 03 30 54.7 +0.3
comp=Z,1.2nm,0.2s,baz=305,slew=8.6,SNR=4.5
U15A North Rim 85.00 312 *e*P P 03 30 55.6 +0.6
comp=Z,5.8nm,0.7s
WUAZ Wupatki 85.06 311 P P 03 30 55.8 +0.6
baz=48
WUAZ Wupatki 85.06 311 *e*P P 03 30 57.0 +1.7
comp=Z,9.4nm,1.4s
J05D Fort Rock, OR 85.08 322 P P 03 30 55.4 +0.3
baz=43
CN2 Changchun 85.18 37 *e*P P 03 30 55.0 -0.4
CN2 pmax pmax
comp=Z,10.0nm,0.6s
J04D Umpqua Nationa 85.54 322 P P 03 30 57.8 +0.3
baz=42
R11A Troy Canyon, C 85.60 315 P P 03 30 59.2 +1.3
baz=46
R11A Troy Canyon, C 85.60 315 *e*P P 03 30 59.2 +1.3
comp=Z,7.6nm,1.1s
GYA Guiyang 85.69 60 *e*P P 03 30 58.3 -0.2
GYA pmax pmax
comp=Z,10.0nm,1.0s
X16A Lo Mia Camp, P 85.83 310 *e*P P 03 31 01.2 +2.1
comp=Z,2.9nm,1.0s
M04C Macdoel 86.48 321 P P 03 31 01.6 -0.5
baz=42
SHPR Sheep Range 86.64 314 *e*P P 03 31 05.1 +2.1
comp=Z,5.2nm,1.1s
TUC Tucson 86.83 308 P P 03 31 04.1 +0.2
baz=48
TUC Tucson 86.83 308 *e*P P 03 31 05.1 +1.2
comp=Z,2.5nm,0.9s
TUC Tucson 86.83 308 *e*P P 03 31 05.1 +1.2
TUC pmax pmax
comp=Z,3.0nm,0.9s
YBH Yreka Blue Hor 86.96 322 LR LR 04 07 12.4
comp=Z,113nm,21.0s,baz=46,slew=34
NV01 Mina Array Sit 87.06 317 *e*P P 03 31 04.4 -0.7
NVAR Mina Array Bea 87.06 317 P P 03 31 04.4 -0.7
comp=Z,0.2nm,0.5s,baz=50,slew=6.1,SNR=3.6
NVAR LR LR 04 06 43.4
comp=Z,139nm,20.8s,baz=271,slew=33
PDMCI Parker Dam,Lak 87.55 312 P P 03 31 07.9 +0.7
baz=46
GRAC Grapevine Rang 87.56 315 P P 03 31 07.9 +0.6
baz=45
Y12C Blythe 88.16 312 P P 03 31 11.1 +1.0
baz=46
MPMC Manual Prospec 88.29 315 P P 03 31 11.4 +0.4
baz=45
214A Organ Pipe Nat 88.34 309 P P 03 31 11.7 +0.6
baz=47
PETK Petropavlovsk- 88.34 14 LR LR 04 15 09.2
comp=Z,27nm,18.7s,baz=346,slew=39
GSC Goldstone, Bar 88.43 314 P P 03 31 12.7 +1.1
baz=45
ISA Isabella, Lake 89.13 315 P P 03 31 15.7 +0.8
baz=44
ISA Isabella, Lake 89.13 315 *e*P P 03 31 16.6 +1.8
comp=Z,4.7nm,1.1s
ISA Isabella, Lake 89.13 315 *e*P P 03 31 16.6 +1.8
ISA pmax pmax
comp=Z,5.0nm,1.1s
NJ2 Nanjing 90.01 49 *e*P P 03 31 20.4 +1.5
NJ2 pmax pmax
comp=Z,15nm,0.7s
LPIG La Paz 91.96 302 LR LR 04 11 15.4
comp=Z,90nm,19.6s,baz=17,slew=35
MJAR Matsushiro Arr 96.89 34 LR LR 04 20 24.0
comp=Z,96nm,18.0s,baz=340,slew=38
STKA Stephens Creek 146.75 94 PKPbc **PKPdf 03 38 00.6 +1.1**
comp=Z,8.0nm,1.0s,baz=25,slew=1.4,SNR=5.4

KRSC 25 03:23:15.7±1.9, **50.53N**×**157.27E, h85**km±21km, **ML3.6, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**0.75**	**282**	*e*P		Pn	03 23 32.8	+0.6
SKR				*e*S		Sn	03 23 44.7	+0.2
PAU	**Pauzhetka**	**0.98**	**343**	*e*P		Pn	03 23 36.7	+1.9
PAU				*e*S		Sn	03 23 51.4	+2.4
KDTR	**Khodutka, Kamc**	**1.38**	**21**	*e*P		Pn	03 23 41.7	+2.1
KDTR				*e*S		Sn	03 24 00.1	+2.5
ASAK	**Asacha**	**1.89**	**12**	*e*P		Pn	03 23 48.9	+2.5
MTVR	**Mutnovka**	**2.03**	**16**	*e*P		Pn	03 23 51.2	+2.9
MTVR				*e*S		Sn	03 24 16.6	+3.5
RUS	**Russkaya**	**2.06**	**22**	*e*P		Pn	03 23 50.1	+1.7
RUS				*e*S		Sn	03 24 14.8	+1.4
UGLR	**Uglovaya**	**2.85**	**19**	*e*P		Pn	03 24 02.1	+3.0
AVH	**Avacha**	**2.88**	**18**	*e*P		Pn	03 24 02.9	+3.3
KOK	**Koryaka**	**2.89**	**17**	*e*P		Pn	03 24 03.2	+3.5
SMAR	**Somma**	**2.89**	**19**	*e*P		Pn	03 24 02.6	+2.8
KRER	**Koryakskii**	**2.92**	**18**	*e*P		Pn	03 24 03.1	+2.9
SDLR	**Sedlovina**	**2.92**	**19**	*e*P		Pn	03 24 02.5	+2.3
SDLR				*e*S		Sn	03 24 35.6	+1.2
NLC	**Nalytchevo**	**2.94**	**25**	*e*P		Pn	03 24 01.4	+1.2
NLC				*e*S		Sn	03 24 34.9	+0.4
KRX	**Arik**	**2.96**	**16**	*e*P		Pn	03 24 03.5	+2.9
SPN	**Mys Shipunski**	**3.09**	**33**	*e*P		Pn	03 24 04.4	+2.2
SPN				*e*S		Sn	03 24 39.1	+1.0
GNL	**Ganaly**	**3.19**	**7**	*e*P		Pn	03 24 05.8	+2.0
KBTR	**Krutoberegovo**	**6.58**	**28**	*e*P		Pn	03 24 51.0	+1.3

MOS ***25*** *03:23:12.4±2.1, 19.74S×175.58W, h166km, mb5.3/21, Error ellipse: s-maj=9.2km s-min=8.0km az=72.1*
ISCJB ***25*** *03:23:18.2±1.2, 19.96S±0.04×175.57W±0.03, h132km±11km, mb4.8/222, Error ellipse: s-maj=6.5km s-min=3.8km az=158.4*
BJI ***25*** *03:23:21.5, 19.60S×175.13W, h161km, mb5.2/33, mB5.2/19*
GCMT ***25*** *03:23:21.9±0.3, 20.08S×175.17W, h160km±2km, MW5.0/95, Moment Tensor Solution. s34,c40; s95,c136; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=1.70±.13; Mθθ=2.11±.17; Mθφ=-0.41±.18; Mrθ=-1.12±.11; Mφφ=2.23±.13; Mrφ=-3.40±.10; Best double couple: M=4.64000×10^16 NP1:φs=25.00000°, δ77.00000°, λ=-122.00000°. NP2: φs=276.00000°, δ34.00000°, λ=-24.00000°. Principal axes: T 4.7090, Plg25.0000°, Azm140.0000°; N -0.1420, Plg31.0000°, Azm33.0000°; P -4.5710, Plg48.0000°, Azm262.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***25*** *03:23:21.9±0.1, 19.98S×175.56W, mb4.8/175 Error ellipse: s-maj=4.7km s-min=2.8km az=141.0*
IDC ***25*** *03:23:21.4±0.6, 19.89S×175.52W, h147km±5km, mb4.7/34, mb1 4.8/35, mb1mx4.7/44, mbtmp5.1/35, MS3.6/4, Ms1 3.6/4, ms1mx3.1/38, Error ellipse: s-maj=10.5km s-min=9.0km az=115.0*
WEL ***25*** *03:23:46.3±0.9, 21.2S±12.1×17.5W±7.1, h454km±10km*
ISC 25 03:23:21.6±0.4, **20.15S**±0.04×**175.45W**±0.05, **h156**km±3km, **h156**km**:pP-P, n725,** σ1§**41**/825, **mb4.9**/222, **29C-55D, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**5.32**	**79**	P		Pn	03 24 33.4	-5.9
	baz=5.1,SNR=149							
MSVF	**Nonsavu**	**6.60**	**290**	*e*Pn		**Pn**	**03 24 59.6**	**+3.2**
AFI	**Afiamalu**	**7.13**	**30**	P		Pn	03 24 54.8	-8.7
	22nm,0.3s,baz=258,slew=1.6,SNR=12							
AFI				S		Sn	03 26 02.7	-21
	87nm,0.3s,baz=217,slew=22,SNR=17							
AFI				LR		LR	03 27 08.5	
	comp=Z,201nm,21.7s,baz=150,slew=33							
RIZ	**Raoul Island**	**9.33**	**193**	P		**Sn**	**03 27 17.0**	**+0.7**
RAO	**Raoul Island**	**9.34**	**193**	P		**Pn**	**03 25 32.7**	**0.0**
	171nm,0.3s,baz=59,slew=19,SNR=4.6							
RAO				S		**Sn**	**03 27 16.2**	**-0.2**
	45nm,0.3s,baz=253,slew=19,SNR=4.6							
GLKZ	**Green Lake**	**9.35**	**193**	S		**Sn**	**03 27 15.9**	**-0.7**
GLKZ	**Green Lake**	**9.35**	**193**	P		**Pn**	**03 25 32.4**	**-0.5**
RAR	**Rarotonga**	**14.72**	**97**	P		**Pn**	**03 26 39.1**	**-3.2**
	5.3nm,0.3s,baz=268,slew=2.1,SNR=5.6							
RAR				S		Sn	03 29 13.7	-12
	9.6nm,0.3s,baz=102,slew=18,SNR=5.0							
RAR	**Rarotonga**	**14.72**	**97**	*e*Pn		**Pn**	**03 26 39.4**	**-2.9**
RAR				*e*Sn		Sn	03 29 13.7	-12
RAR	**Rarotonga**	**14.72**	**97**	S		Sn	03 29 11.8	-14
RAR	**Rarotonga**	**14.72**	**97**	P		**P**	**03 26 45.2**	**+0.9**
DZM	**Mont Dzumac**	**17.00**	**260**	P		**Pn**	**03 27 14.3**	**+3.9**
	18nm,0.3s,baz=87,slew=14,SNR=223							
DZM				LR		LR	03 31 47.7	
	comp=Z,266nm,20.2s,baz=52,slew=30							
DZM	**Mont Dzumac**	**17.00**	**260**	*e*P		**Pn**	**03 27 13.4**	**+3.1**
	2um,0.9s							
DZM	**Mont Dzumac**	**17.00**	**260**	*e*P		**Pn**	**03 27 13.5**	**+3.2**
	709nm,0.8s							
DZM				*e*PcP		**PcP**	**03 31 47.7**	**+0.8**
NFK	**Norfolk Island**	**17.49**	**236**	P		**Pn**	**03 27 18.2**	**+2.1**
	baz=18,SNR=3.9							
OUZ	**Omahuta**	**17.85**	**210**	P		**Pn**	**03 27 24.8**	**+4.5**
MXZ	**Matakaoa Point**	**18.18**	**196**	P		**Pn**	**03 27 25.9**	**+1.7**
KUZ	**Kuaotunu**	**18.25**	**203**	P		**Pn**	**03 27 27.3**	**+2.4**
WMGZ	**Waiomatatini S**	**18.40**	**196**	P		**Pn**	**03 27 28.3**	**+1.6**
WMGZ	**Waiomatatini S**	**18.40**	**196**	S		**S**	**03 30 36.7**	**-10**
HAZ	**Te Kaha**	**18.51**	**197**	P		**Pn**	**03 27 28.0**	**+0.1**
HAZ	**Te Kaha**	**18.51**	**197**	S		S	03 30 37.7	-11
WIAZ	**Waiheke Island**	**18.52**	**204**	P		**Pn**	**03 27 29.4**	**+1.3**
PUZ	**Puketiti**	**18.68**	**196**	P		**Pn**	**03 27 30.2**	**+0.2**
PUZ	**Puketiti**	**18.68**	**196**	S		S	03 30 38.6	-14
RUGZ	**Raukumara Rang**	**18.73**	**197**	P		**P**	**03 27 29.5**	**+1.0**
RUGZ	**Raukumara Rang**	**18.73**	**197**	S		**S**	**03 30 43.0**	**-11**
ETAZ	**East Tamaki Re**	**18.74**	**205**	P		**Pn**	**03 27 34.3**	**+3.7**
MKAZ	**Moumakai**	**18.78**	**204**	P		**Pn**	**03 27 32.1**	**+1.0**
TWGZ	**Tauwhareparae**	**18.85**	**196**	P		**Pn**	**03 27 33.5**	**+1.5**
TWGZ	**Tauwhareparae**	**18.85**	**196**	S		**S**	**03 30 45.7**	**-10**
MWZ	**Matawai**	**19.12**	**197**	P		**Pn**	**03 27 35.2**	**0.0**
MWZ	**Matawai**	**19.12**	**197**	S		**S**	**03 30 53.5**	**-7.6**
URZ	**Urewera**	**19.17**	**198**	P		**P**	**03 27 34.1**	**+1.1**
	5.3nm,0.3s,baz=276,slew=3.2,SNR=31							
URZ				S		**S**	**03 30 53.8**	**-8.1**
	1.1nm,0.3s,baz=66,slew=20,SNR=4.9							
URZ	**Urewera**	**19.17**	**198**	P		**P**	**03 27 34.0**	**+1.0**
URZ	**Urewera**	**19.17**	**198**	S		**S**	**03 30 54.2**	**-7.7**
TOZ	**Tahuroa Road**	**19.21**	**202**	P		**Pn**	**03 27 37.3**	**+1.2**
RIGZ	**Rimuhau**	**19.41**	**196**	P		**Pn**	**03 27 38.8**	**+0.3**
RIGZ	**Rimuhau**	**19.41**	**196**	S		**S**	**03 30 57.4**	**-9.3**
RTZ	**Ruatahuna**	**19.54**	**198**	P		**Pn**	**03 27 39.1**	**-0.9**
SNGZ	**Shannon Statio**	**19.59**	**197**	P		**Pn**	**03 27 40.9**	**+0.3**
SNGZ	**Shannon Statio**	**19.59**	**197**	S		**S**	**03 31 04.5**	**-5.8**
KNZ	**Kokohu**	**19.73**	**196**	P		**Pn**	**03 27 41.7**	**-0.5**
KNZ	**Kokohu**	**19.73**	**196**	S		S	**03 31 04.7**	**-8.1**
MRHZ	**Matea Rd**	**19.91**	**199**	P		**P**	**03 27 39.2**	**-1.9**
HIZ	**Hauiti**	**20.13**	**203**	*e*P		Pn	03 27 47.1	+0.1
	85nm,1.1s							
BKZ	**Black Stump Fm**	**20.19**	**198**	*e*P		**P**	**03 27 44.6**	**+0.5**
	15nm,0.7s							
BKZ				*e*S		**S**	**03 31 23.6**	**+1.5**
BFZ	**Birch Farm**	**21.66**	**197**	*e*P		**P**	**03 28 01.5**	**+1.7**
	104nm,1.4s							
THZ	**Tophouse**	**23.70**	**202**	*e*P		**P**	**03 28 20.9**	**+1.7**
	36nm,0.6s							
THZ				*e*S		**S**	**03 32 29.1**	**+6.4**
KHZ	**Kahutara**	**24.07**	**200**	*e*P		**P**	**03 28 22.8**	**+0.4**
	27nm,0.7s							
TARA	**Tarawa**	**24.22**	**331**	*e*P		**P**	**03 28 21.9**	**-2.1**
	191nm,1.1s							
TBI	**Tubuai**	**24.34**	**102**	*e*T		T	03 52 54.2	
	22nm,0.3s							
PAE	**Paea**	**24.60**	**89**	*e*T		T	03 52 51.2	
	6.9nm,0.2s							
PPT2	**Papeete2**	**24.61**	**88**	*e*P		**P**	**03 28 27.3**	**-0.4**
	68nm,1.1s							
PPT2	**Papeete2**	**24.61**	**88**	*e*T		T	03 52 53.2	
	5.6nm,0.3s							
PPT	**Papeete**	**24.62**	**88**	P		**P**	**03 28 27.5**	**-0.2**
	67nm,1.0s,baz=243,slew=6.7,SNR=4.6							
PPTF	**Pamatai, Papee**	**24.62**	**88**	*e*P		**P**	**03 28 27.7**	**-0.1**
	92nm,1.1s							
LTZ	**Lake Taylor**	**24.82**	**202**	*e*P		**P**	**03 28 29.8**	**+0.5**
	41nm,0.7s							
TIAR	**Tiarei**	**24.83**	**88**	*e*P		**P**	**03 28 28.8**	**-0.9**
	32nm,0.9s							
OXZ	**Oxford**	**25.38**	**202**	*e*P		**P**	**03 28 34.7**	**+0.4**
	43nm,0.7s							
MQZ	**McQueen's Vall**	**25.51**	**200**	*e*P		**P**	**03 28 36.0**	**+0.5**
	14nm,0.7s							
HNR	**Honiara**	**26.02**	**291**	P		**P**	**03 28 40.2**	**-0.2**
	141nm,0.7s,baz=218,slew=12,SNR=3.5							
HNR				S		**S**	**03 32 51.0**	**-8.8**
	84nm,0.3s,baz=285,slew=11,SNR=3.8							
RPZ	**Rata Peaks**	**26.07**	**203**	P		**P**	**03 28 44.1**	**+3.6**
	36nm,0.6s,baz=345,slew=2.1,SNR=18							
RPZ				S		S	03 33 13.4	+13
	5.4nm,0.6s,baz=315,slew=19,SNR=3.4							
RPZ	**Rata Peaks**	**26.07**	**203**	*e*P		**P**	**03 28 44.1**	**+3.6**
	43nm,0.9s							
FOZ	**Fox Glacier**	**26.38**	**205**	*e*P		**P**	**03 28 44.5**	**+1.2**
	255nm,1.5s							
PMOR	**Pomariorio Ree**	**26.75**	**83**	*e*P		**P**	**03 28 46.0**	**-0.9**
	120nm,1.2s							
LBZ	**Lake Benmore**	**26.97**	**203**	*e*P		**P**	**03 28 49.6**	**+1.0**
	29nm,0.5s							
ODZ	**Otahua Downs**	**27.37**	**202**	*e*P		**P**	**03 28 54.3**	**+2.2**
	12nm,0.9s							
EIDS	**Eidsvold**	**31.24**	**254**	P		**P**	**03 29 27.7**	**+1.0**
	baz=31,SNR=15							
EIDS	**Eidsvold**	**31.24**	**254**	*e*P		**P**	**03 29 27.4**	**+0.8**
	43nm,0.8s							
ARMA	**Armidale**	**31.37**	**244**	P		**P**	**03 29 29.6**	**+1.7**
	baz=32,SNR=9.8							
ARMA	**Armidale**	**31.37**	**244**	*e*P		**P**	**03 29 29.2**	**+1.4**
	19nm,0.8s							
RMQ	**Roma**	**33.39**	**252**	P		**P**	**03 29 47.5**	**+2.1**
	baz=34,SNR=9.6							
CNB	**Canberra Magne**	**34.41**	**237**	P		**P**	**03 29 55.0**	**+0.9**
	baz=35,SNR=7.2							
CTAO	**Charters Tower**	**35.90**	**263**	*e*P		**P**	**03 30 07.3**	**+0.2**
	121nm,1.0s							
CMSA	**Cobar Meteorol**	**36.59**	**244**	P		**P**	**03 30 12.8**	**+0.1**
	baz=37,SNR=22							
QLP	**Quilpie**	**37.44**	**252**	P		**P**	**03 30 20.8**	**+0.8**
	baz=38,SNR=8.6							
PMG	**Port Moresby**	**37.61**	**281**	*e*P		**P**	**03 30 21.6**	**+0.1**
	211nm,0.9s							
RKT	**Rikitea**	**37.66**	**102**	*e*T		T	04 09 26.9	
	7.5nm,0.3s							
MTSU	**Mount Surprise**	**38.00**	**266**	P		**P**	**03 30 24.9**	**+0.1**
	baz=38,SNR=69							
TOO	**Toolangi**	**38.04**	**234**	P		**P**	**03 30 25.6**	**+0.7**
	baz=38,SNR=11							
TOO	**Toolangi**	**38.04**	**234**	P		**P**	**03 30 27.4**	**+2.5**
TOO				pmax		pmax		
	comp=Z,37nm,1.2s							
COEN	**Coen**	**39.95**	**272**	P		**P**	**03 30 41.2**	**+0.2**
	baz=40,SNR=47							
COEN	**Coen**	**39.95**	**272**	*e*P		**P**	**03 30 41.1**	**+0.1**
	comp=Z,136nm,0.8s							
STKA	**Stephens Creek**	**40.09**	**244**	P		**P**	**03 30 42.1**	**+0.1**
	comp=Z,7.4nm,0.5s,baz=99,slew=11,SNR=20							
STKA				PcP		**PcP**	**03 32 45.5**	**+1.8**
	comp=Z,7.5nm,0.7s,baz=85,slew=1.3,SNR=5.3							
STKA				S		**S**	**03 36 34.9**	**-1.7**
	comp=Z,1.0nm,0.7s,baz=139,slew=19,SNR=3.5							
STKA				LR		LR	03 46 02.9	
	comp=Z,98nm,18.6s,baz=51,slew=34							
STKA	**Stephens Creek**	**40.09**	**244**	P		**P**	**03 30 42.2**	**+0.1**
	baz=40,SNR=14							
STKA	**Stephens Creek**	**40.09**	**244**	*e*P		**P**	**03 30 42.1**	**+0.1**
	comp=Z,6.1nm,1.3s							
STKA				*e*PcP		**PcP**	**03 32 45.5**	**+1.8**
STKA				*e*S		**S**	**03 36 34.9**	**-1.7**
MANU	**Manus Island**	**40.51**	**292**	*e*P		**P**	**03 30 45.5**	**-0.2**
	comp=Z,258nm,0.8s							
QIS	**Mount Isa**	**42.03**	**261**	P		**P**	**03 30 57.2**	**-0.9**
	baz=42,SNR=7.3							
HTT	**Hallett**	**42.50**	**242**	P		**P**	**03 31 01.3**	**-0.5**
	baz=43,SNR=9.7							
BBOO	**Buckleboo**	**44.84**	**243**	P		**P**	**03 31 19.8**	**-0.5**
	baz=45,SNR=19							
BBOO	**Buckleboo**	**44.84**	**243**	*e*P		**P**	**03 31 19.9**	**-0.5**
	comp=Z,58nm,1.5s							
GENI	**Genyem**	**46.67**	**286**	P		**P**	**03 31 34.9**	**0.0**
AS01	**Alice Springs**	**46.88**	**256**	*e*P		**P**	**03 31 34.9**	**-1.6**
AS01				*e*PcP		**PcP**	**03 33 07.0**	**+0.2**
AS31	**Alice Springs**	**46.92**	**256**	*e*P		**P**	**03 31 36.5**	**-0.3**
	comp=Z,34nm,0.8s							
AS31				*e*PcP		**PcP**	**03 33 07.4**	**+0.4**
ASAR	**Alice Springs**	**46.92**	**256**	P		**P**	**03 31 36.7**	**-0.1**
	comp=Z,128nm,0.8s,baz=92,slew=7.7,SNR=644							
ASAR				PcP		**PcP**	**03 33 07.4**	**+0.4**
	comp=Z,20nm,0.7s,baz=107,slew=4.0,SNR=14							
ASAR				ScP		**ScP**	**03 36 49.4**	**+3.2**
	comp=Z,2.3nm,0.9s,baz=90,slew=3.9,SNR=5.0							
ASAR				S		**S**	**03 38 13.5**	**-2.8**
	comp=Z,2.2nm,0.9s,baz=91,slew=16,SNR=8.3							
WB2	**Warramunga Arr**	**47.00**	**261**	*e*P		**P**	**03 31 36.7**	**-0.8**
	comp=Z,58nm,0.9s							
WRAB	**Tennant Creek**	**47.01**	**261**	*e*P		**P**	**03 31 37.1**	**-0.4**
	comp=Z,52nm,0.9s							
WRAB	**Tennant Creek**	**47.01**	**261**	*de*P		**P**	**03 31 36.7**	**-0.8**
WRAB				pmax		pmax		
	comp=Z,54nm,0.9s							
WR1	**Warramunga Arr**	**47.02**	**261**	*e*P		**P**	**03 31 36.7**	**-0.9**
	comp=Z,62nm,0.9s							
WR1				*e*PcP		**PcP**	**03 33 08.1**	**+0.7**
WR1				*e*ScP		**ScP**	**03 36 50.0**	**+3.4**
WRA	**Warramunga Arr**	**47.02**	**261**	P		**P**	**03 31 36.7**	**-0.9**
	comp=Z,22nm,0.4s,baz=97,slew=5.3,SNR=341							
WRA				PcP		**PcP**	**03 33 08.1**	**+0.7**
	comp=Z,11nm,0.7s,baz=96,slew=3.4,SNR=10.0							
WRA				ScP		**ScP**	**03 36 50.0**	**+3.4**
	comp=Z,1.5nm,1.0s,baz=93,slew=4.7,SNR

KNRA **Kununurra** 53.07 265 P P 03 32 22.9 -0.3
baz=53,SNR=9.4
FAKI **Fak Fak** 53.76 282 P P 03 32 27.5 -0.8
FAKI **Fak Fak** 53.76 282 *eP* P 03 32 27.3 -1.0
comp=Z,220nm,1.3s
BNDI **Bandanaira** 55.33 279 P P 03 32 40.6 +1.0
VNDA **Vanda** 58.48 186 P P 03 33 03.8 +3.0
comp=Z,4.8nm,0.8s,baz=12,slow=7.6,SNR=10
SOEI **Soe** 58.88 271 P P 03 33 05.7 +1.0
comp=Z,246nm,0.9s,comp=Z,2um
SOEI **Soe** 58.88 271 *eP* P 03 33 06.0 +1.3
comp=Z,165nm,0.7s
BATI **Baumata** 59.31 270 P P 03 33 08.9 +1.3
comp=Z,87nm,0.7s,baz=108,slow=6.4,SNR=13
TNTI **Ternate** 59.69 283 *eP* P 03 33 10.2 +0.1
comp=Z,141nm,0.9s
SANI **Sanana** 59.87 280 P P 03 33 10.7 -0.6
MBWA **Marble Bar** 60.26 257 *eP* P 03 33 13.3 -0.6
comp=Z,23nm,0.8s
MEEK **Meekatharra** 60.29 250 P P 03 33 13.0 -1.1
baz=60,SNR=6.2
KLBR **Kellerberrin** 60.37 244 P P 03 33 14.2 -0.3
baz=60,SNR=6.8
NWAO **Narrogin (SRO)** 60.66 243 LR LR 03 58 07.2
comp=Z,59nm,18.9s,slow=34
BLDU **Ballidu** 61.38 245 P P 03 33 20.9 -0.4
baz=62,SNR=5.0
LUWI **Luwuk** 63.23 279 P P 03 33 35.4 +1.6
LUWI **Luwuk** 63.23 279 *eP* P 03 33 34.2 +0.4
comp=Z,109nm,1.2s
KAPI **Kappang** 64.64 274 *eP* P 03 33 42.5 -0.6
comp=Z,16nm,1.0s
PLAI **Plampang** 65.26 269 P P 03 33 47.7 +0.6
CASY **Casey** 65.30 205 *eP* P 03 33 48.4 +1.9
comp=Z,26nm,0.9s
JHJ **Hachijo jima 2** 68.06 320 P P 03 34 03.8 -0.6
comp=Z,160nm,0.9s,baz=111,slow=8.6,SNR=6.2
JAGI **Jajag, Banyuwa** 68.78 269 P P 03 34 09.1 -0.2
JAGI **Jajag, Banyuwa** 68.78 269 *eP* P 03 34 07.8 -1.6
comp=Z,43nm,0.9s
MYLDM **Lahad Datu** 69.56 284 *eP* P 03 34 16.6 +2.4
comp=Z,32nm,1.0s
QSPA **South Pole Qui** 69.92 180 P P 03 34 18.5 +2.8
comp=Z,23nm,0.7s,baz=49,slow=1.4,SNR=65
QSPA **South Pole Qui** 69.92 180 *eP* P 03 34 18.3 +2.6
comp=Z,29nm,0.8s
INU **Inuyama** 71.25 320 *eP* P 03 34 23.6 -0.4
comp=Z,44nm,1.4s
MJAR **Matsushiro Arr** 71.37 322 P P 03 34 23.4 -1.2
comp=Z,36nm,0.9s,baz=162,slow=6.1,SNR=74
MJAR PKKP **PKKPdf** 03 54 07.0 +4.5
comp=Z,2.2nm,0.4s,baz=318,slow=4.6,SNR=10
MAJO **Matsushiro** 71.37 322 *eP* P 03 34 23.6 -1.0
MAJO **Matsushiro** 71.37 322 *d iP* P 03 34 23.6 -1.0
MAJO pmax pmax
comp=Z,41nm,0.8s
MAT **Matsushiro** 71.37 322 P P 03 34 23.5 -1.2
MJB9 **Matsu-Tunnel** 71.38 322 *eP* P 03 34 23.9 -0.8
comp=Z,36nm,0.8s
JOW **Kunigami** 71.79 309 P P 03 34 27.7 +0.3
comp=Z,12nm,0.5s,baz=86,slow=19,SNR=3.6
JOW **Kunigami** 71.79 309 *eP* P 03 34 27.7 +0.3
comp=Z,264nm,1.7s
KKM **Kota Kinabalu** 71.99 284 *eP* P 03 34 28.9 -0.1
comp=Z,38nm,0.6s
UGM **Wanagama** 72.36 268 *eP* P 03 34 30.8 -0.3
comp=Z,100nm,0.6s
KUR **Kuril'sk** 73.13 334 *li iP* P 03 34 35.8 +1.0
JNU **Nakatsue** 73.68 315 P P 03 34 37.9 -0.6
comp=Z,17nm,1.1s,baz=85,slow=1.1,SNR=7.0
JNU **Nakatsue** 73.68 315 *eP* P 03 34 37.9 -0.6
comp=Z,42nm,1.3s
SBUM **Sibu** 74.31 279 *eP* P 03 34 43.0 +0.5
comp=Z,72nm,1.8s
ASAJ **Asahikawa** 74.58 330 P P 03 34 43.0 -0.3
comp=Z,15nm,0.5s,baz=209,slow=4.6,SNR=28
ASAJ **Asahikawa** 74.58 330 *eP* P 03 34 43.2 -0.2
comp=Z,28nm,1.0s
LEM **Lembang** 75.44 268 P P 03 34 49.4 +0.2
comp=Z,86nm,0.7s,baz=102,slow=9.3,SNR=14
NACB **Ninganchiao** 75.47 303 *eP* P 03 34 47.8 -1.1
comp=Z,73nm,1.2s
KSM **Kuching** 75.73 277 *eP* P 03 34 50.5 -0.1
comp=Z,194nm,2.0s
SSLB **Suanglung** 75.79 302 *eP* P 03 34 49.3 -1.4
comp=Z,39nm,1.5s
TPUB **Ta-pu** 75.81 302 *eP* P 03 34 48.6 -2.3
comp=Z,41nm,0.7s
PKM **Mcpherson Peak** 76.06 44 P P 03 34 52.6 +0.3
baz=233
SAO **San Andreas Ge** 76.15 42 *eP* P 03 34 52.2 -0.3
comp=Z,12nm,0.9s
SAO *eP* pP 03 35 30.1 -0.6
SMMC **Simmler** 76.19 44 P P 03 34 53.4 +0.6
baz=233
RDG13 **Poverty Ridge** 76.38 41 *eP* P 03 34 54.4 +0.5
comp=Z,13nm,1.0s
RDG13 *eP* pP 03 35 32.4 +0.2
HOPS **Hopland Field** 76.56 39 *eP* P 03 34 55.4 +0.7
HOPS *eP* pP 03 35 32.9 -0.2
PEA0B **Petropavlovsk-** 76.57 344 *eP* P 03 34 53.7 -0.8
comp=Z,175nm,1.8s
PETK **Petropavlovsk-** 76.57 344 P P 03 34 53.5 -1.0
comp=Z,22nm,0.7s,baz=126,slow=7.8,SNR=44
PEA1 **Petropavlovsk-** 76.58 344 *eP* P 03 34 53.5 -1.0
YSS **Yuzh-Sakhalins** 76.68 332 *eP* P 03 34 53.7 -1.5
comp=Z,32nm,0.7s
YSS **Yuzh-Sakhalins** 76.68 332 *eP* P 03 34 55.6 +0.5
YSS *e* 03 35 08.0
YSS pmax pmax
comp=Z,40nm,1.1s
MWC **Mount Wilson** 76.83 46 *eP* P 03 34 55.0 -1.6
comp=Z,9.4nm,0.8s
MWC *eP* pP 03 35 34.9 -0.1
ARVC **Arvin** 76.85 45 P P 03 34 56.8 +0.3
baz=234
KMRM **Mail Ridge** 76.98 38 *eP* P 03 34 58.3 +1.1
comp=Z,51nm,0.8s
KMRM *eP* pP 03 35 36.3 +0.8
VES **Vestal, Richgr** 77.10 44 P P 03 34 57.9 +0.1
baz=233,SNR=8.4
BFSC **Mount Baldy Ra** 77.11 46 P P 03 34 58.1 0.0
baz=235
MONP2 **Monument Peak** 77.19 48 P P 03 34 59.0 +0.4
baz=236
EDW2 **Edwards Air Fo** 77.26 45 P P 03 34 59.1 +0.3
baz=234,SNR=12
IKP **In-Ko-Pah, Jac** 77.27 48 P P 03 34 59.4 +0.4
baz=236
ISA **Isabella, Lake** 77.40 44 P P 03 35 00.1 +0.6
baz=234,SNR=13
ISA **Isabella, Lake** 77.40 44 *eP* P 03 34 60.0 +0.4
comp=Z,17nm,1.1s
ISA *eP* pP 03 35 36.8 -1.2
ISA **Isabella, Lake** 77.40 44 P P 03 35 00.0 +0.4
PFO **Pinyon Flats O** 77.57 47 P P 03 35 01.1 +0.4
baz=236
CMB **Columbia Colle** 77.60 42 *eP* P 03 35 00.7 +0.1
comp=Z,7.7nm,0.8s
CMB *eP* pP 03 35 38.5 -0.5
CMB **Columbia Colle** 77.60 42 P P 03 35 00.7 +0.1
SWSC **Sam W. Stewart** 77.65 48 P P 03 35 01.4 +0.4
baz=236
AFDM **Forest Hills D** 77.80 40 *eP* P 03 35 02.0 +0.3
comp=Z,6.0nm,0.9s
AFDM *eP* pP 03 35 40.6 +0.5
LRMC **Laurel Mtn Rad** 77.81 45 P P 03 35 02.4 +0.4
baz=234
ORV **Oroville** 77.86 40 *eP* P 03 35 01.8 -0.2
comp=Z,5.8nm,0.9s
ORV *eP* pP 03 35 40.4 0.0
ORV **Oroville** 77.86 40 P P 03 35 01.8 -0.2
WDC **Whiskeytown Da** 77.90 38 *eP* P 03 35 02.3 +0.2
comp=Z,9.6nm,0.9s
WDC *eP* pP 03 35 41.3 +0.8
WDC **Whiskeytown Da** 77.90 38 P P 03 35 02.3 +0.2
N02D **Trinity Center** 78.05 38 P P 03 35 03.8 +0.7
baz=230,SNR=6.8
BELC **Belle Mtn. Jos** 78.11 47 P P 03 35 04.0 +0.4
baz=236
CWC **Cottonwood Cre** 78.11 44 P P 03 35 04.0 +0.4
baz=234
O03D **Paynes Creek** 78.15 39 P P 03 35 03.7 0.0
baz=231
MDPB **Devils Postpil** 78.18 42 *eP* P 03 35 04.8 +0.7
comp=Z,10.0nm,0.9s
MDPB *eP* pP 03 35 42.5 -0.1
OMMB **Old Mammoth Mi** 78.22 43 *eP* P 03 35 05.1 +0.7
comp=Z,12nm,1.2s
OMMB *eP* pP 03 35 43.4 +0.6
KSRS **Korea Array** 78.23 317 P P 03 35 04.2 +0.2
comp=Z,5.1nm,0.7s,baz=143,slow=6.1,SNR=15
M02C **Callahan** 78.24 38 P P 03 35 04.8 +0.7
baz=230,SNR=5.1
KS15 **Wonju Array Si** 78.25 317 *eP* P 03 35 04.2 +0.1
KSAR **Wonju Array Be** 78.25 317 P P 03 35 04.2 +0.1
KS01 **Wonju Array Si** 78.26 317 *eP* P 03 35 04.4 +0.2
MPMC **Manual Prospec** 78.28 45 P P 03 35 05.1 +0.5
baz=234
GSC **Goldstone, Bar** 78.30 46 P P 03 35 04.9 +0.3
baz=235,SNR=8.0
GSC **Goldstone, Bar** 78.30 46 *eP* P 03 35 05.2 +0.6
comp=Z,9.9nm,1.1s
GSC *eP* pP 03 35 42.7 -0.4
L02D **Cave Junction,** 78.31 37 P P 03 35 04.5 +0.1
baz=229
MLAC **Mammoth, Mammo** 78.33 43 P P 03 35 05.3 +0.4
baz=233
DAC **Darwin (Calif)** 78.33 44 *eP* P 03 35 04.0 -0.9
DAC *eP* pP 03 35 43.4 0.0
DAC **Darwin (Calif)** 78.33 44 P P 03 35 04.0 -0.9
HEC **Hector,Ludlow** 78.34 46 P P 03 35 05.1 +0.2
baz=236
TIN **Tinemaha, Big** 78.38 43 P P 03 35 05.7 +0.7
baz=234
GLA **Glamis** 78.39 48 P P 03 35 05.9 +0.8
baz=237
WAKR **Walker** 78.48 42 *eP* P 03 35 06.5 +0.9
comp=Z,14nm,1.0s
WAKR *eP* pP 03 35 44.5 +0.4
YBH **Yreka Blue Hor** 78.54 37 P P 03 35 06.3 +0.5
comp=Z,8.5nm,0.7s,baz=278,slow=1.6,SNR=23
YBH **Yreka Blue Hor** 78.54 37 *eP* P 03 35 06.3 +0.5
comp=Z,11nm,0.9s
YBH *eP* pP 03 35 44.8 +0.5
BEKR **Beckworth** 78.74 40 *eP* P 03 35 07.2 +0.1
comp=Z,7.4nm,0.7s
GMRC **Granite Mounta** 78.78 46 P P 03 35 07.6 +0.3
baz=236
IRM **Iron Mountain** 78.78 47 P P 03 35 07.8 +0.6
baz=236,SNR=5.9
VCNR **Virginia City** 78.83 41 *eP* P 03 35 08.2 +0.7
comp=Z,8.8nm,0.8s
YERR **Yerington** 78.89 41 *eP* P 03 35 06.9 -1.0
comp=Z,14nm,0.8s
GRAC **Grapevine Rang** 78.90 44 P P 03 35 08.5 +0.7
baz=234
FURC **Furnace Creek,** 78.92 45 P P 03 35 08.4 +0.5
baz=235
TUQ **Turquoise Moun** 78.96 46 P P 03 35 08.6 +0.3
baz=236
HUMO **Hull Mountain** 78.97 37 *eP* P 03 35 08.9 +0.9
comp=Z,24nm,1.5s
113A **Mohawk Valley,** 78.99 49 *eP* P 03 35 09.3 +1.0
113A *eP* pP 03 35 46.5 -0.3
Y12C **Blythe** 78.99 48 P P 03 35 08.8 +0.5
baz=237
Y12C **Blythe** 78.99 48 *eP* P 03 35 05.9 -2.3
Y12C *eP* pP 03 35 46.3 -0.5
SHOC **Shoshone, Teco** 78.99 45 P P 03 35 08.6 +0.3
baz=235
M04C **Macdoel** 79.07 38 P P 03 35 08.9 +0.2
baz=230
RYN **Ryan** 79.12 42 *eP* P 03 35 09.8 +0.7
comp=Z,7.5nm,0.8s
RYN *eP* pP 03 35 48.5 +0.8
NV01 **Mina Array Sit** 79.14 42 *eP* P 03 35 09.3 0.0
NV01 *eP* pP 03 35 46.2 -1.6
NVAR **Mina Array Bea** 79.14 42 P P 03 35 09.6 +0.3
comp=Z,13nm,0.7s,baz=224,slow=9.2,SNR=73
NVAR pP pP 03 35 46.2 -1.6
comp=Z,8.2nm,0.9s,baz=225,slow=8.4,SNR=4.2
NV11 **Mina Array Sit** 79.24 42 *eP* P 03 35 10.1 +0.4
comp=Z,1.4nm,1.0s
NV11 *eP* pP 03 35 47.4 -0.9
PAHR **Pah Rah Range** 79.24 41 *eP* P 03 35 10.3 +0.6
comp=Z,12nm,1.0s
214A **Organ Pipe Nat** 79.24 50 P P 03 35 10.4 +0.6
baz=238
214A **Organ Pipe Nat** 79.24 50 *eP* P 03 35 08.5 -1.3
comp=Z,41nm,1.3s
LDFC **Landfair** 79.31 46 *eP* P 03 35 11.5 +1.3
comp=Z,28nm,1.1s
MSHR **Mys Shultsa** 79.45 323 *i P* P 03 35 11.0 +0.4
PDMCI **Parker Dam,Lak** 79.56 48 P P 03 35 12.1 +0.8
baz=237,SNR=5.9
TPNV **Topopah Spring** 79.61 44 P P 03 35 12.1 +0.3
baz=235
TPNV **Topopah Spring** 79.61 44 *eP* P 03 35 11.8 +0.1
comp=Z,13nm,0.8s
TPNV *eP* pP 03 35 50.3 0.0
KVN **Kaiserville** 79.64 42 *eP* P 03 35 12.2 +0.2
comp=Z,11nm,0.8s
KVN *eP* pP 03 35 50.6 +0.1
J04D **Umpqua Nationa** 79.85 37 P P 03 35 13.3 +0.3
baz=230,SNR=7.1
KDAK **Kodiak Island** 79.94 12 *i P* P 03 35 12.2 -0.6
USRK **Usuriysk Ar.** 80.04 325 P P 03 35 14.4 +0.7
comp=Z,8.6nm,0.8s,baz=128,slow=3.1,SNR=16
MOD **Modoc Plateau** 80.04 38 *eP* P 03 35 14.1 +0.2
comp=Z,14nm,0.8s
MOD *eP* pP 03 35 54.0 +1.4
SHPR **Sheep Range** 80.08 45 *eP* P 03 35 15.1 +0.8
comp=Z,11nm,1.2s
SHPR *eP* pP 03 35 53.1 +0.1
Y14A **Wickenburg** 80.15 48 *eP* P 03 35 15.4 +0.8
Y14A *eP* pP 03 35 52.5 -0.7
W13A **Hualapai Mount** 80.17 47 *eP* P 03 35 16.0 +1.1
comp=Z,8.8nm,1.3s
K05A **Summer Lake** 80.21 38 *eP* P 03 35 15.5 +0.5
comp=Z,27nm,0.9s
J05D **Fort Rock, OR** 80.37 37 P P 03 35 16.2 +0.5
baz=231
R11A **Troy Canyon, C** 80.83 44 P P 03 35 18.7 +0.3
baz=236
R11A **Troy Canyon, C** 80.83 44 *eP* P 03 35 18.2 -0.1
comp=Z,21nm,1.9s
PINE **Pine Mountain** 80.86 37 *eP* P 03 35 18.9 +0.5
comp=Z,22nm,0.8s
TUC **Tucson** 80.89 51 P P 03 35 19.8 +1.1
baz=239
TUC **Tucson** 80.89 51 *eP* P 03 35 19.8 +1.1
comp=Z,8.8nm,0.9s
TUC *eP* pP 03 35 57.0 -0.4
TUC **Tucson** 80.89 51 P P 03 35 19.8 +1.1
I05D **Terrebonne, OR** 80.98 36 P P 03 35 19.0 +0.2
baz=230
BMN **Battle Mountai** 81.00 41 *eP* P 03 35 19.8 +0.6
comp=Z,10nm,0.8s
BMN *eP* pP 03 35 58.0 +0.1
WVOR **Wild Horse Val** 81.34 39 *eP* P 03 35 21.4 +0.5
comp=Z,15nm,1.0s
WVOR *eP* pP 03 35 59.8 +0.2
WVOR **Wild Horse Val** 81.34 39 P P 03 35 21.4 +0.5
X16A **Lo Mia Camp, P** 81.51 49 *eP* P 03 35 23.2 +1.2
comp=Z,11nm,1.0s
X16A *eP* pP 03 36 01.7 +0.9
NJ2 **Nanjing** 81.51 309 *eP* P 03 35 22.6 +0.8
NJ2 pmax pmax
comp=Z,18nm,0.7s
319A **Douglas** 81.53 52 *eP* P 03 35 23.8 +1.7
comp=Z,14nm,0.8s
319A *eP* pP 03 36 02.4 +1.5
G05D **Wamic, OR** 81.57 35 P P 03 35 22.2 +0.4
baz=230
MDJ **Mudanjiang** 81.62 324 P P 03 35 21.1 -1.0
MDJ pmax pmax
comp=Z,63nm,1.1s
MDJ pmax pmax
comp=Z,150nm,3.7s
MDJ **Mudanjiang** 81.62 324 *eP* P 03 35 23.1 +1.0
comp=Z,124nm,1.4s
LCMT **Little Creek M** 81.64 46 *eP* P 03 35 23.4 +0.9
LCMT *eP* pP 03 36 01.6 +0.3
CCUT **Cedar City** 81.85 45 *eP* P 03 35 25.1 +1.3
comp=Z,5.6nm,0.9s
CCUT *eP* pP 03 36 03.0 +0.4
MYKOM **Kota Tinggi** 81.88 275 *eP* P 03 35 24.4 +0.2
comp=Z,73nm,1.6s
KNB **Kanab** 81.92 46 *eP* P 03 35 23.4 -0.7
comp=Z,16nm,1.4s
G06A **Carlson Farm,** 81.94 36 *eP* P 03 35 24.1 +0.3
comp=Z,35nm,1.6s
U15A **North Rim** 81.97 47 *eP* P 03 35 25.6 +1.1
comp=Z,11nm,0.8s
U15A *eP* pP 03 36 03.9 +0.6
J08A **Circle Bar Ran** 82.00 38 *eP* P 03 35 24.5 +0.2
comp=Z,11nm,0.9s
J08A *eP* pP 03 36 03.4 +0.4
WUAZ **Wupatki** 82.12 48 P P 03 35 26.2 +1.0
baz=239
WUAZ **Wupatki** 82.12 48 *eP* P 03 35 26.5 +1.3
comp=Z,16nm,1.3s
X18A **Snowflake** 82.62 49 *eP* P 03 35 29.1 +1.3
comp=Z,32nm,1.6s
MAW **Mawson** 82.69 199 P P 03 35 29.6 +2.2
comp=Z,8.5nm,0.6s,baz=139,slow=6.2,SNR=24
MAW **Mawson** 82.69 199 P P 03 35 29.4 +2.0
baz=83,SNR=12
MAW **Mawson** 82.69 199 *eP* P 03 35 29.4 +2.0
comp=Z,2.1nm,0.6s
G08A **Pilot Rock** 82.90 36 *eP* P 03 35 29.1 +0.2
comp=Z,20nm,1.0s
W18A **Petrified Fore** 83.07 49 P P 03 35 31.1 +1.0
baz=240,SNR=5.6
W18A **Petrified Fore** 83.07 49 *eP* P 03 35 31.5 +1.4
comp=Z,29nm,1.5s
A04D **Lummi Island** 83.10 32 P P 03 35 30.0 +0.4
baz=229
B05A **Bryant** 83.11 33 P P 03 35 29.9 +0.2
baz=230
MSU **Marysvale** 83.16 45 *eP* P 03 35 31.6 +1.1
MSU *eP* pP 03 36 10.5 +1.1
LTY **Liberty** 83.20 34 *eP* P 03 35 30.5 +0.2
comp=Z,18nm,1.4s
121A **Cookes Peak, D** 83.20 52 P P 03 35 32.1 +1.2
baz=241
121A **Cookes Peak, D** 83.20 52 *eP* P 03 35 31.0 +0.1
comp=Z,9.0nm,0.7s
HAWA **Hanford** 83.27 35 *eP* P 03 35 31.2 +0.6
comp=Z,23nm,1.1s
KLR **Kul'dur** 83.46 328 P P 03 35 31.5 0.0
comp=Z,0.6nm,0.6s,baz=108,slow=5.5,SNR=13
KLR **Kul'dur** 83.46 328 *li iP* P 03 35 31.3 -0.2
CN2 **Changchun** 83.50 321 *eP* P 03 35 33.6 +1.8
CN2 pmax pmax
comp=Z,10.0nm,0.7s
RC01 **Rabbit Creek A** 83.56 12 *eP* P 03 35 30.9 -0.8
comp=Z,14nm,1.0s
BMO **Blue Mountains** 83.57 37 *eP* P 03 35 32.2 -0.1
comp=Z,7.8nm,0.8s
MFID **Camas Ranch** 83.59 39 *eP* P 03 35 32.6 +0.1
comp=Z,12nm,0.9s
DUG **Dugway, Tooele** 83.65 43 P P 03 35 32.9 0.0
baz=237
DUG **Dugway, Tooele** 83.65 43 *eP* P 03 35 33.3 +0.5
comp=Z,18nm,1.7s
DUG **Dugway, Tooele** 83.65 43 P P 03 35 33.4 +0.5
DUG pmax pmax
comp=Z,18nm,1.7s
GAMB **Gambell** 83.70 2 *eP* P 03 35 32.1 -0.2
comp=Z,34nm,0.6s
SUA **Susitna One** 83.71 12 *eP* P 03 35 31.6 -1.1
comp=Z,12nm,0.8s
NLU **North Lily Min** 84.00 44 *eP* P 03 35 35.5 +0.7
comp=Z,3.6nm,0.9s
D08A **Wollman Farm,** 84.01 35 *eP* P 03 35 35.0 +0.6
comp=Z,17nm,0.8s
SKT **Skwentna** 84.04 11 *eP* P 03 35 32.9 -1.3
comp=Z,7.1nm,0.9s
MA2 **Magadan** 84.10 343 P P 03 35 33.1 -1.4
comp=Z,7.4nm,0.7s,baz=142,slow=5.5,SNR=8.2
MA2 **Magadan** 84.10 343 *eP* P 03 35 33.3 -1.3
comp=Z,80nm,2.0s
MA2 **Magadan** 84.10 343 *i P* P 03 35 33.2 -1.4
MA2 pmax pmax
comp=Z,33nm,1.9s
PMR **Palmer** 84.14 12 *eP* P 03 35 33.5 -1.1
comp=Z,21nm,1.3s
TMUT **Trail Mountain** 84.21 45 *eP* P 03 35 37.2 +1.2
comp=Z,19nm,0.8s
F10A **Beach Ranch, E** 84.28 37 *eP* P 03 35 35.6 -0.3
comp=Z,22nm,0.8s
F10A *eP* pP 03 36 14.6 -0.3
MPU **Maple Canyon** 84.31 44 *eP* P 03 35 36.8 +0.5
comp=Z,6.6nm,0.9s
GHO **Glory Hole Cre** 84.35 12 *eP* P 03 35 34.9 -0.9
comp=Z,20nm,0.8s
DIV **Divide** 84.44 14 *eP* P 03 35 35.4 -1.0
comp=Z,21nm,0.8s
HLID **Hailey** 84.52 40 P P 03 35 37.8 +0.6
baz=236
HLID **Hailey** 84.52 40 *eP* P 03 35 37.8 +0.6
comp=Z,14nm,0.8s
HVU **Hansel Valley** 84.53 42 *eP* P 03 35 36.4 -1.0
comp=Z,4.3nm,0.7s
SRU **San Rafael Swe** 84.57 45 *eP* P 03 35 38.2 +0.6
comp=Z,15nm,0.8s
SRU *eP* pP 03 36 17.7 +1.1
SRU **San Rafael Swe** 84.57 45 P P 03 35 38.3 +0.6
BMRM **Bremner River** 84.57 15 *eP* P 03 35 36.5 -0.5
comp=Z,27nm,1.1s
LAZ **Ladron** 84.58 51 *eP* P 03 35 39.0 +1.2
LAZ *eP* pP 03 36 17.9 +1.1
B08A **Colville Reser** 84.59 34 *eP* P 03 35 37.1 -0.2
comp=Z,10nm,0.9s
B08A *eP* pP 03 36 16.2 -0.1
CTU **Camp Tracy** 84.60 43 *eP* P 03 35 38.3 +0.6
comp=Z,8.1nm,1.1s
MNTX **Cornudas Mount** 84.61 54 P P 03 35 38.8 +1.0
baz=243
MNTX **Cornudas Mount** 84.61 54 *eP* P 03 35 38.8 +1.0
comp=Z,17nm,1.1s
MNTX *eP* pP 03 36 17.2 +0.4
P17A **Butcher Ranch,** 84.61 45 *eP* P 03 35 39.0 +1.1
comp=Z,11nm,1.0s
P17A *eP* pP 03 36 18.2 +1.4
SCM **Sheep Creek Mo** 84.73 13 *eP* P 03 35 36.9 -0.9
comp=Z,24nm,0.8s
KLU **Klutina** 84.73 14 *eP* P 03 35 37.1 -0.7
comp=Z,18nm,1.4s
JLU **Jordanelle** 84.74 43 *eP* P 03 35 39.1 +0.5
comp=Z,6.3nm,0.9s
LLLB **Lillooet** 84.75 31 *eP* P 03 35 38.2 +0.2
comp=Z,32nm,0.3s
C09A **Chrisman Ranch** 84.81 35 *eP* P 03 35 38.5 +0.1
comp=Z,10nm,0.9s
TGL **Tana Glacier** 84.82 15 *eP* P 03 35 38.0 -0.3
comp=Z,15nm,1.0s
BNM **Barren Site** 84.83 51 *eP* P 03 35 40.1 +1.0
TX31 **Lajitas Ar. Si** 84.86 56 *eP* P 03 35 40.1 +0.9
TX31 *eP* pP 03 36 18.0 -0.2
TXAR **Lajitas Array** 84.86 56 P P 03 35 40.2 +1.0
comp=Z,4.5nm,0.9s,baz=212,slow=8.3,SNR=40
TXAR pP pP 03 36 16.6 -1.6
comp=Z,5.1nm,1.0s,baz=212,slow=6.9,SNR=6.8
LPM **Los Pinos Moun** 84.90 51 *eP* P 03 35 40.5 +1.1
LPM *eP* pP 03 36 19.4 +1.0
MVCO **Mesa Verde** 84.98 48 P P 03 35 40.2 +0.4
baz=240
PV05 **Paradox Valley** 85.00 47 *eP* P 03 35 41.3 +1.4
P18A **Preston Nutter** 85.02 45 *eP* P 03 35 40.8 +0.8
comp=Z,12nm,1.3s
TCUT **Toone Canyon** 85.04 43 *eP* P 03 35 40.8 +0.7
TCUT *eP* pP 03 36 19.5 +0.4
BALM **Baldy** 85.18 15 *eP* P 03 35 39.3 -0.8
comp=Z,15nm,0.8s
PV09 **Paradox Valley** 85.19 46 *eP* P 03 35 41.5 +0.6
PV10 **Paradox Valley** 85.19 46 *eP* P 03 35 41.2 +0.4
HWUT **Hardware Ranch** 85.20 43 *eP* P 03 35 40.8 0.0
comp=Z,5.1nm,1.0s
CAST **Castle Rocks** 85.28 10 *eP* P 03 35 38.0 -2.4
comp=Z,10nm,0.9s
PV04 **Paradox Valley** 85.29 46 *eP* P 03 35 39.2 -2.1
ANMO **Albuquerque** 85.33 50 P P 03 35 42.3 +0.8
baz=242
ANMO **Albuquerque** 85.33 50 *eP* P 03 35 42.3 +0.8
comp=Z,13nm,0.8s
ANMO *eP* pP 03 36 20.2 -0.4
ANMO **Albuquerque** 85.33 50 *d iP* P 03 35 42.3 +0.8
ANMO pmax pmax
comp=Z,16nm,1.0s
PV01 **Paradox Valley** 85.39 47 *eP* P 03 35 42.3 +0.5
IPM **Ipoh** 85.46 276 *eP* P 03 35 42.7 +0.3
comp=Z,24nm,0.9s
KTH **Kantishna Hill** 85.61 11 *eP* P 03 35 40.5 -1.6
comp=Z,14nm,1.0s
GDL2 **Guadalupe Moun** 85.61 54 *eP* P 03 35 44.6 +1.7
TRF **Thorofare Moun** 85.63 11 *eP* P 03 35 40.8 -1.5

	comp=Z,31nm,0.8s								
NEW	**Newport**	**85.71**	**35**	P		**P**	**03 35 42.4**	**-0.5**
	baz=233								
HARP	**HAARP**	**85.71**	**14**	*e*P		**P**	**03 35 42.5**	**-0.1**
	comp=Z,17nm,0.9s								
SKAG	**Skagway**	**85.84**	**19**	*e*P		**P**	**03 35 44.0**	**+0.8**
	comp=Z,26nm,1.3s								
RND	**Reindeer**	**85.85**	**12**	*e*P		**P**	**03 35 42.6**	**-0.7**
	comp=Z,36nm,0.8s								
BPAW	**Bear Paw Mtn.**	**86.10**	**11**	*e*P		**P**	**03 35 42.2**	**-2.2**
	comp=Z,6.0nm,0.9s								
MCK	**McKinley**	**86.13**	**11**	*e*P		**P**	**03 35 43.4**	**-1.2**
	comp=Z,38nm,1.0s								
PAX	**Paxson**	**86.14**	**13**	*e*P		**P**	**03 35 43.5**	**-1.2**
	comp=Z,8.0nm,0.8s								
PAX	**Paxson**	**86.14**	**13**	P		**P**	**03 35 43.5**	**-1.2**
MCMT	**McKenzie Canyo**	**86.15**	**39**	*e*P		**P**	**03 35 46.1**	**+0.7**
MCMT				*e*pP		**pP**	**03 36 25.6**	**+1.0**
LNIG	**Linares**	**86.37**	**62**	*e*P		**P**	**03 35 46.4**	**-0.3**
	comp=Z,30nm,1.3s								
S22A	**4UR Ranch, Cre**	**86.40**	**48**	P		**P**	**03 35 47.3**	**+0.4**
	baz=241								
S22A	**4UR Ranch, Cre**	**86.40**	**48**	*e*P		**P**	**03 35 47.6**	**+0.8**
S22A				*e*pP		**pP**	**03 36 27.1**	**+1.1**
SEY	**Seymchan**	**86.59**	**346**	P		**P**	**03 35 46.0**	**-0.7**
	comp=Z,26nm,0.7s,baz=146,slow=5.7,SNR=82								
SEY				pP		**pP**	**03 36 23.4**	**-2.5**
	comp=Z,9.6nm,0.9s,baz=112,slow=5.4,SNR=3.3								
SEY	**Seymchan**	**86.59**	**346**	*j*P		**P**	**03 35 45.9**	**-0.9**
DLMT	**Dillon**	**86.60**	**39**	*e*P		**P**	**03 35 48.1**	**+0.6**
DLMT				*e*pP		**pP**	**03 36 26.9**	**+0.3**
O20A	**White River Ci**	**86.61**	**45**	P		**P**	**03 35 47.7**	**0.0**
	baz=240								
O20A	**White River Ci**	**86.61**	**45**	*e*P		**P**	**03 35 47.5**	**-0.2**
	comp=Z,9.8nm,0.8s								
FXWY	**Fox Creek**	**86.62**	**41**	*e*P		**P**	**03 35 48.1**	**+0.4**
FXWY				*e*pP		**pP**	**03 36 27.2**	**+0.4**
MSO	**Missoula**	**86.63**	**37**	P		**P**	**03 35 46.8**	**-0.7**
	baz=236								
MSO	**Missoula**	**86.63**	**37**	*e*P		**P**	**03 35 47.0**	**-0.5**
MSO				*e*pP		**pP**	**03 36 27.5**	**+0.8**
SNOW	**Snow King Moun**	**86.69**	**41**	*e*P		**P**	**03 35 48.6**	**+0.5**
SNOW				*e*pP		**pP**	**03 36 27.7**	**+0.4**
IMW	**Indian Meadow**	**86.81**	**41**	*e*P		**P**	**03 35 49.2**	**+0.5**
IMW				*e*pP		**pP**	**03 36 28.3**	**+0.4**
DLBC	**Dease Lake**	**86.81**	**22**	*e*P		**P**	**03 35 48.4**	**+0.3**
	comp=Z,7.0nm,0.9s								
PSI	**Prapat**	**86.85**	**274**	P		**P**	**03 35 48.5**	**-0.8**
	comp=Z,4.2nm,0.8s,baz=129,slow=6.5,SNR=4.2								
PSI	**Prapat**	**86.85**	**274**	*e*P		**P**	**03 35 48.5**	**-0.8**
	comp=Z,8.2nm,1.0s								
RIDG	**Independ'e Rid**	**86.96**	**13**	*e*P		**P**	**03 35 47.8**	**-0.8**
	comp=Z,12nm,0.9s								
WRH	**Wood River Hil**	**86.96**	**12**	*e*P		**P**	**03 35 47.5**	**-1.1**
	comp=Z,25nm,0.9s								
SMCO	**Snowmass**	**86.99**	**46**	*e*P		**P**	**03 35 50.1**	**+0.2**
	comp=Z,6.8nm,0.6s								
MLY	**Manley**	**87.00**	**10**	*e*P		**P**	**03 35 47.1**	**-1.7**
	comp=Z,7.8nm,0.9s								
DOT	**Dot Lake**	**87.05**	**13**	*e*P		**P**	**03 35 48.2**	**-0.8**
	comp=Z,38nm,0.8s								
BW06	**Boulder Array**	**87.08**	**42**	P		**P**	**03 35 49.5**	**-0.5**
	baz=239								
PD31	**Pinedale Array**	**87.08**	**42**	*e*P		**P**	**03 35 49.7**	**-0.3**
PD31				*e*pP		**pP**	**03 36 28.1**	**-1.0**
PDAR	**Pinedale Array**	**87.08**	**42**	P		**P**	**03 35 49.6**	**-0.4**
	comp=Z,1.8nm,0.6s,baz=208,slow=3.5,SNR=22								
PDAR				pP		**pP**	**03 36 28.1**	**-1.0**
	comp=Z,1.3nm,0.8s,baz=238,slow=2.8,SNR=2.2								
PDAR	**Pinedale Array**	**87.08**	**42**	*e*P		**P**	**03 35 48.7**	**-1.2**
PDAR				*e*pP		**pP**	**03 36 28.2**	**-1.0**
HDA	**Harding Lake**	**87.12**	**12**	*e*P		**P**	**03 35 48.6**	**-0.8**
	comp=Z,12nm,0.8s								
CCB	**Clear Creek Bu**	**87.17**	**12**	*e*P		**P**	**03 35 48.1**	**-1.4**
	comp=Z,14nm,0.8s								
YMR	**Madison River**	**87.20**	**40**	*e*pP		pP	03 36 31.4	+1.8
SKNT	**Sakolnakorn**	**87.25**	**289**	P		**P**	**03 35 50.9**	**-0.1**
	comp=Z,8.8nm,1.0s								
BOZ	**Bozeman (W)**	**87.30**	**39**	P		**P**	**03 35 51.1**	**+0.3**
	baz=238								
BOZ	**Bozeman (W)**	**87.30**	**39**	*e*P		**P**	**03 35 51.3**	**+0.5**
BOZ				*e*pP		**pP**	**03 36 31.1**	**+1.0**
BOZ	**Bozeman (W)**	**87.30**	**39**	P		**P**	**03 35 51.3**	**+0.5**
BJT	**Baijiatuau**	**87.33**	**314**	*e*P		**P**	**03 35 51.5**	**+0.6**
	comp=Z,45nm,0.9s								
SDCO	**Great Sand Dun**	**87.33**	**48**	P		**P**	**03 35 51.4**	**+0.1**
	baz=242,SNR=8.1								
SDCO	**Great Sand Dun**	**87.33**	**48**	*e*P		**P**	**03 35 51.8**	**+0.4**
	comp=Z,4.2nm,0.9s								
YHH	**Holmes Hill**	**87.33**	**40**	*e*P		**P**	**03 35 52.1**	**+0.9**
YHH				*e*pP		**pP**	**03 36 32.2**	**+1.8**
SCRK	**Sand Creek**	**87.35**	**13**	*e*P		**P**	**03 35 50.3**	**-0.3**
	comp=Z,8.7nm,0.9s								
COLA	**College**	**87.37**	**11**	*e*P		**P**	**03 35 49.2**	**-1.2**
	comp=Z,22nm,0.8s								
COLA				*e*pP		**pP**	**03 36 30.0**	**+0.3**
COLA	**College**	**87.37**	**11**	*i*P		**P**	**03 35 49.1**	**-1.4**
COLA				pmax		pmax		
	comp=Z,20nm,0.8s								
MDM	**Murphy Dome**	**87.38**	**11**	*e*P		**P**	**03 35 49.1**	**-1.4**
	comp=Z,12nm,0.8s								
IM3	**Indian Mountai**	**87.43**	**9**	*e*P		**P**	**03 35 49.2**	**-1.5**
IL1	**Eielson Array**	**87.46**	**12**	*e*P		**P**	**03 35 49.3**	**-1.6**
ILAR	**Eielson Array**	**87.46**	**12**	P		**P**	**03 35 49.5**	**-1.5**
	comp=Z,3.7nm,0.8s,baz=231,slow=6.0,SNR=28								
ILAR				pP		**pP**	**03 36 28.4**	**-1.9**
	comp=Z,2.2nm,0.8s,baz=223,slow=6.3,SNR=3.4								
ILAR				PKKP		**PKKPbc**	**03 53 40.3**	**-2.6**
	comp=Z,0.3nm,0.6s,baz=350,slow=2.7,SNR=4.5								
ILB	**Eielson Array**	**87.46**	**12**	*e*P		**P**	**03 35 49.8**	**-1.2**
ILB				*e*pP		**pP**	**03 36 28.4**	**-1.9**
MSTX	**Muleshoe**	**87.59**	**53**	P		**P**	**03 35 52.7**	**+0.2**
	baz=244								
MSTX	**Muleshoe**	**87.59**	**53**	*e*P		**P**	**03 35 52.9**	**+0.4**
MSTX				*e*pP		**pP**	**03 36 31.8**	**+0.1**
PLCA	**Paso Flores**	**87.77**	**133**	P		**P**	**03 35 55.6**	**+2.3**
	comp=Z,2.8nm,1.2s,baz=212,slow=9.5,SNR=2.8								
PLCA	**Paso Flores**	**87.77**	**133**	*e*P		**P**	**03 35 55.6**	**+2.3**
	comp=Z,40nm,1.8s								
T25A	**Trinidad**	**87.82**	**49**	P		**P**	**03 35 53.9**	**+0.3**
	baz=243								
833A	**Chaparral WMA,**	**87.83**	**59**	P		**P**	**03 35 53.7**	**+0.2**
	baz=246								
ENH	**Enshi**	**87.83**	**303**	*e*P		**P**	**03 35 54.0**	**+0.4**
	comp=Z,20nm,0.7s								
WALA	**Waterton Lakes**	**87.90**	**35**	*e*P		**P**	**03 35 53.5**	**0.0**
	comp=Z,14nm,0.9s								
RWWY	**Rawlins**	**88.05**	**44**	*e*P		**P**	**03 35 54.6**	**0.0**
	comp=Z,5.8nm,0.9s								
Q24A	**Divide**	**88.14**	**47**	P		**P**	**03 35 55.3**	**+0.1**
	baz=242								
ISCO	**Idaho Springs**	**88.21**	**46**	P		**P**	**03 35 55.7**	**+0.2**
	baz=242								
SNAA	**Sanae**	**88.28**	**178**	P		**P**	**03 35 56.1**	**+1.0**
SNAA	**Sanae**	**88.28**	**178**	P		**P**	**03 35 56.2**	**+1.1**
	comp=Z,6.1nm,0.7s,baz=201,slow=5.8,SNR=26								
SNAA	**Sanae**	**88.28**	**178**	*e*P		**P**	**03 35 55.8**	**+0.7**
	comp=Z,6.7nm,0.7s								
SNAA	**Sanae**	**88.28**	**178**	*de*P		**P**	**03 35 55.9**	**+0.8**
VNA3	**Neumayer Olymp**	**88.32**	**175**	P		**P**	**03 35 56.5**	**+1.3**
RLMT	**Red Lodge**	**88.47**	**40**	P		**P**	**03 35 57.0**	**+0.5**
	baz=239								
DAWY	**Dawson**	**88.48**	**15**	*e*P		**P**	**03 35 55.5**	**-0.4**
	comp=Z,15nm,1.0s								
ZEA	**Zeya**	**88.50**	**330**	*e*P		**P**	**03 35 56.8**	**+0.7**
ZEA				pmax		pmax		
	comp=Z,44nm,1.0s								
N23A	**Red Feather La**	**88.51**	**45**	P		**P**	**03 35 56.9**	**+0.1**
	baz=242								
N23A	**Red Feather La**	**88.51**	**45**	*e*P		**P**	**03 35 57.3**	**+0.5**
	comp=Z,5.5nm,0.9s								
GYA	**Guiyang**	**88.56**	**299**	*e*P		**P**	**03 35 58.3**	**+1.1**
GYA				pP		pP	03 36 39.4	+2.8
GYA				sP		sP	03 36 56.0	+3.1
GYA				PP		**PP**	**03 39 31.1**	**+3.1**
GYA				SKS		**SKSac**	**03 46 10.3**	**-1.8**
GYA				S		S	**03 46 28.8**	**-1.8**
GYA				pmax		pmax		
	comp=Z,10.0nm,1.0s								
NAYO	**Nakonayok**	**88.66**	**286**	P		**P**	**03 35 59.9**	**+2.2**
	comp=Z,11nm,1.0s								
EGAK	**Eagle**	**88.67**	**14**	*e*P		**P**	**03 35 56.5**	**-0.1**
	comp=Z,14nm,1.1s								
VNA2	**Neumayer--Watz**	**88.79**	**176**	P		**P**	**03 35 58.9**	**+1.5**
	baz=182,slow=3.2								
AMTX	**Amarillo**	**88.80**	**52**	P		**P**	**03 35 58.2**	**+0.1**
	baz=245								
BILL	**Bilibino**	**88.95**	**353**	*d*P		**P**	**03 35 56.7**	**-1.2**
BILL				*i*			03 39 31.0	
BILL				pmax		pmax		
	comp=Z,4.0nm,1.0s								
K22A	**Casper**	**88.96**	**44**	P		**P**	**03 35 58.6**	**-0.2**
	baz=241								
VNA1	**Neumayer--Stat**	**89.00**	**176**	P		**P**	**03 36 00.0**	**+1.7**
COLD	**Coldfoot**	**89.11**	**10**	*e*P		**P**	**03 35 58.8**	**+0.1**
	comp=Z,5.8nm,0.8s								
ABTX	**Abilene, Hawle**	**89.39**	**55**	P		**P**	**03 36 00.9**	**0.0**
	baz=246								
EGMT	**Eagleton**	**89.67**	**38**	P		**P**	**03 36 01.7**	**-0.1**
	baz=239								
PHET	**Kaeng Krachan**	**89.70**	**284**	P		**P**	**03 36 05.3**	**+2.7**
	comp=Z,11nm,0.9s								
PBKT	**Sadao Pong**	**89.78**	**288**	P		**P**	**03 36 03.7**	**+0.8**
	comp=Z,13nm,1.4s								
PBKT	**Sadao Pong**	**89.78**	**288**	*e*P		**P**	**03 36 03.4**	**+0.5**
HIA	**Hailar**	**89.81**	**324**	*e*P		**P**	**03 36 02.8**	**+0.4**
HIA				pmax		pmax		
	comp=Z,16nm,1.3s								
XAN	**Xi'an**	**89.83**	**306**	P		**P**	**03 36 03.4**	**+0.5**
XAN				pP		pP	03 36 39.6	-2.7
XAN				pmax		pmax		
	comp=Z,26nm,0.9s								
XAN				pmax		pmax		
	comp=Z,84nm,4.8s								
PHIT	**Phitsanulok**	**90.50**	**288**	P		**P**	**03 36 08.6**	**+2.3**
	comp=Z,10.0nm,1.0s,comp=Z,843nm								
APG	**El Apazote**	**90.50**	**74**	P		**P**	**03 36 06.5**	**-0.2**
	comp=Z,6.1nm,0.5s,baz=239,slow=23,SNR=6.5								
TOLK	**Toolik Lake Re**	**90.51**	**9**	P		**P**	**03 36 06.1**	**+0.8**
	baz=204								
TOLK	**Toolik Lake Re**	**90.51**	**9**	*e*P		**P**	**03 36 05.0**	**-0.3**
	comp=Z,6.3nm,1.0s								
HHC	**Hu-ho-hao-te**	**90.83**	**313**	*e*P		**P**	**03 36 08.1**	**+0.6**
HHC				PP		**PP**	**03 39 48.3**	**+2.6**
HHC				S		S	**03 46 48.0**	**-2.9**
HHC				SS		**SS**	**03 52 58.0**	**+0.2**
HHC				pmax		pmax		
	comp=Z,19nm,1.4s								
HHC				pmax		pmax		
	comp=Z,28nm,8.4s								
HHC				LR		LR		
	comp=Z,200nm,17.7s								
HHC				LR		LR		
	comp=Z,380nm,17.2s								
HHC				LR		LR		
	comp=Z,310nm,17.0s								
WMOK	**Wichita Mounta**	**90.91**	**53**	P		**P**	**03 36 08.6**	**+0.7**
	baz=246								
WMOK	**Wichita Mounta**	**90.91**	**53**	*e*P		**P**	**03 36 08.6**	**+0.7**
	comp=Z,4.0nm,0.9s								
LAO	**LASA Array**	**91.09**	**40**	P		**P**	**03 36 09.2**	**+0.8**
	baz=242,SNR=9.3								
LAO	**LASA Array**	**91.09**	**40**	*e*P		**P**	**03 36 09.5**	**+1.0**
	comp=Z,12nm,0.8s								
RSSD	**Black Hills**	**91.25**	**43**	P		**P**	**03 36 09.2**	**-0.3**
	baz=243								
RSSD	**Black Hills**	**91.25**	**43**	*e*P		**P**	**03 36 09.5**	**0.0**
	comp=Z,8.2nm,0.9s								
KMI	**Kunming**	**91.33**	**296**	P		**P**	**03 36 11.8**	**+1.5**
KMI				pmax		pmax		
	comp=Z,23nm,0.6s								
PAYA	**Payao**	**91.75**	**290**	P		**P**	**03 36 13.6**	**+1.5**
	comp=Z,6.1nm,0.8s,comp=Z,488nm								
CM01	**Chiang Mai Arr**	**92.23**	**289**	*e*P		**P**	**03 36 15.0**	**+0.7**
CM31	**Chiang Mai Arr**	**92.26**	**289**	*e*P		**P**	**03 36 15.6**	**+1.1**
CMAR	**Chiang Mai Arr**	**92.26**	**289**	P		**P**	**03 36 15.6**	**+1.1**
	comp=Z,4.9nm,0.7s,baz=116,slow=2.5,SNR=19								
CMAR	**Chiang Mai Arr**	**92.26**	**289**	P		**P**	**03 36 15.6**	**+1.1**
CMAR				pmax		pmax		
	comp=Z,4.0nm,0.5s								
CHTO	**Chiang Mai**	**92.38**	**289**	P		**P**	**03 36 16.3**	**+1.3**
CHTO	**Chiang Mai**	**92.38**	**289**	*e*P		**P**	**03 36 16.0**	**+1.0**
	comp=Z,40nm,1.7s								
CD2	**Chengdu**	**92.62**	**302**	*e*P		**P**	**03 36 15.6**	**-0.3**
CD2				pmax		pmax		
	comp=Z,10.0nm,0.5s								
CD2				pmax		pmax		
	comp=Z,120nm,5.0s								
YAK	**Yakutsk**	**92.69**	**337**	*e*P		**P**	**03 36 14.6**	**-0.8**
YAK				pmax		pmax		
	comp=Z,19nm,0.7s								
DGMT	**Dagmar**	**93.13**	**39**	P		**P**	**03 36 18.3**	**+0.5**
	baz=243								
DGMT	**Dagmar**	**93.13**	**39**	*e*P		**P**	**03 36 18.6**	**+0.8**
	comp=Z,17nm,0.7s								
DGMT				*e*pP		**pP**	**03 36 58.5**	**+1.3**
INK	**Inuvik**	**93.32**	**14**	*e*P		**P**	**03 36 17.2**	**-0.9**
	comp=Z,11nm,1.0s								
K31A	**O'Neill**	**94.10**	**46**	P		**P**	**03 36 22.5**	**+0.1**
	baz=247								
LZH	**Lanzhou**	**94.46**	**307**	*e*P		**P**	**03 36 25.4**	**+1.0**
LZH				pP		pP	03 37 05.1	+1.2
LZH				sP		sP	03 37 22.8	+2.6
LZH				*e*PP		**PP**	**03 40 17.5**	**+3.1**
LZH				pmax		pmax		
	comp=Z,39nm,1.0s								
LZH				pmax		pmax		
	comp=Z,170nm,5.7s								
LZH				LR		LR		
	comp=Z,230nm,17.5s								
LZH				LR		LR		
	comp=Z,240nm,17.2s								
LZH				LR		LR		
	comp=Z,300nm,19.6s								
T38A	**Diamond**	**95.15**	**53**	P		**P**	**03 36 27.3**	**0.0**
	baz=249								
YKA	**Yellowknife Ar**	**95.21**	**24**	P		**P**	**03 36 26.0**	**-0.9**
	comp=Z,1.6nm,0.7s,baz=239,slow=4.5,SNR=38								
YKA				pP		**pP**	**03 37 03.7**	**-2.7**
	comp=Z,1.6nm,0.9s,baz=238,slow=4.2,SNR=4.7								
YKA				PKKP		**PKKPbc**	**03 53 20.4**	**-2.4**
	comp=Z,0.2nm,0.5s,baz=36,slow=2.5,SNR=6.3								
YKB5	**Yellowknife Ar**	**95.21**	**24**	*e*P		**P**	**03 36 26.1**	**-0.9**
YKB5				*e*pP		**pP**	**03 37 03.7**	**-2.7**
V39A	**Pettigrew**	**95.21**	**54**	P		**P**	**03 36 27.5**	**-0.2**
	baz=249								
L34A	**Svendsen Farm,**	**95.47**	**47**	P		**P**	**03 36 28.4**	**-0.3**
	baz=248								
MDND	**Maddock**	**95.64**	**41**	P		**P**	**03 36 28.8**	**-0.5**
	baz=246								
H32A	**Carlson Farm,**	**95.72**	**45**	P		**P**	**03 36 29.3**	**-0.4**
	baz=248								
R38A	**Fenwick Farm,**	**95.85**	**52**	P		**P**	**03 36 30.1**	**-0.4**
	baz=249								
ECSD	**EROS Data Cent**	**95.97**	**46**	P		**P**	**03 36 30.4**	**-0.5**
	baz=248,SNR=6.2								
ECSD	**EROS Data Cent**	**95.97**	**46**	*e*P		**P**	**03 36 30.9**	**0.0**
ECSD				*e*pP		**pP**	**03 37 11.4**	**+1.0**
U40A	**Yellville**	**95.99**	**54**	P		**P**	**03 36 31.5**	**+0.3**
	baz=250								
H33A	**Prehn Over Nor**	**96.24**	**45**	P		**P**	**03 36 31.7**	**-0.4**
	baz=248								
R39A	**Chumby, Stover**	**96.54**	**52**	P		**P**	**03 36 33.4**	**-0.2**
	baz=250								
P38A	**Dawn**	**96.63**	**50**	P		**P**	**03 36 33.8**	**-0.2**
	baz=250								
U41A	**Vici**	**96.70**	**54**	P		**P**	**03 36 35.0**	**+0.6**
	baz=250								
M37A	**Trindle Farm,**	**96.88**	**49**	P		**P**	**03 36 35.5**	**+0.4**
	baz=250								
F33A	**5 Mile Ranch,**	**96.97**	**44**	P		**P**	**03 36 35.5**	**+0.2**
	baz=248								
K36A	**Gilmore City**	**97.05**	**47**	P		Pdif	03 36 35.9	0.0
	baz=249								
SONA0	**Songino Array**	**97.07**	**318**	*e*P		**P**	**03 36 35.6**	**-0.4**
SONA1	**Songino Array**	**97.07**	**318**	*e*P		**P**	**03 36 35.0**	**-1.0**
SONM	**Songino Array**	**97.07**	**318**	P		**P**	**03 36 35.6**	**-0.4**
	comp=Z,1.4nm,0.7s,baz=135,slow=3.4,SNR=15								
S41A	**Jillco Farms,**	**97.25**	**53**	P		Pdif	03 36 37.2	+0.3
	baz=250								
M38A	**Pleasantville**	**97.50**	**49**	P		Pdif	03 36 38.0	+0.1
	baz=250								
E34A	**Wadena**	**97.94**	**43**	P		Pdif	03 36 39.9	+0.1
	baz=249								
F35A	**Swanville**	**98.10**	**44**	P		Pdif	03 36 40.5	0.0
	baz=250								
I37A	**Lemond, Waseca**	**98.24**	**46**	P		**P**	**03 36 41.1**	**0.0**
	baz=250								
F36A	**Milaca**	**98.79**	**44**	P		Pdif	03 36 43.8	+0.3
	baz=250								
I38A	**Scanlan Farm,**	**98.98**	**46**	P		Pdif	03 36 44.5	+0.1
	baz=251								
L40A	**Anamosa**	**99.10**	**49**	P		**Pdif**	**03 36 45.4**	**+0.4**
	baz=251								
J39A	**Decorah**	**99.18**	**47**	P		**Pdif**	**03 36 45.3**	**0.0**
	baz=251								
J40A	**Soldiers Grove**	**99.86**	**47**	P		**Pdif**	**03 36 48.5**	**+0.1**
	baz=252								
F38A	**Pierce - Schro**	**99.90**	**45**	P		**Pdif**	**03 36 48.6**	**+0.1**
	baz=252								
K41A	**Shullsburg**	**99.92**	**48**	P		**Pdif**	**03 36 49.0**	**+0.4**
	baz=252								
LPAZ	**La Paz**	**99.98**	**111**	PKKPbc		PKKPbc	03 53 08.8	+0.4
	comp=Z,0.8nm,0.6s,baz=36,slow=3.8,SNR=4.7								
J41A	**Loganville**	**100.36**	**48**	P		**Pdif**	**03 36 50.6**	**0.0**
	baz=252								
251A	**Midway**	**100.47**	**60**	P		**Pdif**	**03 36 51.1**	**-0.2**
	baz=253								
H40A	**Chili**	**100.48**	**46**	P		**Pdif**	**03 36 51.4**	**+0.3**
	baz=252								
K42A	**Prairie Point,**	**100.65**	**48**	P		**Pdif**	**03 36 51.8**	**-0.1**
	baz=253								
F40A	**Park Falls**	**101.06**	**45**	P		**Pdif**	**03 36 53.7**	**+0.1**
	baz=253								
E40A	**Wakefield**	**101.36**	**45**	P		**Pdif**	**03 36 55.4**	**+0.4**
	baz=253								
ZAA1	**Zalesovo Array**	**111.72**	**321**	*e*PKiKP		**PKiKP**	**03 41 36.5**	**-0.9**
ZALV	**Zalesovo Beam**	**111.72**	**321**	PKiKP		**PKiKP**	**03 41 36.5**	**-0.9**
	comp=Z,2.7nm,0.6s,baz=147,slow=1.4,SNR=11								
MK32	**Makanchi Array**	**112.69**	**313**	*e*Pdif		**Pdif**	**03 37 47.1**	**+1.7**
MK32				*e*PKiKP		**PKiKP**	**03 41 38.5**	**-1.1**
MKAR	**Makanchi Array**	**112.69**	**313**	Pdiff		**Pdif**	**03 37 47.1**	**+1.7**
	comp=Z,0.4nm,0.7s,baz=93,slow=5.6,SNR=3.5								
MKAR				PKiKP		**PKiKP**	**03 41 38.5**	**-1.1**
	comp=Z,2.1nm,0.7s,baz=127,slow=0.7,SNR=14								
MKAR				PKKPbc		**PKKPbc**	**03 52 29.0**	**-0.6**
	comp=Z,0.3nm,0.5s,baz=273,slow=4.2,SNR=4.0								
KURK	**Kurchatov**	**115.35**	**317**	*e*PKPdf		**PKPdf**	**03 41 43.6**	**-0.9**
KURK				*e*PKPdf		**PKiKP**	**03 41 43.7**	**-0.8**
KURK	**Kurchatov**	**115.35**	**317**	*d i*PKiKP		**PKPdf**	**03 41 43.3**	**-1.2**
KURBB	**Kurchatov Arra**	**115.41**	**317**	PKP		**PKPdf**	**03 41 43.6**	**-1.1**
	comp=Z,3.3nm,0.7s,baz=87,slow=1.7,SNR=37								
SCHQ	**Schefferville**	**116.92**	**38**	PKP		**PKPdf**	**03 41 47.0**	**-0.5**
	comp=Z,4.2nm,0.6s,baz=218,slow=17,SNR=3.2								
AAK	**Ala-Archa**	**117.95**	**308**	*e*PKPdf		**PKPdf**	**03 41 49.8**	**-0.3**
AAK	**Ala-Archa**	**117.95**	**308**	*d i*PKiKP		**PKPdf**	**03 41 49.2**	**-0.8**
BVAR	**Borovoye Array**	**120.34**	**320**	PKP		**PKPdf**	**03 41 53.6**	**-0.5**
	comp=Z,4.9nm,0.6s,baz=109,slow=1.6,SNR=33								
BRVK	**Borovoye**	**120.40**	**320**	*e*PKPdf		**PKPdf**	**03 41 53.8**	**-0.4**
BRVK	**Borovoye**	**120.40**	**320**	*c i*PKiKP		**PKPdf**	**03 41 53.5**	**-0.7**
KK31	**Karatay Array**	**120.89**	**309**	*e*PKPdf		**PKPdf**	**03 41 55.0**	**-0.5**
KKAR	**Karatay Array**	**120.89**	**309**	*e*PKPdf		**PKPdf**	**03 41 55.0**	**-0.5**
SPA0	**Spitsbergen Ar**	**121.64**	**357**	*e*PKPdf		**PKPdf**	**03 41 55.5**	**-0.4**
SPITS	**Spitsbergen Ar**	**121.64**	**357**	PKP		**PKPdf**	**03 41 55.5**	**-0.4**
	comp=Z,12nm,0.7s,baz=347,slow=5.9,SNR=10.0								
OPO	**Ambohidratompo**	**123.18**	**230**	PKP		**PKPdf**	**03 42 01.7**	**+0.9**
	comp=Z,4.0nm,0.7s,baz=78,slow=5.2,SNR=4.3								
ARU	**Arti**	**126.25**	**326**	*e*PKPdf		**PKPdf**	**03 42 04.8**	**-0.4**
ARU	**Arti**	**126.25**	**326**	*i* PKIKP		**PKPdf**	**03 42 05.2**	**-0.1**
ARU							03 49 01.1	
SCO	**Scoresbysund**	**127.23**	**11**	*e*PKPdf		**PKPdf**	**03 42 06.1**	**-0.6**
ABKAR	**Akbulak array**	**127.46**	**317**	*e*PKPdf		**PKPdf**	**03 42 08.0**	**+0.2**
BOSA	**Boshof**	**127.56**	**203**	PKP		**PKPdf**	**03 42 10.1**	**+0.5**
	comp=Z,2.3nm,0.5s,baz=183,slow=2.6,SNR=10								
AKTO	**Aktyubinsk**	**128.38**	**319**	PKP		**PKPdf**	**03 42 10.1**	**+0.5**
	comp=Z,3.6nm,0.8s,baz=96,slow=0.7,SNR=10								
ARA0	**ARCESS Array S**	**128.98**	**351**	*e*PKPdf		**PKPdf**	**03 42 09.8

UPC	**Upice**	**148.37 346**	*e*PKPDF	**PKPdf**	**03 42 46.5 +0.7**		
UPC		⇑*e*PKP		**PKPbc**	**03 42 49.7 +0.2**		
UPC		*e*PKPAB		**PKPab**	**03 42 52.2 -0.8**		
UPC	**Upice**	**148.37 346**	*e*PKIKP	**PKPdf**	**03 42 46.5 +0.7**		
UPC		*e*			03 42 52.2		
DPC	**Dobruska-Polom**	**148.44 346**	*e*PKPDF	**PKPdf**	**03 42 46.9 +0.9**		
DPC		⇑*e*PKP		**PKPbc**	**03 42 50.3 +0.6**		
DPC		*e*PKPAB		**PKPab**	**03 42 53.7 +0.3**		
DPC		*e*pPKP		**pPKPbc**	**03 43 30.7 +0.1**		
DPC	**Dobruska-Polom**	**148.44 346**	*e*PKIKP	**PKPdf**	**03 42 46.9 +0.9**		
DPC		*e*			03 42 53.7		
BRG	**Berggiesshubel**	**148.45 349**	*i* PKP	**PKPbc**	**03 42 49.8 +0.2**		
	comp=Z,29nm,1.0s						
BRG	**Berggiesshubel**	**148.45 349**	*i* PKP	**PKPab**	**03 42 52.6 -0.7**		
	comp=Z,14nm,0.8s						
BRG			*e*pPKP	**pPKPbc**	**03 43 29.4 -1.2**		
	comp=Z,10nm,1.3s						
OKC	**Ostrava-Krasne**	**148.45 343**⇑	*e*PKP	**PKPbc**	**03 42 50.1 +0.4**		
OKC	**Ostrava-Krasne**	**148.45 343**	*e*PKP2	**PKPbc**	**03 42 50.1 +0.4**		
TRPA	**Tarpa**	**148.52 337**⇓	*i* P	**PKPbc**	**03 42 49.9 0.0**		
TRPA	**Tarpa**	**148.52 337**⇓	*e*PKPdf	**PKPbc**	**03 42 49.9 0.0**		
VRI	**Vrincioaia**	**148.52 330**⇓	*i* P	**PKPbc**	**03 42 49.8 -0.2**		
VRI	**Vrincioaia**	**148.52 330**	⇓PKIKP	**PKPbc**	**03 42 49.8 -0.2**		
PLOR	**Plostina**	**148.57 330**⇓	*i* P	**PKPbc**	**03 42 49.9 -0.3**		
PLOR	**Plostina**	**148.57 330**	⇓PKIKP	**PKPbc**	**03 42 49.9 -0.3**		
PVCC	**Panska Ves**	**148.66 348**⇑	*e*PKP	**PKPbc**	**03 42 50.7 +0.5**		
PVCC			*e*PKPAB	**PKPab**	**03 42 53.5 -0.7**		
PVCC	**Panska Ves**	**148.66 348**	*e*PKP2	**PKPbc**	**03 42 50.7 +0.5**		
MORC	**Moravsky Berou**	**148.67 344**⇓	*i* P	**PKPbc**	**03 42 50.3 0.0**		
MORC	**Moravsky Berou**	**148.67 344**	*e*PKPdf	**PKPdf**	**03 42 47.5 +1.1**		
MORC	**Moravsky Berou**	**148.67 344**	⇓PKIKP	**PKPbc**	**03 42 50.3 0.0**		
TIRR	**Tirgusor**	**148.68 326**⇓	*i* P	**PKPbc**	**03 42 50.3 -0.1**		
TIRR	**Tirgusor**	**148.68 326**	*e*PKPbc	**PKPbc**	**03 42 50.2 -0.1**		
TIRR	**Tirgusor**	**148.68 326**	⇓PKIKP	**PKPbc**	**03 42 50.3 -0.1**		
LANS	**Liptovska Anna**	**148.69 341**	*e*PKP	**PKPbc**	**03 42 51.4 +1.1**		
LANS	**Liptovska Anna**	**148.69 341**	*e*PKP2	**PKPbc**	**03 42 51.5 +1.1**		
ASF	**Jabal al Asfar**	**148.71 299**	PKPbc	**PKPbc**	**03 42 51.6 +0.6**		
	comp=Z,13nm,0.9s,baz=11,slow=1.5,SNR=18						
ANTO	**Ankara**	**148.83 315**⇓	*i* P	**PKPbc**	**03 42 51.4 +0.3**		
ANTO	**Ankara**	**148.83 315**	*e*PKPdf	**PKPdf**	**03 42 47.7 +0.7**		
ANTO	**Ankara**	**148.83 315**	⇓PKP2	**PKPbc**	**03 42 51.4 +0.3**		
BR231	**Keskin MP Arra**	**148.85 315**	*e*PKPbc	**PKPbc**	**03 42 51.8 +0.6**		
MOX	**Moxa**	**149.06 351**	PKIKP	**PKPbc**	**03 42 51.2 +1.0**		
PRA	**Prague**	**149.12 348**⇑	*e*PKP	**PKPbc**	**03 42 51.9 +0.6**		
PRA	**Prague**	**149.12 348**	*e*PKP2	**PKPbc**	**03 42 51.9 +0.6**		
ISR	**Istrita**	**149.16 329**⇑	*i* P	**PKPbc**	**03 42 52.0 +0.3**		
ISR	**Istrita**	**149.16 329**	⇑PKP2	**PKPbc**	**03 42 52.0 +0.3**		
MLR	**Muntele Rosu**	**149.17 330**	PKPbc	**PKPbc**	**03 42 52.0 +0.2**		
	comp=Z,3.8nm,0.6s,baz=32,slow=3.1,SNR=38						
MLR	**Muntele Rosu**	**149.17 330**	*e*PKPdf	**PKPdf**	**03 42 47.5 +0.1**		
MLR			*e*PKPbc	**PKPbc**	**03 42 52.0 +0.2**		
MLR	**Muntele Rosu**	**149.17 330**	PKIKP	**PKPbc**	**03 42 52.0 +0.2**		
MLR			pmax	pmax			
	comp=Z,4.0nm,0.6s						
PRU	**Pruhonice**	**149.18 347**⇑	*e*PKP	**PKPbc**	**03 42 51.8 +0.3**		
PRU			epPKP	**pPKPdf**	**03 43 30.3 +1.8**		
PRU	**Pruhonice**	**149.18 347**	*e*PKIKP	**PKPbc**	**03 42 51.8 +0.3**		
GOPC	**GO Pecny, Ondr**	**149.20 347**⇑	*e*PKP	**PKPbc**	**03 42 52.0 +0.4**		
GOPC			*e*PKPAB	**PKPab**	**03 42 56.0 -0.4**		
GOPC	**GO Pecny, Ondr**	**149.20 347**	*e*PKP2	**PKPbc**	**03 42 52.0 +0.4**		
CJR	**Cluj-Napoca**	**149.26 334**⇑	*i* P	**PKPbc**	**03 42 52.2 +0.3**		
CJR	**Cluj-Napoca**	**149.26 334**	⇑PKP2	**PKPbc**	**03 42 52.2 +0.3**		
NKC	**Novy Kostel**	**149.33 350**⇑	*e*PKP	**PKPbc**	**03 42 52.3 +0.4**		
NKC			*e*PKPAB	**PKPab**	**03 42 56.6 -0.4**		
NKC	**Novy Kostel**	**149.33 350**	*e*PKP2	**PKPbc**	**03 42 52.3 +0.4**		
VRAC	**Vranov**	**149.35 344**⇓	*i* P	**PKPbc**	**03 42 52.4 +0.4**		
VRAC	**Vranov**	**149.35 344**	⇓PKP2	**PKPbc**	**03 42 52.4 +0.4**		
UCC	**Uccle**	**149.41 0**	*e*PKPbc	**PKPbc**	**03 42 52.8 +0.8**		
SECR		**149.45 329**⇑	*i* P	**PKPbc**	**03 42 52.5 +0.2**		
VYHS	**Vyhne**	**149.46 341**	*e*PKP	**PKPbc**	**03 42 52.6 +0.3**		
VYHS		*e*			03 42 57.8		
VYHS	**Vyhne**	**149.46 341**	*e*PKIKP	**PKPbc**	**03 42 52.6 +0.3**		
VYHS		*e*			03 42 57.8		
DRGR		**149.56 335**⇓	*i* P	**PKPbc**	**03 42 52.7 +0.1**		
DRGR		**149.56 335**	⇓PKIKP	**PKPbc**	**03 42 52.7 +0.1**		
MEM	**Membach**	**149.58 358**	⇑PKP	**PKPbc**	**03 42 52.7 +0.2**		
TREC	**Trest**	**149.62 346**⇑	*e*PKP	**PKPbc**	**03 42 52.9 +0.2**		
TREC			*e*PKPAB	**PKPab**	**03 42 57.8 -0.4**		
PSZ	**Piszkesteto**	**149.63 339**⇓	*i* P	**PKPbc**	**03 42 52.8 0.0**		
PSZ	**Piszkesteto**	**149.63 339**⇓	*e*PKPdf	**PKPbc**	**03 42 52.9 +0.1**		
PSZ	**Piszkesteto**	**149.63 339**	*e*PKPbc	**PKPbc**	**03 42 52.8 +0.1**		
MMAI	**Mount Meron Ar**	**149.69 301**	PKPbc	**PKPbc**	**03 42 54.1 +0.7**		
	comp=Z,25nm,0.6s,baz=70,slow=4.7,SNR=37						
SNF	**Seneffe**	**149.70 0**	⇑PKP	**PKPbc**	**03 42 53.1 +0.4**		
BCLA	**Clavier**	**149.78 359**	⇑PKP	**PKPab**	**03 42 57.5 -1.3**		
SMOL	**Smolenice**	**149.85 343**	*e*PKP	**PKPbc**	**03 42 54.1 +0.9**		
SMOL		*e*			03 42 59.8		
SMOL	**Smolenice**	**149.85 343**	*e*PKP2	**PKPbc**	**03 42 54.1 +0.9**		
ARR	**Arges**	**149.87 331**⇑	*i* P	**PKPbc**	**03 42 54.3 +0.9**		
MODS	**Modra-Piesok**	**150.02 343**	*e*PKP	**PKPbc**	**03 42 54.3 +0.3**		
DOU	**Dourbes**	**150.12 360**	⇑PKP	**PKPbc**	**03 42 54.2 +0.4**		
KHC	**Kasperske Hory**	**150.19 348**	*e*PKPDF	**PKPdf**	**03 42 49.1 +0.3**		
KHC		⇑*e*PKP		**PKPbc**	**03 42 54.4 +0.4**		
KHC		*e*PKPAB		**PKPab**	**03 43 00.9 +0.3**		
KHC		*e*pPKP		**pPKPbc**	**03 43 33.5 -1.6**		
KHC	**Kasperske Hory**	**150.19 348**	*e*PKPdf	**PKPdf**	**03 42 49.1 +0.3**		
KHC	**Kasperske Hory**	**150.19 348**	*e*PKIKP	**PKPdf**	**03 42 49.1 +0.3**		
KHC		*e*			03 42 54.4		
KHC		*e*			03 43 00.9		
DEV	**Deva**	**150.22 334**⇑	*i* P	**PKPbc**	**03 42 54.1 0.0**		
HUMR	**Humele**	**150.34 330**⇑	*i* P	**PKPbc**	**03 42 54.7 +0.2**		
SIRR	**Siria**	**150.40 336**⇓	*i* P	**PKPbc**	**03 42 55.0 +0.4**		
GEC2	**GERESS Array S**	**150.44 348**	*e*PKPdf	**PKPdf**	**03 42 49.9 +0.6**		
GERES	**GERESS Array B**	**150.44 348**	PKP	**PKPdf**	**03 42 49.6 +0.4**		
	comp=Z,14nm,0.8s,baz=82,slow=2.1,SNR=25						
GERES			PKPbc	**PKPbc**	**03 42 54.8 +0.1**		
	comp=Z,14nm,0.7s,baz=28,slow=2.5,SNR=57						
GEA0	**GERESS Array S**	**150.44 348**	*e*PKPdf	**PKPdf**	**03 42 48.8 -0.5**		
WLF	**Walferdange**	**150.52 358**	⇓PKP	**PKPbc**	**03 42 55.7 +0.9**		
WLF	**Walferdange**	**150.52 358**	*e*PKPbc	**PKPbc**	**03 42 55.7 +0.9**		
CSKK	**Cs˙tkako**	**150.65 341**⇓	*e*PKPdf	**PKPbc**	**03 42 54.9 -0.2**		
CSS	**Mathiatis**	**150.65 306**	*e*PKPbc	**PKPbc**	**03 42 55.4 -0.1**		
CONA	**Conrad Observa**	**150.81 344**	*i* PKiKP	**PKiKP**	**03 42 56.0 -0.2**		
	comp=Z,27nm,0.7s,SNR=13						
SOP	**Sopron**	**150.85 343**⇓	*e*PKPdf	**PKPbc**	**03 42 55.6 0.0**		
BZS	**Buzias**	**150.96 335**⇓	*i* P	**PKPbc**	**03 42 56.0 +0.1**		
BZS	**Buzias**	**150.96 335**	⇓PKIKP	**PKPbc**	**03 42 56.0 +0.1**		
SRE	**Strehaia**	**151.06 332**⇓	*i* P	**PKPbc**	**03 42 56.6 +0.4**		
SRE	**Strehaia**	**151.06 332**	⇓PKIKP	**PKPbc**	**03 42 56.6 +0.4**		
SZAC	**Souni**	**151.07 306**	P	**PKPbc**	**03 42 56.7 +0.1**		
ALFC	**Alefka**	**151.13 307**	P	**PKPbc**	**03 42 56.2 -0.5**		
HERR	**Herculane**	**151.22 333**⇓	*i* P	**PKPbc**	**03 42 56.5 0.0**		
MOA	**Molln**	**151.26 346**	*i* PKPbc	**PKPbc**	**03 42 56.5 -0.1**		
	comp=Z,13nm,0.6s						
ISP	**Isparta**	**151.40 314**⇓	*i* P	**PKPbc**	**03 42 56.7 -0.6**		
ISP	**Isparta**	**151.40 314**	⇓PKIKP	**PKPbc**	**03 42 56.7 -0.6**		
ARSA	**Arzberg**	**151.52 344**	*i* PKPbc	**PKPbc**	**03 42 56.9 -0.3**		
	comp=Z,6.1nm,0.7s						
MORH	**M˙tr˙gy, Hung**	**151.54 339**⇓	*e*PKPdf	**PKPbc**	**03 42 57.0 -0.2**		
BFO	**Black Forest**	**151.72 355**	*e*PKPbc	**PKPbc**	**03 42 57.4 -0.2**		
BFO	**Black Forest**	**151.72 355**	*i* PKIKP	**PKPbc**	**03 42 57.8 +0.2**		
ECH	**Echery**	**151.92 356**	*e*PKPbc	**PKPbc**	**03 42 58.0 0.0**		
SOKA	**Soboth**	**152.18 344**	*i* PKPbc	**PKPbc**	**03 42 58.2 -0.5**		
	comp=Z,16nm,0.8s						
KBA	**Koelnbreinsper**	**152.19 347**	*i* PKPbc	**PKPbc**	**03 42 58.0 -0.9**		
	comp=Z,18nm,0.6s,SNR=9.7						
PERS	**Pernice**	**152.20 344**	*i* PKPbc	**PKPbc**	**03 42 58.0 -0.8**		
RETA	**Reutte**	**152.26 351**	*i* PKiKP	**PKPbc**	**03 42 58.8 -0.2**		
	comp=Z,13nm,0.8s						
WATA	**Walderalm**	**152.28 350**	*i* PKPbc	**PKPbc**	**03 42 58.7 -0.3**		
	comp=Z,17nm,0.5s,SNR=9.3						
WTTA	**Wattenberg**	**152.34 350**	*i* PKiKP	**PKPbc**	**03 42 59.1 -0.2**		
	comp=Z,35nm,0.5s,SNR=17						
MANT	**Manisa**	**152.34 317**	*e*PKPbc	**PKPbc**	**03 42 59.7 +0.1**		
MOTA	**Moosalm**	**152.35 350**	*i* PKPbc	**PKPbc**	**03 42 58.8 -0.4**		
	comp=Z,15nm,0.8s,SNR=9.2						
OBKA	**Obir**	**152.46 345**	*i* PKPbc	**PKPbc**	**03 42 58.8 -0.7**		
	comp=Z,10.0nm,0.8s						
MYKA	**Terra Mystica**	**152.55 346**	*i* PKPbc	**PKPbc**	**03 42 58.7 -0.9**		
	comp=Z,19nm,0.6s						
DAVA	**Damuels**	**152.58 352**	*i* PKiKP	**PKPbc**	**03 42 59.9 +0.1**		
	comp=Z,24nm,0.8s,SNR=6.0						
VTS	**Vitosha**	**152.65 329**⇓	*i* P	**PKPbc**	**03 42 59.9 -0.1**		
VTS	**Vitosha**	**152.65 329**	*e*PKPbc	**PKPbc**	**03 42 60.0 -0.1**		
VTS	**Vitosha**	**152.65 329**	⇓PKIKP	**PKPbc**	**03 42 59.9 -0.1**		
ABTA	**Abfaltersbach**	**152.68 348**	*i* PKPbc	**PKPbc**	**03 42 59.2 -0.7**		
	comp=Z,32nm,0.6s,SNR=8.1						
FETA	**Feichten**	**152.72 351**	*i* PKiKP	**PKPbc**	**03 43 00.1 0.0**		
	comp=Z,21nm,0.8s						
DIVS	**Divibare**	**152.86 335**	*e*PKPbc	**PKPbc**	**03 43 00.6 +0.2**		
LJU	**Ljubljana**	**152.90 345**	*i* PKPbc	**PKPbc**	**03 43 00.1 -0.2**		
CRNS	**Crni Vrh**	**152.93 345**	*i* PKPbc	**PKPbc**	**03 42 59.8 -0.6**		
VOJS	**Vojsko**	**153.06 346**	*i* PKPbc	**PKPbc**	**03 43 00.0 -0.8**		
FUORN	**Ofenpass-Fuorn**	**153.18 351**	*e*PKPbc	**PKPbc**	**03 43 01.5 +0.3**		
TUE	**Stuetta**	**153.45 353**	*e*PKPbc	**PKPbc**	**03 43 01.7 -0.1**		
FNA	**Florina**	**154.91 329**	*e*PKPbc	**PKPbc**	**03 43 04.3 -0.6**		
APE	**Apeiranthos**	**155.12 317**⇑	*i* P	**PKPab**	**03 43 20.5 -1.3**		
APE	**Apeiranthos**	**155.12 317**	⇑PKP2	**PKPab**	**03 43 20.5 -1.3**		
SANT	**Santorini**	**155.57 316**⇓	*i* P	**PKPab**	**03 43 22.1 -1.6**		
IDI	**Anoyia**	**156.58 314**	PKPbc	PKPbc	03 43 07.4		
	comp=Z,6.6nm,0.9s,baz=259,slow=5.2,SNR=2.1						
IDI			PKPab	**PKPab**	**03 43 27.3 -0.8**		
	comp=Z,4.0nm,0.6s,baz=53,slow=5.1,SNR=4.2						
ITM	**Ithomi**	**157.25 322**	*e*PKPab	**PKPab**	**03 43 31.0 +0.2**		
ES19	**SONSECA Array**	**159.20 19**	*e*PKPab	**PKPab**	**03 43 39.0 -0.3**		
ESDC	**Sonseca Array**	**159.21 19**	PKPab	**PKPab**	**03 43 39.2 -0.1**		
	comp=Z,3.2nm,0.9s,baz=328,slow=3.2,SNR=9.8						
LIC	**Lamto**	**163.33 145**	*e*PKIKP	**PKPdf**	**03 43 06.5 0.0**		
	comp=Z,41nm,1.4s						
KIC	**Kosan Boka**	**163.60 145**	*e*PKIKP	**PKPdf**	**03 43 06.0 -0.8**		
	comp=Z,52nm,1.5s						
TIC	**Toumodi**	**163.68 144**	*e*PKIKP	**PKPdf**	**03 43 06.7 -0.2**		
DBIC	**Dimbokro**	**163.79 144**	PKP	**PKPdf**	**03 43 06.6 -0.3**		
	comp=Z,3.6nm,0.8s,baz=186,slow=2.5,SNR=4.7						
KEST	**Kesra**	**163.91 346**	PKPab	**PKPab**	**03 43 59.4 -0.6**		
	comp=Z,2.0nm,0.7s,baz=135,slow=1.4,SNR=3.8						
KOWA	**Kowa**	**170.08 123**	PKP	**PKPdf**	**03 43 11.0 -0.5**		
	comp=Z,3.7nm,0.8s,baz=195,slow=2.5,SNR=9.8						
TOA0	**Torodi Ar. Sit**	**172.53 158**	*e*PKPdf	**PKPdf**	**03 43 12.1 -0.7**		
TOA0			*e*PKPdf	**PKPdf**	**03 43 12.3 -0.5**		
TOA0			*e*PKPab	**PKPab**	**03 44 39.8 +1.4**		
TORD	**Torodi Ar. Bea**	**172.53 158**	PKP	**PKPdf**	**03 43 11.7 -1.1**		
	comp=Z,3.2nm,0.9s,baz=200,slow=1.7,SNR=13						
TORD			PKPab	**PKPab**	**03 44 40.4 +2.0**		
	comp=Z,1.4nm,0.7s,baz=181,slow=3.4,SNR=8.0						
TOA1	**Torodi Ar. Sit**	**172.53 158**	*e*PKPdf	**PKPdf**	**03 43 11.7 -1.1**		
TOA1			*e*PKPab	**PKPab**	**03 44 40.4 +2.0**		

*IDC **25** 03:25:41.5±2.1,37˚.23S×95˚.31W, h0km, mb4.2/4, mb1 4.6/5, mb1mx4.1/33, mbtmp4.2/5, ML3.6/1, MS3.5/8, Ms1 3.5/8, ms1mx3.3/31, Error ellipse: s-maj=68.6km s-min=30.4km az=24.0*
*ISCJB **25** 03:25:42.1±1.7, 37˚.3S±0˚.4×95˚.2W±0˚.2, h10km, mb4.5/16, MS3.6/6, Error ellipse: s-maj=55.2km s-min=15.0km az=24.2*
*NEIC **25** 03:25:42.8±0.8, 37˚.35S×95˚.32W, h10km, mb4.6/13, Error ellipse: s-maj=28.6km s-min=11.3km az=201.0*

ISC 25 03:25:42.4±1.6, 37˚.4S±0˚.3×95˚.3W±0˚.2, h10km, n37, σ0°83/31, mb4.5/16, MS3.6/6, Southeast of Easter Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RPN	**Rapa Nui**	**15.62**	**307**	LR	LR	03 33 18.0	
	comp=Z,89nm,19.8s,baz=270,slow=29						
PLCA	**Paso Flores**	**19.52**	**108**	P	**Pn**	**03 30 11.2**	**-0.1**
	0.0nm,0.3s,baz=294,slow=11,SNR=5.5						
PLCA				LR	LR	03 35 10.4	
	comp=Z,31nm,18.7s,baz=300,slow=29						
LCO	**Las Campanas**	**22.19**	**75**	*e*P	**P**	**03 30 39.7**	**+0.5**
	16nm,1.0s						
LPAZ	**La Paz**	**31.90**	**56**	P	**P**	**03 32 08.8**	**-0.1**
	2.8nm,0.9s,baz=211,slow=13,SNR=5.8						
LPAZ				LR	LR	03 41 18.2	
	comp=Z,51nm,21.0s,baz=245,slow=29						
LPAZ	**La Paz**	**31.90**	**56**	*e*P	**P**	**03 32 09.0**	**+0.1**
	6.1nm,1.1s						
ATAH	**Atahualpa**	**33.81**	**31**	LR	LR	03 42 42.2	
	comp=Z,103nm,21.0s,baz=220,slow=30						
CPUP	**Villa Florida**	**33.90**	**82**	LR	LR	03 44 21.3	
	comp=Z,106nm,18.6s,baz=220,slow=33						
SIV	**San Ignacio**	**36.99**	**64**	LR	LR	03 45 48.4	
	comp=Z,71nm,19.2s,baz=179,slow=33						
PPT	**Papeete**	**51.29**	**277**	LR	LR	03 50 45.4	
	comp=Z,164nm,20.2s,baz=122,slow=29						
VNDA	**Vanda**	**56.53**	**195**	LR	LR	03 54 55.6	
	comp=Z,49nm,19.2s,baz=174,slow=31						
TXAR	**Lajitas Array**	**66.82**	**352**	P	**P**	**03 36 34.0**	**-0.3**
	1.3nm,0.8s,baz=173,slow=7.5,SNR=4.3						
CCUT	**Cedar City**	**76.39**	**345**	*e*P	**P**	**03 37 33.7**	**+1.7**
	4.4nm,1.0s						
NV01	**Mina Array Sit**	**78.35**	**342**	*e*P	**P**	**03 37 43.4**	**+0.5**
NVAR	**Mina Array Bea**	**78.35**	**342**	P	**P**	**03 37 43.9**	**+0.9**
	2.7nm,0.8s,baz=171,slow=7.1,SNR=7.0						
K22A	**Casper**	**80.30**	**352**	*e*P	**P**	**03 37 54.3**	**+0.9**
	19nm,1.5s						
BW06	**Boulder Array**	**80.81**	**349**	*e*P	**P**	**03 37 56.3**	**+0.1**
	3.8nm,0.8s						
PD31	**Pinedale Array**	**80.81**	**349**	*e*P	**P**	**03 37 56.3**	**+0.1**
PDAR	**Pinedale Array**	**80.81**	**349**	P	**P**	**03 37 56.2**	**-0.1**
	3.0nm,0.7s,baz=159,slow=5.8,SNR=14						
PDAR	**Pinedale Array**	**80.81**	**349**	*e*P	**P**	**03 37 55.7**	**-0.5**
TPAW	**Teton Pass**	**81.73**	**349**	*e*P	**P**	**03 38 01.7**	**+0.6**
	6.6nm,1.0s						
FXWY	**Fox Creek**	**81.88**	**349**	*e*P	**P**	**03 38 02.4**	**+0.4**
	3.3nm,0.8s						
MOOW	**Moose Ponds**	**81.95**	**349**	*e*P	**P**	**03 38 02.4**	**+0.1**
	6.0nm,1.5s						
HLID	**Hailey**	**82.40**	**346**	*e*P	**P**	**03 38 05.6**	**+1.0**
	4.9nm,0.8s						
YHH	**Holmes Hill**	**82.98**	**349**	*e*P	**P**	**03 38 08.8**	**+1.1**
	7.8nm,1.5s						
I07A	**Izee**	**83.99**	**343**	*e*P	**P**	**03 38 14.1**	**+1.4**
	5.1nm,0.9s						
PINE	**Pine Mountain**	**84.06**	**342**	*e*P	**P**	**03 38 14.4**	**+1.2**
	6.5nm,0.9s						
LAO	**LASA Array**	**84.25**	**352**	*e*P	**P**	**03 38 14.8**	**+0.8**
	11nm,1.1s						
YKA	**Yellowknife Ar**	**100.73**	**351**	P	**Pdif**	**03 39 29.7**	**-0.5**
	0.2nm,0.8s,baz=151,slow=4.4,SNR=4.1						
TIXI	**Tiksi**	**138.96**	**340**	*e*PKPdf	**PKPdf**	**03 45 08.1**	**+0.1**
KBZ	**Khabaz**	**147.90**	**65**	PKPbc	**PKPbc**	**03 45 27.3**	**-0.2**
	1.5nm,0.6s,baz=218,slow=2.5,SNR=4.0						
SONA0	**Songino Array**	**160.95**	**310**	*e*PKPab	**PKPab**	**03 46 25.5**	**0.0**
SONM	**Songino Array**	**160.95**	**310**	PKPab	**PKPab**	**03 46 25.5**	**0.0**
	1.1nm,1.0s,baz=64,slow=3.4,SNR=5.2						
BVAR	**Borovoye Array**	**161.45**	**28**	PKPab	**PKPab**	**03 46 27.4**	**+0.2**
	0.5nm,0.4s,baz=343,slow=4.5,SNR=4.1						
KURK	**Kurchatov**	**165.98**	**16**	*e*PKPab	**PKPab**	**03 46 46.0**	**-1.1**
KURBB	**Kurchatov Arra**	**166.05**	**16**	PKPab	**PKPab**	**03 46 46.0**	**-1.4**
	0.6nm,0.8s,baz=339,slow=4.4,SNR=4.4						
MK32	**Makanchi Array**	**170.42**	**10**	*e*PKPab	**PKPab**	**03 47 05.5**	**-1.4**
MKAR	**Makanchi Array**	**170.42**	**10**	PKPab	**PKPab**	**03 47 05.5**	**-1.4**
	0.5nm,0.8s,baz=338,slow=3.1,SNR=3.5						

*THE **25** 03:41:12.8, 34˚.64N×23˚.89E, h11km±1km, ML2.3/3, Error ellipse: s-maj=3.3km s-min=1.9km az=40.0*
*CSEM **25** 03:41:12.5±0.7, 34˚.61N×24˚.06E, h15km, ML2.3, Error ellipse: s-maj=13.5km s-min=8.1km az=38.0*

ATH 25 03:41:12.7, 34˚.63N×24˚.06E, h24km±2km, ML2.3/4, Error ellipse: s-maj=3.8km s-min=2.4km az=23.0, Crete

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GVD	**Gavdhos**	**0.21**	**6**	P	Pb	03 41 19.0	+0.6
GVD				S	Sb	03 41 21.6	-0.7
GVD				AML	AML	03 41 23.3	
	comp=E,3642μm,0.1s						
GVD				AML	AML	03 41 24.7	
	comp=N,3168μm,0.2s						
GVD	**Gavdhos**	**0.21**	**6**	P	Pb	03 41 18.7	+0.3
GVD				S	Sb	03 41 22.2	-0.1
GVD	**Gavdhos**	**0.21**	**6**	P	Pb	03 41 18.7	+0.3
GVD				S	Sb	03 41 22.2	-0.1
SIVA	**Sivas**	**0.73**	**58**	P	Pb	03 41 25.3	-1.4
SIVA				S	Sn	03 41 37.9	+0.1
SIVA				AML	AML	03 41 48.9	
	comp=N,336μm,0.5s						
SIVA				AML	AML	03 41 49.4	
	comp=E,360μm,0.4s						
SIVA	**Sivas**	**0.73**	**58**	P	Pb	03 41 26.1	-0.6
SIVA				S	Sn	03 41 37.6	-0.2
VAM	**Vamos**	**0.78**	**8**	P	Pb	03 41 27.4	-0.3
VAM				S	Sn	03 41 39.8	+0.6
VAM				AML	AML	03 41 42.4	
	comp=N,198μm,0.4s						
VAM				AML	AML	03 41 44.8	
	comp=E,154μm,0.4s						
VAM	**Vamos**	**0.78**	**8**	P	Pb	03 41 27.7	0.0
VAM				S	Sn	03 41 39.3	+0.1
VAM	**Vamos**	**0.78**	**8**	P	Pb	03 41 27.7	0.0
VAM				S	Sn	03 41 39.3	+0.1
IMMV	**Iera Moni Meta**	**0.83**	**355**	P	Pb	03 41 28.6	+0.1
IMMV				S	Sn	03 41 40.9	+0.5
IMMV				AML	AML	03 41 41.3	
	comp=N,644μm,0.4s						
IMMV				AML	AML	03 41 42.1	
	comp=E,736μm,0.3s						
IMMV	**Iera Moni Meta**	**0.83**	**355**	P	Pb	03 41 28.6	+0.1
IMMV				S	Sn	03 41 40.9	+0.5
IMMV	**Iera Moni Meta**	**0.83**	**355**	P	Pn	03 41 28.7	-0.2
IMMV				S	Sn	03 41 40.6	+0.2
LAST	**Lasithi**	**1.28**	**65**	P	Pb	03 41 37.5	+1.4
LAST	**Lasithi**	**1.28**	**65**	P	Pb	03 41 36.6	+0.5
LAST				S	Sb	03 41 56.8	+4.6
LAST	**Lasithi**	**1.28**	**65**	P	Pb	03 41 36.6	+0.5

TRN 25 03:44:17.3, 17˚.42N×61˚.38W, h20km, MD3.5, 3C, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ANWB	**Willy Bob**	**0.46**	**303**	*e*P	Pn	03 44 28.2	-0.5
ANWB				*e*S	Sn	03 44 36.5	+0.2
BPA	**Boggy Peak**	**0.59**	**231**	*e*P	Pn	03 44 31.8	+1.3
BPA				*e*S	Sn	03 44 41.3	+1.8
SEG	**Port Louis**	**1.02**	**187**	*e*P	Pn	03 44 36.8	+0.4
MBWH		**1.02**	**229**⇑	*i* P	Pn	03 44 37.9	+1.4
MBWH				*e*S	Sn	03 44 52.1	+1.8
MLYT	**Lee's Yard**	**1.04**	**228**	*e*P	Pn	03 44 39.0	+2.2
MLYT				*e*S	Sn	03 44 53.9	+3.3
DEG

ANTU	**Antumapu**	**1.27**	**124**	*e*P	**Pg**	**04 03 28.0**	**+0.7**
ANTU				*i* S	**Sb**	**04 03 45.5**	**+1.3**
ANTU				IAML		04 03 46.9	
	comp=N,1μm,0.3s						
FCH	**Farellones**	**1.42**	**109**	⇓*i*P	**Pn**	**04 03 29.2**	**-0.8**
FCH				*i* S	**Sg**	**04 03 47.7**	**-0.9**
FCH				IAML		04 03 49.5	
	comp=N,1μm,0.3s						
LMEL	**Las Melosas**	**1.72**	**125**	⇓*i*P	**Pn**	**04 03 34.3**	**+0.4**
LMEL				*i* S	**Sn**	**04 03 56.9**	**+0.4**
LMEL				IAML		04 03 59.8	
	comp=N,638nm,0.3s						
AUSP	**Uspallata**	**2.21**	**74**	*e*P	**Pn**	**04 03 42.4**	**+1.5**
AUSP				*e*S	**Sn**	**04 04 08.2**	**-0.7**
RTLS	**Leoncito**	**2.44**	**65**	*e*P	**Pn**	**04 03 45.1**	**+1.1**
RTLS				*e*S	**Sn**	**04 04 13.4**	**-1.2**
ARCO	**CERRO ARCO**	**2.49**	**90**	*e*P	**Pb**	**04 03 47.4**	**-1.1**
ARCO				IAML		04 03 54.7	
	comp=Z,150nm,0.7s						
AAGR	**Agrelo**	**2.58**	**96**	*e*P	**Pb**	**04 03 48.7**	**-1.3**
ASAL	**Salagasta**	**2.59**	**85**	*e*P	**Pn**	**04 03 47.9**	**+2.0**
AVIZ	**Vizcacheras**	**2.90**	**103**	*e*P	**Pb**	**04 03 53.6**	**-1.8**
RTCV	**Cerro Valdivia**	**3.01**	**71**	*e*P	**Pn**	**04 03 53.1**	**+1.5**
AROD	**Rodeo**	**3.40**	**38**	*e*P	**Pn**	**04 03 57.8**	**+0.6**
AMOG	**MOGNA**	**3.47**	**57**	*e*P	**Pn**	**04 03 59.0**	**+1.0**
ACAN	**Cantantal**	**4.01**	**83**	*e*P	**Pn**	**04 04 08.1**	**+2.6**
AGUA	**GUANDACOL**	**4.46**	**42**	*e*P	**Pn**	**04 04 12.2**	**+0.6**
APLL	**PUNTA DE LOS L**	**5.20**	**63**	*e*P	**Pn**	**04 04 23.1**	**+1.4**
VCA	**Vinchina**	**5.20**	**39**	*e*P	**Pn**	**04 04 22.1**	**+0.3**
VCA				IAML		04 05 55.3	
	comp=Z,42nm,0.7s						

MEX 25 04:07:00.7±0.8, 16°06'N×97°38'W, h1km±14km, MD3.5, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.40**	**326**	*i* P	Pg	04 07 07.7	-0.7
PNIG				*e*S	Sg	04 07 14.3	+0.7
VHO	**Vista Hermosa**	**1.50**	**48**	*e*P	Pn	04 07 25.9	-3.1
VHO				*e*S	Sg	04 07 43.9	-5.2
TLIG	**Tlapa**	**1.63**	**337**	*e*P	Pn	04 07 27.4	-3.3
TLIG				*e*S	Sn	04 07 46.3	-6.1

NIED ***25*** *04:08:00, 35°.70N×140°.60E, h56km, Mw4.1 Best double couple: M₀1.62000×10¹⁵ NP1:φ₀150.00000°,δ10.00000°, λ51.00000°. NP2:φ₀10.00000°,δ82.00000°,λ96.00000°.*

ISCJB ***25*** *04:08:06.2±0.4, 35°.68N±0°.03×140°.64E±0°.05, h50km±3km, mb3.8/21, Error ellipse: s-maj=7.4km s-min=5.6km az=176.3*

JMA ***25*** *04:08:06.8±0.1, 35°.74N×140°.65E, h46km±1km, M3.7 Broadband fault plane solution: P waves. NP1: φ₀6.00000°,δ77.00000°,λ80.00000°. NP2:φ₀223.00000°, δ16.00000°,λ126.00000°. Principal axes: T Plg57.0000°, Azm263.0000°; N Plg10.0000°, Azm8.0000°; P Plg31.0000°, Azm104.0000°;*

JMA Felt II J1.

IDC ***25*** *04:08:07.5±1.4, 35°.63N×140°.54E, h46km±15km, mb3.6/21, mb1 3.7/27, mb1mx3.6/71, mbtmp3.9/27, ML3.7/4, MS3.2/4, Ms1 3.3/4, ms1mx2.7/65 Error ellipse: s-maj=17.1km s-min=10.5km az=81.0*

ISC 25 04:08:07.1±0.8, 35°.68N±0°.05×140°.66E±0°.05, h42km±7km, n50, σ1°11/48, mb3.8/21, 5D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.16**	**83**	P	**Pn**	**04 08 14.5**	**+0.2**
CHOJ				S	**Sn**	**04 08 19.8**	**+0.5**
JYT	**Yasato**	**0.66**	**325**	⇓P	**Pn**	**04 08 19.2**	**-0.9**
JYT				S	**Sn**	**04 08 28.2**	**-1.2**
BSO4	**Boso 4**	**0.74**	**201**	⇓P	**Pn**	**04 08 21.8**	**+0.7**
BSO3	**Boso 3**	**0.89**	**188**	⇓P	**Pn**	**04 08 23.7**	**+0.8**
JHO	**Hitachi**	**0.93**	**355**	⇓P	**Pn**	**04 08 22.9**	**-0.9**
BSO1	**Boso 1**	**1.06**	**166**	P	**Pn**	**04 08 25.6**	**+0.6**
JAG	**Ashikaga**	**1.23**	**307**	⇓P	**Pn**	**04 08 27.0**	**-0.9**
JOD2	**Odawara 2**	**1.35**	**252**	⇓P	**Pn**	**04 08 29.7**	**+0.1**
JIM2	**Oshima 3**	**1.40**	**227**	P	**Pn**	**04 08 29.6**	**-0.6**
JIM2				S	**Sn**	**04 08 46.8**	**-0.6**
MJAR	**Matsushiro Arr**	**2.17**	**294**	P	**Pn**	**04 08 41.0**	**+0.3**
	40nm,0.3s,baz=35,slow=8.0,SNR=215						
MJAR				LR	LR	04 09 42.1	
	comp=Z,348nm,19.4s,baz=105,slow=46						
MAT	**Matsushiro**	**2.17**	**294**	P	**Pn**	**04 08 41.6**	**+0.9**
MAT				*e*S	**Sn**	**04 09 07.0**	**+0.6**
JHJ	**Hachijo jima 2**	**2.66**	**196**	P	**Pn**	**04 08 47.2**	**-0.3**
	27nm,0.3s,baz=337,slow=22,SNR=12						
JHJ				S	**Sn**	**04 09 17.0**	**-1.5**
	62nm,0.3s,baz=253,slow=19,SNR=4.7						
JNU	**Nakatsue**	**8.48**	**255**	P	**Pn**	**04 10 05.8**	**-1.7**
	0.3nm,0.3s,baz=72,slow=16,SNR=2.7						
ASAJ	**Asahikawa**	**8.55**	**9**	P	**Pn**	**04 10 08.4**	**0.0**
	2.2nm,0.3s,baz=206,slow=13,SNR=5.9						
ASAJ				S	**Sn**	**04 11 39.8**	**-3.7**
	0.8nm,0.3s,baz=143,slow=20,SNR=2.1						
JCJ	**Chichijima**	**8.66**	**171**	P	**Pn**	**04 10 07.7**	**-2.2**
	7.2nm,0.3s,baz=32,slow=21,SNR=7.1						
JCJ				S	Sn	04 11 37.0	-9.2
	baz=294,slow=20						
KSRS	**Korea Array**	**10.40**	**284**	P	**Pn**	**04 10 36.3**	**+2.7**
	0.2nm,0.3s,baz=93,slow=14,SNR=6.6						
USRK	**Ussuriysk Ar.**	**10.80**	**325**	P	**Pn**	**04 10 41.1**	**+2.1**
	0.1nm,0.3s,baz=116,slow=9.8,SNR=2.6						
H11N2	**WAKE ISLAND Hy**	**28.02**	**118**	T	T	04 42 58.2	
	baz=310,slow=75,SNR=36						
H11N1	**WAKE ISLAND Hy**	**28.03**	**118**	T	T	04 43 14.2	
	baz=310,slow=75,SNR=28						
H11N3	**WAKE ISLAND Hy**	**28.04**	**118**	T	T	04 43 00.6	
	baz=310,slow=75,SNR=30						
SONM	**Songino Array**	**28.07**	**306**	P	**P**	**04 13 53.3**	**-1.3**
	1.2nm,0.7s,baz=108,slow=9.9,SNR=6.1						
SEY	**Seymchan**	**28.23**	**11**	P	**P**	**04 13 57.6**	**+1.9**
	0.4nm,0.3s,baz=203,slow=13,SNR=2.0						
H11S1	**WAKE ISLAND Hy**	**28.68**	**120**	T	T	04 43 44.9	
	baz=312,slow=75,SNR=44						
H11S3	**WAKE ISLAND Hy**	**28.68**	**120**	T	T	04 43 47.2	
	baz=312,slow=75,SNR=35						
H11S2	**WAKE ISLAND Hy**	**28.69**	**120**	T	T	04 43 52.5	
	baz=312,slow=75,SNR=32						
CMAR	**Chiang Mai Arr**	**40.58**	**256**	LR	LR	04 35 12.9	
	comp=Z,24nm,18.0s,baz=68,slow=40						
ZALV	**Zalesovo Beam**	**42.39**	**313**	P	**P**	**04 15 56.5**	**-0.7**
	0.9nm,0.3s,baz=108,slow=4.8,SNR=3.6						
MKAR	**Makanchi Array**	**44.34**	**303**	P	**P**	**04 16 12.4**	**-0.7**
	1.4nm,0.6s,baz=91,slow=9.2,SNR=8.9						
KURBB	**Kurchatov Arra**	**46.37**	**309**	P	**P**	**04 16 28.2**	**-0.9**
	2.2nm,0.5s,baz=80,slow=7.4,SNR=12						
ILAR	**Eielson Array**	**50.96**	**32**	P	**P**	**04 17 04.6**	**+0.5**
	0.7nm,0.8s,baz=245,slow=6.2,SNR=6.3						
BVAR	**Borovoye Array**	**51.04**	**313**	P	**P**	**04 17 04.9**	**0.0**
	0.9nm,0.6s,baz=93,slow=6.0,SNR=5.5						
WRA	**Warramunga Arr**	**55.64**	**187**	P	**P**	**04 17 39.1**	**+0.1**
	0.6nm,0.5s,baz=2.5,slow=7.5,SNR=18						
INK	**Inuvik**	**55.86**	**27**	P	**P**	**04 17 40.9**	**+0.9**
	0.3nm,0.5s,baz=282,slow=4.9,SNR=3.3						
AKTO	**Aktyubinsk**	**59.13**	**312**	P	**P**	**04 18 03.5**	**+0.2**
	0.7nm,0.4s,baz=81,slow=13,SNR=4.6						
AKTO				LR	LR	04 42 39.8	
	comp=Z,24nm,18.9s,baz=69,slow=35						
ASAR	**Alice Springs**	**59.37**	**187**	P	**P**	**04 18 05.1**	**-0.1**
	0.2nm,0.3s,baz=359,slow=6.1,SNR=5.7						
SPITS	**Spitsbergen Ar**	**61.73**	**349**	P	**P**	**04 18 21.2**	**+0.5**
	6.6nm,0.9s,baz=26,slow=10,SNR=2.7						
YKA	**Yellowknife Ar**	**65.28**	**30**	P	**P**	**04 18 44.8**	**+0.6**
	0.1nm,0.7s,baz=305,slow=6.6,SNR=4.6						
FINES	**FINESS Array B**	**69.72**	**332**	P	**P**	**04 19 11.4**	**-0.9**
	0.6nm,0.6s,baz=57,slow=7.0,SNR=5.5						
GNI	**Garni**	**72.03**	**307**	LR	LR	04 53 41.1	
	comp=Z,26nm,18.4s,baz=89,slow=38						
HFS	**Hagfors**	**75.07**	**336**	P	**P**	**04 19 43.9**	**-0.3**
	1.2nm,0.8s,baz=108,slow=7.7,SNR=4.7						
NB2	**NORSAR Subarra**	**75.19**	**337**	P	**P**	**04 19 44.2**	**-0.8**
	comp=Z,2.0nm,0.8s,baz=41,slow=6.2						
NOA	**NORSAR Array B**	**75.19**	**337**	P	**P**	**04 19 44.4**	**-0.6**
	comp=Z,0.5nm,0.6s,baz=40,slow=5.8,SNR=3.6						
NVAR	**Mina Array Bea**	**76.28**	**53**	P	**P**	**04 19 52.3**	**+0.4**
	comp=Z,0.6nm,0.7s,baz=287,slow=6.3,SNR=5.8						
PDAR	**Pinedale Array**	**79.05**	**45**	P	**P**	**04 20 07.6**	**+0.4**
	comp=Z,0.3nm,0.6s,baz=222,slow=2.0,SNR=4.2						
BRTR	**Keskin Array B**	**79.29**	**311**	P	**P**	**04 20 08.3**	**-0.2**
	comp=Z,0.4nm,0.6s,baz=51,slow=4.6,SNR=3.3						
BRTR	**Keskin Array B**	**79.29**	**311**	P	**P**	**04 20 08.3**	**-0.2**
TXAR	**Lajitas Array**	**91.43**	**52**	P	**P**	**04 21 09.3**	**0.0**
	comp=Z,0.2nm,0.7s,baz=289,slow=5.0,SNR=3.8						
VAE	**Valguarnera**	**91.78**	**320**	P	**P**	**04 21 09.8**	**-0.9**
	comp=Z,1.7nm,0.3s,baz=24,slow=10.0,SNR=2.8						
LPAZ	**La Paz**	**147.89**	**60**	PKPbc	**PKPbc**	**04 27 49.8**	**+0.8**
	comp=Z,0.5nm,0.3s,baz=20,slow=8.1,SNR=4.6						

ISK ***25*** *04:09:28.9, 38°.94N×32°.73E, h6km, ML2.2/8*

DDA ***25*** *04:09:29.8, 38°.93N×32°.76E, h7km, Ml2.5*

CSEM ***25*** *04:09:29.8±0.2, 38°.93N×32°.77E, h5km, ML2.5, Error ellipse: s-maj=4.1km s-min=3.3km az=114.0*

ISC 25 04:09:29.9±1.1, 38°.93N±0°.02×32°.75E±0°.03, h4km±10km, n34, σ0°54/52, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKUL	**Konya-Kulu**	**0.27**	**29**	*i* P	**Pg**	**04 09 35.3**	**+0.1**
KKUL				*i* S	**Sg**	**04 09 39.6**	**+0.8**
KKUL	**Konya-Kulu**	**0.27**	**29**	P	**Pg**	**04 09 35.3**	**+0.1**
KKUL				S	**Sg**	**04 09 39.6**	**+0.8**
AFSR	**Afşar-Bala (A**	**0.57**	**26**	PG	**Pg**	**04 09 39.8**	**-1.1**
AFSR				SG	**Sg**	**04 09 48.5**	**+0.2**
AFSR	**Afşar-Bala (A**	**0.57**	**26**	*e*Pg	**Pg**	**04 09 39.8**	**-1.1**
AFSR				*e*Sg	**Sg**	**04 09 48.5**	**+0.2**
SERE	**Sereflikochisa**	**0.64**	**88**	PG	**Pg**	**04 09 42.1**	**0.0**
SERE	**Sereflikochisa**	**0.64**	**88**	*e*Pg	**Pg**	**04 09 42.1**	**0.0**
KDHN	**Kadinhani**	**0.64**	**231**	*i* P	**Pg**	**04 09 42.3**	**+0.1**
KDHN				*i* S	**Sb**	**04 09 52.2**	**-0.9**
KDHN	**Kadinhani**	**0.64**	**231**	P	**Pg**	**04 09 42.3**	**+0.1**
KDHN				S	**Sb**	**04 09 52.2**	**-0.9**
BBAL	**Bala**	**0.68**	**25**	*i* P	**Pg**	**04 09 43.4**	**+0.5**
BBAL				*i* S	**Sb**	**04 09 54.1**	**+0.1**
BBAL	**Bala**	**0.68**	**25**	P	**Pg**	**04 09 43.3**	**+0.5**
BBAL				S	**Sb**	**04 09 54.2**	**+0.1**
LADK	**Ladik-KONYA**	**0.79**	**203**	PG	**Pg**	**04 09 44.9**	**-0.1**
LADK				SG	**Sg**	**04 09 55.6**	**+0.3**
LADK	**Ladik-KONYA**	**0.79**	**203**	*e*Pg	**Pg**	**04 09 44.9**	**-0.1**
LADK				*e*Sg	**Sg**	**04 09 55.6**	**+0.3**
ANTO	**Ankara**	**0.94**	**2**	PG	**Pg**	**04 09 47.0**	**-0.9**
ANTO	**Ankara**	**0.94**	**2**	*e*Pg	**Pg**	**04 09 47.0**	**-0.9**
SULT	**Sultanhani-AKS**	**0.95**	**140**	PG	**Pg**	**04 09 47.9**	**-0.1**
SULT	**Sultanhani-AKS**	**0.95**	**140**	*e*Pg	**Pg**	**04 09 47.9**	**-0.1**
LOD	**Lodumlu**	**0.96**	**1**	PG	**Pg**	**04 09 47.5**	**-0.7**
LOD	**Lodumlu**	**0.96**	**1**	*e*Pg	**Pg**	**04 09 47.5**	**-0.7**
SVRH	**Sivrihisar-ESK**	**1.08**	**299**	PG	**Pg**	**04 09 50.4**	**-0.3**
SVRH	**Sivrihisar-ESK**	**1.08**	**299**	*e*Pg	**Pg**	**04 09 50.4**	**-0.3**
GULA	**Gulagac**	**1.30**	**116**	PN	**Pb**	**04 09 54.9**	**-0.1**
GULA	**Gulagac**	**1.30**	**116**	*e*Pn	**Pb**	**04 09 54.9**	**-0.1**
AUMIH	**MIHALICIK**	**1.35**	**314**	*i* P	**Pg**	**04 09 55.9**	**0.0**
AUMIH				*i* S	**Sn**	**04 10 15.5**	**+1.3**
AUMIH	**MIHALICIK**	**1.35**	**314**	P	**Pg**	**04 09 55.9**	**0.0**
AUMIH				S	**Sn**	**04 10 15.5**	**+1.3**
CDAG	**Cicekdag**	**1.44**	**61**	*i* P	**Pn**	**04 09 56.3**	**-0.5**
CDAG				*i* S	**Sb**	**04 10 15.3**	**-0.7**
CDAG	**Cicekdag**	**1.44**	**61**	P	**Pn**	**04 09 56.3**	**-0.5**
CDAG				S	**Sb**	**04 10 15.3**	**-0.7**
CMDR	**Camlidere-ANKA**	**1.57**	**352**	*i* P	**Pg**	**04 10 00.1**	**0.0**
CMDR				*i* S	**Sg**	**04 10 20.7**	**+0.2**
CMDR	**Camlidere-ANKA**	**1.57**	**352**	P	**Pg**	**04 10 00.1**	**0.0**
CMDR				S	**Sg**	**04 10 20.7**	**+0.2**
ELDT	**Eldivan**	**1.64**	**18**	*i* P	**Pn**	**04 09 59.2**	**-0.5**
ELDT				*i* S	**Sg**	**04 10 22.8**	**+0.2**
ELDT	**Eldivan**	**1.64**	**18**	P	**Pn**	**04 09 59.2**	**-0.5**
ELDT				S	**Sg**	**04 10 22.8**	**+0.2**
CORM	**Corum**	**1.91**	**49**	PN	**Pn**	**04 10 03.4**	**0.0**
CORM	**Corum**	**1.91**	**49**	*e*Pn	**Pn**	**04 10 03.4**	**0.0**
YOZ	**Yozgat**	**2.12**	**70**	PN	**Pn**	**04 10 06.3**	**+0.1**
YOZ	**Yozgat**	**2.12**	**70**	*e*Pn	**Pn**	**04 10 06.3**	**+0.1**

CSEM ***25*** *04:17:55.0, 43°.16N×46°.18E, h14km, mb3.9*

MOS 25 04:17:55.3±0.8, 43°.16N×46°.18E, h14km, mb3.9/1, 4C-2D, Error ellipse: s-maj=10.0km s-min=5.8km az=35.3, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GROC	**Groznyy**	**0.29**	**279**	*e*Pg	Pg	04 18 01.5	+0.2
	35nm,0.5s						
GROC				*e*Sg	Sg	04 18 05.5	+0.1
	125nm,0.5s						
GROC	**Groznyy**	**0.29**	**279**	*e*PG	Pg	04 18 01.5	+0.2
GROC				*e*		04 18 05.5	
GROC				pmax	pmax		
	comp=Z,35nm,0.5s						
GROC				smax	smax		
	comp=N,251nm,1.5s						
GROC				smax	smax		
	comp=N,125nm,0.5s						
DBC	**Dubki**	**0.49**	**106**	*i* Pg	Pg	04 18 04.3	-0.8
	comp=N,30nm,0.2s						
DBC				*i* Sg	Sb	04 18 12.4	-0.5
DBC	**Dubki**	**0.49**	**106**	⇓*i*PG	Pg	04 18 04.3	-0.8
DBC				*i* S	Sb	04 18 12.4	-0.5
DBC				pmax	pmax		
	comp=Z,30nm,0.2s						
KRNR	**Karanay**	**0.63**	**122**	*e*Pg	Pg	04 18 07.5	-0.1
	comp=Z,18nm,0.2s						
KRNR				*e*Sg	Sb	04 18 16.5	-0.3
KRNR	**Karanay**	**0.63**	**122**	*e*PG	Pg	04 18 07.5	-0.1
KRNR				*e*S	Sb	04 18 16.5	-0.3
KRNR				pmax	pmax		
	comp=Z,18nm,0.2s						
UNCR	**Uncukul**	**0.63**	**134**	*i* Pg	Pg	04 18 07.3	-0.4
	comp=Z,68nm,0.3s						
UNCR				*i* Sg	Sb	04 18 17.0	+0.2
UNCR	**Uncukul**	**0.63**	**134**	⇑*i*PG	Pg	04 18 07.3	-0.4
UNCR				*i* S	Sb	04 18 17.0	+0.2
UNCR				pmax	pmax		
	comp=Z,68nm,0.3s						
ARKR	**Arakani**	**0.81**	**133**	*e*Pg	Pg	04 18 10.5	-0.6
ARKR				*e*Sg	Sb	04 18 22.5	+0.4
ARKR	**Arakani**	**0.81**	**133**	*e*PG	Pg	04 18 10.5	-0.6
ARKR				*e*S	Sb	04 18 22.5	+0.4
GNBR	**Gunib**	**0.96**	**143**	*i* Pg	Pg	04 18 14.0	+0.1
	comp=Z,34nm,0.1s						
GNBR				*i* Sg	Sn	04 18 28.9	+1.0
GNBR	**Gunib**	**0.96**	**143**	⇑*i*PG	Pg	04 18 14.0	+0.1
GNBR				*i* S	Sn	04 18 28.9	+1.0
GNBR				pmax	pmax		
	comp=Z,34nm,0.1s						
VLKR	**Vladikavkaz**	**1.11**	**265**	*e*Pg	Pb	04 18 16.2	-0.1
VLKR				*e*Sg	Sg	04 18 31.1	0.0
VLKR	**Vladikavkaz**	**1.11**	**265**	*e*PG	Pb	04 18 16.2	-0.1
VLKR				*e*S	Sg	04 18 31.1	0.0
BTKR	**Batakoyurt**	**1.22**	**281**	*e*Pg	Pn	04 18 17.6	-0.3
BTKR				*e*Sg	Sg	04 18 35.0	+0.4
BTKR	**Batakoyurt**	**1.22**	**281**	*e*PG	Pn	04 18 17.6	-0.3
BTKR				*e*S	Sg	04 18 35.0	+0.4
KMKR	**Kumukh**	**1.23**	**146**	*e*Pg	Pg	04 18 18.8	-0.2
	comp=Z,39nm,0.3s						
KMKR				*e*Sg	Sg	04 18 36.5	+1.5
KMKR	**Kumukh**	**1.23**	**146**	*e*PG	Pg	04 18 18.8	-0.2
KMKR				*e*S	Sg	04 18 36.5	+1.5
KMKR				pmax	pmax		
	comp=Z,39nm,0.3s						
ARNR	**Ardon**	**1.39**	**272**	*e*Pg	Pb	04 18 21.0	0.0
ARNR				*e*Sg	Sg	04 18 39.8	-0.3
ARNR	**Ardon**	**1.39**	**272**	*e*PG	Pb	04 18 21.0	0.0
ARNR				*e*S	Sg	04 18 39.8	-0.3
LACR	**Lac**	**1.42**	**257**	*e*Pg	Pn	04 18 19.2	-1.6
LACR				*e*Sg	Sn	04 18 38.7	-0.7
LACR	**Lac**	**1.42**	**257**	*e*PG	Pn	04 18 19.2	-1.6
LACR				*e*S	Sn	04 18 38.7	-0.7
URKR	**Urkarakh**	**1.46**	**132**	*e*Pg	Pg	04 18 23.0	-0.3
URKR				*i* Sg	Sg	04 18 44.5	+2.2
URKR	**Urkarakh**	**1.46**	**132**	*e*PG	Pg	04 18 23.0	-0.3
URKR				*i* S	Sg	04 18 44.5	+2.2
KORR	**Kora**	**1.55**	**268**	*e*Pg	Pb	04 18 24.1	+0.3
KORR				*e*Sg	Sb	04 18 44.2	+0.9
KORR	**Kora**	**1.55**	**268**	*e*PG	Pb	04 18 24.1	+0.3
KORR				*e*S	Sb	04 18 44.2	+0.9
STDR	**Stavd-Durt**	**1.56**	**279**	*e*Pg	Pn	04 18 22.9	+0.2
	comp=Z,9.0nm,0.2s						
STDR				*e*Sg	Sg	04 18 44.7	-0.9
STDR	**Stavd-Durt**	**1.56**	**279**	*e*PG	Pn	04 18 22.9	+0.2
STDR				*e*S	Sg	04 18 44.7	-0.9
STDR				pmax	pmax		
	comp=Z,9.0nm,0.2s						
DDFL	**Dedoflistskaro**	**1.71**	**182**	P	Pg	04 18 29.1	+0.9
DDFL				S	Sg	04 18 55.7	+5.3
ZEI	**Tsey**	**1.71**	**258**	*e*Pn	Pn	04 18 24.2	-0.7
ZEI	**Tsey**	**1.71**	**258**	*e*PN	Pn	04 18 24.2	-0.7
DGRG	**David-gareji**	**1.81**	**200**	P	Pb	04 18 28.5	+0.3
DGRG				S	Sg	04 18 55.5	+2.1
DGRG	**David-gareji**	**1.81**	**200**	*e*Pn	Pb	04 18 28.4	+0.2
DGRG				*e*Sg	Sg	04 18 55.5	+2.1
DGRG	**David-gareji**	**1.81**	**200**	*e*PN	Pb	04 18 28.4	+0.2
DGRG				*e*S	Sg	04 18 55.5	+2.1
NCK	**Nalchik**	**1.92**	**281**	*i* Pn	Pb	04 18 29.1	-1.0
NCK	**Nalchik**	**1.92**	**281**	*i* PN	Pb	04 18 29.1	-1.0
DIGR	**Digorskoe uzhe**	**1.93**	**263**	*e*Pn	Pn	04 18 28.4	+0.6
	comp=Z,1.0nm,0.1s						
DIGR	**Digorskoe uzhe**	**1.93**	**263**	*e*PN	Pn	04 18 28.4	+0.6
DIGR				pmax	pmax		
	comp=Z,1.0nm,0.1s						
AKT	**Akhty**	**2.03**	**145**	*i* Pn	Pb	04 18 32.1	+0.1
	comp=Z,13nm,0.2s						
AKT	**Akhty**	**2.03**	**145**	*e*Pg	Pg	04 18 35.8	+1.5
AKT				*e*Sg	Sg	04 19 03.1	+2.5
AKT	**Akhty**	**2.03**	**145**	⇓*i*PN	Pb	04 18 32.1	+0.1
AKT				*e*		04 18 35.3	
AKT				*e*		04 18 35.8	
AKT				*e*S	Sg	04 19 03.1	+2.5
AKT				pmax	pmax		
	comp=Z,13nm,0.2s						
NEY	**Neytrino**	**2.53**	**273**	*e*Pn	Pn	04 18 37.7	+1.6
	comp=Z,3.0nm,0.1s						
NEY				*e*Sn	Sb	04 19 09.9	-1.8
	comp=Z,8.0nm,0.1s						
NEY	**Neytrino**	**2.53**	**273**	*e*PN	Pn	04 18 37.7	+1.6
NEY				*e*S	Sb	04 19 09.9	-1.8
NEY				pmax	pmax		
	comp=Z,3.0nm,0.1s						
NEY				smax	smax		
	comp=N,8.0nm,0.1s						
KIV	**Kislovodsk**	**2.66**	**289**	*e*Pn	Pn	04 18 39.1	+1.2
	comp=N,3.0nm,0.3s						
KIV	**Kislovodsk**	**2.66**	**289**	*e*PN	Pn	04 18 39.1	+1.2
KIV				pmax	pmax		
	comp=Z,3.0nm,0.3s						
GOF	**Gofitskoye**	**2.95**	**311**	*e*Pn	Pn	04 18 43.1	+1.3
	comp=Z,11nm,0.6s						
GOF				*e*Sn	Sb	04 19 21.3	-2.3
GOF	**Gofitskoye**	**2.95**	**311**	⇑*e*PN	Pn	04 18 43.1	+1.3
GOF				*e*S	Sb	04 19 21.3	-2.3
GOF				pmax	pmax		
	comp=Z,11nm,0.6s						
GOF				smax	smax		
	comp=E,34nm,0.7s						
OBN	**Obninsk**	**13.50**	**336**	*ce*P	Pn	04 21 10.0	+3.8
OBN				*e*S	Sn	04 23 41.0	+5.0
OBN				pmax	pmax		
	comp=Z,4.0nm,0.7s						
KIEV	**Kiev**	**13.81**	**309**	*e*P	Pn	04 21 13.2	+2.7
KIEV				pmax	pmax		
	comp=Z,2.0nm,1.1s						
ARU	**Arti**	**15.47**	**27**	*e*P	P	04 21 38.7	+1.4
	comp=Z,1.0nm,0.9s						
ARU	**Arti**	**15.47**	**27**	*e*P	P	04 21 38.7	+1.4
ARU				pmax	pmax		
	comp=Z,1.0nm,0.9s						
VSU	**Vasula**	**19.52**	**328**	*i* P	Pn	04 22 26.6	+3.3
VSU				pmax	pmax		
	comp=Z,41nm,1.9s						

ISCJB ***25*** *04:19:36.9±0.5, 39°.08N±0°.03×29°.17E±0°.03, h6km±4km, Error ellipse: s-maj=4.7km s-min=3.7km az=156.8*

CSEM ***25*** *04:19:36.9±0.1, 39°.12N×29°.16E, h5km, ML2.1, Error ellipse: s-maj=2.4km s-min=1.8km az=137.0*

DDA ***25*** *04:19:36.8, 39°.12N×29°.16E, h7km, Ml2.5*

ISK ***25*** *04:19:36.5, 39°.13N×29°.18E, h5km, ML2.1/9*

ISC 25 04:19:37.1±0.9, 39°.12N±0°.02×29°.16E±0°.02, h9km±7km, n37, σ0°42/58, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIMA	**Simav-Kutahya**	**0.14**	**253**	PG	**Pg**	**04 19 40.3**	**0.0**
SIMA				SG	**Sg**	**04 19 43.0**	**+0.4**
SIMA	**Simav-Kutahya**	**0.14**	**253**	*e*Pg	**Pg**

*GUC **25** 04:33:52.2±0.5,26˚.18S×70˚.85W,h55km±12km,ML4.0*
*NEIC **25** 04:33:52.0±0.0,26˚.18S×70˚.85W,h55km, mb4.6/5, ML4.0(GUC),After GUC.*

ISC 25 04:33:50.9±1.6,**26˚.14S**±0˚.03×**70˚.93W**±0˚.08,**h23**km±11km, **n61**,σ1²**80**/65,**mb4.5**/12,**1D**,**Near coast of northern Chile**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
CPCH	**Copiapo**	**1.31**	**157**	*e*P		**Pn**	**04 34 14.6**	**+0.6**
CPCH				*i* S		**Sn**	**04 34 30.4**	**-0.5**
GO02	**Mina Guanaco**	**1.55**	**51**	*e*Pn		**Pb**	**04 34 19.0**	**-0.2**
GO02				*e*Sn		**Sn**	**04 34 36.1**	**-1.0**
GO02	**Mina Guanaco**	**1.55**	**51**	*e*P		**Pb**	**04 34 18.9**	**-0.2**
GO02				*i* S		**Sb**	**04 34 38.0**	**-0.5**
GO02				IAML			04 34 44.9	
	comp=E,4μm,0.5s							
GO03	**Copiap**	**1.57**	**157**	*e*Pn		**Pb**	**04 34 19.2**	**-0.2**
GO03				*e*Sn		**Sn**	**04 34 37.6**	**+0.3**
GO03	**Copiap**	**1.57**	**157**	*e*P		**Pn**	**04 34 18.6**	**+1.1**
GO03				*i* S		**Sn**	**04 34 37.5**	**+0.3**
GO03				IAML			04 34 39.3	
	comp=E,4μm,0.7s							
PB14	**IPOC Station P**	**1.58**	**18**	*e*P		**Pb**	**04 34 19.7**	**-0.1**
PB14				*i* S		**Sn**	**04 34 38.5**	**+0.6**
PB14				IAML			04 34 43.1	
	comp=E,2μm,0.3s							
VACH	**Vallenar**	**2.43**	**176**	*e*P		Pb	04 34 48.6	+15
VACH				*i* S		Sb	04 35 17.0	+14
PB10	**IPOC Station P**	**2.64**	**7**	*e*Pn		**Pn**	**04 34 32.6**	**+0.4**
PB10				*e*Sn		**Sn**	**04 35 03.4**	**-0.2**
LCO	**Las Campanas**	**2.86**	**176**	*e*Pn		**Pn**	**04 34 36.6**	**+1.1**
LCO				*e*Sn		**Sn**	**04 35 09.5**	**0.0**
VCA	**Vinchina**	**3.54**	**137**	*e*P		**Pb**	**04 34 49.3**	**-3.6**
VCA				*e*S		**Sb**	**04 35 40.5**	**+4.9**
VCA				IAML			04 35 46.8	
	comp=Z,108nm,0.4s							
PB04	**IPOC Station P**	**3.86**	**11**	*e*Pn		**Pn**	**04 34 49.4**	**+0.3**
PB04				*e*Sn		**Sn**	**04 35 32.1**	**-1.8**
AGUA	**GUANDACOL**	**3.97**	**148**	*e*P		**Pn**	**04 34 55.2**	**+4.6**
AGUA				*e*S		**Sb**	**04 35 50.1**	**+2.2**
GO04	**Tololo Observa**	**4.02**	**178**	*e*Pn		**Pn**	**04 34 52.6**	**+1.3**
GO04				*e*Sn		**Sn**	**04 35 38.4**	**+0.6**
AROD	**Rodeo**	**4.21**	**163**	*e*P		**Pn**	**04 34 58.0**	**+4.0**
AROD				*e*S		**Sb**	**04 35 55.5**	**+0.5**
ACDV	**Cuesta del Vie**	**4.32**	**159**	*e*P		Pn	04 34 59.6	+4.1
ACDV				*e*S		**Sb**	**04 35 57.9**	**-0.1**
FSA	**Cafayete**	**4.45**	**91**⇓	*e*P		**Pn**	**04 35 00.3**	**+3.1**
AHML	**Horco Molle**	**5.05**	**98**	*e*P		Pn	04 35 08.6	+3.2
CYA	**Choya**	**5.10**	**118**	*e*P		Pn	04 35 11.1	+5.0
CYA				IAML			04 36 30.4	
	comp=Z,26nm,0.5s							
PB01	**IPOC Station P**	**5.25**	**15**	*e*Pn		**Pn**	**04 35 08.3**	**+0.2**
PB01				*e*Sn		**Sn**	**04 36 06.3**	**-1.7**
HJA	**Humahuaca**	**5.81**	**61**	*e*P		**Pn**	**04 35 14.7**	**-1.4**
RTLS	**Leoncito**	**5.81**	**166**	*e*P		**Pn**	**04 35 18.9**	**+2.8**
AUSP	**Uspallata**	**6.21**	**168**	*e*P		**Pn**	**04 35 24.0**	**+2.5**
PB11	**IPOC Station P**	**6.46**	**11**	*e*Pn		**Pn**	**04 35 24.1**	**-0.8**
ASAL	**Salagasta**	**6.68**	**165**	*e*P		**Pn**	**04 35 30.2**	**+2.4**
ROC1	**El Roble**	**6.81**	**181**	*e*Pn		**Pn**	**04 35 28.9**	**-0.8**
ROC1				*e*Sn		**Sn**	**04 36 42.4**	**-4.2**
ARCO	**CERRO ARCO**	**6.90**	**166**	IAML			04 37 14.5	
	comp=Z,26nm,0.5s							
MNMC	**Minye Minye**	**7.09**	**10**	*e*Pn		**Pn**	**04 35 32.6**	**-1.0**
TCA	**Tanti**	**7.59**	**134**	*e*P		Pn	04 35 43.7	+3.3
GO05	**HualaæØ**	**8.88**	**185**	*e*Pn		**Pn**	**04 35 54.6**	**-3.3**
LPAZ	**La Paz**	**10.15**	**15**	Pn		**Pn**	**04 36 17.0**	**+1.1**
	comp=Z,0.2nm,0.3s,baz=205,slow=5.7,SNR=7.4							
LPAZ				LR		LR	04 40 17.0	
	comp=Z,88nm,21.8s,baz=216,slow=38							
CPUP	**Villa Florida**	**12.21**	**94**	LR		LR	04 41 55.0	
	comp=Z,107nm,20.0s,baz=224,slow=41							
SIV	**San Ignacio**	**13.65**	**44**	Pn		**Pn**	**04 37 00.8**	**-2.5**
	comp=Z,0.2nm,0.3s,baz=249,slow=7.5,SNR=9.1							
TRQA	**Tornquist**	**14.08**	**150**	*e*Pn		**Pn**	**04 37 08.8**	**-0.3**
PLCA	**Paso Flores**	**14.55**	**179**	LR		LR	04 42 46.8	
	comp=Z,151nm,21.0s,baz=20,slow=37							
ATAH	**Atahualpa**	**20.20**	**338**	LR		LR	04 45 06.5	
	comp=Z,31nm,21.1s,baz=167,slow=33							
HELC	**Santa Helena**	**32.45**	**351**	*e*P		**P**	**04 40 19.9**	**-0.2**
	comp=Z,5.5nm,0.8s							
BANI	**BANI**	**44.27**	**1**	*e*P		**P**	**04 41 57.7**	**-1.4**
HUMP	**Col San Antoni**	**44.30**	**7**	*e*P		**P**	**04 41 55.8**	**-3.3**
	comp=Z,14nm,1.1s							
SNAA	**Sanae**	**58.54**	**160**	P		**P**	**04 43 45.4**	**0.0**
	comp=Z,1.4nm,0.6s,baz=280,slow=11,SNR=14							
SNAA	**Sanae**	**58.54**	**160**	*e*P		**P**	**04 43 45.4**	**0.0**
	comp=Z,12nm,1.7s							
TXAR	**Lajitas Array**	**63.48**	**328**	P		**P**	**04 44 21.4**	**+2.1**
	comp=Z,0.4nm,0.8s,baz=143,slow=8.7,SNR=5.2							
QSPA	**South Pole Qui**	**64.07**	**180**	P		**P**	**04 44 24.4**	**+1.5**
	comp=Z,3.2nm,0.7s,baz=150,slow=1.9,SNR=10							
BBTS	**Babate**	**66.66**	**59**	P		**P**	**04 44 39.5**	**-0.7**
	comp=Z,13nm,1.0s,baz=246,slow=20,SNR=2.9							
DBIC	**Dimbokro**	**71.85**	**73**	P		**P**	**04 45 12.0**	**-0.4**
	comp=Z,2.6nm,0.8s,baz=257,slow=5.0,SNR=3.3							
DBIC	**Dimbokro**	**71.85**	**73**	*e*P		**P**	**04 45 12.0**	**-0.4**
	comp=Z,33nm,1.8s							
KOWA	**Kowa**	**76.56**	**66**	P		**P**	**04 45 39.8**	**-0.2**
	comp=Z,3.1nm,0.8s,baz=262,slow=9.6,SNR=8.6							
NVAR	**Mina Array Bea**	**78.06**	**324**	P		**P**	**04 45 50.3**	**+2.1**
	comp=Z,0.4nm,0.7s,baz=129,slow=7.1,SNR=2.6							
MAW	**Mawson**	**80.42**	**164**	P		**P**	**04 46 00.8**	**+0.4**
	comp=Z,3.6nm,0.9s,baz=239,slow=5.9,SNR=6.3							
TOA0	**Torodi Ar. Sit**	**80.65**	**70**	*e*P		**P**	**04 45 59.7**	**-2.8**
TORD	**Torodi Ar. Bea**	**80.65**	**70**	P		**P**	**04 46 02.1**	**-0.4**
	comp=Z,3.2nm,0.7s,baz=255,slow=5.2,SNR=27							
TOA1	**Torodi Ar. Sit**	**80.65**	**70**	*e*P		**P**	**04 46 02.1**	**-0.4**
YKA	**Yellowknife Ar**	**94.95**	**341**	P		**P**	**04 47 11.5**	**+0.6**
	comp=Z,0.1nm,0.7s,baz=125,slow=7.5,SNR=3.2							
H11S2	**WAKE ISLAND Hyl**	**26.50**	**274**	T		T	07 12 27.0	
	baz=108,slow=75,SNR=6.5							
H11S1	**WAKE ISLAND Hyl**	**26.51**	**274**	T		T	07 12 26.4	
	baz=108,slow=75,SNR=5.0							
H11S3	**WAKE ISLAND Hyl**	**26.52**	**274**	T		T	07 12 32.9	
	baz=108,slow=75,SNR=5.8							
KURK	**Kurchatov**	**146.19**	**35**	*e*PKPdf		**PKPbc**	**04 53 29.5**	**+0.4**
KURBB	**Kurchatov Arra**	**146.20**	**36**	PKPbc		**PKPbc**	**04 53 29.5**	**+0.3**
	comp=Z,1.5nm,0.7s,baz=302,slow=3.3,SNR=15							
ZAA1	**Zalesovo Array**	**146.92**	**26**	*e*PKPdf		**PKPbc**	**04 53 30.6**	**-0.6**
ZALV	**Zalesovo Beam**	**146.92**	**26**	PKPbc		**PKPbc**	**04 53 30.6**	**-0.6**
	comp=Z,5.1nm,0.8s,baz=312,slow=3.6,SNR=8.9							
MK32	**Makanchi Array**	**150.43**	**39**	*e*PKPbc		**PKPbc**	**04 53 40.9**	**+0.3**
MKAR	**Makanchi Array**	**150.43**	**39**	PKPbc		**PKPbc**	**04 53 40.9**	**+0.3**
	comp=Z,3.7nm,0.7s,baz=324,slow=2.2,SNR=36							

IDC 25 04:35:02.5±2.1,**2˚.99N**×**90˚.09E**,**h0**km,**mb3.8/5,mb1 3.9/6, mb1mx3.5/69,mbtmp3.8/6,ML4.7/1,Error ellipse: s-maj=60.8km s-min=31.1km az=54.0,Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**17.65**	**29**	P		P	04 39 11.9	+0.9
	1.0nm,0.3s,baz=212,slow=7.8,SNR=5.7							
H08S3	**Diego Garcia H**	**20.49**	**239**	T		T	04 59 52.6	
	baz=58,slow=75,SNR=24							
H08S2	**Diego Garcia H**	**20.49**	**239**	T		T	04 59 59.5	
	baz=58,slow=75,SNR=54							
H08S1	**Diego Carcia H**	**20.50**	**239**	T		T	04 59 53.9	
	baz=58,slow=75,SNR=43							
H01W3	**Cape Leeuwin H**	**43.92**	**151**	T		T	05 29 56.5	
	baz=326,slow=74,SNR=6.0							
H01W2	**Cape Leeuwin H**	**43.93**	**151**	T		T	05 30 04.1	
	baz=326,slow=74,SNR=5.3							
H01W1	**Cape Leeuwin H**	**43.94**	**151**	T		T	05 30 03.2	
	baz=326,slow=74,SNR=4.6							
MKAR	**Makanchi Array**	**44.16**	**352**	P		P	04 43 11.3	-1.7
	1.1nm,0.5s,baz=162,slow=8.0,SNR=5.6							
GEYT	**Alibeck**	**45.44**	**324**	P		P	04 43 24.7	+1.2
	1.5nm,0.4s,baz=185,slow=8.2,SNR=2.5							
SONM	**Songino Array**	**46.84**	**15**	P		P	04 43 34.3	-0.1
	1.4nm,0.8s,baz=190,slow=11,SNR=7.8							
KURBB	**Kurchatov Arra**	**48.46**	**350**	P		P	04 43 46.7	-0.1
	1.0nm,0.8s,baz=175,slow=7.1,SNR=5.6							
WRA	**Warramunga Arr**	**49.05**	**120**	P		P	04 43 51.8	0.0
	0.4nm,0.7s,baz=296,slow=9.3,SNR=2.8							
TXAR	**Lajitas Array**	**145.26**	**21**	PKPbc		PKPbc	04 54 41.8	-1.1
	0.4nm,0.5s,baz=349,slow=1.4,SNR=5.2							

WEL 25 04:43:22.7±1.5,**48˚S**±14˚×**16˚5E**±1˚2,**h12**km,**ML4.0/7**,**Off west coast of South Island**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
APZ	**The Paps**	**2.34**	**51**	P		Pn	04 44 01.1	0.0
APZ	**The Paps**	**2.34**	**51**	S		Sn	04 44 29.7	-0.1
WHZ	**Wether Hill Ro**	**3.03**	**37**	P		Pn	04 44 09.9	-0.6
WHZ	**Wether Hill Ro**	**3.03**	**37**	S		Sn	04 44 46.6	0.0
SYZ	**Scrubby Hill**	**3.15**	**56**	P		Pn	04 44 12.9	+0.9
SYZ	**Scrubby Hill**	**3.15**	**56**	S		Sn	04 44 50.3	+0.8
MLZ	**Mavora Lakes**	**3.54**	**34**	P		Pn	04 44 16.8	-0.6
MLZ	**Mavora Lakes**	**3.54**	**34**	S		Sn	04 45 01.1	+1.9
TUZ	**Tuapeka**	**3.78**	**52**	P		Pn	04 44 21.6	+0.9
TUZ	**Tuapeka**	**3.78**	**52**	S		Sn	04 45 06.1	+1.0
MSZ	**Milford Sound**	**4.08**	**27**	P		Pn	04 44 24.1	-0.8
EAZ	**Earnscleugh**	**4.14**	**43**	P		Pn	04 44 26.1	+0.4
EAZ	**Earnscleugh**	**4.14**	**43**	S		Sn	04 45 15.3	+1.3
WKZ	**Wanaka**	**4.34**	**37**	P		Pn	04 44 29.8	+1.3
JCZ	**Jackson Bay**	**4.89**	**30**	P		Pn	04 44 36.9	+0.7
ODZ	**Otahua Downs**	**4.92**	**50**	P		Pn	04 44 34.9	-1.5

MEX 25 04:43:23.1±0.5,**16˚38N**×**98˚29W**,**h12**km±6km,**MD3.5, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.15**	**86**	*i* P		Pg	04 43 26.0	-0.7
PNIG				*i* S		Sg	04 43 28.9	-0.4
TLIG	**Tlapa**	**1.21**	**347**	*e*P		Pn	04 43 42.5	-3.4
TLIG				*e*S		Sb	04 43 57.2	-4.4
VHO	**Vista Hermosa**	**1.64**	**65**	*e*P		Pn	04 43 48.9	-3.1
VHO				*e*S		Sn	04 44 07.9	-5.2

*BJI **25** 04:45:52.6, 12˚.74N×143˚.80E, h215km, mb4.7/38, mB4.7/21*
*ISCJB **25** 04:45:56.6±0.5, 13˚.13N±0˚.03×143˚.30E±0˚.03, h212km±4km, mb4.7/227, Error ellipse: s-maj=5.1km s-min=4.6km az=164.3*
*MOS **25** 04:45:56.9±0.9, 13˚.16N×143˚.35E, h218km, mb4.8/56, Error ellipse: s-maj=9.7km s-min=5.3km az=101.0*
*IDC **25** 04:45:57.7±0.6, 13˚.11N×143˚.44E, h211km±4km, mb4.4/43, mb1 4.5/45, mb1mx4.4/64, mbtmp4.9/45, Error ellipse: s-maj=9.9km s-min=6.6km az=76.0*
*NEIC **25** 04:45:58.0±0.5, 13˚.14N×143˚.35E, h213km±5km, mb4.8/168, Error ellipse: s-maj=4.1km s-min=3.2km az=93.0*

ISC 25 04:45:58.3±0.5,**13˚10N**±0˚.04×**143˚44E**±0˚.06,**h218**km±4km, **n433**,σ1²**01**/465,**mb4.7**/227,**13C-3D**,**South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.47**	**70**	P		**Pn**	**04 46 33.0**	**-0.4**
	108nm,0.3s,baz=250,slow=3.5,SNR=43							
GUMO				S		**S**	**04 46 58.8**	**-1.8**
	164nm,0.3s,baz=19,slow=21,SNR=22							
GUMO	**Guam**	**1.47**	**70**	*e*Pn		**Pn**	**04 46 33.3**	**-0.1**
GUMO				*e*S		**S**	**04 46 59.5**	**-1.1**
GUMO	**Guam**	**1.47**	**70**	*e*P		**Pn**	**04 46 33.3**	**-0.1**
GUMO				*e*S		**S**	**04 46 59.5**	**-1.1**
CBIJ	**Chichi jima**	**13.98**	**355**	*e*Pn		**Pn**	**04 49 06.4**	**-0.8**
CBIJ				*e*S		**S**	**04 51 43.1**	**+1.1**
JCJ	**Chichijima**	**13.98**	**355**	P		**Pn**	**04 49 07.4**	**+0.1**
	17nm,0.3s,baz=268,slow=12,SNR=9.4							
JCJ				S		**S**	**04 51 43.1**	**+1.1**
	1.7nm,0.3s,baz=260,slow=18,SNR=2.4							
MANU	**Manus Island**	**15.54**	**165**	*e*P		**Pn**	**04 49 28.2**	**+1.9**
	96nm,0.8s							
RABL	**Rabaul**	**19.23**	**153**	*e*P		**Pn**	**04 50 08.9**	**-1.2**
	205nm,0.6s							
FAKI	**Fak Fak**	**19.41**	**216**	*e*P		**P**	**04 50 08.6**	**+0.3**
	21nm,0.6s							
JOW	**Kunigami**	**19.72**	**316**	P		**P**	**04 50 12.7**	**+1.3**
	5.2nm,0.3s,baz=127,slow=27,SNR=5.5							
JOW				S		**S**	**04 53 43.8**	**+1.9**
	0.5nm,0.3s,baz=198,slow=20,SNR=2.4							
JOW	**Kunigami**	**19.72**	**316**	*e*P		**P**	**04 50 12.7**	**+1.3**
	145nm,1.4s							
JOW				*e*S		**S**	**04 53 43.8**	**+1.9**
JHJ	**Hachijo jima 2**	**20.21**	**351**	P		**P**	**04 50 15.6**	**-1.1**
	128nm,0.8s,baz=233,slow=20,SNR=3.3							
PMG	**Port Moresby**	**22.66**	**170**	*e*P		**P**	**04 50 41.1**	**0.0**
PMG	**Port Moresby**	**22.66**	**170**	*e*P		**P**	**04 50 41.1**	**0.0**
INU	**Inuyama**	**22.91**	**346**	*e*P		**P**	**04 50 42.5**	**-0.7**
	20nm,1.0s							
JNU	**Nakatsue**	**23.00**	**332**	P		**P**	**04 50 43.9**	**-0.2**
	36nm,0.7s,baz=103,slow=2.4,SNR=27							
JNU	**Nakatsue**	**23.00**	**332**	*e*P		**P**	**04 50 44.3**	**+0.2**
	46nm,0.9s							
WAKE	**Wake Island**	**23.11**	**72**	*e*P		**P**	**04 50 46.5**	**+1.3**
	194nm,0.8s							
SSLB	**Suanglung**	**23.80**	**300**	*e*P		**P**	**04 50 51.5**	**0.0**
	24nm,1.0s							
MJAR	**Matsushiro Arr**	**23.82**	**350**	P		**P**	**04 50 49.9**	**-1.6**
	17nm,0.7s,baz=180,slow=11,SNR=42							
MJAR				PcP		**PcP**	**04 54 28.7**	**+0.2**
	1.9nm,0.6s,baz=177,slow=2.2,SNR=4.2							
MJAR				ScP		**ScP**	**04 57 46.2**	**0.0**
	2.9nm,0.6s,baz=171,slow=4.2,SNR=5.3							
MAJO	**Matsushiro**	**23.82**	**350**	*e*P		**P**	**04 50 50.1**	**-1.3**
	35nm,0.7s							
MAJO				*e*PcP		**PcP**	**04 54 28.7**	**+0.2**
MAJO				*e*ScP		**ScP**	**04 57 46.2**	**0.0**
MAJO	**Matsushiro**	**23.82**	**350**	*c i* P		**P**	**04 50 50.0**	**-1.4**
MAJO				pmax	pmax			
	comp=Z,40nm,0.8s							
MAT	**Matsushiro**	**23.82**	**350**	P		**P**	**04 50 50.0**	**-1.4**
MJB9	**Matsu-Tunnel**	**23.82**	**350**	*e*P		**P**	**04 50 50.5**	**-1.0**
	comp=Z,36nm,0.7s							
LUWI	**Luwuk**	**24.85**	**237**	*e*P		**P**	**04 51 00.1**	**-1.0**
	comp=Z,31nm,0.8s							
COEN	**Coen**	**26.88**	**181**	*e*P		**P**	**04 51 19.2**	**+0.1**
	comp=Z,12nm,0.8s							
TJN	**Taejon**	**27.32**	**331**⇓	*i* P		**P**	**04 51 22.7**	**-0.1**
KSRS	**Korea Array**	**27.94**	**333**	P		**P**	**04 51 28.2**	**-0.1**
	comp=Z,3.1nm,0.6s,baz=142,slow=9.3,SNR=13							
KS15	**Wonju Array Si**	**27.95**	**333**	*e*P		**P**	**04 51 28.2**	**-0.2**
KSAR	**Wonju Array Be**	**27.95**	**333**	P		**P**	**04 51 28.2**	**-0.2**
KSAR	**Wonju Array Be**	**27.95**	**333**	P		**P**	**04 51 28.2**	**-0.2**
NJ2	**Nanjing**	**29.40**	**314**	*e*P		**P**	**04 51 41.6**	**+0.3**
NJ2				pmax	pmax			
	comp=Z,16nm,1.0s							
ASAJ	**Asahikawa**	**30.92**	**359**	P		**P**	**04 51 55.4**	**+0.8**
	comp=Z,4.0nm,0.3s,baz=191,slow=16,SNR=6.6							
ASAJ	**Asahikawa**	**30.92**	**359**	*e*P		**P**	**04 51 55.4**	**+0.8**
	comp=Z,9.9nm,1.1s							
VLA	**Vladivostok**	**31.54**	**344**⇑	*e*P		**P**	**04 52 00.1**	**+0.1**
VLA				pmax	pmax			
	comp=Z,28nm,0.9s							
USRK	**Ussuriysk Ar.**	**32.52**	**345**	P		**P**	**04 52 09.1**	**+0.6**
	comp=Z,6.7nm,0.6s,baz=157,slow=10,SNR=10							
CTA	**Charters Tower**	**33.09**	**175**	P		**P**	**04 52 14.4**	**+0.6**
	baz=346,slow=11							
CTAO	**Charters Tower**	**33.09**	**175**	*e*P		**P**	**04 52 14.6**	**+0.8**
	comp=Z,73nm,1.8s							
CTAO	**Charters Tower**	**33.09**	**175**	*e*P		**P**	**04 52 14.6**	**+0.8**
CTAO				pmax	pmax			
	comp=Z,73nm,1.8s							
YSS	**Yuzh-Sakhalins**	**33.76**	**359**⇑	*e*P		**P**	**04 52 18.4**	**-0.8**
YSS				pmax	pmax			
	comp=Z,10.0nm,0.7s							
WRAB	**Tennant Creek**	**34.02**	**195**	*e*P		**P**	**04 52 21.9**	**+0.2**
	comp=Z,68nm,0.6s							
WRAB	**Tennant Creek**	**34.02**	**195**	*c e*P		**P**	**04 52 22.0**	**+0.2**
WRAB				pmax	pmax			
	comp=Z,52nm,0.6s							
WB2	**Warramunga Arr**	**34.03**	**195**	*e*P		**P**	**04 52 22.1**	**+0.2**
WR1	**Warramunga Arr**	**34.03**	**195**	*e*P		**P**	**04 52 21.8**	**-0.1**
	comp=Z,73nm,0.6s							
WR1				*e*ScP		**ScP**	**04 58 19.2**	**+0.5**
WRA	**Warramunga Arr**	**34.03**	**195**	P		**P**	**04 52 21.8**	**-0.1**
	comp=Z,47nm,0.7s,baz=21,slow=9.7,SNR=145							
WRA				S		**S**	**04 57 28.9**	**-2.1**
	comp=Z,1.3nm,1.1s,baz=30,slow=12,SNR=4.8							
WRA				ScP		**ScP**	**04 58 19.2**	**+0.5**
	comp=Z,2.4nm,0.9s,baz=16,slow=3.9,SNR=6.7							
CN2	**Changchun**	**34.28**	**337**	*e*P		**P**	**04 52 24.9**	**+1.1**
CN2				pmax	pmax			
	comp=Z,10.0nm,0.5s							
BJT	**Baijiatuao**	**35.98**	**323**	*e*P		**P**	**04 52 38.7**	**+0.4**
	comp=Z,22nm,0.6s							
BJT	**Baijiatuao**	**35.98**	**323**	*e*P		**P**	**04 52 38.7**	**+0.4**
BJT				pmax	pmax			
	comp=Z,22nm,0.6s							
KLR	**Kulˈdur**	**37.30**	**347**	*i* P		**P**	**04 52 49.1**	**-0.2**
XAN	**Xiˈan**	**37.62**	**310**	P		**P**	**04 52 54.4**	**+2.1**
XAN				pmax	pmax			
	comp=Z,8.0nm,0.6s							
TYV	**Tymovskoe**	**37.67**	**359**	*e*P		**P**	**04 52 52.2**	**-0.2**
TYV				pmax	pmax			
	comp=Z,27nm,0.6s							
TYV				pmax	pmax			
	comp=Z,300nm,3.8s							
AS01	**Alice Springs**	**37.70**	**194**	*e*P		**P**	**04 52 52.2**	**-0.7**
AS31	**Alice Springs**	**37.71**	**194**	*e*P		**P**	**04 52 53.2**	**+0.1**
	comp=Z,7.7nm,0.5s							
ASAR	**Alice Springs**	**37.71**	**194**	P		**P**	**04 52 53.0**	**0.0**
	comp=Z,11nm,0.7s,baz=19,slow=11,SNR=138							
ASAR				S		**S**	**04 58 25.8**	**-1.2**
	comp=Z,2.3nm,0.8s,baz=14,slow=21,SNR=9.7							
EIDS	**Eidsvold**	**38.95**	**169**	*e*P		**P**	**04 53 03.5**	**+0.1**
	comp=Z,15nm,0.6s							
HHC	**Hu-ho-hao-te**	**39.26**	**321**	*e*P		**P**	**04 53 07.8**	**+1.9**
HHC				pmax	pmax			
	comp=Z,10.0nm,1.0s							
HHC				pmax	pmax			
	comp=Z,21nm,5.4s							
MBWA	**Marble Bar**	**41.25**	**215**	*e*P		**P**	**04 53 21.5**	**-0.8**
	comp=Z,24nm,0.7s							
PETK	**Petropavlovsk-**	**41.50**	**13**	P		**P**	**04 53 24.6**	**+0.7**
	comp=Z,2.7nm,0.5s,baz=188,slow=6.2,SNR=11							
PETK				PcP		**PcP**	**04 55 16.8**	**-0.3**
	comp=Z,2.7nm,0.6s,baz=158,slow=2.5,SNR=5.1							
PETK	**Petropavlovsk-**	**41.50**	**13**	*e*P		**P**	**04 53 23.9**	**0.0**
PETK	**Petropavlovsk-**	**41.50**	**13**	*e*P		**P**	**04 53 23.9**	**0.0**
PEA1	**Petropavlovsk-**	**41.51**	**13**	*e*P		**P**	**04 53 24.6**	**+0.6**
PEA1				*e*PcP		**PcP**	**04 55 16.8**	**-0.3**
DZM	**Mont Dzumac**	**41.60**	**147**	P		**P**	**04 53 27.1**	**+1.8**
	comp=Z,22nm,0.4s,baz=336,slow=11,SNR=69							
DZM	**Mont Dzumac**	**41.60**	**147**	*e*P		**P**	**04 53 27.0**	**+1.8**
	comp=Z,112nm,1.5s							
LZH	**Lanzhou**	**42.26**	**310**	*e*P		**P**	**04 53 31.1**	**+0.6**
LZH				pP		pP	04 54 18.1	+1.3
LZH				sP		sP	04 54 43.3	+1.8
LZH				*e*PP		**PP**	**04 55 12.4**	**-0.8**
LZH				pmax	pmax			
	comp=Z,23nm,0.9s							
LZH				pmax	pmax			
	comp=Z,260nm,4.3s							
ZEA	**Zeya**	**42.53**	**346**	*e*P		**P**	**04 53 32.3**	**+0.1**
ZEA				pmax	pmax			
	comp=Z,29nm,1.0s							
CM31	**Chiang Mai Arr**	**43.07**	**283**	*e*P		**P**	**04 53 38.3**	**+1.2**
CMAR	**Chiang Mai Arr**	**43.07**	**283**	P		**P**	**04 53 38.3**	**+1.2**
	comp=Z,1.5nm,0.3s,baz=81,slow=6.6,SNR=2.6							
STKA	**Stephens Creek**	**44.75**	**182**	P		**P**	**04 53 49.8**	**-0.4**
	comp=Z,12nm,0.5s,baz=12,slow=7.5,SNR=61							
STKA	**Stephens Creek**	**44.75**	**182**	*e*P		**P**	**04 53 49.8**	**-0.4**
	comp=Z,3.7nm,0.9s							
STKA	**Stephens Creek**	**44.75**	**182**	*e*P		**P**	**04 53 49.8**	**-0.4**
STKA				pmax	pmax			
	comp=Z,4.0nm,0.9s							
MSVF	**Nonsavu**	**45.88**	**131**	*e*P		**P**	**04 54 01.0**	**+1.7**
	comp=Z,13nm,0.8s							
MSVF	**Nonsavu**	**45.88**	**131**	*e*P		**P**	**04 54 01.0**	**+1.7**
MSVF				pmax	pmax			
	comp=Z,13nm,0.8s							
FORT	**Forrest**

MKAR pmax pmax
comp=Z,61nm,0.6s
MAKZ Makanchi 61.10 316 *e*P **P** 04 55 50.0 +0.6
comp=Z,14nm,0.6s
MAKZ Makanchi 61.10 316 *i* P **P** 04 55 49.7 +0.3
MAKZ pmax pmax
comp=Z,12nm,0.6s
ZAA0 Zalesovo Array 61.22 325 *e*P **P** 04 55 49.8 -0.3
comp=Z,7.8nm,0.6s
ZAA0 *e*PcP **PcP** 04 56 29.8 -0.7
ZALV Zalesovo Beam 61.22 325 P **P** 04 55 49.9 -0.2
comp=Z,6.8nm,0.5s,baz=107,slow=7.4,SNR=22
ZALV PcP **PcP** 04 56 29.4 -1.0
comp=Z,7.9nm,0.5s,baz=127,slow=3.2,SNR=12
ZAA1 Zalesovo Array 61.22 325 *e*P **P** 04 55 49.9 -0.2
ZAA1 *e*PcP **PcP** 04 56 29.4 -1.0
KHZ Kahutara 61.77 155 *e*P **P** 04 55 52.3 -1.5
comp=Z,104nm,1.9s
TARG Taragay, Kyrgy 63.25 310 *e*P **P** 04 56 01.9 -2.3
comp=Z,3.0nm,0.8s
KDJ Kajisay 63.75 311 *e*P **P** 04 56 08.0 +0.7
comp=Z,8.2nm,0.9s
KDJ Kajisay 63.75 311 *e*P **P** 04 56 08.0 +0.7
KDJ pmax pmax
comp=Z,8.0nm,0.9s
KURK Kurchatov 64.07 320 *e*P **P** 04 56 09.1 +0.2
comp=Z,40nm,1.2s
KURK Kurchatov 64.07 320 *c i*P **P** 04 56 09.0 +0.2
KURK pmax pmax
comp=Z,35nm,1.2s
KURBB Kurchatov Arra 64.11 320 P **P** 04 56 09.5 +0.3
comp=Z,14nm,0.5s,baz=104,slow=6.6,SNR=107
KSH Kashi 64.44 308 P **P** 04 56 14.1 +2.4
OHAK Old Harbor 64.70 33 *e*P **P** 04 56 12.9 +0.1
comp=Z,130nm,1.9s
SVW2 Sparrevohn 64.76 28 *e*P **P** 04 56 13.8 +0.6
comp=Z,9.4nm,0.7s
KDAK Kodiak Island 65.22 32 P **P** 04 56 16.5 +0.4
comp=Z,2.6nm,0.3s,baz=62,slow=0.9,SNR=17
KDAK Kodiak Island 65.22 32 *e*P **P** 04 56 16.5 +0.4
comp=Z,116nm,2.0s
KDAK Kodiak Island 65.22 32 *i* P **P** 04 56 16.4 +0.2
AAK Ala-Archa 65.78 311 *i*P **P** 04 56 21.0 +0.6
comp=Z,4.3nm,1.1s
AAK Ala-Archa 65.78 311⇑ *i*P **P** 04 56 20.5 +0.2
AAK pmax pmax
comp=Z,2.0nm,0.6s
HOM Homer 66.19 30 *e*P **P** 04 56 22.0 -0.3
comp=Z,299nm,2.0s
NIL Nilore 66.45 301 *e*P **P** 04 56 25.0 +0.4
comp=Z,20nm,0.7s
NIL Nilore 66.45 301 *e*P **P** 04 56 25.0 +0.4
NIL pmax pmax
comp=Z,20nm,0.7s
BRLK Bradley Lake 66.59 30 *e*P **P** 04 56 24.1 -0.8
comp=Z,24nm,0.5s
PPLA Purkeypile 66.85 27 *e*P **P** 04 56 27.0 +0.4
comp=Z,35nm,1.5s
SKT Skwentna 66.88 28 *e*P **P** 04 56 25.8 -0.9
comp=Z,11nm,0.8s
CAST Castle Rocks 67.05 26 *e*P **P** 04 56 27.9 +0.1
comp=Z,51nm,1.4s
SUA Susitna One 67.10 28 *e*P **P** 04 56 27.7 -0.5
comp=Z,21nm,1.0s
IM3 Indian Mountai 67.19 23 *e*P **P** 04 56 28.0 -0.5
IM3 *e*PcP **PcP** 04 56 55.6 +0.7
RC01 Rabbit Creek A 67.47 29 *e*P **P** 04 56 29.8 -0.6
comp=Z,86nm,1.4s
KTH Kantishna Hill 67.59 26 *e*P **P** 04 56 31.1 -0.1
comp=Z,29nm,1.2s
BPAW Bear Paw Mtn. 67.72 26 *e*P **P** 04 56 31.7 -0.2
comp=Z,25nm,1.2s
TRF Thorofare Moun 67.83 26 *e*P **P** 04 56 32.1 -0.8
comp=Z,20nm,1.3s
PMR Palmer 67.88 28 *e*P **P** 04 56 31.9 -1.0
comp=Z,15nm,0.8s
PMR Palmer 67.88 28 *e*P **P** 04 56 31.9 -1.0
PMR pmax pmax
comp=Z,15nm,0.8s
GHO Glory Hole Cre 68.02 28 *e*P **P** 04 56 33.7 -0.2
comp=Z,31nm,1.2s
MLY Manley 68.08 25 *e*P **P** 04 56 34.5 +0.2
comp=Z,39nm,1.4s
SML Sawmill 68.30 28 *e*P **P** 04 56 35.3 -0.3
comp=Z,68nm,1.3s
SML Sawmill 68.30 28 *e*P **P** 04 56 35.3 -0.3
SML pmax pmax
comp=Z,68nm,1.3s
RND Reindeer 68.44 27 *e*P **P** 04 56 35.5 -1.0
comp=Z,8.3nm,0.8s
RND Reindeer 68.44 27 *e*P **P** 04 56 35.5 -1.0
RND pmax pmax
comp=Z,8.0nm,0.8s
MCK McKinley 68.49 26 *e*P **P** 04 56 36.3 -0.5
comp=Z,11nm,1.0s
MCK McKinley 68.49 26 *e*P **P** 04 56 36.3 -0.5
MCK pmax pmax
comp=Z,11nm,1.0s
KK31 Karatay Array 68.73 311 *e*P **P** 04 56 38.9 +0.3
KK31 Karatay Array 68.73 311 *i* P **P** 04 56 38.9 +0.3
KK31 pmax pmax
comp=Z,5.0nm,0.6s
KKAR Karatay Array 68.73 311 *e*P **P** 04 56 38.9 +0.3
SCM Sheep Creek Mo 68.77 28 *e*P **P** 04 56 38.7 +0.1
comp=Z,64nm,1.2s
SCM Sheep Creek Mo 68.77 28 *e*P **P** 04 56 38.7 +0.1
SCM pmax pmax
comp=Z,64nm,1.2s
COLD Coldfoot 68.93 22 *e*P **P** 04 56 40.1 +0.8
comp=Z,22nm,1.1s
WRH Wood River Hil 69.03 26 *e*P **P** 04 56 39.5 -0.5
comp=Z,34nm,1.3s
MDM Murphy Dome 69.09 25 *e*P **P** 04 56 40.4 0.0
comp=Z,8.4nm,0.8s
CCB Clear Creek Bu 69.19 25 *e*P **P** 04 56 40.3 -0.7
comp=Z,20nm,1.2s
COLA College 69.23 25 *e*P **P** 04 56 39.3 -1.9
comp=Z,4.0nm,0.5s
COLA College 69.23 25 *e*P **P** 04 56 39.3 -1.9
COLA pmax pmax
comp=Z,4.0nm,0.5s
EYAK Cordova Ski Ar 69.27 30 *e*P **P** 04 56 41.8 +0.3
comp=Z,34nm,1.1s
KLU Klutina 69.36 29 *e*P **P** 04 56 42.5 +0.3
comp=Z,31nm,1.2s
DIV Divide 69.36 29 *e*P **P** 04 56 42.9 +0.7
comp=Z,19nm,0.8s
BVA0 Borovoye Array 69.45 322 P **P** 04 56 42.3 -0.5
BVA0 pmax pmax
comp=Z,19nm,0.5s
BVAR Borovoye Array 69.45 322 P **P** 04 56 43.3 +0.4
comp=Z,33nm,0.5s,baz=107,slow=7.6,SNR=174
BRVK Borovoye 69.52 322 *e*P **P** 04 56 43.6 +0.3
comp=Z,33nm,0.5s
BRVK Borovoye 69.52 322 *ce*P **P** 04 56 43.4 +0.2
BRVK pmax pmax
comp=Z,20nm,0.5s
TOLK Toolik Lake Re 69.57 21 P **P** 04 56 43.9 +0.6
baz=253
TOLK Toolik Lake Re 69.57 21 *e*P **P** 04 56 44.1 +0.7
comp=Z,10nm,0.9s
IL1 Eielson Array 69.61 25 *e*P **P** 04 56 41.8 -1.8
ILAR Eielson Array 69.61 25 P **P** 04 56 42.1 -1.4
comp=Z,5.7nm,0.5s,baz=248,slow=5.8,SNR=131
ILB Eielson Array 69.61 25 *e*P **P** 04 56 41.9 -1.6
RAGM Ragged Mountai 69.77 30 *e*P **P** 04 56 45.3 +0.7
comp=Z,40nm,1.2s
PAX Paxson 69.85 27 *e*P **P** 04 56 45.1 -0.1
comp=Z,33nm,1.4s
PAX Paxson 69.85 27 *e*P **P** 04 56 45.1 -0.1
PAX pmax pmax
comp=Z,33nm,1.4s
HARP HAARP 69.89 28 *e*P **P** 04 56 45.9 +0.6
comp=Z,47nm,0.9s
BMRM Bremner River 69.89 30 *e*P **P** 04 56 45.6 +0.1
comp=Z,46nm,1.2s
RIDG Independ'e Rid 70.27 27 *e*P **P** 04 56 47.4 -0.3
comp=Z,19nm,0.6s
DOT Dot Lake 70.59 27 *e*P **P** 04 56 49.5 -0.1
comp=Z,66nm,1.1s
FYU Fort Yukon 70.66 24 *e*P **P** 04 56 50.6 +0.7
comp=Z,49nm,1.3s
SCRK Sand Creek 70.69 26 *e*P **P** 04 56 49.9 -0.4
comp=Z,18nm,1.2s
BALM Baldy 70.99 30 *e*P **P** 04 56 52.2 +0.1
comp=Z,20nm,1.1s
BALM Baldy 70.99 30 *e*P **P** 04 56 52.2 +0.1
BALM pmax pmax
comp=Z,20nm,1.1s
EGAK Eagle 72.02 26 *e*P **P** 04 56 58.3 +0.2
comp=Z,10nm,1.0s
DAWY Dawson 72.70 27 *e*P **P** 04 57 02.8 +0.6
comp=Z,16nm,1.0s
HYT Haines Junctio 73.33 30 *e*P **P** 04 57 06.4 +0.4
comp=Z,30nm,0.9s
SKAG Skagway 74.37 32 *e*P **P** 04 57 12.8 +0.9
comp=Z,17nm,1.0s
WHY Whitehorse 74.61 30 *e*P **P** 04 57 14.2 +0.8
comp=Z,24nm,1.0s
INK Inuvik 75.35 22 P **P** 04 57 17.0 -0.2
comp=Z,13nm,0.8s,baz=295,slow=4.7,SNR=64
INK Inuvik 75.35 22 *e*P **P** 04 57 17.1 -0.2
comp=Z,11nm,0.8s
INK Inuvik 75.35 22 *e*P **P** 04 57 17.1 -0.2
INK pmax pmax
comp=Z,11nm,0.8s
AB31 Akbulak array 75.97 318 *i* P **P** 04 57 20.7 -0.5
AB31 pmax pmax
comp=Z,14nm,0.7s
ABKAR Akbulak array 75.97 318 *e*P **P** 04 57 21.1 -0.2
comp=Z,129nm,0.5s
WRAK Wrangell Islan 76.01 35 *e*P **P** 04 57 20.9 -0.3
comp=Z,28nm,0.8s
ARU Arti 76.38 325 *e*P **P** 04 57 22.5 -0.9
comp=Z,23nm,1.1s
ARU Arti 76.38 325 *c i*P **P** 04 57 23.2 -0.2
ARU 05 00 15.2
ARU S **S** 05 06 50.3 +0.2
ARU SS **SS** 05 11 48.8 -0.2
ARU pmax pmax
comp=Z,20nm,1.0s
AKTO Aktyubinsk 77.13 319 P **P** 04 57 27.4 -0.2
comp=Z,4.5nm,0.5s,baz=85,slow=12,SNR=13
AKTO Aktyubinsk 77.13 319 *i* P **P** 04 57 27.2 -0.5
AKTO pmax pmax
comp=Z,5.0nm,0.6s
DLBC Dease Lake 77.15 33 P **P** 04 57 28.7 +1.0
comp=Z,12nm,0.6s,baz=274,slow=4.0,SNR=41
DLBC Dease Lake 77.15 33 *e*P **P** 04 57 28.6 +0.8
comp=Z,33nm,1.2s
GEYT Alibeck 78.43 306 P **P** 04 57 35.7 +0.5
comp=Z,5.0nm,0.8s,baz=48,slow=2.2,SNR=7.4
BBB Bella Bella 78.83 39 P **P** 04 57 37.3 +0.3
comp=Z,25nm,1.1s,baz=310,slow=6.5,SNR=6.0
WSAR Wadi Sarin 80.25 292 P **P** 04 57 45.4 +0.1
comp=Z,1.5nm,0.5s,baz=113,slow=7.7,SNR=2.7
NLWA Neilton Lookou 82.29 43 *e*P **P** 04 57 57.2 +1.7
comp=Z,16nm,0.6s
PGC Sidney 82.33 42 *e*P **P** 04 57 56.1 +0.5
comp=Z,18nm,1.0s
E03A Lebam 82.66 44 *e*P **P** 04 57 58.9 +1.5
comp=Z,64nm,1.2s
A04D Lummi Island 82.80 42 P **P** 04 57 58.7 +0.6
baz=282
LLLB Lillooet 82.94 40 *e*P **P** 04 57 59.9 +1.0
comp=Z,12nm,0.9s
G03D McMinnville, O 83.13 45 P **P** 04 58 00.7 +0.9
baz=282
B05A Bryant 83.29 42 P **P** 04 58 01.5 +1.0
baz=282
I03D Drain, OR 83.37 47 P **P** 04 58 02.0 +0.9
baz=282
L02D Cave Junction, 83.50 48 P **P** 04 58 02.8 +1.0
baz=282
D05A Enumclaw 83.59 43 *e*P **P** 04 58 03.6 +1.5
comp=Z,26nm,0.6s
B06A Marblemount 83.64 42 *e*P **P** 04 58 03.1 +0.8
comp=Z,18nm,0.6s
KHMM Horse Mountain 83.67 50 *e*P **P** 04 58 04.3 +1.4
comp=Z,22nm,0.8s
LON Longmire 83.80 44 *e*P **P** 04 58 03.9 +0.6
comp=Z,43nm,2.0s
LON Longmire 83.80 44 P **P** 04 58 03.9 +0.6
HUMO Hull Mountain 83.88 48 *e*P **P** 04 58 04.6 +0.8
comp=Z,73nm,1.9s
YKW3 Yellowknife Ar 83.91 27 *e*P **P** 04 58 03.4 0.0
comp=Z,14nm,1.0s
YKA Yellowknife Ar 83.93 27 P **P** 04 58 03.5 0.0
comp=Z,7.2nm,0.6s,baz=286,slow=5.2,SNR=141
H04A Detroit Lake 83.99 46 *e*P **P** 04 58 04.7 +0.4
comp=Z,13nm,0.8s
I04A Tendick Farm, 84.02 47 P **P** 04 58 04.9 +0.4
baz=282
KCPM Cahto Peak 84.02 51 *e*P **P** 04 58 06.1 +1.4
comp=Z,21nm,0.8s
M02C Callahan 84.21 49 P **P** 04 58 06.3 +0.8
baz=282,SNR=5.5
YBH Yreka Blue Hor 84.24 49 P **P** 04 58 06.7 +1.1
comp=Z,7.7nm,0.7s,baz=279,slow=0.6,SNR=11
YBH Yreka Blue Hor 84.24 49 *e*P **P** 04 58 07.0 +1.3
comp=Z,8.2nm,0.7s
YBH Yreka Blue Hor 84.24 49 *e*P **P** 04 58 07.0 +1.3
YBH pmax pmax
comp=Z,8.0nm,0.7s
SPA0 Spitsbergen Ar 84.31 350 *e*P **P** 04 58 05.3 0.0
SPITS Spitsbergen Ar 84.31 350 P **P** 04 58 05.3 0.0
comp=Z,3.9nm,0.6s,baz=53,slow=5.6,SNR=23
J04D Umpqua Nationa 84.35 47 P **P** 04 58 07.0 +0.7
baz=283
N02D Trinity Center 84.41 49 P **P** 04 58 07.5 +0.9
baz=282
LTY Liberty 84.45 43 *e*P **P** 04 58 06.8 +0.2
comp=Z,14nm,0.6s
G05D Wamic, OR 84.47 45 P **P** 04 58 07.2 +0.6
baz=283
WDC Whiskeytown Da 84.61 50 *e*P **P** 04 58 08.5 +1.0
comp=Z,5.7nm,1.1s
WDC Whiskeytown Da 84.61 50 *e*P **P** 04 58 08.5 +1.0
WDC pmax pmax
comp=Z,6.0nm,1.1s
I05D Terrebonne, OR 84.65 46 P **P** 04 58 08.2 +0.5
baz=283
K04D Chiloquin, OR 84.74 48 P **P** 04 58 08.8 +0.6
baz=283
LVZ Lovozero 84.86 339 *de*P **P** 04 58 07.3 -0.8
LVZ pmax pmax
comp=Z,16nm,0.8s
M04C Macdoel 84.87 48 P **P** 04 58 09.5 +0.6
baz=283
J05D Fort Rock, OR 84.96 47 P **P** 04 58 10.1 +0.7
baz=283
PINE Pine Mountain 85.06 46 *e*P **P** 04 58 10.9 +1.0
comp=Z,29nm,0.8s
B08A Colville Reser 85.07 42 *e*P **P** 04 58 10.0 +0.4
comp=Z,39nm,1.0s
O03D Paynes Creek 85.23 50 P **P** 04 58 10.8 +0.1
baz=283
KLMR Klimovskoe 85.32 332 *e*P **P** 04 58 06.7 -3.8
KLMR AMP 04 58 10.2
comp=Z,7.0nm,0.8s
KLMR *e*PP **PP** 05 01 27.8 -3.4
KLMR Klimovskoe 85.32 332 *e*P **P** 04 58 06.7 -3.8
KLMR *e* 05 01 27.8
KLMR pmax pmax
comp=Z,7.0nm,0.8s
K05A Summer Lake 85.34 47 *e*P **P** 04 58 12.4 +1.1
comp=Z,44nm,1.4s
RES Resolute Bay 85.35 13 P **P** 04 58 10.7 +0.3
comp=Z,16nm,0.6s,baz=332,slow=5.0,SNR=138
RES Resolute Bay 85.35 13 *e*P **P** 04 58 10.6 +0.3
comp=Z,21nm,0.6s
RES Resolute Bay 85.35 13 *e*P **P** 04 58 10.6 +0.3
RES pmax pmax
comp=Z,21nm,0.6s
HAWA Hanford 85.41 44 *e*P **P** 04 58 12.3 +1.1
comp=Z,21nm,0.8s
ORV Oroville 85.62 51 *e*P **P** 04 58 13.1 +0.6
comp=Z,5.0nm,1.0s
ORV Oroville 85.62 51 *e*P **P** 04 58 13.1 +0.6
ORV pmax pmax
comp=Z,5.0nm,1.0s
D08A Wollman Farm, 85.66 43 *e*P **P** 04 58 13.4 +1.0
comp=Z,18nm,0.6s
C09A Chrisman Ranch 85.89 42 *e*P **P** 04 58 14.2 +0.5
comp=Z,26nm,0.6s
RDG13 Poverty Ridge 85.92 53 *e*P **P** 04 58 15.2 +1.1
comp=Z,10nm,0.9s
MOD Modoc Plateau 85.95 48 *e*P **P** 04 58 14.7 +0.5
comp=Z,32nm,1.7s
G08A Pilot Rock 86.07 45 *e*P **P** 04 58 15.6 +0.8
comp=Z,8.8nm,0.9s
AFDM Forest Hills D 86.16 51 *e*P **P** 04 58 16.0 +0.9
comp=Z,12nm,1.4s
BEKR Beckworth 86.40 50 *e*P **P** 04 58 17.2 +0.7
comp=Z,10nm,0.8s
NEW Newport 86.52 41 P **P** 04 58 17.1 +0.4
baz=286
NEW Newport 86.52 41 *e*P **P** 04 58 17.1 +0.4
comp=Z,23nm,0.9s
NEW Newport 86.52 41 *e*P **P** 04 58 17.1 +0.4
NEW pmax pmax
comp=Z,23nm,0.9s
CMB Columbia Colle 86.82 52 *e*P **P** 04 58 18.9 +0.4
comp=Z,4.4nm,0.9s
J08A Circle Bar Ran 86.90 46 *e*P **P** 04 58 19.8 +1.0
comp=Z,17nm,0.9s
F10A Beach Ranch, E 87.07 44 *e*P **P** 04 58 20.2 +0.8
comp=Z,12nm,1.0s
VCNR Virginia City 87.07 50 *e*P **P** 04 58 21.1 +1.3
comp=Z,6.7nm,0.9s
ARA0 ARCESS Array S 87.12 342 *e*P **P** 04 58 18.6 -0.5
ARCES ARCESS Array B 87.12 342 P **P** 04 58 18.6 -0.5
comp=Z,8.8nm,0.5s,baz=69,slow=6.9,SNR=89
ARCES PKiKP **PKiKP** 05 03 22.2 -0.4
comp=Z,2.8nm,1.0s,baz=75,slow=1.0,SNR=4.2
ARCES ARCESS Array B 87.12 342 *e*P **P** 04 58 18.5 -0.7
ARCES ARCESS Array B 87.12 342 *e*P **P** 04 58 18.5 -0.7
PAHR Pah Rah Range 87.17 50 *e*P **P** 04 58 21.1 +0.9
comp=Z,14nm,1.2s
BMO Blue Mountains 87.32 45 *e*P **P** 04 58 21.2 +0.5
comp=Z,22nm,0.8s
BMO Blue Mountains 87.32 45 *e*P **P** 04 58 21.2 +0.5
BMO pmax pmax
comp=Z,22nm,0.8s
WAKR Walker 87.43 51 *e*P **P** 04 58 22.9 +1.3
comp=Z,5.8nm,0.9s
YERR Yerington 87.46 51 *e*P **P** 04 58 22.8 +1.2
comp=Z,10.0nm,1.0s
PAGB Antelope Grade 87.49 54 *e*P **P** 04 58 23.2 +1.5
comp=Z,10nm,0.9s
SMMC Simmler 87.80 54 P **P** 04 58 24.0 +0.9
baz=284
OMMB Old Mammoth Mi 87.99 52 *e*P **P** 04 58 25.4 +1.1
comp=Z,4.1nm,0.8s
PKM Mcpherson Peak 88.05 55 P **P** 04 58 25.3 +0.8
baz=285
ZEI Tsey 88.08 313 *e*P **P** 04 58 20.5 -4.0
ZEI pmax pmax
comp=Z,3.0nm,0.6s
RYN Ryan 88.09 51 *e*P **P** 04 58 25.8 +1.2
comp=Z,9.0nm,0.9s
KVN Kaiserville 88.30 50 *e*P **P** 04 58 26.4 +0.8
comp=Z,9.3nm,1.0s
NV01 Mina Array Sit 88.31 51 *e*P **P** 04 58 26.4 +0.7
NVAR Mina Array Bea 88.31 51 P **P** 04 58 26.6 +0.8
comp=Z,11nm,0.7s,baz=261,slow=6.1,SNR=77
VES Vestal, Richgr 88.38 54 P **P** 04 58 25.9 +0.1
baz=285
NV11 Mina Array Sit 88.42 51 *e*P **P** 04 58 27.0 +0.8
comp=Z,0.6nm,0.8s
TULEG Thule 88.52 7 *e*P **P** 04 58 24.2 -1.4
comp=Z,9.1nm,0.9s
KBZ Khabaz 88.52 315 P **P** 04 58 25.1 -1.1
comp=Z,1.8nm,0.7s,baz=201,slow=5.6,SNR=5.1
BMN Battle Mountai 88.58 49 *e*P **P** 04 58 28.1 +1.2
comp=Z,8.1nm,0.9s
BMN Battle Mountai 88.58 49 *e*P **P** 04 58 28.1 +1.2
BMN pmax pmax
comp=Z,8.0nm,0.9s
KIV Kislovodsk 88.60 315 *e*P **P** 04 58 24.6 -2.2
KIV pmax pmax
comp=Z,6.0nm,1.0s
SNCC San Nicolas Is 88.69 56 P **P** 04 58 27.9 +0.6
baz=285
TIN Tinemaha, Big 88.73 52 P **P** 04 58 28.6 +1.0
baz=286
MFID Camas Ranch 88.74 46 *e*P **P** 04 58 28.3 +0.8
comp=Z,21nm,0.8s
OBN Obninsk 88.75 327⇑ *e*P **P** 04 58 26.4 -0.7
OBN *e*PP **pP** 04 59 21.8 +1.3
OBN *e* 05 01 58.3
OBN pmax pmax
comp=Z,12nm,0.6s
ARVC Arvin 88.77 54 P **P** 04 58 28.3 +0.6
baz=285
NEY Neytrino 88.78 314⇓ *e*P **P** 04 58 26.9 -0.8
NEY pmax pmax
comp=Z,1.0nm,0.8s
ISA Isabella, Lake 88.91 54 P **P** 04 58 28.5 +0.1
baz=285
CWC Cottonwood Cre 89.01 53 P **P** 04 58 29.4 +0.4
baz=286
DAC Darwin (Calif) 89.43 53 *e*P **P** 04 58 32.1 +1.1
comp=Z,6.1nm,1.1s
DAC Darwin (Calif) 89.43 53 *e*P **P** 04 58 32.1 +1.1
DAC pmax pmax
comp=Z,6.0nm,1.1s
EDW2 Edwards Air Fo 89.49 54 P **P** 04 58 31.7 +0.6
baz=286
CIS Catalina Islan 89.55 56 P **P** 04 58 31.7 +0.3
baz=286
MPMC Manual Prospec 89.57 53 P **P** 04 58 32.3 +0.6
baz=286,SNR=8.3
HLID Hailey 89.68 45 P **P** 04 58 32.7 +0.8
baz=288
HLID Hailey 89.68 45 *e*P **P** 04 58 32.8 +0.8
comp=Z,9.3nm,0.9s
BFSC Mount Baldy Ra 89.93 55 P **P** 04 58 33.5 +0.2
baz=286
FURC Furnace Creek, 89.94 53 P **P** 04 58 33.8 +0.8
baz=286,SNR=9.3
TPNV Topopah Spring 90.28 52 P **P** 04 58 35.6 +0.7
baz=287,SNR=12
TPNV Topopah Spring 90.28 52 *e*P **P** 04 58 35.7 +0.7
comp=Z,8.6nm,0.8s
TPNV Topopah Spring 90.28 52 *e*P **P** 04 58 35.7 +0.8
TPNV pmax pmax
comp=Z,9.0nm,0.8s
LRM Limekiln Ridge 90.30 43 *e*P **P** 04 58 35.1 +0.3
GSC Goldstone, Bar 90.31 54 P **P** 04 58 35.6 +0.6
baz=286,SNR=6.7
GSC Goldstone, Bar 90.31 54 *e*P **P** 04 58 36.1 +1.1
comp=Z,6.6nm,0.8s
DLMT Dillon 90.35 43 *e*P **P** 04 58 35.2 +0.2
comp=Z,4.4nm,0.8s
R11A Troy Canyon, C 90.39 51 P **P** 04 58 36.1 +0.8
baz=287
R11A Troy Canyon, C 90.39 51 *e*P **P** 04 58 36.4 +1.0
comp=Z,3.7nm,1.1s
HRY Holter Researc 90.41 42 *e*P **P** 04 58 35.9 +0.7
MURC Murrieta 90.48 55 P **P** 04 58 36.2 +0.5
baz=286
SHOC Shoshone, Teco 90.56 53 P **P** 04 58 36.6 +0.6
baz=287
109C Camp Elliot, M 90.74 56 P **P** 04 58 37.5 +0.6
baz=286
HEC Hector,Ludlow 90.82 54 P **P** 04 58 37.9 +0.6
baz=287
BOZ Bozeman (W) 90.91 43 P **P** 04 58 38.0 +0.4
baz=290
BOZ Bozeman (W) 90.91 43 *e*P **P** 04 58 38.3 +0.7
comp=Z,3.6nm,0.6s
FIA1 FINESS Array S 91.02 335 *e*P **P** 04 58 35.9 -1.6
FIA0 FINESS Array S 91.02 335 *e*P **P** 04 58 35.9 -1.6
FIA0 FINESS Array S 91.02 335 *e*P **P** 04 58 35.9 -1.6
FINES FINESS Array B 91.02 335 P **P** 04 58 35.9 -1.6
comp=Z,9.3nm,0.4s,baz=63,slow=4.5,SNR=128
PFO Pinyon Flats O 91.06 55 P **P** 04 58 38.9 +0.4
baz=287
PFO Pinyon Flats O 91.06 55 *e*P **P** 04 58 39.3 +0.8
comp=Z,9.5nm,1.3s
PFO Pinyon Flats O 91.06 55 *e*P **P** 04 58 39.3 +0.8
PFO pmax pmax
comp=Z,10.0nm,1.3s
XPFO Piæon Flat 91.07 55 *e*P **P** 04 58 39.3 +0.8
comp=Z,10nm,1.3s
SHPR Sheep Range 91.25 52 *e*P **P** 04 58 40.8 +1.4
comp=Z,4.1nm,1.0s
EGMT Eagleton 91.27 40 P **P** 04 58 39.7 +0.6
baz=291
MONP2 Monument Peak 91.30 56 P **P** 04 58 40.2 +0.5
baz=287,SNR=5.6
QLMT Earthquake Lak 91.30 43 *e*P **P** 04 58 41.0 +1.5
BELC Belle Mtn. Jos 91.32 55 P **P** 04 58 40.1 +0.3
baz=287,SNR=5.5
GMRC Granite Mounta 91.36 54 P **P** 04 58 40.6 +0.7
baz=287
YHB Horse Butte 91.49 43 *e*P **P** 04 58 42.0 +1.6
comp=Z,15nm,0.7s
IKP In-Ko-Pah, Jac 91.62 56 P **P** 04 58 41.7 +0.7
baz=287

YMR	Madison River	91.67	43	*e*P		P	04 58 42.8	+1.5	
	comp=Z,20nm,0.7s								
YHH	Holmes Hill	91.71	43	*e*P		P	04 58 43.0	+1.5	
	comp=Z,7.4nm,0.8s								
SWSC	Sam W. Stewart	91.78	56	P		P	04 58 42.1	+0.4	
	baz=287								
YFT	Old Faithful	91.83	44	*e*P		P	04 58 44.9	+2.9	
	comp=Z,16nm,0.9s								
BC3	Big Chuckawall	91.85	55	P		P	04 58 42.8	+0.7	
	baz=287								
DUG	Dugway, Tooele	91.87	48	P		P	04 58 42.7	+0.5	
	baz=289								
DUG	Dugway, Tooele	91.87	48	*e*P		P	04 58 42.9	+0.8	
	comp=Z,4.9nm,0.8s								
DUG	Dugway, Tooele	91.87	48	*e*P		P	04 58 42.9	+0.8	
DUG					pmax	pmax			
	comp=Z,5.0nm,0.8s								
YPP	Pitchstone Pla	91.92	44	*e*P		P	04 58 44.4	+1.9	
	comp=Z,2.9nm,0.9s								
IRM	Iron Mountain	91.95	54	P		P	04 58 43.3	+0.8	
	baz=287								
IMW	Indian Meadow	91.95	44	*e*P		P	04 58 43.7	+1.0	
	comp=Z,12nm,0.6s								
FXWY	Fox Creek	91.98	44	*e*P		P	04 58 43.5	+0.8	
	comp=Z,6.0nm,0.7s								
H17A	Grant Village	92.03	44	P		P	04 58 45.4	+2.5	
	baz=291								
H17A	Grant Village	92.03	44	*e*P		P	04 58 45.5	+2.6	
	comp=Z,13nm,0.9s								
TPAW	Teton Pass	92.09	45	*e*P		P	04 58 44.4	+1.1	
	comp=Z,6.5nm,0.6s								
GCMT	Greycliff	92.13	42	*e*P		P	04 58 44.2	+1.0	
MOOW	Moose Ponds	92.14	44	*e*P		P	04 58 44.1	+0.7	
	comp=Z,5.8nm,0.6s								
REDW	Red Top Meadow	92.20	45	*e*P		P	04 58 44.6	+0.9	
	comp=Z,4.0nm,0.8s								
VSU	Vasula	92.22	332⇑	*e*P		P	04 58 41.7	-1.4	
VSU					pmax	pmax			
	comp=Z,33nm,1.1s								
SNOW	Snow King Moun	92.23	45	*e*P		P	04 58 45.0	+1.1	
	comp=Z,4.3nm,0.7s								
LOHW	Long Hollow	92.28	44	*e*P		P	04 58 44.7	+0.6	
	comp=Z,4.1nm,0.6s								
HWUT	Hardware Ranch	92.30	46	*e*P		P	04 58 44.8	+0.7	
	comp=Z,8.0nm,0.9s								
CCUT	Cedar City	92.30	51	*e*P		P	04 58 45.1	+0.8	
	comp=Z,2.7nm,1.0s								
GLA	Glamis	92.53	55	P		P	04 58 46.1	+0.9	
	baz=287								
LCMT	Little Creek M	92.56	51	*e*P		P	04 58 46.7	+1.3	
	comp=Z,4.4nm,1.2s								
Y12C	Blythe	92.57	55	P		P	04 58 46.2	+0.9	
	baz=288								
RLMT	Red Lodge	92.64	43	P		P	04 58 46.7	+1.0	
	baz=292								
RLMT	Red Lodge	92.64	43	*e*P		P	04 58 46.8	+1.0	
	comp=Z,12nm,0.6s								
W13A	Hualapai Mount	92.66	53	*e*P		P	04 58 47.1	+1.1	
	comp=Z,2.4nm,0.9s								
PDMCI	Parker Dam,Lak	92.70	54	P		P	04 58 46.9	+1.0	
	baz=288								
JLU	Jordanelle	92.72	47	*e*P		P	04 58 46.9	+0.7	
	comp=Z,4.4nm,0.9s								
KNB	Kanab	92.88	51	*e*P		P	04 58 48.4	+1.4	
	comp=Z,4.3nm,0.9s								
FFC	Flin Flon	92.97	32	*e*P		P	04 58 46.5	-0.2	
	comp=Z,8.7nm,0.8s								
FFC	Flin Flon	92.97	32	*e*P		P	04 58 46.5	-0.2	
FFC					pmax	pmax			
	comp=Z,9.0nm,0.8s								
BW06	Boulder Array	93.30	45	*e*P		P	04 58 48.5	-0.3	
	comp=Z,2.4nm,0.8s								
PD31	Pinedale Array	93.30	45	*e*P		P	04 58 48.8	0.0	
PDAR	Pinedale Array	93.30	45	P		P	04 58 48.7	0.0	
	comp=Z,1.6nm,0.7s,baz=234,slow=2.5,SNR=18								
PDAR	Pinedale Array	93.30	45	*e*P		P	04 58 48.4	-0.4	
U15A	North Rim	93.47	52	*e*P		P	04 58 50.9	+1.1	
	comp=Z,2.6nm,0.9s								
Y14A	Wickenburg	93.71	54	*e*P		P	04 58 51.7	+1.0	
	comp=Z,4.7nm,0.8s								
SRU	San Rafael Swe	93.90	49	*e*P		P	04 58 52.2	+0.7	
	comp=Z,2.8nm,0.8s								
SRU	San Rafael Swe	93.90	49	*e*P		P	04 58 52.2	+0.7	
SRU					pmax	pmax			
	comp=Z,3.0nm,0.8s								
LAO	LASA Array	94.00	40	P		P	04 58 52.1	+0.4	
	baz=294								
LAO	LASA Array	94.00	40	*e*P		P	04 58 52.2	+0.4	
	comp=Z,20nm,0.8s								
214A	Organ Pipe Nat	94.49	56	P		P	04 58 55.0	+0.7	
	baz=288								
DGMT	Dagmar	94.51	38	P		P	04 58 53.9	0.0	
	baz=296								
AKASG	Malin Array Be	94.61	324	P		P	04 58 53.6	-0.7	
	comp=Z,1.2nm,0.5s,baz=48,slow=4.7,SNR=5.5								
AKBB	Malin Array Si	94.61	324	*e*P		P	04 58 53.6	-0.7	
	comp=Z,9.4nm,1.6s								
AKBB	Malin Array Si	94.61	324	*e*P		P	04 58 53.6	-0.7	
AKBB					pmax	pmax			
	comp=Z,9.0nm,1.6s								
FCC	Fort Churchill	94.62	26	*e*P		P	04 58 53.6	-0.4	
	comp=Z,7.1nm,0.8s								
FCC	Fort Churchill	94.62	26	*e*P		P	04 58 53.7	-0.4	
FCC					pmax	pmax			
	comp=Z,7.0nm,0.8s								
TUC	Tucson	96.00	55	P		P	04 59 01.4	+0.3	
	baz=290								
BR101	Keskin Array S	96.39	313	*e*P		P	04 59 01.0	-1.8	
BRTR	Keskin Array B	96.39	313	P		P	04 59 01.0	-1.8	
	comp=Z,0.9nm,0.8s,baz=83,slow=4.1,SNR=4.8								
BRTR	Keskin Array B	96.39	313	P		P	04 59 01.0	-1.8	
SMCO	Snowmass	96.44	47	*e*P		P	04 59 03.8	+0.4	
	comp=Z,10.0nm,1.8s								
RSSD	Black Hills	96.47	42	P		P	04 59 03.2	0.0	
	baz=295								
N23A	Red Feather La	96.50	46	P		P	04 59 03.8	+0.3	
	baz=294								
HFS	Hagfors	96.71	337	P		P	04 59 02.1	-1.6	
	comp=Z,2.2nm,0.4s,baz=98,slow=4.4,SNR=17								
NB2	NORSAR Subarra	97.01	339	P		P	04 59 03.3	-1.7	
	comp=Z,2.3nm,0.6s,baz=46,slow=5.1								
NB2	NORSAR Subarra	97.01	339	P		P	04 59 03.0	-2.0	
NB2					pmax	pmax			
	comp=Z,2.0nm,0.6s								
NB200	NORSAR Array S	97.01	339	*e*P		P	04 59 03.4	-1.7	
NOA	NORSAR Array B	97.01	339	P		P	04 59 03.4	-1.7	
	comp=Z,1.9nm,0.7s,baz=47,slow=5.5,SNR=8.5								
S22A	4UR Ranch, Cre	97.09	49	P		Pdif	04 59 06.5	+0.2	
	baz=293								
ULM	Lac du Bonnet	98.43	34	P		P	04 59 11.1	-0.5	
	comp=Z,3.1nm,0.8s,baz=289,slow=6.4,SNR=4.9								
MNTX	Cornudas Mount	100.50	54	P		Pdif	04 59 22.0	+0.7	
	baz=293								
ECSD	EROS Data Cent	101.39	40	P		Pdif	04 59 24.8	-0.1	
	baz=301								
BRG	Berggiesshubel	102.62	330	*e*PDIFF		Pdif	04 59 51.4	+21	
	comp=Z,3.9nm,0.9s								
TXAR	Lajitas Array	102.78	56	P		Pdif	04 59 32.2	+0.6	
	comp=Z,0.3nm,0.7s,baz=266,slow=4.9,SNR=4.1								
CLL	Collm	102.79	331	*i* (Pdif)		Pdif	04 59 35.0	+4.1	
	comp=Z,5.0nm,0.8s								
CLL	Collm	102.79	331	*i* P		Pdif	04 59 35.0	+4.1	
CLL					pmax	pmax			
	comp=Z,41nm,0.8s								
F38A	Pierce - Schro	103.03	36	P		Pdif	04 59 32.2	+0.1	
	baz=305								
K39A	Oelwein	104.86	39	P		Pdif	04 59 40.1	-0.3	
	baz=304								
HDIL	Hopedale	107.68	40	P		PKiKP	05 04 00.3	+0.7	
	baz=306								
TKL	Tuckaleechee C	114.10	41	PKP		PKPdf	05 04 11.3	-0.6	
	comp=Z,1.8nm,0.7s,baz=283,slow=9.2,SNR=3.1								
NVL	N'lazarevskaya	115.27	196	*e*PKIKP		PKPpre	05 04 02.7		
NVL					pmax	pmax			
	comp=Z,11nm,0.9s								
SNAA	Sanae	118.03	191	PKP		PKPdf	05 04 17.8	-0.7	
	comp=Z,0.7nm,1.0s,baz=84,slow=9.2,SNR=4.0								
TOA1	Torodi Ar. Sit	133.98	303	*e*PKPdf		PKPdf	05 04 51.4	+0.9	
TOA1				*e*SKPbc		SKPbc	05 07 58.4	-0.8	
TORD	Torodi Ar. Bea	133.98	303	PKP		PKPdf	05 04 51.4	+0.9	
	comp=Z,1.2nm,0.5s,baz=42,slow=2.1,SNR=26								
TORD				SKPbc		SKPbc	05 07 58.4	-0.8	
	comp=Z,0.8nm,0.5s,baz=53,slow=2.5,SNR=8.4								
KOWA	Kowa	137.69	309	PKP		PKPdf	05 04 59.0	+1.7	
	comp=Z,3.4nm,0.4s,baz=51,slow=2.4,SNR=15								
KOWA				SKPbc		SKPbc	05 08 10.1	-0.5	
	comp=Z,1.6nm,0.6s,baz=80,slow=4.0,SNR=5.8								
PLCA	Paso Flores	139.48	139	SKPbc		SKiKP	05 08 16.7	-1.1	
	comp=Z,0.7nm,0.5s,baz=240,slow=4.5,SNR=3.2								
SDV	Santo Domingo	139.72	59	PKhKP		PKPpre	05 04 53.7		
	comp=Z,2.0nm,0.6s,baz=304,slow=12,SNR=5.2								
SDV				PKP		PKPdf	05 05 02.5	+1.1	
	comp=Z,2.7nm,0.6s,baz=34,slow=3.6,SNR=5.4								
DBIC	Dimbokro	142.89	300	PKhKP		PKPpre	05 05 03.3		
	comp=Z,3.9nm,0.5s,baz=41,slow=4.1,SNR=16								
KIC	Kosan Boka	142.95	300	*e*PKIKP		PKPdf	05 05 03.7	-3.3	
	comp=Z,8.1nm,0.6s								
TIC	Toumodi	143.04	300	*e*PKIKP		PKPab	05 05 03.4	+0.5	
LIC	Lamto	143.26	300	*e*PKIKP		PKPab	05 05 03.8	0.0	
	comp=Z,24nm,0.6s								
PCRV	Puerto La Cruz	143.78	52	PKhKP		PKPpre	05 05 05.2		
	comp=Z,5.7nm,0.6s,baz=0.0,slow=3.0,SNR=4.0								
BBTS	Babate	146.03	324	PKPbc		PKPab	05 05 14.5	+0.3	
	comp=Z,18nm,0.6s,baz=160,slow=0.3,SNR=8.0								
MNMC	Minye Minye	147.73	105	*e*PKPdf		PKPbc	05 05 17.1	-1.3	
LPAZ	La Paz	149.31	100	PKP		PKPdf	05 05 19.4	+1.1	
	comp=Z,5.7nm,0.6s,baz=19,slow=3.3,SNR=7.0								
LPAZ				PKPbc		PKiKP	05 05 24.1	+0.2	
	comp=Z,5.7nm,0.6s,baz=316,slow=1.3,SNR=31								
LPAZ	La Paz	149.31	100	*e*PKPdf		PKPdf	05 05 19.8	+1.5	
LPAZ				PKPbc		PKiKP	05 05 24.1	+0.2	

CSEM ***25*** *04:56:55.2, 43.38N×13.20E, h7km, MD1.9/9*
ROM 25 04:56:55.2±0.1, 43.38N×13.20E, h7km, Md1.9/9, Ml1.4/4, Error ellipse: s-maj=2.0km s-min=0.9km az=61.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CING	Cingoli	0.01	206	Pg	Pg	04 56 56.9	+0.3
CING				Sg	Sg	04 56 57.7	+0.2
	770nm,0.1s						
CING	Cingoli	0.01	206	Pg	Pg	04 56 56.9	+0.3
CING				Sg	Sg	04 56 57.7	+0.2
	770nm,0.1s						
ARVD	Arcevia	0.22	301	Pg	Pg	04 57 00.4	+0.8
ARVD				Sg	Sg	04 57 04.3	+1.7
	36nm,0.2s						
ARVD	Arcevia	0.22	301	Pg	Pg	04 57 00.4	+0.8
ARVD				Sg	Sg	04 57 04.3	+1.7
	36nm,0.2s						
SNTG	Esanatoglia	0.23	236	Pg	Pg	04 57 00.5	+0.7
SNTG				Sg	Sg	04 57 04.3	+1.4
	92nm,0.2s						
SNTG	Esanatoglia	0.23	236	Pg	Pg	04 57 00.5	+0.7
SNTG				Sg	Sg	04 57 04.3	+1.4
	92nm,0.2s						
FRON	Frontone	0.37	291	Pg	Pg	04 57 03.2	+0.7
FRON				Sg	Sb	04 57 09.8	-0.3
FRON	Frontone	0.37	291	Pg	Pg	04 57 03.2	+0.7
FRON				Sg	Sb	04 57 09.8	-0.3
MPAG	Monte Paganucc	0.40	307	Pg	Pg	04 57 03.9	+0.8
MPAG				Sg	Sb	04 57 10.9	-0.2
MPAG	Monte Paganucc	0.40	307	Pg	Pg	04 57 03.9	+0.8
MPAG				Sg	Sb	04 57 10.9	-0.2
CESI	CESI - Serrava	0.44	210	Pg	Pg	04 57 04.2	+0.5
CESI				Sg	Sb	04 57 11.6	-0.4
CESI	CESI - Serrava	0.44	210	Pg	Pg	04 57 04.2	+0.5
CESI				Sg	Sb	04 57 11.6	-0.4
PIEI	Pieia	0.51	288	Pg	Pg	04 57 05.4	+0.4
PIEI				Sg	Sb	04 57 13.6	-0.5
	12nm,0.2s						
PIEI	Pieia	0.51	288	Pg	Pg	04 57 05.4	+0.4
PIEI				Sg	Sb	04 57 13.6	-0.5
	12nm,0.2s						
NRCA	Norcia	0.55	187	Pg	Pg	04 57 06.3	+0.4
NRCA				Sg	Sb	04 57 15.6	+0.2
	68nm,1.4s						
NRCA	Norcia	0.55	187	Pg	Pg	04 57 06.3	+0.4
NRCA				Sg	Sb	04 57 15.6	+0.2
	68nm,1.4s						
GUMA	Gualdo di Mace	0.62	121	Pg	Pg	04 57 03.0	-4.3
GUMA				Sg	Sg	04 57 08.8	-6.6
GUMA	Gualdo di Mace	0.62	121	Pg	Pg	04 57 03.0	-4.3
GUMA				Sg	Sg	04 57 08.8	-6.6

MAN 25 04:58:18, 16.32N×122.12E, h1km, mb4.3, ML3.2, MS2.9, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAUP	Cauayan	0.68	336	*e*P	Pg	04 58 30.7	-0.4
CAUP				*e*S	Sg	04 58 40.7	+0.8
BALP	Baler	0.77	222	*e*P	Pg	04 58 33.5	+0.7
BALP				*e*S	Sb	04 58 45.4	+0.1
PCPH	Palayan	1.24	233⇑	*e*P	Pn	04 58 42.7	+0.3
PCPH				*e*S	Sn	04 59 02.1	+2.3
APYP	Conner	1.75	332	*e*P	Pn	04 58 45.9	-3.6
APYP				*e*S	Sb	04 59 13.3	0.0
BOLP	Bolinao	2.12	272	*e*P	Pb	04 58 56.4	-0.8
BOLP				*e*S	Sb	04 59 23.7	-0.2

IDC ***25*** *05:01:53.6±0.6, 44.84S×79.99W, h0km, mb4.3/11, mb1 4.4/12, mb1mx4.3/31, mbtmp4.3/12, ML4.8/1, MS4.4/26, Ms1 4.4/26, ms1mx4.3/30, Error ellipse: s-maj=26.6km s-min=16.4km az=98.0*

ISCJB ***25*** *05:01:55.6±0.4, 44.72S±0.06×79.32W±0.08, h10km, mb4.8/57, MS4.5/25, Error ellipse: s-maj=9.4km s-min=6.5km az=136.7*

BJI ***25*** *05:01:59.5, 44.62S×79.59W, h20km, mB5.1/3, Ms5.1/3, Ms7 4.8/3*

GCMT ***25*** *05:02:00.6±0.1, 44.88S×80.44W, h19km, MW5.3/111, Moment Tensor Solution. s81,c128; s111,c194; Duration: 1s1 Moment tensor: Scale 1017Nm; Mrr=0.12±.02; Mθθ 0.42±.02; Mφφ -0.30±.02; Mrθ 0.23±.04; Mθφ -0.98±.02; Mφr 0.20±.04; Best double couple: Mo1.09400×1017 NP1:φs=261.00000°, δ81.00000°, λ-165.00000°. NP2:φs=169.00000°, δ75.00000°, λ-10.00000°. Principal axes: T 1.1100, Plg4.0000°, Azm34.0000°; N -0.0320, Plg72.0000°, Azm293.0000°; P -1.0790, Plg17.0000°, Azm125.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***25*** *05:02:00.6±0.4, 44.72S×79.39W, h35km, mb4.9/52 Error ellipse: s-maj=10.9km s-min=7.4km az=141.0*

ISC 25 05:01:57.8±0.5, 44.53S±0.07×79.6W±0.1, h10km, n141, σ1977/120, mb4.8/56, MS4.5/25, 1C, Off coast of southern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO07	Milladeo Hill,	4.50	74	*e*P	Pn	05 03 08.4	+2.3
CHRN	Cochrane	5.59	122	*e*Pn	Pn	05 03 24.7	+3.8
CHRN	Cochrane	5.59	122	*e*P	Pn	05 03 24.6	+3.7
CHRN				*e*P	Pn	05 03 24.6	+3.7
VLCH	Valdivia	6.66	47	*e*P	Pn	05 03 36.7	+1.0
PLCA	Paso Flores	7.66	63	Pn	Pn	05 03 52.2	+2.8
	2.7nm,0.3s,baz=265,slow=8.3,SNR=74						
PLCA				Sn	Sn	05 05 32.1	+16
	baz=21,slow=8.6,SNR=1.0						
PLCA				LR	LR	05 06 43.3	
	comp=Z,5μm,19.4s,baz=262,slow=36						
PLCA	Paso Flores	7.66	63	*e*P	Pn	05 03 52.0	+2.5
GO06	Curarrehue	7.79	53	*e*Pn	Pn	05 03 53.2	+1.9
GO06	Curarrehue	7.79	53	*e*P	Pn	05 03 53.1	+1.7
TMU	Temuco	7.79	44	*e*P	Pn	05 03 52.8	+1.5
CCHI	Chillan	9.75	38	*e*P	Pn	05 04 18.2	+0.1
COCH	Cobquecura	9.85	34	*e*P	Pn	05 04 18.8	-0.6
GO05	HualaæØ	11.17	34	*e*Pn	Pn	05 04 37.9	+0.3
GO05	HualaæØ	11.17	34	*e*P	Pn	05 04 37.3	-0.2
LMEL	Las Melosas	12.89	37	*e*P	Pn	05 05 01.6	+0.4
PEL	Peldehue	13.30	34	*e*Pn	Pn	05 05 07.2	+0.5
PEL	Peldehue	13.30	34	*e*PKIKP	Pn	05 05 07.2	+0.5
FCH	Farellones	13.30	36	*e*P	Pn	05 05 06.8	-0.2
ROC1	El Roble	13.32	33	*e*Pn	Pn	05 05 07.3	+0.2
ROCH	El Roble	13.32	33	*e*P	Pn	05 05 07.1	0.0
TRQA	Tornquist	14.71	70	*e*Pn	Pn	05 05 27.0	+1.1
GO04	Tololo Observa	15.92	29	*e*Pn	Pn	05 05 42.3	+0.2
	147nm,1.0s						
EFI	East Falkland	16.02	124	*e*Pn	P	05 05 46.2	-0.3
	55nm,1.0s						
LCO	Las Campanas	17.02	27	*e*Pn	Pn	05 05 55.8	-0.4
	151nm,1.9s						
GO03	Copiap	18.48	27	*e*P	P	05 06 14.3	+0.3
	42nm,1.1s						
GO02	Mina Guanaco	20.95	26	*e*P	P	05 06 42.4	+1.2
	37nm,0.9s						
PB10	IPOC Station P	22.22	22	*e*P	P	05 06 55.1	+0.6
	67nm,1.4s						
PB04	IPOC Station P	23.46	22	*e*P	P	05 07 08.8	+1.2
	90nm,1.3s						
PB01	IPOC Station P	24.86	23	*e*P	P	05 07 21.0	+0.4
	7.9nm,0.8s,baz=232,slow=9.2,SNR=14						
CPUP	Villa Florida	25.52	52	P	P	05 07 27.6	+1.2
CPUP				LR	LR	05 17 50.1	
	comp=Z,2μm,19.0s,baz=213,slow=37						
CPUP	Villa Florida	25.52	52	*e*P	P	05 07 27.8	+1.4
	34nm,1.3s						
PB11	IPOC Station P	26.04	22	*e*P	P	05 07 31.7	+0.3
	52nm,1.3s						
MNMC	Minye Minye	26.66	21	*e*P	P	05 07 37.4	+0.3
	29nm,1.2s						
RPN	Rapa Nui	29.50	296	LR	LR	05 16 09.3	
	comp=Z,1μm,21.2s,baz=117,slow=29						
LPAZ	La Paz	29.77	23	P	P	05 08 06.0	+0.7
	2.6nm,0.9s,baz=197,slow=8.8,SNR=6.4						
LPAZ	La Paz	29.77	23	*e*P	P	05 08 05.6	+0.4
	15nm,1.1s						
NNA	Nana	32.51	5	*e*P	P	05 08 28.9	+0.1
	94nm,1.9s						
SAML	Samuel	38.19	27	*e*P	P	05 09 17.5	-0.1
	6.9nm,1.0s						
VNA3	Neumayer Olymp	42.21	153	P	P	05 09 47.0	-3.4
VNA2	Neumayer--Watz	42.95	153	P	P	05 09 53.1	-3.3
	baz=276,slow=8.9						
SNAA	Sanae	44.37	154	P	P	05 10 04.2	-3.7
SNAA	Sanae	44.37	154	P	P	05 10 04.1	-3.8
	5.7nm,0.8s,baz=280,slow=4.3,SNR=19						
SNAA				LR	LR	05 26 15.0	
	comp=Z,229nm,18.4s,baz=318,slow=33						
SNAA	Sanae	44.37	154	*e*P	P	05 10 04.1	-3.8
	11nm,1.0s						
QSPA	South Pole Qui	45.72	180	P	P	05 10 13.4	-5.5
	3.3nm,0.6s,baz=161,slow=1.2,SNR=15						
QSPA				LR	LR	05 25 45.1	
	comp=Z,260nm,21.8s,baz=142,slow=32						
ROSC	El Rosal	49.37	7	LR	LR	05 29 45.7	
	comp=Z,949nm,19.1s,baz=206,slow=34						
ROSC	El Rosal	49.37	7	*e*P	P	05 10 47.9	0.0
	36nm,2.0s						
RUSC	La Rusia	50.52	8	*e*P	P	05 10 56.8	0.0
	9.9nm,1.3s						
VNDA	Vanda	52.58	194	P	P	05 11 05.4	-5.6
	3.3nm,1.1s,baz=112,slow=13,SNR=3.0						
VNDA				LR	LR	05 30 36.1	
	comp=Z,241nm,18.6s,baz=130,slow=33						
SDV	Santo Domingo	53.77	11	P	P	05 11 20.1	-0.5
	3.1nm,0.8s,baz=243,slow=4.5,SNR=4.4						
SDV				LR	LR	05 31 01.9	
	comp=Z,282nm,20.5s,baz=224,slow=32						
SDV	Santo Domingo	53.77	11	*e*P	P	05 11 20.8	+0.2
	10.0nm,1.1s						
JTS	JuntasAbangare	54.77	354	LR	LR	05 28 42.2	
	comp=Z,402nm,21.2s,baz=214,slow=29						
PCRV	Puerto La Cruz	56.10	18	LR	LR	05 34 34.4	
	comp=Z,820nm,18.2s,baz=178,slow=35						
SYO	Syowa Base	58.25	158⇑	*e*P	P	05 11 46.6	-5.2
TBI	Tubuai	59.90	266	*e*LQ	LQ	05 27 06.1	
	1μm,29.8s						
TBI				*e*LR	LR	05 29 18.7	
	630nm,26.0s						
APG	El Apazote	60.07	348	LR	LR	05 31 49.4	
	comp=Z,166nm,20.9s,baz=150,slow=30						
TAOE	Nuku Hiva Isla	62.99	285	*e*S	S	05 20 47.3	-8.2
	619nm,26.4s						
TAOE				*e*LQ	LQ	05 28 17.6	
	551nm,27.7s						
TAOE				*e*LR	LR	05 30 59.6	
	329nm,25.4s						
PPT2	Papeete2	63.69	271	*e*S	S	05 20 56.2	-8.0
	523nm,25.5s						
PPT2				*e*LQ	LQ	05 28 26.1	
	2μm,37.8s						
PPT2				*e*LR	LR	05 30 59.8	
	570nm,24.8s,baz=122						
PPT	Papeete	63.70	271	LR	LR	05 31 40.4	
	comp=Z,350nm,21.8s,baz=119,slow=28						
MAW	Mawson	64.65	165	P	P	05 12 31.2	-3.9
	2.4nm,0.8s,baz=233,slow=10,SNR=2.6						
MAW				LR	LR	05 38 16.7	
	comp=Z,465nm,21.9s,baz=212,slow=34						
RAR	Rarotonga	68.59	261	LR	LR	05 34 00.2	
	comp=Z,398nm,20.8s,baz=126,slow=28						
LPIG	La Paz	73.85	331	LR	LR	05 37 33.6	
	comp=Z,95nm,19.4s,baz=173,slow=29						
HPIG		75.01	336	*e*P	P	05 13 40.0	+0.5
	8.2nm,1.2s						
TX31	Lajitas Ar. Si	76.73	339	*e*P	P	05 13 47.4	-1.8
TX31				*e*P	P	05 13 48.2	-0.9
TXAR	Lajitas Array	76.73	339	P	P	05 13 47.1	-2.1
	1.5nm,0.8s,baz=161,slow=7.5,SNR=16						
TXAR				LR	LR	05 42 11.9	
	comp=Z,238nm,19.5s,baz=0.0,slow=31						
JCT	Junction City	76.89	342	*e*P	P	05 13 48.5	-1.5
	36nm,1.8s						
TKL	Tuckaleechee C	79.90	357	LR	LR	05 43 38.7	
	comp=Z,196nm,21.2s,baz=180,slow=31						
BOSA	Boshof	80.10	120	LR	LR	05 46 16.3	
	comp=Z,230nm,19.3s,baz=214,slow=33						
WMOK	Wichita Mounta	80.80	344	*e*P	P	05 14 11.2	-0.1
	10nm,1.3s	

comp=Z,66nm,18.1s,baz=269,slow=31
TCUT **Toone Canyon** 89.92 337 *e*P P 05 14 57.4 +0.3
27nm,1.5s
KOWA **Kowa** 90.06 70 LR LR 05 51 13.5
comp=Z,180nm,21.0s,baz=218,slow=33
HWUT **Hardware Ranch** 90.42 337 *e*P P 05 15 00.1 +0.8
5.7nm,1.1s
DZM **Mont Dzumac** 90.49 238 LR LR 05 47 05.0
comp=Z,198nm,20.9s,baz=164,slow=30
DZM **Mont Dzumac** 90.49 238 *e*LR LR 05 43 57.7
421nm,27.2s
RSSD **Black Hills** 90.91 343 *e*P P 05 15 01.4 -0.1
2.5nm,0.7s
PD31 **Pinedale Array** 90.95 338 *e*P P 05 15 01.6 -0.1
PDAR **Pinedale Array** 90.95 338 P P 05 15 01.6 -0.1
2.0nm,1.1s,baz=160,slow=4.7,SNR=7.7
PDAR **Pinedale Array** 90.95 338 *e*P P 05 15 02.0 +0.3
AFDM **Forest Hills D** 91.09 329 *e*P P 05 15 03.0 +0.7
6.9nm,1.4s
ORV **Oroville** 91.82 329 *e*P P 05 15 05.0 -0.5
17nm,1.6s
TPAW **Teton Pass** 91.99 338 *e*P P 05 15 06.0 -0.6
5.0nm,1.0s
FXWY **Fox Creek** 92.15 338 *e*P P 05 15 07.6 +0.3
6.1nm,1.4s
IMW **Indian Meadow** 92.37 338 *e*P P 05 15 09.0 +0.6
8.2nm,1.4s
TORD **Torodi Ar. Bea** 92.99 75 P P 05 15 08.8 -2.8
0.5nm,0.9s,baz=240,slow=2.8,SNR=2.6
TORD LR LR 05 54 04.5
comp=Z,149nm,19.3s,baz=215,slow=34
TOA1 **Torodi Ar. Sit** 92.99 75 *e*P P 05 15 08.8 -2.8
YHH **Holmes Hill** 93.17 338 *e*P P 05 15 12.3 +0.2
3.3nm,1.0s
STKA **Stephens Creek** 95.21 214 LR LR 05 50 13.8
comp=Z,436nm,19.0s,baz=196,slow=31
SCHQ **Schefferville** 99.58 7 LR LR 05 56 29.0
comp=Z,78nm,19.8s,baz=180,slow=33
H11S2 **WAKE ISLAND Hyl** 19.56 267 T T 07 30 35.5
baz=134
H11S1 **WAKE ISLAND Hyl** 19.58 267 T T 07 30 36.1
baz=134
H11S3 **WAKE ISLAND Hyl** 19.58 267 T T 07 30 36.4
baz=134
H11N3 **WAKE ISLAND Hyl** 20.21 268 T T 07 31 20.1
baz=134
H11N1 **WAKE ISLAND Hyl** 20.22 268 T T 07 31 23.7
baz=134
H11N2 **WAKE ISLAND Hyl** 20.23 268 T T 07 31 24.7
baz=134
ILAR **Eielson Array** 120.87 333 PKP PKPdf 05 20 46.3 -2.7
0.8nm,1.1s,baz=166,slow=2.5,SNR=5.4
ILB **Eielson Array** 120.87 333 *e*PKPdf PKPdf 05 20 49.1 0.0
SEY **Seymchan** 145.39 321 PKPbc PKPdf 05 21 31.6 -3.2
4.0nm,1.0s,baz=127,slow=5.9,SNR=7.4
GEYT **Alibeck** 147.79 87 PKPbc PKPdf 05 21 41.0 +1.3
0.7nm,0.3s,baz=308,slow=7.2,SNR=2.7
MJAR **Matsushiro Arr** 150.41 268 PKPbc PKPdf 05 21 44.5 +0.6
1.7nm,0.6s,baz=132,slow=3.7,SNR=2.9
MAJO **Matsushiro** 150.41 268 *e*PKPdf PKPdf 05 21 44.5 +0.6
AKTO **Aktyubinsk** 151.04 63 PKPbc PKPbc 05 21 49.7 -0.5
0.6nm,0.3s,baz=307,slow=5.1,SNR=5.2
ABKAR **Akbulak array** 152.18 66 *e*PKPdf PKPdf 05 21 48.5 +2.4
CMAR **Chiang Mai Arr** 153.98 177 PKPbc PKPdf 05 21 54.0 +4.2
0.8nm,0.3s,baz=204,slow=4.1,SNR=4.5
GYA **Guiyang** 161.28 198 *e*PKP PKPdf 05 22 00.3 +1.5
GYA PKPab sPKPab 05 22 47.0 0.0
GYA PKS PKSdf 05 25 32.3 +0.1
GYA PP PP 05 26 31.4 +6.5
GYA AMB AMB
comp=Z,120nm,7.8s
KURBB **Kurchatov Arra** 164.04 60 PKP PKPdf 05 21 59.2 -1.3
0.3nm,0.4s,baz=270,slow=0.9,SNR=4.2
KURK **Kurchatov** 164.08 59 *e*PKPdf PKPdf 05 21 59.2 -1.4
MK32 **Makanchi Array** 167.11 73 *e*PKPdf PKPdf 05 22 01.2 -2.0
MK32 *e*PKPab PKPab 05 23 06.0 -1.7
MKAR **Makanchi Array** 167.11 73 PKP PKPdf 05 22 01.2 -2.0
0.5nm,0.9s,baz=163,slow=1.5,SNR=2.7
MKAR PKPab PKPab 05 23 06.0 -1.7
0.5nm,0.8s,baz=242,slow=2.6,SNR=3.9
WMQ **Urumqi** 170.82 90 *e*PKP PKPdf 05 22 08.3 +2.6
WMQ LR LR
comp=N,350nm,23.7s
WMQ LR LR
comp=Z,290nm,25.9s
HHC **Hu-ho-hao-te** 171.01 250 *e*PKP PKPdf 05 22 08.8 +2.8
HHC PP PP 05 27 21.0 +4.7
HHC SS SS 05 48 23.0 +2.1
HHC AMB AMB
comp=Z,38nm,9.8s
HHC LR LR
comp=N,180nm,20.0s
HHC LR LR
comp=E,170nm,19.7s
HHC LR LR
comp=Z,150nm,19.8s
LZH **Lanzhou** 171.18 198 *e*PKP PKPdf 05 22 04.4 -1.9
LZH pPKP sPKPdf 05 22 14.6 +3.7
LZH sPKP 05 22 18.0
LZH LR LR
comp=N,78nm,18.1s
LZH LR LR
comp=E,72nm,18.3s
LZH LR LR
comp=Z,120nm,20.2s

NIED ***25*** *05:16:00,36.˚90N×141.˚30E, h5km, Mw3.5 Best double couple: M₀1.74000×10¹⁴ NP1:φs194.00000°, δ46.00000°, λ-121.00000°. NP2:φs55.00000°, δ52.00000°, λ-62.00000°.*

ISCJB ***25*** *05:16:23.6±1.5, 36.˚90N±0.˚04×141.˚44E±0.˚06, h12km±8km, mb3.4/5, MS4.2/5, Error ellipse: s-maj=7.9km s-min=6.5km az=31.1*

IDC ***25*** *05:16:23.4±1.3, 36.˚80N×141.˚39E, h0km, mb3.4/4, mb1 3.5/5, mb1mx3.4/61, mbtmp3.3/5, ML2.9/1, MS4.1/5, Ms1 4.1/5, ms1mx2.9/65, Error ellipse: s-maj=30.9km s-min=23.5km az=154.0*

JMA ***25*** *05:16:25.4±0.1, 36.˚93N×141.˚34E, h29km±1km, M3.5*

ISC 25 05:16:25.1±2.0, 36.˚91N±0.˚05×141.˚33E±0.˚08, h12km±11km, n27, σ0˚97/23, mb3.4/5, MS4.2/5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ONAJ	**Iwakimizuishiy**	**0.47**	**295**	P	**Pg**	**05 16 34.8**	**+0.4**
ONAJ				S	**Sg**	**05 16 41.6**	**+0.9**
JFK	**Kawauchi**	**0.59**	**322**	P	**Pg**	**05 16 36.7**	**+0.1**
JFK				S	**Sg**	**05 16 44.5**	**+0.1**
JHO	**Hitachi**	**0.68**	**245**	P	**Pb**	**05 16 38.6**	**-0.4**
JHO				S	**Sb**	**05 16 48.4**	**+0.1**
JFT	**Otama**	**1.00**	**308**	P	**Pb**	**05 16 44.1**	**-0.4**
JFT				S	**Sb**	**05 16 57.0**	**-0.7**
JMM	**Marumori**	**1.05**	**336**	P	**Pb**	**05 16 44.0**	**-1.3**
JMM				S	**Sb**	**05 16 57.5**	**-1.5**
JSB	**Shiboa**	**1.13**	**274**	P	**Pg**	**05 16 46.8**	**-0.2**
JSB				S	**Sg**	**05 17 02.2**	**+0.5**
JYT	**Yasato**	**1.14**	**234**	P	**Pn**	**05 16 45.9**	**-1.0**
JYT				*e*S	**Sb**	**05 17 00.1**	**-1.4**
MJAR	**Matsushiro Arr**	**2.54**	**263**	Pn	**Pn**	**05 17 06.6**	**+0.5**
2.5nm,0.3s,baz=87,slow=15,SNR=25							
MJAR				Sn	**Sb**	**05 17 39.6**	**-2.2**
2.3nm,0.3s,baz=88,slow=11,SNR=4.9							
MAT	**Matsushiro**	**2.54**	**263**	P	**Pn**	**05 17 07.0**	**+0.8**
MAT				*e*S	**Sn**	**05 17 38.1**	**+1.1**
KSRS	**Korea Array**	**10.71**	**277**	LR	LR	05 22 33.5	
comp=Z,24nm,19.7s,baz=60,slow=34							
NJ2	**Nanjing**	**19.14**	**262**	*e*P	Pn	05 21 00.3	+11
NJ2				pmax	pmax		
comp=Z,29nm,0.8s							
H11N2	**WAKE ISLAND Hy**	**28.14**	**120**	T	T	05 51 40.5	
baz=313,slow=75,SNR=92							
H11N1	**WAKE ISLAND Hy**	**28.15**	**120**	T	T	05 51 44.7	
baz=313,slow=75,SNR=98							
H11N3	**WAKE ISLAND Hy**	**28.16**	**120**	T	T	05 51 44.2	
baz=313,slow=75,SNR=82							
H11S1	**WAKE ISLAND Hy**	**28.84**	**123**	T	T	05 52 38.5	
baz=315,slow=76,SNR=41							
H11S3	**WAKE ISLAND Hy**	**28.84**	**123**	T	T	05 52 38.8	
baz=315,slow=76,SNR=27							
H11S2	**WAKE ISLAND Hy**	**28.86**	**123**	T	T	05 52 37.2	
baz=315,slow=76,SNR=25							
MKAR	**Makanchi Array**	**44.13**	**302**	P	**P**	**05 24 33.5**	**0.0**
comp=Z,0.4nm,0.7s,baz=92,slow=10,SNR=3.6							
KURBB	**Kurchatov Arra**	**46.03**	**308**	P	**P**	**05 24 48.9**	**+0.5**
comp=Z,0.8nm,0.8s,baz=82,slow=8.2,SNR=5.4							
ILAR	**Eielson Array**	**49.64**	**32**	P	**P**	**05 25 17.3**	**+1.1**
comp=Z,0.2nm,0.7s,baz=265,slow=6.9,SNR=4.1							
WRA	**Warramunga Arr**	**56.92**	**188**	P	**P**	**05 26 09.6**	**-0.7**
comp=Z,0.7nm,0.9s,baz=5.5,slow=7.0,SNR=5.1							
YKA	**Yellowknife Ar**	**63.95**	**30**	P	**P**	**05 26 58.2**	**+0.5**
comp=Z,0.1nm,0.7s,baz=292,slow=6.6,SNR=3.5							
SFJD	**Kangerlussuaq**	**76.02**	**5**	LR	LR	06 05 46.9	
comp=Z,44nm,18.4s,baz=200,slow=39							
EKA	**Eskdalemuir Ar**	**83.23**	**340**	LR	LR	06 08 29.8	
comp=Z,111nm,21.4s,baz=220,slow=38							
EIL	**Elat**	**84.39**	**303**	LR	LR	06 08 59.6	
comp=Z,116nm,19.8s,baz=247,slow=37							
IDI	**Anoyia**	**87.03**	**313**	LR	LR	06 14 23.4	
comp=Z,68nm,19.9s,baz=264,slow=40							
VAE	**Valguarnera**	**91.19**	**320**	LR	LR	06 15 41.0	
comp=Z,222nm,18.2s,baz=233,slow=39							

ISCJB ***25*** *05:42:03.9±1.0, 34.˚59N±0.˚09×25.˚42E±0.˚04, h48km±8km, mb3.5/6, Error ellipse: s-maj=14.7km s-min=4.9km az=175.5*

CSEM ***25*** *05:42:03.1±0.4, 34.˚56N×25.˚32E, h12km, ML3.0, Error ellipse: s-maj=8.1km s-min=3.9km az=2.0*

THE ***25*** *05:42:03.5, 34.˚59N×25.˚26E, h0km±2km, ML3.0/5, Error ellipse: s-maj=3.2km s-min=1.0km az=177.0*

IDC ***25*** *05:42:04.1±3.9, 34.˚60N×25.˚28E, h34km±29km, mb3.3/6, mb1 3.5/9, mb1mx3.3/60, mbtmp3.5/9, ML3.2/3, Error ellipse: s-maj=39.8km s-min=20.5km az=150.0*

ATH ***25*** *05:42:04.1, 34.˚66N×25.˚27E, h28km±1km, ML3.0/6, Error ellipse: s-maj=2.8km s-min=1.0km az=357.0*

ISC 25 05:42:03.8±1.4, 34.˚59N±0.˚06×25.˚30E±0.˚03, h29km±9km, n66, σ1s12/86, mb3.5/6, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LAST	**Lasithi**	**0.59**	**14**	P	**Pb**	**05 42 14.8**	**-0.9**
LAST				S	**Sb**	**05 42 24.1**	**+0.3**
LAST				AML	AML	05 42 26.5	
comp=E,2493μm,0.6s							
LAST				AML	AML	05 42 31.1	
comp=N,2713μm,0.6s							
LAST	**Lasithi**	**0.59**	**14**	P	**Pb**	**05 42 15.0**	**-0.7**
LAST				S	**Sn**	**05 42 25.4**	**+0.5**
LAST	**Lasithi**	**0.59**	**14**	P	**Pb**	**05 42 15.0**	**-0.7**
LAST				S	**Sb**	**05 42 23.7**	**-0.1**
SIVA	**Sivas**	**0.59**	**316**	P	**Pb**	**05 42 15.1**	**-0.6**
SIVA				S	**Sb**	**05 42 22.8**	**-0.8**
SIVA				AML	AML	05 42 25.9	
comp=E,14131μm,0.3s							
SIVA				AML	AML	05 42 31.8	
comp=N,8800μm,0.5s							
SIVA	**Sivas**	**0.59**	**316**	P	**Pb**	**05 42 15.0**	**-0.6**
SIVA				S	**Sn**	**05 42 24.1**	**-0.7**
SIVA	**Sivas**	**0.59**	**316**	P	**Pb**	**05 42 15.0**	**-0.6**
SIVA				S	**Sb**	**05 42 22.9**	**-0.8**
NPS	**Neapolis**	**0.72**	**21**	P	**Pb**	**05 42 17.6**	**-0.2**
NPS				S	**Sb**	**05 42 27.6**	**+0.2**
NPS				AML	AML	05 42 30.6	
comp=N,1433μm,0.2s							
NPS				AML	AML	05 42 33.9	
comp=E,3741μm,0.7s							
NPS	**Neapolis**	**0.72**	**21**	P	**Pb**	**05 42 17.6**	**-0.2**
NPS				S	**Sn**	**05 42 29.9**	**+1.9**
NPS	**Neapolis**	**0.72**	**21**	P	**Pb**	**05 42 17.6**	**-0.2**
NPS				S	**Sb**	**05 42 27.4**	**0.0**
IACM	**Heraklion**	**0.74**	**345**	P	**Pn**	**05 42 18.4**	**+0.1**
IACM	**Heraklion**	**0.74**	**345**	P	**Pb**	**05 42 18.0**	**-0.1**
IDI	**Anoyia**	**0.77**	**334**	Pg	**Pb**	**05 42 18.1**	**-0.7**
comp=E,16nm,0.3s,baz=152,slow=17,SNR=112							
IDI				Lg	Lg	05 42 30.6	
comp=E,52nm,0.3s,baz=93,slow=19,SNR=37							
ZKR	**Zakros**	**0.92**	**55**	P	**Pb**	**05 42 21.7**	**+0.5**
ZKR				S	**Sn**	**05 42 34.4**	**+1.4**
ZKR				AML	AML	05 42 41.2	
comp=E,2901μm,0.7s							
ZKR				AML	AML	05 42 41.2	
comp=N,1036μm,0.5s							
ZKR	**Zakros**	**0.92**	**55**	P	**Pn**	**05 42 21.4**	**+0.7**
ZKR				S	**Sn**	**05 42 36.4**	**+3.5**
ZKR	**Zakros**	**0.92**	**55**	P	**Pn**	**05 42 21.4**	**+0.7**
ZKR				S	**Sn**	**05 42 34.5**	**+1.6**
GVD	**Gavdhos**	**1.03**	**284**	P	**Pb**	**05 42 22.9**	**-0.1**
GVD				AML	AML	05 42 50.1	
comp=N,1550μm,0.5s							
GVD				AML	AML	05 42 50.3	
comp=E,1159μm,0.5s							
GVD	**Gavdhos**	**1.03**	**284**	P	**Pb**	**05 42 23.2**	**+0.1**
GVD	**Gavdhos**	**1.03**	**284**	P	**Pb**	**05 42 23.1**	**0.0**
VAM	**Vamos**	**1.22**	**312**	P	**Pb**	**05 42 26.3**	**0.0**
VAM	**Vamos**	**1.22**	**312**	P	**Pb**	**05 42 25.8**	**-0.4**
VAM				S	**Sb**	**05 42 42.7**	**+1.2**
VAM	**Vamos**	**1.22**	**312**	P	**Pb**	**05 42 26.2**	**0.0**
VAM				S	**Sb**	**05 42 42.7**	**+1.2**
IMMV	**Iera Moni Meta**	**1.39**	**309**	P	**Pb**	**05 42 29.3**	**+0.3**
IMMV				S	**Sb**	**05 42 47.0**	**+0.6**
IMMV				AML	AML	05 42 58.2	
comp=N,912μm,0.9s							
IMMV				AML	AML	05 43 05.5	
comp=E,1234μm,0.7s							
IMMV	**Iera Moni Meta**	**1.39**	**309**	P	**Pb**	**05 42 29.4**	**+0.3**
IMMV	**Iera Moni Meta**	**1.39**	**309**	P	**Pb**	**05 42 29.1**	**0.0**
IMMV				S	**Sb**	**05 42 46.9**	**+0.5**
THR6	**Thira Island,**	**1.76**	**3**	P	**Pn**	**05 42 33.3**	**+0.9**
THR6	**Thira Island,**	**1.76**	**3**	P	**Pn**	**05 42 33.5**	**+1.2**
THR6	**Thira Island,**	**1.76**	**3**	P	**Pn**	**05 42 33.6**	**+1.2**
KARP	**Karpathos**	**1.80**	**58**	P	**Pn**	**05 42 36.8**	**+0.6**
KARP	**Karpathos**	**1.80**	**58**	P	**Pb**	**05 42 36.1**	**-0.1**
KARP	**Karpathos**	**1.80**	**58**	P	**Pb**	**05 42 36.0**	**-0.1**
THR8	**Santorini-Mono**	**1.82**	**5**	P	**Pn**	**05 42 33.5**	**+0.4**
THR8	**Santorini-Mono**	**1.82**	**5**	P	**Pn**	**05 42 34.2**	**+1.1**
THR5	**Thira Island,**	**1.82**	**1**	P	**Pn**	**05 42 33.9**	**+0.8**
THR5	**Thira Island,**	**1.82**	**1**	P	**Pn**	**05 42 34.3**	**+1.1**
THR5	**Thira Island,**	**1.82**	**1**	P	**Pn**	**05 42 34.4**	**+1.2**
ANKY	**Antikythira Is**	**2.07**	**308**	P	**Pb**	**05 42 39.6**	**-1.1**
ANKY	**Antikythira Is**	**2.07**	**308**	P	**Pb**	**05 42 39.0**	**-1.8**
IOSP	**Ios island**	**2.13**	**360**	P	**Pn**	**05 42 37.7**	**+0.3**
IOSP	**Ios island**	**2.13**	**360**	P	**Pn**	**05 42 38.4**	**+1.0**
MHLO	**Agia Marina, M**	**2.22**	**341**	P	**Pn**	**05 42 39.3**	**+0.7**
MHLO	**Agia Marina, M**	**2.22**	**341**	P	**Pn**	**05 42 39.7**	**+1.1**
MHLO	**Agia Marina, M**	**2.22**	**341**	P	**Pn**	**05 42 39.8**	**+1.1**
KYTH	**Kithira**	**2.48**	**313**	P	**Pn**	**05 42 44.8**	**+2.5**
ARG	**Arkhangelos**	**2.82**	**54**	P	**Pn**	**05 42 48.3**	**+1.4**
ARG	**Arkhangelos**	**2.82**	**54**	P	**Pn**	**05 42 48.9**	**+2.0**
VLI	**Veliai**	**2.86**	**318**	P	**Pn**	**05 42 48.2**	**+0.7**
VLI	**Veliai**	**2.86**	**318**	P	**Pn**	**05 42 48.8**	**+1.3**
VLI	**Veliai**	**2.86**	**318**	P	**Pn**	**05 42 48.8**	**+1.3**
TURN	**Turunc**	**3.52**	**49**	*i* P	**Pn**	**05 42 54.4**	**-2.1**
TURN	**Turunc**	**3.52**	**49**	P	**Pn**	**05 42 54.4**	**-2.1**
FETY	**Fethiye**	**3.69**	**55**	P	**Pn**	**05 42 59.1**	**+0.1**
FETY				S	**Sn**	**05 43 39.8**	**-1.7**
AKAS	**Kas**	**3.88**	**64**	*i* P	**Pn**	**05 43 02.5**	**+0.9**
AKAS				*i* S	**Sn**	**05 43 44.2**	**-2.0**
AKAS	**Kas**	**3.88**	**64**	P	**Pn**	**05 43 02.5**	**+0.9**
AKAS				S	**Sn**	**05 43 44.2**	**-2.0**
GOLH	**Golhisar**	**4.35**	**51**	*i* P	**Pn**	**05 43 08.8**	**+0.8**
GOLH	**Golhisar**	**4.35**	**51**	P	**Pn**	**05 43 08.8**	**+0.8**
KEPZ	**Antalya-Kepez**	**5.62**	**64**	*i* P	**Pn**	**05 43 24.9**	**-0.5**
KEPZ				*i* S	**Sn**	**05 44 27.7**	**-1.3**
KEPZ	**Antalya-Kepez**	**5.62**	**64**	P	**Pn**	**05 43 24.9**	**-0.5**
BRTR	**Keskin Array B**	**8.40**	**51**	Pn	**Pn**	**05 44 05.6**	**+2.0**
comp=E,0.0nm,0.3s,baz=224,slow=12,SNR=2.8							
AKASG	**Malin Array Be**	**16.35**	**9**	Pn	**Pn**	**05 45 51.7**	**+0.6**
comp=E,0.6nm,0.3s,baz=201,slow=12,SNR=5.2							
KBZ	**Khabaz**	**16.39**	**51**	Pn	**P**	**05 45 55.7**	**+1.5**
comp=E,0.1nm,0.3s,baz=234,slow=9.1,SNR=14							
TORD	**Torodi Ar. Bea**	**30.22**	**231**	P	**P**	**05 48 12.6**	**+0.6**
comp=E,0.5nm,0.5s,baz=32,slow=8.8,SNR=6.0							
KURBB	**Kurchatov Arra**	**41.39**	**51**	P	**P**	**05 49 47.0**	**-0.2**
comp=E,0.4nm,0.5s,baz=275,slow=8.9,SNR=5.5							
MKAR	**Makanchi Array**	**43.99**	**56**	P	**P**	**05 50 08.8**	**+0.4**
comp=E,0.4nm,0.7s,baz=321,slow=1.8,SNR=4.6							
ZALV	**Zalesovo Beam**	**45.31**	**46**	P	**P**	**05 50 17.0**	**-1.9**
comp=E,0.7nm,0.4s,baz=281,slow=8.5,SNR=2.5							
SONM	**Songino Array**	**59.76**	**50**	P	**P**	**05 52 05.8**	**-0.2**
comp=E,0.4nm,0.6s,baz=282,slow=7.2,SNR=2.1							
YKA	**Yellowknife Ar**	**78.02**	**342**	P	**P**	**05 53 57.3**	**-1.9**
comp=E,0.3nm,0.9s,baz=40,slow=5.8,SNR=4.4							

KRSC 25 05:44:22.3±1.7, 48.˚39N×156.˚41E, h7km±42km, ML3.8,

East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PAU	**Pauzhetka**	**3.09**	**5**	*e*S	Sn	05 45 51.5	+2.8
KDTR	**Khodutka, Kamc**	**3.59**	**17**	*e*P	Pn	05 45 22.0	+3.7
KDTR				*e*S	Sn	05 46 05.1	+4.2
ASAK	**Asacha**	**4.11**	**13**	*e*P	Pn	05 45 30.1	+4.5
RUS	**Russkaya**	**4.27**	**18**	*e*P	Pn	05 45 31.0	+3.4
RUS				*e*S	Sb	05 46 23.5	-5.8
UGLR	**Uglovaya**	**5.06**	**17**	*e*P	Pn	05 45 41.9	+3.2
AVH	**Avacha**	**5.10**	**16**	*e*P	Pn	05 45 44.2	+5.0
SMAR	**Somma**	**5.11**	**16**	*e*P	Pn	05 45 44.1	+4.7
SDLR	**Sedlovina**	**5.14**	**17**	*e*P	Pn	05 45 43.8	+4.0
SPN	**Mys Shipunski**	**5.24**	**25**	*e*P	Pn	05 45 45.8	+4.8

ISCJB ***25*** *05:55:16.8±0.7, 13.˚5N±0.˚2×49.˚99E±0.˚06, h10km, mb3.7/7, MS3.4/3, Error ellipse: s-maj=23.4km s-min=8.4km az=178.1*

IDC ***25*** *05:55:16.7±1.1, 13.˚28N×50.˚12E, h0km, mb3.7/6, mb1 3.9/6, mb1mx3.4/62, mbtmp3.7/6, ML4.9/1, MS3.5/4, Ms1 3.4/4, ms1mx3.0/59, Error ellipse: s-maj=41.4km s-min=23.9km az=168.0*

ISC 25 05:55:18.7±0.8, 13.˚3N±0.˚2×49.˚98E±0.˚08, h10km, n18, σ1s70/12, mb3.9/7, MS3.5/3, Eastern Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BDHA	**Al Bayda'**	**4.33**	**279**	*i* P	**Pn**	**05 56 25.1**	**+0.2**
BDHA				*e*		05 56 25.3	
baz=112,slow=16							
BDHA				AML	AML	05 56 25.6	
comp=E,2μm,0.3s							
BDHA				*i* S	**Sn**	**05 57 13.7**	**-1.9**
LBOS		**4.63**	**277**	*i* P	**Pn**	**05 56 28.8**	**-0.2**
ATD	**Arta Tunnel**	**7.20**	**256**	Pn	**Pn**	**05 57 05.6**	**+1.5**
comp=E,19nm,0.3s,baz=68,slow=9.9,SNR=28							
WSAR	**Wadi Sarin**	**12.81**	**39**	LR	LR	06 03 06.2	
comp=E,191nm,20.3s,baz=252,slow=37							
GEYT	**Alibeck**	**25.54**	**15**	P	**P**	**06 00 51.2**	**+3.5**
comp=E,1.7nm,0.6s,baz=222,slow=1.9,SNR=3.0							
GNI	**Garni**	**27.10**	**351**	LR	LR	06 13 41.9	
comp=E,118nm,18.1s,baz=212,slow=41							
H08N2	**Diego Garcia H**	**28.59**	**132**	T	T	06 30 41.7	
baz=314							
H08N3	**Diego Garcia H**	**28.60**	**132**	T	T	06 30 44.5	
baz=314							
H08N1	**Diego Garcia H**	**28.62**	**132**	T	T	06 30 43.1	
baz=314							
MKAR	**Makanchi Array**	**42.96**	**33**	P	**P**	**06 03 17.9**	**-0.1**
comp=E,0.2nm,0.4s,baz=223,slow=7.4,SNR=3.3							
KURBB	**Kurchatov Arra**	**43.83**	**26**	P	**P**	**06 03 23.4**	**-1.5**
comp=E,0.3nm,0.8s,baz=238,slow=6.2,SNR=3.3							
TORD	**Torodi Ar. Bea**	**46.94**	**276**	P	**P**	**06 03 50.6**	**+0.6**
comp=E,0.8nm,0.8s,baz=82,slow=7.8,SNR=5.3							
CMAR	**Chiang Mai Arr**	**47.26**	**77**	P	**P**	**06 03 52.0**	**-0.5**
comp=E,0.8nm,0.4s,baz=276,slow=8.7,SNR=4.9							
BOSA	**Boshof**	**48.08**	**210**	LR	LR	06 22 37.3	
comp=E,59nm,21.8s,baz=28,slow=34							
DBIC	**Dimbokro**	**54.32**	**269**	LR	LR	06 28 34.7	
comp=E,22nm,18.1s,baz=70,slow=37							
WRA	**Warramunga Arr**	**89.30**	**111**	P	**P**	**06 08 14.6**	**-1.2**
comp=E,0.8nm,0.8s,baz=306,slow=3.5,SNR=6.7							
ASAR	**Alice Springs**	**89.83**	**114**	P	**P**	**06 08 16.7**	**-1.7**
comp=E,0.5nm,0.7s,baz=290,slow=4.6,SNR=6.0							
SNAA	**Sanae**	**91.80**	**195**	P	**P**	**06 08 27.1**	**+0.7**

ISCJB ***25*** *06:14:57.9±0.7, 30.˚29S±0.˚04×138.˚33E±0.˚07, h10km, Error ellipse: s-maj=9.4km s-min=5.2km az=157.9*

AUST ***25*** *06:14:59.5±0.1, 30.˚41S×138.˚38E, h10km, Error ellipse: s-maj=0.6km s-min=0.2km az=348.0*

IDC ***25*** *06:15:00.5±2.8, 30.˚00S×138.˚82E, h0km, mb1 3.1/3, mb1mx3.0/40, mbtmp2.8/3, ML2.6/3, Error ellipse: s-maj=81.7km s-min=15.7km az=47.0*

ISC 25 06:15:00.0±1.0, 30.˚35S±0.˚06×138.˚35E±0.˚06, h10km, n6, σ0s56/12, South Australia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HTT	**Hallett**	**3.11**	**171**	P	**Pn**	**06 15 48.9**	**-0.3**
baz=3.1							
HTT				S	**Sn**	**06 16 26.8**	**+0.3**
baz=3.1							
BBOO	**Buckleboo**	**3.14**	**218**	P	**Pn**	**06 15 49.6**	**+0.1**
baz=3.1							
BBOO				S	**Sn**	**06 16 26.7**	**-0.5**
baz=3.1							
STKA	**Stephens Creek**	**3.17**	**120**	Pn	**Pn**	**06 15 50.0**	**0.0**
0.2nm,0.3s,baz=309,slow=14,SNR=4.5							
STKA				Sn	**Sn**	**06 16 27.6**	**-0.3**
0.9nm,0.3s,baz=309,slow=11,SNR=4.4							
STKA				Lg	Lg	06 16 36.6	
1.9nm,0.3s,baz=313,slow=28,SNR=5.7							
STKA	**Stephens Creek**	**3.17**	**120**	P	**Pn**	**06 15 49.7**	**-0.3**
baz=3.1							
STKA				S	**Sn**	**06 16 28.4**	**+0.5**
baz=3.1							
ASAR	**Alice Springs**	**7.75**	**328**	Pn	**Pn**	**06 16 53.9**	**+1.0**
0.1nm,0.3s,baz=150,slow=12,SNR=7.7							
ASAR				Sn	**Sn**	**06 18 21.1**	**+0.3**
0.1nm,0.3s,baz=149,slow=22,SNR=3.2							
WRA	**Warramunga Arr**	**10.98**	**340**	Pn	**Pn**	**06 17 37.0**	**-0.3**
0.1nm,0.3s,baz=153,slow=12,SNR=5.2							
WRA				Sn	**Sn**	**06 19 39.3**	**-0.9**
0.1nm,0.3s,baz=158,slow=23,SNR=3.7							

NEIC ***25*** *06:23:57.0±0.0, 50.˚55N×130.˚16W, h10km, mb3.9/48, MW4.0(OTT), After OTT.*

PGC ***25*** *06:23:57.3±1.1, 50.˚55N×130.˚16W, h10km, mb3.9, ML3.4/38, MLSn3.4/38, Mw4.0/38, 194km west of Pt. Hardy, Bc Vancouver Island, Canada Region*

ISCJB ***25*** *06:23:59.4±0.3, 50.˚71N±0.˚03×129.˚71W±0.˚05, h10km, mb3.8/9, MS3.5/12, Error ellipse: s-maj=5.7km s-min=2.6km az=147.0*

IDC ***25*** *06:23:59.3±1.6

SHB	Sechelt	4.07	103	Pn	Pn	06 25 00.5	-0.7
YOUB	Youbou, Lake C	4.10	113	Pn	Pn	06 25 00.0	-1.6
NLLB	Nanaimo Lost L	4.12	108	Pn	Pn	06 25 01.1	-0.7
PFB	Port Renfrew	4.16	118	Pn	Pn	06 25 00.8	-1.6
PFB				Sn	Sn	06 25 47.8	-3.2
OCP	Olym-Cheeka Pk	4.21	122	Pn	Pn	06 25 02.6	-0.5
B926	Mesachie Lake	4.21	113	Pn	Pn	06 25 01.8	-1.3
UBRB	Upper Baezaeko	4.30	56	Pn	Pn	06 25 06.6	+2.2
UBRB				Sn	Sn	06 25 57.3	+2.7
WPB	Watts Point	4.46	100	Pn	Pn	06 25 06.5	0.0
BIB	Bowen Island	4.48	104	Pn	Pn	06 25 07.0	+0.3
LZB	Mount Lazard	4.49	115	Pn	Pn	06 25 06.5	-0.4
GOBB	Galiano Island	4.52	110	Pn	Pn	06 25 06.9	-0.4
WSLR	Whistler	4.55	94	Pn	Pn	06 25 07.8	+0.1
OFR	Olym-F Res Ctr	4.55	124	Pn	Pn	06 25 07.5	-0.2
B010	North Saanich	4.69	113	Pn	Pn	06 25 08.4	-1.2
PGC	Sidney	4.69	113	Pn	Pn	06 25 08.7	-0.9
PGC	Sidney	4.69	113	ePn	Pn	06 25 09.2	-0.4
B009	North Saanich	4.69	113	Pn	Pn	06 25 09.3	-0.3
B009				Sn	Sn	06 26 01.1	-2.9
PA02	PA02 Ocean	4.69	113	Pn	Pn	06 25 08.6	-1.0
PA02				Sn	Sn	06 26 00.2	-3.8
B011	North Saanich	4.69	113	Pn	Pn	06 25 09.1	-0.5
PA01	PA01 North	4.69	113	Pn	Pn	06 25 09.1	-0.5
PA12	PA12 Sannich	4.69	113	Pn	Pn	06 25 07.3	-2.3
PA12				Sn	Sn	06 26 00.2	-3.9
PA04	PA04 Cage	4.69	113	Pn	Pn	06 25 07.5	-2.1
PA05	PA05 Willingdo	4.69	113	Pn	Pn	06 25 08.9	-0.7
SNB	Saturna Island	4.80	110	Pn	Pn	06 25 12.0	+0.8
VGZ	Gonzales	4.88	115	Pn	Pn	06 25 11.7	-0.5
OSD	Olympics--Snow	4.99	122	Pn	Pn	06 25 13.6	-0.4
MCW	Mount Constitu	5.04	110	Pn	Pn	06 25 15.0	+0.5
A04D	Lummi Island	5.10	109	P	Pn	06 25 16.1	+0.8
	baz=294						
LLLB	Lillooet	5.16	87	Pn	Pn	06 25 15.3	-0.8
LLLB	Lillooet	5.16	87	ePn	Pn	06 25 16.9	+0.8
NLWA	Neilton Lookou	5.17	127	ePn	Pn	06 25 16.8	+0.4
CRAG	Craig	5.19	340	ePn	Pn	06 25 14.8	-1.7
BLN	Blyn Mountain	5.29	117	Pn	Pn	06 25 17.6	-0.3
VDB	Vedder Mountai	5.35	105	Pn	Pn	06 25 19.9	+1.2
HDW	Hoodsport	5.45	121	Pn	Pn	06 25 20.2	+0.1
MBW	Mount Baker	5.56	106	Pn	Pn	06 25 23.0	+1.2
HOPB	Hope	5.66	100	Pn	Pn	06 25 22.4	-0.5
B05A	Bryant	5.67	112	P	Pn	06 25 23.6	+0.5
	baz=297						
JCW	Jim Creek	5.80	112	Pn	Pn	06 25 25.6	+0.7
B06A	Marblemount	5.92	108	Pn	Pn	06 25 27.4	+0.8
B06A	Marblemount	5.92	108	ePn	Pn	06 25 27.4	+0.8
D05A	Enumclaw	6.30	120	Pn	Pn	06 25 32.6	+0.9
D05A	Enumclaw	6.30	120	ePn	Pn	06 25 33.3	+1.5
FMW	Mount Fremont	6.63	121	Pn	Pn	06 25 37.2	+0.8
LON	Longmire	6.66	123	Pn	Pn	06 25 37.9	+1.0
LON	Longmire	6.66	123	ePn	Pn	06 25 37.8	+1.0
PNT	Penticton	6.81	97	Pn	Pn	06 25 39.0	+0.1
LTY	Liberty	7.00	115	Pn	Pn	06 25 42.9	+1.3
LTY	Liberty	7.00	115	ePn	Pn	06 25 42.4	+0.9
B08A	Colville Reser	7.30	104	Pn	Pn	06 25 45.8	+0.3
B08A	Colville Reser	7.30	104	ePn	Pn	06 25 46.6	+1.1
DLBC	Dease Lake	7.81	360	Pn	Pn	06 25 54.6	+2.1
	0.9nm,0.3s,baz=172,slow=5.9,SNR=62						
DLBC				S	Sn	06 27 21.1	+0.2
	0.2nm,0.3s,baz=180,slow=19,SNR=2.4						
DLBC	Dease Lake	7.81	360	P	Pn	06 25 54.3	+1.8
DLBC				S	Sn	06 27 21.2	+0.3
H04A	Detroit Lake	7.95	136	ePn	Pn	06 25 57.6	+3.2
D08A	Wollman Farm,	8.13	112	ePn	Pn	06 25 57.0	+0.1
C09A	Chrisman Ranch	8.18	106	P	Pn	06 25 58.2	+0.7
C09A	Chrisman Ranch	8.18	106	ePn	Pn	06 25 57.8	+0.3
NEW	Newport	8.71	101	Pn	Pn	06 26 05.2	+0.3
	0.7nm,0.3s,baz=300,slow=14,SNR=10						
NEW				LR	LR	06 29 27.1	
	comp=Z,457nm,19.4s,baz=282,slow=38						
NEW	Newport	8.71	101	P	Pn	06 26 05.8	+1.0
	baz=290						
NEW	Newport	8.71	101	ePn	Pn	06 26 06.0	+1.1
FNBB	Fort Nelson	9.19	23	P	Pn	06 26 12.1	+0.8
F10A	Beach Ranch, E	9.69	114	ePn	Pn	06 26 19.2	+0.8
YBH	Yreka Blue Hor	10.23	148	LR	LR	06 29 38.5	
	comp=Z,111nm,19.5s,baz=332,slow=33						
BHMT	Big Hole Peak	10.27	102	P	Pn	06 26 26.6	+0.3
BMO	Blue Mountains	10.31	119	ePn	Pn	06 26 27.9	+1.0
BSMT	Bassoo Peak	10.32	100	P	Pn	06 26 27.9	+0.8
WHY	Whitehorse	10.41	347	P	Pn	06 26 28.6	+0.4
WHY	Whitehorse	10.41	347	ePn	Pn	06 26 28.5	+0.4
PNL	Peninsula	10.51	333	P	Pn	06 26 28.6	-0.8
JTMT	Jette	10.68	100	P	Pn	06 26 32.7	+0.8
JTMT	Jette	10.68	100	ePn	Pn	06 26 33.2	+1.3
FBMT	Ferry Basin	10.72	102	P	Pn	06 26 33.5	+1.1
SWMT	Swartz Lake	10.94	100	P	Pn	06 26 36.6	+1.1
MSO	Missoula	11.26	104	P	Pn	06 26 40.4	+0.6
	baz=295						
MSO	Missoula	11.26	104	ePn	Pn	06 26 40.4	+0.6
WVOR	Wild Horse Val	11.32	132	ePn	Pn	06 26 43.5	+2.8
SLMT	Seeley Lake	11.36	101	P	Pn	06 26 42.9	+1.6
BPMT	Black Pine Rid	11.74	105	P	Pn	06 26 47.8	+1.3
LYMT	Lyon Mountain	12.23	101	P	Pn	06 26 55.2	+2.1
HBMT	Mount Humbug	12.55	106	P	Pn	06 26 59.1	+1.5
ORV	Oroville	12.59	148	ePn	Pn	06 27 00.2	+2.2
HRY	Holter Researc	12.62	101	ePn	Pn	06 26 59.0	+0.6
LRM	Limekiln Ridge	12.64	106	P	Pn	06 26 59.2	+0.4
LRM	Limekiln Ridge	12.64	106	ePn	Pn	06 26 59.2	+0.4
HLID	Hailey	12.74	118	ePn	Pn	06 27 02.7	+2.5
DLMT	Dillon	12.78	108	ePn	Pn	06 27 01.2	+0.7
MCMT	McKenzie Canyo	12.90	116	ePn	Pn	06 27 03.3	+0.8
BOZ	Bozeman (W)	13.25	105	P	Pn	06 27 07.3	+0.3
	baz=298						
EGMT	Eagleton	13.44	93	ePn	Pn	06 27 11.8	+2.2
TPMT	Tepee Creek	13.67	109	P	Pn	06 27 13.4	+0.5
YHB	Horse Butte	13.94	108	ePn	Pn	06 27 18.1	+1.6
YMR	Madison River	14.12	108	ePn	Pn	06 27 20.5	+1.4
YHH	Holmes Hill	14.13	107	ePn	Pn	06 27 20.5	+1.3
YFT	Old Faithful	14.32	108	ePn	Pn	06 27 23.3	+1.5
DAWY	Dawson	14.36	343	P	Pn	06 27 25.2	+3.2
GCMT	Greycliff	14.37	102	ePn	Pn	06 27 23.9	+1.6
YPP	Pitchstone Pla	14.43	109	ePn	Pn	06 27 25.5	+2.1
H17A	Grant Village	14.51	108	ePn	Pn	06 27 25.5	+1.2
YKA	Yellowknife Ar	14.53	29	Pn	Pn	06 27 23.9	-0.4
	0.3nm,0.3s,baz=224,slow=12,SNR=31						
YKA				Sn	Sn	06 29 57.7	-7.6
	0.1nm,0.3s,baz=216,slow=22,SNR=5.0						
YKB5	Yellowknife Ar	14.53	29	ePn	Pn	06 27 23.9	-0.4
YKB5				eSn	Sn	06 29 57.7	-7.6
IMW	Indian Meadow	14.56	110	ePn	Pn	06 27 27.9	+2.8
YKW1	Yellowknife Ar	14.56	30	P	Pn	06 27 24.1	-0.7
YKW3	Yellowknife Ar	14.58	29	P	Pn	06 27 23.7	-1.3
FXWY	Fox Creek	14.66	111	ePn	Pn	06 27 29.0	+2.7
NV01	Mina Array Sit	14.76	141	ePn	Pn	06 27 29.9	+2.2
NVAR	Mina Array Bea	14.76	141	Pn	Pn	06 27 29.9	+2.2
	baz=316,slow=11,SNR=3.2						
NVAR				LR	LR	06 32 03.4	
	comp=Z,40nm,21.2s,baz=316,slow=33						
MOOW	Moose Ponds	14.76	110	ePn	Pn	06 27 30.5	+2.7
TPAW	Teton Pass	14.79	112	ePn	P	06 27 31.3	-2.9
SNOW	Snow King Moun	14.92	111	ePn	P	06 27 33.2	-2.4
REDW	Red Top Meadow	14.92	112	ePn	Pn	06 27 32.4	+2.5
LOHW	Long Hollow	14.92	111	ePn	Pn	06 27 32.5	+2.6
RLMT	Red Lodge	14.94	104	P	Pn	06 27 32.7	+2.6
	baz=299						
RLMT	Red Lodge	14.94	104	ePn	Pn	06 27 32.3	+2.2
KDAK	Kodiak Island	14.98	307	LR	LR	06 31 47.5	
	comp=Z,152nm,18.7s,baz=126,slow=31						
OMMB	Old Mammoth Mi	15.20	145	ePn	P	06 27 37.2	-1.7
	2.6nm,1.0s						
SCRK	Sand Creek	15.30	336	ePn	Pn	06 27 36.6	+1.8
	6.8nm,1.0s						
EGAK	Eagle	15.34	342	ePn	Pn	06 27 37.1	+2.0
	5.8nm,0.9s						
RIDG	Independ'e Rid	15.34	334	ePn	Pn	06 27 36.4	+1.2
	12nm,1.1s						
HWUT	Hardware Ranch	15.61	118	ePn	P	06 27 41.3	-2.0
	18nm,1.6s						
DUG	Dugway, Tooele	15.91	124	ePn	P	06 27 45.9	-0.7
	3.6nm,0.9s						
BW06	Boulder Array	16.04	112	ePn	P	06 27 47.6	-0.5
	21nm,1.8s						
PD31	Pinedale Array	16.04	112	ePn	P	06 27 47.0	-1.1
PDAR	Pinedale Array	16.04	112	Pn	P	06 27 47.6	-0.4
	0.1nm,0.3s,baz=308,slow=9.0,SNR=21						
PDAR				LR	LR	06 33 26.9	
	comp=Z,105nm,21.2s,baz=314,slow=36						
PDAR	Pinedale Array	16.04	112	ePn	P	06 27 46.8	-1.3
LAO	LASA Array	16.16	95	P	Pn	06 27 47.6	+1.5
	baz=293						
LAO	LASA Array	16.16	95	ePn	P	06 27 48.0	-1.3
	5.5nm,0.9s						
LDBN	Lake De Bois	16.33	7	P	P	06 27 50.6	-0.2
NLU	North Lily Min	16.48	124	ePn	P	06 27 54.4	+1.5
	3.1nm,0.7s						
MCK	McKinley	16.56	330	ePn	P	06 27 53.5	0.0
	15nm,1.2s						
ILAR	Eielson Array	16.71	334	Pn	P	06 27 56.8	+1.7
	0.1nm,0.3s,baz=147,slow=11,SNR=32						
ILB	Eielson Array	16.71	334	ePn	P	06 27 56.5	+1.5
DGMT	Dagmar	16.84	87	P	P	06 27 57.1	+0.3
	baz=287						
DGMT	Dagmar	16.84	87	ePn	P	06 27 57.0	+0.2
	15nm,0.8s						
TPNV	Topopah Spring	16.86	139	ePn	P	06 27 58.3	+1.1
	24nm,2.0s						
DAC	Darwin (Calif)	16.91	143	ePn	P	06 27 59.3	+1.6
	3.8nm,1.0s						
DHRN	Dharma Camp	17.26	14	P	Pn	06 28 00.3	+0.7
FFC	Flin Flon	17.40	66	ePn	Pn	06 28 02.0	+0.4
	24nm,1.9s						
HPLN	Hepburn Lake,	17.43	20	P	Pn	06 28 01.2	-0.6
P17A	Butcher Ranch,	17.54	122	ePn	P	06 28 05.8	+1.2
	4.0nm,1.2s						
FYU	Fort Yukon	17.74	340	eP	P	06 28 07.2	+0.7
	46nm,1.6s						
INK	Inuvik	17.80	356	P	P	06 28 07.2	0.0
	0.0nm,0.3s,baz=169,slow=14,SNR=5.9						
INK				LR	LR	06 34 39.4	
	comp=Z,141nm,18.1s,baz=164,slow=36						
INK	Inuvik	17.80	356	P	P	06 28 07.8	+0.7
INK	Inuvik	17.80	356	ePn	P	06 28 07.3	+0.2
	9.2nm,1.4s						
SRU	San Rafael Swe	17.91	123	ePn	P	06 28 10.1	+1.4
	4.7nm,1.2s						
K22A	Casper	17.93	107	ePn	P	06 28 10.1	+1.2
	5.3nm,0.9s						
MLY	Manley	18.02	331	ePn	P	06 28 11.8	+2.1
	8.9nm,1.3s						
LCMT	Little Creek M	18.15	132	ePn	P	06 28 12.9	+1.6
	3.3nm,0.9s						
O20A	White River Ci	18.47	116	eP	Pn	06 28 16.8	+1.9
	4.9nm,0.8s						
MWC	Mount Wilson	18.58	148	eP	Pn	06 28 17.4	+1.0
	30nm,1.4s						
RSSD	Black Hills	18.68	100	P	Pn	06 28 19.7	+2.2
	baz=299						
RSSD	Black Hills	18.68	100	eP	Pn	06 28 18.8	+1.2
	2.8nm,0.8s						
KUKN	Kugluktuk,NWT	18.74	18	P	Pn	06 28 19.5	+1.7
U15A	North Rim	19.07	131	eP	Pn	06 28 23.9	+1.5
	3.1nm,0.9s						
PV09	Paradox Valley	19.11	121	eP	Pn	06 28 24.1	+1.3
PHWY	Pilot Hill	19.36	109	eP	Pn	06 28 26.3	+0.5
	4.1nm,0.8s						
PV03	Paradox Valley	19.44	121	eP	Pn	06 28 26.7	0.0
	3.4nm,0.8s						
COLD	Coldfoot	19.46	336	P	Pn	06 28 28.9	+2.4
COLD	Coldfoot	19.46	336	eP	Pn	06 28 28.3	+1.8
	23nm,1.7s						
IM3	Indian Mountai	19.60	331	eP	Pn	06 28 29.6	+1.3
PV01	Paradox Valley	19.68	121	eP	Pn	06 28 29.5	0.0
	3.3nm,0.8s						
PFO	Pinyon Flats O	19.70	145	eP	Pn	06 28 30.5	+0.8
	7.1nm,1.3s						
XPFO	Pi±on Flat	19.70	145	eP	Pn	06 28 30.4	+0.6
	8.3nm,1.4s						
TPFO	Pinon Flats	19.71	145	P	Pn	06 28 31.9	+2.1
	baz=334						
SMCO	Snowmass	19.83	116	eP	Pn	06 28 32.0	+0.4
	21nm,2.0s						
MDND	Maddock	19.96	86	P	Pn	06 28 34.3	+1.7
	baz=289						
MDND	Maddock	19.96	86	eP	Pn	06 28 34.0	+1.3
	63nm,1.4s						
ISCO	Idaho Springs	20.21	113	eP	Pn	06 28 36.3	+0.3
	10nm,1.8s						
WUAZ	Wupatki	20.24	131	eP	Pn	06 28 36.2	-0.1
	3.8nm,1.0s						
MVCO	Mesa Verde	20.39	123	P	Pn	06 28 37.3	-0.8
	baz=318						
MVCO	Mesa Verde	20.39	123	eP	Pn	06 28 38.1	0.0
	4.1nm,0.8s						
TOLK	Toolik Lake Re	20.40	339	P	Pn	06 28 38.7	+0.9
	baz=143						
TOLK	Toolik Lake Re	20.40	339	eP	Pn	06 28 37.6	-0.2
	15nm,1.3s						
Y14A	Wickenburg	20.81	137	eP	Pn	06 28 42.0	-0.7
	3.0nm,0.8s						
S22A	4UR Ranch, Cre	20.91	119	P	Pn	06 28 43.0	-1.2
	baz=315						
S22A	4UR Ranch, Cre	20.91	119	eP	Pn	06 28 43.5	-0.7
	21nm,2.0s						
Q24A	Divide	21.03	114	eP	P	06 28 42.8	-0.2
	8.8nm,0.3s						
X16A	Lo Mia Camp, P	21.11	133	eP	P	06 28 46.6	+2.9
	2.1nm,0.8s						
ULM	Lac du Bonnet	21.62	78	P	P	06 28 49.1	+0.3
	3.5nm,0.6s,baz=286,slow=10.0,SNR=5.4						
ULM				LR	LR	06 36 14.0	
	comp=Z,94nm,20.0s,baz=312,slow=34						
ULM	Lac du Bonnet	21.62	78	P	P	06 28 49.0	+0.3
ULM	Lac du Bonnet	21.62	78	eP	P	06 28 49.1	+0.3
	7.1nm,0.7s						
SDCO	Great Sand Dun	21.66	117	P	P	06 28 51.3	+1.6
	baz=314						
SDCO	Great Sand Dun	21.66	117	eP	P	06 28 51.1	+1.5
	1.9nm,0.8s						
X18A	Snowflake	21.73	130	eP	P	06 28 51.9	+1.6
	8.7nm,1.3s						
H31A	Wolsey	22.02	94	P	P	06 28 55.5	+2.2
	baz=297						
FCC	Fort Churchill	22.04	55	P	P	06 28 54.8	+1.5
AGMN	Agassiz Nation	22.18	83	eP	P	06 28 56.7	+1.7
	6.6nm,0.8s						
KSCO	Kaye Shedlock'	22.48	111	eP	P	06 28 59.9	+1.6
	7.7nm,0.9s						
H33A	Prehn Over Nor	23.03	92	P	P	06 29 05.5	+1.5
	baz=297						
EPLO	Experimental L	23.11	78	P	P	06 29 04.6	-0.1
TUC	Tucson	23.17	135	P	P	06 29 06.9	+1.4
	baz=328						
ANMO	Albuquerque	23.18	124	P	P	06 29 06.5	+0.7
	baz=320						
G34A	Benson	23.49	90	P	P	06 29 10.7	+2.1
	baz=296						
ECSD	EROS Data Cent	23.56	94	P	P	06 29 11.0	+1.8
	baz=299						
ECSD	EROS Data Cent	23.56	94	eP	P	06 29 10.6	+1.3
	4.9nm,0.8s						
SOLO	Sioux Lookout	24.03	77	P	P	06 29 13.9	+0.2
PKLO	Pickle Lake	24.71	73	P	P	06 29 20.1	+0.1
F38A	Pierce Schro	25.58	86	P	P	06 29 29.1	+1.2
	baz=294						
AMTX	Amarillo	25.86	117	P	P	06 29 31.6	+1.0
	baz=316						
H38A	Maiden Rock	25.88	89	P	P	06 29 33.2	+2.6
	baz=297						
TBO	Thunder Bay	26.12	78	P	P	06 29 37.8	+5.1
MNTX	Cornudas Mount	26.28	127	P	P	06 29 35.4	+1.1
	baz=323						
GTO	Geraldton	27.27	75	P	P	06 29 48.6	+5.5
WMOK	Wichita Mounta	27.64	113	P	P	06 29 48.0	+1.5
	baz=314						
WMOK	Wichita Mounta	27.64	113	eP	P	06 29 47.8	+1.3
	2.3nm,0.7s						
P38A	Dawn	27.70	99	P	P	06 29 48.1	+1.1
	baz=305						
RES	Resolute Bay	28.13	19	LR	LR	06 41 22.0	
	comp=Z,142nm,18.7s,baz=192,slow=37						
TX31	Lajitas Ar. Si	29.05	127	eP	P	06 30 00.1	+0.8
TXAR	Lajitas Array	29.05	127	P	P	06 30 00.1	+0.8
	0.5nm,0.8s,baz=309,slow=6.3,SNR=6.9						
TXAR				LR	LR	06 42 54.8	
	comp=Z,60nm,19.1s,baz=0.0,slow=39						
U40A	Yellville	30.13	104	P	P	06 30 09.5	+0.8
	baz=310						
Q43A	New Douglas	30.52	97	P	P	06 30 11.0	-1.1
	baz=306						
V41A	Mountainview	30.93	104	P	P	06 30 15.9	+0.2
	baz=310						
SADO	Sadowa	34.14	80	LR	LR	06 45 10.4	
	comp=Z,86nm,18.8s,baz=38,slow=37						
TKL	Tuckaleechee C	36.26	96	LR	LR	06 46 14.5	
	comp=Z,140nm,19.8s,baz=348,slow=37						
SFJD	Kangerlussuaq	40.95	36	LR	LR	06 49 23.5	
	comp=Z,69nm,19.2s,baz=292,slow=37						
APG	El Apazote	47.70	124	LR	LR	06 54 42.2	
	comp=Z,48nm,18.4s,baz=14,slow=39						
SPITS	Spitsbergen Ar	49.81	9	LR	LR	06 55 10.8	
	comp=Z,64nm,18.1s,baz=255,slow=38						
H11N2	WAKE ISLAND Hy	58.00	262	T	T	07 36 27.9	
	baz=44,slow=76						
H11N3	WAKE ISLAND Hy	58.00	262	T	T	07 36 23.5	
	baz=44,slow=76						
H11N1	WAKE ISLAND Hy	58.02	262	T	T	07 36 30.1	
	baz=44,slow=76						
SDV	Santo Domingo	63.95	109	LR	LR	07 06 09.0	
	comp=Z,26nm,18.3s,baz=63,slow=40						
NOA	NORSAR Array B	64.39	20	LR	LR	07 02 42.0	
	comp=Z,35nm,19.6s,baz=55,slow=36						
HFS	Hagfors	65.74	19	LR	LR	07 03 53.5	
	comp=Z,30nm,18.3s,baz=33,slow=36						
FINES	FINESS Array B	66.63	12	LR	LR	07 04 45.5	
	comp=Z,56nm,18.2s,baz=23,slow=37						

DJA 25 06:32:36.3±1.7, 9°S±8°×10°9E±°, h25km±18km, M3.6/7, MLv3.6/7, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMJI	Cimerak	0.97	331	P	Pb	06 32 54.6	0.0
CMJI				S	Sb	06 33 06.2	-0.8
KPJI	Karang Pucung	1.30	0	P	Pb	06 32 59.8	-0.3
WOJI	Wonogiri, Jawa	2.13	68	P	Pn	06 33 09.8	-0.5
WOJI				S	Sn	06 33 36.6	+0.7
PCJI	Pacitan	2.27	79	P	Pn	06 33 13.4	+1.2
PWJI	Pagerwojo	2.91	78	P	Pn	06 33 18.8	-2.2

MEX 25 06:47:47.3±20.0, 29°01N×112°49W, h16km, MD3.9, Gulf of California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HSIG		1.35	89	eP	Pn	06 48 10.3	-1.3
SRIG	Santa Rosalia	1.70	172	eP	Pn	06 48 13.1	-3.2
	baz=76,slow=5.6						
SRIG				eS	Sn	06 48 31.7	-6.1
GUYB	Guaymas	1.81	128	eP	Pn	06 48 15.6	-2.2
GUYB				eS	Sn	06 48 35.3	-5.1

ATH ***25*** *06:51:25.7, 39°.48N×26°.09E, h26km±2km, ML2.7/5, Error ellipse: s-maj=3.0km s-min=1.0km az=222.0*
ISCJB ***25*** *06:51:26.2±0.3, 39°.51N±0°.02×26°.07E±0°.03, h8km±3km, Error ellipse: s-maj=4.1km s-min=2.7km az=179.5*
IASPEI ***25*** *06:51:26.1±0.8, 39°.51N±0°.01×26°.08E±0°.02, h14km±5km, Error ellipse: s-maj=3.6km s-min=2.1km az=89.8, GT5 selection from ISC bulletin GT5 identified by Bond¨¡r and McLaughlin (2009) selection criteria Bond¨¡r and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009*
ISK ***25*** *06:51:26.1, 39°.53N×26°.09E, h6km, ML3.0/24*
CSEM ***25*** *06:51:26.5±0.1, 39°.51N×26°.06E, h10km, ML3.0, Error ellipse: s-maj=2.7km s-min=2.0km az=88.0*
THE ***25*** *06:51:26.5, 39°.50N×26°.09E, h14km±1km, ML2.6/6, Error ellipse: s-maj=1.4km s-min=0.7km az=120.0*

ISC 25 06:51:26.3±0.8, 39°51N±0°.01×26°06E±0°.02, h12km±5km, n93, σ0°68/126, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GPNR	Gulpinar-Canak	0.08	133	PG	Pg	06 51 28.9	0.0
GPNR				SG	Sg	06 51 30.5	-0.3
GPNR	Gulpinar-Canak	0.08	133	*i* Pg	Pg	06 51 28.9	0.0
GPNR				*i* Sg	Sg	06 51 30.5	-0.3
PRK	Paraskevi	0.31	148	P	Pg	06 51 33.1	+0.5
PRK				S	Sg	06 51 36.2	-0.6
PRK				AML	AML	06 51 37.4	
	comp=N,4385µm,0.2s						
PRK				AML	AML	06 51 37.4	
	comp=E,5924µm,0.4s						
PRK	Paraskevi	0.31	148	P	Pg	06 51 32.7	+0.1
PRK				S	Sg	06 51 36.8	0.0
PRK	Paraskevi	0.31	148	P	Pg	06 51 32.7	+0.1
PRK				S	Sg	06 51 36.8	0.0
BOZC	Bozcaada	0.33	359	PG	Pg	06 51 33.1	+0.1
BOZC				SG	Sg	06 51 37.8	+0.3
BOZC	Bozcaada	0.33	359	*i* Pg	Pg	06 51 33.1	+0.1
BOZC				*i* Sg	Sg	06 51 37.8	+0.3
SIGR	SIGRI	0.34	208	PG	Pg	06 51 33.6	+0.5
SIGR	SIGRI	0.34	208	P	Pb	06 51 34.0	-0.1
SIGR				S	Sg	06 51 37.6	0.0
SIGR				AML	AML	06 51 39.5	
	comp=N,3513µm,0.3s						
SIGR				AML	AML	06 51 39.7	
	comp=E,4747µm,0.2s						
SIGR	SIGRI	0.34	208	P	Pg	06 51 33.6	+0.5
SIGR				S	Sg	06 51 38.6	+1.0
SIGR	SIGRI	0.34	208	P	Pg	06 51 33.6	+0.5
SIGR				S	Sg	06 51 38.2	+0.6
EZN	Ezine	0.38	33	PG	Pg	06 51 33.5	-0.3
EZN				SG

URLA	**Izmir**	**1.22**	**160**	PN	**Pg**	**06 51 50.1**	**+0.3**
URLA	**Izmir**	**1.22**	**160**	*e*Pn	**Pg**	**06 51 50.1**	**+0.3**
ENEZ	**Enez**	**1.23**	**3**	PN	**Pn**	**06 51 49.0**	**-0.2**
ENEZ	**Enez**	**1.23**	**3**	P	**Pn**	**06 51 49.0**	**-0.2**
ENEZ				S	**Sg**	**06 52 05.9**	**0.0**
ENEZ	**Enez**	**1.23**	**3**	P	**Pn**	**06 51 49.0**	**-0.2**
ENEZ				S	**Sg**	**06 52 05.9**	**0.0**
KRBG	**Karabiga-Canak**	**1.30**	**47**	PN	**Pn**	**06 51 49.9**	**-0.3**
KRBG	**Karabiga-Canak**	**1.30**	**47**	*e*Pn	**Pn**	**06 51 49.9**	**-0.3**
SKY	**Skiros Island**	**1.33**	**242**	P	**Pn**	**06 51 48.8**	**-1.8**
SKY	**Skiros Island**	**1.33**	**242**	P	**Pn**	**06 51 49.8**	**-0.8**
BLCB	**Balcova**	**1.36**	**145**	PN	**Pg**	**06 51 52.2**	**-0.2**
BLCB	**Balcova**	**1.36**	**145**	*e*Pn	**Pg**	**06 51 52.2**	**-0.2**
GONE	**Gonen-Balikesi**	**1.36**	**66**	PN	**Pb**	**06 51 52.0**	**+0.3**
GONE	**Gonen-Balikesi**	**1.36**	**66**	*e*Pn	**Pb**	**06 51 52.0**	**+0.3**
ALN	**Alexandroupoli**	**1.39**	**360**	PN	**Pb**	**06 51 52.2**	**+0.1**
ALN	**Alexandroupoli**	**1.39**	**360**	P	**Pn**	**06 51 50.6**	**-0.7**
ALN	**Alexandroupoli**	**1.39**	**360**	P	**Pn**	**06 51 51.0**	**-0.4**
ALN				S	**Sn**	**06 52 08.7**	**-0.9**
ALN	**Alexandroupoli**	**1.39**	**360**	P	**Pn**	**06 51 51.2**	**-0.2**
ALN	**Alexandroupoli**	**1.39**	**360**	*e*Pn	**Pb**	**06 51 52.2**	**+0.1**
ALN				S	**Sn**	**06 52 08.7**	**-0.9**
BALB	**Balikesir**	**1.41**	**84**	PN	**Pb**	**06 51 52.2**	**-0.3**
BALB	**Balikesir**	**1.41**	**84**	*e*Pn	**Pb**	**06 51 52.2**	**-0.3**
RKY	**Sarkoy-Tekirda**	**1.46**	**36**	PN	**Pn**	**06 51 52.9**	**+0.5**
RKY	**Sarkoy-Tekirda**	**1.46**	**36**	*e*Pn	**Pn**	**06 51 52.9**	**+0.5**
AKS	**Akhisar**	**1.50**	**114**	PN	**Pb**	**06 51 54.1**	**+0.1**
AKS	**Akhisar**	**1.50**	**114**	*e*Pn	**Pb**	**06 51 54.1**	**+0.1**
EDC	**Edincik**	**1.62**	**58**	PN	**Pb**	**06 51 55.4**	**-0.7**
EDC	**Edincik**	**1.62**	**58**	*e*Pn	**Pb**	**06 51 55.4**	**-0.7**
RDO	**Rodhopi**	**1.68**	**346**	P	**Pn**	**06 51 54.6**	**-0.8**
RDO	**Rodhopi**	**1.68**	**346**	P	**Pn**	**06 51 55.3**	**-0.1**
OUR	**Ouranopolis**	**1.80**	**298**	PN	**Pb**	**06 51 58.5**	**-0.6**
OUR	**Ouranopolis**	**1.80**	**298**	*e*Pn	**Pb**	**06 51 58.5**	**-0.6**
TKR	**Tekirdag**	**1.86**	**37**	PN	**Pn**	**06 51 58.9**	**+1.0**
TKR	**Tekirdag**	**1.86**	**37**	*e*Pn	**Pn**	**06 51 58.9**	**+1.0**
KCTX	**Karacabey (Bur**	**1.92**	**66**	PN	**Pn**	**06 51 59.7**	**+0.9**
KCTX	**Karacabey (Bur**	**1.92**	**66**	*e*Pn	**Pn**	**06 51 59.7**	**+0.9**
SBT3	**Marmara-Eregli**	**2.01**	**46**	PN	**Pn**	**06 52 01.0**	**+1.2**
SBT3	**Marmara-Eregli**	**2.01**	**46**	*e*Pn	**Pn**	**06 52 01.0**	**+1.2**
AYDB	**Zeytinkoy-Aydi**	**2.12**	**137**	PN	**Pn**	**06 52 02.7**	**+1.1**
AYDB	**Zeytinkoy-Aydi**	**2.12**	**137**	*e*Pn	**Pn**	**06 52 02.7**	**+1.1**
KDZ	**Kurdzhali**	**2.19**	**347**	*e*Pn	**Pn**	**06 52 03.7**	**+1.2**
SLVT	**Silivri**	**2.38**	**43**	PN	**Pn**	**06 52 06.3**	**+1.3**
SLVT	**Silivri**	**2.38**	**43**	*e*Pn	**Pn**	**06 52 06.3**	**+1.3**
ARMT	**Armutlu**	**2.40**	**63**	PN	**Pn**	**06 52 06.3**	**+1.0**
ARMT	**Armutlu**	**2.40**	**63**	*e*Pn	**Pn**	**06 52 06.3**	**+1.0**
CTKS	**Kestanelik-??a**	**2.54**	**47**	PN	**Pn**	**06 52 08.7**	**+1.4**
CTKS	**Kestanelik-??a**	**2.54**	**47**	*e*Pn	**Pn**	**06 52 08.7**	**+1.4**
CTYL	**Yalikoy Yolu**	**2.60**	**40**	PN	**Pn**	**06 52 09.5**	**+1.5**
CTYL	**Yalikoy Yolu**	**2.60**	**40**	*e*Pn	**Pn**	**06 52 09.5**	**+1.5**
TVSB	**Tavsanli**	**2.63**	**90**	PN	**Pn**	**06 52 10.1**	**+1.5**
TVSB	**Tavsanli**	**2.63**	**90**	*e*Pn	**Pn**	**06 52 10.1**	**+1.5**

*MAN **25** 06:55:07, 12.2′24N× 126.0′03E, h8km, mb5.8, ML4.8, MS4.9*
*DJA **25** 06:55:10.1±0.6, 12.2′N±5.2″× 12.2′6E±.2″, h15km±4km, M4.9/12, mb4.9/12, mB5.2/11, MLv5.3/1, Mw(mB)4.6/11*
*ISCJB **25** 06:55:12.2±0.1, 12.0′09N±0.0′02× 125.0′78E±0.0′02, h33km, mb4.8/153, MS4.3/36, Error ellipse: s-maj=3.4km s-min=2.6km az=6.4*
*IDC **25** 06:55:13.7±2.2, 11.9′99N× 125.0′71E, h36km±17km, mb4.5/39, mb1 4.5/40, mb1mx4.4/67, mbtmp4.7/40, ML5.2/1, MS4.2/22, Ms1 4.2/22, ms1mx3.9/62, Error ellipse: s-maj=14.8km s-min=8.6km az=75.0*
*MOS **25** 06:55:13.0±1.0, 12.0′06N× 125.0′66E, h41km, mb5.1/55, MS4.2/11, Error ellipse: s-maj=10.7km s-min=5.3km az=116.1*
*GCMT **25** 06:55:16.8±0.2, 12.2′24N× 125.0′90E, h17km±1km, MW5.1/99, Moment Tensor Solution. s49,c59; s99,c139; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr2.99±.17; Mθθ0.06±.10; Mϕϕ-3.04±.12; Mrθ-0.75±.27; Mrϕ 1.23±.06; Mθϕ3.52±.35; Best double couple: Mw4.83900×10^16^ NP1:ϕs153.00000°, δ21.00000°, λ78.00000°. NP2: ϕs346.00000°, δ69.00000°, λ95.00000°. Principal axes: T 4.6160, Plg66.0000°, Azm265.0000°; N 0.4500, Plg4.0000°, Azm165.0000°; P -5.0610, Plg24.0000°, Azm73.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **25** 06:55:16.8±0.6, 11.9′97N× 125.0′62E, h63km±5km, mb4.9/72 Error ellipse: s-maj=4.5km s-min=2.9km az=81.0*
NEIC Felt [IV PIVS] at Oras; [III PIVS] at Borongan, Can-Avid, Dolores, San Policarpio and Sulat; [II PIVS] at Catbalogan. Also felt [II PIVS] at Tacloban, Leyte.
*BJI **25** 06:55:24.4, 12.2′27N× 125.0′40E, h123km, mb4.8/53, mB5.1/36*

ISC 25 06:55:10.1±0.6, 12.0′15N±0.0′03× 125.0′87E±0.0′04, h15km±3km, n340, σ2.2s 06/320, mb5.0/153, MS4.3/37, 20C-14D, Samar

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
BESP	**Borongan**	**0.69**	**218**	*e*P		**Pg**	**06 55 23.5**	**-0.1**
BESP				*e*S		**Sg**	**06 55 35.2**	**+2.5**
CNP	**Catarman**	**1.23**	**287**	*e*P		**Pn**	**06 55 32.2**	**-0.6**
CNP				*e*S		**Sg**	**06 55 51.9**	**+1.8**
PLP	**Palo**	**1.31**	**222**	↓*i*P		**Pn**	**06 55 32.9**	**-1.0**
PLP				*e*S		**Sn**	**06 55 50.2**	**-0.8**
OCLP	**Ormoc**	**1.65**	**229**	*e*P		**Pn**	**06 55 39.3**	**+0.8**
PVCP	**Virac**	**2.21**	**311**	*e*P		**Pn**	**06 56 46.4**	**+0.2**
PVCP				*e*S		**Sg**	**06 56 27.0**	**+5.8**
SCPH	**Surigao**	**2.38**	**189**	↑*e*P		**Pn**	**06 55 48.1**	**-0.4**
LLP	**Lapu-Lapu**	**2.61**	**226**	↓*e*P		**Pn**	**06 55 52.0**	**+0.3**
LLP				*e*S		**Sn**	**06 56 23.4**	**+0.3**
RCP	**Roxas**	**3.12**	**260**	↑*e*P		**Pn**	**06 56 00.8**	**+2.1**
RCP				*e*S		**Sn**	**06 56 39.1**	**+3.4**
TBP	**Tagbilaran**	**3.14**	**219**	*e*P		**Pn**	**06 56 00.5**	**+1.5**
TBP				*i* S		**Sb**	**06 56 44.1**	**+0.4**
BUTP	**Butuan**	**3.17**	**184**	*e*P		**Pb**	**06 56 02.5**	**-3.6**
BUTP				*e*S		**Sn**	**06 56 41.3**	**+4.4**
AUQP	**San Andres**	**3.33**	**291**	*e*P		**Pb**	**06 56 06.0**	**-2.8**
GUIM	**Jordan**	**3.56**	**245**	*e*P		**Pn**	**06 56 05.3**	**+0.6**
GUIM				*e*S		**Sn**	**06 56 52.7**	**+6.2**
GQP	**Guinayangan**	**3.77**	**298**	↑*e*P		**Pn**	**06 56 07.7**	**+0.1**
OTRP	**Odiongan**	**3.77**	**274**	*e*P		**Pn**	**06 56 09.8**	**+2.1**
OTRP				*e*S		**Sn**	**06 56 55.0**	**+3.2**
SNPH	**Sibulan**	**3.80**	**223**	↓*i*P		**Pn**	**06 56 09.8**	**+1.7**
CGP	**Cagayan de Oro**	**3.85**	**198**	↓*e*P		**Pb**	**06 56 16.6**	**-1.1**
CGP				*e*S		**Sn**	**06 56 54.4**	**+0.7**
JAP	**San Jose, Anti**	**4.09**	**251**	↓*e*P		**Pb**	**06 56 19.0**	**-2.8**
BUKP	**Musuan**	**4.32**	**191**	*e*P		**Pn**	**06 56 16.3**	**+1.1**
BUKP				*e*S		**Sb**	**06 57 15.4**	**-2.2**
SJMP	**San Jose**	**4.66**	**274**	*e*P		**Pn**	**06 56 22.4**	**+2.6**
TGY	**Tagaytay City** 88nm,0.3s,baz=135,slow=19,SNR=9.5	**5.19**	**293**	Pn		**Pn**	**06 56 29.1**	**+1.9**
TGY				LR		LR	06 58 46.6	
	comp=Z,8μm,18.3s,baz=94,slow=42							
LUBP	**Lubang**	**5.71**	**287**	*e*P		**Pn**	**06 56 35.5**	**+1.2**
LUBP				*e*S		Pg	06 57 04.9	+5.4
ENPP	**El Nido**	**6.38**	**262**	*e*P		**Pn**	**06 56 45.5**	**+1.9**
APYP	**Conner**	**7.23**	**322**	*e*P		**Pn**	**06 56 56.7**	**+1.5**
APYP				*e*S		**Sn**	**06 58 18.0**	**+0.9**
MYLDM	**Lahad Datu**	**10.05**	**227**	*e*Pn		**Pn**	**06 57 35.0**	**+1.1**
MYLDM				*e*Pn		Pn	06 57 42.3	+8.3
KKM	**Kota Kinabalu**	**11.30**	**238**	*e*Pn		**Pn**	**06 57 51.0**	**-0.2**
TWG	**Pinlang**	**11.56**	**337**	*e*Pn		Pn	06 57 59.6	+5.0
YULB	**Yu-li**	**12.00**	**339**	*e*Pn		Pn	06 58 06.4	+5.7
SSLB	**Suanglung**	**12.48**	**339**	*e*Pn		Pn	06 58 13.6	+6.3
SSLB				*e*Pn		P	06 58 21.2	+2.1
LUWI	**Luwuk**	**13.46**	**193**	P		**P**	**06 58 32.8**	**+2.9**
LUWI	**Luwuk**	**13.46**	**193**	*e*Pn		**Pn**	**06 58 21.8**	**+1.2**
LUWI				*e*Pn		**P**	**06 58 28.5**	**-1.4**
APSI	**Ampana**	**13.63**	**198**	P		P	06 58 36.2	+4.4
QZH	**Quanzhou**	**14.47**	**333**	↓*i*P		**P**	**06 58 38.3**	**-2.8**
QZH				S		**Sn**	**07 01 14.3**	**-0.4**
QZH	comp=N,1μm,14.2s			LR		LR		
QZH	comp=E,1μm,13.7s			LR		LR		
QZH	comp=Z,1μm,15.2s			LR		LR		
NLAI	**Namlea**	**15.33**	**175**	P		**P**	**06 58 52.0**	**+1.2**
MSAI	**Masohi**	**15.69**	**169**	P		**P**	**06 58 56.0**	**+1.3**
TTSI	**Tana Toraja** 63nm,1.3s	**16.25**	**202**	P		**P**	**06 59 02.4**	**+1.5**
FAKI	**Fak Fak**	**16.25**	**157**	P		**P**	**06 59 02.1**	**+1.1**
FAKI	**Fak Fak** 218nm,1.9s	**16.25**	**157**	*e*Pn		**P**	**06 58 59.6**	**-1.4**
SBUM	**Sibu** 109nm,1.7s	**16.61**	**236**	*e*P		**Pn**	**06 59 03.0**	**+0.6**
QIZ	**Qiongzhong**	**16.88**	**296**	P		**P**	**06 59 09.0**	**+1.1**
QIZ				S		**Sn**	**07 02 14.3**	**+0.9**
QIZ				LR		LR		
	comp=N,1μm,18.6s							
QIZ				LR		LR		
	comp=E,2μm,15.7s							
QIZ				LR		LR		
	comp=Z,2μm,14.7s							
BNSI	**Bone**	**17.41**	**200**	P		**P**	**06 59 17.3**	**+3.5**
KAPI	**Kappang** 58nm,1.1s	**18.10**	**200**	*e*P		**P**	**06 59 21.9**	**+0.4**
GUMO	**Guam** comp=Z,722nm,19.6s,baz=270,slow=33	**18.58**	**83**	LR		LR	07 05 24.2	
KSM	**Kuching** 77nm,1.6s	**18.72**	**237**	*e*P		**P**	**06 59 28.2**	**-0.1**
UBPT	**Khong Chiam** 46nm,1.8s	**20.06**	**281**	P		**P**	**06 59 43.2**	**+0.2**
GENI	**Genyem**	**20.40**	**135**	P		Pn	06 59 47.9	-0.9
GENI				pP		sP	06 59 51.0	-2.1
JAY	**Jayapura**	**20.72**	**134**	P		Pn	06 59 50.7	-1.9
JAY	**Jayapura**	**20.72**	**134**	P		Pn	06 59 55.0	+2.4
JAY				pmax		pmax		
	comp=Z,481nm,1.1s							
NJ2	**Nanjing**	**20.84**	**343**	*e*P		Pn	06 59 57.8	+4.1
NJ2				S		**S**	**07 03 41.5**	**-1.8**
NJ2				pmax		pmax		
	comp=Z,11nm,0.7s							
NJ2				LR		LR		
	comp=Z,670nm,10.3s							
NJ2				LR		LR		
	comp=Z,2μm,12.5s							
NJ2				LR		LR		
	comp=Z,540nm,14.6s							
WHN	**Wuhan**	**21.19**	**332**	↓P		**P**	**06 59 58.3**	**+3.2**
WHN				LR		LR		
	comp=Z,4μm,16.9s							
WHN				LR		LR		
	comp=Z,2μm,15.8s							
WHN				LR		LR		
	comp=Z,3μm,16.6s							
CBIJ	**Chichi jima** comp=Z,82nm,0.8s	**21.34**	**43**	*e*P		**P**	**06 59 59.9**	**+3.1**
JCJ	**Chichijima** comp=Z,77nm,0.8s,baz=347,slow=22,SNR=5.1	**21.34**	**43**	P		**P**	**06 59 59.9**	**+3.1**
JCJ				LR		LR	07 07 17.9	
	comp=Z,520nm,20.1s,slow=34							
JNU	**Nakatsue** comp=Z,18nm,1.0s,baz=170,slow=6.1,SNR=4.3	**21.38**	**12**	P		P	07 00 01.9	+4.8
JNU				LR		LR	07 07 42.0	
	comp=Z,229nm,21.4s,baz=128,slow=35							
JNU	**Nakatsue** comp=Z,45nm,1.2s	**21.38**	**12**	*e*P		P	07 00 01.9	+4.8
SKNT	**Sakolnakorn** comp=Z,8.4nm,1.7s	**21.72**	**285**	P		**P**	**07 00 00.9**	**0.0**
SOEI	**Soe**	**21.82**	**184**	P		**P**	**07 00 03.6**	**+1.6**
SOEI	**Soe** comp=Z,80nm,0.9s	**21.82**	**184**	*e*P		**P**	**07 00 03.6**	**+1.6**
BATI	**Baumata** comp=Z,91nm,0.5s,baz=3.9,slow=7.1,SNR=19	**22.32**	**186**	P		**P**	**07 00 06.2**	**-1.1**
BATI				LR		LR	07 09 18.0	
	comp=Z,427nm,20.4s,baz=338,slow=38							
GYA	**Guiyang**	**23.00**	**311**	↑*i*P		**P**	**07 00 14.5**	**-0.1**
GYA				pP		sP	07 00 43.3	+22
GYA				PP		PnPn	07 00 51.8	+12
GYA				PcP		**PcP**	**07 04 06.5**	**+2.1**
GYA				S		S	07 04 14.0	-11
GYA				sS		Sn	07 04 58.5	+17
GYA				pmax		pmax		
	comp=Z,30nm,1.0s							
GYA				pmax		pmax		
	comp=Z,310nm,7.6s							
GYA				LR		LR		
	comp=Z,2μm,18.7s							
GYA				LR		LR		
	comp=Z,1μm,18.7s							
GYA				LR		LR		
	comp=Z,2μm,17.5s							
CHAI	**Chaiyaphum** comp=Z,6.3nm,0.9s,comp=Z,142nm	**23.47**	**282**	P		**P**	**07 00 18.9**	**-0.4**
JAGI	**Jajag, Banyuwa** comp=Z,159nm,1.5s	**23.56**	**210**	*e*P		**P**	**07 00 20.4**	**+0.2**
ENH	**Enshi** comp=Z,52nm,1.4s	**23.58**	**322**	*e*P		**P**	**07 00 21.6**	**+1.4**
NAYO	**Nakonayok** comp=Z,13nm,1.3s,comp=Z,1μm	**23.99**	**278**	P		**P**	**07 00 24.0**	**-0.3**
MYKOM	**Kota Tinggi** comp=Z,143nm,1.5s	**24.13**	**246**	*e*P		**P**	**07 00 24.5**	**-1.1**
JHJ	**Hachijo jima 2** comp=Z,422nm,19.3s,baz=278,slow=37	**24.45**	**29**	LR		LR	07 10 31.1	
SMRI	**Semarang** comp=Z,72nm,0.8s	**24.48**	**220**	*e*P		**P**	**07 00 27.7**	**-1.1**
PBKT	**Sadao Pong** comp=Z,18nm,2.0s,comp=Z,707nm	**24.51**	**283**	P		**P**	**07 00 28.7**	**-0.4**
PBKT	**Sadao Pong** comp=Z,26nm,1.3s	**24.51**	**283**	*e*P		**P**	**07 00 28.3**	**-0.8**
PHIT	**Phitsanulok** comp=Z,15nm,1.1s	**25.12**	**285**	P		**P**	**07 00 35.8**	**+1.2**
NANT	**Nan** comp=Z,8.2nm,0.5s,comp=Z,132nm	**25.13**	**288**	P		**P**	**07 00 35.7**	**+1.0**
INCN	**Inchon**	**25.24**	**1**	*e*P		**P**	**07 00 38.9**	**+3.5**
KS15	**Wonju Array Si**	**25.25**	**4**	*e*P		**P**	**07 00 37.5**	**+1.9**
KSAR	**Wonju Array Be**	**25.25**	**4**	P		**P**	**07 00 37.5**	**+1.9**
KSRS	**Korea Array** comp=Z,4.0nm,0.9s,baz=181,slow=11,SNR=9.4	**25.27**	**4**	P		**P**	**07 00 37.5**	**+1.8**
KS01	**Wonju Array Si**	**25.29**	**4**	*e*P		**P**	**07 00 38.1**	**+2.2**
MTN	**Manton Dam** comp=Z,69nm,1.3s	**25.37**	**168**	*e*P		**P**	**07 00 38.4**	**+1.6**
KMI	**Kunming**	**25.38**	**304**	P		**P**	**07 00 38.3**	**+1.1**
KMI				PP		PnPn	07 01 25.8	+14
KMI				pmax		pmax		
	comp=Z,20nm,1.3s							
KMI				pmax		pmax		
	comp=Z,270nm,7.6s							
KMI				LR		LR		
	comp=Z,1μm,20.0s							
KMI				LR		LR		
	comp=Z,390nm,19.4s							
KMI				LR		LR		
	comp=Z,1μm,19.5s							
KULM	**Kulim** comp=Z,21nm,1.2s	**25.83**	**257**	*e*P		**P**	**07 00 39.2**	**-1.8**
PAYA	**Payao** comp=Z,9.9nm,1.3s,comp=Z,940nm	**26.01**	**289**	P		**P**	**07 00 44.2**	**+1.5**
LAMP	**Lampang** comp=Z,6.3nm,1.0s	**26.07**	**287**	P		**P**	**07 00 45.1**	**+1.9**
LEM	**Lembang** comp=Z,29nm,0.6s,baz=57,slow=6.4,SNR=4.4	**26.17**	**225**	P		**P**	**07 00 44.5**	**+0.2**
LEM				LR		LR	07 11 25.6	
	comp=Z,637nm,20.4s,baz=18,slow=38							
CM01	**Chiang Mai Arr**	**26.68**	**287**	*e*P		**P**	**07 00 48.4**	**-0.4**
CM31	**Chiang Mai Arr**	**26.70**	**287**	*e*P		**P**	**07 00 48.0**	**-1.0**
CMAR	**Chiang Mai Arr** comp=Z,7.5nm,0.9s,baz=98,slow=7.0,SNR=23	**26.70**	**287**	P		**P**	**07 00 49.4**	**+0.4**
CMAR				PcP		**PcP**	**07 04 13.1**	**+0.5**
	comp=Z,0.8nm,0.3s,baz=60,slow=0.8,SNR=5.2							
CMAR				LR		LR	07 12 18.9	
	comp=Z,624nm,18.3s,baz=104,slow=38							
MAJO	**Matsushiro**	**26.71**	**23**	*i* P		**P**	**07 00 51.0**	**+2.2**
MAJO				pmax		pmax		
	comp=Z,19nm,2.0s							
MJAR	**Matsushiro Arr** comp=Z,501nm,19.1s,baz=215,slow=34	**26.71**	**23**	LR		LR	07 10 42.2	
XAN	**Xi'an**	**26.71**	**327**	P		**P**	**07 00 49.8**	**+0.8**
XAN				pP		sP	07 01 17.0	+21
XAN				PP		PnPn	07 01 41.5	+11
XAN				S		**S**	**07 05 22.3**	**-1.8**
XAN				sS		sS	07 05 57.3	+25
XAN				SS		**SnSn**	**07 06 34.5**	**+6.7**
XAN				pmax		pmax		
	comp=Z,160nm,1.1s							
XAN				LR		LR		
	comp=Z,980nm,15.5s							
XAN				LR		LR		
	comp=Z,1μm,12.8s							
XAN				LR		LR		
	comp=Z,1μm,14.5s							
CHTO	**Chiang Mai** comp=Z,5.5nm,1.0s	**26.76**	**288**	*e*P		**P**	**07 00 48.2**	**-1.3**
CMAI	**Chiengmai2** comp=Z,211nm,1.1s,comp=Z,7μm	**26.89**	**290**	P		**P**	**07 00 53.4**	**+2.6**
CD2	**Chengdu**	**27.68**	**316**	P		**P**	**07 00 59.8**	**+2.1**
CD2				pP		sP	07 01 26.3	+22
CD2				sP		PP	07 01 40.8	-20
CD2				S		**S**	**07 05 33.0**	**-6.4**
CD2				sS		sS	07 06 20.3	+33
CD2	comp=Z,50nm,0.6s			pmax		pmax		
CD2	comp=Z,310nm,4.2s			pmax		pmax		
CD2	comp=Z,3μm,20.4s			LR		LR		
CD2	comp=Z,3μm,18.9s			LR		LR		
CD2	comp=Z,2μm,16.9s			LR		LR		
TIY	**Taiyuan**	**28.16**	**337**	*e*P		**P**	**07 01 02.0**	**+0.1**
TIY				pP		sP	07 01 28.8	+20
TIY				sP		PP	07 01 43.0	-23
TIY				sS		sS	07 06 22.3	+28
TIY				pmax		pmax		
	comp=Z,170nm,3.9s							
TIY				LR		LR		
	comp=Z,830nm,14.1s							
TIY				LR		LR		
	comp=Z,420nm,12.3s							
TIY				LR		LR		
	comp=Z,650nm,14.3s							
PSI	**Prapat** comp=Z,1μm,18.6s,baz=106,slow=39	**28.26**	**253**	LR		LR	07 13 32.2	
PSI	**Prapat** comp=Z,14nm,1.3s	**28.26**	**253**	*e*P		**P**	**07 01 00.8**	**-2.3**
LZH	**Lanzhou**	**31.03**	**324**	*e*P		P	07 01 32.0	+4.5
LZH				pP		sP	07 01 57.0	+23
LZH				sP		PP	07 02 12.0	-26
LZH				*e*PP		PnPn	07 02 37.8	+9.1
LZH				S		**S**	**07 06 25.8**	**-6.4**
LZH				sS		sS	07 07 13.5	+34
LZH				pmax		pmax		
	comp=Z,24nm,1.0s							
LZH				pmax		pmax		
	comp=Z,130nm,5.7s							
LZH				LR		LR		
	comp=Z,3μm,13.7s							
LZH				LR		LR		
	comp=Z,2μm,14.2s							
LZH				LR		LR		
	comp=Z,4μm,16.0s							
COEN	**Coen** comp=Z,40nm,1.2s	**31.09**	**146**	*e*P		**P**	**07 01 28.3**	**+0.3**
HHC	**Hu-ho-hao-te**	**31.23**	**339**	*e*P		P	07 01 35.3	+6.1
HHC				PP		**PP**	**07 02 43.8**	**+4.0**
HHC				S		**S**	**07 06 32.3**	**-2.8**
HHC				pmax		pmax		
	comp=Z,58nm,0.9s							
HHC				pmax		pmax		
	comp=Z,130nm,4.7s							
HHC				LR		LR		
	comp=Z,690nm,12.1s							
HHC				LR		LR		
	comp=Z,400nm,12.1s							
HHC				LR		LR		
	comp=Z,670nm,11.7s							
CN2	**Changchun**	**31.54**	**359**	*e*P		P	07 01 37.5	+5.8
CN2				*e*sP		PP	07 02 18.5	-25
CN2				*e*S		**S**	**07 06 38.8**	**-0.8**
CN2				pmax		pmax		
	comp=Z,10.0nm,0.7s							
CN2				pmax		pmax		
	comp=Z,200nm,4.0s							
USRK	**Ussuriysk Ar.** comp=Z,184nm,20.7s,baz=180,slow=34	**32.37**	**8**	LR		LR	07 13 24.5	
WRAB	**Tennant Creek** comp=Z,13nm,1.0s	**32.95**	**165**	*e*P		**P**	**07 01 45.4**	**+1.1**
WRAB	**Tennant Creek**	**32.95**	**165**	*e*P		**P**	**07 01 46.6**	**+2.3**
WRAB				pmax		pmax		
	comp=Z,16nm,1.4s							
WR1	**Warramunga Arr** comp=Z,46nm,1.6s	**32.96**	**165**	*e*P		**P**	**07 01 42.9**	**-1.4**
WR1				*e*PcP		**PcP**	**07 04 28.1**	**-0.4**
WR1				*e*S		S	07 06 52.6	-10
WRA	**Warramunga Arr** comp=Z,10nm,1.1s,baz=342,slow=9.9,SNR=9.5	**32.96**	**165**	P		**P**	**07 01 42.9**	**-1.4**
WRA				PcP		**PcP**	**07 04 28.1**	**-0.4**
	comp=Z,2.5nm,0.6s,baz=336,slow=3.1,SNR=7.9							
WRA				S		S	07 06 52.6	-10
	comp=Z,3.3nm,1.2s,baz=336,slow=16,SNR=4.5							
WRA				ScP		**ScP**	**07 08 09.8**	**-2.5**
	comp=Z,2.3nm,1.1s,baz=351,slow=3.7,SNR=4.5							
WB2	**Warramunga Arr** comp=Z,23nm,1.3s	**32.96**	**165**	*e*P		**P**	**07 01 45.2**	**+0.9**
GTA	**Gaotai**	**35.63**	**324**	*e*P		**P**	**07 02 09.8**	**+2.3**
GTA				pP		sP	07 02 40.3	+26
GTA				sP		PP	07 02 54.3	-34
GTA				S		S	07 07 34.0	-9.4
GTA				sS		ScP	07 08 24.5	+2.8
GTA				SS		**SnSn**	**07 10 02.8**	**-1.9**
GTA				pmax		pmax		
	comp=Z,11nm,1.4s							
GTA				pmax		pmax		
	comp=Z,190nm,7.8s							
GTA				LR		LR		
	comp=Z,720nm,16.6s							
GTA				LR		LR		
	comp=Z,650nm,14.7s							
GTA				LR		LR		
	comp=Z,760nm,15.0s							
AS31	**Alice Springs** comp=Z,2.6nm,0.6s	**36.45**	**168**	*e*P		**P**	**07 02 14.9**	**+0.3**
ASAR	**Alice Springs** comp=Z,2.1nm,0.4s,baz=350,slow=7.3,SNR=42	**36.45**	**168**	P		**P**	**07 02 14.0**	**-0.5**
ASAR				PP		**PP**	**07 03 42.5**	**+4.7**
	comp=Z,4.1nm,0.9s,baz=358,slow=11,SNR=4.5							
ASAR				PcP		**PcP**	**07 04 38.0**	**-0.5**
	comp=Z,2.9nm,0.6s,baz=341,slow=2.8,SNR=8.4							
ASAR				ScP		**ScP**	**07 08 23.2**	**-1.6**
	comp=Z,2.0nm,1.0s,baz=354,slow=3.7,SNR=7.2							
**AS01

comp=E,344nm,0.8s
PYUN Piuthan 43.03 298 *e*P **P** **07 03 09.9 +0.3**
comp=E,156nm,1.1s
TLY Talaya 43.35 340 *e*P **P** **07 03 13.0 +1.4**
TLY *e*S **S** **07 09 43.5 +4.8**
TLY *e*SS **SnSn** **07 13 01.3 -8.9**
TLY *e*SSS SSS 07 13 42.1
TLY pmax pmax
comp=Z,12nm,2.2s
TLY MLR MLR
comp=Z,233nm,19.0s
MOY Mondy 44.27 338 *e*P P 07 03 21.8 +2.7
WMQ Urumqi 45.52 321 P **P** **07 03 31.8 +2.7**
WMQ sP sP 07 04 13.3 +37
WMQ S **S** **07 10 02.8 -7.8**
WMQ pmax pmax
comp=Z,32nm,1.3s
WMQ pmax pmax
comp=Z,340nm,3.7s
WMQ LR LR
comp=Z,2µm,16.1s
WMQ LR LR
comp=Z,3µm,15.5s
WMQ LR LR
comp=Z,1µm,15.1s
NWAO Narrogin (SRO) 45.57 190 P **P** **07 03 28.2 -1.3**
comp=Z,9.6nm,0.5s,baz=309,slow=18,SNR=16
NWAO Narrogin (SRO) 45.57 190 *e*P **P** **07 03 28.2 -1.3**
NWAO *e*P **pP** **07 03 28.3 -6.0**
SKR Severo-Kuril's 45.67 27 *e*P P 07 03 34.8 +4.7
SKR *e*S S 07 10 18.4 +6.0
SKR MLR MLR
comp=Z,200nm,19.0s
BBOO Buckleboo 45.75 168 *e*P **P** **07 03 31.2 +0.2**
comp=Z,108nm,1.8s
HYB Hyderabad 45.96 283 *i*P **P** **07 03 32.0 -1.0**
STKA Stephens Creek 46.29 161 P **P** **07 03 35.5 +0.3**
comp=Z,18nm,1.0s,baz=336,slow=9.0,SNR=18
STKA LR LR 07 25 13.6
comp=Z,150nm,21.4s,baz=355,slow=39
STKA Stephens Creek 46.29 161 *e*P **P** **07 03 35.9 +0.7**
comp=Z,5.2nm,2.0s
BOD Bodaibo 46.47 351 *e*P **P** **07 03 37.9 +1.6**
BOD pmax pmax
comp=Z,11nm,1.6s
PETK Petropavlovsk- 48.11 25 P P 07 03 52.2 +3.0
comp=Z,7.9nm,1.0s,baz=193,slow=4.6,SNR=6.4
PETK LR LR 07 22 03.5
comp=Z,257nm,21.7s,baz=225,slow=33
PETK Petropavlovsk- 48.11 25 *e*P P 07 03 52.0 +2.9
PEA1 Petropavlovsk- 48.11 25 *e*P P 07 03 52.2 +3.0
PET Petropavlovsk 48.45 26 *i*P P 07 03 53.8 +2.0
PET pmax pmax
comp=Z,21nm,1.2s
DGZ Jazzator, Alta 48.98 328 *i*P **P** **07 03 56.6 +0.5**
DGZ pmax pmax
comp=Z,2.0nm,0.5s
YAK Yakutsk 49.88 2 LR LR 07 26 23.5
comp=Z,122nm,20.4s,baz=166,slow=37
YAK Yakutsk 49.88 2 *e*P **P** **07 04 03.1 +0.6**
YAK *e**PP sP 07 04 23.3 +14
YAK *e* 07 05 19.4
YAK *e*S **S** **07 11 06.0 -5.8**
YAK *e* 07 13 47.4
YAK *e*SS **SS** **07 14 42.0 -2.5**
YAK *e*SSS SSS 07 16 07.7
YAK pmax pmax
comp=Z,16nm,0.9s
YAK pmax pmax
comp=N,5.0nm,1.0s
YAK pmax pmax
comp=E,3.0nm,1.0s
YAK smax smax
comp=E,67nm,3.8s
YAK smax smax
comp=N,15nm,2.2s
MK01 Makanchi Array 50.29 322 *e*P **P** **07 04 07.2 +1.2**
MK31 Makanchi Array 50.31 322 *e*P **P** **07 04 07.4 +1.2**
MK31 Makanchi Array 50.31 322*ce*P **P** **07 04 07.1 +0.9**
MK31 pmax pmax
comp=Z,37nm,1.1s
MK32 Makanchi Array 50.31 322 *e*P **P** **07 04 07.6 +1.4**
MKAR Makanchi Array 50.31 322 P **P** **07 04 07.6 +1.4**
comp=Z,20nm,0.9s,baz=115,slow=8.6,SNR=81
MKAR Makanchi Array 50.31 322 *e*P **P** **07 04 07.4 +1.2**
comp=Z,91nm,0.8s
MAKZ Makanchi 50.51 322 *e*P **P** **07 04 09.2 +1.5**
comp=Z,22nm,1.0s
MAKZ Makanchi 50.51 322 *i*P **P** **07 04 07.8 +0.2**
MAKZ pmax pmax
comp=Z,26nm,1.1s
PDGK Podgornoye 50.56 317 *i*P **P** **07 04 08.9 +0.6**
PDGK pmax pmax
comp=Z,35nm,1.2s
MA2 Magadan 50.85 16 LR LR 07 25 14.1
comp=Z,108nm,19.9s,baz=170,slow=35
MA2 Magadan 50.85 16 *i*P **P** **07 04 10.5 +0.6**
TARG Taragay, Kyrgy 51.11 314 *e*P **P** **07 04 13.8 +1.1**
comp=Z,284nm,1.1s
KDJ Kajisay 51.69 315 *e*P **P** **07 04 18.4 +1.5**
comp=Z,12nm,0.7s
KDJ Kajisay 51.69 315 P **P** **07 04 18.4 +1.5**
KDJ pmax pmax
comp=Z,12nm,0.7s
KSH Kashi 51.70 311 P **P** **07 04 20.0 +3.1**
KSH sP PcP 07 05 04.3 -26
KSH P **PP** **07 06 19.3 +4.8**
KSH S **S** **07 11 30.0 -8.1**
KSH SS SS 07 15 01.5 -13
KSH pmax pmax
comp=Z,53nm,1.2s
KSH pmax pmax
comp=Z,630nm,3.6s
KSH LR LR
comp=Z,870nm,13.1s
KSH LR LR
comp=Z,1µm,15.4s
KSH LR LR
comp=Z,2µm,19.5s
NRN Naryn 52.28 313 *e*P **P** **07 04 22.2 +0.8**
comp=Z,21nm,1.1s
NRN Naryn 52.28 313 P **P** **07 04 22.6 +1.2**
NRN pmax pmax
comp=Z,21nm,1.2s
DZM Mont Dzumac 52.34 130 P **P** **07 04 22.4 +0.6**
comp=Z,12nm,1.0s,baz=288,slow=19,SNR=5.1
DZM LR LR 07 26 38.3
comp=Z,104nm,18.3s,baz=306,slow=36
DZM Mont Dzumac 52.34 130 *e*P P 07 04 26.0 +4.2
comp=Z,53nm,1.3s
DZM *e*S **S** **07 11 43.5 -3.7**
comp=Z,86nm,25.9s
DZM *e*LR LR 07 19 41.6
comp=Z,268nm,24.9s
DZM Mont Dzumac 52.34 130 *e*P **P** **07 04 22.4 +0.6**
comp=Z,31nm,1.3s
NIL Nilore 52.37 303 *e*P **P** **07 04 21.9 0.0**
comp=Z,70nm,1.4s
ULHL Ulahol 52.38 314 P **P** **07 04 23.8 +1.7**
SNR=12
ZAA0 Zalesovo Array 52.80 331 *e*P **P** **07 04 25.6 +1.0**
comp=Z,23nm,1.7s
ZAA0 *e*S **S** **07 11 53.9 +1.4**
ZALV Zalesovo Beam 52.80 331 P **P** **07 04 25.9 +1.2**
comp=Z,2.5nm,0.3s,baz=112,slow=7.2,SNR=4.0
ZALV LR LR 07 28 42.3
comp=Z,367nm,18.2s,baz=70,slow=38
ZAA1 Zalesovo Array 52.81 331 *e*P **P** **07 04 25.9 +1.2**
KZA Kyzart 53.02 314 P **P** **07 04 29.4 +2.4**
SNR=11
TKM2 Tokmak 2 53.06 315 P **P** **07 04 28.8 +1.8**
SNR=7.5
KBK Karagaybulak 53.42 315 P **P** **07 04 31.8 +2.2**
SNR=10
UCH Uchtor 53.59 314 P **P** **07 04 32.8 +1.5**
SNR=35
CHMS Chumysh 53.67 315 P **P** **07 04 33.8 +2.5**
SNR=5.3
FRU Bishkek 53.71 315 *e*P **P** **07 04 33.0 +1.4**
AAK Ala-Archa 53.73 314 *e*P **P** **07 04 32.9 +1.0**
comp=Z,4.4nm,0.8s
AAK Ala-Archa 53.73 314*c i*P **P** **07 04 33.1 +1.2**
AAK pmax pmax
comp=Z,4.0nm,1.2s
NVS Novosibirsk 54.08 331 *e*P **P** **07 04 36.0 +2.0**
NVS pmax pmax
comp=N,9.0nm,1.4s
NVS pmax pmax
comp=Z,18nm,1.4s
SEY Seymchan 54.11 15 P P 07 04 36.5 +2.4
comp=Z,1.9nm,0.8s,baz=199,slow=4.2,SNR=8.1
SEY Seymchan 54.11 15 *i*P **P** **07 04 36.0 +1.9**
AML Almayashu 54.14 314 P **P** **07 04 37.0 +1.8**
SNR=14
EKS2 Erkin-Say 54.24 314 P **P** **07 04 37.6 +2.0**
SNR=9.1
KURK Kurchatov 54.31 325 *e*P **P** **07 04 36.7 +1.0**
comp=Z,81nm,1.2s
KURK *e*P **P** **07 04 37.1 +1.3**
KURK Kurchatov 54.31 325*ce*P **P** **07 04 37.0 +1.3**
KURK pmax pmax
comp=Z,73nm,1.2s
KURBB Kurchatov Arra 54.32 325 P **P** **07 04 37.1 +1.3**
comp=Z,18nm,0.7s,baz=125,slow=7.5,SNR=101
MNAS Manas 55.09 314 *i*P **P** **07 04 43.3 +1.5**
MNAS pmax pmax
comp=Z,27nm,1.2s
KBL Kabul 55.97 304 *e*P **P** **07 04 48.3 0.0**
comp=Z,12nm,0.9s
KBL Kabul 55.97 304 P **P** **07 04 48.6 +0.3**
KBL pmax pmax
comp=Z,12nm,1.0s
KK31 Karatay Array 56.67 314 *e*P **P** **07 04 53.9 +0.9**
KK31 Karatay Array 56.67 314*ce*P **P** **07 04 53.5 +0.6**
KK31 pmax pmax
comp=Z,15nm,1.0s
KKAR Karatay Array 56.67 314 *e*P **P** **07 04 53.8 +0.9**
MSVF Nonsavu 59.45 119 *e*P P 07 05 15.6 +2.7
comp=Z,24nm,1.1s
TIXI Tiksi 59.49 1 P **P** **07 05 13.3 +1.1**
comp=Z,3.4nm,0.7s,baz=158,slow=5.4,SNR=6.7
TIXI Tiksi 59.49 1 *e*P **P** **07 05 13.3 +1.1**
TIXI *e*P **sP** **07 05 13.4 -5.6**
BVAR Borovoye Array 59.91 325 P **P** **07 05 16.9 +1.5**
comp=Z,14nm,0.9s,baz=116,slow=9.8,SNR=5.6
BVAR LR LR 07 31 22.5
comp=Z,292nm,19.1s,baz=122,slow=36
BRVK Borovoye 59.98 325 *i*P **P** **07 05 16.2 +0.3**
BRVK pmax pmax
comp=Z,26nm,1.0s
BILL Bilibino 61.72 16 *i*P P 07 05 31.6 +4.2
BILL *i* 07 05 46.2
BILL *i* 07 07 51.6
BILL pmax pmax
comp=Z,9.0nm,1.4s
BILL MLR MLR
comp=Z,133nm,16.0s
GEYT Alibeck 65.12 306 P **P** **07 05 52.0 +1.5**
comp=Z,7.5nm,0.9s,baz=103,slow=4.7,SNR=11
AB31 Akbulak array 65.21 319*ce*P **P** **07 05 51.1 +0.3**
AB31 pmax pmax
comp=Z,10.0nm,0.8s
ABKAR Akbulak array 65.21 319 *e*P **P** **07 05 51.5 +0.6**
comp=Z,160nm,1.4s
SVE Sverdlovsk 66.43 327 *e*P **P** **07 05 59.9 +1.3**
SVE pmax pmax
comp=Z,24nm,1.0s
AKTO Aktyubinsk 66.64 320 P **P** **07 06 00.6 +0.5**
comp=Z,3.1nm,0.7s,baz=92,slow=12,SNR=10
AFI Afiamalu 67.00 111 LR LR 07 28 33.5
comp=Z,187nm,21.7s,baz=260,slow=30
GAMB Gambell 67.14 25 *e*P P 07 06 05.8 +2.9
comp=Z,12nm,1.2s
ARU Arti 67.46 326 *e*P **P** **07 06 05.2 +0.2**
comp=Z,35nm,1.5s
ARU Arti 67.46 326*c i*P **P** **07 06 05.7 +0.6**
ARU 07 06 30.4
ARU 07 08 33.0
ARU S **S** **07 14 53.9 -6.7**
ARU pmax pmax
comp=Z,13nm,1.0s
RPZ Rata Peaks 69.16 147 P **P** **07 06 16.1 +0.2**
comp=Z,20nm,1.2s,baz=256,slow=8.3,SNR=2.2
URZ Urewera 69.33 139 LR LR 07 40 12.5
comp=Z,94nm,18.6s,baz=316,slow=39
BKZ Black Stump Fm 69.46 140 *e*P **P** **07 06 19.4 +1.5**
comp=Z,35nm,1.3s
IM3 Indian Mountai 75.07 25 *e*P **P** **07 06 53.0 +2.0**
CAST Castle Rocks 75.67 27 *e*P P 07 06 57.9 +3.4
comp=Z,9.3nm,1.1s
ZEI Tsey 75.99 311 *e*P **P** **07 06 56.7 -0.3**
ZEI pmax pmax
comp=Z,16nm,1.1s
BPAW Bear Paw Mtn. 76.17 27 *e*P **P** **07 06 59.3 +1.9**
comp=Z,25nm,1.1s
NCK Nalchik 76.17 312 *i*P **P** **07 06 57.3 -0.5**
SUA Susitna One 76.26 29 *e*P P 07 07 01.2 +3.1
comp=Z,9.2nm,1.0s
MLY Manley 76.28 26 *e*P P 07 07 00.4 +2.4
comp=Z,13nm,1.1s
AKH Akhalkalaki 76.39 310 *e*P **P** **07 06 59.5 +0.2**
comp=Z,28nm,1.3s
GOF Gofitskoye 76.47 314⇑ *e*P **P** **07 07 00.6 +1.2**
TRF Thorofare Moun 76.47 27 *e*P P 07 07 02.0 +2.8
comp=Z,17nm,1.3s
RAYN Ar Rayn 76.52 291 *e*P **P** **07 06 59.8 -0.4**
comp=Z,42nm,1.4s
RAYN Ar Rayn 76.52 291 P **P** **07 06 59.8 -0.4**
COLD Coldfoot 76.53 23 *e*P P 07 07 01.8 +2.4
comp=Z,7.6nm,1.0s
KBZ Khabaz 76.66 312 P **P** **07 07 01.1 +0.6**
comp=Z,4.4nm,1.0s,baz=183,slow=7.2,SNR=12
TOLK Toolik Lake Re 76.79 22 *e*P P 07 07 03.2 +2.3
comp=Z,24nm,1.5s
KIV Kislovodsk 76.80 313 *e*P **P** **07 07 00.9 -0.5**
KIV *e*S S 07 16 38.4 -10
KIV pmax pmax
comp=Z,19nm,1.1s
KIV MLR MLR
comp=Z,272nm,18.0s
VRH Novokhopyorsk 76.98 320 *e*P **P** **07 07 02.3 +0.1**
VRH pmax pmax
comp=Z,10.0nm,0.4s
PMR Palmer 77.03 29 *e*P P 07 07 04.7 +2.5
comp=Z,8.5nm,1.1s
MCK McKinley 77.07 27 *e*P **P** **07 07 04.5 +2.0**
comp=Z,29nm,1.1s
RND Reindeer 77.12 27 *e*P **P** **07 07 04.4 +1.6**
comp=Z,22nm,1.3s
MDM Murphy Dome 77.35 26 *e*P P 07 07 06.8 +2.8
comp=Z,8.5nm,1.3s
SML Sawmill 77.41 29 *e*P P 07 07 07.1 +2.7
comp=Z,30nm,1.3s
WRH Wood River Hil 77.43 26 *e*P P 07 07 08.0 +3.6
comp=Z,19nm,1.4s
CCB Clear Creek Bu 77.54 26 *e*P **P** **07 07 06.9 +1.9**
comp=Z,10nm,1.4s
KLMR Klimovskoe 77.72 330 *e*P **P** **07 07 05.8 -0.3**
KLMR AMP 07 07 07.9
comp=Z,32nm,1.2s
KLMR Klimovskoe 77.72 330 *e*P **P** **07 07 05.7 -0.3**
KLMR pmax pmax
comp=Z,32nm,1.2s
ILAR Eielson Array 77.93 26 P P 07 07 09.4 +2.1
comp=Z,1.2nm,0.9s,baz=241,slow=6.6,SNR=8.3
ILB Eielson Array 77.93 26 *e*P P 07 07 09.4 +2.1
TMCR Tamitsa 78.22 333 *e*P **P** **07 07 08.2 -0.6**
TMCR pmax pmax
comp=Z,41nm,1.3s
FYU Fort Yukon 78.51 24 *e*P P 07 07 13.5 +3.2
comp=Z,39nm,1.4s
KLU Klutina 78.57 29 *e*PcP **PcP** **07 07 18.7 -1.2**
VSR Storozhevoye 78.59 320 *e*P **P** **07 07 10.5 -0.6**
VSR pmax pmax
comp=Z,10.0nm,1.0s
LPSR Galich'ya Gora 78.61 322 *e*P **P** **07 07 10.9 -0.3**
LPSR pmax pmax
comp=Z,30nm,1.0s
PAX Paxson 78.67 28 *e*P P 07 07 14.6 +3.1
comp=Z,7.1nm,1.1s
PAX Paxson 78.67 28 P P 07 07 17.6 +6.1
RIDG Independ'e Rid 78.89 27 *e*P P 07 07 14.7 +2.1
comp=Z,26nm,1.2s
DOT Dot Lake 79.25 27 *e*P P 07 07 18.7 +4.2
comp=Z,48nm,1.2s
SCRK Sand Creek 79.25 27 *e*P P 07 07 19.3 +4.6
comp=Z,19nm,1.4s
OBN Obninsk 79.75 324*ce*P **P** **07 07 17.3 0.0**
OBN *e* 07 10 16.1
OBN *e*S S 07 17 10.2 -9.3
OBN pmax pmax
comp=Z,13nm,1.0s
RAR Rarotonga 80.16 114 LR LR 07 38 45.1
comp=Z,121nm,20.6s,baz=296,slow=32
EGAK Eagle 80.38 26 *e*P P 07 07 22.9 +2.3
comp=Z,6.1nm,1.1s
ANN Anapa 80.46 314 *e*P **P** **07 07 19.4 -2.0**
ANN *e* 07 10 23.4
ANN pmax pmax
comp=Z,20nm,1.0s
DAWY Dawson 81.24 26 *e*P P 07 07 27.9 +2.6
comp=Z,19nm,1.4s
MSF Maaselka 81.78 336 P **P** **07 07 30.4 +2.3**
MSF pmax pmax
comp=Z,31nm,1.1s
SPA0 Spitsbergen Ar 82.11 349 *e*P **P** **07 07 30.6 +1.0**
SPITS Spitsbergen Ar 82.11 349 P **P** **07 07 30.7 +1.0**
comp=Z,4.7nm,0.6s,baz=60,slow=8.5,SNR=12
ARA0 ARCESS Array S 82.31 340 *e*P **P** **07 07 32.0 +1.2**
ARCES ARCESS Array B 82.31 340 P **P** **07 07 32.0 +1.2**
comp=Z,16nm,0.8s,baz=81,slow=6.3,SNR=49
ARCES ARCESS Array B 82.31 340 *e*P **P** **07 07 31.7 +0.9**
ARE0 ARCESS Array S 82.31 340 *e*P **P** **07 07 32.2 +1.4**
comp=Z,24nm,0.9s
SGF Sodankyl 82.44 337 P **P** **07 07 33.8 +2.3**
SGF pmax pmax
comp=Z,85nm,1.1s
INK Inuvik 82.69 22 P **P** **07 07 34.5 +1.7**
comp=Z,6.3nm,1.1s,baz=263,slow=7.0,SNR=8.4
INK Inuvik 82.69 22 *e*P P 07 07 35.0 +2.2
comp=Z,14nm,1.3s
HYT Haines Junctio 82.70 29 *e*P P 07 07 35.7 +2.6
comp=Z,7.1nm,0.9s
ASF Jabal al Asfar 82.78 301 P **P** **07 07 34.6 +0.4**
comp=Z,8.4nm,1.0s,baz=70,slow=4.5,SNR=10
OUL Oulu 83.25 335 P **P** **07 07 37.8 +2.1**
OUL pmax pmax
comp=Z,30nm,1.1s
OPO Ambohidratompo 83.35 249 P **P** **07 07 35.9 -1.4**
comp=Z,1.7nm,0.3s,baz=75,slow=11,SNR=2.6
MMAI Mount Meron Ar 83.88 302 P **P** **07 07 39.0 -0.8**
comp=Z,1.9nm,0.3s,baz=29,slow=6.9,SNR=6.6
WHY Whitehorse 84.00 29 *e*P P 07 07 42.7 +2.9
comp=Z,20nm,1.2s
BR101 Keskin Array S 84.05 309 *e*P **P** **07 07 39.8 -0.8**
BRTR Keskin Array B 84.05 309 P **P** **07 07 39.8 -0.8**
comp=Z,1.5nm,0.7s,baz=100,slow=5.1,SNR=10
FIA1 FINESS Array S 84.06 332 *e*P **P** **07 07 40.8 +0.8**
FIA1 *e*P **pP** **07 07 40.9 -4.2**
FIA0 FINESS Array S 84.06 332 *e*P **P** **07 07 40.8 +0.8**
FINES FINESS Array B 84.06 332 P **P** **07 07 40.8 +0.8**
comp=Z,16nm,0.9s,baz=94,slow=5.9,SNR=30
SKAG Skagway 84.07 30 *e*P P 07 07 42.5 +2.5
comp=Z,34nm,1.5s
VSU Vasula 84.48 329*ce*P **P** **07 07 42.8 +0.7**
VSU pmax pmax
comp=Z,103nm,1.2s
AKASG Malin Array Be 84.87 321 P **P** **07 07 44.0 -0.3**
comp=Z,8.2nm,0.9s,baz=62,slow=5.3,SNR=28
AKASG Malin Array Be 84.87 321 P **P** **07 07 44.0 -0.3**
AKASG pmax pmax
comp=Z,8.0nm,0.9s
AKBB Malin Array Si 84.87 321 *e*P **P** **07 07 44.8 +0.5**
comp=Z,18nm,1.1s
KIEV Kiev 84.88 321 *e*P **P** **07 07 43.6 -0.8**
comp=Z,18nm,1.1s
KIEV Kiev 84.88 321*c i*P **P** **07 07 43.5 -0.8**
KIEV pmax pmax
comp=Z,14nm,1.1s
AK11 Malin Array Si 84.91 321 *e*P **P** **07 07 44.9 +0.4**
VAF Ylistaro 85.16 334 P **P** **07 07 47.8 +2.3**
VAF pmax pmax
comp=Z,14nm,0.9s
CSS Mathiatis 85.20 305 *e*P **P** **07 07 46.2 -0.1**
comp=Z,8.8nm,0.9s
KIS Kishinev 85.97 317 *e*P **P** **07 07 49.0 -0.9**
KIS Kishinev 85.97 317 *e*P **P** **07 07 49.0 -0.9**
KIS *e* 07 08 10.0
SORM Soroca 86.02 318⇑ *i*P **P** **07 07 50.1 +0.1**
SORM Soroca 86.02 318 ⇑P **P** **07 07 50.1 +0.1**
CFR Carcaliu 86.86 315⇓ *i*P **P** **07 07 54.9 +0.6**
CFR Carcaliu 86.86 315 ⇓P **P** **07 07 54.9 +0.6**
VRI Vrincioaia 87.65 316⇑ *i*P **P** **07 07 59.1 +1.0**
VRI Vrincioaia 87.65 316 ⇑P **P** **07 07 59.1 +1.0**
PLOR Plostina 87.71 316⇓ *i*P **P** **07 07 59.3 +0.9**
PLOR Plostina 87.71 316 ⇓P **P** **07 07 59.3 +0.9**
BURAR Bucovina Array 88.19 318⇓ *i*P **P** **07 08 02.2 +1.4**
BURAR Bucovina Array 88.19 318 ⇓P **P** **07 08 02.2 +1.4**
BUR04 Bucovina Ar. S 88.19 318 *e*P **P** **07 08 01.5 +0.7**
BUR08 Bucovina Ar. S 88.19 318 *e*P **P** **07 08 01.9 +1.1**
MLR Muntele Rosu 88.28 316 P **P** **07 08 00.9 -0.3**
comp=Z,0.7nm,0.8s,baz=117,slow=9.0,SNR=4.7
MLR Muntele Rosu 88.28 316⇑ *i*P **P** **07 08 02.0 +0.7**
MLR Muntele Rosu 88.28 316 ⇑P **P** **07 08 02.0 +0.7**
PPT2 Papeete2 88.52 108 *e*S **S** **07 18 41.3 -7.6**
comp=Z,143nm,24.0s
PPT2 Papeete2 88.52 108 *e*LR LR 07 36 29.8
comp=Z,229nm,25.0s
ARR Arges 89.20 316⇓ *i*P **P** **07 08 06.3 +0.8**
RES Resolute Bay 89.73 10 *e*P **P** **07 08 08.9 +1.6**
comp=Z,20nm,1.9s
UZH Uzhgorod 89.76 320 *e*P **P** **07 08 08.3 +0.3**
HFS Hagfors 90.22 332 P **P** **07 08 09.7 -0.1**
comp=Z,1.8nm,0.4s,baz=52,slow=2.4,SNR=6.0
NB2 NORSAR Subarra 90.91 334 P **P** **07 08 12.6 -0.6**
comp=Z,3.2nm,0.9s,baz=68,slow=4.3
NB2 NORSAR Subarra 90.91 334 P **P** **07 08 12.6 -0.6**
baz=68,slow=4.3
NB200 NORSAR Array S 90.91 334 *e*P **P** **07 08 12.1 -1.1**
NOA NORSAR Array B 90.91 334 P **P** **07 08 12.1 -1.1**
comp=Z,2.1nm,0.9s,baz=66,slow=4.5,SNR=5.2
VNDA Vanda 91.83 173 P **P** **07 08 17.4 +0.6**
comp=Z,2.4nm,0.7s,baz=290,slow=6.2,SNR=3.5
YKA Yellowknife Ar 92.21 24 P **P** **07 08 19.8 +0.8**
comp=Z,0.5nm,0.9s,baz=301,slow=4.8,SNR=6.4
YKB5 Yellowknife Ar 92.21 24 *e*P **P** **07 08 19.8 +0.8**
TAOE Nuku Hiva Isla 95.68 98 *e*LR LR 07 39 09.9
comp=Z,195nm,22.0s
NVAR Mina Array Bea 101.84 46 P **Pdif** **07 09 07.3 +3.8**
comp=Z,0.3nm,0.6s,baz=287,slow=6.5,SNR=2.8
TXAR Lajitas Array 116.89 48 PKP **PKPdf** **07 13 55.7 +0.8**
comp=Z,0.3nm,0.8s,baz=252,slow=0.7,SNR=4.4
TOA0 Torodi Ar. Sit 119.20 293 *e*PKPdf **PKPdf** **07 13 59.2 -0.4**
TOA1 Torodi Ar. Sit 119.20 293 *e*PKPdf **PKPdf** **07 13 58.8 -0.8**
TORD Torodi Ar. Bea 119.20 293 PKP **PKPdf** **07 13 58.8 -0.8**
comp=Z,1.4nm,0.9s,baz=39,slow=2.3,SNR=5.6
KOWA Kowa 123.74 297 PKP **PKPdf** **07 14 07.6 -0.7**
comp=Z,1.0nm,0.4s,baz=354,slow=1.8,SNR=3.9
PLCA Paso Flores 148.07 156 PKPbc **PKPab** **07 14 56.0 -2.3**
comp=Z,5.6nm,0.8s,baz=230,slow=5.9,SNR=10
PLCA Paso Flores 148.07 156 *e*PKPbc **PKPbc** **07 14 55.0 -0.6**
PLCA Paso Flores 148.07 156 PKP2 **PKPab** **07 14 56.0 -2.3**
PLCA pmax pmax
comp=Z,6.0nm,0.8s
GO06 Curarrehue 148.65 154 *e*PKPbc **PKPbc** **07 14 56.0 -1.1**
SDV Santo Domingo 153.43 39 PKP **PKPdf** **07 15 02.6 +1.1**
comp=Z,0.8nm,0.3s,baz=0.0,slow=20,SNR=3.4
SDV Santo Domingo 153.43 39 *e*PKPdf **PKPdf** **07 15 01.8 +0.2**
SDV *e*PKPbc **PKPdf** **07 15 02.6 +1.1**
CPUP Villa Florida 165.57 168 PKP **PKPdf** **07 15 15.3 +0.5**
comp=Z,2.1nm,1.0s,baz=130,slow=3.0,SNR=3.1
LPAZ La Paz 165.82 109 PKP **PKPdf** **07 15 17.6 +1.5**
comp=Z,1.9nm,1.1s,baz=262,slow=4.9,SNR=4.6
LPAZ La Paz 165.82 109 *e*PKPdf **PKPdf** **07 15 14.7 -1.4**
SIV San Ignacio 172.25 120 PKP **PKPdf** **07 15 18.9 -0.5**
comp=Z,1.1nm,1.0s,baz=176,slow=5.0,SNR=3.5

ISCJB ***25*** *06:56:30.2±0.6, 46.61N±0.08×153.08E±0.10, h40km, mb3.9/13, MS3.8/1, Error ellipse: s-maj=13.9km s-min=6.2km az=144.3*

MOS ***25*** *06:56:33.5±2.0, 46.60N×152.78E, h79km, mb4.3/7, Error ellipse: s-maj=14.8km s-min=8.0km az=69.6*

SKHL ***25*** *06:56:34.1±0.6, 46.30N×153.05E, h83km±16km, mb4.8/4, msh5.5/4*

IDC ***25*** *06:56:35.7±2.9, 46.81N×152.70E, h75km±25km, mb3.5/12, mb1 3.8/16, mb1mx3.6/73, mbtmp3.8/16, MS3.3/2, Ms1 3.3/2, ms1mx2.7/71, Error ellipse: s-maj=24.8km s-min=15.3km az=133.0*

ISC 25 06:56:31.1±0.7, 46.40N±0.08×153.14E±0.08, h40km, n42, σ2.253/37, mb3.8/13, 1C, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.87**	**254**	*e*P	**Pn**		**06 57 30.8**	**+2.8**
KUR					AMB	AMB	06 57 38.9	

	48nm,0.3s									
KUR					*e*S		**Sn**	**06 58 13.4**	**+1.2**
KUR					A		A	06 58 22.3		
	199nm,0.5s									
KUR					A		A	06 58 22.3		
	172nm,0.5s									
KUR	**Kuril'sk**	**3.87**	**254**	*e*PN			**Pn**	**06 57 30.8**	**+2.8**
KUR				*e*S			**Sn**	**06 58 14.5**	**+2.3**
KUR				pmax		pmax				
	comp=Z,62nm,0.5s									
KUR				smax		smax				
	comp=E,84nm,0.4s									
KUR				smax		smax				
	comp=N,136nm,0.5s									
SKR	**Severo-Kuril's**	**4.72**	**24**	*e*P		Pn		06 57 44.5	+4.9	
SKR				AMB		AMB		06 57 45.1		
	comp=N,34nm,0.5s									
SKR				*e*S		**Sn**		**06 58 37.7**	**+4.7**	
SKR				A		A		06 58 40.5		
	comp=N,127nm,0.4s									
SKR				A		A		06 58 40.5		
	comp=N,103nm,0.4s									
SKR	**Severo-Kuril's**	**4.72**	**24**	*e*PN			**Pn**	**06 57 42.7**	**+3.1**	
SKR				*e*S			**Sn**	**06 58 29.0**	**-4.0**	
SKR				pmax		pmax				
	comp=Z,45nm,0.5s									
SKR				smax		smax				
	comp=N,135nm,0.5s									
SKR				smax		smax				
	comp=E,155nm,0.8s									
SHO	**Shikotan**	**5.13**	**243**	*e*P			**Pn**	**06 57 47.2**	**+1.8**	
SHO				AMB		AMB		06 58 01.8		
	comp=E,28nm,0.5s									
SHO				*e*S			**Sn**	**06 58 41.5**	**-1.9**	
SHO				A		A		06 59 09.0		
	comp=E,81nm,0.5s									
SHO				A		A		06 59 09.0		
	comp=E,78nm,0.5s									
SHO	**Shikotan**	**5.13**	**243**	*e*PN			**Pn**	**06 57 45.8**	**+0.4**	
SHO				pmax		pmax				
	comp=Z,28nm,0.5s									
SHO				pmax		pmax				
	comp=E,12nm,0.2s									
PAU	**Pauzhetka**	**5.61**	**24**	*e*P		Pn		06 57 57.7	+5.8	
PAU				AMB		AMB		06 57 59.6		
	comp=E,149nm,1.0s									
PAU	**Pauzhetka**	**5.61**	**24**	*e*PN		Pn		06 57 57.7	+5.8	
PAU				pmax		pmax				
	comp=Z,150nm,1.0s									
YUK	**Yuzh-Kuril'sk**	**5.66**	**248**	*e*P			**Pn**	**06 57 50.6**	**-2.0**	
YUK				*e*S			**Sn**	**06 58 50.6**	**-5.7**	
YUK				A		A		06 59 09.1		
	comp=Z,57nm,0.4s									
YUK				A		A		06 59 09.1		
	comp=Z,114nm,0.4s									
YUK	**Yuzh-Kuril'sk**	**5.66**	**248**	PN			**Pn**	**06 57 50.6**	**-2.0**	
YSS	**Yuzh-Sakhalins**	**7.17**	**278**	*e*P			**Pn**	**06 58 16.6**	**+3.3**	
YSS	**Yuzh-Sakhalins**	**7.17**	**278**⇑	*e*PN			**Pn**	**06 58 14.6**	**+1.3**	
YSS				pmax		pmax				
	comp=Z,20nm,0.8s									
PETK	**Petropavlovsk-**	**7.33**	**22**	P			**Pn**	**06 58 15.5**	**0.0**	
	baz=Z,0.3nm,0.3s,baz=179,slow=14,SNR=4.0									
PET	**Petropavlovsk**	**7.53**	**26**	*e*P			Pn	06 58 23.8	+5.7	
PET	**Petropavlovsk**	**7.53**	**26**	*e*PN			Pn	06 58 23.8	+5.7	
ASAJ	**Asahikawa**	**7.79**	**257**	P			**Pn**	**06 58 24.8**	**+3.1**	
	comp=Z,0.6nm,0.3s,baz=96,slow=10,SNR=4.1									
TYV	**Tymovskoe**	**8.25**	**307**	*e*P			**Pn**	**06 58 31.7**	**+3.6**	
TYV	**Tymovskoe**	**8.25**	**307**	*e*PN			**Pn**	**06 58 31.7**	**+3.6**	
MA2	**Magadan**	**13.27**	**355**	P			**Pn**	**06 59 34.6**	**-2.1**	
	comp=Z,1.0nm,0.3s,baz=168,slow=11,SNR=5.3									
MA2				LR			LR	07 04 20.3		
	comp=Z,50nm,18.3s,baz=286,slow=36									
SEY	**Seymchan**	**16.57**	**359**	P			**Pn**	**07 00 18.3**	**-1.9**	
	comp=Z,0.3nm,0.3s,baz=153,slow=6.8,SNR=4.3									
H11N2	**WAKE ISLAND Hy**	**28.90**	**152**	T			T	07 33 53.5		
	baz=342,slow=74,SNR=364									
H11N1	**WAKE ISLAND Hy**	**28.92**	**152**	T			T	07 33 55.2		
	baz=342,slow=74,SNR=192									
H11N3	**WAKE ISLAND Hy**	**28.92**	**152**	T			T	07 33 54.6		
	baz=342									
H11S1	**WAKE ISLAND Hy**	**29.99**	**154**	T			T	07 35 19.0		
	baz=344,slow=76									
H11S3	**WAKE ISLAND Hy**	**30.00**	**154**	T			T	07 35 14.0		
	baz=344,slow=76									
H11S2	**WAKE ISLAND Hy**	**30.00**	**154**	T			T	07 35 18.6		
	baz=344,slow=76									
ILAR	**Eielson Array**	**36.81**	**38**	P			**P**	**07 03 34.4**	**-0.3**	
	comp=Z,7.0nm,0.4s,baz=278,slow=8.1,SNR=4.9									
ILAR	**Eielson Array**	**36.81**	**38**	P			**P**	**07 03 34.4**	**-0.3**	
ILAR				pmax		pmax				
	comp=Z,1.0nm,1.0s									
INK	**Inuvik**	**41.93**	**32**	P			**P**	**07 04 17.7**	**+0.4**	
	comp=Z,1.2nm,0.8s,baz=280,slow=7.1,SNR=7.6									
YKA	**Yellowknife Ar**	**51.19**	**37**	P			**P**	**07 05 29.9**	**+0.1**	
	comp=Z,0.3nm,0.7s,baz=297,slow=7.0,SNR=5.4									
YKA				PcP			**PcP**	**07 06 44.8**	**+0.2**	
	comp=Z,0.4nm,0.8s,baz=291,slow=4.1,SNR=4.9									
CMAR	**Chiang Mai Arr**	**52.31**	**257**	P			**P**	**07 05 39.3**	**+0.6**	
	comp=Z,1.3nm,0.3s,baz=39,slow=5.8,SNR=4.0									
NVAR	**Mina Array Bea**	**62.58**	**62**	P			**P**	**07 06 53.2**	**+2.0**	
	comp=Z,0.2nm,0.5s,baz=307,slow=7.8,SNR=3.4									
FINES	**FINESS Array B**	**64.36**	**335**	P			**P**	**07 06 59.7**	**-2.5**	
	comp=Z,0.8nm,0.3s,baz=66,slow=4.6,SNR=7.9									
PDAR	**Pinedale Array**	**64.93**	**54**	P			**P**	**07 07 08.0**	**+1.3**	
	comp=Z,0.6nm,0.8s,baz=270,slow=4.4,SNR=5.6									
AFI	**Afiamalu**	**67.82**	**143**	LR			LR	07 37 35.8		
	comp=Z,48nm,18.4s,baz=258,slow=36									
WRA	**Warramunga Arr**	**68.19**	**199**	P			**P**	**07 07 28.5**	**+1.3**	
	comp=Z,1.6nm,1.1s,baz=14,slow=6.6,SNR=3.0									
NB2	**NORSAR Subarra**	**68.56**	**341**	P			**P**	**07 07 26.8**	**-2.4**	
	comp=Z,1.0nm,0.7s,baz=28,slow=6.5									
NOA	**NORSAR Array B**	**68.56**	**341**	P			**P**	**07 07 26.8**	**-2.4**	
	comp=Z,2.1nm,0.8s,baz=27,slow=6.4,SNR=5.3									
HFS	**Hagfors**	**68.79**	**340**	P			**P**	**07 07 27.4**	**-3.2**	
	comp=Z,4.5nm,0.8s,baz=60,slow=8.8,SNR=7.4									
ASAR	**Alice Springs**	**71.89**	**199**	P			**P**	**07 07 52.2**	**+2.3**	
	comp=Z,0.7nm,0.6s,baz=5.0,slow=5.8,SNR=5.6									
TXAR	**Lajitas Array**	**77.64**	**60**	P			**P**	**07 08 24.0**	**+0.6**	
	comp=Z,0.2nm,0.7s,baz=289,slow=5.5,SNR=3.9									
GERES	**GERESS Array B**	**78.78**	**334**	P			**P**	**07 08 27.8**	**-1.6**	
	comp=Z,0.3nm,0.3s,baz=55,slow=8.5,SNR=2.8									

*ISCJB **25** 07:16:39.1±0.8,29.69°S±0.07°×179.1°E±0.1,h600km, mb4.0/4, Error ellipse: s-maj=15.4km s-min=8.7km az=160.0*

*IDC **25** 07:16:41.0±3.4,29.78°S×178.73E,h590km±37km, mb3.2/4, mb1 3.4/6, mb1mx3.1/39, mbtmp4.3/6, Error ellipse: s-maj=51.7km s-min=27.4km az=17.0*

*WEL **25** 07:16:45.2±1.2,30.3°S±8.1°×17.9°E±2.1,h561km±17km*

ISC 25 07:16:39.5±0.8,29.80S±0.09×179.1E±0.1,h600km,n35, σ1§82/35,mb4.0/4,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time h m s	Res ISC
				Op				
GLKZ	**Green Lake**	**2.62**	**79**	S		**S**	**07 18 57.6**	**-1.8**
OUZ	**Omahuta**	**7.15**	**219**	P		**P**	**07 18 33.3**	**+2.6**
WCZ	**Waipu Caves**	**7.33**	**212**	P		**P**	**07 18 35.4**	**+3.1**
KUZ	**Kuaotunu**	**7.49**	**202**	P		**P**	**07 18 38.1**	**+4.3**
MXZ	**Matakaoa Point**	**7.77**	**185**	P		**P**	**07 18 37.1**	**+0.6**
HAZ	**Te Kaha**	**8.01**	**188**	P		**P**	**07 18 39.5**	**+0.8**
HAZ	**Te Kaha**	**8.01**	**188**	S		**S**	**07 20 14.8**	**-1.8**
WMGZ	**Waiomatatini S**	**8.02**	**184**	P		**P**	**07 18 41.0**	**+2.2**
WMGZ	**Waiomatatini S**	**8.02**	**184**	S		**S**	**07 20 16.1**	**-0.6**
RUGZ	**Raukumara Rang**	**8.23**	**188**	S		**S**	**07 20 18.1**	**-2.6**
RUGZ	**Raukumara Rang**	**8.23**	**188**	P		**P**	**07 18 42.3**	**+1.3**
PUZ	**Puketiti**	**8.28**	**185**	P		**P**	**07 18 42.1**	**+0.7**
TWGZ	**Tauwhareparae**	**8.41**	**186**	P		**P**	**07 18 44.2**	**+1.6**
URZ	**Urewera**	**8.60**	**191**	P		**P**	**07 18 45.1**	**+0.7**
	2.1nm,0.3s,baz=321,slow=0.6,SNR=20							
URZ	**Urewera**	**8.60**	**191**	P		**P**	**07 18 45.4**	**+1.0**
MWZ	**Matawai**	**8.62**	**189**	P		**P**	**07 18 45.7**	**+1.2**
CNGZ	**Carnagh Statio**	**8.69**	**185**	P		**P**	**07 18 48.1**	**+2.8**
RIGZ	**Rimuhau**	**8.95**	**187**	P		**P**	**07 18 49.3**	**+1.4**
MTHZ	**Maungataniwha**	**9.22**	**191**	P		**P**	**07 18 52.4**	**+1.9**
BKZ	**Black Stump Fm**	**9.59**	**192**	P		**P**	**07 18 54.2**	**+0.1**
FWVZ	**Far West T-bar**	**9.88**	**196**	P		**P**	**07 18 59.3**	**+2.1**
BHHZ	**Black Hill Sta**	**9.99**	**194**	P		**P**	**07 18 58.1**	**+0.1**
DZM	**Mont Dzumac**	**13.77**	**301**	P		**P**	**07 19 34.8**	**-1.5**
	0.5nm,0.3s,baz=105,slow=22,SNR=3.9							
CTA	**Charters Tower**	**31.26**	**280**	P		**P**	**07 22 11.2**	**-0.9**
	1.1nm,0.3s,baz=133,slow=8.9,SNR=3.6							
STKA	**Stephens Creek**	**32.20**	**257**	P		**P**	**07 22 19.6**	**-0.4**
	0.9nm,0.5s,baz=90,slow=11,SNR=4.6							
ASAR	**Alice Springs**	**40.66**	**268**	P		**P**	**07 23 28.6**	**-0.9**
	2.0nm,0.5s,baz=101,slow=7.2,SNR=38							
WRA	**Warramunga Arr**	**41.59**	**273**	P		**P**	**07 23 35.3**	**-1.5**
	6.9nm,0.5s,baz=110,slow=7.3,SNR=121							
MKAR	**Makanchi Array**	**115.50**	**311**	PKP		**PKPdf**	**07 34 15.4**	**+1.4**
	0.2nm,0.4s,baz=107,slow=1.5,SNR=2.9							
KURBB	**Kurchatov Arra**	**118.89**	**314**	PKP		**PKPdf**	**07 34 21.5**	**+1.1**
	0.4nm,0.6s,baz=114,slow=1.9,SNR=3.7							
FINES	**FINESS Array B**	**143.71**	**338**	PKP		**PKPdf**	**07 35 06.9**	**+0.5**
	3.9nm,0.5s,baz=55,slow=3.5,SNR=31							
NOA	**NORSAR Array B**	**147.74**	**349**	PKPbc		**PKPab**	**07 35 19.3**	**-2.5**
	0.5nm,0.5s,baz=39,slow=5.1,SNR=3.7							
HFS	**Hagfors**	**148.12**	**346**	PKPbc		**PKPbc**	**07 35 20.0**	**+1.9**
	1.5nm,0.4s,baz=68,slow=5.3,SNR=3.3							
MMAI	**Mount Meron Ar**	**148.98**	**285**	PKPbc		**PKPbc**	**07 35 23.1**	**+2.0**
	0.6nm,0.3s,baz=86,slow=8.8,SNR=3.4							
AKASG	**Malin Array Be**	**149.31**	**321**	PKPbc		**PKPbc**	**07 35 22.8**	**+1.5**
	0.3nm,0.3s,baz=52,slow=3.0,SNR=5.0							
BRTR	**Keskin Array B**	**150.14**	**299**	PKPbc		**PKPbc**	**07 35 25.0**	**+1.2**
	0.7nm,0.5s,baz=144,slow=2.3,SNR=3.4							

*IDC **25** 07:17:20.8±3.1,23.52S×179.82W,h541km±32km, mb3.7/19,mb1 3.9/20,mb1mx3.7/41,mbtmp4.6/20,Error ellipse: s-maj=18.6km s-min=13.9km az=89.0*

*NEIC **25** 07:17:21.2±0.9,23.33S×179.98E,h538km±8km, mb4.4/60, Error ellipse: s-maj=22.8km s-min=19.4km az=123.0*

ISC 25 07:17:19.8±0.4,23.64S±0.07×179.82W±0.09,h532km, n144,σ1§22/152,mb4.3/77,6C,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time h m s	Res ISC
				Op				
MSVF	**Nonsavu**	**6.21**	**341**	*e*P		**P**	**07 18 57.2**	**-2.5**
AFI	**Afiamalu**	**12.31**	**40**	S		S	07 22 02.2	-13
	3.5nm,0.3s,baz=148,slow=6.1,SNR=4.1							
DZM	**Mont Dzumac**	**12.77**	**274**	P		**P**	**07 20 08.0**	**+1.5**
	0.8nm,0.3s,baz=88,slow=14,SNR=8.2							
DZM	**Mont Dzumac**	**12.77**	**274**	*e*P		**P**	**07 20 06.8**	**+0.3**
PUZ	**Puketiti**	**14.48**	**186**	S		**P**	**07 20 20.1**	**-3.8**
TWGZ	**Tauwhareparae**	**14.61**	**187**	S		**P**	**07 20 23.2**	**-2.2**
URZ	**Urewera**	**14.81**	**190**	P		**P**	**07 20 24.2**	**-3.1**
	3.0nm,0.3s,baz=53,slow=20,SNR=16							
URZ				S		S	**07 23 01.0**	**-0.9**
	0.7nm,0.3s,baz=62,slow=23,SNR=7.1							
URZ	**Urewera**	**14.81**	**190**	*e*P		**P**	**07 20 25.8**	**-1.5**
	19nm,0.7s							
URZ	**Urewera**	**14.81**	**190**	S		**P**	**07 20 24.1**	**-3.2**
MWZ	**Matawai**	**14.82**	**188**	S		**P**	**07 20 24.5**	**-3.0**
RIGZ	**Rimuhau**	**15.16**	**187**	S		**P**	**07 20 30.6**	**-0.5**
BKZ	**Black Stump Fm**	**15.79**	**191**	*e*P		**P**	**07 20 41.8**	**+4.2**
	71nm,1.9s							
BKZ	**Black Stump Fm**	**15.79**	**191**	S		**P**	**07 20 40.8**	**+3.2**
CTA	**Charters Tower**	**31.64**	**270**	P		**P**	**07 23 00.5**	**+1.0**
	25nm,0.4s,baz=94,slow=11,SNR=66							
CTAO	**Charters Tower**	**31.64**	**270**	*e*P		**P**	**07 23 00.1**	**+0.6**
	30nm,0.6s							
PMG	**Port Moresby**	**34.57**	**289**	P		**P**	**07 23 23.8**	**-0.5**
	8.7nm,0.6s,baz=135,slow=2.9,SNR=3.0							
STKA	**Stephens Creek**	**34.98**	**248**	P		**P**	**07 23 28.6**	**+1.1**
	3.4nm,0.4s,baz=90,slow=11,SNR=13							
AS01	**Alice Springs**	**42.20**	**260**	*e*P		**P**	**07 24 26.2**	**0.0**
AS31	**Alice Springs**	**42.24**	**260**	*e*P		**P**	**07 24 26.7**	**+0.1**
	2.8nm,0.5s							
ASAR	**Alice Springs**	**42.24**	**260**	P		**P**	**07 24 26.8**	**+0.3**
	6.9nm,0.7s,baz=96,slow=7.9,SNR=46							
ASAR				PcP		**PcP**	**07 26 06.2**	**-2.1**
	0.9nm,0.6s,baz=98,slow=4.5,SNR=4.8							
ASAR				ScP		**ScP**	**07 29 12.0**	**+3.7**
	1.7nm,1.0s,baz=97,slow=4.3,SNR=5.3							
ASAR				S		**S**	**07 30 07.2**	**-1.6**
	1.4nm,0.8s,baz=97,slow=14,SNR=14							
WB2	**Warramunga Arr**	**42.58**	**266**	*e*P		**P**	**07 24 29.1**	**-0.2**
	9.6nm,0.6s							
WRA	**Warramunga Arr**	**42.59**	**266**	P		**P**	**07 24 29.0**	**-0.3**
	6.0nm,0.5s,baz=90,slow=6.0,SNR=48							
WRA				PcP		**PcP**	**07 26 08.3**	**-1.2**
	1.0nm,0.7s,baz=101,slow=3.0,SNR=4.2							
WRA				ScP		**ScP**	**07 29 13.7**	**+4.0**
	1.8nm,1.1s,baz=102,slow=3.6,SNR=4.5							
WRA				S		**S**	**07 30 11.0**	**-2.8**
	3.3nm,1.1s,baz=112,slow=14,SNR=5.1							
FORT	**Forrest**	**46.56**	**249**	*e*P		**P**	**07 24 59.9**	**+0.2**
	16nm,0.7s							
QSPA	**South Pole Qui**	**66.44**	**180**	P		**P**	**07 27 16.7**	**+0.7**
	9.5nm,1.0s,baz=50,slow=2.3,SNR=15							
QSPA	**South Pole Qui**	**66.44**	**180**	*e*P		**P**	**07 27 18.8**	**+2.7**
	8.3nm,0.8s							
JHJ	**Hachijo jima 2**	**68.33**	**324**	P		**P**	**07 27 26.9**	**-1.0**
	110nm,0.7s,baz=184,slow=15,SNR=2.2							
MJAR	**Matsushiro Arr**	**71.78**	**325**	P		**P**	**07 27 47.1**	**-1.3**
	2.6nm,0.7s,baz=169,slow=5.8,SNR=7.7							
JNU	**Nakatsue**	**73.45**	**318**	P		**P**	**07 27 57.1**	**-1.0**
	9.6nm,1.0s,baz=100,slow=11,SNR=2.1							
ASAJ	**Asahikawa**	**75.71**	**333**	P		**P**	**07 28 09.8**	**-0.8**
	3.0nm,0.4s,baz=123,slow=17,SNR=5.7							
KSRS	**Korea Array**	**78.16**	**320**	P		**P**	**07 28 24.2**	**+0.2**
	1.9nm,0.7s,baz=133,slow=5.4,SNR=5.7							
PETK	**Petropavlovsk-**	**78.89**	**346**	P		**P**	**07 28 26.8**	**-0.8**
	5.3nm,0.7s,baz=128,slow=6.5,SNR=7.9							
USRK	**Ussuriysk Ar.**	**80.64**	**327**	P		**P**	**07 28 37.4**	**+0.4**
	3.4nm,0.8s,baz=104,slow=6.1,SNR=3.5							
ISA	**Isabella Lake**	**82.72**	**46**	*e*P		**P**	**07 28 48.7**	**+0.7**
	6.9nm,0.8s							
CMB	**Columbia Colle**	**82.90**	**43**	*e*P		**P**	**07 28 49.3**	**+0.6**
	5.6nm,0.8s							
AFDM	**Forest Hills D**	**83.09**	**42**	*e*P		**P**	**07 28 49.8**	**+0.2**
	7.1nm,1.0s							
ORV	**Oroville**	**83.14**	**42**	*e*P		**P**	**07 28 50.2**	**+0.3**
	6.3nm,1.0s							
WDC	**Whiskeytown Da**	**83.15**	**40**	*e*P		**P**	**07 28 50.5**	**+0.6**
	5.8nm,1.0s							
MDPB	**Devils Postpil**	**83.49**	**44**	*e*P		**P**	**07 28 52.4**	**+0.5**
	4.6nm,0.8s							
GSC	**Goldstone, Bar**	**83.63**	**47**	*e*P		**P**	**07 28 53.3**	**+0.8**
	6.4nm,1.0s							
DAC	**Darwin (Calif)**	**83.66**	**46**	*e*P		**P**	**07 28 54.3**	**+1.5**
WAKR	**Walker**	**83.78**	**43**	*e*P		**P**	**07 28 54.1**	**+0.8**
	7.1nm,1.0s							
113A	**Mohawk Valley,**	**84.33**	**51**	*e*P		**P**	**07 28 57.1**	**+1.2**
	4.9nm,1.1s							
RYN	**Ryan**	**84.43**	**44**	*e*P		**P**	**07 28 57.6**	**+1.1**
	4.1nm,1.2s							
NVAR	**Mina Array Bea**	**84.45**	**44**	P		**P**	**07 28 56.7**	**0.0**
	3.0nm,1.0s,baz=223,slow=7.3,SNR=14							
NV01	**Mina Array Sit**	**84.45**	**44**	*e*P		**P**	**07 28 56.6**	**-0.1**
PAHR	**Pah Rah Range**	**84.53**	**42**	*e*P		**P**	**07 28 57.2**	**+0.3**
	6.3nm,1.3s							
NV11	**Mina Array Sit**	**84.55**	**44**	*e*P		**P**	**07 28 57.4**	**+0.4**
	0.4nm,1.1s							
LDFC	**Landfair**	**84.65**	**48**	*e*P		**P**	**07 28 58.5**	**+0.9**
	12nm,0.8s							
SNAA	**Sanae**	**84.92**	**179**	P		**P**	**07 28 59.0**	**+0.7**
SNAA	**Sanae**	**84.92**	**179**	P		**P**	**07 28 59.0**	**+0.7**
	1.0nm,0.6s,baz=199,slow=12,SNR=13							
TPNV	**Topopah Spring**	**84.93**	**46**	*e*P		**P**	**07 28 59.1**	**+0.1**
	6.1nm,1.4s							
KVN	**Kaiserville**	**84.94**	**44**	*e*P		**P**	**07 28 59.2**	**+0.2**
	2.6nm,1.0s							
VNA3	**Neumayer Olymp**	**85.12**	**177**	P		**P**	**07 28 59.8**	**+0.6**
MOD	**Modoc Plateau**	**85.30**	**40**	*e*P		**P**	**07 29 01.2**	**+0.6**
	4.5nm,1.0s							
W13A	**Hualapai Mount**	**85.50**	**49**	*e*P		**P**	**07 29 02.5**	**+0.6**
	2.5nm,0.9s							
VNA2	**Neumayer--Watz**	**85.54**	**178**	P		**P**	**07 29 02.2**	**+1.0**
PINE	**Pine Mountain**	**86.08**	**38**	*e*P		**P**	**07 29 05.3**	**+0.9**
	9.5nm,0.9s							
TUC	**Tucson**	**86.23**	**52**	*e*P		**P**	**07 29 06.5**	**+1.3**
	5.7nm,0.9s							
WVOR	**Wild Horse Val**	**86.61**	**41**	*e*P		**P**	**07 29 07.6**	**+0.8**
	18nm,1.8s							
X16A	**Lo Mia Camp, P**	**86.84**	**50**	*e*P		**P**	**07 29 09.0**	**+0.8**
	3.2nm,0.9s							
319A	**Douglas**	**86.86**	**54**	*e*P		**P**	**07 29 09.3**	**+1.1**
	7.1nm,0.8s							
LCMT	**Little Creek M**	**86.97**	**47**	*e*P		**P**	**07 29 09.4**	**+0.7**
	2.9nm,0.9s							
CCUT	**Cedar City**	**87.18**	**47**	*e*P		**P**	**07 29 11.0**	**+1.2**
	3.0nm,0.9s							
J08A	**Circle Bar Ran**	**87.25**	**40**	*e*P		**P**	**07 29 10.3**	**+0.5**
	12nm,1.3s							
KNB	**Kanab**	**87.26**	**48**	*e*P		**P**	**07 29 10.9**	**+0.8**
	3.9nm,0.9s							
U15A	**North Rim**	**87.31**	**48**	*e*P		**P**	**07 29 11.7**	**+1.3**
	6.9nm,0.8s							
D05A	**Enumclaw**	**87.63**	**35**	*e*P		**P**	**07 29 12.4**	**+1.1**
	27nm,1.0s							
RC01	**Rabbit Creek A**	**87.87**	**14**	*e*P		**P**	**07 29 11.4**	**-0.7**
	10nm,1.0s							
SUA	**Susitna One**	**87.99**	**14**	*e*P		**P**	**07 29 11.8**	**-1.0**
	11nm,0.7s							
G08A	**Pilot Rock**	**88.12**	**38**	*e*P		**P**	**07 29 14.0**	**+0.1**
	7.1nm,0.9s							
MTPU	**Mount Pierson**	**88.23**	**47**	*e*P		**P**	**07 29 15.4**	**+0.6**
	4.0nm,0.8s							
PMR	**Palmer**	**88.46**	**14**	*e*P		**P**	**07 29 13.7**	**-1.0**
	6.7nm,0.8s							
MSU	**Marysvale**	**88.49**	**47**	*e*P		**P**	**07 29 16.1**	**+0.3**
GHO	**Glory Hole Cre**	**88.66**	**14**	*e*P		**P**	**07 29 15.4**	**-0.5**
	17nm,0.8s							
MFID	**Camas Ranch**	**88.86**	**41**	*e*P		**P**	**07 29 17.5**	**+0.2**
	6.5nm,0.9s							
SCM	**Sheep Creek Mo**	**89.08**	**15**	*e*P		**P**	**07 29 17.4**	**-0.5**
	12nm,0.8s							
F10A	**Beach Ranch, E**	**89.50**	**38**	*e*P		**P**	**07 29 20.2**	**0.0**
	6.7nm,1.0s							
TMUT	**Trail Mountain**	**89.54**	**46**	*e*P		**P**	**07 29 21.2**	**+0.4**
	8.5nm,0.8s							
CMAR	**Chiang Mai Arr**	**89.60**	**290**	P		**P**	**07 29 23.0**	**+1.8**
	2.7nm,0.5s,baz=144,slow=3.2,SNR=6.3							
HLID	**Hailey**	**89.79**	**41**	*e*P		**P**	**07 29 22.3**	**+0.6**
	4.1nm,0.9s							
KTH	**Kantishna Hill**	**89.83**	**12**	*e*P		**P**	**07 29 19.9**	**-1.3**
	24nm,1.8s							
HVU	**Hansel Valley**	**89.84**	**44**	*e*P		**P**	**07 29 22.6**	**+0.6**
	6.4nm,1.0s							
TRF	**Thorsdare Moun**	**89.87**	**13**	*e*P		**P**	**07 29 20.2**	**-1.4**
	8.7nm,0.9s							
SRU	**San Rafael Swe**	**89.90**	**47**	*e*P		**P**	**07 29 23.1**	**+0.7**
	6.6nm,0.8s							
MNTX	**Cornudas Mount**	**89.93**	**55**	*e*P		**P**	**07 29 22.9**	**+0.4**
	3.0nm,0.9s							
P17A	**Butcher Ranch,**	**89.94**	**46**	*e*P		**P**	**07 29 23.4**	**+0.9**
	6.6nm,1.1s							
RND	**Reindeer**	**90.12**	**13**	*e*P		**P**	**07 29 21.7**	**-0.9**
	7.4nm,1.0s							
TX31	**Lajitas Ar. Si**	**90.15**	**58**	*e*P		**P**	**07 29 24.4**	**+0.8**
TX31				*e*P		**P**	**07 29 24.7**	**+1.1**
TXAR	**Lajitas Array**	**90.15**	**58**	P		**P**	**07 29 24.6**	**+1.0**
	2.4nm,0.8s,baz=215,slow=6.4,SNR=29							
HHC	**Hu-ho-hao-te**	**90.36**	**315**	*e*P		**P**	**07 29 26.5**	**+2.2**
HHC				pmax		pmax		
	comp=Z,11nm,1.4s							
HHC				pmax		pmax		
	comp=Z,19nm,8.1s							
TCUT	**Toone Canyon**	**90.36**	**45**	*e*P		**P**	**07 29 25.1**	**+0.6**
	comp=Z,15nm,0.9s							
HWUT	**Hardware Ranch**	**90.51**	**44**	*e*P		**P**	**07 29 25.1**	**-0.1**
	comp=Z,3.4nm,0.7s							
ANMO	**Albuquerque**	**90.67**	**52**	*e*P		**P**	**07 29 26.3**	**+0.3**
	comp=Z,4.3nm,1.2s							
WRH	**Wood River Hil**	**91.22**	**13**

SKR				*e*S		**Sn**	07 19 21.8	-2.2	
SKR				A		A	07 19 28.6		
	920nm,0.9s								
SKR				A		A	07 19 28.6		
	154nm,0.9s								
PAU	**Pauzhetka**	**4.12**	**27**	*e*P		**Pn**	**07 19 00.3**	**+1.1**	
PAU				AMB		AMB	07 19 01.3		
	104nm,0.8s								
PAU				*e*S		**Sn**	**07 19 44.5**	**-1.5**	
PAU				A		A	07 19 45.3		
	250nm,0.8s								
KUR	**Kuril'sk**	**4.87**	**240**	*e*P		**Pn**	**07 19 10.5**	**+1.1**	
KUR				AMB		AMB	07 19 13.4		
	85nm,0.5s								
KUR				*e*S		**Sn**	**07 20 03.4**	**-1.0**	
KUR				A		A	07 20 13.2		
	37nm,0.2s								
KUR				A		A	07 20 13.2		
	69nm,0.2s								
PETK	**Petropavlovsk-**	**5.83**	**24**	P		**Pn**	**07 19 22.4**	**-0.1**	
	1.2nm,0.3s,baz=191,slow=12,SNR=7.7								
PET	**Petropavlovsk**	**6.04**	**29**	*e*P		Pn	07 19 31.7	+6.3	
PET				AMB		AMB	07 19 32.2		
	4.0nm,0.4s								
PET				*e*S		**Sn**	**07 20 32.3**	**-0.8**	
PET				A		A	07 20 54.2		
	40nm,1.0s								
SHO	**Shikotan**	**6.29**	**233**	*e*P		Pn	07 19 24.2	-4.7	
SHO				AMB		AMB	07 19 47.4		
	29nm,0.3s								
SHO				*e*S		**Sn**	**07 20 35.8**	**-3.6**	
SHO				A		A	07 21 13.0		
	70nm,0.5s								
SHO				A		A	07 21 13.0		
	66nm,0.5s								
TYV	**Tymovskoe**	**7.90**	**297**	*e*P		**Pn**	**07 19 50.2**	**-0.6**	
ASAJ	**Asahikawa**	**8.66**	**249**	P		**Pn**	**07 20 00.8**	**-0.5**	
	0.4nm,0.3s,baz=81,slow=24,SNR=6.5								
MA2	**Magadan**	**11.90**	**352**	P		**Pn**	**07 20 45.5**	**0.0**	
	0.3nm,0.3s,baz=143,slow=17,SNR=2.7								
KLR	**Kul'dur**	**14.69**	**284**	P		**P**	**07 21 25.8**	**-1.7**	
	0.0nm,0.3s,baz=109,slow=4.4,SNR=2.5								
USRK	**Ussuriysk Ar.**	**15.59**	**265**	P		**P**	**07 21 37.4**	**-0.1**	
	0.4nm,0.3s,baz=67,slow=12,SNR=4.2								
MJAR	**Matsushiro Arr**	**16.13**	**231**	P		**Pn**	**07 21 42.4**	**+1.0**	
	0.2nm,0.3s,baz=33,slow=9.8,SNR=6.1								
YAK	**Yakutsk**	**19.69**	**325**	P		**Pn**	**07 22 25.5**	**+1.1**	
	0.1nm,0.3s,baz=113,slow=3.9,SNR=4.6								
KSRS	**Korea Array**	**21.60**	**251**	P		**P**	**07 22 44.0**	**+0.8**	
	2.8nm,0.8s,baz=57,slow=9.5,SNR=6.9								
H11N2	**WAKE ISLAND Hy**	**29.98**	**155**	T		T	07 55 06.4		
	baz=342,slow=76,SNR=190								
H11N1	**WAKE ISLAND Hy**	**30.00**	**155**	T		T	07 55 06.4		
	baz=342,slow=76,SNR=268								
H11N3	**WAKE ISLAND Hy**	**30.00**	**155**	T		T	07 55 06.4		
	baz=342,slow=76,SNR=148								
H11S1	**WAKE ISLAND Hy**	**31.09**	**156**	T		T	07 56 29.3		
	baz=344,slow=76,SNR=789								
H11S3	**WAKE ISLAND Hy**	**31.09**	**156**	T		T	07 56 26.6		
	baz=344,slow=76,SNR=1210								
H11S2	**WAKE ISLAND Hy**	**31.11**	**156**	T		T	07 56 27.0		
	baz=344,slow=76,SNR=887								
ILAR	**Eielson Array**	**35.40**	**40**	P		**P**	**07 24 46.6**	**-1.4**	
	0.3nm,0.6s,baz=256,slow=7.1,SNR=6.7								
INK	**Inuvik**	**40.48**	**33**	P		**P**	**07 25 31.3**	**+0.6**	
	0.4nm,0.5s,baz=291,slow=4.1,SNR=5.5								
MKAR	**Makanchi Array**	**46.88**	**297**	P		**P**	**07 26 23.0**	**+0.6**	
	0.2nm,0.3s,baz=60,slow=5.8,SNR=3.8								
KURBB	**Kurchatov Arra**	**47.26**	**303**	P		**P**	**07 26 25.7**	**+0.3**	
	0.5nm,0.3s,baz=69,slow=8.5,SNR=6.5								
YKA	**Yellowknife Ar**	**49.76**	**37**	P		**P**	**07 26 44.6**	**+0.3**	
	0.5nm,0.7s,baz=296,slow=7.0,SNR=8.0								
YKA				PcP		**PcP**	**07 28 04.2**	**-0.1**	
	0.1nm,0.5s,baz=296,slow=4.0,SNR=4.4								
BVAR	**Borovoye Array**	**50.55**	**309**	P		**P**	**07 26 51.0**	**+0.6**	
	0.7nm,0.5s,baz=69,slow=9.4,SNR=3.8								
BVAR				PcP		**PcP**	**07 28 08.0**	**+0.7**	
	0.6nm,0.5s,baz=27,slow=3.9,SNR=3.0								
CMAR	**Chiang Mai Arr**	**53.10**	**256**	P		**P**	**07 27 11.7**	**+1.8**	
	1.2nm,0.3s,baz=47,slow=8.1,SNR=2.9								
NVAR	**Mina Array Bea**	**61.51**	**63**	P		**P**	**07 28 08.9**	**-0.3**	
	0.4nm,0.6s,baz=281,slow=6.9,SNR=4.1								
FINES	**FINESS Array B**	**63.26**	**335**	P		**P**	**07 28 19.9**	**-0.3**	
	0.9nm,0.4s,baz=41,slow=6.8,SNR=10								
PDAR	**Pinedale Array**	**63.72**	**55**	P		**P**	**07 28 23.4**	**-0.5**	
	0.1nm,0.4s,baz=302,slow=3.3,SNR=4.0								
NOA	**NORSAR Array B**	**67.35**	**341**	P		**P**	**07 28 47.1**	**+0.4**	
	0.3nm,0.3s,baz=26,slow=6.8,SNR=3.2								
HFS	**Hagfors**	**67.61**	**340**	P		**P**	**07 28 48.6**	**+0.4**	
	0.8nm,0.3s,baz=66,slow=4.9,SNR=8.9								
WRA	**Warramunga Arr**	**69.70**	**200**	P		**P**	**07 28 59.9**	**-1.8**	
	0.8nm,1.0s,baz=12,slow=6.7,SNR=3.0								
AKASG	**Malin Array Be**	**70.91**	**326**	P		**P**	**07 29 09.0**	**+0.2**	
	0.6nm,0.4s,baz=35,slow=6.7,SNR=2.3								
ASAR	**Alice Springs**	**73.39**	**19**	P		**P**	**07 29 23.2**	**-0.6**	
	0.9nm,0.8s,baz=20,slow=7.1,SNR=6.9								
EKA	**Eskdalemuir Ar**	**75.39**	**347**	P		**P**	**07 29 36.4**	**+1.2**	
	0.5nm,0.4s,baz=19,slow=5.3,SNR=3.9								
MLR	**Muntele Rosu**	**76.45**	**325**	P		**P**	**07 29 43.1**	**+1.6**	
	0.5nm,0.6s,baz=111,slow=6.0,SNR=3.8								
TXAR	**Lajitas Array**	**76.54**	**61**	P		**P**	**07 29 41.9**	**-0.3**	
	1.1nm,0.6s,baz=298,slow=5.1,SNR=15								
GERES	**GERESS Array B**	**77.69**	**334**	P		**P**	**07 29 48.9**	**+0.5**	
	0.4nm,0.4s,baz=39,slow=3.8,SNR=3.0								

*ISCJB **25** 07:24:17.6±0.3,2°.79S±0°.05×22°.70E±0°.06,h10km, mb4.2/26,MS3.2/6, Error ellipse: s-maj=9.2km s-min=7.7km az=179.5*

*IDC **25** 07:24:18.2±0.6,2°.76S×22°.60E,h0km,mb4.2/21, mb1 4.2/23,mb1mx4.1/61,mbtmp4.2/23,ML2.2/1,MS3.4/8, Ms1 3.4/8,ms1mx3.2/66, Error ellipse: s-maj=21.6km s-min=13.2km az=90.0*

*NEIC **25** 07:24:19.5±0.2,2°.80S×22°.66E,h10km,mb4.5/6, Error ellipse: s-maj=7.8km s-min=5.6km az=88.0*

ISC 25 07:24:19.3±0.5,2°.89S±0°.07×22°.8E±0°.1,h10km,n58, σ1s25/58,mb4.3/26,MS3.3/6,Zaire

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
MBAR	**Mbarara**	**8.24**	**74**	*e*Pn	**Pn**	**07 26 19.3**		**0.0**
LSZ	**Lusaka**	**13.40**	**157**	Pn	**Pn**	**07 27 30.9**		**+1.0**
	0.9nm,0.3s,baz=26,slow=18,SNR=8.0							
LSZ				S	**Sn**	**07 29 54.7**		**-4.5**
	1.3nm,0.3s,baz=36,slow=19,SNR=3.5							
LSZ				Lg	Lg	07 31 25.1		
	baz=235,slow=18,SNR=4.3							
LSZ				LR	LR	07 33 02.9		
	comp=Z,276nm,18.4s,baz=44,slow=39							
KMBO	**Kilima Mbogo**	**14.54**	**83**	Lg	Lg	07 31 47.1		
	0.7nm,0.3s,baz=98,slow=14,SNR=3.0							
TSUM	**Tsumeb**	**17.00**	**197**	P	**Pn**	**07 28 17.4**		**-0.1**
	0.4nm,0.3s,baz=352,slow=15,SNR=3.4							
TSUM				S	Sn	07 31 12.9		-14
	0.4nm,0.3s,baz=38,slow=14,SNR=2.3							
TSUM				Lg	Lg	07 33 16.6		
	0.2nm,0.3s,baz=139,slow=20,SNR=4.5							
TSUM				LR	LR	07 35 16.2		
	comp=Z,207nm,18.8s,baz=326,slow=39							
LBTB	**Lobatse**	**22.16**	**173**	P	**P**	**07 29 18.0**		**+2.3**
	8.9nm,0.8s,baz=349,slow=8.8,SNR=7.9							
LBTB				Lg	Lg	07 36 02.6		
	6.1nm,1.0s,baz=60,slow=3.6,SNR=2.2							
LBTB				LR	LR	07 38 20.1		
	comp=Z,164nm,19.5s,baz=342,slow=38							
LBTB	**Lobatse**	**22.16**	**173**	*e*P	**P**	**07 29 17.7**		**+2.0**
	11nm,0.8s							
LBTB				Lg	Lg	07 36 02.6		
BOSA	**Boshof**	**25.69**	**175**	P	**P**	**07 29 51.5**		**+1.7**
	7.0nm,0.6s,baz=351,slow=9.8,SNR=11							
BOSA				Lg	Lg	07 37 51.0		
	6.3nm,1.1s,baz=231,slow=13,SNR=1.8							
BOSA				LR	LR	07 40 36.0		
	comp=Z,182nm,18.4s,baz=0.5,slow=38							
BOSA	**Boshof**	**25.69**	**175**	*e*P	**P**	**07 29 50.6**		**+0.8**
	26nm,1.4s							
BOSA				Lg	Lg	07 37 51.0		
TOA0	**Torodi Ar. Sit**	**26.33**	**308**	*e*P	**P**	**07 29 53.7**		**-2.0**
TORD	**Torodi Ar. Bea**	**26.33**	**308**	P	**P**	**07 29 53.6**		**-2.0**
	3.7nm,0.5s,baz=123,slow=9.5,SNR=28							
TORD				Lg	Lg	07 37 59.5		
	0.3nm,0.7s,baz=347,slow=5.9,SNR=3.9							
TORD				LR	LR	07 40 13.9		
	comp=Z,50nm,21.1s,baz=120,slow=37							
TOA1	**Torodi Ar. Sit**	**26.33**	**308**	*e*P	**P**	**07 29 53.6**		**-2.1**
KIC	**Kosan Boka**	**29.00**	**289**	*e*P	**P**	**07 30 19.3**		**-0.4**
	78nm,1.6s							
DBIC	**Dimbokro**	**29.20**	**289**	P	**P**	**07 30 19.3**		**-2.2**
	1.2nm,0.5s,baz=105,slow=11,SNR=5.0							
DBIC				LR	LR	07 42 12.6		
	comp=Z,54nm,18.3s,baz=146,slow=37							
LIC	**Lamto**	**29.23**	**288**	*e*P	**P**	**07 30 23.5**		**+1.8**
	21nm,0.5s							
TIC	**Toumodi**	**29.35**	**289**	*e*P	**P**	**07 30 22.5**		**-0.3**
SUR	**Sutherland**	**29.40**	**183**	P	**P**	**07 30 25.5**		**+2.3**
	0.3nm,0.8s,baz=348,slow=14,SNR=4.2							
SUR				LR	LR	07 42 58.3		
	comp=Z,7.6nm,18.5s,baz=322,slow=38							
KOWA	**Kowa**	**31.70**	**304**	P	**P**	**07 30 41.1**		**-2.4**
	1.0nm,0.4s,baz=122,slow=11,SNR=3.5							
KOWA				LR	LR	07 43 47.9		
	comp=Z,147nm,19.2s,baz=71,slow=37							
MMAI	**Mount Meron Ar**	**37.65**	**17**	P	**P**	**07 31 35.0**		**+0.3**
	0.4nm,0.3s,baz=212,slow=10,SNR=2.9							
KEST	**Kesra**	**40.43**	**343**	P	**P**	**07 31 58.9**		**+0.8**
	5.3nm,0.8s,baz=216,slow=22,SNR=6.3							
KEST	**Kesra**	**40.43**	**343**	*e*P	**P**	**07 31 58.9**		**+0.8**
	6.9nm,0.9s							
BR101	**Keskin Array S**	**43.56**	**12**	*e*P	**P**	**07 32 23.2**		**-0.5**
BR131	**Keskin Array S**	**43.56**	**12**	*e*P	**P**	**07 32 23.6**		**-0.1**
BRTR	**Keskin Array B**	**43.56**	**12**	P	**P**	**07 32 23.2**		**-0.5**
	3.6nm,0.7s,baz=186,slow=11,SNR=22							
MLR	**Muntele Rosu**	**48.25**	**3**	P	**P**	**07 32 59.1**		**-1.4**
	1.4nm,0.6s,baz=181,slow=4.4,SNR=12							
BUR04	**Bucovina Ar. S**	**50.34**	**2**	*e*P	**P**	**07 33 16.4**		**-0.1**
GERES	**GERESS Array B**	**52.13**	**352**	P	**P**	**07 33 29.4**		**-0.5**
	1.0nm,0.6s,baz=155,slow=7.3,SNR=5.6							
KHC	**Kasperske Hory**	**52.43**	**352**	*e*P	**P**	**07 33 32.2**		**+0.1**
KHC	**Kasperske Hory**	**52.43**	**352**	*e*P	**P**	**07 33 32.0**		**-0.1**
	2.2nm,0.8s							
DPC	**Dobruska-Polom**	**53.33**	**355**	*e*P	**P**	**07 33 39.1**		**+0.4**
AKASG	**Malin Array Be**	**53.67**	**5**	P	**P**	**07 33 40.2**		**-0.8**
	0.5nm,0.4s,baz=203,slow=8.1,SNR=4.2							
AKBB	**Malin Array Si**	**53.67**	**5**	*e*P	**P**	**07 33 40.2**		**-0.8**
AKTO	**Akhinsk**	**61.09**	**25**	P	**P**	**07 34 34.3**		**+0.7**
	0.9nm,0.4s,baz=229,slow=6.6,SNR=4.6							
EKA	**Eskdalemuir Ar**	**61.84**	**344**	P	**P**	**07 34 37.8**		**-0.7**
	1.4nm,0.7s,baz=133,slow=5.2,SNR=3.2							
KK31	**Karatay Array**	**62.73**	**38**	*e*P	**P**	**07 34 44.8**		**0.0**
KKAR	**Karatay Array**	**62.73**	**38**	*e*P	**P**	**07 34 44.5**		**-0.2**
HFS	**Hagfors**	**63.24**	**355**	P	**P**	**07 34 48.2**		**+0.4**
	2.2nm,0.7s,baz=157,slow=7.8,SNR=4.2							
FIA0	**FINESS Array S**	**64.20**	**2**	*e*P	**P**	**07 34 54.4**		**+0.4**
FINES	**FINESS Array B**	**64.20**	**2**	P	**P**	**07 34 54.4**		**+0.4**
	0.3nm,0.3s,baz=146,slow=10,SNR=3.4							
NB2	**NORSAR Subarra**	**64.38**	**354**	P	**P**	**07 34 55.1**		**-0.2**
	comp=Z,2.8nm,0.7s,baz=172,slow=6.9							
NB200	**NORSAR Array S**	**64.38**	**354**	*e*P	**P**	**07 34 53.9**		**-1.5**
NOA	**NORSAR Array B**	**64.38**	**354**	P	**P**	**07 34 53.9**		**-1.5**
	comp=Z,2.1nm,0.6s,baz=172,slow=6.6,SNR=5.3							
TARG	**Taragay, Kyrgy**	**66.69**	**42**	*e*P	**P**	**07 35 12.2**		**+1.0**
	comp=Z,3.4nm,0.7s							
BVAR	**Borovoye Array**	**68.47**	**29**	P	**P**	**07 35 22.3**		**+0.7**
	comp=Z,1.5nm,0.7s,baz=220,slow=3.8,SNR=5.7							
KURBB	**Kurchatov Arra**	**71.36**	**34**	P	**P**	**07 35 40.0**		**+0.5**
	comp=Z,2.8nm,0.6s,baz=244,slow=6.6,SNR=16							
KURK	**Kurchatov**	**71.45**	**34**	*e*P	**P**	**07 35 40.0**		**0.0**
MK01	**Makanchi Array**	**71.81**	**39**	*e*P	**P**	**07 35 42.5**		**+0.2**
MK31	**Makanchi Array**	**71.82**	**39**	*e*P	**P**	**07 35 42.6**		**+0.2**
MK32	**Makanchi Array**	**71.82**	**39**	*e*P	**P**	**07 35 42.4**		**0.0**
MKAR	**Makanchi Array**	**71.82**	**39**	P	**P**	**07 35 42.4**		**0.0**
	comp=Z,2.2nm,0.6s,baz=238,slow=4.6,SNR=22							
MKAR	**Makanchi Array**	**71.82**	**39**	*e*P	**P**	**07 35 42.6**		**+0.2**
	comp=Z,22nm,0.6s							
ARA0	**ARCESS Array S**	**72.30**	**1**	*e*P	**P**	**07 35 44.4**		**-0.4**
ARCES	**ARCESS Array B**	**72.30**	**1**	P	**P**	**07 35 44.4**		**-0.4**
	comp=Z,1.9nm,0.6s,baz=189,slow=6.9,SNR=7.1							
ZALV	**Zalesovo Beam**	**76.31**	**32**	P	**P**	**07 36 09.3**		**+0.9**
	comp=Z,3.1nm,0.5s,baz=248,slow=6.1,SNR=5.6							
ZAA1	**Zalesovo Array**	**76.31**	**32**	*e*P	**P**	**07 36 09.3**		**+0.9**
PD31	**Pinedale Array**	**121.97**	**320**	*e*PKPdf	**PKPdf**	**07 43 15.8**		**+1.0**
PDAR	**Pinedale Array**	**121.97**	**320**	PKP	**PKPdf**	**07 43 16.3**		**+1.6**
	comp=Z,0.4nm,0.8s,baz=40,slow=8.6,SNR=3.5							
NV01	**Mina Array Sit**	**129.91**	**320**	*e*PKPdf	**PKPdf**	**07 43 29.1**		**-0.9**
NVAR	**Mina Array Bea**	**129.91**	**320**	PKP	**PKPdf**	**07 43 29.2**		**-0.9**
	comp=Z,0.3nm,0.6s,baz=72,slow=2.9,SNR=1.9							

*ISCJB **25** 07:33:10.9±0.8,18°.67N±0°.08×69°.04W±0°.07,h134km, mb3.1/3, Error ellipse: s-maj=12.0km s-min=8.3km az=158.0*

*IDC **25** 07:33:10.9±2.4,18°.71N×69°.10W,h112km±29km,mb2.9/3, mb1 3.5/6,mb1mx3.1/56,mbtmp3.7/6,MS2.9/1,Ms1 2.9/1, ms1mx2.1/11, Error ellipse: s-maj=31.4km s-min=21.3km az=165.0*

ISC 25 07:33:12.2±0.8,18°.50N±0°.08×69°.06W±0°.09,h134km,n17, σ2s48/21,mb3.2/3,Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
SJG	**San Juan**	**2.79**	**98**	P	**Pn**	**07 33 56.2**		**-0.1**
	6.5nm,0.3s,baz=287,slow=11,SNR=7.9							
SJG				S	**Sn**	**07 34 29.6**		**-0.7**
	28nm,0.3s,baz=16,slow=20,SNR=12							
PCRV	**Puerto La Cruz**	**9.32**	**152**	P	**Pn**	**07 35 24.2**		**+0.7**
	1.9nm,0.3s,baz=332,slow=3.7,SNR=13							
PCRV				S	Sn	07 36 58.6		-8.1
	0.6nm,0.3s,baz=14,slow=17,SNR=2.5							
SDV	**Santo Domingo**	**9.68**	**189**	P	**Pn**	**07 35 31.0**		**+2.5**
	2.0nm,0.3s,baz=23,slow=7.7,SNR=20							
SDV				S	**Sn**	**07 37 10.3**		**-5.3**
	0.3nm,0.3s,baz=17,slow=17,SNR=2.5							
SDV				LR	LR	07 40 32.5		
	comp=Z,59nm,18.8s,baz=238,slow=45							
OCAC	**Ocana**	**11.01**	**203**	*e*P	**Pn**	**07 35 48.5**		**+2.3**
BRRC	**Barranca, Sant**	**12.20**	**202**	*e*P	**Pn**	**07 36 01.9**		**+0.2**
ZARC	**Zaragoza, Cauc**	**12.31**	**208**	*e*P	**Pn**	**07 36 05.1**		**+1.9**
PTBC	**PUERTO BERRIO,**	**13.00**	**205**	*e*P	**P**	**07 36 20.8**		**+3.4**
RUSC	**La Rusia**	**13.13**	**198**	*e*P	**Pn**	**07 36 14.2**		**-0.1**
HELC	**Santa Helena**	**13.77**	**208**	*e*P	**Pn**	**07 36 21.4**		**-0.9**
NORC	**Norcasia**	**14.05**	**205**	*e*P	**P**	**07 36 30.2**		**+1.0**
CHIC	**Chingaza**	**14.52**	**199**	*e*P	**P**	**07 36 35.2**		**+0.4**
RREF	**El Recreo**	**14.85**	**205**	*e*P	**Pn**	**07 36 37.5**		**+1.3**
PRAC	**Prado**	**15.76**	**202**	*e*P	**P**	**07 36 53.8**		**+5.7**
FLOC	**Florencia**	**18.02**	**202**	*e*P	**P**	**07 37 10.2**		**-2.8**
TXAR	**Lajitas Array**	**33.31**	**295**	P	**P**	**07 39 37.0**		**-0.4**
	0.1nm,0.4s,baz=115,slow=8.0,SNR=5.3							
TXAR				PcP	**PcP**	**07 42 16.9**		**+0.4**
	0.1nm,0.6s,baz=132,slow=5.4,SNR=2.7							
YKA	**Yellowknife Ar**	**53.99**	**336**	P	**P**	**07 42 21.5**		**-0.6**
	0.4nm,0.6s,baz=113,slow=7.4,SNR=7.6							
YKA				pP	**pP**	**07 42 50.7**		**-2.7**
	0.3nm,0.7s,baz=121,slow=8.0,SNR=4.4							
TORD	**Torodi Ar. Bea**	**67.91**	**83**	P	**P**	**07 43 58.9**		**+1.9**
	0.2nm,0.5s,baz=303,slow=8.1,SNR=2.4							

*BJI **25** 07:42:18.9,8°.70N×93°.73E,h8km,mb5.6/83,mB5.9/80, Ms6.1/94,Ms7 5.8/87*

*ISCJB **25** 07:42:20.6±0.6,8°.98N±0°.02×93°.91E±0°.02,h3km±3km, mb5.5/322,MS5.7/600, Error ellipse: s-maj=3.2km s-min=2.5km az=40.4*

*IDC **25** 07:42:21.8±0.3,9°.01N×93°.96E,h0km,mb5.1/65, mb1 5.1/67,mb1mx5.1/79,mbtmp5.1/67,ML4.3/2,MS5.9/3, Ms1 5.9/3,ms1mx5.4/8, Error ellipse: s-maj=9.7km s-min=7.8km az=36.0*

*NEIC **25** 07:42:23.4±0.1,9°.01N×93°.95E,h9km,mb5.7/178,ME6.4, MS5.7/296,MW5.7,MW5.7, Error ellipse: s-maj=3.4km s-min=2.3km az=45.0,Moment Tensor Solution. s41 Moment tensor: Scale 10¹⁷Nm; Mrr~0.46; Mθθ~3.50; Mϕϕ3.97; Mrθ~0.89; Mrϕ2.36; Mθϕ~0.57; Best double couple: M○4.60000×10¹⁷ NP1:ϕs151.00000°,δ76.00000°, λ~179.00000°. NP2:ϕs61.00000°,δ89.00000°, λ~14.00000°. Principal axes: T 4.7700, Plg9.0000°, Azm107.0000°; N -0.4600, Plg76.0000°, Azm236.0000°; P -4.3100, Plg10.0000°, Azm15.0000°; Broadband fault plane solution: P waves. NP1:ϕs64.00000°,δ85.00000°, λ~15.00000°. NP2:ϕs155.00000°,δ75.00000°, λ~175.00000°. Principal axes: T Plg7.0000°, Azm110.0000°; N Plg0.0000°, Azm0.0000°; P Plg14.0000°, Azm18.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*

*GCMT **25** 07:42:23.4±0.1,8°.89N×94°.07E,h17km,MW5.9/140, Moment Tensor Solution. s118,c219; s140,c403; Duration: 2s1 Moment tensor: Scale 10¹⁷Nm; Mrr~1.90±.05; Mθθ~4.31±.05; Mϕϕ6.21±.06; Mrθ~3.43±.18; Mθϕ3.73±.05; Mϕr~1.09±.15; Best double couple: M○7.54400×10¹⁷ NP1:ϕs59.00000°,δ79.00000°, λ~32.00000°. NP2:ϕs156.00000°,δ59.00000°, λ~167.00000°. Principal axes: T 7.8720, Plg13.0000°, Azm111.0000°; N -0.6550, Plg57.0000°, Azm221.0000°; P -7.2170, Plg30.0000°, Azm13.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

*NEIC **25** 07:42:24.0±0.0,9°.04N×94°.10E,h13km, Moment Tensor Solution. s14 Moment tensor: Scale 10¹⁷Nm; Mrr~0.12; Mθθ~4.14; Mϕϕ4.27; Mrθ1.22; Mϕ2.92; Mθr0.62; Best double couple: M○5.30000×10¹⁷ NP1:ϕs242.00000°, δ89.00000°,λ~15.00000°. NP2:ϕs332.00000°,δ75.00000°, λ~179.00000°. Principal axes: T 5.3500, Plg10.0000°, Azm288.0000°; N -0.1000, Plg74.0000°, Azm60.0000°; P -5.2500, Plg10.0000°, Azm196.0000°;*

*DJA **25** 07:42:24.2±1.5,9°.N±3°×9°.4E±°,h13km±12km,M5.7/18, mb5.7/18,mB6.0/17,MLv5.9/7,Mw(mB)5.6/17,Mwp5.8/9*

*MOS **25** 07:42:25.1±1.0,9°.03N×93°.94E,h33km,mb5.9/91, MS5.6/74,Error ellipse: s-maj=6.2km s-min=3.6km az=112.7*

ISC 25 07:42:24.5±0.4,9°.01N±0°.03×93°.91E±0°.03,h16km±2km, h16km:pP-P,n1702,σ1s60/1578,mb5.6/320,MS5.7/606, 30C-63D,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
PBA	**Port Blair**	**2.87**	**337**	*e*Pn	**Pn**	07 43 09.8		+0.2
BSI	**Banda Aceh**	**3.75**	**158**	P	**Pn**	**07 43 19.0**		**-2.8**
PKDT	**Phuket**	**4.52**	**104**	P	**Pn**	**07 43 28.6**		**-3.7**
LHMI	**Lhok Sumawe**	**4.82**	**141**	P	**Pn**	**07 43 33.5**		**-2.9**
LHMI	**Lhok Sumawe**	**4.82**	**141**	*e*Pn	**Pn**	**07 43 34.0**		**-2.4**
MLSI	**Meulaboh, Aceh**	**5.32**	**152**	P	**Pn**	**07 43 42.0**		**-1.4**
	4μm,0.9s,47μm13nm							
TRTT	**Trang**	**5.84**	**101**	P	**Pn**	**07 43 46.9**		**-3.5**
	538nm,0.9s,8μm3.4nm							
TPTI		**6.57**	**150**	P	**Pn**	**07 43 57.2**		**-3.3**
	2μm,1.0s,17μm							
KCSI	**Kotacane, Aceh**	**6.67**	**145**	P	**Pn**	**07 43 59.3**		**-2.6**
PHET	**Kaeng Krachan**	**6.82**	**55**	P	**Pn**	**07 44 03.1**		**-0.9**
	215nm,0.9s,3μm1.0nm							
SKLT	**Songkhla**	**6.89**	**105**	P	**Pn**	**07 44 01.1**		**-3.8**
	481nm,0.9s,9μm6.6nm							
TSI	**Tuntungan**	**7.17**	**140**	P	**Pn**	**07 44 13.0**		**+4.3**
SRDT	**SRDT**	**7.36**	**43**	P	**Pn**	**07 44 11.0**		**-0.4**
	177nm,1.1s,8μm1.5nm							
KULM	**Kulim**	**7.64**	**118**	*e*Pn	**Pn**	**07 44 12.3**		**-2.9**
PSI	**Prapat**	**7.93**	**141**	Pn	**Pn**	**07 44 18.1**		**-1.2**
	4.9nm,0.3s,baz=332,slow=15,SNR=35							
PSI				LR	LR	07 48 01.4		
	comp=Z,86μm,18.8s,baz=310,slow=43							
PSI	**Prapat**	**7.93**	**141**	*e*Pn	**Pn**	**07 44 19.1**		**-0.2**
PSI	**Prapat**	**7.93**	**141**	*e*P	**Pn**	**07 44 19.1**		**-0.2**
IPM	**Ipoh**	**8.38**	**122**	*e*Pn	Pn	07 44 20.2		-5.2
GSI	**Gunungsitoli**	**8.48**	**154**	P	**Pn**	**07 44 23.7**		**-3.1**
	285nm,1.5s,8μm							
GSI	**Gunungsitoli**	**8.48**	**154**	*e*Pn	**Pn**	**07 44 25.9**		**-0.8**
NAYO	**Nakonayok**	**8.97**	**53**	P	**Pn**	**07 44 32.7**		**-0.8**
	99nm,1.6s,2μm0.5nm							
MNSI	**Mandalling Nat**	**9.92**	**145**	P	**Pn**	**07 44 43.7**		**-2.8**
	242nm,0.8s,4μm							
PBKT	**Sadao Pong**	**10.19**	**42**	P	**

	comp=Z,170nm,1.5s								
KMI						pmax	pmax		
	comp=Z,9μm,5.7s								
KMI						LR	LR		
	comp=Z,27μm,13.1s								
KMI						LR	LR		
	comp=Z,27μm,13.1s								
KMI						LR	LR		
	comp=Z,29μm,12.8s								
LKP	**Lekhapani**	**18.32**	**5**	*e*P		**Pn**	**07 46 37.5**	**-0.5**	
QIZ	**Qiongzhong**	**18.37**	**55**	P		**Pn**	**07 46 40.0**	**+1.2**	
QIZ				S		**Sn**	**07 50 02.0**	**-1.8**	
QIZ				sS		**sS**	**07 50 13.0**	**-2.6**	
QIZ				pmax	pmax				
	comp=Z,7μm,6.9s								
QIZ				LR	LR				
	comp=Z,153μm,11.3s								
QIZ				LR	LR				
	comp=Z,64μm,12.8s								
QIZ	**Qiongzhong**	**18.37**	**55**	*e*Pn		**Pn**	**07 46 39.5**	**+0.8**	
	comp=Z,708nm,2.0s								
ZIRO	**ZIRO**	**18.42**	**360**	*e*P		**P**	**07 46 38.9**	**-0.5**	
ODAN	**Odare**	**18.80**	**342**	*e*P		**Pn**	**07 46 44.6**	**+0.5**	
	comp=Z,1μm,1.2s								
GTK	**Tadong**	**18.89**	**345**	*e*P		**Pn**	**07 46 45.7**	**+0.5**	
KLRI	**Killari**	**19.07**	**300**	*e*P		**P**	**07 46 44.5**	**-2.0**	
RAMN	**Ramite**	**19.14**	**340**	*e*P		**Pn**	**07 46 49.4**	**+1.1**	
	comp=Z,2μm,1.1s								
SBUM	**Sibu**	**19.34**	**109**	*e*P		**P**	**07 46 49.3**	**-0.1**	
	comp=Z,246nm,1.0s								
JIRN	**Jiri**	**19.93**	**340**	*e*P		**Pn**	**07 46 57.6**	**-0.3**	
	comp=Z,3μm,1.1s								
PKIN	**Phulchoki**	**20.14**	**338**	*e*P		Pn	07 47 00.0	-0.3	
	comp=Z,730nm,0.7s								
GUN	**Gumba**	**20.27**	**339**	*e*P		Pn	07 47 01.2	-0.6	
	comp=Z,2μm,0.9s								
DMN	**Daman**	**20.28**	**337**	*e*P		Pn	07 47 01.2	-0.7	
	comp=Z,577nm,0.8s								
KKN	**Kakni**	**20.38**	**338**	*e*P		Pn	07 47 02.1	-0.9	
	comp=Z,735nm,0.9s								
LSA	**Lhasa**	**20.75**	**353**	P		**P**	**07 47 05.5**	**+0.4**	
LSA				S		**S**	**07 50 51.3**	**-5.3**	
LSA				pmax	pmax				
	comp=Z,430nm,1.2s								
LSA				LR	LR				
	comp=Z,3μm,22.3s								
LSA				LR	LR				
	comp=Z,5μm,15.2s								
LSA				LR	LR				
	comp=Z,14μm,23.1s								
LSA	**Lhasa**	**20.75**	**353**	*e*P		**P**	**07 47 05.8**	**+0.7**	
	comp=Z,450nm,1.1s								
LSA				LR	LR				
	comp=Z,5μm,19.0s								
LSA	**Lhasa**	**20.75**	**353**	P		**P**	**07 47 05.6**	**+0.5**	
LSA	**Lhasa**	**20.75**	**353**	*e*P		**P**	**07 47 05.8**	**+0.7**	
LSA				pmax	pmax				
	comp=Z,450nm,1.1s								
LSA				MLR	MLR				
	comp=Z,5μm,19.0s								
GKN	**Gorkha**	**20.82**	**336**	*e*P		Pn	07 47 06.8	-1.3	
	comp=Z,1μm,0.8s								
LEM	**Lembang**	**20.84**	**139**	P		**P**	**07 47 04.8**	**-1.0**	
	comp=Z,46nm,0.7s,baz=262,slow=5.5,SNR=6.9								
LEM				LR	LR		07 55 14.4		
	comp=Z,30μm,20.7s,baz=294,slow=37								
KOLN	**Koldanda**	**21.05**	**334**	*e*P		**P**	**07 47 09.9**	**+1.8**	
	comp=Z,519nm,0.8s								
GYA	**Guiyang**	**21.15**	**33**	⇓*i*P		**P**	**07 47 10.5**	**+1.3**	
GYA				PP		**PnPn**	**07 47 33.0**	**+4.4**	
GYA				S		**S**	**07 51 07.0**	**+2.9**	
GYA				PcP		**PcP**	**07 51 16.5**	**+1.5**	
GYA				ScP		**ScP**	**07 54 51.0**	**-0.4**	
GYA				pmax	pmax				
	comp=Z,180nm,0.9s								
GYA				pmax	pmax				
	comp=Z,3μm,8.7s								
GYA				LR	LR				
	comp=Z,20μm,14.9s								
GYA				LR	LR				
	comp=Z,25μm,14.6s								
GYA				LR	LR				
	comp=Z,36μm,16.2s								
COCO	**West Island**	**21.26**	**172**	*e*P		**P**	**07 47 11.4**	**+1.2**	
	comp=Z,2μm,1.4s								
COCO				LR	LR				
	comp=Z,10μm,19.0s								
COCO	**West Island**	**21.26**	**172**	*ce*P		**P**	**07 47 11.4**	**+1.2**	
DANN	**Dangsing**	**21.48**	**335**	*e*P		**P**	**07 47 14.4**	**+1.5**	
PYUN	**Piuthan**	**21.60**	**333**	*e*P		**P**	**07 47 15.2**	**+1.1**	
	comp=Z,1μm,1.0s								
KKM	**Kota Kinabalu**	**22.31**	**96**	*e*P		**P**	**07 47 21.8**	**+0.1**	
	comp=Z,829nm,1.8s								
KKM				LR	LR				
	comp=Z,23μm,20.0s								
XMIS	**Christmas Isla**	**22.61**	**149**	*e*P		**P**	**07 47 24.8**	**0.0**	
	comp=Z,702nm,0.9s								
SMRI	**Semarang**	**22.93**	**134**	*e*P		**P**	**07 47 28.1**	**0.0**	
	comp=Z,659nm,1.1s								
SMRI				LR	LR				
	comp=Z,14μm,20.0s								
MCO	**Taipa Grande**	**22.94**	**53**	P		**P**	**07 47 30.0**	**+1.8**	
GZH	**Guangzhou**	**23.30**	**51**	P		**P**	**07 47 37.8**	**+6.0**	
GZH				PcP		**PcP**	**07 51 11.8**	**-7.4**	
GZH				S		Sn	07 52 01.5	-0.7	
GZH				pmax	pmax				
	comp=Z,4μm,6.0s								
HKC	**Hong Kong Obse**	**23.52**	**53**	⇑P		**P**	**07 47 35.0**	**+0.9**	
UGM	**Wanagama**	**23.59**	**135**	*e*P		**P**	**07 47 35.9**	**+1.1**	
	comp=Z,668nm,1.2s								
UGM				LR	LR				
	comp=Z,24μm,19.0s								
CD2	**Chengdu**	**23.65**	**22**	⇓*i*P		**P**	**07 47 35.8**	**+0.5**	
CD2				pP		pP	07 47 38.8	-1.3	
CD2				sP		sP	07 47 40.0	-2.1	
CD2				S		**S**	**07 51 51.3**	**+1.8**	
CD2				sS		sS	07 51 56.5	-1.0	
CD2				pmax	pmax				
	comp=Z,1μm,0.9s								
CD2				pmax	pmax				
	comp=Z,8μm,5.2s								
CD2				LR	LR				
	comp=Z,35μm,12.3s								
CD2				LR	LR				
	comp=Z,33μm,12.7s								
CD2				LR	LR				
	comp=Z,34μm,14.3s								
MYLDM	**Lahad Datu**	**24.69**	**97**	*e*P		**P**	**07 47 46.2**	**+1.1**	
	comp=Z,1μm,1.6s								
MYLDM				LR	LR				
	comp=Z,19μm,20.0s								
ENH	**Enshi**	**25.68**	**32**	*e*P		**P**	**07 47 54.0**	**0.0**	
	comp=Z,181nm,0.9s								
ENH				LR	LR				
	comp=Z,30μm,18.0s								
LUBP	**Lubang**	**26.23**	**77**	*e*P		**P**	**07 47 58.4**	**-0.7**	
JAGI	**Jajag, Banyuwa**	**26.61**	**130**	*e*P		**P**	**07 48 01.6**	**-0.8**	
	comp=Z,108nm,1.2s								
JAGI				LR	LR				
	comp=Z,20μm,20.0s								
DGAR	**Diego Garcia**	**26.89**	**233**	PFAKE			07 48 20.0	+15	
DGAR				LR	LR				
	comp=Z,8μm,20.0s								
H08S3	**Diego Garcia H**	**27.00**	**233**	T		T	08 15 12.0		
	baz=52,slow=75,SNR=776								
H08S2	**Diego Garcia H**	**27.00**	**233**	T		T	08 15 17.0		
	baz=52,slow=75,SNR=897								
H08S1	**Diego Carcia H**	**27.02**	**233**	T		T	08 15 12.8		
	baz=52,slow=75,SNR=675								
H08N1	**Diego Carcia H**	**27.45**	**237**	T		T	08 15 42.5		
	baz=46,slow=75,SNR=2.9								
H08N2	**Diego Garcia H**	**27.45**	**237**	T		T	08 15 34.6		
	baz=46,slow=75,SNR=3.1								
H08N3	**Diego Garcia H**	**27.47**	**237**	T		T	08 15 44.0		
	baz=46,slow=75,SNR=3.2								
APYP	**Conner**	**27.97**	**69**	*e*P		**P**	**07 48 14.7**	**0.0**	
QZH	**Quanzhou**	**28.35**	**53**	⇓*i*P		**P**	**07 48 19.0**	**+1.1**	
QZH				S		**S**	**07 53 06.3**	**+2.1**	
QZH				PcS		**PcS**	**07 55 15.5**	**+2.4**	
QZH				pmax	pmax				
	comp=Z,1μm,5.9s								
QZH				LR	LR				
	comp=Z,20μm,11.4s								
QZH				LR	LR				
	comp=Z,33μm,13.3s								
QZH				LR	LR				
	comp=Z,41μm,13.7s								
LZH	**Lanzhou**	**28.43**	**17**	⇓P		**P**	**07 48 19.5**	**+0.7**	
LZH				pP		sP	07 48 24.0	-1.7	
LZH				sP		pP	07 48 27.0	+3.3	
LZH				PP		**PnPn**	**07 49 12.8**	**+4.7**	
LZH				S		**S**	**07 53 05.5**	**-0.1**	
LZH				sS		sS	07 53 13.0	-0.7	
LZH				SS		**SnSn**	**07 54 32.3**	**+8.1**	
LZH				pmax	pmax				
	comp=Z,230nm,1.9s								
LZH				pmax	pmax				
	comp=Z,2μm,4.3s								
LZH				LR	LR				
	comp=Z,47μm,15.0s								
LZH				LR	LR				
	comp=Z,30μm,12.7s								
LZH				LR	LR				
	comp=Z,52μm,14.9s								
RCP	**Roxas**	**28.48**	**82**	⇑*e*P		**P**	**07 48 21.9**	**+2.7**	
WHN	**Wuhan**	**28.69**	**39**	⇓P		**P**	**07 48 21.8**	**+0.9**	
WHN				S		**S**	**07 53 13.0**	**+3.6**	
WHN				pmax	pmax				
	comp=Z,620nm,1.7s								
WHN				LR	LR				
	comp=Z,95μm,19.5s								
WHN				LR	LR				
	comp=Z,32μm,11.2s								
WHN				LR	LR				
	comp=Z,46μm,17.2s								
TPUB	**Ta-pu**	**29.26**	**58**	PFAKE			07 48 40.0	+14	
TPUB				LR	LR				
	comp=Z,20μm,18.0s								
KAPI	**Kappang**	**29.29**	**117**	PFAKE			07 48 40.0	+14	
KAPI				LR	LR				
	comp=Z,15μm,21.0s								
TWG	**Pinlang**	**29.44**	**59**	*e*P		**P**	**07 48 27.7**	**+0.1**	
	comp=Z,420nm,1.3s								
TWG				LR	LR				
	comp=Z,80μm,19.0s								
SSLB	**Suanglung**	**29.73**	**57**	*e*P		**P**	**07 48 31.3**	**+1.0**	
	comp=Z,54nm,1.1s								
SSLB				LR	LR				
	comp=Z,23μm,18.0s								
YULB	**Yu-li**	**29.86**	**58**	*e*P		**P**	**07 48 32.4**	**+1.0**	
	comp=Z,161nm,1.6s								
YULB				LR	LR				
	comp=Z,18μm,19.0s								
NACB	**Ninganchiao**	**30.43**	**57**	PFAKE			07 48 50.0	+14	
NACB				LR	LR				
	comp=Z,25μm,19.0s								
LUWI	**Luwuk**	**30.44**	**108**	PFAKE			07 48 50.0	+13	
LUWI				LR	LR				
	comp=Z,16μm,20.0s								
YHNB	**Yeheng**	**30.46**	**56**	PFAKE			07 48 50.0	+13	
YHNB				LR	LR				
	comp=Z,22μm,19.0s								
TATO	**Taipei**	**30.68**	**55**	PFAKE			07 48 50.0	+11	
TATO				LR	LR				
	comp=Z,12μm,18.0s								
GTA	**Gaotai**	**30.73**	**9**	P		**P**	**07 48 39.3**	**+0.2**	
GTA				pP		pP	07 48 43.5	-0.5	
GTA				sP		sP	07 48 46.8	+0.8	
GTA				S		**S**	**07 53 41.3**	**-0.2**	
GTA				ScP		**ScP**	**07 55 18.3**	**-0.6**	
GTA				PcS		**PcS**	**07 55 20.5**	**-0.1**	
GTA				SS		**SnSn**	**07 55 23.8**	**+3.7**	
GTA				ScS		**ScS**	**07 59 14.8**	**-0.7**	
GTA				pmax	pmax				
	comp=Z,59nm,1.9s								
GTA				pmax	pmax				
	comp=Z,2μm,5.7s								
GTA				LR	LR				
	comp=Z,9μm,21.1s								
GTA				LR	LR				
	comp=Z,9μm,13.3s								
GTA				LR	LR				
	comp=Z,11μm,21.4s								
NIL	**Nilore**	**31.04**	**325**	*e*P		**P**	**07 48 42.0**	**+0.3**	
	comp=Z,274nm,0.9s								
NIL				LR	LR				
	comp=Z,12μm,20.0s								
NIL	**Nilore**	**31.04**	**325**	*e*P		**P**	**07 48 42.0**	**+0.3**	
NIL				pmax	pmax				
	comp=Z,270nm,1.0s								
DAV	**Davao City (W)**	**31.41**	**91**	PFAKE			07 49 00.0	+15	
DAV				LR	LR				
	comp=Z,10μm,20.0s								
YOJ	**Yonaguni jima**	**31.72**	**57**	PFAKE			07 49 00.0	+12	
YOJ				LR	LR				
	comp=Z,18μm,18.0s								
NJ2	**Nanjing**	**32.57**	**42**	*e*P		**P**	**07 48 56.0**	**+0.8**	
NJ2				pP		**sP**	**07 49 00.3**	**-1.8**	
NJ2				sP		**pP**	**07 49 01.8**	**+1.7**	
NJ2				S		**S**	**07 54 05.5**	**-4.7**	
NJ2				pmax	pmax				
	comp=Z,70nm,0.9s								
NJ2				pmax	pmax				
	comp=Z,860nm,4.9s								
NJ2				LR	LR				
	comp=Z,20μm,15.7s								
NJ2				LR	LR				
	comp=Z,13μm,13.6s								
NJ2				LR	LR				
	comp=Z,22μm,15.7s								
TIY	**Taiyuan**	**33.11**	**27**	*e*P		**P**	**07 49 00.3**	**+0.3**	
TIY				S		**S**	**07 54 16.0**	**-2.7**	
TIY				SS		**SnSn**	**07 56 23.0**	**+5.1**	
TIY				pmax	pmax				
	comp=Z,120nm,1.2s								
TIY				pmax	pmax				
	comp=Z,1μm,6.6s								
TIY				LR	LR				
	comp=Z,25μm,12.2s								
TIY				LR	LR				
	comp=Z,18μm,10.8s								
TIY				LR	LR				
	comp=Z,36μm,12.2s								
SSE	**Sheshan**	**33.58**	**45**	P		**P**	**07 49 04.3**	**+0.3**	
SSE				pmax	pmax				
	comp=Z,37nm,1.4s								
SSE				pmax	pmax				
	comp=Z,730nm,5.1s								
SSE				LR	LR				
	comp=Z,6μm,10.6s								
KBL	**Kabul**	**34.14**	**322**	*e*P		**P**	**07 49 09.8**	**+0.7**	
	comp=Z,85nm,1.0s								
KBL				LR	LR				
	comp=Z,11μm,20.0s								
KBL	**Kabul**	**34.14**	**322**	*e*P		**P**	**07 49 09.8**	**+0.7**	
KBL				pmax	pmax				
	comp=Z,85nm,1.0s								
TNTI	**Ternate**	**34.30**	**102**	PFAKE			07 49 20.0	+10	
TNTI				LR	LR				
	comp=Z,2μm,22.0s								
TIA	**Tai'an**	**34.34**	**34**	P		**P**	**07 49 11.5**	**+0.9**	
TIA				S		**S**	**07 54 40.3**	**+2.7**	
TIA				pmax	pmax				
	comp=Z,65nm,1.6s								
TIA				pmax	pmax				
	comp=Z,1μm,3.7s								
TIA				LR	LR				
	comp=Z,9μm,14.9s								
TIA				LR	LR				
	comp=Z,25μm,15.1s								
TIA				LR	LR				
	comp=Z,11μm,10.3s								
KSH	**Kashi**	**34.35**	**335**	P		**P**	**07 49 09.5**	**-1.3**	
KSH				sP		pP	07 49 15.0	-0.7	
KSH				PP		**PnPn**	**07 50 25.8**	**+0.3**	
KSH				PcP		**PcP**	**07 51 44.0**	**-2.7**	
KSH				S		**S**	**07 54 34.5**	**-3.5**	
KSH				SS		**SnSn**	**07 56 46.5**	**-1.6**	
KSH				pmax	pmax				
	comp=Z,300nm,0.8s								
KSH				pmax	pmax				
	comp=Z,2μm,6.6s								
KSH				LR	LR				
	comp=Z,7μm,12.4s								
KSH				LR	LR				
	comp=Z,5μm,11.5s								
KSH				LR	LR				
	comp=Z,7μm,13.4s								
BTO	**Baotou**	**34.57**	**22**	*e*P		**P**	**07 49 12.0**	**-0.6**	
BTO				pmax	pmax				
	comp=Z,25nm,1.7s								
WMQ	**Urumqi**	**35.10**	**352**	P		**P**	**07 49 19.0**	**+1.9**	
WMQ				pP		sP	07 49 22.8	-1.3	
WMQ				sP		pP	07 49 27.5	+5.4	
WMQ				S		**S**	**07 54 50.5**	**+1.3**	
WMQ				SS		**SnSn**	**07 57 05.8**	**-0.1**	
WMQ				pmax	pmax				
	comp=Z,240nm,2.1s								
WMQ				pmax	pmax				
	comp=Z,3μm,5.1s								
WMQ				LR	LR				
	comp=Z,17μm,17.5s								
WMQ				LR	LR				
	comp=Z,24μm,18.9s								
WMQ				LR	LR				
	comp=Z,11μm,18.9s								
BATI	**Baumata**	**35.23**	**122**	P		**P**	**07 49 17.6**	**-0.9**	
	comp=Z,48nm,0.8s,baz=355,slow=5.1,SNR=9.3								
HHC	**Hu-ho-hao-te**	**35.37**	**23**	*e*P		**P**	**07 49 21.3**	**+1.8**	
HHC				pmax	pmax				
	comp=Z,16nm,0.9s								
SOEI	**Soe**	**35.51**	**121**	*e*P		**P**	**07 49 20.1**	**-0.9**	
	comp=Z,203nm,0.8s								
SOEI				LR	LR				
	comp=Z,26μm,19.0s								
TARG	**Taragay, Kyrgy**	**35.56**	**339**	*e*P		**P**	**07 49 22.3**	**+0.8**	
	comp=Z,161nm,0.9s								
TARG				LR	LR				
	comp=Z,9μm,21.0s								
SFK	**Sufi-Kurgan**	**35.84**	**333**	*i* P		**P**	**07 49 28.2**	**+4.5**	
SFK				pmax	pmax				
	comp=Z,219nm,1.3s								
NRN	**Naryn**	**35.97**	**337**	*e*P		**P**	**07 49 25.8**	**+0.9**	
	comp=Z,68nm,1.0s								
NRN				LR	LR				
	comp=Z,14μm,21.0s								
NRN	**Naryn**	**35.97**	**337**	*e*P		**P**	**07 49 25.8**	**+0.9**	
NRN				pmax	pmax				
	comp=Z,68nm,1.0s								
NRN				MLR	MLR				
	comp=Z,14μm,21.0s								
PRZ	**Przheval'sk**	**36.02**	**340**	*e*P		**P**	**07 49 26.3**	**+1.1**	
	comp=Z,123nm,0.8s								
PRZ				LR	LR				
	comp=Z,6μm,19.0s								
PRZ	**Przheval'sk**	**36.02**	**340**	*e*P		**P**	**07 49 26.3**	**+1.1**	
PRZ				pmax	pmax				
	comp=Z,123nm,0.8s								
PRZ				MLR	MLR				
	comp=Z,6μm,19.0s								
KDJ	**Kajisay**	**36.13**	**339**	*e*P		**P**	**07 49 26.6**	**+0.5**	
	comp=Z,128nm,0.9s								
KDJ				*e*S		**S**	**07 55 12.0**	**+6.6**	
KDJ				LR	LR				
	comp=Z,11μm,21.0s								
KDJ	**Kajisay**	**36.13**	**339**	P		**P**	**07 49 26.7**	**+0.5**	
SHLS	**Shalkode**	**36.29**	**342**	⇓*i*P		**P**	**07 49 27.1**	**-0.3**	
	comp=Z,1μm,1.9s								
SHLS				*e*S		**S**	**07 55 07.5**	**-0.1**	
SHLS				LR	LR		08 07 47.7		
	comp=Z,2μm,14.8s								
UZB	**Uzynbulak**	**36.42**	**342**	⇓*i*P		**P**	**07 49 28.9**	**+0.4**	
	comp=Z,447nm,1.4s								
UZB				*e*PP		**PP**	**07 50 51.6**	**+0.1**	
SATY	**Saty**	**36.53**	**341**	⇓*i*P		**P**	**07 49 30.2**	**+0.6**	
	comp=Z,1μm,2.0s								
SATY				*e*PP		**PP**	**07 50 53.1**	**+0.3**	
SATY				*e*S		**S**	**07 55 13.1**	**+1.7**	
ULHL	**Ulahol**	**36.57**	**338**	P		**P**	**07 49 30.9**	**+0.9**	
	SNR=20								
WSAR	**Wadi Sarin**	**36.60**	**297**	P		**P**	**07 49 31.4**	**+1.2**	
	comp=Z,6.8nm,0.8s,baz=147,slow=5.9,SNR=7.6								
WSAR				S		**S**	**07 55 15.6**	**+2.9**	
	comp=Z,2.1nm,0.7s,baz=98,slow=13,SNR=2.5								
ZHN	**Zhinishke**	**36.62**	**341**	⇓*e*P		**P**	**07 49 30.9**	**+0.7**	
	comp=Z,336nm,1.9s								
BJT	**Baijiatuao**	**36.70**	**29**	*e*P		**P**	**07 49 32.4**	**+1.6**	
	comp=Z,204nm,1.0s								
BJT				LR	LR				
	comp=Z,11μm,19.0s								
BJT	**Baijiatuao**	**36.70**	**29**	*e*P		**P**	**07 49 32.4**	**+1.6**	
BJT				pmax	pmax				
	comp=Z,204nm,1.0s								
BJT				MLR	MLR				
	comp=Z,11μm,19.0s								
BJI	**Beijing**	**36.73**	**29**	P		**P**	**07 49 32.8**	**+1.8**	
BJI				S		**S**	**07 55 16.0**	**+1.9**	
BJI				pmax	pmax				
	comp=Z,200nm,1.3s								
BJI				pmax	pmax				
	comp=Z,3μm,5.8s								
BJI				LR	LR				
	comp=Z,10μm,20.6s								
BJI				LR	LR				
	comp=Z,4μm,22.6s								
BJI				LR	LR				
	comp=Z,9μm,28.4s								
KPKS	**Kokpek**	**36.81**	**341**	⇓*i*P		**P**	**07 49 32.2**	**+0.3**	
KZA	**Kyzart**	**36.81**	**337**	P		**P**	**07 49 32.3**	**+0.1**	
	SNR=66								
JOW	**Kunigami**	**37.02**	**57**	PFAKE			07 49 50.0	+16	
JOW				LR	LR				
	comp=Z,12μm,18.0s								
BIDO	**Bidbid**	**37.13**	**297**	P		**P**	**07 49 37.9**	**+3.2**	
	SNR=25								
AAA	**Alma-Ata**	**37.17**	**339**	*e*P		**P**	**07 49 36.2**	**+1.3**	
	comp=Z,698nm,1.9s								
AAA				LR	LR		08 08 05.6		
	comp=Z,1μm,15.3s								
AAA	**Alma-Ata**	**37.17**	**339**	*e*P		**P**	**07 49 35.7**	**+0.8**	
AAA				*e*S		**S**	**07 55 21.3**	**+0.3**	
AAA				pmax	pmax				
	comp=Z,600nm,1.6s								
AAA				smax	smax				
	comp=E,2μm,5.4s								
UCH	**Uchtor**	**37.23**	**336**	P		**P**	**07 49 36.2**	**+0.3**	
	SNR=64								
TKM2	**Tokmak 2**	**37.40**	**338**	P		**P**	**07 49 37.1**	**+0.2**	
	SNR=66								
TKM2	**Tokmak 2**	**37.40**	**338**	*i* P		**P**	**07 49 37.0**	**0.0**	
TKM2				pmax	pmax				
	comp=Z,36nm,0.8s								
KBK	**Karagaybulak**	**37.42**	**337**	P		**P**	**07 49 38.7**	**+1.6**	
	SNR=81								
AML	**Almayashu**	**37.49**	**335**	P		**P**	**07 49 38.7**	**+0.7**	
	SNR=205								
BMNS	**Besmoynak**	**37.53**	**338**	*e*P		**P**	**07 49 38.2**	**+0.2**	
	comp=Z,1μm,1.2s								
BMNS				*e*S		**S**	**07 55 27.8**	**+1.1**	
AAK	**Ala-Archa**	**37.58**	**336**	P		**P**	**07 49 39.4**	**+0.9**	
	SNR=66								
AAK	**Ala-Archa**	**37.58**	**336**	*e*P		**P**	**07 49 39.4**	**+0.9**	
	comp=Z,128nm,0.9s								
AAK				LR	LR				
	comp=Z,16μm,21.0s								
AAK	**Ala-Archa**	**37.58**	**336**	*i* P		**P**	**07 49 39.1**	**+0.6**	
	SNR=100								
AAK	**Ala-Archa**	**37.58**	**336**	*de*P		**P**	**07 49 39.1**	**+0.6**	
AAK				pmax	pmax				
	comp=Z,156nm,1.2s								
FRU	**Bishkek**	**37.70**	**337**	⇓*i*P		**P**	**07 49 40.5**	**+1.2**	
FRU				*i*			07 49 49.5		
FRU				*e*S		**S**	**07 55 31.0**	**+2.0**	
FRU				pmax	pmax				
	comp=Z,370nm,2.1s								
CHMS	**Chumysh**	**37.79**	**337**	P		**P**	**07 49 41.1**	**+1.0**	
	SNR=28								
EKS2	**Erkin-Say**	**37.89**	**336**	P		**P**	**07 49 41.9**	**+0.8**	
	SNR=61								
KUU	**Kurty**	**37.97**	**339**	⇓*e*P		**P**	**07 49 41.4**	**-0.2**	
	comp=Z,330nm,1.4s								
KUU				*e*S		**S**	**07 55 34.0**	**+1.0**	
KUU				LR	LR		08 08 36.0		
	comp=Z,1μm,15.6s								
USP	**Ospenovka**	**38.11**	**337**	P		**P**	**07 49 43.0**	**+0.2**	
	SNR=90								
TDK	**Taldygorghan**	**38.28**	**342**	*e*P		**P**	**07 49 44.9**	**+0.7**	
	comp=Z,554nm,1.4s								
TDK				LR	LR		08 09 43.8		
	comp=Z,5μm,18.3s								
SOHO	**SOHO**	**38.70**	**297**	*i* P		**P**	**07 49 50.3**	**+2.4**	
	SNR=23								
DL2	**Dalian**	**38.78**	**35**

DL2 LR LR
comp=Z,15µm,17.1s
DL2 LR LR
comp=Z,13µm,16.7s
MK01 Makanchi Array 38.91 347 *e*P **P 07 49 48.7 -0.8**
MK31 Makanchi Array 38.94 347 *e*P **P 07 49 49.9 +0.2**
MK31 Makanchi Array 38.94 347 *ce*P **P 07 49 49.5 -0.2**
MK31 pmax pmax
comp=Z,54nm,1.1s
MK32 Makanchi Array 38.94 347 *e*P **P 07 49 49.8 +0.1**
MK32 *e*S **S 07 55 48.0 +0.4**
MKAR Makanchi Array 38.94 347 P **P 07 49 49.8 +0.1**
comp=Z,36nm,1.0s,baz=158,slow=7.8,SNR=140
MKAR S **S 07 55 48.0 +0.4**
comp=Z,1.5nm,1.0s,baz=134,slow=6.2,SNR=1.9
MKAR Makanchi Array 38.94 347 *e*P **P 07 49 49.9 +0.1**
comp=Z,172nm,0.8s
MKAR S **S 07 55 48.0 +0.4**
MKAR LR LR
comp=Z,400nm,20.0s
MKAR Makanchi Array 38.94 347 *e*P **P 07 49 49.9 +0.2**
MKAR pmax pmax
comp=Z,170nm,0.8s
MAKZ Makanchi 39.02 347 *e*P **P 07 49 50.2 -0.2**
comp=Z,77nm,1.5s
MAKZ *e*S **S 07 55 53.5 +4.7**
MAKZ LR LR
comp=Z,2µm,20.0s
MAKZ Makanchi 39.02 347 *i* P **P 07 49 49.1 -1.3**
MAKZ pmax pmax
comp=Z,43nm,1.3s
ZSN Zaisan 39.07 350 ⇓ *i*P **P 07 49 51.7 +0.9**
comp=Z,152nm,1.2s
ZSN *e*S **S 07 55 52.0 +2.4**
DZA Taraz 39.12 333 *e*P **P 07 49 51.8 +0.5**
comp=Z,513nm,1.5s
IUG Iuzhnay 39.13 332 ⇓ *i*P **P 07 49 52.1 +0.7**
comp=Z,1µm,1.0s
UOSS Minazif 39.22 299 *e*P **P 07 49 53.9 +1.5**
comp=Z,61nm,1.0s
UOSS LR LR
comp=Z,4µm,20.0s
UOSS Minazif 39.22 299 P **P 07 49 54.1 +1.7**
UOSS Minazif 39.22 299 *i* P **P 07 49 54.5 +2.2**
SNR=10
MDH Madha 39.24 299 P **P 07 49 53.8 +1.3**
HATD Hatta, Dubai 39.25 298 P **P 07 49 54.9 +2.3**
SNR=18
HATD Hatta, Dubai 39.25 298 *i* P **P 07 49 54.8 +2.3**
SNR=7.1
ASHO Ashiyiah 39.27 298 P **P 07 49 55.9 +3.1**
SNR=12
ASHO Ashiyiah 39.27 298 *i* P **P 07 49 55.4 +2.6**
SNR=20
MBWA Marble Bar 39.27 140 *e*P **P 07 49 52.1 -0.6**
comp=Z,52nm,1.2s
MBWA LR LR
comp=Z,8µm,20.0s
ALNE Al Ain 39.37 297 *i* P **P 07 49 56.2 +2.6**
SNR=23
BANOM Banah 39.44 300 P **P 07 49 56.7 +2.6**
BANOM Banah 39.44 300 P **P 07 49 56.5 +2.3**
CHM Chimkent 39.46 331 *e*P **P 07 49 55.5 +1.4**
comp=Z,1µm,1.3s
SHME Shamm 39.61 300 P **P 07 49 58.1 +2.5**
KK31 Karatay Array 39.65 333 *e*P **P 07 49 55.9 +0.2**
KK31 Karatay Array 39.65 333 *ce*P **P 07 49 55.9 +0.2**
KK31 pmax pmax
comp=Z,72nm,1.1s
KKAR Karatay Array 39.65 333 *e*P **P 07 49 55.9 +0.2**
KKAR Karatay Array 39.65 333 *e*P **P 07 49 55.9 +0.2**
NAZ Nazwa, Dubai 39.70 298 P **P 07 49 58.2 +1.8**
FAKI Fak Fak 40.01 106 *e*P **P 07 49 58.4 -0.7**
comp=Z,72nm,0.9s
FAKI LR LR
comp=Z,4µm,22.0s
SONA0 Songino Array 40.11 13 *e*P **P 07 49 59.9 +0.3**
SONA0 *e*PcP **PcP 07 52 04.1 0.0**
SONM Songino Array 40.11 13 P **P 07 49 59.9 +0.3**
comp=Z,15nm,1.0s,baz=197,slow=9.1,SNR=58
SONM PcP **PcP 07 52 04.1 0.0**
comp=Z,13nm,1.0s,baz=201,slow=3.9,SNR=5.8
SONA1 Songino Array 40.13 13 *e*P **P 07 49 59.0 -0.7**
AJN Ajban 40.17 298 *i* P **P 07 50 02.6 +2.3**
SNR=12
TJN Taejon 40.80 43 *de*P **P 07 50 05.6 +0.3**
SAUI Saumlaki 40.90 113 PFAKE 07 50 20.0 +14
SAUI LR LR
comp=Z,10µm,20.0s
DGZ Jazzator, Alta 40.92 354 *i* P **P 07 50 06.8 +0.5**
DGZ pmax pmax
comp=Z,8.0nm,0.4s
INCN Inchon 40.94 41 *e*P **P 07 50 05.5 -1.0**
comp=Z,320nm,1.6s
INCN LR LR
comp=Z,15µm,18.0s
MZR Muzera 41.12 295 *i* P **P 07 50 10.7 +2.5**
SNR=16
JNU Nakatsue 41.67 49 P **P 07 50 12.8 +0.2**
comp=Z,40nm,0.8s,baz=150,slow=2.2,SNR=15
JNU Nakatsue 41.67 49 *e*P **P 07 50 12.8 +0.2**
comp=Z,77nm,1.1s
KS15 Wonju Array Si 41.74 42 *e*P **P 07 50 13.3 +0.4**
KSAR Wonju Array Be 41.74 42 P **P 07 50 13.2 +0.3**
KSAR Wonju Array Be 41.74 42 P **P 07 50 13.3 +0.3**
KS01 Wonju Array Si 41.76 42 *e*P **P 07 50 12.7 -0.4**
KSRS Korea Array 41.77 42 P **P 07 50 13.2 0.0**
comp=Z,16nm,1.0s,baz=241,slow=8.7,SNR=34
SNY Shenyang 41.85 34 ⇓ P **P 07 50 14.8 +1.0**
SNY S **S 07 56 34.0 +2.9**
SNY pmax pmax
comp=Z,240nm,1.2s
SNY pmax pmax
comp=Z,2µm,3.7s
SNY LR LR
comp=Z,4µm,15.7s
SNY LR LR
comp=Z,15µm,15.1s
SNY LR LR
comp=Z,14µm,13.9s
ZAK Zakamensk 41.97 9 *e*P **P 07 50 14.5 -0.3**
ZAK pmax pmax
comp=Z,20nm,1.6s
HVS Khovu-Aksy 42.00 360 *c* *i*P **P 07 50 15.7 +0.7**
HVS pmax pmax
comp=Z,357nm,1.2s
KNRA Kununurra 42.35 125 P **P 07 50 17.9 -0.3**
baz=42,SNR=3.7
MEEK Meekatharra 42.79 147 P **P 07 50 22.6 +0.9**
baz=43,SNR=11
SEM Semipalatinsk 42.80 347 *e*P **P 07 50 21.1 -0.5**
comp=Z,558nm,1.4s
MTN Manton Dam 42.88 120 P **P 07 50 23.5 +1.0**
baz=43,SNR=5.0
MTN Manton Dam 42.88 120 *e*P **P 07 50 22.6 0.0**
comp=Z,138nm,1.4s
MTN LR LR
comp=Z,6µm,22.0s
MOY Mondy 42.93 6 *e*P **P 07 50 23.2 +0.6**
MOY pmax pmax
comp=Z,101nm,3.6s
OTUK Ortayu 43.13 339 P **P 07 50 24.0 -0.2**
OTUK pmax pmax
comp=Z,152nm,1.3s
GEYT Alibeck 43.21 318 P **P 07 50 26.8 +1.8**
comp=Z,40nm,0.6s,baz=142,slow=7.5,SNR=43
GYA0B ALIBECK ARRAY 43.21 318 *e*P **P 07 50 26.7 +1.6**
comp=Z,132nm,0.9s
TLY Talaya 43.29 9 *e*P **P 07 50 26.3 +0.9**
comp=Z,29nm,1.1s
TLY LR LR
comp=Z,8µm,21.0s
TLY Talaya 43.29 9 *d* *i*P **P 07 50 26.2 +0.8**
TLY *e* 07 52 08.8
TLY *e*PPP PPP 07 52 42.1
TLY *e*S **S 07 56 43.5 -8.6**
TLY *e*SS **SnSn 08 00 19.2 -3.9**
TLY *e*SSS SSS 08 00 53.6
TLY pmax pmax
comp=Z,50nm,1.9s
TLY MLR MLR
comp=Z,5µm,19.0s
KURBB Kurchatov Arra 43.40 346 P **P 07 50 26.8 +0.5**
comp=Z,56nm,1.1s,baz=162,slow=7.5,SNR=146
KURBB PcP **PcP 07 52 14.8 +0.2**
comp=Z,9.8nm,0.8s,baz=150,slow=2.6,SNR=4.3
KURBB ScP **ScP 07 56 04.6 -0.9**
comp=Z,4.1nm,1.1s,baz=187,slow=2.4,SNR=4.0
MORW Morawa 43.46 151 P **P 07 50 28.7 +1.6**
baz=44,SNR=14
KURK Kurchatov 43.46 346 *e*P **P 07 50 26.6 -0.1**
comp=Z,176nm,1.4s
KURK *e*P **P 07 50 26.8 0.0**
KURK *e*PP **PcP 07 52 14.8 0.0**
KURK *e*ScP **ScP 07 56 04.6 -1.2**
KURK LR LR
comp=Z,9µm,20.0s
KURK Kurchatov 43.46 346 *de*P **P 07 50 27.1 +0.4**
KURK pmax pmax
comp=Z,194nm,1.7s
IRK Irkutsk 43.93 9 *e*P **P 07 50 30.4 -0.1**
IRK pmax pmax
comp=Z,108nm,1.9s
CN2 Changchun 44.20 33 ⇓ P **P 07 50 33.3 +0.5**
CN2 *e*SP sP 07 50 40.0 +0.2
CN2 *e*S **S 07 57 05.8 +0.2**
CN2 pmax pmax
comp=Z,2µm,6.0s
CN2 LR LR
comp=Z,9µm,13.0s
CN2 LR LR
comp=Z,11µm,13.0s
CN2 LR LR
comp=Z,9µm,14.0s
BRZS Berezniki 44.50 341 *e*P **P 07 50 35.6 +0.4**
comp=Z,43nm,1.1s
BRZS *e*S **S 07 57 11.3 +1.5**
BLDU Ballidu 45.07 152 P **P 07 50 40.7 +0.8**
baz=45,SNR=15
ZAA0 Zalesovo Array 45.41 352 *e*P **P 07 50 42.4 +0.1**
comp=Z,215nm,1.1s
ZAA0 LR LR
comp=Z,4µm,20.0s
ZALV Zalesovo Beam 45.41 352 P **P 07 50 43.1 +0.8**
comp=Z,178nm,1.2s,baz=168,slow=7.6,SNR=183
ZALV Zalesovo Beam 45.41 352 *e*P **P 07 50 42.2 -0.1**
ZALV Zalesovo Beam 45.41 352 *e*P **P 07 50 42.2 -0.1**
ZAA1 Zalesovo Array 45.41 352 *e*P **P 07 50 43.1 +0.8**
HIA Hailar 45.58 24 *e*P **P 07 50 43.6 -0.1**
comp=Z,289nm,1.7s
HIA LR LR
comp=Z,9µm,19.0s
HIA Hailar 45.58 24 *d* *i*P **P 07 50 44.1 +0.4**
HIA pmax pmax
comp=Z,173nm,1.7s
CIT Chita 45.80 17 *e*P **P 07 50 41.6 -3.9**
CIT *e* 07 50 53.9
CIT *e* 07 52 32.3
MRIV Mauritius Mete 46.17 231 *e*P **P 07 50 51.1 +2.3**
NVS Novosibirsk 46.49 352 ⇑ *i*P **P 07 50 51.3 +0.5**
NVS *e*S **S 07 57 40.6 +2.2**
NVS pmax pmax
comp=N,110nm,1.0s
NVS pmax pmax
comp=E,28nm,1.0s
NVS pmax pmax
comp=Z,182nm,1.0s
NVS smax smax
comp=N,24nm,1.7s
NVS smax smax
comp=E,55nm,1.9s
KRAR Krasnoyarsk 46.89 359 *d* *i*P **P 07 50 54.6 +0.7**
MDJ Mudanjiang 47.01 35 P **P 07 50 54.3 -0.7**
MDJ pP pP 07 50 58.5 -1.6
MDJ sP sP 07 51 00.5 -1.5
MDJ S **S 07 57 47.0 +1.0**
MDJ sS sS 07 57 55.3 +1.0
MDJ pmax pmax
comp=E,140nm,1.4s
MDJ pmax pmax
comp=E,2µm,5.4s
MDJ LR LR
comp=E,13µm,12.2s
MDJ LR LR
comp=E,12µm,14.7s
MDJ LR LR
comp=E,13µm,15.2s
MDJ Mudanjiang 47.01 35 *e*P **P 07 50 56.9 +1.8**
comp=E,263nm,1.4s
MDJ LR LR
comp=Z,9µm,19.0s
INU Inuyama 47.22 50 *e*P **P 07 50 56.2 -0.6**
comp=Z,66nm,1.2s
INU LR LR
comp=Z,8µm,19.0s
NWAO Narrogin (SRO) 47.26 153 P **P 07 50 57.2 +0.1**
baz=47,SNR=22
NWAO P **P 07 50 57.2 +0.1**
baz=47,SNR=22
NWAO Narrogin (SRO) 47.26 153 *e*P **P 07 50 55.7 -1.4**
comp=Z,467nm,1.3s
NWAO LR LR
comp=Z,9µm,21.0s
NWAO Narrogin (SRO) 47.26 153 P **P 07 50 56.2 -0.9**
SNR=19
NWAO Narrogin (SRO) 47.26 153 *e*P **P 07 50 55.7 -1.4**
NWAO pmax pmax
comp=Z,470nm,1.3s
VLA Vladivostok 47.46 38 *d* *i*P **P 07 50 59.3 +0.7**
VLA pmax pmax
comp=Z,253nm,1.2s
WRKA Warakurna 47.62 136 P **P 07 51 00.0 -0.1**
baz=48,SNR=17
BVAR Borovoye Array 47.85 341 P **P 07 51 01.7 +0.2**
comp=Z,12nm,0.7s,baz=138,slow=8.9,SNR=55
BVAR PcP **PcP 07 52 30.7 +0.6**
comp=Z,4.7nm,0.7s,baz=191,slow=2.9,SNR=2.2
BVAR S **S 07 57 55.9 -1.9**
comp=Z,1.0nm,0.7s,baz=238,slow=27,SNR=2.2
BRVK Borovoye 47.91 341 *e*P **P 07 51 02.0 +0.1**
comp=Z,43nm,0.9s
BRVK LR LR
comp=Z,3µm,21.0s
BRVK Borovoye 47.91 341 *de*P **P 07 51 00.9 -1.0**
BRVK pmax pmax
comp=Z,49nm,1.2s
USRK Ussuriysk Ar. 48.14 37 P **P 07 51 04.4 +0.6**
comp=Z,47nm,0.9s,baz=234,slow=6.9,SNR=44
KMBL Kambalda 48.27 147 P **P 07 51 05.6 +0.6**
baz=48,SNR=9.4
RAYN Ar Rayn 48.42 293 *e*P **P 07 51 07.6 +1.1**
comp=Z,175nm,1.2s
RAYN LR LR
comp=Z,8µm,20.0s
RAYN Ar Rayn 48.42 293 P **P 07 51 08.2 +1.8**
RKGY Rocky Gully 48.57 154 P **P 07 51 08.3 +1.1**
baz=49,SNR=5.1
MJB9 Matsu-Tunnel 48.58 49 *e*P **P 07 51 06.7 -0.7**
comp=Z,222nm,1.9s
MJB9 LR LR
comp=Z,8µm,19.0s
MAJO Matsushiro 48.58 49 *e*P **P 07 51 06.8 -0.5**
comp=Z,226nm,1.9s
MAJO *e*PcP **PcP 07 52 33.1 0.0**
MAJO LR LR
comp=Z,7µm,19.0s
MAJO Matsushiro 48.58 49 *d* *i*P **P 07 51 07.5 +0.1**
MAJO pmax pmax
comp=Z,130nm,2.2s
MAT Matsushiro 48.58 49 P **P 07 51 07.4 0.0**
MAT S **S 07 58 11.6 +2.9**
MJAR Matsushiro Arr 48.58 49 P **P 07 51 07.8 +0.4**
comp=Z,14nm,0.9s,baz=238,slow=9.2,SNR=22
MJAR PcP **PcP 07 52 33.1 0.0**
comp=Z,12nm,0.9s,baz=244,slow=4.8,SNR=5.2
JHJ2 Mitsune 48.59 53 PFAKE 07 51 20.0 +13
JHJ2 LR LR
comp=Z,7µm,20.0s
DAMY Dhamar 48.71 281 *e*P **P 07 51 11.6 +2.5**
comp=Z,99nm,1.2s
DAMY LR LR
comp=Z,8µm,22.0s
CBIJ Chichi jima 48.96 62 P **P 07 51 09.5 -0.9**
CBIJ *e*P **P 07 51 12.0 +1.6**
CBIJ LR LR
comp=Z,3µm,19.0s
JCJ Chichijima 48.96 62 P **P 07 51 09.5 -0.9**
comp=Z,61nm,0.8s,baz=297,slow=19,SNR=4.2
WB0 Warramunga Arr 49.06 126 PFAKE 07 51 20.0 +8.7
WB0 LR LR
comp=Z,6µm,22.0s
WB9 Warramunga Arr 49.06 126 PFAKE 07 51 20.0 +8.7
WB9 LR LR
comp=Z,11µm,22.0s
WB8 Warramunga Arr 49.07 126 PFAKE 07 51 20.0 +8.6
WB8 LR LR
comp=Z,6µm,22.0s
WB6 Warramunga Arr 49.08 126 PFAKE 07 51 20.0 +8.5
WB6 LR LR
comp=Z,5µm,22.0s
WB5 Warramunga Arr 49.09 126 PFAKE 07 51 20.0 +8.5
WB5 LR LR
comp=Z,5µm,22.0s
WC1 Warramunga Arr 49.10 126 PFAKE 07 51 20.0 +8.4
WC1 LR LR
comp=Z,3µm,22.0s
WB4 Warramunga Arr 49.10 126 PFAKE 07 51 20.0 +8.4
WB4 LR LR
comp=Z,5µm,22.0s
WR1 Warramunga Arr 49.11 126 *e*P **P 07 51 10.3 -1.4**
comp=Z,207nm,1.9s
WR1 *e*PcP **PcP 07 52 36.1 +0.9**
WR1 LR LR
comp=Z,4µm,19.0s
WRA Warramunga Arr 49.11 126 P **P 07 51 10.3 -1.4**
comp=Z,11nm,0.7s,baz=306,slow=8.4,SNR=34
WRA PcP **PcP 07 52 36.1 +0.9**
comp=Z,11nm,1.1s,baz=297,slow=5.4,SNR=2.9
WB3 Warramunga Arr 49.11 126 PFAKE 07 51 20.0 +8.3
WB3 LR LR
comp=Z,4µm,22.0s
WRAB Tennant Creek 49.11 126 PFAKE 07 51 20.0 +8.3
WRAB LR LR
comp=Z,4µm,20.0s
WRAB Tennant Creek 49.11 126 *ce*P **P 07 51 11.3 -0.4**
WRAB pmax pmax
comp=Z,78nm,2.5s
WB2 Warramunga Arr 49.12 126 *e*P **P 07 51 10.9 -0.8**
comp=Z,40nm,0.9s
WB2 LR LR
comp=Z,4µm,20.0s
WC4 Warramunga Arr 49.12 126 PFAKE 07 51 20.0 +8.3
WC4 LR LR
comp=Z,4µm,18.0s
WC2 Warramunga Arr 49.12 126 PFAKE 07 51 20.0 +8.3
WC2 LR LR
comp=Z,5µm,19.0s
WR2 Warramunga Arr 49.13 126 PFAKE 07 51 20.0 +8.2
WR2 LR LR
comp=Z,5µm,22.0s
AB31 Akbulak array 49.13 331 *ce*P **P 07 51 10.0 -1.4**
AB31 pmax pmax
comp=Z,32nm,0.6s
WC3 Warramunga Arr 49.14 126 PFAKE 07 51 20.0 +8.1
WC3 LR LR
comp=Z,5µm,22.0s
WR3 Warramunga Arr 49.15 126 PFAKE 07 51 20.0 +8.0
WR3 LR LR
comp=Z,5µm,22.0s
WR4 Warramunga Arr 49.16 126 PFAKE 07 51 20.0 +7.9
WR4 LR LR
comp=Z,5µm,22.0s
WR5 Warramunga Arr 49.19 126 PFAKE 07 51 20.0 +7.8
WR5 LR LR
comp=Z,5µm,22.0s
WR6 Warramunga Arr 49.20 126 PFAKE 07 51 20.0 +7.6
WR6 LR LR
comp=Z,5µm,22.0s
WR7 Warramunga Arr 49.22 126 PFAKE 07 51 20.0 +7.5
WR7 LR LR
comp=Z,5µm,22.0s
WR8 Warramunga Arr 49.24 126 PFAKE 07 51 20.0 +7.3
WR8 LR LR
comp=Z,4µm,21.0s
WR9 Warramunga Arr 49.26 126 PFAKE 07 51 20.0 +7.2
WR9 LR LR
comp=Z,5µm,22.0s
WR0 Warramunga Arr 49.28 126 PFAKE 07 51 20.0 +7.1
WR0 LR LR
comp=Z,5µm,22.0s
GUMO Guam 50.11 80 PFAKE 07 51 30.0 +11
GUMO LR LR
comp=Z,6µm,20.0s
ATD Arta Tunnel 50.26 277 P **P 07 51 22.0 +1.4**
comp=Z,25nm,0.9s,baz=57,slow=5.9,SNR=12
AS31 Alice Springs 50.82 131 *e*P **P 07 51 22.6 -2.0**
comp=Z,5.5nm,0.8s
AS31 LR LR
comp=Z,100nm,20.0s
ASAR Alice Springs 50.82 131 P **P 07 51 22.8 -1.8**
comp=Z,11nm,1.0s,baz=305,slow=6.0,SNR=45
ASAR PcP **PcP 07 52 43.5 +2.1**
comp=Z,12nm,0.8s,baz=314,slow=4.4,SNR=4.8
AKTO Aktyubinsk 50.85 331 P **P 07 51 24.3 -0.1**
comp=Z,8.5nm,0.5s,baz=126,slow=8.4,SNR=41
AKTO ScP **ScP 07 56 35.9 -1.0**
comp=Z,5.9nm,1.0s,baz=132,slow=10,SNR=2.7
AKTO S **S 07 58 36.9 -3.1**
comp=Z,4.1nm,1.1s,baz=230,slow=16,SNR=5.9
AS01 Alice Springs 50.85 130 *e*P **P 07 51 22.3 -2.6**
KLR Kul'dur 51.03 31 P **P 07 51 26.6 +0.8**
comp=Z,3.0nm,0.9s,baz=274,slow=2.1,SNR=33
KLR Kul'dur 51.03 31 *d* *i*P **P 07 51 26.4 +0.6**
BOD Bodaibo 51.11 14 *e*P P 07 51 19.0 -7.2
BOD pmax pmax
comp=Z,54nm,1.8s
TEY Ternei 51.35 38 *e*P **P 07 51 26.5 -1.8**
TEY pmax pmax
comp=Z,2µm,6.0s
TEY pmax pmax
comp=N,30nm,1.0s
TEY pmax pmax
comp=E,22nm,1.0s
TEY pmax pmax
comp=Z,86nm,1.0s
TEY MLR MLR
comp=E,4µm,15.0s
TEY MLR MLR
comp=N,5µm,11.0s
TEY MLR MLR
comp=Z,9µm,11.0s
FORT Forrest 51.36 142 P **P 07 51 28.7 +0.2**
baz=51,SNR=10
FORT Forrest 51.36 142 *e*P **P 07 51 28.4 -0.1**
comp=Z,2µm,1.1s
FORT LR LR
comp=Z,146µm,20.0s
AKT Akhty 51.93 316 *e*P **P 07 51 33.3 +0.4**
AKT *e* 07 52 44.7
AKT *e* 07 53 28.0
AKT pmax pmax
comp=Z,131nm,1.4s
ZEA Zeya 52.02 24 *e*P **P 07 51 34.0 +0.9**
ZEA *e* 07 53 33.0
ZEA *e*S S 07 59 06.0 +10
ZEA pmax pmax
comp=N,98nm,1.6s
ZEA pmax pmax
comp=E,49nm,1.6s
ZEA pmax pmax
comp=Z,110nm,1.4s
ZEA pmax pmax
comp=Z,1µm,7.0s
ZEA pmax pmax
comp=N,500nm,6.0s
ZEA pmax pmax
comp=N,500nm,8.0s
ZEA pmax pmax
comp=Z,800nm,8.0s
ZEA MLR MLR
comp=E,5µm,15.0s
ZEA MLR MLR
comp=Z,15µm,15.0s
MAK Makhachkala 52.72 318 *e*P **P 07 51 35.3 -3.2**
MAK *e* 07 52 47.7
MAK *e* 07 53 39.4
MAK *e*S **S 07 59 02.2 -3.7**
MAK *e* 08 01 24.4
MAK pmax pmax
comp=Z,26nm,0.4s
MAK MLR MLR
comp=Z,3µm,18.0s
ANKE Ethiopia-Afar 53.42 275 *i* P P 07 51 49.7 +5.1
ANKE *i* S S 07 59 30.6 +14
ANKE Ethiopia-Afar 53.42 275 *i* P P 07 51 49.7 +5.1
ANKE *i* S S 07 59 30.6 +14
DESE Dese 53.42 277 *i* P **P 07 51 44.7 +0.2**
DESE *i* S **S 07 59 21.7 +4.8**

DESE	**Dese**	**53.42**	**277**	*i*	P		**P**	**07 51 44.7**	**+0.2**
DESE				*i*	S		**S**	**07 59 21.7**	**+4.8**
CLNS	**Chul'man**	**53.46**	**21**	*e*	P		**P**	**07 51 43.3**	**-0.5**
CLNS				*e*	*PP		**sP**	**07 51 53.2**	**+2.4**
CLNS				*e*				07 52 50.5	
CLNS				*e*				07 53 44.5	
CLNS				*e*	PPP		PPP	07 54 48.7	
CLNS				*e*	S		**S**	**07 59 11.6**	**-4.0**
CLNS				*e*				08 01 22.0	
CLNS					pmax		pmax		
	comp=N,15nm,1.0s								
CLNS					pmax		pmax		
	comp=Z,19nm,1.0s								
CLNS					pmax		pmax		
	comp=E,17nm,1.0s								
CLNS					pmax		pmax		
	comp=Z,9.0nm,1.2s								
CLNS					pmax		pmax		
	comp=N,21nm,1.1s								
CLNS					pmax		pmax		
	comp=E,9.0nm,1.1s								
CLNS					smax		smax		
	comp=E,441nm,11.3s								
CLNS					smax		smax		
	comp=N,260nm,9.0s								
CLNS					MLR		MLR		
	comp=E,3µm,13.0s								
CLNS					MLR		MLR		
	comp=N,3µm,14.0s								
CLNS					MLR		MLR		
	comp=Z,9µm,14.0s								
GNI	**Garni**	**53.49**	**314**		P		**P**	**07 51 45.0**	**+0.6**
	comp=Z,12nm,0.4s,baz=181,slow=2.6,SNR=18								
GNI	**Garni**	**53.49**	**314**	*e*	P		**P**	**07 51 45.0**	**+0.6**
GNI				*e*	P		**pP**	**07 51 45.5**	**-4.1**
GNI					LR		LR		
	comp=Z,4µm,22.0s								
GNI	**Garni**	**53.49**	**314**		P		**P**	**07 51 44.9**	**+0.6**
	SNR=21								
GNI	**Garni**	**53.49**	**314**	*i*	P		**P**	**07 51 45.1**	**+0.6**
	SNR=18								
GNI	**Garni**	**53.49**	**314**	*de*	P		**P**	**07 51 44.8**	**+0.3**
GNI					pmax		pmax		
	comp=Z,309nm,1.2s								
OPO	**Ambohidratompo**	**53.62**	**239**		P		**P**	**07 51 47.4**	**+1.7**
	comp=Z,38nm,1.1s,baz=59,slow=10,SNR=6.6								
QIS	**Mount Isa**	**53.68**	**124**		P		**P**	**07 51 45.4**	**-0.5**
	baz=54,SNR=10								
ABPO	**Ambohimpanom**	**53.79**	**239**	*e*	P		**P**	**07 51 49.4**	**+2.5**
ABPO					LR		LR		
	comp=Z,5µm,19.0s								
ABPO	**Ambohimpanom**	**53.79**	**239**	*e*	P		**P**	**07 51 49.4**	**+2.5**
ABPO					pmax		pmax		
	comp=Z,113nm,0.9s								
ABPO					MLR		MLR		
	comp=Z,5µm,19.0s								
COEN	**Coen**	**53.95**	**115**		P		**P**	**07 51 47.5**	**-0.4**
	baz=54,SNR=12								
COEN	**Coen**	**53.95**	**115**	*e*	P		**P**	**07 51 48.4**	**+0.5**
	comp=Z,32nm,0.9s								
COEN					LR		LR		
	comp=Z,4µm,20.0s								
GROC	**Groznyy**	**53.96**	**318**	*e*	P		**P**	**07 51 45.9**	**-1.7**
GROC				*e*				07 52 52.2	
GROC				*e*	S		**S**	**07 59 20.7**	**-2.0**
GROC					pmax		pmax		
	comp=Z,212nm,1.5s								
TBLG	**Delisi**	**54.09**	**316**	*e*	P		**P**	**07 51 49.4**	**+0.8**
	comp=Z,75nm,1.0s								
TBLG	**Delisi**	**54.09**	**316**	*e*	P		**P**	**07 51 50.1**	**+1.5**
TBLG					pmax		pmax		
	comp=Z,75nm,1.0s								
ERM	**Erimo**	**54.25**	**44**	*e*	P		**P**	**07 51 50.5**	**+0.7**
	comp=Z,145nm,1.4s								
ERM					LR		LR		
	comp=Z,6µm,21.0s								
ERM	**Erimo**	**54.25**	**44**	*c i*	P		**P**	**07 51 50.4**	**+0.7**
ERM					pmax		pmax		
	comp=Z,50nm,1.2s								
SVE	**Sverdlovsk**	**54.27**	**338**	*ce*	P		**P**	**07 51 49.6**	**0.0**
SVE				*e*	S		**S**	**07 59 26.2**	**-0.3**
SVE					pmax		pmax		
	comp=Z,231nm,1.6s								
SVE					MLR		MLR		
	comp=Z,10µm,21.0s								
SVE					MLR		MLR		
	comp=E,7µm,20.0s								
GRNR	**Gornyy**	**54.37**	**32**	*e*	P		**P**	**07 51 51.2**	**+0.7**
GRNR					pmax		pmax		
	comp=N,80nm,1.0s								
GRNR					pmax		pmax		
	comp=E,80nm,1.0s								
GRNR					pmax		pmax		
	comp=Z,130nm,1.0s								
AAE	**Adis Abeba**	**54.41**	**275**	*e*	P		**P**	**07 51 49.4**	**-2.4**
AAE				*i*	S		**S**	**07 59 29.4**	**-1.0**
AAE	**Adis Abeba**	**54.41**	**275**	*e*	P		**P**	**07 51 49.4**	**-2.4**
AAE				*i*	S		**S**	**07 59 29.4**	**-1.0**
AAE	**Adis Abeba**	**54.41**	**275**	*e*	P		**P**	**07 51 54.7**	**+2.9**
AAE				*i*	S		**S**	**07 59 31.4**	**+1.0**
AAE	**Adis Abeba**	**54.41**	**275**	*e*	P		**P**	**07 51 49.4**	**-2.4**
AAE				*i*	S		**S**	**07 59 29.4**	**-1.0**
AAE	**Adis Abeba**	**54.41**	**275**	*e*	P		**P**	**07 51 49.4**	**-2.4**
AAE				*i*	S		**S**	**07 59 29.4**	**-1.0**
ASAJ	**Asahikawa**	**54.72**	**42**		P		**P**	**07 51 54.3**	**+1.2**
	comp=Z,56nm,1.1s,baz=239,slow=11,SNR=26								
ASAJ	**Asahikawa**	**54.72**	**42**	*e*	P		**P**	**07 51 53.9**	**+0.7**
	comp=Z,67nm,1.0s								
ARU	**Arti**	**54.76**	**337**		P		**P**	**07 51 53.0**	**-0.2**
	comp=Z,5.9nm,0.2s,baz=122,slow=4.1,SNR=43								
ARU	**Arti**	**54.76**	**337**	*e*	P		**P**	**07 51 53.0**	**-0.2**
	comp=Z,116nm,1.4s								
ARU					LR		LR		
	comp=Z,13µm,21.0s								
ARU	**Arti**	**54.76**	**337**	*d i*	P		**P**	**07 51 52.7**	**-0.5**
ARU								07 53 52.0	
ARU					PPP		PPP	07 55 10.0	
ARU				*e*	S		**S**	**07 59 33.4**	**+0.2**
ARU								08 01 39.0	
ARU					SS		**SS**	**08 03 11.8**	**-4.5**
ARU					pmax		pmax		
	comp=Z,115nm,1.7s								
ARU					MLR		MLR		
	comp=Z,17µm,26.0s								
AKH	**Akhalkalaki**	**54.83**	**315**	*e*	P		**P**	**07 51 55.0**	**+0.8**
	comp=Z,40nm,1.0s								
AKH					LR		LR		
	comp=Z,3µm,21.0s								
AKH	**Akhalkalaki**	**54.83**	**315**	*e*	P		**P**	**07 51 55.6**	**+1.3**
AKH					pmax		pmax		
	comp=Z,40nm,1.0s								
ZEI	**Tsey**	**55.07**	**317**	*e*	P		**P**	**07 51 51.6**	**-4.4**
ZEI					pmax		pmax		
	comp=Z,25nm,0.8s								
NCK	**Nalchik**	**55.55**	**317**	*i*	P		**P**	**07 51 57.9**	**-1.3**
NCK					pmax		pmax		
	comp=Z,23nm,1.0s								
YSS	**Yuzh-Sakhalins**	**56.04**	**38**	*e*	P		**P**	**07 52 03.3**	**+0.7**
	comp=Z,285nm,1.2s								
YSS					LR		LR		
	comp=Z,2µm,19.0s								
YSS	**Yuzh-Sakhalins**	**56.04**	**38**	*ke*	P		**P**	**07 52 03.5**	**+0.9**
YSS				*e*				07 52 12.7	
YSS				*e*				07 52 58.7	
YSS				*e*	S		**S**	**07 59 49.5**	**-1.0**
YSS				*e*	PS		**PnS**	**08 00 05.9**	**+4.6**
YSS				*e*				08 01 50.1	
YSS					pmax		pmax		
	comp=Z,160nm,1.2s								
YSS					pmax		pmax		
	comp=Z,1µm,4.4s								
YSS					pmax		pmax		
	comp=N,210nm,3.3s								
YSS					pmax		pmax		
	comp=E,420nm,4.8s								
YSS					smax		smax		
	comp=N,1µm,6.9s								
NEY	**Neytrino**	**56.04**	**317**	*i*	P		**P**	**07 52 03.1**	**+0.2**
PMG	**Port Moresby**	**56.09**	**108**		P		**P**	**07 52 03.4**	**-0.1**
	comp=N,63nm,1.0s,baz=328,slow=4.7,SNR=12								
PMG	**Port Moresby**	**56.09**	**108**	*e*	P		**P**	**07 52 03.3**	**-0.1**
	comp=N,114nm,1.1s								
PMG					LR		LR		
	comp=Z,3µm,20.0s								
PMG	**Port Moresby**	**56.09**	**108**	*e*	P		**P**	**07 52 03.3**	**-0.1**
	comp=Z,114nm,1.1s								
PMG					pmax		pmax		
	comp=Z,3µm,20.0s								
KBZ	**Khabaz**	**56.10**	**317**		P		**P**	**07 52 03.2**	**+0.2**
	comp=Z,18nm,1.0s,baz=99,slow=6.0,SNR=34								
KVAR	**Kislovodsk Arr**	**56.32**	**317**		P		**P**	**07 52 05.6**	**+0.7**
	comp=Z,41nm,0.9s,baz=180,slow=8.1,SNR=39								
KIV	**Kislovodsk**	**56.33**	**317**	*e*	P		**P**	**07 52 05.5**	**+0.6**
	comp=Z,112nm,1.1s								
KIV					LR		LR		
	comp=Z,3µm,20.0s								
KIV	**Kislovodsk**	**56.33**	**317**	*i*	P		**P**	**07 52 04.8**	**-0.1**
	SNR=18								
KIV	**Kislovodsk**	**56.33**	**317**	*e*	P		**P**	**07 52 05.0**	**+0.1**
KIV				*e*	S		**S**	**07 59 54.7**	**0.0**
KIV					pmax		pmax		
	comp=Z,89nm,2.8s								
KIV					pmax		pmax		
	comp=Z,82nm,1.0s								
KIV					MLR		MLR		
	comp=Z,2µm,16.0s								
GOF	**Gofitskoye**	**56.52**	**319**	*e*	P		**P**	**07 52 05.9**	**-0.2**
GOF				*e*	S		**S**	**07 59 59.5**	**+2.5**
GOF					pmax		pmax		
	comp=Z,65nm,1.1s								
GOF					smax		smax		
	comp=E,64nm,1.5s								
MTSU	**Mount Surprise**	**56.59**	**119**		P		**P**	**07 52 09.1**	**+2.1**
	baz=56,SNR=37								
YUK	**Yuzh-Kuril'sk**	**56.85**	**43**	*d*	P		**P**	**07 52 08.6**	**+0.2**
YUK				*e*				07 53 00.5	
YUK				*e*				07 54 12.1	
YUK				*i*	S		**S**	**07 59 59.6**	**-1.7**
YUK				*e*	SS		**SS**	**08 03 51.8**	**+2.2**
YUK					pmax		pmax		
	comp=Z,320nm,1.2s								
YUK					pmax		pmax		
	comp=E,93nm,1.0s								
YUK					pmax		pmax		
	comp=N,94nm,0.6s								
YUK					pmax		pmax		
	comp=Z,524nm,2.2s								
YUK					MLR		MLR		
	comp=N,2µm,17.0s								
YUK					MLR		MLR		
	comp=Z,3µm,17.0s								
YUK					MLR		MLR		
	comp=E,970nm,15.0s								
KMBO	**Kilima Mbogo**	**57.33**	**263**		P		**P**	**07 52 13.8**	**+1.2**
	comp=E,10nm,0.7s,baz=56,slow=12,SNR=9.0								
KMBO	**Kilima Mbogo**	**57.33**	**263**	*e*	P		**P**	**07 52 15.1**	**+2.5**
	comp=E,30nm,0.9s								
KMBO					LR		LR		
	comp=Z,8µm,22.0s								
KMBO	**Kilima Mbogo**	**57.33**	**263**	*e*	P		**P**	**07 52 15.1**	**+2.5**
KMBO					pmax		pmax		
	comp=Z,30nm,0.9s								
KMBO					MLR		MLR		
	comp=Z,8µm,22.0s								
ASF	**Jabal al Asfar**	**57.41**	**302**		P		**P**	**07 52 13.9**	**+1.1**
	comp=Z,11nm,0.8s,baz=59,slow=3.7,SNR=12								
TYV	**Tymovskoe**	**57.78**	**34**	*e*	P		**P**	**07 52 15.8**	**+0.9**
TYV					pmax		pmax		
	comp=Z,2µm,7.3s								
TYV					pmax		pmax		
	comp=Z,61nm,1.6s								
TYV					MLR		MLR		
	comp=E,8µm,16.0s								
TYV					MLR		MLR		
	comp=Z,11µm,16.0s								
NAI	**Nairobi**	**57.80**	**263**		PFAKE			07 52 30.0	+14
NAI					LR		LR		
	comp=Z,9µm,22.0s								
BBOO	**Buckleboo**	**57.80**	**138**		P		**P**	**07 52 15.2**	**-0.1**
	baz=58,SNR=6.3								
BBOO	**Buckleboo**	**57.80**	**138**	*e*	P		**P**	**07 52 15.6**	**+0.3**
	comp=Z,76nm,1.5s								
BBOO					LR		LR		
	comp=Z,9µm,20.0s								
NKL	**Nikolayevsk**	**57.88**	**31**	*i*	P		**P**	**07 52 16.0**	**+0.5**
NKL				*e*				08 00 26.0	
NKL					pmax		pmax		
	comp=E,500nm,6.0s								
NKL					pmax		pmax		
	comp=Z,2µm,6.0s								
NKL					pmax		pmax		
	comp=N,320nm,1.5s								
NKL					pmax		pmax		
	comp=Z,460nm,1.5s								
NKL					MLR		MLR		
	comp=Z,13µm,14.0s								
SOC	**Sochi**	**58.21**	**316**	*e*	P		**P**	**07 52 16.1**	**-1.9**
SOC				*e*				07 54 29.1	
SOC				*e*	PPP		PPP	07 55 47.2	
SOC				*e*	S		**S**	**08 00 17.8**	**-1.5**
SOC				*e*	SS		**SS**	**08 04 01.9**	**-9.1**
SOC					pmax		pmax		
	comp=Z,36nm,1.0s								
SOC					MLR		MLR		
	comp=Z,3µm,21.0s								
KUR	**Kuril'sk**	**58.62**	**42**	*de*	P		**P**	**07 52 21.8**	**+1.0**
KUR				*i*	S		**S**	**08 00 23.8**	**-0.7**
KUR					pmax		pmax		
	comp=N,111nm,1.3s								
KUR					pmax		pmax		
	comp=Z,260nm,1.3s								
KUR					pmax		pmax		
	comp=E,39nm,1.1s								
KUR					pmax		pmax		
	comp=Z,1µm,6.1s								
KUR					MLR		MLR		
	comp=Z,3µm,15.0s								
KUR					MLR		MLR		
	comp=E,1µm,19.0s								
KUR					MLR		MLR		
	comp=N,3µm,16.0s								
EIL	**Elat**	**58.67**	**299**		P		**P**	**07 52 22.9**	**+1.4**
	comp=N,26nm,0.9s,baz=355,slow=3.3,SNR=10								
MMAI	**Mount Meron Ar**	**58.81**	**303**		P		**P**	**07 52 23.8**	**+1.3**
	comp=N,4.4nm,0.8s,baz=97,slow=10,SNR=7.8								
YAK	**Yakutsk**	**59.00**	**19**		P		**P**	**07 52 22.7**	**-0.5**
	comp=N,15nm,0.4s,baz=159,slow=2.5,SNR=6.9								
YAK	**Yakutsk**	**59.00**	**19**	*e*	P		**P**	**07 52 22.7**	**-0.5**
	comp=N,68nm,0.9s								
YAK					LR		LR		
	comp=Z,7µm,19.0s								
YAK	**Yakutsk**	**59.00**	**19**	*d*	P		**P**	**07 52 22.5**	**-0.7**
YAK				*e*	*PP		**sP**	**07 52 34.8**	**+4.5**
YAK				*e*				07 53 10.2	
YAK				*e*	PPP		PPP	07 56 01.8	
YAK				*e*	S		**S**	**08 00 27.0**	**-1.9**
YAK				*e*	*SS		sS	08 00 44.7	+7.3
YAK				*e*				08 02 02.7	
YAK				*e*	SS		**SS**	**08 04 27.9**	**+5.2**
YAK					pmax		pmax		
	comp=Z,50nm,0.9s								
YAK					pmax		pmax		
	comp=E,20nm,1.1s								
YAK					pmax		pmax		
	comp=N,16nm,1.0s								
YAK					smax		smax		
	comp=N,82nm,2.4s								
YAK					smax		smax		
	comp=E,69nm,2.0s								
YAK					MLR		MLR		
	comp=Z,14µm,15.0s								
YAK					MLR		MLR		
	comp=N,12µm,15.0s								
YAK					MLR		MLR		
	comp=E,5µm,12.0s								
CTAO	**Charters Tower**	**59.06**	**120**	*e*	P		**P**	**07 52 25.1**	**+0.8**
	comp=E,279nm,1.4s								
CTAO					LR		LR		
	comp=Z,4µm,18.0s								
CTAO	**Charters Tower**	**59.06**	**120**	*e*	P		**P**	**07 52 26.0**	**+1.6**
CTAO					pmax		pmax		
	comp=Z,280nm,1.4s								
RABL	**Rabaul**	**59.53**	**100**		PFAKE			07 52 40.0	+12
RABL					LR		LR		
	comp=Z,2µm,21.0s								
VRH	**Novokhopyorsk**	**59.87**	**325**	*e*	P		**P**	**07 52 28.6**	**-0.8**
VRH				*e*	S		**S**	**08 00 36.5**	**-4.0**
VRH					pmax		pmax		
	comp=Z,50nm,0.9s								
VRH					smax		smax		
	comp=N,410nm,1.6s								
VRH					MLR		MLR		
	comp=Z,5µm,20.0s								
HTT	**Hallett**	**60.09**	**137**		P		**P**	**07 52 31.8**	**+0.6**
	baz=60,SNR=6.6								
ANN	**Anapa**	**60.16**	**317**	*e*	P		**P**	**07 52 28.9**	**-2.6**
QLP	**Quilpie**	**60.30**	**127**		P		**P**	**07 52 32.2**	**-0.5**
	baz=60,SNR=9.1								
CSS	**Mathiatis**	**60.84**	**305**	*e*	P		**P**	**07 52 36.1**	**-0.3**
	comp=Z,21nm,1.3s								
CSS					LR		LR		
	comp=Z,2µm,22.0s								
STKA	**Stephens Creek**	**61.05**	**134**		P		**P**	**07 52 36.3**	**-1.5**
	comp=Z,28nm,1.1s,baz=316,slow=7.7,SNR=18								
STKA	**Stephens Creek**	**61.05**	**134**		P		**P**	**07 52 38.6**	**+0.8**
	baz=61,SNR=12								
STKA	**Stephens Creek**	**61.05**	**134**	*e*	P		**P**	**07 52 36.9**	**-0.9**
	comp=Z,27nm,1.6s								
STKA					LR		LR		
	comp=Z,2µm,22.0s								
STKA	**Stephens Creek**	**61.05**	**134**	*e*	P		**P**	**07 52 36.9**	**-0.9**
STKA					pmax		pmax		
	comp=Z,27nm,1.6s								
VORD	**Divnogorie**	**61.17**	**324**	*e*	P		**P**	**07 52 38.9**	**+0.6**
VSR	**Storozhevoye**	**61.34**	**324**	*e*	P		**P**	**07 52 37.9**	**-1.5**
VSR				*e*	S		**S**	**08 00 54.1**	**-5.3**
VSR					pmax		pmax		
	comp=Z,20nm,0.7s								
VSR					smax		smax		
	comp=N,500nm,5.9s								
VSR					MLR		MLR		
	comp=Z,6µm,20.0s								
BR101	**Keskin Array S**	**61.52**	**310**	*e*	P		**P**	**07 52 40.0**	**-1.1**
BR101				*e*				08 21 43.3	
BR131	**Keskin Array S**	**61.52**	**310**	*e*	P		**P**	**07 52 39.9**	**-1.1**
BRTR	**Keskin Array B**	**61.52**	**310**		P		**P**	**07 52 40.0**	**-1.1**
	comp=Z,18nm,0.8s,baz=120,slow=7.2,SNR=49								
BRTR					PKPPKP		P'P'df	08 21 43.3	-13
	comp=Z,0.5nm,0.5s,baz=236,slow=6.8,SNR=4.7								
PAF	**Port-aux-Franc**	**61.72**	**197**		PFAKE			07 52 50.0	+8.1
PAF					LR		LR		
	comp=Z,12µm,22.0s								
ILGA	**Ilgaz**	**61.76**	**312**	*e*	P		**P**	**07 52 42.5**	**-0.3**
	comp=Z,107nm,1.3s								
ILGA					LR		LR		
	comp=Z,4µm,22.0s								
LPSR	**Galich'ya Gora**	**62.03**	**326**	*e*	P		**P**	**07 52 41.8**	**-2.2**
LPSR				*e*	S		**S**	**08 01 02.2**	**-5.8**
LPSR					pmax		pmax		
	comp=Z,50nm,1.2s								
LPSR					smax		smax		
	comp=N,370nm,2.3s								
ANTO	**Ankara**	**62.19**	**310**	*i*	P		**P**	**07 52 43.7**	**-1.8**
ANTO	**Ankara**	**62.19**	**310**	*e*	P		**P**	**07 52 45.3**	**-0.2**
	comp=N,75nm,1.3s								
ANTO					LR		LR		
	comp=Z,2µm,20.0s								
ANTO	**Ankara**	**62.19**	**310**	*e*	P		**P**	**07 52 45.3**	**-0.2**
ANTO					pmax		pmax		
	comp=Z,75nm,1.3s								
SIM	**Simferopol'**	**62.45**	**316**	*de*	P		**P**	**07 52 46.3**	**-0.8**
SIM					S		**S**	**08 01 10.0**	**-3.7**
SIM					pmax		pmax		
	comp=Z,50nm,0.9s								
ISP	**Isparta**	**63.55**	**308**		PFAKE			07 53 10.0	+15
ISP					LR		LR		
	comp=Z,3µm,22.0s								
ISP	**Isparta**	**63.55**	**308**	*d i*	P		**P**	**07 52 52.7**	**-1.9**
ISP					pmax		pmax		
	comp=Z,77nm,1.8s								
MBAR	**Mbarara**	**63.63**	**265**	*e*	P		**P**	**07 52 57.8**	**+2.2**
	comp=Z,40nm,1.0s								
MBAR					LR		LR		
	comp=Z,9µm,21.0s								
MBAR	**Mbarara**	**63.63**	**265**	*e*	P		**P**	**07 52 57.8**	**+2.2**
MBAR					pmax		pmax		
	comp=Z,40nm,1.0s								
MBAR					MLR		MLR		
	comp=Z,9µm,21.0s								
CMSA	**Cobar Meteorol**	**63.84**	**132**		P		**P**	**07 52 57.1**	**+0.7**
	baz=64,SNR=15								
RMQ	**Roma**	**63.85**	**125**		P		**P**	**07 52 59.0**	**+2.3**
	baz=64,SNR=37								
MOS	**Moscow**	**64.00**	**328**	*d i*	P		**P**	**07 52 55.3**	**-1.8**
OBN	**Obninsk**	**64.30**	**328**		P		**P**	**07 52 58.1**	**-1.0**
	comp=Z,16nm,0.4s,baz=78,slow=4.5,SNR=22								
OBN	**Obninsk**	**64.30**	**328**	*e*	P		**P**	**07 52 58.8**	**-0.3**
	comp=Z,207nm,1.5s								
OBN					LR		LR		
	comp=Z,4µm,22.0s								
OBN	**Obninsk**	**64.30**	**328**	*d i*	P		**P**	**07 52 57.8**	**-1.3**
OBN				*i*				07 55 18.2	
OBN				*i*	S		**S**	**08 01 31.8**	**-4.5**
OBN					pmax		pmax		
	comp=Z,149nm,1.7s								
OBN					MLR		MLR		
	comp=Z,6µm,22.0s								
FETY	**Fethiye**	**64.51**	**306**		P		**P**	**07 52 57.9**	**-3.0**
FETY	**Fethiye**	**64.51**	**306**		P		**P**	**07 52 57.9**	**-3.0**
MANT	**Manisa**	**65.18**	**308**	*e*	P		**P**	**07 53 04.4**	**-1.1**
	comp=Z,332nm,1.9s								
MANT					LR		LR		
	comp=Z,7µm,21.0s								
YER	**Yerkesik**	**65.21**	**307**		P		**P**	**07 53 02.9**	**-2.6**
YER	**Yerkesik**	**65.21**	**307**		P		**P**	**07 53 02.9**	**-2.6**
YER	**Yerkesik**	**65.21**	**307**		P		**P**	**07 53 02.9**	**-2.6**
EIDS	**Eidsvold**	**65.28**	**123**	*e*	P		**P**	**07 53 06.9**	**+0.9**
	comp=Z,119nm,1.4s								
EIDS					LR		LR		
	comp=Z,6µm,20.0s								
KLMR	**Klimovskoe**	**65.34**	**334**	*e*	P		**P**	**07 53 03.4**	**-2.3**
KLMR					AMP			07 53 07.2	
	comp=Z,93nm,1.4s								
KLMR				*e*	PcP		**PcP**	**07 53 36.8**	**-1.0**
KLMR				*e*	PP		**PP**	**07 55 29.3**	**-0.2**
KLMR				*e*	S		**S**	**08 01 46.3**	**-2.7**
KLMR				*e*	S		**S**	**08 01 46.3**	**-2.7**
KLMR					LQ		LQ	08 16 50.8	
KLMR					LQ		LQ	08 16 50.8	
KLMR					LR		LR	08 24 39.3	
KLMR					AMP			08 28 09.9	
	comp=Z,437nm,17.3s								
KLMR	**Klimovskoe**	**65.34**	**334**	*e*	P		**P**	**07 53 03.4**	**-2.3**
KLMR				*e*				07 53 36.7	
KLMR				*e*				07 55 29.2	
KLMR				*e*	S		**S**	**08 01 46.3**	**-2.7**
KLMR					pmax		pmax		
	comp=Z,93nm,1.4s								
SKR	**Severo-Kuril's**	**65.60**	**38**	*e*	P		**P**	**07 53 07.4**	**-0.2**
SKR				*e*				07 53 36.5	
SKR				*e*	S		**S**	**08 01 55.0**	**+2.5**
SKR					pmax		pmax		
	comp=Z,1µm,5.2s								
SKR					pmax		pmax		
	comp=Z,122nm,1.2s								
SKR					pmax		pmax		
	comp=Z,600nm,6.7s								
SKR					MLR		MLR		
	comp=Z,3µm,17.0s								
SKR					MLR		MLR		
	comp=Z,3µm,15.0s								
MA2	**Magadan**	**65.87**	**28**		P		**P**	**07 53 08.8**	**-0.4**
	comp=Z,22nm,0.9s,baz=251,slow=7.6,SNR=21								
MA2	**Magadan**	**65.87**	**28**	*e*	P		**P**	**07 53 08.8**	**-0.4**
	comp=Z,74nm,1.1s								
MA2					LR		LR		
	comp=Z,4µm,19.0s								
MA2	**Magadan**	**65.87**	**28**	*e*	P		**P**	**07 53 09.1**	**-0.1**
MA2					pmax		pmax		
	comp=Z,128nm,1.9s								
KARP	**Karpathos**	**65.92**	**305**	*e*	P		**P**	**07 53 09.7**	**-0.4**
	comp=Z,41nm,1.0s								
KARP					LR		LR		
	comp=Z,1µm,22.0s								
KARP	**Karpathos**	**65.92**	**305**		P		**P**	**07 53 08.9**	**-1.2**
BODT	**Bodrum**	**

TIXI MLR MLR
comp=Z,3μm,21.0s
TIRR Tirgusor 66.30 315⇓*i*P P 07 53 11.5 -0.8
TIRR Tirgusor 66.30 315 *e*P P 07 53 11.5 -0.8
comp=Z,39nm,1.1s
TIRR LR LR
comp=Z,1μm,21.0s
TIRR Tirgusor 66.30 315 *e*P P 07 53 11.5 -0.8
TIRR pmax pmax
comp=Z,39nm,1.1s
KIS Kishinev 66.53 317 *e*P P 07 53 11.0 -2.7
comp=Z,100nm,1.5s
KIS Kishinev 66.53 317 *e*PcP P 07 53 25.0 +11
KIS Kishinev 66.53 317 *e*PP PP 07 55 44.0 +3.7
KIS Kishinev 66.53 317 *e*P P 07 53 11.0 -2.7
KIS *e* 07 53 25.0
KIS *e* 07 53 49.0
KIS *e* 07 55 44.0
KIS *e*S **S 08 01 58.0 -6.0**
KIS pmax pmax
comp=Z,140nm,1.5s
KIS pmax pmax
comp=Z,400nm,6.0s
KIS MLR MLR
comp=Z,3μm,22.0s
CFR Carcaliu 66.63 315⇑*i*P P 07 53 13.8 -0.5
ZKR Zakros 66.64 304 P P 07 53 14.1 -0.6
ZKR Zakros 66.64 304 P P 07 53 14.1 -0.6
PRD Provadia 66.79 313 *i* P P 07 53 31.0 +16
TOO Toolangi 66.84 137 P P 07 53 18.0 +2.2
baz=67,SNR=5.2
EZN Ezine 67.09 309 P P 07 53 15.5 -1.9
SORM Soroca 67.09 319⇑*i*P P 07 53 16.4 -0.8
CHOS Chios island 67.12 308 P P 07 53 16.9 -0.8
CHOS Chios island 67.12 308 P P 07 53 16.9 -0.8
AKASG Malin Array Be 67.13 321 P P 07 53 15.8 -1.7
comp=Z,2.2nm,0.5s,baz=85,slow=5.3,SNR=39
AKASG PP **PP 07 55 42.2 -3.2**
comp=Z,4.4nm,0.8s,baz=95,slow=7.1,SNR=7.0
AKBB Malin Array Si 67.13 321 *e*P P 07 53 16.1 -1.2
comp=Z,28nm,1.0s
AKBB *e*PP **PP 07 55 42.2 -3.2**
AKBB LR LR
comp=Z,3μm,21.0s
AKBB Malin Array Si 67.13 321 *e*P P 07 53 16.2 -1.2
KIEV Kiev 67.14 321 *e*P P 07 53 16.1 -1.3
comp=Z,25nm,1.0s
KIEV LR LR
comp=Z,3μm,22.0s
KIEV Kiev 67.14 321 *i* P P 07 53 16.6 -0.8
SNR=10
KIEV Kiev 67.14 321*d i*P P 07 53 15.5 -2.0
KIEV pmax pmax
comp=Z,16nm,1.1s
AK11 Malin Array Si 67.16 321 *e*P P 07 53 16.2 -1.4
PEA0B Petropavlovsk- 67.22 36 PFAKE 07 53 30.0 +12
PEA0B LR LR
comp=Z,4μm,19.0s
PETK Petropavlovsk- 67.22 36 P P 07 53 17.7 -0.3
comp=Z,5.5nm,0.9s,baz=250,slow=4.4,SNR=6.9
PETK PKP2bc 08 21 47.6
comp=Z,13nm,1.1s,baz=84,slow=7.6,SNR=7.6
PETK Petropavlovsk- 67.22 36 *e*P P 07 53 17.8 -0.2
PEA1 Petropavlovsk- 67.22 36 *e*P P 07 53 17.7 -0.3
PEA1 ⇑*e* 08 21 47.6
LAST Lasithi 67.25 304 P P 07 53 17.8 -0.8
LAST Lasithi 67.25 304 P P 07 53 17.8 -0.8
JMB Yambol 67.27 312 *i* P P 07 53 17.4 -1.1
SANT Santorini 67.38 306 PFAKE 07 53 30.0 +11
SANT LR LR
comp=Z,2μm,20.0s
ALN Alexandroupoli 67.44 311 *e*P P 07 53 19.1 -0.5
comp=Z,25nm,1.2s
ALN LR LR
comp=Z,700nm,21.0s
ALN Alexandroupoli 67.44 311 P P 07 53 18.3 -1.3
ALN Alexandroupoli 67.44 311 *e*P P 07 53 19.1 -0.5
ALN pmax pmax
comp=Z,25nm,1.2s
ALN MLR MLR
comp=Z,700nm,21.0s
GADA Gvkgeada 67.46 310 P P 07 53 17.1 -2.6
TMCR Tamitsa 67.50 337 *e*P P 07 53 17.2 -2.3
TMCR pmax pmax
comp=Z,85nm,1.0s
ISR Istrita 67.73 315⇑*i*P P 07 53 21.9 +0.5
VRI Vrincioaia 67.73 316⇓*i*P P 07 53 21.8 +0.4
IDI Anoyia 67.74 304 P P 07 53 21.6 -0.1
comp=Z,16nm,0.8s,baz=179,slow=1.1,SNR=3.4
IDI Anoyia 67.74 304⇓*i*P P 07 53 22.3 +0.6
IDI Anoyia 67.74 304 *e*P P 07 53 21.9 +0.1
comp=Z,158nm,1.9s
IDI LR LR
comp=Z,2μm,22.0s
PET Petropavlovsk 67.75 36 *e*P P 07 53 20.8 -0.5
comp=Z,23nm,1.0s
PET LR LR
comp=Z,4μm,19.0s
PET Petropavlovsk 67.75 36 *e*P P 07 53 16.7 -4.6
PET *e*S S 08 02 08.2 -10
PET *e*PPS PPS 08 02 39.1
PET pmax pmax
comp=Z,500nm,6.8s
PET pmax pmax
comp=Z,27nm,1.1s
PET pmax pmax
comp=Z,400nm,7.5s
PET MLR MLR
comp=Z,4μm,19.0s
PET MLR MLR
comp=Z,4μm,15.0s
PLOR Plostina 67.78 316⇓*i*P P 07 53 22.0 +0.3
ARMA Armidale 67.83 128 PFAKE 07 53 30.0 +7.6
ARMA LR LR
comp=Z,6μm,20.0s
RDO Rodhopi 67.86 311 P P 07 53 20.2 -2.0
LIA Limnos Island 67.97 309 P P 07 53 21.2 -1.7
SEY Seymchan 68.00 25 P P 07 53 22.2 -0.5
comp=Z,8.7nm,1.0s,baz=258,slow=7.5,SNR=25
SEY Seymchan 68.00 25*ce*P P 07 53 21.8 -0.9
KDZ Kurdzhali 68.01 311 *i* P P 07 53 21.9 -1.3
CAN Canberra 68.11 134 *e*P P 07 53 24.9 +0.9
comp=Z,174nm,1.6s
CAN LR LR
comp=Z,5μm,22.0s
CAN Canberra 68.11 134 *e*P P 07 53 26.1 +2.1
MLR Muntele Rosu 68.21 315 P P 07 53 24.6 0.0
comp=Z,13nm,1.2s,baz=49,slow=2.4,SNR=45
MLR Muntele Rosu 68.21 315⇓*i*P P 07 53 24.8 +0.2
MLR Muntele Rosu 68.21 315 *e*P P 07 53 24.6 0.0
MLR *e*P **P 07 53 24.7 +0.2**
MLR LR LR
comp=Z,4μm,22.0s
MLR Muntele Rosu 68.21 315 *e*P P 07 53 24.7 +0.2
MLR pmax pmax
comp=Z,120nm,1.1s
HNR Honiara 68.25 104 *e*P P 07 53 22.0 -3.2
HNR Honiara 68.25 104 P P 07 53 25.8 +0.6
comp=Z,56nm,0.3s,baz=195,slow=12,SNR=7.8
HNR Honiara 68.25 104 *e*P P 07 53 25.8 +0.6
HNR LR LR
comp=Z,2μm,22.0s
HNR Honiara 68.25 104 *e*P P 07 53 25.8 +0.6
HNR MLR MLR
comp=Z,2μm,22.0s
KARY Karystos 68.35 307 P P 07 53 23.7 -1.7
GVD Gavdhos 68.36 304 P P 07 53 23.9 -1.6
GVD Gavdhos 68.36 304 P P 07 53 23.9 -1.6
IMMV Iera Moni Meta 68.49 304 P P 07 53 25.7 -0.7
RZN Rozhen 68.54 311 *i* P P 07 53 25.6 -1.1
PLD Plovdiv 68.60 312 P P 07 53 28.3 +1.4
KAVA Kavala 68.61 310 P P 07 53 25.1 -1.8
DOPR Dopca 68.67 316⇑*i*P P 07 53 27.0 -0.3
VLY Voula,Athens 68.84 307 P P 07 53 25.8 -2.7
MICGM Minsk 68.87 325⇓*e*P P 07 53 27.0 -1.3
MICGM PM 07 53 29.0
comp=Z,0.2nm,2.0s
MICGM *e*PcP **PcP 07 53 56.0 +3.3**
MICGM *e*PP **PP 07 56 02.0 +1.6**
MICGM *e*PPP PPP 07 57 58.0
MICGM *e*PsP 07 59 24.0
MICGM *e*S **S 08 02 30.0 -1.8**
MICGM *e*ScS **SKSac 08 03 24.0 -3.2**
MICGM *e*SS **SS 08 07 06.0 +9.1**
MICGM *e*SSS SSS 08 10 02.0
MICGM *e*LQ LQ 08 20 14.0
MICGM *e*LR LR 08 22 09.0
MICGM LRM MLR 08 27 18.0
comp=N,6.3nm,20.0s
MICGM LRM MLR 08 27 42.0
comp=Z,3.4nm,20.0s
MICGM LRM MLR 08 27 50.0
comp=E,3.8nm,20.0s
MNK Minsk 68.87 325⇓*e*P P 07 53 27.0 -1.3
MNK *e* 07 53 56.0
MNK *e* 07 56 02.0
MNK *e*S **S 08 02 30.0 -1.8**
MNK *e* 08 03 24.0
MNK *e*SSS SSS 08 10 02.0
MNK pmax pmax
comp=Z,170nm,2.0s
PGB Panagyurishte 69.05 312 *i* P P 07 53 28.5 -1.3
BURAR Bucovina Array 69.06 318⇓*i*P P 07 53 29.8 0.0
BURAR Bucovina Array 69.06 318 P P 07 53 30.0 +0.2
BUR04 Bucovina Ar. S 69.06 318 *e*P P 07 53 29.1 -0.6
BUR08 Bucovina Ar. S 69.08 318 *e*P P 07 53 29.6 -0.3
ARR Arges 69.10 315⇑*i*P P 07 53 29.8 -0.2
PAIG Paliouri 69.12 309 P P 07 53 27.9 -2.3
NVR Nevrokopi 69.14 311 P P 07 53 28.1 -2.2
DID Didima 69.25 307 P P 07 53 28.2 -2.9
MMB Musomiste 69.26 311 *i* P P 07 53 28.3 -2.8
SRS Serrai 69.31 310 P P 07 53 29.4 -2.0
SRS Serrai 69.31 310 P P 07 53 34.7 +3.3
PLG Polygyros 69.34 310 P P 07 53 29.7 -1.9
LSZ Lusaka 69.44 250 *e*P P 07 53 33.3 +0.7
comp=Z,35nm,1.0s
LSZ LR LR
comp=Z,5μm,21.0s
LSZ Lusaka 69.44 250 P P 07 53 33.4 +0.8
SNR=9.2
LSZ Lusaka 69.44 250 *e*P P 07 53 34.3 +1.6
LSZ pmax pmax
comp=Z,35nm,1.0s
SOH Sokhos 69.46 310 P P 07 53 30.0 -2.3
NACGM Naroch 69.59 325 *e*P P 07 53 31.0 -1.7
NACGM *e*S **S 08 02 36.0 -4.2**
NACGM *e*SS **SS 08 07 06.0 -2.0**
NACGM *e*SSS SSS 08 10 08.0
NACGM *e*LQ LQ 08 17 24.0
HORT Hortiatis 69.63 310 P P 07 53 31.5 -1.9
IDID Didziasalis 69.71 326 *e*P P 07 53 33.9 +0.4
IDID IAmb IAmb 07 53 43.5
comp=Z,47nm,1.1s
THE Thessaloniki 69.73 310 P P 07 53 31.6 -2.3
VTS Vitosha 69.76 312⇓*i*P P 07 53 33.7 -0.6
VTS Vitosha 69.76 312 *e*P P 07 53 33.5 -0.7
comp=Z,45nm,1.3s
VTS LR LR
comp=Z,3μm,21.0s
VTS Vitosha 69.76 312 *i* P P 07 53 32.8 -1.5
VTS Vitosha 69.76 312 P P 07 53 32.7 -1.5
VTS Vitosha 69.76 312 *e*P P 07 53 33.5 -0.7
KKB Krupnik 69.77 311 *i* P P 07 53 32.6 -1.6
KNT Kendrikon 69.84 310 P P 07 53 32.4 -2.2
GUR Goura 69.99 307 P P 07 53 33.0 -2.7
IIGN Ignalina 70.01 326 *e*P P 07 53 35.8 +0.4
IIGN IAmb IAmb 07 53 45.4
comp=Z,46nm,1.1s
CJR Cluj-Napoca 70.01 316⇓*i*P P 07 53 36.2 +0.6
LIT Litokhoron 70.05 309 PFAKE 07 53 50.0 +14
LIT LR LR
comp=Z,2μm,20.0s
LIT Litokhoron 70.05 309 P P 07 53 32.5 -3.4
AGG Agios Georgios 70.08 308 *e*P P 07 53 36.7 +0.5
comp=Z,54nm,0.9s
AGG LR LR
comp=Z,4μm,21.0s
AGG Agios Georgios 70.08 308 *e*P P 07 53 37.9 +1.7
IZAR Zarasai 70.09 326 *e*P P 07 53 36.2 +0.4
IZAR IAmb IAmb 07 53 44.9
comp=Z,22nm,0.8s
VAY Valandovo 70.10 311 *i* P P 07 53 35.3 -0.9
KLV Kalavryta, Ach 70.15 307 P P 07 53 34.0 -2.6
KALE Kalithea 70.18 307 P P 07 53 38.3 +1.5
GRG Griva 70.19 310 P P 07 53 33.3 -3.5
LVV L'vov 70.21 320 *e*P P 07 53 37.0 +0.3
LVV *e* 07 53 54.9
LVV *e* 07 56 15.8
LVV *e*S **S 08 02 44.0 -3.7**
LVV *e*PS **PnS 08 03 12.0 -3.0**
LVV MLR MLR
comp=N,200nm,17.0s
LVV MLR MLR
comp=E,1μm,17.0s
LVV MLR MLR
comp=Z,1μm,18.0s
ITM Ithomi 70.27 306 *e*P P 07 53 36.7 -0.7
comp=Z,57nm,1.0s
ITM LR LR
comp=Z,2μm,21.0s
LAKA Lakka 70.30 307 P P 07 53 34.6 -2.9
ANX Ano Chora 70.37 308 P P 07 53 36.4 -1.6
LVZ Lovozero 70.42 340 *e*P P 07 53 37.2 -0.5
comp=Z,45nm,0.7s
LVZ LR LR
comp=Z,12μm,20.0s
LVZ Lovozero 70.42 340*ce*P P 07 53 37.5 -0.2
LVZ pmax pmax
comp=Z,93nm,2.5s
DRO Drossia 70.49 307 P P 07 53 36.6 -2.1
VSU Vasula 70.50 329*ce*P P 07 53 37.8 -0.5
VSU pmax pmax
comp=Z,351nm,2.5s
DRGR 70.62 316⇓*i*P P 07 53 39.4 0.0
APA Apatity 70.71 339⇓*i*P P 07 53 38.2 -1.2
APA *i* 07 53 53.0
APA *i* S **S 08 02 52.0 -1.0**
APA *i* PS **PnS 08 03 12.0 -9.1**
APA *i* 08 03 43.0
APA pmax pmax
comp=Z,37nm,0.9s
TRPA Tarpa 70.92 318⇓*i*P P 07 53 41.1 +0.1
TRPA Tarpa 70.92 318⇓*e*P P 07 53 40.5 -0.5
FNA Florina 70.95 310 *e*P P 07 53 42.0 +0.5
comp=Z,28nm,1.0s
FNA Florina 70.95 310 *e*P P 07 53 42.0 +0.5
FNA pmax pmax
comp=Z,28nm,1.0s
BIA Bitola 71.01 310 *i* P P 07 53 38.6 -3.2
KWP Kalwaria Pacla 71.02 319 *e*P P 07 53 41.3 -0.4
KWP LMZ LR 08 26 19.8
comp=Z,3μm,27.6s
KWP Kalwaria Pacla 71.02 319 *e*P P 07 53 41.2 -0.4
comp=Z,896nm,1.3s
KWP LR LR
comp=Z,13μm,19.0s
KWP Kalwaria Pacla 71.02 319 *e*P P 07 53 41.3 -0.4
KRUS Krusevo 71.09 311 *i* P P 07 53 39.5 -2.9
UZH Uzhgorod 71.15 318 *e*P P 07 53 41.1 -1.3
UZH *e* 07 53 47.1
UZH *e* 07 54 01.7
UZH *e*S **S 08 02 55.1 -3.6**
BZS Buzias 71.23 315⇓*i*P P 07 53 42.8 -0.2
SUW Suwalki 71.46 324 *e*P P 07 53 43.0 -1.2
SUW *e*S **S 08 02 57.2 -4.9**
SUW LMZ LR 08 28 24.0
comp=Z,3μm,23.3s
SUW Suwalki 71.46 324 *e*P P 07 53 43.3 -0.8
comp=Z,203nm,1.1s
SUW LR LR
comp=Z,3μm,21.0s
SUW Suwalki 71.46 324 *e*P P 07 53 43.3 -0.8
FIA1 FINESS Array S 71.61 332 *e*P P 07 53 44.2 -0.7
comp=Z,36nm,0.9s
FIA1 *e*P **P 07 53 44.5 -0.4**
FIA0 FINESS Array S 71.61 332 *e*P P 07 53 44.3 -0.6
FIA0 FINESS Array S 71.61 332 *e*P P 07 53 44.3 -0.6
FINES FINESS Array B 71.61 332 P P 07 53 44.3 -0.6
comp=Z,15nm,0.7s,baz=88,slow=4.8,SNR=38
STHS Stebnicka Huta 71.94 319 *e*P P 07 53 47.3 +0.1
STHS *e* 07 53 56.1
STHS Stebnicka Huta 71.94 319 *e*P P 07 53 47.3 +0.1
STHS *e* 07 53 56.1
STHS pmax pmax
comp=Z,26nm,0.9s
DIVS Divibare 72.24 313 *e*P P 07 53 48.4 -0.8
comp=Z,22nm,1.0s
DIVS LR LR
comp=Z,2μm,20.0s
BEL Belsk 72.54 322 *e*P P 07 53 50.5 -0.2
BEL LMZ LR 08 27 40.1
comp=Z,4μm,24.1s
BEL Belsk 72.54 322 *e*P P 07 53 50.5 -0.2
NIE Niedzica 72.55 319 *e*P P 07 54 09.2 +18
NIE *e*S **S 08 03 14.4 -0.5**
NIE LMZ LR 08 30 10.9
comp=Z,2μm,20.4s
NIE Niedzica 72.55 319 P P 07 53 51.4 +0.5
TTG Podgorica 72.66 312 PFAKE 07 54 00.0 +8.4
TTG LR LR
comp=Z,2μm,21.0s
PSZ Piszkesteto 72.66 317⇓*i*P P 07 53 51.5 -0.1
PSZ Piszkesteto 72.66 317⇓*e*P P 07 53 50.5 -1.1
PSZ Piszkesteto 72.66 317 *e*P P 07 53 50.6 -1.0
comp=Z,29nm,0.9s
PSZ Piszkesteto 72.66 317 *e*P P 07 53 50.6 -1.0
OJC Ojcow 72.97 320 *e*P P 07 53 52.6 -0.8
OJC *e*S S 08 03 05.4 -14
OJC LMZ LR 08 22 23.1
comp=Z,2μm,34.8s
OJC Ojcow 72.97 320 *e*P P 07 53 53.1 -0.2
comp=Z,69nm,1.1s
OJC Ojcow 72.97 320 *e*P P 07 53 53.1 -0.2
LANS Liptovska Anna 73.06 319 *e*P P 07 53 54.0 0.0
LANS Liptovska Anna 73.06 319 *e*P P 07 53 54.0 0.0
MORH M^‡r^¡gy, Hung 73.36 316⇓*e*P P 07 53 54.6 -1.1
VYHS Vyhne 73.42 318 *e*P P 07 53 55.6 -0.4
VYHS *e* 07 54 04.0
VYHS Vyhne 73.42 318 *e*P P 07 53 55.6 -0.4
VYHS *e* 07 54 04.0
VYHS pmax pmax
comp=Z,32nm,1.8s
KEV Kevo 73.70 341 *e*P P 07 53 57.4 +0.2
comp=Z,56nm,0.8s
KEV LR LR
comp=Z,9μm,21.0s
KEV Kevo 73.70 341 *e*P P 07 53 57.4 +0.2
OKC Ostrava-Krasne 73.99 319 *e*P P 07 53 59.5 +0.2
OKC *e*x x 07 54 07.6
OKC *e*S **SKiKP 08 03 27.6 +0.1**
OKC AMS AMS 08 33 30.0
comp=Z,1μm,14.8s
OKC Ostrava-Krasne 73.99 319 *e*P P 07 53 59.5 +0.2
OKC *e* 07 54 07.6
OKC *e*S **SKiKP 08 03 27.6 +0.1**
OKC MLR MLR
comp=Z,1μm,14.8s
ARA0 ARCESS Array S 74.13 340 *e*P P 07 53 59.9 +0.1
ARCES ARCESS Array B 74.13 340 P P 07 53 59.9 +0.1
comp=Z,23nm,0.9s,baz=98,slow=6.5,SNR=54
ARCES ARCESS Array B 74.13 340 *e*P P 07 53 59.7 -0.1
ARCES ARCESS Array B 74.13 340 *e*P P 07 53 59.7 -0.1
ARE0 ARCESS Array S 74.13 340 *e*P P 07 54 00.3 +0.5
comp=Z,144nm,1.4s
ARE0 LR LR
comp=Z,12μm,21.0s
BLY Banja Luka 74.29 314 *e*P P 07 54 01.4 +0.2
comp=Z,56nm,1.0s
BLY LR LR
comp=Z,2μm,19.0s
MORC Moravsky Berou 74.37 319⇓*i*P P 07 54 01.9 +0.3
MORC Moravsky Berou 74.37 319 *e*P P 07 54 01.4 -0.2
comp=Z,353nm,1.3s
MORC LR LR
comp=Z,4μm,20.0s
MORC Moravsky Berou 74.37 319 *e*P P 07 54 01.4 -0.2
TIP Timpagrande 74.42 308⇑*i*P P 07 54 01.9 -0.3
TIP Timpagrande 74.42 308 PFAKE 07 54 10.0 +7.8
TIP LR LR
comp=Z,2μm,22.0s
MODS Modra-Piesok 74.44 318 *e*P P 07 54 01.3 -0.7
MODS *e* 07 54 09.0
MODS Modra-Piesok 74.44 318 *e*P P 07 54 01.3 -0.7
MODS *e* 07 54 09.0
MODS pmax pmax
comp=Z,376nm,2.6s
LBTB Lobatse 74.59 241 *e*P P 07 54 04.8 +1.4
comp=Z,70nm,0.9s
LBTB Lobatse 74.59 241 *e*P P 07 54 05.0 +1.6
KTK1 Kautokeino 74.76 339 *e*P P 07 54 03.2 -0.2
SOP Sopron 74.88 317 P P 07 54 05.2 +0.6
KRLC Kraliky 74.89 319 *e*P P 07 54 05.1 +0.5
KRLC *e*x x 07 54 13.2
KRLC Kraliky 74.89 319 *e*P P 07 54 05.1 +0.5
KRLC *e* 07 54 13.2
VRAC Vranov 74.95 319 P P 07 54 05.2 +0.2
comp=Z,6.6nm,0.8s,baz=83,slow=5.9,SNR=7.1
HAMF Hammerfest 75.04 341 *e*P P 07 54 05.1 +0.1
CEL Celeste 75.08 307 *e*P P 07 54 06.5 +0.5
comp=Z,93nm,1.1s
BILL Bilibino 75.12 22*d i*P P 07 54 04.0 -1.6
BILL *i* 07 54 13.7
BILL *i* 07 56 54.8
BILL *i* S **SKiKP 08 03 31.1 +2.4**
BILL pmax pmax
comp=Z,21nm,1.2s
BILL MLR MLR
comp=Z,10μm,17.0s
CUC Castrocucco 75.16 309 PFAKE 07 54 20.0 +14
CUC LR LR
comp=Z,1μm,21.0s
DPC Dobruska-Polom 75.20 320 *e*P P 07 54 07.0 +0.6
DPC *e*x x 07 54 14.3
DPC *e*S **S 08 03 43.2 -1.6**
DPC AMS AMS 08 34 00.0
comp=Z,2μm,18.5s
DPC Dobruska-Polom 75.20 320 *e*P P 07 54 07.0 +0.6
DPC *e* 07 54 14.3
DPC *e*S **S 08 03 43.2 -1.6**
DPC MLR MLR
comp=Z,2μm,18.5s
KSP Ksiaz 75.25 320 *e*P P 07 54 06.7 +0.1
KSP *e*S **S 08 03 42.8 -2.4**
KSP LMZ LR 08 31 55.2
comp=Z,3μm,21.0s
KSP Ksiaz 75.25 320 *e*P P 07 54 06.7 +0.1
KSP *e*S **S 08 03 42.8 -2.4**
CONA Conrad Observa 75.36 317 *i* P P 07 54 07.3 -0.1
comp=Z,23nm,1.4s,SNR=8.2
MIR Mirnyy 75.36 180⇓*i*P P 07 54 10.0 +3.2
MIR *i* 07 54 16.0
MIR *i* 07 54 29.0
MIR pmax pmax
comp=Z,108nm,1.5s
UPC Upice 75.41 320 *e*P P 07 54 08.0 +0.4
UPC *e*pP **pP 07 54 11.2 -1.6**
UPC *e*x x 07 54 15.9
UPC *e*S **S 08 03 45.3 -1.7**
UPC AMS AMS 08 31 40.0
comp=Z,2μm,19.7s
UPC Upice 75.41 320 *e*P P 07 54 08.0 +0.4
UPC *e* 07 54 15.9
UPC *e*S **S 08 03 45.3 -1.7**
UPC MLR MLR
comp=Z,2μm,19.7s
GROS Grobnik 75.54 316 *e*P P 07 54 07.6 -1.0
ARSA Arzberg 75.56 316 *i* P P 07 54 08.7 +0.1
comp=Z,49nm,1.2s,SNR=8.2
TREC Trest 75.68 319 AMS AMS 08 32 00.0
comp=Z,2μm,18.7s
SOKA Soboth 75.88 316 *i* P P 07 54 10.6 +0.2
comp=Z,78nm,1.2s,SNR=17
BOSA Boshof 75.99 238 P P 07 54 12.2 +0.8
comp=Z,50nm,1.0s,baz=79,slow=3.8,SNR=31
BOSA Boshof 75.99 238 *e*P P 07 54 12.2 +0.8
BOSA *e*P **P 07 54 12.7 +1.2**
BOSA Boshof 75.99 238 *e*P P 07 54 12.7 +1.2
CASY Casey 76.08 173 *e*P P 07 54 12.5 +1.6
comp=Z,63nm,1.2s
CASY LR LR
comp=Z,4μm,20.0s
GOPC GO Pecny, Ondr 76.16 319 *e*P P 07 54 12.2 +0.3
GOPC *e*x x 07 54 20.0
GOPC *e*S **S 08 03 54.1 -1.3**
GOPC AMS AMS 08 33 50.0
comp=Z,2μm,19.7s
GOPC GO Pecny, Ondr 76.16 319 *e*P P 07 54 12.2 +0.3
GOPC *e* 07 54 20.0
GOPC *e*S **S 08 03 54.1 -1.3**
GOPC MLR MLR
comp=Z,2μm,19.7s

WDD	**Wied Dalam**	**76.20 305**		PFAKE		07 54 20.0	+7.6		
WDD				LR	LR				
	comp=Z,2µm,20.0s								
OBKA	**Obir**	**76.20 316**	*i* P		**P**	**07 54 12.6**	**+0.3**		
	comp=Z,46nm,1.6s								
LJU	**Ljubljana**	**76.21 315**	*i* P		**P**	**07 54 11.8**	**-0.4**		
LJU			*e*S		**S**	**08 03 51.8**	**-4.2**		
PRU	**Pruhonice**	**76.32 319**	*e*P		**P**	**07 54 13.2**	**+0.4**		
PRU			*ex*		x	07 54 20.8			
PRU			*e*S		**S**	**08 03 54.3**	**-2.8**		
PRU				AMS	AMS	08 33 50.0			
	comp=Z,2µm,18.5s								
PRU	**Pruhonice**	**76.32 319**	*e*P		**P**	**07 54 13.2**	**+0.4**		
PRU			*e*			07 54 20.8			
PRU			*e*S		**S**	**08 03 54.3**	**-2.8**		
PRU				MLR	MLR				
	comp=Z,2µm,18.5s								
PVCC	**Panska Ves**	**76.33 320**	*e*P		**P**	**07 54 13.2**	**+0.4**		
PVCC			*ex*		x	07 54 21.5			
PVCC				AMS	AMS	08 34 40.0			
	comp=Z,3µm,17.7s								
PVCC	**Panska Ves**	**76.33 320**	*e*P		**P**	**07 54 13.2**	**+0.4**		
PVCC			*e*			07 54 21.5			
PVCC				MLR	MLR				
	comp=Z,3µm,17.7s								
TRO	**Tromso**	**76.39 340**	*e*P		**P**	**07 54 12.2**	**-0.5**		
PRA	**Prague**	**76.39 319**		AMS	AMS	08 35 00.0			
	comp=Z,2µm,21.0s								
MOA	**Molln**	**76.43 317**	*i* P		**P**	**07 54 13.3**	**-0.2**		
	comp=Z,26nm,1.2s,SNR=7.0								
TRI	**Trieste**	**76.73 315**		PFAKE		07 54 30.0	+15		
TRI				LR	LR				
	comp=Z,1µm,20.0s								
BRG	**Berggiesshubel**	**76.74 320**	*i* P		**P**	**07 54 15.2**	**+0.1**		
	comp=Z,133nm,1.8s								
BRG			*i*			07 54 23.6			
	comp=Z,62nm,1.4s								
BRG			*i*			07 55 10.4			
	comp=Z,40nm,1.2s								
BRG			*e*PP		**PP**	**07 57 06.4**	**-1.3**		
	comp=Z,18nm,1.4s								
BRG			S		**S**	**08 04 01.0**	**-0.6**		
BRG			SS		**SS**	**08 09 00.0**	**+2.7**		
	comp=N,2µm,17.7s								
	comp=E,729nm,18.0s								
	comp=Z,2µm,20.1s								
BRG	**Berggiesshubel**	**76.74 320**	*i* P		**P**	**07 54 15.2**	**+0.1**		
BRG			*i*			07 54 23.6			
BRG			*e*			07 57 06.4			
BRG			S		**S**	**08 04 01.0**	**-0.6**		
BRG			SS		**SS**	**08 09 00.0**	**+2.7**		
BRG			pmax		pmax				
	comp=Z,133nm,1.8s								
BRG			pmax		pmax				
	comp=Z,18nm,1.4s								
BRG			MLR		MLR				
	comp=N,2µm,17.7s								
BRG			MLR		MLR				
	comp=E,729nm,18.0s								
BRG			MLR		MLR				
	comp=Z,2µm,20.1s								
CADS	**Cadrg**	**76.76 315**	*e*P		**P**	**07 54 14.6**	**-0.8**		
MYKA	**Terra Mystica**	**76.83 316**	*i* P		**P**	**07 54 15.6**	**-0.3**		
	comp=Z,411nm,1.7s,SNR=6.5								
GEA0	**GERESS Array S**	**76.83 318**	*e*P		**P**	**07 54 15.4**	**-0.5**		
GEC2	**GERESS Array S**	**76.83 318**	*e*P		**P**	**07 54 16.0**	**+0.2**		
	comp=Z,53nm,1.1s								
GEC2				LR	LR				
	comp=Z,2µm,20.0s								
GEC2	**GERESS Array S**	**76.83 318**	*e*P		**P**	**07 54 16.0**	**+0.2**		
GEC2			pmax		pmax				
	comp=Z,53nm,1.1s								
GEC2			MLR		MLR				
	comp=Z,2µm,20.0s								
GERES	**GERESS Array B**	**76.83 318**	P		**P**	**07 54 15.8**	**0.0**		
	comp=Z,14nm,0.9s,baz=86,slow=5.5,SNR=53								
KHC	**Kasperske Hory**	**76.92 318**	*e*P		**P**	**07 54 16.2**	**-0.1**		
KHC			*ex*		x	07 54 24.0			
KHC			*e*S		**S**	**08 04 02.0**	**-1.8**		
KHC				AMS	AMS	08 32 50.0			
	comp=Z,2µm,20.2s								
KHC	**Kasperske Hory**	**76.92 318**	*e*P		**P**	**07 54 16.0**	**-0.3**		
	comp=Z,8.4nm,1.0s								
KHC				LR	LR				
	comp=Z,800nm,20.0s								
KHC	**Kasperske Hory**	**76.92 318**	*e*P		**P**	**07 54 16.2**	**-0.1**		
KHC			*e*			07 54 24.0			
KHC			*e*S		**S**	**08 04 02.0**	**-1.8**		
KHC				MLR	MLR				
	comp=Z,2µm,20.2s								
AQU	**L'Aquila**	**76.99 311**		PFAKE		07 54 30.0	+13		
AQU				LR	LR				
	comp=Z,2µm,22.0s								
KBA	**Koelnbreinsper**	**77.04 316**	*i* P		**P**	**07 54 16.6**	**-0.6**		
	comp=Z,32nm,1.4s,SNR=6.3								
KBA	**Koelnbreinsper**	**77.04 316**	P		**P**	**07 54 16.7**	**-0.4**		
CLTB	**Caltabellotta**	**77.21 306**		PFAKE		07 54 30.0	+12		
CLTB				LR	LR				
	comp=Z,3µm,22.0s								
RGN	**Rugen**	**77.26 324**		PFAKE		07 54 30.0	+12		
RGN				LR	LR				
	comp=Z,4µm,22.0s								
CLL	**Collm**	**77.34 321**	*i* P		**P**	**07 54 18.0**	**-0.5**		
	comp=Z,66nm,1.6s								
CLL			*i*	sP	**pP**	**07 54 22.0**	**-1.8**		
CLL			*i*			07 54 26.0			
	comp=Z,48nm,1.3s								
CLL			*e*			07 55 14.0			
CLL			*e*S		**S**	**08 04 05.0**	**-3.2**		
CLL			*e*SP		**ScS**	**08 04 40.0**	**+4.2**		
CLL			*e*PPS		PPS	08 05 06.0			
CLL			*e*SS		**SS**	**08 09 12.0**	**+5.6**		
CLL			*e*SSS		SSS	08 12 34.0			
CLL			*e*SSSS			08 14 42.0			
CLL			LmV			08 34 00.0			
	comp=Z,2µm,21.4s								
CLL	**Collm**	**77.34 321**	*e*P		**P**	**07 54 18.4**	**-0.1**		
	comp=Z,46nm,1.2s								
CLL				LR	LR				
	comp=Z,2µm,19.0s								
CLL	**Collm**	**77.34 321**	*e*P		**P**	**07 54 18.4**	**-0.1**		
HFS	**Hagfors**	**77.37 330**	P		**P**	**07 54 17.9**	**-0.5**		
	comp=Z,6.8nm,0.4s,baz=104,slow=6.3,SNR=48								
WET	**Wettzell**	**77.38 318**	P		**P**	**07 54 18.8**	**0.0**		
STEI	**Steigen**	**77.44 338**	*e*P		**P**	**07 54 18.2**	**-0.5**		
DZM	**Mont Dzumac**	**77.47 115**	P		**P**	**07 54 20.5**	**+0.6**		
	comp=Z,20nm,1.0s,baz=356,slow=3.5,SNR=7.3								
DZM	**Mont Dzumac**	**77.47 115**	*e*P		**P**	**07 54 21.9**	**+2.0**		
	comp=Z,202nm,1.6s								
DZM			*e*S		**S**	**08 04 08.0**	**-2.7**		
	comp=Z,799nm,30.9s								
DZM			*e*SS		**SS**	**08 09 04.8**	**-5.3**		
	comp=Z,2µm,32.1s								
DZM			*e*LQ		LQ	08 15 00.7			
	comp=Z,3µm,29.2s								
DZM			*e*LR		LR	08 18 17.2			
	comp=Z,4µm,21.2s								
DZM	**Mont Dzumac**	**77.47 115**	*e*P		**P**	**07 54 20.5**	**+0.6**		
	comp=Z,213nm,1.7s								
DZM				LR	LR				
	comp=Z,3µm,20.0s								
MOR8	**Moi Rana**	**77.56 336**	*e*P		**P**	**07 54 17.5**	**-1.9**		
ABTA	**Abfaltersbach**	**77.61 316**	*e*P		**P**	**07 54 19.5**	**-0.8**		
	comp=Z,22nm,1.0s								
NKC	**Novy Kostel**	**77.68 319**	*e*P		**P**	**07 54 20.6**	**+0.2**		
NKC			*ex*		x	07 54 28.8			
NKC				AMS	AMS	08 35 50.0			
	comp=Z,2µm,17.5s								
NKC	**Novy Kostel**	**77.68 319**	*e*P		**P**	**07 54 20.6**	**+0.2**		
NKC			*e*			07 54 28.8			
NKC				MLR	MLR				
	comp=Z,2µm,17.5s								
LOF	**Lofoten**	**78.10 338**	*e*P		**P**	**07 54 21.7**	**-0.7**		
KONS	**Konsvik**	**78.12 336**	*e*P		**P**	**07 54 22.0**	**-0.5**		
STOK	**Stokkvaagen**	**78.14 336**	*e*P		P	07 54 31.4	+8.8		
WTTA	**Wattenberg**	**78.21 316**	*i* P		**P**	**07 54 22.9**	**-0.7**		
	comp=Z,22nm,1.1s,SNR=5.8								
MOX	**Moxa**	**78.21 320**	P		**P**	**07 54 23.6**	**+0.2**		
WATA	**Walderalm**	**78.25 316**	*e*P		**P**	**07 54 22.8**	**-1.1**		
	comp=Z,18nm,1.1s								
NC405	**NORSAR Array S**	**78.40 331**	*e*P		**P**	**07 54 22.9**	**-1.3**		
NSS	**Namsos**	**78.45 334**	*e*P		**P**	**07 54 23.6**	**-0.8**		
GRF	**Grafenberg Arr**	**78.47 319**	P		**P**	**07 54 25.4**	**+0.6**		
NC602	**NORSAR Array S**	**78.47 330**	*e*P		**P**	**07 54 23.8**	**-0.8**		
NC602	**NORSAR Array S**	**78.47 330**	*e*P		**P**	**07 54 23.5**	**-1.0**		
GRFO	**Grafenberg**	**78.47 319**	*e*P		**P**	**07 54 24.8**	**0.0**		
	comp=Z,87nm,1.3s								
GRFO				LR	LR				
	comp=Z,1µm,19.0s								
GRFO	**Grafenberg**	**78.47 319**	*e*P		**P**	**07 54 24.8**	**0.0**		
NC303	**NORSAR Array S**	**78.57 331**	*e*P		**P**	**07 54 24.8**	**-0.4**		
MOTA	**Moosalm**	**78.57 317**	*i* P		**P**	**07 54 24.7**	**-0.9**		
	comp=Z,34nm,1.1s,SNR=11								
NB201	**NORSAR Array S**	**78.60 331**	*e*P		**P**	**07 54 23.4**	**-1.9**		
NB2	**NORSAR Subarra**	**78.64 331**	P		**P**	**07 54 24.6**	**-0.9**		
	comp=Z,84nm,1.4s,baz=91,slow=5.9								
NB2	**NORSAR Subarra**	**78.64 331**	P		**P**	**07 54 24.6**	**-0.9**		
	baz=91,slow=5.9								
NB200	**NORSAR Array S**	**78.64 331**	*e*P		**P**	**07 54 24.6**	**-0.9**		
NOA	**NORSAR Array B**	**78.64 331**	P		**P**	**07 54 24.6**	**-0.9**		
	comp=Z,16nm,0.9s,baz=92,slow=5.6,SNR=19								
HSPB	**Hornsund (broa**	**78.66 347**	*e*P		**P**	**07 54 23.8**	**-1.6**		
SPA0	**Spitsbergen Ar**	**78.69 348**	*e*P		**P**	**07 54 25.7**	**+0.1**		
SPITS	**Spitsbergen Ar**	**78.69 348**	P		**P**	**07 54 25.6**	**+0.1**		
	comp=Z,19nm,0.7s,baz=74,slow=7.1,SNR=53								
NAO01	**NORSAR Array S**	**78.79 330**	*e*P		**P**	**07 54 25.9**	**-0.5**		
RETA	**Reutte**	**78.80 317**	*i* P		**P**	**07 54 26.2**	**-0.6**		
	comp=Z,62nm,1.3s,SNR=12								
NBO02	**NORSAR Array S**	**78.81 331**	*e*P		**P**	**07 54 25.6**	**-0.8**		
FETA	**Feichten**	**78.83 316**	*i* P		**P**	**07 54 26.7**	**-0.4**		
	comp=Z,25nm,1.1s,SNR=7.6								
NBO00	**NORSAR Array S**	**78.85 330**	*e*P		**P**	**07 54 26.1**	**-0.6**		
NC204	**NORSAR Array S**	**78.86 331**	*e*P		**P**	**07 54 26.4**	**-0.4**		
VLC	**Villacollemand**	**79.15 313**		PFAKE		07 54 40.0	+11		
VLC				LR	LR				
	comp=Z,2µm,22.0s								
FUORN	**Ofenpass-Fuorn**	**79.16 316**	*e*P		**P**	**07 54 29.1**	**+0.1**		
	comp=Z,198nm,1.9s								
DAVA	**Damuels**	**79.40 316**	*i* P		**P**	**07 54 30.1**	**-0.1**		
	comp=Z,38nm,1.1s,SNR=10.0								
KONO	**Kongsberg**	**79.41 329**	*e*P		**P**	**07 54 29.5**	**-0.3**		
	comp=Z,160nm,1.7s								
KONO				LR	LR				
	comp=Z,5µm,20.0s								
KONO	**Kongsberg**	**79.41 329**	*e*P		**P**	**07 54 29.5**	**-0.3**		
KONO	**Kongsberg**	**79.41 329**	*ce*P		**P**	**07 54 30.1**	**+0.3**		
KONO				pmax	pmax				
	comp=Z,111nm,2.5s								
MAW	**Mawson**	**79.59 192**	P		**P**	**07 54 30.8**	**+0.4**		
	comp=Z,48nm,0.8s,baz=8.4,slow=6.4,SNR=50								
MAW	**Mawson**	**79.59 192**	P		**P**	**07 54 33.5**	**+3.0**		
	baz=80,SNR=12								
MAW	**Mawson**	**79.59 192**	*e*P		**P**	**07 54 30.9**	**+0.4**		
	comp=Z,20nm,0.8s								
MAW				LR	LR				
	comp=Z,600nm,19.0s								
KBS	**Kingsbay**	**79.67 349**	*e*P		**P**	**07 54 31.1**	**+0.3**		
	comp=Z,100nm,1.4s								
KBS				LR	LR				
	comp=Z,5µm,20.0s								
KBS	**Kingsbay**	**79.67 349**	*e*P		**P**	**07 54 30.0**	**-0.9**		
KBS	**Kingsbay**	**79.67 349**	*e*P		**P**	**07 54 31.1**	**+0.3**		
DOMB	**Dombas**	**79.69 332**	*e*P		**P**	**07 54 31.0**	**-0.3**		
TUE	**Stuetta**	**79.80 316**	*e*P		**P**	**07 54 32.2**	**-0.2**		
	comp=Z,48nm,1.0s								
VSL	**Villasalto**	**80.13 309**	*e*P		**P**	**07 54 36.3**	**+2.1**		
	comp=Z,58nm,1.3s								
TSUM	**Tsumeb**	**80.22 249**	*e*P		**P**	**07 54 35.8**	**+0.6**		
	comp=Z,34nm,1.0s								
TSUM				LR	LR				
	comp=Z,4µm,18.0s								
BFO	**Black Forest**	**80.41 318**	*e*P		**P**	**07 54 35.0**	**-0.5**		
	comp=Z,50nm,1.3s								
BFO	**Black Forest**	**80.41 318**	*ce*P		**P**	**07 54 35.1**	**-0.4**		
KEST	**Kesra**	**80.41 305**	P		**P**	**07 54 35.5**	**-0.3**		
	comp=Z,13nm,0.8s,baz=85,slow=1.3,SNR=8.4								
KEST	**Kesra**	**80.41 305**	*e*P		**P**	**07 54 36.0**	**+0.2**		
	comp=Z,159nm,1.8s								
KEST				LR	LR				
	comp=Z,3µm,19.0s								
AKN	**Aaknes**	**80.66 332**	*e*P		**P**	**07 54 37.3**	**+0.8**		
SNART	**Snartemo**	**80.67 328**	*e*P		**P**	**07 54 37.1**	**+0.5**		
SUR	**Sutherland**	**80.79 235**	*e*P		**P**	**07 54 39.0**	**+1.1**		
	comp=Z,141nm,1.1s								
SUR				LR	LR				
	comp=Z,3µm,19.0s								
BLS5	**Blasjo**	**81.02 329**	*e*P		**P**	**07 54 38.2**	**-0.3**		
ECH	**Echery**	**81.19 317**	*e*P		**P**	**07 54 39.3**	**-0.4**		
	comp=Z,89nm,1.7s								
ECH	**Echery**	**81.19 317**	*e*P		**P**	**07 54 39.3**	**-0.4**		
SENIN	**Lac Senin/Sane**	**81.22 316**	*e*P		**P**	**07 54 40.1**	**+0.1**		
	comp=Z,205nm,1.8s								
KMY	**Karmoy**	**81.65 329**	*e*P		P	07 54 46.8	+5.0		
BNI	**Bardonecchia**	**81.75 314**	*e*P		**P**	**07 54 42.2**	**-0.5**		
	comp=Z,57nm,0.9s								
BNI				LR	LR				
	comp=Z,1µm,19.0s								
BNI	**Bardonecchia**	**81.75 314**	*e*P		**P**	**07 54 42.3**	**-0.5**		
SUE	**Sulen**	**81.78 331**	*e*P		**P**	**07 54 42.6**	**+0.2**		
MEM	**Membach**	**81.78 320**	⇑P		**P**	**07 54 42.6**	**-0.1**		
	comp=Z,23nm,1.3s								
CMAH	**Djebel Manchou**	**81.89 306**	P		**P**	**07 54 43.2**	**-0.5**		
BCLA	**Clavier**	**82.25 320**	⇑P		**P**	**07 54 45.1**	**0.0**		
	comp=Z,31nm,1.7s								
DOU	**Dourbes**	**82.73 320**	⇑P		**P**	**07 54 47.7**	**+0.1**		
	comp=Z,19nm,1.2s								
CTEI	**Djebel Teioual**	**82.76 305**	P		**P**	**07 54 48.0**	**-0.3**		
UCC	**Uccle**	**82.81 320**		PFAKE		07 55 00.0	+12		
UCC				LR	LR				
	comp=Z,2µm,20.0s								
SNF	**Seneffe**	**82.89 320**	⇑P		**P**	**07 54 48.4**	**0.0**		
DFRA	**Djebel Bou Aff**	**83.13 306**	P		**P**	**07 54 51.1**	**+0.9**		
SSB	**Saint Sauveur**	**83.23 315**	*e*P		**P**	**07 54 49.2**	**-1.2**		
	comp=Z,46nm,1.3s								
SSB				LR	LR				
	comp=Z,900nm,19.0s								
SSB	**Saint Sauveur**	**83.23 315**	*e*P		**P**	**07 54 49.2**	**-1.2**		
GAMB	**Gambell**	**83.93 26**	*e*P		**P**	**07 54 53.8**	**+0.3**		
	comp=Z,43nm,1.2s								
GAMB				LR	LR				
	comp=Z,3µm,21.0s								
ATKA	**Atka Island**	**84.12 38**		PFAKE		07 55 10.0	+15		
ATKA				LR	LR				
	comp=Z,2µm,22.0s								
DCZ	**Deep Cove**	**84.84 137**		PFAKE		07 55 10.0	+12		
DCZ				LR	LR				
	comp=Z,4µm,21.0s								
TAM	**Tamanrasset**	**85.09 292**	*e*P		**P**	**07 55 01.2**	**+0.8**		
	comp=Z,26nm,1.0s								
TAM				LR	LR				
	comp=Z,7µm,21.0s								
TAM	**Tamanrasset**	**85.09 292**	*e*P		**P**	**07 55 01.5**	**+1.0**		
MLZ	**Mavora Lakes**	**85.46 137**		PFAKE		07 55 10.0	+8.4		
MLZ				LR	LR				
	comp=Z,4µm,21.0s								
WHZ	**Wether Hill Ro**	**85.50 138**		PFAKE		07 55 10.0	+8.2		
WHZ				LR	LR				
	comp=Z,4µm,22.0s								
WKZ	**Wanaka**	**85.91 136**		PFAKE		07 55 20.0	+16		
WKZ				LR	LR				
	comp=Z,5µm,20.0s								
FOZ	**Fox Glacier**	**86.09 135**		PFAKE		07 55 20.0	+15		
FOZ				LR	LR				
	comp=Z,4µm,20.0s								
DAG	**Danmarks Havn**	**86.33 348**	*i* P		**P**	**07 55 04.3**	**-1.0**		
	comp=Z,13nm,0.9s								
	comp=Z,4µm,25.0s								
DAG	**Danmarks Havn**	**86.33 348**	*i* P		**P**	**07 55 04.3**	**-1.0**		
DAG				pmax	pmax				
	comp=Z,13nm,0.9s								
DAG				MLR	MLR				
	comp=Z,4µm,25.0s								
SYO	**Syowa Base**	**86.42 197**	⇑*i*X		**P**	**07 55 04.6**	**-1.1**		
SYO	**Syowa Base**	**86.42 197**	⇑*i*X		**P**	**07 55 06.6**	**+0.9**		
LBZ	**Lake Benmore**	**86.58 136**		PFAKE		07 55 20.0	+13		
LBZ				LR	LR				
	comp=Z,5µm,20.0s								
EKA	**Eskdalemuir Ar**	**86.66 325**	P		**P**	**07 55 07.7**	**+0.3**		
	comp=Z,28nm,1.0s,baz=92,slow=5.8,SNR=17								
ESK	**Eskdalemuir**	**86.69 325**	*e*P		**P**	**07 55 07.9**	**+0.4**		
	comp=Z,176nm,1.4s								
ESK				LR	LR				
	comp=Z,3µm,21.0s								
ESK	**Eskdalemuir**	**86.69 325**	*e*P		**P**	**07 55 07.9**	**+0.4**		
OUZ	**Omahuta**	**86.82 126**		PFAKE		07 55 20.0	+11		
OUZ				LR	LR				
	comp=Z,6µm,20.0s								
RPZ	**Rata Peaks**	**87.01 135**	*e*P		**P**	**07 55 10.4**	**+1.2**		
	comp=Z,70nm,1.2s								
RPZ				LR	LR				
	comp=Z,6µm,20.0s								
ODZ	**Otahua Downs**	**87.08 136**		PFAKE		07 55 20.0	+10		
ODZ				LR	LR				
	comp=Z,4µm,20.0s								
MSVF	**Nonsavu**	**87.19 108**	*e*P		**P**	**07 55 10.7**	**-0.1**		
	comp=Z,79nm,1.4s								
MSVF	**Nonsavu**	**87.19 108**	*e*P		**P**	**07 55 11.4**	**+0.6**		
OXZ	**Oxford**	**87.60 134**	*e*P		**P**	**07 55 12.1**	**0.0**		
	comp=Z,32nm,0.8s								
OXZ				LR	LR				
	comp=Z,2µm,19.0s								
LTZ	**Lake Taylor**	**87.62 134**	*e*P		**P**	**07 55 13.1**	**+0.7**		
	comp=Z,62nm,1.2s								
LTZ				LR	LR				
	comp=Z,4µm,21.0s								
THZ	**Tophouse**	**87.83 133**	*e*P		**P**	**07 55 13.9**	**+0.5**		
	comp=Z,91nm,1.2s								
THZ				LR	LR				
	comp=Z,4µm,18.0s								
CRLZ	**Canterbury Las**	**88.07 135**	*e*P		**P**	**07 55 15.6**	**+1.2**		
	comp=Z,130nm,1.3s								
MQZ	**McQueen's Vall**	**88.12 135**	*e*P		**P**	**07 55 15.4**	**+0.8**		
	comp=Z,179nm,1.9s								
MQZ				LR	LR				
	comp=Z,4µm,22.0s								
UNV	**Unalaska Valle**	**88.41 36**		PFAKE		07 55 30.0	+14		
UNV				LR	LR				
	comp=Z,2µm,20.0s								
CART	**Cartagena**	**88.44 308**		PFAKE		07 55 30.0	+14		
CART				LR	LR				
	comp=Z,2µm,20.0s								
KHZ	**Kahutara**	**88.44 133**	*e*P		**P**	**07 55 16.9**	**+0.8**		
	comp=Z,54nm,1.0s								
KHZ				LR	LR				
	comp=Z,4µm,22.0s								
HIZ	**Hauiti**	**88.54 129**	*e*P		**P**	**07 55 16.7**	**0.0**		
	comp=Z,99nm,1.2s								
HIZ				LR	LR				
	comp=Z,5µm,22.0s								
SNZO	**South Karori**	**89.04 132**		PFAKE		07 55 30.0	+11		
SNZO				LR	LR				
	comp=Z,4µm,20.0s								
SCO	**Scoresbysund**	**89.90 342**	*i* P		**P**	**07 55 22.8**	**+0.3**		
	comp=Z,34nm,1.4s								
SCO	**Scoresbysund**	**89.90 342**	*e*P		**P**	**07 55 23.5**	**+1.1**		
	comp=Z,26nm,1.2s								
SCO				LR	LR				
	comp=Z,5µm,22.0s								
SCO	**Scoresbysund**	**89.90 342**	*e*P		**P**	**07 55 23.5**	**+1.1**		
FALS	**False Pass**	**89.91 34**		PFAKE		07 55 30.0	+7.2		
FALS				LR	LR				
	comp=Z,2µm,21.0s								
BKZ	**Black Stump Fm**	**89.93 130**	*e*P		**P**	**07 55 23.9**	**+0.6**		
	comp=Z,83nm,1.4s								
BKZ				LR	LR				
	comp=Z,4µm,20.0s								
BFZ	**Birch Farm**	**90.05 131**		PFAKE		07 55 30.0	+6.3		
BFZ				LR	LR				
	comp=Z,7µm,20.0s								
TOC2	**Torodi Ar. Sit**	**90.09 283**		PFAKE		07 55 40.0	+15		
TOC2				LR	LR				
	comp=Z,3µm,20.0s								
TOC3	**Torodi Ar. Sit**	**90.09 283**		PFAKE		07 55 40.0	+15		
TOC3				LR	LR				
	comp=Z,3µm,21.0s								
TOB2	**Torodi Ar. Sit**	**90.10 283**		PFAKE		07 55 40.0	+15		
TOB2				LR	LR				
	comp=Z,3µm,20.0s								
TOC1	**Torodi Ar. Sit**	**90.11 283**		PFAKE		07 55 40.0	+15		
TOC1				LR	LR				
	comp=Z,4µm,20.0s								
TOB3	**Torodi Ar. Sit**	**90.11 283**		PFAKE		07 55 40.0	+15		
TOB3				LR	LR				
	comp=Z,3µm,20.0s								
TOA2	**Torodi Ar. Sit**	**90.11 283**		PFAKE		07 55 40.0	+15		
TOA2				LR	LR				
	comp=Z,3µm,21.0s								
TOA0	**Torodi Ar. Sit**	**90.12 283**	*e*P		**P**	**07 55 25.1**	**+0.5**		
	comp=Z,33nm,1.0s								
TOA0				LR	LR				
	comp=Z,3µm,21.0s								
TOC4	**Torodi Ar. Sit**	**90.12 283**		PFAKE		07 55 40.0	+15		
TOC4				LR	LR				
	comp=Z,3µm,21.0s								
TORD	**Torodi Ar. Bea**	**90.12 283**	P		**P**	**07 55 24.6**	**0.0**		
	comp=Z,7.6nm,0.9s,baz=81,slow=5.2,SNR=23								
TORD				PP	**PP**	**07 58 58.7**	**+0.5**		
	comp=Z,1.6nm,1.0s,baz=69,slow=4.7,SNR=3.4								
TORD				PKKPbc	**PKKPbc**	**08 12 54.0**	**-0.8**		
	comp=Z,1.8nm,1.1s,baz=303,slow=2.8,SNR=3.8								
TOA1	**Torodi Ar. Sit**	**90.12 283**	*e*P		**P**	**07 55 24.6**	**0.0**		
TOA1			*e*PP		**PP**	**07 58 58.7**	**+0.5**		
TOA1			*e*PKKPdf		**PKKPbc**	**08 12 54.0**	**-0.8**		
TOA1				LR	LR				
	comp=Z,3µm,21.0s								
TOA3	**Torodi Ar. Sit**	**90.12 283**		PFAKE		07 55 40.0	+15		
TOA3				LR	LR				
	comp=Z,4µm,21.0s								
TOB4	**Torodi Ar. Sit**	**90.13 283**		PFAKE		07 55 40.0	+15		
TOB4				LR	LR				
	comp=Z,3µm,21.0s								
TOB5	**Torodi Ar. Sit**	**90.13 283**		PFAKE		07 55 40.0	+15		
TOB5				LR	LR				

PPLA LR LR
comp=Z,4µm,19.0s
SFS San Fernando 92.74 307 PFAKE 07 55 50.0 +14
SFS LR LR
comp=Z,2µm,21.0s
KTH Kantishna Hill 92.81 24 *e*P **P 07 55 36.9 +0.6**
comp=Z,33nm,1.2s
KTH LR LR
comp=Z,3µm,18.0s
MTE Manteigas 92.83 311 *e*P **P 07 55 36.6 -0.2**
MTE Manteigas 92.83 311 *e*LR LR 08 28 26.4
comp=Z,2µm,20.0s
MTE Manteigas 92.83 311 PFAKE 07 55 50.0 +13
MTE LR LR
comp=Z,2µm,21.0s
PCBR Castelo Branco 92.92 311 *e*P **P 07 55 37.6 +0.5**
PMRV Marv??o 92.95 310 *e*LR LR 08 28 22.6
comp=Z,1µm,18.0s
PGAV Gavieira, Arco 92.97 313 *e*LR LR 08 29 00.4
comp=Z,1µm,20.0s
PBAR Barrancos 92.99 309 *e*P **P 07 55 38.4 +0.9**
comp=Z,150nm,1.4s
SUMG Summit 92.99 347 *i* P **P 07 55 37.1 -0.2**
comp=Z,35nm,1.0s
SUMG Summit 92.99 347 *e*P **P 07 55 36.1 -1.2**
comp=Z,36nm,1.0s
SUMG LR LR
comp=Z,2µm,20.0s
SUMG Summit 92.99 347 *i* P **P 07 55 37.1 -0.2**
SUMG pmax pmax
comp=Z,35nm,1.0s
TRF Thorofare Moun 93.11 24 *e*P **P 07 55 38.0 +0.3**
comp=Z,21nm,1.0s
MDM Murphy Dome 93.19 22 *e*P **P 07 55 38.1 +0.2**
comp=Z,62nm,1.2s
MDM LR LR
comp=Z,2µm,18.0s
PESTR Estremoz 93.24 310 A A 08 43 02.2
comp=Z,1µm,20.0s
PESTR Estremoz 93.24 310 PFAKE 07 55 50.0 +11
PESTR LR LR
comp=Z,900nm,21.0s
SKT Skwentna 93.25 25 *e*P **P 07 55 37.5 -0.7**
comp=Z,75nm,1.0s
SKT LR LR
comp=Z,2µm,20.0s
COLA College 93.38 22 *e*P **P 07 55 38.6 -0.1**
comp=Z,17nm,0.9s
COLA LR LR
comp=Z,2µm,18.0s
COLA College 93.38 22 *e*P **P 07 55 38.6 -0.1**
FYU Fort Yukon 93.44 20 *e*P **P 07 55 40.0 +1.0**
comp=Z,103nm,1.3s
FYU LR LR
comp=Z,6µm,19.0s
WRH Wood River Hil 93.48 23 *e*P **P 07 55 38.7 -0.5**
comp=Z,17nm,1.0s
WRH LR LR
comp=Z,3µm,20.0s
CCB Clear Creek Bu 93.50 22 *e*P **P 07 55 38.6 -0.7**
comp=Z,9.3nm,1.1s
CCB LR LR
comp=Z,3µm,20.0s
MCK McKinley 93.51 23 *e*P **P 07 55 39.4 0.0**
comp=Z,67nm,1.2s
MCK LR LR
comp=Z,4µm,20.0s
MCK McKinley 93.51 23 *e*P **P 07 55 39.4 0.0**
MCK pmax pmax
comp=Z,67nm,1.2s
MCK MLR MLR
comp=Z,4µm,20.0s
PVAQ Vaqueiros 93.69 309 *e*P **P 07 55 41.1 +0.3**
comp=Z,54nm,1.4s
PVAQ Vaqueiros 93.69 309 *e*LR LR 08 29 09.8
comp=Z,2µm,20.0s
RND Reindeer 93.70 24 *e*P **P 07 55 39.9 -0.4**
comp=Z,58nm,1.5s
RND LR LR
comp=Z,4µm,20.0s
RND Reindeer 93.70 24 *e*P **P 07 55 39.9 -0.4**
RND pmax pmax
comp=Z,58nm,1.5s
RND MLR MLR
comp=Z,4µm,20.0s
ILAR Eielson Array 93.78 22 P **P 07 55 39.8 -0.9**
comp=Z,5.1nm,0.8s,baz=302,slow=4.2,SNR=51
ILAR PP **PP 07 59 23.9 -1.6**
comp=Z,1.3nm,0.9s,baz=297,slow=8.5,SNR=4.3
ILAR PKKPbc **PKKPdf 08 12 42.7 -2.4**
comp=Z,0.7nm,0.7s,baz=159,slow=2.6,SNR=6.3
ILB Eielson Array 93.78 22 *e*P **P 07 55 39.5 -1.1**
SUA Susitna One 93.82 26 *e*P **P 07 55 41.0 0.0**
comp=Z,62nm,0.9s
SUA LR LR
comp=Z,3µm,22.0s
RTC Rabat Centre 93.83 305 PFAKE 07 55 50.0 +8.6
RTC LR LR
comp=Z,9µm,19.0s
PBDV Barranco-do-Ve 93.90 308 *e*P **P 07 55 41.8 0.0**
HDA Harding Lake 93.94 22 *e*P **P 07 55 40.4 -1.0**
comp=Z,20nm,0.9s
HDA LR LR
comp=Z,3µm,19.0s
TULEG Thule 94.00 356 PFAKE 07 55 50.0 +8.6
TULEG LR LR
comp=Z,3µm,20.0s
VNDA Vanda 94.08 168 P **P 07 55 41.8 +0.2**
comp=Z,4.0nm,0.8s,baz=261,slow=7.2,SNR=6.1
VNDA PP **PP 07 59 25.0 -3.0**
comp=Z,5.6nm,1.2s,baz=285,slow=6.4,SNR=3.2
VNDA Vanda 94.08 168 *e*P **P 07 55 42.2 +0.6**
VNDA *e*PcP **PcP 07 55 42.5 +0.5**
VNDA PP **PP 07 59 25.0 -3.0**
VNDA Vanda 94.08 168 *e*P **P 07 55 42.2 +0.6**
HOM Homer 94.22 28 *e*P **P 07 55 42.9 +0.2**
comp=Z,60nm,1.0s
HOM LR LR
comp=Z,2µm,19.0s
RC01 Rabbit Creek A 94.42 26 *e*P **P 07 55 43.8 +0.2**
comp=Z,61nm,1.0s
RC01 LR LR
comp=Z,3µm,20.0s
PMR Palmer 94.45 25 *e*P **P 07 55 43.3 -0.3**
comp=Z,39nm,1.1s
PMR LR LR
comp=Z,2µm,19.0s
PMR Palmer 94.45 25 *e*P **P 07 55 43.3 -0.3**
PMR pmax pmax
comp=Z,39nm,1.1s
PMR MLR MLR
comp=Z,2µm,19.0s
GHO Glory Hole Cre 94.45 25 *e*P **P 07 55 44.1 +0.3**
comp=Z,22nm,0.9s
GHO LR LR
comp=Z,3µm,18.0s
OHAK Old Harbor 94.46 30 *e*P **P 07 55 44.0 +0.2**
comp=Z,24nm,0.9s
OHAK LR LR
comp=Z,3µm,20.0s
BRLK Bradley Lake 94.51 27 *e*P **P 07 55 43.8 -0.3**
comp=Z,79nm,1.0s
BRLK LR LR
comp=Z,3µm,18.0s
KDAK Kodiak Island 94.57 30 P **P 07 55 44.2 -0.1**
comp=Z,18nm,1.0s,baz=312,slow=2.2,SNR=11
KDAK Kodiak Island 94.57 30 *e*P **P 07 55 44.5 +0.1**
comp=Z,53nm,1.3s
KDAK LR LR
comp=Z,3µm,20.0s
KDAK Kodiak Island 94.57 30 *i* P **P 07 55 44.4 +0.1**
PFVI Vila Bisbo 94.62 309 PFAKE 07 56 00.0 +15
PFVI LR LR
comp=Z,2µm,19.0s
SML Sawmill 94.68 25 *e*P **P 07 55 45.3 +0.5**
comp=Z,55nm,1.1s
SML Sawmill 94.68 25 *e*P **P 07 55 45.3 +0.5**
SML pmax pmax
comp=Z,55nm,1.1s
SCM Sheep Creek Mo 95.08 25 *e*P **P 07 55 47.2 +0.5**
comp=Z,39nm,1.1s
SCM LR LR
comp=Z,3µm,19.0s
SCM Sheep Creek Mo 95.08 25 *e*P **P 07 55 47.2 +0.5**
SCM pmax pmax
comp=Z,39nm,1.1s
SCM MLR MLR
comp=Z,3µm,19.0s
RIDG Independ'e Rid 95.08 22 *e*P **P 07 55 46.5 -0.2**
comp=Z,22nm,1.0s
RIDG LR LR
comp=Z,2µm,18.0s
PAX Paxson 95.25 23 *e*P **P 07 55 47.9 +0.4**
comp=Z,24nm,1.3s
PAX LR LR
comp=Z,4µm,20.0s
PAX Paxson 95.25 23 *e*P **P 07 55 47.9 +0.4**
PAX pmax pmax
comp=Z,24nm,1.3s
PAX MLR MLR
comp=Z,4µm,20.0s
SCRK Sand Creek 95.28 22 *e*P **P 07 55 47.9 +0.2**
comp=Z,20nm,1.0s
SCRK LR LR
comp=Z,3µm,21.0s
KOWA Kowa 95.35 286 P **P 07 55 48.8 0.0**
comp=Z,3.3nm,1.0s,baz=78,slow=4.3,SNR=4.4
KOWA Kowa 95.35 286 *e*P **P 07 55 48.8 0.0**
KOWA *e*P **P 07 55 50.0 +1.2**
KOWA LR LR
comp=Z,4µm,18.0s
DOT Dot Lake 95.43 22 *e*P **P 07 55 48.0 -0.2**
comp=Z,29nm,0.9s
HARP HAARP 95.67 24 *e*P **P 07 55 50.0 +0.7**
comp=Z,39nm,1.0s
HARP LR LR
comp=Z,2µm,20.0s
KLU Klutina 95.83 25 *e*P **P 07 55 50.8 +0.7**
comp=Z,31nm,1.4s
KLU LR LR
comp=Z,2µm,21.0s
NVL N'lazarevskaya 95.83 199 *e*P **P 07 55 52.3 +2.6**
NVL *e* 07 56 02.3
NVL *e* 07 59 39.9
NVL pmax pmax
comp=Z,21nm,0.9s
EGAK Eagle 95.84 21 *e*P **P 07 55 50.0 0.0**
comp=Z,18nm,1.3s
EGAK LR LR
comp=Z,3µm,19.0s
INK Inuvik 95.97 16 P **P 07 55 50.0 -0.5**
comp=Z,27nm,1.0s,baz=329,slow=5.1,SNR=64
INK Inuvik 95.97 16 *e*P **P 07 55 50.3 -0.2**
comp=Z,49nm,1.1s
INK LR LR
comp=Z,4µm,21.0s
INK Inuvik 95.97 16 *e*P **P 07 55 50.3 -0.2**
INK pmax pmax
comp=Z,49nm,1.1s
INK MLR MLR
comp=Z,4µm,21.0s
DIV Divide 96.08 25 *e*P **P 07 55 51.3 0.0**
comp=Z,31nm,1.3s
DIV LR LR
comp=Z,4µm,18.0s
RES Resolute Bay 96.28 2 P **P 07 55 51.8 -0.1**
comp=Z,20nm,1.0s,baz=4.2,slow=5.9,SNR=53
RES Resolute Bay 96.28 2 *e*P **P 07 55 51.7 -0.1**
comp=Z,40nm,1.1s
RES LR LR
comp=Z,1µm,20.0s
RES Resolute Bay 96.28 2 *e*P **P 07 55 51.7 -0.1**
RES pmax pmax
comp=Z,40nm,1.1s
RES MLR MLR
comp=Z,1µm,20.0s
EYAK Cordova Ski Ar 96.39 25 PFAKE 07 56 00.0 +7.4
EYAK LR LR
comp=Z,3µm,20.0s
BMRM Bremner River 96.65 25 *e*P **P 07 55 54.4 +0.6**
comp=Z,29nm,0.9s
BMRM LR LR
comp=Z,3µm,21.0s
MID Middleton Isla 96.71 27 PFAKE 07 56 10.0 +16
MID LR LR
comp=Z,3µm,18.0s
DAWY Dawson 96.88 21 *e*P **P 07 55 54.8 0.0**
comp=Z,20nm,1.0s
DAWY LR LR
comp=Z,3µm,20.0s
RAGM Ragged Mountai 96.93 25 PFAKE 07 56 10.0 +15
RAGM LR LR
comp=Z,4µm,18.0s
ANGG Ammassalik, Gr 97.50 342 PFAKE 07 56 10.0 +13
ANGG LR LR
comp=Z,2µm,20.0s
TGL Tana Glacier 97.50 24 *e*P Pdif 07 55 58.5 +0.7
comp=Z,22nm,0.9s
TGL LR LR
comp=Z,2µm,19.0s
KIC Kosan Boka 97.50 278 *e*P Pdif 07 56 02.8 +4.1
comp=Z,57nm,1.1s
BALM Baldy 97.54 24 *e*P Pdif 07 55 58.2 +0.2
comp=Z,19nm,1.3s
BALM LR LR
comp=Z,2µm,19.0s
BALM Baldy 97.54 24 *e*P Pdif 07 55 58.2 +0.2
BALM pmax pmax
comp=Z,19nm,1.3s
BALM MLR MLR
comp=Z,2µm,19.0s
DBIC Dimbokro 97.56 278 P Pdif 07 55 59.7 +0.8
comp=Z,4.2nm,1.0s,baz=135,slow=1.4,SNR=2.6
DBIC Dimbokro 97.56 278 *e*P Pdif 07 55 59.7 +0.8
comp=Z,21nm,1.1s
DBIC Dimbokro 97.56 278 *e*P Pdif 07 55 59.7 +0.8
DBIC pmax pmax
comp=Z,21nm,1.1s
TIC Toumodi 97.73 278 *e*P Pdif 07 56 00.5 +0.8
LIC Lamto 97.81 278 *e*P Pdif 07 56 03.9 +3.9
comp=Z,84nm,1.8s
ILULI Ilulissat 98.26 348 PFAKE 07 56 10.0 +9.2
ILULI LR LR
comp=Z,3µm,22.0s
QSPA South Pole Qui 98.91 180 P **P 07 56 03.1 -0.7**
comp=Z,0.9nm,0.9s,baz=326,slow=11,SNR=2.4
QSPA South Pole Qui 98.91 180 *e*P **P 07 56 03.1 -0.7**
QSPA LR LR
comp=Z,3µm,20.0s
HYT Haines Junctio 99.57 23 *e*P **Pdif 07 56 07.4 +0.3**
comp=Z,10nm,1.2s
HYT LR LR
comp=Z,4µm,21.0s
SFJD Kangerlussuaq 99.97 347 PFAKE 07 56 20.0 +12
SFJD LR LR
comp=Z,2µm,21.0s
SNAA Sanae 100.62 199 P **Pdif 07 56 14.1 +2.7**
comp=Z,4.3nm,1.0s,baz=110,slow=6.5,SNR=8.0
SNAA PP **PP 08 00 14.5 -3.9**
comp=Z,3.1nm,1.1s,baz=67,slow=7.7,SNR=2.7
SNAA Sanae 100.62 199 *e*Pdif **Pdif 07 56 14.1 +2.7**
SNAA PP **PP 08 00 14.5 -3.9**
SNAA LR LR
comp=Z,2µm,19.0s
SNAA Sanae 100.62 199 *e*P **Pdif 07 56 14.1 +2.7**
SNAA MLR MLR
comp=Z,2µm,19.0s
WHY Whitehorse 100.67 22 PFAKE 07 56 20.0 +8.1
WHY LR LR
comp=Z,2µm,19.0s
SKAG Skagway 101.28 23 PFAKE 07 56 30.0 +16
SKAG LR LR
comp=Z,3µm,20.0s
PMOZ Porto Moniz, M 102.45 306 *e*LR LR 08 32 52.0
comp=Z,3µm,20.0s
NRS Narsarsuaq 103.13 341 PFAKE 07 56 30.0 +7.3
NRS LR LR
comp=Z,3µm,22.0s
IVI Ivigtut 103.95 342 PFAKE 07 56 40.0 +14
IVI LR LR
comp=Z,4µm,21.0s
DLBC Dease Lake 104.00 22 PFAKE 07 56 40.0 +13
DLBC LR LR
comp=Z,4µm,20.0s
WRAK Wrangell Islan 104.49 24 PFAKE 07 56 40.0 +11
WRAK LR LR
comp=Z,3µm,21.0s
CRAG Craig 104.80 26 PFAKE 07 56 40.0 +10
CRAG LR LR
comp=Z,2µm,21.0s
YKA Yellowknife Ar 105.38 13 Pdiff **Pdif 07 56 32.3 -0.3**
comp=Z,1.7nm,1.0s,baz=327,slow=4.7,SNR=19
YKA PP **PP 08 00 51.3 -2.2**
comp=Z,1.7nm,0.9s,baz=338,slow=8.1,SNR=5.9
YKA PKKPbc **PKKPbc 08 12 12.3 -1.8**
comp=Z,1.7nm,0.8s,baz=150,slow=3.3,SNR=19
BBB Bella Bella 109.22 26 PFAKE 08 01 10.0
BBB LR LR
comp=Z,2µm,22.0s
FCC Fort Churchill 112.15 4 PFAKE 08 01 10.0
FCC LR LR
comp=Z,3µm,22.0s
LLLB Lillooet 112.99 24 PFAKE 08 01 10.0
LLLB LR LR
comp=Z,3µm,21.0s
SACV Santiago Islan 113.65 291 PFAKE 08 01 20.0
SACV LR LR
comp=Z,800nm,18.0s
PGC Sidney 113.84 26 PFAKE 08 01 10.0
PGC LR LR
comp=Z,2µm,21.0s
SCHQ Schefferville 114.37 348 PFAKE 08 01 20.0 +16
SCHQ LR LR
comp=Z,4µm,21.0s
NLWA Neilton Lookou 114.60 27 PFAKE 08 01 20.0 +16
NLWA LR LR
comp=Z,2µm,21.0s
B06A Marblemount 114.78 25 PFAKE 08 01 20.0 +16
B06A LR LR
comp=Z,4µm,19.0s
FFC Flin Flon 115.11 10 PFAKE 08 01 20.0 +15
FFC LR LR
comp=Z,2µm,20.0s
E03A Lebam 115.37 28 PFAKE 08 01 20.0 +14
E03A LR LR
comp=Z,1µm,20.0s
D05A Enumclaw 115.59 26 PFAKE 08 01 20.0 +14
D05A LR LR
comp=Z,2µm,22.0s
B08A Colville Reser 115.79 24 PFAKE 08 01 20.0 +13
B08A LR LR
comp=Z,3µm,20.0s
LON Longmire 116.01 27 PFAKE 08 01 20.0 +13
LON LR LR
comp=Z,1µm,18.0s
LTY Liberty 116.11 26 PFAKE 08 01 20.0 +13
LTY LR LR
comp=Z,3µm,18.0s
C09A Chrisman Ranch 116.66 24 PFAKE 08 01 20.0 +12
C09A LR LR
comp=Z,2µm,20.0s
NEW Newport 116.73 23 PFAKE 08 01 20.0 +12
NEW LR LR
comp=Z,2µm,21.0s
D08A Wollman Farm, 117.00 25 PFAKE 08 01 20.0 +11
D08A LR LR
comp=Z,2µm,19.0s
E07A Sunnyside 117.00 25 PFAKE 08 01 20.0 +11
E07A LR LR
comp=Z,3µm,18.0s
WALA Waterton Lakes 117.23 20 PFAKE 08 01 20.0 +11
WALA LR LR
comp=Z,2µm,18.0s
HAWA Hanford 117.27 25 PFAKE 08 01 20.0 +11
HAWA LR LR
comp=Z,3µm,19.0s
E08A Dider Farm, El 117.39 25 PFAKE 08 01 20.0 +10
E08A LR LR
comp=Z,2µm,22.0s
H04A Detroit Lake 117.41 28 PFAKE 08 01 20.0 +10
H04A LR LR
comp=Z,1µm,20.0s
F07A Phinny Hill Vi 117.50 26 PFAKE 08 01 20.0 +10
F07A LR LR
comp=Z,3µm,19.0s
G06A Carlson Farm, 117.70 27 PFAKE 08 01 20.0 +10
G06A LR LR
comp=Z,1µm,21.0s
E09A Wood Farm, Sta 117.75 24 PFAKE 08 01 20.0 +10
E09A LR LR
comp=Z,2µm,18.0s
PPT2 Papeete2 117.86 105 *e*PS PS 08 12 07.0 -4.1
comp=Z,659nm,26.5s
PPT2 Papeete2 117.86 105 *e*LR LR 08 37 05.8
comp=Z,3µm,25.5s
TBI Tubuai 117.92 112 *e*PS PS 08 12 06.8 -4.5
comp=Z,530nm,26.8s
TBI Tubuai 117.92 112 *e*LR LR 08 37 06.3
comp=Z,4µm,35.5s
I05D Terrebonne, OR 118.07 28 P **PKPdf 08 01 10.3 -0.8**
baz=320
JTMT Jette 118.21 21 PFAKE 08 01 20.0 +8.6
JTMT LR LR
comp=Z,2µm,21.0s
G08A Pilot Rock 118.39 26 PFAKE 08 01 20.0 +8.3
G08A LR LR
comp=Z,2µm,18.0s
J04D Umpqua Nationa 118.53 29 P **PKPdf 08 01 11.4 -0.8**
baz=319
F10A Beach Ranch, E 118.56 24 *e*PKPdf **PKPdf 08 01 11.6 -0.4**
F10A LR LR
comp=Z,3µm,20.0s
HUMO Hull Mountain 118.59 30 *e*PKPdf **PKPdf 08 01 12.2 +0.1**
HUMO LR LR
comp=Z,2µm,22.0s
L02D Cave Junction, 118.59 31 P **PKPdf 08 01 11.0 -1.1**
baz=317
PINE Pine Mountain 118.67 28 *e*PKPdf **PKPdf 08 01 12.9 +0.4**
PINE LR LR
comp=Z,2µm,21.0s
J05D Fort Rock, OR 118.92 29 P **PKPdf 08 01 11.8 -1.1**
baz=320
I07A Izee 119.10 27 PFAKE 08 01 20.0 +6.9
I07A LR LR
comp=Z,2µm,21.0s
MSO Missoula 119.12 22 P **PKPdf 08 01 11.7 -1.4**
baz=328
MSO Missoula 119.12 22 *e*PKPdf **PKPdf 08 01 12.2 -0.9**
MSO LR LR
comp=Z,2µm,18.0s
K04D Chiloquin, OR 119.17 30 P **PKPdf 08 01 11.4 -1.9**
baz=319
JCC Jacoby Creek, 119.34 32 PFAKE 08 01 30.0 +17
JCC LR LR
comp=Z,1µm,18.0s
YBH Yreka Blue Hor 119.36 31 PFAKE 08 01 30.0 +16
YBH LR LR
comp=Z,1µm,21.0s
BMO Blue Mountains 119.44 25 PFAKE 08 01 30.0 +16
BMO LR LR
comp=Z,2µm,22.0s
EGMT Eagleton 119.48 18 P **PKPdf 08 01 12.4 -1.3**
baz=333
EGMT Eagleton 119.48 18 *e*PKPdf **PKPdf 08 01 13.2 -0.5**
EGMT LR LR
comp=Z,2µm,20.0s
K05A Summer Lake 119.51 29 PFAKE 08 01 30.0 +16
K05A LR LR
comp=Z,2µm,19.0s
M02C Callahan 119.53 31 P **PKPdf 08 01 13.3 -0.7**
baz=317
N02D Trinity Center 119.92 31 P **PKPdf 08 01 14.3 -0.4**
baz=317
KMRM Mail Ridge 119.94 33 PFAKE 08 01 30.0 +15
KMRM LR LR
comp=Z,2µm,18.0s
HOPE Hope Point 120.09 211 PFAKE 08 01 30.0 +16
HOPE LR LR
comp=Z,2µm,21.0s
J08A Circle Bar Ran 120.13 27 *e*PKPdf **PKPdf 08 01 14.7 -0.5**
J08A LR LR
comp=Z,2µm,18.0s
WDC Whiskeytown Da 120.29 32 *e*PKPdf **PKPdf 08 01 14.8 -0.6**
WDC LR LR
comp=Z,1µm,21.0s
WDC Whiskeytown Da 120.29 32 *e*PKIKP **PKPdf 08 01 14.8 -0.6**
WDC MLR MLR
comp=Z,1µm,21.0s
ULM Lac du Bonnet 120.38 7 PKP **PKPdf 08 01 13.7 -1.5**
comp=Z,4.6nm,0.9s,baz=360,slow=3.7,SNR=8.6
ULM PKPbc **PKPbc 08 11 20.6 -2.9**
comp=Z,3.5nm,0.9s,baz=209,slow=3.2,SNR=5.6
ULM SKKPbc SKKPbc 08 15 09.4 -1.1
comp=Z,4.8nm,1.1s,baz=274,slow=1.2,SNR=2.9
ULM Lac du Bonnet 120.38 7 *e*PKPdf **PKPdf 08 01 15.4 +0.2**
ULM PKKPbc **PKKPbc 08 11 20.6 -2.9**
ULM SKKPbc SKKPbc 08 15 09.4 -1.1
ULM LR LR
comp=Z,3µm,19.0s
ULM Lac du Bonnet 120.38 7 *e*PKIKP **PKPdf 08 01 15.5 +0.2**

ULM MLR MLR
comp=Z,3µm,19.0s
KCPM Cahto Peak 120.39 33 PFAKE 08 01 30.0 +14
KCPM LR LR
comp=Z,1µm,20.0s
MOD Modoc Plateau 120.42 29 *e*PKPdf **PKPdf 08 01 15.9 +0.1**
MOD LR LR
comp=Z,2µm,21.0s
DGMT Dagmar 120.58 14 P **PKPdf 08 01 14.7 -1.1**
baz=339
DGMT Dagmar 120.58 14 PFAKE 08 01 30.0 +14
DGMT LR LR
comp=Z,2µm,20.0s
WVOR Wild Horse Val 120.79 28 *e*PKPdf **PKPdf 08 01 16.6 +0.2**
WVOR LR LR
comp=Z,2µm,19.0s
WVOR Wild Horse Val 120.79 28 *e*PKIKP **PKPdf 08 01 16.6 +0.2**
WVOR MLR MLR
comp=Z,2µm,19.0s
DLMT Dillon 120.86 22 *e*PKPdf **PKPdf 08 01 16.2 -0.3**
DLMT LR LR
comp=Z,2µm,20.0s
O03D Paynes Creek 120.88 31 P **PKPdf 08 01 15.5 -1.1**
baz=318
BOZ Bozeman (W) 121.00 21 P **PKPdf 08 01 16.0 -0.7**
baz=330
BOZ Bozeman (W) 121.00 21 *e*PKPdf **PKPdf 08 01 16.1 -0.7**
BOZ LR LR
comp=Z,2µm,18.0s
BOZ Bozeman (W) 121.00 21 *e*PKIKP **PKPdf 08 01 16.1 -0.7**
BOZ MLR MLR
comp=Z,2µm,18.0s
HOPS Hopland Field 121.16 33 PFAKE 08 01 30.0 +13
HOPS LR LR
comp=Z,1µm,20.0s
MFID Camas Ranch 121.23 25 *e*PKPdf **PKPdf 08 01 17.2 -0.1**
MFID LR LR
comp=Z,2µm,22.0s
GDXM Geysers 121.44 33 PFAKE 08 01 30.0 +12
GDXM LR LR
comp=Z,1µm,20.0s
ORV Oroville 121.58 32 *e*PKPdf **PKPdf 08 01 17.6 -0.3**
ORV LR LR
comp=Z,1µm,19.0s
ORV Oroville 121.58 32 *e*PKIKP **PKPdf 08 01 17.6 -0.3**
ORV MLR MLR
comp=Z,1µm,19.0s
A32A Rocking H Ranc 121.60 8 P **PKPdf 08 01 16.6 -1.0**
baz=348
HLID Hailey 121.69 24 P **PKPdf 08 01 17.4 -0.8**
baz=327
HLID Hailey 121.69 24 *e*PKPdf **PKPdf 08 01 18.4 +0.2**
HLID LR LR
comp=Z,2µm,21.0s
LAO LASA Array 121.71 16 P **PKPdf 08 01 17.6 -0.4**
baz=336
LAO LASA Array 121.71 16 *e*PKPdf **PKPdf 08 01 18.5 +0.5**
LAO LR LR
comp=Z,2µm,20.0s
MCCM Marconi Confer 121.87 34 PFAKE 08 01 30.0 +12
MCCM LR LR
comp=Z,800nm,20.0s
YHB Horse Butte 121.88 21 *e*PKPdf **PKPdf 08 01 19.2 +0.6**
YHB LR LR
comp=Z,2µm,18.0s
BEKR Beckworth 121.94 31 *e*PKPdf **PKPdf 08 01 18.5 -0.3**
BEKR LR LR
comp=Z,2µm,21.0s
YHH Holmes Hill 121.97 21 *e*PKPdf **PKPdf 08 01 19.3 +0.4**
YHH LR LR
comp=Z,2µm,19.0s
YMR Madison River 122.04 21 *e*PKPdf **PKPdf 08 01 19.6 +0.7**
YMR LR LR
comp=Z,2µm,19.0s
MDND Maddock 122.14 11 P **PKPdf 08 01 17.9 -0.8**
baz=344
MDND Maddock 122.14 11 PFAKE 08 01 30.0 +11
MDND LR LR
comp=Z,2µm,20.0s
RLMT Red Lodge 122.21 19 P **PKPdf 08 01 17.9 -1.3**
baz=333
RLMT Red Lodge 122.21 19 *e*PKPdf **PKPdf 08 01 19.5 +0.3**
RLMT LR LR
comp=Z,3µm,19.0s
B34A Aery, Baudette 122.26 7 P **PKPdf 08 01 17.6 -1.3**
baz=350
YFT Old Faithful 122.27 21 *e*PKPdf **PKPdf 08 01 20.8 +1.4**
YFT LR LR
comp=Z,6µm,19.0s
AGMN Agassiz Nation 122.29 8 P **PKPdf 08 01 17.8 -1.2**
baz=349
AGMN Agassiz Nation 122.29 8 PFAKE 08 01 30.0 +11
AGMN LR LR
comp=Z,3µm,22.0s
AFDM Forest Hills D 122.31 32 *e*PKPdf **PKPdf 08 01 19.2 -0.1**
LKWY Lake 122.32 20 PFAKE 08 01 30.0 +10
LKWY LR LR
comp=Z,2µm,20.0s
B33A Robert and Kas 122.35 7 P **PKPdf 08 01 17.8 -1.3**
baz=349
H17A Grant Village 122.41 21 P **PKPdf 08 01 19.5 -0.2**
baz=331
H17A Grant Village 122.41 21 *e*PKPdf **PKPdf 08 01 21.0 +1.3**
H17A LR LR
comp=Z,4µm,22.0s
YPP Pitchstone Pla 122.44 21 *e*PKPdf **PKPdf 08 01 21.3 +1.5**
YPP LR LR
comp=Z,3µm,18.0s
B35A Bob, Littlefor 122.48 6 P **PKPdf 08 01 18.6 -0.8**
baz=351
C31A Landman Farms, 122.51 9 P **PKPdf 08 01 18.6 -0.8**
baz=346
PAHR Pah Rah Range 122.55 30 *e*PKPdf **PKPdf 08 01 19.9 0.0**
PAHR LR LR
comp=Z,2µm,19.0s
RUBR Rubicon Trail 122.65 31 PFAKE 08 01 30.0 +10
RUBR LR LR
comp=Z,1µm,20.0s
IMW Indian Meadow 122.72 21 *e*PKPpre PKPpre 08 01 15.3
IMW LR LR
comp=Z,2µm,20.0s
VCNR Virginia City 122.72 31 *e*PKPdf **PKPdf 08 01 21.0 +0.6**
VCNR LR LR
comp=Z,1µm,20.0s
MOOW Moose Ponds 122.92 21 *e*PKPpre PKPpre 08 01 13.0
MOOW LR LR
comp=Z,2µm,20.0s
RDG13 Poverty Ridge 123.01 34 PFAKE 08 01 30.0 +9.2
RDG13 LR LR
comp=Z,1µm,21.0s
BMN Battle Mountai 123.02 28 PFAKE 08 01 30.0 +9.2
BMN LR LR
comp=Z,2µm,19.0s
TPAW Teton Pass 123.07 21 PFAKE 08 01 30.0 +9.0
TPAW LR LR
comp=Z,2µm,19.0s
LOHW Long Hollow 123.08 21 PFAKE 08 01 30.0 +9.0
LOHW LR LR
comp=Z,2µm,20.0s
EYMN Ely 123.09 4 P **PKPdf 08 01 19.4 -1.2**
baz=354
EYMN Ely 123.09 4 *e*PKPdf **PKPdf 08 01 20.0 -0.6**
EYMN LR LR
comp=Z,3µm,20.0s
C35A Jirik Farms, M 123.11 6 P **PKPdf 08 01 19.8 -0.8**
baz=351
SNOW Snow King Moun 123.16 21 PFAKE 08 01 30.0 +8.8
SNOW LR LR
comp=Z,2µm,19.0s
C36A Pine Crest Far 123.17 5 P **PKPdf 08 01 20.0 -0.7**
baz=352
YERR Yerington 123.17 31 *e*PKPdf **PKPdf 08 01 20.6 -0.7**
YERR LR LR
comp=Z,2µm,20.0s
REDW Red Top Meadow 123.21 21 PFAKE 08 01 30.0 +8.8
REDW LR LR
comp=Z,2µm,19.0s
C37A Embarrass 123.25 5 P **PKPdf 08 01 20.2 -0.7**
baz=353
C40A Isle Royale Na 123.26 2 P **PKPdf 08 01 18.9 -2.0**
baz=356
CMB Columbia Colle 123.30 32 *e*PKPdf **PKPdf 08 01 20.6 -0.7**
CMB Columbia Colle 123.30 32 *e*PKIKP **PKPdf 08 01 20.6 -0.7**
C38A Sawbill Land. 123.34 4 P **PKPdf 08 01 20.6 -0.4**
baz=354
WAKR Walker 123.43 31 *e*PKPdf **PKPdf 08 01 21.8 0.0**
WAKR LR LR
comp=Z,1µm,19.0s
AHID Auburn Hatcher 123.64 22 PFAKE 08 01 30.0 +8.0
AHID LR LR
comp=Z,2µm,20.0s
SAO San Andreas Ge 123.66 34 PFAKE 08 01 30.0 +8.0
SAO LR LR
comp=Z,1µm,20.0s
KVN Kaiserville 123.68 30 *e*PKPdf **PKPdf 08 01 22.2 0.0**
KVN LR LR
comp=Z,2µm,18.0s
KVN Kaiserville 123.68 30 *e*PKIKP **PKPdf 08 01 22.2 0.0**
KVN MLR MLR
comp=Z,2µm,18.0s
E31A Nome 123.69 10 P **PKPdf 08 01 20.3 -1.4**
baz=346
D35A Remer 123.71 7 P **PKPdf 08 01 20.4 -1.4**
baz=350
D37A Cotton 123.80 5 P **PKPdf 08 01 20.4 -1.5**
baz=352
RYN Ryan 123.80 30 *e*PKPdf **PKPdf 08 01 22.8 +0.4**
HVU Hansel Valley 123.84 24 *e*PKPdf **PKPdf 08 01 21.8 -0.6**
HVU LR LR
comp=Z,2µm,20.0s
HVU Hansel Valley 123.84 24 *e*PKIKP **PKPdf 08 01 21.8 -0.6**
HVU MLR MLR
comp=Z,2µm,20.0s
PKME Peaks-Kenny Pk 123.90 346 PFAKE 08 01 30.0 +7.9
PKME LR LR
comp=Z,2µm,20.0s
E33A Westby DABS, E 124.03 8 P **PKPdf 08 01 21.8 -0.6**
baz=348
NV01 Mina Array Sit 124.06 30 *e*PKPdf **PKPdf 08 01 22.8 -0.2**
NVAR Mina Array Bea 124.06 30 PKP **PKPdf 08 01 22.8 -0.2**
comp=Z,4.6nm,0.8s,baz=294,slow=1.9,SNR=23
NVAR PKKPbc **PKKPab 08 11 06.7 -2.5**
comp=Z,0.5nm,0.6s,baz=162,slow=6.6,SNR=6.7
NV11 Mina Array Sit 124.14 30 *e*PKPdf **PKPdf 08 01 23.4 +0.4**
NV11 LR LR
comp=Z,100nm,19.0s
D41A Chassel 124.14 2 P **PKPdf 08 01 21.6 -0.9**
baz=357
E35A Pequot Lakes 124.19 7 P **PKPdf 08 01 21.8 -0.9**
baz=350
BW06 Boulder Array 124.19 21 P **PKPdf 08 01 21.5 -1.6**
baz=332
BW06 Boulder Array 124.19 21 *e*PKPdf **PKPdf 08 01 22.3 -0.8**
BW06 LR LR
comp=Z,2µm,21.0s
PD31 Pinedale Array 124.19 21 *e*PKPdf **PKPdf 08 01 22.2 -0.9**
PD31 *e* 08 14 58.3
PDAR Pinedale Array 124.19 21 PKP **PKPdf 08 01 22.3 -0.9**
comp=Z,6.1nm,0.9s,baz=11,slow=1.5,SNR=24
PDAR PKKPbc **PKKPab 08 11 05.8 -2.9**
comp=Z,1.4nm,0.6s,baz=131,slow=6.8,SNR=15
PDAR SKKPbc SKKPbc 08 14 58.3 +0.2
comp=Z,1.4nm,1.0s,baz=193,slow=3.6,SNR=3.7
PDAR Pinedale Array 124.19 21 *e*PKPdf **PKPdf 08 01 21.0 -2.1**
PDAR PKKPbc **PKKPab 08 11 05.8 -2.9**
PDAR SKKPbc SKKPbc 08 14 58.3 +0.2
MDPB Devils Postpil 124.28 32 PFAKE 08 01 40.0 +17
MDPB LR LR
comp=Z,2µm,20.0s
F31A Hecla 124.30 10 P **PKPdf 08 01 21.9 -1.0**
baz=345
OMMB Old Mammoth Mi 124.33 32 PFAKE 08 01 40.0 +16
OMMB LR LR
comp=Z,2µm,20.0s
E36A McGregor 124.35 6 P **PKPdf 08 01 22.0 -1.0**
baz=351
SPUT South Promonto 124.37 24 PFAKE 08 01 30.0 +6.6
SPUT LR LR
comp=Z,2µm,20.0s
PMPB Monarch Peak 124.41 34 PFAKE 08 01 40.0 +16
PMPB LR LR
comp=Z,1µm,21.0s
E38A The Farm, Brul 124.42 5 P **PKPdf 08 01 21.9 -1.2**
baz=353
BGU Big Grassy Mou 124.45 25 PFAKE 08 01 40.0 +16
BGU LR LR
comp=Z,2µm,19.0s
HWUT Hardware Ranch 124.46 23 *e*PKPdf **PKPdf 08 01 23.2 -0.4**
HWUT LR LR
comp=Z,2µm,21.0s
E44A Grand Marais A 124.62 360 P **PKPdf 08 01 21.7 -1.8**
baz=0.2
F33A 5 Mile Ranch, 124.64 9 P **PKPdf 08 01 22.0 -1.6**
baz=348
RSSD Black Hills 124.67 16 P **PKPdf 08 01 22.3 -1.7**
baz=338
RSSD Black Hills 124.67 16 *e*PKPdf **PKPdf 08 01 23.3 -0.7**
RSSD LR LR
comp=Z,3µm,20.0s
RSSD Black Hills 124.67 16 *e*PKIKP **PKPdf 08 01 23.3 -0.7**
RSSD MLR MLR
comp=Z,3µm,20.0s
E40A Wakefield 124.69 3 P **PKPdf 08 01 22.0 -1.7**
baz=355
E41A Kenton 124.72 2 P **PKPdf 08 01 22.7 -1.0**
baz=356
E39A Mellen 124.72 4 P **PKPdf 08 01 22.5 -1.3**
baz=355
F35A Swanville 124.86 7 P **PKPdf 08 01 23.0 -1.0**
baz=350
E43A Lone Tree Farm 124.86 1 P **PKPdf 08 01 22.3 -1.6**
baz=359
E45A Wooded Hills, 124.88 359 P **PKPdf 08 01 22.1 -1.9**
baz=1.1
TCUT Toone Canyon 124.94 23 *e*PKPdf **PKPdf 08 01 24.3 -0.3**
TCUT LR LR
comp=Z,3µm,22.0s
F36A Milaca 124.97 6 P **PKPdf 08 01 22.7 -1.6**
baz=351,SNR=11
G32A Webster 125.02 10 P **PKPdf 08 01 22.5 -1.9**
baz=346
F38A Pierce - Schro 125.04 5 P **PKPdf 08 01 23.2 -1.1**
baz=353
PAGB Antelope Grade 125.07 34 *e*PKPdf **PKPdf 08 01 25.0 +0.3**
PAGB LR LR
comp=Z,1µm,20.0s
COWI Conover 125.07 3 PFAKE 08 01 40.0 +16
COWI LR LR
comp=Z,2µm,19.0s
F39A Loretta 125.16 4 P **PKPdf 08 01 24.4 -0.2**
baz=354
DUG Dugway, Tooele 125.16 25 P **PKPdf 08 01 24.5 -0.5**
baz=327
DUG Dugway, Tooele 125.16 25 *e*PKPdf **PKPdf 08 01 25.2 +0.2**
DUG LR LR
comp=Z,2µm,20.0s
DUG Dugway, Tooele 125.16 25 *e*PKIKP **PKPdf 08 01 25.2 +0.2**
DUG MLR MLR
comp=Z,2µm,20.0s
TIN Tinemaha, Big 125.16 31 P **PKPdf 08 01 24.3 -0.6**
baz=320
CTU Camp Tracy 125.17 24 *e*PKPdf **PKPdf 08 01 24.8 -0.2**
CTU LR LR
comp=Z,2µm,19.0s
RCTC Rector, Farmer 125.19 33 P **PKPdf 08 01 24.1 -0.8**
baz=319
F37A Hinrichs Farm, 125.20 6 P **PKPdf 08 01 24.3 -0.3**
baz=352
F40A Park Falls 125.20 3 P **PKPdf 08 01 24.1 -0.6**
baz=355
FRNY Flat Rock 125.23 349 PFAKE 08 01 40.0 +15
FRNY LR LR
comp=Z,2µm,20.0s
G33A Ortonville 125.25 9 P **PKPdf 08 01 24.1 -0.6**
baz=347
F44A Big Bay de Noc 125.27 0 P **PKPdf 08 01 23.4 -1.4**
baz=360
K22A Casper 125.30 18 P **PKPdf 08 01 23.9 -1.2**
baz=335
K22A Casper 125.30 18 *e*PKPdf **PKPdf 08 01 24.2 -1.0**
K22A LR LR
comp=Z,2µm,21.0s
JLU Jordanelle 125.37 24 *e*PKPdf **PKPdf 08 01 25.3 -0.1**
JLU LR LR
comp=Z,2µm,19.0s
F43A Flat Rock, Esc 125.40 1 P **PKPdf 08 01 24.3 -0.7**
baz=359
F41A Three Lakes 125.44 3 P **PKPdf 08 01 24.5 -0.6**
baz=356
R11A Troy Canyon, C 125.44 28 P **PKPdf 08 01 25.4 -0.2**
baz=323
R11A Troy Canyon, C 125.44 28 *e*PKPdf **PKPdf 08 01 25.3 -0.3**
R11A LR LR
comp=Z,1µm,20.0s
F46A Macinaw City C 125.45 359 P **PKPdf 08 01 23.7 -1.4**
baz=1.6
LBNH Lisbon 125.47 348 PFAKE 08 01 40.0 +15
LBNH LR LR
comp=Z,2µm,20.0s
G35A Watkins 125.49 7 P **PKPdf 08 01 24.7 -0.5**
baz=350
SMMC Simmler 125.52 34 P **PKPdf 08 01 25.2 -0.5**
baz=318
F45A CMU Biological 125.56 360 P **PKPdf 08 01 24.2 -1.1**
baz=0.7
PLVO Plevna 125.59 352 PFAKE 08 01 40.0 +15
PLVO LR LR
comp=Z,4µm,21.0s
LONY Lake Ozonia 125.62 350 P **PKPdf 08 01 24.3 -1.2**
baz=14
LONY Lake Ozonia 125.62 350 PFAKE 08 01 40.0 +15
LONY LR LR
comp=Z,2µm,21.0s
VES Vestal, Richgr 125.62 33 P **PKPdf 08 01 24.0 -1.7**
baz=319
NLU North Lily Min 125.67 24 *e*PKPdf **PKPdf 08 01 26.2 +0.2**
SPMN Marine on St. 125.68 6 P **PKPdf 08 01 24.7 -0.9**
baz=352
SPMN Marine on St. 125.68 6 PFAKE 08 01 40.0 +14
SPMN LR LR
comp=Z,2µm,22.0s
H33A Prehn Over Nor 125.70 9 P **PKPdf 08 01 24.6 -1.1**
baz=347
CWC Cottonwood Cre 125.70 32 P **PKPdf 08 01 24.6 -1.6**
baz=320
H32A Carlson Farm, 125.76 10 P **PKPdf 08 01 24.7 -1.1**
baz=346
G39A Holcombe 125.76 4 P **PKPdf 08 01 24.7 -1.0**
baz=354
MPU Maple Canyon 125.79 24 *e*PKPdf **PKPdf 08 01 26.2 -0.1**
MPU LR LR
comp=Z,2µm,20.0s
G38A Ridgeland 125.82 5 P **PKPdf 08 01 24.3 -1.6**
baz=353
G40A Rib Lake 125.85 4 P **PKPdf 08 01 24.9 -1.1**
baz=355
H34A Spellman Lake, 125.86 9 P **PKPdf 08 01 24.2 -1.7**
baz=348
PKM Mcpherson Peak 125.93 34 P **PKPdf 08 01 24.6 -2.0**
baz=318
RWWY Rawlins 125.95 19 *e*PKPdf **PKPdf 08 01 26.0 -0.5**
RWWY LR LR
comp=Z,2µm,21.0s
G41A Antigo 125.96 3 P **PKPdf 08 01 25.0 -1.2**
baz=356
G42A Mountain 125.96 2 P **PKPdf 08 01 25.5 -0.6**
baz=357
G42A Mountain 125.96 2 *e*PKPdf **PKPdf 08 01 27.0 +0.9**
G42A LR LR
comp=Z,2µm,22.0s
H35A Sunnyside Ranc 125.96 8 P **PKPdf 08 01 25.1 -1.1**
baz=349
G43A Wallace 125.97 1 P **PKPdf 08 01 25.2 -0.9**
baz=358
G43A Wallace 125.97 1 *e*PKPdf **PKPdf 08 01 25.6 -0.5**
G43A LR LR
comp=Z,3µm,20.0s
DAC Darwin (Calif) 126.08 31 *e*PKPdf **PKPdf 08 01 28.3 +1.4**
DAC LR LR
comp=Z,2µm,20.0s
DAC Darwin (Calif) 126.08 31 *e*PKIKP **PKPdf 08 01 28.3 +1.4**
DAC MLR MLR
comp=Z,2µm,20.0s
ISA Isabella, Lake 126.09 33 P **PKPdf 08 01 25.7 -1.1**
baz=319
ISA Isabella, Lake 126.09 33 *e*PKPdf **PKPdf 08 01 27.1 +0.4**
ISA LR LR
comp=Z,1µm,21.0s
ISA Isabella, Lake 126.09 33 *e*PKIKP **PKPdf 08 01 27.1 +0.4**
ISA MLR MLR
comp=Z,1µm,21.0s
SADO Sadowa 126.11 354 PFAKE 08 01 40.0 +14
SADO LR LR
comp=Z,2µm,21.0s
NCB Newcomb 126.18 349 PFAKE 08 01 40.0 +13
NCB LR LR
comp=Z,2µm,20.0s
H36A Jessenland, He 126.19 7 P **PKPdf 08 01 25.9 -0.7**
baz=350
I32A Karley and Nic 126.22 10 P **PKPdf 08 01 25.5 -1.1**
baz=346
TPNV Topopah Spring 126.24 30 P **PKPdf 08 01 26.5 -0.6**
baz=322
TPNV Topopah Spring 126.24 30 *e*PKPdf **PKPdf 08 01 28.1 +1.1**
TPNV LR LR
comp=Z,2µm,19.0s
TPNV Topopah Spring 126.24 30 *e*PKIKP **PKPdf 08 01 28.2 +1.1**
TPNV MLR MLR
comp=Z,2µm,19.0s
H38A Maiden Rock 126.27 5 P **PKPdf 08 01 25.1 -1.6**
baz=352
ARVC Arvin 126.30 33 P **PKPdf 08 01 26.2 -0.8**
baz=319
MPMC Manual Prospec 126.30 32 P **PKPdf 08 01 26.5 -0.8**
baz=320
H37A Dierke Farm, C 126.30 6 P **PKPdf 08 01 25.7 -1.1**
baz=352
FURC Furnace Creek, 126.31 31 P **PKPdf 08 01 25.8 -1.1**
baz=321
I33A Coleman 126.31 10 P **PKPdf 08 01 25.7 -1.1**
baz=347
SBC Santa Barbara 126.32 35 P **PKPdf 08 01 25.9 -1.2**
baz=317
H39A Augusta 126.36 5 P **PKPdf 08 01 25.6 -1.3**
baz=354
GLMI Grayling 126.40 359 P **PKPdf 08 01 25.8 -1.2**
baz=1.8
GLMI Grayling 126.40 359 PFAKE 08 01 40.0 +13
GLMI LR LR
comp=Z,4µm,19.0s
I34A Hadley 126.46 9 P **PKPdf 08 01 24.9 -2.2**
baz=348
H40A Chili 126.48 4 P **PKPdf 08 01 26.5 -0.7**
baz=355
H41A Junction City 126.53 3 P **PKPdf 08 01 26.2 -1.1**
baz=356
H41A Junction City 126.53 3 *e*PKPdf **PKPdf 08 01 28.8 +1.6**
H41A LR LR
comp=Z,2µm,20.0s
TMUT Trail Mountain 126.58 24 *e*PKPdf **PKPdf 08 01 28.2 +0.3**
TMUT LR LR
comp=Z,2µm,21.0s
P17A Butcher Ranch, 126.61 24 *e*PKPdf **PKPdf 08 01 27.9 +0.1**
P17A LR LR
comp=Z,1µm,20.0s
TAOE Nuku Hiva Isla 126.64 94 *e*PP PP 08 03 17.6 -7.4
comp=Z,125nm,25.3s
TAOE Nuku Hiva Isla 126.64 94 *e*SS SS 08 20 28.0 -3.0
comp=Z,667nm,28.3s
TAOE Nuku Hiva Isla 126.64 94 *e*LR LR 08 41 07.0
comp=Z,3µm,34.7s
TCRU Three Creeks R 126.64 26 PFAKE 08 01 40.0 +12
TCRU LR LR
comp=Z,1µm,21.0s
ECSD EROS Data Cent 126.64 9 P **PKPdf 08 01 26.5 -1.0**
baz=347,SNR=20
ECSD EROS Data Cent 126.64 9 *e*PKPdf **PKPdf 08 01 26.9 -0.6**
ECSD LR LR
comp=Z,3µm,21.0s
LRMC Laurel Mtn Rad 126.64 32 P **PKPdf 08 01 27.2 -0.7**
baz=320
P18A Preston Nutter 126.67 23 *e*PKPdf **PKPdf 08 01 28.3 +0.2**
P18A LR LR
comp=Z,2µm,21.0s
SCZ2 Santa Cruz Isl 126.69 35 P **PKPdf 08 01 26.4 -1.4**
baz=317
H42A Shiocton 126.69 2 P **PKPdf 08 01 25.8 -1.7**
baz=357
H42A Shiocton 126.69 2 PFAKE 08 01 40.0 +12
H42A LR LR
comp=Z,3µm,19.0s
J31A Geddes 126.69 12 P **PKPdf 08 01 25.9 -1.7**
baz=344
I36A Fitzsimmons Fa 126.73 7 P **PKPdf 08 01 26.5 -1.1**
baz=350
OSI Osito Audit: C 126.74 34 P **PKPdf 08 01 25.3 -2.7**
baz=318
OSI Osito Audit: C 126.74 34 PFAKE 08 01 40.0 +12
OSI LR LR

comp=Z,1µm,20.0s
H43A **Windswept, Lux** 126.75 2 P PKPdf 08 01 26.5 -1.2
baz=358
H43A **Windswept, Lux** 126.75 2 PFAKE 08 01 40.0 +12
H43A LR LR
comp=Z,3µm,19.0s
J32A **Parkston** 126.78 11 P PKPdf 08 01 26.9 -0.9
baz=345
I37A **Lemond, Waseca** 126.81 7 P PKPdf 08 01 26.8 -1.0
baz=351
MSU **Marysvale** 126.84 26 ePKPdf PKPdf 08 01 28.9 +0.6
MSU **Marysvale** 126.84 26 ePKIKP PKPdf 08 01 28.9 +0.6
PHWY **Pilot Hill** 126.86 18 ePKPdf PKPdf 08 01 27.7 -0.6
PHWY LR LR
comp=Z,2µm,21.0s
I38A **Scanlan Farm,** 126.90 6 P PKPdf 08 01 26.7 -1.2
baz=352
BLG **Laguna Peak, P** 126.92 34 P PKPdf 08 01 27.0 -1.3
baz=318
EDW2 **Edwards Air Fo** 126.93 33 P PKPdf 08 01 27.7 -0.7
baz=319,SNR=6.4
O20A **White River Ci** 126.98 21 P PKPdf 08 01 27.5 -1.0
baz=332
O20A **White River Ci** 126.98 21 ePKPdf PKPdf 08 01 28.1 -0.4
O20A LR LR
comp=Z,2µm,20.0s
J33A **Davis** 126.99 10 P PKPdf 08 01 26.9 -1.3
baz=346
SRU **San Rafael Swe** 127.01 24 ePKPdf PKPdf 08 01 29.0 +0.4
SRU LR LR
comp=Z,2µm,19.0s
SRU **San Rafael Swe** 127.01 24 ePKIKP PKPdf 08 01 29.0 +0.4
SRU MLR MLR
comp=Z,2µm,19.0s
HRV **Adam Dziewonsk** 127.04 347 PFAKE 08 01 40.0 +12
HRV LR LR
comp=Z,2µm,21.0s
SHOC **Shoshone, Teco** 127.05 31 P PKPdf 08 01 27.8 -0.7
baz=322
N23A **Red Feather La** 127.08 19 P PKPdf 08 01 28.1 -0.6
baz=335
N23A **Red Feather La** 127.08 19 ePKPdf PKPdf 08 01 28.9 +0.2
N23A LR LR
comp=Z,1µm,19.0s
CCUT **Cedar City** 127.11 27 ePKPdf PKPdf 08 01 29.6 +0.7
CCUT LR LR
comp=Z,1µm,18.0s
SHPR **Sheep Range** 127.12 29 ePKPdf PKPdf 08 01 29.6 +0.8
SHPR LR LR
comp=Z,2µm,21.0s
I39A **Houston** 127.16 5 P PKPdf 08 01 27.5 -1.0
baz=353
J34A **George** 127.19 9 P PKPdf 08 01 27.1 -1.4
baz=348
SZCU **Shurtz Canyon** 127.20 27 PFAKE 08 01 40.0 +11
SZCU LR LR
comp=Z,1µm,21.0s
MTPU **Mount Pierson** 127.23 26 ePKPdf PKPdf 08 01 30.3 +1.0
MTPU LR LR
comp=Z,2µm,22.0s
GSC **Goldstone, Bar** 127.24 32 P PKPdf 08 01 28.0 -1.0
baz=321
GSC **Goldstone, Bar** 127.24 32 ePKPdf PKPdf 08 01 29.8 +0.8
GSC LR LR
comp=Z,1µm,18.0s
GSC **Goldstone, Bar** 127.24 32 ePKIKP PKPdf 08 01 29.8 +0.8
GSC MLR MLR
comp=Z,1µm,18.0s
I42A **Draeger Farm,** 127.29 3 PFAKE 08 01 40.0 +11
I42A LR LR
comp=Z,2µm,22.0s
K31A **O'Neill** 127.33 12 P PKPdf 08 01 28.1 -0.8
baz=344
PASC **Pasadena Art C** 127.36 34 PFAKE 08 01 40.0 +11
PASC LR LR
comp=Z,1µm,21.0s
J36A **Seneca 1, Swea** 127.37 8 P PKPdf 08 01 28.0 -0.9
baz=350
MWC **Mount Wilson** 127.39 34 PFAKE 08 01 40.0 +11
MWC LR LR
comp=Z,2µm,20.0s
K32A **Verdigre** 127.45 11 P PKPdf 08 01 27.6 -1.5
baz=345
RRX **Edison Barstow** 127.47 32 P PKPdf 08 01 29.0 -0.3
baz=320
J37A **Redenius Farm,** 127.49 7 P PKPdf 08 01 28.2 -0.9
baz=351
TUQ **Turquoise Moun** 127.59 31 P PKPdf 08 01 29.1 -0.6
baz=322
BFSC **Mount Baldy Ra** 127.60 33 P PKPdf 08 01 28.6 -1.2
baz=319
J38A **Wedel Dairy, R** 127.60 6 P PKPdf 08 01 28.1 -1.3
baz=352
LCMT **Little Creek M** 127.61 27 ePKPdf PKPdf 08 01 30.8 +1.0
LCMT LR LR
comp=Z,2µm,22.0s
J39A **Decorah** 127.66 5 P PKPdf 08 01 27.8 -1.7
baz=353
J40A **Soldiers Grove** 127.67 4 P PKPdf 08 01 27.5 -1.9
baz=354
K34A **Le Mars** 127.75 9 P PKPdf 08 01 28.3 -1.3
baz=348
J41A **Loganville** 127.75 4 P PKPdf 08 01 28.5 -1.1
baz=355
KNB **Kanab** 127.80 27 ePKPdf PKPdf 08 01 31.1 +1.0
KNB LR LR
comp=Z,1µm,21.0s
KNB **Kanab** 127.80 27 ePKIKP PKPdf 08 01 31.1 +1.0
KNB MLR MLR
comp=Z,1µm,21.0s
J42A **Columbus** 127.85 3 P PKPdf 08 01 27.9 -1.9
baz=356
MMNY **Mt. Morris Dam** 127.97 352 PFAKE 08 01 40.0 +10
MMNY LR LR
comp=Z,4µm,21.0s
BBRC **Big Bear Solar** 127.98 33 P PKPdf 08 01 28.3 -2.3
baz=320
L33A **Hoskins** 128.05 11 P PKPdf 08 01 28.8 -1.5
baz=346
OGNE **Ogallala** 128.17 15 P PKPdf 08 01 28.7 -1.9
baz=340
OGNE **Ogallala** 128.17 15 ePKPdf PKPdf 08 01 31.2 +0.6
OGNE LR LR
comp=Z,3µm,20.0s
ISCO **Idaho Springs** 128.18 19 P PKPdf 08 01 28.7 -2.2
baz=335
ISCO **Idaho Springs** 128.18 19 PFAKE 08 01 40.0 +9.1
ISCO LR LR
comp=Z,1µm,19.0s
JFWS **Jewell Farm** 128.19 4 P PKPdf 08 01 28.5 -2.0
baz=355
JFWS **Jewell Farm** 128.19 4 ePKPdf PKPdf 08 01 29.9 -0.6
JFWS LR LR
comp=Z,2µm,22.0s
JFWS **Jewell Farm** 128.19 4 ePKIKP PKPdf 08 01 29.9 -0.6
JFWS MLR MLR
comp=Z,2µm,22.0s
BINY **Binghamton** 128.21 350 P PKPdf 08 01 28.8 -1.8
baz=13
BINY **Binghamton** 128.21 350 PFAKE 08 01 40.0 +9.5
BINY LR LR
comp=Z,3µm,22.0s
GMRC **Granite Mounta** 128.23 31 P PKPdf 08 01 30.6 -0.4
baz=322,SNR=6.8
K38A **Parkersburg** 128.23 6 P PKPdf 08 01 29.8 -0.7
baz=352
K39A **Oelwein** 128.26 5 P PKPdf 08 01 28.8 -1.8
baz=353
LDFC **Landfair** 128.28 30 ePKPdf PKPdf 08 01 32.2 +1.2
LDFC LR LR
comp=Z,1µm,20.0s
SMCO **Snowmass** 128.28 21 ePKPdf PKPdf 08 01 31.2 -0.1
SMCO LR LR
comp=Z,2µm,22.0s
MURC **Murrieta** 128.33 33 P PKPdf 08 01 29.1 -1.9
baz=320
K40A **Colesburg** 128.34 5 P PKPdf 08 01 28.8 -2.0
baz=354
K42A **Prairie Point,** 128.38 3 P PKPdf 08 01 28.9 -1.9
baz=356
L35A **Bielow Farm, R** 128.40 9 P PKPdf 08 01 29.8 -1.1
baz=348
L34A **Svendsen Farm,** 128.40 10 P PKPdf 08 01 29.7 -1.2
baz=347
YLE **Yale** 128.48 347 PFAKE 08 01 40.0 +9.0
YLE LR LR
comp=Z,2µm,22.0s
K41A **Shullsburg** 128.49 4 P PKPdf 08 01 29.3 -1.7
baz=355
K43A **Burlington** 128.50 2 P PKPdf 08 01 29.4 -1.7
baz=357
U15A **North Rim** 128.52 27 ePKPdf PKPdf 08 01 32.5 +0.9
U15A LR LR
comp=Z,2µm,20.0s
L36A **Harm Buss Farm** 128.54 8 P PKPdf 08 01 29.1 -2.0
baz=349
BGNE **Belgrade** 128.62 12 P PKPdf 08 01 29.8 -1.5
baz=345
BGNE **Belgrade** 128.62 12 ePKPdf PKPdf 08 01 31.4 0.0
BGNE LR LR
comp=Z,3µm,22.0s
L37A **Phoenix Point,** 128.63 7 P PKPdf 08 01 29.7 -1.6
baz=350
BELC **Belle Mtn. Jos** 128.66 32 P PKPdf 08 01 31.4 -0.4
baz=321,SNR=6.2
PFO **Pinyon Flats O** 128.72 33 P PKPdf 08 01 31.5 -0.4
baz=320
PFO **Pinyon Flats O** 128.72 33 ePKPdf PKPdf 08 01 32.2 +0.4
PFO LR LR
comp=Z,2µm,20.0s
PFO **Pinyon Flats O** 128.72 33 ePKIKP PKPdf 08 01 32.3 +0.4
PFO MLR MLR
comp=Z,2µm,20.0s
XPFO **Piæon Flat** 128.72 33 ePKPdf PKPdf 08 01 32.4 +0.5
XPFO LR LR
comp=Z,2µm,22.0s
ERPA **Erie** 128.82 354 P PKPdf 08 01 30.6 -1.1
baz=7.7
ERPA **Erie** 128.82 354 PFAKE 08 01 40.0 +8.3
ERPA LR LR
comp=Z,2µm,20.0s
L39A **Vinton** 128.83 6 P PKPdf 08 01 30.4 -1.3
baz=352
W13A **Hualapai Mount** 128.86 29 ePKPdf PKPdf 08 01 32.9 +0.6
W13A LR LR
comp=Z,1µm,20.0s
AAM **Ann Arbor** 128.89 358 PFAKE 08 01 40.0 +8.2
AAM LR LR
comp=Z,3µm,21.0s
SCIA **State Center** 128.91 7 PFAKE 08 01 40.0 +8.1
SCIA LR LR
comp=Z,4µm,21.0s
109C **Camp Elliot, M** 128.92 34 P PKPdf 08 01 31.6 -0.5
baz=319
CPE **Camp Elliot** 128.92 34 PFAKE 08 01 40.0 +7.9
CPE LR LR
comp=Z,1µm,19.0s
L40A **Anamosa** 128.96 5 P PKPdf 08 01 30.9 -1.0
baz=354
PAL **Palisades** 128.98 348 PFAKE 08 01 40.0 +8.0
PAL LR LR
comp=Z,2µm,22.0s
IRM **Iron Mountain** 128.99 31 P PKPdf 08 01 32.1 -0.1
baz=322,SNR=11
L43A **Garden Prairie** 129.00 3 P PKPdf 08 01 30.6 -1.4
baz=357
L41A **Preston** 129.01 4 P PKPdf 08 01 30.7 -1.3
baz=354
ODNJ **Ogdensburg** 129.05 349 PFAKE 08 01 40.0 +7.9
ODNJ LR LR
comp=Z,2µm,20.0s
Q24A **Divide** 129.08 19 P PKPdf 08 01 31.1 -1.6
baz=336
Q24A **Divide** 129.08 19 PFAKE 08 01 40.0 +7.3
Q24A LR LR
comp=Z,2µm,22.0s
BC3 **Big Chuckawall** 129.22 32 P PKPdf 08 01 32.4 -0.4
baz=321
MONP2 **Monument Peak** 129.29 33 P PKPdf 08 01 32.3 -0.8
baz=320
ALLY **Alegheny Colle** 129.30 354 PFAKE 08 01 40.0 +7.4
ALLY LR LR
comp=Z,3µm,22.0s
M37A **Trindle Farm,** 129.31 8 P PKPdf 08 01 32.0 -0.7
baz=350
PDMCI **Parker Dam,Lak** 129.38 30 P PKPdf 08 01 32.5 -0.5
baz=323,SNR=5.6
M54A **Oil Creek Stat** 129.39 354 P PKPdf 08 01 31.9 -0.9
baz=8.2
M54A **Oil Creek Stat** 129.39 354 PFAKE 08 01 40.0 +7.2
M54A LR LR
comp=Z,4µm,22.0s
M38A **Pleasantville** 129.40 7 P PKPdf 08 01 31.9 -0.9
baz=351
N59A **State Game Lan** 129.42 350 P PKPdf 08 01 31.3 -1.6
baz=13
N59A **State Game Lan** 129.42 350 PFAKE 08 01 40.0 +7.1
N59A LR LR
comp=Z,2µm,20.0s
M39A **Webster** 129.45 6 P PKPdf 08 01 31.8 -1.1
baz=352
MVCO **Mesa Verde** 129.45 23 P PKPdf 08 01 32.8 -0.6
baz=331,SNR=5.5
MVCO **Mesa Verde** 129.45 23 ePKPdf PKPdf 08 01 33.5 +0.1
MVCO LR LR
comp=Z,2µm,22.0s
SWSC **Sam W. Stewart** 129.59 33 P PKPdf 08 01 32.1 -1.3
baz=321
M40A **Post Highland** 129.59 5 P PKPdf 08 01 32.4 -0.8
baz=353
S22A **4UR Ranch, Cre** 129.60 21 P PKPdf 08 01 33.1 -0.6
baz=333
S22A **4UR Ranch, Cre** 129.60 21 ePKPdf PKPdf 08 01 34.1 +0.4
S22A LR LR
comp=Z,2µm,19.0s
Y12C **Blythe** 129.62 31 P PKPdf 08 01 32.9 -0.5
baz=322
Y12C **Blythe** 129.62 31 ePKPdf PKPdf 08 01 34.0 +0.5
Y12C LR LR
comp=Z,1µm,20.0s
IKP **In-Ko-Pah, Jac** 129.65 33 P PKPdf 08 01 32.0 -1.6
baz=320
LUPA **Lehigh Univers** 129.66 349 PFAKE 08 01 40.0 +6.7
LUPA LR LR
comp=Z,200nm,20.0s
WUAZ **Wupatki** 129.69 27 P PKPdf 08 01 32.4 -1.4
baz=327
WUAZ **Wupatki** 129.69 27 ePKPdf PKPdf 08 01 33.4 -0.3
WUAZ LR LR
comp=Z,800nm,20.0s
M41A **Milan** 129.70 4 P PKPdf 08 01 31.2 -2.1
baz=354
M43A **Waltham Townsh** 129.74 3 P PKPdf 08 01 32.1 -1.3
baz=356
KSCO **Kaye Shedlock'** 129.81 17 P PKPdf 08 01 32.6 -1.2
baz=339
KSCO **Kaye Shedlock'** 129.81 17 ePKPdf PKPdf 08 01 34.0 +0.2
KSCO LR LR
comp=Z,3µm,20.0s
M44A **Midewin, Midew** 129.82 2 P PKPdf 08 01 33.2 -0.4
baz=357
N54A **Moraine State** 129.96 354 P PKPdf 08 01 33.0 -0.9
baz=7.8
N54A **Moraine State** 129.96 354 PFAKE 08 01 50.0 +16
N54A LR LR
comp=Z,4µm,22.0s
N38A **Joes South For** 130.01 7 P PKPdf 08 01 32.1 -1.9
baz=351
N39A **Derby Farms, D** 130.01 6 P PKPdf 08 01 32.1 -1.9
baz=352
GLA **Glamis** 130.02 32 P PKPdf 08 01 34.5 +0.2
baz=322
GLA **Glamis** 130.02 32 PFAKE 08 01 50.0 +16
GLA LR LR
comp=Z,2µm,20.0s
SSPA **Standing Stone** 130.03 352 P PKPdf 08 01 32.6 -1.4
baz=10
SSPA **Standing Stone** 130.03 352 PFAKE 08 01 50.0 +16
SSPA LR LR
comp=Z,3µm,22.0s
SDCO **Great Sand Dun** 130.07 20 P PKPdf 08 01 32.6 -2.0
baz=335
SDCO **Great Sand Dun** 130.07 20 ePKPdf PKPdf 08 01 34.3 -0.3
SDCO LR LR
comp=Z,2µm,22.0s
N40A **Mertquake, Sal** 130.10 5 P PKPdf 08 01 32.9 -1.2
baz=353
RCBR **Riachuelo** 130.16 270 PFAKE 08 01 50.0 +15
RCBR LR LR
comp=Z,17µm,22.0s
N43A **Stutzman Famil** 130.22 3 P PKPdf 08 01 33.3 -1.1
baz=356
Y14A **Wickenburg** 130.23 30 ePKPdf PKPdf 08 01 34.8 +0.2
Y14A LR LR
comp=Z,1µm,20.0s
PAGS **Pennsylvania G** 130.25 351 PFAKE 08 01 50.0 +16
PAGS LR LR
comp=Z,3µm,21.0s
N42A **Yates City** 130.28 4 P PKPdf 08 01 32.7 -1.8
baz=355
N41A **Harden Midland** 130.34 5 P PKPdf 08 01 32.4 -2.2
baz=354
N46A **Monticello** 130.34 1 P PKPdf 08 01 32.4 -2.1
baz=359
N45A **Kentland** 130.38 1 P PKPdf 08 01 32.9 -1.7
baz=358
N44A **Piper City** 130.41 2 P PKPdf 08 01 33.2 -1.5
baz=357
MVL **Millersville** 130.41 350 ePKPdf PKPdf 08 01 35.7 +1.0
O56A **Blue Knob Stat** 130.48 352 P PKPdf 08 01 34.8 -0.1
baz=9.7
O56A **Blue Knob Stat** 130.48 352 PFAKE 08 01 50.0 +15
O56A LR LR
comp=Z,3µm,21.0s
X16A **Lo Mia Camp, P** 130.58 28 ePKPdf PKPdf 08 01 35.2 -0.3
X16A LR LR
comp=Z,1µm,22.0s
HDIL **Hopedale** 130.59 3 PFAKE 08 01 50.0 +15
HDIL LR LR
comp=Z,2µm,20.0s
W18A **Petrified Fore** 130.75 26 P PKPdf 08 01 35.4 -0.4
baz=328,SNR=6.9
W18A **Petrified Fore** 130.75 26 ePKPdf PKPdf 08 01 35.8 0.0
W18A LR LR
comp=Z,2µm,21.0s
CBKS **Cedar Bluff** 130.75 14 PFAKE 08 01 50.0 +14
CBKS LR LR
comp=Z,3µm,20.0s
O40A **La Belle** 130.83 6 P PKPdf 08 01 34.4 -1.1
baz=352
SFIN **Lafayette** 130.85 1 PFAKE 08 01 50.0 +14
SFIN LR LR
comp=Z,3µm,20.0s
MHTCO **State Highway** 130.90 20 ePKPdf PKPdf 08 01 37.2 +1.1
MHTCO LR LR
comp=Z,2µm,21.0s
ACSO **Alum Creek Sta** 130.92 357 P PKPdf 08 01 34.0 -1.8
baz=4.0
ACSO **Alum Creek Sta** 130.92 357 PFAKE 08 01 50.0 +14
ACSO LR LR
comp=Z,2µm,21.0s
O41A **Passleys Farm,** 130.92 5 P PKPdf 08 01 34.5 -1.2
baz=354
O45A **Potomac** 130.97 2 P PKPdf 08 01 34.7 -1.1
baz=358
T25A **Trinidad** 130.98 19 P PKPdf 08 01 34.8 -1.4
baz=336
T25A **Trinidad** 130.98 19 ePKPdf PKPdf 08 01 35.9 -0.3
T25A LR LR
comp=Z,2µm,21.0s
O44A **Mansfield** 131.04 2 P PKPdf 08 01 34.6 -1.4
baz=357
P37A **Lathrop** 131.05 8 P PKPdf 08 01 35.1 -0.9
baz=349
SDMD **Soldier's Deli** 131.07 350 PFAKE 08 01 50.0 +14
SDMD LR LR
comp=Z,1µm,20.0s
P38A **Dawn** 131.12 8 P PKPdf 08 01 35.0 -1.1
baz=350
KSU1 **Kansas State U** 131.15 11 P PKPdf 08 01 35.7 -0.5
baz=346
KSU1 **Kansas State U** 131.15 11 PFAKE 08 01 50.0 +14
KSU1 LR LR
comp=Z,2µm,20.0s
X18A **Snowflake** 131.15 26 PFAKE 08 01 50.0 +13
X18A LR LR
comp=Z,1µm,21.0s
RKT **Rikitea** 131.21 113 eLR LR 08 42 53.1
comp=Z,3µm,37.2s
MCWV **Mont Chateau** 131.24 354 P PKPdf 08 01 36.1 -0.3
baz=8.1
MCWV **Mont Chateau** 131.24 354 PFAKE 08 01 50.0 +14
MCWV LR LR
comp=Z,4µm,22.0s
P41A **Barry, Barry** 131.34 5 P PKPdf 08 01 35.5 -1.0
baz=353
P39B **Salisbury** 131.36 7 P PKPdf 08 01 35.3 -1.3
baz=351
P42A **Winchester** 131.49 4 P PKPdf 08 01 36.1 -0.7
baz=354
P45A **Graceland, Par** 131.69 2 P PKPdf 08 01 34.6 -2.6
baz=358
P44A **Sand Creek, Wi** 131.71 3 P PKPdf 08 01 35.2 -2.1
baz=357
Q37A **Longview Farm,** 131.73 9 P PKPdf 08 01 34.9 -2.4
baz=349
P47A **Martinsville** 131.75 0 P PKPdf 08 01 36.6 -0.7
baz=360
Q38A **Cooks Store, C** 131.76 8 P PKPdf 08 01 35.4 -2.0
baz=350
Q39A **Willow Grove F** 131.76 7 P PKPdf 08 01 35.8 -1.6
baz=351
214A **Organ Pipe Nat** 131.92 31 P PKPdf 08 01 37.3 -0.6
baz=323
Q40A **Laux Farm, Aux** 131.92 6 P PKPdf 08 01 36.6 -1.0
baz=352
Q41A **Truxton** 132.04 5 P PKPdf 08 01 36.6 -1.3
baz=353
BLO **Bloomington** 132.06 0 PFAKE 08 01 50.0 +12
BLO LR LR
comp=Z,2µm,20.0s
Q42A **Golden Eagle** 132.15 5 P PKPdf 08 01 37.2 -0.9
baz=354
Q43A **New Douglas** 132.18 4 P PKPdf 08 01 37.8 -0.3
baz=355
ANMO **Albuquerque** 132.22 23 P PKPdf 08 01 38.1 -0.5
baz=332
ANMO **Albuquerque** 132.22 23 PFAKE 08 01 50.0 +11
ANMO LR LR
comp=Z,2µm,21.0s
Q47A **Bedord North L** 132.30 0 P PKPdf 08 01 38.7 +0.4
baz=360
Q45A **Warren Harvey,** 132.30 2 P PKPdf 08 01 37.6 -0.7
baz=357
CBN **Corbin Frederi** 132.33 351 P PKPdf 08 01 37.6 -0.8
baz=12
CBN **Corbin Frederi** 132.33 351 PFAKE 08 01 50.0 +12
CBN LR LR
comp=Z,3µm,21.0s
LAZ **Ladron** 132.44 24 ePKPdf PKPdf 08 01 40.4 +1.3
SLM **Saint Louis** 132.44 4 PFAKE 08 01 50.0 +11
SLM LR LR
comp=Z,3µm,22.0s
OLIL **Olney** 132.47 2 PFAKE 08 01 50.0 +11
OLIL LR LR
comp=Z,3µm,22.0s
R39A **Chumby, Stover** 132.48 7 P PKPdf 08 01 37.9 -0.8
baz=351
IP04 **Greensprings** 132.55 351 PFAKE 08 01 50.0 +11
IP04 LR LR
comp=Z,4µm,22.0s
R40A **Maddies Statio** 132.59 7 P PKPdf 08 01 38.0 -0.9
baz=352
IP03 **Louisa** 132.61 351 PFAKE 08 01 50.0 +11
IP03 LR LR
comp=Z,4µm,22.0s
TUC **Tucson** 132.63 29 P PKPdf 08 01 39.1 -0.2
baz=326
TUC **Tucson** 132.63 29 ePKPdf PKPdf 08 01 39.8 +0.5
TUC LR LR
comp=Z,2µm,21.0s
TUC **Tucson** 132.63 29 ePKIKP PKPdf 08 01 39.8 +0.5
TUC MLR MLR
comp=Z,2µm,21.0s
IP01 **Cuckoo** 132.66 351 PFAKE 08 01 50.0 +11
IP01 LR LR
comp=Z,2µm,20.0s
IP06 **Yanceyville** 132.69 351 PFAKE 08 01 50.0 +11
IP06 LR LR
comp=Z,3µm,22.0s
IP07 **Quail** 132.71 351 PFAKE 08 01 50.0 +11
IP07 LR LR
comp=Z,4µm,22.0s
LPM **Los Pinos Moun** 132.72 23 ePKPdf PKPdf 08 01 39.8 +0.3
IP05 **Hopewell Churc** 132.76 351 PFAKE 08 01 50.0 +11
IP05 LR LR
comp=Z,3µm,21.0s
Y22D **IRIS PASSCAL I** 132.81 24 PFAKE 08 01 50.0 +10
Y22D LR LR
comp=Z,2µm,20.0s
R48A **Northridge Ran** 132.84 360 P PKPdf 08 01 38.2 -1.2

baz=0.2
BNM Barren Site 132.86 23 *e*PKPdf **PKPdf 08 01 40.5 +0.6**
R45A Skylar, Fairfi 132.90 2 P **PKPdf 08 01 38.3 -1.2**
baz=357
R44A Waltonville 132.91 3 P **PKPdf 08 01 38.7 -0.8**
baz=356
CCM Cathedral Cave 132.93 6 P **PKPdf 08 01 39.2 -0.4**
baz=353
CCM Cathedral Cave 132.93 6 PFAKE 08 01 50.0 +10
CCM LR LR
comp=Z,3μm,20.0s
R47A Wooly Knot Far 132.94 0 P **PKPdf 08 01 39.0 -0.6**
baz=359
WCI Wyandotte Cave 133.01 0 P **PKPdf 08 01 39.4 -0.4**
baz=360
WCI Wyandotte Cave 133.01 0 PFAKE 08 01 50.0 +10
WCI LR LR
comp=Z,2μm,20.0s
S38A Stockton 133.03 8 P **PKPdf 08 01 39.2 -0.6**
baz=349
S39A Bolivar 133.05 8 P **PKPdf 08 01 39.0 -0.8**
baz=350
USIN University of 133.25 2 PFAKE 08 01 50.0 +10
USIN LR LR
comp=Z,2μm,21.0s
S40A Lebanon 133.25 7 P **PKPdf 08 01 39.2 -1.0**
baz=351
S42A Caledonia 133.26 5 P **PKPdf 08 01 39.1 -1.1**
baz=354
S41A Jillco Farms, 133.35 6 P **PKPdf 08 01 39.4 -1.0**
baz=352
SIUC Southern Illin 133.43 3 PFAKE 08 01 50.0 +9.5
SIUC LR LR
comp=Z,2μm,21.0s
S44A Carbondale 133.45 3 P **PKPdf 08 01 40.2 -0.4**
baz=356
T38A Diamond 133.56 9 P **PKPdf 08 01 39.7 -1.1**
baz=349
S48A Wiedeman Farm, 133.58 360 P **PKPdf 08 01 40.0 -0.8**
baz=360
T40A Mansfield 133.69 7 P **PKPdf 08 01 40.6 -0.5**
baz=351
BLA Blacksburg 133.72 354 PFAKE 08 01 50.0 +8.8
BLA LR LR
comp=Z,4μm,22.0s
121A Cookes Peak, D 133.79 26 P **PKPdf 08 01 40.9 -0.7**
baz=330
T41A Mountain View 133.88 6 P **PKPdf 08 01 40.0 -1.4**
baz=352
AMTX Amarillo 133.92 18 PFAKE 08 01 50.0 +8.3
AMTX LR LR
comp=Z,3μm,21.0s
T42A Van Buren 133.96 6 P **PKPdf 08 01 40.4 -1.1**
baz=353
T43A Greenville 133.98 5 P **PKPdf 08 01 40.9 -0.7**
baz=354
T44A Benton 134.03 4 P **PKPdf 08 01 41.1 -0.5**
baz=355
319A Douglas 134.11 28 PFAKE 08 01 50.0 +7.8
319A LR LR
comp=Z,2μm,19.0s
T48A Bowling Green 134.12 0 P **PKPdf 08 01 40.9 -0.9**
baz=360
T46A Princeton 134.16 2 P **PKPdf 08 01 41.4 -0.5**
baz=358
T47A Sharon Grove 134.24 1 P **PKPdf 08 01 40.7 -1.4**
baz=359
PBMO Poplar Bluff 134.27 5 *e*PKPdf **PKPdf 08 01 42.4 +0.3**
PBMO LR LR
comp=Z,3μm,22.0s
U39A Green Forest 134.32 8 P **PKPdf 08 01 41.5 -0.8**
baz=350
HHAR Hobbs 134.35 9 *e*PKPdf **PKPdf 08 01 41.4 -1.0**
TUL1 Leonard 134.40 11 PFAKE 08 01 50.0 +7.6
TUL1 LR LR
comp=Z,4μm,19.0s
MSTX Muleshoe 134.42 20 P **PKPdf 08 01 42.5 -0.2**
baz=337
MSTX Muleshoe 134.42 20 *e*PKPdf **PKPdf 08 01 41.9 -0.7**
MSTX LR LR
comp=Z,3μm,20.0s
U40A Yellville 134.43 8 P **PKPdf 08 01 41.3 -1.2**
baz=351
U41A Viola 134.56 7 P **PKPdf 08 01 41.5 -1.2**
baz=352
U42A Revenden 134.62 6 P **PKPdf 08 01 42.1 -0.7**
baz=353
TZTN Tazewell 134.63 357 PFAKE 08 01 50.0 +7.2
TZTN LR LR
comp=Z,3μm,21.0s
PVMO Portageville 134.69 4 PFAKE 08 01 50.0 +7.1
PVMO LR LR
comp=Z,3μm,22.0s
U48A Cassie Pea, Po 134.72 1 P **PKPdf 08 01 42.7 -0.3**
baz=359
NCAT North Carolina 134.76 353 PFAKE 08 01 50.0 +6.9
NCAT LR LR
comp=Z,3μm,22.0s
U47A Clarksville 134.78 1 P **PKPdf 08 01 42.9 -0.2**
baz=358
V39A Pettigrew 134.83 9 P **PKPdf 08 01 42.3 -1.0**
baz=349
U46A Springville 134.83 2 P **PKPdf 08 01 42.5 -0.7**
baz=357
WMOK Wichita Mounta 134.86 15 PFAKE 08 02 00.0 +17
WMOK LR LR
comp=Z,2μm,21.0s
V40A Witts Springs 134.98 8 P **PKPdf 08 01 42.6 -1.0**
baz=351
V40A Witts Springs 134.98 8 *e*PKPdf **PKPdf 08 01 44.6 +1.0**
V40A LR LR
comp=Z,3μm,18.0s
EPT El Paso 134.99 25 PFAKE 08 02 00.0 +16
EPT LR LR
comp=Z,1μm,20.0s
WVT Waverly 135.07 2 P **PKPdf 08 01 41.8 -1.8**
baz=358
WVT Waverly 135.07 2 *e*PKPdf **PKPdf 08 01 44.4 +0.7**
WVT LR LR
comp=Z,2μm,22.0s
WVT Waverly 135.07 2 *e*PKIKP **PKPdf 08 01 44.4 +0.7**
WVT MLR MLR
comp=Z,2μm,22.0s
V41A Mountainview 135.08 7 P **PKPdf 08 01 42.6 -1.1**
baz=352
V42A Cord 135.15 6 P **PKPdf 08 01 43.0 -0.7**
baz=353
HSIG 135.23 32 PFAKE 08 02 00.0 +16
HSIG LR LR
comp=Z,2μm,20.0s
CNNC Cliffs of the 135.31 350 PFAKE 08 02 00.0 +16
CNNC LR LR
comp=Z,3μm,20.0s
V47A Nunnelly 135.38 2 P **PKPdf 08 01 43.9 -0.3**
baz=358
W39A Magazine 135.44 9 P **PKPdf 08 01 44.0 -0.4**
baz=349
W39A Magazine 135.44 9 PFAKE 08 02 00.0 +16
W39A LR LR
comp=Z,4μm,22.0s
V48A Smith Brothers 135.49 1 P **PKPdf 08 01 44.1 -0.3**
baz=359
MNTX Cornudas Mount 135.51 24 P **PKPdf 08 01 44.0 -0.7**
baz=332
MNTX Cornudas Mount 135.51 24 *e*PKPdf **PKPdf 08 01 43.8 -0.9**
MNTX LR LR
comp=Z,2μm,20.0s
TKL Tuckaleechee C 135.52 357 PKP **PKPdf 08 01 42.7 -1.8**
comp=Z,3.7nm,0.9s,baz=178,slow=7.2,SNR=3.2
TKL Tuckaleechee C 135.52 357 *e*PKPdf **PKPdf 08 01 42.7 -1.8**
TKL LR LR
comp=Z,3μm,20.0s
TKL Tuckaleechee C 135.52 357 *e*PKIKP **PKPdf 08 01 42.7 -1.8**
TKL MLR MLR
comp=Z,3μm,20.0s
W40A Ferguson Farm, 135.55 8 PFAKE 08 02 00.0 +15
W40A LR LR
comp=Z,3μm,20.0s
W41B Gary Mavity, V 135.67 7 P **PKPdf 08 01 43.7 -1.0**
baz=351
W41B Gary Mavity, V 135.67 7 PFAKE 08 02 00.0 +15
W41B LR LR
comp=Z,3μm,21.0s
KMSC Kings Mountain 135.86 354 P **PKPdf 08 01 44.6 -0.6**
baz=6.7
KMSC Kings Mountain 135.86 354 PFAKE 08 02 00.0 +15
KMSC LR LR
comp=Z,3μm,22.0s
SRIG Santa Rosalia 135.88 34 PFAKE 08 02 00.0 +15
SRIG LR LR
comp=Z,1μm,22.0s
W47A Westpoint 135.96 2 P **PKPdf 08 01 44.8 -0.5**
baz=358
MET Memphis--Engin 135.96 5 PFAKE 08 02 00.0 +15
MET LR LR
comp=Z,2μm,18.0s
W46A Michie 136.04 3 P **PKPdf 08 01 44.3 -1.2**
baz=357
UALR University of 136.05 7 PFAKE 08 02 00.0 +14
UALR LR LR
comp=Z,2μm,20.0s
X39A Fountain Ranch 136.06 10 P **PKPdf 08 01 44.7 -0.8**
baz=348
W48A Pulaski 136.09 1 P **PKPdf 08 01 44.0 -1.6**
baz=359
MIAR Mount Ida 136.11 9 P **PKPdf 08 01 44.9 -0.7**
baz=349
MIAR Mount Ida 136.11 9 *e*PKPdf **PKPdf 08 01 45.5 -0.1**
MIAR LR LR
comp=Z,4μm,21.0s
MIAR Mount Ida 136.11 9 *e*PKIKP **PKPdf 08 01 45.5 -0.1**
MIAR MLR MLR
comp=Z,4μm,21.0s
BG3 Lake Jocassee 136.14 356 *e*PKPdf **PKPdf 08 01 47.4 +1.7**
PLAL Pickwick Lake 136.21 2 PFAKE 08 02 00.0 +14
PLAL LR LR
comp=Z,3μm,21.0s
X40A Basin Creek Fa 136.27 8 PFAKE 08 02 00.0 +14
X40A LR LR
comp=Z,3μm,21.0s
X41A Kaden, Bauxite 136.31 8 P **PKPdf 08 01 46.0 0.0**
baz=351
X43A Marvell 136.47 6 PFAKE 08 02 00.0 +14
X43A LR LR
comp=Z,2μm,19.0s
OXF Oxford 136.60 4 PFAKE 08 02 00.0 +13
OXF LR LR
comp=Z,3μm,20.0s
ABTX Abilene, Hawle 136.63 17 P **PKPdf 08 01 46.7 0.0**
baz=340
ABTX Abilene, Hawle 136.63 17 *e*PKPdf **PKPdf 08 01 49.1 +2.4**
ABTX LR LR
comp=Z,2μm,20.0s
X47A Russelville 136.68 2 P **PKPdf 08 01 45.1 -1.6**
baz=357
JSC Jenkinsville 136.70 354 *e*PKPdf **PKPdf 08 01 47.6 +0.9**
JSC Jenkinsville 136.70 354 *e*PKIKP **PKPdf 08 01 47.6 +0.9**
X49A Woodville 136.72 0 P **PKPdf 08 01 46.5 -0.2**
baz=360
X48A Hartselle 136.77 1 P **PKPdf 08 01 45.4 -1.5**
baz=359
Y41A Eaglette Beard 136.90 8 P **PKPdf 08 01 46.4 -0.7**
baz=350
CCAR Cane Creek 136.97 7 PFAKE 08 02 00.0 +13
CCAR LR LR
comp=Z,2μm,21.0s
Y46A Houston 137.26 3 P **PKPdf 08 01 47.1 -0.7**
baz=356
Y47A UCPARC, Winfie 137.29 2 P **PKPdf 08 01 47.2 -0.7**
baz=357
Y48A Jasper 137.30 1 P **PKPdf 08 01 47.2 -0.7**
baz=358
Y50A Piedmont 137.34 360 P **PKPdf 08 01 47.9 0.0**
baz=0.5
Z41A Richland Creek 137.49 8 PFAKE 08 02 00.0 +12
Z41A LR LR
comp=Z,3μm,21.0s
GOGA Godfrey 137.74 357 PFAKE 08 02 00.0 +11
GOGA LR LR
comp=Z,4μm,21.0s
NHSC New Hope 137.74 353 PFAKE 08 02 00.0 +11
NHSC LR LR
comp=Z,2μm,18.0s
WHTX Lake Whitney, 137.81 14 PFAKE 08 02 00.0 +11
WHTX LR LR
comp=Z,3μm,21.0s
Z48A Northport 137.83 2 P **PKPdf 08 01 46.7 -2.2**
baz=358
Z50A Ashland 137.97 360 P **PKPdf 08 01 47.7 -1.4**
baz=0.2
Z47A Carrollton 137.99 2 P **PKPdf 08 01 47.5 -1.6**
baz=357
Z49A Columbiana 138.03 1 P **PKPdf 08 01 48.1 -1.1**
baz=359
LRAL Lakeview Retre 138.18 1 P **PKPdf 08 01 49.8 +0.3**
baz=359
LRAL Lakeview Retre 138.18 1 *e*PKPdf **PKPdf 08 01 52.1 +2.6**
LRAL LR LR
comp=Z,2μm,22.0s
143A Socs Landing, 138.21 7 P **PKPdf 08 01 49.4 -0.2**
baz=352
TX31 Lajitas Ar. Si 138.28 23 *e*PKPpre PKPpre 08 01 41.4
TX31 *e*PKPpre PKPpre 08 01 41.8
TXAR Lajitas Array 138.28 23 PKhKP PKPpre 08 01 40.3
comp=Z,0.8nm,0.6s,baz=105,slow=0.8,SNR=7.0
TXAR PKP **PKiKP**
comp=Z,1.5nm,0.4s,baz=352,slow=0.3,SNR=35
TXAR PP **PP 08 04 42.6 +5.0**
comp=Z,1.9nm,0.9s,baz=354,slow=2.0,SNR=3.9
TXAR SKPbc **SKPbc 08 05 25.5 +1.7**
comp=Z,4.8nm,1.0s,baz=288,slow=1.2,SNR=6.1
TXAR PKKP **PKKPdf 08 11 27.9 +6.7**
comp=Z,0.7nm,1.0s,baz=165,slow=5.2,SNR=4.0
147A Livingston 138.50 3 P **PKPdf 08 01 48.7 -1.4**
baz=357
148A Greensboro 138.55 2 P **PKPdf 08 01 49.9 -0.3**
baz=358
JCT Junction City 138.59 18 P **PKPdf 08 01 49.8 -0.6**
baz=339
150A Eclectic 138.62 360 P **PKPdf 08 01 49.1 -1.3**
baz=0.1
149A Jones 138.62 1 P **PKPdf 08 01 49.1 -1.3**
baz=359
NATX Nacogdoches 138.64 11 PFAKE 08 02 00.0 +10
NATX LR LR
comp=Z,4μm,19.0s
VBMS Vicksburg 138.79 6 PFAKE 08 02 00.0 +9.4
VBMS LR LR
comp=Z,2μm,19.0s
435B Jarrell 138.93 15 PFAKE 08 02 00.0 +9.1
435B LR LR
comp=Z,4μm,22.0s
245A Little AP, Sta 139.03 5 P **PKPdf 08 01 49.6 -1.4**
baz=354
247A Quitman 139.10 3 P **PKPdf 08 01 49.6 -1.6**
baz=356
253A Americus 139.12 357 P **PKPdf 08 01 50.1 -1.1**
baz=2.9
251A Midway 139.12 359 P **PKPdf 08 01 50.4 -0.9**
baz=1.0
252A Lumpkin 139.21 358 P **PKPdf 08 01 50.5 -0.9**
baz=2.0
341A Kurthwood 139.32 9 P **PKPdf 08 01 50.6 -1.1**
baz=349
344A Westbrook Farm 139.52 6 P **PKPdf 08 01 49.3 -2.7**
baz=353
HPIG 139.53 27 *e*PKPpre PKPpre 08 01 46.2
HPIG LR LR
comp=Z,2μm,22.0s
TIGA Tifton 139.71 357 PFAKE 08 02 00.0 +7.7
TIGA LR LR
comp=Z,3μm,21.0s
352A Blakely 139.73 358 P **PKPdf 08 01 50.5 -1.8**
baz=1.7
347A Saraland 139.75 3 P **PKPdf 08 01 52.0 -0.4**
baz=356
353A Camilla 139.83 358 P **PKPdf 08 01 51.7 -0.9**
baz=2.8
349A Repton 139.86 1 P **PKPdf 08 01 51.4 -1.2**
baz=358
SLBS Sierra La Lagu 140.00 35 PFAKE 08 02 00.0 +6.8
SLBS LR LR
comp=Z,1μm,22.0s
BRAL Brewton 140.04 1 P **PKPdf 08 01 52.3 -0.6**
baz=358
BRAL Brewton 140.04 1 PFAKE 08 02 00.0 +7.1
BRAL LR LR
comp=Z,3μm,20.0s
HKT Hockley 140.15 13 PFAKE 08 02 00.0 +6.9
HKT LR LR
comp=Z,3μm,19.0s
833A Chaparral WMA, 140.72 19 P **PKPdf 08 01 52.3 -2.0**
baz=339
KVTX Kingsville 141.91 17 PFAKE 08 02 10.0 +14
KVTX LR LR
comp=Z,2μm,19.0s
DWPF Disney Wildern 142.82 353 PFAKE 08 02 10.0 +12
DWPF LR LR
comp=Z,2μm,20.0s
TRQA Tornquist 143.83 213 *e*PKPdf **PKPdf 08 01 58.8 -0.8**
TRQA LR LR
comp=Z,2μm,21.0s
LNIG Linares 143.86 21 *e*PKPpre PKPpre 08 01 56.6
LNIG LR LR
comp=Z,2μm,20.0s
ANWB Willy Bob 144.23 318 PFAKE 08 02 10.0 +9.3
ANWB LR LR
comp=Z,2μm,22.0s
ANWB Willy Bob 144.23 318 *e* PKPbc 08 01 58.6 -0.2
ZAIG Zacatecas 144.53 27 *e*PKPdf PKPbc 08 02 00.5 +0.4
ZAIG LR LR
comp=Z,2μm,19.0s
059Z Ave Maria 144.58 353 P PKPbc 08 01 60.0 +0.3
baz=7.8
DEG La Desirade 144.69 315 *e* **PKPab 08 01 59.9 -0.4**
ABVI Anegada Island 145.07 322 *e*PKPbc **PKPab 08 02 01.4 -0.1**
SKI Saint Kitts 145.10 319 *e*PKPbc **PKPbc 08 02 01.4 -0.3**
SKI LR LR
comp=Z,2μm,22.0s
SKI Saint Kitts 145.10 319 *e* **PKPdf 08 02 02.1 -0.2**
SKI Saint Kitts 145.10 319 *e*PKP2 **PKPbc 08 02 01.4 -0.3**
SKI MLR MLR
comp=Z,2μm,22.0s
SEUS St. Eustatius 145.14 319 PFAKE 08 02 10.0 +7.7
SEUS LR LR
comp=Z,2μm,22.0s
SEUS St. Eustatius 145.14 319 *e* **PKPdf 08 02 02.6 +0.3**
MLYT Lee's Yard 145.18 317 *e* **PKPdf 08 02 02.4 0.0**
GDHS Morne Mazeau, 145.21 316 *e*PKPbc **PKPbc 08 02 01.9 -0.2**
SABA Saba 145.22 320 *e*PKPbc **PKPab 08 02 02.2 +0.1**
SABA LR LR
comp=Z,1μm,21.0s
SABA Saba 145.22 320 *e* **PKPdf 08 02 02.6 +0.1**
TBG Guadaloupe-3 145.41 315 *e* **PKPbc 08 02 02.0 -0.7**
DLPL La Plaine 145.49 314 *e* PKPab 08 02 15.2 +12
BBL Barber's Block 145.51 315 *e* **PKPdf 08 02 03.0 -0.1**
PLCA Paso Flores 145.52 201 PKPbc **PKPdf 08 02 01.8 -0.7**
comp=Z,112nm,0.9s,baz=183,slow=2.4,SNR=44
STVI Saint Thomas 145.73 323 *e*PKPdf **PKPbc 08 02 03.7 +0.1**
STVI LR LR
comp=Z,2μm,22.0s
FDF Fort de France 145.82 313 *e*PKPdf **PKPab 08 02 04.5 +0.1**
FDF LR LR
comp=Z,1μm,21.0s
FDF Fort de France 145.82 313 *e* **PKPab 08 02 04.6 +0.1**
FDF Fort de France 145.82 313 *e*PKP2 **PKPab 08 02 04.5 +0.1**
FDF MLR MLR
comp=Z,1μm,21.0s
MTP Monte Pirata 146.28 323 *e*PKPdf **PKPbc 08 02 05.1 -0.3**
MTP LR LR
comp=Z,2μm,20.0s
GRTK Grand Turk 146.30 334 PFAKE 08 02 20.0 +14
GRTK LR LR
comp=Z,2μm,20.0s
CBYP Canovanas 146.33 324 *e*PKPdf **PKPdf 08 02 04.3 -0.1**
MCLT Moule a Chique 146.35 312 *e* **PKPbc 08 02 05.2 -0.4**
HUMP Col San Antoni 146.43 323 *e*PKPdf **PKPdf 08 02 04.7 +0.2**
HUMP LR LR
comp=Z,2μm,21.0s
SJG San Juan 146.62 324 PKPbc **PKPdf 08 02 04.6 -0.2**
comp=Z,12nm,0.6s,baz=352,slow=2.4,SNR=6.6
SJG San Juan 146.62 324 *e*PKPdf **PKPdf 08 02 04.6 -0.2**
SJG *e*PKPdf **PKPbc 08 02 05.2 -1.2**
SJG LR LR
comp=Z,2μm,21.0s
SJG San Juan 146.62 324 *e*PKIKP **PKPdf 08 02 04.6 -0.2**
SJG MLR MLR
comp=Z,2μm,21.0s
SVCV St. Vincent, C 146.78 311 *e* **PKPbc 08 02 06.1 -0.8**
AOPR Arecibo Observ 146.79 325 *e*PKPdf **PKPdf 08 02 05.9 +0.8**
SVB Belmont 146.86 312 PFAKE 08 02 20.0 +12
SVB LR LR
comp=Z,700nm,20.0s
SVB Belmont 146.86 312 *e* **PKPbc 08 02 06.2 -0.9**
GO06 Currarehue 146.87 201 *e*PKPdf **PKPbc 08 02 05.7 -0.9**
GO06 LR LR
comp=Z,2μm,19.0s
OBIP Obispado Ponce 146.94 324 *e*PKPdf **PKPdf 08 02 04.9 -0.5**
OBIP LR LR
comp=Z,800nm,21.0s
MPR Mayaguez 147.11 325 *e*PKPdf **PKPbc 08 02 07.5 -0.2**
CRPR Cabo Rojo, PR 147.26 325 *e*PKPdf **PKPbc 08 02 07.3 -0.9**
CRPR LR LR
comp=Z,2μm,22.0s
JRQG Juriquilla Cam 147.27 25 *e*PKPbc **PKPbc 08 02 08.9 +0.5**
JRQG LR LR
comp=Z,3μm,21.0s
CPUP Villa Florida 147.75 234 PKPbc **PKPbc 08 02 08.6 -0.7**
comp=Z,44nm,0.9s,baz=106,slow=3.2,SNR=21
CPUP Villa Florida 147.75 234 *e*PKPdf **PKPdf 08 02 06.5 0.0**
CPUP Villa Florida 147.75 234 *e*PKIKP **PKPdf 08 02 06.5 0.0**
MOIG Morelia 147.85 27 *e*PKPdf **PKPdf 08 02 06.5 -0.6**
MOIG LR LR
comp=Z,2μm,22.0s
GRGR Grenville 147.89 310 *e*PKPdf **PKPdf 08 02 06.8 -0.3**
GRGR Grenville 147.89 310 *e* **PKPbc 08 02 09.2 -0.8**
CANA Caviahue 148.21 203 *i* P **PKPbc 08 02 11.8 +1.4**
SDD Santo Domingo 148.38 330 PFAKE 08 02 20.0 +5.8
SDD LR LR
comp=Z,2μm,22.0s
SDDR Presa de Saban 148.59 332 *e*PKPdf **PKPdf 08 02 08.0 -0.2**
SDDR LR LR
comp=Z,2μm,20.0s
SUCO SUCO 148.87 216 *i* P **PKPbc 08 02 10.3 -1.8**
UNM Universidad Na 149.03 25 PFAKE 08 02 20.0 +2.8
UNM LR LR
comp=Z,600nm,22.0s
GTBY Guantanamo Bay 149.28 339 PFAKE 08 02 20.0 +2.2
GTBY LR LR
comp=Z,2μm,21.0s
LVIG Laguna Verde 149.69 20 *e*PKPdf **PKPdf 08 02 08.9 -0.9**
LVIG LR LR
comp=Z,1μm,21.0s
RFA San Rafael 149.70 210 *i* P **PKPbc 08 02 13.1 -1.1**
MYIG MØrida 150.00 7 PFAKE 08 02 20.0 -0.7
MYIG LR LR
comp=Z,2μm,20.0s
TCA Tanti 150.11 219 *i* P **PKPdf 08 02 11.0 +0.7**
TLIG Tlapa 150.86 25 *e*PKPdf **PKPdf 08 02 11.0 -0.9**
TLIG LR LR
comp=Z,2μm,22.0s
TEIG Tepich 150.87 4 PFAKE 08 02 20.0 +2.7
TEIG LR LR
comp=Z,2μm,22.0s
ACAN Cantantal 150.97 214 *i* P **PKPbc 08 02 14.9 -2.3**
GO05 HualaæØ 151.05 205 *e*PKPdf **PKPdf 08 02 11.3 -0.3**
GO05 LR LR
comp=Z,2μm,20.0s
AAGR Agrelo 151.22 211 *i* P **PKPbc 08 02 16.3 -1.7**
PCRV Puerto La Cruz 151.38 311 PKPbc **PKPbc 08 02 16.7 -2.0**
comp=Z,10nm,0.5s,baz=146,slow=4.1,SNR=9.5
PCRV PKPab **sPKPbc 08 02 24.3 -1.8**
comp=Z,22nm,0.6s,baz=128,slow=3.7,SNR=7.0
ARCO CERRO ARCO 151.47 211 *i* P **PKPbc 08 02 18.1 -0.4**
ASAL Salagasta 151.61 212 *i* P **PKPbc 08 02 16.5 -2.3**
MTDJ Mount Denham 151.65 343 *e*pPKPdf **pPKPdf 08 02 16.3 -2.2**
MTDJ LR LR
comp=Z,2μm,20.0s
MTDJ Mount Denham 151.65 343 *e*P **PKPdf 08 02 14.1 +1.1**
APLL PUNTA DE LOS L 151.95 218 *i* P **PKPbc 08 02 19.1 -0.6**
RTCV Cerro Valdivia 152.02 213 *i* P **PKPbc 08 02 19.6 -0.2**
PEL Peldehue 152.09 208 *e*PKPdf **PKPdf 08 02 15.9 +2.7**
PEL LR LR
comp=Z,2μm,20.0s
PEL Peldehue 152.09 208 *e*PKIKP **PKPdf 08 02 15.9 +2.7**
PEL MLR MLR
comp=Z,2μm,20.0s
AUSP Uspallata 152.19 211 *i* P **PKPbc 08 02 17.3 -3.1**
ROC1 El Roble 152.38 208 *e*PKPbc **PKPbc 08 02 20.1 -0.7**
RTLL Cerro Villicun 152.40 214 *i* P **PKPdf 08 02 12.5 -1.3**
RTLS Leoncito 152.48 212 *i* P **PKPdf 08 02 16.9 +2.8**
CMIG Matias Romero 152.65 19 PKPbc **PKPbc 08 02 19.0 -2.4**
comp=Z,11nm,0.9s,baz=334,slow=4.8,SNR=7.9
AMOG MOGNA 152.70 215 *i* P **PKPbc 08 02 21.1 -0.2**
PTGA Pitinga 152.72 286 PKP **PKPdf 08 02 14.8 +0.2**
comp=Z,4.3nm,0.8s,baz=30,slow=4.9,SNR=7.1
PTGA PKPbc **sPKPdf 08 02 21.1 -0.9**
comp=Z,20nm,1.0s,baz=20,slow=1.0,SNR=12

PTGA				PKPab	**PKPab**	08 02 30.3	-2.1		
	comp=Z,33nm,0.9s,baz=118,slow=2.4,SNR=20								
PTGA	**Pitinga**	**152.72**	**286**	*e*PKPdf	**PKPdf**	08 02 14.8	+0.2		
PTGA				PKPbc	**sPKPdf**	08 02 21.1	-0.9		
PTGA				PKPab	**PKPab**	08 02 30.3	-2.1		
PTGA				LR	LR				
	comp=Z,3μm,21.0s								
CYA	**Choya**	**152.83**	**222**	*i* P	**PKPdf**	08 02 18.0	+3.5		
AHML	**Horco Molle**	**153.57**	**225**	*i* P	**PKPdf**	08 02 15.6	0.0		
ACDV	**Cuesta del Vie**	**153.64**	**215**	*i* P	**PKPdf**	08 02 18.6	+2.9		
AGUA	**GUANDACOL**	**153.78**	**217**	*i* P	**PKPdf**	08 02 16.2	+0.4		
AROD	**Rodeo**	**153.84**	**214**	*i* P	**PKPdf**	08 02 17.1	+0.9		
VCA	**Vinchina**	**154.16**	**218**	*i* P	**PKPdf**	08 02 16.5	0.0		
CCIG	**Comitan**	**154.17**	**13**	PFAKE		08 02 30.0	+5.0		
CCIG				LR	LR				
	comp=Z,3μm,21.0s								
FSA	**Cafayete**	**154.44**	**226**	*i* P	**PKPdf**	08 02 16.6	-0.4		
GO04	**Tololo Observa**	**154.55**	**212**	*e*PKPdf	**PKPdf**	08 02 17.0	-0.2		
GO04				LR	LR				
	comp=Z,1μm,20.0s								
SIV	**San Ignacio**	**154.63**	**252**	PKP	**PKPdf**	08 02 16.4	-0.9		
	comp=Z,4.4nm,0.9s,baz=119,slow=2.6,SNR=13								
SIV				PKPbc	**PKiKP**	08 02 27.5	+1.7		
	comp=Z,6.3nm,0.9s,baz=75,slow=1.0,SNR=12								
SIV				PKPab	**PKPab**	08 02 41.7	+1.2		
	comp=Z,22nm,0.9s,baz=113,slow=5.6,SNR=6.1								
SIV				PP	**PP**	08 06 20.4	+4.3		
	comp=Z,9.3nm,1.3s,baz=110,slow=5.9,SNR=3.3								
LCO	**Las Campanas**	**155.41**	**214**	*e*PKPdf	**PKPdf**	08 02 19.1	+0.7		
LCO				LR	LR				
	comp=Z,2μm,21.0s								
HJA	**Humahuaca**	**155.68**	**232**	*i* P	**PKPdf**	08 02 20.1	+1.1		
APG	**El Apazote**	**155.75**	**10**	PKPab	**PKPab**	08 02 44.1	-1.1		
	comp=Z,60nm,1.0s,baz=330,slow=7.0,SNR=22								
YJA	**Yavi**	**156.29**	**234**	*i* P	**PKPdf**	08 02 19.9	0.0		
SDV	**Santo Domingo**	**156.48**	**319**	PKP	**PKPdf**	08 02 19.5	-0.5		
	comp=Z,12nm,1.0s,baz=67,slow=0.2,SNR=6.6								
SDV				PKPab	**PKPab**	08 02 47.7	-0.8		
	comp=Z,24nm,0.9s,baz=332,slow=4.3,SNR=6.4								
SDV	**Santo Domingo**	**156.48**	**319**	*e*PKPdf	**PKPdf**	08 02 19.4	-0.6		
SDV				*e*PKPab	**PKPab**	08 02 47.7	-0.8		
SDV				LR	LR				
	comp=Z,1μm,22.0s								
TGUH	**Tegucigalpa,Un**	**157.05**	**3**	PFAKE		08 02 30.0	+10		
TGUH				LR	LR				
	comp=Z,2μm,19.0s								
SNET	**Serv Nac Est T**	**157.24**	**8**	PFAKE		08 02 30.0	+9.1		
SNET				LR	LR				
	comp=Z,2μm,22.0s								
SAML	**Samuel**	**157.37**	**268**	*e*PKPdf	**PKPdf**	08 02 20.8	-0.2		
SAML				LR	LR				
	comp=Z,2μm,20.0s								
ESTN	**Estel**	**158.03**	**1**	*e*PKPdf	**PKPdf**	08 02 21.1	-0.8		
OCAC	**Ocana**	**158.66**	**323**	*e*P	**PKPdf**	08 02 22.4	-0.3		
ESPN	**Las Esperanzas**	**158.86**	**355**	PFAKE		08 02 30.0	+7.3		
ESPN				LR	LR				
	comp=Z,2μm,21.0s								
MOTC	**Monteria, Cord**	**159.50**	**329**	*e*P	**PKPdf**	08 02 21.7	-1.8		
BRRC	**Barranca, Sant**	**159.79**	**322**	*e*P	**PKPdf**	08 02 20.1	-3.8		
RUSC	**La Rusia**	**160.32**	**318**	*e*PKPdf	**PKPdf**	08 02 24.4	-0.7		
RUSC	**La Rusia**	**160.32**	**318**	*e*P	**PKPdf**	08 02 21.8	-3.3		
PTBC	**PUERTO BERRIO**	**160.69**	**323**	*e*P	**PKPdf**	08 02 22.6	-2.3		
PB11	**IPOC Station P**	**160.85**	**234**	*e*PKPdf	**PKPdf**	08 02 25.1	0.0		
LPAZ	**La Paz**	**161.05**	**246**	PKP	**PKPdf**	08 02 25.8	-0.2		
	comp=Z,6.4nm,0.8s,baz=33,slow=1.7,SNR=19								
LPAZ				PKPab	**PKPab**	08 03 08.7	-0.3		
	comp=Z,14nm,0.7s,baz=166,slow=5.3,SNR=13								
LPAZ	**La Paz**	**161.05**	**246**	*e*PKPdf	**PKPdf**	08 02 25.2	-0.7		
LPAZ				*e*PKPdif	**PKPdf**	08 02 25.9	0.0		
LPAZ				PKPab	**PKPab**	08 03 08.7	-0.3		
LPAZ	**La Paz**	**161.05**	**246**	*e*PKIKP	**PKPdf**	08 02 25.3	-0.7		
LPAZ						08 03 08.7			
MNMC	**Minye Minye**	**161.12**	**236**	*e*PKPdf	**PKPdf**	08 02 25.9	+0.4		
HELC	**Santa Helena**	**161.59**	**325**	*e*P	**PKPdf**	08 02 24.0	-2.4		
CHIC	**Chingaza**	**161.69**	**317**	*e*P	**PKPdf**	08 02 26.7	+0.2		
NORC	**Norcasia**	**161.71**	**322**	*e*P	**PKPdf**	08 02 27.4	+1.4		
ROSC	**El Rosal**	**161.92**	**319**	PKP	**PKPdf**	08 02 26.9	+0.2		
	comp=Z,9.7nm,0.8s,baz=70,slow=2.1,SNR=7.6								
ROSC				PKPab	**PKPab**	08 03 13.1	+0.7		
	comp=Z,8.4nm,0.8s,baz=82,slow=19,SNR=1.8								
ROSC	**El Rosal**	**161.92**	**319**	*e*PKPdf	**PKPdf**	08 02 25.0	-1.7		
ROSC				PKPab	**PKPab**	08 03 13.1	+0.7		
ROSC	**El Rosal**	**161.92**	**319**	*e*P	**PKPdf**	08 02 26.1	-0.6		
PRAC	**Prado**	**163.13**	**318**	*e*PKPdf	**PKPdf**	08 02 26.6	-0.8		
PRAC	**Prado**	**163.13**	**318**	*e*P	PKPdf	08 02 40.2	+13		
YOTC	**Yotoco, Valle**	**163.84**	**323**	*e*P	**PKPdf**	08 02 26.1	-2.2		
MARP	**Paez Belalcaza**	**164.49**	**319**	*e*P	**PKPdf**	08 02 25.6	-3.4		
PCON	**Cinco Dias**	**165.16**	**319**	*e*P	**PKPdf**	08 02 28.4	-1.6		
FLOC	**Florencia**	**165.21**	**315**	*e*P	**PKPdf**	08 02 25.7	-3.6		
GCUF	**Volcan Galeras**	**166.61**	**319**	*e*P	**PKPdf**	08 02 30.1	-0.9		
OTAV	**Otavalo**	**168.07**	**320**	*e*PKPdf	**PKPdf**	08 02 31.6	-0.5		
OTAV	**Otavalo**	**168.07**	**320**	*e*P	PKPpre	08 02 25.3			

IDC 25 07:43:03.9±2.6, 9.09N×94.10E, h0km, mb5.2/9, mb1 5.3/9, mb1mx4.6/76, mbtmp5.2/9, MS5.3/1, Ms1 5.3/1, ms1mx4.1/10, Error ellipse: s-maj=88.0km s-min=43.4km az=103.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SONM	**Songino Array**	**40.00**	**13**	PcP	PcP	07 52 46.8	+1.0
	5.7nm,0.7s,baz=207,slow=3.5,SNR=2.5						
GEYT	**Alibeck**	**43.28**	**317**	P	P	07 51 08.8	+1.4
	47nm,0.5s,baz=140,slow=8.6,SNR=5.4						
BVAR	**Borovoye Array**	**47.84**	**341**	LR	LR	08 15 24.1	
	comp=Z,3μm,19.1s,baz=156,slow=41						
FINES	**FINESS Array B**	**71.63**	**332**	P	P	07 54 26.3	-0.8
	14nm,0.6s,baz=94,slow=6.4,SNR=5.7						
BOSA	**Boshof**	**76.19**	**238**	P	P	07 54 54.8	+0.2
	58nm,1.1s,baz=85,slow=3.6,SNR=3.7						
GERES	**GERESS Array B**	**76.90**	**318**	P	P	07 54 58.3	0.0
	7.4nm,0.6s,baz=81,slow=6.4,SNR=2.9						
HFS	**Hagfors**	**77.39**	**330**	P	P	07 54 59.5	-1.1
	11nm,0.5s,baz=100,slow=6.2,SNR=5.4						
SPITS	**Spitsbergen Ar**	**78.65**	**348**	P	P	07 55 08.2	+0.9
	9.1nm,0.5s,baz=129,slow=13,SNR=2.6						
NOA	**NORSAR Array B**	**78.66**	**330**	P	P	07 55 07.4	-0.4
	8.7nm,0.6s,baz=91,slow=5.7,SNR=4.3						
EKA	**Eskdalemuir Ar**	**86.70**	**325**	P	P	07 55 49.8	+0.1
	17nm,0.7s,baz=90,slow=6.0,SNR=6.4						
ESDC	**Sonseca Array**	**90.41**	**310**	P	P	07 56 07.2	-0.4
	8.0nm,0.8s,baz=54,slow=4.3,SNR=4.3						
TXAR	**Lajitas Array**	**138.14**	**24**	PKP	PKPdf	08 02 33.4	+1.6
	0.9nm,0.5s,baz=150,slow=0.3,SNR=3.8						

MAN 25 07:48:16, 12.02N×125.66E, h13km, mb4.6, ML3.5, MS3.4, 1D, Samar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BESP	**Borongan**	**0.47**	**207**	*e*P	Pb	07 48 26.0	-0.2
BESP				*e*S	Sn	07 48 36.6	0.0
PLP	**Palo**	**1.08**	**218**	↓*e*P	Pb	07 48 35.3	-1.3
PLP				*e*S	Sn	07 48 51.8	+0.1
CNP	**Catarman**	**1.08**	**297**	*e*P	Pb	07 48 34.9	-1.8
CNP				*e*S	Sn	07 48 52.8	+1.0
MSLP	**Maasin**	**2.03**	**203**	*e*P	Pn	07 48 51.3	+1.3
MSLP				*e*S	Sg	07 49 22.5	+1.1

*BJI **25** 07:53:15.9, 8.56N×93.80E, h10km, mb5.1/58, mB5.6/21, Ms5.3/27, Ms7 5.1/27*
*ISCJB **25** 07:53:18.9±1.0, 8.92N±0.02×93.93E±0.03, h8km±6km, mb5.0/197, Error ellipse: s-maj=5.1km s-min=3.3km az=147.0*
*IDC **25** 07:53:19.4±0.3, 8.97N×93.97E, h0km, mb4.8/49, mb1 4.8/50, mb1mx4.7/82, mbtmp4.8/50, ML3.8/1, Error ellipse: s-maj=11.5km s-min=9.2km az=53.0*
*NEIC **25** 07:53:21.3±0.4, 8.95N×93.91E, h12km±2km, mb5.3/90, Error ellipse: s-maj=3.8km s-min=2.5km az=51.0*
*MOS **25** 07:53:22.1±0.8, 8.91N×93.97E, h33km, mb5.3/78, Error ellipse: s-maj=8.2km s-min=4.3km az=111.9*
*DJA **25** 07:53:24.1±1.6, 9°N±7°×9°4E±1°6, h10km, M5.2/13, mB6.0/2, mb4.9/13, MLv5.3/5, Mw(mB)5.6/2*
ISC 25 07:53:21.9±0.7, 8.93N±0.04×93.88E±0.04, h14km±4km, n612, σ1°29/653, mb5.1/197, 29C-19D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PBA	**Port Blair**	**2.93**	**338**	*e*Pn	Pn	07 54 08.1	-0.1
BSI	**Banda Aceh**	**3.69**	**157**	P	**Pn**	07 54 22.0	+3.5
PKDT	**Phuket**	**4.53**	**103**	P	**Pn**	07 54 32.2	+2.1
LHMI	**Lhok Sumawe**	**4.77**	**140**	*e*Pn	**Pn**	07 54 33.4	-0.1
MLSI	**Meulaboh, Aceh**	**5.27**	**151**	P	**Pn**	07 54 43.8	+3.6
TRTT	**Trang**	**5.86**	**100**	P	**Pn**	07 54 47.2	-1.1
	688nm,1.4s,2.7nm						
TPTI		**6.52**	**150**	P	**Pn**	07 55 00.2	+2.8
PHET	**Kaeng Krachan**	**6.90**	**54**	P	**Pn**	07 55 00.7	-2.0
	54nm,1.0s,634nm0.2nm						
SKLT	**Songkhla**	**6.90**	**104**	P	**Pn**	07 55 05.7	+3.0
	260nm,1.2s,1.3nm						
KULM	**Kulim**	**7.63**	**118**	*e*Pn	**Pn**	07 55 11.0	-1.8
PSI	**Prapat**	**7.89**	**140**	Pn	**Pn**	07 55 17.6	+1.2
	1.4nm,0.3s,baz=311,slow=9.3,SNR=3.6						
PSI	**Prapat**	**7.89**	**140**	*e*Pn	**Pn**	07 55 18.3	+1.9
PSI	**Prapat**	**7.89**	**140**	*e*P	**Pn**	07 55 18.3	+1.9
IPM	**Ipoh**	**8.36**	**121**	*e*Pn	**Pn**	07 55 22.5	-0.3
GSI	**Gunungsitoli**	**8.42**	**154**	*e*Pn	**Pn**	07 55 24.7	+1.1
MNSI	**Mandailing Nat**	**9.87**	**145**	P	**Pn**	07 55 47.0	+3.5
PBKT	**Sadao Pong**	**10.28**	**42**	*e*Pn	**Pn**	07 55 47.6	-1.4
PHIT	**Phitsanulok**	**10.39**	**37**	P	**Pn**	07 55 51.1	+0.5
	45nm,0.9s,560nm						
CM01	**Chiang Mai Arr**	**10.65**	**27**	*e*Pn	**Pn**	07 55 54.0	-0.1
CM31	**Chiang Mai Arr**	**10.68**	**27**	*e*Pn	**Pn**	07 55 54.2	-0.3
CMAR	**Chiang Mai Arr**	**10.68**	**27**	Pn	**Pn**	07 55 55.6	+1.1
	2.1nm,0.3s,baz=213,slow=15,SNR=29						
CHTO	**Chiang Mai**	**10.99**	**26**	*e*Pn	**Pn**	07 55 59.4	+0.6
CHTO	**Chiang Mai**	**10.99**	**26**	*e*P	**Pn**	07 55 59.4	+0.6
LAMP	**Lampang**	**11.06**	**30**	P	**Pn**	07 56 02.2	+2.5
	11nm,0.9s						
PAYA	**Payao**	**11.89**	**29**	P	**Pn**	07 56 14.0	+2.9
	18nm,1.1s						
CMAI	**Chiengmai2**	**12.03**	**24**	P	Pn	07 56 20.3	+7.1
	2μm,0.9s						
MYKOM	**Kota Tinggi**	**12.20**	**125**	*e*Pn	**Pn**	07 56 15.2	-0.2
RGRI	**Rengat**	**12.49**	**137**	P	Pn	07 56 24.5	+5.2
PALK	**Pallekele**	**13.14**	**264**	Sn	**Sn**	07 58 47.4	-7.1
	1.3nm,0.3s,baz=116,slow=14,SNR=3.7						
VIS	**Vishakhapatnam**	**13.47**	**312**	*i* P	**Pn**	07 56 33.3	+0.5
SAIH	**SAIHA**	**13.51**	**356**	*e*P	**Pn**	07 56 33.4	0.0
BELO	**BELONIA**	**14.43**	**351**	*e*P	**Pn**	07 56 45.5	-0.4
MASI	**Maura Aman, Be**	**14.60**	**145**	P	**Pn**	07 56 47.9	-0.4
AIZW	**AIZWAL**	**14.77**	**356**	*e*P	**Pn**	07 56 50.4	-0.3
AIZW				IAmb	IAmb	07 56 56.9	
	comp=Z,658nm,1.3s						
IMP	**Imphal**	**15.82**	**0**	*e*P	**Pn**	07 57 03.2	-1.2
IMP				IAmb	IAmb	07 57 15.4	
	comp=Z,1μm,2.8s						
SHL	**Shillong**	**16.66**	**354**	*e*P	**Pn**	07 57 15.0	-0.2
SHL	**Shillong**	**16.66**	**354**	*e*Pn	**Pn**	07 57 14.5	-0.7
	comp=Z,123nm,0.9s						
SHL	**Shillong**	**16.66**	**354**	*e*P	**Pn**	07 57 14.5	-0.7
SHL				pmax	pmax		
	comp=Z,123nm,0.9s						
KOHI	**KOHIMA**	**16.70**	**1**	*e*P	**Pn**	07 57 14.2	-1.6
KOHI				IAmb	IAmb	07 57 18.2	
	comp=Z,4μm,0.1s						
MDSI	**Maura Dua**	**16.82**	**142**	P	**Pn**	07 57 15.5	-1.7
TURI	**Tura**	**16.87**	**349**	*e*P	**Pn**	07 57 18.2	+0.4
HYB	**Hyderabad**	**17.13**	**301**	*i* P	**P**	07 57 25.0	+2.3
HYB				*e*S	**Sn**	08 00 35.0	+3.5
GUWA	**GUWAHATI**	**17.30**	**353**	*e*P	**Pn**	07 57 22.6	-0.6
GUWA				IAmb	IAmb	07 57 40.4	
	comp=Z,1μm,3.3s						
MOKO	**MOKOCHONG**	**17.31**	**2**	*e*P	**Pn**	07 57 23.9	+0.5
DHUB	**DHUBRI**	**17.40**	**348**	*e*P	**Pn**	07 57 23.7	-0.6
TEZP	**TEZPUR**	**17.62**	**357**	*e*P	**Pn**	07 57 24.7	-2.4
JORH	**JORHAT**	**17.73**	**1**	*e*P	**Pn**	07 57 24.3	-4.1
KSM	**Kuching**	**17.95**	**113**	*e*Pn	**Pn**	07 57 30.6	-0.8
	comp=Z,51nm,1.4s						
ITAN	**ITANAGAR**	**18.12**	**360**	*e*P	**Pn**	07 57 32.4	-0.9
KMI	**Kunming**	**18.19**	**27**	P	**P**	07 57 37.3	+2.7
KMI				pP	sP	07 57 41.5	+1.0
KMI				sP	pP	07 57 44.0	+5.3
KMI				pmax	pmax		
	comp=Z,34nm,1.3s						
ZIRO	**ZIRO**	**18.50**	**360**	*e*P	**P**	07 57 35.8	-2.1
ODAN	**Odare**	**18.87**	**342**	*e*P	**Pn**	07 57 44.0	+1.4
	comp=Z,162nm,1.2s						
GTK	**Tadong**	**18.96**	**345**	*e*P	**Pn**	07 57 43.4	-0.3
RAMN	**Ramite**	**19.20**	**340**	*e*P	**Pn**	07 57 47.5	+0.8
	comp=Z,368nm,1.0s						
SBUM	**Sibu**	**19.35**	**108**	*e*P	**P**	07 57 47.2	+0.1
	comp=Z,56nm,1.4s						
STKI	**Sintang**	**19.62**	**116**	P	**Pn**	07 57 54.5	+3.0
JIRN	**Jiri**	**20.00**	**340**	*e*P	**Pn**	07 57 55.8	-0.5
	comp=Z,579nm,1.1s						
PKIN	**Phulchoki**	**20.21**	**338**	*e*P	Pn	07 57 57.8	-0.9
	comp=Z,359nm,1.0s						
GUN	**Gumba**	**20.34**	**339**	*e*P	Pn	07 57 59.3	-1.0
	comp=Z,271nm,0.9s						
DMN	**Daman**	**20.35**	**337**	*e*P	Pn	07 57 59.3	-1.0
	comp=Z,230nm,1.1s						
KKN	**Kakani**	**20.44**	**338**	*e*P	**P**	07 58 00.0	+0.7
	comp=Z,292nm,1.2s						
LSA	**Lhasa**	**20.82**	**353**	*e*P	**P**	07 58 03.7	+0.1
	comp=Z,103nm,0.9s						
LSA	**Lhasa**	**20.82**	**353**	*e*P	**P**	07 58 03.7	+0.1
LSA				pmax	pmax		
	comp=Z,103nm,0.9s						
GKN	**Gorkha**	**20.88**	**337**	*e*P	**P**	07 58 04.9	+0.9
	comp=Z,187nm,0.8s						
KOLN	**Koldanda**	**21.11**	**334**	*e*P	**P**	07 58 07.5	+1.1
	comp=Z,119nm,0.8s						
GYA	**Guiyang**	**21.24**	**33**	↓*i*P	**P**	07 58 08.0	+0.2
GYA				PP	**PnPn**	07 58 32.0	+4.5
GYA				S	**S**	08 02 00.8	-2.9
GYA				PcP	**PcP**	08 02 14.8	+1.9
GYA				SS	**SnSn**	08 02 34.0	+7.8
GYA				ScP	**ScP**	08 05 50.0	+0.4
GYA				pmax	pmax		
	comp=Z,50nm,1.1s						
GYA				LR	LR		
	comp=Z,3μm,14.9s						
GYA				LR	LR		
	comp=Z,3μm,14.6s						
GYA				LR	LR		
	comp=Z,3μm,16.2s						
DANN	**Dangsing**	**21.54**	**335**	*e*P	**P**	07 58 12.5	+1.3
POO	**Poona**	**21.65**	**298**	*i* P	**P**	07 58 12.0	-0.2
	comp=Z,50nm,1.0s						
PYUN	**Piuthan**	**21.66**	**333**	*e*P	**P**	07 58 13.8	+1.4
	comp=Z,276nm,1.1s						
KKM	**Kota Kinabalu**	**22.33**	**96**	*e*P	**P**	07 58 19.3	-0.3
	comp=Z,200nm,1.7s						
XMIS	**Christmas Isla**	**22.56**	**148**	*e*P	**P**	07 58 21.9	0.0
	comp=Z,80nm,1.0s						
SMRI	**Semarang**	**22.90**	**133**	P	**P**	07 58 30.1	+4.6
CD2	**Chengdu**	**23.74**	**21**	*e*P	**P**	07 58 33.8	0.0
NGJI	**Ngawi**	**23.86**	**132**	P	**P**	07 58 38.1	+3.1
MYLDM	**Lahad Datu**	**24.72**	**97**	*e*P	**P**	07 58 43.1	+0.1
	comp=Z,149nm,1.3s						
ENH	**Enshi**	**25.77**	**32**	*e*P	**P**	07 58 51.6	-0.9
	comp=Z,36nm,1.0s						
H08S3	**Diego Garcia H**	**26.92**	**233**	T	T	08 26 07.3	
	baz=48						
H08S2	**Diego Garcia H**	**26.93**	**233**	T	T	08 26 07.3	
	baz=48						
H08S1	**Diego Garcia H**	**26.94**	**233**	T	T	08 26 05.1	
	baz=48						
QZH	**Quanzhou**	**28.43**	**53**	↑*i*P	P	07 59 22.8	+6.5
LZH	**Lanzhou**	**28.52**	**17**	↓P	**P**	07 59 17.3	0.0
LZH				pP	sP	07 59 26.0	+2.5
LZH				sP	pP	07 59 29.8	+8.1
LZH				PP	**PnPn**	08 00 10.0	+3.0
LZH				pmax	pmax		
	comp=Z,72nm,1.1s						
LZH				LR	LR		
	comp=Z,790nm,10.0s						
LZH				LR	LR		
	comp=Z,980nm,10.7s						
LZH				LR	LR		
	comp=Z,660nm,14.2s						
XAN	**Xi'an**	**28.57**	**27**	P	**P**	07 59 16.8	-0.8
XAN				pP	sP	07 59 24.3	+0.5
XAN				pmax	pmax		
	comp=Z,57nm,1.0s						
WHN	**Wuhan**	**28.78**	**39**	↓P	P	07 59 09.8	-10
GTA	**Gaotai**	**30.82**	**9**	*e*P	**P**	07 59 37.5	0.0
GTA				pP	sP	07 59 42.0	-1.8
GTA				sP	pP	07 59 45.0	+3.0
GTA				PcP	**PcP**	08 02 35.0	+0.4
GTA				S	**S**	08 04 41.5	+0.7
GTA				sS	sS	08 04 49.5	+1.4
GTA				SS	**SnSn**	08 06 28.8	+8.8
GTA				pmax	pmax		
	comp=Z,20nm,1.0s						
GTA				LR	LR		
	comp=Z,3μm,15.0s						
GTA				LR	LR		
	comp=Z,3μm,14.3s						
GTA				LR	LR		
	comp=Z,3μm,13.1s						
NIL	**Nilore**	**31.09**	**325**	*e*P	**P**	07 59 40.4	+0.5
	comp=Z,86nm,0.8s						
NIL	**Nilore**	**31.09**	**325**	*e*P	**P**	07 59 40.4	+0.5
NIL				pmax	pmax		
	comp=Z,86nm,0.8s						
NJ2	**Nanjing**	**32.65**	**42**	*e*P	**P**	07 59 54.0	+0.4
NJ2				pmax	pmax		
	comp=Z,25nm,0.7s						
KBL	**Kabul**	**34.19**	**322**	*e*P	**P**	08 00 08.3	+1.1
	comp=Z,22nm,1.0s						
KBL	**Kabul**	**34.19**	**322**	*e*P	**P**	08 00 08.3	+1.1
KBL				pmax	pmax		
	comp=Z,22nm,1.0s						
KSH	**Kashi**	**34.41**	**335**	P	**P**	08 00 07.3	-1.7
KSH				S	**S**	08 05 31.0	-5.8
KSH				pmax	pmax		
	comp=Z,78nm,0.9s						
KSH				LR	LR		
	comp=Z,1μm,10.6s						
KSH				LR	LR		
	comp=Z,780nm,10.1s						
KSH				LR	LR		
	comp=Z,4μm,10.5s						
WMQ	**Urumqi**	**35.18**	**352**	P	**P**	08 00 16.5	+1.0
WMQ				pP	sP	08 00 20.0	-1.7
WMQ				sP	pP	08 00 23.5	+3.6
WMQ				pmax	pmax		
	comp=Z,66nm,1.3s						
WMQ				pmax	pmax		
	comp=Z,1μm,6.9s						
WMQ				LR	LR		
	comp=Z,7μm,14.1s						
WMQ				LR	LR		
	comp=Z,6μm,18.1s						
WMQ				LR	LR		
	comp=Z,3μm,16.1s						
HHC	**Hu-ho-hao-te**	**35.46**	**23**	*e*P	**P**	08 00 20.0	+2.0
HHC				PP	**PP**	08 01 40.5	+1.9
HHC				S	**S**	08 05 54.8	+2.0
HHC				SS	**SnSn**	08 08 14.0	+1.5
HHC				pmax	pmax		
	comp=Z,29nm,0.9s						
HHC				pmax	pmax		
	comp=Z,74nm,4.7s						
HHC				LR	LR		
	comp=Z,3μm,12.3s						
HHC				LR	LR		
	comp=Z,3μm,12.8s						
HHC				LR	LR		
	comp=Z,3μm,13.1s						
TARG	**Taragay, Kyrgy**	**35.62**	**339**	*e*P	**P**	08 00 19.9	+0.2
	comp=Z,28nm,0.9s						
SFK	**Sufi-Kurgan**	**35.90**	**333**	*i* P	**P**	08 00 22.1	+0.2
SFK				pmax	pmax		
	comp=Z,49nm,1.0s						
NRN	**Naryn**	**36.03**	**337**	*e*P	**P**	08 00 23.3	+0.1
	comp=Z,17nm,1.0s						
NRN	**Naryn**	**36.03**	**337**	*e*P	**P**	08 00 23.3	+0.1
NRN				pmax	pmax		
	comp=Z,17nm,1.0s						
PRZ	**Przheval'sk**	**36.09**	**340**	*e*P	**P**	08 00 24.3	+0.8
	comp=Z,26nm,0.9s						
PRZ	**Przheval'sk**	**36.09**	**340**	*e*P	**P**	08 00 24.3	+0.8
PRZ				pmax	pmax		
	comp=Z,26nm,0.9s						
KDJ	**Kajisay**	**36.20**	**339**	*e*P	**P**	08 00 24.9	+0.5
	comp=Z,31nm,0.9s						
KDJ	**Kajisay**	**36.20**	**339**	P	**P**	08 00 24.9	+0.5
KDJ				pmax	pmax		
	comp=Z,31nm,0.9s						
SHLS	**Shalkode**	**36.36**	**342**	*e*P	**P**	08 00 25.4	-0.3
	comp=Z,260nm,1.0s						
SHLS				*e*S	**S**	08 06 06.1	-0.4
SHLS				LR	LR	08 15 02.3	
	comp=Z,740nm,11.1s						
UZB	**Uzynbulak**	**36.48**	**342**	*e*P	**P**	08 00 27.0	+0.2
	comp=Z,95nm,1.0s						
SATY	**Saty**	**36.60**	**341**	*e*P	**P**	08 00 28.0	+0.2
	comp=Z,332nm,1.0s						
SATY				*e*S	**S**	08 06 10.8	+0.5
SATY				LR	LR	08 17 45.6	
	comp=Z,647nm,10.8s						
ULHL	**Ulahol**	**36.64**	**338**	P

MKAR pmax pmax
comp=Z,67nm,0.8s
MAKZ Makanchi 39.09 347 *e*P **P 08 00 48.3 -0.4**
comp=Z,10nm,0.8s
MAKZ Makanchi 39.09 347 *i* P **P 08 00 46.9 -1.8**
MAKZ pmax pmax
comp=Z,11nm,0.8s
ZSN Zaisan 39.15 350 *e*P **P 08 00 49.6 +0.5**
comp=Z,58nm,0.8s
IUG Iuzhnay 39.19 332 *e*P **P 08 00 50.5 +0.9**
comp=Z,723nm,0.9s
IUG LR LR 08 17 13.2
comp=Z,825nm,11.2s
CHM Chimkent 39.52 331 LR LR 08 16 56.4
comp=Z,773nm,12.1s
KK31 Karatay Array 39.71 333 *e*P **P 08 00 54.0 +0.1**
KK31 Karatay Array 39.71 333 *i* P **P 08 00 53.1 -0.8**
KK31 pmax pmax
comp=Z,31nm,1.1s
KKAR Karatay Array 39.71 333 *e*P **P 08 00 54.0 +0.1**
KKAR Karatay Array 39.71 333 *e*P **P 08 00 54.0 +0.1**
SONA0 Songino Array 40.20 13 *e*P **P 08 00 57.6 -0.5**
SONA0 *e*PcP **PcP 08 03 02.1 +0.1**
SONM Songino Array 40.20 13 P **P 08 00 57.6 -0.5**
comp=Z,4.6nm,0.9s,baz=198,slow=9.1,SNR=14
SONM PcP **PcP 08 03 02.1 +0.1**
comp=Z,6.4nm,0.8s,baz=198,slow=3.4,SNR=8.7
SONA1 Songino Array 40.22 13 *e*P **P 08 00 57.1 -1.1**
JNU Nakatsue 41.76 49 P **P 08 01 10.5 -0.5**
comp=Z,19nm,0.8s,baz=151,slow=1.6,SNR=5.7
JNU Nakatsue 41.76 49 *e*P **P 08 01 10.5 -0.5**
comp=Z,38nm,1.1s
KS15 Wonju Array Si 41.82 42 *e*P **P 08 01 10.4 -1.0**
KSAR Wonju Array Be 41.82 42 P **P 08 01 10.4 -1.0**
KSAR Wonju Array Be 41.82 42 P **P 08 01 10.4 -1.0**
KS01 Wonju Array Si 41.85 42 *e*P **P 08 01 10.7 -0.8**
KSRS Korea Array 41.85 42 P **P 08 01 10.4 -1.2**
comp=Z,4.8nm,1.0s,baz=234,slow=9.4,SNR=9.1
SNY Shenyang 41.94 34 ⇑P **P 08 01 12.5 +0.2**
SNY pmax pmax
comp=Z,51nm,1.2s
ZAK Zakamensk 42.06 9 *e*P **P 08 01 11.9 -1.3**
ZAK pmax pmax
comp=Z,6.0nm,1.4s
MEEK Meekatharra 42.74 147 P **P 08 01 17.7 -1.3**
baz=43,SNR=4.4
SEM Semipalatinsk 42.87 347 *e*P **P 08 01 19.3 -0.7**
comp=Z,162nm,1.1s
SEM LR LR 08 19 23.6
comp=Z,1μm,12.9s
OTUK Ortayu 43.20 339 P **P 08 01 21.2 -1.2**
OTUK pmax pmax
comp=Z,37nm,1.0s
GEYT Alibeck 43.25 318 P **P 08 01 24.8 +1.7**
comp=Z,12nm,0.4s,baz=140,slow=7.8,SNR=26
GEYT PcP **PcP 08 03 13.2 +1.1**
comp=Z,2.2nm,0.3s,baz=205,slow=6.4,SNR=4.5
GYA0B ALIBECK ARRAY 43.25 318 *e*P **P 08 01 24.4 +1.3**
comp=Z,36nm,0.9s
TLY Talaya 43.38 9 *e*P **P 08 01 24.7 +0.9**
TLY pmax pmax
comp=Z,6.0nm,1.0s
MORW Morawa 43.40 151 P **P 08 01 23.7 -0.5**
baz=44,SNR=4.5
KURBB Kurchatov Arra 43.47 346 P **P 08 01 24.1 -0.4**
comp=Z,18nm,0.9s,baz=162,slow=7.4,SNR=43
KURBB PcP **PcP 08 03 12.4 -0.1**
comp=Z,6.5nm,0.8s,baz=157,slow=2.7,SNR=13
KURK Kurchatov 43.53 346 *e*P **P 08 01 24.1 -0.9**
KURK *e*P **P 08 01 25.0 0.0**
KURK *e*PP **PcP 08 03 12.4 -0.3**
KURK Kurchatov 43.53 346 *ce*P **P 08 01 25.1 0.0**
KURK pmax pmax
comp=Z,41nm,1.2s
CN2 Changchun 44.29 33 *e*P **P 08 01 32.0 +0.8**
CN2 pmax pmax
comp=Z,10.0nm,0.8s
ZAA0 Zalesovo Array 45.49 353 *e*P **P 08 01 40.5 -0.1**
comp=Z,75nm,1.1s
ZALV Zalesovo Beam 45.49 353 P **P 08 01 40.5 -0.1**
comp=Z,31nm,0.7s,baz=169,slow=8.5,SNR=61
ZALV Zalesovo Beam 45.49 353 *e*P **P 08 01 40.3 -0.3**
ZALV Zalesovo Beam 45.49 353 *e*P **P 08 01 40.3 -0.3**
ZAA1 Zalesovo Array 45.49 353 *e*P **P 08 01 40.5 -0.2**
HIA Hailar 45.67 24 *e*P **P 08 01 42.5 +0.3**
comp=Z,31nm,0.8s
HIA Hailar 45.67 24 *e*P **P 08 01 42.5 +0.3**
HIA pmax pmax
comp=Z,31nm,0.8s
MUN Mundaring 45.94 153 P **P 08 01 43.9 -0.6**
baz=46,SNR=6.8
KLBR Kellerberrin 46.32 151 P **P 08 01 46.5 -1.0**
baz=46,SNR=5.5
NVS Novosibirsk 46.57 352 ⇑*i*P **P 08 01 49.0 -0.1**
NVS *i* 08 02 05.4
NVS pmax pmax
comp=N,32nm,1.3s
NVS pmax pmax
comp=E,25nm,1.3s
NVS pmax pmax
comp=Z,43nm,1.3s
MDJ Mudanjiang 47.09 35 P **P 08 01 52.5 -0.9**
MDJ pmax pmax
comp=Z,38nm,1.2s
MDJ pmax pmax
comp=Z,2μm,9.8s
NWAO Narrogin (SRO) 47.20 153 P **P 08 01 53.6 -0.7**
comp=Z,10nm,0.8s,baz=142,slow=8.6,SNR=5.0
NWAO Narrogin (SRO) 47.20 153 P **P 08 01 53.8 -0.6**
baz=47
NWAO P **P 08 01 53.8 -0.6**
baz=47
BVAR Borovoye Array 47.91 341 P **P 08 01 59.3 -0.4**
comp=Z,6.6nm,0.8s,baz=142,slow=9.0,SNR=16
BVAR PcP **PcP 08 03 28.3 +0.3**
comp=Z,3.4nm,0.8s,baz=119,slow=8.4,SNR=5.4
BRVK Borovoye 47.98 341 *e*P **P 08 01 59.8 -0.4**
comp=Z,15nm,0.9s
BRVK Borovoye 47.98 341 *ce*P **P 08 02 00.0 -0.1**
BRVK pmax pmax
comp=Z,25nm,1.2s
USRK Ussuriysk Ar. 48.22 37 P **P 08 02 01.6 -0.5**
comp=Z,9.5nm,1.0s,baz=253,slow=5.8,SNR=9.7
RAYN Ar Rayn 48.42 293 *e*P **P 08 02 06.6 +2.5**
comp=Z,30nm,1.1s
RAYN Ar Rayn 48.42 293 P **P 08 02 06.6 +2.5**
RKGY Rocky Gully 48.51 154 P **P 08 02 04.7 +0.2**
baz=49,SNR=4.8
MAJO Matsushiro 48.66 49 *e*P **P 08 02 05.5 -0.2**
MAJO *e*PcP **PcP 08 03 31.2 +0.1**
MAJO Matsushiro 48.66 49 *e*P **P 08 02 05.5 -0.2**
MAJO *e* 08 03 31.2
MJAR Matsushiro Arr 48.66 49 P **P 08 02 05.5 -0.2**
comp=Z,2.9nm,0.8s,baz=238,slow=9.0,SNR=7.9
MJAR PcP **PcP 08 03 31.2 +0.1**
comp=Z,6.9nm,0.9s,baz=246,slow=4.4,SNR=8.7
WR1 Warramunga Arr 49.09 126 *e*P **P 08 02 07.6 -1.6**
comp=Z,58nm,2.0s
WR1 *e*PcP **PcP 08 03 32.2 -0.6**
WRA Warramunga Arr 49.09 126 P **P 08 02 07.6 -1.6**
comp=Z,4.8nm,1.0s,baz=306,slow=8.8,SNR=35
WRA PcP **PcP 08 03 32.2 -0.6**
comp=Z,3.8nm,0.9s,baz=322,slow=2.7,SNR=4.9
WRAB Tennant Creek 49.09 126 *ce*P **P 08 02 07.7 -1.5**
WRAB pmax pmax
comp=Z,27nm,1.7s
WB2 Warramunga Arr 49.09 126 *e*P **P 08 02 08.2 -1.1**
AB31 Akbulak array 49.19 331 *i* P **P 08 02 09.4 -0.1**
AB31 pmax pmax
comp=Z,47nm,1.2s
ABKAR Akbulak array 49.19 331 *e*P **P 08 02 09.7 +0.1**
comp=Z,249nm,1.3s
AS31 Alice Springs 50.79 130 *e*P **P 08 02 20.1 -2.0**
comp=Z,1.6nm,0.9s
ASAR Alice Springs 50.79 130 P **P 08 02 20.1 -2.0**
comp=Z,3.0nm,0.9s,baz=309,slow=7.2,SNR=11
ASAR PcP **PcP 08 03 38.9 -0.2**
comp=Z,3.6nm,0.9s,baz=304,slow=4.2,SNR=5.6
AS01 Alice Springs 50.83 130 *e*P **P 08 02 21.6 -0.8**
AKTO Aktyubinsk 50.91 331 P **P 08 02 22.1 -0.4**
comp=Z,8.9nm,0.6s,baz=122,slow=8.2,SNR=17
AKTO PcP **PcP 08 03 39.1 +0.2**
comp=Z,6.7nm,0.9s,baz=150,slow=5.6,SNR=4.0
KLR Kul'dur 51.12 31 P **P 08 02 24.2 0.0**
comp=Z,1.1nm,0.9s,baz=280,slow=3.0,SNR=20
KLR Kul'dur 51.12 31 ⇓*i*P **P 08 02 24.1 -0.1**

BOD Bodaibo 51.19 14 *e*P **P 08 02 24.0 -0.6**
BOD pmax pmax
comp=Z,14nm,1.2s
FORT Forrest 51.32 142 *e*P **P 08 02 25.0 -0.9**
comp=Z,236nm,0.9s
AKT Akhty 51.97 317 *e*P **P 08 02 31.1 +0.3**
AKT *e* 08 03 43.5
AKT pmax pmax
comp=Z,31nm,1.3s
ZEA Zeya 52.11 24 *e*P **P 08 02 31.0 -0.5**
ZEA pmax pmax
comp=N,24nm,1.0s
ZEA pmax pmax
comp=Z,36nm,1.2s
GNI Garni 53.52 314 P **P 08 02 43.0 +0.6**
comp=Z,10nm,0.3s,baz=168,slow=16,SNR=4.0
GNI Garni 53.52 314 *e*P **P 08 02 43.0 +0.6**
ABPO Ambohimpanom 53.72 239 *i* P **P 08 02 48.6 +4.5**
GROC Groznyy 54.00 318 *e*P **P 08 02 42.0 -3.6**
GROC *e*S **S 08 10 19.0 -2.1**
GROC pmax pmax
comp=Z,12nm,0.4s
SVE Sverdlovsk 54.33 338 ⇓*e*P **P 08 02 48.2 +0.4**
SVE pmax pmax
comp=Z,76nm,1.5s
GRNR Gornyy 54.46 32 *e*P **P 08 02 47.8 -1.1**
GRNR pmax pmax
comp=Z,50nm,1.0s
ASAJ Asahikawa 54.80 41 P **P 08 02 52.1 +0.6**
comp=Z,9.0nm,0.9s,baz=242,slow=17,SNR=7.6
ASAJ Asahikawa 54.80 41 *e*P **P 08 02 51.5 +0.1**
comp=Z,15nm,1.0s
ARU Arti 54.83 337 P **P 08 02 50.8 -0.6**
comp=Z,6.7nm,0.2s,baz=85,slow=1.1,SNR=8.8
ARU Arti 54.83 337 *e*P **P 08 02 50.9 -0.6**
comp=Z,21nm,1.1s
ARU Arti 54.83 337 *d i*P **P 08 02 50.8 -0.6**
ARU 08 03 48.9
ARU S **S 08 10 33.2 +1.3**
ARU pmax pmax
comp=Z,33nm,1.7s
ZEI Tsey 55.10 317 *e*P **P 08 02 53.9 0.0**
ZEI pmax pmax
comp=Z,17nm,1.5s
NEY Neytrino 56.08 317 *i* P **P 08 03 01.1 +0.2**
NEY pmax pmax
comp=Z,2.0nm,1.0s
PMG Port Moresby 56.09 108 P **P 08 02 59.7 -1.5**
comp=Z,10.0nm,0.8s,baz=270,slow=20,SNR=3.2
YSS Yuzh-Sakhalins 56.12 38 *e*P **P 08 03 01.1 +0.2**
comp=Z,86nm,1.1s
YSS Yuzh-Sakhalins 56.12 38 ⇓*e*P **P 08 03 01.3 +0.4**
YSS 08 03 08.2
YSS pmax pmax
comp=Z,70nm,1.0s
KBZ Khabaz 56.14 317 P **P 08 03 00.6 -0.5**
comp=Z,7.1nm,1.0s,baz=118,slow=5.5,SNR=8.5
KBZ PcP **PcP 08 03 59.4 +0.4**
comp=Z,5.9nm,0.8s,baz=88,slow=3.4,SNR=3.9
KVAR Kislovodsk Arr 56.36 317 P **P 08 03 02.4 -0.5**
comp=Z,17nm,0.8s,baz=131,slow=11,SNR=7.9
KIV Kislovodsk 56.37 317 *e*P **P 08 03 02.4 -0.5**
comp=Z,30nm,1.1s
KIV Kislovodsk 56.37 317 *e*P **P 08 03 03.6 +0.7**
KIV pmax pmax
comp=Z,28nm,1.1s
MTSU Mount Surprise 56.59 119 P **P 08 03 03.1 -1.6**
baz=56,SNR=4.1
KMBO Kilima Mbogo 57.28 263 P **P 08 03 10.8 +0.7**
comp=Z,2.1nm,0.3s,baz=1.9,slow=14,SNR=3.5
KMBO Kilima Mbogo 57.28 263 *e*P **P 08 03 10.3 +0.3**
comp=Z,8.0nm,0.7s
KMBO Kilima Mbogo 57.28 263 *e*P **P 08 03 10.4 +0.3**
KMBO pmax pmax
comp=Z,8.0nm,0.7s
ASF Jabal al Asfar 57.43 302 P **P 08 03 10.4 -0.3**
comp=Z,1.9nm,0.7s,baz=135,slow=7.1,SNR=2.8
TYV Tymovskoe 57.87 34 *e*P P 08 03 02.5 -11
TYV pmax pmax
comp=Z,600nm,8.6s
CTA Charters Tower 59.05 120 P **P 08 03 21.2 -0.8**
comp=Z,6.7nm,0.9s,baz=301,slow=11,SNR=7.6
CTA Charters Tower 59.05 120 P **P 08 03 21.0 -1.0**
baz=59
CTAO Charters Tower 59.05 120 *e*P **P 08 03 21.8 -0.2**
comp=Z,22nm,1.2s
CTAO Charters Tower 59.05 120 *e*P **P 08 03 21.8 -0.2**
CTAO pmax pmax
comp=Z,22nm,1.2s
YAK Yakutsk 59.09 19 *e*P **P 08 03 19.4 -2.1**
YAK *e*PP sP 08 03 33.8 +5.9
YAK *e* 08 04 14.7
YAK *e* 08 05 34.1
YAK eS **S 08 11 22.3 -5.6**
YAK *e*SS sS 08 11 44.2 +8.6
YAK *e* 08 13 07.1
YAK eSSS SSS 08 17 50.6
YAK pmax pmax
comp=Z,20nm,1.1s
YAK pmax pmax
comp=N,4.0nm,1.3s
YAK pmax pmax
comp=E,9.0nm,1.4s
YAK pmax pmax
comp=Z,100nm,3.0s
YAK pmax pmax
comp=N,158nm,3.8s
YAK pmax pmax
comp=E,83nm,3.8s
YAK smax smax
comp=E,252nm,6.8s
YAK smax smax
comp=N,663nm,10.1s
VRH Novokhopyorsk 59.92 325 *e*P **P 08 03 26.3 -1.2**
VRH pmax pmax
comp=Z,20nm,0.8s
QLP Quilpie 60.27 127 P **P 08 03 29.5 -0.7**
baz=60,SNR=3.2
STKA Stephens Creek 61.02 134 P **P 08 03 34.0 -1.3**
comp=Z,7.9nm,1.2s,baz=9.1,slow=12,SNR=3.3
STKA Stephens Creek 61.02 134 P **P 08 03 34.4 -0.9**
baz=61
STKA Stephens Creek 61.02 134 *e*P **P 08 03 34.0 -1.3**
comp=Z,3.2nm,1.4s
STKA Stephens Creek 61.02 134 *e*P **P 08 03 34.0 -1.3**
STKA pmax pmax
comp=Z,3.0nm,1.4s
VSR Storozhevoye 61.39 324 *e*P **P 08 03 35.6 -1.9**
VSR pmax pmax
comp=Z,10.0nm,0.9s
BR101 Keskin Array S 61.55 310 *e*P **P 08 03 37.9 -1.2**
BR131 Keskin Array S 61.55 310 *e*P **P 08 03 38.0 -1.0**
BRTR Keskin Array B 61.55 310 P **P 08 03 37.9 -1.2**
comp=Z,5.5nm,0.9s,baz=118,slow=7.1,SNR=23
ILGA Ilgaz 61.79 312 *e*P **P 08 03 38.3 -2.4**
comp=Z,24nm,1.2s
LPSR Galich'ya Gora 62.08 326 *e*P **P 08 03 41.2 -0.9**
LPSR pmax pmax
comp=Z,20nm,0.9s
CMSA Cobar Meteorol 63.81 132 P **P 08 03 53.5 -0.5**
baz=64
RMQ Roma 63.83 125 P **P 08 03 53.9 -0.3**
baz=64,SNR=6.2
MOS Moscow 64.05 328 *e*P P 08 04 00.1 +5.0
MOS *e* 08 04 09.9
MOS *e* 08 04 32.5
OBN Obninsk 64.36 328 P **P 08 03 56.5 -0.6**
comp=Z,12nm,0.3s,baz=45,slow=6.8,SNR=4.7
OBN Obninsk 64.36 328 *e*P **P 08 03 56.5 -0.6**
comp=Z,20nm,0.7s
OBN Obninsk 64.36 328 *d i*P **P 08 03 56.2 -0.9**
OBN *e* 08 04 25.8
OBN *e* 08 06 22.9
OBN eS S 08 12 58.2 +23
OBN pmax pmax
comp=Z,28nm,1.2s
EIDS Eidsvold 65.26 123 P **P 08 04 02.2 -1.4**
baz=65,SNR=3.9
EIDS Eidsvold 65.26 123 *e*P **P 08 04 02.5 -1.1**
comp=Z,37nm,1.6s
KLMR Klimovskoe 65.40 334 *e*P **P 08 04 01.2 -2.6**
KLMR AMP 08 04 04.8
comp=Z,36nm,1.5s
KLMR *e*PP **PP 08 06 23.3 -4.4**
KLMR Klimovskoe 65.40 334 *e*P **P 08 04 01.1 -2.7**
KLMR *e* 08 06 23.2

KLMR pmax pmax
comp=Z,36nm,1.5s
SKR Severo-Kuril's 65.69 38 *e*P **P 08 04 05.6 -0.3**
MA2 Magadan 65.96 28 P **P 08 04 06.2 -1.4**
comp=Z,7.3nm,0.7s,baz=253,slow=9.7,SNR=8.3
MA2 Magadan 65.96 28 *e*P **P 08 04 07.0 -0.6**
comp=Z,46nm,1.5s
MA2 Magadan 65.96 28 ⇑*e*P **P 08 04 07.3 -0.2**
MA2 pmax pmax
comp=Z,34nm,1.5s
TIXI Tiksi 66.26 11 P **P 08 04 07.7 -1.5**
comp=Z,13nm,0.8s,baz=214,slow=3.7,SNR=18
TIXI Tiksi 66.26 11 *e*P **P 08 04 07.7 -1.5**
comp=Z,23nm,1.0s
TIXI Tiksi 66.26 11 *d i*P **P 08 04 07.3 -1.9**
TIXI pmax pmax
comp=Z,28nm,1.1s
CFR Carcaliu 66.66 315 ⇓*i*P **P 08 04 11.4 -0.9**
CFR Carcaliu 66.66 315 ⇓P **P 08 04 11.4 -0.9**
SORM Soroca 67.13 319 ⇓*i*P **P 08 04 13.6 -1.6**
SORM Soroca 67.13 319 ⇓P **P 08 04 13.6 -1.6**
AKASG Malin Array Be 67.17 321 P **P 08 04 13.8 -1.6**
comp=Z,0.6nm,0.4s,baz=87,slow=4.7,SNR=15
AKBB Malin Array Si 67.17 321 *e*P **P 08 04 14.1 -1.3**
comp=Z,8.1nm,1.0s
AKBB Malin Array Si 67.17 321 *e*P **P 08 04 14.1 -1.3**
AKBB pmax pmax
comp=Z,8.0nm,1.0s
KIEV Kiev 67.18 321 *e*P **P 08 04 13.8 -1.6**
comp=Z,8.6nm,1.1s
KIEV Kiev 67.18 321 ⇑*i*P **P 08 04 14.1 -1.4**
KIEV pmax pmax
comp=Z,7.0nm,1.0s
AK11 Malin Array Si 67.20 321 *e*P **P 08 04 14.1 -1.5**
TMCR Tamitsa 67.56 337 *e*P **P 08 04 17.0 -0.6**
TMCR pmax pmax
comp=Z,38nm,1.0s
IDI Anoyia 67.76 304 P **P 08 04 19.4 -0.1**
comp=Z,7.8nm,0.8s,baz=55,slow=11,SNR=3.9
IDI Anoyia 67.76 304 ⇓*i*P **P 08 04 19.2 -0.3**
IDI Anoyia 67.76 304 *e*P **P 08 04 19.4 -0.1**
comp=Z,22nm,1.2s
VRI Vrincioaia 67.77 316 ⇑*i*P **P 08 04 19.9 +0.6**
VRI Vrincioaia 67.77 316 ⇑P **P 08 04 19.9 +0.6**
ARMA Armidale 67.81 128 P **P 08 04 19.9 0.0**
baz=68,SNR=4.0
ARMA Armidale 67.81 128 *e*P **P 08 04 18.9 -1.0**
comp=Z,98nm,1.8s
PLOR Plostina 67.82 316 ⇓*i*P **P 08 04 20.2 +0.5**
PLOR Plostina 67.82 316 ⇓P **P 08 04 20.2 +0.5**
PET Petropavlovsk 67.84 36 *e*P **P 08 04 17.4 -2.2**
PET pmax pmax
comp=Z,8.0nm,0.9s
SEY Seymchan 68.09 25 *ce*P **P 08 04 19.5 -1.5**
comp=Z,3.6nm,0.9s,baz=280,slow=11,SNR=7.1
SEY Seymchan 68.09 25 *ce*P **P 08 04 19.6 -1.4**
MLR Muntele Rosu 68.24 315 P **P 08 04 22.2 -0.2**
comp=Z,5.2nm,1.0s,baz=124,slow=1.8,SNR=15
MLR Muntele Rosu 68.24 315 ⇑*i*P **P 08 04 22.8 +0.3**
MLR Muntele Rosu 68.24 315 *e*P **P 08 04 22.2 -0.2**
MLR *e*P **P 08 04 22.6 +0.2**
VOIR 68.85 315 ⇑*i*P P 08 04 31.0 +4.8
VOIR 68.85 315 ⇑P P 08 04 31.0 +4.8
BURAR Bucovina Array 69.10 318 ⇑*i*P **P 08 04 27.9 +0.2**
BURAR Bucovina Array 69.10 318 ⇑P **P 08 04 27.9 +0.2**
BUR04 Bucovina Ar. S 69.10 318 *e*P **P 08 04 27.3 -0.4**
BUR08 Bucovina Ar. S 69.11 318 *e*P **P 08 04 27.4 -0.4**
ARR Arges 69.13 315 ⇑*i*P **P 08 04 26.9 -1.1**
LSZ Lusaka 69.38 250 *e*P **P 08 04 30.1 +0.1**
comp=Z,62nm,2.0s
LSZ Lusaka 69.38 250 *e*P **P 08 04 30.1 +0.1**
LSZ pmax pmax
comp=Z,61nm,2.0s
VTS Vitosha 69.79 312 ⇑*i*P **P 08 04 31.8 -0.4**
VTS Vitosha 69.79 312 ⇑P **P 08 04 31.8 -0.4**
LVZ Lovozero 70.49 340 *e*P **P 08 04 35.4 -0.4**
comp=Z,73nm,1.6s
LVZ Lovozero 70.49 340 *ce*P **P 08 04 36.2 +0.4**
LVZ pmax pmax
comp=Z,54nm,2.5s
VSU Vasula 70.56 329 *ce*P **P 08 04 36.1 -0.2**
VSU pmax pmax
comp=Z,36nm,1.0s
HERR Herculane 70.62 314 ⇑*i*P **P 08 04 36.8 -0.2**
DRGR 70.66 316 ⇓*i*P **P 08 04 36.5 -0.8**
DRGR 70.66 316 ⇓P **P 08 04 36.5 -0.8**
TRPA Tarpa 70.96 318 ⇓*i*P **P 08 04 39.0 0.0**
KWP Kalwaria Pacla 71.06 319 *e*P **P 08 04 39.5 -0.2**
KWP Kalwaria Pacla 71.06 319 *e*P **P 08 04 39.4 -0.2**
comp=Z,221nm,1.0s
KWP Kalwaria Pacla 71.06 319 *e*P **P 08 04 39.5 -0.2**
BZS Buzias 71.27 315 ⇑*i*P **P 08 04 41.8 +0.8**
BZS Buzias 71.27 315 ⇑P **P 08 04 41.8 +0.8**
SUW Suwalki 71.50 324 *e*P **P 08 04 41.4 -0.7**
SUW Suwalki 71.50 324 *e*P **P 08 04 41.5 -0.7**
comp=Z,83nm,1.1s
SUW Suwalki 71.50 324 *e*P **P 08 04 41.5 -0.7**
SUW pmax pmax
comp=Z,83nm,1.1s
FIA0 FINESS Array S 71.66 332 *e*P **P 08 04 42.2 -0.7**
FIA0 FINESS Array S 71.66 332 *e*P **P 08 04 42.3 -0.7**
FIA1 FINESS Array S 71.66 332 *e*P **P 08 04 42.0 -1.0**
FIA1 *e*P **P 08 04 42.4 -0.6**
FINES FINESS Array B 71.66 332 P **P 08 04 42.2 -0.7**
comp=Z,9.7nm,0.6s,baz=88,slow=5.3,SNR=45
STHS Stebnicka Huta 71.98 319 *e*P **P 08 04 45.1 -0.1**
STHS Stebnicka Huta 71.98 319 *e*P **P 08 04 45.1 -0.1**
STHS pmax pmax
comp=Z,6.0nm,1.0s
BEL Belsk 72.59 322 *e*P **P 08 04 49.5 +0.8**
BEL Belsk 72.59 322 *e*P **P 08 04 49.5 +0.8**
NIE Niedzica 72.59 319 *e*P **P 08 04 49.3 +0.4**
NIE Niedzica 72.59 319 *e*P **P 08 04 49.3 +0.4**
PSZ Piszkesteto 72.69 317 ⇑*i*P **P 08 04 49.6 0.0**
PSZ Piszkesteto 72.69 317 *e*P **P 08 04 49.3 -0.3**
comp=Z,9.8nm,0.9s
PSZ Piszkesteto 72.69 317 ⇑P **P 08 04 49.6 0.0**
OJC Ojcow 73.01 320 *e*P **P 08 04 51.3 0.0**
OJC Ojcow 73.01 320 *e*P **P 08 04 50.2 -1.0**
comp=Z,24nm,1.0s
OJC Ojcow 73.01 320 *e*P **P 08 04 51.3 0.0**
LANS Liptovska Anna 73.10 319 *e*P **P 08 04 52.2 +0.3**
LANS Liptovska Anna 73.10 319 *e*P **P 08 04 52.2 +0.3**
VYHS Vyhne 73.45 318 *e*P **P 08 04 52.9 -1.1**
VYHS Vyhne 73.45 318 *e*P **P 08 04 52.9 -1.1**
VYHS pmax pmax
comp=Z,13nm,1.6s
KEV Kevo 73.76 341 *e*P **P 08 04 55.5 +0.2**
comp=Z,36nm,1.1s
KEV Kevo 73.76 341 *e*P **P 08 04 55.5 +0.2**
KEV pmax pmax
comp=Z,36nm,1.1s
OKC Ostrava-Krasne 74.03 319 *e*P **P 08 04 57.2 -0.1**
OKC Ostrava-Krasne 74.03 319 *e*P **P 08 04 57.2 -0.1**
ARA0 ARCESS Array S 74.19 340 *e*P **P 08 04 57.7 -0.2**
ARCES ARCESS Array B 74.19 340 P **P 08 04 57.7 -0.2**
comp=Z,19nm,0.9s,baz=99,slow=6.5,SNR=30
ARE0 ARCESS Array S 74.19 340 *e*P **P 08 04 57.9 0.0**
comp=Z,42nm,1.1s
MORC Moravsky Berou 74.41 319 ⇑*i*P **P 08 05 00.0 +0.4**
MORC Moravsky Berou 74.41 319 *e*P **P 08 04 59.5 -0.1**
comp=Z,78nm,1.0s
MORC Moravsky Berou 74.41 319 *e*P **P 08 04 59.5 -0.1**
MORC pmax pmax
comp=Z,78nm,1.0s
MODS Modra-Piesok 74.48 318 *e*P **P 08 04 58.5 -1.5**
MODS Modra-Piesok 74.48 318 *e*P **P 08 04 58.5 -1.5**
MODS pmax pmax
comp=Z,82nm,2.5s
LBTB Lobatse 74.52 241 *e*P **P 08 05 01.5 +0.8**
comp=Z,17nm,0.8s
LBTB Lobatse 74.52 241 *e*P **P 08 05 01.5 +0.8**
LBTB pmax pmax
comp=Z,17nm,0.8s
KRLC Kraliky 74.92 319 *e*P **P 08 05 03.0 +0.4**
KRLC Kraliky 74.92 319 *e*P **P 08 05 03.0 +0.4**
BILL Bilibino 75.21 22 *c i*P **P 08 05 02.6 -1.2**
BILL *i* 08 05 09.6
BILL *i* 08 05 18.9
BILL *i* 08 07 51.2
BILL pmax pmax
comp=Z,6.0nm,1.2s
DPC Dobruska-Polom 75.24 320 *e*P **P 08 05 04.7 +0.3**
DPC *e*pP **pP 08 05 07.6 -1.5**

DPC	Dobruska-Polom	75.24	320	*e*P		P	08 05 04.7 +0.3
KSP	Ksiaz	75.29	320	*e*P		P	08 05 04.9 +0.3
KSP	Ksiaz	75.29	320	*e*P		P	08 05 04.9 +0.3
CONA	Conrad Observa	75.40	317	*e*P		P	08 05 05.0 -0.4
	comp=Z,6.6nm,1.0s						
UPC	Upice	75.45	320	*e*P		P	08 05 06.1 +0.6
UPC	Upice	75.45	320	*e*P		P	08 05 06.1 +0.6
ARSA	Arzberg	75.60	316	*e*P		P	08 05 06.7 +0.2
	comp=Z,12nm,1.1s						
SOKA	Soboth	75.91	316	*e*P		P	08 05 08.6 +0.3
	comp=Z,17nm,1.0s						
BOSA	Boshof	75.92	238	P		P	08 05 09.7 +0.9
	comp=Z,14nm,0.9s,baz=84,slow=4.0,SNR=14						
BOSA	Boshof	75.92	238	*e*P		P	08 05 09.5 +0.8
	comp=Z,20nm,0.8s						
BOSA				*e*P		P	08 05 09.7 +0.9
BOSA	Boshof	75.92	238	*e*P		P	08 05 09.5 +0.8
BOSA				pmax	pmax		
	comp=Z,20nm,0.8s						
OBKA	Obir	76.24	316	*i* P		P	08 05 10.5 +0.3
	comp=Z,25nm,1.7s						
PRU	Pruhonice	76.36	319	*e*P		P	08 05 11.1 +0.4
PRU	Pruhonice	76.36	319	*e*P		P	08 05 11.1 +0.4
MOA	Molln	76.47	317	*e*P		P	08 05 11.3 -0.1
	comp=Z,17nm,1.2s						
BRG	Berggiesshubel	76.78	320	*e*P		P	08 05 12.9 -0.2
	comp=Z,22nm,1.4s						
BRG	Berggiesshubel	76.78	320	*e*P		P	08 05 12.9 -0.2
BRG				pmax	pmax		
	comp=Z,22nm,1.5s						
GEA0	GERESS Array S	76.87	318	*e*P		P	08 05 13.5 -0.3
GEC2	GERESS Array S	76.87	318	*e*P		P	08 05 13.8 0.0
	comp=Z,22nm,1.0s						
GEC2	GERESS Array S	76.87	318	*e*P		P	08 05 13.8 0.0
GEC2				pmax	pmax		
	comp=Z,22nm,1.0s						
GERES	GERESS Array B	76.87	318	P		P	08 05 13.7 -0.1
	comp=Z,10nm,0.8s,baz=86,slow=5.5,SNR=47						
KHC	Kasperske Hory	76.96	318	*e*P		P	08 05 13.7 -0.5
KHC				*e*pP		pP	08 05 16.7 -2.3
KHC	Kasperske Hory	76.96	318	*e*P		P	08 05 13.6 -0.6
	comp=Z,7nm,0.8s						
KHC	Kasperske Hory	76.96	318	*e*P		P	08 05 13.7 -0.5
KBA	Koelnbreinsper	77.08	316	*i* P		P	08 05 14.5 -0.5
	comp=Z,18nm,1.2s						
CLL	Collm	77.39	321	*i* P		P	08 05 16.1 -0.4
	comp=Z,19nm,1.2s						
CLL				*es*P		sP	08 05 22.0 -0.9
CLL	Collm	77.39	321	*e*P		P	08 05 16.1 -0.4
	comp=Z,21nm,1.2s						
CLL	Collm	77.39	321	*i* P		P	08 05 16.1 -0.4
CLL				*e*			08 05 22.0
CLL				pmax	pmax		
	comp=Z,66nm,1.2s						
HFS	Hagfors	77.42	330	P		P	08 05 15.9 -0.6
	comp=Z,8.4nm,0.5s,baz=106,slow=4.9,SNR=35						
WTTA	Wattenberg	78.24	316	*e*P		P	08 05 21.0 -0.6
	comp=Z,16nm,1.0s,SNR=4.0						
WATA	Walderalm	78.28	316	*e*P		P	08 05 20.6 -1.1
	comp=Z,6.5nm,0.7s						
NC405	NORSAR Array S	78.45	331	*e*P		P	08 05 20.8 -1.4
NC602	NORSAR Array S	78.52	330	*e*P		P	08 05 21.7 -0.9
MOTA	Moosalm	78.61	317	*e*P		P	08 05 22.6 -1.0
	comp=Z,22nm,1.0s						
NC303	NORSAR Array S	78.62	331	*e*P		P	08 05 22.8 -0.4
NB201	NORSAR Array S	78.65	331	*e*P		P	08 05 21.3 -2.1
NB2	NORSAR Subarra	78.69	331	P		P	08 05 22.3 -1.3
	comp=Z,34nm,1.2s,baz=96,slow=5.3						
NB2	NORSAR Subarra	78.69	331	P		P	08 05 22.3 -1.3
	baz=96,slow=5.3						
NB2	NORSAR Subarra	78.69	331	P		P	08 05 22.5 -1.1
NB2				pmax	pmax		
	comp=Z,29nm,1.2s						
NB200	NORSAR Array S	78.69	331	*e*P		P	08 05 22.5 -1.1
NOA	NORSAR Array B	78.69	331	P		P	08 05 22.5 -1.1
	comp=Z,13nm,0.9s,baz=92,slow=5.7,SNR=20						
SPA0	Spitsbergen Ar	78.76	348	*e*P		P	08 05 23.4 -0.3
SPITS	Spitsbergen Ar	78.76	348	P		P	08 05 23.4 -0.3
	comp=Z,9.0nm,0.6s,baz=75,slow=7.0,SNR=26						
RETA	Reutte	78.83	317	*e*P		P	08 05 24.0 -0.7
	comp=Z,17nm,0.8s						
NAO01	NORSAR Array S	78.84	330	*e*P		P	08 05 23.7 -0.7
NBO02	NORSAR Array S	78.87	331	*e*P		P	08 05 24.1 -0.4
FETA	Feichten	78.87	316	*e*P		P	08 05 24.8 -0.2
	comp=Z,16nm,1.0s,SNR=7.8						
NBO00	NORSAR Array S	78.90	330	*e*P		P	08 05 24.5 -0.2
NC204	NORSAR Array S	78.92	331	*e*P		P	08 05 24.1 -0.8
DAVA	Damuels	79.44	316	*e*P		P	08 05 27.4 -0.7
	comp=Z,15nm,0.8s						
MAW	Mawson	79.50	192	P		P	08 05 28.6 +0.9
	comp=Z,9.6nm,1.1s,baz=350,slow=4.8,SNR=6.4						
MAW	Mawson	79.50	192	P		P	08 05 29.1 +1.4
	baz=80						
MAW	Mawson	79.50	192	*e*P		P	08 05 29.1 +1.4
	comp=Z,3.6nm,1.1s						
MAW	Mawson	79.50	192	*e*P		P	08 05 29.1 +1.4
MAW				pmax	pmax		
	comp=Z,4.0nm,1.1s						
TUE	Stuetta	79.83	316	*e*P		P	08 05 30.4 0.0
	comp=Z,24nm,1.2s						
KEST	Kesra	80.43	305	P		P	08 05 34.1 +0.5
	comp=Z,5.8nm,0.9s,baz=290,slow=5.0,SNR=5.7						
KEST	Kesra	80.43	305	*e*P		P	08 05 33.7 +0.1
	comp=Z,14nm,1.0s						
BFO	Black Forest	80.44	318	*i* P		P	08 05 34.0 +0.6
SUR	Sutherland	80.71	235	P		P	08 05 37.1 +1.8
	comp=Z,1.5nm,0.9s,baz=108,slow=5.9,SNR=9.2						
SUR	Sutherland	80.71	235	*e*P		P	08 05 37.1 +1.8
	comp=Z,142nm,1.7s						
CDF	Champ du Feu	81.14	318	*e*P		P	08 05 36.1 -1.1
CDF				pmax	pmax		
	comp=Z,13nm,1.1s						
SENIN	Lac Senin/Sane	81.25	316	*e*P		P	08 05 38.1 +0.1
	comp=Z,71nm,1.8s						
LPG	La Plagne	81.69	315	*e*P		P	08 05 39.8 -0.6
LPG				pmax	pmax		
	comp=Z,23nm,0.8s						
LPL	La Plagne	81.71	315	*e*P		P	08 05 39.8 -0.6
LPL				pmax	pmax		
	comp=Z,31nm,0.9s						
BNI	Bardonecchia	81.78	314	*e*P		P	08 05 40.2 -0.4
	comp=Z,23nm,0.9s						
BNI	Bardonecchia	81.78	314	*e*P		P	08 05 40.3 -0.4
BNI				pmax	pmax		
	comp=Z,23nm,0.9s						
HAU	Haudompre	81.79	317	*e*P		P	08 05 39.5 -1.0
HAU				pmax	pmax		
	comp=Z,29nm,1.0s						
FRF	La Foret Royal	81.92	313	*e*P		P	08 05 40.7 -0.6
FRF				pmax	pmax		
	comp=Z,15nm,0.9s						
CABF	La Chapelle	82.07	316	*e*P		P	08 05 40.7 -1.4
CABF				pmax	pmax		
	comp=Z,65nm,1.7s						
ORIF	Oris-en-Rattie	82.36	314	*e*P		P	08 05 43.3 -0.4
ORIF				pmax	pmax		
	comp=Z,6.0nm,0.7s						
VIVF	Saint-Julien-l	83.22	314	*e*P		P	08 05 47.3 -0.8
VIVF				pmax	pmax		
	comp=Z,22nm,1.2s						
SMF	Signal de Mont	83.61	316	*e*P		P	08 05 49.0 -1.0
SMF				pmax	pmax		
	comp=Z,31nm,1.2s						
SSF	Saint Saulge	83.79	317	*e*P		P	08 05 49.3 -1.6
SSF				pmax	pmax		
	comp=Z,42nm,1.7s						
AVF	Avril sur Loir	83.93	316	*e*P		P	08 05 50.7 -0.9
AVF				pmax	pmax		
	comp=Z,15nm,1.1s						
TCF	Toulx Ste Croi	84.77	316	*e*P		P	08 05 54.6 -1.4
TCF				pmax	pmax		
	comp=Z,9.0nm,0.8s						
TAM	Tamanrasset	85.09	292	*e*P		P	08 05 58.2 +0.1
	comp=Z,7.5nm,1.1s						
TAM	Tamanrasset	85.09	292	*e*P		P	08 05 58.3 +0.1
TAM				pmax	pmax		
	comp=Z,8.0nm,1.1s						
RJF	Les Rejaudoux	85.38	315	*e*P		P	08 05 58.7 -0.3
RJF				pmax	pmax		
	comp=Z,36nm,1.5s						
LDF	La Druitiere	86.01	318	*e*P		P	08 06 03.8 +1.7
LDF				pmax	pmax		
	comp=Z,118nm,1.8s						
SYO	Syowa Base	86.33	197	*e*P		P	08 06 05.0 +2.0
DAG	Danmarks Havn	86.40	348	*i* P		P	08 06 01.9 -1.5
	comp=Z,4.8nm,0.9s						
DAG	Danmarks Havn	86.40	348	*i* P		P	08 06 01.9 -1.5
DAG				pmax	pmax		
	comp=Z,5.0nm,0.9s						
EKA	Eskdalemuir Ar	86.71	325	P		P	08 06 05.7 +0.3
	comp=Z,18nm,0.9s,baz=95,slow=6.1,SNR=20						
ETSF	Etsaut	87.22	313	*e*P		P	08 06 10.5 +2.2
ETSF				pmax	pmax		
	comp=Z,31nm,1.5s						
SCO	Scoresbysund	89.97	342	*i* P		P	08 06 21.0 +0.5
	comp=Z,3.9nm,1.2s						
SCO	Scoresbysund	89.97	342	*e*P		P	08 06 20.7 +0.2
	comp=Z,14nm,1.5s						
SCO	Scoresbysund	89.97	342	*i* P		P	08 06 21.0 +0.5
SCO				pmax	pmax		
	comp=Z,10.0nm,1.2s						
TOA0	Torodi Ar. Sit	90.10	283	*e*P		P	08 06 21.0 -1.3
TOA0				*e*P		P	08 06 23.1 +0.9
TORD	Torodi Ar. Bea	90.10	283	P		P	08 06 22.7 +0.4
	comp=Z,5.0nm,1.0s,baz=90,slow=3.5,SNR=14						
TORD				PP		PP	08 09 60.0 +4.2
	comp=Z,0.6nm,0.8s,baz=76,slow=6.2,SNR=2.4						
TOA1	Torodi Ar. Sit	90.10	283	*e*P		P	08 06 22.7 +0.4
TOA1				*e*PP		PP	08 09 60.0 +4.2
ES19	SONSECA Array	90.29	310	*e*P		P	08 06 22.9 +0.1
ESDC	Sonseca Array	90.34	310	P		P	08 06 22.9 -0.1
	comp=Z,3.8nm,0.7s,baz=58,slow=4.5,SNR=14						
TOLK	Toolik Lake Re	91.05	19	P		P	08 06 25.8 +0.1
	baz=298						
TOLK	Toolik Lake Re	91.05	19	*e*P		P	08 06 25.6 -0.2
	comp=Z,20nm,1.1s						
COLD	Coldfoot	91.50	21	*e*P		P	08 06 27.6 -0.1
	comp=Z,6.9nm,1.0s						
SVW2	Sparrevohn	91.93	27	*e*P		P	08 06 30.1 +0.3
	comp=Z,15nm,1.2s						
MVO	Moncorvo	92.30	312	*e*P		P	08 06 33.8 +1.7
MLY	Manley	92.31	23	*e*P		P	08 06 31.6 0.0
	comp=Z,12nm,1.0s						
CAST	Castle Rocks	92.49	24	*e*P		P	08 06 32.4 0.0
	comp=Z,28nm,1.0s						
BPAW	Bear Paw Mtn.	92.63	23	*e*P		P	08 06 32.9 -0.2
	comp=Z,30nm,1.1s						
PPLA	Purkeypile	92.67	25	*e*P		P	08 06 33.2 -0.2
	comp=Z,24nm,1.2s						
PCBR	Castelo Branco	92.95	311	*e*P		P	08 06 36.0 +1.0
PBAR	Barrancos	93.01	309	*e*P		P	08 06 36.0 +0.6
SUMG	Summit	93.06	347	*i* P		P	08 06 35.8 +0.4
SUMG	Summit	93.06	347	*e*P		P	08 06 35.4 0.0
	comp=Z,18nm,1.5s						
SUMG	Summit	93.06	347	*i* P		P	08 06 35.8 +0.4
TRF	Thorofare Moun	93.20	24	*e*P		P	08 06 36.0 +0.1
	comp=Z,32nm,1.9s						
MDM	Muphy Dome	93.28	22	*e*P		P	08 06 36.0 -0.1
	comp=Z,19nm,1.2s						
SKT	Skwentna	93.34	25	*e*P		P	08 06 35.9 -0.5
	comp=Z,27nm,1.0s						
FYU	Fort Yukon	93.53	20	*e*P		P	08 06 37.6 +0.5
	comp=Z,28nm,1.2s						
MCK	McKinley	93.60	23	*e*P		P	08 06 37.2 -0.4
	comp=Z,18nm,1.1s						
MCK	McKinley	93.60	23	*e*P		P	08 06 37.2 -0.4
MCK				pmax	pmax		
	comp=Z,18nm,1.1s						
PCAS	Casmilo, Conde	93.65	311	*e*P		P	08 06 38.7 +0.4
EVO	Evora	93.67	310	*e*P		P	08 06 40.6 +2.2
PBEJ	Beja	93.68	309	*e*P		P	08 06 39.8 +1.4
ILAR	Eielson Array	93.87	22	P		P	08 06 37.2 -1.5
	comp=Z,2.8nm,0.8s,baz=298,slow=4.1,SNR=25						
ILAR				PP		PP	08 10 21.8 -2.2
	comp=Z,0.5nm,1.0s,baz=277,slow=5.8,SNR=4.1						
ILB	Eielson Array	93.87	22	*e*P		P	08 06 37.4 -1.4
SUA	Susitna One	93.91	26	*e*P		P	08 06 38.7 -0.4
	comp=Z,20nm,0.9s						
PBDV	Branco-do-Ve	93.92	308	*e*P		P	08 06 41.2 +1.6
ALMR	Almeirim	93.94	310	*e*P		P	08 06 39.1 -0.5
HDA	Harding Lake	94.03	22	*e*P		P	08 06 38.1 -1.4
	comp=Z,6.3nm,1.0s						
TULEG	Thule	94.08	356	*e*P		P	08 06 39.1 -0.3
	comp=Z,15nm,1.3s						
RC01	Rabbit Creek A	94.51	26	*e*P		P	08 06 41.4 -0.4
	comp=Z,28nm,1.1s						
PMR	Palmer	94.54	25	*e*P		P	08 06 41.6 -0.2
	comp=Z,14nm,1.0s						
PMR	Palmer	94.54	25	*e*P		P	08 06 41.6 -0.2
PMR				pmax	pmax		
	comp=Z,14nm,1.0s						
GHO	Glory Hole Cre	94.54	25	*e*P		P	08 06 42.1 +0.1
	comp=Z,14nm,1.2s						
BRLK	Bradley Lake	94.60	27	*e*P		P	08 06 41.5 -0.7
	comp=Z,21nm,1.0s						
SML	Sawmill	94.77	25	*e*P		P	08 06 42.8 -0.1
	comp=Z,15nm,1.0s						
SML	Sawmill	94.77	25	*e*P		P	08 06 42.8 -0.1
SML				pmax	pmax		
	comp=Z,15nm,1.0s						
RIDG	Independ'e Rid	95.17	22	*e*P		P	08 06 42.3 -2.5
	comp=Z,16nm,1.2s						
SCRK	Sand Creek	95.37	22	*e*P		P	08 06 45.2 -0.6
	comp=Z,8.7nm,1.0s						
INK	Inuvik	96.06	16	P		P	08 06 47.6 -1.0
	comp=Z,12nm,1.0s,baz=323,slow=5.3,SNR=29						
INK	Inuvik	96.06	16	*e*P		P	08 06 48.3 -0.3
	comp=Z,16nm,1.0s						
INK	Inuvik	96.06	16	*e*P		P	08 06 48.3 -0.3
INK				pmax	pmax		
	comp=Z,16nm,1.0s						
RES	Resolute Bay	96.37	2	P		P	08 06 49.6 -0.3
	comp=Z,12nm,0.9s,baz=336,slow=5.5,SNR=35						
RES	Resolute Bay	96.37	2	*e*P		P	08 06 49.8 -0.1
	comp=Z,14nm,0.9s						
RES	Resolute Bay	96.37	2	*e*P		P	08 06 49.8 -0.1
RES				pmax	pmax		
	comp=Z,14nm,0.9s						
DAWY	Dawson	96.97	21	*e*P		P	08 06 52.9 -0.1
	comp=Z,5.8nm,1.0s						
YKA	Yellowknife Ar	105.47	13	Pdiff		Pdif	08 07 29.9 -0.9
	comp=Z,0.7nm,0.9s,baz=326,slow=4.5,SNR=6.6						
YKA				PP		PP	08 11 58.0 +6.2
	comp=Z,0.6nm,1.0s,baz=340,slow=6.0,SNR=4.2						
YKA				PKKPbc		PKKPbc	08 23 07.8 -3.8
	comp=Z,0.1nm,0.7s,baz=155,slow=1.9,SNR=4.5						
J05D	Fort Rock, OR	119.01	29	P		PKPdf	08 12 10.2 -0.6
	baz=320						
ULM	Lac du Bonnet	120.46	7	PKP		PKPdf	08 12 11.9 -1.2
	comp=Z,2.2nm,0.7s,baz=302,slow=0.3,SNR=2.7						
MOD	Modoc Plateau	120.51	29	*e*PKPdf		PKPdf	08 12 13.2 -0.5
MFID	Camas Ranch	121.32	25	*e*PKPdf		PKPdf	08 12 14.7 -0.5
HLID	Hailey	121.78	24	*e*PKPdf		PKPdf	08 12 15.5 -0.6
VCNR	Virginia City	122.81	31	*e*PKPdf		PKPdf	08 12 18.2 -0.1
FXWY	Fox Creek	123.00	21	*e*PKPdf		PKPdf	08 12 18.1 -0.5
MOOW	Moose Ponds	123.01	21	*e*PKPdf		PKPdf	08 12 18.0 -0.5
TPAW	Teton Pass	123.16	21	*e*PKPdf		PKPdf	08 12 19.0 +0.1
LOHW	Long Hollow	123.17	21	*e*PKPdf		PKPdf	08 12 18.8 0.0
EYMN	Ely	123.18	4	P		PKPdf	08 12 17.4 -1.1
	baz=354						
EYMN	Ely	123.18	4	*e*PKPdf		PKPdf	08 12 18.0 -0.5
SNOW	Snow King Moun	123.25	21	*e*PKPdf		PKPdf	08 12 19.3 +0.3
REDW	Red Top Meadow	123.30	21	*e*PKPdf		PKPdf	08 12 19.3 +0.2
KVN	Kaiserville	123.77	30	*e*PKPdf		PKPdf	08 12 20.1 0.0
KVN	Kaiserville	123.77	30	*e*PKIKP		PKPdf	08 12 20.1 0.0
RYN	Ryan	123.89	30	*e*PKPdf		PKPdf	08 12 20.4 +0.1
NV01	Mina Array Sit	124.15	30	*e*PKPdf		PKPdf	08 12 20.9 0.0
NVAR	Mina Array Bea	124.15	30	PKP		PKPdf	08 12 21.3 +0.4
	comp=Z,3.9nm,0.8s,baz=267,slow=2.2,SNR=20						
NV11	Mina Array Sit	124.22	30	*e*PKPdf		PKPdf	08 12 21.4 +0.4
BW06	Boulder Array	124.28	21	P		PKPdf	08 12 20.0 -1.1
	baz=332						
BW06	Boulder Array	124.28	21	*e*PKPdf		PKPdf	08 12 19.9 -1.1
PD31	Pinedale Array	124.28	21	*e*PKPdf		PKPdf	08 12 20.4 -0.7
PDAR	Pinedale Array	124.28	21	PKP		PKPdf	08 12 20.2 -0.8
	comp=Z,3.2nm,0.9s,baz=22,slow=1.3,SNR=12						
PDAR				PKKPbc		PKKPab	08 22 03.0 -3.0
	comp=Z,0.2nm,0.6s,baz=112,slow=5.9,SNR=3.8						
PDAR	Pinedale Array	124.28	21	*e*PKPdf		PKPdf	08 12 19.8 -1.2
HWUT	Hardware Ranch	124.55	23	*e*PKPdf		PKPdf	08 12 21.2 -0.3
DUG	Dugway, Tooele	125.25	25	*e*PKPdf		PKPdf	08 12 22.7 -0.2
DUG	Dugway, Tooele	125.25	25	*e*PKIKP		PKPdf	08 12 22.7 -0.2
R11A	Troy Canyon, C	125.53	28	P		PKPdf	08 12 23.5 +0.1
	baz=323						
R11A	Troy Canyon, C	125.53	28	*e*PKPdf		PKPdf	08 12 23.9 +0.4
F45A	CMU Biological	125.64	359	P		PKPdf	08 12 22.5 -0.7
	baz=0.7						
NLU	North Lily Min	125.75	24	*e*PKPdf		PKPdf	08 12 24.0 0.0
RWWY	Rawlins	126.04	19	*e*PKPdf		PKPdf	08 12 23.9 -0.6
H35A	Sunnyside Ranc	126.05	8	P		PKPdf	08 12 23.5 -0.5
	baz=349						
DAC	Darwin (Calif)	126.17	32	*e*PKPdf		PKPdf	08 12 25.8 +1.0
DAC	Darwin (Calif)	126.17	32	*e*PKIKP		PKPdf	08 12 25.8 +1.0
TPNV	Topopah Spring	126.33	30	P		PKPdf	08 12 24.3 -0.7
	baz=322						
MPMC	Manual Prospec	126.39	32	P		PKPdf	08 12 25.2 0.0
	baz=320						
H39A	Augusta	126.44	5	P		PKPdf	08 12 24.4 -0.4
	baz=354						
TMUT	Trail Mountain	126.67	24	*e*PKPdf		PKPdf	08 12 25.3 -0.5
ECSD	EROS Data Cent	126.73	9	P		PKPdf	08 12 24.5 -0.9
	baz=347						
ECSD	EROS Data Cent	126.73	9	*e*PKPdf		PKPdf	08 12 25.0 -0.4
P18A	Preston Nutter	126.76	23	*e*PKPdf		PKPdf	08 12 25.8 -0.2
MSU	Marysvale	126.93	26	*e*PKPdf		PKPdf	08 12 27.2 +1.0
MSU	Marysvale	126.93	26	*e*PKIKP		PKPdf	08 12 27.2 +1.0
EDW2	Edwards Air Fo	127.02	33	P		PKPdf	08 12 25.4 -0.8
	baz=319						
O20A	White River Ci	127.07	21	P		PKPdf	08 12 26.0 -0.4
	baz=332						
O20A	White River Ci	127.07	21	*e*PKPdf		PKPdf	08 12 26.1 -0.3
N23A	Red Feather La	127.17	19	*e*PKPdf		PKPdf	08 12 26.9 +0.2
CCUT	Cedar City	127.20	27	*e*PKPdf		PKPdf	08 12 27.1 +0.3
SHPR	Sheep Range	127.21	29	*e*PKPdf		PKPdf	08 12 27.5 +0.7
I39A	Houston	127.24	5	P		PKPdf	08 12 25.2 -1.2
	baz=353						
J34A	George	127.27	9	P		PKPdf	08 12 25.6 -0.9
	baz=348						
MTPU	Mount Pierson	127.32	26	*e*PKPdf		PKPdf	08 12 27.8 +0.7
GSC	Goldstone, Bar	127.33	32	*e*PKPdf		PKPdf	08 12 27.7 +0.8
GSC	Goldstone, Bar	127.33	32	*e*PKIKP		PKPdf	08 12 27.7 +0.8
K31A	O'Neill	127.42	12	P		PKPdf	08 12 26.0 -0.7
	baz=344						
LCMT	Little Creek M	127.70	27	*e*PKPdf		PKPdf	08 12 28.7 +1.1
KNB	Kanab	127.89	27	*e*PKPdf		PKPdf	08 12 28.9 +0.8
KNB	Kanab	127.89	27	*e*PKIKP		PKPdf	08 12 28.9 +0.8
L35A	Bielow Farm, R	128.48	9	P		PKPdf	08 12 28.4 -0.4
	baz=348						
L34A	Svendsen Farm,	128.49	10	P		PKPdf	08 12 28.3 -0.5
	baz=347						
U15A	North Rim	128.61	27	*e*PKPdf		PKPdf	08 12 30.1 +0.6
W13A	Hualapai Mount	128.95	29	*e*PKPdf		PKPdf	08 12 30.4 +0.2
IRM	Iron Mountain	129.07	31	P		PKPdf	08 12 31.2 +1.1
	baz=322						
S22A	4UR Ranch, Cre	129.69	21	*e*PKPdf		PKPdf	08 12 31.7 +0.1
KSCO	Kaye Shedlock'	129.90	17	*e*PKPdf		PKPdf	08 12 31.9 +0.1
Y14A	Wickenburg	130.32	30	*e*PKPdf		PKPdf	08 12 33.2 +0.6
X16A	Lo Mia Camp, P	130.67	28	*e*PKPdf		PKPdf	08 12 31.5 -1.9
Q41A	Truxton	132.13	5	P		PKPdf	08 12 35.6 -0.1
	baz=353						
ANMO	Albuquerque	132.31	23	P		PKPdf	08 12 37.0 +0.5
	baz=332						
ANMO	Albuquerque	132.31	23	*e*PKPdf		PKPdf	08 12 36.5 0.0
ANMO	Albuquerque	132.31	23	*e*PKIKP		PKPdf	08 12 36.5 0.0
TUC	Tucson	132.72	29	*e*PKPdf		PKPdf	08 12 37.1 0.0
TUC	Tucson	132.72	29	*e*PKIKP		PKPdf	08 12 37.2 0.0
MSTX	Muleshoe	134.51	20	*e*PKPdf		PKPdf	08 12 40.0 -0.6
MNTX	Cornudas Mount	135.60	24	P		PKPdf	08 12 42.1 -0.5
	baz=332						
MNTX	Cornudas Mount	135.60	24	*e*PKPdf		PKPdf	08 12 41.9 -0.6
TKL	Tuckaleechee C	135.60	357	PKP		PKPdf	08 12 42.6 +0.2
	comp=Z,2.8nm,0.7s,baz=356,slow=4.0,SNR=2.8						
MIAR	Mount Ida	136.19	9	*e*PKPdf		PKPdf	08 12 43.4 -0.1
MIAR	Mount Ida	136.19	9	*e*PKIKP		PKPdf	08 12 43.4 -0.1
TX31	Lajitas Ar. Si	138.37	23	*e*PKPdf		PKPdf	08 12 46.7 -1.2
TX31				*e*PKPdf		PKiKP	08 12 47.7 -2.2
TXAR	Lajitas Array	138.37	23	PKhKP		PKPpre	08 12 38.7
	comp=Z,0.8nm,1.0s,baz=187,slow=0.8,SNR=4.1						
TXAR				PKP		PKPdf	08 12 48.4 +0.6
	comp=Z,0.8nm,0.4s,baz=246,slow=0.6,SNR=17						
JCT	Junction City	138.68	18	P		PKPdf	08 12 47.6 -0.7
	baz=339						
JCT	Junction City	138.68	18	*e*PKPdf		PKPdf	08 12 46.6 -1.7
JCT	Junction City	138.68	18	*e*PKIKP		PKPdf	08 12 46.6 -1.7
HPIG		139.62	27	*e*PKPdf		PKPdf	08 12 50.8 +0.5
ZAIG	Zacatecas	144.62	27	*e*PKPdf		PKPbc	08 12 58.6 +0.5
PLCA	Paso Flores	145.43	201	PKPbc		PKPbc	08 12 59.8 -0.2
	comp=Z,17nm,0.9s,baz=187,slow=2.4,SNR=31						
PLCA	Paso Flores	145.43	201	*e*PKPdf		PKPab

	0.5nm,0.6s,baz=195,slow=9.0,SNR=2.7						
KURBB	**Kurchatov Arra**	**54.43**	**353**	P	**P**	**08 14 22.7**	**+0.8**
	0.4nm,0.5s,baz=174,slow=7.3,SNR=3.7						
KSRS	**Korea Array**	**55.50**	**39**	P	**P**	**08 14 28.7**	**-1.1**
	2.8nm,1.0s,baz=209,slow=9.7,SNR=4.2						
ZALV	**Zalesovo Beam**	**57.28**	**358**	P	**P**	**08 14 42.3**	**+0.1**
	3.0nm,0.8s,baz=190,slow=6.0,SNR=6.8						
BOSA	**Boshof**	**63.90**	**240**	P	**P**	**08 15 27.6**	**-0.6**
	3.0nm,0.9s,baz=70,slow=8.2,SNR=3.2						
TIXI	**Tiksi**	**79.68**	**12**	P	**P**	**08 17 02.0**	**+0.1**
	1.0nm,0.3s,baz=239,slow=2.6,SNR=6.0						
ARCES	**ARCESS Array B**	**83.74**	**342**	P	**P**	**08 17 23.4**	**0.0**
	3.2nm,0.9s,baz=108,slow=4.8,SNR=5.5						
TORD	**Torodi Ar. Bea**	**86.53**	**283**	P	**P**	**08 17 38.0**	**-0.6**
	0.9nm,0.8s,baz=77,slow=4.7,SNR=7.4						
KOWA	**Kowa**	**92.16**	**284**	P	**P**	**08 18 06.0**	**+0.9**
	3.0nm,0.9s,baz=27,slow=2.3,SNR=3.9						
TXAR	**Lajitas Array**	**152.27**	**21**	PKPbc	**PKPbc**	**08 24 51.6**	**+0.1**
	0.3nm,0.4s,baz=235,slow=0.3,SNR=9.7						

*IDC **25** 08:19:43.6±0.6,9.00N×93.98E,h0km,mb4.0/17, mb1 4.1/18,mb1mx3.9/69,mbtmp4.0/18,Error ellipse: s-maj=25.4km s-min=15.7km az=64.0*
*NEIC **25** 08:19:44.9±0.3,8.95N×93.96E,h10km,mb4.3/6,Error ellipse: s-maj=11.7km s-min=5.9km az=62.0*
*ISCJB **25** 08:19:45.0±0.5,8.98N±0.08×94.0E±0.1,h22km,mb4.0/23, Error ellipse: s-maj=17.1km s-min=8.3km az=149.2*

ISC 25 08:19:46.9±0.6,8.98N±0.10×94.0E±0.1,h22km,n47, σ0883/50,mb4.1/23,1C,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**7.88**	**141**	*e*Pn	**Pn**	**08 21 41.2**	**+0.7**
CMAR	**Chiang Mai Arr**	**10.60**	**27**	Pn	**Pn**	**08 22 17.3**	**-0.3**
	baz=202,slow=14,SNR=5.2						
NIL	**Nilore**	**31.09**	**325**	*e*P	**P**	**08 26 04.8**	**+1.0**
	14nm,1.1s						
KDJ	**Kajisay**	**36.17**	**339**	*e*P	**P**	**08 26 49.2**	**+1.1**
	2.7nm,0.9s						
AAK	**Ala-Archa**	**37.63**	**336**	P	**P**	**08 27 00.1**	**-0.3**
	0.9nm,0.4s,baz=164,slow=8.9,SNR=5.0						
MK01	**Makanchi Array**	**38.95**	**347**	*e*P	**P**	**08 27 12.1**	**+0.7**
MK31	**Makanchi Array**	**38.98**	**347**	*e*P	**P**	**08 27 12.2**	**+0.6**
MK32	**Makanchi Array**	**38.98**	**347**	*e*P	**P**	**08 27 11.2**	**-0.4**
MKAR	**Makanchi Array**	**38.98**	**347**	P	**P**	**08 27 11.2**	**-0.4**
	1.3nm,0.9s,baz=158,slow=7.6,SNR=7.3						
MKAR	**Makanchi Array**	**38.98**	**347**	*e*P	**P**	**08 27 12.0**	**+0.5**
	8.2nm,1.0s						
SONA0	**Songino Array**	**40.13**	**13**	*e*P	**P**	**08 27 21.0**	**-0.4**
SONA0				*e*PcP	**PcP**	**08 29 26.4**	**+0.9**
SONM	**Songino Array**	**40.13**	**13**	P	**P**	**08 27 21.0**	**-0.4**
	0.7nm,0.7s,baz=224,slow=8.1,SNR=3.4						
SONM				PcP	**PcP**	**08 29 26.4**	**+0.9**
	0.5nm,0.5s,baz=178,slow=4.3,SNR=3.2						
GEYT	**Alibeck**	**43.26**	**318**	P	**P**	**08 27 47.3**	**+0.3**
	2.2nm,0.4s,baz=134,slow=8.4,SNR=5.4						
KURBB	**Kurchatov Arra**	**43.44**	**346**	P	**P**	**08 27 48.5**	**+0.4**
	1.7nm,0.9s,baz=162,slow=7.4,SNR=8.9						
KURBB				PcP	**PcP**	**08 29 36.9**	**+0.7**
	0.1nm,0.3s,baz=160,slow=3.1,SNR=4.8						
KURK	**Kurchatov**	**43.50**	**346**	*e*P	**P**	**08 27 48.5**	**-0.1**
KURK				*e*PP	**PcP**	**08 29 36.9**	**+0.5**
ZAA0	**Zalesovo Array**	**45.44**	**352**	*e*P	**P**	**08 28 04.3**	**+0.2**
	4.1nm,1.0s						
ZALV	**Zalesovo Beam**	**45.44**	**352**	P	**P**	**08 28 04.5**	**+0.4**
	2.2nm,0.6s,baz=169,slow=8.5,SNR=7.3						
ZALV	**Zalesovo Beam**	**45.44**	**352**	*e*P	**P**	**08 28 04.9**	**+0.8**
ZAA1	**Zalesovo Array**	**45.45**	**352**	*e*P	**P**	**08 28 04.5**	**+0.4**
BVAR	**Borovoye Array**	**47.89**	**341**	P	**P**	**08 28 22.4**	**-1.0**
	0.4nm,0.7s,baz=150,slow=6.0,SNR=2.7						
WR1	**Warramunga Arr**	**49.05**	**126**	*e*P	**P**	**08 28 32.3**	**-0.5**
	2.8nm,0.9s						
WRA	**Warramunga Arr**	**49.05**	**126**	P	**P**	**08 28 32.3**	**-0.5**
	1.1nm,0.7s,baz=306,slow=8.8,SNR=14						
ASAR	**Alice Springs**	**50.77**	**131**	P	**P**	**08 28 44.6**	**-1.1**
	0.5nm,0.8s,baz=302,slow=6.0,SNR=6.4						
AS31	**Alice Springs**	**50.77**	**131**	*e*P	**P**	**08 28 44.6**	**-1.1**
	0.4nm,0.8s						
BR101	**Keskin Array S**	**61.57**	**310**	*e*P	**P**	**08 30 01.2**	**-1.8**
BRTR	**Keskin Array B**	**61.57**	**310**	P	**P**	**08 30 01.2**	**-1.8**
	0.5nm,0.5s,baz=88,slow=6.5,SNR=3.6						
FIA0	**FINESS Array S**	**71.65**	**332**	*e*P	**P**	**08 31 05.8**	**-0.9**
FINES	**FINESS Array B**	**71.65**	**332**	P	**P**	**08 31 05.8**	**-0.9**
	1.5nm,0.8s,baz=108,slow=4.5,SNR=8.5						
ARA0	**ARCESS Array S**	**74.17**	**340**	*e*P	**P**	**08 31 21.8**	**+0.3**
ARCES	**ARCESS Array B**	**74.17**	**340**	P	**P**	**08 31 21.8**	**+0.3**
	2.2nm,0.9s,baz=85,slow=4.1,SNR=4.6						
BOSA	**Boshof**	**76.01**	**238**	P	**P**	**08 31 34.2**	**+1.1**
	2.8nm,1.0s,baz=153,slow=4.5,SNR=2.7						
GERES	**GERESS Array B**	**76.89**	**318**	P	**P**	**08 31 38.2**	**+0.5**
	0.9nm,0.4s,baz=76,slow=5.6,SNR=7.1						
HFS	**Hagfors**	**77.42**	**330**	P	**P**	**08 31 40.3**	**+0.1**
	1.3nm,0.5s,baz=103,slow=6.4,SNR=6.1						
NB200	**NORSAR Array S**	**78.68**	**331**	*e*P	**P**	**08 31 47.9**	**+0.6**
NOA	**NORSAR Array B**	**78.68**	**331**	P	**P**	**08 31 47.9**	**+0.6**
	0.4nm,0.5s,baz=96,slow=5.5,SNR=2.3						
SPITS	**Spitsbergen Ar**	**78.72**	**348**	P	**P**	**08 31 47.4**	**+0.1**
	3.0nm,0.8s,baz=38,slow=9.5,SNR=4.1						
SYO	**Syowa Base**	**86.40**	**197**	*e*P	P	08 32 16.4	-11
IM3	**Indian Mountai**	**90.69**	**22**	*e*P	**P**	**08 32 48.6**	**+0.8**
ILAR	**Eielson Array**	**93.80**	**22**	P	**P**	**08 33 01.9**	**-0.3**
	11nm,0.6s,baz=286,slow=4.2,SNR=3.8						
NV01	**Mina Array Sit**	**124.07**	**30**	*e*PKPdf	**PKPdf**	**08 38 45.5**	**+1.0**
NVAR	**Mina Array Bea**	**124.07**	**30**	PKP	**PKPdf**	**08 38 45.7**	**+1.2**
	0.6nm,0.9s,baz=253,slow=2.7,SNR=3.7						
PD31	**Pinedale Array**	**124.21**	**21**	*e*PKPdf	**PKPdf**	**08 38 44.0**	**-0.6**
PDAR	**Pinedale Array**	**124.21**	**21**	PKP	**PKPdf**	**08 38 44.0**	**-0.6**
	0.2nm,0.6s,baz=298,slow=3.2,SNR=3.8						
PMPB	**Monarch Peak**	**124.42**	**34**	*e*PKPdf	**PKPdf**	**08 38 45.7**	**+0.7**
TXAR	**Lajitas Array**	**138.29**	**23**	PKP	**PKPdf**	**08 39 10.5**	**-0.9**
	0.5nm,1.0s,baz=29,slow=4.1,SNR=4.2						
PLCA	**Paso Flores**	**145.51**	**201**	PKPbc	**PKPab**	**08 39 24.3**	**+0.2**
	2.8nm,1.0s,baz=191,slow=5.2,SNR=4.2						
CPUP	**Villa Florida**	**147.77**	**234**	PKPbc	**PKPab**	**08 39 31.2**	**-2.0**
	1.1nm,0.7s,baz=45,slow=1.4,SNR=2.9						

*NEIC **25** 08:20:09.1±0.0, 17.00N×94.04W,h16km,MD4.0(MEX), After MEX.*

MEX 25 08:20:09.1±0.9,17.00N×94.04W,h16km±11km,MD4.0, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TGIG		**0.91**	**104**	*e*P	Pb	08 20 22.9	-3.6
TGIG				*e*S	Sb	08 20 34.7	-3.8
TGIG		**0.91**	**104**	*e*P	Pb	08 20 22.9	-3.6
TGIG				*e*S	Sb	08 20 34.7	-3.8
TUIG	**Tuzandepetl**	**1.09**	**341**	*e*P	Pb	08 20 27.9	-1.6
TUIG	**Tuzandepetl**	**1.09**	**341**	*e*P	Pb	08 20 27.9	-1.6
PCIG		**1.51**	**148**	*e*P	Pn	08 20 31.5	-4.0
PCIG				*e*S	Sn	08 20 49.4	-5.5
PCIG		**1.51**	**148**	*e*P	Pn	08 20 31.5	-4.0
PCIG				*e*S	Sn	08 20 49.4	-5.5
CCIG	**Comitan**	**1.96**	**111**	*e*P	Pn	08 20 38.8	-3.0
CCIG	**Comitan**	**1.96**	**111**	*e*P	Pn	08 20 38.8	-3.0
VHO	**Vista Hermosa**	**2.57**	**272**	*e*P	Pn	08 20 48.4	-1.9
VHO				*e*S	Sn	08 21 16.6	-4.7
VHO	**Vista Hermosa**	**2.57**	**272**	*e*P	Pn	08 20 48.4	-1.9
VHO				*e*S	Sn	08 21 16.6	-4.7

*ISCJB **25** 08:20:40.8±0.6,36.64N±0.04×1.54E±0.05,h14km,Error ellipse: s-maj=6.2km s-min=5.2km az=28.8*
*CSEM **25** 08:20:41.9±0.2,36.54N×1.61E,h20km,mb3.2,Error ellipse: s-maj=7.5km s-min=5.4km az=117.0*
*CRAAG **25** 08:20:41.2,36.54N×1.62E,Ml3.2*
*MDD **25** 08:20:43.0±1.2,36.51N×1.61E,h21km±16km,mb3.2/3, Error ellipse: s-maj=15.1km s-min=9.3km az=11.0, PRXIMO*

ISC 25 08:20:40.9±1.0,36.56N±0.06×1.60E±0.04,h14km,n23, σ0999/29,Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EBNR	**Beni Rached**	**0.28**	**191**	P	**Pb**	**08 20 47.8**	**+0.1**
EBNR	**Beni Rached**	**0.28**	**191**	P	**Pb**	**08 20 47.8**	**+0.1**
ECHA	**Ech Chlef**	**0.45**	**204**	P	**Pb**	**08 20 51.2**	**+0.5**
ECHA	**Ech Chlef**	**0.45**	**204**	P	**Pb**	**08 20 51.2**	**+0.5**
ECHF	**Ech Chlef**	**0.46**	**207**	P	**Pb**	**08 20 51.2**	**+0.5**
ECHF	**Ech Chlef**	**0.46**	**207**	P	**Pb**	**08 20 51.2**	**+0.5**
EANR	**'Ain N'Sour**	**0.73**	**213**	P	**Pb**	**08 20 55.8**	**+0.3**
EANR	**'Ain N'Sour**	**0.73**	**213**	P	**Pb**	**08 20 55.8**	**+0.3**
EANR	**'Ain N'Sour**	**0.73**	**213**	P	**Pb**	**08 20 55.8**	**+0.3**
EMHD	**Djebel Mahouad**	**1.15**	**108**	P	**Pb**	**08 21 02.6**	**-0.1**
EMHD	**Djebel Mahouad**	**1.15**	**108**	P	**Pb**	**08 21 02.6**	**-0.1**
EMHD	**Djebel Mahouad**	**1.15**	**108**	P	**Pb**	**08 21 02.6**	**-0.1**
ABA	**Alger-Bouzarea**	**1.18**	**78**	P	**Sn**	**08 21 18.0**	**-0.9**
ABA	**Alger-Bouzarea**	**1.18**	**78**	S	**Sn**	**08 21 18.0**	**-0.9**
ABA	**Alger-Bouzarea**	**1.18**	**78**	S	**Sn**	**08 21 18.0**	**-0.9**
EIBI	**Ibiza**	**2.47**	**355**	P	**Pn**	**08 21 22.6**	**+1.8**
	24nm,2.7s,SNR=7.9						
EIBI				S	**Sn**	**08 21 49.8**	**-0.9**
	12nm,0.6s,SNR=7.7						
EIBI	**Ibiza**	**2.47**	**355**	P	**Pn**	**08 21 22.6**	**+1.8**
	24nm,2.7s,SNR=7.9						
EIBI				S	**Sn**	**08 21 49.8**	**-0.9**
	12nm,0.6s,SNR=7.7						
ETOS	**Mallorca**	**3.34**	**16**	P	**Pn**	**08 21 33.2**	**+0.4**
	SNR=7.9						
ETOS				S	**Sn**	**08 22 11.4**	**-0.9**
	SNR=7.9						
ETOS	**Mallorca**	**3.34**	**16**	P	**Pn**	**08 21 33.2**	**+0.4**
	SNR=7.9						
ETOS				S	**Sn**	**08 22 11.4**	**-0.9**
	SNR=7.9						
EBER	**Berja**	**3.62**	**277**	P	**Pn**	**08 21 37.9**	**+1.1**
	1.6nm,1.3s,SNR=7.9						
EBER				S	**Sn**	**08 22 17.3**	**-2.1**
	12nm,1.9s,SNR=7.9						
EBER	**Berja**	**3.62**	**277**	P	**Pn**	**08 21 37.9**	**+1.1**
	1.6nm,1.3s,SNR=7.9						
EBER				S	**Sn**	**08 22 17.3**	**-2.1**
	12nm,1.9s,SNR=7.9						
EADA	**Adamuz**	**5.17**	**290**	P	**Pn**	**08 21 58.1**	**+0.1**
	2.4nm,1.3s,SNR=7.9						
EADA	**Adamuz**	**5.17**	**290**	P	**Pn**	**08 21 58.1**	**+0.1**
	2.4nm,1.3s,SNR=7.9						

*ISCJB **25** 08:23:43.6±0.4,18.15N±0.05×68.32W±0.03,h95km, mb3.4/3,Error ellipse: s-maj=7.4km s-min=3.4km az=166.1*
*IDC **25** 08:23:43.2±2.9,18.26N×68.34W,h52km±34km,mb3.3/4, mb1 3.7/8,mb1mx3.4/57,mbtmp3.8/8,ML3.2/4,Error ellipse: s-maj=30.5km s-min=23.3km az=78.0*
*RSPR **25** 08:23:44.0,17.98N×68.39W,h77km±1km,MD3.7/17*
*NEIC **25** 08:23:44.0±0.0,17.98N×68.39W,h77km,MD3.7(RSPR), After RSPR.*

ISC 25 08:23:45.3±0.7,18.15N±0.08×68.31W±0.04,h95km,n63, σ1882/79,mb3.6/3,25C-8D,Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IMPR	**Mona Island, P**	**0.37**	**101**	⇑*e*P	**Pn**	**08 23 56.9**	**-2.7**
IMPR	**Mona Island, P**	**0.37**	**101**	*e*S	**Sn**	**08 24 06.4**	**-3.9**
IDE	**Isla Desecheo**	**0.83**	**73**	⇓*i*P	**Pn**	**08 24 01.6**	**-1.9**
IDE	**Isla Desecheo**	**0.83**	**73**	*e*S	**Sn**	**08 24 15.5**	**-1.7**
IDE	**Isla Desecheo**	**0.83**	**73**	⇓*i*P	**Pn**	**08 24 01.6**	**-1.9**
IDE				*e*S	**Sn**	**08 24 15.5**	**-1.7**
CRPR	**Cabo Rojo, PR**	**1.15**	**97**	*e*S	**Sn**	**08 24 20.9**	**-2.5**
CRPR	**Cabo Rojo, PR**	**1.15**	**97**	⇑*e*P	**Pn**	**08 24 05.1**	**-1.9**
CRPR	**Cabo Rojo, PR**	**1.15**	**97**	⇑*e*P	**Pn**	**08 24 05.1**	**-1.9**
CRPR				*e*S	**Sn**	**08 24 20.9**	**-2.5**
AGPR	**Aguadilla, PR**	**1.19**	**74**	*e*S	**Sn**	**08 24 23.7**	**-0.5**
AGPR	**Aguadilla, PR**	**1.19**	**74**	⇑*e*P	**Pn**	**08 24 06.6**	**-0.8**
AGPR	**Aguadilla, PR**	**1.19**	**74**	⇑*e*P	**Pn**	**08 24 06.6**	**-0.8**
AGPR				*e*S	**Sn**	**08 24 23.7**	**-0.5**
DR12	**Loma Pena Alta**	**1.20**	**302**	⇓*e*P	**Pn**	**08 24 05.2**	**-2.5**
DR12				*e*S	**Sn**	**08 24 21.3**	**-3.2**
DR12	**Loma Pena Alta**	**1.20**	**302**	⇓*e*P	**Pn**	**08 24 05.2**	**-2.5**
AOPR	**Arecibo Observ**	**1.49**	**82**	*e*S	**Sn**	**08 24 30.8**	**-0.1**
AOPR	**Arecibo Observ**	**1.49**	**82**	⇑*e*P	**Pn**	**08 24 10.0**	**-1.2**
AOPR	**Arecibo Observ**	**1.49**	**82**	⇑*e*P	**Pn**	**08 24 10.0**	**-1.2**
AOPR				*e*S	**Sn**	**08 24 30.8**	**-0.1**
OBIP	**Obispado Ponce**	**1.63**	**93**	⇑*e*P	**Pn**	**08 24 11.6**	**-1.3**
OBIP	**Obispado Ponce**	**1.63**	**93**	*e*S	**Sn**	**08 24 32.0**	**-1.8**
OBIP	**Obispado Ponce**	**1.63**	**93**	⇑*e*P	**Pn**	**08 24 11.6**	**-1.3**
OBIP				*e*S	**Sn**	**08 24 32.0**	**-1.8**
CELP	**Cerrillos**	**1.65**	**92**	⇓*e*P	**Pn**	**08 24 11.4**	**-1.7**
CELP				*e*S	**Sn**	**08 24 32.7**	**-1.6**
CELP	**Cerrillos**	**1.65**	**92**	⇓*e*P	**Pn**	**08 24 11.4**	**-1.7**
ICMP	**Isla Caja de M**	**1.72**	**98**	*e*S	**Sn**	**08 24 33.5**	**-2.4**
EMPR	**Esperanza - Ma**	**1.73**	**79**	⇑*e*P	**Pn**	**08 24 13.4**	**-0.6**
EMPR	**Esperanza - Ma**	**1.73**	**79**	*e*S	**Sn**	**08 24 35.4**	**-0.6**
EMPR	**Esperanza - Ma**	**1.73**	**79**	⇑*e*P	**Pn**	**08 24 13.4**	**-0.6**
EMPR				*e*S	**Sn**	**08 24 35.4**	**-0.6**
SJG	**San Juan**	**2.06**	**91**	⇑*e*P	**Pn**	**08 24 17.3**	**-1.1**
SJG	**San Juan**	**2.06**	**91**	*e*S	**Sn**	**08 24 42.1**	**-1.6**
SJG	**San Juan**	**2.06**	**91**	P	**Pn**	**08 24 16.7**	**-1.7**
	23nm,0.3s,baz=324,slow=19,SNR=18						
SJG				S	**Sn**	**08 24 38.9**	**-4.8**
	145nm,0.3s,baz=270,slow=22,SNR=22						
SJG	**San Juan**	**2.06**	**91**	P	**Pn**	**08 24 16.7**	**-1.7**
SJG				⇑*e*P	**Pn**	**08 24 17.3**	**-1.1**
SJG				S	**Sn**	**08 24 38.9**	**-4.8**
SJG				*e*S	**Sn**	**08 24 42.1**	**-1.6**
SJG	**San Juan**	**2.06**	**91**	*e*P	**Pn**	**08 24 16.8**	**-1.6**
CBYP	**Canovanas**	**2.34**	**87**	⇓*i*P	**Pn**	**08 24 21.5**	**-0.6**
CBYP	**Canovanas**	**2.34**	**87**	*e*S	**Sn**	**08 24 49.5**	**-0.9**
CBYP	**Canovanas**	**2.34**	**87**	⇓*i*P	**Pn**	**08 24 21.5**	**-0.6**
CBYP				*e*S	**Sn**	**08 24 49.5**	**-0.9**
HUMP	**Col San Antoni**	**2.34**	**90**	⇑*e*P	**Pn**	**08 24 21.1**	**-1.0**
HUMP	**Col San Antoni**	**2.34**	**90**	*e*S	**Sn**	**08 24 49.0**	**-1.4**
HUMP	**Col San Antoni**	**2.34**	**90**	⇑*e*P	**Pn**	**08 24 21.1**	**-1.0**
HUMP				*e*S	**Sn**	**08 24 49.0**	**-1.4**
MTP	**Monte Pirata**	**2.62**	**91**	⇑*e*P	**Pn**	**08 24 25.7**	**-0.2**
MTP	**Monte Pirata**	**2.62**	**91**	*e*S	**Sn**	**08 24 57.0**	**-0.1**
MTP	**Monte Pirata**	**2.62**	**91**	⇑*e*P	**Pn**	**08 24 25.7**	**-0.2**
MTP				*e*S	**Sn**	**08 24 57.0**	**-0.1**
CUPR	**Culebra, Puert**	**2.88**	**86**	⇑*e*P	**Pn**	**08 24 28.6**	**-0.7**
CUPR	**Culebra, Puert**	**2.88**	**86**	*e*S	**Sn**	**08 25 03.6**	**+0.3**
CUPR	**Culebra, Puert**	**2.88**	**86**	⇑*e*P	**Pn**	**08 24 28.6**	**-0.7**
CUPR				*e*S	**Sn**	**08 25 03.6**	**+0.3**
SDDR	**Presa de Saban**	**2.94**	**287**	*e*Pn	**Pn**	**08 24 32.6**	**+2.4**
STVI	**Saint Thomas**	**3.20**	**86**	⇑*e*P	**Pn**	**08 24 32.8**	**-0.7**
STVI	**Saint Thomas**	**3.20**	**86**	⇑*e*P	**Pn**	**08 24 32.8**	**-0.7**
CDVI	**St. Croix**	**3.40**	**96**	⇑*e*P	**Pn**	**08 24 35.7**	**-0.5**
CDVI	**St. Croix**	**3.40**	**96**	⇑*e*P	**Pn**	**08 24 35.7**	**-0.5**
TBVI	**Tortola**	**3.52**	**85**	⇑*e*P	**Pn**	**08 24 37.8**	**-0.1**
TBVI	**Tortola**	**3.52**	**85**	⇑*e*P	**Pn**	**08 24 37.8**	**-0.1**
PCRV	**Puerto La Cruz**	**8.69**	**155**	P	**Pn**	**08 25 47.9**	**-0.3**
	0.7nm,0.3s,baz=100,slow=6.1,SNR=4.5						
PCRV				S	Sn	08 27 14.7	-10
	1.2nm,0.3s,baz=324,slow=8.7,SNR=3.2						
SDV	**Santo Domingo**	**9.48**	**194**	P	**Pn**	**08 25 58.4**	**-0.7**
	1.9nm,0.3s,baz=31,slow=9.4,SNR=11						
SDV				S	Sn	08 27 34.8	-9.3
	1.1nm,0.3s,baz=287,slow=18,SNR=4.9						
BARC	**Barichara**	**12.43**	**203**	*e*P	**Pn**	**08 26 35.9**	**-3.2**
HELC	**Santa Helena**	**13.81**	**212**	*e*P	**Pn**	**08 26 55.4**	**-2.1**
CHIC	**Chingaza**	**14.44**	**202**	*e*P	**Pn**	**08 27 03.3**	**-2.3**
ROSC	**El Rosal**	**14.47**	**205**	P	**Pn**	**08 27 05.5**	**-0.4**
	0.8nm,0.3s,baz=126,slow=19,SNR=2.2						
PLMC	**San Jos¨ del**	**15.29**	**212**	*e*P	**Pn**	**08 27 16.1**	**-0.1**
PCON	**Cinco Dias**	**17.61**	**208**	*e*P	**Pn**	**08 27 47.0**	**+1.7**
FLOC	**Florencia**	**17.97**	**204**	*e*P	**Pn**	**08 27 49.7**	**+0.6**
OTAV	**Otavalo**	**20.40**	**210**	*e*P	Pn	08 28 17.4	-0.7
PTGA	**Pitinga**	**20.48**	**155**	P	**P**	**08 28 16.9**	**+1.3**
	1.2nm,0.3s,baz=346,slow=14,SNR=4.5						
TXAR	**Lajitas Array**	**34.10**	**296**	P	**P**	**08 30 23.6**	**+2.5**
	0.1nm,0.5s,baz=104,slow=11,SNR=3.3						
CPUP	**Villa Florida**	**45.48**	**166**	P	**P**	**08 31 59.5**	**+4.4**
	1.2nm,0.8s,baz=278,slow=7.1,SNR=3.2						
YKA	**Yellowknife Ar**	**54.60**	**336**	P	**P**	**08 33 04.2**	**+0.5**
	0.5nm,0.8s,baz=114,slow=7.2,SNR=7.5						
YKA				pP	**pP**	**08 33 23.0**	**-3.8**
	0.4nm,0.7s,baz=114,slow=7.4,SNR=7.2						

IDC 25 08:27:36.7±22.0,22.85S×178.72W,h315km±202km, mb3.3/4,mb1 3.4/5,mb1mx3.1/42,mbtmp4.0/5,Error ellipse: s-maj=228.3km s-min=59.5km az=56.0,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**15.77**	**192**	P	P	08 31 02.0	+0.7
	0.2nm,0.3s,baz=97,slow=8.1,SNR=3.1						
URZ				S	S	08 33 36.8	-14
	0.1nm,0.3s,baz=100,slow=10,SNR=3.2						
RPZ	**Rata Peaks**	**22.46**	**200**	P	P	08 32 09.2	-0.3
	4.3nm,0.5s,baz=294,slow=1.0,SNR=5.7						
STKA	**Stephens Creek**	**36.21**	**247**	P	P	08 34 09.7	-0.7
	0.7nm,0.3s,baz=90,slow=9.1,SNR=2.9						
ASAR	**Alice Springs**	**43.38**	**259**	P	P	08 35 09.2	+0.1
	0.5nm,0.5s,baz=95,slow=7.2,SNR=12						
WRA	**Warramunga Arr**	**43.66**	**265**	P	P	08 35 11.6	+0.1
	0.8nm,0.4s,baz=96,slow=8.5,SNR=110						

*IDC **25** 08:32:10.1±0.9,8.91N×93.96E,h0km,mb3.8/11, mb1 3.9/13,mb1mx3.7/66,mbtmp3.8/13,ML4.0/2,Error ellipse: s-maj=45.7km s-min=16.2km az=57.0*
*ISCJB **25** 08:32:11.7±0.6,8.96N±0.09×94.1E±0.1,h22km,mb3.9/16, Error ellipse: s-maj=20.8km s-min=7.8km az=145.0*
*NEIC **25** 08:32:11.6±0.4,8.90N×93.92E,h10km,mb4.2/5,Error ellipse: s-maj=13.7km s-min=5.5km az=57.0*

ISC 25 08:32:14.2±0.7,9.0N±0.1×94.1E±0.1,h22km,n30, σ1831/30,mb4.0/16,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**7.79**	**142**	Pn	**Pn**	**08 34 07.5**	**+0.9**
	0.4nm,0.3s,baz=153,slow=11,SNR=2.4						
IPM	**Ipoh**	**8.20**	**123**	*e*Pn	**Pn**	**08 34 11.8**	**-0.3**
CMAR	**Chiang Mai Arr**	**10.52**	**26**	Pn	**Pn**	**08 34 46.1**	**+2.2**
	1.1nm,0.3s,baz=210,slow=15,SNR=4.0						
SHL	**Shillong**	**16.62**	**353**	*e*Pn	**Pn**	**08 36 05.5**	**-0.7**
	12nm,0.9s						
LSA	**Lhasa**	**20.79**	**353**	*e*P	**P**	**08 36 53.5**	**-1.1**
	9.8nm,0.9s						
NIL	**Nilore**	**31.17**	**325**	*e*P	**P**	**08 38 30.8**	**-1.0**
	10nm,0.8s						
AAK	**Ala-Archa**	**37.68**	**336**	*e*P	**P**	**08 39 27.6**	**-0.6**
	3.1nm,0.9s						
MK32	**Makanchi Array**	**39.00**	**347**	*e*P	**P**	**08 39 38.4**	**-0.7**
MKAR	**Makanchi Array**	**39.00**	**347**	P	**P**	**08 39 38.4**	**-0.7**
	0.4nm,0.5s,baz=164,slow=6.3,SNR=4.9						
GEYT	**Alibeck**	**43.36**	**317**	P	**P**	**08 40 16.3**	**+1.2**
	4.4nm,0.8s,baz=112,slow=6.9,SNR=3.6						
KURBB	**Kurchatov Arra**	**43.47**	**346**	P	**P**	**08 40 15.7**	**0.0**
	1.4nm,1.0s,baz=165,slow=7.5,SNR=4.6						
KURK	**Kurchatov**	**43.53**	**346**	*e*P	**P**	**08 40 15.7**	**-0.5**
ZALV	**Zalesovo Beam**	**45.46**	**352**	P	**P**	**08 40 31.1**	**-0.4**
	0.8nm,0.3s,baz=190,slow=7.5,SNR=5.1						
ZAA1	**Zalesovo Array**	**45.46**	**352**	*e*P	**P**	**08 40 31.1**	**-0.4**
BVAR	**Borovoye Array**	**47.93**	**341**	P	**P**	**08 40 50.9**	**-0.1**
	0.6nm,0.7s,baz=124,slow=7.4,SNR=3.7						
WRA	**Warramunga Arr**	**48.94**	**126**	P	**P**	**08 40 58.1**	**-1.1**
	0.5nm,0.5s,baz=304,slow=9.2,SNR=10.0						
WR1	**Warramunga Arr**	**48.94**	**126**	*e*P	**P**	**08 40 58.1**	**-1.1**
	4.1nm,1.1s						
ABKAR	**Akbulak array**	**49.24**	**331**	*e*P	**P**	**08 41 00.2**	**-0.9**
ASAR	**Alice Springs**	**50.66**	**131**	P	**P**	**08 41 11.8**	**-0.5**
	0.3nm,0.8s,baz=302,slow=7.2,SNR=3.0						
AKTO	**Aktyubinsk**	**50.96**	**331**	P	**P**	**08 41 12.8**	**-1.4**
	1.0nm,0.6s,baz=159,slow=8.6,SNR=3.3						
BR

*IDC **25** 08:49:41.6±0.6,8.99N×94.06E,h0km,mb3.9/13, mb1 4.0/14,mb1mx3.7/64,mbtmp3.9/14,ML3.8/1,Error ellipse: s-maj=28.1km s-min=17.4km az=70.0*
*NEIC **25** 08:49:43.0±0.3,8.97N×94.05E,h10km,mb4.5/3,Error ellipse: s-maj=12.1km s-min=7.2km az=73.0*
*ISCJB **25** 08:49:43.1±0.6,9.01N±0.09×94.1E±0.1,h22km,mb4.1/15, Error ellipse: s-maj=18.4km s-min=11.4km az=154.5*

ISC 25 08:49:45.2±0.7,9.0N±0.1×94.2E±0.1,h22km,n33, σ1§01/40,mb4.1/15,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	Chiang Mai Arr	10.48	26	Pn	Pn	08 52 14.8	+0.6
	0.2nm,0.3s,baz=213,slow=15,SNR=4.9						
LSA	Lhasa	20.79	353	*e*P	P	08 54 23.8	-1.8
	6.7nm,0.6s						
KHET	Khetri	25.70	320	*e*P	P	08 55 12.8	-1.1
KHET				*e*S	P	08 55 15.2	+1.2
KHET				*e*S	P	08 55 15.2	+1.2
MK31	Makanchi Array	39.01	347	*e*P	P	08 57 09.7	-0.5
MK32	Makanchi Array	39.01	347	*e*P	P	08 57 08.7	-1.4
MK32				*e*PcP	PcP	08 59 20.2	0.0
MKAR	Makanchi Array	39.01	347	P	P	08 57 08.7	-1.4
	0.5nm,0.6s,baz=163,slow=8.7,SNR=5.0						
MKAR				PcP	PcP	08 59 20.2	0.0
	0.3nm,0.6s,baz=166,slow=2.4,SNR=4.5						
MKAR	Makanchi Array	39.01	347	*e*P	P	08 57 09.9	-0.3
	5.7nm,0.5s						
MKAR				PcP	PcP	08 59 20.2	0.0
SONA0	Songino Array	40.06	13	*e*P	P	08 57 20.0	+0.9
SONA0				*e*PcP	PcP	08 59 24.2	+0.5
SONM	Songino Array	40.06	13	P	P	08 57 20.0	+0.9
	0.2nm,0.4s,baz=191,slow=5.9,SNR=2.9						
SONM				PcP	PcP	08 59 24.2	+0.5
	1.3nm,0.7s,baz=144,slow=3.5,SNR=5.5						
KURBB	Kurchatov Arra	43.48	346	P	P	08 57 47.2	+0.5
	1.2nm,0.8s,baz=165,slow=7.1,SNR=6.3						
KURK	Kurchatov	43.54	346	*e*P	P	08 57 47.2	0.0
ZALV	Zalesovo Beam	45.46	352	P	P	08 58 02.7	+0.2
	3.3nm,0.3s,baz=171,slow=10,SNR=3.7						
ZAA1	Zalesovo Array	45.46	352	*e*P	P	08 58 02.7	+0.1
WRA	Warramunga Arr	48.88	126	P	P	08 58 29.8	+0.1
	0.9nm,0.6s,baz=307,slow=8.7,SNR=9.2						
WR1	Warramunga Arr	48.88	126	*e*P	P	08 58 29.8	0.0
	6.0nm,1.1s						
ABKAR	Akbulak array	49.28	331	*e*P	P	08 58 31.8	-0.5
ASAR	Alice Springs	50.60	131	P	P	08 58 42.4	-0.4
	0.6nm,0.8s,baz=309,slow=6.9,SNR=5.7						
MANT	Manisa	65.41	308	*e*P	P	09 00 30.3	+3.6
	37nm,0.4s						
FIA0	FINESS Array S	71.75	332	*e*P	P	09 01 04.4	-1.2
FINES	FINESS Array B	71.75	332	P	P	09 01 04.4	-1.2
	1.0nm,0.5s,baz=93,slow=6.7,SNR=7.5						
ARA0	ARCESS Array S	74.23	340	*e*P	P	09 01 19.1	-1.1
ARCES	ARCESS Array B	74.23	340	P	P	09 01 19.1	-1.1
	2.5nm,0.9s,baz=335,slow=11,SNR=4.1						
BOSA	Boshof	76.22	239	P	P	09 01 32.7	+0.1
	1.6nm,0.5s,baz=78,slow=5.6,SNR=5.6						
GERES	GERESS Array B	77.03	318	P	P	09 01 36.0	-0.7
	0.7nm,0.5s,baz=94,slow=5.4,SNR=6.6						
HFS	Hagfors	77.52	330	P	P	09 01 37.9	-1.2
	1.1nm,0.4s,baz=64,slow=5.0,SNR=6.0						
EKA	Eskdalemuir Ar	86.83	325	P	P	09 02 27.7	-0.3
	0.7nm,0.6s,baz=91,slow=7.1,SNR=4.4						
ILAR	Eielson Array	93.69	22	P	P	09 02 59.9	-0.1
	0.3nm,0.8s,baz=288,slow=3.6,SNR=4.3						
NV01	Mina Array Sit	123.94	31	*e*PKPdf	PKPdf	09 08 42.9	+0.4
NVAR	Mina Array Bea	123.94	31	PKP	PKPdf	09 08 43.4	+0.9
	0.5nm,0.7s,baz=312,slow=1.7,SNR=5.1						
PDAR	Pinedale Array	124.11	21	PKP	PKPdf	09 08 42.2	-0.5
	0.3nm,0.6s,baz=298,slow=1.9,SNR=3.4						
TXAR	Lajitas Array	138.19	24	PKP	PKPdf	09 09 09.7	+0.2
	0.2nm,0.5s,baz=283,slow=0.3,SNR=3.9						
PLCA	Paso Flores	145.61	201	PKPbc	PKPab	09 09 22.6	-0.2
	2.0nm,0.7s,baz=144,slow=1.6,SNR=7.5						
CPUP	Villa Florida	147.97	234	PKPbc	PKPbc	09 09 28.7	-1.0
	3.0nm,1.0s,baz=116,slow=2.8,SNR=5.7						

GUC 25 08:49:50.5±0.5,24.09S×67.72W,h205km±11km,ML3.6, 4C-3D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GO02	Mina Guanaco	2.01	237⇑	*i*P	Pn	08 50 29.0	-0.8
GO02				*i* S	S	08 50 59.7	-0.2
GO02				IAML		08 51 00.8	
	comp=E,141nm,0.3s						
PB06	IPOC Station P	2.19	309⇑	*i*P	Pn	08 50 32.8	+1.3
PB06				*i* S	S	08 51 05.2	+2.3
PB06				IAML		08 51 07.3	
	comp=E,142nm,0.4s						
ANCH	Antofagasta	2.49	279	*i* P	Pn	08 50 49.5	+15
ANCH				*i* S	S	08 51 24.1	+16
PB10	IPOC Station P	2.66	282⇑	*i*P	Pn	08 50 38.1	+1.6
PB10				*i* S	S	08 51 14.2	+2.4
PB10				IAML		08 51 20.5	
	comp=E,152nm,0.3s						
PB09	IPOC Station P	2.68	328⇓	*i*P	Pn	08 50 38.6	+1.7
PB09				*i* S	S	08 51 15.3	+2.7
PB09				IAML		08 51 20.6	
	comp=E,240nm,0.4s						
PB04	IPOC Station P	2.83	308⇓	*i*P	Pn	08 50 40.3	+1.6
PB04				*i* S	S	08 51 18.2	+2.5
PB04				IAML		08 51 20.2	
	comp=E,96nm,0.3s						
PB07	IPOC Station P	3.08	319	*e*P	Pn	08 50 43.0	+1.4
PB07				*i* S	S	08 51 22.8	+1.8
PB07				IAML		08 51 23.6	
	comp=E,118nm,0.3s						
PB02	IPOC Station P	3.41	324⇓	*i*P	Pn	08 50 47.1	+1.7
PB02				*i* S	S	08 51 29.3	+1.5
PB01	IPOC Station P	3.44	331⇑	*i*P	Pn	08 50 47.0	+1.2
PB01				*i* S	S	08 51 30.2	+1.6

*ISK **25** 08:52:22.9,38.35N×38.85E,h22km,ML2.2/5*
*CSEM **25** 08:52:23.5±0.2,38.34N×38.87E,h15km,ML3.0,Error ellipse: s-maj=5.6km s-min=4.1km az=163.0*
*DDA **25** 08:52:23.8,38.28N×38.87E,h7km,Ml3.0*
*ISCJB **25** 08:52:24.1±0.7,38.34N±0.04×38.88E±0.04,h25km±7km, Error ellipse: s-maj=7.1km s-min=5.3km az=154.6*

ISC 25 08:52:23.6±1.2,38.34N±0.03×38.86E±0.02,h16km±10km, n18,σ0§57/32,Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ELZG	Elazig	0.19	31	*i* P	Pb	08 52 28.9	+0.1
ELZG				*i* S	Sb	08 52 32.6	+0.2
ELZG	Elazig	0.19	31	P	Pb	08 52 29.0	+0.1
ELZG				S	Sb	08 52 32.6	+0.2
MALT	Malatya	0.34	266	PG	Pg	08 52 30.9	+0.2
MALT				SG	Sb	08 52 36.3	-0.4
MALT	Malatya	0.34	266	*i* Pg	Pg	08 52 30.9	+0.2
MALT				*i* Sg	Sb	08 52 36.3	-0.4
SVRC	Sivrice-ELAZID	0.35	83	PG	Pg	08 52 31.1	+0.1
SVRC				SG	Sb	08 52 37.1	0.0
SVRC	Sivrice-ELAZID	0.35	83	*e*Pg	Pg	08 52 31.1	+0.1
SVRC				*e*Sg	Sb	08 52 37.1	0.0
PTK	Pertek	0.69	37	PG	Pg	08 52 37.1	-0.1
PTK				SG	Sb	08 52 47.4	+0.5
PTK	Pertek	0.69	37	*e*Pg	Pg	08 52 37.1	-0.1
PTK				*e*Sg	Sb	08 52 47.4	+0.5
AKCD	Akcadag	0.74	267	*i* P	Pb	08 52 38.2	0.0
AKCD				*i* S	Sb	08 52 49.3	+1.1
AKCD	Akcadag	0.74	267	P	Pb	08 52 38.2	0.0
AKCD				S	Sb	08 52 49.3	+1.1
HEKM	Malatya_Hekimh	0.89	308	*i* P	Pg	08 52 40.9	0.0
HEKM				*i* S	Sn	08 52 55.2	+0.8
HEKM	Malatya_Hekimh	0.89	308	P	Pg	08 52 40.9	0.0
HEKM				S	Sn	08 52 55.2	+0.8
URFA	Urfa	0.89	182	PG	Pb	08 52 40.7	-0.1
URFA				SG	Sn	08 52 53.8	-0.5
URFA	Urfa	0.89	182	*e*Pg	Pb	08 52 40.7	-0.1
URFA				*e*Sg	Sn	08 52 53.8	-0.5
DARE	Darende-Malaty	1.11	283	PN	Pb	08 52 43.4	-1.0
DARE	Darende-Malaty	1.11	283	*e*Pn	Pb	08 52 43.4	-1.0
ILIC	ilic-Erzincan	1.14	349	PN	Pb	08 52 44.1	-0.9
ILIC	ilic-Erzincan	1.14	349	*e*Pn	Pb	08 52 44.1	-0.9

IDC 25 08:53:33.7±2.2,1.91N×93.97E,h0km,mb3.6/3,mb1 3.9/5, mb1mx3.5/63,mbtmp3.7/5,ML4.2/2,Error ellipse: s-maj=62.2km s-min=25.5km az=57.0,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PSI	Prapat	5.03	80	Pn	Pn	08 54 49.7	-0.9
	3.1nm,0.3s,baz=335,slow=6.0,SNR=5.7						
PSI				Sn	Sn	08 55 44.4	-5.1
	1.0nm,0.3s,baz=329,slow=12,SNR=3.8						
CMAR	Chiang Mai Arr	17.16	16	P	P	08 57 35.9	-0.9
	0.7nm,0.3s,baz=208,slow=13,SNR=3.4						
WRA	Warramunga Arr	45.16	121	P	P	09 01 52.4	-0.1
	0.5nm,1.0s,baz=282,slow=8.0,SNR=2.8						
MKAR	Makanchi Array	45.85	349	P	P	09 01 57.4	-0.3
	1.2nm,0.6s,baz=167,slow=8.4,SNR=13						
ASAR	Alice Springs	46.41	126	P	P	09 02 02.5	+0.1
	0.2nm,0.3s,baz=297,slow=7.5,SNR=4.9						

IDC 25 08:56:51.2±7.5,8.91N×94.07E,h0km,mb3.5/4,mb1 3.6/4, mb1mx3.3/60,mbtmp3.5/4,MS4.0/1,Ms1 4.0/1, ms1mx2.9/61,Error ellipse: s-maj=374.9km s-min=28.1km az=58.0,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MKAR	Makanchi Array	39.07	347	P	P	09 04 18.8	-1.1
	0.3nm,0.7s,baz=174,slow=8.1,SNR=3.6						
KURBB	Kurchatov Arra	43.53	346	P	P	09 04 57.9	+1.3
	0.4nm,0.7s,baz=169,slow=7.5,SNR=4.5						
ZALV	Zalesovo Beam	45.53	352	P	P	09 05 12.1	-0.3
	0.7nm,0.4s,baz=156,slow=7.6,SNR=3.1						
WRA	Warramunga Arr	48.92	126	P	P	09 05 39.4	-0.1
	0.3nm,0.6s,baz=305,slow=8.7,SNR=5.1						
OPO	Ambohidratompo	53.70	239	LR	LR	09 25 46.0	
	comp=Z,144nm,18.0s,baz=352,slow=32						

MEX 25 09:00:17.5±0.6,16.16N×98.46W,h6km±5km,MD3.8,Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PNIG	Pinotepa	0.40	55	*i* P	Pg	09 00 24.8	-0.4
PNIG				*e*S	Sg	09 00 30.6	+0.2
TLIG	Tlapa	1.40	356	*e*P	Pn	09 00 39.6	-4.0
TLIG				*e*S	Sb	09 00 58.0	-4.1
VHO	Vista Hermosa	1.89	61	*e*P	Pn	09 00 47.5	-3.0
VHO				*e*S	Sn	09 01 09.9	-4.8
CAIG	El Cayaco	1.94	297	*e*P	Pn	09 00 47.8	-3.2
CAIG				*e*S	Sn	09 01 11.1	-4.6

*IDC **25** 09:05:54.0±1.2,3.22N×92.88E,h0km,mb4.0/9, mb1 4.1/12,mb1mx3.7/72,mbtmp4.0/12,ML3.9/3,Error ellipse: s-maj=37.1km s-min=17.9km az=43.0*
*NEIC **25** 09:05:55.1±0.5,3.17N×92.84E,h10km,mb4.0/2,Error ellipse: s-maj=12.1km s-min=6.3km az=211.0*
*ISCJB **25** 09:05:57.1±0.7,3.3N±0.1×93.04E±0.07,h33km,mb4.0/12, Error ellipse: s-maj=16.4km s-min=7.3km az=29.7*

ISC 25 09:05:58.9±0.8,3.3N±0.1×93.05E±0.07,h35km,n26, σ2§23/24,mb4.2/12,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GSI	Gunungsitoli	4.93	113	*e*Pn	Pn	09 07 10.5	0.0
	83nm,0.3s						
GSI				*e*Sn	Sn	09 08 03.5	-2.8
PSI	Prapat	5.88	94	Pn	Pn	09 07 25.8	+2.0
	2.8nm,0.3s,baz=317,slow=12,SNR=18						
PSI				Sn	Sn	09 08 29.5	-0.6
	4.3nm,0.3s,baz=260,slow=8.2,SNR=3.9						
KULM	Kulim	7.84	75	*e*Pn	Pn	09 07 51.7	+1.2
	17nm,0.4s						
KULM				*e*Sn	Sn	09 09 12.6	-5.5
IPM	Ipoh	8.04	81	*e*Pn	Pn	09 07 55.9	+2.5
	12nm,0.4s						
IPM				*e*Sn	Sn	09 09 18.0	-5.2
PALK	Pallekele	12.92	288	Pn	Pn	09 08 56.8	-3.4
	1.1nm,0.3s,baz=0.0,slow=0.0,SNR=3.9						
PALK				Sn	Sn	09 11 06.9	-16
	8.0nm,0.3s,baz=297,slow=1.3,SNR=16						
CMAR	Chiang Mai Arr	16.15	21	Pn	Pn	09 09 45.6	+2.2
	0.1nm,0.3s,baz=217,slow=14,SNR=4.2						
H08S2	Diego Garcia H	23.20	242	T	T	09 36 36.0	
	baz=62,slow=75,SNR=42						
H08S3	Diego Garcia H	23.20	242	T	T	09 36 41.0	
	baz=62,slow=75,SNR=44						
H08S1	Diego Carcia H	23.22	242	T	T	09 36 32.4	
	baz=62,slow=75,SNR=41						
NIL	Nilore	35.42	331	*e*P	P	09 12 51.5	-0.3
	19nm,0.7s						
MBWA	Marble Bar	35.68	134	*e*P	P	09 12 55.0	+0.9
H01W3	Cape Leeuwin H	42.82	154	T	T	10 00 07.8	
	baz=330,SNR=2.4						
H01W2	Cape Leeuwin H	42.83	154	T	T	10 00 12.3	
	baz=330						
H01W1	Cape Leeuwin H	42.84	154	T	T	10 00 09.3	
	baz=330						
MKAR	Makanchi Array	44.34	349	P	P	09 14 06.3	+0.7
	2.3nm,0.7s,baz=164,slow=8.1,SNR=5.8						
SONM	Songino Array	45.86	13	P	P	09 14 19.4	+1.5
	1.0nm,0.7s,baz=88,slow=38,SNR=4.3						
WRA	Warramunga Arr	46.65	121	P	P	09 14 25.2	+0.8
	0.7nm,0.9s,baz=299,slow=8.8,SNR=6.2						
WRAB	Tennant Creek	46.65	121	*e*P	P	09 14 25.0	+0.6
	6.5nm,1.1s						
GEYT	Alibeck	47.00	322	P	P	09 14 28.0	+1.1
	2.1nm,0.6s,baz=140,slow=7.2,SNR=4.5						
ASAR	Alice Springs	47.95	126	P	P	09 14 35.8	+1.3
	0.3nm,0.6s,baz=297,slow=8.2,SNR=3.9						
KURBB	Kurchatov Arra	48.75	348	P	P	09 14 39.2	-0.8
	1.6nm,0.5s,baz=175,slow=7.3,SNR=4.1						
KURK	Kurchatov	48.81	348	P	P	09 14 39.2	-1.4
ZALV	Zalesovo Beam	50.96	354	P	P	09 14 57.7	+0.9
	2.0nm,0.5s,baz=176,slow=8.2,SNR=4.0						
ABKAR	Akbulak array	53.78	334	*e*P	P	09 15 17.6	-0.3
	0.1nm,0.4s						
BRTR	Keskin Array B	64.66	313	P	P	09 16 33.5	-0.1
	0.3nm,0.4s,baz=120,slow=10,SNR=2.9						
TIXI	Tiksi	71.92	11	P	P	09 17 17.8	-0.4
	1.1nm,0.3s,baz=300,slow=7.4,SNR=4.9						

*IDC **25** 09:15:37.1±0.8,8.99N×94.12E,h0km,mb3.8/11, mb1 3.9/12,mb1mx3.7/68,mbtmp3.8/12,ML4.2/1,Error ellipse: s-maj=37.9km s-min=18.3km az=53.0*
*ISCJB **25** 09:15:38.6±0.7,9.1N±0.1×94.3E±0.1,h22km,mb3.9/13, Error ellipse: s-maj=22.1km s-min=12.4km az=148.5*
*NEIC **25** 09:15:38.5±0.4,8.98N×94.12E,h10km,mb4.1/2,Error ellipse: s-maj=17.0km s-min=9.7km az=62.0*

ISC 25 09:15:40.5±0.8,9.0N±0.1×94.2E±0.2,h22km,n21, σ0§85/21,mb3.9/13,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	Chiang Mai Arr	10.48	26	Pn	Pn	09 18 09.8	+0.3
	0.6nm,0.3s,baz=210,slow=15,SNR=3.2						
LSA	Lhasa	20.77	353	*e*P	P	09 20 20.0	-0.6
	6.0nm,0.5s						
AAK	Ala-Archa	37.68	336	P	P	09 22 54.2	-0.2
	1.3nm,0.5s,baz=172,slow=8.8,SNR=3.7						
MKAR	Makanchi Array	38.99	347	P	P	09 23 05.7	+0.5
	1.0nm,0.9s,baz=161,slow=7.7,SNR=4.4						
SONM	Songino Array	40.06	13	PcP	PcP	09 25 18.9	0.0
	0.6nm,0.6s,baz=220,slow=3.8,SNR=3.6						
KURBB	Kurchatov Arra	43.45	346	P	P	09 23 42.9	+1.1
	0.6nm,0.5s,baz=166,slow=7.3,SNR=4.3						
KURK	Kurchatov	43.52	346	P	P	09 23 42.9	+0.6
WRA	Warramunga Arr	48.91	126	P	P	09 24 25.6	+0.3
	0.4nm,0.6s,baz=304,slow=9.7,SNR=8.6						
WRAB	Tennant Creek	48.92	126	*e*P	P	09 24 24.9	-0.4
	27nm,2.0s						
ABKAR	Akbulak array	49.25	331	*e*P	P	09 24 26.6	-0.8
	0.8nm,0.5s						
ASAR	Alice Springs	50.64	131	P	P	09 24 37.9	-0.5
	0.2nm,0.7s,baz=288,slow=6.2,SNR=5.1						
BRTR	Keskin Array B	61.70	310	P	P	09 25 59.1	+1.7
	0.3nm,0.4s,baz=108,slow=7.7,SNR=3.2						
FINES	FINESS Array B	71.72	332	P	P	09 26 59.5	-1.2
	0.8nm,0.6s,baz=96,slow=8.4,SNR=5.7						
ARCES	ARCESS Array B	74.21	340	P	P	09 27 13.9	-1.4
	3.3nm,1.0s,baz=79,slow=6.4,SNR=4.1						
GERES	GERESS Array B	76.99	318	P	P	09 27 31.6	-0.2
	0.4nm,0.3s,baz=97,slow=7.2,SNR=3.0						
HFS	Hagfors	77.49	330	P	P	09 27 33.6	-0.6
	2.9nm,0.8s,baz=134,slow=12,SNR=3.9						
TORD	Torodi Ar. Bea	90.35	283	P	P	09 28 41.0	+0.3
	0.4nm,0.8s,baz=64,slow=3.4,SNR=3.0						
NVAR	Mina Array Bea	123.94	31	PKP	PKPdf	09 34 39.4	+1.6
	0.3nm,0.6s,baz=302,slow=1.7,SNR=3.2						
PDAR	Pinedale Array	124.11	21	PKP	PKPdf	09 34 38.0	0.0
	0.2nm,0.6s,baz=67,slow=2.3,SNR=2.7						
TXAR	Lajitas Array	138.19	24	PKP	PKPdf	09 35 05.2	+0.4
	0.3nm,0.7s,baz=5.7,slow=2.7,SNR=3.2						
PLCA	Paso Flores	145.61	201	PKPbc	PKPdf	09 35 17.1	-0.6
	1.0nm,0.7s,baz=251,slow=3.4,SNR=4.1						

*ISCJB **25** 09:33:46.5±0.8,38.35N±0.05×39.09E±0.05,h14km±5km, Error ellipse: s-maj=9.2km s-min=6.7km az=177.1*
*ISK **25** 09:33:46.2,38.33N×39.08E,h14km,MD2.4/3*
*CSEM **25** 09:33:46.2±0.3,38.36N×39.08E,h15km,ML2.8,Error ellipse: s-maj=7.6km s-min=5.1km az=167.0*
*DDA **25** 09:33:48.9,38.59N×38.95E,h7km,Ml2.8*

ISC 25 09:33:46.2±0.9,38.36N±0.04×39.07E±0.04,h17km±7km, n15,σ0§64/25,Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ELZG	Elazig	0.15	333	*i* P	Pb	09 33 50.9	+0.2
ELZG				*i* S	Sg	09 33 53.4	0.0
ELZG	Elazig	0.15	333	P	Pb	09 33 50.9	+0.2
ELZG				S	Sg	09 33 53.4	0.0
SVRC	Sivrice-ELAZID	0.18	85	PG	Pb	09 33 51.1	-0.2
SVRC				SG	Sg	09 33 54.0	-0.1
SVRC	Sivrice-ELAZID	0.18	85	*i* Pg	Pb	09 33 51.1	-0.2
SVRC				*e*Sg	Sg	09 33 54.0	-0.1
MALT	Malatya	0.51	265	PG	Pg	09 33 56.7	+0.3
MALT				SG	Sb	09 34 04.5	+0.5
MALT	Malatya	0.51	265	*e*Pg	Pg	09 33 56.7	+0.3
MALT				*e*Sg	Sb	09 34 04.5	+0.5
PTK	Pertek	0.58	25	PG	Pb	09 33 58.4	+0.3
PTK	Pertek	0.58	25	*e*Pg	Pb	09 33 58.4	+0.3
AKCD	Akcadag	0.91	266	*i* P	Pn	09 34 04.4	+0.1
AKCD				*i* S	Sn	09 34 17.7	+0.6
AKCD	Akcadag	0.91	266	P	Pn	09 34 04.4	+0.1
AKCD				S	Sn	09 34 17.7	+0.6
URFA	Urfa	0.94	192	PG	Pb	09 34 03.9	-0.2
URFA	Urfa	0.94	192	*e*Pg	Pb	09 34 03.9	-0.2
HEKM	Malatya_Hekimh	1.01	301	*i* P	Pb	09 34 05.1	-0.3
HEKM				*i* S	Sb	09 34 16.8	-1.8
HEKM	Malatya_Hekimh	1.01	301	P	Pb	09 34 05.1	-0.3
HEKM				S	Sb	09 34 16.8	-1.8
ILIC	ilic-Erzincan	1.16	340	PN	Pg	09 34 08.9	+0.3

*ISCJB **25** 09:37:09.0±0.3,8.07S±0.04×74.40W±0.04,h151km, mb4.0/16,Error ellipse: s-maj=6.4km s-min=5.5km az=14.4*
*IDC **25** 09:37:09.6±0.8,8.11S×74.42W,h143km±7km,mb3.8/14, mb1 3.9/19,mb1mx3.8/47,mbtmp4.3/19,Error ellipse: s-maj=15.3km s-min=10.2km az=38.0*
*NEIC **25** 09:37:10.1±0.3,8.09S×74.41W,mb4.1/2,Error ellipse: s-maj=6.5km s-min=5.2km az=54.0*

ISC 25 09:37:10.1±0.5,8.08S±0.06×74.31W±0.06,h151km,n33, σ1§92/42,mb4.1/16,Peru-Brazil border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ATAH	Atahualpa	4.16	283	P	Pn	09 38 11.2	-1.6
	25nm,0.3s,baz=30,slow=4.6,SNR=261						
ATAH				S	Sn	09 38 57.9	-3.7
	65nm,0.3s,baz=53,slow=21,SNR=6.7						
NNA	Nana	4.61	213	*e*Pn	Pn	09 38 18.6	+0.1
NNA				*e*Sn	Sn	09 39 09.4	-2.4
OTAV	Otavalo	9.24	333	*e*Pn	Pn	09 39 19.8	-0.7
LPAZ	La Paz	10.14	144	P	Pn	09 39 33.8	+1.2
	0.6nm,0.3s,baz=321,slow=8.5,SNR=23						
SAML	Samuel	11.04	95	*e*Pn	Pn	09 39 44.8	+0.9
SAML				*e*Sn	Sn	09 41 40.8	-5.1
SIV	San Ignacio	15.13	123	P	Pn	09 40 38.4	+2.2
	0.9nm,0.3s,baz=298,slow=12,SNR=33						
SIV				S	Sn	09 43 21.7	-2.9
	0.1nm,0.3s,baz=44,slow=20,SNR=5.1						
PTGA	Pitinga	16.05	64	P	Pn	09 40 49.3	+1.8
	6.3nm,0.3s,baz=248,slow=17,SNR=49						
PTGA				S	S	09 43 40.0	-6.2
	0.3nm,0.3s,baz=270,slow=20,SNR=4.1						
SDV	Santo Domingo	17.25	12	P	Pn	09 41 03.0	+0.8
	1.6nm,0.3s,baz=287,slow=5.0,SNR=9.8						
SDV	Santo Domingo	17.25	12	*e*P	Pn	09 41 03.3	+1.1
	5.9nm,0.6s						
PCRV	Puerto La Cruz	20.54	28	P	P	09 41 38.3	+1.4
	9.7nm,0.7s,baz=19,slow=4.1,SNR=5.1						
CPUP	Villa Florida	24.28	140	P	P	09 42 14.5	+1.0
	7.3nm,0.8s,baz=327,slow=9.9,SNR=20						
SJG	San Juan	27.25	17	P	P	09 42 41.9	+1.7
	10nm,0.4s,baz=233,slow=5.1,SNR=4.1						
PLCA	Paso Flores	32.68	175	P	P	09 43 27.9	-0.1
	1.5nm,1.0s,baz=5.5,slow=8.1,SNR=4.6						
TXAR	Lajitas Array	46.73	324	P	P	09 45 24.8	+0.5
	0.6nm,0.6s,baz=147,slow=9.0,SNR=12						
TXAR				pP	pP	09 45 56.9	-1.3
	0.4nm,0.7s,baz=150,slow=8.5,SNR=4.0						
SDCO	Great Sand Dun	54.10	330	*e*P	P	09 46 20.1	+0.3
	4

mb4.2/15, Error ellipse: s-maj=2.1km s-min=1.6km az=22.4
*ATH **25** 10:06:59.9, 40°.18N×24°.99E, h28km±1km, ML3.9/7, Error ellipse: s-maj=1.2km s-min=0.8km az=57.0*
*DDA **25** 10:06:59.3, 40°.19N×24°.94E, h33km, Ml4.1*
*ISK **25** 10:07:00.3, 40°.17N×25°.01E, h1km, ML4.1/42*
*CSEM **25** 10:07:00.1±0.1, 40°.17N×24°.96E, h5km, mb4.0/11, Error ellipse: s-maj=2.0km s-min=1.7km az=25.0*
*MOS **25** 10:07:00.9±0.8, 40°.20N×25°.01E, h20km, mb4.4/9, Error ellipse: s-maj=4.9km s-min=3.9km az=97.9*
*THE **25** 10:07:00.3, 40°.18N×24°.97E, h8km, ML3.9/13, Error ellipse: s-maj=0.9km s-min=0.4km az=57.0*
*NEIC **25** 10:07:01.6±0.3, 40°.26N×25°.07E, h10km, mb4.5/2, ML4.0(THE), ML4.1(ISK), Error ellipse: s-maj=6.1km s-min=5.0km az=206.0*
*BEO **25** 10:07:02.5±0.9, 40°.22N×24°.89E, h3km±4km*
ISC 25 10:06:59.7±1.0, 40°.18N±0°.01×24°.99E±0°.01, h2km±6km, n496, σ1§46/579, mb4.1/16, 22C-12D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LIA	**Limnos Island**	**0.32**	**152**	P	**Pg**	**10 07 07.0**	**+1.3**
LIA				S	**Sg**	**10 07 11.5**	**+1.7**
LIA				AML	AML	10 07 12.6	
	comp=E,81160μm,0.6s						
LIA				AML	AML	10 07 14.2	
	comp=N,58498μm,0.6s						
LIA	**Limnos Island**	**0.32**	**152**	P	**Pb**	**10 07 07.3**	**-0.8**
LIA				S	**Sb**	**10 07 11.7**	**-2.0**
LIA	**Limnos Island**	**0.32**	**152**	P	**Pb**	**10 07 07.3**	**-0.8**
LIA				S	**Sb**	**10 07 11.7**	**-2.0**
SMTH	**Samothraki Isl**	**0.51**	**55**	P	**Pg**	**10 07 10.0**	**+0.6**
SMTH				S	**Sg**	**10 07 17.0**	**+1.1**
SMTH				AML	AML	10 07 18.4	
	comp=N,12592μm,0.2s						
SMTH				AML	AML	10 07 19.1	
	comp=E,8452μm,0.4s						
SMTH	**Samothraki Isl**	**0.51**	**55**	P	**Pg**	**10 07 10.2**	**+0.9**
SMTH				S	**Sg**	**10 07 17.6**	**+1.7**
SMTH	**Samothraki Isl**	**0.51**	**55**	P	**Pg**	**10 07 10.3**	**+0.9**
SMTH				S	**Sg**	**10 07 17.7**	**+1.8**
EFSA	**Agios Efstrati**	**0.64**	**180**	P	**Pb**	**10 07 14.1**	**-1.7**
EFSA				S	**Sb**	**10 07 22.1**	**-0.9**
EFSA				AML	AML	10 07 26.2	
	comp=E,29016μm,0.9s						
EFSA				AML	AML	10 07 27.8	
	comp=N,13852μm,0.8s						
EFSA	**Agios Efstrati**	**0.64**	**180**	P	**Pb**	**10 07 13.5**	**-0.1**
EFSA				S	**Sb**	**10 07 22.2**	**-0.7**
GADA	**Gvkgeada**	**0.70**	**89**	PG	**Pg**	**10 07 14.3**	**+1.3**
GADA				SG	**Sb**	**10 07 24.2**	**-0.4**
GADA	**Gvkgeada**	**0.70**	**89**	P	**Pg**	**10 07 14.3**	**+1.3**
GADA				S	**Sb**	**10 07 23.9**	**-0.7**
GADA	**Gvkgeada**	**0.70**	**89**	P	**Pg**	**10 07 14.3**	**+1.3**
GADA				S	**Sb**	**10 07 23.9**	**-0.7**
GADA				*e*Sg	**Sb**	**10 07 24.2**	**-0.4**
OUR	**Ouranopolis**	**0.79**	**282**	PG	**Pb**	**10 07 16.6**	**+0.5**
OUR	**Ouranopolis**	**0.79**	**282**	P	**Pb**	**10 07 16.2**	**+0.1**
OUR				S	**Sg**	**10 07 24.6**	**-0.4**
OUR				AML	AML	10 07 28.3	
	comp=N,18853μm,0.6s						
OUR				AML	AML	10 07 30.5	
	comp=E,14515μm,0.5s						
OUR	**Ouranopolis**	**0.79**	**282**	P	**Pg**	**10 07 15.6**	**+0.8**
OUR				S	**Sg**	**10 07 26.1**	**+1.1**
OUR	**Ouranopolis**	**0.79**	**282**	P	**Pg**	**10 07 15.6**	**+0.8**
OUR	**Ouranopolis**	**0.79**	**282**	*i* Pg	**Pb**	**10 07 16.6**	**+0.5**
OUR				S	**Sg**	**10 07 25.6**	**+0.6**
OUR	**Ouranopolis**	**0.79**	**282**	P	**Pg**	**10 07 15.6**	**+0.8**
OUR				S	**Sg**	**10 07 26.1**	**+1.1**
BOZC	**Bozcaada**	**0.88**	**112**	PG	**Pb**	**10 07 17.7**	**0.0**
BOZC				SG	**Sb**	**10 07 29.9**	**-0.1**
BOZC	**Bozcaada**	**0.88**	**112**	*i* P	**Pb**	**10 07 17.7**	**0.0**
BOZC				*i* S	**Sb**	**10 07 29.7**	**-0.3**
BOZC	**Bozcaada**	**0.88**	**112**	*e*Pg	**Pb**	**10 07 17.7**	**0.0**
BOZC				*e*Sg	**Sb**	**10 07 29.9**	**-0.1**
KVLA	**Kavala**	**0.89**	**329**	P	**Pg**	**10 07 18.2**	**+1.5**
KVLA				S	**Sb**	**10 07 31.1**	**+1.0**
KVLA				AML	AML	10 07 31.1	
	comp=N,32367μm,0.6s						
KVLA				AML	AML	10 07 31.7	
	comp=E,29018μm,0.4s						
KVLA	**Kavala**	**0.89**	**329**	P	**Pg**	**10 07 17.6**	**+0.9**
KVLA				S	**Sb**	**10 07 30.3**	**+0.2**
KAVA	**Kavala**	**0.89**	**336**	P	**Pg**	**10 07 18.0**	**+1.2**
KAVA				S	**Sg**	**10 07 29.2**	**+0.8**
KAVA				AML	AML	10 07 31.3	
	comp=N,47009μm,0.4s						
KAVA				AML	AML	10 07 31.9	
	comp=E,38551μm,0.6s						
KAVA	**Kavala**	**0.89**	**336**	P	**Pg**	**10 07 17.4**	**+0.6**
KAVA				S	**Sg**	**10 07 29.4**	**+1.0**
KAVA	**Kavala**	**0.89**	**336**	P	**Pg**	**10 07 17.4**	**+0.6**
KAVA				S	**Sg**	**10 07 29.4**	**+1.0**
PAIG	**Paliouri**	**1.04**	**256**	P	**Pb**	**10 07 20.0**	**-0.4**
PAIG	**Paliouri**	**1.04**	**256**	P	**Pb**	**10 07 19.6**	**-0.8**
PAIG				S	**Sb**	**10 07 33.6**	**-0.8**
PAIG	**Paliouri**	**1.04**	**256**	P	**Pb**	**10 07 19.0**	**-1.4**
PAIG				S	**Sb**	**10 07 33.6**	**-0.8**
PAIG	**Paliouri**	**1.04**	**256**	P	**Pb**	**10 07 19.0**	**-1.4**
PAIG				S	**Sn**	**10 07 36.6**	**+0.2**
ENEZ	**Enez**	**1.05**	**58**	PG	**Pb**	**10 07 20.2**	**-0.3**
ENEZ	**Enez**	**1.05**	**58**	P	**Pb**	**10 07 19.9**	**-0.6**
ENEZ				S	**Sn**	**10 07 35.6**	**-1.0**
ENEZ	**Enez**	**1.05**	**58**	P	**Pb**	**10 07 19.9**	**-0.6**
ENEZ	**Enez**	**1.05**	**58**	*e*Pg	**Pb**	**10 07 20.2**	**-0.3**
ENEZ				S	**Sn**	**10 07 35.6**	**-1.0**
RDO	**Rodhopi**	**1.05**	**23**	P	**Pb**	**10 07 19.1**	**-1.6**
RDO	**Rodhopi**	**1.05**	**23**	P	**Pb**	**10 07 19.5**	**-1.1**
RDO				S	**Sb**	**10 07 34.3**	**-0.6**
RDO	**Rodhopi**	**1.05**	**23**	P	**Pb**	**10 07 19.6**	**-1.1**
RDO				S	**Sb**	**10 07 34.3**	**-0.6**
ALN	**Alexandroupoli**	**1.08**	**48**	PG	**Pb**	**10 07 21.4**	**+0.3**
ALN	**Alexandroupoli**	**1.08**	**48**	P	**Pb**	**10 07 20.2**	**-0.8**
ALN				S	**Sn**	**10 07 37.0**	**-0.4**
ALN				AML	AML	10 07 37.6	
	comp=N,8658μm,0.9s						
ALN				AML	AML	10 07 39.0	
	comp=E,5951μm,0.5s						
ALN	**Alexandroupoli**	**1.08**	**48**	P	**Pb**	**10 07 20.4**	**-0.7**
ALN				S	**Sn**	**10 07 36.6**	**-0.8**
ALN	**Alexandroupoli**	**1.08**	**48**	P	**Pb**	**10 07 20.4**	**-0.7**
ALN	**Alexandroupoli**	**1.08**	**48**	*e*Pg	**Pb**	**10 07 21.4**	**+0.3**
ALN				S	**Sg**	**10 07 36.3**	**+2.0**
ALN	**Alexandroupoli**	**1.08**	**48**	*e*P	**Pb**	**10 07 20.4**	**-0.7**
ALN				*e*		10 07 36.6	
EZN	**Ezine**	**1.08**	**109**	PG	**Pb**	**10 07 21.2**	**0.0**
EZN	**Ezine**	**1.08**	**109**	P	**Pb**	**10 07 21.1**	**-0.1**
EZN				S	**Sn**	**10 07 36.0**	**-1.5**
EZN	**Ezine**	**1.08**	**109**	*e*Pg	**Pb**	**10 07 21.2**	**0.0**
EZN				S	**Sn**	**10 07 36.0**	**-1.5**
EZN	**Ezine**	**1.08**	**109**	P	**Pb**	**10 07 21.1**	**-0.1**
EZN				S	**Sn**	**10 07 36.0**	**-1.5**
GELI	**Tayfur-Gelibol**	**1.16**	**79**	PN	**Pb**	**10 07 21.9**	**-0.5**
GELI	**Tayfur-Gelibol**	**1.16**	**79**	*e*Pn	**Pb**	**10 07 21.9**	**-0.5**
SIGR	**SIGRI**	**1.18**	**145**	PN	**Pn**	**10 07 22.5**	**-0.7**
SIGR	**SIGRI**	**1.18**	**145**	P	**Pg**	**10 07 23.6**	**+1.4**
SIGR	**SIGRI**	**1.18**	**145**	P	**Pg**	**10 07 22.7**	**+0.5**
SIGR				S	**Sn**	**10 07 38.5**	**-1.2**
SIGR	**SIGRI**	**1.18**	**145**	*e*Pn	**Pn**	**10 07 22.5**	**-0.7**
SIGR	**SIGRI**	**1.18**	**145**	P	**Pg**	**10 07 22.9**	**+0.7**
SIGR				S	**Sn**	**10 07 38.5**	**-1.2**
PLG	**Polygyros**	**1.20**	**280**	P	**Pn**	**10 07 22.5**	**-1.0**
PLG	**Polygyros**	**1.20**	**280**	P	**Pn**	**10 07 22.4**	**-1.1**
PLG	**Polygyros**	**1.20**	**280**	P	**Pn**	**10 07 22.4**	**-1.1**
PLG	**Polygyros**	**1.20**	**280**	P	**Pn**	**10 07 22.4**	**-1.1**
ERIK	**Erikli-Kesan**	**1.26**	**67**	PN	**Pn**	**10 07 22.9**	**-1.5**
ERIK	**Erikli-Kesan**	**1.26**	**67**	*e*Pn	**Pn**	**10 07 22.9**	**-1.5**
BAYC	**CANAKKALE_Bayr**	**1.27**	**110**	*i* P	**Pn**	**10 07 24.0**	**-0.5**
BAYC				*i* S	**Sn**	**10 07 40.9**	**-1.3**
BAYC	**CANAKKALE_Bayr**	**1.27**	**110**	P	**Pn**	**10 07 24.0**	**-0.5**
BAYC				S	**Sn**	**10 07 40.9**	**-1.3**
ALNA	**Alonissos**	**1.35**	**220**	P	**Pn**	**10 07 23.6**	**-1.9**
ALNA	**Alonissos**	**1.35**	**220**	P	**Pn**	**10 07 24.2**	**-1.3**
PRK	**Paraskevi**	**1.36**	**133**	P	**Pg**	**10 07 26.5**	**+0.8**
PRK	**Paraskevi**	**1.36**	**133**	P	**Pb**	**10 07 25.3**	**-0.5**
PRK				S	**Sg**	**10 07 43.9**	**+0.6**
PRK	**Paraskevi**	**1.36**	**133**	P	**Pb**	**10 07 25.7**	**-0.1**
PRK				S	**Sg**	**10 07 43.9**	**+0.6**
PRK	**Paraskevi**	**1.36**	**133**	P	**Pb**	**10 07 25.3**	**-0.5**
PRK				S	**Sg**	**10 07 43.9**	**+0.6**
LPK	**Lapseki**	**1.37**	**81**	PN	**Pn**	**10 07 23.9**	**-1.9**
LPK	**Lapseki**	**1.37**	**81**	*e*Pn	**Pn**	**10 07 23.9**	**-1.9**
SOH	**Sokhos**	**1.40**	**298**	P	**Pn**	**10 07 25.4**	**-1.0**
SOH	**Sokhos**	**1.40**	**298**	P	**Pn**	**10 07 25.4**	**-1.0**
SOH				S	**Sb**	**10 07 45.2**	**+0.2**
SOH	**Sokhos**	**1.40**	**298**	P	**Pn**	**10 07 25.4**	**-1.0**
SOH				S	**Sb**	**10 07 45.2**	**+0.2**
SOH	**Sokhos**	**1.40**	**298**	P	**Pn**	**10 07 25.4**	**-1.0**
SOH				S	**Sb**	**10 07 45.2**	**+0.2**
SRS	**Serrai**	**1.42**	**312**	P	**Pn**	**10 07 25.5**	**-1.1**
SRS	**Serrai**	**1.42**	**312**	P	**Pn**	**10 07 25.3**	**-1.3**
SRS				S	**Sn**	**10 07 44.1**	**-1.7**
SRS	**Serrai**	**1.42**	**312**	P	**Pn**	**10 07 25.6**	**-0.9**
SRS	**Serrai**	**1.42**	**312**	P	**Pn**	**10 07 25.2**	**-1.3**
KESN	**Edirne-Kesan**	**1.44**	**63**	*i* P	**Pn**	**10 07 25.7**	**-1.5**
KESN				*i* S	**Sg**	**10 07 47.1**	**+1.1**
KESN	**Edirne-Kesan**	**1.44**	**63**	P	**Pn**	**10 07 25.7**	**-1.5**
KESN				S	**Sg**	**10 07 47.1**	**+1.1**
NVR	**Nevrokopi**	**1.45**	**324**	P	**Pn**	**10 07 26.1**	**-0.9**
NVR	**Nevrokopi**	**1.45**	**324**	P	**Pn**	**10 07 26.1**	**-0.9**
NVR				S	**Sn**	**10 07 45.5**	**-1.2**
NVR	**Nevrokopi**	**1.45**	**324**	P	**Pn**	**10 07 26.1**	**-0.9**
HORT	**Hortiatis**	**1.50**	**287**	PN	**Pn**	**10 07 27.4**	**-0.4**
HORT	**Hortiatis**	**1.50**	**287**	P	**Pn**	**10 07 26.6**	**-1.2**
HORT	**Hortiatis**	**1.50**	**287**	P	**Pn**	**10 07 26.8**	**-1.0**
HORT	**Hortiatis**	**1.50**	**287**	P	**Pn**	**10 07 26.8**	**-1.0**
HORT	**Hortiatis**	**1.50**	**287**	*e*Pn	**Pn**	**10 07 27.4**	**-0.4**
KDZ	**Kurdzhali**	**1.50**	**12**	*e*Pn	**Pn**	**10 07 26.6**	**-1.1**
RZN	**Rozhen**	**1.52**	**352**	P	**Pn**	**10 07 27.7**	**-0.4**
RZN	**Rozhen**	**1.52**	**352**	P	**Pn**	**10 07 27.7**	**-0.4**
SKIA	**Skiathos**	**1.55**	**230**	P	**Pn**	**10 07 27.0**	**-2.2**
SKIA	**Skiathos**	**1.55**	**230**	P	**Pn**	**10 07 26.5**	**-1.9**
SKIA	**Skiathos**	**1.55**	**230**	P	**Pn**	**10 07 26.9**	**-1.5**
AYVA	**Ayvalik**	**1.57**	**123**	*i* P	**Pb**	**10 07 28.7**	**-0.8**
AYVA				*i* S	**Sn**	**10 07 47.9**	**-1.7**
AYVA	**Ayvalik**	**1.57**	**123**	P	**Pb**	**10 07 28.7**	**-0.8**
AYVA				S	**Sn**	**10 07 47.9**	**-1.7**
XOR	**Xorichti**	**1.61**	**240**	P	**Pn**	**10 07 27.0**	**-2.2**
XOR	**Xorichti**	**1.61**	**240**	P	**Pn**	**10 07 27.3**	**-1.8**
XOR	**Xorichti**	**1.61**	**240**	P	**Pn**	**10 07 27.7**	**-1.4**
THE	**Thessaloniki**	**1.61**	**287**	P	**Pn**	**10 07 28.5**	**-0.7**
THE	**Thessaloniki**	**1.61**	**287**	P	**Pn**	**10 07 28.5**	**-0.7**
THE	**Thessaloniki**	**1.61**	**287**	P	**Pn**	**10 07 29.1**	**-0.1**
NEO	**Neokhori**	**1.62**	**238**	P	**Pn**	**10 07 26.8**	**-2.5**
NEO	**Neokhori**	**1.62**	**238**	P	**Pn**	**10 07 27.7**	**-1.6**
PSRA	**Psara**	**1.69**	**165**	P	**Pb**	**10 07 30.3**	**-1.2**
PSRA	**Psara**	**1.69**	**165**	P	**Pn**	**10 07 30.0**	**-0.3**
RKY	**Sarkoy-Tekirda**	**1.75**	**72**	PN	**Pn**	**10 07 30.1**	**-1.0**
RKY	**Sarkoy-Tekirda**	**1.75**	**72**	*e*Pn	**Pn**	**10 07 30.1**	**-1.0**
SART	**Tekirdag**	**1.75**	**72**	*i* P	**Pn**	**10 07 28.9**	**-2.2**
SART	**Tekirdag**	**1.75**	**72**	P	**Pn**	**10 07 28.9**	**-2.2**
FYTO	**Fytoko, Volos**	**1.76**	**245**	P	**Pn**	**10 07 30.1**	**-1.1**
FYTO	**Fytoko, Volos**	**1.76**	**245**	P	**Pn**	**10 07 30.1**	**-1.1**
KRBG	**Karabiga-Canak**	**1.78**	**82**	PN	**Pn**	**10 07 30.7**	**-0.8**
KRBG	**Karabiga-Canak**	**1.78**	**82**	*e*Pn	**Pn**	**10 07 30.7**	**-0.8**
DKL	**Dikili**	**1.85**	**126**	PN	**Pn**	**10 07 32.8**	**+0.4**
DKL	**Dikili**	**1.85**	**126**	*e*Pn	**Pn**	**10 07 32.8**	**+0.4**
KNT	**Kendrikon**	**1.87**	**302**	P	**Pn**	**10 07 32.7**	**-0.1**
KNT	**Kendrikon**	**1.87**	**302**	P	**Pn**	**10 07 32.3**	**-0.5**
KNT				S	**Sn**	**10 07 56.9**	**-0.1**
KNT	**Kendrikon**	**1.87**	**302**	P	**Pn**	**10 07 32.3**	**-0.5**
KNT				S	**Sn**	**10 07 56.9**	**-0.1**
SMIA	**Simia**	**1.89**	**227**	P	**Pn**	**10 07 32.5**	**-0.6**
SMIA	**Simia**	**1.89**	**227**	P	**Pn**	**10 07 32.5**	**-0.6**
DIM	**Dimitrovgrad**	**1.91**	**12**	*e*P	**Pn**	**10 07 32.8**	**-0.5**
DIM	**Dimitrovgrad**	**1.91**	**12**	*e*P	**Pn**	**10 07 32.8**	**-0.5**
LIT	**Litokhoron**	**1.92**	**268**	P	**Pn**	**10 07 32.0**	**-1.4**
LIT	**Litokhoron**	**1.92**	**268**	*e*Pn	**Pn**	**10 07 32.3**	**-1.1**
LIT	**Litokhoron**	**1.92**	**268**	P	**Pn**	**10 07 32.0**	**-1.4**
LIT	**Litokhoron**	**1.92**	**268**	*e*Pn	**Pn**	**10 07 32.3**	**-1.1**
LIT	**Litokhoron**	**1.92**	**268**	P	**Pn**	**10 07 32.9**	**-0.5**
PLD	**Plovdiv**	**1.94**	**354**	PN	**Pn**	**10 07 34.6**	**+1.0**
PLD	**Plovdiv**	**1.94**	**354**	P	**Pn**	**10 07 33.8**	**+0.2**
PLD	**Plovdiv**	**1.94**	**354**	*e*Pn	**Pn**	**10 07 34.6**	**+1.0**
PLD	**Plovdiv**	**1.94**	**354**	P	**Pn**	**10 07 33.8**	**+0.2**
KNL	**Bal¯–kesir**	**1.94**	**87**	*i* P	**Pn**	**10 07 33.8**	**0.0**
KNL				*i* S	**Sg**	**10 08 01.7**	**-0.4**
CHOS	**Chios island**	**1.97**	**155**	PN	**Pn**	**10 07 34.4**	**+0.2**
CHOS	**Chios island**	**1.97**	**155**	P	**Pn**	**10 07 34.5**	**+0.2**
CHOS	**Chios island**	**1.97**	**155**	P	**Pn**	**10 07 34.0**	**-0.2**
CHOS	**Chios island**	**1.97**	**155**	P	**Pn**	**10 07 34.0**	**-0.2**
CHOS	**Chios island**	**1.97**	**155**	*e*Pn	**Pn**	**10 07 34.4**	**+0.2**
BALY	**Balya**	**2.07**	**101**	*i* P	**Pn**	**10 07 34.5**	**-1.0**
BALY	**Balya**	**2.07**	**101**	P	**Pn**	**10 07 34.5**	**-1.0**
TKR	**Tekirdag**	**2.10**	**67**	PN	**Pn**	**10 07 36.3**	**+0.4**
TKR	**Tekirdag**	**2.10**	**67**	*e*Pn	**Pn**	**10 07 36.3**	**+0.4**
GRG	**Griva**	**2.12**	**292**	PN	**Pn**	**10 07 37.2**	**+1.0**
GRG	**Griva**	**2.12**	**292**	P	**Pn**	**10 07 36.6**	**+0.4**
GRG	**Griva**	**2.12**	**292**	P	**Pn**	**10 07 36.0**	**-0.2**
GRG	**Griva**	**2.12**	**292**	P	**Pn**	**10 07 36.0**	**-0.2**
GRG	**Griva**	**2.12**	**292**	*e*Pn	**Pn**	**10 07 37.2**	**+1.0**
GRG	**Griva**	**2.12**	**292**	P	**Pn**	**10 07 36.0**	**-0.2**
VAY	**Valandovo**	**2.16**	**303**	*e*Pg	**Pb**	**10 07 40.0**	**+0.4**
VAY				*e*Sg	**Sb**	**10 08 07.8**	**+0.9**
VAY	**Valandovo**	**2.16**	**303**	*e*Pg	**Pb**	**10 07 40.0**	**+0.4**
VAY				*e*Sg	**Sb**	**10 08 07.8**	**+0.9**
VAY	**Valandovo**	**2.16**	**303**	*i* Pn	**Pg**	**10 07 41.2**	**0.0**
VAY				*e*Sn	**Sb**	**10 08 06.1**	**-0.7**
KARY	**Karystos**	**2.19**	**192**	P	**Pn**	**10 07 35.3**	**-1.8**
KARY	**Karystos**	**2.19**	**192**	P	**Pn**	**10 07 36.0**	**-1.1**
URLA	**Izmir**	**2.20**	**145**	PN	**Pn**	**10 07 36.5**	**-0.5**
URLA	**Izmir**	**2.20**	**145**	*i* P	**Pn**	**10 07 36.5**	**-0.9**
URLA	**Izmir**	**2.20**	**145**	P	**Pn**	**10 07 36.5**	**-0.9**
URLA	**Izmir**	**2.20**	**145**	*e*Pn	**Pn**	**10 07 36.8**	**-0.5**
EDC	**Edincik**	**2.21**	**85**	PN	**Pn**	**10 07 37.8**	**+0.5**
EDC	**Edincik**	**2.21**	**85**	*e*Pn	**Pn**	**10 07 37.8**	**+0.5**
EDC	**Edincik**	**2.21**	**85**	P	**Pn**	**10 07 37.8**	**+0.5**
KKB	**Krupnik**	**2.22**	**320**	P	**Pn**	**10 07 37.0**	**-0.6**
KKB	**Krupnik**	**2.22**	**320**	P	**Pn**	**10 07 37.0**	**-0.6**
STEP	**BALIKESIR_Sava**	**2.25**	**110**	*i* P	**Pn**	**10 07 38.4**	**+0.4**
STEP	**BALIKESIR_Sava**	**2.25**	**110**	P	**Pn**	**10 07 38.4**	**+0.4**
DION	**Dionisos Attik**	**2.25**	**202**	P	**Pn**	**10 07 35.7**	**-2.3**
DION	**Dionisos Attik**	**2.25**	**202**	P	**Pn**	**10 07 36.6**	**-1.4**
ZEY	**¯zmir**	**2.27**	**148**	*i* P	**Pn**	**10 07 38.2**	**0.0**
BALB	**Balikesir**	**2.29**	**103**	PN	**Pn**	**10 07 38.4**	**-0.1**
BALB	**Balikesir**	**2.29**	**103**	*e*Pn	**Pn**	**10 07 38.4**	**-0.1**
AXAR	**Agios Charalam**	**2.29**	**233**	P	**Pn**	**10 07 38.1**	**-0.4**
AXAR	**Agios Charalam**	**2.29**	**233**	P	**Pn**	**10 07 38.1**	**-0.4**
CRLT	**Corlu**	**2.29**	**65**	PN	**Pn**	**10 07 38.3**	**-0.3**
CRLT	**Corlu**	**2.29**	**65**	*e*Pn	**Pn**	**10 07 38.3**	**-0.3**
AGG	**Agios Georgios**	**2.36**	**241**	PN	**Pn**	**10 07 39.3**	**-0.2**
AGG	**Agios Georgios**	**2.36**	**241**	P	**Pn**	**10 07 37.8**	**-1.7**
AGG	**Agios Georgios**	**2.36**	**241**	*e*Pn	**Pn**	**10 07 38.6**	**-0.9**
AGG	**Agios Georgios**	**2.36**	**241**	P	**Pn**	**10 07 38.3**	**-1.2**
AGG	**Agios Georgios**	**2.36**	**241**	*e*Pn	**Pn**	**10 07 38.6**	**-0.9**
AGG	**Agios Georgios**	**2.36**	**241**	*e*P	**Pn**	**10 07 38.6**	**-0.9**
THL	**Klokotos Trika**	**2.37**	**256**	P	**Pn**	**10 07 38.4**	**-1.2**
THL	**Klokotos Trika**	**2.37**	**256**	P	**Pn**	**10 07 38.7**	**-0.9**
THL	**Klokotos Trika**	**2.37**	**256**	P	**Pn**	**10 07 38.7**	**-0.9**
VIL2	**Platees**	**2.38**	**215**	P	**Pn**	**10 07 38.3**	**-1.4**
SBT3	**Marmara-Eregli**	**2.38**	**72**	PN	**Pn**	**10 07 40.5**	**+0.9**
SBT3	**Marmara-Eregli**	**2.38**	**72**	*e*Pn	**Pn**	**10 07 40.5**	**+0.9**
VILL	**Villia**	**2.40**	**213**	P	**Pn**	**10 07 38.8**	**-1.3**
VILL	**Villia**	**2.40**	**213**	P	**Pn**	**10 07 39.0**	**-1.1**
ATHU	**Athens Univers**	**2.40**	**203**	P	**Pn**	**10 07 38.2**	**-1.9**
ATHU	**Athens Univers**	**2.40**	**203**	P	**Pn**	**10 07 38.9**	**-1.1**
PHSR	**Pinarhisar**	**2.41**	**52**	PN	**Pn**	**10 07 40.9**	**+0.8**
PHSR	**Pinarhisar**	**2.41**	**52**	*e*Pn	**Pn**	**10 07 40.9**	**+0.8**
PGB	**Panagyurishte**	**2.45**	**346**	P	**Pn**	**10 07 40.2**	**-0.6**
PGB	**Panagyurishte**	**2.45**	**346**	P	**Pn**	**10 07 40.2**	**-0.6**
KZN	**Kozani**	**2.47**	**274**	P	**Pn**	**10 07 40.3**	**-0.7**
KZN	**Kozani**	**2.47**	**274**	P	**Pn**	**10 07 40.6**	**-0.4**
KZN	**Kozani**	**2.47**	**274**	P	**Pn**	**10 07 40.3**	**-0.7**
KZN	**Kozani**	**2.47**	**274**	P	**Pn**	**10 07 40.9**	**-0.1**
VLY	**Voula,Athens**	**2.50**	**202**	P	**Pn**	**10 07 39.7**	**-1.8**
VLY	**Voula,Athens**	**2.50**	**202**	P	**Pn**	**10 07 40.4**	**-1.1**
AKHS	**Akhisar**	**2.54**	**120**	*i* P	**Pn**	**10 07 42.2**	**+0.2**
AKHS	**Akhisar**	**2.54**	**120**	P	**Pn**	**10 07 42.2**	**+0.2**
KCTX	**Karacabey (Bur**	**2.58**	**87**	PN	**Pn**	**10 07 43.1**	**+0.6**
KCTX	**Karacabey (Bur**	**2.58**	**87**	*e*Pn	**Pn**	**10 07 43.1**	**+0.6**
DGB	**¯zmir**	**2.58**	**145**	*i* P	**Pn**	**10 07 43.0**	**+0.5**
SLVT	**Silivri**	**2.66**	**66**	PN	**Pn**	**10 07 44.6**	**+1.0**
SLVT	**Silivri**	**2.66**	**66**	*e*Pn	**Pn**	**10 07 44.6**	**+1.0**
LTK	**Loutraki**	**2.67**	**217**	P	**Pn**	**10 07 42.7**	**-1.0**
LTK	**Loutraki**	**2.67**	**217**	P	**Pn**	**10 07 42.7**	**-1.0**
LOUT	**Loutraki**	**2.69**	**216**	P	**Pn**	**10 07 43.1**	**-1.0**
LOUT	**Loutraki**	**2.69**	**216**	P	**Pn**	**10 07 43.1**	**-1.0**
DURS	**Dursunbey**	**2.74**	**101**	*i* P	**Pn**	**10 07 45.3**	**+0.5**
DURS	**Dursunbey**	**2.74**	**101**	P	**Pn**	**10 07 45.3**	**+0.5**
VTS	**Vitosha**	**2.76**	**331**	*e*Pn	**Pn**	**10 07 47.4**	**+2.3**
VTS				*e*Sg	**Sn**	**10 08 20.2**	**+1.1**
VTS				*e*Sn	**Sg**	**10 08 29.0**	**+0.7**
VTS	**Vitosha**	**2.76**	**331**	*i* P	**Pn**	**10 07 46.3**	**+1.1**
VTS	**Vitosha**	**2.76**	**331**	S	**Sb**	**10 08 23.0**	**-1.1**
VTS	**Vitosha**	**2.76**	**331**	*e*Pn	**Pn**	**10 07 46.1**	**+1.1**
VTS	**Vitosha**	**2.76**	**331**	*e*P	**Pn**	**10 07 46.2**	**+1.1**
VTS	**Vitosha**	**2.76**	**331**	*e*P	**Pn**	**10 07 46.2**	**+1.1**
KPRO	**Kipourio**	**2.79**	**267**	P	**Pn**	**10 07 45.9**	**+0.4**
KPRO	**Kipourio**	**2.79**	**267**	P	**Pn**	**10 07 45.4**	**-0.1**
KPRO	**Kipourio**	**2.79**	**267**	P	**Pn**	**10 07 45.4**	**-0.1**
CTYL	**Yalikoy Yolu**	**2.82**	**62**	PN	**Pn**	**10 07 46.3**	**+0.5**
CTYL	**Yalikoy Yolu**	**2.82**	**62**	*e*Pn	**Pn**	**10 07 46.3**	**+0.5**
FNA	**Florina**	**2.82**	**284**	P	**Pn**	**10 07 46.0**	**+0.1**
FNA	**Florina**	**2.82**	**284**	P	**Pn**	**10 07 46.0**	**+0.1**
KALE	**Kalithea**	**2.84**	**232**	P	**Pn**	**10 07 44.6**	**-1.5**
KALE	**Kalithea**	**2.84**	**232**	P	**Pn**	**10 07 45.3**	**-0.9**
KALE	**Kalithea**	**2.84**	**232**	P	**Pn**	**10 07 45.3**	**-0.9**
NVR	**Nevrokopi**	**1.45**	**324**	P	**Pn**	**10 07 26.1**	**-0.9**
NVR	**Nevrokopi**	**1.45**	**324**	P	**Pn**	**10 07 26.1**	**-0.9**
NVR				S	**Sn**	**10 07 45.5**	**-1.2**
NVR	**Nevrokopi**	**1.45**	**324**	P	**Pn**	**10 07 26.1**	**-0.9**
HORT	**Hortiatis**	**1.50**	**287**	PN	**Pn**	**10 07 27.4**	**-0.4**
HORT

ISP	**Isparta**	**4.91**	**117**	*e*Pn		**Pn**	**10 08 14.5**	**-0.1**
ISP	**Isparta**	**4.91**	**117**	*i* P		**Pn**	**10 08 16.2**	**+1.6**
ISP	**Isparta**	**4.91**	**117**	*i* P		**Pn**	**10 08 16.2**	**+1.6**
SECR		**4.92**	**9**	⇑*i*P		**Pn**	**10 08 16.4**	**+1.8**
SECR		**4.92**	**9**	⇑*i*P		**Pn**	**10 08 16.4**	**+1.8**
KARP	**Karpathos**	**4.93**	**159**	*e*Pn		**Pn**	**10 08 17.5**	**+2.6**
KARP	**Karpathos**	**4.93**	**159**	*e*Pn		**Pn**	**10 08 17.5**	**+2.6**
SVIS	**Svilajnac**	**4.95**	**327**	*e*Pg		**Pb**	**10 08 29.9**	**+2.8**
SVIS				*e*Sg		**Sg**	**10 09 37.3**	**-1.4**
IVAS	**Ivanjica**	**4.96**	**315**	*e*Pn		**Pn**	**10 08 16.4**	**+1.2**
IVAS				*e*Sg		**Sg**	**10 09 36.7**	**-2.1**
IVAS	**Ivanjica**	**4.96**	**315**	*e*Pn		**Pn**	**10 08 16.4**	**+1.2**
IVAS				*e*Sg		**Sg**	**10 09 36.7**	**-2.1**
TIRR	**Tirgusor**	**4.97**	**30**	⇓*i*P		**Pn**	**10 08 15.4**	**+0.1**
TIRR	**Tirgusor**	**4.97**	**30**	*e*Pn		**Pn**	**10 08 15.0**	**-0.3**
TIRR	**Tirgusor**	**4.97**	**30**	*e*Pn		**Pn**	**10 08 15.0**	**-0.3**
TIRR	**Tirgusor**	**4.97**	**30**	*e*P		**Pn**	**10 08 15.3**	**0.0**
TIRR	**Tirgusor**	**4.97**	**30**	*e*P		**Pn**	**10 08 15.3**	**0.0**
HARR	**Harsova**	**5.00**	**25**	⇓*i*P		**Pn**	**10 08 16.3**	**+0.5**
HARR	**Harsova**	**5.00**	**25**	⇓*i*P		**Pn**	**10 08 16.3**	**+0.5**
MTUR	**Matau**	**5.04**	**1**	⇓*i*P		**Pn**	**10 08 16.7**	**+0.3**
MTUR	**Matau**	**5.04**	**1**	⇓*i*P		**Pn**	**10 08 16.7**	**+0.3**
ISR	**Istrita**	**5.07**	**13**	⇓*i*P		**Pn**	**10 08 18.3**	**+1.5**
ISR	**Istrita**	**5.07**	**13**	*e*P		**Pn**	**10 08 18.2**	**+1.5**
ISR	**Istrita**	**5.07**	**13**	*e*P		**Pn**	**10 08 18.2**	**+1.5**
ARR	**Arges**	**5.19**	**357**	⇓*i*P		**Pn**	**10 08 18.5**	**0.0**
ARR	**Arges**	**5.19**	**357**	⇓*i*P		**Pn**	**10 08 18.5**	**0.0**
VOIR		**5.25**	**0**	⇑*i*P		**Pn**	**10 08 19.6**	**+0.3**
VOIR		**5.25**	**0**	P		**Pn**	**10 08 19.1**	**-0.2**
	comp=E,38nm,0.7s							
VOIR		**5.25**	**0**	P		**Pn**	**10 08 19.1**	**-0.2**
VOIR				pmax	pmax			
	comp=Z,38nm,0.7s							
TRUS	**Trudelj**	**5.28**	**321**	*e*Pn		**Pn**	**10 08 21.5**	**+1.8**
TRUS				*e*Sg		**Sg**	**10 09 48.0**	**-1.3**
TRUS	**Trudelj**	**5.28**	**321**	*e*Pn		**Pn**	**10 08 21.5**	**+1.8**
TRUS				*e*Sg		**Sg**	**10 09 48.0**	**-1.3**
MLR	**Muntele Rosu**	**5.36**	**7**	Pn		**Pn**	**10 08 21.7**	**+0.9**
	comp=Z,1.8nm,0.3s,baz=231,slow=4.2,SNR=92							
MLR				Lg		Lg	10 09 53.2	
	baz=106,slow=19,SNR=2.7							
MLR				LR		LR	10 10 51.1	
	comp=Z,102nm,20.3s,baz=232,slow=42							
MLR	**Muntele Rosu**	**5.36**	**7**	⇑*i*P		**Pn**	**10 08 21.7**	**+0.9**
DIVS	**Divibare**	**5.40**	**318**	*e*Pn		**Pn**	**10 08 20.8**	**-0.5**
DIVS	**Divibare**	**5.40**	**318**	*e*Pn		**Pn**	**10 08 21.1**	**-0.2**
DIVS	**Divibare**	**5.40**	**318**	*e*Pn		**Pn**	**10 08 20.8**	**-0.5**
CFR	**Carcaliu**	**5.51**	**24**	⇑*i*P		**Pn**	**10 08 22.5**	**-0.2**
CFR	**Carcaliu**	**5.51**	**24**	P		**Pn**	**10 08 22.8**	**+0.1**
	comp=Z,28nm,0.6s							
CFR	**Carcaliu**	**5.51**	**24**	P		**Pn**	**10 08 22.8**	**+0.1**
CFR				pmax	pmax			
	comp=Z,28nm,0.6s							
BBLS	**Lazići**	**5.55**	**313**	*e*Pn		**Pn**	**10 08 24.4**	**+0.9**
BBLS	**Lazići**	**5.55**	**313**	*e*Pn		**Pn**	**10 08 24.4**	**+0.9**
TLCR		**5.74**	**28**	⇑*i*P		**Pn**	**10 08 26.2**	**+0.3**
ODBI	**Odobesti**	**5.78**	**15**	⇑*i*P		**Pn**	**10 08 28.7**	**+2.2**
DOPR	**Dopca**	**5.79**	**3**	⇑*i*P		**Pn**	**10 08 27.5**	**+0.8**
PLOR	**Plostina**	**5.80**	**12**	⇑*i*P		**Pn**	**10 08 28.4**	**+1.6**
PLOR	**Plostina**	**5.80**	**12**	P		**Pn**	**10 08 28.4**	**+1.6**
PLOR	**Plostina**	**5.80**	**12**	P		**Pn**	**10 08 28.4**	**+1.6**
VRI	**Vrincioaia**	**5.83**	**12**	⇑*i*P		**Pn**	**10 08 28.9**	**+1.8**
VRI	**Vrincioaia**	**5.83**	**12**	P		**Pn**	**10 08 28.0**	**+0.9**
	comp=Z,774nm,0.8s							
VRI	**Vrincioaia**	**5.83**	**12**	P		**Pn**	**10 08 28.0**	**+0.9**
VRI				pmax	pmax			
	comp=Z,774nm,0.8s							
DEV	**Deva**	**5.90**	**346**	P		**Pn**	**10 08 31.4**	**+3.3**
DEV				pmax	pmax			
	comp=Z,90nm,0.9s							
TEKS	**Tekeris**	**5.95**	**319**	*e*Pn		**Pn**	**10 08 28.7**	**-0.2**
TEKS	**Tekeris**	**5.95**	**319**	*e*Pn		**Pn**	**10 08 28.7**	**-0.2**
BZS	**Buzias**	**5.97**	**337**	⇓*i*P		**Pn**	**10 08 29.5**	**+0.4**
BZS	**Buzias**	**5.97**	**337**	P		**Pn**	**10 08 29.2**	**+0.1**
	comp=Z,23nm,0.8s							
BZS	**Buzias**	**5.97**	**337**	P		**Pn**	**10 08 29.2**	**+0.1**
BZS				pmax	pmax			
	comp=Z,23nm,0.8s							
ANTO	**Ankara**	**6.00**	**90**	*e*Pn		**Pn**	**10 08 28.4**	**-1.2**
ANTO	**Ankara**	**6.00**	**90**	*e*P		**Pn**	**10 08 28.4**	**-1.2**
ANTO	**Ankara**	**6.00**	**90**	*e*P		**Pn**	**10 08 28.4**	**-1.2**
TIP	**Timpagrande**	**6.43**	**264**	⇑*i*P		**Pn**	**10 08 36.7**	**+1.2**
TIP	**Timpagrande**	**6.43**	**264**	*e*Pn		**Pn**	**10 08 37.1**	**+1.6**
TIP	**Timpagrande**	**6.43**	**264**	*e*Pn		**Pn**	**10 08 37.1**	**+1.6**
BR131	**Keskin Array S**	**6.66**	**91**	*e*Pn		**Pn**	**10 08 38.9**	**+0.2**
BR131	**Keskin Array S**	**6.66**	**91**	*e*Pn		**Pn**	**10 08 38.9**	**+0.2**
BRTR	**Keskin Array B**	**6.66**	**91**	Pn		**Pn**	**10 08 38.9**	**+0.2**
	comp=Z,1.3nm,0.3s,baz=268,slow=12,SNR=29							
BRTR				Lg		Lg	10 10 32.9	
	comp=Z,0.2nm,0.3s,baz=267,slow=25,SNR=6.5							
ILGA	**Ilgaz**	**6.70**	**80**	*e*Pn		Pn	10 08 33.6	-5.6
DRGR		**6.81**	**347**	⇑*i*P		**Pn**	**10 08 41.8**	**+1.0**
DRGR		**6.81**	**347**	P		**Pn**	**10 08 41.7**	**+1.0**
DRGR		**6.81**	**347**	P		**Pn**	**10 08 41.7**	**+1.0**
CUC	**Castrocucco**	**7.04**	**271**	*e*Pn		**Pn**	**10 08 46.4**	**+2.6**
BLY	**Banja Luka**	**7.36**	**311**	*e*Pn		**Pn**	**10 08 49.3**	**+1.2**
BLY	**Banja Luka**	**7.36**	**311**	*e*Pn		**Pn**	**10 08 49.3**	**+1.2**
KIS	**Kishinev**	**7.36**	**21**	*e*P		**Pn**	**10 08 45.0**	**-3.1**
	comp=Z,300nm,1.2s							
KIS				*e*S		**Sn**	**10 10 05.0**	**-7.2**
KIS				LRM		MLR	10 11 10.0	
	comp=Z,400nm,9.0s							
KIS	**Kishinev**	**7.36**	**21**	*e*P		**Pn**	**10 08 45.0**	**-3.1**
KIS				*e*S		**Sn**	**10 10 05.0**	**-7.2**
KIS				pmax	pmax			
	comp=E,260µm,1.2s							
KIS				MLR		MLR		
	comp=Z,400nm,9.0s							
BURAR	**Bucovina Array**	**7.43**	**1**	⇓*i*P		**Pn**	**10 08 50.9**	**+1.6**
BURAR	**Bucovina Array**	**7.43**	**1**	P		**Pn**	**10 08 50.9**	**+1.6**
BUR04	**Bucovina Ar. S**	**7.44**	**1**	*e*Pn		**Pn**	**10 08 48.4**	**-0.9**
BUR04	**Bucovina Ar. S**	**7.44**	**1**	*e*Pn		**Pn**	**10 08 48.4**	**-0.9**
BUR08	**Bucovina Ar. S**	**7.46**	**1**	*e*Pn		**Pn**	**10 08 50.0**	**+0.3**
BUR08	**Bucovina Ar. S**	**7.46**	**1**	*e*Pn		**Pn**	**10 08 50.0**	**+0.3**
SEV	**Sevastopol'**	**7.76**	**53**	*e*P		**Pn**	**10 08 52.0**	**-1.7**
	comp=Z,4.0nm,0.3s							
SEV	**Sevastopol'**	**7.76**	**53**	*e*P		**Pn**	**10 08 52.0**	**-1.7**
SEV				*e*S		**Sn**	**10 10 13.2**	**-9.0**
SEV				pmax	pmax			
	comp=Z,4.0nm,0.3s							
SEV				smax	smax			
	comp=N,12nm,0.4s							
SEV				smax	smax			
	comp=E,18nm,0.4s							
ALU	**Alushta**	**8.29**	**54**	*e*P		**Pn**	**10 08 58.8**	**-2.0**
	comp=E,7.0nm,0.2s							
ALU	**Alushta**	**8.29**	**54**	*e*P		**Pn**	**10 08 58.8**	**-2.0**
ALU				pmax	pmax			
	comp=Z,7.0nm,0.2s							
CSS	**Mathiatis**	**8.42**	**126**	*e*Pn		**Pn**	**10 09 03.4**	**+0.6**
CSS	**Mathiatis**	**8.42**	**126**	*e*Pn		**Pn**	**10 09 03.4**	**+0.6**
PSZ	**Piszkesteto**	**8.56**	**336**	*e*Pn		**Pn**	**10 09 05.8**	**+1.1**
PSZ	**Piszkesteto**	**8.56**	**336**	*e*P		**Pn**	**10 09 05.8**	**+1.1**
PSZ	**Piszkesteto**	**8.56**	**336**	*e*P		**Pn**	**10 09 05.8**	**+1.1**
SUDU	**Sudak**	**8.76**	**54**	*e*P		**Pn**	**10 09 07.4**	**+0.1**
	comp=Z,9.0nm,0.3s							
SUDU	**Sudak**	**8.76**	**54**	*e*P		**Pn**	**10 09 07.4**	**+0.1**
SUDU				*e*S		**Sn**	**10 10 38.8**	**-7.8**
SUDU				pmax	pmax			
	comp=Z,9.0nm,0.3s							
SUDU				smax	smax			
	comp=N,2.0nm,0.2s							
SUDU				smax	smax			
	comp=E,13nm,0.4s							
AQU	**L'Aquila**	**8.99**	**288**	*e*Pn		**Pn**	**10 09 13.3**	**+2.6**
AQU	**L'Aquila**	**8.99**	**288**	*e*P		**Pn**	**10 09 13.3**	**+2.6**
CLTB	**Caltabellotta**	**9.54**	**258**	*e*Pn		**Pn**	**10 09 22.1**	**+3.9**
TRI	**Trieste**	**9.91**	**308**	*e*Pn		**Pn**	**10 09 25.4**	**+2.3**
TRI	**Trieste**	**9.91**	**308**	*e*P		**Pn**	**10 09 25.4**	**+2.3**
ANN	**Anapa**	**10.28**	**59**	*ce*P		**Pn**	**10 09 24.9**	**-3.3**
ANN				pmax	pmax			
	comp=Z,8.0nm,0.5s							
KIEV	**Kiev**	**10.92**	**14**	*e*Pn		**Pn**	**10 09 35.7**	**-1.2**
KIEV	**Kiev**	**10.92**	**14**	*e*P		**Pn**	**10 09 35.7**	**-1.2**
	comp=Z,4.0nm,0.6s							
KIEV	**Kiev**	**10.92**	**14**	*ce*P		**Pn**	**10 09 35.7**	**-1.2**
KIEV				pmax	pmax			
	comp=Z,4.0nm,0.6s							
AKASG	**Malin Array Be**	**10.93**	**14**	Pn		**Pn**	**10 09 35.6**	**-1.4**
	comp=Z,3.4nm,0.3s,baz=204,slow=12,SNR=12							
MORC	**Moravsky Berou**	**10.94**	**334**	*e*Pn		**Pn**	**10 09 36.4**	**-0.9**
MORC	**Moravsky Berou**	**10.94**	**334**	*e*P		**Pn**	**10 09 36.4**	**-0.9**
MORC	**Moravsky Berou**	**10.94**	**334**	*e*P		**Pn**	**10 09 36.4**	**-0.9**
MMAI	**Mount Meron Ar**	**11.00**	**127**	Pn		**Pn**	**10 09 36.7**	**-1.5**
	comp=Z,1.5nm,0.3s,baz=321,slow=8.0,SNR=3.7							
KEST	**Kesra**	**13.02**	**255**	Pn		**Pn**	**10 10 05.5**	**-1.6**
	comp=Z,0.1nm,0.3s,baz=18,slow=6.4,SNR=3.1							
NEY	**Neytrino**	**13.60**	**71**	*i* P		**Pn**	**10 10 14.5**	**+0.8**
NEY	**Neytrino**	**13.60**	**71**	*i* P		**Pn**	**10 10 14.5**	**+0.8**
KIV	**Kislovodsk**	**13.68**	**68**	*e*P		**Pn**	**10 10 12.4**	**-2.3**
KIV				pmax	pmax			
	comp=Z,8.0nm,1.0s							
NCK	**Nalchik**	**14.26**	**70**	*i* P		**Pn**	**10 10 21.1**	**-1.5**
GNI	**Garni**	**15.11**	**84**	*e*P		**Pn**	**10 10 31.2**	**-3.0**
GNI				pmax	pmax			
	comp=Z,13nm,0.4s							
OBN	**Obninsk**	**16.82**	**23**	⇑*e*P		**Pn**	**10 10 52.2**	**-3.9**
OBN				pmax	pmax			
	comp=Z,11nm,0.8s							
OBN				MLR	MLR			
	comp=Z,146nm,18.0s							
VSU	**Vasula**	**18.33**	**3**	*i* P		**Pn**	**10 11 11.7**	**-3.2**
VSU				pmax	pmax			
	comp=Z,21nm,1.0s							
FINES	**FINESS Array B**	**21.30**	**1**	P		**P**	**10 11 46.9**	**-0.5**
	comp=Z,1.5nm,0.7s,baz=150,slow=11,SNR=4.9							
NB2	**NORSAR Subarra**	**22.55**	**342**	P		**P**	**10 11 59.5**	**-1.4**
	comp=Z,2.2nm,0.6s,baz=158,slow=11							
NOA	**NORSAR Array B**	**22.55**	**342**	P		**P**	**10 11 59.3**	**-1.5**
	comp=Z,2.2nm,0.7s,baz=157,slow=10,SNR=6.1							
KLMR	**Klimovskoe**	**22.56**	**19**	*e*P		**P**	**10 11 57.8**	**-3.2**
KLMR				AMP			10 12 01.3	
	comp=Z,19nm,1.2s							
KLMR	**Klimovskoe**	**22.56**	**19**	*e*P		**P**	**10 11 57.7**	**-3.2**
KLMR				pmax	pmax			
	comp=Z,19nm,1.2s							
JOF	**Joensuu**	**23.09**	**7**	P		**P**	**10 12 09.6**	**+3.2**
JOF				pmax	pmax			
	comp=Z,8.0nm,1.0s							
ABKAR	**Akbulak array**	**26.24**	**58**	*e*P		**P**	**10 12 36.2**	**+0.2**
	comp=Z,8.3nm,0.8s							
ARU	**Arti**	**27.25**	**42**	*c i*P		**P**	**10 12 46.1**	**+1.1**
ARU							10 13 28.0	
ARU				S		**S**	**10 17 30.3**	**+5.5**
ARU				SS		**SnSn**	**10 18 38.9**	**+6.9**
ARU				pmax	pmax			
	comp=Z,9.0nm,1.7s							
ARU				MLR	MLR			
	comp=Z,208nm,18.0s							
BRVK	**Borovoye**	**33.10**	**52**	*ce*P		**P**	**10 13 38.6**	**+1.8**
BRVK				pmax	pmax			
	comp=Z,1.0nm,0.9s							
TOA0	**Torodi Ar. Sit**	**33.83**	**224**	*e*P		**P**	**10 13 43.5**	**+0.1**
TORD	**Torodi Ar. Bea**	**33.83**	**224**	P		**P**	**10 13 42.9**	**-0.5**
	comp=Z,1.8nm,0.7s,baz=36,slow=7.4,SNR=5.5							
KK31	**Karatay Array**	**33.83**	**70**	*e*P		**P**	**10 13 44.4**	**+1.1**
KK31	**Karatay Array**	**33.83**	**70**	*e*P		**P**	**10 13 44.4**	**+1.1**
KKAR	**Karatay Array**	**33.83**	**70**	*e*P		**P**	**10 13 44.2**	**+1.0**
KKAR	**Karatay Array**	**33.83**	**70**	*e*P		**P**	**10 13 44.3**	**+1.0**
AAK	**Ala-Archa**	**36.79**	**70**	*i* P		**P**	**10 14 10.3**	**+1.3**
AAK				pmax	pmax			
	comp=Z,2.0nm,0.9s							
KURBB	**Kurchatov Arra**	**38.24**	**56**	P		**P**	**10 14 21.1**	**+0.2**
	comp=Z,0.7nm,0.2s,baz=277,slow=10.0,SNR=3.7							
KURK	**Kurchatov**	**38.29**	**56**	P		**P**	**10 14 21.1**	**-0.2**
KURK	**Kurchatov**	**38.29**	**56**	*i* P		**P**	**10 14 21.3**	**0.0**
KURK				pmax	pmax			
	comp=Z,7.0nm,3.0s							
MK31	**Makanchi Array**	**41.29**	**61**	*e*P		**P**	**10 14 46.8**	**+0.3**
MK31				*e*S		**S**	**10 21 02.8**	**+1.4**
MK31	**Makanchi Array**	**41.29**	**61**	*e*P		**P**	**10 14 46.8**	**+0.3**
MK31				*e*S		**S**	**10 21 02.8**	**+1.4**
MKAR	**Makanchi Array**	**41.29**	**61**	P		**P**	**10 14 46.9**	**+0.3**
	comp=Z,1.0nm,0.6s,baz=282,slow=6.6,SNR=11							
MKAR	**Makanchi Array**	**41.29**	**61**	*e*P		**P**	**10 14 46.8**	**+0.3**
	comp=Z,9.2nm,0.9s							
MKAR				*e*S		**S**	**10 21 02.8**	**+1.4**
MKAR	**Makanchi Array**	**41.29**	**61**	*e*P		**P**	**10 14 46.8**	**+0.3**
MKAR				*e*S		**S**	**10 21 02.8**	**+1.4**
MKAR				pmax	pmax			
	comp=Z,9.0nm,0.9s							
MK01	**Makanchi Array**	**41.31**	**61**	*e*P		**P**	**10 14 46.6**	**0.0**
MK01				*e*S		**S**	**10 21 00.8**	**-0.7**
ZALV	**Zalesovo Beam**	**41.76**	**50**	P		**P**	**10 14 50.3**	**+0.2**
	comp=Z,1.5nm,0.5s,baz=267,slow=8.9,SNR=4.2							
DGZ	**Jazzator, Alta**	**44.03**	**56**	*i* P		**P**	**10 15 09.3**	**+0.4**
DGZ				pmax	pmax			
	comp=Z,1.0nm,0.3s							
WMQ	**Urumqi**	**45.76**	**64**	P		**P**	**10 15 24.0**	**+1.5**
WMQ				pP	sP		10 15 28.5	+5.2
WMQ				sP	pP		10 15 31.0	+7.9
WMQ				pmax	pmax			
	comp=Z,18nm,0.7s							
WMQ				pmax	pmax			
	comp=Z,370nm,4.5s							
LZH	**Lanzhou**	**60.21**	**66**	*e*P		**P**	**10 17 09.3**	**-0.1**
LZH				pP	pP		10 17 13.5	+3.5
LZH				sP	sP		10 17 16.5	+6.3
LZH				*e*PP		**PP**	**10 19 23.5**	**+1.6**
LZH				pmax	pmax			
	comp=Z,19nm,0.8s							
LZH				pmax	pmax			
	comp=Z,160nm,5.7s							
LZH				LR	LR			
	comp=N,160nm,14.5s							
LZH				LR	LR			
	comp=E,170nm,14.3s							
LZH				LR	LR			
	comp=Z,250nm,17.8s							
HHC	**Hu-ho-hao-te**	**63.03**	**58**	*e*P		**P**	**10 17 28.3**	**-0.1**
HHC				pmax	pmax			
	comp=Z,10.0nm,1.2s							
HHC				pmax	pmax			
	comp=Z,19nm,7.5s							
SADO	**Sadowa**	**71.47**	**313**	LR		LR	10 48 20.1	
	comp=Z,41nm,19.2s,baz=276,slow=35							

NAO ***25*** *10:09:32.9±2.0, 72.°98N×6.°34E, ML3.8*
CSEM ***25*** *10:09:33.6±0.1, 73.°01N×6.°31E, h2km, mb4.6/64, Error ellipse: s-maj=4.2km s-min=2.5km az=51.0*
MOS ***25*** *10:09:33.5±1.3, 73.°03N×6.°26E, h10km, mb4.6/30, Error ellipse: s-maj=21.4km s-min=5.0km az=97.3*
ISCJB ***25*** *10:09:33.5±0.2, 72.°94N±0.°03×6.°34E±0.°09, h11km, mb4.5/90, MS3.9/42, Error ellipse: s-maj=4.6km s-min=2.6km az=138.0*
IDC ***25*** *10:09:33.3±0.5, 72.°97N×5.°84E, h0km, mb3.9/15, mb1 4.0/22, mb1mx3.8/73, mbtmp3.9/22, ML3.9/7, MS3.9/37, Ms1 3.9/37, ms1mx3.7/77, Error ellipse: s-maj=14.8km s-min=10.2km az=46.0*
NEIC ***25*** *10:09:35.2±0.2, 72.°98N×6.°29E, h10km, mb4.6/56, Error ellipse: s-maj=5.3km s-min=3.2km az=53.0*
BER ***25*** *10:09:36.7±2.9, 73.°06N×6.°27E, h15km±27km, ML2.8, ML3.8(NAO)*
UPP ***25*** *10:09:43.3±3.5, 72.°73N×8.°06E, h0km, ML2.2*
ISC 25 10:09:35.5±0.3, 72.°90N±0.°05×6.°06E±0.°05, h11km, n277, σ=28/264, mb4.6/90, MS4.0/42, 6C-1D, Norwegian Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BJO1	**Bjornoya**	**3.98**	**60**	*e*P		**Pn**		**10 10 32.4**	**-3.9**
BJO1	**Bjornoya**	**3.98**	**60**	*e*P		**Pn**		**10 10 32.4**	**-3.9**
BJO	**Bjornoya**	**4.03**	**60**	*e*P		**Pn**		**10 10 32.7**	**-4.2**
HSPB	**Hornsund (broa**	**4.80**	**26**	*e*P		**Pn**		**10 10 43.5**	**-4.0**
HSPB	**Hornsund (broa**	**4.80**	**26**	*e*P		**Pn**		**10 10 43.6**	**-3.9**
HSP	**Hornsund**	**4.80**	**26**	Pn		**Pn**		**10 10 43.1**	**-4.5**
JMIC	**Jan Mayen**	**4.92**	**254**	Pn		**Pn**		**10 10 46.9**	**-2.3**
	6.4nm,0.3s,baz=81,slow=3.3,SNR=6.5								
TRO	**Tromso**	**5.28**	**122**	*e*P		**Pn**		**10 10 53.7**	**-0.4**
TRO				*e*S		Sn		10 11 44.5	-10
TRO	**Tromso**	**5.28**	**122**	*e*P		**Pn**		**10 10 53.7**	**-0.4**
TRO	**Tromso**	**5.28**	**122**	*e*P		**Pn**		**10 10 53.7**	**-0.4**
TRO				*e*S		Sn		10 11 44.5	-10
TRO	**Tromso**	**5.28**	**122**	*e*P		**Pn**		**10 10 53.7**	**-0.4**
LOF	**Lofoten**	**5.40**	**149**	*e*P		**Pn**		**10 10 55.2**	**-0.6**
LOF				*e*S		**Sn**		**10 11 53.1**	**-4.8**
LOF				IAML				10 11 54.1	
	comp=Z,35nm,0.5s								
BRBA	**Barentsburg A**	**5.57**	**18**	Pn		**Pn**		**10 10 56.0**	**-2.0**
STEI	**Steigen**	**5.86**	**144**	*e*P		**Pn**		**10 11 02.9**	**+0.8**
SPA0	**Spitsbergen Ar**	**5.88**	**21**	Pn		**Pn**		**10 10 58.7**	**-3.7**
	baz=213,slow=16								
SPA0	**Spitsbergen Ar**	**5.88**	**21**	*e*Pn		**Pn**		**10 10 59.0**	**-3.4**
SPA0	**Spitsbergen Ar**	**5.88**	**21**	Pn		**Pn**		**10 10 58.7**	**-3.7**
	baz=213,slow=16								
SPITS	**Spitsbergen Ar**	**5.88**	**21**	Pn		**Pn**		**10 10 58.7**	**-3.7**
	baz=218,slow=16,SNR=81								
SPITS				LR		LR		10 12 53.3	
	comp=Z,913nm,19.1s,baz=235,slow=34								
HAMF	**Hammerfest**	**5.96**	**104**	*e*P		**Pn**		**10 11 01.5**	**-2.0**
HAMF				*e*S		**Sn**		**10 12 05.0**	**-6.7**
HAMF				IAML				10 12 09.3	
	comp=Z,9.8nm,0.6s								
HOPEN	**Hopen**	**6.16**	**45**	*e*P		**Pn**		**10 11 02.9**	**-3.2**
KIF	**Kilpisjarvi**	**6.20**	**122**	*e*P		**Pn**		**10 11 06.2**	**-0.5**
KBS	**Kingsbay**	**6.22**	**11**	Pn		**Pn**		**10 11 03.5**	**-3.5**
KBS	**Kingsbay**	**6.22**	**11**	*e*Pn		**Pn**		**10 11 05.8**	**-1.2**
KBS	**Kingsbay**	**6.22**	**11**	*e*P		**Pn**		**10 11 02.5**	**-4.5**
KBS	**Kingsbay**	**6.22**	**11**	*e*P		**Pn**		**10 11 05.8**	**-1.2**
NIKU	**Nikkaluokta**	**6.67**	**133**	P		**Pn**		**10 11 13.1**	**-0.1**
NIKU				S		**Sn**		**10 12 23.1**	**-5.9**
KTK1	**Kautokeino**	**6.82**	**116**	*e*P		**Pn**		**10 11 15.3**	**0.0**
RATU	**Laukkuluspa**	**6.82**	**132**	P		**Pn**		**10 11 14.5**	**-0.8**
RATU	**Laukkuluspa**	**6.82**	**132**	P		**Pn**		**10 11 14.5**	**-0.8**
KONS	**Konsvik**	**6.88**	**156**	*e*P		**Pn**		**10 11 15.3**	**-0.8**
KONS				*e*S		**Sn**		**10 12 27.8**	**-6.4**
KONS				IAML				10 12 33.6	
	comp=Z,13nm,0.3s								
KUA	**Kurravaara**	**6.89**	**129**	P		**Pn**		**10 11 15.6**	**-0.6**
SALU	**Saltoluokta**	**6.96**	**137**	P		**Pn**		**10 11 17.6**	**+0.4**
SALU	**Saltoluokta**	**6.96**	**137**	P		**Pn**		**10 11 17.6**	**+0.4**
STOK	**Stokkvaagen**	**7.03**	**156**	*e*P		**Pn**		**10 11 18.1**	**+0.1**
STOK				*e*S		**Sn**		**10 12 31.3**	**-6.5**
ARA0	**ARCESS Array S**	**7.10**	**109**	Pn		**Pn**		**10 11 17.9**	**-1.3**
	baz=307,slow=11								
ARA0				Sn		**Sn**		**10 12 33.4**	**-6.4**
	baz=304,slow=22								
ARA0	**ARCESS Array S**	**7.10**	**109**	Pn		**Pn**		**10 11 17.9**	**-1.3**
	baz=307,slow=11,SNR=1.3								
ARA0	**ARCESS Array S**	**7.10**	**109**	Pn		**Pn**		**10 11 17.9**	**-1.3**
	baz=307,slow=11								
ARA0				Sn		**Sn**		**10 12 33.4**	**-6.4**
	baz=304,slow=22								
ARCES	**ARCESS Array B**	**7.10**	**109**	Pn		**Pn**		**10 11 18.1**	**-1.0**
	comp=Z,1.2nm,0.3s,baz=324,slow=11,SNR=44								
ARCES				Sn		**Sn**		**10 12 33.6**	**-6.2**
	comp=Z,0.7nm,0.3s,baz=304,slow=21,SNR=2.3								
ARCES	**ARCESS Array B**	**7.10**	**109**	*e*Pn		**Pn**		**10 11 17.6**	**-1.6**
ARCES				*e*Sn		**Sn**		**10 12 37.5**	**-2.3**
ARCES	**ARCESS Array B**	**7.10**	**109**	*e*Pn		**Pn**		**10 11 17.6**	**-1.6**
ARCES	**ARCESS Array B**	**7.10**	**109**	*e*P		**Pn**		**10 11 18.0**	**-1.2**
ARCES				*e*Sn		**Sn**		**10 12 37.5**	**-2.3**
ARCES	**ARCESS Array B**	**7.10**	**109**	*

OBN Obninsk 21.83 128 *ce*P **P 10 14 27.2 -0.1**
OBN *e* 10 14 51.3
OBN pmax pmax
comp=Z,24nm,1.5s
OBN MLR MLR
comp=Z,565nm,21.0s
CLL Collm 21.88 168 *i* P **P 10 14 30.7 +2.7**
CLL *i* sP **sP 10 14 34.1 +1.6**
CLL *e* 10 14 37.0
comp=Z,47nm,1.7s
CLL *e*PPP PPP 10 14 55.0
CLL Collm 21.88 168 *e*P **P 10 14 25.0 -3.0**
CLL *e* 10 14 31.0
PVCC Panska Ves 22.76 166 AMS AMS 10 23 40.0
comp=Z,400nm,15.3s
UPC Upice 22.90 164 AMS AMS 10 23 30.0
comp=Z,500nm,18.3s
NKC Novy Kostel 22.92 169 *e*P **P 10 14 42.0 +2.9**
NKC Novy Kostel 22.92 169 *e*P **P 10 14 42.0 +2.9**
DPC Dobruska-Polom 23.08 163 AMS AMS 10 24 00.0
comp=Z,300nm,12.1s
PRU Pruhonice 23.30 166 *e*P **P 10 14 46.9 +4.0**
PRU AMS AMS 10 24 00.0
comp=Z,400nm,17.2s
PRU Pruhonice 23.30 166 *e*P **P 10 14 46.9 +4.0**
PRU MLR MLR
comp=Z,400nm,17.2s
GOPC GO Pecny, Ondr 23.39 166 AMS AMS 10 24 20.0
comp=Z,300nm,18.7s
GRFO Grafenberg 23.41 172 *e*P **P 10 14 46.2 +2.2**
comp=Z,53nm,1.6s
GRFO Grafenberg 23.41 172 *e*P **P 10 14 46.2 +2.2**
GRFO pmax pmax
comp=Z,53nm,1.6s
OKC Ostrava-Krasne 23.76 160 AMS AMS 10 24 00.0
comp=Z,400nm,15.8s
MORC Moravsky Berou 23.76 161 *e*P **P 10 14 48.0 +0.5**
comp=Z,80nm,1.4s
MORC Moravsky Berou 23.76 161 *e*P **P 10 14 48.0 +0.5**
MORC pmax pmax
comp=Z,81nm,1.4s
TREC Trest 24.06 165 AMS AMS 10 24 50.0
comp=Z,400nm,16.5s
KHC Kasperske Hory 24.09 168 AMS AMS 10 24 40.0
VRAC Vranov 24.14 163 LR LR 10 24 29.0
comp=Z,324nm,18.9s,baz=332,slow=37
GEC2 GERESS Array S 24.38 168 *e*P **P 10 14 58.2 +4.8**
comp=Z,17nm,1.3s
GEC2 GERESS Array S 24.38 168 *e*P **P 10 14 58.2 +4.8**
GEC2 pmax pmax
comp=Z,17nm,1.3s
GERES GERESS Array B 24.38 168 P **P 10 14 54.9 +1.5**
comp=Z,3.5nm,1.0s,baz=357,slow=7.9,SNR=6.8
GERES LR LR 10 24 59.3
comp=Z,305nm,18.4s,baz=297,slow=38
GEA0 GERESS Array S 24.39 168 *e*P **P 10 14 54.4 +0.9**
AKASG Malin Array Be 24.47 143 P **P 10 14 53.6 -0.4**
AKASG LR LR 10 24 16.5
comp=Z,2.0nm,0.7s,baz=343,slow=9.9,SNR=6.0
comp=Z,689nm,19.7s,baz=330,slow=36
AKBB Malin Array Si 24.47 143 *e*P **P 10 14 54.1 +0.1**
comp=Z,26nm,1.4s
AKBB Malin Array Si 24.47 143 *e*P **P 10 14 54.1 +0.1**
AKBB pmax pmax
comp=Z,26nm,1.4s
KIEV Kiev 24.47 143 *e*P **P 10 14 54.2 +0.2**
comp=Z,25nm,1.4s
KIEV Kiev 24.47 143 *i* P **P 10 14 53.8 -0.3**
KIEV pmax pmax
comp=Z,5.0nm,1.0s
LVV L'vov 24.49 151 *e*P **P 10 15 01.3 +7.1**
LVV MLR MLR
comp=Z,200nm,14.0s
STHS Stebnicka Huta 24.52 156 *e*P **P 10 14 55.8 +1.3**
STHS Stebnicka Huta 24.52 156 *e*P **P 10 14 55.8 +1.3**
STHS pmax pmax
comp=Z,9.0nm,1.1s
BFO Black Forest 24.68 176 *ce*P **P 10 15 01.7 +5.7**
LPSR Galich'ya Gora 24.70 128 *e*P **P 10 14 56.3 +0.3**
LPSR pmax pmax
comp=Z,20nm,0.8s
CRVS Cervenica-Dubn 25.05 156 *e*P **P 10 14 59.1 -0.2**
CRVS *e* 10 15 11.0
CRVS Cervenica-Dubn 25.05 156 *e*P **P 10 14 59.1 -0.2**
CRVS pmax pmax
comp=Z,28nm,1.8s
RES Resolute Bay 25.05 322 LR LR 10 24 58.1
comp=Z,484nm,19.3s,baz=45,slow=37
MODS Modra-Piesok 25.12 162 *e*P **P 10 15 01.5 +1.5**
MODS Modra-Piesok 25.12 162 *e*P **P 10 15 01.5 +1.5**
VYHS Vyhne 25.16 160 *e*P **P 10 15 03.3 +3.0**
VYHS Vyhne 25.16 160 *e*P **P 10 15 03.3 +3.0**
VYHS pmax pmax
comp=Z,17nm,1.7s
UZH Uzhgorod 25.42 154 *e*P **P 10 15 04.3 +1.7**
UZH *e* 10 15 12.9
PSZ Piszkesteto 25.84 158 *e*P **P 10 15 07.7 +1.2**
comp=Z,24nm,1.6s
PSZ Piszkesteto 25.84 158 *e*P **P 10 15 07.7 +1.2**
PSZ pmax pmax
comp=Z,24nm,1.6s
VSR Storozhevoye 26.04 129 *e*P **P 10 15 08.6 +0.4**
VSR pmax pmax
comp=Z,8.0nm,0.9s
TUE Stuetta 26.56 175 *e*P **P 10 15 14.1 +0.9**
comp=Z,17nm,1.2s
ARU Arti 26.58 100 P **P 10 15 15.1 +2.0**
comp=Z,3.0nm,0.2s,baz=340,slow=8.7,SNR=3.7
ARU Arti 26.58 100 *e*P **P 10 15 13.5 +0.5**
comp=Z,22nm,1.3s
ARU Arti 26.58 100 *d i*P **P 10 15 14.0 +0.9**
ARU 10 15 53.3
ARU S **S 10 19 52.1 +5.0**
ARU SS **SnSn 10 20 50.7 +1.9**
ARU pmax pmax
comp=Z,7.0nm,1.2s
SENIN Lac Senin/Sane 26.63 178 *e*P **P 10 15 15.4 +1.5**
comp=Z,28nm,1.7s
BUR08 Bucovina Ar. S 26.78 151 *e*P **P 10 15 16.2 +1.1**
BUR04 Bucovina Ar. S 26.81 151 *e*P **P 10 15 16.6 +1.2**
FRB Frobisher Bay 27.07 290 LR LR 10 24 44.9
comp=Z,106nm,20.3s,baz=32,slow=34
MLR Muntele Rosu 29.00 150 LR LR 10 27 27.1
comp=Z,169nm,18.9s,baz=10.0,slow=37
TIXI Tiksi 31.21 31 P **P 10 15 54.0 -0.1**
comp=Z,0.8nm,0.3s,baz=332,slow=8.0,SNR=4.9
TIXI Tiksi 31.21 31 *e*P **P 10 15 55.5 +1.4**
comp=Z,9.8nm,1.2s
TIXI Tiksi 31.21 31 *e*P **P 10 15 53.6 -0.4**
TIXI pmax pmax
comp=Z,9.0nm,1.2s
VTS Vitosha 31.48 155 *e*P **P 10 15 56.9 0.0**
comp=Z,7.5nm,1.1s
VTS Vitosha 31.48 155 *e*P **P 10 15 56.9 0.0**
VTS pmax pmax
comp=Z,8.0nm,1.1s
AKTO Aktyubinsk 31.68 106 P **P 10 15 57.4 -1.0**
comp=Z,0.8nm,0.5s,baz=7.5,slow=10,SNR=3.3
AKTO LR LR 10 29 35.9
comp=Z,270nm,18.4s,baz=320,slow=38
ANN Anapa 31.72 135 *e*P **P 10 15 59.2 +0.4**
ANN pmax pmax
comp=Z,29nm,1.4s
BRVK Borovoye 32.94 92 *i* P **P 10 16 10.3 +0.9**
BRVK pmax pmax
comp=Z,2.0nm,1.1s
ABKAR Akbulak array 33.29 105 *e*P **P 10 16 12.7 +0.1**
comp=Z,79nm,1.6s
ES19 SONSECA Array 33.64 194 *e*P **P 10 16 17.0 +1.3**
KIV Kislovodsk 33.68 129 *e*P **P 10 16 16.0 -0.1**
KIV pmax pmax
comp=Z,8.0nm,0.9s
KIV MLR MLR
comp=Z,245nm,15.0s
KVAR Kislovodsk Arr 33.68 129 LR LR 10 30 05.6
comp=Z,363nm,20.7s,baz=14,slow=36
KBZ Khabaz 33.94 129 LR LR 10 30 34.8
comp=Z,368nm,19.7s,baz=352,slow=37
SCHQ Schefferville 33.96 278 LR LR 10 28 28.2
comp=Z,218nm,20.4s,baz=40,slow=34
ILGA Ilgaz 34.60 142 *e*P **P 10 16 25.0 +0.7**
comp=Z,56nm,2.0s
NVS Novosibirsk 35.19 78 *e*P **P 10 16 31.7 +2.8**
BRTR Keskin Array B 35.88 142 P **P 10 16 36.4 +1.3**
comp=Z,0.8nm,0.6s,baz=346,slow=5.7,SNR=5.7
ZALV Zalesovo Beam 36.43 78 P **P 10 16 41.1 +1.6**
comp=Z,0.8nm,0.3s,baz=324,slow=7.1,SNR=3.1
ZALV LR LR 10 35 20.6
comp=Z,102nm,20.8s,baz=292,slow=42
INK Inuvik 36.58 336 P **P 10 16 38.0 -2.7**
comp=Z,0.9nm,1.0s,baz=344,slow=7.4,SNR=2.1
INK Inuvik 36.58 336 *e*P **P 10 16 41.5 +0.8**
comp=Z,11nm,1.5s
INK Inuvik 36.58 336 *e*P **P 10 16 41.5 +0.8**
INK pmax pmax
comp=Z,11nm,1.5s
KURK Kurchatov 37.46 86 *i* P **P 10 16 49.2 +0.8**
KURK pmax pmax
comp=Z,14nm,2.9s
GNI Garni 37.77 129 LR LR 10 32 45.4
comp=Z,217nm,20.1s,baz=318,slow=37
BILL Bilibino 38.70 12 *i* P **P 10 16 57.7 -0.9**
BILL pmax pmax
comp=Z,4.0nm,1.7s
YKA Yellowknife Ar 39.11 321 P **P 10 17 00.3 -1.7**
comp=Z,0.4nm,0.9s,baz=12,slow=8.5,SNR=6.6
YKA PcP **PcP 10 19 09.2 -2.1**
comp=Z,0.3nm,0.8s,baz=12,slow=3.0,SNR=4.7
YKA LR LR 10 33 07.7
comp=Z,38nm,18.1s,baz=38,slow=36
YKA Yellowknife Ar 39.11 321 P **P 10 17 00.3 -1.7**
YKA 10 19 09.2
YKA pmax pmax
comp=Z,1.0nm,0.9s
YKA MLR MLR
comp=Z,38nm,18.1s
DGZ Jazzator, Alta 40.95 78 *i* P **P 10 17 18.8 +1.1**
DGZ pmax pmax
comp=Z,2.0nm,1.2s
ILAR Eielson Array 41.40 343 P **P 10 17 20.8 -0.3**
comp=Z,1.2nm,1.1s,baz=2.5,slow=6.3,SNR=4.9
KKAR Karatay Array 41.94 99 *e*P **P 10 17 25.4 -0.4**
KKAR Karatay Array 41.94 99 *e*P **P 10 17 25.4 -0.4**
MKAR Makanchi Array 42.06 85 P **P 10 17 26.8 +0.1**
comp=Z,0.2nm,0.4s,baz=336,slow=5.6,SNR=4.6
MKAR LR LR 10 39 49.9
comp=Z,86nm,19.1s,baz=338,slow=43
MK01 Makanchi Array 42.08 85 *e*P **P 10 17 26.9 0.0**
MK01 *e*pwP **sP 10 17 32.3 +0.6**
SEY Seymchan 42.54 22 *i* P **P 10 17 29.4 -0.9**
MMAI Mount Meron Ar 42.72 143 LR LR 10 37 15.5
comp=Z,132nm,19.9s,baz=315,slow=39
MOY Mondy 42.98 66 *e*P **P 10 17 37.1 +2.9**
GEYT Alibeck 43.23 114 P **P 10 17 37.7 +1.4**
comp=Z,1.5nm,0.6s,baz=308,slow=10,SNR=2.8
GEYT LR LR 10 37 29.4
comp=Z,286nm,21.1s,baz=345,slow=39
AAK Ala-Archa 43.54 95 *i* P **P 10 17 40.4 +1.5**
AAK pmax pmax
comp=Z,2.0nm,1.1s
EIL Elat 45.90 144 LR LR 10 37 17.0
comp=Z,125nm,20.4s,baz=250,slow=36
ULM Lac du Bonnet 46.12 299 LR LR 10 37 04.7
comp=Z,295nm,18.4s,baz=5.5,slow=36
WMQ Urumqi 46.35 82 P **P 10 18 03.8 +2.7**
WMQ pP sP 10 18 08.3 +2.4
WMQ sP pP 10 18 10.8 +6.2
WMQ pmax pmax
comp=Z,16nm,1.1s
WMQ pmax pmax
comp=Z,130nm,4.7s
WMQ LR LR
comp=N,340nm,23.5s
WMQ LR LR
comp=E,390nm,22.7s
WMQ LR LR
comp=Z,320nm,25.3s
SONA1 Songino Array 47.91 63 *e*P **P 10 18 15.0 +1.7**
SONM Songino Array 47.92 63 LR LR 10 44 21.9
comp=Z,50nm,18.4s,baz=6.5,slow=44
WALA Waterton Lakes 51.52 313 *e*P **P 10 18 41.4 +0.7**
comp=Z,9.2nm,1.4s
EGMT Eagleton 51.57 310 *e*P **P 10 18 41.5 +0.4**
comp=Z,16nm,1.3s
ECSD EROS Data Cent 52.34 297 *e*P **P 10 18 46.5 -0.3**
comp=Z,5.7nm,1.1s
JTMT Jette 52.84 313 *e*P **P 10 18 50.0 -0.6**
comp=Z,4.7nm,1.0s
NEW Newport 52.95 316 LR LR 10 41 17.1
comp=Z,151nm,18.6s,baz=36,slow=36
MSO Missoula 53.64 312 *e*P **P 10 18 56.8 +0.3**
comp=Z,9.0nm,1.1s
GCMT Greycliff 53.66 309 *e*P **P 10 18 56.5 -0.1**
GTA Gaotai 53.91 73 *e*P **P 10 19 00.8 +2.2**
GTA pP sP 10 19 04.8 +1.4
GTA sP pP 10 19 08.3 +6.2
GTA pmax pmax
comp=Z,5.0nm,0.9s
RLMT Red Lodge 54.20 308 *e*P **P 10 19 01.2 +0.6**
comp=Z,7.3nm,1.1s
YHH Holmes Hill 54.88 309 *e*P **P 10 19 09.2 +3.5**
comp=Z,3.6nm,1.1s
YHB Horse Butte 54.99 309 *e*P **P 10 19 06.9 +0.4**
comp=Z,10.0nm,1.2s
H17A Grant Village 55.19 309 *e*P **P 10 19 09.4 +1.4**
comp=Z,14nm,1.1s
MCMT McKenzie Canyo 55.29 311 *e*P **P 10 19 08.6 0.0**
YPP Pitchstone Pla 55.36 309 *e*P **P 10 19 09.5 +0.3**
comp=Z,8.0nm,1.1s
IMW Indian Meadow 55.74 309 *e*P **P 10 19 11.6 -0.4**
comp=Z,13nm,1.0s
HHC Hu-ho-hao-te 55.78 62 *e*P **P 10 19 12.5 +0.5**
HHC pmax pmax
comp=Z,10.0nm,1.2s
HHC pmax pmax
comp=Z,23nm,6.4s
MOOW Moose Ponds 55.84 309 *e*P **P 10 19 13.0 +0.4**
comp=Z,7.6nm,1.2s
K22A Casper 55.87 305 *e*P **P 10 19 13.9 +1.2**
comp=Z,13nm,1.1s
LOHW Long Hollow 55.93 308 *e*P **P 10 19 17.7 +4.4**
comp=Z,5.8nm,1.1s
FXWY Fox Creek 56.01 309 *e*P **P 10 19 14.5 +0.7**
comp=Z,5.5nm,1.0s
SNOW Snow King Moun 56.11 308 *e*P **P 10 19 15.3 +0.8**
comp=Z,7.4nm,1.2s
TPAW Teton Pass 56.13 309 *e*P **P 10 19 14.7 0.0**
comp=Z,6.1nm,1.0s
REDW Red Top Meadow 56.23 309 *e*P **P 10 19 17.1 +1.7**
comp=Z,15nm,1.3s
TKL Tuckaleechee C 56.28 282 LR LR 10 42 12.6
comp=Z,100nm,19.6s,baz=354,slow=35
BW06 Boulder Array 56.49 307 *e*P **P 10 19 17.1 -0.2**
comp=Z,7.6nm,1.0s
PD31 Pinedale Array 56.49 307 *e*P **P 10 19 16.6 -0.7**
PDAR Pinedale Array 56.49 307 P **P 10 19 16.2 -1.1**
comp=Z,4.8nm,0.9s,baz=32,slow=5.8,SNR=21
PDAR LR LR 10 43 20.4
comp=Z,92nm,20.6s,baz=60,slow=36
PDAR Pinedale Array 56.49 307 *e*P **P 10 19 15.9 -1.4**
HLID Hailey 56.84 312 *e*P **P 10 19 20.0 +0.3**
comp=Z,2.8nm,1.0s
PHWY Pilot Hill 56.88 303 *e*P **P 10 19 21.8 +1.7**
comp=Z,3.9nm,1.1s
N23A Red Feather La 57.39 303 *e*P **P 10 19 24.3 +0.6**
comp=Z,21nm,1.5s
HWUT Hardware Ranch 58.06 308 *e*P **P 10 19 28.8 +0.6**
comp=Z,5.5nm,1.1s
LZH Lanzhou 58.15 71 *e*P **P 10 19 30.8 +1.9**
LZH pP sP 10 19 35.3 +1.5
LZH sP pP 10 19 37.5 +5.0
LZH *e*PP **PP 10 21 40.0 +2.7**
LZH pmax pmax
comp=Z,20nm,1.1s
LZH pmax pmax
comp=Z,200nm,5.0s
LZH LR LR
comp=N,190nm,14.5s
LZH LR LR
comp=E,200nm,14.3s
LZH LR LR
comp=Z,270nm,17.8s
ISCO Idaho Springs 58.34 303 *e*P **P 10 19 31.0 +0.6**
comp=Z,22nm,1.9s
ISCO Idaho Springs 58.34 303 *e*P **P 10 19 31.0 +0.6**
ISCO pmax pmax
comp=Z,22nm,1.9s
O20A White River Ci 58.67 305 *e*P **P 10 19 32.5 -0.1**
comp=Z,22nm,1.0s
SMCO Snowmass 59.27 304 *e*P **P 10 19 37.2 +0.2**
comp=Z,6.3nm,1.1s
P18A Preston Nutter 59.63 307 *e*P **P 10 19 39.8 +0.4**
comp=Z,8.1nm,1.1s
DUG Dugway, Tooele 59.69 309 *e*P **P 10 19 38.8 -0.8**
comp=Z,3.4nm,0.9s
DUG Dugway, Tooele 59.69 309 *e*P **P 10 19 38.8 -0.8**
DUG pmax pmax
comp=Z,3.0nm,0.9s
TOA0 Torodi Ar. Sit 59.79 185 *e*P **P 10 19 41.1 +0.8**
TORD Torodi Ar. Bea 59.79 185 P **P 10 19 40.7 +0.4**
comp=Z,1.9nm,1.0s,baz=358,slow=5.4,SNR=5.7
MIAR Mount Ida 60.11 290 *e*P **P 10 19 43.0 +0.6**
comp=Z,12nm,1.4s
MIAR Mount Ida 60.11 290 *e*P **P 10 19 43.0 +0.6**
MIAR pmax pmax
comp=Z,12nm,1.4s
TMUT Trail Mountain 60.17 307 *e*P **P 10 19 43.5 +0.4**
comp=Z,11nm,1.2s
SRU San Rafael Swe 60.19 307 *e*P **P 10 19 42.5 -0.5**
comp=Z,5.2nm,1.0s
SRU San Rafael Swe 60.19 307 *e*P **P 10 19 42.5 -0.5**
SRU pmax pmax
comp=Z,5.0nm,1.0s
SDCO Great Sand Dun 60.26 302 *e*P **P 10 19 41.8 -1.9**
comp=Z,7.4nm,1.5s
YBH Yreka Blue Hor 60.34 318 LR LR 10 46 17.9
comp=Z,219nm,19.4s,baz=10,slow=37
S22A 4UR Ranch, Cre 60.59 303 *e*P **P 10 19 46.5 +0.6**
comp=Z,6.7nm,1.2s
PV01 Paradox Valley 60.65 305 *e*P **P 10 19 45.9 -0.3**
MSU Marysvale 61.15 308 *e*P **P 10 19 49.9 +0.2**
MSU Marysvale 61.15 308 *e*P **P 10 19 49.9 +0.2**
WMOK Wichita Mounta 61.35 295 *e*P **P 10 19 51.1 +0.3**
comp=Z,4.1nm,1.0s
WMOK Wichita Mounta 61.35 295 *e*P **P 10 19 51.1 +0.3**
WMOK pmax pmax
comp=Z,4.0nm,1.0s
MVCO Mesa Verde 61.51 304 *e*P **P 10 19 52.6 +0.5**
comp=Z,19nm,1.1s
MTPU Mount Pierson 61.60 308 *e*P **P 10 19 53.0 +0.2**
comp=Z,11nm,1.2s
R11A Troy Canyon, C 62.08 311 *e*P **P 10 20 00.1 +4.1**
comp=Z,5.2nm,1.3s
CCUT Cedar City 62.34 309 *e*P **P 10 19 57.9 +0.2**
comp=Z,5.8nm,1.1s
NVAR Mina Array Bea 62.60 313 P **P 10 20 03.9 +4.4**
comp=Z,0.6nm,0.8s,baz=27,slow=8.6,SNR=4.6
NVAR LR LR 10 48 36.7
comp=Z,75nm,19.2s,baz=270,slow=38
KNB Kanab 62.73 308 *e*P **P 10 20 00.9 +0.7**
comp=Z,5.8nm,1.1s
KNB Kanab 62.73 308 *e*P **P 10 20 00.9 +0.7**
KNB pmax pmax
comp=Z,6.0nm,1.1s
LCMT Little Creek M 62.83 308 *e*P **P 10 20 00.5 -0.4**
comp=Z,8.6nm,1.4s
KSRS Korea Array 62.99 49 LR LR 10 52 01.8
comp=Z,65nm,18.4s,baz=30,slow=40
ANMO Albuquerque 63.15 302 *e*P **P 10 20 07.7 +4.6**
comp=Z,4.7nm,1.2s
ANMO Albuquerque 63.15 302 *e*P **P 10 20 07.7 +4.6**
ANMO pmax pmax
comp=Z,5.0nm,1.2s
U15A North Rim 63.16 307 *e*P **P 10 20 06.8 +3.5**
comp=Z,7.7nm,1.3s
TPNV Topopah Spring 63.57 311 *e*P **P 10 20 10.2 +4.4**
comp=Z,7.7nm,1.3s
TPNV Topopah Spring 63.57 311 *e*P **P 10 20 10.2 +4.4**
TPNV pmax pmax
comp=Z,8.0nm,1.3s
NJ2 Nanjing 65.97 59 *e*P **P 10 20 25.0 +3.7**
NJ2 pmax pmax
comp=Z,13nm,0.9s
TUC Tucson 66.73 305 *e*P **P 10 20 25.4 -0.9**
comp=Z,9.8nm,1.4s
TUC Tucson 66.73 305 *e*P **P 10 20 25.4 -0.9**
TUC pmax pmax
comp=Z,10.0nm,1.4s
SJG San Juan 67.60 258 LR LR 10 46 57.4
comp=Z,26nm,18.4s,baz=83,slow=33
TX31 Lajitas Ar. Si 67.77 297 *e*P **P 10 20 32.4 -0.5**
TXAR Lajitas Array 67.77 297 P **P 10 20 31.8 -1.1**
comp=Z,0.3nm,0.6s,baz=63,slow=2.8,SNR=7.3
TXAR LR LR 10 50 04.3
comp=Z,125nm,18.9s,baz=0.0,slow=36
LPIG La Paz 74.47 302 LR LR 10 54 32.7
comp=Z,83nm,18.6s,baz=20,slow=36
SDV Santo Domingo 77.65 260 P **P 10 21 32.3 +0.4**
comp=Z,1.1nm,0.3s,baz=350,slow=12,SNR=3.6
SDV LR LR 10 51 41.1
comp=Z,41nm,21.6s,baz=292,slow=33
APG El Apazote 77.69 281 LR LR 10 54 48.2
comp=Z,113nm,21.6s,baz=316,slow=35
NNA Nana 99.29 260 *ce*P **Pdif 10 23 20.8 +3.7**
ASAR Alice Springs 123.21 60 PKP **PKPdf 10 28 29.4 -2.2**
comp=Z,0.3nm,0.6s,baz=346,slow=2.4,SNR=5.8
SNAA Sanae 144.46 185 PKP **PKPab 10 29 07.2 -0.9**
comp=Z,3.3nm,1.1s,baz=24,slow=8.5,SNR=3.9

ISK ***25*** *10:25:55.5,40˚.45N×37˚.27E,h5km,ML2.5/4*
IASPEI ***25*** *10:25:56.2±1.3,40˚.44N±0˚.03×37˚.32E±0˚.03,h1km±12km, Error ellipse: s-maj=4.4km s-min=3.9km az=19.9,GT5 selection from ISC bulletin GT5 identified by Bond˚¡r and McLaughlin (2009) selection criteria Bond˚¡r and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009*
ISCJB ***25*** *10:25:56.4±0.6,40˚.45N±0˚.03×37˚.28E±0˚.03,h1km±5km, Error ellipse: s-maj=5.3km s-min=4.2km az=176.3*
DDA ***25*** *10:25:56.2,40˚.41N×37˚.29E,h7km,Ml2.5*
CSEM ***25*** *10:25:56.4±0.2,40˚.47N×37˚.30E,h2km,ML2.5*
ISC 25 10:25:56.1±1.1,**40˚.44N**±0˚.03×**37˚.30E**±0˚.02,**h1km**±10km,
n33,s0s68/45,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
RSDY	**Resadiye-TOKAT**	**0.05**	**158**	PG	**Pg**	**10 25 56.6**	**-0.5**
RSDY				SG	**Sg**	**10 25 58.2**	**+0.4**
RSDY	**Resadiye-TOKAT**	**0.05**	**158**	*e*Pg	**Pg**	**10 25 56.6**	**-0.5**
RSDY				*e*Sg	**Sg**	**10 25 58.2**	**+0.4**
ERBA	**Erbaa**	**0.48**	**300**	*i* P	**Pg**	**10 26 06.1**	**+0.7**
SVSK	**Karacayir**	**0.57**	**204**	PG	**Pg**	**10 26 07.8**	**+0.7**
SVSK				SG	**Sb**	**10 26 16.8**	**-0.8**
SVSK	**Karacayir**	**0.57**	**204**	*e*Pg	**Pg**	**10 26 07.8**	**+0.7**
SVSK				*e*Sg	**Sb**	**10 26 16.8**	**-0.8**
TOKT	**Tokat**	**0.59**	**258**	PG	**Pg**	**10 26 07.6**	**+0.1**
TOKT	**Tokat**	**0.59**	**258**	*e*Pg	**Pg**	**10 26 07.6**	**+0.1**
ORDU	**Ordu-Boztepe**	**0.69**	**37**	*i* P	**Pb**	**10 26 10.4**	**-0.6**
ORDU				*i* S	**Sb**	**10 26 21.2**	**+0.2**
SUSE	**Susehri**	**0.73**	**109**	*i* P	**Pg**	**10 26 10.5**	**+0.4**
SUSE				*i* S	**Sb**	**10 26 21.9**	**-0.2**
SUSE	**Susehri**	**0.73**	**109**	P	**Pg**	**10 26 10.5**	**+0.4**
SUSE				S	**Sb**	**10 26 21.9**	**-0.2**
GRSN	**GIRESUNGRSN**	**0.88**	**56**	*i* P	**Pg**	**10 26 12.2**	**-0.7**
GRSN	**GIRESUNGRSN**	**0.88**	**56**	P	**Pg**	**10 26 12.2**	**-0.7**
KVT	**Kavak**	**1.15**	**304**	PN	**Pb**	**10 26 18.3**	**-0.5**
KVT				SN	**Sn**	**10 26 34.9**	**-0.8**
KVT	**Kavak**	**1.15**	**304**	*e*Pn	**Pb**	**10 26 18.3**	**-0.5**
KVT				*e*Sn	**Sn**	**10 26 34.9**	**-0.8**
ESPY	**Espiye-Giresun**	**1.18**	**66**	PN	**Pn**	**10 26 19.6**	**-0.2**
ESPY				SN	**Sn**	**10 26 37.2**	**+0.7**
ESPY	**Espiye-Giresun**	**1.18**	**66**	*e*Pn	**Pn**	**10 26 19.6**	**-0.2**
ESPY				*e*Sn	**Sn**	**10 26 37.2**	**+0.7**
KELT	**Kelkit**	**1.52**	**101**	*i* P	**Pb**	**10 26 24.9**	**-0.4**
KELT				*i* S	**Sg**	**10 26 45.4**	**+0.4**
YOZ	**Yozgat**	**1.72**	**243**	PN	**Pb**	**10 26 27.7**	**-0.9**
YOZ	**Yozgat**	**1.72**	**243**	*e*Pn	**Pb**	**10 26 27.7**	**-0.9**
DARE	**Darende-Malaty**	**1.88**	**176**	PN	**Pb**	**10 26 30.3**	**-0.9**
DARE	**Darende-Malaty**	**1.88**	**176**	*e*Pn	**Pb**	**10 26 30.3**	**-0.9**
BNN	**Bunyan**	**1.95**	**216**	PN	**Pn**	**10 26 31.0**	**+0.6**
BNN	**Bunyan**	**1.95**	**216**	*e*Pn	**Pn**	**10 26 31.0**	**+0.6**
DIKM	**Dikmen**	**1.96**	**309**	PN	**Pn**	**10 26 30.9**	**+0.4**
DIKM	**Dikmen**	**1.96**	**309**	*e*Pn	**Pn**	**10 26 30.9**	**+0.4**
CORM	**Corum**	**2.06**	**263**	PN	**Pn**	**10 26 32.4**	**+0.4**
CORM	**Corum**	**2.06**	**263**	*e*Pn	**Pn**	**10 26 32.4**	**+0.4**
BAYT	**Ayd¯–ntepe-Bay**	**2.17**	**90**	PN	**Pn**	**10 26 34.5**	**+1.0**
BAYT	**Ayd¯–ntepe-Bay**	**2.17**	**90**	*e*Pn	**Pn**	**10 26 34.5**	**+1.0**
SNOP	**Sinop**	**2.23**	**316**	PN	**Pn**	**10 26 35.1**	**+0.9**
SNOP	**Sinop**	**2.23**	**316**	*e*Pn	**Pn**	**10 26 35.1**	**+0.9**
PTK	**Pertek**	**2.24**	**133**	PN	**Pn**	**10 26 35.4**	**+1.0**
PTK	**Pertek**	**2.24**	**133**	*e*Pn	**Pn**	**10 26 35.4**	**+1.0**

MEX ***25*** *10:28:57.6±0.3,23˚.47N×109˚.98W,h20km,MD3.8*

IDC ***25*** *10:28:57.6±3.6, 23°.69N×109°.84W, h0km, mb2.8/1, mb1 3.5/3, mb1mx3.4/54, mbtmp3.1/3, ML3.8/2, Error ellipse: s-maj=62.2km s-min=13.3km az=27.0*

ISC 25 10:28:59.0±3.4, **23°.7N**±0°.3×**109°.9W**±0°.2, **h10**km, **n6**, σ**0**s**77**/**7**, **Baja California**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
LPIG	**La Paz**	**0.54**	**318**	Pg	**Pg**		**10 29 08.9**	**-0.8**
	106nm,0.3s,baz=158,slow=5.6,SNR=78							
LPIG				Lg	Lg		10 29 17.5	
	236nm,0.3s,baz=49,slow=20,SNR=63							
LPIG				LR	LR		10 29 36.0	
	comp=Z,113nm,20.2s,baz=214,slow=64							
LPIG	**La Paz**	**0.54**	**318**	*eP*	**Pg**		**10 29 08.8**	**-0.8**
	baz=154,slow=5.3							
LPIG				*eS*	**Sg**		**10 29 17.6**	**+0.8**
TXAR	**Lajitas Array**	**7.92**	**44**	Pn	**Pn**		**10 30 54.3**	**-0.1**
	0.1nm,0.3s,baz=216,slow=14,SNR=9.1							
PDAR	**Pinedale Array**	**19.02**	**1**	P	**Pn**		**10 33 21.9**	**-0.1**
	0.1nm,0.3s,baz=166,slow=9.9,SNR=11							
YKA	**Yellowknife Ar**	**38.91**	**357**	P	**P**		**10 36 24.6**	**0.0**
	0.1nm,0.6s,baz=177,slow=7.6,SNR=4.0							
ILAR	**Eielson Array**	**47.55**	**340**	P	**P**		**10 37 35.1**	**+0.7**
	0.4nm,0.7s,baz=157,slow=7.0,SNR=4.8							

IDC ***25*** *10:30:18.8±1.1, 18°.91N×105°.08W, h0km, mb3.5/5, mb1 3.9/7, mb1mx3.8/51, mbtmp3.6/7, ML3.5/2, MS3.6/2, Ms1 3.5/2, ms1mx2.8/48, Error ellipse: s-maj=37.7km s-min=18.7km az=69.0*

ISCJB ***25*** *10:30:20.7±0.8, 18°.94N±0°.06×104°.95W±0°.06, h27km, mb3.7/8, MS4.2/1, Error ellipse: s-maj=11.6km s-min=4.8km az=43.3*

NEIC ***25*** *10:30:20.3±0.0, 18°.87N×105°.16W, h20km, mb4.0/5, MD4.2(MEX), After MEX.*

MEX ***25*** *10:30:20.3±0.9, 18°.87N×105°.16W, h20km±337km, MD4.2*

ISC 25 10:30:21.5±0.9, **18°.93N**±0°.07×**104°.92W**±0°.07, **h27**km, **n30**, σ**1**s**81**/**31**, **mb3.7**/**8**, **Near coast of Jalisco**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
CJM	**Chamela**	**0.58**	**349**	*eP*	**Pb**		**10 30 30.3**	**-2.9**
CJM				*eS*	**Sb**		**10 30 38.9**	**-2.2**
CJM	**Chamela**	**0.58**	**349**	*eP*	**Pb**		**10 30 30.3**	**-2.9**
CJM				*eS*	**Sb**		**10 30 38.9**	**-2.2**
EZ5V		**1.36**	**66**	*eP*	**Pb**		**10 30 45.1**	**-1.5**
EZ5V				*eS*	**Sb**		**10 31 03.0**	**-0.7**
MMIG	**Aquila**	**1.63**	**113**	*eP*	**Pn**		**10 30 47.5**	**-1.0**
MMIG				*eS*	**Sb**		**10 31 07.9**	**-3.1**
MMIG	**Aquila**	**1.63**	**113**	*eP*	**Pn**		**10 30 47.5**	**-1.0**
MMIG				*eS*	**Sb**		**10 31 07.9**	**-3.1**
ZIIG	**Zihuatanejo**	**3.54**	**111**	*eP*	**Pn**		**10 31 14.9**	**+0.1**
ZIIG				*eS*	**Sn**		**10 31 55.8**	**+0.1**
ZIIG	**Zihuatanejo**	**3.54**	**111**	*eP*	**Pn**		**10 31 14.9**	**+0.1**
ZIIG				*eS*	**Sn**		**10 31 55.8**	**+0.1**
MOIG	**Morelia**	**3.61**	**77**	*ePn*	Pb		10 31 19.2	-5.5
ARIG	**Puente Sto Nin**	**4.39**	**98**	*eP*	**Pn**		**10 31 28.6**	**+2.1**
ZAIG	**Zacatecas**	**4.41**	**30**	*ePn*	**Pn**		**10 31 28.2**	**+1.2**
H06E1	**SOCORRO T-PHAS**	**5.69**	**269**	T	T		10 37 30.1	
	SNR=49							
H06S1	**SOCORRO T**	**5.72**	**269**	T	T		10 37 33.1	
	SNR=31							
H06N1	**SOCORRO T-PHAS**	**5.74**	**270**	T	T		10 37 34.5	
	SNR=15							
TLIG	**Tlapa**	**6.19**	**102**	*ePn*	**Pn**		**10 31 52.5**	**+1.2**
CMIG	**Matias Romero**	**9.73**	**99**	Pn	Pn		10 32 43.1	+3.3
	0.5nm,0.3s,baz=280,slow=10.0,SNR=5.6							
CMIG				Lg	Lg		10 35 18.4	
	0.7nm,0.3s,baz=185,slow=13,SNR=3.7							
TXAR	**Lajitas Array**	**10.42**	**6**	Pn	**Pn**		**10 32 52.5**	**+3.1**
	0.1nm,0.3s,baz=184,slow=15,SNR=14							
TXAR				Lg	Lg		10 35 47.8	
	0.1nm,0.3s,baz=178,slow=27,SNR=3.4							
TXAR				LR	LR		10 36 58.0	
	comp=Z,97nm,19.3s,baz=0.0,slow=38							
WUAZ	**Wupatki**	**17.48**	**342**	P	**Pn**		**10 34 22.8**	**-0.8**
	3.3nm,0.7s							
TUL1	**Leonard**	**18.74**	**24**	*eP*	**Pn**		**10 34 38.4**	**-0.5**
	7.3nm,0.7s							
NVAR	**Mina Array Bea**	**22.65**	**332**	P	**P**		**10 35 22.1**	**+1.2**
	1.0nm,0.7s,baz=157,slow=11,SNR=6.3							
HVU	**Hansel Valley**	**23.74**	**345**	*eP*	**P**		**10 35 33.2**	**+1.5**
	3.6nm,0.9s							
PDAR	**Pinedale Array**	**24.09**	**352**	P	**P**		**10 35 35.8**	**+0.7**
	0.5nm,0.7s,baz=151,slow=9.4,SNR=5.5							
YKA	**Yellowknife Ar**	**44.04**	**354**	P	**P**		**10 38 26.8**	**+0.1**
	0.4nm,0.7s,baz=173,slow=7.0,SNR=9.2							
LPAZ	**La Paz**	**50.35**	**132**	P	**P**		**10 39 19.2**	**+2.0**
	0.8nm,0.8s,baz=270,slow=1.0,SNR=3.2							
INK	**Inuvik**	**52.53**	**347**	P	**P**		**10 39 33.8**	**+1.7**
	1.6nm,0.6s,baz=132,slow=6.0,SNR=7.0							
INK	**Inuvik**	**52.53**	**347**	*eP*	**P**		**10 39 31.9**	**-0.2**
	1.8nm,0.8s							
ILAR	**Eielson Array**	**53.63**	**339**	P	**P**		**10 39 42.0**	**+1.7**
	0.7nm,0.9s,baz=164,slow=5.5,SNR=5.1							
TRF	**Thorofare Moun**	**54.06**	**337**	*eP*	**P**		**10 39 40.8**	**-2.8**
	2.9nm,0.7s							
HNR	**Honiara**	**97.82**	**263**	LR	LR		11 20 29.4	
	comp=Z,69nm,18.6s,baz=324,slow=31							
WRA	**Warramunga Arr**	**124.36**	**258**	PKP	**PKPdf**		**10 49 20.0**	**+1.1**
	0.4nm,0.6s,baz=76,slow=1.7,SNR=5.0							
ASAR	**Alice Springs**	**125.31**	**254**	PKP	**PKPdf**		**10 49 21.4**	**+0.8**
	0.4nm,0.8s,baz=84,slow=1.7,SNR=4.4							

ATH ***25*** *10:34:10.9, 38°.42N×22°.00E, h16km, ML4.3/20, Error ellipse: s-maj=0.7km s-min=0.5km az=219.0*

ISCJB ***25*** *10:34:11.5±0.2, 38°.418N±0°.009×21°.99E±0°.01, h11km±1km, mb4.5/84, MS3.7/22, Error ellipse: s-maj=1.7km s-min=1.4km az=40.0*

NEIC ***25*** *10:34:11.2±0.0, 38°.41N×22°.00E, h14km, mb4.5/38, ML4.3(ATH), ML4.4(THE), After ATH.*

NEIC Felt at Ayios Vasilios and Selianitika.

PDG ***25*** *10:34:11.7±0.6, 38°.40N×22°.02E, h8km, ML4.3/13, Error ellipse: s-maj=0.5km s-min=0.6km az=0.0*

MOS ***25*** *10:34:11.2±1.0, 38°.40N×22°.07E, h13km, mb4.7/37, Error ellipse: s-maj=5.2km s-min=2.9km az=89.4*

IASPEI ***25*** *10:34:11.7±0.7, 38°.41N±0°.01×21°.99E±0°.01, h10km±3km, mb4.6/83, MS3.8/22, Error ellipse: s-maj=1.7km s-min=1.6km az=101.5, GT5 selection from ISC bulletin GT5 identified by Bondˇjr and McLaughlin (2009) selection criteria Bondˇjr and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009*

CSEM ***25*** *10:34:11.9±0.1, 38°.39N×22°.02E, h5km, mb4.6/70, ML4.3/4, Error ellipse: s-maj=1.9km s-min=1.5km az=39.0*

THE ***25*** *10:34:12.0, 38°.40N×21°.99E, h8km, ML4.3/37, Error ellipse: s-maj=0.6km s-min=0.4km az=227.0*

IDC ***25*** *10:34:14.8±2.9, 38°.47N×22°.02E, h25km±19km, mb4.3/33, mb1 4.3/42, mb1mx4.2/73, mbtmp4.4/42, ML3.9/9, MS3.6/27, Ms1 3.6/27, ms1mx3.4/70, Error ellipse: s-maj=10.7km s-min=9.9km az=109.0*

ISC 25 10:34:12.5±0.5, **38°.41N**±0°.01×**22°.00E**±0°.01, **h10**km±3km, **n955**, σ**1**s**18**/1135, **mb4.6**/84, **MS3.8**/22, **42C-23D, Greece**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
SERG	**Sergoula**	**0.05**	**81**	P	**Pg**		**10 34 13.4**	**-1.1**
SERG	**Sergoula**	**0.05**	**81**	P	**Pg**		**10 34 13.6**	**-0.9**
SERG				S	**Sg**		**10 34 15.6**	**-0.3**
SERG	**Sergoula**	**0.05**	**81**	P	**Pg**		**10 34 13.6**	**-0.9**
SERG				S	**Sg**		**10 34 15.6**	**-0.3**
TRIZ	**Trizonia**	**0.07**	**124**	P	**Pg**		**10 34 13.7**	**-0.9**
TRIZ				S	**Sg**		**10 34 15.8**	**-0.5**
TRIZ	**Trizonia**	**0.07**	**124**	P	**Pg**		**10 34 13.9**	**-0.7**
TRIZ				S	**Sg**		**10 34 15.6**	**-0.6**
TRIZ	**Trizonia**	**0.07**	**124**	P	**Pg**		**10 34 13.9**	**-0.7**
TRIZ				S	**Sg**		**10 34 15.6**	**-0.6**
EFP	**Efpalio**	**0.07**	**286**	P	**Pg**		**10 34 13.2**	**-1.5**
EFP				S	**Sg**		**10 34 15.1**	**-1.2**
EFP				AML	AML		10 34 15.8	
EFP				AML	AML		10 34 16.1	
EFP	**Efpalio**	**0.07**	**286**	P	**Pg**		**10 34 13.5**	**-1.2**
EFP				S	**Sg**		**10 34 15.7**	**-0.6**
EFP	**Efpalio**	**0.07**	**286**	P	**Pg**		**10 34 13.6**	**-1.2**
EFP				S	**Sg**		**10 34 15.7**	**-0.6**
KALE	**Kalithea**	**0.11**	**97**	P	**Pg**		**10 34 14.6**	**-0.8**
KALE				S	**Sg**		**10 34 17.1**	**-0.2**
KALE				AML	AML		10 34 17.7	
KALE					AML	AML	10 34 17.8	
KALE	**Kalithea**	**0.11**	**97**	P	**Pg**		**10 34 14.5**	**-0.8**
KALE				S	**Sg**		**10 34 17.2**	**-0.1**
KALE	**Kalithea**	**0.11**	**97**	P	**Pg**		**10 34 14.5**	**-0.8**
KALE				S	**Sg**		**10 34 17.0**	**-0.2**
LAKA	**Lakka**	**0.17**	**185**	P	**Pg**		**10 34 15.4**	**-0.7**
LAKA				S	**Sg**		**10 34 18.2**	**-0.4**
LAKA				AML	AML		10 34 18.6	
LAKA				AML	AML		10 34 18.7	
LAKA	**Lakka**	**0.17**	**185**	P	**Pg**		**10 34 15.3**	**-0.8**
LAKA				S	**Sg**		**10 34 18.3**	**-0.3**
LAKA	**Lakka**	**0.17**	**185**	P	**Pg**		**10 34 15.4**	**-0.7**
LAKA				S	**Sg**		**10 34 18.3**	**-0.3**
ALIK	**Aliki, Aigiali**	**0.17**	**148**	P	**Pg**		**10 34 15.8**	**-0.3**
ALIK				S	**Sg**		**10 34 18.1**	**-0.5**
ALIK	**Aliki, Aigiali**	**0.17**	**148**	P	**Pg**		**10 34 15.8**	**-0.3**
ALIK				S	**Sg**		**10 34 18.1**	**-0.5**
ANX	**Ano Chora**	**0.20**	**342**	P	**Pg**		**10 34 15.8**	**-0.9**
ANX	**Ano Chora**	**0.20**	**342**	P	**Pg**		**10 34 15.6**	**-1.1**
ANX				S	**Sg**		**10 34 19.4**	**-0.1**
ANX	**Ano Chora**	**0.20**	**342**	P	**Pg**		**10 34 15.6**	**-1.1**
ANX				S	**Sg**		**10 34 19.5**	**-0.1**
UPR	**University Cam**	**0.21**	**234**	P	**Pg**		**10 34 16.6**	**-0.1**
UPR	**University Cam**	**0.21**	**234**	P	**Pg**		**10 34 16.0**	**-0.7**
UPR				S	**Sg**		**10 34 19.4**	**-0.2**
UPR	**University Cam**	**0.21**	**234**	P	**Pg**		**10 34 16.2**	**-0.5**
UPR				S	**Sg**		**10 34 19.4**	**-0.2**
KLV	**Kalavryta, Ach**	**0.38**	**161**	P	**Pg**		**10 34 18.7**	**-1.3**
KLV				S	**Sg**		**10 34 25.2**	**+0.2**
KLV				AML	AML		10 34 28.8	
	comp=E,65722μm,0.7s							
KLV				AML	AML		10 34 29.7	
	comp=N,58191μm,0.6s							
KLV	**Kalavryta, Ach**	**0.38**	**161**	P	**Pg**		**10 34 18.9**	**-1.1**
KLV				S	**Sg**		**10 34 24.9**	**-0.2**
KLV	**Kalavryta, Ach**	**0.38**	**161**	P	**Pg**		**10 34 18.9**	**-1.1**
KLV				S	**Sg**		**10 34 24.9**	**-0.2**
KLV	**Kalavryta, Ach**	**0.38**	**161**	P	**Pg**		**10 34 18.9**	**-1.1**
KLV				S	**Sg**		**10 34 24.9**	**-0.2**
DLFA	**Delphi**	**0.40**	**79**	P	**Pg**		**10 34 19.3**	**-1.0**
DLFA				S	**Sg**		**10 34 25.4**	**-0.1**
DLFA				AML	AML		10 34 28.3	
	comp=E,73518μm,0.7s							
DLFA				AML	AML		10 34 31.2	
	comp=N,73973μm,0.7s							
DLFA	**Delphi**	**0.40**	**79**	P	**Pg**		**10 34 19.1**	**-1.2**
DLFA				S	**Sg**		**10 34 25.1**	**-0.5**
DSF	**Desfina**	**0.42**	**89**	P	**Pg**		**10 34 19.5**	**-1.1**
DSF				S	**Sg**		**10 34 26.0**	**-0.2**
DSF				AML	AML		10 34 27.6	
DSF				AML	AML		10 34 30.8	
	comp=E,61812μm,0.3s							
DSF	**Desfina**	**0.42**	**89**	P	**Pg**		**10 34 19.2**	**-1.5**
DSF				S	**Sg**		**10 34 26.8**	**+0.6**
DSF	**Desfina**	**0.42**	**89**	P	**Pg**		**10 34 19.2**	**-1.5**
DSF				S	**Sg**		**10 34 26.8**	**+0.6**
DSF	**Desfina**	**0.42**	**89**	P	**Pg**		**10 34 19.4**	**-1.3**
DSF				S	**Sg**		**10 34 27.7**	**-0.5**
PVO	**Paravola**	**0.42**	**300**	P	**Pg**		**10 34 20.0**	**-0.8**
PVO	**Paravola**	**0.42**	**300**	P	**Pg**		**10 34 19.8**	**-1.0**
PVO				S	**Sg**		**10 34 26.6**	**+0.2**
PVO	**Paravola**	**0.42**	**300**	P	**Pg**		**10 34 19.8**	**-1.0**
PVO				S	**Sg**		**10 34 26.6**	**+0.2**
DRO	**Drossia**	**0.51**	**207**	P	**Pg**		**10 34 21.6**	**-0.7**
DRO				S	**Sg**		**10 34 27.5**	**-1.4**
DRO				AML	AML		10 34 30.2	
DRO				AML	AML		10 34 34.5	
DRO	**Drossia**	**0.51**	**207**	P	**Pg**		**10 34 21.2**	**-1.1**
DRO				S	**Sg**		**10 34 28.9**	**-0.1**
DRO	**Drossia**	**0.51**	**207**	P	**Pg**		**10 34 21.3**	**-1.1**
DRO				S	**Sg**		**10 34 28.0**	**-1.0**
EVR	**Evrytania**	**0.53**	**344**	P	**Pg**		**10 34 21.6**	**-1.2**
EVR				S	**Sg**		**10 34 27.6**	**-2.3**
EVR				AML	AML		10 34 33.4	
EVR				AML	AML		10 34 34.3	
	comp=N,83523μm,0.6s							
EVR	**Evrytania**	**0.53**	**344**	P	**Pg**		**10 34 21.5**	**-1.3**
EVR				S	**Sg**		**10 34 30.4**	**+0.5**
EVR	**Evrytania**	**0.53**	**344**	P	**Pg**		**10 34 21.5**	**-1.3**
EVR				S	**Sg**		**10 34 30.4**	**+0.5**
EVR	**Evrytania**	**0.53**	**344**	P	**Pg**		**10 34 21.5**	**-1.3**
EVR				S	**Sg**		**10 34 30.4**	**+0.5**
GUR	**Goura**	**0.54**	**150**	P	**Pg**		**10 34 21.4**	**-1.6**
GUR				S	**Sg**		**10 34 29.8**	**-0.4**
GUR				AML	AML		10 34 31.0	
GUR				AML	AML		10 34 36.1	
	comp=E,99515μm,0.4s							
GUR	**Goura**	**0.54**	**150**	P	**Pg**		**10 34 21.4**	**-1.6**
GUR				S	**Sg**		**10 34 29.8**	**-0.4**
GUR	**Goura**	**0.54**	**150**	P	**Pg**		**10 34 21.4**	**-1.6**
GUR				S	**Sg**		**10 34 29.8**	**-0.4**
GUR	**Goura**	**0.54**	**150**	P	**Pg**		**10 34 21.5**	**-1.5**
GUR				S	**Sg**		**10 34 29.7**	**-0.5**
RLS	**Riolos of Patr**	**0.54**	**230**	P	**Pg**		**10 34 22.5**	**-0.5**
RLS				S	**Sg**		**10 34 30.7**	**+0.5**
RLS				AML	AML		10 34 32.8	
	comp=E,84428μm,0.2s							
RLS				AML	AML		10 34 33.3	
	comp=N,61004μm,0.3s							
RLS	**Riolos of Patr**	**0.54**	**230**	P	**Pg**		**10 34 22.0**	**-1.0**
RLS				S	**Sg**		**10 34 30.1**	**-0.1**
RLS	**Riolos of Patr**	**0.54**	**230**	P	**Pg**		**10 34 22.0**	**-1.0**
RLS				S	**Sg**		**10 34 30.1**	**-0.1**
RLS	**Riolos of Patr**	**0.54**	**230**	P	**Pg**		**10 34 22.1**	**-1.0**
RLS				S	**Sg**		**10 34 30.1**	**-0.1**
AXAR	**Agios Charalam**	**0.63**	**55**	P	**Pg**		**10 34 23.4**	**-1.3**
AXAR	**Agios Charalam**	**0.63**	**55**	P	**Pg**		**10 34 24.2**	**-0.5**
AXAR				S	**Sg**		**10 34 33.0**	**0.0**
AXAR	**Agios Charalam**	**0.63**	**55**	P	**Pg**		**10 34 24.2**	**-0.5**
AXAR				S	**Sg**		**10 34 33.0**	**0.0**
AXAR	**Agios Charalam**	**0.63**	**55**	P	**Pg**		**10 34 24.2**	**-0.5**
AXAR				S	**Sg**		**10 34 33.0**	**0.0**
THAL	**Thalero**	**0.64**	**125**	P	**Pg**		**10 34 24.3**	**-0.6**
THAL	**Thalero**	**0.64**	**125**	P	**Pg**		**10 34 23.8**	**-1.1**
THAL				S	**Sg**		**10 34 33.4**	**+0.1**
THAL	**Thalero**	**0.64**	**125**	P	**Pg**		**10 34 23.8**	**-1.1**
THAL				S	**Sg**		**10 34 33.4**	**+0.1**
PDO	**Prodromos**	**0.67**	**287**	P	**Pg**		**10 34 24.1**	**-1.3**
PDO				S	**Sg**		**10 34 33.0**	**-1.0**
PDO				AML	AML		10 34 37.1	
PDO				AML	AML		10 34 38.1	
PDO	**Prodromos**	**0.67**	**287**	P	**Pg**		**10 34 24.2**	**-1.2**
PDO				S	**Sb**		**10 34 35.5**	**0.0**
PDO	**Prodromos**	**0.67**	**287**	P	**Pg**		**10 34 24.2**	**-1.2**
PDO				S	**Sg**		**10 34 33.1**	**-1.0**
AGG	**Agios Georgios**	**0.67**	**23**	P	**Pg**		**10 34 23.5**	**-1.9**
AGG				S	**Sg**		**10 34 31.6**	**-2.6**
AGG				AML	AML		10 34 36.3	
	comp=E,99317μm,0.4s							
AGG				AML	AML		10 34 40.7	
AGG	**Agios Georgios**	**0.67**	**23**	*eP*	**Pg**		**10 34 24.1**	**-1.3**
AGG				*eS*	**Sb**		**10 34 35.3**	**-0.3**
AGG	**Agios Georgios**	**0.67**	**23**	P	**Pg**		**10 34 23.5**	**-1.9**
AGG				S	**Sg**		**10 34 34.4**	**+0.2**
AGG	**Agios Georgios**	**0.67**	**23**	*eP*	**Pg**		**10 34 24.1**	**-1.3**
AGG				S	**Sg**		**10 34 34.4**	**+0.2**
AGG				*eSg*	**Sb**		**10 34 35.3**	**-0.3**
AGG	**Agios Georgios**	**0.67**	**23**	*eP*	**Pg**		**10 34 24.1**	**-1.3**
AGG				*e*			10 34 35.3	
PROD	**Prodromos**	**0.73**	**101**	P	**Pg**		**10 34 25.7**	**-0.8**
PROD	**Prodromos**	**0.73**	**101**	P	**Pg**		**10 34 25.3**	**-1.2**
PROD	**Prodromos**	**0.73**	**101**	P	**Pg**		**10 34 25.3**	**-1.2**
LKR	**Lokris**	**0.82**	**72**	P	**Pg**		**10 34 26.7**	**-1.7**
LKR				S	**Sg**		**10 34 38.9**	**-0.2**
LKR				AML	AML		10 34 42.5	
	comp=E,24874μm,0.2s							
LKR				AML	AML		10 34 44.0	
	comp=N,15302μm,0.3s							
LKR	**Lokris**	**0.82**	**72**	P	**Pg**		**10 34 26.6**	**-1.7**
LKR				S	**Sg**		**10 34 38.4**	**-0.7**
LTK	**Loutraki**	**0.85**	**116**	P	**Pg**		**10 34 28.3**	**-0.6**
LTK	**Loutraki**	**0.85**	**116**	P	**Pg**		**10 34 27.5**	**-1.4**
LTK				S	**Sb**		**10 34 41.5**	**+0.5**
LTK	**Loutraki**	**0.85**	**116**	P	**Pg**		**10 34 27.5**	**-1.4**
LTK				S	**Sb**		**10 34 41.5**	**+0.5**
LTK	**Loutraki**	**0.85**	**116**	P	**Pg**		**10 34 27.8**	**-1.1**
LTK				S	**Sb**		**10 34 41.5**	**+0.5**
LOUT	**Loutraki**	**0.88**	**118**	P	**Pg**		**10 34 28.1**	**-1.2**
LOUT				S	**Sg**		**10 34 40.7**	**0.0**
LOUT	**Loutraki**	**0.88**	**118**	P	**Pg**		**10 34 28.1**	**-1.2**
LOUT				S	**Sg**		**10 34 40.7**	**0.0**
AMT	**Artemida-Makis**	**0.90**	**195**	P	**Pg**		**10 34 29.1**	**-0.8**
AMT	**Artemida-Makis**	**0.90**	**195**	P	**Pg**		**10 34 28.0**	**-1.8**
AMT	**Artemida-Makis**	**0.90**	**195**	P	**Pg**		**10 34 28.7**	**-1.1**
TRIP	**Tripoli**	**0.90**	**166**	P	**Pg**		**10 34 28.4**	**-1.5**
TRIP	**Tripoli**	**0.90**	**166**	P	**Pg**		**10 34 28.0**	**-1.9**
TRIP				S	**Sb**		**10 34 42.8**	**+0.4**
TRIP	**Tripoli**	**0.90**	**166**	P	**Pg**		**10 34 28.4**	**-1.5**
TRIP				S	**Sb**		**10 34 42.8**	**+0.4**
MGNA	**Meganis„**	**0.98**	**285**	P	**Pg**		**10 34 30.2**	**-1.1**
MGNA				S	**Sg**		**10 34 41.8**	**-2.2**
MGNA				AML	AML		10 34 48.4	
	comp=N,25147μm,0.8s							
MGNA				AML	AML		10 34 48.4	
	comp=E,20954μm,0.5s							
MGNA	**Meganis„**	**0.98**	**285**	P	**Pg**		**10 34 29.9**	**-1.4**
MGNA				S	**Sg**		**10 34 42.4**	**-1.6**
KFL	**Anninata**	**1.00**	**253**	P	**Pg**		**10 34 29.9**	**-1.7**
KFL	**Anninata**	**1.00**	**253**	P	**Pg**		**10 34 30.0**	**-1.7**
KFL				S	**Sb**		**10 34 45.8**	**+0.8**
KFL	**Anninata**	**1.00**	**253**	P	**Pg**		**10 34 30.0**	**-1.7**
KFL				S	**Sb**		**10 34 45.8**	**+0.8**
DSL	**Palaion Diasel**	**1.01**	**316**	P	**Pg**		**10 34 30.1**	**-1.8**
DSL	**Palaion Diasel**	**1.01**	**316**	P	**Pg**		**10 34 30.0**	**-1.9**
DSL				S	**Sn**		**10 34 46.6**	**-0.5**
DSL	**Palaion Diasel**	**1.01**	**316**	P	**Pg**		**10 34 30.0**	**-1.9**
DSL				S	**Sn**		**10 34 46.6**	**-0.5**
DSL	**Palaion Diasel**	**1.01**	**316**	P	**Pg**		**10 34 30.1**	**-1.8**
DSL				S	**Sn**		**10 34 46.6**	**-0.5**
VIL2	**Platees**	**1.02**	**101**	P	**Pg**		**10 34 31.6**	**-0.4**
VIL2				S	**Sn**		**10 34 46.2**	**-1.0**
VIL2				AML	AML		10 34 51.0	
	comp=E,31478μm,1.1s							
VIL2				AML	AML		10 34 51.4	
	comp=N,47106μm,0.8s							
SMIA	**Simia**	**1.06**	**63**	P	**Pb**		**10 34 32.1**	**-0.8**
SMIA				S	**Sn**		**10 34 48.4**	**+0.1**
SMIA	**Simia**	**1.06**	**63**	P	**Pb**		**10 34 32.1**	**-0.8**
SMIA				S	**Sn**		**10 34 48.4**	**+0.1**
VILL	**Villia**	**1.06**	**103**	P	**Pb**		**10 34 31.8**	**-1.2**
VILL	**Villia**	**1.06**	**103**	P	**Pb**		**10 34 31.8**	**-1.2**
VILL				S	**Sg**		**10 34 46.8**	**-0.7**
VLX	**Vlachokerasia**	**1.08**	**164**	P	**Pb**		**10 34 31.0**	**-2.2**
VLX				S	**Sg**		**10 34 46.4**	**-0.7**
VLX				AML	AML		10 34 50.9	
	comp=E,98921μm,0.5s							
VLX				AML	AML		10 34 54.4	
	comp=N,68240μm,0.5s							
VLX	**Vlachokerasia**	**1.08**	**164**	P	**Pb**		**10 34 30.9**	**-2.4**
VLX				S	**Sg**		**10 34 47.2**	**0.0**
VLX	**Vlachokerasia**	**1.08**	**164**	P	**Pb**		**10 34 30.9**	**-2.4**
VLX				S	**Sg**		**10 34 47.2**	**0.0**
VLX	**Vlachokerasia**	**1.08**	**164**	P	**Pb**		**10 34 31.3**	**-2.0**
VLX				S	**Sg**		**10 34 46.5**	**-0.7**
LKD2	**Lefkada island**	**1.12**	**290**	P	**Pb**		**10 34 32.7**	**-1.2**
LKD2	**Lefkada island**	**1.12**	**290**	P	**Pb**		**10 34 32.5**	**-1.4**
LKD2	**Lefkada island**	**1.12**	**290**	P	**Pb**		**10 34 32.5**	**-1.4**
LKD2	**Lefkada island**	**1.12**	**290**	P	**Pb**		**10 34 32.5**	**-1.4**
VLS	**Valsamata**	**1.13**	**259**	P	**Pb**		**10 34 31.7**	**-2.5**
VLS				S	**Sb**		**10 34 48.2**	**-0.7**
VLS				AML	AML		10 34 58.7	
	comp=N,37775μm,0.8s							
VLS				AML	AML		10 34 60.0	
	comp=E,20423μm,0.7s							
VLS	**Valsamata**	**1.13**	**259**	P	**Pb**		**10 34 32.0**	**-2.1**
VLS				S	**Sg**		**10 34 49.8**	**+0.9**
VLS	**Valsamata**	**1.13**	**259**	P	**Pb**		**10 34 32.0**	**-2.1**
VLS				S	**Sg**		**10 34 49.8**	**+0.9**
VLS	**Valsamata**	**1.13**	**259**	P	**Pb**		**10 34 32.1**	**-2.1**
VLS				S	**Sb**		**10 34 48.2**	**-0.7**
VLS	**Valsamata**	**1.13**	**259**	P	**Pb**		**10 34 32.0**	**-2.1**
VLS				S	**Sg**		**10 34 49.8**	**+0.9**
THL	**Klokotos Trika**	**1.16**	**1**	P	**Pb**		**10 34 33.3**	**-1.3**
THL				S	**Sb**		**10 34 47.8**	**-1.9**
THL	**Klokotos Trika**	**1.16**	**1**	P	**Pb**		**10 34 32.6**	**-2.0**

PTL	Penteli	1.51	103		P	Pn	10 34 39.5	-0.2	IDI	Anoyia	3.88	142	S	Sn	10 36 00.0	+2.0	MLR				Lg	Lg	10 38 32.1	
PTL					S	Sg	10 35 00.4	-0.7	IDI	Anoyia	3.88	142	ePn	Pn	10 35 13.0	+0.8	MLR	Muntele Rosu	7.67	21	eP	Pn	10 36 04.6	+0.3
PYL	PYLOS	1.52	188		P	Pn	10 34 38.7	-1.1	IDI				Sn	Sn	10 35 54.2	-3.8	MLR	Muntele Rosu	7.67	21	eP	Pn	10 36 04.6	+0.3
PYL	PYLOS	1.52	188		P	Pn	10 34 38.8	-1.0	IDI	Anoyia	3.88	142	ePn	Pn	10 35 13.0	+0.8	TIRR	Tirgusor	7.73	37	iP	Pn	10 36 06.4	+1.4
PYL	PYLOS	1.52	188		P	Pn	10 34 38.8	-1.0	IDI				Sn	Sn	10 35 54.2	-3.8	TIRR	Tirgusor	7.73	37	ePn	Pn	10 36 05.8	+0.8
PYL	PYLOS	1.52	188		P	Pn	10 34 39.2	-0.6	ULC	Ulcinj	4.13	330	iPn	Pn	10 35 16.6	+0.9	TIRR	Tirgusor	7.73	37	eP	Pn	10 36 05.8	+0.8
VLY	Voula,Athens	1.52	111		P	Pn	10 34 38.9	-0.9	ULC				eSn	Sn	10 36 06.0	+1.9	TIRR	Tirgusor	7.73	37	eP	Pn	10 36 05.8	+0.8
VLY	Voula,Athens	1.52	111		P	Pn	10 34 39.2	-0.6	ULC	Ulcinj	4.13	330	iPn	Pn	10 35 16.6	+0.9	NVLJ	Novalja	8.15	321	ePn	Pn	10 36 10.3	-0.5
JAN	Janina	1.54	325		P	Pn	10 34 40.7	+0.7	ULC				eSn	Sn	10 36 06.0	+1.9	NVLJ	Novalja	8.15	321	ePn	Pn	10 36 10.2	-0.5
JAN	Janina	1.54	325		P	Pn	10 34 40.2	+0.2	CGL1	Ceglie Messapi	4.16	304	iPn	Pn	10 35 17.0	+1.0	MORH	M˝ŧr¡gy, Hung	8.19	343	ePn	Pn	10 36 11.2	-0.1
JAN	Janina	1.54	325		P	Pb	10 34 41.6	+0.5	TIP	Timpagrande	4.17	282	iP	Pn	10 35 17.0	+0.7	MORH	M˝ŧr¡gy, Hung	8.19	343	iP	Pn	10 36 11.2	-0.1
DION	Dionisos Attik	1.56	102		P	Pn	10 34 40.2	-0.1	TIP	Timpagrande	4.17	282	ePn	Pn	10 35 16.9	+0.7	PLOR	Plostina	8.20	23	iP	Pn	10 36 13.8	+2.2
DION	Dionisos Attik	1.56	102		P	Pn	10 34 40.2	-0.1	TIP	Timpagrande	4.17	282	P	Pn	10 35 16.9	+0.7	PLOR	Plostina	8.20	23	P	Pn	10 36 13.7	+2.2
MES2	Methoni	1.59	188		P	Pn	10 34 40.3	-0.5	TIP	Timpagrande	4.17	282	P	Pn	10 35 16.9	+0.7	PLOR	Plostina	8.20	23	P	Pn	10 36 13.7	+2.2
MES2	Methoni	1.59	188		P	Pn	10 34 40.6	-0.2	TAR1	Taranto	4.22	302	iPn	Pn	10 35 15.9	-0.9	VRI	Vrincioaia	8.24	24	iP	Pn	10 36 15.1	+3.0
KPRO	Kipourio	1.62	343		P	Pn	10 34 41.5	+0.3	VTS	Vitosha	4.28	12	iP	Pn	10 35 19.3	+1.4	VRI	Vrincioaia	8.24	24	P	Pn	10 36 15.1	+3.0
KPRO	Kipourio	1.62	343		P	Pn	10 34 41.3	+0.1	VTS	Vitosha	4.28	12	ePn	Pn	10 35 18.9	+1.0	OZLJ	Ozalj	8.69	328	ePn	Pn	10 36 18.7	+0.6
KPRO	Kipourio	1.62	343		P	Pn	10 34 41.3	+0.1	VTS				eSn	Sn	10 36 07.3	-0.6	OZLJ	Ozalj	8.69	328	ePn	Pn	10 36 18.7	+0.6
DYR	Agios Nikonas	1.66	171		P	Pn	10 34 40.8	-0.9	VTS	Vitosha	4.28	12	eP	Pn	10 35 18.9	+1.0	BOJS	Bojanci	8.69	327	iPn	Pn	10 36 18.4	+0.3
DYR	Agios Nikonas	1.66	171		P	Pn	10 34 40.9	-0.8	VTS				eS	Sn	10 36 07.3	-0.6	BOJS				iSn	Sn	10 37 55.5	-0.7
DYR	Agios Nikonas	1.66	171		P	Pn	10 34 41.3	-0.4	VTS	Vitosha	4.28	12	eP	Pn	10 35 18.9	+1.0	BOJS	Bojanci	8.69	327	iPn	Pn	10 36 18.5	+0.3
IGT	Igoumenitsa	1.72	311		P	Pg	10 34 46.4	+1.0	VTS				e		10 36 07.3		BOJS				iSn	Sn	10 37 55.5	-0.7
IGT	Igoumenitsa	1.72	311	¡	iPn	Pb	10 34 44.1	0.0	FASA	Fasano	4.32	305	iPn	Pn	10 35 18.9	+0.7	CRES	Cresnjev	8.86	329	iPn	Pn	10 36 19.7	-0.9
IGT	Igoumenitsa	1.72	311		P	Pg	10 34 46.0	+0.6	DRME	Dracevica, Mon	4.35	331	iPn	Pn	10 35 20.3	+1.7	CRES				iSn	Sn	10 37 59.1	-1.4
LIT	Litokhoron	1.73	13		P	Pn	10 34 41.9	-0.9	DRME				eSn	Sn	10 36 11.3	+2.0	CRES	Cresnjev	8.86	329	ePn	Pn	10 36 19.3	-1.3
LIT	Litokhoron	1.73	13	ePn		Pn	10 34 42.6	-0.1	DRME	Dracevica, Mon	4.35	331	iPn	Pn	10 35 20.3	+1.7	CRES				iSn	Sn	10 37 59.1	-1.4
LIT				eSn		Sn	10 35 02.1	-2.9	DRME				eSn	Sn	10 36 11.3	+2.0	BEHE	Becsehely	8.93	336	ePn	Pn	10 36 21.3	-0.2
LIT	Litokhoron	1.73	13	P		Pn	10 34 42.0	-0.7	MASS	Massafra	4.36	302	iPn	Pn	10 35 19.2	+0.4	BEHE	Becsehely	8.93	336	eP	Pn	10 36 21.3	-0.2
LIT				S		Sn	10 35 05.1	+0.1	BARS	Barje	4.41	358	iPn	Pn	10 35 22.5	+3.0	BR131	Keskin Array S	9.15	78	ePn	Pn	10 36 26.8	+2.1
LIT	Litokhoron	1.73	13	eP		Pn	10 34 42.6	-0.1	BODT	Bodrum	4.42	106	P	Pn	10 35 19.5	-0.1	BR131	Keskin Array S	9.15	78	ePn	Pn	10 36 26.8	+2.1
LIT				eSn		Sn	10 35 02.1	-2.9	BODT	Bodrum	4.42	106	P	Pn	10 35 19.5	-0.1	BRTR	Keskin Array B	9.15	78	Pn	Pn	10 36 26.5	+1.8
LIT				S		Sn	10 35 03.1	+0.1	BODT	Bodrum	4.42	106	P	Pn	10 35 19.5	-0.1		comp=N,0.9nm,0.3s,baz=261,slow=12,SNR=17						
LIT	Litokhoron	1.73	13	eP		Pn	10 34 42.6	-0.1	PVY	Plav	4.46	340	iPn	Pn	10 35 20.9	+0.6	BRTR				LR	LR	10 40 49.5	
LIT				e			10 35 02.1		PVY				eSn	Sn	10 36 13.8	+1.4		comp=N,173nm,18.7s,baz=255,slow=43						
VLI	Veliai	1.84	156		P	Pn	10 34 43.2	-1.0	PVY	Plav	4.46	340	iPn	Pn	10 35 20.9	+0.6	CEY	Cerknica	9.23	325	ePn	Pn	10 36 24.4	-1.3
VLI	Veliai	1.84	156		P	Pn	10 34 43.5	-0.7	PVY				eSn	Sn	10 36 13.8	+1.4	SKDS	Skadanscina	9.28	323	iPn	Pn	10 36 25.2	-1.2
VLI	Veliai	1.84	156		P	Pn	10 34 43.5	-0.7	PDG	Podgorica	4.53	333	iP	Pn	10 35 22.4	+1.3	SKDS				iSn	Sn	10 38 07.2	-3.7
VLI					S	Sn	10 35 07.3	-0.3	PDG	Podgorica	4.53	333	iPn	Pn	10 35 22.3	+1.2	SKDS	Skadanscina	9.28	323	iPn	Pn	10 36 25.2	-1.2
VLI	Veliai	1.84	156		P	Pn	10 34 43.8	-0.4	PDG				eSn	Sn	10 36 16.3	+2.4	ILGA	Ilgaz	9.41	70	ePn	Pn	10 36 21.4	-6.9
VLI					S	Sn	10 35 07.3	-0.3	TTG	Podgorica	4.53	333	iPn	Pn	10 35 22.3	+1.2	BURAR	Bucovina Array	9.50	13	iP	Pn	10 36 31.0	+1.6
KZN	Kozani	1.91	355		P	Pn	10 34 46.2	+1.0	TTG				eSn	Sn	10 36 16.3	+2.4	BURAR	Bucovina Array	9.50	13	iP	Pn	10 36 31.0	+1.6
KZN	Kozani	1.91	355		P	Pn	10 34 45.5	+0.4	TTG	Podgorica	4.53	333	ePn	Pn	10 35 21.8	+0.7	BURAR	Bucovina Array	9.50	13	P	Pn	10 36 31.0	+1.6
KZN	Kozani	1.91	355		P	Pn	10 34 45.9	+0.8	TTG	Podgorica	4.53	333	eP	Pn	10 35 21.8	+0.7	BUR04	Bucovina Ar. S	9.50	13	ePn	Pn	10 36 29.8	+0.3
KARY	Karystos	1.96	100		P	Pn	10 34 45.5	-0.3	TTG	Podgorica	4.53	333	eP	Pn	10 35 21.8	+0.7	BUR04	Bucovina Ar. S	9.50	13	ePn	Pn	10 36 29.8	+0.3
KARY	Karystos	1.96	100		P	Pn	10 34 45.6	-0.2	BUM	Brajici-Budva	4.56	330	iPn	Pn	10 35 22.5	+1.0	TRI	Trieste	9.52	323	ePn	Pn	10 36 29.2	-0.4
KARY	Karystos	1.96	100		P	Pn	10 34 45.6	-0.2	BUM				eSn	Sn	10 36 16.3	+1.7	TRI	Trieste	9.52	323	eP	Pn	10 36 29.2	-0.4
PAIG	Paliouri	2.00	40		P	Pn	10 34 43.8	-2.6	BUM	Brajici-Budva	4.56	330	iPn	Pn	10 35 22.5	+1.0	TRI	Trieste	9.52	323	eP	Pn	10 36 29.2	-0.4
PAIG	Paliouri	2.00	40		P	Pn	10 34 45.0	-1.4	BUM				eSn	Sn	10 36 16.3	+1.7	BUR08	Bucovina Ar. S	9.53	13	ePn	Pn	10 36 30.5	+0.7
PAIG	Paliouri	2.00	40		P	Pn	10 34 45.0	-1.4	STEP	BALIKESIR_Sava	4.57	76	iP	Pn	10 35 21.8	+0.1	BUR08	Bucovina Ar. S	9.53	13	ePn	Pn	10 36 30.5	+0.7
PAIG	Paliouri	2.00	40		P	Pn	10 34 45.1	-1.4	STEP	BALIKESIR_Sava	4.57	76	P	Pn	10 35 21.8	+0.1	PSZ	Piszkesteto	9.63	352	iP	Pn	10 36 33.9	+2.7
PAIG	Paliouri	2.00	40		P	Pn	10 34 45.0	-1.4	BALY	Balya	4.57	71	iP	Pn	10 35 20.8	-1.0	PSZ	Piszkesteto	9.63	352	ePn	Pn	10 36 33.2	+2.0
NEST	Nestorio	2.14	340		P	Pg	10 34 52.8	-0.6	BALY	Balya	4.57	71	P	Pn	10 35 20.8	-1.0	PSZ	Piszkesteto	9.63	352	ePn	Pn	10 36 31.0	-0.2
NEST	Nestorio	2.14	340		P	Pb	10 34 50.5	-0.8	AKHS	Akhisar	4.58	82	iP	Pn	10 35 22.6	+0.8	PSZ	Piszkesteto	9.63	352	eP	Pn	10 36 31.0	-0.2
KEK	Kerkira	2.15	308		P	Pb	10 34 51.5	-0.1	AKHS	Akhisar	4.58	82	P	Pn	10 35 22.6	+0.8	PSZ	Piszkesteto	9.63	352	eP	Pn	10 36 31.0	-0.2
KEK	Kerkira	2.15	308		P	Pn	10 34 50.0	+1.6	SART	Tekirdag	4.61	59	iP	Pn	10 35 19.7	-2.6	CSS	Mathiatis	9.73	107	ePn	Pn	10 36 33.5	+1.0
PLG	Polygyros	2.26	29		P	Pn	10 34 49.4	-0.6	SART	Tekirdag	4.61	59	P	Pn	10 35 19.7	-2.6	CSS	Mathiatis	9.73	107	ePn	Pn	10 36 33.5	+1.0
PLG	Polygyros	2.26	29		P	Pn	10 34 49.4	-0.6	MATE	Matera	4.67	300	iP	Pn	10 35 23.8	+0.9	SOKA	Soboth	9.73	330	Pn	Pn	10 36 33.2	+0.6
PLG	Polygyros	2.26	29		P	Pn	10 34 49.4	-0.6	MATE	Matera	4.67	300	iP	Pn	10 35 23.8	+0.9		comp=N,5.2nm,0.5s						
PLG	Polygyros	2.26	29		P	Pn	10 34 49.4	-0.6	AYDN	Tasoluk	4.70	97	iP	Pn	10 35 24.9	+1.4	SOKA	Soboth	9.73	330	Pn	Pn	10 36 33.2	+0.6
KYTH	Kithira	2.29	158		P	Pn	10 34 51.6	+1.2	AYDN	Tasoluk	4.70	97	P	Pn	10 35 24.9	+1.4		comp=N,5.2nm,0.5s						
KYTH	Kithira	2.29	158		P	Pn	10 34 50.9	+0.5	BEY	Berane	4.74	341	iPn	Pn	10 35 25.6	+1.5	SOKA				iSn	Sn	10 38 19.1	-2.8
KYTH	Kithira	2.29	158		P	Pn	10 34 50.9	+0.5	BEY				eSn	Sn	10 36 20.6	+1.5		comp=N,8.0nm,0.7s						
SERI	Serifos	2.33	121		P	Pn	10 34 49.8	-1.1	IVA	Berane	4.74	341	iPn	Pn	10 35 25.6	+1.5	OBKA	Obir	9.79	328	Pn	Pn	10 36 33.7	+0.4
SERI	Serifos	2.33	121		P	Pn	10 34 50.5	-0.4	IVA				eSn	Sn	10 36 20.6	+1.5		comp=N,3.3nm,0.4s						
THE	Thessaloniki	2.35	18		P	Pb	10 34 53.3	-1.5	CEME	Cevo	4.76	331	iPn	Pn	10 35 25.8	+1.5	OBKA	Obir	9.79	328	ePn	Pn	10 36 33.7	+0.4
THE	Thessaloniki	2.35	18		P	Pb	10 34 53.3	-1.5	CEME				eSn	Sn	10 36 21.1	+1.6		comp=N,3.3nm,0.4s						
HORT	Hortiatis	2.35	21		P	Pn	10 34 49.6	-1.6	CEME	Cevo	4.76	331	iPn	Pn	10 35 25.8	+1.5	OBKA				Sn	Sn	10 38 27.8	+4.5
HORT	Hortiatis	2.35	21		P	Pn	10 34 50.4	-0.8	CEME				eSn	Sn	10 36 21.1	+1.6		comp=N,19nm,0.6s						
FNA	Florina	2.42	349		P	Pn	10 34 53.8	+1.6	SG1	Sgolgore (BA)	4.77	302	iPn	Pn	10 35 25.1	+0.6	VSL	Villasalto	9.89	280	ePn	Pn	10 36 37.5	+2.8
FNA	Florina	2.42	349		P	Pn	10 34 52.9	+0.7	BAI	Bari	4.78	306	iPn	Pn	10 35 25.0	+0.5	VSL	Villasalto	9.89	280	ePn	Pn	10 36 37.5	+2.8
FNA	Florina	2.42	349	¡	iPn	Pn	10 34 53.4	+1.2	CEL	Celeste	4.80	270	ePn	Pn	10 35 26.3	+1.4	KIS	Kishinev	9.94	28	eP	Pn	10 36 38.0	+2.6
FNA	Florina	2.42	349		P	Pn	10 34 52.9	+0.7	CEL				eSn	Sn	10 36 18.3	-2.3	KIS				LRM	MLR	10 41 16.0	
OUR	Ouranopolis	2.46	38		P	Pn	10 34 50.8	-1.9	CEL	Celeste	4.80	270	ePn	Pn	10 35 26.3	+1.4		comp=N,500nm,15.0s						
OUR	Ouranopolis	2.46	38		P	Pn	10 34 51.7	-1.0	CEL				eSn	Sn	10 36 18.3	-2.3	KIS	Kishinev	9.94	28	eP	Pn	10 36 38.0	+2.6
OUR	Ouranopolis	2.46	38		P	Pn	10 34 51.7	-1.0	KOME	Kolasin	4.82	338	iPn	Pn	10 35 26.6	+1.3	KIS	Kishinev	9.94	28	eP	Pn	10 36 38.0	+2.6
OUR	Ouranopolis	2.46	38		P	Pn	10 34 51.8	-1.0	KOME				eSn	Sn	10 36 22.6	+1.4	KIS				e		10 38 38.0	
OUR	Ouranopolis	2.46	38		P	Pn	10 34 51.7	-1.0	KOME	Kolasin	4.82	338	iPn	Pn	10 35 26.6	+1.3	KIS				MLR	MLR		
MHLA	Plaka, Milos I	2.54	130		P	Pn	10 34 54.3	+0.5	KOME				eSn	Sn	10 36 22.6	+1.4		comp=Z,500nm,15.0s						
MHLA	Plaka, Milos I	2.54	130		P	Pn	10 34 54.2	+0.5	HCY	Herceg Novi	4.84	328	iPn	Pn	10 35 26.0	+0.5	ARSA	Arzberg	10.03	334	Pn	Pn	10 36 37.1	+0.5
MHLO	Agia Marina, M	2.57	131		P	Pn	10 34 53.7	-0.4	HCY				eSn	Sn	10 36 23.3	+1.8		comp=Z,13nm,0.7s						
MHLO	Agia Marina, M	2.57	131		P	Pn	10 34 54.1	0.0	HCY	Herceg Novi	4.84	328	P	Pn	10 35 25.9	+0.5	ARSA				Sn	Sn	10 38 30.3	+1.0
GRG	Griva	2.57	7		P	Pn	10 34 53.3	-0.9	HCY				eSn	Sn	10 36 23.3	+1.8		comp=Z,11nm,1.1s						
GRG	Griva	2.57	7		P	Pn	10 34 53.6	-0.6	HCY	Herceg Novi	4.84	328	P	Pn	10 35 25.9	+0.5	ARSA	Arzberg	10.03	334	Pn	Pn	10 36 37.1	+0.5
GRG	Griva	2.57	7		P	Pn	10 34 53.6	-0.6	NKME	Niksic	4.93	333	iPn	Pn	10 35 28.1	+1.4		comp=Z,13nm,0.7s						
GRG	Griva	2.57	7		P	Pn	10 34 53.7	-0.5	NKME				eSn	Sn	10 36 25.3	+1.4	ARSA				iSn	Sn	10 38 30.3	+1.0
GRG	Griva	2.57	7		P	Pn	10 34 53.6	-0.6	NKME	Niksic	4.93	333	iPn	Pn	10 35 28.1	+1.4		comp=Z,11nm,1.1s						
SOH	Sokhos	2.63	23		P	Pn	10 34 55.2	+0.1	NKME				eSn	Sn	10 36 25.3	+1.4	MYKA	Terra Mystica	10.27	326	Pn	Pn	10 36 40.9	+1.0
SOH	Sokhos	2.63	23		P	Pn	10 34 55.4	+0.3	NKY	Niksic	4.96	334	iPn	Pn	10 35 28.4	+1.3		comp=Z,2.6nm,0.3s						
SOH	Sokhos	2.63	23		P	Pn	10 34 55.4	+0.3	NKY				eSn	Sn	10 36 26.0	+1.4	MYKA	Terra Mystica	10.27	326	Pn	Pn	10 36 40.9	+1.0
BIA	Bitola	2.66	349	ePn		Pn	10 34 57.6	+2.1	NKY	Niksic	4.96	334	iPn	Pn	10 35 28.4	+1.3		comp=Z,2.6nm,0.3s						
BIA				iSn		Sb	10 35 30.8	-2.2	NKY				eSn	Sn	10 36 26.0	+1.4	VYHS	Vyhne	10.34	348	eS	Sn	10 38 37.2	+0.4
ANKY	Antikythira Is	2.74	157		P	Pn	10 34 57.1	+0.6	KARP	Karpathos	5.02	123	ePn	Pn	10 35 29.7	+1.8	VYHS	Vyhne	10.34	348	ePN	Pn	10 36 45.0	+4.2
ANKY	Antikythira Is	2.74	157		P	Pn	10 34 57.0	+0.5	KARP	Karpathos	5.02	123	ePn	Pn	10 35 29.7	+1.8	VYHS				eSN	Sn	10 38 37.2	+0.4
KNT	Kendrikon	2.84	14		P	Pn	10 34 57.7	-0.2	CUC	Castrocucco	5.06	290	ePn	Pn	10 35 30.4	+2.0	VYHS	Vyhne	10.34	348	eP	Pn	10 36 45.0	+4.2
KNT	Kendrikon	2.84	14		P	Pn	10 34 57.8	-0.1	CUC	Castrocucco	5.06	290	ePn	Pn	10 35 30.4	+2.0	VYHS				e		10 38 37.2	
KNT	Kendrikon	2.84	14		P	Pn	10 34 57.8	-0.1	TREB	Trebinje	5.12	328	ePn	Pn	10 35 29.0	-0.3	KEST	Kesra	10.46	259	Pn	Pn	10 36 46.5	+4.0
KNT	Kendrikon	2.84	14		P	Pn	10 34 57.8	-0.1	MANT	Manisa	5.15	87	iP	Pn	10 35 30.6	+0.7		comp=Z,0.2nm,0.3s,baz=350,slow=10,SNR=4.2						
KNT	Kendrikon	2.84	14		P	Pn	10 34 57.8	-0.1	MANT	Manisa	5.15	87	ePn	Pn	10 35 28.1	-1.9	KEST				LR	LR	10 42 23.4	
OHR	Ohrid	2.86	342	iPn		Pb	10 35 01.3	-2.2	MANT	Manisa	5.15	87	ePn	Pn	10 35 28.0	-1.9		comp=Z,181nm,18.5s,baz=312,slow=47						
OHR				iSn		Sb	10 35 40.1	+1.4	MANT	Manisa	5.15	87	P	Pn	10 35 30.6	+0.7	KEST	Kesra	10.46	259	ePn	Pn	10 36 42.4	-0.1
LIA	Limnos Island	2.89	58		P	Pn	10 34 56.2	-2.4	DURS	Dursunbey	5.18	75	iP	Pn	10 35 30.1	-0.1	KEST	Kesra	10.46	259	ePn	Pn	10 36 42.4	-0.1
LIA	Limnos Island	2.89	58		P	Pn	10 34 57.5	-1.1	DURS	Dursunbey	5.18	75	P	Pn	10 35 30.1	-0.1	CRVS	Cervenica-Dubn	10.50	358	ePN	Pn	10 36 46.6	+3.6
VAY	Valandovo	2.94	8	iPn		Pn	10 34 58.6	-0.7	BOVS	Bovan	5.23	358	ePn	Pn	10 35 31.8	+1.1	CRVS	Cervenica-Dubn	10.50	358	eP	Pn	10 36 46.7	+3.7
VAY	Valandovo	2.94	8	P		Pn	10 34 59.6	+0.3	DEMI	Demirci	5.29	81	iP	Pn	10 35 37.3	+5.6	CONA	Conrad Observa	10.52	337	Pn	Pn	10 36 43.3	0.0
VAY	Valandovo	2.94	8	iPn		Pn	10 34 59.8	+0.4	PLE	Pljevlja	5.30	339	iPn	Pn	10 35 33.3	+1.5		comp=Z,18nm,1.2s						
VAY				iSn		Sn	10 34 34.9	+0.2	PLE				eSn	Sn	10 36 34.3	+1.3	MODS	Modra-Piesok	10.54	343	ePN	Pn	10 36 47.9	+4.4
VAY	Valandovo	2.94	8	P		Pn	10 34 59.6	+0.3	PLE	Pljevlja	5.30	339	iPn	Pn	10 35 33.3	+1.5	MODS	Modra-Piesok	10.54	343	eP	Pn	10 36 47.9	+4.4
SRS	Serrai	2.97	24	P		Pn	10 34 58.9	-0.9	PLE				eSn	Sn	10 36 34.3	+1.3	KBA	Koelnbreinsper	10.74	327	Pn	Pn	10 36 46.0	-0.5
SRS	Serrai	2.97	24	iPn		Pn	10 34 59.3	-0.5	UPM	Unac-Piva	5.33	335	iPn	Pn	10 35 33.3	+0.9		comp=Z,1.6nm,0.3s						
SRS	Serrai	2.97	24	P		Pn	10 35 00.3	+0.5	UPM				eSn	Sn	10 36 35.0	+1.0	KBA	Koelnbreinsper	10.74	327	P	Pn	10 36 48.0	+1.5
SRS	Serrai	2.97	24	P		Pn	10 35 00.3	+0.5	UPM	Unac-Piva	5.33	335	iPn	Pn	10 35 33.3	+0.9	KBA	Koelnbreinsper	10.74	327	Pn	Pn	10 36 46.0	-0.5
KRUS	Krusevo	3.02	349	iPn		Pn	10 35 01.6	+1.2	UPM				eSn	Sn	10 36 35.0	+1.0		comp=Z,1.6nm,0.3s						
APE	Apeiranthos	3.10	114	P		Pn	10 35 00.9	-0.6	IVAS	Ivanjica	5.35	345	ePn	Pn	10 35 33.9	+1.4	KBA				Sn	Sn	10 38 44.8	-2.1
APE	Apeiranthos	3.10	114	P		Pn	10 35 01.4	-0.2	ZAGS	Zajecar	5.41	2	ePn	Pn	10 35 33.5	+0.4		comp=Z,12nm,1.1s						
APE	Apeiranthos	3.10	114	P		Pn	10 35 01.4	-0.2	STON	Ston	5.53	325	ePn	Pn	10 35 33.4	-1.5	KBA	Koelnbreinsper	10.74	327	P	Pn	10 36 48.0	+1.5
APE	Apeiranthos	3.10	114	P		Pn	10 35 01.4	-0.2	STON				Sn	Sn	10 36 35.5	-2.9	ABTA	Abfaltersbach	10.87	323	ePn	Pn	10 36 47.6	-0.6
APE	Apeiranthos	3.10	114	de	P	Pn	10 35 01.4	-0.2	STON	Ston	5.53	325	ePn	Pn	10 35 33.3	-1.5		comp=Z,4.9nm,0.3s,SNR=12						
CHOS	Chios island	3.19	89		P	Pn	10 35 02.8	0.0	TAVA	DENIZLI_Tavas	5.55	98	iP	Pn	10 35 36.8	+1.6	ABTA	Abfaltersbach	10.87	323	ePn	Pn	10 36 47.6	-0.6
CHOS	Chios island	3.19	89		P	Pn	10 35 02.9	+0.1	GRUS	Gruza	5.56	350	ePn	Pn	10 35 36.5	+1.2		comp=Z,4.9nm,0.3s,SNR=12						
CHOS	Chios island	3.19	89		P	Pn	10 35 02.9	+0.1	BBLS	Lazići	5.79	341	iPn	Pn	10 35 36.4	+0.8	ABTA				Sn	Sn	10 38 47.7	-2.2
CHOS	Chios island	3.19	89		P	Pn	10 35 02.9	+0.1	DIVS	Divibare	5.88	346	ePn	Pn	10 35 40.9	+1.1		comp=Z,23nm,0.7s						
KAVA	Kavala	3.23	36		P	Pn	10 35 02.3	-1.0	DIVS	Divibare	5.88	346	ePn	Pn	10 35 40.9	+1.1	MOA	Molln	10.99	332	Pn	Pn	10 36 52.0	+2.2
KAVA	Kavala	3.23	36		P	Pn	10 35 02.3	-1.0	KHAL	Karahalli	5.89	88	iP	Pn	10 35 41.2	+1.3		comp=Z,16nm,1.4s						
KAVA	Kavala	3.23	36		P	Pn	10 35 02.3	-1.0	TRUS	Trudelj	5.93	349	iPn	Pn	10 35 41.2	+0.8	MOA				Sn	Sn	10 38 56.3	+3.5
NVR	Nevrokopi	3.27	25		P	Pn	10 35 03.2	-0.7	VAE	Valguarnera	6.07	264	Pn	Pn	10 35 47.8	+5.5		comp=Z,11nm,0.7s						
NVR	Nevrokopi	3.27	25		P	Pn	10 35 03.2	-0.7		comp=N,2.7nm,0.3s,baz=181,slow=3.7,SNR=6.9							MOA	Molln	10.99	332	iPn	Pn	10 36 52.0	+2.2
NVR	Nevrokopi	3.27	25		P	Pn	10 35 03.2	-0.7	VAE				Sn	Sn	10 36 52.7	+0.9		comp=Z,16nm,1.4s						
THR5	Thira Island,	3.33	126		P	Pn	10 35 04.7	+0.1		comp=N,4.0nm,0.3s,baz=160,slow=12,SNR=3.8							MOA				iSn	Sn	10 38 56.3	+3.5
THR5	Thira Island,	3.33	126		P	Pn	10 35 04.7	+0.1	GOLH	Golhisar	6.10	99	iP	Pn	10 35 46.1	+3.3		comp=Z,11nm,0.7s				

MOTA Sn **Sn** **10 39 17.7 +0.7**
comp=Z,7.8nm,0.6s
MOTA **Moosalm** **11.97 322** *i* Pn **Pn** **10 37 03.0 -0.3**
comp=Z,11nm,0.6s,SNR=10
MOTA *i* Sn **Sn** **10 39 17.7 +0.7**
comp=Z,7.8nm,0.6s
GEA0 **GERESS Array S** **12.03 333** *e*Pn **Pn** **10 37 01.8 -2.1**
GEC2 **GERESS Array S** **12.03 333** *e*Pn **Pn** **10 37 04.0 -0.1**
GEC2 **GERESS Array S** **12.03 333** *e*P **Pn** **10 37 04.0 -0.1**
GEC2 **GERESS Array S** **12.03 333** *e*P **Pn** **10 37 04.0 -0.1**
GERES **GERESS Array B** **12.03 333** Pn **Pn** **10 37 04.6 +0.5**
comp=Z,0.3nm,0.3s,baz=146,slow=14,SNR=8.3
GERES LR LR 10 42 44.9
comp=Z,632nm,21.4s,baz=142,slow=43
MMAI **Mount Meron Ar** **12.15 112** Pn **Pn** **10 37 05.3 -0.4**
comp=Z,1.0nm,0.3s,baz=304,slow=15,SNR=7.1
RETA **Reutte** **12.24 321** Pn **Pn** **10 37 07.1 +0.2**
comp=Z,5.5nm,0.7s
RETA **Reutte** **12.24 321** *i* Pn **Pn** **10 37 07.1 +0.2**
comp=Z,5.5nm,0.7s
RETA *i* Sn **Sn** **10 39 19.4 -4.0**
comp=Z,8.8nm,0.7s
KHC **Kasperske Hory** **12.32 333** *e*P **Pn** **10 37 09.9 +2.0**
KHC *ex* x 10 37 23.2
KHC *e*S **Sn** **10 39 24.8 -0.4**
KHC *ex* x 10 39 32.4
KHC AMS AMS 10 42 20.0
comp=Z,2µm,11.9s
KHC **Kasperske Hory** **12.32 333** *e*Pn **Pn** **10 37 08.5 +0.6**
KHC **Kasperske Hory** **12.32 333** *e*P **Pn** **10 37 08.5 +0.6**
KHC S **Sn** **10 39 24.8 -0.4**
KHC **Kasperske Hory** **12.32 333** *e*P **Pn** **10 37 08.5 +0.6**
TUE **Stuetta** **12.33 315** *e*Sn **Sn** **10 39 25.4 -0.4**
TUE **Stuetta** **12.33 315** *e*Sn **Sn** **10 39 25.4 -0.4**
DAVA **Damuels** **12.55 319** Pn **Pn** **10 37 15.3 +4.1**
comp=Z,6.5nm,0.6s
DAVA Sn **Sn** **10 39 28.6 -2.5**
comp=Z,7.1nm,0.5s
DPC **Dobruska-Polom** **12.61 343** AMS AMS 10 43 40.0
comp=Z,600nm,9.7s
GOPC **GO Pecny, Ondr** **12.61 338** AMS AMS 10 42 30.0
comp=Z,2µm,10.6s
PRU **Pruhonice** **12.75 338** AMS AMS 10 42 40.0
comp=Z,2µm,9.9s
UPC **Upice** **12.83 343** AMS AMS 10 43 40.0
comp=Z,600nm,8.4s
PRA **Prague** **12.85 338** AMS AMS 10 42 40.0
comp=Z,1µm,11.9s
PVCC **Panska Ves** **13.22 339** AMS AMS 10 43 00.0
comp=Z,1µm,9.6s
AK11 **Malin Array Si** **13.28 20** *e*Pn **Pn** **10 37 20.9 -0.1**
AK11 **Malin Array Si** **13.28 20** *e*Pn **Pn** **10 37 20.9 -0.1**
KIEV **Kiev** **13.31 20** *e*Pn **Pn** **10 37 21.3 -0.1**
KIEV **Kiev** **13.31 20** *i* P **Pn** **10 37 20.4 -1.0**
KIEV **Kiev** **13.31 20** *e*Pn **Pn** **10 37 21.3 -0.1**
KIEV **Kiev** **13.31 20** *i* P **Pn** **10 37 20.4 -1.0**
AKASG **Malin Array Be** **13.32 20** Pn **Pn** **10 37 21.6 +0.1**
comp=Z,0.6nm,0.3s,baz=208,slow=12,SNR=5.7
AKBB **Malin Array Si** **13.32 20** *e*Pn **Pn** **10 37 21.8 +0.3**
AKBB **Malin Array Si** **13.32 20** *e*P **Pn** **10 37 21.8 +0.3**
AKBB **Malin Array Si** **13.32 20** *e*P **Pn** **10 37 21.8 +0.3**
SENIN **Lac Senin/Sane** **13.45 311** *e*Pn **Pn** **10 37 24.1 +0.5**
SENIN *e*Sn **Sn** **10 39 52.6 -0.5**
SENIN **Lac Senin/Sane** **13.45 311** *e*Pn **Pn** **10 37 24.0 +0.5**
SENIN *e*Sn **Sn** **10 39 52.6 -0.5**
NKC **Novy Kostel** **13.64 333** AMS AMS 10 43 20.0
comp=Z,2µm,12.6s
ASF **Jabal al Asfar** **13.66 113** Pn **Pn** **10 37 29.2 +2.9**
comp=Z,1.1nm,0.3s,baz=261,slow=3.7,SNR=9.3
BFO **Black Forest** **14.02 319** *e*Pn **Pn** **10 37 30.9 -0.2**
BFO **Black Forest** **14.02 319** *e*Pn **Pn** **10 37 30.9 -0.2**
BFO **Black Forest** **14.02 319** *i* P **Pn** **10 37 31.7 +0.5**
BFO **Black Forest** **14.02 319** *i* P **Pn** **10 37 31.7 +0.5**
MOF **Molkenrain** **14.36 316** *e*P **P** **10 37 45.2 +2.2**
CLL **Collm** **14.38 337** *e*PP **P** **10 37 44.0 +1.0**
comp=Z,14nm,0.8s
CLL Lmax 10 43 00.0
CLL LmV 14 07 00.0
comp=Z,300nm,18.1s
CLL **Collm** **14.38 337** *e*Pn **Pn** **10 37 37.4 +1.5**
CLL **Collm** **14.38 337** *e*Pn **Pn** **10 37 37.4 +1.5**
CLL **Collm** **14.38 337** *e*P **Pn** **10 37 37.4 +1.5**
HINF **Hinteralfeld** **14.50 315** *e*P **P** **10 37 42.5 -1.9**
HINF pmax pmax
comp=Z,29nm,1.3s
ECH **Echery** **14.56 317** *e*Pn **Pn** **10 37 40.5 +1.9**
ECH **Echery** **14.56 317** *e*Pn **Pn** **10 37 40.5 +1.9**
ECH **Echery** **14.56 317** *e*P **Pn** **10 37 40.5 +1.9**
CDF **Champ du Feu** **14.62 318** *e*P **P** **10 37 46.3 +0.5**
comp=Z,16nm,1.1s
CDF **Champ du Feu** **14.62 318** *e*P **P** **10 37 46.3 +0.5**
CDF pmax pmax
comp=Z,16nm,1.1s
LANF **Langenberg** **14.71 320** *e*P **P** **10 37 47.3 +0.6**
LBL **Lubilhac** **15.54 302** *e*P **P** **10 37 56.4 +0.4**
SUW **Suwalki** **15.63 3** *e*Pn **Pn** **10 37 52.6 -0.1**
comp=Z,96nm,0.9s
SUW **Suwalki** **15.63 3** *e*Pn **Pn** **10 37 52.6 -0.1**
comp=Z,96nm,0.9s
SUW **Suwalki** **15.63 3** *e*P **Pn** **10 37 52.6 -0.1**
SUW pmax pmax
comp=Z,96nm,0.9s
SMF **Signal de Mont** **15.69 307** *e*P **P** **10 37 58.3 +0.7**
comp=Z,26nm,0.6s
SMF **Signal de Mont** **15.69 307** *e*P **P** **10 37 58.3 +0.7**
SMF pmax pmax
comp=Z,26nm,0.6s
PYM **Petit Puy Mans** **15.87 304** *e*P **P** **10 38 01.4 +1.6**
AGO **Saint Agoulin** **15.90 305** *e*P **P** **10 38 01.1 +1.1**
AVF **Avril sur Loir** **16.05 307** *e*P **P** **10 38 02.2 +0.5**
AVF pmax pmax
comp=Z,52nm,1.0s
SSF **Saint Saulge** **16.08 308** *e*P **P** **10 38 02.5 +0.6**
SSF pmax pmax
comp=Z,69nm,1.0s
BGF **Bois d'Agland** **16.28 306** *e*P **P** **10 38 05.0 +0.8**
comp=Z,57nm,0.8s
BGF **Bois d'Agland** **16.28 306** *e*P **P** **10 38 05.0 +0.8**
BGF pmax pmax
comp=Z,57nm,0.8s
NEY **Neytrino** **16.41 66** *i* P **Pn** **10 38 02.8 -0.1**
KIV **Kislovodsk** **16.52 64** *e*P **Pn** **10 38 03.2 -1.1**
KIV pmax pmax
comp=Z,9.0nm,1.0s
KIV MLR MLR
comp=Z,57nm,12.0s
TCF **Toulx Ste Croi** **16.59 305** *e*P **P** **10 38 10.1 +2.5**
comp=Z,10.0nm,0.8s
TCF **Toulx Ste Croi** **16.59 305** *e*P **P** **10 38 10.1 +2.5**
TCF pmax pmax
comp=Z,10.0nm,0.8s
KBZ **Khabaz** **16.62 65** Pn **P** **10 38 09.6 +1.7**
comp=Z,0.2nm,0.3s,baz=215,slow=12,SNR=6.1
KBZ LR LR 10 45 34.2
comp=Z,146nm,18.4s,baz=262,slow=41
ZEI **Tsey** **17.19 68** *e*P **P** **10 38 18.9 +4.4**
ZEI pmax pmax
comp=Z,6.0nm,0.9s
BAIF **Baives** **17.22 318** *e*P **Pn** **10 38 13.6 +0.6**
BAIF pmax pmax
comp=Z,15nm,1.0s
ETSF **Etsaut** **17.68 292** *e*P **P** **10 38 21.3 +1.5**
comp=Z,36nm,1.6s
ETSF **Etsaut** **17.68 292** *e*P **P** **10 38 21.3 +1.5**
ETSF pmax pmax
comp=Z,36nm,1.6s
GNI **Garni** **17.69 77** LR LR 10 46 54.8
comp=Z,62nm,19.6s,baz=300,slow=43
GNI **Garni** **17.69 77** *i* P **Pn** **10 38 18.2 -0.9**
comp=Z,24nm,0.3s
GNI **Garni** **17.69 77** *i* P **Pn** **10 38 18.2 -0.9**
GNI pmax pmax
comp=Z,24nm,0.3s
MFF **Saint Martin d** **18.22 304** *e*P **P** **10 38 26.5 +0.9**
comp=Z,44nm,0.9s
MFF **Saint Martin d** **18.22 304** *e*P **P** **10 38 26.5 +0.9**
MFF pmax pmax
comp=Z,44nm,0.9s
GRR **Gorron** **19.31 308** *e*P **Pn** **10 38 39.5 +0.9**
GRR pmax pmax
comp=Z,40nm,1.0s
OBN **Obninsk** **19.40 26** P **Pn** **10 38 39.2 -0.4**
comp=Z,2.4nm,0.3s,baz=208,slow=21,SNR=3.1
OBN LR LR 10 46 17.7
comp=Z,183nm,20.6s,baz=257,slow=37
OBN **Obninsk** **19.40 26**‖ *e*P **Pn** **10 38 40.1 +0.5**
OBN *e*S **Sn** **10 42 15.6 -1.4**
OBN pmax pmax
comp=Z,14nm,0.6s
OBN MLR MLR
comp=Z,146nm,14.0s
ES19 **SONSECA Array** **20.14 282** *e*P **P** **10 38 47.5 +0.8**
ES19 **SONSECA Array** **20.14 282** *e*P **P** **10 38 47.5 +0.8**
ESDC **Sonseca Array** **20.19 282** P **P** **10 38 48.0 +0.7**
comp=Z,13nm,1.0s,baz=77,slow=10,SNR=23
ESDC LR LR 10 46 45.0
comp=Z,60nm,20.6s,baz=20,slow=37
ESLA **Sonseca Array** **20.19 282** *e*P **P** **10 38 47.7 +0.4**
comp=Z,12nm,0.8s
ESLA **Sonseca Array** **20.19 282** *e*P **P** **10 38 47.7 +0.4**
comp=Z,12nm,0.8s
MOS **Moscow** **20.26 26** *e*P Pn 10 38 50.2 +0.4
MOS *e* 10 39 05.1
MOS *e* 10 39 25.6
VSU **Vasula** **20.31 7***c* *i*P **P** **10 38 48.3 0.0**
VSU pmax pmax
comp=Z,213nm,0.8s
PAB **San Pablo** **20.49 281** *e*P **P** **10 38 51.2 +0.6**
comp=Z,16nm,0.9s
PAB **San Pablo** **20.49 281** *e*P **P** **10 38 51.2 +0.6**
comp=Z,16nm,0.9s
PAB **San Pablo** **20.49 281** *e*P **P** **10 38 51.2 +0.6**
PAB pmax pmax
comp=Z,16nm,0.9s
QUIF **Quistinic** **20.59 306** *e*P **P** **10 38 52.2 +0.7**
comp=Z,76nm,1.1s
QUIF **Quistinic** **20.59 306** *e*P **P** **10 38 52.2 +0.7**
QUIF pmax pmax
comp=Z,76nm,1.1s
TAM **Tamanrasset** **21.00 227** *e*P **P** **10 38 58.7 +2.4**
comp=Z,11nm,1.0s
TAM **Tamanrasset** **21.00 227** *e*P **P** **10 38 58.7 +2.4**
comp=Z,11nm,1.0s
TAM **Tamanrasset** **21.00 227** *e*P **P** **10 38 58.7 +2.4**
TAM pmax pmax
comp=Z,11nm,1.0s
HFS **Hagfors** **22.38 349** P **P** **10 39 09.4 -1.2**
comp=Z,11nm,0.6s,baz=167,slow=9.1,SNR=31
HFS LR LR 10 50 37.9
comp=Z,75nm,18.4s,baz=166,slow=44
KONO **Kongsberg** **22.69 344** *e*P **P** **10 39 12.4 -1.5**
comp=Z,28nm,0.9s
KONO **Kongsberg** **22.69 344** *e*P **P** **10 39 12.4 -1.5**
KONO pmax pmax
comp=Z,28nm,0.9s
PESTR **Estremoz** **23.07 280** *e*P **P** **10 39 19.1 +0.9**
comp=Z,5.2nm,0.9s
PESTR **Estremoz** **23.07 280** *e*P **P** **10 39 19.1 +0.9**
comp=Z,5.2nm,0.9s
FINES **FINESS Array B** **23.20 5** P **P** **10 39 17.4 -1.8**
comp=Z,3.6nm,0.6s,baz=168,slow=11,SNR=13
FINES PcP **PcP** **10 43 06.5 -0.5**
comp=Z,0.8nm,0.5s,baz=162,slow=1.2,SNR=4.2
FINES LR LR 10 49 45.0
comp=Z,118nm,18.4s,baz=180,slow=40
FINES **FINESS Array B** **23.20 5** *e*P **P** **10 39 17.1 -2.1**
FIA1 **FINESS Array S** **23.20 5** *e*P **P** **10 39 17.6 -1.7**
NC602 **NORSAR Array S** **23.30 347** *e*P **P** **10 39 19.1 -1.1**
NAO01 **NORSAR Array S** **23.52 346** *e*P **P** **10 39 21.4 -1.1**
NC405 **NORSAR Array S** **23.62 348** *e*P **P** **10 39 21.3 -2.2**
NB201 **NORSAR Array S** **23.64 347** *e*P **P** **10 39 21.8 -1.9**
NB2 **NORSAR Subarra** **23.64 347** P **P** **10 39 22.4 -1.3**
comp=Z,30nm,0.8s,baz=160,slow=11
NOA **NORSAR Array B** **23.64 347** P **P** **10 39 22.3 -1.4**
comp=Z,14nm,1.0s,baz=166,slow=10,SNR=47
NOA LR LR 10 51 13.2
comp=Z,116nm,18.1s,baz=145,slow=43
NBO00 **NORSAR Array S** **23.71 346** *e*P **P** **10 39 23.6 -0.8**
NBO02 **NORSAR Array S** **23.71 346** *e*P **P** **10 39 23.6 -0.8**
NC303 **NORSAR Array S** **23.79 347** *e*P **P** **10 39 24.1 -0.9**
EKA **Eskdalemuir Ar** **23.93 323** P **P** **10 39 25.9 -0.5**
comp=Z,32nm,0.8s,baz=123,slow=11,SNR=53
ESK **Eskdalemuir** **23.94 323** *e*P **P** **10 39 25.1 -1.4**
comp=Z,32nm,0.8s
ESK **Eskdalemuir** **23.94 323** *e*P **P** **10 39 25.2 -1.4**
ESK pmax pmax
comp=Z,32nm,0.8s
NC204 **NORSAR Array S** **23.94 347** *e*P **P** **10 39 26.1 -0.6**
RAYN **Ar Rayn** **24.93 120** *e*P **P** **10 39 35.2 -0.7**
comp=Z,4.7nm,1.0s
RAYN **Ar Rayn** **24.93 120** P **P** **10 39 35.3 -0.7**
RAYN **Ar Rayn** **24.93 120** P **P** **10 39 35.3 -0.7**
KLMR **Klimovskoe** **25.01 20** *e*P **P** **10 39 36.7 +0.4**
KLMR AMP 10 39 40.3
comp=Z,21nm,1.0s
KLMR **Klimovskoe** **25.01 20** *e*P **P** **10 39 36.7 +0.4**
KLMR pmax pmax
comp=Z,21nm,1.0s
AKTO **Aktyubinsk** **28.12 53** P **P** **10 40 04.8 +0.4**
comp=Z,0.6nm,0.3s,baz=234,slow=8.7,SNR=2.8
AKTO LR LR 10 54 34.2
comp=Z,49nm,18.2s,baz=279,slow=43
ABKAR **Akbulak array** **29.16 56** *e*P **P** **10 40 13.7 +0.1**
comp=Z,12nm,0.4s
ARU **Arti** **30.12 41** P **P** **10 40 22.5 +0.4**
comp=Z,3.3nm,0.2s,baz=275,slow=20,SNR=3.6
ARU **Arti** **30.12 41***c* *i*P **P** **10 40 20.2 -1.9**
ARU S **S** **10 45 17.0 -3.7**
ARU pmax pmax
comp=Z,3.0nm,1.0s
TOA0 **Torodi Ar. Sit** **30.95 221** *e*P **P** **10 40 30.2 +0.4**
comp=Z,12nm,0.8s
TORD **Torodi Ar. Bea** **30.95 221** P **P** **10 40 30.2 +0.4**
comp=Z,12nm,0.7s,baz=33,slow=9.0,SNR=46
TORD LR LR 10 54 00.7
comp=Z,92nm,19.0s,baz=0.0,slow=38
ARCES **ARCESS Array B** **31.25 2** P **P** **10 40 31.2 -0.7**
comp=Z,2.6nm,0.8s,baz=192,slow=9.2,SNR=13
ARCES **ARCESS Array B** **31.25 2** *e*P **P** **10 40 30.6 -1.3**
KOWA **Kowa** **33.10 231** P **P** **10 40 47.7 -1.0**
comp=Z,4.7nm,0.7s,baz=51,slow=8.6,SNR=8.9
KOWA LR LR 10 55 56.8
comp=Z,92nm,18.2s,baz=36,slow=39
KOWA **Kowa** **33.10 231** *e*P **P** **10 40 49.4 +0.8**
comp=Z,6.1nm,0.8s
BRVK **Borovoye** **36.02 50** *e*P **P** **10 41 13.1 -0.6**
comp=Z,2.5nm,0.8s
BRVK **Borovoye** **36.02 50***ce*P **P** **10 41 13.5 -0.1**
BRVK pmax pmax
comp=Z,6.0nm,0.8s
BVAR **Borovoye Array** **36.08 50** P **P** **10 41 13.9 -0.3**
comp=Z,1.2nm,0.8s,baz=259,slow=6.9,SNR=8.8
BORG **Borgarnes** **36.48 330** LR LR 10 56 56.9
comp=Z,115nm,19.8s,baz=93,slow=37
KK31 **Karatay Array** **36.64 67** *e*P **P** **10 41 18.7 -0.4**
KK31 **Karatay Array** **36.64 67** *e*P **P** **10 41 18.7 -0.4**
KKAR **Karatay Array** **36.64 67** *e*P **P** **10 41 19.1 0.0**
KKAR **Karatay Array** **36.64 67** *e*P **P** **10 41 19.1 0.0**
SCO **Scoresbysund** **39.40 338** *e*P **P** **10 41 42.0 +0.1**
comp=Z,5.0nm,1.0s
SCO **Scoresbysund** **39.40 338** *e*P **P** **10 41 42.0 +0.1**
SCO pmax pmax
comp=Z,5.0nm,1.0s
AAK **Ala-Archa** **39.60 67** *e*P **P** **10 41 44.1 -0.1**
comp=Z,3.3nm,0.8s
AAK **Ala-Archa** **39.60 67***ce*P **P** **10 41 44.4 +0.2**
AAK pmax pmax
comp=Z,15nm,1.7s
DBIC **Dimbokro** **39.86 224** P **P** **10 41 46.9 +0.5**
comp=Z,4.5nm,0.6s,baz=13,slow=12,SNR=6.4
DBIC LR LR 10 59 21.4
comp=Z,49nm,18.1s,baz=20,slow=38
SPITS **Spitsbergen Ar** **39.95 358** P **P** **10 41 46.8 +0.3**
comp=Z,3.0nm,0.5s,baz=176,slow=5.5,SNR=19
SPITS LR LR 10 59 46.2
comp=Z,189nm,20.2s,baz=355,slow=38
KURBB **Kurchatov Arra** **41.16 54** P **P** **10 41 56.2 -0.6**
comp=Z,3.4nm,0.9s,baz=282,slow=8.2,SNR=15
KURK **Kurchatov** **41.21 54** *e*P **P** **10 41 56.4 -0.8**
comp=Z,5.0nm,1.0s
KURK **Kurchatov** **41.21 54***ce*P **P** **10 41 56.6 -0.6**
KURK pmax pmax
comp=Z,52nm,1.7s
KDJ **Kajisay** **41.66 67** *e*P **P** **10 42 01.1 -0.1**
comp=Z,3.9nm,0.8s
KDJ **Kajisay** **41.66 67** P **P** **10 42 01.1 -0.1**
NVS **Novosibirsk** **43.67 47** *e*P **P** **10 42 16.6 -0.6**
NVS pmax pmax
comp=Z,16nm,1.4s
NVS pmax pmax
comp=E,6.0nm,1.1s
MAKZ **Makanchi** **43.98 59** *e*P **P** **10 42 19.9 +0.1**
comp=E,2.5nm,0.8s
MAKZ **Makanchi** **43.98 59** *e*P **P** **10 42 19.9 +0.1**
MAKZ pmax pmax
comp=Z,3.0nm,0.8s
MK31 **Makanchi Array** **44.19 59** *e*P **P** **10 42 20.4 -1.1**
MK31 **Makanchi Array** **44.19 59** *e*P **P** **10 42 20.4 -1.1**
MKAR **Makanchi Array** **44.19 59** P **P** **10 42 20.4 -1.1**
comp=Z,4.9nm,0.5s,baz=277,slow=7.1,SNR=49
MKAR ScP **ScP** **10 47 55.9 -2.2**
comp=Z,0.6nm,0.7s,baz=285,slow=2.4,SNR=5.0
MKAR **Makanchi Array** **44.19 59** *e*P **P** **10 42 20.4 -1.1**
comp=Z,48nm,0.6s
MKAR ScP **ScP** **10 47 55.9 -2.2**
MK01 **Makanchi Array** **44.20 59** *e*P **P** **10 42 20.4 -1.3**
ZALV **Zalesovo Beam** **44.67 48** P **P** **10 42 23.9 -1.2**
comp=Z,5.9nm,0.3s,baz=278,slow=9.8,SNR=4.5
ZALV **Zalesovo Beam** **44.67 48** P **P** **10 42 24.0 -1.2**
ZALV pmax pmax
comp=Z,6.0nm,0.3s
DGZ **Jazzator, Alta** **46.95 54** *i* P **P** **10 42 42.8 -0.7**
DGZ pmax pmax
comp=Z,3.0nm,0.9s
SFJD **Kangerlussuaq** **48.61 330** LR LR 11 04 46.5
comp=Z,116nm,18.1s,baz=90,slow=38
WMQ **Urumqi** **48.63 62** P **P** **10 42 58.8 +2.3**
WMQ pP sP 10 43 03.0 +2.2
WMQ sP pP 10 43 05.8 +6.2
WMQ pmax pmax
comp=Z,20nm,0.9s
WMQ pmax pmax
comp=Z,230nm,4.3s
WMQ LR LR
comp=N,160nm,27.5s
WMQ LR LR
comp=Z,140nm,28.9s
LSZ **Lusaka** **53.71 173** P **P** **10 43 35.5 +0.6**
comp=Z,1.8nm,0.3s,baz=358,slow=3.8,SNR=4.3
TLY **Talaya** **56.28 48** LR LR 11 09 48.6
comp=Z,73nm,18.9s,baz=264,slow=38
TLY **Talaya** **56.28 48** *e*P **P** **10 43 53.1 +0.1**
TLY pmax pmax
comp=Z,9.0nm,1.6s
GTA **Gaotai** **58.69 62** *e*P **P** **10 44 11.8 +1.4**
GTA pP sP 10 44 16.0 +1.3
GTA sP pP 10 44 19.5 +6.0
GTA pmax pmax
comp=Z,7.0nm,0.8s
TIXI **Tiksi** **59.03 21** *e*P **P** **10 44 11.0 -1.0**
TIXI pmax pmax
comp=Z,1.0nm,0.9s
SCHQ **Scheffervill.** **59.08 318** P **P** **10 44 12.3 -0.4**
comp=Z,6.1nm,0.7s,baz=43,slow=4.8,SNR=5.7
SONA1 **Songino Array** **59.41 51** *e*P **P** **10 44 13.8 -1.5**
SONM **Songino Array** **59.41 51** P **P** **10 44 13.8 -1.5**
comp=Z,3.4nm,1.1s,baz=284,slow=9.6,SNR=11
RES **Resolute Bay** **59.87 344** *e*P **P** **10 44 18.0 +0.2**
RES **Resolute Bay** **59.87 344** *e*P **P** **10 44 18.0 +0.2**
OPO **Ambohidratompo** **61.41 153** P **P** **10 44 30.8 +1.7**
comp=Z,6.3nm,0.8s,baz=16,slow=6.6,SNR=4.1
LZH **Lanzhou** **63.06 64** *e*P **P** **10 44 41.0 +0.8**
LZH pP sP 10 44 44.8 +0.3
LZH sP pP 10 44 48.5 +5.2
LZH *e*PP **PP** **10 46 59.0 +0.4**
LZH pmax pmax
comp=Z,20nm,1.0s
LZH pmax pmax
comp=Z,190nm,4.3s
LZH LR LR
comp=N,190nm,14.5s
LZH LR LR
comp=E,200nm,14.3s
LZH LR LR
comp=Z,270nm,17.8s
PKME **Peaks-Kenny Pk** **64.82 309** P **P** **10 44 52.2 +0.8**
baz=60
HHC **Hu-ho-hao-te** **65.95 56** *e*P **P** **10 44 59.8 +0.9**
HHC pmax pmax
comp=Z,13nm,1.2s
HHC pmax pmax
comp=Z,14nm,7.0s
HIA **Hailar** **66.54 45** *i* P **P** **10 45 03.9 +1.4**
HIA pmax pmax
comp=Z,5.0nm,1.0s
BOSA **Boshof** **66.74 177** P **P** **10 45 05.3 +1.3**
comp=Z,3.8nm,0.9s,baz=72,slow=6.4,SNR=3.3
BOSA LR LR 11 17 11.6
comp=Z,89nm,19.5s,baz=29,slow=39
LONY **Lake Ozonia** **68.36 310** P **P** **10 45 14.9 +0.8**
baz=57
CMAR **Chiang Mai Arr** **68.71 83** P **P** **10 45 16.2 -0.4**
comp=Z,0.9nm,0.4s,baz=300,slow=7.1,SNR=5.0
BILL **Bilibino** **70.53 13** *i* P **P** **10 45 26.9 -0.1**
BILL *i* 10 45 51.0
BILL pmax pmax
comp=Z,1.0nm,1.0s
BILL MLR MLR
comp=Z,56nm,18.0s
SADO **Sadowa** **70.97 312** P **P** **10 45 30.9 +0.8**
comp=Z,6.1nm,0.7s,baz=68,slow=8.5,SNR=4.6
N59A **State Game Lan** **71.14 307** P **P** **10 45 32.6 +1.3**
baz=55
SEY **Seymchan** **71.50 22** *i* P **P** **10 45 33.4 +0.4**
INK **Inuvik** **72.03 351** P **P** **10 45 36.0 -0.1**
comp=Z,0.5nm,0.6s,baz=12,slow=9.2,SNR=8.2
INK **Inuvik** **72.03 351** P **P** **10 45 36.0 -0.1**
INK pmax pmax
comp=Z,1.0nm,0.6s
SSPA **Standing Stone** **72.62 308** P **P** **10 45 41.2 +1.0**
baz=54
KLR **Kul'dur** **72.95 40** *i* P **P** **10 45 40.6 -1.4**
ERPA **Erie** **73.02 310** P **P** **10 45 43.4 +0.9**
baz=53
ERPA **Erie** **73.02 310** *e*P **P** **10 45 42.4 -0.1**
comp=Z,22nm,0.7s
M54A **Oil Creek Stat** **73.19 310** P **P** **10 45 44.5 +1.0**
baz=53
O56A **Blue Knob Stat** **73.25 308** P **P** **10 45 45.0 +1.0**
baz=54
E45A **Wooded Hills,** **73.41 316** P **P** **10 45 45.4 +0.8**
baz=52
YKA **Yellowknife Ar** **73.57 341** P **P** **10 45 44.9 -0.4**
comp=Z,0.8nm,0.7s,baz=33,slow=5.2,SNR=24
E44A **Grand Marais A** **73.64 317** P **P** **10 45 47.2 +1.1**
baz=51
N54A **Moraine State** **73.71 309** P **P** **10 45 47.7 +1.1**
baz=53
F45A **CMU Biological** **74.01 316** P **P** **10 45 48.8 +0.6**
baz=51
F44A **Big Bay de Noc** **74.32 317** P **P** **10 45 50.6 +0.6**
baz=51
E43A **Lone Tree Farm** **74.37 317** P **P** **10 45 50.6 +0.2**
baz=50
MCWV **Mont Chateau** **74.41 308** P **P** **10 45 51.4 +0.7**
baz=53
C40A **Isle Royale Na** **74.51 319** P **P** **10 45 51.0 -0.1**
baz=49
D41A **Chassel** **74.76 318** P **P** **10 45 52.9 +0.3**
baz=50
F43A **Flat Rock, Esc** **74.81 317** P **P** **10 45 53.1 +0.1**
baz=50
E42A **Champion** **74.83 318** P **P** **10 45 52.9 -0.1**
baz=50
C39A **Grand Marais** **75.07 320** P **P** **10 45 54.1 -0.3**
baz=49
E41A **Kenton** **75.36 318** P **P** **10 45 56.2 +0.1**
baz=49
G43A **Wallace** **75.46 317** P **P** **10 45 57.3 +0.7**
baz=50
EYMN **Ely** **75.67 320** P **P** **10 45 58.0 +0.2**
baz=48
COWI **Conover** **75.69 318** *e*P **P** **10 45 58.3 +0.3**
comp=Z,11nm,0.9s
NJ2 **Nanjing** **75.69 60** *e*P **P** **10 45 58.0 -0.2**
NJ2 pmax pmax
comp=Z,12nm,0.6s
C38A **Sawbill Land.** **75.72 320** P **P** **10 45 58.3 +0.1**
baz=48
E40A **Wakefield** **75.86 319** P **P** **10 45 59.2 +0.3**
baz=49,SNR=6.4
G42A **Mountain** **75.87 317** P **P** **10 45 59.7 +0.7**
baz=49
G42A **Mountain** **75.87 317** *e*P **P** **10 45 59.5 +0.5**
comp=Z,10nm,0.8s
IM3 **Indian Mountai** **75.89 358** *e*P **P** **10 45 59.3 +0.5**
F41A **Three Lakes** **75.91 318** P **P** **10 45 59.6 +0.3**
baz=49,SNR=5.1

ACSO	Alum Creek Sta	75.96	310	P	P	10 46 00.4	+0.8
	baz=51						
H43A	Windswept, Lux	76.02	316	P	P	10 46 00.3	+0.5
	baz=50						
H43A	Windswept, Lux	76.02	316	*e*P	P	10 46 00.3	+0.5
	comp=Z,22nm,1.0s						
ULM	Lac du Bonnet	76.20	324	P	P	10 46 00.8	+0.1
	comp=Z,4.7nm,0.8s,baz=56,slow=5.5,SNR=10						
ULM				LR	LR	11 20 20.4	
	comp=Z,61nm,19.5s,baz=221,slow=36						
ULM	Lac du Bonnet	76.20	324	*e*P	P	10 46 00.9	+0.1
	comp=Z,7.4nm,0.9s						
ULM	Lac du Bonnet	76.20	324	*e*P	P	10 46 00.9	+0.1
ULM				pmax	pmax		
	comp=Z,7.0nm,0.9s						
E39A	Mellen	76.24	319	P	P	10 46 01.1	-0.1
	baz=48,SNR=5.4						
F40A	Park Falls	76.32	318	P	P	10 46 01.5	-0.1
	baz=48						
C36A	Pine Crest Far	76.47	321	P	P	10 46 02.4	+0.1
	baz=47						
B35A	Bob, Littlefor	76.49	322	P	P	10 46 02.1	-0.4
	baz=47						
I43A	Langenfeld Bro	76.60	316	P	P	10 46 03.7	+0.5
	baz=49						
E38A	The Farm, Brul	76.60	319	P	P	10 46 03.2	+0.1
	baz=48						
D37A	Cotton	76.67	320	P	P	10 46 03.8	+0.2
	baz=47						
MDM	Murphy Dome	76.69	356	*e*P	P	10 46 05.4	+2.1
	comp=Z,3.3nm,1.0s						
F39A	Loretta	76.74	319	P	P	10 46 04.1	+0.2
	baz=48						
MLY	Manley	76.74	357	*e*P	P	10 46 05.7	+2.1
	comp=Z,2.9nm,1.0s						
IL1	Eielson Array	76.79	355	*e*P	P	10 46 06.5	+2.6
ILAR	Eielson Array	76.79	355	P	P	10 46 04.3	+0.4
	comp=Z,1.3nm,0.9s,baz=357,slow=3.8,SNR=10						
G40A	Rib Lake	76.80	318	P	P	10 46 04.6	+0.4
	baz=48						
DAWY	Dawson	76.81	352	*e*P	P	10 46 04.5	+0.5
	comp=Z,5.2nm,1.0s						
B34A	Aery, Baudette	76.85	322	P	P	10 46 04.5	0.0
	baz=46,SNR=5.9						
A33A	Warroad	76.89	323	P	P	10 46 04.8	+0.1
	baz=46						
H41A	Junction City	76.94	317	P	P	10 46 05.3	+0.2
	baz=48						
I42A	Draeger Farm,	77.02	316	P	P	10 46 05.8	+0.3
	baz=49						
D36A	Goodland	77.03	321	P	P	10 46 05.8	+0.2
	baz=47						
C35A	Jirik Farms, M	77.07	321	P	P	10 46 05.7	0.0
	baz=46						
J43A	Natural Harves	77.08	315	P	P	10 46 06.2	+0.3
	baz=49						
HDA	Harding Lake	77.15	355	*e*P	P	10 46 06.7	+0.8
	comp=Z,5.8nm,1.1s						
F38A	Pierce - Schro	77.20	319	P	P	10 46 06.9	+0.3
	baz=47						
G39A	Holcombe	77.29	318	P	P	10 46 07.1	+0.1
	baz=48						
H40A	Chili	77.33	317	P	P	10 46 07.8	+0.6
	baz=48						
I41A	Arkdale	77.42	317	P	P	10 46 08.3	+0.5
	baz=48						
A32A	Rocking H Ranc	77.42	324	P	P	10 46 07.6	-0.1
	baz=45						
B33A	Robert and Kas	77.45	323	P	P	10 46 08.3	+0.4
	baz=45						
J42A	Columbus	77.51	316	P	P	10 46 08.4	+0.1
	baz=48						
E36A	McGregor	77.53	320	P	P	10 46 08.6	+0.3
	baz=47						
AGMN	Agassiz Nation	77.56	323	P	P	10 46 08.4	-0.1
	baz=45						
L44A	Lake County Fo	77.58	314	P	P	10 46 09.0	+0.3
	baz=49						
BPAW	Bear Paw Mtn.	77.68	357	*e*P	P	10 46 09.8	+0.9
	comp=Z,2.7nm,1.1s						
G38A	Ridgeland	77.73	319	P	P	10 46 09.5	0.0
	baz=47						
N46A	Monticello	77.75	313	P	P	10 46 10.0	+0.3
	baz=50						
H39A	Augusta	77.76	318	P	P	10 46 09.8	+0.1
	baz=48						
B32A	Ashes, Strandq	77.81	323	P	P	10 46 10.0	0.0
	baz=45						
O47A	Sheridan	77.85	312	P	P	10 46 10.1	-0.2
	baz=50						
C33A	Trail	77.90	322	P	P	10 46 10.5	+0.1
	baz=45						
I40A	Norwalk	77.94	317	P	P	10 46 10.7	0.0
	baz=48						
MCK	McKinley	77.95	356	*e*P	P	10 46 10.7	+0.3
	comp=Z,4.8nm,1.0s						
MCK	McKinley	77.95	356	*e*P	P	10 46 10.7	+0.3
MCK				pmax	pmax		
	comp=Z,5.0nm,1.0s						
J41A	Loganville	77.96	316	P	P	10 46 10.9	+0.1
	baz=48						
L43A	Garden Prairie	78.05	315	P	P	10 46 11.6	+0.3
	baz=49						
KMSC	Kings Mountain	78.11	305	P	P	10 46 12.2	+0.4
	baz=51						
F36A	Milaca	78.11	320	P	P	10 46 11.5	-0.1
	baz=46						
KS01	Wonju Array Si	78.25	51	*e*P	P	10 46 10.9	-1.6
KSAR	Wonju Array Be	78.27	51	P	P	10 46 11.2	-1.3
KSAR	Wonju Array Be	78.27	51	P	P	10 46 11.3	-1.3
KSRS	Korea Array	78.28	51	P	P	10 46 11.2	-1.4
	comp=Z,3.4nm,0.9s,baz=314,slow=3.9,SNR=6.3						
H38A	Maiden Rock	78.29	318	P	P	10 46 12.6	0.0
	baz=47						
SFIN	Lafayette	78.29	313	P	P	10 46 12.6	-0.1
	baz=49						
SFIN	Lafayette	78.29	313	*e*P	P	10 46 12.9	+0.2
	comp=Z,10nm,1.0s						
J40A	Soldiers Grove	78.33	317	P	P	10 46 12.8	-0.2
	baz=48						
JFWS	Jewell Farm	78.39	316	P	P	10 46 13.0	-0.2
	baz=48						
JFWS	Jewell Farm	78.39	316	*e*P	P	10 46 13.4	+0.2
	comp=Z,11nm,1.0s						
JFWS	Jewell Farm	78.39	316	*e*P	P	10 46 13.4	+0.2
JFWS				pmax	pmax		
	comp=Z,11nm,1.0s						
NHSC	New Hope	78.62	303	P	P	10 46 14.7	+0.1
	baz=51						
M43A	Waltham Townsh	78.66	314	P	P	10 46 14.8	+0.1
	baz=48						
L42A	Oliver, Polo	78.68	315	P	P	10 46 15.0	+0.2
	baz=48						
I38A	Scanlan Farm,	78.75	318	P	P	10 46 15.1	-0.1
	baz=47						
C31A	Landman Farms,	78.81	323	P	P	10 46 15.0	-0.4
	baz=44						
P46A	Rosedale	78.85	312	P	P	10 46 15.7	-0.2
	baz=49						
J39A	Decorah	78.89	317	P	P	10 46 15.8	-0.2
	baz=47,SNR=5.3						
K40A	Colesburg	79.02	316	P	P	10 46 16.9	+0.2
	baz=47						
L41A	Preston	79.09	316	P	P	10 46 17.1	+0.1
	baz=48						
WCI	Wyandotte Cave	79.22	310	P	P	10 46 18.0	+0.1
	baz=49						
WCI	Wyandotte Cave	79.22	310	*e*P	P	10 46 17.4	-0.4
	comp=Z,12nm,0.9s						
WCI	Wyandotte Cave	79.22	310	*e*P	P	10 46 17.4	-0.4
WCI				pmax	pmax		
	comp=Z,12nm,0.9s						
P45A	Graceland, Par	79.23	312	P	P	10 46 17.9	0.0
	baz=49						
O44A	Mansfield	79.23	313	P	P	10 46 18.0	+0.1
	baz=48						
R47A	Wooly Knot Far	79.31	311	P	P	10 46 18.4	+0.1
	baz=49						
J38A	Wadel Dairy, R	79.32	317	P	P	10 46 18.2	-0.1
	baz=47						
TKL	Tuckaleechee C	79.33	307	P	P	10 46 18.9	+0.4
	comp=Z,4.1nm,0.8s,baz=107,slow=9.0,SNR=4.8						
TKL				LR	LR	11 21 41.2	
	comp=Z,36nm,18.6s,baz=358,slow=36						
K39A	Oelwein	79.42	317	P	P	10 46 19.0	+0.1
	baz=47						
HDIL	Hopedale	79.44	314	P	P	10 46 19.0	0.0
	baz=48						
S48A	Wiedeman Farm,	79.45	310	P	P	10 46 19.3	+0.2
	baz=49						
L40A	Anamosa	79.50	316	P	P	10 46 19.3	0.0
	baz=47,SNR=5.5						
F33A	5 Mile Ranch,	79.51	321	P	P	10 46 19.3	0.0
	baz=45						
H35A	Sunnyside Ranc	79.58	320	P	P	10 46 19.9	+0.2
	baz=45						
M41A	Milan	79.59	315	P	P	10 46 19.9	+0.1
	baz=47						
I36A	Fitzsimmons Fa	79.64	319	P	P	10 46 20.1	0.0
	baz=46						
P44A	Sand Creek, Wi	79.78	313	P	P	10 46 21.3	+0.5
	baz=48						
L39A	Vinton	79.88	316	P	P	10 46 21.1	-0.3
	baz=47						
Q45A	Warren Harvey,	79.88	312	P	P	10 46 21.5	+0.1
	baz=48						
J37A	Redenius Farm,	79.89	318	P	P	10 46 21.5	+0.1
	baz=46						
T48A	Bowling Green	80.01	310	P	P	10 46 22.5	+0.4
	baz=49,SNR=5.9						
G33A	Ortonville	80.04	321	P	P	10 46 22.2	0.0
	baz=44						
P43A	Skaggs, Pawnee	80.18	313	P	P	10 46 23.2	+0.2
	baz=48						
N41A	Harden Midland	80.21	315	P	P	10 46 23.2	0.0
	baz=47						
J36A	Seneca 1, Swea	80.29	318	P	P	10 46 23.8	+0.3
	baz=46						
K37A	Belmond	80.31	318	P	P	10 46 23.7	0.0
	baz=46						
L38A	Oak Wood Farm,	80.39	317	P	P	10 46 23.5	-0.6
	baz=46,SNR=5.0						
M39A	Webster	80.42	316	P	P	10 46 24.1	-0.2
	baz=46						
U48A	Cassie Pea, Po	80.49	309	P	P	10 46 24.9	+0.2
	baz=49						
N40A	Mertquake, Sal	80.50	315	P	P	10 46 24.5	-0.2
	baz=47						
H33A	Prehn Over Nor	80.56	321	P	P	10 46 25.0	0.0
	baz=44						
GOGA	Godfrey	80.57	305	P	P	10 46 25.4	+0.2
	baz=50						
O41A	Passleys Farm,	80.63	314	P	P	10 46 25.2	-0.2
	baz=47						
P42A	Winchester	80.69	314	P	P	10 46 25.8	0.0
	baz=47						
L37A	Phoenix Point,	80.82	317	P	P	10 46 26.2	-0.3
	baz=46						
K36A	Gilmore City	80.83	318	P	P	10 46 26.7	+0.2
	baz=45						
R44A	Waltonville	80.86	312	P	P	10 46 27.0	+0.3
	baz=48						
T46A	Princeton	80.95	310	P	P	10 46 27.4	+0.1
	baz=48						
U47A	Clarksville	80.99	310	P	P	10 46 27.5	+0.1
	baz=48,SNR=5.3						
N39A	Derby Farms, D	81.01	316	P	P	10 46 27.6	+0.1
	baz=46						
M38A	Pleasantville	81.01	316	P	P	10 46 27.6	+0.1
	baz=46						
H32A	Carlson Farm,	81.03	321	P	P	10 46 27.6	0.0
	baz=44						
P41A	Barry, Barry	81.03	314	P	P	10 46 27.9	+0.3
	baz=47						
PETK	Petropavlovsk-	81.11	25	LR	LR	11 28 22.0	
	comp=Z,74nm,18.4s,baz=269,slow=40						
V48A	Smith Brothers	81.17	309	P	P	10 46 28.7	+0.3
	baz=49						
ECSD	EROS Data Cent	81.17	320	P	P	10 46 28.3	0.0
	baz=44						
ECSD	EROS Data Cent	81.17	320	*e*P	P	10 46 28.6	+0.3
	comp=Z,6.0nm,1.1s						
O40A	La Belle	81.18	315	P	P	10 46 27.8	-0.6
	baz=46,SNR=5.8						
Q42A	Golden Eagle	81.25	313	P	P	10 46 29.2	+0.5
	baz=47						
L36A	Harm Buss Farm	81.32	318	P	P	10 46 29.3	+0.2
	baz=45						
S44A	Carbondale	81.33	312	P	P	10 46 29.5	+0.3
	baz=48						
R43A	Red Bud	81.33	312	P	P	10 46 29.6	+0.4
	baz=47						
254A	Abbeville	81.39	304	P	P	10 46 30.2	+0.5
	baz=50						
O39A	Kirksville	81.46	315	P	P	10 46 29.9	0.0
	baz=46						
N38A	Joes South For	81.47	316	P	P	10 46 29.8	-0.1
	baz=46						
M37A	Indle Farm,	81.49	317	P	P	10 46 30.1	+0.1
	baz=45						
WVT	Waverly	81.52	310	P	P	10 46 29.9	-0.4
	baz=48						
V47A	Nunnelly	81.53	309	P	P	10 46 30.2	-0.1
	baz=48						
Q41A	Truxton	81.62	314	P	P	10 46 31.1	+0.4
	baz=47						
W48A	Pulaski	81.63	308	P	P	10 46 31.0	+0.1
	baz=49						
K34A	Le Mars	81.66	319	P	P	10 46 31.1	+0.2
	baz=44						
X49A	Woodville	81.66	308	P	P	10 46 31.8	+0.7
	baz=49						
P40A	Paris	81.69	314	P	P	10 46 31.1	0.0
	baz=46						
Y50A	Piedmont	81.70	307	P	P	10 46 32.1	+0.8
	baz=49						
L35A	Bielow Farm, R	81.78	318	P	P	10 46 32.1	+0.5
	baz=45						
M36A	Felix, Anita	81.85	317	P	P	10 46 32.2	+0.3
	baz=45						
S43A	Fulton Ridge,	81.89	312	P	P	10 46 32.4	+0.2
	baz=47,SNR=5.2						
V46A	Holladay	81.91	310	P	P	10 46 32.0	-0.3
	baz=48,SNR=7.3						
N37A	Lee Faris, Mou	82.02	317	P	P	10 46 33.0	+0.1
	baz=45						
O38A	Galt	82.07	316	P	P	10 46 33.2	+0.1
	baz=46						
Q40A	Laux Farm, Aux	82.07	314	P	P	10 46 33.1	0.0
	baz=46						
P39B	Salisbury	82.11	315	P	P	10 46 33.4	+0.1
	baz=46						
Y49A	Blount Mountai	82.15	307	P	P	10 46 34.0	+0.3
	baz=49						
R41A	Rosebud	82.15	313	P	P	10 46 33.8	+0.3
	baz=47,SNR=5.8						
X48A	Hartselle	82.15	308	P	P	10 46 33.9	+0.3
	baz=48						
S42A	Caledonia	82.17	312	P	P	10 46 33.1	-0.6
	baz=47						
Z50A	Ashland	82.24	306	P	P	10 46 34.2	+0.1
	baz=49						
CCM	Cathedral Cave	82.24	313	P	P	10 46 34.1	+0.1
	baz=47						
CCM	Cathedral Cave	82.24	313	*e*P	P	10 46 34.1	+0.1
	comp=Z,6.9nm,0.8s						
CCM	Cathedral Cave	82.24	313	*e*P	P	10 46 34.1	+0.1
CCM				pmax	pmax		
	comp=Z,7.0nm,0.8s						
859A	Kempfer Cattle	82.27	300	P	P	10 46 33.9	-0.5
	baz=50						
PLAL	Pickwick Lake	82.43	309	*e*P	P	10 46 35.1	0.0
	comp=Z,6.9nm,0.9s						
P38A	Dawn	82.44	315	P	P	10 46 35.2	+0.2
	baz=46,SNR=6.2						
Q39A	Willow Grove F	82.54	315	P	P	10 46 35.9	+0.3
	baz=46						
656A	Willston	82.54	302	P	P	10 46 35.7	0.0
	baz=50						
Y48A	Jasper	82.58	308	P	P	10 46 36.0	+0.2
	baz=48						
X47A	Russelville	82.61	308	P	P	10 46 36.1	+0.1
	baz=48						
Z49A	Columbiana	82.66	307	P	P	10 46 36.4	+0.1
	baz=48						
R40A	Maddies Statio	82.66	314	P	P	10 46 36.7	+0.5
	baz=46,SNR=7.9						
150A	Eclectic	82.72	306	P	P	10 46 36.9	+0.2
	baz=49						
S41A	Jillco Farms,	82.85	313	P	P	10 46 37.6	+0.3
	baz=46,SNR=8.0						
T42A	Van Buren	82.85	312	P	P	10 46 37.6	+0.4
	baz=47,SNR=5.9						
P37A	Lathrop	82.92	316	P	P	10 46 37.9	+0.3
	baz=45						
Q38A	Cooks Store, C	82.96	315	P	P	10 46 38.2	+0.5
	baz=45						
857A	Zephyrhills	83.04	301	P	P	10 46 39.2	+0.8
	baz=50						
LRAL	Lakeview Retre	83.06	307	P	P	10 46 38.8	+0.5
	baz=48						
LRAL	Lakeview Retre	83.06	307	*e*P	P	10 46 38.5	+0.2
	comp=Z,14nm,1.1s						
R39A	Chumby, Stover	83.08	314	P	P	10 46 39.1	+0.7
	baz=46,SNR=7.3						
Z48A	Northport	83.18	307	P	P	10 46 39.5	+0.5
	baz=48						
149A	Jones	83.22	306	P	P	10 46 39.6	+0.4
	baz=48						
T41A	Mountain View	83.23	312	P	P	10 46 39.9	+0.7
	baz=46,SNR=12						
S40A	Lebanon	83.28	313	P	P	10 46 40.0	+0.6
	baz=46,SNR=6.4						
250A	Grady	83.29	306	P	P	10 46 40.3	+0.7
	baz=49						
U42A	Revenden	83.40	312	P	P	10 46 40.6	+0.5
	baz=46						
T40A	Mansfield	83.60	313	P	P	10 46 41.8	+0.7
	baz=46,SNR=9.9						
X45A	UM Field Stati	83.61	309	P	P	10 46 41.4	+0.3
	baz=47						
BGNE	Belgrade	83.64	319	P	P	10 46 41.4	+0.1
	baz=43						
Y46A	Houston	83.65	309	P	P	10 46 41.0	-0.4
	baz=48						
R38A	Fenwick Farm,	83.66	315	P	P	10 46 41.7	+0.4
	baz=45,SNR=6.0						
S39A	Bolivar	83.68	314	P	P	10 46 41.7	+0.2
	baz=46						
U41A	Viola	83.81	312	P	P	10 46 42.7	+0.5
	baz=46						
EGMT	Eagleton	83.84	330	P	P	10 46 42.4	+0.2
	baz=36						
EGMT	Eagleton	83.84	330	*e*P	P	10 46 43.0	+0.8
	comp=Z,5.8nm,0.8s						
S38A	Stockton	84.05	314	P	P	10 46 43.8	+0.4
	baz=45,SNR=5.7						
V41A	Mountainview	84.33	312	P	P	10 46 45.2	+0.3
	baz=46						
U40A	Yellville	84.34	313	P	P	10 46 45.2	+0.2
	baz=46						
U39A	Green Forest	84.68	313	P	P	10 46 47.1	+0.4
	baz=45						
T38A	Diamond	84.69	314	P	P	10 46 47.1	+0.4
	baz=45						
V40A	Witts Springs	84.71	312	P	P	10 46 47.2	+0.4
	baz=46						
WHAR	Wooly Hollow	84.75	312	*e*P	P	10 46 47.5	+0.5
	comp=Z,13nm,1.1s						
W41B	Gary Mavity, V	84.81	311	P	P	10 46 47.9	+0.7
	baz=46						
MJAR	Matsushiro Arr	84.99	46	P	P	10 46 46.5	-1.8
	comp=Z,2.4nm,0.9s,baz=306,slow=4.2,SNR=4.0						
V39A	Pettigrew	85.16	313	P	P	10 46 49.4	+0.3
	baz=45						
X40A	Basin Creek Fa	85.63	311	P	P	10 46 51.9	+0.5
	baz=46						
W39A	Magazine	85.69	312	P	P	10 46 52.1	+0.4
	baz=45						
346A	Big Creek Wild	85.71	307	P	P	10 46 52.7	+0.9
	baz=47						
JTMT	Jette	85.80	332	*e*P	P	10 46 52.5	+0.3
	comp=Z,6.3nm,0.9s						
RLMT	Red Lodge	85.98	328	P	P	10 46 53.6	+0.3
	baz=36						
RLMT	Red Lodge	85.98	328	*e*P	P	10 46 53.0	-0.3
	comp=Z,4.4nm,1.0s						
244A	Avery, Jackson	86.02	308	P	P	10 46 54.3	+0.9
	baz=46						
MIAR	Mount Ida	86.03	312	P	P	10 46 54.3	+0.9
	baz=45						
MIAR	Mount Ida	86.03	312	*e*P	P	10 46 54.0	+0.6
	comp=Z,13nm,1.1s						
MIAR	Mount Ida	86.03	312	*e*P	P	10 46 54.0	+0.6
MIAR				pmax	pmax		
	comp=Z,13nm,1.1s						
TUL1	Leonard	86.34	314	P	P	10 46 55.3	+0.5
	baz=44						
TUL1	Leonard	86.34	314	*e*P	P	10 46 55.2	+0.3
	comp=Z,10nm,0.8s						
X39A	Fountain Ranch	86.37	312	P	P	10 46 55.9	+0.9
	baz=45						
SDV	Santo Domingo	86.60	279	P	P	10 46 55.6	-1.1
	comp=Z,6.4nm,0.9s,baz=338,slow=5.4,SNR=4.2						
SDV	Santo Domingo	86.60	279	*e*P	P	10 46 56.5	-0.2
	comp=Z,9.8nm,1.0s						
PDAR	Pinedale Array	88.01	327	P	P	10 47 02.4	-0.8
	comp=Z,0.9nm,0.6s,baz=46,slow=6.4,SNR=8.5						
PDAR	Pinedale Array	88.01	327	*e*P	P	10 47 02.5	-0.7
TPAW	Teton Pass	88.01	328	*e*P	P	10 47 03.5	+0.3
	comp=Z,1.4nm,0.9s						
ISCO	Idaho Springs	88.56	322	*e*P	P	10 47 05.3	-0.7
	comp=Z,2.4nm,0.7s						
ISCO	Idaho Springs	88.56	322	*e*P	P	10 47 05.3	-0.7
ISCO				pmax	pmax		
	comp=Z,2.0nm,0.7s						
WMOK	Wichita Mounta	88.86	315	*e*P	P	10 47 07.3	+0.2
	comp=Z,4.6nm,0.8s						
WMOK	Wichita Mounta	88.86	315	*e*P	P	10 47 07.3	+0.2
WMOK				pmax	pmax		
	comp=Z,5.0nm,0.8s						
SMCO	Snowmass	89.70	323	*e*P	P	10 47 11.9	+0.5
	comp=Z,2.5nm,0.8s						
HWUT	Hardware Ranch	89.81	327	*e*P	P	10 47 11.5	-0.1
	comp=Z,4.3nm,0.8s						
SDCO	Great Sand Dun	90.11	321	P	P	10 47 12.9	-0.4
	baz=38						
S22A	4UR Ranch, Cre	90.76	322	P	P	10 47 15.8	-0.5
	baz=38						
MNTX	Cornudas Mount	94.77	317	P	P	10 47 34.5	0.0
	baz=39						
NVAR	Mina Array Bea	95.27	330	LR	LR	11 32 37.6	
	comp=Z,97nm,18.8s,baz=265,slow=37						
TXAR	Lajitas Array	95.65	315	P	P	10 47 39.3	+0.6
	comp=Z,1.5nm,0.8s,baz=57,slow=3.3,SNR=12						
TXAR				LR	LR	11 32 14.6	
	comp=Z,40nm,18.1s,baz=0.0,slow=36						
CPUP	Villa Florida	98.18	243	LR	LR	11 34 34.2	
	comp=Z,60nm,19.1s,baz=150,slow=37						
WRA	Warramunga Arr	119.39	93	PKP	PKPdf	10 53 01.2	-1.3
	comp=Z,0.3nm,0.7s,baz=315,slow=1.8,SNR=3.6						
ASAR	Alice Springs	121.05	97	PKP	PKPdf	10 53 04.0	-1.6
	comp=Z,0.4nm,0.8s,baz=330,slow=2.0,SNR=5.2						

IDC 25 10:34:36.5±6.7, 19°98S×176°34E, h0km, mb3.4/3, mb1 3.7/3, mb1mx3.5/43, mbtmp3.4/3, Error ellipse: s-maj=289.9km s-min=41.5km az=147.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	39.40	263	P	P	P	10 42 08.3	+0.1
	0.5nm,1.0s,baz=96,slow=7.4,SNR=9.8							
ASAR	Alice Springs	39.46	257	P	P	P	10 42 08.4	-0.4
	0.2nm,0.6s,baz=99,slow=8.0,SNR=5.8							
ILAR	Eielson Array	89.09	15	P	P	P	10 47 33.1	0.0
	0.4nm,1.0s,baz=222,slow=3.6,SNR=2.0							

*ISCJB **25** 10:40:17.9±1.2, 15°.01N±0°.10×93°.73W±0°.06, h57km, mb3.4/2, MS3.4/1, Error ellipse: s-maj=14.4km s-min=8.5km az=169.5*

*IDC **25** 10:40:19.0±2.9, 16°.05N×93°.15W, h0km, mb3.4/2, mb1 3.5/4, mb1mx3.4/46, mbtmp3.1/4, ML3.2/2, MS3.4/1, Ms1 3.5/1, ms1mx2.5/30, Error ellipse: s-maj=104.8km s-min=12.3km az=27.0*

*NEIC **25** 10:40:19.6±0.0, 14°.88N×93°.54W, h20km, MD4.0(MEX), After MEX.*

*MEX **25** 10:40:19.6±1.0, 14°.88N×93°.54W, h20km±105km, MD4.0*

ISC 25 10:40:19.7±1.5, 15°.1N±0°.1×93°.72W±0°.07, h57km, n15, σ1°65/19, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PCIG		0.81	36	*e*P	Pn		10 40 32.8	-2.5
PCIG				*e*S	Sn		10 40 44.9	-1.7
PCIG		0.81	36	*e*Pg	Pn		10 40 32.8	-2.5
PCIG				*e*Sn	Sn		10 40 44.9	-1.7
TGIG		1.82	18	*e*P	Pn		10 40 48.8	0.0
TGIG				*e*S	Sn		10 41 11.2	+0.6
TGIG		1.82	18	*e*Pn	Pn		10 40 48.8	0.0

TGIG				*e*Sn		**Sn**	**10 41 11.2**	**+0.6**
CCIG	**Comitan**	**1.96**	**51**	*e*P		**Pn**	**10 40 51.0**	**+0.2**
CCIG				*e*S		**Sn**	**10 41 13.5**	**-0.9**
CCIG	**Comitan**	**1.96**	**51**	*e*Pn		**Pn**	**10 40 51.3**	**+0.5**
CMIG	**Matias Romero**	**2.32**	**331**	Pn		**Pn**	**10 40 53.3**	**-2.3**
	4.2nm,0.3s,baz=166,slow=14,SNR=106							
CMIG				Lg		Lg	10 41 21.0	
	13nm,0.3s,baz=140,slow=14,SNR=18							
APG	**El Apazote**	**3.15**	**90**	Pn		**Pn**	**10 41 05.5**	**-1.6**
	2.2nm,0.3s,baz=4.8,slow=18,SNR=15							
APG				Lg		Lg	10 41 47.5	
	8.0nm,0.3s,baz=336,slow=17,SNR=8.0							
LVIG	**Laguna Verde**	**5.32**	**331**	*e*Pn		**Pn**	**10 41 34.8**	**-1.7**
LVIG				*e*			10 43 17.5	
TXAR	**Lajitas Array**	**16.93**	**329**	Pn		**Pn**	**10 44 11.4**	**-1.4**
	0.0nm,0.3s,baz=145,slow=14,SNR=2.3							
TX31	**Lajitas Ar. Si**	**16.93**	**329**	*e*Pn		**P**	**10 44 14.1**	**0.0**
TX31				*e*			10 47 41.0	
AMTX	**Amarillo**	**21.01**	**341**	*e*P		**P**	**10 45 00.5**	**+1.8**
NVAR	**Mina Arroyo Bea**	**31.82**	**322**	P		**P**	**10 46 42.0**	**+2.7**
	0.5nm,0.7s,baz=145,slow=8.4,SNR=3.8							
LPAZ	**La Paz**	**40.10**	**140**	LR		LR	11 03 55.3	
	comp=Z,46nm,18.4s,baz=348,slow=35							
YKA	**Yellowknife Ar**	**49.64**	**347**	P		**P**	**10 49 05.6**	**+0.3**
	0.3nm,0.8s,baz=152,slow=7.3,SNR=4.2							

NEIC ***25*** *10:41:16.9±0.0, 16°.35N×98°.23W, h13km, MD4.0(MEX), After MEX.*

MEX 25 10:41:16.9±0.7, 16°.35N×98°.23W, h13km±5km, MD4.0, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.11**	**67**	*i* P	Pg	10 41 18.9	-1.1
PNIG				*i* S	Sg	10 41 21.9	-0.4
PNIG	**Pinotepa**	**0.11**	**67**	*i* P	Pg	10 41 18.9	-1.1
PNIG				*i* S	Sg	10 41 21.9	-0.4
TLIG	**Tlapa**	**1.25**	**345**	*e*P	Pn	10 41 36.6	-3.5
TLIG				*e*S	Sb	10 41 51.0	-5.4
TLIG	**Tlapa**	**1.25**	**345**	*e*Pn	Pn	10 41 36.9	-3.3
TLIG	**Tlapa**	**1.25**	**345**	*e*P	Pn	10 41 36.6	-3.5
TLIG				*e*S	Sb	10 41 51.0	-5.4
VHO	**Vista Hermosa**	**1.60**	**63**	*e*P	Pn	10 41 41.5	-3.6
VHO				*e*S	Sn	10 42 01.0	-4.7
VHO	**Vista Hermosa**	**1.60**	**63**	*e*P	Pn	10 41 41.5	-3.6
VHO				*e*S	Sn	10 42 01.0	-4.7
CAIG	**El Cayaco**	**2.07**	**290**	*e*P	Pn	10 42 12.5	-4.5
CAIG				*e*S	Sn	10 42 12.5	-4.5
CAIG	**El Cayaco**	**2.07**	**290**	*e*P	Pn	10 41 48.5	-2.9
CAIG				*e*S	Sn	10 42 12.5	-4.5

ISCJB ***25*** *10:46:54.6±0.9, 31°.85S±0°.03×69°.70W±0°.05, h120km±8km, Error ellipse: s-maj=7.4km s-min=5.1km az=170.9*
GUC ***25*** *10:46:54.4±0.6, 31°.83S×69°.96W, h122km±14km, ML3.0*
SJA ***25*** *10:46:55.2±0.8, 31°.84S×69°.62W, h112km±4km, ML2.9, MW3.3*

ISC 25 10:46:55.0±1.7, 31°.85S±0°.04×69°.72W±0°.05, h117km±13km, n17, σ0°.68/29, 4C-4D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTLS	**Leoncito**	**0.37**	**83**	*e*P	**Pn**	**10 47 12.2**	**-0.1**
RTLS				*e*S	**Sn**	**10 47 24.9**	**-0.3**
RTLS				IAML		10 47 26.0	
	comp=Z,254nm,0.2s						
AUSP	**Uspallata**	**0.47**	**143**	⇓*e*P	**Pn**	**10 47 12.9**	**+0.1**
AUSP				*e*S	**Sn**	**10 47 26.2**	**-0.1**
RTCV	**Cerro Valdivia**	**1.01**	**91**	*e*P	**Pn**	**10 47 16.9**	**0.0**
RTCV				*e*S	**Sn**	**10 47 32.6**	**-0.9**
ASAL	**Salagasta**	**1.06**	**135**	*e*P	**Pn**	**10 47 17.8**	**+0.4**
ASAL				*e*S	**Sn**	**10 47 34.3**	**-0.2**
ARCO	**CERRO ARCO**	**1.20**	**146**	*e*P	**Pn**	**10 47 19.5**	**+0.5**
ARCO				IAML		10 47 39.7	
	comp=Z,203nm,0.2s						
AMOG	**MOGNA**	**1.39**	**50**	*e*P	**Pn**	**10 47 21.2**	**+0.2**
AAGR	**Agrelo**	**1.45**	**149**	*e*P	**Pn**	**10 47 22.4**	**+0.7**
AAGR				*e*S	**Sn**	**10 47 42.0**	**+0.2**
PEL	**Peldehue**	**1.53**	**212**	⇑*i*P	**Pn**	**10 47 22.0**	**-0.6**
PEL				*i* S	**Sn**	**10 47 43.6**	**0.0**
FCH	**Farellones**	**1.55**	**198**	⇑*i*P	**Pn**	**10 47 23.7**	**+0.5**
FCH				*i* S	**Sn**	**10 47 45.9**	**+1.3**
FCH				IAML		10 47 46.7	
	comp=E,243nm,0.2s						
ROCH	**El Roble**	**1.56**	**224**	⇓*i*P	**Pn**	**10 47 22.4**	**-0.8**
ROCH				IAML		10 47 44.8	
	comp=N,202nm,0.4s						
AROD	**Rodeo**	**1.69**	**7**	*e*P	**Pn**	**10 47 25.7**	**+0.9**
AROD				*e*S	**Sn**	**10 47 48.8**	**+1.3**
ACDV	**Cuesta del Vie**	**1.75**	**17**	*e*P	**Pn**	**10 47 26.0**	**+0.6**
ACDV				⇓*e*S	**Sn**	**10 47 48.8**	**+0.2**
GO04	**Tololo Observa**	**1.91**	**331**	⇑*i*P	**Pn**	**10 47 27.0**	**-0.4**
GO04				*i* S	**Sn**	**10 47 51.7**	**-0.4**
TLL	**Tololo Astrono**	**1.91**	**331**	⇑*i*P	**Pn**	**10 47 27.2**	**-0.3**
TLL				*i* S	**Sn**	**10 47 51.6**	**-0.7**
TLL				IAML		10 47 55.0	
	comp=N,161nm,0.7s						
AVIZ	**Vizcacheras**	**1.92**	**148**	*e*P	**Pn**	**10 47 27.3**	**-0.1**
LMEL	**Las Melosas**	**2.04**	**191**	⇓*i*P	**Pn**	**10 47 29.4**	**+0.5**
LMEL				IAML		10 48 00.6	
	comp=N,105nm,0.3s						
ACAN	**Cantantal**	**2.19**	**102**	*e*P	**Pn**	**10 47 30.5**	**-0.2**
ACAN				*e*S	**Sn**	**10 47 56.5**	**-1.7**

IDC 25 10:54:37.0±2.1, 9°.03N×93°.55E, h0km, mb3.4/4, mb1 3.6/5, mb1mx3.3/71, mbtmp3.4/5, ML4.1/1, Error ellipse: s-maj=80.3km s-min=22.6km az=64.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**10.73**	**29**	Pn	Pn	10 57 12.4	+0.3
	0.4nm,0.3s,baz=214,slow=15,SNR=4.9						
MKAR	**Makanchi Array**	**38.84**	**348**	P	P	11 02 04.3	+0.5
	0.1nm,0.5s,baz=151,slow=7.4,SNR=2.5						
ZALV	**Zalesovo Beam**	**45.34**	**353**	P	P	11 02 55.7	-1.1
	1.3nm,0.5s,baz=183,slow=8.9,SNR=4.4						
WRA	**Warramunga Arr**	**49.41**	**126**	P	P	11 03 29.2	+0.2
	0.2nm,0.5s,baz=306,slow=8.5,SNR=4.1						
ASAR	**Alice Springs**	**51.10**	**130**	P	P	11 03 41.5	-0.3
	0.3nm,0.7s,baz=303,slow=7.0,SNR=4.7						

IDC ***25*** *11:01:33.2±0.5, 18°.01N×147°.63E, h0km, mb4.2/27, mb1 4.4/29, mb1mx4.2/63, mbtmp4.3/29, ML4.7/2, MS3.2/3, Ms1 3.2/3, ms1mx2.7/59, Error ellipse: s-maj=17.2km s-min=12.2km az=86.0*
ISCJB ***25*** *11:01:38.9±0.3, 17°.98N±0°.06×147°.39E±0°.07, h53km, mb4.4/46, MS3.1/2, Error ellipse: s-maj=10.0km s-min=8.0km az=3.7*
NEIC ***25*** *11:01:38.5±0.2, 18°.00N×147°.51E, h35km, mb4.6/20, Error ellipse: s-maj=7.3km s-min=5.9km az=89.0*

ISC 25 11:01:40.5±0.5, 18°.04N±0°.06×147°.3E±0°.1, h53km, n63, σ1s59/62, mb4.3/46, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**4.99**	**208**	Pn	**Pn**	**11 02 52.7**	**-0.2**
	29nm,0.3s,baz=125,slow=3.4,SNR=18						
GUMO				Sn	**Sn**	**11 03 45.6**	**-3.7**
	45nm,0.3s,baz=9.3,slow=22,SNR=9.3						
GUMO				LR	LR	11 04 55.9	
	comp=Z,190nm,18.1s,baz=58,slow=40						
CBIJ	**Chichi jima**	**10.16**	**333**	Pn	**Pn**	**11 04 02.7**	**-1.0**
CBIJ				Sn	**Sn**	**11 05 51.0**	**-5.2**
JCJ	**Chichijima**	**10.16**	**333**	Pn	**Pn**	**11 04 02.7**	**-1.0**
	4.8nm,0.3s,baz=301,slow=23,SNR=5.8						
JCJ				Sn	**Sn**	**11 05 51.0**	**-5.2**
	baz=301,slow=19						
H11S3	**WAKE ISLAND Hy**	**18.45**	**86**	T	T	11 24 55.7	
	baz=274						
H11S1	**WAKE ISLAND Hy**	**18.46**	**86**	T	T	11 24 40.7	
	baz=274,SNR=4.3						
H11S2	**WAKE ISLAND Hy**	**18.47**	**86**	T	T	11 24 49.6	
	baz=274						
MJAR	**Matsushiro Arr**	**20.09**	**338**	P	**P**	**11 06 10.6**	**+0.9**
	2.6nm,0.8s,baz=168,slow=11,SNR=4.8						
MAJO	**Matsushiro**	**20.09**	**338**	*e*P	**P**	**11 06 09.9**	**+0.2**
	7.6nm,0.5s						
DAV	**Davao City (W)**	**23.78**	**245**	LR	LR	11 15 37.6	
	comp=Z,83nm,21.6s,baz=332,slow=35						

KSRS	**Korea Array**	**25.73**	**323**	P		**P**	**11 07 08.8**	**+2.8**
	3.7nm,0.8s,baz=150,slow=8.0,SNR=10							
KSRS				LR		LR	11 17 28.6	
	comp=Z,56nm,19.1s,baz=330,slow=37							
KSAR	**Wonju Array Be**	**25.75**	**323**	P		**P**	**11 07 08.8**	**+2.7**
ASAJ	**Asahikawa**	**26.29**	**352**	P		**P**	**11 07 12.1**	**+1.1**
	3.3nm,0.7s,baz=38,slow=16,SNR=4.7							
CTA	**Charters Tower**	**37.90**	**192**	P		**P**	**11 08 52.2**	**-0.5**
	2.8nm,0.8s,baz=351,slow=6.5,SNR=4.2							
WRA	**Warramunga Arr**	**39.82**	**199**	P		**P**	**11 09 08.9**	**+0.1**
	2.5nm,0.6s,baz=24,slow=8.4,SNR=38							
ASAR	**Alice Springs**	**43.46**	**198**	P		**P**	**11 09 38.5**	**0.0**
	1.3nm,0.6s,baz=24,slow=8.8,SNR=27							
SONM	**Songino Array**	**44.59**	**321**	P		**P**	**11 09 49.3**	**+1.8**
	0.9nm,0.4s,baz=141,slow=7.9,SNR=6.7							
SEY	**Seymchan**	**44.99**	**3**	P		**P**	**11 09 51.4**	**+1.1**
	1.0nm,0.7s,baz=209,slow=22,SNR=4.8							
CMAR	**Chiang Mai Arr**	**45.79**	**278**	P		**P**	**11 09 59.5**	**+2.2**
	0.5nm,0.3s,baz=74,slow=7.6,SNR=3.9							
TLY	**Talaya**	**47.96**	**325**	P		**P**	**11 10 14.7**	**+1.0**
	1.2nm,0.4s,baz=153,slow=4.5,SNR=3.5							
STKA	**Stephens Creek**	**49.93**	**186**	P		**P**	**11 10 28.2**	**-0.8**
	3.1nm,0.9s,baz=17,slow=9.8,SNR=4.9							
BBOO	**Buckleboo**	**51.69**	**192**	*e*P		**P**	**11 10 41.4**	**-0.8**
	7.6nm,0.9s							
ZALV	**Zalesovo Beam**	**59.44**	**323**	P		**P**	**11 11 39.0**	**+1.4**
	5.0nm,0.8s,baz=110,slow=7.0,SNR=11							
MKAR	**Makanchi Array**	**59.99**	**314**	P		**P**	**11 11 43.8**	**+2.1**
	1.0nm,0.7s,baz=91,slow=9.0,SNR=7.6							
KTH	**Kantishna Hill**	**61.55**	**27**	*e*P		**P**	**11 11 51.1**	**-0.8**
	4.2nm,1.0s							
BPAW	**Bear Paw Mtn.**	**61.69**	**26**	*e*P		**P**	**11 11 52.1**	**-0.8**
	0.7nm,0.8s							
KURK	**Kurchatov**	**62.75**	**318**	P		**P**	**11 12 02.2**	**+2.0**
KURBB	**Kurchatov Arra**	**62.80**	**318**	P		**P**	**11 12 02.2**	**+1.7**
	3.0nm,0.5s,baz=96,slow=7.2,SNR=20							
ILAR	**Eielson Array**	**63.58**	**26**	P		**P**	**11 12 03.4**	**-2.0**
	2.1nm,0.9s,baz=257,slow=5.7,SNR=19							
BVAR	**Borovoye Array**	**67.93**	**321**	P		**P**	**11 12 35.5**	**+1.8**
	4.2nm,0.7s,baz=90,slow=7.4,SNR=24							
KKAR	**Karatay Array**	**68.33**	**310**	*e*P		**P**	**11 12 35.6**	**-0.8**
	1.9nm,0.7s							
INK	**Inuvik**	**69.39**	**23**	P		**P**	**11 12 42.0**	**-0.5**
	2.6nm,0.7s,baz=267,slow=7.5,SNR=16							
ARU	**Arti**	**74.46**	**325**	P		**P**	**11 13 14.7**	**+1.6**
	4.8nm,0.5s,baz=67,slow=12,SNR=6.0							
ABKAR	**Akbulak array**	**74.83**	**317**	*e*P		**P**	**11 13 15.8**	**+0.5**
	1.4nm,0.5s							
AKTO	**Aktyubinsk**	**75.84**	**319**	P		**P**	**11 13 23.0**	**+1.9**
	1.1nm,0.6s,baz=62,slow=12,SNR=4.2							
YKA	**Yellowknife Ar**	**77.87**	**28**	P		**P**	**11 13 31.5**	**-0.7**
	4.5nm,0.6s,baz=285,slow=5.5,SNR=115							
NEW	**Newport**	**80.39**	**42**	*e*P		**P**	**11 13 45.8**	**-0.7**
	7.4nm,1.0s							
WVOR	**Wild Horse Val**	**80.99**	**48**	*e*P		**P**	**11 13 48.2**	**-1.6**
	3.0nm,1.0s							
BMO	**Blue Mountains**	**81.24**	**46**	*e*P		**P**	**11 13 50.6**	**-0.5**
	25nm,1.9s							
NVAR	**Mina Array Bea**	**82.37**	**52**	P		**P**	**11 13 56.7**	**-0.6**
	2.2nm,0.7s,baz=267,slow=5.9,SNR=19							
MFID	**Camas Ranch**	**82.68**	**47**	*e*P		**P**	**11 13 56.5**	**-2.1**
	2.1nm,0.6s							
ARCES	**ARCESS Array B**	**83.57**	**342**	P		**P**	**11 14 03.2**	**+0.6**
	1.7nm,0.5s,baz=46,slow=2.2,SNR=6.0							
BOZ	**Bozeman (W)**	**84.81**	**44**	*e*P		**P**	**11 14 09.2**	**-0.3**
	2.6nm,1.1s							
HVU	**Hansel Valley**	**85.34**	**48**	*e*P		**P**	**11 14 12.4**	**+0.1**
	22nm,1.9s							
YMR	**Madison River**	**85.57**	**44**	*e*P		**P**	**11 14 13.8**	**+0.3**
	13nm,1.0s							
DUG	**Dugway, Tooele**	**85.85**	**49**	*e*P		**P**	**11 14 14.5**	**-0.3**
	5.0nm,1.4s							
H17A	**Grant Village**	**85.93**	**45**	*e*P		**P**	**11 14 17.3**	**+2.0**
	4.3nm,0.9s							
RLMT	**Red Lodge**	**86.53**	**44**	*e*P		**P**	**11 14 18.1**	**-0.2**
	4.0nm,0.9s							
JLU	**Jordanelle**	**86.69**	**48**	*e*P		**P**	**11 14 19.1**	**0.0**
	2.7nm,0.9s							
MSU	**Marysvale**	**86.90**	**51**	*e*P		**P**	**11 14 20.0**	**-0.2**
PDAR	**Pinedale Array**	**87.22**	**46**	P		**P**	**11 14 20.7**	**-0.9**
	0.6nm,0.6s,baz=257,slow=2.3,SNR=7.3							
KBZ	**Khabaz**	**87.66**	**315**	P		**P**	**11 14 24.2**	**+0.9**
	1.5nm,0.6s,baz=155,slow=5.2,SNR=5.4							
LAO	**LASA Array**	**87.87**	**41**	*e*P		**P**	**11 14 24.4**	**-0.1**
	8.9nm,1.1s							
SRU	**San Rafael Swe**	**87.89**	**50**	*e*P		**P**	**11 14 24.1**	**-0.7**
	4.3nm,0.7s							
FINES	**FINESS Array B**	**88.10**	**336**	P		**P**	**11 14 24.7**	**-0.4**
	2.2nm,0.6s,baz=68,slow=5.3,SNR=5.7							
WUAZ	**Wupatki**	**88.56**	**53**	*e*P		**P**	**11 14 27.7**	**-0.3**
	4.0nm,1.0s							
PV01	**Paradox Valley**	**89.67**	**50**	*e*P		**P**	**11 14 32.4**	**-0.9**
	350nm,0.8s							
ULM	**Lac du Bonnet**	**92.29**	**35**	P		**P**	**11 14 44.1**	**-0.8**
	1.1nm,0.8s,baz=243,slow=2.3,SNR=3.0							
BRTR	**Keskin Array B**	**95.63**	**315**	P		**P**	**11 15 00.6**	**-0.1**
	0.7nm,0.6s,baz=108,slow=4.0,SNR=4.5							
TORD	**Torodi Ar. Bea**	**134.02**	**310**	PKP		**PKPdf**	**11 20 54.5**	**+1.6**
	0.2nm,0.6s,baz=30,slow=2.5,SNR=3.0							
LPAZ	**La Paz**	**146.16**	**92**	PKPbc		**PKPab**	**11 21 16.9**	**-0.3**
	4.1nm,0.6s,baz=334,slow=1.7,SNR=15							
SAML	**Samuel**	**149.08**	**77**	*e*PKPbc		**PKPbc**	**11 21 23.3**	**-0.5**
SIV	**San Ignacio**	**152.83**	**90**	PKPbc		**PKPbc**	**11 21 32.4**	**-0.2**
	baz=230,slow=6.7							
CPUP	**Villa Florida**	**155.81**	**114**	PKPab		**PKPab**	**11 21 55.4**	**-0.7**
	1.5nm,0.8s,baz=90,slow=1.0,SNR=3.1							

MEX 25 11:13:53.5±0.8, 16°.98N×100°.72W, h15km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.44**	**81**	*e*P	Pg	11 14 00.7	-1.6
CAIG				*e*S	Sg	11 14 06.7	-1.6
ACX	**Acapulco**	**0.83**	**97**	*e*P	Pb	11 14 07.5	-2.2
ACX				*e*S	Sg	11 14 17.8	-2.9
ZIIG	**Zihuatanejo**	**0.95**	**312**	*e*P	Pb	11 14 08.4	-3.2
ZIIG				*e*S	Sb	11 14 19.9	-4.1
ARIG	**Puente Sto Nin**	**1.34**	**15**	*e*P	Pn	11 14 14.3	-3.5
ARIG				*e*S	Sn	11 14 29.6	-5.8
MEIG	**Mezcala**	**1.41**	**48**	*e*P	Pn	11 14 15.8	-3.0
MEIG				*e*S	Sn	11 14 32.1	-5.1
PLIG	**Platanillo**	**1.83**	**39**	*e*P	Pn	11 14 21.4	-3.1
PLIG				*e*S	Sn	11 14 43.0	-4.4
TLIG	**Tlapa**	**2.14**	**74**	*e*P	Pn	11 14 26.7	-2.1
TLIG				*e*S	Sn	11 14 52.4	-2.8

IDC 25 11:20:03.0±1.0, 12°.88S×99°.40W, h0km, mb3.9/7, mb1 4.2/7, mb1mx3.9/39, mbtmp3.9/7, MS3.1/2, Ms1 3.1/2, ms1mx2.8/32, Error ellipse: s-maj=114.3km s-min=24.8km az=80.0, Southwest of Galapagos Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**30.43**	**100**	LR	LR	11 35 20.9	
	comp=Z,25nm,21.6s,baz=354,slow=30						
SDV	**Santo Domingo**	**35.84**	**54**	LR	LR	11 40 21.7	
	comp=Z,36nm,20.5s,baz=220,slow=34						
TXAR	**Lajitas Array**	**42.17**	**354**	P	P	11 27 58.9	+1.3
	1.4nm,0.8s,baz=172,slow=9.9,SNR=16						
NVAR	**Mina Array Bea**	**54.03**	**342**	P	P	11 29 30.1	+0.7
	1.2nm,0.8s,baz=172,slow=9.1,SNR=8.6						
PDAR	**Pinedale Array**	**56.16**	**351**	P	P	11 29 44.1	-0.6
	0.6nm,0.8s,baz=157,slow=8.0,SNR=5.0						
ULM	**Lac du Bonnet**	**62.94**	**3**	P	P	11 30 30.1	-1.0
	3.7nm,0.9s,baz=168,slow=4.9,SNR=6.5						
YKA	**Yellowknife Ar**	**76.07**	**353**	P	P	11 31 51.7	-0.3
	0.5nm,0.8s,baz=160,slow=5.3,SNR=6.8						
SNAA	**Sanae**	**79.92**	**161**	P	P	11 32 14.4	+0.8
	1.6nm,0.8s,baz=323,slow=10,SNR=3.8						
ILAR	**Eielson Array**	**85.28**	**342**	P	P	11 32 41.5	+0.1
	1.5nm,0.9s,baz=147,slow=4.2,SNR=10						
WRA	**Warramunga Arr**	**117.87**	**239**	PKP	PKPdf	11 38 51.5	-1.0
	0.4nm,0.9s,baz=108,slow=2.7,SNR=3.4						
MKAR	**Makanchi Array**	**146.17**	**358**	PKPbc	PKPdf	11 39 43.7	-0.8
	1.4nm,0.7s,baz=346,slow=2.2,SNR=7.2						

BEO ***25*** *11:24:04.7±0.8, 44°.01N×16°.98E, h0km*
CSEM ***25*** *11:24:05.1±0.2, 44°.03N×17°.14E, h2km, ML2.5, Error ellipse: s-maj=6.2km s-min=4.0km az=35.0*

ISC 25 11:24:05.7±1.1, 44°.04N±0°.03×17°.11E±0°.02, h6km±10km, n38, σ1s11/65, 1D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLY	**Banja Luka**	**0.71**	**4**	*e*Pg	**Pg**	**11 24 19.4**	**0.0**
BLY				*e*Sg	**Sg**	**11 24 29.3**	**+0.7**
BLY	**Banja Luka**	**0.71**	**4**	⇓*i*Pg	**Pg**	**11 24 18.6**	**-0.8**
BLY				*e*Sg	**Sg**	**11 24 28.2**	**-0.4**
STON	**Ston**	**1.24**	**160**	*e*Pn	**Pg**	**11 24 27.4**	**-2.0**
STON				Sn	**Sn**	**11 24 47.0**	**+0.3**
STON	**Ston**	**1.24**	**160**	*e*Pn	**Pg**	**11 24 27.4**	**-2.0**
STON	**Ston**	**1.24**	**160**	*e*Pg	**Pg**	**11 24 28.5**	**-0.9**
STON				*e*Sg	**Sn**	**11 24 46.5**	**-0.1**
HAPS	**Han Pijesak,Bl**	**1.33**	**87**	*e*Pg	**Pg**	**11 24 29.8**	**-1.3**
HAPS				*e*Sg	**Sn**	**11 24 49.7**	**+0.8**
HAPS	**Han Pijesak,Bl**	**1.33**	**87**	*e*Pg	**Pg**	**11 24 29.8**	**-1.3**
HAPS				*e*Sg	**Sg**	**11 24 48.2**	**-0.1**
BRY	**Bratogost**	**1.54**	**137**	*e*Pn	**Pn**	**11 24 34.1**	**+0.3**
UPM	**Unac-Piva**	**1.55**	**122**	*e*Pn	**Pb**	**11 24 34.6**	**-0.2**
BBLS	**Lazići**	**1.66**	**95**	*e*Pg	**Pn**	**11 24 36.3**	**+0.8**
BBLS				*e*Sg	**Sg**	**11 25 00.5**	**+1.4**
BBLS	**Lazići**	**1.66**	**95**	*e*Pn	**Pn**	**11 24 36.0**	**+0.5**
BBLS	**Lazići**	**1.66**	**95**	*e*Pg	**Pn**	**11 24 36.3**	**+0.8**
BBLS				*e*Sn	**Sn**	**11 24 58.4**	**+1.2**
BBLS				*e*Sg	**Sg**	**11 25 00.5**	**+1.4**
NVLJ	**Novalja**	**1.69**	**289**	*i* Pn	**Pg**	**11 24 37.6**	**-0.6**
NVLJ				Sn	**Sg**	**11 25 01.6**	**+1.6**
NVLJ	**Novalja**	**1.69**	**289**	*i* Pn	**Pg**	**11 24 37.5**	**-0.6**
NVLJ				Sn	**Sg**	**11 25 01.6**	**+1.6**
TEKS	**Tekeris**	**1.81**	**73**	*e*Pg	**Pb**	**11 24 39.3**	**+0.1**
TEKS				*e*Sg	**Sg**	**11 25 06.0**	**+2.2**
TEKS	**Tekeris**	**1.81**	**73**	*e*Pn	**Pn**	**11 24 37.2**	**-0.2**
TEKS	**Tekeris**	**1.81**	**73**	*e*Pg	**Pb**	**11 24 39.3**	**+0.1**
TEKS				*e*Sn	**Sn**	**11 25 00.6**	**-0.1**
TEKS				*e*Sg	**Sg**	**11 25 06.0**	**+2.2**
OZLJ	**Ozalj**	**1.96**	**324**	*i* Pn	**Pn**	**11 24 40.2**	**+0.6**
OZLJ	**Ozalj**	**1.96**	**324**	*i* Pn	**Pn**	**11 24 40.1**	**+0.6**
BOJS	**Bojanci**	**1.98**	**319**	*i* Pn	**Pn**	**11 24 40.4**	**+0.7**
BOJS				*i* Sn	**Sb**	**11 25 06.3**	**-0.7**
BOJS	**Bojanci**	**1.98**	**319**	Pn	**Pn**	**11 24 40.4**	**+0.7**
BOJS				*i* Sn	**Sb**	**11 25 06.3**	**-0.7**
DIVS	**Divibare**	**2.08**	**87**	*e*Pg	**Pb**	**11 24 44.3**	**+0.5**
DIVS				*e*Sg	**Sg**	**11 25 13.8**	**+1.5**
DIVS	**Divibare**	**2.08**	**87**	*e*Pn	**Pn**	**11 24 41.7**	**+0.5**
DIVS	**Divibare**	**2.08**	**87**	*e*Pg	**Pb**	**11 24 44.3**	**+0.5**
DIVS				*e*Sg	**Sg**	**11 25 13.8**	**+1.5**
CRES	**Cresnjev**	**2.14**	**327**	*i* Pn	**Pn**	**11 24 42.6**	**+0.7**
CRES				*i* Sn	**Sn**	**11 25 09.7**	**+0.8**
CRES	**Cresnjev**	**2.14**	**327**	*e*Pn	**Pn**	**11 24 41.7**	**-0.3**
CRES				*i* Sn	**Sn**	**11 25 09.7**	**+0.8**
SJES	**Sjenica**	**2.22**	**110**	*e*Pg	**Pb**	**11 24 45.2**	**-1.0**
FGSL	**Fruska Gora**	**2.23**	**59**	*e*Pg	**Pb**	**11 24 47.3**	**+0.9**
FGSL				*e*Sg	**Sg**	**11 25 18.7**	**+1.5**
FRGS	**Fruska Gora**	**2.23**	**59**	*e*Pg	**Pb**	**11 24 47.3**	**+0.9**
FRGS				*e*Sg	**Sg**	**11 25 18.7**	**+1.5**
IVAS	**Ivanjica**	**2.25**	**101**	*e*Pg	**Pb**	**11 24 47.0**	**+0.3**
IVAS				*e*Sg	**Sg**	**11 25 19.0**	**+1.1**
IVAS	**Ivanjica**	**2.25**	**101**	*e*Pg	**Pb**	**11 24 47.0**	**+0.3**
IVAS				*e*Sg	**Sg**	**11 25 19.0**	**+1.1**
MORH	**M¯‡r¡gy, Hung**	**2.43**	**26**	*e*Pn	**Pn**	**11 24 43.4**	**-2.6**
MORH				*e*Sn	**Sg**	**11 25 22.6**	**-1.2**
MORH	**M¯‡r¡gy, Hung**	**2.43**	**26**	*e*Pn	**Pn**	**11 24 43.4**	**-2.6**
**K

XAN				pmax	pmax		
	comp=Z,5.0nm,1.2s						
NIL	**Nilore**	**30.77**	**326**	*eP*	**P**	**11 36 56.7**	**+0.9**
	comp=Z,11nm,0.9s						
NJ2	**Nanjing**	**32.71**	**42**	*eP*	**P**	**11 37 13.0**	**+0.2**
NJ2				pmax	pmax		
	comp=Z,25nm,0.8s						
KSH	**Kashi**	**34.13**	**335**	P	**P**	**11 37 24.5**	**-0.7**
KSH				pmax	pmax		
	comp=Z,17nm,0.6s						
TNTI	**Ternate**	**34.63**	**102**	*eP*	**P**	**11 37 30.4**	**+0.6**
	comp=Z,6.6nm,0.5s						
WMQ	**Urumqi**	**34.96**	**353**	P	**P**	**11 37 34.0**	**+1.8**
WMQ				pP	pP	11 37 38.0	-1.2
WMQ				sP	sP	11 37 40.3	-1.7
WMQ				pmax	pmax		
	comp=Z,21nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,130nm,3.9s						
WMQ				LR	LR		
	comp=N,61nm,18.7s						
WMQ				LR	LR		
	comp=Z,49nm,23.7s						
TARG	**Taragay, Kyrgy**	**35.35**	**339**	*eP*	**P**	**11 37 36.3**	**+0.3**
	comp=Z,6.5nm,0.8s						
HHC	**Hu-ho-hao-te**	**35.41**	**24**	*eP*	**P**	**11 37 37.3**	**+1.1**
HHC				pmax	pmax		
	comp=Z,32nm,0.9s						
HHC				pmax	pmax		
	comp=Z,69nm,4.5s						
KDJ	**Kajisay**	**35.92**	**339**	*eP*	**P**	**11 37 41.0**	**+0.3**
	comp=Z,6.9nm,0.8s						
UCH	**Uchtor**	**37.01**	**336**	P	**P**	**11 37 51.5**	**+1.2**
	SNR=6.7						
KBK	**Karagaybulak**	**37.20**	**337**	P	**P**	**11 37 53.3**	**+1.7**
	SNR=8.2						
AML	**Almayashu**	**37.26**	**335**	P	**P**	**11 37 53.6**	**+1.3**
	SNR=18						
AAK	**Ala-Archa**	**37.36**	**337**	P	**P**	**11 37 55.0**	**+2.1**
	SNR=5.7						
AAK	**Ala-Archa**	**37.36**	**337**	*eP*	**P**	**11 37 53.7**	**+0.7**
	comp=Z,5.6nm,0.8s						
USP	**Ospenovka**	**37.89**	**337**	P	**P**	**11 37 58.4**	**+1.1**
	SNR=5.9						
MK01	**Makanchi Array**	**38.74**	**348**	*eP*	**P**	**11 38 04.0**	**-0.3**
MK31	**Makanchi Array**	**38.77**	**348**	*eP*	**P**	**11 38 04.3**	**-0.3**
MKAR	**Makanchi Array**	**38.77**	**348**	P	**P**	**11 38 04.3**	**-0.3**
	comp=Z,1.1nm,0.7s,baz=163,slow=8.9,SNR=8.0						
MKAR	**Makanchi Array**	**38.77**	**348**	*eP*	**P**	**11 38 04.3**	**-0.3**
	comp=Z,9.5nm,0.8s						
KK31	**Karatay Array**	**39.42**	**333**	*eP*	**P**	**11 38 09.8**	**-0.2**
KKAR	**Karatay Array**	**39.42**	**333**	*eP*	**P**	**11 38 09.8**	**-0.2**
SONM	**Songino Array**	**40.09**	**13**	P	**P**	**11 38 14.9**	**-0.8**
	comp=Z,0.8nm,0.8s,baz=201,slow=7.9,SNR=4.6						
KSRS	**Korea Array**	**41.92**	**42**	LR	LR	11 56 38.2	
	comp=Z,19nm,18.6s,baz=140,slow=37						
GEYT	**Alibeck**	**42.92**	**318**	P	**P**	**11 38 41.4**	**+2.4**
	comp=Z,4.1nm,0.4s,baz=141,slow=7.3,SNR=8.9						
GEYT				LR	LR	11 59 10.5	
	comp=Z,24nm,18.0s,baz=265,slow=40						
KURBB	**Kurchatov Arra**	**43.22**	**346**	P	**P**	**11 38 41.0**	**-0.1**
	comp=Z,1.6nm,0.8s,baz=167,slow=6.9,SNR=7.6						
KURK	**Kurchatov**	**43.29**	**346**	P	**P**	**11 38 41.0**	**-0.6**
ZAA0	**Zalesovo Array**	**45.27**	**353**	*eP*	**P**	**11 38 57.2**	**-0.3**
	comp=Z,9.1nm,0.8s						
ZALV	**Zalesovo Beam**	**45.27**	**353**	P	**P**	**11 38 57.6**	**+0.2**
	comp=Z,10nm,0.7s,baz=178,slow=8.7,SNR=32						
ZALV	**Zalesovo Beam**	**45.27**	**353**	*eP*	**P**	**11 38 57.4**	**0.0**
BVAR	**Borovoye Array**	**47.65**	**341**	P	**P**	**11 39 15.6**	**-0.6**
	comp=Z,0.9nm,0.5s,baz=134,slow=8.5,SNR=8.4						
RAYN	**Ar Rayn**	**48.08**	**293**	*eP*	**P**	**11 39 22.0**	**+1.9**
	comp=Z,4.4nm,1.0s						
ABKAR	**Akbulak array**	**48.89**	**331**	*eP*	**P**	**11 39 26.2**	**+0.4**
	comp=Z,25nm,0.6s						
WRA	**Warramunga Arr**	**49.43**	**126**	P	**P**	**11 39 26.3**	**-4.1**
	comp=Z,0.7nm,0.8s,baz=305,slow=8.5,SNR=3.9						
ATD	**Arta Tunnel**	**49.92**	**277**	LR	LR	11 58 02.6	
	comp=Z,73nm,20.1s,baz=68,slow=33						
AKTO	**Aktyubinsk**	**50.60**	**331**	P	**P**	**11 39 37.9**	**-1.0**
	comp=Z,1.0nm,0.5s,baz=94,slow=6.7,SNR=4.7						
ASAR	**Alice Springs**	**51.13**	**130**	P	P	11 39 38.5	-4.8
	comp=Z,0.5nm,0.9s,baz=308,slow=6.9,SNR=4.1						
GNI	**Garni**	**53.19**	**314**	LR	LR	12 04 34.0	
	comp=Z,20nm,21.5s,baz=116,slow=38						
BRTR	**Keskin Array B**	**61.21**	**310**	P	**P**	**11 40 54.0**	**-1.2**
	comp=Z,1.0nm,0.7s,baz=108,slow=7.9,SNR=4.4						
TIXI	**Tiksi**	**66.14**	**12**	*eP*	**P**	**11 41 24.7**	**-2.3**
	comp=Z,3.6nm,0.6s						
FINES	**FINESS Array B**	**71.37**	**332**	P	**P**	**11 41 58.9**	**-0.8**
	comp=Z,1.8nm,0.8s,baz=79,slow=4.1,SNR=7.4						
ARCES	**ARCESS Array B**	**73.92**	**340**	P	**P**	**11 42 14.0**	**-0.8**
	comp=Z,1.3nm,0.6s,baz=96,slow=6.1,SNR=11						
GEA0	**GERESS Array S**	**76.54**	**318**	*eP*	**P**	**11 42 30.2**	**-0.2**
GERES	**GERESS Array B**	**76.54**	**318**	P	**P**	**11 42 29.0**	**-1.4**
	comp=Z,1.3nm,0.7s,baz=98,slow=4.0,SNR=8.1						
HFS	**Hagfors**	**77.12**	**330**	P	**P**	**11 42 32.1**	**-1.2**
	comp=Z,1.7nm,0.5s,baz=123,slow=7.3,SNR=7.4						
NB2	**NORSAR Subarra**	**78.39**	**330**	P	**P**	**11 42 39.1**	**-1.3**
	comp=Z,3.2nm,1.0s,baz=92,slow=6.2						
NOA	**NORSAR Array B**	**78.39**	**330**	P	**P**	**11 42 39.1**	**-1.3**
	comp=Z,1.6nm,0.8s,baz=92,slow=5.7,SNR=4.8						
SPITS	**Spitsbergen Ar**	**78.52**	**348**	P	**P**	**11 42 40.2**	**-0.7**
	comp=Z,1.8nm,0.5s,baz=90,slow=1.4,SNR=7.5						
EKA	**Eskdalemuir Ar**	**86.40**	**325**	P	**P**	**11 43 22.2**	**-0.2**
	comp=Z,2.8nm,0.8s,baz=93,slow=5.0,SNR=3.4						
TORD	**Torodi Ar. Bea**	**89.78**	**283**	P	**P**	**11 43 39.4**	**+0.1**
	comp=Z,0.6nm,0.6s,baz=82,slow=5.1,SNR=4.0						
TORD				LR	LR	12 25 34.7	
	comp=Z,13nm,18.7s,baz=175,slow=37						
IM3	**Indian Mountai**	**90.70**	**22**	*eP*	**P**	**11 43 41.9**	**-0.7**
ILAR	**Eielson Array**	**93.81**	**22**	P	**P**	**11 43 53.5**	**-3.4**
	comp=Z,0.6nm,0.8s,baz=295,slow=4.3,SNR=7.4						
INK	**Inuvik**	**95.97**	**16**	P	**P**	**11 44 05.3**	**-1.4**
	comp=Z,1.9nm,1.0s,baz=328,slow=4.3,SNR=3.9						
TXAR	**Lajitas Array**	**138.32**	**23**	PKP	**PKPdf**	**11 50 04.4**	**-1.8**
	comp=Z,0.2nm,0.4s,baz=32,slow=1.1,SNR=5.5						
PLCA	**Paso Flores**	**145.50**	**202**	PKPbc	**PKPdf**	**11 50 16.8**	**-1.8**
	comp=Z,2.7nm,0.8s,baz=239,slow=3.7,SNR=4.2						

*NIED **25** 11:40:00,39.°80N×142.°40E,h5km,Mw3.9 Best double couple: M0 6.88000×10^14 NP1:ϕ=318.00000°,δ37.00000°, λ43.00000°. NP2:ϕ=192.00000°,δ66.00000°,λ119.00000°.*
*JMA **25** 11:40:09.8,39.°79N×142.°37E,h22km±1km,M3.9*
*IDC **25** 11:40:09.1±1.1,39.°58N×142.°17E,h0km,mb3.7/10, mb1 3.8/11,mb1mx3.6/71,mbtmp3.7/11,ML3.0/1,MS2.7/6, Ms1 2.7/6,ms1mx2.5/65,Error ellipse: s-maj=25.6km s-min=23.3km az=142.0*
*ISCJB **25** 11:40:10.4±1.3,39.°78N±0.°03×142.°34E±0.°09,h15km±8km, mb3.7/11,MS2.8/2, Error ellipse: s-maj=11.1km s-min=5.7km az=7.5*
ISC 25 11:40:10.4±2.3,39.°76N±0.°06×142.°30E±0.°08,h5km±13km, n32,σ1°61/30,mb3.8/11,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JTH	**Tanohata**	**0.38**	**298**	P		**Pg**	**11 40 18.5**	**+0.6**
JTH				S		**Sg**	**11 40 24.6**	**+1.7**
MIYJ	**Miyakonagasawa**	**0.41**	**244**	P		**Pb**	**11 40 19.4**	**-0.9**
MIYJ				S		**Sb**	**11 40 25.8**	**-1.1**
JKZ	**Kuzumaki**	**0.78**	**287**	P		**Pg**	**11 40 25.3**	**-0.2**
JKZ				*e*S		**Sg**	**11 40 36.5**	**+0.8**
JOM	**Ohasama**	**0.83**	**250**	P		**Pb**	**11 40 26.4**	**-1.0**
JOM				*e*S		**Sb**	**11 40 38.2**	**-0.6**
OFUJ	**Ofunato**	**0.84**	**216**	P		**Pb**	**11 40 26.1**	**-1.3**
OFUJ				S		**Sb**	**11 40 37.5**	**-1.5**
JANG	**Nango**	**0.86**	**316**	P		**Pg**	**11 40 25.5**	**-1.5**
JANG				*e*S		**Sg**	**11 40 36.9**	**-1.3**
JMK	**Ichinoseki**	**1.16**	**227**	P		**Pb**	**11 40 31.7**	**-1.3**
JMK				*e*S		**Sn**	**11 40 47.5**	**-2.1**
ASAJ	**Asahikawa**	**4.36**	**3**	Pn		**Pn**	**11 41 18.2**	**+0.9**
	0.6nm,0.3s,baz=196,slow=7.4,SNR=5.7							
ASAJ				Sn		**Sb**	**11 42 19.2**	**-1.2**
	0.6nm,0.3s,baz=49,slow=20,SNR=2.9							
MAT	**Matsushiro**	**4.55**	**226**	P		**Pn**	**11 41 22.4**	**+2.4**
MAT				*e*S		**Sn**	**11 42 14.0**	**+0.7**
MJAR	**Matsushiro Arr**	**4.55**	**226**	Pn		**Pn**	**11 41 22.7**	**+2.7**
	1.4nm,0.3s,baz=35,slow=12,SNR=21							
MJAR				LR		LR	11 42 46.1	
	comp=Z,21nm,20.8s,baz=25,slow=36							
JNU	**Nakatsue**	**11.33**	**238**	LR		LR	11 47 38.7	
	comp=Z,65nm,19.8s,baz=117,slow=40							
KSRS	**Korea Array**	**11.49**	**263**	LR		LR	11 46 52.8	
	comp=Z,46nm,21.7s,baz=100,slow=35							
PETK	**Petropavlovsk-**	**17.00**	**33**	LR		LR	11 51 13.8	
	comp=Z,23nm,20.3s,baz=184,slow=39							
MA2	**Magadan**	**20.55**	**12**	LR		LR	11 52 45.3	
	comp=Z,27nm,18.6s,baz=318,slow=36							
SONM	**Songino Array**	**26.95**	**299**	P		**P**	**11 45 53.2**	**+0.3**
	0.3nm,0.5s,baz=94,slow=8.7,SNR=2.4							
H11N2	**WAKE ISLAND Hy**	**29.07**	**126**	T		T	12 16 40.4	
	baz=319,slow=75,SNR=1538							
H11N1	**WAKE ISLAND Hy**	**29.07**	**126**	T		T	12 16 41.1	
	baz=319,slow=75,SNR=1524							
H11N3	**WAKE ISLAND Hy**	**29.08**	**126**	T		T	12 16 41.8	
	baz=319,slow=75,SNR=1695							
H11S1	**WAKE ISLAND Hy**	**29.87**	**128**	T		T	12 17 41.5	
	baz=321,slow=76,SNR=109							
H11S3	**WAKE ISLAND Hy**	**29.87**	**128**	T		T	12 17 42.0	
	baz=321,slow=76,SNR=62							
H11S2	**WAKE ISLAND Hy**	**29.89**	**128**	T		T	12 17 37.4	
	baz=321,slow=76,SNR=67							
ZALV	**Zalesovo Beam**	**40.65**	**310**	P		**P**	**11 47 50.5**	**-0.7**
	2.3nm,0.6s,baz=118,slow=12,SNR=2.4							
CMAR	**Chiang Mai Arr**	**42.91**	**253**	LR		LR	12 08 10.3	
	comp=Z,14nm,18.4s,baz=240,slow=39							
MKAR	**Makanchi Array**	**43.32**	**300**	P		**P**	**11 48 12.0**	**-1.2**
	0.8nm,0.8s,baz=85,slow=9.3,SNR=6.1							
KURBB	**Kurchatov Arra**	**44.92**	**306**	P		**P**	**11 48 24.7**	**-1.2**
	2.0nm,0.5s,baz=81,slow=8.5,SNR=9.0							
ILAR	**Eielson Array**	**46.83**	**34**	P		**P**	**11 48 43.0**	**+2.1**
	0.4nm,0.7s,baz=266,slow=6.9,SNR=5.7							
BVAR	**Borovoye Array**	**49.29**	**311**	P		**P**	**11 49 03.3**	**+3.3**
	0.5nm,0.4s,baz=62,slow=6.8,SNR=3.2							
INK	**Inuvik**	**51.65**	**28**	P		**P**	**11 49 19.0**	**+1.4**
	0.6nm,0.9s,baz=277,slow=9.5,SNR=3.5							
YKA	**Yellowknife Ar**	**61.11**	**31**	P		**P**	**11 50 24.4**	**-0.7**
	0.1nm,0.7s,baz=302,slow=5.9,SNR=3.3							
ASAR	**Alice Springs**	**63.58**	**189**	P		**P**	**11 50 40.4**	**-1.7**
	0.5nm,0.7s,baz=3.5,slow=4.9,SNR=7.4							
FINES	**FINESS Array B**	**66.74**	**332**	P		**P**	**11 51 04.3**	**+2.1**
	1.1nm,0.6s,baz=60,slow=8.2,SNR=4.0							
AKASG	**Malin Array Be**	**72.58**	**322**	P		**P**	**11 51 37.0**	**-1.3**
	0.8nm,0.5s,baz=48,slow=6.5,SNR=3.0							

*ISN **25** 11:43:53.3±1.3,32.°49N×46.°85E,h0km±7km,ML2.9*
*CSEM **25** 11:43:53.3,32.°49N×46.°85E,h0km,ML2.9*
*TEH **25** 11:43:56.0,32.°47N×46.°88E,h10km,ML2.9*
*ISCJB **25** 11:43:57.0±0.6,32.°41N±0.°05×46.°72E±0.°05,h20km, Error ellipse: s-maj=7.7km s-min=5.5km az=159.8*
ISC 25 11:43:58.0±1.1,32.°42N±0.°06×46.°76E±0.°06,h20km,n9, σ1°06/13,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
IKFM	**Kafar-mosalman**	**1.43**	**39**	*e*Pg		**Pn**	**11 44 21.8**	**-1.1**
IKFM				*e*Sg		**Sb**	**11 44 42.4**	**+0.5**
IKFM				*e*AMB		AMB	11 44 45.5	
	comp=Z,99nm,0.3s							
NSR	**Nassriya**	**1.50**	**201**	*e*Pn		**Pn**	**11 44 23.0**	**-0.8**
	SNR=3.0							
NSR				*e*Sn		**Sn**	**11 44 43.0**	**+0.2**
	SNR=3.0							
IKOM	**Komasi**	**1.86**	**20**	*e*Pn		**Pb**	**11 44 30.3**	**-1.2**
IKOM				*e*AMB		AMB	11 44 33.6	
	comp=Z,1μm,0.1s							
IVIS	**Veis**	**2.10**	**2**	*e*Pn		**Pb**	**11 44 37.3**	**+1.7**
IVIS				*e*AMB		AMB	11 45 13.4	
	comp=Z,795nm,0.3s							
BHD	**Baghdad**	**2.17**	**294**	*e*Pn		**Pn**	**11 44 32.0**	**-1.1**
	SNR=3.0							
BHD				*e*Sn		**Sn**	**11 45 00.0**	**+0.6**
	SNR=3.0							
IKLH	**Kolahrood**	**4.16**	**76**	*e*Pn		**Pn**	**11 45 00.9**	**+0.3**
IKLH				*e*AMB		AMB	11 46 13.2	
	comp=Z,159nm,0.2s							
IZEF	**Zefreh**	**4.72**	**83**	*e*AMB		AMB	11 45 20.1	
	comp=Z,52nm,0.1s							
IZEF				*e*Pn		**Pn**	**11 45 07.8**	**-0.6**
IRAM	**Ramesheh**	**4.81**	**96**	*e*Pn		**Pn**	**11 45 10.9**	**+1.3**
IRAM				*e*AMB		AMB	11 46 08.5	
	comp=Z,73nm,0.2s							
RTB	**Rutbah**	**5.47**	**278**	*e*Pn		**Pn**	**11 45 19.0**	**+0.5**
	SNR=3.0							
RTB				*e*Sn		**Sn**	**11 46 20.0**	**-0.8**
	SNR=3.0							

*ISCJB **25** 11:48:47.4±0.9,25.°28S±0.°09×179.°8E±0.°1,h493km, mb4.0/9,Error ellipse: s-maj=16.9km s-min=12.1km az=174.2*
*IDC **25** 11:48:48.3±3.5,25.°30S×179.°89E,h498km±36km,mb3.5/9, mb1 3.7/11,mb1mx3.3/43,mbtmp4.4/11,Error ellipse: s-maj=28.2km s-min=22.3km az=16.0*
ISC 25 11:48:48.4±0.8,25.°4S±0.°1×179.°9E±0.°1,h493km,n17, σ0°82/16,mb4.0/9,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DZM	**Mont Dzumac**	**12.73**	**282**	P		**P**	**11 51 35.6**	**+0.7**
	0.3nm,0.3s,baz=73,slow=19,SNR=4.1							
URZ	**Urewera**	**13.06**	**190**	P		**P**	**11 51 38.2**	**+0.2**
	0.5nm,0.3s,baz=284,slow=4.9,SNR=13							
URZ				S		**S**	**11 53 57.7**	**-0.3**
	0.2nm,0.3s,baz=321,slow=14,SNR=3.8							
CTA	**Charters Tower**	**31.40**	**273**	P		**P**	**11 54 28.5**	**+0.1**
	19nm,0.6s,baz=96,slow=11,SNR=41							
STKA	**Stephens Creek**	**34.10**	**250**	P		**P**	**11 54 51.5**	**+0.3**
	2.8nm,0.7s,baz=102,slow=12,SNR=7.1							
PMG	**Port Moresby**	**34.89**	**291**	P		**P**	**11 54 57.1**	**-0.9**
	8.0nm,0.6s,baz=149,slow=5.9,SNR=3.6							
ASAR	**Alice Springs**	**41.71**	**262**	P		**P**	**11 55 53.2**	**-0.4**
	7.8nm,0.7s,baz=91,slow=7.7,SNR=53							
WRA	**Warramunga Arr**	**42.22**	**268**	P		**P**	**11 55 56.5**	**-1.1**
	7.7nm,0.7s,baz=102,slow=8.2,SNR=23							
FITZ	**Fitzroy Crossi**	**50.62**	**267**	P		**P**	**11 57 00.6**	**-0.9**
	3.8nm,0.6s,baz=117,slow=11,SNR=3.5							
NVAR	**Mina Array Bea**	**85.88**	**44**	P		**P**	**12 00 35.1**	**-0.6**
	0.3nm,0.7s,baz=209,slow=7.2,SNR=2.7							
CMAR	**Chiang Mai Arr**	**89.93**	**290**	P		**P**	**12 00 55.4**	**+0.5**
	0.6nm,0.3s,baz=169,slow=3.2,SNR=5.6							
TXAR	**Lajitas Array**	**91.30**	**58**	P		**P**	**12 01 00.7**	**-0.4**
	0.6nm,1.0s,baz=235,slow=5.9,SNR=4.2							
NOA	**NORSAR Array B**	**143.51**	**351**	PKP		PKPab	12 07 23.0	-1.1
	1.3nm,0.9s,baz=16,slow=5.0,SNR=3.5							
HFS	**Hagfors**	**143.96**	**348**	PKP		PKPbc	12 07 23.6	-2.1
	5.0nm,0.8s,baz=75,slow=6.1,SNR=6.3							
AKASG	**Malin Array Be**	**146.13**	**326**	PKPbc		**PKPdf**	**12 07 31.1**	**+0.5**
	0.8nm,0.5s,baz=40,slow=4.2,SNR=4.3							
MMAI	**Mount Meron Ar**	**148.18**	**292**	PKPbc		**PKPbc**	**12 07 39.1**	**+0.4**
	1.9nm,0.5s,baz=91,slow=6.2,SNR=4.2							
BRTR	**Keskin Array B**	**148.35**	**305**	PKPbc		**PKPdf**	**12 07 36.8**	**+1.9**
	0.7nm,0.7s,baz=62,slow=6.3,SNR=3.8							
TORD	**Torodi Ar. Bea**	**167.72**	**188**	PKPab		**PKPab**	**12 09 07.8**	**-0.1**
	0.4nm,0.7s,baz=157,slow=5.1,SNR=2.6							

*ISK **25** 11:49:08.8,39.°09N×29.°15E,h5km,ML2.4/13*
*ISCJB **25** 11:49:09.4±0.4,39.°09N±0.°02×29.°13E±0.°03,h3km±4km, Error ellipse: s-maj=4.1km s-min=3.4km az=152.0*
*CSEM **25** 11:49:09.5±0.1,39.°10N×29.°14E,h5km,ML2.4,Error ellipse: s-maj=2.5km s-min=2.0km az=131.0*
*DDA **25** 11:49:09.1,39.°09N×29.°14E,h7km,Ml2.6*
ISC 25 11:49:09.5±0.9,39.°09N±0.°02×29.°14E±0.°02,h9km±6km, n44,σ0°40/66,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SIMA	**Simav-Kutahya**	**0.12**	**265**	PG		**Pg**	**11 49 12.6**	**+0.2**
SIMA				SG		**Sg**	**11 49 14.2**	**-0.3**
SIMA	**Simav-Kutahya**	**0.12**	**265**	*e*Pg		**Pg**	**11 49 12.6**	**+0.2**
SIMA				*e*Sg		**Sg**	**11 49 14.2**	**-0.3**
GDZ	**Gediz**	**0.26**	**91**	*i* P		**Pg**	**11 49 14.7**	**-0.2**
GDZ				*i* S		**Sg**	**11 49 18.8**	**+0.3**
GDZ	**Gediz**	**0.26**	**91**	P		**Pg**	**11 49 14.6**	**-0.2**
GDZ				S		**Sg**	**11 49 18.8**	**+0.3**
DEMI	**Demirci**	**0.34**	**261**	*i* P		**Pg**	**11 49 16.2**	**+0.1**
DEMI				*i* S		**Sg**	**11 49 20.5**	**-0.1**
DEMI	**Demirci**	**0.34**	**261**	P		**Pg**	**11 49 16.2**	**+0.1**
DEMI				S		**Sg**	**11 49 20.5**	**-0.1**
TVSB	**Tavsanli**	**0.43**	**35**	PG		**Pg**	**11 49 17.1**	**-0.9**
TVSB	**Tavsanli**	**0.43**	**35**	*e*Pg		**Pg**	**11 49 17.1**	**-0.9**
KULA	**Kula-Manisa**	**0.69**	**213**	PG		**Pg**	**11 49 22.6**	**-0.2**
KULA				SG		**Sg**	**11 49 32.4**	**+0.6**
KULA	**Kula-Manisa**	**0.69**	**213**	*e*Pg		**Pg**	**11 49 22.6**	**-0.2**
KULA				*e*Sg		**Sg**	**11 49 32.4**	**+0.6**
DURS	**Dursunbey**	**0.72**	**315**	*i* P		**Pg**	**11 49 23.8**	**+0.3**
DURS				*i* S		**Sg**	**11 49 32.7**	**-0.3**
MANT	**Manisa**	**0.76**	**217**	*i* P		**Pg**	**11 49 24.3**	**+0.2**
MANT				*i* S		**Sg**	**11 49 33.9**	**-0.1**
KHAL	**Karahalli**	**0.77**	**159**	*i* P		**Pb**	**11 49 25.3**	**+0.2**
KHAL				*i* S		**Sb**	**11 49 35.1**	**-0.7**
KHAL	**Karahalli**	**0.77**	**159**	P		**Pb**	**11 49 25.3**	**+0.2**
KHAL				S		**Sb**	**11 49 35.1**	**-0.7**
ORLT	**Orhaneli**	**0.97**	**349**	PG		**Pg**	**11 49 27.9**	**-0.2**
ORLT				SG		**Sb**	**11 49 41.8**	**+0.4**
ORLT	**Orhaneli**	**0.97**	**349**	*e*Pg		**Pg**	**11 49 27.9**	**-0.2**
ORLT				*e*Sg		**Sb**	**11 49 41.8**	**+0.4**
AKHS	**Akhisar**	**1.06**	**259**	*i* P		**Pg**	**11 49 29.3**	**-0.5**
AKHS				*i* S		**Sb**	**11 49 44.0**	**+0.2**
AKHS	**Akhisar**	**1.06**	**259**	P		**Pg**	**11 49 29.3**	**-0.5**
AKHS				S		**Sb**	**11 49 44.0**	**+0.2**
BALB	**Balikesir**	**1.12**	**300**	PN		**Pb**	**11 49 30.7**	**-0.3**
BALB				SN		**Sn**	**11 49 47.0**	**+0.2**
BALB	**Balikesir**	**1.12**	**300**	*e*Pn		**Pb**	**11 49 30.7**	**-0.3**
BALB				*e*Sn		**Sn**	**11 49 47.0**	**+0.2**
STEP	**BALIKESIR_Sava**	**1.14**	**285**	*i* P		**Pn**	**11 49 31.7**	**+0.1**
STEP				*i* S		**Sn**	**11 49 46.9**	**-0.5**
STEP	**BALIKESIR_Sava**	**1.14**	**285**	P		**Pn**	**11 49 31.7**	**+0.1**
STEP				S		**Sn**	**11 49 46.9**	**-0.5**
IGD	**Bursa**	**1.17**	**2**	*i* P		**Pn**	**11 49 33.1**	**+1.1**
IGD				*i* S		**Sn**	**11 49 48.3**	**+0.3**
CAVI	**Cavuskoy**	**1.23**	**26**	PN		**Pn**	**11 49 32.8**	**-0.1**
CAVI	**Cavuskoy**	**1.23**	**26**	*e*Pn		**Pn**	**11 49 32.8**	**-0.1**
BORA	**Eskisehir**	**1.28**	**52**	*i* P		**Pn**	**11 49 33.7**	**+0.1**
BORA				*i* S		**Sn**	**11 49 51.3**	**+0.3**
MDNY	**Mudanya-Bursa**	**1.29**	**351**	PN		**Pb**	**11 49 33.8**	**-0.1**
MDNY	**Mudanya-Bursa**	**1.29**	**351**	*e*Pn		**Pb**	**11 49 33.8**	**-0.1**
KCTX	**Karacabey (Bur**	**1.32**	**333**	PN		**Pb**	**11 49 34.2**	**+0.1**
KCTX	**Karacabey (Bur**	**1.32**	**333**	*e*Pn		**Pn**	**11 49 34.2**	**+0.1**
ADVT	**Abdulvahap**	**1.42**	**19**	PN		**Pb**	**11 49 36.3**	**+0.3**
ADVT	**Abdulvahap**	**1.42**	**19**	*e*Pn		**Pb**	**11 49 36.3**	**+0.3**
YLV	**Yalova**	**1.48**	**7**	PN		**Pb**	**11 49 37.2**	**0.0**
YLV	**Yalova**	**1.48**	**7**	*e*Pn		**Pb**	**11 49 37.2**	**0.0**
ARMT	**Armutlu**	**1.49**	**352**	PN		**Pb**	**11 49 37.2**	**0.0**
ARMT	**Armutlu**	**1.49**	**352**	*e*Pn		**Pb**	**11 49 37.2**	**0.0**
AYDB	**Zeytinkoy-Aydi**	**1.51**	**221**	PN		**Pb**	**11 49 37.2**	**-0.5**
AYDB	**Zeytinkoy-Aydi**	**1.51**	**221**	*e*Pn		**Pb**	**11 49 37.2**	**-0.5**
EDC	**Edincik**	**1.59**	**322**	PN		**Pn**	**11 49 38.2**	**+0.4**
EDC	**Edincik**	**1.59**	**322**	*e*Pn		**Pn**	**11 49 38.2**	**+0.4**
GULT	**Gulveren**	**1.71**	**38**	PN		**Pn**	**11 49 40.1**	**+0.7**
GULT	**Gulveren**	**1.71**	**38**	*e*Pn		**Pn**	**11 49 40.1**	**+0.7**
BUY	**Buyukada**	**1.76**	**359**	PN		**Pb**	**11 49 41.2**	**-0.6**
BUY	**Buyukada**	**1.76**	**359**	*e*Pn		**Pb**	**11 49 41.2**	**-0.6**

*DJA **25** 11:51:55.7±0.4,6.°S±4.°×12.°8E±.°,h432km±9km,M4.2/12, mb4.2/12,mB4.8/6,MLv4.3/12,Mw(mB)4.0/6*
*ISCJB **25** 11:51:56.6±0.4,6.°10S±0.°04×127.°83E±0.°06,h400km, mb3.7/7,Error ellipse: s-maj=7.6km s-min=6.0km az=10.5*
*IDC **25** 11:51:58.4±2.7,6.°14S×127.°88E,h396km±35km,mb3.4/7, mb1 3.5/11,mb1m

0.5nm,0.2s,baz=84,slow=5.5,SNR=4.7
DZM Mont Dzumac 77.39 115 LR LR 12 44 37.2
comp=Z,43nm,18.0s,baz=117,slow=40
HFS Hagfors 77.56 330 P **P 12 04 47.5 +0.1**
1.1nm,0.6s,baz=95,slow=6.2,SNR=4.0
SYO Syowa Base 86.20 197 *eX* **P 12 05 31.0 -1.4**
ILAR Eielson Array 94.00 22 P **P 12 06 09.5 +0.1**
0.2nm,0.6s,baz=303,slow=5.1,SNR=3.8
NVAR Mina Array Bea 124.26 30 PKP **PKPdf 12 11 52.9 +1.7**
0.2nm,0.5s,baz=358,slow=2.7,SNR=2.8
PLCA Paso Flores 145.31 201 PKPbc **PKPdf 12 12 31.6 +1.8**
1.5nm,0.7s,baz=222,slow=7.6,SNR=2.9
CPUP Villa Florida 147.61 234 PKPbc **PKPbc 12 12 34.9 -1.8**
1.5nm,0.8s,baz=236,slow=3.9,SNR=3.2

IDC 25 11:54:59.4±1.6, 0.81N×98.56E, h0km, mb3.6/4, mb1 3.8/5, mb1mx3.4/66, mbtmp3.6/5, ML4.4/1, MS3.3/3, Ms1 3.3/3, ms1mx2.6/57, Error ellipse: s-maj=57.9km s-min=26.7km az=53.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
CMAR	**Chiang Mai Arr**	**17.54**	**1**	P		Pn	11 59 04.7	-0.8
	0.5nm,0.3s,baz=192,slow=11,SNR=4.1							
WRA	**Warramunga Arr**	**40.68**	**122**	P		P	12 02 41.7	-0.2
	0.3nm,0.5s,baz=304,slow=9.2,SNR=2.7							
SONM	**Songino Array**	**47.33**	**7**	P		P	12 03 35.5	+0.4
	1.5nm,0.3s,baz=185,slow=8.7,SNR=1.9							
MKAR	**Makanchi Array**	**47.96**	**345**	P		P	12 03 39.5	-0.3
	0.4nm,0.6s,baz=172,slow=9.0,SNR=3.7							
MJAR	**Matsushiro Arr**	**51.08**	**41**	LR		LR	12 27 59.3	
	comp=Z,18nm,18.0s,baz=95,slow=39							
ZALV	**Zalesovo Beam**	**54.16**	**350**	LR		LR	12 33 57.1	
	comp=Z,14nm,18.8s,baz=76,slow=43							
BRTR	**Keskin Array B**	**70.38**	**312**	P		P	12 06 15.6	0.0
	0.2nm,0.3s,baz=103,slow=6.4,SNR=2.2							
URZ	**Urewera**	**81.52**	**129**	LR		LR	12 42 38.0	
	comp=Z,37nm,19.2s,baz=314,slow=35							

UCR 25 11:59:55.6±1.1, 13.49N×90.17W, h63km±17km, ML3.9, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
SBLS	**San Blas**	**0.64**	**56**	*eP*		Pn	12 00 09.5	0.0
RTR	**El Retiro**	**0.65**	**51**	*eP*		Pn	12 00 10.0	+0.3
RTR				*eS*		Sn	12 00 21.5	+1.6
SNJE	**San Jose**	**0.67**	**55**	*eP*		Pn	12 00 09.9	+0.1
UNIC	**Santa Ana**	**0.78**	**50**	*eP*		Pn	12 00 11.3	+0.2
UNIC				*eS*		Sn	12 00 23.0	+0.7
UNIC				IAML			12 00 24.9	
	comp=Z,2μm,0.2s							
COLS	**Colinas**	**0.86**	**78**	*eP*		Pn	12 00 12.2	+0.1
COLS				*eS*		Sn	12 00 25.1	+0.8
BOQS	**Boqueron**	**0.90**	**74**	*eP*		Pn	12 00 12.9	+0.2
BOQS				*eS*		Sn	12 00 26.2	+0.9
UEES	**San Salvador**	**0.93**	**75**	*eP*		Pn	12 00 12.3	-0.7
UEES				*eS*		Sn	12 00 27.0	+1.2
UEES				IAML			12 00 29.0	
	comp=Z,7μm,0.2s							
SNET	**Serv Nac Est T**	**0.93**	**77**	*eP*		Pn	12 00 13.4	+0.4
SNET				*eP*		Pn	12 00 13.4	+0.4
SNET				*eS*		Sn	12 00 26.6	+0.8
SNET				*eS*		Sn	12 00 27.1	+1.3
SNET				IAML			12 00 29.6	
	comp=Z,4μm,0.2s							
UESS	**San Salvador**	**0.96**	**77**	*eP*		Pn	12 00 13.7	+0.3
UESS				IAML			12 00 31.7	
	comp=Z,4μm,0.2s							
OPAM	**San Salvador**	**0.97**	**76**	*eP*		Pn	12 00 12.9	-0.5
OPAM				*eS*		Sn	12 00 27.6	+1.0
UDBS	**Soyapango**	**1.01**	**76**	*eP*		Pn	12 00 14.5	+0.6
UDBS				*eS*		Sn	12 00 28.4	+0.8
UDBS				IAML			12 00 30.8	
	comp=Z,4μm,0.2s							
LFU	**La Fuente**	**1.06**	**76**	*eP*		Pn	12 00 14.8	+0.2
LFU				*eS*		Sn	12 00 29.2	+0.5
LFRS	**El Faro**	**1.08**	**83**	*eP*		Pn	12 00 15.1	+0.1
LBRS	**Las Brisas**	**1.12**	**77**	*eP*		Pn	12 00 15.8	+0.4
SNVI	**San Vicente**	**1.30**	**84**	*eP*		Pn	12 00 18.3	+0.5
SNVI				*eS*		Sn	12 00 36.0	+1.6
UESV	**Ojushtada**	**1.34**	**94**	*eP*		Pn	12 00 18.7	+0.4
UESV				*eS*		Sn	12 00 37.0	+1.6
LLGN	**La Laguna**	**1.36**	**60**	*eP*		Pn	12 00 18.7	+0.1
TECA	**Tecapa**	**1.62**	**89**	*eP*		Pn	12 00 22.4	+0.2
PACA	**Pacayal**	**1.79**	**90**	*eP*		Pn	12 00 25.4	+1.0
PACA				*eS*		Sn	12 00 47.2	+0.9
LCY	**Lacayo**	**1.82**	**92**	*eP*		Pn	12 00 24.4	-0.4
VSM	**San Miguel**	**1.84**	**92**	*eP*		Pn	12 00 27.0	+1.7
CAHU	**Cacacuatique**	**1.92**	**81**	*eP*		Pn	12 00 26.5	+0.3
LCND	**La Ca¯–ada**	**2.22**	**94**	*eP*		Pn	12 00 29.8	-0.3
CNCH	**Conchagua**	**2.28**	**95**	*eP*		Pn	12 00 31.5	+0.5
CNGN	**Cerro Negro**	**3.52**	**106**	*eP*		Pn	12 00 48.5	+0.6
MOMN	**Momotombo**	**3.69**	**106**	*eP*		Pn	12 00 50.3	0.0
COPN	**Copaltepe**	**3.72**	**110**	*eP*		Pn	12 00 50.2	-0.4
COPN				AML		AML	12 01 34.6	
	comp=Z,112nm,0.1s							

IDC 25 12:00:15.2±0.9, 4.46S×102.57E, h0km, mb4.2/16, mb1 4.2/16, mb1mx4.0/62, mbtmp4.2/16, Error ellipse: s-maj=44.7km s-min=12.7km az=51.0
ISCJB 25 12:00:22.8±0.8, 4.50S±0.09×102.66E±0.08, h74km±5km, mb4.1/18, Error ellipse: s-maj=19.7km s-min=5.5km az=41.9
DJA 25 12:00:24.2±0.3, 5.5S±3.3×10.3E±, h33km±5km, M4.4/8, MLv4.4/8
NEIC 25 12:00:24.1±0.7, 4.28S×102.80E, h63km±5km, mb4.5/2, Error ellipse: s-maj=23.5km s-min=5.9km az=50.0
ISC 25 12:00:23.2±1.2, 4.5S±0.1×102.7E±0.1, h59km±9km, n37, σ1s11/38, mb4.2/18, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
MNAI	**Manna**	**0.34**	**61**	P		**Pn**	**12 00 34.1**	**+0.5**
MNAI				S		**Sn**	**12 00 41.1**	**0.0**
MNAI	**Manna**	**0.34**	**61**	*e*Pg		**Pn**	**12 00 34.3**	**+0.7**
MNAI				*e*Sg		**Sn**	**12 00 40.8**	**-0.3**
MASI	**Maura Aman, Be**	**1.44**	**343**	P		**Pn**	**12 00 48.5**	**+1.4**
MASI				S		**Sn**	**12 01 07.2**	**+2.2**
LWLI	**Liwa**	**1.48**	**109**	P		**Pn**	**12 00 48.6**	**+0.8**
LWLI				S		**Sn**	**12 01 06.8**	**+0.6**
MDSI	**Maura Dua**	**1.52**	**89**	P		**Pn**	**12 00 49.3**	**+1.1**
MDSI				S		**Sn**	**12 01 08.9**	**+1.9**
KASI	**Kota Agung**	**2.09**	**118**	P		**Pn**	**12 00 56.4**	**+0.5**
KASI				S		**Sn**	**12 01 20.1**	**-0.6**
KRJI	**Kerinci**	**2.70**	**334**	P		**Pn**	**12 01 06.9**	**+2.6**
PPSI	**Pulau Pagai**	**3.17**	**304**	P		**Pn**	**12 01 12.1**	**+1.5**
CGJI	**Cibinong**	**3.67**	**125**	P		**Pn**	**12 01 18.0**	**+0.5**
GSI	**Gunungsitoli**	**7.70**	**319**	*e*Pn		**Pn**	**12 02 12.4**	**-0.4**
IPM	**Ipoh**	**9.09**	**350**	*e*Pn		**Pn**	**12 02 30.3**	**-1.6**
CMAR	**Chiang Mai Arr**	**23.13**	**351**	P		**P**	**12 05 23.1**	**-1.5**
	1.4nm,0.4s,baz=184,slow=9.3,SNR=14							
FITZ	**Fitzroy Crossi**	**26.22**	**123**	P		**P**	**12 05 53.0**	**+0.1**
	4.5nm,1.1s,baz=292,slow=5.4,SNR=2.3							
H08S2	**Diego Garcia H**	**30.14**	**263**	T		T	12 37 31.1	
	baz=85,slow=74							
H08S3	**Diego Garcia H**	**30.15**	**263**	T		T	12 37 35.9	
	baz=85,slow=74							
H08S1	**Diego Carcia H**	**30.16**	**263**	T		T	12 37 28.5	
	baz=85							
H01W3	**Cape Leeuwin H**	**32.02**	**162**	T		T	12 40 32.2	
	baz=339,slow=76,SNR=17							
H01W2	**Cape Leeuwin H**	**32.04**	**162**	T		T	12 40 32.8	
	baz=339,slow=76,SNR=16							
H01W1	**Cape Leeuwin H**	**32.04**	**162**	T		T	12 40 33.4	
	baz=339,slow=76,SNR=18							
WRA	**Warramunga Arr**	**34.45**	**119**	P		**P**	**12 07 05.2**	**-0.4**
	1.0nm,0.9s,baz=301,slow=9.0,SNR=17							
WRAB	**Tennant Creek**	**34.45**	**119**	*e*P		**P**	**12 07 06.3**	**+0.7**
	21nm,1.7s							
ASAR	**Alice Springs**	**35.64**	**125**	P		**P**	**12 07 16.2**	**+0.4**
	1.1nm,0.9s,baz=297,slow=7.8,SNR=24							
ASAR				PcP		**PcP**	**12 09 44.0**	**+0.5**
	0.4nm,0.6s,baz=301,slow=2.9,SNR=4.4							
CTA	**Charters Tower**	**45.14**	**114**	P		**P**	**12 08 34.9**	**+0.5**
	1.4nm,0.7s,baz=274,slow=16,SNR=2.7							
STKA	**Stephens Creek**	**45.50**	**131**	P		**P**	**12 08 37.9**	**+0.8**
	1.3nm,0.5s,baz=312,slow=10,SNR=5.1							
SONM	**Songino Array**	**52.24**	**3**	P		**P**	**12 09 28.5**	**0.0**
	3.4nm,0.6s,baz=184,slow=9.4,SNR=29							
SONM				PcP		**PcP**	**12 10 38.9**	**-0.4**
	0.7nm,0.4s,baz=194,slow=3.8,SNR=4.6							
MKAR	**Makanchi Array**	**54.19**	**343**	P		**P**	**12 09 42.3**	**-0.5**
	2.2nm,0.6s,baz=150,slow=8.2,SNR=10							
USRK	**Ussuriysk Ar.**	**55.21**	**25**	P		**P**	**12 09 49.5**	**-0.6**
	3.0nm,0.7s,baz=218,slow=5.6,SNR=4.3							
KURBB	**Kurchatov Arra**	**58.73**	**342**	P		**P**	**12 10 13.3**	**-1.6**
	2.3nm,0.7s,baz=159,slow=6.9,SNR=12							
KURK	**Kurchatov**	**58.78**	**342**	P		**P**	**12 10 13.3**	**-2.0**
ZALV	**Zalesovo Beam**	**60.15**	**348**	P		**P**	**12 10 23.5**	**-1.2**
	7.7nm,0.5s,baz=164,slow=5.4,SNR=16							
BVAR	**Borovoye Array**	**63.47**	**339**	P		**P**	**12 10 45.5**	**-1.5**
	0.9nm,0.4s,baz=141,slow=9.3,SNR=8.3							
ABKAR	**Akbulak array**	**65.12**	**331**	*e*P		**P**	**12 10 57.0**	**-0.9**
	1.5nm,0.5s							
KBZ	**Khabaz**	**71.94**	**319**	P		**P**	**12 11 40.8**	**+0.2**
	1.2nm,0.7s,baz=130,slow=7.9,SNR=4.6							
BRTR	**Keskin Array B**	**76.97**	**312**	P		**P**	**12 12 09.8**	**-0.2**
	0.7nm,0.6s,baz=120,slow=7.3,SNR=4.8							
FINES	**FINESS Array B**	**87.57**	**332**	P		**P**	**12 13 04.7**	**+0.1**
	1.8nm,1.0s,baz=131,slow=5.8,SNR=5.8							
ARCES	**ARCESS Array B**	**89.74**	**340**	P		**P**	**12 13 15.1**	**+0.3**
	3.1nm,1.1s,baz=48,slow=5.4,SNR=3.7							
TXAR	**Lajitas Array**	**144.93**	**42**	PKP		PKPbc	12 19 54.2	+0.3
	1.0nm,0.6s,baz=259,slow=1.2,SNR=19							

IDC 25 12:09:35.5±1.3, 1.25S×127.20E, h0km, mb3.9/4, mb1 3.8/5, mb1mx3.6/51, mbtmp3.8/5, ML3.5/1, Error ellipse: s-maj=128.4km s-min=20.4km az=68.0
ISCJB 25 12:09:39.2±0.5, 1.59S±0.05×126.40E±0.05, h29km, mb3.9/4, Error ellipse: s-maj=8.2km s-min=6.7km az=136.9
DJA 25 12:09:40.9±1.8, 2.2S±3.3×12.6E±, h30km±18km, M4.0/8, mB4.7/1, mb4.1/1, MLv4.0/8, Mw(mB)4.0/1
ISC 25 12:09:40.0±0.8, 1.66S±0.06×126.48E±0.06, h29km, n12, σ0s77/14, mb3.9/4, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
LBMI	**Labuha**	**1.44**	**45**	P		**Pn**	**12 10 03.8**	**-0.4**
LBMI				S		**Sn**	**12 10 22.9**	**+0.7**
NLAI	**Namlea**	**1.68**	**158**	P		**Pb**	**12 10 09.8**	**-0.6**
NLAI				S		**Sb**	**12 10 30.9**	**-0.2**
MSAI	**Masohi**	**2.96**	**124**	P		**Pn**	**12 10 26.8**	**+1.7**
KMSI	**Cibinong**	**3.34**	**312**	P		**Pn**	**12 10 30.5**	**+0.1**
LUWI	**Luwuk**	**3.76**	**279**	P		**Pn**	**12 10 36.1**	**0.0**
APSI	**Ampana**	**4.89**	**279**	P		**Pn**	**12 10 51.9**	**+0.3**
MPSI	**Mapaga**	**6.87**	**287**	P		**Pn**	**12 11 19.4**	**+0.5**
WRA	**Warramunga Arr**	**19.73**	**158**	P		**Pn**	**12 14 08.5**	**-0.6**
	0.1nm,0.3s,baz=340,slow=11,SNR=8.9							
ASAR	**Alice Springs**	**23.02**	**162**	P		**P**	**12 14 44.2**	**+1.2**
	1.6nm,0.7s,baz=338,slow=9.8,SNR=23							
SONM	**Songino Array**	**52.32**	**343**	P		**P**	**12 18 48.7**	**-0.6**
	0.9nm,0.8s,baz=144,slow=7.8,SNR=5.3							
MKAR	**Makanchi Array**	**61.87**	**327**	P		**P**	**12 19 57.0**	**+0.2**
	1.1nm,0.5s,baz=120,slow=8.1,SNR=12							
KURBB	**Kurchatov Arra**	**66.16**	**329**	P		**P**	**12 20 24.5**	**-0.3**
	1.0nm,0.6s,baz=129,slow=5.8,SNR=14							

IDC 25 12:17:52.8±643.0, 46.82N×47.60E, h0km, Error ellipse: s-maj=241.4km s-min=151.0km az=42.0, Ukraine-Moldova-Southwestern Russia region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
I31KZ	**AKTYUBINSK INF**	**7.79**	**59**	*i*			13 03 00.0	
	baz=248,slow=319,SNR=14							
I43RU	**DUBNA INFRASONI**	**1.80**	**331**	*i*			13 35 30.0	
	baz=145,slow=322,SNR=1.9							
I34MN	**SONGINO INFRAS**	**39.04**	**66**	*i*			16 17 50.0	
	baz=291,slow=321,SNR=0.6							

IDC 25 12:24:17.8±1.6, 1.76N×127.01E, h0km, mb3.6/4, mb1 3.8/5, mb1mx3.5/65, mbtmp3.7/5, ML3.4/1, Error ellipse: s-maj=113.4km s-min=19.5km az=70.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
FITZ	**Fitzroy Crossi**	**19.77**	**184**	P		P	12 28 50.3	+0.6
	0.1nm,0.3s,baz=0.0,slow=11,SNR=3.3							
WRA	**Warramunga Arr**	**22.73**	**162**	P		P	12 29 21.1	-0.6
	0.6nm,0.4s,baz=340,slow=11,SNR=27							
ASAR	**Alice Springs**	**26.14**	**166**	P		P	12 29 54.3	+0.3
	0.2nm,0.5s,baz=345,slow=10,SNR=4.7							
MKAR	**Makanchi Array**	**59.33**	**326**	P		P	12 34 21.9	+0.2
	0.4nm,0.4s,baz=117,slow=7.4,SNR=10.0							
KURBB	**Kurchatov Arra**	**63.54**	**328**	P		P	12 34 49.7	-0.4
	1.2nm,0.6s,baz=130,slow=6.0,SNR=10							

ISCJB 25 12:40:21.0±0.4, 42.97N±0.05×71.08E±0.03, h0km, Error ellipse: s-maj=8.3km s-min=2.2km az=19.7
NNC 25 12:40:21.0±0.6, 42.73N×70.79E, h0km, mb2.9, mpv2.1, Error ellipse: s-maj=8.5km s-min=2.0km az=44.0, Suspected Mining explosion.
SOME 25 12:40:20.1, 43.17N×71.12E, h10km
KRNET 25 12:40:22.2±0.1, 42.83N×71.18E, h18km, mb2.6
ISC 25 12:40:20.2±0.9, 42.94N±0.07×71.12E±0.03, h0km, n19, σ0s56/38, 21C-8D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
KK06	**Karatay Array**	**0.46**	**290**	↑P		**Pg**	**12 40 29.3**	**+0.3**
KK06				↓S		**Sg**	**12 40 35.1**	**0.0**
KK05	**Karatay Array**	**0.47**	**292**	↑P		**Pg**	**12 40 29.4**	**+0.1**
KK05				↑S		**Sg**	**12 40 35.4**	**0.0**
KK02	**Karatay Array**	**0.47**	**290**	↑P		**Pg**	**12 40 29.5**	**+0.2**
KK02				↑S		**Sg**	**12 40 35.6**	**+0.1**
KK31	**Karatay Array**	**0.47**	**290**	↑P		**Pg**	**12 40 29.5**	**+0.2**
	0.8nm,0.3s,baz=118,slow=17,SNR=28							
KK31				↓S		**Sg**	**12 40 35.7**	**+0.3**
	2.4nm,0.2s,baz=145,slow=32,SNR=11							
KK07	**Karatay Array**	**0.48**	**288**	↑P		**Pg**	**12 40 29.6**	**+0.2**
KK07				↓S		**Sg**	**12 40 35.7**	**+0.2**
KK01	**Karatay Array**	**0.48**	**290**	↑P		**Pg**	**12 40 29.8**	**+0.4**
KK01				↑S		**Sg**	**12 40 35.6**	**0.0**
KK04	**Karatay Array**	**0.48**	**291**	↑P		**Pg**	**12 40 29.6**	**+0.2**
KK04				↓S		**Sg**	**12 40 35.6**	**-0.1**
KK03	**Karatay Array**	**0.48**	**290**	↓P		**Pg**	**12 40 29.6**	**+0.2**
KK03				↑S		**Sg**	**12 40 35.7**	**0.0**
KK09	**Karatay Array**	**0.49**	**292**	↑P		**Pg**	**12 40 29.9**	**+0.3**
KK09				↑S		**Sg**	**12 40 36.0**	**+0.1**
KK08	**Karatay Array**	**0.49**	**290**	↑P		**Pg**	**12 40 29.8**	**+0.2**
KK08				↑S		**Sg**	**12 40 36.1**	**+0.1**
MNAS	**Manas**	**1.12**	**114**	↓*i*P		**Pg**	**12 40 41.7**	**+0.1**
	baz=9.0							
MNAS				↓*i*S		**Sb**	**12 40 57.0**	**-0.6**
	baz=9.0							
IUG	**luzhnay**	**1.13**	**226**	*e*P		**Pn**	**12 40 43.9**	**+0.5**
	3.9nm,0.2s							
IUG				*e*S		**Sb**	**12 40 57.8**	**-0.1**
	11nm,0.3s							
IUG	**luzhnay**	**1.13**	**226**	*e*P		**Pn**	**12 40 43.9**	**+0.5**
	baz=32							
IUG				*e*S		**Sb**	**12 40 57.8**	**-0.1**
	baz=32							
MRKS	**Merke**	**1.56**	**96**	*e*P		**Pg**	**12 40 50.5**	**+0.4**
	1.4nm,0.1s							
MRKS				*e*S		**Sb**	**12 41 11.1**	**+0.8**
	4.9nm,0.4s							
MRKS	**Merke**	**1.56**	**96**	*e*P		**Pg**	**12 40 50.5**	**+0.4**
	baz=93							
MRKS				*e*S		**Sb**	**12 41 11.2**	**+0.8**
	baz=93							
AML	**Almayashu**	**2.07**	**112**	↑*i*P		**Pb**	**12 40 59.0**	**+0.2**
	baz=10.0							
AML				↑*i*S		**Sg**	**12 41 26.2**	**-0.4**
	baz=10.0							
ARSB	**Arslanbob**	**2.13**	**139**	↑*i*P		**Pb**	**12 40 59.3**	**-0.4**
	baz=38							
ARSB				↑*e*S		**Sb**	**12 41 26.5**	**-0.2**
	baz=38							
AAK	**Ala-Archa**	**2.50**	**96**	↑Pn		**Pb**	**12 41 04.8**	**-1.3**
	1.7nm,0.6s							
AAK				Sn		**Sg**	**12 41 41.9**	**+1.4**
	2.5nm,0.4s							
UCH	**Uchtor**	**2.60**	**105**	↑*i*P		**Pb**	**12 41 06.5**	**-1.5**
	baz=3.0							
UCH				↑*i*S		**Sb**	**12 41 39.6**	**-1.2**
	baz=3.0							

DJA 25 12:43:17.2±0.3, 3.3S±2.2×12.2E±, h10km, M3.7/9, MLv3.7/9, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
KDI	**Kendari**	**1.50**	**148**	P		Pn	12 43 43.1	-1.1
KDI				S		Sb	12 44 04.5	+0.2
APSI	**Ampana**	**1.76**	**354**	P		Pn	12 43 47.3	-0.4
APSI				S		Sb	12 44 11.7	0.0
LUWI	**Luwuk**	**1.87**	**30**	P		Pn	12 43 48.3	-1.0
LUWI				S		Sb	12 44 14.1	-0.9
TTSI	**Tana Toraja**	**2.04**	**259**	P		Pn	12 43 51.7	0.0
BNSI	**Bone**	**2.43**	**225**	P		Pn	12 43 57.0	0.0
PCI	**Palu**	**2.65**	**311**	P		Pn	12 44 00.4	+0.3
MRSI	**Marisa**	**3.13**	**2**	P		Pn	12 44 05.8	-0.8
MPSI	**Mapaga**	**3.56**	**327**	P		Pn	12 44 12.2	-0.3

ISCJB 25 12:50:50.5±0.7, 34.75N±0.1×137.76E±0.2, h350km, mb2.8/2, Error ellipse: s-maj=21.1km s-min=13.8km az=27.2
JMA 25 12:50:51.6±0.1, 34.25N×137.53E, h324km, M2.6
IDC 25 12:50:51.4±6.6, 33.84N×137.15E, h279km±223km, mb2.8/2, mb1 2.9/3, mb1mx2.5/70, mbtmp3.2/3, Error ellipse: s-maj=302.9km s-min=159.5km az=17.0
ISC 25 12:50:51.4±1.2, 34.5N±0.1×137.5E±0.1, h350km, n9, σ2s13/10, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
JIE	**Ise**	**0.66**	**265**	P		**Pn**	**12 51 33.8**	**-2.2**
JWT	**Wachi**	**1.91**	**296**	P		**Pn**	**12 51 40.4**	**-1.7**
JKG	**Kaga**	**2.06**	**333**	P		**Pn**	**12 51 42.3**	**-0.7**
MJAR	**Matsushiro Arr**	**2.17**	**15**	P		**Pn**	**12 51 43.9**	**+0.1**
	0.5nm,0.3s,baz=198,slow=10,SNR=7.9							
JAG	**Ashikaga**	**2.54**	**38**	P		**Pn**	**12 51 46.4**	**-0.3**
JAG				*e*S		**S**	**12 52 28.0**	**-3.2**
BSO1	**Boso 1**	**2.88**	**85**	P		**Pn**	**12 51 47.7**	**-1.3**
JSD	**Sado**	**3.63**	**10**	P		**Pn**	**12 51 58.0**	**+1.4**
WRA	**Warramunga Arr**	**54.17**	**184**	P		**P**	**12 59 43.9**	**+2.0**
	0.2nm,0.3s,baz=360,slow=7.5,SNR=9.7							
ASAR	**Alice Springs**	**57.90**	**184**	P		**P**	**13 00 10.3**	**+2.4**
	0.4nm,0.9s,baz=351,slow=4.7,SNR=2.8							

IDC 25 12:58:11.3±0.8, 8.86N×93.94E, h0km, mb4.0/17, mb1 4.0/19, mb1mx3.8/68, mbtmp3.9/19, ML3.9/1, MS3.5/21, Ms1 3.5/21, ms1mx3.2/66, Error ellipse: s-maj=31.7km s-min=15.8km az=58.0
NEIC 25 12:58:12.7±0.3, 8.83N×93.90E, h10km, mb4.4/4, Error ellipse: s-maj=12.4km s-min=5.8km az=56.0
ISC 25 12:58:14.1±0.6, 8.74N±0.09×93.83E±0.08, h22km, n46, σ1s31/29, mb4.0/21, MS3.4/18, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
PSI	**Prapat**	**7.78**	**139**	Pn		**Pn**	**13 00 08.0**	**+1.8**
	baz=323,slow=12,SNR=1.9							
PSI				LR		LR	13 03 51.1	
	comp=Z,261nm,20.3s,baz=304,slow=43							
IPM	**Ipoh**	**8.30**	**120**	*e*Pn		**Pn**	**13 00 12.4**	**-0.9**
IPM				*e*Sn		**Sn**	**13 01 43.9**	**-2.6**
CMAR	**Chiang Mai Arr**	**10.86**	**27**	Pn		**Pn**	**13 00 47.1**	**-1.2**
	0.2nm,0.3s,baz=209,slow=14,SNR=2.8							
CMAR				LR		LR	13 04 54.6	
	comp=Z,225nm,19.2s,baz=220,slow=38							
PALK	**Pallekele**	**13.09**	**265**	Sn		**Sn**	**13 03 39.5**	**-4.3**
	0.7nm,0.3s,baz=116,slow=17,SNR=4.2							
PALK				LR		LR	13 05 53.4	
	comp=Z,250nm,20.8s,baz=116,slow=35							
LEM	**Lembang**	**20.69**	**138**	LR		LR	13 12 32.1	
	comp=Z,132nm,18.7s,baz=283,slow=42							
LSA	**Lhasa**	**21.00**	**353**	*e*P		**P**	**13 02 56.8**	**+0.1**
	14nm,0.8s							
H08S3	**Diego Garcia H**	**26.78**	**233**	T		T	13 31 09.1	
	baz=52,slow=75,SNR=22							
H08S2	**Diego Garcia H**	**26.78**	**233**	T		T	13 30 59.2	
	baz=52,slow=75,SNR=35							
H08S1	**Diego Carcia H**	**26.80**	**233**	T		T	13 31 11.1	
	baz=52,slow=75,SNR=24							
TGY	**Tagaytay City**	**27.08**	**76**	LR		LR	13 14 01.5	
	comp=Z,107nm,18.2s,baz=234,slow=35							
NIL	**Nilore**	**31.21**	**326**	*e*P		**P**	**13 04 32.4**	**+0.4**
	17nm,0.9s							
DAV	**Davao City (W)**	**31.48**	**91**	LR		LR	13 19 47.7	
	comp=Z,38nm,18.2s,baz=325,slow=41							
BATI	**Baumata**	**35.16**	**122**	LR		LR	13 20 19.2	
	comp=Z,194nm,19.1s,baz=3.0,slow=38							
WSAR	**Wadi Sarin**	**36.66**	**297**	LR		LR	13 19 04.5	
	comp=Z,65nm,21.1s,baz=172,slow=34							
AAK	**Ala-Archa**	**37.80**	**336**	P		**P**	**13 05 28.8**	**-0.2**
	2.8nm,0.6s,baz=62,slow=2.3,SNR=9.2							
AAK	**Ala-Archa

*DDA **25** 13:12:07.5,39˚.77N×34˚.38E,h6km,Ml2.8*
ISC 25 13:12:07.5±0.9,**39˚.77N**±0˚.02×**34˚.40E**±0˚.03,**h10**km±7km, **n24,**σ0**83**/41**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CDAG	**Cicekdag**	**0.14**	**188**	*i* P	**Pg**	**13 12 10.7**	**-0.1**
CDAG				*i* S	**Sg**	**13 12 13.8**	**+0.6**
CDAG	**Cicekdag**	**0.14**	**188**	P	**Pg**	**13 12 10.7**	**-0.1**
CDAG				S	**Sg**	**13 12 13.8**	**+0.6**
CORM	**Corum**	**0.45**	**23**	PG	**Pg**	**13 12 15.7**	**-0.6**
CORM				SG	**Sg**	**13 12 22.5**	**+0.2**
CORM	**Corum**	**0.45**	**23**	*e*Pg	**Pg**	**13 12 15.7**	**-0.6**
CORM				*e*Sg	**Sg**	**13 12 22.5**	**+0.2**
COAL	**Corum-Alaca**	**0.66**	**43**	*i* P	**Pg**	**13 12 19.9**	**-0.5**
COAL				*i* S	**Sb**	**13 12 31.9**	**+1.4**
COAL	**Corum-Alaca**	**0.66**	**43**	P	**Pg**	**13 12 19.9**	**-0.5**
YOZ	**Yozgat**	**0.72**	**100**	PG	**Pg**	**13 12 21.2**	**-0.3**
YOZ	**Yozgat**	**0.72**	**100**	*e*Pg	**Pg**	**13 12 21.2**	**-0.3**
CTAK	**Corum_Osmancik**	**0.93**	**19**	*i* P	**Pg**	**13 12 25.3**	**-0.1**
CTAK				*i* S	**Sn**	**13 12 40.9**	**+0.6**
CTAK	**Corum_Osmancik**	**0.93**	**19**	P	**Pg**	**13 12 25.3**	**-0.1**
BBAL	**Bala**	**1.01**	**258**	*i* P	**Pn**	**13 12 27.6**	**-0.2**
BBAL				*i* S	**Sb**	**13 12 41.2**	**+0.7**
BBAL	**Bala**	**1.01**	**258**	P	**Pn**	**13 12 27.6**	**-0.2**
BBAL				S	**Sb**	**13 12 41.2**	**+0.7**
AVNS	**Nevsehir-Avano**	**1.02**	**160**	*i* P	**Pg**	**13 12 26.3**	**-0.8**
AVNS				*i* S	**Sn**	**13 12 42.4**	**+0.1**
AVNS	**Nevsehir-Avano**	**1.02**	**160**	P	**Pg**	**13 12 26.3**	**-0.8**
AVNS				S	**Sn**	**13 12 42.4**	**+0.1**
ELDT	**Eldivan**	**1.04**	**314**	*i* P	**Pg**	**13 12 26.5**	**-1.0**
ELDT				*i* S	**Sn**	**13 12 45.9**	**+3.0**
ELDT	**Eldivan**	**1.04**	**314**	P	**Pg**	**13 12 26.5**	**-1.0**
SERE	**Sereflikochisa**	**1.04**	**219**	PG	**Pg**	**13 12 27.1**	**-0.5**
SERE	**Sereflikochisa**	**1.04**	**219**	*e*Pg	**Pg**	**13 12 27.1**	**-0.5**
AFSR	**Afˇar-Bala (A**	**1.07**	**253**	PG	**Pg**	**13 12 27.1**	**-1.0**
AFSR				SG	**Sb**	**13 12 42.4**	**+0.1**
AFSR	**Afˇar-Bala (A**	**1.07**	**253**	*e*Pg	**Pg**	**13 12 27.1**	**-1.0**
AFSR				*e*Sg	**Sb**	**13 12 42.4**	**+0.1**
KKUL	**Konya-Kulu**	**1.29**	**243**	*i* P	**Pn**	**13 12 31.1**	**-0.5**
KKUL				*i* S	**Sn**	**13 12 50.4**	**+1.3**
KKUL	**Konya-Kulu**	**1.29**	**243**	P	**Pn**	**13 12 31.1**	**-0.5**
KKUL				S	**Sn**	**13 12 50.4**	**+1.3**
BOYT	**Boyabat**	**1.70**	**13**	*i* P	**Pb**	**13 12 38.1**	**-0.7**
BOYT				*i* S	**Sb**	**13 12 59.9**	**-0.3**
BOYT	**Boyabat**	**1.70**	**13**	P	**Pb**	**13 12 38.1**	**-0.7**
BOYT				S	**Sb**	**13 12 59.9**	**-0.3**

*GUC **25** 13:23:10.7±0.4,25˚.84S×69˚.19W,h115km±3km,ML4.2*
*ISCJB **25** 13:23:11.1±0.4,25˚.83S±0˚.03×69˚.22W±0˚.05,h100km, mb3.4/4,Error ellipse: s-maj=6.0km s-min=4.1km az=170.1*
*SJA **25** 13:23:13.2±0.7,25˚.87S×68˚.97W,h64km±18km,ML3.1, MW3.2*
*IDC **25** 13:23:14.1±1.2,25˚.47S×68˚.98W,h105km±6km,mb3.3/4, mb1 3.7/7,mb1mx3.4/40,mbtmp3.7/7,Error ellipse: s-maj=40.8km s-min=24.7km az=21.0*
ISC 25 13:23:12.2±0.7,**25˚.81S**±0˚.04×**69˚.23W**±0˚.06,**h100**km,**n23,** σ1§**18**/34,**mb3.5**/4,**1C-5D,Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO02	**Mina Guanaco**	**0.72**	**333**	⇓*i*P	**Pn**	**13 23 30.3**	**+0.1**
GO02				*e*S	**Sn**	**13 23 44.4**	**+0.7**
GO02				IAML		13 23 45.1	
	comp=E,14μm,0.2s						
PB14	**IPOC Station P**	**1.59**	**318**	*e*P	**Pn**	**13 23 40.0**	**+0.1**
PB14				*e*S	**Sn**	**13 24 01.3**	**+0.4**
PB14				IAML		13 24 05.0	
	comp=N,2μm,0.4s						
GO03	**Copiap**	**1.99**	**207**	⇑*i*P	**Pn**	**13 23 44.0**	**-0.7**
GO03				*e*S	**Sn**	**13 24 08.4**	**-1.1**
GO03				IAML		13 24 11.1	
	comp=N,1μm,0.4s						
PB10	**IPOC Station P**	**2.59**	**332**	⇓*e*P	**Pn**	**13 23 52.0**	**-0.5**
FSA	**Cafayete**	**2.94**	**96**	*e*P	**Pn**	**13 23 56.8**	**-0.6**
FSA				IAML		13 23 57.5	
	comp=Z,78nm,1.1s						
FSA				*e*S	**Sn**	**13 24 28.9**	**-3.3**
VCA	**Vinchina**	**3.05**	**163**	⇓*e*P	**Pn**	**13 24 00.1**	**+1.3**
VCA				*e*S	**Sn**	**13 24 34.0**	**-0.7**
VCA				IAML		13 24 41.5	
	comp=Z,107nm,0.5s						
PB06	**IPOC Station P**	**3.11**	**354**	*e*P	**Pn**	**13 23 59.4**	**-0.2**
PB06				*e*S	**Sn**	**13 24 35.1**	**-1.0**
PB06				IAML		13 24 44.9	
	comp=E,438nm,0.3s						
LCO	**Las Campanas**	**3.44**	**202**	*e*P	**Pn**	**13 24 02.3**	**-1.9**
LCO				*e*S	**Sn**	**13 24 42.2**	**-2.0**
SLA	**San Lorenzo**	**3.55**	**73**	*e*P	**Pn**	**13 24 05.8**	**+0.3**
PB04	**IPOC Station P**	**3.56**	**346**	*e*P	**Pn**	**13 24 04.3**	**-1.4**
PB04				*e*S	**Sn**	**13 24 45.1**	**-2.0**
AHML	**Horco Molle**	**3.63**	**106**	*e*P	**Pn**	**13 24 06.4**	**-0.1**
AHML				IAML		13 24 12.7	
	comp=Z,19nm,0.6s						
HJA	**Humahuaca**	**4.34**	**54**	⇓*e*P	**Pn**	**13 24 18.0**	**+1.6**
YJA	**Yavi**	**4.97**	**44**	⇓*e*P	**Pn**	**13 24 26.2**	**+1.3**
LPAZ	**La Paz**	**9.53**	**6**	P	**Pn**	**13 25 25.3**	**-1.9**
	comp=Z,0.5nm,0.3s,baz=193,slow=2.8,SNR=7.5						
CPUP	**Villa Florida**	**10.71**	**95**	P	**Pn**	**13 25 43.4**	**+0.7**
	comp=Z,0.1nm,0.3s,baz=276,slow=15,SNR=2.4						
SIV	**San Ignacio**	**12.39**	**40**	P	Pn	13 25 59.8	-5.4
	comp=Z,2.6nm,0.3s,baz=238,slow=12,SNR=31						
TXAR	**Lajitas Array**	**64.02**	**327**	P	**P**	**13 33 36.2**	**+0.8**
	comp=Z,0.2nm,0.6s,baz=150,slow=7.3,SNR=3.5						
NVAR	**Mina Array Bea**	**78.71**	**323**	P	**P**	**13 35 04.8**	**+1.0**
	comp=Z,0.2nm,0.5s,baz=151,slow=5.9,SNR=2.7						
TORD	**Torodi Ar. Bea**	**79.10**	**70**	P	**P**	**13 35 05.7**	**-0.5**
	comp=Z,0.8nm,0.5s,baz=255,slow=5.7,SNR=6.3						
TORD				pP	**pP**	**13 35 32.7**	**+0.8**
	comp=Z,1.0nm,0.6s,baz=258,slow=4.8,SNR=2.6						
YKA	**Yellowknife Ar**	**95.14**	**341**	P	**P**	**13 36 23.1**	**-0.5**
	comp=Z,0.1nm,0.6s,baz=138,slow=4.1,SNR=4.6						
YKA				pP	**pP**	**13 36 50.7**	**+0.7**
	comp=Z,0.1nm,0.3s,baz=138,slow=4.1,SNR=1.9						
KURBB	**Kurchatov Arra**	**145.03**	**36**	PKP	**PKPbc**	**13 42 36.5**	**-0.6**
	comp=Z,0.4nm,0.5s,baz=303,slow=3.2,SNR=4.7						
KURBB				pPKP	**pPKPdf**	**13 43 05.1**	**0.0**
	comp=Z,0.3nm,0.3s,baz=297,slow=3.8,SNR=3.5						
ZALV	**Zalesovo Beam**	**145.93**	**28**	PKPbc	**PKPdf**	**13 42 39.1**	**+0.1**
	comp=Z,0.9nm,0.4s,baz=308,slow=2.3,SNR=5.5						
ZALV				pPKPbc	pPKPab	13 43 07.6	+0.4
	comp=Z,0.8nm,0.5s,baz=308,slow=2.1,SNR=2.5						
MKAR	**Makanchi Array**	**149.21**	**40**	PKPbc	**PKPbc**	**13 42 48.5**	**-0.5**
	comp=Z,0.7nm,0.6s,baz=314,slow=1.9,SNR=8.6						
MKAR				pPKPbc	**pPKPbc**	**13 43 17.1**	**+0.8**
	comp=Z,0.8nm,0.8s,baz=319,slow=2.4,SNR=6.2						

*MOS **25** 13:27:19.9±1.0, 12˚.70S×14˚.65W,h10km,mb5.0/40, MS4.0/11,Error ellipse: s-maj=13.5km s-min=7.8km az=64.4*
*IDC **25** 13:27:19.8±0.4, 12˚.77S×14˚.67W,h0km,mb4.6/39, mb1 4.7/39,mb1mx4.6/59,mbtmp4.6/39,MS4.2/38, Ms1 4.1/38,ms1mx4.1/46,Error ellipse: s-maj=13.1km s-min=10.4km az=124.0*
*NEIC **25** 13:27:21.0±0.2, 12˚.77S×14˚.63W,h10km,mb5.2/41,Error ellipse: s-maj=6.3km s-min=4.6km az=142.0*
*ISCJB **25** 13:27:20.6±0.2, 12˚.73S±0˚.04×14˚.60W±0˚.04,h16km, mb4.8/84,MS4.2/44,Error ellipse: s-maj=7.1km s-min=5.3km az=137.5*
*GCMT **25** 13:27:21.0±0.2, 12˚.73S×14˚.68W,h12km,MW5.0/95, Moment Tensor Solution. s40,c50; s95,c143; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr~3.17±.09; Mθθ~0.27±.09; Mφφ3.44±.07; Mrθ1.64±.33; Mrφ~1.09±.07; Mθφ~0.76±.24; Best double couple: Mo3.92900×10^16^ NP1:ϕs324.00000°,δ58.00000°,λ~115.00000°. NP2: ϕs186.00000°,δ40.00000°,λ~55.00000°. Principal axes: T 3.9400, Plg10.0000°, Azm72.0000°; N -0.0240, Plg21.0000°, Azm338.0000°; P -3.9180, Plg66.0000°, Azm185.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*BJI **25** 13:27:22.0, 13˚.01S×14˚.31W,h27km,mB5.2/5,Ms4.8/5, Ms7 4.5/5*
ISC 25 13:27:22.3±0.3,**12˚.79S**±0˚.06×**14˚.70W**±0˚.07,**h16**km,**n243,** σ1§**39**/223,**mb4.9**/84,**MS4.2**/44,**4C-3D,Southern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H10S2	**ASCENSION HYDR**	**3.81**	**1**	T	T	13 32 19.1	
	baz=182,slow=74,SNR=1547						
H10S3	**ASCENSION HYDR**	**3.82**	**1**	T	T	13 32 17.2	
	baz=182,slow=74,SNR=1642						
H10S1	**ASCENSION HYDR**	**3.83**	**1**	T	T	13 32 20.6	
	baz=182,slow=74,SNR=735						
ASCN	**Ascension**	**4.84**	**4**	*e*Pn	**Pn**	**13 28 33.5**	**-1.1**
H10N1	**ASCENSION HYDR**	**4.92**	**3**	T	T	13 33 47.3	
	baz=182,slow=72,SNR=208						
H10N3	**ASCENSION HYDR**	**4.93**	**2**	T	T	13 33 43.8	
	baz=182,slow=72,SNR=949						
H10N2	**ASCENSION HYDR**	**4.94**	**2**	T	T	13 33 52.2	
	baz=182,slow=72,SNR=248						
LIC	**Lamto**	**21.20**	**28**	*e*P	**P**	**13 32 05.6**	**-1.8**
	142nm,1.5s						
KIC	**Kosan Boka**	**21.45**	**28**	*e*P	**P**	**13 32 08.5**	**-1.6**
	66nm,0.9s						
TIC	**Toumodi**	**21.58**	**27**	*e*P	**P**	**13 32 09.7**	**-1.8**
DBIC	**Dimbokro**	**21.67**	**27**	P	**P**	**13 32 10.7**	**-1.8**
	9.3nm,0.9s,baz=185,slow=14,SNR=6.2						
DBIC				LR	LR	13 38 37.8	
	comp=Z,917nm,19.2s,baz=188,slow=31						
DBIC	**Dimbokro**	**21.67**	**27**	*e*P	**P**	**13 32 10.2**	**-2.3**
	34nm,1.1s						
RCBR	**Riachuelo**	**22.02**	**286**	*e*P	**P**	**13 32 16.7**	**+0.4**
	188nm,1.8s						
BBTS	**Bebate**	**27.34**	**356**	P	**P**	**13 33 07.9**	**+1.2**
	17nm,0.8s,baz=178,slow=4.5,SNR=3.5						
KOWA	**Kowa**	**29.11**	**22**	P	**P**	**13 33 21.9**	**-0.6**
	7.2nm,0.8s,baz=201,slow=8.4,SNR=15						
KOWA				LR	LR	13 43 19.6	
	comp=Z,1μm,19.1s,baz=206,slow=33						
KOWA	**Kowa**	**29.11**	**22**	*e*P	**P**	**13 33 22.0**	**-0.6**
	9.2nm,0.9s						
TOA0	**Torodi Ar. Sit**	**30.47**	**33**	*e*P	**P**	**13 33 33.5**	**-1.1**
TORD	**Torodi Ar. Bea**	**30.47**	**33**	P	**P**	**13 33 32.8**	**-1.9**
	2.2nm,0.7s,baz=214,slow=9.3,SNR=10						
TORD				PcP	**PcP**	**13 36 34.1**	**+0.1**
	1.7nm,0.9s,baz=203,slow=1.9,SNR=3.6						
TORD				LR	LR	13 43 54.0	
	comp=Z,1μm,20.1s,baz=225,slow=33						
TSUM	**Tsumeb**	**31.65**	**106**	P	**P**	**13 33 48.1**	**+2.9**
	9.6nm,1.4s						
SUR	**Sutherland**	**37.90**	**127**	LR	LR	13 46 40.0	
	comp=Z,28nm,21.0s,baz=279,slow=31						
LBTB	**Lobatse**	**39.87**	**114**	P	**P**	**13 34 55.1**	**-0.6**
	3.3nm,1.0s,baz=248,slow=5.9,SNR=2.1						
LBTB				LR	LR	13 48 27.2	
	comp=Z,580nm,21.5s,baz=271,slow=32						
BOSA	**Boshof**	**40.34**	**119**	P	**P**	**13 34 58.6**	**-1.0**
	2.6nm,0.9s,baz=270,slow=20,SNR=3.6						
BOSA				LR	LR	13 48 43.5	
	comp=Z,599nm,20.0s,baz=276,slow=32						
LSZ	**Lusaka**	**41.64**	**99**	P	**P**	**13 35 10.6**	**+0.2**
	3.4nm,0.9s,baz=243,slow=3.4,SNR=4.7						
LSZ	**Lusaka**	**41.64**	**99**	*e*P	**P**	**13 35 09.6**	**-0.8**
	23nm,1.4s						
CPUP	**Villa Florida**	**42.16**	**245**	P	**P**	**13 35 14.7**	**+0.3**
	5.4nm,0.8s,baz=99,slow=7.5,SNR=11						
CPUP				PcP	**PcP**	**13 37 08.2**	**-0.6**
	2.2nm,1.0s,baz=102,slow=5.4,SNR=3.3						
CPUP				LR	LR	13 50 01.7	
	comp=Z,708nm,21.8s,baz=92,slow=32						
CPUP	**Villa Florida**	**42.16**	**245**	*e*P	**P**	**13 35 14.9**	**+0.5**
	28nm,1.5s						
CPUP				PcP	**PcP**	**13 37 08.2**	**-0.6**
CPUP	**Villa Florida**	**42.16**	**245**	*e*P	**P**	**13 35 14.9**	**+0.5**
CPUP						13 37 08.2	
CPUP				pmax	pmax		
	comp=Z,29nm,1.5s						
SIV	**San Ignacio**	**44.96**	**260**	P	**P**	**13 35 38.5**	**+1.4**
	comp=Z,3.7nm,0.9s,baz=113,slow=10,SNR=11						
PTGA	**Pitinga**	**46.42**	**281**	*e*P	**P**	**13 35 48.4**	**-0.3**
	comp=Z,51nm,1.8s						
SAML	**Samuel**	**47.71**	**269**	*e*P	**P**	**13 35 59.2**	**+0.5**
	comp=Z,13nm,1.1s						
TRQA	**Tornquist**	**48.89**	**230**	*e*P	**P**	**13 36 08.0**	**+0.4**
	comp=Z,77nm,1.6s						
TRQA	**Tornquist**	**48.89**	**230**	*e*P	**P**	**13 36 09.0**	**+1.4**
LPAZ	**La Paz**	**51.72**	**259**	P	**P**	**13 36 30.0**	**0.0**
	comp=Z,4.0nm,0.8s,baz=103,slow=8.4,SNR=12						
LPAZ				LR	LR	13 56 39.1	
	comp=Z,214nm,21.2s,baz=105,slow=34						
LPAZ	**La Paz**	**51.72**	**259**	*e*P	**P**	**13 36 29.7**	**-0.3**
	comp=Z,38nm,1.9s						
LPAZ	**La Paz**	**51.72**	**259**	*e*P	**P**	**13 36 30.8**	**+0.8**
KMBO	**Kilima Mbogo**	**52.75**	**82**	LR	LR	13 57 40.6	
	comp=Z,366nm,18.3s,baz=274,slow=34						
H05S1	**Guadeloupe/Mar**	**53.09**	**299**	T	T	14 33 20.2	
	SNR=84						
ESDC	**Sonseca Array**	**53.15**	**10**	P	**P**	**13 36 40.0**	**+0.5**
	comp=Z,0.1nm,0.3s,baz=186,slow=7.2,SNR=3.1						
ESDC				PcP	**PcP**	**13 37 48.7**	**+1.2**
	comp=Z,0.5nm,0.5s,baz=197,slow=1.5,SNR=4.4						
ESDC				LR	LR	13 59 25.6	
	comp=Z,91nm,18.6s,baz=290,slow=36						
KEST	**Kesra**	**53.36**	**24**	P	**P**	**13 36 42.6**	**+1.5**
	comp=Z,14nm,0.9s,baz=199,slow=1.5,SNR=13						
KEST				LR	LR	13 58 29.0	
	comp=Z,429nm,19.4s,baz=178,slow=35						
KEST	**Kesra**	**53.36**	**24**	*e*P	**P**	**13 36 42.2**	**+1.1**
	comp=Z,37nm,1.3s						
PB10	**IPOC Station P**	**53.85**	**250**	*e*P	**P**	**13 36 45.2**	**+0.2**
	comp=Z,22nm,1.2s						
H05N1	**Guadeloupe/Mar**	**54.19**	**301**	T	T	14 35 04.6	
LCO	**Las Campanas**	**54.27**	**243**	*e*P	**P**	**13 36 48.6**	**+0.3**
	comp=Z,31nm,1.0s						
PCRV	**Puerto La Cruz**	**54.58**	**292**	LR	LR	13 59 51.7	
	comp=Z,179nm,19.2s,baz=102,slow=36						
PEL	**Peldehue**	**54.72**	**238**	*e*P	**P**	**13 36 51.4**	**+0.2**
	comp=Z,27nm,1.1s						
PEL	**Peldehue**	**54.72**	**238**	*e*P	**P**	**13 36 51.4**	**+0.2**
PEL				pmax	pmax		
	comp=Z,27nm,1.1s						
PLCA	**Paso Flores**	**56.00**	**229**	P	**P**	**13 37 03.9**	**+3.5**
	comp=Z,5.9nm,1.2s,baz=146,slow=2.4,SNR=3.6						
PLCA				LR	LR	13 57 19.8	
	comp=Z,313nm,21.3s,baz=114,slow=32						
VAE	**Valguarnera**	**57.00**	**27**	LR	LR	14 01 34.0	
	comp=Z,467nm,18.2s,baz=201,slow=36						
VNA1	**Neumayer--Stat**	**57.96**	**177**	P	**P**	**13 37 14.4**	**+0.8**
VNA2	**Neumayer--Watz**	**58.27**	**177**	P	**P**	**13 37 16.1**	**+0.3**
	baz=347,slow=9.1						
VNA3	**Neumayer Olymp**	**58.50**	**178**	P	**P**	**13 37 17.3**	**-0.1**
HUMP	**Col San Antoni**	**59.08**	**300**	*e*P	**P**	**13 37 21.0**	**-1.2**
	comp=Z,78nm,1.5s						
SNAA	**Sanae**	**59.28**	**176**	P	**P**	**13 37 23.2**	**+0.2**
SNAA	**Sanae**	**59.28**	**176**	P	**P**	**13 37 22.7**	**-0.2**
	comp=Z,34nm,0.9s,baz=335,slow=7.0,SNR=57						
SNAA				LR	LR	13 56 30.6	
	comp=Z,84nm,19.9s,baz=350,slow=30						
SNAA	**Sanae**	**59.28**	**176**	*e*P	**P**	**13 37 22.6**	**-0.3**
	comp=Z,34nm,0.9s						
SNAA	**Sanae**	**59.28**	**176**	*c* iP	**P**	**13 37 23.1**	**+0.2**
SDV	**Santo Domingo**	**59.59**	**288**	P	**P**	**13 37 24.7**	**-1.4**
	comp=Z,6.2nm,0.8s,baz=155,slow=6.5,SNR=7.1						
SDV				LR	LR	14 04 21.9	
	comp=Z,114nm,18.2s,baz=91,slow=37						
SDV	**Santo Domingo**	**59.59**	**288**	*e*P	**P**	**13 37 26.8**	**+0.7**
	comp=Z,27nm,1.0s						
OPO	**Ambohidratompo**	**59.63**	**104**	P	**P**	**13 37 25.7**	**-0.6**
	comp=Z,2.8nm,0.8s,baz=238,slow=9.5,SNR=3.5						
OPO				LR	LR	14 00 43.3	
	comp=Z,486nm,20.8s,baz=227,slow=34						
NVL	**N'lazarevskaya**	**60.21**	**170**	⇑*i*P	**P**	**13 37 29.2**	**0.0**
NVL				pmax	pmax		
	comp=Z,34nm,0.6s						
IDI	**Anoyia**	**60.76**	**37**	P	**P**	**13 37 33.0**	**-0.6**
	comp=Z,3.1nm,0.6s,baz=210,slow=14,SNR=3.9						
IDI				LR	LR	14 06 11.9	
	comp=Z,78nm,18.4s,baz=247,slow=38						
RUSC	**La Rusia**	**60.90**	**284**	*e*P	**P**	**13 37 35.1**	**-0.3**
	comp=Z,15nm,1.4s						
ROSC	**El Rosal**	**61.76**	**283**	P	**P**	**13 37 41.8**	**+0.7**
	comp=Z,4.4nm,0.5s,baz=98,slow=12,SNR=3.4						
ROSC				LR	LR	14 04 25.8	
	comp=Z,375nm,18.6s,baz=98,slow=36						
PRAC	**Prado**	**61.97**	**281**	*e*P	**P**	**13 37 42.3**	**+0.1**
	comp=Z,101nm,1.8s						
LIT	**Litokhoron**	**62.94**	**31**	*e*P	**P**	**13 37 47.8**	**-0.3**
	comp=Z,13nm,0.9s						
LIT	**Litokhoron**	**62.94**	**31**	*e*P	**P**	**13 37 47.8**	**-0.3**
LIT				pmax	pmax		
	comp=Z,13nm,0.9s						
BFO	**Black Forest**	**64.20**	**17**	*e*P	**P**	**13 37 55.4**	**-0.9**
	comp=Z,12nm,0.9s						
BFO	**Black Forest**	**64.20**	**17**	*i* P	**P**	**13 38 03.4**	**+7.1**
OTAV	**Otavalo**	**64.50**	**276**	*e*P	**P**	**13 38 00.7**	**+1.2**
	comp=Z,25nm,1.2s						
DIVS	**Divibare**	**64.83**	**27**	*e*P	**P**	**13 37 59.0**	**-1.6**
	comp=Z,18nm,1.3s						
SYO	**Syowa Base**	**65.77**	**161**	⇓*e*P	**P**	**13 38 04.6**	**-1.6**
SYO	**Syowa Base**	**65.77**	**161**	⇑*e*PcP	**PcP**	**13 38 35.2**	**-2.0**
MMAI	**Mount Meron Ar**	**66.03**	**45**	LR	LR	14 07 20.1	
	comp=Z,107nm,19.4s,baz=220,slow=36						
GEA0	**GERESS Array S**	**66.31**	**20**	*e*P	**P**	**13 38 08.1**	**-1.9**
GEC2	**GERESS Array S**	**66.32**	**20**	*e*P	**P**	**13 38 08.7**	**-1.4**
	comp=Z,22nm,1.4s						
GEC2	**GERESS Array S**	**66.32**	**20**	*e*P	**P**	**13 38 08.7**	**-1.4**
				pmax	pmax		
	comp=Z,23nm,1.4s						
GERES	**GERESS Array B**	**66.32**	**20**	P	**P**	**13 38 09.6**	**-0.5**
	comp=Z,1.5nm,0.7s,baz=211,slow=3.9,SNR=11						
GERES				LR	LR	14 06 12.3	
	comp=Z,234nm,20.9s,baz=248,slow=35						
KHC	**Kasperske Hory**	**66.53**	**20**	*e*P	**P**	**13 38 11.2**	**-0.1**
KHC				*e*pP	**pP**	**13 38 17.2**	**+0.7**
KHC	**Kasperske Hory**	**66.53**	**20**	*e*P	**P**	**13 38 37.8**	**-0.1**
KHC				*e*		13 38 17.2	
ASF	**Jabal al Asfar**	**66.59**	**46**	P	**P**	**13 38 13.6**	**+1.4**
	comp=Z,2.2nm,0.8s,baz=201,slow=9.1,SNR=4.8						
MODS	**Modra-Piesok**	**67.19**	**23**	*e*P	**P**	**13 38 15.4**	**-0.1**
MODS	**Modra-Piesok**	**67.19**	**23**	*e*P	**P**	**13 38 15.4**	**-0.1**
MODS				pmax	pmax		
	comp=Z,59nm,1.9s						
TREC	**Trest**	**67.31**	**21**	AMS	AMS	14 09 00.0	
	comp=Z,400nm,18.9s						
VYHS	**Vyhne**	**67.88**	**23**	*e*P	**P**	**13 38 20.0**	**+0.1**
VYHS	**Vyhne**	**67.88**	**23**	*e*P	**P**	**13 38 20.0**	**+0.1**
VYHS				pmax	pmax		
	comp=Z,9.0nm,1.3s						
PVCC	**Panska Ves**	**68.06**	**20**	*e*P	**P**	**13 38 21.2**	**+0.3**
PVCC				*e*pP	**sP**	**13 38 27.5**	**-0.6**
PVCC	**Panska Ves**	**68.06**	**20**	*e*P	**P**	**13 38 21.2**	**+0.3**
PVCC				*e*		13 38 27.5	
BRG	**Berggiesshubel**	**68.15**	**19**	*e*P	P	13 38 12.2	-9.4
	comp=Z,6.0nm,1.1s						
BRG				*e*		13 38 22.4	
	comp=Z,2.9nm,1.5s						
BRG	**Berggiesshubel**	**68.15**	**19**	*e*P	P	13 38 12.2	-9.3
BRG				pmax	pmax		
	comp=Z,6.0nm,1.1s						
MORC	**Moravsky Berou**	**68.45**	**22**	*e*P	**P**	**13 38 22.1**	**-1.4**
	comp=Z,166nm,1.8s						
MORC	**Moravsky Berou**	**68.45**	**22**	*e*P	**P**	**13 38 22.1**	**-1.4**
MORC				pmax	pmax		
	comp=Z,166nm,1.8s						
DPC	**Dobruska-Polom**	**68.50**	**21**	*e*P	**P**	**13 38 24.2**	**+0.4**
DPC				*e*pP	**pP**	**13 38 29.5**	**+0.5**
DPC	**Dobruska-Polom**	**68.50**	**21**	*e*P	**P**	**13 38 24.2**	**+0.4**
DPC				*e*		13 38 29.5	
UPC	**Upice**	**68.52**	**21**	*e*P	**P**	**13 38 24.3**	**+0.4**
UPC				*e*pP	**pP**	**13 38 29.7**	**+0.6**
UPC	**Upice**	**68.52**	**21**	*e*P	**P**	**13 38 24.3**	**+0.4**
UPC				*e*		13 38 29.7	
EKA	**Eskdalemuir Ar**	**68.56**	**7**	P	**P**	**13 38 23.3**	**-0.7**
	comp=Z,4.8nm,0.8s,baz=182,slow=6.3,SNR=5.8						
MLR	**Muntele Rosu**	**68.64**	**29**	P	**P**	**13 38 24.0**	**-0.9**
	comp=Z,1.3nm,0.8s,baz=263,slow=6.9,SNR=6.4						
MLR				LR	LR	14 08 07.8	
	comp=Z,66nm,20.0s,baz=216,slow=36						
MLR	**Muntele Rosu**	**68.64**	**29**	*e*P	**P**	**13 38 23.4**	**-1.5**
	comp=Z,31nm,1.2s						
MLR	**Muntele Rosu**	**68.64**	**29**	*e*P	**P**	**13 38 23.4**	**-1.5**
MLR				pmax	pmax		
	comp=Z,31nm,1.2s						
OKC	**Ostrava-Krasne**	**68.72**	**22**	AMS	AMS	14 09 40.0	
BR131	**Keskin Array S**	**68.90**	**38**	*e*P	**P**	**13 38 25.7**	**-1.0**
BRTR	**Keskin Array B**	**68.90**	**38**	P	**P**	**13 38 27.3**	**+0.6**
	comp=Z,2.6nm,0.8s,baz=197,slow=7.2,SNR=16						
BRTR				LR	LR	14 09 46.0	
	comp=Z,54nm,19.4s,baz=230,

OBN					*e*S		S	13 50 44.0	+68	
OBN					pmax		pmax			
	comp=Z,7.0nm,1.0s									
OBN					MLR		MLR			
	comp=Z,189nm,19.0s									
FINES	**FINESS Array B**	**80.68**	**19**		P		**P**	**13 39 34.1**	**-0.1**	
	comp=Z,4.4nm,0.6s,baz=204,slow=3.3,SNR=16									
FINES					LR		LR	14 16 50.8		
	comp=Z,110nm,18.3s,baz=205,slow=37									
FINES	**FINESS Array B**	**80.68**	**19**		P		**P**	**13 39 34.1**	**-0.1**	
FINES					pmax		pmax			
	comp=Z,5.0nm,0.6s									
FINES					MLR		MLR			
	comp=Z,110nm,18.3s									
FIA1	**FINESS Array S**	**80.68**	**19**	*e*P			**P**	**13 39 33.1**	**-1.1**	
	comp=Z,10nm,0.9s									
251A	**Midway**	**80.95**	**306**		P		**P**	**13 39 37.9**	**+1.6**	
	baz=111									
TKL	**Tuckaleechee C**	**81.02**	**310**		LR		LR	14 07 38.4		
	comp=Z,68nm,19.6s,baz=164,slow=30									
MOS	**Moscow**	**81.04**	**27**	*e*P			**P**	**13 39 35.2**	**-1.1**	
150A	**Eclectic**	**81.62**	**306**		P		**P**	**13 39 40.7**	**+0.9**	
	baz=111									
Z49A	**Columbiana**	**82.23**	**306**		P		**P**	**13 39 43.6**	**+0.6**	
	baz=111									
LRAL	**Lakeview Retre**	**82.54**	**306**		P		**P**	**13 39 45.6**	**+0.9**	
	baz=110									
LRAL	**Lakeview Retre**	**82.54**	**306**	*e*P			**P**	**13 39 44.0**	**-0.7**	
	comp=Z,19nm,1.3s									
SCO	**Scoresbysund**	**83.22**	**358**	*e*P			**P**	**13 39 48.3**	**+0.9**	
	comp=Z,35nm,2.0s									
SCO	**Scoresbysund**	**83.22**	**358**	*e*P			**P**	**13 39 48.3**	**+0.9**	
SCO					pmax		pmax			
	comp=Z,35nm,2.0s									
V48A	**Smith Brothers**	**83.35**	**309**		P		**P**	**13 39 49.4**	**+0.5**	
	baz=111									
Y47A	**UCPARC, Winfie**	**83.51**	**307**		P		**P**	**13 39 49.4**	**-0.3**	
	baz=110									
W47A	**Westpoint**	**83.77**	**308**		P		**P**	**13 39 50.9**	**-0.1**	
	baz=110									
V47A	**Nunnelly**	**83.92**	**309**		P		**P**	**13 39 52.3**	**+0.5**	
	baz=110									
WVT	**Waverly**	**84.26**	**309**		P		**P**	**13 39 53.4**	**-0.1**	
	baz=110									
WVT	**Waverly**	**84.26**	**309**	*e*P			**P**	**13 39 53.0**	**-0.5**	
	comp=Z,21nm,1.4s									
WVT	**Waverly**	**84.26**	**309**	*e*P			**P**	**13 39 53.0**	**-0.5**	
WVT					pmax		pmax			
	comp=Z,21nm,1.4s									
GEYT	**Alibeck**	**84.66**	**49**		P		**P**	**13 39 54.3**	**-1.2**	
	comp=Z,2.3nm,0.7s,baz=282,slow=7.3,SNR=5.8									
KLMR	**Klimovskoe**	**84.99**	**23**	*e*P			**P**	**13 39 56.0**	**-0.6**	
KLMR					AMP			13 39 57.3		
	comp=Z,14nm,1.1s									
KLMR	**Klimovskoe**	**84.99**	**23**	*e*P			**P**	**13 39 55.9**	**-0.6**	
KLMR					pmax		pmax			
	comp=Z,14nm,1.1s									
MIR	**Mirnyy**	**85.25**	**158**	*e*P			**P**	**13 40 00.0**	**+2.1**	
MIR					pmax		pmax			
	comp=Z,42nm,1.0s									
S43A	**Fulton Ridge,**	**86.44**	**310**		P		**P**	**13 40 03.7**	**-0.7**	
	baz=109									
T43A	**Greenville**	**86.44**	**309**		P		**P**	**13 40 03.8**	**-0.6**	
	baz=109									
ARCES	**ARCESS Array B**	**86.79**	**13**		P		**P**	**13 40 05.5**	**+0.1**	
	comp=Z,2.3nm,0.8s,baz=211,slow=2.8,SNR=6.5									
U42A	**Revenden**	**86.93**	**308**		P		**P**	**13 40 05.4**	**-1.4**	
	baz=108									
F43A	**Flat Rock, Esc**	**87.24**	**318**		P		**P**	**13 40 08.0**	**0.0**	
	baz=111									
E43A	**Lone Tree Farm**	**87.33**	**319**		P		**P**	**13 40 08.7**	**+0.3**	
	baz=112									
G43A	**Wallace**	**87.37**	**317**		P		**P**	**13 40 08.6**	**-0.1**	
	baz=111									
V41A	**Mountainview**	**87.47**	**307**		P		**P**	**13 40 09.6**	**+0.2**	
	baz=108									
CCM	**Cathedral Cave**	**87.47**	**310**		P		**P**	**13 40 08.9**	**-0.4**	
	baz=108									
CCM	**Cathedral Cave**	**87.47**	**310**	*e*P			**P**	**13 40 07.7**	**-1.7**	
	comp=Z,34nm,1.4s									
CCM	**Cathedral Cave**	**87.47**	**310**	*e*P			**P**	**13 40 07.7**	**-1.7**	
CCM					pmax		pmax			
	comp=Z,34nm,1.4s									
R41A	**Rosebud**	**87.64**	**310**		P		**P**	**13 40 09.3**	**-0.9**	
	baz=108									
G42A	**Mountain**	**87.85**	**317**		P		**P**	**13 40 12.1**	**+1.1**	
	baz=110									
W40A	**Ferguson Farm,**	**88.00**	**307**		P		**P**	**13 40 13.0**	**+1.0**	
	baz=107									
RPN	**Rapa Nui**	**88.30**	**243**		LR		LR	14 12 39.5		
	comp=Z,252nm,18.7s,baz=152,slow=31									
W39A	**Magazine**	**88.56**	**306**		P		**P**	**13 40 15.2**	**+0.6**	
	baz=107									
X39A	**Fountain Ranch**	**88.63**	**306**		P		**P**	**13 40 15.1**	**+0.1**	
	baz=106									
E41A	**Kenton**	**88.63**	**318**		P		**P**	**13 40 14.4**	**-0.3**	
	baz=110									
U39A	**Green Forest**	**88.67**	**308**		P		**P**	**13 40 15.5**	**+0.4**	
	baz=107									
H40A	**Chili**	**88.96**	**316**		P		**P**	**13 40 16.8**	**+0.5**	
	baz=109									
AKTO	**Aktyubinsk**	**89.08**	**38**		P		**P**	**13 40 17.2**	**+0.5**	
	comp=Z,0.8nm,0.4s,baz=228,slow=5.8,SNR=7.4									
AKTO					LR		LR	14 22 09.2		
	comp=Z,67nm,21.9s,baz=244,slow=37									
F40A	**Park Falls**	**89.20**	**317**		P		**P**	**13 40 16.8**	**-0.7**	
	baz=109									
ABKAR	**Akbulak array**	**89.83**	**39**	*e*P			**P**	**13 40 19.7**	**-0.5**	
	comp=Z,15nm,0.8s									
VNDA	**Vanda**	**89.83**	**179**		P		**P**	**13 40 20.9**	**+1.0**	
	comp=Z,13nm,0.9s,baz=225,slow=4.5,SNR=33									
VNDA					LR		LR	14 17 16.5		
	comp=Z,56nm,18.8s,baz=189,slow=33									
VNDA	**Vanda**	**89.83**	**179**	*e*P			**P**	**13 40 20.6**	**+0.8**	
	comp=Z,18nm,0.9s									
ARU	**Arti**	**91.54**	**32**		P		**P**	**13 40 28.6**	**+0.6**	
	comp=Z,4.2nm,0.2s,baz=259,slow=3.8,SNR=5.9									
ARU	**Arti**	**91.54**	**32**	*d*	*i*P		P	13 40 33.2	+5.2	
ARU								13 44 11.7		
ARU					S		**SKSac**	**13 51 05.6**	**+5.8**	
ARU					SP		**SPn**	**13 52 42.6**	**+6.1**	
ARU					SS		**SS**	**13 57 41.5**	**+7.6**	
ARU					pmax		pmax			
	comp=Z,8.0nm,1.2s									
JCT	**Junction City**	**92.24**	**301**		P		**P**	**13 40 32.3**	**+0.4**	
	baz=103									
JCT	**Junction City**	**92.24**	**301**	*e*P			**P**	**13 40 32.1**	**+0.1**	
	comp=Z,25nm,1.1s									
JCT	**Junction City**	**92.24**	**301**	*e*P			**P**	**13 40 32.1**	**+0.1**	
JCT					pmax		pmax			
	comp=Z,25nm,1.1s									
SPITS	**Spitsbergen Ar**	**92.47**	**6**		LR		LR	14 21 46.1		
	comp=Z,26nm,18.4s,baz=215,slow=35									
B34A	**Aery, Baudette**	**92.92**	**319**		P		**P**	**13 40 34.5**	**-0.2**	
	baz=106									
ZAIG	**Zacatecas**	**92.93**	**293**	*e*P			**P**	**13 40 35.8**	**+0.2**	
	comp=Z,7.1nm,1.0s									
ULM	**Lac du Bonnet**	**94.16**	**321**		P		**P**	**13 40 39.9**	**-0.4**	
	comp=Z,2.4nm,0.8s,baz=78,slow=5.3,SNR=3.2									
TXAR	**Lajitas Array**	**95.27**	**299**		P		**P**	**13 40 46.5**	**+0.4**	
	comp=Z,1.8nm,0.9s,baz=112,slow=7.4,SNR=16									
TXAR					LR		LR	14 28 02.5		
	comp=Z,18nm,18.1s,baz=0.0,slow=38									
TX31	**Lajitas Ar. Si**	**95.27**	**299**	*e*P			**P**	**13 40 45.8**	**-0.2**	
MSTX	**Muleshoe**	**95.45**	**303**		P		**P**	**13 40 47.5**	**+0.7**	
	baz=102									
MSTX	**Muleshoe**	**95.45**	**303**	*e*P			**P**	**13 40 47.1**	**+0.3**	
	comp=Z,21nm,1.2s									
AAK	**Ala-Archa**	**97.96**	**48**	*e*P			Pdif	13 41 03.1	+5.1	
AAK					pmax		pmax			
	comp=Z,1.0nm,1.1s									
SDCO	**Great Sand Dun**	**98.33**	**307**	*e*P			**P**	**13 40 59.8**	**-0.1**	
	comp=Z,4.2nm,1.2s									
KURBB	**Kurchatov Arra**	**101.81**	**41**		PKKPbc		PKKPbc	13 57 18.0	-4.2	
	comp=Z,0.4nm,0.7s,baz=93,slow=3.1,SNR=4.3									
KURK	**Kurchatov**	**101.88**	**40**		PKKPbc		PKKPbc	13 57 18.0	-4.0	
MKAR	**Makanchi Array**	**103.97**	**45**		PKKP		**PKKPdf**	**13 57 26.4**	**+1.4**	
	comp=Z,0.1nm,0.4s,baz=84,slow=4.5,SNR=2.7									
YKA	**Yellowknife Ar**	**105.83**	**332**		PKKPbc		PKKPbc	13 57 07.3	-3.2	
	comp=Z,0.4nm,1.1s,baz=268,slow=2.8,SNR=5.0									
YKA					PKKP		**PKKPab**	**13 57 24.9**	**+0.7**	
	comp=Z,0.5nm,0.8s,baz=264,slow=4.7,SNR=8.0									
NVAR	**Mina Array Bea**	**108.44**	**306**		PKKPbc		PKKPbc	13 57 00.9	-0.9	
	comp=Z,0.8nm,0.8s,baz=235,slow=5.3,SNR=5.4									
CMAR	**Chiang Mai Arr**	**116.14**	**76**		PKP		**PKPdf**	**13 46 06.0**	**+0.3**	
	comp=Z,0.9nm,0.4s,baz=257,slow=3.7,SNR=8.1									
CM01	**Chiang Mai Arr**	**116.16**	**76**	*e*PKPdf			**PKPdf**	**13 46 05.0**	**-0.7**	

GTA	**Gaotai**	**116.92**	**52**	*e*PKP			**PKPdf**	**13 46 07.3**	**+0.5**	
ILAR	**Eielson Array**	**118.66**	**339**		PKP		**PKPdf**	**13 46 08.4**	**-0.8**	
	comp=Z,0.6nm,0.8s,baz=333,slow=0.8,SNR=7.9									
ILAR					PKKPbc		**PKKPab**	**13 56 24.9**	**-2.6**	
	comp=Z,0.9nm,0.9s,baz=235,slow=5.3,SNR=6.7									
KMI	**Kunming**	**120.03**	**68**		PKP		**PKPdf**	**13 46 12.5**	**-0.8**	
SONM	**Songino Array**	**120.14**	**42**		PKP		**PKPdf**	**13 46 12.2**	**-0.5**	
	comp=Z,1.7nm,0.9s,baz=241,slow=2.8,SNR=7.5									
SONA1	**Songino Array**	**120.14**	**42**	*e*PKPdf			**PKPdf**	**13 46 11.9**	**-0.8**	
LZH	**Lanzhou**	**120.44**	**56**	*e*PKP			**PKPdf**	**13 46 09.5**	**-4.2**	
LZH					sPKP			13 46 23.3		
LZH					LR		LR			
	comp=Z,78nm,18.1s									
LZH					LR		LR			
	comp=Z,72nm,18.3s									
LZH					LR		LR			
	comp=Z,120nm,19.2s									
CD2	**Chengdu**	**120.80**	**62**		PKP		**PKPdf**	**13 46 12.5**	**-1.9**	
TAOE	**Nuku Hiva Isla**	**121.69**	**251**	*e*LR			LR	14 23 54.1		
	comp=Z,191nm,27.6s									
TBI	**Tubuai**	**122.99**	**231**	*e*LR			LR	14 24 31.7		
	comp=Z,269nm,36.2s									
GYA	**Guiyang**	**123.55**	**67**	*e*Pdif			**Pdif**	**13 42 51.0**	**-1.2**	
GYA					PKP		**PKPdf**	**13 46 18.8**	**-1.1**	
GYA					PP		**PP**	**13 48 04.8**	**+3.0**	
GYA					AMB		AMB			
	comp=Z,130nm,7.9s									
BILL	**Bilibino**	**124.80**	**360**	*i*	PKIKP		**PKPdf**	**13 46 18.0**	**-2.9**	
BILL					pmax		pmax			
	comp=Z,4.0nm,1.0s									
HHC	**Hu-ho-hao-te**	**125.53**	**49**	*e*PKP			**PKPdf**	**13 46 24.5**	**+1.2**	
HHC					PP		**PP**	**13 48 20.3**	**+5.8**	
HHC					AMB		AMB			
	comp=Z,34nm,9.4s									
HHC					LR		LR			
	comp=Z,120nm,20.3s									
HHC					LR		LR			
	comp=Z,120nm,20.6s									
HHC					LR		LR			
	comp=Z,140nm,19.8s									
PPT2	**Papeete2**	**126.18**	**237**	*e*LR			LR	14 26 00.9		
	comp=Z,150nm,22.8s									
SEY	**Seymchan**	**129.10**	**8**		PKP		**PKPdf**	**13 46 29.0**	**-0.2**	
	comp=Z,4.0nm,0.9s,baz=350,slow=3.0,SNR=8.9									
SEY	**Seymchan**	**129.10**	**8**		PKIKP		**PKPdf**	**13 46 29.0**	**-0.2**	
SEY					pmax		pmax			
	comp=Z,4.0nm,0.9s									
ZEA	**Zeya**	**129.30**	**28**	*e*PKIKP			**PKPdf**	**13 46 28.2**	**-1.7**	
STKA	**Stephens Creek**	**130.11**	**153**		PKP		**PKPdf**	**13 46 31.9**	**-0.4**	
	comp=Z,2.9nm,0.9s,baz=353,slow=3.6,SNR=3.4									
ASAR	**Alice Springs**	**132.51**	**140**		PKP		**PKPdf**	**13 46 36.2**	**-0.8**	
	comp=Z,1.0nm,0.8s,baz=216,slow=1.7,SNR=7.5									
AS01	**Alice Springs**	**132.54**	**140**	*e*PKPdf			**PKPdf**	**13 46 35.9**	**-1.2**	
NJ2	**Nanjing**	**133.39**	**58**	*e*PKP			**PKPdf**	**13 46 36.8**	**-1.5**	
CN2	**Changchun**	**133.95**	**40**	*e*PKP			**PKPdf**	**13 46 34.3**	**-4.7**	
WRA	**Warramunga Arr**	**135.43**	**136**	PKhKP			PKPpre	13 46 30.2		
	comp=Z,0.7nm,0.8s,baz=223,slow=2.9,SNR=4.8									
WRA					PKP		**PKPdf**	**13 46 41.3**	**-1.2**	
	comp=Z,1.9nm,0.9s,baz=246,slow=2.2,SNR=7.0									
PETK	**Petropavlovsk-**	**139.33**	**7**		PKP		**PKPdf**	**13 46 48.9**	**+0.2**	
	comp=Z,2.2nm,0.8s,baz=56,slow=2.7,SNR=3.7									
PET	**Petropavlovsk**	**139.52**	**6**	*e*PKIKP			PKPdf	13 46 57.5	+8.5	
PET					pmax		pmax			
	comp=Z,9.0nm,1.3s									
CTA	**Charters Tower**	**142.33**	**150**		PKP		**PKPdf**	**13 46 53.4**	**-1.7**	
	comp=Z,4.1nm,0.9s,baz=206,slow=0.6,SNR=3.8									
DZM	**Mont Dzumac**	**145.33**	**182**	*e*PKPbc			**PKPbc**	**13 46 59.2**	**-1.0**	
COEN	**Coen**	**145.55**	**140**	*e*PKPdf			**PKPdf**	**13 46 59.8**	**-1.1**	
INU	**Inuyama**	**146.00**	**44**	*e*PKPdf			**PKPdf**	**13 46 59.5**	**-1.6**	
INU				*e*PKPdf			**PKPab**	**13 47 02.8**	**+0.5**	
MJB9	**Matsu-Tunnel**	**146.08**	**41**	*e*PKPdf			**PKPdf**	**13 46 59.1**	**-2.1**	
MAJO	**Matsushiro**	**146.08**	**41**	*e*PKPdf			**PKPdf**	**13 46 58.9**	**-2.3**	
MAJO				*e*PKPdf			**PKPbc**	**13 47 01.9**	**-0.2**	
MAJO	**Matsushiro**	**146.08**	**41**	*e*PKIKP			**PKPdf**	**13 46 58.9**	**-2.3**	
MAJO				*e*				13 47 01.9		
MAT	**Matsushiro**	**146.08**	**41**		PKP		**PKPdf**	**13 47 01.1**	**-0.1**	
MJAR	**Matsushiro Arr**	**146.09**	**41**		PKPbc		**PKPbc**	**13 47 01.5**	**-0.5**	
	comp=Z,4.3nm,0.9s,baz=310,slow=1.6,SNR=10									
MSVF	**Nonsavu**	**147.16**	**203**	*e*PKPbc			**PKPbc**	**13 47 06.3**	**+0.6**	
MSVF	**Nonsavu**	**147.16**	**203**	*e*PKP2			**PKPbc**	**13 47 06.3**	**+0.6**	

IDC 25 13:30:34.3±3.5, 2°49S×137°93E, h0km, mb3.7/3, mb1 3.9/5, mb1mx3.6/50, mbtmp3.8/5, ML3.6/2, MS2.9/1, Ms1 2.9/1, ms1mx2.3/39, Error ellipse: s-maj=129.3km s-min=24.3km az=89.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.70**	**191**			P	Pn	13 34 40.8	-1.6
	0.4nm,0.3s,baz=12,slow=13,SNR=35								
FITZ	**Fitzroy Crossi**	**19.65**	**217**			P	P	13 35 04.9	+0.1
	0.1nm,0.3s,baz=34,slow=11,SNR=2.0								
FITZ						LR	LR	13 43 18.4	
	comp=Z,38nm,20.4s,baz=168,slow=39								
ASAR	**Alice Springs**	**21.41**	**190**			P	P	13 35 24.8	+0.8
	1.6nm,0.3s,baz=13,slow=10,SNR=109								
ASAR						S	S	13 39 16.0	-6.6
	1.3nm,0.9s,baz=11,slow=25,SNR=4.8								
MKAR	**Makanchi Array**	**69.14**	**323**			P	P	13 41 42.7	+0.1
	0.4nm,0.5s,baz=108,slow=7.5,SNR=5.6								
KURBB	**Kurchatov Arra**	**73.10**	**325**			P	P	13 42 06.3	-0.2
	0.1nm,0.2s,baz=118,slow=5.8,SNR=4.3								

IDC 25 13:32:29.0±1.2, 39°61S×46°26E, h0km, mb3.7/5, mb1 3.9/5, mb1mx3.5/59, mbtmp3.8/5, MS3.6/3, Ms1 3.6/3, ms1mx2.9/43, Error ellipse: s-maj=117.7km s-min=22.3km az=26.0, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BOSA	**Boshof**	**20.51**	**296**			P	P	13 37 09.2	+0.4
	4.6nm,0.8s,baz=132,slow=14,SNR=5.2								
LBTB	**Lobatse**	**22.66**	**304**			P	P	13 37 32.0	+0.1
	6.3nm,0.9s,baz=142,slow=9.9,SNR=4.2								
MAW	**Mawson**	**29.52**	**167**			LR	LR	13 47 46.8	
	comp=Z,76nm,18.3s,baz=62,slow=31								
H01W2	**Cape Leeuwin H**	**53.07**	**108**			T	T	14 38 48.8	
	baz=243								
H01W3	**Cape Leeuwin H**	**53.08**	**108**			T	T	14 38 49.4	
	baz=243								
H01W1	**Cape Leeuwin H**	**53.09**	**108**			T	T	14 38 50.1	
	baz=243								
DBIC	**Dimbokro**	**65.89**	**302**			LR	LR	14 09 46.3	
	comp=Z,80nm,19.2s,baz=110,slow=34								
TORD	**Torodi Ar. Bea**	**66.88**	**312**			P	P	13 43 23.5	+0.4
	0.3nm,0.7s,baz=131,slow=5.2,SNR=3.8								
ASAR	**Alice Springs**	**73.58**	**107**			P	P	13 44 04.2	0.0
	0.3nm,0.7s,baz=229,slow=5.4,SNR=4.2								
WRA	**Warramunga Arr**	**76.13**	**104**			P	P	13 44 19.7	+0.6
	0.4nm,0.7s,baz=226,slow=4.6,SNR=4.5								
URZ	**Urewera**	**90.36**	**143**			LR	LR	14 21 24.2	
	comp=Z,26nm,21.0s,baz=144,slow=32								
TXAR	**Lajitas Array**	**152.28**	**257**			PKPbc	PKPbc	13 52 28.7	-0.4
	0.4nm,0.9s,baz=133,slow=3.8,SNR=2.9								
ILAR	**Eielson Array**	**153.65**	**13**			PKPbc	PKPbc	13 52 27.4	-1.2
	0.1nm,0.5s,baz=323,slow=2.2,SNR=4.7								

*NDI **25** 13:33:15.9±1.9, 26°.91N×92°.98E, h14km±5km, ML3.2*
ISC 25 13:33:15.5±1.2, 26°.97N±0°.06×92°.92E±0°.05, h11km±10km, n8, σ0ŝ57/17, Northeastern India

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TEZP	**TEZPUR**	**0.36**	**198**	*e*P		**Pg**		**13 33 22.5**	**-0.3**
TEZP				*e*S		**Sg**		**13 33 27.1**	**-0.6**
ITAN	**ITANAGAR**	**0.73**	**76**	*e*P		**Pg**		**13 33 29.8**	**0.0**
ITAN				*e*S		**Sb**		**13 33 40.0**	**-0.4**
ITAN				*e*S		**Sg**		**13 33 40.5**	**+1.1**
ITAN				IAML				13 33 43.2	
	comp=N,780nm,0.2s								
ITAN				IAML				13 33 43.2	
	comp=E,1μm,0.2s								
ZIRO	**ZIRO**	**1.00**	**56**	*e*P		**Pg**		**13 33 34.4**	**-0.3**
ZIRO				*e*S		**Sg**		**13 33 47.8**	**0.0**
ZIRO				IAML				13 33 51.1	
	comp=N,1μm,0.4s								
ZIRO				IAML				13 33 52.5	
	comp=E,747nm,0.2s								
GUWA	**GUWAHATI**	**1.34**	**235**	*e*P		**Pn**		**13 33 40.8**	**+0.5**
GUWA				*e*S		**Sg**		**13 33 59.6**	**+0.8**
GUWA				IAML				13 34 01.2	
	comp=N,682nm,0.2s								
GUWA				IAML				13 34 01.4	
	comp=E,291nm,0.2s								
MOKO	**MOKOCHONG**	**1.56**	**114**	*e*P		**Pn**		**13 33 43.8**	**+0.3**
MOKO				*e*S		**Sn**		**13 34 03.2**	**-0.5**
MOKO				*e*S		**Sb**		**13 34 03.9**	**-0.6**
MOKO				IAML				13 34 07.2	
	comp=N,242nm,0.2s								
MOKO				IAML				13 34 09.7	
	comp=E,278nm,0.2s								
KOHI	**KOHIMA**	**1.63**	**139**	*e*P		**Pn**		**13 33 44.6**	**+0.2**
KOHI				*e*S		**Sn**		**13 34 05.8**	**+0.2**
KOHI				IAML				13 34 08.2	
	comp=N,229nm,0.2s								
KOHI				IAML				13 34 08.7	
	comp=E,153nm,0.3s								
SHL	**Shillong**	**1.68**	**214**	*e*P		**Pb**		**13 33 46.1**	**-0.4**
SHL				*e*S		**Sn**		**13 34 06.5**	**-0.1**
SHL				IAML				13 34 10.3	
	comp=E,160nm,0.1s								
SHL				IAML				13 34 10.5	
	comp=N,172nm,0.3s								
IMP	**Imphal**	**2.32**	**156**	*ex*		**Pg**		**13 34 00.6**	**+0.6**

*ISCJB **25** 13:33:36.3±1.0, 8°.06S±0°.08×123°.45E±0°.05, h250km, mb3.6/3, Error ellipse: s-maj=12.3km s-min=5.9km az=21.9*
*IDC **25** 13:33:37.6±1.7, 8°.04S×123°.51E, h243km±13km, mb3.3/3, mb1 3.5/7, mb1mx3.1/60, mbtmp4.0/7, Error ellipse: s-maj=44.9km s-min=19.2km az=63.0*
*DJA **25** 13:33:38.3±1.2, 8°S±9°×12°3E±°, h12km±11km, M4.3/6, mB4.9/1, mb4.7/1, MLv4.1/6, Mw(mB)4.2/1*
ISC 25 13:33:37.7±1.2, 8°.2S±0°.1×123°.41E±0°.08, h250km, n12, σ1ŝ60/21, mb3.8/3, Flores region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**1.80**	**152**			P	Pn	**13 34 17.8**	**-0.8**
SOEI						S	**S**	**13 34 48.7**	**-2.2**
BATI	**Baumata**	**2.05**	**173**			P	Pn	**13 34 21.6**	**+0.8**
	42nm,0.3s,baz=356,slow=2.2,SNR=54								
BATI						S	**S**	**13 34 55.6**	**+0.8**
	50nm,0.3s,baz=252,slow=20,SNR=28								
BATI	**Baumata**	**2.05**	**173**			P	Pn	**13 34 21.4**	**+0.6**
BATI						S	**S**	**13 34 55.3**	**+0.6**
BASI	**Baing, Sumba**	**3.47**	**234**			P	Pn	**13 34 36.4**	**+1.0**
BASI						S	**S**	**13 35 21.5**	**+0.3**
WBSI	**Waikabubak, Su**	**4.24**	**249**			P	Pn	**13 34 44.3**	**-0.1**
WBSI						S	**S**	**13 35 36.2**	**-1.2**
PLAI	**Plampang**	**5.61**	**263**			P	Pn	**13 35 01.3**	**+0.2**
PLAI						S	**S**	**13 36 05.9**	**-1.8**
FITZ	**Fitzroy Crossi**	**10.12**	**168**			P	Pn	**13 35 58.8**	**+1.0**
	0.2nm,0.3s,baz=359,slow=14,SNR=3.5								
FITZ						S	**S**	**13 37 49.8**	**-1.8**
	0.9nm,0.3s,baz=276,slow=23,SNR=9.1								
WRA	**Warramunga Arr**	**15.79**	**139**			P	**P**	**13 37 06.3**	**-0.1**
	1.4nm,0.3s,baz=314,slow=13,SNR=32								
WRA						S	**S**	**13 39 55.1**	**-4.6**
	0.1nm,0.3s,baz=317,slow=24,SNR=3.2								
ASAR	**Alice Springs**	**18.41**	**148**			P	**P**	**13 37 36.7**	**+1.8**
	1.2nm,0.3s,baz=324,slow=9.2,SNR=49								
ASAR						S	**S**	**13 40 51.1**	**-0.9**
	0.0nm,0.3s,baz=318,slow=16,SNR=2.7								
NWAO	**Narrogin (SRO)**	**25.31**	**192**			P	**P**	**13 38 43.5**	**+1.8**
	2.2nm,0.7s,baz=346,slow=19,SNR=3.1								
STKA	**Stephens Creek**	**29.04**	**147**			P	**P**	**13 39 15.2**	**+0.3**
	2.3nm,1.0s,baz=345,slow=12,SNR=3.5								
MKAR	**Makanchi Array**	**65.79**	**330**			P	**P**	**13 43 56.5**	**+0.3**
	0

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
IKAZ				eAMB	AMB	13 42 04.2	
	comp=Z,2µm,0.3s						
IKAZ	**Kazeroun**	**4.91**	**120**	ePn	**Pn**	**13 41 04.3**	**+0.3**
CHTH	**Charan**	**4.95**	**43**	ePn	**Pn**	**13 41 03.6**	**-0.9**
CHTH	**Charan**	**4.95**	**43**	ePn	**Pn**	**13 41 03.6**	**-0.9**
IDMV	**Damavand**	**5.30**	**51**	ePn	**Pn**	**13 41 08.1**	**-1.3**
IDMV				eAMB	AMB	13 42 56.0	
	comp=Z,862nm,0.5s						
IDMV	**Damavand**	**5.30**	**51**	ePn	**Pn**	**13 41 08.1**	**-1.3**
RTB	**Rutbah**	**5.65**	**279**	ePn	**Pn**	**13 41 13.0**	**-1.1**
	SNR=5.0						
RTB				eSn	**Sn**	**13 42 16.0**	**-2.4**
	SNR=5.0						
IPAR	**Pars**	**5.79**	**114**	ePn	**Pn**	**13 41 16.5**	**+0.4**
IPAR				eAMB	AMB	13 42 47.8	
	comp=Z,318nm,0.3s						
IPAR	**Pars**	**5.79**	**114**	ePn	**Pn**	**13 41 16.5**	**+0.4**
IFIR	**Firoozkooh**	**5.82**	**54**	ePn	**Pn**	**13 41 15.4**	**-1.1**
IFIR				eAMB	AMB	13 41 45.0	
	comp=Z,205nm,0.1s						
IFIR	**Firoozkooh**	**5.82**	**54**	ePn	**Pn**	**13 41 15.4**	**-1.1**
ASF	**Jabal al Asfar**	**8.53**	**271**	Pn	**Pn**	**13 41 53.0**	**-0.6**
	comp=Z,0.7nm,0.3s,baz=70,slow=3.6,SNR=3.8						
ASF				Sn	**Sn**	**13 43 30.7**	**+1.5**
	comp=Z,0.7nm,0.3s,baz=54,slow=17,SNR=2.3						
ASF				Lg	Lg	13 44 20.9	
	comp=Z,0.8nm,0.3s,baz=57,slow=19,SNR=3.6						
MMAI	**Mount Meron Ar**	**9.77**	**277**	Lg	Lg	13 45 01.4	
	comp=Z,0.8nm,0.3s,baz=85,slow=29,SNR=2.6						
EIL	**Elat**	**10.65**	**259**	Pn	**Pn**	**13 42 26.6**	**+4.0**
	comp=Z,0.4nm,0.3s,baz=45,slow=7.1,SNR=2.9						
EIL				Lg	Lg	13 45 32.8	
	comp=Z,0.4nm,0.3s,baz=44,slow=19,SNR=2.2						
BRTR	**Keskin Array B**	**13.04**	**308**	Pn	**Pn**	**13 42 56.6**	**+1.1**
	comp=Z,0.1nm,0.3s,baz=110,slow=12,SNR=2.4						
WSAR	**Wadi Sarin**	**13.74**	**128**	Pn	**Pn**	**13 43 01.9**	**-3.0**
	comp=Z,0.8nm,0.3s,baz=343,slow=7.4,SNR=7.1						
IDI	**Anoyia**	**18.57**	**285**	P	**Pn**	**13 44 07.3**	**+0.2**
	comp=Z,0.3nm,0.3s,baz=96,slow=10,SNR=4.7						
AKTO	**Aktyubinsk**	**19.84**	**21**	LR	LR	13 53 10.4	
	comp=Z,21nm,21.9s,baz=228,slow=41						
MLR	**Muntele Rosu**	**20.89**	**315**	P	**P**	**13 44 32.0**	**-0.2**
	comp=Z,0.5nm,0.5s,baz=151,slow=9.6,SNR=2.8						
ARU	**Arti**	**25.39**	**15**	P	**P**	**13 45 17.3**	**+0.5**
	comp=Z,3.6nm,0.2s,baz=276,slow=16,SNR=3.3						
BVAR	**Borovoye Array**	**26.68**	**32**	P	**P**	**13 45 26.8**	**-1.7**
	comp=Z,0.6nm,0.5s,baz=215,slow=7.0,SNR=4.7						
KURBB	**Kurchatov Arra**	**29.55**	**43**	P	**P**	**13 45 53.2**	**-1.1**
	comp=Z,0.4nm,0.5s,baz=251,slow=9.1,SNR=3.7						
MKAR	**Makanchi Array**	**30.52**	**51**	P	**P**	**13 46 02.6**	**-0.3**
	comp=Z,0.9nm,0.8s,baz=251,slow=12,SNR=7.0						
FINES	**FINESS Array B**	**32.11**	**341**	P	**P**	**13 46 15.6**	**-1.1**
	comp=Z,1.1nm,0.8s,baz=163,slow=10.0,SNR=4.8						
ZALV	**Zalesovo Beam**	**34.45**	**40**	P	**P**	**13 46 36.8**	**-0.4**
	comp=Z,0.6nm,0.5s,baz=263,slow=7.1,SNR=2.5						
HFS	**Hagfors**	**35.39**	**332**	P	**P**	**13 46 44.0**	**-1.2**
	comp=Z,2.2nm,0.6s,baz=142,slow=12,SNR=9.0						
ARCES	**ARCESS Array B**	**39.14**	**348**	P	**P**	**13 47 15.9**	**-1.1**
	comp=Z,3.4nm,1.2s,baz=160,slow=8.6,SNR=3.1						
TORD	**Torodi Ar. Bea**	**45.52**	**256**	P	**P**	**13 48 10.2**	**+0.6**
	comp=Z,1.6nm,0.7s,baz=58,slow=7.0,SNR=12						
KOWA	**Kowa**	**49.57**	**261**	P	**P**	**13 48 41.9**	**+0.9**
	comp=Z,2.0nm,0.7s,baz=48,slow=11,SNR=4.2						
BOSA	**Boshof**	**64.05**	**201**	P	**P**	**13 50 25.1**	**+1.5**
	comp=Z,2.0nm,0.7s,baz=64,slow=4.9,SNR=4.4						
ILAR	**Eielson Array**	**82.59**	**6**	LR	LR	14 32 47.4	
	comp=Z,24nm,20.0s,baz=122,slow=39						
YKA	**Yellowknife Ar**	**84.33**	**352**	P	**P**	**13 52 20.2**	**-1.1**
	comp=Z,0.2nm,0.7s,baz=16,slow=5.5,SNR=4.6						
ASAR	**Alice Springs**	**99.85**	**112**	LR	LR	14 43 29.1	
	comp=Z,111nm,20.1s,baz=272,slow=38						

IDC 25 13:46:09.2±7.5, 5°.67S×147°.02E, h170km±85km, mb2.3/1, mb1 2.8/3, mb1mx2.5/47, mbtmp3.1/3, Error ellipse: s-maj=132.5km s-min=51.3km az=122.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.72**	**178**	P	Pn	13 47 06.9	+0.5
	2.1nm,0.3s,baz=344,slow=8.2,SNR=9.5						
PMG				S	Sn	13 47 51.3	+0.2
	0.8nm,0.3s,baz=202,slow=19,SNR=3.1						
WRA	**Warramunga Arr**	**18.80**	**220**	P	P	13 50 16.5	+0.6
	0.1nm,0.3s,baz=48,slow=12,SNR=6.6						
ASAR	**Alice Springs**	**21.90**	**214**	P	P	13 50 49.0	0.0
	0.2nm,0.8s,baz=35,slow=11,SNR=4.7						
TORD	**Torodi Ar. Bea**	**145.02**	**285**	PKPbc	PKPbc	14 05 25.8	-1.3
	0.3nm,0.6s,baz=62,slow=3.0,SNR=3.5						

*TIR **25** 14:13:28.1, 42°.82N×18°.17E, h16km, Md3.1/3*
*ISCJB **25** 14:13:30.4±0.3, 42°.90N±0°.02×18°.44E±0°.03, h19km±3km, Error ellipse: s-maj=3.5km s-min=3.2km az=24.9*
*PDG **25** 14:13:30.2±0.2, 42°.89N×18°.52E, h21km, MD2.7/3, ML2.6/11, Error ellipse: s-maj=0.2km s-min=0.4km az=0.0*
*CSEM **25** 14:13:30.2±0.2, 42°.91N×18°.50E, h10km, ML2.6, Error ellipse: s-maj=3.4km s-min=2.8km az=64.0*
*BEO **25** 14:13:30.2±0.3, 42°.88N×18°.48E, h16km±3km*
ISC 25 14:13:30.7±0.8, 42°.90N±0°.02×18°.50E±0°.02, h17km±4km, n74, σ0°.91/126, 14C-12D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BRY	**Bratogost**	**0.03**	**88**	⇓iPg	**Pg**	**14 13 33.7**	**-0.2**
BRY				eSg	**Sg**	**14 13 36.7**	**+0.6**
BRY	**Bratogost**	**0.03**	**88**	⇓iPg	**Pg**	**14 13 33.7**	**-0.2**
BRY				eSg	**Sg**	**14 13 36.6**	**+0.5**
TREB	**Trebinje**	**0.21**	**211**	⇓iPg	**Pg**	**14 13 35.5**	**-0.2**
TREB				eSg	**Sb**	**14 13 39.7**	**0.0**
NKME	**Niksic**	**0.36**	**112**	⇑iPg	**Pg**	**14 13 37.3**	**-0.9**
NKME				eSg	**Sg**	**14 13 43.2**	**-0.1**
NKME	**Niksic**	**0.36**	**112**	⇑iPg	**Pg**	**14 13 37.3**	**-0.9**
NKME				eSg	**Sg**	**14 13 43.2**	**-0.1**
NKY	**Niksic**	**0.37**	**103**	⇑iPg	**Pg**	**14 13 37.8**	**-0.7**
NKY				eSg	**Sg**	**14 13 43.8**	**0.0**
NKY	**Niksic**	**0.37**	**103**	⇑iPg	**Pg**	**14 13 37.8**	**-0.7**
NKY				eSg	**Sg**	**14 13 43.8**	**0.0**
UPM	**Unac-Piva**	**0.42**	**44**	⇑iPg	**Pg**	**14 13 38.4**	**-1.0**
UPM				eSg	**Sb**	**14 13 45.7**	**-0.3**
UPM	**Unac-Piva**	**0.42**	**44**	P	**Pg**	**14 13 38.6**	**-0.8**
UPM				eSg	**Sb**	**14 13 45.7**	**-0.3**
HCY	**Herceg Novi**	**0.45**	**180**	⇑iPg	**Pg**	**14 13 39.1**	**-0.7**
HCY				eSg	**Sb**	**14 13 46.5**	**-0.1**
HCY	**Herceg Novi**	**0.45**	**180**	⇑iPg	**Pg**	**14 13 39.1**	**-0.7**
HCY				eSg	**Sb**	**14 13 46.5**	**-0.1**
CEME	**Cevo**	**0.47**	**139**	⇓iPg	**Pg**	**14 13 39.2**	**-0.9**
CEME				eSg	**Sg**	**14 13 46.6**	**+0.1**
CEME	**Cevo**	**0.47**	**139**	⇓iPg	**Pg**	**14 13 39.2**	**-0.9**
CEME				eSg	**Sg**	**14 13 46.6**	**+0.1**
STON	**Ston**	**0.59**	**267**	ePg	**Pg**	**14 13 40.3**	**-2.1**
STON				Sg	**Sg**	**14 13 50.0**	**-0.1**
STON	**Ston**	**0.59**	**267**	ePg	**Pg**	**14 13 40.2**	**-2.1**
STON				eSg	**Sg**	**14 13 49.8**	**-0.3**
BUM	**Brajici-Budva**	**0.67**	**154**	⇑iPg	**Pb**	**14 13 43.1**	**-0.7**
BUM				eSg	**Sb**	**14 13 53.2**	**+0.4**
BUM	**Brajici-Budva**	**0.67**	**154**	⇑iPg	**Pg**	**14 13 43.1**	**-0.7**
BUM				eSg	**Sb**	**14 13 53.2**	**+0.4**
PDG	**Podgorica**	**0.73**	**130**	ePg	**Pb**	**14 13 43.4**	**-1.5**
PDG				eSg	**Sg**	**14 13 54.8**	**+0.2**
PDG	**Podgorica**	**0.73**	**130**	⇓iPg	**Pb**	**14 13 44.0**	**-0.9**
PDG				eSg	**Sg**	**14 13 54.8**	**+0.2**
TTG	**Podgorica**	**0.73**	**130**	⇓iPg	**Pb**	**14 13 44.0**	**-0.9**
TTG				eSg	**Sg**	**14 13 55.4**	**+0.8**
KOME	**Kolasin**	**0.75**	**93**	⇓iPg	**Pb**	**14 13 44.8**	**-0.5**
KOME				eSg	**Sg**	**14 13 56.3**	**+1.0**
KOME	**Kolasin**	**0.75**	**93**	⇓iPg	**Pb**	**14 13 44.8**	**-0.5**
KOME				eSg	**Sg**	**14 13 56.3**	**+1.0**
PLE	**Pljevlja**	**0.78**	**56**	⇑iPg	**Pb**	**14 13 45.1**	**-0.7**
PLE				eSg	**Sn**	**14 13 57.4**	**-1.0**
PLE	**Pljevlja**	**0.78**	**56**	⇑iPg	**Pb**	**14 13 45.1**	**-0.7**
PLE				eSg	**Sn**	**14 13 57.4**	**-1.0**
DRME	**Dracevica, Mon**	**0.88**	**144**	⇑iPg	**Pb**	**14 13 46.6**	**-0.8**
DRME				eSg	**Sn**	**14 14 00.1**	**-0.4**
DRME	**Dracevica, Mon**	**0.88**	**144**	ePg	**Pb**	**14 13 47.0**	**-0.4**
DRME				eSg	**Sn**	**14 14 00.0**	**-0.4**
BEY	**Berane**	**1.03**	**91**	⇓iPg	**Pn**	**14 13 48.9**	**-1.1**
BEY	**Berane**	**1.03**	**91**	P	**Pn**	**14 13 49.7**	**-0.3**
BEY				eSg	**Sn**	**14 14 05.2**	**+0.9**
IVA	**Berane**	**1.03**	**91**	⇓iPg	**Pn**	**14 14 48.9**	**-1.1**
IVA				eSg	**Sn**	**14 14 05.2**	**+0.9**
ULC	**Ulcinj**	**1.09**	**149**	⇑iPg	**Pb**	**14 13 50.2**	**-0.8**
ULC				eSg	**Sg**	**14 14 07.5**	**+1.6**
ULC	**Ulcinj**	**1.09**	**149**	⇑iPg	**Pb**	**14 13 50.2**	**-0.8**
ULC	**Ulcinj**	**1.09**	**149**	P	**Pn**	**14 13 51.3**	**+0.2**
ULC				eSg	**Sg**	**14 14 07.5**	**+1.6**
PVY	**Plav**	**1.12**	**105**	⇓iPg	**Pb**	**14 13 51.0**	**-0.6**
PVY				eSg	**Sg**	**14 14 08.8**	**+1.8**
SJES	**Sjenica**	**1.14**	**71**	ePg	**Pb**	**14 13 51.9**	**0.0**
SJES				eSg	**Sn**	**14 14 06.8**	**-0.4**
BBLS	**Lazići**	**1.17**	**34**	ePg	**Pb**	**14 13 52.4**	**-0.1**
BBLS				eSg	**Sg**	**14 14 08.5**	**-0.1**
BBLS	**Lazići**	**1.17**	**34**	ePg	**Pb**	**14 13 52.4**	**-0.1**
BBLS				eSg	**Sg**	**14 14 08.5**	**-0.1**
HAPS	**Han Pijesak,Bl**	**1.23**	**15**	ePg	**Pn**	**14 13 52.5**	**-0.7**
HAPS				eSg	**Sn**	**14 14 09.9**	**+0.5**
HAPS	**Han Pijesak,Bl**	**1.23**	**15**	ePg	**Pn**	**14 13 52.5**	**-0.7**
HAPS				eSg	**Sn**	**14 14 09.9**	**+0.5**
PEJK	**Peje**	**1.34**	**101**	P	**Pg**	**14 13 56.8**	**+0.4**
PEJK				S	**Sn**	**14 14 11.6**	**-0.4**
PUK	**Puka**	**1.34**	**129**	i Pn	**Pg**	**14 13 56.1**	**-0.4**
PUK	**Puka**	**1.34**	**129**	i PN	**Pg**	**14 13 56.1**	**-0.4**
PUK				i SN	**Sg**	**14 14 17.6**	**+3.6**
IVAS	**Ivanjica**	**1.39**	**60**	ePg	**Pb**	**14 13 55.8**	**-0.3**
IVAS				eSg	**Sg**	**14 14 14.9**	**-0.5**
IVAS	**Ivanjica**	**1.39**	**60**	ePg	**Pb**	**14 13 55.8**	**-0.3**
IVAS				eSg	**Sg**	**14 14 14.9**	**-0.5**
DIVS	**Divibare**	**1.62**	**42**	ePg	**Pn**	**14 13 58.8**	**+0.3**
DIVS				eSg	**Sg**	**14 14 22.2**	**-0.6**
DIVS	**Divibare**	**1.62**	**42**	ePg	**Pn**	**14 13 58.8**	**+0.3**
DIVS	**Divibare**	**1.62**	**42**	ePn	**Pn**	**14 13 59.2**	**+0.7**
DIVS				eSn	**Sb**	**14 14 20.4**	**+0.2**
DIVS				eSg	**Sg**	**14 14 22.2**	**-0.6**
TEKS	**Tekeris**	**1.81**	**24**	ePn	**Pn**	**14 14 00.8**	**-0.2**
TEKS	**Tekeris**	**1.81**	**24**	ePn	**Pn**	**14 14 00.9**	**-0.1**
TEKS				eSn	**Sb**	**14 14 25.5**	**-0.2**
TIR	**Tirane**	**1.85**	**146**	ePn	**Pn**	**14 14 00.2**	**-1.4**
TIR	**Tirane**	**1.85**	**146**	ePn	**Pn**	**14 14 00.2**	**-1.4**
PHP	**Peshkopia**	**1.89**	**129**	i Pn	**Pg**	**14 14 06.5**	**-0.4**
	baz=123						
PHP	**Peshkopia**	**1.89**	**129**	i PN	**Pg**	**14 14 06.5**	**-0.4**
PHP				i SN	**Sg**	**14 14 33.0**	**+1.6**
GRUS	**Gruza**	**1.89**	**58**	ePn	**Pn**	**14 14 02.6**	**+0.4**
GRUS	**Gruza**	**1.89**	**58**	ePn	**Pn**	**14 14 02.6**	**+0.4**
TRUS	**Trudelj**	**1.92**	**46**	ePn	**Pn**	**14 14 02.4**	**-0.1**
TRUS	**Trudelj**	**1.92**	**46**	ePn	**Pn**	**14 14 02.4**	**-0.1**
SELS	**Selova**	**1.95**	**80**	ePn	**Pn**	**14 14 03.3**	**+0.4**
SELS	**Selova**	**1.95**	**80**	ePn	**Pn**	**14 14 03.3**	**+0.4**
BLY	**Banja Luka**	**2.08**	**333**	ePn	**Pn**	**14 14 05.7**	**+1.0**
BLY				eSg	**Sg**	**14 14 38.7**	**+1.2**
BLY	**Banja Luka**	**2.08**	**333**	ePn	**Pn**	**14 14 05.7**	**+1.0**
BLY				eSn	**Sn**	**14 14 31.2**	**+1.0**
BLY				eSg	**Sg**	**14 14 38.7**	**+1.2**
BARS	**Barje**	**2.44**	**91**	ePn	**Pn**	**14 14 10.7**	**+1.0**
BARS	**Barje**	**2.44**	**91**	ePn	**Pn**	**14 14 10.7**	**+1.0**
FGSL	**Fruska Gora**	**2.45**	**22**	ePn	**Pn**	**14 14 09.2**	**-0.6**
FRGS	**Fruska Gora**	**2.45**	**22**	ePn	**Pn**	**14 14 09.2**	**-0.6**
ZAPS	**Zavoj**	**3.05**	**82**	ePn	**Pn**	**14 14 18.8**	**+0.7**
ZAPS	**Zavoj**	**3.05**	**82**	ePn	**Pn**	**14 14 18.8**	**+0.7**
NVLJ	**Novalja**	**3.11**	**304**	Sn	**Sn**	**14 14 57.5**	**+1.9**
NVLJ	**Novalja**	**3.11**	**304**	Sn	**Sn**	**14 14 57.5**	**+1.9**
CRES	**Cresnjev**	**3.65**	**324**	ePn	**Pn**	**14 14 27.3**	**+1.0**
CRES				eSn	**Sn**	**14 15 08.8**	**-0.1**
CEY	**Cerknica**	**4.07**	**316**	ePn	**Pn**	**14 14 32.1**	**0.0**
CEY				eSn	**Sn**	**14 15 18.9**	**-0.5**
SOKA	**Soboth**	**4.51**	**328**	Pn	**Pn**	**14 14 40.4**	**+2.2**
	1.6nm,0.2s						
SOKA				Sn	**Sn**	**14 15 30.4**	**+0.1**
	3.0nm,0.7s						
SOKA	**Soboth**	**4.51**	**328**	ePn	**Pn**	**14 14 40.4**	**+2.2**
	1.6nm,0.2s						
SOKA				i Sn	**Sn**	**14 15 30.4**	**+0.1**
	3.0nm,0.7s						
ARSA	**Arzberg**	**4.83**	**335**	Pn	**Pn**	**14 14 44.3**	**+1.7**
	1.8nm,0.3s						
ARSA	**Arzberg**	**4.83**	**335**	ePn	**Pn**	**14 14 44.3**	**+1.7**
	1.8nm,0.3s						

MEX 25 14:19:55.3±0.3, 16°.61N×98°.40W, h16km±6km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.34**	**130**	i P	Pg	14 20 01.4	-0.9
PNIG				eS	Sg	14 20 06.4	-0.7
TLIG	**Tlapa**	**0.96**	**350**	eP	Pb	14 20 12.1	-1.6
TLIG				eS	Sb	14 20 22.2	-4.0
VHO	**Vista Hermosa**	**1.66**	**74**	eP	Pn	14 20 17.7	-6.3
VHO				eS	Sn	14 20 40.4	-4.7
CAIG	**El Cayaco**	**1.84**	**284**	eP	Pn	14 20 23.2	-3.1
CAIG				eS	Sn	14 20 44.7	-4.7
PLIG	**Platanillo**	**2.06**	**329**	eP	Pn	14 20 29.0	-0.5
PLIG				i S	Sn	14 20 50.4	-4.5

*ISCJB **25** 14:21:34.9±0.4, 40°.29N±0°.02×25°.82E±0°.04, h10km±4km, Error ellipse: s-maj=4.9km s-min=3.7km az=7.3*
*ATH **25** 14:21:34.8, 40°.30N×25°.76E, h26km±2km, ML2.0/5, Error ellipse: s-maj=2.8km s-min=1.2km az=284.0*
*ISK **25** 14:21:34.8, 40°.28N×25°.86E, h16km, ML2.5/9*
*CSEM **25** 14:21:35.0±0.1, 40°.29N×25°.82E, h12km, ML2.5, Error ellipse: s-maj=2.2km s-min=1.7km az=106.0*
*THE **25** 14:21:35.5, 40°.29N×25°.77E, h9km±1km, ML1.9/5, Error ellipse: s-maj=1.7km s-min=0.4km az=101.0*
ISC 25 14:21:35.0±0.8, 40°.30N±0°.02×25°.81E±0°.02, h15km±5km, n47, σ0°.39/69, Aegean Sea

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GADA	**Gvkgeada**	**0.12**	**147**	PG	**Pg**	**14 21 38.5**	**0.0**
GADA				SG	**Sg**	**14 21 41.0**	**+0.1**
GADA	**Gvkgeada**	**0.12**	**147**	P	**Pg**	**14 21 38.5**	**0.0**
GADA				S	**Sg**	**14 21 40.9**	**+0.1**
GADA	**Gvkgeada**	**0.12**	**147**	i Pg	**Pg**	**14 21 38.5**	**0.0**
GADA				S	**Sg**	**14 21 40.9**	**+0.1**
SMTH	**Samothraki Isl**	**0.28**	**310**	P	**Pg**	**14 21 40.2**	**-0.6**
SMTH				S	**Sg**	**14 21 44.1**	**-0.8**
SMTH				AML	AML	14 21 45.1	
	comp=N,1306µm,0.3s						
SMTH				AML	AML	14 21 45.1	
	comp=E,628µm,0.2s						
SMTH	**Samothraki Isl**	**0.28**	**310**	P	**Pg**	**14 21 40.8**	**-0.1**
SMTH				S	**Sg**	**14 21 44.8**	**-0.1**
SMTH	**Samothraki Isl**	**0.28**	**310**	P	**Pg**	**14 21 40.8**	**-0.1**
SMTH				S	**Sg**	**14 21 45.0**	**+0.1**
ENEZ	**Enez**	**0.51**	**31**	PG	**Pg**	**14 21 45.4**	**+0.3**
ENEZ				SG	**Sb**	**14 21 52.8**	**-0.2**
ENEZ	**Enez**	**0.51**	**31**	ePg	**Pg**	**14 21 45.4**	**+0.3**
ENEZ				eSg	**Sb**	**14 21 52.8**	**-0.2**
GELI	**Tayfur-Gelibol**	**0.52**	**78**	PG	**Pg**	**14 21 44.9**	**-0.3**
GELI				SG	**Sg**	**14 21 52.3**	**+0.1**
GELI	**Tayfur-Gelibol**	**0.52**	**78**	ePg	**Pg**	**14 21 44.9**	**-0.3**
GELI				eSg	**Sg**	**14 21 52.3**	**+0.1**
EZN	**Ezine**	**0.61**	**140**	PG	**Pg**	**14 21 46.7**	**-0.3**
EZN	**Ezine**	**0.61**	**140**	ePg	**Pg**	**14 21 46.7**	**-0.3**
LIA	**Limnos Island**	**0.62**	**231**	P	**Pg**	**14 21 47.2**	**0.0**
LIA				S	**Sg**	**14 21 54.5**	**-0.9**
LIA				AML	AML	14 21 59.2	
	comp=E,177µm,0.4s						
LIA				AML	AML	14 21 59.3	
	comp=N,158µm,0.3s						
LIA	**Limnos Island**	**0.62**	**231**	P	**Pg**	**14 21 46.8**	**-0.4**
LIA				S	**Sg**	**14 21 55.4**	**0.0**
LIA	**Limnos Island**	**0.62**	**231**	P	**Pg**	**14 21 47.0**	**-0.2**
LIA				S	**Sg**	**14 21 55.2**	**-0.2**
ALN	**Alexandroupoli**	**0.63**	**17**	PG	**Pg**	**14 21 47.9**	**+0.2**
ALN	**Alexandroupoli**	**0.63**	**17**	P	**Pb**	**14 21 47.6**	**-0.1**
ALN				S	**Sb**	**14 21 56.9**	**+0.6**
ALN				AML	AML	14 21 57.2	
	comp=N,280µm,0.3s						
ALN				AML	AML	14 21 57.3	
	comp=E,244µm,0.2s						
ALN	**Alexandroupoli**	**0.63**	**17**	P	**Pb**	**14 21 47.6**	**-0.1**
ALN				S	**Sb**	**14 21 57.0**	**+0.6**
ALN	**Alexandroupoli**	**0.63**	**17**	P	**Pb**	**14 21 47.5**	**-0.1**
ALN	**Alexandroupoli**	**0.63**	**17**	ePg	**Pb**	**14 21 47.9**	**+0.2**
ALN				S	**Sb**	**14 21 56.9**	**+0.6**
ERIK	**Erikli-Kesan**	**0.66**	**55**	PG	**Pg**	**14 21 47.6**	**-0.2**
ERIK	**Erikli-Kesan**	**0.66**	**55**	ePg	**Pg**	**14 21 47.6**	**-0.2**
LPK	**Lapseki**	**0.73**	**84**	PG	**Pg**	**14 21 48.5**	**-0.7**
LPK	**Lapseki**	**0.73**	**84**	ePg	**Pg**	**14 21 48.5**	**-0.7**
GPNR	**Gulpinar-Canak**	**0.88**	**163**	PG	**Pg**	**14 21 51.9**	**0.0**
GPNR	**Gulpinar-Canak**	**0.88**	**163**	ePg	**Pg**	**14 21 51.9**	**0.0**
RDO	**Rodhopi**	**0.88**	**346**	P	**Pg**	**14 21 52.2**	**+0.3**
RDO				S	**Sn**	**14 22 04.5**	**-0.8**
RDO				AML	AML	14 22 07.7	
	comp=N,164µm,0.2s						
RDO				AML	AML	14 22 08.0	
	comp=E,173µm,0.2s						
RDO	**Rodhopi**	**0.88**	**346**	P	**Pb**	**14 21 51.9**	**0.0**
RDO				S	**Sg**	**14 22 04.0**	**+0.6**
RDO	**Rodhopi**	**0.88**	**346**	P	**Pb**	**14 21 51.9**	**0.0**
RDO				S	**Sg**	**14 22 04.0**	**+0.6**
EFSA	**Agios Efstrati**	**0.98**	**220**	P	**Pb**	**14 21 55.1**	**+0.8**
EFSA	**Agios Efstrati**	**0.98**	**220**	P	**Pn**	**14 21 54.3**	**0.0**
SIGR	**SIGRI**	**1.08**	**178**	PG	**Pg**	**14 21 55.8**	**-0.1**
SIGR	**SIGRI**	**1.08**	**178**	P	**Pg**	**14 21 56.0**	**+0.2**
SIGR				S	**Sb**	**14 22 09.4**	**0.0**
SIGR				AML	AML	14 22 11.6	
	comp=E,244µm,0.5s						
SIGR				AML	AML	14 22 12.2	
	comp=N,385µm,0.4s						
SIGR	**SIGRI**	**1.08**	**178**	P	**Pn**	**14 21 55.6**	**0.0**
SIGR				S	**Sn**	**14 22 11.7**	**+1.3**
SIGR	**SIGRI**	**1.08**	**178**	ePg	**Pg**	**14 21 55.8**	**-0.1**
SIGR				S	**Sn**	**14 22 10.2**	**-0.2**
RKY	**Sarkoy-Tekirda**	**1.11**	**69**	PN	**Pb**	**14 21 55.8**	**-0.2**
RKY	**Sarkoy-Tekirda**	**1.11**	**69**	ePn	**Pb**	**14 21 55.8**	**-0.2**
KRBG	**Karabiga-Canak**	**1.14**	**85**	PN	**Pb**	**14 21 56.2**	**-0.2**
KRBG	**Karabiga-Canak**	**1.14**	**85**	ePn	**Pb**	**14 21 56.2**	**-0.2**
KAVA	**Kavala**	**1.21**	**306**	P	**Pn**	**14 21 57.1**	**-0.4**
KAVA	**Kavala**	**1.21**	**306**	P	**Pn**	**14 21 57.0**	**-0.4**
KAVA	**Kavala**	**1.21**	**306**	P	**Pn**	**14 21 57.2**	**-0.2**
KDZ	**Kurdzhali**	**1.39**	**348**	ePn	**Pb**	**14 22 00.3**	**-0.3**
OUR	**Ouranopolis**	**1.40**	**272**	PN	**Pb**	**14 22 00.8**	**0.0**
OUR	**Ouranopolis**	**1.40**	**272**	ePn	**Pb**	**14 22 00.8**	**0.0**
CHOS	**Chios island**	**1.92**	**174**	P	**Pn**	**14 22 07.0**	**-0.2**
CHOS	**Chios island**	**1.92**	**174**	P	**Pn**	**14 22 07.5**	**+0.3**

IDC 25 14:25:48.7±6.8, 27°.76S×177°.95W, h0km, mb3.7/2, mb1 4.0/2, mb1mx3.5/39, mbtmp3.7/2, Error ellipse: s-maj=295.5km s-min=105.7km az=162.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**43.36**	**264**	P	P	14 33 52.5	-0.6
	0.5nm,0.5s,baz=104,slow=7.1,SNR=20						
WRA	**Warramunga Arr**	**44.10**	**269**	P	P	14 33 59.3	+0.3
	0.3nm,0.4s,baz=108,slow=7.8,SNR=15						
FINES	**FINESS Array B**	**142.68**	**341**	PKP	PKPdf	14 45 22.9	-0.3
	0.5nm,0.4s,baz=50,slow=2.2,SNR=5.8						

IDC 25 14:26:55.1±2.7, 15°.32S×174°.65W, h117km±46km, mb3.3/3, mb1 3.6/4, mb1mx3.2/48, mbtmp3.7/4, Error ellipse: s-maj=321.2km s-min=25.4km az=152.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.12**	**64**	P	Pn	14 27 44.8	+1.9
	22nm,0.3s,baz=237,slow=7.5,SNR=32						
AFI				S	Sn	14 28 19.7	-0.1
	36nm,0.3s,baz=220,slow=16,SNR=8.0						
WRA	**Warramunga Arr**	**48.69**	**257**	P	P	14 35 28.3	+0.4
	0.4nm,0.7s,baz=92,slow=7.4,SNR=3.3						
ASAR	**Alice Springs**	**48.99**	**252**	P	P	14 35 29.5	-0.7
	0.8nm,0.6s,baz=88,slow=7.9,SNR=12						
PDAR	**Pinedale Array**	**83.02**	**42**	P	P	14 39 08.1	+0.3
	0.6nm,0.8s,baz=234,slow=3.1,SNR=4.0						

WEL 25 14:27:18.1, 36°S±10'×18°0E±1°4, h33km, ML3.6/13, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.71**	**218**	P	Pn	14 27 46.2	+0.7
WMGZ	**Waiomatatini S**	**1.87**	**211**	P	Pb	14 27 50.3	-1.2
PKGZ	**Pakihiroa**	**2.08**	**216**	P	Pn	14 27 52.4	+1.7
PKGZ	**Pakihiroa**	**2.08**	**216**	S	Sb	14 28 18.6	-2.0
HAZ	**Te Kaha**	**2.13**	**223**	P	Pn	14 27 52.5	+1.2
PUZ	**Puketiti**	**2.15**	**210**	P	Pn	14 27 53.5	+1.9
PUZ	**Puketiti**	**2.15**	**210**	S	Sb	14 28 19.9	-2.7
RUGZ	**Raukumara Rang**	**2.34**	**221**	P	Pn	14 27 56.5	+2.2
TWGZ	**Tauwhareparae**	**2.35**	**213**	P	Pn	14 27 56.6	+2.1
TWGZ	**Tauwhareparae**	**2.35**	**213**	S	Sn	14 28 25.1	+2.9
CNGZ	**Carnagh Statio**	**2.53**	**206**	P	Pn	14 27 58.9	+2.2
MWZ	**Matawai**	**2.69**	**218**	P	Pn	14 28 00.7	+1.6
MWZ	**Matawai**	**2.69**	**218**	S	Sn	14 28 32.2	+1.6
URZ	**Urewera**	**2.86**	**224**	P	Pn	14 28 02.8	+1.5
URZ	**Urewera**	**2.86**	**224**	S	Sn	14 28 35.9	+1.3
RAGZ	**Rawiri**	**2.87**	**217**	P	Pn	14 28 03.2	+1.6
RIGZ	**Rimuhau**	**2.89**	**210**	P	Pn	14 28 02.8	+1.0
RIGZ	**Rimuhau**	**2.89**	**210**	S	Sn	14 28 36.2	+0.8
OPRZ	**Ohinepanea**	**2.94**	**236**	P	Pn	14 28 04.6	+2.0
PRGZ	**Paritu Road**	**3.03**	**207**	P	Pn	14 28 04.8	+1.0
PRGZ	**Paritu Road**	**3.03**	**207**	S	Sn	14 28 40.2	+1.3
SNGZ	**Shannon Statio**	**3.14**	**215**	P	Pn	14 28 06.4	+1.1
SNGZ	**Shannon Statio**	**3.14**	**215**	S	Sn	14 28 42.6	+1.1
RTZ	**Ruatahuna**	**3.19**	**221**	P	Pn	14 28 07.6	+1.6
KUZ	**Kuaotunu**	**3.19**	**259**	P	Pn	14 28 07.6	+1.7
KUZ	**Kuaotunu**	**3.19**	**259**	S	Sn	14 28 41.8	-1.0
KNZ	**Kokohu**	**3.20**	**208**	P	Pn	14 28 06.2	+0.2
KNZ	**Kokohu**	**3.20**	**208**	S	Sn	14 28 42.7	-0.2
MUGZ	**Murupara**	**3.20**	**224**	P	Pn	14 28 06.5	+0.5
MUGZ	**Murupara**	**3.20**	**224**	S	Sn	14 28 43.3	+0.2
MHGZ	**Mahia Peninsul**	**3.23**	**204**	P	Pn	14 28 07.4	+0.9
MHGZ	**Mahia Peninsul**	**3.23**	**204**	S	Sn	14 28 45.3	+1.5
RRRZ	**Republican Roa**	**3.26**	**229**	P	Pn	14 28 08.6	+1.7
RAHZ	**Arahi**	**3.36**	**216**	P	Pn	14 28 10.0	+1.7
RAHZ	**Arahi**	**3.36**	**216**	S	Sn	14 28 48.5	+1.4
KMRZ	**Kaimai**	**3.37**	**240**	P	Pn	14 28 10.2	+1.9
MTHZ	**Maungataniwha**	**3.44**	**219**	P	Pn	14 28 11.2	+1.9
MTHZ	**Maungataniwha**	**3.44**	**219**	S	Sn	14 28 49.8	+0.9
ALRZ	**Allen Road**	**3.51**	**227**	P	Pn	14 28 11.9	+1.7
ARHZ	**Aropaoanui**	**3.68**	**214**	P	Pn	14 28 13.2	+0.5
ARHZ	**Aropaoanui**	**3.68**	**214**	S	Sn	14 28 55.2	+0.3

*ISN **25** 14:37:47.3±0.6, 32°.59N×47°.02E, h0km±2km, ML3.6*
*TEH **25** 14:37:50.1, 32°.53N×47°.03E, h9km, ML3.6*
*CSEM **25** 14:37:50.2±0.5, 32°.51N×46°.82E, h2km, ML3.6, Error ellipse: s-maj=11.8km s-min=8.7km az=152.0*
*ISCJB **25** 14:37:51.9±0.7, 32°.47N±0°.05×46°.89E±0°.06, h20km, Error ellipse: s-maj=8.6km s-min=5.4km az=41.8*
ISC 25 14:37:51.2±1.0, 32°.51N±0°.04×46°.74E±0°.05, h20km, n17, σ1°.11/22, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
IKFM	**Kafar-mosalman**	**1.38**	**42**	ePg	**Pn**	**14 38 14.8**	**-0.5**
IKFM				eSg	**Sn**	**14 38 32.3**	**-0.6**
IKFM				eAMB	AMB	14 38 42.3	
	comp=Z,99nm,0.3s						
IKFM	**Kafar-mosalman**	**1.38**	**42**	ePg	**Pn**	**14 38 14.8**	**-0.5**
IKFM				eSg	**Sn**	**14 38 32.3**	**-0.6**
NSR	**Nassriya**	**1.58**	**199**	ePn	**Pb**	**14 38 19.0**	**-0.6**
	SNR=3.0						
NSR				eSn	**Sb**	**14 38 41.0**	**+1.9**
	SNR=3.0						
IKOM	**Komasi**	**1.79**	**21**	ePn	**Pb**	**14 38 22.7**	**-0.6**
IKOM				eSg	**Sb**	**14 38 47.1**	**+1.8**
IKOM				eAMB	AMB	14 38 50.2	
	comp=Z,8µm,0.4s						
IKOM	**Komasi**	**1.79**	**21**	ePn	**Pb**	**14 38 22.7**	**-0.6**
IKOM				eSg	**Sb**	**14 38 47.1**	**+1.8**
IVIS	**Veis**	**2.02**	**3**	ePn	**Pn**	**14 38 23.8**	**-0.4**
IVIS				eAMB	AMB	14 39 04.6	
	comp=Z,4µm,0.3s						
IVIS	**Veis**	**2.02**	**3**	ePn	**Pn**	**14 38 23.8**	**-0.4**
BHD	**Baghdad**	**2.12**	**292**	ePn	**Pn**	**14 38 28.0**	**-1.0**
	SNR=3.0						
BHD				eSn	**Sb**	**14 38 56.0**	**+1.1**
	SNR=3.0						
IDHR	**Dehrash**	**2.21**	**352**	ePn	**Pb**	**14 38 29.8**	**-0.7**
IDHR				eAMB	AMB	14 39 08.9	
	comp=Z,4µm,0.2s						
IDHR	**Dehrash**	**2.21**	**352**	ePn	**Pb**	**14 38 29.8**	**-0.7**
ILIN	**Lien**	**2.41**	**4**	ePn	**Pb**	**14 38 33.1**	**-1.0**
ILIN				eAMB	AMB	14 39 14.9	
	comp=Z,2µm,0.3s						

ILIN	**Lien**	**2.41**	**4**	*e*Pn	**Pb**	**14 38 33.1**	**-1.0**
IRAZ	**Razeghan**	**3.92**	**42**	*e*Pn	**Pn**	**14 38 52.0**	**+1.5**
IRAZ				*e*AMB	AMB	14 40 01.8	
	comp=Z,578nm,0.5s						
IRAZ	**Razeghan**	**3.92**	**42**	*e*Pn	**Pn**	**14 38 52.0**	**+1.5**
IZEF	**Zefreh**	**4.73**	**84**	*e*Pn	**Pn**	**14 39 00.8**	**-0.8**
IZEF				*e*AMB	AMB	14 39 23.1	
	comp=Z,69nm,0.2s						
IZEF	**Zefreh**	**4.73**	**84**	*e*Pn	**Pn**	**14 39 00.8**	**-0.8**
RTB	**Rutbah**	**5.44**	**277**	*e*Pn	Pn	14 39 15.0	+3.8
	SNR=3.0						

*ISK **25** 14:50:29.7,37˚.19N×28˚.15E,h5km,ML2.1/6*
*ISCJB **25** 14:50:30.2±0.5,37˚.21N±0˚.04×28˚.20E±0˚.04,h0km,Error ellipse: s-maj=6.4km s-min=3.5km az=36.4*
*CSEM **25** 14:50:30.4±0.1,37˚.20N×28˚.19E,h1km,ML2.1,Error ellipse: s-maj=3.9km s-min=2.1km az=36.0,Suspected Mining explosion.*
*DDA **25** 14:50:30.0,37˚.22N×28˚.20E,h7km,Ml2.6,Suspected Mining explosion.*

ISC 25 14:50:30.5±1.1,37˚.20N±0˚.03×28˚.19E±0˚.03,h0km,n18, σ0s49/28,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YER	**Yerkesik**	**0.10**	**131**	PG	**Pg**	**14 50 32.8**	**+0.5**
YER				SG	**Sg**	14 50 34.5	+0.9
YER	**Yerkesik**	**0.10**	**131**	*e*Pg	**Pg**	**14 50 32.8**	**+0.5**
YER				*e*Sg	**Sg**	14 50 34.5	+0.9
MLSB	**Milas**	**0.34**	**286**	PG	**Pg**	**14 50 36.9**	**-0.1**
MLSB				SG	**Sg**	14 50 42.3	+0.8
MLSB	**Milas**	**0.34**	**286**	*e*Pg	**Pg**	**14 50 36.9**	**-0.1**
MLSB				*e*Sg	**Sg**	14 50 42.3	+0.8
TURN	**Turunc**	**0.46**	**135**	PG	**Pg**	14 50 39.1	-0.2
TURN	**Turunc**	**0.46**	**135**	*i* P	**Pg**	**14 50 38.8**	**-0.6**
TURN				*i* S	**Sg**	14 50 45.7	+0.4
TURN	**Turunc**	**0.46**	**135**	P	**Pg**	**14 50 38.8**	**-0.6**
TURN	**Turunc**	**0.46**	**135**	*e*Pg	**Pg**	14 50 39.1	-0.2
TURN				S	**Sg**	14 50 45.7	+0.4
AYDN	**Tasoluk**	**0.52**	**332**	*i* P	**Pg**	14 50 40.2	-0.3
AYDN				*i* S	**Sg**	14 50 47.5	+0.2
AYDN	**Tasoluk**	**0.52**	**332**	P	**Pg**	14 50 40.2	-0.3
AYDN				S	**Sg**	14 50 47.5	+0.2
TAVA	**DENIZLI_Tavas**	**0.64**	**65**	*i* P	**Pg**	14 50 42.4	-0.2
TAVA				*i* S	**Sg**	14 50 51.0	+0.1
TAVA	**DENIZLI_Tavas**	**0.64**	**65**	P	**Pg**	14 50 42.4	-0.2
TAVA				S	**Sg**	14 50 51.0	+0.1
BODT	**Bodrum**	**0.72**	**259**	PG	**Pg**	14 50 43.9	-0.3
BODT	**Bodrum**	**0.72**	**259**	*e*Pg	**Pg**	14 50 43.9	-0.3
AYDB	**Zeytinkoy-Aydi**	**0.78**	**342**	PG	**Pg**	**14 50 46.0**	**+0.5**
AYDB	**Zeytinkoy-Aydi**	**0.78**	**342**	*e*Pg	**Pg**	**14 50 46.0**	**+0.5**
FETY	**Fethiye**	**0.91**	**128**	PG	**Pb**	**14 50 48.7**	**-0.4**
FETY	**Fethiye**	**0.91**	**128**	*e*Pg	**Pb**	**14 50 48.7**	**-0.4**

*IDC **25** 14:52:27.2±1.9,36˚.64N×144˚.54E,h0km,mb3.6/3, mb1 3.7/7,mb1mx3.4/70,mbtmp3.8/7,ML3.3/4,Error ellipse: s-maj=36.0km s-min=22.2km az=85.0*
*ISCJB **25** 14:52:29.7±0.9,36˚.81N±0˚.04×144˚.35E±0˚.06,h26km, mb3.6/3,Error ellipse: s-maj=7.3km s-min=5.8km az=20.5*
*JMA **25** 14:52:32.6±0.3,36˚.91N×144˚.30E,h54km,M3.9*

ISC 25 14:52:29.9±1.2,36˚.81N±0˚.06×144˚.51E±0˚.09,h26km,n26, σ1s69/31,mb3.5/3,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**2.96**	**282**	S	**Sn**	**14 53 48.1**	**-1.8**
ONAJ	**Iwakimizuishiy**	**2.98**	**277**	P	**Pn**	**14 53 16.5**	**+0.9**
ONAJ				S	**Sn**	14 53 49.6	-1.0
JIO	**Ouri**	**3.00**	**304**	P	**Pn**	**14 53 16.2**	**+0.5**
JIO				S	**Sn**	14 53 48.8	-2.0
JMM	**Marumori**	**3.14**	**291**	P	**Pn**	**14 53 18.4**	**+0.7**
JMM				*e*S	**Sn**	14 53 52.8	-1.6
JMK	**Ichinoseki**	**3.37**	**310**	P	**Pn**	**14 53 21.3**	**+0.5**
JMK				*e*S	**Sn**	14 53 58.6	-1.3
JFT	**Otama**	**3.41**	**283**	*e*S	**Sn**	14 53 59.6	-1.3
BSO1	**Boso 1**	**3.58**	**234**	P	**Pn**	**14 53 24.0**	**+0.7**
BSO1				*e*S	**Sn**	14 54 05.8	+1.3
JOM	**Ohasama**	**3.67**	**317**	P	**Pn**	**14 53 25.7**	**+0.7**
JOM				*e*S	**Sn**	14 54 04.9	-2.6
JYK	**Kaneyama**	**3.90**	**304**	P	**Pn**	**14 53 29.7**	**+1.6**
JAG	**Ashikaga**	**4.08**	**266**	P	**Pn**	**14 53 31.6**	**+1.0**
JAG				S	**Sn**	14 54 15.1	-2.5
JRY	**Ryogami san**	**4.59**	**262**	P	**Pn**	**14 53 38.2**	**+0.6**
JRY				*e*S	**Sn**	14 54 27.8	-2.3
MJAR	**Matsushiro Arr**	**5.07**	**269**	Pn	**Pn**	**14 53 45.0**	**+0.8**
	1.3nm,0.3s,baz=82,slow=8.6,SNR=13						
MJAR				Sn	**Sn**	14 54 42.0	+0.1
	1.1nm,0.3s,baz=82,slow=29,SNR=7.3						
JHJ	**Hachijo jima 2**	**5.34**	**228**	Pn	**Pn**	**14 53 47.5**	**-0.5**
	4.6nm,0.3s,baz=45,slow=20,SNR=5.8						
JHJ				Sn	**Sn**	14 54 46.8	-1.9
	23nm,0.3s,baz=53,slow=20,SNR=7.5						
JKB	**Kayabe**	**5.74**	**333**	P	**Pn**	**14 53 55.2**	**+1.8**
JCH	**Churui**	**5.87**	**352**	P	**Pn**	**14 53 54.6**	**-0.5**
ASAJ	**Asahikawa**	**7.45**	**349**	Pn	**Pn**	**14 54 17.8**	**+1.0**
	0.2nm,0.3s,baz=222,slow=16,SNR=3.7						
ASAJ				Sn	**Sn**	14 55 37.0	-3.3
	0.2nm,0.3s,baz=139,slow=20,SNR=2.8						
JCJ	**Chichijima**	**9.88**	**192**	Pn	**Pn**	**14 54 47.8**	**-2.4**
	1.7nm,0.3s,baz=343,slow=15,SNR=3.5						
JCJ				Sn	Sn	14 56 30.9	-9.4
	1.3nm,0.3s,baz=31,slow=18,SNR=3.4						
H11N2	**WAKE ISLAND Hy**	**25.94**	**125**	T	T	15 24 51.4	
	baz=317						
H11N1	**WAKE ISLAND Hy**	**25.95**	**125**	T	T	15 25 01.5	
	baz=317						
H11N3	**WAKE ISLAND Hy**	**25.96**	**125**	T	T	15 24 52.6	
	baz=317						
H11S1	**WAKE ISLAND Hy**	**26.70**	**127**	T	T	15 25 48.6	
	baz=318						
H11S3	**WAKE ISLAND Hy**	**26.70**	**127**	T	T	15 25 54.2	
	baz=318						
H11S2	**WAKE ISLAND Hy**	**26.71**	**127**	T	T	15 25 50.5	
	baz=318						
MKAR	**Makanchi Array**	**46.33**	**303**	P	**P**	**15 00 56.5**	**+3.0**
	0.4nm,0.7s,baz=89,slow=9.3,SNR=5.8						
KURBB	**Kurchatov Arra**	**48.09**	**309**	P	**P**	**15 01 09.5**	**+2.4**
	0.5nm,0.3s,baz=81,slow=7.9,SNR=6.4						
WRA	**Warramunga Arr**	**57.25**	**191**	P	**P**	**15 02 14.9**	**-0.2**
	0.3nm,0.8s,baz=11,slow=7.2,SNR=3.1						

MEX 25 14:57:49.9±0.5,17˚.43N×100˚.71W,h14km±5km,MD3.9, Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAIG	**El Cayaco**	**0.57**	**132**	*i* P	Pg	14 57 59.1	-2.0
CAIG				*i* S	Sg	14 58 07.2	-1.4
ZIIG	**Zihuatanejo**	**0.74**	**284**	*e*P	Pg	14 58 02.0	-2.3
ZIIG				*e*S	Sg	14 58 11.6	-2.6
ARIG	**Puente Sto Nin**	**0.91**	**22**	*e*P	Pb	14 58 04.5	-3.0
ARIG				*e*S	Sg	14 58 15.4	-4.1
MEIG	**Mezcala**	**1.15**	**64**	*e*P	Pb	14 58 08.1	-3.5
MEIG				*e*S	Sb	14 58 20.8	-5.6
PLIG	**Platanillo**	**1.49**	**50**	*e*P	Pn	14 58 12.9	-3.5
PLIG				*e*S	Sn	14 58 30.6	-5.2
TLIG	**Tlapa**	**2.05**	**86**	*e*P	Pn	14 58 15.8	-8.3
TLIG				*e*S	Sn	14 58 45.2	-4.3

*ISCJB **25** 15:03:46.5±0.9,14˚.7N±0˚.2×88˚.4W±0˚.2,h33km,mb3.5/2, Error ellipse: s-maj=31.2km s-min=9.0km az=137.6*
*IDC **25** 15:03:50.9±1.7,13˚.83N×89˚.13W,h90km±23km,mb2.9/3, mb1 3.3/4,mb1mx3.1/42,mbtmp3.4/4,Error ellipse: s-maj=108.2km s-min=14.6km az=43.0*

ISC 25 15:03:48.8±1.0,14˚.6N±0˚.2×88˚.5W±0˚.2,h35km,n6,σ0s94/6, Honduras

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
APG	**El Apazote**	**1.94**	**282**	P	**Pn**	**15 04 19.6**	**0.0**
	3.6nm,0.3s,baz=116,slow=12,SNR=13						
JTS	**JuntasAbangare**	**5.51**	**141**	P	**Pn**	**15 05 08.6**	**+0.1**
	2.5nm,0.3s,baz=350,slow=13,SNR=6.3						
JTS				S	**Sn**	15 06 10.7	0.0
	0.9nm,0.3s,baz=198,slow=23,SNR=3.6						
TXAR	**Lajitas Array**	**20.28**	**319**	P	**P**	**15 08 22.5**	**+0.8**
	0.3nm,0.4s,baz=141,slow=12,SNR=6.1						
YKA	**Yellowknife Ar**	**51.28**	**345**	P	**P**	**15 12 49.7**	**+0.7**
	0.4nm,0.7s,baz=144,slow=7.9,SNR=10						
ILAR	**Eielson Array**	**63.65**	**336**	P	**P**	**15 14 15.0**	**-1.3**
	0.5nm,1.1s,baz=147,slow=4.1,SNR=3.2						
WRA	**Warramunga Arr**	**138.83**	**256**	PKP	PKPdf	15 23 04.7	-7.6
	0.4nm,0.9s,baz=89,slow=3.2,SNR=3.7						

*NEIC **25** 15:04:20.4±0.0,16˚.31N×94˚.78W,h104km,MD4.0(MEX), After MEX.*

MEX 25 15:04:20.4±0.3,16˚.31N×94˚.78W,h104km±9km,MD4.0, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HUIG	**Huatulco**	**1.38**	**247**	*i* P	Pn	15 04 44.3	-1.2
HUIG				*e*S	Sn	15 05 02.9	-1.6
HUIG	**Huatulco**	**1.38**	**247**	*i* P	Pn	15 04 44.3	-1.2
HUIG				*e*S	Sn	15 05 02.9	-1.6
PCIG		**1.62**	**111**	*i* P	Pn	15 04 47.2	-1.1
PCIG				*e*S	Sn	15 05 07.8	-1.8
PCIG		**1.62**	**111**	*i* P	Pn	15 04 47.2	-1.1
PCIG				*e*S	Sn	15 05 07.8	-1.8
VHO	**Vista Hermosa**	**2.02**	**292**	*e*P	Pn	15 04 52.6	-1.0
VHO				*e*S	Sn	15 05 17.2	-1.7
VHO	**Vista Hermosa**	**2.02**	**292**	*e*P	Pn	15 04 52.6	-1.0
VHO				*e*S	Sn	15 05 17.2	-1.7
PNIG	**Pinotepa**	**3.21**	**272**	*e*P	Pn	15 05 07.9	-1.2
PNIG				*e*S	Sn	15 05 40.0	-6.8
PNIG	**Pinotepa**	**3.21**	**272**	*e*P	Pn	15 05 07.9	-1.2
PNIG				*e*S	Sn	15 05 40.0	-6.8
TLIG	**Tlapa**	**3.83**	**290**	*e*P	Pn	15 05 16.2	-1.3
TLIG				*i* S	Sn	15 05 47.9	-14
TLIG	**Tlapa**	**3.83**	**290**	*e*P	Pn	15 05 16.2	-1.3
TLIG				*i* S	Sn	15 05 47.9	-14

*ISK **25** 15:07:07.9,39˚.92N×33˚.12E,h5km,ML2.2/4*
*ISCJB **25** 15:07:09.5±0.5,39˚.88N±0˚.03×33˚.08E±0˚.04,h0km,Error ellipse: s-maj=4.3km s-min=4.1km az=29.9*
*CSEM **25** 15:07:09.0±0.2,39˚.88N×33˚.08E,h1km,ML2.2,Error ellipse: s-maj=4.4km s-min=4.0km az=54.0,Suspected Mining explosion.*
*DDA **25** 15:07:09.8,39˚.91N×33˚.06E,h7km,Ml2.6,Suspected Mining explosion.*

ISC 25 15:07:08.9±0.9,39˚.91N±0˚.03×33˚.12E±0˚.03,h0km,n18, σ0s67/32,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ANTO	**Ankara**	**0.26**	**260**	PG	**Pg**	**15 07 13.6**	**-0.2**
ANTO				SG	**Sg**	15 07 17.5	+0.3
ANTO	**Ankara**	**0.26**	**260**	*e*Pg	**Pg**	15 07 13.6	-0.2
ANTO				*e*Sg	**Sg**	15 07 17.5	+0.3
LOD	**Lodumlu**	**0.28**	**265**	PG	**Pg**	15 07 13.4	-0.8
LOD				SG	**Sg**	15 07 18.0	+0.2
LOD	**Lodumlu**	**0.28**	**265**	*e*Pg	**Pg**	15 07 13.4	-0.8
LOD				*e*Sg	**Sg**	15 07 18.0	+0.2
AFSR	**Afˇar-Bala (A**	**0.47**	**185**	PG	**Pg**	15 07 17.5	-0.3
AFSR				SG	**Sg**	15 07 24.6	+0.7
AFSR	**Afˇar-Bala (A**	**0.47**	**185**	*e*Pg	**Pg**	15 07 17.5	-0.3
AFSR				*e*Sg	**Sg**	15 07 24.6	+0.7
ELDT	**Eldivan**	**0.62**	**22**	*i* P	**Pb**	**15 07 21.9**	**-0.9**
ELDT				*i* S	Sb	15 07 32.8	+0.7
ELDT	**Eldivan**	**0.62**	**22**	P	**Pb**	**15 07 21.9**	**-0.9**
ELDT				S	**Sb**	15 07 32.8	+0.7
KKUL	**Konya-Kulu**	**0.76**	**192**	*i* P	**Pg**	**15 07 23.6**	**+0.2**
KKUL				*i* S	**Sb**	15 07 35.8	-0.1
KKUL	**Konya-Kulu**	**0.76**	**192**	P	**Pg**	**15 07 23.6**	**+0.2**
KKUL				S	**Sb**	15 07 35.8	-0.1
CDAG	**Cicekdag**	**1.00**	**106**	*i* P	**Pb**	**15 07 28.7**	**-0.6**
CDAG				*i* S	**Sn**	15 07 45.3	0.0
CDAG	**Cicekdag**	**1.00**	**106**	P	**Pb**	**15 07 28.7**	**-0.6**
CDAG				S	**Sn**	15 07 45.3	0.0
SERE	**Sereflikochisa**	**1.02**	**160**	PG	**Pg**	**15 07 28.2**	**-0.3**
SERE	**Sereflikochisa**	**1.02**	**160**	*e*Pg	**Pg**	15 07 28.2	-0.3
BCAM	**Yenicaga**	**1.21**	**318**	*i* P	**Pb**	**15 07 32.2**	**-0.6**
BCAM				*i* S	**Sn**	15 07 52.0	+1.6
BCAM	**Yenicaga**	**1.21**	**318**	P	**Pb**	**15 07 32.2**	**-0.6**
BCAM				S	**Sn**	15 07 52.0	+1.6
SVRH	**Sivrihisar-ESK**	**1.32**	**250**	PN	**Pg**	**15 07 33.5**	**-0.7**
SVRH	**Sivrihisar-ESK**	**1.32**	**250**	*e*Pn	**Pg**	**15 07 33.5**	**-0.7**

*SOME **25** 15:09:06.4,43˚.02N×80˚.18E,h15km*
*KRNET **25** 15:09:07.9±0.1,43˚.14N×80˚.12E,h28km,mb2.6*
*ISCJB **25** 15:09:08.3±0.9,43˚.09N±0˚.04×80˚.13E±0˚.06,h10km,Error ellipse: s-maj=7.4km s-min=4.2km az=41.8*

ISC 25 15:09:05.8±1.3,43˚.06N±0˚.05×80˚.10E±0˚.05,h10km,n16, σ1s49/32,4C-4D,Kazakhstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KTMS	**Ketmen**	**0.43**	**26**	*e*P	**Pb**	**15 09 15.5**	**-0.1**
KTMS	23nm,0.1s						
	166nm,0.1s			*e*S	**Sb**	15 09 21.7	-0.5
KTMS	**Ketmen**	**0.43**	**26**	*e*P	**Pb**	**15 09 15.5**	**-0.1**
KTMS	baz=27						
	baz=27			*e*S	**Sb**	15 09 21.7	-0.5
SHLS	**Shalkode**	**0.47**	**282**	*e*P	**Pg**	**15 09 12.9**	**-2.2**
SHLS	21nm,0.1s						
	114nm,0.2s			*e*S	**Sg**	15 09 17.5	-3.9
SHLS	**Shalkode**	**0.47**	**282**	*e*P	**Pg**	**15 09 12.9**	**-2.2**
SHLS	baz=74						
	baz=74			*e*S	**Sg**	15 09 17.5	-3.9
PDGK	**Podgornoye**	**0.52**	**301**	⇑*i* P	**Pb**	**15 09 17.8**	**+0.7**
PDGK	baz=92						
	baz=92			⇑*i* S	**Sb**	15 09 26.0	+1.3
UZB	**Uzynbulak**	**0.79**	**277**	*e*P	**Pn**	**15 09 22.4**	**-0.8**
UZB	1.0nm,0.2s						
	15nm,0.1s			*e*S	**Sb**	15 09 33.7	+1.1
UZB	**Uzynbulak**	**0.79**	**277**	*e*P	Pn	15 09 22.4	-0.8
UZB	baz=71						
	baz=71			*e*S	**Sb**	15 09 33.7	+1.1
KPKS	**Kokpek**	**1.11**	**292**	*e*P	**Pn**	**15 09 27.6**	**+0.1**
KPKS	5.4nm,0.1s						
	56nm,0.3s			*e*S	**Sn**	15 09 43.1	+0.2
KPKS	**Kokpek**	**1.11**	**292**	*e*P	**Pn**	**15 09 27.6**	**+0.1**
KPKS	baz=86						
	baz=86			*e*S	**Sn**	15 09 43.1	+0.2
SATY	**Saty**	**1.24**	**270**	*e*P	**Pg**	**15 09 30.9**	**+1.3**
SATY	5.4nm,0.1s						
	34nm,0.1s			*e*S	**Sn**	15 09 48.5	+2.3
DJR	**Jarkent**	**1.29**	**350**	⇓*i* P	**Pg**	**15 09 31.0**	**+0.4**
DJR	4.5nm,0.1s						
	7.4nm,0.2s			⇓*i* S	**Sg**	15 09 48.7	+1.3
MNBS	**Baschi**	**1.60**	**310**	*e*P	**Pg**	**15 09 36.2**	**-0.2**
MNBS	3.7nm,0.3s						
	11nm,0.3s			*e*S	**Sg**	15 09 58.0	+0.8
ARXS	**Arharly**	**2.01**	**306**	*e*P	**Pg**	**15 09 43.4**	**-0.9**
ARXS	1.7nm,0.3s						
	14nm,0.4s			*e*S	**Sg**	15 10 10.3	-0.1
TARG	**Taragay, Kyrgy**	**2.16**	**233**	⇓*i* P	**Pb**	**15 09 45.9**	**+0.7**
TARG	baz=31						
	baz=31			⇓*i* S	**Sb**	15 10 14.0	+1.8
KAPS	**Kapalarasan**	**2.29**	**347**	*e*P	**Pb**	**15 09 47.4**	**+0.2**
KAPS	1.1nm,0.2s						
	3.3nm,0.3s			*e*S	**Sb**	15 10 16.8	+1.3
KDJ	**Kajisay**	**2.35**	**248**	⇑*i* P	**Pb**	**15 09 48.6**	**+0.3**
KDJ	baz=46						
	baz=46			⇑*i* S	**Sb**	15 10 18.7	+1.3

IDC 25 15:11:24.9±4.5,7˚.33S×120˚.88E,h198km±39km,mb2.3/2, mb1 2.6/4,mb1mx2.5/54,mbtmp3.0/4,Error ellipse: s-maj=222.0km s-min=30.3km az=56.0,Flores Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**3.97**	**136**	P	Pn	15 12 27.0	+0.7
	1.3nm,0.3s,baz=270,slow=16,SNR=2.8						
BATI				S	Sn	15 13 14.6	0.0
	1.1nm,0.3s,baz=255,slow=19,SNR=2.7						
WRA	**Warramunga Arr**	**18.10**	**135**	P	P	15 15 21.9	-0.3
	0.0nm,0.3s,baz=312,slow=12,SNR=4.1						
ASAR	**Alice Springs**	**20.50**	**144**	P	P	15 15 48.3	+0.3
	0.1nm,0.3s,baz=316,slow=8.8,SNR=5.0						
MKAR	**Makanchi Array**	**63.85**	**331**	P	P	15 21 36.2	-0.2
	0.2nm,0.6s,baz=143,slow=8.4,SNR=2.6						

MEX 25 15:15:29.4±0.4,16˚.45N×98˚.36W,h5km±7km,MD3.8,Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.23**	**105**	*i* P	Pg	15 15 33.6	-0.3
PNIG				*i* S	Sg	15 15 36.8	0.0
TLIG	**Tlapa**	**1.12**	**350**	*i* P	Pg	15 15 50.1	-0.9
TLIG				*e*S	Sg	15 16 02.9	-2.7
VHO	**Vista Hermosa**	**1.67**	**68**	*e*P	Pn	15 15 56.3	-3.3
VHO				*e*S	Sn	15 16 16.7	-4.8
CAIG	**El Cayaco**	**1.93**	**288**	*e*P	Pn	15 15 59.4	-3.4
CAIG				*e*S	Sn	15 16 22.8	-4.6
PLIG	**Platanillo**	**2.22**	**331**	*e*P	Pn	15 16 07.1	+0.1
PLIG				*e*S	Sn	15 16 30.5	-4.4

*IDC **25** 15:19:40.0±1.6,8˚.91N×94˚.05E,h0km,mb3.5/6,mb1 3.6/7, mb1mx3.4/61,mbtmp3.5/7,ML3.8/1,Error ellipse: s-maj=60.3km s-min=22.2km az=57.0*
*ISCJB **25** 15:19:41.6±1.1,9˚.0N±0˚.1×94˚.1E±0˚.2,h22km,mb3.4/6, Error ellipse: s-maj=30.6km s-min=16.5km az=153.2*

ISC 25 15:19:43.4±1.4,8˚.9N±0˚.2×94˚.0E±0˚.2,h22km,n10,σ0s96/7, mb3.5/6,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**10.65**	**26**	Pn	**Pn**	**15 22 15.1**	**+0.4**
	0.2nm,0.3s,baz=212,slow=15,SNR=5.0						
H08S3	**Diego Garcia H**	**27.02**	**233**	T	T	15 52 46.3	
	baz=52						
H08S2	**Diego Garcia H**	**27.02**	**233**	T	T	15 52 49.1	
	baz=52						
H08S1	**Diego Garcia H**	**27.04**	**233**	T	T	15 52 56.4	
	baz=52						
MKAR	**Makanchi Array**	**39.09**	**347**	P	**P**	**15 27 08.4**	**-0.7**
	0.2nm,0.7s,baz=167,slow=8.7,SNR=2.8						
GEYT	**Alibeck**	**43.39**	**318**	P	**P**	**15 27 45.5**	**+0.9**
	0.7nm,0.4s,baz=141,slow=9.3,SNR=3.2						
KURBB	**Kurchatov Arra**	**43.55**	**346**	P	**P**	**15 27 44.2**	**-1.3**
	0.2nm,0.3s,baz=158,slow=7.6,SNR=3.1						
ZALV	**Zalesovo Beam**	**45.55**	**352**	P	**P**	**15 28 00.9**	**-0.5**
	0.6nm,0.4s,baz=156,slow=7.9,SNR=3.3						
WRA	**Warramunga Arr**	**48.93**	**126**	P	**P**	**15 28 28.5**	**+0.3**
	0.6nm,1.2s,baz=308,slow=8.8,SNR=4.2						
ASAR	**Alice Springs**	**50.64**	**131**	P	**P**	**15 28 41.0**	**-0.2**
	0.3nm,0.8s,baz=291,slow=5.5,SNR=3.6						

IDC 25 15:20:12.0±1.9,9˚.07N×94˚.22E,h0km,mb3.5/6,mb1 3.6/6, mb1mx3.4/61,mbtmp3.5/6,Error ellipse: s-maj=99.6km s-min=22.7km az=55.0,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**38.95**	**347**	P	P	15 27 39.8	0.0
	0.5nm,0.9s,baz=170,slow=7.9,SNR=3.7						
GEYT	**Alibeck**	**43.38**	**317**	P	P	15 28 16.4	0.0
	0.9nm,0.5s,baz=113,slow=11,SNR=3.5						
KURBB	**Kurchatov Arra**	**43.42**	**345**	P	P	15 28 15.9	-0.5
	0.3nm,0.6s,baz=172,slow=7.5,SNR=3.0						
ZALV	**Zalesovo Beam**	**45.39**	**352**	P	P	15 28 32.1	0.0
	0.6nm,0.3s,baz=157,slow=7.8,SNR=3.6						
WRA	**Warramunga Arr**	**48.89**	**126**	P	P	15 28 59.4	-0.6
	0.2nm,0.5s,baz=302,slow=9.4,SNR=3.2						
ASAR	**Alice Springs**	**50.62**	**131**	P	P	15 29 13.7	+0.5
	0.2nm,0.8s,baz=297,slow=6.1,SNR=3.4						

IDC 25 15:25:53.1±1.9,10˚.91S×166˚.09E,h0km,mb3.4/3, mb1 3.7/4,mb1mx3.5/42,mbtmp3.5/4,ML3.0/1,Error ellipse: s-maj=57.5km s-min=33.9km az=125.0,Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**11.10**	**178**	Pn	Pn	15 28 33.6	+0.2
	0.1nm,0.3s,baz=338,slow=16,SNR=4.9						
WRA	**Warramunga Arr**	**31.85**	**250**	P	P	15 32 20.9	+0.8
	0.6nm,1.1s,baz=83,slow=8.7,SNR=3.7						
ASAR	**Alice Springs**	**33.16**	**243**	P	P	15 32 30.8	-0.8
	0.3nm,0.9s,baz=65,slow=9.9,SNR=4.6						
ILAR	**Eielson Array**	**83.28**	**18**	P	P	15 38 21.3	0.0
	0.2nm,0.6s,baz=237,slow=6.1,SNR=4.1						

IDC 25 15:33:28.2±2.2,8˚.83N×92˚.92E,h0km,mb3.4/4,mb1 3.6/5, mb1mx3.3/63,mbtmp3.4/5,ML3.6/1,Error ellipse: s-maj=77.4km s-min=26.4km az=60.0,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**11.22**	**31**	Pn	Pn	15 36 10.3	+0.4
	0.1nm,0.3s,baz=217,slow=16,SNR=4.3						
MKAR	**Makanchi Array**	**38.91**	**348**	P	P	15 40 56.4	+0.8
	0.2nm,0.6s,baz=170,slow=8.8,SNR=3.0						
KURBB	**Kurchatov Arra**	**43.34**	**347**	P	P	15 41 31.9	-0.1
	0.2nm,0.5s,baz=172,slow=7.5,SNR=3.4						
ZALV	**Zales

IDC ***25*** *15:44:20.3±0.6,1.′30N×90.′66W,h0km,mb4.1/18, mb1 4.3/18,mb1mx4.2/39,mbtmp4.1/18,MS4.6/35, Ms1 4.6/35,ms1mx4.6/41,Error ellipse: s-maj=27.9km s-min=12.9km az=53.0*

NEIC ***25*** *15:44:21.8±0.3,1.′30N×90.′62W,h10km,mb4.7/85,Error ellipse: s-maj=10.0km s-min=4.1km az=42.0*

GCMT ***25*** *15:44:21.8±0.2,1.′29N×90.′72W,h12km,MW5.3/120, Moment Tensor Solution. s89,c131; s120,c208; Duration: 1s1 Moment tensor: Scale 1017Nm; Mrr-0.22±.02; Mθθ0.31±.02; Mϕϕ-0.09±.02; Mrθ0.06±.04; Mθϕ-1.05±.01; Mϕr-0.12±.04; Best double couple: M01.07700×1017 NP1:ϕs175.00000°,δ90.00000°, λ7.00000°. NP2:ϕs85.00000°,δ83.00000°,λ180.00000°. Principal axes: T 1.1880, Plg5.0000°, Azm40.0000°; N -0.2230, Plg83.0000°, Azm176.0000°; P -0.9660, Plg5.0000°, Azm309.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 25 15:44:21.7±0.5,1.′32N±0.′08×90.′66W±0.′07,h10km,n184, σ**1§23**/146**,mb4.7**/97**,MS4.7**/37**,Galapagos Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTS	**JuntasAbangare**	**10.56**	**32**	LR	LR	15 50 03.5	
	comp=Z,13μm,19.9s,baz=313,slow=32						
OTAV	**Otavalo**	**12.25**	**95**	*e*Pn	**Pn**	**15 47 17.9**	**+1.1**
GCUF	**Volcan Galeras**	**13.31**	**90**	*e*P	**Pn**	**15 47 34.5**	**+3.1**
APG	**El Apazote**	**13.60**	**1**	LR	LR	15 51 46.6	
	comp=Z,3μm,21.0s,baz=160,slow=33						
ATAH	**Atahualpa**	**14.84**	**125**	Pn	**Pn**	**15 47 54.3**	**+2.1**
	0.5nm,0.3s,baz=301,slow=16,SNR=15						
ATAH				LR	LR	15 52 42.3	
	comp=Z,5μm,19.1s,baz=305,slow=34						
RREF	**El Recreo**	**15.69**	**77**	*e*P	**P**	**15 48 11.7**	**+3.8**
HELC	**Santa Helena**	**15.85**	**72**	*e*Pn	**Pn**	**15 48 03.3**	**-2.2**
	88nm,1.7s						
PRAC	**Prado**	**15.93**	**81**	*e*P	**Pn**	**15 48 07.0**	**+0.8**
MOTC	**Monteria, Cord**	**16.66**	**63**	*e*P	**Pn**	**15 48 15.0**	**-0.6**
ROSC	**El Rosal**	**16.68**	**78**	Pn	**P**	**15 48 19.1**	**+0.5**
	1.3nm,0.3s,baz=255,slow=14,SNR=2.4						
ROSC				LR	LR	15 53 54.6	
	comp=Z,3μm,20.8s,baz=270,slow=34						
ZARC	**Zaragoza, Cauc**	**16.90**	**68**	*e*P	**Pn**	**15 48 15.0**	**-3.5**
PTBC	**PUERTO BERRIO,**	**16.97**	**72**	*e*P	**P**	**15 48 21.7**	**+0.3**
TLIG	**Tlapa**	**17.92**	**335**	*e*Pn	**P**	**15 48 35.2**	**+3.2**
RUSC	**La Rusia**	**18.11**	**75**	*e*Pn	**P**	**15 48 35.5**	**+1.0**
	45nm,1.2s						
SDV	**Santo Domingo**	**21.30**	**69**	P	**P**	**15 49 10.0**	**+1.0**
	12nm,0.8s,baz=245,slow=6.8,SNR=13						
SDV				LR	LR	15 56 28.7	
	comp=Z,3μm,21.4s,baz=254,slow=34						
SDV	**Santo Domingo**	**21.30**	**69**	*e*P	**P**	**15 49 08.4**	**-0.7**
	65nm,1.5s						
H06S1	**SOCORRO T**	**26.38**	**312**	T	T	16 17 21.0	
	SNR=9.0						
H06E1	**SOCORRO T-PHAS**	**26.39**	**312**	T	T	16 17 25.1	
	SNR=28						
PCRV	**Puerto La Cruz**	**27.32**	**70**	LR	LR	16 01 57.7	
	comp=Z,352nm,20.4s,baz=274,slow=39						
LPAZ	**La Paz**	**28.30**	**129**	P	**P**	**15 50 17.4**	**+0.9**
	1.2nm,0.7s,baz=324,slow=15,SNR=3.9						
LPAZ				LR	LR	16 01 06.0	
	comp=Z,2μm,21.5s,baz=311,slow=36						
LPAZ	**La Paz**	**28.30**	**129**	*e*P	**P**	**15 50 15.9**	**-0.6**
	26nm,1.6s						
SAML	**Samuel**	**29.21**	**111**	*e*P	**P**	**15 50 23.1**	**-0.8**
	26nm,1.5s						
LPIG	**La Paz**	**29.58**	**321**	LR	LR	15 59 28.3	
	comp=Z,741nm,18.4s,baz=142,slow=31						
JCT	**Junction City**	**30.27**	**344**	*e*P	**P**	**15 50 34.4**	**+1.2**
TXAR	**Lajitas Array**	**30.50**	**337**	P	**P**	**15 50 36.3**	**+1.1**
	0.8nm,0.6s,baz=153,slow=10,SNR=12						
TXAR				LR	LR	16 01 50.1	
	comp=Z,1μm,18.5s,baz=0.0,slow=34						
TX31	**Lajitas Ar. Si**	**30.50**	**337**	*e*P	**P**	**15 50 36.2**	**+1.0**
PTGA	**Pitinga**	**30.75**	**94**	P	**P**	**15 50 38.0**	**+0.3**
	1.3nm,0.3s,baz=278,slow=12,SNR=5.9						
PTGA	**Pitinga**	**30.75**	**94**	*e*P	**P**	**15 50 37.3**	**-0.4**
	14nm,1.2s						
MIAR	**Mount Ida**	**33.17**	**356**	*e*P	**P**	**15 50 57.9**	**-0.6**
	12nm,1.3s						
MNTX	**Cornudas Mount**	**33.27**	**337**	*e*P	**P**	**15 51 01.1**	**+1.7**
	4.6nm,1.0s						
RPN	**Rapa Nui**	**33.52**	**211**	LR	LR	16 00 56.7	
	comp=Z,3μm,21.2s,baz=50,slow=30						
SIV	**San Ignacio**	**33.91**	**122**	P	**P**	**15 51 05.8**	**+0.5**
	2.1nm,0.6s,baz=294,slow=9.5,SNR=12						
WMOK	**Wichita Mounta**	**34.10**	**348**	*e*P	**P**	**15 51 07.0**	**+0.3**
	18nm,1.5s						
MSTX	**Muleshoe**	**34.41**	**342**	*e*P	**P**	**15 51 09.1**	**-0.4**
	12nm,1.0s						
TKL	**Tuckaleechee C**	**34.76**	**10**	LR	LR	16 05 00.6	
	comp=Z,495nm,19.9s,baz=188,slow=36						
AMTX	**Amarillo**	**34.94**	**344**	*e*P	**P**	**15 51 13.7**	**-0.4**
	51nm,1.8s						
121A	**Cookes Peak, D**	**34.99**	**334**	*e*P	**P**	**15 51 15.8**	**+1.2**
	42nm,1.6s						
BNM	**Barren Site**	**35.92**	**337**	*e*P	**P**	**15 51 25.0**	**+2.3**
LPM	**Los Pinos Moun**	**36.06**	**337**	*e*P	**P**	**15 51 25.6**	**+1.7**
TUC	**Tucson**	**36.20**	**330**	*e*P	**P**	**15 51 25.3**	**+0.4**
	26nm,1.9s						
SIUC	**Southern Illin**	**36.24**	**2**	*e*P	**P**	**15 51 24.2**	**-0.9**
LAZ	**Ladron**	**36.34**	**337**	P	**P**	**15 51 28.0**	**+1.7**
	9.1nm,1.6s						
ANMO	**Albuquerque**	**36.56**	**338**	*e*P	**P**	**15 51 29.3**	**+1.2**
	6.0nm,1.1s						
CCM	**Cathedral Cave**	**36.56**	**359**	*e*P	**P**	**15 51 27.3**	**-0.5**
	22nm,0.8s						
214A	**Organ Pipe Nat**	**36.95**	**328**	*e*P	**P**	**15 51 32.0**	**+0.7**
	78nm,1.5s						
OLIL	**Olney**	**37.31**	**3**	*e*P	**P**	**15 51 34.0**	**-0.2**
	43nm,1.2s						
X18A	**Snowflake**	**37.63**	**333**	*e*P	**P**	**15 51 37.0**	**-0.2**
	10nm,1.0s						
T25A	**Trinidad**	**37.84**	**342**	*e*P	**P**	**15 51 39.9**	**+1.0**
	39nm,1.7s						
MHTCO	**State Highway**	**37.92**	**342**	*e*P	**P**	**15 51 40.3**	**+0.7**
	57nm,1.8s						
113A	**Mohawk Valley,**	**38.09**	**328**	*e*P	**P**	**15 51 39.0**	**-1.9**
	15nm,1.6s						
X16A	**Lo Mia Camp, P**	**38.23**	**332**	*e*P	**P**	**15 51 42.3**	**+0.1**
	5.2nm,0.9s						
Y14A	**Wickenburg**	**38.61**	**330**	*e*P	**P**	**15 51 45.1**	**-0.2**
	25nm,1.7s						
SDCO	**Great Sand Dun**	**38.74**	**341**	*e*P	**P**	**15 51 46.4**	**-0.3**
	18nm,1.5s						
SFIN	**Lafayette**	**39.02**	**4**	*e*P	**P**	**15 51 45.0**	**-3.5**
	16nm,0.8s						
WUAZ	**Wupatki**	**39.10**	**333**	*e*P	**P**	**15 51 49.5**	**-0.1**
	16nm,1.0s						
W13A	**Hualapai Mount**	**39.97**	**330**	*e*P	**P**	**15 51 57.5**	**+0.6**
	9.4nm,1.2s						
PV01	**Paradox Valley**	**40.16**	**338**	*e*P	**P**	**15 51 59.5**	**+1.0**
U15A	**North Rim**	**40.27**	**333**	*e*P	**P**	**15 52 01.4**	**+2.0**
	40nm,2.0s						
PV04	**Paradox Valley**	**40.52**	**338**	*e*P	**P**	**15 52 02.2**	**+0.9**
PV10	**Paradox Valley**	**40.55**	**338**	*e*P	**P**	**15 52 02.8**	**+1.1**
ISCO	**Idaho Springs**	**40.65**	**342**	*e*P	**P**	**15 52 02.6**	**+0.1**
	39nm,1.8s						
PV09	**Paradox Valley**	**40.70**	**338**	*e*P	**P**	**15 52 02.3**	**-0.6**
KNB	**Kanab**	**41.00**	**333**	*e*P	**P**	**15 52 04.8**	**-0.5**
	11nm,1.3s						
LCMT	**Little Creek M**	**41.19**	**332**	*e*P	**P**	**15 52 08.2**	**+1.4**
	12nm,1.6s						
GSC	**Goldstone, Bar**	**41.65**	**327**	*e*P	**P**	**15 52 10.9**	**+0.2**
	6.7nm,0.8s						
CCUT	**Cedar City**	**41.68**	**333**	*e*P	**P**	**15 52 11.4**	**+0.5**
	15nm,1.7s						
SHPR	**Sheep Range**	**41.71**	**330**	*e*P	**P**	**15 52 10.7**	**-0.5**
	26nm,2.0s						
SRU	**San Rafael Swe**	**41.77**	**337**	*e*P	**P**	**15 52 13.2**	**+1.6**
	12nm,1.5s						
O20A	**White River Ci**	**41.81**	**340**	*e*P	**P**	**15 52 12.1**	**+0.1**
	12nm,0.9s						
P18A	**Preston Nutter**	**42.10**	**337**	*e*P	**P**	**15 52 13.9**	**-0.6**
	8.3nm,1.1s						
P17A	**Butcher Ranch,**	**42.16**	**337**	*e*P	**P**	**15 52 14.0**	**-0.9**
CPUP	**Villa Florida**	**42.30**	**133**	P	**P**	**15 52 16.3**	**+0.3**
	1.5nm,0.9s,baz=289,slow=7.4,SNR=2.9						
CPUP	**Villa Florida**	**42.30**	**133**	*e*P	**P**	**15 52 14.1**	**-1.8**
	52nm,2.0s						
ECSD	**EROS Data Cent**	**42.57**	**354**	*e*P	**P**	**15 52 17.4**	**-0.5**
	32nm,1.9s						
DAC	**Darwin (Calif)**	**42.81**	**327**	*e*P	**P**	**15 52 20.5**	**+0.4**
	23nm,1.9s						
ISA	**Isabella, Lake**	**42.84**	**326**	*e*P	**P**	**15 52 20.5**	**+0.2**
	14nm,1.6s						
NLU	**North Lily Min**	**43.11**	**336**	*e*P	**P**	**15 52 22.4**	**-0.1**
	19nm,1.7s						
R11A	**Troy Canyon, C**	**43.37**	**331**	*e*P	**P**	**15 52 24.7**	**+0.1**
	17nm,1.8s						
TCUT	**Toone Canyon**	**43.84**	**337**	*e*P	**P**	**15 52 29.0**	**+0.6**
	62nm,1.3s						
HWUT	**Hardware Ranch**	**44.32**	**337**	*e*P	**P**	**15 52 32.8**	**+0.6**
	26nm,1.6s						
BGU	**Big Grassy Mou**	**44.32**	**336**	*e*P	**P**	**15 52 32.5**	**+0.3**
	20nm,1.6s						
SPUT	**South Promonto**	**44.41**	**336**	*e*P	**P**	**15 52 32.9**	**-0.1**
	8.0nm,1.0s						
BW06	**Boulder Array**	**44.61**	**340**	*e*P	**P**	**15 52 34.1**	**-0.5**
	5.2nm,1.0s						
PDAR	**Pinedale Array**	**44.61**	**340**	P	**P**	**15 52 35.4**	**+0.8**
	0.5nm,0.6s,baz=148,slow=7.0,SNR=6.2						
PDAR				LR	LR	16 10 57.4	
	comp=Z,1μm,18.2s,baz=164,slow=36						
PDAR	**Pinedale Array**	**44.61**	**340**	*e*P	**P**	**15 52 34.2**	**-0.3**
MDPB	**Devils Postpil**	**44.61**	**327**	*e*P	**P**	**15 52 35.3**	**+0.6**
	10nm,1.2s						
NV11	**Mina Array Sit**	**44.72**	**329**	*e*P	**P**	**15 52 35.6**	**+0.2**
	1.2nm,1.3s						
NV01	**Mina Array Sit**	**44.79**	**329**	*e*P	**P**	**15 52 36.4**	**+0.3**
NVAR	**Mina Array Bea**	**44.79**	**329**	P	**P**	**15 52 37.4**	**+1.3**
	3.4nm,0.8s,baz=156,slow=6.9,SNR=21						
NVAR				PcP	**PcP**	**15 54 19.2**	**+1.0**
	0.5nm,0.6s,baz=123,slow=3.3,SNR=2.4						
NVAR				LR	LR	16 09 19.0	
	comp=Z,414nm,18.8s,baz=266,slow=34						
HVU	**Hansel Valley**	**44.94**	**337**	*e*P	**P**	**15 52 37.0**	**-0.1**
	11nm,1.2s						
RYN	**Ryan**	**45.05**	**329**	*e*P	**P**	**15 52 37.6**	**-0.5**
	8.8nm,1.3s						
WAKR	**Wakeeney**	**45.44**	**328**	*e*P	**P**	**15 52 41.2**	**-0.1**
	28nm,1.9s						
REDW	**Red Top Meadow**	**45.58**	**339**	*e*P	**P**	**15 52 42.0**	**-0.3**
	21nm,1.2s						
SNOW	**Snow King Moun**	**45.63**	**340**	*e*P	**P**	**15 52 42.7**	**-0.1**
	31nm,1.3s						
PLCA	**Paso Flores**	**45.69**	**159**	P	**P**	**15 52 43.6**	**+0.6**
	4.6nm,0.9s,baz=2.3,slow=10.0,SNR=7.6						
PLCA				LR	LR	16 07 37.4	
	comp=Z,479nm,19.0s,baz=353,slow=31						
PLCA	**Paso Flores**	**45.69**	**159**	*e*P	**P**	**15 52 42.6**	**-0.4**
	17nm,1.1s						
YERR	**Yerington**	**45.69**	**329**	*e*P	**P**	**15 52 44.5**	**+1.2**
	18nm,1.5s						
TPAW	**Teton Pass**	**45.73**	**339**	*e*P	**P**	**15 52 43.3**	**-0.2**
	49nm,2.0s						
BMN	**Battle Mountai**	**45.79**	**332**	*e*P	**P**	**15 52 45.2**	**+1.2**
	33nm,1.9s						
MOOW	**Moose Ponds**	**45.88**	**340**	*e*P	**P**	**15 52 45.7**	**+1.1**
	8.9nm,1.5s						
FXWY	**Fox Creek**	**45.88**	**339**	*e*P	**P**	**15 52 45.5**	**+0.8**
	7.1nm,0.9s						
H17A	**Grant Village**	**46.39**	**340**	*e*P	**P**	**15 52 49.6**	**+0.9**
	22nm,1.7s						
AFDM	**Forest Hills D**	**46.59**	**327**	*e*P	**P**	**15 52 51.7**	**+1.6**
	15nm,1.6s						
YMR	**Madison River**	**46.76**	**340**	*e*P	**P**	**15 52 52.8**	**+1.2**
	14nm,1.3s						
YHH	**Holmes Hill**	**46.83**	**340**	*e*P	**P**	**15 52 51.8**	**-0.4**
	15nm,1.9s						
QLMT	**Earthquake Lak**	**47.06**	**340**	P	**P**	**15 52 54.9**	**+1.0**
	0.6nm,0.5s						
HLID	**Hailey**	**47.09**	**336**	*e*P	**P**	**15 52 54.0**	**-0.2**
	20nm,1.4s						
ORV	**Oroville**	**47.31**	**327**	*e*P	**P**	**15 52 56.2**	**+0.5**
	12nm,1.3s						
GCMT	**Greycliff**	**47.34**	**342**	*e*P	**P**	**15 52 55.6**	**-0.4**
MFID	**Camas Ranch**	**47.55**	**335**	*e*P	**P**	**15 52 58.8**	**+1.2**
	8.9nm,1.3s						
MCMT	**McKenzie Canyo**	**47.56**	**339**	*e*P	**P**	**15 52 59.0**	**+1.1**
BOZ	**Bozeman (W)**	**47.80**	**340**	*e*P	**P**	**15 53 01.0**	**+1.4**
	11nm,1.5s						
MOD	**Modoc Plateau**	**48.41**	**330**	*e*P	**P**	**15 53 05.0**	**+0.6**
	20nm,1.4s						
ULM	**Lac du Bonnet**	**48.95**	**356**	P	**P**	**15 53 09.9**	**+1.7**
	0.9nm,0.4s,baz=156,slow=5.8,SNR=3.2						
ULM				LR	LR	16 14 13.6	
	comp=Z,497nm,21.8s,baz=178,slow=37						
K05A	**Summer Lake**	**49.31**	**331**	*e*P	**P**	**15 53 12.0**	**+0.7**
	24nm,1.2s						
RKT	**Rikitea**	**49.49**	**238**	*e*S	**S**	**16 00 19.9**	**-0.6**
	291nm,28.2s						
RKT				*e*LR	LR	16 07 18.7	
	2μm,30.0s,baz=64						
RKT	**Rikitea**	**49.49**	**238**	*e*T	T	16 45 25.2	
	2.4nm,0.2s						
YBH	**Yreka Blue Hor**	**49.51**	**329**	P	**P**	**15 53 14.1**	**+1.3**
	1.5nm,0.7s,baz=135,slow=9.6,SNR=4.0						
YBH				LR	LR	16 14 15.8	
	comp=Z,256nm,18.4s,baz=150,slow=36						
TAOE	**Nuku Hiva Isla**	**50.34**	**257**	*e*S	**S**	**16 00 35.5**	**+2.6**
	251nm,24.3s						
TAOE				*e*LR	LR	16 07 42.9	
	1μm,25.1s						
SCHQ	**Schefferville**	**56.79**	**16**	LR	LR	16 17 29.8	
	comp=Z,844nm,22.0s,baz=210,slow=35						
PPT	**Papeete**	**60.96**	**249**	LR	LR	16 14 14.6	
	comp=Z,815nm,20.8s,baz=80,slow=29						
PPT2	**Papeete2**	**60.96**	**249**	*e*S	**S**	**16 02 53.0**	**-1.6**
	935nm,26.0s						
PPT2				*e*LQ	LQ	16 10 01.2	
	2μm,34.0s						
PPT2				*e*LR	LR	16 12 38.0	
	2μm,25.8s,baz=71						
TBI	**Tubuai**	**62.16**	**243**	*e*LR	LR	16 13 11.3	
	2μm,27.5s,baz=74						
TBI	**Tubuai**	**62.16**	**243**	*e*T	T	17 01 17.0	
	9.4nm,0.3s						
YKA	**Yellowknife Ar**	**63.61**	**348**	P	**P**	**15 54 51.8**	**-0.8**
	0.9nm,0.9s,baz=146,slow=6.4,SNR=11						
RAR	**Rarotonga**	**71.08**	**247**	LR	LR	16 18 24.7	
	comp=Z,741nm,18.9s,baz=84,slow=29						
SFJD	**Kangerlussuaq**	**71.23**	**15**	LR	LR	16 25 51.7	
	comp=Z,327nm,20.8s,baz=222,slow=35						
DAWY	**Davyn**	**71.91**	**340**	*e*P	**P**	**15 55 45.9**	**+0.9**
	9.9nm,1.3s						
BMRM	**Bremner River**	**72.12**	**336**	*e*P	**P**	**15 55 46.0**	**-0.4**
INK	**Inuvik**	**72.92**	**345**	*e*P	**P**	**15 55 50.6**	**-0.2**
	9.4nm,1.1s						
RES	**Resolute Bay**	**73.32**	**359**	*e*P	**P**	**15 55 53.5**	**+0.4**
	4.9nm,1.1s						
DOT	**Dot Lake**	**73.36**	**338**	*e*P	**P**	**15 55 54.1**	**+0.5**
	42nm,1.7s						
SCRK	**Sand Creek**	**73.51**	**338**	*e*P	**P**	**15 55 55.3**	**+0.7**
	15nm,1.7s						
SML	**Sawmill**	**74.10**	**335**	*e*P	**P**	**15 55 58.4**	**+0.4**
	20nm,1.2s						
BBTS	**Babate**	**74.31**	**75**	LR	LR	16 27 19.2	
	comp=Z,156nm,19.1s,baz=273,slow=35						
HDA	**Harding Lake**	**74.84**	**338**	*e*P	**P**	**15 56 03.8**	**+1.6**
	13nm,1.3s						
IL1	**Eielson Array**	**75.00**	**338**	*e*P	**P**	**15 56 04.2**	**+1.0**
ILAR	**Eielson Array**	**75.00**	**338**	P	**P**	**15 56 02.5**	**-0.6**
	1.0nm,0.6s,baz=141,slow=4.8,SNR=17						
ILAR				LR	LR	16 29 53.8	
	comp=Z,458nm,18.1s,baz=127,slow=36						
ILB	**Eielson Array**	**75.00**	**338**	*e*P	**P**	**15 56 03.6**	**+0.5**
RND	**Reindeer**	**75.08**	**337**	*e*P	**P**	**15 56 04.7**	**+1.0**
	24nm,1.6s						
PPLA	**Purkeypile**	**76.20**	**336**	*e*P	**P**	**15 56 10.4**	**+0.2**
	53nm,1.9s						
CAST	**Castle Rocks**	**76.38**	**336**	*e*P	**P**	**15 56 10.6**	**-0.5**
	40nm,2.0s						
MLY	**Manley**	**76.57**	**338**	*e*P	**P**	**15 56 11.3**	**-0.8**
	6.3nm,1.1s						
COLD	**Coldfoot**	**77.39**	**340**	*e*P	**P**	**15 56 17.0**	**+0.3**
	9.5nm,1.2s						
TOLK	**Toolik Lake Re**	**77.86**	**341**	*e*P	**P**	**15 56 19.1**	**-0.2**
	6.9nm,1.2s						
BORG	**Borgarnes**	**80.09**	**24**	LR	LR	16 27 35.0	
	comp=Z,241nm,21.9s,baz=206,slow=32						
AFI	**Afiamalu**	**81.70**	**256**	LR	LR	16 24 24.2	
	comp=Z,430nm,18.9s,baz=70,slow=29						
KOWA	**Kowa**	**86.42**	**76**	P	**P**	**15 57 04.4**	**-0.9**
	0.9nm,0.5s,baz=342,slow=6.4,SNR=3.3						
KOWA				LR	LR	16 32 19.8	
	comp=Z,347nm,21.4s,baz=230,slow=33						
ESDC	**Sonseca Array**	**86.62**	**51**	P	**P**	**15 57 04.9**	**-1.0**
	1.1nm,0.6s,baz=280,slow=4.4,SNR=4.2						
ESDC				LR	LR	16 29 12.9	
	comp=Z,313nm,21.8s,baz=265,slow=31						
ES19	**SONSECA Array**	**86.67**	**50**	*e*P	**P**	**15 57 04.1**	**-2.0**
EKA	**Eskdalemuir Ar**	**87.50**	**35**	LR	LR	16 30 36.8	
	comp=Z,298nm,20.9s,baz=255,slow=32						
VNA3	**Neumayer Olymp**	**88.33**	**161**	P	**P**	**15 57 13.9**	**+0.5**
VNA2	**Neumayer--Watz**	**89.03**	**161**	P	**P**	**15 57 14.9**	**-1.8**
	slow=4.8						
SNAA	**Sanae**	**90.55**	**162**	P	**P**	**15 57 23.5**	**-0.3**
	2.3nm,0.8s,baz=264,slow=12,SNR=4.6						
QSPA	**South Pole Qui**	**91.35**	**180**	P	**P**	**15 57 28.6**	**+0.9**
	5.2nm,1.1s,baz=140,slow=5.5,SNR=5.9						
QSPA				LR	LR	16 31 40.8	
	comp=Z,454nm,19.4s,baz=136,slow=31						
TORD	**Torodi Ar. Bea**	**91.99**	**77**	P	**P**	**15 57 32.6**	**+1.0**
	2.7nm,1.4s,baz=278,slow=5.5,SNR=3.1						
TORD				LR	LR	16 35 21.3	
	comp=Z,372nm,21.7s,baz=265,slow=33						
NOA	**NORSAR Array B**	**94.60**	**29**	LR	LR	16 36 58.9	
	comp=Z,241nm,20.7s,baz=280,slow=33						
VNDA	**Vanda**	**95.03**	**192**	LR	LR	16 30 54.5	
	comp=Z,339nm,21.7s,baz=112,slow=29						
RPZ	**Rata Peaks**	**96.91**	**226**	LR	LR	16 32 30.5	
	comp=Z,614nm,19.8s,baz=86,slow=30						
KEST	**Kesra**	**97.35**	**54**	LR	LR	16 38 01.3	
	comp=Z,154nm,19.8s,baz=340,slow=33						
ARCES	**ARCESS Array B**	**97.68**	**19**	LR	LR	16 40 46.4	
	comp=Z,165nm,19.1s,baz=291,slow=35						
KHC	**Kasperske Hory**	**98.29**	**40**	*e*SS	SS	16 16 18.7	+7.7
KHC				AMS	AMS	16 36 40.0	
	comp=Z,700nm,16.7s						
GERES	**GERESS Array B**	**98.43**	**40**	LR	LR	16 37 23.0	
	comp=Z,505nm,20.0s,baz=257,slow=32						
PVCC	**Panska Ves**	**98.63**	**39**	AMS	AMS	16 36 40.0	
PRU	**Pruhonice**	**98.73**	**39**	*e*SS	SS	16 16 26.1	+9.1
PRU				AMS	AMS	16 37 00.0	
	comp=Z,900nm,17.1s						
GOPC	**GO Pecny, Ondr**	**98.90**	**39**	AMS	AMS	16 37 10.0	
	comp=Z,800nm,15.7s						
TREC	**Trest**	**99.48**	**40**	AMS	AMS	16 38 30.0	
	comp=Z,800nm,18.9s						
DPC	**Dobruska-Polom**	**99.76**	**38**	AMS	AMS	16 37 30.0	
OKC	**Ostrava-Krasne**	**101.03**	**39**	AMS	AMS	16 38 10.0	
	comp=Z,700nm,17.5s						
H11N3	**WAKE ISLAND Hyl**	**101.25**	**290**	T	T	17 51 12.3	
	baz=86						
H11N2	**WAKE ISLAND Hyl**	**101.26**	**290**	T	T	17 51 05.5	
	baz=86						
H11N1	**WAKE ISLAND Hyl**	**101.27**	**290**	T	T	17 51 09.2	
	baz=86						
H11S2	**WAKE ISLAND Hyl**	**101.56**	**289**	T	T	17 51 32.8	
	baz=85,slow=75,SNR=77						
H11S1	**WAKE ISLAND Hyl**	**101.56**	**289**	T	T	17 51 27.8	
	baz=85,slow=75,SNR=51						
H11S3	**WAKE ISLAND Hyl**	**101.58**	**289**	T	T	17 51 31.4	
	baz=85,slow=75,SNR=59						
DZM	**Mont Dzumac**	**102.45**	**248**	*e*LR	LR	16 31 54.6	
	331nm,29.6s						
ZALV	**Zalesovo Beam**	**124.80**	**3**	PKP	**PKPdf**	**16 03 20.3**	**-1.6**
	1.1nm,0.6s,baz=339,slow=3.7,SNR=4.6						
KURK	**Kurchatov**	**127.36**	**9**	PKP	**PKPdf**	**16 03 25.9**	**-1.0**
KURBB	**Kurchatov Arra**	**127.44**	**9**	PKP	**PKPdf**	**16 03 25.9**	**-1.2**
	0.7nm,0.7s,baz=356,slow=2.7,SNR=6.7						
SONM	**Songino Array**	**128.84**	**345**	PKP	**PKPdf**	**16 03 30.6**	**+0.6**
	0.2nm,0.4s,baz=49,slow=2.9,SNR=3.0						
MKAR	**Makanchi Array**	**131.69**	**6**	PKP	**PKPdf**	**16 03 35.7**	**+0.4**
	0.3nm,0.8s,baz=349,slow=1.5,SNR=3.0						
WRA	**Warramunga Arr**	**132.29**	**244**	PKP	**PKPdf**	**16 03 35.6**	**-1.6**
	0.3nm,0.5s,baz=96,slow=2.3,SNR=3.4						
LZH	**Lanzhou**	**140.41**	**341**	*e*PKP	**PKPdf**	**16 03 47.0**	**-5.0**
LZH				pPKP	sPKPdf	16 03 57.5	+0.9
LZH				sPKP		16 04 01.5	
LZH				LR	LR		
	comp=N,78nm,18.1s						
LZH				LR	LR		
	comp=E,72nm,18.3s						
LZH				LR	LR		
	comp=Z,120nm,20.2s						
CMAR	**Chiang Mai Arr**	**158.20**	**335**	PKPab	**PKPab**	**16 04 52.5**	**-1.3**
	comp=Z,1.6nm,0.8s,baz=10,slow=5.5,SNR=4.9						

IDC ***25*** *15:49:10.5±1.2,8.′86N×93.′70E,h0km,mb3.7/14, mb1 3.8/15,mb1mx3.7/64,mbtmp3.7/15,ML3.8/1,MS3.6/6, Ms1 3.6/6,ms1mx3.0/60,Error ellipse: s-maj=41.1km s-min=20.8km az=52.0*

ISCJB ***25*** *15:49:12.8±0.6,8.′97N±0.′10×93.′8E±0.′1,h23km,mb4.0/21, MS3.8/4,

comp=Z,163nm,18.9s,baz=132,slow=38
IM3 Indian Mountai 90.82 22 eP P 16 02 15.3 -0.4
ILAR Eielson Array 93.93 22 P P 16 02 29.5 -0.7
0.2nm,0.6s,baz=284,slow=3.6,SNR=3.7

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*ISCJB **25** 16:00:15.2±0.4, 1°.30N±0°.06×90°.58W±0°.05, h10km, mb4.4/47, MS4.5/31, Error ellipse: s-maj=9.2km s-min=6.0km az=33.4*
*IDC **25** 16:00:15.3±0.9, 1°.35N×90°.61W, h0km, mb4.0/8, mb1 4.3/9, mb1mx4.0/41, mbtmp4.0/9, ML3.8/1, MS4.4/31, Ms1 4.4/31, ms1mx4.3/42, Error ellipse: s-maj=40.6km s-min=17.7km az=54.0*
*NEIC **25** 16:00:16.8±0.4, 1°.29N×90°.59W, h10km, mb4.5/43, Error ellipse: s-maj=11.1km s-min=5.4km az=40.0*
*GCMT **25** 16:00:16.8±0.2, 1°.33N×90°.72W, h18km, MW5.2/113, Moment Tensor Solution. s33,c40; s113,c179; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=1.39±.21; Mθθ=2.72±.16; Mϕϕ=-1.33±.18; Mrθ=-1.51±.38; Mrϕ=6.60±.15; Mθϕ=-0.72±.42; Best double couple: M=7.14800×10^16 NP1:ϕs=83.00000°,δ82.00000°,λ=-165.00000°. NP2: ϕs=351.00000°,δ75.00000°,λ=-8.00000°. Principal axes: T 7.6680, Plg5.0000°, Azm216.0000°; N -1.0410, Plg73.0000°, Azm109.0000°; P -6.6280, Plg16.0000°, Azm307.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 25 16:00:16.6±0.5, 1°.29N±0°.08×90°.65W±0°.08, h10km, n120, σ1=9.09/82, mb4.5/47, MS4.4/31, Galapagos Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OTAV	Otavalo	12.24	95	ePn	Pn	16 03 10.6	-1.0
APG	El Apazote	13.63	1	Pn	Pn	16 03 31.8	+1.6
	baz=174,slow=19,SNR=2.0						
APG				LR	LR	16 07 40.0	
	comp=Z,2μm,21.3s,baz=148,slow=33						
ATAH	Atahualpa	14.82	125	Pn	Pn	16 03 48.4	+1.7
	0.4nm,0.3s,baz=304,slow=17,SNR=12						
ATAH				LR	LR	16 08 35.9	
	comp=Z,3μm,18.4s,baz=305,slow=34						
HELC	Santa Helena	15.85	72	ePn	Pn	16 03 58.2	-2.1
	69nm,2.0s						
CMIG	Matias Romero	16.25	345	Pn	P	16 04 08.5	+0.3
	0.2nm,0.3s,baz=164,slow=8.7,SNR=4.7						
CMIG				LR	LR	16 07 58.3	
	comp=Z,505nm,18.4s,baz=168,slow=29						
ROSC	El Rosal	16.68	77	LR	LR	16 09 48.5	
	comp=Z,1μm,21.0s,baz=268,slow=34						
ROSC	El Rosal	16.68	77	ePn	Pn	16 04 10.8	-0.2
	44nm,1.8s						
TLIG	Tlapa	17.95	335	ePn	P	16 04 28.3	+1.2
RUSC	La Rusia	18.11	75	ePn	P	16 04 29.0	-0.4
	22nm,1.2s						
SDV	Santo Domingo	21.30	69	P	P	16 05 03.8	-0.1
	10nm,0.9s,baz=259,slow=6.6,SNR=9.6						
SDV				LR	LR	16 12 11.7	
	comp=Z,2μm,21.9s,baz=260,slow=34						
SDV	Santo Domingo	21.30	69	eP	P	16 05 03.5	-0.4
	17nm,1.0s						
H06S1	SOCORRO T	26.41	312	T	T	16 33 22.1	
	SNR=3.0						
H06E1	SOCORRO T-PHAS	26.41	312	T	T	16 33 24.0	
	SNR=35						
PCRV	Puerto La Cruz	27.32	70	LR	LR	16 15 58.7	
	comp=Z,278nm,19.7s,baz=272,slow=34						
LPAZ	La Paz	28.27	129	P	P	16 06 11.4	+0.4
	1.6nm,1.0s,baz=301,slow=7.8,SNR=6.3						
LPAZ				LR	LR	16 17 00.3	
	comp=Z,1μm,21.2s,baz=310,slow=36						
LPAZ	La Paz	28.27	129	eP	P	16 06 11.5	+0.5
	26nm,1.9s						
SAML	Samuel	29.20	111	eP	P	16 06 18.4	-0.2
	24nm,1.5s						
TXAR	Lajitas Array	30.52	337	P	P	16 06 30.9	+0.7
	1.7nm,0.8s,baz=144,slow=8.7,SNR=8.3						
TXAR				LR	LR	16 17 44.1	
	comp=Z,682nm,18.6s,baz=0.0,slow=34						
TX31	Lajitas Ar. Si	30.52	337	eP	P	16 06 31.2	+0.9
MNTX	Cornudas Mount	33.30	337	eP	P	16 06 54.3	-0.2
	3.6nm,0.9s						
RPN	Rapa Nui	33.50	211	LR	LR	16 16 51.3	
	comp=Z,2μm,21.4s,baz=57,slow=30						
SIV	San Ignacio	33.89	122	LR	LR	16 20 21.7	
	comp=Z,1μm,18.4s,baz=324,slow=36						
WMOK	Wichita Mounta	34.13	348	eP	P	16 07 02.1	+0.3
	13nm,1.5s						
MSTX	Muleshoe	34.44	342	eP	P	16 07 04.9	+0.4
	17nm,1.0s						
319A	Douglas	34.73	331	eP	P	16 07 07.6	+0.5
	10nm,1.1s						
TKL	Tuckaleechee C	34.79	10	LR	LR	16 19 47.6	
	comp=Z,477nm,20.9s,baz=178,slow=34						
BNM	Barren Site	35.95	337	eP	P	16 07 18.9	+1.2
LPM	Los Pinos Moun	36.09	337	eP	P	16 07 20.3	+1.4
TUC	Tucson	36.22	330	eP	P	16 07 21.5	+1.6
	7.2nm,1.1s						
ANMO	Albuquerque	36.59	338	eP	P	16 07 23.8	+0.7
	5.2nm,1.0s						
CCM	Cathedral Cave	36.59	359	eP	P	16 07 22.3	-0.6
	25nm,0.8s						
OLIL	Olney	37.34	3	eP	P	16 07 29.5	+0.3
	22nm,0.9s						
T25A	Trinidad	37.87	342	eP	P	16 07 35.5	+1.4
	16nm,1.1s						
MHTCO	State Highway	37.95	342	eP	P	16 07 36.0	+1.3
	13nm,1.0s						
X16A	Lo Mia Camp, P	38.26	332	eP	P	16 07 39.0	+1.7
	3.9nm,1.0s						
SDCO	Great Sand Dun	38.77	341	eP	P	16 07 42.9	+1.2
	8.2nm,1.1s						
WUAZ	Wupatki	39.13	333	eP	P	16 07 45.6	+1.0
	15nm,1.0s						
W13A	Hualapai Mount	40.00	330	eP	P	16 07 53.0	+1.1
	9.5nm,1.2s						
U15A	North Rim	40.30	333	eP	P	16 07 54.9	+0.4
	14nm,1.5s						
PV10	Paradox Valley	40.58	338	eP	P	16 07 57.0	+0.2
ISCO	Idaho Springs	40.68	342	eP	P	16 07 58.2	+0.6
	8.9nm,0.9s						
PV09	Paradox Valley	40.73	338	eP	P	16 07 58.9	+0.9
CCUT	Cedar City	41.71	333	eP	P	16 08 07.4	+1.4
	4.6nm,1.1s						
SRU	San Rafael Swe	41.80	337	P	P	16 08 04.7	-1.9
	4.4nm,0.9s						
O20A	White River Ci	41.84	340	eP	P	16 08 08.2	+1.2
	8.2nm,0.8s						
P17A	Butcher Ranch,	42.19	337	eP	P	16 08 10.7	+0.9
	23nm,0.6s						
TMUT	Trail Mountain	42.23	336	eP	P	16 08 10.5	+0.1
	26nm,2.0s						
CPUP	Villa Florida	42.28	133	LR	LR	16 27 26.7	
	comp=Z,403nm,18.7s,baz=319,slow=39						
DAC	Darwin (Calif)	42.83	327	eP	P	16 08 16.1	+0.9
	15nm,1.6s						
R11A	Troy Canyon, C	43.40	331	eP	P	16 08 21.2	+1.6
	5.5nm,1.3s						
TCUT	Toone Canyon	43.87	337	eP	P	16 08 24.4	+0.9
	33nm,1.3s						
BGU	Big Grassy Mou	44.35	336	eP	P	16 08 27.8	+0.5
	5.8nm,1.0s						
PDAR	Pinedale Array	44.63	340	P	P	16 08 30.2	+0.6
	0.5nm,0.6s,baz=159,slow=7.7,SNR=5.9						
PDAR				LR	LR	16 26 42.5	
	comp=Z,615nm,19.8s,baz=158,slow=36						
PDAR	Pinedale Array	44.63	340	eP	P	16 08 28.8	-0.8
NV11	Mina Array Sit	44.74	329	eP	P	16 08 30.1	-0.3
	0.5nm,1.0s						
NV01	Mina Array Sit	44.82	329	eP	P	16 08 31.7	+0.6
NVAR	Mina Array Bea	44.82	329	P	P	16 08 31.6	+0.4
	5.0nm,0.8s,baz=153,slow=8.0,SNR=19						
NVAR				LR	LR	16 25 13.5	
	comp=Z,288nm,18.5s,baz=267,slow=34						
HVU	Hansel Valley	44.97	337	eP	P	16 08 31.8	-0.4
	10nm,1.4s						
REDW	Red Top Meadow	45.61	339	eP	P	16 08 36.7	-0.6
	9.9nm,1.1s						
PLCA	Paso Flores	45.66	159	P	P	16 08 38.2	+0.6
	2.0nm,0.7s,baz=353,slow=10,SNR=3.1						
PLCA				LR	LR	16 24 00.3	
	comp=Z,300nm,18.6s,baz=359,slow=31						
YERR	Yerington	45.72	329	eP	P	16 08 38.5	+0.2
	12nm,1.2s						
BMN	Battle Mountai	45.82	332	eP	P	16 08 38.5	-0.5
	9.7nm,1.2s						
FXWY	Fox Creek	45.91	339	eP	P	16 08 39.8	+0.1
	5.4nm,1.0s						
AFDM	Forest Hills D	46.61	327	eP	P	16 08 45.4	+0.3
	7.3nm,1.1s						
YMR	Madison River	46.79	340	eP	P	16 08 44.7	-1.9
	5.1nm,1.0s						
HLID	Hailey	47.12	336	eP	P	16 08 48.5	-0.7
MFID	Camas Ranch	47.58	335	eP	P	16 08 53.0	+0.4
	3.4nm,0.8s						
MOD	Modoc Plateau	48.44	330	eP	P	16 08 59.8	+0.5
	13nm,1.3s						
ULM	Lac du Bonnet	48.98	356	LR	LR	16 30 07.3	
	comp=Z,346nm,21.0s,baz=170,slow=37						
RKT	Rikitea	49.48	238	eS	S	16 16 15.6	+0.3
	181nm,33.0s						
RKT				eLR	LR	16 23 12.6	
	1μm,29.8s,baz=66						
RKT	Rikitea	49.48	238	eT	T	17 01 55.9	
	1.9nm,0.2s						
YBH	Yreka Blue Hor	49.53	329	LR	LR	16 27 42.6	
	comp=Z,153nm,19.9s,baz=149,slow=33						
TAOE	Nuku Hiva Isla	50.34	257	eS	S	16 16 26.6	-1.1
	116nm,23.5s						
TAOE				eLR	LR	16 23 37.9	
	730nm,24.4s						
SCHQ	Schefferville	56.81	16	LR	LR	16 33 56.8	
	comp=Z,343nm,21.2s,baz=222,slow=36						
PPT	Papeete	60.95	249	LR	LR	16 29 59.7	
	comp=Z,460nm,20.0s,baz=88,slow=29						
PPT2	Papeete2	60.96	249	eS	S	16 18 49.1	-0.3
	519nm,26.8s						
PPT2				eLQ	LQ	16 25 46.6	
	978nm,33.8s						
PPT2				eLR	LR	16 28 35.6	
	1μm,25.8s,baz=71						
TBI	Tubuai	62.16	243	eS	S	16 19 03.3	-1.0
	583nm,31.5s						
TBI	Tubuai	62.16	243	eLR	LR	16 29 09.5	
	1μm,28.0s,baz=64						
TBI	Tubuai	62.16	243	eT	T	17 17 44.4	
	6.7nm,0.2s						
YKA	Yellowknife Ar	63.64	348	P	P	16 10 46.5	-1.1
	0.6nm,0.8s,baz=145,slow=6.5,SNR=16						
RAR	Rarotonga	71.07	247	LR	LR	16 34 39.3	
	comp=Z,228nm,19.4s,baz=96,slow=29						
SFJD	Kangerlussuaq	71.25	15	LR	LR	16 41 55.0	
	comp=Z,219nm,19.8s,baz=220,slow=35						
INK	Inuvik	72.95	345	eP	P	16 11 45.4	-0.5
IL1	Eielson Array	75.03	338	eP	P	16 11 57.5	-0.6
ILAR	Eielson Array	75.03	338	P	P	16 11 58.0	-0.1
	2.8nm,0.9s,baz=130,slow=4.8,SNR=12						
ILB	Eielson Array	75.03	338	eP	P	16 11 57.1	-1.0
BPAW	Bear Paw Mtn.	76.27	337	P	P	16 12 05.3	0.0
	2.2nm,1.5s						
CAST	Castle Rocks	76.41	336	eP	P	16 12 05.6	-0.4
	9.1nm,1.4s						
MLY	Manley	76.59	338	eP	P	16 12 05.1	-2.0
	22nm,1.9s						
BORG	Borgarnes	80.12	24	LR	LR	16 45 16.6	
	comp=Z,140nm,20.4s,baz=217,slow=34						
AFI	Afiamalu	81.70	256	LR	LR	16 40 46.5	
	comp=Z,236nm,18.8s,baz=78,slow=30						
ESDC	Sonseca Array	86.63	51	LR	LR	16 47 05.1	
	comp=Z,158nm,19.6s,baz=275,slow=32						
EKA	Eskdalemuir Ar	87.51	35	LR	LR	16 46 51.0	
	comp=Z,164nm,20.6s,baz=265,slow=32						
QSPA	South Pole Qui	91.32	180	LR	LR	16 47 16.8	
	comp=Z,278nm,19.4s,baz=142,slow=31						
QSPA	South Pole Qui	91.32	180	eP	P	16 13 21.7	-0.7
NOA	NORSAR Array B	94.62	29	LR	LR	16 52 52.6	
	comp=Z,122nm,20.7s,baz=265,slow=33						
VNDA	Vanda	95.00	192	LR	LR	16 47 52.9	
	comp=Z,165nm,18.8s,baz=108,slow=30						
HFS	Hagfors	96.00	29	LR	LR	16 56 17.1	
	comp=Z,138nm,18.2s,baz=284,slow=35						
KEST	Kea	97.36	54	LR	LR	16 55 34.0	
	comp=Z,92nm,18.3s,baz=304,slow=34						
GERES	GERESS Array B	98.45	40	LR	LR	16 53 26.9	
	comp=Z,297nm,20.2s,baz=262,slow=32						
PRU	Pruhonice	98.74	39	AMS	AMS	16 53 10.0	
	comp=Z,600nm,15.5s						
GOPC	GO Pecny, Ondr	98.91	39	AMS	AMS	16 53 20.0	
	comp=Z,600nm,18.3s						
TREC	Trest	99.50	40	AMS	AMS	16 54 00.0	
OKC	Ostrava-Krasne	101.04	39	AMS	AMS	16 54 50.0	
	comp=Z,500nm,19.2s						
H11N3	WAKE ISLAND Hyl	101.27	290	T	T	18 06 53.9	
	baz=86						
H11N2	WAKE ISLAND Hyl	101.28	290	T	T	18 06 55.1	
	baz=86						
H11N1	WAKE ISLAND Hyl	101.29	290	T	T	18 06 56.4	
	baz=86						
H11S2	WAKE ISLAND Hyl	101.58	289	T	T	18 07 25.3	
	baz=85						
H11S1	WAKE ISLAND Hyl	101.58	289	T	T	18 07 24.8	
	baz=85						
H11S3	WAKE ISLAND Hyl	101.59	289	T	T	18 07 23.7	
	baz=85						
DZM	Mont Dzumac	102.44	248	eLR	LR	16 47 53.0	
	151nm,23.0s						
ZALV	Zalesovo Beam	124.83	3	PKP	PKPdf	16 19 15.8	-0.9
	1.2nm,0.6s,baz=280,slow=2.9,SNR=4.5						
KURK	Kurchatov	127.39	9	PKP	PKPdf	16 19 21.3	-0.4
KURBB	Kurchatov Arra	127.46	9	PKP	PKPdf	16 19 21.3	-0.6
	0.7nm,0.7s,baz=344,slow=2.1,SNR=3.6						
KSRS	Korea Array	127.48	321	PKP	PKPdf	16 19 23.8	+1.5
	1.5nm,0.8s,baz=45,slow=1.9,SNR=4.6						
KSAR	Wonju Array Be	127.51	321	PKP	PKPdf	16 19 23.8	+1.4
ASAR	Alice Springs	131.46	239	PKP	PKPdf	16 19 29.9	-0.5
	0.2nm,0.5s,baz=101,slow=2.0,SNR=2.7						
WRA	Warramunga Arr	132.28	244	PKP	PKPdf	16 19 34.9	+2.9
	0.5nm,0.6s,baz=103,slow=2.0,SNR=6.8						
LZH	Lanzhou	140.44	341	ePKP	PKPdf	16 19 42.8	-4.1
LZH				pPKP	sPKPdf	16 19 52.3	+0.8
LZH				sPKP		16 19 55.5	
LZH				LR	LR		
	comp=N,120nm,19.1s						
LZH				LR	LR		
	comp=E,100nm,17.3s						
LZH				LR	LR		
	comp=Z,120nm,20.2s						
CMAR	Chiang Mai Arr	158.23	335	PKPab	PKPab	16 20 49.3	+0.6
	comp=Z,1.3nm,0.8s,baz=12,slow=4.6,SNR=8.3						

WEL 25 16:10:17.2, 34°S±23°×177°9E±99°9, h206km±65km, ML4.4/7, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	4.15	192	P	Pn	16 11 20.7	-0.3
MXZ	Matakaoa Point	4.15	192	S	S	16 12 13.8	+3.0
WMGZ	Waiomatatini S	4.38	190	P	Pn	16 11 25.1	+1.3
WMGZ	Waiomatatini S	4.38	190	S	S	16 12 20.6	+4.5
HAZ	Te Kaha	4.45	197	P	Pn	16 11 24.5	-0.1
HAZ	Te Kaha	4.45	197	S	S	16 12 18.3	+0.9
PKGZ	Pakihiroa	4.51	193	P	Pn	16 11 25.5	0.0
PKGZ	Pakihiroa	4.51	193	S	S	16 12 18.8	-0.2
PUZ	Puketiti	4.65	191	P	Pn	16 11 27.1	-0.2
PUZ	Puketiti	4.65	191	S	S	16 12 24.2	+1.9
RUGZ	Raukumara Rang	4.67	197	P	Pn	16 11 29.1	+1.6
RUGZ	Raukumara Rang	4.67	197	S	S	16 12 23.3	+0.6
TWGZ	Tauwhareparae	4.81	193	P	Pn	16 11 30.8	+1.6
TWGZ	Tauwhareparae	4.81	193	S	S	16 12 29.3	+3.5
CNGZ	Carnagh Statio	5.07	191	P	Pn	16 11 34.3	+1.8
TKGZ	Te Karaka	5.09	194	P	Pn	16 11 33.1	+0.4
TKGZ	Te Karaka	5.09	194	S	S	16 12 33.4	+1.3
URZ	Urewera	5.10	201	S	S	16 12 34.5	+2.1
URZ	Urewera	5.10	201	P	Pn	16 11 32.8	0.0
MUGZ	Murupara	5.40	202	P	Pn	16 11 38.4	+1.6
MUGZ	Murupara	5.40	202	S	S	16 12 41.2	+1.7
SNGZ	Shannon Statio	5.53	197	P	Pn	16 11 38.1	-0.3
SNGZ	Shannon Statio	5.53	197	S	S	16 12 43.5	+1.1
MTHZ	Maungataniwha	5.73	200	P	Pn	16 11 42.0	+1.0
MHGZ	Mahia Peninsul	5.77	192	P	Pn	16 11 41.2	-0.2
MRHZ	Matea Rd	5.84	204	P	Pn	16 11 43.0	+0.5

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*IDC **25** 16:17:40.3±1.0, 1°.05N×95°.46E, h0km, mb3.8/10, mb1 4.0/12, mb1mx3.7/64, mbtmp3.8/12, ML3.8/2, MS3.7/2, Ms1 3.7/2, ms1mx2.9/61, Error ellipse: s-maj=37.0km s-min=15.8km az=50.0*
*NEIC **25** 16:17:42.3±0.6, 1°.15N×95°.64E, h10km, mb4.1/3, Error ellipse: s-maj=10.6km s-min=7.0km az=49.0*
*ISCJB **25** 16:17:44.1±0.5, 1°.20N±0°.05×95°.72E±0°.04, h33km, mb4.0/15, MS4.2/1, Error ellipse: s-maj=7.6km s-min=5.9km az=30.3*
*DJA **25** 16:17:44.9±1.6, 1°N±7°×97°6E±1°2, h24km±25km, M4.1/9, mb4.3/4, MLv4.0/9*

ISC 25 16:17:46.3±0.7, 1°.21N±0°.07×95°.72E±0°.08, h35km, n38, σ1=9.39/38, mb4.1/15, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSI	Gunungsitoli	1.85	87	P	Pn	16 18 16.0	+0.4
GSI				S	Sn	16 18 37.7	-0.1
GSI	Gunungsitoli	1.85	87	ePn	Pn	16 18 16.0	+0.4
TPTI		2.50	35	P	Pn	16 18 22.9	-1.7
TPTI				S	Sn	16 18 52.8	-1.1
MLSI	Meulaboh, Aceh	3.11	13	P	Pn	16 18 31.8	-1.2
PSI	Prapat	3.57	64	Pn	Pn	16 18 39.7	+0.4
	1.4nm,0.3s,baz=308,slow=5.6,SNR=6.0						
PSI				Sn	Sn	16 19 18.7	-1.7
	2.4nm,0.3s,baz=161,slow=18,SNR=4.3						
PSI				LR	LR	16 20 29.1	
	comp=Z,304nm,20.8s,baz=312,slow=44						
PSI	Prapat	3.57	64	ePn	Pn	16 18 36.9	-2.4
PSI				Sn	Sn	16 19 18.7	-1.7
MNSI	Mandailing Nat	3.88	96	P	Pn	16 18 42.9	-0.6
LHMI	Lhok Sumawe	4.18	17	ePn	Pn	16 18 47.1	-0.4
SISI	Saibi	4.20	127	P	Pn	16 18 47.1	-0.8
IPM	Ipoh	6.21	58	ePn	Pn	16 19 15.7	+0.1
KULM	Kulim	6.37	50	ePn	Pn	16 19 17.2	-0.6
MYKOM	Kota Tinggi	8.14	86	ePn	Pn	16 19 41.2	-0.9
MNAI	Manna	9.10	127	ePn	Pn	16 19 54.9	-0.4
CM01	Chiang Mai Arr	17.40	10	ePn	Pn	16 21 46.7	+0.3
CM31	Chiang Mai Arr	17.43	10	ePn	Pn	16 21 47.2	+0.3
CMAR	Chiang Mai Arr	17.43	10	P	P	16 21 48.8	+0.9
	0.3nm,0.3s,baz=198,slow=11,SNR=29						
CHTO	Chiang Mai	17.78	10	ePn	Pn	16 21 51.2	+0.1
	2.8nm,0.6s						
LSA	Lhasa	28.67	352	eP	P	16 23 39.8	-0.7
	5.5nm,1.3s						
LZH	Lanzhou	35.51	11	eP	P	16 24 46.0	+5.9
LZH				pP	pP	16 24 50.0	-0.3
LZH				sP	sP	16 24 53.8	-0.7
LZH				ePP	PP	16 26 07.0	+5.8
LZH				pmax	pmax		
	comp=Z,27nm,0.9s						
LZH				pmax	pmax		
	comp=Z,210nm,4.9s						
GTA	Gaotai	38.20	5	eP	P	16 25 03.3	+0.4
GTA				pP	pP	16 25 07.5	-5.6
GTA				sP	sP	16 25 10.8	-6.5
GTA				pmax	pmax		
	comp=Z,3.0nm,1.1s						
H01W3	Cape Leeuwin H	39.83	156	T	T	17 08 13.4	
	baz=334,slow=76,SNR=5.1						
H01W2	Cape Leeuwin H	39.84	156	T	T	17 08 40.9	
	baz=334,slow=76,SNR=5.7						
H01W1	Cape Leeuwin H	39.85	156	T	T	17 08 11.7	
	baz=334,slow=76,SNR=5.8						
HHC	Hu-ho-hao-te	41.99	18	eP	P	16 25 36.0	+1.7
HHC				pmax	pmax		
	comp=Z,9.0nm,1.1s						
HHC				pmax	pmax		
	comp=Z,19nm,5.1s						
WMQ	Urumqi	43.03	351	eP	P	16 25 44.3	+1.7
WRA	Warramunga Arr	43.30	121	P	P	16 25 45.1	0.0
	comp=Z,0.6nm,0.6s,baz=301,slow=8.4,SNR=19						
ASAR	Alice Springs	44.58	126	P	P	16 25 55.6	+0.2
	comp=Z,0.9nm,0.6s,baz=295,slow=8.0,SNR=20						
MKAR	Makanchi Array	46.90	347	P	P	16 26 13.6	+0.3
	comp=Z,0.5nm,0.4s,baz=165,slow=8.7,SNR=10						
SONM	Songino Array	47.36	10	P	P	16 26 17.2	+0.2
	comp=Z,0.4nm,0.5s,baz=193,slow=9.6,SNR=5.4						
GEYT	Alibeck	50.27	321	P	P	16 26 39.0	-0.4
	comp=Z,0.9nm,0.5s,baz=103,slow=6.5,SNR=2.7						
KURBB	Kurchatov Arra	51.35	346	P	P	16 26 47.3	0.0
	comp=Z,0.6nm,0.9s,baz=168,slow=7.5,SNR=3.8						
KURK	Kurchatov	51.42	346	P	P	16 26 47.3	-0.5
ZALV	Zalesovo Beam	53.33	352	P	P	16 27 02.1	+0.2
	comp=Z,1.0nm,0.3s,baz=187,slow=8.8,SNR=5.3						
STKA	Stephens Creek	54.46	131	P	P	16 27 11.1	+0.5
	comp=Z,2.2nm,0.7s,baz=297,slow=11,SNR=5.1						
BVAR	Borovoye Array	55.77	342	LR	LR	16 53 48.6	
	comp=Z,205nm,21.1s,baz=338,slow=39						
ABKAR	Akbulak array	56.82	333	eP	P	16 27 26.4	-0.8
	comp=Z,1.6nm,0.7s						
BRTR	Keskin Array B	68.02	313	P	P	16 28 40.4	-2.1
	comp=Z,0.5nm,0.7s,baz=132,slow=4.3,SNR=3.0						
ARCES	ARCESS Array B	82.03	340	P	P	16 30 02.4	-0.2
	comp=Z,1.2nm,0.9s,baz=99,slow=6.3,SNR=4.9						

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*ISCJB **25** 16:19:35.2±0.3, 16°.24S±0°.03×71°.52W±0°.07, h96km, mb4.6/19, Error ellipse: s-maj=9.5km s-min=3.6km az=159.3*
*NEIC **25** 16:19:36.8±0.5, 16°.28S×71°.57W, h101km±5km, mb4.6/7, ML4.4(ARE), Error ellipse: s-maj=12.3km s-min=6.7km az=72.0*
NEIC Felt [III] at Arequipa.
*GUC **25** 16:19:40.9±0.4, 16°.60S×71°.51W, h132km±11km, ML4.7*
*IDC **25** 16:19:42.9±2.0, 16°.20S×71°.44W, h147km±17km, mb4.0/11, mb1 4.2/14, mb1mx3.9/42, mbtmp4.4/14, Error ellipse: s-maj=19.6km s-min=15.3km az=54.0*

ISC 25 16:19:36.2±0.5, 16°.36S±0°.05×71°.72W±0°.07, h96km, n60, σ1=9.97/69, mb4.6/19, 1C-4D, Southern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARE	Arequipa	0.24	115	i↑P	Pn	16 19 52.0	+1.5
ARE				i S	Sn	16 20 02.7	+1.6
PB12	IPOC Station P	2.61	150	i↓P	Pn	16 20 19.4	+2.7
PB12				eS	Sn	16 20 48.3	+0.5
PB12				IAML		16 20 58.9	
	comp=E,1μm,0.6s						
MNMC	Minye Minye	3.42	144	ePn	Pn	16 20 30.1	+2.3
MNMC	Minye Minye	3.42	144	i P	Pn	16 20 30.2	+2.4
MNMC				eS	Sn	16 21 07.5	0.0
MNMC				IAML		16 21 13.6	
	comp=E,2μm,0.4s						
LPAZ	La Paz	3.45	89	P	Pn	16 20 32.8	+4.4
	comp=E,20nm,0.3s,baz=281,slow=8.8,SNR=190						
LPAZ				S	Sn	16 21 13.1	+4.3
	comp=E,7.7nm,0

	comp=E,9.2nm,0.8s,baz=26,slow=12,SNR=22							
PLCA	**Paso Flores**	**24.31**	**178**	*e*P		**P**	**16 24 46.1**	**+1.3**
	comp=E,15nm,0.9s							
SDV	**Santo Domingo**	**25.11**	**3**	P		**P**	**16 24 51.5**	**-0.9**
	comp=E,23nm,0.8s,baz=209,slow=10,SNR=23							
SDV	**Santo Domingo**	**25.11**	**3**	*e*P		**P**	**16 24 51.0**	**-1.5**
	comp=E,22nm,0.8s							
CBYP	**Canovanas**	**34.89**	**10**	*e*P		**P**	**16 26 16.5**	**-2.2**
	comp=E,29nm,0.7s							
IP06	**Yanceyville**	**54.32**	**354**	*e*P		**P**	**16 28 50.3**	**-2.5**
IP06				*e*pP		**pP**	**16 29 17.7**	**+1.5**
IP01	**Cuckoo**	**54.34**	**354**	*e*pP		pP	16 29 18.5	+2.2
SPRD	**Spring Road, M**	**54.40**	**354**	*e*pP		pP	16 29 17.0	+0.3
TXAR	**Lajitas Array**	**54.91**	**326**	P		**P**	**16 28 58.6**	**+1.4**
	comp=E,0.6nm,0.6s,baz=149,slow=8.4,SNR=8.7							
MMNY	**Mt. Morris Dam**	**59.07**	**355**	*e*P		**P**	**16 29 23.5**	**-2.7**
	comp=E,19nm,0.6s							
AAM	**Ann Arbor**	**59.40**	**350**	*e*P		**P**	**16 29 25.6**	**-2.9**
	comp=E,55nm,0.4s							
SADO	**Sadowa**	**61.21**	**354**	*e*P		**P**	**16 29 40.0**	**-0.8**
	comp=E,19nm,0.9s							
PDAR	**Pinedale Array**	**68.35**	**331**	P		**P**	**16 30 28.6**	**+1.1**
	comp=E,0.2nm,0.4s,baz=118,slow=5.9,SNR=4.3							
ULM	**Lac du Bonnet**	**69.65**	**344**	P		**P**	**16 30 34.9**	**-0.3**
	comp=E,2.2nm,0.4s,baz=179,slow=2.7,SNR=5.0							
LIC	**Lamto**	**69.67**	**77**	*e*P		**P**	**16 30 35.0**	**-1.0**
	comp=E,28nm,0.9s							
TIC	**Toumodi**	**69.82**	**76**	*e*P		**P**	**16 30 39.8**	**+2.8**
NVAR	**Mina Array Bea**	**69.82**	**323**	P		**P**	**16 30 39.1**	**+2.4**
	comp=E,0.4nm,0.6s,baz=166,slow=7.8,SNR=4.9							
DBIC	**Dimbokro**	**69.98**	**76**	P		**P**	**16 30 36.9**	**-1.0**
	comp=E,7.9nm,0.7s,baz=236,slow=6.9,SNR=12							
KIC	**Kosan Boka**	**69.98**	**77**	*e*P		**P**	**16 30 36.2**	**-1.8**
	comp=E,18nm,0.6s							
KOWA	**Kowa**	**73.55**	**69**	P		**P**	**16 30 58.2**	**-1.1**
	comp=E,4.1nm,0.6s,baz=251,slow=8.9,SNR=11							
TORD	**Torodi Ar. Bea**	**78.25**	**72**	P		**P**	**16 31 25.0**	**-1.1**
	comp=E,7.9nm,0.6s,baz=256,slow=4.6,SNR=50							
ESDC	**Sonseca Array**	**84.12**	**46**	P		**P**	**16 31 56.9**	**+0.1**
	comp=E,2.5nm,0.7s,baz=257,slow=5.0,SNR=12							
ES19	**SONSECA Array**	**84.17**	**46**	*e*P		**P**	**16 31 56.8**	**-0.2**
YKA	**Yellowknife Ar**	**85.49**	**342**	P		**P**	**16 32 03.6**	**+0.7**
	comp=E,2.1nm,0.6s,baz=135,slow=5.2,SNR=51							
WRA	**Warramunga Arr**	**135.76**	**216**	PKP		**PKPdf**	**16 38 48.6**	**+2.1**
	comp=E,0.2nm,0.4s,baz=143,slow=2.0,SNR=5.4							
DGAR	**Diego Garcia**	**137.40**	**121**	*e*PKPdf		**PKPdf**	**16 38 50.0**	**+0.3**
MJAR	**Matsushiro Arr**	**146.72**	**313**	PKPbc		**PKPab**	**16 39 08.7**	**-0.1**
	comp=E,2.6nm,0.8s,baz=161,slow=1.3,SNR=6.8							
SONM	**Songino Array**	**148.57**	**2**	PKPbc		**PKPbc**	**16 39 13.2**	**+1.0**
	comp=E,1.6nm,0.9s,baz=309,slow=1.4,SNR=5.8							
HHC	**Hu-ho-hao-te**	**155.43**	**354**	*e*PKP		**PKPdf**	**16 39 17.5**	**-1.4**
LZH	**Lanzhou**	**159.96**	**11**	*e*PKP		**PKPdf**	**16 39 24.8**	**+0.1**
LZH				pPKP		pPKPdf	16 39 51.5	+0.1
LZH				sPKP			16 40 01.0	
LZH				LR	LR			
	comp=N,78nm,18.1s							
LZH				LR	LR			
	comp=E,72nm,18.3s							
LZH				LR	LR			
	comp=Z,120nm,19.2s							

ISCJB ***25*** *16:23:57.7±1.7, 8.7°N±0.2°, 93.9°E±0.2°, h23km, mb3.8/15, Error ellipse: s-maj=28.3km s-min=23.8km az=151.1*
IDC ***25*** *16:23:60.0±0.9, 9.10°N×93.25°E, h0km, mb3.9/12, mb1 3.9/13, mb1mx3.7/68, mbtmp3.8/13, ML3.6/1, Error ellipse: s-maj=41.7km s-min=17.9km az=57.0*
NEIC ***25*** *16:24:01.2±0.8, 9.11°N×93.35°E, h10km, mb4.0/3, Error ellipse: s-maj=27.1km s-min=16.1km az=66.0*

ISC 25 16:24:00.2±1.7, 8.7°N±0.2°×93.8°E±0.2°, h23km, n27, σ0 92/25, mb3.9/15, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**10.86**	**27**	Pn			**Pn**	**16 26 35.1**	**+0.8**
	0.1nm,0.3s,baz=212,slow=14,SNR=4.7								
RAMN	**Ramite**	**19.37**	**340**	*e*P			**Pn**	**16 28 26.3**	**+0.4**
JIRN	**Jiri**	**20.16**	**340**	*e*P			**P**	**16 28 34.2**	**+0.7**
	25nm,1.0s								
GUN	**Gumba**	**20.50**	**340**	*e*P			**P**	**16 28 37.8**	**+0.7**
	18nm,0.9s								
DMN	**Daman**	**20.50**	**337**	*e*P			**P**	**16 28 37.7**	**+0.6**
	11nm,0.9s								
KKN	**Kakani**	**20.60**	**338**	*e*P			**P**	**16 28 38.5**	**+0.4**
LSA	**Lhasa**	**21.01**	**353**	*e*P			**P**	**16 28 41.2**	**-1.5**
	5.0nm,0.6s								
GKN	**Gorkha**	**21.04**	**337**	*e*P			**P**	**16 28 43.3**	**+0.6**
	14nm,0.6s								
KOLN	**Koldanda**	**21.26**	**334**	*e*P			**P**	**16 28 46.2**	**+1.1**
	7.8nm,0.7s								
PYUN	**Piuthan**	**21.81**	**333**	*e*P			**P**	**16 28 52.3**	**+1.2**
AAK	**Ala-Archa**	**37.80**	**336**	P			**P**	**16 31 14.9**	**-0.1**
	1.7nm,0.7s,baz=120,slow=4.0,SNR=6.9								
AAK	**Ala-Archa**	**37.80**	**336**	*e*P			**P**	**16 31 15.8**	**+0.8**
	1.7nm,0.8s								
MKAR	**Makanchi Array**	**39.19**	**347**	P			**P**	**16 31 25.2**	**-1.2**
	0.6nm,0.8s,baz=163,slow=8.9,SNR=5.2								
GEYT	**Alibeck**	**43.36**	**318**	P			**P**	**16 32 00.2**	**-0.7**
	2.1nm,0.4s,baz=138,slow=6.9,SNR=4.8								
KURBB	**Kurchatov Arra**	**43.64**	**346**	P			**P**	**16 32 01.4**	**-1.5**
	0.9nm,0.9s,baz=163,slow=6.9,SNR=4.8								
KURK	**Kurchatov**	**43.71**	**346**	P			**P**	**16 32 01.4**	**-2.0**
ZALV	**Zalesovo Beam**	**45.67**	**353**	P			**P**	**16 32 19.0**	**0.0**
	3.1nm,0.8s,baz=179,slow=9.8,SNR=8.7								
BVAR	**Borovoye Array**	**48.08**	**341**	P			**P**	**16 32 37.2**	**-0.7**
	0.2nm,0.4s,baz=143,slow=5.0,SNR=2.6								
WRA	**Warramunga Arr**	**49.00**	**126**	P			P	16 32 55.7	+10
	0.5nm,0.8s,baz=305,slow=8.7,SNR=3.6								
ABKAR	**Akbulak array**	**49.34**	**331**	*e*P			**P**	**16 32 47.8**	**+0.2**
	0.8nm,0.4s								
ASAR	**Alice Springs**	**50.70**	**130**	P			P	16 33 06.0	+7.6
	0.4nm,0.8s,baz=300,slow=7.7,SNR=5.0								
FINES	**FINESS Array B**	**71.81**	**332**	P			**P**	**16 35 20.3**	**-0.4**
	1.0nm,0.7s,baz=76,slow=5.9,SNR=4.7								
ARCES	**ARCESS Array B**	**74.36**	**340**	P			**P**	**16 35 35.6**	**-0.1**
	1.8nm,0.9s,baz=79,slow=4.8,SNR=5.1								
GERES	**GERESS Array B**	**76.99**	**318**	P			**P**	**16 35 51.4**	**+0.1**
	0.6nm,0.6s,baz=65,slow=5.5,SNR=3.7								
HFS	**Hagfors**	**77.56**	**330**	P			**P**	**16 35 53.9**	**-0.2**
	2.0nm,0.7s,baz=99,slow=8.9,SNR=4.2								
ILAR	**Eielson Array**	**94.06**	**22**	P			**P**	**16 37 16.1**	**-0.3**
	0.3nm,0.7s,baz=302,slow=5.2,SNR=4.6								
PLCA	**Paso Flores**	**145.25**	**201**	PKPbc			**PKPdf**	**16 43 37.7**	**+1.2**
	1.6nm,0.9s,baz=123,slow=4.9,SNR=4.4								

BJI ***25*** *16:30:55.0, 8.50°N×93.79°E, h20km, mb4.8/62, mB5.1/46, Ms4.6/47, Ms7 4.3/46*
IDC ***25*** *16:30:57.3±0.5, 9.02°N×93.81°E, h0km, mb4.5/33, mb1 4.5/35, mb1mx4.4/72, mbtmp4.5/35, ML3.5/2, MS4.1/30, Ms1 4.1/30, ms1mx3.9/56, Error ellipse: s-maj=15.6km s-min=11.0km az=51.0*
ISCJB ***25*** *16:30:58.8±0.9, 8.85°N±0.03°×93.89°E±0.03, h27km±6km, mb4.8/130, MS4.3/41, Error ellipse: s-maj=4.9km s-min=3.4km az=42.5*
NEIC ***25*** *16:30:59.6±1.4, 8.83°N×93.88°E, h23km±9km, mb5.1/52, Error ellipse: s-maj=5.9km s-min=4.1km az=58.0*
GCMT ***25*** *16:30:59.6±0.3, 8.82°N×94.11°E, h20km±1km, MW5.0/71, Moment Tensor Solution. s15,c18; s71,c105; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr-2.41±.28; Mθθ-0.68±.14; Mφφ3.10±.18; Mrθ-1.64±.34; Mrφ1.15±.10; Mθφ-1.57±.28; Best double couple: M◦3.76900×10^16 NP1:φ◦37.00000°, δ66.00000°, λ-66.00000°. NP2: φ◦170.00000°, δ33.00000°, λ-132.00000°. Principal axes: T 4.0400, Plg17.0000°, Azm110.0000°; N -0.5340, Plg22.0000°, Azm207.0000°; P -3.4980, Plg62.0000°, Azm344.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
MOS ***25*** *16:31:00.1±1.0, 8.96°N×93.82°E, h33km, mb5.1/47, MS4.5/6 Error ellipse: s-maj=8.3km s-min=4.4km az=108.7*
DJA ***25*** *16:31:03.6±0.3, 9°N±2°×9°5E±°, h10km, M4.6/20, mb4.7/20, mB5.2/12, MLv4.7/8, Mw(mB)4.6/12, Mwp5.6/1*

ISC 25 16:30:59.8±0.8, 8.88°N±0.03°×93.71°E±0.04, h18km±3km, n376, σ1 82/378, mb4.9/133, MS4.2/42, 13C-12D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BSI	**Banda Aceh**	**3.72**	**155**	P			**Pn**	**16 31 57.1**	**+0.8**
PKDT	**Phuket**	**4.68**	**102**	P			Pn	16 32 04.5	-5.1
LHMI	**Lhok Sumawe**	**4.85**	**138**	*e*Pn			**Pn**	**16 32 09.3**	**-2.6**
MLSI	**Meulaboh, Aceh**	**5.31**	**150**	P			**Pn**	**16 32 18.9**	**+0.6**
TRTT	**Trang**	**6.01**	**100**	P			Pn	16 32 22.8	-5.1
	60nm,1.0s,734nm0.3nm								
TPTI		**6.57**	**148**	P			**Pn**	**16 32 34.0**	**-1.5**
SKLT	**Songkhla**	**7.05**	**103**	P			**Pn**	**16 32 38.3**	**-3.9**
	58nm,1.0s,886nm0.6nm								
PHET	**Kaeng Krachan**	**7.06**	**55**	P			**Pn**	**16 32 39.8**	**-2.5**
	30nm,0.8s,587nm0.2nm								
TSI	**Tuntungan**	**7.21**	**138**	P			**Pn**	**16 32 46.4**	**+2.1**
SRDT	**SRDT**	**7.59**	**44**	P			Pb	16 33 03.4	-7.6
KULM	**Kulim**	**7.76**	**117**	*e*Pn			Pn	16 32 46.8	-5.1
PSI	**Prapat**	**7.96**	**139**	Pn			**Pn**	**16 32 58.0**	**+3.2**
	0.8nm,0.3s,baz=305,slow=11,SNR=22								
PSI				LR			LR	16 36 17.4	
	comp=Z,2μm,20.9s,baz=308,slow=40								
PSI	**Prapat**	**7.96**	**139**	*e*Pn			**Pn**	**16 32 53.6**	**-1.2**
PSI	**Prapat**	**7.96**	**139**	*e*P			**Pn**	**16 32 53.6**	**-1.2**
GSI	**Gunungsitoli**	**8.46**	**153**	P			**Pn**	**16 33 01.8**	**+0.3**
GSI	**Gunungsitoli**	**8.46**	**153**	*e*Pn			**Pn**	**16 32 57.3**	**-4.2**
IPM	**Ipoh**	**8.48**	**121**	*e*Pn			Pn	16 32 56.7	-5.2
NAYO	**Nakonayok**	**9.21**	**53**	P			Pn	16 33 17.1	+5.3
CHBT	**CHBT**	**9.30**	**65**	P			**Pn**	**16 33 13.6**	**+0.5**
	29nm,1.3s,1.4nm								
MNSI	**Mandailing Nat**	**9.94**	**144**	P			**Pn**	**16 33 20.5**	**-1.3**
PHIT	**Phitsanulok**	**10.53**	**38**	P			**Pn**	**16 33 30.0**	**+0.1**
	19nm,0.9s,197nm								
CHAI	**Chaiyaphum**	**10.68**	**48**	P			**Pn**	**16 33 36.0**	**+4.1**
	7.4nm,1.1s,96nm								
CM01	**Chiang Mai Arr**	**10.76**	**28**	*e*Pn			**Pn**	**16 33 31.5**	**-1.7**
CM31	**Chiang Mai Arr**	**10.79**	**28**	*e*Pn			**Pn**	**16 33 33.6**	**+0.2**
CMAR	**Chiang Mai Arr**	**10.79**	**28**	Pn			**Pn**	**16 33 34.9**	**+1.4**
	1.1nm,0.3s,baz=213,slow=14,SNR=47								
CMAR				LR			LR	16 38 01.6	
	comp=Z,1μm,18.8s,baz=226,slow=40								
CHTO	**Chiang Mai**	**11.10**	**27**	P			**Pn**	**16 33 39.6**	**+1.8**
	102nm,1.5s								
CHTO	**Chiang Mai**	**11.10**	**27**	*e*Pn			**Pn**	**16 33 38.5**	**+0.7**
CHTO	**Chiang Mai**	**11.10**	**27**	*e*P			**Pn**	**16 33 38.5**	**+0.7**
CMMT	**Chiang Mai**	**11.10**	**27**	P			**Pn**	**16 33 38.5**	**+0.7**
	23nm,1.5s								
LAMP	**Lampang**	**11.18**	**30**	P			**Pn**	**16 33 40.9**	**+2.1**
	7.6nm,0.9s								
BKNI	**Bangkinang**	**11.21**	**139**	*e*Pn			**Pn**	**16 33 37.4**	**-1.8**
PPI	**Padang Panjang**	**11.43**	**144**	P			**Pn**	**16 33 40.9**	**-1.3**
PDSI	**Padang**	**11.83**	**145**	P			**Pn**	**16 33 49.6**	**+1.8**
PAYA	**Payao**	**12.00**	**29**	P			**Pn**	**16 33 53.3**	**+3.2**
	12nm,1.1s,122nm								
CMAI	**Chiengmai2**	**12.14**	**25**	P			**Pn**	**16 33 55.0**	**+2.9**
	378nm,1.4s,8μm								
MYKOM	**Kota Tinggi**	**12.31**	**124**	*e*Pn			**Pn**	**16 33 50.3**	**-4.0**
SDSI	**Sungai Dareh**	**12.42**	**141**	P			**Pn**	**16 33 54.2**	**-1.6**
PALK	**Pallekele**	**12.97**	**264**	Pn			**Pn**	**16 34 06.5**	**+3.0**
	0.2nm,0.3s,baz=118,slow=10,SNR=2.3								
PALK				Sn			**Sn**	**16 36 23.6**	**-3.9**
	1.4nm,0.3s,baz=296,slow=22,SNR=9.5								
PALK				LR			LR	16 38 50.9	
	comp=Z,1μm,20.6s,baz=116,slow=36								
PALK	**Pallekele**	**12.97**	**264**	*e*Pn			**Pn**	**16 34 03.8**	**+0.4**
PALK				Sn			**Sn**	**16 36 23.6**	**-3.9**
PALK	**Pallekele**	**12.97**	**264**	*e*P			**Pn**	**16 34 03.8**	**+0.4**
PALK								16 36 23.6	
UBPT	**Khong Chiam**	**13.14**	**60**	P			**Pn**	**16 34 08.2**	**+2.6**
	25nm,1.6s								
KRJI	**Kerinci**	**13.37**	**144**	P			**Pn**	**16 34 07.5**	**-1.3**
TPRI	**Tanjung Pinang**	**13.37**	**126**	P			**Pn**	**16 34 05.0**	**-3.7**
VIS	**Vishakhapatnam**	**13.38**	**312**	*i* P			**Pn**	**16 34 12.5**	**+3.6**
VIS				*i* S			**Sn**	**16 36 30.5**	**-6.8**
VIS				*i* S			**Sn**	**16 36 30.6**	**-6.7**
CHLP	**Challavanipeta**	**13.39**	**317**	*e*P			**Pn**	**16 34 09.9**	**+0.9**
DSRI	**Dabo**	**14.28**	**130**	P			**Pn**	**16 34 23.1**	**+1.9**
PVM	**Polavaram**	**14.40**	**306**	*e*P			**Pn**	**16 34 26.9**	**+4.0**
SKHT	**Srikalahasti**	**14.55**	**291**	*e*P			**P**	**16 34 30.3**	**-1.0**
MASI	**Maura Aman, Be**	**14.66**	**144**	P			**Pn**	**16 34 25.2**	**-1.4**
ADKI	**Addanki**	**15.09**	**299**	*e*P			**Pn**	**16 34 34.6**	**+2.3**
RCLA	**Racherla**	**15.82**	**296**	*e*P			**P**	**16 34 46.2**	**+0.6**
NJS	**Nagarjunasagar**	**15.97**	**300**	*e*P			**P**	**16 34 48.5**	**+1.3**
SRLM	**Srisailam**	**16.14**	**298**	*e*P			**P**	**16 34 50.4**	**+1.3**
SHL	**Shillong**	**16.68**	**354**	*e*P			**P**	**16 34 55.0**	**-0.2**
SHL	**Shillong**	**16.68**	**354**	P			**Pn**	**16 34 53.6**	**+0.7**
SHL				pmax			pmax		
	comp=Z,93nm,0.9s								
MDSI	**Maura Dua**	**16.89**	**141**	P			**Pn**	**16 34 54.3**	**-1.2**
HYB	**Hyderabad**	**17.01**	**301**	*i* P			**P**	**16 35 02.5**	**+3.8**
HYB				eS			**Sn**	**16 38 09.0**	**+3.2**
HYBB	**Hyderabad (bro**	**17.01**	**301**	*e*P			**P**	**16 35 02.9**	**+4.1**
RPR	**Rampur**	**17.14**	**307**	*e*P			**P**	**16 35 01.7**	**+1.7**
URV	**Uravakonda**	**17.18**	**292**	*e*P			**P**	**16 35 02.4**	**+1.8**
SRSP	**Sriramsagar**	**17.93**	**305**	*e*P			**P**	**16 35 09.9**	**+1.0**
KSM	**Kuching**	**18.09**	**113**	*e*Pn			**Pn**	**16 35 07.8**	**-2.6**
	comp=Z,34nm,1.1s								
KMI	**Kunming**	**18.30**	**27**	P			**P**	**16 35 15.8**	**+2.7**
KMI				pP			sP	16 35 22.3	+1.7
KMI				sP			pP	16 35 27.0	+8.7
KMI				PP			**PnPn**	**16 35 34.5**	**+10**
KMI				S			**S**	**16 38 44.3**	**+2.3**
KMI				pmax			pmax		
	comp=Z,30nm,1.3s								
KMI				pmax			pmax		
	comp=Z,510nm,4.3s								
KMI				LR			LR		
	comp=Z,730nm,13.5s								
KMI				LR			LR		
	comp=Z,910nm,12.0s								
KMI				LR			LR		
	comp=Z,710nm,13.1s								
QIZ	**Qiongzhong**	**18.61**	**55**	P			**P**	**16 35 13.8**	**-2.6**
QIZ				S			**Sn**	**16 38 40.3**	**-4.2**
QIZ				LR			LR		
	comp=Z,5μm,11.8s								
QIZ				LR			LR		
	comp=Z,2μm,12.3s								
QIZ				LR			LR		
	comp=Z,2μm,10.3s								
ODAN	**Odare**	**18.86**	**342**	*e*P			**Pn**	**16 35 20.7**	**+0.9**
	comp=Z,95nm,0.9s								
KLRI	**Killari**	**18.96**	**301**	*e*P			**Pn**	**16 35 22.4**	**+1.3**
RAMN	**Ramite**	**19.19**	**340**	*e*P			**Pn**	**16 35 25.5**	**+1.6**
SBUM	**Sibu**	**19.49**	**108**	*e*P			**P**	**16 35 24.1**	**-2.0**
	comp=Z,38nm,1.3s								
STKI	**Sintang**	**19.75**	**115**	P			**Pn**	**16 35 29.4**	**-1.0**
JIRN	**Jiri**	**19.98**	**340**	*e*P			Pn	16 35 33.7	+0.3
	comp=Z,354nm,1.0s								
DBJI	**Dramaga**	**20.11**	**139**	P			Pn	16 35 36.5	+1.9
PKIN	**Phulchoki**	**20.18**	**338**	*e*P			Pn	16 35 35.7	0.0
	comp=Z,222nm,1.1s								
GUN	**Gumba**	**20.32**	**340**	*e*P			Pn	16 35 37.1	-0.3
	comp=Z,244nm,0.9s								
DMN	**Daman**	**20.32**	**338**	*e*P			Pn	16 35 37.0	-0.3
	comp=Z,130nm,1.0s								
KKN	**Kakani**	**20.42**	**338**	*e*P			**P**	**16 35 37.7**	**+1.4**
	comp=Z,151nm,1.1s								
LSA	**Lhasa**	**20.85**	**354**	*e*P			**P**	**16 35 41.3**	**+0.1**
	comp=Z,63nm,0.9s								
LSA	**Lhasa**	**20.85**	**354**	*e*P			**P**	**16 35 41.3**	**+0.1**
LSA				pmax			pmax		
	comp=Z,63nm,0.9s								
GKN	**Gorkha**	**20.85**	**337**	*e*P			Pn	16 35 42.7	-0.8
	comp=Z,141nm,0.7s								
KOLN	**Koldanda**	**21.07**	**334**	*e*P			**P**	**16 35 45.4**	**+2.0**
	comp=Z,86nm,0.8s								
PBKI	**Pangkalan Bun**	**21.29**	**122**	P			**P**	**16 35 50.4**	**+4.8**
GYA	**Guiyang**	**21.37**	**33**	*i* P			**P**	**16 35 46.8**	**+0.3**
GYA				pP			sP	16 35 54.0	0.0
GYA				PP			**PnPn**	**16 36 11.5**	**+4.9**
GYA				S			**S**	**16 39 38.8**	**-4.4**
GYA				PcP			**PcP**	**16 39 50.5**	**+0.2**
GYA				SS			**SnSn**	**16 40 13.3**	**+6.9**
GYA				ScP			**ScP**	**16 43 25.3**	**-1.4**
GYA				pmax			pmax		
	comp=Z,50nm,1.1s								
GYA				pmax			pmax		
	comp=Z,130nm,5.7s								
GYA				LR			LR		
	comp=Z,3μm,15.0s								
GYA				LR			LR		
	comp=Z,3μm,15.4s								
GYA				LR			LR		
	comp=Z,3μm,15.6s								
DANN	**Dangsing**	**21.51**	**335**	*e*P			**P**	**16 35 50.3**	**+2.1**
POO	**Poona**	**21.52**	**299**	*e*P			**P**	**16 35 51.0**	**+2.9**
PYUN	**Piuthan**	**21.62**	**334**	*e*P			**P**	**16 35 51.1**	**+1.8**
	comp=Z,183nm,1.0s								
KPJI	**Karang Pucung**	**22.13**	**136**	P			P	16 36 05.8	+11
XMIS	**Christmas Isla**	**22.61**	**148**	*e*P			**P**	**16 35 58.2**	**-1.6**
	comp=Z,169nm,1.4s								
MTKI	**Muara Teweh, K**	**23.26**	**114**	P			**P**	**16 36 10.1**	**+3.6**
CD2	**Chengdu**	**23.84**	**22**	P			**P**	**16 36 12.0**	**-0.1**
CD2				pP			sP	16 36 18.8	-1.0
CD2				sP			pP	16 36 21.8	+4.3
CD2				S			**S**	**16 40 28.0**	**+0.7**
CD2				sS			sS	16 40 39.8	+3.5
CD2				pmax			pmax		
	comp=Z,180nm,0.9s								
CD2				pmax			pmax		
	comp=Z,500nm,5.8s								
CD2				LR			LR		
	comp=Z,1μm,10.9s								
CD2				LR			LR		
	comp=Z,1μm,11.4s								
CD2				LR			LR		
	comp=Z,990nm,10.4s								
TBJI	**Tambak Boyo**	**23.88**	**130**	P			P	16 36 22.4	+10
MYLDM	**Lahad Datu**	**24.88**	**97**	*e*P			**P**	**16 36 18.8**	**-2.9**
	comp=Z,97nm,1.3s								
ENH	**Enshi**	**25.89**	**33**	*e*P			**P**	**16 36 27.6**	**-3.2**
	comp=Z,109nm,1.6s								
H08S3	**Diego Garcia H**	**26.76**	**233**	T			T	17 03 52.1	
	baz=52,slow=75,SNR=35								
H08S2	**Diego Garcia H**	**26.77**	**233**	T			T	17 03 43.5	
	baz=52,slow=75,SNR=40								
H08S1	**Diego Garcia H**	**26.78**	**233**	T			T	17 04 01.4	
	baz=52,slow=75,SNR=35								
TGY	**Tagaytay City**	**27.17**	**76**	LR			LR	16 46 47.2	
	comp=Z,549nm,18.8s,baz=230,slow=35								
MPSI	**Mapaga**	**27.43**	**107**	P			P	16 36 53.5	+8.7
LZH	**Lanzhou**	**28.61**	**17**	*e*P			**P**	**16 36 55.8**	**+0.5**
LZH				pP			sP	16 37 03.5	+0.3
LZH				sP			pP	16 37 07.5	+6.6
LZH				*e*PP			**PnPn**	**16 37 49.8**	**+4.2**
LZH				*e*S			**S**	**16 41 43.5**	**+0.3**
LZH				sS			sS	16 41 53.3	+1.0
LZH				SS			**SnSn**	**16 43 07.0**	**+3.5**
LZH				pmax			pmax		
	comp=Z,43nm,1.4s								
LZH				pmax			pmax		
	comp=Z,200nm,5.7s								
LZH				LR			LR		
	comp=Z,2μm,13.2s								
LZH				LR			LR		
	comp=Z,810nm,13.7s								
LZH				LR			LR		
	comp=Z,1μm,15.5s								
XAN	**Xi'an**	**28.68**	**27**	P			**P**	**16 36 54.5**	**-1.4**
XAN				pP			pP	16 36 59.0	-2.4
XAN				S			**S**	**16 41 48.3**	**+4.2**
XAN				pmax			pmax		
	comp=Z,23nm,1.1s								
XAN				LR			LR		
	comp=Z,600nm,14.6s								
XAN				LR			LR		
	comp=Z,390nm,20.6s								
XAN				LR			LR		
	comp=Z,760nm,16.7s								
WHN	**Wuhan**	**28.91**	**39**	P			**P**	**16 36 56.3**	**-1.6**
WHN				S			**S**	**16 41 49.5**	**+1.8**
WHN				LR			LR		
	comp=Z,2μm,14.3s								
MRSI	**Marisa**	**29.33**	**105**	P			P	16 37 09.8	+8.0
LUWI	**Luwuk**	**30.59**	**107**	P			**P**	**16 37 11.5**	**-1.5**
LUWI	**Luwuk**	**30.59**	**107**	*e*P			**P**	**16 37 09.1**	**-3.9**
	comp=Z,93nm,1.1s								
GTA	**Gaotai**	**30.89**	**9**	*e*P			**P**	**16 37 15.5**	**+0.1**
GTA				pP			pP	16 37 20.3	-0.7
GTA				sP			sP	16 37 23.5	+0.3
GTA				pmax			pmax		
	comp=Z,11nm,1.4s								
GTA				LR

AAK	**Ala-Archa**	**37.62**	**337**	P		**P**		**16 38 15.1**	**+1.3**
	SNR=25								
AAK	**Ala-Archa**	**37.62**	**337**	*e*P		**P**		**16 38 14.6**	**+0.9**
	comp=Z,20nm,0.9s								
AAK	**Ala-Archa**	**37.62**	**337**	*i* P		**P**		**16 38 14.7**	**+0.9**
AAK				pmax	pmax				
	comp=Z,27nm,1.0s								
FRU	**Bishkek**	**37.73**	**337**	*e*P		**P**		**16 38 16.0**	**+1.4**
FRU				pmax	pmax				
	comp=Z,45nm,2.0s								
CHMS	**Chumysh**	**37.82**	**337**	P		**P**		**16 38 16.2**	**+0.9**
	SNR=14								
EKS2	**Erkin-Say**	**37.92**	**336**	P		**P**		**16 38 17.9**	**+1.6**
	SNR=18								
USP	**Ospenovka**	**38.15**	**337**	P		**P**		**16 38 19.1**	**+1.0**
	SNR=18								
MNAS	**Manas**	**38.31**	**334**	*i* P		**P**		**16 38 19.7**	**+0.1**
MNAS				pmax	pmax				
	comp=Z,31nm,1.4s								
MK01	**Makanchi Array**	**38.99**	**348**	*e*P		**P**		**16 38 24.8**	**-0.2**
MK31	**Makanchi Array**	**39.02**	**348**	*e*P		**P**		**16 38 25.1**	**-0.2**
MK31	**Makanchi Array**	**39.02**	**348**	*i* P		**P**		**16 38 25.1**	**-0.2**
MK31				pmax	pmax				
	comp=Z,12nm,1.0s								
MKAR	**Makanchi Array**	**39.02**	**348**	P		**P**		**16 38 24.6**	**-0.6**
	comp=Z,9.7nm,1.0s,baz=158,slow=7.8,SNR=43								
MKAR	**Makanchi Array**	**39.02**	**348**	*e*P		**P**		**16 38 25.1**	**-0.2**
	comp=Z,35nm,0.8s								
MKAR	**Makanchi Array**	**39.02**	**348**	*e*P		**P**		**16 38 25.1**	**-0.2**
MKAR				pmax	pmax				
	comp=Z,35nm,0.8s								
MAKZ	**Makanchi**	**39.10**	**347**	*e*P		**P**		**16 38 25.4**	**-0.5**
	comp=Z,8.0nm,1.1s								
MAKZ	**Makanchi**	**39.10**	**347**	*e*P		**P**		**16 38 25.5**	**-0.5**
MAKZ				pmax	pmax				
	comp=Z,8.0nm,1.1s								
KK31	**Karatay Array**	**39.67**	**333**	*e*P		**P**		**16 38 31.2**	**+0.4**
KK31	**Karatay Array**	**39.67**	**333**	*i* P		**P**		**16 38 31.2**	**+0.4**
KK31				pmax	pmax				
	comp=Z,17nm,1.1s								
KKAR	**Karatay Array**	**39.67**	**333**	*e*P		**P**		**16 38 31.1**	**+0.2**
KKAR	**Karatay Array**	**39.67**	**333**	*e*P		**P**		**16 38 31.1**	**+0.2**
FAKI	**Fak Fak**	**40.17**	**105**	*e*P		P		16 38 30.3	-5.1
	comp=Z,15nm,1.0s								
SONM	**Songino Array**	**40.28**	**13**	P		**P**		**16 38 35.5**	**-0.4**
	comp=Z,3.1nm,1.0s,baz=200,slow=9.1,SNR=16								
SONM				PcP		**PcP**		**16 40 39.1**	**-0.4**
	comp=Z,1.4nm,0.8s,baz=207,slow=1.6,SNR=3.3								
SONM				LR	LR			16 56 38.5	
	comp=Z,394nm,20.3s,baz=188,slow=38								
SONA1	**Songino Array**	**40.29**	**13**	*e*P		**P**		**16 38 35.5**	**-0.6**
DGZ	**Jazzator, Alta**	**41.02**	**354**	*i* P		**P**		**16 38 42.5**	**+0.4**
DGZ				pmax	pmax				
	comp=Z,7.0nm,1.4s								
TJN	**Taejon**	**41.03**	**43**	*ce*P		**P**		**16 38 41.0**	**-1.1**
KSAR	**Wonju Array Be**	**41.97**	**42**	P		**P**		**16 38 48.9**	**-0.9**
KSAR	**Wonju Array Be**	**41.97**	**42**	P		**P**		**16 38 48.9**	**-0.9**
KS01	**Wonju Array Si**	**41.99**	**42**	*e*P		**P**		**16 38 49.0**	**-1.0**
KSRS	**Korea Array**	**42.00**	**42**	P		**P**		**16 38 48.9**	**-1.1**
	comp=Z,3.8nm,1.0s,baz=236,slow=8.4,SNR=7.5								
KSRS				LR	LR			16 58 13.9	
	comp=Z,162nm,18.6s,baz=220,slow=39								
HVS	**Khovu-Aksy**	**42.12**	**360**	*i* P		**P**		**16 38 50.9**	**-0.1**
HVS				pmax	pmax				
	comp=Z,82nm,1.2s								
ZAK	**Zakamensk**	**42.13**	**9**	*e*P		**P**		**16 38 49.4**	**-1.6**
ZAK				*e*				16 40 42.2	
ZAK				pmax	pmax				
	comp=Z,3.0nm,1.5s								
MEEK	**Meekatharra**	**42.80**	**146**	P		**P**		**16 38 58.0**	**+1.3**
	baz=43								
GEYT	**Alibeck**	**43.17**	**318**	P		**P**		**16 39 01.6**	**+1.9**
	comp=Z,8.5nm,0.4s,baz=141,slow=7.6,SNR=30								
GEYT				LR		LR		17 00 01.0	
	comp=Z,268nm,19.5s,baz=235,slow=40								
GYA0B	**ALIBECK ARRAY**	**43.17**	**318**	*e*P		**P**		**16 38 59.2**	**-0.5**
	comp=Z,18nm,0.5s								
OTUK	**Ortayu**	**43.18**	**339**	P		**P**		**16 39 00.0**	**+0.5**
OTUK				pmax	pmax				
	comp=Z,23nm,1.0s								
TLY	**Talaya**	**43.44**	**9**	*e*P		**P**		**16 39 02.0**	**+0.4**
TLY				pmax	pmax				
	comp=Z,11nm,1.4s								
MORW	**Morawa**	**43.45**	**151**	P		**P**		**16 39 04.2**	**+2.3**
	baz=44,SNR=3.8								
KURBB	**Kurchatov Arra**	**43.47**	**346**	P		**P**		**16 39 01.6**	**-0.2**
	comp=Z,13nm,1.1s,baz=163,slow=7.8,SNR=36								
KURK	**Kurchatov**	**43.53**	**346**	*e*P		**P**		**16 39 02.0**	**-0.4**
	comp=Z,27nm,1.2s								
KURK	**Kurchatov**	**43.53**	**346**	*de*P		**P**		**16 39 01.9**	**-0.4**
KURK				pmax	pmax				
	comp=Z,28nm,1.2s								
CN2	**Changchun**	**44.41**	**33**	*e*P		**P**		**16 39 09.5**	**0.0**
CN2				*es*P		sP		16 39 19.5	+2.1
CN2				*e*S		**S**		**16 45 42.3**	**-1.2**
CN2				pmax	pmax				
	comp=Z,10.0nm,0.7s								
CN2				pmax	pmax				
	comp=Z,200nm,3.0s								
CN2				LR	LR				
	comp=Z,400nm,14.0s								
CN2				LR	LR				
	comp=Z,300nm,14.0s								
CN2				LR	LR				
	comp=Z,300nm,16.0s								
ZAA0	**Zalesovo Array**	**45.51**	**353**	*e*P		**P**		**16 39 18.1**	**0.0**
	comp=Z,44nm,1.1s								
ZALV	**Zalesovo Beam**	**45.51**	**353**	P		**P**		**16 39 18.1**	**+0.1**
	comp=Z,20nm,0.8s,baz=169,slow=8.5,SNR=58								
ZALV	**Zalesovo Beam**	**45.51**	**353**	*e*P		**P**		**16 39 17.8**	**-0.2**
ZALV	**Zalesovo Beam**	**45.51**	**353**	*e*P		**P**		**16 39 17.8**	**-0.2**
MUN	**Mundaring**	**45.97**	**153**	P		**P**		**16 39 23.1**	**+1.1**
	baz=46,SNR=3.4								
NVS	**Novosibirsk**	**46.59**	**352**	*e*P		**P**		**16 39 26.4**	**-0.1**
NVS				pmax	pmax				
	comp=Z,27nm,0.9s								
NVS				pmax	pmax				
	comp=N,11nm,0.8s								
NVS				pmax	pmax				
	comp=E,12nm,1.3s								
MDJ	**Mudanjiang**	**47.22**	**35**	P		**P**		**16 39 30.5**	**-1.2**
MDJ				sP		sP		16 39 41.0	+1.4
MDJ				pmax	pmax				
	comp=E,19nm,1.1s								
MDJ				pmax	pmax				
	comp=E,280nm,3.7s								
NWAO	**Narrogin (SRO)**	**47.24**	**153**	P		**P**		**16 39 34.0**	**+2.1**
	comp=E,16nm,1.1s,baz=237,slow=9.8,SNR=4.2								
NWAO	**Narrogin (SRO)**	**47.24**	**153**	*e*P		**P**		**16 39 31.7**	**-0.2**
	comp=E,46nm,1.4s								
NWAO	**Narrogin (SRO)**	**47.24**	**153**	*e*P		**P**		**16 39 31.7**	**-0.2**
NWAO				pmax	pmax				
	comp=Z,46nm,1.4s								
BVAR	**Borovoye Array**	**47.90**	**341**	P		**P**		**16 39 36.3**	**-0.5**
	comp=Z,1.4nm,0.4s,baz=145,slow=8.1,SNR=18								
BRVK	**Borovoye**	**47.96**	**341**	*e*P		**P**		**16 39 36.5**	**-0.8**
	comp=Z,7.7nm,0.8s								
BRVK	**Borovoye**	**47.96**	**341**	*ce*P		**P**		**16 39 37.3**	**0.0**
BRVK				pmax	pmax				
	comp=Z,8.0nm,0.8s								
RAYN	**Ar Rayn**	**48.29**	**294**	*e*P		**P**		**16 39 41.0**	**+0.6**
	comp=Z,20nm,0.9s								
USRK	**Ussuriysk Ar.**	**48.36**	**37**	P		**P**		**16 39 39.4**	**-1.1**
	comp=Z,5.0nm,0.9s,baz=235,slow=6.7,SNR=6.6								
JHJ	**Hachijo jima 2**	**48.80**	**53**	LR		LR		17 00 57.9	
	comp=Z,221nm,20.5s,baz=21,slow=37								
MJAR	**Matsushiro Arr**	**48.81**	**49**	P		**P**		**16 39 43.7**	**-0.4**
	comp=Z,1.8nm,0.8s,baz=243,slow=6.5,SNR=4.6								
MJAR				PcP		**PcP**		**16 41 08.1**	**-0.7**
	comp=Z,4.0nm,0.9s,baz=226,slow=2.3,SNR=3.6								
MJAR				LR		LR		17 03 02.5	
	comp=Z,320nm,18.6s,baz=115,slow=40								
ABKAR	**Akbulak array**	**49.15**	**331**	*e*P		**P**		**16 39 47.0**	**+0.6**
	comp=Z,10um,0.6s								
WB8	**Warramunga Arr**	**49.16**	**126**	P		**P**		**16 39 46.0**	**-1.0**
	baz=49								
WRA	**Warramunga Arr**	**49.20**	**126**	P		**P**		**16 39 46.1**	**-1.2**
	comp=Z,1.7nm,0.9s,baz=307,slow=8.7,SNR=14								
WRAB	**Tennant Creek**	**49.20**	**126**	*i* P		**P**		**16 39 46.5**	**-0.8**
WRAB				pmax	pmax				
	comp=Z,8.0nm,0.9s								
LKRN	**Lenkeran, Azer**	**49.99**	**314**	P		**P**		**16 39 52.8**	**-0.3**
ATD	**Arta Tunnel**	**50.07**	**278**	LR		LR		16 58 16.0	
	comp=Z,279nm,21.2s,baz=314,slow=33								
GUMO	**Guam**	**50.33**	**80**	LR		LR		17 00 34.5	
	comp=Z,154nm,20.1s,baz=253,slow=35								

AKTO	**Aktyubinsk**	**50.86**	**331**	P		**P**		**16 39 59.1**	**-0.4**
	comp=Z,2.6nm,0.4s,baz=122,slow=5.9,SNR=9.7								
ASAR	**Alice Springs**	**50.89**	**130**	P		**P**		**16 39 58.5**	**-1.7**
	comp=Z,1.7nm,0.9s,baz=306,slow=7.4,SNR=10.0								
ASAR				PcP		**PcP**		**16 41 17.8**	**+1.1**
	comp=Z,1.9nm,0.8s,baz=317,slow=3.3,SNR=4.5								
AS01	**Alice Springs**	**50.92**	**130**	*e*P		**P**		**16 39 58.6**	**-1.8**
KLR	**Kul'dur**	**51.24**	**31**	P		**P**		**16 40 02.6**	**+0.3**
	comp=Z,0.2nm,0.8s,baz=249,slow=9.1,SNR=5.4								
KLR	**Kul'dur**	**51.24**	**31**	*i* P		**P**		**16 40 00.2**	**-2.2**
BOD	**Bodaibo**	**51.27**	**14**	*e*P		**P**		**16 40 01.3**	**-1.1**
BOD				pmax	pmax				
	comp=Z,11nm,1.6s								
TEY	**Ternei**	**51.58**	**38**	*e*P		**P**		**16 40 02.0**	**-2.9**
MNGR	**Mingechevir, A**	**52.03**	**316**	P		**P**		**16 40 08.1**	**-0.3**
SEKA	**Sheki**	**52.13**	**316**	P		**P**		**16 40 08.4**	**-0.9**
ZEA	**Zeya**	**52.22**	**25**	*e*P		**P**		**16 40 09.8**	**+0.3**
ZEA				pmax	pmax				
	comp=Z,40nm,1.8s								
ZEA				MLR	MLR				
	comp=N,500nm,16.0s								
GANJ	**Ganja**	**52.51**	**315**	P		**P**		**16 40 11.6**	**-0.4**
NAX	**Nakhchivan**	**52.53**	**313**	P		**P**		**16 40 11.8**	**-0.5**
ZKTA	**Zakatala**	**52.71**	**316**	P		**P**		**16 40 13.1**	**-0.4**
GNI	**Garni**	**53.43**	**314**	*e*P		**P**		**16 40 19.9**	**+0.9**
	comp=N,121nm,1.2s								
GNI	**Garni**	**53.43**	**314**	*ce*P		**P**		**16 40 18.1**	**-0.9**
GNI				pmax	pmax				
	comp=Z,42nm,1.7s								
GROC	**Groznyy**	**53.91**	**318**	*e*P		**P**		**16 40 20.8**	**-1.5**
GROC				*e*				16 41 26.3	
GROC								16 42 22.7	
GROC				pmax	pmax				
	comp=Z,9.0nm,0.4s								
SVE	**Sverdlovsk**	**54.31**	**338**⇑	*e*P		**P**		**16 40 24.8**	**-0.1**
SVE				pmax	pmax				
	comp=Z,31nm,1.5s								
GRNR	**Gornyy**	**54.58**	**32**	*e*P		**P**		**16 40 26.3**	**-0.7**
GRNR				pmax	pmax				
	comp=Z,26nm,1.0s								
ARU	**Arti**	**54.80**	**337**	*e*P		**P**		**16 40 27.6**	**-0.9**
	comp=Z,13nm,1.2s								
ARU	**Arti**	**54.80**	**337**	*d* *i*P		**P**		**16 40 28.3**	**-0.2**
ARU								16 41 26.5	
ARU				S		**S**		**16 48 11.5**	**+3.1**
ARU				SS		**SS**		**16 51 46.4**	**-5.3**
ARU				pmax	pmax				
	comp=Z,18nm,1.7s								
ARU				MLR	MLR				
	comp=Z,534nm,22.0s								
ASAJ	**Asahikawa**	**54.94**	**42**	P		**P**		**16 40 29.7**	**0.0**
	comp=Z,3.6nm,0.7s,baz=247,slow=13,SNR=5.9								
ASAJ	**Asahikawa**	**54.94**	**42**	*e*P		**P**		**16 40 27.1**	**-2.6**
	comp=Z,12nm,1.0s								
ZEI	**Tsey**	**55.02**	**317**	*e*P		**P**		**16 40 31.2**	**+0.6**
ZEI				pmax	pmax				
	comp=Z,8.0nm,1.1s								
NEY	**Neytrino**	**55.99**	**317**	*i* P		**P**		**16 40 38.8**	**+1.2**
KBZ	**Khabaz**	**56.06**	**317**	P		**P**		**16 40 38.6**	**+0.9**
	comp=Z,3.7nm,1.0s,baz=138,slow=6.1,SNR=6.4								
PMG	**Port Moresby**	**56.24**	**108**	P		**P**		**16 40 40.8**	**+1.3**
	comp=Z,8.9nm,0.8s,baz=292,slow=11,SNR=3.0								
YSS	**Yuzh-Sakhalins**	**56.26**	**38**	*e*P		**P**		**16 40 38.1**	**-1.0**
	comp=Z,70nm,1.6s								
YSS	**Yuzh-Sakhalins**	**56.26**	**38**⇑	*e*P		**P**		**16 40 39.3**	**+0.2**
YSS				*e*				16 40 47.5	
YSS				pmax	pmax				
	comp=Z,20nm,1.3s								
YSS				MLR	MLR				
	comp=Z,230nm,16.0s								
KIV	**Kislovodsk**	**56.29**	**318**	*e*P		**P**		**16 40 39.1**	**-0.4**
	comp=Z,14nm,1.0s								
KIV	**Kislovodsk**	**56.29**	**318**	*e*P		**P**		**16 40 38.7**	**-0.8**
KIV				pmax	pmax				
	comp=Z,11nm,1.0s								
KMBO	**Kilima Mbogo**	**57.12**	**263**	LR		LR		17 03 53.5	
	comp=Z,223nm,19.2s,baz=122,slow=34								
ASF	**Jabal al Asfar**	**57.31**	**303**	LR		LR		17 08 45.1	
	comp=Z,108nm,19.2s,baz=61,slow=40								
MMAI	**Mount Meron Ar**	**58.71**	**303**	LR		LR		17 10 15.9	
	comp=Z,121nm,18.2s,baz=40,slow=40								
CTA	**Charters Tower**	**59.17**	**120**	P		**P**		**16 41 01.6**	**+1.5**
	comp=Z,2.9nm,0.9s,baz=252,slow=6.4,SNR=3.2								
YAK	**Yakutsk**	**59.18**	**19**	P		**P**		**16 40 57.8**	**-1.6**
	comp=Z,3.6nm,0.3s,baz=268,slow=4.2,SNR=7.3								
YAK	**Yakutsk**	**59.18**	**19**	*e*P		**P**		**16 40 57.5**	**-1.9**
YAK				*e*				16 41 44.7	
YAK				*e*				16 43 09.6	
YAK				*e*S		**S**		**16 49 06.8**	**+0.8**
YAK				*e**SS		**pS**		**16 49 10.8**	**-2.3**
YAK				*e*SS		**SS**		**16 53 04.3**	**+3.9**
YAK				pmax	pmax				
	comp=Z,10.0nm,1.0s								
YAK				pmax	pmax				
	comp=N,3.0nm,1.2s								
YAK				pmax	pmax				
	comp=E,5.0nm,1.2s								
YAK				pmax	pmax				
	comp=Z,20nm,2.6s								
YAK				pmax	pmax				
	comp=N,26nm,2.8s								
YAK				pmax	pmax				
	comp=E,57nm,2.9s								
YAK				smax	smax				
	comp=N,12nm,1.5s								
YAK				smax	smax				
	comp=E,24nm,1.6s								
YAK				MLR	MLR				
	comp=Z,307nm,16.0s								
YAK				MLR	MLR				
	comp=N,173nm,16.0s								
YAK				MLR	MLR				
	comp=E,108nm,20.0s								
VSR	**Storozhevoye**	**61.33**	**324**	*e*P		**P**		**16 41 13.1**	**-1.2**
VSR				pmax	pmax				
	comp=Z,9.0nm,1.1s								
BR131	**Keskin Array S**	**61.45**	**310**	*e*P		**P**		**16 41 14.1**	**-1.4**
BRTR	**Keskin Array B**	**61.45**	**310**	P		**P**		**16 41 14.1**	**-1.4**
	comp=Z,3.0nm,0.9s,baz=120,slow=6.4,SNR=17								
ILGA	**Ilgaz**	**61.70**	**312**	*e*P		**P**		**16 41 16.5**	**-0.8**
	comp=Z,25nm,1.5s								
LPSR	**Galich'ya Gora**	**62.02**	**326**	*e*P		**P**		**16 41 19.2**	**+0.3**
LPSR				pmax	pmax				
	comp=Z,10.0nm,0.8s								
MOS	**Moscow**	**64.00**	**329**	*e*P		**P**		**16 41 30.8**	**-1.2**
OBN	**Obninsk**	**64.30**	**328**	*ce*P		**P**		**16 41 34.6**	**+0.6**
OBN				*e*				16 42 04.1	
OBN				*e*				16 43 54.0	
OBN				*e*S		S		16 50 23.9	+13
OBN				pmax	pmax				
	comp=Z,16nm,0.7s								
OBN				MLR	MLR				
	comp=Z,193nm,19.0s								
KLMR	**Klimovskoe**	**65.37**	**334**	*e*P		**P**		**16 41 40.2**	**-0.7**
KLMR				AMP				16 41 41.8	
	comp=Z,13nm,1.3s								
KLMR				*e*PcP		**PcP**		**16 42 11.7**	**-1.2**
KLMR				*e*PP		**PP**		**16 44 06.4**	**+1.7**
KLMR	**Klimovskoe**	**65.37**	**334**	*e*P		**P**		**16 41 40.1**	**-0.8**
KLMR				*e*				16 42 11.6	
KLMR				*e*				16 44 06.4	
KLMR				pmax	pmax				
	comp=Z,13nm,1.3s								
MA2	**Magadan**	**66.08**	**28**	*i* P		**P**		**16 41 45.1**	**-0.4**
MA2				pmax	pmax				
	comp=Z,26nm,2.0s								
TIXI	**Tiksi**	**66.33**	**11**	*e*P		**P**		**16 41 45.2**	**-1.7**
	comp=Z,14nm,0.7s								
TIXI	**Tiksi**	**66.33**	**11**	*d* *i*P		**P**		**16 41 44.8**	**-2.1**
TIXI				pmax	pmax				
	comp=Z,8.0nm,1.0s								
SORM	**Soroca**	**67.05**	**319**	‖ *i*P		**P**		**16 41 47.9**	**-4.0**
SORM	**Soroca**	**67.05**	**319**	‖P		**P**		**16 41 47.9**	**-4.0**
AKASG	**Malin Array Be**	**67.10**	**321**	P		**P**		**16 41 50.9**	**-1.3**
	comp=Z,1.3nm,0.7s,baz=86,slow=5.4,SNR=9.7								
KIEV	**Kiev**	**67.11**	**321**	*i* P		**P**		**16 41 51.0**	**-1.2**
KIEV				pmax	pmax				
	comp=Z,4.0nm,1.0s								
IDI	**Anoyia**	**67.64**	**304**	‖ *i*P		P		16 42 05.8	+10
VRI	**Vrincioaia**	**67.68**	**316**	‖ *i*P		**P**		**16 41 57.0**	**+1.0**
VRI	**Vrincioaia**	**67.68**	**316**	‖P		**P**		**16 41 57.0**	**+1.0**
PLOR	**Plostina**	**67.73**	**316**	‖ *i*P		**P**		**16 41 57.4**	**+1.0**
PLOR	**Plostina**	**67.73**	**316**	‖P		**P**		**16 41 57.4**	**+1.0**
MLR	**Muntele Rosu**	**68.15**	**315**⇑	*i*P		**P**		**16 42 00.3**	**+1.1**
MLR	**Muntele Rosu**	**68.15**	**315**	*e*P		**P**		**16 41 57.8**	**-1.3**
	comp=Z,16nm,1.1s								
MLR	**Muntele Rosu**	**68.15**	**315**	*e*P		**P**		**16 41 57.8**	**-1.3**
MLR				pmax	pmax				
	comp=Z,16nm,1.1s								
SEY	**Seymchan**	**68.20**	**25**	P		**P**		**16 41 56.8**	**-2.1**
	comp=Z,1.8nm,1.0s,baz=257,slow=9.3,SNR=3.6								
SEY	**Seymchan**	**68.20**	**25**	*i* P		**P**		**16 41 58.3**	**-0.6**
DOPR	**Dopca**	**68.62**	**316**	‖ *i*P		P		16 42 08.8	+6.9
BURAR	**Bucovina Array**	**69.02**	**318**	⇑ *i*P		**P**		**16 42 04.7**	**+0.2**
BURAR	**Bucovina Array**	**69.02**	**318**	⇑P		**P**		**16 42 04.7**	**+0.2**
BUR04	**Bucovina Ar. S**	**69.02**	**318**	*e*P		**P**		**16 42 03.4**	**-1.1**
BUR08	**Bucovina Ar. S**	**69.03**	**318**	*e*P		**P**		**16 42 04.2**	**-0.3**
ARR	**Arges**	**69.05**	**315**⇑	*i*P		**P**		**16 42 03.7**	**-0.9**
LSZ	**Lusaka**	**69.20**	**250**	*e*P		**P**		**16 42 08.9**	**+2.7**
	comp=Z,7.8nm,1.1s								
LSZ	**Lusaka**	**69.20**	**250**	*e*P		**P**		**16 42 08.9**	**+2.7**
LSZ				pmax	pmax				
	comp=Z,8.0nm,1.1s								
IDID	**Didziasalis**	**69.70**	**326**	*e*P		**P**		**16 42 07.5**	**-0.8**
IDID				IAmb	IAmb			16 42 14.2	
	comp=Z,9.6nm,1.2s								
IIGN	**Ignalina**	**70.00**	**326**	*e*P		**P**		**16 42 09.4**	**-0.8**
IIGN				IAmb	IAmb			16 42 19.6	
	comp=Z,10nm,0.7s								
IZAR	**Zarasai**	**70.08**	**326**	*e*P		**P**		**16 42 09.9**	**-0.8**
IZAR				IAmb	IAmb			16 42 16.2	
	comp=Z,9.6nm,0.6s								
TRPA	**Tarpa**	**70.88**	**318**⇑	*i*P		**P**		**16 42 16.6**	**+0.9**
KWP	**Kalwaria Pacla**	**70.99**	**319**	*e*P		**P**		**16 42 17.1**	**+0.7**
KWP	**Kalwaria Pacla**	**70.99**	**319**	*e*P		**P**		**16 42 16.3**	**-0.2**
	comp=Z,124nm,1.0s								
KWP	**Kalwaria Pacla**	**70.99**	**319**	*e*P		**P**		**16 42 17.1**	**+0.7**
SIRR	**Siria**	**71.23**	**316**⇑	*i*P		**P**		**16 42 18.5**	**+0.5**
SUW	**Suwalki**	**71.44**	**324**	*e*P		**P**		**16 42 19.1**	**+0.1**
SUW	**Suwalki**	**71.44**	**324**	*e*P		**P**		**16 42 19.1**	**+0.1**
FINES	**FINESS Array B**	**71.62**	**332**	P		**P**		**16 42 19.8**	**-0.2**
	comp=Z,4.0nm,0.7s,baz=92,slow=5.8,SNR=16								
FINES				LR		LR		17 17 02.1	
	comp=Z,62nm,18.0s,baz=88,slow=39								
CRVS	**Cervenica-Dubn**	**71.69**	**319**	*e*P		**P**		**16 42 22.0**	**+1.3**
CRVS	**Cervenica-Dubn**	**71.69**	**319**	*e*P		**P**		**16 42 22.0**	**+1.3**
CRVS				pmax	pmax				
	comp=Z,8.0nm,1.2s								
STHS	**Stebnicka Huta**	**71.90**	**319**	*e*P		**P**		**16 42 22.9**	**+0.9**
STHS	**Stebnicka Huta**	**71.90**	**319**	*e*P		**P**		**16 42 22.9**	**+0.9**
STHS				pmax	pmax				
	comp=Z,6.0nm,1.2s								
VYHS	**Vyhne**	**73.38**	**318**	*e*P		**P**		**16 42 30.1**	**-0.6**
VYHS	**Vyhne**	**73.38**	**318**	*e*P		**P**		**16 42 30.1**	**-0.6**
KEV	**Kevo**	**73.75**	**341**	*e*P		**P**		**16 42 31.9**	**-0.5**
KEV	**Kevo**	**73.75**	**341**	*e*P		**P**		**16 42 31.9**	**-0.5**
OKC	**Ostrava-Krasne**	**73.95**	**319**	*e*P		**P**		**16 42 34.9**	**+0.8**
OKC	**Ostrava-Krasne**	**73.95**	**319**	*e*P		**P**		**16 42 34.9**	**+0.8**
ARCES	**ARCESS Array B**	**74.18**	**340**	P		**P**		**16 42 35.3**	**+0.3**
	comp=Z,7.7nm,1.0s,baz=103,slow=6.9,SNR=20								
ARCES				LR		LR		17 18 14.0	
	comp=Z,247nm,19.5s,baz=115,slow=38								
MORC	**Moravsky Berou**	**74.33**	**319**	‖ *i*P		**P**		**16 42 37.3**	**+0.9**
MORC	**Moravsky Berou**	**74.33**	**319**	*e*P		**P**		**16 42 36.8**	**+0.4**
	comp=Z,59nm,1.2s								
MORC	**Moravsky Berou**	**74.33**	**319**	*e*P		**P**		**16 42 36.8**	**+0.4**
MORC				pmax	pmax				
	comp=Z,59nm,1.2s								
MODS	**Modra-Piesok**	**74.40**	**318**	*e*P		**P**		**16 42 40.0**	**+3.3**
MODS	**Modra-Piesok**	**74.40**	**318**	*e*P		**P**		**16 42 40.0**	**+3.3**
MODS				pmax	pmax				
	comp=Z,10.0nm,1.3s								
KRLC	**Kraliky**	**74.85**	**319**	*e*P		**P**		**16 42 40.4**	**+1.0**
KRLC				*ex*		x		16 42 49.8	
KRLC	**Kraliky**	**74.85**	**319**	*e*P		**P**		**16 42 40.4**	**+1.0**
KRLC				*e*				16 42 49.8	
DPC	**Dobruska-

TOLK	**Toolik Lake Re**	**91.15**	**19**	*e*P	**P**	**16 44 01.8**	**-1.5**
	comp=Z,9.9nm,0.9s							
COLD	**Coldfoot**	**91.60**	**20**	*e*P	**P**	**16 44 04.2**	**-1.2**
	comp=Z,8.8nm,1.3s							
SVW2	**Sparrevohn**	**92.05**	**27**	*e*P	**P**	**16 44 06.4**	**-1.3**
	comp=Z,13nm,1.2s							
BORG	**Borgarnes**	**92.34**	**337**	LR	LR	17 28 53.2		
	comp=Z,52nm,18.4s,baz=16,slow=38							
MLY	**Manley**	**92.41**	**23**	*e*P	**P**	**16 44 07.7**	**-1.6**
	comp=Z,9.4nm,1.0s							
CAST	**Castle Rocks**	**92.60**	**24**	*e*P	**P**	**16 44 09.1**	**-1.0**
	comp=Z,23nm,1.0s							
BPAW	**Bear Paw Mtn.**	**92.73**	**23**	*e*P	**P**	**16 44 10.2**	**-0.5**
	comp=Z,23nm,1.0s							
PPLA	**Purkeypile**	**92.78**	**25**	*e*P	**P**	**16 44 10.8**	**-0.3**
	comp=Z,12nm,1.1s							
SUMG	**Summit**	**93.07**	**347**	*e*P	**P**	**16 44 11.5**	**-1.1**
	comp=Z,17nm,1.4s							
SUMG	**Summit**	**93.07**	**347**	*e*P	**P**	**16 44 11.5**	**-1.1**
SUMG				pmax	pmax			
	comp=Z,17nm,1.4s							
TRF	**Thorofare Moun**	**93.31**	**24**	*e*P	**P**	**16 44 12.1**	**-1.5**
	comp=Z,10nm,1.2s							
MDM	**Murphy Dome**	**93.38**	**22**	*e*P	**P**	**16 44 12.8**	**-0.9**
	comp=Z,12nm,1.0s							
FYU	**Fort Yukon**	**93.63**	**20**	*e*P	**P**	**16 44 14.6**	**-0.2**
	comp=Z,13nm,1.0s							
MCK	**McKinley**	**93.71**	**23**	*e*P	**P**	**16 44 14.2**	**-1.1**
	comp=Z,12nm,1.0s							
MCK	**McKinley**	**93.71**	**23**	*e*P	**P**	**16 44 14.2**	**-1.1**
MCK				pmax	pmax			
	comp=Z,12nm,1.0s							
RND	**Reindeer**	**93.90**	**24**	*e*P	**P**	**16 44 15.0**	**-1.2**
	comp=Z,16nm,1.4s							
RND	**Reindeer**	**93.90**	**24**	*e*P	**P**	**16 44 15.0**	**-1.2**
RND				pmax	pmax			
	comp=Z,16nm,1.4s							
IL1	**Eielson Array**	**93.97**	**22**	*e*P	**P**	**16 44 14.6**	**-1.9**
ILAR	**Eielson Array**	**93.97**	**22**	P	**P**	**16 44 14.8**	**-1.6**
	comp=Z,1.2nm,0.7s,baz=301,slow=4.1,SNR=14							
ILB	**Eielson Array**	**93.97**	**22**	*e*P	**P**	**16 44 14.7**	**-1.8**
SUA	**Susitna One**	**94.02**	**26**	*e*P	**P**	**16 44 15.1**	**-1.7**
	comp=Z,21nm,0.8s							
KOWA	**Kowa**	**95.19**	**285**	LR	LR	17 28 39.8		
	comp=Z,119nm,18.1s,baz=43,slow=36							
SCRK	**Sand Creek**	**95.47**	**22**	*e*P	**P**	**16 44 22.6**	**-0.8**
	comp=Z,6.0nm,1.0s							
INK	**Inuvik**	**96.15**	**16**	*e*P	**P**	**16 44 25.6**	**-0.6**
	comp=Z,13nm,1.0s							
INK	**Inuvik**	**96.15**	**16**	*e*P	**P**	**16 44 25.6**	**-0.6**
INK				pmax	pmax			
	comp=Z,13nm,1.0s							
RES	**Resolute Bay**	**96.42**	**2**	*e*P	**P**	**16 44 26.8**	**-0.6**
	comp=Z,5.1nm,0.9s							
RES	**Resolute Bay**	**96.42**	**2**	*e*P	**P**	**16 44 26.8**	**-0.6**
RES				pmax	pmax			
	comp=Z,5.0nm,0.9s							
DAWY	**Dawson**	**97.07**	**21**	*e*P	**P**	**16 44 29.9**	**-0.7**
	comp=Z,6.0nm,1.0s							
DBIC	**Dimbokro**	**97.38**	**278**	LR	LR	17 26 41.9		
	comp=Z,114nm,20.8s,baz=70,slow=34							
QSPA	**South Pole Qui**	**98.78**	**180**	LR	LR	17 24 25.8		
	comp=Z,73nm,19.3s,baz=308,slow=32							
SFJD	**Kangerlussuaq**	**100.05**	**347**	LR	LR	17 36 35.9		
	comp=Z,41nm,21.1s,baz=42,slow=39							
YKA	**Yellowknife Ar**	**105.55**	**13**	Pdiff	**Pdif**	**16 45 08.1**	**-0.3**
	comp=Z,0.2nm,0.8s,baz=330,slow=4.0,SNR=3.3							
NV01	**Mina Array Sit**	**124.27**	**30**	*e*PKPdf	**PKPdf**	**16 49 57.1**	**-1.3**
NVAR	**Mina Array Bea**	**124.27**	**30**	PKP	**PKPdf**	**16 49 58.5**	**+0.2**
	comp=Z,0.6nm,0.6s,baz=326,slow=1.3,SNR=4.0							
PDAR	**Pinedale Array**	**124.38**	**21**	PKP	**PKPdf**	**16 49 57.3**	**-1.1**
	comp=Z,0.4nm,0.5s,baz=117,slow=0.7,SNR=6.2							
PDAR	**Pinedale Array**	**124.38**	**21**	*e*PKPdf	**PKPdf**	**16 49 56.8**	**-1.6**
R11A	**Troy Canyon, C**	**125.65**	**28**	*e*PKPdf	**PKPdf**	**16 49 59.2**	**-1.7**
TX31	**Lajitas Ar. Si**	**138.48**	**23**	*e*PKPdf	**PKPdf**	**16 50 23.8**	**-1.5**
TXAR	**Lajitas Array**	**138.48**	**23**	PKP	**PKPdf**	**16 50 24.4**	**-0.8**
	comp=Z,0.2nm,0.4s,baz=169,slow=0.4,SNR=5.0							
ZAIG	**Zacatecas**	**144.74**	**27**	*e*PKPdf	**PKPab**	**16 50 35.3**	**-0.2**
PLCA	**Paso Flores**	**145.33**	**201**	PKPbc	**PKPdf**	**16 50 37.6**	**+0.6**
	comp=Z,17nm,0.8s,baz=179,slow=2.4,SNR=13							
PLCA	**Paso Flores**	**145.33**	**201**	*e*PKPbc	**PKPab**	**16 50 36.9**	**-0.1**
PLCA	**Paso Flores**	**145.33**	**201**	*e*PKIKP	**PKPab**	**16 50 36.9**	**-0.1**
CPUP	**Villa Florida**	**147.52**	**234**	PKPbc	**PKPbc**	**16 50 43.9**	**+0.3**
	comp=Z,8.0nm,0.9s,baz=97,slow=3.3,SNR=11							
CPUP	**Villa Florida**	**147.52**	**234**	*e*PKPbc	**PKPbc**	**16 50 42.9**	**-0.7**
CPUP	**Villa Florida**	**147.52**	**234**	*e*PKP2	**PKPbc**	**16 50 42.9**	**-0.7**
GO05	**HualaæØ**	**150.86**	**205**	*e*PKPab	**PKPab**	**16 50 58.9**	**-0.1**

*IDC **25** 16:34:04.4±2.2, 0.°93N×95.°25E, h0km, mb3.7/7, mb1 3.9/8, mb1mx3.5/69, mbtmp3.8/8, ML4.7/1, Error ellipse: s-maj=86.7km s-min=19.7km az=58.0*

ISC 25 16:34:10.3±2.4, 1.°1N±0.°3×95.°5E±0.°5, h35km, n8, σ0.41/8, mb3.7/7, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**17.63**	**11**	P	**P**	**16 38 13.9**	**-0.2**
	0.9nm,0.3s,baz=196,slow=12,SNR=6.8						
WRA	**Warramunga Arr**	**43.46**	**121**	P	**P**	**16 42 10.0**	**-0.4**
	0.7nm,1.0s,baz=304,slow=8.6,SNR=5.0						
ASAR	**Alice Springs**	**44.72**	**126**	P	**P**	**16 42 20.8**	**+0.3**
	0.2nm,0.5s,baz=295,slow=7.4,SNR=3.6						
MKAR	**Makanchi Array**	**46.98**	**348**	P	**P**	**16 42 38.1**	**+0.1**
	1.1nm,0.6s,baz=164,slow=8.2,SNR=6.4						
SONM	**Songino Array**	**47.55**	**10**	P	**P**	**16 42 42.8**	**+0.3**
	0.9nm,0.8s,baz=196,slow=8.7,SNR=5.0						
KURBB	**Kurchatov Arra**	**51.43**	**346**	P	**P**	**16 43 12.0**	**+0.2**
	0.4nm,0.6s,baz=171,slow=6.6,SNR=4.3						
ZALV	**Zalesovo Beam**	**53.44**	**352**	P	**P**	**16 43 26.5**	**-0.1**
	1.6nm,0.4s,baz=184,slow=7.1,SNR=4.1						
BVAR	**Borovoye Array**	**55.83**	**342**	P	**P**	**16 43 43.4**	**-0.6**
	0.5nm,0.6s,baz=157,slow=8.9,SNR=3.5						

*ISK **25** 16:52:24.5, 38.°94N×38.°11E, h13km, ML1.8/5*
*ISCJB **25** 16:52:25.1±0.5, 38.°97N±0.°03×38.°12E±0.°03, h12km±4km, Error ellipse: s-maj=5.3km s-min=4.4km az=168.3*
*CSEM **25** 16:52:25.0±0.1, 38.°96N×38.°12E, h15km, ML2.8, Error ellipse: s-maj=3.1km s-min=2.7km az=15.0*
*DDA **25** 16:52:25.8, 38.°96N×38.°16E, h7km, Ml2.8*

ISC 25 16:52:25.0±1.0, 38.°96N±0.°03×38.°12E±0.°02, h16km±9km, n20, σ0.°35/36, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HEKM	**Malatya_Hekimh**	**0.14**	**238**	*i* P	**Pb**	**16 52 29.6**	**+0.2**
HEKM				*i* S	**Sb**	**16 52 32.9**	**+0.5**
HEKM	**Malatya_Hekimh**	**0.14**	**238**	P	**Pb**	**16 52 29.6**	**+0.2**
HEKM				S	**Sb**	**16 52 32.9**	**+0.5**
KEMA	**Kemaliye**	**0.43**	**43**	*i* P	**Pg**	**16 52 33.6**	**-0.1**
KEMA				*i* S	**Sb**	**16 52 40.6**	**0.0**
KEMA	**Kemaliye**	**0.43**	**43**	P	**Pg**	**16 52 33.6**	**-0.1**
KEMA				S	**Sb**	**16 52 40.6**	**0.0**
CUKAN	**kangal_SIVAS**	**0.62**	**306**	*i* P	**Pg**	**16 52 37.2**	**0.0**
CUKAN				*i* S	**Sg**	**16 52 45.3**	**-0.2**
CUKAN	**kangal_SIVAS**	**0.62**	**306**	P	**Pg**	**16 52 37.2**	**0.0**
CUKAN				S	**Sg**	**16 52 45.3**	**-0.2**
DARE	**Darende-Malaty**	**0.63**	**232**	PG	**Pg**	**16 52 37.2**	**-0.1**
DARE				SG	**Sg**	**16 52 45.6**	**-0.1**
DARE	**Darende-Malaty**	**0.63**	**232**	*e*Pg	**Pg**	**16 52 37.2**	**-0.1**
DARE				*e*Sg	**Sg**	**16 52 45.6**	**-0.1**
AKCD	**Akcadag**	**0.68**	**193**	*i* P	**Pb**	**16 52 39.0**	**+0.5**
AKCD				*i* S	**Sn**	**16 52 49.6**	**-0.8**
AKCD	**Akcadag**	**0.68**	**193**	P	**Pb**	**16 52 39.0**	**+0.5**
AKCD				S	**Sn**	**16 52 49.6**	**-0.8**
MALT	**Malatya**	**0.69**	**159**	PG	**Pg**	**16 52 37.9**	**-0.6**
MALT				SG	**Sg**	**16 52 47.8**	**+0.2**
MALT	**Malatya**	**0.69**	**159**	*e*Pg	**Pg**	**16 52 37.9**	**-0.6**
MALT				*e*Sg	**Sg**	**16 52 47.8**	**+0.2**
ELZG	**Elazig**	**0.82**	**124**	*i* P	**Pb**	**16 52 41.1**	**+0.1**
ELZG				*i* S	**Sb**	**16 52 52.4**	**+0.6**
ELZG	**Elazig**	**0.82**	**124**	P	**Pb**	**16 52 41.1**	**+0.1**
ELZG				S	**Sb**	**16 52 52.4**	**+0.6**
PTK	**Pertek**	**1.00**	**93**	PG	**Pb**	**16 52 44.2**	**+0.2**
PTK				SG	**Sn**	**16 52 58.4**	**0.0**
PTK	**Pertek**	**1.00**	**93**	*e*Pg	**Pb**	**16 52 44.2**	**+0.2**
PTK				*e*Sg	**Sn**	**16 52 58.4**	**0.0**
SVRC	**Sivrice-ELAZID**	**1.10**	**121**	PN	**Pb**	**16 52 45.8**	**+0.1**
SVRC	**Sivrice-ELAZID**	**1.10**	**121**	*e*Pn	**Pb**	**16 52 45.8**	**+0.1**
SVSK	**Karacayir**	**1.29**	**318**	PN	**Pb**	**16 52 49.0**	**+0.1**
SVSK	**Karacayir**	**1.29**	**318**	*e*Pn	**Pb**	**16 52 49.0**	**+0.1**

*ISCJB **25** 16:54:49.6±0.5, 32.°35N±0.°04×115.°34W±0.°03, h9km±6km, Error ellipse: s-maj=6.5km s-min=4.2km az=30.0*
*MEX **25** 16:54:50.6±0.4, 32.°45N×115.°26W, h7km±25km, MD3.7*
*NEIC **25** 16:54:51.1±0.0, 32.°34N×115.°33W, h3km, ML2.4(PAS), ML2.9(ECX), After ECX.*
NEIC Felt at San Diego, California.
*ECX **25** 16:54:51.0±0.9, 32.°33N×115.°33W, h3km, MD2.7, ML2.9*

ISC 25 16:54:49.0±0.8, 32.°35N±0.°03×115.°30W±0.°03, h13km±5km, n22, σ0.°70/36, 7C-5D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CPBX	**Cerro Prieto**	**0.07**	**358**	*i* P	**Pg**	**16 54 51.7**	**+0.1**
CPBX				*e*S	**Sg**	**16 54 53.2**	**-0.4**
CPBX	**Cerro Prieto**	**0.07**	**358**	⇑*e*P	**Pg**	**16 54 51.8**	**+0.1**
CPBX				*e*S	**Sg**	**16 54 54.2**	**+0.7**
CPBX				IAML		16 54 55.0	
	comp=N,15μm,0.2s						
CPBX				⇑*e*		16 54 57.7	
CPBX				IAML		16 54 57.7	
	comp=E,30μm,0.2s						
SGL	**Mount Signal**	**0.46**	**310**	⇓*i* P	**Pb**	**16 54 59.6**	**+0.5**
COA	**Coachella**	**0.53**	**16**	⇑*i* P	**Pn**	**16 55 01.6**	**-0.6**
WESC	**Westside Schoo**	**0.54**	**318**	*e*P	**Pb**	**16 55 01.1**	**+0.7**
YUH	**Yuha Desert**	**0.60**	**299**	⇓*i* P	**Pb**	**16 55 01.7**	**+0.4**
YMD	**Yuma Desert**	**0.67**	**72**	⇑*i* P	**Pn**	**16 55 03.7**	**-0.5**
RMX	**La Rumorosa**	**0.70**	**291**	*e*P	**Pg**	**16 55 03.1**	**+0.4**
RMX				⇓*e*		16 55 13.0	
RMX				IAML		16 55 13.0	
	comp=E,510nm,0.2s						
IKP	**In-Ko-Pah, Jac**	**0.74**	**294**	⇓*e*P	**Pb**	**16 55 04.3**	**+0.5**
IKP				*e*S	**Sg**	**16 55 14.2**	**+0.9**
GLA	**Glamis**	**0.80**	**30**	*e*Pg	**Pb**	**16 55 04.9**	**+0.1**
GLA				*e*Sg	**Sn**	**16 55 16.5**	**-1.4**
ECBX	**El Chinero**	**0.90**	**166**	⇓*e*P	**Pn**	**16 55 07.2**	**-0.2**
ECBX				*e*S	**Sn**	**16 55 19.4**	**-0.8**
CBX	**Cerro Bola**	**1.15**	**268**	*e*P	**Pb**	**16 55 11.1**	**+0.2**
CBX				*e*S	**Sb**	**16 55 25.2**	**-0.6**
CBX	**Cerro Bola**	**1.15**	**268**	*e*P	**Pb**	**16 55 11.1**	**+0.2**
CBX				*e*S	**Sb**	**16 55 25.2**	**-0.6**
CBX	**Cerro Bola**	**1.15**	**268**	*e*P	**Pb**	**16 55 11.3**	**+0.5**
CBX				*e*S	**Sb**	**16 55 26.4**	**+0.6**
CBX				⇑*e*		16 55 29.3	
CBX				IAML		16 55 29.3	
	comp=E,260nm,0.2s						
TJIG	**Tijuana**	**1.17**	**274**	*e*P	**Pn**	**16 55 09.9**	**-1.1**
TJIG				*e*S	**Sb**	**16 55 25.1**	**-0.8**
BAR	**Barrett**	**1.20**	**286**	*e*Pn	**Pb**	**16 55 12.2**	**+0.6**
BAR				*e*Sg	**Sb**	**16 55 27.6**	**+0.5**
SPIG	**San Pedro Mart**	**1.31**	**186**	*e*P	**Pb**	**16 55 13.5**	**-0.2**
SPIG				*e*S	**Sn**	**16 55 30.7**	**-0.1**
SPIG	**San Pedro Mart**	**1.31**	**186**	*e*P	**Pb**	**16 55 13.5**	**-0.2**
SPIG				*e*S	**Sn**	**16 55 30.7**	**-0.1**
SPIG	**San Pedro Mart**	**1.31**	**186**	⇑*e*P	**Pb**	**16 55 13.5**	**-0.2**
SPX	**San Pedro Mart**	**1.31**	**186**	*i* P	**Pb**	**16 55 13.4**	**-0.3**
SPX				*i* S	**Sn**	**16 55 30.5**	**-0.3**
SPX	**San Pedro Mart**	**1.31**	**186**	⇑*e*P	**Pb**	**16 55 13.5**	**-0.1**
214A	**Organ Pipe Nat**	**2.15**	**100**	Pn	**Pb**	**16 55 27.2**	**-0.6**
214A				*e*Pg	**Pg**	**16 55 32.5**	**+2.3**

MAN 25 17:00:05, 10.°90N×124.°71E, h38km, mb4.3, ML3.1, MS2.8, 1D, Leyte

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OCLP	**Ormoc**	**0.18**	**327**	*e*P	Pn	17 00 12.9	-1.6
OCLP				*e*S	Sn	17 00 19.3	-4.0
PLP	**Palo**	**0.37**	**45**	⇓*e*P	Pn	17 00 16.7	+2.5
PLP				*e*S	Sn	17 00 23.3	+2.8
MSLP	**Maasin**	**0.78**	**169**	*e*P	Pn	17 00 20.6	+1.2
MSLP				*e*S	Sn	17 00 27.9	-1.9
BESP	**Borongan**	**1.00**	**46**	*e*P	Pn	17 00 22.5	0.0
BESP				*e*S	Sn	17 00 35.8	+0.5
CNP	**Catarman**	**1.60**	**358**	*e*P	Pn	17 00 26.3	-4.4
CNP				*e*S	Sn	17 00 43.9	-6.3

*ISCJB **25** 17:02:24.7±0.7, 6.°85N±0.°04×73.°10W±0.°05, h151km±6km, mb3.3/1, Error ellipse: s-maj=8.4km s-min=5.8km az=35.8*
*IDC **25** 17:02:24.9±0.8, 6.°82N×72.°93W, h164km±11km, mb3.0/1, mb1 3.3/3, mb1mx2.9/42, mbtmp3.5/3, Error ellipse: s-maj=55.8km s-min=7.5km az=131.0*
*RSNC **25** 17:02:26.4±0.8, 6.°81N×73.°12W, h144km±5km, ML3.2*

ISC 25 17:02:24.4±1.0, 6.°86N±0.°05×73.°08W±0.°05, h154km±6km, n20, σ1.°04/33, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BARC	**Barichara**	**0.28**	**201**	*e*P	**Pn**	**17 02 46.0**	**+0.4**
BARC				*e*S	**Sn**	**17 03 00.8**	**-1.1**
BARC				*i*		17 03 04.4	
	comp=Z,330nm,0.6s						
PAMC	**Pamplona, Colo**	**0.61**	**38**	*e*P	**Pn**	**17 02 48.4**	**+1.1**
PAMC				*e*S	**Sn**	**17 03 05.3**	**+0.5**
PAMC				*i*		17 03 07.6	
	comp=Z,323nm,0.3s						
BRRC	**Barranca, Sant**	**0.67**	**292**	*e*P	**Pn**	**17 02 47.6**	**+0.5**
BRRC				*e*S	**Sn**	**17 03 04.3**	**-0.1**
BRRC				*i*		17 03 05.5	
	comp=Z,334nm,0.1s						
RUSC	**La Rusia**	**0.96**	**180**	*e*P	**Pn**	**17 02 50.0**	**+0.3**
RUSC				*e*S	**Sn**	**17 03 08.5**	**-0.6**
RUSC				*i*		17 03 10.7	
	comp=Z,106nm,0.2s						
OCAC	**Ocana**	**1.39**	**350**	*e*P	**Pn**	**17 02 53.8**	**+0.5**
PTBC	**PUERTO BERRIO,**	**1.40**	**257**	*e*P	**Pn**	**17 02 52.5**	**-0.7**
PTBC				*e*S	**Sn**	**17 03 14.4**	**-0.9**
PTBC				*i*		17 03 15.3	
	comp=Z,145nm,0.2s						
ZARC	**Zaragoza, Cauc**	**1.87**	**290**	*e*P	**Pn**	**17 02 58.8**	**+0.5**
ZARC				*e*S	**Sn**	**17 03 24.5**	**+0.1**
ZARC				*i*		17 03 29.1	
	comp=Z,368nm,0.3s						
NORC	**Norcasia**	**2.19**	**234**	*e*P	**Pn**	**17 03 02.0**	**-0.1**
NORC				*e*S	**Sn**	**17 03 30.3**	**-0.8**
CHIC	**Chingaza**	**2.31**	**196**	*e*P	**Pn**	**17 03 04.5**	**+0.8**
CHIC				*e*S	**Sn**	**17 03 33.6**	**-0.4**
CHIC				*i*		17 03 41.9	
	comp=Z,93nm,0.4s						
ROSC	**El Rosal**	**2.35**	**212**	P	**Pn**	**17 03 06.3**	**+2.0**
	comp=Z,27nm,0.3s,baz=272,slow=23,SNR=28						
ROSC				S	**Sn**	**17 03 38.0**	**+3.0**
	comp=Z,31nm,0.3s,baz=225,slow=20,SNR=14						
HELC	**Santa Helena**	**2.52**	**255**	*e*P	**Pn**	**17 03 07.5**	**+1.2**
HELC				*e*S	**Sn**	**17 03 38.6**	**0.0**
HELC				*i*		17 03 45.1	
	comp=Z,149nm,0.5s						
VILC	**Villavicencio,**	**2.79**	**193**	*e*P	**Pn**	**17 03 10.2**	**+0.8**
VILC				*e*S	**Sn**	**17 03 43.1**	**-1.3**
VILC				*i*		17 03 50.6	
	comp=Z,90nm,0.5s						
GUYC	**Guyana, Colomb**	**2.81**	**235**	*e*P	**Pn**	**17 03 11.5**	**+1.5**
DBBC	**Dabeiba**	**3.11**	**273**	*e*P	**Pn**	**17 03 14.6**	**+1.2**
SDV	**Santo Domingo**	**3.15**	**50**	P	**Pn**	**17 03 15.2**	**+1.1**
	comp=Z,2.7nm,0.3s,baz=206,slow=7.9,SNR=9.2						
SDV				S	**Sn**	**17 03 51.6**	**-0.9**
	comp=Z,12nm,0.3s,baz=73,slow=20,SNR=20						
PRAC	**Prado**	**3.60**	**210**	*e*P	**Pn**	**17 03 19.8**	**+0.1**
PRAC				*e*S	**Sn**	**17 04 02.4**	**-0.2**
YOTC	**Yotoco, Valle**	**4.33**	**229**	*e*P	**Pn**	**17 03 29.1**	**-0.1**
YKA	**Yellowknife Ar**	**63.24**	**340**	P	**P**	**17 12 36.1**	**-0.1**
	comp=Z,0.3nm,0.5s,baz=133,slow=7.1,SNR=7.5						
ASAR	**Alice Springs**	**149.16**	**234**	PKPbc	**PKPbc**	**17 21 55.2**	**-0.4**
	comp=Z,0.2nm,0.6s,baz=122,slow=4.1,SNR=3.1						
WRA	**Warramunga Arr**	**150.39**	**241**	PKPbc	**PKPbc**	**17 21 57.3**	**-1.3**
	comp=Z,0.3nm,0.8s,baz=108,slow=2.0,SNR=4.2						

MEX 25 17:04:27.2±0.4, 17.°59N×96.°59W, h99km±6km, MD3.9, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VHO	**Vista Hermosa**	**0.53**	**195**	*e*P	Pn	17 04 42.3	-1.1
VHO				*e*S	Sn	17 04 53.8	-1.7
TPIG	**Tehuac#an**	**1.11**	**319**	*e*P	Pn	17 04 44.7	-4.3
TPIG				*i* S	Sn	17 04 59.6	-5.7
HUIG	**Huatulco**	**1.87**	**166**	*e*P	Pn	17 04 54.5	-3.6
HUIG				*i* S	Sn	17 05 19.7	-1.9
TLIG	**Tlapa**	**1.89**	**270**	*e*P	Pn	17 04 54.2	-4.1
TLIG				*e*S	Sn	17 05 20.6	-1.6
PNIG	**Pinotepa**	**1.89**	**231**	*i* P	Pn	17 04 57.4	-1.0
PNIG				*e*S	Sn	17 05 21.5	-0.7

*BJI **25** 17:10:55.4, 36.°52N×82.°45E, h6km, ML3.7/8*
*IDC **25** 17:11:01.8±7.2, 37.°04N×82.°77E, h0km, mb3.3/1, mb1 3.6/5, mb1mx3.3/66, mbtmp3.6/5, ML3.2/4, MS3.8/1, Ms1 3.8/1, ms1mx2.7/50, Error ellipse: s-maj=101.9km s-min=29.5km az=17.0*

ISC 25 17:10:59.7±2.6, 36.°7N±0.°2×82.°8E±0.°2, h10km, n7, σ2.°00/7, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WMQ	**Urumqi**	**8.06**	**26**	P	**Pn**	**17 12 57.0**	**+0.1**
WMQ				smax	smax		
	comp=N,41nm,0.7s						
WMQ				smax	smax		
	comp=E,58nm,0.7s						
AAK	**Ala-Archa**	**8.74**	**316**	Pn	**Pn**	**17 13 07.5**	**+1.2**
	0.2nm,0.3s,baz=145,slow=16,SNR=3.6						
AAK				Pg	Pg	17 13 35.3	-12
	0.3nm,0.3s,baz=132,slow=14,SNR=5.7						
AAK				Lg	Lg	17 15 31.8	
	0.5nm,0.3s,baz=277,slow=20,SNR=4.9						
MKAR	**Makanchi Array**	**10.12**	**358**	Pn	**Pn**	**17 13 24.7**	**-0.4**
	0.7nm,0.3s,baz=182,slow=12,SNR=31						
MKAR				Sn	**Sn**	**17 15 19.7**	**+1.1**
	0.4nm,0.3s,baz=184,slow=25,SNR=6.4						
ZALV	**Zalesovo Beam**	**17.33**	**4**	Pn	**Pn**	**17 14 58.6**	**-3.0**
	0.1nm,0.3s,baz=191,slow=12,SNR=5.1						
BVAR	**Borovoye Array**	**18.52**	**336**	P	**P**	**17 15 14.8**	**-1.3**
	0.1nm,0.3s,baz=132,slow=9.9,SNR=11						
SONM	**Songino Array**	**20.64**	**50**	P	**P**	**17 15 41.1**	**+1.6**
	1.0nm,0.7s,baz=240,slow=12,SNR=5.9						
JOW	**Kunigami**	**39.59**	**91**	LR	LR	17 37 08.1	
	comp=Z,138nm,19.3s,baz=68,slow=40						

MEX 25 17:19:14.9±0.3, 15.°89N×98.°62W, h16km±999km, MD3.8, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.69**	**44**	*i* P	Pg	17 19 26.1	-2.4
PNIG				*i* S	Sg	17 19 34.6	-3.0
TLIG	**Tlapa**	**1.66**	**2**	*e*P	Pn	17 19 40.0	-3.5
TLIG				*i* S	Sn	17 19 59.7	-4.9
PLIG	**Platanillo**	**2.62**	**341**	*e*P	Pn	17 19 57.9	+1.1
PLIG				*e*S	Sn	17 20 24.1	-4.3

*NIED **25** 17:23:00, 40.°60N×143.°80E, h14km, Mw4.2 Best double couple: M0.2.49000×10^15 NP1:φ8=164.00000°, δ36.00000°, λ35.00000°. NP2:φ8=44.00000°, δ70.00000°, λ120.00000°.*
*ISCJB **25** 17:23:37.5±0.3, 40.°63N±0.°03×143.°95E±0.°05, h16km, mb4.2/52, Error ellipse: s-maj=5.9km s-min=2.7km az=28.3*
*IDC **25** 17:23:37.8±0.6, 40.°61N×143.°74E, h0km, mb4.1/22, mb1 4.2/28, mb1mx4.0/72, mbtmp4.1/28, ML3.3/5, MS2.9/3, Ms1 2.9/3, ms1mx2.6/74, Error ellipse: s-maj=16.5km s-min=12.6km az=113.0*
*NEIC **25** 17:23:38.3±2.8, 40.°60N×143.°85E, h5km±17km, mb4.3/6, Error ellipse: s-maj=10.2km s-min=6.3km az=106.0*
*MOS **25** 17:23:40.1±1.0, 40.°69N×143.°78E, h29km, mb4.6/36, Error ellipse: s-maj=8.1km s-min=5.4km az=100.9*
*JMA **25** 17:23:40.4±0.1, 40.°62N×143.°76E, h53km, M4.2*

ISC 25 17:23:39.3±0.5, 40.°64N±0.°04×143.°88E±0.°06, h16km, n129, σ1.°65/146, mb4.4/52, 12C-5D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ERM	**Erimo**	**1.48**	**339**	*de*P	**Pn**	**17 24 04.8**	**-0.5**
ERM				pmax	pmax		
	comp=Z,108nm,0.8s						
JEM	**Erimo**	**1.48**	**339**	P	**Pn**	**17 24 04.9**	**-0.4**
JEM				*e*S	**Sn**	**17 24 23.7**	**-0.6**
JTH	**Tanohata**	**1.69**	**246**	P	**Pn**	**17 24 06.9**	**-1.3**
JANG	**Nango**	**1.82**	**262**	P	**Pn**	**17 24 08.7**	**-1.3**
JNBK	**Urakawa-nobuka**	**1.85**	**333**	P	**Pn**	**17 24 10.3**	**-0.1**

KUR smax smax
comp=E,101nm,0.7s
KUR smax smax
comp=N,131nm,0.8s
MAJO Matsushiro 6.04 229 *e*Pn **Pn 17 25 08.7 +0.7**
comp=N,30nm,0.8s
MAJO Matsushiro 6.04 229 *c i*P **Pn 17 25 08.6 +0.7**
MAT Matsushiro 6.04 229 P **Pn 17 25 08.7 +0.7**
MAT *e*S **Sn 17 26 17.6 +0.9**
MJAR Matsushiro Arr 6.04 229 Pn **Pn 17 25 08.5 +0.5**
comp=N,1.4nm,0.3s,baz=30,slow=12,SNR=27
YSS Yuzh-Sakhalins 6.37 353 *e*Pn **Pn 17 25 12.3 -0.2**
comp=N,11nm,0.9s
YSS Yuzh-Sakhalins 6.37 353‖ *e*P Pn 17 25 19.0 +6.6
YSS *e*S Sn 17 26 34.5 +10
YSS pmax pmax
comp=Z,10.0nm,1.1s
YSS MLR MLR
comp=Z,390nm,14.0s
YSS MLR MLR
comp=N,410nm,11.0s
YSS MLR MLR
comp=E,310nm,10.0s
TEY Ternei 6.92 312 *e*P **Pn 17 25 18.2 -1.8**
TEY MLR MLR
comp=Z,1μm,13.0s
JHJ Hachijo jima 2 8.19 205 Pn **Pn 17 25 37.3 -0.2**
comp=Z,5.0nm,0.3s,baz=60,slow=20,SNR=2.4
JHJ Sn **Sn 17 27 01.9 -7.7**
comp=Z,7.4nm,0.3s,baz=107,slow=19,SNR=2.3
USRK Ussuriysk Ar. 9.49 296 Pn **Pn 17 25 55.7 +0.5**
comp=Z,0.6nm,0.3s,baz=101,slow=12,SNR=16
USRK LR LR 17 29 35.7
comp=Z,142nm,20.0s,baz=116,slow=38
MDJ Mudanjiang 11.25 295 *e*P **Pn 17 26 20.1 +0.7**
comp=Z,14nm,1.0s
KLR Kul'dur 12.14 319 Pn **Pn 17 26 32.4 +0.8**
comp=Z,0.0nm,0.3s,baz=132,slow=12,SNR=10
KLR LR LR 17 30 45.1
comp=Z,9.1nm,19.7s,baz=256,slow=35
KLR Kul'dur 12.14 319‖ *i*P **Pn 17 26 32.2 +0.7**
KSRS Korea Array 12.80 261 Pn **Pn 17 26 42.1 +1.4**
comp=Z,0.2nm,0.3s,baz=67,slow=13,SNR=5.6
KSRS LR LR 17 31 40.5
comp=Z,198nm,18.7s,baz=68,slow=38
KSAR Wonju Array Be 12.84 261 Pn **Pn 17 26 42.1 +1.0**
KSAR Wonju Array Be 12.84 261 P **Pn 17 26 42.1 +1.0**
CBIJ Chichi jima 13.58 186 Pn **Pn 17 26 49.0 -2.2**
JCJ Chichijima 13.58 186 Pn **Pn 17 26 49.0 -2.3**
comp=Z,2.2nm,0.3s,baz=259,slow=19,SNR=3.3
ZEA Zeya 17.25 325 *e*P **Pn 17 27 36.6 -2.7**
ZEA pmax pmax
comp=Z,15nm,1.0s
ZEA MLR MLR
comp=E,200nm,13.0s
ZEA MLR MLR
comp=Z,400nm,13.0s
ZEA MLR MLR
comp=N,300nm,14.0s
SEY Seymchan 22.90 10 P **P 17 28 41.8 -0.3**
comp=N,3.9nm,0.8s,baz=178,slow=7.3,SNR=16
SEY Seymchan 22.90 10 *ce*P **P 17 28 42.2 +0.1**
YAK Yakutsk 23.08 343 *e*P **P 17 28 40.2 -3.8**
comp=N,15nm,0.8s
YAK Yakutsk 23.08 343 *e*P **P 17 28 40.3 -3.7**
YAK *e**PP **pP 17 28 47.1 -1.5**
YAK *e*PPP PPP 17 29 13.5
YAK *e*S **S 17 32 50.0 -4.2**
YAK *e**SS **sS 17 33 01.7 -0.4**
YAK *e*SSS SSS 17 33 47.4
YAK pmax pmax
comp=Z,12nm,0.9s
YAK pmax pmax
comp=N,2.0nm,1.0s
YAK smax smax
comp=N,34nm,2.8s
YAK smax smax
comp=E,38nm,2.2s
YAK MLR MLR
comp=Z,188nm,18.0s
YAK MLR MLR
comp=N,209nm,18.0s
YAK MLR MLR
comp=E,57nm,16.0s
BOD Bodaibo 25.69 322 *e*P **P 17 29 08.3 -0.1**
BOD pmax pmax
comp=Z,17nm,0.9s
SONM Songino Array 27.59 298 P **P 17 29 25.8 0.0**
comp=Z,3.3nm,0.8s,baz=83,slow=8.4,SNR=17
H11N2 WAKE ISLAND Hy 28.66 130 T T 18 00 33.6
baz=319,slow=75,SNR=8.0
H11N1 WAKE ISLAND Hy 28.67 130 T T 18 00 54.9
baz=319,slow=75,SNR=7.0
H11N3 WAKE ISLAND Hy 28.67 130 T T 18 00 57.7
baz=319,slow=75,SNR=12
TLY Talaya 29.61 306 *e*P **P 17 29 45.7 +2.1**
TLY pmax pmax
comp=Z,7.0nm,0.7s
TLY MLR MLR
comp=Z,92nm,16.0s
ZAK Zakamensk 29.74 303 *e*P **P 17 29 44.5 -0.4**
ZAK pmax pmax
comp=Z,4.0nm,1.1s
BILL Bilibino 30.03 17 *i*P **P 17 29 46.9 -0.2**
BILL *i* 17 29 54.6
BILL pmax pmax
comp=Z,3.0nm,1.1s
TIXI Tiksi 31.99 351 *ce*P **P 17 30 03.7 -0.6**
TIXI pmax pmax
comp=Z,1.0nm,1.2s
DGZ Jazzator, Alta 39.96 303 *i*P **P 17 31 14.2 +1.2**
DGZ pmax pmax
comp=Z,6.0nm,1.1s
ZALV Zalesovo Beam 41.01 309 P **P 17 31 22.0 +0.6**
comp=Z,9.4nm,0.8s,baz=89,slow=7.4,SNR=32
ZALV PcP **PcP 17 33 22.0 +0.9**
comp=Z,1.2nm,0.6s,baz=98,slow=2.9,SNR=3.3
NVS Novosibirsk 41.84 311 *e*P **P 17 31 28.3 +0.1**
LSA Lhasa 43.88 273 *e*P **P 17 31 46.9 +1.3**
comp=Z,4.0nm,0.9s
LSA Lhasa 43.88 273 *e*P **P 17 31 46.9 +1.3**
LSA pmax pmax
comp=Z,4.0nm,0.9s
MK31 Makanchi Array 43.93 299 *ce*P **P 17 31 45.4 +0.1**
MK31 pmax pmax
comp=Z,7.0nm,0.7s
MKAR Makanchi Array 43.93 299 P **P 17 31 45.5 +0.1**
comp=Z,6.4nm,0.8s,baz=82,slow=9.2,SNR=74
CHTO Chiang Mai 44.09 254 *e*P **P 17 31 47.0 +0.1**
comp=Z,5.5nm,1.1s
CHTO Chiang Mai 44.09 254 *e*P **P 17 31 47.0 +0.1**
CHTO pmax pmax
comp=Z,6.0nm,1.1s
MAKZ Makanchi 44.14 300 *i*P **P 17 31 46.4 -0.6**
MAKZ pmax pmax
comp=Z,8.0nm,0.8s
CMAR Chiang Mai Arr 44.32 254 P **P 17 31 49.2 +0.5**
comp=Z,0.9nm,0.8s,baz=51,slow=7.3,SNR=9.2
KURK Kurchatov 45.31 306 *e*P **P 17 31 56.2 -0.1**
KURK Kurchatov 45.31 306 *ce*P **P 17 31 56.4 +0.2**
KURK pmax pmax
comp=Z,18nm,1.2s
KURBB Kurchatov Arra 45.39 306 P **P 17 31 57.0 +0.1**
comp=Z,9.3nm,0.8s,baz=77,slow=8.8,SNR=57
ILAR Eielson Array 45.43 34 P **P 17 31 59.0 +2.1**
comp=Z,0.8nm,0.7s,baz=250,slow=7.6,SNR=10
PDGK Podgornoye 46.87 296 *i*P **P 17 32 11.3 +2.5**
PDGK pmax pmax
comp=Z,4.0nm,1.0s
RAMN Ramite 48.73 272 *e*P **P 17 32 23.9 +0.4**
GUN Gumba 48.78 274 *e*P **P 17 32 24.4 +0.4**
comp=Z,30nm,0.9s
KKN Kakani 49.30 274 *e*P **P 17 32 28.2 +0.4**
BVA0 Borovoye Array 49.64 311 P **P 17 32 29.6 -0.2**
BVA0 pmax pmax
comp=Z,5.0nm,0.9s
BVAR Borovoye Array 49.64 311 P **P 17 32 30.7 +0.9**
comp=Z,4.2nm,0.7s,baz=73,slow=7.9,SNR=28
GKN Gorkha 49.67 275 *e*P **P 17 32 30.6 -0.1**
TKM2 Tokmak 2 49.68 296 P **P 17 32 31.4 +0.8**
SNR=18
TKM2 Tokmak 2 49.68 296 *i*P **P 17 32 31.0 +0.4**
TKM2 pmax pmax
comp=Z,11nm,0.8s
BRVK Borovoye 49.69 311 *ce*P **P 17 32 30.8 +0.6**
BRVK pmax pmax
comp=Z,6.0nm,1.0s
DANN Dangsing 50.16 276 *e*P **P 17 32 35.4 +0.9**
KBK Karagaybulak 50.22 296 P **P 17 32 35.3 +0.6**
SNR=15
KZA Kyzart 50.24 296 P **P 17 32 36.1 +1.1**
SNR=5.5
INK Inuvik 50.31 29 P **P 17 32 37.0 +2.3**
comp=Z,1.2nm,0.8s,baz=282,slow=9.2,SNR=3.6
INK Inuvik 50.31 29 P **P 17 32 37.0 +2.3**
INK pmax pmax
comp=Z,1.0nm,0.8s
AAK Ala-Archa 50.54 297 *i*P **P 17 32 36.7 -0.3**
AAK pmax pmax
comp=Z,2.0nm,0.7s
PYUN Piuthan 50.87 276 *e*P **P 17 32 41.0 +1.2**
EKS2 Erkin-Say 51.02 297 P **P 17 32 40.9 +0.3**
SNR=7.8
AML Almayashu 51.28 296 P **P 17 32 43.7 +0.8**
SNR=7.2
MNAS Manas 51.95 297 *i*P **P 17 32 48.2 +0.6**
MNAS pmax pmax
comp=Z,8.0nm,0.8s
KK31 Karatay Array 53.04 299 *ce*P **P 17 32 55.3 -0.2**
KK31 pmax pmax
comp=Z,1.0nm,0.4s
KKAR Karatay Array 53.04 299 *e*P **P 17 32 55.5 -0.1**
comp=Z,2.5nm,0.6s
KKAR Karatay Array 53.04 299 *e*P **P 17 32 55.5 -0.1**
KKAR pmax pmax
comp=Z,3.0nm,0.6s
SVE Sverdlovsk 53.76 317 *e*P **P 17 33 01.8 +1.2**
ARU Arti 54.98 317 *d i*P **P 17 33 07.7 -1.7**
ARU 17 34 06.5
ARU 17 35 07.7
ARU S **S 17 40 48.3 -2.1**
ARU SS **SS 17 44 25.5 -7.9**
ARU pmax pmax
comp=Z,11nm,1.7s
PSI Prapat 55.29 239 P **P 17 33 12.8 +0.5**
comp=Z,3.4nm,0.7s,baz=337,slow=5.0,SNR=4.4
AB31 Akbulak array 57.13 309 *ce*P **P 17 33 25.3 +0.4**
AB31 pmax pmax
comp=Z,3.0nm,0.7s
ABKAR Akbulak array 57.13 309 *e*P **P 17 33 25.3 +0.4**
comp=Z,2.4nm,0.6s
RES Resolute Bay 58.63 15 P **P 17 33 36.3 +1.2**
comp=Z,1.1nm,0.8s,baz=304,slow=7.6,SNR=4.7
RES Resolute Bay 58.63 15 *e*P **P 17 33 36.1 +1.0**
comp=Z,2.0nm,0.7s
RES Resolute Bay 58.63 15 *e*P **P 17 33 36.1 +1.0**
RES pmax pmax
comp=Z,2.0nm,0.7s
YKA Yellowknife Ar 59.73 32 P **P 17 33 44.6 +1.8**
comp=Z,0.1nm,0.5s,baz=301,slow=5.7,SNR=2.7
WRA Warramunga Arr 60.92 190 P **P 17 33 51.2 -0.2**
comp=Z,1.1nm,0.7s,baz=11,slow=6.9,SNR=10.0
ARCES ARCESS Array B 61.31 339 P **P 17 33 54.2 +0.7**
comp=Z,2.0nm,0.9s,baz=50,slow=14,SNR=2.6
GEYT Alibeck 63.80 298 P **P 17 34 11.3 +0.6**
comp=Z,1.0nm,0.7s,baz=60,slow=8.5,SNR=3.1
ASAR Alice Springs 64.64 190 P **P 17 34 17.2 +1.1**
comp=Z,0.6nm,0.7s,baz=10,slow=5.8,SNR=8.8
OBN Obninsk 66.37 323 *i*P **P 17 34 27.6 +0.6**
OBN *e* 17 34 56.4
OBN *e* 17 36 51.6
OBN *i*S S 17 43 37.7 +22
OBN *i*SS **SS 17 47 28.5 -3.1**
OBN pmax pmax
comp=Z,4.0nm,1.2s
OBN MLR MLR
comp=E,66nm,17.0s
FINES FINESS Array B 66.52 332 P **P 17 34 28.3 +0.4**
comp=Z,2.7nm,0.7s,baz=53,slow=7.4,SNR=11
LPSR Galich'ya Gora 66.78 320 *e*P **P 17 34 29.4 -0.3**
LPSR pmax pmax
comp=Z,10.0nm,0.9s
VSR Storozhevoye 67.49 319 *e*P **P 17 34 33.6 -0.7**
VSR pmax pmax
comp=Z,5.0nm,0.7s
KIV Kislovodsk 70.00 311 *e*P **P 17 34 50.1 -0.1**
KIV pmax pmax
comp=Z,9.0nm,1.0s
ZEI Tsey 70.00 310 *e*P **P 17 34 49.7 -0.6**
ZEI pmax pmax
comp=Z,2.0nm,0.6s
KBZ Khabaz 70.02 311 P **P 17 34 51.2 +1.1**
comp=Z,3.4nm,0.9s,baz=68,slow=5.3,SNR=9.3
NB2 NORSAR Subarra 71.60 338 P **P 17 35 00.2 +0.7**
comp=Z,3.5nm,1.1s,baz=38,slow=6.2
NOA NORSAR Array B 71.60 338 P **P 17 34 59.8 +0.3**
comp=Z,1.2nm,0.8s,baz=36,slow=6.2,SNR=4.2
NOA NORSAR Array B 71.60 338 P **P 17 34 59.8 +0.3**
NOA pmax pmax
comp=Z,2.0nm,0.9s
AKASG Malin Array Be 72.61 323 P **P 17 35 06.0 +0.3**
comp=Z,3.2nm,0.8s,baz=44,slow=5.9,SNR=7.7
AKASG Malin Array Be 72.61 323 P **P 17 35 06.0 +0.3**
AKASG pmax pmax
comp=Z,3.0nm,0.8s
KIEV Kiev 72.63 323 *e*P **P 17 35 06.3 +0.5**
KIEV pmax pmax
comp=Z,3.0nm,0.9s
PDAR Pinedale Array 73.79 47 P **P 17 35 16.5 +3.4**
comp=Z,0.2nm,0.5s,baz=219,slow=13,SNR=2.6
BRTR Keskin Array B 77.88 312 P **P 17 35 37.9 +1.5**
comp=Z,0.6nm,0.7s,baz=41,slow=8.1,SNR=3.9
CLL Collm 78.91 331 *e*P **P 17 35 42.0 +0.3**
CLL Collm 78.91 331 *e*P **P 17 35 42.0 +0.3**
GERES GERESS Array B 80.64 329 P **P 17 35 51.9 +0.6**
comp=Z,0.5nm,0.6s,baz=20,slow=3.2,SNR=3.3
RPN Rapa Nui 119.35 102 *i* PKIKP **PKPdf 17 42 31.5 +3.6**
SNAA Sanae 144.75 198 PKP PKPbc 17 43 13.4 +0.2
comp=Z,2.8nm,0.8s,baz=164,slow=18,SNR=4.9

MEX 25 17:25:52.9±0.3, 14°.64N×92°.37W, h68km±9km, MD3.7, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		**1.34**	**322**	*e*P	Pn	17 26 14.3	-1.3
PCIG				*e*S	Sn	17 26 30.9	-1.9
CCIG	**Comitan**	**1.65**	**8**	*i* S	Sn	17 26 38.4	-2.0

*ISCJB **25** 17:29:48.1±0.8, 20°.2S±0°.1×177°.6W±0°.1, h500km, mb4.2/13, Error ellipse: s-maj=23.6km s-min=8.8km az=140.5*
*IDC **25** 17:29:48.8±2.1, 20°.31S×177°.74W, h476km±21km, mb3.8/9, mb1 3.8/12, mb1mx3.4/46, mbtmp4.6/12, Error ellipse: s-maj=26.8km s-min=15.1km az=151.0*
*NEIC **25** 17:29:48.8±0.9, 20°.31S×177°.71W, h480km±9km, mb4.9/4, Error ellipse: s-maj=17.0km s-min=8.2km az=149.0*

ISC 25 17:29:50.0±0.8, 20°.1S±0°.2×177°.7W±0°.1, h500km, n34, σ1s78/37, mb4.5/13, 4C, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**8.36**	**44**	P	**P**	**17 31 50.3**	**0.0**
	8.5nm,0.3s,baz=17,slow=13,SNR=5.8						
AFI				S	**S**	**17 33 25.0**	**-4.0**
	22nm,0.3s,baz=26,slow=21,SNR=9.3						
DZM	**Mont Dzumac**	**14.92**	**260**	P	**P**	**17 32 58.3**	**-1.3**
	0.8nm,0.3s,baz=116,slow=14,SNR=12						
URZ	**Urewera**	**18.66**	**193**	P	**P**	**17 33 33.4**	**-2.8**
	1.4nm,0.3s,baz=294,slow=3.9,SNR=9.8						
CTA	**Charters Tower**	**33.80**	**264**	P	**P**	**17 35 50.5**	**+0.4**
	15nm,0.3s,baz=90,slow=10,SNR=63						
CTAO	**Charters Tower**	**33.80**	**264**	*e*P	**P**	**17 35 50.3**	**+0.2**
	23nm,0.3s						
PMG	**Port Moresby**	**35.52**	**282**	P	**P**	**17 36 05.3**	**+0.9**
	13nm,0.8s,baz=114,slow=9.9,SNR=4.1						
STKA	**Stephens Creek**	**38.21**	**244**	P	**P**	**17 36 26.2**	**-0.3**
	1.1nm,0.4s,baz=100,slow=12,SNR=7.5						
ASAR	**Alice Springs**	**44.88**	**256**	P	**P**	**17 37 19.4**	**-0.2**
	12nm,0.7s,baz=96,slow=7.9,SNR=110						
ASAR				PcP	**pP**	**17 38 51.4**	**-1.1**
	2.0nm,0.5s,baz=105,slow=3.7,SNR=10						
WRAB	**Tennant Creek**	**44.92**	**262**	*e*P	**P**	**17 37 19.2**	**-0.6**
	3.7nm,0.4s						
WRA	**Warramunga Arr**	**44.93**	**262**	P	**P**	**17 37 19.4**	**-0.5**
	4.2nm,0.3s,baz=95,slow=7.7,SNR=212						
WRA				PcP	**pP**	**17 38 51.8**	**-1.1**
	0.8nm,0.5s,baz=97,slow=3.3,SNR=3.7						
FITZ	**Fitzroy Crossi**	**53.35**	**262**	P	**P**	**17 38 22.8**	**+0.5**
	2.8nm,0.6s,baz=118,slow=5.0,SNR=15						
MBWA	**Marble Bar**	**58.21**	**257**	*e*P	**P**	**17 38 55.8**	**-0.3**
	29nm,0.7s						
NWAO	**Narrogin (SRO)**	**58.80**	**243**	*e*P	**P**	**17 39 00.4**	**+0.4**
	73nm,1.2s						
MJAR	**Matsushiro Arr**	**70.04**	**323**	P	**P**	**17 40 11.8**	**+0.6**
	1.3nm,0.8s,baz=168,slow=7.6,SNR=4.6						
LEM	**Lembang**	**73.32**	**269**	P	**P**	**17 40 31.2**	**+0.2**
	12nm,0.8s,baz=122,slow=23,SNR=4.7						
TXAR	**Lajitas Array**	**86.61**	**57**	P	**P**	**17 41 43.4**	**+3.1**
	0.1nm,0.5s,baz=216,slow=9.0,SNR=2.9						
CMAR	**Chiang Mai Arr**	**90.23**	**289**	P	**P**	**17 41 58.6**	**+1.3**
	1.4nm,0.9s,baz=133,slow=3.0,SNR=8.8						
MKAR	**Makanchi Array**	**111.11**	**314**	PKiKP	**PKiKP**	**17 47 26.5**	**+0.2**
	0.4nm,0.6s,baz=260,slow=0.6,SNR=7.7						
KURK	**Kurchatov**	**113.87**	**318**	PKP	**PKiKP**	**17 47 31.7**	**+0.3**
KURBB	**Kurchatov Arra**	**113.93**	**317**	PKP	**PKiKP**	**17 47 31.7**	**+0.2**
	0.5nm,0.6s,baz=86,slow=2.2,SNR=6.5						
BVAR	**Borovoye Array**	**118.94**	**320**	PKP	**PKPdf**	**17 47 41.6**	**+0.5**
	0.8nm,0.3s,baz=154,slow=1.9,SNR=9.5						
ARCES	**ARCESS Array B**	**128.56**	**350**	PKP	**PKPdf**	**17 47 60.0**	**+0.9**
	2.2nm,1.0s,baz=31,slow=2.8,SNR=3.9						
FINES	**FINESS Array B**	**135.45**	**344**	PKP	**PKPdf**	**17 48 13.6**	**+1.4**
	0.9nm,0.6s,baz=146,slow=4.4,SNR=4.2						
AKASG	**Malin Array Be**	**142.78**	**332**	PKhKP	PKPpre	17 48 23.5	
	2.1nm,0.5s,baz=41,slow=4.6,SNR=13						
BRTR	**Keskin Array B**	**146.76**	**313**	PKPbc	**PKPab**	**17 48 37.0**	**-1.6**
	1.9nm,0.6s,baz=140,slow=5.4,SNR=11						
ASF	**Jabal al Asfar**	**146.82**	**298**	PKPbc	**PKPab**	**17 48 37.5**	**-1.6**
	2.8nm,0.8s,baz=96,slow=0.7,SNR=5.4						
CLL	**Collm**	**147.72**	**347**	*i* PKPbc	**PKPab**	**17 48 39.8**	**-2.1**
	comp=Z,7.0nm,0.5s						
DPC	**Dobruska-Polom**	**147.81**	**343**‖	*e*PKP	**PKPab**	**17 48 40.7**	**-1.7**
DPC				*e*PKPAB	**PKiKP**	**17 48 43.3**	**+3.6**
MMAI	**Mount Meron Ar**	**147.84**	**300**	PKPbc	**PKPab**	**17 48 40.3**	**-2.9**
	comp=Z,2.6nm,0.4s,baz=75,slow=6.3,SNR=18						
BRG	**Berggiesshubel**	**147.93**	**346**	*e*PKP	**PKPab**	**17 48 40.4**	**-2.3**
	comp=Z,3.7nm,0.6s						
KRLC	**Kraliky**	**147.93**	**342**‖	*e*PKP	**PKPab**	**17 48 40.6**	**-2.3**
PRU	**Pruhonice**	**148.61**	**345**‖	*e*PKP	**PKPab**	**17 48 42.3**	**-3.3**
KHC	**Kasperske Hory**	**149.64**	**345**‖	*e*PKP	**PKPbc**	**17 48 44.9**	**+2.2**
GERES	**GERESS Array B**	**149.88**	**345**	PKPbc	**PKPbc**	**17 48 45.0**	**+1.7**
	comp=Z,1.4nm,0.8s,baz=38,slow=2.4,SNR=8.8						

MEX 25 17:31:46.0±0.3, 14°.48N×93°.00W, h27km±16km, MD3.8, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		**1.24**	**350**	*i* P	Pn	17 32 05.1	-2.5
PCIG				*i* S	Sn	17 32 19.6	-3.8
CCIG	**Comitan**	**1.98**	**25**	*i* S	Sn	17 32 39.0	-2.9

*IDC **25** 17:33:23.7±1.0, 11°.62N×92°.50E, h0km, mb3.8/10, mb1 3.9/12, mb1mx3.7/66, mbtmp3.8/12, ML3.8/2, Error ellipse: s-maj=31.1km s-min=16.3km az=61.0*
*ISCJB **25** 17:33:25.4±0.7, 11°.58N±0°.09×92°.47E±0°.09, h26km, mb3.8/11, Error ellipse: s-maj=13.4km s-min=12.9km az=25.0*
*NEIC **25** 17:33:25.2±0.5, 11°.61N×92°.48E, h10km, mb4.3/1, Error ellipse: s-maj=11.8km s-min=11.1km az=116.0*

ISC 25 17:33:27.5±0.8, 11°.6N±0°.1×92°.5E±0°.1, h26km, n18, σ0s77/15, mb3.7/11, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**9.24**	**42**	Pn	**Pn**	**17 35 39.9**	**+0.7**
	0.3nm,0.3s,baz=234,slow=15,SNR=8.1						
PALK	**Pallekele**	**12.40**	**251**	Pn	**Pn**	**17 36 22.7**	**+0.2**
	0.5nm,0.3s,baz=116,slow=12,SNR=3.0						
PALK				Sn	Sn	17 38 29.1	-11
	0.6nm,0.3s,baz=296,slow=13,SNR=4.6						
ENH	**Enshi**	**24.38**	**38**	*e*P	**P**	**17 38 44.3**	**+0.5**
	5.2nm,0.6s						
H08S3	**Diego Garcia H**	**27.58**	**227**	T	T	18 07 45.6	
	baz=46,slow=76,SNR=70						
H08S2	**Diego Garcia H**	**27.59**	**227**	T	T	18 07 43.9	
	baz=46,slow=76,SNR=76						
H08S1	**Diego Carcia H**	**27.60**	**227**	T	T	18 07 44.9	
	baz=46,slow=76,SNR=58						
MKAR	**Makanchi Array**	**36.14**	**348**	P	**P**	**17 40 27.2**	**-0.4**
	0.6nm,0.7s,baz=171,slow=8.3,SNR=5.8						
SONM	**Songino Array**	**37.97**	**15**	P	**P**	**17 40 43.4**	**+0.1**
	0.3nm,0.4s,baz=193,slow=6.1,SNR=4.0						
KURBB	**Kurchatov Arra**	**40.58**	**346**	P	**P**	**17 41 05.1**	**+0.3**
	0.5nm,0.8s,baz=169,slow=8.3,SNR=3.9						
KURK	**Kurchatov**	**40.64**	**346**	P	**P**	**17 41 05.1**	**-0.3**
KSAR	**Wonju Array Be**	**40.83**	**45**	P	**P**	**17 41 06.5**	**-0.6**
KSRS	**Korea Array**	**40.86**	**45**	P	**P**	**17 41 06.5**	**-0.9**
	1.3nm,0.8s,baz=241,slow=9.2,SNR=4.1						
ZALV	**Zalesovo Beam**	**42.70**	**353**	P	**P**	**17 41 20.4**	**-1.7**
	0.5nm,0.4s,baz=181,slow=10,SNR=3.9						
FITZ	**Fitzroy Crossi**	**44.05**	**132**	P	**P**	**17 41 32.7**	**-0.7**
	3.6nm,0.8s,baz=345,slow=6.3,SNR=5.6						
BVAR	**Borovoye Array**	**44.98**	**341**	P	**P**	**17 41 40.0**	**-0.5**
	0.2nm,0.4s,baz=138,slow=14,SNR=3.1						
WRA	**Warramunga Arr**	**51.75**	**127**	P	**P**	**17 42 33.6**	**+0.5**
	1.9nm,0.4s,baz=302,slow=8.9,SNR=8.0						
ASAR	**Alice Springs**	**53.54**	**131**	P	**P**	**17 42 47.1**	**+0.7**
	0.8nm,0.5s,baz=306,slow=6.8,SNR=18						
ARCES	**ARCESS Array B**	**71.25**	**340**	P	**P**	**17 44 44.7**	**+0.6**
	1.0nm,0.6s,baz=84,slow=3.8,SNR=5.6						

*IDC **25** 17:40:55.5±0.7, 1°.17N×90°.73W, h0km, mb4.3/15, mb1 4.6/16, mb1mx4.3/44, mbtmp4.3/16, ML4.9/2, MS4.2/35, Ms1 4.2/35, ms1mx4.2/44, Error ellipse: s-maj=30.8km s-min=13.1km az=52.0*
*ISCJB **25** 17:40:56.8±0.5, 1°.33N±0°.08×90°.51W±0°.08, h10km, mb4.5/51, MS4.2/31, Error ellipse: s-maj=14.6km s-min=6.5km az=135.5*
*GCMT **25** 17:40:57.5±0.2, 1°.31N×90°.81W, h16km, MW5.0/107, Moment Tensor Solution. s36,c42; s107,c156; Duration: 0 Moment tensor: Scale 10^16 Nm; M_{rr}-1.63±.15; $M_{\theta\theta}$0.89±.12; $M_{\phi\phi}$0.74±.13; $M_{r\theta}$0.48±.33; $M_{\theta\phi}$-4.30±.10; $M_{\phi r}$0.49±.35; Best double couple: $M_0$4.41500×10^16 NP1:ϕ_s178.00000°, δ77.00000°, λ-13.00000°. NP2: ϕ_s271.00000°, δ77.00000°, λ-167.00000°. Principal axes: T 5.1180, Plg0.0000°, Azm225.0000°; N -1.4020, Plg72.0000°, Azm315.0000°; P -3.7120, Plg18.0000°, Azm135.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **25** 17:40:57.5±0.4, 1°.16N×90°.66W, h10km, mb4.7/34 Error ellipse: s-maj=14.8km s-min=5.6km az=46.0*

ISC 25 17:40:57.9±0.5, 1°.31N±0°.08×90°.56W±0°.09, h10km, n95, σ1s21/65, mb4.6/51, MS4.2/31, Galapagos Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTS	**JuntasAbangare**	**10.52**	**32**	LR	LR	17 46 39.8	
	comp=Z,5μm,19.9s,baz=276,slow=32						
OTAV	**Otavalo**	**12.16**	**95**	*e*P	**Pn**	**17 43 53.5**	**+1.7**
	31nm,1.4s						
APG	**El Apazote**	**13.61**	**0**	Pn	**Pn**	**17 44 11.9**	**+0.5**
	28nm,0.3s,baz=210,slow=17,SNR=54						
APG				LR	LR	17 48 23.5	
	comp=Z,1μm,20.7s,baz=156,slow=33						
ATAH	**Atahualpa**	**14.76**	**125**	Pn	**Pn**	**17 44 28.8**	**+1.5**
	1.3nm,0.3s,baz=297,slow=16,SNR=13						
ATAH				LR	LR	17 49 17.3	
	comp=Z,2μm,19.2s,baz=305,slow=34						
ROSC	**El Rosal**	**16.59**	**77**	LR	LR	17 50 30.2	
	comp=Z,1μm,20.7s,baz=260,slow=34						
SDV	**Santo Domingo**	**21.22**	**69**	P	**P**	**17 45 46.2**	**+1.8**
	16nm,1.1s,baz=245,slow=9.1,SNR=10						
SDV				LR	LR	17 53 04.4	
	comp=Z,1μm,21.6s,baz=259,slow=34						
SDV	**Santo Domingo**	**21.22**	**69**	*e*P	**P**	**17 45 44.9**	**+0.5**
PCRV	**Puerto La Cruz**	**27.23**	**70**	LR	LR	17 57 50.2	
	comp=Z,597nm,21.7s,baz=269,slow=37						
LPAZ	**La Paz**	**28.22**	**129**	P	**P**	**17 46 52.8**	**+0.8**
	3.6nm,0.7s,baz=323,slow=9.0,SNR=11						
LPAZ				LR	LR	17 57 40.9	
	comp=Z,701nm,21.9s,baz=312,slow=36						
SAML	**Samuel**	**29.12**	**111**	*e*P	**P**	**17 46 59.0**	**-0.4**
	10nm,0.9s						
SJG	**San Juan**	**29.21**	**54**	LR	LR	17 57 24.2	
	comp=Z,884nm,19.4s,baz=246,slow=34						
LPIG	**La Paz**	**29.65**	**321**	LR	LR	17 56 04.6	
	comp=Z,275nm,19.0s,baz=164,slow=31						
TXAR	**Lajitas Array**	**30.54**	**337**	P	**P**	**17 47 13.2**	**+1.3**
	2.5nm,1.0s,baz=154,slow=12,SNR=12						

TXAR				LR	LR	17 58 25.3		
	comp=Z,484nm,18.1s,baz=0.0,slow=34							
PTGA	**Pitinga**	**30.66**	**94**	P	**P**	**17 47 13.8**	**+0.8**	
	2.0nm,0.3s,baz=289,slow=9.6,SNR=8.3							
WHTX	**Lake Whitney,**	**31.20**	**349**	*eP*	**P**	**17 47 17.8**	**+0.3**	
MIAR	**Mount Ida**	**33.19**	**355**	*eP*	**P**	**17 47 36.1**	**+1.2**	
	11nm,1.2s							
MNTX	**Cornudas Mount**	**33.31**	**337**	*eP*	**P**	**17 47 36.6**	**+0.5**	
	6.1nm,1.0s							
RPN	**Rapa Nui**	**33.56**	**211**	LR	LR	17 57 31.2		
	comp=Z,1µm,21.1s,baz=52,slow=30							
MSTX	**Muleshoe**	**34.45**	**342**	*eP*	**P**	**17 47 47.3**	**+1.2**	
	29nm,1.1s							
TKL	**Tuckaleechee C**	**34.75**	**10**	LR	LR	18 01 36.5		
	comp=Z,173nm,19.5s,baz=184,slow=36							
AMTX	**Amarillo**	**34.98**	**344**	*eP*	**P**	**17 47 51.6**	**+1.0**	
	19nm,1.1s							
121A	**Cookes Peak, D**	**35.04**	**334**	*eP*	**P**	**17 47 53.3**	**+2.0**	
	15nm,1.3s							
CCM	**Cathedral Cave**	**36.58**	**359**	*eP*	**P**	**17 48 04.3**	**+0.2**	
	218nm,1.1s							
ANMO	**Albuquerque**	**36.60**	**338**	*eP*	**P**	**17 48 05.3**	**+0.6**	
	4.9nm,1.0s							
214A	**Organ Pipe Nat**	**37.01**	**328**	*eP*	**P**	**17 48 09.6**	**+1.6**	
	38nm,1.3s							
W18A	**Petrified Fore**	**38.09**	**334**	*eP*	**P**	**17 48 18.0**	**+0.8**	
	27nm,1.4s							
SDCO	**Great Sand Dun**	**38.78**	**341**	*eP*	**P**	**17 48 24.7**	**+1.6**	
	11nm,1.2s							
WUAZ	**Wupatki**	**39.15**	**333**	*eP*	**P**	**17 48 27.9**	**+1.7**	
	25nm,1.2s							
MVCO	**Mesa Verde**	**39.37**	**337**	*eP*	**P**	**17 48 29.6**	**+1.5**	
	17nm,1.2s							
ISCO	**Idaho Springs**	**40.69**	**342**	*eP*	**P**	**17 48 40.7**	**+1.6**	
	10nm,1.0s							
O20A	**White River Ci**	**41.86**	**340**	*eP*	**P**	**17 48 50.0**	**+1.5**	
	19nm,1.1s							
MSU	**Marysvale**	**41.99**	**334**	*eP*	**P**	**17 48 51.0**	**+1.2**	
	0.9nm,1.3s							
CPUP	**Villa Florida**	**42.23**	**133**	P	**P**	**17 48 51.0**	**-0.5**	
	2.9nm,0.7s,baz=299,slow=10.0,SNR=7.5							
CPUP				LR	LR	18 07 00.7		
	comp=Z,237nm,21.3s,baz=318,slow=37							
ECSD	**EROS Data Cent**	**42.59**	**354**	*eP*	**P**	**17 48 53.2**	**-1.0**	
	5.3nm,0.8s							
TCUT	**Toone Canyon**	**43.88**	**337**	*eP*	**P**	**17 49 06.5**	**+1.4**	
	52nm,1.3s							
HWUT	**Hardware Ranch**	**44.36**	**337**	*eP*	**P**	**17 49 08.5**	**-0.3**	
	21nm,1.6s							
BGU	**Big Grassy Mou**	**44.37**	**336**	*eP*	**P**	**17 49 08.7**	**-0.1**	
	9.5nm,1.2s							
PDAR	**Pinedale Array**	**44.65**	**340**	P	**P**	**17 49 10.8**	**-0.3**	
	3.3nm,1.1s,baz=152,slow=6.7,SNR=11							
PDAR				LR	LR	18 07 32.9		
	comp=Z,409nm,18.2s,baz=165,slow=36							
NVAR	**Mina Array Bea**	**44.85**	**329**	P	**P**	**17 49 13.8**	**+1.0**	
	7.4nm,1.1s,baz=155,slow=8.3,SNR=23							
NVAR				LR	LR	18 05 54.6		
	comp=Z,130nm,18.9s,baz=267,slow=34							
PLCA	**Paso Flores**	**45.64**	**159**	P	**P**	**17 49 17.6**	**-1.2**	
	4.5nm,0.9s,baz=351,slow=10,SNR=11							
PLCA				LR	LR	18 04 30.7		
	comp=Z,200nm,18.1s,baz=354,slow=31							
BMN	**Battle Mountai**	**45.84**	**331**	*eP*	**P**	**17 49 21.6**	**+1.0**	
	18nm,1.3s							
H17A	**Grant Village**	**46.43**	**340**	*eP*	**P**	**17 49 25.4**	**+0.2**	
	7.6nm,1.3s							
YFT	**Old Faithful**	**46.57**	**340**	*eP*	**P**	**17 49 26.8**	**+0.4**	
	4.5nm,0.4s							
YMR	**Madison River**	**46.80**	**340**	*eP*	**P**	**17 49 29.6**	**+1.5**	
	17nm,1.1s							
AGMN	**Agassiz Nation**	**47.03**	**355**	P	**P**	**17 49 29.8**	**+0.2**	
	6.1nm,0.6s							
QLMT	**Earthquake Lak**	**47.11**	**340**	*eP*	**P**	**17 49 31.8**	**+1.3**	
	2.6nm,1.2s							
HLID	**Hailey**	**47.14**	**336**	*eP*	**P**	**17 49 31.0**	**+0.3**	
	19nm,1.1s							
GCMT	**Greycliff**	**47.38**	**342**	*eP*	**P**	**17 49 33.1**	**+0.6**	
	6.9nm,1.0s							
MFID	**Camas Ranch**	**47.60**	**335**	*eP*	**P**	**17 49 36.1**	**+1.9**	
	6.4nm,1.0s							
MCMT	**McKenzie Canyo**	**47.61**	**339**	*eP*	**P**	**17 49 34.6**	**+0.2**	
	2.0nm,1.0s							
LRM	**Limekiln Ridge**	**48.32**	**340**	*eP*	**P**	**17 49 39.3**	**-0.6**	
	4.6nm,0.9s							
MOD	**Modoc Plateau**	**48.46**	**330**	*eP*	**P**	**17 49 40.7**	**-0.3**	
	20nm,1.3s							
ULM	**Lac du Bonnet**	**48.97**	**355**	LR	LR	18 11 24.1		
	comp=Z,122nm,20.4s,baz=178,slow=37							
RKT	**Rikitea**	**49.56**	**238**	*eS*	**S**	**17 56 59.3**	**+1.5**	
	121nm,29.0s							
RKT				eLR	LR	18 04 09.4		
	755nm,28.2s,baz=66							
YBH	**Yreka Blue Hor**	**49.56**	**328**	LR	LR	18 10 50.9		
	comp=Z,106nm,18.2s,baz=162,slow=36							
TAOE	**Nuku Hiva Isla**	**50.43**	**257**	*eLR*	LR	18 04 18.3		
	600nm,25.7s							
EDM	**Edmonton**	**55.09**	**344**	*eP*	**P**	**17 50 30.1**	**0.0**	
	17nm,1.2s							
SCHQ	**Schefferville**	**56.77**	**16**	LR	LR	18 14 06.1		
	comp=Z,296nm,21.7s,baz=221,slow=35							
BBB	**Bella Bella**	**59.61**	**334**	LR	LR	18 14 42.5		
	comp=Z,68nm,20.6s,baz=164,slow=34							
PPT	**Papeete**	**61.04**	**249**	LR	LR	18 11 57.5		
	comp=Z,298nm,18.2s,baz=76,slow=31							
PPT2	**Papeete2**	**61.05**	**249**	*eS*	**S**	**17 59 35.1**	**+3.2**	
	161nm,28.8s							
PPT2				*eLQ*	LQ	18 06 44.6		
	279nm,23.5s							
PPT2				eLR	LR	18 09 18.3		
	852nm,25.8s,baz=69							
YKA	**Yellowknife Ar**	**63.64**	**348**	P	**P**	**17 51 28.0**	**-1.0**	
	3.5nm,1.1s,baz=147,slow=6.3,SNR=25							
DLBC	**Dease Lake**	**64.83**	**338**	P	**P**	**17 51 36.8**	**-0.2**	
	7.8nm,1.1s,baz=119,slow=7.4,SNR=4.2							
RAR	**Rarotonga**	**71.16**	**247**	LR	LR	18 15 20.2		
	comp=Z,146nm,21.4s,baz=80,slow=29							
SFJD	**Kangerlussuaq**	**71.21**	**15**	LR	LR	18 22 27.7		
	comp=Z,125nm,20.4s,baz=224,slow=35							
INK	**Inuvik**	**72.96**	**345**	P	**P**	**17 52 27.5**	**+0.2**	
	5.0nm,0.9s,baz=139,slow=7.0,SNR=11							
EGAK	**Eagle**	**73.00**	**340**	*eP*	**P**	**17 52 26.6**	**-1.1**	
	5.1nm,1.1s							
RES	**Resolute Bay**	**73.33**	**359**	P	**P**	**17 52 29.6**	**+0.2**	
	3.0nm,1.1s,baz=177,slow=5.6,SNR=6.2							
SML	**Sawmill**	**74.15**	**335**	P	**P**	**17 52 33.6**	**-0.9**	
	3.6nm,1.2s							
ILAR	**Eielson Array**	**75.05**	**338**	P	**P**	**17 52 38.9**	**-0.8**	
	2.1nm,1.0s,baz=152,slow=4.5,SNR=13							
ILAR				LR	LR	18 26 29.7		
	comp=Z,190nm,18.7s,baz=126,slow=36							
COLD	**Coldfoot**	**77.43**	**340**	*eP*	**P**	**17 52 54.0**	**+0.8**	
	12nm,1.3s							
BORG	**Borgarnes**	**80.06**	**24**	LR	LR	18 24 11.3		
	comp=Z,94nm,21.8s,baz=203,slow=32							
AFI	**Afiamalu**	**81.79**	**256**	LR	LR	18 20 19.4		
	comp=Z,161nm,18.7s,baz=68,slow=29							
KOWA	**Kowa**	**86.33**	**76**	P	**P**	**17 53 40.1**	**-1.0**	
	1.4nm,0.6s,baz=311,slow=8.9,SNR=2.7							
ESDC	**Sonseca Array**	**86.55**	**51**	P	**P**	**17 53 41.5**	**-0.3**	
	2.3nm,0.9s,baz=252,slow=5.4,SNR=4.9							
TORD	**Torodi Ar. Bea**	**91.90**	**77**	LR	LR	18 31 56.9		
	comp=Z,148nm,21.6s,baz=260,slow=33							
SPITS	**Spitsbergen Ar**	**92.17**	**11**	LR	LR	18 34 42.6		
	comp=Z,211nm,21.3s,baz=260,slow=35							
NOA	**NORSAR Array B**	**94.56**	**29**	LR	LR	18 33 34.9		
	comp=Z,95nm,20.6s,baz=275,slow=33							
VNDA	**Vanda**	**95.04**	**192**	LR	LR	18 27 39.3		
	comp=Z,142nm,20.8s,baz=114,slow=30							
HFS	**Hagfors**	**95.95**	**29**	LR	LR	18 37 18.3		
	comp=Z,92nm,18.1s,baz=301,slow=35							
RPZ	**Rata Peaks**	**96.97**	**226**	LR	LR	18 29 44.5		
	comp=Z,254nm,20.4s,baz=110,slow=30							
KEST	**Kesra**	**97.28**	**54**	LR	LR	18 34 47.2		
	comp=Z,59nm,19.0s,baz=312,slow=33							
ARCES	**ARCESS Array B**	**97.66**	**19**	LR	LR	18 37 22.1		
	comp=Z,100nm,19.7s,baz=304,slow=35							
GERES	**GERESS Array B**	**98.38**	**40**	LR	LR	18 34 09.0		
	comp=Z,188nm,19.8s,baz=263,slow=32							
H11S2	**WAKE ISLAND Hy**	**101.65**	**289**	T	T	19 47 56.6		
	baz=85,slow=75,SNR=29							
H11S1	**WAKE ISLAND Hy**	**101.66**	**289**	T	T	19 47 59.4		
	baz=85,slow=75,SNR=21							
H11S3	**WAKE ISLAND Hy**	**101.67**	**289**	T	T	19 47 60.0		
	baz=85,slow=75,SNR=25							
DZM	**Mont Dzumac**	**102.53**	**248**	*eLR*	LR	18 28 30.7		
	141nm,28.0s							
ZALV	**Zalesovo Beam**	**124.80**	**3**	PKP	**PKPdf**	**17 59 56.3**	**-1.9**	
	0.6nm,0.5s,baz=318,slow=1.9,SNR=2.4							
KURK	**Kurchatov**	**127.36**	**9**	PKP	**PKPdf**	**18 00 01.6**	**-1.5**	
KURBB	**Kurchatov Arra**	**127.43**	**9**	PKP	**PKPdf**	**18 00 01.6**	**-1.7**	
	1.1nm,0.8s,baz=340,slow=2.9,SNR=13							
SONM	**Songino Array**	**128.87**	**345**	PKP	**PKPdf**	**18 00 05.2**	**-1.1**	
	0.5nm,0.8s,baz=96,slow=1.4,SNR=3.6							
ASAR	**Alice Springs**	**131.55**	**239**	PKP	**PKPdf**	**18 00 10.1**	**-1.8**	
	0.3nm,0.7s,baz=152,slow=2.0,SNR=3.7							
MKAR	**Makanchi Array**	**131.69**	**7**	PKP	**PKPdf**	**18 00 09.7**	**-1.9**	
	0.5nm,0.9s,baz=52,slow=8.0,SNR=4.2							
CMAR	**Chiang Mai Arr**	**158.25**	**335**	PKPab	**PKPab**	**18 01 28.6**	**-1.6**	
	2.6nm,1.1s,baz=8.7,slow=3.9,SNR=8.4							

MEX 25 17:43:34.7±0.3, 13.89N×92.16W, h26km±16km, MD4.0, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		**2.08**	**331**	*eP*	Pn	17 44 07.1	-0.7
PCIG				*eS*	Sn	17 44 29.9	-3.0
CCIG	**Comitan**	**2.38**	**1**	*i P*	Pn	17 44 13.0	+0.7
CCIG				*i S*	Sn	17 44 37.7	-3.0
TGIG		**3.02**	**342**	*eP*	Pn	17 44 20.6	-0.3
TGIG				*eS*	Sn	17 44 53.6	-2.7

ISCJB ***25*** *17:52:48.2±0.6, 34.48N±0.02×32.87E±0.04, h11km±4km, mb3.3/1, Error ellipse: s-maj=6.0km s-min=2.8km az=167.5*
CSEM ***25*** *17:52:48.4±0.2, 34.51N×32.88E, h5km, ML3.3, Error ellipse: s-maj=6.9km s-min=2.6km az=77.0*
IDC ***25*** *17:52:48.1±1.4, 34.45N×32.90E, h0km, mb3.3/2, mb1 3.5/8, mb1mx3.3/68, mbtmp3.4/8, ML3.3/6, Error ellipse: s-maj=28.8km s-min=15.6km az=54.0*
HLW ***25*** *17:52:48.6, 34.67N×32.87E, h13km±9km, Ml2.8*
NIC ***25*** *17:52:48.3±0.1, 34.54N×32.80E, h25km, ML3.6*
DDA ***25*** *17:52:49.5, 34.66N×32.73E, h24km, Ml3.7*
GII ***25*** *17:52:50.2±0.0, 34.55N×33.04E, h16km, MD3.6/1*
ISK ***25*** *17:52:56.2, 35.05N×33.13E, h8km, ML3.3/9*
ISC 25 17:52:49.6±1.0, 34.53N±0.03×32.85E±0.04, h19km±2km, n93, σ1.916/137, Cyprus region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SZAC	**Souni**	**0.23**	**6**	P	**Pb**	**17 52 54.0**	**-0.8**
	baz=197						
SZAC				S	**Sg**	**17 52 59.3**	**+0.4**
SZAC	**Souni**	**0.23**	**6**	P	**Pb**	**17 52 54.0**	**-0.8**
SZAC				S	**Sg**	**17 52 59.3**	**+0.4**
CSS	**Mathiatis**	**0.58**	**42**	PG	**Pb**	**17 53 00.3**	**-0.8**
CSS	**Mathiatis**	**0.58**	**42**	P	**Pb**	**17 52 59.7**	**-1.4**
	baz=226						
CSS				S	**Sb**	**17 53 08.2**	**-0.8**
CSS	**Mathiatis**	**0.58**	**42**	P	**Pb**	**17 52 59.7**	**-1.4**
CSS	**Mathiatis**	**0.58**	**42**	*e*Pg	**Pb**	**17 53 00.3**	**-0.8**
CSS				Sg	**Sb**	**17 53 08.0**	**-1.0**
CSS	**Mathiatis**	**0.58**	**42**	Pg	**Pb**	**17 52 59.4**	**-1.7**
CSS				Sg	**Sb**	**17 53 08.0**	**-1.0**
LEF	**Lefka**	**0.59**	**3**	PG	**Pg**	**17 53 01.6**	**+0.2**
LEF	**Lefka**	**0.59**	**3**	P	**Pb**	**17 52 59.7**	**-1.5**
LEF	**Lefka**	**0.59**	**3**	*i* Pg	**Pg**	**17 53 01.6**	**+0.2**
LEF				S	**Sn**	**17 53 12.7**	**+0.6**
ALFC	**Alefka**	**0.66**	**342**	P	**Pb**	**17 53 00.1**	**-2.4**
	baz=165						
ALFC	**Alefka**	**0.66**	**342**	P	**Pb**	**17 53 00.1**	**-2.4**
AKIN	**Ak¨–nc¨–lar- K**	**0.70**	**46**	PG	**Pb**	**17 53 02.5**	**-0.6**
AKIN	**Ak¨–nc¨–lar- K**	**0.70**	**46**	*e*Pg	**Pb**	**17 53 02.5**	**-0.6**
MAMC	**Mammari**	**0.71**	**25**	P	**Pb**	**17 53 01.1**	**-2.2**
	baz=208						
MAMC	**Mammari**	**0.71**	**25**	P	**Pb**	**17 53 01.1**	**-2.2**
TEKE	**Tekeli-Mersin**	**1.63**	**7**	PN	**Pb**	**17 53 18.1**	**-0.8**
TEKE				SN	**Sn**	**17 53 32.8**	**-4.8**
TEKE	**Tekeli-Mersin**	**1.63**	**7**	*e*Pn	**Pb**	**17 53 18.1**	**-0.8**
AKK2	**Akkuyu-Mersin**	**1.70**	**19**	PN	**Pn**	**17 53 18.6**	**+0.4**
AKK2	**Akkuyu-Mersin**	**1.70**	**19**	*e*Pn	**Pn**	**17 53 18.6**	**+0.4**
AKK1	**Akkuyu-Mersin**	**1.71**	**19**	PN	**Pn**	**17 53 18.6**	**+0.3**
AKK1	**Akkuyu-Mersin**	**1.71**	**19**	*e*Pn	**Pn**	**17 53 18.6**	**+0.3**
AKKU	**Akkuyu-Mersin**	**1.73**	**19**	PN	**Pn**	**17 53 18.6**	**+0.1**
AKKU	**Akkuyu-Mersin**	**1.73**	**19**	*e*Pn	**Pn**	**17 53 18.6**	**+0.1**
GULN	**MERSIN_Gulnar**	**1.75**	**19**	*i* P	**Pn**	**17 53 18.4**	**-0.4**
GULN				*i* S	**Sb**	**17 53 43.3**	**+0.8**
GULN	**MERSIN_Gulnar**	**1.75**	**19**	P	**Pn**	**17 53 18.4**	**-0.4**
GULN				S	**Sb**	**17 53 43.3**	**+0.8**
OREN	**Orenkoy-Mersin**	**1.75**	**16**	PN	**Pn**	**17 53 19.3**	**+0.5**
OREN	**Orenkoy-Mersin**	**1.75**	**16**	*e*Pn	**Pn**	**17 53 19.3**	**+0.5**
TEPE	**Tepekoy-Mersin**	**1.79**	**19**	PN	**Pn**	**17 53 19.9**	**+0.5**
TEPE	**Tepekoy-Mersin**	**1.79**	**19**	*e*Pn	**Pn**	**17 53 19.9**	**+0.5**
YESI	**Yesilovacik-Me**	**1.79**	**21**	PN	**Pn**	**17 53 19.9**	**+0.6**
YESI	**Yesilovacik-Me**	**1.79**	**21**	*e*Pn	**Pn**	**17 53 19.9**	**+0.6**
TEVE	**Tevekalti-Mers**	**1.96**	**14**	PN	**Pn**	**17 53 22.4**	**+0.5**
TEVE	**Tevekalti-Mers**	**1.96**	**14**	*e*Pn	**Pn**	**17 53 22.4**	**+0.5**
SILI	**Silifke-Mersin**	**2.03**	**25**	PN	**Pn**	**17 53 23.7**	**+0.9**
SILI	**Silifke-Mersin**	**2.03**	**25**	*e*Pn	**Pn**	**17 53 23.7**	**+0.9**
ERMK	**Ermenek**	**2.11**	**1**	*i* P	**Pn**	**17 53 25.5**	**+1.5**
ERMK				*i* S	**Sb**	**17 53 54.2**	**+1.0**
ERMK	**Ermenek**	**2.11**	**1**	P	**Pn**	**17 53 25.5**	**+1.5**
ERMK				S	**Sb**	**17 53 54.2**	**+1.0**
KIZK	**Mersin**	**2.21**	**28**	PN	**Pn**	**17 53 26.4**	**+1.1**
KIZK	**Mersin**	**2.21**	**28**	*i* P	**Pn**	**17 53 26.9**	**+1.6**
KIZK				*i* S	**Sb**	**17 53 55.6**	**-0.3**
KIZK	**Mersin**	**2.21**	**28**	P	**Pn**	**17 53 26.9**	**+1.6**
KIZK				S	**Sb**	**17 53 55.7**	**-0.3**
HNTI	**Hanita**	**2.41**	**126**	Pn	**Pn**	**17 53 27.1**	**-0.9**
HNTI				Sn	**Sn**	**17 53 55.7**	**-1.2**
HNTI	**Hanita**	**2.41**	**126**	Pn	**Pn**	**17 53 27.1**	**-0.9**
HNTI				Sn	**Sn**	**17 53 55.7**	**-1.2**
KEPZ	**Antalya-Kepez**	**2.58**	**337**	*i* P	**Pn**	**17 53 31.0**	**+0.7**
KEPZ				*i* S	**Sb**	**17 54 08.8**	**+2.2**
KEPZ	**Antalya-Kepez**	**2.58**	**337**	P	**Pn**	**17 53 31.0**	**+0.7**
OFRI	**'Ofer**	**2.60**	**136**	Pn	**Pn**	**17 53 30.3**	**-0.4**
OFRI				Sn	**Sn**	**17 54 01.5**	**-0.3**
OFRI	**'Ofer**	**2.60**	**136**	Pn	**Pn**	**17 53 30.3**	**-0.4**
OFRI				Sn	**Sn**	**17 54 01.5**	**-0.3**
MMA0B	**Mount Meron ar**	**2.60**	**125**	Pn	**Pn**	**17 53 30.1**	**-0.6**
MMA0B				Sn	**Sn**	**17 54 00.8**	**-1.0**
MMA0B	**Mount Meron ar**	**2.60**	**125**	Pn	**Pn**	**17 53 30.1**	**-0.6**
MMA0B				Sn	**Sn**	**17 54 00.8**	**-1.0**
MMAI	**Mount Meron Ar**	**2.60**	**125**	Pn	**Pn**	**17 53 30.0**	**-0.7**
	8.8nm,0.3s,baz=308,slow=12,SNR=55						
MMAI				Sn	**Sn**	**17 54 01.4**	**-0.4**
	56nm,0.3s,baz=301,slow=28,SNR=2						
BLGI	**Bet Lehem HaGe**	**2.65**	**132**	Pn	**Pn**	**17 53 31.3**	**+0.1**
BLGI				Sn	**Sn**	**17 54 02.8**	**+0.1**
BLGI	**Bet Lehem HaGe**	**2.65**	**132**	Pn	**Pn**	**17 53 31.3**	**+0.1**
BLGI				Sn	**Sn**	**17 54 02.8**	**+0.1**
KSHT	**Keshet**	**2.91**	**121**	Pn	**Pn**	**17 53 34.9**	**+0.1**
KSHT	**Keshet**	**2.91**	**121**	Pn	**Pn**	**17 53 34.9**	**+0.1**
SLTI	**Sal'it**	**2.92**	**141**	Pn	**Pn**	**17 53 35.1**	**+0.1**
SLTI	**Sal'it**	**2.92**	**141**	Pn	**Pn**	**17 53 35.1**	**+0.1**
MMLI	**Mount Malkishu**	**2.99**	**133**	Pn	**Pn**	**17 53 35.7**	**-0.3**
MMLI				Sn	**Sn**	**17 54 10.6**	**-0.7**
MMLI	**Mount Malkishu**	**2.99**	**133**	Pn	**Pn**	**17 53 35.7**	**-0.3**
MMLI				Sn	**Sn**	**17 54 10.6**	**-0.7**
YAYL	**Yayladag**	**3.06**	**60**	*eP*	**Pn**	**17 53 35.6**	**-1.4**
YAYL				*i* S	**Sn**	**17 54 13.9**	**+0.8**
YAYL	**Yayladag**	**3.06**	**60**	P	**Pn**	**17 53 35.6**	**-1.4**
YAYL				S	**Sn**	**17 54 13.9**	**+0.8**
KERG	**Konya-Eregli**	**3.06**	**19**	*i* P	**Pn**	**17 53 40.1**	**+3.1**
KERG				*i* S	**Sb**	**17 54 19.8**	**-0.7**
KERG	**Konya-Eregli**	**3.06**	**19**	P	**Pn**	**17 53 40.1**	**+3.1**
GULE	**Gulek**	**3.16**	**29**	*i* P	**Pn**	**17 53 40.7**	**+2.2**
GULE				*i* S	**Sb**	**17 54 22.1**	**-1.4**
GULE	**Gulek**	**3.16**	**29**	P	**Pn**	**17 53 40.7**	**+2.2**
HMDT	**Nahal Hemdat**	**3.18**	**135**	Pn	**Pn**	**17 53 39.3**	**+0.7**
HMDT				Sn	**Sn**	**17 54 15.9**	**-0.1**
HMDT	**Nahal Hemdat**	**3.18**	**135**	Pn	**Pn**	**17 53 39.3**	**+0.7**
HMDT				Sn	**Sn**	**17 54 15.9**	**-0.1**
AMAZ	**Amatzia**	**3.45**	**149**	Pn	**Pn**	**17 53 43.3**	**+1.0**
AMAZ				Sn	**Sn**	**17 54 24.5**	**+1.8**
AMAZ	**Amatzia**	**3.45**	**149**	Pn	**Pn**	**17 53 43.3**	**+1.0**
AMAZ				Sn	**Sn**	**17 54 24.5**	**+1.8**
DSI	**Dead Sea**	**3.63**	**144**	Pn	**Pn**	**17 53 45.4**	**+0.6**
DSI				Sn	**Sn**	**17 54 27.6**	**+0.5**
DSI	**Dead Sea**	**3.63**	**144**	Pn	**Pn**	**17 53 45.4**	**+0.6**
DSI				Sn	**Sn**	**17 54 27.6**	**+0.5**
YTIR	**Yattir**	**3.68**	**148**	Pn	**Pn**	**17 53 46.6**	**+1.0**
YTIR	**Yattir**	**3.68**	**148**	Pn	**Pn**	**17 53 46.6**	**+1.0**
FETY	**Fethiye**	**3.72**	**305**	P	**Pn**	**17 53 45.3**	**-0.7**
FETY				S	**Sn**	**17 54 28.0**	**-1.4**
MZDA	**Masada**	**3.84**	**146**	Pn	**Pn**	**17 53 48.5**	**+0.9**
MZDA				Sn	**Sn**	**17 54 33.4**	**+1.3**
MZDA	**Masada**	**3.84**	**146**	Pn	**Pn**	**17 53 48.5**	**+0.9**
MZDA				Sn	**Sn**	**17 54 33.4**	**+1.3**
YAHY	**KAYSERI_Yahyal**	**4.10**	**29**	*i* P	**Pn**	**17 53 52.4**	**+1.2**
YAHY				*i* S	**Sn**	**17 54 39.9**	**+1.2**
YAHY	**KAYSERI_Yahyal**	**4.10**	**29**	P	**Pn**	**17 53 52.4**	**+1.2**
YAHY				S	**Sn**	**17 54 39.9**	**+1.2**
ASF	**Jabal al Asfar**	**4.12**	**124**	Pn	**Pn**	**17 53 52.4**	**+0.9**
	0.9nm,0.3s,baz=270,slow=5.9,SNR=5.0						
ASF				Sn	**Sn**	**17 54 39.9**	**+0.7**
	1.3nm,0.3s,baz=331,slow=19,SNR=3.7						
ZFRI	**Zfri**	**4.42**	**153**	Pn	**Pn**	**17 53 56.0**	**+0.4**
ZFRI				Sn	**Sn**	**17 54 47.0**	**+0.5**
ZFRI	**Zfri**	**4.42**	**153**	Pn	**Pn**	**17 53 56.0**	**+0.4**
ZFRI				Sn	**Sn**	**17 54 47.0**	**+0.5**
PRNI	**Paran**	**4.54**	**156**	Pn	**Pn**	**17 53 57.8**	**+0.5**
PRNI	**Paran**	**4.54**	**156**	Pn	**Pn**	**17 53 57.8**	**+0.5**
HRFI	**Mount Harif**	**4.84**	**157**	Pn	**Pn**	**17 54 01.9**	**+0.4**
HRFI	**Mount Harif**	**4.84**	**157**	Pn	**Pn**	**17 54 01.9**	**+0.4**
MBH	**Mount Berech**	**5.03**	**159**	Pn	**Pn**	**17 54 05.8**	**+1.7**
MBH	**Mount Berech**	**5.03**	**159**	Pn	**Pn**	**17 54 05.8**	**+1.7**
EIL	**Elat**	**5.16**	**159**	Pn	**Pn**	**17 54 06.5**	**+0.7**
	2.3nm,0.3s,baz=353,slow=5.2,SNR=46						
EIL				Sn	**Sn**	**17 55 06.3**	**+1.5**
	9.8nm,0.3s,baz=83,slow=16,SNR=12						
EIL	**Elat**	**5.16**	**159**	Pn	**Pn**	**17 54 06.5**	**+0.7**
BRTR	**Keskin Array B**	**5.23**	**7**	Pn	**Pn**	**17 54 09.2**	**+2.4**
	0.4nm,0.3s,baz=183,slow=15,SNR=16						
IDI	**Anoyia**	**6.59**	**279**	Pn	**Pn**	**17 54 25.5**	**0.0**
	0.7nm,0.3s,baz=79,slow=11,SNR=7.1						
IDI				Sn	**Sn**	**17 55 38.6**	**-1.4**
	0.8nm,0.3s,baz=306,slow=18,SNR=4.5						
AKASG	**Malin Array Be**	**16.38**	**352**	Pn	**P**	**17 56 40.5**	**-0.5**
	0.3nm,0.3s,baz=169,slow=9.9,SNR=4.3						
GERES	**GERESS Array B**	**20.15**	**321**	P	Pn	17 57 24.9	+0.4
	0.5nm,0.3s,baz=112,slow=12,SNR=7.7						
KURBB	**Kurchatov Arra**	**36.64**	**50**	P	**P**	**17 59 55.7**	**+1.1**
	0.2nm,0.4s,baz=262,slow=8.3,SNR=2.9						

MEX 25 18:07:47.0±0.6, 16.37N×98.00W, h9km±15km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.12**	**279**	*i* P	Pg	18 07 49.1	-0.7
PNIG				*eS*	Sg	18 07 51.7	-0.1
TLIG	**Tlapa**	**1.30**	**336**	*eP*	Pn	18 08 08.1	-3.4
TLIG				*eS*	Sb	18 08 24.0	-4.6
VHO	**Vista Hermosa**	**1.40**	**60**	*eP

	10nm,0.3s								
ODAN	**Odare**	**16.56**	**120**	*e*P		**Pn**	**18 16 49.4**	**-3.3**
	15nm,0.5s								
BVA0	**Borovoye Array**	**16.71**	**358**	P		**Pn**	**18 16 53.8**	**-0.2**
	1.0nm,0.5s,baz=162,slow=13,SNR=9.6								
BVAR	**Borovoye Array**	**16.71**	**358**	P		**Pn**	**18 16 54.4**	**+0.4**
	0.3nm,0.3s,baz=163,slow=11,SNR=11								
AKTO	**Aktyubinsk**	**17.08**	**330**	P		**Pn**	**18 16 58.0**	**-0.7**
	0.9nm,0.3s,baz=140,slow=16,SNR=16								
AKTO	**Aktyubinsk**	**17.08**	**330**	‖P		**Pn**	**18 16 58.2**	**-0.4**
	5.6nm,0.8s								
ZALV	**Zalesovo Beam**	**19.94**	**24**	P		**P**	**18 17 30.3**	**+0.3**
	2.3nm,0.3s,baz=208,slow=9.9,SNR=13								
ARU	**Arti**	**21.90**	**341**	P		**P**	**18 17 51.0**	**+0.1**
	1.2nm,0.5s,baz=110,slow=15,SNR=3.5								
KBZ	**Khabaz**	**22.96**	**298**	P		P	18 18 01.7	-0.2
	1.2nm,0.7s,baz=129,slow=6.4,SNR=5.2								
KVAR	**Kislovodsk Arr**	**23.14**	**298**	LR		LR	18 29 26.0		
	comp=Z,28nm,18.3s,baz=337,slow=43								
CMAR	**Chiang Mai Arr**	**30.10**	**119**	P		**P**	**18 19 05.8**	**-0.5**
	0.5nm,0.7s,baz=280,slow=8.2,SNR=5.1								
MLR	**Muntele Rosu**	**35.14**	**299**	LR		LR	18 38 11.5		
	comp=Z,41nm,21.8s,baz=292,slow=43								
IDI	**Anoyia**	**37.44**	**283**	LR		LR	18 40 26.2		
	comp=Z,35nm,18.0s,baz=278,slow=44								
FINES	**FINESS Array B**	**37.80**	**326**	P		**P**	**18 20 13.2**	**+0.8**
	0.4nm,0.4s,baz=123,slow=9.4,SNR=4.2								
ARCES	**ARCESS Array B**	**41.42**	**338**	P		**P**	**18 20 44.0**	**+1.6**
	0.7nm,0.5s,baz=99,slow=7.6,SNR=9.3								
HFS	**Hagfors**	**43.39**	**322**	P		P	18 20 59.2	+0.8
	4.0nm,1.0s,baz=99,slow=8.9,SNR=4.9								
NB2	**NORSAR Subarra**	**44.70**	**323**	P		P	18 21 09.2	+0.2
	comp=Z,0.7nm,0.5s,baz=98,slow=7.9								
NOA	**NORSAR Array B**	**44.70**	**323**	P		P	18 21 09.7	+0.7
	comp=Z,1.2nm,0.7s,baz=97,slow=7.8,SNR=4.6								
JNU	**Nakatsue**	**48.33**	**75**	LR		LR	18 44 56.1		
	comp=Z,55nm,20.0s,baz=116,slow=40								
JOW	**Kunigami**	**48.77**	**84**	LR		LR	18 42 40.3		
	comp=Z,65nm,20.8s,baz=258,slow=36								
TORD	**Torodi Ar. Bea**	**66.03**	**269**	P		P	18 23 40.5	-1.9
	comp=Z,0.4nm,0.4s,baz=52,slow=6.1,SNR=5.2								
WRA	**Warramunga Arr**	**81.64**	**122**	P		**P**	**18 25 13.8**	**+0.4**
	comp=Z,0.4nm,0.9s,baz=327,slow=4.9,SNR=4.7								

*ISK **25** 18:16:51.7,34°.39N×32°.89E,h5km,ML3.1/10*
*ISCJB **25** 18:16:53.7±0.7,34°.44N±0°.02×32°.90E±0°.05,h1km±4km,*
Error ellipse: s-maj=7.4km s-min=3.1km az=165.8
*NIC **25** 18:16:53.1±0.1,34°.42N×32°.94E,h20km,ML3.4*
*CSEM **25** 18:16:55.8±0.2,34°.52N×32°.96E,h10km,ML3.1,Error*
ellipse: s-maj=7.2km s-min=2.5km az=77.0
*GII **25** 18:16:56.7±0.0,34°.56N×33°.03E,h18km,MD3.2/2*
*DDA **25** 18:16:59.1,34°.86N×32°.83E,h24km,Ml3.1*
ISC 25 18:16:55.5±1.1,34°.54N±0°.03×32°.97E±0°.04,h11km±9km,
n76,σ0s91/112,Cyprus region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SZAC	**Souni**	**0.23**	**342**	P		**Pg**	**18 17 00.5**	**+0.1**
	baz=171							
SZAC	**Souni**	**0.23**	**342**	P		**Pg**	**18 17 00.5**	**+0.1**
CSS	**Mathiatis**	**0.52**	**35**	PG		**Pg**	**18 17 05.3**	**-0.4**
CSS				SG		**Sn**	**18 17 16.6**	**-1.2**
CSS	**Mathiatis**	**0.52**	**35**	P		**Pg**	**18 17 05.7**	**0.0**
	baz=211							
CSS				S		**Sb**	**18 17 14.7**	**+0.5**
CSS	**Mathiatis**	**0.52**	**35**	*e*Pg		**Pg**	**18 17 05.3**	**-0.4**
CSS	**Mathiatis**	**0.52**	**35**	P		**Pg**	**18 17 05.7**	**0.0**
CSS				Sg		**Sb**	**18 17 14.2**	**0.0**
CSS	**Mathiatis**	**0.52**	**35**	Pg		**Pg**	**18 17 05.8**	**0.0**
CSS				Sg		**Sb**	**18 17 14.2**	**0.0**
LEF	**Lefka**	**0.59**	**354**	PG		**Pg**	**18 17 07.1**	**+0.1**
LEF	**Lefka**	**0.59**	**354**	P		**Pg**	**18 17 05.7**	**-1.3**
LEF	**Lefka**	**0.59**	**354**	*e*Pg		**Pg**	**18 17 07.1**	**+0.1**
AKIN	**Ak¯-nc¯-lar- K**	**0.63**	**41**	PG		**Pb**	**18 17 08.2**	**-0.4**
AKIN				SG		**Sn**	**18 17 20.1**	**-0.4**
AKIN	**Ak¯-nc¯-lar- K**	**0.63**	**41**	*e*Pg		**Pb**	**18 17 08.2**	**-0.4**
AKIN				*e*Sg		**Sn**	**18 17 20.1**	**-0.4**
MAMC	**Mammari**	**0.67**	**18**	P		**Pb**	**18 17 07.8**	**-1.4**
	baz=197							
MAMC	**Mammari**	**0.67**	**18**	P		**Pb**	**18 17 07.8**	**-1.4**
ALFC	**Alefka**	**0.69**	**334**	P		**Pb**	**18 17 07.8**	**-1.8**
	baz=158							
ALFC				S		**Sg**	**18 17 19.1**	**+1.1**
ALFC	**Alefka**	**0.69**	**334**	P		**Pb**	**18 17 07.8**	**-1.8**
ALFC				S		**Sg**	**18 17 19.1**	**+1.1**
AKDN	**Akdeniz- K¯-br**	**0.76**	**0**	PG		**Pb**	**18 17 10.3**	**-0.5**
AKDN	**Akdeniz- K¯-br**	**0.76**	**0**	*e*Pg		**Pb**	**18 17 10.3**	**-0.5**
TEKE	**Tekeli-Mersin**	**1.61**	**4**	PN		**Pb**	**18 17 24.5**	**-0.7**
TEKE	**Tekeli-Mersin**	**1.61**	**4**	*e*Pn		**Pb**	**18 17 24.5**	**-0.7**
AKKU	**Akkuyu-Mersin**	**1.69**	**16**	PN		**Pb**	**18 17 25.9**	**-0.7**
AKKU	**Akkuyu-Mersin**	**1.69**	**16**	*e*Pn		**Pb**	**18 17 25.9**	**-0.7**
GULN	**MERSIN_Gulnar**	**1.71**	**16**	*i* P		**Pn**	**18 17 24.9**	**-0.4**
GULN				*i* S		**Sg**	**18 17 50.6**	**0.0**
GULN	**MERSIN_Gulnar**	**1.71**	**16**	P		**Pn**	**18 17 24.9**	**-0.4**
GULN				S		**Sg**	**18 17 50.6**	**0.0**
YESI	**Yesilovacik-Me**	**1.75**	**18**	PN		**Pb**	**18 17 26.7**	**-0.9**
YESI	**Yesilovacik-Me**	**1.75**	**18**	*e*Pn		**Pb**	**18 17 26.7**	**-0.9**
TEVE	**Tevekalti-Mers**	**1.94**	**11**	PN		**Pn**	**18 17 29.4**	**+1.0**
TEVE	**Tevekalti-Mers**	**1.94**	**11**	*e*Pn		**Pn**	**18 17 29.4**	**+1.0**
SILI	**Silifke-Mersin**	**1.99**	**23**	PN		**Pn**	**18 17 30.2**	**+1.2**
SILI	**Silifke-Mersin**	**1.99**	**23**	*e*Pn		**Pn**	**18 17 30.2**	**+1.2**
ERMK	**Ermenek**	**2.10**	**359**	*i* P		**Pb**	**18 17 32.2**	**-1.6**
ERMK				*i* S		**Sb**	**18 18 00.8**	**+0.9**
ERMK	**Ermenek**	**2.10**	**359**	P		**Pb**	**18 17 32.2**	**-1.6**
ERMK				S		**Sb**	**18 18 00.8**	**+0.9**
KIZK	**Mersin**	**2.17**	**26**	PN		**Pn**	**18 17 32.9**	**+1.4**
KIZK	**Mersin**	**2.17**	**26**	*i* P		**Pb**	**18 17 33.9**	**-0.8**
KIZK				*i* S		**Sb**	**18 18 03.6**	**+2.1**
KIZK	**Mersin**	**2.17**	**26**	P		**Pb**	**18 17 33.9**	**-0.8**
HNTI	**Hanita**	**2.34**	**128**	Pn		**Pn**	**18 17 33.9**	**0.0**
HNTI				Sn		**Sn**	**18 18 02.3**	**-0.3**
HNTI	**Hanita**	**2.34**	**128**	Pn		**Pn**	**18 17 33.9**	**0.0**
HNTI				Sn		**Sn**	**18 18 02.3**	**-0.3**
MMA0B	**Mount Meron ar**	**2.53**	**126**	Pn		**Pn**	**18 17 36.9**	**+0.3**
MMA0B				Sn		**Sn**	**18 18 07.3**	**-0.2**
MMA0B	**Mount Meron ar**	**2.53**	**126**	Pn		**Pn**	**18 17 36.9**	**+0.3**
MMA0B				Sn		**Sn**	**18 18 07.3**	**-0.2**
OFRI	**'Ofer**	**2.55**	**138**	Pn		**Pn**	**18 17 36.4**	**-0.4**
OFRI				Sn		**Sn**	**18 18 07.6**	**-0.1**
OFRI	**'Ofer**	**2.55**	**138**	Pn		**Pn**	**18 17 36.4**	**-0.4**
OFRI				Sn		**Sn**	**18 18 07.6**	**-0.1**
BLGI	**Bet Lehem HaGe**	**2.58**	**133**	Pn		**Pn**	**18 17 37.4**	**+0.2**
BLGI				Sn		**Sn**	**18 18 08.3**	**-0.3**
BLGI	**Bet Lehem HaGe**	**2.58**	**133**	Pn		**Pn**	**18 17 37.4**	**+0.2**
BLGI				Sn		**Sn**	**18 18 08.3**	**-0.3**
KEPZ	**Antalya-Kepez**	**2.61**	**335**	*i* P		**Pn**	**18 17 36.2**	**-1.4**
KEPZ				*i* S		**Sn**	**18 18 11.0**	**+1.7**
KSHT	**Keshet**	**2.83**	**122**	Pn		**Pn**	**18 17 40.9**	**+0.2**
KSHT	**Keshet**	**2.83**	**122**	Pn		**Pn**	**18 17 40.9**	**+0.2**
SLTI	**Sal'it**	**2.87**	**142**	Pn		**Pn**	**18 17 41.5**	**+0.3**
SLTI				Sn		**Sn**	**18 18 15.3**	**-0.4**
SLTI	**Sal'it**	**2.87**	**142**	Pn		**Pn**	**18 17 41.5**	**+0.3**
SLTI				Sn		**Sn**	**18 18 15.3**	**-0.4**
MMLI	**Mount Malkishu**	**2.93**	**135**	Pn		**Pn**	**18 17 41.9**	**-0.1**
MMLI				Sn		**Sn**	**18 18 17.5**	**+0.3**
MMLI	**Mount Malkishu**	**2.93**	**135**	Pn		**Pn**	**18 17 41.9**	**-0.1**
MMLI				Sn		**Sn**	**18 18 17.5**	**+0.3**
YAYL	**Yayladag**	**2.97**	**59**	*e*P		**Pn**	**18 17 42.0**	**-0.7**
YAYL				*i* S		**Sn**	**18 18 18.9**	**+0.5**
YAYL	**Yayladag**	**2.97**	**59**	P		**Pn**	**18 17 42.0**	**-0.7**
YAYL				S		**Sn**	**18 18 18.9**	**+0.5**
KERG	**Konya-Eregli**	**3.02**	**18**	*i* P		**Pb**	**18 17 46.4**	**-3.0**
KERG				*i* S		**Sb**	**18 18 26.3**	**0.0**
KERG	**Konya-Eregli**	**3.02**	**18**	P		**Pb**	**18 17 46.4**	**-3.0**
GULE	**Gulek**	**3.11**	**28**	*i* P		**Pn**	**18 17 46.9**	**+2.2**
GULE				*i* S		**Sb**	**18 18 29.3**	**+0.4**
GULE	**Gulek**	**3.11**	**28**	P		**Pn**	**18 17 46.9**	**+2.2**
HMDT	**Nahal Hemdat**	**3.12**	**136**	Pn		**Pn**	**18 17 45.5**	**+0.8**
HMDT				Sn		**Sn**	**18 18 22.1**	**+0.1**
HMDT	**Nahal Hemdat**	**3.12**	**136**	Pn		**Pn**	**18 17 45.5**	**+0.8**
HMDT				Sn		**Sn**	**18 18 22.1**	**+0.1**
AMAZ	**Amatzia**	**3.41**	**151**	Pn		**Pn**	**18 17 49.7**	**+1.0**
AMAZ				Sn		**Sn**	**18 18 29.6**	**+0.5**
AMAZ	**Amatzia**	**3.41**	**151**	Pn		**Pn**	**18 17 49.7**	**+1.0**
AMAZ				Sn		**Sn**	**18 18 29.6**	**+0.5**
DSI	**Dead Sea**	**3.58**	**145**	Pn		**Pn**	**18 17 51.5**	**+0.5**
DSI	**Dead Sea**	**3.58**	**145**	Pn		**Pn**	**18 17 51.5**	**+0.5**
YTIR	**Yattir**	**3.64**	**150**	Pn		**Pn**	**18 17 52.5**	**+0.6**
YTIR	**Yattir**	**3.64**	**150**	Pn		**Pn**	**18 17 52.5**	**+0.6**
MZDA	**Masada**	**3.79**	**147**	Pn		**Pn**	**18 17 55.0**	**+1.2**
MZDA				Sn		**Sn**	**18 18 39.5**	**+1.1**
ZFRI	**Zfri**	**4.39**	**154**	Pn		**Pn**	**18 18 02.2**	**+0.2**
ZFRI	**Zfri**	**4.39**	**154**	Pn		**Pn**	**18 18 02.2**	**+0.2**
PRNI	**Paran**	**4.51**	**157**	Pn		**Pn**	**18 18 04.2**	**+0.4**
PRNI	**Paran**	**4.51**	**157**	Pn		**Pn**	**18 18 04.2**	**+0.4**
HRFI	**Mount Harif**	**4.82**	**158**	Pn		**Pn**	**18 18 08.3**	**+0.3**
HRFI	**Mount Harif**	**4.82**	**158**	Pn		**Pn**	**18 18 08.3**	**+0.3**
MBH	**Mount Berech**	**5.01**	**160**	Pn		**Pn**	**18 18 11.4**	**+0.7**
MBH	**Mount Berech**	**5.01**	**160**	Pn		**Pn**	**18 18 11.4**	**+0.7**
EIL	**Elat**	**5.13**	**160**	Pn		**Pn**	**18 18 13.0**	**+0.7**
EIL	**Elat**	**5.13**	**160**	Pn		**Pn**	**18 18 13.0**	**+0.7**

*CSEM **25** 18:29:52.4,40°.33N×42°.28E,h3km,ML2.2*
*ISK **25** 18:29:52.4,40°.33N×42°.28E,h3km,ML2.2/5*
*ATA **25** 18:29:53.0±2.3,40°.54N×42°.33E,h7km±122km,ML2.7,*
MW2.8
*ISCJB **25** 18:29:54.4±0.5,40°.39N±0°.03×42°.42E±0°.05,h8km,Error*
ellipse: s-maj=5.1km s-min=4.7km az=6.5
ISC 25 18:29:53.5±0.9,40°.36N±0°.03×42°.36E±0°.03,h8km,n17,
σ1s10/23,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SENK	**Senkaya-Erzuru**	**0.21**	**358**	PG		**Pg**	**18 29 57.3**	**-0.5**
SENK				SG		**Sg**	**18 30 01.9**	**+1.2**
SENK	**Senkaya-Erzuru**	**0.21**	**358**	*e*Pg		**Pg**	**18 29 57.3**	**-0.5**
SENK				*e*Sg		**Sg**	**18 30 01.9**	**+1.2**
HOMI	**Horasan**	**0.47**	**229**	*e*P		**Pn**	**18 30 05.2**	**-1.5**
HOMI				*e*S		**Sb**	**18 30 14.0**	**+2.8**
HOMI				IAML			18 30 22.7	
	comp=Z,15nm,0.7s							
EATA	**Eleskirt**	**0.50**	**168**	*e*P		**Pn**	**18 30 06.7**	**-0.5**
KARS	**Kars**	**0.61**	**63**	PG		**Pb**	**18 30 06.6**	**+0.1**
KARS				SG		**Sb**	**18 30 16.5**	**+1.1**
KARS	**Kars**	**0.61**	**63**	*e*Pg		**Pb**	**18 30 06.6**	**+0.1**
KARS				*e*Sg		**Sb**	**18 30 16.5**	**+1.1**
DIGO	**Kars**	**0.78**	**85**	*e*P		**Pg**	**18 30 08.6**	**+0.2**
DIGO				IAML			18 30 26.2	
	comp=Z,35nm,1.0s							
ERZM	**Erzurum**	**0.89**	**240**	*e*P		**Pn**	**18 30 10.9**	**-1.6**
AGRB	**Hanur-Agry**	**0.92**	**148**	PG		**Pb**	**18 30 11.2**	**-0.6**
AGRB				SG		**Sb**	**18 30 24.6**	**+0.4**
AGRB	**Hanur-Agry**	**0.92**	**148**	*e*Pg		**Pb**	**18 30 11.2**	**-0.6**
AGRB				*e*Sg		**Sb**	**18 30 24.6**	**+0.4**
EAK	**Akyaka**	**1.01**	**70**	*e*P		**Pg**	**18 30 12.3**	**-0.6**
EKAR	**Karacoban**	**1.12**	**192**	*e*P		Pn	18 30 19.9	+4.2
EKAR				IAML			18 30 30.1	
	comp=Z,4.3nm,0.4s							
BCA	**Borcka**	**1.22**	**333**	PN		**Pg**	**18 30 16.8**	**-0.2**
BCA	**Borcka**	**1.22**	**333**	*e*Pn		**Pg**	**18 30 16.8**	**-0.2**
CHOM	**Cayeli-Rize**	**1.42**	**302**	*e*Pn		**Pg**	**18 30 19.5**	**-1.3**
KOPT	**Kop Dagi**	**1.47**	**257**	*e*P		**Pg**	**18 30 23.1**	**+1.5**
KOPT				IAML			18 30 55.0	
	comp=Z,6.3nm,0.8s							
BAYB	**BAYBURT**	**1.61**	**267**	*e*P		**Pg**	**18 30 23.7**	**-0.7**

*CSEM **25** 18:37:38.3±0.4,38°.50N×43°.59E,h5km,ML2.2,Error*
ellipse: s-maj=10.8km s-min=6.9km az=95.0
*DDA **25** 18:37:38.1,38°.46N×43°.67E,h7km,Ml2.7*
*ISK **25** 18:37:39.4,38°.63N×43°.41E,h7km,ML2.2/4*
ISC 25 18:37:37.3±1.1,38°.51N±0°.03×43°.64E±0°.05,h14km±7km,
n18,σ0s73/32,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TVAN	**Van**	**0.18**	**276**	*i* P		**Pg**	**18 37 42.2**	**+0.4**
TVAN				*i* S		**Sb**	**18 37 45.9**	**-0.2**
TVAN	**Van**	**0.18**	**276**	P		**Pg**	**18 37 42.2**	**+0.4**
TVAN				S		**Sb**	**18 37 45.9**	**-0.2**
VANB	**Van**	**0.21**	**293**	PG		**Pg**	**18 37 42.1**	**-0.1**
VANB				SG		**Sg**	**18 37 45.2**	**-0.3**
VANB	**Van**	**0.21**	**293**	*e*Pg		**Pg**	**18 37 42.1**	**-0.1**
VANB				*e*Sg		**Sg**	**18 37 45.2**	**-0.3**
VMUR	**Van-Muradiye**	**0.48**	**354**	*i* P		**Pb**	**18 37 48.5**	**+0.9**
VMUR				*i* S		**Sn**	**18 37 58.0**	**-0.3**
VMUR	**Van-Muradiye**	**0.48**	**354**	P		**Pb**	**18 37 48.5**	**+0.9**
VMUR				S		**Sn**	**18 37 58.0**	**-0.3**
GEVA	**Gevas**	**0.50**	**247**	*i* P		**Pg**	**18 37 47.4**	**+0.2**
GEVA				*i* S		**Sn**	**18 37 57.4**	**-1.2**
GEVA	**Gevas**	**0.50**	**247**	P		**Pg**	**18 37 47.4**	**+0.2**
GEVA				S		**Sn**	**18 37 57.4**	**-1.2**
CLDR	**Caldiran**	**0.67**	**19**	PG		**Pn**	**18 37 52.5**	**0.0**
CLDR				SG		**Sn**	**18 38 01.8**	**-1.1**
CLDR	**Caldiran**	**0.67**	**19**	*e*Pg		**Pn**	**18 37 52.5**	**0.0**
CLDR				*e*Sg		**Sn**	**18 38 01.8**	**-1.1**
ADCV	**BITLIS_Adilcev**	**0.77**	**293**	*e*P		**Pb**	**18 37 53.0**	**+0.3**
ADCV				*i* S		**Sn**	**18 38 05.8**	**+0.3**
ADCV	**BITLIS_Adilcev**	**0.77**	**293**	P		**Pb**	**18 37 53.0**	**+0.3**
ADCV				S		**Sn**	**18 38 05.8**	**+0.3**
HAKT	**HAKKARI**	**0.95**	**177**	*i* P		**Pb**	**18 37 55.6**	**-0.1**
HAKT				*i* S		**Sn**	**18 38 09.4**	**-0.6**
HAKT	**HAKKARI**	**0.95**	**177**	P		**Pb**	**18 37 55.6**	**-0.1**
HAKT				S		**Sn**	**18 38 09.4**	**-0.6**
AGRB	**Hanur-Agry**	**1.18**	**335**	PG		**Pn**	**18 37 58.9**	**-0.6**
AGRB	**Hanur-Agry**	**1.18**	**335**	*e*Pg		**Pn**	**18 37 58.9**	**-0.6**
SIRT	**Sirnak**	**1.38**	**224**	PN		**Pg**	**18 38 05.6**	**+1.7**
SIRT	**Sirnak**	**1.38**	**224**	*e*Pn		**Pg**	**18 38 05.6**	**+1.7**

IDC 25 18:41:07.3±5.6,15°.18S×175°.01W,h0km,mb4.2/3,
mb1 4.4/3,mb1mx3.7/47,mbtmp4.2/3,Error ellipse:
s-maj=209.7km s-min=56.7km az=133.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
STKA	**Stephens Creek**	**42.81**	**239**	P		P	18 49 08.0	+0.9
	2.9nm,0.7s,baz=80,slow=9.6,SNR=7.9							
WRA	**Warramunga Arr**	**48.38**	**257**	P		P	18 49 50.4	-1.1
	0.3nm,0.4s,baz=86,slow=7.3,SNR=29							
ASAR	**Alice Springs**	**48.70**	**252**	P		P	18 49 53.6	-0.2
	12nm,0.5s,baz=86,slow=8.2,SNR=405							
BRTR	**Keskin Array B**	**145.00**	**320**	PKPbc		PKPab	19 00 45.1	-1.3
	0.8nm,0.7s,baz=40,slow=2.6,SNR=5.3							

IDC 25 18:42:24.3±2.0,2°.46N×91°.78E,h0km,mb3.7/2,mb1 3.9/4,
mb1mx3.4/64,mbtmp3.7/4,ML3.8/1,MS3.3/4,Ms1 3.3/4,
ms1mx2.8/58,Error ellipse: s-maj=58.0km
s-min=29.4km az=46.0,Off west coast of northern
Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PALK	**Pallekele**	**12.03**	**294**	Pn		Pn	18 45 17.1	-0.1
	0.6nm,0.3s,baz=114,slow=12,SNR=4.5							
PALK				Sn		Sn	18 47 18.8	-13
	2.6nm,0.3s,baz=113,slow=11,SNR=7.3							
CMAR	**Chiang Mai Arr**	**17.38**	**23**	Pn		Pn	18 46 29.1	+0.6
	baz=212,slow=14,SNR=3.2							
FITZ	**Fitzroy Crossi**	**39.11**	**123**	LR		LR	19 05 58.9	
	comp=Z,48nm,21.6s,baz=292,slow=36							
MKAR	**Makanchi Array**	**44.92**	**351**	P		P	18 50 40.6	-0.3
	0.9nm,0.6s,baz=170,slow=8.5,SNR=4.3							
WRA	**Warramunga Arr**	**47.32**	**120**	P		P	18 51 00.2	-0.1
	0.5nm,0.6s,baz=297,slow=8.9,SNR=4.0							
AKTO	**Aktyubinsk**	**55.67**	**335**	LR		LR	19 17 16.2	
	comp=Z,25nm,18.4s,baz=140,slow=38							
MMAI	**Mount Meron Ar**	**60.80**	**307**	LR		LR	19 21 23.1	
	comp=Z,29nm,18.6s,baz=150,slow=38							
BRTR	**Keskin Array B**	**64.29**	**313**	LR		LR	19 21 53.6	
	comp=Z,13nm,20.7s,baz=116,slow=37							

*IDC **25** 18:42:25.7±1.4,8°.21N×94°.29E,h0km,mb4.0/15,*
mb1 4.1/17,mb1mx3.9/66,mbtmp4.0/17,ML4.2/2,MS3.3/8,
Ms1 3.3/8,ms1mx3.0/60,Error ellipse: s-maj=34.5km
s-min=29.9km az=79.0
*NEIC **25** 18:42:31.0±0.5,8°.66N×93°.88E,h10km,mb4.3/8,Error*
ellipse: s-maj=11.9km s-min=7.9km az=217.0
ISC 25 18:42:26.8±0.7,8°.15N±0°.09×94°.17E±0°.09,h10km,n62,
σ1s53/48,mb4.2/24,MS3.3/5,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PBA	**Port Blair**	**3.76**	**338**	*e*P		Pn	18 43 22.5	-2.3
DGPR	**DIGLIPUR**	**5.14**	**346**	*e*P		**Pn**	**18 43 42.2**	**-1.7**
KULM	**Kulim**	**7.04**	**113**	*e*Pn		Pb	18 44 19.9	-9.3
	13nm,0.5s							
PSI	**Prapat**	**7.12**	**138**	Pn		**Pn**	**18 44 10.2**	**-0.9**
	0.7nm,0.3s,baz=281,slow=6.4,SNR=5.2							
PSI				Sn		**Sn**	**18 45 28.5**	**-3.7**
	2.0nm,0.3s,baz=350,slow=11,SNR=2.4							
PSI				LR		LR	18 47 40.1	
	comp=Z,349nm,19.4s,baz=228,slow=44							
PHET	**Kaeng Krachan**	**7.16**	**48**	P		Pb	18 44 21.0	-10
	12nm,0.7s,278nm0.1nm							
IPM	**Ipoh**	**7.73**	**118**	*e*Pn		Pb	18 44 30.4	-11
	10nm,0.4s							
PBKT	**Sadao Pong**	**10.69**	**38**	P		**Pn**	**18 45 01.0**	**+1.0**
	12nm,0.8s							
PHIT	**Phitsanulok**	**10.86**	**34**	P		**Pn**	**18 45 04.1**	**+1.7**
	14nm,0.7s,156nm							
CMAR	**Chiang Mai Arr**	**11.25**	**24**	Pn		**Pn**	**18 45 08.4**	**+0.6**
	1.3nm,0.3s,baz=212,slow=15,SNR=54							
CMAR				LR		LR	18 50 13.3	
	comp=Z,123nm,19.0s,baz=226,slow=42							
CHTO	**Chiang Mai**	**11.57**	**23**	*e*P		**Pn**	**18 45 12.7**	**+0.6**
	2.6nm,0.8s							
LAMP	**Lampang**	**11.60**	**27**	P		Pn	18 45 16.6	+4.1
	4.5nm,0.7s							
PALK	**Pallekele**	**13.37**	**267**	LR		LR	18 50 24.2	
	comp=Z,140nm,18.3s,baz=116,slow=36							
VIS	**Vishakhapatnam**	**14.21**	**313**	*e*P		**Pn**	**18 45 45.9**	**-2.3**
VIS				IAmb		IAmb	18 45 53.4	
MDRS	**Chennai**	**14.53**	**291**	*e*P		**Pn**	**18 45 50.7**	**-1.9**
IMP	**Imphal**	**16.59**	**359**	*e*P		**Pn**	**18 46 18.3**	**-1.4**
KSM	**Kuching**	**17.39**	**112**	*e*P		P	18 46 42.8	+12
	15nm,1.3s							
SHL	**Shillong**	**17.46**	**353**	*e*P		**P**	**18 46 31.3**	**-0.7**
SHL				IAmb		IAmb	18 46 37.9	
	comp=Z,38nm,1.6s							
KOHI	**KOHIMA**	**17.48**	**360**	*e*P		**Pn**	**18 46 28.1**	**-2.8**
MOKO	**MOKOCHONG**	**18.08**	**1**	*e*P		**Pn**	**18 46 36.6**	**-1.7**
ITAN	**ITANAGAR**	**18.90**	**359**	*e*P		**P**	**18 46 45.9**	**-1.7**
ODAN	**Odare**	**19.69**	**342**	*e*P		**Pn**	**18 46 56.5**	**-1.4**
	comp=Z,15nm,0.7s							
LEM	**Lembang**	**20.03**	**138**	LR		LR	18 55 21.7	
	comp=Z,133nm,20.0s,baz=262,slow=39							
RAMN	**Ramite**	**20.03**	**340**	*e*P		Pn	18 47 00.0	-2.0
	comp=Z,13nm,0.4s							
JIRN	**Jiri**	**20.82**	**340**	*e*P		**P**	**18 47 07.5**	**-1.5**
	comp=Z,16nm,0.4s							
PKIN	**Phulchoki**	**21.03**	**338**	*e*P		**P**	**18 47 09.3**	**-1.8**
	comp=Z,13nm,0.6s							
GUN	**Gumba**	**21.16**	**339**	*e*P		**P**	**18 47 11.2**	**-1.4**
	comp=Z,34nm,0.7s							
DMN	**Daman**	**21.17**	**337**	*e*P		**P**	**18 47 11.0**	**-1.6**
	comp=Z,15nm,0.7s							
KKN	**Kakani**	**21.27**	**338**	*e*P		**P**	**18 47 12.1**	**-1.5**
	comp=Z,15nm,0.8s					

YKA	**Yellowknife Ar**	**138.41**	**316**	PKP		**PKPdf**	**19 14 40.6**	**-0.3**
	0.4nm,0.6s,baz=133,slow=2.2,SNR=11							
SONM	**Songino Array**	**149.62**	**88**	PKPbc		**PKPbc**	**19 15 06.0**	**+0.3**
	0.7nm,0.5s,baz=228,slow=3.4,SNR=6.0							
ILAR	**Eielson Array**	**152.29**	**309**	PKPbc		**PKPbc**	**19 15 10.7**	**-0.5**
	1.0nm,0.6s,baz=129,slow=1.3,SNR=14							

MEX 25 19:04:01.3±0.3, 16°.46N×98°.68W, h12km±8km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.53**	**97**	*i* P	Pg	19 04 10.6	-1.2
PNIG				*i* S	Sg	19 04 18.1	-0.8
TLIG	**Tlapa**	**1.10**	**6**	*i* P	Pb	19 04 21.9	-0.4
TLIG				*e*S	Sb	19 04 32.5	-4.2
CAIG	**El Cayaco**	**1.63**	**291**	*e*P	Pn	19 04 26.4	-3.4
CAIG				*i* S	Sn	19 04 45.3	-5.4
VHO	**Vista Hermosa**	**1.96**	**72**	*e*P	Pb	19 04 36.1	-1.0
VHO				*e*S	Sn	19 04 54.5	-4.7
PLIG	**Platanillo**	**2.07**	**338**	*e*P	Pn	19 04 36.6	+0.6
PLIG				*e*S	Sn	19 04 57.4	-4.4

IDC 25 19:05:28.5±1.6, 2°.01N×127°.54E, h0km, mb3.6/5, mb1 3.8/5, mb1mx3.3/58, mbtmp3.6/5, Error ellipse: s-maj=138.9km s-min=19.5km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.81**	**163**	P	P	19 10 33.5	+0.3
	2.9nm,0.7s,baz=343,slow=11,SNR=14						
ASAR	**Alice Springs**	**26.26**	**167**	P	P	19 11 05.2	-0.4
	0.3nm,0.6s,baz=347,slow=7.3,SNR=5.7						
STKA	**Stephens Creek**	**36.24**	**160**	P	P	19 12 33.2	-0.2
	1.1nm,0.7s,baz=352,slow=12,SNR=2.8						
MKAR	**Makanchi Array**	**59.42**	**325**	P	P	19 15 33.5	+0.5
	0.4nm,0.4s,baz=118,slow=8.1,SNR=7.6						
KURBB	**Kurchatov Arra**	**63.62**	**328**	P	P	19 16 00.9	-0.3
	0.4nm,0.6s,baz=127,slow=6.9,SNR=4.1						

IDC 25 19:13:44.5±2.8, 4°.70N×93°.64E, h0km, mb3.5/3, mb1 3.6/4, mb1mx3.2/67, mbtmp3.4/4, ML3.6/1, Error ellipse: s-maj=107.5km s-min=27.0km az=58.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**14.62**	**20**	Pn	Pn	19 17 12.9	+0.2
	0.1nm,0.3s,baz=212,slow=12,SNR=5.3						
H08S2	**Diego Garcia H**	**24.41**	**240**	T	T	19 45 04.7	
	baz=62,slow=75,SNR=5.7						
H08S3	**Diego Garcia H**	**24.41**	**240**	T	T	19 45 04.3	
	baz=62,slow=75,SNR=3.6						
H08S1	**Diego Garcia H**	**24.43**	**240**	T	T	19 45 08.1	
	baz=62,slow=75,SNR=5.8						
MKAR	**Makanchi Array**	**43.07**	**349**	P	P	19 21 45.9	-0.3
	0.6nm,0.5s,baz=160,slow=7.9,SNR=14						
WRA	**Warramunga Arr**	**46.90**	**123**	P	P	19 22 16.9	-0.1
	0.4nm,0.8s,baz=308,slow=9.4,SNR=10						
KURBB	**Kurchatov Arra**	**47.49**	**347**	P	P	19 22 21.2	+0.1
	0.2nm,0.4s,baz=162,slow=6.3,SNR=4.6						

*ISCJB **25** 19:20:16.8±0.9, 21°.96S±0°.06×68°.5W±0°.1, h121km±11km, mb3.6/2, Error ellipse: s-maj=19.9km s-min=8.8km az=14.2*
*GUC **25** 19:20:17.9±0.4, 21°.92S×68°.63W, h122km±3km, ML3.4*
*IDC **25** 19:20:25.5±9.7, 21°.39S×67°.93W, h159km±64km, mb3.5/2, mb1 3.5/4, mb1mx3.1/44, mbtmp3.8/4, MS3.8/1, Ms1 3.8/1, ms1mx2.6/27, Error ellipse: s-maj=109.7km s-min=32.0km az=9.0*

ISC 25 19:20:17.8±1.2, 21°.94S±0°.07×68°.5W±0°.1, h119km±11km, n14, σ0°.99/21, 4C, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB09	**IPOC Station P**	**0.69**	**281**	*e*P	**Pn**	**19 20 37.4**	**+0.2**
PB09				*e*S	**Sn**	**19 20 52.0**	**+0.2**
PB09				IAML		19 20 53.7	
	comp=E,941nm,0.5s						
PB06	**IPOC Station P**	**1.25**	**232**	⇑*i*P	**Pn**	**19 20 42.5**	**0.0**
PB06				*e*S	**Sn**	**19 21 01.4**	**+0.1**
PB06				IAML		19 21 01.6	
	comp=N,1μm,0.3s						
PB01	**IPOC Station P**	**1.27**	**314**	*e*P	**Pn**	**19 20 42.6**	**-0.1**
PB01				*e*S	**Sn**	**19 21 01.2**	**-0.4**
PB01				IAML		19 21 03.3	
	comp=E,492nm,0.1s						
PB07	**IPOC Station P**	**1.29**	**279**	⇑*i*P	**Pn**	**19 20 43.0**	**-0.1**
PB07				*e*S	**Sn**	**19 21 01.9**	**-0.3**
PB07				IAML		19 21 03.4	
	comp=N,923nm,0.4s						
PB02	**IPOC Station P**	**1.43**	**295**	⇑*e*P	**Pn**	**19 20 44.2**	**-0.3**
PB02				*e*S	**Sn**	**19 21 04.0**	**-0.6**
PB02				IAML		19 21 08.0	
	comp=E,704nm,0.2s						
PB04	**IPOC Station P**	**1.57**	**255**	⇑*e*P	**Pn**	**19 20 45.9**	**-0.2**
PB04				*e*S	**Sn**	**19 21 07.6**	**-0.2**
PB04				IAML		19 21 08.8	
	comp=E,732nm,0.5s						
PB08	**IPOC Station P**	**1.88**	**341**	*e*P	**Pn**	**19 20 51.1**	**+0.9**
PB08				*e*S	**Sn**	**19 21 16.0**	**+1.2**
PB08				IAML		19 21 17.5	
	comp=N,202nm,0.4s						
PB11	**IPOC Station P**	**2.41**	**333**	*e*P	**Pn**	**19 20 56.4**	**-0.2**
PB11				*e*S	**Sn**	**19 21 26.2**	**-0.2**
PB11				IAML		19 21 29.5	
	comp=E,267nm,0.1s						
LPAZ	**La Paz**	**5.63**	**4**	P	**Pn**	**19 21 41.5**	**+1.7**
	comp=E,0.7nm,0.3s,baz=160,slow=6.0,SNR=9.7						
SIV	**San Ignacio**	**9.19**	**51**	P	**Pn**	**19 22 24.4**	**-3.1**
	comp=E,0.8nm,0.3s,baz=243,slow=12,SNR=41						
SIV				S	Sn	19 23 58.6	-11
	comp=E,0.2nm,0.3s,baz=162,slow=20,SNR=3.4						
APG	**El Apazote**	**42.56**	**328**	LR	LR	19 46 03.8	
	comp=E,126nm,21.9s,baz=280,slow=36						
TORD	**Torodi Ar. Bea**	**77.15**	**70**	P	**P**	**19 31 58.4**	**-0.4**
	comp=E,0.4nm,0.5s,baz=261,slow=5.4,SNR=7.5						
YKA	**Yellowknife Ar**	**91.72**	**340**	P	**P**	**19 33 12.2**	**+1.0**
	comp=E,0.4nm,0.6s,baz=136,slow=4.7,SNR=14						
MKAR	**Makanchi Array**	**145.76**	**37**	PKPbc	**PKPab**	**19 39 43.1**	**-0.3**
	comp=E,0.3nm,0.4s,baz=330,slow=3.0,SNR=6.5						

*NNC **25** 19:31:13.6±1.2, 45°.52N×80°.95E, h0km, mb2.9, mpv2.2, Error ellipse: s-maj=21.1km s-min=8.7km az=112.0*
*SOME **25** 19:31:13.4, 45°.28N×81°.18E, h15km*

ISC 25 19:31:12.5±2.1, 45°.41N±0°.04×81°.11E±0°.06, h3km±16km, n15, σ1°.36/28, 5C-3D, Kazakhstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAPS	**Kapalarasan**	**1.24**	**265**	*e*P	**Pn**	**19 31 37.2**	**+0.4**
	1.8nm,0.3s						
KAPS				*e*S	**Sn**	**19 31 54.0**	**-0.1**
	9.7nm,0.1s						
DJR	**Jarkent**	**1.42**	**222**	*e*P	**Pb**	**19 31 40.1**	**+0.4**
	5.2nm,0.3s						
DJR				*e*S	**Sg**	**19 31 59.4**	**+1.2**
	30nm,0.3s						
MK31	**Makanchi Array**	**1.61**	**30**	⇑Pn	**Pb**	**19 31 43.5**	**+0.5**
	0.2nm,0.1s,baz=209,slow=14,SNR=76						
MK31				⇑Sn	**Sb**	**19 32 04.9**	**+1.1**
	2.9nm,0.2s,baz=209,slow=27,SNR=22						
KTMS	**Ketmen**	**2.03**	**196**	*e*P	**Pn**	**19 31 49.1**	**+1.3**
	5.4nm,0.2s						
KTMS				*e*S	**Sb**	**19 32 15.2**	**-0.8**
	21nm,0.2s						
MNBS	**Baschi**	**2.34**	**236**	*e*P	**Pb**	**19 31 56.0**	**+0.5**
	1.6nm,0.4s						
MNBS				*e*S	**Sg**	**19 32 26.7**	**-1.0**
	12nm,0.2s						
PDGK	**Podgornoye**	**2.38**	**210**	⇓Pn	**Pb**	**19 31 55.7**	**-0.4**
	0.9nm,0.3s						
PDGK				⇑Sn	**Sb**	**19 32 25.5**	**-0.4**
	3.3nm,0.3s						
SHLS	**Shalkode**	**2.54**	**208**	*e*P	**Pn**	**19 31 55.6**	**+0.9**
	3.5nm,0.3s						
SHLS				*e*S	**Sn**	**19 32 26.1**	**-0.1**
	13nm,0.2s						
KPKS	**Kokpek**	**2.60**	**223**	*e*P	**Pb**	**19 31 59.5**	**-0.4**
	2.5nm,0.2s						
KPKS				*e*S	**Sb**	**19 32 32.6**	**+0.3**
	36nm,0.4s						
UZB	**Uzynbulak**	**2.71**	**214**	*e*P	**Pb**	**19 32 00.3**	**-1.4**
	1.0nm,0.3s						
UZB				*e*S	**Sb**	**19 32 33.7**	**-1.8**
	4.4nm,0.5s						
ZHN	**Zhinishke**	**2.95**	**222**	*e*P	**Pb**	**19 32 05.5**	**-0.2**
	2.0nm,0.1s						
ZHN				*e*S	**Sb**	**19 32 43.4**	**+1.1**
	22nm,0.3s						
SATY	**Saty**	**3.04**	**221**	*e*P	**Pb**	**19 32 08.4**	**+1.0**
	3.5nm,0.2s						
SATY				*e*S	**Sg**	**19 32 47.7**	**-2.6**
	26nm,0.2s						
CHKK	**Chushkaly**	**3.32**	**244**	*e*P	**Pb**	**19 32 11.8**	**-0.4**
	0.6nm,0.2s						
CHKK				*e*S	**Sb**	**19 32 54.0**	**+1.0**
	5.9nm,0.3s						
TNSS	**Tian-Shan**	**3.81**	**233**	*e*P	**Pb**	**19 32 21.4**	**+0.7**
	0.6nm,0.3s						
TNSS				*e*S	**Sb**	**19 33 10.7**	**+3.2**
	3.3nm,0.4s						
KURBB	**Kurchatov Arra**	**5.50**	**343**	⇑Sn	**Sn**	**19 33 37.5**	**-1.5**
	0.9nm,0.3s						
KURBB				⇓Lg	Lg	19 34 09.5	
	4.3nm,0.8s						
KURK	**Kurchatov**	**5.57**	**343**	⇓Sn	**Sn**	**19 33 37.9**	**-2.8**
	0.6nm,0.5s						
KURK				⇑Lg	Lg	19 34 11.0	
	0.9nm,0.7s						

MEX 25 19:33:52.4±0.4, 18°.25N×103°.48W, h12km±10km, MD3.7, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MMIG	**Aquila**	**0.13**	**72**	*i* P	Pg	19 33 55.0	-0.6
MMIG				*i* S	Sg	19 33 57.4	-0.6
EZ5V		**1.23**	**355**	*e*P	Pn	19 34 12.0	-3.7
EZ5V				*i* S	Sb	19 34 26.8	-4.9
ARIG	**Puente Sto Nin**	**2.98**	**89**	*e*P	Pn	19 34 36.8	-2.7
ARIG				*i* S	Sn	19 35 08.2	-7.0

MEX 25 19:49:25.7±0.3, 15°.95N×98°.66W, h16km±28km, MD3.8, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.67**	**49**	*i* P	Pg	19 49 36.6	-2.3
PNIG				*i* S	Sg	19 49 45.3	-2.6
TLIG	**Tlapa**	**1.61**	**3**	*e*P	Pn	19 49 50.1	-3.5
TLIG				*e*S	Sn	19 50 09.1	-5.0
PLIG	**Platanillo**	**2.56**	**342**	*e*P	Pn	19 50 06.2	-0.4
PLIG				*e*S	Sn	19 50 33.4	-4.1

*ISCJB **25** 19:53:52.5±0.6, 3°.50S±0°.09×87°.3E±0°.1, h10km, mb4.1/24, MS3.1/6, Error ellipse: s-maj=16.5km s-min=12.4km az=148.7*
*IDC **25** 19:53:52.4±0.7, 3°.57S×87°.34E, h0km, mb4.1/19, mb1 4.2/20, mb1mx3.9/71, mbtmp4.1/20, ML3.8/1, MS3.1/7, Ms1 3.2/7, ms1mx2.8/61, Error ellipse: s-maj=21.8km s-min=16.4km az=52.0*
*NEIC **25** 19:53:54.1±0.4, 3°.54S×87°.32E, h10km, mb4.6/3, Error ellipse: s-maj=11.6km s-min=8.4km az=58.0*

ISC 25 19:53:54.0±0.7, 3°.5S±0°.1×87°.3E±0°.1, h10km, n35, σ0°.64/32, mb4.3/24, MS3.1/6, 1C, South Indian Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PALK	**Pallekele**	**12.62**	**328**	Pn	**Pn**	**19 56 52.5**	**-1.4**
	0.5nm,0.3s,baz=116,slow=12,SNR=4.9						
PALK				Sn	Sn	19 59 04.4	-10
	1.8nm,0.3s,baz=116,slow=13,SNR=4.6						
PALK				LR	LR	20 01 02.4	
	comp=Z,111nm,20.3s,baz=116,slow=34						
H08S2	**Diego Garcia H**	**15.32**	**254**	T	T	20 13 07.1	
	baz=73						
H08S3	**Diego Garcia H**	**15.32**	**254**	T	T	20 13 15.3	
	baz=73						
H08S1	**Diego Carcia H**	**15.34**	**254**	T	T	20 13 06.6	
	baz=73,SNR=2.4						
LEM	**Lembang**	**20.46**	**100**	LR	LR	20 04 28.5	
	comp=Z,33nm,21.7s,baz=236,slow=31						
CMAR	**Chiang Mai Arr**	**24.67**	**27**	P	**P**	**19 59 15.8**	**+0.4**
	2.3nm,0.9s,baz=219,slow=11,SNR=12						
CMAR				LR	LR	20 07 51.1	
	comp=Z,51nm,19.8s,baz=202,slow=34						
LSA	**Lhasa**	**33.26**	**6**	*e*P	**P**	**20 00 31.7**	**-0.5**
NIL	**Nilore**	**39.31**	**341**	*e*P	**P**	**20 01 24.9**	**+1.4**
	11nm,0.7s						
AAK	**Ala-Archa**	**47.42**	**347**	P	**P**	**20 02 30.3**	**+1.4**
	1.9nm,0.8s,baz=150,slow=8.6,SNR=8.4						
AAK				LR	LR	20 21 50.0	
	comp=Z,24nm,20.6s,baz=174,slow=35						
WRA	**Warramunga Arr**	**48.61**	**113**	P	**P**	**20 02 38.6**	**+0.2**
	1.5nm,1.0s,baz=288,slow=8.9,SNR=3.5						
KKAR	**Karatay Array**	**48.86**	**344**	*e*P	**P**	**20 02 40.8**	**+0.9**
	10nm,1.1s						
ASAR	**Alice Springs**	**49.18**	**118**	P	**P**	**20 02 42.5**	**-0.3**
	1.2nm,0.9s,baz=293,slow=7.5,SNR=8.4						
ASAR				PcP	**PcP**	**20 04 05.2**	**-0.9**
	0.9nm,0.9s,baz=316,slow=1.8,SNR=5.7						
GEYT	**Alibeck**	**49.36**	**329**	P	**P**	**20 02 44.8**	**+0.9**
	5.1nm,0.9s,baz=164,slow=7.7,SNR=17						
MKAR	**Makanchi Array**	**50.32**	**355**	P	**P**	**20 02 50.8**	**-0.2**
	0.8nm,0.9s,baz=160,slow=8.4,SNR=6.3						
MKAR				LR	LR	20 25 34.6	
	comp=Z,18nm,19.8s,baz=208,slow=38						
KURBB	**Kurchatov Arra**	**54.48**	**353**	P	**P**	**20 03 21.8**	**0.0**
	1.7nm,1.0s,baz=179,slow=6.9,SNR=10						
KURBB				PcP	**PcP**	**20 04 25.2**	**0.0**
	0.7nm,1.0s,baz=178,slow=4.4,SNR=4.3						
KURK	**Kurchatov**	**54.56**	**353**	*e*P	**P**	**20 03 22.2**	**-0.2**
KURK				PcP	**PcP**	**20 04 25.2**	**-0.3**
ZALV	**Zalesovo Beam**	**57.32**	**358**	P	**P**	**20 03 42.1**	**+0.1**
	7.7nm,1.0s,baz=190,slow=6.0,SNR=19						
ABKAR	**Akbulak array**	**57.71**	**339**	*e*P	**P**	**20 03 44.6**	**-0.3**
	4.3nm,0.9s						
BVAR	**Borovoye Array**	**58.14**	**348**	P	**P**	**20 03 47.6**	**-0.3**
	0.5nm,0.7s,baz=156,slow=7.6,SNR=4.4						
LSZ	**Lusaka**	**59.33**	**254**	P	**P**	**20 03 56.7**	**-0.3**
	2.5nm,0.7s,baz=61,slow=10,SNR=4.0						
GUMO	**Guam**	**59.56**	**72**	LR	LR	20 33 43.5	
	comp=Z,12nm,18.0s,baz=160,slow=40						
KLR	**Kul'dur**	**65.10**	**30**	P	**P**	**20 04 34.1**	**-0.9**
	0.1nm,0.8s,baz=308,slow=7.9,SNR=5.0						
BRTR	**Keskin Array B**	**65.38**	**317**	P	**P**	**20 04 36.5**	**-0.7**
	0.9nm,0.9s,baz=128,slow=8.0,SNR=5.7						
SYO	**Syowa Base**	**72.59**	**196**	*e*pP	pP	20 05 25.2	+0.7
TIXI	**Tiksi**	**79.72**	**12**	P	**P**	**20 06 01.1**	**-0.6**
	baz=226,slow=2.5						
GERES	**GERESS Array B**	**81.97**	**320**	P	**P**	**20 06 14.4**	**0.0**
	0.2nm,0.4s,baz=112,slow=0.7,SNR=4.9						
SEY	**Seymchan**	**82.07**	**25**	P	**P**	**20 06 14.7**	**+0.2**
	0.6nm,0.3s,baz=228,slow=3.3,SNR=3.8						
KEST	**Kesra**	**82.34**	**307**	P	**P**	**20 06 16.5**	**-0.1**
	5.1nm,0.9s,baz=176,slow=5.6,SNR=4.2						
CLL	**Collm**	**83.03**	**322**	*e*P	**P**	**20 06 20.0**	**+0.3**
	comp=Z,6.0nm,1.3s						
VNDA	**Vanda**	**83.23**	**168**	P	**P**	**20 06 20.7**	**+0.4**
	comp=Z,1.0nm,0.9s,baz=275,slow=7.4,SNR=3.5						
ARCES	**ARCESS Array B**	**83.78**	**342**	P	**P**	**20 06 23.9**	**+0.6**
	comp=Z,4.3nm,0.9s,baz=120,slow=4.9,SNR=7.2						
HFS	**Hagfors**	**84.98**	**331**	P	**P**	**20 06 29.6**	**+0.1**
	comp=Z,3.7nm,1.0s,baz=172,slow=4.4,SNR=3.2						
HFS				LR	LR	20 47 04.0	
	comp=Z,21nm,18.2s,baz=16,slow=38						
TORD	**Torodi Ar. Bea**	**86.56**	**283**	P	**P**	**20 06 38.0**	**-0.3**
	comp=Z,1.7nm,0.9s,baz=77,slow=4.9,SNR=7.9						
KOWA	**Kowa**	**92.18**	**284**	P	**P**	**20 07 05.0**	**+0.2**
	comp=Z,2.6nm,0.8s,baz=83,slow=7.2,SNR=4.9						
TXAR	**Lajitas Array**	**152.31**	**21**	PKPbc	**PKPbc**	**20 13 51.2**	**+0.1**
	comp=Z,1.1nm,0.8s,baz=292,slow=0.3,SNR=8.0						

*ISK **25** 20:17:47.5, 39°.09N×29°.17E, h5km, ML2.2/9*
*ISCJB **25** 20:17:48.0±0.5, 39°.09N±0°.03×29°.15E±0°.03, h1km±7km, Error ellipse: s-maj=5.2km s-min=4.1km az=177.0*
*CSEM **25** 20:17:48.1±0.1, 39°.10N×29°.17E, h5km, ML2.2, Error ellipse: s-maj=2.2km s-min=1.9km az=123.0*

*DDA **25** 20:17:48.1, 39°.08N×29°.14E, h7km, Ml2.5*

ISC 25 20:17:48.2±0.9, 39°.09N±0°.02×29°.16E±0°.02, h8km±7km, n37, σ0°.28/52, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIMA	**Simav-Kutahya**	**0.14**	**267**	PG	**Pg**	**20 17 51.3**	**+0.1**
SIMA				SG	**Sg**	**20 17 53.0**	**-0.3**
SIMA	**Simav-Kutahya**	**0.14**	**267**	*e*Pg	**Pg**	**20 17 51.3**	**+0.1**
SIMA				*e*Sg	**Sg**	**20 17 53.0**	**-0.3**
GDZ	**Gediz**	**0.25**	**90**	*i* P	**Pg**	**20 17 53.3**	**+0.1**
GDZ				*i* S	**Sg**	**20 17 57.2**	**+0.6**
GDZ	**Gediz**	**0.25**	**90**	P	**Pg**	**20 17 53.3**	**+0.1**
GDZ				S	**Sg**	**20 17 57.2**	**+0.6**
DEMI	**Demirci**	**0.35**	**262**	*i* P	**Pg**	**20 17 55.1**	**0.0**
DEMI				*i* S	**Sg**	**20 17 59.6**	**-0.1**
DEMI	**Demirci**	**0.35**	**262**	P	**Pg**	**20 17 55.1**	**0.0**
DEMI				S	**Sg**	**20 17 59.6**	**-0.1**
TVSB	**Tavsanli**	**0.43**	**33**	PG	**Pg**	**20 17 55.9**	**-0.6**
TVSB	**Tavsanli**	**0.43**	**33**	*e*Pg	**Pg**	**20 17 55.9**	**-0.6**
KULA	**Kula-Manisa**	**0.70**	**214**	PG	**Pg**	**20 18 01.4**	**-0.2**
KULA	**Kula-Manisa**	**0.70**	**214**	*e*Pg	**Pg**	**20 18 01.4**	**-0.2**
DURS	**Dursunbey**	**0.74**	**314**	*i* P	**Pg**	**20 18 02.3**	**-0.1**
DURS				*i* S	**Sg**	**20 18 12.1**	**+0.1**
DURS	**Dursunbey**	**0.74**	**314**	P	**Pg**	**20 18 02.3**	**-0.1**
DURS				S	**Sg**	**20 18 12.1**	**+0.1**
MANT	**Manisa**	**0.76**	**218**	*i* P	**Pg**	**20 18 02.8**	**-0.1**
MANT				*i* S	**Sg**	**20 18 12.6**	**-0.2**
MANT	**Manisa**	**0.76**	**218**	P	**Pg**	**20 18 02.8**	**-0.1**
MANT				S	**Sg**	**20 18 12.6**	**-0.2**
KHAL	**Karahalli**	**0.77**	**160**	*i* P	**Pb**	**20 18 03.7**	**-0.1**
KHAL				*i* S	**Sb**	**20 18 14.1**	**-0.3**
KHAL	**Karahalli**	**0.77**	**160**	P	**Pb**	**20 18 03.7**	**-0.1**
KHAL				S	**Sb**	**20 18 14.1**	**-0.3**
BALB	**Balikesir**	**1.14**	**299**	PN	**Pb**	**20 18 10.2**	**+0.1**
BALB	**Balikesir**	**1.14**	**299**	*e*Pn	**Pb**	**20 18 10.2**	**+0.1**
STEP	**BALIKESIR_Sava**	**1.16**	**285**	*i* P	**Pb**	**20 18 10.8**	**+0.3**
STEP				*i* S	**Sn**	**20 18 26.7**	**-0.1**
STEP	**BALIKESIR_Sava**	**1.16**	**285**	P	**Pb**	**20 18 10.8**	**+0.3**
STEP				S	**Sn**	**20 18 26.7**	**-0.1**
IGD	**Bursa**	**1.17**	**2**	*i* P	**Pn**	**20 18 11.5**	**+0.6**
IGD				*i* S	**Sn**	**20 18 27.4**	**+0.3**
CAVI	**Cavuskoy**	**1.23**	**25**	PN	**Pg**	**20 18 11.7**	**-0.1**
CAVI	**Cavuskoy**	**1.23**	**25**	*e*Pn	**Pg**	**20 18 11.7**	**-0.1**
MDNY	**Mudanya-Bursa**	**1.29**	**351**	PN	**Pn**	**20 18 12.5**	**-0.1**
MDNY	**Mudanya-Bursa**	**1.29**	**351**	*e*Pn	**Pn**	**20 18 12.5**	**-0.1**
KCTX	**Karacabey (Bur**	**1.33**	**332**	PN	**Pg**	**20 18 13.7**	**+0.1**
KCTX	**Karacabey (Bur**	**1.33**	**332**	*e*Pn	**Pg**	**20 18 13.7**	**+0.1**
YLV	**Yalova**	**1.48**	**6**	PN	**Pb**	**20 18 15.9**	**-0.2**
YLV	**Yalova**	**1.48**	**6**	*e*Pn	**Pb**	**20 18 15.9**	**-0.2**
GONE	**Gonen-Balikesi**	**1.49**	**310**	PN	**Pb**	**20 18 15.9**	**-0.2**
GONE	**Gonen-Balikesi**	**1.49**	**310**	*e*Pn	**Pb**	**20 18 15.9**	**-0.2**
ARMT	**Armutlu**	**1.49**	**351**	PN	**Pn**	**20 18 15.8**	**+0.5**
ARMT	**Armutlu**	**1.49**	**351**	*e*Pn	**Pn**	**20 18 15.8**	**+0.5**
AYDB	**Zeytinkoy-Aydi**	**1.52**	**221**	PN	**Pn**	**20 18 16.1**	**+0.3**
AYDB	**Zeytinkoy-Aydi**	**1.52**	**221**	*e*Pn	**Pn**	**20 18 16.1**	**+0.3**
GULT	**Gulveren**	**1.70**	**37**	PN	**Pn**	**20 18 18.2**	**0.0**
GULT	**Gulveren**	**1.70**	**37**	*e*Pn	**Pn**	**20 18 18.2**	**0.0**

*MOS **25** 20:17:53.7±1.0, 4°.05S×151°.72E, h253km, mb5.0/30, Error ellipse: s-maj=9.0km s-min=6.6km az=111.7*
*BJI **25** 20:17:54.0, 3°.84S×151°.93E, h255km, mb4.7/39, mB4.7/23*
*IDC **25** 20:17:54.8±0.7, 4°.13S×151°.72E, h254km±6km, mb4.5/34, mb1 4.5/38, mb1mx4.4/53, mbtmp5.1/38, Error ellipse: s-maj=9.4km s-min=6.6km az=89.0*
*NEIC **25** 20:17:55.1±0.2, 4°.11S×151°.69E, mb5.0/37, Error ellipse: s-maj=5.3km s-min=4.5km az=85.0*
*GCMT **25** 20:17:55.1±0.4, 4°.02S×151°.66E, h260km±3km, MW5.0/66, Moment Tensor Solution. s26,c30; s66,c79; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.74±.16; $M_{\theta\theta}$-0.34±.17; $M_{\phi\phi}$ 1.08±.17; $M_{r\theta}$ 0.27±.14; $M_{r\phi}$ 0.87±.19; $M_{\theta\phi}$-3.62±.14; Best double couple: $M_0$3.84900×10^{16} NP1:ϕ_s356.00000°, δ83.00000°, λ-104.00000°. NP2: ϕ_s242.00000°, δ16.00000°, λ-25.00000°. Principal axes: T 3.9650, Plg37.0000°, Azm99.0000°; N -0.2320, Plg14.0000°, Azm358.0000°; P -3.7330, Plg50.0000°, Azm250.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*ISCJB **25** 20:17:55.1±0.6, 4°.15S±0°.03×151°.66E±0°.03, h268km±5km, mb4.8/127 Error ellipse: s-maj=5.1km s-min=4.5km az=171.5*
*DJA **25** 20:18:01.8±1.1, 4°.S±5°×15°.1E±°, h306km±8km, M4.9/75, mb5.1/75, mB5.4/35, MLv5.1/1, Mw(mB)4.8/35*

ISC 25 20:17:55.1±0.5, 4°.12S±0°.04×151°.71E±0°.05, h257km±5km, n315, σ1°.05/334, mb4.9/127, 11C-8D, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**0.46**	**99**	*e*Pn	**Pn**	**20 18 28.9**	**+0.2**
MANU	**Manus Island**	**4.80**	**295**	*e*Pn	**Pn**	**20 19 10.5**	**+1.7**
PMG	**Port Moresby**	**6.92**	**220**	P	**Pn**	**20 19 35.5**	**+0.6**
	7.7nm,0.3s,baz=54,slow=5.8,SNR=24						
PMG

comp=Z,7.0nm,0.9s,baz=48,slow=2.7,SNR=6.5
QLP Quilpie 23.45 197 P **P** 20 22 42.6 +0.8
baz=24,SNR=46
AAI Ambon 23.46 270 P **P** 20 22 42.2 +0.1
AAI Ambon 23.46 270 P **P** 20 22 42.2 +0.1
AAI pmax pmax
comp=Z,162nm,0.7s
LBMI Labuha 24.43 278 P **P** 20 22 51.8 +0.9
NLAI Namlea 24.57 271 P **P** 20 22 52.8 +0.6
TNTI Ternate 24.80 281 *eP* **P** 20 22 54.4 +0.1
comp=Z,28nm,1.0s
KNRA Kununurra 25.31 241 P **P** 20 22 58.0 -0.8
baz=25,SNR=16
AS01 Alice Springs 25.91 220 *eP* **P** 20 23 04.0 -0.1
AS31 Alice Springs 25.94 220 *eP* **P** 20 23 04.5 +0.1
comp=Z,25nm,0.6s
ASAR Alice Springs 25.94 220 P **P** 20 23 04.5 0.0
comp=Z,58nm,0.6s,baz=53,slow=8.1,SNR=356
ASAR S **S** 20 27 15.6 +0.1
comp=Z,3.1nm,0.9s,baz=39,slow=17,SNR=4.6
ASAR ScP **ScP** 20 29 40.0 -1.0
comp=Z,2.8nm,0.7s,baz=46,slow=3.1,SNR=5.5
ARMA Armidale 26.16 180 P **P** 20 23 08.0 +1.7
baz=26,SNR=21
ARMA Armidale 26.16 180 *eP* **P** 20 23 08.0 +1.7
comp=Z,51nm,0.8s
SGSI Sangihe 27.28 286 P **P** 20 23 17.6 +1.2
CMSA Cobar Meteorol 27.85 191 P **P** 20 23 21.6 +0.4
baz=28,SNR=39
KMSI Cibinong 28.09 279 P **P** 20 23 24.5 +0.9
BATI Baumata 28.46 256 P **P** 20 23 26.8 -0.1
comp=Z,50nm,0.8s,baz=129,slow=3.9,SNR=10
BATI Baumata 28.46 256 P **P** 20 23 27.0 +0.1
MGCD Mangrove Creek 28.95 181 P **P** 20 23 32.4 +1.5
baz=29,SNR=5.7
FITZ Fitzroy Crossi 29.04 239 P **P** 20 23 31.3 -0.6
comp=Z,27nm,0.3s,baz=58,slow=8.4,SNR=243
FITZ Fitzroy Crossi 29.04 239 P **P** 20 23 30.8 -1.2
baz=29,SNR=112
FITZ Fitzroy Crossi 29.04 239 *eP* **P** 20 23 30.8 -1.2
comp=Z,49nm,0.8s
LUWI Luwuk 29.06 275 P **P** 20 23 34.0 +1.8
comp=Z,110nm,0.8s,comp=Z,1μm
LUWI Luwuk 29.06 275 *eP* **P** 20 23 32.7 +0.5
comp=Z,108nm,1.0s
MSVF Nonsavu 29.13 120 *eP* **P** 20 23 34.0 +1.2
comp=Z,25nm,1.1s
MSVF Nonsavu 29.13 120 *iP* **P** 20 23 34.0 +1.2
MSVF pmax pmax
comp=Z,27nm,1.3s
STKA Stephens Creek 29.20 198 P **P** 20 23 33.1 0.0
comp=Z,38nm,0.7s,baz=2.0,slow=9.1,SNR=90
STKA Stephens Creek 29.20 198 P **P** 20 23 33.1 0.0
baz=29,SNR=77
STKA Stephens Creek 29.20 198 *eP* **P** 20 23 33.1 0.0
comp=Z,9.5nm,0.8s
MRSI Marisa 30.09 278 P **P** 20 23 42.0 +0.7
YNG Young 30.18 185 P **P** 20 23 43.1 +1.3
baz=30,SNR=7.1
APSI Ampana 30.19 275 P **P** 20 23 42.9 +0.7
WRKA Warakurna 30.64 225 P **P** 20 23 45.5 -0.5
baz=31,SNR=138
CNB Canberra Magne 31.12 184 P **P** 20 23 51.5 +1.4
baz=31,SNR=11
BASI Baing, Sumba 31.45 257 P **P** 20 23 50.5 -2.7
HTT Hallett 31.51 201 P **P** 20 23 53.8 +0.3
baz=32,SNR=52
BNSI Bone 31.51 268 P **P** 20 23 54.1 +0.4
WSI Waingapu 31.65 258 P **P** 20 23 54.2 -0.7
comp=Z,405nm,0.9s,comp=Z,3μm
TTSI Tana Toraja 31.84 271 P **P** 20 23 56.7 +0.1
PCI Palu 31.99 275 P **P** 20 23 58.5 +0.6
BBOO Buckleboo 32.08 205 P **P** 20 23 58.3 -0.1
baz=32,SNR=75
BBOO Buckleboo 32.08 205 *eP* **P** 20 23 58.1 -0.3
comp=Z,80nm,0.8s
MPSI Mapaga 32.09 277 P **P** 20 23 58.5 -0.3
WBSI Waikabubak, Su 32.53 259 P **P** 20 24 01.6 -1.0
ARPS Mount Arapiles 33.73 194 P **P** 20 24 13.6 +0.9
baz=34,SNR=66
TOO Toolangi 33.78 189 P **P** 20 24 14.4 +1.3
baz=34,SNR=5.8
PLAI Plampang 34.02 260 P **P** 20 24 13.3 -2.2
MYLDM Lahad Datu 34.43 285 *eP* **P** 20 24 18.9 0.0
comp=Z,62nm,1.5s
FORT Forrest 34.64 217 P **P** 20 24 20.3 -0.2
baz=35,SNR=143
FORT Forrest 34.64 217 *eP* **P** 20 24 20.3 -0.2
comp=Z,4μm,0.6s
TWSI Taliwang, Sumb 34.89 261 P **P** 20 24 22.0 -0.9
comp=Z,62nm,0.8s
MBWA Marble Bar 35.38 239 *eP* **P** 20 24 25.1 -1.8
comp=Z,597nm,1.4s
IGBI Denpasar 36.61 261 P **P** 20 24 35.5 -1.9
KKM Kota Kinabalu 36.85 286 *eP* **P** 20 24 40.1 +0.5
comp=Z,19nm,0.9s
MTKI Muara Teweh, K 36.90 274 P **P** 20 24 41.2 +1.2
comp=Z,44nm,0.9s
JAGI Jajag, Banyuwa 37.56 262 P **P** 20 24 44.1 -1.4
JAGI Jajag, Banyuwa 37.56 262 *eP* **P** 20 24 42.7 -2.8
comp=Z,98nm,1.3s
MOO Moorlands 38.37 185 P **P** 20 24 53.5 +1.8
baz=38,SNR=3.5
MEEK Meekatharra 38.76 231 P **P** 20 24 54.7 -0.5
baz=39,SNR=314
KMBL Kambalda 39.00 223 P **P** 20 24 56.4 -0.8
baz=39,SNR=38
PWJI Pagerwojo 39.85 262 P **P** 20 25 03.8 -0.6
PBKI Pangkalan Bun 39.99 271 P **P** 20 25 05.4 -0.1
SBUM Sibu 39.99 279 *eP* **P** 20 25 06.5 +0.9
comp=Z,53nm,0.9s
YULB Yu-li 40.34 314 *eP* **P** 20 25 08.6 +0.3
comp=Z,24nm,0.8s
STKI Sintang 40.41 275 P **P** 20 25 10.3 +1.3
comp=Z,79nm,0.8s,comp=Z,5μm
PCJI Pacitan 40.48 262 P **P** 20 25 09.1 -0.5
comp=Z,148nm,1.2s
TPUB Ta-pu 40.77 313 *eP* **P** 20 25 11.8 0.0
comp=Z,104nm,1.7s
SSLB Suanglung 40.83 314 *eP* **P** 20 25 13.2 +0.8
comp=Z,154nm,2.0s
URZ Urewera 41.12 149 P **P** 20 25 13.9 -0.5
comp=Z,16nm,0.6s,baz=236,slow=3.0,SNR=11
URZ Urewera 41.12 149 *eP* **P** 20 25 15.5 +1.1
comp=Z,21nm,0.8s
BKZ Black Stump Fm 41.51 151 *eP* **P** 20 25 18.8 +1.2
comp=Z,10nm,0.7s
KSM Kuching 41.74 277 *eP* **P** 20 25 20.1 +0.3
comp=Z,68nm,0.8s
MORW Morawa 41.93 230 P **P** 20 25 20.2 -0.9
baz=42,SNR=24
JNU Nakatsue 41.97 334 P **P** 20 25 21.4 0.0
comp=Z,36nm,0.7s,baz=114,slow=2.4,SNR=19
JNU Nakatsue 41.97 334 *eP* **P** 20 25 21.9 +0.6
comp=Z,43nm,0.8s
KLBR Kellerberrin 41.99 225 P **P** 20 25 20.1 -1.4
baz=42,SNR=29
BLDU Ballidu 42.22 227 P **P** 20 25 22.2 -1.3
baz=42,SNR=60
MJAR Matsushiro Arr 42.37 344 P **P** 20 25 22.8 -1.7
comp=Z,5.5nm,0.9s,baz=175,slow=9.4,SNR=12
MJAR PcP **PcP** 20 27 12.6 -0.2
comp=Z,2.1nm,0.6s,baz=162,slow=4.5,SNR=6.2
KPJI Karang Pucung 42.67 264 P **P** 20 25 26.2 -1.1
RPZ Rata Peaks 42.98 159 P **P** 20 25 28.5 -0.8
comp=Z,10nm,0.8s,baz=125,slow=9.0,SNR=3.6
NWAO Narrogin (SRO) 43.10 224 P **P** 20 25 29.3 -1.2
baz=43,SNR=10
NWAO P **P** 20 25 29.3 -1.2
baz=43,SNR=10
CMJI Cimerak 43.16 263 P **P** 20 25 30.3 -0.9
comp=Z,240nm,1.0s,comp=Z,2μm
MUN Mundaring 43.30 226 P **P** 20 25 30.8 -1.3
baz=43,SNR=11
LEM Lembang 43.96 264 P **P** 20 25 37.8 0.0
comp=Z,64nm,0.8s,baz=357,slow=5.6,SNR=19
RKGY Rocky Gully 44.23 222 P **P** 20 25 39.1 -0.3
baz=44,SNR=7.1
CBJI Citeko 44.71 265 P **P** 20 25 42.5 -1.0
comp=Z,68nm,1.1s
DBJI Dramaga 44.81 265 P **P** 20 25 45.0 +0.7
comp=Z,42nm,0.9s
SKJI Sukabumi 45.01 264 P **P** 20 25 45.2 -0.7
comp=Z,121nm,0.9s
CGJI Cibinong 45.87 265 P **P** 20 25 50.0 -2.5
TJN Taejon 46.27 333 *ceP* **P** 20 25 56.1 +0.8
KSRS Korea Array 46.91 334 P **P** 20 26 00.8 +0.6
comp=Z,9.5nm,1.0s,baz=151,slow=9.0,SNR=14
KSRS PcP **PcP** 20 27 28.8 +0.4
comp=Z,1.7nm,0.6s,baz=154,slow=3.8,SNR=5.4
KSAR Wonju Array Be 46.92 334 P **P** 20 26 00.8 +0.6
KSAR PcP **PcP** 20 27 28.8 +0.3
KSAR Wonju Array Be 46.92 334 P **P** 20 26 00.8 +0.6
KSAR 20 27 28.8
KS01 Wonju Array Si 46.94 334 *eP* **P** 20 26 00.5 +0.1
KASI Kota Agung 47.05 266 P **P** 20 25 59.4 -2.3
MDSI Maura Dua 47.39 268 P **P** 20 26 02.0 -2.3
TPRI Tanjung Pinang 47.41 275 P **P** 20 26 05.1 +0.6
comp=Z,31nm,1.4s
LWLI Liwa 47.49 267 P **P** 20 26 04.0 -1.3
MYKOM Kota Tinggi 48.18 276 *eP* **P** 20 26 10.6 +0.2
comp=Z,60nm,1.3s
ASAJ Asahikawa 48.71 351 P **P** 20 26 13.5 -0.4
comp=Z,5.7nm,0.7s,baz=214,slow=8.7,SNR=6.3
ASAJ Asahikawa 48.71 351 *eP* **P** 20 26 14.5 +0.6
comp=Z,9.9nm,1.1s
ASAJ Asahikawa 48.71 351 P **P** 20 26 13.5 -0.4
ASAJ pmax pmax
comp=Z,5.0nm,0.7s
MASI Maura Aman, Be 49.37 269 P **P** 20 26 19.1 -0.4
comp=Z,78nm,0.7s
KRJI Kerinci 50.20 271 P **P** 20 26 25.8 0.0
comp=Z,86nm,0.9s
USRK Ussuriysk Ar. 51.26 342 P **P** 20 26 33.4 +0.4
comp=Z,8.7nm,0.7s,baz=176,slow=7.8,SNR=14
PDSI Padang 51.28 272 P **P** 20 26 32.1 -1.6
comp=Z,27nm,0.7s
IPM Ipoh 51.35 279 *eP* **P** 20 26 33.8 -0.4
comp=Z,33nm,0.8s
IPM *eP*PcP **PcP** 20 27 45.9 +0.6
YSS Yuzh-Sakhalins 51.47 352⇑ *eP* **P** 20 26 34.4 0.0
YSS pmax pmax
comp=Z,10.0nm,0.9s
SKNT Sakolnakorn 51.58 295 P **P** 20 26 36.3 +0.5
comp=Z,12nm,0.8s
CHBT CHBT 51.83 290 P P 20 26 42.5 +4.8
comp=Z,177nm,0.8s,comp=Z,32μm
KULM Kulim 51.84 280 *eP* **P** 20 26 37.9 0.0
comp=Z,62nm,0.6s
SKLT Songkhla 52.20 282 P **P** 20 26 40.0 -0.5
comp=Z,66nm,0.9s,comp=Z,582nm
MNSI Mandailing Nat 52.31 274 P **P** 20 26 40.7 -0.6
KHON Khomkaen 52.42 294 P **P** 20 26 43.8 +1.8
comp=Z,15nm,0.8s,comp=Z,2μm
SISI Saibi 52.62 271 P **P** 20 26 43.6 +0.1
ENH Enshi 52.90 313 *eP* **P** 20 26 46.1 +0.8
comp=Z,69nm,1.4s
CHAI Chaiyaphum 53.05 293 P **P** 20 26 47.5 +0.9
comp=Z,6.2nm,1.0s,comp=Z,71nm
PSI Prapat 53.19 277 P **P** 20 26 46.7 -1.1
comp=Z,7.9nm,0.4s,baz=55,slow=2.8,SNR=8.6
PSI Prapat 53.19 277 *eP* **P** 20 26 47.0 -0.9
comp=Z,99nm,1.9s
PSI Prapat 53.19 277 *eP* **P** 20 26 47.0 -0.9
PSI pmax pmax
comp=Z,99nm,1.9s
NAYO Nakonayok 53.20 291 P **P** 20 26 49.3 +1.6
comp=Z,37nm,1.1s
TRTT Trang 53.23 283 P **P** 20 26 47.1 -0.9
comp=Z,28nm,1.3s,comp=Z,294nm
PBKT Sadao Pong 54.19 294 P **P** 20 26 55.4 +0.6
comp=Z,20nm,1.5s
GSI Gunungsitoli 54.36 275 P **P** 20 26 55.5 -0.7
GSI Gunungsitoli 54.36 275 *eP* **P** 20 26 54.2 -2.0
comp=Z,72nm,1.1s
PHET Kaeng Krachan 54.41 289 P **P** 20 26 58.0 +1.5
comp=Z,23nm,0.7s,comp=Z,204nm
PKDT Phuket 54.56 283 P **P** 20 26 56.4 -1.2
comp=Z,54nm,0.7s,comp=Z,574nm
PHIT Phitsanulok 54.88 294 P **P** 20 27 01.4 +1.6
comp=Z,34nm,0.9s,comp=Z,273nm
NANT Nan 55.13 296 P **P** 20 27 02.6 +1.0
comp=Z,21nm,0.7s,comp=Z,168nm
SRDT SRDT 55.26 290 P **P** 20 27 03.4 +0.9
comp=Z,57nm,1.3s,comp=Z,3μm
XAN Xi'an 55.38 317 P **P** 20 27 03.5 +0.4
XAN pmax pmax
comp=Z,14nm,0.9s
KMI Kunming 55.70 304 P **P** 20 27 08.0 +2.2
KMI pmax pmax
comp=Z,25nm,1.1s
MLSI Meulaboh, Aceh 55.88 278 P **P** 20 27 06.0 -1.0
KLR Kul'dur 55.90 344 P **P** 20 27 06.9 +0.5
comp=Z,0.8nm,0.7s,baz=170,slow=3.9,SNR=45
KLR PcP **PcP** 20 28 01.4 -0.4
comp=Z,0.3nm,0.5s,baz=184,slow=2.4,SNR=5.7
KLR Kul'dur 55.90 344 *dP* **P** 20 27 06.2 -0.2
LAMP Lampang 56.00 295 P **P** 20 27 09.6 +1.9
comp=Z,20nm,0.8s,comp=Z,168nm
PAYA Payao 56.05 297 P **P** 20 27 09.8 +1.7
comp=Z,16nm,0.8s,comp=Z,142nm
CM31 Chiang Mai Arr 56.60 295 *eP* **P** 20 27 14.0 +2.0
CMAR Chiang Mai Arr 56.60 295 P **P** 20 27 13.7 +1.7
comp=Z,27nm,0.8s,baz=125,slow=5.9,SNR=190
CMAR pP **PcP** 20 28 06.3 +1.0
comp=Z,3.0nm,0.8s,baz=117,slow=5.3,SNR=2.2
CMAR Chiang Mai Arr 56.60 295 P **P** 20 27 13.7 +1.7
CMAR *PP **PcP** 20 28 06.3 +1.0
CMAR pmax pmax
comp=Z,30nm,0.8s
CMMT Chiang Mai 56.71 296 P **P** 20 27 13.0 +0.3
comp=Z,26nm,1.1s
CHTO Chiang Mai 56.71 296 P **P** 20 27 14.0 +1.3
comp=Z,114nm,1.2s
CHTO Chiang Mai 56.71 296 *eP* **P** 20 27 14.1 +1.3
comp=Z,38nm,1.3s
CHTO Chiang Mai 56.71 296 *eP* **P** 20 27 14.1 +1.3
CHTO pmax pmax
comp=Z,38nm,1.3s
CMAI Chiengmai2 56.98 297 P **P** 20 27 16.5 +1.7
comp=Z,222nm,0.7s,comp=Z,32μm
BSI Banda Aceh 57.14 279 P **P** 20 27 14.9 -1.0
comp=Z,75nm,1.0s
PETK Petropavlovsk- 57.24 4 P **P** 20 27 16.1 +0.4
comp=Z,3.3nm,0.7s,baz=150,slow=6.4,SNR=11
PETK Petropavlovsk- 57.24 4 P **P** 20 27 16.2 +0.4
PETK pmax pmax
comp=Z,5.0nm,0.8s
CD2 Chengdu 57.47 311 *eP* **P** 20 27 18.8 +0.9
CD2 pmax pmax
comp=Z,10.0nm,0.5s
PPT Papeete 58.97 108 P **P** 20 27 29.5 +1.1
comp=Z,32nm,0.6s,baz=57,slow=4.9,SNR=3.8
PPT2 Papeete2 58.97 108 *eP* **P** 20 27 31.0 +2.5
comp=Z,34nm,0.9s
PAE Paea 58.98 108 *eP* **P** 20 27 29.8 +1.4
comp=Z,4.2nm,0.7s
TIAR Tiarei 59.19 108 *eP* **P** 20 27 31.4 +1.5
comp=Z,24nm,0.8s
HIA Hailar 59.97 336 *i* P **P** 20 27 34.9 +0.2
HIA pmax pmax
comp=Z,9.0nm,0.9s
LZH Lanzhou 59.99 316 *eP* **P** 20 27 34.3 -0.9
LZH pmax pmax
comp=Z,23nm,1.2s
PMOR Pomariorio Ree 60.37 105⇑ *iP* **P** 20 27 39.3 +1.4
comp=Z,120nm,1.0s
VAH Vaihoa 60.64 105 *eP* **P** 20 27 41.0 +1.2
comp=Z,58nm,1.0s
ZEA Zeya 61.19 344 *eP* **P** 20 27 43.0 +0.3
ZEA pmax pmax
comp=Z,12nm,1.0s
MA2 Magadan 63.50 359 *eP* **P** 20 27 57.8 -0.1
MA2 Magadan 63.50 359⇑ *eP* **P** 20 27 57.3 -0.6
MA2 pmax pmax
comp=Z,7.0nm,0.9s
GTA Gaotai 64.42 317 *eP* **P** 20 28 05.5 +1.0
GTA pmax pmax
comp=Z,21nm,1.2s
SHL Shillong 65.02 301⇓ *iP* **P** 20 28 10.0 +1.3
SONM Songino Array 65.17 328 P **P** 20 28 10.2 +1.1
comp=Z,9.4nm,0.5s,baz=145,slow=5.3,SNR=90
SONM PcP **PcP** 20 28 39.8 +0.4
comp=Z,3.7nm,0.5s,baz=150,slow=3.6,SNR=10
SONA1 Songino Array 65.18 328 *eP* **P** 20 28 10.0 +0.9
LSA Lhasa 66.96 305 *eP* **P** 20 28 22.6 +1.4
comp=Z,31nm,0.8s
LSA Lhasa 66.96 305 *eP* **P** 20 28 22.6 +1.4
LSA pmax pmax
comp=Z,31nm,0.8s
YAK Yakutsk 68.10 349 P **P** 20 28 27.3 +0.3
comp=Z,6.9nm,0.5s,baz=23,slow=1.4,SNR=6.1
YAK Yakutsk 68.10 349 *eP* **P** 20 28 26.3 -0.8
YAK pmax pmax
comp=Z,13nm,1.0s
YAK pmax pmax
comp=N,4.0nm,1.0s
CASY Casey 68.34 197 *eP* **P** 20 28 28.7 +0.1
BOD Bodaibo 68.77 339 *eP* **P** 20 28 31.1 -0.2
BOD pmax pmax
comp=Z,26nm,2.0s
TLY Talaya 68.95 330 P **P** 20 28 33.4 +0.8
comp=Z,2.5nm,0.5s,baz=164,slow=3.0,SNR=5.3
TLY Talaya 68.95 330 *eP* **P** 20 28 33.5 +0.9
TLY Talaya 68.95 330 *eP* **P** 20 28 33.9 +1.3
TLY pmax pmax
comp=Z,9.0nm,1.0s
ODAN Odare 69.26 301 *eP* **P** 20 28 36.1 +0.8
comp=Z,194nm,0.7s
RAMN Ramite 69.96 300 *eP* **P** 20 28 40.1 +0.5
comp=Z,55nm,0.6s
MOY Mondy 70.27 329 *eP* **P** 20 28 42.8 +2.0
MOY pmax pmax
comp=Z,31nm,1.5s
JIRN Jiri 70.50 301 *eP* **P** 20 28 43.5 +0.5
comp=Z,142nm,0.7s
GUN Gumba 70.84 301 *eP* **P** 20 28 45.7 +0.7
comp=Z,215nm,0.7s
PKIN Phulchoki 71.16 301 *eP* **P** 20 28 47.0 +0.2
comp=Z,86nm,0.9s
KKN Kakani 71.32 301 *eP* **P** 20 28 48.2 +0.5
comp=Z,114nm,0.6s
DMN Daman 71.42 301 *eP* **P** 20 28 49.1 +0.7
comp=Z,212nm,0.8s
PALK Pallekele 71.75 279 P **P** 20 28 50.8 +0.5
comp=Z,14nm,0.8s,baz=113,slow=4.4,SNR=7.3
GKN Gorkha 71.92 301 *eP* **P** 20 28 51.6 +0.4
comp=Z,202nm,0.9s
BILL Bilibino 72.72 6 *i* P **P** 20 28 54.0 -0.9
BILL *i* 20 29 13.4
BILL *i* 20 29 53.5
BILL pmax pmax
comp=Z,4.0nm,1.0s
KOLN Koldanda 72.75 301 *eP* **P** 20 28 56.5 +0.3
comp=Z,157nm,0.7s
DANN Dangsing 72.76 301 *eP* **P** 20 28 56.7 +0.4
comp=Z,7.5nm,0.8s
PYUN Piuthan 73.36 301 *eP* **P** 20 28 59.8 +0.1
comp=Z,249nm,0.8s
VNDA Vanda 73.55 178 P **P** 20 29 00.1 +0.5
comp=Z,5.7nm,0.6s,baz=333,slow=6.6,SNR=52
HVS Khovu-Aksy 73.89 326 *iP* **P** 20 29 02.9 +0.8
HVS pmax pmax
comp=Z,44nm,1.1s
MIR Mirnyy 74.17 201⇑ *iP* **P** 20 29 05.0 +1.7
MIR *i* 20 29 15.0
MIR pmax pmax
comp=Z,84nm,1.0s
WMQ Urumqi 74.51 318 P **P** 20 29 07.0 +1.1
WMQ pP pP 20 30 06.5 +0.8
WMQ sP sP 20 30 33.0 0.0
WMQ pmax pmax
comp=Z,71nm,1.3s
WMQ pmax pmax
comp=Z,200nm,3.7s
WMQ LR LR
comp=Z,100nm,24.7s
WMQ LR LR
comp=Z,140nm,24.1s
WMQ LR LR
comp=Z,110nm,27.1s
HYB Hyderabad 75.24 289 *i* P **P** 20 29 11.0 +0.5
comp=Z,100nm,1.0s
DGZ Jazzator, Alta 76.89 323 *i* P **P** 20 29 19.7 +0.4
DGZ pmax pmax
comp=Z,24nm,0.8s
TIXI Tiksi 77.09 353 *eP* **P** 20 29 18.8 -0.9
comp=Z,3.3nm,0.5s
TIXI Tiksi 77.09 353 *eP* **P** 20 29 18.8 -0.9
TIXI pmax pmax
comp=Z,5.0nm,1.3s
H08S2 Diego Garcia H 78.78 263 P **P** 20 29 30.4 +0.5
baz=35,slow=4.9,SNR=6.2
H08S3 Diego Garcia H 78.80 263 P **P** 20 29 30.3 +0.2
baz=35,slow=4.9,SNR=5.0
H08S1 Diego Carcia H 78.80 263 P **P** 20 29 30.6 +0.6
baz=35,slow=4.9,SNR=4.4
MK31 Makanchi Array 79.10 319 *ceP* **P** 20 29 31.6 +0.3
MK31 pmax pmax
comp=Z,19nm,0.8s
MKAR Makanchi Array 79.10 319 P **P** 20 29 31.5 +0.1
comp=Z,12nm,0.6s,baz=103,slow=6.3,SNR=134
POO Poona 79.83 290 *ex* P 20 29 31.0 -4.9
ZALV Zalesovo Beam 79.99 326 P **P** 20 29 35.3 -0.5
comp=Z,38nm,0.6s,baz=112,slow=5.5,SNR=148
NVS Novosibirsk 81.17 327 *eP* **P** 20 29 41.8 -0.3
NVS pmax pmax
comp=Z,36nm,1.5s
NVS pmax pmax
comp=N,13nm,1.3s
NVS pmax pmax
comp=E,26nm,1.4s
COLA College 81.63 22 *i* P **P** 20 29 45.2 +0.9
COLA pmax pmax
comp=Z,5.0nm,0.7s
ILAR Eielson Array 81.95 22 P **P** 20 29 44.6 -1.3
comp=Z,4.5nm,0.7s,baz=248,slow=5.2,SNR=46
ILAR pP **pP** 20 30 45.4 -1.6
comp=Z,2.9nm,0.8s,baz=250,slow=5.7,SNR=4.9
ILAR Eielson Array 81.95 22 P **P** 20 29 44.7 -1.3
ILAR *PP **pP** 20 30 45.4 -1.6
ILAR pmax pmax
comp=Z,4.0nm,0.7s
ILAR pmax pmax
comp=Z,3.0nm,0.8s
ULHL Ulahol 82.06 313 P **P** 20 29 48.2 +0.8
SNR=16
KURK Kurchatov 82.56 322 P **P** 20 29 49.4 0.0
KURK Kurchatov 82.56 322 *deP* **P** 20 29 48.8 -0.7
KURK pmax pmax
comp=Z,41nm,1.0s
KURBB Kurchatov Arra 82.59 322 P **P** 20 29 49.4 -0.2
comp=Z,16nm,0.8s,baz=107,slow=4.3,SNR=110
TKM2 Tokmak 2 82.68 314 P **P** 20 29 50.9 +0.4
SNR=41
KZA Kyzart 82.75 313 P **P** 20 29 52.7 +1.5
SNR=61
KBK Karagaybulak 83.09 314 P **P** 20 29 53.3 +0.7
SNR=21
CHMS Chumysh 83.30 314 P **P** 20 29 54.2 +0.7
SNR=27
UCH Uchtor 83.31 313 P **P** 20 29 55.3 +1.2
SNR=58
FRU Bishkek 83.36 314⇓ *iP* **P** 20 29 54.5 +0.7
FRU pmax pmax
comp=Z,53nm,1.8s
AAK Ala-Archa 83.41 314 P **P** 20 29 55.0 +0.9
comp=Z,20nm,0.8s,baz=108,slow=4.7,SNR=90
AAK Ala-Archa 83.41 314 P **P** 20 29 55.1 +0.9
SNR=29
AAK Ala-Archa 83.41 314 *deP* **P** 20 29 54.9 +0.7
AAK pmax pmax
comp=Z,32nm,1.0s
USP Ospenovka 83.53 314 P **P** 20 29 55.5 +0.8
SNR=45
AML Almayashu 83.89 313 P **P** 20 29 58.2 +1.3
SNR=117
EKS2 Erkin-Say 83.93 313 P **P** 20 29 57.9 +1.1
SNR=60
MAW Mawson 85.77 203 P **P** 20 30 05.1 -0.2
comp=Z,15nm,0.6s,baz=93,slow=5.8,SNR=42
MAW Mawson 85.77 203 P **P** 20 30 04.9 -0.3
baz=86,SNR=26
KK31 Karatay Array 86.37 314 *ceP* **P** 20 30 08.7 0.0
KK31 pmax pmax
comp=Z,4.0nm,0.5s
BVAR Borovoye Array 88.05 323 P **P** 20 30 15.7 -0.7
comp=Z,28nm,0.7s,baz=104,slow=5.8,SNR=111
BRVK Borovoye 88.11 323 *deP* **P** 20 30 15.6 -1.1
BRVK pmax pmax
comp=Z,21nm,0.7s
NVAR Mina Array Bea 92.53 52 P **P** 20 30 37.7 -0.2
comp=Z,2.1nm,0.8s,baz=255,slow=6.2,SNR=12
SYO Syowa Base 93.94 200⇑ *eP* **P** 20 30 41.8 -1.6
AB31 Akbulak array 94.24 319 *ceP* **P** 20 30 43.1 -2.1
AB31 pmax pmax
comp=Z,3.0nm,0.6s
WSAR Wadi Sarin 94.43 293 P **P** 20 30 46.3 -0.4
comp=Z,9.0nm,1.0s,baz=121,slow=8.1,SNR=4.0
ARU Arti 95.15 326 *dP* **P** 20 30 46.9 -2.3

ARU									20 34 41.2	
ARU						S	**SKSac**	**20 40 58.0**	**-1.8**	
ARU						SP	**SP**	**20 42 58.8**	**-1.2**	
ARU						SS	**SS**	**20 48 15.5**	**+1.5**	
ARU						pmax	pmax			
	comp=Z,16nm,1.0s									
YKA	**Yellowknife Ar**	**95.34**	**28**		P		**P**	**20 30 49.7**	**-0.2**	
	comp=Z,0.4nm,0.5s,baz=269,slow=4.6,SNR=11									
YKA					pP		**pP**	**20 31 51.5**	**-0.6**	
	comp=Z,1.6nm,1.0s,baz=273,slow=4.7,SNR=6.0									
YKA					PKKPbc		**PKKPdf**	**20 47 40.4**	**-3.4**	
	comp=Z,0.5nm,0.6s,baz=92,slow=3.0,SNR=11									
GEYT	**Alibeck**	**95.34**	**308**		P		**P**	**20 30 50.2**	**-0.4**	
	comp=Z,1.8nm,0.8s,baz=114,slow=3.6,SNR=8.5									
AKTO	**Aktyubinsk**	**95.50**	**320**		P		**P**	**20 30 49.5**	**-1.5**	
	comp=Z,3.4nm,0.8s,baz=88,slow=5.2,SNR=11									
PDAR	**Pinedale Array**	**99.20**	**48**		PKKPbc		PKKPbc	20 47 34.6	+1.1	
	comp=Z,0.5nm,0.6s,baz=103,slow=4.0,SNR=4.2									
KLMR	**Klimovskoe**	**104.28**	**332**	*e*	Pdif		**Pdif**	**20 31 27.0**	**-2.9**	
KLMR					AMP			20 31 29.9		
	comp=Z,5.0nm,1.1s									
KLMR	**Klimovskoe**	**104.28**	**332**	*e*	P		**Pdif**	**20 31 27.0**	**-2.9**	
KLMR					pmax		pmax			
	comp=Z,5.0nm,1.1s									
TXAR	**Lajitas Array**	**104.76**	**61**		PKKPbc		PKKPbc	20 47 14.8	-1.9	
	comp=Z,0.3nm,0.5s,baz=119,slow=4.9,SNR=4.7									
TXAR					PKKP		**PKKPab**	**20 47 34.8**	**-0.3**	
	comp=Z,1.6nm,0.7s,baz=106,slow=5.7,SNR=14									
ARCES	**ARCESS Array B**	**105.90**	**343**		PKiKP		**PKiKP**	**20 35 47.3**	**-0.6**	
	comp=Z,1.4nm,0.6s,baz=93,slow=1.1,SNR=10									
FINES	**FINESS Array B**	**109.98**	**335**		Pdiff		**Pdif**	**20 31 53.5**	**-1.7**	
	comp=Z,0.8nm,0.5s,baz=72,slow=6.2,SNR=5.7									
FINES					PKiKP		**PKiKP**	**20 35 55.0**	**-0.7**	
	comp=Z,0.6nm,0.5s,baz=122,slow=3.2,SNR=5.2									
AKASG	**Malin Array Be**	**113.31**	**324**		PKiKP		**PKiKP**	**20 36 01.4**	**-1.0**	
	comp=Z,1.1nm,0.5s,baz=52,slow=2.2,SNR=4.5									
BRTR	**Keskin Array B**	**114.04**	**312**		PKP		PKPdf	20 36 03.4	-0.9	
	comp=Z,0.6nm,0.6s,baz=42,slow=2.0,SNR=4.3									
HFS	**Hagfors**	**115.65**	**338**		PKP		**PKPdf**	**20 36 05.5**	**-1.0**	
	comp=Z,0.9nm,0.5s,baz=101,slow=4.6,SNR=6.3									
NB2	**NORSAR Subarra**	**115.91**	**340**		PKPdf		**PKPdf**	**20 36 06.0**	**-1.1**	
	comp=Z,1.8nm,0.7s,baz=44,slow=1.8									
NOA	**NORSAR Array B**	**115.91**	**340**		PKP		**PKPdf**	**20 36 06.5**	**-0.7**	
	comp=Z,1.4nm,0.6s,baz=47,slow=1.9,SNR=11									
STHS	**Stebnicka Huta**	**118.47**	**326**	*e*	PKP		**PKPdf**	**20 36 12.6**	**+0.2**	
STHS	**Stebnicka Huta**	**118.47**	**326**	*e*	PKiKP		**PKPdf**	**20 36 12.6**	**+0.2**	
CRVS	**Cervenica-Dubn**	**118.61**	**325**	*e*	PKP		**PKPdf**	**20 36 13.5**	**+0.8**	
CRVS	**Cervenica-Dubn**	**118.61**	**325**	*e*	PKiKP		**PKPdf**	**20 36 13.5**	**+0.8**	
BOSA	**Boshof**	**119.14**	**234**		PKP		**PKPdf**	**20 36 13.9**	**-0.6**	
	comp=Z,2.3nm,0.6s,baz=65,slow=1.7,SNR=8.7									
LANS	**Liptovska Anna**	**119.61**	**326**	*e*	PKP		**PKPdf**	**20 36 15.1**	**+0.5**	
LANS	**Liptovska Anna**	**119.61**	**326**	*e*	PKiKP		**PKPdf**	**20 36 15.1**	**+0.5**	
VYHS	**Vyhne**	**120.31**	**326**	*e*	PKP		**PKPdf**	**20 36 14.8**	**-1.1**	
VYHS				*es*	P			20 57 44.4		
VYHS	**Vyhne**	**120.31**	**326**	*e*	PKiKP		**PKPdf**	**20 36 14.8**	**-1.1**	
PLCA	**Paso Flores**	**120.97**	**143**		PKP		**PKPdf**	**20 36 18.1**	**+0.5**	
	comp=Z,1.1nm,0.6s,baz=322,slow=1.3,SNR=8.4									
MODS	**Modra-Piesok**	**121.25**	**326**	*e*	PKP		**PKPdf**	**20 36 15.7**	**-2.1**	
MODS	**Modra-Piesok**	**121.25**	**326**	*e*	PKiKP		**PKPdf**	**20 36 15.7**	**-2.1**	
BRG	**Berggiesshubel**	**121.54**	**330**	*e*	PKP		**PKPdf**	**20 36 17.9**	**-0.3**	
	comp=Z,3.3nm,0.7s									
BRG	**Berggiesshubel**	**121.54**	**330**	*e*	PKiKP		**PKPdf**	**20 36 17.9**	**-0.3**	
BRG					pmax		pmax			
	comp=Z,3.0nm,0.7s									
CLL	**Collm**	**121.73**	**331**	*e*	PKPdf		**PKPdf**	**20 36 18.0**	**-0.5**	
CLL	**Collm**	**121.73**	**331**	*e*	PKiKP		**PKPdf**	**20 36 18.0**	**-0.5**	
CONA	**Conrad Observa**	**122.28**	**326**	*i*	PKiKP		**PKPdf**	**20 36 19.2**	**-0.7**	
	comp=Z,3.1nm,0.6s									
KHC	**Kasperske Hory**	**122.80**	**329**	*e*	PKPdf		**PKPdf**	**20 36 20.7**	**0.0**	
KHC	**Kasperske Hory**	**122.80**	**329**	*e*	PKiKP		**PKPdf**	**20 36 20.7**	**0.0**	
GERES	**GERESS Array B**	**122.91**	**328**		PKP		**PKPdf**	**20 36 20.7**	**-0.4**	
	comp=Z,2.6nm,0.5s,baz=77,slow=1.6,SNR=28									
ABTA	**Abfaltersbach**	**124.82**	**327**	*i*	PKPdf		**PKPdf**	**20 36 23.7**	**-1.1**	
	comp=Z,6.9nm,1.1s									
EKA	**Eskdalemuir Ar**	**125.07**	**343**		PKP		**PKPdf**	**20 36 24.3**	**-0.5**	
	comp=Z,2.1nm,0.5s,baz=17,slow=3.0,SNR=9.5									
MOTA	**Moosalm**	**125.20**	**328**	*i*	PKiKP		**PKPdf**	**20 36 25.2**	**-0.4**	
	comp=Z,3.3nm,0.5s									
FETA	**Feichten**	**125.61**	**328**	*i*	PKiKP		**PKPdf**	**20 36 26.2**	**-0.2**	
	comp=Z,4.7nm,0.8s									
KEST	**Kesra**	**133.17**	**317**		PKP		**PKPdf**	**20 36 41.3**	**+0.4**	
	comp=Z,2.7nm,0.5s,baz=221,slow=1.0,SNR=6.6									
LPAZ	**La Paz**	**135.70**	**118**		PKP		**PKPdf**	**20 36 48.0**	**+1.1**	
	comp=Z,1.4nm,0.5s,baz=283,slow=2.7,SNR=5.1									
LPAZ					SKP			20 39 56.9		
	comp=Z,4.6nm,0.9s,baz=275,slow=2.0,SNR=10									
LPAZ	**La Paz**	**135.70**	**118**		PKiKP		**PKPdf**	**20 36 48.0**	**+1.1**	
LPAZ					pmax		pmax			
	comp=Z,1.0nm,0.5s									
SDV	**Santo Domingo**	**137.69**	**81**		SKP		**SKPdf**	**20 40 01.9**	**+1.4**	
	comp=Z,7.3nm,0.7s,baz=265,slow=6.9,SNR=7.9									
CPUP	**Villa Florida**	**138.69**	**139**		PKP		**PKPdf**	**20 36 52.1**	**+0.7**	
	comp=Z,1.2nm,0.7s,baz=12,slow=2.2,SNR=4.3									
TORD	**Torodi Ar. Bea**	**149.06**	**289**		PKPbc		**PKPbc**	**20 37 13.3**	**-0.7**	
	comp=Z,17nm,0.5s,baz=12,slow=2.4,SNR=81									
TORD					PP		**PP**	**20 40 45.2**	**-2.4**	
	comp=Z,1.4nm,0.7s,baz=60,slow=5.3,SNR=4.1									
DBIC	**Dimbokro**	**156.53**	**277**		PKPab		**PKPab**	**20 37 50.6**	**-0.1**	
	comp=Z,11nm,0.7s,baz=84,slow=7.0,SNR=12									

*ISN **25** 20:22:53.9±0.7, 32°.42N×47°.08E, h17km±3km, ML3.5*
*CSEM **25** 20:22:54.8±0.2, 32°.41N×47°.14E, h15km, ML3.5, Error ellipse: s-maj=6.8km s-min=4.7km az=2.0*

TEH 25 20:22:55.1, 32°.47N×47°.06E, h10km, ML3.3, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
IKFM	**Kafar-mosalman**	**1.24**	**32**	*e*Pg			Pn	20 23 17.0	-1.5
IKFM				*e*AMB			AMB	20 23 42.5	
	comp=Z,99nm,0.4s								
SHGR	**Shooshtar-Gavs**	**1.52**	**103**	*e*Pg			Pn	20 23 22.5	+0.1
NSR	**Nassriya**	**1.65**	**208**	*e*Pn			Pn	20 23 23.0	-1.1
	SNR=5.0								
NSR				Sn			Sn	20 23 44.0	-1.4
	SNR=5.0								
IKOM	**Komasi**	**1.74**	**12**	*e*Pn			Pn	20 23 25.6	0.0
IKOM				*e*AMB			AMB	20 23 58.1	
	comp=Z,5μm,0.3s								
IGHG	**Ghaleghazi**	**1.90**	**348**	*e*Pn			Pn	20 23 27.8	0.0
IGHG				*e*Sg			Sb	20 23 54.4	+0.5
IGHG				*e*AMB			AMB	20 23 58.7	
	comp=Z,6μm,0.3s								
IVIS	**Veis**	**2.06**	**355**	*e*Pn			Pn	20 23 29.1	-0.8
IVIS				*e*AMB			AMB	20 24 06.2	
	comp=Z,3μm,0.3s								
BHD	**Baghdad**	**2.39**	**290**	*e*Pn			Pn	20 23 34.5	+0.2
	SNR=5.0								
BHD				Sn			Sn	20 24 04.0	+0.3
	SNR=5.0								
SNGE	**Sanandaj**	**2.63**	**5**	*e*Pn			Pn	20 23 36.5	-1.3
SNGE				*e*Sg			Sn	20 24 10.6	+0.7
KHMZ	**Khomeyn**	**2.75**	**62**	*e*Pn			Pn	20 23 38.8	-0.6
KHMZ				*e*Sg			Sb	20 24 15.7	-2.5
ASAO	**Ashtian**	**3.23**	**49**	*e*Pn			Pn	20 23 45.0	-1.1
HKZM	**Kohzaman**	**3.28**	**27**	*e*Pn			Pn	20 23 47.4	+0.5
HKZM				*e*AMB			AMB	20 24 28.9	
	comp=Z,99nm,0.4s								
IKLH	**Kolahrood**	**3.90**	**76**	*e*Pn			Pn	20 23 55.0	-0.3
IKLH				*e*AMB			AMB	20 25 17.0	
	comp=Z,310nm,0.4s								
GHVR	**GHOM**	**4.07**	**59**	*e*Pn			Pn	20 23 56.1	-1.4
IZEF	**Zefreh**	**4.47**	**83**	*e*AMB			AMB	20 24 17.4	
	comp=Z,181nm,0.4s								
IZEF				*e*Pn			Pn	20 24 02.1	-1.0
RTB	**Rutbah**	**5.71**	**277**	*e*Pn			Pn	20 24 20.5	+0.4
	SNR=5.0								
RTB				Sn			Sn	20 25 24.0	-1.7
	SNR=5.0								

*NIED **25** 20:45:00, 37°.60N×141°.30E, h62km, Mw4.5 Best double couple: M0=5.59000×10^15 NP1:φ=360.00000°, δ=25.00000°, λ=62.00000°. NP2:φ=210.00000°, δ=68.00000°, λ=102.00000°.*
*BJI **25** 20:45:11.7, 36°.92N×141°.73E, h15km, mb4.8/36, mB4.7/17, Ms4.1/4, Ms7.3 9/2*
*MOS **25** 20:45:22.0±1.1, 37°.64N×141°.25E, h59km, mb4.8/54, Error ellipse: s-maj=7.5km s-min=5.2km az=102.6*
*ISCJB **25** 20:45:23.2±0.4, 37°.59N±0°.03×141°.29E±0°.04, h72km±2km, mb4.5/82, Error ellipse: s-maj=6.2km s-min=4.1km az=28.7*
*IDC **25** 20:45:24.0±0.4, 37°.60N×141°.17E, h60km±3km, mb4.1/37,*

mb1 4.2/43, mb1mx4.1/81, mbtmp4.4/43, MS3.4/28, Ms1 3.4/28, ms1mx3.2/67, Error ellipse: s-maj=9.8km s-min=8.9km az=108.0
*JMA **25** 20:45:24.4, 37°.59N×141°.30E, h63km±1km, M4.5*
JMA Felt III J1.
*NEIC **25** 20:45:24.3±0.5, 37°.61N×141°.20E, h64km±4km, mb4.7/18, Error ellipse: s-maj=5.6km s-min=4.0km az=121.0*
NEIC Recorded [3 JMA] in Fukushima and Miyagi.

ISC 25 20:45:23.4±0.4, 37°.58N±0°.04×141°.39E±0°.05, h62km±3km, h62km:pP-P,n194,σ1§52/219, mb4.7/82, 11C-4D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.46**	**243**	P			**Pn**	**20 45 35.6**	**+0.4**
JFK				*e*S			**Sn**	**20 45 43.5**	**-0.3**
JMM	**Marumori**	**0.56**	**302**	P			**Pn**	**20 45 36.5**	**+0.4**
JMM				S			**Sn**	**20 45 45.3**	**-0.1**
ONAJ	**Iwakimizuishiy**	**0.67**	**225**	P			**Pn**	**20 45 37.9**	**+0.4**
ONAJ				*e*S			**Sn**	**20 45 47.8**	**0.0**
JFT	**Otama**	**0.84**	**266**	P			**Pn**	**20 45 39.9**	**+0.4**
JFT				*e*S			**Sn**	**20 45 51.0**	**-0.4**
JIO	**Ouri**	**0.88**	**358**	P			**Pn**	**20 45 40.9**	**+0.9**
JIO				S			**Sn**	**20 45 52.8**	**+0.6**
JOU	**Okura**	**0.98**	**324**	P			**Pn**	**20 45 41.5**	**+0.2**
JOU				*e*S			**Sn**	**20 45 54.0**	**-0.5**
JYS	**Shirataka**	**1.23**	**302**	P			**Pn**	**20 45 45.0**	**+0.4**
JYS				S			**Sn**	**20 46 00.5**	**+0.1**
JFY	**Yanaizu**	**1.35**	**263**	P			**Pn**	**20 45 46.6**	**+0.4**
JFY				*e*S			**Sn**	**20 46 02.6**	**-0.6**
JMK	**Ichinoseki**	**1.38**	**354**	P			**Pn**	**20 45 47.3**	**+0.7**
JMK				*e*S			**Sn**	**20 46 04.6**	**+0.7**
JYK	**Kaneyama**	**1.57**	**329**	P			**Pn**	**20 45 49.9**	**+0.8**
JYK				*e*S			**Sn**	**20 46 08.7**	**+0.3**
JNS	**Sasagawa**	**1.66**	**279**	P			**Pn**	**20 45 50.9**	**+0.6**
MJAR	**Matsushiro Arr**	**2.75**	**249**	P			**Pn**	**20 46 05.2**	**+0.1**
	38nm,0.3s,baz=52,slow=10,SNR=150								
MJAR				S			Sn	20 46 24.7	-12
	77nm,0.3s,baz=41,slow=15,SNR=24								
MJAR				LR			LR	20 47 09.5	
	comp=Z,487nm,21.8s,baz=65,slow=41								
MAJO	**Matsushiro**	**2.75**	**249**	*e*Pn			**Pn**	**20 46 06.4**	**+1.3**
MAJO	**Matsushiro**	**2.75**	**249**	*d* iP			**Pn**	**20 46 06.5**	**+1.4**
MAJO				pmax			pmax		
	comp=Z,155nm,0.6s								
MAT	**Matsushiro**	**2.75**	**249**	P			**Pn**	**20 46 06.4**	**+1.3**
MAT				S			**Sn**	**20 46 41.9**	**+4.8**
JHJ	**Hachijo jima 2**	**4.63**	**197**	P			**Pn**	**20 46 31.6**	**+0.7**
	comp=Z,199nm,0.3s,baz=317,slow=20,SNR=47								
JHJ				S			**Sn**	**20 47 20.9**	**-2.5**
	comp=Z,384nm,0.3s,baz=62,slow=23,SNR=18								
JHJ2	**Mitsune**	**4.63**	**197**	*e*Pn			**Pn**	**20 46 31.0**	**+0.1**
ERM	**Erimo**	**4.64**	**17**	*e*Pn			**Pn**	**20 46 30.5**	**-0.4**
ERM	**Erimo**	**4.64**	**17**	*ce*P			**Pn**	**20 46 33.0**	**+2.1**
ERM				pmax			pmax		
	comp=Z,47nm,1.0s								
ASAJ	**Asahikawa**	**6.60**	**8**	P			**Pn**	**20 46 57.3**	**-0.4**
	comp=Z,6.8nm,0.3s,baz=210,slow=9.1,SNR=49								
ASAJ				S			**Sn**	**20 48 10.8**	**-0.7**
	comp=Z,7.2nm,0.3s,baz=52,slow=19,SNR=2.8								
YUK	**Yuzh-Kuril'sk**	**7.29**	**26**	*e*P			**Pn**	**20 47 07.1**	**0.0**
YUK				*e*S			**Sn**	**20 48 24.9**	**-3.5**
YUK				pmax			pmax		
	comp=Z,159nm,0.4s								
YUK				pmax			pmax		
	comp=N,83nm,0.2s								
YUK				pmax			pmax		
	comp=E,48nm,0.2s								
SHO	**Shikotan**	**7.52**	**32**	*e*P			**Pn**	**20 47 08.5**	**-1.8**
SHO				*e*S			**Sn**	**20 48 27.6**	**-6.5**
SHO				pmax			pmax		
	comp=N,26nm,0.3s								
SHO				pmax			pmax		
	comp=Z,36nm,0.3s								
SHO				pmax			pmax		
	comp=E,13nm,0.2s								
KUR	**Kuril'sk**	**9.06**	**30**	*e*P			**Pn**	**20 47 32.4**	**+1.0**
KUR				*e*S			**Sn**	**20 49 07.3**	**-4.6**
KUR				pmax			pmax		
	comp=Z,44nm,0.7s								
KUR				smax			smax		
	comp=N,73nm,0.3s								
KUR				smax			smax		
	comp=E,149nm,0.3s								
YSS	**Yuzh-Sakhalins**	**9.43**	**6**	*e*Pn			**Pn**	**20 47 36.1**	**-0.2**
	comp=E,26nm,0.7s								
YSS	**Yuzh-Sakhalins**	**9.43**	**6**	*e*P			**Pn**	**20 47 36.7**	**+0.3**
YSS				pmax			pmax		
	comp=Z,20nm,0.7s								
JNU	**Nakatsue**	**9.66**	**246**	P			**Pn**	**20 47 39.8**	**0.0**
	comp=Z,0.8nm,0.3s,baz=69,slow=6.7,SNR=7.4								
JNU				LR			LR	20 51 43.5	
	comp=Z,268nm,21.2s,baz=118,slow=40								
USRK	**Ussuriysk Ar.**	**9.71**	**316**	P			**Pn**	**20 47 39.5**	**-0.8**
	comp=Z,0.6nm,0.3s,baz=148,slow=8.5,SNR=5.8								
USRK				LR			LR	20 51 06.7	
	comp=Z,306nm,21.8s,baz=115,slow=36								
CBIJ	**Chichi jima**	**10.47**	**176**	*e*Pn			**Pn**	**20 47 47.6**	**-3.1**
	comp=Z,32nm,0.3s								
CBIJ				S			Sn	20 49 36.5	-10
JCJ	**Chichijima**	**10.47**	**176**	P			**Pn**	**20 47 48.0**	**-2.7**
	comp=Z,21nm,0.3s,baz=17,slow=19,SNR=47								
JCJ				S			Sn	20 49 36.5	-10
	baz=287,slow=19								
KSRS	**Korea Array**	**10.70**	**273**	P			**Pn**	**20 47 52.4**	**-1.4**
	baz=94,slow=12,SNR=2.5								
KSRS				LR			LR	20 51 48.8	
	comp=Z,255nm,18.6s,baz=96,slow=36								
KSAR	**Wonju Array Be**	**10.73**	**273**	P			**Pn**	**20 47 52.4**	**-1.8**
KSAR	**Wonju Array Be**	**10.73**	**273**	P			**Pn**	**20 47 52.4**	**-1.8**
TJN	**Taejon**	**11.29**	**268**	*ce*P			**Pn**	**20 48 05.2**	**+3.4**
MDJ	**Mudanjiang**	**11.34**	**312**	*e*Pn			**Pn**	**20 48 06.3**	**+3.8**
	comp=Z,20nm,0.4s								
KLR	**Kul'dur**	**13.58**	**332**	P			**Pn**	**20 48 32.8**	**-0.1**
	comp=Z,0.0nm,0.3s,baz=167,slow=10,SNR=8.0								
KLR				LR			LR	20 53 40.7	
	comp=Z,14nm,18.9s,baz=24,slow=37								
KLR	**Kul'dur**	**13.58**	**332**	*i* P			**Pn**	**20 48 34.4**	**+1.4**
ZEA	**Zeya**	**18.89**	**333**	*e*P			**P**	**20 49 37.3**	**-1.2**
ZEA				pmax			pmax		
	comp=N,26nm,0.8s								
ZEA				pmax			pmax		
	comp=Z,26nm,0.8s								
PETK	**Petropavlovsk-**	**19.23**	**31**	LR			LR	20 56 45.5	
	comp=Z,34nm,21.6s,baz=214,slow=35								
TIA	**Tai'an**	**19.45**	**273**	P			**P**	**20 49 43.0**	**-1.8**
TIA				pmax			pmax		
	comp=Z,13nm,1.2s								
BJT	**Baijiatuau**	**19.79**	**285**	*e*P			**P**	**20 49 46.4**	**-2.2**
	comp=Z,18nm,0.8s								
BJT	**Baijiatuau**	**19.79**	**285**	*e*P			**P**	**20 49 46.4**	**-2.2**
BJT				pmax			pmax		
	comp=Z,18nm,0.8s								
MA2	**Magadan**	**22.83**	**12**	P			**P**	**20 50 22.0**	**+1.1**
	comp=Z,6.6nm,0.7s,baz=190,slow=10,SNR=5.9								
MA2	**Magadan**	**22.83**	**12**	*e*P			**P**	**20 50 22.2**	**+1.3**
MA2	**Magadan**	**22.83**	**12**	*i* P			**P**	**20 50 21.6**	**+0.6**
MA2				pmax			pmax		
	comp=Z,9.0nm,0.9s								
GUMO	**Guam**	**24.09**	**172**	LR			LR	21 00 21.0	
	comp=Z,13nm,20.8s,baz=7.5,slow=37								
YAK	**Yakutsk**	**25.54**	**347**	P			**P**	**20 50 45.4**	**-0.5**
	comp=Z,12nm,0.3s,baz=60,slow=4.0,SNR=6.0								
YAK	**Yakutsk**	**25.54**	**347**	*e*P			**P**	**20 50 45.3**	**-0.6**
	comp=Z,29nm,0.9s								
YAK	**Yakutsk**	**25.54**	**347**	*e*P			**P**	**20 50 44.7**	**-1.2**
YAK				*e**PP			**pP**	**20 50 58.7**	**-2.3**
YAK				*e*S			**S**	**20 55 00.7**	**-8.1**
YAK				pmax			pmax		
	comp=Z,19nm,1.0s								
YAK				pmax			pmax		
	comp=N,6.0nm,1.2s								
YAK				pmax			pmax		
	comp=E,2.0nm,1.1s								
YAK				smax			smax		
	comp=E,31nm,2.0s								
YAK				smax			smax		
	comp=N,24nm,1.6s								
SEY	**Seymchan**	**26.27**	**11**	P			**P**	**20 50 54.0**	**+1.6**
	comp=N,2.5nm,0.5s,baz=206,slow=9.5,SNR=8.4								
XAN	**Xi'an**	**26.50**	**272**	P			**P**	**20 50 53.8**	**-1.1**
XAN				pP			pP	20 51 01.5	-8.6
XAN				pmax			pmax		
	comp=N,28nm,0.5s								

BOD	**Bodaibo**	**27.06**	**327**	*e*P			**P**	**20 50 58.6**	**-1.1**
BOD				pmax			pmax		
	comp=Z,12nm,0.7s								
ENH	**Enshi**	**27.36**	**264**	*e*P			**P**	**20 51 01.7**	**-1.1**
	comp=Z,30nm,0.8s								
SONM	**Songino Array**	**27.47**	**303**	P			**P**	**20 51 03.0**	**-0.7**
	comp=Z,7.5nm,0.6s,baz=102,slow=8.9,SNR=49								
SONM				PcP			**PcP**	**20 54 20.9**	**+0.3**
	comp=Z,0.3nm,0.5s,baz=116,slow=3.4,SNR=3.5								
SONM				pPcP				20 54 38.3	
	comp=Z,1.4nm,0.5s,baz=120,slow=2.2,SNR=9.0								
SONM				LR			LR	21 02 17.9	
	comp=Z,77nm,18.6s,baz=144,slow=37								
H11N2	**WAKE ISLAND Hy**	**28.44**	**122**	T			T	21 21 26.7	
	baz=314,slow=75,SNR=342								
H11N1	**WAKE ISLAND Hy**	**28.45**	**122**	T			T	21 21 30.8	
	baz=314,slow=75,SNR=410								
H11N3	**WAKE ISLAND Hy**	**28.46**	**122**	T			T	21 21 31.5	
	baz=314,slow=75,SNR=459								
H11S1	**WAKE ISLAND Hy**	**29.17**	**124**	T			T	21 22 22.4	
	baz=317,slow=76,SNR=204								
H11S3	**WAKE ISLAND Hy**	**29.17**	**124**	T			T	21 22 31.0	
	baz=317,slow=76,SNR=274								
H11S2	**WAKE ISLAND Hy**	**29.19**	**124**	T			T	21 22 27.9	
	baz=317,slow=76,SNR=187								
ZAK	**Zakamensk**	**29.92**	**308**	*e*P			**P**	**20 51 22.6**	**-2.8**
ZAK				pmax			pmax		
	comp=Z,3.0nm,1.0s								
LZH	**Lanzhou**	**29.96**	**279**	*e*P			**P**	**20 51 25.5**	**-0.5**
LZH				pP			pP	20 51 31.8	-9.4
LZH				sP			sP	20 51 34.3	-14
LZH				pmax			pmax		
	comp=Z,19nm,0.9s								
TLY	**Talaya**	**29.96**	**310**	P			**P**	**20 51 24.9**	**-0.8**
	comp=Z,3.6nm,0.5s,baz=136,slow=8.2,SNR=4.4								
TLY	**Talaya**	**29.96**	**310**	*e*P			**P**	**20 51 25.3**	**-0.3**
TLY				pmax			pmax		
	comp=Z,6.0nm,0.9s								
TLY				MLR			MLR		
	comp=Z,70nm,16.0s								
GTA	**Gaotai**	**32.39**	**286**	*e*P			**P**	**20 51 44.8**	**-2.5**
GTA				pP			pP	20 51 48.8	-14
GTA				sP			sP	20 51 51.8	-18
GTA				pmax			pmax		
	comp=Z,2.0nm,0.7s								
BILL	**Bilibino**	**33.52**	**17**	*i* P			**P**	**20 51 55.7**	**-0.9**
BILL				*i*				20 52 12.7	
BILL				*i*				20 54 37.6	
BILL				pmax			pmax		
	comp=Z,1.0nm,1.2s								
TIXI	**Tiksi**	**34.75**	**353**	*e*P			**P**	**20 52 06.7**	**-0.5**
	comp=Z,2.2nm,0.4s								
TIXI	**Tiksi**	**34.75**	**353**	*ce*P			**P**	**20 52 07.3**	**+0.1**
TIXI				pmax			pmax		
	comp=Z,2.0nm,1.0s								
KMI	**Kunming**	**35.03**	**261**	P			**P**	**20 52 10.0**	**-0.4**
KMI				pmax			pmax		
	comp=Z,18nm,0.9s								
DGZ	**Jazzator, Alta**	**40.06**	**305**	*i* P			**P**	**20 52 53.4**	**+0.8**
DGZ				pmax			pmax		
	comp=Z,12nm,0.7s								
ZALV	**Zalesovo Beam**	**41.54**	**312**	P			**P**	**20 53 04.4**	**-0.1**
	comp=Z,4.7nm,0.4s,baz=86,slow=7.2,SNR=51								
ZALV				PcP			**PcP**	**20 55 00.8**	**+0.1**
	comp=Z,1.6nm,0.6s,baz=69,slow=4.

BRVK	**Borovoye**	**50.25**	**312**	*ce*P		**P**	**20 54 13.4**	**+0.4**
BRVK				pmax	pmax				
	comp=Z,5.0nm,1.2s								
BMRM	**Bremner River**	**50.44**	**37**	*e*P		**P**	**20 54 16.3**	**+1.9**
	comp=Z,8.2nm,0.9s								
EKS2	**Erkin-Say**	**50.71**	**298**	P		**P**	**20 54 17.0**	**+0.1**
	SNR=12								
AML	**Almayashu**	**50.94**	**298**	P		**P**	**20 54 19.5**	**+0.6**
	SNR=22								
MNAS	**Manas**	**51.66**	**298**	*i* P		**P**	**20 54 24.4**	**+0.4**
MNAS				pmax	pmax				
	comp=Z,8.0nm,0.6s								
SFK	**Sufi-Kurgan**	**51.79**	**295**	P		**P**	**20 54 24.9**	**-0.2**
SFK				pmax	pmax				
	comp=Z,8.0nm,1.0s								
KK31	**Karatay Array**	**52.84**	**300**	*ce*P		**P**	**20 54 32.0**	**-0.6**
KK31				pmax	pmax				
	comp=Z,10.0nm,1.0s								
KKAR	**Karatay Array**	**52.84**	**300**	*e*P		**P**	**20 54 31.9**	**-0.7**
	comp=Z,7.1nm,0.8s								
KKAR	**Karatay Array**	**52.84**	**300**	*e*P		**P**	**20 54 31.9**	**-0.7**
KKAR				pmax	pmax				
	comp=Z,7.0nm,0.8s								
INK	**Inuvik**	**53.92**	**27**	P		**P**	**20 54 41.6**	**+1.7**
	comp=Z,2.5nm,0.6s,baz=301,slow=5.7,SNR=8.3								
NIL	**Nilore**	**54.43**	**288**	*e*P		**P**	**20 54 44.7**	**+0.3**
	comp=Z,27nm,0.6s								
NIL	**Nilore**	**54.43**	**288**	*e*P		**P**	**20 54 44.7**	**+0.3**
NIL				pmax	pmax				
	comp=Z,27nm,0.6s								
SVE	**Sverdlovsk**	**54.73**	**318**	⇓ *i* P		**P**	**20 54 46.7**	**+0.6**
SVE				pmax	pmax				
	comp=Z,18nm,1.2s								
ARU	**Arti**	**55.94**	**318**	*e*P		**P**	**20 54 54.3**	**-0.5**
	comp=Z,9.1nm,0.6s								
ARU	**Arti**	**55.94**	**318**	*d i*P		**P**	**20 54 54.4**	**-0.4**
ARU				*e**PP		**pP**	**20 55 10.5**	**-0.7**
ARU							20 55 50.2		
ARU							20 56 59.5		
ARU				S		**S**	**21 02 38.2**	**+0.3**
ARU				SS		**SS**	**21 06 17.7**	**-6.2**
ARU				pmax	pmax				
	comp=Z,11nm,1.0s								
KBL	**Kabul**	**57.21**	**291**	P		**P**	**20 55 06.4**	**+2.0**
KBL				pmax	pmax				
	comp=Z,7.0nm,0.8s								
FITZ	**Fitzroy Crossi**	**57.33**	**198**	P		**P**	**20 55 05.5**	**+0.5**
	comp=Z,2.7nm,0.6s,baz=16,slow=6.1,SNR=5.8								
CTA	**Charters Tower**	**57.54**	**175**	P		**P**	**20 55 07.1**	**+0.7**
	comp=Z,2.3nm,0.5s,baz=2.9,slow=12,SNR=4.1								
AB31	**Akbulak array**	**57.58**	**310**	*ce*P		**P**	**20 55 05.6**	**-0.9**
AB31				pmax	pmax				
	comp=Z,4.0nm,0.5s								
ABKAR	**Akbulak array**	**57.58**	**310**	*e*P		**P**	**20 55 05.9**	**-0.6**
	comp=Z,2.9nm,0.4s								
WRAB	**Tennant Creek**	**57.58**	**188**	*e*P		**P**	**20 55 06.4**	**-0.3**
	comp=Z,16nm,0.8s								
WRAB	**Tennant Creek**	**57.58**	**188**	*ce*P		**P**	**20 55 07.3**	**+0.5**
WRAB				pmax	pmax				
	comp=Z,14nm,1.0s								
WRA	**Warramunga Arr**	**57.59**	**188**	P		**P**	**20 55 07.0**	**+0.1**
	comp=Z,25nm,0.6s,baz=5.2,slow=7.2,SNR=400								
WRA	**Warramunga Arr**	**57.59**	**188**	P		**P**	**20 55 07.0**	**+0.1**
WRA				pmax	pmax				
	comp=Z,26nm,0.6s								
DLBC	**Dease Lake**	**58.21**	**38**	P		**P**	**20 55 12.8**	**+1.9**
	comp=Z,2.4nm,0.8s,baz=242,slow=7.2,SNR=3.7								
AKTO	**Aktyubinsk**	**58.30**	**312**	P		**P**	**20 55 10.8**	**-0.8**
	comp=Z,3.8nm,0.7s,baz=76,slow=12,SNR=13								
AKTO				LR	LR		21 19 45.5		
	comp=Z,41nm,19.1s,baz=68,slow=35								
SPITS	**Spitsbergen Ar**	**59.99**	**349**	P		**P**	**20 55 23.3**	**+0.4**
	comp=Z,4.3nm,0.7s,baz=49,slow=12,SNR=12								
SPITS				LR	LR		21 22 17.0		
	comp=Z,26nm,20.3s,baz=175,slow=37								
ASAR	**Alice Springs**	**61.32**	**188**	P		**P**	**20 55 33.0**	**+0.5**
	comp=Z,8.7nm,0.7s,baz=14,slow=7.6,SNR=97								
RES	**Resolute Bay**	**62.08**	**14**	P		**P**	**20 55 37.4**	**+0.4**
	comp=Z,2.0nm,0.5s,baz=313,slow=6.8,SNR=11								
RES				pP		**pP**	**20 55 54.1**	**+0.5**
	comp=Z,2.1nm,0.5s,baz=310,slow=6.4,SNR=7.4								
YKA	**Yellowknife Ar**	**63.35**	**30**	P		**P**	**20 55 46.9**	**+1.3**
	comp=Z,1.1nm,0.7s,baz=302,slow=6.6,SNR=26								
YKA				pP		**pP**	**20 56 03.7**	**+1.4**
	comp=Z,0.8nm,0.6s,baz=302,slow=6.7,SNR=7.4								
ARCES	**ARCESS Array B**	**63.48**	**339**	P		**P**	**20 55 46.5**	**+0.1**
	comp=Z,1.5nm,0.5s,baz=48,slow=7.9,SNR=17								
ARCES				pP		**pP**	**20 56 02.5**	**-0.7**
	comp=Z,1.8nm,0.5s,baz=56,slow=7.5,SNR=3.9								
GEYT	**Alibeck**	**63.56**	**299**	P		**P**	**20 55 47.6**	**+0.1**
	comp=Z,4.5nm,0.7s,baz=49,slow=2.7,SNR=16								
GEYT				pP		**pP**	**20 56 04.2**	**0.0**
	comp=Z,3.5nm,0.9s,baz=45,slow=4.4,SNR=4.8								
DZM	**Mont Dzumac**	**63.84**	**154**	LR		LR	21 22 46.0		
	comp=Z,27nm,19.2s,baz=225,slow=35								
DAG	**Danmarks Havn**	**65.23**	**355**	*i* P		pP	20 56 14.1	**-0.4**
	comp=Z,9.4nm,0.8s								
DAG	**Danmarks Havn**	**65.23**	**355**	*i* P		**pP**	**20 56 14.1**	**-0.4**
DAG				pmax	pmax				
	comp=Z,9.0nm,0.8s								
VRH	**Novokhopyorsk**	**67.17**	**318**	*e*P		**P**	**20 56 09.6**	**-0.9**
VRH				pmax	pmax				
	comp=Z,8.0nm,0.6s								
AFI	**Afiamalu**	**67.49**	**130**	LR		LR	21 19 18.1		
	comp=Z,32nm,21.9s,baz=52,slow=30								
OBN	**Obninsk**	**67.65**	**323**	*de*P		**P**	**20 56 12.8**	**-0.7**
OBN				*e**PP		**pP**	**20 56 30.4**	**+0.1**
OBN				*e*			20 56 38.0		
OBN				*e*			20 58 47.3		
OBN				*e*S		**S**	**21 05 06.9**	**+1.3**
OBN				pmax	pmax				
	comp=Z,5.0nm,0.9s								
OBN				MLR	MLR				
	comp=Z,33nm,17.0s								
LPSR	**Galich'ya Gora**	**67.88**	**320**	*e*P		**P**	**20 56 14.5**	**-0.4**
LPSR				pmax	pmax				
	comp=Z,8.0nm,0.7s								
FINES	**FINESS Array B**	**68.33**	**332**	P		**P**	**20 56 17.6**	**0.0**
	comp=Z,3.2nm,0.3s,baz=31,slow=9.0,SNR=55								
FINES				pP		**pP**	**20 56 32.5**	**-2.0**
	comp=Z,4.4nm,0.7s,baz=52,slow=7.5,SNR=6.4								
FINES				LR	LR		21 28 03.5		
	comp=Z,19nm,20.8s,baz=20,slow=38								
VSR	**Storozhevoye**	**68.51**	**319**	*e*P		**P**	**20 56 18.5**	**-0.5**
VSR				pmax	pmax				
	comp=Z,6.0nm,0.6s								
STKA	**Stephens Creek**	**69.09**	**180**	P		**P**	**20 56 23.4**	**+0.8**
	comp=Z,6.9nm,0.7s,baz=349,slow=7.7,SNR=21								
FORT	**Forrest**	**69.13**	**192**	*e*P		**P**	**20 56 23.5**	**+0.6**
	comp=Z,469nm,0.7s								
SUMG	**Summit**	**70.14**	**360**	*i* P		pP	20 56 47.1	+1.0
	comp=Z,9.8nm,0.9s								
SUMG	**Summit**	**70.14**	**360**	*i* P		**pP**	**20 56 47.1**	**+1.0**
SUMG				pmax	pmax				
	comp=Z,10.0nm,0.9s								
ZEI	**Tsey**	**70.44**	**309**	*e*P		**P**	**20 56 29.9**	**-1.4**
ZEI				pmax	pmax				
	comp=Z,4.0nm,0.8s								
KBZ	**Khabaz**	**70.54**	**310**	P		**P**	**20 56 31.9**	**+0.3**
	comp=Z,3.1nm,0.9s,baz=158,slow=0.9,SNR=11								
KIV	**Kislovodsk**	**70.54**	**311**	*e*P		**P**	**20 56 32.3**	**+0.5**
	comp=Z,14nm,0.9s								
KIV	**Kislovodsk**	**70.54**	**311**	*e*P		**P**	**20 56 32.8**	**+1.1**
KIV				pmax	pmax				
	comp=Z,15nm,1.0s								
KIV				MLR	MLR				
	comp=Z,25nm,18.0s								
GNI	**Garni**	**71.37**	**307**	LR		LR	21 30 09.9		
	comp=Z,32nm,18.7s,baz=53,slow=38								
HFS	**Hagfors**	**73.59**	**336**	P		**P**	**20 56 50.0**	**+0.5**
	comp=Z,1.7nm,0.4s,baz=49,slow=6.5,SNR=21								
HFS				LR	LR		21 31 45.4		
	comp=Z,65nm,18.0s,baz=68,slow=38								
NB2	**NORSAR Subarra**	**73.68**	**337**	P		**P**	**20 56 50.2**	**+0.1**
	comp=Z,1.7nm,0.6s,baz=38,slow=5.9								
NB2	**NORSAR Subarra**	**73.68**	**337**	P		**P**	**20 56 51.2**	**+1.1**
NB2				pmax	pmax				
	comp=Z,2.0nm,0.6s								
NOA	**NORSAR Array B**	**73.68**	**337**	P		**P**	**20 56 50.3**	**+0.2**
	comp=Z,2.3nm,0.7s,baz=39,slow=5.9,SNR=11								
NOA				pP		**pP**	**20 57 06.7**	**-0.5**
	comp=Z,3.9nm,0.7s,baz=38,slow=5.9,SNR=8.2								
NOA				LR	LR		21 32 31.0		
	comp=Z,29nm,20.6s,baz=30,slow=38								
LRM	**Limekiln Ridge**	**73.77**	**44**	*e*P		**P**	**20 56 52.0**	**+0.7**
	comp=Z,8.8nm,1.0s								
AKASG	**Malin Array Be**	**73.86**	**322**	P		**P**	**20 56 51.0**	**-0.3**
	comp=Z,2.8nm,0.4s,baz=45,slow=6.3,SNR=22								
AKASG				pP		**PcP**	**20 57 07.3**	**+0.9**
	comp=Z,1.8nm,0.4s,baz=46,slow=6.7,SNR=6.5								
AKASG				LR	LR		21 32 08.0		
	comp=Z,29nm,18.3s,baz=255,slow=38								
KIEV	**Kiev**	**73.87**	**322**	*e*P		**P**	**20 56 50.7**	**-0.6**
	comp=Z,1.8nm,0.4s								
KIEV	**Kiev**	**73.87**	**322**	*i* P		**P**	**20 56 51.3**	**0.0**
KIEV				pmax	pmax				
	comp=Z,3.0nm,0.9s								
BOZ	**Bozeman (W)**	**74.37**	**44**	*e*P		**P**	**20 56 56.0**	**+1.5**
	comp=Z,2.0nm,0.9s								
BOZ	**Bozeman (W)**	**74.37**	**44**	*e*P		**P**	**20 56 56.0**	**+1.5**
BOZ				pmax	pmax				
	comp=Z,2.0nm,0.9s								
NVAR	**Mina Array Bea**	**74.68**	**53**	P		**P**	**20 56 58.5**	**+1.9**
	comp=Z,2.1nm,0.7s,baz=290,slow=6.2,SNR=14								
NVAR				pP		**pP**	**20 57 15.8**	**+2.1**
	comp=Z,1.0nm,0.7s,baz=293,slow=4.8,SNR=4.5								
ELK	**Elko**	**75.22**	**50**	P		**P**	**20 57 02.5**	**+2.9**
	comp=Z,1.1nm,0.6s,baz=274,slow=13,SNR=4.1								
SFJD	**Kangerlussuaq**	**75.35**	**5**	LR		LR	21 33 13.8		
	comp=Z,16nm,18.1s,baz=331,slow=38								
FRB	**Frobisher Bay**	**76.25**	**13**	P		**P**	**20 57 05.6**	**+0.8**
	comp=Z,4.9nm,0.6s,baz=326,slow=5.9,SNR=9.4								
FRB				pP		**pP**	**20 57 22.2**	**+0.3**
	comp=Z,5.4nm,0.6s,baz=328,slow=5.8,SNR=4.9								
PDAR	**Pinedale Array**	**77.30**	**46**	P		**P**	**20 57 12.9**	**+1.5**
	comp=Z,0.8nm,0.6s,baz=285,slow=2.8,SNR=6.0								
PDAR				pP		**pP**	**20 57 30.0**	**+1.4**
	comp=Z,1.5nm,0.6s,baz=255,slow=1.9,SNR=7.0								
BRTR	**Keskin Array B**	**78.48**	**311**	P		**P**	**20 57 18.1**	**+0.1**
	comp=Z,0.6nm,0.8s,baz=118,slow=4.8,SNR=5.1								
BRTR				pP		**pP**	**20 57 34.9**	**-0.2**
	comp=Z,1.2nm,0.6s,baz=83,slow=4.1,SNR=5.6								
BRTR				pP		**PP**	**21 00 13.5**	**-2.0**
	comp=Z,0.4nm,0.7s,baz=77,slow=7.7,SNR=3.6								
BRTR				LR	LR		21 37 07.2		
	comp=Z,15nm,19.6s,baz=68,slow=40								
STHS	**Stebnicka Huta**	**78.51**	**325**	*e*P		**P**	**20 57 21.6**	**+3.9**
STHS	**Stebnicka Huta**	**78.51**	**325**	*e*P		**P**	**20 57 21.6**	**+3.9**
MLR	**Muntele Rosu**	**78.96**	**320**	LR		LR	21 35 25.3		
	comp=Z,15nm,18.1s,baz=53,slow=38								
DPC	**Dobruska-Polom**	**79.99**	**328**	*e*P		**P**	**20 57 28.2**	**+2.4**
DPC				*e*pP		**pP**	**20 57 43.4**	**+0.3**
DPC	**Dobruska-Polom**	**79.99**	**328**	*e*P		**P**	**20 57 28.2**	**+2.4**
DPC				*e*			20 57 43.4		
CLL	**Collm**	**80.62**	**330**	*e*P		**P**	**20 57 31.0**	**+1.9**
CLL				*i* pP		**pP**	**20 57 45.9**	**-0.5**
CLL	**Collm**	**80.62**	**330**	*e*P		**P**	**20 57 31.0**	**+1.9**
CLL				*i* *PP		**pP**	**20 57 45.9**	**-0.5**
MMAI	**Mount Meron Ar**	**81.64**	**305**	LR		LR	21 37 06.9		
	comp=Z,38nm,18.5s,baz=290,slow=38								
KHC	**Kasperske Hory**	**82.07**	**328**	*e*P		**P**	**20 57 38.0**	**+1.1**
KHC				*e*pP		**pP**	**20 57 51.9**	**-2.3**
KHC	**Kasperske Hory**	**82.07**	**328**	*e*P		**P**	**20 57 38.0**	**+1.1**
KHC				*e*			20 57 53.9		
GERES	**GERESS Array B**	**82.24**	**328**	P		**P**	**20 57 38.1**	**+0.2**
	comp=Z,0.6nm,0.4s,baz=48,slow=5.1,SNR=10								
GERES				pP		**pP**	**20 57 54.3**	**-0.9**
	comp=Z,1.1nm,0.7s,baz=35,slow=4.9,SNR=5.1								
GERES				LR	LR		21 35 22.2		
	comp=Z,24nm,19.4s,baz=46,slow=36								
EKA	**Eskdalemuir Ar**	**82.62**	**340**	P		**P**	**20 57 40.6**	**+1.1**
	comp=Z,1.5nm,0.7s,baz=32,slow=6.7,SNR=2.4								
PPT	**Papeete**	**84.89**	**117**	LR		LR	21 31 10.0		
	comp=Z,57nm,20.1s,baz=1.5,slow=32								
TXAR	**Lajitas Array**	**89.81**	**52**	P		**P**	**20 58 17.2**	**+1.7**
	comp=Z,2.0nm,0.7s,baz=300,slow=3.4,SNR=19								
TXAR				pP		**pP**	**20 58 34.6**	**+1.5**
	comp=Z,1.6nm,0.7s,baz=297,slow=2.9,SNR=7.4								
KEST	**Kesra**	**94.58**	**323**	LR		LR	21 46 19.5		
	comp=Z,42nm,18.1s,baz=306,slow=39								
TORD	**Torodi Ar. Bea**	**116.94**	**315**	PKP		**PKPdf**	**21 04 00.6**	**-0.9**
	comp=Z,0.2nm,0.4s,baz=120,slow=1.4,SNR=4.7								
TORD				pPKP	pPKPdf		21 04 19.1	-0.7	
	comp=Z,0.3nm,0.5s,baz=34,slow=1.6,SNR=2.4								
SDV	**Santo Domingo**	**124.92**	**40**	PKP		**PKPdf**	**21 04 16.8**	**-0.4**
	comp=Z,3.2nm,0.7s,baz=323,slow=4.7,SNR=4.3								
QSPA	**South Pole Qui**	**127.32**	**180**	PKP		**PKPdf**	**21 04 19.6**	**-0.3**
	comp=Z,2.0nm,0.8s,baz=270,slow=1.8,SNR=5.5								
LPAZ	**La Paz**	**146.43**	**59**	PKPbc		**PKPab**	**21 04 59.1**	**-0.4**
	comp=Z,4.3nm,0.5s,baz=317,slow=2.6,SNR=25								
PLCA	**Paso Flores**	**155.10**	**107**	PKPab		**PKPab**	**21 05 35.8**	**+1.6**
	comp=Z,1.3nm,0.7s,baz=274,slow=2.5,SNR=5.5								

*NEIC **25** 20:59:10.5±0.0,51.36N×173.94W, h10km, ML3.2(AEIC), After AEIC.*
*IDC **25** 20:59:17.7±2.8,53.13N×175.04W, h0km, mb3.6/6, mb1 3.8/8, mb1mx3.5/81, mbtmp3.7/8, ML3.9/2, MS2.7/1, Ms1 2.7/1, ms1mx2.2/70, Error ellipse: s-maj=78.9km s-min=21.2km az=178.0*

ISC 25 20:59:12.5±1.1, 51.5N±0.1×173.88W±0.05, h35km, n25, σ1§36/24, mb3.8/7, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
ATKA	**Atka Island**	**0.72**	**344**	P		**Pn**	**20 59 25.8**	**-0.3**
ATKA				S		**Sn**	**20 59 38.3**	**+2.4**
KOFP	**Korovin Flat P**	**0.77**	**350**	P		**Pn**	**20 59 27.0**	**0.0**
KOKL	**Mount Kliuchef**	**0.83**	**346**	P		**Pn**	**20 59 28.0**	**+0.2**
KOWE	**Korovin West**	**0.88**	**345**	P		**Pn**	**20 59 28.9**	**+0.4**
GSTD	**Great Sitkin T**	**1.51**	**292**	P		**Pn**	**20 59 36.9**	**-0.2**
GSTD				S		**Sn**	**20 59 58.5**	**+2.9**
ETKA	**Kagalaska Isla**	**1.61**	**283**	P		**Pn**	**20 59 38.1**	**-0.3**
ETKA				S		**Sn**	**20 59 59.0**	**+1.1**
ADAG	**Mount Adagdak**	**1.76**	**286**	P		**Pn**	**20 59 41.2**	**+0.8**
KINC	**Kanaga Island**	**2.06**	**283**	P		**Pn**	**20 59 46.2**	**+1.6**
NIKH	**Nikolski High**	**3.42**	**63**	P		**Pn**	**21 00 05.5**	**+2.2**
NIKH				S		**Sn**	**21 00 41.8**	**-0.6**
OKRE	**Okmok R'deer P**	**4.03**	**58**	P		**Pn**	**21 00 13.9**	**+2.3**
KDAK	**Kodiak Island**	**13.80**	**55**	Pn		**P**	**21 02 31.2**	**-2.1**
	0.9nm,0.3s,baz=266,slow=2.6,SNR=12							
ILAR	**Eielson Array**	**19.26**	**36**	P		**P**	**21 03 32.6**	**-1.1**
	0.3nm,0.3s,baz=242,slow=8.7,SNR=12							
DOT	**Dot Lake**	**19.84**	**41**	*e*P		**P**	**21 03 39.6**	**-0.5**
	3.3nm,0.6s							
MA2	**Magadan**	**21.34**	**306**	LR		LR	21 13 05.2	
	comp=Z,22nm,18.5s,baz=94,slow=42							
EGAK	**Eagle**	**21.46**	**39**	*e*P		**P**	**21 03 56.8**	**-0.6**
	5.3nm,0.6s							
H11N2	**WAKE ISLAND Hy**	**35.13**	**213**	T		T	21 44 04.9	
	baz=21,slow=76,SNR=5.7							
H11N3	**WAKE ISLAND Hy**	**35.14**	**213**	T		T	21 43 59.2	
	baz=21,slow=76,SNR=6.1							
H11N1	**WAKE ISLAND Hy**	**35.15**	**213**	T		T	21 44 07.4	
	baz=21,slow=76,SNR=4.7							
PDAR	**Pinedale Array**	**43.31**	**75**	P		P	21 07 23.9	+13
	0.5nm,0.5s,baz=292,slow=5.4,SNR=4.4							
SONM	**Songino Array**	**49.31**	**299**	P		**P**	**21 07 58.4**	**+0.6**
	0.5nm,0.7s,baz=66,slow=7.8,SNR=4.5							
KURK	**Kurchatov**	**61.11**	**316**	P		**P**	**21 09 22.4**	**-0.2**
KURBB	**Kurchatov Arra**	**61.21**	**316**	P		**P**	**21 09 22.4**	**-1.0**
	0.7nm,0.6s,baz=44,slow=6.8,SNR=7.7							
MKAR	**Makanchi Array**	**62.31**	**311**	P		**P**	**21 09 29.8**	**-1.2**
	0.3nm,0.7s,baz=54,slow=8.2,SNR=3.5							
BVAR	**Borovoye Array**	**62.72**	**322**	P		**P**	**21 09 33.0**	**-0.6**
	0.5nm,0.7s,baz=53,slow=9.8,SNR=4.5							
AKTO	**Aktyubinsk**	**69.29**	**327**	P		**P**	**21 10 15.1**	**-0.6**
	0.9nm,0.6s,baz=58,slow=7.6,SNR=3.4							

*ATA **25** 20:59:19.9±2.1,38.54N×43.00E, h7km±999km, ML2.7, MW2.7*
*ISK **25** 20:59:20.6,38.61N×43.00E, h4km, ML2.2/5*
*ISCJB **25** 20:59:21.3±0.5,38.57N±0.04×43.00E±0.04, h12km±6km, Error ellipse: s-maj=6.0km s-min=5.0km az=6.5*
*DDA **25** 20:59:21.9,38.60N×43.01E, h7km, Ml2.7*
*CSEM **25** 20:59:21.2±0.3,38.59N×43.00E, h5km, ML2.7, Error ellipse: s-maj=5.8km s-min=5.3km az=171.0*

ISC 25 20:59:20.6±1.3, 38.59N±0.03×42.99E±0.03, h4km±14km, n23, σ0§56/36, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
GEVA	**Gevas**	**0.28**	**169**	*e*P		**Pg**	**20 59 26.7**	**+0.7**
GEVA				*e*S		**Sg**	**20 59 28.6**	**-1.2**
GEVA				IAML			20 59 36.5	
	comp=Z,100nm,0.7s							
GEVA	**Gevas**	**0.28**	**169**	*i* P		**Pg**	**20 59 26.7**	**+0.7**
GEVA				*i* S		**Sb**	**20 59 33.6**	**+0.1**
GEVA	**Gevas**	**0.28**	**169**	P		**Pg**	**20 59 26.7**	**+0.7**
GEVA				S		**Sb**	**20 59 33.6**	**+0.1**
ADCV	**BITLIS_Adilcev**	**0.30**	**316**	*i* P		**Pb**	**20 59 28.2**	**-0.6**
ADCV				*i* S		**Sb**	**20 59 34.2**	**0.0**
ADCV	**BITLIS_Adilcev**	**0.30**	**316**	P		**Pb**	**20 59 28.2**	**-0.6**
ADCV				S		**Sb**	**20 59 34.2**	**0.0**
VANB	**Van**	**0.31**	**89**	PG		**Pg**	**20 59 27.6**	**+0.9**
VANB	**Van**	**0.31**	**89**	*e*Pg		**Pg**	**20 59 27.6**	**+0.9**
TVAN	**Van**	**0.33**	**100**	*i* P		**Pg**	**20 59 26.9**	**-0.1**
TVAN				*i* S		**Sb**	**20 59 34.2**	**-0.8**
TVAN	**Van**	**0.33**	**100**	P		**Pg**	**20 59 26.9**	**-0.1**
TVAN				S		**Sb**	**20 59 34.2**	**-0.8**
VMUR	**Van-Muradiye**	**0.60**	**48**	*i* P		**Pg**	**20 59 33.0**	**+0.7**
VMUR				*i* S		**Sb**	**20 59 43.0**	**+0.1**
VMUR	**Van-Muradiye**	**0.60**	**48**	P		**Pg**	**20 59 33.0**	**+0.7**
VMUR				S		**Sb**	**20 59 43.0**	**+0.1**
GURO	**Guroymak-BITLI**	**0.75**	**268**	PG		**Pg**	**20 59 35.6**	**+0.5**
GURO				SG		**Sb**	**20 59 46.9**	**-0.2**
GURO	**Guroymak-BITLI**	**0.75**	**268**	*e*Pg		**Pg**	**20 59 35.6**	**+0.5**
GURO				*e*Sg		**Sb**	**20 59 46.9**	**-0.2**
TUTA	**Tutak**	**0.82**	**350**	*i* P		**Pg**	**20 59 37.0**	**+0.5**
TUTA	**Tutak**	**0.82**	**350**	*i* P		**Pg**	**20 59 36.8**	**+0.4**
TUTA				*i* S		**Sb**	**20 59 49.1**	**-0.2**
TUTA	**Tutak**	**0.82**	**350**	P		**Pg**	**20 59 36.8**	**+0.4**
TUTA				S		**Sb**	**20 59 49.1**	**-0.2**
CLDR	**Caldiran**	**0.91**	**52**	PG		**Pg**	**20 59 38.8**	**+0.7**
CLDR	**Caldiran**	**0.91**	**52**	*e*Pg		**Pg**	**20 59 38.8**	**+0.7**
AGRB	**Hanur-Agry**	**0.99**	**360**	PG		**Pg**	**20 59 39.6**	**0.0**
AGRB	**Hanur-Agry**	**0.99**	**360**	*e*Pg		**Pg**	**20 59 39.6**	**0.0**
SIRT	**Sirnak**	**1.17**	**202**	PN		**Pn**	**20 59 44.3**	**+0.4**
SIRT	**Sirnak**	**1.17**	**202**	*e*Pn		**Pn**	**20 59 44.3**	**+0.4**
EATA	**Eleskirt**	**1.33**	**343**	*e*P		**Pb**	**20 59 46.5**	**+0.1**

*ISCJB **25** 21:02:24.8±0.7, 48.65N±0.03×3.06W±0.05, h14km±5km, Error ellipse: s-maj=6.2km s-min=4.7km az=43.9*
*CSEM **25** 21:02:24.3, 48.73N×3.27W, h7km, ML3.0/4*
*LDG **25** 21:02:25.3±0.5, 48.73N×3.27W, h7km, Md2.1/3, Ml3.0/4, Error ellipse: s-maj=8.7km s-min=4.6km az=143.0*
*STR **25** 21:02:25.6±0.4, 49.N±4°×±°, h5km, M3.0/4, MLv3.0/4*

ISC 25 21:02:24.1±1.1, 48.70N±0.04×3.30W±0.04, h17km±9km, n23, σ1§02/37, France

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
ROSF	**Rostrenen**	**0.36**	**177**	*e*Pg		**Pg**	**21 02 31.9**	**+0.2**
ROSF				*e*Sg		**Sg**	**21 02 36.8**	**0.0**
	57nm,0.2s							
ROSF	**Rostrenen**	**0.36**	**177**	*e*Pg		**Pg**	**21 02 31.9**	**+0.2**
ROSF				*e*Sg		**Sg**	**21 02 36.8**	**0.0**
	28nm,0.2s							
ROSF	**Rostrenen**	**0.36**	**177**	Pg		**Pg**	**21 02 32.0**	**+0.2**
SGMF	**Saint Gilles**	**0.67**	**132**	*e*Pg		**Pg**	**21 02 37.2**	**0.0**
SGMF	**Saint Gilles**	**0.67**	**132**	*e*Pn		**Pb**	**21 02 37.8**	**+0.5**
SGMF				*e*Sg		**Sg**	**21 02 45.6**	**-0.5**
	20nm,0.2s							
SGMF	**Saint Gilles**	**0.67**	**132**	*e*Pg		**Pg**	**21 02 37.2**	**0.0**
SGMF	**Saint Gilles**	**0.67**	**132**	*e*Pn		**Pb**	**21 02 37.8**	**+0.5**
SGMF				*e*Sg		**Sg**	**21 02 45.6**	**-0.5**
	9.9nm,0.2s							
QUIF	**Quistin

KMPI	Kaimana, Papua	2.25	199	P		Pn	21 04 29.1 +0.3
FAKI	Fak Fak	2.60	238	P		Pn	21 04 33.4 -0.3

*IDC **25** 21:04:22.5±1.1, 1.09N×95.45E, h0km, mb3.9/13, mb1 4.0/15, mb1mx3.7/67, mbtmp3.9/15, ML3.6/2, MS3.0/4, Ms1 3.0/4, ms1mx2.5/59, Error ellipse: s-maj=34.8km s-min=16.3km az=56.0*
*NEIC **25** 21:04:24.2±0.5, 1.12N×95.57E, h10km, mb4.1/2, Error ellipse: s-maj=9.7km s-min=7.4km az=222.0*
*DJA **25** 21:04:25.4±1.3, 1°N±5′×9°6′E±°, h28km±19km, M4.5/12, mB4.8/2, mb4.7/5, MLv4.4/12, Mw(mB)4.1/2*
*ISCJB **25** 21:04:26.5±0.5, 1.24N±0.04×95.73E±0.04, h33km, mb4.2/20, MS3.0/2, Error ellipse: s-maj=6.2km s-min=5.3km az=34.2*

ISC 25 21:04:29.0±0.8, 1.25N±0.06×95.71E±0.08, h35km, n54, σ1°88/56, mb4.1/20, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GSI	**Gunungsitoli**	**1.87**	**88**	P	**Pn**	**21 04 57.9**	**-0.6**
GSI				S	**Sn**	**21 05 21.7**	**+0.8**
GSI	**Gunungsitoli**	**1.87**	**88**	*e*Pn	**Pn**	**21 04 58.1**	**-0.4**
GSI				*e*Sn	**Sn**	**21 05 16.7**	**-4.2**
TPTI		**2.48**	**36**	P	**Pn**	**21 05 05.0**	**-2.0**
TPTI				S	**Sn**	**21 05 35.5**	**-0.6**
KCSI	**Kotacane, Aceh**	**3.06**	**42**	P	**Pn**	**21 05 13.0**	**-1.9**
MLSI	**Meulaboh, Aceh**	**3.08**	**13**	P	**Pn**	**21 05 12.7**	**-2.5**
MLSI				S	**Sn**	**21 05 49.7**	**-1.2**
PSI	**Prapat**	**3.57**	**64**	Pn	**Pn**	**21 05 21.2**	**-0.8**
	0.8nm,0.3s,baz=334,slow=4.0,SNR=5.6						
PSI				Sn	**Sn**	**21 06 01.1**	**-1.9**
	4.3nm,0.3s,baz=259,slow=11,SNR=4.8						
PSI				LR	LR	21 07 10.3	
	comp=Z,203nm,20.6s,baz=270,slow=44						
TSI	**Tuntungan**	**3.63**	**52**	P	**Pn**	**21 05 21.0**	**-1.7**
MNSI	**Mandailing Nat**	**3.90**	**97**	P	**Pn**	**21 05 25.3**	**-1.1**
LHMI	**Lhok Sumawe**	**4.15**	**17**	P	**Pn**	**21 05 27.5**	**-2.4**
LHMI	**Lhok Sumawe**	**4.15**	**17**	*e*Pn	**Pn**	**21 05 29.3**	**-0.5**
SISI	**Saibi**	**4.24**	**127**	P	**Pn**	**21 05 30.0**	**-1.1**
BSI	**Banda Aceh**	**4.24**	**354**	P	**Pn**	**21 05 26.7**	**-4.5**
IPM	**Ipoh**	**6.21**	**59**	*e*Pn	**Pn**	**21 05 58.3**	**+0.1**
IPM				*e*S	**Sn**	**21 07 08.4**	**+0.4**
KULM	**Kulim**	**6.36**	**51**	*e*Pn	**Pn**	**21 05 59.9**	**-0.4**
KULM				*e*S	**Sn**	**21 07 09.5**	**-2.3**
KRJI	**Kerinci**	**6.64**	**120**	P	**Pn**	**21 06 02.9**	**-1.3**
MASI	**Maura Aman, Be**	**7.85**	**124**	P	**Pn**	**21 06 19.6**	**-1.2**
LEM	**Lembang**	**14.34**	**124**	LR	LR	21 13 51.6	
	comp=Z,35nm,20.1s,baz=232,slow=39						
CHAI	**Chaiyaphum**	**15.83**	**23**	P	**P**	**21 08 14.3**	**+1.6**
	3.2nm,0.8s						
PBKT	**Sadao Pong**	**16.09**	**19**	P	**P**	**21 08 15.5**	**-0.1**
	14nm,1.5s						
PHIT	**Phitsanulok**	**16.51**	**16**	P	**P**	**21 08 21.5**	**+1.2**
KHON	**Khomkaen**	**16.56**	**25**	P	**P**	**21 08 23.1**	**+2.3**
	7.9nm,0.8s						
CM01	**Chiang Mai Arr**	**17.36**	**10**	*e*Pn	**Pn**	**21 08 28.6**	**-0.1**
CM31	**Chiang Mai Arr**	**17.40**	**10**	*e*Pn	**P**	**21 08 30.3**	**+0.1**
CMAR	**Chiang Mai Arr**	**17.40**	**10**	P	**P**	**21 08 30.4**	**+0.3**
	0.3nm,0.3s,baz=198,slow=11,SNR=20						
LSA	**Lhasa**	**28.63**	**352**	*e*P	**P**	**21 10 23.3**	**+0.4**
	4.1nm,0.6s						
BATI	**Baumata**	**30.06**	**113**	LR	LR	21 24 31.0	
	comp=Z,32nm,19.5s,baz=350,slow=40						
XAN	**Xi'an**	**34.89**	**19**	P	**P**	**21 11 17.3**	**0.0**
XAN				pP	pP	21 11 24.8	-2.7
XAN				pmax	pmax		
	comp=Z,8.0nm,0.7s						
LZH	**Lanzhou**	**35.48**	**11**	*e*P	P	21 11 31.8	+9.3
LZH				pP	sP	21 11 35.0	-1.9
LZH				sP	pP	21 11 38.3	+5.6
LZH				*e*PP	**PP**	**21 12 52.5**	**+9.0**
LZH				pmax	pmax		
	comp=Z,17nm,0.9s						
LZH				pmax	pmax		
	comp=Z,130nm,5.0s						
LZH				LR	LR		
	comp=N,160nm,14.5s						
LZH				LR	LR		
	comp=E,170nm,14.3s						
LZH				LR	LR		
	comp=Z,250nm,17.8s						
GTA	**Gaotai**	**38.17**	**5**	*e*P	**P**	**21 11 45.0**	**-0.3**
GTA				pP	pP	21 11 49.5	-6.0
GTA				sP	sP	21 11 53.0	-6.7
GTA				pmax	pmax		
	comp=Z,5.0nm,0.9s						
H01W3	**Cape Leeuwin H**	**39.87**	**156**	T	T	21 55 21.5	
	baz=334,slow=76,SNR=10						
H01W2	**Cape Leeuwin H**	**39.88**	**156**	T	T	21 55 30.3	
	baz=334,slow=76,SNR=9.7						
H01W1	**Cape Leeuwin H**	**39.89**	**156**	T	T	21 55 25.1	
	baz=334,slow=76,SNR=4.1						
HHC	**Hu-ho-hao-te**	**41.96**	**18**	*e*P	**P**	**21 12 19.5**	**+2.8**
HHC				pmax	pmax		
	comp=Z,9.0nm,1.0s						
HHC				pmax	pmax		
	comp=Z,18nm,5.8s						
WMQ	**Urumqi**	**42.99**	**351**	P	**P**	**21 12 25.5**	**+0.5**
WMQ				pP	pP	21 12 30.0	-5.3
WMQ				sP	sP	21 12 32.5	-7.0
WMQ				pmax	pmax		
	comp=Z,22nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,200nm,5.3s						
WRA	**Warramunga Arr**	**43.33**	**121**	P	**P**	**21 12 28.0**	**-0.1**
	comp=Z,1.1nm,0.8s,baz=302,slow=8.5,SNR=9.4						
ASAR	**Alice Springs**	**44.62**	**126**	P	**P**	**21 12 38.5**	**+0.1**
	comp=Z,0.7nm,0.5s,baz=297,slow=7.7,SNR=11						
KSAR	**Wonju Array Be**	**46.64**	**36**	P	**P**	**21 12 54.9**	**+0.8**
KSRS	**Korea Array**	**46.67**	**36**	P	**P**	**21 12 54.9**	**+0.6**
	comp=Z,1.8nm,0.8s,baz=232,slow=7.3,SNR=4.9						
KSRS				LR	LR	21 33 52.9	
	comp=Z,22nm,19.1s,baz=108,slow=38						
MK01	**Makanchi Array**	**46.83**	**347**	*e*P	**P**	**21 12 55.1**	**-0.4**
MKAR	**Makanchi Array**	**46.86**	**347**	P	**P**	**21 12 55.7**	**0.0**
	comp=Z,2.6nm,0.8s,baz=161,slow=8.4,SNR=26						
MKAR	**Makanchi Array**	**46.86**	**347**	*e*P	**P**	**21 12 55.1**	**-0.6**
	comp=Z,13nm,0.6s						
SONM	**Songino Array**	**47.32**	**10**	P	**P**	**21 12 59.4**	**0.0**
	comp=Z,1.6nm,0.8s,baz=195,slow=8.5,SNR=12						
KURBB	**Kurchatov Arra**	**51.31**	**346**	P	**P**	**21 13 29.2**	**-0.5**
	comp=Z,0.9nm,0.7s,baz=165,slow=7.4,SNR=9.8						
KURK	**Kurchatov**	**51.38**	**346**	P	**P**	**21 13 29.2**	**-1.0**
ZALV	**Zalesovo Beam**	**53.29**	**352**	P	**P**	**21 13 44.0**	**-0.2**
	comp=Z,3.7nm,0.6s,baz=180,slow=7.3,SNR=15						
ZALV	**Zalesovo Beam**	**53.29**	**352**	*e*P	**P**	**21 13 43.9**	**-0.4**
USRK	**Ussuriysk Ar.**	**53.51**	**32**	P	**P**	**21 13 46.8**	**+0.7**
	comp=Z,2.9nm,0.9s,baz=240,slow=12,SNR=3.6						
STKA	**Stephens Creek**	**54.50**	**131**	P	**P**	**21 13 52.6**	**-1.0**
	comp=Z,1.6nm,0.7s,baz=293,slow=8.0,SNR=4.7						
BVAR	**Borovoye Array**	**55.73**	**342**	P	**P**	**21 14 00.8**	**-1.3**
	comp=Z,0.9nm,0.7s,baz=166,slow=7.6,SNR=6.8						
ABKAR	**Akbulak array**	**56.78**	**333**	*e*P	**P**	**21 14 08.2**	**-1.4**
	comp=Z,0.7nm,0.6s						
KLR	**Kul'dur**	**56.89**	**27**	P	**P**	**21 14 11.1**	**+0.7**
	comp=Z,0.2nm,0.8s,baz=354,slow=3.2,SNR=5.3						
FINES	**FINESS Array B**	**79.27**	**333**	P	**P**	**21 16 29.3**	**-1.3**
	comp=Z,1.4nm,0.8s,baz=176,slow=29,SNR=3.0						
ARCES	**ARCESS Array B**	**81.99**	**340**	P	**P**	**21 16 44.4**	**-0.7**
	comp=Z,1.0nm,0.8s,baz=83,slow=4.2,SNR=4.2						
TXAR	**Lajitas Array**	**144.39**	**30**	PKP	**PKPab**	**21 24 00.5**	**0.0**
	comp=Z,0.3nm,0.6s,baz=65,slow=0.4,SNR=4.5						

*ISN **25** 21:10:25.8±1.0, 32.49N×47.11E, h18km±4km, ML3.4*
*CSEM **25** 21:10:26.6±0.3, 32.50N×47.20E, h15km, ML3.4, Error ellipse: s-maj=8.0km s-min=5.8km az=178.0*

TEH 25 21:10:26.6, 32.53N×47.12E, h10km, ML3.4, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IKFM	**Kafar-mosalman**	**1.17**	**32**	*e*Pg	Pb	21 10 46.2	-2.6
IKFM				*e*AMB	AMB	21 10 49.4	
	comp=Z,99nm,0.1s						
SHGR	**Shooshtar-Gavs**	**1.49**	**106**	*e*Pn	Pn	21 10 53.1	-0.3
IKOM	**Komasi**	**1.67**	**11**	*e*Pn	Pn	21 10 55.5	-0.6
IKOM				*e*AMB	AMB	21 10 56.6	
	comp=Z,6μm,0.2s						
IKOM				*e*Sg	Sb	21 11 18.6	-0.2
NSR	**Nassriya**	**1.73**	**209**	*e*Pn	Pn	21 10 56.0	-0.7
	SNR=5.0						
NSR				*e*Sn	Sn	21 11 17.0	-1.8
	SNR=5.0						
IGHG	**Ghaleghazi**	**1.85**	**346**	*e*Pn	Pn	21 10 58.2	-0.4
IGHG				*e*AMB	AMB	21 11 36.0	
	comp=Z,4μm,0.5s						
IVIS	**Veis**	**2.00**	**354**	*e*Pn	Pn	21 11 00.9	+0.3
IVIS				*e*AMB	AMB	21 11 30.7	
	comp=N,5μm,0.3s						
ILIN	**Lien**	**2.38**	**357**	*e*AMB	AMB	21 11 43.6	
	comp=Z,1μm,0.2s						
BHD	**Baghdad**	**2.42**	**288**	*e*Pn	Pn	21 11 06.5	+0.3
	SNR=5.0						
BHD				*e*Sn	Sn	21 11 36.0	+0.2
	SNR=5.0						
SNGE	**Sanandaj**	**2.56**	**4**	*e*Pn	Pn	21 11 07.5	-0.9
KHMZ	**Khomeyn**	**2.67**	**62**	*e*Pn	Pn	21 11 08.1	-1.8
ASAO	**Ashtian**	**3.15**	**50**	*e*Pn	Pn	21 11 15.4	-1.2
HKZM	**Kohzaman**	**3.20**	**27**	*e*Pn	Pn	21 11 17.4	+0.1
HKZM				*e*AMB	AMB	21 12 06.4	
	comp=Z,99nm,0.2s						
QAM	**Ghamsar**	**3.83**	**70**	*e*Pn	Pn	21 11 26.1	+0.3
QAM				*e*AMB	AMB	21 11 41.5	
	comp=Z,606nm,0.1s						
IKLH	**Kolahrood**	**3.83**	**77**	*e*Pn	Pn	21 11 25.4	-0.5
IKLH				*e*AMB	AMB	21 11 40.0	
	comp=Z,486nm,0.2s						
GHVR	**GHOM**	**4.00**	**60**	*e*Pn	Pn	21 11 26.0	-2.0
IZEF	**Zefreh**	**4.41**	**84**	*e*Pn	Pn	21 11 32.9	-1.0
IZEF				*e*AMB	AMB	21 11 46.8	
	comp=Z,232nm,0.2s						
IRAM	**Ramesheh**	**4.52**	**98**	*e*Pn	Pn	21 11 34.2	-1.2
IRAM				*e*AMB	AMB	21 12 33.5	
	comp=Z,179nm,0.2s						
RTB	**Rutbah**	**5.75**	**277**	*e*Pn	Pn	21 11 53.0	+0.9
	SNR=5.0						
RTB				*e*Sn	Sn	21 12 57.0	-1.3
	SNR=5.0						

*ATA **25** 21:16:30.3±1.3, 40.59N×41.24E, h60km±10km, ML2.7, MW2.7*
*ISCJB **25** 21:16:33.6±0.6, 40.62N±0.03×41.48E±0.05, h7km±7km, Error ellipse: s-maj=6.8km s-min=4.9km az=15.2*
*CSEM **25** 21:16:33.8±0.3, 40.61N×41.48E, h2km, MD2.8, Error ellipse: s-maj=8.5km s-min=7.3km az=122.0*
*DDA **25** 21:16:33.5, 40.61N×41.57E, h7km, Md2.8*
*ISK **25** 21:16:34.1, 40.64N×41.41E, h3km, ML2.2/7*

ISC 25 21:16:32.9±1.4, 40.60N±0.03×41.41E±0.03, h9km±11km, n29, σ1°35/40, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DDEM	**Demirkent**	**0.39**	**41**	*i* P	**Pg**	**21 16 40.2**	**-0.3**
DDEM				*i* S	**Sb**	**21 16 50.2**	**+1.9**
DDEM	**Demirkent**	**0.39**	**41**	P	**Pg**	**21 16 40.2**	**-0.3**
DBAD	**Bademkaya**	**0.47**	**27**	*i* P	**Pg**	**21 16 41.6**	**-0.4**
DBAD				*i* S	**Sb**	**21 16 53.4**	**+2.8**
DBAD	**Bademkaya**	**0.47**	**27**	P	**Pg**	**21 16 41.6**	**-0.4**
HOMI	**Horasan**	**0.67**	**146**	*e*P	**Pg**	**21 16 45.5**	**-0.4**
HOMI				IAML		21 17 05.1	
	comp=Z,21nm,0.7s						
HOMI	**Horasan**	**0.67**	**146**	*i* P	**Pg**	**21 16 45.1**	**-0.8**
HOMI				*i* S	**Sn**	**21 16 58.8**	**-0.8**
ERZM	**Erzurum**	**0.70**	**183**	*e*P	**Pg**	**21 16 46.2**	**-0.1**
ERZM				*e*S	**Sn**	**21 16 58.6**	**-1.6**
ERZM	**Erzurum**	**0.70**	**183**	*i* P	**Pg**	**21 16 45.9**	**-0.4**
ERZM				*i* S	**Sb**	**21 16 56.2**	**-1.0**
ERZM	**Erzurum**	**0.70**	**183**	P	**Pg**	**21 16 45.9**	**-0.4**
ERZM				S	**Sb**	**21 16 56.2**	**-1.0**
CHOM	**Cayeli-Rize**	**0.70**	**315**	*e*Pg	**Pb**	**21 16 47.9**	**+0.6**
SENK	**Senkaya-Erzuru**	**0.72**	**93**	PG	**Pb**	**21 16 48.7**	**+1.0**
SENK	**Senkaya-Erzuru**	**0.72**	**93**	*e*Pg	**Pb**	**21 16 48.7**	**+1.0**
BCA	**Borcka**	**0.86**	**11**	PG	**Pb**	**21 16 50.6**	**+0.6**
BCA				SG	**Sb**	**21 17 02.6**	**+1.0**
BCA	**Borcka**	**0.86**	**11**	*e*Pg	**Pb**	**21 16 50.6**	**+0.6**
BCA				*e*Sg	**Sb**	**21 17 02.6**	**+1.0**
KOPT	**Kop Dagi**	**0.91**	**230**	*e*P	**Pg**	**21 16 47.4**	**-3.0**
BAYT	**Ayd¨¨-ntepe-Bay**	**0.99**	**258**	PG	**Pn**	**21 16 54.0**	**+0.8**
BAYT	**Ayd¨¨-ntepe-Bay**	**0.99**	**258**	*e*Pg	**Pn**	**21 16 54.0**	**+0.8**
YEDI	**Yedisu-Bingol**	**1.34**	**210**	PN	**Pg**	**21 17 00.7**	**+2.1**
YEDI	**Yedisu-Bingol**	**1.34**	**210**	*e*Pn	**Pg**	**21 17 00.7**	**+2.1**
EPOS	**Posof**	**1.34**	**47**	*e*P	**Pn**	**21 16 56.2**	**-1.8**
EPOS	**Posof**	**1.34**	**47**	*i* P	**Pn**	**21 16 56.7**	**-1.3**
EPOS				*i* S	**Sb**	**21 17 12.4**	**-3.3**
EPOS	**Posof**	**1.34**	**47**	P	**Pn**	**21 16 56.7**	**-1.3**
DIGO	**Kars**	**1.51**	**96**	*e*P	**Pn**	**21 16 59.8**	**-0.5**
DIGO				IAML		21 17 30.9	
	comp=Z,2.0nm,0.6s						
DIGO	**Kars**	**1.51**	**96**	*i* P	**Pn**	**21 17 00.7**	**+0.3**
DIGO				*i* S	**Sn**	**21 17 19.7**	**-0.6**
DIGO	**Kars**	**1.51**	**96**	P	**Pn**	**21 17 00.7**	**+0.3**
DIGO				S	**Sn**	**21 17 19.7**	**-0.6**
AGRB	**Hanur-Agry**	**1.59**	**130**	PN	**Pg**	**21 17 04.5**	**+1.2**
AGRB	**Hanur-Agry**	**1.59**	**130**	*e*Pn	**Pg**	**21 17 04.5**	**+1.2**
ESPY	**Espiye-Giresun**	**2.06**	**280**	PN	**Pb**	**21 17 10.9**	**+0.4**
ESPY	**Espiye-Giresun**	**2.06**	**280**	*e*Pn	**Pb**	**21 17 10.9**	**+0.4**

MEX 25 21:29:58.7±0.4, 16.66N×98.32W, h20km±22km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.33**	**145**	*i* P	Pb	21 30 04.8	-1.1
PNIG				*e*S	Sb	21 30 09.4	-1.3
TLIG	**Tlapa**	**0.93**	**346**	*e*P	Pb	21 30 15.0	-1.2
TLIG				*i* S	Sb	21 30 25.1	-3.0
VHO	**Vista Hermosa**	**1.58**	**75**	*e*P	Pn	21 30 08.8	-17
VHO				*e*S	Sn	21 30 41.9	-3.8
CAIG	**El Cayaco**	**1.90**	**282**	*e*P	Pn	21 30 27.5	-2.5
CAIG				*i* S	Sn	21 30 49.1	-4.2
PLIG	**Platanillo**	**2.06**	**327**	*e*P	Pn	21 30 29.4	-2.9
PLIG				*e*S	Sn	21 30 53.8	-3.6

IDC 25 21:32:22.0±7.8, 2.05N×90.95E, h0km, mb3.5/4, mb1 3.6/5, mb1mx3.3/69, mbtmp3.4/5, ML2.9/1, MS2.7/1, Ms1 2.7/1, ms1mx2.3/49, Error ellipse: s-maj=187.5km s-min=52.2km az=143.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**8.00**	**84**	LR	LR	21 36 54.9	
	comp=Z,56nm,19.9s,baz=198,slow=34						
CMAR	**Chiang Mai Arr**	**18.09**	**25**	P	Pn	21 36 34.3	-0.7
	0.0nm,0.3s,baz=220,slow=14,SNR=2.5						
H08S2	**Diego Garcia H**	**20.78**	**242**	T	T	21 58 54.9	
	baz=63						
H08S3	**Diego Garcia H**	**20.78**	**242**	T	T	21 58 54.1	
	baz=63						
H08S1	**Diego Carcia H**	**20.80**	**242**	T	T	21 58 53.8	
	baz=63						
MKAR	**Makanchi Array**	**45.20**	**352**	P	P	21 40 40.9	+0.1
	0.3nm,0.7s,baz=175,slow=7.2,SNR=3.1						
SONM	**Songino Array**	**47.53**	**14**	P	P	21 40 58.7	-0.5
	0.5nm,0.7s,baz=188,slow=8.4,SNR=3.5						
ZALV	**Zalesovo Beam**	**51.98**	**355**	P	P	21 41 33.5	+0.7
	0.3nm,0.3s,baz=157,slow=7.8,SNR=2.6						
GERES	**GERESS Array B**	**80.08**	**319**	P	P	21 44 33.5	-0.4
	0.1nm,0.2s,baz=97,slow=6.3,SNR=1.9						

MAN 25 21:40:10, 9.03N×126.67E, h15km, mb4.6, ML3.4, MS3.3, 2C, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BIPH	**Bislig**	**0.89**	**200**	*i* P	Pg	21 40 27.4	+0.1
BIPH				*i* S	Sb	21 40 37.5	-1.3
BUTP	**Butuan**	**1.03**	**267**	*e*P	Pb	21 40 28.5	-1.1
BUTP				*e*S	Sb	21 40 40.5	-2.4
SCPH	**Surigao**	**1.38**	**303**	*e*P	Pn	21 40 34.5	-0.3
SCPH				*e*S	Sn	21 40 50.8	-2.1
BUKP	**Musuan**	**1.95**	**234**	*e*P	Pn	21 40 42.7	+0.1
BUKP				*e*S	Sb	21 41 08.8	-0.8
MSLP	**Maasin**	**2.09**	**302**	*e*P	Pn	21 40 45.5	+1.0
MSLP				*e*S	Sn	21 41 11.8	+1.4
CNP	**Catarman**	**3.98**	**331**	*e*P	Pn	21 41 12.5	+1.9
CNP				*e*S	Sn	21 41 57.4	+0.4

MEX 25 21:52:01.4±0.4, 16.05N×98.36W, h11km±4km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.41**	**33**	*i* P	Pg	21 52 09.1	-0.4
PNIG				*i* S	Sg	21 52 15.0	0.0
TLIG	**Tlapa**	**1.52**	**352**	*e*P	Pn	21 52 25.2	-3.5
TLIG				*e*S	Sn	21 52 43.3	-5.3
VHO	**Vista Hermosa**	**1.86**	**57**	*e*S	Sn	21 52 52.5	-4.6
PLIG	**Platanillo**	**2.58**	**335**	*e*P	Pg	21 52 55.3	+4.5
PLIG				*e*S	Sn	21 53 10.9	-3.7

*CSEM **25** 21:53:56.4, 41.57N×20.15E, h24km, ML2.1*

TIR 25 21:53:56.4, 41.57N×20.15E, h24km, Md2.1/4, Albania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PHP	**Peshkopia**	**0.25**	**62**	*i* Pg	Pb	21 54 02.2	-0.4
PHP				*i* Sg	Sb	21 54 06.9	0.0
PHP	**Peshkopia**	**0.25**	**62**	*i* PG	Pb	21 54 02.2	-0.4
PHP				*i* SG	Sb	21 54 06.9	0.0
TIR	**Tirane**	**0.31**	**224**	*i* Pg	Pb	21 54 03.3	-0.1
TIR				*i* Sg	Sb	21 54 08.9	+0.6
TIR	**Tirane**	**0.31**	**224**	*i* PG	Pb	21 54 03.3	-0.1
TIR				*i* SG	Sb	21 54 08.9	+0.6
PUK	**Puka**	**0.51**	**338**	*i* Pg	Pb	21 54 06.8	0.0
PUK				*i* Sg	Sn	21 54 15.2	-1.1
PUK	**Puka**	**0.51**	**338**	*i* PG	Pb	21 54 06.8	-0.1
PUK				*i* SG	Sn	21 54 15.2	-1.1
BCI	**Bajram Curri**	**0.80**	**356**	*i* Pg	Pn	21 54 12.6	+0.4
BCI				*i* Sg	Sn	21 54 23.7	+0.4
BCI	**Bajram Curri**	**0.80**	**356**	*i* PG	Pn	21 54 12.7	+0.5
BCI				*i* SG	Sn	21 54 23.7	+0.4

PGC 25 21:54:53.4±0.1, 50.51N×130.25W, h10km, MLSn2.9/9, Mw3.5/9, 200km west of Pt. Hardy, Bc Vancouver Island, Canada Region, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PACB	**Port Alice, BC**	**1.76**	**91**	Pn	Pn	21 55 19.4	-4.5
PHC	**Port Hardy**	**1.80**	**83**	Pn	Pn	21 55 22.8	-1.7
PHC				Sn	Sn	21 55 43.7	-3.7
BBB	**Bella Bella**	**2.15**	**38**	Pn	Pn	21 55 27.7	-1.5
BBB				Sn	Sn	21 55 50.9	-4.9
TLCB	**Telegraph Cove**	**2.18**	**88**	Pn	Pn	21 55 27.6	-2.1
TLCB				Sn	Sn	21 55 52.9	-3.7
WOSB	**Woss**	**2.38**	**97**	Pn	Pn	21 55 31.2	-1.3
NCRB	**Newcastle Ridg**	**2.68**	**91**	Pn	Pn	21 55 35.2	-1.5
SPLB	**Strathcona Par**	**3.02**	**100**	Pn	Pn	21 55 38.9	-2.2
CBB	**Campbell River**	**3.17**	**97**	Pn	Pn	21 55 41.9	-1.3
BTB	**Buttle Lake**	**3.22**	**107**	Pn	Pn	21 55 41.6	-2.5
TXB	**Texada**	**3.83**	**100**	Pn	Pn	21 55 51.7	-0.6
UBRB	**Upper Baezaeko**	**4.51**	**56**	Pn	Pn	21 56 03.2	+1.3
UBRB				Sn	Sn	21 56 53.0	-1.4

*IDC **25** 21:56:18.8±1.6, 3.92S×38.06E, h0km, mb3.7/5, mb1 3.8/6, mb1mx3.4/59, mbtmp3.6/6, ML2.6/1, MS3.4/12, Ms1 3.4/12, ms1mx3.1/53, Error ellipse: s-maj=36.3km s-min=23.0km az=65.0*

ISC 25 21:56:20.4±1.6, 3.9S±0.1×37.8E±0.2, h10km, n20, σ1°28/11, mb3.8/5, MS3.6/11, Tanzania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KOND	**Kondoa**	**2.29**	**243**	*i* P	**Pn**	**21 56 57.0**	**-1.4**
KOND				*i* S	**Sn**	**21 57 27.7**	**+0.9**
KMBO	**Kilima Mbogo**	**2.79**	**348**	*i* P	**Pb**	**21 57 10.3**	**-0.3**
KMBO	**Kilima Mbogo**	**2.79**	**348**	Pn	**Pn**	**21 57 05.7**	**+0.3**
	0.9nm,0.3s,baz=179,slow=15,SNR=8.8						
KMBO				Pg	**Pg**	**21 57 12.3**	**-1.7**
	12nm,0.3s,baz=175,slow=15,SNR=10						
KMBO				Lg	Lg	21 57 50.0	
	94nm,0.3s,baz=174,slow=21,SNR=25						
KMBO	**Kilima Mbogo**	**2.79**	**348**	*i* P	**Pb**	**21 57 10.3**	**-0.3**
ATD	**Arta Tunnel**	**16.09**	**18**	LR	LR	22 06 25.1	
	comp=Z,100nm,18.6s,baz=136,slow=38						
BOSA	**Boshof**	**27.36**	**205**	LR	LR	22 13 31.9	
	comp=Z,33nm,20.9s,baz=35,slow=38						
MMAI	**Mount Meron Ar**	**36.76**	**357**	LR	LR	22 18 26.1	
	comp=Z,23nm,19.8s,baz=25,slow=36						
TORD	**Torodi Ar. Bea**	**39.67**	**296**	P	**P**	**22 03 53.6**	**+0.6**
	0.9nm,1.0s,baz=120,slow=8.5,SNR=4.8						
TORD				LR	LR	22 20 26.2	
	comp=Z,62nm,19.3s,baz=100,slow=36						
IDI	**Anoyia**	**40.81**	**344**	LR	LR	22 21 44.5	
	comp=Z,39nm,18.6s,baz=110,slow=37						
DBIC	**Dimbokro**	**43.89**	**284**	LR	LR	22 23 08.9	
	comp=Z,26nm,21.6s,baz=90,slow=36						
GNI	**Garni**	**44.26**	**8**	LR	LR	22 23 01.5	
	comp=Z,66nm,18.8s,baz=196,slow=36						
KOWA	**Kowa**	**45.32**	**295**	LR	LR	22 23 00.3	

mb1mx3.4/65,mbtmp3.6/6,ML4.2/1,MS2.9/4,Ms1 2.9/4, ms1mx2.5/51,Error ellipse: s-maj=54.0km s-min=25.1km az=53.0
ISCJB ***25*** *21:59:35.5±1.3,9°.1N±0°.2×93°.9E±0°.2,h22km,mb3.5/5, MS2.9/2,Error ellipse: s-maj=30.0km s-min=21.7km az=150.7*

ISC 25 21:59:37.3±1.5,9°.0N±0°.2×93°.8E±0°.2,h22km,n9,σ1§05/6, mb3.5/5,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**10.68**	**28**		**Pn**	**22 02 09.4**	**+0.4**
	0.5nm,0.3s,baz=214,slow=15,SNR=9.5						
CMAR				LR	LR	22 06 24.6	
	comp=Z,26nm,20.2s,baz=217,slow=39						
PALK	**Pallekele**	**13.05**	**263**	LR	LR	22 07 14.6	
	comp=Z,67nm,18.4s,baz=116,slow=35						
LEM	**Lembang**	**20.91**	**138**	LR	LR	22 12 42.8	
	comp=Z,21nm,19.3s,baz=178,slow=38						
MKAR	**Makanchi Array**	**38.94**	**347**	P	**P**	**22 07 01.6**	**+0.1**
	0.3nm,0.7s,baz=161,slow=9.2,SNR=3.9						
GEYT	**Alibeck**	**43.14**	**318**	P	**P**	**22 07 37.0**	**+0.7**
	2.0nm,0.4s,baz=134,slow=7.4,SNR=11						
KURBB	**Kurchatov Arra**	**43.39**	**346**	P	**P**	**22 07 37.2**	**-0.9**
	0.1nm,0.3s,baz=162,slow=6.6,SNR=2.8						
ZALV	**Zalesovo Beam**	**45.42**	**353**	P	**P**	**22 07 52.9**	**-1.4**
	0.5nm,0.4s,baz=175,slow=8.0,SNR=3.6						
WRA	**Warramunga Arr**	**49.20**	**126**	P	**P**	**22 08 24.3**	**+0.1**
	0.3nm,0.7s,baz=304,slow=8.2,SNR=2.7						
GUMO	**Guam**	**50.25**	**80**	LR	LR	22 31 12.5	
	comp=Z,24nm,18.3s,baz=52,slow=38						

IDC 25 22:00:48.4±1.2,45°.74N×39°.71E,h0km,mb3.3/1, mb1 3.3/5,mb1mx3.0/64,mbtmp3.2/5,ML2.8/4,Error ellipse: s-maj=22.7km s-min=12.0km az=35.0, Ukraine-Moldova-Southwestern Russia region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBZ	**Khabaz**	**3.03**	**130**	Pn	Pn	22 01 38.6	+1.0
	0.6nm,0.3s,baz=294,slow=9.0,SNR=15						
KBZ				Lg	Lg	22 02 25.3	
	4.4nm,0.3s,baz=173,slow=18,SNR=7.8						
BRTR	**Keskin Array B**	**7.49**	**219**	Pn	Pn	22 02 39.9	+0.9
	0.1nm,0.3s,baz=37,slow=12,SNR=3.8						
AKASG	**Malin Array Be**	**8.58**	**309**	Pn	Pn	22 02 52.1	-1.7
	0.9nm,0.3s,baz=116,slow=11,SNR=4.4						
FINES	**FINESS Array B**	**17.62**	**338**	P	Pn	22 04 53.4	-1.8
	0.1nm,0.3s,baz=139,slow=13,SNR=2.3						
TORD	**Torodi Ar. Bea**	**45.67**	**237**	P	P	22 09 10.9	-0.1
	0.2nm,0.5s,baz=32,slow=9.8,SNR=5.2						

NIED ***25*** *22:11:00,37°.40N×141°.70E,h44km,Mw4.4 Best double couple: M₀4.50000×10¹⁵ NP1:φ₁251.00000°,δ21.00000°, λ-169.00000°. NP2:φ₂151.00000°,δ86.00000°, λ-69.00000°.*
ISCJB ***25*** *22:11:50.2±0.6,37°.36N±0°.03×141°.75E±0°.04,h41km±5km, mb4.3/45,MS3.4/16,Error ellipse: s-maj=6.3km s-min=4.2km az=26.6*
JMA ***25*** *22:11:50.8±0.1,37°.41N×141°.73E,h42km±3km,M4.3*
JMA Felt II J1.
IDC ***25*** *22:11:51.6±0.7,37°.37N×141°.65E,h37km±5km,mb3.9/23, mb1 4.0/29,mb1mx3.9/77,mbtmp4.1/29,ML3.9/4,MS3.3/17, Ms1 3.3/17,ms1mx3.0/70,Error ellipse: s-maj=13.4km s-min=10.9km az=104.0*
NEIC ***25*** *22:11:52.2±0.5,37°.36N×141°.68E,h41km±5km,mb4.5/20, Error ellipse: s-maj=5.7km s-min=4.0km az=134.0*
NEIC Recorded [2 JMA] in Fukushima.

ISC 25 22:11:51.0±0.7,37°.37N±0°.04×141°.81E±0°.05,h35km±4km, n112,σ1§40/116,mb4.3/46,MS3.3/16,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.74**	**270**	P	**Pn**	**22 12 04.0**	**-1.1**
JFK				*e*S	**Sb**	22 12 13.0	**-2.2**
ONAJ	**Iwakimizuishiy**	**0.85**	**252**	P	**Pn**	**22 12 05.7**	**-0.8**
ONAJ				*e*S	**Sn**	22 12 16.1	**-1.7**
JMM	**Marumori**	**0.95**	**302**	P	**Pn**	**22 12 06.7**	**-1.1**
JMM				*e*S	**Sn**	22 12 17.9	**-2.2**
JIO	**Ouri**	**1.14**	**342**	P	**Pn**	**22 12 09.8**	**-0.7**
JIO				*e*S	**Sn**	22 12 22.5	**-2.5**
JFT	**Otama**	**1.18**	**278**	P	**Pn**	**22 12 10.9**	**-0.2**
JFT				S	**Sn**	22 12 25.1	**-0.8**
JHO	**Hitachi**	**1.25**	**233**	P	**Pn**	**22 12 11.2**	**-0.8**
JHO				*e*S	**Sn**	22 12 25.9	**-1.6**
JOU	**Okura**	**1.35**	**318**	P	**Pn**	**22 12 12.9**	**-0.4**
JOU				*e*S	**Sn**	22 12 29.1	**-0.9**
JYS	**Shirataka**	**1.62**	**302**	P	**Pn**	**22 12 17.3**	**+0.2**
JMK	**Ichinoseki**	**1.65**	**344**	P	**Pn**	**22 12 17.3**	**-0.2**
JMK				*e*S	**Sn**	22 12 36.6	**-0.8**
JFY	**Yanaizu**	**1.68**	**272**	P	**Pn**	**22 12 18.0**	**+0.1**
JFY				*e*S	**Sn**	22 12 37.8	**-0.4**
MJAR	**Matsushiro Arr**	**3.00**	**255**	Pn	**Pn**	**22 12 36.0**	**-0.1**
	16nm,0.3s,baz=73,slow=18,SNR=54						
MJAR				Lg	Lg	22 13 18.7	
	23nm,0.3s,baz=92,slow=26,SNR=7.9						
MJAR				LR	LR	22 14 03.4	
	comp=Z,1μm,20.3s,baz=75,slow=46						
MAJO	**Matsushiro**	**3.00**	**255**	*e*Pn	**Pn**	**22 12 37.0**	**+0.9**
MAT	**Matsushiro**	**3.00**	**255**	P	**Pn**	**22 12 37.1**	**+1.0**
MAT				*e*S	**Sn**	22 13 10.9	**+0.1**
MJB9	**Matsu-Tunnel**	**3.00**	**255**	*e*Pn	**Pn**	**22 12 36.9**	**+0.8**
INU	**Inuyama**	**4.36**	**244**	*e*Pn	**Pn**	**22 12 55.8**	**+1.1**
JHJ2	**Mitsune**	**4.55**	**202**	*e*Pn	**Pn**	**22 12 57.9**	**+0.6**
JHJ	**Hachijo jima 2**	**4.55**	**202**	Pn	**Pn**	**22 12 57.0**	**-0.4**
	47nm,0.3s,baz=320,slow=22,SNR=18						
JHJ				Sn	**Sn**	22 13 48.8	**-0.3**
	65nm,0.3s,baz=96,slow=23,SNR=8.7						
ERM	**Erimo**	**4.76**	**12**	*e*Pn	**Pn**	**22 13 00.8**	**+0.6**
ERM				*e*Sn	**Sn**	22 13 46.0	**-8.0**
ASAJ	**Asahikawa**	**6.77**	**5**	Pn	**Pn**	**22 13 27.9**	**+0.1**
	2.4nm,0.3s,baz=195,slow=11,SNR=16						
ASAJ				Sn	**Sn**	**22 14 42.2**	**-1.3**
	1.5nm,0.3s,baz=198,slow=20,SNR=2.2						
ASAJ	**Asahikawa**	**6.77**	**5**	*e*Pn	**Pn**	**22 13 28.4**	**+0.6**
ASAJ				Sn	**Sn**	22 14 42.2	**-1.3**
JNU	**Nakatsue**	**9.89**	**248**	LR	LR	22 18 15.4	
	comp=Z,333nm,21.8s,baz=118,slow=39						
USRK	**Ussuriysk Ar.**	**10.10**	**316**	Pn	**Pn**	**22 14 13.2**	**-0.2**
	0.1nm,0.3s,baz=119,slow=12,SNR=2.3						
CBIJ	**Chichi jima**	**10.25**	**178**	*e*Pn	**Pn**	**22 14 14.5**	**-1.0**
CBIJ				*e*Sn	**Sn**	**22 16 02.5**	**-6.7**
JCJ	**Chichijima**	**10.25**	**178**	Pn	**Pn**	**22 14 14.7**	**-0.8**
	6.9nm,0.3s,baz=268,slow=20,SNR=14						
JCJ				Sn	Sn	22 16 01.2	-8.0
	6.5nm,0.3s,baz=300,slow=20,SNR=5.5						
KSRS	**Korea Array**	**11.05**	**275**	Pn	**Pn**	**22 14 25.2**	**-1.3**
	0.2nm,0.3s,baz=75,slow=11,SNR=2.9						
KSRS				LR	LR	22 18 14.5	
	comp=Z,272nm,21.0s,baz=66,slow=35						
KSAR	**Wonju Array Be**	**11.08**	**275**	Pn	**Pn**	**22 14 25.2**	**-1.7**
KLR	**Kul'dur**	**13.92**	**332**	Pn	**Pn**	**22 15 07.1**	**+1.5**
	0.0nm,0.3s,baz=330,slow=20,SNR=2.2						
PETK	**Petropavlovsk-**	**19.24**	**30**	LR	LR	22 23 46.6	
	comp=Z,57nm,21.5s,baz=210,slow=37						
NJ2	**Nanjing**	**19.59**	**261**	*e*P	**Pn**	**22 16 18.0**	**+0.5**
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.5s						
MA2	**Magadan**	**22.96**	**12**	LR	LR	22 26 14.4	
	comp=Z,61nm,18.4s,baz=208,slow=38						
HHC	**Hu-ho-hao-te**	**23.67**	**288**	*e*P	**P**	**22 16 59.5**	**+0.1**
HHC				pmax	pmax		
	comp=Z,18nm,0.9s						
HHC				pmax	pmax		
	comp=Z,38nm,4.0s						
YAK	**Yakutsk**	**25.82**	**347**	LR	LR	22 29 44.9	
	comp=Z,38nm,18.1s,baz=108,slow=42						
SEY	**Seymchan**	**26.40**	**11**	P	**P**	**22 17 24.9**	**+0.9**
	comp=Z,1.0nm,0.2s,baz=172,slow=6.7,SNR=5.9						
ENH	**Enshi**	**27.68**	**265**	*e*P	**P**	**22 17 34.9**	**-0.9**
	comp=Z,17nm,0.9s						
SONA1	**Songino Array**	**27.86**	**303**	*e*P	**P**	**22 17 36.8**	**-0.6**
SONM	**Songino Array**	**27.86**	**303**	P	**P**	**22 17 36.8**	**-0.6**
	comp=Z,0.9nm,0.5s,baz=96,slow=8.6,SNR=9.0						
SONM				LR	LR	22 28 44.6	
	comp=Z,28nm,18.9s,baz=71,slow=36						
H11N2	**WAKE ISLAND Hy**	**28.05**	**122**	T	T	22 47 16.4	
	baz=316						
H11N1	**WAKE ISLAND Hy**	**28.06**	**122**	T	T	22 47 21.0	
	baz=316						
H11N3	**WAKE ISLAND Hy**	**28.07**	**122**	T	T	22 47 17.8	
	baz=316						
H11S1	**WAKE ISLAND Hy**	**28.78**	**124**	T	T	22 48 11.0	
	baz=318						
H11S3	**WAKE ISLAND Hy**	**28.78**	**124**	T	T	22 48 11.3	
	baz=318						
H11S2	**WAKE ISLAND Hy**	**28.80**	**124**	T	T	22 48 16.2	
	baz=318						
LZH	**Lanzhou**	**30.32**	**279**	*e*P	**P**	**22 18 01.0**	**+1.6**
LZH				pP	sP	22 18 11.5	-2.2
LZH				sP	pP	22 18 17.3	+7.9
LZH				PP	**PnPn**	**22 18 59.5**	**+1.4**
LZH				pmax	pmax		
	comp=Z,14nm,1.1s						
LZH				pmax	pmax		
	comp=Z,180nm,4.3s						
LZH				LR	LR		
	comp=N,190nm,14.5s						
LZH				LR	LR		
	comp=E,200nm,14.3s						
LZH				LR	LR		
	comp=Z,270nm,17.8s						
CD2	**Chengdu**	**31.99**	**270**	*e*P	**P**	**22 18 13.5**	**-0.5**
DAV	**Davao City (W)**	**33.58**	**210**	LR	LR	22 30 11.4	
	comp=Z,62nm,20.7s,baz=21,slow=33						
KMI	**Kunming**	**35.32**	**261**	P	**P**	**22 18 41.8**	**-1.4**
KMI				pP	pP	22 18 53.8	+0.5
KMI				pmax	pmax		
	comp=Z,12nm,1.3s						
KMI				LR	LR		
	comp=N,160nm,15.9s						
KMI				LR	LR		
	comp=E,120nm,18.5s						
KMI				LR	LR		
	comp=Z,160nm,24.6s						
MYLDM	**Lahad Datu**	**38.47**	**219**	*e*P	**P**	**22 19 10.6**	**+0.9**
	comp=Z,18nm,1.0s						
WMQ	**Urumqi**	**40.97**	**297**	P	**P**	**22 19 32.5**	**+2.1**
WMQ				LR	LR		
	comp=N,210nm,23.3s						
WMQ				LR	LR		
	comp=E,120nm,20.1s						
WMQ				LR	LR		
	comp=Z,86nm,23.3s						
CMAR	**Chiang Mai Arr**	**41.89**	**255**	P	**P**	**22 19 37.4**	**-0.7**
	comp=Z,0.7nm,0.3s,baz=57,slow=6.6,SNR=3.5						
CMAR				LR	LR	22 37 05.6	
	comp=Z,40nm,19.1s,baz=82,slow=36						
ZALV	**Zalesovo Beam**	**41.92**	**312**	P	**P**	**22 19 37.9**	**-0.1**
	comp=Z,0.6nm,0.3s,baz=95,slow=9.1,SNR=4.7						
ZALV				pP	**pP**	**22 19 48.6**	**+0.4**
	comp=Z,2.4nm,0.7s,baz=79,slow=7.7,SNR=5.8						
LSA	**Lhasa**	**42.49**	**275**	*e*P	**P**	**22 19 44.7**	**+1.2**
	comp=Z,5.1nm,1.1s						
MK01	**Makanchi Array**	**44.21**	**302**	*e*P	**P**	**22 19 56.1**	**-0.5**
MK31	**Makanchi Array**	**44.21**	**302**	*e*P	**P**	**22 19 56.1**	**-0.5**
MKAR	**Makanchi Array**	**44.21**	**302**	P	**P**	**22 19 56.0**	**-0.5**
	comp=Z,0.9nm,0.4s,baz=83,slow=9.5,SNR=13						
MKAR				pP	**pP**	**22 20 07.0**	**+0.1**
	comp=Z,3.2nm,0.7s,baz=87,slow=10,SNR=14						
MKAR				LR	LR	22 37 53.2	
	comp=Z,35nm,19.3s,baz=67,slow=35						
MKAR	**Makanchi Array**	**44.21**	**302**	*e*P	**P**	**22 19 56.1**	**-0.5**
	comp=Z,24nm,0.8s						
MKAR				pP	**pP**	**22 20 07.0**	**+0.1**
MAKZ	**Makanchi**	**44.42**	**302**	*e*P	**P**	**22 19 59.0**	**+0.8**
	comp=Z,3.7nm,0.8s						
KURK	**Kurchatov**	**45.98**	**308**	*e*P	**P**	**22 20 09.7**	**-0.8**
	comp=Z,13nm,0.8s						
KURBB	**Kurchatov Arra**	**46.05**	**308**	P	**P**	**22 20 10.6**	**-0.5**
	comp=Z,1.7nm,0.4s,baz=82,slow=8.0,SNR=14						
IM3	**Indian Mountai**	**46.20**	**31**	*e*P	**P**	**22 20 13.3**	**+1.2**
KDAK	**Kodiak Island**	**46.64**	**42**	P	**P**	**22 20 16.4**	**+0.9**
	comp=Z,10nm,0.7s,baz=250,slow=5.5,SNR=7.4						
PPLA	**Purkeypile**	**46.71**	**35**	*e*P	**P**	**22 20 18.3**	**+2.0**
	comp=Z,6.7nm,1.2s						
BPAW	**Bear Paw Mtn.**	**47.27**	**33**	*e*P	**P**	**22 20 21.8**	**+1.3**
	comp=Z,2.0nm,0.9s						
KTH	**Kantishna Hill**	**47.29**	**34**	*e*P	**P**	**22 20 22.7**	**+1.9**
	comp=Z,4.7nm,0.9s						
RAMN	**Ramite**	**47.30**	**274**	*e*P	**P**	**22 20 21.2**	**-0.3**
	comp=Z,27nm,0.9s						
JIRN	**Jiri**	**47.30**	**275**	*e*P	**P**	**22 20 21.4**	**-0.3**
	comp=Z,47nm,0.9s						
GUN	**Gumba**	**47.44**	**276**	*e*P	**P**	**22 20 22.5**	**-0.2**
	comp=Z,9.9nm,0.4s						
PKIN	**Phulchoki**	**47.97**	**275**	*e*P	**P**	**22 20 26.1**	**-0.6**
	comp=Z,9.0nm,1.0s						
GKN	**Gorkha**	**48.38**	**276**	*e*P	**P**	**22 20 29.5**	**-0.3**
	comp=Z,36nm,1.2s						
MDM	**Murphy Dome**	**48.47**	**32**	*e*P	**P**	**22 20 31.7**	**+1.9**
	comp=Z,4.5nm,0.8s						
WRH	**Wood River Hil**	**48.53**	**33**	*e*P	**P**	**22 20 31.4**	**+1.2**
	comp=Z,1.9nm,0.8s						
SML	**Sawmill**	**48.54**	**37**	*e*P	**P**	**22 20 31.7**	**+1.3**
	comp=Z,5.8nm,0.8s						
DHY	**Denali Highway**	**48.91**	**35**	*e*P	**P**	**22 20 35.1**	**+1.7**
	comp=Z,2.5nm,0.9s						
DANN	**Dangsing**	**48.92**	**277**	*e*P	**P**	**22 20 33.9**	**-0.2**
	comp=Z,3.5nm,0.9s						
SCM	**Sheep Creek Mo**	**49.01**	**36**	*e*P	**P**	**22 20 35.4**	**+1.4**
	comp=Z,7.4nm,1.2s						
ILAR	**Eielson Array**	**49.04**	**33**	P	**P**	**22 20 34.9**	**+0.7**
	comp=Z,3.3nm,0.7s,baz=267,slow=6.5,SNR=43						
ILB	**Eielson Array**	**49.04**	**33**	*e*P	**P**	**22 20 34.6**	**+0.4**
IL1	**Eielson Array**	**49.04**	**33**	*e*P	**P**	**22 20 34.5**	**+0.3**
KOLN	**Koldanda**	**49.31**	**277**	*e*P	**P**	**22 20 36.7**	**-0.2**
	comp=Z,16nm,1.1s						
PYUN	**Piuthan**	**49.64**	**277**	*e*P	**P**	**22 20 39.6**	**+0.1**
	comp=Z,39nm,1.0s						
DOT	**Dot Lake**	**50.35**	**34**	*e*P	**P**	**22 20 44.7**	**+0.5**
	comp=Z,4.9nm,0.8s						
SCRK	**Sand Creek**	**50.35**	**33**	*e*P	**P**	**22 20 45.3**	**+1.1**
	comp=Z,4.4nm,0.8s						
BVAR	**Borovoye Array**	**50.58**	**312**	P	**P**	**22 20 45.3**	**-0.7**
	comp=Z,0.6nm,0.5s,baz=89,slow=12,SNR=4.9						
BALM	**Baldy**	**51.48**	**37**	*e*P	**P**	**22 20 54.3**	**+1.5**
	comp=Z,5.5nm,1.1s						
PSI	**Prapat**	**52.24**	**239**	LR	LR	22 45 38.5	
	comp=Z,52nm,18.3s,baz=64,slow=39						
INK	**Inuvik**	**53.95**	**27**	P	**P**	**22 21 11.8**	**+1.0**
	comp=Z,2.0nm,0.8s,baz=279,slow=7.6,SNR=7.3						
ARU	**Arti**	**56.32**	**318**	*e*P	**P**	**22 21 27.6**	**-0.4**
	comp=Z,3.4nm,0.8s						
WRA	**Warramunga Arr**	**57.44**	**188**	P	**P**	**22 21 36.1**	**-0.1**
	comp=Z,2.1nm,0.7s,baz=6.3,slow=7.2,SNR=30						
WRA				pP	**pP**	**22 21 48.0**	**+1.1**
	comp=Z,1.2nm,0.6s,baz=1.5,slow=7.6,SNR=4.4						
ABKAR	**Akbulak array**	**57.97**	**310**	*e*P	**P**	**22 21 38.8**	**-1.0**
	comp=Z,12nm,0.8s						
DLBC	**Dease Lake**	**58.17**	**38**	P	**P**	**22 21 42.8**	**+1.7**
	comp=Z,2.5nm,0.8s,baz=318,slow=7.5,SNR=5.0						
ASAR	**Alice Springs**	**61.16**	**188**	P	**P**	**22 22 02.0**	**0.0**
	comp=Z,1.2nm,0.8s,baz=7.0,slow=6.2,SNR=10						
ASAR	**Alice Springs**	**61.16**	**188**	P	**P**	**22 22 02.0**	**0.0**
RES	**Resolute Bay**	**62.20**	**15**	P	**P**	**22 22 08.4**	**0.0**
	comp=Z,1.1nm,0.5s,baz=311,slow=5.9,SNR=7.0						
YKA	**Yellowknife Ar**	**63.36**	**30**	P	**P**	**22 22 16.9**	**+0.6**
	comp=Z,0.9nm,0.7s,baz=301,slow=6.7,SNR=20						
GYA0B	**ALIBECK ARRAY**	**63.95**	**299**	*e*P	**P**	**22 22 20.6**	**-0.1**
	comp=Z,7.1nm,0.4s						
FINES	**FINESS Array B**	**68.67**	**332**	P	**P**	**22 22 50.0**	**-0.4**
	comp=Z,1.8nm,0.7s,baz=46,slow=8.2,SNR=5.9						
STKA	**Stephens Creek**	**68.89**	**180**	P	**P**	**22 22 53.0**	**+1.0**
	comp=Z,1.6nm,0.7s,baz=353,slow=11,SNR=4.0						
YBH	**Yreka Blue Hor**	**69.89**	**53**	LR	LR	22 46 14.5	
	comp=Z,14nm,21.6s,baz=323,slow=30						
LRM	**Limekiln Ridge**	**73.69**	**45**	*e*P	**P**	**22 23 22.5**	**+1.1**
NB2	**NORSAR Subarra**	**74.00**	**337**	P	**P**	**22 23 22.2**	**-0.5**
	comp=Z,0.7nm,0.7s,baz=37,slow=6.2						
NOA	**NORSAR Array B**	**74.00**	**337**	P	**P**	**22 23 22.4**	**-0.2**
	comp=Z,0.8nm,0.7s,baz=37,slow=5.9,SNR=4.4						
NOA				LR	LR	23 00 18.5	
	comp=Z,22nm,18.9s,baz=35,slow=39						
AKASG	**Malin Array Be**	**74.23**	**322**	P	**P**	**22 23 23.2**	**-0.9**
	comp=Z,0.4nm,0.4s,baz=44,slow=6.1,SNR=4.1						
AKASG				pP	**pP**	**22 23 34.8**	**-0.2**
	comp=Z,1.1nm,0.5s,baz=47,slow=6.2,SNR=4.6						
NV01	**Mina Array Sit**	**74.53**	**53**	*e*P	**P**	**22 23 27.9**	**+1.5**
NVAR	**Mina Array Bea**	**74.53**	**53**	P	**P**	**22 23 27.8**	**+1.3**
	comp=Z,2.4nm,0.8s,baz=284,slow=5.8,SNR=16						
SFJD	**Kangerlussuaq**	**75.53**	**5**	LR	LR	22 58 37.0	
	comp=Z,23nm,18.1s,baz=348,slow=37						
PDAR	**Pinedale Array**	**77.21**	**46**	LR	LR	22 55 50.4	
	comp=Z,14nm,19.8s,baz=288,slow=34						
BRTR	**Keskin Array B**	**78.87**	**312**	P	**P**	**22 23 50.4**	**-0.4**
	comp=Z,0.2nm,0.4s,baz=133,slow=4.4,SNR=2.6						
BRTR				pP	**pP**	**22 24 01.9**	**+0.2**
	comp=Z,1.7nm,1.1s,baz=106,slow=4.5,SNR=5.6						
CLL	**Collm**	**80.96**	**330**	*i* pP	pP	22 24 14.3	+1.6
MMAI	**Mount Meron Ar**	**82.03**	**306**	P	**P**	**22 24 08.4**	**+0.6**
	comp=Z,1.0nm,0.7s,baz=48,slow=2.1,SNR=2.9						
FETA	**Feichten**	**85.26**	**329**	*i* pP	pP	22 24 37.2	+1.9
	comp=Z,4.4nm,1.1s						
TXAR	**Lajitas Array**	**89.67**	**53**	P	**P**	**22 24 46.5**	**+0.8**
	comp=Z,1.1nm,0.7s,baz=297,slow=3.8,SNR=14						
TXAR				LR	LR	22 59 13.4	
	comp=Z,16nm,21.4s,baz=0.0,slow=32						
TKL	**Tuckaleechee C**	**95.93**	**36**	LR	LR	23 12 50.5	
	comp=Z,9.9nm,18.9s,baz=336,slow=38						
LPAZ	**La Paz**	**146.25**	**60**	PKPbc	**PKPbc**	**22 31 29.5**	**+0.5**
	comp=Z,1.2nm,0.5s,baz=248,slow=3.9,SNR=6.8						

ISCJB ***25*** *22:18:35.3±0.5,50°.22N±0°.04×18°.69E±0°.03,h0km,Error ellipse: s-maj=6.4km s-min=2.4km az=16.9*
WAR ***25*** *22:18:37.1,50°.25N×18°.83E,h1km,Mw2.5*
PRU ***25*** *22:18:37.0,50°.26N×18°.76E,h0km*

ISC 25 22:18:36.5±0.8,50°.17N±0°.06×18°.77E±0°.02,h0km,n21, σ0§78/39,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	**Ostrava-Krasne**	**0.52**	**230**	*e*Pg	**Pb**	**22 18 48.6**	**+0.1**
OKC				*e*Sg	**Sb**	**22 18 57.1**	**+0.5**
	comp=Z,18nm,0.5s						
OJC	**Ojcow**	**0.67**	**86**	*e*Pg	**Pg**	**22 18 48.8**	**-0.4**
OJC				*e*Sg	**Sg**	**22 18 57.5**	**-0.3**
OJC	**Ojcow**	**0.67**	**86**	*e*Pg	**Pg**	**22 18 48.8**	**-0.4**
OJC				*e*Sg	**Sg**	**22 18 57.5**	**-0.3**
LANS	**Liptovska Anna**	**1.12**	**156**	*e*Pg	**Pn**	**22 18 59.5**	**0.0**
LANS				*e*SG	**Sn**	**22 19 15.6**	**0.0**
NIE	**Niedzica**	**1.25**	**127**	*e*Pg	**Pb**	**22 19 00.8**	**-0.1**
NIE				*e*Sg	**Sn**	**22 19 18.9**	**+0.1**
NIE	**Niedzica**	**1.25**	**127**	*e*Pg	**Pb**	**22 19 00.8**	**-0.1**
NIE				*e*Sg	**Sn**	**22 19 18.9**	**+0.1**
KRLC	**Kraliky**	**1.28**	**266**	*e*PG	**Pg**	**22 19 00.6**	**-0.4**
KRLC				*e*SG	**Sn**	**22 19 19.1**	**-0.5**
	comp=Z,3.0nm,0.3s						
DPC	**Dobruska-Polom**	**1.58**	**277**	*e*PG	**Pn**	**22 19 05.5**	**-0.3**
DPC				*e*SG	**Sg**	**22 19 27.2**	**0.0**
	comp=Z,11nm,0.3s						
VYHS	**Vyhne**	**1.68**	**178**	*e*PN	**Pn**	**22 19 07.5**	**+0.3**
VYHS				*e*SN	**Sn**	**22 19 30.1**	**+0.7**
VYHS				eLG	Lg	22 19 34.3	
KSP	**Ksiaz**	**1.71**	**294**	*e*Pg	**Pg**	**22 19 08.9**	**-0.4**
KSP				*e*Sg	**Sg**	**22 19 31.9**	**+0.4**
KSP	**Ksiaz**	**1.71**	**294**	*e*Pg	**Pg**	**22 19 08.9**	**-0.4**
KSP				*e*Sg	**Sg**	**22 19 31.9**	**+0.4**
STHS	**Stebnicka Huta**	**1.77**	**114**	*e*PN	**Pb**	**22 19 09.9**	**0.0**
STHS				*e*SN	**Sb**	**22 19 33.0**	**+0.3**
STHS				eLG	Lg	22 19 40.1	
UPC	**Upice**	**1.80**	**282**	*e*PG	**Pg**	**22 19 10.3**	**-0.6**
UPC				*e*SG	**Sg**	**22 19 33.7**	**-0.5**
	comp=Z,6.6nm,0.4s						
CRVS	**Cervenica-Dubn**	**2.17**	**125**	*e*PN	**Pb**	**22 19 17.3**	**+0.7**
TREC	**Trest**	**2.30**	**249**	*e*PN	**Pb**	**22 19 18.7**	**-0.2**
TREC				*e*SG	**Sg**	**22 19 50.7**	**+0.3**
	comp=Z,3.7nm,0.3s						
GOPC	**GO Pecny, Ondr**	**2.58**	**266**	*e*PG	**Pb**	**22 19 23.2**	**-0.4**
GOPC				*e*SG	**Sg**	**22 19 57.8**	**-1.5**
PVCC	**Panska Ves**	**2.71**	**279**	*e*SG	**Sg**	**22 20 04.6**	**+1.0**
	comp=Z,8.6nm,0.5s						
PRU	**Pruhonice**	**2.73**	**268**	*e*PG	**Pg**	**22 19 27.7**	**-1.0**
PRU				*e*SG	**Sg**	**22 20 03.4**	**-0.7**
BRG	**Berggiesshubel**	**3.16**	**285**	PG	**Pg**	**22 19 36.3**	**-0.7**
BRG				SG	**Sg**	**22 20 21.1**	**+3.2**
	5.0nm,0.8s						
KHC	**Kasperske Hory**	**3.53**	**255**	*e*PG	**Pb**	**22 19 41.2**	**+1.4**
KHC				*e*SG	**Sg**	**22 20 29.2**	**-0.6**
	comp=Z,4.6nm,0.4s						
NKC	**Novy Kostel**	**4.06**	**273**	*e*SG	**Sg**	**22 20 46.9**	**+0.1**

ISCJB ***25*** *22:23:41.6±0.4,39°.08N±0°.03×29°.

BATI					S	S	22 30 43.9	-0.5
	4.4nm,0.3s,baz=261,slow=19,SNR=14							
WRA	**Warramunga Arr**	**14.38**	**154**		P	P	22 31 35.8	-1.3
	0.2nm,0.3s,baz=330,slow=13,SNR=9.7							
WRA					S	S	22 34 18.5	+2.6
	0.1nm,0.3s,baz=333,slow=23,SNR=3.1							
ASAR	**Alice Springs**	**17.60**	**161**		P	P	22 32 12.4	+0.1
	0.2nm,0.3s,baz=345,slow=12,SNR=8.1							
MKAR	**Makanchi Array**	**66.99**	**328**		P	P	22 38 49.0	0.0
	0.2nm,0.6s,baz=111,slow=7.9,SNR=2.8							

*ISN **25** 22:33:04.9±1.2,32.61N×47.16E,h12km,ML2.7*
TEH 25 22:33:03.1,32.61N×47.16E,h12km,ML2.7,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKFM	**Kafar-mosalman**	**1.08**	**32**	*e*Pg	Pn	22 33 25.1	+1.0
IKFM				*e*AMB	AMB	22 33 29.5	
	comp=Z,99nm,0.1s						
IKFM				*e*Sg	Sn	22 33 41.0	+2.0
IKOM	**Komasi**	**1.59**	**10**	*e*Pn	Pg	22 33 33.3	-0.4
IKOM				*e*AMB	AMB	22 33 35.2	
	comp=Z,1μm,0.1s						
IGHG	**Ghaleghazi**	**1.79**	**344**	*e*Pn	Pg	22 33 36.8	-0.7
IGHG				*e*AMB	AMB	22 34 15.1	
	comp=Z,563nm,0.2s						
IVIS	**Veis**	**1.93**	**352**	*e*Pn	Pb	22 33 39.2	+0.8
IVIS				*e*AMB	AMB	22 34 10.8	
	comp=Z,715nm,0.2s						
HAGD	**Aghdareh**	**2.76**	**36**	*e*Pn	Pb	22 33 50.3	-2.2
HAGD				*e*AMB	AMB	22 33 55.0	
	comp=Z,99nm,0.0s						
HKZM	**Kohzaman**	**3.12**	**27**	*e*Pn	Pn	22 33 55.3	+2.9
HKZM				*e*AMB	AMB	22 34 00.5	
	comp=Z,99nm,0.1s						
QAM	**Ghamsar**	**3.77**	**71**	*e*AMB	AMB	22 34 07.1	
	comp=Z,122nm,0.1s						
QAM				*e*Pn	Pn	22 34 04.9	+3.7
IKLH	**Kolahrood**	**3.78**	**78**	*e*AMB	AMB	22 34 05.8	
	comp=Z,77nm,0.2s						
IKLH				*e*Pn	Pn	22 34 03.7	+2.2

*CSEM **25** 22:37:48.9,43.39N×13.20E,h7km,MD1.8/8*
ROM 25 22:37:48.9±0.1,43.39N×13.20E,h7km,Md1.8/8,Ml1.0/4, Error ellipse: s-maj=2.1km s-min=1.0km az=48.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CING	**Cingoli**	**0.01**	**190**	Pg	Pg	22 37 50.7	+0.4
CING				Sg	Sg	22 37 51.5	+0.2
CING	**Cingoli**	**0.01**	**190**	Pg	Pg	22 37 50.7	+0.4
CING				Sg	Sg	22 37 51.5	+0.2
ARVD	**Arcevia**	**0.22**	**300**	Pg	Pg	22 37 54.1	+0.8
ARVD				Sg	Sg	22 37 57.9	+1.7
ARVD	**Arcevia**	**0.22**	**300**	Pg	Pg	22 37 54.1	+0.8
ARVD				Sg	Sg	22 37 57.9	+1.7
SNTG	**Esanatoglia**	**0.23**	**235**	Pg	Pg	22 37 54.2	+0.7
SNTG				Sg	Sg	22 37 58.0	+1.3
	33nm,0.2s						
SNTG	**Esanatoglia**	**0.23**	**235**	Pg	Pg	22 37 54.2	+0.7
SNTG				Sg	Sg	22 37 58.0	+1.3
	33nm,0.2s						
FRON	**Frontone**	**0.37**	**290**	Pg	Pg	22 37 56.7	+0.6
FRON				Sg	Sb	22 38 03.1	-0.6
	47nm,1.6s						
FRON	**Frontone**	**0.37**	**290**	Pg	Pg	22 37 56.7	+0.6
FRON				Sg	Sb	22 38 03.1	-0.6
	47nm,1.6s						
ATCC	**AVT- Casa Cast**	**0.46**	**244**	Pg	Pg	22 37 58.4	+0.6
ATCC				Sg	Sb	22 38 06.1	-0.1
ATCC	**AVT- Casa Cast**	**0.46**	**244**	Pg	Pg	22 37 58.4	+0.6
ATCC				Sg	Sb	22 38 06.1	-0.1
PIEI	**Pieia**	**0.51**	**287**	Pg	Pg	22 37 59.3	+0.6
PIEI				Sg	Sb	22 38 07.3	-0.4
	7.0nm,0.4s						
PIEI	**Pieia**	**0.51**	**287**	Pg	Pg	22 37 59.3	+0.6
PIEI				Sg	Sb	22 38 07.3	-0.4
	7.0nm,0.4s						
NRCA	**Norcia**	**0.56**	**186**	Pg	Pg	22 38 00.1	+0.4
NRCA				Sg	Sb	22 38 09.1	-0.1
	9.0nm,0.1s						
NRCA	**Norcia**	**0.56**	**186**	Pg	Pg	22 38 00.1	+0.4
NRCA				Sg	Sb	22 38 09.1	-0.1
	9.0nm,0.1s						
GUMA	**Gualdo di Mace**	**0.63**	**121**	Pg	Pg	22 37 56.5	-4.5
GUMA				Sg	Sg	22 38 02.9	-6.4
GUMA	**Gualdo di Mace**	**0.63**	**121**	Pg	Pg	22 37 56.5	-4.5
GUMA				Sg	Sg	22 38 02.9	-6.4

*ROM **25** 22:38:11.7±0.1,41.71N×12.82E,h9km±1km,Md3.0/29, Ml2.9/31,Error ellipse: s-maj=2.4km s-min=1.4km az=48.0*
*CSEM **25** 22:38:11.3±0.2,41.70N×12.83E,h15km,ML3.5/10,Error ellipse: s-maj=4.3km s-min=2.6km az=26.0*
ISC 25 22:38:11.7±0.8,41.71N±0.03×12.84E±0.02,h13km±6km, n72,σ0.51/96,2C,Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAV9	**Lanuvio**	**0.10**	**255**	Pg	**Pg**	**22 38 14.7**	**0.0**
LAV9				Sg	**Sg**	**22 38 16.7**	**-0.2**
	70μm,0.4s						
LAV9	**Lanuvio**	**0.10**	**255**	Pg	**Pg**	**22 38 14.7**	**0.0**
LAV9				Sg	**Sg**	**22 38 16.7**	**-0.2**
	70μm,0.4s						
RMP	**Rome, Mte Porz**	**0.14**	**317**	↑*i*Pg	**Pg**	**22 38 15.4**	**+0.1**
RMP				Sg	**Sg**	**22 38 18.2**	**+0.4**
	18μm,0.5s						
RMP	**Rome, Mte Porz**	**0.14**	**317**	↑*i*Pg	**Pg**	**22 38 15.4**	**+0.1**
RMP				Sg	**Sg**	**22 38 18.2**	**+0.4**
	18μm,0.5s						
MA9	**Marino**	**0.15**	**296**	Pg	**Pg**	**22 38 15.2**	**-0.1**
MA9				Sg	**Sg**	**22 38 17.5**	**-0.3**
	8μm,0.5s						
MA9	**Marino**	**0.15**	**296**	Pg	**Pg**	**22 38 15.2**	**-0.1**
MA9				Sg	**Sg**	**22 38 17.5**	**-0.3**
	8μm,0.5s						
SAMA	**S.Maria delle**	**0.20**	**293**	Pg	**Pg**	**22 38 16.3**	**+0.3**
SAMA				Sg	**Sg**	**22 38 19.5**	**+0.5**
	2μm,0.4s						
SAMA	**S.Maria delle**	**0.20**	**293**	Pg	**Pg**	**22 38 16.3**	**+0.3**
SAMA				Sg	**Sg**	**22 38 19.5**	**+0.5**
	2μm,0.4s						
ROM9	**Roma**	**0.27**	**297**	Pg	**Pb**	**22 38 18.1**	**-0.3**
ROM9				Sg	**Sb**	**22 38 22.9**	**0.0**
	3μm,0.6s						
ROM9	**Roma**	**0.27**	**297**	Pg	**Pb**	**22 38 18.1**	**-0.3**
ROM9				Sg	**Sb**	**22 38 22.9**	**0.0**
	3μm,0.6s						
MTCE	**Montecelio**	**0.33**	**348**	Pg	**Pg**	**22 38 18.5**	**+0.2**
MTCE				Sg	**Sg**	**22 38 23.5**	**+0.7**
	849nm,0.5s						
MTCE	**Montecelio**	**0.33**	**348**	Pg	**Pg**	**22 38 18.5**	**+0.2**
MTCE				Sg	**Sg**	**22 38 23.5**	**+0.7**
	849nm,0.5s						
GUAR	**Guarcino**	**0.37**	**76**	Pg	**Pb**	**22 38 19.7**	**-0.4**
GUAR				Sg	**Sb**	**22 38 25.8**	**0.0**
	511nm,0.2s						
GUAR	**Guarcino**	**0.37**	**76**	Pg	**Pb**	**22 38 19.7**	**-0.4**
GUAR				Sg	**Sb**	**22 38 25.8**	**0.0**
	511nm,0.2s						
PTQR	**Pietraquaria**	**0.53**	**53**	Pg	**Pg**	**22 38 22.3**	**+0.2**
PTQR				Sg	**Sb**	**22 38 31.1**	**+0.6**
PTQR	**Pietraquaria**	**0.53**	**53**	Pg	**Pg**	**22 38 22.3**	**+0.2**
PTQR				Sg	**Sb**	**22 38 31.1**	**+0.6**
FIAM	**Fiamignano**	**0.60**	**20**	Pg	**Pg**	**22 38 23.3**	**-0.1**
FIAM				Sg	**Sb**	**22 38 32.6**	**0.0**
	2μm,0.6s						
FIAM	**Fiamignano**	**0.60**	**20**	Pg	**Pg**	**22 38 23.3**	**-0.1**
FIAM				Sg	**Sb**	**22 38 32.6**	**0.0**
	2μm,0.6s						
VVLD	**Villa Vallelon**	**0.61**	**74**	Pg	**Pg**	**22 38 23.8**	**+0.2**
VVLD				Sg	**Sb**	**22 38 33.8**	**+0.9**
	1μm,0.8s						
VVLD	**Villa Vallelon**	**0.61**	**74**	Pg	**Pg**	**22 38 23.8**	**+0.2**
VVLD				Sg	**Sb**	**22 38 33.8**	**+0.9**
	1μm,0.8s						
POFI	**Posta Fibreno**	**0.66**	**89**	Pg	**Pg**	**22 38 24.6**	**+0.1**
	339nm,0.7s						
POFI	**Posta Fibreno**	**0.66**	**89**	Pg	**Pg**	**22 38 24.6**	**+0.1**
	339nm,0.7s						

T0104	**Madonna delle**	**0.75**	**30**	Pg	**Pg**	**22 38 26.0**	**-0.3**
AQU	**L'Aquila**	**0.77**	**33**	Pg	**Pg**	**22 38 26.3**	**-0.4**
AQU	**L'Aquila**	**0.77**	**33**	Pg	**Pg**	**22 38 26.3**	**-0.4**
FAGN	**Fagnano**	**0.79**	**45**	Pg	**Pg**	**22 38 26.7**	**-0.3**
	1μm,0.4s						
FAGN	**Fagnano**	**0.79**	**45**	Pg	**Pg**	**22 38 26.7**	**-0.3**
	1μm,0.4s						
INTR	**Introdacqua**	**0.86**	**69**	Pg	**Pb**	**22 38 27.8**	**-0.7**
INTR				Sg	**Sn**	**22 38 41.3**	**-0.7**
	860nm,0.8s						
INTR	**Introdacqua**	**0.86**	**69**	Pg	**Pb**	**22 38 27.8**	**-0.7**
INTR				Sg	**Sn**	**22 38 41.3**	**-0.7**
	860nm,0.8s						
CERA	**Filignano**	**0.89**	**96**	Pg	**Pb**	**22 38 28.5**	**-0.6**
	332nm,0.6s						
CERA	**Filignano**	**0.89**	**96**	Pg	**Pb**	**22 38 28.5**	**-0.6**
	332nm,0.6s						
LNSS	**Leonessa**	**0.91**	**10**	Pg	**Pb**	**22 38 28.2**	**-1.2**
	497nm,0.6s						
LNSS	**Leonessa**	**0.91**	**10**	Pg	**Pb**	**22 38 28.2**	**-1.2**
	497nm,0.6s						
CESX	**Cesi**	**0.92**	**348**	Pg	**Pb**	**22 38 29.0**	**-0.6**
	533nm,0.9s						
CESX	**Cesi**	**0.92**	**348**	Pg	**Pb**	**22 38 29.0**	**-0.6**
	533nm,0.9s						
CAMP	**Campotosto**	**0.93**	**27**	Pg	**Pg**	**22 38 30.0**	**+0.3**
	555nm,0.9s						
CAMP	**Campotosto**	**0.93**	**27**	Pg	**Pg**	**22 38 30.0**	**+0.3**
	555nm,0.9s						
MODR	**Mondragone**	**0.96**	**125**	Pg	**Pb**	**22 38 29.7**	**-0.5**
	221nm,0.6s						
MODR	**Mondragone**	**0.96**	**125**	Pg	**Pb**	**22 38 29.7**	**-0.5**
	221nm,0.6s						
RNI2	**Rionero Sannit**	**0.99**	**90**	Pg	**Pg**	**22 38 30.8**	**+0.1**
	390nm,0.8s						
RNI2	**Rionero Sannit**	**0.99**	**90**	Pg	**Pg**	**22 38 30.8**	**+0.1**
	390nm,0.8s						
MSC	**Monte Massico**	**1.00**	**121**	Pg	**Pb**	**22 38 30.1**	**-0.7**
MSC	**Monte Massico**	**1.00**	**121**	Pg	**Pb**	**22 38 30.1**	**-0.7**
SMA1	**SAN MARTINO**	**1.00**	**22**	Pg	**Pb**	**22 38 30.9**	**0.0**
	958nm,0.6s						
SMA1	**SAN MARTINO**	**1.00**	**22**	Pg	**Pb**	**22 38 30.9**	**0.0**
	958nm,0.6s						
VCEL	**Villa Celiera**	**1.02**	**47**	Pg	**Pn**	**22 38 31.6**	**-0.2**
	397nm,0.5s						
VCEL	**Villa Celiera**	**1.02**	**47**	Pg	**Pn**	**22 38 31.6**	**-0.2**
	397nm,0.5s						
LPEL	**Lama dei Pelig**	**1.06**	**71**	Pg	**Pb**	**22 38 31.3**	**-0.7**
	278nm,0.7s						
LPEL	**Lama dei Pelig**	**1.06**	**71**	Pg	**Pb**	**22 38 31.3**	**-0.7**
	278nm,0.7s						
MIDA	**Miranda**	**1.06**	**93**	Pg	**Pb**	**22 38 31.2**	**-0.8**
	182nm,0.9s						
MIDA	**Miranda**	**1.06**	**93**	Pg	**Pb**	**22 38 31.2**	**-0.8**
	182nm,0.9s						
VAGA	**Valle Agricola**	**1.09**	**105**	Pg	**Pg**	**22 38 33.2**	**+0.5**
	160nm,0.8s						
VAGA	**Valle Agricola**	**1.09**	**105**	Pg	**Pg**	**22 38 33.2**	**+0.5**
	160nm,0.8s						
NRCA	**Norcia**	**1.15**	**10**	Pg	**Pb**	**22 38 32.8**	**-0.6**
	170nm,0.5s						
NRCA	**Norcia**	**1.15**	**10**	Pg	**Pb**	**22 38 32.8**	**-0.6**
	170nm,0.5s						
SGG	**Gregorio Mates**	**1.20**	**105**	Pg	**Pg**	**22 38 34.9**	**+0.1**
	141nm,0.8s						
SGG	**Gregorio Mates**	**1.20**	**105**	Pg	**Pg**	**22 38 34.9**	**+0.1**
	141nm,0.8s						
CESI	**CESI - Serrava**	**1.30**	**2**	Pg	**Pn**	**22 38 35.1**	**-0.5**
	68nm,0.5s						
CESI	**CESI - Serrava**	**1.30**	**2**	Pg	**Pn**	**22 38 35.1**	**-0.5**
	68nm,0.5s						
SACS	**San Casciano d**	**1.33**	**329**	Pg	**Pb**	**22 38 36.6**	**0.0**
	103nm,1.0s						
MCIV	**Monte Civitell**	**1.38**	**322**	Pg	**Pg**	**22 38 38.4**	**+0.3**
	62nm,0.8s						
MCIV	**Monte Civitell**	**1.38**	**322**	Pg	**Pg**	**22 38 38.4**	**+0.3**
	62nm,0.8s						
PAOL	**Paolisi**	**1.47**	**117**	Pg	**Pn**	**22 38 38.1**	**+0.2**
	107nm,0.8s						
PAOL	**Paolisi**	**1.47**	**117**	Pg	**Pn**	**22 38 38.1**	**+0.2**
	107nm,0.8s						
ATCC	**AVT- Casa Cast**	**1.49**	**354**	Pg	**Pb**	**22 38 39.0**	**-0.2**
	190nm,0.7s						
ATCC	**AVT- Casa Cast**	**1.49**	**354**	Pg	**Pb**	**22 38 39.0**	**-0.2**
	190nm,0.7s						
ATTE	**AVT- Monte Tez**	**1.53**	**347**	Pg	**Pb**	**22 38 39.8**	**-0.2**
	115nm,0.9s						
ATTE	**AVT- Monte Tez**	**1.53**	**347**	Pg	**Pb**	**22 38 39.8**	**-0.2**
	115nm,0.9s						
NVLJ	**Novalja**	**3.22**	**27**	*i* Pn	**Pn**	**22 39 02.6**	**+0.7**
NVLJ	**Novalja**	**3.22**	**27**	*i* Pn	**Pn**	**22 39 02.6**	**+0.7**
STON	**Ston**	**3.79**	**70**	*e*Pn	**Pn**	**22 39 11.1**	**+1.3**
STON				Sn	**Sn**	**22 39 53.6**	**-0.6**
STON	**Ston**	**3.79**	**70**	*e*Pn	**Pn**	**22 39 11.1**	**+1.3**
STON				Sn	**Sn**	**22 39 53.6**	**-0.6**

*IDC **25** 22:49:56.7±0.6,36.32N×82.51E,h0km,mb4.1/22, mb1 4.3/27,mb1mx4.1/72,mbtmp4.2/27,ML4.2/4,MS3.4/20, Ms1 3.4/20,ms1mx3.2/67,Error ellipse: s-maj=15.8km s-min=11.3km az=41.0*
*ISCJB **25** 22:49:56.8±0.2,36.42N±0.02×82.54E±0.03,h10km, mb4.3/46,MS3.4/22,Error ellipse: s-maj=3.8km s-min=2.6km az=146.9*
*NNC **25** 22:49:57.5±2.8,36.54N×82.78E,h0km,mb4.6,mpv4.6, Error ellipse: s-maj=28.5km s-min=28.1km az=124.0*
*BJI **25** 22:49:57.0,36.39N×82.52E,h10km,mb4.3/31,mB4.5/16, ML4.8/8,Ms4.0/19,Ms7 3.7/13*
*NEIC **25** 22:49:58.6±0.3,36.42N×82.55E,h10km,mb4.6/11,Error ellipse: s-maj=6.9km s-min=5.4km az=222.0*
*MOS **25** 22:49:59.3±1.3,36.49N×82.54E,h27km,mb4.4/24,Error ellipse: s-maj=7.8km s-min=4.1km az=110.5*
ISC 25 22:49:58.8±0.4,36.42N±0.05×82.55E±0.04,h10km,n200, σ1.46/190,mb4.3/48,MS3.4/22,14C-13D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DHRM	**DHARAMSHALA**	**6.63**	**233**	*e*P	**Pn**	**22 51 36.7**	**+0.1**
PRZ	**Przheval'sk**	**6.86**	**333**	P	**Pn**	**22 51 40.7**	**+1.1**
SMLA	**Simla**	**6.92**	**222**	*e*P	**Pn**	**22 51 39.2**	**-1.1**
KDJ	**Kajisay**	**7.07**	**325**	*e*Pn	**Pn**	**22 51 43.5**	**+1.1**
KDJ	**Kajisay**	**7.07**	**325**	P	**Pn**	**22 51 43.5**	**+1.1**
PDGK	**Podgornoye**	**7.29**	**342**	⇓Pn	**Pn**	**22 51 46.2**	**+0.6**
	36nm,0.5s						
PDGK				⇓Lg	Lg	22 53 51.5	
	553nm,0.9s						
PDGK	**Podgornoye**	**7.29**	**342**	P	**Pn**	**22 51 46.2**	**+0.6**
PDGK				pmax	pmax		
	comp=Z,36nm,0.5s						
ULHL	**Ulahol**	**7.60**	**322**	P	**Pn**	**22 51 51.7**	**+1.8**
	SNR=12						
SFK	**Sufi-Kurgan**	**7.98**	**299**	⇑Pn	**Pn**	**22 51 56.9**	**+1.8**
	comp=Z,4.1nm,0.3s						
SFK				⇑Pg	**Pg**	**22 52 30.0**	**-1.6**
	comp=Z,82nm,1.0s						
SFK				⇓Lg	Lg	22 54 14.7	
	comp=Z,172nm,0.7s						
SFK	**Sufi-Kurgan**	**7.98**	**299**	P	**Pn**	**22 51 56.9**	**+1.8**
SFK				pmax	pmax		
	comp=Z,4.0nm,0.3s						
KZA	**Kyzart**	**8.00**	**317**	P	**Pn**	**22 51 58.0**	**+2.4**
	SNR=12						
KNDC	**Almaty**	**8.04**	**329**	⇑Pn	**Pn**	**22 51 56.8**	**+1.1**
	comp=Z,45nm,0.6s						
KNDC				⇓Lg	Lg	22 54 07.5	
	comp=Z,428nm,0.9s						
AAA	**Alma-Ata**	**8.05**	**329**	*e*P	**Pn**	**22 51 57.5**	**+1.6**
AAA				*e*S	**Sn**	**22 53 29.2**	**+2.2**
AAA				smax	smax		
	comp=E,100nm,0.7s						
AAA				MLR	MLR		
	comp=Z,400nm,2.0s						
CHCP	**Chirah Chowk**	**8.10**	**253**	P	**Pn**	**22 51 57.8**	**+1.2**
NIL	**Nilore**	**8.11**	**253**	Pn	**Pn**	**22 51 54.8**	**-1.9**
	comp=Z,58nm,0.4s						
NIL				*e*S	Sn	22 53 20.3	-8.2
NIL	**Nilore**	**8.11**	**253**	P	**Pn**	**22 51 54.8**	**-1.9**
NIL				pmax	pmax		
	comp=Z,58nm,0.4s						
PYUN	**Piuthan**	**8.30**	**177**	*e*P	**Pn**	**22 52 00.1**	**+0.6**
	comp=Z,26nm,0.8s						
WMQ	**Urumqi**	**8.38**	**26**	P	**Pn**	**22 52 00.5**	**+0.2**
WMQ				pmax	pmax		
	comp=Z,59nm,0.7s						
WMQ				smax	smax		
	comp=Z,270nm,1.3s						
WMQ				smax	smax		
	comp=Z,360nm,1.1s						
WMQ				LR	LR		
	comp=Z,960nm,8.5s						
WMQ				LR	LR		
	comp=Z,1μm,7.3s						
WMQ				LR	LR		
	comp=Z,500nm,15.9s						
WMQ	**Urumqi**	**8.38**	**26**	P	**Pn**	**22 52 00.5**	**+0.2**
WMQ	**Urumqi**	**8.38**	**26**	P	**Pn**	**22 52 00.5**	**+0.2**
TKM2	**Tokmak 2**	**8.42**	**323**	⇓Pn	**Pn**	**22 52 01.3**	**+0.2**
	comp=Z,7.9nm,0.8s						
TKM2				⇓Lg	Lg	22 54 19.8	
	comp=Z,92nm,0.8s						
TKM2	**Tokmak 2**	**8.42**	**323**	P	**Pn**	**22 52 01.7**	**+0.6**
	SNR=16						
UCH	**Uchtor**	**8.51**	**315**	P	Pn	22 51 59.3	-3.3
	SNR=19						
GKN	**Gorkha**	**8.57**	**168**	*e*P	**Pn**	**22 52 04.4**	**+1.2**
	comp=Z,13nm,0.6s						
KOLN	**Koldanda**	**8.67**	**174**	*e*P	**Pn**	**22 52 04.4**	**-0.1**
	comp=Z,15nm,0.6s						
AAK	**Ala-Archa**	**8.79**	**317**	Pn	**Pn**	**22 52 06.7**	**+0.6**
	comp=Z,0.6nm,0.3s,baz=149,slow=9.0,SNR=13						
AAK				Lg	Lg	22 54 34.8	
	comp=Z,2.4nm,0.3s,baz=357,slow=18,SNR=6.9						
AAK	**Ala-Archa**	**8.79**	**317**	⇑Pn	**Pn**	**22 52 07.4**	**+1.3**
	comp=Z,12nm,1.1s						
AAK				⇑Pg	Pg	22 52 37.0	-10
	comp=Z,16nm,0.7s						
AAK				⇑Lg	Lg	22 54 33.9	
	comp=Z,105nm,0.8s						
AAK	**Ala-Archa**	**8.79**	**317**	P	**Pn**	**22 52 10.1**	**+4.0**
	SNR=7.4						
AAK	**Ala-Archa**	**8.79**	**317**	*e*Pn	**Pn**	**22 52 07.6**	**+1.4**
AAK				Lg	Lg	22 54 34.8	
AAK	**Ala-Archa**	**8.79**	**317**	*i* P	**Pn**	**22 52 07.3**	**+1.2**
FRU1	**Bishkek**	**8.84**	**319**	P	**Pn**	**22 52 09.6**	**+2.9**
FRU	**Bishkek**	**8.86**	**319**	*e*P	**Pn**	**22 52 09.0**	**+2.0**
FRU				*e*S	**Sn**	**22 53 55.0**	**+8.2**
KKN	**Kakani**	**8.91**	**164**	*e*P	**Pn**	**22 52 07.8**	**0.0**
	comp=Z,13nm,0.8s						
AML	**Almayashu**	**8.93**	**312**	P	**Pn**	**22 52 09.6**	**+1.4**
	SNR=9.8						
GUN	**Gumba**	**8.94**	**161**	*e*P	**Pn**	**22 52 08.3**	**0.0**
	comp=Z,38nm,0.8s						
DMN	**Daman**	**9.04**	**165**	*e*P	**Pn**	**22 52 10.3**	**+0.6**
	comp=Z,17nm,0.5s						
CEP	**Cherat**	**9.10**	**257**	P	**Pn**	**22 52 10.8**	**+0.5**
PKIN	**Phulchoki**	**9.14**	**164**	*e*P	**Pn**	**22 52 11.3**	**+0.3**
	comp=Z,12nm,0.5s						
EKS2	**Erkin-Say**	**9.21**	**315**	P	**Pn**	**22 52 13.5**	**+1.7**
	SNR=24						
JIRN	**Jiri**	**9.26**	**160**	*e*P	**Pn**	**22 52 13.0**	**+0.2**
	comp=Z,143nm,1.4s						
THW	**Thamme Wali**	**9.62**	**251**	P	**Pn**	**22 52 18.3**	**+1.0**
MNAS	**Manas**	**9.85**	**311**	⇓Pn	**Pn**	**22 52 22.7**	**+2.0**
	comp=Z,2.0nm,0.6s						
MNAS				⇑Pg		22 52 57.4	
	comp=Z,18nm,1.0s						
MNAS				⇓Lg	Lg	22 55 12.0	
	comp=Z,20nm,0.7s						
MNAS	**Manas**	**9.85**	**311**	P	**Pn**	**22 52 22.0**	**+1.4**
RAMN	**Ramite**	**10.04**	**159**	*e*P	**Pn**	**22 52 21.7**	**-1.7**
	comp=Z,184nm,1.6s						
MK01	**Makanchi Array**	**10.35**	**359**	*e*Pn	**Pn**	**22 52 26.4**	**-0.9**
MK31	**Makanchi Array**	**10.37**	**359**	⇓Pn	**Pn**	**22 52 26.9**	**-0.7**
	comp=Z,4.8nm,0.3s,baz=183,slow=12,SNR=408						
MK31				⇓Sn	**Sn**	**22 54 21.4**	**-2.4**
	comp=Z,12nm,0.5s,baz=185,slow=22,SNR=7.2						
MK31	**Makanchi Array**	**10.37**	**359**	*e*Pn	**Pn**	**22 52 27.1**	**-0.4**
MK31	**Makanchi Array**	**10.37**	**359**	*e*P	**Pn**	**22 52 27.2**	**-0.4**
MKAR	**Makanchi Array**	**10.37**	**359**	Pn	**Pn**	**22 52 27.1**	**-0.6**
	comp=Z,6.3nm,0.3s,baz=182,slow=12,SNR=202						
MKAR				Sn	**Sn**	**22 54 23.1**	**-0.7**
	comp=Z,6.9nm,0.3s,baz=188,slow=25,SNR=7.5						
MKAR				Lg	Lg	22 55 30.8	
	comp=Z,1.9nm,0.3s,baz=182,slow=27,SNR=2.6						
MKAR				LR	LR	22 57 21.0	
	comp=Z,209nm,20.2s,baz=178,slow=42						
ODAN	**Odare**	**10.38**	**155**	*e*P	**Pn**	**22 52 26.5**	**-1.5**
	comp=Z,42nm,0.9s						
MAKZ	**Makanchi**	**10.39**	**358**	*e*Pn	**Pn**	**22 52 27.3**	**-0.6**
MAKZ	**Makanchi**	**10.39**	**358**	*e*P	**Pn**	**22 52 27.3**	**-0.6**
KBL	**Kabul**	**11.18**	**264**	*e*Pn	**Pn**	**22 52 38.9**	**+0.1**
KBL	**Kabul**	**11.18**	**264**	*e*P	**Pn**	**22 52 38.9**	**+0.1**
KK31	**Karatay Array**	**11.42**	**309**	⇓Pn	**Pn**	**22 52 46.4**	**+4.4**
	comp=Z,1.3nm,0.5s,baz=134,slow=14,SNR=3.6						
KK31				⇑Lg	Lg	22 55 56.0	
	comp=Z,25nm,0.8s						
KK31	**Karatay Array**	**11.42**	**309**	*e*Pn	**Pn**	**22 52 41.7**	**-0.2**
KK31	**Karatay Array**	**11.42**	**309**	*e*P	**Pn**	**22 52 41.7**	**-0.2**
KKAR	**Karatay Array**	**11.42**	**309**	*e*Pn	**Pn**	**22 52 40.5**	**-1.4**
KKAR	**Karatay Array**	**11.42**	**309**	*e*P	**Pn**	**22 52 40.5**	**-1.4**
BOK	**Bokaro**	**12.90**	**166**	*e*P	Pn	22 52 59.0	-3.3
SHL	**Shillong**	**13.44**	**141**	*e*P	Pn	22 53 06.0	-3.9
DGZ	**Jazzator, Alta**	**13.74**	**13**	*i* P	Pn	22 53 12.0	-1.8
BHPL	**Bhopal**	**13.86**	**200**	*e*P	**Pn**	**22 53 16.1**	**+0.6**
BHPL				IAmb	IAmb	22 53

CD2				S	**Sn**	**22 57 40.5**	**-1.0**
CD2				pmax	pmax		
	comp=Z,20nm,0.5s						
CD2				pmax	pmax		
	comp=Z,120nm,5.0s						
CD2				LR	LR		
	comp=Z,920nm,14.9s						
CD2				LR	LR		
	comp=Z,310nm,12.9s						
VIS	**Vishakhapatnam**	**18.64**	**178**	*eP*	**P**	**22 54 16.8**	**+0.1**
BVA0	**Borovoye Array**	**18.68**	**337**	P	**P**	**22 54 16.7**	**-0.2**
	comp=Z,33nm,1.1s,baz=141,slow=9.7,SNR=171						
BVA0	**Borovoye Array**	**18.68**	**337**	P	**P**	**22 54 16.7**	**-0.2**
BVA0				pmax	pmax		
	comp=Z,33nm,1.1s						
BVAR	**Borovoye Array**	**18.68**	**337**	P	**P**	**22 54 16.8**	**-0.1**
	comp=Z,1.6nm,0.3s,baz=128,slow=9.6,SNR=93						
BRVK	**Borovoye**	**18.74**	**336**	*eP*	**P**	**22 54 17.6**	**0.0**
	comp=Z,54nm,0.8s						
BRVK	**Borovoye**	**18.74**	**336**	*c iP*	**P**	**22 54 17.5**	**-0.1**
BRVK				pmax	pmax		
	comp=Z,58nm,0.8s						
HYB	**Hyderabad**	**19.25**	**192**	*eP*	**P**	**22 54 21.1**	**-2.4**
HYB				IAmb	IAmb	22 54 22.3	
	comp=Z,32nm,1.3s						
POO	**Poona**	**19.40**	**206**	*ex*	**P**	**22 54 24.0**	**-1.1**
GEYT	**Alibeck**	**19.52**	**282**	P	**P**	**22 54 26.6**	**+0.2**
	comp=Z,0.6nm,0.3s,baz=98,slow=10,SNR=11						
GEYT				LR	LR	23 03 38.4	
	comp=Z,137nm,19.6s,baz=20,slow=42						
GYA0B	**ALIBECK ARRAY**	**19.52**	**282**	*eP*	**P**	**22 54 28.1**	**+1.8**
	comp=Z,10nm,0.8s						
MOY	**Mondy**	**20.11**	**35**	*eP*	**P**	**22 54 34.0**	**+1.2**
MOY				pmax	pmax		
	comp=Z,19nm,1.8s						
ZAK	**Zakamensk**	**20.44**	**40**	*eP*	**P**	**22 54 36.2**	**-0.1**
ZAK				pmax	pmax		
	comp=Z,7.0nm,1.0s						
KMI	**Kunming**	**20.63**	**117**	P	**P**	**22 54 38.5**	**-0.3**
KMI				pP	Pn	22 54 43.5	+2.5
KMI				sP	sP	22 54 46.0	+3.1
KMI				pmax	pmax		
	comp=Z,15nm,1.0s						
KMI				LR	LR		
	comp=Z,160nm,13.7s						
KMI				LR	LR		
	comp=Z,170nm,13.7s						
KMI				LR	LR		
	comp=Z,130nm,12.1s						
AB31	**Akbulak array**	**20.87**	**315**	P	**P**	**22 54 39.6**	**-1.3**
	comp=Z,7.1nm,0.7s,baz=115,slow=11,SNR=105						
ABKAR	**Akbulak array**	**20.87**	**315**	*eP*	**P**	**22 54 39.9**	**-1.0**
	comp=Z,79nm,0.6s						
SONM	**Songino Array**	**20.95**	**50**	P	**P**	**22 54 44.0**	**+2.0**
	comp=Z,31nm,0.8s,baz=240,slow=12,SNR=198						
SONA1	**Songino Array**	**20.96**	**50**	*eP*	**P**	**22 54 43.2**	**+1.1**
TLY	**Talaya**	**21.39**	**38**	P	**P**	**22 54 46.7**	**+0.2**
	comp=Z,3.0nm,0.7s,baz=190,slow=18,SNR=3.3						
TLY	**Talaya**	**21.39**	**38**	*eP*	**P**	**22 54 46.8**	**+0.2**
	comp=Z,5.5nm,0.9s						
TLY	**Talaya**	**21.39**	**38**	*eP*	**P**	**22 54 47.9**	**+1.4**
TLY				pmax	pmax		
	comp=Z,6.0nm,1.0s						
TLY				MLR	MLR		
	comp=Z,53nm,15.0s						
XAN	**Xi'an**	**21.65**	**88**	P	**P**	**22 54 51.0**	**+1.5**
XAN				pmax	pmax		
	comp=Z,10.0nm,1.1s						
XAN				LR	LR		
	comp=Z,220nm,4.8s						
XAN				LR	LR		
	comp=Z,170nm,7.0s						
CMAI	**Chiengmai2**	**21.88**	**134**	P	**P**	**22 54 55.6**	**+3.5**
	comp=Z,317nm,0.8s						
AKTO	**Aktyubinsk**	**22.53**	**316**	P	**P**	**22 54 58.3**	**-0.5**
	comp=Z,5.2nm,0.7s,baz=118,slow=11,SNR=20						
AKTO				LR	LR	23 05 13.9	
	comp=Z,54nm,19.7s,baz=122,slow=41						
AKTO	**Aktyubinsk**	**22.53**	**316**	⇑P	**P**	**22 54 57.1**	**-1.6**
	comp=Z,8.4nm,0.7s						
CHTO	**Chiang Mai**	**22.71**	**136**	P	**P**	**22 55 00.2**	**-0.6**
	comp=Z,74nm,0.9s						
CHTO	**Chiang Mai**	**22.71**	**136**	*eP*	**P**	**22 55 00.1**	**-0.7**
	comp=Z,11nm,0.8s						
CHTO	**Chiang Mai**	**22.71**	**136**	*eP*	**P**	**22 55 00.1**	**-0.7**
CHTO				pmax	pmax		
	comp=Z,11nm,0.8s						
CMMT	**Chiang Mai**	**22.71**	**136**	P	**P**	**22 54 59.2**	**-1.7**
	comp=Z,17nm,0.8s						
PAYA	**Payao**	**22.80**	**134**	P	**P**	**22 55 02.7**	**+0.8**
	comp=Z,8.2nm,1.1s						
CM31	**Chiang Mai Arr**	**23.00**	**137**	*eP*	**P**	**22 55 03.8**	**-0.1**
CMAR	**Chiang Mai Arr**	**23.00**	**137**	P	**P**	**22 55 02.0**	**-1.8**
	comp=Z,4.7nm,0.8s,baz=317,slow=9.8,SNR=30						
CMAR	**Chiang Mai Arr**	**23.00**	**137**	*eP*	**P**	**22 55 03.3**	**-0.5**
CMAR				pmax	pmax		
	comp=Z,5.0nm,0.8s						
CM01	**Chiang Mai Arr**	**23.03**	**137**	*eP*	**P**	**22 55 02.9**	**-1.3**
HHC	**Hu-ho-hao-te**	**23.04**	**70**	*eP*	**P**	**22 55 02.3**	**-2.0**
HHC				pmax	pmax		
	comp=Z,20nm,0.9s						
HHC				pmax	pmax		
	comp=Z,33nm,4.4s						
LAMP	**Lampang**	**23.33**	**135**	P	**P**	**22 55 07.0**	**-0.2**
	comp=Z,5.6nm,1.1s						
PHIT	**Phitsanulok**	**24.84**	**136**	P	**P**	**22 55 21.7**	**+0.3**
	comp=Z,11nm,1.0s						
DGPR	**DIGLIPUR**	**24.95**	**155**	*eP*	**P**	**22 55 22.1**	**-0.3**
DGPR				IAmb	IAmb	22 55 23.8	
	comp=Z,126nm,0.2s						
SVE	**Sverdlovsk**	**25.16**	**331**	⇓*iP*	**P**	**22 55 24.3**	**+0.3**
SVE				pmax	pmax		
	comp=Z,10.0nm,0.9s						
SVE				MLR	MLR		
	comp=Z,207nm,13.0s						
PBKT	**Sadao Pong**	**25.65**	**136**	P	**P**	**22 55 29.5**	**+0.7**
	comp=Z,10nm,0.9s						
ARU	**Arti**	**25.73**	**329**	P	**P**	**22 55 28.7**	**-0.5**
	comp=Z,4.3nm,0.6s,baz=120,slow=2.0,SNR=14						
ARU				LR	LR	23 06 41.2	
	comp=Z,102nm,19.9s,baz=140,slow=39						
ARU	**Arti**	**25.73**	**329**	*eP*	**P**	**22 55 28.3**	**-0.9**
	comp=Z,6.0nm,0.7s						
ARU	**Arti**	**25.73**	**329**	*d iP*	**P**	**22 55 28.6**	**-0.5**
ARU				S	**S**	**22 59 56.2**	**-1.6**
ARU				SS	**SnSn**	**23 00 53.7**	**+1.2**
ARU				pmax	pmax		
	comp=Z,10.0nm,1.2s						
CHAI	**Chaiyaphum**	**26.76**	**135**	P	**P**	**22 55 39.0**	**+0.1**
	comp=Z,5.2nm,0.9s						
PALK	**Pallekele**	**29.06**	**184**	LR	LR	23 07 31.1	
	comp=Z,101nm,19.4s,baz=296,slow=36						
GNI	**Garni**	**29.77**	**289**	LR	LR	23 10 06.2	
	comp=Z,38nm,19.3s,baz=98,slow=41						
GNI	**Garni**	**29.77**	**289**	*i* P	**P**	**22 56 05.4**	**-0.3**
GNI				pmax	pmax		
	comp=Z,5.0nm,1.0s						
HIA	**Hailar**	**29.83**	**53**	*i* P	**P**	**22 56 05.8**	**-0.2**
HIA				pmax	pmax		
	comp=Z,6.0nm,1.0s						
NJ2	**Nanjing**	**30.21**	**88**	*eP*	**P**	**22 56 10.5**	**+1.0**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
KIV	**Kislovodsk**	**31.14**	**296**	*eP*	P	22 56 15.3	-2.4
KIV				pmax	pmax		
	comp=Z,2.0nm,1.0s						
KIV				MLR	MLR		
	comp=Z,56nm,15.0s						
VRH	**Novokhopyorsk**	**32.50**	**310**	*eP*	**P**	**22 56 30.9**	**+1.5**
VRH				pmax	pmax		
	comp=Z,6.0nm,0.9s						
VSR	**Storozhevoye**	**34.09**	**310**	*eP*	**P**	**22 56 44.1**	**+0.8**
VSR				pmax	pmax		
	comp=Z,4.0nm,0.5s						
LPSR	**Galich'ya Gora**	**34.46**	**312**	*eP*	**P**	**22 56 45.0**	**-1.5**
LPSR				pmax	pmax		
	comp=Z,6.0nm,0.8s						
KSRS	**Korea Array**	**36.01**	**74**	LR	LR	23 13 17.6	
	comp=Z,49nm,18.0s,baz=242,slow=39						
OBN	**Obninsk**	**36.31**	**316**	⇑*eP*	**P**	**22 57 02.7**	**+0.3**
OBN				*e*		22 58 20.8	
OBN				pmax	pmax		
	comp=Z,6.0nm,0.8s						
OBN				MLR	MLR		
	comp=Z,40nm,17.0s						
KLMR	**Klimovskoe**	**36.48**	**326**	*eP*	P	22 57 02.0	-1.8
KLMR				AMP		22 57 04.2	
	comp=Z,10.0nm,1.2s						
KLMR				*e*PcP	**PcP**	**22 59 25.9**	**-1.5**
KLMR	**Klimovskoe**	**36.48**	**326**	*eP*	P	22 57 01.9	-1.9
KLMR				*e*		22 59 25.8	
KLMR				pmax	pmax		
	comp=Z,10.0nm,1.2s						
PSI	**Prapat**	**36.71**	**152**	LR	LR	23 13 51.7	
	comp=Z,61nm,21.7s,baz=324,slow=39						
KLR	**Kul'dur**	**37.64**	**54**	P	**P**	**22 57 14.8**	**+1.1**
	comp=Z,0.6nm,0.7s,baz=273,slow=9.2,SNR=20						
KLR	**Kul'dur**	**37.64**	**54**	*i* P	**P**	**22 57 14.3**	**+0.5**
BR131	**Keskin Array S**	**38.27**	**290**	*eP*	**P**	**22 57 21.2**	**+1.7**
BRTR	**Keskin Array B**	**38.27**	**290**	P	**P**	**22 57 20.4**	**+0.9**
	comp=Z,1.7nm,1.0s,baz=104,slow=7.6,SNR=8.8						
YAK	**Yakutsk**	**38.74**	**34**	*i* P	P	22 57 21.4	-1.5
YAK				pmax	pmax		
	comp=Z,5.0nm,0.8s						
AKASG	**Malin Array Be**	**40.31**	**308**	P	**P**	**22 57 34.7**	**-1.5**
	comp=Z,0.3nm,0.4s,baz=72,slow=8.5,SNR=4.6						
AKASG	**Malin Array Be**	**40.31**	**308**	P	**P**	**22 57 34.7**	**-1.5**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.6s						
KIEV	**Kiev**	**40.33**	**308**	*i* P	**P**	**22 57 35.6**	**-0.7**
KIEV				pmax	pmax		
	comp=Z,3.0nm,1.0s						
GRNR	**Gornyy**	**40.66**	**52**	*i* P	**P**	**22 57 38.0**	**-1.0**
TIXI	**Tiksi**	**42.51**	**20**	LR	LR	23 17 31.0	
	comp=Z,132nm,19.4s,baz=236,slow=39						
FINES	**FINESS Array B**	**42.91**	**324**	P	**P**	**22 57 57.1**	**-0.2**
	comp=Z,3.2nm,0.6s,baz=99,slow=8.9,SNR=15						
FINES				LR	LR	23 16 36.4	
	comp=Z,58nm,18.2s,baz=83,slow=37						
MLR	**Muntele Rosu**	**42.91**	**300**	P	**P**	**22 57 58.2**	**+0.4**
	comp=Z,1.4nm,0.7s,baz=0.0,slow=12,SNR=5.4						
MLR				LR	LR	23 18 57.6	
	comp=Z,13nm,18.9s,baz=62,slow=41						
KKM	**Kota Kinabalu**	**43.15**	**126**	*eP*	**P**	**22 58 00.2**	**+0.3**
	comp=Z,8.2nm,0.8s						
ATD	**Ata Tunnel**	**43.48**	**245**	LR	LR	23 17 10.9	
	comp=Z,31nm,18.2s,baz=156,slow=38						
ARCES	**ARCESS Array B**	**44.96**	**335**	P	**P**	**22 58 13.6**	**-0.1**
	comp=Z,4.7nm,0.8s,baz=94,slow=7.7,SNR=28						
MYLDM	**Lahad Datu**	**45.30**	**125**	*eP*	**P**	**22 58 18.5**	**+1.5**
	comp=Z,37nm,1.4s						
VYHS	**Vyhne**	**47.24**	**306**	*eP*	**P**	**22 58 32.2**	**+0.2**
VYHS	**Vyhne**	**47.24**	**306**	*eP*	**P**	**22 58 32.2**	**+0.2**
DIVS	**Divibare**	**47.34**	**300**	*eP*	**P**	**22 58 33.4**	**+0.5**
	comp=Z,4.4nm,0.9s						
DPC	**Dobruska-Polom**	**48.54**	**309**	*eP*	**P**	**22 58 42.1**	**+0.1**
DPC	**Dobruska-Polom**	**48.54**	**309**	*eP*	**P**	**22 58 42.1**	**+0.1**
MA2	**Magadan**	**48.61**	**39**	LR	LR	23 20 15.6	
	comp=Z,46nm,20.4s,baz=281,slow=37						
HFS	**Hagfors**	**48.91**	**322**	P	**P**	**22 58 44.4**	**-0.2**
	comp=Z,2.4nm,0.6s,baz=96,slow=7.9,SNR=9.5						
LEM	**Lembang**	**49.02**	**146**	LR	LR	23 23 57.6	
	comp=Z,69nm,18.7s,baz=229,slow=42						
CONA	**Conrad Observa**	**49.30**	**305**	*i* pP	**P**	**22 58 49.6**	**+1.6**
	comp=Z,7.9nm,1.6s						
SPITS	**Spitsbergen Ar**	**49.80**	**346**	P	**P**	**22 58 51.7**	**+0.5**
	comp=Z,1.2nm,0.4s,baz=58,slow=14,SNR=6.6						
SPITS				LR	LR	23 24 19.9	
	comp=Z,70nm,18.4s,baz=60,slow=41						
SPITS	**Spitsbergen Ar**	**49.80**	**346**	P	**P**	**22 58 51.7**	**+0.5**
SPITS				pmax	pmax		
	comp=Z,4.0nm,0.8s						
SPITS				MLR	MLR		
	comp=Z,70nm,18.4s						
BRG	**Berggiesshubel**	**49.93**	**310**	*e*(P)	**P**	**22 58 53.1**	**+0.5**
	comp=Z,3.2nm,0.9s						
BRG	**Berggiesshubel**	**49.93**	**310**	*eP*	**P**	**22 58 53.1**	**+0.5**
BRG				pmax	pmax		
	comp=Z,3.0nm,0.9s						
NB2	**NORSAR Subarra**	**50.06**	**323**	P	**P**	**22 58 52.4**	**-1.1**
	comp=Z,4.6nm,0.8s,baz=85,slow=7.9						
NB2	**NORSAR Subarra**	**50.06**	**323**	P	**P**	**22 58 52.4**	**-1.1**
NB2				pmax	pmax		
	comp=Z,4.0nm,0.9s						
NOA	**NORSAR Array B**	**50.06**	**323**	P	**P**	**22 58 53.0**	**-0.5**
	comp=Z,3.3nm,0.7s,baz=86,slow=7.5,SNR=12						
NOA				LR	LR	23 20 57.2	
	comp=Z,34nm,19.8s,baz=80,slow=37						
NOA	**NORSAR Array B**	**50.06**	**323**	*eP*	**P**	**22 58 53.0**	**-0.5**
NOA				pmax	pmax		
	comp=Z,4.0nm,0.8s						
CLL	**Collm**	**50.43**	**310**	*eP*	**P**	**22 58 56.0**	**-0.4**
CLL	**Collm**	**50.43**	**310**	*eP*	**P**	**22 58 56.0**	**-0.4**
GEC2	**GERESS Array S**	**50.51**	**307**	*eP*	**P**	**22 58 58.1**	**+1.0**
	comp=Z,27nm,2.0s						
GEC2	**GERESS Array S**	**50.51**	**307**	*eP*	**P**	**22 58 58.1**	**+1.0**
GEC2				pmax	pmax		
	comp=Z,27nm,2.0s						
GERES	**GERESS Array B**	**50.51**	**307**	P	**P**	**22 58 57.4**	**+0.3**
	comp=Z,1.7nm,0.7s,baz=69,slow=7.3,SNR=11						
GERES	**GERESS Array B**	**50.51**	**307**	*eP*	**P**	**22 58 57.7**	**+0.6**
GERES				pmax	pmax		
	comp=Z,2.0nm,0.7s						
GEA0	**GERESS Array S**	**50.51**	**307**	*eP*	**P**	**22 58 57.3**	**+0.2**
KHC	**Kasperske Hory**	**50.52**	**307**	*eP*	**P**	**22 58 57.6**	**+0.4**
KHC	**Kasperske Hory**	**50.52**	**307**	*eP*	**P**	**22 58 57.6**	**+0.4**
BILL	**Bilibino**	**54.49**	**27**	*i* P	**P**	**22 59 25.7**	**-0.5**
BILL				*i*		22 59 34.7	
BILL				*i*		23 00 29.8	
BILL				*i*		23 01 33.3	
BILL				pmax	pmax		
	comp=Z,2.0nm,0.9s						
KMBO	**Kilima Mbogo**	**56.24**	**239**	LR	LR	23 24 27.9	
	comp=Z,37nm,18.3s,baz=70,slow=37						
BORG	**Borgarnes**	**63.20**	**332**	LR	LR	23 28 06.7	
	comp=Z,32nm,18.8s,baz=351,slow=36						
ESDC	**Sonseca Array**	**65.56**	**302**	P	**P**	**23 00 42.7**	**-0.1**
	comp=Z,1.1nm,0.7s,baz=50,slow=6.1,SNR=4.4						
TOLK	**Toolik Lake Re**	**68.37**	**18**	*eP*	**P**	**23 01 00.7**	**+0.5**
IM3	**Indian Mountai**	**69.14**	**21**	*eP*	**P**	**23 01 05.1**	**+0.2**
SFJD	**Kangerlussuaq**	**70.94**	**342**	LR	LR	23 37 57.2	
	comp=Z,31nm,18.7s,baz=58,slow=41						
IL1	**Eielson Array**	**71.99**	**20**	*eP*	**P**	**23 01 21.4**	**-0.9**
ILAR	**Eielson Array**	**71.99**	**20**	P	**P**	**23 01 21.9**	**-0.3**
	comp=Z,1.4nm,0.8s,baz=314,slow=5.7,SNR=16						
INK	**Inuvik**	**72.16**	**13**	*eP*	**P**	**23 01 23.5**	**+0.3**
INK	**Inuvik**	**72.16**	**13**	*eP*	**P**	**23 01 23.5**	**+0.3**
RIDG	**Independ'e Rid**	**73.35**	**20**	*eP*	**P**	**23 01 30.2**	**-0.3**
SCRK	**Sand Creek**	**73.40**	**20**	*eP*	**P**	**23 01 31.1**	**+0.2**
SML	**Sawmill**	**73.83**	**23**	*eP*	**P**	**23 01 34.5**	**+1.2**
SML	**Sawmill**	**73.83**	**23**	*eP*	**P**	**23 01 34.5**	**+1.2**
WRA	**Warramunga Arr**	**74.39**	**130**	P	**P**	**23 01 36.0**	**-1.1**
	comp=Z,4.2nm,0.7s,baz=327,slow=5.9,SNR=11						
WRA	**Warramunga Arr**	**74.39**	**130**	*eP*	**P**	**23 01 36.9**	**-0.2**
WRA				pmax	pmax		
	comp=Z,4.0nm,0.7s						
TOA0	**Torodi Ar. Sit**	**75.02**	**275**	*eP*	**P**	**23 01 40.0**	**-1.0**
TORD	**Torodi Ar. Bea**	**75.02**	**275**	P	**P**	**23 01 39.8**	**-1.1**
	comp=Z,2.1nm,0.8s,baz=48,slow=4.9,SNR=12						
ASAR	**Alice Springs**	**76.94**	**133**	P	**P**	**23 01 51.2**	**-0.4**
	comp=Z,2.1nm,0.7s,baz=321,slow=6.0,SNR=14						
AS01	**Alice Springs**	**76.97**	**133**	*eP*	**P**	**23 01 50.6**	**-1.1**
KOWA	**Kowa**	**78.83**	**280**	P	**P**	**23 02 01.3**	**-1.1**
	comp=Z,1.3nm,0.5s,baz=34,slow=8.1,SNR=4.3						
YKA	**Yellowknife Ar**	**80.47**	**8**	P	**P**	**23 02 09.9**	**-0.5**
	comp=Z,2.8nm,0.9s,baz=342,slow=5.3,SNR=40						
CMLA	**Cha da Macela**	**80.67**	**310**	*i* P	P	23 02 08.4	-3.7

*ISN **25** 22:50:35.5±1.1, 32.66N×47.08E, h17km±18km, ML2.6*
TEH 25 22:50:35.2, 32.56N×47.08E, h17km, ML2.6, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKFM	**Kafar-mosalman**	**1.16**	**34**	*e*Pg	Pg	22 50 58.6	+1.0
IKFM				*e*AMB	AMB	22 51 22.2	
	comp=Z,99nm,0.2s						
IKOM	**Komasi**	**1.65**	**13**	*e*Sg	Sg	22 51 31.2	+2.8
IKOM				*e*Pn	Pg	22 51 06.3	-0.6
IKOM				*e*AMB	AMB	22 51 33.7	
	comp=Z,946nm,0.1s						
IGHG	**Ghaleghazi**	**1.81**	**347**	*e*AMB	AMB	22 51 44.9	
	comp=Z,754nm,0.3s						
IGHG				*e*Pn	Pb	22 51 08.9	+0.8
IVIS	**Veis**	**1.97**	**355**	*e*Pn	Pb	22 51 11.8	+1.1
IVIS				*e*AMB	AMB	22 51 44.7	
	comp=Z,504nm,0.2s						
IKLH	**Kolahrood**	**3.86**	**78**	*e*Pn	Pn	22 51 37.1	+3.0
IKLH				*e*AMB	AMB	22 51 47.1	
	comp=Z,50nm,0.2s						

*IDC **25** 23:03:26.7±1.6, 3.25S×130.49E, h0km, mb3.9/5, mb1 4.1/7, mb1mx3.6/58, mbtmp3.9/7, ML3.7/2, MS2.9/2, Ms1 2.9/2, ms1mx2.4/48, Error ellipse: s-maj=109.8km s-min=19.8km az=72.0*
ISC 25 23:03:32.4±1.4, 3.38S±0.2×129.8E±0.4, h35km, n9, σ2.9 09/7, mb3.7/4, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**11.56**	**339**	LR	LR	23 10 24.4	
	comp=Z,33nm,20.3s,baz=161,slow=37						
FITZ	**Fitzroy Crossi**	**14.80**	**196**	Pn	**P**	**23 07 05.3**	**+0.6**
	0.2nm,0.3s,baz=36,slow=13,SNR=3.7						
WRA	**Warramunga Arr**	**16.67**	**165**	P	**Pn**	**23 07 24.6**	**+1.1**
	0.4nm,0.3s,baz=350,slow=12,SNR=12						
WRA				S	**Sn**	**23 10 24.1**	**-3.6**
	0.2nm,0.3s,baz=343,slow=23,SNR=3.4						
ASAR	**Alice Springs**	**20.17**	**169**	P	Pn	23 08 08.6	+2.5
	11nm,0.4s,baz=352,slow=11,SNR=203						
ASAR				S	Sn	23 11 53.9	+1.6
	0.4nm,0.4s,baz=355,slow=20,SNR=3.9						
STKA	**Stephens Creek**	**30.08**	**160**	P	**P**	**23 09 40.0**	**+1.4**
	1.0nm,0.5s,baz=342,slow=9.6,SNR=3.4						
DZM	**Mont Dzumac**	**39.93**	**120**	LR	LR	23 26 41.4	
	comp=Z,31nm,18.3s,baz=206,slow=35						
MKAR	**Makanchi Array**	**65.43**	**326**	P	**P**	**23 14 11.4**	**-0.3**
	0.3nm,0.5s,baz=113,slow=8.4,SNR=6.6						
KURBB	**Kurchatov Arra**	**69.67**	**328**	P	**P**	**23 14 38.1**	**-0.2**
	0.2nm,0.2s,baz=127,slow=5.5,SNR=4.4						
BVAR	**Borovoye Array**	**75.24**	**327**	P	**P**	**23 15 10.5**	**-1.1**
	0.3nm,0.7s,baz=97,slow=9.4,SNR=3.3						

IDC 25 23:23:40.2±2.1, 4.86N×126.05E, h0km, mb3.6/4, mb1 3.7/4, mb1mx3.3/54, mbtmp3.6/4, Error ellipse: s-maj=216.9km s-min=21.7km az=66.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**25.96**	**162**	P	P	23 29 14.6	0.0
	0.4nm,0.7s,baz=340,slow=10,SNR=5.6						
ASAR	**Alice Springs**	**29.37**	**165**	P	P	23 29 45.2	0.0
	0.1nm,0.3s,baz=354,slow=7.8,SNR=3.0						
MKAR	**Makanchi Array**	**56.25**	**325**	P	P	23 33 22.9	+0.5
	0.4nm,0.5s,baz=110,slow=8.8,SNR=6.9						
KURBB	**Kurchatov Arra**	**60.43**	**327**	P	P	23 33 51.0	-0.6
	0.5nm,0.5s,baz=128,slow=7.2,SNR=2.8						

NEIC 25 23:28:48.8±0.0, 51.58N×179.73W, h25km, ML3.5(AEIC), After AEIC., Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GALAA	**Gareloi Lava P**	**0.62**	**73**	P	Pb	23 29 00.8	-0.3
TAPA	**Tanaga Point A**	**1.21**	**78**	P	Pn	23 29 09.2	-0.9
TAPA				S	Sn	23 29 24.9	-0.9
KIKV	**Kanaga Island**	**1.62**	**78**	P	Pn	23 29 15.5	-0.2
KIKV				S	Sn	23 29 35.9	+0.2
KINC	**Kanaga Island**	**1.65**	**77**	P	Pn	23 29 16.2	+0.1
KIRH	**Kanaga Island**	**1.67**	**78**	P	Pn	23 29 16.3	0.0
KIRH				S	Sn	23 29 36.6	-0.3
ADAG	**Mount Adagdak**	**1.98**	**77**	P	Pn	23 29 20.7	+0.1
ETKA	**Kagalaska Isla**	**2.08**	**81**	P	Pn	23 29 21.7	-0.4
ETKA				S	Sn	23 29 47.9	+0.7
GSTD	**Great Sitkin T**	**2.27**	**77**	P	Pn	23 29 25.8	+1.0
GSTD				S	Sn	23 29 53.7	+1.8
KOWE	**Korovin West**	**3.48**	**75**	P	Pn	23 29 41.6	+0.4
ATKA	**Atka Island**	**3.48**	**78**	P	Pn	23 29 41.3	+0.1
ATKA				S	Sn	23 30 21.1	-0.5
KOKL	**Mount Kliuchef**	**3.50**	**76**	P	Pn	23 29 42.5	+0.9
KOFP	**Korovin Flat P**	**3.55**	**77**	P	Pn	23 29 43.1	+0.8

DJA 25 23:32:36.3±0.5, 1.1N±5.5×122.1E±., h51km±11km, M4.0/8, mb4.0/2, MLv3.9/8, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRSI	**Marisa**	**0.79**	**105**	P	Pn	23 32 51.2	0.0
MRSI				S	Sn	23 33 03.4	+1.3
MPSI	**Mapaga**	**1.33**	**255**	P	Pn	23 32 58.3	-0.2
APSI	**Ampana**	**1.65**	**163**	P	Pn	23 33 01.5	-1.4
PCI	**Palu**	**2.07**	**220**	P	Pn	23 33 08.7	0.0
LUWI	**Luwuk**	**2.34**	**137**	P	Pn	23 33 12.9	+0.6
LUWI				S	Sn	23 33 41.3	+1.5
KMSI	**Cibinong**	**2.80**	**92**	P	Pn	23 33 19.3	+0.6
TTSI	**Tana Toraja**	**3.94**	**200**	P	Pn	23 33 34.6	+0.3
BKB	**Balikpapan**	**4.70**	**246**	S	Sn	23 34 36.6	-1.3
BNSI	**Bone**	**5.16**	**192**	P	Pn	23 33 51.4	+0.4
KBKI	**Kotabaru**	**6.38**	**232**	P	Pn	23 34 08.0	+0.2
LBMI	**Labuha**	**6.46**	**102**	P	Pn	23 34 12.7	+3.9
LBMI				S	Sn	23 35 20.1	-1.1

*IDC **25** 23:34:51.0±1.6, 2.67N×92.21E, h0km, mb3.7/7, mb1 3.9/9, mb1mx3.6/64, mbtmp3.8/9, ML4.2/2, MS2.6/1, Ms1 2.8/1, ms1mx2.4/68, Error ellipse: s-maj=46.8km s-min=23.2km az=46.0*
*ISCJB **25**

$M_0$4.93±.51; Best double couple: $M_0$6.71800×10^{16} NP1:$\theta_0$14.00000°,δ69.00000°,λ86.00000°. NP2: $\phi_0$205.00000°,δ21.00000°,λ101.00000°. Principal axes: T 6.4640, Plg65.0000°, Azm276.0000°; N 0.5130, Plg4.0000°, Azm15.0000°; P -6.9720, Plg24.0000°, Azm107.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.

ISC 25 23:43:11.1±0.4, 23°99S±0'.05×175°84W±0'.07, h31km, n352, σ1°41/343, mb5.0/114, MS4.7/41, 37C-22D, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**7.36**	**50**	P	Pn	23 44 46.2	-10
	baz=6.6,SNR=22						
MSVF	**Nonsavu**	**8.45**	**316**	*e*Pn	**Pn**	**23 45 14.6**	**+3.2**
MSVF				*e*S	**Sn**	**23 46 44.9**	**-1.0**
MSVF	**Nonsavu**	**8.45**	**316**	*c i*P	**Pn**	**23 45 14.5**	**+3.0**
AFI	**Afiamalu**	**10.73**	**22**	Pn	Pn	23 45 34.7	-8.1
	12nm,0.3s,baz=24,slow=16,SNR=9.1						
AFI				Sn	Sn	23 47 24.5	-18
	11nm,0.3s,baz=217,slow=24,SNR=2.0						
AFI	**Afiamalu**	**10.73**	**22**	*e*Pn	Pn	23 45 34.7	-8.2
AFI				*e*S	Sn	23 47 24.9	-17
RAR	**Rarotonga**	**15.09**	**83**	Pn	Pn	23 46 32.2	-10
	8.7nm,0.3s,baz=235,slow=8.4,SNR=15						
RAR				Sn	Sn	23 49 02.4	-26
	3.2nm,0.3s,baz=83,slow=17,SNR=1.8						
RAR				LR	LR	23 52 41.4	
	comp=Z,3μm,18.6s,baz=264,slow=38						
RAR	**Rarotonga**	**15.09**	**83**	*e*P	Pn	23 46 32.1	-10
NFK	**Norfolk Island**	**15.37**	**247**	P	**P**	**23 46 53.3**	**+3.2**
	baz=16,SNR=3.6						
URZ	**Urewera**	**15.45**	**201**	Pn	**Pn**	**23 46 48.7**	**+2.0**
	0.8nm,0.3s,baz=74,slow=6.3,SNR=7.1						
URZ				Sn	**Sn**	**23 49 28.8**	**-8.1**
	1.4nm,0.3s,baz=320,slow=12,SNR=2.5						
URZ	**Urewera**	**15.45**	**201**	*e*Pn	**P**	**23 46 52.0**	**+1.1**
	15nm,0.6s						
URZ				Sn	**Sn**	**23 49 28.8**	**-8.1**
DZM	**Mont Dzumac**	**16.42**	**273**	Pn	**P**	**23 47 02.9**	**+0.9**
	1.1nm,0.3s,baz=93,slow=16,SNR=12						
DZM				LR	LR	23 51 01.7	
	comp=Z,950nm,19.6s,baz=90,slow=29						
DZM	**Mont Dzumac**	**16.42**	**273**	*e*P	**P**	**23 47 04.2**	**+2.2**
	251nm,1.6s						
DZM				*e*LQ	LQ	23 50 19.2	
	3μm,28.5s						
DZM				*e*LR	LR	23 51 08.8	
	4μm,23.8s						
DZM	**Mont Dzumac**	**16.42**	**273**	*e*Pn	**P**	**23 47 02.9**	**+0.9**
	3.3nm,0.8s						
SNZO	**South Karori**	**19.00**	**202**	*e*P	**Pn**	**23 47 32.4**	**+1.4**
	266nm,1.3s						
RPZ	**Rata Peaks**	**22.44**	**206**	LR	LR	23 57 46.8	
	comp=Z,2μm,18.9s,baz=21,slow=39						
PAE	**Paea**	**25.31**	**81**	*e*T	T	00 14 18.6	
	5.0nm,0.3s						
PPT2	**Papeete2**	**25.34**	**80**	*e*LR	LR	23 54 38.7	
	3μm,23.0s,baz=248						
PPT	**Papeete**	**25.35**	**80**	LR	LR	23 57 35.4	
	comp=Z,2μm,18.4s,baz=260,slow=34						
HNR	**Honiara**	**27.27**	**298**	LR	LR	23 58 09.1	
	comp=Z,1μm,20.8s,baz=150,slow=33						
EIDS	**Eidsvold**	**30.05**	**260**	P	**P**	**23 49 17.8**	**+0.2**
	baz=31,SNR=3.5						
EIDS	**Eidsvold**	**30.05**	**260**	*e*P	**P**	**23 49 17.6**	**0.0**
	17nm,1.1s						
RMQ	**Roma**	**32.06**	**258**	P	**P**	**23 49 36.4**	**+1.0**
	baz=33,SNR=12						
CMSA	**Cobar Meteorol**	**34.73**	**249**	P	**P**	**23 49 58.9**	**+0.4**
	baz=35,SNR=8.5						
CTA	**Charters Tower**	**35.28**	**269**	P	**P**	**23 50 03.5**	**0.0**
	27nm,0.4s,baz=91,slow=11,SNR=50						
CTAO	**Charters Tower**	**35.28**	**269**	*e*P	**P**	**23 50 03.3**	**-0.1**
	40nm,0.4s						
CTAO	**Charters Tower**	**35.28**	**269**	*e*P	**P**	**23 50 03.3**	**-0.1**
CTAO				pmax	pmax		
	comp=Z,40nm,0.4s						
QLP	**Quilpie**	**36.10**	**257**	P	**P**	**23 50 10.6**	**+0.3**
	baz=37,SNR=12						
TAOE	**Nuku Hiva Isla**	**37.25**	**72**	*e*S	S	23 55 48.9	-17
	comp=Z,169nm,25.0s						
TAOE				*e*LR	LR	00 00 00.7	
	comp=Z,1μm,29.6s						
RKT	**Rikitea**	**37.38**	**97**	*e*T	T	00 29 27.3	
	comp=Z,2.9nm,0.3s						
MTSU	**Mount Surprise**	**37.55**	**271**	P	**P**	**23 50 22.7**	**-0.1**
	baz=38,SNR=15						
PMG	**Port Moresby**	**38.15**	**286**	P	**P**	**23 50 26.9**	**-1.0**
	comp=Z,39nm,0.9s,baz=110,slow=4.8,SNR=10						
PMG				LR	LR	00 03 25.9	
	comp=Z,809nm,21.8s,baz=136,slow=32						
PMG	**Port Moresby**	**38.15**	**286**	*e*P	**P**	**23 50 27.0**	**-0.8**
	comp=Z,93nm,1.1s						
PMG	**Port Moresby**	**38.15**	**286**	*de*P	**P**	**23 50 26.8**	**-1.1**
PMG				pmax	pmax		
	comp=Z,270nm,1.0s						
STKA	**Stephens Creek**	**38.23**	**248**	P	**P**	**23 50 28.1**	**-0.3**
	comp=Z,12nm,1.1s,baz=82,slow=6.9,SNR=9.4						
STKA				LR	LR	00 05 17.1	
	comp=Z,2μm,18.7s,baz=82,slow=35						
STKA	**Stephens Creek**	**38.23**	**248**	P	**P**	**23 50 28.6**	**+0.2**
	baz=39,SNR=8.1						
STKA	**Stephens Creek**	**38.23**	**248**	*e*P	**P**	**23 50 28.4**	**+0.1**
	comp=Z,3.7nm,1.1s						
STKA	**Stephens Creek**	**38.23**	**248**	*e*P	**P**	**23 50 28.5**	**+0.1**
STKA				pmax	pmax		
	comp=Z,4.0nm,1.1s						
COEN	**Coen**	**39.90**	**277**	P	**P**	**23 50 42.4**	**-0.1**
	baz=40,SNR=9.2						
HTT	**Hallett**	**40.52**	**246**	P	**P**	**23 50 47.5**	**0.0**
	baz=41,SNR=11						
QIS	**Mount Isa**	**41.25**	**266**	P	**P**	**23 50 53.2**	**-0.5**
	baz=42,SNR=4.6						
BBOO	**Buckleboo**	**42.92**	**247**	P	**P**	**23 51 06.6**	**-0.5**
	baz=44,SNR=10						
BBOO	**Buckleboo**	**42.92**	**247**	*e*P	**P**	**23 51 06.5**	**-0.7**
	comp=Z,17nm,1.0s						
AS01	**Alice Springs**	**45.73**	**260**	*e*P	**P**	**23 51 27.9**	**-1.9**
AS31	**Alice Springs**	**45.77**	**260**	*e*P	**P**	**23 51 30.1**	**-0.1**
	comp=Z,5.3nm,1.1s						
ASAR	**Alice Springs**	**45.77**	**260**	P	**P**	**23 51 28.9**	**-1.2**
	comp=Z,18nm,1.0s,baz=93,slow=8.2,SNR=58						
ASAR				LR	LR	00 10 20.1	
	comp=Z,2μm,18.4s,baz=106,slow=36						
WB2	**Warramunga Arr**	**46.19**	**265**	*e*P	**P**	**23 51 32.1**	**-1.3**
WRAB	**Tennant Creek**	**46.19**	**265**	*e*P	**P**	**23 51 31.6**	**-1.8**
	comp=Z,26nm,0.9s						
WRAB	**Tennant Creek**	**46.19**	**265**	*ce*P	**P**	**23 51 32.2**	**-1.2**
WRAB				pmax	pmax		
	comp=Z,27nm,1.0s						
WRA	**Warramunga Arr**	**46.20**	**265**	P	**P**	**23 51 32.3**	**-1.2**
	comp=Z,18nm,0.8s,baz=90,slow=6.2,SNR=90						
WRA				LR	LR	00 10 20.5	
	comp=Z,2μm,19.0s,baz=105,slow=35						
FORT	**Forrest**	**49.85**	**249**	P	**P**	**23 52 00.5**	**-1.0**
	baz=50,SNR=20						
FORT	**Forrest**	**49.85**	**249**	*e*P	**P**	**23 52 00.2**	**-1.3**
	comp=Z,429nm,0.8s						
WRKA	**Warakurna**	**50.53**	**257**	P	**P**	**23 52 05.3**	**-1.5**
	baz=51,SNR=16						
MTN	**Manton Dam**	**51.26**	**273**	P	**P**	**23 52 10.9**	**-1.5**
	baz=52,SNR=6.7						
KNRA	**Kununurra**	**52.49**	**268**	P	**P**	**23 52 21.1**	**-0.5**
	baz=53,SNR=7.0						
GUMO	**Guam**	**53.56**	**310**	LR	LR	00 12 52.6	
	comp=Z,373nm,21.5s,baz=132,slow=33						
FAKI	**Fak Fak**	**54.27**	**284**	*e*P	**P**	**23 52 33.3**	**-1.4**
	comp=Z,9.3nm,0.9s						
SBA	**Scott Base**	**54.55**	**184**	*e*P	**P**	**23 52 39.1**	**+3.3**
	comp=Z,12nm,0.8s						
SBA	**Scott Base**	**54.55**	**184**	P	**P**	**23 52 39.8**	**+4.0**
SBA				pmax	pmax		
	comp=Z,26nm,0.9s						
FITZ	**Fitzroy Crossi**	**54.61**	**264**	P	**P**	**23 52 37.8**	**+0.6**
	comp=Z,16nm,1.0s,baz=132,slow=5.4,SNR=7.0						
FITZ	**Fitzroy Crossi**	**54.61**	**264**	P	**P**	**23 52 37.7**	**+0.6**
	baz=55,SNR=6.3						
FITZ	**Fitzroy Crossi**	**54.61**	**264**	*e*P	**P**	**23 52 36.7**	**-0.4**
	comp=Z,18nm,1.0s						
VNDA	**Vanda**	**54.65**	**186**	P	**P**	**23 52 38.0**	**+1.5**
	comp=Z,4.0nm,0.8s,baz=3.7,slow=7.8,SNR=22						
VNDA				LR	LR	00 16 12.6	
	comp=Z,214nm,18.1s,baz=14,slow=36						
VNDA	**Vanda**	**54.65**	**186**	*e*P	**P**	**23 52 37.7**	**+1.2**
	comp=Z,7.2nm,1.0s						
VNDA	**Vanda**	**54.65**	**186**	*e*P	**P**	**23 52 37.7**	**+1.2**
VNDA				pmax	pmax		
	comp=Z,7.0nm,1.0s						
PALU	**Palau**	**57.61**	**296**	P	**P**	**23 52 56.2**	**-2.4**
	baz=58,SNR=4.2						
KLBR	**Kellerberrin**	**58.46**	**247**	P	**P**	**23 53 04.2**	**-0.2**
	baz=59,SNR=7.1						
SOEI	**Soe**	**58.65**	**273**	*e*P	**P**	**23 53 07.1**	**+1.1**
	comp=Z,50nm,0.7s						
MEEK	**Meekatharra**	**58.73**	**252**	P	**P**	**23 53 05.3**	**-1.0**
	baz=59,SNR=4.0						
BATI	**Baumata**	**59.03**	**272**	LR	LR	00 17 45.4	
	comp=Z,1μm,21.1s,baz=157,slow=35						
MBWA	**Marble Bar**	**59.10**	**259**	*e*P	**P**	**23 53 08.6**	**-0.3**
	comp=Z,3.1nm,0.8s						
RPN	**Rapa Nui**	**59.45**	**108**	LR	LR	00 12 03.9	
	comp=Z,220nm,21.9s,baz=258,slow=29						
BLDU	**Ballidu**	**59.52**	**247**	P	**P**	**23 53 11.1**	**-0.6**
	baz=60,SNR=19						
MORW	**Morawa**	**60.41**	**249**	P	**P**	**23 53 17.5**	**-0.4**
	baz=61,SNR=4.8						
CASY	**Casey**	**61.71**	**206**	*e*P	**P**	**23 53 26.9**	**+0.9**
	comp=Z,17nm,0.8s						
DAV	**Davao City (W)**	**64.93**	**291**	LR	LR	00 18 52.7	
	comp=Z,140nm,21.8s,baz=134,slow=33						
QSPA	**South Pole Qui**	**66.10**	**180**	P	**P**	**23 53 56.2**	**+1.1**
	comp=Z,1.1nm,0.9s,baz=33,slow=2.6,SNR=19						
QSPA	**South Pole Qui**	**66.10**	**180**	*e*P	**P**	**23 53 56.1**	**+1.0**
	comp=Z,82nm,1.0s						
MIR	**Mirnyy**	**68.71**	**205**	*i*P	**P**	**23 54 15.0**	**+3.6**
MIR				*i*		23 54 43.0	
MIR				pmax	pmax		
	comp=Z,42nm,1.0s						
JHJ	**Hachijo jima 2**	**70.80**	**322**	LR	LR	00 25 43.2	
	comp=Z,260nm,18.0s,baz=84,slow=36						
TGY	**Tagaytay City**	**72.43**	**295**	LR	LR	00 24 27.8	
	comp=Z,307nm,19.7s,baz=164,slow=34						
JOW	**Kunigami**	**73.93**	**310**	LR	LR	00 24 13.5	
	comp=Z,340nm,20.0s,baz=70,slow=33						
MJAR	**Matsushiro Arr**	**74.19**	**323**	P	**P**	**23 54 42.9**	**-2.0**
	comp=Z,0.9nm,0.4s,baz=164,slow=8.0,SNR=4.6						
MJAR				LR	LR	00 23 01.2	
	comp=Z,283nm,21.1s,baz=160,slow=32						
LEM	**Lembang**	**74.98**	**269**	P	**P**	**23 54 50.6**	**+0.4**
	comp=Z,32nm,0.7s,baz=326,slow=24,SNR=3.3						
LEM				LR	LR	00 27 38.6	
	comp=Z,606nm,20.4s,baz=142,slow=36						
JNU	**Nakatsue**	**76.17**	**316**	LR	LR	00 24 28.9	
	comp=Z,303nm,20.4s,baz=117,slow=33						
ASAJ	**Asahikawa**	**77.73**	**331**	P	**P**	**23 55 04.7**	**-0.2**
	comp=Z,5.6nm,0.5s,baz=120,slow=20,SNR=4.1						
SKR	**Severo-Kuril's**	**78.37**	**342**	*e*P	**P**	**23 55 07.8**	**-0.4**
MAW	**Mawson**	**78.97**	**199**	P	**P**	**23 55 13.6**	**+2.2**
	comp=Z,15nm,0.8s,baz=132,slow=7.2,SNR=22						
MAW				LR	LR	00 29 40.9	
	comp=Z,422nm,19.1s,baz=76,slow=35						
MAW	**Mawson**	**78.97**	**199**	*e*P	**P**	**23 55 13.4**	**+2.0**
	comp=Z,5.4nm,0.9s						
MAW	**Mawson**	**78.97**	**199**	*e*P	**P**	**23 55 13.4**	**+2.0**
MAW				pmax	pmax		
	comp=Z,5.0nm,0.9s						
SAO	**San Andreas Ge**	**79.23**	**42**	*e*P	**P**	**23 55 14.0**	**+0.7**
	comp=Z,7.2nm,1.1s						
SAO	**San Andreas Ge**	**79.23**	**42**	*e*P	**P**	**23 55 14.0**	**+0.7**
SAO				pmax	pmax		
	comp=Z,7.0nm,1.1s						
PAGB	**Antelope Grade**	**79.31**	**43**	*e*P	**P**	**23 55 12.7**	**-1.1**
	comp=Z,6.0nm,0.9s						
LPIG	**La Paz**	**79.51**	**58**	LR	LR	00 24 18.7	
	comp=Z,780nm,18.9s,baz=220,slow=31						
PET	**Petropavlovsk**	**79.83**	**345**	*c i*P	**P**	**23 55 14.8**	**-1.3**
PET				*e*S	**S**	**00 05 14.4**	**-2.5**
PET				pmax	pmax		
	comp=Z,100nm,14.2s						
PET				pmax	pmax		
	comp=Z,19nm,1.6s						
YSS	**Yuzh-Sakhalins**	**79.89**	**333**	*e*P	**P**	**23 55 16.5**	**-0.1**
	comp=Z,40nm,1.0s						
YSS	**Yuzh-Sakhalins**	**79.89**	**333**	*de*P	**P**	**23 55 16.6**	**-0.1**
YSS				*e*		23 55 21.6	
YSS				*e*S	**S**	**00 05 14.2**	**-3.6**
YSS				*e*SS	**SS**	**00 10 29.0**	**+0.6**
YSS				pmax	pmax		
	comp=Z,40nm,1.1s						
YSS				pmax	pmax		
	comp=N,10.0nm,0.5s						
YSS				smax	smax		
	comp=N,100nm,14.0s						
YSS				smax	smax		
	comp=E,100nm,13.0s						
PETK	**Petropavlovsk-**	**80.14**	**344**	P	**P**	**23 55 17.2**	**-0.6**
	comp=E,11nm,0.8s,baz=121,slow=7.5,SNR=13						
PETK				LR	LR	00 25 56.8	
	comp=E,356nm,20.1s,baz=172,slow=32						
ISA	**Isabella, Lake**	**80.38**	**44**	*e*P	**P**	**23 55 19.8**	**+0.1**
	comp=E,7.7nm,1.0s						
ISA	**Isabella, Lake**	**80.38**	**44**	*e*P	**P**	**23 55 19.8**	**+0.1**
ISA				pmax	pmax		
	comp=Z,8.0nm,1.0s						
CMB	**Columbia Colle**	**80.70**	**41**	*e*P	**P**	**23 55 21.4**	**+0.1**
	comp=Z,5.8nm,1.1s						
CMB	**Columbia Colle**	**80.70**	**41**	*e*P	**P**	**23 55 21.4**	**+0.1**
CMB				pmax	pmax		
	comp=Z,6.0nm,1.1s						
KSRS	**Korea Array**	**80.81**	**318**	P	**P**	**23 55 21.5**	**-0.3**
	comp=Z,1.3nm,0.6s,baz=140,slow=4.0,SNR=4.1						
KSAR	**Wonju Array Be**	**80.83**	**318**	P	**P**	**23 55 21.5**	**-0.4**
ORV	**Oroville**	**81.03**	**39**	*e*P	**P**	**23 55 22.7**	**-0.3**
	comp=Z,3.9nm,1.1s						
ORV	**Oroville**	**81.03**	**39**	*e*P	**P**	**23 55 22.7**	**-0.3**
ORV				pmax	pmax		
	comp=Z,4.0nm,1.1s						
WDC	**Whiskeytown Da**	**81.11**	**38**	*e*P	**P**	**23 55 23.8**	**+0.4**
	comp=Z,5.2nm,1.1s						
WDC	**Whiskeytown Da**	**81.11**	**38**	*e*P	**P**	**23 55 23.8**	**+0.4**
WDC				pmax	pmax		
	comp=Z,5.0nm,1.1s						
GSC	**Goldstone, Bar**	**81.23**	**45**	*e*P	**P**	**23 55 23.9**	**-0.4**
	comp=Z,6.5nm,1.1s						
GSC	**Goldstone, Bar**	**81.23**	**45**	*e*P	**P**	**23 55 23.9**	**-0.4**
GSC				pmax	pmax		
	comp=Z,7.0nm,1.1s						
WAKR	**Walker**	**81.58**	**41**	*e*P	**P**	**23 55 26.9**	**+0.7**
	comp=Z,9.5nm,1.2s						
YBH	**Yreka Blue Hor**	**81.79**	**37**	LR	LR	00 26 16.0	
	comp=Z,455nm,19.8s,baz=248,slow=32						
RYN	**Ryan**	**82.21**	**42**	*e*P	**P**	**23 55 30.1**	**+0.6**
	comp=Z,4.9nm,1.0s						
NV01	**Mina Array Sit**	**82.22**	**42**	*e*P	**P**	**23 55 29.4**	**-0.2**
NVAR	**Mina Array Bea**	**82.22**	**42**	P	**P**	**23 55 29.4**	**-0.1**
	comp=Z,3.3nm,0.8s,baz=224,slow=9.4,SNR=20						
NVAR				LR	LR	00 26 43.8	
	comp=Z,588nm,19.0s,baz=91,slow=32						
NV11	**Mina Array Sit**	**82.31**	**42**	*e*P	**P**	**23 55 30.4**	**+0.4**
	comp=Z,0.8nm,1.1s						
PAHR	**Pah Rah Range**	**82.37**	**40**	*e*P	**P**	**23 55 30.6**	**+0.4**
	comp=Z,7.9nm,1.2s						
TPNV	**Topopah Spring**	**82.59**	**44**	*e*P	**P**	**23 55 30.8**	**-0.7**
	comp=Z,3.2nm,0.8s						
TPNV	**Topopah Spring**	**82.59**	**44**	*e*P	**P**	**23 55 30.8**	**-0.7**
TPNV				pmax	pmax		
	comp=Z,3.0nm,0.8s						
USRK	**Ussuriysk Ar.**	**82.96**	**325**	P	**P**	**23 55 33.5**	**+0.6**
	comp=Z,8.9nm,0.8s,baz=150,slow=1.5,SNR=11						
SHPR	**Sheep Range**	**83.02**	**45**	*e*P	**P**	**23 55 32.9**	**-0.8**
TYV	**Tymovskoe**	**83.03**	**335**	*e*P	**P**	**23 55 33.1**	**0.0**
TYV				pmax	pmax		
	comp=Z,500nm,6.1s						
TYV				pmax	pmax		
	comp=Z,30nm,1.2s						
TUC	**Tucson**	**83.59**	**51**	*e*P	**P**	**23 55 36.9**	**+0.3**
	comp=Z,4.4nm,1.0s						
TUC	**Tucson**	**83.59**	**51**	*e*P	**P**	**23 55 36.9**	**+0.3**
TUC				pmax	pmax		
	comp=Z,4.0nm,1.0s						
NJ2	**Nanjing**	**83.63**	**309**	*e*P	**P**	**23 55 39.5**	**+2.8**
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.6s						
SYO	**Syowa Base**	**83.77**	**192**	*i*P	**P**	**23 55 35.3**	**-1.6**
SNAA	**Sanae**	**84.48**	**178**	P	**P**	**23 55 41.2**	**+0.7**
SNAA	**Sanae**	**84.48**	**178**	P	**P**	**23 55 41.1**	**+0.5**
	comp=Z,6.1nm,0.8s,baz=199,slow=11,SNR=6.1						
SNAA				LR	LR	00 29 41.1	
	comp=Z,242nm,20.5s,baz=184,slow=33						
SNAA	**Sanae**	**84.48**	**178**	*e*P	**P**	**23 55 41.3**	**+0.7**
	comp=Z,16nm,1.0s						
SNAA	**Sanae**	**84.48**	**178**	*i*P	**P**	**23 55 41.2**	**+0.7**
MDJ	**Mudanjiang**	**84.51**	**324**	P	**P**	**23 55 40.0**	**-0.9**
MDJ				pmax	pmax		
	comp=Z,27nm,1.0s						
MDJ				pmax	pmax		
	comp=Z,280nm,4.2s						
VNA3	**Neumayer Olymp**	**84.54**	**176**	P	**P**	**23 55 41.2**	**+0.4**
WVOR	**Wild Horse Val**	**84.55**	**39**	*e*P	**P**	**23 55 40.6**	**-0.7**
	comp=Z,5.6nm,1.0s						
WVOR	**Wild Horse Val**	**84.55**	**39**	*e*P	**P**	**23 55 40.6**	**-0.7**
WVOR				pmax	pmax		
	comp=Z,6.0nm,1.0s						
LCMT	**Little Creek M**	**84.56**	**46**	*e*P	**P**	**23 55 42.0**	**+0.4**
	comp=Z,6.6nm,0.9s						
CCUT	**Cedar City**	**84.80**	**45**	*e*P	**P**	**23 55 43.3**	**+0.5**
	comp=Z,6.8nm,1.0s						
KNB	**Kanab**	**84.84**	**46**	*e*P	**P**	**23 55 44.0**	**+1.0**
	comp=Z,11nm,1.0s						
KNB	**Kanab**	**84.84**	**46**	*e*P	**P**	**23 55 44.0**	**+1.0**
KNB				pmax	pmax		
	comp=Z,11nm,1.0s						
WUAZ	**Wupatki**	**84.96**	**48**	*e*P	**P**	**23 55 43.8**	**+0.2**
	comp=Z,7.0nm,1.1s						
VNA2	**Neumayer--Watz**	**85.00**	**176**	P	**P**	**23 55 43.9**	**+0.8**
	baz=190,slow=3.1						
VNA1	**Neumayer--Stat**	**85.22**	**176**	P	**P**	**23 55 45.0**	**+0.8**
J08A	**Circle Bar Ran**	**85.22**	**38**	*e*P	**P**	**23 55 44.8**	**+0.1**
	comp=Z,9.0nm,1.1s						
NVL	**N'lazarevskaya**	**85.36**	**183**	*e*P	P	23 55 54.1	+9.2
NVL				*e*PPP	PPP	00 01 12.7	
NVL				*e*S	**S**	**00 06 13.0**	**-0.2**
NVL				pmax	pmax		
	comp=Z,10.0nm,0.8s						
PLCA	**Paso Flores**	**85.44**	**133**	LR	LR	00 27 22.2	
	comp=Z,150nm,19.4s,baz=267,slow=31						
MTPU	**Mount Pierson**	**85.84**	**45**	*e*P	**P**	**23 55 49.8**	**+1.5**
	comp=Z,6.2nm,1.0s						
CN2	**Changchun**	**86.27**	**322**	*e*P	**P**	**23 55 49.8**	**+0.1**
CN2				*e*pP	pP	23 55 57.8	-1.8
CN2				*e*S	**S**	**00 06 25.0**	**+2.3**
CN2				pmax	pmax		
	comp=Z,20nm,1.0s						
CN2				pmax	pmax		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=Z,190nm,18.0s						
CN2				LR	LR		
	comp=Z,290nm,18.0s						
CN2				LR	LR		
	comp=Z,230nm,19.0s						
KLR	**Kul'dur**	**86.53**	**329**	*d i*P	**P**	**23 55 51.5**	**+0.6**
PSI	**Prapat**	**86.78**	**274**	P	**P**	**23 55 52.5**	**-0.7**
	comp=Z,3.4nm,0.4s,baz=196,slow=5.0,SNR=3.3						
PSI				LR	LR	00 37 18.1	
	comp=Z,316nm,18.4s,baz=124,slow=38						
PSI	**Prapat**	**86.78**	**274**	*e*P	**P**	**23 55 52.4**	**-0.7**
	comp=Z,9.8nm,1.0s						
PSI	**Prapat**	**86.78**	**274**	*e*P	**P**	**23 55 52.4**	**-0.7**
PSI				pmax	pmax		
	comp=Z,10.0nm,1.0s						
TIA	**Tai'an**	**87.09**	**312**	P	**P**	**23 55 54.5**	**+0.6**
TIA				pmax	pmax		
	comp=Z,18nm,1.2s						
MNTX	**Cornudas Mount**	**87.17**	**54**	*e*P	**P**	**23 55 54.1**	**-0.3**
	comp=Z,8.1nm,1.1s						
TMUT	**Trail Mountain**	**87.18**	**45**	*e*P	**P**	**23 55 55.2**	**+0.5**
	comp=Z,7.0nm,1.0s						
TX31	**Lajitas Ar. Si**	**87.28**	**56**	*e*P	**P**	**23 55 55.0**	**-0.1**
TXAR	**Lajitas Array**	**87.28**	**56**	P	**P**	**23 55 55.0**	**-0.1**
	comp=Z,2.3nm,0.9s,baz=216,slow=8.7,SNR=16						
TXAR				LR	LR	00 29 14.0	
	comp=Z,446nm,19.1s,baz=0.0,slow=32						
TXAR	**Lajitas Array**	**87.28**	**56**	P	**P**	**23 55 55.0**	**-0.1**
RC01	**Rabbit Creek A**	**87.37**	**12**	*e*P	**P**	**23 55 54.5**	**-0.1**
	comp=Z,12nm,1.0s						
BNM	**Barren Site**	**87.51**	**51**	*e*P	**P**	**23 55 59.4**	**+3.1**
P17A	**Butcher Ranch,**	**87.58**	**45**	*e*P	**P**	**23 55 57.0**	**+0.6**
	comp=Z,6.0nm,1.2s						
MA2	**Magadan**	**87.67**	**344**	*e*P	**P**	**23 55 55.3**	**-0.8**
MA2				pmax	pmax		
	comp=Z,33nm,2.4s						
PMR	**Palmer**	**87.95**	**12**	*e*P	**P**	**23 55 56.6**	**-0.8**
	comp=Z,15nm,1.2s						
PMR	**Palmer**	**87.95**	**12**	*e*P	**P**	**23 55 56.6**	**-0.8**
PMR				pmax	pmax		
	comp=Z,15nm,1.2s						
ANMO	**Albuquerque**	**88.05**	**50**	*e*P	**P**	**23 55 58.5**	**-0.2**
	comp=Z,3.7nm,0.9s						
ANMO	**Albuquerque**	**88.05**	**50**	*ce*P	**P**	**23 55 57.5**	**-1.3**
ANMO				pmax	pmax		
	comp=Z,3.0nm,1.0s						
TRTT	**Trang**	**88.13**	**279**	P	**P**	**23 56 00.3**	**+0.9**
	comp=Z,12nm,1.0s,comp=Z,247nm						
SKNT	**Sakolnakorn**	**88.17**	**289**	P	**P**	**23 55 59.6**	**+0.1**
	comp=Z,28nm,1.3s,comp=Z,2μm						
DIV	**Divide**	**88.24**	**14**	*e*P	**P**	**23 55 58.3**	**-0.6**
	comp=Z,27nm,1.4s						
BMRM	**Bremner River**	**88.36**	**15**	*e*P	**P**	**23 55 58.8**	**-0.6**
	comp=Z,14nm,1.0s						
KLU	**Klutina**	**88.53**	**14**	*e*P	**P**	**23

COLA pmax pmax
comp=Z,18nm,1.2s
MDM Murphy Dome 91.19 11 *e*P **P 23 56 11.9 -0.7**
comp=Z,16nm,1.2s
IM3 Indian Mountai 91.26 9 *e*P **P 23 56 11.6 -1.2**
IL1 Eielson Array 91.27 12 *e*P **P 23 56 10.1 -2.8**
ILAR Eielson Array 91.27 12 P **P 23 56 11.7 -1.3**
comp=Z,4.2nm,1.0s,baz=220,slow=5.8,SNR=22
ILB Eielson Array 91.27 15 *e*P **P 23 56 12.3 -0.6**
SRDT SRDT 91.31 285 P **P 23 56 15.6 +1.4**
comp=Z,18nm,1.5s,comp=Z,2µm
PHIT Phitsanulok 91.35 288 P **P 23 56 16.2 +1.8**
comp=Z,24nm,1.0s
ZEA Zeya 91.64 330 *e*P **P 23 56 14.2 -0.6**
ZEA pmax pmax
comp=Z,17nm,1.0s
ZEA pmax pmax
comp=Z,200nm,8.0s
NANT Nan 91.77 290 P **P 23 56 18.1 +1.8**
comp=Z,7.9nm,1.0s,comp=Z,87nm
XAN Xi'an 91.82 307 P **P 23 56 17.0 +0.7**
XAN pmax pmax
comp=Z,18nm,1.0s
XAN LR LR
comp=Z,140nm,21.7s
XAN LR LR
comp=Z,210nm,19.5s
XAN LR LR
comp=Z,320nm,20.6s
APG El Apazote 91.87 75 LR LR 00 31 34.2
comp=Z,125nm,18.1s,baz=143,slow=32
DAWY Dawson 92.27 15 *e*P **P 23 56 17.4 -0.2**
comp=Z,6.9nm,1.0s
EGAK Eagle 92.46 14 *e*P **P 23 56 18.0 -0.4**
comp=Z,9.7nm,1.1s
LAMP Lampang 92.57 289 P **P 23 56 21.8 +1.8**
comp=Z,19nm,0.9s
HIA Hailar 92.68 324 *i*P **P 23 56 18.5 -1.3**
HIA pmax pmax
comp=Z,5.0nm,0.9s
KMI Kunming 92.69 296 P **P 23 56 21.3 +0.6**
KMI pP pP 23 56 27.0 -3.7
KMI sP sP 23 56 31.0 -3.3
KMI S **S 00 07 26.0 +2.0**
KMI sS pS 00 07 37.5 +0.7
KMI pmax pmax
comp=Z,21nm,1.5s
KMI pmax pmax
comp=Z,160nm,4.1s
KMI LR LR
comp=Z,200nm,16.5s
KMI LR LR
comp=Z,290nm,18.6s
KMI LR LR
comp=Z,350nm,20.0s
BILL Bilibino 92.70 353 *d i*P **P 23 56 18.7 -0.8**
BILL *i* 00 00 01.6
BILL pmax pmax
comp=Z,5.0nm,1.1s
BILL MLR MLR
comp=Z,403nm,20.0s
PAYA Payao 92.71 290 P **P 23 56 22.3 +1.6**
comp=Z,9.5nm,1.0s,comp=Z,102nm
CMAR Chiang Mai Arr 93.14 289 P **P 23 56 23.9 +1.2**
comp=Z,17nm,0.9s,baz=134,slow=3.1,SNR=73
CMAR LR LR 00 39 58.2
comp=Z,52nm,18.1s,baz=166,slow=37
HHC Hu-ho-hao-te 93.20 314 *e*P **P 23 56 24.5 +1.9**
HHC pmax pmax
comp=Z,15nm,0.6s
HHC pmax pmax
comp=Z,120nm,6.7s
HHC LR LR
comp=Z,120nm,18.1s
HHC LR LR
comp=Z,260nm,17.3s
HHC LR LR
comp=Z,250nm,17.8s
CMMT Chiang Mai 93.28 289 P **P 23 56 23.5 +0.2**
comp=Z,31nm,1.0s
CHTO Chiang Mai 93.29 289 P **P 23 56 24.5 +1.2**
CHTO Chiang Mai 93.29 289 *e*P **P 23 56 24.3 +0.9**
comp=Z,27nm,0.9s
CHTO Chiang Mai 93.29 289 *e*P **P 23 56 24.3 +0.9**
CHTO pmax pmax
comp=Z,27nm,0.9s
CMAI Chiengmai2 93.66 290 P **P 23 56 26.6 +1.4**
JTS JuntasAbangare 94.91 81 LR LR 00 28 41.7
comp=Z,181nm,21.8s,baz=180,slow=29
YAK Yakutsk 96.08 337 *i*P **P 23 56 35.5 +0.4**
YAK pmax pmax
comp=Z,7.0nm,0.8s
LZH Lanzhou 96.46 307 *e*P **P 23 56 40.8 +3.1**
LZH pP pP 23 56 48.0 +0.4
LZH sP sP 23 56 53.0 +1.8
LZH PP **PP 00 00 37.5 +5.3**
LZH pmax pmax
comp=Z,29nm,0.9s
LZH pmax pmax
comp=Z,200nm,4.6s
LZH LR LR
comp=Z,170nm,15.0s
LZH LR LR
comp=Z,170nm,15.3s
LZH LR LR
comp=Z,240nm,18.4s
YKA Yellowknife Ar 98.84 24 P **P 23 56 45.7 -1.7**
comp=Z,0.7nm,0.9s,baz=234,slow=4.3,SNR=10.0
LPAZ La Paz 98.89 112 LR LR 00 34 10.5
comp=Z,300nm,19.0s,baz=290,slow=31
SONM Songino Array 99.68 318 P **Pdif 23 56 50.4 -1.5**
comp=Z,0.3nm,0.3s,baz=132,slow=6.0,SNR=3.1
SONM LR LR 00 42 34.1
comp=Z,82nm,18.0s,baz=94,slow=36
ZALV Zalesovo Beam 114.44 320 PKiKP PKPdf 00 01 46.1 -1.4
comp=Z,0.5nm,0.5s,baz=315,slow=0.8,SNR=3.9
MKAR Makanchi Array 115.02 312 PKP PKPdf 00 01 47.6 -1.4
comp=Z,1.3nm,0.9s,baz=94,slow=3.6,SNR=9.7
KURK Kurchatov 117.89 316 PKP **PKPdf 00 01 53.2 -1.1**
KURBB Kurchatov Arra 117.89 316 PKP **PKPdf 00 01 53.2 -1.2**
comp=Z,0.9nm,0.6s,baz=98,slow=1.9,SNR=8.0
BVAR Borovoye Array 123.02 319 PKP **PKPdf 00 02 03.3 -0.8**
comp=Z,0.8nm,0.5s,baz=94,slow=4.3,SNR=7.5
BRVK Borovoye 123.08 319 *c i*PKIKP **PKPdf 00 02 02.8 -1.4**
BRVK pmax pmax
comp=Z,7.0nm,2.5s
SVE Sverdlovsk 127.98 324 *e*PKIKP **PKPdf 00 02 13.6 +0.1**
ARU Arti 129.19 324 *e*PKPdf **PKPdf 00 02 15.5 -0.3**
ARU Arti 129.19 324 *i* PKIKP **PKPdf 00 02 16.2 +0.4**
ARU 00 04 26.4
ARU 00 09 24.3
ARU SS SS 00 21 38.2 -4.6
GEYT Alibeck 132.30 300 PKP **PKPdf 00 02 22.3 0.0**
comp=Z,2.1nm,0.7s,baz=205,slow=2.5,SNR=7.6
ARCES ARCESS Array B 132.69 350 PKP **PKPdf 00 02 21.3 -0.8**
comp=Z,3.0nm,0.9s,baz=62,slow=2.9,SNR=5.5
LKRN Lenkeran, Azer 139.56 302 PKIKP **PKPdf 00 02 35.3 -0.4**
FINES FINESS Array B 139.66 344 PKP **PKPdf 00 02 34.9 -0.3**
comp=Z,1.2nm,0.7s,baz=79,slow=3.5,SNR=5.3
MAK Makhachkala 139.71 309 *e*P **Pdif 23 59 42.9 -6.9**
MAK *e* 00 02 32.8
MAK *e*PPP PPP 00 08 31.6
MAK pmax pmax
comp=Z,21nm,1.7s
SEKA Sheki 140.33 306 PKIKP **PKPdf 00 02 36.5 -0.7**
MNGR Mingechevir, A 140.50 306 PKIKP **PKPdf 00 02 37.0 -0.4**
ZKTA Zakatala 140.66 307 PKIKP **PKPdf 00 02 37.2 -0.5**
OBN Obninsk 140.76 331 ⇓ *e*PKIKP **PKPdf 00 02 38.1 +0.8**
OBN *e* 00 05 33.9
OBN pmax pmax
comp=Z,17nm,1.6s
GANJ Ganja 141.10 306 PKIKP **PKPdf 00 02 38.0 -0.5**
NAX Nakhchivan 142.01 303 PKIKP **PKPdf 00 02 39.7 -0.6**
GNI Garni 142.38 305 *c i*PKIKP **PKPdf 00 02 42.5 +1.5**
GNI pmax pmax
comp=Z,27nm,1.7s
NOA NORSAR Array B 142.65 354 PKP **PKPdf 00 02 38.7 -1.9**
comp=Z,0.8nm,0.7s,baz=318,slow=2.5,SNR=3.3
KIV Kislovodsk 142.79 312 *i* PKIKP **PKPdf 00 02 42.4 +0.9**
KIV pmax pmax
comp=Z,5.0nm,1.1s
KIV MLR MLR
comp=Z,173nm,24.0s
HFS Hagfors 143.27 352 PKhKP PKPpre 00 02 38.1
comp=Z,2.3nm,0.7s,baz=90,slow=3.6,SNR=3.3
IZAR Zarasai 144.35 339 *e*P **PKPab 00 02 41.7 -0.1**
IZAR IAmb IAmb 00 02 43.0
comp=Z,5.3nm,0.6s
IDID Didziasalis 144.53 338 *e*P **PKPab 00 02 41.3 -1.2**
IDID IAmb IAmb 00 02 41.7
comp=Z,4.4nm,1.0s
IIGN Ignalina 144.68 338 *e*P **PKPab 00 02 42.4 -0.6**
IIGN IAmb IAmb 00 02 44.2
comp=Z,14nm,1.3s
ANN Anapa 145.93 316 *c i*PKP2 **PKPdf 00 02 46.4 -0.4**
ANN pmax pmax
comp=Z,57nm,1.1s
ANN MLR MLR
comp=Z,238nm,23.0s
SUW Suwalki 146.79 339 *e*PKP **PKPbc 00 02 48.9 -0.9**
SUW Suwalki 146.79 339 *e*PKP2 **PKPbc 00 02 48.9 -0.9**
AKASG Malin Array Be 147.02 330 PKPbc **PKPdf 00 02 49.1 +0.7**
comp=Z,13nm,0.8s,baz=40,slow=3.7,SNR=57
KIEV Kiev 147.03 330 *e*PKIKP **PKPdf 00 02 47.3 -1.2**
GKP Gorka Klasztor 149.13 345 *e*PKP **PKPbc 00 02 55.3 -0.7**
GKP Gorka Klasztor 149.13 345 *e*PKP2 **PKPbc 00 02 55.3 -0.7**
SORM Soroca 149.21 328 ⇓ *i*P **PKPbc 00 02 55.1 -1.3**
SORM Soroca 149.21 328 ⇓⇓ PKP2 **PKPbc 00 02 55.1 -1.3**
BEL Belsk 149.41 340 *e*PKP **PKPbc 00 02 56.6 -0.1**
BEL Belsk 149.41 340 *e*PKP2 **PKPbc 00 02 56.6 -0.1**
KIS Kishinev 149.73 325 *e*PKP **PKPdf 00 02 55.0 +2.0**
comp=Z,100nm,1.5s
KIS LRM MLR 01 09 38.0
comp=Z,200nm,21.0s
LVV L'vov 149.90 334 *e*PKP2 **PKPbc 00 02 58.0 -0.1**
ASF Jabal al Asfar 150.08 293 PKPbc **PKPbc 00 02 59.6 +0.4**
comp=Z,9.5nm,0.9s,baz=60,slow=0.5,SNR=15
LEOM Leova 150.37 325 ⇑ *i*P **PKPbc 00 02 59.2 -0.1**
LEOM Leova 150.37 325 ⇑⇑ PKIKP **PKPbc 00 02 59.2 -0.1**
HWQ Hawqa 150.51 298 *e*P **PKPbc 00 02 59.7 -0.5**
KWP Kalwaria Pacla 150.57 335 *e*PKP **PKPbc 00 02 58.7 -1.0**
KWP Kalwaria Pacla 150.57 335 *e*PKIKP **PKPbc 00 02 58.7 -1.0**
BRTR Keskin Array B 150.62 309 PKPbc **PKPbc 00 02 59.9 -0.4**
comp=Z,5.7nm,0.8s,baz=143,slow=5.8,SNR=31
PRAR RASCA 150.78 328 ⇑ *i*P **PKPbc 00 03 01.0 +0.7**
BHL Bhannes 150.82 297 *e*P **PKPbc 00 03 00.4 -0.5**
SHBL Chebaa 150.85 296 *e*P **PKPbc 00 03 01.1 0.0**
QRWL Qaraoun 150.87 296 *e*P **PKPbc 00 03 01.4 +0.4**
BURAR Bucovina Array 151.07 330 ⇓ *i*P **PKPbc 00 03 01.3 +0.2**
BURAR Bucovina Array 151.07 330 ⇓⇓ PKIKP **PKPbc 00 03 01.3 +0.2**
OJC Ojcow 151.12 339 *e*PKP **PKPbc 00 03 00.2 -0.8**
OJC Ojcow 151.12 339 *e*PKIKP **PKPbc 00 03 00.2 -0.8**
ANTO Ankara 151.16 310 ⇑ *i*P **PKPbc 00 03 00.9 -0.6**
ANTO Ankara 151.16 310 ⇑⇑ PKIKP **PKPbc 00 03 00.9 -0.6**
TESR Tescani 151.16 327 ⇑ *i*P **PKPbc 00 02 59.4 -1.8**
MMAI Mount Meron Ar 151.19 295 PKPbc **PKPbc 00 03 02.4 +0.6**
comp=Z,21nm,0.9s,baz=77,slow=8.7,SNR=39
CFR Carcaliu 151.27 323 ⇑ *i*P **PKPbc 00 02 59.0 -2.4**
CFR Carcaliu 151.27 323 ⇑⇑ PKIKP **PKPbc 00 02 59.0 -2.4**
STHS Stebnicka Huta 151.29 336 *e*PKIKP **PKPdf 00 02 57.2 +1.8**
UZH Uzhgorod 151.54 334 *e*PKIKP **PKPbc 00 03 00.1 -1.8**
UZH *e* 00 03 06.9
VRI Vrincioaia 151.56 326 ⇓ *i*P **PKPdf 00 02 58.3 +2.4**
VRI Vrincioaia 151.56 326 ⇓⇓ PKIKP **PKPdf 00 02 58.3 +2.4**
KSP Ksiaz 151.59 344 *e*PKP **PKPbc 00 03 01.7 -0.3**
KSP Ksiaz 151.59 344 *e*PKIKP **PKPbc 00 03 01.7 -0.3**
NIE Niedzica 151.63 338 *e*PKP **PKPbc 00 03 02.0 -0.2**
NIE Niedzica 151.63 338 *e*PKIKP **PKPbc 00 03 02.0 -0.2**
CRVS Cervenica-Dubn 151.64 336 *e*PKIKP **PKPbc 00 03 02.3 +0.1**
TRPA Tarpa 151.84 333 ⇓ *i*P **PKPbc 00 03 02.5 -0.1**
CLL Collm 151.88 348 *e*(PKPdf) **PKPdf 00 02 58.0 +1.8**
CLL ⇓ *i*PKPbc **PKPbc 00 03 02.5 -0.2**
comp=Z,21nm,1.0s
CLL *i* 00 03 04.9
CLL *e*PKPab **PKPab 00 03 11.0 -0.8**
comp=Z,14nm,1.2s
CLL *e* 00 03 15.0
CLL *e*PP **PP 00 06 41.0 -1.7**
CLL LmV 01 18 00.0
comp=Z,200nm,19.2s
CLL Collm 151.88 348 ⇓ *e*PKIKP **PKPdf 00 02 58.0 +1.8**
CLL *e* 00 03 11.0
CLL pmax pmax
comp=Z,21nm,1.2s
UPC Upice 151.97 344 ⇑⇑ *e*PKP **PKPbc 00 03 03.3 +0.4**
UPC *e*PKPAB **sPKPdf 00 03 10.2 +0.1**
UPC *ex* x 00 03 17.0
UPC Upice 151.97 344 *e*PKIKP **PKPbc 00 03 03.3 +0.4**
UPC *e* 00 03 10.2
OKC Ostrava-Krasne 151.97 341 ⇑⇑ *e*PKP **PKPbc 00 03 03.5 +0.6**
OKC Ostrava-Krasne 151.97 341 *e*PKIKP **PKPbc 00 03 03.5 +0.6**
DPC Dobruska-Polom 152.03 343 ⇑ *e*PKP **PKPbc 00 03 03.6 +0.5**
DPC *ex* x 00 03 08.7
DPC *e*PKPAB **sPKPdf 00 03 11.1 +0.8**
DPC Dobruska-Polom 152.03 343 *e*PKIKP **PKPbc 00 03 03.6 +0.5**
DPC *e* 00 03 08.7
BRG Berggiesshubel 152.11 347 *i* PKP **PKPbc 00 03 03.3 +0.1**
comp=Z,15nm,1.1s
BRG Berggiesshubel 152.11 347 *i* PKIKP **PKPbc 00 03 03.3 +0.1**
BRG pmax pmax
comp=Z,15nm,1.1s
LANS Liptovska Anna 152.15 338 *e*PKIKP **PKPbc 00 03 04.3 +0.9**
LANS *e* 00 03 10.2
KRLC Kraliky 152.16 342 ⇑⇑ *e*PKP **PKPbc 00 03 03.6 +0.2**
KRLC *ex* x 00 03 08.6
KRLC Kraliky 152.16 342 *e*PKIKP **PKPbc 00 03 03.6 +0.2**
KRLC *e* 00 03 08.6
MORC Moravsky Berou 152.21 341 ⇑ *i*P **PKPbc 00 03 03.7 +0.2**
MORC Moravsky Berou 152.21 341 ⇑⇑ PKIKP **PKPbc 00 03 03.7 +0.2**
MLR Muntele Rosu 152.22 326 PKPbc **PKPbc 00 03 03.5 -0.3**
comp=Z,1.6nm,1.0s,baz=90,slow=4.0,SNR=6.4
MLR Muntele Rosu 152.22 326 ⇑ *i*P **PKPbc 00 03 02.9 -0.9**
MLR Muntele Rosu 152.22 326 ⇑⇑ PKIKP **PKPbc 00 03 02.9 -0.9**
PVCC Panska Ves 152.30 346 ⇑ *e*PKP **PKPbc 00 03 03.9 +0.3**
PVCC *e*PKPAB **PKPab 00 03 12.0 -1.5**
PVCC Panska Ves 152.30 346 *e*PKIKP **PKPbc 00 03 03.9 +0.3**
PVCC *e* 00 03 12.0
CSS Mathiatis 152.44 300 *e*PKPdf **PKPdf 00 02 56.6 -1.0**
CSS *e*PKPbc **PKPbc 00 03 03.8 -0.7**
CJR Cluj-Napoca 152.48 330 ⇓ *i*P **PKPbc 00 03 04.3 +0.1**
CJR Cluj-Napoca 152.48 330 ⇓⇓ PKIKP **PKPbc 00 03 04.3 +0.1**
PRA Prague 152.75 345 ⇑ *e*PKP **PKPbc 00 03 05.3 +0.6**
PRA Prague 152.75 345 *e*PKIKP **PKPbc 00 03 05.3 +0.6**
PRU Pruhonice 152.81 345 ⇑ *e*PKP **PKPbc 00 03 04.8 0.0**
PRU *e*PKPAB **sPKPdf 00 03 12.9 +1.5**
PRU *ex* x 00 03 19.0
PRU AMS AMS 01 20 50.0
PRU Pruhonice 152.81 345 *e*PKIKP **PKPbc 00 03 04.8 0.0**
PRU *e* 00 03 12.9
DRGR 152.81 331 ⇑ *i*P **PKPbc 00 03 04.8 -0.2**
DRGR 152.81 331 ⇑⇑ PKIKP **PKPbc 00 03 04.8 -0.2**
VRAC Vranov 152.90 342 ⇓ *i*P **PKPbc 00 03 04.6 -0.5**
VRAC Vranov 152.90 342 ⇓⇓ PKIKP **PKPbc 00 03 04.6 -0.5**
VYHS Vyhne 152.92 338 *e*PKIKP **PKPbc 00 03 04.7 -0.4**
VYHS *e* 00 03 16.7
ARR Arges 152.97 327 ⇓ *i*P **PKPbc 00 03 06.1 +0.7**
PSZ Piszkesteto 153.04 336 ⇑ *i*P **PKPab 00 03 14.5 -2.4**
PSZ Piszkesteto 153.04 336 PKIKP **PKPab 00 03 14.5 -2.4**
TREC Trest 153.22 343 ⇑ *e*PKP **PKPbc 00 03 05.7 -0.1**
TREC AMS AMS 01 21 30.0
TREC Trest 153.22 343 *e*PKIKP **PKPbc 00 03 05.7 -0.1**
MODS Modra-Piesok 153.53 340 *e*PKIKP **PKPbc 00 03 06.2 -0.3**
MODS *e* 00 03 18.8
KHC Kasperske Hory 153.83 346 *e*PKPDF **PKPdf 00 02 59.2 0.0**
KHC ⇑ *e*PKP **PKiKP 00 03 07.5 +0.3**
KHC *ex* x 00 03 10.3
KHC *e*PKPAB **pPKPbc 00 03 15.3 -2.0**
KHC *ep*PKP **sPKPbc 00 03 24.8 +4.0**
KHC Kasperske Hory 153.83 346 *e*PKIKP **PKPdf 00 02 59.2 0.0**
KHC *e* 00 03 15.3
KHC *e* 00 03 24.8
GERES GERESS Array B 154.07 346 PKP **PKPdf 00 02 59.3 -0.3**
comp=Z,0.5nm,0.7s,baz=56,slow=2.4,SNR=4.5
GERES PKPbc **PKPbc 00 03 06.6 -1.2**
comp=Z,0.8nm,0.8s,baz=129,slow=3.6,SNR=4.8
CONA Conrad Observa 154.36 342 *i* pPKPdf **PKPab 00 03 23.3 +0.8**
comp=Z,10nm,1.2s
HERR Herculane 154.40 329 ⇓ *i*P **PKPbc 00 03 05.5 -2.9**
MOA Molln 154.86 344 *i* PKPab **PKPab 00 03 21.0 -3.5**
comp=Z,11nm,1.1s
VTS Vitosha 155.65 324 ⇓ *i*P pPKPdf 00 03 14.7 +2.4
VTS Vitosha 155.65 324 ⇓⇓ PKIKP pPKPdf 00 03 14.7 +2.4
SOKA Soboth 155.73 342 *i* PKPab **PKPab 00 03 28.4 +0.1**
comp=Z,16nm,1.4s
MOTA Moosalm 156.04 348 *i* PKPdf **PKPdf 00 03 02.9 +0.5**
comp=Z,2.1nm,0.9s
MYKA Terra Mystica 156.15 344 *i* PKPab **PKPab 00 03 29.6 -0.6**
comp=Z,9.9nm,1.3s
ABTA Abfaltersbach 156.32 346 *i* PKPab **PKPab 00 03 30.1 -0.8**
comp=Z,7.4nm,1.3s
TORD Torodi Ar. Bea 168.97 167 PKP **PKPdf 00 03 14.6 -1.4**
comp=Z,2.3nm,1.1s,baz=255,slow=1.8,SNR=7.2
TORD PKPab **PKPab 00 04 27.1 +0.3**
comp=Z,2.0nm,0.8s,baz=182,slow=3.3,SNR=8.6

MEX 25 23:45:18.7±0.3, 16°36N×98°23W, h25km±3km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.10**	**69**	*i* P	Pb	23 45 22.3	-1.1
PNIG				*i* S	Sb	23 45 25.2	-1.3
TLIG	**Tlapa**	**1.24**	**345**	*e*P	Pn	23 45 40.2	-0.5
TLIG				*e*S	Sn	23 45 52.8	-4.0
VHO	**Vista Hermosa**	**1.60**	**63**	*e*P	Pn	23 45 43.0	-2.5
VHO				*e*S	Sn	23 46 02.6	-2.9
CAIG	**El Cayaco**	**2.08**	**290**	*e*P	Pn	23 45 51.1	-0.9
CAIG				*i* S	Sn	23 46 14.1	-3.0
PLIG	**Platanillo**	**2.36**	**329**	*e*P	Pn	23 45 58.3	+2.3
PLIG				*e*S	Sn	23 46 21.5	-2.9

*ISN **25** 23:47:51.8±0.7, 32°.46N×47°.15E, h7km±3km, ML3.1*
*TEH **25** 23:47:53.7, 32°.51N×47°.10E, h10km, ML3.1*
*CSEM **25** 23:47:55.0±0.2, 32°.43N×47°.06E, h10km, ML3.0, Error ellipse: s-maj=6.3km s-min=4.3km az=5.0*

ISC 25 23:47:53.5±1.6, 32°.44N±0°.04×47°.01E±0°.04, h2km±16km, n20, σ1s0.6/26, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IKFM	**Kafar-mosalman**	**1.29**	**33**	*e*Pg	**Pb**	**23 48 17.5**	**-0.9**
IKFM				*e*AMB	AMB	23 48 43.5	
comp=Z,99nm,0.2s							
SHGR	**Shooshtar-Gavs**	**1.55**	**102**	*e*Pn	**Pg**	**23 48 23.9**	**+0.6**
SHGR				*e*Sg	**Sg**	**23 48 42.2**	**-1.2**
NSR	**Nassriya**	**1.61**	**208**	*e*Pn	**Pb**	**23 48 23.0**	**-0.9**
SNR=4.0							
NSR				*e*Sn	**Sg**	**23 48 45.5**	**+0.3**
SNR=4.0							
IKOM	**Komasi**	**1.78**	**13**	*e*Pn	**Pb**	**23 48 26.8**	**-0.1**
IKOM				*e*Sg	**Sg**	**23 48 50.9**	**+0.3**
IKOM				*e*AMB	AMB	23 48 54.2	
comp=Z,3µm,0.2s							
IGHG	**Ghaleghazi**	**1.92**	**349**	*e*Pn	**Pb**	**23 48 29.1**	**-0.2**
IGHG				*e*AMB	AMB	23 49 03.4	
comp=Z,3µm,0.3s							
IVIS	**Veis**	**2.08**	**356**	*e*Pn	**Pb**	**23 48 30.6**	**-1.5**
IVIS				*e*AMB	AMB	23 49 07.3	
comp=Z,1µm,0.3s							
BHD	**Baghdad**	**2.36**	**291**	*e*Pn	**Pn**	**23 48 34.0**	**+0.7**
SNR=4.0							
BHD				*e*Sn	**Sb**	**23 49 05.0**	**-1.4**
SNR=4.0							
ILIN	**Lien**	**2.47**	**359**	*e*Pn	**Pn**	**23 48 36.0**	**+1.0**
ILIN				*e*AMB	AMB	23 49 22.6	
comp=Z,564nm,0.1s							
SNGE	**Sanandaj**	**2.66**	**6**	*e*Pn	**Pn**	**23 48 38.8**	**+1.3**
SNGE				*e*Sg	**Sb**	**23 49 13.7**	**-1.4**
KHMZ	**Khomeyn**	**2.79**	**62**	*e*Pn	**Pn**	**23 48 39.6**	**+0.2**
HAGD	**Aghdareh**	**2.96**	**36**	*e*Pn	**Pn**	**23 48 42.7**	**+0.9**
HAGD				*e*AMB	AMB	23 48 49.0	
comp=Z,99nm,0.3s							
ASAO	**Ashtian**	**3.28**	**49**	*e*Pn	**Pn**	**23 48 46.5**	**+0.4**
IPIR	**Pirpir**	**3.29**	**85**	*e*Pn	**Pn**	**23 48 47.7**	**+1.4**
IPIR				*e*AMB	AMB	23 49 29.8	
comp=Z,534nm,0.2s							
HKZM	**Kohzaman**	**3.32**	**28**	*e*Pn	**Pn**	**23 48 48.2**	**+1.4**
HKZM				*e*AMB	AMB	23 49 30.0	
comp=Z,99nm,0.4s							
IKLH	**Kolahrood**	**3.94**	**76**	*e*Pn	**Pn**	**23 48 56.3**	**+1.0**
IKLH				*e*AMB	AMB	23 49 19.7	
comp=Z,244nm,0.2s							
QAM	**Ghamsar**	**3.94**	**69**	*e*Pn	**Pn**	**23 48 57.1**	**+1.9**
QAM				*e*AMB	AMB	23 49 09.6	
comp=Z,443nm,0.1s							
GHVR	**GHOM**	**4.12**	**59**	*e*Pn	**Pn**	**23 48 57.3**	**-0.2**
IZEF	**Zefreh**	**4.51**	**83**	*e*AMB	AMB	23 49 26.1	
comp=Z,153nm,0.2s							
IZEF				*e*Pn	**Pn**	**23 49 03.7**	**+0.7**
IRAM	**Ramesheh**	**4.60**	**96**	*e*Pn	**Pn**	**23 49 04.9**	**+0.6**
IRAM				*e*AMB	AMB	23 50 04.2	
comp=Z,179nm,0.2s							
RTB	**Rutbah**	**5.68**	**278**	*e*Pn	**Pn**	**23 49 20.0**	**+1.1**
SNR=4.0							
RTB				*e*Sn	**Sn**	**23 50 25.0**	**+0.3**
SNR=4.0							

*IDC **26** 00:02:17.4±5.5, 24°.90S×179°.73E, h518km±55km, mb3.2/4, mb1 3.4/5, mb1mx3.1/49, mbtmp4.1/5, Error ellipse: s-maj=48.8km s-min=34.2km az=157.0*

ISC 26 00:02:15.9±1.3, 25°.0S±0°.4×179°.9E±0°.2, h507km, n9, σ0s80/8, mb3.6/4, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**12.69**	**281**	P	**P**	**00 05 02.8**	**+0.9**
0.3nm,0.3s,baz=84,slow=15,SNR=5.1							
STKA	**Stephens Creek**	**34.23**	**250**	P	**P**	**00 08 19.2**	**+0.2**
0.7nm,0.3s,baz=113,slow=12,SNR=4.1							
ASAR	**Alice Springs**	**41.77**	**262**	P	**P**	**00 09 20.0**	**-0.7**
0.8nm,0.4s,baz=98,slow=7.6,SNR=12							
WRA	**Warramunga Arr**	**42.25**	**267**	P	**P**	**00 09 23.3**	**-1.2**
1.8nm,0.3s,baz=100,slow=6.8,SNR=54							
TXAR	**Lajitas Array**	**91.11**	**58**	P	**P**	**00 14 26.6**	**+0.1**
0.6nm,0.8s,baz=218,slow=5.8,SNR=7.2							
HFS	**Hagfors**	**143.63**	**348**	PKhKP	PKPpre	00 20 48.8	
1.9nm,0.4s,baz=58,slow=3.7,SNR=8.6							
MMAI	**Mount Meron Ar**	**148.07**	**293**	PKPbc	**PKPbc**	**00 21 04.3**	**-0.2**
0.6nm,0.4s,baz=83,slow=4.9,SNR=5.9							
BRTR	**Keskin Array B**	**148.17**	**306**	PKPbc	**PKPbc**	**00 21 04.4**	**-0.3**
0.2nm,0.6s,baz=107,slow=3.4,SNR=4.0							
TORD	**Torodi Ar. Bea**	**168.06**	**188**	PKPab	**PKPab**	**00 22 36.2**	**+0.5**
0.4nm,0.9s,baz=175,slow=3.7,SNR=3.6							

*ISCJB **26** 00:10:40.9±0.2, 62°.85N±0°.02×150°.76W±0°.05, h107km±2km, mb4.1/19, Error ellipse: s-maj=3.6km s-min=2.8km az=28.0*
*IDC **26** 00:10:40.5±1.3, 62°.81N×150°.92W, h90km±14km, mb3.7/16, mb1 3.8/21, mb1mx3.6/80, mbtmp4.0/21, MS2.5/1, Ms1 2.6/1, ms1mx2.3/72, Error ellipse: s-maj=21.9km s-min=9.6km az=118.0*
*NEIC **26** 00:10:42.3±0.0, 62°.83N×150°.81W, h93km, mb4.2/2, MW3.9, ML4.0(AEIC), Moment Tensor Solution. s16 Moment tensor: Scale 10^{14}Nm; M_{rr}2.21; $M_{\theta\theta}$4.49; $M_{\phi\phi}$-6.70; $M_{r\theta}$4.93; $M_{\theta\phi}$4.03; $M_{\phi r}$-1.25; Best double couple: $M_0$8.80000×10^{14} NP1:ϕ_s122.00000°, δ78.00000°, λ37.00000°. NP2:ϕ_s22.00000°, δ54.00000°, λ165.00000°. Principal axes: T 8.0000, Plg35.0000°, Azm349.0000°; N -0.0500, Plg51.0000°, Azm137.0000°; P -8.7600, Plg16.0000°, Azm247.0000°; After AEIC.*

ISC 26 00:10:41.9±0.7, 62°.85N±0°.03×150°.84W±0°.04, h96km±5km, n133, σ0s90/147, mb4.1/19, Central Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HUR	**Hurricane**	**0.57**	**76**	P	Pn	**00 10 58.2**	**+0.4**
HUR				S	**Sn**	**00 11 10.1**	**+0.4**
PPLA	**Purkeypile**	**0.62**	**275**	*e*Pn	Pn	**00 10 59.1**	**+0.7**
TRF	**Thorofare Moun**	**0.66**	**22**	*e*Pn	Pn	**00 10 59.2**	**+0.5**
KTH	**Kantishna Hill**	**0.71**	**357**	*e*Pn	Pn	**00 10 59.6**	**+0.5**
KTH				*e*Sn	**Sn**	**00 11 08.3**	**-3.7**
CAST	**Castle Rocks**	**0.81**	**316**	*e*Pn	Pn	**00 11 00.3**	**+0.3**
CAST				*e*Sn	**Sn**	**00 11 13.0**	**-0.6**
SKT	**Skwentna**	**0.93**	**201**	P	Pn	**00 11 01.2**	**0.0**
SKT				S	**Sn**	**00 11 15.5**	**-0.2**
RND	**Reindeer**	**1.06**	**57**	*e*Pn	Pn	**00 11 03.1**	**+0.4**
RND				*e*Sn	**Sn**	**00 11 19.1**	**+0.6**
MCK	**McKinley**	**1.24**	**43**	*e*Pn	Pn	**00 11 05.2**	**+0.5**
BPAW	**Bear Paw Mtn.**	**1.26**	**357**	*e*Pn	Pn	**00 11 05.3**	**+0.2**
BPAW				*e*Sn	**Sn**	**00 11 21.6**	**-0.9**
SUA	**Susitna One**	**1.39**	**178**	*e*Pn	Pn	**00 11 06.9**	**+0.3**
GHO	**Glory Hole Cre**	**1.40**	**139**	P	Pn	**00 11 07.5**	**+0.7**
GHO				S	**Sn**	**00 11 26.8**	**+1.2**
STLK	**Strandline Lak**	**1.43**	**199**	P	Pn	**00 11 07.2**	**+0.1**
PMR	**Pal

DHY	Denali Highway	1.60	80	ePn		Pn	00 11 09.2	-0.1	
SPCP	Crater Peak Br	1.70	202	P		Pn	00 11 11.3	+0.7	
SPCP				S		Sn	00 11 32.3	-0.1	
SPU	Mount Spurr	1.77	199	ePn		Pn	00 11 11.7	+0.4	
SPWE	Spurr West	1.77	208	P		Pn	00 11 12.4	+0.9	
CKL	Chakachamna La	1.80	204	P		Pn	00 11 12.2	+0.4	
KNK	Knik Glacier	1.82	141	P		Pn	00 11 12.2	+0.3	
RC01	Rabbit Creek A	1.84	163	ePn		Pn	00 11 11.8	-0.4	
SCM	Sheep Creek Mo	1.93	120	ePn		Pn	00 11 13.7	+0.3	
WRH	Wood River Hil	2.04	36	ePn		Pn	00 11 15.0	+0.3	
MLY	Manley	2.19	1	ePn		Pn	00 11 17.1	+0.3	
CCB	Clear Creek Bu	2.26	35	ePn		Pn	00 11 17.7	+0.2	
HDA	Harding Lake	2.34	46	ePn		Pn	00 11 18.8	+0.1	
SLKM	Skilak Lake	2.36	173	P		Pn	00 11 19.1	+0.1	
PS10	TAPS Pump St10	2.38	74	P		Pn	00 11 20.5	+1.3	
TT01	Tatalina	2.38	274	P		Pn	00 11 18.8	-0.4	
RDT	Redoubt	2.40	199	P		Pn	00 11 20.7	+1.2	
MDM	Murphy Dome	2.42	27	ePn		Pn	00 11 19.9	+0.2	
DFR	Drift River	2.43	202	P		Pn	00 11 20.5	+0.5	
COLA	College	2.43	32	ePn		Pn	00 11 20.2	+0.4	
RDJH	Redoubt Jeurge	2.45	203	P		Pn	00 11 21.4	+1.1	
PAX	Paxson	2.46	85	ePn		Pn	00 11 20.9	+0.6	
PS08	TAPS Pump Stn8	2.47	45	P		Pn	00 11 20.5	+0.1	
NCT	North Crescent	2.50	204	P		Pn	00 11 21.9	+1.0	
RDWB	Redoubt West	2.55	203	P		Pn	00 11 22.0	+0.4	
RSO	Redoubt South	2.56	202	ePn		Pn	00 11 23.1	+1.3	
PS11	TAPS Pump St11	2.61	105	P		Pn	00 11 23.2	+1.0	
IL1	Eielson Array	2.61	40	ePn		Pn	00 11 21.6	-0.6	
ILAR	Eielson Array	2.61	40	P		Pn	00 11 22.3	+0.1	
	51nm,0.3s,baz=220,slow=14,SNR=796								
ILAR				S		Sn	00 11 53.3	0.0	
	45nm,0.3s,baz=223,slow=23,SNR=16								
ILAR				LR		LR	00 12 46.9		
	comp=Z,83nm,20.2s,baz=77,slow=47								
ILB	Eielson Array	2.61	40	ePn		Pn	00 11 22.4	+0.1	
GLM	Gilmore Dome	2.64	34	P		Pn	00 11 23.0	+0.4	
HARP	HAARP	2.66	97	ePn		Pn	00 11 24.0	+1.0	
KLU	Klutina	2.68	118	ePn		Pn	00 11 22.7	-0.5	
JPK	Jack Peak	2.69	130	P		Pn	00 11 22.7	-0.7	
VLZ	Valdez	2.73	127	P		Pn	00 11 23.0	-0.9	
SVW2	Sparrevohn	2.84	234	ePn		Pn	00 11 25.1	-0.3	
RIDG	Independ'e Rid	2.85	69	ePn		Pn	00 11 26.0	+0.4	
DIV	Divide	2.95	123	ePn		Pn	00 11 26.1	-0.7	
ILW	Iliamna West	3.00	203	P		Pn	00 11 28.8	+1.1	
PS06	TAPS Pump Stn6	3.06	9	P		Pn	00 11 28.5	+0.3	
BRLK	Bradley Lake	3.09	180	ePn		Pn	00 11 29.3	+0.6	
DOT	Dot Lake	3.17	72	ePn		Pn	00 11 29.8	0.0	
HOM	Homer	3.22	187	ePn		Pn	00 11 31.6	+1.2	
MENT	Mentasta	3.26	85	ePn		Pn	00 11 31.4	+0.4	
SCRK	Sand Creek	3.28	67	ePn		Pn	00 11 31.4	0.0	
EYAK	Cordova Ski Ar	3.34	131	ePn		Pn	00 11 31.9	-0.2	
IM3	Indian Mountai	3.40	339	ePn		Pn	00 11 33.0	+0.3	
BMRM	Bremner River	3.50	120	ePn		Pn	00 11 33.5	-0.8	
PRP	Porcupine Dome	3.55	39	P		Pn	00 11 35.5	+0.5	
AUNW	Augustine NWes	3.71	201	P		Pn	00 11 37.7	+0.7	
AUW	Augustine West	3.71	201	P		Pn	00 11 38.6	+1.5	
AUI	Augustine Isla	3.74	201	P		Pn	00 11 38.7	+1.3	
VRDI	Verde Repeater	3.84	112	P		Pn	00 11 38.2	-0.7	
RAGM	Ragged Mountai	3.84	127	ePn		Pn	00 11 38.7	-0.1	
MCARA	McCarthy VSAT	3.95	108	P		Pn	00 11 40.7	+0.4	
MID	Middleton Isla	4.06	146	ePn		Pn	00 11 41.2	-0.5	
BCA3	Beaver Creek A	4.14	83	P		Pn	00 11 42.5	-0.3	
CDD	Cape Douglas	4.15	200	P		Pn	00 11 44.4	+1.2	
NICHA	Nichawak Mount	4.20	125	P		Pn	00 11 43.5	-0.2	
PTPK	Patty Peak	4.28	109	P		Pn	00 11 44.6	-0.3	
FOSS	Fourpeaked Sta	4.29	200	P		Pn	00 11 46.1	+1.2	
FONW	Fourpeaked Sta	4.30	202	P		Pn	00 11 46.2	+1.3	
TGL	Tana Glacier	4.34	115	ePn		Pn	00 11 45.0	-0.6	
KHIT	Khitrov Hills	4.35	120	P		Pn	00 11 45.0	-0.7	
BALM	Baldy	4.40	111	ePn		Pn	00 11 45.6	-0.8	
COLD	Coldfoot	4.41	3	ePn		Pn	00 11 47.1	+0.7	
GRIN	Grindle Hills	4.42	122	P		Pn	00 11 47.2	+0.6	
FYU	Fort Yukon	4.44	30	ePn		Pn	00 11 47.6	+0.8	
KIAG	Kiagna River	4.45	112	P		Pn	00 11 46.1	-1.0	
ISLE	Juniper Island	4.63	115	P		Pn	00 11 48.5	-1.1	
BARK	Barkley Ridge	4.67	118	P		Pn	00 11 49.5	-0.6	
KULT	Kultieth River	4.67	120	P		Pn	00 11 49.8	-0.3	
KAHC	Katmai Hardscr	4.68	208	P		Pn	00 11 51.4	+1.1	
BARN	Barnard Glacie	4.69	108	P		Pn	00 11 50.0	-0.3	
EGAK	Eagle	4.71	61	ePn		Pn	00 11 50.5	+0.1	
KARR	Katmai Rainbow	4.76	205	P		Pn	00 11 52.5	+1.3	
BAGL	Bagley Icefiel	4.79	116	P		Pn	00 11 50.8	-0.8	
CTGM	Chitina Glacie	4.87	109	P		Pn	00 11 52.5	-0.3	
MESA	MESA	5.03	118	P		Pn	00 11 54.7	-0.3	
KELA	Mount Kelaz	5.03	211	P		Pn	00 11 56.2	+1.2	
LOGN	Logan Glacier	5.08	109	P		Pn	00 11 55.5	-0.2	
KABU	Katmai Buttres	5.09	208	P		Pn	00 11 56.9	+1.2	
KDAK	Kodiak Island	5.15	190	P		Pn	00 11 55.4	-1.1	
	3.5nm,0.3s,baz=53,slow=7.4,SNR=93								
KDAK				S		Sn	00 12 52.0	-2.6	
	11nm,0.3s,baz=220,slow=18,SNR=11								
RKAV	Rock Avalanche	5.20	115	P		Pn	00 11 56.9	-0.5	
DAWY	Dawson	5.28	72	ePn		Pn	00 11 58.3	+0.1	
BM3	Burnt Mountain	5.29	27	P		Pn	00 11 58.8	+0.4	
CAHL	Cahill	5.29	207	P		Pn	00 11 59.3	+0.9	
SAMH	Samovar Hills	5.53	115	P		Pn	00 12 02.0	+0.2	
OHAK	Old Harbor	5.77	193	ePn		Pn	00 12 03.2	-1.7	
TOLK	Toolik Lake Re	5.84	5	ePn		Pn	00 12 07.9	+2.0	
YUK7	Dusty Glacier	6.47	105	P		Pn	00 12 13.6	-1.0	
HYT	Haines Junctio	6.63	102	ePn		Pn	00 12 15.3	-1.4	
ANNW	Aniakchak Nort	6.96	215	P		Pn	00 12 22.3	+1.1	
PLBC	Pleasant Camp	7.78	109	P		Pn	00 12 31.6	-0.5	
WHY	Whitehorse	7.88	99	ePn		Pn	00 12 33.6	0.0	
INK	Inuvik	9.00	45	P		Pn	00 12 49.8	+1.1	
	1.1nm,0.3s,baz=239,slow=16,SNR=66								
INK				S		Sn	00 14 26.8	-1.3	
	baz=184,slow=4.3,SNR=3.1								
DLBC	Dease Lake	11.11	104	P		Pn	00 13 16.5	-1.0	
	0.3nm,0.3s,baz=268,slow=8.7,SNR=4.3								
YKA	Yellowknife Ar	16.51	75	P		Pn	00 14 26.4	-0.8	
	0.4nm,0.3s,baz=283,slow=11,SNR=57								
YKA				S		Sn	00 17 31.4	+1.6	
	baz=290,slow=20,SNR=2.7								
YKA				ScP		ScP	00 22 37.2	-0.4	
	0.0nm,0.3s,baz=291,slow=2.3,SNR=5.5								
EDM	Edmonton	21.74	99	eP		P	00 15 26.1	+1.0	
	14nm,0.6s								
RES	Resolute Bay	22.35	35	P		P	00 15 30.8	-0.5	
	1.5nm,0.3s,baz=254,slow=11,SNR=20								
RES	Resolute Bay	22.35	35	eP		P	00 15 31.5	+0.2	
	3.8nm,0.6s								
SPITS	Spitsbergen Ar	39.00	4	P		P	00 17 58.4	+0.3	
	2.3nm,0.3s,baz=359,slow=10,SNR=89								
ARCES	ARCESS Array B	47.88	2	P		P	00 19 09.8	+0.4	
	1.7nm,0.7s,baz=12,slow=8.6,SNR=17								
SONM	Songino Array	53.97	306	P		P	00 19 56.0	+0.5	
	0.9nm,0.8s,baz=16,slow=7.7,SNR=5.5								
NOA	NORSAR Array B	55.69	10	P		P	00 20 06.9	-0.6	
	0.6nm,0.8s,baz=332,slow=5.6,SNR=3.3								
ZALV	Zalesovo Beam	55.69	324	P		P	00 20 06.4	-1.1	
	1.0nm,0.6s,baz=24,slow=8.8,SNR=4.7								
FINES	FINESS Array B	56.01	2	P		P	00 20 09.2	-0.5	
	3.5nm,0.8s,baz=358,slow=7.9,SNR=10								
HFS	Hagfors	56.78	9	P		P	00 20 14.7	-0.5	
	1.1nm,0.5s,baz=20,slow=4.7,SNR=2.9								
HHC	Hu-ho-hao-te	57.80	297	eP		P	00 20 23.0	+0.2	
HHC				pmax		pmax			
	comp=Z,11nm,1.1s								
HHC				pmax		pmax			
	comp=Z,25nm,6.6s								
BVAR	Borovoye Array	60.02	333	P		P	00 20 37.1	-0.8	
	comp=Z,0.6nm,0.5s,baz=38,slow=5.4,SNR=6.1								
KURK	Kurchatov	60.25	326	P		P	00 20 38.7	-0.7	
KURBB	Kurchatov Arra	60.35	326	P		P	00 20 38.7	-1.4	
	comp=Z,0.3nm,0.4s,baz=26,slow=6.8,SNR=4.2								
MKAR	Makanchi Array	62.84	322	P		P	00 20 55.2	-1.7	
	comp=Z,0.2nm,0.3s,baz=44,slow=6.2,SNR=8.5								
WMQ	Urumqi	63.91	317	eP		P	00 21 07.0	+2.8	
WMQ				LR		LR			
	comp=N,340nm,18.5s								
WMQ				LR		LR			
	comp=E,480nm,23.1s								
WMQ				LR		LR			
	comp=Z,420nm,23.1s								
AKTO	Aktyubinsk	64.78	340	P		P	00 21 09.1	-0.5	
	comp=Z,2.0nm,0.4s,baz=39,slow=9.8,SNR=8.4								
LZH	Lanzhou	64.98	300	eP		P	00 21 12.3	+1.0	
LZH				pP		pP	00 21 38.0	+2.6	
LZH				sP		sP	00 21 48.5	+2.5	
LZH				PP		PP	00 23 37.0	+2.1	
LZH				pmax		pmax			
	comp=Z,18nm,1.0s								
LZH				pmax		pmax			
	comp=Z,220nm,5.7s								
AKASG	Malin Array Be	66.80	360	P		P	00 21 21.1	-1.4	
	comp=Z,1.3nm,0.4s,baz=359,slow=6.0,SNR=8.6								
KBZ	Khabaz	73.21	350	P		P	00 22 01.7	-0.1	
	comp=Z,2.1nm,0.8s,baz=12,slow=3.5,SNR=8.4								
BRTR	Keskin Array B	77.71	356	P		P	00 22 28.6	+0.7	
	comp=Z,0.7nm,0.6s,baz=353,slow=4.6,SNR=5.6								
IDI	Anoyia	82.14	4	P		P	00 22 51.5	-0.2	
	comp=Z,4.2nm,0.8s,baz=347,slow=14,SNR=3.3								

IDC ***26*** *00:11:13.5±8.0, 11.61S×166.93E±0.7, h157km±173km, mb3.5/7, mb1 3.7/7, mb1mx3.4/44, mbtmp3.9/7, Error ellipse: s-maj=62.4km s-min=44.3km az=165.0*
ISCJB ***26*** *00:11:20.7±1.5, 11.85S±0.3×166.9E±0.3, h242km, mb3.5/7, Error ellipse: s-maj=56.4km s-min=21.7km az=42.0*

ISC 26 00:11:22.4±1.6, 11.7S±0.3×166.9E±0.3, h242km, n11, σ1§08/8, mb3.6/7, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	Stephens Creek	30.70	225	P	P	00 17 15.4	+0.4
	1.4nm,0.8s,baz=48,slow=17,SNR=2.9						
H11N1	WAKE ISLAND Hy	31.25	0	T	T	00 49 39.6	
	baz=181						
H11N3	WAKE ISLAND Hy	31.26	0	T	T	00 49 39.3	
	baz=181						
H11N2	WAKE ISLAND Hy	31.27	0	T	T	00 49 43.4	
	baz=181						
WRA	Warramunga Arr	32.27	251	P	P	00 17 28.2	-0.6
	0.4nm,0.5s,baz=83,slow=8.8,SNR=5.7						
CMAR	Chiang Mai Arr	73.38	293	P	P	00 22 28.3	-0.3
	0.7nm,0.3s,baz=100,slow=4.7,SNR=3.3						
SONM	Songino Array	79.86	323	P	P	00 23 05.9	+1.5
	0.4nm,0.6s,baz=104,slow=6.1,SNR=3.0						
ILAR	Eielson Array	83.83	18	P	P	00 23 23.9	-0.5
	0.5nm,0.6s,baz=261,slow=5.3,SNR=8.6						
MKAR	Makanchi Array	94.77	317	P	P	00 24 15.7	-0.8
	0.7nm,0.8s,baz=93,slow=6.8,SNR=7.2						
YKA	Yellowknife Ar	95.09	27	P	P	00 24 17.1	-0.5
	0.2nm,0.5s,baz=262,slow=4.4,SNR=8.1						
ARCES	ARCESS Array B	117.27	346	PKP	PKPdf	00 29 39.7	+1.3
	3.3nm,1.1s,baz=76,slow=2.9,SNR=5.5						

ISCJB ***26*** *00:17:01.9±0.6, 9.06S±0.07×79.7W±0.1, h45km, mb4.0/12, MS3.8/2, Error ellipse: s-maj=14.3km s-min=10.2km az=19.1*
IDC ***26*** *00:17:05.5±2.9, 8.85S±9.70W, h69km±23km, mb3.7/9, mb1 3.8/13, mb1mx3.7/40, mbtmp3.9/13, MS3.7/3, Ms1 3.7/3, ms1mx3.2/44, Error ellipse: s-maj=24.7km s-min=16.1km az=77.0*

ISC 26 00:17:03.3±0.6, 8.93S±0.09×79.7W±0.1, h45km, n30, σ1§73/24, mb4.0/12, Near coast of northern Peru

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ATAH	Atahualpa	2.22	37	P	P	00 17 37.8	-0.3
	151nm,0.3s,baz=184,slow=5.2,SNR=482						
ATAH				S	Sn	00 18 06.2	+1.8
	156nm,0.3s,baz=129,slow=19,SNR=7.6						
ATAH				LR	LR	00 18 48.6	
	comp=Z,995nm,21.6s,baz=217,slow=48						
LPAZ	La Paz	13.46	124	P	Pn	00 20 14.7	+2.3
	0.1nm,0.3s,baz=297,slow=8.9,SNR=2.6						
SIV	San Ignacio	19.51	113	P	P	00 21 26.4	-0.6
	0.4nm,0.3s,baz=303,slow=9.0,SNR=7.9						
SDV	Santo Domingo	19.88	27	P	P	00 21 30.0	-1.3
	0.3nm,0.3s,baz=197,slow=13,SNR=3.1						
PTGA	Pitinga	21.29	69	P	P	00 21 44.9	-1.4
	6.8nm,0.5s,baz=254,slow=13,SNR=24						
PCRV	Puerto La Cruz	24.20	39	P	P	00 22 15.5	-0.4
	8.2nm,0.5s,baz=189,slow=6.8,SNR=4.0						
PCRV				LR	LR	00 33 16.2	
	comp=Z,256nm,19.0s,baz=233,slow=40						
PLCA	Paso Flores	32.70	167	P	P	00 23 31.9	+0.3
	1.2nm,0.8s,baz=9.3,slow=12,SNR=3.5						
RPN	Rapa Nui	33.33	233	LR	LR	00 32 55.2	
	comp=Z,178nm,19.5s,baz=53,slow=28						
TXAR	Lajitas Array	44.49	330	P	P	00 25 11.4	+0.8
	0.3nm,1.0s,baz=164,slow=7.2,SNR=2.5						
PDAR	Pinedale Array	58.21	334	P	P	00 26 56.3	+3.0
	0.9nm,0.8s,baz=108,slow=4.8,SNR=6.8						
NVAR	Mina Array Bea	59.26	325	P	P	00 27 03.1	+2.4
	0.5nm,0.7s,baz=323,slow=49,SNR=2.3						
ULM	Lac du Bonnet	60.59	348	P	P	00 27 12.3	+3.1
	4.1nm,0.8s,baz=190,slow=4.6,SNR=3.7						
YKA	Yellowknife Ar	76.13	344	P	P	00 28 43.3	-2.9
	0.3nm,0.7s,baz=140,slow=5.8,SNR=9.9						
DBIC	Dimbokro	76.21	81	P	P	00 28 46.9	-0.7
	2.2nm,0.8s,baz=248,slow=5.4,SNR=3.0						
QSPA	South Pole Qui	81.18	180	P	P	00 29 15.1	+0.9
TORD	Torodi Ar. Bea	83.76	76	P	P	00 29 28.0	-0.5
	2.1nm,0.9s,baz=282,slow=4.7,SNR=13						
ESDC	Sonseca Array	84.87	49	P	P	00 29 33.2	-0.4
	1.0nm,0.8s,baz=292,slow=4.2,SNR=3.5						
ILAR	Eielson Array	88.57	337	P	P	00 29 49.2	-1.8
	0.5nm,0.9s,baz=162,slow=3.2,SNR=3.9						
H11N3	WAKE ISLAND Hy	114.89	288	T	T	02 40 19.9	
	baz=92,slow=75,SNR=56						
H11N2	WAKE ISLAND Hy	114.90	288	T	T	02 40 16.0	
	baz=92,slow=75,SNR=62						
H11N1	WAKE ISLAND Hy	114.91	288	T	T	02 40 21.0	
	baz=92,slow=75,SNR=76						
H11S2	WAKE ISLAND Hy	115.06	286	T	T	02 40 27.9	
	baz=92,slow=75,SNR=46						
H11S1	WAKE ISLAND Hy	115.07	286	T	T	02 40 31.2	
	baz=92,slow=75,SNR=27						
H11S3	WAKE ISLAND Hy	115.08	286	T	T	02 40 29.2	
	baz=92,slow=75,SNR=48						
BVAR	Borovoye Array	129.82	23	PKP	PKPdf	00 36 06.9	-0.9
	0.5nm,0.6s,baz=46,slow=4.2,SNR=3.4						
ZALV	Zalesovo Beam	133.42	13	PKP	PKPdf	00 36 12.9	-1.7
	1.0nm,0.5s,baz=241,slow=2.7,SNR=4.1						
ASAR	Alice Springs	133.85	225	PKP	PKPdf	00 36 15.4	-1.0
	0.6nm,0.8s,baz=153,slow=0.8,SNR=4.8						
KURBB	Kurchatov Arra	134.71	19	PKP	PKPdf	00 36 15.8	-1.2
	0.9nm,0.7s,baz=328,slow=2.4,SNR=7.0						
WRA	Warramunga Arr	135.87	229	PKP	PKPdf	00 36 19.0	-1.2
	0.7nm,0.6s,baz=121,slow=2.3,SNR=5.8						
MKAR	Makanchi Array	139.27	19	PKP	PKPdf	00 36 23.6	-2.1
	0.3nm,0.4s,baz=270,slow=1.7,SNR=5.9						

TEH ***26*** *00:30:03.5, 28.36N×52.16E, h20km, ML3.5*
CSEM ***26*** *00:30:05.7±0.5, 28.37N×52.27E, h10km, ML3.6, Error ellipse: s-maj=13.9km s-min=4.7km az=25.0*
THR ***26*** *00:30:05.5±0.5, 28.36N×52.36E, h34km±6km, ML3.6*
IDC ***26*** *00:30:05.6±1.2, 28.50N×52.19E, h0km, mb3.7/13, mb1 3.7/17, mb1mx3.6/67, mbtmp3.7/17, ML3.4/4, MS2.9/2, Ms1 2.9/2, ms1mx2.4/61, Error ellipse: s-maj=26.0km s-min=16.8km az=162.0*

ISC 26 00:30:06.8±0.6, 28.21N±0.04×52.21E±0.03, h26km, n50, σ1§97/57, mb3.8/13, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GHIR	Ghir-Karzin	0.69	84	ePg	Pb	00 30 17.3	-3.1
GHIR				eSg	Sb	00 30 25.5	-4.1
GHIR	Ghir-Karzin	0.69	84	ePg	Pb	00 30 17.3	-3.1
GHIR				eSg	Sb	00 30 25.5	-4.1
GHIR				AML	AML	00 30 35.5	
	comp=N,3μm,0.6s						
GHIR				AML	AML	00 30 38.5	
	comp=E,3μm,0.4s						
AHBU	AHRAM	1.03	309	ePg	Pb	00 30 25.2	-0.8
AHBU				eSg	Sn	00 30 39.8	+0.6
JHRM	Jahrom	1.24	76	ePg	Pb	00 30 28.7	-1.0
JHRM				eSg	Sb	00 30 46.9	+1.5
JHRM				eAMB	AMB	00 30 51.9	
	comp=Z,99nm,0.2s						
JHRM	Jahrom	1.24	76	ePg	Pb	00 30 28.7	-1.0
JHRM				eSg	Sb	00 30 46.9	+1.5
ISRV	Sarvestan	1.41	34	ePg	Pn	00 30 25.8	-5.3
ISRV				eAMB	AMB	00 30 52.4	
	comp=Z,9μm,0.2s						
ISRV	Sarvestan	1.41	34	ePg	Pn	00 30 25.8	-5.3
IKAZ	Kazeroun	1.59	349	ePn	Pn	00 30 31.8	-1.9
IKAZ				eSg	Sb	00 30 53.2	-2.4
IKAZ				eAMB	AMB	00 30 60.0	
	comp=Z,20μm,0.3s						
IKAZ	Kazeroun	1.59	349	ePn	Pn	00 30 31.8	-1.9
IKAZ				eSg	Sb	00 30 53.2	-2.4
IRAM	Ramesheh	3.59	2	ePn	Pn	00 30 58.9	-2.1
IRAM				eAMB	AMB	00 32 04.2	
	comp=Z,1μm,0.4s						
IRAM	Ramesheh	3.59	2	ePn	Pn	00 30 58.9	-2.1
IMEH	Mehriz	3.80	33	eAMB	AMB	00 31 05.9	
	comp=Z,784nm,0.2s						
IMEH				ePn	Pn	00 31 03.2	-0.6
ISAD	Sadrabad	3.91	19	ePn	Pn	00 31 04.3	-1.1
ISAD				eAMB	AMB	00 32 14.9	
	comp=Z,756nm,0.4s						
ISAD	Sadrabad	3.91	19	ePn	Pn	00 31 04.3	-1.1
NIAN	Nian	4.15	98	ePn	Pn	00 31 08.9	+0.4
NIAN				eAMB	AMB	00 33 04.6	
	comp=Z,4μm,0.8s						
NIAN	Nian	4.15	98	ePn	Pn	00 31 08.9	+0.4
NGRK	Negar Kerman	4.21	69	ePn	Pn	00 31 09.7	0.0
NGRK				eAMB	AMB	00 32 30.6	
	comp=Z,99nm,0.6s						
NGRK	Negar Kerman	4.21	69	ePn	Pn	00 31 09.7	0.0
KHGB	Koh Gabri	4.31	59	ePn	Pn	00 31 11.4	+0.5
KHGB				eAMB	AMB	00 32 30.7	
	comp=Z,99nm,0.4s						
KHGB	Koh Gabri	4.31	59	ePn	Pn	00 31 11.4	+0.5
BTHS		4.33	197	P	Pb	00 31 17.9	-4.3
BTHS				S	Sb	00 32 12.1	-1.8
IBAF	Bafgh	4.46	40	ePn	Pn	00 31 11.7	-1.1
IBAF				eAMB	AMB	00 31 27.7	
	comp=Z,408nm,0.3s						
IBAF	Bafgh	4.46	40	ePn	Pn	00 31 11.7	-1.1
IZEF	Zefreh	4.67	1	ePn	Pn	00 31 14.1	-1.8
IZEF				eAMB	AMB	00 31 38.3	
	comp=Z,178nm,0.3s						
IZEF	Zefreh	4.67	1	ePn	Pn	00 31 14.1	-1.8
IKLH	Kolahrood	5.12	354	ePn	Pn	00 31 20.0	-2.0
IKLH				eAMB	AMB	00 33 01.5	
	comp=Z,495nm,0.5s						
IKLH	Kolahrood	5.12	354	ePn	Pn	00 31 20.0	-2.0
KHMZ	Khomeyn	5.84	341	ePn	Pn	00 31 30.6	-1.3
KHMZ	Khomeyn	5.84	341	ePn	Pn	00 31 30.6	-1.3
KHMZ				Sn	Sn	00 32 33.3	-4.8
TABS	Tabas	6.87	37	ePn	Pn	00 31 43.7	-2.2
TABS	Tabas	6.87	37	ePn	Pn	00 31 43.7	-2.2
WSAR	Wadi Sarin	7.62	129	Pn	Pn	00 32 00.2	+4.0
	comp=Z,0.5nm,0.3s,baz=300,slow=8.5,SNR=12						
WSAR				Sn	Sn	00 33 23.4	+1.6
	comp=Z,0.4nm,0.3s,baz=120,slow=21,SNR=3.5						
IVIS	Veis	7.78	325	ePn	Pn	00 31 57.0	-1.5
IVIS				eAMB	AMB	00 33 28.9	
	comp=Z,245nm,0.2s						
IVIS	Veis	7.78	325	ePn	Pn	00 31 57.0	-1.5
GEYT	Alibeck	10.88	26	Pn	Pn	00 32 40.5	-0.4
	comp=Z,0.2nm,0.3s,baz=200,slow=12,SNR=5.6						
MMAI	Mount Meron Ar	15.23	292	Pn	Pn	00 33 40.3	+0.1
	comp=Z,0.2nm,0.3s,baz=121,slow=17,SNR=3.0						
MMAI				LR	LR	00 40 41.8	
	comp=Z,39nm,18.6s,baz=50,slow=42						
BRTR	Keskin Array B	19.17	312	P	Pn	00 34 29.4	-0.1
	comp=Z,0.1nm,0.3s,baz=134,slow=13,SNR=9.3						
BRTR				LR	LR	00 44 06.8	
	comp=Z,33nm,18.1s,baz=139,slow=44						
AKTO	Aktyubinsk	22.63	10	P	P	00 35 05.2	-0.4
	comp=Z,1.0nm,0.6s,baz=177,slow=3.6,SNR=3.4						
AAK	Ala-Archa	23.08	46	P	P	00 35 12.1	+1.5
	comp=Z,0.4nm,0.4s,baz=274,slow=6.7,SNR=2.7						
IDI	Anoyia	24.23	294	P	P	00 35 23.9	+2.3
	comp=Z,7.3nm,0.7s,baz=77,slow=9.9,SNR=5.0				

AAGR				*e*S		**Sn**	**01 05 11.2**	**-0.4**
ASAL	**Salagasta**	**1.19**	**75**	*e*P		**Pn**	**01 04 54.6**	**0.0**
ASAL				*e*S		**Sn**	**01 05 11.8**	**-0.2**
RTLS	**Leoncito**	**1.34**	**35**	*e*P		**Pn**	**01 04 57.3**	**+0.7**
RTLS				*e*S		**Sn**	**01 05 16.3**	**+0.7**
RTLS				IAML			01 05 18.9	
	comp=Z,76nm,0.6s							
RTCV	**Cerro Valdivia**	**1.75**	**54**	*e*P		**Pn**	**01 05 01.1**	**-0.1**
RTCV				*e*S		**Sn**	**01 05 23.4**	**-0.4**
AMOG	**MOGNA**	**2.44**	**37**	*e*P		**Pn**	**01 05 10.5**	**+0.4**
AMOG				*e*S		**Sn**	**01 05 38.6**	**-1.1**
GO04	**Tololo Observa**	**2.78**	**349**	*i*P		**Pn**	**01 05 14.8**	**+0.1**
GO04				*i*S		**Sn**	**01 05 47.3**	**-0.6**
AGUA	**GUANDACOL**	**3.71**	**24**	*e*P		**Pn**	**01 05 27.4**	**+0.4**

CSEM ***26*** *02:00:47.3±0.7,51°.29N×19°.00E,h2km,ML2.5/4, Error ellipse: s-maj=10.5km s-min=4.0km az=9.0*
ISCJB ***26*** *02:00:49.6±1.2,51°.10N±0°.06×18°.97E±0°.04,h0km, Error ellipse: s-maj=8.3km s-min=3.1km az=18.5*
PRU ***26*** *02:00:51.3,51°.10N×19°.03E,h0km,Belchatow*
ISC 26 02:00:51.2±1.6,51°.09N±0°.08×19°.01E±0°.04,h0km,n27,σ1ᵎ36′39,Poland

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
OJC	**Ojcow**	**1.01**	**150**	*e*Pg		**Pg**	**02 01 09.5**	**-1.0**
OJC				*e*Sg		**Sg**	**02 01 24.4**	**+0.9**
OJC	**Ojcow**	**1.01**	**150**	*e*Pg		**Pg**	**02 01 09.5**	**-1.0**
OJC				*e*Sg		**Sg**	**02 01 24.4**	**+0.9**
OKC	**Ostrava-Krasne**	**1.37**	**204**	*e*PG		**Pn**	**02 01 17.0**	**-0.6**
OKC				*e*SG		**Sg**	**02 01 36.5**	**+1.3**
	comp=Z,6.1nm,0.4s							
OKC	**Ostrava-Krasne**	**1.37**	**204**	Pg		**Pn**	**02 01 17.0**	**-0.6**
OKC				Sg		**Sg**	**02 01 36.5**	**+1.3**
	6.1nm,0.4s							
MORC	**Moravsky Berou**	**1.62**	**216**	*e*Pn		**Pn**	**02 01 20.3**	**-0.7**
MORC				*e*Sg		**Sg**	**02 01 44.2**	**+1.1**
KSP	**Ksiaz**	**1.73**	**263**	*e*Pg		**Pg**	**02 01 25.8**	**+1.4**
KSP				*e*Sg		**Sg**	**02 01 49.7**	**+2.7**
KRLC	**Kraliky**	**1.75**	**235**	*e*SG		**Sb**	**02 01 47.1**	**+0.4**
	comp=Z,2.3nm,0.3s							
KRLC	**Kraliky**	**1.75**	**235**	Sg		**Sb**	**02 01 47.1**	**+0.4**
	2.3nm,0.3s							
DPC	**Dobruska-Polom**	**1.86**	**248**	*e*PG		**Pn**	**02 01 23.7**	**-0.7**
DPC				*e*SG		**Sn**	**02 01 48.4**	**-0.3**
	comp=Z,3.9nm,0.4s							
DPC	**Dobruska-Polom**	**1.86**	**248**	Pg		**Pn**	**02 01 23.7**	**-0.7**
DPC				Sg		**Sn**	**02 01 48.4**	**-0.3**
	3.9nm,0.4s							
NIE	**Niedzica**	**1.87**	**153**	*e*Pg		**Pg**	**02 01 26.9**	**-0.1**
NIE				*e*Sg		**Sg**	**02 01 54.5**	**+3.3**
NIE	**Niedzica**	**1.87**	**153**	*e*Pg		**Pg**	**02 01 26.9**	**-0.1**
NIE				*e*Sg		**Sg**	**02 01 54.5**	**+3.3**
LANS	**Liptovska Anna**	**1.96**	**171**	*e*PG		**Pb**	**02 01 27.1**	**-0.8**
LANS				*e*SG		**Sb**	**02 01 53.6**	**+0.7**
UPC	**Upice**	**1.99**	**254**	*e*SG		**Sb**	**02 01 52.6**	**-1.0**
UPC	**Upice**	**1.99**	**254**	Sg		**Sb**	**02 01 52.6**	**-1.0**
STHS	**Stebnicka Huta**	**2.21**	**139**	*e*Sg		**Sg**	**02 02 03.4**	**+1.3**
STHS	**Stebnicka Huta**	**2.21**	**139**	*e*SG		**Sg**	**02 02 03.4**	**+1.3**
STHS				*e*LG		Lg	02 02 12.9	
VRAC	**Vranov**	**2.37**	**222**	*e*Sg		**Sg**	**02 02 08.6**	**+1.4**
PVCC	**Panska Ves**	**2.87**	**260**	*e*SG		**Sg**	**02 02 25.1**	**+1.6**
	comp=Z,5.5nm,0.2s							
TREC	**Trest**	**2.89**	**233**	*e*SG		**Sg**	**02 02 24.8**	**+0.7**
	comp=Z,2.6nm,0.3s							
TREC	**Trest**	**2.89**	**233**	Sg		**Sg**	**02 02 24.8**	**+0.7**
	2.6nm,0.3s							
GOPC	**GO Pecny, Ondr**	**2.94**	**248**	*e*SN		**Sn**	**02 02 15.7**	**+0.4**
GOPC				*e*SG		**Sg**	**02 02 28.4**	**+2.7**
PRU	**Pruhonice**	**3.06**	**251**	*e*SG		**Sg**	**02 02 28.6**	**-0.8**
PRU	**Pruhonice**	**3.06**	**251**	Sg		**Sg**	**02 02 28.6**	**-0.8**
BRG	**Berggiesshubel**	**3.21**	**268**	SG		**Sg**	**02 02 36.3**	**+2.0**
	2.8nm,0.7s							
KHC	**Kasperske Hory**	**4.01**	**243**	*e*SG		**Sg**	**02 02 59.4**	**-0.6**
KHC	**Kasperske Hory**	**4.01**	**243**	Sg		**Sg**	**02 02 59.4**	**-0.6**

MAN 26 02:01:13,10°.08N×123°.28E,h1km,mb4.4,ML3.2,MS2.9, 2C-4D,Cebu

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
TBP	**Tagbilaran**	**0.69**	**124**	*e*P		Pg	02 01 26.8	+0.6
LLP	**Lapu-Lapu**	**0.71**	**70**	*e*P		Pb	02 01 27.6	-0.7
LLP				*e*S		Sg	02 01 36.8	+0.9
SNPH	**Sibulan**	**0.73**	**184**	*i*P		Pn	02 01 29.8	-0.8
SNPH				*i*S		Sb	02 01 40.7	+1.6
GUIM	**Jordan**	**0.88**	**309**	*e*P		Pb	02 01 31.0	0.0
GUIM				*e*S		Sn	02 01 44.7	-1.2
JAP	**San Jose, Anti**	**1.48**	**297**	*e*P		Pg	02 01 43.4	+2.0
DCPH	**Dipolog City**	**1.48**	**177**	*e*P		Pb	02 01 41.3	-0.1
DCPH				*e*S		Sn	02 02 01.6	+0.7
MSLP	**Maasin**	**1.55**	**88**	*e*P		Pg	02 01 42.7	0.0
MSLP				*e*S		Sg	02 02 04.8	+1.9
RCP	**Roxas**	**1.57**	**340**	*e*P		Pb	02 01 42.9	0.0
RCP				*e*S		Sg	02 02 06.6	+3.2
PLP	**Palo**	**1.99**	**57**	*e*P		Pg	02 01 50.8	-0.3
PLP				*e*S		Sn	02 02 11.8	-1.6

IDC ***26*** *02:09:38.4±2.5,7°.62S×119°.24E,h0km,mb3.6/4, mb1 3.7/5,mb1mx3.4/56,mbtmp3.6/5,ML3.4/1,Error ellipse: s-maj=249.3km s-min=23.6km az=53.0*
DJA ***26*** *02:09:40.3±0.7,8°.3S±2°×11°.9E±°,h16km±6km,M3.9/14, MLv3.9/14*
ISCJB ***26*** *02:09:41.2±0.5,7°.77S±0°.04×119°.05E±0°.03,h33km, mb3.7/4,Error ellipse: s-maj=5.4km s-min=4.8km az=4.8*
ISC 26 02:09:43.0±0.9,7°.81S±0°.05×119°.06E±0°.04,h35km,n16,σ0ᵎ96′23,mb3.7/4,Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PLAI	**Plampang**	**1.62**	**231**	P		**Pn**	**02 10 08.3**	**-0.8**
PLAI				S		**Sn**	**02 10 29.1**	**+0.2**
WBSI	**Waikabubak, Su**	**1.85**	**170**	P		**Pn**	**02 10 11.5**	**-0.8**
WBSI				S		**Sn**	**02 10 35.5**	**+1.0**
BSSI	**Bau Bau, Buton**	**2.18**	**41**	P		**Pn**	**02 10 15.8**	**-1.0**
BSSI				S		**Sn**	**02 10 43.7**	**+1.1**
WSI	**Waingapu**	**2.22**	**147**	P		**Pn**	**02 10 16.0**	**-1.3**
WSI				S		**Sn**	**02 10 45.0**	**+1.5**
TWSI	**Taliwang, Sumb**	**2.35**	**247**	P		**Pn**	**02 10 18.4**	**-0.7**
TWSI				S		**Sn**	**02 10 47.9**	**+1.2**
EDFI	**Ende, Flores**	**2.77**	**110**	P		**Pn**	**02 10 23.8**	**-1.1**
EDFI				S		**Sn**	**02 10 57.6**	**+0.4**
BASI	**Baing, Sumba**	**2.82**	**148**	P		**Pn**	**02 10 24.5**	**-1.2**
BASI				S		**Sn**	**02 10 59.1**	**+0.6**
BNSI	**Bone**	**3.54**	**17**	P		**Pn**	**02 10 34.8**	**-0.7**
SRBI	**Singaraja**	**3.82**	**266**	P		**Pn**	**02 10 38.6**	**-0.8**
DNP	**Denpasar**	**3.91**	**257**	P		**Pn**	**02 10 39.4**	**-1.2**
IGBI	**Denpasar**	**4.00**	**255**	P		**Pn**	**02 10 40.6**	**-1.3**
WRA	**Warramunga Arr**	**19.09**	**131**	P		**P**	**02 14 02.9**	**+0.1**
	0.1nm,0.3s,baz=306,slow=12,SNR=2.5							
ASAR	**Alice Springs**	**21.24**	**140**	P		**P**	**02 14 26.8**	**+0.6**
	1.3nm,0.8s,baz=316,slow=11,SNR=7.3							
MKAR	**Makanchi Array**	**63.43**	**333**	P		**P**	**02 20 09.6**	**+0.4**
	0.9nm,0.7s,baz=148,slow=7.1,SNR=8.3							
KURBB	**Kurchatov Arra**	**67.94**	**333**	P		**P**	**02 20 38.3**	**+0.1**
	0.3nm,0.5s,baz=148,slow=5.4,SNR=1.8							
ZALV	**Zalesovo Beam**	**67.96**	**339**	P		**P**	**02 20 38.1**	**-0.1**
	0.3nm,0.3s,baz=134,slow=6.2,SNR=1.8							

MEX 26 02:20:20.4±0.6,15°.84N×98°.60W,h16km±15km,MD3.9, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.71**	**39**	*i*P		Pg	02 20 31.6	-2.7
PNIG				*e*S		Sg	02 20 40.3	-3.6
TLIG	**Tlapa**	**1.71**	**1**	*e*P		Pn	02 20 46.0	-3.7
TLIG				*e*S		Sn	02 21 06.9	-4.5
CAIG	**El Cayaco**	**2.00**	**307**	*e*P		Pn	02 20 50.5	-3.1
CAIG				*e*S		Sn	02 21 13.1	-5.3
VHO	**Vista Hermosa**	**2.17**	**55**	*e*P		Pn	02 20 53.5	-2.6
VHO				*e*S		Sn	02 21 18.2	-4.5

IDC ***26*** *02:24:57.6±0.7,56°.45S×25°.58W,h0km,mb4.3/6, mb1 4.3/7,mb1mx3.9/33,mbtmp4.2/7,ML3.8/1,MS3.1/3, Ms1 3.1/3,ms1mx2.9/30,Error ellipse: s-maj=34.6km s-min=18.9km az=70.0*
ISCJB ***26*** *02:25:00.1±0.5,56°.48S±0°.09×25°.56W±0°.2,h29km, mb4.5/16,MS3.2/2,Error ellipse: s-maj=19.0km s-min=8.2km az=147.1*
NEIC ***26*** *02:25:02.9±0.3,56°.46S×25°.68W,h35km,mb4.7/12,Error ellipse: s-maj=13.3km s-min=7.5km az=50.0*
ISC 26 02:25:01.6±0.7,56°.5S±0°.1×25°.6W±0°.2,h29km,n44,σ1ᵎ31′35,mb4.6/14,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**16.03**	**159**	P		**Pn**	**02 28 38.4**	**-6.2**
VNA3	**Neumayer Olymp**	**16.25**	**161**	P		**Pn**	**02 28 47.4**	**-0.1**
VNA2	**Neumayer--Watz**	**16.42**	**159**	P		**Pn**	**02 28 49.4**	**-0.1**
	baz=324,slow=15							
SNAA	**Sanae**	**17.95**	**157**	P		**P**	**02 29 10.1**	**+1.1**
SNAA	**Sanae**	**17.95**	**157**	P		**P**	**02 29 09.5**	**+0.5**
	0.3nm,0.3s,baz=318,slow=16,SNR=3.5							
SNAA				LR		LR	02 33 59.7	
	comp=Z,41nm,21.6s,baz=172,slow=30							
SNAA	**Sanae**	**17.95**	**157**	*e*Pn		**P**	**02 29 09.7**	**+0.7**
	3.1nm,0.6s							
QSPA	**South Pole Qui**	**33.72**	**180**	P		**P**	**02 31 40.5**	**+0.5**
	3.6nm,0.5s,baz=171,slow=0.8,SNR=30							
QSPA	**South Pole Qui**	**33.72**	**180**	*e*P		**P**	**02 31 41.3**	**+1.3**
CPUP	**Villa Florida**	**37.78**	**310**	P		**P**	**02 32 14.3**	**-0.6**
	1.9nm,0.6s,baz=145,slow=7.3,SNR=7.0							
CPUP				LR		LR	02 45 39.6	
	comp=Z,31nm,20.4s,baz=212,slow=33							
CPUP	**Villa Florida**	**37.78**	**310**	*e*P		**P**	**02 32 15.2**	**+0.2**
	6.3nm,1.3s							
ROC1	**El Roble**	**38.91**	**288**	*e*P		**P**	**02 32 24.1**	**-0.7**
	7.0nm,0.7s							
GO04	**Tololo Observa**	**41.01**	**291**	*e*P		**P**	**02 32 41.7**	**-0.5**
	13nm,1.4s							
GO02	**Mina Guanaco**	**44.48**	**296**	*e*P		**P**	**02 33 10.8**	**+0.3**
	6.3nm,0.7s							
BOSA	**Boshof**	**45.26**	**74**	LR		LR	02 48 35.9	
	comp=Z,41nm,18.2s,baz=204,slow=31							
VNDA	**Vanda**	**46.13**	**182**	P		**P**	**02 33 23.4**	**+0.8**
	0.7nm,0.5s,baz=177,slow=7.8,SNR=8.3							
PB10	**IPOC Station P**	**46.34**	**296**	*e*P		**P**	**02 33 24.4**	**-0.3**
	32nm,1.2s							
PB01	**IPOC Station P**	**47.90**	**299**	*e*P		**P**	**02 33 37.4**	**+0.3**
	10nm,0.7s							
H10S2	**ASCENSION HYDR**	**48.23**	**15**	T		T	03 26 33.3	
	baz=189,slow=74							
H10S3	**ASCENSION HYDR**	**48.23**	**15**	T		T	03 26 41.1	
	baz=189,slow=74							
H10S1	**ASCENSION HYDR**	**48.25**	**15**	T		T	03 26 32.9	
	baz=189,slow=74							
PB11	**IPOC Station P**	**49.08**	**300**	*e*P		**P**	**02 33 46.6**	**+0.4**
	21nm,1.1s							
H10N1	**ASCENSION HYDR**	**49.35**	**15**	T		T	03 27 58.9	
	baz=188							
H10N3	**ASCENSION HYDR**	**49.35**	**15**	T		T	03 27 53.7	
	baz=188							
H10N2	**ASCENSION HYDR**	**49.36**	**15**	T		T	03 28 05.9	
	baz=188							
MNMC	**Minye Minye**	**49.59**	**300**	*e*P		**P**	**02 33 51.1**	**+0.9**
	22nm,0.6s							
LPAZ	**La Paz**	**51.36**	**304**	P		**P**	**02 34 04.9**	**+0.8**
	5.7nm,0.4s,baz=135,slow=5.0,SNR=45							
LPAZ	**La Paz**	**51.36**	**304**	*e*P		**P**	**02 34 05.0**	**+0.8**
	9.2nm,0.9s							
SAML	**Samuel**	**55.76**	**313**	*e*P		**P**	**02 34 35.6**	**0.0**
	5.8nm,1.4s							
OTAV	**Otavalo**	**70.64**	**302**	*e*P		**P**	**02 36 14.1**	**-0.7**
	7.0nm,1.4s							
TOA0	**Torodi Ar. Sit**	**73.06**	**28**	*e*P		**P**	**02 36 28.9**	**+0.3**
TORD	**Torodi Ar. Bea**	**73.06**	**28**	P		**P**	**02 36 28.7**	**0.0**
	0.8nm,0.5s,baz=199,slow=5.3,SNR=12							
TOA1	**Torodi Ar. Sit**	**73.07**	**28**	*e*P		**P**	**02 36 28.7**	**0.0**
ASAR	**Alice Springs**	**98.26**	**161**	P		Pdif	02 38 37.4	+1.2
	0.4nm,0.9s,baz=182,slow=4.6,SNR=3.3							
AS31	**Alice Springs**	**98.26**	**161**	*e*P		Pdif	02 38 37.4	+1.2
	1.2nm,1.1s							
YKA	**Yellowknife Ar**	**137.11**	**317**	PKP		**PKPdf**	**02 44 20.1**	**0.0**
	0.4nm,0.4s,baz=126,slow=2.3,SNR=16							
INK	**Inuvik**	**146.73**	**320**	PKPbc		**PKPbc**	**02 44 38.8**	**-0.1**
	1.5nm,0.6s,baz=52,slow=3.2,SNR=11							
INK	**Inuvik**	**146.73**	**320**	*e*PKPdf		**PKPab**	**02 44 39.3**	**-0.9**
SONA0	**Songino Array**	**149.89**	**86**	*e*PKPbc		**PKPbc**	**02 44 47.9**	**-0.2**
SONM	**Songino Array**	**149.89**	**86**	PKPbc		**PKPbc**	**02 44 47.9**	**-0.2**
	1.0nm,0.5s,baz=193,slow=3.8,SNR=3.9							
IL1	**Eielson Array**	**151.08**	**311**	*e*PKPbc		**PKPbc**	**02 44 48.5**	**-1.7**
ILAR	**Eielson Array**	**151.08**	**311**	PKPbc		**PKPbc**	**02 44 50.2**	**+0.1**
	1.1nm,0.8s,baz=111,slow=1.1,SNR=13							
ILB	**Eielson Array**	**151.08**	**311**	*e*PKPbc		**PKPbc**	**02 44 50.2**	**+0.1**
KSAR	**Wonju Array Be**	**153.99**	**126**	PKPbc		**PKPbc**	**02 44 59.0**	**+1.5**
KSRS	**Korea Array**	**154.01**	**126**	PKPbc		**PKPbc**	**02 44 59.0**	**+1.5**
	0.4nm,0.3s,baz=187,slow=2.3,SNR=3.4							

IDC 26 02:33:40.6±7.3,18°.71S×175°.96W,h0km,mb3.6/3, mb1 3.9/3,mb1mx3.6/41,mbtmp3.6/3,Error ellipse: s-maj=315.6km s-min=41.6km az=142.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**46.78**	**260**	P		P	02 42 11.9	-0.4
	0.8nm,1.0s,baz=97,slow=7.2,SNR=8.9							
ASAR	**Alice Springs**	**46.82**	**255**	P		P	02 42 12.7	+0.1
	1.0nm,0.6s,baz=89,slow=8.6,SNR=13							
ILAR	**Eielson Array**	**86.16**	**12**	P		P	02 46 23.2	0.0
	0.2nm,0.7s,baz=218,slow=5.7,SNR=1.0							

IDC 26 02:44:16.8±1.4,6°.39S×149°.19E,h0km,mb3.3/3, mb1 3.6/5,mb1mx3.3/55,mbtmp3.4/5,ML1.1/1,Error ellipse: s-maj=74.7km s-min=22.6km az=118.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.61**	**214**	Pn		Pn	02 45 14.6	+0.6
	1.3nm,0.3s,baz=48,slow=13,SNR=2.1							
PMG				Sn		Sn	02 46 00.3	+2.8
	6.3nm,0.3s,baz=49,slow=16,SNR=6.7							
WRA	**Warramunga Arr**	**19.74**	**226**	P		P	02 48 48.6	+0.2
	0.3nm,0.3s,baz=53,slow=11,SNR=27							
ASAR	**Alice Springs**	**22.61**	**219**	P		P	02 49 17.5	-1.9
	0.6nm,0.9s,baz=50,slow=8.3,SNR=4.5							
STKA	**Stephens Creek**	**26.33**	**195**	P		P	02 49 55.4	+0.8
	0.7nm,0.7s,baz=14,slow=17,SNR=2.3							
ILAR	**Eielson Array**	**84.99**	**23**	P		P	02 56 53.9	+0.1
	0.1nm,0.6s,baz=234,slow=5.5,SNR=2.6							
TORD	**Torodi Ar. Bea**	**147.30**	**284**	PKPbc		PKPbc	03 04 02.5	-1.0
	0.3nm,0.6s,baz=70,slow=2.2,SNR=4.6							

IDC ***26*** *02:49:18.2±0.4,23°.77S×175°.93W,h0km,mb4.7/25, mb1 4.8/26,mb1mx4.7/48,mbtmp4.7/26,ML4.5/1,MS4.1/32, Ms1 4.1/32,ms1mx4.1/43,Error ellipse: s-maj=17.2km s-min=14.1km az=131.0*
ISCJB ***26*** *02:49:22.0±0.2,23°.83S±0°.05×176°.00W±0°.05,h31km, mb4.8/94,MS4.2/34,Error ellipse: s-maj=8.0km s-min=5.2km az=140.7*
BJI ***26*** *02:49:22.0,23°.64S×175°.53W,h35km,mb5.2/27, mB5.4/12,Ms4.9/9,Ms7 4.6/7*
NEIC ***26*** *02:49:24.0±1.0,23°.81S×175°.99W,h36km±8km,mb4.9/62, Error ellipse: s-maj=7.1km s-min=5.3km az=146.0*
GCMT ***26*** *02:49:24.0±0.2,23°.92S×175°.33W,h21km,MW5.0/73, Moment Tensor Solution. s57,c75; s73,c104; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.06±.13; $M_{\theta\theta}$-0.61±.10; $M_{\phi\phi}$-2.44±.09; $M_{r\theta}$0.39±.18; $M_{r\phi}$-0.89±.06; $M_{\theta\phi}$1.53±.14; Best double couple: M_o3.32800×10^{16} NP1:ϕs19.00000°,δ59.00000°,λ87.00000°. NP2: ϕs205.00000°,δ31.00000°,λ96.00000°. Principal axes: T 3.4630, Plg76.0000°, Azm279.0000°; N -0.2650, Plg3.0000°, Azm20.0000°; P -3.1930, Plg14.0000°, Azm111.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
MOS ***26*** *02:49:26.2±1.2,23°.89S×176°.07W,h63km,mb5.1/25 Error ellipse: s-maj=11.5km s-min=10.0km az=82.1*
ISC 26 02:49:23.3±0.3,23°.85S±0°.06×175°.96W±0°.07,h31km, n285,σ1ᵎ17′273,mb4.8/94,MS4.3/34,15C-1D,Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**5.66**	**198**	Sn		**Sn**	**02 51 46.0**	**-3.2**
	317nm,0.3s,baz=242,slow=20,SNR=6.2							
RAO	**Raoul Island**	**5.66**	**198**	*e*Pn		**Pn**	**02 50 46.8**	**+1.5**
RAO				*e*Sn		**Sn**	**02 51 46.0**	**-3.2**
RAO	**Raoul Island**	**5.66**	**198**	*e*P		**Pn**	**02 50 46.8**	**+1.5**
RAO				*e*			02 51 46.0	
MSVF	**Nonsavu**	**8.27**	**316**	*e*Pn		**Pn**	**02 51 21.1**	**-0.2**
MSVF	**Nonsavu**	**8.27**	**316**	*e*P		Pn	02 51 27.0	+5.7
AFI	**Afiamalu**	**10.65**	**23**	Pn		Pn	02 51 47.3	-6.7
	12nm,0.3s,baz=341,slow=6.1,SNR=7.6							
AFI				Sn		Sn	02 53 37.5	-15
	11nm,0.3s,baz=170,slow=6.1,SNR=4.6							
RAR	**Rarotonga**	**15.19**	**83**	Pn		Pn	02 52 45.2	-10
	14nm,0.3s,baz=235,slow=8.6,SNR=22							
RAR				Sn		Sn	02 55 15.1	-28
	4.1nm,0.3s,baz=270,slow=20,SNR=6.2							
RAR				LR		LR	02 59 23.1	
	comp=Z,816nm,18.2s,baz=264,slow=40							
RAR	**Rarotonga**	**15.19**	**83**	*e*Pn		Pn	02 52 45.6	-10
RAR				*e*Sn		Sn	02 55 15.1	-28
RAR	**Rarotonga**	**15.19**	**83**	*e*P		Pn	02 52 45.6	-10
URZ	**Urewera**	**15.53**	**201**	Pn		**Pn**	**02 53 00.6**	**+0.5**
	2.0nm,0.3s,baz=50,slow=4.9,SNR=7.3							
URZ				Sn		Sn	02 55 36.7	-14
	0.7nm,0.3s,baz=24,slow=20,SNR=3.7							
DZM	**Mont Dzumac**	**16.30**	**273**	Pn		**P**	**02 53 14.8**	**+1.9**
	0.5nm,0.3s,baz=105,slow=13,SNR=9.8							
DZM				LR		LR	02 57 12.6	
	comp=Z,342nm,20.6s,baz=104,slow=29							
DZM	**Mont Dzumac**	**16.30**	**273**	*e*P		**P**	**02 53 17.8**	**+4.9**
	102nm,1.4s							
DZM				*e*LR		LR	02 56 53.6	
	1μm,22.2s							
DZM	**Mont Dzumac**	**16.30**	**273**	*e*Pn		**Pn**	**02 53 10.5**	**+0.3**
	6.2nm,1.0s							
BKZ	**Black Stump Fm**	**16.56**	**201**	*e*Pn		**Pn**	**02 53 13.3**	**+0.1**
	5.1nm,0.8s							
PAE	**Paea**	**25.40**	**81**	*e*T		T	03 20 25.7	
	3.4nm,0.3s							
PPT2	**Papeete2**	**25.43**	**81**	*e*S		S	02 58 59.4	-14
	185nm,27.7s							
PPT2				*e*LQ		LQ	02 59 46.7	
	642nm,23.5s							
PPT2				*e*LR		LR	03 00 52.6	
	851nm,22.5s,baz=247							
PPT2	**Papeete2**	**25.43**	**81**	*e*T		T	03 20 28.7	
	4.7nm,0.4s							
PPT	**Papeete**	**25.43**	**81**	LR		LR	03 03 58.8	
	comp=Z,593nm,18.5s,baz=256,slow=35							
HNR	**Honiara**	**27.11**	**298**	LR		LR	03 05 17.0	
	comp=Z,510nm,18.0s,baz=152,slow=35							
ARMA	**Armidale**	**29.51**	**250**	*e*P		**P**	**02 55 25.6**	**+0.4**
	14nm,1.0s							
CTA	**Charters Tower**	**35.17**	**269**	P		**P**	**02 56 14.8**	**0.0**
	18nm,0.5s,baz=94,slow=10,SNR=33							
CTAO	**Charters Tower**	**35.17**	**269**	*e*P		**P**	**02 56 14.9**	**+0.2**
	21nm,0.6s							
CTAO	**Charters Tower**	**35.17**	**269**	*e*P		**P**	**02 56 14.9**	**+0.2**
CTAO				pmax		pmax		
	comp=Z,21nm,0.6s							
TAU	**Tasmania Unive**	**35.71**	**229**	*e*P		**P**	**02 56 19.8**	**+0.8**
	comp=Z,14nm,1.0s							
TAU	**Tasmania Unive**	**35.71**	**229**	*e*P		**P**	**02 56 19.8**	**+0.8**
TAU				pmax		pmax		
	comp=Z,14nm,1.0s							
TAOE	**Nuku Hiva Isla**	**37.32**	**73**	*e*LR		LR	03 06 14.6	
	comp=Z,436nm,29.5s,baz=244							
RKT	**Rikitea**	**37.51**	**97**	*e*LR		LR	03 06 26.7	
	comp=Z,609nm,29.2s,baz=263							
PMG	**Port Moresby**	**38.01**	**286**	P		**P**	**02 56 38.3**	**-0.6**
	comp=Z,47nm,1.0s,baz=118,slow=5.0,SNR=10							
PMG				LR		LR	03 09 36.6	
	comp=Z,296nm,21.2s,baz=158,slow=32							
PMG	**Port Moresby**	**38.01**	**286**	*ce*P		**P**	**02 56 39.3**	**+0.4**
	comp=Z,48nm,1.0s							
PMG	**Port Moresby**	**38.01**	**286**	*ce*P		**P**	**02 56 38.3**	**-0.6**
PMG				pmax		pmax		
	comp=Z,190nm,1.0s							
STKA	**Stephens Creek**	**38.17**	**248**	P		**P**	**02 56 40.0**	**-0.2**
	comp=Z,6.0nm,0.9s,baz=84,slow=10,SNR=5.9							
STKA				LR		LR	03 11 18.5	
	comp=Z,826nm,19.1s,baz=72,slow=34							
STKA	**Stephens Creek**	**38.17**	**248**	*e*P		**P**	**02 56 38.5**	**-1.6**
	comp=Z,1.4nm,0.9s							
STKA	**Stephens Creek**	**38.17**	**248**	P		**P**	**02 56 40.0**	**-0.2**

comp=Z,7.9nm,0.8s,baz=120,slow=9.4,SNR=4.1
ASAJ Asahikawa 77.56 331 *e*P **P 03 01 15.8 -0.3**
comp=Z,9.2nm,0.9s
MAW Mawson 79.06 200 P **P 03 01 24.8 +0.6**
comp=Z,18nm,1.1s,baz=140,slow=6.8,SNR=12
MAW LR LR 03 36 42.0
comp=Z,92nm,19.0s,baz=70,slow=36
MAW Mawson 79.06 200 *e*P **P 03 01 25.2 +1.0**
comp=Z,3.3nm,1.0s
MAW Mawson 79.06 200 P **P 03 01 24.8 +0.6**
MAW pmax pmax
comp=Z,17nm,1.0s
MAW MLR MLR
comp=Z,92nm,19.0s
LPIG La Paz 79.53 58 LR LR 03 30 52.7
comp=Z,251nm,18.8s,baz=207,slow=31
YSS Yuzh-Sakhalins 79.72 333‖ *e*P **P 03 01 28.4 +0.5**
YSS *e* 03 01 36.6
YSS *e* 03 01 55.2
YSS pmax pmax
comp=Z,30nm,1.2s
PEA0B Petropavlovsk- 79.99 344 *e*P **P 03 01 28.6 -0.6**
comp=Z,30nm,1.0s
PETK Petropavlovsk- 79.99 344 P **P 03 01 30.1 +0.9**
comp=Z,22nm,1.0s,baz=117,slow=5.0,SNR=12
PETK LR LR 03 32 09.5
comp=Z,144nm,19.8s,baz=164,slow=32
PETK Petropavlovsk- 79.99 344 *e*P **P 03 01 29.0 -0.3**
PETK Petropavlovsk- 79.99 344 P **P 03 01 30.1 +0.9**
PETK pmax pmax
comp=Z,14nm,0.8s
PEA1 Petropavlovsk- 79.99 344 *e*P **P 03 01 30.1 +0.9**
ISA Isabella, Lake 80.36 44 *e*P **P 03 01 31.5 -0.3**
comp=Z,7.0nm,1.1s
ISA Isabella, Lake 80.36 44 P **P 03 01 31.5 -0.3**
ISA pmax pmax
comp=Z,7.0nm,1.2s
KSRS Korea Array 80.63 318 LR LR 03 32 35.6
comp=Z,163nm,20.5s,baz=142,slow=32
CMB Columbia Colle 80.67 41 *e*P **P 03 01 32.5 -0.9**
comp=Z,4.1nm,1.1s
WAKR Walker 81.55 41 *e*P **P 03 01 37.5 -0.7**
comp=Z,6.0nm,1.1s
YBH Yreka Blue Hor 81.75 37 P **P 03 01 38.0 -1.1**
comp=Z,2.1nm,0.9s,baz=207,slow=6.8,SNR=2.1
YBH LR LR 03 32 39.7
comp=Z,176nm,19.6s,baz=228,slow=32
NV01 Mina Array Sit 82.19 42 *e*P **P 03 01 40.9 -0.8**
NVAR Mina Array Bea 82.19 42 P **P 03 01 41.2 -0.4**
comp=Z,2.4nm,0.9s,baz=225,slow=7.2,SNR=12
NVAR LR LR 03 32 57.6
comp=Z,210nm,19.1s,baz=96,slow=32
NV11 Mina Array Sit 82.28 42 *e*P **P 03 01 40.2 -1.8**
comp=Z,0.3nm,1.1s
KVN Kaiserville 82.70 42 *e*P **P 03 01 44.6 +0.3**
comp=Z,2.6nm,1.1s
USRK Ussuriysk Ar. 82.78 325 P **P 03 01 43.2 -1.1**
comp=Z,6.0nm,0.8s,baz=138,slow=3.9,SNR=5.6
Y14A Wickenburg 82.95 48 *e*P **P 03 01 44.9 -0.6**
comp=Z,4.3nm,1.0s
W13A Hualapai Mount 83.02 47 *e*P **P 03 01 45.7 -0.3**
comp=Z,3.6nm,1.0s
NJ2 Nanjing 83.46 309 *e*P **P 03 01 47.5 -0.5**
NJ2 pmax pmax
comp=Z,11nm,0.5s
TUC Tucson 83.59 51 *e*P **P 03 01 49.5 +0.6**
comp=Z,5.8nm,1.1s
TUC Tucson 83.59 51 P **P 03 01 49.5 +0.6**
TUC pmax pmax
comp=Z,6.0nm,1.2s
X16A Lo Mia Camp, P 84.29 49 *e*P **P 03 01 53.2 +0.6**
comp=Z,5.0nm,1.0s
WVOR Wild Horse Val 84.51 39 *e*P **P 03 01 52.7 -0.7**
comp=Z,3.3nm,1.0s
LCMT Little Creek M 84.55 46 *e*P **P 03 01 53.6 -0.1**
comp=Z,3.7nm,0.9s
SNAA Sanae 84.62 178 P **P 03 01 52.9 -0.6**
SNAA Sanae 84.62 178 P **P 03 01 52.8 -0.6**
comp=Z,6.8nm,1.1s,baz=180,slow=5.0,SNR=5.2
SNAA Sanae 84.62 178 *e*P **P 03 01 53.2 -0.3**
comp=Z,6.9nm,1.1s
VNA3 Neumayer Olymp 84.68 176 P **P 03 01 53.5 -0.3**
CCUT Cedar City 84.78 45 *e*P **P 03 01 54.9 -0.1**
comp=Z,4.9nm,1.1s
KNB Kanab 84.83 46 *e*P **P 03 01 56.2 +1.0**
comp=Z,3.0nm,0.9s
U15A North Rim 84.85 47 *e*P **P 03 01 56.0 +0.6**
comp=Z,8.9nm,1.0s
WUAZ Wupatki 84.95 48 *e*P **P 03 01 56.7 +0.9**
comp=Z,5.5nm,0.9s
SZCU Shurtz Canyon 84.99 45 *e*P **P 03 01 57.0 +1.0**
comp=Z,11nm,1.0s
VNA2 Neumayer--Watz 85.14 176 P **P 03 01 56.0 -0.1**
baz=189,slow=3.6
GRNR Gornyy 85.34 332 *i* P P 03 01 46.7 -10
VNA1 Neumayer--Stat 85.36 176 P **P 03 01 57.2 +0.1**
PLCA Paso Flores 85.61 133 LR LR 03 34 05.3
comp=Z,5nm,18.3s,baz=247,slow=31
CN2 Changchun 86.09 322 *e*P **P 03 02 02.0 +1.0**
CN2 pmax pmax
comp=Z,10.0nm,0.7s
KLR Kul'dur 86.36 329 P **P 03 02 02.6 +0.4**
comp=Z,0.5nm,0.9s,baz=162,slow=1.5,SNR=11
KLR Kul'dur 86.36 329‖ *i*P **P 03 02 03.4 +1.2**
PSI Prapat 86.66 275 P **P 03 02 04.1 -0.6**
comp=Z,9.9nm,1.0s,baz=131,slow=4.1,SNR=4.2
PSI LR LR 03 43 38.2
comp=Z,103nm,18.2s,baz=110,slow=38
PSI Prapat 86.66 275 *e*P **P 03 02 04.1 -0.6**
comp=Z,14nm,1.1s
PSI Prapat 86.66 275 *e*P **P 03 02 04.1 -0.6**
PSI pmax pmax
comp=Z,14nm,1.1s
TMUT Trail Mountain 87.17 45 *e*P **P 03 02 07.8 +0.9**
comp=Z,4.4nm,1.1s
MNTX Cornudas Mount 87.17 54 *e*P **P 03 02 06.4 -0.3**
comp=Z,5.6nm,1.0s
LAZ Ladron 87.28 51 *e*P **P 03 02 07.8 +0.5**
TX31 Lajitas Ar. Si 87.29 56 *e*P **P 03 02 07.3 -0.2**
TXAR Lajitas Array 87.30 56 P **P 03 02 07.5 +0.1**
comp=Z,2.9nm,1.0s,baz=216,slow=4.5,SNR=19
TXAR LR LR 03 35 47.9
comp=Z,159nm,19.0s,baz=0.0,slow=32
MA2 Magadan 87.51 344 P **P 03 02 07.6 0.0**
comp=Z,3.3nm,0.6s,baz=107,slow=4.2,SNR=4.0
MA2 Magadan 87.51 344‖ *e*P **P 03 02 07.8 +0.2**
MA2 pmax pmax
comp=Z,6.0nm,1.0s
BNM Barren Site 87.52 51 *e*P **P 03 02 09.8 +1.2**
ANMO Albuquerque 88.05 50 *e*P **P 03 02 11.0 0.0**
comp=Z,3.3nm,1.0s
ANMO Albuquerque 88.05 50 *c e*P **P 03 02 10.0 -1.0**
ANMO pmax pmax
comp=Z,6.0nm,1.7s
DIV Divide 88.14 14 *e*P **P 03 02 11.2 +0.5**
comp=Z,13nm,1.0s
SML Sawmill 88.20 13 *e*P **P 03 02 11.9 +1.0**
comp=Z,8.9nm,1.1s
SML Sawmill 88.20 13 *e*P **P 03 02 11.9 +1.0**
SML pmax pmax
comp=Z,9.0nm,1.1s
BMRM Bremner River 88.26 15 *e*P **P 03 02 11.3 +0.1**
comp=Z,15nm,0.5s
KLU Klutina 88.43 14 *e*P **P 03 02 12.2 +0.1**
comp=Z,4.9nm,1.1s
TGL Tana Glacier 88.50 16 *e*P **P 03 02 12.7 +0.3**
comp=Z,16nm,1.2s
BALM Baldy 88.86 16 *e*P **P 03 02 14.5 +0.4**
comp=Z,9.0nm,1.0s
BALM Baldy 88.86 16 *e*P **P 03 02 14.5 +0.4**
BALM pmax pmax
comp=Z,9.0nm,1.0s
CAST Castle Rocks 89.00 10 *e*P **P 03 02 12.1 -2.5**
comp=Z,10nm,1.0s
S22A 4UR Ranch, Cre 89.23 48 *e*P **P 03 02 18.0 +1.3**
comp=Z,1.2nm,0.9s
KTH Kantishna Hill 89.32 11 *e*P **P 03 02 15.1 -1.0**
comp=Z,8.8nm,1.0s
TRF Thorofare Moun 89.33 11 *e*P **P 03 02 15.6 -0.7**
comp=Z,13nm,0.8s
RND Reindeer 89.56 12 *e*P **P 03 02 17.2 -0.1**
comp=Z,17nm,1.0s
RND Reindeer 89.56 12 *e*P **P 03 02 17.2 -0.1**
RND pmax pmax
comp=Z,17nm,1.0s
BJI Beijing 89.59 315 P **P 03 02 19.0 +1.1**
BJI pmax pmax
comp=Z,12nm,2.1s
MCK McKinley 89.84 12 *e*P **P 03 02 18.2 -0.2**
comp=Z,7.6nm,1.0s
MCK McKinley 89.84 12 *e*P **P 03 02 18.3 -0.2**
MCK pmax pmax
comp=Z,8.0nm,1.0s
PAX Paxson 89.84 13 *e*P **P 03 02 18.9 +0.2**
comp=Z,6.6nm,1.0s
PAX Paxson 89.84 13 *e*P **P 03 02 18.9 +0.2**
PAX pmax pmax
comp=Z,7.0nm,1.0s
GYA Guiyang 89.93 299 *e*P **P 03 02 20.5 +0.5**
GYA pmax pmax
comp=Z,10.0nm,1.0s
SEY Seymchan 90.06 346 P **P 03 02 20.2 +0.7**
comp=Z,7.7nm,1.0s,baz=144,slow=4.6,SNR=9.6
PD31 Pinedale Array 90.12 42 *e*P **P 03 02 19.9 -0.7**
PDAR Pinedale Array 90.12 42 P **P 03 02 19.9 -0.7**
comp=Z,0.3nm,0.7s,baz=213,slow=3.1,SNR=3.0
PDAR LR LR 03 38 01.0
comp=Z,117nm,19.1s,baz=254,slow=32
MENT Mentasta 90.19 14 *e*P **P 03 02 20.2 -0.1**
comp=Z,7.8nm,0.9s
BOZ Bozeman (W) 90.45 39 *e*P **P 03 02 22.5 +0.5**
comp=Z,3.8nm,1.1s
BOZ Bozeman (W) 90.45 39 *e*P **P 03 02 22.5 +0.5**
BOZ pmax pmax
comp=Z,4.0nm,1.1s
PBKT Sadao Pong 90.46 288 P **P 03 02 23.7 +1.3**
PBKT Sadao Pong 90.46 288 *e*P **P 03 02 23.8 +1.3**
comp=Z,16nm,1.1s
RIDG Independ'e Rid 90.66 13 *e*P **P 03 02 22.5 +0.2**
comp=Z,13nm,1.1s
WRH Wood River Hil 90.67 12 *e*P **P 03 02 21.9 -0.5**
comp=Z,12nm,1.0s
MLY Manley 90.71 10 *e*P **P 03 02 21.3 -1.3**
comp=Z,4.7nm,1.1s
DOT Dot Lake 90.74 14 *e*P **P 03 02 22.7 0.0**
comp=Z,5.5nm,1.0s
HDA Harding Lake 90.83 12 *e*P **P 03 02 23.3 +0.2**
comp=Z,5.8nm,0.8s
CCB Clear Creek Bu 90.88 12 *e*P **P 03 02 22.7 -0.6**
comp=Z,7.0nm,1.0s
SCRK Sand Creek 91.05 14 *e*P **P 03 02 24.5 +0.2**
comp=Z,4.3nm,0.9s
COLA College 91.08 12 *e*P **P 03 02 23.3 -0.9**
COLA pmax pmax
comp=Z,12nm,1.1s
MDM Murphy Dome 91.08 11 *e*P **P 03 02 23.5 -0.8**
comp=Z,8.6nm,1.1s
IM3 Indian Mountai 91.14 9 *e*P **P 03 02 24.0 -0.5**
ILAR Eielson Array 91.16 12 P **P 03 02 24.0 -0.6**
comp=Z,3.1nm,0.9s,baz=221,slow=5.7,SNR=22
ILB Eielson Array 91.16 12 *e*P **P 03 02 24.1 -0.6**
IL1 Eielson Array 91.17 12 *e*P **P 03 02 22.9 -1.7**
PHIT Phitsanulok 91.20 288 P **P 03 02 28.4 +2.5**
XAN Xi'an 91.65 307 P **P 03 02 28.5 +0.8**
XAN pmax pmax
comp=Z,13nm,0.8s
XAN pmax pmax
comp=Z,77nm,3.8s
APG El Apazote 91.95 75 P **P 03 02 27.9 -1.8**
comp=Z,5.2nm,1.0s,baz=255,slow=7.3,SNR=2.3
APG LR LR 03 35 52.4
comp=Z,36nm,20.8s,baz=294,slow=30
DAWY Dawson 92.17 15 *e*P **P 03 02 29.6 +0.3**
comp=Z,6.6nm,1.0s
LAMP Lampang 92.42 289 P **P 03 02 34.1 +2.5**
HIA Hailar 92.50 324 *i* P **P 03 02 31.0 -0.3**
HIA pmax pmax
comp=Z,4.0nm,0.9s
KMI Kunming 92.53 296 P **P 03 02 34.3 +2.1**
KMI pmax pmax
comp=Z,21nm,0.5s
BILL Bilibino 92.56 353 *i* P **P 03 02 30.2 -0.8**
BILL pmax pmax
comp=Z,4.0nm,1.0s
BILL MLR MLR
comp=Z,127nm,20.0s
PAYA Payao 92.56 290 P **P 03 02 34.4 +2.2**
CM01 Chiang Mai Arr 92.97 289 *e*P **P 03 02 35.4 +1.3**
CM31 Chiang Mai Arr 93.00 289 *e*P **P 03 02 35.6 +1.4**
CMAR Chiang Mai Arr 93.00 289 P **P 03 02 35.6 +1.4**
comp=Z,10nm,0.7s,baz=127,slow=3.2,SNR=19
CMAR LR LR 03 46 17.6
comp=Z,21nm,18.1s,baz=174,slow=37
HHC Hu-ho-hao-te 93.03 314 *e*P **P 03 02 35.0 +1.0**
HHC S **S 03 13 33.5 -4.8**
HHC pmax pmax
comp=Z,17nm,1.5s
HHC pmax pmax
comp=Z,46nm,8.0s
HHC LR LR
comp=Z,130nm,17.9s
HHC LR LR
comp=Z,200nm,17.7s
HHC LR LR
comp=Z,96nm,18.0s
CHTO Chiang Mai 93.14 289 P **P 03 02 36.8 +1.9**
CHTO Chiang Mai 93.14 289 *e*P **P 03 02 36.7 +1.9**
comp=Z,17nm,0.8s
CHTO Chiang Mai 93.14 289 *e*P **P 03 02 36.7 +1.9**
CHTO pmax pmax
comp=Z,17nm,0.8s
CMAI Chiengmai2 93.50 290 P **P 03 02 38.8 +2.1**
CD2 Chengdu 94.17 302 *e*P **P 03 02 39.5 +0.1**
JTS JuntasAbangare 95.00 81 LR LR 03 37 40.9
comp=Z,59nm,19.8s,baz=166,slow=31
LZH Lanzhou 96.29 307 *e*P **P 03 02 49.5 +0.4**
LZH pP pP 03 03 00.3 +1.2
LZH sP sP 03 03 04.3 +1.6
LZH PP **PP 03 06 46.5 +3.4**
LZH pmax pmax
comp=Z,27nm,0.9s
LZH LR LR
comp=Z,230nm,17.5s
LZH LR LR
comp=Z,300nm,19.6s
INK Inuvik 97.01 15 P **P 03 02 50.9 -0.5**
comp=Z,1.4nm,0.9s,baz=210,slow=5.5,SNR=5.2
INK Inuvik 97.01 15 *e*P **P 03 02 50.9 -0.5**
comp=Z,3.1nm,1.1s
INK Inuvik 97.01 15 *e*P **P 03 02 50.9 -0.5**
INK pmax pmax
comp=Z,3.0nm,1.1s
YKA Yellowknife Ar 98.76 24 P **P 03 02 56.9 -2.4**
comp=Z,0.3nm,0.8s,baz=240,slow=4.5,SNR=7.2
YKA Yellowknife Ar 98.76 24 P **P 03 02 57.0 -2.4**
LPAZ La Paz 99.04 112 LR LR 03 40 24.0
comp=Z,100nm,18.9s,baz=247,slow=31
WMQ Urumqi 110.53 310 PKP **PKiKP 03 07 52.5 -0.3**
WMQ LR LR
comp=Z,81nm,18.9s
WMQ LR LR
comp=Z,170nm,22.7s
MK32 Makanchi Array 114.85 312 *e*PKiKP PKPdf 03 07 59.1 -1.7
MKAR Makanchi Array 114.85 312 PKP PKPdf 03 07 59.1 -1.7
comp=Z,0.5nm,0.6s,baz=106,slow=1.6,SNR=5.6
KURK Kurchatov 117.72 316 *e*PKPdf **PKPdf 03 08 05.2 -1.0**
KURK Kurchatov 117.72 316 *c i*PKIKP **PKPdf 03 08 06.0 -0.2**
KURK pmax pmax
comp=Z,5.0nm,2.5s
KURBB Kurchatov Arra 117.77 316 PKP **PKPdf 03 08 05.2 -1.1**
comp=Z,0.7nm,0.2s,baz=115,slow=1.8,SNR=6.5
KK31 Karatay Array 122.78 307 *e*PKPdf **PKPdf 03 08 16.1 -0.1**
KKAR Karatay Array 122.78 307 *e*PKPdf **PKPdf 03 08 16.1 -0.1**
BVAR Borovoye Array 122.84 319 PKP **PKPdf 03 08 15.4 -0.6**
comp=Z,1.3nm,0.8s,baz=112,slow=1.6,SNR=9.1
BRVK Borovoye 122.90 319 *e*PKPdf **PKPdf 03 08 15.6 -0.5**
BRVK Borovoye 122.90 319 *c i*PKIKP **PKPdf 03 08 15.9 -0.2**
BRVK pmax pmax
comp=Z,3.0nm,1.0s
ARU Arti 129.02 324 *i* PKIKP **PKPdf 03 08 27.8 +0.1**
ARU 03 10 34.5
ARU 03 15 35.9
ARU SS SS 03 27 46.4 -6.5
AKTO Aktyubinsk 130.81 317 PKP **PKPdf 03 08 30.7 -0.6**
comp=Z,0.7nm,0.3s,baz=80,slow=6.1,SNR=4.4
GEYT Alibeck 132.14 300 PKP **PKPdf 03 08 35.2 +1.0**
comp=Z,1.4nm,0.5s,baz=132,slow=2.1,SNR=3.6
ARA0 ARCESS Array S 132.54 350 *e*PKPdf **PKPdf 03 08 33.0 -1.0**
ARCES ARCESS Array B 132.54 350 PKP **PKPdf 03 08 33.0 -1.0**
comp=Z,1.0nm,0.7s,baz=64,slow=2.1,SNR=5.1
KLMR Klimovskoe 135.69 336 *e*PKPdf **PKPdf 03 08 44.0 +3.8**
KLMR AMP 03 08 48.6
comp=Z,9.0nm,1.5s
KLMR Klimovskoe 135.69 336 *e*PKIKP **PKPdf 03 08 43.9 +3.8**
KLMR pmax pmax
comp=Z,9.0nm,1.5s
FIA0 FINESS Array S 139.50 344 *e*PKPpre PKPpre 03 08 37.9
FIA0 FINESS Array S 139.50 344 *e*PKHKP PKPpre 03 08 37.9
FINES FINESS Array B 139.50 344 PKhKP PKPpre 03 08 37.9
comp=Z,1.2nm,0.8s,baz=98,slow=4.2,SNR=3.0
OBN Obninsk 140.59 331‖ *e*PKIKP **PKPdf 03 08 49.1 -0.2**
OBN *e* 03 11 48.4
OBN pmax pmax
comp=Z,4.0nm,1.0s
NB200 NORSAR Array S 142.50 354 *e*PKPpre PKPpre 03 08 47.9
NOA NORSAR Array B 142.50 354 PKhKP PKPpre 03 08 47.9
baz=7.9,slow=2.8
KIV Kislovodsk 142.61 312 *i* PKIKP **PKPdf 03 08 53.4 -0.1**
KIV pmax pmax
comp=Z,5.0nm,1.1s
HFS Hagfors 143.12 352 PKhKP PKPpre 03 08 48.8
comp=Z,1.0nm,0.4s,baz=46,slow=4.2,SNR=7.8
MBAR Mbarara 144.46 231 *e*PKPdf **PKPdf 03 08 57.7 0.0**
MBAR Mbarara 144.46 231 *e*PKIKP **PKPdf 03 08 57.7 0.0**
ANN Anapa 145.75 316 *e*PKP2 **PKPdf 03 08 58.8 +0.1**
ANN pmax pmax
comp=Z,40nm,1.3s
SUW Suwalki 146.63 339 *e*PKP **PKPbc 03 09 01.5 0.0**
SUW Suwalki 146.63 339 *e*PKPdf **PKPbc 03 09 01.6 +0.1**
SUW Suwalki 146.63 339 *e*PKP2 **PKPbc 03 09 01.5 0.0**
AKASG Malin Array Be 146.85 330 PKPbc **PKPdf 03 09 01.1 +0.8**
comp=Z,6.3nm,0.6s,baz=41,slow=3.8,SNR=54
AKBB Malin Array Si 146.85 330 *e*PKPdf **PKPbc 03 09 01.5 -0.8**
KIEV Kiev 146.86 330 *e*PKPdf **PKPdf 03 09 01.3 +0.9**
KIEV Kiev 146.86 330 *c i*PKP2 **PKPdf 03 09 01.0 +0.6**
KIEV pmax pmax
comp=Z,12nm,0.9s
AK11 Malin Array Si 146.89 330 *e*PKPdf **PKPdf 03 09 01.3 +0.8**
EKA Eskdalemuir Ar 148.10 8 PKPbc **PKPdf 03 09 03.8 +1.5**
comp=Z,6.1nm,1.0s,baz=1.1,slow=3.7,SNR=4.3
ILGA Ilgaz 149.85 312 *e*PKPbc **PKPbc 03 09 12.1 +1.3**
ASF Jabal al Asfar 149.92 293 PKPbc **PKPbc 03 09 10.0 -1.0**
comp=Z,6.1nm,0.8s,baz=74,slow=5.1,SNR=9.1
KWP Kalwaria Pacla 150.40 335 *e*PKP **PKPbc 03 09 12.0 +0.5**
KWP Kalwaria Pacla 150.40 335 *e*PKPbc **PKPbc 03 09 11.4 -0.2**
KWP Kalwaria Pacla 150.40 335 *e*PKIKP **PKPbc 03 09 12.0 +0.5**
BR101 Keskin Array S 150.45 309 *e*PKPbc **PKPbc 03 09 11.6 -0.5**
BR131 Keskin Array S 150.45 309 *e*PKPbc **PKPbc 03 09 11.7 -0.5**
BRTR Keskin Array B 150.45 309 PKPbc **PKPbc 03 09 11.6 -0.5**
comp=Z,4.9nm,0.8s,baz=126,slow=2.5,SNR=32
BUR08 Bucovina Ar. S 150.88 330 *e*PKPbc **PKPbc 03 09 14.7 +1.8**
BUR04 Bucovina Ar. S 150.89 330 *e*PKPbc **PKPbc 03 09 14.3 +1.4**
OJC Ojcow 150.95 339 *e*PKP **PKPbc 03 09 12.2 -0.6**
OJC Ojcow 150.95 339 *e*PKPbc **PKPbc 03 09 13.1 +0.3**
OJC Ojcow 150.95 339 *e*PKIKP **PKPbc 03 09 12.2 -0.6**
ANTO Ankara 150.99 310 *e*PKPbc **PKPbc 03 09 14.1 +0.8**
ANTO Ankara 150.99 310 PKIKP **PKPbc 03 09 14.1 +0.8**
MMAI Mount Meron Ar 151.04 295 PKPbc **PKPbc 03 09 14.1 +0.4**
comp=Z,16nm,0.8s,baz=54,slow=2.5,SNR=34
STHS Stebnicka Huta 151.13 336 *e*PKP **PKPdf 03 09 09.4 +2.0**
STHS *e* 03 09 13.7
STHS *e* 03 09 21.9
STHS Stebnicka Huta 151.13 336 *e*PKIKP **PKPdf 03 09 09.4 +2.0**
UZH Uzhgorod 151.37 334‖ *i*PKIKP **PKPbc 03 09 14.1 +0.3**
UZH *i* 03 09 30.5
KSP Ksiaz 151.43 344 *e*PKP **PKPbc 03 09 14.6 +0.7**
KSP Ksiaz 151.43 344 *e*PKIKP **PKPbc 03 09 14.6 +0.7**
NIE Niedzica 151.47 337 *e*PKP **PKPbc 03 09 14.6 +0.5**
NIE Niedzica 151.47 337 *e*PKIKP **PKPbc 03 09 14.6 +0.5**
CRVS Cervenica-Dubn 151.47 336 *e*PKP **PKPbc 03 09 15.0 +0.9**
CRVS *e* 03 09 23.3
CRVS Cervenica-Dubn 151.47 336 *e*PKIKP **PKPbc 03 09 15.0 +0.9**
CLL Collm 151.73 348 *i* PKPbc **PKPbc 03 09 14.1 -0.4**
comp=Z,16nm,1.0s
CLL *e*PKPab **PKPab 03 09 23.0 -0.4**
comp=Z,9.0nm,1.3s
CLL LmV 04 28 00.0
comp=Z,100nm,18.3s
CLL Collm 151.73 348 *e*PKPbc **PKPbc 03 09 14.2 -0.3**
CLL Collm 151.73 348 *i* PKIKP **PKPbc 03 09 14.1 -0.4**
CLL *e* 03 09 23.0
CLL pmax pmax
comp=Z,14nm,1.0s
CLL pmax pmax
comp=Z,16nm,1.3s
DPC Dobruska-Polom 151.87 343‖ *e*PKP **PKPbc 03 09 15.7 +0.7**
DPC *e*PKPAB **PKPab 03 09 24.6 +0.5**
DPC *e*pPKP **pPKPab 03 09 32.2 -1.9**
DPC Dobruska-Polom 151.87 343 *e*PKIKP **PKPbc 03 09 15.7 +0.7**
DPC *e* 03 09 24.6
DPC *e* 03 09 32.2
BRG Berggiesshubel 151.95 347 *i* PKP **PKPbc 03 09 15.3 +0.2**
comp=Z,11nm,0.8s
BRG *e* 03 09 24.0
comp=Z,10nm,1.1s
BRG Berggiesshubel 151.95 347 *i* PKIKP **PKPbc 03 09 15.3 +0.2**
BRG *e* 03 09 24.0
BRG pmax pmax
comp=Z,11nm,0.9s
BRG pmax pmax
comp=Z,10.0nm,1.1s
LANS Liptovska Anna 151.98 338 *e*PKP **PKPbc 03 09 17.5 +2.2**
LANS Liptovska Anna 151.98 338 *e*PKIKP **PKPbc 03 09 17.5 +2.2**
KRLC Kraliky 152.00 342‖ *e*PKP **PKPbc 03 09 16.0 +0.7**
KRLC Kraliky 152.00 342 *e*PKIKP **PKPbc 03 09 16.0 +0.7**
MORC Moravsky Berou 152.04 341 *e*PKPbc **PKPbc 03 09 16.2 +0.8**
MORC *e*PKPab **PKPab 03 09 24.3 -0.5**
MORC Moravsky Berou 152.04 341 PKIKP **PKPbc 03 09 16.2 +0.8**
MLR Muntele Rosu 152.05 326 PKPbc **PKPbc 03 09 15.0 -0.6**
comp=Z,1.9nm,1.1s,baz=27,slow=4.5,SNR=3.9
PVCC Panska Ves 152.14 346‖ *e*PKP **PKPbc 03 09 16.2 +0.7**
PVCC *e*PKPAB **pPKPbc 03 09 25.8 +0.1**
PVCC Panska Ves 152.14 346 *e*PKIKP **PKPbc 03 09 16.2 +0.7**
PVCC *e* 03 09 25.8
CSS Mathiatis 152.28 300 *e*PKPbc **PKPbc 03 09 16.3 -0.1**
VYHS Vyhne 152.76 338 *e*PKP **PKPab 03 09 28.8 +1.0**
KHC Kasperske Hory 153.67 346‖ *e*PKP **PKPbc 03 09 19.6 +0.6**
KHC *e*pPKP **sPKPdf 03 09 26.5 +1.5**
KHC *e*PKPAB **sPKPbc 03 09 32.4 -0.3**
KHC *ex* x 03 09 41.9
KHC Kasperske Hory 153.67 346 *e*PKIKP **PKPbc 03 09 19.6 +0.6**
KHC *e* 03 09 32.4
KHC *e* 03 09 41.9
GEC2 GERESS Array S 153.91 345 *e*PKPdf **PKPdf 03 09 10.8 -0.9**
GEC2 *e*PKPbc **PKPbc 03 09 19.2 -0.4**
GEC2 GERESS Array S 153.91 345 *e*PKIKP **PKPdf 03 09 10.8 -0.9**
GERES GERESS Array B 153.91 345 PKP **PKPdf 03 09 10.8 -0.9**
comp=Z,0.5nm,0.7s,baz=45,slow=2.9,SNR=4.1
GERES PKPbc **PKPbc 03 09 19.2 -0.4**
comp=Z,0.7nm,0.9s,baz=45,slow=2.1,SNR=5.9
CONA Conrad Observa 154.20 342 *i* PKPdf **PKPdf 03 09 09.2 -2.8**
comp=Z,4.6nm,1.5s
CONA *i* sPKPbc **PKPab 03 09 35.4 +1.4**
comp=Z,7.3nm,1.2s
ARSA Arzberg 154.91 341 *i* PKPdf **PKPdf 03 09 15.3 +2.3**
comp=Z,4.5nm,1.2s
ARSA *i* pPKiKP **PKPab 03 09 34.5 -2.5**
comp=Z,5.1nm,1.1s
SOKA Soboth 155.57 341 *i* PKPab **PKPab 03 09 40.6 +0.7**
comp=Z,13nm,1.4s
KBA Koelnbreinsper 155.65 344 *i* PKPab **PKPab 03 09 39.9 -0.5**
comp=Z,5.5nm,0.9s
OBKA Obir 155.86 342 *i* PKPab **PKPab 03 09 39.7 -1.5**
comp=Z,8.2nm,1.2s
LIT Litokhoron 157.55 321 *e*PKPab **PKPab 03 09 49.1 +0.5**
DBIC Dimbokro 160.90 152 PKP **PKPdf 03 09 22.1 +0.8**
comp=Z,2.9nm,1.0s,baz=220,slow=7.9,SNR=2.6
TOA0 Torodi Ar. Sit 169.12 168 *e*PKPdf **PKPdf 03 09 27.1 -1.1**
TOA0 *e*PKPab **PKPab 03 10 40.7 +1.0**
TORD Torodi Ar. Bea 169.12 168 PKP **PKPdf 03 09 27.2 -1.0**
comp=Z,1.6nm,1.1s,baz=106,slow=0.3,SNR=5.1
TORD PKPab **PKPab 03 10 40.3 +0.6**
comp=Z,1.5nm,1.0s,baz=193,slow=2.0,SNR=5.9
TOA1 Torodi Ar. Sit 169.13 168 *e*PKPdf **PKPdf 03 09 27.2 -1.0**
TOA1 *e*PKPab **PKPab 03 10 40.3 +0.5**

TAP ***26*** *02:50:01.9, 24.60N×122.65E, h120km, ML3.5, D*
ISCJB ***26*** *02:50:02.3±0.6, 24.60N±0.03×122.74E±0.02, h102km±5km, Error ellipse: s-maj=5.8km s-min=2.9km az=177.7*
JMA ***26*** *02:50:02.0±0.2, 24.56N×122.70E, h108km±2km, M2.4*
ISC 26 02:50:02.9±1.6, 24.60N±0.05×122.73E±0.03,
h101km±10km, n52, σ0.73/83, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.29**	**118**	P	**Pn**	**02 50 17.7**	**+0.2**
YOJ				*e*S	**Sn**	**02 50 29.3**	**+0.8**
EOS1	**EOS1**	**0.55**	**265**	*e*P	**Pn**	**02 50 19.4**	**+0.4**
	baz=260						
EOS1				S	**Sn**	**02 50 32.5**	**+1.3**
	baz=260						
TWB1	**Santiao Chiao**	**0.79**	**301**	*e*P	**Pn**	**02 50 21.3**	**+0.1**
	baz=301						
TWC	**Suao**	**0.81**	**271**	*i* P	**Pn**	**02 50 21.0**	**-0.4**
	baz=268						
TWC				S	**Sn**	**02 50 34.6**	**-0.7**
	baz=268						
ENAH	**Nanao**	**0.85**	**260**	P	**Pn**	**02 50 21.6**	**-0.2**
	baz=255						
ENAH				S	**Sn**	**02 50 36.6**	**+0.5**
	baz=255						
NTC	**Toucheng**	**0.86**	**288**	*e*S	**Sn**	**02 50 36.1**	**-0.2**
	baz=287						
TIPB	**Shuangxi**	**0.91**	**295**	*e*P	**Pn**	**02 50 21.3**	**-1.1**
	baz=292						
TIPB				*e*S	**Sn**	**02 50 35.2**	**-1.9**
	baz=292						
ILA	**Ilan**	**0.91**	**281**	*e*S	**Sn**	**02 50 36.8**	**-0.3**
	baz=279						
ENA	**Nanau**	**0.92**	**260**	*i* P	**Pn**	**02 50 22.6**	**+0.1**
	baz=254						
ENA				S	**Sn**	**02 50 37.3**	**0.0**
	baz=254						
IRIF	**Iriomote-Funau**	**0.94**	**106**	P	**Pn**	**02 50 22.7**	**-0.1**
IRIF				*e*S	**Sn**	**02 50 37.6**	**-0.1**
TWE	**Neicheng**	**0.98**	**278**	P	**Pn**	**02 50 23.1**	**0.0**
	baz=278						
TWE				S	**Sn**	**02 50 38.5**	**+0.2**
	baz=278						
NWF	**Wu-fen Shan**	**0.99**	**299**	*e*P	**Pn**	**02 50 23.4**	**+0.1**
	baz=295						
NWF				*e*S	**Sn**	**02 50 38.3**	**-0.4**
	baz=295						
ENTT	**Nioudou**	**1.06**	**273**	P	**Pn**	**02 50 24.5**	**+0.4**
	baz=270						
ENTT				*e*S	**Sn**	**02 50 40.1**	**+0.1**
	baz=270						
TWA	**Mucha**	**1.11**	**290**	*e*S	**Sn**	**02 50 40.6**	**-0.4**
	baz=285						
HATJ	**Hateruma jima**	**1.11**	**118**	P	**Pn**	**02 50 25.1**	**+0.5**
HATJ				*e*S	**Sn**	**02 50 41.6**	**+0.6**
NWLT	**Wulai**	**1.13**	**279**	*e*P	**Pn**	**02 50 24.9**	**0.0**
	baz=285						
NWLT				*e*S	**Sn**	**02 50 41.3**	**-0.2**
	baz=285						
TWD	**Chiawan**	**1.16**	**244**	*i* P	**Pn**	**02 50 24.6**	**-0.4**
	baz=238						
TWD				*i* S	**Sn**	**02 50 41.3**	**-0.6**
	baz=238						
HWA	**Hwalien**	**1.20**	**239**	*e*S	**Sn**	**02 50 43.2**	**+0.4**
	baz=236						
YM10	**YM10**	**1.20**	**298**	*e*P	**Pn**	**02 50 25.5**	**-0.2**
	baz=292						
YM10				*e*S	**Sn**	**02 50 43.0**	**0.0**
	baz=292						
JKRS	**Kuro-shima**	**1.22**	**107**	P	**Pn**	**02 50 26.3**	**+0.5**
JKRS				S	**Sn**	**02 50 43.6**	**+0.5**
YM04	**YM04**	**1.22**	**297**	*e*P	**Pn**	**02 50 25.7**	**-0.2**
	baz=291						
ENLB	**Shoufeng**	**1.24**	**237**	*e*P	**Pn**	**02 50 25.6**	**-0.5**
	baz=233						
ENLB				*e*S	**Sn**	**02 50 44.0**	**+0.4**
	baz=233						
NNS	**Nan Shan**	**1.25**	**263**	*e*P	**Pn**	**02 50 26.0**	**-0.3**
	baz=257						
NNS				*e*S	**Sn**	**02 50 43.5**	**-0.5**
	baz=257						
TWS1	**Kuangyinshan**	**1.30**	**293**	*e*S	**Sn**	**02 50 44.8**	**0.0**
	baz=294						
JIJ	**Ishigaki jima**	**1.30**	**100**	P	**Pn**	**02 50 26.7**	**-0.1**
JIJ				S	**Sn**	**02 50 44.2**	**-0.8**
WLTB	**Daxi**	**1.37**	**281**	*e*S	**Sn**	**02 50 47.0**	**+0.6**
	baz=284						
ESL	**Shilin**	**1.42**	**237**	*e*P	**Pn**	**02 50 27.4**	**-0.8**
	baz=234						
ESL				*e*S	**Sn**	**02 50 46.2**	**-1.2**
	baz=234						
JISG	**Ishigakijimahi**	**1.44**	**90**	P	**Pn**	**02 50 28.2**	**-0.2**
JISG				S	**Sn**	**02 50 47.0**	**-0.7**
NCUH	**Zhongli**	**1.46**	**285**	*e*S	**Sn**	**02 50 48.3**	**+0.1**
	baz=292						
TWT	**Tachien**	**1.46**	**257**	*e*P	**Pn**	**02 50 29.5**	**+0.6**
	baz=255						
TWT				*e*S	**Sn**	**02 50 48.6**	**0.0**
	baz=255						
OWD	**Renai**	**1.56**	**246**	*e*P	**Pn**	**02 50 30.0**	**-0.1**
	baz=241						
OWD				*e*S	**Sn**	**02 50 49.5**	**-1.1**
	baz=241						
EHY	**Hungye**	**1.69**	**230**	*e*P	**Pn**	**02 50 30.2**	**-1.3**
	baz=234						
DPDB	**Guoxing**	**1.74**	**252**	*e*P	**Pn**	**02 50 32.7**	**+0.5**
	baz=254						
DPDB				*e*S	**Sn**	**02 50 55.4**	**+0.8**
	baz=254						
JTJ	**Tarama**	**1.79**	**88**	*e*S	**Sn**	**02 50 56.0**	**+0.4**
TWQ1	**Liyutan**	**1.80**	**263**	*e*S	**Sn**	**02 50 55.4**	**-0.6**
	baz=262						
TWF1	**Yuli**	**1.80**	**227**	*e*P	**Pn**	**02 50 32.5**	**-0.6**
	baz=230						
TWF1				*e*S	**Sn**	**02 50 56.4**	**+0.4**
	baz=230						
SMLT	**Sun Moon Lake**	**1.82**	**247**	*e*P	**Pn**	**02 50 33.9**	**+0.6**
	baz=241						
FULB	**Fuli**	**1.92**	**224**	*e*P	**Pn**	**02 50 34.2**	**-0.2**
	baz=216						
CHKT	**Chengkung**	**1.94**	**220**	*e*P	**Pn**	**02 50 33.8**	**-0.9**
	baz=211						
CHKT				*e*S	**Sn**	**02 50 57.4**	**-1.7**
	baz=211						
WJS	**Zhushan**	**1.99**	**248**	*e*S	**Sn**	**02 51 01.9**	**+1.9**
	baz=246						
ALS	**Alishan**	**2.07**	**239**	*e*P	**Pn**	**02 50 37.2**	**+0.6**
	baz=236						
ALS				*e*S	**Sn**	**02 51 03.7**	**+1.3**
	baz=236						
ELDTW	**Lidau**	**2.10**	**229**	*e*P	**Pn**	**02 50 36.1**	**-0.9**
	baz=224						
CHN5	**Tsauling**	**2.12**	**243**	*e*P	**Pn**	**02 50 37.6**	**+0.4**
	baz=241						
TWH	**Lutao**	**2.20**	**212**	*e*P	**Pn**	**02 50 37.6**	**-0.5**
	baz=211						
TWH				*e*S	**Sn**	**02 51 04.3**	**-0.8**
	baz=211						
JIRB	**Irabujima**	**2.23**	**84**	*e*S	**Sn**	**02 51 05.4**	**-0.3**
STYT	**Tauyuan**	**2.30**	**232**	*e*P	**Pn**	**02 50 40.1**	**+0.7**
	baz=236						
STYT				*e*S	**Sn**	**02 51 08.9**	**+1.3**
	baz=236						
CHN4	**Tsaushan**	**2.32**	**238**	*e*P	**Pn**	**02 50 39.8**	**+0.2**
	baz=236						
CHN4				*e*S	**Sn**	**02 51 09.3**	**+1.6**
	baz=236						
TWG	**Pinlang**	**2.33**	**221**	*e*P	**Pn**	**02 50 38.4**	**-1.4**
	baz=218						
WTP	**Ta-pu**	**2.36**	**236**	*e*P	**Pn**	**02 50 40.8**	**+0.6**
	baz=234						
TWK	**Hsinying**	**2.44**	**238**	*e*P	**Pn**	**02 50 42.1**	**+0.8**
	baz=235						
TWK				*e*S	**Sn**	**02 51 10.6**	**-0.2**
	baz=235						
CHN1	**Nanshi**	**2.46**	**236**	*e*P	**Pn**	**02 50 41.9**	**+0.4**
	baz=234						
SLGT	**Liugui**	**2.49**	**231**	*e*P	**Pn**	**02 50 42.9**	**+1.0**
	baz=233						
SLGT				*e*S	**Sn**	**02 51 11.2**	**-0.6**
	baz=233						

*ISCJB **26** 02:50:04.4±0.8,51°.50N±0°.04×16°.11E±0°.04,h0km, Error ellipse: s-maj=5.5km s-min=3.2km az=23.0*
*CSEM **26** 02:50:06.0±0.5,51.49N×16.08E,h2km,ML2.7/8, Error ellipse: s-maj=8.1km s-min=4.6km az=8.0*
*PRU **26** 02:50:06.9,51.50N×16.09E,h0km*
ISC 26 02:50:06.2±1.3,51°.51N±0°.06×16°.10E±0°.03,h0km,n30,σ0s71/59,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.68**	**169**	*e*Pg	**Pg**	**02 50 19.3**	**0.0**
KSP				*e*Sg	**Sg**	**02 50 28.6**	**+0.6**
KSP	**Ksiaz**	**0.68**	**169**	*e*Pg	**Pg**	**02 50 19.3**	**0.0**
UPC	**Upice**	**1.01**	**183**	*e*PG	**Pg**	**02 50 25.5**	**0.0**
UPC				*e*SG	**Sg**	**02 50 39.1**	**+0.5**
	comp=Z,12nm,0.3s						
UPC	**Upice**	**1.01**	**183**	Pg	**Pg**	**02 50 25.5**	**0.0**
UPC				Sg	**Sg**	**02 50 39.1**	**+0.5**
	12nm,0.3s						
DPC	**Dobruska-Polom**	**1.17**	**173**	*e*PG	**Pg**	**02 50 28.2**	**-0.5**
DPC				*e*SG	**Sg**	**02 50 43.6**	**-0.3**
	comp=Z,4.3nm,0.3s						
DPC	**Dobruska-Polom**	**1.17**	**173**	Pg	**Pg**	**02 50 28.2**	**-0.5**
DPC				Sg	**Sg**	**02 50 43.6**	**-0.3**
	4.3nm,0.3s						
PVCC	**Panska Ves**	**1.38**	**225**	*e*PG	**Pn**	**02 50 32.8**	**+0.1**
PVCC				*e*SG	**Sn**	**02 50 51.6**	**-0.1**
	comp=Z,24nm,0.2s						
PVCC	**Panska Ves**	**1.38**	**225**	Pg	**Pn**	**02 50 32.8**	**+0.1**
PVCC				Sg	**Sn**	**02 50 51.6**	**-0.1**
	24nm,0.2s						
BRG	**Berggiesshubel**	**1.50**	**246**	PG	**Pn**	**02 50 34.7**	**+0.3**
BRG				SG	**Sn**	**02 50 55.1**	**+0.5**
	17nm,0.4s						
KRLC	**Kraliky**	**1.50**	**163**	*e*PG	**Pn**	**02 50 33.9**	**-0.6**
KRLC				*e*SG	**Sg**	**02 50 53.8**	**-0.7**
	comp=Z,1.9nm,0.2s						
KRLC	**Kraliky**	**1.50**	**163**	Pg	**Pn**	**02 50 33.9**	**-0.6**
KRLC				Sg	**Sg**	**02 50 53.8**	**-0.7**
	1.9nm,0.2s						
GOPC	**GO Pecny, Ondr**	**1.80**	**208**	*e*PG	**Pb**	**02 50 39.7**	**-0.4**
GOPC				*e*SG	**Sg**	**02 51 04.2**	**+0.1**
	comp=Z,4.8nm,0.5s						
GOPC	**GO Pecny, Ondr**	**1.80**	**208**	Pg	**Pb**	**02 50 39.7**	**-0.4**
GOPC				Sg	**Sg**	**02 51 04.2**	**+0.1**
	4.8nm,0.5s						
PRU	**Pruhonice**	**1.82**	**214**	*e*PG	**Pn**	**02 50 39.4**	**+0.7**
PRU				*ex*	x	02 50 57.0	
PRU				*e*SG	**Sg**	**02 51 04.5**	**-0.1**
	comp=Z,7.7nm,0.3s						
PRU	**Pruhonice**	**1.82**	**214**	Pg	**Pn**	**02 50 39.4**	**+0.7**
PRU				Sg	**Sg**	**02 51 04.5**	**-0.1**
	7.7nm,0.3s						
CLL	**Collm**	**1.95**	**265**	*e*Pn	**Pn**	**02 50 39.0**	**-1.5**
CLL				*e*Pg	**Pb**	**02 50 42.0**	**-0.6**
CLL				*e*		02 51 02.0	
CLL				*e*Sg	**Sg**	**02 51 09.0**	**+0.2**
	comp=Z,5.0nm,0.4s						
MORC	**Moravsky Berou**	**1.97**	**152**	*e*Pn	**Pn**	**02 50 39.7**	**-1.1**
MORC				*e*Sg	**Sb**	**02 51 07.4**	**-0.6**
OKC	**Ostrava-Krasne**	**2.12**	**141**	*e*PG	**Pg**	**02 50 46.6**	**-0.3**
OKC				*e*SG	**Sg**	**02 51 14.4**	**0.0**
OKC	**Ostrava-Krasne**	**2.12**	**141**	Pg	**Pg**	**02 50 46.6**	**-0.3**
OKC				Sg	**Sg**	**02 51 14.4**	**0.0**
VRAC	**Vranov**	**2.23**	**172**	*e*Pn	**Pn**	**02 50 44.4**	**0.0**
VRAC				*e*Sg	**Sg**	**02 51 16.9**	**-0.9**
TREC	**Trest**	**2.25**	**190**	*e*PN	**Pn**	**02 50 45.5**	**+0.7**
TREC				*e*PG	**Pb**	**02 50 47.9**	**+0.1**
TREC				*e*SG	**Sg**	**02 51 18.6**	**0.0**
	comp=Z,4.2nm,0.3s						
TREC	**Trest**	**2.25**	**190**	Pn	**Pn**	**02 50 45.5**	**+0.7**
NKC	**Novy Kostel**	**2.64**	**242**	*e*PN	**Pn**	**02 50 50.2**	**+0.1**
NKC				*e*PG	**Pb**	**02 50 55.4**	**+1.0**
NKC				*e*SG	**Sg**	**02 51 31.6**	**+0.5**
	comp=Z,9.8nm,0.4s						
NKC	**Novy Kostel**	**2.64**	**242**	Pn	**Pn**	**02 50 50.2**	**+0.1**
KHC	**Kasperske Hory**	**2.88**	**215**	*e*PN	**Pn**	**02 50 52.8**	**-0.6**
KHC				*e*PG	**Pb**	**02 50 59.0**	**+0.5**
KHC				*e*SN	**Sn**	**02 51 29.0**	**+0.3**
KHC				*e*SG	**Sg**	**02 51 37.8**	**-0.9**
KHC	**Kasperske Hory**	**2.88**	**215**	Pn	**Pn**	**02 50 52.8**	**-0.6**
SMOL	**Smolenice**	**3.12**	**164**	*e*Pg	**Pb**	**02 51 04.3**	**+1.7**
SMOL				*e*Sg	**Sg**	**02 51 44.7**	**-1.8**
SMOL	**Smolenice**	**3.12**	**164**	*e*PG	**Pb**	**02 51 04.3**	**+1.7**
SMOL				*e*SG	**Sg**	**02 51 44.6**	**-1.9**
STHS	**Stebnicka Huta**	**3.90**	**121**	*e*Pg	**Pg**	**02 51 21.7**	**+0.8**
STHS	**Stebnicka Huta**	**3.90**	**121**	*e*PG	**Pg**	**02 51 21.7**	**+0.8**

*ISCJB **26** 02:53:52.4±0.9,38°.62N±0°.04×43°.21E±0°.06,h28km±7km, Error ellipse: s-maj=8.0km s-min=6.9km az=34.5*
*CSEM **26** 02:53:52.9±0.2,38°.66N×43°.13E,h5km,ML2.5, Error ellipse: s-maj=4.8km s-min=4.5km az=44.0*
*DDA **26** 02:53:52.9,38°.64N×43°.18E,h7km,Ml2.5*
*ISK **26** 02:53:52.1,38°.64N×43°.14E,h5km,ML1.9/3*
ISC 26 02:53:52.2±1.0,38°.64N±0°.04×43°.20E±0°.03,h25km±8km, n18,σ0s65/30,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.15**	**105**	PG	**Pb**	**02 53 57.4**	**0.0**
VANB				SG	**Sb**	**02 54 01.4**	**+0.5**
VANB	**Van**	**0.15**	**105**	*e*Pg	**Pb**	**02 53 57.4**	**0.0**
VANB				*e*Sg	**Sb**	**02 54 01.4**	**+0.5**
TVAN	**Van**	**0.19**	**124**	*i* P	**Pb**	**02 53 57.4**	**-0.6**
TVAN				*i* S	**Sb**	**02 54 01.6**	**-0.2**
TVAN	**Van**	**0.19**	**124**	P	**Pb**	**02 53 57.4**	**-0.6**
TVAN				S	**Sb**	**02 54 01.6**	**-0.2**
GEVA	**Gevas**	**0.34**	**200**	*i* P	**Pb**	**02 53 59.7**	**-0.2**
GEVA				*i* S	**Sb**	**02 54 06.7**	**+1.5**
GEVA	**Gevas**	**0.34**	**200**	P	**Pb**	**02 53 59.7**	**-0.2**
GEVA				S	**Sb**	**02 54 06.7**	**+1.5**
ADCV	**BITLIS_Adilcev**	**0.41**	**295**	*i* P	**Pb**	**02 54 00.9**	**-0.2**
ADCV				*i* S	**Sb**	**02 54 08.0**	**+0.8**
ADCV	**BITLIS_Adilcev**	**0.41**	**295**	P	**Pb**	**02 54 00.9**	**-0.2**
ADCV				S	**Sb**	**02 54 08.0**	**+0.8**
VMUR	**Van-Muradiye**	**0.46**	**39**	*i* P	**Pb**	**02 54 02.2**	**+0.4**
VMUR				*i* S	**Sn**	**02 54 09.9**	**-0.9**
VMUR	**Van-Muradiye**	**0.46**	**39**	P	**Pb**	**02 54 02.2**	**+0.4**
VMUR				S	**Sn**	**02 54 09.9**	**-0.9**
CLDR	**Caldiran**	**0.75**	**47**	PG	**Pn**	**02 54 08.1**	**+0.6**
CLDR	**Caldiran**	**0.75**	**47**	*e*Pg	**Pn**	**02 54 08.1**	**+0.6**
TUTA	**Tutak**	**0.82**	**338**	*i* P	**Pn**	**02 54 07.8**	**-0.7**
TUTA				*i* S	**Sb**	**02 54 19.3**	**+0.5**
TUTA	**Tutak**	**0.82**	**338**	P	**Pn**	**02 54 07.8**	**-0.7**
TUTA				S	**Sb**	**02 54 19.3**	**+0.5**
GURO	**Guroymak-BITLI**	**0.92**	**265**	PG	**Pn**	**02 54 09.6**	**-0.1**
GURO	**Guroymak-BITLI**	**0.92**	**265**	*e*Pg	**Pn**	**02 54 09.6**	**-0.1**
AGRB	**Hanur-Agry**	**0.95**	**350**	PG	**Pn**	**02 54 10.1**	**-0.1**
AGRB	**Hanur-Agry**	**0.95**	**350**	*e*Pg	**Pn**	**02 54 10.1**	**-0.1**

*ISCJB **26** 03:00:58.2±0.5,21°.10N±0°.03×121°.87E±0°.07, h155km±4km,mb3.8/12, Error ellipse: s-maj=10.1km s-min=5.2km az=174.1*
*TAP **26** 03:00:58.7,21°.11N×121°.91E,h157km,ML4.7,D*
*IDC **26** 03:01:00.4±5.7,20°.92N×122°.15E,h183km±57km, mb3.7/11,mb1 3.7/12,mb1mx3.4/63,mbtmp4.2/12, Error ellipse: s-maj=25.1km s-min=10.8km az=69.0*
ISC 26 03:00:57.1±0.9,20°.98N±0°.04×122°.01E±0°.08,h149km±7km, n78,σ1s37/110,mb4.0/12,1D,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAY	**Lan-yu**	**1.13**	**338**	*i* P	**Pn**	**03 01 23.7**	**+0.7**
	baz=340						
LAY				S	**Sn**	**03 01 43.1**	**+0.2**
	baz=340						
TSEB	**Hengchuen, Pin**	**1.38**	**312**	P	**Pn**	**03 01 26.8**	**+1.4**
	baz=304						
TSEB				S	**Sn**	**03 01 47.5**	**+0.5**
	baz=304						
TWKBT	**Hengchun**	**1.47**	**311**	*e*P	**Pn**	**03 01 27.3**	**+1.0**
	baz=306						
TWKBT				*e*S	**Sn**	**03 01 47.9**	**-0.7**
	baz=306						
TWK1	**Hengchun**	**1.47**	**311**	*i* P	**Pn**	**03 01 27.4**	**+1.1**
	baz=306						
TWK1				S	**Sn**	**03 01 48.3**	**-0.4**
	baz=306						
HEN	**Hengchun**	**1.56**	**311**	P	**Pn**	**03 01 28.4**	**+1.2**
	baz=303						
HEN				S	**Sn**	**03 01 49.7**	**-0.7**
	baz=303						
TAW	**Tawu**	**1.71**	**323**	P	**Pn**	**03 01 29.1**	**+0.2**
	baz=326						
TAW				*e*S	**Sn**	**03 01 51.7**	**-1.7**
	baz=326						
EAST	**Anshuo**	**1.76**	**323**	P	**Pn**	**03 01 29.8**	**+0.3**
	baz=322						
EAST				S	**Sn**	**03 01 53.1**	**-1.3**
	baz=322						
TWH	**Lutao**	**1.79**	**344**	P	**Pn**	**03 01 29.1**	**-0.7**
	baz=346						
TWH				S	**Sn**	**03 01 52.6**	**-2.3**
	baz=346						
ECL	**Taimali**	**1.88**	**329**	P	**Pn**	**03 01 30.8**	**0.0**
	baz=325						
ECL				*e*S	**Sn**	**03 01 54.2**	**-2.5**
	baz=325						
SCZT	**Fangliau**	**1.89**	**317**	P	**Pn**	**03 01 31.4**	**+0.5**
	baz=322						
SCZT				*e*S	**Sn**	**03 01 55.6**	**-1.3**
	baz=322						
TTN	**Taitung**	**1.94**	**336**	*e*P	**Pn**	**03 01 31.8**	**+0.4**
	baz=333						
SSPT	**Xinbi**	**2.00**	**318**	P	**Pn**	**03 01 33.1**	**+0.9**
	baz=322						
SSPT				*e*S	**Sn**	**03 01 58.0**	**-1.3**
	baz=322						
TWGBT	**Beinan**	**2.02**	**335**	*e*P	**Pn**	**03 01 32.0**	**-0.4**
	baz=335						
TWGBT				*e*S	**Sn**	**03 01 56.8**	**-2.8**
	baz=335						
TWG	**Pinlang**	**2.02**	**335**	P	**Pn**	**03 01 32.3**	**-0.2**
	baz=335						
TWG				*e*S	**Sn**	**03 01 57.4**	**-2.3**
	baz=335						
WLCH	**Liuqiu**	**2.04**	**312**	P	**Pn**	**03 01 34.4**	**+1.8**
	baz=311						
TWP	**Hsiaoliuchiu**	**2.04**	**312**	P	**Pn**	**03 01 34.7**	**+2.0**
	baz=304						
MASBT	**Mashibuluo**	**2.06**	**322**	*e*P	**Pn**	**03 01 33.4**	**+0.5**
	baz=322						
MASBT				*e*S	**Sn**	**03 01 57.4**	**-3.1**
	baz=322						
SSD	**Sandimen**	**2.17**	**324**	P	**Pn**	**03 01 34.7**	**+0.5**
	baz=324						
SSD				*e*S	**Sn**	**03 02 00.8**	**-2.0**
	baz=324						
CHKT	**Chengkung**	**2.19**	**344**	*e*P	**Pn**	**03 01 34.6**	**+0.2**
	baz=349						
CHKT				*e*S	**Sn**	**03 02 02.8**	**-0.4**
	baz=349						
SGLT	**Jiouru**	**2.23**	**321**	*e*P	**Pn**	**03 01 36.7**	**+1.7**
	baz=326						
FULB	**Fuli**	**2.30**	**343**	*e*P	**Pn**	**03 01 36.6**	**+0.7**
	baz=347						
TWM1	**Shoushan**	**2.35**	**322**	*e*P	**Pn**	**03 01 38.1**	**+1.7**
	baz=321						
SLGT	**Liugui**	**2.37**	**328**	*e*P	**Pn**	**03 01 37.0**	**+0.4**
	baz=328						
SLGT				*e*S	**Sn**	**03 02 05.5**	**-1.6**
	baz=328						
ELDTW	**Lidau**	**2.38**	**338**	*e*P	**Pn**	**03 01 37.9**	**+1.0**
	baz=338						
ELDTW				*e*S	**Sn**	**03 02 06.9**	**-0.6**
	baz=338						
TWF1	**Yuli**	**2.45**	**345**	*e*P	**Pn**	**03 01 38.2**	**+0.6**
	baz=340						
TWF1				*e*S	**Sn**	**03 02 07.7**	**-1.2**
	baz=340						
STYT	**Tauyuan**	**2.46**	**332**	*e*P	**Pn**	**03 01 38.2**	**+0.4**
	baz=332						
STYT				*e*S	**Sn**	**03 02 07.4**	**-1.8**
	baz=332						
SGST	**Jiashian**	**2.47**	**328**	*e*P	**Pn**	**03 01 38.6**	**+0.7**
	baz=328						
SGST				*e*S	**Sn**	**03 02 07.4**	**-2.0**
	baz=328						
CHN3	**Shinhua**	**2.58**	**324**	*e*S	**Sn**	**03 02 12.2**	**+0.5**
	baz=332						
CHN1	**Nanshi**	**2.59**	**328**	P	**Pn**	**03 01 39.7**	**+0.4**
	baz=328						
CHN1				S	**Sn**	**03 02 10.2**	**-1.7**
	baz=328						
EHY	**Hungye**	**2.59**	**346**	*e*P	**Pn**	**03 01 40.0**	**+0.6**
	baz=339						
EHY				*e*S	**Sn**	**03 02 10.0**	**-2.0**
	baz=339						
WTP	**Ta-pu**	**2.60**	**330**	*i* P	**Pn**	**03 01 39.6**	**+0.1**
	baz=331						
WTP				S	**Sn**	**03 02 10.9**	**-1.3**
	baz=331						
TAI1	**Yung-k'ang**	**2.63**	**321**	*e*S	**Sn**	**03 02 11.2**	**-1.5**
	baz=313						
TWK	**Hsinying**	**2.67**	**329**	P	**Pn**	**03 01 40.7**	**+0.3**
	baz=329						
TWK				S	**Sn**	**03 02 11.4**	**-2.5**
	baz=329						
CHN4	**Tsaushan**	**2.70**	**331**	*e*P	**Pn**	**03 01 41.0**	**+0.3**
	baz=331						
CHN4				*e*S	**Sn**	**03 02 12.4**	**-1.9**
	baz=331						
ALS	**Alishan**	**2.75**	**336**	*e*P	**Pn**	**03 01 42.0**	**+0.4**
	baz=330						
ALS				*e*S	**Sn**	**03 02 14.7**	**-1.3**
	baz=330						
SCLT	**Jiali**	**2.75**	**323**	*e*P	**Pn**	**03 01 41.8**	**+0.4**
	baz=329						
SCLT				*e*S	**Sn**	**03 02 14.6**	**-1.0**
	baz=329						
CHN5	**Tsauling**	**2.88**	**335**	*e*P	**Pn**	**03 01 43.1**	**+0.1**
	baz=329						
CHN5				*e*S	**Sn**	**03 02 16.6**	**-1.9**
	baz=329						
CHN8	**Yiju**	**2.88**	**325**	*e*P	**Pn**	**03 01 43.1**	**+0.2**
	baz=331						
CHN8				*e*S	**Sn**	**03 02 16.9**	**-1.5**
	baz=331						
CHY	**Chiayi**	**2.90**	**330**	*e*S	**Sn**	**03 02 16.9**	**-2.0**
	baz=330						
CHN2	**Minshiung**	**2.91**	**331**	*e*S	**Sn**	**03 02 17.4**	**-1.6**
	baz=331						
ENLB	**Shoufeng**	**2.93**	**353**	*e*P	**Pn**	**03 01 46.2**	**+2.6**
	baz=359						
WLGB	**Puzi**	**2.94**	**328**	*e*P	**Pn**	**03 01 43.2**	**-0.6**
	baz=328						
WLGB				*e*S	**Sn**	**03 02 17.8**	**-2.1**
	baz=328						
WGK	**Gukeng**	**3.00**	**334**	*e*S	**Sn**	**03 02 19.3**	**-1.9**
	baz=334						
WDLH	**Douliu**	**3.02**	**333**	*e*P	**Pn**	**03 01 44.4**	**-0.2**
	baz=334						
WDLH				*e*S	**Sn**	**03 02 19.2**	**-2.2**
	baz=334						
OWD	**Renai**	**3.06**	**346**	*e*P	**Pn**	**03 01 46.9**	**+1.5**
	baz=350						
OWD				*e*S	**Sn**	**03 02 21.3**	**-1.4**
	baz=350						
WJS	**Zhushan**	**3.06**	**338**	*e*S	**Sn**	**03 02 22.1**	**-0.5**
	baz=338						
TYC	**Yuchr**	**3.10**	**340**	*e*P	**Pn**	**03 01 46.0**	**+0.3**
	baz=334						
TYC				*e*S	**Sn**	**03 02 22.4**	**-0.9**
	baz=334						
TWD	**Chiawan**	**3.11**	**353**	*e*P	**Pn**	**03 01 46.7**	**+0.9**
	baz=1.0						
TWD				*e*S	**Sn**	**03 02 22.8**	**-0.7**
	baz=1.0						
WSF	**Szhu**	**3.12**	**328**	*e*S	**Sn**	**03 02 21.2**	**-2.5**
	baz=328						
WNT	**Mingj

comp=E,0.1nm,0.7s,baz=207,slow=9.6,SNR=4.4
SONM Songino Array 29.61 338 P **P 03 06 49.4 +1.2**
comp=E,1.6nm,0.6s,baz=148,slow=8.9,SNR=4.8
MKAR Makanchi Array 41.19 318 P **P 03 08 28.2 +1.2**
comp=E,8.5nm,0.6s,baz=111,slow=9.7,SNR=77
H11N1 WAKE ISLAND Hy 42.00 84 T T 03 54 26.2
baz=282
H11N2 WAKE ISLAND Hy 42.00 83 T T 03 54 19.9
baz=282
H11N3 WAKE ISLAND Hy 42.02 83 T T 03 54 23.5
baz=282
H11S3 WAKE ISLAND Hy 42.03 85 T T 03 54 16.3
baz=281,slow=75,SNR=8.1
H11S1 WAKE ISLAND Hy 42.04 85 T T 03 54 17.4
baz=281,slow=75,SNR=9.0
H11S2 WAKE ISLAND Hy 42.05 85 T T 03 54 17.6
baz=281,slow=75,SNR=7.5
WRA Warramunga Arr 42.43 163 P **P 03 08 35.6 -1.6**
comp=E,2.4nm,0.4s,baz=344,slow=9.1,SNR=47
WRA PcP **PcP 03 10 26.3 -1.3**
comp=E,0.3nm,0.6s,baz=348,slow=4.3,SNR=4.0
ZALV Zalesovo Beam 43.35 329 P **P 03 08 44.4 +0.1**
comp=E,2.5nm,0.5s,baz=115,slow=6.7,SNR=4.0
KURBB Kurchatov Arra 45.06 322 P **P 03 08 58.8 +0.8**
comp=E,5.6nm,0.7s,baz=118,slow=7.5,SNR=19
ASAR Alice Springs 45.87 165 P **P 03 09 03.9 -0.7**
comp=E,1.6nm,0.4s,baz=349,slow=9.3,SNR=22
BVAR Borovoye Array 50.64 322 P **P 03 09 41.7 +0.9**
comp=E,1.2nm,0.5s,baz=110,slow=8.4,SNR=7.7
STKA Stephens Creek 55.81 160 P **P 03 10 18.3 -0.5**
comp=E,1.8nm,0.6s,baz=338,slow=7.3,SNR=6.0
FINES FINESS Array B 74.58 330 P **P 03 12 19.6 +0.2**
comp=E,2.0nm,0.8s,baz=57,slow=5.6,SNR=3.7
YKA Yellowknife Ar 85.61 23 P **P 03 13 17.6 -0.9**
comp=E,0.1nm,0.4s,baz=307,slow=4.7,SNR=4.3

DJA 26 03:06:29.8±0.2, 3°S±2°×112°2E±°, h11km, M3.5/10, MLv3.5/10, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KDI	**Kendari**	**1.56**	**148**	P	Pn	03 06 56.9	-0.6
KDI				S	Sn	03 07 18.0	+0.3
APSI	**Ampana**	**1.71**	**355**	P	Pn	03 06 59.3	-0.3
APSI				S	Sb	03 07 22.3	-0.6
LUWI	**Luwuk**	**1.86**	**32**	P	Pn	03 07 01.2	-0.4
LUWI				S	Sn	03 07 25.9	+0.8
TTSI	**Tana Toraja**	**2.01**	**258**	P	Pn	03 07 03.9	+0.2
TTSI				S	Sn	03 07 29.7	+0.8
BNSI	**Bone**	**2.43**	**224**	P	Pn	03 07 08.9	-0.6
BNSI				S	Sn	03 07 39.6	+0.3
PCI	**Palu**	**2.60**	**311**	P	Pn	03 07 12.1	+0.3
PCI				S	Sn	03 07 44.5	+1.1
MRSI	**Marisa**	**3.09**	**3**	P	Pn	03 07 18.3	-0.3
BKSI	**Bulukumba**	**3.15**	**212**	P	Pn	03 07 19.6	+0.2
MPSI	**Mapaga**	**3.50**	**327**	P	Pn	03 07 23.7	-0.5

PRU 26 03:08:06.1, 50.19N×18.63E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OKC	**Ostrava-Krasne**	**0.47**	**222**	*e*PG	Pg	03 08 15.0	-0.1
OKC				*e*SG	Sg	03 08 20.5	-0.7
DPC	**Dobruska-Polom**	**1.49**	**277**	*e*PG	Pn	03 08 33.4	-0.8
DPC				*e*SG	Sg	03 08 53.6	-0.3

*ISCJB **26** 03:17:39.9±0.5, 3°.57N±0°.09×87°.90E±0°.07, h10km, mb4.1/13, Error ellipse: s-maj=14.0km s-min=8.9km az=33.7*
*IDC **26** 03:17:40.4±0.9, 3°.59N×87°.83E, h0km, mb3.7/8, mb1 3.9/11, mb1mx3.6/67, mbtmp3.8/11, ML4.1/3, MS3.1/1, Ms1 3.1/1, ms1mx2.4/62, Error ellipse: s-maj=32.0km s-min=17.1km az=44.0*
*NEIC **26** 03:17:41.6±0.5, 3°.59N×87°.90E, h10km, mb4.3/5, Error ellipse: s-maj=13.6km s-min=8.8km az=213.0*
ISC 26 03:17:41.7±0.7, 3°.6N±0°.1×87°.94E±0°.10, h10km, n32, σ1°09/27, mb4.1/13, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PALK	**Pallekele**	**8.08**	**297**	P*n*	**Pn**	**03 19 39.5**	**+0.2**
	1.6nm,0.3s,baz=115,slow=14,SNR=11						
PALK				Sn	Sn	03 20 58.8	-12
	13nm,0.3s,baz=116,slow=5.5,SNR=13						
PSI	**Prapat**	**11.00**	**94**	P*n*	**Pn**	**03 20 20.3**	**+0.9**
	1.0nm,0.3s,baz=281,slow=5.2,SNR=4.6						
PSI				LR	LR	03 24 05.1	
	comp=Z,86nm,19.2s,baz=274,slow=35						
CM31	**Chiang Mai Arr**	**18.29**	**35**	*e*P*n*	**Pn**	**03 21 55.9**	**+0.1**
CMAR	**Chiang Mai Arr**	**18.29**	**35**	P	**P**	**03 21 57.5**	**+1.7**
	0.4nm,0.3s,baz=222,slow=11,SNR=5.9						
ODAN	**Odare**	**23.15**	**359**	*e*P	P	03 23 01.7	+13
	8.2nm,0.4s						
RAMN	**Ramite**	**23.27**	**357**	*e*P	P	03 23 02.7	+13
	13nm,0.5s						
JIRN	**Jiri**	**24.00**	**356**	*e*P	P	03 23 12.9	+16
	16nm,0.4s						
DMN	**Daman**	**24.04**	**354**	*e*P	P	03 23 13.5	+16
	13nm,0.5s						
GUN	**Gumba**	**24.27**	**356**	*e*P	P	03 23 16.2	+17
	14nm,0.5s						
KOLN	**Koldanda**	**24.40**	**351**	*e*P	P	03 23 19.1	+18
	16nm,0.5s						
GKN	**Gorkha**	**24.48**	**353**	*e*P	P	03 23 19.3	+18
	18nm,0.4s						
TPUB	**Ta-pu**	**37.18**	**55**	*e*P	**P**	**03 24 50.5**	**-2.8**
	13nm,0.8s						
NRN	**Naryn**	**39.17**	**346**	*e*P	**P**	**03 25 10.2**	**0.0**
	3.7nm,0.6s						
MK32	**Makanchi Array**	**43.31**	**354**	*e*P	**P**	**03 25 44.4**	**+0.5**
MKAR	**Makanchi Array**	**43.31**	**354**	P	**P**	**03 25 44.4**	**+0.5**
	0.2nm,0.6s,baz=166,slow=8.9,SNR=2.4						
SAUI	**Saumlaki**	**44.76**	**105**	*e*P	**P**	**03 25 55.3**	**-0.6**
	474nm,1.1s						
SONA0	**Songino Array**	**46.86**	**17**	*e*P	**P**	**03 26 12.3**	**+0.1**
SONM	**Songino Array**	**46.86**	**17**	P	**P**	**03 26 12.3**	**+0.1**
	1.3nm,0.4s,baz=312,slow=18,SNR=2.6						
KURBB	**Kurchatov Arra**	**47.54**	**352**	P	**P**	**03 26 16.0**	**-1.2**
	0.1nm,0.3s,baz=181,slow=7.6,SNR=2.5						
KURK	**Kurchatov**	**47.61**	**352**	*e*P	**P**	**03 26 16.0**	**-1.8**
WR1	**Warramunga Arr**	**51.21**	**119**	*e*P	**P**	**03 26 47.1**	**+1.2**
	5.2nm,0.6s						
WRA	**Warramunga Arr**	**51.21**	**119**	P	**P**	**03 26 47.1**	**+1.2**
	4.8nm,0.7s,baz=297,slow=8.6,SNR=33						
AS31	**Alice Springs**	**52.32**	**124**	*e*P	**P**	**03 26 54.0**	**-0.1**
	1.1nm,1.2s						
AS31				*e*PcP	**PcP**	**03 28 05.3**	**-0.1**
ASAR	**Alice Springs**	**52.32**	**124**	P	**P**	**03 26 55.4**	**+1.3**
	0.3nm,0.4s,baz=300,slow=7.5,SNR=4.7						
ASAR				PcP	**PcP**	**03 28 05.3**	**0.0**
	0.3nm,0.6s,baz=298,slow=4.0,SNR=2.8						
BR101	**Keskin Array S**	**60.74**	**314**	*e*P	**P**	**03 27 53.6**	**-0.4**
BRTR	**Keskin Array B**	**60.74**	**314**	P	**P**	**03 27 53.6**	**-0.4**
	0.2nm,0.5s,baz=130,slow=4.5,SNR=2.7						
STKA	**Stephens Creek**	**61.93**	**129**	P	**P**	**03 28 02.5**	**+0.6**
	0.9nm,0.4s,baz=306,slow=7.5,SNR=3.0						
STKA	**Stephens Creek**	**61.93**	**129**	*e*P	**P**	**03 28 00.6**	**-1.4**
	1.4nm,1.4s						
CLL	**Collm**	**77.81**	**322**	*e*(P)	**P**	**03 29 41.0**	**+1.7**
TORD	**Torodi Ar. Bea**	**85.54**	**283**	P	**P**	**03 30 20.4**	**-0.6**
	0.4nm,0.8s,baz=88,slow=5.8,SNR=4.3						
TOA1	**Torodi Ar. Sit**	**85.54**	**283**	*e*P	**P**	**03 30 20.4**	**-0.6**
TXAR	**Lajitas Array**	**145.42**	**18**	PKPbc	**PKPdf**	**03 37 20.8**	**-0.2**
	0.3nm,0.8s,baz=236,slow=3.1,SNR=4.8						

IDC 26 03:26:44.2±2.0, 6°.43S×128°.65E, h0km, mb3.2/1, mb1 3.6/3, mb1mx3.3/50, mbtmp3.4/3, ML3.4/2, Error ellipse: s-maj=140.6km s-min=27.9km az=67.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.52**	**158**	P*n*	Pn	03 30 13.0	+1.8
	0.1nm,0.3s,baz=337,slow=12,SNR=6.9						
WRA				Sn	Sn	03 32 56.0	+2.9
	0.0nm,0.3s,baz=323,slow=27,SNR=2.7						
ASAR	**Alice Springs**	**17.87**	**164**	P	Pn	03 30 52.9	-1.6
	0.2nm,0.3s,baz=346,slow=11,SNR=9.5						
MKAR	**Makanchi Array**	**67.02**	**327**	P	P	03 37 39.3	+0.1
	0.1nm,0.5s,baz=113,slow=6.4,SNR=3.0						

IDC 26 03:30:40.7±2.0, 5.65N×93.04E, h0km, mb3.6/5, mb1 3.8/5, mb1mx3.4/67, mbtmp3.6/5, Error ellipse: s-maj=107.9km s-min=23.6km az=53.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H08S3	**Diego Garcia H**	**24.38**	**237**	T	T	04 01 12.7	
	baz=58,slow=75,SNR=297						
H08S2	**Diego Garcia H**	**24.38**	**237**	T	T	04 01 12.6	
	baz=58,slow=75,SNR=326						
H08S1	**Diego Garcia H**	**24.40**	**237**	T	T	04 01 16.4	
	baz=58,slow=75,SNR=288						
MKAR	**Makanchi Array**	**42.02**	**349**	P	P	03 38 34.1	+0.1
	0.4nm,0.6s,baz=156,slow=9.3,SNR=4.9						
KURBB	**Kurchatov Arra**	**46.44**	**347**	P	P	03 39 08.9	-0.3
	0.6nm,0.8s,baz=168,slow=7.3,SNR=5.0						
WRA	**Warramunga Arr**	**47.92**	**123**	P	P	03 39 20.8	-0.5
	1.3nm,1.0s,baz=301,slow=8.7,SNR=5.7						
ASAR	**Alice Springs**	**49.38**	**128**	P	P	03 39 32.9	+0.3
	0.5nm,0.8s,baz=299,slow=7.9,SNR=4.1						
GERES	**GERESS Array B**	**78.75**	**319**	P	P	03 42 45.4	0.0
	0.4nm,0.7s,baz=82,slow=2.8,SNR=3.8						

*DDA **26** 03:42:43.8, 41°.18N×43°.14E, h7km, Ml3.2*
*ATA **26** 03:42:43.3±1.7, 41°.14N×43°.17E, h7km±33km, ML3.3, MW3.3*
*CSEM **26** 03:42:44.5±0.1, 41°.15N×43°.14E, h2km, ML2.7, Error ellipse: s-maj=3.4km s-min=2.7km az=157.0*
*ISK **26** 03:42:44.6, 41°.17N×43°.14E, h10km, ML3.0/5*
ISC 26 03:42:44.4±1.0, 41°.16N±0°.02×43°.16E±0°.02, h7km±9km, n57, σ0°75/94, 1D, Turkey-Georgia-Armenia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AKH	**Akhalkalaki**	**0.36**	**45**	P*G*	**Pb**	**03 42 52.8**	**-0.5**
AKH				S*G*	**Sg**	**03 42 57.4**	**+1.2**
AKH	**Akhalkalaki**	**0.36**	**45**	P	**Pg**	**03 42 52.0**	**+0.5**
AKH				S	**Sg**	**03 42 57.6**	**+1.3**
AKH	**Akhalkalaki**	**0.36**	**45**	P	**Pg**	**03 42 52.0**	**+0.5**
AKH	**Akhalkalaki**	**0.36**	**45**	*e*P*g*	**Pb**	**03 42 52.8**	**-0.5**
AKH				*e*S*g*	**Sg**	**03 42 57.4**	**+1.2**
EPOS	**Posof**	**0.47**	**317**	*i* P	**Pg**	**03 42 53.3**	**-0.3**
EPOS				*e*S	**Sb**	**03 43 01.0**	**-1.5**
EPOS				IAML		03 43 01.5	
	comp=Z,231nm,0.4s						
EPOS	**Posof**	**0.47**	**317**	*i* P	**Pg**	**03 42 53.3**	**-0.3**
EPOS				*i* S	**Sb**	**03 43 00.8**	**-1.7**
EPOS	**Posof**	**0.47**	**317**	P	**Pg**	**03 42 53.3**	**-0.3**
EPOS				S	**Sb**	**03 43 00.8**	**-1.7**
KARS	**Kars**	**0.53**	**186**	P*G*	**Pb**	**03 42 56.3**	**+0.1**
KARS	**Kars**	**0.53**	**186**	*e*P*g*	**Pb**	**03 42 56.3**	**+0.1**
EAK	**Akyaka**	**0.58**	**144**	*e*P	**Pg**	**03 42 54.8**	**-0.8**
EAK	**Akyaka**	**0.58**	**144**	*i* P	**Pg**	**03 42 54.9**	**-0.7**
EAK				*i* S	**Sg**	**03 43 03.1**	**-0.1**
EAK	**Akyaka**	**0.58**	**144**	P	**Pg**	**03 42 54.9**	**-0.7**
EAK				S	**Sg**	**03 43 03.1**	**-0.1**
DIGO	**Kars**	**0.76**	**167**	*e*P	**Pg**	**03 42 58.0**	**-1.0**
DIGO				*e*S	**Sg**	**03 43 08.1**	**-0.8**
DIGO				IAML		03 43 10.1	
	comp=Z,98nm,0.3s						
DIGO	**Kars**	**0.76**	**167**	*i* P	**Pg**	**03 42 58.0**	**-1.0**
DIGO				*i* S	**Sg**	**03 43 08.5**	**-0.4**
DIGO	**Kars**	**0.76**	**167**	P	**Pg**	**03 42 58.0**	**-1.0**
DIGO				S	**Sg**	**03 43 08.5**	**-0.4**
SENK	**Senkaya-Erzuru**	**0.85**	**226**	P*G*	**Pg**	**03 43 01.4**	**+0.6**
SENK	**Senkaya-Erzuru**	**0.85**	**226**	*e*P*g*	**Pg**	**03 43 01.4**	**+0.6**
ARTV	**Artvin**	**0.93**	**272**	*i* P	**Pg**	**03 43 01.1**	**-1.1**
ARTV				*i* S	**Sg**	**03 43 13.5**	**-0.8**
ARTV	**Artvin**	**0.93**	**272**	P	**Pg**	**03 43 01.1**	**-1.1**
ARTV				S	**Sg**	**03 43 13.5**	**-0.8**
DDEM	**Demirkent**	**1.09**	**257**	*i* P	**Pg**	**03 43 05.1**	**-0.3**
DDEM				*i* S	**Sg**	**03 43 19.9**	**+0.3**
DDEM	**Demirkent**	**1.09**	**257**	P	**Pg**	**03 43 05.1**	**-0.3**
DDEM				S	**Sg**	**03 43 19.9**	**+0.3**
DBAD	**Bademkaya**	**1.11**	**263**	*i* P	**Pg**	**03 43 05.4**	**-0.3**
DBAD				*i* S	**Sg**	**03 43 20.3**	**+0.1**
DBAD	**Bademkaya**	**1.11**	**263**	P	**Pg**	**03 43 05.4**	**-0.3**
DBAD				S	**Sg**	**03 43 20.3**	**+0.1**
DBOC	**Borcka**	**1.14**	**280**	*i* P	**Pg**	**03 43 05.7**	**-0.6**
DBOC				*i* S	**Sb**	**03 43 21.1**	**-0.4**
DBOC	**Borcka**	**1.14**	**280**	P	**Pg**	**03 43 05.7**	**-0.6**
DBOC				S	**Sb**	**03 43 21.1**	**-0.4**
BCA	**Borcka**	**1.19**	**285**	PN	**Pg**	**03 43 07.0**	**-0.2**
BCA	**Borcka**	**1.19**	**285**	*e*Pn	**Pg**	**03 43 07.0**	**-0.2**
TBLG	**Delisi**	**1.32**	**64**	PN	**Pn**	**03 43 09.5**	**+0.2**
TBLG	**Delisi**	**1.32**	**64**	*e*P	**Pn**	**03 43 09.2**	**-0.2**
TBLG				*e*S	**Sn**	**03 43 27.4**	**+0.1**
TBLG				IAML		03 43 28.5	
	comp=Z,32nm,0.3s						
TBLG	**Delisi**	**1.32**	**64**	P	**Pn**	**03 43 09.3**	**0.0**
TBLG				S	**Sn**	**03 43 27.2**	**0.0**
TBLG	**Delisi**	**1.32**	**64**	P	**Pn**	**03 43 09.3**	**0.0**
TBLG				S	**Sn**	**03 43 27.2**	**0.0**
BTNK	**Botanikuri**	**1.34**	**66**	P	**Pn**	**03 43 09.9**	**+0.2**
BTNK				S	**Sn**	**03 43 28.1**	**+0.2**
BTNK	**Botanikuri**	**1.34**	**66**	P	**Pn**	**03 43 09.0**	**-0.7**
BTNK				S	**Sn**	**03 43 28.0**	**+0.2**
EATA	**Eleskirt**	**1.39**	**202**	*e*P	**Pn**	**03 43 10.9**	**+0.4**
EATA				*e*S	**Sn**	**03 43 31.0**	**+1.7**
EATA				IAML		03 43 33.0	
	comp=Z,9.3nm,0.4s						
EATA	**Eleskirt**	**1.39**	**202**	*i* P	**Pn**	**03 43 10.8**	**+0.2**
EATA				*i* S	**Sn**	**03 43 31.2**	**+1.9**
EATA	**Eleskirt**	**1.39**	**202**	P	**Pn**	**03 43 10.8**	**+0.2**
EATA				S	**Sn**	**03 43 31.2**	**+1.9**
TASB	**TASBURUN-IGDIR**	**1.43**	**144**	PN	**Pn**	**03 43 11.4**	**+0.5**
TASB	**TASBURUN-IGDIR**	**1.43**	**144**	*e*Pn	**Pn**	**03 43 11.4**	**+0.5**
ONI	**Oni**	**1.45**	**9**	P	**Pb**	**03 43 11.6**	**-0.2**
ONI				S	**Sg**	**03 43 31.8**	**+0.7**
ONI	**Oni**	**1.45**	**9**	P	**Pb**	**03 43 11.6**	**-0.2**
ONI				S	**Sg**	**03 43 31.5**	**+0.5**
HOMI	**Horasan**	**1.46**	**221**	*e*P	**Pn**	**03 43 11.7**	**+0.2**
HOMI	**Horasan**	**1.46**	**221**	*i* P	**Pn**	**03 43 11.6**	**+0.2**
HOMI				*i* S	**Sg**	**03 43 33.2**	**+1.8**
DUS	**Dusheti**	**1.49**	**51**	P	**Pg**	**03 43 13.3**	**+0.4**
DUS				S	**Sg**	**03 43 33.1**	**+0.8**
DUS	**Dusheti**	**1.49**	**51**	P	**Pg**	**03 43 13.2**	**+0.2**
DGRG	**David-gareji**	**1.70**	**79**	*e*P	**Pb**	**03 43 15.7**	**-0.3**
DGRG	**David-gareji**	**1.70**	**79**	P	**Pn**	**03 43 15.1**	**+0.6**
DGRG				S	**Sg**	**03 43 39.1**	**+0.2**
DGRG	**David-gareji**	**1.70**	**79**	P	**Pb**	**03 43 15.7**	**-0.3**
DGRG				S	**Sg**	**03 43 39.1**	**+0.2**
TUTA	**Tutak**	**1.77**	**189**	*e*P	**Pb**	**03 43 17.9**	**+0.6**
TUTA	**Tutak**	**1.77**	**189**	*i* P	**Pb**	**03 43 17.5**	**+0.1**
TUTA				*i* S	**Sn**	**03 43 38.2**	**-0.5**
TUTA	**Tutak**	**1.77**	**189**	P	**Pb**	**03 43 17.5**	**+0.1**
TUTA				S	**Sn**	**03 43 38.2**	**-0.5**
CHOM	**Cayeli-Rize**	**1.81**	**269**	*e*P*n*	**Pb**	**03 43 17.4**	**-0.5**
ERZM	**Erzurum**	**1.85**	**228**	*i* P	**Pb**	**03 43 18.3**	**-0.4**
ERZM	**Erzurum**	**1.85**	**228**	*i* P	**Pn**	**03 43 17.9**	**+1.0**
ERZM				*i* S	**Sg**	**03 43 45.2**	**+1.3**
ERZM	**Erzurum**	**1.85**	**228**	P	**Pn**	**03 43 17.9**	**+1.0**
ERZM				S	**Sg**	**03 43 45.2**	**+1.3**
EKAR	**Karacoban**	**2.07**	**204**	*e*P	**Pb**	**03 43 22.3**	**-0.2**
KOPT	**Kop Dagi**	**2.32**	**242**	*e*P	**Pb**	**03 43 27.4**	**+0.6**
KELT	**Kelkit**	**3.13**	**253**	*e*P	**Pb**	**03 43 40.4**	**-0.2**

MEX 26 04:00:55.5±0.9, 15.32N×93.32W, h70km±8km, MD3.8, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		**0.39**	**14**	*e*P	Pn	04 01 05.5	-1.9
PCIG				*e*S	Sn	04 01 14.9	-1.1
TGIG		**1.46**	**7**	*e*P	Pn	04 01 18.3	-1.7
TGIG				*e*S	Sn	04 01 36.0	-2.4
CCIG	**Comitan**	**1.48**	**50**	*e*P	Pn	04 01 19.7	-0.7

IDC 26 04:06:08.0±4.5, 19°.88N×122°.72E, h0km, mb3.7/3, mb1 4.0/3, mb1mx3.3/70, mbtmp3.7/3, Error ellipse: s-maj=298.5km s-min=32.7km az=89.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**41.18**	**163**	P	P	04 13 53.9	-0.5
	0.9nm,0.5s,baz=344,slow=8.9,SNR=11						
H11S3	**WAKE ISLAND Hy**	**41.46**	**84**	T	T	04 59 40.0	
	baz=281						
H11S1	**WAKE ISLAND Hy**	**41.47**	**84**	T	T	04 59 31.7	
	baz=281						
H11S2	**WAKE ISLAND Hy**	**41.48**	**84**	T	T	04 59 41.7	
	baz=281						
ASAR	**Alice Springs**	**44.63**	**165**	P	P	04 14 22.8	+0.3
	0.4nm,0.3s,baz=340,slow=6.6,SNR=6.7						
YKA	**Yellowknife Ar**	**86.36**	**23**	P	P	04 18 51.8	0.0
	0.2nm,0.6s,baz=308,slow=4.9,SNR=7.4						

*IDC **26** 04:11:02.9±0.6, 51°.57N×96°.15E, h0km, mb4.0/19, mb1 4.1/23, mb1mx3.9/76, mbtmp3.9/23, ML3.2/4, MS2.9/10, Ms1 3.0/10, ms1mx2.7/67, Error ellipse: s-maj=17.2km s-min=8.0km az=180.0*
*ISCJB **26** 04:11:03.4±0.3, 51°.70N±0°.03×96°.03E±0°.03, h10km, mb4.0/29, MS2.8/8, Error ellipse: s-maj=5.0km s-min=3.1km az=178.5*
*MOS **26** 04:11:03.5±1.0, 51°.70N×96°.06E, h12km, mb4.4/21, Error ellipse: s-maj=7.2km s-min=6.4km az=18.0*
*ASRS **26** 04:11:03.3±0.5, 51°.75N×95°.97E, h15km, Ms3.8/2*
*NEIC **26** 04:11:04.5±0.3, 51°.65N×96°.10E, h10km, mb4.1/11, Error ellipse: s-maj=8.8km s-min=5.5km az=181.0*
*BJI **26** 04:11:07.5, 51°.61N×95°.38E, h9km, mb4.3/12, mB4.4/7, ML4.1/2, Ms3.8/9, Ms7 3.6/7*
*NNC **26** 04:11:12.1±2.5, 51°.56N×95°.12E, h0km, mb4.2, mpv4.0, Error ellipse: s-maj=23.5km s-min=16.5km az=83.0*
ISC 26 04:11:06.1±0.4, 51°.80N±0°.05×96°.07E±0°.03, h10km, n139, σ2°36/139, mb4.1/29, MS2.9/8, 4C-14D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TDJR	**Todzha**	**0.60**	**2**	P*G*	P*g*	04 11 15.2	-2.5
KZLR	**Kyzyl**	**1.01**	**265**	*e*P*g*	P*g*	04 11 21.1	-4.4
KZLR				*e*S*g*	**Sg**	**04 11 33.7**	**-4.8**
KZLR	**Kyzyl**	**1.01**	**265**	*e*P*G*	P*g*	04 11 21.1	-4.3
KZLR				*e*		04 11 33.7	
HVS	**Khovu-Aksy**	**1.62**	**247**	⇓*i* P	**Pn**	**04 11 31.5**	**-3.3**
HVS				*i* S	**Sn**	**04 11 51.0**	**-4.8**
HVS	**Khovu-Aksy**	**1.62**	**247**	⇓*i* P*N*	**Pn**	**04 11 31.5**	**-3.3**
HVS				*i* S	**Sn**	**04 11 51.0**	**-4.8**
ERNS	**Erzin**	**1.65**	**201**	P*	Pn	04 11 30.7	-4.4
ORL	**Orlik**	**2.42**	**71**	*i* P*N*	**Pn**	**04 12 46.2**	**+0.4**
ORL				*e*		04 11 48.8	
ORL				*e*		04 12 20.1	
CERR	**Cheremushki**	**3.04**	**292**	*e*P*n*	**Pn**	**04 11 53.8**	**-0.4**
CERR				*e*P*g*	**Pb**	**04 11 58.3**	**-2.0**
CERR				*e*S*g*	**Sb**	**04 12 36.9**	**-0.6**
CERR	**Cheremushki**	**3.04**	**292**	*e*P*N*	**Pn**	**04 11 53.8**	**-0.4**
CERR				*e*		04 11 58.3	
CERR				*e*		04 12 36.9	
MOY	**Mondy**	**3.07**	**91**	*e*P*N*	**Pn**	**04 11 54.4**	**-0.2**
MOY				*e*		04 12 39.1	
MINR	**Mina**	**3.30**	**341**	P*N*	**Pn**	**04 11 59.8**	**+2.0**
TEL	**Teeli**	**3.76**	**260**	P*N*	**Pb**	**04 12 13.3**	**+0.8**
VEH	**Verkhnyaya Baz**	**3.80**	**295**	P*N*	**Pn**	**04 12 04.6**	**-0.1**
ARS	**Arshan**	**3.94**	**86**	*e*P*N*	**Pn**	**04 12 06.6**	**0.0**
ARS				*e*		04 12 14.4	
ARS				*e*		04 13 06.4	
ARS				pmax	pmax		
	comp=Z,255nm,0.5s						
ARS				smax	smax		
	comp=E,3μm,1.0s						
KRAR	**Krasnoyarsk**	**4.62**	**337**	*e*P*N*	**Pn**	**04 12 15.5**	**-0.4**
TLY	**Talaya**	**4.71**	**89**	P*g*	P*n*	04 12 25.0	+7.8
	comp=E,0.1nm,0.3s,baz=274,slow=15,SNR=23						
TLY				Lg	Lg	04 13 28.9	
	comp=E,0.4nm,0.3s,baz=221,slow=20,SNR=15						
TLY	**Talaya**	**4.71**	**89**	*e*P*n*	P*n*	04 12 15.5	-1.6
TLY				*e*P*g*	P*b*	04 12 25.0	-3.7
TLY				*e*S*n*	**Sn**	**04 13 11.5**	**-0.4**
TLY				*e*L*g*	Lg	04 13 28.9	
TLY	**Talaya**	**4.71**	**89**	*e*P*N*	P*n*	04 12 25.7	+8.6
TLY				*e*		04 12 27.3	
TLY				*e*		04 13 27.9	
TLY				pmax	pmax		
	comp=Z,66nm,0.6s						
LUZB	**Luzhba, Kemero**	**4.74**	**296**	*e*P*N*	**Pn**	**04 12 18.4**	**+0.9**
ZAK	**Zakamensk**	**4.76**	**105**	*e*P*N*	P*b*	04 12 27.4	-2.2
ZAK				*e*		04 13 30.4	
ZAK				pmax	pmax		
	comp=Z,204nm,0.6s						
ZAK				smax	smax		
	comp=N,503nm,1.2s						
IRK	**Irkutsk**	**5.09**	**82**	*e*P*N*	**Pb**	**04 12 34.4**	**-0.7**
IRK				*e*		04 13 37.1	
IRK				pmax	pmax		
	comp=Z,156nm,0.4s						
IRK				smax	smax		
	comp=N,2μm,0.7s						
TASR	**Tashtagol**	**5.12**	**284**	*e*P*n*	**Pn**	**04 12 21.7**	**-1.0**
TASR				*e*P*g*	**Pb**	**04 12 37.9**	**+2.3**
TASR				*e*S*g*	**Sb**	**04 13 40.1**	**+3.0**
TASR	**Tashtagol**	**5.12**	**284**	*e*P*N*	**Pn**	**04 12 21.7**	**-1.0**
TASR				*e*		04 12 37.9	
TASR				*e*		04 13 40.1	
CUR	**Chagan-Uzun**	**5.17**	**254**	P*N*	**Pn**	**04 12 23.6**	**-0.3**
ULGR	**Ulagan, Altay**	**5.23**	**260**	P*N*	**Pn

WMQ				S	Sn	04 15 05.5	-11		
WMQ				smax	smax				
	comp=N,83nm,0.7s								
WMQ				smax	smax				
	comp=N,120nm,0.9s								
WMQ				LR	LR				
	comp=N,330nm,8.1s								
WMQ				LR	LR				
	comp=N,160nm,18.5s								
MK31	**Makanchi Array**	**10.29 246**		⇓Pn	**Pn**	**04 13 31.2**	**-2.5**		
	comp=N,1.8nm,0.6s,baz=54,slow=13,SNR=10.0								
MK31				⇓Pg		04 14 10.1			
	comp=N,4.0nm,0.6s,baz=55,slow=16,SNR=5.2								
MK31				⇓Lg	Lg	04 16 18.7			
	comp=N,44nm,1.0s,baz=56,slow=31,SNR=4.2								
MK31	**Makanchi Array**	**10.29 246**		*e*Pn	**Pn**	**04 13 32.1**	**-1.6**		
MK31	**Makanchi Array**	**10.29 246**		*e*P	**Pn**	**04 13 32.2**	**-1.6**		
MK32	**Makanchi Array**	**10.29 246**		*e*Pn	**Pn**	**04 13 31.0**	**-2.8**		
MK32				*e*		04 14 12.2			
MK32				eLg	Lg	04 16 24.3			
MKAR	**Makanchi Array**	**10.29 246**		Pn	**Pn**	**04 13 31.0**	**-2.8**		
	comp=N,0.2nm,0.3s,baz=74,slow=13,SNR=9.6								
MKAR				Pg		04 14 12.2			
	comp=N,0.8nm,0.3s,baz=64,slow=19,SNR=6.0								
MKAR				Lg	Lg	04 16 24.3			
	comp=N,0.8nm,0.3s,baz=53,slow=31,SNR=3.7								
MKAR	**Makanchi Array**	**10.29 246**		*e*Pn	**Pn**	**04 13 32.1**	**-1.6**		
MKAR				Pg		04 14 12.2			
MKAR	**Makanchi Array**	**10.29 246**		*e*P	**Pn**	**04 13 32.1**	**-1.6**		
MK01	**Makanchi Array**	**10.30 246**		*e*Pn	**Pn**	**04 13 31.8**	**-2.0**		
MAKZ	**Makanchi**	**10.46 247**		⇓Pn	**Pn**	**04 13 33.7**	**-2.3**		
	comp=N,4.7nm,1.0s								
MAKZ				⇑Pg		04 14 14.0			
	comp=N,10.0nm,1.2s								
MAKZ				⇑Lg	Lg	04 16 23.9			
	comp=N,52nm,1.1s								
MAKZ	**Makanchi**	**10.46 247**		*e*Pn	**Pn**	**04 13 34.5**	**-1.6**		
MAKZ	**Makanchi**	**10.46 247**		*e*P	**Pn**	**04 13 34.4**	**-1.6**		
KURK	**Kurchatov**	**10.99 271**		⇓Pn	**Pn**	**04 13 43.2**	**0.0**		
	comp=N,2.0nm,0.6s								
KURK				⇓Lg	Lg	04 16 44.2			
	comp=N,49nm,0.9s								
KURK	**Kurchatov**	**10.99 271**		*e*Pn	**Pn**	**04 13 41.7**	**-1.5**		
KURK				*e*Sn	**Sn**	**04 15 54.3**	**+8.3**		
KURK	**Kurchatov**	**10.99 271**		*i* P	**Pn**	**04 13 42.8**	**-0.4**		
KURBB	**Kurchatov Arra**	**11.07 271**		Pn	**Pn**	**04 13 42.7**	**-1.5**		
	comp=N,0.1nm,0.3s,baz=77,slow=15,SNR=12								
KURBB				Sn	**Sn**	**04 15 54.3**	**+6.4**		
	comp=N,0.0nm,0.3s,baz=59,slow=20,SNR=2.9								
KURBB				Lg	Lg	04 16 53.4			
	comp=N,0.0nm,0.3s,baz=82,slow=32,SNR=3.2								
KURBB	**Kurchatov Arra**	**11.07 271**		⇓Pn	**Pn**	**04 13 43.0**	**-1.2**		
	comp=N,3.3nm,0.5s								
KURBB				⇓Lg	Lg	04 16 44.3			
	comp=N,101nm,0.8s								
BOD	**Bodaibo**	**11.95 53**		*e*P	Pn	04 13 54.1	-2.2		
GTA	**Gaotai**	**12.66 167**		*e*P	**Pn**	**04 14 10.0**	**+3.7**		
GTA				pP		04 14 14.3			
GTA				sP		04 14 17.3			
GTA				pmax	pmax				
	comp=N,8.0nm,0.7s								
GTA				LR	LR				
	comp=N,270nm,9.0s								
GTA				LR	LR				
	comp=N,220nm,10.5s								
HHC	**Hu-ho-hao-te**	**15.28 130**		*e*P	**P**	**04 14 47.3**	**+0.6**		
HHC				S	**S**	**04 17 41.8**	**-6.0**		
HHC				pmax	pmax				
	comp=N,52nm,0.8s								
HHC				LR	LR				
	comp=N,990nm,10.3s								
HHC				LR	LR				
	comp=N,1μm,9.2s								
HHC				LR	LR				
	comp=N,1μm,10.7s								
BVAR	**Borovoye Array**	**15.69 285**		Pn	**Pn**	**04 14 44.0**	**-3.0**		
	comp=N,0.2nm,0.3s,baz=88,slow=15,SNR=3.1								
BVAR				Sn	**Sn**	**04 17 35.8**	**-5.0**		
	comp=N,0.2nm,0.3s,baz=78,slow=24,SNR=2.3								
BVAR				Lg	Lg	04 19 17.5			
	comp=N,0.2nm,0.3s,baz=89,slow=25,SNR=2.4								
BRVK	**Borovoye**	**15.75 285**		*e*Pn	**Pn**	**04 14 46.6**	**-1.2**		
	comp=N,4.0nm,0.8s								
BRVK	**Borovoye**	**15.75 285**		*i* P	**Pn**	**04 14 49.9**	**+2.1**		
BRVK				pmax	pmax				
	comp=Z,4.0nm,0.8s								
LZH	**Lanzhou**	**16.66 158**		*e*P	**Pn**	**04 15 01.5**	**+1.8**		
LZH				pP	pP	04 15 05.8	+0.9		
LZH				sP	sP	04 15 08.3	+2.1		
LZH				*e*PP	**PnPn**	**04 15 14.5**	**+5.6**		
LZH				*e*S	**Sn**	**04 18 03.3**	**-1.4**		
LZH				sS	S	04 18 10.8	-5.3		
LZH				SS	**SnSn**	**04 18 24.3**	**+6.6**		
LZH				pmax	pmax				
	comp=Z,29nm,1.0s								
LZH				pmax	pmax				
	comp=Z,120nm,5.0s								
LZH				LR	LR				
	comp=Z,470nm,10.4s								
LZH				LR	LR				
	comp=Z,730nm,10.7s								
LZH				LR	LR				
	comp=Z,770nm,10.7s								
AAK	**Ala-Archa**	**17.23 246**		Lg	Lg	04 20 06.6			
	comp=Z,0.1nm,0.3s,baz=324,slow=21,SNR=6.7								
AAK				LR	LR	04 21 06.9			
	comp=Z,41nm,19.3s,baz=36,slow=35								
AAK	**Ala-Archa**	**17.23 246**		*e*		04 20 06.6			
AAK	**Ala-Archa**	**17.23 246**		*i* P	**Pn**	**04 15 05.4**	**-1.4**		
AAK				pmax	pmax				
	comp=Z,4.0nm,1.2s								
YAK	**Yakutsk**	**20.76 47**		*i* P	P	04 15 42.6	-4.1		
YAK				pmax	pmax				
	comp=Z,11nm,0.5s								
ARU	**Arti**	**22.27 297**		P	**P**	**04 16 02.7**	**-0.2**		
	comp=Z,7.2nm,0.2s,baz=95,slow=12,SNR=5.0								
ARU				LR	LR	04 25 50.8			
	comp=Z,45nm,20.2s,baz=112,slow=40								
ARU	**Arti**	**22.27 297**	*d*	*i* P	**P**	**04 16 04.0**	**+1.1**		
ARU						04 16 23.4			
ARU				SS	Sn	04 20 39.7	+20		
ARU				pmax	pmax				
	comp=Z,6.0nm,0.8s								
KLR	**Kul'dur**	**22.70 82**		P	**P**	**04 16 05.8**	**-1.8**		
	comp=Z,0.1nm,0.7s,baz=277,slow=11,SNR=4.0								
KLR				LR	LR	04 25 27.0			
	comp=Z,5.4nm,18.1s,baz=276,slow=38								
ABKAR	**Akbulak array**	**22.96 278**		*e*P	**P**	**04 16 08.3**	**-2.0**		
AKTO	**Aktyubinsk**	**23.75 282**		P	**P**	**04 16 16.4**	**-1.8**		
	comp=Z,9.5nm,0.6s,baz=88,slow=8.5,SNR=18								
TIXI	**Tiksi**	**24.66 24**		P	**P**	**04 16 25.5**	**-1.0**		
	comp=Z,5.2nm,0.5s,baz=244,slow=6.6,SNR=15								
TIXI				LR	LR	04 26 19.3			
	comp=Z,43nm,19.8s,baz=218,slow=37								
TIXI	**Tiksi**	**24.66 24**		*e*P	**P**	**04 16 25.5**	**-1.0**		
	comp=Z,1.0nm,1.1s								
TIXI	**Tiksi**	**24.66 24**		*i* P	**P**	**04 16 24.8**	**-1.6**		
TIXI				pmax	pmax				
	comp=Z,15nm,1.1s								
USRK	**Ussuriysk Ar.**	**25.01 93**		P	**P**	**04 16 28.5**	**-1.4**		
	comp=Z,2.7nm,0.6s,baz=308,slow=9.0,SNR=6.1								
WHN	**Wuhan**	**25.17 140**		P	**P**	**04 16 38.3**	**+6.9**		
MA2	**Magadan**	**30.98 54**		LR	LR	04 29 30.6			
	comp=Z,24nm,20.7s,baz=318,slow=36								
JNU	**Nakatsue**	**31.34 113**		LR	LR	04 29 12.4			
	comp=Z,20nm,21.9s,baz=310,slow=35								
MJAR	**Matsushiro Arr**	**33.33 100**		LR	LR	04 29 57.1			
	comp=Z,24nm,19.2s,baz=345,slow=34								
OBN	**Obninsk**	**34.65 299**		*e*P	**P**	**04 17 54.6**	**-0.6**		
OBN				pmax	pmax				
	comp=Z,4.0nm,1.0s								
KBZ	**Khabaz**	**35.93 279**		P	**P**	**04 18 06.3**	**0.0**		
	comp=Z,1.3nm,0.6s,baz=90,slow=7.9,SNR=4.9								
KIV	**Kislovodsk**	**35.94 279**		*e*P	P	04 18 03.7	-2.8		
	comp=Z,10nm,1.0s								
KIV	**Kislovodsk**	**35.94 279**		*e*P	**P**	**04 18 05.6**	**-0.9**		
KIV				pmax	pmax				
	comp=Z,10.0nm,1.0s								
ARA0	**ARCESS Array S**	**36.25 326**		*e*P	**P**	**04 18 09.6**	**+0.8**		
ARCES	**ARCESS Array B**	**36.25 326**		P	**P**	**04 18 09.6**	**+0.8**		
	comp=Z,2.3nm,0.9s,baz=83,slow=9.2,SNR=7.2								
PETK	**Petropavlovsk-**	**36.56 63**		LR	LR	04 33 56.1			
	comp=Z,28nm,19.5s,baz=70,slow=38								
FIA0	**FINESS Array S**	**37.86 313**		*e*P	**P**	**04 18 22.0**	**-0.5**		
FIA0	**FINESS Array S**	**37.86 313**		*e*P	**P**	**04 18 22.0**	**-0.5**		
FINES	**FINESS Array B**	**37.86 313**		P	**P**	**04 18 22.0**	**-0.5**		
	comp=Z,1.5nm,0.5s,baz=76,slow=8.0,SNR=7.8								
FINES	**FINESS Array B**	**37.86 313**		P	**P**	**04 18 22.0**	**-0.5**		
FINES				pmax	pmax				
	comp=Z,1.0nm,0.5s								
AKASG	**Malin Array Be**	**40.52 296**		P	**P**	**04 18 44.8**	**-0.1**		
	comp=Z,1.1nm,0.6s,baz=56,slow=9.0,SNR=4.0								
AKBB	**Malin Array Si**	**40.52 296**		*e*P	**P**	**04 18 44.8**	**-0.1**		
	comp=Z,3.3nm,1.0s								
AKBB	**Malin Array Si**	**40.52 296**		*e*P	**P**	**04 18 44.8**	**-0.1**		
AKBB				pmax	pmax				
	comp=Z,3.0nm,1.0s								
BR101	**Keskin Array S**	**43.89 280**		*e*P	**P**	**04 19 12.6**	**-0.1**		
BR131	**Keskin Array S**	**43.89 280**		*e*P	**P**	**04 19 13.5**	**+0.8**		
BRTR	**Keskin Array B**	**43.89 280**		P	**P**	**04 19 12.6**	**-0.1**		
	comp=Z,4.2nm,0.9s,baz=76,slow=5.5,SNR=20								
HFS	**Hagfors**	**43.96 314**		P	**P**	**04 19 12.8**	**0.0**		
	comp=Z,2.3nm,0.6s,baz=68,slow=8.5,SNR=9.3								
BUR08	**Bucovina Ar. S**	**44.35 294**		*e*P	**P**	**04 19 18.2**	**+2.0**		
BURAR	**Bucovina Array**	**44.35 294**		*i* P	**P**	**04 19 17.8**	**+1.5**		
BUR04	**Bucovina Ar. S**	**44.36 294**		*e*P	**P**	**04 19 15.7**	**-0.6**		
NC405	**NORSAR Array S**	**44.36 316**		*e*P	**P**	**04 19 14.8**	**-1.2**		
NB2	**NORSAR Subarra**	**44.61 316**		P	**P**	**04 19 16.7**	**-1.4**		
	comp=Z,1.9nm,0.6s,baz=61,slow=7.9								
NB200	**NORSAR Array S**	**44.61 316**		*e*P	**P**	**04 19 16.9**	**-1.2**		
NOA	**NORSAR Array B**	**44.61 316**		P	**P**	**04 19 16.9**	**-1.2**		
	comp=Z,1.7nm,0.6s,baz=61,slow=7.9,SNR=6.7								
NOA				LR	LR	04 38 36.7			
	comp=Z,32nm,18.6s,baz=50,slow=37								
NBO02	**NORSAR Array S**	**44.76 316**		*e*P	**P**	**04 19 18.5**	**-0.7**		
NBO00	**NORSAR Array S**	**44.80 316**		*e*P	P	04 19 17.3	-2.3		
NAO01	**NORSAR Array S**	**44.85 316**		*e*P	**P**	**04 19 19.1**	**-0.8**		
TRPA	**Tarpa**	**45.58 296**		*i* P	**P**	**04 19 27.8**	**+1.9**		
CSS	**Mathiatis**	**47.10 275**		*e*P	P	04 19 35.0	-3.0		
	comp=Z,3.0nm,1.2s								
MMAI	**Mount Meron Ar**	**47.10 271**		P	**P**	**04 19 38.4**	**+0.2**		
	comp=Z,1.6nm,0.9s,baz=51,slow=11,SNR=2.6								
VYHS	**Vyhne**	**47.42 298**		*e*P	**P**	**04 19 42.6**	**+2.2**		
VYHS	**Vyhne**	**47.42 298**		*e*P	**P**	**04 19 42.6**	**+2.2**		
VYHS				pmax	pmax				
	comp=Z,20nm,2.6s								
RAYN	**Ar Rayn**	**47.69 253**		*e*P	**P**	**04 19 42.6**	**-0.2**		
	comp=Z,2.6nm,0.8s								
RAYN	**Ar Rayn**	**47.69 253**		P	**P**	**04 19 42.6**	**-0.2**		
RAYN				pmax	pmax				
	comp=Z,3.0nm,0.7s								
GEC2	**GERESS Array S**	**49.99 301**		*e*P	**P**	**04 19 58.9**	**-1.3**		
	comp=Z,2.2nm,1.0s								
GEC2	**GERESS Array S**	**49.99 301**		*e*P	**P**	**04 19 58.9**	**-1.3**		
GEC2				pmax	pmax				
	comp=Z,2.0nm,1.0s								
GERES	**GERESS Array B**	**49.99 301**		P	**P**	**04 19 58.9**	**-1.3**		
	comp=Z,0.6nm,0.8s,baz=59,slow=8.1,SNR=4.1								
ILAR	**Eielson Array**	**54.04 28**		P	P	**04 20 29.1**	**-0.9**		
	comp=Z,0.8nm,0.8s,baz=320,slow=4.5,SNR=7.3								
ILB	**Eielson Array**	**54.04 28**		*e*P	**P**	**04 20 29.1**	**-0.9**		
YKA	**Yellowknife Ar**	**63.49 15**		P	**P**	**04 21 36.9**	**+1.2**		
	comp=Z,0.1nm,0.4s,baz=340,slow=7.2,SNR=4.6								
ESDC	**Sonseca Array**	**65.48 303**		P	**P**	**04 21 48.2**	**-1.0**		
	comp=Z,0.3nm,0.5s,baz=31,slow=6.8,SNR=3.3								
WR1	**Warramunga Arr**	**78.88 144**		*e*P	**P**	**04 23 06.7**	**-2.6**		
	comp=Z,3.8nm,1.0s								
WRA	**Warramunga Arr**	**78.88 144**		P	**P**	**04 23 06.7**	**-2.6**		
	comp=Z,1.0nm,0.8s,baz=345,slow=6.2,SNR=3.6								
AS31	**Alice Springs**	**82.14 145**		*e*P	**P**	**04 23 24.6**	**-2.2**		
	comp=Z,0.7nm,1.0s								
ASAR	**Alice Springs**	**82.14 145**		P	**P**	**04 23 24.6**	**-2.2**		
	comp=Z,0.7nm,0.8s,baz=338,slow=6.1,SNR=6.1								
TOA1	**Torodi Ar. Sit**	**82.47 282**		*e*P	**P**	**04 23 27.4**	**-1.4**		
TORD	**Torodi Ar. Bea**	**82.47 282**		P	**P**	**04 23 27.4**	**-1.4**		
	comp=Z,0.8nm,0.7s,baz=36,slow=5.8,SNR=6.5								
DAC	**Darwin (Calif)**	**87.47 27**		*e*P	P	04 24 00.0	+6.1		
	comp=Z,3.9nm,0.9s								
DAC	**Darwin (Calif)**	**87.47 27**		*e*P	P	04 24 00.0	+6.1		
DAC				pmax	pmax				
	comp=Z,4.0nm,0.9s								
CHRN	**Cochrane**	**171.33 297**		*e*PKPdf	**PKPdf**	**04 31 18.5**	**+4.7**		

NNC 26 04:13:15.5±2.2, 36.87N×69.22E, h0km, mb3.8, mpv3.4, 7C-1D, Error ellipse: s-maj=17.1km s-min=15.7km az=151.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SFK	**Sufi-Kurgan**	**4.60**	**46**	⇑Pn	Pn	04 14 26.4	-0.2
	0.9nm,0.3s						
SFK				⇑Sn	Sn	04 15 22.5	+1.6
	3.6nm,0.4s						
MNAS	**Manas**	**6.16**	**23**	⇑Pn	Pn	04 14 48.1	+0.2
	1.6nm,0.3s						
MNAS				⇑Sn	Sn	04 15 59.4	+0.3
	0.9nm,0.4s						
KK31	**Karatay Array**	**6.31**	**9**	⇑Pn	Pn	04 14 50.7	+0.9
	0.7nm,0.2s,baz=188,slow=14,SNR=26						
KK31				⇑Sn	Sn	04 16 03.7	+1.2
	0.6nm,0.3s,baz=189,slow=22,SNR=5.2						
AAK	**Ala-Archa**	**7.05**	**34**	⇓Pn	Pn	04 14 59.2	-1.0
	1.5nm,0.3s						
AAK				⇑Sn	Sn	04 16 23.1	+2.0
	1.5nm,0.8s						
AAK	**Ala-Archa**	**7.05**	**34**	*e*Pn	Pn	04 14 59.4	-0.7
	4.3nm,0.3s						

*DDA **26** 04:13:36.3, 35.46N×27.93E, h9km, Ml3.0*
*ISCJB **26** 04:13:37.1±1.1, 35.41N±0.05×27.91E±0.05, h1km±7km, Error ellipse: s-maj=8.9km s-min=5.5km az=156.0*
*ISK **26** 04:13:37.8, 35.48N×27.91E, h10km, ML2.7/7*
*ATH **26** 04:13:38.0, 35.41N×27.88E, h11km±4km, ML2.2/2, Error ellipse: s-maj=5.2km s-min=1.3km az=340.0*
*CSEM **26** 04:13:38.4±0.5, 35.46N×27.91E, h10km, ML2.2, Error ellipse: s-maj=12.7km s-min=5.6km az=160.0*

ISC 26 04:13:36.0±1.3, 35.46N±0.05×27.88E±0.03, h12km±10km, n41, σ0 89/59, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KARP	**Karpathos**	**0.59**	**279**	PG	**Pn**	**04 13 50.1**	**-0.3**
KARP				SG	**Sn**	**04 13 59.2**	**-0.8**
KARP	**Karpathos**	**0.59**	**279**	P	**Pn**	**04 13 49.5**	**-0.9**
KARP				S	**Sb**	**04 13 58.4**	**+1.6**
KARP				AML	AML	04 14 01.9	
	comp=E,605μm,0.1s						
KARP				AML	AML	04 14 02.0	
	comp=N,646μm,0.2s						
KARP	**Karpathos**	**0.59**	**279**	P	**Pn**	**04 13 49.5**	**-0.9**
KARP	**Karpathos**	**0.59**	**279**	*e*Pg	**Pn**	**04 13 50.1**	**-0.3**
KARP				S	**Sb**	**04 13 58.2**	**+1.4**
KARP				*e*Sg	**Sn**	**04 13 59.2**	**-0.8**
ARG	**Arkhangelos**	**0.78**	**15**	P	**Pn**	**04 13 53.7**	**+0.8**
ARG				S	**Sn**	**04 14 05.0**	**+0.5**
ARG				AML	AML	04 14 10.6	
	comp=N,301μm,0.4s						
ARG				AML	AML	04 14 12.3	
	comp=E,382μm,0.5s						
ARG	**Arkhangelos**	**0.78**	**15**	P	**Pn**	**04 13 53.7**	**+0.8**
ARG				S	**Sn**	**04 14 05.1**	**+0.5**
ZKR	**Zakros**	**1.41**	**256**	P	**Pg**	**04 14 04.0**	**+1.1**
ZKR	**Zakros**	**1.41**	**256**	P	**Pg**	**04 14 04.1**	**+1.1**
FETY	**Fethiye**	**1.52**	**39**	PN	**Pg**	**04 14 05.7**	**+0.4**
FETY	**Fethiye**	**1.52**	**39**	P	**Pn**	**04 14 02.8**	**-0.4**
FETY	**Fethiye**	**1.52**	**39**	*e*Pn	**Pg**	**04 14 05.7**	**+0.4**
TURN	**Turunc**	**1.53**	**22**	PN	**Pn**	**04 14 02.6**	**-0.5**
TURN	**Turunc**	**1.53**	**22**	*i* P	**Pn**	**04 14 03.0**	**-0.1**
TURN				*i* S	**Sn**	**04 14 23.3**	**+0.4**
TURN	**Turunc**	**1.53**	**22**	*e*Pn	**Pn**	**04 14 02.6**	**-0.5**
TURN	**Turunc**	**1.53**	**22**	P	**Pn**	**04 14 03.0**	**-0.1**
TURN				S	**Sn**	**04 14 23.3**	**+0.4**
KSL	**Kastellorizon**	**1.54**	**63**	P	**Pg**	**04 14 07.7**	**+2.0**
AKAS	**Kas**	**1.60**	**61**	PN	**Pg**	**04 14 06.1**	**-0.6**
AKAS	**Kas**	**1.60**	**61**	*i* P	**Pb**	**04 14 05.9**	**+0.3**
AKAS				*i* S	**Sg**	**04 14 28.1**	**+0.7**
AKAS	**Kas**	**1.60**	**61**	*e*Pn	**Pg**	**04 14 06.1**	**-0.6**
AKAS				S	**Sg**	**04 14 28.1**	**+0.7**
BDRM	**Kayabasi**	**1.64**	**348**	*i* P	**Pg**	**04 14 07.4**	**-0.1**
BDRM				*i* S	**Sg**	**04 14 30.2**	**+1.4**
BDRM	**Kayabasi**	**1.64**	**348**	P	**Pg**	**04 14 07.4**	**-0.1**
BDRM				S	**Sg**	**04 14 30.2**	**+1.4**
BODT	**Bodrum**	**1.66**	**344**	PN	**Pb**	**04 14 07.1**	**+0.4**
BODT	**Bodrum**	**1.66**	**344**	*e*Pn	**Pb**	**04 14 07.1**	**+0.4**
LAST	**Lasithi**	**1.99**	**262**	P	**Pg**	**04 14 13.7**	**-0.5**
LAST	**Lasithi**	**1.99**	**262**	P	**Pg**	**04 14 13.7**	**-0.5**
ELL	**Elmali**	**2.08**	**51**	PN	**Pb**	**04 14 13.4**	**-0.5**
ELL	**Elmali**	**2.08**	**51**	*e*Pn	**Pb**	**04 14 13.4**	**-0.5**
SANT	**Santorini**	**2.17**	**296**	PN	**Pb**	**04 14 15.1**	**-0.1**
SANT	**Santorini**	**2.17**	**296**	*e*Pn	**Pb**	**04 14 15.1**	**-0.1**
TAVA	**DENIZLI_Tavas**	**2.17**	**22**	*i* P	**Pb**	**04 14 15.0**	**-0.3**
TAVA				*i* S	**Sg**	**04 14 45.3**	**-0.4**
TAVA	**DENIZLI_Tavas**	**2.17**	**22**	P	**Pb**	**04 14 15.0**	**-0.3**
TAVA				S	**Sg**	**04 14 45.3**	**-0.4**
AYDN	**Tasoluk**	**2.20**	**360**	*i* P	**Pb**	**04 14 15.6**	**-0.2**
AYDN				*i* S	**Sg**	**04 14 44.8**	**-1.8**
AYDN	**Tasoluk**	**2.20**	**360**	P	**Pb**	**04 14 15.6**	**-0.2**
AYDN				S	**Sg**	**04 14 44.8**	**-1.8**
GOLH	**Golhisar**	**2.23**	**37**	*i* P	**Pb**	**04 14 15.9**	**-0.5**
GOLH				*i* S	**Sg**	**04 14 46.1**	**-1.6**
GOLH	**Golhisar**	**2.23**	**37**	P	**Pb**	**04 14 15.9**	**-0.5**
GOLH				S	**Sg**	**04 14 46.1**	**-1.6**
AYDB	**Zeytinkoy-Aydi**	**2.48**	**0**	PN	**Pb**	**04 14 19.7**	**-1.0**
AYDB	**Zeytinkoy-Aydi**	**2.48**	**0**	*e*Pn	**Pb**	**04 14 19.7**	**-1.0**
APE	**Apeiranthos**	**2.49**	**311**	PN	**Pb**	**04 14 20.2**	**-0.5**
APE	**Apeiranthos**	**2.49**	**311**	*e*Pn	**Pb**	**04 14 20.2**	**-0.5**
KORT	**Korkueli**	**2.52**	**52**	PN	**Pb**	**04 14 19.9**	**-1.4**
KORT	**Korkueli**	**2.52**	**52**	*e*Pn	**Pb**	**04 14 19.9**	**-1.4**

*IDC **26** 04:23:47.5±5.0, 51.96N×173.69W, h0km, mb3.4/4, mb1 3.8/6, mb1mx3.4/76, mbtmp3.5/6, ML4.0/2, Error ellipse: s-maj=90.0km s-min=50.8km az=86.0*
*ISCJB **26** 04:23:59.6±0.5, 52.2N±0.1×173.42W±0.08, h102km±5km, mb3.4/5, Error ellipse: s-maj=25.0km s-min=4.6km az=163.9*
*NEIC **26** 04:24:00.1±0.0, 52.06N×173.36W, h76km, ML3.8(AEIC), After AEIC.*

ISC 26 04:23:59.6±0.9, 52.2N±0.1×173.43W±0.05, h87km±8km, n36, σ1 90/37, mb3.5/5, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KOFP	**Korovin Flat P**	**0.42**	**283**	P	**Pn**	**04 24 14.4**	**+0.8**
ATKA	**Atka Island**	**0.47**	**273**	P	**Pn**	**04 24 14.1**	**+0.2**
ATKA				S	**Sn**	**04 24 24.4**	**0.0**
KOKL	**Mount Kliuchef**	**0.50**	**287**	P	**Pn**	**04 24 14.9**	**+0.9**
KOWE	**Korovin West**	**0.54**	**290**	P	**Pn**	**04 24 15.3**	**+0.9**
GSTD	**Great Sitkin T**	**1.68**	**267**	P	**Pn**	**04 24 28.9**	**+1.3**
GSTD				S	**Sn**	**04 24 50.6**	**+1.8**
ETKA	**Kagalaska Isla**	**1.87**	**261**	P	**Pn**	**04 24 31.3**	**+1.4**
ETKA				S	**Sn**	**04 24 54.8**	**+1.7**
ADAG	**Mount Adagdak**	**1.97**	**265**	P	**Pn**	**04 24 33.2**	**+1.9**
KIRH	**Kanaga Island**	**2.28**	**264**	P	**Pn**	**04 24 37.3**	**+1.9**
KIRH				S	**Sn**	**04 25 05.5**	**+2.6**
KIKV	**Kanaga Island**	**2.33**	**264**	P	**Pn**	**04 24 37.8**	**+1.7**
TAPA	**Tanaga Point A**	**2.74**	**264**	P	**Pn**	**04 24 43.0**	**+1.4**
NIKH	**Nikolski High**	**2.90**	**72**	P	**Pn**	**04 24 45.2**	**+1.5**
NIKH				S	**Sn**	**04 25 19.5**	**+1.9**
GALAA	**Gareloi Lava P**	**3.33**	**265**	P	**Pn**	**04 24 51.5**	**+2.0**
OKAK	**Okmok**	**3.37**	**64**	P	**Pn**	**04 24 51.4**	**+1.4**
OKWE	**Okmok W'ng Wal**	**3.40**	**66**	P	**Pn**	**04 24 52.4**	**+2.0**
OKTU	**Okmok Mt. Tuli**	**3.48**	**68**	P	**Pn**	**04 24 53.4**	**+1.8**
MSOM	**Makushin Julie**	**4.24**	**65**	P	**Pn**	**04 25 03.5**	**+1.7**
MREP	**Makushin Rep't**	**4.35**	**65**	P	**Pn**	**04 25 04.9**	**+1.6**
MSW	**Makushin Switc**	**4.37**	**64**	P	**Pn**	**04 25 04.9**	**+1.4**
UNV	**Unalaska Valle**	**4.50**	**66**	P	**Pn**	**04 25 06.8**	**+1.5**
UNV				S	**Sn**	**04 25 58.9**	**+2.6**
AKUT	**Akutan**	**5.00**	**64**	P	**Pn**	**04 25 13.9**	**+1.8**
SPIA	**Saint Paul Isl**	**5.33**	**19**	P	**Pn**	**04 25 18.4**	**+1.8**
SSLN	**Shishaldin Nor**	**6.21**	**61**	P	**Pn**	**04 25 31.1**	**+2.5

GERES	**GERESS Array B**	**80.94**	**319**	P		**P**	04 56 31.6	+1.1
	0.2nm,0.4s,baz=95,slow=5.9,SNR=4.4							
TXAR	**Lajitas Array**	**146.20**	**24**	PKPbc		**PKPbc**	05 03 56.6	-0.5
	0.3nm,0.6s,baz=22,slow=2.2,SNR=12							

MAN 26 04:50:53.9±2.82N×123.22E,h34km,mb4.0,ML2.8,MS2.4, 2C-1D,Negros

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SNPH	**Sibulan**	**0.47**	**179**	⇓*i*	P	04 51 04.9	+1.4
SNPH				*i*	S	04 51 12.4	+1.7
TBP	**Tagbilaran**	**0.64**	**101**	*e*	P	04 51 05.9	0.0
LLP	**Lapu-Lapu**	**0.88**	**56**	*e*	P	04 51 09.8	-0.1
LLP				*e*	S	04 51 21.5	0.0
GUIM	**Jordan**	**1.02**	**322**	*e*	P	04 51 11.2	+0.3
GUIM				*e*	S	04 51 23.9	-0.1
DCPH	**Dipolog City**	**1.23**	**174**	⇑*e*	P	04 51 12.8	-1.1
DCPH				*e*	S	04 51 35.5	+4.0
MSLP	**Maasin**	**1.64**	**79**	*e*	P	04 51 23.5	+0.8
MSLP				*e*	S	04 51 46.3	+3.2
RCP	**Roxas**	**1.79**	**345**	⇑*e*	P	04 51 24.5	-0.8

GUC 26 05:04:00.2±0.6,19.62S×69.25W,h105km±3km,ML3.5, 5C-4D,Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB11	**IPOC Station P**	**0.41**	**250**	⇓*i*	P	05 04 16.4	+0.3
PB11				*i*	S	05 04 28.8	+0.9
PB11				IAML		05 04 29.6	
	comp=N,2μm,0.2s						
PB08	**IPOC Station P**	**0.53**	**170**	⇑*i*	P	05 04 17.7	+0.5
PB08				*i*	S	05 04 30.7	+0.9
PB08				IAML		05 04 31.2	
	comp=E,3μm,0.2s						
MNMC	**Minye Minye**	**0.59**	**326**	⇓*i*	P	05 04 17.7	+0.2
MNMC				*e*	S	05 04 30.9	+0.5
MNMC				IAML		05 04 31.5	
	comp=N,7μm,0.2s						
PSGC	**Pisagua**	**0.82**	**272**	⇓*i*	P	05 04 19.5	+0.2
PSGC				*i*	S	05 04 34.2	+0.6
PSGC				IAML		05 04 34.9	
	comp=N,994nm,0.3s						
PB12	**IPOC Station P**	**1.43**	**314**	⇑*i*	P	05 04 25.7	-0.3
PB12				*i*	S	05 04 46.4	+0.9
PB12				IAML		05 04 51.0	
	comp=E,616nm,0.1s						
PB01	**IPOC Station P**	**1.43**	**189**	⇑*i*	P	05 04 26.8	+0.7
PB01				*i*	S	05 04 46.8	+1.2
PB01				IAML		05 04 47.5	
	comp=E,2μm,0.6s						
PB02	**IPOC Station P**	**1.79**	**200**	⇓*i*	P	05 04 31.4	+1.0
PB02				IAML		05 05 01.3	
	comp=E,855nm,0.4s						
PB09	**IPOC Station P**	**2.16**	**180**	⇑*i*	P	05 04 36.7	+1.4
PB09				*i*	S	05 05 03.6	+1.6
PB09				IAML		05 05 07.8	
	comp=E,238nm,0.4s						
PB07	**IPOC Station P**	**2.18**	**196**	*e*	P	05 04 36.5	+1.1
PB04	**IPOC Station P**	**2.83**	**197**	*e*	P	05 04 45.0	+1.0
PB04				*e*	S	05 05 18.2	+0.6
PB04				IAML		05 05 33.5	
	comp=N,158nm,0.1s						
PB06	**IPOC Station P**	**3.08**	**186**	⇑*i*	P	05 04 48.1	+0.8
PB06				*e*	S	05 05 25.2	+1.5
PB06				IAML		05 05 35.5	
	comp=N,107nm,0.4s						

*ISCJB **26** 05:08:58.1±0.4,18.77S±0.06×177.82W±0.07,h600km, mb3.9/9,Error ellipse: s-maj=9.7km s-min=7.0km az=38.0*
*IDC **26** 05:08:59.9±1.6,18.52S×177.83W,h607km±17km,mb3.4/9, mb1 3.6/11,mb1mx3.3/46,mbtmp4.3/11,Error ellipse: s-maj=48.8km s-min=11.7km az=152.0*

ISC 26 05:08:58.9±0.6,18.7S±0.1×177.8W±0.1,h600km,n47, σ1s24/50,mb3.6/9,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**7.43**	**51**	P	**P**	**05 10 54.5**	**+1.4**
	3.3nm,0.3s,baz=314,slow=4.1,SNR=5.3						
AFI				S	**S**	**05 12 27.0**	**+0.6**
	1.8nm,0.3s,baz=49,slow=19,SNR=3.8						
GLKZ	**Green Lake**	**10.56**	**181**	P	**P**	**05 11 22.5**	**-0.6**
DZM	**Mont Dzumac**	**15.20**	**254**	P	**P**	**05 12 10.5**	**+1.5**
	0.9nm,0.3s,baz=96,slow=19,SNR=12						
OUZ	**Omahuta**	**18.20**	**203**	P	**P**	**05 12 39.2**	**+3.1**
WCZ	**Waipu Caves**	**18.58**	**200**	P	**P**	**05 12 41.7**	**+2.1**
KUZ	**Kuaotunu**	**18.91**	**196**	P	**P**	**05 12 46.1**	**+3.5**
HAZ	**Te Kaha**	**19.43**	**191**	P	**P**	**05 12 46.9**	**-0.4**
RIGZ	**Rimuhau**	**20.36**	**190**	P	**P**	**05 12 56.0**	**+0.3**
BKZ	**Black Stump Fm**	**21.04**	**193**	P	**P**	**05 13 00.1**	**-1.8**
KWHZ	**Kaweka Forest**	**21.30**	**192**	P	**P**	**05 13 02.8**	**-1.4**
FWVZ	**Far West T-bar**	**21.33**	**194**	P	**P**	**05 13 03.9**	**-0.8**
BHHZ	**Black Hill Sta**	**21.44**	**193**	P	**P**	**05 13 03.5**	**-1.9**
TSZ	**Takapari Road**	**22.01**	**193**	P	**P**	**05 13 10.2**	**-0.2**
BFZ	**Birch Farm**	**22.55**	**192**	P	**P**	**05 13 14.7**	**-0.5**
OGWZ	**Otaki Gorge**	**22.91**	**194**	P	**P**	**05 13 17.0**	**-1.4**
TCW	**Tory Channel**	**23.49**	**195**	P	**P**	**05 13 23.5**	**-0.1**
QRZ	**Quartz Range**	**23.62**	**199**	P	**P**	**05 13 25.2**	**+0.5**
NNZ	**Nelson**	**23.73**	**197**	P	**P**	**05 13 25.3**	**-0.4**
TUWZ	**Tuamarina**	**23.78**	**196**	P	**P**	**05 13 26.3**	**+0.2**
THZ	**Tophouse**	**24.37**	**197**	P	**P**	**05 13 31.4**	**0.0**
ARMA	**Armidale**	**30.11**	**241**	P	**P**	**05 14 23.0**	**+1.2**
	baz=30						
PMG	**Port Moresby**	**35.19**	**280**	P	**P**	**05 15 05.3**	**+0.7**
	16nm,0.6s,baz=77,slow=8.8,SNR=8.3						
CMSA	**Cobar Meteorol**	**35.33**	**242**	P	**P**	**05 15 06.4**	**+0.9**
	baz=35,SNR=7.8						
QLP	**Quilpie**	**35.86**	**250**	P	**P**	**05 15 10.3**	**+0.4**
	baz=36,SNR=20						
MTSU	**Mount Surprise**	**35.95**	**265**	P	**P**	**05 15 10.8**	**0.0**
	baz=36,SNR=12						
COEN	**Coen**	**37.73**	**271**	P	**P**	**05 15 26.4**	**+1.1**
	baz=38,SNR=46						
STKA	**Stephens Creek**	**38.82**	**242**	P	**P**	**05 15 34.5**	**+0.5**
	2.7nm,0.3s,baz=82,slow=9.0,SNR=14						
STKA	**Stephens Creek**	**38.82**	**242**	P	**P**	**05 15 35.0**	**+1.0**
	baz=39,SNR=10.0						
HTT	**Hallett**	**41.31**	**240**	P	**P**	**05 15 54.1**	**+0.3**
	baz=41						
BBOO	**Buckleboo**	**43.59**	**242**	P	**P**	**05 16 11.8**	**+0.3**
	baz=43,SNR=22						
WC3	**Warramunga Arr**	**45.08**	**260**	P	**P**	**05 16 22.9**	**-0.2**
	baz=45						
WRA	**Warramunga Arr**	**45.11**	**260**	P	**P**	**05 16 22.9**	**-0.4**
	9.0nm,0.4s,baz=98,slow=6.9,SNR=271						
WRA				PcP	**PcP**	**05 17 50.5**	**-0.4**
	0.4nm,0.3s,baz=91,slow=3.6,SNR=2.9						
ASAR	**Alice Springs**	**45.19**	**255**	P	**P**	**05 16 24.0**	**0.0**
	17nm,0.8s,baz=87,slow=8.2,SNR=185						
ASAR				PcP	**PcP**	**05 17 50.5**	**-0.6**
	0.9nm,0.6s,baz=102,slow=3.9,SNR=4.3						
MTN	**Manton Dam**	**49.40**	**269**	P	**P**	**05 16 55.0**	**-0.5**
	baz=49,SNR=5.3						
WRKA	**Warakurna**	**50.21**	**253**	P	**P**	**05 17 01.1**	**-0.2**
	baz=50,SNR=72						
FORT	**Forrest**	**50.25**	**245**	P	**P**	**05 17 00.9**	**-0.5**
	baz=50,SNR=9.0						
KNRA	**Kununurra**	**51.03**	**265**	P	**P**	**05 17 06.9**	**-0.4**
	baz=51						
MEEK	**Meekatharra**	**58.75**	**250**	P	**P**	**05 17 60.0**	**-1.0**
	baz=59,SNR=4.7						
KLBR	**Kellerberrin**	**59.05**	**244**	P	**P**	**05 18 02.3**	**-0.5**
	baz=59,SNR=5.5						
BLDU	**Ballidu**	**60.02**	**245**	P	**P**	**05 18 08.7**	**-0.5**
	baz=60						
NVAR	**Mina Array Bea**	**79.53**	**43**	P	**P**	**05 20 05.7**	**+0.8**
	0.2nm,0.3s,baz=214,slow=8.6,SNR=4.4						
TXAR	**Lajitas Array**	**85.87**	**57**	P	**P**	**05 20 37.9**	**+1.2**
	0.5nm,0.7s,baz=218,slow=6.0,SNR=8.8						
ILAR	**Eielson Array**	**86.47**	**13**	P	**P**	**05 20 37.5**	**-1.1**
	0.4nm,0.4s,baz=212,slow=3.2,SNR=16						
PDAR	**Pinedale Array**	**87.47**	**43**	P	**P**	**05 20 44.1**	**+0.1**
	1.4nm,1.1s,baz=222,slow=4.0,SNR=4.2						
YKA	**Yellowknife Ar**	**94.75**	**25**	P	**P**	**05 21 14.9**	**-1.9**
	0.2nm,0.7s,baz=245,slow=4.8,SNR=4.6						
GEYT	**Alibeck**	**127.97**	**304**	PKP	**PKPdf**	**05 26 58.8**	**+0.9**
	0.9nm,0.4s,baz=86,slow=1.9,SNR=2.4						
MMAI	**Mount Meron Ar**	**147.06**	**302**	PKPbc	**PKPab**	**05 27 36.0**	**-3.5**
	1.0nm,0.5s,baz=66,slow=3.5,SNR=2.6						

KRSC 26 05:09:53.6±0.8,52.71N×159.92E,h61km±8km,ML3.5,Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SPN	**Mys Shipunski**	**0.40**	**9**	*e*P	P	05 10 06.1	+1.5
SPN				*e*S	S	05 10 13.9	+1.3
NLC	**Nalytchevo**	**0.58**	**323**	*e*P	P	05 10 07.7	+1.2
NLC				*e*S	S	05 10 17.2	+1.3
DALK	**Dalny**	**0.78**	**295**	*e*P	P	05 10 09.9	+1.1
DALK				*e*S	S	05 10 20.8	+0.8
PET	**Petropavlovsk**	**0.83**	**293**	*i*P	P	05 10 10.8	+1.3
PET				*e*S	S	05 10 21.7	+0.5
UGLR	**Uglovaya**	**0.83**	**308**	*i*P	P	05 10 11.5	+1.8
UGLR				*e*S	S	05 10 23.5	+2.0
SDLR	**Sedlovina**	**0.85**	**313**	*i*P	P	05 10 11.4	+1.5
SDLR				*e*S	S	05 10 23.6	+1.8
SMAR	**Somma**	**0.88**	**310**	*e*P	P	05 10 11.8	+1.5
SMAR				*e*S	S	05 10 23.9	+1.3
RUS	**Russkaya**	**0.90**	**253**	*i*P	P	05 10 11.6	+1.2
RUS				*e*S	S	05 10 23.4	+0.6
AVH	**Avacha**	**0.91**	**308**	*i*P	P	05 10 12.4	+1.8
AVH				*e*S	S	05 10 25.2	+2.1
KRER	**Koryakskii**	**0.93**	**311**	*i*P	P	05 10 12.9	+2.0
KRER				*e*S	S	05 10 25.7	+2.0
KOK	**Koryaka**	**0.97**	**308**	*e*P	P	05 10 13.4	+2.0
KOK				*e*S	S	05 10 26.5	+1.9
KRX	**Arik**	**1.01**	**311**	*e*P	P	05 10 13.5	+1.6
KRX				*e*S	S	05 10 26.4	+0.9
MTVR	**Mutnovka**	**1.08**	**259**	*e*P	P	05 10 14.5	+1.6
MTVR				*e*S	S	05 10 28.6	+1.4
KRMR	**Karymshinskiy**	**1.10**	**277**	*e*P	P	05 10 14.0	+1.1
KRMR				*e*S	S	05 10 28.1	+0.8
ASAK	**Asacha**	**1.28**	**256**	*i*P	P	05 10 17.7	+2.3
ASAK				*e*S	S	05 10 33.6	+1.9
KII	**Karymskiy**	**1.36**	**348**	*e*P	P	05 10 18.4	+1.9
KII				*e*S	S	05 10 35.5	+1.8
KDTR	**Khodutka, Kamc**	**1.45**	**232**	*e*P	P	05 10 19.3	+1.7
KDTR				*e*S	S	05 10 36.8	+1.2
GNL	**Ganaly**	**1.55**	**310**	*e*P	P	05 10 20.9	+1.8
GNL				*e*S	S	05 10 39.9	+1.7
APC	**Apacha**	**1.69**	**279**	*e*P	P	05 10 23.0	+2.2
APC				*e*S	S	05 10 44.5	+3.0
MIPR	**Malaya Ipel'ka**	**1.98**	**259**	*e*P	P	05 10 27.2	+2.4
KZV	**Kizimen**	**2.42**	**5**	*e*P	P	05 10 33.9	+3.0
TUMD	**Tumrok D**	**2.52**	**6**	*e*P	P	05 10 34.5	+2.4
TUMD				*e*S	S	05 11 03.6	+2.0
TUMR	**Tumrok**	**2.58**	**3**	*e*P	P	05 10 36.7	+3.6
KBTR	**Krutoberegovo**	**3.89**	**25**	*i*P	P	05 10 53.2	+2.4
BKI	**Bering**	**4.36**	**53**	*e*P	P	05 10 59.1	+1.9

IDC 26 05:17:27.9±1.6,3.74S×144.58E,h0km,mb3.4/2, mb1 3.8/4,mb1mx3.5/47,mbtmp3.6/4,ML2.8/2,MS3.2/5, Ms1 3.2/5,ms1mx2.9/27,Error ellipse: s-maj=48.2km s-min=25.9km az=102.0,Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**6.18**	**156**	P	P	05 19 01.1	+0.7
	1.8nm,0.3s,baz=319,slow=17,SNR=3.5						
PMG				Sn	Sn	05 20 11.8	-0.2
	1.7nm,0.3s,baz=76,slow=22,SNR=6.4						
PMG				LR	LR	05 21 51.4	
	comp=Z,269nm,18.4s,baz=11,slow=43						
GUMO	**Guam**	**17.22**	**1**	LR	LR	05 27 10.2	
	comp=Z,25nm,19.6s,baz=116,slow=34						
WRA	**Warramunga Arr**	**18.95**	**211**	P	P	05 21 50.5	-0.2
	0.1nm,0.3s,baz=33,slow=11,SNR=5.3						
WRA				LR	LR	05 30 25.7	
	comp=Z,275nm,21.0s,baz=110,slow=41						
ASAR	**Alice Springs**	**22.33**	**207**	P	P	05 22 27.5	+0.1
	1.1nm,0.7s,baz=30,slow=10,SNR=11						
JNU	**Nakatsue**	**38.89**	**342**	LR	LR	05 38 01.5	
	comp=Z,31nm,22.0s,baz=125,slow=32						
KSRS	**Korea Array**	**43.82**	**341**	LR	LR	05 40 17.0	
	comp=Z,24nm,21.6s,baz=152,slow=31						
ILAR	**Eielson Array**	**84.38**	**24**	P	P	05 30 01.8	-0.1
	0.3nm,0.8s,baz=248,slow=4.8,SNR=2.8						

*ISK **26** 05:19:15.8,37.94N×29.37E,h16km, ML2.0/7*
*ISCJB **26** 05:19:16.8±0.5,37.93N±0.03×29.38E±0.05,h19km±8km, Error ellipse: s-maj=6.1km s-min=5.4km az=10.8*
*CSEM **26** 05:19:16.5±0.2,37.93N×29.40E,h15km,ML2.0,Error ellipse: s-maj=5.8km s-min=5.0km az=132.0*
*DDA **26** 05:19:16.9,37.91N×29.45E,h7km,Ml2.5*

ISC 26 05:19:15.9±1.1,37.96N±0.03×29.40E±0.03,h13km±10km, n25,σ1s46/36,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DENT	**Denizli**	**0.35**	**234**	PG	**Pg**	**05 19 22.9**	**-0.2**
DENT	**Denizli**	**0.35**	**234**	*e*Pg	**Pg**	**05 19 22.9**	**-0.2**
KHL	**Karahalli**	**0.38**	**16**	PG	**Pg**	**05 19 24.1**	**+0.6**
KHL				SG	**Sb**	**05 19 30.9**	**+0.6**
KHL	**Karahalli**	**0.38**	**16**	*e*Pg	**Pg**	**05 19 24.1**	**+0.6**
KHL				*e*Sg	**Sb**	**05 19 30.9**	**+0.6**
KHAL	**Karahalli**	**0.42**	**11**	*i*P	**Pg**	**05 19 25.5**	**+1.2**
KHAL				*i*S	**Sb**	**05 19 32.8**	**+1.3**
KHAL	**Karahalli**	**0.42**	**11**	P	**Pg**	**05 19 25.5**	**+1.2**
BRDR	**BURDUR-Merkez**	**0.59**	**116**	*i*P	**Pg**	**05 19 27.1**	**-0.4**
BRDR				*i*S	**Sb**	**05 19 36.4**	**0.0**
TAVA	**DENIZLI_Tavas**	**0.62**	**218**	*i*P	**Pg**	**05 19 27.9**	**-0.3**
TAVA				*i*S	**Sb**	**05 19 38.0**	**+0.6**
GOLH	**Golhisar**	**0.73**	**170**	*i*P	**Pg**	**05 19 28.5**	**-1.7**
GOLH				*i*S	**Sg**	**05 19 39.9**	**0.0**
MANT	**Manisa**	**0.85**	**309**	*i*P	**Pg**	**05 19 29.2**	**-3.1**
MANT				*i*S	**Sg**	**05 19 39.0**	**-4.5**
MANT	**Manisa**	**0.85**	**309**	P	**Pg**	**05 19 29.2**	**-3.1**
ISP	**Isparta**	**0.90**	**98**	PG	**Pn**	**05 19 34.5**	**+0.1**
ISP				SG	**Sn**	**05 19 47.3**	**0.0**
ISP	**Isparta**	**0.90**	**98**	*e*Pg	**Pn**	**05 19 34.5**	**+0.1**
ISP				*e*Sg	**Sn**	**05 19 47.3**	**0.0**
AYDB	**Zeytinkoy-Aydi**	**1.19**	**270**	PN	**Pn**	**05 19 38.7**	**+0.4**
AYDB	**Zeytinkoy-Aydi**	**1.19**	**270**	*e*Pn	**Pn**	**05 19 38.7**	**+0.4**
YER	**Yerkesik**	**1.21**	**227**	PN	**Pn**	**05 19 38.4**	**-0.1**
YER	**Yerkesik**	**1.21**	**227**	*e*Pn	**Pn**	**05 19 38.4**	**-0.1**
KORT	**Korkueli**	**1.22**	**141**	PN	**Pn**	**05 19 38.0**	**-0.8**
KORT	**Korkueli**	**1.22**	**141**	*e*Pn	**Pn**	**05 19 38.0**	**-0.8**
AYDN	**Tasoluk**	**1.24**	**256**	*i*P	**Pg**	**05 19 41.0**	**+1.3**
AYDN				*i*S	**Sg**	**05 19 58.4**	**+2.5**
AYDN	**Tasoluk**	**1.24**	**256**	P	**Pg**	**05 19 41.0**	**+1.3**
AYDN				S	**Sg**	**05 19 58.4**	**+2.5**
ELL	**Elmali**	**1.28**	**161**	PN	**Pn**	**05 19 39.3**	**-0.2**
ELL	**Elmali**	**1.28**	**161**	*e*Pn	**Pn**	**05 19 39.3**	**-0.2**
FETY	**Fethiye**	**1.35**	**191**	PN	**Pn**	**05 19 39.9**	**-0.5**
FETY	**Fethiye**	**1.35**	**191**	*e*Pn	**Pn**	**05 19 39.9**	**-0.5**

*IDC **26** 05:54:48.8±3.5,37.05N×72.17E,h138km±25km,mb3.5/16, mb1 3.6/22,mb1mx3.5/70,mbtmp4.0/22,Error ellipse: s-maj=33.7km s-min=13.9km az=153.0*
*ISCJB **26** 05:54:49.9±0.2,37.27N±0.02×72.00E±0.04,h150km, mb3.9/26,Error ellipse: s-maj=4.2km s-min=3.0km az=159.9*
*BJI **26** 05:54:50.2,37.25N×71.95E,h161km,mb4.5/11,mB4.6/7*
*MOS **26** 05:54:52.1±0.8,37.41N×72.01E,h161km,mb4.1/15,Error ellipse: s-maj=9.7km s-min=4.7km az=83.7*
*NEIC **26** 05:54:52.6±0.6,37.42N×71.92E,h166km±8km,mb4.2/9, Error ellipse: s-maj=10.1km s-min=6.8km az=126.0*
NEIC Felt at Dushanbe.
*NNC **26** 05:54:52.6±2.9,37.76N×71.46E,h0km,mb4.8,mpv4.5, Error ellipse: s-maj=26.2km s-min=14.5km az=155.0*

ISC 26 05:54:51.0±0.4,37.32N±0.04×71.94E±0.04,h150km,n132, σ2s05/147,mb3.9/27,17C-9D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZET	**Dzherino**	**2.87**	**302**	PN	**Pn**	**05 55 37.9**	**+1.1**
SFK	**Sufi-Kurgan**	**2.95**	**24**	⇑P	**Pn**	**05 55 39.6**	**+1.6**
	273nm,0.3s						
SFK				⇓S	**Sn**	**05 56 13.7**	**-0.7**
	377nm,0.2s						
SFK	**Sufi-Kurgan**	**2.95**	**24**	*i*PN	**Pn**	**05 55 39.7**	**+1.7**
SFK				*i*S	**Sn**	**05 56 13.6**	**-0.7**
SFK				pmax	pmax		
	comp=Z,273nm,0.3s						
SFK				smax	smax		
	comp=Z,377nm,0.2s						
CEP	**Cherat**	**3.49**	**180**	P	Pn	05 55 47.5	+2.7
KBL	**Kabul**	**3.64**	**221**	*e*Pn	Pn	05 55 50.6	+3.9
KBL				*e*Sn	**Sn**	**05 56 34.0**	**+4.0**
KBL	**Kabul**	**3.64**	**221**	*e*PN	Pn	05 55 50.6	+3.8
KBL				*e*		05 56 34.0	
CHCP	**Chirah Chowk**	**3.81**	**163**	P	Pn	05 55 51.7	+2.9
NIL	**Nilore**	**3.81**	**163**	*e*Pn	**Pn**	**05 55 51.6**	**+2.7**
NIL	**Nilore**	**3.81**	**163**	*e*PN	**Pn**	**05 55 51.6**	**+2.7**
KSH	**Kashi**	**3.85**	**54**	P	**Pn**	**05 55 45.5**	**-3.9**
KSH				S	Sn	05 56 22.5	-12
KSH				smax	smax		
	comp=Z,3μm,0.4s						
KSH				smax	smax		
	comp=Z,3μm,0.4s						
TAS	**Tashkent**	**4.50**	**334**	PN	**Pn**	**05 55 59.7**	**+1.9**
THW	**Thamme Wali**	**4.52**	**182**	P	Pn	05 56 01.3	+3.2
AML	**Almayashu**	**4.99**	**15**	P	**Pn**	**05 56 05.2**	**+0.5**
	SNR=630						
NRN	**Naryn**	**5.17**	**36**	PN	**Pn**	**05 56 06.1**	**-0.8**
MNAS	**Manas**	**5.18**	**5**	⇑P	**Pn**	**05 56 07.8**	**+0.9**
	comp=Z,24nm,0.3s						
MNAS				⇑S	**Sn**	**05 57 03.2**	**-2.8**
	comp=Z,693nm,1.0s						
MNAS	**Manas**	**5.18**	**5**	*i*PN	**Pn**	**05 56 07.7**	**+0.9**
MNAS				pmax	pmax		
	comp=Z,24nm,0.3s						
UCH	**Uchtor**	**5.29**	**21**	P	**Pn**	**05 56 09.3**	**+0.7**
	SNR=172						
KZA	**Kyzart**	**5.39**	**27**	P	**Pn**	**05 56 09.9**	**0.0**
	SNR=64						
EKS2	**Erkin-Say**	**5.52**	**14**	P	**Pn**	**05 56 12.2**	**+0.9**
	SNR=24						
AAK	**Ala-Archa**	**5.66**	**19**	P	**Pn**	**05 56 14.3**	**+1.0**
	comp=Z,26nm,0.3s,baz=166,slow=6.4,SNR=176						
AAK				S	**Sn**	**05 57 15.4**	**-2.2**
	comp=Z,6.9nm,0.3s,baz=288,slow=19,SNR=3.8						
AAK	**Ala-Archa**	**5.66**	**19**	⇓P	**Pn**	**05 56 14.2**	**+1.0**
	comp=Z,23nm,0.3s						
AAK				⇓S	**Sn**	**05 57 15.2**	**-2.4**
	comp=Z,138nm,0.7s						
AAK	**Ala-Archa**	**5.66**	**19**	P	**Pn**	**05 56 14.3**	**+1.0**
	SNR=67						
AAK	**Ala-Archa**	**5.66**	**19**	*e*Pn	**Pn**	**05 56 14.1**	**+0.9**
AAK				*e*Sn	**Sn**	**05 57 15.6**	**-2.0**
AAK	**Ala-Archa**	**5.66**	**19**	*c i*PN	**Pn**	**05 56 14.2**	**+1.0**
AAK				pmax	pmax		
	comp=Z,23nm,0.3s						
KBK	**Karagaybulak**	**5.81**	**22**	P	**Pn**	**05 56 16.4**	**+1.1**
	SNR=16						
FRU1	**Bishkek**	**5.86**	**20**	PN	**Pn**	**05 56 16.4**	**+0.6**
KK31	**Karatay Array**	**5.88**	**350**	⇓P	**Pn**	**05 56 16.9**	**+0.9**
	comp=Z,7.3nm,0.2s,baz=173,slow=14,SNR=443						
KK31				⇑S	**Sn**	**05 57 19.6**	**-3.0**
	comp=Z,147nm,0.3s,baz=166,slow=24,SNR=28						
KK31	**Karatay Array**	**5.88**	**350**	*e*Pn	**Pn**	**05 56 17.1**	**+1.1**
KK31				*e*Sn	**Sn**	**05 57 19.4**	**-3.1**
KK31	**Karatay Array**	**5.88**	**350**	*ce*PN	**Pn**	**05 56 17.0**	**+0.9**
KK31				pmax	pmax		
	comp=Z,7.0nm,0.2s						
KKAR	**Karatay Array**	**5.88**	**350**	*e*Pn	**Pn**	**05 56 17.0**	**+1.0**
KKAR				*e*Sn	**Sn**	**05 57 19.4**	**-3.1**
KKAR	**Karatay Array**	**5.88**	**350**	*e*PN	**Pn**	**05 56 17.0**	**+1.0**
ULHL	**Ulahol**	**5.93**	**3**	P	**Pn**	**05 56 16.7**	**-0.2**
	SNR=25						
CHMS	**Chumysh**	**6.07**	**20**	P	**Pn**	**05 56 19.2**	**+0.7**
	SNR=18						
DHRM	**DHARAMSHALA**	**6.20**	**143**	*e*P	**Pn**	**05 56 20.2**	**-0.4**
DHRM				*e*S	**Sn**	**05 57 26.7**	**-3.9**
USP	**Ospenovka**	**6.25**	**17**	P	**Pn**	**05 56 21.4**	**+0.4**
	SNR=17						
TKM2	**Tokmak 2**	**6.25**	**25**	⇑P	**Pn**	**05 56 21.5**	**+0.2**
	comp=Z,6.0nm,0.4s						
TKM2				⇓S	**Sn**	**05 57 35.2**	**+3.4**
	comp=Z,22nm,0.8s						
TKM2	**Tokmak 2**	**6.25**	**25**	P	**Pn**	**05 56 21.6**	**+0.4**
	SNR=22						
TKM2	**Tokmak 2**	**6.25**	**25**	*i* PN	**Pn**	**05 56 21.4**	**+0.2**
TKM2				pmax	pmax		
	comp=Z,7.0nm,0.4s						
TARG	**Taragay, Kyrgy**	**6.32**	**44**	*e*Pn	**Pn**	**05 56 22.4**	**+0.2**
PRZ	**Przheval'sk**	**7.16**	**42**	PN	**Pn**	**05 56 34.2**	**+1.0**
SMLA	**Simla**	**7.54**	**143**	*e*P	**Pn**	**05 56 38.1**	**-0.2**
SMLA				*e*S	**Sn**	**05 57 57.1**	**-5.3**
PDGK	**Podgornoye**	**8.32**	**41**	PN	**Pn**	**05 56 48.9**	**+0.2**
PDGK				pmax	pmax		
	comp=Z,12nm,0.6s						
DDI	**Dehra Dun**	**8.63**	**142**	*e*P	**Pn**	**05 56 53.0**	**+0.1**
DDI				*e*S	**Sn**	**05 58 23.7**	**-5.2**
OTUK	**Ortayu**	**10.92**	**1**	P	**Pn**	**05 57 22.6**	**-0.4**
OTUK				pmax	pmax		
	comp=Z,4.0nm,0.7s						
GEYT	**Alibeck**	**10.98

AKTO				S	S		06 01 24.4	-12
	comp=Z,0.3nm,0.3s,baz=144,slow=19,SNR=3.8							
AKTO	**Aktyubinsk**	**16.48**	**327**	⇑P	**Pn**		**05 58 36.4**	**+3.1**
	comp=Z,12nm,0.9s							
AKTO				⇑S	**S**		**06 01 33.9**	**-2.3**
	comp=Z,20nm,0.8s							
DGZ	**Jazzator, Alta**	**16.67**	**37**	*e*P	**Pn**		**05 58 35.1**	**-0.8**
ODAN	**Odare**	**16.71**	**124**	*e*P	**P**		**05 58 34.6**	**-1.8**
	comp=Z,75nm,0.5s							
NGP	**Nagpur**	**17.25**	**157**	*e*P	**Pn**		**05 58 44.4**	**+1.4**
NGP				IAmb	IAmb		05 58 46.0	
	comp=Z,15nm,1.2s							
LSA	**Lhasa**	**17.71**	**110**	*e*P	**Pn**		**05 58 50.0**	**+1.2**
	comp=Z,19nm,0.7s							
LSA	**Lhasa**	**17.71**	**110**	*e*P	**Pn**		**05 58 50.0**	**+1.2**
LSA				pmax	pmax			
	comp=Z,19nm,0.7s							
BOK	**Bokaro**	**18.02**	**134**	*e*P	**Pn**		**05 58 52.2**	**+0.1**
BOK				IAmb	IAmb		05 58 54.6	
	comp=Z,14nm,0.9s							
WSAR	**Wadi Sarin**	**18.11**	**223**	P	**Pn**		**05 58 54.1**	**+0.9**
	comp=Z,0.7nm,0.3s,baz=84,slow=11,SNR=6.9							
UOSS	**Minazif**	**18.24**	**232**	*e*P	**Pn**		**05 58 54.1**	**-0.5**
	comp=Z,26nm,1.4s							
ZAA0	**Zalesovo Array**	**18.86**	**24**	*e*P	**Pn**		**05 59 00.0**	**-1.6**
	comp=Z,5.6nm,0.6s							
ZALV	**Zalesovo Beam**	**18.86**	**24**	P	**Pn**		**05 58 59.8**	**-1.8**
	comp=Z,1.4nm,0.3s,baz=217,slow=12,SNR=18							
NVS	**Novosibirsk**	**19.15**	**20**	*e*P	**Pn**		**05 59 03.4**	**-1.6**
SEKA	**Sheki**	**19.53**	**289**	P	**P**		**05 59 04.8**	**-2.0**
MNGR	**Mingechevir, A**	**19.59**	**288**	P	**P**		**05 59 06.3**	**-1.1**
SHL	**Shillong**	**20.61**	**119**	*e*P	Pn		05 59 19.4	-3.3
SHL				IAmb	IAmb		05 59 20.2	
	comp=Z,11nm,0.9s							
HYB	**Hyderabad**	**20.66**	**162**	*i* P	Pn		05 59 20.0	-3.2
HYB				*e*S	**S**		**06 03 02.0**	**+0.1**
HYB	**Hyderabad**	**20.66**	**162**	*e*P	Pn		05 59 22.1	-1.2
HYB				IAmb	IAmb		05 59 24.0	
	comp=Z,5.8nm,0.5s							
BWNR	**Bhubaneshwar**	**20.82**	**141**	*e*P	Pn		05 59 23.4	-1.6
ARU	**Arti**	**21.12**	**339**	P	**P**		**05 59 24.0**	**+0.4**
	comp=Z,2.3nm,0.4s,baz=111,slow=8.6,SNR=5.8							
ARU	**Arti**	**21.12**	**339**	*e*P	**P**		**05 59 23.8**	**+0.2**
	comp=Z,4.4nm,0.7s							
ARU	**Arti**	**21.12**	**339**	*d* P	**P**		**05 59 24.2**	**+0.6**
ARU							05 59 53.6	
ARU				S	**S**		**06 03 10.1**	**+0.3**
ARU				pmax	pmax			
	comp=Z,10.0nm,1.7s							
ZEI	**Tsey**	**22.09**	**293**	*e*P	**P**		**05 59 38.5**	**+4.3**
ZEI				pmax	pmax			
	comp=Z,2.0nm,0.6s							
NCK	**Nalchik**	**22.39**	**295**	*de*P	**P**		**05 59 40.8**	**+3.9**
NCK				pmax	pmax			
	comp=Z,20nm,0.7s							
KBZ	**Khabaz**	**22.92**	**295**	P	**P**		**05 59 43.5**	**+1.8**
	comp=Z,0.6nm,0.4s,baz=95,slow=12,SNR=2.3							
KIV	**Kislovodsk**	**23.09**	**296**	*e*P	**P**		**05 59 44.7**	**+1.1**
KIV				pmax	pmax			
	comp=Z,8.0nm,1.1s							
RAYN	**Ar Rayn**	**26.52**	**246**	*e*P	**P**		**06 00 15.7**	**+1.0**
	comp=Z,4.1nm,1.2s							
RAYN	**Ar Rayn**	**26.52**	**246**	P	**P**		**06 00 15.7**	**+1.0**
TLY	**Talaya**	**26.53**	**47**	*e*P	**P**		**06 00 14.1**	**-0.4**
	comp=Z,8.7nm,1.6s							
TLY	**Talaya**	**26.53**	**47**	*e*P	**P**		**06 00 14.1**	**-0.4**
TLY				pmax	pmax			
	comp=Z,9.0nm,1.6s							
ILGA	**Ilgaz**	**29.70**	**289**	*e*P	**P**		**06 00 42.1**	**-0.9**
	comp=Z,22nm,1.5s							
BRTR	**Keskin Array B**	**29.91**	**287**	P	**P**		**06 00 47.7**	**+2.9**
	comp=Z,0.8nm,0.6s,baz=105,slow=8.0,SNR=4.6							
DGPR	**DIGLIPUR**	**30.49**	**137**	*e*P	**P**		**06 00 51.6**	**+1.7**
DGPR				IAmb	IAmb		06 00 53.6	
	comp=Z,5.0nm,0.7s							
HHC	**Hu-ho-hao-te**	**30.77**	**71**	*e*P	**P**		**06 00 53.5**	**+1.2**
HHC				pmax	pmax			
	comp=Z,21nm,0.9s							
HHC				pmax	pmax			
	comp=Z,53nm,4.6s							
AKASG	**Malin Array Be**	**33.03**	**308**	P	**P**		**06 01 14.1**	**+2.3**
	comp=Z,0.2nm,0.3s,baz=102,slow=10.0,SNR=4.5							
WHN	**Wuhan**	**35.60**	**38**	P	**P**		**06 01 36.0**	**+1.9**
FINES	**FINESS Array B**	**37.23**	**325**	P	**P**		**06 01 49.5**	**+1.9**
	comp=Z,0.5nm,0.3s,baz=116,slow=8.4,SNR=9.3							
ARCES	**ARCESS Array B**	**40.68**	**337**	P	**P**		**06 02 17.9**	**+1.7**
	comp=Z,0.8nm,0.5s,baz=115,slow=9.9,SNR=11							
HFS	**Hagfors**	**42.90**	**321**	P	**P**		**06 02 35.1**	**+0.8**
	comp=Z,1.1nm,0.4s,baz=98,slow=9.2,SNR=6.0							
NB2	**NORSAR Subarra**	**44.19**	**322**	P	**P**		**06 02 46.3**	**+1.6**
	comp=Z,1.1nm,0.6s,baz=94,slow=7.9							
NOA	**NORSAR Array B**	**44.19**	**322**	P	**P**		**06 02 46.2**	**+1.6**
	comp=Z,0.5nm,0.6s,baz=94,slow=7.6,SNR=2.8							
TIXI	**Tiksi**	**44.73**	**22**	P	**P**		**06 02 49.1**	**+0.4**
	comp=Z,1.8nm,0.3s,baz=231,slow=6.1,SNR=2.8							
TIXI	**Tiksi**	**44.73**	**22**	⇑*e*P	**P**		**06 02 49.7**	**+1.0**
TIXI				pmax	pmax			
	comp=Z,1.0nm,0.7s							
EKA	**Eskdalemuir Ar**	**52.23**	**316**	P	**P**		**06 03 47.3**	**+1.1**
	comp=Z,0.8nm,0.5s,baz=72,slow=6.8,SNR=3.2							
MA2	**Magadan**	**53.25**	**39**	⇑*e*P	**P**		**06 03 57.3**	**+3.6**
MA2				*i* AP	**pP**		**06 04 33.6**	**+5.4**
MA2				pmax	pmax			
	comp=Z,6.0nm,1.2s							
ESDC	**Sonseca Array**	**57.74**	**298**	P	**P**		**06 04 26.3**	**+0.1**
	comp=Z,0.2nm,0.3s,baz=59,slow=7.2,SNR=3.1							
TOA0	**Torodi Ar. Sit**	**66.49**	**269**	*e*P	**P**		**06 05 24.2**	**-0.6**
TORD	**Torodi Ar. Bea**	**66.49**	**269**	P	**P**		**06 05 24.8**	**0.0**
	comp=Z,1.3nm,0.5s,baz=48,slow=5.7,SNR=26							
TOLK	**Toolik Lake Re**	**69.94**	**15**	*e*P	**P**		**06 05 46.2**	**+0.7**
	comp=Z,17nm,1.8s							
KOWA	**Kowa**	**70.28**	**273**	P	**P**		**06 05 48.6**	**+0.3**
	comp=Z,2.0nm,0.6s,baz=72,slow=6.5,SNR=8.7							
INK	**Inuvik**	**72.97**	**10**	P	**P**		**06 06 04.0**	**+0.5**
	comp=Z,1.1nm,0.4s,baz=346,slow=7.0,SNR=14							
INK	**Inuvik**	**72.97**	**10**	P	**P**		**06 06 04.0**	**+0.5**
INK				pmax	pmax			
	comp=Z,1.0nm,0.4s							
COLA	**College**	**73.48**	**17**	⇑*e*P	**P**		**06 06 07.8**	**+1.3**
COLA				pmax	pmax			
	comp=Z,3.0nm,0.8s							
ILAR	**Eielson Array**	**73.78**	**16**	P	**P**		**06 06 08.2**	**-0.1**
	comp=Z,0.8nm,0.8s,baz=311,slow=4.1,SNR=8.4							
YKA	**Yellowknife Ar**	**80.39**	**3**	P	**P**		**06 06 45.7**	**+0.5**
	comp=Z,1.4nm,0.6s,baz=350,slow=5.4,SNR=53							
SKAG	**Skagway**	**80.96**	**14**	*e*P	**P**		**06 06 45.0**	**-3.3**

MAN 26 06:00:15.1, 10.27N×123.34E, h5km, mb4.8, ML3.7, MS3.7, 3C-3D, Cebu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LLP	**Lapu-Lapu**	**0.62**	**86**	⇓*i*P	Pg	06 00 27.2	+0.2
LLP				*i* S	Sg	06 00 35.6	+0.5
TBP	**Tagbilaran**	**0.78**	**138**	*e*P	Pg	06 00 30.4	+0.5
GUIM	**Jordan**	**0.81**	**296**	*e*P	Pb	06 00 31.6	-0.1
GUIM				*e*S	Sn	06 00 44.9	-0.7
SNPH	**Sibulan**	**0.93**	**186**	⇑*i*P	Pb	06 00 33.4	-0.2
SNPH				*i* S	Sb	06 00 46.0	-0.2
RCP	**Roxas**	**1.41**	**336**	⇓*e*P	Pb	06 00 41.6	-0.2
RCP				*e*S	Sg	06 01 01.4	+1.1
JAP	**San Jose, Anti**	**1.45**	**289**	⇑*e*P	Pg	06 00 45.4	+2.6
MSLP	**Maasin**	**1.51**	**95**	*e*P	Pn	06 00 42.9	+0.2
MSLP				*e*S	Sg	06 01 03.4	0.0
DCPH	**Dipolog City**	**1.68**	**179**	⇑*e*P	Pn	06 00 44.7	-0.3
DCPH				*e*S	Sn	06 01 07.0	+0.1
PLP	**Palo**	**1.84**	**61**	⇓*e*P	Pn	06 00 47.3	0.0
PLP				*e*S	Sn	06 01 11.8	+0.7
PAGZ	**Pagadian**	**2.41**	**179**	*e*P	Pn	06 00 56.5	+1.4
OTRP	**Odiongan**	**2.44**	**328**	*e*P	Pb	06 00 59.1	-0.4
BUKP	**Musuan**	**2.92**	**144**	*e*P	Pn	06 01 03.8	+1.5
SJMP	**San Jose**	**3.08**	**315**	*e*P	Pb	06 01 07.3	-2.9

*ISCJB **26** 06:01:05.7±0.4, 1.°32N±0.°03×126.°50E±0.°03, h47km, mb4.3/15, Error ellipse: s-maj=5.6km s-min=4.0km az=40.7*
*DJA **26** 06:01:05.0±0.8, 1.°N±2.°×12.°6E±.°, h11km±5km, M4.5/14, mb4.5/8, mB5.2/4, MLv4.4/14, Mw(mB)4.6/4*
*NEIC **26** 06:01:06.3±0.5, 1.°24N×126.°43E, h35km, mb4.1/4, Error ellipse: s-maj=13.4km s-min=8.2km az=53.0*
*IDC **26** 06:01:08.4±3.4, 1.°21N×126.41E, h57km±30km, mb3.9/12, mb1 4.1/13, mb1mx3.7/59, mbtmp4.2/13, ML3.9/1, Error ellipse: s-maj=36.9km s-min=10.3km az=68.0*

ISC 26 06:01:07.6±0.6, 1.°30N±0.°05×126.°47E±0.°05, h47km, n35, σ1s28/45, mb4.2/15, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LBMI	**Labuha**	**2.18**	**152**	P	**Pn**	**06 01 41.2**	**-0.3**
LBMI				S	**Sn**	**06 02 09.8**	**+2.5**
SGSI	**Sangihe**	**2.55**	**338**	P	**Pn**	**06 01 46.3**	**-0.2**
SGSI				S	**Sn**	**06 02 17.4**	**+1.1**
KMSI	**Cibinong**	**2.59**	**254**	P	**Pn**	**06 01 46.4**	**-0.7**
KMSI				S	**Sn**	**06 02 18.6**	**+1.2**
LUWI	**Luwuk**	**4.37**	**238**	P	**Pn**	**06 02 11.5**	**0.0**
LUWI				S	**Sn**	**06 03 03.3**	**+2.1**
NLAI	**Namlea**	**4.55**	**172**	P	**Pn**	**06 02 13.9**	**-0.1**
NLAI				S	**Sn**	**06 03 07.8**	**+2.1**
MRSI	**Marisa**	**4.61**	**260**	P	**Pn**	**06 02 14.4**	**-0.3**
MRSI				S	**Sn**	**06 03 08.6**	**+1.7**
MSAI	**Masohi**	**5.23**	**152**	P	**Pn**	**06 02 23.9**	**+0.6**
MSAI				S	**Sn**	**06 03 25.2**	**+2.9**
AAI	**Ambon**	**5.25**	**161**	P	**Pn**	**06 02 23.1**	**-0.4**
APSI	**Ampana**	**5.30**	**246**	P	**Pn**	**06 02 24.9**	**+0.6**
KDI	**Kendari**	**6.49**	**216**	P	**Pn**	**06 02 40.6**	**0.0**
	30nm,0.8s,0.1nm						
MPSI	**Mapaga**	**6.64**	**262**	P	**Pn**	**06 02 42.8**	**+0.1**
FAKI	**Fak Fak**	**7.14**	**126**	P	**Pn**	**06 02 50.1**	**+0.6**
	20nm,1.1s						
FAKI	**Fak Fak**	**7.14**	**126**	*e*Pn	**Pn**	**06 02 50.2**	**+0.8**
FAKI				*e*Sn	**Sn**	**06 04 10.0**	**+0.7**
TTSI	**Tana Toraja**	**7.93**	**237**	P	**Pn**	**06 03 00.3**	**0.0**
	35nm,0.6s,1μm						
BNSI	**Bone**	**8.52**	**228**	P	**Pn**	**06 03 08.4**	**0.0**
KAPI	**Kappang**	**9.19**	**227**	*e*Pn	**Pn**	**06 03 13.7**	**-3.9**
KSM	**Kuching**	**16.16**	**271**	*e*P	**Pn**	**06 04 53.1**	**+1.4**
	18nm,0.9s						
FITZ	**Fitzroy Crossi**	**19.30**	**182**	P	**P**	**06 05 27.7**	**-1.1**
	0.3nm,0.3s,baz=0.1,slow=11,SNR=6.6						
FITZ	**Fitzroy Crossi**	**19.30**	**182**	P	**P**	**06 05 27.6**	**-1.1**
	3.7nm,1.0s						
COEN	**Coen**	**22.45**	**133**	*e*P	**P**	**06 06 00.7**	**-2.1**
WRAB	**Tennant Creek**	**22.47**	**160**	*e*P	**P**	**06 06 02.1**	**-1.0**
	12nm,0.7s						
WRA	**Warramunga Arr**	**22.48**	**160**	P	**P**	**06 06 01.9**	**-1.3**
	6.7nm,0.3s,baz=338,slow=11,SNR=105						
WRA				S	**S**	**06 10 04.5**	**-2.4**
	0.7nm,0.8s,baz=326,slow=18,SNR=4.1						
ASAR	**Alice Springs**	**25.85**	**164**	P	**P**	**06 06 34.3**	**-0.6**
	2.8nm,0.7s,baz=346,slow=7.0,SNR=22						
ASAR				S	**S**	**06 11 00.7**	**-0.8**
	0.1nm,0.3s,baz=341,slow=30,SNR=2.8						
PSI	**Prapat**	**27.57**	**274**	P	**P**	**06 06 49.7**	**-1.0**
	4.1nm,0.7s,baz=67,slow=5.7,SNR=4.4						
STKA	**Stephens Creek**	**35.98**	**158**	P	**P**	**06 08 04.0**	**0.0**
	1.4nm,0.5s,baz=352,slow=8.2,SNR=5.0						
PETK	**Petropavlovsk-**	**57.76**	**22**	P	**P**	**06 10 54.5**	**+0.7**
	1.5nm,0.3s,baz=216,slow=7.1,SNR=3.1						
MKAR	**Makanchi Array**	**59.40**	**326**	P	**P**	**06 11 05.0**	**-0.4**
	1.2nm,0.5s,baz=122,slow=7.5,SNR=21						
ZALV	**Zalesovo Beam**	**62.63**	**334**	P	**P**	**06 11 26.4**	**-0.7**
	0.5nm,0.4s,baz=136,slow=5.7,SNR=2.6						
KURBB	**Kurchatov Arra**	**63.64**	**328**	P	**P**	**06 11 33.6**	**-0.2**
	2.7nm,0.7s,baz=127,slow=6.2,SNR=16						
KURK	**Kurchatov**	**63.65**	**328**	*e*P	**P**	**06 11 33.6**	**-0.2**
	38nm,0.7s						
ABKAR	**Akbulak array**	**73.86**	**321**	*e*P	**P**	**06 12 37.3**	**-0.2**
	1.2nm,0.7s						
AKTO	**Aktyubinsk**	**75.40**	**322**	P	**P**	**06 12 46.6**	**+0.2**
	2.6nm,0.8s,baz=103,slow=6.5,SNR=12						
VNDA	**Vanda**	**81.07**	**173**	P	**P**	**06 13 17.5**	**+0.3**
	0.7nm,0.7s,baz=304,slow=7.6,SNR=5.9						
KBZ	**Khabaz**	**84.45**	**314**	P	**P**	**06 13 35.8**	**+0.4**
	1.1nm,0.6s,baz=140,slow=6.4,SNR=3.7						
ASF	**Jabal al Asfar**	**88.95**	**302**	P	**P**	**06 13 58.5**	**+0.7**
	1.7nm,0.6s,baz=82,slow=7.1,SNR=3.7						

*NIED **26** 06:05:00, 37.°20N×143.°40E, h11km, Mw3.8 Best double couple: M0 5.50000×10^14 NP1:φs44.00000°, δ31.00000°, λ-80.00000°. NP2:φs213.00000°, δ59.00000°, λ-96.00000°.*
*IDC **26** 06:05:45.7±0.7, 37.°06N×143.°52E, h0km, mb3.9/15, mb1 4.1/21, mb1mx3.9/69, mbtmp3.9/21, ML3.8/5, MS2.7/2, Ms1 2.7/2, ms1mx2.2/68, Error ellipse: s-maj=16.9km s-min=15.1km az=131.0*
*NEIC **26** 06:05:46.9±0.5, 37.°04N×143.°51E, h10km, mb4.3/1, Error ellipse: s-maj=10.3km s-min=7.6km az=119.0*
*ISCJB **26** 06:05:48.7±0.4, 37.°14N±0.°03×143.°36E±0.°04, h33km, mb3.9/16, Error ellipse: s-maj=4.6km s-min=3.8km az=139.6*
*JMA **26** 06:05:49.4±0.2, 37.°22N×143.°36E, h52km, M4.3*

ISC 26 06:05:50.8±0.6, 37.°18N±0.°04×143.°39E±0.°06, h35km, n52, σ2s08/69, mb3.8/16, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**2.02**	**276**	P	**Pn**	**06 06 21.5**	**-0.9**
JFK				S	**Sn**	**06 06 44.9**	**-1.5**
JIO	**Ouri**	**2.06**	**309**	P	**Pn**	**06 06 22.0**	**-0.9**
JIO				S	**Sn**	**06 06 45.6**	**-1.7**
ONAJ	**Iwakimizuishiy**	**2.08**	**269**	P	**Pn**	**06 06 22.3**	**-0.9**
ONAJ				S	**Sn**	**06 06 46.1**	**-1.7**
JMM	**Marumori**	**2.18**	**289**	P	**Pn**	**06 06 23.5**	**-1.0**
JMM				*e*S	**Sn**	**06 06 48.7**	**-1.6**
JFT	**Otama**	**2.46**	**279**	P	**Pn**	**06 06 28.5**	**+0.1**
JFT				*e*S	**Sn**	**06 06 57.2**	**-0.1**
JMK	**Ichinoseki**	**2.46**	**317**	P	**Pn**	**06 06 27.4**	**-1.1**
JMK				S	**Sn**	**06 06 55.8**	**-1.5**
JOM	**Ohasama**	**2.82**	**325**	P	**Pn**	**06 06 32.8**	**-0.6**
JOM				S	**Sn**	**06 07 04.4**	**-1.8**
JYK	**Kaneyama**	**2.96**	**307**	P	**Pn**	**06 06 34.8**	**-0.5**
JYK				*e*S	**Sn**	**06 07 09.5**	**0.0**
BSO1	**Boso 1**	**3.19**	**219**	P	**Pn**	**06 06 37.1**	**-0.9**
BSO1				*e*S	**Sn**	**06 07 14.3**	**-0.3**
JAG	**Ashikaga**	**3.25**	**258**	P	**Pn**	**06 06 38.8**	**-0.5**
JAG				*e*S	**Sn**	**06 07 15.3**	**-1.5**
JANG	**Nango**	**3.51**	**336**	P	**Pn**	**06 06 41.7**	**-1.2**
JANG				S	**Sn**	**06 07 19.5**	**-3.6**
JRY	**Ryogami san**	**3.80**	**254**	P	**Pn**	**06 06 46.2**	**-0.6**
JRY				*e*S	**Sn**	**06 07 27.4**	**-2.9**
JOD2	**Odawara 2**	**3.97**	**242**	P	**Pn**	**06 06 48.3**	**-0.9**
JOD2				*e*S	**Sn**	**06 07 31.8**	**-2.8**
MJAR	**Matsushiro Arr**	**4.21**	**263**	Pn	**Pn**	**06 06 52.7**	**+0.2**
	5.7nm,0.3s,baz=72,slow=7.4,SNR=35						
MJAR				Sn	**Sn**	**06 07 40.2**	**-0.2**
	1.7nm,0.3s,baz=116,slow=22,SNR=2.9						
MJAR				LR	LR	06 09 03.4	
	comp=Z,80nm,19.1s,baz=95,slow=46						
MAJO	**Matsushiro**	**4.21**	**263**	*e*Pn	**Pn**	**06 06 53.4**	**+0.9**
MAJO				*e*Sn	**Sn**	**06 07 42.5**	**+2.1**
MAT	**Matsushiro**	**4.21**	**263**	P	**Pn**	**06 06 53.4**	**+0.9**
MAT				S	**Sn**	**06 07 37.5**	**-2.9**
ERM	**Erimo**	**4.83**	**358**	*e*Pn	**Pn**	**06 06 59.2**	**-1.8**
JHJ2	**Mitsune**	**5.01**	**217**	P	**Pn**	**06 07 02.0**	**-1.4**
JHJ2				*e*S	**Sn**	**06 07 54.8**	**-5.3**
JHJ2	**Mitsune**	**5.01**	**217**	*e*Pn	**Pn**	**06 07 01.3**	**-2.2**
JHJ2				*e*Sn	**Sn**	**06 07 56.1**	**-4.0**
JHJ	**Hachijo jima 2**	**5.02**	**217**	Pn	**Pn**	**06 07 01.8**	**-1.8**
	10nm,0.3s,baz=342,slow=23,SNR=12						
JHJ				Sn	**Sn**	**06 07 53.9**	**-6.4**
	47nm,0.3s,baz=101,slow=24,SNR=7.1						
JKB	**Kayabe**	**5.04**	**340**	P	**Pn**	**06 07 03.0**	**-0.9**
JKB				*e*S	**Sn**	**06 07 56.4**	**-4.5**
JCH	**Churui**	**5.43**	**360**	P	**Pn**	**06 07 06.8**	**-2.4**
JCH				S	**Sn**	**06 08 03.6**	**-6.8**
ASAJ	**Asahikawa**	**6.95**	**355**	Pn	**Pn**	**06 07 31.1**	**+1.0**
	3.7nm,0.3s,baz=235,slow=14,SNR=4.9						
ASAJ				Sn	**Sn**	**06 08 46.0**	**-2.0**
	1.5nm,0.3s,baz=36,slow=30,SNR=2.9						
CBIJ	**Chichi jima**	**10.11**	**186**	Pn	**Pn**	06 08 07.6	-5.9
CBIJ				Sn	**Sn**	06 09 53.0	-13
JCJ	**Chichijima**	**10.11**	**186**	Pn	**Pn**	06 08 07.6	-5.9
JCJ				Sn	**Sn**	06 09 53.0	-13
	6.2nm,0.3s,baz=328,slow=22,SNR=6.8						
JNU	**Nakatsue**	**11.02**	**252**	*e*Pn	**Pn**	**06 08 23.0**	**-2.9**
USRK	**Ussuriysk Ar.**	**11.13**	**313**	Pn	**Pn**	**06 08 28.1**	**+0.7**
	0.2nm,0.3s,baz=112,slow=16,SNR=2.6						
KSRS	**Korea Array**	**12.32**	**276**	Pn	**Pn**	**06 08 46.0**	**+2.3**
	0.2nm,0.3s,baz=88,slow=14,SNR=4.4						
KSRS				LR	LR	06 13 27.4	
	comp=Z,35nm,19.1s,baz=105,slow=37						
KSAR	**Wonju Array Be**	**12.35**	**276**	Pn	**Pn**	**06 08 46.0**	**+1.9**
KLR	**Kul'dur**	**14.71**	**329**	Pn	**Pn**	**06 09 14.4**	**-1.8**
	0.0nm,0.3s,baz=129,slow=12,SNR=7.3						
PETK	**Petropavlovsk-**	**18.79**	**28**	P	**Pn**	**06 10 07.2**	**-0.5**
	0.5nm,0.3s,baz=213,slow=4.8,SNR=3.7						
SEY	**Seymchan**	**26.36**	**9**	P	**P**	**06 11 24.6**	**+1.2**
	1.6nm,0.4s,baz=165,slow=9.4,SNR=3.6						
H11S1	**WAKE ISLAND Hy**	**27.64**	**126**	T	T	06 40 29.2	
	baz=318,slow=76,SNR=4.9						
H11S3	**WAKE ISLAND Hy**	**27.64**	**126**	T	T	06 40 29.9	
	baz=318,slow=76,SNR=4.8						
H11S2	**WAKE ISLAND Hy**	**27.65**	**126**	T	T	06 40 30.3	
	baz=318,slow=76,SNR=4.4						
SONM	**Songino Array**	**29.02**	**303**	P	**P**	**06 11 49.2**	**+1.7**
	0.9nm,0.4s,baz=119,slow=8.9,SNR=2.3						
ZALV	**Zalesovo Beam**	**42.99**	**312**	P	**P**	**06 13 47.4**	**+1.0**
	0.6nm,0.4s,baz=62,slow=3.4,SNR=2.6						
MKAR	**Makanchi Array**	**45.38**	**302**	P	**P**	**06 14 06.9**	**+1.2**
	0.6nm,0.5s,baz=77,slow=6.5,SNR=8.3						
KURK	**Kurchatov**	**47.09**	**308**	P	**P**	**06 14 20.5**	**+1.5**
KURBB	**Kurchatov Arra**	**47.16**	**308**	P	**P**	**06 14 20.5**	**+0.9**
	0.4nm,0.3s,baz=81,slow=8.2,SNR=7.1						
ILAR	**Eielson Array**	**48.52**	**32**	P	**P**	**06 14 30.1**	**+0.1**
	1.6nm,0.7s,baz=260,slow=6.2,SNR=18						
BVAR	**Borovoye Array**	**51.64**	**313**	P	**P**	**06 14 55.4**	**+1.6**
	0.4nm,0.6s,baz=285,slow=34,SNR=2.7						
WRAB	**Tennant Creek**	**57.44**	**190**	*e*P	**P**	**06 15 35.4**	**-0.7**
	3.7nm,1.0s						
WRA	**Warramunga Arr**	**57.45**	**190**	P	**P**	**06 15 35.3**	**-0.9**
	2.7nm,0.6s,baz=8.1,slow=7.0,SNR=18						
ASAR	**Alice Springs**	**61.18**	**190**	P	**P**	**06 16 01.4**	**-0.5**
	0.8nm,0.6s,baz=7.9,slow=7.8,SNR=8.4						
YKA	**Yellowknife Ar**	**62.88**	**31**	P	**P**	**06 16 13.0**	**+0.1**
	0.4nm,0.6s,baz=302,slow=6.4,SNR=10						
FINES	**FINESS Array B**	**69.41**	**333**	P	**P**	**06 16 55.5**	**+0.7**
	1.6nm,0.6s,baz=41,slow=10,SNR=5.0						
NVAR	**Mina Array Bea**	**73.63**	**54**	P	**P**	**06 17 22.1**	**+1.1**
	0.4nm,0.6s,baz=276,slow=8.5,SNR=5.0						
NOA	**NORSAR Array B**	**74.65**	**338**	P	**P**	**06 17 27.0**	**+0.7**
	0.4nm,0.6s,baz=37,slow=6.0,SNR=2.3						
PDAR	**Pinedale Array**	**76.43**	**46**	P	**P**	**06 17 37.4**	**+0.4**
	0.5nm,0.6s,baz=259,slow=1.5,SNR=5.4						
TXAR	**Lajitas Array**	**88.77**	**54**	P	**P**	**06 18 41.8**	**+0.5**
	0.7nm,0.7s,baz=293,slow=4.0,SNR=11						
LPAZ	**La Paz**	**145.24**	**62**	PKPbc	**PKPdf**	**06 25 26.4**	**+0.5**
	0.7nm,0.6s,baz=329,slow=1.7,SNR=3.3						

*DDA **26** 06:06:30.4, 40.°29N×27.°25E, h7km, Ml2.5*
*CSEM **26** 06:06:30.8±0.1, 40.°29N×27.°28E, h15km, ML2.1, Error ellipse: s-maj=2.6km s-min=2.0km az=8.0*
*ISK **26** 06:06:30.4, 40.°30N×27.°29E, h16km, ML2.1/12*
*ISCJB **26** 06:06:31.1±0.4, 40.°31N±0.°03×27.°29E±0.°03, h16km±5km, Error ellipse: s-maj=5.3km s-min=3.7km az=23.4*

ISC 26 06:06:30.7±0.8, 40.°30N±0.°02×27.°29E±0.°02, h16km±6km, n41, σ0s37/58, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KRBG	**Karabiga-Canak**	**0.09**	**3**	PG	**Pg**	**06 06 34.2**	**+0.2**
KRBG				SG	**Sg**	**06 06 35.7**	**-0.4**
KRBG	**Karabiga-Canak**	**0.09**	**3**	*i* Pg	**Pg**	**06 06 34.2**	**+0.2**
KRBG				*e*Sg	**Sg**	**06 06 35.7**	**

mb3.9/27,mb1 3.9/30,mb1mx3.8/54,mbtmp4.8/30,Error ellipse: s-maj=10.7km s-min=7.1km az=154.0

WEL ***26*** *06:38:40.0±2.5,20.˚S×17.˚6W±7.˚1,h668km±40km*

ISC 26 06:38:30.9±0.3,**18.˚79S**±0.˚06×**177.˚88W**±0.˚05,**h600**km, **n219**,σ1§**64**/215,**mb4.8**/73,**5C-8D**,**Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.01**	**285**	*eP*	P	06 40 00.9	+4.3
MSVF				*eS*	S	06 41 15.0	+8.7
MSVF	**Nonsavu**	**4.01**	**285**	*ceP*	P	06 40 00.8	+4.3
NIUE	**Niue** baz=7.1,SNR=9.1	**7.53**	**93**	P	**P**	**06 40 27.2**	**+1.4**
AFI	**Afiamalu** 5.0nm,0.3s,baz=104,slow=3.0,SNR=7.2	**7.60**	**51**	P	**P**	**06 40 27.0**	**+0.4**
AFI				S	**S**	**06 41 59.1**	**-2.3**
	6.1nm,0.3s,baz=234,slow=23,SNR=7.9						
AFI	**Afiamalu**	**7.60**	**51**	*eP*	**P**	**06 40 27.9**	**+1.2**
AFI				*eS*	**S**	**06 42 03.5**	**+2.1**
AFI	**Afiamalu**	**7.60**	**51**	*eP*	**P**	**06 40 27.9**	**+1.2**
AFI				*eS*	**S**	**06 42 03.5**	**+2.1**
GLKZ	**Green Lake**	**10.43**	**180**	S	**P**	**06 40 54.0**	**+0.2**
DZM	**Mont Dzumac** 1.8nm,0.3s,baz=99,slow=4.9,SNR=31	**15.05**	**255**	P	**P**	**06 41 40.9**	**+1.2**
DZM	**Mont Dzumac** 29nm,1.0s	**15.05**	**255**	*eP*	**P**	**06 41 40.8**	**+1.1**
KNTN	**Kanton** 108nm,0.7s	**17.02**	**21**	*eP*	**P**	**06 41 55.9**	**-1.8**
RAR	**Rarotonga** 1.1nm,0.3s,baz=149,slow=2.9,SNR=2.3	**17.19**	**101**	P	**P**	**06 41 59.8**	**+0.6**
OUZ	**Omahuta** 80nm,0.6s	**18.03**	**203**	*eP*	**P**	**06 42 10.8**	**+4.1**
OUZ	**Omahuta**	**18.03**	**203**	P	P	06 42 11.3	+4.6
KUZ	**Kuaotunu**	**18.76**	**196**	P	**P**	**06 42 15.8**	**+2.6**
MXZ	**Matakaoa Point**	**19.00**	**189**	P	**P**	**06 42 16.1**	**+0.6**
WMGZ	**Waiomatatini S**	**19.24**	**189**	P	**P**	**06 42 18.6**	**+1.0**
HAZ	**Te Kaha**	**19.28**	**190**	P	**P**	**06 42 18.2**	**+0.3**
PKGZ	**Pakihiroa**	**19.36**	**190**	P	**P**	**06 42 19.3**	**+0.6**
RUGZ	**Raukumara Rang**	**19.50**	**191**	P	**P**	**06 42 20.0**	**-0.1**
PUZ	**Puketiti**	**19.51**	**189**	P	**P**	**06 42 21.1**	**+1.0**
TGRZ	**Tauranga**	**19.56**	**194**	P	**P**	**06 42 23.5**	**+3.0**
TWGZ	**Tauwhareparae**	**19.66**	**190**	P	**P**	**06 42 23.3**	**+1.9**
MWZ	**Matawai**	**19.89**	**191**	P	**P**	**06 42 22.6**	**-0.9**
URZ	**Urewera** 11nm,0.3s,baz=344,slow=2.0,SNR=64	**19.89**	**192**	P	**P**	**06 42 22.0**	**-1.5**
URZ				S	**S**	**06 45 25.3**	**-6.0**
	0.4nm,0.3s,baz=183,slow=20,SNR=4.8						
URZ	**Urewera** 56nm,0.5s	**19.89**	**192**	*eP*	**P**	**06 42 22.6**	**-0.8**
URZ				S	**S**	**06 45 25.4**	**-6.0**
URZ	**Urewera**	**19.89**	**192**	P	**P**	**06 42 22.1**	**-1.4**
CNGZ	**Carnagh Statio**	**19.92**	**189**	P	**P**	**06 42 24.8**	**+1.0**
TKGZ	**Te Karaka**	**19.93**	**190**	P	**P**	**06 42 25.5**	**+1.7**
HLRZ	**Highlands Stat**	**20.04**	**193**	P	**P**	**06 42 23.2**	**-1.7**
RAGZ	**Rawiri**	**20.06**	**191**	P	**P**	**06 42 26.4**	**+1.3**
MUGZ	**Murupara**	**20.17**	**192**	P	**P**	**06 42 26.0**	**0.0**
RIGZ	**Rimuhau**	**20.21**	**190**	P	**P**	**06 42 26.5**	**+0.1**
PRRZ	**Plateau Road**	**20.27**	**193**	P	**P**	**06 42 27.9**	**+1.1**
WHHZ	**Waihua**	**20.66**	**191**	P	**P**	**06 42 30.4**	**0.0**
BKZ	**Black Stump Fm** 44nm,1.6s	**20.89**	**192**	*eP*	**P**	**06 42 32.7**	**+0.2**
SNZO	**South Karori** 37nm,0.6s	**23.33**	**194**	*eP*	**P**	**06 42 54.0**	**-0.1**
THZ	**Tophouse** 132nm,1.8s	**24.21**	**197**	*eP*	**P**	**06 43 02.0**	**-0.1**
KHZ	**Kahutara** 27nm,0.8s	**24.66**	**195**	*eP*	**P**	**06 43 05.3**	**-0.5**
LTZ	**Lake Taylor** 35nm,0.8s	**25.33**	**197**	*eP*	**P**	**06 43 11.6**	**-0.3**
OXZ	**Oxford** 36nm,0.8s	**25.90**	**197**	*eP*	**P**	**06 43 16.3**	**-0.6**
MQZ	**McQueen's Vall** 83nm,1.8s	**26.09**	**196**	*eP*	**P**	**06 43 17.9**	**-0.5**
RPZ	**Rata Peaks** 12nm,0.5s,baz=15,slow=4.1,SNR=7.6	**26.54**	**198**	P	**P**	**06 43 22.6**	**+0.1**
FOZ	**Fox Glacier** 230nm,1.4s	**26.76**	**200**	*eP*	**P**	**06 43 24.6**	**+0.3**
PPT	**Papeete** 13nm,0.5s,baz=109,slow=13,SNR=2.5	**26.91**	**92**	P	**P**	**06 43 26.8**	**+0.7**
MLZ	**Mavora Lakes** 50nm,0.7s	**28.95**	**201**	*eP*	**P**	**06 43 44.9**	**+1.5**
EIDS	**Eidsvold** baz=30,SNR=4.5	**29.45**	**252**	P	**P**	**06 43 48.8**	**+0.8**
EIDS	**Eidsvold** 9.1nm,0.8s	**29.45**	**252**	*eP*	**P**	**06 43 48.8**	**+0.8**
WHZ	**Wether Hill Ro** 49nm,0.8s	**29.47**	**200**	*eP*	**P**	**06 43 49.1**	**+1.2**
ARMA	**Armidale** baz=30,SNR=5.6	**29.95**	**241**	P	P	06 43 54.6	+2.3
RMQ	**Roma** baz=32,SNR=5.1	**31.66**	**250**	P	P	06 44 09.0	+2.1
CNB	**Canberra Magne** baz=34,SNR=6.9	**33.30**	**234**	P	P	06 44 23.1	+2.4
CAN	**Canberra** baz=34	**33.58**	**234**	P	P	06 44 24.8	+1.8
CAN	**Canberra** 89nm,1.8s	**33.58**	**234**	*eP*	**P**	**06 44 23.8**	**+0.8**
CAN	**Canberra**	**33.58**	**234**	*eP*	**P**	**06 44 23.8**	**+0.8**
CAN				pmax	pmax		
	comp=Z,89nm,1.8s						
CTA	**Charters Tower**	**33.81**	**262**	P	**P**	**06 44 26.3**	**+1.2**
	comp=Z,57nm,0.6s,baz=92,slow=10,SNR=83						
CTA	**Charters Tower** baz=34	**33.81**	**262**	P	**P**	**06 44 26.3**	**+1.2**
CTAO	**Charters Tower** comp=Z,65nm,0.7s	**33.81**	**262**	*eP*	**P**	**06 44 25.8**	**+0.7**
CTAO	**Charters Tower**	**33.81**	**262**	*eP*	**P**	**06 44 25.8**	**+0.7**
CTAO				pmax	pmax		
	comp=Z,65nm,0.7s						
PMG	**Port Moresby**	**35.10**	**281**	P	P	06 44 37.5	+1.6
	comp=Z,123nm,0.8s,baz=81,slow=5.8,SNR=45						
PMG	**Port Moresby** comp=Z,134nm,0.8s	**35.10**	**281**	*eP*	**P**	**06 44 37.3**	**+1.4**
PMG	**Port Moresby**	**35.10**	**281**	*d iP*	**P**	**06 44 36.7**	**+0.8**
CMSA	**Cobar Meteorol** baz=36,SNR=34	**35.17**	**242**	P	P	06 44 37.9	+1.7
QLP	**Quilpie** baz=36,SNR=20	**35.70**	**250**	P	**P**	**06 44 42.0**	**+1.3**
MTSU	**Mount Surprise** baz=36,SNR=51	**35.82**	**265**	P	**P**	**06 44 42.8**	**+1.0**
TOO	**Toolangi** baz=38	**37.02**	**232**	P	P	06 44 53.2	+1.8
COEN	**Coen** baz=38,SNR=180	**37.62**	**271**	P	P	06 44 58.1	+1.6
COEN	**Coen** comp=Z,122nm,0.8s	**37.62**	**271**	*eP*	**P**	**06 44 57.6**	**+1.1**
STKA	**Stephens Creek**	**38.66**	**242**	P	P	06 45 06.5	+1.9
	comp=Z,17nm,0.7s,baz=85,slow=9.5,SNR=44						
STKA				S	**S**	**06 50 20.2**	**+0.6**
	comp=Z,0.5nm,0.4s,baz=269,slow=20,SNR=5.9						
STKA	**Stephens Creek** baz=39,SNR=15	**38.66**	**242**	P	P	06 45 06.5	+1.9
STKA	**Stephens Creek** comp=Z,5.4nm,0.9s	**38.66**	**242**	*eP*	**P**	**06 45 05.6**	**+0.9**
STKA				S	**S**	**06 50 20.2**	**+0.6**
STKA	**Stephens Creek**	**38.66**	**242**	*eP*	**P**	**06 45 05.6**	**+0.9**
STKA				S	**S**	**06 50 20.2**	**+0.6**
STKA				pmax	pmax		
	comp=Z,5.0nm,0.9s						
QIS	**Mount Isa** baz=40,SNR=6.9	**39.99**	**260**	P	**P**	**06 45 16.0**	**+0.4**
HTT	**Hallett** baz=42,SNR=8.9	**41.14**	**240**	P	**P**	**06 45 26.0**	**+1.5**
BBOO	**Buckleboo** baz=44,SNR=38	**43.43**	**242**	P	**P**	**06 45 43.4**	**+1.1**
BBOO	**Buckleboo** comp=Z,20nm,0.7s	**43.43**	**242**	*eP*	**P**	**06 45 42.6**	**+0.3**
KIP	**Kipapa**	**44.44**	**27**↑	*eP*	**P**	**06 45 49.8**	**-0.3**
KIP				pmax	pmax		
	comp=Z,131nm,0.6s						
WR9	**Warramunga Arr** baz=45	**44.81**	**260**	P	**P**	**06 45 53.1**	**+0.1**
WB2	**Warramunga Arr** comp=Z,77nm,1.1s	**44.96**	**260**	*eP*	**P**	**06 45 53.8**	**-0.5**
WRAB	**Tennant Creek** comp=Z,56nm,1.0s	**44.96**	**260**	*eP*	**P**	**06 45 53.4**	**-0.9**
WRAB	**Tennant Creek**	**44.96**	**260**	*d iP*	**P**	**06 45 54.2**	**-0.1**
WRAB				pmax	pmax		
	comp=Z,46nm,1.0s						
WRA	**Warramunga Arr**	**44.97**	**260**	P	**P**	**06 45 54.4**	**0.0**
	comp=Z,41nm,0.6s,baz=97,slow=7.5,SNR=548						
WRA				PcP	**PcP**	**06 47 22.5**	**+0.1**
	comp=Z,3.5nm,0.7s,baz=94,slow=3.5,SNR=4.6						
WRA				S	**S**	**06 51 48.0**	**-2.4**
	comp=Z,1.7nm,0.8s,baz=93,slow=14,SNR=7.6						
AS01	**Alice Springs**	**45.00**	**255**	*eP*	**P**	**06 45 54.8**	**+0.3**
AS31	**Alice Springs** comp=Z,13nm,0.8s	**45.04**	**255**	*eP*	**P**	**06 45 54.9**	**0.0**
ASAR	**Alice Springs**	**45.04**	**255**	P	**P**	**06 45 55.6**	**+0.7**
	comp=Z,54nm,0.7s,baz=88,slow=7.9,SNR=672						
ASAR				PcP	**PcP**	**06 47 22.5**	**-0.2**
	comp=Z,3.3nm,0.6s,baz=97,slow=4.0,SNR=5.6						
ASAR				ScP	**ScP**	**06 50 18.3**	**-0.5**
	comp=Z,1.3nm,0.9s,baz=108,slow=4.1,SNR=4.4						
ASAR				S	**S**	**06 51 49.8**	**-1.5**
	comp=Z,15nm,0.7s,baz=91,slow=16,SNR=54						
GUMO	**Guam** comp=Z,68nm,0.6s,baz=218,slow=2.8,SNR=4.8	**48.81**	**309**	P	**P**	**06 46 23.4**	**+0.4**
MTN	**Manton Dam** baz=50,SNR=7.5	**49.28**	**269**	P	**P**	**06 46 26.3**	**-0.3**
MTN	**Manton Dam** comp=Z,36nm,0.7s	**49.28**	**269**	*eP*	**P**	**06 46 25.3**	**-1.3**
WRKA	**Warakurna** baz=50,SNR=131	**50.06**	**253**	P	**P**	**06 46 32.8**	**+0.5**
FORT	**Forrest** baz=50,SNR=25	**50.09**	**245**	P	**P**	**06 46 32.5**	**+0.1**
FORT	**Forrest** comp=Z,450nm,0.7s	**50.09**	**245**	*eP*	**P**	**06 46 31.8**	**-0.6**
KNRA	**Kununurra** baz=51,SNR=9.7	**50.90**	**265**	P	**P**	**06 46 38.6**	**+0.2**
FAKI	**Fak Fak** comp=Z,44nm,1.2s	**51.24**	**282**	*eP*	**P**	**06 46 39.9**	**-1.0**
FITZ	**Fitzroy Crossi** comp=Z,8.5nm,0.5s,baz=58,slow=4.2,SNR=37	**53.38**	**261**	P	**P**	**06 46 56.8**	**+0.7**
SOEI	**Soe** comp=Z,118nm,0.8s	**56.58**	**271**	*eP*	P	06 47 20.3	+1.8
BATI	**Baumata** comp=Z,31nm,0.5s,baz=213,slow=1.9,SNR=5.5	**57.03**	**270**	P	P	06 47 23.2	+1.7
MBWA	**Marble Bar** comp=Z,35nm,0.5s	**58.35**	**256**	*eP*	**P**	**06 47 29.8**	**-0.5**
MEEK	**Meekatharra** baz=59,SNR=10	**58.60**	**250**	P	**P**	**06 47 31.7**	**-0.2**
KLBR	**Kellerberrin** baz=59,SNR=8.3	**58.89**	**244**	P	**P**	**06 47 33.9**	**+0.2**
SBA	**Scott Base** comp=Z,5.6nm,0.8s	**59.58**	**184**	*eP*	P	06 47 40.7	+3.2
SBA	**Scott Base**	**59.58**	**184**	*eP*	P	06 47 40.7	+3.2
SBA				pmax	pmax		
	comp=Z,6.0nm,0.8s						
VNDA	**Vanda** comp=Z,2.5nm,0.9s,baz=345,slow=6.4,SNR=15	**59.62**	**185**	P	**P**	**06 47 39.2**	**+1.5**
VNDA	**Vanda** comp=Z,11nm,1.5s	**59.62**	**185**	*eP*	P	06 47 39.6	+1.9
VNDA	**Vanda**	**59.62**	**185**	*eP*	P	06 47 39.7	+2.0
VNDA				pmax	pmax		
	comp=Z,11nm,1.5s						
CBIJ	**Chichi jima**	**59.83**	**319**	P	**P**	**06 47 39.6**	**-0.4**
JCJ	**Chichijima** comp=Z,21nm,0.6s,baz=286,slow=21,SNR=3.0	**59.83**	**319**	P	**P**	**06 47 39.6**	**-0.4**
BLDU	**Ballidu** baz=60,SNR=9.3	**59.86**	**245**	P	**P**	**06 47 40.3**	**+0.1**
LUWI	**Luwuk** comp=Z,41nm,0.6s	**60.74**	**280**	*eP*	**P**	**06 47 47.2**	**+0.9**
JHJ	**Hachijo jima 2** comp=Z,71nm,0.6s,baz=72,slow=22,SNR=3.4	**65.57**	**322**	P	**P**	**06 48 16.4**	**-0.2**
JAGI	**Jajag, Banyuwa** comp=Z,77nm,1.1s	**66.52**	**269**	*eP*	**P**	**06 48 22.2**	**-0.8**
MYLDM	**Lahad Datu** comp=Z,40nm,1.5s	**67.01**	**284**	*eP*	P	06 48 29.1	+3.1
MJAR	**Matsushiro Arr** comp=Z,5.9nm,0.6s,baz=165,slow=6.6,SNR=15	**68.91**	**323**	*eP*	**P**	**06 48 36.5**	**-0.5**
MAJO	**Matsushiro**	**68.91**	**323**	*d iP*	**P**	**06 48 36.4**	**-0.6**
MAJO				pmax	pmax		
	comp=Z,9.0nm,0.9s						
MAT	**Matsushiro**	**68.91**	**323**	P	**P**	**06 48 36.7**	**-0.3**
KKM	**Kota Kinabalu** comp=Z,23nm,0.7s	**69.44**	**284**	*eP*	**P**	**06 48 41.0**	**+0.2**
QSPA	**South Pole Qui** comp=Z,7.2nm,0.6s,baz=307,slow=1.0,SNR=32	**71.27**	**180**	P	**P**	**06 48 52.1**	**+1.4**
QSPA	**South Pole Qui** comp=Z,38nm,1.0s	**71.27**	**180**	*eP*	**P**	**06 48 52.1**	**+1.4**
SBUM	**Sibu** comp=Z,12nm,1.0s	**71.84**	**279**	*eP*	**P**	**06 48 55.6**	**+0.8**
TPUB	**Ta-pu** comp=Z,43nm,0.7s	**73.15**	**302**	*eP*	**P**	**06 49 00.8**	**-1.3**
LEM	**Lembang** comp=Z,53nm,0.7s,baz=63,slow=5.6,SNR=4.4	**73.19**	**268**	P	**P**	**06 49 03.6**	**+0.9**
KSM	**Kuching** comp=Z,27nm,0.9s	**73.29**	**277**	*eP*	**P**	**06 49 03.9**	**+0.8**
YSS	**Yuzh-Sakhalins**	**74.42**	**333**	*eP*	**P**	**06 49 10.1**	**+1.4**
YSS				pmax	pmax		
	comp=Z,10.0nm,0.8s						
PETK	**Petropavlovsk-** comp=Z,2.3nm,0.6s,baz=115,slow=5.2,SNR=4.4	**74.65**	**345**	P	**P**	**06 49 09.4**	**-0.4**
KSRS	**Korea Array** comp=Z,2.0nm,0.7s,baz=138,slow=5.6,SNR=5.1	**75.69**	**318**	P	**P**	**06 49 16.7**	**+0.8**
KSAR	**Wonju Array Be**	**75.70**	**318**	P	**P**	**06 49 16.7**	**+0.7**
KSAR	**Wonju Array Be**	**75.70**	**318**	P	**P**	**06 49 16.7**	**+0.7**
USRK	**Ussuriysk Ar.** comp=Z,7nm,0.7s,baz=155,slow=29,SNR=3.8	**77.62**	**326**	P	P	06 49 27.9	+1.6
AFDM	**Forest Hills D**	**78.29**	**42**	*eP*	**P**	**06 49 30.5**	**+0.4**
ORV	**Oroville** comp=Z,2.1nm,0.9s	**78.32**	**41**	*eP*	**P**	**06 49 30.5**	**+0.3**
ORV	**Oroville**	**78.32**	**41**	*eP*	**P**	**06 49 30.5**	**+0.3**
ORV				pmax	pmax		
	comp=Z,2.0nm,0.9s						
NJ2	**Nanjing**	**78.88**	**309**	*eP*	**P**	**06 49 34.5**	**+1.2**
NJ2				pmax	pmax		
	comp=Z,21nm,0.6s						
YBH	**Yreka Blue Hor** comp=Z,3.1nm,0.6s,baz=158,slow=1.9,SNR=9.2	**78.89**	**39**	P	**P**	**06 49 34.1**	**+0.9**
WAKR	**Walker** comp=Z,4.4nm,0.8s	**79.02**	**43**	*eP*	**P**	**06 49 35.0**	**+0.9**
VCNR	**Virginia City**	**79.33**	**42**	*eP*	**P**	**06 49 36.5**	**+0.7**
YERR	**Yerington**	**79.42**	**43**	*eP*	**P**	**06 49 36.8**	**+0.6**
NV01	**Mina Array Sit**	**79.71**	**43**	*eP*	**P**	**06 49 37.9**	**+0.1**
NVAR	**Mina Array Bea** comp=Z,2.3nm,0.7s,baz=226,slow=8.2,SNR=15	**79.71**	**43**	P	**P**	**06 49 38.1**	**+0.2**
NV11	**Mina Array Sit**	**79.81**	**44**	*eP*	**P**	**06 49 38.8**	**+0.5**
MOD	**Modoc Plateau**	**80.43**	**40**	*eP*	**P**	**06 49 41.4**	**-0.1**
CN2	**Changchun**	**81.02**	**322**	*eP*	**P**	**06 49 43.8**	**-0.4**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
KLR	**Kul'dur** comp=Z,0.1nm,0.6s,baz=123,slow=15,SNR=4.0	**81.12**	**329**	P	**P**	**06 49 44.9**	**+0.4**
KLR	**Kul'dur**	**81.12**	**329**↑	*eP*	**P**	**06 49 45.2**	**+0.6**
WHN	**Wuhan**	**81.53**	**306**	P	P	06 49 53.0	+5.9
WHN				pmax	pmax		
	comp=Z,34nm,0.6s						
WVOR	**Wild Horse Val**	**81.75**	**40**	*eP*	**P**	**06 49 48.5**	**+0.3**
WVOR	**Wild Horse Val**	**81.75**	**40**	*eP*	**P**	**06 49 48.5**	**+0.3**
TUC	**Tucson**	**81.84**	**52**	*eP*	**P**	**06 49 49.1**	**+1.1**
TUC	**Tucson**	**81.84**	**52**	*eP*	**P**	**06 49 49.1**	**+1.1**
LCMT	**Little Creek M**	**82.36**	**47**	*eP*	**P**	**06 49 52.1**	**+0.7**
J08A	**Circle Bar Ran**	**82.37**	**39**	*eP*	**P**	**06 49 51.5**	**+0.2**
CCUT	**Cedar City**	**82.55**	**46**	*eP*	**P**	**06 49 53.4**	**+1.0**
IPM	**Ipoh**	**83.03**	**277**	*eP*	**P**	**06 49 56.0**	**+0.9**
PSI	**Prapat** comp=Z,9.3nm,0.9s,baz=112,slow=2.7,SNR=4.6	**84.46**	**275**	P	**P**	**06 50 02.2**	**-0.1**
SEY	**Seymchan** comp=Z,2.4nm,0.7s,baz=141,slow=5.7,SNR=9.2	**84.74**	**347**	P	**P**	**06 50 01.8**	**-0.5**
SEY	**Seymchan**	**84.74**	**347**↑	*eP*	**P**	**06 50 01.4**	**-0.9**
SEY				*i* *PP	**pP**	**06 52 13.5**	**+3.3**
HLID	**Hailey**	**84.96**	**41**	*eP*	**P**	**06 50 04.8**	**+0.7**
MCK	**McKinley**	**85.28**	**12**	*eP*	**P**	**06 50 04.8**	**-0.2**
MCK	**McKinley**	**85.28**	**12**	*eP*	**P**	**06 50 04.8**	**-0.2**
TRTT	**Trang** comp=Z,13nm,0.9s	**85.39**	**280**	P	**P**	**06 50 07.3**	**+0.7**
GYA	**Guiyang**	**85.90**	**300**	*eP*	**P**	**06 50 10.0**	**+1.1**
GYA				pP	pP	06 52 22.5	+5.3
GYA				sP	sP	06 53 22.3	+4.9
GYA				PP	**PP**	**06 53 43.3**	**+2.8**
GYA				SKS	**SKSac**	**06 59 36.0**	**-2.5**
GYA				S	**S**	**06 59 53.0**	**-0.7**
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
TX31	**Lajitas Ar. Si**	**86.04**	**57**	*eP*	**P**	**06 50 10.5**	**+1.0**
TXAR	**Lajitas Array** comp=Z,2.4nm,0.8s,baz=223,slow=6.4,SNR=23	**86.04**	**57**	P	**P**	**06 50 10.6**	**+1.1**
MCMT	**McKenzie Canyo**	**86.58**	**40**	*eP*	**P**	**06 50 12.5**	**+0.6**
ILAR	**Eielson Array** comp=Z,0.3nm,0.4s,baz=225,slow=4.9,SNR=9.9	**86.63**	**13**	P	**P**	**06 50 09.9**	**-1.3**
ILAR	**Eielson Array**	**86.63**	**13**	P	**P**	**06 50 10.0**	**-1.3**
XAN	**Xi'an**	**87.19**	**307**	P	**P**	**06 50 15.8**	**+1.1**
XAN				pmax	pmax		
	comp=Z,13nm,0.9s						
XAN				pmax	pmax		
	comp=Z,75nm,3.8s						
PDAR	**Pinedale Array** comp=Z,1.0nm,0.7s,baz=225,slow=4.1,SNR=10	**87.64**	**43**	P	**P**	**06 50 16.7**	**-0.2**
HHC	**Hu-ho-hao-te**	**88.24**	**314**	*eP*	**P**	**06 50 20.5**	**+0.9**
HHC				SKS	**SKSac**	**06 59 54.5**	**+2.7**
HHC				S	**ScS**	**07 00 18.5**	**+0.2**
HHC				pmax	pmax		
	comp=Z,26nm,1.3s						
HHC				pmax	pmax		
	comp=Z,76nm,7.1s						
SYO	**Syowa Base**	**88.42**	**193**↓	*e* PcP	**PcP**	**06 50 20.4**	**-0.4**
CMAR	**Chiang Mai Arr**	**89.65**	**290**	P	**P**	**06 50 27.4**	**+0.9**
	comp=Z,3.4nm,0.6s,baz=113,slow=3.0,SNR=19						
CHTO	**Chiang Mai**	**89.77**	**290**	*eP*	**P**	**06 50 28.2**	**+1.2**
CHTO	**Chiang Mai**	**89.77**	**290**	*eP*	**P**	**06 50 28.2**	**+1.2**
VNA3	**Neumayer Olymp**	**89.84**	**176**	P	**P**	**06 50 26.0**	**-0.4**
CD2	**Chengdu**	**89.96**	**303**	*eP*	**P**	**06 50 28.5**	**+0.8**
VNA2	**Neumayer--Watz** baz=197,slow=3.1	**90.28**	**177**	P	**P**	**06 50 28.6**	**+0.2**
VNA1	**Neumayer--Stat**	**90.51**	**177**	P	**P**	**06 50 30.0**	**+0.6**
LZH	**Lanzhou**	**91.82**	**307**	*eP*	P	06 50 39.8	+3.5
LZH				pP	pP	06 52 48.3	+2.1
LZH				sP	sP	06 53 48.8	+3.0
LZH				PP	PP	06 54 33.8	+7.1
LZH				pmax	pmax		
	comp=Z,23nm,1.0s						
LZH				pmax	pmax		
	comp=Z,210nm,5.0s						
YKA	**Yellowknife Ar** comp=Z,0.1nm,0.7s,baz=229,slow=4.5,SNR=4.8	**94.92**	**25**	P	**P**	**06 50 48.3**	**-1.2**
GTA	**Gaotai**	**95.98**	**309**	*eP*	**P**	**06 50 56.5**	**+1.4**
GTA				pP	pP	06 53 08.0	+2.7
GTA				sP	sP	06 54 05.3	+0.5
GTA				pmax	pmax		
	comp=Z,5.0nm,0.5s						
TIXI	**Tiksi**	**97.13**	**345**↓	*eP*	**P**	**06 51 00.7**	**+1.4**
TIXI				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ZALV	**Zalesovo Beam** comp=Z,0.9nm,0.5s,baz=151,slow=1.5,SNR=3.4	**109.23**	**322**	PKiKP	**PKiKP**	**06 55 52.0**	**-1.4**
MKAR	**Makanchi Array** comp=Z,0.7nm,0.5s,baz=201,slow=1.1,SNR=13	**110.10**	**314**	PKiKP	**PKiKP**	**06 55 53.9**	**-1.4**
KURK	**Kurchatov**	**112.81**	**318**	PKiKP	**PKiKP**	**06 55 59.2**	**-1.1**
KURK	**Kurchatov**	**112.81**	**318**	PKiKP		06 55 59.2	
KURBB	**Kurchatov Arra** comp=Z,0.6nm,0.4s,baz=88,slow=1.8,SNR=7.4	**112.86**	**318**	PKiKP	**PKiKP**	**06 55 59.2**	**-1.2**
BVAR	**Borovoye Array** comp=Z,1.3nm,0.5s,baz=85,slow=0.9,SNR=6.8	**117.84**	**321**	PKP	**PKPdf**	**06 56 08.8**	**-1.1**
ARU	**Arti**	**123.85**	**326**↑	*e* PKiKP	**PKPdf**	**06 56 19.7**	**-1.6**
AKTO	**Aktyubinsk** comp=Z,0.7nm,0.7s,baz=250,slow=4.1,SNR=3.5	**125.86**	**319**	PKP	**PKPdf**	**06 56 24.5**	**-0.9**
ARCES	**ARCESS Array B** comp=Z,1.2nm,0.5s,baz=6.4,slow=1.6,SNR=16	**127.26**	**350**	PKP	**PKPdf**	**06 56 26.2**	**-1.4**
FINES	**FINESS Array B** comp=Z,0.7nm,0.6s,baz=339,slow=4.9,SNR=4.5	**134.16**	**344**	PKP	**PKPdf**	**06 56 40.6**	**-0.1**
NOA	**NORSAR Array B** comp=Z,0.5nm,0.6s,baz=13,slow=3.9,SNR=2.5	**137.30**	**353**	PKP	**PKPdf**	**06 56 46.8**	**+0.2**
HFS	**Hagfors** comp=Z,1.0nm,0.6s,baz=29,slow=3.3,SNR=3.6	**137.87**	**351**	PKiKP	PKPpre	06 56 40.3	
HFS				PKP	**PKiKP**	**06 56 48.0**	**-1.8**
	comp=Z,1.0nm,0.6s,baz=24,slow=11,SNR=3.4						
AKASG	**Malin Array Be** comp=Z,1.4nm,0.5s,baz=42,slow=4.4,SNR=12	**141.57**	**332**	PKhKP	PKPpre	06 56 48.6	
AKASG				PKP	**PKiKP**	**06 56 55.2**	**-2.5**
	comp=Z,0.5nm,0.5s,baz=37,slow=3.2,SNR=2.8						
KLNR	**Kaliningrad**	**141.66**	**343**	*d iP*	**PKPdf**	**06 56 58.7**	**+4.1**
EKA	**Eskdalemuir Ar** comp=Z,1.9nm,0.5s,baz=328,slow=2.6,SNR=4.3	**143.29**	**5**	PKhKP	PKPpre	06 56 54.9	
EKA	**Eskdalemuir Ar**	**143.29**	**5**	PKiKP	**PKPdf**	**06 56 55.0**	**-2.5**
BRTR	**Keskin Array B** comp=Z,3.9nm,0.7s,baz=130,slow=3.9,SNR=17	**145.75**	**314**	PKPbc	**PKPab**	**06 57 03.5**	**-2.7**
ASF	**Jabal al Asfar** comp=Z,3.7nm,0.8s,baz=97,slow=0.9,SNR=6.6	**146.05**	**300**	PKPbc	**PKPab**	**06 57 05.0**	**-2.5**
ASF	**Jabal al Asfar**	**146.05**	**300**	PKP2	**PKPab**	**06 57 05.0**	**-2.5**
CRVS	**Cervenica-Dubn**	**146.14**	**337**	*e* PKP	**PKPab**	**06 57 07.1**	**-0.1**
CRVS	**Cervenica-Dubn**	**146.14**	**337**	*e* PKP2	**PKPab**	**06 57 07.1**	**-0.1**
CLL	**Collm**	**146.42**	**348**	*e* PKPdf	**PKPbc**	**06 57 03.0**	**-2.5**
CLL				↓ *i* PKPbc	**PKPbc**	**06 57 04.8**	**-3.4**
	comp=Z,10.0nm,0.7s						
CLL				*e* PKPab	**PKiKP**	**06 57 08.0**	**+0.3**
CLL	**Collm**	**146.42**	**348**	↓ *i* PKP2	**PKPab**	**06 57 04.8**	**-3.4**
CLL				pmax	pmax		
	comp=Z,9.0nm,0.7s						
DPC	**Dobruska-Polom**	**146.53**	**343**	*e* PKP	**PKPab**	**06 57 05.9**	**-2.8**
DPC				*

baz=319,slow=76,SNR=6.0
ZALV Zalesovo Beam 41.19 311 P **P 06 48 10.5 -2.3**
0.6nm,0.3s,baz=90,slow=4.3,SNR=2.3
MKAR Makanchi Array 43.78 300 P **P 06 48 33.6 -0.4**
0.6nm,0.8s,baz=80,slow=11,SNR=5.9
KURBB Kurchatov Arra 45.44 307 P **P 06 48 46.8 -0.2**
0.9nm,0.5s,baz=81,slow=8.3,SNR=6.4
BVAR Borovoye Array 49.84 311 P **P 06 49 21.5 +0.3**
0.5nm,0.4s,baz=239,slow=41,SNR=2.8
WRA Warramunga Arr 59.23 189 P **P 06 50 28.9 -0.8**
0.6nm,0.4s,baz=6.6,slow=7.0,SNR=5.8

*NEIC **26** 06:50:14.2±0.0, 16.28N×98.18W, h14km, MD4.0(MEX), After MEX.*
MEX 26 06:50:14.2±0.5, 16.28N×98.18W, h14km±1km, MD4.0, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
PNIG	**Pinotepa**	**0.12**	**22**	*e*P		Pg	06 50 16.9	-0.8
PNIG				*i* S		Sg	06 50 19.5	-0.5
PNIG	**Pinotepa**	**0.12**	**22**	*e*P		Pg	06 50 16.9	-0.8
PNIG				*i* S		Sg	06 50 19.5	-0.5
TLIG	**Tlapa**	**1.33**	**344**	*e*P		Pn	06 50 35.0	-3.5
TLIG				*e*S		Sb	06 50 51.0	-5.1
TLIG	**Tlapa**	**1.33**	**344**	*e*P		Pn	06 50 35.0	-3.5
TLIG				*e*S		Sb	06 50 51.0	-5.1
VHO	**Vista Hermosa**	**1.59**	**60**	*e*P		Pn	06 50 39.0	-3.2
VHO				*e*S		Sn	06 50 57.6	-5.1
VHO	**Vista Hermosa**	**1.59**	**60**	*e*P		Pn	06 50 39.0	-3.2
VHO				*e*S		Sn	06 50 57.6	-5.1
CAIG	**El Cayaco**	**2.15**	**291**	*e*P		Pn	06 50 46.4	-3.2
CAIG				*e*S		Sn	06 51 11.8	-4.3
CAIG	**El Cayaco**	**2.15**	**291**	*e*P		Pn	06 50 46.4	-3.2
CAIG				*e*S		Sn	06 51 11.8	-4.3
CCIG	**Comitan**	**5.80**	**89**	*e*Pn		Pn	06 51 32.1	-7.9

CSEM 26 06:55:32.5, 42.79N×18.59E, h5km, ML1.5/4, 2C-1D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
BRY	**Bratogost**	**0.12**	**341**	↑*i*P		Pg	06 55 35.1	+0.1
BRY				*e*Sg		Sg	06 55 37.2	+0.6
TREB	**Trebinje**	**0.19**	**247**	↓*i*P		Pg	06 55 36.4	+0.1
TREB				*e*Sg		Sg	06 55 39.8	+1.0
HCY	**Herceg Novi**	**0.35**	**192**	↑*i*P		Pg	06 55 38.9	-0.4
HCY				*e*Sg		Sg	06 55 44.8	+0.9
UPM	**Unac-Piva**	**0.47**	**29**	*e*Pg		Pg	06 55 40.9	-0.7
UPM				*e*Sg		Sg	06 55 48.5	+0.7
PDG	**Podgorica**	**0.61**	**126**	*e*Pg		Pg	06 55 43.8	-0.4
PDG				*e*Sg		Sg	06 55 51.9	-0.2
STON	**Ston**	**0.66**	**277**	*e*Pg		Pg	06 55 44.1	-1.1
STON				Sg		Sg	06 55 53.4	-0.4
STON	**Ston**	**0.66**	**277**	*e*Pg		Pg	06 55 44.0	-1.2
STON				*e*Sg		Sg	06 55 54.0	+0.3
DRME	**Dracevica, Mon**	**0.75**	**144**	*e*Pg		Pg	06 55 45.9	-0.9
DRME				*e*Sg		Sg	06 55 56.7	+0.2

IDC 26 07:03:23.9±5.4, 13.59N×91.56W, h48km±35km, mb2.8/2, mb1 3.4/4, mb1mx3.1/49, mbtmp3.1/4, ML3.4/2, Error ellipse: s-maj=50.9km s-min=14.5km az=174.0, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
APG	**El Apazote**	**1.76**	**37**	P		Pn	07 03 51.7	-0.5
	40nm,0.3s,baz=212,slow=17,SNR=206							
APG				S		Sn	07 04 13.9	+0.3
	24nm,0.3s,baz=302,slow=14,SNR=7.7							
CMIG	**Matias Romero**	**4.74**	**318**	P		Pn	07 04 33.0	+0.2
	0.7nm,0.3s,baz=132,slow=12,SNR=13							
CMIG				S		Sn	07 05 26.6	+0.1
	1.3nm,0.3s,baz=323,slow=14,SNR=4.9							
TXAR	**Lajitas Array**	**19.28**	**326**	P		Pn	07 07 46.3	+0.1
	0.0nm,0.3s,baz=159,slow=10,SNR=10							
NVAR	**Mina Array Bea**	**34.26**	**321**	P		P	07 10 06.2	+0.4
	0.1nm,0.4s,baz=144,slow=7.7,SNR=2.9							
YKA	**Yellowknife Ar**	**51.52**	**347**	P		P	07 12 23.6	-1.0
	0.1nm,0.4s,baz=151,slow=7.7,SNR=4.9							

*UCR **26** 07:03:19.0±4.4, 12.05N×88.69W, h20km±152km, ML3.7*
*ISCJB **26** 07:03:31.6±1.2, 11.91N±0.07×87.55W±0.08, h10km, mb3.6/4, MS2.8/2, Error ellipse: s-maj=13.5km s-min=6.2km az=137.4*
*IDC **26** 07:03:31.4±1.2, 12.61N×86.88W, h0km, mb3.6/4, mb1 3.9/5, mb1mx3.6/48, mbtmp3.6/5, ML3.5/1, MS2.9/2, Ms1 2.9/2, ms1mx2.4/39, Error ellipse: s-maj=58.6km s-min=13.3km az=55.0*
ISC 26 07:03:33.1±0.9, 12.05N±0.06×87.45W±0.07, h10km, n22, σ1s07/20, mb3.6/4, 1D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
CRIN	**San Cristobal**	**0.75**	**31**	*e*P		**Pn**	**07 03 51.1**	**+1.3**
COPN	**Copaltepe**	**0.84**	**81**	*e*P		**Pb**	**07 03 51.6**	**+1.8**
CNGN	**Cerro Negro**	**0.85**	**59**	*e*P		**Pb**	**07 03 50.6**	**+0.5**
CNGN				AML		AML	07 04 04.4	
	comp=N,2μm,0.3s							
MOMN	**Momotombo**	**0.95**	**68**	*e*P		**Pb**	**07 03 52.6**	**+0.8**
MGAN	**Managua**	**1.18**	**85**	*e*P		**Pg**	**07 03 55.9**	**+0.2**
MGAN				AML		AML	07 04 09.8	
	comp=N,2μm,0.2s							
BRAN	**Las Pilas**	**1.26**	**58**	*e*P		**Pb**	**07 03 55.1**	**-1.8**
MASN	**Masaya**	**1.27**	**93**	*e*P		**Pb**	**07 03 57.5**	**+0.4**
LCND	**La Ca˜–ada**	**1.32**	**341**	↓*e*P		**Pn**	**07 03 59.3**	**+1.6**
LCND				*e*S		**Sb**	**07 04 15.4**	**+0.3**
LCND				IAML			07 04 18.5	
	comp=Z,3μm,0.3s							
ESTN	**Estel**	**1.48**	**45**	*e*P		**Pn**	**07 04 00.4**	**+0.5**
RCON	**San Juan de Ri**	**1.90**	**41**	*e*P		**Pn**	**07 04 06.5**	**+0.8**
SNET	**Serv Nac Est T**	**2.38**	**313**	IAML			07 04 26.0	
	comp=Z,498nm,0.3s							
JTS	**JuntasAbangare**	**3.01**	**125**	Pn		**Pn**	**07 04 21.5**	**+0.6**
	comp=Z,6.4nm,0.3s,baz=12,slow=14,SNR=22							
JTS				Pg		**Pb**	**07 04 27.7**	**+0.9**
	comp=Z,24nm,0.3s,baz=335,slow=9.8,SNR=24							
JTS				Sn		**Sn**	**07 04 56.5**	**-0.5**
	comp=Z,22nm,0.3s,baz=270,slow=6.3,SNR=4.3							
JTS				Lg		Lg	07 05 05.6	
	comp=Z,42nm,0.3s,baz=258,slow=23,SNR=6.3							
ESPN	**Las Esperanzas**	**3.08**	**87**	*e*P		**Pn**	**07 04 22.1**	**+0.3**
SJG	**San Juan**	**21.42**	**71**	LR		LR	07 16 22.2	
	comp=Z,22nm,20.0s,baz=125,slow=37							
TXAR	**Lajitas Array**	**22.88**	**321**	P		**P**	**07 08 37.9**	**+0.8**
	comp=Z,1.4nm,0.7s,baz=139,slow=9.2,SNR=19							
PDAR	**Pinedale Array**	**36.12**	**332**	P		**P**	**07 10 34.6**	**-1.1**
	comp=Z,0.5nm,0.6s,baz=122,slow=10,SNR=7.5							
NVAR	**Mina Array Bea**	**38.00**	**319**	LR		LR	07 28 44.8	
	comp=Z,24nm,18.3s,baz=125,slow=40							
SCHQ	**Schefferville**	**45.66**	**17**	P		P	07 11 48.1	-5.7
	comp=Z,2.7nm,1.0s,baz=234,slow=10.0,SNR=4.1							
YKA	**Yellowknife Ar**	**53.99**	**345**	P		P	07 12 52.5	-4.6
	comp=Z,0.2nm,0.8s,baz=139,slow=7.6,SNR=4.8							
STKA	**Stephens Creek**	**130.89**	**238**	PKP		**PKPdf**	**07 22 44.5**	**-1.0**
	comp=Z,0.5nm,0.3s,baz=319,slow=20,SNR=2.7							
ASAR	**Alice Springs**	**139.12**	**248**	PKP		**PKPdf**	**07 22 59.9**	**-1.2**
	comp=Z,0.2nm,0.5s,baz=99,slow=1.8,SNR=4.4							
WRA	**Warramunga Arr**	**139.16**	**253**	PKP		**PKPdf**	**07 23 00.4**	**-0.8**
	comp=Z,0.8nm,0.8s,baz=87,slow=2.0,SNR=8.7							

*ISCJB **26** 07:16:06.5±0.7, 37.49N±0.04×35.18E±0.04, h6km±6km, Error ellipse: s-maj=7.2km s-min=5.2km az=168.6*
*CSEM **26** 07:16:06.7±0.2, 37.48N×35.16E, h5km, ML2.5, Error ellipse: s-maj=4.7km s-min=4.0km az=175.0*
*DDA **26** 07:16:06.9, 37.47N×35.13E, h7km, Ml2.3*
*ISK **26** 07:16:06.3, 37.44N×35.20E, h8km, ML2.5/3*
ISC 26 07:16:06.9±1.1, 37.46N±0.03×35.17E±0.03, h7km±10km, n21, σ0s52/31, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
KARA	**Karaisali**	**0.22**	**204**	PG		**Pg**	**07 16 10.9**	**-0.4**
KARA				SG		**Sg**	**07 16 14.7**	**+0.5**
KARA	**Karaisali**	**0.22**	**204**	*e*Pg		**Pg**	**07 16 10.9**	**-0.4**
KARA				*e*Sg		**Sg**	**07 16 14.7**	**+0.5**
GULE	**Gulek**	**0.36**	**241**	*i* P		**Pg**	**07 16 13.9**	**-0.1**
GULE				*i* S		**Sb**	**07 16 20.9**	**-0.7**
GULE	**Gulek**	**0.36**	**241**	P		**Pg**	**07 16 13.9**	**-0.1**
GULE				S		**Sb**	**07 16 20.9**	**-0.7**
KOZT	**Kozan**	**0.53**	**88**	PG		**Pg**	**07 16 16.4**	**-0.7**
KOZT				SG		**Sg**	**07 16 24.1**	**+0.1**
KOZT	**Kozan**	**0.53**	**88**	*e*Pg		**Pg**	**07 16 16.4**	**-0.7**
KOZT				*e*Sg		**Sg**	**07 16 24.1**	**+0.1**
YAHY	**KAYSERI_Yahyal**	**0.65**	**14**	*i* P		**Pg**	**07 16 19.6**	**+0.1**
YAHY	**KAYSERI_Yahyal**	**0.65**	**14**	P		**Pg**	**07 16 19.6**	**+0.1**
YURE	**YUREGIR**	**0.73**	**149**	PG		**Pg**	**07 16 20.5**	**-0.6**
YURE	**YUREGIR**	**0.73**	**149**	*i* P		**Pb**	**07 16 22.1**	**+0.1**
YURE				*i* S		**Sb**	**07 16 33.0**	**+0.7**
YURE	**YUREGIR**	**0.73**	**149**	*e*Pg		**Pg**	**07 16 20.5**	**-0.6**
YURE	**YUREGIR**	**0.73**	**149**	P		**Pb**	**07 16 22.1**	**+0.1**
YURE				S		**Sb**	**07 16 33.0**	**+0.7**
KERG	**Konya-Eregli**	**0.83**	**267**	*i* P		**Pg**	**07 16 22.3**	**-0.6**
KERG				*i* S		**Sg**	**07 16 34.1**	**+0.4**
KERG	**Konya-Eregli**	**0.83**	**267**	P		**Sg**	**07 16 22.3**	**-0.6**
KERG				S		**Sg**	**07 16 34.1**	**+0.4**
GULA	**Gulagac**	**1.15**	**320**	PN		**Pn**	**07 16 29.4**	**-0.1**
GULA	**Gulagac**	**1.15**	**320**	*e*Pn		**Pn**	**07 16 29.4**	**-0.1**
KIZK	**Mersin**	**1.28**	**220**	PN		**Pn**	**07 16 30.3**	**-0.8**
TEVE	**Tevekalti-Mers**	**1.72**	**234**	PN		**Pn**	**07 16 37.5**	**+0.2**
TEVE	**Tevekalti-Mers**	**1.72**	**234**	*e*Pn		**Pn**	**07 16 37.5**	**+0.2**
AKKU	**Akkuyu-Mersin**	**1.83**	**225**	PN		**Pn**	**07 16 39.6**	**+0.8**
AKKU	**Akkuyu-Mersin**	**1.83**	**225**	*e*Pn		**Pn**	**07 16 39.6**	**+0.8**

JMA 26 07:27:23.6, 38.46N×141.85E, h56km±1km, M3.6, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
JIO	**Ouri**	**0.39**	**269**	P		Pn	07 27 34.2	+0.1
JIO				S		Sn	07 27 41.5	-0.2
OFUJ	**Ofunato**	**0.64**	**347**	P		Pn	07 27 36.9	+0.1
OFUJ				S		Sn	07 27 46.4	-0.1
JMK	**Ichinoseki**	**0.70**	**315**	P		Pn	07 27 37.9	+0.3
JMK				S		Sn	07 27 48.2	+0.5
JOU	**Okura**	**0.94**	**265**	P		Pn	07 27 40.8	+0.1
JOU				S		Sn	07 27 53.3	0.0
JMM	**Marumori**	**1.02**	**235**	P		Pn	07 27 41.5	-0.3
JMM				S		Sn	07 27 54.5	-0.7
JOM	**Ohasama**	**1.10**	**337**	P		Pn	07 27 43.2	+0.4
JOM				S		Sn	07 27 58.3	+1.2
JYK	**Kaneyama**	**1.25**	**292**	P		Pn	07 27 45.2	+0.3
JYK				*e*S		Sn	07 28 01.0	+0.3
JRG	**Rokugo**	**1.33**	**315**	P		Pn	07 27 46.5	+0.6
JFK	**Kawauchi**	**1.34**	**216**	P		Pn	07 27 45.8	-0.2
JFK				S		Sn	07 28 02.4	-0.4
JYS	**Shirataka**	**1.42**	**261**	P		Pn	07 27 47.7	+0.5
JYS				S		Sn	07 28 05.7	+0.8
JFT	**Otama**	**1.52**	**232**	P		Pn	07 27 49.1	+0.6
JFT				S		Sn	07 28 07.3	+0.1
MAT	**Matsushiro**	**3.47**	**238**	P		Pn	07 28 18.7	+3.5
MAT				*e*S		Sn	07 28 57.3	+2.3

*NDI **26** 07:28:31.3±2.3, 24.93N×93.70E, h11km, ML3.1*
ISC 26 07:28:31.2±3.8, 24.96N±0.04×93.66E±0.06, h4km±27km, n10, σ0s54/17, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
IMP	**Imphal**	**0.29**	**115**	*e*P		Pg	07 28 34.7	-2.1
KOHI	**KOHIMA**	**0.86**	**28**	*e*P		**Pb**	**07 28 48.4**	**-0.4**
KOHI				*e*S		**Sn**	**07 29 02.9**	**-0.5**
KOHI				IAML			07 29 09.5	
	comp=E,710nm,0.4s							
KOHI				IAML			07 29 10.8	
	comp=N,664nm,0.3s							
AZL	**Aizawl**	**1.50**	**216**	*e*P		**Pn**	**07 28 59.7**	**+0.7**
AZL				*e*S		**Sn**	**07 29 18.7**	**-0.4**
AZL				IAML			07 29 27.7	
	comp=N,90nm,0.3s							
AZL				IAML			07 29 31.2	
	comp=E,158nm,0.7s							
MOKO	**MOKOCHONG**	**1.56**	**29**	*e*P		**Pn**	**07 29 00.0**	**+0.1**
MOKO				*e*S		**Sb**	**07 29 21.6**	**+0.6**
MOKO				IAML			07 29 28.2	
	comp=E,716nm,0.8s							
MOKO				IAML			07 29 30.5	
	comp=N,848nm,0.5s							
SHL	**Shillong**	**1.72**	**291**	*e*P		**Pn**	**07 29 02.2**	**+0.1**
SHL				*e*S		**Sn**	**07 29 24.3**	**-0.3**
SHL				IAML			07 29 29.7	
	comp=N,355nm,0.5s							
SHL				IAML			07 29 31.6	
	comp=E,163nm,0.4s							
TEZP	**TEZPUR**	**1.83**	**335**	*e*P		**Pn**	**07 29 03.9**	**+0.5**
TEZP				*e*S		**Sn**	**07 29 27.2**	**+0.3**
TEZP				IAML			07 29 32.8	
	comp=E,124nm,0.5s							
TEZP				IAML			07 29 34.1	
	comp=N,226nm,0.4s							
GUWA	**GUWAHATI**	**2.16**	**305**	*e*P		**Pn**	**07 29 08.2**	**+0.2**
GUWA				*e*S		**Sn**	**07 29 35.6**	**+0.4**
GUWA				IAML			07 29 47.8	
	comp=E,65nm,0.5s							
GUWA				IAML			07 29 51.1	
	comp=N,80nm,0.4s							
ITAN	**ITANAGAR**	**2.18**	**2**	*e*P		**Pn**	**07 29 08.2**	**0.0**
ITAN				*e*S		**Sn**	**07 29 36.0**	**+0.3**
ITAN				IAML			07 29 46.1	
	comp=N,306nm,0.3s							
ITAN				IAML			07 29 47.3	
	comp=E,306nm,0.3s							
SAIH	**SAIHA**	**2.53**	**194**	*e*P		**Pn**	**07 29 13.5**	**+0.3**
SAIH				*e*S		**Sn**	**07 29 44.2**	**-0.3**
TURI	**Tura**	**3.07**	**282**	*e*S		**Sn**	**07 29 56.5**	**-1.2**

IDC 26 07:54:55.7±6.7, 5.98S×106.43W, h0km, mb3.3/6, mb1 3.7/6, mb1mx3.6/37, mbtmp3.3/6, MS3.6/17, Ms1 3.6/17, ms1mx3.5/21, Error ellipse: s-maj=207.2km s-min=102.1km az=116.0, Central East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
CMIG	**Matias Romero**	**25.61**	**26**	LR		LR	08 07 24.6	
	comp=Z,138nm,19.6s,baz=198,slow=29							
APG	**El Apazote**	**26.18**	**37**	LR		LR	08 07 35.9	
	comp=Z,254nm,21.9s,baz=225,slow=29							
JTS	**JuntasAbangare**	**26.81**	**53**	LR		LR	08 07 31.2	
	comp=Z,311nm,20.4s,baz=40,slow=28							
ATAH	**Atahualpa**	**27.88**	**94**	LR		LR	08 08 29.3	
	comp=Z,111nm,18.3s,baz=280,slow=29							
LPIG	**La Paz**	**30.14**	**353**	LR		LR	08 09 59.3	
	comp=Z,87nm,18.4s,baz=206,slow=30							
TXAR	**Lajitas Array**	**35.21**	**4**	P		P	08 01 52.4	+0.5
	0.2nm,0.6s,baz=183,slow=9.0,SNR=3.7							
TXAR				LR		LR	08 13 45.3	
	comp=Z,24nm,20.5s,baz=0.0,slow=32							
SDV	**Santo Domingo**	**38.62**	**68**	LR		LR	08 14 45.4	
	comp=Z,85nm,20.2s,baz=186,slow=31							
LPAZ	**La Paz**	**38.88**	**109**	LR		LR	08 15 38.2	
	comp=Z,54nm,18.1s,baz=298,slow=32							
PPT	**Papeete**	**43.67**	**251**	LR		LR	08 16 57.1	
	comp=Z,107nm,20.4s,baz=104,slow=30							
NVAR	**Mina Array Bea**	**45.54**	**347**	P		P	08 03 17.2	-0.3
	0.1nm,0.4s,baz=178,slow=10,SNR=2.4							
NVAR				LR		LR	08 17 50.3	
	comp=Z,82nm,20.7s,baz=92,slow=30							
TKL	**Tuckaleechee C**	**46.57**	**26**	LR		LR	08 22 35.6	
	comp=Z,22nm,18.5s,baz=124,slow=36							
PLCA	**Paso Flores**	**47.18**	**143**	LR		LR	08 18 29.4	
	comp=Z,143nm,18.2s,baz=322,slow=30							
PDAR	**Pinedale Array**	**48.60**	**357**	P		P	08 03 40.6	-0.8
	0.9nm,0.9s,baz=160,slow=8.3,SNR=3.9							
PDAR				LR		LR	08 20 58.6	
	comp=Z,48nm,19.1s,baz=184,slow=32							
YBH	**Yreka Blue Hor**	**49.76**	**344**	LR		LR	08 20 01.8	
	comp=Z,66nm,21.2s,baz=169,slow=30							
CPUP	**Villa Florida**	**50.95**	**119**	LR		LR	08 21 30.8	
	comp=Z,73nm,19.9s,baz=253,slow=31							
SADO	**Sadowa**	**56.15**	**23**	LR		LR	08 27 54.1	
	comp=Z,29nm,18.3s,baz=190,slow=35							
BBB	**Bella Bella**	**60.82**	**345**	LR		LR	08 25 46.3	
	comp=Z,42nm,21.5s,baz=200,slow=30							
YKA	**Yellowknife Ar**	**68.56**	**356**	P		P	08 06 00.1	+0.2
	0.3nm,0.9s,baz=161,slow=6.5,SNR=6.5							
INK	**Inuvik**	**76.52**	**350**	P		P	08 06 47.6	+0.4
	0.4nm,0.9s,baz=164,slow=4.7,SNR=2.3							
ILAR	**Eielson Array**	**76.65**	**343**	P		P	08 06 47.7	-0.4
	0.3nm,0.7s,baz=139,slow=6.5,SNR=3.8							
H11N3	**WAKE ISLAND Hy**	**88.86**	**290**	T		T	09 47 39.8	
	baz=104							
H11N2	**WAKE ISLAND Hy**	**88.87**	**290**	T		T	09 47 35.7	
	baz=104							
H11N1	**WAKE ISLAND Hy**	**88.88**	**290**	T		T	09 47 42.7	
	baz=104							
H11S2	**WAKE ISLAND Hy**	**88.91**	**289**	T		T	09 47 45.2	
	baz=93							
H11S1	**WAKE ISLAND Hy**	**88.92**	**289**	T		T	09 47 52.8	
	baz=93							
H11S3	**WAKE ISLAND Hy**	**88.93**	**289**	T		T	09 47 45.1	
	baz=93							

*ISCJB **26** 07:57:17.7±0.9, 16.75S±0.01×74.24W±0.10, h33km, mb3.9/6, MS3.3/2, Error ellipse: s-maj=18.5km s-min=8.7km az=39.7*
*IDC **26** 07:57:25.0±3.1, 16.35S×73.94W, h73km±26km, mb3.7/6, mb1 3.8/9, mb1mx3.5/42, mbtmp4.0/9, MS3.0/4, Ms1 3.0/4, ms1mx2.7/37, Error ellipse: s-maj=28.6km s-min=23.4km az=61.0*
ISC 26 07:57:20.1±0.9, 16.73S±0.09×74.27W±0.09, h35km, n26, σ2s32/21, mb4.0/6, 4C-1D, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
PB12	**IPOC Station P**	**4.20**	**117**	↓*i*P		**Pn**	**07 58 21.1**	**-0.6**
PSGC	**Pisagua**	**4.86**	**126**	↑*i*P		**Pn**	**07 58 31.2**	**+0.3**
MNMC	**Minye Minye**	**5.05**	**119**	↑*i*P		**Pn**	**07 58 33.7**	**+0.1**
PB11	**IPOC Station P**	**5.32**	**125**	↑*i*P		**Pn**	**07 58 37.4**	**+0.2**
PB11				*i* S		**Sn**	**07 59 34.7**	**-2.6**
LPAZ	**La Paz**	**5.90**	**87**	P		**Pn**	**07 58 46.9**	**+1.2**
	5.4nm,0.3s,baz=300,slow=9.0,SNR=59							
LPAZ				S		**Sn**	**07 59 57.6**	**+5.2**
	baz=29,slow=19,SNR=1.1							
LPAZ				LR		LR	08 00 25.4	
	comp=Z,31nm,21.2s,baz=289,slow=32							
LPAZ	**La Paz**	**5.90**	**87**	↑*i*P		**Pn**	**07 58 46.4**	**+0.7**
ATAH	**Atahualpa**	**10.36**	**337**	P		**Pn**	**07 59 48.1**	**+1.5**
	0.2nm,0.3s,baz=170,slow=6.1,SNR=2.0							
ATAH				S		Sn	08 01 51.7	+10
	0.3nm,0.3s,baz=143,slow=20,SNR=1.6							
SIV	**San Ignacio**	**12.69**	**89**	P		**Pn**	**08 00 14.7**	**-3.5**
	2.0nm,0.3s,baz=279,slow=12,SNR=49							
SIV				S		**Sn**	**08 02 39.3**	**+1.0**
	baz=354,slow=13,SNR=3.4							
CPUP	**Villa Florida**	**18.41**	**124**	P		**Pn**	**08 01 33.8**	**+1.2**
	0.1nm,0.3s,baz=301,slow=9.5,SNR=3.3							
CPUP				LR		LR	08 10 02.7	
	comp=Z,67nm,20.1s,baz=296,slow=41							
PTGA	**Pitinga**	**21.25**	**43**	P		**P**	**08 02 00.2**	**-3.1**
	3.2nm,0.6s,baz=224,slow=13,SNR=7.4							
PLCA	**Paso Flores**	**24.13**	**173**	P		**P**	**08 02 36.4**	**+3.6**
	1.2nm,0.8s,baz=5.4,slow=6.9,SNR=3.7							
RPN	**Rapa Nui**	**34.03**	**246**	LR		LR	08 13 47.8	
	comp=Z,79nm,18.8s,baz=48,slow=28							
APG	**El Apazote**	**35.36**	**332**	LR		LR	08 16 37.3	
	comp=Z,32nm,18.1s,baz=101,slow=33							
DBIC	**Dimbokro**	**72.44**	**77**	P		**P**	**08 08 41.6**	**-1.9**
	6.3nm,1.0s,baz=250,slow=15,SNR=3.6							
KOWA	**Kowa**	**75.97**	**70**	P		**P**	**08 09 02.2**	**-1.9**
	1.4nm,0.6s,baz=243,slow=5.5,SNR=3.8							
TORD	**Torodi Ar. Bea**	**80.69**	**73**	P		**P**	**08 09 28.7**	**-1.5**
	2.1nm,0.7s,baz=260,slow=4.9,SNR=10							
YKA	**Yellowknife Ar**	**85.08**	**342**	P		**P**	**08 09 50.5**	**-1.4**
	0.3nm,0.8s,baz=136,slow=5.3,SNR=7.0							
H11N3	**WAKE ISLAND Hy**	**122.08**	**283**	T		T	10 30 19.6	
	baz=98,slow=74,SNR=8.0							
H11N2	**WAKE ISLAND Hy**	**122.10**	**283**	T		T	10 30 20.5	
	baz=98,slow=74,SNR=14							
H11N1	**WAKE ISLAND Hy**	**122.10**	**283**	T		T	10 30 21.0	
	baz=98,slow=74,SNR=4.1							
H11S2	**WAKE ISLAND Hy**	**122.10**	**282**	T		T	10 30 19.8	
	baz=99,slow=75,SNR=23							
H11S1	**WAKE ISLAND Hy**	**122.11**	**282**	T		T	10 30 23.0	
	baz=99,slow=75,SNR=28							
H11S3	**WAKE ISLAND Hy**	**122.12**	**282**	T		T	10 30 22.2	
	baz=99,slow=75,SNR=25							
ASAR	**Alice Springs**	**131.32**	**215**	PKP		**PKPdf**	**08 16 31.9**	**+2.4**
	0.1nm,0.3s,baz=334,slow=40,SNR=2.6							
WRA	**Warramunga Arr**	**133.98**	**219**	PKP		**PKPdf**	**08 16 36.3**	**+1.8**
	0.3nm,0.7s,baz=143,slow=1.6,SNR=3.2							
MKAR	**Makanchi Array**	**144.28**	**28**	PKP		**PKPdf**	**08 16 51.6**	**-0.9**
	0.2nm,0.5s,baz=343,slow=1.5,SNR=2.6							

*CSEM **26** 07:58:39.3, 32.63N×46.87E, h0km, ML2.8*
*ISN **26** 07:58:39.3±0.8, 32.63N×46.87E, h0km±4km, ML2.8*
*ISCJB **26** 07:58:41.6±0.7, 32.59N±0.05×46.90E±0.06, h20km, Error ellipse: s-maj=8.1km s-min=6.9km az=42.7*
*TEH **26** 07:58:41.7, 32.62N×46.89E, h10km, ML2.8*
**ISC 26 07:58:41.9±1.2,

0.4nm,0.3s,baz=74,slow=4.2,SNR=8.1
PLCA Paso Flores 146.18 131 PKPbc **PKPdf 08 21 17.5 +2.1**
0.6nm,0.4s,baz=300,slow=5.6,SNR=7.2

MEX 26 08:42:15.2±0.5, 16°46N×98°38W, h2km±7km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.25**	**105**	*i* P	Pg	08 42 19.6	-0.4
PNIG				*i* S	Sg	08 42 23.6	+0.3
TLIG	**Tlapa**	**1.11**	**351**	*e*P	Pg	08 42 34.0	-2.6
TLIG				*e*S	Sg	08 42 48.4	-2.6
VHO	**Vista Hermosa**	**1.69**	**69**	*e*P	Pn	08 42 43.2	-2.7
VHO				*e*S	Sn	08 43 03.4	-4.9
CAIG	**El Cayaco**	**1.90**	**288**	*e*P	Pn	08 42 45.3	-3.3
CAIG				*e*S	Sn	08 43 08.6	-4.5

IDC 26 08:57:46.0±62.0, 23°16S×179°04E, h0km, mb3.8/3, mb1 3.9/3, mb1mx3.6/38, mbtmp3.8/3, MS3.1/3, Ms1 3.1/3, ms1mx2.7/37, Error ellipse: s-maj=1097.0km s-min=148.8km az=86.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**22.80**	**304**	LR	LR	09 09 29.2	
	comp=Z,56nm,19.9s,baz=206,slow=31						
STKA	**Stephens Creek**	**34.19**	**247**	P	P	09 04 33.2	0.0
	1.7nm,0.7s,baz=110,slow=8.0,SNR=7.1						
ASAR	**Alice Springs**	**41.29**	**260**	P	P	09 05 32.5	-0.9
	0.8nm,0.9s,baz=101,slow=8.9,SNR=6.1						
WRA	**Warramunga Arr**	**41.58**	**266**	P	P	09 05 36.5	+0.7
	0.8nm,0.7s,baz=102,slow=8.6,SNR=5.0						
KSRS	**Korea Array**	**77.11**	**321**	LR	LR	09 38 50.7	
	comp=Z,7.8nm,21.7s,baz=250,slow=32						
PETK	**Petropavlovsk-**	**78.18**	**347**	LR	LR	09 40 45.5	
	comp=Z,13nm,19.2s,baz=129,slow=33						

IDC 26 09:02:42.2±6.7, 49°57S×122°56E, h0km, mb3.7/2, mb1 3.9/2, mb1mx3.5/38, mbtmp3.7/2, Error ellipse: s-maj=363.6km s-min=32.0km az=94.0, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**27.35**	**23**	P	P	09 08 29.1	+0.2
	1.0nm,0.9s,baz=191,slow=8.6,SNR=7.3						
VNDA	**Vanda**	**31.73**	**165**	P	P	09 09 07.4	+0.1
	0.8nm,0.8s,baz=301,slow=9.3,SNR=4.0						
YKA	**Yellowknife Ar**	**146.74**	**45**	PKPbc	PKPdf	09 22 23.6	+0.6
	0.1nm,0.8s,baz=268,slow=3.5,SNR=3.7						

*CSEM **26** 09:06:45.0±0.2, 49°82N×18°53E, h1km, ML1.5, Error ellipse: s-maj=5.1km s-min=2.8km az=7.0*
*IPEC **26** 09:06:45.0±0.2, 49°86N×18°57E, h0km, ML1.5/2, Error ellipse: s-maj=4.4km s-min=1.1km az=159.0*
PRU 26 09:06:46.1, 49°84N×18°51E, h0km, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OKC	**Ostrava-Krasne**	**0.23**	**270**	*e*PG	Pg	09 06 51.0	+0.4
OKC				*e*SG	Sg	09 06 55.1	+1.5
	comp=Z,42nm,0.6s						
OKC	**Ostrava-Krasne**	**0.23**	**270**	Pg	Pg	09 06 51.0	+0.4
OKC				Sg	Sg	09 06 55.1	+1.5
	42nm,0.6s						
MORC	**Moravsky Berou**	**0.63**	**265**	*e*Pg	Pg	09 06 58.1	-0.1
	baz=82						
MORC				*e*Sg	Sg	09 07 05.8	-0.5
	8.1nm,0.3s,baz=82						
OJC	**Ojcow**	**0.91**	**65**	*e*Pg	Pg	09 07 02.1	-1.5
OJC				*e*Sg	Sg	09 07 15.1	-0.3
OJC	**Ojcow**	**0.91**	**65**	*e*Pg	Pg	09 07 02.1	-1.5
OJC				*e*Sg	Sg	09 07 15.1	-0.3
LANS	**Liptovska Anna**	**0.93**	**137**	*e*Pg	Pg	09 07 02.6	-1.3
LANS				*e*Sg	Sg	09 07 15.7	-0.3
LANS	**Liptovska Anna**	**0.93**	**137**	*e*PG	Pg	09 07 02.6	-1.3
LANS				*e*SG	Sg	09 07 15.7	-0.3
NIE	**Niedzica**	**1.24**	**109**	*e*Pg	Pg	09 07 09.0	-0.8
NIE				*e*Sg	Sn	09 07 27.8	-0.3
VRAC	**Vranov**	**1.36**	**248**	*e*Pg	Pg	09 07 10.9	-1.2
	baz=66						
VRAC				*e*Sg	Sg	09 07 29.0	-0.6
	baz=66						
VYHS	**Vyhne**	**1.36**	**171**	*e*Pg	Pg	09 07 10.4	-1.8
VYHS				*e*Sn	Sg	09 07 28.6	-1.3
VYHS	**Vyhne**	**1.36**	**171**	*e*SG		09 06 17.3	
VYHS				*e*LG	Lg	09 06 24.6	
VYHS	**Vyhne**	**1.36**	**171**	*e*PG	Pg	09 07 10.4	-1.8
VYHS				*e*SG	Sg	09 07 28.6	-1.3
VYHS				*e*LG	Lg	09 07 31.2	
KRUC	**Moravsky**	**1.58**	**241**	*e*Pg	Pn	09 07 14.4	-1.0
	baz=60						
KRUC				*e*Sg	Sn	09 07 36.2	-0.4
	4.6nm,0.2s,baz=60						
MODS	**Modra-Piesok**	**1.68**	**209**	*e*SG		09 06 24.7	
UPC	**Upice**	**1.74**	**294**	*e*PG	Pn	09 07 17.7	+0.1
UPC				*e*SG	Sb	09 07 41.6	+0.3
UPC	**Upice**	**1.74**	**294**	Pg	Pn	09 07 17.7	+0.1
UPC				Sg	Sb	09 07 41.6	+0.3

*ISK **26** 09:07:28.8, 38°38N×40°63E, h18km, ML2.3/5*
*CSEM **26** 09:07:29.1±0.3, 38°44N×40°59E, h10km, ML2.7, Error ellipse: s-maj=6.3km s-min=5.0km az=15.0*
*DDA **26** 09:07:29.5, 38°46N×40°54E, h7km, Ml2.7*
*ISCJB **26** 09:07:30.3±0.5, 38°41N±0°03×40°57E±0°04, h16km±7km, Error ellipse: s-maj=5.8km s-min=4.6km az=8.8*
ISC 26 09:07:29.3±0.9, 38°42N±0°03×40°59E±0°03, h12km±7km, n27, σ0966/38, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HANI	**Diyarbakir_Han**	**0.15**	**267**	*i* P	**Pg**	**09 07 32.0**	**-0.9**
HANI				*i* S	**Sg**	**09 07 36.4**	**+1.0**
HANI	**Diyarbakir_Han**	**0.15**	**267**	P	**Pg**	**09 07 32.0**	**-0.9**
HANI				S	**Sg**	**09 07 36.4**	**+1.0**
BINT	**Bingol**	**0.46**	**350**	*e*Pg	**Pn**	**09 07 41.2**	**-0.7**
SVAN	**Silvan-Diyarba**	**0.55**	**119**	PG	**Pg**	**09 07 39.1**	**-1.0**
SVAN	**Silvan-Diyarba**	**0.55**	**119**	*e*Pg	**Pg**	**09 07 39.1**	**-1.0**
BNGB	**Bing˜ll**	**0.57**	**7**	PG	**Pb**	**09 07 41.2**	**-0.1**
BNGB				SG	**Sb**	**09 07 50.6**	**+1.1**
DYBB	**Diyarbakir**	**0.59**	**217**	PG	**Pg**	**09 07 40.5**	**-0.3**
DYBB				SG	**Sg**	**09 07 49.5**	**+0.9**
DIY	**Diyarbakir**	**0.60**	**209**	*e*Pg	**Pg**	**09 07 40.5**	**-0.5**
DIY				*e*Sg	**Sg**	**09 07 49.5**	**+0.6**
DIYA	**Diyarbakir**	**0.62**	**217**	*i* P	**Pb**	**09 07 42.4**	**+0.3**
DIYA				*i* S	**Sg**	**09 07 50.5**	**+0.9**
DIYA	**Diyarbakir**	**0.62**	**217**	P	**Pb**	**09 07 42.4**	**+0.3**
DIYA				S	**Sg**	**09 07 50.5**	**+0.9**
BTMN	**Batman**	**0.76**	**135**	*i* P	**Pb**	**09 07 44.8**	**+0.4**
BTMN				*i* S	**Sn**	**09 07 57.5**	**+0.1**
BTMN	**Batman**	**0.76**	**135**	P	**Pb**	**09 07 44.8**	**+0.4**
SVRC	**Sivrice-ELAZID**	**1.01**	**268**	PG	**Pn**	**09 07 49.2**	**-0.3**
SVRC				SG	**Sn**	**09 08 03.4**	**-0.3**
SVRC	**Sivrice-ELAZID**	**1.01**	**268**	*e*Pg	**Pn**	**09 07 49.2**	**-0.3**
SVRC				*e*Sg	**Sn**	**09 08 03.4**	**-0.3**
YEDI	**Yedisu-Bingol**	**1.01**	**358**	PG	**Pn**	**09 07 49.2**	**-0.3**
YEDI	**Yedisu-Bingol**	**1.01**	**358**	*e*Pg	**Pn**	**09 07 49.2**	**-0.3**
PTK	**Pertek**	**1.05**	**297**	PN	**Pg**	**09 07 49.2**	**-0.3**
PTK	**Pertek**	**1.05**	**297**	*e*Pn	**Pg**	**09 07 49.2**	**-0.3**
MARD	**Mardin**	**1.12**	**172**	*i* P	**Pb**	**09 07 49.3**	**-1.4**
MARD				*i* S	**Sg**	**09 08 05.6**	**+0.2**
SRTM	**Siirt_Merkez**	**1.14**	**112**	*i* P	**Pn**	**09 07 51.7**	**+0.6**
SRTM	**Siirt_Merkez**	**1.14**	**112**	P	**Pn**	**09 07 51.7**	**+0.6**
ELZG	**Elazig**	**1.26**	**274**	*i* P	**Pb**	**09 07 53.1**	**-0.1**
ELZG	**Elazig**	**1.26**	**274**	P	**Pb**	**09 07 53.1**	**-0.1**
MALT	**Malatya**	**1.70**	**267**	PN	**Pn**	**09 07 59.1**	**+0.1**
MALT	**Malatya**	**1.70**	**267**	*e*Pn	**Pn**	**09 07 59.1**	**+0.1**
URFA	**Urfa**	**1.71**	**235**	PN	**Pn**	**09 07 58.3**	**-0.7**
URFA	**Urfa**	**1.71**	**235**	*e*Pn	**Pn**	**09 07 58.3**	**-0.7**

IDC 26 09:09:14.1±2.4, 49°67S×124°77E, h0km, mb3.8/4, mb1 4.1/4, mb1mx3.8/42, mbtmp3.9/4, MS3.4/8, Ms1 3.4/8, ms1mx3.1/34, Error ellipse: s-maj=107.8km s-min=24.0km az=95.0, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H01W1	**Cape Leeuwin H**	**16.70**	**328**	T	T	09 30 38.6	
	baz=152,slow=74,SNR=15						
H01W2	**Cape Leeuwin H**	**16.70**	**328**	T	T	09 30 35.1	
	baz=152,slow=74,SNR=16						
H01W3	**Cape Leeuwin H**	**16.71**	**328**	T	T	09 30 39.8	
	baz=152,slow=74,SNR=14						
NWAO	**Narrogin (SRO)**	**17.64**	**339**	LR	LR	09 18 39.3	
	comp=Z,151nm,21.7s,baz=359,slow=32						
STKA	**Stephens Creek**	**21.78**	**42**	P	P	09 14 06.6	-0.8
	1.9nm,0.9s,baz=224,slow=11,SNR=4.4						
STKA				LR	LR	09 21 27.4	
	comp=Z,57nm,18.4s,baz=205,slow=34						
ASAR	**Alice Springs**	**26.93**	**19**	P	P	09 14 56.8	-0.3
	2.6nm,0.9s,baz=193,slow=9.0,SNR=17						
ASAR				LR	LR	09 24 27.3	
	comp=Z,90nm,20.9s,baz=200,slow=34						
WRA	**Warramunga Arr**	**30.63**	**18**	P	P	09 15 30.6	+0.7
	1.1nm,1.1s,baz=193,slow=7.7,SNR=5.1						
VNDA	**Vanda**	**31.27**	**165**	P	P	09 15 35.0	-0.1
	2.3nm,0.8s,baz=304,slow=8.7,SNR=12						
QSPA	**South Pole Qui**	**40.45**	**180**	LR	LR	09 33 00.3	
	comp=Z,73nm,20.0s,baz=330,slow=35						
DZM	**Mont Dzumac**	**42.77**	**65**	LR	LR	09 32 15.5	
	comp=Z,39nm,18.4s,baz=165,slow=32						
PMG	**Port Moresby**	**44.26**	**33**	LR	LR	09 34 52.1	
	comp=Z,30nm,19.8s,baz=214,slow=35						
SNAA	**Sanae**	**53.44**	**198**	LR	LR	09 40 05.5	
	comp=Z,118nm,19.7s,baz=241,slow=35						
GUMO	**Guam**	**65.43**	**22**	LR	LR	09 46 49.7	
	comp=Z,10nm,21.9s,baz=164,slow=34						
YKA	**Yellowknife Ar**	**145.79**	**45**	PKPbc	PKPdf	09 28 53.2	-0.1
	0.3nm,0.8s,baz=271,slow=2.9,SNR=8.1						

IDC 26 09:10:38.1±2.5, 15°51S×177°09W, h0km, mb3.9/3, mb1 4.3/3, mb1mx3.6/45, mbtmp3.9/3, Error ellipse: s-maj=300.8km s-min=32.8km az=158.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**46.36**	**257**	P	P	09 19 06.2	-0.2
	0.2nm,0.3s,baz=91,slow=8.4,SNR=20						
ASAR	**Alice Springs**	**46.70**	**252**	P	P	09 19 09.2	0.0
	6.0nm,0.3s,baz=85,slow=8.5,SNR=160						
TXAR	**Lajitas Array**	**83.65**	**57**	P	P	09 23 09.1	0.0
	0.3nm,0.7s,baz=231,slow=7.9,SNR=4.1						

*CSEM **26** 09:38:37.2±0.3, 39°26N×27°77E, h1km, ML2.0, Error ellipse: s-maj=9.5km s-min=6.3km az=84.0, Suspected Mining explosion.*
*ISK **26** 09:38:37.9, 39°31N×28°05E, h23km, ML1.9/4*
DDA 26 09:38:37.6, 39°28N×27°77E, h6km, Ml2.0, Suspected Mining explosion., Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STEP	**BALIKESIR_Sava**	**0.10**	**337**	*i* P	Pg	09 38 39.7	-0.1
STEP				*i* S	Sg	09 38 42.6	+1.1
STEP	**BALIKESIR_Sava**	**0.10**	**337**	P	Pg	09 38 39.7	-0.2
STEP				S	Sg	09 38 42.6	+1.2
BALB	**Balikesir**	**0.37**	**13**	PG	Pb	09 38 45.7	-0.8
BALB				SG	Sb	09 38 53.2	+0.6
BALB	**Balikesir**	**0.37**	**13**	*e*Pg	Pb	09 38 45.7	-0.8
BALB				*e*Sg	Sb	09 38 53.2	+0.6
AKHS	**Akhisar**	**0.40**	**175**	*i* P	Pg	09 38 45.1	-0.3
AKHS				*i* S	Sb	09 38 52.5	-1.1
AKHS	**Akhisar**	**0.40**	**175**	P	Pg	09 38 45.1	-0.3
BALY	**Balya**	**0.47**	**346**	*i* P	Pg	09 38 45.9	-0.9
BALY				*i* S	Sb	09 38 54.3	-1.3
BALY	**Balya**	**0.47**	**346**	P	Pg	09 38 45.9	-0.8
BALY				S	Sb	09 38 54.3	-1.3
DURS	**Dursunbey**	**0.63**	**59**	*i* P	Pg	09 38 50.4	+0.6
DURS				*i* S	Sb	09 39 00.6	+0.4
DURS	**Dursunbey**	**0.63**	**59**	P	Pg	09 38 50.4	+0.6
DURS				S	Sb	09 39 00.6	+0.4
KULA	**Kula-Manisa**	**1.03**	**137**	PG	Pg	09 38 56.5	-0.9
KULA	**Kula-Manisa**	**1.03**	**137**	*e*Pg	Pg	09 38 56.5	-0.9
BAYC	**CANAKKALE_Bayr**	**1.05**	**296**	*i* P	Pb	09 38 58.1	-0.1
BAYC	**CANAKKALE_Bayr**	**1.05**	**296**	P	Pb	09 38 58.1	-0.1
BLCB	**Balcova**	**1.06**	**213**	PN	Pn	09 38 59.8	+0.8
BLCB	**Balcova**	**1.06**	**213**	*e*Pn	Pn	09 38 59.8	+0.8
KCTX	**Karacabey (Bur**	**1.08**	**25**	PG	Pg	09 38 56.2	-2.2
KCTX	**Karacabey (Bur**	**1.08**	**25**	*e*Pg	Pg	09 38 56.2	-2.2
KRBG	**Karabiga-Canak**	**1.17**	**342**	PN	Pb	09 39 00.2	0.0
KRBG	**Karabiga-Canak**	**1.17**	**342**	*e*Pn	Pb	09 39 00.2	0.0
AYDB	**Zeytinkoy-Aydi**	**1.34**	**176**	PN	Pn	09 39 02.1	-0.8
AYDB	**Zeytinkoy-Aydi**	**1.34**	**176**	*e*Pn	Pn	09 39 02.1	-0.8

*IDC **26** 09:39:12.1±0.9, 29°19N×69°00E, h0km, mb3.7/9, mb1 4.0/10, mb1mx3.6/74, mbtmp3.8/10, ML3.4/1, MS3.3/14, Ms1 3.3/14, ms1mx3.0/69, Error ellipse: s-maj=24.0km s-min=22.4km az=14.0*
ISC 26 09:39:13.9±0.6, 29°39N±0°07×69°02E±0°08, h10km, n32, σ1999/23, mb3.7/9, MS3.2/13, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WSAR	**Wadi Sarin**	**11.15**	**239**	Pn	**Pn**	**09 41 50.8**	**-2.6**
	0.3nm,0.3s,baz=186,slow=1.1,SNR=5.8						
WSAR				Sn	Sn	09 43 47.7	-10
	0.2nm,0.3s,baz=323,slow=18,SNR=2.6						
POO	**Poona**	**11.68**	**157**	*ex*	**Pn**	**09 42 01.0**	**+0.2**
POO				*e*P	**Sn**	**09 44 15.0**	**+3.7**
PYUN	**Piuthan**	**12.33**	**93**	*e*P	**Pn**	**09 42 07.4**	**-2.4**
	10nm,0.5s						
KOLN	**Koldanda**	**12.92**	**94**	*e*P	**Pn**	**09 42 16.0**	**-1.8**
	8.0nm,0.6s						
GKN	**Gorkha**	**13.78**	**92**	*e*P	**Pn**	**09 42 27.1**	**-2.5**
	3.5nm,0.3s						
AAK	**Ala-Archa**	**13.94**	**17**	Pn	**Pn**	**09 42 31.5**	**-0.2**
	0.4nm,0.3s,baz=224,slow=3.3,SNR=13						
AAK				Sn	**Sn**	**09 45 05.6**	**-0.9**
	0.3nm,0.3s,baz=52,slow=20,SNR=5.6						
AAK				LR	LR	09 48 51.7	
	comp=Z,106nm,21.7s,baz=194,slow=41						
DMN	**Daman**	**14.26**	**93**	*e*P	**Pn**	**09 42 33.8**	**-2.4**
	18nm,0.9s						
GUN	**Gumba**	**14.88**	**92**	*e*P	**Pn**	**09 42 41.3**	**-3.5**
	14nm,0.4s						
JIRN	**Jiri**	**15.20**	**92**	*e*P	**Pn**	**09 42 46.3**	**-2.7**
	8.3nm,0.3s						
ODAN	**Odare**	**16.41**	**94**	*e*P	**Pn**	**09 43 02.8**	**-1.8**
	18nm,0.7s						
MKAR	**Makanchi Array**	**20.22**	**27**	P	**P**	**09 43 49.8**	**+0.8**
	2.8nm,0.8s,baz=209,slow=9.7,SNR=25						
MKAR				LR	LR	09 52 37.8	
	comp=Z,76nm,21.5s,baz=215,slow=40						
SHL	**Shillong**	**20.64**	**95**	*ex*	**P**	**09 43 55.0**	**+1.1**
KURBB	**Kurchatov Arra**	**22.39**	**16**	P	**P**	**09 44 12.6**	**+0.3**
	1.2nm,0.7s,baz=207,slow=9.9,SNR=4.8						
AKTO	**Aktyubinsk**	**22.60**	**341**	LR		09 53 42.7	
	comp=Z,55nm,18.3s,baz=154,slow=38						
BVAR	**Borovoye Array**	**23.63**	**2**	LR	LR	09 53 39.0	
	comp=Z,56nm,18.8s,baz=177,slow=36						
KBZ	**Khabaz**	**25.26**	**312**	P	**P**	**09 44 41.8**	**+1.6**
	2.7nm,1.0s,baz=130,slow=7.8,SNR=3.3						
ZALV	**Zalesovo Beam**	**27.10**	**21**	LR	LR	09 56 52.9	
	comp=Z,57nm,18.9s,baz=252,slow=39						
ARU	**Arti**	**28.02**	**348**	LR	LR	09 56 51.1	
	comp=Z,42nm,19.8s,baz=148,slow=38						
MMAI	**Mount Meron Ar**	**28.91**	**286**	LR	LR	09 58 30.5	
	comp=Z,22nm,19.2s,baz=105,slow=40						
PSI	**Prapat**	**38.80**	**127**	LR	LR	10 03 30.0	
	comp=Z,86nm,18.3s,baz=220,slow=38						
FINES	**FINESS Array B**	**42.68**	**331**	P	**P**	**09 47 12.4**	**+1.8**
	0.7nm,0.5s,baz=115,slow=9.4,SNR=3.7						
FINES				LR	LR	10 07 16.2	
	comp=Z,57nm,19.0s,baz=84,slow=39						
KMBO	**Kilima Mbogo**	**42.92**	**231**	LR	LR	10 05 44.3	
	comp=Z,31nm,18.3s,baz=102,slow=37						
HFS	**Hagfors**	**47.84**	**326**	LR	LR	10 11 12.8	
	comp=Z,34nm,19.0s,baz=115,slow=40						
NOA	**NORSAR Array B**	**49.24**	**327**	LR	LR	10 11 45.3	
	comp=Z,43nm,18.9s,baz=325,slow=40						
KLR	**Kul'dur**	**50.89**	**49**	P	**P**	**09 48 15.9**	**+0.8**
	0.1nm,0.8s,baz=268,slow=5.5,SNR=4.3						
SPITS	**Spitsbergen Ar**	**54.06**	**348**	LR	LR	10 15 36.7	
	comp=Z,22nm,19.5s,baz=135,slow=40						
BORG	**Borgarnes**	**63.93**	**331**	LR	LR	10 23 41.8	
	comp=Z,33nm,18.7s,baz=304,slow=42						

TORD Torodi Ar. Bea 64.02 271 P **P 09 49 46.9 -1.2**
0.8nm,1.0s,baz=82,slow=4.0,SNR=4.5
WRA Warramunga Arr 79.79 120 P **P 09 51 22.1 -0.7**
1.0nm,0.8s,baz=321,slow=4.9,SNR=6.6
ASAR Alice Springs 81.68 123 P **P 09 51 32.4 -0.5**
1.2nm,0.9s,baz=307,slow=4.7,SNR=8.8
ILAR Eielson Array 82.06 15 P **P 09 51 35.8 +1.6**
0.3nm,0.7s,baz=327,slow=6.5,SNR=3.2
YKA Yellowknife Ar 88.39 2 P **P 09 52 06.1 +0.3**
0.2nm,0.5s,baz=350,slow=4.9,SNR=9.8

BUC 26 09:40:29.5±0.4, 45°26N×25°39E, h5km, MD2.1/2, 2C-3D, Error ellipse: s-maj=5.4km s-min=1.1km az=356.0, Romania

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VOIR		**0.29**	**307**	*i* P	Pg	09 40 35.7	+0.4
VOIR		**0.29**	**307**	S	Sg	09 40 40.3	+1.1
VOIR		**0.29**	**307**	*i* P	Pg	09 40 35.7	+0.4
VOIR				*i* S	Sg	09 40 40.3	+1.1
MLR	**Muntele Rosu**	**0.46**	**60**	S	Sb	09 40 45.8	-1.5
MLR	**Muntele Rosu**	**0.46**	**60**	*i* P	Pg	09 40 39.0	+0.7
MLR				*i* S	Sb	09 40 45.8	-1.5
ARR	**Arges**	**0.54**	**282**	*i* P	Pg	09 40 40.5	+0.6
ARR	**Arges**	**0.54**	**282**	*i* P	Pg	09 40 40.5	+0.6
ARR				*i* S	Sg	09 40 48.1	+1.2

*ISK **26** 09:46:07.8, 37°32N×31°92E, h10km, ML2.6/5*
*ISCJB **26** 09:46:08.2±0.4, 37°27N±0°03×31°95E±0°04, h0km, Error ellipse: s-maj=4.2km s-min=3.8km az=3.7*
*CSEM **26** 09:46:08.2±0.2, 37°28N×31°92E, h1km, ML2.5, Error ellipse: s-maj=4.9km s-min=4.3km az=95.0, Suspected Mining explosion.*
*DDA **26** 09:46:08.6, 37°25N×31°96E, h8km, Ml2.5, Suspected Mining explosion.*
ISC 26 09:46:07.8±0.8, 37°25N±0°03×31°86E±0°03, h0km, n28, σ0977/39, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KEPZ	**Antalya-Kepez**	**0.41**	**211**	*i* P	**Pb**	**09 46 17.3**	**-0.5**
KEPZ				*i* S	**Sb**	**09 46 25.0**	**+0.4**
KEPZ	**Antalya-Kepez**	**0.41**	**211**	P	**Pb**	**09 46 17.3**	**-0.5**
KEPZ				S	**Sb**	**09 46 25.0**	**+0.4**
KMER	**Konya-Meram**	**0.66**	**38**	*i* P	**Pg**	**09 46 20.1**	**-0.2**
KMER				*i* S	**Sg**	**09 46 29.7**	**+0.9**
KMER	**Konya-Meram**	**0.66**	**38**	P	**Pg**	**09 46 20.1**	**-0.2**
KMER				S	**Sg**	**09 46 29.7**	**+0.9**
SUTC	**Sutluce-Ispart**	**0.72**	**288**	PG	**Pb**	**09 46 23.2**	**-0.1**
SUTC				SG	**Sb**	**09 46 33.3**	**-0.6**
SUTC	**Sutluce-Ispart**	**0.72**	**288**	*e*Pg	**Pb**	**09 46 23.2**	**-0.1**
SUTC				*e*Sg	**Sb**	**09 46 33.3**	**-0.6**
DOGA	**KONYA_Doganhis**	**0.87**	**350**	*i* P	**Pg**	**09 46 24.1**	**-0.3**
DOGA				*i* S	**Sb**	**09 46 39.0**	**+0.9**
DOGA	**KONYA_Doganhis**	**0.87**	**350**	P	**Pg**	**09 46 24.1**	**-0.3**
LADK	**Ladik-KONYA**	**1.03**	**23**	PG	**Pg**	**09 46 26.7**	**-0.8**
LADK				SG	**Sg**	**09 46 39.9**	**-0.9**
LADK	**Ladik-KONYA**	**1.03**	**23**	*e*Pg	**Pg**	**09 46 26.7**	**-0.8**
LADK				*e*Sg	**Sg**	**09 46 39.9**	**-0.9**
ERMK	**Ermenek**	**1.04**	**125**	*i* P	**Pg**	**09 46 27.4**	**-0.2**
ERMK	**Ermenek**	**1.04**	**125**	P	**Pg**	**09 46 27.4**	**-0.2**
BAGO	**Egridir - ISPA**	**1.13**	**311**	*i* P	**Pn**	**09 46 30.8**	**-0.2**
BAGO				*i* S	**Sn**	**09 46 48.3**	**+1.1**
KORT	**Korkueli**	**1.23**	**259**	PN	**Pn**	**09 46 32.8**	**+0.4**
KORT	**Korkueli**	**1.23**	**259**	*e*Pn	**Pn**	**09 46 32.8**	**+0.4**
KDHN	**Kadinhani**	**1.28**	**9**	*i* P	**Pg**	**09 46 32.2**	**-0.2**
KDHN	**Kadinhani**	**1.28**	**9**	P	**Pg**	**09 46 32.2**	**-0.2**
TEKE	**Tekeli-Mersin**	**1.49**	**137**	PN	**Pn**	**09 46 35.4**	**-0.4**
TEKE	**Tekeli-Mersin**	**1.49**	**137**	*e*Pn	**Pn**	**09 46 35.4**	**-0.4**
TEVE	**Tevekalti-Mers**	**1.51**	**122**	PN	**Pn**	**09 46 35.5**	**-0.6**
TEVE	**Tevekalti-Mers**	**1.51**	**122**	*e*Pn	**Pn**	**09 46 35.5**	**-0.6**
GULN	**MERSIN_Gulnar**	**1.72**	**128**	*i* P	**Pg**	**09 46 40.0**	**-0.7**
GULN	**MERSIN_Gulnar**	**1.72**	**128**	P	**Pg**	**09 46 40.0**	**-0.7**
AKKU	**Akkuyu-Mersin**	**1.74**	**128**	PN	**Pn**	**09 46 39.1**	**-0.1**
AKKU	**Akkuyu-Mersin**	**1.74**	**128**	*e*Pn	**Pn**	**09 46 39.1**	**-0.1**
KERG	**Konya-Eregli**	**1.81**	**84**	*i* P	**Pb**	**09 46 41.5**	**-0.4**
KERG				*i* S	**Sg**	**09 47 09.1**	**+3.1**
KERG	**Konya-Eregli**	**1.81**	**84**	P	**Pb**	**09 46 41.5**	**-0.4**
KIZK	**Mersin**	**1.98**	**112**	PN	**Pn**	**09 46 42.1**	**-0.5**

IDC 26 09:47:07.1±49.0, 15°61S×173°45W, h0km, mb3.8/3, mb1 3.9/3, mb1mx3.5/49, mbtmp3.8/3, Error ellipse: s-maj=946.4km s-min=176.7km az=79.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**43.89**	**240**	P	P	09 55 15.2	-0.5
	0.

PMG				Sn	Sn	10 13 52.1	-1.7		
	7.0nm,0.3s,baz=64,slow=23,SNR=12								
PMG				LR	LR	10 14 57.8			
	comp=Z,34nm,20.9s,baz=352,slow=40								
WRA	**Warramunga Arr**	**18.49**	**214**	P	Pn	10 15 55.0	+0.6		
	0.2nm,0.3s,baz=27,slow=11,SNR=14								
ASAR	**Alice Springs**	**21.79**	**209**	P	P	10 16 30.1	-0.2		
	0.4nm,0.6s,baz=30,slow=12,SNR=6.2								
FITZ	**Fitzroy Crossi**	**23.30**	**234**	P	P	10 16 46.0	-0.3		
	3.9nm,0.9s,baz=45,slow=8.4,SNR=2.2								
STKA	**Stephens Creek**	**27.27**	**187**	P	P	10 17 23.0	+0.3		
	0.9nm,0.4s,baz=20,slow=8.5,SNR=8.5								

IDC ***26*** *10:14:38.3±0.9,3°.53N×92°.71E,h0km,mb4.0/13, mb1 4.2/16,mb1mx3.9/73,mbtmp4.1/16,ML4.3/3,MS3.2/7, Ms1 3.2/7,ms1mx2.8/64,Error ellipse: s-maj=34.0km s-min=14.7km az=42.0*

ISCJB ***26*** *10:14:39.8±0.6,3°.52N±0°.09×92°.74E±0°.06,h24km, mb4.1/16,MS3.4/5,Error ellipse: s-maj=14.4km s-min=6.1km az=28.2*

NEIC ***26*** *10:14:39.6±0.3,3°.52N×92°.69E,h10km,mb4.5/4,Error ellipse: s-maj=9.1km s-min=4.6km az=31.0*

ISC 26 10:14:41.8±0.8,3°.5N±0°.1×92°.68E±0°.08,h24km,n39, σ0s71/38,mb4.2/16,MS3.5/5,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res
				ID			h m s	ISC
GSI	**Gunungsitoli**	**5.36**	**114**	*e*Pn	**Pn**		**10 15 59.5**	**-0.9**
PSI	**Prapat**	**6.28**	**96**	Pn	**Pn**		**10 16 12.5**	**-0.5**
	3.2nm,0.3s,baz=308,slow=6.1,SNR=7.8							
PSI				Sn	**Sn**		**10 17 24.4**	**+0.2**
	2.2nm,0.3s,baz=37,slow=19,SNR=4.2							
PSI				LR	LR		10 18 26.6	
	comp=Z,94nm,21.8s,baz=360,slow=36							
PSI	**Prapat**	**6.28**	**96**	*e*Pn	**Pn**		**10 16 12.2**	**-0.9**
PSI				*e*Sn	**Sn**		**10 17 24.4**	**+0.2**
KULM	**Kulim**	**8.14**	**77**	*e*Pn	**Pn**		**10 16 37.5**	**-1.1**
IPM	**Ipoh**	**8.38**	**83**	*e*Pn	**Pn**		**10 16 40.7**	**-1.2**
PALK	**Pallekele**	**12.49**	**288**	Pn	**Pn**		**10 17 36.8**	**-1.5**
	2.8nm,0.3s,baz=116,slow=12,SNR=13							
CMAR	**Chiang Mai Arr**	**16.06**	**22**	Pn	**Pn**		**10 18 26.5**	**+0.3**
	0.5nm,0.3s,baz=216,slow=13,SNR=9.2							
CMAR				LR	LR		10 25 46.6	
	comp=Z,46nm,18.0s,baz=205,slow=42							
SHL	**Shillong**	**21.93**	**358**	*e*P	**P**		**10 19 35.0**	**+1.1**
SHL	**Shillong**	**21.93**	**358**	*e*P	**P**		**10 19 33.3**	**-0.5**
	18nm,1.1s							
LSA	**Lhasa**	**26.08**	**357**	*e*P	**P**		**10 20 13.6**	**-0.6**
	6.9nm,0.6s							
MK01	**Makanchi Array**	**44.01**	**350**	*e*P	**P**		**10 22 47.5**	**0.0**
MK31	**Makanchi Array**	**44.04**	**350**	*e*P	**P**		**10 22 47.6**	**0.0**
MK32	**Makanchi Array**	**44.04**	**350**	*e*P	**P**		**10 22 47.9**	**+0.2**
MKAR	**Makanchi Array**	**44.04**	**350**	P	**P**		**10 22 47.9**	**+0.2**
	3.8nm,0.7s,baz=168,slow=8.7,SNR=34							
MKAR	**Makanchi Array**	**44.04**	**350**	*e*P	**P**		**10 22 47.5**	**-0.1**
	21nm,0.7s							
SONM	**Songino Array**	**45.70**	**13**	LR	LR		10 43 57.8	
	comp=Z,50nm,19.0s,baz=256,slow=38							
GEYT	**Alibeck**	**46.58**	**322**	P	**P**		**10 23 09.3**	**+1.3**
	3.0nm,0.6s,baz=163,slow=7.7,SNR=6.9							
WR1	**Warramunga Arr**	**47.09**	**121**	*e*P	**P**		**10 23 11.8**	**-0.4**
	2.6nm,0.9s							
WRA	**Warramunga Arr**	**47.09**	**121**	P	**P**		**10 23 11.8**	**-0.4**
	0.6nm,0.9s,baz=299,slow=8.8,SNR=4.0							
ASAR	**Alice Springs**	**48.40**	**126**	P	**P**		**10 23 21.6**	**-0.7**
	0.6nm,0.9s,baz=300,slow=7.4,SNR=3.7							
KURBB	**Kurchatov Arra**	**48.43**	**348**	P	**P**		**10 23 22.4**	**+0.3**
	1.8nm,0.7s,baz=170,slow=6.9,SNR=19							
KURK	**Kurchatov**	**48.50**	**348**	*e*P	**P**		**10 23 22.4**	**-0.2**
KURK				*e*P	**P**		**10 23 22.8**	**+0.2**
ZALV	**Zalesovo Beam**	**50.68**	**354**	P	**P**		**10 23 39.6**	**+0.4**
	2.6nm,0.5s,baz=187,slow=7.4,SNR=5.3							
ZALV	**Zalesovo Beam**	**50.68**	**354**	*e*P	**P**		**10 23 39.5**	**+0.3**
ZAA1	**Zalesovo Array**	**50.68**	**354**	*e*P	**P**		**10 23 39.6**	**+0.4**
GUMO	**Guam**	**52.46**	**76**	LR	LR		10 48 30.2	
	comp=Z,10nm,18.2s,baz=226,slow=39							
BVAR	**Borovoye Array**	**52.66**	**343**	P	**P**		**10 23 53.5**	**-0.5**
	1.4nm,0.5s,baz=242,slow=41,SNR=5.5							
ABKAR	**Akbulak array**	**53.40**	**334**	*e*P	**P**		**10 23 59.6**	**+0.1**
STKA	**Stephens Creek**	**58.26**	**131**	P	**P**		**10 24 36.5**	**+1.7**
	2.7nm,1.1s,baz=318,slow=3.0,SNR=3.2							
KBZ	**Khabaz**	**59.39**	**320**	P	**P**		**10 24 43.0**	**+0.7**
	2.1nm,0.9s,baz=201,slow=6.4,SNR=5.3							
BR101	**Keskin Array S**	**64.22**	**313**	*e*P	**P**		**10 25 15.0**	**-0.2**
BRTR	**Keskin Array B**	**64.22**	**313**	P	**P**		**10 25 15.0**	**-0.2**
	0.6nm,0.7s,baz=91,slow=7.4,SNR=3.5							
TIXI	**Tiksi**	**71.76**	**11**	P	**P**		**10 26 01.5**	**-0.3**
	2.0nm,0.5s,baz=234,slow=2.8,SNR=7.3							
BOSA	**Boshof**	**72.07**	**239**	LR	LR		10 56 57.2	
	comp=Z,31nm,18.2s,baz=72,slow=35							
FIA0	**FINESS Array S**	**75.88**	**333**	*e*P	**P**		**10 26 25.6**	**-0.4**
FINES	**FINESS Array B**	**75.88**	**333**	P	**P**		**10 26 25.6**	**-0.4**
	1.0nm,0.7s,baz=225,slow=24,SNR=2.6							
FINES				LR	LR		11 02 46.3	
	comp=Z,20nm,18.3s,baz=202,slow=38							
GEA0	**GERESS Array S**	**80.10**	**319**	*e*P	**P**		**10 26 50.5**	**+0.5**
GERES	**GERESS Array B**	**80.10**	**319**	P	**P**		**10 26 51.0**	**+1.0**
	1.1nm,0.7s,baz=101,slow=4.2,SNR=8.7							
NOA	**NORSAR Array B**	**82.80**	**331**	LR	LR		11 07 44.4	
	comp=Z,16nm,18.0s,baz=270,slow=38							

MAN 26 10:18:11,16°.43N×119°.93E,h24km,mb3.5,ML2.1,MS1.5, Luzon

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res
				ID			h m s	ISC
BOLP	**Bolinao**	**0.06**	**201**	*e*P	Pb		10 18 16.2	+1.0
BOLP				*e*S	Sb		10 18 22.0	+3.9
BALP	**Baler**	**1.72**	**113**	*e*P	Pn		10 18 40.7	+1.2

ISCJB ***26*** *10:22:04.8±0.5,21°.36S±0°.03×68°.71W±0°.09,h118km±6km, mb4.0/5,Error ellipse: s-maj=14.2km s-min=5.6km az=2.8*

GUC ***26*** *10:22:05.1±0.6,21°.34S×68°.76W,h113km±4km,ML4.0*

IDC ***26*** *10:22:07.1±0.9,21°.28S×68°.39W,h118km±7km,mb3.7/5, mb1 3.7/9,mb1mx3.5/41,mbtmp4.0/9,MS2.5/1,Ms1 2.6/1, ms1mx2.3/36,Error ellipse: s-maj=29.2km s-min=16.1km az=97.0*

ISC 26 10:22:05.7±0.6,21°.34S±0°.04×68°.70W±0°.08,h112km±6km, n23,σ1s11/36,mb4.0/5,7C-1D,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res
				ID			h m s	ISC
PB09	**IPOC Station P**	**0.68**	**228**	⇑*i*P	**Pn**		**10 22 24.1**	**-0.1**
PB09				*i* S	**Sn**		**10 22 38.3**	**0.0**
PB09				IAML			10 22 39.8	
	comp=E,4μm,0.4s							
PB01	**IPOC Station P**	**0.80**	**292**	⇑*i*P	**Pn**		**10 22 24.6**	**-0.6**
PB01				*e*S	**Sn**		**10 22 39.2**	**-0.6**
PB01				IAML			10 22 39.8	
	comp=N,7μm,0.5s							
PB02	**IPOC Station P**	**1.12**	**271**	⇑*i*P	**Pn**		**10 22 28.0**	**-0.4**
PB02				*i* S	**Sn**		**10 22 45.3**	**-0.3**
PB07	**IPOC Station P**	**1.17**	**251**	⇑*i*P	**Pn**		**10 22 28.6**	**-0.4**
PB07				*i* S	**Sn**		**10 22 46.4**	**-0.4**
PB07				IAML			10 22 49.3	
	comp=N,3μm,0.3s							
PB08	**IPOC Station P**	**1.27**	**340**	*e*P	**Pn**		**10 22 30.7**	**+0.4**
PB08				*i* S	**Sn**		**10 22 49.8**	**+0.9**
PB08				IAML			10 22 51.3	
	comp=E,2μm,0.5s							
PB06	**IPOC Station P**	**1.58**	**211**	⇑*i*P	**Pn**		**10 22 33.5**	**-0.2**
PB06				*i* S	**Sn**		**10 22 54.9**	**-0.2**
PB06				IAML			10 22 56.7	
	comp=N,1μm,0.3s							
PB04	**IPOC Station P**	**1.67**	**234**	⇑*i*P	**Pn**		**10 22 34.1**	**-0.8**
PB04				*i* S	**Sn**		**10 22 57.0**	**-0.1**
PB04				IAML			10 23 03.8	
	comp=N,2μm,0.1s							
PB11	**IPOC Station P**	**1.81**	**330**	⇓*i*P	**Pn**		**10 22 36.5**	**-0.1**
PB11				*i* S	**Sn**		**10 22 59.9**	**-0.2**
PB11				IAML			10 23 04.6	
	comp=E,2μm,0.3s							
PSGC	**Pisagua**	**2.19**	**322**	⇑*i*P	**Pn**		**10 22 40.4**	**-0.9**
PSGC				*i* S	**Sn**		**10 23 08.0**	**-0.6**
PSGC				IAML			10 23 13.5	
	comp=E,1μm,0.4s							
MNMC	**Minye Minye**	**2.36**	**339**	*e*P	**Pn**		**10 22 43.9**	**+0.3**
MNMC				*i* S	**Sn**		**10 23 13.7**	**+1.1**
MNMC				IAML			10 23 20.4	
	comp=E,1μm,0.2s							
LPAZ	**La Paz**	**5.05**	**6**	P	**Pn**		**10 23 22.2**	**+2.3**
	comp=E,1.9nm,0.3s,baz=215,slow=3.4,SNR=38							
LPAZ				LR	LR		10 25 47.1	
	comp=E,52nm,20.8s,baz=154,slow=44							
SIV	**San Ignacio**	**8.97**	**55**	P	**Pn**		**10 24 08.6**	**-3.8**
	comp=E,7.7nm,0.3s,baz=252,slow=12,SNR=158							
CPUP	**Villa Florida**	**11.53**	**118**	P	**Pn**		**10 24 46.0**	**-0.8**
	comp=E,0.1nm,0.3s,baz=304,slow=9.9,SNR=2.9							
PLCA	**Paso Flores**	**19.39**	**184**	P	**Pn**		**10 26 24.4**	**-0.7**
	comp=E,0.2nm,0.3s,baz=24,slow=9.9,SNR=6.7							
PTGA	**Pitinga**	**22.19**	**24**	P	**P**		**10 26 50.4**	**-2.5**
	comp=E,2.2nm,0.4s,baz=316,slow=22,SNR=6.3							
VNA3	**Neumayer Olymp**	**60.16**	**161**	P	**P**		**10 32 01.5**	**+0.4**
VNA2	**Neumayer--Watz**	**60.73**	**161**	P	**P**		**10 32 05.5**	**+0.4**
	baz=307,slow=5.2							
SNAA	**Sanae**	**62.36**	**161**	P	**P**		**10 32 16.6**	**+0.5**
SNAA	**Sanae**	**62.36**	**161**	P	**P**		**10 32 16.0**	**0.0**
	comp=E,2.2nm,0.9s,baz=249,slow=11,SNR=4.5							
QSPA	**South Pole Qui**	**68.85**	**180**	P	**P**		**10 32 59.5**	**+1.6**
	comp=E,1.3nm,0.5s,baz=140,slow=2.0,SNR=10							
TORD	**Torodi Ar. Bea**	**77.11**	**70**	P	**P**		**10 33 46.8**	**-0.6**
	comp=E,1.7nm,0.7s,baz=255,slow=5.3,SNR=18							
TORD				pP	**pP**		**10 34 16.9**	**+1.2**
	comp=E,1.1nm,1.1s,baz=266,slow=4.8,SNR=2.3							
YKA	**Yellowknife Ar**	**91.10**	**341**	P	**P**		**10 34 57.8**	**+0.7**
	comp=E,0.4nm,0.5s,baz=134,slow=4.6,SNR=16							
YKA				pP	**pP**		**10 35 27.0**	**+0.7**
	comp=E,0.2nm,0.7s,baz=132,slow=4.7,SNR=3.8							
MKAR	**Makanchi Array**	**145.39**	**36**	PKPbc	**PKPab**		**10 41 31.2**	**+0.4**
	comp=E,0.7nm,0.8s,baz=321,slow=3.4,SNR=6.9							
MKAR				pPKPbc	**pPKPdf**		**10 42 01.6**	**+0.8**
	comp=E,0.8nm,0.9s,baz=313,slow=2.7,SNR=4.3							

MEX 26 10:29:05.8±0.7,16°.49N×98°.53W,h16km±8km,MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res
				ID			h m s	ISC
PNIG	**Pinotepa**	**0.40**	**103**	*e*P	Pg		10 29 12.6	-1.4
PNIG				*e*S	Sg		10 29 17.9	-1.6
TLIG	**Tlapa**	**1.07**	**358**	*e*P	Pb		10 29 22.7	-3.4
TLIG				*e*S	Sb		10 29 34.9	-5.0
CAIG	**El Cayaco**	**1.75**	**289**	*e*P	Pn		10 29 31.8	-3.8
CAIG				*e*S	Sn		10 29 52.6	-4.9

CSEM ***26*** *10:46:28.3,32°.58N×46°.93E,h38km,ML3.2*

ISN ***26*** *10:46:28.3±0.6,32°.58N×46°.93E,h38km±4km,ML3.2*

TEH 26 10:46:29.9,32°.60N×46°.92E,h28km,ML3.2,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res
				ID			h m s	ISC
IKOM	**Komasi**	**1.64**	**17**	*e*Pn	Pn		10 46 57.2	+0.1
IKOM				*e*Sg	Sb		10 47 21.8	+1.8
IKOM				*e*AMB	AMB		10 47 23.9	
	comp=Z,6μm,0.2s							
NSR	**Nassriya**	**1.72**	**203**	*e*Pn	Pn		10 46 57.0	-1.0
	SNR=5.0							
NSR				*e*Sn	Sn		10 47 17.0	-2.1
	SNR=5.0							
IGHG	**Ghaleghazi**	**1.75**	**350**	*e*Pn	Pn		10 46 58.2	-0.4
IGHG				*e*Sg	Sb		10 47 25.1	+2.1
IGHG				*e*AMB	AMB		10 47 32.8	
	comp=Z,5μm,0.3s							
IVIS	**Veis**	**1.92**	**358**	*e*Pn	Pn		10 47 00.3	-0.5
IVIS				*e*AMB	AMB		10 47 30.3	
	comp=Z,2μm,0.2s							
BHD	**Baghdad**	**2.24**	**288**	*e*Pn	Pn		10 47 05.0	-0.1
	SNR=5.0							
BHD				*e*Sn	Sn		10 47 31.5	-0.3
	SNR=5.0							
ILIN	**Lien**	**2.31**	**1**	*e*AMB	AMB		10 47 46.2	
	comp=Z,923nm,0.2s							
ILIN				*e*Pn	Pn		10 47 06.7	+0.4
HAGD	**Aghdareh**	**2.88**	**39**	*e*Pn	Pn		10 47 13.7	-0.5
HKZM	**Kohzaman**	**3.22**	**30**	*e*Pn	Pn		10 47 20.2	+1.3
HKZM				*e*AMB	AMB		10 48 06.4	
	comp=Z,99nm,0.4s							
QABG	**Abgarm-Qazvin**	**3.80**	**35**	*e*Pn	Pn		10 47 26.9	+0.1
IKLH	**Kolahrood**	**3.98**	**78**	*e*Pn	Pn		10 47 29.3	0.0
IKLH				*e*AMB	AMB		10 47 41.2	
	comp=Z,243nm,0.2s							
IZEF	**Zefreh**	**4.57**	**85**	*e*Pn	Pn		10 47 36.2	-1.2
IRAM	**Ramesheh**	**4.70**	**98**	*e*Pn	Pn		10 47 38.7	-0.4
QALM	**Alamut, Qazvin**	**4.90**	**38**	*e*Pn	Pn		10 47 41.2	-0.8
RTB	**Rutbah**	**5.58**	**276**	*e*Pn	Pn		10 47 51.0	-0.2
	SNR=5.0							
RTB				*e*Sn	Sn		10 48 52.0	-2.4
	SNR=5.0							

CSEM ***26*** *11:09:55.9,38°.67N×43°.28E,h7km,ML2.5*

DDA ***26*** *11:09:55.9,38°.67N×43°.28E,h7km,Ml2.5*

ISC 26 11:09:54.4±1.4,38°.59N±0°.05×43°.30E±0°.08,h31km±9km, n10,σ0s61/17,Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res
				ID			h m s	ISC
VANB	**Van**	**0.07**	**86**	PG	**Pb**		**11 10 00.1**	**+0.1**
VANB				SG	**Sb**		**11 10 04.1**	**+0.3**
TVAN	**Van**	**0.11**	**125**	*i* P	**Pb**		**11 10 00.4**	**+0.1**
TVAN	**Van**	**0.11**	**125**	P	**Pb**		**11 10 00.4**	**+0.1**
GEVA	**Gevas**	**0.33**	**214**	*i* P	**Pb**		**11 10 02.7**	**0.0**
GEVA				*i* S	**Sn**		**11 10 09.9**	**+0.8**
GEVA	**Gevas**	**0.33**	**214**	P	**Pb**		**11 10 02.7**	**0.0**
GEVA				S	**Sn**		**11 10 09.9**	**+0.8**
ADCV	**BITLIS_Adilcev**	**0.50**	**296**	*i* P	**Pb**		**11 10 05.1**	**+0.1**
ADCV				*i* S	**Sb**		**11 10 12.7**	**+0.4**
ADCV	**BITLIS_Adilcev**	**0.50**	**296**	P	**Pb**		**11 10 05.1**	**+0.1**
ADCV				S	**Sb**		**11 10 12.7**	**+0.4**
TUTA	**Tutak**	**0.89**	**335**	*i* P	**Pb**		**11 10 12.4**	**+0.7**
TUTA				*i* S	**Sb**		**11 10 22.5**	**-0.9**
TUTA	**Tutak**	**0.89**	**335**	P	**Pb**		**11 10 12.4**	**+0.7**
TUTA				S	**Sb**		**11 10 22.5**	**-0.9**
GURO	**Guroymak-BITLI**	**0.99**	**268**	*e*PG	**Pn**		**11 10 11.5**	**-0.8**

ISCJB ***26*** *11:12:47.7±0.6,36°.22N±0°.04×142°.20E±0°.06,h23km, mb3.7/12,MS3.5/11,Error ellipse: s-maj=7.0km s-min=4.8km az=19.1*

JMA ***26*** *11:12:50.0±0.1,36°.27N×142°.07E,h64km±3km,M3.4*

IDC ***26*** *11:12:53.1±2.0,36°.15N×141°.96E,h45km±17km,mb3.5/12, mb1 3.7/14,mb1mx3.5/64,mbtmp3.7/14,ML3.7/2,MS3.4/16, Ms1 3.4/16,ms1mx3.1/50,Error ellipse: s-maj=20.6km s-min=13.8km az=99.0*

ISC 26 11:12:49.4±0.7,36°.23N±0°.05×142°.11E±0°.06,h23km,n47, σ1s72/38,mb3.7/12,MS3.5/11,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res
				ID			h m s	ISC
CHOJ	**Chosi**	**1.14**	**243**	P	**Pn**		**11 13 10.0**	**+0.1**
CHOJ				S	**Sn**		**11 13 24.9**	**+0.1**
JHO	**Hitachi**	**1.30**	**288**	P	**Pn**		**11 13 11.8**	**-0.3**
ONAJ	**Iwakimizuishiy**	**1.37**	**310**	P	**Pn**		**11 13 12.2**	**-1.0**
JFK	**Kawauchi**	**1.51**	**319**	P	**Pn**		**11 13 14.4**	**-0.7**
BSO1	**Boso 1**	**1.82**	**211**	P	**Pn**		**11 13 19.6**	**+0.8**
BSO1				S	**Sn**		**11 13 41.9**	**+1.0**
JFT	**Otama**	**1.92**	**313**	P	**Pn**		**11 13 20.7**	**0.0**
JFT				S	**Sn**		**11 13 43.2**	**-0.9**
BSO3	**Boso 3**	**1.93**	**223**	P	**Pn**		**11 13 21.5**	**+0.9**
JMM	**Marumori**	**1.94**	**328**	P	**Pn**		**11 13 20.0**	**-1.0**
JAG	**Ashikaga**	**2.15**	**276**	P	**Pn**		**11 13 24.0**	**+0.1**
JRY	**Ryogami san**	**2.60**	**266**	P	**Pn**		**11 13 30.4**	**+0.3**
JOD2	**Odawara 2**	**2.64**	**250**	P	**Pn**		**11 13 31.2**	**+0.6**
JOD2				S	**Sn**		**11 14 02.0**	**+0.1**
JMK	**Ichinoseki**	**2.81**	**346**	P	**Pn**		**11 13 32.2**	**-0.7**
MJAR	**Matsushiro Arr**	**3.16**	**277**	P	**Pn**		**11 13 39.4**	**+1.6**
	4.1nm,0.3s,baz=105,slow=7.1,SNR=32							
MJAR				LR	LR		11 15 08.0	
	comp=Z,350nm,19.6s,baz=130,slow=45							
MAT	**Matsushiro**	**3.16**	**277**	P	**Pn**		**11 13 39.4**	**+1.6**
MAT				*e*S	**Sb**		**11 14 19.4**	**-3.6**
JHJ	**Hachijo jima 2**	**3.64**	**212**	P	**Pn**		**11 13 44.5**	**+0.2**
	36nm,0.3s,baz=78,slow=19,SNR=8.6							
JHJ				S	**Sn**		**11 14 25.6**	**-1.0**
	24nm,0.3s,baz=289,slow=24,SNR=5.7							
ASAJ	**Asahikawa**	**7.89**	**3**	P	**Pn**		**11 14 41.5**	**-1.2**
	0.5nm,0.3s,baz=189,slow=17,SNR=4.6							
JCJ	**Chichijima**	**9.10**	**180**	P	**Pn**		**11 14 58.2**	**-1.2**
	2.6nm,0.3s,baz=353,slow=20,SNR=9.0							
JCJ				S	**Sn**		**11 16 35.0**	**-6.2**
	5.5nm,0.3s,baz=280,slow=21,SNR=5.4							
JCJ				LR	LR		11 20 26.9	
	comp=Z,31nm,20.1s,baz=123,slow=50							
JNU	**Nakatsue**	**9.75**	**255**	LR	LR		11 19 12.0	
	comp=Z,160nm,19.3s,baz=108,slow=39							
USRK	**Ussuriysk Ar.**	**11.10**	**319**	LR	LR		11 19 43.9	
	comp=Z,209nm,19.6s,baz=115,slow=37							
KSRS	**Korea Array**	**11.43**	**280**	LR	LR		11 20 00.8	
	comp=Z,188nm,19.0s,baz=78,slow=38							
H11N2	**WAKE ISLAND Hy**	**27.26**	**120**	T	T		11 46 50.3	
	baz=312,slow=75,SNR=14							
H11N1	**WAKE ISLAND Hy**	**27.27**	**120**	T	T		11 47 02.2	
	baz=312,slow=75,SNR=17							
H11N3	**WAKE ISLAND Hy**	**27.28**	**120**	T	T		11 47 01.4	
	baz=312,slow=75,SNR=12							
H11S1	**WAKE ISLAND Hy**	**27.95**	**123**	T	T		11 47 59.6	
	baz=314,slow=76,SNR=11							
H11S3	**WAKE ISLAND Hy**	**27.95**	**123**	T	T		11 47 56.5	
	baz=314,slow=76,SNR=9.4							
H11S2	**WAKE ISLAND Hy**	**27.97**	**123**	T	T		11 47 50.9	
	baz=314,slow=76,SNR=9.3							
SONM	**Songino Array**	**28.70**	**305**	P	**P**		**11 18 45.7**	**+0.9**
	3.3nm,0.9s,baz=104,slow=9.2,SNR=15							
TLY	**Talaya**	**31.28**	**312**	LR	LR		11 32 42.0	
	comp=Z,94nm,18.3s,baz=106,slow=38							
TIXI	**Tiksi**	**36.16**	**353**	LR	LR		11 35 09.5	
	comp=Z,18nm,18.8s,baz=193,slow=37							
CMAR	**Chiang Mai Arr**	**41.84**	**257**	P	**P**		**11 20 36.0**	**-1.7**
	0.5nm,0.4s,baz=70,slow=14,SNR=4.4							
CMAR				ScP	**ScP**		**11 26 18.4**	**-4.0**
	0.8nm,0.4s,baz=116,slow=3.3,SNR=4.4							
ZALV	**Zalesovo Beam**	**42.87**	**313**	P	**P**		**11 20 46.5**	**+0.8**
	0.9nm,0.6s,baz=84,slow=4.5,SNR=3.1							
ZALV				LR	LR		11 39 32.4	
	comp=Z,59nm,19.1s,baz=72,slow=37							
MKAR	**Makanchi Array**	**45.02**	**303**	P	**P**		**11 21 04.2**	**+1.0**
	2.5nm,0.8s,baz=83,slow=9.9,SNR=17							
MKAR				ScP	**ScP**		**11 26 33.5**	**-1.4**
	0.1nm,0.6s,baz=145,slow=4.4,SNR=3.6							
MKAR				LR	LR		11 40 20.7	
	comp=Z,32nm,21.5s,baz=78,slow=37							
KURBB	**Kurchatov Arra**	**46.94**	**309**	P	**P**		**11 21 18.5**	**+0.4**
	2.3nm,0.9s,baz=83,slow=8.1,SNR=13							
ILAR	**Eielson Array**	**49.88**	**32**	P	**P**		**11 21 41.3**	**+0.7**
	0.5nm,1.0s,baz=243,slow=6.0,SNR=3.7							
BVAR	**Borovoye Array**	**51.53**	**313**	LR	LR		11 45 10.0	
	comp=Z,58nm,18.3s,baz=94,slow=38							
WRA	**Warramunga Arr**	**56.34**	**189**	P	**P**		**11 22 29.0**	**+0.3**
	0.5nm,0.8s,baz=5.5,slow=7.3,SNR=4.1							
AKTO	**Aktyubinsk**	**59.63**	**312**	LR	LR		11 49 51.0	
	comp=Z,35nm,21.2s,baz=80,slow=37							
ASAR	**Alice Springs**	**60.07**	**189**	P	**P**		**11 22 55.8**	**+1.1**
	0.5nm,0.8s,baz=12,slow=8.3,SNR=4.2							
YKA	**Yellowknife Ar**	**64.22**	**30**	P	**P**		**11 23 23.3**	**+1.2**
	0.1nm,0.6s,baz=278,slow=5.6,SNR=4.0							
FINES	**FINESS Array B**	**69.79**	**333**	LR	LR		11 56 32.9	
	comp=Z,29nm,18.8s,baz=296,slow=38							
KBZ	**Khabaz**	**71.85**	**311**	P	**P**		**11 24 11.9**	**+1.6**
	1.8nm,0.8s,baz=160,slow=1.8,SNR=4.9							
GNI	**Garni**	**72.64**	**307**	LR	LR		11 58 49.0	
	comp=Z,28nm,19.2s,baz=70,slow=38							
HFS	**Hagfors**	**75.05**	**336**	LR	LR		12 00 35.4	
	comp=Z,8nm,18.1s,baz=20,slow=38							
NOA	**NORSAR Array B**	**75.14**	**338**	LR	LR		12 02 02.2	
	comp=Z,39nm,18.1s,baz=55,slow=39							
AKASG	**Malin Array Be**	**75.28**	**323**	P	**P**		**11 24 30.6**	**+0.2**
	0.2nm,0.4s,baz=52,slow=7.5,SNR=4.1							
MMAI	**Mount Meron Ar**	**82.89**	**306**	LR	LR		12 05 41.1	
	comp=Z,19nm,18.1s,baz=95,slow=38							
TXAR	**Lajitas Array**	**90.17**	**53**	P	**P**		**11 25 50.7**	**+2.5**
	0.3nm

BZK	**Bozkurt**	**0.79**	**310**	*e*Pg	**Pn**	**11 28 00.8**	**-0.7**
BZK				*e*Sg	**Sb**	**11 28 11.2**	**+0.4**
CTAK	**Corum_Osmancik**	**0.80**	**181**	*i* P	**Pb**	**11 28 00.2**	**-0.3**
CTAK				*i* S	**Sb**	**11 28 11.6**	**+0.1**
CTAK	**Corum_Osmancik**	**0.80**	**181**	P	**Pb**	**11 28 00.2**	**-0.3**
CTAK				S	**Sb**	**11 28 11.6**	**+0.1**
ILGA	**Ilgaz**	**0.91**	**244**	*i* P	**Pg**	**11 28 00.3**	**-1.6**
ILGA				*i* S	**Sb**	**11 28 13.8**	**-0.8**
ILGA	**Ilgaz**	**0.91**	**244**	P	**Pg**	**11 28 00.3**	**-1.6**
ILGA				S	**Sb**	**11 28 13.9**	**-0.8**
COAL	**Corum-Alaca**	**1.20**	**173**	*i* P	**Pb**	**11 28 05.9**	**-1.3**
COAL				*i* S	**Sn**	**11 28 26.3**	**+2.5**
COAL	**Corum-Alaca**	**1.20**	**173**	P	**Pb**	**11 28 05.9**	**-1.3**
COAL				S	**Sn**	**11 28 26.3**	**+2.5**
CORM	**Corum**	**1.28**	**186**	PN	**Pn**	**11 28 06.8**	**-1.6**
CORM	**Corum**	**1.28**	**186**	*e*Pn	**Pn**	**11 28 06.8**	**-1.6**
ELDT	**Eldivan**	**1.42**	**228**	*i* P	**Pg**	**11 28 11.6**	**0.0**
ELDT				*i* S	**Sg**	**11 28 33.0**	**+3.0**
ELDT	**Eldivan**	**1.42**	**228**	P	**Pg**	**11 28 11.6**	**0.0**
YOZ	**Yozgat**	**1.85**	**168**	PN	**Pn**	**11 28 15.9**	**-0.4**
YOZ	**Yozgat**	**1.85**	**168**	*e*Pn	**Pn**	**11 28 15.9**	**-0.4**

*ISCJB **26** 11:58:38.3±1.0, 33°.23N±0°.03×34°.56E±0°.05, h12km±5km, Error ellipse: s-maj=7.6km s-min=4.7km az=21.6*
*CSEM **26** 11:58:39.1±0.3, 33°.25N×34°.58E, h15km, MD2.4, Error ellipse: s-maj=5.3km s-min=3.8km az=103.0*
*GII **26** 11:58:39.8±0.5, 33°.19N×34°.55E, h10km, MD2.4/5*
*GRAL **26** 11:58:41.3±0.3, 33°.36N×34°.60E, h18km±2km, MD3.1*
ISC 26 11:58:38.2±1.5, 33°.28N±0°.03×34°.63E±0°.05, h13km±11km, n39, σ0s84/62, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNTI	**Hanita**	**0.50**	**113**	Pg	**Pn**	**11 58 50.8**	**-0.2**
HNTI				Sg	**Sb**	**11 58 58.1**	**+2.1**
HNTI	**Hanita**	**0.50**	**113**	Pg	**Pn**	**11 58 50.8**	**-0.2**
HNTI				Sg	**Sb**	**11 58 58.1**	**+2.1**
MATL	**Matarih**	**0.62**	**70**	*e*P	**Pn**	**11 58 52.6**	**-0.2**
MATL	**Matarih**	**0.62**	**70**	*e*P	**Pn**	**11 58 52.6**	**-0.2**
MMA0B	**Mount Meron ar**	**0.70**	**112**	Pg	**Pn**	**11 58 53.9**	**0.0**
MMA0B				Sg	**Sn**	**11 59 04.1**	**-0.5**
MMA0B	**Mount Meron ar**	**0.70**	**112**	Pg	**Pn**	**11 58 53.9**	**0.0**
MMA0B				Sg	**Sn**	**11 59 04.1**	**-0.5**
BLGI	**Bet Lehem HaGe**	**0.72**	**139**	Pg	**Pn**	**11 58 53.7**	**-0.4**
BLGI				Sg	**Sn**	**11 59 03.5**	**-1.5**
BLGI	**Bet Lehem HaGe**	**0.72**	**139**	Pg	**Pn**	**11 58 53.7**	**-0.4**
BLGI				Sg	**Sn**	**11 59 03.5**	**-1.5**
OFRI	**'Ofer**	**0.72**	**155**	Pg	**Pb**	**11 58 53.5**	**+0.9**
OFRI				Sg	**Sb**	**11 59 03.0**	**+0.6**
OFRI	**'Ofer**	**0.72**	**155**	Pg	**Pb**	**11 58 53.5**	**+0.9**
OFRI				Sg	**Sb**	**11 59 03.0**	**+0.6**
DQRL	**Deir Qamar**	**0.90**	**61**	*e*P	**Pn**	**11 58 56.8**	**+0.2**
DQRL				*e*S	**Sn**	**11 59 08.2**	**-1.3**
DQRL	**Deir Qamar**	**0.90**	**61**	*e*P	**Pn**	**11 58 56.8**	**+0.2**
DQRL				*e*S	**Sn**	**11 59 08.2**	**-1.3**
RCY	**Rachaya**	**1.03**	**77**	*e*P	**Pn**	**11 58 59.4**	**+0.8**
RCY				*e*S	**Sn**	**11 59 12.8**	**-0.2**
KSHT	**Keshet**	**1.04**	**106**	Pg	**Pn**	**11 58 59.8**	**+1.3**
KSHT	**Keshet**	**1.04**	**106**	Pg	**Pn**	**11 58 59.8**	**+1.3**
MMLI	**Mount Malkishu**	**1.07**	**141**	Pg	**Pn**	**11 58 59.1**	**+0.1**
MMLI				Sg	**Sn**	**11 59 12.9**	**-0.8**
MMLI	**Mount Malkishu**	**1.07**	**141**	Pg	**Pn**	**11 58 59.1**	**+0.1**
MMLI				Sg	**Sn**	**11 59 12.9**	**-0.8**
SLTI	**Sal'it**	**1.09**	**161**	Pg	**Pb**	**11 58 58.6**	**-0.3**
SLTI				Sg	**Sb**	**11 59 12.0**	**-1.1**
SLTI	**Sal'it**	**1.09**	**161**	Pg	**Pb**	**11 58 58.6**	**-0.3**
SLTI				Sg	**Sb**	**11 59 12.0**	**-1.1**
HMDT	**Nahal Hemdat**	**1.27**	**143**	Pg	**Pn**	**11 59 02.4**	**-0.3**
HMDT				Sg	**Sg**	**11 59 19.0**	**-0.2**
HMDT	**Nahal Hemdat**	**1.27**	**143**	Pg	**Pg**	**11 59 02.4**	**-0.3**
HMDT				Sg	**Sg**	**11 59 19.0**	**-0.2**
HWQ	**Hawqa**	**1.48**	**47**	*e*P	**Pb**	**11 59 05.7**	**0.0**
HWQ				*e*S	**Sn**	**11 59 23.8**	**-0.3**
HWQ	**Hawqa**	**1.48**	**47**	*e*P	**Pb**	**11 59 05.7**	**0.0**
HWQ				*e*S	**Sn**	**11 59 23.8**	**-0.3**
DSI	**Dead Sea**	**1.82**	**159**	Pn	**Pn**	**11 59 10.5**	**+1.3**
DSI				Sn	**Sb**	**11 59 33.3**	**-0.7**
DSI	**Dead Sea**	**1.82**	**159**	Pn	**Pn**	**11 59 10.5**	**+1.3**
DSI				Sn	**Sb**	**11 59 33.3**	**-0.7**
YTIR	**Yattir**	**1.95**	**168**	Pn	**Pn**	**11 59 12.1**	**+1.0**
YTIR	**Yattir**	**1.95**	**168**	Pn	**Pn**	**11 59 12.1**	**+1.0**
CSS	**Mathiatis**	**2.00**	**328**	Pn	**Pn**	**11 59 12.0**	**+0.3**
CSS	**Mathiatis**	**2.00**	**328**	Pn	**Pn**	**11 59 12.0**	**+0.3**
MZDA	**Masada**	**2.06**	**162**	Pn	**Pn**	**11 59 11.9**	**-0.5**
MZDA				Sn	**Sn**	**11 59 38.2**	**+0.3**
MZDA	**Masada**	**2.06**	**162**	Sn	**Sn**	**11 59 11.9**	**-0.5**
MZDA				Sn	**Sn**	**11 59 38.2**	**+0.3**
PRNI	**Paran**	**2.93**	**174**	Pn	**Pn**	**11 59 25.3**	**+0.7**
PRNI	**Paran**	**2.93**	**174**	Pn	**Pn**	**11 59 25.3**	**+0.7**
KRMI	**Paran Flat**	**3.15**	**178**	Pn	**Pn**	**11 59 28.3**	**+0.7**
KRMI	**Paran Flat**	**3.15**	**178**	Pn	**Pn**	**11 59 28.3**	**+0.7**
HRFI	**Mount Harif**	**3.25**	**174**	Pn	**Pn**	**11 59 29.6**	**+0.7**
HRFI	**Mount Harif**	**3.25**	**174**	Pn	**Pn**	**11 59 29.6**	**+0.7**
MBRI	**Mt Berech**	**3.48**	**176**	Pn	**Pn**	**11 59 33.3**	**+1.2**
MBRI	**Mt Berech**	**3.48**	**176**	Pn	**Pn**	**11 59 33.3**	**+1.2**

*IDC **26** 12:00:12.4±1.2, 2°.70N×66°.51E, h0km, mb3.9/9, mb1 4.0/9, mb1mx3.6/73, mbtmp3.9/9, MS3.3/13, Ms1 3.3/13, ms1mx3.0/60, Error ellipse: s-maj=47.3km s-min=21.3km az=47.0*
*ISCJB **26** 12:00:13.6±1.2, 2°.7N±0°.2×66°.5E±0°.2, h20km, mb3.9/9, MS3.3/12, Error ellipse: s-maj=42.0km s-min=19.5km az=137.7*
ISC 26 12:00:15.4±1.5, 2°.7N±0°.3×66°.5E±0°.3, h20km, n28, σ0s84/10, mb4.0/9, MS3.3/12, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H08N2	**Diego Garcia H**	**10.02**	**153**	T	T	12 12 44.2	
	baz=332,slow=76,SNR=165						
H08N3	**Diego Garcia H**	**10.03**	**153**	T	T	12 12 43.0	
	baz=332,slow=76,SNR=159						
H08N1	**Diego Garcia H**	**10.04**	**153**	T	T	12 12 45.0	
	baz=332,slow=76,SNR=174						
PALK	**Pallekele**	**14.87**	**72**	LR	LR	12 08 19.7	
	comp=Z,164nm,19.1s,baz=296,slow=33						
KMBO	**Kilima Mbogo**	**29.48**	**263**	LR	LR	12 15 39.2	
	comp=Z,51nm,20.2s,baz=91,slow=31						
PSI	**Prapat**	**32.39**	**89**	LR	LR	12 18 03.9	
	comp=Z,98nm,18.4s,baz=159,slow=33						
CMAR	**Chiang Mai Arr**	**35.44**	**61**	LR	LR	12 21 27.5	
	comp=Z,46nm,18.8s,baz=196,slow=36						
MKAR	**Makanchi Array**	**46.04**	**15**	LR	LR	12 28 41.0	
	comp=Z,32nm,19.1s,baz=212,slow=37						
BRTR	**Keskin Array B**	**47.41**	**325**	P	**P**	**12 08 49.5**	**+0.8**
	0.5nm,0.5s,baz=140,slow=9.2,SNR=3.0						
AKTO	**Aktyubinsk**	**48.12**	**353**	P	**P**	**12 08 54.3**	**+0.5**
	1.7nm,0.6s,baz=188,slow=6.8,SNR=7.8						
KURBB	**Kurchatov Arra**	**48.84**	**10**	P	**P**	**12 09 00.2**	**+0.9**
	0.4nm,0.8s,baz=210,slow=7.7,SNR=3.3						
BOSA	**Boshof**	**50.34**	**229**	LR	LR	12 28 37.3	
	comp=Z,54nm,18.9s,baz=37,slow=34						
ZALV	**Zalesovo Beam**	**53.27**	**13**	P	**P**	**12 09 32.6**	**0.0**
	1.2nm,0.6s,baz=205,slow=6.6,SNR=3.9						
ZALV				LR	LR	12 32 37.7	
	comp=Z,29nm,18.6s,baz=250,slow=36						
H01W3	**Cape Leeuwin H**	**58.21**	**134**	T	T	13 12 56.4	
	baz=300,slow=75,SNR=26						
H01W2	**Cape Leeuwin H**	**58.22**	**134**	T	T	13 13 00.0	
	baz=300,slow=75,SNR=20						
H01W1	**Cape Leeuwin H**	**58.23**	**134**	T	T	13 12 59.8	
	baz=300,slow=75,SNR=23						
TORD	**Torodi Ar. Bea**	**64.86**	**283**	LR	LR	12 39 15.6	
	comp=Z,32nm,18.6s,baz=155,slow=36						
KSRS	**Korea Array**	**65.90**	**50**	LR	LR	12 42 20.9	
	comp=Z,24nm,19.7s,baz=242,slow=38						
FINES	**FINESS Array B**	**66.03**	**340**	LR	LR	12 44 17.7	
	comp=Z,14nm,18.1s,baz=114,slow=40						
JNU	**Nakatsue**	**67.19**	**55**	LR	LR	12 40 30.8	
	comp=Z,19nm,21.9s,baz=182,slow=36						
HFS	**Hagfors**	**69.97**	**335**	P	**P**	**12 11 24.9**	**-0.3**
	4.4nm,0.8s,baz=126,slow=7.5,SNR=7.0						
WRA	**Warramunga Arr**	**70.21**	**112**	P	**P**	**12 11 27.9**	**+0.4**
	1.8nm,0.8s,baz=290,slow=5.6,SNR=7.9						
ASAR	**Alice Springs**	**70.53**	**116**	P	**P**	**12 11 29.9**	**+0.4**
	0.8nm,0.8s,baz=288,slow=6.1,SNR=7.5						
NOA	**NORSAR Array B**	**71.48**	**335**	LR	LR	12 43 14.8	
	comp=Z,14nm,19.0s,baz=115,slow=36						
ESDC	**Sonseca Array**	**73.29**	**311**	P	**P**	**12 11 45.4**	**-0.4**
	0.3nm,0.3s,baz=94,slow=6.0,SNR=4.1						
MJAR	**Matsushiro Arr**	**73.74**	**53**	LR	LR	12 46 49.1	
	comp=Z,116nm,20.6s,baz=310,slow=38						
TIXI	**Tiksi**	**79.00**	**17**	P	**P**	**12 12 15.9**	**-1.6**
	0.6nm,0.4s,baz=311,slow=6.4,SNR=2.5						
TXAR	**Lajitas Array**	**146.80**	**344**	PKPbc	**PKPab**	**12 19 57.9**	**-0.3**
	2.9nm,0.8s,baz=56,slow=2.7,SNR=32						

*KRNET **26** 12:12:21.1±0.1, 40°.96N×69°.52E, mb2.7*
*NNC **26** 12:12:22.7±2.6, 41°.07N×69°.85E, h0km, mb3.1, mpv2.7, Error ellipse: s-maj=21.4km s-min=12.0km az=66.0*
ISC 26 12:12:20.8±3.0, 40°.90N±0°.08×69°.4E±0°.2, h10km, n10, σ0s83/14, 10C-10D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BTK	**Batken**	**1.34**	**128**	⇑*i*P	**Pn**	**12 12 45.5**	**-0.2**
	baz=32						
BTK				⇑*i*S	**Sb**	**12 13 03.6**	**+0.2**
	baz=32						
KK31	**Karatay Array**	**2.34**	**20**	⇓Pg	**Pn**	**12 12 60.0**	**+0.6**
	1.0nm,0.2s,baz=201,slow=14,SNR=40						
KK31				⇑Lg	Lg	12 13 30.4	
	6.2nm,0.5s,baz=197,slow=33,SNR=16						
ARSB	**Arslanbob**	**2.71**	**80**	⇓*i*P	**Pn**	**12 13 04.9**	**+0.4**
	baz=81						
ARSB				⇓*i*S	**Sn**	**12 13 37.1**	**-0.4**
	baz=81						
MNAS	**Manas**	**2.79**	**54**	⇓Pg	**Pn**	**12 13 07.0**	**+1.4**
	1.3nm,0.4s						
MNAS				⇓Lg	Lg	12 13 41.9	
	3.2nm,0.5s						
MNAS	**Manas**	**2.79**	**54**	⇑*i*P	**Pn**	**12 13 06.1**	**+0.5**
	baz=55						
MNAS				⇑*i*S	**Sn**	**12 13 39.0**	**-0.4**
	baz=55						
SFK	**Sufi-Kurgan**	**3.22**	**105**	⇑Pn	**Pn**	**12 13 12.7**	**+1.0**
	0.7nm,0.3s						
SFK				⇑Lg	Lg	12 13 53.9	
	4.5nm,0.6s						
SFK	**Sufi-Kurgan**	**3.22**	**105**	⇓*i*P	**Pn**	**12 13 12.5**	**+0.8**
	baz=6.0						
SFK				⇓*i*S	**Sn**	**12 13 51.0**	**+0.8**
	baz=6.0						
AML	**Almayashu**	**3.42**	**67**	⇑*i*P	**Pn**	**12 13 15.5**	**+0.9**
	baz=68						
AML				⇑*e*S	**Sn**	**12 13 55.4**	**0.0**
	baz=68						
AAK	**Ala-Archa**	**4.16**	**64**	⇑Pg	**Pb**	**12 13 33.0**	**-1.2**
	2.4nm,0.8s						
AAK				⇓Lg	Lg	12 14 22.2	
	3.4nm,0.8s						
TKM2	**Tokmak 2**	**5.02**	**64**	⇓Pg	Pb	12 13 46.4	-2.5
	2.9nm,1.0s						
TKM2				⇓Lg	Lg	12 14 52.4	
	3.4nm,0.7s						

*ISCJB **26** 12:19:40.8±0.6, 50°.14N±0°.04×19°.06E±0°.03, h0km, Error ellipse: s-maj=6.3km s-min=2.9km az=8.4*
*CSEM **26** 12:19:41.6±0.3, 50°.12N×19°.10E, h2km, ML2.5/5, Error ellipse: s-maj=8.1km s-min=3.9km az=8.0*
*PRU **26** 12:19:42.3, 50°.13N×19°.11E, h0km*
*WAR **26** 12:19:42.6, 50°.10N×19°.20E, h1km, Mw2.2*
ISC 26 12:19:41.5±0.9, 50°.09N±0°.05×19°.09E±0°.02, h0km, n27, σ0s41/37, Poland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OJC	**Ojcow**	**0.47**	**74**	*e*Pg	**Pg**	**12 19 50.2**	**-0.3**
OJC				*e*Sg	**Sg**	**12 19 56.5**	**-0.2**
OJC	**Ojcow**	**0.47**	**74**	*e*Pg	**Pg**	**12 19 50.2**	**-0.3**
OJC				*e*Sg	**Sg**	**12 19 56.5**	**-0.2**
OJC	**Ojcow**	**0.47**	**74**	*e*Pg	**Pg**	**12 19 50.2**	**-0.3**
OKC	**Ostrava-Krasne**	**0.66**	**248**	*e*SG	**Sb**	**12 20 05.0**	**-0.6**
	comp=Z,12nm,0.3s						
OKC	**Ostrava-Krasne**	**0.66**	**248**	Sg	**Sb**	**12 20 05.0**	**-0.6**
	12nm,0.3s						
LANS	**Liptovska Anna**	**0.97**	**165**	*e*Pg	**Pb**	**12 20 01.2**	**0.0**
LANS				*e*Sg	**Sb**	**12 20 14.6**	**0.0**
LANS	**Liptovska Anna**	**0.97**	**165**	*e*PG	**Pb**	**12 20 01.2**	**0.0**
LANS				*e*SG	**Sb**	**12 20 14.6**	**0.0**
NIE	**Niedzica**	**1.03**	**130**	*e*Pg	**Pb**	**12 20 02.5**	**+0.2**
NIE				*e*Sg	**Sb**	**12 20 17.2**	**+0.8**
NIE	**Niedzica**	**1.03**	**130**	*e*Pg	**Pb**	**12 20 02.5**	**+0.2**
NIE				*e*Sg	**Sb**	**12 20 17.2**	**+0.8**
NIE	**Niedzica**	**1.03**	**130**	*e*Pg	**Pb**	**12 20 02.5**	**+0.2**
MORC	**Moravsky Berou**	**1.05**	**253**	*e*Pg	**Pn**	**12 20 03.2**	**-0.3**
MORC				*e*Sg	**Sb**	**12 20 17.4**	**+0.6**
KRLC	**Kraliky**	**1.49**	**270**	*e*SG	**Sn**	**12 20 30.2**	**+0.5**
	comp=Z,2.6nm,0.3s						
KRLC	**Kraliky**	**1.49**	**270**	Sg	**Sn**	**12 20 30.2**	**+0.5**
	2.6nm,0.3s						
STHS	**Stebnicka Huta**	**1.55**	**115**	*e*Pn	**Pb**	**12 20 10.8**	**-0.3**
STHS	**Stebnicka Huta**	**1.55**	**115**	*e*PN	**Pb**	**12 20 10.8**	**-0.3**
STHS				*e*LG	Lg	12 20 38.0	
VYHS	**Vyhne**	**1.61**	**186**	*e*Pg	**Pn**	**12 20 11.3**	**+0.2**
VYHS	**Vyhne**	**1.61**	**186**	*e*PG	**Pn**	**12 20 11.3**	**+0.2**
VYHS				*e*SG	**Sn**	**12 20 32.1**	**-0.5**
VYHS				*e*LG	Lg	12 20 34.1	
DPC	**Dobruska-Polom**	**1.80**	**279**	*e*PG	**Pg**	**12 20 15.7**	**-0.2**
DPC				*e*SG	**Sg**	**12 20 39.0**	**-0.2**
	comp=Z,5.8nm,0.3s						
DPC	**Dobruska-Polom**	**1.80**	**279**	Pg	**Pg**	**12 20 15.7**	**-0.2**
DPC				Sg	**Sg**	**12 20 39.0**	**-0.2**
	5.8nm,0.3s						
VRAC	**Vranov**	**1.80**	**245**	*e*Sg	**Sg**	**12 20 39.7**	**+0.4**
CRVS	**Cervenica-Dubn**	**1.95**	**127**	*e*PN	**Pg**	**12 20 18.5**	**-0.3**
UPC	**Upice**	**2.02**	**283**	*e*SG	**Sg**	**12 20 46.9**	**+0.6**
	comp=Z,6.0nm,0.5s						
UPC	**Upice**	**2.02**	**283**	Sg	**Sg**	**12 20 46.9**	**+0.6**
	6.0nm,0.5s						
GOPC	**GO Pecny, Ondr**	**2.78**	**268**	*e*SG	**Sg**	**12 21 11.2**	**+0.4**
	comp=Z,3.7nm,0.3s						
GOPC	**GO Pecny, Ondr**	**2.78**	**268**	Sg	**Sg**	**12 21 11.2**	**+0.4**
	3.7nm,0.3s						
KHC	**Kasperske Hory**	**3.71**	**257**	*e*SG	**Sg**	**12 21 40.2**	**-0.5**
KHC	**Kasperske Hory**	**3.71**	**257**	Sg	**Sg**	**12 21 40.2**	**-0.5**

NNC 26 12:27:06.9±1.5, 49°.06N×68°.60E, h0km, mb3.3, mpv2.8, 6C-2D, Error ellipse: s-maj=15.7km s-min=10.7km az=36.0, Suspected Mining explosion., Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OTUK	**Ortayu**	**2.61**	**107**	⇑Pg	Pb	12 27 54.8	+0.3
	1.6nm,0.3s						
OTUK				⇓Lg	Lg	12 28 28.6	
	12nm,0.5s						
BVA0	**Borovoye Array**	**4.13**	**15**	⇓Pg	Pg	12 28 23.4	-2.5
	2.3nm,0.7s,baz=189,slow=15,SNR=8.6						
BVA0				⇑Lg	Lg	12 29 15.7	
	2.6nm,0.5s,baz=191,slow=29,SNR=3.7						
BRVK	**Borovoye**	**4.14**	**14**	⇑Pg	Pg	12 28 23.5	-2.7
	1.5nm,0.7s						
BRVK				⇑Lg	Lg	12 29 15.3	
	2.3nm,0.5s						
AB31	**Akbulak array**	**5.69**	**275**	⇑Pn	Pn	12 28 31.6	-0.9
	0.5nm,0.7s						
AB31				⇑Lg	Lg	12 30 07.6	
	0.7nm,0.5s						

NNC 26 12:27:09.1±11.0, 43°.92N×81°.44E, h0km, mb2.6, mpv2.3, 7C-4D, Error ellipse: s-maj=141.6km s-min=84.0km az=73.0, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MAKZ	**Makanchi**	**2.92**	**7**	⇑Pn	Pn	12 27 54.6	-2.1
	2.0nm,1.1s						
MAKZ				⇑Lg	Lg	12 28 42.8	
	1.2nm,0.6s						
MAKZ	**Makanchi**	**2.92**	**7**	⇑Pn	Pn	12 27 54.6	-2.1
	2.0nm,1.1s						
MAKZ				⇑Lg	Lg	12 28 42.8	
	1.2nm,0.6s						
MK31	**Makanchi Array**	**2.94**	**11**	⇑Pn	Pb	12 27 59.8	-2.5
	0.3nm,0.3s,baz=156,slow=16,SNR=10						
MK31				⇓Lg	Lg	12 28 44.9	
	0.8nm,0.3s,baz=157,slow=28,SNR=8.6						
MK31	**Makanchi Array**	**2.94**	**11**	⇑Pn	Pb	12 27 59.8	-2.5
	0.3nm,0.3s,baz=156,slow=16,SNR=10						
MK31				⇓Lg	Lg	12 28 44.9	
	0.8nm,0.3s,baz=157,slow=28,SNR=8.6						
KURBB	**Kurchatov Arra**	**6.99**	**345**	⇓Sn	Sn	12 30 13.2	+0.4
	0.9nm,0.2s						
KURK	**Kurchatov**	**7.07**	**345**	⇑Sn	Sn	12 30 13.0	-1.7
	1.3nm,0.8s						
KURK				⇓Lg	Lg	12 30 51.0	
	13nm,1.1s						

*ISCJB **26** 12:33:45.6±0.6, 19°.11N±0°.06×145°.3E±0°.2, h214km, mb3.3/10, Error ellipse: s-maj=26.7km s-min=8.5km az=179.1*
*IDC **26** 12:33:47.6±2.1, 19°.04N×145°.33E, h223km±21km, mb3.1/10, mb1 3.3/12, mb1mx3.1/60, mbtmp3.7/12, Error ellipse: s-maj=24.0km s-min=13.8km az=86.0*
ISC 26 12:33:46.8±0.8, 19°.10N±0°.08×145°.3E±0°.2, h214km, n12, σ0s74/13, mb3.3/10, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**5.50**	**184**	P	**Pn**	**12 35 08.8**	**+0.9**
	2.8nm,0.3s,baz=348,slow=20,SNR=2.1						
GUMO				S	**S**	**12 36 11.0**	**-0.9**
	15nm,0.3s,baz=332,slow=23,SNR=6.4						
MJAR	**Matsushiro Arr**	**18.46**	**342**	P	**Pn**	**12 37 49.3**	**-0.2**
	0.4nm,0.3s,baz=168,slow=10,SNR=4.8						
WRA	**Warramunga Arr**	**40.26**	**196**	P	**P**	**12 41 03.1**	**0.0**
	0.9nm,0.5s,baz=5.4,slow=8.8,SNR=14						
SONM	**Songino Array**	**42.60**	**321**	P	**P**	**12 41 22.1**	**+0.2**
	0.4nm,0.6s,baz=103,slow=6.4,SNR=2.5						
ASAR	**Alice Springs**	**43.94**	**195**	P	**P**	**12 41 32.3**	**-0.5**
	0.5nm,0.7s,baz=16,slow=6.7,SNR=6.7						
MKAR	**Makanchi Array**	**57.91**	**314**	P	**P**	**12 43 17.4**	**+0.8**
	0.3nm,0.6s,baz=99,slow=7.6,SNR=4.1						
KURBB	**Kurchatov Arra**	**60.77**	**318**	P	**P**	**12 43 36.7**	**+0.7**
	0.4nm,0.3s,baz=99,slow=8.0,SNR=4.3						
ILAR	**Eielson Array**	**63.45**	**26**	P	**P**	**12 43 53.0**	**-0.6**
	0.6nm,0.8s,baz=257,slow=5.2,SNR=6.4						
BVAR	**Borovoye Array**	**65.93**	**320**	P	**P**	**12 44 08.7**	**-1.1**
	0.9nm,0.5s,baz=105,slow=7.6,SNR=6.1						
YKA	**Yellowknife Ar**	**77.81**	**28**	P	**P**	**12 45 20.4**	**+0.2**
	0.3nm,0.5s,baz=288,slow=5.4,SNR=8.2						
NVAR	**Mina Array Bea**	**83.19**	**52**	P	**P**	**12 45 50.0**	**+0.5**
	0.3nm,0.7s,baz=294,slow=6.8,SNR=2.5						
FINES	**FINESS Array B**	**86.36**	**335**	P	**P**	**12 46 03.9**	**-0.7**
	0.9nm,0.8s,baz=99,slow=7.2,SNR=2.4						

IDC 26 12:36:10.4±7.5, 6°.87S×124°.31E, h152km±81km, mb3.0/1, mb1 3.3/4, mb1mx3.0/53, mbtmp3.7/4, Error ellipse: s-maj=132.4km s-min=25.7km az=49.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**3.38**	**191**	P	Pn	12 37 02.6	-0.1
	10.0nm,0.3s,baz=356,slow=2.0,SNR=11						
BATI				S	Sn	12 37 35.2	-8.1
	8.5nm,0.3s,baz=284,slow=19,SNR=7.5						
WRA	**Warramunga Arr**	**16.24**	**144**	P	P	12 39 51.4	+1.1
	0.2nm,0.3s,baz=318,slow=12,SNR=13						
WRA				S	S	12 42 49.5	-1.1
	0.1nm,0.3s,baz=322,slow=25,SNR=4.0						
ASAR	**Alice Springs**	**19.08**	**152**	P	P	12 40 21.3	-0.1
	0.7nm,0.3s,baz=331,slow=14,SNR=27						
MKAR	**Makanchi Array**	**65.13**	**330**	P	P	12 46 34.9	-0.1
	0.2nm,0.5s,baz=133,slow=6.3,SNR=3.5						

*ISCJB **26** 12:39:11.4±1.0, 5°.55S±0°.2×34°.9E±0°.1, h10km, mb3.7/3, MS3.4/1, Error ellipse: s-maj=25.5km s-min=8.9km az=148.9*
*IDC **26** 12:39:12.6±1.9, 5°.42S×34°.88E, h0km, mb3.7/3, mb1 3.9/5, mb1mx3.4/58, mbtmp3.9/5, ML4.2/2, MS3.4/1, Ms1 3.4/1, ms1mx2.4/54, Error ellipse: s-maj=58.6km s-min=29.0km az=140.0*
ISC 26 12:39:13.3±1.1, 5°.4S±0°.1×35°.0E±0°.1, h10km, n7, σ1s71/8, mb3.8/3, Tanzania

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KOND	**Kondoa**	**0.95**	**61**	*i* P	**Pg**	**12 39 32.0**	**+0.3**
KOND				*i* S	**Sg**	**12 39 44.0**	**-0.1**
KMBO	**Kilima Mbogo**	**4.80**	**29**	Pn	**Pn**	**12 40 25.7**	**-0.3**
	2.5nm,0.3s,baz=209,slow=18,SNR=11						
KMBO				Sn	**Sn**	**12 41 19

RPN	Rapa Nui	22.90	190	LR	LR	13 44 33.0		
	comp=Z,76nm,21.8s,baz=23,slow=30							
CMIG	Matias Romero	23.69	25	LR	LR	13 45 17.9		
	comp=Z,51nm,21.4s,baz=188,slow=31							
APG	El Apazote	24.20	37	LR	LR	13 45 29.5		
	comp=Z,127nm,21.9s,baz=96,slow=31							
JTS	JuntasAbangare	24.88	54	LR	LR	13 45 24.3		
	comp=Z,172nm,19.8s,baz=310,slow=30							
ATAH	Atahualpa	26.74	97	LR	LR	13 46 23.3		
	comp=Z,62nm,21.6s,baz=244,slow=30							
LPIG	La Paz	28.83	350	LR	LR	13 47 46.5		
	comp=Z,84nm,20.4s,baz=199,slow=31							
TXAR	Lajitas Array	33.63	2	P	P	13 39 42.1	+1.5	
	0.1nm,0.6s,baz=176,slow=13,SNR=2.5							
TXAR				LR	LR	13 51 05.9		
	comp=Z,64nm,19.8s,baz=0.0,slow=32							
SDV	Santo Domingo	36.87	69	LR	LR	13 53 27.0		
	comp=Z,66nm,19.4s,baz=85,slow=33							
NVAR	Mina Array Bea	44.38	345	LR	LR	13 55 43.8		
	comp=Z,77nm,20.8s,baz=99,slow=31							
PDAR	Pinedale Array	47.17	356	P	P	13 41 32.9	+0.2	
	0.3nm,0.5s,baz=168,slow=7.8,SNR=3.3							
PLCA	Paso Flores	47.63	144	LR	LR	13 56 22.3		
	comp=Z,127nm,18.6s,baz=298,slow=30							
YBH	Yreka Blue Hor	48.68	342	LR	LR	13 58 16.8		
	comp=Z,43nm,18.4s,baz=170,slow=31							
NEW	Newport	53.54	350	LR	LR	14 01 59.8		
	comp=Z,63nm,19.8s,baz=185,slow=32							
ULM	Lac du Bonnet	55.07	7	LR	LR	14 04 44.7		
	comp=Z,61nm,19.8s,baz=59,slow=35							
YKA	Yellowknife Ar	67.16	355	P	P	13 43 51.7	-1.7	
	0.4nm,0.7s,baz=170,slow=6.0,SNR=10							
INK	Inuvik	75.26	349	P	P	13 44 42.8	+0.4	
	0.5nm,0.6s,baz=140,slow=16,SNR=4.1							
ILAR	Eielson Array	75.58	343	P	P	13 44 44.3	-0.1	
	0.7nm,0.8s,baz=161,slow=8,SNR=7.4							
H11N3	WAKE ISLAND Hy	89.56	290	T	T	15 25 33.1		
	baz=98							
H11N2	WAKE ISLAND Hy	89.57	290	T	T	15 25 34.5		
	baz=98							
H11N1	WAKE ISLAND Hy	89.58	290	T	T	15 25 34.2		
	baz=98							
H11S2	WAKE ISLAND Hy	89.65	288	T	T	15 25 40.8		
	baz=96							
H11S1	WAKE ISLAND Hy	89.65	288	T	T	15 25 38.7		
	baz=96							
H11S3	WAKE ISLAND Hy	89.67	288	T	T	15 25 40.4		
	baz=96							
CMAR	Chiang Mai Arr	152.66	303	PKPbc	PKPbc	13 52 58.2	+0.5	
	0.3nm,0.4s,baz=63,slow=2.2,SNR=3.6							

MAN 26 13:39:13.12̲87N×124̲92E, h12km, mb4.7, ML3.6, MS3.5, 2C-1D, Samar

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CNP	Catarman	0.44	214	eP	Pb	13 39 22.4	-0.2
CNP				eS	Sb	13 39 29.9	+0.7
PVCP	Virac	1.03	314	eP	Pb	13 39 31.9	-0.9
PVCP				eS	Sn	13 39 47.6	-0.1
BESP	Borongan	1.36	158	eP	Pn	13 39 36.9	-1.0
BESP				eS	Sg	13 39 56.9	-0.1
PLP	Palo	1.70	178	eP	Pn	13 39 41.4	-1.1
PLP				eS	Sg	13 40 08.4	+0.6
OCLP	Ormoc	1.84	189	eP	Pn	13 39 42.5	-1.9
RCP	Roxas	2.49	239	eP	Pn	13 39 54.0	+0.6
RCP				eS	Sn	13 40 25.0	+1.2
GQP	Guinayangan	2.61	293	eP	Pn	13 39 53.6	-1.5
MSLP	Maasin	2.72	181	eP	Pn	13 39 58.7	+2.1
MSLP				eS	Sb	13 40 36.1	+1.1
BOAC	Boac	3.05	281	eP	Pn	13 40 02.6	+1.5
GUIM	Jordan	3.19	226	eP	Pn	13 40 02.2	-0.8

*IDC **26** 13:41:54.0±1.7, 34˚.15N×88˚.73E, h0km, mb3.4/3, mb1 3.6/8, mb1mx3.3/66, mbtmp3.4/8, ML3.3/5, MS3.0/7, Ms1 3.0/7, ms1mx2.6/50, Error ellipse: s-maj=97.8km s-min=20.7km az=62.0*

*ISCJB **26** 13:41:56.1±0.9, 34˚.2N±0˚.2×88˚.6E±0˚.3, h33km, mb3.3/3, MS3.0/5, Error ellipse: s-maj=42.6km s-min=11.1km az=149.2*

ISC 26 13:41:58.2±1.1, 34˚.1N±0˚.2×88˚.6E±0˚.2, h35km, n13, σ1§35/8, mb3.5/3, MS3.0/5, Xizang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MKAR	Makanchi Array	13.53	341	Pn	Pn	13 45 06.9	-0.7
	0.0nm,0.3s,baz=166,slow=13,SNR=2.3						
AAK	Ala-Archa	13.94	312	Pn	Pn	13 45 13.1	-0.2
	0.2nm,0.3s,baz=132,slow=11,SNR=3.7						
KURBB	Kurchatov Arra	18.06	339	P	Pn	13 46 05.3	-0.9
	0.0nm,0.3s,baz=155,slow=11,SNR=5.2						
CMAR	Chiang Mai Arr	18.13	147	P	Pn	13 46 05.2	-2.0
	0.3nm,0.3s,baz=320,slow=11,SNR=3.0						
CMAR				LR	LR	13 54 09.6	
	comp=Z,29nm,19.5s,baz=270,slow=41						
ZALV	Zalesovo Beam	20.00	353	P	P	13 46 27.7	+0.1
	0.2nm,0.3s,baz=164,slow=16,SNR=2.4						
ZALV				LR	LR	13 54 41.8	
	comp=Z,22nm,20.3s,baz=248,slow=38						
AKTO	Aktyubinsk	27.63	315	LR	LR	13 58 54.9	
	comp=Z,38nm,18.2s,baz=120,slow=37						
GNI	Garni	35.21	293	LR	LR	14 03 52.5	
	comp=Z,20nm,21.0s,baz=128,slow=37						
BRTR	Keskin Array B	43.72	294	LR	LR	14 10 54.2	
	comp=Z,14nm,18.1s,baz=141,slow=40						
FINES	FINESS Array B	47.65	325	LR	LR	14 13 48.5	
	comp=Z,19nm,19.1s,baz=23,slow=40						
HFS	Hagfors	53.73	323	LR	LR	14 16 58.5	
	comp=Z,32nm,19.3s,baz=120,slow=39						
WRA	Warramunga Arr	69.18	134	P	P	13 53 02.4	+0.9
	0.4nm,0.5s,baz=329,slow=6.4,SNR=3.9						
ASAR	Alice Springs	71.81	137	P	P	13 53 18.9	+1.5
	0.5nm,0.9s,baz=317,slow=6.4,SNR=4.0						
YKA	Yellowknife Ar	81.92	11	P	P	13 54 14.3	+0.5
	0.1nm,0.6s,baz=334,slow=5.2,SNR=3.0						

IDC 26 13:56:24.5±1.8, 2˚.51N×90˚.07E, h0km, mb3.4/5, mb1 3.6/7, mb1mx3.4/67, mbtmp3.5/7, ML3.6/2, Error ellipse: s-maj=52.5km s-min=23.5km az=54.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PALK	Pallekele	10.46	297	Pn	Pn	13 58 57.7	+1.8
	0.2nm,0.3s,baz=115,slow=14,SNR=2.0						
PALK				Sn	Sn	14 00 41.5	-13
	1.3nm,0.3s,baz=114,slow=2.2,SNR=6.8						
CMAR	Chiang Mai Arr	18.08	28	P	P	14 00 39.1	+1.3
	0.1nm,0.3s,baz=216,slow=12,SNR=3.1						
H08S2	Diego Garcia H	20.23	240	T	T	14 22 01.5	
	baz=60						
H08S3	Diego Garcia H	20.23	240	T	T	14 22 01.4	
	baz=60						
H08S1	Diego Carcia H	20.25	240	T	T	14 22 02.7	
	baz=60						
H01W3	Cape Leeuwin H	43.52	151	T	T	14 51 11.9	
	baz=323						
H01W2	Cape Leeuwin H	43.53	151	T	T	14 51 11.9	
	baz=323						
H01W1	Cape Leeuwin H	43.53	151	T	T	14 51 09.1	
	baz=323						
MKAR	Makanchi Array	44.63	352	P	P	14 04 38.4	-0.4
	0.3nm,0.7s,baz=153,slow=8.2,SNR=4.5						
SONM	Songino Array	47.31	15	P	P	14 05 00.2	+0.2
	0.6nm,0.5s,baz=198,slow=9.1,SNR=2.3						
WRA	Warramunga Arr	48.83	119	P	P	14 05 11.9	-0.2
	0.2nm,0.5s,baz=296,slow=8.6,SNR=4.6						
KURBB	Kurchatov Arra	48.93	350	P	P	14 05 11.2	-1.1
	0.4nm,0.7s,baz=165,slow=7.7,SNR=2.8						
ASAR	Alice Springs	49.95	124	P	P	14 05 20.8	+0.1
	0.3nm,1.0s,baz=296,slow=7.1,SNR=3.2						

IDC 26 13:56:31.4±11.0, 3˚.52S×104˚.08W, h0km, mb3.4/4, mb1 3.7/4, mb1mx3.5/43, mbtmp3.4/4, MS3.6/12, Ms1 3.6/12, ms1mx3.4/22, Error ellipse: s-maj=438.5km s-min=164.9km az=112.0, Central East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JTS	JuntasAbangare	23.48	54	LR	LR	14 08 52.7	
	comp=Z,210nm,19.9s,baz=304,slow=32						
LPIG	La Paz	28.11	348	LR	LR	14 11 05.4	
	comp=Z,148nm,20.8s,baz=189,slow=31						
TXAR	Lajitas Array	32.67	1	LR	LR	14 14 35.5	
	comp=Z,84nm,20.5s,baz=0.0,slow=33						
SDV	Santo Domingo	35.55	70	LR	LR	14 15 46.1	
	comp=Z,90nm,20.8s,baz=272,slow=32						
LPAZ	La Paz	37.53	112	LR	LR	14 17 53.0	
	comp=Z,47nm,18.4s,baz=268,slow=34						
NVAR	Mina Array Bea	43.76	344	LR	LR	14 19 41.4	
	comp=Z,77nm,18.7s,baz=246,slow=32						
SIV	San Ignacio	44.05	109	LR	LR	14 20 08.2	
	comp=Z,109nm,21.8s,baz=315,slow=32						
PDAR	Pinedale Array	46.34	354	P	P	14 04 59.3	-0.1
	0.2nm,0.5s,baz=153,slow=6.1,SNR=2.4						
PDAR				LR	LR	14 22 21.6	
	comp=Z,43nm,20.6s,baz=232,slow=34						
PPT2	Papeete2	46.71	249	eLR	LR	14 17 39.7	
	112nm,26.0s						
PLCA	Paso Flores	47.79	145	LR	LR	14 20 11.0	
	comp=Z,116nm,19.0s,baz=308,slow=30						
YBH	Yreka Blue Hor	48.12	341	LR	LR	14 21 24.4	
	comp=Z,62nm,19.4s,baz=172,slow=31						
CPUP	Villa Florida	50.16	122	LR	LR	14 23 15.3	
	comp=Z,55nm,18.5s,baz=228,slow=32						
SCHQ	Schefferville	65.80	23	LR	LR	14 35 34.7	
	comp=Z,45nm,18.6s,baz=358,slow=36						
YKA	Yellowknife Ar	66.32	355	P	P	14 07 21.6	+0.2
	0.2nm,0.7s,baz=163,slow=6.4,SNR=5.8						
INK	Inuvik	74.54	349	P	P	14 08 12.2	+0.7
	0.4nm,0.6s,baz=127,slow=4.9,SNR=3.0						
ILAR	Eielson Array	75.00	342	P	P	14 08 13.6	-0.7
	0.3nm,0.7s,baz=154,slow=4.6,SNR=4.2						
H11N3	WAKE ISLAND Hy	90.24	290	T	T	15 49 04.6	
	baz=96,slow=75,SNR=14						
H11N2	WAKE ISLAND Hy	90.25	290	T	T	15 49 08.1	
	baz=96,slow=75,SNR=19						
H11N1	WAKE ISLAND Hy	90.26	290	T	T	15 49 04.1	
	baz=96,slow=75,SNR=12						
H11S2	WAKE ISLAND Hy	90.36	288	T	T	15 49 13.1	
	baz=94,slow=74,SNR=24						
H11S1	WAKE ISLAND Hy	90.36	288	T	T	15 49 12.4	
	baz=94,slow=74,SNR=20						
H11S3	WAKE ISLAND Hy	90.37	288	T	T	15 49 14.5	
	baz=94,slow=74,SNR=15						

*IDC **26** 14:02:00.1±10.0, 1˚.67S×134˚.41E, h0km, mb3.8/2, mb1 4.1/3, mb1mx3.5/52, mbtmp3.9/3, ML4.0/1, Error ellipse: s-maj=155.1km s-min=107.7km az=155.0*

*ISCJB **26** 14:02:02.0±0.7, 1˚.61S±0˚.06×134˚.28E±0˚.05, h29km, mb3.7/3, Error ellipse: s-maj=8.4km s-min=7.1km az=176.5*

*DJA **26** 14:02:03.1±0.5, 2˚S±7˚×13˚4E±˚, h14km±5km, M4.2/6, mb4.5/5, MLv4.1/6*

*NEIC **26** 14:02:04.3±1.1, 1˚.63S×134˚.35E, h35km, mb3.7/2, Error ellipse: s-maj=20.5km s-min=8.8km az=60.0*

NEIC Felt [III] at Ransiki.

ISC 26 14:02:03.4±0.8, 1˚.64S±0˚.06×134˚.26E±0˚.05, h29km, n18, σ1§79/22, mb3.7/3, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RKPI	Ransiki, Papua	0.15	327	P	Pb	14 02 06.7	-2.4
RKPI				S	Sb	14 02 10.0	-2.9
BAKI	Biak	1.90	76	P	Pn	14 02 35.0	+1.1
SRPI	Serui, Papua	1.99	97	S	Sb	14 03 03.1	-0.3
KMPI	Kaimana, Papua	2.08	195	P	Pb	14 02 38.3	-2.3
FAKI	Fak Fak	2.38	238	P	Pn	14 02 42.1	+1.6
FAKI				S	Sb	14 03 10.8	-3.8
FAKI	Fak Fak	2.38	238	ePn	Pn	14 02 42.1	+1.6
BNDI	Bandanaira	5.21	237	P	Pn	14 03 20.7	+1.3
BNDI				S	Sn	14 04 19.1	+0.5
MSAI	Masohi	5.59	252	P	Pn	14 03 27.1	+2.4
MSAI				S	Sn	14 04 30.0	+2.0
AAI	Ambon	6.39	251	P	Pn	14 03 38.4	+2.7
MTN	Manton Dam	11.55	195	ePn	Pn	14 04 47.1	+0.6
DAV	Davao City (W)	12.24	315	ePn	Pn	14 04 57.1	+1.1
WRAB	Tennant Creek	18.18	180	eP	P	14 06 14.4	+0.5
	1.4nm,0.5s						
WRA	Warramunga Arr	18.19	180	P	P	14 06 14.5	+0.4
	0.5nm,0.3s,baz=359,slow=12,SNR=46						
WB2	Warramunga Arr	18.19	180	eP	P	14 06 14.5	+0.4
	24nm,1.7s						
AS01	Alice Springs	21.90	181	eP	P	14 06 54.1	-0.2
AS31	Alice Springs	21.90	181	eP	P	14 06 55.0	+0.6
	1.1nm,0.7s						
ASAR	Alice Springs	21.90	181	P	P	14 06 54.5	+0.1
	2.2nm,0.6s,baz=7.6,slow=13,SNR=46						
STKA	Stephens Creek	30.86	168	P	P	14 08 17.4	+0.1
	0.6nm,0.3s,baz=318,slow=10,SNR=3.7						

IDC 26 14:02:58.4±1.6, 0˚.91N×122˚.68E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.3/62, mbtmp3.5/3, Error ellipse: s-maj=226.4km s-min=25.4km az=62.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	23.67	152	P	P	14 08 12.1	+0.2
	0.5nm,0.4s,baz=328,slow=10,SNR=4.9						
ASAR	Alice Springs	26.76	157	P	P	14 08 39.7	-0.4
	0.4nm,0.3s,baz=338,slow=8.1,SNR=4.3						
MKAR	Makanchi Array	57.67	328	P	P	14 12 50.7	+0.1
	0.2nm,0.5s,baz=126,slow=7.3,SNR=2.7						

*IDC **26** 14:02:55.9±1.4, 4˚.57N×94˚.06E, h0km, mb4.0/10, mb1 4.1/12, mb1mx3.7/73, mbtmp4.0/12, ML4.0/2, MS3.2/6, Ms1 3.2/6, ms1mx2.7/63, Error ellipse: s-maj=63.1km s-min=17.0km az=51.0*

*ISCJB **26** 14:03:01.9±0.6, 4˚.93N±0˚.06×94˚.61E±0˚.05, h43km, mb4.0/10, MS3.3/4, Error ellipse: s-maj=10.1km s-min=5.3km az=41.1*

*DJA **26** 14:03:05.6±0.9, 5˚N±5˚×9˚5E±˚, h24km±10km, M4.2/11, mB5.1/2, mb4.3/4, MLv4.2/11, Mw(mB)4.4/2*

ISC 26 14:03:03.3±0.8, 4˚.98N±0˚.07×94˚.63E±0˚.09, h43km, n26, σ1§12/26, mb4.0/10, MS3.4/4, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BSI	Banda Aceh	0.84	52	P	Pn	14 03 19.1	+0.4
BSI				S	Sn	14 03 29.0	-0.9
MLSI	Meulaboh, Aceh	1.91	112	P	Pn	14 03 33.8	+0.5
MLSI				S	Sn	14 03 55.8	-0.4
LHMI	Lhok Sumawe	2.32	84	P	Pn	14 03 40.3	+1.2
TPTI		3.07	124	P	Pn	14 03 49.9	+0.6
TPTI				S	Sn	14 04 22.4	-2.4
KCSI	Kotacane, Aceh	3.45	115	P	Pn	14 03 57.5	+2.9
KCSI				S	Sn	14 04 33.7	-0.6
GSI	Gunungsitoli	4.69	141	P	Pn	14 04 11.8	+0.2
PSI	Prapat	4.80	117	Pn	Pn	14 04 15.3	+2.0
	5.7nm,0.3s,baz=306,slow=12,SNR=16						
PSI				Sn	Sn	14 05 06.7	-1.1
	2.3nm,0.3s,baz=344,slow=19,SNR=1.8						
PSI				LR	LR	14 06 15.3	
	comp=Z,124nm,21.4s,baz=164,slow=38						
MNSI	Mandailing Nat	6.46	130	P	Pn	14 04 36.8	+0.9
SISI	Saibi	7.69	144	P	Pn	14 04 53.1	+0.3
PALK	Pallekele	14.03	280	Sn	Sn	14 08 40.9	-13
	0.4nm,0.3s,baz=114,slow=20,SNR=2.4						
PALK				LR	LR	14 10 47.4	
	comp=Z,69nm,21.0s,baz=116,slow=35						
CMAR	Chiang Mai Arr	14.04	17	Pn	P	14 06 25.2	-1.4
	0.2nm,0.3s,baz=208,slow=11,SNR=11						
H08S2	Diego Garcia H	25.40	241	T	T	14 34 10.3	
	baz=60						
H08S3	Diego Garcia H	25.40	241	T	T	14 34 11.1	
	baz=60						
H08S1	Diego Carcia H	25.41	241	T	T	14 34 11.1	
	baz=60						
MKAR	Makanchi Array	43.00	348	P	P	14 10 58.9	+0.4
	0.6nm,0.7s,baz=138,slow=6.7,SNR=7.4						
MKAR				LR	LR	14 32 41.9	
	comp=Z,23nm,18.1s,baz=146,slow=41						
WRA	Warramunga Arr	46.23	124	P	P	14 11 24.7	+0.1
	2.2nm,0.8s,baz=301,slow=9.9,SNR=14						
KURBB	Kurchatov Arra	47.45	346	P	P	14 11 34.9	+1.2
	0.7nm,0.5s,baz=162,slow=7.5,SNR=7.8						
KURBB				PcP	PcP	14 13 02.7	-0.8
	0.1nm,0.3s,baz=150,slow=3.3,SNR=2.4						
ASAR	Alice Springs	47.73	128	P	P	14 11 36.5	+0.2
	0.8nm,0.4s,baz=299,slow=7.7,SNR=16						
ZALV	Zalesovo Beam	49.47	352	P	P	14 11 49.8	+0.6
	1.1nm,0.5s,baz=176,slow=7.8,SNR=5.5						
BVAR	Borovoye Array	51.87	342	P	P	14 12 06.7	-0.6
	0.9nm,0.6s,baz=131,slow=8.0,SNR=4.3						
EIL	Elat	61.30	301	LR	LR	14 41 15.3	
	comp=Z,19nm,18.6s,baz=60,slow=38						
PETK	Petropavlovsk-	70.07	35	LR	LR	14 45 49.1	
	comp=Z,27nm,21.4s,baz=102,slow=36						
FINES	FINESS Array B	75.48	332	P	P	14 14 43.2	+0.5
	1.1nm,0.8s,baz=170,slow=2.5,SNR=3.8						
ARCES	ARCESS Array B	78.13	340	P	P	14 14 57.7	0.0
	2.6nm,1.0s,baz=87,slow=4.1,SNR=6.0						
HFS	Hagfors	81.19	330	P	P	14 15 14.3	0.0
	1.3nm,0.9s,baz=108,slow=9.3,SNR=3.0						
SPITS	Spitsbergen Ar	82.75	348	P	P	14 15 22.8	+0.5
	7.7nm,1.1s,baz=80,slow=3.2,SNR=2.5						
SPITS				LR	LR	14 57 49.1	
	comp=Z,17nm,19.9s,baz=160,slow=40						

*JMA **26** 14:05:09.3±0.1, 23˚.79N×121˚.64E, h39km±2km, M2.8*

TAP 26 14:05:09.7, 23˚.84N×121˚.65E, h39km, ML3.2, 3D, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ENLB	Shoufeng	0.08	326	P	Pn	14 05 16.4	+0.3
	baz=326						
ENLB				S	Sn	14 05 21.4	+1.0
	baz=326						
HWA	Hwalien	0.14	344	P	Pn	14 05 16.7	-2.2
	baz=346						
HWA				eS	Sn	14 05 21.8	-5.3
	baz=346						
ESL	Shilin	0.20	263	iP	Pn	14 05 16.4	-1.6
	baz=261						
ESL				eS	Sn	14 05 22.0	-3.3
	baz=261						
TWD	Chiawan	0.24	349	eP	Pn	14 05 17.4	-0.4
	baz=350						
TWD				eS	Sn	14 05 23.7	-0.8
	baz=350						
NACB	Ninganchiao	0.34	352	P	Pn	14 05 18.3	+0.1
	baz=351						
NACB				S	Sn	14 05 25.4	+0.8
	baz=351						
HGSD	Ruisui	0.40	211	eP	Pn	14 05 19.3	+0.3
	baz=210						
HGSD				S	Sn	14 05 27.0	+1.3
	baz=210						
EHY	Hungye	0.45	222	eP	Pn	14 05 18.9	-0.7
	baz=221						
OWD	Renai	0.45	285	P	Pn	14 05 19.9	+0.2
	baz=284						
OWD				eS	Sn	14 05 27.9	+1.0
	baz=284						
CHGB	Renai	0.49	297	P	Pn	14 05 20.6	+0.2
	baz=296						
CHGB				S	Sn	14 05 28.5	+0.6
	baz=296						
YULB	Yu-li	0.55	216	P	Pn	14 05 20.2	-0.9
	baz=215						
TWF1	Yuli	0.58	214	eP	Pn	14 05 20.7	-0.8
	baz=212						
ENA	Nanau	0.59	8	eP	Pn	14 05 22.1	+0.4
	baz=9.0						
ENA				eS	Sn	14 05 31.7	+1.6
	baz=9.0						
NANB	Nanao	0.59	9	eP	Pn	14 05 22.1	+0.4
	baz=9.0						
NANB				eS	Sn	14 05 31.6	+1.4
	baz=9.0						
TWT	Tachien	0.60	314	iP	Pn	14 05 22.5	+0.6
	baz=312						
TWT				iS	Sn	14 05 31.1	+0.6
	baz=312						
TDCB	Techi	0.61	313	P	Pn	14 05 22.6	+0.5
	baz=312						
TDCB				S	Sn	14 05 31.0	+0.3
	baz=312						
NNSB	Datong	0.63	338	P	Pn	14 05 22.7	+0.3
	baz=337						
NNSB				eS	Sn	14 05 31.4	+0.1
	baz=337						
SSLB	Suanglung	0.64	265	eP	Pn	14 05 22.2	-0.1
	baz=265						
SSLB				eS	Sn	14 05 31.1	-0.2
	baz=265						
NNS	Nan Shan	0.65	337	P	Pn	14 05 22.9	+0.4
	baz=337						
NNS				S	Sn	14 05 32.2	+0.5
	baz=337						
DPDB	Guoxing	0.69	286	P	Pn	14 05 23.4	+0.4
	baz=286						
DPDB				eS	Sn	14 05 33.6	+1.1
	baz=286						
FULB	Fuli	0.72	207	eP	Pn	14 05 23.1	-0.2
	baz=206						
FULB				eS	Sn	14 05 33.6	+0.5
	baz=206						
TYC	Yuchr	0.73	275	iP	Pn	14 05 23.8	+0.4
	baz=275						
TYC				S	Sn	14 05 33.1	-0.2
	baz=275						
CHKT	Chengkung	0.78	199	eP	Pn	14 05 23.9	-0.3
	baz=198						
CHKT				eS	Sn	14 05 35.7	+1.0
	baz=198						
TWC	Suao	0.79	13	eP	Pn	14 05 25.4	+1.2
	baz=14						
TWC				eS	Sn	14 05 37.0	+2.2
	baz=14						
ENTT	Nioudou	0.80	355	eP	Pn	14 05 25.2	+0.8
	baz=355						
ENTT				eS	Sn	14 05 36.0	+0.8
	baz=355						
ALS	Alishan	0.84	247	eP	Pn	14 05 25.9	+0.6
	baz=246						
ALS				eS	Sn	14 05 36.7	+0.1
	baz=246						
WJS	Zhushan	0.84	269	eP	Pn	14 05 26.4	+1.3
	baz=268						
WJS				eS	Sn	14 05 37.9	+1.6
	baz=268						
YHNB	Yeheng	0.86	343	P	Pn	14 05 26.3	+0.9
	baz=343						
YHNB				eS	Sn	14 05 37.4	+0.5
	baz=343						
ELDTW	Lidau	0.87	222	eP	Pn	14 05 25.2	-0.3
	baz=221						
ELDTW				eS	Sn	14 05 37.8	+0.8
	baz=221						
TWE	Neicheng	0.88	1	eP	Pn	14 05 25.7	+0.2
	baz=2.0						
TWE				eS	Sn	14 05 39.2	+2.1
	baz=2.0						
WNT	Mingjian	0.88	273	eP	Pn	14 05 27.1	+1.6
	baz=272						
WNT				eS	Sn	14 05 39.5	+2.2
	baz=272						
CHN5	Tsauling	0.92	255	eP	Pn	14 05 27.4	+1.2
	baz=254						
CHN5				iS	Sn	14 05 39.9	+1.7
	baz=254						
NWLT	Wulai	0.94	352	eP	Pn	14 05 27.3	+0.9
	baz=351						
NWLT				eS	Sn	14 05 39.5	+0.8
	baz=351						
NS

NMLH	**Miaoli**	**1.05**	**312**	*eP*		Pn	14 05 29.2	+1.4
	baz=311								
NMLH				*eS*		Sn	14 05 42.5	+1.3
	baz=311								
STYT	**Tauyuan**	**1.06**	**231**	*eP*		Pn	14 05 28.9	+0.8
	baz=230								
STYT				*eS*		Sn	14 05 42.8	+1.2
	baz=230								
TPUB	**Ta-pu**	**1.08**	**240**	P		Pn	14 05 29.7	+1.4
	baz=240								
TPUB				*eS*		Sn	14 05 44.0	+2.0
	baz=240								
CHN4	**Tsaushan**	**1.08**	**244**	*eP*		Pn	14 05 30.1	+1.8
	baz=243								
CHN4				S		Sn	14 05 44.6	+2.5
	baz=243								
WTP	**Ta-pu**	**1.12**	**238**	*eP*		Pn	14 05 30.3	+1.5
	baz=237								
WTP				*eS*		Sn	14 05 45.5	+2.4
	baz=237								
TIPB	**Shuangxi**	**1.14**	**8**	*eP*		Pn	14 05 30.3	+1.2
	baz=8.0								
TIPB				*eS*		Sn	14 05 45.2	+1.7
	baz=8.0								
TWG	**Pinlang**	**1.14**	**208**	*eP*		Pn	14 05 27.9	-1.2
	baz=207								
TWGBT	**Beinan**	**1.14**	**207**	*eP*		Pn	14 05 27.6	-1.6
	baz=207								
TWK	**Hsinying**	**1.21**	**242**	*eP*		Pn	14 05 31.6	+1.6
	baz=241								
TWK				*eS*		Sn	14 05 46.5	+1.3
	baz=241								
CHN1	**Nanshi**	**1.22**	**238**	*eP*		Pn	14 05 32.0	+1.9
	baz=237								
CHN1				*eS*		Sn	14 05 48.1	+2.7
	baz=237								
SGST	**Jiashian**	**1.23**	**233**	*eP*		Pn	14 05 32.4	+2.0
	baz=232								
SGST				*eS*		Sn	14 05 48.9	+3.0
	baz=232								
SLGT	**Liugui**	**1.25**	**228**	*eP*		Pn	14 05 32.5	+1.9
	baz=227								
SLGT				*eS*		Sn	14 05 48.2	+2.0
	baz=227								
WTCT	**Ta-ch'eng**	**1.25**	**271**	*eP*		Pn	14 05 32.4	+1.8
	baz=270								
WTCT				*eS*		Sn	14 05 49.4	+3.2
	baz=270								
WLGB	**Puzi**	**1.29**	**254**	*eP*		Pn	14 05 32.9	+1.8
	baz=253								
WSF	**Szhu**	**1.32**	**262**	*eP*		Pn	14 05 32.8	+1.2
	baz=261								
WSF				*eS*		Sn	14 05 49.7	+1.8
	baz=261								
JYNG	**Yonagunijimaku**	**1.33**	**63**	P		Pn	14 05 33.0	+1.3
JYNG				*eS*		Sn	14 05 49.7	+1.5
YOJ	**Yonaguni jima**	**1.39**	**63**	P		Pn	14 05 33.8	+1.3
YOJ				*eS*		Sn	14 05 51.5	+1.9
ECL	**Taimali**	**1.39**	**207**	*eP*		Pn	14 05 32.1	-0.4
	baz=206								
ECL				*eS*		Sn	14 05 50.3	+0.6
	baz=206								
MASBT	**Mashibuluo**	**1.54**	**218**	*eP*		Pn	14 05 34.8	+0.2
	baz=217								
IRIF	**Iriomote-Funau**	**1.97**	**75**	P		Pn	14 05 42.0	+1.6
IRIF				S		Sn	14 06 05.4	+1.6
HATJ	**Hateruma jima**	**1.98**	**83**	P		Pn	14 05 41.9	+1.2
HATJ				*eS*		Sn	14 06 05.6	+1.3
JKRS	**Kuro-shima**	**2.19**	**79**	P		Pn	14 05 45.4	+1.8
JKRS				S		Sn	14 06 12.2	+2.7
JIJ	**Ishigaki jima**	**2.34**	**77**	P		Pn	14 05 46.6	+1.0
JIJ				S		Sn	14 06 13.9	+0.8
JISG	**Ishigakijimahi**	**2.54**	**72**	P		Pn	14 05 49.5	+1.1
JISG				S		Sn	14 06 18.5	+0.4
JTJ	**Tarama**	**2.90**	**73**	P		Pn	14 05 54.7	+1.4
JTJ				S		Sn	14 06 27.9	+1.0
JIRB	**Irabujima**	**3.36**	**72**	*eS*		Sn	14 06 39.7	+1.4

CSEM ***26*** *14:28:15.5, 39˙44N×20˙15E, h21km, ML1.9/5*
ATH ***26*** *14:28:15.5, 39˙44N×20˙15E, h21km±3km, ML1.9/5, Error ellipse: s-maj=3.8km s-min=1.1km az=2.0*
TIR 26 14:28:15.2, 39˙41N×20˙18E, h7km, Md2.3/3, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IGT	**Igoumenitsa**	**0.17**	**44**	P	Pg	14 28 18.5	-0.1
IGT				AML	AML	14 28 23.4	
	comp=E,703μm,0.4s						
IGT				AML	AML	14 28 24.1	
	comp=N,943μm,0.2s						
IGT	**Igoumenitsa**	**0.17**	**44**	P	Pg	14 28 19.4	+0.8
SGD	**Sagiada**	**0.20**	**12**	P	Pg	14 28 18.4	-0.8
SGD	**Sagiada**	**0.20**	**12**	P	Pg	14 28 19.5	+0.2
KASA	**Kassiopi**	**0.38**	**330**	P	Pb	14 28 23.7	-0.6
KASA				S	Sg	14 28 28.1	+0.4
KASA				AML	AML	14 28 30.4	
	comp=N,499μm,0.2s						
KASA				AML	AML	14 28 30.6	
	comp=E,623μm,0.3s						
KASA	**Kassiopi**	**0.38**	**330**	P	Pg	14 28 23.3	+0.6
KASA				S	Sg	14 28 28.3	+0.6
KEK	**Kerkira**	**0.42**	**315**	P	Pg	14 28 23.7	+0.3
KEK				S	Sg	14 28 29.6	+0.7
KEK				AML	AML	14 28 31.8	
	comp=N,418μm,0.3s						
KEK				AML	AML	14 28 31.9	
	comp=E,649μm,0.3s						
KEK	**Kerkira**	**0.42**	**315**	P	Pg	14 28 23.6	+0.2
KEK				S	Sg	14 28 29.6	+0.7
SRN	**Sarande**	**0.49**	**343**	*i* PG	Pg	14 28 24.6	0.0
SRN				*i* SG	Sg	14 28 23.4	-7.5
JAN	**Janina**	**0.57**	**65**	P	Pb	14 28 27.0	-0.6
JAN				S	Sb	14 28 35.8	-0.2
JAN				AML	AML	14 28 39.2	
	comp=E,292μm,0.4s						
JAN				AML	AML	14 28 39.9	
	comp=N,236μm,0.3s						
JAN	**Janina**	**0.57**	**65**	P	Pb	14 28 27.0	-0.6
JAN				S	Sb	14 28 35.6	-0.3
LKD2	**Lefkada island**	**0.73**	**149**	P	Pb	14 28 29.9	-0.3
LKD2	**Lefkada island**	**0.73**	**149**	P	Pb	14 28 30.0	-0.2
DSL	**Palaion Diasel**	**0.76**	**111**	P	Pb	14 28 30.6	-0.2
DSL				S	Sn	14 28 43.5	-0.7
DSL	**Palaion Diasel**	**0.76**	**111**	P	Pb	14 28 30.8	0.0
DSL				S	Sn	14 28 42.8	-1.4
KPRO	**Kipourio**	**1.06**	**59**	P	Pb	14 28 35.9	0.0
KPRO	**Kipourio**	**1.06**	**59**	P	Pb	14 28 35.9	0.0
THL	**Klokotos Trika**	**1.43**	**83**	P	Pb	14 28 42.1	0.0
THL				AML	AML	14 29 09.6	
	comp=E,36μm,0.5s						
THL				AML	AML	14 29 11.6	
	comp=N,40μm,0.4s						
THL	**Klokotos Trika**	**1.43**	**83**	P	Pb	14 28 42.3	+0.2

ISCJB ***26*** *14:32:39.1±0.2, 45˙56N±0˙01×26˙47E±0˙02, h134km±2km, mb3.6/16, Error ellipse: s-maj=2.2km s-min=2.0km az=41.9*
SIGU ***26*** *14:32:39.1±0.7, 45˙6N±0˙7×26˙5E±0˙8, h138km±1km, mb3.5/6*
MOS ***26*** *14:32:39.7±1.0, 45˙58N×26˙53E, h127km, mb4.1/7, Error ellipse: s-maj=7.7km s-min=4.6km az=84.8*
PDG ***26*** *14:32:39.7±0.5, 45˙56N×26˙46E, h134km±1km, ML3.8/6, Error ellipse: s-maj=0.7km s-min=0.9km az=0.0*
BUC ***26*** *14:32:40.0±0.6, 45˙57N×26˙47E, h138km±6km, MD4.4/14, Error ellipse: s-maj=4.4km s-min=3.5km az=332.0*
CSEM ***26*** *14:32:40.1±0.1, 45˙57N×26˙46E, h129km±1km, mb3.8/10, Error ellipse: s-maj=3.2km s-min=2.4km az=149.0*
IDC ***26*** *14:32:40.0±0.5, 45˙67N×26˙34E, h126km±4km, mb3.4/13, mb1 3.3/18, mb1mx3.2/66, mbtmp3.7/18, MS2.6/2, Ms1 2.6/2, ms1mx2.1/38, Error ellipse: s-maj=14.6km s-min=9.1km az=138.0*
BEO ***26*** *14:32:41.4±0.7, 45˙51N×26˙20E, h16km±8km*
ISC 26 14:32:40.1±0.5, 45˚56N±0˙02×26˚49E±0˙02, h137km±4km, n323, σ1s53/477, mb3.7/16, 72C-59D, Romania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLOR	**Plostina**	**0.31**	**22**	⇑*i*P	**Pn**	**14 32 58.9**	**-0.3**
PLOR	**Plostina**	**0.31**	**22**	⇑*i*P	**Pn**	**14 32 58.9**	**-0.3**
PLOR				*i* S	**Sn**	**14 33 11.9**	**-1.8**
PLOR	**Plostina**	**0.31**	**22**	P	**Pn**	**14 32 58.9**	**-0.3**
PLOR				S	**Sn**	**14 33 11.3**	**-2.4**
PLOR	**Plostina**	**0.31**	**22**	P	**Pn**	**14 32 58.9**	**-0.3**
PLOR				S	**Sn**	**14 33 11.9**	**-1.8**
VRI	**Vrincioaia**	**0.35**	**29**	⇑*i*P	**Pn**	**14 32 59.2**	**-0.1**
VRI	**Vrincioaia**	**0.35**	**29**	⇑*i*P	**Pn**	**14 32 59.2**	**-0.1**
VRI				*i* S	**Sn**	**14 33 12.8**	**-1.1**
VRI	**Vrincioaia**	**0.35**	**29**	P	**Pn**	**14 32 59.2**	**-0.1**
VRI				S	**Sn**	**14 33 12.7**	**-1.1**
VRI	**Vrincioaia**	**0.35**	**29**	P	**Pn**	**14 32 59.2**	**-0.1**
VRI				S	**Sn**	**14 33 12.7**	**-1.1**
MLR	**Muntele Rosu**	**0.39**	**259**	P	**Pn**	**14 32 59.5**	**-0.2**
	30nm,0.3s,baz=142,slow=7.2,SNR=1633						
MLR				S	**Sn**	**14 33 12.7**	**-1.6**
	129nm,0.3s,baz=162,slow=20,SNR=81						
MLR	**Muntele Rosu**	**0.39**	**259**	⇓*i*P	**Pn**	**14 32 59.4**	**-0.2**
MLR	**Muntele Rosu**	**0.39**	**259**	⇓*i*P	**Pn**	**14 32 59.4**	**-0.2**
MLR				*i* S	**Sn**	**14 33 13.3**	**-1.0**
GRER		**0.39**	**118**	⇓*i*P	**Pn**	**14 33 00.3**	**+0.9**
GRER		**0.39**	**118**	⇓*i*P	**Pn**	**14 33 00.3**	**+0.9**
GRER		**0.39**	**118**	⇓*i*P	**Pn**	**14 33 00.3**	**+0.9**
ISR	**Istrita**	**0.45**	**175**	⇓*i*P	**Pn**	**14 33 00.1**	**+0.2**
ISR	**Istrita**	**0.45**	**175**	⇓*i*P	**Pn**	**14 33 00.1**	**+0.2**
ISR				*i* S	**Sn**	**14 33 14.9**	**+0.2**
ISR	**Istrita**	**0.45**	**175**	P	**Pn**	**14 33 00.0**	**+0.2**
ISR				S	**Sn**	**14 33 12.8**	**-1.9**
ISR	**Istrita**	**0.45**	**175**	P	**Pn**	**14 33 00.0**	**+0.2**
ISR				S	**Sn**	**14 33 12.8**	**-1.9**
ODBI	**Odobesti**	**0.45**	**63**	⇑*i*P	**Pn**	**14 33 00.4**	**+0.7**
ODBI	**Odobesti**	**0.45**	**63**	⇑*i*P	**Pn**	**14 33 00.4**	**+0.7**
ODBI				*i* S	**Sn**	**14 33 15.4**	**+0.9**
ODBI	**Odobesti**	**0.45**	**63**	⇑*i*P	**Pn**	**14 33 00.4**	**+0.7**
ODBI				*i* S	**Sn**	**14 33 15.4**	**+0.9**
PETR	**Petresti**	**0.55**	**73**	⇑*i*P	**Pn**	**14 33 00.6**	**+0.4**
PETR	**Petresti**	**0.55**	**73**	⇑*i*P	**Pn**	**14 33 00.6**	**+0.4**
PETR				*i* S	**Sn**	**14 33 15.3**	**-0.1**
PETR	**Petresti**	**0.55**	**73**	P	**Pn**	**14 33 00.6**	**+0.4**
PETR				S	**Sn**	**14 33 15.3**	**-0.1**
SECR		**0.60**	**209**	⇓*i*P	**Pn**	**14 33 01.0**	**+0.4**
SECR		**0.60**	**209**	⇓*i*P	**Pn**	**14 33 01.0**	**+0.4**
SECR				*i* S	**Sn**	**14 33 16.3**	**+0.2**
SECR		**0.60**	**209**	⇓*i*P	**Pn**	**14 33 01.0**	**+0.4**
SECR				*i* S	**Sn**	**14 33 16.3**	**+0.2**
PGOR	**Pogoanele**	**0.74**	**152**	⇑*i*P	**Pn**	**14 33 01.8**	**+0.3**
PGOR	**Pogoanele**	**0.74**	**152**	⇑*i*P	**Pn**	**14 33 01.8**	**+0.3**
PGOR				*i* S	**Sn**	**14 33 18.1**	**+0.4**
PGOR	**Pogoanele**	**0.74**	**152**	⇑*i*P	**Pn**	**14 33 01.8**	**+0.3**
PGOR				*i* S	**Sn**	**14 33 18.1**	**+0.4**
DOPR	**Dopca**	**0.87**	**298**	⇓*i*P	**Pn**	**14 33 02.3**	**-0.2**
DOPR	**Dopca**	**0.87**	**298**	⇓*i*P	**Pn**	**14 33 02.3**	**-0.2**
DOPR				*i* S	**Sn**	**14 33 18.6**	**-1.0**
DOPR	**Dopca**	**0.87**	**298**	⇓*i*P	**Pn**	**14 33 02.3**	**-0.2**
DOPR				*i* S	**Sn**	**14 33 18.6**	**-1.0**
SULR		**0.90**	**191**	⇓*i*P	**Pn**	**14 33 03.1**	**+0.3**
SULR		**0.90**	**191**	⇓*i*P	**Pn**	**14 33 03.1**	**+0.3**
SULR				*i* S	**Sn**	**14 33 20.1**	**+0.2**
SULR		**0.90**	**191**	⇓*i*P	**Pn**	**14 33 03.1**	**+0.3**
SULR				*i* S	**Sn**	**14 33 20.1**	**+0.2**
TESR	**Tescani**	**0.96**	**7**	⇑*i*P	**Pn**	**14 33 02.2**	**-1.0**
TESR	**Tescani**	**0.96**	**7**	⇑*i*P	**Pn**	**14 33 02.2**	**-1.0**
TESR	**Tescani**	**0.96**	**7**	P	**Pn**	**14 33 02.2**	**-1.0**
TESR				S	**Sn**	**14 33 17.8**	**-3.1**
VOIR		**1.02**	**263**	⇓*i*P	**Pn**	**14 33 03.6**	**-0.4**
VOIR		**1.02**	**263**	⇓*i*P	**Pn**	**14 33 03.6**	**-0.4**
VOIR				*i* S	**Sn**	**14 33 20.6**	**-1.4**
VOIR		**1.02**	**263**	P	**Pn**	**14 33 03.5**	**-0.4**
VOIR				S	**Sn**	**14 33 20.5**	**-1.4**
VOIR		**1.02**	**263**	P	**Pn**	**14 33 03.5**	**-0.4**
VOIR				S	**Sn**	**14 33 20.5**	**-1.4**
MTUR	**Matau**	**1.06**	**252**	⇓*i*P	**Pn**	**14 33 04.3**	**0.0**
MTUR	**Matau**	**1.06**	**252**	⇓*i*P	**Pn**	**14 33 04.3**	**0.0**
MTUR	**Matau**	**1.06**	**252**	⇓*i*P	**Pn**	**14 33 04.3**	**0.0**
AMRR	**Amara**	**1.13**	**147**	⇑*i*P	**Pn**	**14 33 05.0**	**+0.2**
AMRR	**Amara**	**1.13**	**147**	⇑*i*P	**Pn**	**14 33 05.0**	**+0.2**
AMRR				*i* S	**Sn**	**14 33 23.0**	**-0.6**
AMRR	**Amara**	**1.13**	**147**	⇑*i*P	**Pn**	**14 33 05.0**	**+0.2**
AMRR				*i* S	**Sn**	**14 33 23.0**	**-0.6**
BUC	**Bucharest**	**1.18**	**194**	⇓*i*P	**Pn**	**14 33 05.4**	**0.0**
BUC	**Bucharest**	**1.18**	**194**	⇓*i*P	**Pn**	**14 33 05.4**	**0.0**
BUC				*i* S	**Sn**	**14 33 24.1**	**-0.4**
BUC	**Bucharest**	**1.18**	**194**	S	**Sn**	**14 33 23.8**	**-0.7**
BUC	**Bucharest**	**1.18**	**194**	P	**Pn**	**14 33 05.4**	**0.0**
BUC				S	**Sn**	**14 33 23.8**	**-0.7**
GIUM	**Giurgiulesti**	**1.21**	**93**	⇑*i*P	**Pn**	**14 33 05.7**	**+0.1**
GIUM	**Giurgiulesti**	**1.21**	**93**	⇑*i*P	**Pn**	**14 33 05.7**	**+0.1**
GIUM				*i* S	**Sn**	**14 33 24.9**	**-0.2**
GIUM	**Giurgiulesti**	**1.21**	**93**	P	**Pn**	**14 33 05.6**	**0.0**
GIUM	**Giurgiulesti**	**1.21**	**93**	⇑*i*P	**Pn**	**14 33 05.7**	**+0.1**
GIUM				S	**Sn**	**14 33 23.5**	**-1.6**
CFR	**Carcaliu**	**1.22**	**108**	⇑*i*P	**Pn**	**14 33 05.3**	**-0.4**
CFR	**Carcaliu**	**1.22**	**108**	⇑*i*P	**Pn**	**14 33 05.3**	**-0.4**
CFR				*i* S	**Sn**	**14 33 23.4**	**-1.9**
CFR	**Carcaliu**	**1.22**	**108**	⇑*i*P	**Pn**	**14 33 05.3**	**-0.4**
CFR				*i* S	**Sn**	**14 33 23.4**	**-1.9**
CFR	**Carcaliu**	**1.22**	**108**	P	**Pn**	**14 33 05.3**	**-0.4**
CFR				S	**Sn**	**14 33 23.4**	**-1.9**
BUC1	**Bucharest**	**1.26**	**195**	⇓*i*P	**Pn**	**14 33 05.4**	**-0.7**
BUC1				*i* S	**Sn**	**14 33 24.1**	**-1.8**
BUC1	**Bucharest**	**1.26**	**195**	P	**Pn**	**14 33 06.2**	**-0.1**
GOLR		**1.30**	**237**	⇓*i*P	**Pn**	**14 33 06.7**	**+0.2**
GOLR		**1.30**	**237**	⇓*i*P	**Pn**	**14 33 06.7**	**+0.2**
GOLR				*i* S	**Sn**	**14 33 26.3**	**-0.3**
GOLR		**1.30**	**237**	⇓*i*P	**Pn**	**14 33 06.7**	**+0.2**
GOLR				*i* S	**Sn**	**14 33 26.3**	**-0.3**
ARR	**Arges**	**1.32**	**262**	⇓*i*P	**Pn**	**14 33 06.8**	**0.0**
ARR	**Arges**	**1.32**	**262**	⇓*i*P	**Pn**	**14 33 06.8**	**0.0**
ARR				*i* S	**Sn**	**14 33 27.5**	**+0.3**
ARR	**Arges**	**1.32**	**262**	⇓*i*P	**Pn**	**14 33 06.8**	**0.0**
ARR				*i* S	**Sn**	**14 33 27.5**	**+0.3**
HARR	**Harsova**	**1.34**	**130**	⇑*i*P	**Pn**	**14 33 06.9**	**-0.1**
HARR	**Harsova**	**1.34**	**130**	⇑*i*P	**Pn**	**14 33 06.9**	**-0.1**
HARR	**Harsova**	**1.34**	**130**	⇑*i*P	**Pn**	**14 33 06.9**	**-0.1**
HARR	**Harsova**	**1.34**	**130**	P	**Pn**	**14 33 06.9**	**-0.1**
SGRR	**Singureni**	**1.39**	**195**	⇓*i*P	**Pn**	**14 33 07.4**	**-0.1**
SGRR	**Singureni**	**1.39**	**195**	⇓*i*P	**Pn**	**14 33 07.4**	**-0.1**
SGRR				*i* S	**Sn**	**14 33 27.1**	**-1.2**
SGRR	**Singureni**	**1.39**	**195**	⇓*i*P	**Pn**	**14 33 07.4**	**-0.1**
SGRR				*i* S	**Sn**	**14 33 27.1**	**-1.2**
HUMR	**Humele**	**1.49**	**226**	⇓*i*P	**Pn**	**14 33 08.4**	**-0.2**
HUMR	**Humele**	**1.49**	**226**	⇓*i*P	**Pn**	**14 33 08.4**	**-0.2**
HUMR				*i* S	**Sn**	**14 33 29.2**	**-1.0**
HUMR	**Humele**	**1.49**	**226**	⇓*i*P	**Pn**	**14 33 08.4**	**-0.2**
HUMR				*i* S	**Sn**	**14 33 29.2**	**-1.0**
LEOM	**Leova**	**1.53**	**53**	⇑*i*P	**Pn**	**14 33 09.0**	**+0.1**
LEOM	**Leova**	**1.53**	**53**	⇑*i*P	**Pn**	**14 33 09.0**	**+0.1**
LEOM				*i* S	**Sn**	**14 33 29.4**	**-1.6**
LEOM	**Leova**	**1.53**	**53**	P	**Pn**	**14 33 09.0**	**+0.1**
LEOM				S	**Sn**	**14 33 29.3**	**-1.7**
LEOM	**Leova**	**1.53**	**53**	P	**Pn**	**14 33 09.0**	**+0.1**
LEOM				S	**Sn**	**14 33 29.3**	**-1.7**
LEOM	**Leova**	**1.53**	**53**	P	**Pn**	**14 33 09.0**	**+0.1**
LEOM				S	**Sn**	**14 33 29.3**	**-1.7**
MDB	**Medias**	**1.58**	**292**	⇓*i*P	**Pn**	**14 33 10.4**	**+0.8**
MDB	**Medias**	**1.58**	**292**	⇓*i*P	**Pn**	**14 33 10.4**	**+0.8**
MDB	**Medias**	**1.58**	**292**	P	**Pn**	**14 33 10.2**	**+0.6**
MDB	**Medias**	**1.58**	**292**	P	**Pn**	**14 33 10.2**	**+0.6**
CVDA	**Cernavoda**	**1.65**	**138**	⇑*i*P	**Pn**	**14 33 10.5**	**+0.2**
CVDA	**Cernavoda**	**1.65**	**138**	⇑*i*P	**Pn**	**14 33 10.5**	**+0.2**
CVDA				*i* S	**Sn**	**14 33 31.7**	**-1.7**
CVDA	**Cernavoda**	**1.65**	**138**	⇑*i*P	**Pn**	**14 33 10.5**	**+0.2**
CVDA				*i* S	**Sn**	**14 33 31.7**	**-1.7**
TLCR		**1.68**	**102**	⇑*i*P	**Pn**	**14 33 10.7**	**0.0**
TLCR		**1.68**	**102**	⇑*i*P	**Pn**	**14 33 10.7**	**0.0**
TLCR				*i* S	**Sn**	**14 33 33.1**	**-1.0**
TLCR		**1.68**	**102**	P	**Pn**	**14 33 10.6**	**-0.1**
TLCR				S	**Sn**	**14 33 33.0**	**-1.0**
TLCR		**1.68**	**102**	P	**Pn**	**14 33 10.6**	**-0.1**
TLCR				S	**Sn**	**14 33 33.0**	**-1.0**
TIRR	**Tirgusor**	**1.76**	**128**	⇑*i*P	**Pn**	**14 33 11.5**	**-0.1**
TIRR	**Tirgusor**	**1.76**	**128**	⇑*i*P	**Pn**	**14 33 11.5**	**-0.1**
TIRR	**Tirgusor**	**1.76**	**128**	⇑*i*P	**Pn**	**14 33 11.5**	**-0.1**
TIRR				*e*S	**Sn**	**14 33 33.4**	**-2.2**
TIRR	**Tirgusor**	**1.76**	**128**	*e*P	**Pn**	**14 33 11.5**	**-0.1**
TIRR				*e*		14 33 33.4	
IAS	**Iasi**	**1.79**	**24**	⇑*i*P	**Pn**	**14 33 11.9**	**0.0**
IAS	**Iasi**	**1.79**	**24**	⇑*i*P	**Pn**	**14 33 11.9**	**0.0**
IAS				*i* S	**Sn**	**14 33 34.6**	**-1.8**
IAS	**Iasi**	**1.79**	**24**	P	**Pn**	**14 33 11.9**	**0.0**
IAS				S	**Sn**	**14 33 34.4**	**-2.0**
IAS	**Iasi**	**1.79**	**24**	P	**Pn**	**14 33 11.9**	**0.0**
IAS				S	**Sn**	**14 33 34.6**	**-1.8**
PRAR	**RASCA**	**1.81**	**354**	⇑*i*P	**Pn**	**14 33 13.0**	**+0.8**
PRAR	**RASCA**	**1.81**	**354**	⇑*i*P	**Pn**	**14 33 13.0**	**+0.8**
PRAR	**RASCA**	**1.81**	**354**	⇑*i*P	**Pn**	**14 33 13.0**	**+0.8**
LOT	**Lotru**	**1.92**	**268**	⇓*i*P	**Pn**	**14 33 13.2**	**-0.3**
LOT	**Lotru**	**1.92**	**268**	⇓*i*P	**Pn**	**14 33 13.2**	**-0.3**
LOT				*i* S	**Sn**	**14 33 39.0**	**-0.1**
LOT	**Lotru**	**1.92**	**268**	⇓*i*P	**Pn**	**14 33 13.2**	**-0.3**
LOT				*i* S	**Sn**	**14 33 39.0**	**-0.1**
ZIMR		**2.07**	**203**	⇓*i*P	**Pn**	**14 33 15.2**	**-0.1**
ZIMR		**2.07**	**203**	⇓*i*P	**Pn**	**14 33 15.2**	**-0.1**
ZIMR				*i* S	**Sn**	**14 33 40.6**	**-1.6**
MILM	**Milestii Mici**	**2.11**	**49**	⇑*i*P	**Pn**	**14 33 15.8**	**+0.1**
MILM	**Milestii Mici**	**2.11**	**49**	⇑*i*P	**Pn**	**14 33 15.8**	**+0.1**
MILM				*i* S	**Sn**	**14 33 40.9**	**-2.1**
MILM	**Milestii Mici**	**2.11**	**49**	P	**Pn**	**14 33 15.7**	**+0.1**
MILM	**Milestii Mici**	**2.11**	**49**	P	**Pn**	**14 33 15.7**	**+0.1**
MILM				S	**Sn**	**14 33 40.4**	**-2.6**
EFOR	**EFORIE**	**2.13**	**133**	⇑*i*P	**Pn**	**14 33 16.1**	**+0.1**
EFOR	**EFORIE**	**2.13**	**133**	⇑*i*P	**Pn**	**14 33 16.1**	**+0.1**
EFOR				*i* S	**Sn**	**14 33 42.2**	**-1.3**
EFOR	**EFORIE**	**2.13**	**133**	P	**Pn**	**14 33 16.1**	**+0.1**
EFOR				S	**Sn**	**14 33 42.1**	**-1.4**
KIS	**Kishinev**	**2.16**	**48**	⇑*i*P	**Pn**	**14 33 15.5**	**-0.9**
	2μm,0.5s						
KIS				*i* S	**Sn**	**14 33 41.0**	**-3.2**
	10μm,0.5s						
KIS	**Kishinev**	**2.16**	**48**	⇑*i*P	**Pn**	**14 33 16.5**	**+0.1**
KIS	**Kishinev**	**2.16**	**48**	⇑*i*P	**Pn**	**14 33 16.5**	**+0.1**
KIS				*i* S	**Sn**	**14 33 42.3**	**-1.9**
KIS	**Kishinev**	**2.16**	**48**	P	**Pn**	**14 33 15.5**	**-0.9**
KIS				Pm		14 33 16.0	
KIS				S	**Sn**	**14 33 41.0**	**-3.2**
KIS				Sm		14 33 42.0	
KIS	**Kishinev**	**2.16**	**48**	*i* P	**Pn**	**14 33 15.5**	**-0.9**
	2μm,0.5s						
KIS				*i* S	**Sn**	**14 33 41.0**	**-3.2**
	10μm,0.5s						
KIS	**Kishinev**	**2.16**	**48**	α*i*P	**Pn**	**14 33 15.5**	**-0.9**
KIS				*i* S	**Sn**	**14 33 41.0**	**-3.2**
KIS				pmax	pmax		
	comp=Z,2μm,0.5s						
KIS				pmax	pmax		
	comp=N,400nm,0.5s						
KIS				pmax	pmax		
	comp=E,400nm,0.5s						
KIS				pmax	pmax		
	comp=Z,2μm,0.5s						
KIS				smax	smax		
	comp=E,10μm,0.5s						
KIS				smax	smax		
	comp=N,6μm,0.5s						
KIS				smax	smax		
	comp=E,10μm,0.5s						
BUR01	**Bucovina Ar. S**	**2.23**	**337**	S	**Sn**	**14 33 43.0**	**-3.0**
BURAR	**Bucovina Array**	**2.23**	**337**	P	**Pn**	**14 33 18.9**	**+1.6**
PSN	**Preselentsi**	**2.24**	**147**	P	**Pn**	**14 33 17.5**	**+0.2**
PSN				S	**Sn**	**14 33 45.2**	**-0.7**
PSN	**Preselentsi**	**2.24**	**147**	P	**Pn**	**14 33 17.5**	**+0.2**
PSN				S	**Sn**	**14 33 45.2**	**-0.7**
CRAR	**CRAIOVA**	**2.27**	**238**	S	**Sn**	**14 33 45.8**	**-0.9**
CRAR	**CRAIOVA**	**2.27**	**238**	*i* S	**Sn**	**14 33 45.8**	**-0.9**
CRAR	**CRAIOVA**	**2.27**	**238**	*i* S	**Sn**	**14 33 45.8**	**-0.9**
MANR	**Mangalia**	**2.30**	**139**	⇑*i*P	**Pn**	**14 33 18.2**	**+0.1**
MANR	**Mangalia**	**2.30**	**139**	⇑*i*P	**Pn**	**14 33 18.2**	**+0.1**
MANR				*i* S	**Sn**	**14 33 45.5**	**-1.8**
**MANR

MUKU	**Mukachevo**	**3.89**	**319**	*i* P		**Pn**	**14 33 38.6**	**+0.1**
MUKU				*e*S		**Sn**	**14 34 24.3**	**+0.6**
BOVS	**Bovan**	**3.92**	**242**	*e*Pn		**Pn**	**14 33 38.4**	**-0.6**
BOVS				*e*Sn		**Sn**	**14 34 22.2**	**-2.4**
BOVS	**Bovan**	**3.92**	**242**	*e*Pn		**Pn**	**14 33 38.4**	**-0.6**
	baz=2.0							
BOVS				*e*Sn		**Sn**	**14 34 22.2**	**-2.4**
	baz=3.0							
SVIS	**Svilajnac**	**3.96**	**253**	*e*Pn		**Pn**	**14 33 38.1**	**-1.4**
SVIS				*e*Sn		**Sn**	**14 34 21.2**	**-4.3**
KDZ	**Kurdzhali**	**3.99**	**192**	P		**Pn**	**14 33 40.9**	**+1.0**
KDZ				S		**Sn**	**14 34 27.7**	**+1.5**
KDZ	**Kurdzhali**	**3.99**	**192**	P		**Pn**	**14 33 40.9**	**+1.0**
KDZ				S		**Sn**	**14 34 27.7**	**+1.5**
UZH	**Uzhgorod**	**4.20**	**318**	*e*P		**Pn**	**14 33 42.9**	**+0.4**
UZH				*i* S		**Sn**	**14 34 32.0**	**+0.9**
UZH	**Uzhgorod**	**4.20**	**318**	*e*P		**Pn**	**14 33 42.9**	**+0.4**
UZH				*e*S		**Sn**	**14 34 35.5**	**+4.4**
UZH	**Uzhgorod**	**4.20**	**318**	*e*P		**Pn**	**14 33 42.9**	**+0.4**
UZH				*e*			14 34 35.5	
SHIU	**Shidnytsya**	**4.23**	**331**	*e*P		**Pn**	**14 33 43.0**	**0.0**
SHIU				*e*S		**Sn**	**14 34 32.1**	**+0.1**
BARS	**Barje**	**4.34**	**232**	*e*Pn		**Pn**	**14 33 44.7**	**+0.2**
BARS				*e*Sn		**Sn**	**14 34 32.0**	**-2.5**
BARS	**Barje**	**4.34**	**232**	*e*Pn		**Pn**	**14 33 44.7**	**+0.2**
	baz=7.0							
BARS				*e*Sn		**Sn**	**14 34 32.0**	**-2.5**
	baz=9.0							
STZU	**Stuzhytsya**	**4.34**	**324**	*i* P		**Pn**	**14 33 44.5**	**0.0**
STZU				*i* S		**Sn**	**14 34 34.9**	**+0.4**
GRUS	**Gruza**	**4.44**	**250**	*e*Pn		**Pn**	**14 33 45.1**	**-0.7**
GRUS				*e*Sn		**Sn**	**14 34 32.2**	**-4.7**
GRUS	**Gruza**	**4.44**	**250**	*e*Pn		**Pn**	**14 33 45.1**	**-0.7**
GRUS				*e*Sn		**Sn**	**14 34 32.2**	**-4.7**
RDO	**Rodhopi**	**4.47**	**189**	P		**Pn**	**14 33 46.0**	**-0.2**
RDO	**Rodhopi**	**4.47**	**189**	P		**Pn**	**14 33 46.0**	**-0.2**
SELS	**Selova**	**4.50**	**241**	*e*Pn		**Pn**	**14 33 46.1**	**-0.6**
SELS				*e*Sn		**Sn**	**14 34 34.5**	**-4.0**
SELS	**Selova**	**4.50**	**241**	*e*Pn		**Pn**	**14 33 46.1**	**-0.6**
SELS				*e*Sn		**Sn**	**14 34 34.5**	**-4.0**
TRUS	**Trudelj**	**4.52**	**255**	*e*Pn		**Pn**	**14 33 46.3**	**-0.6**
TRUS				*e*Sn		**Sn**	**14 34 34.9**	**-4.0**
TRUS	**Trudelj**	**4.52**	**255**	*e*Pn		**Pn**	**14 33 46.3**	**-0.6**
	baz=1.0							
TRUS				*e*Sn		**Sn**	**14 34 34.9**	**-4.0**
LVV	**L'vov**	**4.57**	**340**	*i* P		**Pn**	**14 33 47.5**	**0.0**
LVV				*i* S		**Sn**	**14 34 40.1**	**+0.2**
NVR	**Nevrokopi**	**4.62**	**205**	P		**Pn**	**14 33 48.5**	**+0.2**
NVR	**Nevrokopi**	**4.62**	**205**	P		**Pn**	**14 33 48.5**	**+0.2**
ALN	**Alexandroupoli**	**4.67**	**184**	P		**Pn**	**14 33 49.4**	**+0.4**
ALN	**Alexandroupoli**	**4.67**	**184**	P		**Pn**	**14 33 49.4**	**+0.4**
KAVA	**Kavala**	**4.79**	**198**	P		**Pn**	**14 33 50.1**	**-0.3**
KAVA	**Kavala**	**4.79**	**198**	P		**Pn**	**14 33 50.1**	**-0.3**
KWP	**Kalwaria Pacla**	**4.81**	**329**	P		**Pn**	**14 33 54.3**	**+3.7**
KWP	**Kalwaria Pacla**	**4.81**	**329**	P		**Pn**	**14 33 54.3**	**+3.7**
DIVS	**Divibare**	**4.85**	**255**	*e*Pn		**Pn**	**14 33 50.4**	**-0.9**
DIVS				*e*Sn		**Sn**	**14 34 43.7**	**-3.0**
DIVS	**Divibare**	**4.85**	**255**	*e*Pn		**Pn**	**14 33 50.4**	**-0.9**
	baz=2.0							
DIVS				*e*Sn		**Sn**	**14 34 43.7**	**-3.0**
SRS	**Serrai**	**4.92**	**206**	P		**Pn**	**14 33 52.4**	**+0.2**
SRS	**Serrai**	**4.92**	**206**	P		**Pn**	**14 33 52.2**	**0.0**
SRS	**Serrai**	**4.92**	**206**	P		**Pn**	**14 33 52.2**	**0.0**
IVAS	**Ivanjica**	**4.94**	**249**	*e*Pn		**Pn**	**14 33 51.5**	**-1.1**
IVAS				*e*Sn		**Sn**	**14 34 45.0**	**-4.0**
IVAS	**Ivanjica**	**4.94**	**249**	*e*Pn		**Pn**	**14 33 51.5**	**-1.1**
	baz=5.0							
IVAS				*e*Sn		**Sn**	**14 34 45.0**	**-4.0**
TEKS	**Tekeris**	**5.03**	**261**	*e*Pn		**Pn**	**14 33 53.5**	**-0.2**
TEKS				*e*Sn		**Sn**	**14 34 47.1**	**-4.0**
TEKS	**Tekeris**	**5.03**	**261**	*e*Pn		**Pn**	**14 33 53.5**	**-0.2**
	baz=3.0							
TEKS				*e*Sn		**Sn**	**14 34 47.1**	**-4.0**
VAY	**Valandovo**	**5.11**	**215**	P		**Pn**	**14 33 54.4**	**-0.3**
VAY	**Valandovo**	**5.11**	**215**	P		**Pn**	**14 33 54.4**	**-0.3**
VAY	**Valandovo**	**5.11**	**215**	*e*Pn		**Pn**	**14 33 54.2**	**-0.6**
KNT	**Kendrikon**	**5.12**	**212**	P		**Pn**	**14 33 55.2**	**+0.3**
KNT	**Kendrikon**	**5.12**	**212**	P		**Pn**	**14 33 55.2**	**+0.3**
SMTH	**Samothraki Isl**	**5.14**	**188**	P		**Pn**	**14 33 54.9**	**-0.3**
SMTH	**Samothraki Isl**	**5.14**	**188**	P		**Pn**	**14 33 54.9**	**-0.3**
SEV	**Sevastopol'**	**5.19**	**99**	P		**Pn**	**14 33 54.9**	**-0.8**
SEV				Sm			14 33 54.9	
SEV				S		**Sn**	**14 34 51.5**	**-3.2**
SEV				Pm			14 34 54.8	
SEV	**Sevastopol'**	**5.19**	**99**	*e*P		**Pn**	**14 33 54.9**	**-0.8**
	comp=E,21nm,0.3s							
SEV				*i* S		**Sn**	**14 34 51.5**	**-3.2**
SEV	**Sevastopol'**	**5.19**	**99**	*e*P		**Pn**	**14 33 54.9**	**-0.8**
SEV				*i* S		**Sn**	**14 34 51.5**	**-3.2**
SEV				pmax	pmax			
	comp=Z,6.0nm,0.2s							
SEV				smax	smax			
	comp=N,21nm,0.3s							
SEV				smax	smax			
	comp=E,21nm,0.4s							
SJES	**Sjenica**	**5.20**	**246**	*e*Pn		**Pn**	**14 33 56.4**	**+0.3**
SJES				*e*Sn		**Sn**	**14 34 51.4**	**-3.8**
SOH	**Sokhos**	**5.26**	**207**	P		**Pn**	**14 33 57.1**	**+0.2**
SOH	**Sokhos**	**5.26**	**207**	P		**Pn**	**14 33 57.1**	**+0.2**
BBLS	**Lazići**	**5.33**	**254**	*e*Pn		**Pn**	**14 33 57.4**	**-0.3**
BBLS	**Lazići**	**5.33**	**254**	*e*Pn		**Pn**	**14 33 57.4**	**-0.3**
	baz=3.0							
SIM	**Simferopol'**	**5.42**	**94**	Sm			14 35 02.1	
SIM				Pm			14 35 05.2	
KIEV	**Kiev**	**5.45**	**19**	*i* P		**Pn**	**14 33 59.2**	**0.0**
KIEV	**Kiev**	**5.45**	**19**	*d i* P		**Pn**	**14 33 59.2**	**0.0**
BEY	**Berane**	**5.45**	**243**	⇑*i* Pn		**Pn**	**14 33 59.9**	**+0.5**
BEY				*e*Sn		**Sn**	**14 35 00.0**	**-1.1**
IVA	**Berane**	**5.45**	**243**	⇑*i* Pn		**Pn**	**14 33 59.9**	**+0.5**
IVA				*e*Sn		**Sn**	**14 35 00.0**	**-1.1**
AKASG	**Malin Array Be**	**5.46**	**19**	P		**Pn**	**14 33 59.1**	**-0.2**
	comp=E,5.1nm,0.3s,baz=202,slow=12,SNR=15							
AKASG				S		**Sn**	**14 34 56.3**	**-4.8**
	comp=E,14nm,0.3s,baz=200,slow=20,SNR=12							
OUR	**Ouranopolis**	**5.54**	**200**	P		**Pn**	**14 34 01.3**	**+0.8**
OUR	**Ouranopolis**	**5.54**	**200**	P		**Pn**	**14 34 01.3**	**+0.8**
YAL	**Yalta**	**5.54**	**98**	P		**Pn**	**14 34 01.0**	**+0.6**
YAL				S		**Sn**	**14 35 02.8**	**-0.3**
YAL				Pm			14 35 05.7	
YAL				Sm			14 35 05.7	
KRUS	**Krusevo**	**5.67**	**224**	*i* Pn		**Pn**	**14 34 02.7**	**+0.4**
ALU	**Alushta**	**5.67**	**96**	S		**Sn**	**14 35 06.0**	**-0.2**
ALU				Pm			14 35 08.1	
ALU				Sm			14 35 08.1	
BIA	**Bitola**	**5.90**	**221**	*e*Pn		**Pn**	**14 34 06.0**	**+0.6**
UPM	**Unac-Piva**	**5.92**	**249**	*e*Pn		**Pn**	**14 34 05.8**	**0.0**
UPM				*e*Sn		**Sn**	**14 35 10.8**	**-1.8**
UPM	**Unac-Piva**	**5.92**	**249**	*e*Pn		**Pn**	**14 34 05.8**	**0.0**
UPM				*e*Sn		**Sn**	**14 35 10.8**	**-1.8**
VYHS	**Vyhne**	**6.00**	**302**	*e*		**Pn**	**14 34 08.9**	**+2.4**
PAIG	**Paliouri**	**6.00**	**201**	P		**Pn**	**14 34 06.7**	**0.0**
PAIG	**Paliouri**	**6.00**	**201**	P		**Pn**	**14 34 06.7**	**0.0**
SUDU	**Sudak**	**6.05**	**93**	P		**Pn**	**14 34 07.0**	**-0.3**
SUDU				S		**Sn**	**14 35 13.3**	**-2.1**
SUDU				Pm			14 35 13.3	
SUDU				Sm			14 35 13.3	
SUDU	**Sudak**	**6.05**	**93**	*e*P		**Pn**	**14 34 07.3**	**0.0**
	comp=E,13nm,0.4s							
SUDU				*e*S		**Sn**	**14 35 13.3**	**-2.1**
SUDU	**Sudak**	**6.05**	**93**	*e*P		**Pn**	**14 34 07.3**	**0.0**
SUDU				*e*S		**Sn**	**14 35 13.3**	**-2.1**
SUDU				pmax	pmax			
	comp=Z,9.0nm,0.4s							
SUDU				smax	smax			
	comp=N,13nm,0.4s							
SUDU				smax	smax			
	comp=E,32nm,0.5s							
PDG	**Podgorica**	**6.08**	**242**	⇓*i* Pn		**Pn**	**14 34 09.1**	**+1.4**
PDG				*e*Sn		**Sn**	**14 35 14.8**	**-1.4**
TTG	**Podgorica**	**6.08**	**242**	⇓*i* Pn		**Pn**	**14 34 09.1**	**+1.4**
TTG				*e*Sn		**Sn**	**14 35 14.8**	**-1.4**
CEME	**Cevo**	**6.23**	**244**	*e*Pn		**Pn**	**14 34 10.5**	**+0.7**
CEME				*e*Sn		**Sn**	**14 35 18.8**	**-1.1**
CEME	**Cevo**	**6.23**	**244**	*e*Pn		**Pn**	**14 34 10.5**	**+0.7**
CEME				*e*Sn		**Sn**	**14 35 18.8**	**-1.1**
DRME	**Dracevica, Mon**	**6.26**	**240**	*e*Pn		**Pn**	**14 34 11.8**	**+1.6**
DRME				*e*Sn		**Sn**	**14 35 19.4**	**-1.2**
DRME	**Dracevica, Mon**	**6.26**	**240**	*e*Pn		**Pn**	**14 34 11.8**	**+1.6**
DRME				*e*Sn		**Sn**	**14 35 19.4**	**-1.2**
ULC	**Ulcinj**	**6.36**	**238**	⇑*i* Pn		**Pn**	**14 34 12.5**	**+1.0**
ULC				*e*Sn		**Sn**	**14 35 21.4**	**-1.5**
ULC	**Ulcinj**	**6.36**	**238**	⇑*i* Pn		**Pn**	**14 34 12.5**	**+1.0**
ULC				*e*Sn		**Sn**	**14 35 21.4**	**-1.5**
BUM	**Brajici-Budva**	**6.38**	**242**	⇓*i* Pn		**Pn**	**14 34 13.0**	**+1.2**
BUM				*e*Sn		**Sn**	**14 35 21.8**	**-1.6**
BUM	**Brajici-Budva**	**6.38**	**242**	⇓*i* Pn		**Pn**	**14 34 13.0**	**+1.2**
BUM				*e*Sn		**Sn**	**14 35 21.8**	**-1.6**
HCY	**Herceg Novi**	**6.55**	**244**	⇓*i* Pn		**Pn**	**14 34 16.0**	**+2.0**
HCY				*e*Sn		**Sn**	**14 35 26.6**	**-0.9**
HCY	**Herceg Novi**	**6.55**	**244**	⇓*i* Pn		**Pn**	**14 34 16.0**	**+2.0**
HCY	**Herceg Novi**	**6.55**	**244**	P		**Pn**	**14 34 17.9**	**+3.9**
HCY				*e*Sn		**Sn**	**14 35 26.6**	**-0.9**
HCY	**Herceg Novi**	**6.55**	**244**	P		**Pn**	**14 34 17.9**	**+3.9**
STON	**Ston**	**6.86**	**250**	*e*Pn		**Pn**	**14 34 18.9**	**+0.7**
STON				*e*Sn		**Sn**	**14 35 33.9**	**-1.0**
BRTR	**Keskin Array B**	**7.86**	**135**	P		**Pn**	**14 34 32.0**	**+0.2**
	comp=E,0.1nm,0.3s,baz=325,slow=12,SNR=3.9							
APE	**Apeiranthos**	**8.52**	**185**	*e*P		**Pn**	**14 34 36.3**	**-4.2**
APE	**Apeiranthos**	**8.52**	**185**	⇓*e*P		**Pn**	**14 34 36.3**	**-4.2**
KLNR	**Kaliningrad**	**9.90**	**338**	*e*P		**Pn**	**14 34 57.9**	**-0.9**
KLNR	**Kaliningrad**	**9.90**	**338**	⇑*e*P		**Pn**	**14 34 57.9**	**-0.9**
VSR	**Storozhevoye**	**10.15**	**52**	*e*P		**Pn**	**14 35 01.6**	**-0.5**
	comp=E,10.0nm,0.4s							
VSR	**Storozhevoye**	**10.15**	**52**	*e*P		**Pn**	**14 35 01.6**	**-0.5**
VSR				pmax	pmax			
	comp=Z,10.0nm,0.4s							
LPSR	**Galich'ya Gora**	**10.77**	**45**	*e*P		**Pn**	**14 35 09.2**	**-1.2**
LPSR				pmax	pmax			
	comp=Z,6.0nm,0.6s							
LPSR	**Galich'ya Gora**	**10.77**	**45**	*e*P		**Pn**	**14 35 09.2**	**-1.2**
LPSR				pmax	pmax			
	comp=Z,6.0nm,0.9s							
OBN	**Obninsk**	**11.52**	**30**	*e*P		**Pn**	**14 35 22.1**	**+1.9**
	comp=Z,6.0nm,1.2s							
OBN	**Obninsk**	**11.52**	**30**	*e*P		**Pn**	**14 35 22.1**	**+1.9**
OBN				pmax	pmax			
	comp=Z,6.0nm,1.2s							
KIV	**Kislovodsk**	**11.63**	**92**	*e*P		**Pn**	**14 35 18.8**	**-3.1**
	comp=Z,5.0nm,0.9s							
KIV	**Kislovodsk**	**11.63**	**92**	*e*P		**Pn**	**14 35 18.8**	**-3.1**
KIV				pmax	pmax			
	comp=Z,5.0nm,0.9s							
FINES	**FINESS Array B**	**15.91**	**359**	P		**Pn**	**14 36 13.2**	**-2.9**
	comp=Z,0.1nm,0.3s,baz=191,slow=7.2,SNR=4.2							
FINES	**FINESS Array B**	**15.91**	**359**	*e*P		**Pn**	**14 36 12.5**	**-3.6**
HFS	**Hagfors**	**16.46**	**337**	P		**Pn**	**14 36 22.2**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=138,slow=13,SNR=3.1							
KLMR	**Klimovskoe**	**17.14**	**22**	*e*Pn		**P**	**14 36 28.1**	**-2.4**
KLMR				AMP			14 36 29.8	
	comp=Z,9.0nm,1.4s							
KLMR	**Klimovskoe**	**17.14**	**22**	*e*P		**P**	**14 36 28.0**	**-2.4**
KLMR				pmax	pmax			
	comp=Z,9.0nm,1.4s							
NOA	**NORSAR Array B**	**17.91**	**335**	P		**P**	**14 36 39.4**	**+0.3**
	comp=Z,0.2nm,0.3s,baz=144,slow=9.9,SNR=2.8							
EKA	**Eskdalemuir Ar**	**21.11**	**308**	P		**P**	**14 37 12.2**	**-1.4**
	comp=Z,0.4nm,0.5s,baz=86,slow=10,SNR=2.7							
AKTO	**Aktyubinsk**	**21.56**	**66**	P		**P**	**14 37 19.7**	**+1.2**
	comp=Z,1.0nm,0.3s,baz=270,slow=8.9,SNR=5.1							
AKTO				LR		LR	14 46 57.5	
	comp=Z,14nm,21.4s,baz=359,slow=40							
ARU	**Arti**	**22.71**	**50**	P		**P**	**14 37 29.4**	**-0.6**
	comp=Z,4.4nm,0.3s,baz=260,slow=13,SNR=5.0							
ARU				pP		**pP**	**14 37 53.1**	**-2.6**
	comp=Z,3.4nm,0.2s,baz=272,slow=10,SNR=1.5							
ARU	**Arti**	**22.71**	**50***c*	*i* P		**P**	**14 37 30.5**	**+0.5**
ARU				*PP		**pP**	**14 37 54.4**	**-1.3**
ARU							14 37 59.4	
ARU				S		**S**	**14 41 29.8**	**+2.0**
ARU				SS		**SnSn**	**14 42 17.7**	**+3.2**
ARU				pmax	pmax			
	comp=Z,7.0nm,1.7s							
ESDC	**Sonseca Array**	**23.08**	**266**	P		**P**	**14 37 32.8**	**-0.9**
	comp=Z,0.2nm,0.3s,baz=66,slow=10,SNR=4.8							
ARCES	**ARCESS Array B**	**24.04**	**359**	P		**P**	**14 37 43.4**	**+1.3**
	comp=Z,1.0nm,0.8s,baz=132,slow=6.7,SNR=5.0							
ARCES	**ARCESS Array B**	**24.04**	**359**	*e*P		**P**	**14 37 45.7**	**+3.6**
ARCES				pmax	pmax			
	comp=Z,1.0nm,0.7s							
BRVK	**Borovoye**	**29.13**	**59**	⇑*e*P		**P**	**14 38 29.9**	**+2.0**
BRVK				pmax	pmax			
	comp=Z,5.0nm,2.3s							
BVAR	**Borovoye Array**	**29.20**	**59**	P		**P**	**14 38 29.5**	**+1.0**
	comp=Z,0.4nm,0.5s,baz=270,slow=8.6,SNR=2.8							
BVAR				pP		**pP**	**14 38 58.8**	**+1.1**
	comp=Z,0.6nm,0.6s,baz=278,slow=11,SNR=3.1							
BVAR				LR		LR	14 51 40.7	
	comp=Z,17nm,21.5s,baz=132,slow=39							
AAK	**Ala-Archa**	**34.20**	**77**	*i* P		**P**	**14 39 16.0**	**+3.5**
KURBB	**Kurchatov Arra**	**34.53**	**62**	P		**P**	**14 39 16.9**	**+1.8**
	comp=Z,0.7nm,0.4s,baz=288,slow=9.1,SNR=4.9							
KURK	**Kurchatov**	**34.56**	**62**	⇓*e*P		**P**	**14 39 17.0**	**+1.7**
KURK				pmax	pmax			
	comp=Z,1.0nm,0.3s							
ZALV	**Zalesovo Beam**	**37.62**	**55**	P		**P**	**14 39 43.2**	**+1.9**
	comp=Z,1.3nm,0.6s,baz=286,slow=10,SNR=5.4							
ZALV				pP		**pP**	**14 40 11.7**	**+0.4**
	comp=Z,1.3nm,0.7s,baz=264,slow=7.9,SNR=3.3							
MKAR	**Makanchi Array**	**37.97**	**67**	P		**P**	**14 39 46.7**	**+2.4**
	comp=Z,0.6nm,0.5s,baz=273,slow=8.2,SNR=13							
TORD	**Torodi Ar. Bea**	**38.55**	**221**	P		**P**	**14 39 50.6**	**+1.2**
	comp=Z,1.5nm,0.3s,baz=24,slow=8.5,SNR=30							
DGZ	**Jazzator, Alta**	**40.29**	**61**	*i* P		**P**	**14 40 03.2**	**-0.5**
DBIC	**Dimbokro**	**47.30**	**225**	P		**P**	**14 40 59.9**	**0.0**
	comp=Z,2.5nm,0.4s,baz=12,slow=9.7,SNR=7.2							
TIXI	**Tiksi**	**51.15**	**23**	⇑*e*P		**P**	**14 41 27.0**	**-1.4**
TIXI				pmax	pmax			
	comp=Z,1.0nm,1.1s							
CMAR	**Chiang Mai Arr**	**64.85**	**89**	P		**P**	**14 43 04.7**	**+0.1**
	comp=Z,0.8nm,0.8s,baz=303,slow=8.0,SNR=4.7							
CMAR	**Chiang Mai Arr**	**64.85**	**89**	*e*P		**P**	**14 43 07.3**	**+2.7**
	comp=Z,1.0nm,0.7s							
CMAR	**Chiang Mai Arr**	**64.85**	**89**	*e*P		**P**	**14 43 07.3**	**+2.7**
CMAR				pmax	pmax			
	comp=Z,1.0nm,0.7s							
YKA	**Yellowknife Ar**	**67.88**	**342**	P		**P**	**14 43 24.0**	**+0.8**
	comp=Z,0.1nm,0.4s,baz=31,slow=5.7,SNR=2.9							
YKA	**Yellowknife Ar**	**67.88**	**342**	P		**P**	**14 43 24.0**	**+0.8**

*ISK **26** 14:37:06.4, 39˚.62N×41˚.19E, h3km, ML2.6/3*
*ISCJB **26** 14:37:07.6±0.5, 39˚.65N±0˚.03×41˚.16E±0˚.03, h3km±5km, Error ellipse: s-maj=4.4km s-min=3.5km az=174.4*
*DDA **26** 14:37:07.3, 39˚.67N×41˚.19E, h7km, Ml2.7*
*CSEM **26** 14:37:07.2±0.1, 39˚.65N×41˚.19E, h2km, ML2.7, Error ellipse: s-maj=3.0km s-min=2.0km az=5.0*
ISC 26 14:37:07.3±0.9, 39˚62N±0˚.02×41˚19E±0˚.02, h8km±8km, n27, σ1$00/50, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ECAT	**Cat-ERZURUM**	**0.17**	**265**	*i* P	**Pg**	**14 37 11.0**	**0.0**
ECAT				*i* S	**Sg**	**14 37 13.9**	**+0.4**
ECAT	**Cat-ERZURUM**	**0.17**	**265**	P	**Pg**	**14 37 11.0**	**0.0**
ECAT				S	**Sg**	**14 37 13.9**	**+0.4**
ERZM	**Erzurum**	**0.31**	**25**	*i* P	**Pg**	**14 37 12.6**	**-1.0**
ERZM				*i* S	**Sg**	**14 37 17.3**	**-0.5**
ERZM	**Erzurum**	**0.31**	**25**	P	**Pg**	**14 37 12.6**	**-1.0**
ERZM				S	**Sg**	**14 37 17.3**	**-0.5**
YEDI	**Yedisu-Bingol**	**0.54**	**250**	PG	**Pg**	**14 37 17.4**	**-0.3**
YEDI				SG	**Sg**	**14 37 25.8**	**+1.0**
YEDI	**Yedisu-Bingol**	**0.54**	**250**	*e*Pg	**Pg**	**14 37 17.4**	**-0.3**
YEDI				*e*Sg	**Sg**	**14 37 25.8**	**+1.0**
KOPT	**Kop Dagi**	**0.67**	**307**	*i* P	**Pg**	**14 37 19.9**	**-0.4**
KOPT				*i* S	**Sg**	**14 37 29.0**	**0.0**
KOPT	**Kop Dagi**	**0.67**	**307**	P	**Pg**	**14 37 19.9**	**-0.4**
KOPT				S	**Sg**	**14 37 29.0**	**0.0**
BNGB	**Bing¯¶ll**	**0.75**	**213**	PG	**Pg**	**14 37 21.6**	**-0.1**
BNGB				SG	**Sg**	**14 37 32.8**	**+1.4**
EKAR	**Karacoban**	**0.77**	**118**	*i* P	**Pb**	**14 37 23.2**	**+0.2**
EKAR				*i* S	**Sn**	**14 37 36.4**	**0.0**
EKAR	**Karacoban**	**0.77**	**118**	P	**Pb**	**14 37 23.2**	**+0.2**
BINT	**Bingol**	**0.93**	**217**	*e*Pg	**Pg**	**14 37 21.6**	**-3.5**
BINT				*e*Sg	**Sg**	**14 37 32.8**	**-4.3**
BAYB	**BAYBURT**	**0.96**	**312**	*i* P	**Pg**	**14 37 25.2**	**-0.6**
BAYB				*i* S	**Sb**	**14 37 38.9**	**-0.4**
BAYB	**BAYBURT**	**0.96**	**312**	P	**Pg**	**14 37 25.2**	**-0.6**
BAYB				S	**Sb**	**14 37 38.9**	**-0.4**
EATA	**Eleskirt**	**1.03**	**76**	*i* P	**Pb**	**14 37 27.5**	**-0.1**
EATA				*i* S	**Sn**	**14 37 43.5**	**+0.4**
EATA	**Eleskirt**	**1.03**	**76**	P	**Pb**	**14 37 27.5**	**-0.1**
TUTA	**Tutak**	**1.27**	**99**	*i* P	**Pg**	**14 37 31.6**	**-0.2**
TUTA				*i* S	**Sb**	**14 37 49.6**	**+1.3**
TUTA	**Tutak**	**1.27**	**99**	P	**Pg**	**14 37 31.6**	**-0.2**
TUTA				S	**Sb**	**14 37 49.6**	**+1.3**
AGRB	**Hanur-Agry**	**1.39**	**91**	PN	**Pn**	**14 37 33.5**	**+0.3**
AGRB	**Hanur-Agry**	**1.39**	**91**	*e*Pn	**Pn**	**14 37 33.5**	**+0.3**
DBAD	**Bademkaya**	**1.45**	**15**	*i* P	**Pn**	**14 37 33.9**	**0.0**
DBAD				*i* S	**Sb**	**14 37 53.3**	**+0.1**
DBAD	**Bademkaya**	**1.45**	**15**	P	**Pn**	**14 37 33.9**	**0.0**
DBAD				S	**Sb**	**14 37 53.3**	**+0.1**
CHOM	**Cayeli-Rize**	**1.51**	**347**	*e*Pn	**Pn**	**14 37 35.2**	**+0.5**
CHOM				*e*Sn	**Sg**	**14 37 56.1**	**+0.2**
PTK	**Pertek**	**1.58**	**243**	PN	**Pn**	**14 37 36.3**	**+0.5**
PTK				SN	**Sb**	**14 37 57.7**	**+0.7**
PTK	**Pertek**	**1.58**	**243**	*e*Pn	**Pn**	**14 37 36.3**	**+0.5**
PTK				*e*Sn	**Sb**	**14 37 57.7**	**+0.7**
KELT	**Kelkit**	**1.58**	**290**	*i* P	**Pn**	**14 37 36.3**	**+0.5**
KELT				*i* S	**Sn**	**14 37 56.4**	**-0.2**
KELT	**Kelkit**	**1.58**	**290**	P	**Pn**	**14 37 36.3**	**+0.5**
KELT				S	**Sn**	**14 37 56.3**	**-0.2**

*IDC **26** 14:39:22.8±1.4, 1˚.93N×93˚.72E, h0km, mb3.6/7, mb1 3.8/10, mb1mx3.5/67, mbtmp3.7/10, ML3.9/3, MS3.1/2, Ms1 3.2/2, ms1mx2.4/52, Error ellipse: s-maj=44.4km s-min=18.1km az=45.0*
*ISCJB **26** 14:39:25.3±0.6, 1˚.88N±0˚.05×93˚.69E±0˚.05, h33km, mb3.6/7, MS3.3/1, Error ellipse: s-maj=8.0km s-min=6.2km az=136.0*
*DJA **26** 14:39:30.1±0.9, 2˚N±4˚×9˚4E±˚, h10km, M4.7/13, mb4.9/8, mB5.3/6, MLv4.7/13, Mw(mB)4.8/6*
ISC 26 14:39:27.3±0.9, 1˚.83N±0˚.06×93˚.77E±0˚.07, h35km, n33, σ2$03/32, mb3.7/7, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MLSI	**Meulaboh, Aceh**	**3.57**	**47**	P	**Pn**	**14 40 20.0**	**-0.3**
MLSI				Pn	Pn	14 40 29.0	+8.7
TPTI		**3.69**	**67**	P	**Pn**	**14 40 21.9**	**0.0**
TPTI				Pn	Pn	14 40 30.2	+8.3
TPTI				S	**Sn**	**14 41 09.0**	**+4.8**
GSI	**Gunungsitoli**	**3.84**	**98**	P	**Pn**	**14 40 26.0**	**+2.0**
GSI				S	**Sn**	**14 41 03.0**	**-4.9**
BSI	**Banda Aceh**	**3.94**	**23**	P	**Pn**	**14 40 25.6**	**+0.2**
BSI				S	**Sn**	**14 41 10.9**	**+0.4**
KCSI	**Kotacane, Aceh**	**4.33**	**67**	P	**Pn**	**14 40 31.6**	**+0.8**
KCSI				S	**Sn**	**14 41 20.0**	**-0.1**
LHMI	**Lhok Sumawe**	**4.63**	**43**	P	**P

comp=Z,149nm,21.4s,baz=8.5,slow=30
CMIG Matias Romero 23.26 24 LR LR 15 08 01.5
comp=Z,229nm,20.4s,baz=195,slow=32
APG El Apazote 23.66 36 LR LR 15 08 21.8
comp=Z,335nm,18.8s,baz=204,slow=32
JTS JuntasAbangare 24.23 53 LR LR 15 08 07.4
comp=Z,451nm,20.9s,baz=318,slow=31
ATAH Atahualpa 26.06 97 LR LR 15 09 06.0
comp=Z,226nm,19.0s,baz=274,slow=31
LPIG La Paz 28.81 349 LR LR 15 10 19.0
comp=Z,202nm,21.1s,baz=193,slow=30
ROSC El Rosal 31.43 74 LR LR 15 12 33.9
comp=Z,94nm,20.5s,baz=276,slow=32
TXAR Lajitas Array 33.46 1 P **P 15 02 23.3 -0.6**
0.1nm,0.7s,baz=174,slow=9.8,SNR=2.2
TXAR LR LR 15 13 59.0
comp=Z,76nm,18.8s,baz=0.0,slow=33
RKT Rikitea 34.93 235 *e*LR LR 15 11 51.0
336nm,28.0s
TAOE Nuku Hiva Isla 35.75 261 *e*LR LR 15 11 57.2
245nm,25.8s
SDV Santo Domingo 36.16 69 LR LR 15 15 11.6
comp=Z,152nm,20.9s,baz=240,slow=32
LPAZ La Paz 37.57 111 LR LR 15 15 28.7
comp=Z,82nm,19.3s,baz=282,slow=32
TKL Tuckaleechee C 44.23 24 LR LR 15 22 16.3
comp=Z,46nm,18.2s,baz=176,slow=36
PTGA Pitinga 44.56 87 P **P 15 03 56.9 -0.1**
1.4nm,0.6s,baz=249,slow=8.3,SNR=4.6
PPT Papeete 46.10 250 LR LR 15 18 17.5
comp=Z,107nm,18.9s,baz=94,slow=29
PPT2 Papeete2 46.10 250 *e*LR LR 15 16 54.6
270nm,25.8s,baz=69
PDAR Pinedale Array 47.09 355 P **P 15 04 18.2 +1.4**
0.8nm,0.8s,baz=164,slow=6.0,SNR=5.5
PDAR LR LR 15 21 45.3
comp=Z,81nm,19.6s,baz=202,slow=33
PLCA Paso Flores 47.34 145 P **P 15 04 19.4 +0.7**
4.2nm,1.1s,baz=343,slow=13,SNR=3.7
PLCA LR LR 15 19 42.8
comp=Z,272nm,18.0s,baz=322,slow=30
YBH Yreka Blue Hor 48.76 342 LR LR 15 21 14.4
comp=Z,67nm,18.2s,baz=173,slow=31
CPUP Villa Florida 50.05 121 P **P 15 04 39.2 -0.4**
1.8nm,0.8s,baz=355,slow=9.1,SNR=4.5
CPUP LR LR 15 21 55.1
comp=Z,72nm,20.1s,baz=266,slow=31
RAR Rarotonga 56.22 247 LR LR 15 21 28.5
comp=Z,30nm,21.8s,baz=76,slow=28
SCHQ Schefferville 66.66 23 LR LR 15 35 08.8
comp=Z,79nm,19.5s,baz=218,slow=36
AFI Afiamalu 66.99 257 LR LR 15 30 30.3
comp=Z,32nm,20.1s,baz=111,slow=31
YKA Yellowknife Ar 67.07 355 P **P 15 06 37.4 -0.2**
0.5nm,0.8s,baz=162,slow=6.2,SNR=11
ILAR Eielson Array 75.65 343 P **P 15 07 29.4 -0.1**
0.6nm,0.8s,baz=163,slow=4.9,SNR=7.0
QSPA South Pole Qui 85.74 180 LR LR 15 39 44.2
comp=Z,91nm,19.3s,baz=170,slow=31
DZM Mont Dzumac 87.59 248 LR LR 15 37 16.1
comp=Z,33nm,21.2s,baz=156,slow=28
H11N3 WAKE ISLAND Hy 90.17 290 T T 16 48 19.0
baz=120,slow=75
H11N2 WAKE ISLAND Hy 90.18 290 T T 16 48 22.8
baz=120,slow=75
H11N1 WAKE ISLAND Hy 90.19 290 T T 16 48 21.5
baz=120,slow=75
H11S2 WAKE ISLAND Hy 90.27 288 T T 16 48 21.6
baz=94,slow=74
H11S1 WAKE ISLAND Hy 90.28 288 T T 16 48 24.8
baz=94,slow=74
H11S3 WAKE ISLAND Hy 90.29 288 T T 16 48 26.7
baz=94,slow=74
BORG Borgarnes 90.92 25 LR LR 15 47 39.6
comp=Z,18nm,19.1s,baz=223,slow=34
HNR Honiara 94.83 260 LR LR 15 43 09.9
comp=Z,39nm,20.6s,baz=170,slow=30
PETK Petropavlovsk- 98.15 323 LR LR 15 44 53.2
comp=Z,56nm,21.9s,baz=92,slow=30
CMAR Chiang Mai Arr 153.17 303 PKPbc **PKPbc 15 15 42.5 -1.0**
0.3nm,0.3s,baz=35,slow=2.2,SNR=3.3

*ISCJB **26** 14:57:25.7±0.8,31°.25S±0°.06×138°.97E±0°.08,h10km, Error ellipse: s-maj=12.0km s-min=7.0km az=140.8*
*AUST **26** 14:57:26.7±0.8,31°.38S×138°.98E,h0km,Error ellipse: s-maj=13.3km s-min=4.9km az=156.0*
*IDC **26** 14:57:30.6±3.9,31°.11S×139°.27E,h0km,mb1 3.0/3, mb1mx2.9/42,mbtmp2.7/3,ML2.6/3,Error ellipse: s-maj=91.0km s-min=16.7km az=35.0*
ISC 26 14:57:28.3±1.1,31°.37S±0°.08×138°.93E±0°.06,h10km,n7, σ1§78/10,South Australia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HTT	**Hallett**	**2.05**	**180**	P	**Pn**	**14 58 01.8**	**-1.2**
baz=2.1							
STKA	**Stephens Creek**	**2.33**	**103**	Pn	**Pn**	**14 58 07.1**	**+0.4**
1.1nm,0.3s,baz=285,slow=14,SNR=25							
STKA				Pg	**Pb**	**14 58 10.9**	**+0.5**
1.1nm,0.3s,baz=286,slow=17,SNR=34							
STKA				Lg	Lg	14 58 37.1	
4.9nm,0.3s,baz=234,slow=8.7,SNR=14							
STKA	**Stephens Creek**	**2.33**	**103**	P	**Pn**	**14 58 05.5**	**-1.2**
baz=2.3							
BBOO	**Buckleboo**	**2.83**	**239**	P	**Pn**	**14 58 13.3**	**-0.3**
baz=2.9							
CMSA	**Cobar Meteorol**	**5.78**	**93**	P	**Pn**	**14 58 53.2**	**-1.0**
baz=5.7							
ASAR	**Alice Springs**	**8.88**	**329**	Pn	**Pn**	**14 59 39.4**	**+2.7**
0.0nm,0.3s,baz=155,slow=12,SNR=3.7							
ASAR				Sn	**Sn**	**15 01 14.3**	**-2.6**
0.0nm,0.3s,baz=151,slow=24,SNR=3.5							
WRA	**Warramunga Arr**	**12.11**	**339**	Pn	**Pn**	**15 00 22.0**	**+1.0**
0.1nm,0.3s,baz=156,slow=14,SNR=6.8							
WRA				Sn	**Sn**	**15 02 34.3**	**-1.8**
0.0nm,0.3s,baz=167,slow=22,SNR=2.8							

*IDC **26** 14:59:26.7±3.0,45°.80N×147°.51E,h0km,mb3.7/7, mb1 3.8/8,mb1mx3.5/64,mbtmp3.6/8,ML3.0/1,Error ellipse: s-maj=75.6km s-min=25.5km az=158.0*
*ISCJB **26** 14:59:29.4±1.0,44°.29N±0°.10×147°.9E±0°.1,h108km±5km, mb3.6/7,Error ellipse: s-maj=21.5km s-min=6.9km az=135.9*
*MOS **26** 14:59:29.3±0.8,44°.32N×147°.91E,h64km,mb4.0/4,Error ellipse: s-maj=20.8km s-min=15.7km az=155.8*
*SKHL **26** 14:59:32.2±0.5,44°.12N×148°.08E,h53km±8km,mb4.7/6*
*JMA **26** 14:59:32.6±0.3,44°.07N×147°.85E,h89km,M3.5*
ISC 26 14:59:29.0±1.4,44°.18N±0°.10×148°.1E±0°.1,h95km±8km, n35,σ1§15/46,mb3.6/7,3D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHO	**Shikotan**	**0.94**	**251**	*e*P	**Pn**	**14 59 48.9**	**+0.5**
SHO				AMB	AMB	14 59 49.3	
193nm,0.2s							
SHO				*i* S	**Sn**	**15 00 01.6**	**-1.3**
SHO				A	A	15 00 03.7	
1μm,0.2s							
SHO				A	A	15 00 03.7	
692nm,0.2s							
SHO	**Shikotan**	**0.94**	**251**	*d* iPN	**Pn**	**14 59 49.1**	**+0.7**
SHO				*i* S	**Sn**	**15 00 02.2**	**-0.7**
SHO				pmax	pmax		
comp=N,73nm,0.2s							
SHO				pmax	pmax		
comp=E,89nm,0.2s							
SHO				pmax	pmax		
comp=Z,193nm,0.2s							
SHO				smax	smax		
comp=N,692nm,0.2s							
SHO				smax	smax		
comp=E,1μm,0.2s							
KUR	**Kuril'sk**	**1.06**	**353**	*e*P	**Pn**	**14 59 50.8**	**+1.0**
KUR				AMB	AMB	14 59 51.0	
comp=E,120nm,0.2s							
KUR				*i* S	**Sn**	**15 00 05.1**	**-0.2**
KUR				A	A	15 00 05.5	
comp=E,2μm,0.3s							
KUR				A	A	15 00 05.5	
comp=E,2μm,0.3s							
KUR	**Kuril'sk**	**1.06**	**353**	*d* iPN	**Pn**	**14 59 50.7**	**+1.0**
KUR				*i* S	**Sn**	**15 00 05.1**	**-0.2**
KUR				pmax	pmax		
comp=Z,500nm,0.2s							
KUR				pmax	pmax		
comp=N,83nm,0.3s							
KUR				pmax	pmax		
comp=E,70nm,0.3s							
KUR				pmax	pmax		
comp=Z,429nm,0.2s							
KUR				smax	smax		
comp=N,2μm,0.3s							
KUR				smax	smax		
comp=E,767nm,0.2s							
KUR				smax	smax		
comp=N,2μm,0.4s							
KUR				smax	smax		
comp=E,1μm,0.2s							
YUK	**Yuzh-Kuril'sk**	**1.59**	**265**	*e*P	**Pn**	**14 59 57.2**	**+1.1**
YUK				AMB	AMB	14 59 58.2	
comp=E,370nm,0.2s							
YUK				*e*S	**Sn**	**15 00 16.2**	**-0.4**
YUK				A	A	15 00 18.4	
comp=E,270nm,0.1s							
YUK				A	A	15 00 18.4	
comp=E,370nm,0.1s							
YUK	**Yuzh-Kuril'sk**	**1.59**	**265**	*d* iPN	**Pn**	**14 59 57.2**	**+1.1**
YUK				*i* S	**Sn**	**15 00 16.2**	**-0.4**
YUK				pmax	pmax		
comp=N,33nm,0.2s							
YUK				pmax	pmax		
comp=Z,368nm,0.2s							
YUK				smax	smax		
comp=N,272nm,0.1s							
YUK				smax	smax		
comp=E,372nm,0.3s							
LAGR	**Lagunnoye**	**1.64**	**266**	*e*P	**Pn**	**14 59 58.1**	**+1.4**
LAGR				AMB	AMB	14 59 58.6	
comp=E,190nm,0.2s							
LAGR				*e*S	**Sn**	**15 00 17.2**	**-0.6**
LAGR				A	A	15 00 19.2	
comp=E,400nm,0.2s							
LAGR				A	A	15 00 19.2	
comp=E,420nm,0.2s							
LAGR	**Lagunnoye**	**1.64**	**266**	*e*PN	**Pn**	**14 59 58.1**	**+1.4**
LAGR				*i* S	**Sn**	**15 00 17.2**	**-0.6**
LAGR				pmax	pmax		
comp=Z,189nm,0.2s							
LAGR				pmax	pmax		
comp=N,44nm,0.1s							
LAGR				smax	smax		
comp=N,421nm,0.2s							
LAGR				smax	smax		
comp=E,402nm,0.2s							
GRPR	**Tuman**	**1.66**	**264**	*e*P	**Pn**	**14 59 58.0**	**+1.0**
GRPR				AMB	AMB	14 59 59.3	
comp=E,190nm,0.2s							
GRPR				*i* S	**Sn**	**15 00 16.7**	**-1.5**
GRPR				A	A	15 00 19.5	
comp=E,450nm,0.2s							
GRPR				A	A	15 00 19.5	
comp=E,200nm,0.2s							
GRPR	**Tuman**	**1.66**	**264**	*e*PN	**Pn**	**14 59 58.0**	**+1.0**
GRPR				*i* S	**Sn**	**15 00 16.7**	**-1.5**
GRPR				pmax	pmax		
comp=Z,190nm,0.3s							
GRPR				pmax	pmax		
comp=E,66nm,0.1s							
GRPR				pmax	pmax		
comp=N,169nm,0.2s							
GRPR				smax	smax		
comp=N,451nm,0.3s							
GRPR				smax	smax		
comp=E,200nm,0.1s							
NEM2	**Nemuro 2**	**1.86**	**245**	P	**Pn**	**15 00 01.0**	**+1.4**
NEM2				*e*S	**Sn**	**15 00 22.1**	**-0.8**
GLVR	**Golovnino**	**1.89**	**257**	*e*P	**Pn**	**15 00 01.4**	**+1.5**
GLVR				AMB	AMB	15 00 02.2	
comp=E,180nm,0.2s							
GLVR				*e*S	**Sn**	**15 00 23.4**	**0.0**
GLVR				A	A	15 00 28.3	
comp=E,524nm,0.3s							
GLVR				A	A	15 00 28.3	
comp=E,353nm,0.3s							
GLVR	**Golovnino**	**1.89**	**257**	*e*PN	**Pn**	**15 00 01.4**	**+1.5**
GLVR				*i* S	**Sn**	**15 00 23.4**	**0.0**
GLVR				pmax	pmax		
comp=Z,178nm,0.1s							
GLVR				smax	smax		
comp=N,524nm,0.3s							
GLVR				smax	smax		
comp=E,353nm,0.2s							
JRA	**Rausu**	**2.13**	**264**	P	**Pn**	**15 00 04.7**	**+1.6**
JNK	**Nakash**	**2.49**	**257**	P	**Pn**	**15 00 09.3**	**+1.5**
JNK				*e*S	**Sn**	**15 00 37.0**	**-0.5**
JAK	**Akkeshi**	**2.71**	**245**	P	**Pn**	**15 00 12.0**	**+1.2**
JAK				*e*S	**Sn**	**15 00 41.9**	**-1.0**
JTKR	**Abashiri--Toko**	**3.00**	**267**	P	**Pn**	**15 00 16.1**	**+1.5**
JAR	**Ashorobuto**	**3.23**	**256**	P	**Pn**	**15 00 19.9**	**+2.2**
JAR				*e*S	**Sn**	**15 00 56.4**	**+1.1**
JCH	**Churui**	**3.76**	**247**	P	**Pn**	**15 00 26.3**	**+1.4**
JCH				*e*S	**Sn**	**15 01 07.0**	**-1.2**
ASAJ	**Asahikawa**	**3.93**	**271**	Pn	**Pn**	**15 00 27.8**	**+0.7**
comp=E,0.8nm,0.3s,baz=63,slow=18,SNR=7.3							
ASAJ				Sn	Sn	15 01 23.3	+11
comp=E,0.1nm,0.3s,baz=102,slow=9.3,SNR=2.6							
JKB	**Kayabe**	**5.64**	**248**	P	**Pn**	**15 00 51.3**	**+1.0**
H11N2	**WAKE ISLAND Hy**	**29.01**	**141**	T	T	15 36 23.8	
baz=331,slow=76,SNR=10.0							
H11N1	**WAKE ISLAND Hy**	**29.03**	**141**	T	T	15 36 25.1	
baz=331,slow=76,SNR=9.0							
H11N3	**WAKE ISLAND Hy**	**29.03**	**141**	T	T	15 36 23.7	
baz=331,slow=76,SNR=8.0							
H11S1	**WAKE ISLAND Hy**	**30.00**	**143**	T	T	15 37 36.2	
baz=332,slow=76,SNR=15							
H11S3	**WAKE ISLAND Hy**	**30.01**	**143**	T	T	15 37 33.1	
baz=332,slow=76,SNR=8.1							
H11S2	**WAKE ISLAND Hy**	**30.02**	**143**	T	T	15 37 35.9	
baz=332,slow=76,SNR=7.0							
ILAR	**Eielson Array**	**40.75**	**37**	P	**P**	**15 06 59.3**	**-0.8**
comp=E,0.1nm,0.3s,baz=276,slow=8.0,SNR=3.8							
MKAR	**Makanchi Array**	**44.97**	**298**	P	**P**	**15 07 34.3**	**-0.2**
comp=E,0.7nm,0.7s,baz=78,slow=8.6,SNR=8.5							
YKA	**Yellowknife Ar**	**55.08**	**34**	P	**P**	**15 08 52.3**	**+1.7**
comp=E,0.1nm,0.5s,baz=304,slow=7.1,SNR=3.5							
ARCES	**ARCESS Array B**	**59.07**	**340**	P	**P**	**15 09 17.2**	**-1.4**
comp=E,3.0nm,1.0s,baz=60,slow=7.2,SNR=4.1							
FINES	**FINESS Array B**	**64.78**	**333**	P	**P**	**15 09 55.8**	**-1.2**
comp=E,1.2nm,0.6s,baz=57,slow=7.0,SNR=7.2							
NOA	**NORSAR Array B**	**69.43**	**339**	P	**P**	**15 10 26.0**	**-0.5**
comp=E,0.4nm,0.6s,baz=29,slow=6.5,SNR=2.7							
NOA	**NORSAR Array B**	**69.43**	**339**	P	**P**	**15 10 26.0**	**-0.5**
HFS	**Hagfors**	**69.54**	**338**	P	**P**	**15 10 26.5**	**-0.6**
comp=E,1.5nm,0.8s,baz=35,slow=3.5,SNR=3.3							

IDC 26 15:23:27.6±5.2,6°.12S×147°.30E,h214km±53km,mb2.4/1, mb1 2.6/3,mb1mx2.5/44,mbtmp3.0/3,Error ellipse: s-maj=106.7km s-min=48.1km az=123.0,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.27**	**182**	P	Pn	15 24 20.2	-1.0
1.3nm,0.3s,baz=345,slow=20,SNR=6.9							
PMG				S	S	15 25 04.3	+1.3
1.3nm,0.3s,baz=17,slow=19,SNR=6.5							
WRA	**Warramunga Arr**	**18.64**	**221**	P	P	15 27 29.3	-0.3
0.1nm,0.3s,baz=47,slow=12,SNR=10							
ASAR	**Alice Springs**	**21.69**	**215**	P	P	15 28 01.8	-0.1
0.4nm,0.9s,baz=46,slow=8.1,SNR=4.7							
TORD	**Torodi Ar. Bea**	**145.41**	**284**	PKPbc	PKPdf	15 42 41.0	-0.1
0.2nm,0.6s,baz=93,slow=2.9,SNR=2.5							

IDC 26 15:46:44.5±2.1,1°.56N×126°.86E,h0km,mb3.1/3, mb1 3.4/3,mb1mx3.1/65,mbtmp3.1/3,Error ellipse: s-maj=167.8km s-min=25.1km az=66.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.60**	**161**	P	P	15 51 47.4	+0.5
0.4nm,0.4s,baz=340,slow=11,SNR=7.5							
ASAR	**Alice Springs**	**26.00**	**165**	P	P	15 52 18.9	-0.4
0.1nm,0.4s,baz=345,slow=7.8,SNR=6.4							
MKAR	**Makanchi Array**	**59.40**	**326**	P	P	15 56 49.0	0.0
0.1nm,0.4s,baz=108,slow=8.9,SNR=2.2							

IDC 26 16:03:03.1±5.4,12°.61S×75°.33W,h0km,mb3.5/3, mb1 3.9/4,mb1mx3.6/45,mbtmp3.6/4,ML4.0/1,MS3.1/2, Ms1 3.2/2,ms1mx2.7/28,Error ellipse: s-maj=222.8km s-min=31.2km az=35.0,Central Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**7.88**	**118**	Pn	Pn	16 04 59.6	0.0
1.1nm,0.3s,baz=298,slow=8.5,SNR=14							
LPAZ				Sn	Sn	16 06 38.0	+8.3
0.2nm,0.3s,baz=280,slow=11,SNR=2.3							
LPAZ				LR	LR	16 08 34.2	
comp=Z,128nm,21.3s,baz=273,slow=42							
CPUP	**Villa Florida**	**21.74**	**132**	LR	LR	16 16 27.4	
comp=Z,55nm,19.1s,baz=219,slow=37							
TXAR	**Lajitas Array**	**49.87**	**327**	P	P	16 11 59.0	+0.5
0.2nm,0.5s,baz=147,slow=9.1,SNR=3.2							
TORD	**Torodi Ar. Bea**	**80.54**	**74**	P	P	16 15 18.1	+0.1
2.1nm,0.8s,baz=261,slow=5.3,SNR=9.4							
YKA	**Yellowknife Ar**	**80.87**	**343**	P	P	16 15 18.0	-0.6
0.1nm,0.6s,baz=146,slow=6.1,SNR=3.0							
H11N3	**WAKE ISLAND Hy**	**20.07**	**286**	T	T	18 32 42.5	
baz=99							
H11N2	**WAKE ISLAND Hy**	**20.08**	**286**	T	T	18 32 44.0	
baz=99							
H11N1	**WAKE ISLAND Hy**	**20.09**	**286**	T	T	18 32 43.9	
baz=99							
H11S2	**WAKE ISLAND Hy**	**20.18**	**284**	T	T	18 32 43.2	
baz=98							
H11S1	**WAKE ISLAND Hy**	**20.19**	**284**	T	T	18 32 44.5	
baz=98							
H11S3	**WAKE ISLAND Hy**	**20.20**	**284**	T	T	18 32 45.8	
baz=98							

IDC 26 16:05:50.7±1.0,23°.45S×175°.20W,h0km,mb3.6/3, mb1 3.8/3,mb1mx3.6/42,mbtmp3.6/3,Error ellipse: s-maj=1142.0km s-min=171.9km az=88.0,Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**38.98**	**248**	P	P	16 13 18.6	-0.2
0.9nm,0.8s,baz=90,slow=5.1,SNR=3.0							
ASAR	**Alice Springs**	**46.45**	**259**	P	P	16 14 19.5	-0.2
0.2nm,0.4s,baz=97,slow=7.5,SNR=8.6							
WRA	**Warramunga Arr**	**46.83**	**264**	P	P	16 14 22.7	0.0
0.6nm,0.4s,baz=103,slow=8.2,SNR=21							

MEX 26 16:10:33.2±0.6,13°.73N×92°.30W,h79km±333km,MD3.8, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		**2.16**	**336**	*e*P	Pn	16 11 06.1	-1.1

*ISN **26** 16:13:43.8±1.3,32°.54N×47°.09E,h15km,ML2.8*
TEH 26 16:13:43.3,32°.50N×47°.10E,h5km,ML2.8,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IKFM	**Kafar-mosalman**	**1.20**	**32**	*e*AMB	AMB	16 14 07.1	
comp=Z,99nm,0.1s							
IKFM				*e*Pg	Pg	16 14 04.8	-1.5
IKFM				*e*Sg	Sg	16 14 20.3	-1.6
IKOM	**Komasi**	**1.70**	**12**	*e*Pn	Pn	16 14 13.4	-0.4
IKOM				*e*AMB	AMB	16 14 14.3	
comp=Z,1μm,0.1s							
IKOM				*e*Sg	Sb	16 14 37.3	+0.3
IGHG	**Ghaleghazi**	**1.88**	**347**	*e*Pn	Pb	16 14 17.8	-0.4
IGHG				*e*AMB	AMB	16 14 47.6	
comp=N,932nm,0.1s							
IVIS	**Veis**	**2.03**	**354**	*e*Pn	Pn	16 14 18.9	+0.6
IVIS				*e*Sg	Sb	16 14 46.0	-0.4
IVIS				*e*AMB	AMB	16 14 50.0	
comp=Z,720nm,0.3s							
IDHR	**Dehrash**	**2.27**	**345**	*e*AMB	AMB	16 14 58.5	
comp=E,654nm,0.2s							
ILIN	**Lien**	**2.41**	**357**	*e*Pn	Pn	16 14 23.4	-0.3
ILIN				*e*AMB	AMB	16 15 01.4	
comp=Z,277nm,0.2s							
IZEF	**Zefreh**	**4.43**	**84**	*e*Pn	Pn	16 14 50.7	-0.7
IZEF				*e*AMB	AMB	16 15 04.5	
comp=Z,60nm,0.2s							

*IDC **26** 16:15:05.7±3.2,3°.94N×92°.79E,h0km,mb3.8/4,mb1 3.9/7, mb1mx3.5/70,mbtmp3.8/7,ML3.6/3,MS3.3/1,Ms1 3.3/1, ms1mx2.3/63,Error ellipse: s-maj=67.9km s-min=33.1km az=19.0*
*ISCJB **26** 16:15:06.0±0.8,3°.91N±0°.08×92°.87E±0°.06,h19km, mb3.8/4,MS3.3/1,Error ellipse: s-maj=12.9km s-min=6.7km az=24.6*
*DJA **26** 16:15:12.6±1.2,4°.N±5°×9°.3E±1°.8,h17km±23km,M4.0/7, mb4.0/4,MLv4.0/7*
ISC 26 16:15:08.0±1.1,3°.96N±0°.09×92°.91E±0°.08,h19km,n19, σ1§64/16,mb3.8/4,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSI	**Banda Aceh**	**2.83**	**57**	P	**Pn**	**16 15 53.3**	**+1.1**
BSI				S	**Sn**	**16 16 24.5**	**-1.2**
MLSI	**Meulaboh, Aceh**	**3.50**	**85**	P	**Pn**	**16 16 02.0**	**+0.6**
MLSI				S	**Sn**	**16 16 38.2**	**-4.2**
LHMI	**Lhok Sumawe**	**4.22**	**73**	P	**Pn**	**16 16 13.3**	**+2.0**
TPTI		**4.32**	**99**	P	**Pn**	**16 16 12.6**	**-0.1**
TPTI				S	**Sn**	**16 17 02.8**	**+0.2**
GSI	**Gunungsitoli**	**5.36**	**119**	P	**Pn**	**16 16 28.4**	**+1.4**
GSI				S	**Sn**	**16 17 27.3**	**-1.0**
PSI	**Prapat**	**6.12**	**101**	Pn	**Pn**	**16 16 39.4**	**+1.9**
2.4nm,0.3s,baz=284,slow=12,SNR=5.6							
PALK	**Pallekele**	**12.58**	**286**	Pn	**Pn**	**16 18 04.8**	**-1.4**
0.8nm,0.3s,baz=114,slow=13,SNR=6.7							
PALK				Sn	Sn	16 20 11.1	-15
0.7nm,0.3s,baz=117,slow=4.5,SNR=4.4							
CMAR	**Chiang Mai Arr**	**15.57**	**22**	Pn	**Pn**	**16 18 47.1**	**+0.5**
0.0nm,0.3s,baz=218,slow=15,SNR=5.7							
H08S3	**Diego Garcia H**	**23.41**	**241**	T	T	16 45 27.6	
baz=61,slow=75,SNR=29							
H08S2	**Diego Garcia H**	**23.41**	**240**	T	T	16 45 28.1	
baz=61,slow=75,SNR=23							
H08S1	**Diego Garcia H**	**23.42**	**241**	T	T	16 45 27.0	
baz=61,slow=75,SNR=26							
H01W3	**Cape Leeuwin H**	**43.49**	**154**	T	T	17 09 44.5	
baz=328							
H01W2	**Cape Leeuwin H**	**43.51**	**154**	T	T	17 09 45.8	
baz=328							
H01W1	**Cape Leeuwin H**	**43.51**	**154**	T	T	17 09 45.7	
baz=328							
MKAR	**Makanchi Array**	**43.65**	**349**	P	**P**	**16 23 11.8**	**+0.4**
0.6nm,0.7s,baz=160,slow=8.9,SNR=4.6							
KURBB	**Kurchatov Arra**	**48.05**	**348**	P	**P**	**16 23 46.8**	**+0.8**
1.0nm,0.7s,baz=170,slow=8.0,SNR=7.1							
ZALV	**Zalesovo Beam**	**50.27**	**354**	P	**P**	**16 24 04.0**	**+1.0**
1.3nm,0.5s,baz=165,slow=6.0,SNR=4.6							
BVAR	**Borovoye Array**	**52.31**	**343**	P	**P**	**16 24 18.6**	**+0.3**
0.4nm,0.5s,baz=150,slow=8.2,SNR=3.6							
PMG	**Port Moresby**	**55.67**	**104**	LR	LR	16 55 07.1	
comp=Z,25nm,18.4s,baz=178,slow=43							

MEX 26 16:18:54.9±0.5,26°.33N×111°.77W,h15km,MD4.3,Gulf of California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SRIG	**Santa Rosalia**	**1.07**	**337**	*e*P	Pb	16 19 11.2	-3.9
SRIG				*i* S	Sb	16 19 25.2	-3.8
GUYB	**Guaymas**	**1.75**	**27**	*e*P	Pn	16 19 21.4	-3.4
LPIG	**La Paz**	**2.58**	**149**	*e*P	Pn	16 19 34.0	-2.2

MEX 26 16:19:56.6±0.4,16°.43N×98°.15W,h38km±5km,MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.04**	**151**	*i* P	Pn	16 20 01.5	-1.4
PNIG				*e*S	Sn	16 20 05.5	-1.7
TLIG	**Tlapa**	**1.20**	**340**	*e*P	Pn	16 20 15.5	-1.5
TLIG				*e*S	Sn	16 20 29.8	-2.3

*ISK **26** 16:23:58.2, 38˙.33N×41˙.97E, h5km, ML3.6/17*
*ISCJB **26** 16:23:59.4±0.5, 38˙.36N±0˙.02×41˙.95E±0˙.03, h0km±5km, Error ellipse: s-maj=3.9km s-min=3.7km az=179.1*
*CSEM **26** 16:23:59.7±0.2, 38˙.36N×41˙.96E, h2km, ML3.6, Error ellipse: s-maj=4.4km s-min=3.8km az=145.0*
*DDA **26** 16:23:59.2, 38˙.37N×41˙.98E, h7km, Ml3.4*

ISC 26 16:23:59.5±1.2, 38˙.36N±0˙.02×41˙.95E±0˙.02, h4km±10km, n72, σ0 95/86, Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GURO	**Guroymak-BITLI**	**0.20**	**18**	PG			**Pg**	**16 24 03.8**	**+0.2**
GURO	**Guroymak-BITLI**	**0.20**	**18**	*i* Pg			**Pg**	**16 24 03.8**	**+0.2**
SRTM	**Siirt_Merkez**	**0.37**	**184**	*i* P			**Pg**	**16 24 06.7**	**0.0**
SRTM				*i* S			**Sb**	**16 24 13.6**	**-1.2**
SRTM	**Siirt_Merkez**	**0.37**	**184**	P			**Pg**	**16 24 06.7**	**0.0**
SRTM				S			**Sb**	**16 24 13.6**	**-1.2**
SVAN	**Silvan-Diyarba**	**0.63**	**251**	PG			**Pg**	**16 24 11.4**	**-0.2**
SVAN				SG			**Sb**	**16 24 22.1**	**-0.1**
SVAN	**Silvan-Diyarba**	**0.63**	**251**	*i* P			**Pg**	**16 24 12.2**	**+0.6**
SVAN	**Silvan-Diyarba**	**0.63**	**251**	*e*Pg			**Pg**	**16 24 11.4**	**-0.2**
SVAN	**Silvan-Diyarba**	**0.63**	**251**	P			**Pg**	**16 24 12.2**	**+0.6**
BTMN	**Batman**	**0.71**	**229**	*i* P			**Pg**	**16 24 12.9**	**-0.3**
BTMN	**Batman**	**0.71**	**229**	P			**Pg**	**16 24 12.9**	**-0.3**
ADCV	**BITLIS_Adilcev**	**0.76**	**53**	*i* P			**Pg**	**16 24 12.9**	**-1.1**
ADCV	**BITLIS_Adilcev**	**0.76**	**53**	P			**Pg**	**16 24 12.9**	**-1.1**
GEVA	**Gevas**	**0.87**	**93**	*i* P			**Pg**	**16 24 15.4**	**-0.9**
GEVA	**Gevas**	**0.87**	**93**	P			**Pg**	**16 24 15.4**	**-0.9**
VRTB	**Varto-Mus**	**0.89**	**334**	PG			**Pg**	**16 24 16.6**	**0.0**
VRTB				SG			**Sn**	**16 24 30.9**	**-1.5**
VRTB	**Varto-Mus**	**0.89**	**334**	*i* P			**Pg**	**16 24 16.7**	**0.0**
VRTB	**Varto-Mus**	**0.89**	**334**	P			**Pg**	**16 24 16.7**	**0.0**
EKAR	**Karacoban**	**0.90**	**6**	*i* P			**Pg**	**16 24 16.5**	**-0.4**
EKAR	**Karacoban**	**0.90**	**6**	P			**Pg**	**16 24 16.5**	**-0.4**
SIRN	**S¨¨-rnak**	**0.93**	**157**	*i* P			**Pg**	**16 24 17.0**	**-0.5**
SIRN				*i* S			**Sb**	**16 24 31.0**	**-0.1**
SIRN	**S¨¨-rnak**	**0.93**	**157**	P			**Pg**	**16 24 17.0**	**-0.5**
SIRN				S			**Sb**	**16 24 31.0**	**-0.1**
SIRT	**Sirnak**	**0.94**	**156**	PG			**Pg**	**16 24 17.0**	**-0.5**
SIRT				SG			**Sb**	**16 24 30.7**	**-0.5**
SIRT	**Sirnak**	**0.94**	**156**	*e*Pg			**Pg**	**16 24 17.0**	**-0.5**
SIRT				*e*Sg			**Sb**	**16 24 30.7**	**-0.5**
VANB	**Van**	**1.15**	**78**	PN			**Pg**	**16 24 20.6**	**-1.1**
TVAN	**Van**	**1.16**	**81**	*i* P			**Pg**	**16 24 20.6**	**-1.1**
TVAN				*i* S			**Sn**	**16 24 40.0**	**+1.0**
TVAN	**Van**	**1.16**	**81**	P			**Pg**	**16 24 20.6**	**-1.1**
TVAN				S			**Sn**	**16 24 40.0**	**+1.0**
BNGB	**Bing^¶l**	**1.18**	**303**	PN			**Pg**	**16 24 21.8**	**-0.4**
BNGB				SN			**Sn**	**16 24 39.9**	**+0.4**
TUTA	**Tutak**	**1.24**	**33**	*i* P			**Pg**	**16 24 22.6**	**-0.8**
TUTA	**Tutak**	**1.24**	**33**	P			**Pg**	**16 24 22.6**	**-0.8**
BINT	**Bingol**	**1.26**	**295**	*e*Pn			**Pg**	**16 24 21.8**	**-1.9**
BINT				*e*Sn			**Sg**	**16 24 39.9**	**-0.1**
VMUR	**Van-Muradiye**	**1.42**	**63**	*i* P			**Pg**	**16 24 26.6**	**-0.1**
VMUR	**Van-Muradiye**	**1.42**	**63**	P			**Pg**	**16 24 26.6**	**-0.1**
DIY	**Diyarbakir**	**1.44**	**252**	*e*Pn			**Pn**	**16 24 26.5**	**+0.1**
AGRB	**Hanur-Agry**	**1.46**	**33**	PN			**Pg**	**16 24 27.4**	**-0.2**
AGRB				SN			**Sg**	**16 24 47.7**	**+1.1**
AGRB	**Hanur-Agry**	**1.46**	**33**	*e*Pn			**Pg**	**16 24 27.4**	**-0.2**
AGRB				*e*Sn			**Sg**	**16 24 47.7**	**+1.1**
DYBB	**Diyarbakir**	**1.48**	**255**	PN			**Pn**	**16 24 26.5**	**-0.6**
YEDI	**Yedisu-Bingol**	**1.54**	**315**	PN			**Pg**	**16 24 28.7**	**-0.4**
YEDI	**Yedisu-Bingol**	**1.54**	**315**	*e*Pn			**Pg**	**16 24 28.7**	**-0.4**
EATA	**Eleskirt**	**1.56**	**15**	*i* P			**Pb**	**16 24 28.5**	**-0.7**
EATA	**Eleskirt**	**1.56**	**15**	P			**Pb**	**16 24 28.5**	**-0.7**
HAKT	**HAKKARI**	**1.60**	**119**	*i* P			**Pg**	**16 24 29.5**	**-0.8**
HAKT	**HAKKARI**	**1.60**	**119**	P			**Pg**	**16 24 29.5**	**-0.8**
HOMI	**Horasan**	**1.69**	**359**	*i* P			**Pb**	**16 24 30.3**	**-1.0**
CLDR	**Caldiran**	**1.73**	**62**	PN			**Pb**	**16 24 30.7**	**-1.2**
CLDR	**Caldiran**	**1.73**	**62**	*i* P			**Pb**	**16 24 31.6**	**-0.3**
CLDR	**Caldiran**	**1.73**	**62**	*e*Pn			**Pb**	**16 24 30.7**	**-1.2**
CLDR	**Caldiran**	**1.73**	**62**	P			**Pb**	**16 24 31.6**	**-0.3**
DYDN	**Diyadin**	**1.80**	**48**	*i* P			**Pg**	**16 24 33.3**	**-0.8**
DYDN	**Diyadin**	**1.80**	**48**	P			**Pg**	**16 24 33.3**	**-0.8**
YOVA	**Hakkari_Y¨…kse**	**2.00**	**112**	*i* P			**Pb**	**16 24 36.6**	**0.0**
YOVA	**Hakkari_Y¨…kse**	**2.00**	**112**	P			**Pb**	**16 24 36.6**	**0.0**
PTK	**Pertek**	**2.07**	**286**	PN			**Pn**	**16 24 36.2**	**+0.9**
PTK	**Pertek**	**2.07**	**286**	*e*Pn			**Pn**	**16 24 36.2**	**+0.9**
SVRC	**Sivrice-ELAZID**	**2.08**	**271**	PN			**Pn**	**16 24 35.3**	**0.0**
SVRC	**Sivrice-ELAZID**	**2.08**	**271**	*e*Pn			**Pn**	**16 24 35.3**	**0.0**
ERZN	**Erzincan**	**2.13**	**306**	PN			**Pb**	**16 24 37.2**	**-1.5**
SENK	**Senkaya-Erzuru**	**2.22**	**8**	PN			**Pb**	**16 24 38.8**	**-1.6**
SENK	**Senkaya-Erzuru**	**2.22**	**8**	*e*Pn			**Pb**	**16 24 38.8**	**-1.6**
TASB	**TASBURUN-IGDIR**	**2.41**	**47**	PN			**Pn**	**16 24 40.7**	**+0.9**
TASB	**TASBURUN-IGDIR**	**2.41**	**47**	*e*Pn			**Pn**	**16 24 40.7**	**+0.9**
BAYT	**Ayd¨¨ntepe-Bay**	**2.47**	**326**	PN			**Pn**	**16 24 42.2**	**+1.5**
BAYT	**Ayd¨¨ntepe-Bay**	**2.47**	**326**	*e*Pn			**Pn**	**16 24 42.2**	**+1.5**
URFA	**Urfa**	**2.64**	**251**	PN			**Pn**	**16 24 44.2**	**+1.2**
URFA	**Urfa**	**2.64**	**251**	*e*Pn			**Pn**	**16 24 44.2**	**+1.2**
MALT	**Malatya**	**2.77**	**270**	PN			**Pn**	**16 24 45.8**	**+1.0**
MALT	**Malatya**	**2.77**	**270**	*e*Pn			**Pn**	**16 24 45.8**	**+1.0**
BCA	**Borcka**	**3.09**	**355**	PN			**Pn**	**16 24 50.9**	**+1.7**
BCA	**Borcka**	**3.09**	**355**	*e*Pn			**Pn**	**16 24 50.9**	**+1.7**
GAZ	**Gaziantep**	**3.94**	**254**	PN			**Pn**	**16 25 02.6**	**+1.8**
GAZ	**Gaziantep**	**3.94**	**254**	*e*Pn			**Pn**	**16 25 02.6**	**+1.8**
KMRS	**Kahramanmaras**	**4.08**	**260**	PN			**Pn**	**16 25 04.8**	**+2.0**
KMRS	**Kahramanmaras**	**4.08**	**260**	*e*Pn			**Pn**	**16 25 04.8**	**+2.0**

*ISCJB **26** 16:45:57.3±0.2, 21˙.77S±0˙.03×68˙.47W±0˙.04, h100km, mb4.3/37, Error ellipse: s-maj=4.8km s-min=3.9km az=173.0*
*GUC **26** 16:46:00.2±0.5, 21˙.67S×68˙.79W, h114km±3km, ML4.4*
*SCB **26** 16:46:00.1±0.7, 21˙.41S×68˙.46W, h124km, Ml3.8/1, Error ellipse: s-maj=20.1km s-min=3.7km az=38.0*
*NEIC **26** 16:46:00.7±0.3, 21˙.77S×68˙.62W, mb4.4/32, Error ellipse: s-maj=9.7km s-min=5.9km az=80.0*
*IDC **26** 16:46:01.4±0.6, 21˙.60S×68˙.44W, h122km±5km, mb3.9/12, mb1 4.0/16, mb1mx3.8/40, mbtmp4.3/16, MS2.7/1, Ms1 2.9/1, ms1mx2.4/41, Error ellipse: s-maj=16.8km s-min=12.2km az=86.0*

ISC 26 16:45:58.3±0.3, 21˙.80S±0˙.03×68˙.51W±0˙.06, h100km, h100km:pP-P, n101, σ2 2 10/128, mb4.4/37, 6C-1D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**0.68**	**270**	⇑*i*P			**Pn**	**16 46 18.1**	**+2.3**
PB09				*e*S			**Sn**	**16 46 30.9**	**+2.0**
PB09				IAML				16 46 31.9	
	comp=N,20μm,0.4s								
PB01	**IPOC Station P**	**1.18**	**309**	*e*Pn			**Pn**	**16 46 21.3**	**+0.4**
PB01				*e*Sn			**Sn**	**16 46 37.4**	**-0.6**
PB01	**IPOC Station P**	**1.18**	**309**	⇑*i*P			**Pn**	**16 46 21.3**	**+0.4**
PB01				*e*S			**Sn**	**16 46 37.2**	**-0.7**
PB07	**IPOC Station P**	**1.28**	**273**	⇑*i*P			**Pn**	**16 46 22.8**	**+0.7**
PB07				*e*S			**Sn**	**16 46 39.8**	**-0.3**
PB07				IAML				16 46 40.5	
	comp=E,15μm,0.4s								
PB06	**IPOC Station P**	**1.33**	**227**	⇑*i*P			**Pn**	**16 46 25.2**	**+2.4**
PB06				*e*S			**Sn**	**16 46 44.2**	**+3.0**
PB06				IAML				16 46 45.1	
	comp=E,10μm,0.2s								
PB02	**IPOC Station P**	**1.38**	**290**	⇑*i*P			**Pn**	**16 46 23.2**	**0.0**
PB02				*e*S			**Sn**	**16 46 40.9**	**-1.2**
PB02				IAML				16 46 43.1	
	comp=E,15μm,0.2s								
PB04	**IPOC Station P**	**1.61**	**250**	*e*Pn			**Pn**	**16 46 26.7**	**+0.6**
PB04				*e*Sn			**Sn**	**16 46 47.6**	**+0.4**
PB04	**IPOC Station P**	**1.61**	**250**	⇑*i*P			**Pn**	**16 46 26.9**	**+0.8**
PB04				*e*S			**Sn**	**16 46 47.7**	**+0.4**
PB04				IAML				16 46 56.8	
	comp=E,5μm,0.2s								
PB08	**IPOC Station P**	**1.76**	**340**	⇓*i*P			**Pn**	**16 46 29.3**	**+1.1**
PB08				*e*S			**Sn**	**16 46 51.4**	**+0.5**
PB08				IAML				16 46 52.4	
	comp=E,3μm,0.6s								
PB11	**IPOC Station P**	**2.30**	**332**	*e*Pn			**Pn**	**16 46 34.3**	**-0.7**
PB11				*e*Sn			**Sn**	**16 46 59.8**	**-3.2**
PB10	**IPOC Station P**	**2.54**	**228**	*e*Pn			**Pn**	**16 46 37.5**	**-0.5**
PB10				*e*Sn			**Sn**	**16 47 04.5**	**-4.0**
PB10	**IPOC Station P**	**2.54**	**228**	*e*P			**Pn**	**16 46 38.3**	**+0.3**
MOCB	**Mochara**	**2.73**	**79**	*e*Pn			Pn	16 46 47.0	+6.1
MOCB				*e*Sn			Sn	16 47 21.4	+7.8
	comp=E,199nm,0.7s								
MNMC	**Minye Minye**	**2.84**	**339**	*e*Pn			**Pn**	**16 46 41.9**	**-0.4**
MNMC				*e*Sn			**Sn**	**16 47 10.7**	**-5.4**
GO02	**Mina Guanaco**	**3.49**	**196**	*e*Pn			**Pn**	**16 46 53.1**	**+2.1**
GO02				*e*Sn			**Sn**	**16 47 24.8**	**-6.8**
BBOJ	**La Paz, Jacaqu**	**4.81**	**4**	*e*Pn			**Pn**	**16 47 10.8**	**+1.8**
BBOD	**La Paz, Gloria**	**5.14**	**359**	*e*Pn			**Pn**	**16 47 15.3**	**+1.8**
LPAZ	**La Paz**	**5.50**	**4**	P			**Pn**	**16 47 20.5**	**+2.1**
	comp=E,1.8nm,0.3s,baz=186,slow=4.1,SNR=29								
LPAZ				S			Sn	16 48 10.2	-10
	comp=E,1.9nm,0.3s,baz=212,slow=11,SNR=5.1								
LPAZ				LR			LR	16 49 49.0	
	comp=E,81nm,19.5s,baz=126,slow=43								
LPAZ	**La Paz**	**5.50**	**4**	*e*Pn			**Pn**	**16 47 18.9**	**+0.5**
LPAZ				S			Sn	16 48 10.2	-10
LPAZ	**La Paz**	**5.50**	**4**	*e*Pn			**Pn**	**16 47 20.0**	**+1.6**
BBOB	**La Paz, Bander**	**5.64**	**4**	*e*Pn			**Pn**	**16 47 22.0**	**+1.7**
GO03	**Copiap**	**5.98**	**195**	*e*Pn			**Pn**	**16 47 24.1**	**-0.2**
GO03				*e*Sn			**Sn**	**16 48 30.4**	**-1.1**
LCO	**Las Campanas**	**7.45**	**195**	*e*Pn			**Pn**	**16 47 40.6**	**-3.9**
GO04	**Tololo Observa**	**8.59**	**193**	*e*Pn			**Pn**	**16 47 57.6**	**-2.4**
GO04				*e*Sn			Sn	16 49 27.3	-8.0
SIV	**San Ignacio**	**9.11**	**52**	P			**Pn**	**16 48 06.2**	**-0.7**
	comp=E,6.6nm,0.3s,baz=251,slow=12,SNR=173								
SIV	**San Ignacio**	**9.11**	**52**	*e*P			**Pn**	**16 48 05.9**	**-1.1**
CPUP	**Villa Florida**	**11.16**	**116**	P			**Pn**	**16 48 37.3**	**+2.4**
	comp=E,0.4nm,0.3s,baz=306,slow=12,SNR=7.6								
CPUP	**Villa Florida**	**11.16**	**116**	*e*Pn			**Pn**	**16 48 35.5**	**+0.7**
ROC1	**El Roble**	**11.35**	**191**	*e*Pn			**Pn**	**16 48 37.5**	**-0.1**
SAML	**Samuel**	**13.77**	**23**	*e*Pn			**Pn**	**16 49 07.7**	**-1.7**
TRQA	**Tornquist**	**17.15**	**162**	*e*P			**P**	**16 49 54.0**	**+2.1**
	comp=E,78nm,1.9s								
GO06	**Curarrehue**	**17.91**	**187**	*e*P			**Pn**	**16 50 01.1**	**+0.1**
	comp=E,16nm,0.9s								
PLCA	**Paso Flores**	**18.95**	**185**	P			**Pn**	**16 50 14.0**	**+0.6**
	comp=E,0.4nm,0.3s,baz=19,slow=12,SNR=15								
PLCA	**Paso Flores**	**18.95**	**185**	*e*P			**Pn**	**16 50 13.6**	**+0.2**
	comp=E,6.8nm,0.8s								
SPB	**Sao Paulo**	**19.53**	**99**	*e*P			**Pn**	**16 50 19.6**	**-0.6**
	comp=E,100nm,1.6s								
PTGA	**Pitinga**	**22.54**	**23**	P			**P**	**16 50 48.3**	**-1.9**
	comp=E,6.7nm,0.3s,baz=199,slow=13,SNR=31								
PTGA	**Pitinga**	**22.54**	**23**	*e*P			**P**	**16 50 48.3**	**-1.9**
	comp=E,12nm,0.6s								
CHRN	**Cochrane**	**25.60**	**186**	*e*P			**P**	**16 51 18.7**	**+0.5**
	comp=E,3.4nm,0.8s								
RUSC	**La Rusia**	**27.89**	**350**	*e*P			**P**	**16 51 40.8**	**+1.3**
	comp=E,12nm,1.3s								
RCBR	**Riachuelo**	**35.30**	**68**	*e*P			**P**	**16 52 44.5**	**+0.4**
	comp=E,18nm,0.8s								
ANWB	**Willy Bob**	**39.78**	**10**	*e*P			**P**	**16 53 23.3**	**+1.8**
	comp=E,93nm,1.4s								
VNA3	**Neumayer Olymp**	**59.67**	**161**	P			**P**	**16 55 53.7**	**+1.9**
VNA2	**Neumayer--Watz**	**60.24**	**161**	P			**P**	**16 55 57.6**	**+1.9**
	baz=276,slow=8.0								
TX31	**Lajitas Ar. Si**	**61.09**	**325**	*e*P			**P**	**16 56 01.0**	**-1.1**
TXAR	**Lajitas Array**	**61.09**	**325**	P			**P**	**16 56 01.4**	**-0.6**
	comp=E,0.5nm,0.6s,baz=149,slow=9.2,SNR=5.3								
TXAR				pP			**pP**	**16 56 30.4**	**+3.6**
	comp=E,0.5nm,0.8s,baz=155,slow=10.0,SNR=3.5								
WHAR	**Wooly Hollow**	**61.10**	**338**	*e*P			**P**	**16 56 01.0**	**-0.9**
	comp=E,39nm,1.9s								
W39A	**Magazine**	**61.55**	**337**	*e*P			**P**	**16 56 04.7**	**-0.2**
	comp=E,5.4nm,0.8s								
SNAA	**Sanae**	**61.87**	**161**	P			**P**	**16 56 08.5**	**+1.7**
SNAA	**Sanae**	**61.87**	**161**	P			**P**	**16 56 08.6**	**+1.8**
	comp=E,3.9nm,0.7s,baz=264,slow=9.1,SNR=22								
SNAA	**Sanae**	**61.87**	**161**	*e*P			**P**	**16 56 08.1**	**+1.3**
	comp=E,4.5nm,0.8s								
BRNJ	**Basking Ridge**	**62.42**	**355**	*e*P			**P**	**16 56 11.0**	**+0.4**
	comp=E,31nm,1.3s								
MNTX	**Cornudas Mount**	**63.86**	**325**	*e*P			**P**	**16 56 19.0**	**-1.3**
	comp=E,2.6nm,1.2s								
MSTX	**Muleshoe**	**64.34**	**329**	*e*P			**P**	**16 56 22.6**	**-1.0**
	comp=E,1.1nm,0.8s								
ANMO	**Albuquerque**	**66.95**	**327**	*e*P			**P**	**16 56 39.8**	**-0.7**
	comp=E,1.0nm,0.8s								
QSPA	**South Pole Qui**	**68.39**	**180**	P			**P**	**16 56 51.1**	**+2.0**
	comp=E,3.6nm,0.5s,baz=169,slow=1.5,SNR=16								
QSPA				pP			**sP**	**16 57 20.0**	**-5.2**
	comp=E,2.0nm,0.6s,baz=121,slow=2.1,SNR=3.7								
DBIC	**Dimbokro**	**68.46**	**73**	P			**P**	**16 56 49.4**	**-0.8**
	comp=E,3.2nm,0.4s,baz=221,slow=4.7,SNR=7.8								
DBIC	**Dimbokro**	**68.46**	**73**	*e*P			**P**	**16 56 50.4**	**+0.2**
	comp=E,19nm,1.5s								
SDCO	**Great Sand Dun**	**68.69**	**329**	*e*P			**P**	**16 56 51.7**	**+0.2**
	comp=E,9.9nm,1.9s								
WUAZ	**Wupatki**	**69.99**	**324**	*e*P			**P**	**16 56 59.4**	**0.0**
	comp=E,19nm,1.6s								
U15A	**North Rim**	**71.17**	**324**	*e*P			**P**	**16 57 07.5**	**+0.9**
	comp=E,12nm,1.9s								
N23A	**Red Feather La**	**71.42**	**331**	*e*P			**P**	**16 57 08.6**	**+0.5**
	comp=E,13nm,1.6s								
CPE	**Camp Elliot**	**71.48**	**318**	*e*P			**P**	**16 57 09.2**	**+0.9**
	comp=E,90nm,1.9s								
CCUT	**Cedar City**	**72.57**	**324**	*e*P			**P**	**16 57 15.9**	**+1.0**
	comp=E,3.9nm,0.9s								
P17A	**Butcher Ranch,**	**72.61**	**327**	*e*P			**P**	**16 57 15.4**	**+0.3**
	comp=E,4.0nm,0.9s								
MSU	**Marysvale**	**72.64**	**325**	*e*P			**P**	**16 57 15.7**	**+0.4**
KOWA	**Kowa**	**72.80**	**66**	P			**P**	**16 57 16.5**	**0.0**
	comp=E,1.4nm,0.5s,baz=270,slow=3.0,SNR=3.4								
MPU	**Maple Canyon**	**73.47**	**327**	*e*P			**P**	**16 57 19.7**	**-0.5**
	comp=E,3.9nm,1.1s								
TCUT	**Toone Canyon**	**74.19**	**328**	*e*P			**P**	**16 57 25.4**	**+1.0**
	comp=E,32nm,0.8s								
BW06	**Boulder Array**	**74.56**	**330**	*e*P			**P**	**16 57 26.1**	**-0.4**
	comp=E,6.6nm,1.5s								
PD31	**Pinedale Array**	**74.56**	**330**	*e*P			**P**	**16 57 26.4**	**-0.1**
PDAR	**Pinedale Array**	**74.56**	**330**	P			**P**	**16 57 25.1**	**-1.3**
	comp=E,0.6nm,0.8s,baz=95,slow=5.1,SNR=4.1								
PDAR	**Pinedale Array**	**74.56**	**330**	*e*P			**P**	**16 57 25.3**	**-1.2**
SBA	**Scott Base**	**75.60**	**190**	*e*P			**P**	**16 57 33.5**	**+1.7**
	comp=E,12nm,1.7s								
REDW	**Red Top Meadow**	**75.62**	**330**	*e*P			**P**	**16 57 33.0**	**+0.4**
	comp=E,16nm,2.0s								
NV01	**Mina Array Sit**	**75.96**	**322**	*e*P			**P**	**16 57 34.7**	**+0.1**
NVAR	**Mina Array Bea**	**75.96**	**322**	P			**P**	**16 57 35.0**	**+0.3**
	comp=E,0.3nm,0.3s,baz=169,slow=5.1,SNR=2.8								
KVN	**Kaiserville**	**76.27**	**322**	*e*P			**P**	**16 57 36.2**	**-0.1**
	comp=E,2.5nm,1.0s								
VNDA	**Vanda**	**76.62**	**190**	P			**P**	**16 57 40.4**	**+2.9**
	comp=E,1.3nm,0.8s,baz=136,slow=1.6,SNR=5.0								
VNDA	**Vanda**	**76.62**	**190**	*e*P			**P**	**16 57 40.0**	**+2.5**
YHH	**Holmes Hill**	**76.71**	**330**	*e*P			**P**	**16 57 39.9**	**+1.1**
	comp=E,7.6nm,1.4s								
TOA0	**Torodi Ar. Sit**	**77.11**	**70**	*e*P			**P**	**16 57 42.1**	**+0.8**
TOA0				*e*pP			**sP**	**16 58 11.9**	**-5.9**
TOA0				*e*pP			**pP**	**16 58 12.1**	**+5.1**
TOA1	**Torodi Ar. Sit**	**77.11**	**70**	*e*P			**P**	**16 57 41.4**	**+0.1**
TOA1				*e*pP			**sP**	**16 58 12.0**	**-5.8**
TORD	**Torodi Ar. Bea**	**77.11**	**70**	P			**P**	**16 57 41.4**	**+0.1**
	comp=E,2.9nm,0.3s,baz=254,slow=5.9,SNR=27								
TORD				pP			**sP**	**16 58 12.0**	**-5.8**
	comp=E,6.9nm,0.8s,baz=250,slow=5.5,SNR=8.9								
HLID	**Hailey**	**77.50**	**328**	*e*P			**P**	**16 57 43.1**	**0.0**
	comp=E,2.6nm,0.8s								
BOZ	**Bozeman (W)**	**77.68**	**331**	*e*P			**P**	**16 57 44.1**	**+0.1**
BOZ				*e*pP			**sP**	**16 58 15.6**	**-4.9**
BOSA	**Boshof**	**82.98**	**118**	P			**P**	**16 58 13.3**	**+0.4**
	comp=E,1.5nm,0.8s,baz=217,slow=16,SNR=2.6								
YKA	**Yellowknife Ar**	**91.59**	**340**	P			**P**	**16 58 52.9**	**-0.6**
	comp=E,1.5nm,0.7s,baz=135,slow=4.4,SNR=35								
YKB5	**Yellowknife Ar**	**91.59**	**340**	*e*P			**P**	**16 58 52.6**	**-0.9**
ASAR	**Alice Springs**	**129.82**	**207**	PKP			**PKPdf**	**17 04 57.0**	**+0.2**
	comp=E,1.5nm,0.8s,baz=128,slow=1.8,SNR=15								
ASAR				pPKP			**sPKPdf**	**17 05 29.2**	**-5.5**
	comp=E,0.5nm,0.7s,baz=137,slow=1.6,SNR=3.5								
ZAA1	**Zalesovo Array**	**142.06**	**26**	*e*PKPdf			**PKPdf**	**17 05 19.2**	**+0.8**
ZALV	**Zalesovo Beam**	**142.06**	**26**	PKP			**PKPdf**	**17 05 19.2**	**+0.8**
	comp=E,0.9nm,0.6s,baz=287,slow=2.7,SNR=4.5								
AAK	**Ala-Archa**	**142.84**	**47**	PKP			**PKPdf**	**17 05 21.8**	**+1.4**
	comp=E,0.4nm,0.3s,baz=205,slow=19								
MK32	**Makanchi Array**	**145.66**	**36**	*e*PKPdf			**PKPab**	**17 05 25.8**	**-0.1**
MK32				*e*pPKPdf			**sPKPdf**	**17 05 58.4**	**-4.5**
MKAR	**Makanchi Array**	**145.66**	**36**	PKPbc			**PKPab**	**17 05 25.8**	**-0.1**
	comp=E,0.7nm,0.6s,baz=318,slow=5.7,SNR=12								
MKAR				pPKPbc			**sPKPdf**	**17 05 58.4**	**-4.5**
	comp=E,1.5nm,0.8s,baz=313,slow=3.5,SNR=6.0								
LEM	**Lembang**	**151.30**	**172**	PKPbc			**PKPbc**	**17 05 42.2**	**+0.8**
	comp=E,22nm,0.7s,baz=131,slow=20,SNR=7.8								
USRK	**Ussuriysk Ar.**	**151.96**	**328**	PKPbc			**PKPbc**	**17 05 41.2**	**-0.5**
	comp=E,1.4nm,0.7s,baz=55,slow=12,SNR=3.8								
SONA0	**Songino Array**	**153.70**	**8**	*e*PKPdf			**PKPdf**	**17 05 38.5**	**+0.7**
SONA0				*e*PKPab			**PKPab**	**17 05 56.2**	**-2.5**
SONA0				*e*pPKPdf			**pPKPdf**	**17 06 07.5**	**+2.1**
SONM	**Songino Array**	**153.70**	**8**	PKP			**PKPdf**	**17 05 38.5**	**+0.7**
	comp=E,0.3nm,0.4s,baz=267,slow=2.5,SNR=3.0								
SONM				PKPab			**PKPab**	**17 05 56.2**	**-2.5**
	comp=E,0.6nm,0.7s,baz=258,slow=2.8,SNR=2.2								
SONM				pPKP			**pPKPdf**	**17 06 07.5**	**+2.1**
	comp=E,1.4nm,0.5s,baz=278,slow=1.7,SNR=5.1								
HHC	**Hu-ho-hao-te**	**161.01**	**360**	*e*P			**PKPdf**	**17 05 46.0**	**-1.1**
LZH	**Lanzhou**	**164.28**	**23**	*e*PKP			**PKPdf**	**17 05 51.5**	**+0.9**
LZH				pPKP			pPKPdf	17 06 17.5	-0.7
LZH				sPKP				17 06 28.5	
LZH				LR			LR		
	comp=N,78nm,18.1s								
LZH				LR			LR		
	comp=E,72nm,18.3s								
LZH				LR			LR		
	comp=Z,120nm,20.2s								
CMAR	**Chiang Mai Arr**	**167.75**	**104**	PKP			**PKPdf**	**17 05 52.9**	**-0.7**
	comp=Z,0.5nm,0.8s,baz=232,slow=4.4,SNR=3.5								

IDC 26 16:54:50.2±1.2, 6˙.87N×73˙.05W, h152km±42km, mb2.8/3, mb1 3.2/5, mb1mx3.0/40, mbtmp3.3/5, Error ellipse: s-maj=99.9km s-min=8.1km az=133.0, Northern Colombia

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

comp=Z,54nm,22.0s,baz=166,slow=34
CMAR Chiang Mai Arr 38.57 306 P **P** 17 08 42.9 -0.1
1.9nm,0.8s,baz=138,slow=7.1,SNR=6.1
CMAR pP **sP** 17 08 58.6 +3.2
2.0nm,0.8s,baz=139,slow=7.1,SNR=4.2
ENH Enshi 39.55 330 *e*P **P** 17 08 49.4 -1.7
MJAR Matsushiro Arr 40.48 9 LR LR 17 24 05.7
comp=Z,31nm,21.3s,baz=200,slow=34
KSAR Wonju Array Be 40.95 356 P **P** 17 09 00.8 -1.6
KSRS Korea Array 40.96 356 P **P** 17 09 00.9 -1.7
0.8nm,0.7s,baz=180,slow=10,SNR=3.7
KSRS LR LR 17 24 57.5
comp=Z,34nm,21.7s,baz=176,slow=35
USRK Ussuriysk Ar. 47.59 1 P **P** 17 09 54.4 -1.1
1.6nm,0.5s,baz=168,slow=8.8,SNR=9.3
GTA Gaotai 51.62 329 *e*P **P** 17 10 25.8 -0.7
GTA pP pP 17 10 30.5 -5.1
GTA sP sP 17 10 33.5 -5.7
SONM Songino Array 55.63 340 P **P** 17 10 54.9 -0.9
0.9nm,0.5s,baz=168,slow=7.6,SNR=7.7
PETK Petropavlovsk- 60.76 18 P **P** 17 11 32.4 +1.0
1.9nm,0.8s,baz=205,slow=6.4,SNR=3.0
PETK LR LR 17 33 12.9
comp=Z,19nm,21.5s,baz=139,slow=31
YAK Yakutsk 65.46 359 *e*P **P** 17 12 01.2 -1.1
13nm,0.5s
MKAR Makanchi Array 66.06 326 P **P** 17 12 06.2 -0.4
4.6nm,0.7s,baz=122,slow=8.4,SNR=38
AAK Ala-Archa 68.74 319 P **P** 17 12 23.4 -0.4
0.8nm,0.4s,baz=156,slow=4.2,SNR=3.5
ZALV Zalesovo Beam 69.09 333 P **P** 17 12 24.2 -1.3
1.7nm,0.4s,baz=113,slow=5.2,SNR=11
KURBB Kurchatov Arra 70.26 327 P **P** 17 12 32.3 -0.5
7.3nm,0.6s,baz=124,slow=5.7,SNR=57
KURK Kurchatov 70.26 328 P **P** 17 12 32.3 -0.5
TIXI Tiksi 75.13 359 *e*P **P** 17 13 00.1 -1.2
2.2nm,0.6s
VNDA Vanda 75.66 173 P **P** 17 13 06.0 +1.6
1.2nm,0.5s,baz=321,slow=7.3,SNR=23
BVAR Borovoye Array 75.84 327 P **P** 17 13 05.2 -0.6
5.5nm,0.9s,baz=125,slow=11,SNR=16
BVAR pP **sP** 17 13 20.7 +1.9
3.5nm,0.8s,baz=101,slow=7.5,SNR=5.1
BRVK Borovoye 75.91 327 *e*P **P** 17 13 04.7 -1.5
28nm,1.1s
SBA Scott Base 76.53 173 *e*P **P** 17 13 11.7 +2.4
MAW Mawson 78.51 201 P **P** 17 13 21.9 +1.4
2.3nm,0.5s,baz=92,slow=5.4,SNR=5.0
GEYT Alibeck 78.93 310 P **P** 17 13 23.3 -0.2
2.8nm,0.7s,baz=177,slow=2.5,SNR=8.0
GEYT pP **sP** 17 13 40.9 +4.3
2.7nm,0.7s,baz=166,slow=3.1,SNR=3.3
ABKAR Akbulak array 80.59 321 *e*P **P** 17 13 34.0 +1.7
1.1nm,0.6s
QSPA South Pole Qui 86.35 180 P **P** 17 14 02.5 +0.8
1.2nm,0.4s,baz=243,slow=1.4,SNR=5.3
RAYN Ar Rayn 87.44 294 *e*P **P** 17 14 07.6 -0.2
3.9nm,1.0s
COLD Coldfoot 88.91 22 *e*P **P** 17 14 13.8 +0.1
ILAR Eielson Array 89.80 25 P **P** 17 14 16.8 -1.2
0.5nm,0.7s,baz=242,slow=5.7,SNR=6.1
ARCES ARCESS Array B 98.81 340 P **P** 17 14 57.7 -1.4
0.6nm,0.4s,baz=77,slow=6.0,SNR=12
TORD Torodi Ar. Bea 129.20 284 PKP **PKPdf** 17 20 28.9 0.0
1.0nm,0.7s,baz=67,slow=1.5,SNR=6.8
PLCA Paso Flores 131.51 158 PKP **PKPdf** 17 20 33.4 +0.5
1.4nm,0.8s,baz=330,slow=4.1,SNR=4.8
CPUP Villa Florida 149.13 165 PKPbc **PKPbc** 17 21 10.0 +1.3
2.8nm,0.6s,baz=105,slow=0.4,SNR=7.4
LPAZ La Paz 152.54 137 PKPbc **PKPbc** 17 21 19.2 +1.4
1.1nm,0.5s,baz=335,slow=5.6,SNR=5.9

*IDC **26** 17:03:31.4±2.2,3.°91N×92.°77E, h0km, mb4.1/7, mb1 4.3/10, mb1mx3.8/73, mbtmp4.2/10, ML4.1/3, MS2.8/2, Ms1 2.8/2, ms1mx2.4/62, Error ellipse: s-maj=48.1km s-min=29.3km az=4.0*
*NEIC **26** 17:03:32.8±0.7,3.°96N×92.°82E, h10km, mb4.2/4, Error ellipse: s-maj=14.1km s-min=6.6km az=193.0*
ISC 26 17:03:34.3±1.2,**4.°0N**±0.°2×**92.°83E**±0.°08,**h19km,n37,**
σ0°**88**/32,**mb4.2**/10,**Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**6.20**	**101**	Pn	**Pn**	**17 05 05.3**	**+0.3**
	6.7nm,0.3s,baz=308,slow=8.2,SNR=18						
PSI				Sn	**Sn**	**17 06 15.4**	**0.0**
	1.5nm,0.3s,baz=133,slow=17,SNR=4.0						
PSI				LR	LR	17 06 40.5	
	comp=Z,72nm,19.6s,baz=300,slow=30						
KULM	**Kulim**	**7.91**	**80**	*e*P	**Pn**	**17 05 28.1**	**-0.3**
	12nm,0.5s						
IPM	**Ipoh**	**8.19**	**86**	*e*P	**Pn**	**17 05 31.6**	**-0.7**
	12nm,0.4s						
PALK	**Pallekele**	**12.51**	**286**	Pn	**Pn**	**17 06 30.4**	**-1.0**
	2.6nm,0.3s,baz=115,slow=14,SNR=17						
PALK				Sn	Sn	17 08 38.2	-12
	4.4nm,0.3s,baz=113,slow=4.3,SNR=8.8						
PALK				LR	LR	17 11 25.4	
	comp=Z,44nm,18.0s,baz=116,slow=38						
CMAR	**Chiang Mai Arr**	**15.60**	**22**	Pn	**Pn**	**17 07 12.8**	**-0.5**
	0.1nm,0.3s,baz=217,slow=14,SNR=33						
CHTO	**Chiang Mai**	**15.93**	**22**	P	**P**	**17 07 21.1**	**0.0**
	50nm,0.9s						
CHTO	**Chiang Mai**	**15.93**	**22**	*e*P	**Pn**	**17 07 16.5**	**-1.1**
	10nm,0.9s						
CMMT	**Chiang Mai**	**15.93**	**22**	P	**P**	**17 07 20.0**	**-1.1**
	11nm,0.9s,409nm						
LAMP	**Lampang**	**15.93**	**24**	P	**P**	**17 07 21.7**	**+0.6**
	6.4nm,0.8s						
CMAI	**Chiengmai2**	**17.00**	**20**	P	**Pn**	**17 07 30.6**	**-0.7**
	55nm,0.8s,5μm						
SHL	**Shillong**	**21.50**	**358**	*e*P	**P**	**17 08 23.0**	**+0.6**
H08S2	**Diego Garcia H**	**23.33**	**240**	T	T	17 34 22.4	
	baz=61,slow=75,SNR=34						
H08S3	**Diego Garcia H**	**23.33**	**240**	T	T	17 34 26.9	
	baz=61,slow=75,SNR=30						
H08S1	**Diego Carcia H**	**23.35**	**240**	T	T	17 34 03.9	
	baz=61,slow=75,SNR=29						
RAMN	**Ramite**	**23.62**	**346**	*e*P	**P**	**17 08 45.7**	**+1.0**
	25nm,0.5s						
PKIN	**Phulchoki**	**24.53**	**344**	*e*P	**P**	**17 08 54.5**	**+1.3**
	7.5nm,0.3s						
DMN	**Daman**	**24.64**	**343**	*e*P	**P**	**17 08 55.5**	**+1.3**
	43nm,0.9s						
GUN	**Gumba**	**24.72**	**345**	*e*P	**P**	**17 08 55.7**	**+0.7**
	21nm,0.9s						
KKN	**Kakani**	**24.77**	**344**	*e*P	**P**	**17 08 56.6**	**+1.4**
	23nm,1.0s						
GKN	**Gorkha**	**25.15**	**343**	*e*P	**P**	**17 09 00.1**	**+1.5**
	21nm,0.6s						
KOLN	**Koldanda**	**25.26**	**341**	*e*P	**P**	**17 09 00.8**	**+1.1**
LSA	**Lhasa**	**25.65**	**357**	*e*P	**P**	**17 09 05.0**	**+1.5**
	4.9nm,0.8s						
PYUN	**Piuthan**	**25.77**	**340**	*e*P	**P**	**17 09 06.0**	**+1.7**
H01W3	**Cape Leeuwin H**	**43.53**	**154**	T	T	17 58 06.9	
	baz=327						
H01W2	**Cape Leeuwin H**	**43.54**	**154**	T	T	17 58 05.0	
	baz=327						
H01W1	**Cape Leeuwin H**	**43.54**	**154**	T	T	17 58 03.2	
	baz=327						
MKAR	**Makanchi Array**	**43.64**	**350**	P	**P**	**17 11 38.0**	**+0.4**
	2.4nm,0.8s,baz=165,slow=8.7,SNR=19						
SONM	**Songino Array**	**45.24**	**13**	P	**P**	**17 11 51.1**	**+0.5**
	2.0nm,0.7s,baz=194,slow=8.7,SNR=7.0						
KURBB	**Kurchatov Arra**	**48.03**	**348**	P	**P**	**17 12 12.8**	**+0.6**
	3.2nm,0.7s,baz=172,slow=7.4,SNR=43						
KURK	**Kurchatov**	**48.10**	**348**	P	**P**	**17 12 12.8**	**+0.1**
ZALV	**Zalesovo Beam**	**50.26**	**358**	P	**P**	**17 12 29.2**	**0.0**
	3.6nm,0.5s,baz=180,slow=7.8,SNR=12						
BVAR	**Borovoye Array**	**52.29**	**343**	P	**P**	**17 12 44.4**	**-0.1**
	2.5nm,0.8s,baz=142,slow=7.3,SNR=18						
BRVK	**Borovoye**	**52.35**	**343**	*e*P	**P**	**17 12 44.8**	**-0.1**
ABKAR	**Akbulak array**	**53.08**	**334**	*e*P	**P**	**17 12 50.1**	**-0.2**
	2.2nm,0.9s						
BRTR	**Keskin Array B**	**64.04**	**313**	P	**P**	**17 14 06.9**	**-0.3**
	0.4nm,0.6s,baz=148,slow=8.5,SNR=2.8						
TIXI	**Tiksi**	**71.30**	**11**	*e*P	**P**	**17 14 51.8**	**-0.4**
	4.8nm,0.8s						
GERES	**GERESS Array B**	**79.87**	**319**	P	**P**	**17 15 42.4**	**+0.4**
	1.2nm,0.7s,baz=90,slow=4.9,SNR=7.5						

*IDC **26** 17:26:12.7±0.6, 18.°88S×168.°54E, h0km, mb4.4/20, mb1 4.5/22, mb1mx4.4/45, mbtmp4.5/22, ML4.5/2, MS3.7/28, Ms1 3.7/28, ms1mx3.6/37, Error ellipse: s-maj=18.1km s-min=14.7km az=86.0*
*NEIC **26** 17:26:16.1±4.2, 18.°92S×168.°50E, h18km±25km, mb4.8/6, Error ellipse: s-maj=11.4km s-min=11.0km az=184.0*
*ISCJB **26** 17:26:17.4±0.4, 18.°85S±0.°06×168.°54E±0.°07, h42km, mb4.5/24, MS3.8/25, Error ellipse: s-maj=9.4km s-min=8.4km az=40.7*
ISC 26 17:26:18.9±0.5,**18.°97S**±0.°06×**168.°51E**±0.°08,**h42km,n87,**
σ1°**47**/74,**mb4.5**/23,**MS3.9**/25,**Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.65**	**212**	Pn	**Pn**	**17 27 10.1**	**-2.9**
	6.3nm,0.3s,baz=94,slow=11,SNR=101						
DZM				Sn	**Sn**	**17 27 52.8**	**-1.9**
	50nm,0.3s,baz=127,slow=23,SNR=14						
DZM	**Mont Dzumac**	**3.65**	**212**	*e*Pn	**Pn**	**17 27 09.6**	**-3.3**
	84nm,0.3s						
DZM				*e*Sn	**Sn**	**17 27 53.8**	**-0.9**
	173nm,0.3s						
DZM	**Mont Dzumac**	**3.65**	**212**	*e*Pn	**Pn**	**17 27 09.7**	**-3.3**
DZM				Sn	**Sn**	**17 27 52.8**	**-1.9**
MSVF	**Nonsavu**	**9.14**	**84**	*e*Pn	**Pn**	**17 28 27.9**	**-0.6**
	104nm,1.0s						
NFK	**Norfolk Island**	**10.05**	**183**	P	**Pn**	**17 28 39.1**	**-1.6**
	baz=10.0,SNR=6.0						
HNR	**Honiara**	**12.59**	**318**	*e*P	**Pn**	**17 29 15.0**	**-0.5**
HNR	**Honiara**	**12.59**	**318**	Pn	**Pn**	**17 29 14.8**	**-0.7**
	13nm,0.3s,baz=201,slow=5.2,SNR=13						
HNR				LR	LR	17 33 27.0	
	comp=Z,173nm,21.9s,baz=154,slow=35						
RAO	**Raoul Island**	**16.06**	**132**	LR	LR	17 35 03.6	
	comp=Z,275nm,18.7s,baz=318,slow=33						
EIDS	**Eidsvold**	**17.34**	**245**	P	**P**	**17 30 19.5**	**+0.6**
	baz=17						
EIDS	**Eidsvold**	**17.34**	**245**	*e*Pn	**Pn**	**17 30 18.5**	**+0.5**
	23nm,1.3s						
AFI	**Afiamalu**	**19.56**	**78**	LR	LR	17 37 13.7	
	comp=Z,71nm,18.4s,baz=254,slow=34						
RMQ	**Roma**	**19.68**	**244**	P	**P**	**17 30 45.2**	**+0.6**
	baz=20,SNR=8.8						
URZ	**Urewera**	**20.63**	**160**	LR	LR	17 37 34.0	
	comp=Z,468nm,18.5s,baz=338,slow=33						
CTA	**Charters Tower**	**21.00**	**263**	P	**P**	**17 30 58.9**	**-0.1**
	10nm,0.7s,baz=86,slow=15,SNR=5.2						
CTA	**Charters Tower**	**21.00**	**263**	P	**P**	**17 30 59.7**	**+0.7**
	baz=21						
CTAO	**Charters Tower**	**21.00**	**263**	*e*P	**P**	**17 31 00.7**	**+1.7**
	173nm,1.0s						
MGCD	**Mangrove Creek**	**21.06**	**224**	P	**P**	**17 31 01.1**	**+1.6**
	baz=21						
PMG	**Port Moresby**	**22.75**	**292**	P	**P**	**17 31 15.7**	**-2.0**
	9.5nm,0.9s,baz=270,slow=15,SNR=2.1						
PMG				LR	LR	17 39 03.7	
	comp=Z,382nm,18.4s,baz=110,slow=34						
MTSU	**Mount Surprise**	**22.95**	**268**	P	**P**	**17 31 20.2**	**+0.4**
	baz=23,SNR=7.8						
CNB	**Canberra Magne**	**23.50**	**222**	P	**P**	**17 31 26.4**	**+1.3**
	baz=24,SNR=13						
QLP	**Quilpie**	**23.60**	**247**	P	**P**	**17 31 27.1**	**+1.0**
	baz=24,SNR=18						
CAN	**Canberra**	**23.73**	**223**	P	**P**	**17 31 28.9**	**+1.5**
	baz=24						
CMSA	**Cobar Meteorol**	**24.08**	**234**	P	**P**	**17 31 31.5**	**+1.0**
	baz=24,SNR=19						
RPZ	**Rata Peaks**	**24.77**	**176**	P	**P**	**17 31 37.5**	**+0.9**
	12nm,0.7s,baz=242,slow=0.4,SNR=4.1						
RPZ				LR	LR	17 40 29.0	
	comp=Z,323nm,18.4s,baz=4.0,slow=34						
COEN	**Coen**	**24.79**	**278**	P	**P**	**17 31 38.1**	**+1.0**
	baz=25						
TOO	**Toolangi**	**27.35**	**223**	P	**P**	**17 32 01.4**	**+1.4**
	baz=27						
STKA	**Stephens Creek**	**27.41**	**237**	P	**P**	**17 32 00.9**	**+0.3**
	2.6nm,0.5s,baz=71,slow=9.5,SNR=19						
STKA				LR	LR	17 41 30.7	
	comp=Z,113nm,20.9s,baz=61,slow=33						
STKA	**Stephens Creek**	**27.41**	**237**	P	**P**	**17 32 01.2**	**+0.5**
	baz=27,SNR=16						
RAR	**Rarotonga**	**29.85**	**100**	LR	LR	17 43 45.4	
	comp=Z,75nm,18.1s,baz=268,slow=35						
HTT	**Hallett**	**30.07**	**235**	P	**P**	**17 32 25.5**	**+1.1**
	baz=30,SNR=3.1						
WRA	**Warramunga Arr**	**32.20**	**263**	P	**P**	**17 32 41.7**	**-1.6**
	3.1nm,0.9s,baz=94,slow=8.0,SNR=15						
WRA				LR	LR	17 46 19.0	
	comp=Z,269nm,18.6s,baz=85,slow=37						
ASAR	**Alice Springs**	**32.52**	**256**	P	**P**	**17 32 45.5**	**-0.6**
	13nm,0.6s,baz=84,slow=7.1,SNR=52						
ASAR				LR	LR	17 46 15.3	
	comp=Z,227nm,18.3s,baz=96,slow=37						
MTN	**Manton Dam**	**36.40**	**274**	P	**P**	**17 33 21.7**	**+2.1**
	baz=36,SNR=3.8						
WRKA	**Warakurna**	**37.67**	**253**	P	**P**	**17 33 30.4**	**0.0**
	baz=38,SNR=7.7						
KNRA	**Kununurra**	**38.03**	**269**	P	**P**	**17 33 34.9**	**+1.5**
	baz=38,SNR=4.4						
FORT	**Forrest**	**38.34**	**244**	P	**P**	**17 33 37.1**	**+1.1**
	baz=38,SNR=9.4						
FORT	**Forrest**	**38.34**	**244**	*e*P	**P**	**17 33 37.1**	**+1.1**
	291nm,0.7s						
PPT2	**Papeete2**	**39.76**	**95**	*e*LQ	LQ	17 43 26.0	
	273nm,28.0s						
PPT2				*e*LR	LR	17 45 09.3	
	451nm,28.0s,baz=262						
PPT	**Papeete**	**39.76**	**95**	LR	LR	17 47 43.8	
	comp=Z,85nm,21.3s,baz=265,slow=32						
GUMO	**Guam**	**39.86**	**323**	LR	LR	17 49 58.8	
	comp=Z,97nm,18.4s,baz=140,slow=36						
FITZ	**Fitzroy Crossi**	**40.58**	**264**	P	**P**	**17 33 55.5**	**+0.7**
	20nm,0.7s,baz=134,slow=9.9,SNR=32						
BATI	**Baumata**	**44.16**	**275**	LR	LR	17 52 13.2	
	comp=Z,150nm,20.6s,baz=172,slow=35						
MEEK	**Meekatharra**	**46.39**	**251**	P	**P**	**17 34 41.4**	**-0.2**
	baz=46,SNR=17						
DAV	**Davao City (W)**	**49.59**	**297**	LR	LR	17 56 27.9	
	comp=Z,50nm,18.8s,baz=134,slow=37						
RKT	**Rikitea**	**52.64**	**105**	*e*LR	LR	17 51 14.6	
	150nm,27.0s						
JHJ	**Hachijo jima 2**	**58.61**	**332**	LR	LR	17 59 04.7	
	comp=Z,38nm,21.8s,baz=322,slow=34						
VNDA	**Vanda**	**58.68**	**182**	P	**P**	**17 36 12.6**	**+1.0**
	1.6nm,0.9s,baz=6.6,slow=7.0,SNR=6.8						
VNDA				LR	LR	17 57 41.1	
	comp=Z,89nm,21.1s,baz=350,slow=32						
SBA	**Scott Base**	**58.93**	**180**	*e*P	**P**	**17 36 15.6**	**+2.2**
	7.3nm,0.9s						
JOW	**Kunigami**	**59.96**	**318**	LR	LR	17 57 45.0	
	comp=Z,46nm,21.9s,baz=54,slow=32						
LEM	**Lembang**	**60.31**	**273**	P	**P**	**17 36 25.3**	**+1.3**
	18nm,0.6s,baz=18,slow=11,SNR=6.3						
LEM				LR	LR	18 05 40.9	
	comp=Z,59nm,18.4s,baz=124,slow=39						
MJAR	**Matsushiro Arr**	**62.19**	**333**	P	**P**	**17 36 34.4**	**-1.7**
	3.1nm,0.8s,baz=174,slow=6.5,SNR=4.4						
MJAR				LR	LR	18 03 59.1	
	comp=Z,25nm,18.6s,baz=70,slow=36						
JNU	**Nakatsue**	**63.04**	**325**	P	**P**	**17 36 41.0**	**-0.9**
	8.9nm,1.0s,baz=190,slow=11,SNR=1.8						
JNU				LR	LR	18 00 59.3	
	comp=Z,26nm,21.7s,baz=116,slow=33						
KSRS	**Korea Array**	**67.89**	**326**	P	**P**	**17 37 13.9**	**+0.8**
	0.7nm,0.8s,baz=171,slow=7.9,SNR=3.4						
KSRS				LR	LR	18 05 32.4	
	comp=Z,16nm,18.8s,baz=156,slow=35						
KSAR	**Wonju Array Be**	**67.90**	**326**	P	**P**	**17 37 13.9**	**+0.7**
QSPA	**South Pole Qui**	**71.09**	**180**	P	**P**	**17 37 33.5**	**+0.8**
	8.3nm,0.9s,baz=17,slow=3.7,SNR=13						
QSPA				LR	LR	18 05 07.7	
	comp=Z,98nm,19.4s,baz=22,slow=33						
QSPA	**South Pole Qui**	**71.09**	**180**	*e*P	**P**	**17 37 33.2**	**+0.5**
	38nm,0.9s						
PSI	**Prapat**	**71.69**	**280**	P	**P**	**17 37 36.6**	**-0.7**
	1.8nm,0.5s,baz=303,slow=17,SNR=1.9						
PSI				LR	LR	18 12 08.6	
	comp=Z,116nm,18.4s,baz=162,slow=38						
PETK	**Petropavlovsk-**	**72.38**	**353**	P	**P**	**17 37 39.1**	**-1.2**
	1.9nm,0.8s,baz=346,slow=10,SNR=4.5						
CMAR	**Chiang Mai Arr**	**77.76**	**294**	P	**P**	**17 38 13.9**	**+1.8**
	1.5nm,0.9s,baz=137,slow=4.7,SNR=9.5						
CHTO	**Chiang Mai**	**77.91**	**295**	*e*P	**P**	**17 38 15.0**	**+2.1**
	5.4nm,1.1s						
MAW	**Mawson**	**78.43**	**202**	LR	LR	18 10 02.4	
	comp=Z,52nm,19.2s,baz=58,slow=34						
ULN	**Ulaanbaatar**	**86.23**	**324**	*e*P	**P**	**17 38 56.0**	**-0.2**
	5.8nm,0.9s						
SONM	**Songino Array**	**86.59**	**323**	P	**P**	**17 38 59.0**	**+1.1**
	5.0nm,1.0s,baz=134,slow=6.4,SNR=12						
YBH	**Yreka Blue Hor**	**87.58**	**44**	LR	LR	18 10 18.3	
	comp=Z,66nm,21.5s,baz=206,slow=30						
NVAR	**Mina Array Bea**	**89.14**	**49**	LR	LR	18 13 53.4	
	comp=Z,49nm,19.3s,baz=88,slow=32						
SNAA	**Sanae**	**89.40**	**183**	P	**P**	**17 39 10.9**	**0.0**
	1.5nm,0.8s,baz=79,slow=13,SNR=4.5						
ILAR	**Eielson Array**	**90.18**	**18**	P	**P**	**17 39 13.0**	**-1.4**
	0.5nm,0.7s,baz=225,slow=6.6,SNR=4.6						
ILAR				LR	LR	18 15 30.5	
	comp=Z,58nm,19.0s,baz=244,slow=33						
TXAR	**Lajitas Array**	**97.24**	**62**	P	Pdif	17 39 49.1	+1.3
	0.2nm,0.6s,baz=35,slow=3.3,SNR=2.2						
TXAR				LR	LR	18 15 17.9	
	comp=Z,44nm,20.9s,baz=0.0,slow=30						
YKA	**Yellowknife Ar**	**100.75**	**27**	P	**Pdif**	**17 40 02.5**	**+0.1**
	0.2nm,0.8s,baz=256,slow=4.8,SNR=4.5						
MKAR	**Makanchi Array**	**101.06**	**316**	P	**Pdif**	**17 40 04.9**	**+0.6**
	0.2nm,0.6s,baz=94,slow=6.6,SNR=3.2						
BOSA	**Boshof**	**120.85**	**218**	PKP	**PKPdf**	**17 45 06.6**	**-0.9**
	1.4nm,0.7s,baz=209,slow=14,SNR=2.5						
ARCES	**ARCESS Array B**	**124.63**	**345**	PKP	**PKPdf**	**17 45 11.2**	**-2.0**
	1.1nm,0.6s,baz=24,slow=1.1,SNR=8.8						
STHS	**Stebnicka Huta**	**139.87**	**327**	*e*PKP	**PKPdf**	**17 45 48.3**	**+5.9**
GERES	**GERESS Array B**	**143.92**	**331**	PKP	PKPbc	17 45 47.4	-0.3
	0.9nm,0.6s,baz=42,slow=4.2,SNR=8.2						
MOA	**Molln**	**144.38**	**330**	*i* PKPdf	**PKPdf**	**17 45 50.0**	**-0.6**
	5.1nm,0.8s						
SOKA	**Soboth**	**144.81**	**328**	*i* PKPbc	**PKPab**	**17 45 49.4**	**-1.0**
	7.4nm,1.0s						
KBA	**Koelnbreinsper**	**145.37**	**330**	*i* PKPdf	**PKPdf**	**17 45 52.6**	**+0.2**
	8.0nm,0.9s						
MYKA	**Terra Mystica**	**145.54**	**329**	*i* PKPbc	**PKPdf**	**17 45 51.9**	**-0.8**
	7.0nm,0.8s						
WATA	**Walderalm**	**146.00**	**332**	*i* PKiKP	**PKiKP**	**17 45 56.3**	**-1.4**
	3.4nm,0.6s						
ABTA	**Abfaltersbach**	**146.00**	**330**	*i* PKPab	**PKPab**	**17 45 54.8**	**0.0**
	11nm,1.1s						
WTTA	**Wattenberg**	**146.03**	**331**	*i* PKiKP	**PKiKP**	**17 45 56.9**	**-0.9**
	8.4nm,1.1s						
MOTA	**Moosalm**	**146.20**	**332**	*i* PKiKP	**PKiKP**	**17 45 57.2**	**-1.0**
	6.7nm,0.9s						
BFO	**Black Forest**	**146.59**	**336**	*e*P	**PKPbc**	**17 45 55.3**	**-0.6**
FETA	**Feichten**	**146.62**	**332**	PKPab	**PKPab**	**17 45 57.7**	**+0.4**
	13nm,1.3s						
TUE	**Stuetta**	**147.65**	**333**	*e*P	**PKPbc**	**17 45 58.9**	**-0.3**
TIP	**Timpagrande**	**148.34**	**315**	*e*P	**PKPbc**	**17 45 59.5**	**-1.6**
TORD	**Torodi Ar. Bea**	**166.07**	**247**	PKP	**PKPdf**	**17 46 20.7**	**+0.4**
	0.6nm,1.0s,baz=3.8,slow=4.3,SNR=2.8						
TORD				PKPab	**PKPab**	**17 47 22.1**	**+1.3**
	1.1nm,1.0s,baz=96,slow=2.9,SNR=3.9						

*ISCJB **26** 17:33:10.3±0.6, 8.°52S±0.°07×121.°16E±0.°04, h200km, mb3.8/1, Error ellipse: s-maj=9.4km s-min=5.2km az=13.8*
*DJA **26** 17:33:11.4±0.4, 9.°S±4.°×12.°1E±.°, h184km±5km, M3.7/11, mB4.5/1, mb4.0/1, MLv3.6/11, Mw(mB)3.7/1*
*IDC **26** 17:33:11.7±7.3, 8.°33S×121.°35E, h195km±33km, mb3.6/1, mb1 3.2/5, mb1mx2.8/56, mbtmp3.6/5, Error ellipse: s-maj=99.1km s-min=72.8km az=34.0*
ISC 26 17:33:11.0±1.1,**8.°56S**±0.°07×**121.°17E**±0.°05,**h200km,n14,**
σ1°**21**/24,**Flores region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EDFI	**Ende, Flores**	**0.55**	**111**	P	**Pn**	**17 33 38.0**	**-0.4**
EDFI				S	**Sn**	**17 33 57.6**	**-2.0**
WSI	**Waingapu**	**1.40**	**218**	P	**Pn**	**17 33 43.4**	**-0.4**
WSI				S	**Sn**	**17 34 09.1**	**-0.3**
BASI	**Baing, Sumba**	**1.75**	**199**	P	**Pn**	**17 33 47.1**	**0.0**
BASI				S	**Sn**	**17 34 16.0**	**+0.8**
WBSI	**Waikabubak, Su**	**2.06**	**238**	P	**Pn**	**17 33 50.3**	**+0.1**
WBSI				S	**Sn**	**17 34 19.2**	**-1.5**
BATI	**Baumata**	**2.96**	**124**	P	**Pn**	**17 34 00.6**	**+0.4**
	11nm,0.3s,baz=333,slow=2.3,SNR=40						
BATI				S	**Sn**	**17 34 39.1**	**+0.5**
	10nm,0.3s,baz=307,slow=20,SNR=6.1						
BATI	**Baumata**	**2.96**	**124**	P	**Pn**	**17 34 00.6**	**+0.4**
BATI				S	**Sn**	**17 34 36.6**	**-2.0**
SOEI	**Soe**	**3.28**	**112**	P	**Pn**	**17 34 04.1**	**0.0**
SOEI				S	**Sn**	**17 34 44.8**	**-0.9**
PLAI	**Plampang**	**3.37**	**265**	P	**Pn**	**17 34 05.6**	**+0.6**
PLAI				S	**Sn**	**17 34 46.1**	**-1.2**
TWSI	**Taliwang, Sumb**	**4.24**	**267**	P	**Pn**	**17 34 16.4**	**+0.6**
BNSI	**Bone**	**4.26**	**346**	P	**Pn**	**17 34 16.2**	**+0.1**
FITZ	**Fitzroy Crossi**	**10.43**	**156**	P	**Pn**	**17 35 38.1**	**+2.3**
	baz=0.7,slow=14,SNR=2.0						
FITZ				S	**Sn**	**17 37 30.5**	**-1.9**
	0.1nm,0.3s,baz=105,slow=18,SNR=1.8						
WRA	**Warramunga Arr**	**17.05**	**133**	P	**P**	**17 36 57.1**	**+0.6**
	0.2nm,0.3s,baz=309,slow=12,SNR=22						
WRA				S	**S**	**17 40 03.0**	**-0.9**
	0.2nm,0.3s,baz=301,slow=24,SNR=6.9						
ASAR	**Alice Springs**	**19.35**	**142**	P	**Pn**	**17 37 23.6**	**-1.5**
	0.1nm,0.3s,baz=326,slow=9.4,SNR=9.4						
STKA	**Stephens Creek**	**29.98**	**144**

0.7nm,0.5s,baz=116,slow=8.1,SNR=10
TORD Torodi Ar. Bea 72.27 70 P **P** **17 48 30.6 -0.3**
2.2nm,0.6s,baz=255,slow=5.3,SNR=13
ULM Lac du Bonnet 72.31 340 P **P** **17 48 29.0 -1.4**
1.8nm,0.6s,baz=85,slow=3.0,SNR=4.1
HLID Hailey 75.41 325 *eP* **P** **17 48 49.4 +0.5**
3.4nm,0.8s
MFID Camas Ranch 76.09 324 *eP* **P** **17 48 52.9 +0.2**
3.2nm,1.0s
BMO Blue Mountains 77.83 325 *eP* **P** **17 49 02.5 0.0**
4.8nm,1.0s
VNDA Vanda 81.89 189 P **P** **17 49 25.1 +1.2**
1.0nm,0.8s,baz=164,slow=3.1,SNR=7.1
YKA Yellowknife Ar 88.29 339 P **P** **17 49 55.5 -0.4**
2.0nm,0.7s,baz=125,slow=4.5,SNR=38
KURK Kurchatov 135.52 33 PKP **PKPdf** **17 56 25.4 +0.5**
KURBB Kurchatov Arra 135.53 33 PKP **PKPdf** **17 56 25.4 +0.5**
0.3nm,0.8s,baz=308,slow=2.8,SNR=3.2
ASAR Alice Springs 135.60 205 PKP **PKPdf** **17 56 25.9 -0.1**
0.8nm,0.9s,baz=164,slow=1.8,SNR=6.5
ZALV Zalesovo Beam 136.29 26 PKP **PKPdf** **17 56 26.7 +0.5**
1.3nm,0.6s,baz=298,slow=3.2,SNR=4.0
WRA Warramunga Arr 138.70 208 PKP **PKPdf** **17 56 31.7 0.0**
0.2nm,0.6s,baz=155,slow=2.1,SNR=6.7
SONM Songino Array 148.43 11 PKPbc **PKPbc** **17 56 51.6 0.0**
1.3nm,0.8s,baz=153,slow=0.3,SNR=3.9

IDC 26 17:39:16.8±1.9, 2°.28N×91°.60E, h0km, mb3.4/3, mb1 3.7/5, mb1mx3.3/64, mbtmp3.5/5, ML3.9/2, Error ellipse: s-maj=55.8km s-min=27.2km az=48.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**11.94**	**295**	Pn		Pn		17 42 09.8	+1.3
	0.5nm,0.3s,baz=116,slow=14,SNR=3.6								
PALK				Sn		Sn		17 44 11.6	-11
	0.6nm,0.3s,baz=115,slow=13,SNR=2.8								
CMAR	**Chiang Mai Arr**	**17.61**	**24**	P		P		17 43 25.9	+0.9
	0.2nm,0.3s,baz=215,slow=12,SNR=7.1								
H08S2	**Diego Garcia H**	**21.46**	**242**	T		T		18 06 32.8	
	baz=62,slow=76,SNR=6.5								
H08S3	**Diego Garcia H**	**21.46**	**243**	T		T		18 06 36.3	
	baz=62,slow=76,SNR=4.6								
H08S1	**Diego Carcia H**	**21.48**	**242**	T		T		18 06 50.1	
	baz=62,slow=76,SNR=5.0								
MKAR	**Makanchi Array**	**45.07**	**351**	P		P		17 47 34.0	-0.6
	0.2nm,0.7s,baz=170,slow=8.8,SNR=3.5								
WRA	**Warramunga Arr**	**47.39**	**120**	P		P		17 47 53.2	-0.1
	0.3nm,0.7s,baz=298,slow=8.9,SNR=2.8								
KURBB	**Kurchatov Arra**	**49.42**	**349**	P		P		17 48 07.8	-0.6
	0.2nm,0.3s,baz=176,slow=7.4,SNR=4.1								

MAN 26 18:03:51, 12°.08N×125°.63E, h11km, mb4.7, ML3.6, MS3.5, 1D, Samar

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BESP	**Borongan**	**0.51**	**202**	*eP*		Pb		18 04 02.7	+0.6
BESP				*eS*		Sn		18 04 13.6	+0.5
CNP	**Catarman**	**1.04**	**294**	*eP*		Pb		18 04 10.8	-0.2
CNP				*eS*		Sn		18 04 32.1	+6.1
PLP	**Palo**	**1.11**	**215**	↓*eP*		Pb		18 04 12.1	-0.2
PLP				*eS*		Sn		18 04 29.0	+1.1
OCLP	**Ormoc**	**1.43**	**225**	*eP*		Pb		18 04 18.0	+0.3
MSLP	**Maasin**	**2.08**	**201**	*eP*		Pn		18 04 27.2	+1.4
MSLP				*eS*		Sb		18 04 54.9	+0.3

IDC 26 18:19:50.0±1.5, 26°.64N×143°.31E, h0km, mb3.4/6, mb1 3.6/6, mb1mx3.3/60, mbtmp3.4/6, MS2.8/1, Ms1 2.8/1, ms1mx2.0/30, Error ellipse: s-maj=36.0km s-min=20.3km az=57.0
ISCJB 26 18:19:53.7±1.1, 26°.6N±0°.1×143°.4E±0°.2, h38km, mb3.4/6, MS2.6/1, Error ellipse: s-maj=25.4km s-min=11.9km az=44.5

ISC 26 18:19:55.6±1.3, 26°.6N±0°.2×143°.3E±0°.2, h38km, n8, σ1§55/8, mb3.5/6, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**1.08**	**296**	Pn		**Pn**		**18 20 13.0**	**-1.2**
	29nm,0.3s,baz=285,slow=23,SNR=20								
JCJ				Sn		**Sn**		**18 20 29.1**	**+1.1**
	54nm,0.3s,baz=280,slow=22,SNR=9.6								
KLR	**Kul'dur**	**24.28**	**341**	P		**P**		**18 25 08.9**	**-0.3**
	0.1nm,0.5s,baz=142,slow=12,SNR=3.0								
TGY	**Tagaytay City**	**24.31**	**244**	LR		LR		18 34 13.9	
	comp=Z,20nm,18.6s,baz=233,slow=36								
CMAR	**Chiang Mai Arr**	**41.58**	**268**	P		**P**		**18 27 40.9**	**+1.0**
	0.2nm,0.5s,baz=74,slow=6.7,SNR=4.0								
WRA	**Warramunga Arr**	**47.09**	**192**	P		**P**		**18 28 23.7**	**-0.1**
	1.0nm,0.8s,baz=12,slow=8.4,SNR=5.1								
ASAR	**Alice Springs**	**50.80**	**191**	P		**P**		**18 28 51.9**	**-0.4**
	0.3nm,0.9s,baz=8.9,slow=7.8,SNR=3.1								
KURBB	**Kurchatov Arra**	**54.07**	**315**	P		**P**		**18 29 14.4**	**-1.9**
	1.1nm,0.8s,baz=91,slow=8.0,SNR=10								
FINES	**FINESS Array B**	**78.80**	**334**	P		**P**		**18 31 56.3**	**+2.1**
	0.7nm,0.7s,baz=69,slow=7.6,SNR=3.0								

ISCJB 26 18:24:08.2±1.4, 32°.72S±0°.05×71°.89W±0°.09, h4km±8km, Error ellipse: s-maj=13.5km s-min=6.6km az=153.1
SJA 26 18:24:09.6±0.5, 32°.47S×72°.04W, h67km±9km, ML3.3, MW3.5
GUC 26 18:24:11.5±0.5, 32°.52S×71°.41W, h34km±2km, ML3.3

ISC 26 18:24:09.7±2.4, 32°.60S±0°.04×71°.7W±0°.1, h9km±12km, n16, σ1§37/26, 1C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ROCH	**El Roble**	**0.68**	**123**	↓*iP*		**Pg**		**18 24 24.1**	**+1.2**
ROCH				*eS*		**Sg**		**18 24 33.4**	**+1.6**
ROCH				IAML				18 24 34.1	
	comp=E,3μm,0.3s								
PEL	**Peldehue**	**1.00**	**123**	*eP*		**Pg**		**18 24 28.7**	**-0.3**
PEL				*eS*		**Sg**		**18 24 41.2**	**-0.7**
ANTU	**Antumapu**	**1.31**	**138**	↑*iP*		**Pn**		**18 24 34.1**	**-0.1**
ANTU				*eS*		**Sb**		**18 24 50.9**	**-0.5**
ANTU				IAML				18 24 54.6	
	comp=N,1μm,0.3s								
FCH	**Farellones**	**1.38**	**122**	↓*iP*		**Pn**		**18 24 35.0**	**-0.5**
FCH				*eS*		**Sb**		**18 24 52.7**	**-1.0**
FCH				IAML				18 24 55.1	
	comp=E,929nm,0.2s								
LMEL	**Las Melosas**	**1.76**	**135**	↓*eP*		**Pn**		**18 24 40.8**	**+0.3**
LMEL				*eS*		**Sn**		**18 25 03.0**	**-0.1**
LMEL				IAML				18 25 04.4	
	comp=N,705nm,0.2s								
AUSP	**Uspallata**	**1.98**	**80**	*eP*		**Pg**		**18 24 47.2**	**-0.5**
RTLS	**Leoncito**	**2.18**	**69**	*eP*		**Pb**		**18 24 49.5**	**0.0**
RTLS				*eS*		**Sg**		**18 25 18.8**	**-0.9**
RTLS				IAML				18 25 24.3	
	comp=Z,128nm,0.3s								
ARCO	**CERRO ARCO**	**2.33**	**97**	*eP*		**Pb**		**18 24 52.2**	**+0.2**
ARCO				IAML				18 25 02.9	
	comp=Z,140nm,0.3s								
ARCO				*eS*		**Sg**		**18 25 23.7**	**-1.0**
ASAL	**Salagasta**	**2.41**	**91**	*eP*		**Pb**		**18 24 53.0**	**-0.3**
ASAL				*eS*		**Sg**		**18 25 25.4**	**-1.7**
AAGR	**Agrelo**	**2.45**	**102**	*eP*		**Pb**		**18 24 54.0**	**0.0**
GO04	**Tololo Observa**	**2.54**	**18**	*eP*		**Pn**		**18 24 51.8**	**+0.5**
GO04				*eS*		**Sb**		**18 25 25.2**	**-1.7**
RTCV	**Cerro Valdivia**	**2.77**	**75**	*eP*		**Pb**		**18 24 57.5**	**-1.8**
RTCV				*eS*		**Sb**		**18 25 33.2**	**-0.1**
AROD	**Rodeo**	**3.08**	**39**	*eP*		**Pn**		**18 25 00.5**	**+1.6**
AMOG	**MOGNA**	**3.18**	**59**	*eP*		**Pn**		**18 25 02.5**	**+2.5**
ACAN	**Cantantal**	**3.82**	**86**	*eP*		**Pn**		**18 25 11.8**	**+3.1**
APLL	**PUNTA DE LOS L**	**4.92**	**65**	*eP*		**Pn**		**18 25 26.2**	**+2.2**

NIED 26 18:41:00, 41°.50N×142°.00E, h53km, Mw5.2 Best double couple: M0 5.98000×10^16 NP1:φ=203.00000°, δ=19.00000°, λ=91.00000°. NP2:φ=22.00000°, δ=71.00000°, λ=90.00000°.
BJI 26 18:41:15.7, 41°.43N×142°.15E, h67km, mb5.0/73, mB5.0/54, Ms4.5/77, Ms7 4.4/75
MOS 26 18:41:17.9±1.0, 41°.54N×141°.90E, h63km, mb5.4/147, MS4.3/38, Error ellipse: s-maj=5.4km s-min=3.2km az=106.0
ISCJB 26 18:41:18.5±0.2, 41°.51N±0°.02×141°.90E±0°.02, h67km±1km, mb5.0/318, Error ellipse: s-maj=3.0km s-min=2.0km az=136.9
JMA 26 18:41:18.5±0.1, 41°.48N×141°.98E, h65km±2km, M5.0 Broadband fault plane solution: P waves. NP1: φ=26.00000°, δ=76.00000°, λ=90.00000°. NP2:φ=206.00000°, δ=14.00000°, λ=90.00000°. Principal axes: T Plg59.0000°, Azm296.0000°; N Plg0.0000°, Azm26.0000°; P Plg31.0000°, Azm116.0000°;
JMA Felt III J1.
IDC 26 18:41:19.6±1.1, 41°.47N×141°.99E, h66km±8km, mb4.7/48, mb1 4.8/55, mb1mx4.7/70, mbtmp5.0/55, MS4.2/48, Ms1 4.2/48, ms1mx4.1/64 Error ellipse: s-maj=10.2km s-min=6.7km az=112.0
NEIC 26 18:41:20.9±0.2, 41°.49N×141°.82E, h75km±1km, mb5.1/154, Error ellipse: s-maj=4.1km s-min=2.6km az=142.0
NEIC Felt at Chitose. Felt [II] at Misawa, Honshu. Also felt at Hirosaki. Recorded [3 JMA] in Aomori.
GCMT 26 18:41:20.9±0.1, 41°.51N×142°.09E, h58km±1km, MW5.2/112, Moment Tensor Solution. s90,c142; s112,c185; Duration: 1§0 Moment tensor: Scale 10^16 Nm; Mrr 6.17±.15; Mθθ -0.62±.13; Mφφ -5.55±.13; Mrθ 1.92±.10; Mrφ -1.94±.11; Mθφ 3.73±.11; Best double couple: M0 7.48300×10^16 NP1:φ=24.00000°, δ=62.00000°, λ=94.00000°. NP2:φ=195.00000°, δ=28.00000°, λ=82.00000°. Principal axes: T 7.4760, Plg73.0000°, Azm304.0000°; N 0.0110, Plg4.0000°, Azm202.0000°; P -7.4890, Plg17.0000°, Azm110.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.

ISC 26 18:41:19.6±0.4, 41°.55N±0°.03×141°.95E±0°.03, h66km±2km, h65km: pP-P, n952, σ1§48/1028, mb5.2/324, 56C-37D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JOT	**Ohata**	**0.70**	**257**	↓*P*		**Pn**		**18 41 33.1**	**-1.0**
JOT				*eS*		**Sn**		**18 41 44.0**	**-0.8**
JKB	**Kayabe**	**0.77**	**296**	↓*P*		**Pn**		**18 41 34.2**	**-0.7**
JKB				*eS*		**Sn**		**18 41 46.6**	**+0.3**
JNBK	**Urakawa-nobuka**	**0.94**	**39**	P		**Pn**		**18 41 36.5**	**-0.6**
JNBK				*eS*		**Sn**		**18 41 50.8**	**+0.7**
JTM	**Tenmabayashi**	**1.01**	**222**	↓*P*		**Pn**		**18 41 36.8**	**-1.2**
JTM				S		**Sn**		**18 41 49.7**	**-1.9**
ERM	**Erimo**	**1.01**	**62**	*e*Pn		**Pn**		**18 41 37.3**	**-0.7**
ERM	**Erimo**	**1.01**	**62**	*d iP*		**Pn**		**18 41 37.2**	**-0.7**
JEM	**Erimo**	**1.01**	**62**	↑*P*		**Pn**		**18 41 37.0**	**-1.0**
JEM				*eS*		**Sn**		**18 41 51.3**	**-0.4**
JNB	**Noboribetsu**	**1.14**	**324**	↓*P*		**Pn**		**18 41 39.1**	**-0.6**
JNB				*eS*		**Sn**		**18 41 54.5**	**-0.2**
JSR	**Shiriuchi**	**1.15**	**270**	↓*P*		**Pn**		**18 41 39.2**	**-0.6**
JSR				*eS*		**Sn**		**18 41 55.1**	**+0.3**
JANG	**Nango**	**1.22**	**196**	↑*P*		**Pn**		**18 41 38.7**	**-2.0**
JANG				*eS*		**Sn**		**18 41 53.6**	**-2.9**
JSI2	**Shiura 2**	**1.26**	**248**	↓*P*		**Pn**		**18 41 40.9**	**-0.3**
JBT2	**Biratori 2**	**1.27**	**14**	↓*P*		**Pn**		**18 41 41.5**	**+0.2**
JBT2				*eS*		**Sn**		**18 41 58.2**	**+0.7**
JYM2	**Yakumo 2**	**1.31**	**296**	↓*P*		**Pn**		**18 41 42.0**	**+0.1**
JYM2				*eS*		**Sn**		**18 41 59.0**	**+0.4**
JEW	**Eniwo**	**1.34**	**344**	↓*P*		**Pn**		**18 41 42.5**	**+0.2**
JEW				*eS*		**Sn**		**18 42 00.7**	**+1.3**
JCH	**Churui**	**1.50**	**44**	P		**Pn**		**18 41 44.6**	**+0.3**
JCH				*eS*		**Sn**		**18 42 04.1**	**+1.2**
JKZ	**Kuzumaki**	**1.63**	**197**	↑*P*		**Pn**		**18 41 44.8**	**-1.4**
JFR	**Furan**	**1.68**	**16**	↓*P*		**Pn**		**18 41 46.8**	**0.0**
JFR				S		**Sn**		**18 42 08.0**	**+0.5**
JAH	**Hinai**	**1.69**	**217**	↓*P*		**Pn**		**18 41 46.0**	**-0.9**
JAH				*eS*		**Sn**		**18 42 06.5**	**-1.0**
JIW	**Iwasaki**	**1.75**	**238**	↓*P*		**Pn**		**18 41 47.0**	**-0.8**
JOSM	**Okushiri--Mats**	**1.93**	**287**	P		**Pn**		**18 41 49.4**	**-0.7**
JAB	**Ashibetsu**	**1.96**	**6**	↓*P*		**Pn**		**18 41 51.7**	**+1.1**
ASAJ	**Asahikawa**	**2.61**	**10**	P		**Pn**		**18 42 00.5**	**+1.1**
	216nm,0.3s,baz=220,slow=12,SNR=661								
ASAJ				S		**Sn**		**18 42 32.6**	**+2.7**
	185nm,0.3s,baz=319,slow=33,SNR=11								
GLVR	**Golovnino**	**3.42**	**49**	*c iP*		**Pn**		**18 42 09.9**	**-0.5**
GLVR				*i* S		**Sn**		**18 42 48.0**	**-1.7**
GLVR				pmax		pmax			
	comp=Z,2μm,0.4s								
GLVR				pmax		pmax			
	comp=E,3μm,0.3s								
GLVR				pmax		pmax			
	comp=N,1μm,0.2s								
GLVR				smax		smax			
	comp=N,8μm,0.3s								
GLVR				smax		smax			
	comp=E,8μm,0.3s								
GRPR	**Tuman**	**3.72**	**48**	*eP*		**Pn**		**18 42 13.8**	**-0.7**
GRPR				*i* S		**Sn**		**18 42 54.7**	**-2.5**
GRPR				pmax		pmax			
	comp=N,502nm,0.2s								
GRPR				pmax		pmax			
	comp=E,498nm,0.2s								
GRPR				pmax		pmax			
	comp=Z,1μm,0.2s								
GRPR				smax		smax			
	comp=N,3μm,0.4s								
GRPR				smax		smax			
	comp=E,4μm,0.4s								
LAGR	**Lagunnoye**	**3.77**	**47**	*c iP*		**Pn**		**18 42 15.2**	**0.0**
LAGR				*i* S		**Sn**		**18 42 57.0**	**-1.3**
LAGR				pmax		pmax			
	comp=Z,3μm,0.3s								
LAGR				pmax		pmax			
	comp=N,3μm,0.4s								
LAGR				pmax		pmax			
	comp=E,1μm,0.4s								
LAGR				smax		smax			
	comp=N,5μm,0.5s								
LAGR				smax		smax			
	comp=E,10μm,0.6s								
YUK	**Yuzh-Kuril'sk**	**3.80**	**48**	*c iP*		**Pn**		**18 42 14.9**	**-0.7**
YUK				*i* S		**Sn**		**18 42 56.7**	**-2.3**
YUK				pmax		pmax			
	comp=Z,2μm,0.2s								
YUK				pmax		pmax			
	comp=N,457nm,0.3s								
YUK				pmax		pmax			
	comp=E,409nm,0.3s								
YUK				smax		smax			
	comp=N,7μm,0.5s								
YUK				smax		smax			
	comp=E,2μm,0.6s								
SHO	**Shikotan**	**4.28**	**56**	*d iP*		**Pn**		**18 42 18.7**	**-3.4**
SHO				*i* S		**Sn**		**18 43 03.6**	**-7.1**
SHO				pmax		pmax			
	comp=Z,671nm,0.4s								
SHO				pmax		pmax			
	comp=E,556nm,0.3s								
SHO				pmax		pmax			
	comp=N,336nm,0.2s								
SHO				smax		smax			
	comp=N,3μm,0.4s								
SHO				smax		smax			
	comp=E,3μm,0.4s								
JSD	**Sado**	**4.51**	**220**	P		**Pn**		**18 42 25.6**	**+0.2**
TEY	**Ternei**	**5.23**	**314**	*eP*		**Pn**		**18 42 38.8**	**+3.6**
TEY				pmax		pmax			
	comp=Z,3μm,4.0s								
TEY				pmax		pmax			
	comp=E,60nm,0.8s								
TEY				pmax		pmax			
	comp=Z,131nm,0.8s								
TEY				MLR		MLR			
	comp=Z,4μm,10.0s								
YSS	**Yuzh-Sakhalins**	**5.43**	**6**	*e*Pn		**Pn**		**18 42 39.7**	**+1.8**
YSS	**Yuzh-Sakhalins**	**5.43**	**6**	*e*P		**Pn**		**18 42 40.5**	**+2.6**
YSS				*eS*		**Sn**		**18 43 40.1**	**+1.1**
YSS				pmax		pmax			
	comp=N,60nm,0.5s								
YSS				pmax		pmax			
	comp=Z,60nm,0.5s								
YSS				pmax		pmax			
	comp=Z,300nm,2.3s								
YSS				smax		smax			
	comp=E,700nm,3.6s								
YSS				MLR		MLR			
	comp=Z,2μm,11.0s								
YSS				MLR		MLR			
	comp=N,2μm,12.0s								
KUR	**Kuril'sk**	**5.67**	**47**	*eP*		**Pn**		**18 42 41.0**	**-0.1**
KUR				*eS*		**Sn**		**18 43 43.5**	**-1.2**
KUR				pmax		pmax			
	comp=E,639nm,1.0s								
KUR				pmax		pmax			
	comp=E,151nm,0.3s								
KUR				pmax		pmax			
	comp=N,265nm,0.6s								
KUR				pmax		pmax			
	comp=Z,2μm,1.2s								
KUR				pmax		pmax			
	comp=E,544nm,0.9s								
KUR				pmax		pmax			
	comp=N,843nm,1.3s								
KUR				smax		smax			
	comp=N,732nm,0.6s								
KUR				smax		smax			
	comp=E,264nm,0.5s								
KUR				smax		smax			
	comp=E,5μm,7.0s								
KUR				smax		smax			
	comp=N,4μm,5.0s								
MJB9	**Matsu-Tunnel**	**5.79**	**211**	*e*Pn		**Pn**		**18 42 44.2**	**+1.4**
MAJO	**Matsushiro**	**5.79**	**211**	*e*Pn		**Pn**		**18 42 44.2**	**+1.4**
MAJO	**Matsushiro**	**5.79**	**211**	*c iP*		**Pn**		**18 42 44.2**	**+1.4**
MAT	**Matsushiro**	**5.79**	**211**	P		**Pn**		**18 42 44.4**	**+1.6**
MAT				*eS*		**Sn**		**18 43 53.0**	**+5.2**
MAT	**Matsushiro**	**5.79**	**211**	P		**Pn**		**18 42 44.1**	**+1.3**
MJAR	**Matsushiro Arr**	**5.79**	**211**	P		**Pn**		**18 42 44.0**	**+1.2**
	comp=N,12nm,0.3s,baz=22,slow=16,SNR=97								
MJAR				LR		LR		18 45 20.5	
	comp=N,2μm,21.0s,baz=45,slow=42								
JNG	**Nsakai**	**5.95**	**212**	↑*P*		**Pn**		**18 42 46.8**	**+1.7**
JGN	**Niukaw**	**6.43**	**216**	P		**Pn**		**18 42 54.3**	**+2.6**
INU	**Inuyama**	**7.30**	**214**	*e*Pn		**Pn**		**18 43 05.2**	**+1.7**
VLA	**Vladivostok**	**7.62**	**285**	*de*P		**Pn**		**18 43 09.3**	**+1.4**
USRK	**Ussuriysk Ar.**	**7.78**	**293**	P		**Pn**		**18 43 11.0**	**+0.9**
	comp=N,7.6nm,0.3s,baz=100,slow=15,SNR=98								
USRK				LR		LR		18 46 15.4	
	comp=N,2μm,18.5s,baz=89,slow=38								
MSHR	**Mys Shultsa**	**8.10**	**281**	*c iP*		**Pn**		**18 43 16.1**	**+1.7**
JHJ	**Hachijo jima 2**	**8.59**	**192**	P		**Pn**		**18 43 19.6**	**-1.5**
	comp=N,51nm,0.3s,baz=258,slow=22,SNR=16								
JHJ				S		Sn		18 44 46.0	-10
	comp=N,25nm,0.3s,baz=93,slow=14,SNR=2.5								
JHJ2	**Mitsune**	**8.59**	**192**	*e*Pn		**Pn**		**18 43 19.6**	**-1.5**
TYV	**Tymovskoe**	**9.33**	**3**	*e*P		**Pn**		**18 43 33.2**	**+2.1**
TYV				*eS*		**Sn**		**18 45 13.7**	**-0.7**
TYV				pmax		pmax			
	comp=Z,39nm,1.0s								
TYV				smax		smax			
	comp=E,30nm,2.2s								
MDJ	**Mudanjiang**	**9.55**	**293**	P		**Pn**		**18 43 34.5**	**+0.3**
MDJ				sP				18 43 53.5	
MDJ				S		**Sn**		**18 45 20.3**	**+0.4**
MDJ				PcP		**PcP**		**18 49 47.0**	**+1.2**
MDJ				ScP		**ScP**		**18 53 12.0**	**-0.1**
MDJ				PcS		**PcS**		**18 53 20.0**	**+1.0**
MDJ				ScS		**ScS**		**18 56 44.8**	**-1.6**
MDJ				pmax		pmax			
	comp=E,180nm,0.8s								
MDJ				pmax		pmax			
	comp=E,530nm,3.7s								
MDJ				LR		LR			
	comp=E,910nm,14.7s								
MDJ				LR		LR			
	comp=E,2μm,18.3s								
MDJ				LR		LR			
	comp=E,4μm,20.7s								
GRNR	**Gornyy**	**9.98**	**339**	*eP*		**Pn**		**18 43 42.7**	**+2.6**
GRNR				pmax		pmax			
	comp=N,130nm,1.0s								
GRNR				pmax		pmax			
	comp=E,84nm,1.0s								
GRNR				pmax		pmax			
	comp=Z,160nm,1.0s								
KLR	**Kul'dur**	**10.50**	**320**	P		**Pn**		**18 43 49.6**	**+2.4**
	comp=Z,0.1nm,0.3s,baz=125,slow=15,SNR=58								
KLR				LR		LR		18 47 56.6	
	comp=Z,259nm,20.0s,baz=132,slow=38								
KSRS	**Korea Array**	**11.58**	**254**	P		**Pn**		**18 44 04.4**	**+2.5**
	comp=Z,6.9nm,0.3s,baz=64,slow=12,SNR=74								
KSRS				LR		LR		18 48 05.9	
	comp=Z,1μm,21.1s,baz=66,slow=35								
KS01	**Wonju Array Si**	**11.59**	**254**	*e*Pn		**Pn**		**18 44 05.4**	**+3.3**
KS15	**Wonju Array Si**	**11.62**	**254**	*e*Pn		**Pn**		**18 44 04.8**	**+2.4**
KSAR	**Wonju Array Be**	**11.62**	**254**	P		**Pn**		**18 44 04.5**	**+2.1**
KSAR	**Wonju Array Be**	**11.62**	**254**	P		**Pn**		**18 44 04.5**	**+2.1**
NKL	**Nikolayevsk**	**11.64**	**356**	*eP*		**Pn**		**18 44 03.0**	**+0.4**
NKL				pmax		pmax			
	comp=N,500nm,7.0s								
NKL				pmax		pmax			
	comp=Z,500nm,7.0s								
NKL				pmax		pmax			
	comp=N,55nm,1.1s								
NKL				pmax		pmax			
	comp=Z,77nm,1.1s								
NKL				MLR		MLR			
	comp=N,500nm,12.0s								
NKL				MLR		MLR			
	comp=Z,1μm,12.0s								
OKH	**Okha**	**12.03**	**3**	*eP*		**Pn**		**18 44 05.2**	**-2.7**
OKH				*eS*		**Sn**		**18 46 22.0**	**+1.9**
OKH				pmax		pmax			
	comp=Z,100nm,6.6s								
OKH				smax		smax			
	comp=E,300nm,11.0s								
OKH				MLR		MLR			
	comp=Z,1μm,18.5s								
JNU	**Nakatsue**	**12.17**	**230**	P		**Pn**		**18 44 10.6**	**+0.5**
	comp=Z,2.0nm,0.3s,baz=120,slow=2.8,SNR=18								
JNU				LR		LR		18 48 42.0	
	comp=Z,1μm,20.9s,baz=42,slow=36								
CN2	**Changchun**	**12.36**	**286**	*eP*		**Pn**		**18 44 15.5**	**+3.0**
CN2				*epP*		P		18 44 24.8	+2.5
CN2				*eS*		**Sn**		**18 46 31.8**	**+3.4**
CN2				pmax		pmax			
	comp=Z,10.0nm,0.7s								
CN2				pmax		pmax			
	comp=Z,400nm,7.0s								
CN2				LR		LR			
	comp=Z,850nm,15.0s								
CN2				LR		LR			
	comp=Z,2μm,17.0s								
CN2				LR		LR			
	comp=Z,2μm,16.0s								
SKR	**Severo-Kuril's**	**13.39**	**42**	*eP*		Pn		18 44 16.8	-10
SKR				pmax		pmax			
	comp=Z,19nm,0.6s								
SKR				MLR		MLR			
	comp=Z,600nm,14.0s								
SKR				MLR		MLR			
	comp=Z,800nm,16.0s								
SNY	**Shenyang**	**13.74**	**277**	↓*P*		**Pn**		**18 44 34.0**	**+2.8**
SNY				pmax		pmax			
	comp=Z,21nm,1.1s								
SNY				pmax		pmax			
	comp=Z,200nm,5.3s								
SNY				LR		LR			
	comp=Z,630nm,15.7

PETK Petropavlovsk- 15.70 37 ePn Pn 18 44 52.1 -4.3
DL2 Dalian 15.75 267 P Pn 18 44 58.0 +0.8
DL2 sP sP 18 45 18.0 -3.8
DL2 S Sn 18 47 46.5 -4.2
DL2 pmax pmax
comp=E,130nm,1.0s
DL2 pmax pmax
comp=E,270nm,5.3s
DL2 LR LR
comp=E,510nm,20.0s
DL2 LR LR
comp=E,590nm,24.0s
DL2 LR LR
comp=E,1µm,28.6s
PET Petropavlovsk 16.08 39 ePn Pn 18 44 59.6 -1.7
comp=E,64nm,1.6s
PET Petropavlovsk 16.08 39 eP Pn 18 44 56.2 -5.1
PET eS Sn 18 47 54.9 -3.7
PET pmax pmax
comp=Z,100nm,13.6s
PET MLR MLR
comp=Z,800nm,16.0s
JOW Kunigami 18.50 222 P P 18 45 29.6 -0.8
comp=Z,4.8nm,0.3s,baz=87,slow=5.3,SNR=6.9
JOW LR LR 18 53 01.9
comp=Z,753nm,21.0s,baz=64,slow=38
JOW Kunigami 18.50 222 eP P 18 45 29.2 -1.2
comp=Z,106nm,1.3s
CLNS Chul'man 18.85 330 eP Pn 18 45 35.9 +0.7
CLNS pmax pmax
comp=Z,44nm,0.8s
CLNS pmax pmax
comp=N,32nm,0.8s
CLNS pmax pmax
comp=E,19nm,0.8s
CLNS MLR MLR
comp=Z,870nm,15.0s
CLNS MLR MLR
comp=N,703nm,17.0s
CLNS MLR MLR
comp=E,637nm,16.0s
MA2 Magadan 18.87 14 P P 18 45 32.1 -2.0
comp=E,1.8nm,0.3s,baz=212,slow=10,SNR=10
MA2 LR LR 18 53 53.5
comp=E,416nm,19.0s,baz=203,slow=40
MA2 Magadan 18.87 14 eP P 18 45 32.1 -2.0
comp=E,42nm,0.8s
MA2 Magadan 18.87 14 eP P 18 45 33.2 -1.0
BJI Beijing 19.56 274 P P 18 45 41.8 0.0
BJI pP pP 18 45 53.5 -2.1
BJI sP sP 18 46 02.8 -1.1
BJI S S 18 49 15.5 -3.6
BJI pmax pmax
comp=E,140nm,0.7s
BJI LR LR
comp=E,1µm,15.3s
BJI LR LR
comp=E,1µm,25.7s
BJI LR LR
comp=E,3µm,27.5s
TIA Tai'an 20.02 263 P P 18 45 45.5 -1.4
TIA S S 18 49 21.8 -6.6
TIA pmax pmax
comp=E,49nm,0.7s
TIA pmax pmax
comp=E,260nm,3.6s
TIA LR LR
comp=E,570nm,18.2s
TIA LR LR
comp=E,420nm,29.8s
TIA LR LR
comp=E,1µm,29.6s
NJ2 Nanjing 20.73 250 eP P 18 45 54.0 -0.6
NJ2 S S 18 49 38.0 -4.4
NJ2 pmax pmax
comp=E,22nm,0.5s
NJ2 pmax pmax
comp=E,260nm,5.4s
NJ2 LR LR
comp=E,670nm,15.4s
NJ2 LR LR
comp=E,1µm,16.9s
NJ2 LR LR
comp=E,1µm,15.6s
YAK Yakutsk 21.80 344 P P 18 46 03.3 -2.5
comp=E,91nm,0.6s,baz=172,slow=0.6,SNR=41
YAK S S 18 49 58.0 -4.9
comp=E,22nm,0.7s,baz=297,slow=22,SNR=8.7
YAK LR LR 18 55 02.5
comp=E,713nm,19.0s,baz=94,slow=38
YAK Yakutsk 21.80 344 c iP P 18 46 02.5 -3.2
YAK eS S 18 49 57.3 -5.6
YAK e 18 50 00.8
YAK e*SS sS 18 50 23.9 -2.0
YAK e 18 57 12.6
YAK pmax pmax
comp=Z,46nm,0.8s
YAK pmax pmax
comp=N,18nm,1.0s
YAK pmax pmax
comp=E,6.0nm,0.9s
YAK smax smax
comp=N,192nm,2.5s
YAK smax smax
comp=E,228nm,2.3s
CIT Chita 21.95 308 eP P 18 46 05.6 -2.0
CIT e 18 46 27.9
CIT e 18 46 35.2
CIT e 18 46 45.9
SEY Seymchan 22.29 13 P P 18 46 08.7 -2.4
comp=E,13nm,0.6s,baz=187,slow=8.6,SNR=78
HHC Hu-ho-hao-te 22.82 278 eP P 18 46 14.8 -2.3
HHC pP pP 18 46 27.5 -3.7
HHC sP sP 18 46 34.5 -4.9
HHC S S 18 50 13.5 -7.9
HHC pmax pmax
comp=E,51nm,0.8s
HHC pmax pmax
comp=E,190nm,4.0s
HHC LR LR
comp=E,3µm,11.1s
HHC LR LR
comp=E,5µm,12.2s
HHC LR LR
comp=E,4µm,11.7s
TIY Taiyuan 23.00 270 eP P 18 46 14.5 -4.4
TIY S S 18 50 25.8 +1.5
TIY SS SnSn 18 51 12.5 +10
TIY pmax pmax
comp=E,170nm,6.7s
TIY LR LR
comp=E,340nm,13.9s
TIY LR LR
comp=E,210nm,11.7s
TIY LR LR
comp=E,480nm,20.2s
TATO Taipei 23.70 232 eP P 18 46 21.9 -3.5
comp=E,94nm,0.9s
YHNB Yeheng 24.00 232 eP P 18 46 24.8 -3.3
comp=E,29nm,0.6s
BTO Baotou 24.02 278 eP P 18 46 17.5 -11
BOD Bodaibo 24.07 322 eP P 18 46 26.9 -1.6
BOD pmax pmax
comp=Z,41nm,0.9s
WHN Wuhan 24.77 253 ||P P 18 46 35.5 +0.4
WHN S S 18 50 43.3 -9.4
WHN pmax pmax
comp=Z,62nm,0.7s
WHN LR LR
comp=Z,1µm,11.3s
WHN LR LR
comp=Z,2µm,15.9s
WHN LR LR
comp=Z,2µm,18.9s
SSLB Suanglung 24.91 231 eP P 18 46 33.7 -2.8
comp=Z,32nm,1.0s
YULB Yu-li 25.02 230 eP P 18 46 34.3 -3.1
comp=Z,96nm,1.9s
ULN Ulaanbaatar 25.44 296 eP P 18 46 40.1 -1.1
comp=Z,32nm,0.8s
ULN Ulaanbaatar 25.44 296 P P 18 46 41.5 +0.3
SNR=17
ULN Ulaanbaatar 25.44 296 P P 18 46 41.5 +0.3
SNR=17
ULN Ulaanbaatar 25.44 296 c iP P 18 46 40.3 -0.9
ULN pmax pmax
comp=Z,36nm,0.8s
TPUB Ta-pu 25.48 231 eP P 18 46 40.2 -1.4
comp=Z,244nm,1.9s
QZH Quanzhou 25.49 237 eP P 18 46 43.5 +1.9
QZH S S 18 51 04.3 +0.1
QZH LR LR
comp=Z,610nm,27.5s
TWG Pinlang 25.59 230 eP P 18 46 42.1 -0.5
comp=Z,101nm,0.5s
SONA1 Songino Array 25.88 296 eP P 18 46 44.3 -0.9
SONM Songino Array 25.88 296 P P 18 46 45.1 -0.1
comp=Z,30nm,0.7s,baz=104,slow=10.0,SNR=102
SONM ScP ScP 18 53 46.8 +0.5
comp=Z,1.0nm,0.8s,baz=110,slow=2.1,SNR=3.7
SONM LR LR 18 57 43.5
comp=Z,1µm,18.9s,baz=90,slow=38
XAN Xi'an 27.04 265 P P 18 46 53.8 -1.8
XAN pP pP 18 47 09.5 -1.9
XAN sP sP 18 47 18.3 -0.8
XAN PP PnPn 18 47 40.8 -0.6
XAN S S 18 51 28.8 +0.1
XAN sS sS 18 51 57.8 +2.1
XAN SS SnSn 18 52 48.3 +7.6
XAN pmax pmax
comp=Z,19nm,0.7s
XAN LR LR
comp=Z,300nm,17.1s
XAN LR LR
comp=Z,380nm,15.7s
XAN LR LR
comp=Z,350nm,16.3s
IRK Irkutsk 27.58 306 eP P 18 46 59.6 -0.7
IRK e 18 47 19.2
IRK pmax pmax
comp=Z,79nm,2.9s
TLY Talaya 27.90 304 P P 18 47 03.7 +0.6
comp=Z,13nm,0.7s,baz=98,slow=4.4,SNR=37
TLY Talaya 27.90 304 c iP P 18 47 03.2 +0.1
TLY eS S 18 51 42.8 +0.9
TLY pmax pmax
comp=Z,39nm,1.4s
TLY MLR MLR
comp=Z,681nm,16.0s
GUMO Guam 27.97 174 P P 18 47 03.0 -1.0
comp=Z,41nm,0.8s,baz=218,slow=19,SNR=3.2
GUMO LR LR 18 56 50.4
comp=Z,238nm,20.9s,baz=12,slow=33
GUMO Guam 27.97 174 P P 18 47 03.0 -1.0
GUMO pmax pmax
comp=Z,41nm,0.8s
GUMO MLR MLR
comp=Z,238nm,20.9s
ZAK Zakamensk 28.02 302 eP P 18 47 04.1 -0.2
ZAK pmax pmax
comp=Z,16nm,1.2s
MOY Mondy 29.54 304 eP P 18 47 18.5 +0.7
MOY pmax pmax
comp=Z,46nm,1.7s
BILL Bilibino 29.60 18 c iP P 18 47 17.3 -0.7
BILL i 18 47 37.4
BILL i S S 18 52 06.0 -2.2
BILL pmax pmax
comp=Z,7.0nm,0.8s
BILL MLR MLR
comp=Z,524nm,20.0s
LZH Lanzhou 30.02 272 ||P P 18 47 22.5 +0.3
LZH pP pP 18 47 37.8 -0.3
LZH sP sP 18 47 45.5 -0.3
LZH PP PnPn 18 48 21.0 -0.4
LZH S S 18 52 16.5 +0.8
LZH sS sS 18 52 39.0 -3.9
LZH SS SnSn 18 53 53.5 +0.2
LZH pmax pmax
comp=Z,44nm,1.1s
LZH pmax pmax
comp=Z,360nm,5.7s
LZH LR LR
comp=Z,2µm,15.4s
LZH LR LR
comp=Z,2µm,15.8s
LZH LR LR
comp=Z,2µm,17.4s
H11N2 WAKE ISLAND Hy 30.36 128 T T 19 18 57.6
baz=325,slow=75
H11N1 WAKE ISLAND Hy 30.37 128 T T 19 19 56.1
baz=325
H11N3 WAKE ISLAND Hy 30.38 128 T T 19 19 32.0
baz=325,slow=75
TIXI Tiksi 30.87 352 P P 18 47 27.0 -2.2
comp=Z,2.9nm,0.6s,baz=6.6,slow=1.1,SNR=6.8
TIXI Tiksi 30.87 352 eP P 18 47 26.9 -2.2
comp=Z,5.0nm,0.7s
TIXI Tiksi 30.87 352 ||eP P 18 47 27.0 -2.2
TIXI pmax pmax
comp=Z,4.0nm,0.7s
H11S1 WAKE ISLAND Hy 31.20 130 T T 19 20 09.2
baz=324,slow=76,SNR=1049
H11S3 WAKE ISLAND Hy 31.21 130 T T 19 20 16.8
baz=324,slow=76,SNR=652
H11S2 WAKE ISLAND Hy 31.22 130 T T 19 20 14.3
baz=324,slow=76,SNR=744
GTA Gaotai 31.90 280 eP P 18 47 38.0 -0.7
GTA pP pP 18 47 52.5 -2.2
GTA sP sP 18 48 00.0 -2.4
GTA PcP PcP 18 50 28.5 +0.7
GTA S S 18 52 43.0 -2.0
GTA ScP ScP 18 54 06.3 +0.9
GTA PcS PcS 18 54 14.0 +1.4
GTA ScS ScS 18 58 03.5 -0.5
GTA pmax pmax
comp=Z,20nm,0.9s
GTA pmax pmax
comp=Z,1µm,6.4s
GTA LR LR
comp=Z,500nm,18.5s
GTA LR LR
comp=Z,800nm,18.8s
GTA LR LR
comp=Z,980nm,19.2s
CD2 Chengdu 32.35 263 eP P 18 47 42.5 -0.2
GYA Guiyang 32.64 254 P P 18 47 44.0 -1.4
GYA pP pP 18 48 03.5 +2.2
GYA sP sP 18 48 11.0 +2.0
GYA PP PnPn 18 48 56.8 +1.6
GYA PcP PcP 18 50 32.0 +2.0
GYA S S 18 52 55.5 -1.3
GYA sS sS 18 53 25.5 +1.5
GYA SS SnSn 18 54 56.0 -1.2
GYA pmax pmax
comp=Z,20nm,0.8s
GYA pmax pmax
comp=Z,130nm,5.3s
GYA LR LR
comp=Z,560nm,17.6s
GYA LR LR
comp=Z,640nm,18.0s
GYA LR LR
comp=Z,540nm,17.8s
KRAR Krasnoyarsk 34.63 312 ||eP P 18 48 02.3 +0.2
QIZ Qiongzhong 35.35 240 P P 18 48 09.0 +0.3
QIZ S S 18 53 39.3 +0.8
QIZ pmax pmax
comp=Z,330nm,2.6s
QIZ LR LR
comp=Z,420nm,20.1s
QIZ LR LR
comp=Z,430nm,16.2s
QIZ LR LR
comp=Z,400nm,18.6s
KMI Kunming 36.28 256 P P 18 48 17.0 +0.1
KMI pP pP 18 48 34.8 +1.8
KMI sP sP 18 48 44.0 +3.4
KMI S S 18 53 48.5 -4.5
KMI SS SnSn 18 56 21.5 -3.8
KMI pmax pmax
comp=Z,15nm,0.6s
KMI pmax pmax
comp=Z,140nm,3.1s
KMI LR LR
comp=Z,390nm,24.7s
KMI LR LR
comp=Z,410nm,21.3s
KMI LR LR
comp=Z,570nm,23.9s
DAV Davao City (W) 37.29 208 P P 18 48 24.1 -1.2
comp=Z,372nm,0.4s,baz=206,slow=3.5,SNR=5.3
DAV LR LR 19 03 27.9
comp=Z,109nm,20.8s,baz=16,slow=36
DAV Davao City (W) 37.29 208 eP P 18 48 23.1 -2.1
comp=Z,372nm,0.4s
DAV eS S 18 54 07.6 -0.5
ZAA0 Zalesovo Array 39.31 308 eP P 18 48 41.5 -0.3
comp=Z,56nm,0.8s
ZALV Zalesovo Beam 39.31 308 P P 18 48 41.8 -0.1
comp=Z,54nm,0.6s,baz=90,slow=7.7,SNR=192
ZALV PcP PcP 18 50 49.5 +0.3
comp=Z,14nm,0.6s,baz=100,slow=2.9,SNR=7.3
ZALV ScP ScP 18 54 31.7 -0.2
comp=Z,1.2nm,0.7s,baz=93,slow=2.9,SNR=3.4
ZALV LR LR 19 05 57.7
comp=Z,709nm,18.9s,baz=68,slow=38
WMQ Urumqi 39.35 292 P P 18 48 43.3 +0.9
WMQ pP pP 18 48 59.3 +0.6
WMQ sP sP 18 49 06.0 -0.3
WMQ S S 18 54 39.8 +0.9
WMQ SS SS 18 57 28.5 -6.0
WMQ pmax pmax
comp=Z,620nm,3.7s
WMQ LR LR
comp=Z,810nm,16.1s
WMQ LR LR
comp=Z,3µm,15.5s
WMQ LR LR
comp=Z,2µm,17.9s
NVS Novosibirsk 40.14 310 eP P 18 48 49.0 +0.3
NVS eS S 18 54 40.9 -9.4
NVS pmax pmax
comp=N,8.0nm,0.8s
NVS pmax pmax
comp=E,15nm,0.8s
NVS pmax pmax
comp=Z,31nm,0.8s
NVS smax smax
comp=N,7.0nm,1.3s
NVS smax smax
comp=E,30nm,2.8s
SKNT Sakolnakorn 40.71 245 P P 18 48 53.2 -0.7
comp=E,24nm,0.8s
ZIRO ZIRO 41.51 266 eP P 18 49 00.8 +0.2
MOKO MOKOCHONG 41.66 264 eP P 18 49 02.5 +0.8
ITAN ITANAGAR 41.81 266 eP P 18 49 03.1 +0.3
MYLDM Lahad Datu 41.83 216 epP pP 18 49 19.2 -0.3
KHON Khomkaen 41.95 245 P P 18 49 04.1 +0.1
comp=E,61nm,0.8s,comp=E,584nm
PAYA Payao 41.95 251 P P 18 49 05.2 +1.2
comp=E,25nm,0.8s,comp=E,173nm
CMAI Chiengmai2 42.17 253 P P 18 49 07.5 +1.5
comp=E,262nm,0.8s,comp=E,10µm
MK01 Makanchi Array 42.22 298 eP P 18 49 05.3 -0.6
MK31 Makanchi Array 42.22 298 eP P 18 49 05.4 -0.5
MK31 Makanchi Array 42.22 298 eP P 18 49 05.4 -0.5
MKAR Makanchi Array 42.22 298 P P 18 49 06.1 +0.2
comp=E,37nm,0.7s,baz=83,slow=12,SNR=241
MKAR PcP PcP 18 50 59.4 +0.6
comp=E,3.9nm,0.5s,baz=75,slow=5.1,SNR=5.1
MKAR ScP ScP 18 54 43.9 +0.3
comp=E,1.0nm,0.8s,baz=81,slow=4.5,SNR=3.9
MKAR LR LR 19 08 09.3
comp=E,510nm,18.4s,baz=90,slow=38
MKAR Makanchi Array 42.22 298 eP P 18 49 05.4 -0.5
comp=E,304nm,0.6s
MKAR PcP PcP 18 50 59.4 +0.6
MKAR ScP ScP 18 54 43.9 +0.3
MKAR Makanchi Array 42.22 298 eP P 18 49 05.4 -0.5
MKAR 18 50 59.4
KOHI KOHIMA 42.30 264 eP P 18 49 04.8 -2.2
LSA Lhasa 42.40 271 P P 18 49 08.8 +0.7
LSA pmax pmax
comp=E,34nm,1.4s
LSA Lhasa 42.40 271 P P 18 49 09.3 +1.1
MAKZ Makanchi 42.42 298 eP P 18 49 07.7 +0.1
comp=E,91nm,1.2s
MAKZ Makanchi 42.42 298 i P P 18 49 07.1 -0.5
MAKZ pmax pmax
comp=Z,36nm,0.7s
IM3 Indian Mountai 42.60 33 eP P 18 49 09.0 +0.3
LAMP Lampang 42.67 250 P P 18 49 10.7 +0.8
comp=Z,14nm,0.7s,comp=Z,117nm
TEZP TEZPUR 42.78 266 eP P 18 49 10.9 +0.2
CHAI Chaiyaphum 42.82 245 P P 18 49 10.8 -0.3
comp=Z,32nm,0.7s,comp=Z,304nm
IMP Imphal 42.92 263 eP P 18 49 10.4 -1.5
CMMT Chiang Mai 42.97 251 P P 18 49 11.5 -0.8
comp=Z,37nm,0.7s,comp=Z,415nm
CHTO Chiang Mai 42.97 251 P P 18 49 12.6 +0.3
comp=Z,163nm,0.7s,comp=Z,2µm
CHTO Chiang Mai 42.97 251 eP P 18 49 12.3 0.0
comp=Z,26nm,0.6s
CHTO Chiang Mai 42.97 251 P P 18 49 13.2 +0.9
SNR=7.3
CHTO Chiang Mai 42.97 251 P P 18 49 13.2 +0.9
SNR=7.3
CHTO Chiang Mai 42.97 251 eP P 18 49 12.3 0.0
CHTO pmax pmax
comp=Z,27nm,0.6s
PHIT Phitsanulok 43.02 248 P P 18 49 13.3 +0.6
comp=Z,34nm,0.8s,comp=Z,257nm
PBKT Sadao Pong 43.06 247 P P 18 49 12.2 -0.8
comp=Z,21nm,1.1s,comp=Z,544nm
CM31 Chiang Mai Arr 43.20 251 eP P 18 49 14.7 +0.5
CMAR Chiang Mai Arr 43.20 251 P P 18 49 14.4 +0.2
comp=Z,6.7nm,0.7s,baz=42,slow=7.9,SNR=60
CMAR PcP PcP 18 51 03.8 +1.3
comp=Z,2.1nm,0.9s,baz=26,slow=5.0,SNR=4.6
CMAR ScP ScP 18 54 49.0 +1.1
comp=Z,0.8nm,0.7s,baz=30,slow=3.1,SNR=4.4
CMAR LR LR 19 07 51.9
comp=Z,285nm,20.5s,baz=58,slow=37
CMAR Chiang Mai Arr 43.20 251 P P 18 49 14.4 +0.2
CMAR 18 51 03.8
CMAR pmax pmax
comp=Z,6.0nm,0.6s
CMAR MLR MLR
comp=Z,285nm,20.5s
CM01 Chiang Mai Arr 43.22 251 eP P 18 49 13.5 -0.8
OHAK Old Harbor 43.23 46 eP P 18 49 17.0 +3.0
comp=Z,61nm,1.3s
PPLA Purkeypile 43.28 38 eP P 18 49 16.4 +2.0
comp=Z,85nm,1.4s
CAST Castle Rocks 43.31 37 eP P 18 49 16.3 +1.8
comp=Z,34nm,1.1s
KDAK Kodiak Island 43.54 45 P P 18 49 16.7 +0.3
comp=Z,12nm,0.8s,baz=87,slow=1.9,SNR=10
KDAK Kodiak Island 43.54 45 i P P 18 49 17.1 +0.7
KURK Kurchatov 43.60 305 P P 18 49 17.6 +0.7
KURK PcP PcP 18 51 03.8 +0.4
KURK Kurchatov 43.60 305 c iP P 18 49 16.7 -0.3
KURK pmax pmax
comp=Z,70nm,0.7s
KURBB Kurchatov Arra 43.67 304 P P 18 49 17.6 +0.1
comp=Z,81nm,0.6s,baz=78,slow=8.8,SNR=429
KURBB PcP PcP 18 51 03.8 +0.1
comp=Z,7.4nm,0.7s,baz=69,slow=3.7,SNR=4.3
BPAW Bear Paw Mtn. 43.77 36 eP P 18 49 19.6 +1.4
comp=Z,18nm,0.9s
KTH Kantishna Hill 43.83 37 eP P 18 49 20.4 +1.6
comp=Z,58nm,1.1s
KTH eS S 18 55 49.3 +4.8
GUWA GUWAHATI 43.84 266 eP P 18 49 18.3 -1.0
MLY Manley 43.85 34 eP P 18 49 20.4 +1.5
comp=Z,22nm,0.9s
LBMI Labuha 43.99 201 P P 18 49 21.9 +1.5
COLD Coldfoot 44.04 31 eP P 18 49 21.1 +0.7
comp=Z,14nm,1.2s
SHL Shillong 44.05 265 eP P 18 49 20.7 -0.4
SHL Shillong 44.05 265 eP P 18 49 22.0 +0.9
SHL Shillong 44.05 265 P P 18 49 20.7 -0.4
SHL pmax pmax
comp=Z,27nm,0.4s
TRF Thorofare Moun 44.12 37 eP P 18 49 22.7 +1.5
comp=Z,22nm,1.1s
SRAK Srakaew 44.13 243 P P 18 49 19.0 -2.6
comp=Z,93nm,0.8s,comp=Z,861nm
BRLK Bradley Lake 44.16 42 eP P 18 49 23.7 +2.3
comp=Z,80nm,1.8s
TOLK Toolik Lake Re 44.30 29 P P 18 49 23.2 +0.8
baz=269
TOLK Toolik Lake Re 44.30 29 eP P 18 49 22.9 +0.4
comp=Z,9.4nm,0.8s
NAYO Nakonayok 44.40 244 P P 18 49 24.7 +1.0
comp=Z,28nm,0.7s,comp=Z,2µm

AZL Aizawl 44.49 262 *e*P P 18 49 24.2 -0.3
RC01 Rabbit Creek A 44.58 40 *e*P P 18 49 26.0 +1.4
comp=Z,61nm,1.5s
MCK McKinley 44.70 36 *e*P P 18 49 26.4 +0.8
comp=Z,54nm,1.4s
MCK McKinley 44.70 36 *e*P P 18 49 26.4 +0.8
MCK pmax pmax
comp=Z,54nm,1.4s
MRSI Marisa 44.71 209 P P 18 49 27.4 +1.2
RND Reindeer 44.76 37 *e*P P 18 49 27.2 +1.0
comp=Z,39nm,1.3s
RND Reindeer 44.76 37 *e*P P 18 49 27.2 +1.0
RND pmax pmax
comp=Z,39nm,1.3s
PMR Palmer 44.81 39 *e*P P 18 49 27.4 +1.0
comp=Z,24nm,1.1s
PMR Palmer 44.81 39 *e*P P 18 49 27.5 +1.0
PMR pmax pmax
comp=Z,24nm,1.1s
CHBT CHBT 44.85 242 P P 18 49 34.6 +7.3
MDM Murphy Dome 44.92 34 *e*P P 18 49 28.7 +1.4
comp=Z,36nm,0.9s
SAIH SAIHA 45.01 261 *e*P P 18 49 27.5 -1.2
WRH Wood River Hil 45.01 35 *e*P P 18 49 29.6 +1.5
comp=Z,20nm,1.1s
COLA College 45.08 35 *i*P P 18 49 29.2 +0.6
COLA pmax pmax
comp=Z,47nm,1.0s
CCB Clear Creek Bu 45.12 35 *e*P P 18 49 25.3 -3.6
comp=Z,11nm,1.0s
FAKI Fak Fak 45.13 194 P P 18 49 29.5 0.0
SML Sawmill 45.16 39 *e*P P 18 49 30.2 +0.8
comp=Z,103nm,1.6s
SML Sawmill 45.16 39 *e*P P 18 49 30.2 +0.8
SML pmax pmax
comp=Z,103nm,1.6s
PDGK Podgornoye 45.17 294 P P 18 49 29.4 -0.4
PDGK pmax pmax
comp=Z,41nm,0.6s
TURI Tura 45.22 266 *e*P P 18 49 30.4 +0.2
DHY Denali Highway 45.46 37 *e*P P 18 49 32.4 +0.6
comp=Z,62nm,1.6s
IL1 Eielson Array 45.50 35 *e*P P 18 49 31.5 -0.5
ILAR Eielson Array 45.50 35 P P 18 49 32.6 +0.6
comp=Z,19nm,0.8s,baz=260,slow=4.8,SNR=135
ILAR LR LR 19 10 51.5
comp=Z,152nm,18.6s,baz=279,slow=39
ILB Eielson Array 45.50 35 *e*P P 18 49 32.5 +0.6
HDA Harding Lake 45.51 35 *e*P P 18 49 32.6 +0.6
comp=Z,37nm,1.2s
GTK Tadong 45.55 269 *e*P P 18 49 32.3 -0.7
GTK IAmb IAmb 18 49 36.2
comp=Z,26nm,0.7s
MPSI Mapaga 45.61 212 P P 18 49 34.0 +0.7
comp=Z,7.9nm,0.8s
SCM Sheep Creek Mo 45.63 39 *e*P P 18 49 34.1 +0.9
comp=Z,27nm,0.8s
SCM Sheep Creek Mo 45.63 39 *e*P P 18 49 34.1 +0.9
SCM pmax pmax
comp=Z,27nm,0.8s
BELO BELONIA 45.70 263 *e*P P 18 49 33.6 -0.4
FYU Fort Yukon 46.03 32 *e*P P 18 49 37.9 +1.8
comp=Z,105nm,1.6s
APSI Ampana 46.10 209 P P 18 49 38.1 +0.9
PAX Paxson 46.34 37 *e*P P 18 49 40.5 +1.9
comp=Z,5.6nm,0.7s
PAX Paxson 46.34 37 *e*P P 18 49 40.6 +1.9
PAX pmax pmax
comp=Z,6.0nm,0.7s
KLU Klutina 46.35 39 *e*P P 18 49 39.7 +1.0
comp=Z,22nm,0.8s
DIV Divide 46.48 40 *e*P P 18 49 41.9 +2.1
comp=Z,37nm,1.1s
RIDG Independ'e Rid 46.51 36 *e*P P 18 49 40.7 +0.7
comp=Z,20nm,0.8s
PHET Kaeng Krachan 46.54 245 P P 18 49 41.9 +1.2
comp=Z,21nm,0.8s,comp=Z,199nm
HARP HAARP 46.56 38 *e*P P 18 49 42.6 +2.3
comp=Z,37nm,0.8s
EYAK Cordova Ski Ar 46.59 40 *e*P P 18 49 42.9 +2.4
comp=Z,65nm,1.5s
ODAN Odare 46.71 270 *e*P P 18 49 42.2 0.0
comp=Z,92nm,0.6s
AAI Ambon 46.73 199 P P 18 49 43.5 +1.4
AAI Ambon 46.73 199 P P 18 49 42.3 +0.2
AAI pmax pmax
comp=Z,41nm,1.0s
PCI Palu 46.77 211 P P 18 49 42.8 +0.3
PCI Palu 46.77 211 P P 18 49 42.4 -0.1
PCI pmax pmax
comp=Z,32nm,1.0s
SCRK Sand Creek 46.85 36 *e*P P 18 49 42.8 +0.1
comp=Z,31nm,1.0s
DOT Dot Lake 46.87 36 *e*P P 18 49 43.0 +0.3
comp=Z,52nm,1.2s
BMRM Bremner River 47.07 40 *e*P P 18 49 46.5 +2.2
comp=Z,28nm,1.1s
MENT Mentasta 47.13 37 *e*P P 18 49 45.2 +0.4
comp=Z,78nm,1.8s
RAGM Ragged Mountai 47.14 40 *e*P P 18 49 47.4 +2.5
comp=Z,70nm,1.5s
BNDI Bandanaira 47.15 196 P P 18 49 47.4 +2.0
JIRN Jiri 47.18 271 *e*P P 18 49 46.1 +0.1
comp=Z,203nm,0.7s
SBUM Sibu 47.22 222 *e*P P 18 49 45.2 -0.8
comp=Z,11nm,1.3s
RAMN Ramite 47.25 270 *e*P P 18 49 46.1 -0.4
comp=Z,257nm,0.8s
GUN Gumba 47.28 272 *e*P P 18 49 46.5 -0.3
comp=Z,308nm,0.5s
KKN Kakani 47.79 272 *e*P P 18 49 50.5 -0.1
comp=Z,171nm,0.7s
PKIN Phulchoki 47.82 272 *e*P P 18 49 50.7 -0.2
comp=Z,49nm,0.5s
EGAK Eagle 47.93 34 *e*P P 18 49 51.5 +0.6
comp=Z,22nm,0.9s
BVA0 Borovoye Array 47.94 309 *i*P P 18 49 51.1 0.0
BVA0 pmax pmax
comp=Z,31nm,0.7s
BVAR Borovoye Array 47.94 309 P P 18 49 51.7 +0.6
comp=Z,39nm,0.5s,baz=73,slow=8.6,SNR=338
BVAR PcP PcP 18 51 19.3 +0.9
comp=Z,6.6nm,0.5s,baz=104,slow=3.8,SNR=3.0
BVAR LR LR 19 11 15.4
comp=Z,553nm,19.1s,baz=75,slow=37
TKM2 Tokmak 2 47.97 295 P P 18 49 53.3 +1.5
SNR=22
BRVK Borovoye 47.99 310*c* *i*P P 18 49 51.7 +0.2
BRVK pmax pmax
comp=Z,25nm,0.6s
DMN Daman 48.02 272 *e*P P 18 49 52.3 -0.1
comp=Z,90nm,0.7s
GKN Gorkha 48.16 273 *e*P P 18 49 53.1 -0.3
comp=Z,91nm,0.5s
OTUK Ortayu 48.22 303 P P 18 49 53.5 0.0
OTUK pmax pmax
comp=Z,36nm,0.9s
KBK Karagaybulak 48.52 295 P P 18 49 57.2 +1.2
SNR=8.0
CHMS Chumysh 48.52 295 P P 18 49 56.2 +0.4
SNR=12
KZA Kyzart 48.53 294 P P 18 49 59.0 +2.6
SNR=10.0
USP Ospenovka 48.59 296 P P 18 49 56.4 0.0
SNR=49
DANN Dangsing 48.64 274 *e*P P 18 49 57.7 +0.5
FRU Bishkek 48.67 295 *e*P P 18 49 56.5 -0.5
FRU *e* 18 50 14.0
FRU pmax pmax
comp=Z,80nm,2.0s
DAWY Dawson 48.82 35 *e*P P 18 49 59.2 +1.4
comp=Z,21nm,1.8s
AAK Ala-Archa 48.83 295 P P 18 49 59.3 +0.9
SNR=7.9
AAK Ala-Archa 48.83 295 P P 18 49 57.8 -0.6
SNR=12
AAK Ala-Archa 48.83 295 P P 18 49 57.8 -0.6
SNR=12
AAK Ala-Archa 48.83 295 *i*P P 18 49 59.3 +0.9
SNR=15
AAK Ala-Archa 48.83 295 *i*P P 18 49 58.2 -0.2
AAK pmax pmax
comp=Z,14nm,0.6s
MTKI Muara Teweh, K 48.88 217 P P 18 50 00.0 +1.2
UCH Uchtor 48.98 295 P P 18 50 01.4 +1.6
SNR=14
KSM Kuching 49.03 224 *e*P P 18 50 00.6 +0.6
comp=Z,28nm,0.9s
KOLN Koldanda 49.06 273 *e*P P 18 50 00.2 -0.2
comp=Z,96nm,0.7s
KSH Kashi 49.07 291 P P 18 50 04.5 +4.3
KSH pP pP 18 50 20.0 +3.0
KSH PP PP 18 51 56.8 +2.7
KSH S S 18 57 05.0 +4.7
KSH SS SS 19 00 33.5 +1.8
KSH pmax pmax
comp=Z,31nm,0.7s
KSH pmax pmax
comp=Z,190nm,2.8s
KSH LR LR
comp=Z,440nm,7.3s
KSH LR LR
comp=Z,280nm,8.6s
KSH LR LR
comp=Z,1μm,12.5s
EKS2 Erkin-Say 49.31 295 P P 18 50 01.9 0.0
SNR=66
PYUN Piuthan 49.35 274 *e*P P 18 50 02.5 0.0
comp=Z,185nm,0.7s
BOK Bokaro 49.54 267 *e*P P 18 50 02.5 -1.3
BOK IAmb IAmb 18 50 04.5
comp=Z,24nm,1.3s
AML Almayashu 49.58 295 P P 18 50 05.0 +0.7
SNR=38
STKI Sintang 49.63 222 P P 18 50 05.8 +1.3
BNSI Bone 49.89 209 P P 18 50 07.1 +0.7
INK Inuvik 50.21 29 P P 18 50 08.9 +0.8
comp=Z,32nm,0.4s,baz=299,slow=7.2,SNR=393
INK Inuvik 50.21 29 *e*P P 18 50 09.0 +0.8
comp=Z,40nm,0.5s
INK Inuvik 50.21 29 *e*P P 18 50 09.0 +0.8
INK pmax pmax
comp=Z,40nm,0.5s
MNAS Manas 50.24 296 P P 18 50 09.3 +0.2
MNAS pmax pmax
comp=Z,57nm,0.8s
HYT Haines Junctio 50.47 39 *e*P P 18 50 11.8 +1.3
comp=Z,53nm,1.0s
SFK Sufi-Kurgan 50.59 292 P P 18 50 11.6 -0.2
SFK pmax pmax
comp=Z,39nm,1.0s
PMG Port Moresby 50.93 173 LR LR 19 09 23.1
comp=Z,61nm,21.9s,baz=348,slow=33
DGPR DIGLIPUR 51.02 251 *e*P P 18 50 15.7 +0.7
PKDT Phuket 51.06 241 P P 18 50 16.3 +0.9
comp=Z,24nm,1.2s
KK31 Karatay Array 51.33 297 *e*P P 18 50 16.9 -0.2
KK31 Karatay Array 51.33 297 *i*P P 18 50 16.6 -0.5
KK31 pmax pmax
comp=Z,14nm,0.5s
KKAR Karatay Array 51.33 297 *e*P P 18 50 16.8 -0.3
KKAR Karatay Array 51.33 297 *e*P P 18 50 16.8 -0.3
KULM Kulim 51.54 237 *e*P P 18 50 19.6 +0.8
comp=Z,25nm,0.6s
WHY Whitehorse 51.75 39 *e*P P 18 50 22.4 +2.3
comp=Z,28nm,1.3s
DDI Dehra Dun 51.87 279 *e*P P 18 50 21.1 -0.2
IPM Ipoh 51.93 236 *e*P P 18 50 21.7 -0.1
comp=Z,130nm,1.9s
SVE Sverdlovsk 52.10 316*d* *i*P P 18 50 23.8 +1.2
SVE pmax pmax
comp=Z,37nm,0.8s
SVE MLR MLR
comp=Z,1μm,17.0s
SMLA Simla 52.11 281 *e*P P 18 50 23.0 0.0
DHRM DHARAMSHALA 52.19 282 *e*P P 18 50 22.8 -1.1
PBA Port Blair 52.19 250 *e*P P 18 50 23.9 +0.1
MYKOM Kota Tinggi 52.35 231 *e*P P 18 50 25.7 +0.8
comp=Z,15nm,0.7s
TPRI Tanjung Pinang 52.66 230 P P 18 50 28.7 +1.5
ARU Arti 53.32 317 *e*P P 18 50 30.6 -0.9
comp=Z,107nm,1.7s
ARU Arti 53.32 317*c* *i*P P 18 50 32.1 +0.5
ARU *PP pP 18 50 51.1 +2.6
ARU 18 51 37.1
ARU 18 52 32.2
ARU S S 18 58 02.3 +4.3
ARU SS SS 19 01 31.0 -7.0
ARU pmax pmax
comp=Z,58nm,1.7s
ARU MLR MLR
comp=Z,1μm,18.0s
HNR Honiara 53.36 158 LR LR 19 11 33.3
comp=Z,270nm,21.7s,baz=12,slow=34
KIP Kipapa 53.90 92⇑ *e*P P 18 50 32.2 -4.1
BATI Baumata 54.18 202 P P 18 50 38.1 -0.2
comp=Z,14nm,0.5s,baz=105,slow=20,SNR=6.8
BATI LR LR 19 13 47.7
comp=Z,70nm,20.7s,baz=74,slow=36
PSI Prapat 54.54 237 P P 18 50 41.3 +0.1
comp=Z,14nm,0.6s,baz=12,slow=9.9,SNR=11
PSI Prapat 54.54 237 *e*P P 18 50 41.2 +0.1
comp=Z,16nm,0.6s
DLBC Dease Lake 54.86 40 P P 18 50 44.1 +1.3
comp=Z,1.8nm,0.5s,baz=176,slow=6.4,SNR=5.5
DLBC Dease Lake 54.86 40 *e*P P 18 50 46.1 +3.3
comp=Z,23nm,1.0s
RGRI Rengat 54.96 231 P P 18 50 55.4 +11
MLSI Meulaboh, Aceh 55.04 240 P P 18 50 44.2 -0.4
comp=Z,77nm,0.7s
TWSI Taliwang, Sumb 55.08 211 P P 18 50 45.1 +0.3
comp=Z,16nm,1.0s,comp=Z,644nm
SRBI Singaraja 55.15 213 P P 18 50 44.8 -0.5
BKNI Bangkinang 55.18 233 P P 18 50 47.4 +1.8
comp=Z,80nm,1.1s
AB31 Akbulak array 55.42 308 *i*P P 18 50 46.8 -0.1
AB31 pmax pmax
comp=Z,30nm,0.5s
MNSI Mandailing Nat 55.70 235 P P 18 50 51.1 +1.8
AKTO Aktyubinsk 56.03 310 P P 18 50 51.9 +0.6
comp=Z,26nm,0.7s,baz=69,slow=14,SNR=61
AKTO LR LR 19 16 23.1
comp=Z,491nm,20.3s,baz=64,slow=38
AKTO Aktyubinsk 56.03 310 *i*P P 18 50 51.1 -0.2
AKTO pmax pmax
comp=Z,24nm,0.7s
SPITS Spitsbergen Ar 56.19 348 P P 18 50 52.5 +0.5
comp=Z,7.1nm,0.6s,baz=54,slow=5.9,SNR=18
SPITS LR LR 19 17 33.1
comp=Z,180nm,19.7s,baz=10.0,slow=39
BHPL Bhopal 56.21 272 *e*P P 18 50 50.9 -2.1
KBL Kabul 56.29 288 *e*P P 18 50 53.0 -0.6
comp=Z,25nm,0.9s
KBL Kabul 56.29 288 *e*P P 18 50 53.0 -0.6
KBL pmax pmax
comp=Z,25nm,0.9s
GSI Gunungsitoli 56.54 237 P P 18 50 56.4 +1.0
GSI Gunungsitoli 56.54 237 *e*P P 18 50 55.2 -0.2
comp=Z,84nm,1.4s
PWJI Pagerwojo 56.55 217 P P 18 50 54.0 -1.3
KRJI Kerinci 56.87 231 P P 18 50 59.5 +1.7
comp=Z,71nm,0.8s
MASI Maura Aman, Be 57.28 229 P P 18 51 02.4 +1.8
comp=Z,111nm,1.1s
KPJI Karang Pucung 57.28 220 P P 18 50 57.8 -2.7
MDSI Maura Dua 57.30 227 P P 18 51 00.6 -0.1
comp=Z,34nm,0.9s,comp=Z,449nm
LEM Lembang 57.49 222 P P 18 51 01.6 -0.6
comp=Z,27nm,0.8s,baz=76,slow=8.3,SNR=6.4
KASI Kota Agung 58.00 226 P P 18 51 02.5 -3.1
RES Resolute Bay 58.13 15 P P 18 51 05.9 +0.2
comp=Z,32nm,0.5s,baz=306,slow=6.3,SNR=129
RES Resolute Bay 58.13 15 *e*P P 18 51 05.6 -0.1
comp=Z,48nm,0.9s
LVZ Lovozero 58.19 335⇑ *e*P P 18 51 06.9 +0.6
LVZ pmax pmax
comp=Z,41nm,2.5s
APA Apatity 58.77 335⇑ *i*P P 18 51 09.9 -0.3
APA pmax pmax
comp=Z,8.0nm,0.7s
HYB Hyderabad 58.84 266 *i*P P 18 51 11.0 -0.5
HYB Hyderabad 58.84 266 *e*P P 18 51 10.8 -0.8
HYB IAmb IAmb 18 51 15.6
comp=Z,9.3nm,0.5s
TMCR Tamitsa 59.01 330 *e*P P 18 51 12.3 +0.3
TMCR pmax pmax
comp=Z,49nm,1.0s
KEV Kevo 59.39 338 *e*P P 18 51 14.6 +0.1
comp=Z,120nm,1.9s
KEV Kevo 59.39 338 *e*P P 18 51 14.6 +0.1
KEV pmax pmax
comp=Z,120nm,1.9s
YKA Yellowknife Ar 59.72 32 P P 18 51 17.2 +0.3
comp=Z,1.7nm,0.5s,baz=302,slow=6.3,SNR=46
ARCES ARCESS Array B 59.94 339 P P 18 51 18.7 +0.4
comp=Z,3.1nm,0.6s,baz=48,slow=7.8,SNR=38
ARCES LR LR 19 21 58.9
comp=Z,201nm,18.9s,baz=46,slow=41
KLMR Klimovskoe 60.20 327 *e*P P 18 51 18.1 -2.1
KLMR AMP 18 51 22.2
comp=Z,35nm,1.3s
KLMR *e*PP PP 18 53 30.4 -2.6
KLMR LQ LQ 19 12 56.0
KLMR LQ LQ 19 12 56.0
KLMR Klimovskoe 60.20 327 *e*P P 18 51 18.1 -2.1
KLMR *e* 18 53 30.3
KLMR pmax pmax
comp=Z,35nm,1.3s
TULEG Thule 60.58 8 *e*P P 18 51 22.4 -0.2
comp=Z,60nm,1.1s
KTK1 Kautokeino 60.89 339 *e*P P 18 51 25.2 +0.3
SGF Sodankyl 60.97 337 *e*P P 18 51 25.6 +0.2
SGF pmax pmax
comp=Z,27nm,1.0s
MSF Maaselka 61.15 334 *e*P P 18 51 27.8 +1.2
MSF pmax pmax
comp=Z,20nm,1.0s
FITZ Fitzroy Crossi 61.24 198 *e*P P 18 51 28.5 +0.8
DAG Danmarks Havn 61.32 355 *i*P P 18 51 27.1 -0.5
DAG Danmarks Havn 61.32 355 *i*P P 18 51 27.1 -0.5
WRAB Tennant Creek 61.57 188 *e*P P 18 51 28.6 -1.4
comp=Z,21nm,1.1s
WRAB Tennant Creek 61.57 188*ce*P P 18 51 28.1 -1.9
WRAB pmax pmax
comp=Z,22nm,1.2s
WB2 Warramunga Arr 61.58 188 *e*P P 18 51 27.9 -2.2
WRA Warramunga Arr 61.58 188 P P 18 51 28.7 -1.3
comp=Z,8.8nm,0.6s,baz=6.6,slow=7.0,SNR=204
TRO Tromso 61.59 341 *e*P P 18 51 29.9 +0.4
POO Poona 61.69 270 *e*P P 18 51 29.8 -1.2
GEYT Alibeck 62.08 297 P P 18 51 33.4 0.0
comp=Z,27nm,0.6s,baz=29,slow=3.4,SNR=77
GEYT LR LR 19 20 52.5
comp=Z,520nm,18.4s,baz=60,slow=38
GYA0B ALIBECK ARRAY 62.08 297 *e*P P 18 51 33.6 +0.2
comp=Z,28nm,0.6s
JOF Joensuu 62.20 331 P P 18 51 33.3 -0.4
JOF pmax pmax
comp=Z,40nm,0.7s
OUL Oulu 62.69 335 P P 18 51 36.9 0.0
GOA Goa 63.58 268 *e*P P 18 51 42.7 -0.9
MOS Moscow 63.90 322 *e*P P 18 51 44.2 -0.9
MOS *e* 18 52 00.4
MOS *e* 18 52 21.3
MOS pmax pmax
comp=Z,38nm,0.6s
E03A Lebam 64.05 50 *e*pP pP 18 52 07.3 +3.7
B06A Marblemount 64.12 47 *e*pP pP 18 52 07.5 +3.5
VRH Novokhopyorsk 64.55 317 *e*P P 18 51 49.2 -0.2
VRH pmax pmax
comp=Z,40nm,0.5s
OBN Obninsk 64.76 322 *e*P P 18 51 50.3 -0.3
comp=Z,30nm,0.7s
OBN Obninsk 64.76 322*ce*P P 18 51 50.1 -0.6
OBN *e* 18 54 14.4
OBN *e*S S 19 00 27.1 +1.1
OBN *e*SS SS 19 04 33.8 -3.4
OBN pmax pmax
comp=Z,48nm,1.2s
OBN MLR MLR
comp=Z,462nm,17.0s
LON Longmire 64.93 49 *e*pP pP 18 52 13.1 +3.6
FIA1 FINESS Array S 65.03 332 *e*P P 18 51 52.0 -0.4
FINES FINESS Array B 65.03 332 P P 18 51 52.4 0.0
comp=Z,36nm,0.6s,baz=52,slow=7.5,SNR=192
FINES LR LR 19 22 33.4
comp=Z,730nm,20.1s,baz=39,slow=38
VAF Ylistaro 65.11 334 P P 18 51 53.1 +0.3
VAF pmax pmax
comp=Z,40nm,1.2s
LPSR Galich'ya Gora 65.14 319 *e*P P 18 51 52.9 -0.3
LPSR pmax pmax
comp=Z,40nm,0.7s
LTY Liberty 65.28 48 *e*pP pP 18 52 14.2 +2.4
MOR8 Moi Rana 65.29 339 *e*P P 18 51 53.4 -0.6
AS01 Alice Springs 65.30 188 *e*P P 18 51 52.7 -1.8
AS31 Alice Springs 65.31 188 *e*P P 18 51 53.7 -0.9
comp=Z,2.4nm,0.9s
ASAR Alice Springs 65.31 188 P P 18 51 53.8 -0.8
comp=Z,4.0nm,0.6s,baz=3.6,slow=7.6,SNR=38
ASAR LR LR 19 20 10.7
comp=Z,96nm,22.0s,baz=338,slow=36
B08A Colville Reser 65.39 46 *e*pP pP 18 52 15.8 +3.4
EDM Edmonton 65.58 40 *e*pP pP 18 52 15.8 +2.2
VSR Storozhevoye 65.84 318 *e*P P 18 51 57.9 +0.1
VSR pmax pmax
comp=Z,60nm,0.5s
H04A Detroit Lake 65.90 51 *e*pP pP 18 52 19.6 +3.7
SUMG Summit 66.18 0 *i*P P 18 52 00.8 +0.7
SUMG Summit 66.18 0 *e*P P 18 52 00.6 +0.5
comp=Z,48nm,1.3s
SUMG Summit 66.18 0 *i*P P 18 52 00.8 +0.7
C09A Chrisman Ranch 66.29 47 *e*pP pP 18 52 21.4 +3.2
NEW Newport 66.64 46 *e*pP pP 18 52 23.8 +3.2
AKT Akhty 66.77 305⇑ *i*P P 18 52 04.0 0.0
AKT *e* 18 52 31.8
AKT pmax pmax
comp=Z,49nm,0.7s
VSU Vasula 66.80 329*de*P P 18 52 03.5 -0.2
VSU pmax pmax
comp=Z,77nm,1.0s
GROC Groznyy 66.93 308 *e*P P 18 52 05.7 +0.8
GROC *e* 18 52 33.1
GROC pmax pmax
comp=Z,39nm,1.4s
KHMM Horse Mountain 67.18 55 *e*pP pP 18 52 27.6 +3.4
DZM Mont Dzumac 67.25 155 LR LR 19 17 25.9
comp=Z,202nm,21.9s,baz=0.0,slow=32
DZM Mont Dzumac 67.25 155 *e*P P 18 52 14.8 +7.7
comp=Z,26nm,1.5s
DZM *e*S S 19 01 02.1 +5.1
comp=Z,104nm,31.7s
DZM *e*SS SS 19 05 21.3 +3.1
comp=Z,126nm,29.4s
DZM *e*LR LR 19 12 23.3
comp=Z,390nm,22.8s
SEKA Sheki 67.25 305 P P 18 52 05.5 -1.5
YBH Yreka Blue Hor 67.30 54 LR LR 19 16 37.6
comp=Z,70nm,21.0s,baz=322,slow=32
YBH Yreka Blue Hor 67.30 54 *e*pP pP 18 52 29.0 +4.1
ZKTA Zakatala 67.35 306 P P 18 52 06.5 -1.1
GOF Gofitskoye 67.44 311⇑ *e*P P 18 52 08.2 +0.2
GOF pmax pmax
comp=Z,124nm,1.3s
MNGR Mingechevir, A 67.58 305 P P 18 52 08.0 -1.0
SCO Scoresbysund 67.67 354 *i*P P 18 52 09.9 +0.8
SCO Scoresbysund 67.67 354 *e*P P 18 52 09.9 +0.8
LKRN Lenkeran, Azer 67.73 302 P P 18 52 09.0 -1.0
K05A Summer Lake 67.80 52 *e*pP pP 18 52 27.9 -0.4
WALA Waterton Lakes 67.85 44 *e*pP pP 18 52 30.7 +2.4
NCK Nalchik 68.05 309⇑ *e*P P 18 52 12.6 +0.6
NCK pmax pmax
comp=Z,20nm,0.8s
WDC Whiskeytown Da 68.08 55 *e*pP pP 18 52 32.6 +2.9
GANJ Ganja 68.12 305 P P 18 52 11.3 -1.2
ZEI Tsey 68.30 308 *e*P P 18 52 11.9 -1.9
ZEI pmax pmax
comp=Z,18nm,0.6s
KIV Kislovodsk 68.30 310 *e*P P 18 52 15.3 +1.7
comp=Z,80nm,0.9s
KIV Kislovodsk 68.30 310 P P 18 52 15.4 +1.8
SNR=37
KIV Kislovodsk 68.30 310 P P 18 52 15.4 +1.8
SNR=37
KIV Kislovodsk 68.30 310 *i*P P 18 52 14.9 +1.3
SNR=26
KIV Kislovodsk 68.30 310 *e*P P 18 52 14.3 +0.7
KIV *e*S S 19 01 10.3 +0.9
KIV pmax pmax
comp=Z,107nm,1.1s
KIV pmax pmax
comp=Z,35nm,2.9s
KIV MLR MLR
comp=Z,397nm,17.0s
KBZ Khabaz 68.31 310 P P 18 52 14.3 +0.8
comp=Z,25nm,0.8s,baz=65,slow=5.1,SNR=75
KBZ LR LR 19 25 50.1
comp=Z,230nm,21.9s,baz=52,slow=39

TBLG	**Delisi**		68.43	307	*e*P		P	18 52 13.1	-1.3
	comp=Z,44nm,1.1s									
TBLG	**Delisi**		68.43	307	*e*P		P	18 52 13.1	-1.3
TBLG					pmax		pmax			
	comp=Z,44nm,1.1s									
BMO	**Blue Mountains**		68.60	49	*e*P		P	18 52 17.0	+1.5
	comp=Z,13nm,1.1s									
BMO	**Blue Mountains**		68.60	49	*e*P		P	18 52 17.0	+1.5
BMO					pmax		pmax			
	comp=Z,13nm,1.1s									
NEY	**Neytrino**		68.71	309⇑	*e*P		P	18 52 17.5	+1.2
NEY					pmax		pmax			
	comp=Z,4.0nm,0.8s									
IZAR	**Zarasai**		68.84	327	*e*P		P	18 52 17.1	+0.4
IZAR					IAmb		IAmb	18 52 20.1		
	comp=Z,12nm,0.6s									
IDID	**Didziasalis**		68.94	326	*e*P		P	18 52 17.6	+0.4
IDID					IAmb		IAmb	18 52 18.6		
	comp=Z,10nm,0.6s									
IIGN	**Ignalina**		69.13	327	*e*P		P	18 52 18.8	+0.4
IIGN					IAmb		IAmb	18 52 19.9		
	comp=Z,18nm,0.5s									
NACGM	**Naroch**		69.20	326	*e*		P	18 52 19.0	+0.1
NACGM					*e*LR		LR	19 23 14.0		
MSO	**Missoula**		69.22	45	*ep*P		pP	18 52 40.0	+3.1
WVOR	**Wild Horse Val**		69.31	51	*e*P		P	18 52 22.6	+2.7
	comp=Z,33nm,1.4s									
WVOR	**Wild Horse Val**		69.31	51	*e*P		P	18 52 22.6	+2.7
WVOR					pmax		pmax			
	comp=Z,33nm,1.4s									
AKH	**Akhalkalaki**		69.37	307	*e*P		P	18 52 22.4	+2.0
	comp=Z,13nm,0.8s									
AKH	**Akhalkalaki**		69.37	307	*e*P		P	18 52 22.4	+2.0
AKH					pmax		pmax			
	comp=Z,13nm,0.8s									
GNI	**Garni**		69.38	306	P		P	18 52 21.8	+1.3
	comp=Z,4.2nm,0.3s,baz=175,slow=5.9,SNR=14									
GNI					LR		LR	19 25 42.9		
	comp=Z,130nm,19.2s,baz=49,slow=38									
GNI	**Garni**		69.38	306	*e*P		P	18 52 22.4	+1.9
	comp=Z,28nm,1.0s									
GNI	**Garni**		69.38	306	P		P	18 52 23.1	+2.6
	SNR=8.7									
GNI	**Garni**		69.38	306	P		P	18 52 23.1	+2.6
	SNR=8.7									
GNI	**Garni**		69.38	306	*i* P		P	18 52 22.1	+1.6
	SNR=9.2									
GNI	**Garni**		69.38	306	*ce*P		P	18 52 21.8	+1.3
GNI					pmax		pmax			
	comp=Z,58nm,1.3s									
NAX	**Nakhchivan**		69.51	304	P		P	18 52 20.1	-1.1
FFC	**Flin Flon**		69.70	34	*e*P		P	18 52 22.3	+0.3
	comp=Z,25nm,1.1s									
FFC	**Flin Flon**		69.70	34	*e*P		P	18 52 22.3	+0.3
FFC					pmax		pmax			
	comp=Z,25nm,1.1s									
AFI	**Afiamalu**		69.76	132	LR		LR	19 16 48.2		
	comp=Z,134nm,21.6s,baz=342,slow=30									
FCC	**Fort Churchill**		69.79	27	*e*P		P	18 52 22.7	+0.3
	comp=Z,39nm,1.4s									
FCC	**Fort Churchill**		69.79	27	*e*P		P	18 52 22.7	+0.3
FCC					pmax		pmax			
	comp=Z,39nm,1.4s									
NC405	**NORSAR Array S**		69.99	337	*e*P		P	18 52 22.8	-0.9
NC303	**NORSAR Array S**		70.00	337	*e*P		P	18 52 24.2	+0.4
NC204	**NORSAR Array S**		70.14	337	*e*P		P	18 52 24.9	+0.2
WSAR	**Wadi Sarin**		70.15	284	P		P	18 52 25.7	+0.4
	comp=Z,9.1nm,0.9s,baz=87,slow=6.0,SNR=6.6									
HFS	**Hagfors**		70.16	335	P		P	18 52 24.9	+0.2
	comp=Z,14nm,0.5s,baz=46,slow=6.2,SNR=108									
HFS					LR		LR	19 25 40.6		
	comp=Z,315nm,22.0s,baz=46,slow=38									
NB201	**NORSAR Array S**		70.16	337	*e*P		P	18 52 23.9	-0.8
NB2	**NORSAR Subarra**		70.19	337	P		P	18 52 24.7	-0.3
	comp=Z,15nm,0.6s,baz=36,slow=6.5									
NB2	**NORSAR Subarra**		70.19	337	P		P	18 52 24.7	-0.3
	baz=36,slow=6.5									
NB2	**NORSAR Subarra**		70.19	337	P		P	18 52 24.6	-0.4
NB2					pmax		pmax			
	comp=Z,13nm,0.6s									
NOA	**NORSAR Array B**		70.19	337	P		P	18 52 24.9	-0.1
	comp=Z,13nm,0.6s,baz=37,slow=6.2,SNR=63									
NOA					LR		LR	19 26 15.5		
	comp=Z,293nm,21.7s,baz=40,slow=38									
BANOM	**Banah**		70.21	287	*i* P		P	18 52 25.8	+0.1
	SNR=15									
SOC	**Sochi**		70.22	311	*e*P		P	18 52 24.9	-0.5
SOC					*e*			18 55 00.1		
SOC					*e*PPP		PPP	18 56 37.4		
SOC					*e*S		S	19 01 31.3	-0.6
SOC					pmax		pmax			
	comp=Z,20nm,0.5s									
SOC					MLR		MLR			
	comp=Z,224nm,21.0s									
SHME	**Shamm**		70.25	288	*i* P		P	18 52 25.8	-0.1
	SNR=12									
NBO02	**NORSAR Array S**		70.29	337	*e*P		P	18 52 25.4	-0.2
MFID	**Camas Ranch**		70.32	49	*e*P		P	18 52 27.3	+1.1
	comp=Z,44nm,1.9s									
NBO00	**NORSAR Array S**		70.33	337	*e*P		P	18 52 25.8	+0.1
NC602	**NORSAR Array S**		70.34	337	*e*P		P	18 52 25.7	-0.1
AKN	**Aaknes**		70.45	339	*e*P		P	18 52 26.9	+0.5
NAO01	**NORSAR Array S**		70.45	337	*e*P		P	18 52 26.6	+0.2
PAHR	**Pah Rah Range**		70.53	54	*e*P		P	18 52 29.2	+1.6
	comp=Z,48nm,1.4s									
MSFE	**Esma-Masafi**		70.65	287	*i* P		P	18 52 28.8	+0.5
	SNR=8.3									
LRM	**Limekiln Ridge**		70.66	46	*e*P		P	18 52 30.1	+1.8
ANN	**Anapa**		70.73	313	*c i*P		P	18 52 28.2	-0.2
ANN					*e**PP		pP	18 52 47.3	+1.2
ANN					*e*			19 02 24.3		
ANN					pmax		pmax			
	comp=Z,47nm,0.9s									
ANN					MLR		MLR			
	comp=N,166nm,16.0s									
ANN					MLR		MLR			
	comp=Z,267nm,16.0s									
UOSS	**Minazif**		70.87	287	*e*P		P	18 52 29.7	+0.1
	comp=Z,43nm,0.7s									
UOSS	**Minazif**		70.87	287	*i* P		P	18 52 29.4	-0.3
	SNR=16									
HATD	**Hatta, Dubai**		71.00	287	P		P	18 52 32.0	+1.5
	SNR=8.2									
HATD	**Hatta, Dubai**		71.00	287	P		P	18 52 32.0	+1.5
	SNR=8.2									
HATD	**Hatta, Dubai**		71.00	287	*i* P		P	18 52 30.4	0.0
	SNR=23									
AKASG	**Malin Array Be**		71.00	322	P		P	18 52 29.7	-0.3
	comp=Z,37nm,0.6s,baz=44,slow=6.0,SNR=160									
AKASG					LR		LR	19 26 19.8		
	comp=Z,302nm,18.0s,baz=30,slow=38									
AKBB	**Malin Array Si**		71.00	322	*e*P		P	18 52 29.6	-0.4
	comp=Z,33nm,0.6s									
AKBB	**Malin Array Si**		71.00	322	*e*P		P	18 52 29.6	-0.4
AKBB					pmax		pmax			
	comp=Z,33nm,0.6s									
KIEV	**Kiev**		71.01	322	*i* P		P	18 52 29.7	-0.3
	SNR=28									
KIEV	**Kiev**		71.01	322	*c i*P		P	18 52 29.5	-0.5
KIEV					pmax		pmax			
	comp=Z,22nm,0.8s									
HLID	**Hailey**		71.03	48	*e*P		P	18 52 32.5	+2.0
	comp=Z,11nm,1.3s									
AK11	**Malin Array Si**		71.04	322	*e*P		P	18 52 29.9	-0.4
SOHO	**SOHO**		71.13	286	*i* P		P	18 52 30.9	-0.3
	SNR=16									
NAZ	**Nazwa, Dubai**		71.24	287	P		P	18 52 31.9	+0.1
BOZ	**Bozeman (W)**		71.24	45	*e*P		P	18 52 33.0	+1.3
	comp=Z,15nm,0.9s									
BOZ	**Bozeman (W)**		71.24	45	*e*P		P	18 52 33.0	+1.3
BOZ					pmax		pmax			
	comp=Z,15nm,0.9s									
SUW	**Suwalki**		71.33	327	*e*P		P	18 52 31.8	-0.1
SUW	**Suwalki**		71.33	327	*e*P		P	18 52 31.8	-0.1
SFJD	**Kangerlussuaq**		71.36	5	P		P	18 52 32.0	+0.2
	comp=Z,15nm,0.7s,baz=359,slow=7.6,SNR=9.0									
SFJD					LR		LR	19 24 50.9		
	comp=Z,261nm,22.0s,baz=346,slow=37									
SFJD	**Kangerlussuaq**		71.36	5	*i* P		P	18 52 32.0	+0.2
	comp=Z,14nm,0.6s									
SFJD	**Kangerlussuaq**		71.36	5	*e*P		P	18 52 32.3	+0.5
	comp=Z,24nm,1.0s									
SFJD	**Kangerlussuaq**		71.36	5	*e*P		P	18 52 32.3	+0.5
SFJD					pmax		pmax			
	comp=Z,24nm,1.0s									
BMN	**Battle Mountai**		71.38	52	*e*P		P	18 52 35.4	+2.7
	comp=Z,26nm,1.4s									
BMN	**Battle Mountai**		71.38	52	*e*P		P	18 52 35.4	+2.7
BMN					pmax		pmax			
	comp=Z,26nm,1.4s									
ALNE	**Al Ain**		71.74	286	*i* P		P	18 52 34.6	-0.3
	SNR=22									
SUE	**Sulen**		71.97	340	*e*P		P	18 52 36.3	+0.7
NV01	**Mina Array Sit**		71.99	54	*e*P		P	18 52 37.6	+1.1
NVAR	**Mina Array Bea**		71.99	54	P		P	18 52 35.9	-0.6
	comp=Z,1.8nm,0.6s,baz=302,slow=7.2,SNR=7.8									
NV11	**Mina Array Sit**		72.08	54	*e*P		P	18 52 38.4	+1.5
	comp=Z,1.0nm,1.3s									
GCMT	**Greycliff**		72.15	44	*e*P		P	18 52 38.9	+1.7
YHH	**Holmes Hill**		72.19	46	*e*P		P	18 52 38.5	+0.8
YHH					*e*PcP		pP	18 52 58.0	+2.7
FRB	**Frobisher Bay**		72.29	14	P		P	18 52 37.2	-0.3
FRB					pmax		pmax			
	comp=Z,77nm,0.8s									
ASK	**Askoy**		72.34	339	*e*P		P	18 52 38.9	+1.1
BER	**Bergen**		72.39	339	*e*P		P	18 52 37.2	-0.9
BER	**Bergen**		72.39	339	P		P	18 52 38.6	+0.5
BER					pmax		pmax			
	comp=Z,16nm,1.6s									
SIM	**Simferopol'**		72.42	315	*de*P		P	18 52 38.9	+0.3
SIM					*e*S		S	19 01 56.0	-1.2
SIM					pmax		pmax			
	comp=Z,45nm,0.8s									
ODD1	**Odda**		72.43	338	*e*P		P	18 52 39.5	+1.1
H17A	**Grant Village**		72.59	46	P		P	18 52 42.0	+2.0
	baz=312									
IMW	**Indian Meadow**		72.73	46	*e*P		P	18 52 43.4	+2.6
IMW					*e*PcP		pP	18 53 01.7	+3.1
RLMT	**Red Lodge**		72.81	45	*e*P		P	18 52 42.6	+1.4
	comp=Z,28nm,1.7s									
FXWY	**Fox Creek**		72.85	47	*e*P		P	18 52 43.5	+2.0
	comp=Z,18nm,1.4s									
MOOW	**Moose Ponds**		72.93	46	*e*P		P	18 52 44.3	+2.4
MOOW					*e*PcP		pP	18 53 02.9	+3.2
TPAW	**Teton Pass**		72.99	47	*e*P		P	18 52 45.0	+2.6
	comp=Z,15nm,1.1s									
STKA	**Stephens Creek**		73.06	180	P		P	18 52 42.3	0.0
	comp=Z,4.4nm,0.9s,baz=343,slow=7.8,SNR=8.6									
STKA	**Stephens Creek**		73.06	180	*e*P		P	18 52 42.7	+0.4
	comp=Z,2.3nm,1.3s									
REDW	**Red Top Meadow**		73.13	47	*e*P		P	18 52 45.4	+2.2
REDW					*ep*P		pP	18 53 03.4	+2.4
SORM	**Soroca**		73.18	320	⇓*i*P		P	18 52 43.2	+0.2
BORG	**Borgarnes**		73.23	353	P		P	18 52 44.5	+1.5
	comp=Z,18nm,0.8s,baz=27,slow=2.3,SNR=4.3									
BSD	**Bornholm Skovb**		73.68	331	*i* P		P	18 52 45.7	-0.1
	comp=Z,23nm,0.7s									
BSD	**Bornholm Skovb**		73.68	331	*i* P		P	18 52 45.7	-0.1
BSD					pmax		pmax			
	comp=Z,23nm,0.7s									
R11A	**Troy Canyon, C**		73.69	53	P		P	18 52 47.1	+0.7
	baz=310									
R11A	**Troy Canyon, C**		73.69	53	*e*P		P	18 52 47.7	+1.2
	comp=Z,25nm,1.6s									
KIS	**Kishinev**		73.75	319	*e*P		P	18 52 45.0	-1.4
KIS					*e*S		S	19 02 11.0	-1.1
KIS					LRM		MLR	19 28 15.0		
	comp=Z,500nm,15.0s									
KIS	**Kishinev**		73.75	319	*e*P		P	18 52 45.0	-1.4
KIS					*e*S		S	19 02 11.0	-1.1
KIS					MLR		MLR			
	comp=Z,500nm,15.0s									
KIS					MLR		MLR			
	comp=N,400nm,16.0s									
HWUT	**Hardware Ranch**		73.89	48	*e*P		P	18 52 49.1	+1.5
	comp=N,19nm,1.4s									
BEL	**Belsk**		73.91	326	*e*P		P	18 52 48.2	+0.9
BEL	**Belsk**		73.91	326	*e*P		P	18 52 48.2	+0.9
MPMC	**Manual Prospec**		73.99	56	P		P	18 52 48.6	+0.3
	baz=310									
LVV	**L'vov**		73.99	323	*e*P		P	18 52 48.1	+0.3
MZR	**Muzera**		74.03	287	*i* P		P	18 52 47.9	-0.5
	SNR=20									
DUG	**Dugway, Tooele**		74.11	50	*e*P		P	18 52 50.9	+2.0
	comp=N,16nm,1.3s									
DUG	**Dugway, Tooele**		74.11	50	*e*P		P	18 52 50.9	+2.0
DUG					pmax		pmax			
	comp=Z,16nm,1.3s									
TPNV	**Topopah Spring**		74.19	55	P		P	18 52 50.0	+0.6
	baz=310									
TPNV	**Topopah Spring**		74.19	55	*e*P		P	18 52 50.6	+1.2
	comp=Z,47nm,1.7s									
TPNV	**Topopah Spring**		74.19	55	*e*P		P	18 52 50.6	+1.2
TPNV					pmax		pmax			
	comp=Z,47nm,1.7s									
BW06	**Boulder Array**		74.23	47	P		P	18 52 49.6	0.0
	baz=312									
BW06	**Boulder Array**		74.23	47	*e*P		P	18 52 49.6	0.0
	comp=Z,26nm,1.6s									
PD31	**Pinedale Array**		74.23	47	*e*P		P	18 52 50.1	+0.4
PDAR	**Pinedale Array**		74.23	47	P		P	18 52 50.0	+0.4
	comp=Z,2.0nm,0.6s,baz=285,slow=2.9,SNR=16									
PDAR					LR		LR	19 26 19.4		
	comp=Z,84nm,21.1s,baz=334,slow=36									
PDAR	**Pinedale Array**		74.23	47	*e*P		P	18 52 49.3	-0.3
GKP	**Gorka Klasztor**		74.24	329	*e*P		P	18 52 50.0	+0.8
GKP	**Gorka Klasztor**		74.24	329	*e*P		P	18 52 50.0	+0.8
MUD	**Monsted U'grnd**		74.54	335	*i* P		P	18 52 51.4	+0.6
	comp=Z,11nm,0.6s									
MUD	**Monsted U'grnd**		74.54	335	*e*P		P	18 52 51.4	+0.6
MUD					pmax		pmax			
	comp=Z,11nm,0.6s									
KWP	**Kalwaria Pacla**		74.72	324	*e*P		P	18 52 53.5	+1.4
KWP	**Kalwaria Pacla**		74.72	324	*e*P		P	18 52 52.3	+0.3
	comp=Z,278nm,0.6s									
KWP	**Kalwaria Pacla**		74.72	324	*e*P		P	18 52 52.3	+0.3
MWC	**Mount Wilson**		74.81	58	*ep*P		pP	18 53 14.0	+3.1
TLCR			75.01	318	⇓*i*P		P	18 52 54.3	+0.5
BUR08	**Bucovina Ar. S**		75.03	321	*e*P		P	18 52 54.3	+0.3
BUR04	**Bucovina Ar. S**		75.04	321	*e*P		P	18 52 54.3	+0.2
BURAR	**Bucovina Array**		75.04	321	⇑*i*P		P	18 52 54.6	+0.5
BURAR	**Bucovina Array**		75.04	321	P		P	18 52 54.5	+0.5
SHPR	**Sheep Range**		75.14	54	*e*P		P	18 52 57.2	+2.3
	comp=Z,12nm,1.1s									
TESR	**Tescani**		75.15	320	⇑*i*P		P	18 52 54.7	+0.1
ILGA	**Ilgaz**		75.25	312	*e*P		P	18 52 57.1	+1.6
	comp=Z,49nm,0.7s									
CFR	**Carcaliu**		75.36	318	⇓*i*P		P	18 52 55.7	-0.1
CFR	**Carcaliu**		75.36	318	P		P	18 52 56.0	+0.2
CFR					pmax		pmax			
	comp=Z,19nm,1.0s									
STHS	**Stebnicka Huta**		75.52	325	*e*P		P	18 52 58.2	+1.5
STHS	**Stebnicka Huta**		75.52	325	*e*P		P	18 52 58.2	+1.5
STHS					pmax		pmax			
	comp=Z,13nm,0.6s									
ULM	**Lac du Bonnet**		75.52	34	P		P	18 52 56.4	-0.2
	comp=Z,4.4nm,0.8s,baz=332,slow=7.6,SNR=6.4									
ULM					LR		LR	19 29 25.4		
	comp=Z,96nm,19.6s,baz=303,slow=38									
ULM	**Lac du Bonnet**		75.52	34	*e*P		P	18 52 56.5	-0.1
ULM					*ep*P		pP	18 53 15.3	+0.9
ULM	**Lac du Bonnet**		75.52	34	*e*P		P	18 52 56.5	-0.1
ULM					*e**PP		pP	18 53 15.3	+0.9
OJC	**Ojcow**		75.54	326	*e*P		P	18 52 57.3	+0.6
OJC	**Ojcow**		75.54	326	*e*P		P	18 52 57.6	+0.9
	comp=Z,44nm,0.7s									
OJC	**Ojcow**		75.54	326	*e*P		P	18 52 57.3	+0.6
VRI	**Vrincioaia**		75.57	319	⇓*i*P		P	18 52 58.2	+1.2
VRI	**Vrincioaia**		75.57	319	P		P	18 52 58.3	+1.2
VRI					pmax		pmax			
	comp=Z,129nm,2.0s									
PLOR	**Plostina**		75.62	319	⇑*i*P		P	18 52 57.9	+0.6
PLOR	**Plostina**		75.62	319	P		P	18 52 57.9	+0.6
UZH	**Uzhgorod**		75.64	323	⇓*i*P		P	18 52 58.9	+1.6
UZH					*i*			18 53 16.5		
UZH					*e*			18 55 44.7		
UZH					*e*S		S	19 02 33.1	-0.1
TIRR	**Tirgusor**		75.73	317	⇓*i*P		P	18 52 58.1	+0.2
TIRR	**Tirgusor**		75.73	317	*e*P		P	18 52 58.0	+0.1
	comp=Z,20nm,1.2s									
TIRR	**Tirgusor**		75.73	317	*e*P		P	18 52 58.0	+0.1
TIRR					pmax		pmax			
	comp=Z,20nm,1.2s									
CRVS	**Cervenica-Dubn**		75.81	324	*e*P		P	18 52 58.0	-0.3
CRVS	**Cervenica-Dubn**		75.81	324	*e*P		P	18 52 58.0	-0.3
CRVS					pmax		pmax			
	comp=Z,9.0nm,0.6s									
TRPA	**Tarpa**		75.90	323	⇑*i*P		P	18 52 59.5	+0.7
MTPU	**Mount Pierson**		75.91	52	*e*P		P	18 53 02.1	+2.6
	comp=Z,34nm,1.9s									
NIE	**Niedzica**		75.93	325	*e*P		P	18 53 00.2	+1.2
NIE	**Niedzica**		75.93	325	*e*P		P	18 53 00.2	+1.2
K22A	**Casper**		75.94	45	*e*P		P	18 53 00.8	+1.4
	comp=Z,40nm,1.6s									
P18A	**Preston Nutter**		75.96	49	*e*P		P	18 53 01.8	+2.0
	comp=Z,12nm,1.0s									
DOPR	**Dopca**		76.15	320	⇑*i*P		P	18 53 02.2	+1.9
SRU	**San Rafael Swe**		76.16	50	*e*P		P	18 53 03.0	+2.3
	comp=Z,11nm,0.7s									
SRU	**San Rafael Swe**		76.16	50	*e*P		P	18 53 03.0	+2.3
SRU					pmax		pmax			
	comp=Z,11nm,0.7s									
BR131	**Keskin Array S**		76.19	311	*e*P		P	18 53 01.4	+0.6
BRTR	**Keskin Array B**		76.19	311	P		P	18 53 01.4	+0.6
	comp=Z,11nm,0.6s,baz=84,slow=3.8,SNR=77									
BRTR					PP		PP	18 55 54.2	+2.2
	comp=Z,3.1nm,1.1s,baz=39,slow=7.0,SNR=4.1									
BRTR					LR		LR	19 31 55.3		
	comp=Z,117nm,19.4s,baz=40,slow=40									
ISR	**Istrita**		76.20	319	⇓*i*P		P	18 53 01.7	+1.1
RSSD	**Black Hills**		76.21	43	P		P	18 53 00.7	-0.2
	baz=315									
RSSD	**Black Hills**		76.21	43	*e*P		P	18 53 02.1	+1.2
RSSD					*ep*P		pP	18 53 20.0	+1.2
RSSD	**Black Hills**		76.21	43	*e*P		P	18 53 02.1	+1.2
RSSD					*e**PP		pP	18 53 20.0	+1.2
MLR	**Muntele Rosu**		76.22	319	P		P	18 53 01.8	+0.9
	comp=Z,0.9nm,0.4s,baz=189,slow=19,SNR=15									
MLR					LR		LR	19 30 21.4		
	comp=Z,72nm,19.2s,baz=52,slow=39									
MLR	**Muntele Rosu**		76.22	319	⇓*i*P		P	18 53 01.3	+0.4
MLR	**Muntele Rosu**		76.22	319	*e*P		P	18 53 00.8	-0.1
	comp=Z,30nm,1.4s									
MLR	**Muntele Rosu**		76.22	319	*e*P		P	18 53 00.8	-0.1
MLR					pmax		pmax			
	comp=Z,30nm,1.4s									
LANS	**Liptovska Anna**		76.49	325	*e*P		P	18 53 03.5	+1.4
LANS	**Liptovska Anna**		76.49	325	*e*P		P	18 53 03.6	+1.4
KSP	**Ksiaz**		76.49	328	*e*P		P	18 53 02.7	+0.6
KSP	**Ksiaz**		76.49	328	*e*P		P	18 53 02.7	+0.6
OKC	**Ostrava-Krasne**		76.52	326	*e*P		P	18 53 03.4	+1.1
OKC					AMS		AMS	19 29 40.0		
	comp=Z,500nm,19.9s									
OKC	**Ostrava-Krasne**		76.52	326	*e*P		P	18 53 03.4	+1.1
OKC					MLR		MLR			
	comp=Z,500nm,19.9s									
ANTO	**Ankara**		76.57	312	⇓*i*P		P	18 53 04.2	+1.3
ANTO	**Ankara**		76.57	312	*e*P		P	18 53 03.9	+1.0
	comp=Z,40nm,0.8s									
ANTO	**Ankara**		76.57	312	P		P	18 53 03.9	+1.0
	SNR=8.4									
ANTO	**Ankara**		76.57	312	P		P	18 53 03.9	+1.0
	SNR=8.4									
ANTO	**Ankara**		76.57	312	*e*P		P	18 53 03.9	+1.0
ANTO					pmax		pmax			
	comp=Z,40nm,0.8s									
BR231	**Keskin MP Arra**		76.60	312	*e*P		P	18 53 04.3	+1.3
A33A	**Warroad**		76.72	35	P		P	18 53 03.2	-0.3
	baz=320									
MORC	**Moravsky Berou**		76.81	327	*e*P		P	18 53 04.6	+0.6
	comp=Z,82nm,0.9s									
MORC	**Moravsky Berou**		76.81	327	*e*P		P	18 53 04.6	+0.6
MORC					pmax		pmax			
	comp=Z,82nm,0.9s									
DPC	**Dobruska-Polom**		76.87	328	*e*P		P	18 53 05.1	+0.8
DPC					*e*PCP		PcP	18 53 17.0	+1.8
DPC					*ep*P		pP	18 53 22.6	+0.4
DPC					AMS		AMS	19 29 40.0		
	comp=Z,300nm,16.6s									
DPC	**Dobruska-Polom**		76.87	328	*e*P		P	18 53 05.1	+0.8
DPC					*e*			18 53 17.0		
DPC					*e*			18 53 22.6		
DPC					MLR		MLR			
	comp=Z,300nm,16.6s									
UPC	**Upice**		76.87	328	*e*P		P	18 53 05.0	+0.7
UPC					*ex*		x	18 53 08.3		
UPC					*e*PCP		PcP	18 53 16.6	+1.4
UPC	**Upice**		76.87	328	*e*P		P	18 53 05.0	+0.7
UPC					*e*			18 53 16.6

SMCO **Snowmass** 78.11 48 *e*P P 18 53 10.6 -1.4
comp=Z,17nm,0.9s
BZS **Buzias** 78.19 322 ⇑*i*P P 18 53 12.3 +0.6
BZS **Buzias** 78.19 322 P P 18 53 12.3 +0.6
HERR **Herculane** 78.37 321 ⇓*i*P P 18 53 12.9 +0.2
ISCO **Idaho Springs** 78.43 47 P P 18 53 13.4 -0.1
baz=315
ISCO **Idaho Springs** 78.43 47 *e*P P 18 53 15.5 +2.0
comp=Z,11nm,1.3s
ISCO **Idaho Springs** 78.43 47 *e*P P 18 53 15.5 +2.0
ISCO pmax pmax
comp=Z,11nm,1.3s
MOX **Moxa** 78.45 330 P P 18 53 14.2 +1.1
MOX pmax pmax
comp=Z,13nm,1.3s
C36A **Pine Crest Far** 78.72 34 P P 18 53 14.5 0.0
baz=321
X16A **Lo Mia Camp, P** 78.79 54 *e*P P 18 53 17.4 +1.9
comp=Z,7.6nm,0.9s
SOP **Sopron** 78.85 326 P P 18 53 16.8 +1.5
SOP pmax pmax
comp=Z,36nm,1.3s
DIM **Dimitrovgrad** 78.92 317 *e*P P 18 53 17.8 +2.0
KHC **Kasperske Hory** 78.92 328 *e*P P 18 53 16.3 +0.6
KHC AMS AMS 19 31 10.0
comp=Z,300nm,17.8s
KHC **Kasperske Hory** 78.92 328 *e*P P 18 53 16.6 +0.9
comp=Z,6.5nm,0.7s
KHC **Kasperske Hory** 78.92 328 *e*P P 18 53 16.3 +0.6
KHC MLR MLR
comp=Z,300nm,17.8s
BHL **Bhannes** 78.95 306 *e*P P 18 53 16.9 +0.7
CONA **Conrad Observa** 78.95 326 *i*P P 18 53 16.9 +0.9
comp=Z,17nm,1.2s,SNR=8.0
EKA **Eskdalemuir Ar** 79.02 341 P P 18 53 16.5 +0.4
comp=Z,4.6nm,0.5s,baz=25,slow=4.9,SNR=18
EKA LR LR 19 32 50.6
comp=Z,154nm,18.9s,baz=45,slow=39
GEC2 **GERESS Array S** 79.10 328 *e*P P 18 53 17.6 +0.8
comp=Z,7.4nm,0.6s
GEC2 **GERESS Array S** 79.10 328 *e*P P 18 53 17.6 +0.8
GEC2 pmax pmax
comp=Z,7.0nm,0.6s
GERES **GERESS Array B** 79.10 328 P P 18 53 17.4 +0.6
comp=Z,5.0nm,0.6s,baz=38,slow=5.9,SNR=43
GERES LR LR 19 31 43.2
comp=Z,200nm,18.0s,baz=42,slow=38
GEA0 **GERESS Array S** 79.11 328 *e*P P 18 53 16.8 0.0
WET **Wettzell** 79.19 329 P P 18 53 18.3 +1.1
WET pmax pmax
comp=Z,18nm,1.0s
SHBL **Chebaa** 79.27 305 *e*P P 18 53 19.2 +1.2
PLD **Plovdiv** 79.30 318 P P 18 53 20.8 +2.9
BUG **Bochum--Univer** 79.34 333 P P 18 53 18.2 +0.3
BUG pmax pmax
comp=Z,16nm,1.6s
RAYN **Ar Rayn** 79.35 292 *e*P P 18 53 18.3 -0.2
comp=Z,55nm,1.4s
RAYN **Ar Rayn** 79.35 292 P P 18 53 18.3 -0.2
RAYN pmax pmax
comp=Z,55nm,1.4s
ASF **Jabal al Asfar** 79.35 304 P P 18 53 19.0 +0.6
comp=Z,6.6nm,0.6s,baz=5.1,slow=1.8,SNR=13
GRF **Grafenberg Arr** 79.38 330 P P 18 53 19.6 +1.4
GRF pmax pmax
comp=Z,44nm,1.1s
GRFO **Grafenberg** 79.38 330 *e*P P 18 53 19.1 +1.0
comp=Z,20nm,0.7s
GRFO **Grafenberg** 79.38 330 *e*P P 18 53 19.1 +1.0
GRFO pmax pmax
comp=Z,20nm,0.7s
ALN **Alexandroupoli** 79.49 316 P P 18 53 19.3 +0.4
ALN **Alexandroupoli** 79.49 316 P P 18 53 19.3 +0.4
ALN **Alexandroupoli** 79.49 316 P P 18 53 19.3 +0.4
E36A **McGregor** 79.50 35 P P 18 53 18.9 0.0
baz=321
RDO **Rodhopi** 79.58 317 P P 18 53 20.5 +1.1
RDO **Rodhopi** 79.58 317 P P 18 53 20.5 +1.1
CSS **Mathiatis** 79.63 308 *e*P P 18 53 19.9 +0.1
comp=Z,8.2nm,0.6s
CSS **Mathiatis** 79.63 308 P P 18 53 20.1 +0.3
ARSA **Arzberg** 79.63 326 *i*P P 18 53 20.1 +0.5
comp=Z,7.1nm,0.9s
MOA **Molln** 79.67 327 *i*P P 18 53 20.9 +1.1
comp=Z,7.6nm,1.1s
VTS **Vitosha** 79.69 319 ⇑*i*P P 18 53 21.5 +1.3
VTS **Vitosha** 79.69 319 *e*P P 18 53 20.2 0.0
comp=Z,23nm,0.7s
VTS **Vitosha** 79.69 319 *e*P P 18 53 21.2 +1.0
VTS **Vitosha** 79.69 319 P P 18 53 20.9 +0.7
VTS **Vitosha** 79.69 319 *e*P P 18 53 20.2 0.0
VTS pmax pmax
comp=Z,23nm,0.7s
MMAI **Mount Meron Ar** 79.71 305 P P 18 53 21.7 +1.3
comp=Z,19nm,0.6s,baz=28,slow=6.5,SNR=63
MANT **Manisa** 79.88 313 *e*P P 18 53 22.3 +0.9
comp=Z,152nm,1.4s
DIVS **Divibare** 80.10 322 *e*P P 18 53 22.2 -0.1
comp=Z,26nm,1.4s
EZN **Ezine** 80.12 315 P pP 18 53 45.6 +5.3
ECSD **EROS Data Cent** 80.13 39 P P 18 53 21.8 -0.5
baz=320
ECSD **EROS Data Cent** 80.13 39 *e*P P 18 53 22.6 +0.3
comp=Z,18nm,1.2s
ECSD *ep*P **pP** 18 53 41.6 +1.3
MMB **Musomiste** 80.17 318 *e*P P 18 53 24.0 +1.3
NVR **Nevrokopi** 80.28 318 P P 18 53 20.3 -3.0
NVR **Nevrokopi** 80.28 318 P P 18 53 20.3 -3.0
PERS **Pernice** 80.28 326 *i*P P 18 53 23.6 +0.4
SOKA **Soboth** 80.29 326 *i*P P 18 53 23.7 +0.5
comp=Z,30nm,1.1s,SNR=17
KKB **Krupnik** 80.29 318 *e*P P 18 53 24.9 +1.6
F38A **Pierce - Schro** 80.54 35 P P 18 53 24.2 -0.2
baz=322
SRS **Serrai** 80.59 318 P P 18 53 26.0 +1.1
SRS pmax pmax
comp=Z,19nm,1.8s
OBKA **Obir** 80.62 326 *i*P P 18 53 25.8 +0.8
comp=Z,16nm,0.7s,SNR=9.3
KBA **Koelnbreinsper** 80.66 327 *i*P P 18 53 26.3 +0.9
comp=Z,18nm,0.9s,SNR=12
KBA **Koelnbreinsper** 80.66 327 P P 18 53 26.7 +1.3
KBA pmax pmax
comp=Z,24nm,1.1s
MHTCO **State Highway** 80.83 48 *e*P P 18 53 28.6 +2.1
comp=Z,8.4nm,0.8s
BCLA **Clavier** 80.87 334 ⇑P P 18 53 26.4 +0.3
BLY **Banja Luka** 80.88 324 *e*P P 18 53 27.7 +1.4
comp=Z,7.6nm,0.7s
SCHQ **Schefferville** 80.89 16 P P 18 53 26.9 +0.7
comp=Z,6.4nm,0.5s,baz=343,slow=9.1,SNR=4.2
SCHQ LR LR 19 33 20.0
comp=Z,66nm,19.9s,baz=310,slow=38
MYKA **Terra Mystica** 80.90 327 *i*P P 18 53 26.3 -0.2
comp=Z,6.8nm,0.5s,SNR=7.9
KNT **Kendrikon** 80.91 318 P P 18 53 21.5 -5.1
SOH **Sokhos** 80.93 318 P P 18 53 27.1 +0.3
SOH pmax pmax
comp=Z,4.0nm,1.0s
VAY **Valandovo** 80.95 318 P P 18 53 24.3 -2.5
VAY **Valandovo** 80.95 318 P P 18 53 24.3 -2.5
VAY **Valandovo** 80.95 318 *i*P P 18 53 27.8 +1.0
VAY **Valandovo** 80.95 318 P P 18 53 24.3 -2.5
PLE **Pljevlja** 80.97 321 ⇑*i*P P 18 53 27.7 +0.7
PLE **Pljevlja** 80.97 321 P P 18 53 28.6 +1.6
OUR **Ouranopolis** 80.97 317 P P 18 53 27.6 +0.7
OUR **Ouranopolis** 80.97 317 P P 18 53 27.6 +0.7
OUR **Ouranopolis** 80.97 317 P P 18 53 27.6 +0.7
E40A **Wakefield** 80.98 33 P P 18 53 27.3 +0.4
baz=323
VISS **Visnje** 81.06 326 *i*P P 18 53 26.7 -0.6
IVA **Berane** 81.08 321 *e*P P 18 53 27.7 +0.1
BOJS **Bojanci** 81.12 325 *e*P P 18 53 27.4 -0.2
WATA **Walderalm** 81.16 328 *i*P P 18 53 28.6 +0.6
comp=Z,8.8nm,0.5s,SNR=10
WTTA **Wattenberg** 81.20 328 *i*P P 18 53 29.4 +1.2
comp=Z,13nm,0.7s,SNR=6.3
WLF **Walferdange** 81.22 333 ⇓P P 18 53 27.4 -0.6
PVY **Plav** 81.26 321 ⇑*i*P P 18 53 28.5 -0.1
ABTA **Abfaltersbach** 81.27 328 *e*P P 18 53 28.6 +0.1
comp=Z,11nm,1.1s
KOME **Kolasin** 81.28 321 ⇑*i*P P 18 53 29.3 +0.7
UPM **Unac-Piva** 81.29 322 ⇑*i*P P 18 53 29.0 +0.2
CHOS **Chios island** 81.32 314 P P 18 53 26.4 -2.5
CHOS **Chios island** 81.32 314 P P 18 53 26.4 -2.5

JAVS **Javornik** 81.32 326 *e*P P 18 53 28.1 -0.6
MOTA **Moosalm** 81.34 329 *i*P P 18 53 29.4 +0.4
comp=Z,31nm,1.0s,SNR=16
RETA **Reutte** 81.36 329 *i*P P 18 53 29.7 +0.8
comp=Z,28nm,1.0s,SNR=7.6
ANMO **Albuquerque** 81.38 51 P P 18 53 30.7 +1.3
baz=315
ANMO **Albuquerque** 81.38 51 *e*P P 18 53 31.3 +1.9
comp=Z,14nm,1.4s
ANMO **Albuquerque** 81.38 51 *e*P P 18 53 31.3 +1.9
ANMO pmax pmax
comp=Z,14nm,1.4s
PAIG **Paliouri** 81.43 317 P P 18 53 29.1 -0.2
PAIG **Paliouri** 81.43 317 P P 18 53 29.1 -0.2
PAIG **Paliouri** 81.43 317 P P 18 53 29.1 -0.2
NKY **Niksic** 81.55 321 *e*P P 18 53 30.1 0.0
KRUS **Krusevo** 81.57 319 *i*P P 18 53 30.4 +0.2
BFO **Black Forest** 81.57 331 *e*P P 18 53 29.7 -0.3
comp=Z,23nm,1.2s
BFO **Black Forest** 81.57 331 *i*P P 18 53 31.4 +1.4
TRI **Trieste** 81.59 326 *e*P P 18 53 29.9 -0.2
comp=Z,24nm,0.9s
TRI **Trieste** 81.59 326 *e*P P 18 53 29.9 -0.2
TRI pmax pmax
comp=Z,24nm,0.9s
NKME **Niksic** 81.61 321 ⇑*i*P P 18 53 29.9 -0.4
BRY **Bratogost** 81.69 322 ⇑*i*P P 18 53 30.9 0.0
BRY **Bratogost** 81.69 322 P P 18 53 31.2 +0.3
PDG **Podgorica** 81.72 321 ⇑*i*P P 18 53 30.9 +0.1
PDG **Podgorica** 81.72 321 P P 18 53 31.5 +0.7
TTG **Podgorica** 81.72 321 ⇑*i*P P 18 53 30.8 0.0
TTG **Podgorica** 81.72 321 *e*P P 18 53 30.6 -0.2
comp=Z,40nm,1.0s
TTG **Podgorica** 81.72 321 *e*P P 18 53 30.6 -0.2
TTG pmax pmax
comp=Z,40nm,1.0s
ARG **Arkhangelos** 81.75 312 P P 18 53 31.7 +0.6
ARG pmax pmax
comp=Z,70nm,0.9s
FETA **Feichten** 81.75 329 *i*P P 18 53 31.5 +0.4
comp=Z,21nm,1.0s,SNR=5.9
CEME **Cevo** 81.79 321 ⇑*i*P P 18 53 31.5 +0.2
BNM **Barren Site** 81.84 51 *e*P P 18 53 33.5 +1.5
DAVA **Damuels** 81.86 329 *i*P P 18 53 32.6 +0.9
comp=Z,9.8nm,0.7s,SNR=7.8
LIT **Litokhoron** 81.91 318 *e*P P 18 53 32.2 +0.3
comp=Z,29nm,1.4s
LIT **Litokhoron** 81.91 318 P P 18 53 31.3 -0.6
LIT **Litokhoron** 81.91 318 *e*P P 18 53 32.2 +0.3
LIT pmax pmax
comp=Z,29nm,1.4s
DRME **Dracevica, Mon** 81.94 321 ⇑*i*P P 18 53 32.8 +0.8
FNA **Florina** 81.95 319 P P 18 53 33.0 +0.8
FNA pmax pmax
comp=Z,10.0nm,0.8s
OHR **Ohrid** 81.99 319 *i*P P 18 53 32.7 +0.4
SLE **Schleitheim** 81.99 330 P P 18 53 32.3 +0.1
SLE pmax pmax
comp=Z,11nm,0.8s
BUM **Brajici-Budva** 81.99 321 ⇑*i*P P 18 53 32.4 +0.1
HCY **Herceg Novi** 82.07 321 ⇑*i*P P 18 53 32.8 +0.1
HCY **Herceg Novi** 82.07 321 P P 18 53 33.0 +0.3
ULC **Ulcinj** 82.09 321 ⇑*i*P P 18 53 33.3 +0.5
ECH **Echery** 82.09 331 *e*P P 18 53 32.8 +0.1
comp=Z,37nm,1.6s
ECH **Echery** 82.09 331 *e*P P 18 53 32.8 +0.1
ECH pmax pmax
comp=Z,37nm,1.6s
XOR **Xorichti** 82.10 317 P P 18 53 32.8 -0.1
XOR **Xorichti** 82.10 317 P P 18 53 32.8 -0.1
TIR **Tirane** 82.26 320 P P 18 53 34.4 +0.7
TIR pmax pmax
comp=Z,35nm,1.3s
FUORN **Ofenpass-Fuorn** 82.26 329 *e*P P 18 53 34.5 +0.6
comp=Z,50nm,0.9s
NEST **Nestorio** 82.39 319 P P 18 53 35.0 +0.5
KARY **Karystos** 82.44 315 P P 18 53 35.0 +0.3
SMIA **Simia** 82.45 316 P P 18 53 35.1 +0.3
RAR **Rarotonga** 82.50 127 LR LR 19 22 26.5
comp=Z,193nm,20.1s,baz=297,slow=30
HINF **Hinteralfeld** 82.54 331 *e*P P 18 53 34.3 -0.8
HINF pmax pmax
comp=Z,54nm,2.2s
HAU **Haudompre** 82.56 332 *e*P P 18 53 34.7 -0.5
HAU pmax pmax
comp=Z,9.0nm,0.9s
LKR **Lokris** 82.73 316 P P 18 53 35.5 -0.7
LKR **Lokris** 82.73 316 P P 18 53 35.5 -0.7
TUE **Stuetta** 82.74 329 *e*P P 18 53 36.2 -0.1
comp=Z,12nm,0.9s
KARP **Karpathos** 82.78 312 *e*P P 18 53 37.0 +0.5
comp=Z,17nm,0.5s
KARP **Karpathos** 82.78 312 P P 18 53 36.8 +0.3
AGG **Agios Georgios** 82.80 317 *e*P P 18 53 36.1 -0.5
comp=Z,34nm,0.9s
AGG **Agios Georgios** 82.80 317 P P 18 53 35.3 -1.3
AGG **Agios Georgios** 82.80 317 *e*P P 18 53 36.1 -0.5
AGG pmax pmax
comp=Z,34nm,0.9s
AXAR **Agios Charalam** 82.82 317 P P 18 53 37.6 +0.9
AXAR **Agios Charalam** 82.82 317 P P 18 53 37.6 +0.9
VLY **Voula,Athens** 82.91 315 P P 18 53 36.5 -0.6
VLY **Voula,Athens** 82.91 315 P P 18 53 36.5 -0.6
DSF **Desfina** 83.16 316 P P 18 53 37.6 -0.9
DSF **Desfina** 83.16 316 P P 18 53 37.6 -0.9
DSF **Desfina** 83.16 316 P P 18 53 37.6 -0.9
ANX **Ano Chora** 83.33 317 P P 18 53 39.4 0.0
ANX **Ano Chora** 83.33 317 P P 18 53 39.4 0.0
DSL **Palaion Diasel** 83.34 318 P P 18 53 39.2 -0.2
DSL **Palaion Diasel** 83.34 318 P P 18 53 39.2 -0.2
KALE **Kalithea** 83.37 317 P P 18 53 39.0 -0.6
KALE **Kalithea** 83.37 317 P P 18 53 39.0 -0.6
KALE **Kalithea** 83.37 317 P P 18 53 39.0 -0.6
SERG **Sergoula** 83.40 317 P P 18 53 38.9 -0.8
SERG **Sergoula** 83.40 317 P P 18 53 38.9 -0.8
SGD **Sagiada** 83.41 319 P P 18 53 39.5 -0.1
SGD **Sagiada** 83.41 319 P P 18 53 39.5 -0.1
IGT **Igoumenitsa** 83.42 318 P P 18 53 39.5 -0.2
IGT **Igoumenitsa** 83.42 318 P P 18 53 39.5 -0.2
IGT **Igoumenitsa** 83.42 318 P P 18 53 39.5 -0.2
IGT **Igoumenitsa** 83.42 318 P P 18 53 39.5 -0.2
TRIZ **Trizonia** 83.43 317 P P 18 53 38.3 -1.4
TRIZ **Trizonia** 83.43 317 P P 18 53 38.3 -1.4
DID **Didima** 83.47 315 P P 18 53 38.0 -2.0
DID **Didima** 83.47 315 P P 18 53 38.0 -2.0
EFP **Efpalio** 83.47 317 P P 18 53 39.5 -0.5
EFP **Efpalio** 83.47 317 P P 18 53 39.5 -0.5
KEK **Kerkira** 83.55 319 P P 18 53 40.2 -0.2
KEK **Kerkira** 83.55 319 P P 18 53 40.2 -0.2
KEK **Kerkira** 83.55 319 P P 18 53 40.2 -0.2
LAKA **Lakka** 83.57 317 P P 18 53 40.7 +0.1
LAKA **Lakka** 83.57 317 P P 18 53 40.7 +0.1
LAKA **Lakka** 83.57 317 P P 18 53 40.7 +0.1
GUR **Goura** 83.61 316 P P 18 53 40.3 -0.6
GUR **Goura** 83.61 316 P P 18 53 40.3 -0.6
GUR **Goura** 83.61 316 P P 18 53 40.3 -0.6
ZKR **Zakros** 83.62 312 P P 18 53 40.5 -0.3
ZKR **Zakros** 83.62 312 P P 18 53 40.5 -0.3
KLV **Kalavryta, Ach** 83.63 316 P P 18 53 40.4 -0.5
KLV **Kalavryta, Ach** 83.63 316 P P 18 53 40.4 -0.5
KLV **Kalavryta, Ach** 83.63 316 P P 18 53 40.4 -0.5
NPS **Neapolis** 83.84 312 P P 18 53 41.5 -0.5
NPS **Neapolis** 83.84 312 P P 18 53 41.5 -0.5
NPS **Neapolis** 83.84 312 P P 18 53 41.5 -0.5
DRO **Drossia** 83.93 317 P P 18 53 40.7 -1.7
LAST **Lasithi** 83.99 312 P P 18 53 42.9 +0.1
LAST **Lasithi** 83.99 312 P P 18 53 42.9 +0.1
VLX **Vlachokerasia** 84.02 316 P P 18 53 41.4 -1.5
VLX **Vlachokerasia** 84.02 316 P P 18 53 41.4 -1.5
VLX **Vlachokerasia** 84.02 316 P P 18 53 41.4 -1.5
FLN **La Foliniere** 84.16 336 *e*P P 18 53 42.8 -0.5
FLN pmax pmax
comp=Z,135nm,1.8s
LDF **La Druitiere** 84.20 336 *e*P P 18 53 42.9 -0.6
LDF pmax pmax
comp=Z,39nm,1.4s
IDI **Anoyia** 84.22 313 P P 18 53 43.3 -0.6
comp=Z,54nm,0.8s,baz=53,slow=7.2,SNR=47
IDI **Anoyia** 84.22 313 ⇑*i*P P 18 53 43.4 -0.6
IDI **Anoyia** 84.22 313 *e*P P 18 53 43.2 -0.8
comp=Z,44nm,0.8s
AMT **Artemida-Makis** 84.24 316 P P 18 53 42.6 -1.4
AMT **Artemida-Makis** 84.24 316 P P 18 53 42.6 -1.4

MATE **Matera** 84.31 321 ⇑*i*P P 18 53 44.2 0.0
MNTX **Cornudas Mount** 84.32 52 P P 18 53 45.5 +1.0
baz=316
MNTX **Cornudas Mount** 84.32 52 *e*P P 18 53 46.0 +1.5
comp=Z,22nm,1.5s
SSF **Saint Saulge** 84.36 333 *e*P P 18 53 44.1 -0.3
SSF pmax pmax
comp=Z,10.0nm,0.8s
ITM **Ithomi** 84.40 316 P P 18 53 43.9 -0.9
ITM **Ithomi** 84.40 316 P P 18 53 43.9 -0.9
ITM **Ithomi** 84.40 316 P P 18 53 43.9 -0.9
AQU **L'Aquila** 84.45 324 *e*P P 18 53 46.5 +1.5
comp=Z,26nm,1.0s
AQU **L'Aquila** 84.45 324 *e*P P 18 53 46.5 +1.5
AQU pmax pmax
comp=Z,26nm,1.0s
SIVA **Sivas** 84.47 313 P P 18 53 45.3 +0.2
SIVA **Sivas** 84.47 313 P P 18 53 45.3 +0.2
VAM **Vamos** 84.51 313 P P 18 53 46.0 +0.6
VAM **Vamos** 84.51 313 P P 18 53 46.0 +0.6
VAM **Vamos** 84.51 313 P P 18 53 46.0 +0.6
LPL **La Plagne** 84.53 330 *e*P P 18 53 45.7 +0.1
LPL pmax pmax
comp=Z,19nm,0.7s
LPG **La Plagne** 84.54 330 *e*P P 18 53 45.9 +0.2
LPG pmax pmax
comp=Z,25nm,0.7s
IMMV **Iera Moni Meta** 84.59 314 P P 18 53 45.5 -0.3
GRR **Gorron** 84.61 336 *e*P P 18 53 45.3 -0.3
GRR pmax pmax
comp=Z,8.0nm,0.6s
SMF **Signal de Mont** 84.61 332 *e*P P 18 53 45.5 -0.2
AVF **Avril sur Loir** 84.65 333 *e*P P 18 53 45.7 -0.1
AVF pmax pmax
comp=Z,88nm,1.4s
ANKY **Antikythira Is** 84.66 314 P P 18 53 45.1 -1.0
ANKY **Antikythira Is** 84.66 314 P P 18 53 45.1 -1.0
PYL **PYLOS** 84.71 316 P P 18 53 45.1 -1.2
PYL **PYLOS** 84.71 316 P P 18 53 45.1 -1.2
PYL **PYLOS** 84.71 316 P P 18 53 45.1 -1.2
BNI **Bardonecchia** 84.95 330 *e*P P 18 53 48.4 +0.8
comp=Z,20nm,1.0s
BNI **Bardonecchia** 84.95 330 *e*P P 18 53 48.4 +0.8
BNI pmax pmax
comp=Z,20nm,1.0s
MBDF **Montbardon** 85.19 330 *e*P P 18 53 48.2 -0.6
MBDF pmax pmax
comp=Z,19nm,0.8s
CUC **Castrocucco** 85.24 321 *e*P P 18 53 48.1 -0.9
comp=Z,12nm,1.3s
ORIF **Oris-en-Rattie** 85.36 330 *e*P P 18 53 49.5 -0.1
ORIF pmax pmax
comp=Z,18nm,0.7s
TIP **Timpagrande** 85.44 320 *e*P P 18 53 50.8 +0.8
comp=Z,54nm,1.5s
TCF **Toulx Ste Croi** 85.48 333 *e*P P 18 53 51.2 +1.2
TCF pmax pmax
comp=Z,22nm,1.1s
Q39A **Willow Grove F** 85.49 40 P P 18 53 49.9 -0.3
baz=322
SAOF **Saorge** 85.51 329 P P 18 53 49.8 -0.5
SAOF pmax pmax
comp=Z,33nm,2.4s
SSB **Saint Sauveur** 85.54 331 *e*P P 18 53 50.8 +0.4
comp=Z,79nm,1.9s
SSB **Saint Sauveur** 85.54 331 *e*P P 18 53 50.8 +0.4
SSB pmax pmax
comp=Z,79nm,1.9s
P40A **Paris** 85.55 39 P P 18 53 50.2 -0.2
baz=323
PMOR **Pomariorio Ree** 85.62 114 *e*T T 20 27 38.4
comp=Z,36nm,0.2s
QUIF **Quistinic** 85.72 337 *e*P P 18 53 50.4 -0.7
QUIF pmax pmax
comp=Z,121nm,1.8s
WMOK **Wichita Mounta** 85.84 46 P P 18 53 52.2 +0.2
baz=319
WMOK **Wichita Mounta** 85.84 46 *ep*P pP 18 54 10.3 +0.2
VIVF **Saint-Julien-l** 85.86 331 *e*P P 18 53 52.0 +0.1
VIVF pmax pmax
comp=Z,30nm,1.1s
DAMY **Dhamar** 86.01 286 *e*P P 18 53 54.7 +1.2
comp=Z,98nm,1.6s
R39A **Chumby, Stover** 86.03 40 P P 18 53 52.7 -0.2
baz=322
PPT **Papeete** 86.30 117 LR LR 19 25 33.0
comp=Z,267nm,20.3s,baz=320,slow=31
PPT2 **Papeete2** 86.31 117 *e*S S 19 04 28.1 +3.2
comp=Z,103nm,26.2s
PPT2 **Papeete2** 86.31 117 *e*LR LR 19 21 01.4
comp=Z,719nm,25.8s,baz=310
S39A **Bolivar** 86.38 41 P P 18 53 54.9 +0.3
baz=322
Q41A **Truxton** 86.39 39 P P 18 53 55.0 +0.4
baz=323
T38A **Diamond** 86.41 42 P P 18 53 54.9 +0.1
baz=321
R40A **Maddies Statio** 86.42 40 P P 18 53 54.7 -0.1
baz=323
RJF **Les Rejaudoux** 86.57 333 *e*P P 18 53 55.7 +0.3
RJF pmax pmax
comp=Z,28nm,0.9s
LPIG **La Paz** 86.60 61 LR LR 19 26 08.6
comp=Z,67nm,21.0s,baz=210,slow=31
CAF **Calviac** 86.72 333 *e*P P 18 53 56.9 +0.7
CAF pmax pmax
comp=Z,34nm,0.8s
TRQ **Mont Tremblant** 86.75 24 *e*P P 18 53 56.7 +0.3
TRQ *ep*P **pP** 18 54 15.3 +0.8
TAOE **Nuku Hiva Isla** 86.88 105 *e*LR LR 19 21 35.9
comp=Z,503nm,23.8s,baz=316
TX31 **Lajitas Ar. Si** 87.05 53 *e*P P 18 53 59.1 +1.0
TXAR **Lajitas Array** 87.05 53 P P 18 53 58.7 +0.6
comp=Z,0.6nm,0.5s,baz=310,slow=4.4,SNR=12
CCM **Cathedral Cave** 87.10 39 P P 18 53 58.2 +0.1
baz=323
CCM **Cathedral Cave** 87.10 39 *e*P P 18 53 58.7 +0.6
comp=Z,18nm,1.0s
CCM **Cathedral Cave** 87.10 39 *e*P P 18 53 58.7 +0.6
CCM pmax pmax
comp=Z,17nm,1.0s
LFF **La Frestale** 87.16 334 *e*P P 18 53 58.9 +0.7
LFF pmax pmax
comp=Z,28nm,0.8s
U39A **Green Forest** 87.33 42 P P 18 53 59.0 -0.2
baz=322
S42A **Caledonia** 87.54 39 P P 18 53 59.9 -0.3
baz=323
U40A **Yellville** 87.66 41 P P 18 54 00.6 -0.2
baz=322
T42A **Van Buren** 87.99 40 P P 18 54 02.1 -0.2
baz=323
MTLF **Montolieu** 88.05 332 *e*P P 18 54 03.6 +1.0
MTLF pmax pmax
comp=Z,58nm,1.6s
MIAR **Mount Ida** 88.72 43 *ep*P pP 18 54 25.4 +1.3
ACSO **Alum Creek Sta** 88.95 33 P P 18 54 06.9 +0.1
baz=328
ATD **Arta Tunnel** 89.15 285 P P 18 54 08.8 +0.5
comp=Z,13nm,0.9s,baz=323,slow=20,SNR=4.5
M54A **Oil Creek Stat** 89.15 30 *e*P P 18 54 08.3 +0.5
comp=Z,14nm,0.8s
ETSF **Etsaut** 89.40 333 *e*P P 18 54 10.4 +1.4
ETSF pmax pmax
comp=Z,10.0nm,0.7s
N54A **Moraine State** 89.50 30 P P 18 54 09.5 0.0
baz=330
N54A **Moraine State** 89.50 30 *e*P P 18 54 09.3 -0.2
comp=Z,73nm,1.6s
V46A **Holladay** 90.39 39 P P 18 54 12.1 -1.6
baz=325
TBI **Tubuai** 90.49 121 *e*T T 20 33 47.4
comp=Z,42nm,0.3s
SSPA **Standing Stone** 90.57 29 P P 18 54 12.8 -1.6
baz=331
SSPA **Standing Stone** 90.57 29 *e*P P 18 54 12.8 -1.6
comp=Z,43nm,1.3s
N59A **State Game Lan** 91.08 28 P P 18 54 17.3 +0.5
baz=333
N59A **State Game Lan** 91.08 28 *e*P P 18 54 18.4 +1.5
comp=Z,27nm,1.2s
N59A *ep*P **pP** 18 54 36.0 +0.9
KEST **Kesra** 91.68 323 P P 18 54 19.9 +0.1
comp=Z,4.0nm,0.6s,baz=338,slow=2.5,SNR=9.4
KEST LR LR 19 40 09.7
comp=Z,410nm,19.7s,baz=334,slow=38

KEST	**Kesra**	**91.68**	**323**	*e*P		**P**	**18 54 19.8**	**+0.1**
	comp=Z,10nm,1.1s							
X48A	**Hartselle**	**92.00**	**39**	P		**P**	**18 54 21.2**	**0.0**
	baz=326							
TKL	**Tuckaleechee C**	**92.48**	**36**	LR		LR	19 39 54.8	
	comp=Z,131nm,18.8s,baz=335,slow=38							
ES19	**SONSECA Array**	**93.37**	**334**	*e*P		**P**	**18 54 27.4**	**-0.1**
ESDC	**Sonseca Array**	**93.42**	**334**	P		**P**	**18 54 27.6**	**-0.1**
	comp=Z,3.2nm,0.6s,baz=19,slow=4.1,SNR=23							
ESDC				LR		LR	19 42 12.6	
	comp=Z,130nm,21.6s,baz=55,slow=39							
Z50A	**Ashland**	**93.51**	**39**	P		**P**	**18 54 28.0**	**-0.1**
	baz=326							
RKT	**Rikitea**	**100.06**	**112**	*e*LR		LR	19 27 30.8	
	comp=Z,431nm,32.8s							
TORD	**Torodi Ar. Bea**	**114.39**	**317**	PKP		PKPdf	18 59 51.1	-1.1
	comp=Z,0.6nm,0.6s,baz=17,slow=2.2,SNR=6.5							
TORD				PP		**PP**	**19 00 46.2**	**-2.0**
	comp=Z,2.7nm,1.0s,baz=26,slow=6.3,SNR=4.7							
KOWA	**Kowa**	**115.98**	**323**	PKP		**PKPdf**	**18 59 55.0**	**-0.3**
	comp=Z,1.1nm,0.5s,baz=139,slow=1.2,SNR=3.7							
VNDA	**Vanda**	**119.43**	**175**	PKP		**PKPdf**	**18 59 59.5**	**-0.5**
	comp=Z,0.6nm,0.6s,baz=103,slow=14,SNR=5.6							
DBIC	**Dimbokro**	**123.21**	**319**	PKP		**PKPdf**	**19 00 08.8**	**-0.4**
	comp=Z,2.0nm,0.6s,baz=20,slow=2.9,SNR=4.3							
BOSA	**Boshof**	**127.68**	**263**	PKP		**PKPdf**	**19 00 18.2**	**+0.7**
	comp=Z,2.4nm,0.9s,baz=159,slow=15,SNR=3.5							
QSPA	**South Pole Qui**	**131.28**	**180**	PKP		**PKPdf**	**19 00 23.0**	**-0.1**
	comp=Z,1.9nm,0.7s,baz=318,slow=3.0,SNR=5.4							
LPAZ	**La Paz**	**143.89**	**55**	PKP		PKPbc	19 00 47.2	+0.9
	comp=Z,0.7nm,0.5s,baz=333,slow=4.5,SNR=2.9							
MNMC	**Minye Minye**	**145.09**	**60**	*e*PKPbc		**PKPdf**	**19 00 50.6**	**+0.6**
SNAA	**Sanae**	**145.17**	**199**	PKPbc		**PKPbc**	**19 00 47.5**	**-0.5**
	comp=Z,12nm,0.6s,baz=171,slow=11,SNR=23							
PB11	**IPOC Station P**	**145.50**	**61**	*e*PKPdf		**PKPab**	**19 00 51.2**	**+0.2**

*NEIC **26** 18:43:53.0±0.0, 18°.10N×68°.07W, h43km, MD3.3(RSPR), After RSPR.*

RSPR 26 18:43:53.0, 18°.10N×68°.07W, h43km±4km, MD3.3/8, 10C-10D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IDE	**Isla Desecheo**	**0.63**	**63**	*e*S	Sn	18 44 13.8	-0.8
IDE	**Isla Desecheo**	**0.63**	**63**	*e*P	Pn	18 44 04.3	-1.3
IDE	**Isla Desecheo**	**0.63**	**63**	*e*P	Pn	18 44 04.3	-1.3
IDE				*e*S	Sn	18 44 13.8	-0.8
CRPR	**Cabo Rojo, PR**	**0.91**	**95**	*e*S	Sn	18 44 20.8	-0.6
CRPR	**Cabo Rojo, PR**	**0.91**	**95**	*e*P	Pn	18 44 07.9	-1.5
CRPR	**Cabo Rojo, PR**	**0.91**	**95**	*e*P	Pn	18 44 07.9	-1.5
CRPR				*e*S	Sn	18 44 20.8	-0.6
LSP	**Las Mesas**	**0.94**	**85**	*e*S	Sn	18 44 20.7	-1.2
LSP	**Las Mesas**	**0.94**	**85**	*e*P	Pn	18 44 08.7	-1.0
LSP	**Las Mesas**	**0.94**	**85**	*e*P	Pn	18 44 08.7	-1.0
LSP				*e*S	Sn	18 44 20.7	-1.2
AGPR	**Aguadilla, PR**	**0.98**	**68**	*e*S	Sn	18 44 21.4	-1.6
AGPR	**Aguadilla, PR**	**0.98**	**68**	*e*P	Pn	18 44 09.3	-1.0
AGPR	**Aguadilla, PR**	**0.98**	**68**	*e*P	Pn	18 44 09.3	-1.0
AGPR				*e*S	Sn	18 44 21.4	-1.6
AOPR	**Arecibo Observ**	**1.27**	**79**	*e*P	Pn	18 44 13.3	-1.0
AOPR	**Arecibo Observ**	**1.27**	**79**	*e*S	Sn	18 44 29.0	-1.2
AOPR	**Arecibo Observ**	**1.27**	**79**	*e*P	Pn	18 44 13.3	-1.0
AOPR				*e*S	Sn	18 44 29.0	-1.2
CELP	**Cerrillos**	**1.41**	**91**	*e*P	Pn	18 44 15.0	-1.3
CELP				*e*S	Sn	18 44 32.2	-1.5
CELP	**Cerrillos**	**1.41**	**91**	*e*P	Pn	18 44 15.0	-1.3
DR12	**Loma Pena Alta**	**1.43**	**299**	*e*P	Pn	18 44 15.8	-0.6
DR12				*e*S	Sn	18 44 32.6	-1.4
DR12	**Loma Pena Alta**	**1.43**	**299**	*e*P	Pn	18 44 15.8	-0.6
EMPR	**Esperanza - Ma**	**1.51**	**75**	*e*P	Pn	18 44 17.1	-0.4
EMPR	**Esperanza - Ma**	**1.51**	**75**	*e*S	Sn	18 44 35.3	-0.7
EMPR	**Esperanza - Ma**	**1.51**	**75**	*e*P	Pn	18 44 17.1	-0.4
EMPR				*e*S	Sn	18 44 35.3	-0.7
SJG	**San Juan**	**1.82**	**89**	*e*S	Sn	18 44 43.2	-0.5
SJG	**San Juan**	**1.82**	**89**	*e*Pn	Pn	18 44 20.4	-1.4
CBYP	**Canovanas**	**2.11**	**85**	*e*P	Pn	18 44 24.6	-1.2
CBYP	**Canovanas**	**2.11**	**85**	*e*S	Sn	18 44 49.9	-0.9
CBYP	**Canovanas**	**2.11**	**85**	*e*P	Pn	18 44 24.6	-1.2
CBYP				*e*S	Sn	18 44 49.9	-0.9
HUMP	**Col San Antoni**	**2.11**	**88**	*e*S	Sn	18 44 50.1	-0.7
MTP	**Monte Pirata**	**2.39**	**90**	*e*P	Pn	18 44 28.5	-1.2
MTP	**Monte Pirata**	**2.39**	**90**	*e*S	Sn	18 44 56.2	-1.5
MTP	**Monte Pirata**	**2.39**	**90**	*e*P	Pn	18 44 28.5	-1.2
MTP				*e*S	Sn	18 44 56.2	-1.5
SDDR	**Presa de Saban**	**3.18**	**287**	*e*Pn	Pn	18 44 43.8	+3.2

JMA 26 18:44:34.0±0.1, 41°.47N×142°.01E, h62km±2km, M3.7, 2D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JOT	**Ohata**	**0.73**	**263**	P	Pn	18 44 48.6	-0.1
JOT				S	Sn	18 44 59.8	+0.3
JKB	**Kayabe**	**0.84**	**300**	P	Pn	18 44 49.8	-0.3
JNBK	**Urakawa-nobuka**	**0.98**	**34**	P	Pn	18 44 51.8	-0.1
JNBK				*e*S	Sn	18 45 05.1	0.0
JTM	**Tenmabayashi**	**0.99**	**226**	P	Pn	18 44 52.3	+0.4
JTM				S	Sn	18 45 05.3	+0.1
JEM	**Erimo**	**1.02**	**57**	P	Pn	18 44 52.0	-0.3
JEM				*e*S	Sn	18 45 05.9	0.0
JANG	**Nango**	**1.16**	**199**	P	Pn	18 44 54.0	-0.2
JANG				S	Sn	18 45 08.6	-0.6
JSR	**Shiriuchi**	**1.20**	**273**	P	Pn	18 44 55.1	+0.4
JNB	**Noboribetsu**	**1.23**	**324**	P	Pn	18 44 54.7	-0.5
JNB				S	Sn	18 45 10.4	-0.6
JBT2	**Biratori 2**	**1.33**	**11**	P	Pn	18 44 57.4	+0.9
JBT2				S	Sn	18 45 14.9	+1.6
JYM2	**Yakumo 2**	**1.39**	**298**	P	Pn	18 44 57.8	+0.6
JEW	**Eniwo**	**1.43**	**343**	P	Pn	18 44 58.1	+0.3
JEW				*e*S	Sn	18 45 15.8	+0.1
JCH	**Churui**	**1.52**	**41**	P	Pn	18 44 59.8	+0.8
JCH				*e*S	Sn	18 45 18.8	+0.9
JOSM	**Okushiri--Mats**	**1.99**	**289**	P	Pn	18 45 05.2	-0.1
JOSM				*e*S	Sn	18 45 28.9	-0.3

*ISN **26** 18:47:07.2±1.0, 32°.46N×46°.99E, h5km±8km, ML2.9*
*CSEM **26** 18:47:07.2, 32°.46N×46°.99E, h5km, ML2.9*
*TEH **26** 18:47:08.0, 32°.47N×46°.94E, h5km, ML2.9*

ISC 26 18:47:06.9±3.2, 32°.44N±0°.06×46°.98E±0°.08, h7km±24km, n9, o0°.84/14, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IKFM	**Kafar-mosalman**	**1.31**	**34**	*e*Pg	**Pn**	**18 47 31.2**	**-0.3**
IKFM				*e*Sg	**Sg**	**18 47 48.3**	**-0.6**
IKFM				*e*AMB	AMB	18 48 00.4	
	comp=Z,99nm,0.3s						
NSR	**Nassriya**	**1.59**	**207**	*e*Pn	**Pn**	**18 47 36.0**	**+0.5**
	SNR=5.0						
NSR				*e*Sn	**Sn**	**18 47 56.0**	**-0.3**
	SNR=5.0						
IKOM	**Komasi**	**1.79**	**14**	*e*Pn	**Pn**	**18 47 39.4**	**+1.1**
IKOM				*e*Sg	**Sb**	**18 48 03.3**	**+0.5**
IKOM				*e*AMB	AMB	18 48 09.3	
	comp=Z,2µm,0.2s						
IGHG	**Ghaleghazi**	**1.92**	**350**	*e*Pn	**Pn**	**18 47 41.4**	**+1.2**
IGHG				*e*Sg	**Sb**	**18 48 06.3**	**-0.3**
IGHG				*e*AMB	AMB	18 48 12.6	
	comp=N,2µm,0.2s						
IVIS	**Veis**	**2.09**	**357**	*e*Pn	**Pn**	**18 47 42.5**	**+0.1**
IVIS				*e*AMB	AMB	18 48 14.6	
	comp=Z,593nm,0.2s						
IDHR	**Dehrash**	**2.31**	**348**	*e*AMB	AMB	18 48 22.7	
	comp=Z,928nm,0.2s						
BHD	**Baghdad**	**2.34**	**291**	*e*Pn	**Pn**	**18 47 46.0**	**+0.2**
	SNR=5.0						
BHD				*e*Sn	**Sn**	**18 48 15.0**	**+0.2**
	SNR=5.0						
ILIN	**Lien**	**2.48**	**360**	*e*Pn	**Pn**	**18 47 48.3**	**+0.4**
ILIN				*e*AMB	AMB	18 48 27.4	
	comp=Z,236nm,0.1s						
RTB	**Rutbah**	**5.66**	**278**	*e*Pn	**Pn**	**18 48 32.0**	**+0.6**
	SNR=5.0						
RTB				*e*Sn	**Sn**	**18 49 35.0**	**-1.6**
	SNR=5.0						

*DDA **26** 18:51:51.6, 42°.19N×44°.43E, h42km, Md2.2*
*CSEM **26** 18:51:52.3±0.3, 41°.43N×44°.07E, h10km, ML1.7, Error ellipse: s-maj=17.5km s-min=4.2km az=167.0*

TIF 26 18:51:51.8, 41°.46N×44°.06E, h9km±3km, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AKH	**Akhalkalaki**	**0.43**	**264**	P	Pb	18 52 01.1	-0.6
AKH				S	Sb	18 52 07.4	-1.0
AKH	**Akhalkalaki**	**0.43**	**264**	P	Pb	18 52 01.1	-0.6
AKH				S	Sb	18 52 07.4	-1.0
TBLG	**Delisi**	**0.58**	**62**	P	Pb	18 52 04.0	-0.1
TBLG				S	Sb	18 52 12.4	0.0
TBLG	**Delisi**	**0.58**	**62**	P	Pb	18 52 04.0	-0.1
BTNK	**Botanikuri**	**0.60**	**68**	P	Pb	18 52 04.2	-0.3
BTNK				S	Sb	18 52 12.8	-0.3
BTNK	**Botanikuri**	**0.60**	**68**	P	Pb	18 52 04.2	-0.3
BTNK				S	Sb	18 52 12.8	-0.2
SEAG	**Tbilisi Sea**	**0.64**	**61**	P	Pg	18 52 04.1	0.0
SEAG				S	Sg	18 52 13.1	+0.7
SEAG	**Tbilisi Sea**	**0.64**	**61**	P	Pg	18 52 04.1	0.0
SEAG				S	Sg	18 52 13.1	+0.7
DGRG	**David-gareji**	**0.99**	**90**	P	Pg	18 52 10.7	-0.1
DGRG				S	Sn	18 52 25.7	-0.4
DGRG	**David-gareji**	**0.99**	**90**	P	Pg	18 52 10.7	0.0
DGRG				S	Sn	18 52 25.7	-0.3

*CSEM **26** 18:53:14.4±0.5, 38°.39N×20°.46E, h10km, ML1.8, Error ellipse: s-maj=10.1km s-min=5.8km az=77.0*

ATH 26 18:53:13.5, 38°.42N×20°.40E, h15km±6km, ML1.8/4, Error ellipse: s-maj=6.4km s-min=1.0km az=117.0, Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FSK	**Fiskardo**	**0.13**	**73**	P	Pg	18 53 16.0	-1.1
VLS	**Valsamata**	**0.28**	**149**	P	Pg	18 53 19.8	+0.3
VLS				S	Sg	18 53 24.1	+0.5
VLS				AML	AML	18 53 24.4	
	comp=E,576µm,0.2s						
VLS				AML	AML	18 53 26.1	
	comp=N,646µm,0.4s						
VLS	**Valsamata**	**0.28**	**149**	P	Pg	18 53 19.6	+0.1
VLS	**Valsamata**	**0.28**	**149**	P	Pg	18 53 19.6	+0.1
VLS				S	Sg	18 53 24.0	+0.4
MGNA	**Meganis,,,**	**0.39**	**52**	P	Pg	18 53 20.7	-0.6
MGNA				S	Sg	18 53 26.1	-0.5
MGNA	**Meganis,,,**	**0.39**	**52**	P	Pg	18 53 21.0	-0.3
MGNA				S	Sg	18 53 26.5	-0.1
LKD2	**Lefkada island**	**0.42**	**29**	P	Pg	18 53 21.9	0.0
LKD2				S	Sg	18 53 27.9	+0.2
LKD2				AML	AML	18 53 28.8	
	comp=N,190µm,0.4s						
LKD2				AML	AML	18 53 28.9	
	comp=E,131µm,0.2s						
LKD2	**Lefkada island**	**0.42**	**29**	P	Pg	18 53 21.9	0.0
LKD2	**Lefkada island**	**0.42**	**29**	P	Pg	18 53 21.9	0.0
LKD2				S	Sg	18 53 27.9	+0.2
KFL	**Anninata**	**0.43**	**135**	P	Pg	18 53 22.1	-0.1
KFL				S	Sg	18 53 28.6	+0.5
KFL				AML	AML	18 53 29.5	
	comp=N,664µm,0.3s						
KFL				AML	AML	18 53 32.6	
	comp=E,678µm,0.4s						
KFL	**Anninata**	**0.43**	**135**	P	Pg	18 53 22.1	-0.1
KFL	**Anninata**	**0.43**	**135**	P	Pg	18 53 22.1	-0.1
KFL				S	Sg	18 53 28.5	+0.4
PDO	**Prodromos**	**0.64**	**74**	P	Pg	18 53 24.8	-1.2
PDO				S	Sb	18 53 35.2	+0.2
PDO				AML	AML	18 53 40.4	
	comp=E,140µm,0.4s						
PDO				AML	AML	18 53 41.0	
	comp=N,176µm,0.3s						
PDO	**Prodromos**	**0.64**	**74**	P	Pg	18 53 25.3	-0.7
PDO				S	Sb	18 53 35.0	-0.1
DSL	**Palaion Diasel**	**0.90**	**37**	P	Pb	18 53 30.8	0.0
DSL				S	Sn	18 53 44.2	-0.1
DSL	**Palaion Diasel**	**0.90**	**37**	P	Pb	18 53 30.7	0.0
DSL				S	Sn	18 53 43.6	-0.7
RLS	**Riolos of Patr**	**0.91**	**113**	P	Pb	18 53 30.6	-0.4
RLS	**Riolos of Patr**	**0.91**	**113**	P	Pb	18 53 30.7	-0.3

*NIED **26** 19:20:00, 37°.30N×144°.00E, h8km, Mw3.7 Best double couple: M0 4.21000×10^14 NP1:φs49.00000°, δ37.00000°, λ-65.00000°. NP2:φs199.00000°, δ57.00000°, λ-108.00000°.*
*IDC **26** 19:20:42.5±1.9, 37°.21N×144°.19E, h0km, mb3.3/3, mb1 3.7/8, mb1mx3.5/70, mbtmp3.7/8, ML3.6/4, Error ellipse: s-maj=41.8km s-min=22.4km az=149.0*
*ISCJB **26** 19:20:45.4±0.9, 37°.25N±0°.07×144°.05E±0°.07, h33km, mb3.4/3, Error ellipse: s-maj=10.9km s-min=7.1km az=160.6*
*JMA **26** 19:20:46.4±0.2, 37°.27N×143°.97E, h55km, M4.0*

ISC 26 19:20:46.2±1.3, 37°.22N±0°.07×144°.14E±0°.09, h35km, n23, σ2s32/27, mb3.5/3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JIO	**Ouri**	**2.53**	**300**	P	**Pn**	**19 21 24.2**	**-0.5**
JIO				S	**Sn**	**19 21 52.3**	**-2.0**
JFK	**Kawauchi**	**2.60**	**274**	P	**Pn**	**19 21 25.4**	**-0.5**
JFK				S	**Sn**	**19 21 54.8**	**-1.5**
ONAJ	**Iwakimizuishiy**	**2.67**	**268**	P	**Pn**	**19 21 26.0**	**-0.8**
ONAJ				S	**Sn**	**19 21 56.3**	**-1.6**
JMM	**Marumori**	**2.73**	**285**	P	**Pn**	**19 21 26.9**	**-0.7**
JFT	**Otama**	**3.04**	**277**	S	**Sn**	**19 22 05.7**	**-1.3**
JOM	**Ohasama**	**3.17**	**316**	P	**Pn**	**19 21 33.1**	**-0.5**
JYK	**Kaneyama**	**3.43**	**301**	P	**Pn**	**19 21 37.3**	**+0.2**
JAG	**Ashikaga**	**3.84**	**259**	P	**Pn**	**19 21 42.9**	**+0.1**
JRY	**Ryogami san**	**4.38**	**256**	P	**Pn**	**19 21 50.0**	**-0.3**
JOD2	**Odawara 2**	**4.52**	**246**	P	**Pn**	**19 21 51.8**	**-0.4**
MJAR	**Matsushiro Arr**	**4.80**	**264**	Pn	**Pn**	**19 21 57.0**	**+0.9**
	4.7nm,0.3s,baz=88,slow=14,SNR=45						
MJAR				Sn	**Sn**	**19 22 50.8**	**+0.4**
	1.5nm,0.3s,baz=156,slow=16,SNR=3.3						
MAT	**Matsushiro**	**4.80**	**264**	P	**Pn**	**19 21 57.6**	**+1.6**
MAT				S	**Sn**	**19 22 45.1**	**-5.3**
JHJ	**Hachijo jima 2**	**5.43**	**222**	Pn	**Pn**	**19 22 03.9**	**-0.8**
	6.3nm,0.3s,baz=134,slow=5.6,SNR=7.7						
JHJ				Sn	**Sn**	**19 23 00.1**	**-5.8**
	9.8nm,0.3s,baz=262,slow=18,SNR=4.2						
ASAJ	**Asahikawa**	**6.99**	**351**	Pn	**Pn**	**19 22 24.8**	**-1.2**
	1.3nm,0.3s,baz=276,slow=16,SNR=11						
ASAJ				Sn	**Sn**	**19 23 38.6**	**-5.6**
	0.4nm,0.3s,baz=144,slow=19,SNR=3.0						
USRK	**Ussuriysk Ar.**	**11.55**	**311**	Pn	**Pn**	**19 23 29.0**	**+0.5**
	0.1nm,0.3s,baz=85,slow=16,SNR=2.4						
KSRS	**Korea Array**	**12.91**	**276**	Pn	**Pn**	**19 23 50.1**	**+3.0**
	0.1nm,0.3s,baz=85,slow=14,SNR=3.3						
H11N2	**WAKE ISLAND Hy**	**26.42**	**125**	T	T	19 53 22.0	
	baz=316,slow=75,SNR=6.1						
H11N1	**WAKE ISLAND Hy**	**26.43**	**125**	T	T	19 53 20.4	
	baz=316,slow=75,SNR=3.4						
H11N3	**WAKE ISLAND Hy**	**26.44**	**125**	T	T	19 53 07.6	
	baz=316,slow=75,SNR=6.6						
MKAR	**Makanchi Array**	**45.86**	**302**	P	**P**	**19 29 06.4**	**+1.5**
	0.2nm,0.8s,baz=72,slow=14,SNR=2.5						
KURBB	**Kurchatov Arra**	**47.60**	**308**	P	**P**	**19 29 19.9**	**+1.5**
	0.2nm,0.4s,baz=82,slow=8.1,SNR=3.7						
ILAR	**Eielson Array**	**48.17**	**32**	P	**P**	**19 29 24.0**	**+1.3**
	0.8nm,0.9s,baz=267,slow=6.4,SNR=6.0						
INK	**Inuvik**	**53.22**	**27**	P	**P**	**19 30 02.4**	**+1.7**
	baz=278,slow=5.6						

*ISCJB **26** 19:21:40.9±0.5, 2°.68N±0°.02×94°.49E±0°.02, h7km±3km, mb5.4/264, MS5.2/243, Error ellipse: s-maj=3.4km s-min=2.2km az=29.8*
*IDC **26** 19:21:41.7±0.3, 2°.67N×94°.52E, h0km, mb5.2/55, mb1 5.1/59, mb1mx5.1/70, mbtmp5.1/59, ML4.4/4, MS4.9/62, Ms1 4.9/62, ms1mx4.9/75, Error ellipse: s-maj=10.6km s-min=7.6km az=33.0*
*GCMT **26** 19:21:42.6±0.1, 2°.55N×94°.39E, h12km, MW5.4/126, Moment Tensor Solution. s91,c135; s126,c288; Duration: 1s2 Moment tensor: Scale 10^17 Nm; Mrr 1.41±.02; Mθθ-0.83±.01; Mφφ-0.58±.02; Mrθ-0.19±.04; Mθφ 0.71±.01; Mφr-0.37±.05; Best double couple: M0 1.47900×10^17 NP1:φs145.00000°, δ49.00000°, λ110.00000°. NP2:φs295.00000°, δ45.00000°, λ68.00000°. Principal axes: T 1.5240, Plg75.0000°, Azm124.0000°; N -0.0950, Plg15.0000°, Azm311.0000°; P -1.4330, Plg2.0000°, Azm221.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*NEIC **26** 19:21:42.6±1.9, 2°.70N×94°.46E, h8km±11km, mb5.5/85, MS5.4/143, MW5.6 Error ellipse: s-maj=5.0km s-min=3.1km az=219.0, Moment Tensor Solution. s35 Moment tensor: Scale 10^17 Nm; Mrr 2.78; Mθθ-1.88; Mφφ-0.90; Mrθ-0.13; Mθφ 1.08; Mφr-0.08; Best double couple: M0 2.70000×10^17 NP1:φs125.00000°, δ44.00000°, λ94.00000°. NP2:φs300.00000°, δ46.00000°, λ86.00000°. Principal axes: T 2.7900, Plg87.0000°, Azm138.0000°; N -0.2200, Plg3.0000°, Azm303.0000°; P -2.5700, Plg1.0000°, Azm33.0000°;*
*DJA **26** 19:21:43.8±0.2, 3°.N±2°×9°.5E±°, h10km, M5.4/72, mb5.5/72, mB5.8/66, MLv5.7/15, Mw(mB)5.4/66, Mwp5.6/6*
*BJI **26** 19:21:43.7, 2°.69N×94°.49E, h27km, mb5.5/88, mB5.7/81, Ms5.9/96, Ms7 5.6/90*
*MOS **26** 19:21:44.1±1.0, 2°.76N×94°.50E, h27km, mb5.7/97, MS5.1/30, Error ellipse: s-maj=6.3km s-min=3.4km az=121.3*

ISC 26 19:21:46.3±0.3, 2°.68N±0°.03×94°.49E±0°.03, h30km±1km, h31km:pP-P, n1337, σ1s50/1364, mb5.5/275, MS5.3/244, 96C-33D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MLSI	**Meulaboh, Aceh**	**2.47**	**50**	P	**Pn**	**19 22 23.2**	**-1.3**
TPTI		**2.74**	**78**	P	**Pn**	**19 22 26.6**	**-1.6**
BSI	**Banda Aceh**	**2.91**	**16**	P	**Pn**	**19 22 28.3**	**-2.2**
GSI	**Gunungsitoli**	**3.37**	**114**	P	**Pn**	**19 22 35.2**	**-1.7**
GSI	**Gunungsitoli**	**3.37**	**114**	*e*Pn	**Pn**	**19 22 35.5**	**-1.4**
KCSI	**Kotacane, Aceh**	**3.38**	**76**	P	**Pn**	**19 22 37.1**	**+0.1**
LHMI	**Lhok Sumawe**	**3.52**	**44**	P	**Pn**	**19 22 38.9**	**0.0**
LHMI	**Lhok Sumawe**	**3.52**	**44**	*e*Pn	**Pn**	**19 22 38.8**	**-0.1**
TSI	**Tuntungan**	**4.14**	**79**	P	**Pn**	**19 22 48.0**	**+0.5**
PSI	**Prapat**	**4.43**	**88**	Pn	**Pn**	**19 22 51.0**	**-0.5**
	19nm,0.3s,baz=270,slow=7.7,SNR=163						
PSI				Sn	**Sn**	**19 23 38.4**	**-3.7**
	16nm,0.3s,baz=235,slow=10,SNR=4.6						
PSI				LR	LR	19 23 58.2	
	comp=Z,8µm,20.6s,baz=263,slow=31						
PSI	**Prapat**	**4.43**	**88**	*e*P	**Pn**	**19 22 51.0**	**-0.5**
PBSI	**Pulau Batu**	**4.66**	**126**	P	**Pn**	**19 22 53.3**	**-1.3**
MNSI	**Mandailing Nat**	**5.42**	**110**	P	**Pn**	**19 23 03.8**	**-1.2**
SISI	**Saibi**	**6.08**	**131**	P	**Pn**	**19 23 12.5**	**-1.7**
PKDT	**Phuket**	**6.43**	**36**	P	**Pn**	**19 23 16.6**	**-2.4**
	181nm,1.0s						
KULM	**Kulim**	**6.66**	**67**	*e*Pn	**Pn**	**19 23 21.4**	**-0.8**
IPM	**Ipoh**	**6.76**	**75**	*e*Pn	**Pn**	**19 23 22.8**	**-0.7**
BKNI	**Bangkinang**	**6.95**	**110**	P	**Pn**	**19 23 24.8**	**-1.3**
BKNI	**Bangkinang**	**6.95**	**110**	*e*Pn	**Pn**	**19 23 25.0**	**-1.1**
PDSI	**Padang**	**6.95**	**121**	P	**Pn**	**19 23 23.8**	**-2.4**
SKLT	**Songkhla**	**7.56**	**54**	P	**Pn**	**19 23 32.9**	**-1.5**
	413nm,1.1s,5µm1.6nm						
PPSI	**Pulau Pagai**	**7.72**	**134**	P	**Pn**	**19 23 34.7**	**-2.1**
SDSI	**Sungai Dareh**	**7.81**	**117**	P	**Pn**	**19 23 35.8**	**-2.1**
RGRI	**Rengat**	**8.40**	**111**	P	**Pn**	**19 23 45.2**	**-0.8**
KRJI	**Kerinci**	**8.43**	**124**	P	**Pn**	**19 23 45.7**	**-0.8**
PBA	**Port Blair**	**9.08**	**349**	*e*P	Pn	19 23 50.8	-4.6
MYKOM	**Kota Tinggi**	**9.39**	**95**	*e*Pn	**Pn**	**19 23 58.3**	**-1.4**
MASI	**Maura Aman, Be**	**9.67**	**127**	P	**Pn**	**19 24 02.1**	**-1.3**
TPRI	**Tanjung Pinang**	**10.18**	**100**	P	**Pn**	**19 24 09.0**	**-1.4**
DGPR	**DIGLIPUR**	**10.54**	**352**	*e*P	**Pn**	**19 24 11.6**	**-3.8**
MNAI	**Manna**	**10.97**	**130**	P	**Pn**	**19 24 20.5**	**-0.9**
MNAI	**Manna**	**10.97**	**130**	*e*Pn	**Pn**	**19 24 19.9**	**-1.5**
PHET	**Kaeng Krachan**	**11.36**	**26**	P	**Pn**	**19 24 26.6**	**0.0**
	33nm,1.0s,262nm						
PMBI	**Palembang**	**11.69**	**118**	P	Pn	19 24 41.7	+11
MDSI	**Maura Dua**	**12.02**	**126**	P	**Pn**	**19 24 33.2**	**-2.4**
LWLI	**Liwa**	**12.24**	**129**	P	**Pn**	**19 24 37.0**	**-1.8**
PPBI	**Pangkal Pinang**	**12.60**	**112**	P	**Pn**	**19 24 44.4**	**+0.9**
KLI	**Kotabumi**	**12.78**	**126**	P	**P**	**19 24 56.6**	**-0.1**
KASI	**Kota Agung**	**12.89**	**129**	P	**Pn**	**19 24 44.9**	**-2.7**
NAYO	**Nakonayok**	**13.38**	**30**	P	**Pn**	**19 24 53.9**	**-0.3**
	148nm,0.9s,4µm						
BLSI	**Bandar Lampung**	**13.39**	**127**	P	**P**	**19 25 02.6**	**-0.9**
SRAK	**Srakaew**	**13.50**	**33**	P	**P**	**19 25 00.8**	**-3.9**
PALK	**Pallekele**	**14.47**	**289**	Pn	**Pn**	**19 25 09.5**	**+0.3**
	1.6nm,0.3s,baz=116,slow=12,SNR=11						
PALK				Sn	Sn	19 27 35.3	-14
	4.6nm,0.3s,baz=294,slow=0.5,SNR=5.3						
PALK				LR	LR

UGM	**Wanagama**	**19.14**	**123**	*e*P		**P**	**19 26 05.2**	**-2.1**
	comp=Z,261nm,1.1s								
PVM	**Polavaram**	**19.22**	**320**	*e*P		**Pn**	**19 26 08.8**	**-0.3**
ADKI	**Addanki**	**19.38**	**313**	*e*P		**Pn**	**19 26 10.9**	**-0.2**
WOJI	**Wonogiri, Jawa**	**19.44**	**123**	P		**P**	**19 26 09.0**	**-1.5**
	comp=Z,113nm,1.1s,comp=Z,2µm								
BWNR	**Bhubaneshwar**	**19.45**	**335**	*e*P		**Pn**	**19 26 11.1**	**-0.7**
BWNR				IAmb		IAmb	19 26 11.6		
	comp=Z,5µm,4.0s								
NGJI	**Ngawi**	**19.66**	**121**	P		**P**	**19 26 13.2**	**+0.3**
	comp=Z,428nm,1.2s,comp=Z,6µm								
TBJI	**Tambak Boyo**	**19.73**	**119**	P		**P**	**19 26 13.7**	**+0.1**
PCJI	**Pacitan**	**19.84**	**123**	P		**P**	**19 26 12.5**	**-2.4**
RCLA	**Racherla**	**19.89**	**311**	*e*P		**P**	**19 26 16.1**	**+0.7**
BWJI	**Bawean**	**20.02**	**115**	P		Pn	19 26 17.9	-0.9
PWJI	**Pagerwojo**	**20.28**	**122**	P		**P**	**19 26 16.2**	**-3.4**
NJS	**Nagarjunasagar**	**20.32**	**314**	*e*P		**P**	**19 26 20.5**	**+0.3**
GRJI	**Gresik**	**20.33**	**118**	P		Pn	19 26 23.1	+0.8
	comp=Z,195nm,1.0s,comp=Z,2µm								
SRLM	**Srisailam**	**20.34**	**312**	*e*P		Pn	19 26 21.4	-1.1
BELO	**BELONIA**	**20.66**	**352**	*e*P		**P**	**19 26 23.1**	**-0.6**
MTKI	**Muara Teweh, K**	**20.71**	**100**	P		**P**	**19 26 24.1**	**-0.3**
	comp=Z,459nm,1.3s,comp=Z,5µm								
URV	**Uravakonda**	**20.91**	**307**	*e*P		**P**	**19 26 26.8**	**+0.2**
AGT	**Agartala**	**21.31**	**352**	*e*P		**P**	**19 26 29.7**	**-0.9**
HYB	**Hyderabad**	**21.43**	**314**	*i* P		**P**	**19 26 32.0**	**-0.1**
HYB				*e*S		**S**	**19 30 30.0**	**+1.4**
HYB	**Hyderabad**	**21.43**	**314**	*e*P		**P**	**19 26 32.4**	**+0.2**
HYB				IAmb		IAmb	19 26 35.7		
HYBB	**Hyderabad (bro**	**21.43**	**314**	*e*P		**P**	**19 26 32.7**	**+0.6**
BLJI	**Banyuglugur**	**21.69**	**119**	P		**P**	**19 26 38.7**	**+3.8**
	comp=Z,104nm,1.1s,comp=Z,2µm								
GMJI	**Gumukmas**	**21.81**	**120**	P		P	19 26 43.6	+7.4
RPR	**Rampur**	**21.90**	**318**	*e*P		**P**	**19 26 37.5**	**+0.3**
KKM	**Kota Kinabalu**	**21.91**	**81**	*e*P		**P**	**19 26 37.5**	**+0.2**
	comp=Z,494nm,1.1s								
KKM				LR		LR			
	comp=Z,4µm,20.0s								
IMP	**Imphal**	**22.02**	**359**	*e*P		**P**	**19 26 36.4**	**-2.1**
QIZ	**Qiongzhong**	**22.12**	**42**	P		**P**	**19 26 39.3**	**-0.2**
QIZ				sP		**sP**	**19 26 49.5**	**-2.1**
QIZ				S		**S**	**19 30 45.0**	**+3.1**
QIZ				sS		**sS**	**19 30 54.8**	**-0.4**
QIZ				pmax		pmax			
	comp=Z,2µm,6.8s								
QIZ				LR		LR			
	comp=Z,15µm,17.2s								
QIZ				LR		LR			
	comp=Z,16µm,14.7s								
QIZ				LR		LR			
	comp=Z,18µm,15.7s								
QIZ	**Qiongzhong**	**22.12**	**42**	*e*P		**P**	**19 26 39.1**	**-0.4**
	comp=Z,191nm,1.0s								
QIZ				LR		LR			
	comp=Z,18µm,19.0s								
KBKI	**Kotabaru**	**22.46**	**105**	P		**P**	**19 26 43.2**	**0.0**
	comp=Z,196nm,1.2s,comp=Z,3µm								
JAGI	**Jajag, Banyuwa**	**22.52**	**120**	P		**P**	**19 26 43.2**	**-0.6**
	comp=Z,152nm,1.1s,comp=Z,2µm								
JAGI	**Jajag, Banyuwa**	**22.52**	**120**	*e*P		**P**	**19 26 42.8**	**-1.0**
	comp=Z,177nm,1.1s								
BOK	**Bokaro**	**22.58**	**339**	*e*P		**P**	**19 26 45.1**	**+0.7**
BOK				IAmb		IAmb	19 26 46.2		
	comp=Z,766nm,1.4s								
SRSP	**Sriramsagar**	**22.59**	**317**	*e*P		**P**	**19 26 44.2**	**-0.4**
BKB	**Balikpapan**	**22.74**	**100**	P		**P**	**19 26 47.5**	**+1.4**
	comp=Z,568nm,1.2s,comp=Z,7µm								
SHL	**Shillong**	**22.89**	**354**	*e*P		**P**	**19 26 45.6**	**-2.2**
SHL				IAmb		IAmb	19 26 47.9		
	comp=Z,200nm,0.9s								
KOHI	**KOHIMA**	**22.91**	**359**	*e*P		**P**	**19 26 45.2**	**-2.7**
SMKI	**Samarinda**	**22.92**	**97**	P		**P**	**19 26 50.7**	**+2.7**
	comp=Z,153nm,1.1s,comp=Z,4µm								
TURI	**Tura**	**23.08**	**350**	*e*P		**P**	**19 26 47.2**	**-2.3**
SRBI	**Singaraja**	**23.27**	**118**	P		**P**	**19 26 51.7**	**+0.1**
	comp=Z,199nm,1.1s,comp=Z,2µm								
KLRI	**Killari**	**23.27**	**312**	*e*P		**P**	**19 26 52.0**	**+0.4**
SGKI	**Sangatta, Kali**	**23.32**	**98**	P		**P**	**19 26 52.5**	**+0.4**
	comp=Z,500nm,1.2s,comp=Z,7µm								
MOKO	**MOKOCHONG**	**23.50**	**0**	*e*P		**P**	**19 26 52.2**	**-1.7**
GUWA	**GUWAHATI**	**23.53**	**354**	*e*P		**P**	**19 26 52.1**	**-1.8**
DNP	**Denpasar**	**23.54**	**119**	P		**P**	**19 26 55.3**	**+1.1**
	comp=Z,222nm,1.2s,comp=Z,12µm								
IGBI	**Denpasar**	**23.55**	**119**	P		P	19 27 02.8	+8.6
KMI	**Kunming**	**23.68**	**19**	P		**P**	**19 26 56.5**	**+0.8**
KMI				pP		pP	19 27 04.0	-0.4
KMI				sP		sP	19 27 07.0	-1.1
KMI				PP		**PnPn**	**19 27 31.0**	**+7.2**
KMI				S		**S**	**19 31 08.5**	**-0.5**
KMI				sS		sS	19 31 21.3	-2.2
KMI				pmax		pmax			
	comp=Z,170nm,1.2s								
KMI				pmax		pmax			
	comp=Z,3µm,4.4s								
KMI				LR		LR			
	comp=Z,13µm,11.5s								
KMI				LR		LR			
	comp=Z,9µm,11.1s								
KMI				LR		LR			
	comp=Z,13µm,12.5s								
NGP	**Nagpur**	**23.73**	**322**	*e*P		**P**	**19 26 56.8**	**+0.8**
NGP				*ex*		x	19 27 57.8		
	comp=Z,158nm,1.2s								
NGP				*e*S		**S**	**19 31 10.4**	**+0.9**
TEZP	**TEZPUR**	**23.85**	**356**	*e*P		**P**	**19 26 54.7**	**-2.3**
JORH	**JORHAT**	**23.92**	**359**	*e*P		**P**	**19 26 54.9**	**-2.8**
GOA	**Goa**	**24.02**	**303**	*e*P		**P**	**19 26 59.8**	**+1.1**
GOA				IAmb		IAmb	19 27 01.3		
	comp=Z,60nm,1.2s								
MYLDM	**Lahad Datu**	**24.07**	**83**	*e*P		**P**	**19 26 59.9**	**+0.6**
	comp=Z,984nm,1.0s								
DGAR	**Diego Garcia**	**24.17**	**245**	PFAKE			19 27 10.0	+10	
DGAR				LR		LR			
	comp=Z,4µm,21.0s								
H08S2	**Diego Garcia H**	**24.23**	**245**	T		T	19 52 15.2		
	baz=65,slow=75								
H08S3	**Diego Garcia H**	**24.23**	**245**	T		T	19 52 18.2		
	baz=65,slow=75								
H08S1	**Diego Carcia H**	**24.25**	**245**	T		T	19 52 16.4		
	baz=65,slow=75								
ITAN	**ITANAGAR**	**24.33**	**358**	*e*P		**P**	**19 27 01.2**	**-0.3**
ZIRO	**ZIRO**	**24.71**	**359**	*e*P		**P**	**19 27 04.7**	**-0.4**
ODAN	**Odare**	**24.98**	**345**	*e*P		**P**	**19 27 06.8**	**-0.9**
	comp=Z,517nm,1.4s								
TWSI	**Taliwang, Sumb**	**25.04**	**117**	P		**P**	**19 27 06.9**	**-1.1**
	comp=Z,82nm,1.1s,comp=Z,1µm								
GTK	**Tadong**	**25.14**	**348**	*e*P		**P**	**19 27 09.0**	**0.0**
RAMN	**Ramite**	**25.29**	**343**	*e*P		**P**	**19 27 10.0**	**-0.4**
	comp=Z,378nm,1.0s								
MPSI	**Mapaga**	**25.50**	**95**	P		**P**	**19 27 12.7**	**+0.4**
	comp=Z,196nm,1.0s,comp=Z,2µm								
PCI	**Palu**	**25.59**	**98**	P		**P**	**19 27 13.4**	**+0.4**
	comp=Z,546nm,1.0s,comp=Z,5µm								
POO	**Poona**	**25.63**	**309**	*e*P		**P**	**19 27 15.6**	**+2.2**
POO				IAmb		IAmb	19 27 16.9		
	comp=Z,166nm,1.5s								
PLAI	**Plampang**	**25.87**	**116**	P		**P**	**19 27 14.2**	**-1.4**
	comp=Z,71nm,1.2s,comp=Z,1µm								
TTSI	**Tana Toraja**	**25.95**	**103**	P		**P**	**19 27 20.1**	**+3.8**
	comp=Z,143nm,1.1s,comp=Z,3µm								
JIRN	**Jiri**	**26.07**	**343**	*e*P		**P**	**19 27 18.0**	**+0.3**
	comp=Z,546nm,1.1s								
ENPP	**El Nido**	**26.13**	**70**	*e*P		**P**	**19 27 16.5**	**-1.5**
PKIN	**Phulchoki**	**26.24**	**341**	*e*P		**P**	**19 27 18.9**	**-0.2**
	comp=Z,153nm,1.1s								
BHPL	**Bhopal**	**26.29**	**322**	*e*P		**P**	**19 27 20.8**	**+1.4**
BHPL				IAmb		IAmb	19 27 23.0		
	comp=Z,47nm,0.9s								
DMN	**Daman**	**26.36**	**341**	*e*P		**P**	**19 27 20.2**	**0.0**
	comp=Z,114nm,0.8s								
GYA	**Guiyang**	**26.37**	**25**	⇑*i*P		**P**	**19 27 20.0**	**-0.1**
GYA				pP		sP	19 27 33.0	+0.3
GYA				PP		**PnPn**	**19 28 06.5**	**+6.2**
GYA				PcP		**PcP**	**19 30 48.5**	**+2.9**
GYA				S		**S**	**19 31 58.5**	**+6.9**
GYA				sS		sS	19 32 05.5	-0.7
GYA				SS		**SnSn**	**19 33 02.0**	**+8.4**
GYA				ScP		**ScP**	**19 34 25.0**	**+1.5**
GYA				pmax		pmax			
	comp=Z,120nm,1.0s								
GYA				pmax		pmax			
	comp=Z,1µm,7.2s								
GYA				LR		LR			
	comp=Z,13µm,17.7s								
GYA				LR		LR			
	comp=Z,10µm,14.3s								
GYA				LR		LR			
	comp=Z,18µm,17.1s								
KAPI	**Kappang**	**26.37**	**107**	*e*P		**P**	**19 27 18.9**	**-1.2**
	comp=Z,166nm,1.0s								
KAPI				LR		LR			
	comp=Z,6µm,20.0s								
GUN	**Gumba**	**26.40**	**343**	*e*P		**P**	**19 27 21.0**	**+0.3**
	comp=Z,316nm,0.9s								
KKN	**Kakani**	**26.47**	**341**	*e*P		**P**	**19 27 20.9**	**-0.3**
	comp=Z,184nm,0.9s								
BNSI	**Bone**	**26.54**	**105**	P		**P**	**19 27 25.7**	**+4.0**
	comp=Z,114nm,1.6s,comp=Z,3µm								
MCO	**Taipa Grande**	**26.76**	**42**	P		**P**	**19 27 25.0**	**+1.4**
GKN	**Gorkha**	**26.88**	**340**	*e*P		**P**	**19 27 25.0**	**+0.2**
	comp=Z,205nm,0.9s								
KOLN	**Koldanda**	**27.03**	**338**	*e*P		**P**	**19 27 26.4**	**+0.2**
	comp=Z,171nm,0.9s								
LSA	**Lhasa**	**27.05**	**354**	P		**P**	**19 27 28.0**	**+1.3**
LSA				S		**S**	**19 32 03.5**	**+0.4**
LSA				pmax		pmax			
	comp=Z,58nm,1.1s								
LSA				pmax		pmax			
	comp=Z,2µm,5.3s								
LSA				LR		LR			
	comp=Z,2µm,12.4s								
LSA				LR		LR			
	comp=Z,2µm,14.3s								
LSA				LR		LR			
	comp=Z,5µm,12.4s								
LSA	**Lhasa**	**27.05**	**354**	*e*P		**P**	**19 27 27.8**	**+1.1**
	comp=Z,208nm,0.6s								
LSA				LR		LR			
	comp=Z,3µm,22.0s								
LSA	**Lhasa**	**27.05**	**354**	P		**P**	**19 27 27.1**	**+0.4**
LSA	**Lhasa**	**27.05**	**354**	*e*P		**P**	**19 27 27.8**	**+1.1**
LSA				pmax		pmax			
	comp=Z,208nm,0.6s								
LSA				MLR		MLR			
	comp=Z,3µm,22.0s								
BUSP	**Coron**	**27.09**	**69**	*e*P		**P**	**19 27 26.9**	**+0.2**
GZH	**Guangzhou**	**27.29**	**40**	P		**P**	**19 27 34.3**	**+6.0**
GZH				PP		**PP**	**19 28 30.3**	**-0.1**
GZH				S		S	19 32 29.0	+23
GZH				pmax		pmax			
	comp=Z,1µm,6.0s								
APSI	**Ampana**	**27.38**	**97**	P		**P**	**19 27 30.0**	**+0.7**
	comp=Z,196nm,1.1s,comp=Z,2µm								
BSSI	**Bau Bau, Buton**	**27.40**	**109**	P		**P**	**19 27 32.0**	**+2.6**
	comp=Z,209nm,1.1s,comp=Z,2µm,comp=Z,27µm								
DANN	**Dangsing**	**27.50**	**339**	*e*P		**P**	**19 27 31.3**	**+0.8**
	comp=Z,21nm,1.0s								
MRSI	**Marisa**	**27.52**	**94**	P		**P**	**19 27 30.2**	**-0.3**
	comp=Z,77nm,1.0s,comp=Z,1µm								
PYUN	**Piuthan**	**27.56**	**338**	*e*P		**P**	**19 27 30.9**	**0.0**
	comp=Z,237nm,1.1s								
WBSI	**Waikabubak, Su**	**27.66**	**117**	P		**P**	**19 27 35.6**	**+3.8**
	comp=Z,131nm,1.1s,comp=Z,1µm								
LUBP	**Lubang**	**27.71**	**65**	*e*P		**P**	**19 27 30.7**	**-1.5**
SJMP	**San Jose**	**28.09**	**68**	*e*P		**P**	**19 27 32.9**	**-2.6**
JAP	**San Jose, Anti**	**28.39**	**72**	⇓*e*P		**P**	**19 27 39.3**	**+1.0**
TGY	**Tagaytay City**	**28.47**	**65**	P		**P**	**19 27 39.6**	**+0.5**
	comp=Z,388nm,0.9s,baz=237,slow=4.3,SNR=13								
TGY				LR		LR	19 39 26.0		
	comp=Z,2µm,18.8s,baz=236,slow=37								
LUWI	**Luwuk**	**28.51**	**97**	P		**P**	**19 27 40.7**	**+1.3**
	comp=Z,280nm,1.1s,comp=Z,4µm								
LUWI	**Luwuk**	**28.51**	**97**	*e*P		**P**	**19 27 40.1**	**+0.8**
	comp=Z,328nm,1.1s								
KDI	**Kendari**	**28.87**	**103**	P		P	19 27 50.5	+7.9
GUIM	**Jordan**	**28.98**	**73**	*e*P		**P**	**19 27 42.9**	**-0.6**
LQP	**Lukban**	**29.02**	**65**	⇓*e*P		**P**	**19 27 45.8**	**+1.7**
BOAC	**Boac**	**29.08**	**67**	*e*P		**P**	**19 27 43.7**	**-0.6**
RCP	**Roxas**	**29.36**	**71**	⇓*e*P		**P**	**19 27 48.1**	**+1.2**
CD2	**Chengdu**	**29.41**	**16**	⇑P		**P**	**19 27 47.3**	**+0.1**
CD2				pP		pP	19 27 55.0	-1.0
CD2				sP		sP	19 27 58.3	-1.5
CD2				S		**S**	**19 32 41.3**	**+2.0**
CD2				sS		sS	19 32 54.5	+0.5
CD2				pmax		pmax			
	comp=Z,120nm,0.6s								
CD2				pmax		pmax			
	comp=Z,1µm,5.4s								
CD2				LR		LR			
	comp=Z,10µm,11.9s								
CD2				LR		LR			
	comp=Z,16µm,13.9s								
CD2				LR		LR			
	comp=Z,10µm,14.4s								
KMSI	**Cibinong**	**29.55**	**94**	P		P	19 27 53.9	+5.3	
	comp=Z,142nm,1.0s,comp=Z,2µm								
POLP	**Polilio Island**	**29.60**	**65**	*e*P		**P**	**19 27 48.9**	**-0.1**
ABRA	**Dolores**	**29.71**	**58**	*e*P		**P**	**19 27 49.4**	**-0.6**
APYP	**Conner**	**30.26**	**58**	*e*P		**P**	**19 27 53.2**	**-1.6**
ENH	**Enshi**	**30.90**	**26**	*e*P		**P**	**19 27 59.4**	**-1.0**
	comp=Z,68nm,0.8s								
ENH				LR		LR			
	comp=Z,14µm,21.0s								
SGSI	**Sangihe**	**31.00**	**87**	P		**P**	**19 28 03.7**	**+2.3**
	comp=Z,300nm,1.1s,comp=Z,5µm								
MSLP	**Maasin**	**31.05**	**75**	*e*P		P	19 28 08.4	+6.6	
DAV	**Davao City (W)**	**31.27**	**81**	P		**P**	**19 28 05.2**	**+1.5**
	comp=Z,102nm,0.4s,baz=27,slow=2.2,SNR=9.5								
DAV				LR		LR	19 42 02.0		
	comp=Z,3µm,20.4s,baz=222,slow=39								
DAV	**Davao City (W)**	**31.27**	**81**	P		**P**	**19 28 06.2**	**+2.4**
	SNR=6.9								
DAV	**Davao City (W)**	**31.27**	**81**	P		**P**	**19 28 06.2**	**+2.4**
	SNR=6.9								
PLP	**Palo**	**31.38**	**73**	⇓*e*P		P	19 27 59.3	-5.5	
CNP	**Catarman**	**31.42**	**70**	*e*P		**P**	**19 28 05.4**	**+0.3**
BHJ	**Bhuj**	**31.57**	**312**	*e*P		**P**	**19 28 05.9**	**-0.4**
DDI	**Dehra Dun**	**31.59**	**332**	*e*P		**P**	**19 28 06.7**	**+0.2**
BATI	**Baumata**	**31.74**	**114**	P		**P**	**19 28 08.8**	**+0.9**
	comp=Z,15nm,0.7s,baz=264,slow=19,SNR=4.6								
BATI				LR		LR	19 43 15.4		
	comp=Z,5µm,18.7s,baz=284,slow=41								
MATI	**Mati**	**31.92**	**81**	*e*P		**P**	**19 28 08.4**	**-1.1**
QZH	**Quanzhou**	**32.08**	**44**	⇑*i*P		**P**	**19 28 11.3**	**+0.5**
QZH				sP		**sP**	**19 28 21.8**	**-1.6**
QZH				S		**S**	**19 33 24.5**	**+3.3**
QZH				pmax		pmax			
	comp=Z,940nm,3.8s								
QZH				LR		LR			
	comp=Z,7µm,12.3s								
QZH				LR		LR			
	comp=Z,6µm,11.8s								
QZH				LR		LR			
	comp=Z,9µm,11.9s								
SOEI	**Soe**	**32.13**	**113**	P		P	19 28 16.9	+5.4	
	comp=Z,108nm,1.3s								
SOEI	**Soe**	**32.13**	**113**	*e*P		**P**	**19 28 11.7**	**+0.2**
	comp=Z,131nm,1.2s								
TWG	**Pinlang**	**32.63**	**50**	*e*P		**P**	**19 28 16.6**	**+0.9**
	comp=Z,366nm,1.2s								
SMLA	**Simla**	**32.68**	**332**	*e*P		**P**	**19 28 16.5**	**+0.6**
SMLA				IAmb		IAmb	19 28 21.9		
	comp=Z,208nm,1.5s								
TNTI	**Ternate**	**32.91**	**93**	*e*P		**P**	**19 28 18.0**	**-0.2**
	comp=Z,31nm,1.0s								
SSLB	**Suanglung**	**33.09**	**48**	*e*P		**P**	**19 28 21.1**	**+1.4**
	comp=Z,73nm,1.2s								
NLAI	**Namlea**	**33.12**	**100**	P		P	19 28 28.8	+8.8	
YULB	**Yu-li**	**33.12**	**49**	*e*P		**P**	**19 28 21.1**	**+1.2**
	comp=Z,51nm,1.2s								
LBMI	**Labuha**	**33.16**	**95**	P		**P**	**19 28 20.5**	**+0.1**
	comp=Z,224nm,1.0s,comp=Z,3µm								
WHN	**Wuhan**	**33.48**	**32**	P		**P**	**19 28 23.5**	**+0.6**
WHN				S		**S**	**19 33 44.0**	**+1.2**
WHN				pmax		pmax			
	comp=Z,270nm,1.0s								
WHN				LR		LR			
	comp=Z,19µm,11.9s								
WHN				LR		LR			
	comp=Z,23µm,11.9s								
WHN				LR		LR			
	comp=Z,42µm,13.2s								
YHNB	**Yeheng**	**33.91**	**48**	*e*P		**P**	**19 28 29.9**	**+3.0**
	comp=Z,89nm,1.2s								
YHNB				LR		LR			
	comp=Z,7µm,19.0s								
XAN	**Xi'an**	**33.98**	**22**	P		**P**	**19 28 25.8**	**-1.5**
XAN				pP		pP	19 28 33.8	-2.4	
XAN				sP		sP	19 28 36.8	-3.1	
XAN				PP		**PnPn**	**19 29 41.5**	**+0.5**
XAN				S		**S**	**19 33 49.8**	**-0.8**
XAN				sS		sS	19 34 03.0	-2.3	
XAN				SS		**SnSn**	**19 35 57.8**	**-0.8**
XAN				pmax		pmax			
	comp=Z,110nm,0.8s								
XAN				pmax		pmax			
	comp=Z,1µm,3.8s								
XAN				LR		LR			
	comp=Z,9µm,13.8s								
XAN				LR		LR			
	comp=Z,7µm,13.3s								
XAN				LR		LR			
	comp=Z,9µm,16.3s								
DHRM	**DHARAMSHALA**	**34.02**	**332**	*e*P		**P**	**19 28 25.8**	**-2.2**
DHRM				IAmb		IAmb	19 28 28.1		
	comp=Z,86nm,1.1s								
TATO	**Taipei**	**34.17**	**47**	PFAKE			19 28 40.0	+11	
TATO				LR		LR			
	comp=Z,5µm,19.0s								
MBWA	**Marble Bar**	**34.24**	**135**	*e*P		**P**	**19 28 29.9**	**+0.2**
	comp=Z,50nm,0.9s								
MBWA				LR		LR			
	comp=Z,3µm,20.0s								
AAI	**Ambon**	**34.27**	**100**	P		**P**	**19 28 30.7**	**+0.6**
	comp=Z,79nm,1.0s,comp=Z,1µm								
LZH	**Lanzhou**	**34.34**	**13**	⇓P		**P**	**19 28 30.3**	**-0.3**
LZH				pP		sP	19 28 40.8	-2.4	
LZH				sP		pP	19 28 44.0	+4.5	
LZH				PP		**PP**	**19 29 49.5**	**+0.7**
LZH				S		**S**	**19 33 56.0**	**-0.4**
LZH				sS		sS	19 34 11.0	-0.2	
LZH				SS		**SnSn**	**19 36 09.5**	**+1.9**
LZH				pmax		pmax			
	comp=Z,44nm,1.1s								
LZH				pmax		pmax			
	comp=Z,780nm,4.3s								
LZH				LR		LR			
	comp=Z,7µm,13.7s								
LZH				LR		LR			
	comp=Z,13µm,15.7s								
LZH				LR		LR			
	comp=Z,9µm,15.8s								
NIL	**Nilore**	**36.65**	**330**	*e*P		**P**	**19 28 49.5**	**-0.8**
	comp=Z,178nm,0.7s								
NIL				LR		LR			
	comp=Z,2µm,20.0s								
NIL	**Nilore**	**36.65**	**330**	*e*P		**P**	**19 28 49.5**	**-0.8**
NIL				pmax		pmax			
	comp=Z,178nm,0.7s								
NIL				MLR		MLR			
	comp=Z,2µm,20.0s								
GTA	**Gaotai**	**36.88**	**7**	P		**P**	**19 28 51.8**	**-0.4**
GTA				pP		pP	19 28 58.8	-2.4	
GTA				sP		sP	19 29 02.5	-2.4	
GTA				PcP		**PcP**	**19 31 14.3**	**+0.7**
GTA				S		**S**	**19 34 33.3**	**-1.8**
GTA				sS		pS	19 34 46.0	+0.6	
GTA				SS		**SnSn**	**19 37 01.5**	**-7.2**
GTA				ScS		**ScS**	**19 39 07.3**	**+1.6**
GTA				pmax		pmax			
	comp=Z,77nm,1.0s								
GTA				pmax		pmax			
	comp=Z,800nm,5.2s								
GTA				LR		LR			
	comp=Z,2µm,17.8s								
GTA				LR		LR			
	comp=Z,2µm,15.7s								
GTA				LR		LR			
	comp=Z,2µm,18.8s								
FITZ	**Fitzroy Crossi**	**36.98**	**125**	P		**P**	**19 28 51.7**	**-1.6**
	comp=Z,24nm,0.9s,baz=298,slow=7.1,SNR=8.2								
FITZ				LR		LR	19 45 06.1		
	comp=Z,788nm,19.5s,baz=283,slow=38								
FITZ	**Fitzroy Crossi**	**36.98**	**125**	P		**P**	**19 28 52.5**	**-0.8**
	baz=37,SNR=12								
FITZ	**Fitzroy Crossi**	**36.98**	**125**	*e*P		**P**	**19 28 52.5**	**-0.8**
	comp=Z,26nm,0.9s								
NJ2	**Nanjing**	**37.13**	**35**	*e*P		**P**	**19 28 54.8**	**+0.5**
NJ2				sP		**pP**	**19 29 03.0**	**-0.3**
NJ2				PP		**PnPn**	**19 30 23.3**	**+3.5**
NJ2				S		**S**	**19 34 41.5**	**+2.6**
NJ2				sS		**pS**	**19 34 50.3**	**+1.2**
NJ2				ScS		**ScS**	**19 39 03.0**	**-4.0**
NJ2				pmax		pmax			
	comp=Z,110nm,1.0s								
NJ2				pmax		pmax			
	comp=Z,1µm,7.6s								
NJ2				LR		LR			
	comp=Z,8µm,11.9s								
NJ2				LR		LR			
	comp=Z,11µm,14.1s								
NJ2				LR		LR			
	comp=Z,15µm,14.1s								
MEEK	**Meekatharra**	**37.32**	**143**	P		**P**	**19 28 56.9**	**+0.9**
	baz=38,SNR=33								
MORW	**Morawa**	**37.73**	**148**	P		**P**	**19 29 00.6**	**+1.1**
	baz=38,SNR=4.0								
SSE	**Sheshan**	**37.86**	**39**	P		**P**	**19 29 01.8**	**+1.2**
SSE				S		**S**	**19 34 50.5**	**+0.4**
SSE				sS		**sS**	**19 35 09.8**	**+4.9**
SSE				pmax		pmax			
	comp=Z,31nm,0.8s								
SSE				pmax		pmax			
	comp=Z,420nm,6.7s								
SSE				LR		LR			
	comp=Z,5µm,15.3s								
FAKI	**Fak Fak**	**38.15**	**98**	P		**P**	**19 29 03.3**	**0.0**
	comp=Z,176nm,1.1s,comp=Z,2µm								
FAKI	**Fak Fak**	**38.15**	**98**	*e*P		**P**	**19 29 02.6**	**-0.7**
	comp=Z,174nm,1.0s								
KNRA	**Kunun

KSH PP PnPn 19 30 58.0 -0.5
KSH S S 19 35 23.5 -4.0
KSH SS SS 19 38 17.5 -10
KSH pmax pmax
comp=Z,87nm,1.0s
KSH pmax pmax
comp=Z,1μm,3.7s
KSH LR LR
comp=Z,2μm,8.1s
KSH LR LR
comp=Z,2μm,10.4s
KSH LR LR
comp=Z,3μm,12.5s
KLBR Kellerberrin 40.63 149 P P 19 29 24.2 +0.5
baz=41,SNR=7.0
BIDO Bidbid 40.82 304 P P 19 29 28.0 +2.6
SNR=11
BIDO Bidbid 40.82 304 P P 19 29 28.0 +2.6
SNR=11
HHC Hu-ho-hao-te 41.00 20 eP P 19 29 27.8 +1.1
HHC sP sP 19 29 37.3 -2.2
HHC PP PP 19 31 01.8 +0.1
HHC S S 19 35 38.8 +1.6
HHC SS SS 19 38 31.0 -9.0
HHC pmax pmax
comp=Z,130nm,1.1s
HHC pmax pmax
comp=Z,410nm,4.0s
HHC LR LR
comp=Z,2μm,13.3s
HHC LR LR
comp=Z,5μm,12.8s
HHC LR LR
comp=Z,4μm,13.8s
WMQ Urumqi 41.41 353 P P 19 29 30.8 +0.8
WMQ pP pP 19 29 38.3 -0.7
WMQ PP PP 19 31 07.8 +1.8
WMQ S S 19 35 45.0 +2.0
WMQ SS SS 19 38 44.5 -3.4
WMQ pmax pmax
comp=Z,89nm,1.5s
WMQ pmax pmax
comp=Z,2μm,4.5s
WMQ LR LR
comp=Z,7μm,15.1s
WMQ LR LR
comp=Z,6μm,18.1s
WMQ LR LR
comp=Z,3μm,21.5s
NWAO Narrogin (SRO) 41.44 151 P P 19 29 30.2 -0.1
comp=Z,8.2nm,0.7s,baz=196,slow=7.5,SNR=5.9
NWAO Narrogin (SRO) 41.44 151 P P 19 29 31.2 +0.9
baz=42,SNR=4.9
NWAO P P 19 29 31.2 +0.9
baz=42,SNR=4.9
NWAO Narrogin (SRO) 41.44 151 eP P 19 29 30.8 +0.4
comp=Z,90nm,1.8s
NWAO LR LR
comp=Z,3μm,19.0s
NWAO Narrogin (SRO) 41.44 151 eP P 19 29 30.8 +0.4
NWAO pmax pmax
comp=Z,90nm,1.7s
HOQ Hoqain 41.52 303 P P 19 29 36.0 +4.8
SNR=8.4
H01W3 Cape Leeuwin H 41.67 155 T T 20 14 01.0
baz=332,slow=76,SNR=824
H01W2 Cape Leeuwin H 41.69 155 T T 20 13 47.7
baz=332,slow=76,SNR=638
H01W1 Cape Leeuwin H 41.69 155 T T 20 14 18.8
baz=332,slow=76,SNR=404
BJT Baijiatuau 42.04 25 eP P 19 29 36.4 +1.3
comp=Z,79nm,0.7s
BJT LR LR
comp=Z,5μm,20.0s
BJT Baijiatuau 42.04 25 eP P 19 29 36.4 +1.3
BJT pmax pmax
comp=Z,79nm,0.7s
BJT MLR MLR
comp=Z,5μm,20.0s
BJI Beijing 42.06 25⇑iP P 19 29 36.5 +1.2
BJI pP pP 19 29 45.0 +0.6
BJI PP PP 19 31 14.0 +1.0
BJI S S 19 35 59.8 +7.2
BJI pmax pmax
comp=Z,130nm,0.9s
BJI LR LR
comp=Z,10μm,15.3s
BJI LR LR
comp=Z,8μm,18.7s
BJI LR LR
comp=Z,4μm,28.4s
SOHO SOHO 42.40 304 iP P 19 29 39.7 +1.4
SNR=17
SHLS Shalkode 42.47 344⇑iP P 19 29 39.1 +0.4
comp=Z,2μm,0.9s
SHLS ePP PP 19 31 17.8 +0.3
SHLS eS S 19 35 58.7 -0.2
SHLS LR LR 19 51 54.4
comp=Z,668nm,14.1s
UZB Uzynbulak 42.58 343⇑iP P 19 29 41.0 +1.2
comp=Z,1μm,0.8s
UZB eS S 19 36 01.7 +1.1
ULHL Ulahol 42.65 340 P P 19 29 41.8 +1.4
SNR=12
SATY Saty 42.68 343⇑iP P 19 29 41.7 +1.2
comp=Z,2μm,1.0s
SATY eS S 19 36 03.9 +1.8
KMBL Kambalda 42.73 145 P P 19 29 41.8 +1.0
baz=43,SNR=8.9
ZHN Zhinishke 42.77 343⇑iP P 19 29 42.2 +0.9
comp=Z,603nm,0.9s
ZHN eS S 19 36 05.0 +1.6
WRKA Warakurna 42.83 132 P P 19 29 41.8 -0.1
baz=43,SNR=16
KZA Kyzart 42.85 339 P P 19 29 43.1 +0.9
SNR=39
KPKS Kokpek 42.97 343⇑iP P 19 29 43.7 +0.9
comp=Z,1μm,0.9s
KPKS ePP PP 19 31 24.0 +1.1
KPKS iS S 19 36 07.2 +0.9
UOSS Minazif 43.01 304 eP P 19 29 44.7 +1.4
comp=Z,22nm,1.0s
UOSS Minazif 43.01 304 iP P 19 29 44.4 +1.1
SNR=9.0
HATD Hatta, Dubai 43.02 304 P P 19 29 47.0 +3.6
SNR=10
HATD Hatta, Dubai 43.02 304 P P 19 29 47.0 +3.6
SNR=10
HATD Hatta, Dubai 43.02 304 iP P 19 29 45.2 +1.9
SNR=11
ALNE Al Ain 43.02 303 iP P 19 29 45.2 +1.8
SNR=43
MDH Madha 43.08 305 iP P 19 29 44.5 +0.7
SNR=6.8
MDOK Medeo 43.20 341 iP P 19 29 45.8 +1.1
comp=Z,2μm,1.0s
MDOK ePP PP 19 31 26.7 +1.2
MDOK iS S 19 36 10.9 +1.2
MDOK LR LR 19 52 47.6
comp=Z,1μm,15.0s
MSFE Esma-Masafi 43.22 305 iP P 19 29 46.7 +1.7
SNR=14
UCH Uchtor 43.25 338 P P 19 29 46.2 +0.7
SNR=75
AAA Alma-Ata 43.28 341⇑iP P 19 29 46.9 +1.5
comp=Z,366nm,0.8s
AAA eS S 19 36 12.6 +1.8
AAA LR LR 19 52 58.6
comp=Z,566nm,14.3s
AAA Alma-Ata 43.28 341 eP P 19 29 46.8 +1.5
AAA eS S 19 36 06.4 -4.3
AAA pmax pmax
comp=Z,900nm,5.9s
AAA smax smax
comp=E,3μm,11.6s
BANOM Banah 43.35 306 P P 19 29 47.7 +1.7
KBK Karagaybulak 43.46 339 P P 19 29 48.2 +1.3
SNR=93
TKM2 Tokmak 2 43.47 340 P P 19 29 47.7 +0.7
SNR=51
AML Almayashu 43.47 337 P P 19 29 48.1 +0.9
SNR=74
NAZ Nazwa, Dubai 43.47 304 P P 19 29 50.0 +2.9
SNR=9.7
NAZ Nazwa, Dubai 43.47 304 P P 19 29 50.0 +2.9
SNR=9.7
NAZ Nazwa, Dubai 43.47 304 iP P 19 29 48.6 +1.5
SNR=11
SHME Shamm 43.53 306 P P 19 29 49.2 +1.7
BMNS Besmoynak 43.61 340 eP P 19 29 48.9 +0.9
comp=E,2μm,1.0s
BMNS iS S 19 36 16.6 +0.9
BMNS LR LR 19 50 56.1
comp=E,904nm,14.0s
AAK Ala-Archa 43.61 339 P P 19 29 49.1 +1.0
comp=E,23nm,1.1s,baz=132,slow=6.2,SNR=64
AAK LR LR 19 50 47.0
comp=E,2μm,20.0s,baz=140,slow=40
AAK Ala-Archa 43.61 339 P P 19 29 48.8 +0.7
SNR=34
AAK Ala-Archa 43.61 339 eP P 19 29 48.9 +0.9
comp=E,98nm,1.4s
AAK Ala-Archa 43.61 339 iP P 19 29 48.7 +0.7
SNR=45
AAK Ala-Archa 43.61 339 iP P 19 29 47.8 -0.2
AAK pmax pmax
comp=Z,90nm,1.4s
DL2 Dalian 43.72 31 P P 19 29 49.5 +0.7
DL2 sP sP 19 30 03.8 +2.3
DL2 S S 19 36 21.3 +4.2
DL2 pmax pmax
comp=Z,200nm,0.9s
DL2 pmax pmax
comp=Z,1μm,5.7s
DL2 LR LR
comp=Z,5μm,16.0s
DL2 LR LR
comp=Z,2μm,18.6s
DL2 LR LR
comp=Z,6μm,15.9s
FRU Bishkek 43.73 339 eP P 19 29 49.5 +0.6
FRU e 19 31 32.5
FRU eS S 19 36 20.0 +2.7
FRU pmax pmax
comp=Z,450nm,2.5s
CHMS Chumysh 43.83 339 P P 19 29 50.9 +1.2
SNR=19
AJN Ajban 43.86 303 iP P 19 29 51.6 +1.4
SNR=7.2
EKS2 Erkin-Say 43.90 338 P P 19 29 51.5 +1.2
SNR=61
KUU Kurty 44.08 341⇑iP P 19 29 51.9 +0.2
comp=Z,665nm,1.1s
KUU iS S 19 36 22.9 +0.6
KUU LR LR 19 53 23.2
comp=Z,533nm,14.9s
USP Ospenovka 44.16 339 P P 19 29 52.9 +0.6
SNR=90
TDK Taldyqorghan 44.46 344 iP P 19 29 55.3 +0.6
comp=Z,1μm,1.1s
TDK ePP PP 19 31 39.3 +0.5
TDK eS S 19 36 28.6 +0.8
MZR Muzera 44.55 300 iP P 19 29 57.3 +1.6
SNR=9.8
IUG Iuzhnay 44.99 334⇑iP P 19 29 59.5 +0.4
comp=Z,787nm,0.9s
IUG eS S 19 36 36.1 +0.4
IUG LR LR 19 53 01.8
comp=Z,1μm,16.6s
DZA Taraz 45.05 336 eP P 19 29 59.8 +0.4
comp=Z,478nm,0.8s
DZA LR LR 19 52 22.9
comp=Z,764nm,14.2s
WRA Warramunga Arr 45.11 122 P P 19 29 59.4 -0.9
comp=Z,50nm,1.0s,baz=300,slow=8.9,SNR=106
WRA LR LR 19 51 14.6
comp=Z,2μm,19.7s,baz=295,slow=39
WRAB Tennant Creek 45.12 122 eP P 19 29 59.8 -0.5
comp=Z,56nm,0.9s
WRAB LR LR
comp=Z,2μm,19.0s
WRAB Tennant Creek 45.12 122c iP P 19 29 59.3 -1.0
WRAB pmax pmax
comp=Z,58nm,1.0s
WB2 Warramunga Arr 45.12 122 eP P 19 29 59.8 -0.6
comp=Z,54nm,0.9s
MK01 Makanchi Array 45.18 348 eP P 19 29 59.6 -0.7
MK31 Makanchi Array 45.20 348 eP P 19 30 00.9 +0.4
MK31 Makanchi Array 45.20 348 eP P 19 30 00.9 +0.4
MKAR Makanchi Array 45.20 348 P P 19 30 00.9 +0.4
comp=Z,96nm,0.8s,baz=165,slow=8.1,SNR=615
MKAR Makanchi Array 45.20 348 eP P 19 30 00.9 +0.4
comp=Z,478nm,0.6s
MKAR Makanchi Array 45.20 348 eP P 19 30 00.9 +0.4
MKAR pmax pmax
comp=Z,480nm,0.6s
MAKZ Makanchi 45.28 348 iP P 19 30 00.9 -0.3
MAKZ pmax pmax
comp=Z,51nm,0.7s
CHM Chimkent 45.31 334 eP P 19 30 02.4 +0.9
comp=Z,406nm,1.9s
CHM eS S 19 36 41.8 +1.5
CHM LR LR 19 53 21.9
comp=Z,820nm,19.0s
ZSN Zaisan 45.37 351⇑iP P 19 30 03.1 +1.2
comp=Z,219nm,0.9s
INCN Inchon 45.49 36 eP P 19 30 02.8 -0.1
comp=Z,100nm,1.3s
INCN LR LR
comp=Z,4μm,19.0s
JNU Nakatsue 45.56 44 P P 19 30 03.4 -0.2
comp=Z,40nm,1.0s,baz=114,slow=1.6,SNR=11
JNU LR LR 19 51 39.3
comp=Z,5μm,18.2s,baz=248,slow=40
JNU Nakatsue 45.56 44 eP P 19 30 04.0 +0.4
comp=Z,56nm,1.1s
KK31 Karatay Array 45.56 335 iP P 19 30 03.3 -0.2
KK31 pmax pmax
comp=Z,38nm,0.9s
KKAR Karatay Array 45.56 335 eP P 19 30 03.9 +0.4
comp=Z,38nm,0.9s
KKAR Karatay Array 45.56 335 eP P 19 30 03.9 +0.4
KKAR pmax pmax
comp=Z,38nm,0.9s
SONM Songino Array 46.14 11 P P 19 30 08.2 +0.1
comp=Z,45nm,0.8s,baz=192,slow=9.0,SNR=202
SONM PcP PcP 19 31 44.9 +1.1
comp=Z,15nm,0.8s,baz=189,slow=4.3,SNR=5.6
SONM LR LR 19 51 31.9
comp=Z,2μm,19.4s,baz=190,slow=39
SONA1 Songino Array 46.15 11 eP P 19 30 06.7 -1.4
FORT Forrest 46.16 139 P P 19 30 09.1 +0.8
baz=46,SNR=21
FORT Forrest 46.16 139 eP P 19 30 09.1 +0.8
comp=Z,1μm,0.9s
KS15 Wonju Array Si 46.21 37 eP P 19 30 09.0 +0.4
KSAR Wonju Array Be 46.21 37 P P 19 30 08.7 0.0
KSAR Wonju Array Be 46.21 37 P P 19 30 08.7 0.0
KS01 Wonju Array Si 46.24 37 eP P 19 30 07.8 -1.1
KSRS Korea Array 46.24 37 P P 19 30 08.7 -0.2
comp=Z,45nm,1.0s,baz=231,slow=8.8,SNR=105
KSRS LR LR 19 50 12.4
comp=Z,4μm,19.8s,baz=236,slow=37
ULN Ulaanbaatar 46.30 12 eP P 19 30 08.2 -1.1
comp=Z,35nm,1.0s
ULN Ulaanbaatar 46.30 12 P P 19 30 09.6 +0.2
SNR=17
ULN Ulaanbaatar 46.30 12 P P 19 30 09.6 +0.2
SNR=17
ULN Ulaanbaatar 46.30 12c iP P 19 30 09.1 -0.2
ULN pmax pmax
comp=Z,47nm,1.2s
ASAR Alice Springs 46.44 127 P P 19 30 10.0 -0.7
comp=Z,15nm,0.9s,baz=302,slow=7.6,SNR=98
ASAR PcP PcP 19 31 45.9 +0.6
comp=Z,8.4nm,0.8s,baz=295,slow=3.4,SNR=7.6
ASAR LR LR 19 52 29.6
comp=Z,1μm,19.1s,baz=307,slow=40
AS31 Alice Springs 46.44 127 eP P 19 30 10.3 -0.4
comp=Z,8.0nm,1.1s
AS01 Alice Springs 46.48 127 eP P 19 30 09.4 -1.6
SNY Shenyang 46.90 30 ⇑P P 19 30 13.8 -0.1
SNY S S 19 37 05.5 +2.6
SNY pmax pmax
comp=Z,120nm,1.1s
SNY pmax pmax
comp=Z,990nm,4.0s
SNY LR LR
comp=Z,5μm,17.8s
SNY LR LR
comp=Z,4μm,18.5s
SNY LR LR
comp=Z,9μm,19.2s
ZAK Zakamensk 48.11 8 eP P 19 30 23.4 +0.1
ZAK pmax pmax
comp=Z,50nm,1.2s
HVS Khovu-Aksy 48.29 359 iP P 19 30 25.1 +0.4
HVS pmax pmax
comp=Z,129nm,1.1s
GEYT Alibeck 48.36 321 P P 19 30 25.8 +0.4
comp=Z,42nm,0.8s,baz=146,slow=8.2,SNR=144
GYA0B ALIBECK ARRAY 48.36 321 eP P 19 30 25.9 +0.5
SEM Semipalatinsk 49.06 348⇑iP P 19 30 31.2 +0.4
comp=Z,789nm,1.3s
SEM eS S 19 37 34.3 +0.5
SEM LR LR 19 56 03.3
comp=Z,1μm,15.5s
MOY Mondy 49.12 5 eP P 19 30 31.3 +0.2
MOY pmax pmax
comp=Z,120nm,3.4s
CN2 Changchun 49.28 29⇑iP P 19 30 32.5 +0.2
CN2 epP pP 19 30 40.0 -1.5
CN2 PcP PcP 19 31 55.3 +0.4
CN2 ePP PP 19 32 27.0 +0.5
CN2 eS S 19 37 37.3 +0.7
CN2 pmax pmax
comp=Z,60nm,0.9s
CN2 pmax pmax
comp=Z,900nm,4.0s
CN2 LR LR
comp=Z,5μm,14.0s
CN2 LR LR
comp=Z,3μm,15.0s
CN2 LR LR
comp=Z,4μm,19.0s
TLY Talaya 49.43 7 P P 19 30 34.3 +1.0
baz=37,slow=0.0
TLY LR LR 19 54 50.9
comp=Z,3μm,18.1s,baz=165,slow=40
TLY Talaya 49.43 7 eP P 19 30 34.5 +1.1
comp=Z,73nm,1.0s
TLY Talaya 49.43 7 P P 19 30 34.7 +1.4
SNR=34
TLY Talaya 49.43 7 P P 19 30 34.7 +1.4
SNR=34
TLY Talaya 49.43 7c iP P 19 30 34.3 +1.0
TLY e 19 32 29.2
TLY eS S 19 37 36.9 -1.6
TLY pmax pmax
comp=Z,65nm,0.9s
TLY MLR MLR
comp=Z,4μm,17.0s
KURBB Kurchatov Arra 49.64 347 P P 19 30 35.5 +0.6
comp=Z,45nm,0.8s,baz=168,slow=7.0,SNR=344
KURK Kurchatov 49.70 347 eP P 19 30 36.0 +0.6
comp=Z,96nm,1.0s
KURK LR LR
comp=Z,4μm,19.0s
KURK Kurchatov 49.70 347 P P 19 30 36.3 +0.9
SNR=58
KURK Kurchatov 49.70 347 P P 19 30 36.3 +0.9
SNR=58
KURK Kurchatov 49.70 347c iP P 19 30 36.0 +0.6
KURK pmax pmax
comp=Z,122nm,1.2s
QIS Mount Isa 49.88 120 P P 19 30 37.5 +0.1
baz=50,SNR=17
IRK Irkutsk 50.06 8 eP P 19 30 38.5 +0.4
IRK eS S 19 37 49.7 +2.4
IRK pmax pmax
comp=Z,187nm,2.6s
BRZS Berezniki 50.64 342 eP P 19 30 43.6 +1.0
comp=Z,87nm,1.1s
BRZS eS S 19 37 56.4 +1.0
DAMY Dhamar 50.80 287 eP P 19 30 46.8 +2.1
comp=Z,33nm,1.0s
GUMO Guam 50.92 75 LR LR 19 51 47.4
comp=Z,2μm,20.9s,baz=244,slow=36
COEN Coen 51.01 110 P P 19 30 45.4 -0.5
baz=51,SNR=6.7
COEN Coen 51.01 110 eP P 19 30 45.5 -0.5
comp=Z,48nm,1.1s
OPO Ambohidratompo 51.11 244 P P 19 30 47.3 +0.5
comp=Z,4.4nm,0.8s,baz=76,slow=18,SNR=3.3
OPO LR LR 19 49 13.6
comp=Z,1μm,18.4s,baz=62,slow=32
HIA Hailar 51.17 21 eP P 19 30 47.1 +0.5
comp=Z,147nm,0.9s
HIA LR LR
comp=Z,11μm,19.0s
HIA Hailar 51.17 21 eP P 19 30 47.1 +0.5
HIA pmax pmax
comp=Z,147nm,0.9s
HIA MLR MLR
comp=Z,11μm,19.0s
ABPO Ambohimpanom 51.23 243 PFAKE 19 31 00.0 +12
ABPO LR LR
comp=Z,498nm,20.0s
RAYN Ar Rayn 51.68 298 eP P 19 30 51.8 +0.9
comp=Z,40nm,0.9s
RAYN LR LR
comp=Z,3μm,19.0s
CIT Chita 51.68 15 eP P 19 30 51.0 +0.6
CIT e 19 30 58.2
CIT e 19 31 04.1
CIT e 19 32 03.8
CIT pmax pmax
comp=Z,235nm,1.1s
ZALV Zalesovo Beam 51.71 353 P P 19 30 50.9 +0.4
comp=Z,44nm,0.5s,baz=182,slow=6.2,SNR=255
ZALV LR LR 19 55 34.2
comp=Z,1μm,18.8s,baz=198,slow=39
ATD Arta Tunnel 51.92 282 P P 19 30 54.3 +1.4
comp=Z,13nm,0.9s,baz=90,slow=13,SNR=5.1
ATD LR LR 19 49 05.7
comp=Z,554nm,20.1s,baz=88,slow=32
MDJ Mudanjiang 51.96 31 P P 19 30 50.8 -1.7
MDJ pP pP 19 30 58.3 -3.5
MDJ sP sP 19 31 02.0 -3.4
MDJ PcP PcP 19 32 00.3 -4.5
MDJ PP PP 19 32 50.5 -0.3
MDJ ScP ScP 19 35 55.5 -4.2
MDJ PcS PcS 19 35 59.0 -3.8
MDJ S S 19 38 17.5 +3.7
MDJ sS sS 19 38 31.3 +2.3
MDJ pmax pmax
comp=Z,79nm,1.2s
MDJ pmax pmax
comp=Z,1μm,5.4s
MDJ LR LR
comp=Z,3μm,13.5s
MDJ LR LR
comp=Z,6μm,17.5s
MDJ LR LR
comp=Z,3μm,13.5s
MDJ Mudanjiang 51.96 31 eP P 19 30 53.1 +0.6
comp=Z,88nm,1.2s
MDJ LR LR
comp=Z,4μm,19.0s
JHJ Hachijo jima 2 52.04 49 LR LR 19 55 47.2
comp=Z,773nm,18.1s,baz=268,slow=39
VLA Vladivostok 52.21 34ceP P 19 30 55.1 +0.7
VLA pmax pmax
comp=Z,114nm,1.1s
MAJO Matsushiro 52.48 45 eP P 19 30 57.0 +0.4
comp=Z,25nm,1.0s
MAJO LR LR
comp=Z,4μm,19.0s
MAJO Matsushiro 52.48 45ceP P 19 30 55.5 -1.1
MAJO pmax pmax
comp=Z,14nm,1.3s
MAT Matsushiro 52.48 45 P P 19 30 55.5 -1.1
MAT S S 19 38 26.0 +4.7
MJAR Matsushiro Arr 52.48 45 P P 19 30 56.0 -0.6
comp=Z,4.6nm,0.8s,baz=232,slow=7.2,SNR=10
MJAR PcP PcP 19 32 07.9 +0.9
comp=Z,11nm,1.0s,baz=249,slow=5.3,SNR=6.2
MJAR LR LR 19 55 44.5
comp=Z,4μm,19.1s,baz=240,slow=39
NVS Novosibirsk 52.80 352⇑iP P 19 30 58.9 +0.4
NVS eS S 19 38 20.6 -4.3
NVS pmax pmax
comp=N,60nm,1.0s
NVS pmax pmax
comp=E,29nm,1.0s
NVS pmax pmax
comp=Z,93nm,1.0s
NVS pmax pmax
comp=N,19nm,1.6s
NVS pmax pmax

	comp=E,24nm,1.6s								
NVS					P		pmax		
	comp=Z,36nm,1.6s								
NVS							smax		smax
	comp=N,16nm,1.5s								
NVS							smax		smax
	comp=E,67nm,2.5s								
BBOO	**Buckleboo**	**52.82**	**135**		P		**P**	**19 30 59.1**	**-0.1**
	baz=53,SNR=5.7								
BBOO	**Buckleboo**	**52.82**	**135**	*eP*			**P**	**19 30 58.8**	**-0.4**
	comp=E,21nm,1.0s								
USRK	**Ussuriysk Ar.**	**52.96**	**33**		P		**P**	**19 31 00.4**	**+0.5**
	comp=E,51nm,1.0s,baz=239,slow=6.2,SNR=37								
USRK						LR	LR	19 55 34.3	
	comp=E,5μm,18.6s,baz=212,slow=38								
KRAR	**Krasnoyarsk**	**53.18**	**359**	*c iP*			**P**	**19 31 02.2**	**+0.8**
MTSU	**Mount Surprise**	**53.24**	**115**		P		**P**	**19 31 02.4**	**-0.1**
	baz=53,SNR=17								
PMG	**Port Moresby**	**53.83**	**104**		P		**P**	**19 31 07.1**	**+0.2**
	comp=E,58nm,0.9s,baz=266,slow=6.6,SNR=14								
PMG						LR	LR	19 57 14.4	
	comp=E,1μm,19.8s,baz=282,slow=40								
PMG	**Port Moresby**	**53.83**	**104**	*eP*			**P**	**19 31 07.0**	**+0.2**
	comp=E,106nm,1.1s								
PMG	**Port Moresby**	**53.83**	**104**	*c iP*			**P**	**19 31 06.2**	**-0.6**
PMG						pmax	pmax		
	comp=Z,273nm,1.0s								
BVA0	**Borovoye Array**	**54.00**	**342**		P		**P**	**19 31 07.2**	**-0.2**
BVA0						pmax	pmax		
	comp=Z,76nm,1.0s								
BVAR	**Borovoye Array**	**54.00**	**342**		P		**P**	**19 31 07.2**	**-0.2**
	comp=Z,63nm,0.9s,baz=140,slow=7.2,SNR=211								
BVAR						LR	LR	19 56 08.7	
	comp=Z,1μm,20.1s,baz=148,slow=38								
BRVK	**Borovoye**	**54.06**	**342**	*eP*			**P**	**19 31 07.7**	**-0.2**
	comp=Z,72nm,1.0s								
BRVK						LR	LR		
	comp=Z,581nm,20.0s								
BRVK	**Borovoye**	**54.06**	**342**		P		**P**	**19 31 08.0**	**+0.1**
	SNR=42								
BRVK	**Borovoye**	**54.06**	**342**		P		**P**	**19 31 08.0**	**+0.1**
	SNR=42								
BRVK	**Borovoye**	**54.06**	**342**	*c iP*			**P**	**19 31 07.6**	**-0.2**
BRVK						pmax	pmax		
	comp=Z,102nm,1.2s								
LKRN	**Lenkeran, Azer**	**54.92**	**317**		P		**P**	**19 31 14.1**	**-0.3**
AB31	**Akbulak array**	**54.96**	**333**	*i*	P		**P**	**19 31 13.8**	**-0.7**
AB31						pmax	pmax		
	comp=Z,57nm,0.9s								
ABKAR	**Akbulak array**	**54.96**	**333**	*eP*			**P**	**19 31 13.9**	**-0.6**
	comp=Z,59nm,0.9s								
HTT	**Hallett**	**55.18**	**135**		P		**P**	**19 31 16.2**	**-0.3**
	baz=55,SNR=7.2								
CTA	**Charters Tower**	**55.58**	**117**		P		**P**	**19 31 19.1**	**-0.4**
	comp=Z,39nm,1.0s,baz=290,slow=9.3,SNR=16								
CTAO	**Charters Tower**	**55.58**	**117**	*eP*			**P**	**19 31 19.3**	**-0.2**
	comp=Z,284nm,1.0s								
CTAO						LR	LR		
	comp=Z,3μm,19.0s								
CTAO	**Charters Tower**	**55.58**	**117**	*eP*			**P**	**19 31 19.3**	**-0.2**
CTAO						pmax	pmax		
	comp=Z,284nm,1.0s								
CTAO						MLR	MLR		
	comp=Z,3μm,19.0s								
AAE	**Adis Abeba**	**55.74**	**279**	*eP*			**P**	**19 31 18.4**	**-2.7**
AAE				*i*	S		**S**	**19 39 06.4**	**-0.2**
AAE	**Adis Abeba**	**55.74**	**279**	*eP*			**P**	**19 31 18.4**	**-2.7**
AAE				*i*	S		**S**	**19 39 06.4**	**-0.2**
PAF	**Port-aux-Franc**	**55.93**	**199**		PFAKE			19 31 30.0	+8.6
PAF						LR	LR		
	comp=Z,3μm,22.0s								
QLP	**Quilpie**	**56.12**	**125**		P		**P**	**19 31 23.6**	**+0.3**
	baz=56,SNR=29								
KLR	**Kul'dur**	**56.20**	**29**		P		**P**	**19 31 24.2**	**+0.8**
	comp=Z,6.0nm,0.9s,baz=252,slow=7.3,SNR=119								
STKA	**Stephens Creek**	**56.35**	**132**		P		**P**	**19 31 24.6**	**-0.2**
	comp=Z,25nm,1.0s,baz=305,slow=6.8,SNR=40								
STKA						LR	LR	19 56 41.4	
	comp=Z,1μm,20.5s,baz=301,slow=37								
STKA	**Stephens Creek**	**56.35**	**132**		P		**P**	**19 31 24.6**	**-0.2**
	baz=56,SNR=27								
AKTO	**Aktyubinsk**	**56.67**	**333**		P		**P**	**19 31 26.5**	**-0.2**
	comp=Z,19nm,0.9s,baz=134,slow=7.5,SNR=44								
AKTO	**Aktyubinsk**	**56.67**	**333**	*i*	P		**P**	**19 31 25.4**	**-1.4**
AKTO						pmax	pmax		
	comp=Z,49nm,1.2s								
AKT	**Akhty**	**56.99**	**319**	*eP*			**P**	**19 31 28.5**	**-0.8**
AKT				*e*				19 32 21.8	
AKT						pmax	pmax		
	comp=Z,43nm,1.0s								
MNGR	**Mingechevir, A**	**57.06**	**318**		P		**P**	**19 31 29.4**	**-0.3**
BOD	**Bodaibo**	**57.10**	**12**	*⇓iP*			**P**	**19 31 29.6**	**0.0**
BOD						pmax	pmax		
	comp=Z,172nm,1.3s								
SEKA	**Sheki**	**57.20**	**319**		P		**P**	**19 31 29.9**	**-0.9**
KMBO	**Kilima Mbogo**	**57.35**	**267**		P		**P**	**19 31 32.8**	**+0.3**
	comp=Z,6.0nm,0.7s,baz=59,slow=11,SNR=13								
KMBO						LR	LR	19 53 02.8	
	comp=Z,2μm,19.4s,baz=92,slow=33								
KMBO	**Kilima Mbogo**	**57.35**	**267**		P		**P**	**19 31 34.7**	**+2.2**
	SNR=6.4								
KMBO	**Kilima Mbogo**	**57.35**	**267**		P		**P**	**19 31 34.7**	**+2.2**
	SNR=6.4								
KMBO	**Kilima Mbogo**	**57.35**	**267**	*i*	P		**P**	**19 31 33.8**	**+1.3**
	SNR=6.5								
NAX	**Nakhchivan**	**57.41**	**316**		P		**P**	**19 31 31.8**	**-0.5**
GANJ	**Ganja**	**57.52**	**318**		P		**P**	**19 31 32.5**	**-0.5**
ZEA	**Zeya**	**57.56**	**22**	*eP*			**P**	**19 31 33.4**	**+0.5**
ZEA				*e*				19 33 42.0	
ZEA				*eS*			**S**	**19 39 34.0**	**+5.3**
ZEA						pmax	pmax		
	comp=E,42nm,0.8s								
ZEA						pmax	pmax		
	comp=N,71nm,1.0s								
ZEA						pmax	pmax		
	comp=Z,110nm,1.0s								
ZEA						pmax	pmax		
	comp=Z,600nm,7.0s								
ZEA						pmax	pmax		
	comp=Z,500nm,6.0s								
ZEA						smax	smax		
	comp=E,700nm,8.0s								
ZEA						MLR	MLR		
	comp=Z,8μm,12.0s								
ZEA						MLR	MLR		
	comp=N,6μm,14.0s								
ZEA						MLR	MLR		
	comp=E,4μm,14.0s								
ZKTA	**Zakatala**	**57.79**	**319**		P		**P**	**19 31 34.5**	**-0.3**
MAK	**Makhachkala**	**57.87**	**321**	*eP*			**P**	**19 31 32.9**	**-2.4**
MAK				*e*				19 33 40.4	
MAK				*eS*			**S**	**19 39 27.3**	**-5.9**
MAK				*eSS*			**SS**	**19 43 23.4**	**-1.0**
MAK						pmax	pmax		
	comp=Z,19nm,0.3s								
MAK						MLR	MLR		
	comp=Z,1μm,16.0s								
GNI	**Garni**	**58.36**	**317**		P		**P**	**19 31 39.9**	**+0.8**
	comp=Z,25nm,1.0s,baz=168,slow=6.4,SNR=31								
GNI						LR	LR	19 58 06.5	
	comp=Z,689nm,20.8s,baz=106,slow=37								
GNI	**Garni**	**58.36**	**317**	*eP*			**P**	**19 31 39.0**	**-0.1**
	comp=Z,195nm,0.9s								
GNI	**Garni**	**58.36**	**317**		P		**P**	**19 31 40.6**	**+1.6**
	SNR=17								
GNI	**Garni**	**58.36**	**317**		P		**P**	**19 31 40.6**	**+1.6**
	SNR=17								
GNI	**Garni**	**58.36**	**317**	*i*	P		**P**	**19 31 39.3**	**+0.2**
	SNR=23								
GNI	**Garni**	**58.36**	**317**	*c iP*			**P**	**19 31 39.3**	**+0.2**
GNI						pmax	pmax		
	comp=Z,189nm,1.2s								
ERM	**Erimo**	**58.49**	**41**		PFAKE			19 31 50.0	+10
ERM						LR	LR		
	comp=Z,3μm,19.0s								
GROC	**Groznyy**	**59.08**	**320**	*eP*			**P**	**19 31 42.1**	**-1.7**
GROC				*e*				19 32 30.5	
GROC						pmax	pmax		
	comp=Z,95nm,1.0s								
ASAJ	**Asahikawa**	**59.15**	**39**		P		**P**	**19 31 45.1**	**+0.8**
	comp=Z,11nm,0.8s,baz=272,slow=4.6,SNR=5.1								
ASAJ						LR	LR	19 58 30.3	
	comp=Z,14nm,18.7s,baz=270,slow=37								
CLNS	**Chul'man**	**59.18**	**19**	*eP*			**P**	**19 31 45.0**	**+0.7**
CLNS				*e*PP*			**pP**	**19 31 53.0**	**-0.6**
CLNS				*e*				19 32 29.7	
CLNS				*e*				19 33 55.1	
CLNS				*eS*			**S**	**19 39 53.3**	**+3.5**
CLNS				*e*				19 41 22.1	
CLNS				*eSS*			**SS**	**19 43 42.0**	**-2.5**
CLNS						pmax	pmax		
	comp=Z,79nm,1.3s								
CLNS						pmax	pmax		
	comp=N,39nm,1.1s								
CLNS						pmax	pmax		
	comp=E,33nm,1.1s								
CLNS						pmax	pmax		
	comp=N,13nm,1.0s								
CLNS						pmax	pmax		
	comp=Z,12nm,1.0s								
CLNS						pmax	pmax		
	comp=E,11nm,1.2s								
CLNS						smax	smax		
	comp=N,377nm,10.8s								
CLNS						smax	smax		
	comp=E,501nm,13.5s								
CMSA	**Cobar Meteorol**	**59.32**	**129**		P		**P**	**19 31 45.9**	**+0.2**
	baz=59,SNR=45								
GRNR	**Gornyy**	**59.48**	**30**	*eP*			**P**	**19 31 46.6**	**+0.2**
GRNR						pmax	pmax		
	comp=N,42nm,1.0s								
GRNR						pmax	pmax		
	comp=Z,78nm,1.0s								
AKH	**Akhalkalaki**	**59.77**	**317**	*⇑iP*			**P**	**19 31 50.4**	**+1.6**
RMQ	**Roma**	**59.85**	**123**		P		**P**	**19 31 50.8**	**+1.4**
	baz=60,SNR=25								
ZEI	**Tsey**	**60.11**	**319**	*eP*			**P**	**19 31 49.8**	**-1.4**
ZEI						pmax	pmax		
	comp=Z,22nm,0.8s								
SVE	**Sverdlovsk**	**60.34**	**339**	*d iP*			**P**	**19 31 52.1**	**-0.1**
SVE						*eS*	**S**	**19 40 04.9**	**+0.3**
SVE						*e*		19 41 36.5	
SVE						pmax	pmax		
	comp=Z,167nm,1.1s								
SVE						MLR	MLR		
	comp=Z,2μm,20.0s								
NCK	**Nalchik**	**60.63**	**320**	*⇑eP*			**P**	**19 31 54.4**	**-0.1**
NCK						pmax	pmax		
	comp=Z,30nm,0.7s								
YSS	**Yuzh-Sakhalins**	**60.70**	**36**	*eP*			**P**	**19 31 54.6**	**-0.2**
	comp=Z,130nm,1.0s								
YSS						LR	LR		
	comp=Z,2μm,19.0s								
YSS	**Yuzh-Sakhalins**	**60.70**	**36**	*⇑iP*			**P**	**19 31 55.0**	**+0.2**
YSS				*e*				19 32 03.5	
YSS				*e*SP*			**sP**	**19 32 08.9**	**+1.1**
YSS				*e*				19 32 35.3	
YSS				*e*				19 34 12.0	
YSS				*eS*			**S**	**19 40 12.9**	**+3.4**
YSS				*e*				19 41 47.0	
YSS						pmax	pmax		
	comp=Z,70nm,1.2s								
YSS						pmax	pmax		
	comp=Z,500nm,5.6s								
ARU	**Arti**	**60.79**	**338**		P		P	19 31 49.0	-6.3
	comp=Z,0.4nm,0.3s,baz=90,slow=20,SNR=2.0								
ARU						LR	LR	19 59 54.9	
	comp=Z,2μm,19.5s,baz=132,slow=38								
ARU	**Arti**	**60.79**	**338**	*c iP*			**P**	**19 31 54.5**	**-0.8**
ARU								19 32 35.2	
ARU								19 34 06.7	
ARU						*eS*	**S**	**19 40 10.2**	**-0.2**
ARU								19 41 40.8	
ARU						SS	**SS**	**19 44 08.4**	**-1.3**
ARU						pmax	pmax		
	comp=Z,121nm,1.2s								
NEY	**Neytrino**	**61.09**	**319**	*deP*			**P**	**19 31 58.9**	**+1.1**
NEY						pmax	pmax		
	comp=Z,4.0nm,0.9s								
YUK	**Yuzh-Kuril'sk**	**61.18**	**40**	*eP*			**P**	**19 31 57.5**	**-0.7**
YUK								19 32 39.6	
YUK								19 34 09.9	
YUK						S	**S**	**19 40 14.3**	**-1.5**
YUK						*eSS*	**SS**	**19 44 14.1**	**-2.2**
YUK						MLR	MLR		
	comp=Z,3μm,16.0s								
KBZ	**Khabaz**	**61.19**	**320**		P		**P**	**19 31 58.2**	**0.0**
	comp=Z,32nm,0.9s,baz=120,slow=4.7,SNR=64								
ASF	**Jabal al Asfar**	**61.41**	**305**		P		**P**	**19 32 01.3**	**+1.2**
	comp=Z,14nm,0.8s,baz=34,slow=0.4,SNR=24								
KVAR	**Kislovodsk Arr**	**61.42**	**320**		LR		LR	20 02 59.0	
	comp=Z,232nm,18.2s,slow=40								
KIV	**Kislovodsk**	**61.43**	**320**	*eP*			**P**	**19 31 59.6**	**-0.5**
	comp=Z,75nm,1.0s								
KIV						LR	LR		
	comp=Z,721nm,21.0s								
KIV	**Kislovodsk**	**61.43**	**320**		P		**P**	**19 32 00.0**	**0.0**
	SNR=27								
KIV	**Kislovodsk**	**61.43**	**320**	*i*	P		**P**	**19 31 59.5**	**-0.5**
	SNR=27								
KIV	**Kislovodsk**	**61.43**	**320**	*eP*			**P**	**19 31 59.4**	**-0.6**
KIV				*eS*			**S**	**19 40 18.4**	**-0.9**
KIV						pmax	pmax		
	comp=Z,72nm,1.1s								
KIV						pmax	pmax		
	comp=Z,121nm,3.5s								
EIDS	**Eidsvold**	**61.46**	**121**		P		**P**	**19 32 00.7**	**+0.3**
	baz=62,SNR=6.0								
EIDS	**Eidsvold**	**61.46**	**121**	*eP*			**P**	**19 31 60.0**	**-0.4**
	comp=Z,24nm,1.1s								
GOF	**Gofitskoye**	**61.70**	**321**	*⇑eP*			**P**	**19 32 00.3**	**-1.4**
GOF						pmax	pmax		
	comp=Z,55nm,1.3s								
TOO	**Toolangi**	**61.88**	**136**		P		**P**	**19 32 04.6**	**+1.6**
	baz=62,SNR=5.6								
YNG	**Young**	**62.54**	**131**		P		**P**	**19 32 08.0**	**+0.5**
	baz=63,SNR=9.5								
TYV	**Tymovskoe**	**62.73**	**32**	*eP*			**P**	**19 32 10.7**	**+2.3**
TYV						pmax	pmax		
	comp=Z,23nm,1.6s								
TYV						pmax	pmax		
	comp=Z,700nm,5.4s								
MMAI	**Mount Meron Ar**	**62.85**	**306**		P		**P**	**19 32 11.4**	**+1.7**
	comp=Z,19nm,0.7s,baz=101,slow=7.8,SNR=56								
MMAI						LR	LR	19 59 11.7	
	comp=Z,723nm,21.5s,baz=115,slow=36								
KUR	**Kuril'sk**	**63.00**	**40**	*eP*			**P**	**19 32 11.8**	**+1.5**
KUR						pmax	pmax		
	comp=Z,2μm,14.0s								
KUR						pmax	pmax		
	comp=N,3μm,18.0s								
KUR						pmax	pmax		
	comp=E,1μm,12.0s								
NKL	**Nikolayevsk**	**63.02**	**29**	*i*	P		**P**	**19 32 10.0**	**-0.3**
NKL				*e*				19 32 18.0	
NKL				*e*				19 40 40.0	
NKL				*e*				19 41 12.0	
NKL						pmax	pmax		
	comp=N,30nm,1.0s								
NKL						pmax	pmax		
	comp=E,20nm,1.0s								
NKL						pmax	pmax		
	comp=Z,86nm,1.0s								
NKL						pmax	pmax		
	comp=Z,1μm,8.0s								
SOC	**Sochi**	**63.22**	**318**	*c iP*			**P**	**19 32 10.6**	**-1.2**
SOC				*e*SP*			**sP**	**19 32 23.9**	**-1.0**
SOC				*e*				19 34 25.7	
SOC				*eS*			**S**	**19 40 39.4**	**-2.2**
SOC				*e*				19 41 58.9	
SOC				*eSSS*			SSS	19 47 31.1	
SOC						pmax	pmax		
	comp=Z,71nm,1.0s								
SOC						MLR	MLR		
	comp=Z,419nm,17.0s								
CAN	**Canberra**	**63.41**	**132**	*eP*			**P**	**19 32 13.2**	**-0.2**
	comp=Z,30nm,1.0s								
CAN						LR	LR		
	comp=Z,2μm,19.0s								
CAN	**Canberra**	**63.41**	**132**	*eP*			**P**	**19 32 13.2**	**-0.2**
CAN						pmax	pmax		
	comp=Z,30nm,1.0s								
CAN						MLR	MLR		
	comp=Z,2μm,19.0s								
ARMA	**Armidale**	**63.59**	**126**		P		**P**	**19 32 16.0**	**+1.3**
	baz=64,SNR=6.2								
ARMA	**Armidale**	**63.59**	**126**	*eP*			**P**	**19 32 15.8**	**+1.1**
	comp=Z,68nm,1.4s								
PATS	**Pohnpei**	**63.70**	**84**		P		**P**	**19 32 15.1**	**-0.4**
	baz=64,SNR=7.1								
MBAR	**Mbarara**	**63.82**	**268**		PFAKE			19 32 30.0	+13
MBAR						LR	LR		
	comp=Z,755nm,20.0s								
RIV	**Riverview**	**64.46**	**130**		P		**P**	**19 32 21.8**	**+1.6**
	baz=65,SNR=4.6								
YAK	**Yakutsk**	**64.79**	**17**		P		**P**	**19 32 21.2**	**-0.6**
	comp=Z,126nm,0.8s,baz=308,slow=2.6,SNR=77								
YAK	**Yakutsk**	**64.79**	**17**		P		**P**	**19 32 21.2**	**-0.6**
YAK						LR	LR		
	comp=Z,8μm,19.0s								
YAK	**Yakutsk**	**64.79**	**17**	*c iP*			**P**	**19 32 21.5**	**-0.3**
YAK				*e*PP*			**pP**	**19 32 29.1**	**-2.1**
YAK				*e*				19 32 55.9	
YAK				*e*				19 34 43.9	
YAK				*ePPP*			PPP	19 36 16.6	
YAK				*eS*			**S**	**19 40 59.6**	**-0.8**
YAK				*e*SS*			**sS**	**19 41 18.9**	**+2.9**
YAK				*e*				19 42 11.8	
YAK				*eSS*			**SS**	**19 45 16.4**	**+4.4**
YAK						pmax	pmax		
	comp=Z,178nm,1.0s								
YAK						pmax	pmax		
	comp=N,42nm,1.1s								
YAK						pmax	pmax		
	comp=E,55nm,1.3s								
YAK						pmax	pmax		
	comp=Z,149nm,4.6s								
YAK						pmax	pmax		
	comp=N,102nm,4.7s								
YAK						pmax	pmax		
	comp=E,136nm,4.8s								
YAK						smax	smax		
	comp=N,338nm,5.0s								
YAK						smax	smax		
	comp=E,190nm,4.7s								
YAK						MLR	MLR		
	comp=Z,7μm,20.0s								
YAK						MLR	MLR		
	comp=N,7μm,19.0s								
YAK						MLR	MLR		
	comp=E,4μm,17.0s								
CSS	**Mathiatis**	**65.02**	**307**		P		**P**	**19 32 23.2**	**-0.7**
CSS						LR	LR		
	comp=Z,230nm,20.0s								
CSS	**Mathiatis**	**65.02**	**307**		P		**P**	**19 32 23.2**	**-0.7**
ANN	**Anapa**	**65.21**	**319**	*eP*			**P**	**19 32 23.7**	**-1.1**
ANN				*e*	PPP		PPP	19 36 26.0	
ANN				*eS*			**S**	**19 41 03.2**	**-2.9**
ANN						pmax	pmax		
	comp=Z,34nm,1.2s								
VRH	**Novokhopyorsk**	**65.39**	**327**	*eP*			**P**	**19 32 24.8**	**-1.1**
VRH						pmax	pmax		
	comp=Z,60nm,0.8s								
BRTR	**Keskin Array B**	**66.12**	**313**		P		**P**	**19 32 30.4**	**-0.7**
	comp=Z,20nm,0.8s,baz=129,slow=6.5,SNR=115								
BRTR						LR	LR	20 04 19.9	
	comp=Z,432nm,18.2s,baz=99,slow=39								
HNR	**Honiara**	**66.30**	**101**	*eP*			**P**	**19 32 32.0**	**-0.5**
HNR	**Honiara**	**66.30**	**101**		P		**P**	**19 32 32.0**	**-0.5**
	comp=Z,165nm,0.9s,baz=216,slow=5.5,SNR=18								
HNR						LR	LR	20 03 42.6	
	comp=Z,416nm,19.8s,baz=263,slow=38								
HNR	**Honiara**	**66.30**	**101**		P		**P**	**19 32 32.0**	**-0.5**
ILGA	**Ilgaz**	**66.47**	**314**	*i*	P		**P**	**19 32 33.9**	**+0.5**
KKUL	**Konya-Kulu**	**66.49**	**312**	*i*	P		**P**	**19 32 33.5**	**0.0**
VORD	**Divnogorie**	**66.64**	**326**	*eP*			**P**	**19 32 32.5**	**-1.4**
VORD						pmax	pmax		
	comp=Z,40nm,1.0s								
NRIK	**Noril'sk**	**66.71**	**357**		P		**P**	**19 32 33.6**	**-0.5**
	comp=Z,42nm,0.9s,baz=151,slow=5.7								
ANTO	**Ankara**	**66.79**	**312**	*⇑iP*			**P**	**19 32 36.1**	**+0.9**
ANTO	**Ankara**	**66.79**	**312**	*eP*			**P**	**19 32 35.2**	**0.0**
	comp=Z,165nm,0.8s								
ANTO						LR	LR		
	comp=Z,459nm,19.0s								
ANTO	**Ankara**	**66.79**	**312**		P		**P**	**19 32 35.2**	**0.0**
	SNR=14								
ANTO	**Ankara**	**66.79**	**312**	*eP*			**P**	**19 32 35.2**	**0.0**
ANTO						pmax	pmax		
	comp=Z,165nm,0.8s								
ANTO						MLR	MLR		
	comp=Z,459nm,19.0s								
VSR	**Storozhevoye**	**66.82**	**326**	*eP*			**P**	**19 32 33.1**	**-2.0**
VSR						pmax	pmax		
	comp=Z,50nm,0.9s								
VORR	**Voronezh**	**67.00**	**326**	*eP*			**P**	**19 32 36.0**	**-0.3**
SIM	**Simferopol'**	**67.46**	**318**	*d iP*			**P**	**19 32 39.7**	**+0.4**
SIM				*eS*			**S**	**19 41 37.0**	**+3.5**
SIM						pmax	pmax		
	comp=Z,63nm,0.9s								
LPSR	**Galich'ya Gora**	**67.58**	**327**	*eP*			**P**	**19 32 38.9**	**-1.0**
LPSR						pmax	pmax		
	comp=Z,60nm,0.9s								
BCAM	**Yenicaga**	**67.59**	**313**	*i*	P		**P**	**19 32 40.4**	**0.0**
BTIN	**Bart'–n**	**67.70**	**314**	*i*	P		**P**	**19 32 41.6**	**+0.7**
AUMIH	**MIHALICIK**	**67.75**	**312**	*i*	P		**P**	**19 32 41.6**	**+0.2**
ISP	**Isparta**	**67.94**	**310**		P		**P**	**19 32 41.9**	**-0.7**
ISP						LR	LR		
	comp=Z,974nm,20.0s								
ISP	**Isparta**	**67.94**	**310**		P		**P**	**19 32 41.9**	**-0.7**
ISP	**Isparta**	**67.94**	**310**	*c iP*			**P**	**19 32 41.7**	**-0.9**
ISP						pmax	pmax		
	comp=Z,31nm,0.9s								
LSZ	**Lusaka**	**67.96**	**252**	*eP*			**P**	**19 32 43.7**	**+0.5**
	comp=Z,9.1nm,0.8s								
LSZ						LR	LR		
	comp=Z,2μm,19.0s								
LSZ	**Lusaka**	**67.96**	**252**	*eP*			**P**	**19 32 43.7**	**+0.5**
LSZ						pmax	pmax		
	comp=Z,9.0nm,0.8s								
LSZ						MLR	MLR		
	comp=Z,2μm,19.0s								
SAHE	**Sakarya_HENDEK**	**68.48**	**313**	*i*	P		**P**	**19 32 45.9**	**+0.1**
FETY	**Fethiye**	**68.78**	**308**		P		**P**	**19 32 46.1**	**-1.7**
FETY	**Fethiye**	**68.78**	**308**		P		**P**	**19 32 46.1**	**-1.7**
GEYV	**SAKARYA_Geyve**	**68.80**	**313**	*i*	P		**P**	**19 32 48.0**	**+0.2**
KAND	**Kocaeli-Kandir**	**69.03**	**313**	*i*	P		**P**	**19 32 49.1**	**-0.1**
MIR	**Mirnyy**	**69.08**	**181**	*eP*			**P**	**19 32 52.0**	**+3.0**
MIR				*e*				19 33 13.0	
MIR				*eS*			**SKiKP**	**19 42 28.0**	**-10**
MIR						pmax	pmax		
	comp=Z,81nm,1.5s								
ARG	**Arkhangelos**	**69.44**	**308**		P		**P**	**19 32 51.3**	**-0.6**
ARG	**Arkhangelos**	**69.44**	**308**		P		**P**	**19 32 51.3**	**-0.6**
ARG	**Arkhangelos**	**69.44**	**308**		P		**P**	**19 32 51.3**	**-0.6**
YER	**Yerkesik**	**69.52**	**309**		P		**P**	**19 32 52.1**	**-0.3**
YER	**Yerkesik**	**69.52**	**309**		P		**P**	**19 32 52.1**	**-0.3**
YER	**Yerkesik**	**69.52**	**309**		P		**P**	**19 32 52.1**	**-0.3**
MOS	**Moscow**	**69.69**	**330**	*eP*			**P**	**19 32 51.

TIRR					pmax	pmax			
	comp=Z,40nm,0.9s								
MA2	**Magadan**	**71.20**	**27**	*e*P	**P**		**19 33 02.4**	**+0.3**	
	comp=Z,189nm,0.9s								
MA2					LR	LR			
	comp=Z,3µm,20.0s								
MA2	**Magadan**	**71.20**	**27**	*i* P	**P**		**19 33 02.3**	**+0.2**	
MA2					pmax	pmax			
	comp=Z,61nm,0.9s								
NPS	**Neapolis**	**71.26**	**306**	P	**P**		**19 33 03.6**	**+0.5**	
NPS	**Neapolis**	**71.26**	**306**	P	**P**		**19 33 03.6**	**+0.5**	
NPS	**Neapolis**	**71.26**	**306**	P	**P**		**19 33 03.6**	**+0.5**	
KLMR	**Klimovskoe**	**71.26**	**335**	*e*P	**P**		**19 33 00.8**	**-1.7**	
KLMR				AMP			19 33 03.1		
	comp=Z,78nm,1.1s								
KLMR				⇓*e*S	**S**		**19 42 15.7**	**-2.1**	
KLMR				⇓*e*S	**S**		**19 42 15.7**	**-2.1**	
KLMR				LQ	LQ		20 01 15.7		
KLMR				LQ	LQ		20 01 15.7		
KLMR				LR	LR		20 05 25.5		
KLMR	**Klimovskoe**	**71.26**	**335**	*e*P	**P**		**19 33 00.7**	**-1.7**	
KLMR				*e*S	**S**		**19 42 15.7**	**-2.1**	
KLMR				pmax	pmax				
	comp=Z,78nm,1.1s								
LAST	**Lasithi**	**71.35**	**306**	P	**P**		**19 33 03.7**	**0.0**	
LAST	**Lasithi**	**71.35**	**306**	P	**P**		**19 33 03.7**	**0.0**	
CHOS	**Chios island**	**71.50**	**310**	P	**P**		**19 33 04.5**	**0.0**	
CHOS	**Chios island**	**71.50**	**310**	P	**P**		**19 33 04.5**	**0.0**	
PRK	**Paraskevi**	**71.51**	**311**	P	**P**		**19 33 04.4**	**-0.1**	
PRK	**Paraskevi**	**71.51**	**311**	P	**P**		**19 33 04.4**	**-0.1**	
PRK	**Paraskevi**	**71.51**	**311**	P	**P**		**19 33 04.4**	**-0.1**	
CFR	**Carcaliu**	**71.57**	**317**	⇑*i*P	**P**		**19 33 04.9**	**+0.3**	
CFR	**Carcaliu**	**71.57**	**317**	P	**P**		**19 33 04.9**	**+0.3**	
HARR	**Harsova**	**71.58**	**316**	⇑*i*P	**P**		**19 33 05.3**	**+0.5**	
HARR	**Harsova**	**71.58**	**316**	⇑*i*P	**P**		**19 33 05.3**	**+0.5**	
HARR	**Harsova**	**71.58**	**316**	P	**P**		**19 33 05.2**	**+0.5**	
SANT	**Santorini**	**71.58**	**307**	*e*P	**P**		**19 33 05.0**	**0.0**	
	comp=Z,42nm,0.8s								
SANT					LR	LR			
	comp=Z,722nm,19.0s								
EZN	**Ezine**	**71.59**	**311**	P	**P**		**19 33 04.3**	**-0.6**	
EZN	**Ezine**	**71.59**	**311**	P	**P**		**19 33 04.3**	**-0.6**	
EZN	**Ezine**	**71.59**	**311**	P	**P**		**19 33 04.3**	**-0.6**	
KIS	**Kishinev**	**71.61**	**319**	⇑*i*P	**P**		**19 33 03.0**	**-1.9**	
	comp=Z,200nm,2.0s								
KIS	**Kishinev**	**71.61**	**319**	*i* PcP	**PcP**		**19 33 22.0**	**-2.0**	
KIS	**Kishinev**	**71.61**	**319**	*e*PP	PP		19 35 40.0	-4.0	
KIS	**Kishinev**	**71.61**	**319**	*e*PPP	PPP		19 37 46.0		
KIS				*i* S	**S**		**19 42 19.0**	**-3.3**	
	comp=Z,900nm,10.0s								
KIS	**Kishinev**	**71.61**	**319**	⇑*i*P	**P**		**19 33 03.0**	**-1.9**	
KIS				*i*			19 33 22.0		
KIS				*e*			19 35 40.0		
KIS				*i* S	**S**		**19 42 19.0**	**-3.3**	
KIS				pmax	pmax				
	comp=Z,200nm,2.0s								
KIS				pmax	pmax				
	comp=Z,700nm,5.0s								
KIS				smax	smax				
	comp=N,900nm,10.0s								
APE	**Apeiranthos**	**71.66**	**308**	P	**P**		**19 33 04.8**	**-0.6**	
APE	**Apeiranthos**	**71.66**	**308**	P	**P**		**19 33 04.8**	**-0.6**	
APE	**Apeiranthos**	**71.66**	**308**	P	**P**		**19 33 04.8**	**-0.6**	
SIGR	**SIGRI**	**71.82**	**310**	P	**P**		**19 33 06.2**	**-0.1**	
SIGR	**SIGRI**	**71.82**	**310**	P	**P**		**19 33 06.2**	**-0.1**	
LEOM	**Leova**	**71.84**	**318**	⇓*i*P	**P**		**19 33 07.0**	**+0.8**	
LEOM	**Leova**	**71.84**	**318**	P	**P**		**19 33 07.0**	**+0.8**	
IDI	**Anoyia**	**71.85**	**306**	P	**P**		**19 33 07.2**	**+0.6**	
	comp=N,32nm,0.8s,baz=95,slow=8.9,SNR=34								
IDI					LR	LR	20 08 08.4		
	comp=N,223nm,20.3s,baz=101,slow=39								
IDI	**Anoyia**	**71.85**	**306**	⇑*i*P	**P**		**19 33 07.6**	**+0.9**	
SIVA	**Sivas**	**71.87**	**306**	P	**P**		**19 33 06.8**	**+0.1**	
SIVA	**Sivas**	**71.87**	**306**	P	**P**		**19 33 06.8**	**+0.1**	
ENEZ	**Enez**	**71.92**	**312**	P	**P**		**19 33 06.5**	**-0.3**	
ENEZ	**Enez**	**71.92**	**312**	P	**P**		**19 33 06.5**	**-0.3**	
GADA	**Gvkgeada**	**71.99**	**311**	P	**P**		**19 33 06.6**	**-0.7**	
GADA	**Gvkgeada**	**71.99**	**311**	P	**P**		**19 33 06.6**	**-0.7**	
GADA	**Gvkgeada**	**71.99**	**311**	P	**P**		**19 33 06.6**	**-0.7**	
PETK	**Petropavlovsk-**	**72.03**	**34**	P	**P**		**19 33 06.2**	**-1.1**	
	comp=N,4.8nm,0.8s,baz=0.0,slow=4.4,SNR=6.1								
PETK					LR	LR	20 07 16.0		
	comp=N,2µm,19.2s,baz=227,slow=38								
ALN	**Alexandroupoli**	**72.03**	**312**	P	**P**		**19 33 07.0**	**-0.5**	
ALN	**Alexandroupoli**	**72.03**	**312**	P	**P**		**19 33 07.0**	**-0.5**	
ALN	**Alexandroupoli**	**72.03**	**312**	P	**P**		**19 33 07.0**	**-0.5**	
ALN	**Alexandroupoli**	**72.03**	**312**	P	**P**		**19 33 07.0**	**-0.5**	
TIXI	**Tiksi**	**72.22**	**11**	*e*P	**P**		**19 33 07.4**	**-0.7**	
	comp=N,114nm,1.0s								
TIXI					LR	LR			
	comp=Z,3µm,19.0s								
TIXI	**Tiksi**	**72.22**	**11**	*c i*P	**P**		**19 33 07.4**	**-0.7**	
TIXI					pmax	pmax			
	comp=Z,155nm,1.2s								
TIXI					MLR	MLR			
	comp=Z,4µm,18.0s								
SORM	**Soroca**	**72.23**	**320**	⇑*i*P	**P**		**19 33 08.0**	**-0.6**	
SORM	**Soroca**	**72.23**	**320**	P	**P**		**19 33 08.0**	**-0.6**	
SMTH	**Samothraki Isl**	**72.33**	**312**	P	**P**		**19 33 06.5**	**-2.8**	
SMTH	**Samothraki Isl**	**72.33**	**312**	P	**P**		**19 33 06.5**	**-2.8**	
SMTH	**Samothraki Isl**	**72.33**	**312**	P	**P**		**19 33 06.5**	**-2.8**	
GVD	**Gavdhos**	**72.42**	**306**	P	**P**		**19 33 09.7**	**-0.3**	
GVD	**Gavdhos**	**72.42**	**306**	P	**P**		**19 33 09.7**	**-0.3**	
VAM	**Vamos**	**72.42**	**306**	P	**P**		**19 33 10.6**	**+0.6**	
VAM	**Vamos**	**72.42**	**306**	P	**P**		**19 33 10.6**	**+0.6**	
VAM	**Vamos**	**72.42**	**306**	P	**P**		**19 33 10.6**	**+0.6**	
AKASG	**Malin Array Be**	**72.44**	**323**	P	**P**		**19 33 08.7**	**-1.1**	
	comp=Z,9.3nm,0.7s,baz=89,slow=4.8,SNR=81								
AKASG					LR	LR	20 09 50.4		
	comp=Z,414nm,18.1s,baz=85,slow=40								
KIEV	**Kiev**	**72.45**	**323**	*e*P	**P**		**19 33 08.6**	**-1.2**	
	comp=Z,21nm,0.9s								
KIEV					LR	LR			
	comp=Z,704nm,19.0s								
KIEV	**Kiev**	**72.45**	**323**	*i* P	**P**		**19 33 08.9**	**-0.9**	
	SNR=14								
KIEV	**Kiev**	**72.45**	**323**	*c i*P	**P**		**19 33 08.4**	**-1.4**	
KIEV					pmax	pmax			
	comp=Z,22nm,0.9s								
RDO	**Rodhopi**	**72.46**	**312**	P	**P**		**19 33 07.9**	**-2.2**	
RDO	**Rodhopi**	**72.46**	**312**	P	**P**		**19 33 07.9**	**-2.2**	
LIA	**Limnos Island**	**72.47**	**311**	P	**P**		**19 33 09.2**	**-1.0**	
LIA	**Limnos Island**	**72.47**	**311**	P	**P**		**19 33 09.2**	**-1.0**	
LIA	**Limnos Island**	**72.47**	**311**	P	**P**		**19 33 09.2**	**-1.0**	
MHLO	**Agia Marina, M**	**72.48**	**308**	P	**P**		**19 33 10.8**	**+0.5**	
SERI	**Serifos**	**72.49**	**308**	P	**P**		**19 33 09.1**	**-1.3**	
PET	**Petropavlovsk**	**72.54**	**35**	*e*P	**P**		**19 33 10.0**	**-0.3**	
	comp=Z,47nm,1.0s								
PET					LR	LR			
	comp=Z,3µm,19.0s								
PET	**Petropavlovsk**	**72.54**	**35**	*j* P	**P**		**19 33 10.2**	**-0.1**	
PET				*e*S	**S**		**19 42 31.3**	**-1.4**	
PET				*e*PS	**PnS**		**19 43 00.4**	**-5.7**	
PET				*e*PS			19 43 17.2		
PET				pmax	pmax				
	comp=Z,52nm,1.4s								
PET				pmax	pmax				
	comp=Z,600nm,16.5s								
PET				pmax	pmax				
	comp=Z,400nm,17.1s								
IMMV	**Iera Moni Meta**	**72.61**	**306**	P	**P**		**19 33 11.7**	**+0.6**	
SZH	**Strazhica**	**72.63**	**315**	*e*P	**P**		**19 33 11.3**	**+0.2**	
ISR	**Istrita**	**72.64**	**317**	⇓*i*P	**P**		**19 33 12.4**	**+1.2**	
DIM	**Dimitrovgrad**	**72.65**	**313**	*e*P	**P**		**19 33 11.6**	**+0.4**	
KARY	**Karystos**	**72.69**	**309**	P	**P**		**19 33 11.0**	**-0.5**	
VRI	**Vrincioaia**	**72.70**	**317**	⇑*i*P	**P**		**19 33 12.3**	**+0.8**	
VRI	**Vrincioaia**	**72.70**	**317**	P	**P**		**19 33 12.1**	**+0.6**	
PLOR	**Plostina**	**72.75**	**317**	⇓*i*P	**P**		**19 33 13.2**	**+1.4**	
PLOR	**Plostina**	**72.75**	**317**	P	**P**		**19 33 13.2**	**+1.4**	
TESR	**Tescani**	**72.91**	**318**	⇑*i*P	**P**		**19 33 12.3**	**-0.4**	
SECR		**72.95**	**316**	⇑*i*P	**P**		**19 33 14.7**	**+1.7**	
ZIMR		**73.12**	**315**	⇓*i*P	**P**		**19 33 14.6**	**+0.6**	
PTL	**Penteli**	**73.14**	**309**	P	**P**		**19 33 13.1**	**-1.1**	
PTL	**Penteli**	**73.14**	**309**	P	**P**		**19 33 13.1**	**-1.1**	
MLR	**Muntele Rosu**	**73.14**	**317**	P	**P**		**19 33 14.0**	**-0.2**	
	comp=Z,14nm,1.0s,baz=64,slow=2.6,SNR=84								
MLR					LR	LR	20 09 22.1		
	comp=Z,150nm,20.4s,baz=84,slow=39								
MLR	**Muntele Rosu**	**73.14**	**317**	⇑*i*P	**P**		**19 33 15.0**	**+0.8**	
EREA	**Eretria**	**73.15**	**309**	P	**P**		**19 33 13.0**	**-1.3**	
VLY	**Voula,Athens**	**73.16**	**309**	P	**P**		**19 33 12.9**	**-1.4**	
VLY	**Voula,Athens**	**73.16**	**309**	P	**P**		**19 33 12.9**	**-1.4**	
ATHU	**Athens Univers**	**73.18**	**309**	P	**P**		**19 33 13.2**	**-1.3**	
ATHU	**Athens Univers**	**73.18**	**309**	P	**P**		**19 33 13.2**	**-1.3**	
KAVA	**Kavala**	**73.19**	**312**	P	**P**		**19 33 13.9**	**-0.5**	
KAVA	**Kavala**	**73.19**	**312**	P	**P**		**19 33 13.9**	**-0.5**	
BOSA	**Boshof**	**73.19**	**239**	P	**P**		**19 33 14.4**	**-0.4**	
	comp=Z,3.2nm,0.8s,baz=86,slow=6.0,SNR=6.0								
BOSA					LR	LR	20 01 30.9		
	comp=Z,1µm,20.1s,baz=70,slow=33								
ANKY	**Antikythira Is**	**73.22**	**307**	P	**P**		**19 33 14.4**	**-0.3**	
ANKY	**Antikythira Is**	**73.22**	**307**	P	**P**		**19 33 14.4**	**-0.3**	
PRAR	**RASCA**	**73.41**	**319**	⇑*i*P	**P**		**19 33 15.9**	**+0.3**	
PRAR	**RASCA**	**73.41**	**319**	⇑*i*P	**P**		**19 33 15.9**	**+0.3**	
OUR	**Ouranopolis**	**73.46**	**311**	P	**P**		**19 33 15.4**	**-0.6**	
OUR	**Ouranopolis**	**73.46**	**311**	P	**P**		**19 33 15.4**	**-0.6**	
OUR	**Ouranopolis**	**73.46**	**311**	P	**P**		**19 33 15.4**	**-0.6**	
TMCR	**Tamitsa**	**73.52**	**338**	*e*P	**P**		**19 33 14.8**	**-1.1**	
TMCR					pmax	pmax			
	comp=Z,74nm,0.9s								
DID	**Didima**	**73.53**	**308**	P	**P**		**19 33 14.9**	**-1.7**	
DID	**Didima**	**73.53**	**308**	P	**P**		**19 33 14.9**	**-1.7**	
MAW	**Mawson**	**73.56**	**192**	P	**P**		**19 33 17.2**	**+1.2**	
	comp=Z,5.0nm,0.9s,baz=134,slow=2.8,SNR=4.6								
MAW					LR	LR	19 59 52.1		
	comp=Z,591nm,19.1s,baz=46,slow=31								
KRND	**KRANIDI**	**73.58**	**308**	P	**P**		**19 33 15.0**	**-1.8**	
VILL	**Villia**	**73.58**	**309**	P	**P**		**19 33 15.0**	**-1.9**	
HUMR	**Humele**	**73.59**	**316**	⇑*i*P	**P**		**19 33 16.4**	**-0.3**	
PAIG	**Paliouri**	**73.61**	**311**	P	**P**		**19 33 16.1**	**-0.8**	
PAIG	**Paliouri**	**73.61**	**311**	P	**P**		**19 33 16.1**	**-0.8**	
PAIG	**Paliouri**	**73.61**	**311**	P	**P**		**19 33 16.1**	**-0.8**	
DOPR	**Dopca**	**73.63**	**317**	⇓*i*P	**P**		**19 33 17.1**	**+0.1**	
VLI	**Veliai**	**73.64**	**307**	P	**P**		19 33 12.1	-5.1	
VLI	**Veliai**	**73.64**	**307**	P	**P**		19 33 12.1	-5.1	
MTUR	**Matau**	**73.68**	**316**	⇓*i*P	**P**		**19 33 18.1**	**+0.7**	
NVR	**Nevrokopi**	**73.74**	**312**	P	**P**		**19 33 16.5**	**-1.2**	
NVR	**Nevrokopi**	**73.74**	**312**	P	**P**		**19 33 16.5**	**-1.2**	
PGB	**Panagyurishte**	**73.75**	**314**	*e*P	**P**		**19 33 17.6**	**-0.2**	
LTK	**Loutraki**	**73.83**	**309**	P	**P**		**19 33 16.4**	**-1.9**	
LTK	**Loutraki**	**73.83**	**309**	P	**P**		**19 33 16.4**	**-1.9**	
XOR	**Xorichti**	**73.88**	**310**	P	**P**		**19 33 16.6**	**-2.0**	
XOR	**Xorichti**	**73.88**	**310**	P	**P**		**19 33 16.6**	**-2.0**	
MMB	**Musomiste**	**73.88**	**313**	*e*P	**P**		**19 33 18.3**	**-0.3**	
SRS	**Serrai**	**73.89**	**312**	P	**P**		**19 33 16.7**	**-1.9**	
SRS	**Serrai**	**73.89**	**312**	P	**P**		**19 33 16.7**	**-1.9**	
SRS	**Serrai**	**73.89**	**312**	P	**P**		**19 33 16.7**	**-1.9**	
ARR	**Arges**	**74.01**	**316**	⇑*i*P	**P**		**19 33 18.6**	**-0.7**	
SOH	**Sokhos**	**74.02**	**312**	P	**P**		**19 33 18.1**	**-1.3**	
SOH	**Sokhos**	**74.02**	**312**	P	**P**		**19 33 18.1**	**-1.3**	
SOH	**Sokhos**	**74.02**	**312**	P	**P**		**19 33 18.1**	**-1.3**	
DYR	**Agios Nikonas**	**74.13**	**307**	P	**P**		**19 33 18.5**	**-1.6**	
BURAR	**Bucovina Array**	**74.13**	**319**	⇑*i*P	**P**		**19 33 20.8**	**+0.8**	
BURAR	**Bucovina Array**	**74.13**	**319**	P	**P**		**19 33 20.7**	**+0.8**	
HORT	**Hortiatis**	**74.17**	**311**	P	**P**		**19 33 18.9**	**-1.4**	
HORT	**Hortiatis**	**74.17**	**311**	P	**P**		**19 33 18.9**	**-1.4**	
VLX	**Vlachokerasia**	**74.19**	**308**	P	**P**		**19 33 19.1**	**-1.4**	
VLX	**Vlachokerasia**	**74.19**	**308**	P	**P**		**19 33 19.1**	**-1.4**	
AXAR	**Agios Charalam**	**74.19**	**309**	P	**P**		**19 33 20.0**	**-0.4**	
AXAR	**Agios Charalam**	**74.19**	**309**	P	**P**		**19 33 20.0**	**-0.4**	
DSF	**Desfina**	**74.23**	**309**	P	**P**		**19 33 18.4**	**-2.3**	
DSF	**Desfina**	**74.23**	**309**	P	**P**		**19 33 18.4**	**-2.3**	
DSF	**Desfina**	**74.23**	**309**	P	**P**		**19 33 18.4**	**-2.3**	
GUR	**Goura**	**74.30**	**309**	P	**P**		**19 33 19.3**	**-1.9**	
GUR	**Goura**	**74.30**	**309**	P	**P**		**19 33 19.3**	**-1.9**	
DZM	**Mont Dzumac**	**74.35**	**114**	P	**P**		**19 33 22.1**	**+0.4**	
	comp=Z,39nm,1.1s,baz=6.9,slow=2.9,SNR=17								
DZM					LR	LR	20 10 14.3		
	comp=Z,736nm,18.3s,baz=278,slow=39								
DZM	**Mont Dzumac**	**74.35**	**114**	*e*P	**P**		**19 33 21.8**	**+0.1**	
	comp=Z,115nm,1.2s								
DZM				*e*S	**S**		**19 42 54.0**	**-0.6**	
	comp=Z,577nm,24.9s								
DZM	**Mont Dzumac**	**74.35**	**114**	*e*LR	LR		19 56 19.0		
	comp=Z,1µm,22.0s								
DZM	**Mont Dzumac**	**74.35**	**114**	*e*P	**P**		**19 33 21.9**	**+0.2**	
	comp=Z,62nm,1.2s								
MICGM	**Minsk**	**74.39**	**326**	*e*P	**P**		**19 33 20.0**	**-1.2**	
MICGM				*e*P	**P**		**19 33 21.0**	**-0.2**	
MICGM				*e*PcP	**sP**		**19 33 32.0**	**-2.3**	
MICGM				*e*S	**S**		**19 42 52.0**	**-1.6**	
MICGM				*e*SS	**SS**		**19 47 50.0**	**+10**	
MICGM				*e*LR	LR		20 09 00.0		
MNK	**Minsk**	**74.39**	**326**	*e*P	**P**		**19 33 20.0**	**-1.2**	
MNK				*e*			19 33 32.0		
MNK				*e*S	**S**		**19 42 52.0**	**-1.6**	
KKB	**Krupnik**	**74.41**	**313**	*e*P	**P**		**19 33 21.3**	**-0.3**	
KNT	**Kendrikon**	**74.42**	**312**	P	**P**		**19 33 20.4**	**-1.3**	
KNT	**Kendrikon**	**74.42**	**312**	P	**P**		**19 33 20.4**	**-1.3**	
KNT	**Kendrikon**	**74.42**	**312**	P	**P**		**19 33 20.4**	**-1.3**	
VTS	**Vitosha**	**74.45**	**313**	⇑*i*P	**P**		**19 33 22.1**	**+0.1**	
VTS	**Vitosha**	**74.45**	**313**	P	**P**		**19 33 21.0**	**-1.0**	
VTS	**Vitosha**	**74.45**	**313**	*e*P	**P**		**19 33 22.2**	**+0.2**	
VTS	**Vitosha**	**74.45**	**313**	P	**P**		**19 33 21.0**	**-1.0**	
VTS	**Vitosha**	**74.45**	**313**	P	**P**		**19 33 21.0**	**-1.0**	
KLV	**Kalavryta, Ach**	**74.47**	**309**	P	**P**		**19 33 20.6**	**-1.5**	
KLV	**Kalavryta, Ach**	**74.47**	**309**	P	**P**		**19 33 20.6**	**-1.5**	
KLV	**Kalavryta, Ach**	**74.47**	**309**	P	**P**		**19 33 20.6**	**-1.5**	
AGG	**Agios Georgios**	**74.48**	**310**	P	**P**		**19 33 19.4**	**-2.7**	
AGG	**Agios Georgios**	**74.48**	**310**	P	**P**		**19 33 19.4**	**-2.7**	
AGG	**Agios Georgios**	**74.48**	**310**	P	**P**		**19 33 19.4**	**-2.7**	
ITM	**Ithomi**	**74.51**	**308**	P	**P**		**19 33 21.3**	**-1.0**	
ITM	**Ithomi**	**74.51**	**308**	P	**P**		**19 33 21.3**	**-1.0**	
KALE	**Kalithea**	**74.53**	**309**	P	**P**		**19 33 20.4**	**-2.0**	
KALE	**Kalithea**	**74.53**	**309**	P	**P**		**19 33 20.4**	**-2.0**	
KALE	**Kalithea**	**74.53**	**309**	P	**P**		**19 33 20.4**	**-2.0**	
LIT	**Litokhoron**	**74.54**	**311**	P	**P**		**19 33 21.1**	**-1.3**	
LIT	**Litokhoron**	**74.54**	**311**	P	**P**		**19 33 21.1**	**-1.3**	
LIT	**Litokhoron**	**74.54**	**311**	P	**P**		**19 33 21.1**	**-1.3**	
TRIZ	**Trizonia**	**74.58**	**309**	P	**P**		**19 33 21.1**	**-1.5**	
TRIZ	**Trizonia**	**74.58**	**309**	P	**P**		**19 33 21.1**	**-1.5**	
SERG	**Sergoula**	**74.60**	**309**	P	**P**		**19 33 20.7**	**-2.1**	
SERG	**Sergoula**	**74.60**	**309**	P	**P**		**19 33 20.7**	**-2.1**	
PYL	**PYLOS**	**74.62**	**307**	P	**P**		**19 33 21.2**	**-1.7**	
PYL	**PYLOS**	**74.62**	**307**	P	**P**		**19 33 21.2**	**-1.7**	
LOT	**Lotru**	**74.62**	**316**	⇓*i*P	**P**		**19 33 22.7**	**-0.2**	
LAKA	**Lakka**	**74.63**	**309**	P	**P**		**19 33 21.9**	**-1.1**	
LAKA	**Lakka**	**74.63**	**309**	P	**P**		**19 33 21.9**	**-1.1**	
LAKA	**Lakka**	**74.63**	**309**	P	**P**		**19 33 21.9**	**-1.1**	
VAY	**Valandovo**	**74.69**	**312**	P	**P**		**19 33 20.9**	**-2.3**	
VAY	**Valandovo**	**74.69**	**312**	P	**P**		**19 33 20.9**	**-2.3**	
VAY	**Valandovo**	**74.69**	**312**	*i* P	**P**		**19 33 22.2**	**-1.0**	
VAY	**Valandovo**	**74.69**	**312**	P	**P**		**19 33 20.9**	**-2.3**	
EFP	**Efpalio**	**74.72**	**309**	P	**P**		**19 33 21.5**	**-1.9**	
EFP	**Efpalio**	**74.72**	**309**	P	**P**		**19 33 21.5**	**-1.9**	
ANX	**Ano Chora**	**74.73**	**309**	P	**P**		**19 33 22.9**	**-0.8**	
GRG	**Griva**	**74.75**	**312**	P	**P**		**19 33 22.2**	**-1.4**	
GRG	**Griva**	**74.75**	**312**	P	**P**		**19 33 22.2**	**-1.4**	
GRG	**Griva**	**74.75**	**312**	P	**P**		**19 33 22.2**	**-1.4**	
DRO	**Drossia**	**74.80**	**309**	P	**P**		**19 33 23.6**	**-0.4**	
DRO	**Drossia**	**74.80**	**309**	P	**P**		**19 33 23.6**	**-0.4**	
THL	**Klokotos Trika**	**74.81**	**310**	P	**P**		**19 33 21.6**	**-2.4**	
EVR	**Evrytania**	**74.87**	**310**	P	**P**		**19 33 23.2**	**-1.2**	
EVR	**Evrytania**	**74.87**	**310**	P	**P**		**19 33 23.2**	**-1.2**	
PUL	**Pulkovo**	**74.91**	**332**	*de*P	**P**		**19 33 24.5**	**+0.4**	
PUL					pmax	pmax			
	comp=Z,56nm,0.6s								
RLS	**Riolos of Patr**	**75.00**	**309**	P	**P**		**19 33 24.3**	**-0.8**	
RLS	**Riolos of Patr**	**75.00**	**309**	P	**P**		**19 33 24.3**	**-0.8**	
KZN	**Kozani**	**75.12**	**311**	P	**P**		**19 33 23.7**	**-2.1**	
KZN	**Kozani**	**75.12**	**311**	P	**P**		**19 33 23.7**	**-2.1**	
KZN	**Kozani**	**75.12**	**311**	P	**P**		**19 33 23.7**	**-2.1**	
NACGM	**Naroch**	**75.12**	**326**	*e*P	**P**		**19 33 25.0**	**-0.4**	
NACGM					PM		19 33 26.0		
	comp=Z,0.3nm,1.0s								
NACGM				*e*S	**S**		**19 43 07.0**	**+5.2**	
NACGM				*e*LQ	LQ		20 00 16.0		
NACGM				*e*LR	LR		20 10 03.0		
IDID	**Didziasalis**	**75.27**	**327**	*e*P	**P**		**19 33 26.1**	**-0.1**	
IDID					IAmb	IAmb	19 33 27.9		
	comp=Z,32nm,0.9s								
PDO	**Prodromos**	**75.30**	**309**	P	**P**		**19 33 25.7**	**-1.1**	
DEV	**Deva**	**75.31**	**317**	⇓*i*P	**P**		**19 33 28.2**	**+1.5**	
DEV	**Deva**	**75.31**	**317**	P	**P**		**19 33 28.1**	**+1.4**	
KPRO	**Kipourio**	**75.37**	**311**	P	**P**		**19 33 25.6**	**-1.7**	
LVV	**L'vov**	**75.42**	**321**	*e*P	**P**		**19 33 26.8**	**-0.4**	
LVV				*e*			19 36 20.5		
LVV				*e*PPP	PPP		19 38 08.0		
LVV				*e*S	**S**		**19 43 02.5**	**-2.8**	
DSL	**Palaion Diasel**	**75.45**	**310**	P	**P**		**19 33 25.6**	**-2.1**	
DSL	**Palaion Diasel**	**75.45**	**310**	P	**P**		**19 33 25.6**	**-2.1**	
FNA	**Florina**	**75.49**	**311**	P	**P**		**19 33 25.6**	**-2.3**	
FNA	**Florina**	**75.49**	**311**	P	**P**		**19 33 25.6**	**-2.3**	
FNA	**Florina**	**75.49**	**311**	P	**P**		**19 33 25.6**	**-2.3**	
KFL	**Anninata**	**75.54**	**309**	P	**P**		**19 33 27.8**	**-0.4**	
IIGN	**Ignalina**	**75.56**	**327**	*e*P	**P**		**19 33 27.8**	**-0.2**	
IIGN				IAmb	IAmb		19 33 29.6		
	comp=Z,31nm,0.8s								
IZAR	**Zarasai**	**75.66**	**327**	*e*P	**P**		**19 33 28.3**	**-0.2**	
IZAR				IAmb	IAmb		19 33 30.0		
	comp=Z,18nm,0.8s								
KRUS	**Krusevo**	**75.68**	**312**	*i* P	**P**		**19 33 27.7**	**-1.3**	
LKD2	**Lefkada island**	**75.74**	**309**	P	**P**		**19 33 28.6**	**-0.8**	
LKD2	**Lefkada island**	**75.74**	**309**	P	**P**		**19 33 28.6**	**-0.8**	
FSK	**Fiskardo**	**75.77**	**309**	*i* P	**P**		**19 33 28.3**	**-1.2**	
OHR	**Ohrid**	**75.97**	**312**	*i* P	**P**		**19 33 29.1**	**-1.6**	
TRPA	**Tarpa**	**76.00**	**319**	⇑*i*P	**P**		**19 33 31.5**	**+0.9**	
TRPA	**Tarpa**	**76.00**	**319**	⇑*e*P	**P**		**19 33 30.7**	**+0.1**	
IGT	**Igoumenitsa**	**76.09**	**310**	P	**P**		**19 33 29.1**	**-2.2**	
IGT	**Igoumenitsa**	**76.09**	**310**	P	**P**		**19 33 29.1**	**-2.2**	
IGT	**Igoumenitsa**	**76.09**	**310**	P	**P**		**19 33 29.1**	**-2.2**	
BZS	**Buzias**	**76.14**	**316**	⇑*i*P	**P**		**19 33 31.3**	**-0.2**	
BZS	**Buzias**	**76.14**	**316**	P	**P**		**19 33 31.4**	**-0.1**	
SGD	**Sagiada**	**76.18**	**310**	P	**P**		**19 33 30.9**	**-0.9**	
KWP	**Kalwaria Pacla**	**76.21**	**321**	*e*P	**P**		**19 33 32.0**	**+0.2**	
KWP	**Kalwaria Pacla**	**76.21**	**321**	⇑*e*P	**P**		**19 33 32.0**	**+0.2**	
VSU	**Vasula**	**76.21**	**330**	*de*P	**P**		**19 33 31.7**	**+0.1**	
VSU				pmax	pmax				
	comp=Z,157nm,1.2s								
SIRR	**Siria**	**76.23**	**317**	⇑*i*P

CUC Castrocucco 79.61 310 *e*P **P** **19 33 50.2 -0.7**
comp=Z,13nm,0.9s
CUC LR LR
comp=Z,307nm,19.0s
KEV Kevo 79.82 341 PFAKE 19 34 00.0 +8.6
KEV LR LR
comp=Z,1μm,20.0s
SOP Sopron 79.90 318⇑ *e*P **P** **19 33 52.6 +0.3**
KRLC Kraliky 80.06 320 *e*P **P** **19 33 53.6 +0.4**
KRLC *e*pP **PcP** **19 33 57.9 -2.6**
KRLC *ex* x 19 34 01.1
KRLC Kraliky 80.06 320 *e*P **P** **19 33 53.6 +0.4**
KRLC *e* 19 34 01.1
GKP Gorka Klasztor 80.24 324 *e*P **P** **19 33 54.4 +0.4**
GKP *e*S **S** **19 43 56.0 -1.2**
GKP Gorka Klasztor 80.24 324 *e*P **P** **19 33 54.4 +0.4**
GKP *e*S **S** **19 43 55.9 -1.2**
ARCES ARCESS Array B 80.24 341 P **P** **19 33 54.4 +0.7**
comp=Z,28nm,0.9s,baz=115,slow=5.5,SNR=59
ARCES LR LR 20 13 24.1
comp=Z,1μm,20.3s,baz=110,slow=39
WDD Wied Dalam 80.30 306 PFAKE 19 34 10.0 +15
WDD LR LR
comp=Z,546nm,19.0s
DPC Dobruska-Polom 80.39 321 *e*P **P** **19 33 55.9 +0.9**
DPC *e*pP **PcP** **19 33 59.6 -2.4**
DPC *e*PCP **pP** **19 34 02.9 -1.7**
DPC *e*S **S** **19 44 00.6 +1.5**
DPC AMS AMS 20 14 30.0
comp=Z,700nm,17.6s
DPC Dobruska-Polom 80.39 321 *e*P **P** **19 33 55.9 +0.9**
DPC *e* 19 34 02.9
DPC *e*S **S** **19 44 00.6 +1.5**
DPC MLR MLR
comp=Z,700nm,17.6s
CONA Conrad Observa 80.40 318 *i* P **P** **19 33 55.0 -0.1**
comp=Z,15nm,1.1s,SNR=6.3
KSP Ksiaz 80.47 321 *e*P **P** **19 33 55.8 +0.5**
KSP *e*S **S** **19 44 03.8 +4.0**
KSP Ksiaz 80.47 321 *e*P **P** **19 33 55.8 +0.5**
KSP *e*S **S** **19 44 03.8 +4.0**
VAE Valguarnera 80.50 307 P **P** **19 33 56.7 +0.9**
comp=Z,19nm,0.9s,baz=86,slow=4.9,SNR=10
VAE LR LR 20 14 47.8
comp=Z,212nm,18.6s,baz=157,slow=40
ARSA Arzberg 80.55 317 *i* P **P** **19 33 56.4 +0.5**
comp=Z,27nm,1.0s,SNR=16
BOJS Bojanci 80.55 316 *e*P **P** **19 33 55.7 -0.2**
SYO Syowa Base 80.59 197⇑ *i*P **P** **19 33 56.0 +0.5**
UPC Upice 80.61 321 *e*P **P** **19 33 56.6 +0.5**
UPC *ex* x 19 34 02.9
UPC *e*S **S** **19 44 02.3 +1.1**
UPC AMS AMS 20 14 40.0
comp=Z,900nm,19.6s
UPC Upice 80.61 321 *e*P **P** **19 33 56.6 +0.5**
UPC *e* 19 34 02.9
UPC *e*S **S** **19 44 02.3 +1.1**
UPC MLR MLR
comp=Z,900nm,19.6s
BILL Bilibino 80.76 21 *c i*P **P** **19 33 55.5 -1.0**
BILL *i* 19 34 03.5
BILL *i* 19 34 08.7
BILL *i* SS SS 19 49 22.9 +7.3
BILL pmax pmax
comp=Z,16nm,1.1s
BILL MLR MLR
comp=Z,7μm,16.0s
PERS Pernice 80.76 317 *e*P **P** **19 33 57.3 +0.3**
TREC Trest 80.80 319 *e*P **P** **19 33 57.5 +0.4**
TREC AMS AMS 20 16 40.0
comp=Z,500nm,14.4s
TREC Trest 80.80 319 *e*P **P** **19 33 57.5 +0.4**
TREC MLR MLR
comp=Z,500nm,14.4s
SOKA Soboth 80.82 317 *i* P **P** **19 33 57.8 +0.4**
comp=Z,55nm,1.0s,SNR=32
VISS Visnje 80.87 316 *e*P **P** **19 33 57.4 -0.2**
OBKA Obir 81.14 317 *i* pP **P** **19 33 59.8 +0.7**
comp=Z,28nm,1.5s,SNR=9.7
GOPC GO Pecny, Ondr 81.32 320 *e*P **P** **19 34 00.6 +0.7**
GOPC *e*PCP **pP** **19 34 07.6 -2.0**
GOPC *e*S **S** **19 44 10.5 +1.8**
GOPC AMS AMS 20 22 20.0
comp=Z,600nm,17.5s
GOPC GO Pecny, Ondr 81.32 320 *e*P **P** **19 34 00.6 +0.7**
GOPC *e* 19 34 07.6
GOPC *e*S **S** **19 44 10.5 +1.8**
GOPC MLR MLR
comp=Z,600nm,17.5s
JAVS Javornik 81.42 316 *e*P **P** **19 34 00.0 -0.5**
CLTB Caltabellotta 81.45 307 PFAKE 19 34 10.0 +9.0
CLTB LR LR
comp=Z,181nm,19.0s
MOA Molln 81.45 318 *i* P **P** **19 34 00.5 -0.2**
comp=Z,12nm,1.0s,SNR=5.1
PRU Pruhonice 81.49 320 *e*P **P** **19 34 01.0 +0.3**
PRU *e*PCP **pP** **19 34 09.2 -1.2**
PRU *ex* x 19 34 15.4
PRU *e*S **S** **19 44 12.9 +2.5**
PRU AMS AMS 20 22 20.0
comp=Z,700nm,13.2s
PRU Pruhonice 81.49 320 *e*P **P** **19 34 01.0 +0.3**
PRU *e* 19 34 09.2
PRU *e* 19 34 15.4
PRU *e*S **S** **19 44 12.9 +2.5**
PRU MLR MLR
comp=Z,700nm,13.2s
PVCC Panska Ves 81.53 321 *e*P **P** **19 34 01.4 +0.5**
PVCC AMS AMS 20 26 20.0
comp=Z,700nm,17.3s
PVCC Panska Ves 81.53 321 *e*P **P** **19 34 01.4 +0.5**
PVCC MLR MLR
comp=Z,700nm,17.3s
PRA Prague 81.57 320 *e*S **S** **19 44 14.4 +3.2**
PRA AMS AMS 20 21 10.0
comp=Z,800nm,13.5s
AQU L'Aquila 81.61 312 *e*P **P** **19 34 01.6 0.0**
comp=Z,68nm,1.0s
AQU LR LR
comp=Z,580nm,19.0s
AQU L'Aquila 81.61 312 *e*P **P** **19 34 01.6 0.0**
AQU pmax pmax
comp=Z,69nm,1.0s
AQU MLR MLR
comp=Z,580nm,19.0s
MYKA Terra Mystica 81.77 317 *i* P **P** **19 34 03.0 +0.6**
comp=Z,16nm,0.9s,SNR=9.7
BSD Bornholm Skovb 81.84 325 *i* P **P** **19 34 00.1 -2.4**
comp=Z,26nm,0.8s
BSD Bornholm Skovb 81.84 325 *i* P **P** **19 34 00.1 -2.4**
BSD pmax pmax
comp=Z,26nm,0.8s
GERES GERESS Array B 81.92 319 P **P** **19 34 03.9 +0.7**
comp=Z,25nm,0.9s,baz=98,slow=5.7,SNR=130
GERES LR LR 20 16 26.6
comp=Z,324nm,18.9s,baz=78,slow=40
BRG Berggiesshubel 81.96 321 *i* P **P** **19 34 03.0 -0.2**
comp=Z,28nm,1.2s
BRG Berggiesshubel 81.96 321 S **S** **19 44 18.0 +2.8**
comp=N,641nm,15.8s
comp=E,613nm,22.7s
comp=Z,729nm,17.9s
BRG Berggiesshubel 81.96 321 *i* P **P** **19 34 03.0 -0.2**
BRG S **S** **19 44 18.0 +2.8**
BRG pmax pmax
comp=Z,28nm,1.2s
BRG MLR MLR
comp=N,641nm,15.8s
BRG MLR MLR
comp=E,613nm,22.7s
BRG MLR MLR
comp=Z,729nm,17.9s
KBA Koelnbreinsper 82.01 317 *i* P **P** **19 34 03.3 -0.5**
comp=Z,14nm,0.9s,SNR=6.9
KBA Koelnbreinsper 82.01 317 P **P** **19 34 03.9 +0.1**
KHC Kasperske Hory 82.03 319 *e*P **P** **19 34 03.6 -0.1**
KHC *ex* x 19 34 12.4
KHC *ex* x 19 34 17.2
KHC *e*S **S** **19 44 18.9 +2.8**
KHC AMS AMS 20 24 30.0
comp=Z,600nm,15.6s
KHC Kasperske Hory 82.03 319 *e*P **P** **19 34 03.6 -0.1**
comp=Z,4.3nm,0.9s
KHC Kasperske Hory 82.03 319 *e*P **P** **19 34 03.6 -0.1**
KHC *e* 19 34 12.4
KHC *e* 19 34 17.2
KHC *e*S **S** **19 44 18.9 +2.8**
KHC MLR MLR
comp=Z,600nm,15.6s
ABTA Abfaltersbach 82.55 317 *i* P **P** **19 34 05.7 -0.8**
comp=Z,16nm,1.0s,SNR=5.4
CLL Collm 82.59 321⇑ *i*P **P**
comp=Z,25nm,1.3s
CLL *i* (PcP) **pP** **19 34 13.6 -2.6**
CLL *i* 19 34 25.0
CLL *e*S **S** **19 44 22.0 +0.4**
CLL *e*PS **PnS** **19 45 10.0 -4.2**
CLL *e*(PPS) 19 45 54.0
CLL *e*SS **SS** **19 49 46.0 +2.5**
CLL *e*SSS SSS 19 53 12.0
CLL *e* 19 55 12.0
CLL *e*SSSS 19 55 54.0
CLL Lm MLR 20 16 00.0
comp=N,700nm,18.7s
CLL Lm MLR 20 16 00.0
comp=E,500nm,21.1s
CLL Lm MLR 20 16 00.0
comp=Z,600nm,20.1s
CLL Collm 82.59 321⇑ *i*P **P** **19 34 06.2 -0.3**
CLL *i* 19 34 13.6
CLL *e*S **S** **19 44 22.0 +0.4**
CLL pmax pmax
comp=Z,55nm,1.3s
CLL MLR MLR
comp=Z,600nm,20.1s
NKC Novy Kostel 82.85 320 *e*P **P** **19 34 08.4 +0.5**
NKC *ex* x 19 34 16.9
NKC AMS AMS 20 16 10.0
comp=Z,900nm,16.3s
NKC Novy Kostel 82.85 320 *e*P **P** **19 34 08.4 +0.5**
NKC *e* 19 34 16.9
NKC MLR MLR
comp=Z,900nm,16.3s
HFS Hagfors 83.10 330 P **P** **19 34 09.5 +0.5**
comp=Z,38nm,1.1s,baz=108,slow=4.7,SNR=24
HFS LR LR 20 13 49.9
comp=Z,754nm,20.2s,baz=92,slow=38
WTTA Wattenberg 83.19 317 *i* P **P** **19 34 09.9 0.0**
comp=Z,29nm,1.0s,SNR=8.9
WATA Walderalm 83.23 317 *i* P **P** **19 34 10.3 +0.2**
comp=Z,17nm,0.9s,SNR=7.5
MOTA Moosalm 83.55 317 *i* P **P** **19 34 12.0 +0.3**
comp=Z,28nm,0.9s,SNR=23
GRFO Grafenberg 83.61 320 *e*P **P** **19 34 12.1 +0.3**
comp=Z,19nm,0.9s
GRFO Grafenberg 83.61 320 *e*P **P** **19 34 12.1 +0.3**
GRFO pmax pmax
comp=Z,19nm,0.9s
FETA Feichten 83.79 317 *i* P **P** **19 34 13.4 +0.4**
comp=Z,23nm,1.0s,SNR=8.2
RETA Reutte 83.79 317 *i* P **P** **19 34 13.2 +0.3**
comp=Z,25nm,1.0s,SNR=7.2
VLC Villacollemand 83.91 314 PFAKE 19 34 20.0 +6.5
VLC LR LR
comp=Z,815nm,19.0s
DAVA Damuels 84.38 317 *i* pP **P** **19 34 16.7 +0.7**
comp=Z,31nm,1.0s,SNR=6.0
NB2 NORSAR Subarra 84.40 331 P **P** **19 34 15.3 -0.4**
comp=Z,20nm,0.9s,baz=94,slow=5.3
NB2 NORSAR Subarra 84.40 331 P **P** **19 34 15.3 -0.4**
baz=94,slow=5.3
NOA NORSAR Array B 84.40 331 P **P** **19 34 15.5 -0.2**
comp=Z,14nm,0.9s,baz=95,slow=5.2,SNR=29
NOA LR LR 20 15 55.8
comp=Z,778nm,19.4s,baz=80,slow=38
SNZO South Karori 84.41 132 PFAKE 19 34 30.0 +14
SNZO LR LR
comp=Z,2μm,21.0s
KEST Kesra 84.50 305 P **P** **19 34 18.0 +1.2**
comp=Z,34nm,0.9s,baz=340,slow=0.3,SNR=35
KEST LR LR 20 17 18.5
comp=Z,345nm,18.4s,baz=71,slow=40
VSL Villasalto 84.53 309 PFAKE 19 34 30.0 +13
VSL LR LR
comp=Z,272nm,20.0s
MSVF Nonsavu 84.68 108 *e*P **P** **19 34 18.3 +0.3**
comp=Z,22nm,1.0s
MSVF LR LR
comp=Z,902nm,19.0s
MSVF Nonsavu 84.68 108 *ce*P **P** **19 34 18.5 +0.5**
MSVF pmax pmax
comp=Z,31nm,1.4s
TUE Stuetta 84.72 316 *e*P **P** **19 34 17.2 -0.6**
comp=Z,18nm,1.0s
TUE LR LR
comp=Z,593nm,20.0s
PGF Pioggiola 84.88 312 *e*P **P** **19 34 18.6 +0.1**
PGF pmax pmax
comp=Z,136nm,1.9s
SPITS Spitsbergen Ar 84.96 348 P **P** **19 34 18.6 +0.5**
comp=Z,57nm,1.0s,baz=102,slow=13,SNR=14
SPITS LR LR 20 18 51.9
comp=Z,1μm,20.1s,baz=50,slow=40
KONO Kongsberg 85.11 329 *ce*P **P** **19 34 18.8 -0.4**
KONO pmax pmax
comp=Z,37nm,1.2s
FUNA Funafuti 85.16 99 PFAKE 19 34 30.0 +10
FUNA LR LR
comp=Z,5μm,20.0s
BFO Black Forest 85.45 318 PFAKE 19 34 30.0 +8.8
BFO LR LR
comp=Z,463nm,20.0s
BFO Black Forest 85.45 318 *i* P **P** **19 34 21.7 +0.5**
URZ Urewera 85.85 128 LR LR 20 13 14.6
comp=Z,671nm,20.7s,baz=304,slow=36
KBS Kingsbay 85.95 349 PFAKE 19 34 30.0 +7.0
KBS LR LR
comp=Z,1μm,20.0s
SBF Sospel 86.03 314 *e*P **P** **19 34 24.2 0.0**
SBF pmax pmax
comp=Z,87nm,1.3s
ECH Echery 86.24 318 *e*P **P** **19 34 24.8 -0.3**
comp=Z,8.4nm,0.9s
ECH LR LR
comp=Z,717nm,19.0s
ECH Echery 86.24 318 *e*P **P** **19 34 24.8 -0.3**
ECH pmax pmax
comp=Z,8.0nm,0.9s
ECH MLR MLR
comp=Z,717nm,19.0s
LPG La Plagne 86.52 315 *e*P **P** **19 34 26.9 0.0**
LPG pmax pmax
comp=Z,15nm,0.9s
LPL La Plagne 86.53 315 *e*P **P** **19 34 26.9 0.0**
LPL pmax pmax
comp=Z,26nm,1.0s
BNI Bardonecchia 86.57 315 PFAKE 19 34 40.0 +13
BNI LR LR
comp=Z,619nm,19.0s
FRF La Foret Royal 86.61 313 *e*P **P** **19 34 27.2 +0.2**
FRF pmax pmax
comp=Z,29nm,1.1s
HAU Haudompre 86.78 318 *e*P **P** **19 34 27.4 -0.4**
HAU pmax pmax
comp=Z,20nm,1.0s
WLF Walferdange 86.90 319⇑ P **P** **19 34 29.2 +0.9**
WLF Walferdange 86.90 319 PFAKE 19 34 40.0 +12
WLF LR LR
comp=Z,567nm,20.0s
CABF La Chapelle 86.97 316 *e*P **P** **19 34 29.0 +0.2**
CABF pmax pmax
comp=Z,36nm,1.3s
MEM Membach 86.98 320⇓ P **P** **19 34 28.9 +0.3**
BCLA Clavier 87.43 320⇑ P **P** **19 34 31.6 +0.8**
VNDA Vanda 87.81 168 P **P** **19 34 32.0 0.0**
comp=Z,1.5nm,1.1s,baz=281,slow=7.6,SNR=4.6
VNDA LR LR 20 09 43.9
comp=Z,1μm,18.4s,baz=296,slow=33
DOU Dourbes 87.90 320⇑ P **P** **19 34 33.0 0.0**
VIVF Saint-Julien-l 88.00 315 *e*P **P** **19 34 34.0 +0.3**
VIVF pmax pmax
comp=Z,21nm,1.4s
TAM Tamanrasset 88.02 293 *e*P **P** **19 34 35.9 +1.4**
comp=Z,13nm,0.9s
TAM LR LR
comp=Z,723nm,19.0s
TAM Tamanrasset 88.02 293 *e*P **P** **19 34 35.9 +1.4**
TAM pmax pmax
comp=Z,13nm,0.9s
TAM MLR MLR
comp=Z,723nm,19.0s
SSB Saint Sauveur 88.08 315 PFAKE 19 34 50.0 +16
SSB LR LR
comp=Z,520nm,21.0s
SNF Seneffe 88.08 320⇑ P **P** **19 34 33.5 -0.4**
BAIF Baives 88.15 320 *e*P **P** **19 34 34.6 +0.4**
BAIF pmax pmax
comp=Z,18nm,1.1s
SMF Signal de Mont 88.52 316 *e*P **P** **19 34 36.0 -0.1**
SMF pmax pmax
comp=Z,11nm,0.9s
AVF Avril sur Loir 88.85 317 *e*P **P** **19 34 37.7 +0.1**
AVF pmax pmax
comp=Z,9.0nm,1.0s
SBA Scott Base 88.91 168 *e*P **P** **19 34 38.5 +1.2**
comp=Z,31nm,1.4s
SBA LR LR
comp=Z,731nm,19.0s
SBA Scott Base 88.91 168 *e*P **P** **19 34 38.5 +1.2**
SBA pmax pmax
comp=Z,31nm,1.4s
SBA MLR MLR
comp=Z,731nm,19.0s
RAO Raoul Island 89.19 119 PFAKE 19 34 50.0 +10
RAO LR LR
comp=Z,4μm,21.0s
CAF Calviac 89.85 315 *e*P **P** **19 34 43.3 +0.9**
CAF pmax pmax
comp=Z,41nm,1.6s
NVL N'lazarevskaya 90.09 199⇓ *i*P **P** **19 34 44.7 +1.8**
NVL *e* 19 38 24.9
NVL *e*S **SKSac** **19 45 09.6 -1.8**
NVL *e*SP **SPn** **19 46 37.4 -2.0**
NVL *e*SS SS 19 51 48.1 +15
NVL pmax pmax
comp=Z,16nm,0.8s
NVL MLR MLR
comp=Z,909nm,16.0s
RJF Les Rejaudoux 90.21 315 *e*P **P** **19 34 44.0 -0.1**
RJF pmax pmax
comp=Z,24nm,1.2s
LDF La Druitiere 91.06 319 *e*P **P** **19 34 48.4 +0.4**
LDF pmax pmax
comp=Z,57nm,1.4s
MFF Saint Martin d 91.26 317 *e*P **P** **19 34 49.4 +0.5**
MFF pmax pmax
comp=Z,64nm,1.7s
FLN La Foliniere 91.29 319 *e*P **P** **19 34 49.4 +0.4**
FLN pmax pmax
comp=Z,33nm,1.1s
GRR Gorron 91.57 318 *e*P **P** **19 34 50.8 +0.5**
GRR pmax pmax
comp=Z,49nm,1.5s
TORD Torodi Ar. Bea 92.12 283 P **P** **19 34 53.9 +0.4**
comp=Z,6.5nm,1.0s,baz=77,slow=5.2,SNR=26
TORD LR LR 20 15 09.9
comp=Z,871nm,18.5s,baz=60,slow=35
EKA Eskdalemuir Ar 92.17 325 P **P** **19 34 51.9 -1.0**
comp=Z,7.5nm,0.9s,baz=82,slow=5.4,SNR=7.2
EKA LR LR 20 21 22.1
comp=Z,328nm,18.9s,baz=40,slow=39
DAG Danmarks Havn 92.59 348⇑ *i*P **P** **19 34 53.6 -0.8**
comp=Z,30nm,1.5s
DAG Danmarks Havn 92.59 348⇑ *i*P **P** **19 34 53.6 -0.8**
DAG pmax pmax
comp=Z,30nm,1.5s
QSPA South Pole Qui 92.62 180 LR LR 20 12 57.3
comp=Z,2μm,18.7s,baz=302,slow=33
QSPA South Pole Qui 92.62 180 *e*P **P** **19 34 56.4 +1.5**
AFI Afiamalu 94.25 104 LR LR 20 21 11.9
comp=Z,274nm,18.4s,baz=269,slow=38
ESDC Sonseca Array 94.81 310 P **P** **19 35 04.5 -1.0**
comp=Z,3.5nm,0.9s,baz=64,slow=4.2,SNR=13
ESDC LR LR 20 20 45.9
comp=Z,158nm,21.2s,baz=335,slow=37
SNAA Sanae 94.84 198 LR LR 20 13 41.8
comp=Z,642nm,18.0s,baz=58,slow=33
PAB San Pablo 95.12 310 PFAKE 19 35 20.0 +13
PAB LR LR
comp=Z,389nm,19.0s
SDPT Sand Point 96.30 34 *e*P **P** **19 35 10.9 -1.0**
comp=Z,37nm,0.9s
TOLK Toolik Lake Re 96.70 19 P **P** **19 35 13.7 +0.2**
baz=295
MTE Manteigas 97.42 311 PFAKE 19 35 30.0 +13
MTE LR LR
comp=Z,412nm,20.0s
KOWA Kowa 97.56 285 LR LR 20 18 34.2
comp=Z,1μm,18.8s,baz=97,slow=35
RTC Rabat Centre 97.90 305 PFAKE 19 35 30.0 +10
RTC LR LR
comp=Z,3μm,19.0s
BPAW Bear Paw Mtn. 98.06 24 *e*P **P** **19 35 19.5 -0.2**
comp=Z,1.1nm,1.0s
BORG Borgarnes 98.31 337 LR LR 20 22 39.3
comp=Z,425nm,19.8s,baz=52,slow=37
DBIC Dimbokro 98.97 277 LR LR 20 16 14.7
comp=Z,467nm,21.8s,baz=70,slow=33
COLA College 98.97 23 PFAKE 19 35 30.0 +6.4
COLA LR LR
comp=Z,784nm,22.0s
ILAR Eielson Array 99.38 22 P **Pdif** **19 35 24.5 -1.1**
comp=Z,0.6nm,0.8s,baz=287,slow=4.1,SNR=7.8
ILAR LR LR 20 22 26.1
comp=Z,868nm,20.7s,baz=308,slow=37
KDAK Kodiak Island 99.74 30 PFAKE 19 35 40.0 +13
KDAK LR LR
comp=Z,783nm,20.0s
SHEL Horse Pasture 100.58 254 PFAKE 19 35 40.0 +8.1
SHEL LR LR
comp=Z,748nm,22.0s
EGAK Eagle 101.50 21 PFAKE 19 35 50.0 +15
EGAK LR LR
comp=Z,2μm,19.0s
INK Inuvik 101.84 16 P **Pdif** **19 35 35.9 -0.5**
comp=Z,3.9nm,1.1s,baz=259,slow=4.4,SNR=4.0
BMRM Bremner River 102.10 25 *e*Pdif **Pdif** **19 35 38.8 +1.0**
comp=Z,12nm,1.0s
RES Resolute Bay 102.54 3 *e*Pdif **Pdif** **19 35 40.6 +1.3**
comp=Z,10nm,1.0s
RES Resolute Bay 102.54 3 *e*P **Pdif** **19 35 40.6 +1.3**
RES pmax pmax
comp=Z,10.0nm,1.0s
SFJD Kangerlussuaq 106.22 346 PFAKE 19 40 20.0
SFJD LR LR
comp=Z,964nm,20.0s
POHA Pohakuloa 107.80 68 PFAKE 19 40 20.0
POHA LR LR
comp=Z,880nm,19.0s
ASCN Ascension 109.03 263 PFAKE 19 40 30.0
ASCN LR LR
comp=Z,670nm,19.0s
WRAK Wrangell Islan 109.94 26 PFAKE 19 40 30.0
WRAK LR LR
comp=Z,1μm,20.0s
YKA Yellowknife Ar 111.35 14 Pdiff **Pdif** **19 36 20.9 +2.1**
comp=Z,0.5nm,0.9s,baz=324,slow=4.5,SNR=6.0
YKA PKiKP **PKiKP** **19 40 18.0 +0.9**
comp=Z,0.6nm,1.0s,baz=338,slow=2.8,SNR=6.4
YKA PP **PP** **19 40 50.6 -6.2**
comp=Z,3.8nm,0.9s,baz=337,slow=7.2,SNR=7.6
YKA PKKPbc **PKKPbc** **19 51 12.1 -2.8**
comp=Z,0.5nm,0.9s,baz=146,slow=3.7,SNR=4.4
TBI Tubuai 114.92 114 *e*LR LR 20 15 08.6
comp=Z,681nm,22.5s
PPT2 Papeete2 115.50 108 *e*PS PS 19 51 09.5 0.0
comp=Z,219nm,23.2s
PPT2 Papeete2 115.50 108 *e*LR LR 20 15 20.5
comp=Z,738nm,25.5s
PMSA Palmer Station 116.13 190 PFAKE 19 40 40.0 +14
PMSA LR LR
comp=Z,1μm,19.0s
SACV Santiago Islan 116.28 288 PFAKE 19 40 40.0 +12
SACV LR LR
comp=Z,198nm,19.0s
FCC Fort Churchill 118.36 5 *e*PKPdf **PKPdf** **19 40 29.9 -0.7**
FCC Fort Churchill 118.36 5 *e*PKIKP **PKPdf** **19 40 29.9 -0.7**
NLWA Neilton Lookou 119.87 29 PFAKE 19 40 50.0 +16
NLWA LR LR
comp=Z,1μm,19.0s
SCHQ Schefferville 120.64 348 PP PP 19 42 03.0 +1.2
comp=Z,14nm,0.9s,baz=26,slow=7.7,SNR=4.8
FFC Flin Flon 121.18 11 *e*PKPdf **PKPdf** **19 40 35.3 -0.9**
FFC LR LR
comp=Z,1μm,21.0s
FFC Flin Flon 121.18 11 *e*PKIKP **PKPdf** **19 40 35.3 -0.9**
FFC MLR MLR

comp=Z,1µm,21.0s
G03D McMinnville, O 121.69 31 P PKPdf 19 40 36.7 -0.7
baz=314
NEW Newport 122.26 24 PFAKE 19 40 50.0 +11
NEW LR LR
comp=Z,1µm,20.0s
J04D Umpqua Nationa 123.66 32 P PKPdf 19 40 41.2 -0.4
baz=314
J05D Fort Rock, OR 124.08 31 P PKPdf 19 40 42.1 -0.2
baz=315
YBH Yreka Blue Hor 124.38 33 PKP PKPdf 19 40 42.0 -0.9
comp=Z,1.4nm,0.6s,baz=101,slow=10,SNR=3.0
YBH Yreka Blue Hor 124.38 33 PKIKP PKPdf 19 40 42.0 -0.9
M02C Callahan 124.53 34 P PKPdf 19 40 43.0 -0.2
baz=313
MSO Missoula 124.70 23 P PKPdf 19 40 42.8 -0.6
baz=325,SNR=6.7
BMO Blue Mountains 124.83 27 PFAKE 19 41 00.0 +16
BMO LR LR
comp=Z,730nm,20.0s
EGMT Eagleton 125.23 20 P PKPdf 19 40 44.1 -0.2
baz=330
EGMT Eagleton 125.23 20 PFAKE 19 41 00.0 +16
EGMT LR LR
comp=Z,1µm,20.0s
TAOE Nuku Hiva Isla 125.34 99 eLR LR 20 19 44.1
comp=Z,504nm,23.0s
O03D Paynes Creek 125.86 34 P PKPdf 19 40 45.5 -0.2
baz=313
WVOR Wild Horse Val 126.02 30 PFAKE 19 41 00.0 +14
WVOR LR LR
comp=Z,648nm,20.0s
DGMT Dagmar 126.51 15 PFAKE 19 41 00.0 +13
DGMT LR LR
comp=Z,1µm,21.0s
ULM Lac du Bonnet 126.52 8 PKP PKPdf 19 40 46.5 -0.1
comp=Z,9.7nm,0.8s,baz=337,slow=2.9,SNR=15
MFID Camas Ranch 126.62 27 ePKPdf PKPdf 19 40 47.9 +0.8
BOZ Bozeman (W) 126.62 23 P PKPdf 19 40 46.7 -0.4
baz=327
BOZ Bozeman (W) 126.62 23 PFAKE 19 41 00.0 +13
BOZ LR LR
comp=Z,2µm,19.0s
HLID Hailey 127.14 26 P PKPdf 19 40 47.7 -0.5
baz=323
HLID Hailey 127.14 26 ePKPdf PKPdf 19 40 48.0 -0.2
HLID LR LR
comp=Z,1µm,21.0s
GCMT Greycliff 127.19 21 ePKPdf PKPdf 19 40 48.3 +0.1
LAO LASA Array 127.55 18 PFAKE 19 41 00.0 +11
LAO LR LR
comp=Z,1µm,20.0s
A33A Warroad 127.87 8 P PKPdf 19 40 48.6 -0.6
baz=348
YFT Old Faithful 127.89 23 ePKPdf PKPdf 19 40 51.9 +2.2
RLMT Red Lodge 127.91 21 P PKPdf 19 40 49.1 -0.5
baz=330
RLMT Red Lodge 127.91 21 PFAKE 19 41 00.0 +10
RLMT LR LR
comp=Z,1µm,20.0s
LKWY Lake 127.96 22 PFAKE 19 41 00.0 +10
LKWY LR LR
comp=Z,2µm,19.0s
RKT Rikitea 128.01 117 eLR LR 20 21 09.5
comp=Z,411nm,25.5s
B32A Ashes, Strandq 128.23 9 P PKPdf 19 40 49.4 -0.4
baz=346
B34A Aery, Baudette 128.42 8 P PKPdf 19 40 49.7 -0.5
baz=348
AGMN Agassiz Nation 128.43 9 PFAKE 19 41 00.0 +10
AGMN LR LR
comp=Z,1µm,19.0s
B35A Bob, Littlefor 128.66 7 P PKPdf 19 40 50.3 -0.5
baz=350
ELK Elko 128.96 29 PKP PKPdf 19 40 54.4 +2.6
comp=Z,4.0nm,0.9s,baz=26,slow=2.4,SNR=5.8
NVAR Mina Array Bea 129.10 33 PKP PKPdf 19 40 52.7 +0.5
comp=Z,4.5nm,0.9s,baz=247,slow=3.1,SNR=9.2
AHID Auburn Hatcher 129.19 24 PFAKE 19 41 00.0 +7.8
AHID LR LR
comp=Z,2µm,20.0s
EYMN Ely 129.31 5 P PKPdf 19 40 51.6 -0.4
baz=352
EYMN Ely 129.31 5 PFAKE 19 41 00.0 +8.0
EYMN LR LR
comp=Z,1µm,19.0s
C36A Pine Crest Far 129.36 6 P PKPdf 19 40 51.6 -0.5
baz=351
C37A Embarrass 129.46 6 P PKPdf 19 40 51.9 -0.4
baz=351
BW06 Boulder Array 129.81 23 P PKPdf 19 40 52.9 -0.5
baz=328
BW06 Boulder Array 129.81 23 PFAKE 19 41 00.0 +6.6
BW06 LR LR
comp=Z,1µm,20.0s
PDAR Pinedale Array 129.81 23 PKhKP PKPpre 19 40 48.9
comp=Z,3.5nm,0.9s,baz=338,slow=1.6,SNR=14
PDAR PKP PKPdf 19 40 53.5 +0.1
comp=Z,4.5nm,1.0s,baz=336,slow=1.1,SNR=16
PDAR PP PP 19 43 04.9 +1.2
comp=Z,0.9nm,0.8s,baz=331,slow=1.9,SNR=3.7
D35A Remer 129.88 8 P PKPdf 19 40 52.6 -0.4
baz=349
HWUT Hardware Ranch 129.96 25 PFAKE 19 41 10.0 +16
HWUT LR LR
comp=Z,978nm,19.0s
PKME Peaks-Kenny Pk 130.12 345 P PKPdf 19 40 53.4 -0.1
baz=21
PKME Peaks-Kenny Pk 130.12 345 PFAKE 19 41 10.0 +16
PKME LR LR
comp=Z,956nm,20.0s
E35A Pequot Lakes 130.34 8 P PKPdf 19 40 53.9 -0.1
baz=348
D41A Chassel 130.39 3 P PKPdf 19 40 54.0 0.0
baz=356
RSSD Black Hills 130.53 18 P PKPdf 19 40 54.2 -0.5
baz=335
RSSD Black Hills 130.53 18 ePKPdf PKPdf 19 40 54.9 +0.2
RSSD Black Hills 130.53 18 ePKIKP PKPdf 19 40 54.9 +0.2
E36A McGregor 130.53 7 P PKPdf 19 40 53.8 -0.6
baz=350
DUG Dugway, Tooele 130.54 28 P PKPdf 19 40 54.4 -0.3
baz=323
DUG Dugway, Tooele 130.54 28 PFAKE 19 41 10.0 +15
DUG LR LR
comp=Z,749nm,20.0s
R11A Troy Canyon, C 130.61 31 P PKPdf 19 40 55.3 +0.3
baz=319
E39A Mellen 130.94 5 P PKPdf 19 40 54.9 -0.2
baz=353
ISA Isabella, Lake 130.95 36 P PKPdf 19 40 55.0 -0.6
baz=314
E41A Kenton 130.97 3 P PKPdf 19 40 55.1 -0.1
baz=356
E42A Champion 131.05 2 P PKPdf 19 40 54.9 -0.4
baz=357
F36A Milaca 131.14 7 P PKPdf 19 40 55.1 -0.4
baz=349
F38A Pierce - Schro 131.24 6 P PKPdf 19 40 56.0 +0.4
baz=352
MPMC Manual Prospec 131.25 35 P PKPdf 19 40 56.2 0.0
baz=315
COWI Conover 131.32 3 PFAKE 19 41 10.0 +14
COWI LR LR
comp=Z,784nm,20.0s
PTCN Pitcairn Islan 131.66 122 PFAKE 19 41 10.0 +13
PTCN LR LR
comp=Z,5.0nm,20.0s
LBNH Lisbon 131.73 347 P PKPdf 19 40 56.6 0.0
baz=18
H32A Carlson Farm, 131.82 11 P PKPdf 19 40 56.5 -0.4
baz=344
LONY Lake Ozonia 131.90 350 PFAKE 19 41 10.0 +13
LONY LR LR
comp=Z,875nm,20.0s
O20A White River Ci 132.57 24 ePKPdf PKPdf 19 41 00.1 +1.4
GLMI Grayling 132.69 359 PFAKE 19 41 10.0 +12
GLMI LR LR
comp=Z,2µm,20.0s
ECSD EROS Data Cent 132.72 11 P PKPdf 19 40 58.2 -0.4
baz=345
ECSD EROS Data Cent 132.72 11 ePKPdf PKPdf 19 40 58.4 -0.2
ECSD LR LR
comp=Z,892nm,22.0s
H41A Junction City 132.76 4 P PKPdf 19 40 58.0 -0.6
baz=354
N23A Red Feather La 132.78 21 P PKPdf 19 40 58.7 -0.4
baz=332
HRV Adam Dziewonsk 133.28 346 P PKPdf 19 40 59.7 +0.1
baz=19
I39A Houston 133.36 6 P PKPdf 19 40 59.5 -0.3
baz=352
I40A Norwalk 133.41 5 P PKPdf 19 40 59.7 -0.1
baz=353
PFO Pinyon Flats O 133.57 36 PFAKE 19 41 10.0 +9.4
PFO LR LR
comp=Z,738nm,20.0s
ISCO Idaho Springs 133.87 22 PFAKE 19 41 10.0 +8.7
ISCO LR LR
comp=Z,966nm,20.0s
OGNE Ogallala 134.03 17 PFAKE 19 41 10.0 +8.8
OGNE LR LR
comp=Z,916nm,20.0s
PDMCI Parker Dam,Lak 134.40 34 P PKPdf 19 41 02.8 +0.8
baz=318
JFWS Jewell Farm 134.41 5 P PKPdf 19 41 01.7 -0.1
baz=353
JFWS Jewell Farm 134.41 5 PFAKE 19 41 10.0 +8.2
JFWS LR LR
comp=Z,896nm,20.0s
BINY Binghamton 134.50 350 P PKPdf 19 41 01.7 -0.3
baz=13
BINY Binghamton 134.50 350 PFAKE 19 41 10.0 +8.0
BINY LR LR
comp=Z,1µm,19.0s
K40A Colesburg 134.54 6 P PKPdf 19 41 01.7 -0.3
baz=352
K41A Shullsburg 134.71 5 P PKPdf 19 41 01.7 -0.6
baz=353
K43A Burlington 134.75 3 P PKPdf 19 41 02.5 +0.1
baz=356
MVCO Mesa Verde 134.92 26 ePKPdf PKPdf 19 41 05.1 +1.9
MVCO LR LR
comp=Z,799nm,20.0s
WUAZ Wupatki 134.94 30 PFAKE 19 41 10.0 +6.8
WUAZ LR LR
comp=Z,668nm,19.0s
SCIA State Center 135.07 8 PFAKE 19 41 10.0 +7.0
SCIA LR LR
comp=Z,1µm,20.0s
L40A Anamosa 135.16 6 P PKPdf 19 41 02.8 -0.4
baz=352
AAM Ann Arbor 135.19 358 PFAKE 19 41 10.0 +6.8
AAM LR LR
comp=Z,2µm,19.0s
PAL Palisades 135.25 348 P PKPdf 19 41 03.3 -0.1
baz=17
L42A Oliver, Polo 135.36 4 P PKPdf 19 41 03.5 -0.1
baz=354
M38A Pleasantville 135.55 8 P PKPdf 19 41 04.0 +0.1
baz=349
M54A Oil Creek Stat 135.70 354 P PKPdf 19 41 03.7 -0.5
baz=8.4
N59A State Game Lan 135.71 349 P PKPdf 19 41 03.7 -0.5
baz=14
SDCO Great Sand Dun 135.71 23 P PKPdf 19 41 04.0 -0.7
baz=331
SDCO Great Sand Dun 135.71 23 PFAKE 19 41 20.0 +15
SDCO LR LR
comp=Z,1µm,19.0s
N42A Yates City 136.50 5 P PKPdf 19 41 05.0 -0.7
baz=354
N41A Harden Midland 136.54 6 P PKPdf 19 41 05.4 -0.3
baz=352
T25A Trinidad 136.65 22 P PKPdf 19 41 06.1 -0.4
baz=332
N44A Piper City 136.66 3 P PKPdf 19 41 05.7 -0.3
baz=356
CBKS Cedar Bluff 136.67 16 PFAKE 19 41 20.0 +14
CBKS LR LR
comp=Z,1µm,20.0s
O56A Blue Knob Stat 136.78 352 P PKPdf 19 41 06.5 +0.1
baz=10
HDIL Hopedale 136.83 4 PFAKE 19 41 20.0 +14
HDIL LR LR
comp=Z,985nm,19.0s
SFIN Lafayette 137.12 2 P PKPdf 19 41 07.1 +0.2
baz=358
KSU1 Kansas State U 137.18 13 PFAKE 19 41 20.0 +13
KSU1 LR LR
comp=Z,848nm,21.0s
ACSO Alum Creek Sta 137.23 357 PFAKE 19 41 20.0 +13
ACSO LR LR
comp=Z,2µm,20.0s
ANMO Albuquerque 137.72 26 P PKPdf 19 41 07.9 -0.5
baz=328
ANMO Albuquerque 137.72 26 ePKPdf PKPdf 19 41 09.4 +1.1
ANMO LR LR
comp=Z,611nm,19.0s
ANMO Albuquerque 137.72 26 ePKIKP PKPdf 19 41 09.5 +1.1
ANMO MLR MLR
comp=Z,611nm,19.0s
SPB Sao Paulo 137.72 237 PFAKE 19 41 20.0 +12
SPB LR LR
comp=Z,1µm,20.0s
TUC Tucson 137.74 33 P PKPdf 19 41 07.9 -0.5
baz=321
TUC Tucson 137.74 33 PFAKE 19 41 20.0 +12
TUC LR LR
comp=Z,770nm,20.0s
Q38A Cooks Store, C 137.89 9 P PKPdf 19 41 07.7 -0.6
baz=348
Q39A Willow Grove F 137.91 9 P PKPdf 19 41 08.0 -0.4
baz=349
Q41A Truxton 138.23 7 P PKPdf 19 41 09.2 +0.2
baz=352
Q43A New Douglas 138.40 5 P PKPdf 19 41 09.0 -0.2
baz=354
R38A Fenwick Farm, 138.60 10 P PKPdf 19 41 08.9 -0.7
baz=347
R39A Chumby, Stover 138.62 9 P PKPdf 19 41 09.3 -0.4
baz=349
CBN Corbin Frederi 138.62 350 PFAKE 19 41 20.0 +10
CBN LR LR
comp=Z,714nm,20.0s
TRQA Tornquist 138.73 209 PFAKE 19 41 20.0 +10
TRQA LR LR
comp=Z,1µm,21.0s
R40A Maddies Statio 138.75 8 P PKPdf 19 41 09.4 -0.5
baz=350
R41A Rosebud 138.86 7 P PKPdf 19 41 09.8 -0.4
baz=351
R42A Luebbering 138.95 6 P PKPdf 19 41 09.9 -0.4
baz=352
CCM Cathedral Cave 139.12 7 P PKPdf 19 41 09.7 -0.9
baz=351
S38A Stockton 139.14 10 P PKPdf 19 41 10.0 -0.7
baz=347
R45A Skylar, Fairfi 139.15 3 P PKPdf 19 41 10.3 -0.3
baz=356
S39A Bolivar 139.18 10 P PKPdf 19 41 10.4 -0.4
baz=348
R47A Wooly Knot Far 139.21 1 P PKPdf 19 41 10.1 -0.6
baz=358
WCI Wyandotte Cave 139.28 1 ePKPdf PKPdf 19 41 11.0 +0.1
WCI Wyandotte Cave 139.28 1 ePKIKP PKPdf 19 41 11.0 +0.1
S40A Lebanon 139.40 9 P PKPdf 19 41 10.8 -0.4
baz=349
S42A Caledonia 139.45 6 P PKPdf 19 41 10.7 -0.6
baz=352
S41A Jillco Farms, 139.51 8 P PKPdf 19 41 10.8 -0.6
baz=350
T38A Diamond 139.65 11 P PKPdf 19 41 10.9 -0.7
baz=346
T39A Clever 139.82 10 P PKPdf 19 41 11.3 -0.6
baz=348
T40A Mansfield 139.84 9 P PKPdf 19 41 11.7 -0.2
baz=349
S48A Wiedeman Farm, 139.86 1 P PKPdf 19 41 11.3 -0.7
baz=359
BBSR BB Station 139.94 332 PFAKE 19 41 20.0 +7.8
BBSR LR LR
comp=Z,659nm,21.0s
BLA Blacksburg 140.03 354 PFAKE 19 41 20.0 +7.6
BLA LR LR
comp=Z,1µm,20.0s
T41A Mountain View 140.05 8 P PKPdf 19 41 12.1 -0.3
baz=350
MSTX Muleshoe 140.07 23 P PKPdf 19 41 12.2 -0.5
baz=333
MSTX Muleshoe 140.07 23 ePKPdf PKPpre 19 41 05.0
T42A Van Buren 140.15 7 P PKPdf 19 41 12.0 -0.5
baz=351
T43A Greenville 140.19 6 P PKPdf 19 41 12.1 -0.5
baz=353
T48A Bowling Green 140.40 1 P PKPdf 19 41 12.8 -0.1
baz=359
T46A Princeton 140.41 3 P PKPdf 19 41 12.9 -0.1
baz=356
TUL1 Leonard 140.42 13 P PKPdf 19 41 12.7 -0.4
baz=344
U39A Green Forest 140.43 10 P PKPdf 19 41 12.7 -0.4
baz=348
U40A Yellville 140.56 9 P PKPdf 19 41 12.7 -0.7
baz=348
WMOK Wichita Mounta 140.74 17 PFAKE 19 41 30.0 +16
WMOK LR LR
comp=Z,918nm,19.0s
U42A Revenden 140.80 7 P PKPdf 19 41 13.4 -0.3
baz=351
TZTN Tazewell 140.93 358 P PKPdf 19 41 14.0 0.0
baz=3.1
MNTX Cornudas Mount 140.93 27 P PKPdf 19 41 13.8 -0.3
baz=328
MNTX Cornudas Mount 140.93 27 ePKPpre PKPpre 19 41 09.0
MNTX LR LR
comp=Z,812nm,19.0s
U48A Cassie Pea, Po 141.00 1 P PKPdf 19 41 13.9 -0.2
baz=358
U47A Clarksville 141.04 2 P PKPdf 19 41 13.5 -0.6
baz=357
V40A Witts Springs 141.10 9 P PKPdf 19 41 13.6 -0.7
baz=348
V41A Mountainview 141.23 9 P PKPdf 19 41 13.8 -0.8
baz=350
V42A Cord 141.32 8 P PKPdf 19 41 14.3 -0.4
baz=351
WVT Waverly 141.33 3 P PKPdf 19 41 13.8 -0.9
baz=356
CNNC Cliffs of the 141.60 350 PFAKE 19 41 30.0 +15
CNNC LR LR
comp=Z,2µm,20.0s
V47A Nunnelly 141.64 3 P PKPdf 19 41 14.4 -0.8
baz=357
W40A Ferguson Farm, 141.66 10 P PKPdf 19 41 15.1 -0.2
baz=348
W41B Gary Mavity, V 141.81 9 P PKPdf 19 41 15.0 -0.6
baz=349
TKL Tuckaleechee C 141.82 358 PKP PKPdf 19 41 14.9 -0.7
comp=Z,5.7nm,0.9s,baz=133,slow=4.7,SNR=4.1
X39A Fountain Ranch 142.13 12 P PKPdf 19 41 15.6 -0.6
baz=346
KMSC Kings Mountain 142.17 354 ePKPdf PKPdf 19 41 15.8 -0.4
MIAR Mount Ida 142.20 11 P PKPdf 19 41 15.4 -0.9
baz=347
MIAR Mount Ida 142.20 11 ePKPpre PKPpre 19 41 12.1
MIAR LR LR
comp=Z,855nm,19.0s
MIAR Mount Ida 142.20 11 ePKIKP PKPpre 19 41 12.1
MIAR MLR MLR
comp=Z,855nm,19.0s
W48A Pulaski 142.35 2 P PKPdf 19 41 16.4 -0.1
baz=358
X40A Basin Creek Fa 142.39 10 P PKPdf 19 41 16.6 0.0
baz=348
ABTX Abilene, Hawle 142.42 20 P PKPdf 19 41 17.1 +0.3
baz=337
ABTX Abilene, Hawle 142.42 20 ePKPpre PKPpre 19 41 11.4
Y40A Okolona 142.77 11 P PKPdf 19 41 16.9 -0.4
baz=347
OXF Oxford 142.82 5 P PKPdf 19 41 16.9 -0.5
baz=354
Y41A Eaglette Beard 143.02 10 P PKPdf 19 41 17.4 -0.3
baz=348
TXAR Lajitas Array 143.72 27 PKP PKPbc 19 41 17.1 +0.3
comp=Z,13nm,1.0s,baz=267,slow=1.2,SNR=68
TXAR PP PP 19 44 36.3 +5.6
comp=Z,2.7nm,0.9s,baz=1.8,slow=2.8,SNR=4.6
GOGA Godfrey 144.05 357 PFAKE 19 41 30.0 +10
GOGA LR LR
comp=Z,1µm,20.0s
NHSC New Hope 144.05 352 PFAKE 19 41 30.0 +10
NHSC LR LR
comp=Z,1µm,19.0s
LPIG La Paz 144.07 41 PKP PKPbc 19 41 18.6 +0.8
comp=Z,18nm,0.4s,baz=331,slow=1.2,SNR=5.5
CPUP Villa Florida 144.17 226 PKP PKPbc 19 41 18.3 +0.2
comp=Z,26nm,0.8s,baz=110,slow=3.2,SNR=54
141A Papa Simpson, 144.21 11 P PKPbc 19 41 17.8 -0.2
baz=347
Z47A Carrollton 144.23 4 P PKPab 19 41 17.5 -0.2
baz=356
Z50A Ashland 144.25 1 P PKPab 19 41 17.3 -0.4
baz=359,SNR=5.5
Z49A Columbiana 144.30 1 P PKPab 19 41 17.3 -0.6
baz=358,SNR=9.6
JCT Junction City 144.31 21 P PKPab 19 41 17.4 -0.7
baz=335
JCT Junction City 144.31 21 ePKPdf PKPbc 19 41 18.6 +0.2
JCT LR LR
comp=Z,1µm,20.0s
JCT Junction City 144.31 21 ePKIKP PKPbc 19 41 18.6 +0.2
JCT MLR MLR
comp=Z,1µm,20.0s
143A Socs Landing, 144.36 9 P PKPab 19 41 18.3 +0.1
baz=350
142A Monroe 144.43 9 P PKPab 19 41 18.4 0.0
baz=349
LRAL Lakeview Retre 144.45 2 P PKPab 19 41 17.9 -0.5
baz=358,SNR=8.7
LRAL Lakeview Retre 144.45 2 ePKPdf PKPab 19 41 18.6 +0.1
144A Alexander Plac 144.57 7 P PKPbc 19 41 19.7 +0.6
baz=352,SNR=5.1
240A Hunter Patters 144.59 12 P PKPbc 19 41 19.4 +0.2
baz=346
145A Houston Renfro 144.66 6 P PKPbc 19 41 19.6 +0.2
baz=352
NATX Nacogdoches 144.66 14 P PKPbc 19 41 19.7 +0.3
baz=344
NATX Nacogdoches 144.66 14 ePKPdf PKPdf 19 41 20.3 -0.4
NATX LR LR
comp=Z,1µm,21.0s
146A Union 144.71 5 P PKPbc 19 41 20.1 +0.5
baz=354,SNR=11
147A Livingston 144.74 4 P PKPab 19 41 19.5 0.0
baz=355,SNR=9.5
155A Kite 144.77 356 P PKPab 19 41 19.4 -0.2
baz=5.3
241A Mo Tay, Goldon 144.77 11 P PKPbc 19 41 20.2 +0.5
baz=347,SNR=5.2
435B Jarrell 144.78 18 P PKPab 19 41 19.1 -0.7
baz=339
148A Greensboro 144.81 3 P PKPab 19 41 19.0 -0.7
baz=356
154A Montrose 144.82 356 P PKPab 19 41 19.4 -0.4
baz=4.2
153A Fort Valley 144.82 358 P PKPab 19 41 19.0 -0.9
baz=3.0
242A Grayson 144.87 10 P PKPbc 19 41 20.6 +0.5
baz=348
149A Jones 144.89 2 P PKPab 19 41 19.6 -0.4
baz=358,SNR=7.3
150A Eclectic 144.90 1 P PKPab 19 41 19.9 -0.2
baz=359,SNR=14
VBMS Vicksburg 144.96 7 P PKPdf 19 41 21.0 -0.2
baz=351,SNR=6.4
151A Opelika 144.98 360 P PKPab 19 41 20.3 -0.1
baz=0.4,SNR=20
244A Avery, Jackson 145.12 8 P PKPdf 19 41 21.4 -0.1
baz=351,SNR=14
243A Waterproof 145.16 9 P PKPdf 19 41 21.4 -0.1
baz=350
245A Little AP, Sta 145.22 7 P PKPdf 19 41 21.8 +0.2
baz=352,SNR=18
257A Skidaway Islan 145.27 353 P PKPdf 19 41 21.6 -0.1
baz=7.9
246A Jackson Lee, B 145.32 5 P PKPdf 19 41 22.0 +0.1
baz=354
247A Quitman 145.33 5 P PKPdf 19 41 22.2 +0.4
baz=355,SNR=15
248A Dixon Mills 145.35 3 P PKPdf 19 41 22.0 +0.1
baz=356,SNR=12
256A Glennville 145.35 355 P PKPbc 19 41 21.6 0.0
baz=6.4
341A Kurthwood 145.39 12 P PKPdf 19 41 22.1 +0.2
baz=347
251A Midway 145.41 360 P PKPbc 19 41 21.8 -0.1
baz=0.2,SNR=48
254A Abbeville 145.50 357 P PKPdf 19 41 22.2 +0.1
baz=4.0,SNR=17
249A Camden 145.50 2 P PKPab 19 41 22.5 +0.1
baz=357,SNR=19

252A	**Lumpkin**	**145.50**	**359**	P		**PKPdf**	**19 41 22.2**	**+0.1**
	baz=1.4,SNR=35							
342A	**Flagon Creek P**	**145.51**	**10**	P		**PKPab**	**19 41 23.0**	**+0.6**
	baz=348							
250A	**Grady**	**145.52**	**1**	P		**PKPbc**	**19 41 22.3**	**+0.1**
	baz=359,SNR=5.9							
344A	**Westbrook Farm**	**145.69**	**8**	P		**PKPab**	**19 41 23.6**	**+0.5**
	baz=351,SNR=6.9							
343A	**Vidalia**	**145.72**	**9**	P		**PKPab**	**19 41 23.5**	**+0.4**
	baz=349							
357A	**Townsend**	**145.87**	**354**	P		**PKPbc**	**19 41 23.2**	**-0.1**
	baz=7.2							
346A	**Big Creek Wild**	**145.91**	**6**	P		**PKPab**	**19 41 24.1**	**+0.3**
	baz=353							
345A	**Thompson Farm,**	**145.92**	**7**	P		**PKPab**	**19 41 24.4**	**+0.4**
	baz=352							
441A	**DeRidder**	**145.95**	**12**	P		**PKPab**	**19 41 24.8**	**+0.7**
	baz=346							
347A	**Saraland**	**145.98**	**5**	P		**PKPab**	**19 41 24.5**	**+0.4**
	baz=355,SNR=5.6							
348A	**Jackson**	**146.01**	**4**	P		**PKPab**	**19 41 24.5**	**+0.3**
	baz=356							
TIGA	**Tifton**	**146.02**	**357**	P		**PKPbc**	**19 41 23.7**	**0.0**
	baz=3.5,SNR=9.7							
TIGA	**Tifton**	**146.02**	**357**	*e*PKPdf		**PKPab**	**19 41 24.3**	**+0.1**
352A	**Blakely**	**146.02**	**359**	P		**PKPbc**	**19 41 23.9**	**+0.1**
	baz=1.1,SNR=14							
356A	**Blackshear**	**146.03**	**355**	P		**PKPbc**	**19 41 23.9**	**+0.1**
	baz=6.1,SNR=6.0							
355A	**Pearson**	**146.07**	**356**	P		**PKPbc**	**19 41 24.0**	**+0.1**
	baz=4.8,SNR=9.8							
350A	**Dozier**	**146.07**	**1**	P		**PKPab**	**19 41 24.4**	**-0.1**
	baz=359							
HKT	**Hockley**	**146.08**	**16**	*e*PKPdf		**PKPab**	**19 41 24.6**	**+0.2**
HKT	**Hockley**	**146.08**	**16**	*e*PKP2		**PKPab**	**19 41 24.7**	**+0.2**
349A	**Repton**	**146.12**	**3**	P		**PKPab**	**19 41 24.4**	**-0.2**
	baz=357,SNR=8.7							
353A	**Camilla**	**146.13**	**358**	P		**PKPab**	**19 41 24.7**	**0.0**
	baz=2.4,SNR=13							
442A	**Mamou**	**146.14**	**11**	P		**PKPab**	**19 41 24.8**	**+0.1**
	baz=348							
443A	**Delano Plantat**	**146.20**	**10**	P		**PKPab**	**19 41 25.0**	**0.0**
	baz=349							
351A	**Pinckard**	**146.23**	**0**	P		**PKPab**	**19 41 24.8**	**-0.3**
	baz=360							
BRAL	**Brewton**	**146.30**	**2**	P		**PKPab**	**19 41 25.4**	**0.0**
	baz=357							
BRAL	**Brewton**	**146.30**	**2**	*e*PKPbc		**PKPab**	**19 41 26.0**	**+0.7**
BRAL				LR	LR			
	comp=Z,1μm,19.0s							
833A	**Chaparral WMA,**	**146.40**	**22**	P		**PKPab**	**19 41 25.7**	**-0.2**
	baz=334							
444A	**Pine Grove**	**146.41**	**8**	P		**PKPab**	**19 41 25.5**	**-0.3**
	baz=351							
445A	**Amite**	**146.45**	**8**	P		**PKPab**	**19 41 25.6**	**-0.3**
	baz=351							
448A	**Bay Minette**	**146.50**	**4**	P		**PKPab**	**19 41 26.1**	**0.0**
	baz=356							
446A	**Poplarville**	**146.51**	**6**	P		**PKPbc**	**19 41 25.7**	**+0.5**
	baz=353							
447A	**Lucedale**	**146.57**	**5**	P		**PKPbc**	**19 41 26.3**	**-0.1**
	baz=354							
456A	**Hilliard**	**146.61**	**355**	P		**PKPab**	**19 41 26.4**	**-0.2**
	baz=6.4							
453A	**Whigham**	**146.63**	**358**	P		**PKPab**	**19 41 26.2**	**-0.4**
	baz=2.2							
452A	**Marianna**	**146.65**	**359**	P		**PKPab**	**19 41 26.5**	**-0.2**
	baz=0.7							
457A	**Yulee**	**146.67**	**354**	P		**PKPbc**	**19 41 26.2**	**+0.5**
	baz=7.2							
455A	**Stateville**	**146.68**	**356**	P		**PKPab**	**19 41 26.5**	**-0.3**
	baz=4.5,SNR=11							
450A	**Crestview**	**146.68**	**2**	P		**PKPab**	**19 41 26.5**	**-0.4**
	baz=358							
542A	**Morse**	**146.69**	**11**	P		**PKPab**	**19 41 27.5**	**+0.6**
	baz=347							
449A	**Pace**	**146.70**	**3**	P		**PKPab**	**19 41 27.1**	**+0.2**
	baz=357							
454A	**Quitman**	**146.74**	**357**	P		**PKPab**	**19 41 26.6**	**-0.5**
	baz=3.5							
543A	**St. Martinvill**	**146.85**	**10**	P		**PKPab**	**19 41 28.0**	**+0.5**
	baz=348							
451A	**Vernon**	**146.88**	**0**	P		**PKPab**	**19 41 27.3**	**-0.3**
	baz=360							
544A	**White Castle**	**146.94**	**9**	P		**PKPab**	**19 41 28.1**	**+0.3**
	baz=350							
546A	**Slidell**	**147.02**	**7**	P		**PKPab**	**19 41 28.4**	**+0.3**
	baz=352							
545A	**Edgard**	**147.11**	**8**	P		**PKPbc**	**19 41 27.2**	**+0.2**
	baz=351							
557A	**Orange Park**	**147.28**	**354**	P		**PKPbc**	**19 41 27.9**	**+0.5**
	baz=7.0							
555A	**McAlpin**	**147.29**	**356**	P		**PKPab**	**19 41 28.4**	**-0.8**
	baz=4.7,SNR=12							
553A	**Crawfordville**	**147.29**	**358**	P		**PKPbc**	**19 41 28.1**	**+0.6**
	baz=2.0							
556A	**Lake Butler**	**147.36**	**355**	P		**PKPbc**	**19 41 28.3**	**+0.6**
	baz=5.8,SNR=9.3							
552A	**Lynn Haven**	**147.37**	**360**	P		**PKPbc**	**19 41 28.4**	**+0.8**
	baz=0.5							
554A	**Perry**	**147.37**	**357**	P		**PKPbc**	**19 41 28.4**	**+0.7**
	baz=3.4							
KVTX	**Kingsville**	**147.66**	**21**	PFAKE			19 41 40.0	+9.3
KVTX				LR	LR			
	comp=Z,1μm,20.0s							
645A	**Chauvin**	**147.67**	**8**	P		**PKPbc**	**19 41 28.2**	**-0.3**
	baz=351							
657A	**Interlachen**	**147.72**	**354**	P		**PKPbc**	**19 41 29.0**	**+0.3**
	baz=6.8							
658A	**Bunnell**	**147.82**	**353**	P		**PKPbc**	**19 41 29.1**	**+0.2**
	baz=8.0							
655A	**Horseshoe Beac**	**147.91**	**356**	P		**PKPbc**	**19 41 29.5**	**+0.3**
	baz=4.3							
656A	**Willston**	**148.00**	**355**	P		**PKPbc**	**19 41 30.0**	**+0.5**
	baz=5.6							
758A	**Lake Helen**	**148.26**	**353**	P		**PKPbc**	**19 41 30.4**	**+0.2**
	baz=8.2							
757A	**Oxford**	**148.38**	**354**	P		**PKPbc**	**19 41 31.0**	**+0.5**
	baz=6.6							
858A	**St. Cloud**	**149.02**	**353**	P		**PKPbc**	**19 41 32.4**	**+0.2**
	baz=8.1							
857A	**Zephyrhills**	**149.07**	**354**	P		**PKPbc**	**19 41 32.2**	**0.0**
	baz=6.4							
ANWB	**Willy Bob**	**149.08**	**312**	PFAKE			19 41 40.0	+3.3
ANWB				LR	LR			
	comp=Z,490nm,21.0s							
859A	**Kempfer Cattle**	**149.11**	**352**	P		**PKPbc**	**19 41 32.7**	**+0.3**
	baz=9.0							
DWPF	**Disney Wildern**	**149.13**	**353**	P		**PKPbc**	**19 41 32.5**	**+0.1**
	baz=8.0							
959A	**Okeechobee**	**149.64**	**352**	P		**PKPbc**	**19 41 34.0**	**+0.3**
	baz=9.2							
957A	**Wimauma**	**149.66**	**354**	P		**PKPbc**	**19 41 34.1**	**+0.4**
	baz=6.5							
958A	**Wauchula**	**149.69**	**353**	P		**PKPbc**	**19 41 33.9**	**+0.1**
	baz=7.5							
ZAIG	**Zacatecas**	**149.71**	**32**	*e*PKPdf		**PKPdf**	**19 41 30.8**	**+1.1**
BBGH	**Gun Hill**	**149.82**	**302**	PFAKE			19 41 40.0	+0.1
BBGH				LR	LR			
	comp=Z,972nm,19.0s							
060A	**Indiantown**	**150.04**	**351**	P		**PKPbc**	**19 41 34.7**	**+0.1**
	baz=10							
058A	**Arcadia**	**150.22**	**353**	P		**PKPbc**	**19 41 35.3**	**+0.2**
	baz=7.5							
059A	**Moore Haven**	**150.22**	**352**	P		**PKPbc**	**19 41 35.5**	**+0.4**
	baz=8.8							
LCO	**Las Campanas**	**150.27**	**207**	PFAKE			19 41 40.0	-1.6
LCO				LR	LR			
	comp=Z,949nm,21.0s							
FDF	**Fort de France**	**150.31**	**306**	PFAKE			19 41 40.0	-1.9
FDF				LR	LR			
	comp=Z,473nm,20.0s							
059Z	**Ave Maria**	**150.88**	**352**	P		**PKPbc**	**19 41 36.6**	**-0.1**
	baz=8.4							
SJG	**San Juan**	**151.88**	**318**	PFAKE			19 41 40.0	+0.8
SJG				LR	LR			
	comp=Z,627nm,20.0s							
GRGR	**Grenville**	**152.10**	**302**	PFAKE			19 41 40.0	+0.2
GRGR				LR	LR			
	comp=Z,431nm,20.0s							
GRTK	**Grand Turk**	**152.14**	**330**	PFAKE			19 41 40.0	+0.3
GRTK				LR	LR			
	comp=Z,903nm,20.0s							
SIV	**San Ignacio**	**152.55**	**240**	PKP		**PKPdf**	**19 41 34.2**	**+0.3**
	comp=Z,3.3nm,1.2s,baz=236,slow=5.2,SNR=4.3							
SIV				PKPbc		**PKPbc**	**19 41 40.3**	**-0.5**
	comp=Z,6.9nm,0.9s,baz=131,slow=2.5,SNR=19							
SDDR	**Presa de Saban**	**154.32**	**328**	PFAKE			19 41 50.0	+5.3
SDDR				LR	LR			
	comp=Z,1μm,22.0s							
PTGA	**Pitinga**	**154.40**	**274**	PKP		**PKPdf**	**19 41 36.9**	**+0.3**
	comp=Z,6.5nm,1.0s,baz=345,slow=2.2,SNR=7.1							
PTGA				PKPbc		**PKPbc**	**19 41 45.0**	**+0.1**
	comp=Z,16nm,1.0s,baz=75,slow=2.1,SNR=8.8							
PTGA				PKPab		**PKPab**	**19 42 00.2**	**+0.9**
	comp=Z,8.1nm,0.7s,baz=98,slow=7.0,SNR=5.9							
PTGA	**Pitinga**	**154.40**	**274**	PKP		**PKPdf**	**19 41 36.9**	**+0.3**
PTGA				PKPbc		**PKPbc**	**19 41 45.0**	**+0.1**
PTGA				PKPab		**PKPab**	**19 42 00.2**	**+0.9**
PTGA				LR	LR			
	comp=Z,15μm,22.0s							
GTBY	**Guantanamo Bay**	**155.32**	**336**	PFAKE			19 41 50.0	+12
GTBY				LR	LR			
	comp=Z,538nm,19.0s							
SAML	**Samuel**	**156.95**	**253**	PFAKE			19 41 50.0	+10
SAML				LR	LR			
	comp=Z,904nm,20.0s							
TEIG	**Tepich**	**157.07**	**7**	PFAKE			19 41 50.0	+10
TEIG				LR	LR			
	comp=Z,8.0nm,20.0s							
MTDJ	**Mount Denham**	**157.79**	**340**	PFAKE			19 41 50.0	+9.0
MTDJ				LR	LR			
	comp=Z,750nm,19.0s							
LPAZ	**La Paz**	**158.21**	**231**	PKP		**PKPdf**	**19 41 42.3**	**+0.1**
	comp=Z,3.7nm,1.1s,baz=19,slow=3.8,SNR=6.6							
LPAZ				PKPab		**PKPab**	**19 42 17.1**	**+1.0**
	comp=Z,11nm,0.9s,baz=104,slow=5.0,SNR=14							
SDV	**Santo Domingo**	**161.24**	**308**	PKPab		**PKPab**	**19 42 28.4**	**-0.5**
	comp=Z,9.7nm,1.0s,baz=16,slow=6.2,SNR=4.2							
SDV	**Santo Domingo**	**161.24**	**308**	PKPab		**PKPab**	**19 42 28.4**	**-0.5**
SDV				LR	LR			
	comp=Z,892nm,19.0s							
APG	**El Apazote**	**161.75**	**15**	PKPab		**PKPab**	**19 42 30.4**	**-0.4**
	comp=Z,30nm,1.0s,baz=333,slow=9.1,SNR=12							
ROSC	**El Rosal**	**166.56**	**304**	PKP		**PKPdf**	**19 41 49.0**	**-1.4**
	comp=Z,3.6nm,0.3s,baz=113,slow=5.0,SNR=5.2							
BCIP	**Isla Barro Col**	**166.94**	**334**	PFAKE			19 42 00.0	+10
BCIP				LR	LR			
	comp=Z,1μm,21.0s							
JTS	**JuntasAbangare**	**167.10**	**358**	PFAKE			19 42 00.0	+10
JTS				LR	LR			
	comp=Z,811nm,21.0s							
NNA	**Nana**	**167.39**	**222**	PFAKE			19 42 00.0	+9.5
NNA				LR	LR			
	comp=Z,488nm,21.0s							
OTAV	**Otavalo**	**172.37**	**292**	PFAKE			19 42 00.0	+6.0
OTAV				LR	LR			
	comp=Z,1μm,21.0s							

*IDC **26** 19:25:02.3±2.3, 19.°71N×73.°83W, h0km, mb3.5/2, mb1 4.0/2, mb1mx3.5/47, mbtmp3.5/2, MS2.9/1, Ms1 2.9/1, ms1mx2.5/48, Error ellipse: s-maj=79.1km s-min=52.0km az=68.0*

*JSN **26** 19:25:17.2±2.9, 19.°38N×74.°14W, h78km±679km, MD4.4*

ISC 26 19:25:09.6±2.0, 19.9N±0.2°×74.0W±0.2°, h35km, n11, σ2s17/11, 1D, Cuba region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMJ	**Castle Mountai**	**2.87**	**232**	*i* P	**Pn**	**19 25 56.1**	**+3.2**
YHJ	**Yallahs**	**3.12**	**230**	*i* P	**Pn**	**19 25 55.8**	**-0.6**
GWJ	**Greenwich**	**3.18**	**235**	*i* P	**Pn**	**19 25 58.8**	**+1.5**
STH	**Stony Hill**	**3.24**	**236**	*i* P	**Pn**	**19 25 59.3**	**+1.3**
BBJ	**Bamboo Saint A**	**3.46**	**244**	*i* P	**Pn**	**19 26 02.2**	**+1.3**
BBJ				*i* S	**Sn**	**19 26 38.0**	**-2.7**
MCJ	**Malvern**	**4.03**	**241**	*i* P	**Pn**	**19 26 12.0**	**+3.2**
SDV	**Santo Domingo**	**11.46**	**163**	LR	LR	19 33 12.6	
	comp=Z,55nm,19.9s,baz=313,slow=44						
TXAR	**Lajitas Array**	**28.47**	**295**	P	**P**	**19 31 01.6**	**0.0**
	0.5nm,0.8s,baz=108,slow=10,SNR=3.5						
YKA	**Yellowknife Ar**	**50.81**	**337**	P	**P**	**19 34 06.2**	**0.0**
	0.6nm,0.7s,baz=130,slow=8.8,SNR=15						
WRA	**Warramunga Arr**	**153.37**	**265**	PKPbc	**PKPbc**	**19 45 03.0**	**-1.9**
	0.7nm,0.7s,baz=86,slow=2.5,SNR=5.5						
ASAR	**Alice Springs**	**153.85**	**257**	PKPbc	**PKPbc**	**19 45 05.2**	**-0.7**
	0.5nm,0.8s,baz=107,slow=3.1,SNR=5.1						

IDC 26 19:29:22.8±1.4, 1.°84N×127.°46E, h0km, mb3.9/5, mb1 4.1/6, mb1mx3.6/55, mbtmp3.9/6, ML3.5/1, Error ellipse: s-maj=103.8km s-min=17.8km az=68.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**19.89**	**185**	P	P	19 33 56.1	+0.1
	0.1nm,0.3s,baz=16,slow=12,SNR=3.7						
WRA	**Warramunga Arr**	**22.68**	**163**	P	P	19 34 26.4	+0.4
	3.2nm,0.5s,baz=342,slow=10,SNR=34						
ASAR	**Alice Springs**	**26.12**	**166**	P	P	19 34 58.1	-0.6
	0.8nm,0.6s,baz=345,slow=12,SNR=8.5						
STKA	**Stephens Creek**	**36.12**	**159**	P	P	19 36 26.6	-0.1
	2.7nm,0.5s,baz=342,slow=7.4,SNR=10						
MKAR	**Makanchi Array**	**59.52**	**326**	P	P	19 39 28.2	+0.3
	0.4nm,0.4s,baz=118,slow=7.5,SNR=9.4						
KURBB	**Kurchatov Arra**	**63.72**	**328**	P	P	19 39 56.0	-0.1
	0.5nm,0.6s,baz=129,slow=5.9,SNR=3.6						

*CSEM **26** 19:31:56.7±0.3, 43.°74N×21.°62E, h2km, ML1.3, Error ellipse: s-maj=6.5km s-min=4.6km az=25.0*

BEO 26 19:31:57.4±0.2, 43.°71N×21.°65E, h0km, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BOVS	**Bovan**	**0.09**	**152**	*e*Pg	Pg	19 31 58.5	-0.6
BOVS				*e*Sg	Sg	19 32 00.2	0.0
BOVS	**Bovan**	**0.09**	**152**	*e*Pg	Pg	19 31 58.5	-0.6
BOVS				*e*Sg	Sg	19 32 00.2	0.0
ZAGS	**Zajecar**	**0.43**	**77**	*e*Pg	Pg	19 32 04.7	-1.0
ZAGS				*e*Sg	Sg	19 32 11.5	+0.1
ZAGS	**Zajecar**	**0.43**	**77**	*e*Pg	Pg	19 32 04.7	-1.0
ZAGS				*e*Sg	Sg	19 32 11.5	+0.1
SELS	**Selova**	**0.63**	**218**	*e*Pg	Pg	19 32 08.1	-1.3
SELS				*e*Sg	Sg	19 32 15.9	-1.6
GRUS	**Gruza**	**0.70**	**285**	*e*Pg	Pg	19 32 09.4	-1.4
GRUS				*e*Sg	Sg	19 32 19.8	0.0
GRUS	**Gruza**	**0.70**	**285**	*e*Pg	Pg	19 32 09.4	-1.4
GRUS				*e*Sg	Sg	19 32 19.8	0.0
KUBS	**Kucevo**	**0.70**	**2**	*e*Pg	Pg	19 32 10.4	-0.4
KUBS				*e*Sg	Sg	19 32 18.6	-1.3
KUBS	**Kucevo**	**0.70**	**2**	*e*Pg	Pg	19 32 10.4	-0.4
KUBS				*e*Sg	Sg	19 32 18.6	-1.3
ZAPS	**Zavoj**	**0.84**	**121**	*e*Pg	Pg	19 32 13.5	0.0
ZAPS				*e*Sg	Sg	19 32 24.8	+0.4
BARS	**Barje**	**0.90**	**172**	*e*Pg	Pg	19 32 13.6	-1.1
BARS				*e*Sg	Sg	19 32 26.0	-0.4
BARS	**Barje**	**0.90**	**172**	*e*Pg	Pg	19 32 13.6	-1.1
BARS				*e*Sg	Sg	19 32 26.0	-0.4
TRUS	**Trudelj**	**1.03**	**300**	*e*Pg	Pg	19 32 15.0	-2.2
TRUS				*e*Sg	Sg	19 32 30.7	+0.1
TRUS	**Trudelj**	**1.03**	**300**	*e*Pg	Pg	19 32 15.0	-2.2
TRUS				*e*Sg	Sg	19 32 30.7	+0.1
IVAS	**Ivanjica**	**1.09**	**263**	*e*Pg	Pg	19 32 16.9	-1.5
IVAS				*e*Sg	Sg	19 32 32.7	+0.1
IVAS	**Ivanjica**	**1.09**	**263**	*e*Pg	Pg	19 32 16.9	-1.5
IVAS				*e*Sg	Sg	19 32 32.7	+0.1
DIVS	**Divibare**	**1.26**	**288**	*e*Pg	Pg	19 32 19.9	-1.6
DIVS				*e*Sg	Sg	19 32 38.1	+0.3
DIVS	**Divibare**	**1.26**	**288**	*e*Pg	Pg	19 32 19.9	-1.6
DIVS				*e*Sg	Sg	19 32 38.1	+0.3
SJES	**Sjenica**	**1.30**	**250**	*e*Pg	Pg	19 32 21.3	-1.0
SJES				*e*Sg	Sg	19 32 39.5	+0.3

MEX 26 19:37:46.6±0.8, 18.°92N×105.°24W, h20km±575km, MD3.9, Off coast of Jalisco

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CJM	**Chamela**	**0.60**	**18**	*i* P	Pb	19 37 56.6	-1.9
CJM				*e*S	Sb	19 38 03.9	-2.7
EZ5V		**1.64**	**70**	*e*P	Pn	19 38 12.1	-2.5
MMIG	**Aquila**	**1.90**	**109**	*e*P	Pn	19 38 13.3	-4.6

SJA 26 19:43:06.5±0.5, 31.°12S×68.°42W, h101km±4km, ML1.9, MW3.5, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AMOG	**MOGNA**	**0.19**	**340**	*e*P	Pn	19 43 21.6	+0.7
RTCV	**Cerro Valdivia**	**0.75**	**188**	*e*P	Pn	19 43 25.1	+0.6
RTCV				*e*S	Sn	19 43 38.9	+0.9
RTLS	**Leoncito**	**1.01**	**228**	*e*P	Pn	19 43 29.0	+1.5
RTLS				*e*S	Sn	19 43 45.1	+1.9
RTLS				IAML		19 43 46.8	
	comp=Z,22nm,0.6s						
AROD	**Rodeo**	**1.32**	**316**	*e*P	Pn	19 43 32.3	+1.3
ACAN	**Cantantal**	**1.55**	**138**	*e*P	Pn	19 43 34.6	+1.1
AGUA	**GUANDACOL**	**1.63**	**358**	*e*P	Pn	19 43 35.5	+0.9
ARCO	**CERRO ARCO**	**1.77**	**194**	*e*P	Pn	19 43 37.4	+1.0
ARCO				IAML		19 43 37.7	
	comp=Z,6.7nm,0.3s						

*NAO **26** 19:44:52.9±1.9, 57.°72N×22.°15E, ML2.2*

*BER **26** 19:44:53.4±5.5, 57.°61N×22.°17E, h0km±21km, ML2.2(NAO)*

*CSEM **26** 19:44:54.7±0.4, 57.°78N×21.°94E, h2km, ML2.2, Error ellipse: s-maj=11.6km s-min=5.8km az=159.0*

*UPP **26** 19:44:54.3±2.2, 57.°76N×22.°02E, h0km, ML2.2*

*ISCJB **26** 19:44:55.3±0.8, 57.°86N±0.°07×21.°88E±0.°06, h10km, Error ellipse: s-maj=9.7km s-min=4.3km az=168.0*

*IDC **26** 19:44:56.2±2.5, 57.°92N×22.°07E, h0km, mb1 2.9/4, mb1mx2.8/73, mbtmp2.9/4, ML2.3/4, Error ellipse: s-maj=27.6km s-min=9.7km az=163.0*

ISC 26 19:44:53.8±1.1, 57.73N±0.°06×22.02E±0.°03, h10km, n38, σ1s69/58, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MTSE	**Matsula**	**1.37**	**43**	*e*S	**Sb**	**19 45 36.5**	**-0.4**
	SNR=68						
GOTU	**Gotland**	**1.85**	**270**	P	**Pn**	**19 45 27.2**	**+1.6**
GOTU				S	**Sb**	**19 45 52.8**	**+1.8**
GOTU	**Gotland**	**1.85**	**270**	P	**Pn**	**19 45 27.2**	**+1.6**
GOTU				S	**Sb**	**19 45 52.8**	**+1.8**
NYNU	**Nynaeshamn**	**2.47**	**303**	P	**Pn**	**19 45 35.5**	**+1.4**
NYNU	**Nynaeshamn**	**2.47**	**303**	P	**Pn**	**19 45 35.5**	**+1.4**
VSU	**Vasula**	**2.61**	**72**	Pn	**Pn**	**19 45 36.2**	**+0.3**
VSU				Pg	**Pb**	**19 45 38.3**	**-2.3**
VSU				Lg	Lg	19 46 11.5	
VSU	**Vasula**	**2.61**	**72**	*e*P	**Pn**	**19 45 38.1**	**+2.1**
	SNR=50						
VSU				Lg	Lg	19 46 11.5	
VSU				*e*S	**Sn**	**19 46 11.6**	**+4.0**
	141nm,0.5s,SNR=50						
VSU	**Vasula**	**2.61**	**72**	Pn	**Pn**	**19 45 36.2**	**+0.3**
VSU				Pg	**Pb**	**19 45 38.3**	**-2.3**
VSU				Lg	Lg	19 46 11.5	
NRTU	**Norrtaelje**	**2.63**	**319**	P	**Pn**	**19 45 38.0**	**+1.7**
BYXU	**Byxelkrok**	**2.74**	**263**	P	**Pn**	**19 45 39.9**	**+2.1**
BYXU	**Byxelkrok**	**2.74**	**263**	P	**Pn**	**19 45 39.9**	**+2.1**
MEF	**Metsahovi**	**2.78**	**25**	*e*P	**Pn**	**19 45 41.2**	**+2.9**
	SNR=50						
ASPU	**Aespoe**	**2.94**	**266**	P	**Pn**	**19 45 42.6**	**+2.1**
ASPU	**Aespoe**	**2.94**	**266**	P	**Pn**	**19 45 42.6**	**+2.1**
GRAU	**Graesoe**	**3.17**	**327**	P	**Pn**	**19 45 44.6**	**+0.9**
FLYU	**Flymyra**	**3.22**	**320**	P	**Pn**	**19 45 45.9**	**+1.6**
RAF	**Rauma**	**3.30**	**358**	*e*P	**Pn**	**19 45 47.4**	**+1.9**
	SNR=50						
BACU	**Backbrunna**	**3.33**	**312**	P	**Pn**	**19 45 47.5**	**+1.6**
BACU	**Backbrunna**	**3.33**	**312**	P	**Pn**	**19 45 47.5**	**+1.6**
FIA0	**FINESS Array S**	**4.25**	**27**	Pn	**Pn**	**19 45 59.8**	**+1.2**
	baz=207,slow=12						
FIA0				Sn	**Sn**	**19 46 49.8**	**+1.6**
	baz=199,slow=28						
FIA0				Lg	Lg	19 47 06.5	
	baz=214,slow=22						
FIA0	**FINESS Array S**	**4.25**	**27**	Pn	**Pn**	**19 45 59.8**	**+1.2**
	SNR=9.2						
FIA0				Sn	**Sn**	**19 46 49.8**	**+1.6**
FIA0				Lg	Lg	19 47 06.5	
	SNR=0.8						
FIA0	**FINESS Array S**	**4.25**	**27**	Pn	**Pn**	**19 45 59.8**	**+1.2**
	baz=207,slow=12						
FIA0				Sn	**Sn**	**19 46 49.8**	**+1.6**
	baz=199,slow=28						
FIA0				Lg	Lg	19 47 06.5	
	baz=214,slow=22						
FINES	**FINESS Array B**	**4.25**	**27**	Pn	**Pn**	**19 45 59.6**	**+1.0**
	0.1nm,0.3s,baz=210,slow=11,SNR=9.0						
FINES				Pg	**Pb**	**19 46 08.2**	**-0.5**
	0.4nm,0.3s,baz=213,slow=16,SNR=8.1						
FINES				Lg	Lg	19 47 04.6	
	1.4nm,0.3s,baz=210,slow=22,SNR=13						
BSD	**Bornholm Skovb**	**4.74**	**239**	*e*P	**Pn**	**19 46 05.4**	**+0.1**
	SNR=50						
HFS	**Hagfors**	**4.94**	**303**	Pn	**Pn**	**19 46 09.2**	**+1.2**
	baz=120,slow=14						
HFS				Sn	**Sn**	**19 47 05.8**	**+0.6**
	baz=105,slow=22						
HFS				Lg	Lg	19 47 29.7	
	baz=117,slow=37						
HFS	**Hagfors**	**4.94**	**303**	Pn	**Pn**	**19 46 09.4**	**+1.4**
	0.3nm,0.3s,baz=111,slow=16,SNR=7.3						
HFS				Sn	**Sn**	**19 47 04.9**	**-0.2**
	0.2nm,0.3s,baz=93,slow=29,SNR=2.8						
HFS				Lg	Lg	19 47 27.6	
	1.3nm,0.3s,baz=111,slow=28,SNR=11						
HFS	**Hagfors**	**4.94**	**303**	Pn	**Pn**	**19 46 09.2**	**+1.2**
HFS				S

Error ellipse: s-maj=66.4km s-min=49.5km az=163.0

ISC 26 19:50:47.4±0.9, 36°52N±0°07×70°89E±0°09, h200km, n31, σ1s64/38, mb3.2/5, 6C-4D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**4.05**	**30**	⇓P		**Pn**	**19 51 51.4**	**+1.4**
	5.8nm,0.4s							
SFK				⇑S		**Sn**	**19 52 38.9**	**-0.3**
	39nm,0.4s							
AML	**Almayashu**	**6.01**	**20**	P		**Pn**	**19 52 15.7**	**+0.5**
	SNR=121							
MNAS	**Manas**	**6.09**	**11**	P		**Pn**	**19 52 13.7**	**-2.3**
MNAS				S		**Sn**	**19 53 21.2**	**-4.8**
UCH	**Uchtor**	**6.36**	**25**	P		**Pn**	**19 52 20.4**	**+0.7**
	SNR=25							
KZA	**Kyzart**	**6.50**	**30**	P		**Pn**	**19 52 22.2**	**+0.7**
	SNR=5.6							
EKS2	**Erkin-Say**	**6.53**	**19**	P		**Pn**	**19 52 22.4**	**+0.8**
	SNR=9.5							
KK31	**Karatay Array**	**6.58**	**358**	⇑P		**Pn**	**19 52 21.9**	**-0.3**
	2.1nm,0.3s,baz=172,slow=13,SNR=58							
KK31				⇑S		**Sn**	**19 53 33.4**	**-4.0**
	22nm,0.5s,baz=165,slow=23,SNR=25							
AAK	**Ala-Archa**	**6.71**	**23**	P		**Pn**	**19 52 25.0**	**+0.9**
	4.0nm,0.3s,baz=176,slow=5.7,SNR=48							
AAK				S		**Sn**	**19 53 40.1**	**-0.6**
	3.9nm,0.3s,baz=342,slow=20,SNR=38							
AAK	**Ala-Archa**	**6.71**	**23**	⇑P		**Pn**	**19 52 24.6**	**+0.6**
	3.6nm,0.4s							
AAK				⇓S		**Sn**	**19 53 39.9**	**-0.7**
	20nm,0.5s							
AAK	**Ala-Archa**	**6.71**	**23**	P		**Pn**	**19 52 24.9**	**+0.9**
	SNR=19							
KBK	**Karagaybulak**	**6.88**	**26**	P		**Pn**	**19 52 27.5**	**+1.2**
	SNR=5.6							
CHMS	**Chumysh**	**7.12**	**23**	P		**Pn**	**19 52 30.3**	**+1.1**
	SNR=9.4							
USP	**Ospenovka**	**7.29**	**21**	P		**Pn**	**19 52 31.7**	**+0.3**
	SNR=7.4							
TKM2	**Tokmak 2**	**7.35**	**28**	⇓P		**Pn**	**19 52 33.2**	**+0.9**
	6.9nm,0.4s							
TKM2				⇑S		**Sn**	**19 53 55.1**	**-0.6**
	5.2nm,0.7s							
TKM2	**Tokmak 2**	**7.35**	**28**	P		**Pn**	**19 52 33.2**	**+0.9**
	SNR=20							
MKAR	**Makanchi Array**	**13.33**	**36**	P		**P**	**19 53 50.5**	**-1.2**
	0.1nm,0.3s,baz=230,slow=15,SNR=5.0							
GKN	**Gorkha**	**14.39**	**122**	*eP*		**Pn**	**19 54 02.0**	**-0.3**
	7.2nm,0.4s							
DMN	**Daman**	**14.96**	**122**	*eP*		**Pn**	**19 54 06.7**	**-2.7**
KKN	**Kakani**	**14.96**	**121**	*eP*		**Pn**	**19 54 09.5**	**+0.1**
AB31	**Akbulak array**	**15.03**	**331**	⇓P		**P**	**19 54 14.3**	**+3.9**
	0.8nm,0.5s,baz=144,slow=12,SNR=16							
AB31				⇑S		**S**	**19 56 56.6**	**+0.1**
	0.9nm,0.7s,baz=156,slow=23,SNR=4.6							
KURBB	**Kurchatov Arra**	**15.13**	**19**	P		**Pn**	**19 54 10.5**	**-0.6**
	0.1nm,0.3s,baz=208,slow=11,SNR=6.6							
PKIN	**Phulchoki**	**15.18**	**122**	*eP*		**Pn**	**19 54 10.3**	**-1.8**
	7.6nm,0.5s							
JIRN	**Jiri**	**15.67**	**120**	*eP*		**Pn**	**19 54 18.9**	**+0.7**
	15nm,0.4s							
BVAR	**Borovoye Array**	**16.51**	**359**	P		**Pn**	**19 54 28.8**	**+1.1**
	0.7nm,0.3s,baz=158,slow=8.9,SNR=12							
AKTO	**Aktyubinsk**	**16.72**	**330**	P		**Pn**	**19 54 30.4**	**+0.2**
	0.7nm,0.3s,baz=144,slow=9.8,SNR=10.0							
ZALV	**Zalesovo Beam**	**19.94**	**25**	P		**P**	**19 55 05.5**	**+1.7**
	2.3nm,0.4s,baz=224,slow=11,SNR=12							
ARCES	**ARCESS Array B**	**41.09**	**338**	P		**P**	**19 58 12.4**	**+1.2**
	1.0nm,0.8s,baz=135,slow=10,SNR=2.7							
TORD	**Torodi Ar. Bea**	**65.66**	**269**	P		**P**	**20 01 08.9**	**-1.5**
	0.2nm,0.5s,baz=53,slow=5.0,SNR=3.0							
YKA	**Yellowknife Ar**	**81.23**	**3**	P		**P**	**20 02 41.6**	**+1.0**
	0.2nm,0.5s,baz=356,slow=3.8,SNR=4.4							
WRA	**Warramunga Arr**	**82.07**	**122**	P		**P**	**20 02 44.9**	**-0.7**
	0.4nm,0.7s,baz=324,slow=5.0,SNR=6.0							
ASAR	**Alice Springs**	**84.34**	**125**	P		**P**	**20 02 56.4**	**-0.7**
	0.2nm,0.5s,baz=314,slow=4.6,SNR=4.8							

*ISCJB **26** 20:03:08.6±0.5, 50°34N±0°05×114°8W±0°1, h10km, mb3.6/10, Error ellipse: s-maj=11.8km s-min=7.1km az=0.3*

*IDC **26** 20:03:09.1±0.5, 50°22N×115°04W, h0km, mb3.7/10, mb1 3.9/17, mb1mx3.7/77, mbtmp3.8/17, ML3.6/7, Error ellipse: s-maj=11.3km s-min=6.2km az=117.0*

ISC 26 20:03:10.4±0.7, 50°49N±0°07×114°78W±0°09, h10km, n22, σ2s41/21, mb3.7/10, Alberta

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
NEW	**Newport**	**2.70**	**215**	Pn		**Pn**	**20 03 51.0**	**-2.8**
	14nm,0.3s,baz=41,slow=15,SNR=127							
NEW				Lg		Lg	20 04 22.2	
	16nm,0.3s,baz=105,slow=20,SNR=6.6							
I56US	**NEWPORT INFRAS**	**2.70**	**215**	*i*			20 18 50.0	
	baz=37,slow=329,SNR=17							
PDAR	**Pinedale Array**	**8.51**	**153**	Pn		**Pn**	**20 05 13.2**	**-0.6**
	0.5nm,0.3s,baz=358,slow=14,SNR=9.2							
PDAR				Lg		Lg	20 07 34.0	
	0.1nm,0.3s,baz=8.5,slow=31,SNR=3.0							
BBB	**Bella Bella**	**8.52**	**287**	Pn		**Pn**	**20 05 12.8**	**-0.9**
	0.2nm,0.3s,baz=100,slow=17,SNR=2.3							
BBB				Lg		Lg	20 07 37.1	
	0.3nm,0.3s,baz=41,slow=11,SNR=2.4							
ELK	**Elko**	**9.75**	**182**	Pn		**Pn**	**20 05 30.3**	**-0.5**
	0.1nm,0.3s,baz=26,slow=16,SNR=6.5							
ELK				Lg		Lg	20 08 07.8	
	0.1nm,0.3s,baz=52,slow=19,SNR=3.7							
YBH	**Yreka Blue Hor**	**10.34**	**215**	Pn		**Pn**	**20 05 38.1**	**-0.6**
	0.2nm,0.3s,baz=50,slow=13,SNR=3.5							
YBH				Lg		Lg	20 08 24.2	
	0.2nm,0.3s,baz=113,slow=18,SNR=2.9							
DLBC	**Dease Lake**	**11.90**	**318**	Lg		Lg	20 09 26.2	
	0.3nm,0.3s,baz=233,slow=19,SNR=3.3							
YKA	**Yellowknife Ar**	**12.04**	**0**	Pn		**Pn**	**20 06 02.2**	**+0.4**
	2.0nm,0.3s,baz=182,slow=13,SNR=137							
YKA				Sn		**Sn**	**20 08 09.1**	**-6.9**
	0.2nm,0.3s,baz=176,slow=23,SNR=2.7							
YKA				Lg		Lg	20 09 33.7	
	0.3nm,0.3s,baz=174,slow=27,SNR=6.4							
ULM	**Lac du Bonnet**	**12.08**	**84**	Pn		**Pn**	**20 06 02.0**	**-0.3**
	0.8nm,0.3s,baz=294,slow=9.2,SNR=7.1							
ULM				Lg		Lg	20 09 27.0	
	0.9nm,0.3s,baz=25,slow=22,SNR=4.2							
NVAR	**Mina Array Bea**	**12.31**	**193**	Pn		**Pn**	**20 06 04.2**	**-1.6**
	baz=356,slow=13,SNR=3.4							
INK	**Inuvik**	**20.10**	**340**	S		**S**	**20 11 25.9**	**-3.2**
	0.6nm,0.2s,baz=291,slow=27,SNR=2.9							
ILAR	**Eielson Array**	**22.02**	**323**	P		**P**	**20 08 07.7**	**+3.1**
	1.0nm,0.8s,baz=117,slow=9.8,SNR=15							
TXAR	**Lajitas Array**	**22.73**	**154**	P		**P**	**20 08 10.6**	**-1.9**
	0.6nm,0.7s,baz=356,slow=8.1,SNR=7.3							
RES	**Resolute Bay**	**25.66**	**12**	P		**P**	**20 08 42.5**	**+2.6**
	1.4nm,0.6s,baz=200,slow=15,SNR=6.3							
SEY	**Seymchan**	**47.96**	**322**	P		**P**	**20 11 51.2**	**+2.6**
	1.3nm,0.5s,baz=76,slow=18,SNR=5.2							
ARCES	**ARCESS Array B**	**56.81**	**16**	P		**P**	**20 12 55.0**	**+0.8**
	1.0nm,0.8s,baz=320,slow=7.4,SNR=3.8							
FINES	**FINESS Array B**	**64.11**	**20**	P		**P**	**20 13 45.6**	**+1.5**
	1.2nm,0.7s,baz=316,slow=5.3,SNR=5.5							
ZALV	**Zalesovo Beam**	**74.64**	**348**	P		**P**	**20 14 50.5**	**+1.2**
	1.3nm,0.8s,baz=1.8,slow=4.5,SNR=5.1							
BVAR	**Borovoye Array**	**76.77**	**357**	P		**P**	**20 15 02.7**	**+1.1**
	0.2nm,0.5s,baz=5.7,slow=4.3,SNR=3.4							
KURBB	**Kurchatov Arra**	**78.63**	**351**	P		**P**	**20 15 13.2**	**+1.2**
	0.2nm,0.4s,baz=12,slow=4.6,SNR=3.1							
MKAR	**Makanchi Array**	**81.98**	**348**	P		**P**	**20 15 31.0**	**+0.8**
	0.3nm,0.7s,baz=18,slow=5.0,SNR=3.7							
WRA	**Warramunga Arr**	**118.36**	**273**	PKP		**PKPdf**	**20 21 57.4**	**-0.6**
	0.5nm,0.8s,baz=35,slow=2.1,SNR=4.8							

*ISCJB **26** 20:03:27.6±0.5, 35°97N±0°03×140°16E±0°05, h74km±4km, mb3.5/7, Error ellipse: s-maj=7.4km s-min=4.9km az=6.3*

*IDC **26** 20:03:29.8±2.2, 35°88N×140°08E, h84km±18km, mb3.3/7, mb1 3.4/9, mb1mx3.1/78, mbtmp3.6/9, Error ellipse: s-maj=32.2km s-min=7.9km az=63.0*

*JMA **26** 20:03:29.3±0.1, 36°02N×140°08E, h62km±1km, M3.2 Broadband fault plane solution: P waves. NP1: φs348.00000°, δ79.00000°, λ57.00000°. NP2: φs241.00000°, δ35.00000°, λ160.00000°. Principal axes: T Plg46.0000°, Azm224.0000°; N Plg33.0000°, Azm356.0000°; P Plg26.0000°, Azm104.0000°;*

JMA Felt I J1.

ISC 26 20:03:28.3±0.9, 35°97N±0°03×140°15E±0°05, h67km±7km, n22, σ0s81/35, mb3.6/7, 1C-5D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
JYT	**Yasato**	**0.26**	**8**	⇑P		**Pn**	**20 03 39.2**	**+0.2**
JYT				S		**Sn**	**20 03 46.6**	**-0.1**
JAG	**Ashikaga**	**0.72**	**309**	⇓P		**Pn**	**20 03 43.4**	**+0.1**
JAG				S		**Sn**	**20 03 53.6**	**-0.8**
JRY	**Ryogami san**	**1.01**	**273**	⇓P		**Pn**	**20 03 47.2**	**+0.3**
JRY				*eS*		**Sn**	**20 04 00.3**	**-0.4**
JKT	**Katashina**	**1.08**	**318**	⇓P		**Pn**	**20 03 47.6**	**-0.2**
JKT				S		**Sn**	**20 04 01.8**	**-0.4**
JOD2	**Odawara 2**	**1.11**	**231**	⇓P		**Pn**	**20 03 48.6**	**+0.4**
JOD2				S		**Sn**	**20 04 02.3**	**-0.7**
BSO3	**Boso 3**	**1.20**	**166**	P		**Pn**	**20 03 50.0**	**+1.0**
JIM2	**Oshima 3**	**1.38**	**205**	P		**Pn**	**20 03 51.5**	**-0.1**
JIM2				S		**Sn**	**20 04 08.8**	**-0.3**
JYN	**Shimob**	**1.39**	**251**	⇓P		**Pn**	**20 03 52.6**	**+0.8**
JYN				*eS*		**Sn**	**20 04 09.6**	**+0.2**
JFY	**Yanaizu**	**1.48**	**346**	P		**Pn**	**20 03 53.8**	**+0.8**
JFY				S		**Sn**	**20 04 11.7**	**+0.2**
JFK	**Kawauchi**	**1.51**	**22**	P		**Pn**	**20 03 53.8**	**+0.4**
JFK				*eS*		**Sn**	**20 04 12.4**	**+0.1**
JHK	**Hiroka**	**1.57**	**325**	P		**Pn**	**20 03 54.4**	**+0.3**
JHK				*eS*		**Sn**	**20 04 14.1**	**+0.5**
MJAR	**Matsushiro Arr**	**1.67**	**291**	P		**Pn**	**20 03 55.7**	**+0.2**
	37nm,0.3s,baz=87,slow=9.6,SNR=343							
MJAR				S		**Sn**	**20 04 17.2**	**+1.2**
	9.9nm,0.3s,baz=140,slow=15,SNR=8.2							
MAT	**Matsushiro**	**1.67**	**291**	P		**Pn**	**20 03 56.2**	**+0.7**
MAT				S		**Sn**	**20 04 16.3**	**+0.2**
JHJ	**Hachijo jima 2**	**2.86**	**186**	P		**Pn**	**20 04 12.7**	**+1.1**
	8.0nm,0.3s,baz=52,slow=19,SNR=4.4							
JHJ				S		**Sn**	**20 04 45.1**	**+0.3**
	18nm,0.3s,baz=270,slow=20,SNR=4.7							
KSRS	**Korea Array**	**9.93**	**282**	P		**Pn**	**20 05 50.9**	**+2.8**
	0.3nm,0.3s,baz=99,slow=14,SNR=3.5							
SONM	**Songino Array**	**27.56**	**306**	P		**P**	**20 09 08.3**	**-0.7**
	0.4nm,0.5s,baz=101,slow=9.1,SNR=4.1							
ZALV	**Zalesovo Beam**	**41.89**	**313**	P		**P**	**20 11 12.1**	**+0.3**
	0.5nm,0.5s,baz=85,slow=9.1,SNR=4.1							
MKAR	**Makanchi Array**	**43.83**	**303**	P		**P**	**20 11 27.8**	**+0.2**
	0.8nm,0.7s,baz=91,slow=9.7,SNR=9.7							
KURBB	**Kurchatov Arra**	**45.86**	**309**	P		**P**	**20 11 43.4**	**-0.2**
	1.2nm,0.7s,baz=82,slow=7.6,SNR=11							
BVAR	**Borovoye Array**	**50.54**	**313**	P		**P**	**20 12 19.5**	**-0.2**
	0.3nm,0.5s,baz=96,slow=8.9,SNR=2.9							
ILAR	**Eielson Array**	**50.94**	**32**	P		**P**	**20 12 23.0**	**+0.5**
	0.4nm,0.7s,baz=267,slow=6.1,SNR=4.6							
WRA	**Warramunga Arr**	**55.88**	**187**	P		**P**	**20 12 57.3**	**-1.9**
	0.3nm,0.5s,baz=2.2,slow=7.4,SNR=6.3							

WEL 26 20:03:48.5, 37°S±9°×18°0W±1°3, h33km, ML3.9/19, East of North Island

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.82**	**238**	P		Pn	20 04 18.5	+1.1
MXZ	**Matakaoa Point**	**1.82**	**238**	S		Sn	20 04 39.8	+0.6
WMGZ	**Waiomatatini S**	**1.89**	**230**	P		Pb	20 04 20.9	-1.4
WMGZ	**Waiomatatini S**	**1.89**	**230**	S		Sb	20 04 44.0	-1.7
PKGZ	**Pakihiroa**	**2.15**	**233**	P		Pn	20 04 23.8	+1.8
PKGZ	**Pakihiroa**	**2.15**	**233**	S		Sn	20 04 49.3	+1.8
PUZ	**Puketiti**	**2.15**	**227**	P		Pn	20 04 24.2	+2.2
PUZ	**Puketiti**	**2.15**	**227**	S		Sn	20 04 49.8	+2.2
HAZ	**Te Kaha**	**2.27**	**239**	P		Pn	20 04 26.2	+2.5
HAZ	**Te Kaha**	**2.27**	**239**	S		Sb	20 04 53.6	-2.9
TWGZ	**Tauwhareparae**	**2.38**	**228**	P		Pn	20 04 27.6	+2.4
TWGZ	**Tauwhareparae**	**2.38**	**228**	S		Sn	20 04 56.4	+3.0
RUGZ	**Raukumara Rang**	**2.45**	**236**	P		Pn	20 04 28.7	+2.4
RUGZ	**Raukumara Rang**	**2.45**	**236**	S		Sn	20 04 57.5	+2.4
CNGZ	**Carnagh Statio**	**2.47**	**220**	P		Pb	20 04 29.3	-2.9
MWZ	**Matawai**	**2.76**	**231**	P		Pn	20 04 32.2	+1.8
MWZ	**Matawai**	**2.76**	**231**	S		Sn	20 05 04.1	+1.5
RIGZ	**Rimuhau**	**2.87**	**223**	P		Pn	20 04 33.7	+1.8
RIGZ	**Rimuhau**	**2.87**	**223**	S		Sn	20 05 07.6	+2.3
RAGZ	**Rawiri**	**2.92**	**229**	S		Sn	20 05 08.9	+2.1
PRGZ	**Paritu Road**	**2.97**	**218**	P		Pn	20 04 35.5	+2.2
PRGZ	**Paritu Road**	**2.97**	**218**	S		Sn	20 05 10.4	+2.7
URZ	**Urewera**	**2.99**	**236**	P		Pn	20 04 35.1	+1.7
URZ	**Urewera**	**2.99**	**236**	S		Sn	20 05 09.1	+1.0
MHGZ	**Mahia Peninsul**	**3.14**	**215**	P		Pn	20 04 37.5	+1.9
KNZ	**Kokohu**	**3.15**	**219**	P		Pn	20 04 37.1	+1.4
SNGZ	**Shannon Statio**	**3.16**	**226**	S		Sn	20 05 14.6	+2.1
SNGZ	**Shannon Statio**	**3.16**	**226**	P		Pn	20 04 37.9	+2.0
OPRZ	**Ohinepanea**	**3.19**	**246**	P		Pn	20 04 38.0	+1.7
RAHZ	**Arahi**	**3.40**	**226**	P		Pn	20 04 40.9	+1.7
MTHZ	**Maungataniwha**	**3.50**	**229**	P		Pn	20 04 42.6	+2.0
KUZ	**Kuaotunu**	**3.64**	**267**	S		Sn	20 05 21.1	-3.1
NMHZ	**Naumai**	**3.68**	**227**	P		Pn	20 04 45.1	+2.0
BKZ	**Black Stump Fm**	**3.91**	**228**	P		Pn	20 04 47.8	+1.5
TOZ	**Tahuroa Road**	**3.95**	**252**	P		Pn	20 04 48.1	+1.4
MKAZ	**Momaki**	**4.11**	**262**	P		Pn	20 04 50.3	+1.5
KWHZ	**Kaweka Forest**	**4.12**	**226**	P		Pn	20 04 51.1	+2.0
KAHZ	**Kahuranaki**	**4.14**	**219**	P		Pn	20 04 50.2	+0.8
BHHZ	**Black Hill Sta**	**4.37**	**228**	P		Pn	20 04 53.7	+1.1

*IDC **26** 20:12:07.3±1.3, 2°57N×94°46E, h0km, mb3.8/9, mb1 3.9/12, mb1mx3.6/71, mbtmp3.8/12, ML3.5/3, MS3.5/1, Ms1 3.5/1, ms1mx2.8/60, Error ellipse: s-maj=35.8km s-min=18.1km az=40.0*

*ISCJB **26** 20:12:08.6±0.7, 2°.6N±0°1×94°44E±0°06, h21km, mb3.8/10, Error ellipse: s-maj=15.2km s-min=7.3km az=21.1*

*NEIC **26** 20:12:10.1±3.2, 2°57N×94°47E, h17km±21km, mb4.1/2, Error ellipse: s-maj=12.2km s-min=7.0km az=215.0*

ISC 26 20:12:10.4±1.0, 2°5N±0°1×94°44E±0°09, h21km, n25, σ0s64/19, mb3.9/10, 1C, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
GSI	**Gunungsitoli**	**3.37**	**111**	*eP*		**Pn**	**20 13 01.4**	**-0.4**
PSI	**Prapat**	**4.49**	**87**	Pn		**Pn**	**20 13 17.5**	**+0.2**
	0.9nm,0.3s,baz=278,slow=3.4,SNR=10							
PSI				Sn		**Sn**	**20 14 09.8**	**+0.8**
	0.5nm,0.3s,baz=319,slow=16,SNR=4.4							
PSI				LR		LR	20 14 58.5	
	comp=Z,498nm,19.9s,baz=6.5,slow=38							
IPM	**Ipoh**	**6.85**	**73**	*eP*		**Pn**	**20 13 49.8**	**0.0**
	12nm,0.7s							
PALK	**Pallekele**	**14.47**	**289**	Pn		**Pn**	**20 15 34.4**	**+0.2**
	0.2nm,0.3s,baz=121,slow=5.9,SNR=3.3							
PALK				Sn		Sn	20 18 02.7	-11
	0.2nm,0.3s,baz=297,slow=12,SNR=2.7							
CMAR	**Chiang Mai Arr**	**16.42**	**15**	Pn		**Pn**	**20 15 58.3**	**-1.5**
	0.2nm,0.3s,baz=208,slow=11,SNR=11							
CHTO	**Chiang Mai**	**16.77**	**15**	*eP*		**Pn**	**20 16 03.8**	**-0.4**
	11nm,1.5s							
H08S2	**Diego Garcia H**	**24.12**	**245**	T		T	20 42 41.5	
	baz=65,slow=75,SNR=267							
H08S3	**Diego Garcia H**	**24.12**	**245**	T		T	20 42 41.6	
	baz=65,slow=75,SNR=393							
H08S1	**Diego Carcia H**	**24.14**	**245**	T		T	20 42 50.2	
	baz=65,slow=75,SNR=393							
LSA	**Lhasa**	**27.19**	**354**	*eP*		**P**	**20 17 54.7**	**+1.5**
	5.6nm,0.6s							
H01W3	**Cape Leeuwin H**	**41.56**	**155**	T		T	21 04 36.7	
	baz=330,slow=76,SNR=32							
H01W2	**Cape Leeuwin H**	**41.58**	**155**	T		T	21 04 37.6	
	baz=330,slow=76,SNR=34							
H01W1	**Cape Leeuwin H**	**41.58**	**155**	T		T	21 04 29.5	
	baz=330,slow=76,SNR=35							
WRA	**Warramunga Arr**	**45.08**	**122**	P		**P**	**20 20 25.3**	**-0.1**
	1.2nm,0.9s,baz=301,slow=8.7,SNR=4.3							
MKAR	**Makanchi Array**	**45.33**	**348**	P		**P**	**20 20 27.4**	**+0.4**
	1.5nm,0.6s,baz=167,slow=8.0,SNR=19							
SONM	**Songino Array**	**46.29**	**11**	P		**P**	**20 20 34.5**	**-0.2**
	0.9nm,0.8s,baz=201,slow=7.9,SNR=6.8							
ASAR	**Alice Springs**	**46.40**	**126**	P		**P**	**20 20 35.9**	**0.0**
	0.2nm,0.7s,baz=305,slow=8.1,SNR=4.5							
KURBB	**Kurchatov Arra**	**49.77**	**347**	P		**P**	**20 21 01.7**	**+0.4**
	0.8nm,0.7s,baz=171,slow=6.5,SNR=7.7							
KURK	**Kurchatov**	**49.83**	**347**	P		**P**	**20 21 01.7**	**-0.1**
ZALV	**Zalesovo Beam**	**51.85**	**353**	P		**P**	**20 21 17.1**	**+0.1**
	0.7nm,0.4s,baz=188,slow=8.7,SNR=6.1							
BVAR	**Borovoye Array**	**54.12**	**342**	P		**P**	**20 21 33.3**	**-0.5**
	1.5nm,0.9s,baz=131,slow=6.5,SNR=7.2							
BRVK	**Borovoye**	**54.18**	**342**	*eP*		**P**	**20 21 34.4**	**+0.2**
BRTR	**Keskin Array B**	**66.18**	**313**	P		**P**	**20 22 57.1**	**+0.2**
	0.4nm,0.6s,baz=72,slow=9.3,SNR=3.1							
TIXI	**Tiksi**	**72.38**	**11**	P		**P**	**20 23 33.8**	**-0.7**
	1.1nm,0.8s,baz=192,slow=5.9,SNR=4.5							
SYO	**Syowa Base**	**80.43**	**197**	⇑*ep*P		pP	20 24 25.0	-2.1

*IDC **26** 20:20:11.1±3.8, 41°.16N×109°.55W, h0km, mb2.5/1, mb1 3.2/2, mb1mx3.0/71, mbtmp2.8/2, ML2.9/1, Error ellipse: s-maj=57.7km s-min=9.4km az=110.0*

*ISCJB **26** 20:20:17.0±0.9, 41°.73N±0°.07×110°.6W±0°.1, h0km, Error ellipse: s-maj=15.1km s-min=6.9km az=28.9*

*NEIC **26** 20:20:17.4±0.8, 41°.72N×110°.63W, h0km, ML2.1, Error ellipse: s-maj=13.4km s-min=5.5km az=118.0, Suspected Mining explosion.*

NEIC 10 km [6 miles] SW of Kemmerer.

ISC 26 20:20:17.5±1.2, 41°.76N±0°.05×110°.66W±0°.07, h0km, n18, σ0s97/16, Wyoming

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
HWUT	**Hardware Ranch**	**0.69**	**258**	*eP*		**Pg**	**20 20 30.7**	**-0.1**
TCUT	**Toone Canyon**	**0.85**	**222**	*eP*		**Pg**	**20 20 33.5**	**-0.3**
AHID	**Auburn Hatcher**	**1.06**	**342**	*eP*		**Pb**	**20 20 39.4**	**+0.6**
PDAR	**Pinedale Array**	**1.30**	**39**	Pg		**Pg**	**20 20 42.4**	**0.0**
	2.9nm,0.3s,baz=203,slow=14,SNR=48							
PDAR				Lg		Lg	20 21 01.7	
	4.4nm,0.3s,baz=216,slow=29,SNR=19							
JLU	**Jordanelle**	**1.30**	**208**	*eP*		**Pg**	**20 20 41.7**	**-0.7**
CTU	**Camp Tracy**	**1.35**	**218**	*eP*		**Pg**	**20 20 43.1**	**-0.1**
SPUT	**South Promonto**	**1.42**	**252**	*eP*		**Pn**	**20 20 44.6**	**0.0**
HVU	**Hansel Valley**	**1.58**	**271**	*eP*		**Pn**	**20 20 46.6**	**-0.3**
MPU	**Maple Canyon**	**1.89**	**203**	*eP*		**Pn**	**20 20 51.1**	**-0.1**
BGU	**Big Grassy Mou**	**1.97**	**246**	*eP*		**Pn**	**20 20 51.9**	**-0.3**
NLU	**North Lily Min**	**2.10**	**211**	*eP*		Pn	20 20 48.6	-5.4
DUG	**Dugway, Tooele**	**2.26**	**227**	*eP*		**Pn**	**20 20 56.2**	**0.0**
H17A	**Grant Village**	**2.64**	**1**	*eP*		**Pb**	**20 21 06.4**	**+0.7**
YFT	**Old Faithful**	**2.69**	**357**	*eP*		**Pg**	**20 21 09.2**	**+0.1**
HLID	**Hailey**	**3.30**	**304**	*eP*		**Pb**	**20 21 16.5**	**-0.6**
EGMT	**Eagleton**	**6.30**	**6**	*eP*		**Pn**	**20 21 49.8**	**-1.8**
	9.8nm,0.6s							
NVAR	**Mina Array Bea**	**6.74**	**243**	Pn		**Pn**	**20 22 00.4**	**+2.6**
	baz=67,slow=14,SNR=2.9							
YKA	**Yellowknife Ar**	**20.90**	**355**	P		Pn	20 25 03.5	-0.1
	0.2nm,0.8s,baz=169,slow=10,SNR=3.9							

*ISCJB **26** 20:30:16.7±0.6, 13°.02N±0°.10×143°.4E±0°.1, h200km, mb3.4/10, Error ellipse: s-maj=14.4km s-min=13.0km az=137.0*

*IDC **26** 20:30:19.0±0.8, 13°.08N×143°.77E, h219km±18km, mb3.2/10, mb1 3.3/10, mb1mx3.1/68, mbtmp3.8/10, Error ellipse: s-maj=50.1km s-min=12.3km az=85.0*

ISC 26 20:30:18.1±0.8, 13°.0N±0°.1×143°.4E±0°.1, h200km, n11, σ0s92/12, mb3.4/10, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
GUMO	**Guam**	**1.50**	**68**	P		**Pn**	**20 30 53.1**	**+1.2**
	5.6nm,0.3s,baz=1.7,slow=2.9,SNR=8.9							
GUMO				S		**Sn**	**20 31 17.6**	**-0.5**
	29nm,0.3s,baz=7.3,slow=23,SNR=11							
MJAR	**Matsushiro Arr**	**23.88**	**350**	P		**P**	**20 35 12.3**	**-1.2**
	1.6nm,0.7s,baz=179,slow=6.1,SNR=3.0							
WRA	**Warramunga Arr**	**33.96**	**195**	P		**P**	**20 36 43.2**	**+0.4**
	0.8nm,0.6s,baz=19,slow=9.6,SNR=15							
ASAR	**Alice Springs**	**37.64**	**194**	P		**P**	**20 37 14.3**	**+0.2**
	0.5nm,0.6s,baz=17,slow=13,SNR=9.0							
CMAR	**Chiang Mai Arr**	**43.08**	**283**	P		**P**	**20 37 59.5**	**+0.7**
	0.4nm,0.7s,baz=86,slow=6.6,SNR=4.4							
STKA	**Stephens Creek**	**44.68**	**182**	P		**P**	**20 38 10.4**	**-0.8**

ILAR Eielson Array 64.09 337 P P 21 15 30.5 +0.6
0.4nm,0.7s,baz=177,slow=4.9,SNR=4.3

*IDC **26** 21:18:51.2±3.8, 0.°90N×92.°15E, h0km, mb3.4/4, mb1 3.7/7, mb1mx3.4/65, mbtmp3.6/7, ML3.7/3, Error ellipse: s-maj=77.8km s-min=33.9km az=177.0*
ISC 26 21:18:58.0±2.7, 1.°2N±0.°4×92.°1E±0.°1, h35km, n7, σ2≤26/8, mb3.4/4, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PSI	**Prapat**	**6.98**	**77**	Pn		**Pn**	**21 20 36.1**	**-1.8**
	1.0nm,0.3s,baz=298,slow=17,SNR=3.7							
PALK	**Pallekele**	**12.86**	**298**	Pn		**Pn**	**21 22 00.3**	**+1.9**
	0.8nm,0.3s,baz=116,slow=11,SNR=5.6							
PALK				Sn		**Sn**	**21 24 16.6**	**-3.9**
	1.0nm,0.3s,baz=119,slow=3.8,SNR=6.1							
CMAR	**Chiang Mai Arr**	**18.38**	**21**	P		**P**	**21 23 10.7**	**+0.7**
	0.1nm,0.3s,baz=212,slow=12,SNR=5.8							
MKAR	**Makanchi Array**	**46.18**	**351**	P		**P**	**21 27 19.5**	**+0.2**
	0.4nm,0.7s,baz=178,slow=7.2,SNR=5.3							
SONM	**Songino Array**	**48.04**	**13**	P		**P**	**21 27 34.7**	**+0.7**
	0.3nm,0.8s,baz=187,slow=7.3,SNR=2.6							
KURBB	**Kurchatov Arra**	**50.54**	**349**	P		**P**	**21 27 54.4**	**+1.6**
	0.1nm,0.3s,baz=163,slow=6.8,SNR=2.6							
GERES	**GERESS Array B**	**81.44**	**319**	P		**P**	**21 31 11.4**	**-0.3**
	0.3nm,0.4s,baz=93,slow=5.3,SNR=5.3							

*IDC **26** 21:33:48.5±1.3, 44.°83N×106.°54W, h0km, mb1 3.3/3, mb1mx3.1/67, mbtmp3.0/3, ML3.2/2, Error ellipse: s-maj=47.1km s-min=11.6km az=136.0*
*NEIC **26** 21:33:48.4±0.9, 45.°22N×106.°78W, h0km, ML2.2, Error ellipse: s-maj=24.4km s-min=9.4km az=136.0, Suspected Mining explosion.*
NEIC 49 km [30 miles] NNE of Sheridan.
ISC 26 21:33:45.5±1.3, 44.°85N±0.°08×106.°75W±0.°08, h0km, n7, σ1≤51/10, Wyoming

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
RLMT	**Red Lodge**	**1.81**	**280**	*e*Pn		**Pb**	**21 34 19.0**	**-0.6**
RLMT				*e*Sn		**Sn**	**21 34 41.7**	**-0.1**
LAO	**LASA Array**	**1.88**	**11**	*e*Pn		**Pn**	**21 34 17.1**	**-1.8**
H17A	**Grant Village**	**2.77**	**262**	*e*Pn		**Pb**	**21 34 35.9**	**-0.2**
H17A				*e*Sn		**Sb**	**21 35 11.8**	**+1.2**
BW06	**Boulder Array**	**2.91**	**225**	*e*Pn		**Pb**	**21 34 38.6**	**+0.2**
PDAR	**Pinedale Array**	**2.91**	**225**	Pn		**Pg**	**21 34 40.4**	**-0.9**
	3.0nm,0.3s,baz=50,slow=17,SNR=25							
PDAR				Sn		**Sg**	**21 35 18.9**	**0.0**
	4.0nm,0.3s,baz=53,slow=32,SNR=12							
ULM	**Lac du Bonnet**	**9.12**	**50**	Pn		**Pn**	**21 35 58.0**	**-0.4**
	0.5nm,0.3s,baz=232,slow=14,SNR=4.9							
ULM				Lg		Lg	21 38 23.6	
	0.1nm,0.3s,baz=273,slow=18,SNR=1.5							
YKA	**Yellowknife Ar**	**18.25**	**348**	P		**P**	**21 38 03.4**	**+3.1**
	baz=167,slow=12,SNR=2.1							

*NIED **26** 21:52:00, 39.°30N×143.°00E, h11km, Mw3.8 Best double couple: M₀5.32000×10¹⁴ NP1:φs2.100000°, δ19.00000°, λ-65.00000°. NP2:φs255.00000°, δ73.00000°, λ-98.00000°.*
*IDC **26** 21:52:21.5±1.1, 39.°29N×143.°29E, h0km, mb3.6/8, mb1 3.6/12, mb1mx3.5/69, mbtmp3.5/12, ML3.4/3, MS2.9/1, Ms1 2.9/1, ms1mx2.2/61, Error ellipse: s-maj=24.0km s-min=20.9km az=140.0*
*ISCJB **26** 21:52:22.9±1.2, 39.°29N±0.°04×143.°10E±0.°06, h18km±7km, mb3.6/8, Error ellipse: s-maj=8.5km s-min=6.0km az=24.7*
*JMA **26** 21:52:23.6±0.1, 39.°29N×143.°03E, h21km±2km, M4.0*
ISC 26 21:52:23.3±2.7, 39.°29N±0.°05×143.°03E±0.°07, h10km±15km, n31, σ1≤44/37, mb3.6/8, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MIYJ	**Miyakonagasawa**	**0.98**	**287**	P		**Pb**	**21 52 41.5**	**-0.9**
MIYJ				S		**Sg**	**21 52 54.4**	**-0.5**
OFUJ	**Ofunato**	**1.08**	**259**	P		**Pb**	**21 52 43.2**	**-0.8**
OFUJ				S		**Sb**	**21 52 57.0**	**-1.2**
JTH	**Tanohata**	**1.11**	**306**	P		**Pb**	**21 52 43.3**	**-1.3**
JTH				*e*S		**Sb**	**21 52 58.2**	**-0.9**
JOM	**Ohasama**	**1.36**	**278**	P		**Pn**	**21 52 47.7**	**-0.6**
JOM				S		**Sn**	**21 53 05.3**	**-1.1**
JMK	**Ichinoseki**	**1.45**	**257**	P		**Pn**	**21 52 49.1**	**-0.4**
JMK				*e*S		**Sn**	**21 53 06.9**	**-1.7**
JIO	**Ouri**	**1.56**	**238**	P		**Pn**	**21 52 50.4**	**-0.6**
JIO				S		**Sn**	**21 53 09.9**	**-1.3**
JANG	**Nango**	**1.59**	**313**	P		**Pn**	**21 52 50.8**	**-0.7**
JANG				S		**Sn**	**21 53 12.0**	**-0.1**
JRG	**Rokugo**	**1.86**	**274**	P		**Pn**	**21 52 55.9**	**+0.7**
JAH	**Hinai**	**2.05**	**297**	P		**Pn**	**21 52 58.8**	**+1.0**
JAH				*e*S		**Sn**	**21 53 24.4**	**+0.9**
JOU	**Okura**	**2.07**	**244**	P		**Pn**	**21 52 58.7**	**+0.6**
JOU				*e*S		**Sn**	**21 53 23.8**	**-0.1**
JYK	**Kaneyama**	**2.11**	**261**	P		**Pn**	**21 52 59.9**	**+1.2**
JTM	**Tenmabayashi**	**2.12**	**315**	P		**Pn**	**21 52 59.4**	**+0.6**
JTM				*e*S		**Sn**	**21 53 25.6**	**+0.4**
MJAR	**Matsushiro Arr**	**4.70**	**236**	Pn		**Pn**	**21 53 37.4**	**+3.1**
	2.0nm,0.3s,baz=37,slow=13,SNR=23							
MAT	**Matsushiro**	**4.70**	**236**	P		**Pn**	**21 53 37.3**	**+3.0**
MAT				*e*S		**Sn**	**21 54 27.4**	**-1.4**
ASAJ	**Asahikawa**	**4.83**	**356**	Pn		**Pn**	**21 53 36.9**	**+0.8**
	1.0nm,0.3s,baz=243,slow=17,SNR=6.1							
ASAJ				Sn		**Sn**	**21 54 30.5**	**-1.6**
	1.7nm,0.3s,baz=66,slow=20,SNR=2.3							
USRK	**Ussuriysk Ar.**	**9.60**	**304**	Pn		**Pn**	**21 54 44.4**	**+3.0**
	0.1nm,0.3s,baz=113,slow=15,SNR=2.9							
KSRS	**Korea Array**	**12.00**	**266**	Pn		**Pn**	**21 55 17.7**	**+3.4**
	0.3nm,0.3s,baz=69,slow=14,SNR=2.6							
KSRS				LR		LR	21 59 36.1	
	comp=Z,54nm,18.1s,baz=60,slow=36							
SONM	**Songino Array**	**27.67**	**300**	P		**P**	**21 58 12.9**	**+1.4**
	0.4nm,0.5s,baz=104,slow=6.1,SNR=3.3							
H11N2	**WAKE ISLAND Hy 28.34 127**			T		T	22 29 09.1	
	baz=318,slow=75,SNR=84							
H11N1	**WAKE ISLAND Hy 28.35 127**			T		T	22 29 01.4	
	baz=318,slow=75,SNR=44							
H11N3	**WAKE ISLAND Hy 28.36 127**			T		T	22 29 02.5	
	baz=318,slow=75,SNR=55							
H11S1	**WAKE ISLAND Hy 29.14 129**			T		T	22 30 00.5	
	baz=320,slow=76,SNR=12							
H11S3	**WAKE ISLAND Hy 29.14 129**			T		T	22 29 59.2	
	baz=320,slow=76,SNR=5.3							
H11S2	**WAKE ISLAND Hy 29.16 129**			T		T	22 29 30.3	
	baz=320,slow=76,SNR=5.4							
ZALV	**Zalesovo Beam**	**41.38**	**311**	P		**P**	**22 00 10.4**	**+1.1**
	1.0nm,0.5s,baz=102,slow=6.6,SNR=4.4							
MKAR	**Makanchi Array**	**44.04**	**300**	P		**P**	**22 00 31.2**	**+0.1**
	0.6nm,0.7s,baz=87,slow=8.8,SNR=6.6							
KURBB	**Kurchatov Arra**	**45.65**	**306**	P		**P**	**22 00 44.2**	**+0.4**
	1.2nm,0.6s,baz=81,slow=8.4,SNR=11							
ILAR	**Eielson Array**	**46.91**	**33**	P		**P**	**22 00 52.0**	**-1.5**
	0.3nm,0.6s,baz=269,slow=6.3,SNR=3.1							
BVAR	**Borovoye Array**	**50.02**	**311**	P		**P**	**22 01 18.2**	**+0.5**
	0.6nm,0.7s,baz=73,slow=11,SNR=3.9							
WRA	**Warramunga Arr**	**59.48**	**189**	P		**P**	**22 02 26.3**	**-0.2**
	0.4nm,0.6s,baz=7.7,slow=7.0,SNR=4.1							
YKA	**Yellowknife Ar**	**61.22**	**31**	P		**P**	**22 02 37.6**	**-0.3**
	0.1nm,0.3s,baz=302,slow=6.7,SNR=2.2							

*ISK **26** 22:02:33.8, 39.°07N×29.°17E, h5km, ML3.0/15*
*DDA **26** 22:02:34.3, 39.°10N×29.°16E, h7km, Ml3.5*
*CSEM **26** 22:02:34.9±0.1, 39.°09N×29.°15E, h2km, ML3.0, Error ellipse: s-maj=3.0km s-min=2.7km az=160.0*
ISC 26 22:02:34.5±0.9, 39.°10N±0.°02×29.°16E±0.°01, h7km±7km, n78, σ0≤73/116, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SIMA	**Simav-Kutahya**	**0.14**	**265**	Pg		**Pg**	**22 02 37.7**	**+0.3**
SIMA				Sg		**Sg**	**22 02 39.8**	**+0.4**
SIMA	**Simav-Kutahya**	**0.14**	**265**	*e*Pg		**Pg**	**22 02 37.7**	**+0.3**
SIMA				*e*Sg		**Sg**	**22 02 39.8**	**+0.4**
GDZ	**Gediz**	**0.25**	**91**	*i* P		**Pg**	**22 02 39.2**	**-0.3**
GDZ				*i* S		**Sg**	**22 02 42.8**	**-0.1**
GDZ	**Gediz**	**0.25**	**91**	P		**Pg**	**22 02 39.2**	**-0.3**
GDZ				S		**Sg**	**22 02 42.8**	**-0.1**
DEMI	**Demirci**	**0.35**	**262**	*i* P		**Pg**	**22 02 41.5**	**+0.2**
DEMI				*i* S		**Sg**	**22 02 46.1**	**+0.2**
DEMI	**Demirci**	**0.35**	**262**	P		**Pg**	**22 02 41.5**	**+0.2**
DEMI				S		**Sg**	**22 02 46.1**	**+0.2**
TVSB	**Tavsanli**	**0.42**	**34**	PG		**Pg**	**22 02 41.9**	**-0.9**
TVSB	**Tavsanli**	**0.42**	**34**	*e*Pg		**Pg**	**22 02 41.9**	**-0.9**
KULA	**Kula-Manisa**	**0.70**	**214**	PG		**Pg**	**22 02 47.9**	**0.0**
KULA	**Kula-Manisa**	**0.70**	**214**	*e*Pg		**Pg**	**22 02 47.9**	**0.0**
DURS	**Dursunbey**	**0.73**	**314**	*i* P		**Pg**	**22 02 48.3**	**-0.3**
DURS				*i* S		**Sg**	**22 02 58.7**	**+0.6**
DURS	**Dursunbey**	**0.73**	**314**	P		**Pg**	**22 02 48.3**	**-0.3**
DURS				S		**Sg**	**22 02 58.7**	**+0.6**
MANT	**Manisa**	**0.76**	**218**	*i* P		**Pg**	**22 02 49.0**	**-0.2**
MANT				*i* S		**Sg**	**22 02 58.7**	**-0.5**
MANT	**Manisa**	**0.76**	**218**	P		**Pg**	**22 02 49.0**	**-0.2**
MANT				S		**Sg**	**22 02 58.7**	**-0.5**
KHAL	**Karahalli**	**0.77**	**160**	*i* P		**Pb**	**22 02 49.8**	**-0.5**
KHAL				*i* S		**Sb**	**22 02 59.8**	**-1.2**
KHAL	**Karahalli**	**0.77**	**160**	P		**Pb**	**22 02 49.8**	**-0.5**
KHAL				S		**Sb**	**22 02 59.8**	**-1.2**
ORLT	**Orhaneli**	**0.97**	**348**	PG		**Pg**	**22 02 53.3**	**+0.1**
ORLT	**Orhaneli**	**0.97**	**348**	*e*Pg		**Pg**	**22 02 53.3**	**+0.1**
AUBOZ	**BOZOYUK**	**1.06**	**39**	*i* P		**Pg**	**22 02 54.5**	**-0.3**
AUBOZ				*i* S		**Sb**	**22 03 09.2**	**-0.2**
AUBOZ	**BOZOYUK**	**1.06**	**39**	P		**Pg**	**22 02 54.5**	**-0.3**
AUBOZ				S		**Sb**	**22 03 09.1**	**-0.2**
AKHS	**Akhisar**	**1.07**	**259**	*i* P		**Pg**	**22 02 54.9**	**-0.1**
AKHS				*i* S		**Sg**	**22 03 09.1**	**+0.2**
AKHS	**Akhisar**	**1.07**	**259**	P		**Pg**	**22 02 54.9**	**-0.1**
AKHS				S		**Sg**	**22 03 09.1**	**+0.2**
AUKUT	**KUTAHYA**	**1.09**	**38**	*i* P		Pg	22 02 48.1	-7.3
AUKUT				*i* S		Sg	22 02 58.8	-11
BALB	**Balikesir**	**1.13**	**299**	PN		**Pn**	**22 02 57.2**	**+0.4**
BALB				SN		**Sn**	**22 03 13.6**	**+1.0**
BALB	**Balikesir**	**1.13**	**299**	*e*Pn		**Pn**	**22 02 57.2**	**+0.4**
BALB				*e*Sn		**Sn**	**22 03 13.6**	**+1.0**
KZIL	**AFYON_Kizioren**	**1.14**	**137**	*i* P		**Pb**	**22 02 56.5**	**-0.1**
KZIL				*i* S		**Sn**	**22 03 12.6**	**-0.3**
KZIL	**AFYON_Kizioren**	**1.14**	**137**	P		**Pb**	**22 02 56.5**	**-0.1**
KZIL				S		**Sn**	**22 03 12.6**	**-0.3**
STEP	**BALIKESIR_Sava**	**1.15**	**285**	*i* P		**Pb**	**22 02 56.7**	**-0.1**
STEP				*i* S		**Sb**	**22 03 12.7**	**+0.6**
STEP	**BALIKESIR_Sava**	**1.15**	**285**	P		**Pb**	**22 02 56.7**	**-0.1**
STEP				S		**Sb**	**22 03 12.6**	**+0.6**
IGD	**Bursa**	**1.17**	**2**	*i* P		**Pg**	**22 02 56.2**	**-0.7**
IGD				*i* S		**Sn**	**22 03 13.3**	**-0.2**
SHUT	**Suhut-Afyon**	**1.22**	**116**	PN		**Pn**	**22 02 58.3**	**+0.2**
SHUT				SN		**Sn**	**22 03 14.9**	**0.0**
SHUT	**Suhut-Afyon**	**1.22**	**116**	*e*Pn		**Pn**	**22 02 58.3**	**+0.2**
SHUT				*e*Sn		**Sn**	**22 03 14.9**	**0.0**
CAVI	**Cavuskoy**	**1.23**	**25**	PN		**Pn**	**22 02 58.4**	**+0.3**
CAVI	**Cavuskoy**	**1.23**	**25**	*e*Pn		**Pn**	**22 02 58.4**	**+0.3**
BORA	**Eskisehir**	**1.27**	**52**	*i* P		**Pg**	**22 02 58.3**	**-0.6**
BORA				*i* S		**Sn**	**22 03 16.3**	**+0.1**
BORA	**Eskisehir**	**1.27**	**52**	P		**Pg**	**22 02 58.3**	**-0.6**
BORA				S		**Sn**	**22 03 16.3**	**+0.1**
MDNY	**Mudanya-Bursa**	**1.29**	**351**	PN		**Pn**	**22 02 58.8**	**-0.2**
MDNY	**Mudanya-Bursa**	**1.29**	**351**	*e*Pn		**Pn**	**22 02 58.8**	**-0.2**
KCTX	**Karacabey (Bur**	**1.32**	**332**	PN		**Pg**	**22 02 59.9**	**0.0**
KCTX	**Karacabey (Bur**	**1.32**	**332**	*e*Pn		**Pg**	**22 02 59.9**	**0.0**
BALY	**Balya**	**1.35**	**299**	*i* P		**Pn**	**22 02 58.8**	**-1.1**
BALY				*i* S		**Sb**	**22 03 16.9**	**-0.9**
BALY	**Balya**	**1.35**	**299**	P		**Pn**	**22 02 58.8**	**-1.1**
BALY				S		**Sb**	**22 03 16.9**	**-0.9**
ADVT	**Abdulvahap**	**1.41**	**18**	PN		**Pg**	**22 03 01.8**	**+0.3**
ADVT	**Abdulvahap**	**1.41**	**18**	*e*Pn		**Pg**	**22 03 01.8**	**+0.3**
BOLV	**Bolvadin**	**1.45**	**104**	*i* P		**Pg**	**22 03 03.2**	**+0.9**
BOLV				*i* S		**Sg**	**22 03 21.5**	**+0.4**
BOLV	**Bolvadin**	**1.45**	**104**	P		**Pg**	**22 03 03.2**	**+0.9**
BOLV				S		**Sg**	**22 03 21.5**	**+0.4**
YLV	**Yalova**	**1.48**	**6**	PN		**Pg**	**22 03 02.9**	**0.0**
YLV				SN		**Sg**	**22 03 24.5**	**+2.4**
YLV	**Yalova**	**1.48**	**6**	*e*Pn		**Pg**	**22 03 02.9**	**0.0**
YLV				*e*Sn		**Sg**	**22 03 24.5**	**+2.4**
ARMT	**Armutlu**	**1.49**	**351**	PN		**Pg**	**22 03 03.3**	**+0.3**
ARMT	**Armutlu**	**1.49**	**351**	*e*Pn		**Pg**	**22 03 03.3**	**+0.3**
AYDB	**Zeytinkoy-Aydi**	**1.52**	**221**	PN		**Pg**	**22 03 03.9**	**+0.3**
AYDB				SN		**Sg**	**22 03 23.5**	**+0.2**
AYDB	**Zeytinkoy-Aydi**	**1.52**	**221**	*e*Pn		**Pg**	**22 03 03.9**	**+0.3**
AYDB				*e*Sn		**Sg**	**22 03 23.5**	**+0.2**
BRDR	**BURDUR-Merkez**	**1.57**	**153**	*i* P		**Pg**	**22 03 04.6**	**0.0**
BRDR				*i* S		**Sg**	**22 03 27.5**	**+2.7**
BRDR	**BURDUR-Merkez**	**1.57**	**153**	P		**Pg**	**22 03 04.6**	**0.0**
BRDR				S		**Sg**	**22 03 27.5**	**+2.7**
EDC	**Edincik**	**1.60**	**322**	PN		**Pg**	**22 03 05.3**	**+0.1**
EDC	**Edincik**	**1.60**	**322**	*e*Pn		**Pg**	**22 03 05.3**	**+0.1**
GEYV	**SAKARYA_Geyve**	**1.64**	**32**	*i* P		**Pg**	**22 03 05.7**	**-0.3**
GEYV				*i* S		**Sg**	**22 03 28.6**	**+1.3**
GEYV	**SAKARYA_Geyve**	**1.64**	**32**	P		**Pg**	**22 03 05.7**	**-0.3**
GEYV				S		**Sg**	**22 03 28.6**	**+1.3**
GULT	**Gulveren**	**1.70**	**38**	PN		**Pg**	**22 03 06.8**	**-0.2**
GULT	**Gulveren**	**1.70**	**38**	*e*Pn		**Pg**	**22 03 06.8**	**-0.2**
HRT	**Hereke**	**1.77**	**13**	PN		**Pb**	**22 03 07.6**	**+0.3**
HRT	**Hereke**	**1.77**	**13**	*e*Pn		**Pb**	**22 03 07.6**	**+0.3**
BLCB	**Balcova**	**1.80**	**247**	PN		**Pb**	**22 03 07.7**	**-0.1**
BLCB	**Balcova**	**1.80**	**247**	*e*Pn		**Pb**	**22 03 07.7**	**-0.1**
SAUV	**Serdivan-Sakar**	**1.87**	**28**	PN		**Pb**	**22 03 09.2**	**+0.1**
SAUV	**Serdivan-Sakar**	**1.87**	**28**	*e*Pn		**Pb**	**22 03 09.2**	**+0.1**
KRBG	**Karabiga-Canak**	**1.93**	**313**	PN		**Pb**	**22 03 09.9**	**-0.2**
KRBG	**Karabiga-Canak**	**1.93**	**313**	*e*Pn		**Pb**	**22 03 09.9**	**-0.2**
MDUB	**Mudurnu**	**2.09**	**48**	PN		**Pb**	**22 03 11.5**	**-1.3**
MDUB	**Mudurnu**	**2.09**	**48**	*e*Pn		**Pb**	**22 03 11.5**	**-1.3**
SILT	**Sile**	**2.09**	**10**	PN		**Pb**	**22 03 12.1**	**-0.6**
SILT	**Sile**	**2.09**	**10**	*e*Pn		**Pb**	**22 03 12.1**	**-0.6**
BGKT	**Bogazkoy**	**2.10**	**352**	PN		**Pb**	**22 03 11.9**	**-1.1**
BGKT	**Bogazkoy**	**2.10**	**352**	*e*Pn		**Pb**	**22 03 11.9**	**-1.1**
RKY	**Sarkoy-Tekirda**	**2.20**	**317**	PN		**Pb**	**22 03 13.9**	**-0.8**
RKY	**Sarkoy-Tekirda**	**2.20**	**317**	*e*Pn		**Pb**	**22 03 13.9**	**-0.8**
SLVT	**Silivri**	**2.25**	**341**	PN		**Pb**	**22 03 14.5**	**-1.0**
SLVT	**Silivri**	**2.25**	**341**	*e*Pn		**Pb**	**22 03 14.5**	**-1.0**

*CSEM **26** 22:05:00.4, 39.°09N×29.°15E, h7km, ML2.6*
DDA 26 22:05:00.4, 39.°09N×29.°15E, h7km, Ml2.6, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
GDZ	**Gediz**	**0.26**	**89**	*i* P		Pg	22 05 06.0	+0.4
GDZ				*i* S		Sg	22 05 09.7	+0.8
GDZ	**Gediz**	**0.26**	**89**	P		Pg	22 05 06.0	+0.5
GDZ				S		Sg	22 05 09.7	+0.7
DEMI	**Demirci**	**0.34**	**263**	*i* P		Pg	22 05 08.0	+0.8
DEMI				*i* S		Sg	22 05 12.4	+0.8
DEMI	**Demirci**	**0.34**	**263**	P		Pg	22 05 08.0	+0.8
DEMI				S		Sg	22 05 12.4	+0.7
DURS	**Dursunbey**	**0.73**	**315**	*i* P		Pg	22 05 14.8	+0.2
DURS				*i* S		Sg	22 05 24.1	0.0
DURS	**Dursunbey**	**0.73**	**315**	P		Pg	22 05 14.8	+0.2
DURS				S		Sg	22 05 24.1	-0.1
MANT	**Manisa**	**0.76**	**218**	*i* P		Pb	22 05 15.6	-0.4
MANT				*i* S		Sg	22 05 25.4	+0.6
MANT	**Manisa**	**0.76**	**218**	P		Pb	22 05 15.6	-0.4
MANT				S		Sg	22 05 25.4	+0.6
KHAL	**Karahalli**	**0.76**	**160**	*i* P		Pb	22 05 16.7	+0.6
KHAL				*i* S		Sb	22 05 26.3	-0.4
KHAL	**Karahalli**	**0.76**	**160**	P		Pb	22 05 16.7	+0.6
KHAL				S		Sb	22 05 26.3	-0.4
IGD	**Bursa**	**1.18**	**2**	*i* P		Pg	22 05 22.8	-0.3
IGD				*i* S		Sn	22 05 39.4	-0.2
BORA	**Eskisehir**	**1.28**	**51**	*i* P		Pg	22 05 25.3	+0.3
BORA				*i* S		Sn	22 05 42.7	+0.3
BORA	**Eskisehir**	**1.28**	**51**	P		Pg	22 05 25.3	+0.3
BORA				S		Sn	22 05 42.7	+0.4

*BJI **26** 22:05:32.3, 39.°10N×29.°10E, h6km, mb4.7/38, mB5.0/27, Ms4.6/14, Ms7 4.3/15*
*ISCJB **26** 22:05:33.8±0.3, 39.°141N±0.°009×29.°10E±0.°01, h7km±2km, mb4.6/74, MS4.0/42, Error ellipse: s-maj=1.5km s-min=1.3km az=14.2*
*GCMT **26** 22:05:33.9±0.3, 39.°09N×29.°25E, h14km±1km, MW4.8/90, Moment Tensor Solution. s19,c24; s90,c131; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr=1.88±.12; Mθθ2.01±.08; Mφφ-0.12±.06; Mrθ0.36±.14; Mrφ-0.27±.05; Mθφ-0.77±.21; Best double couple: Mo2.14200×10¹⁶ NP1:φs296.00000°, δ55.00000°, λ-66.00000°. NP2: φs79.0000°, δ42.00000°, λ-120.00000°. Principal axes: T 2.0980, Plg7.0000°, Azm9.0000°; N 0.0920, Plg19.0000°, Azm102.0000°; P -2.1870, Plg70.0000°, Azm260.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **26** 22:05:33.9±0.0, 39.°12N×29.°08E, h8km, mb4.6/31, ML4.9(ISK), After ISK.*
NEIC Felt at Banaz, Mudanya and Sindirgi.
*DDA **26** 22:05:33.6, 39.°13N×29.°11E, h26km, Ml4.8*
*IDC **26** 22:05:33.6±0.4, 39.°12N×29.°12E, h0km, mb4.3/27, mb1 4.4/39, mb1mx4.3/66, mbtmp4.3/39, ML3.7/11, MS3.9/45, Ms1 3.9/45, ms1mx3.8/69, Error ellipse: s-maj=9.4km s-min=8.5km az=157.0*
*PDG **26** 22:05:34.7±0.5, 39.°14N×29.°09E, h12km, ML4.7/11, Error ellipse: s-maj=0.4km s-min=0.6km az=0.0*
*ISK **26** 22:05:34.4, 39.°14N×29.°07E, h8km, ML4.9/53*
*CSEM **26** 22:05:34.9±0.1, 39.°13N×29.°12E, h5km, mb4.7/50, Error ellipse: s-maj=1.5km s-min=1.4km az=10.0*
*MOS **26** 22:05:34.6±1.1, 39.°19N×29.°14E, h14km, mb4.7/49, Error ellipse: s-maj=3.5km s-min=2.7km az=107.7*
ISC 26 22:05:35.3±0.8, 39.°16N±0.°01×29.°11E±0.°01, h8km±5km, n1144, σ1≤49/1314, mb4.6/74, MS4.0/42, 98C-82D, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SIMA	**Simav-Kutahya**	**0.12**	**232**	PG		**Pg**	**22 05 37.2**	**-0.9**
SIMA	**Simav-Kutahya**	**0.12**	**232**	*i* Pg		**Pg**	**22 05 37.2**	**-0.9**
GDZ	**Gediz**	**0.30**	**104**	⇓*i* P		**Pg**	**22 05 38.8**	**-2.4**
GDZ				*i* S		**Sg**	**22 05 42.9**	**-2.3**
GDZ	**Gediz**	**0.30**	**104**	P		**Pg**	**22 05 38.8**	**-2.4**
GDZ				S		**Sg**	**22 05 42.9**	**-2.3**
DEMI	**Demirci**	**0.33**	**249**	⇓*i* P		**Pg**	**22 05 40.8**	**-1.0**
DEMI				*i* S		**Sg**	**22 05 45.8**	**-0.3**
DEMI	**Demirci**	**0.33**	**249**	P		**Pg**	**22 05 40.8**	**-1.0**
DEMI				S		**Sg**	**22 05 45.8**	**-0.3**
TVSB	**Tavsanli**	**0.40**	**43**	PG		**Pg**	**22 05 41.6**	**-1.5**
TVSB	**Tavsanli**	**0.40**	**43**	*e*Pg		**Pg**	**22 05 41.6**	**-1.5**
DURS	**Dursunbey**	**0.66**	**312**	⇑*i* P		**Pg**	**22 05 47.6**	**-0.5**
DURS				*i* S		**Sg**	**22 05 57.7**	**+1.0**
DURS	**Dursunbey**	**0.66**	**312**	P		**Pg**	**22 05 47.6**	**-0.5**
DURS				S		**Sg**	**22 05 57.7**	**+1.0**
KULA	**Kula-Manisa**	**0.73**	**209**	PG		**Pg**	**22 05 47.9**	**-1.5**
KULA				SG		**Sg**	**22 05 58.5**	**-0.5**
KULA	**Kula-Manisa**	**0.73**	**209**	Pg		**Pg**	**22 05 47.5**	**-1.9**
KULA	**Kula-Manisa**	**0.73**	**209**	*e*Pg		**Pg**	**22 05 47.9**	**-1.5**
KULA				*e*Sg		**Sg**	**22 05 58.5**	**-0.5**
MANT	**Manisa**	**0.80**	**213**	⇑*i* P		**Pg**	**22 05 48.6**	**-2.0**
MANT				*i* S		**Sg**	**22 05 58.4**	**-2.5**
MANT	**Manisa**	**0.80**	**213**	*e*Pg		**Pg**	**22 05 48.9**	**-1.7**
MANT				*e*Sg		**Sg**	**22 05 59.2**	**-1.7**
MANT	**Manisa**	**0.80**	**213**	P		**Pg**	**22 05 48.6**	**-2.0**
MANT	**Manisa**	**0.80**	**213**	*e*Pg		**Pg**	**22 05 48.9**	**-1.7**
MANT				S		**Sg**	**22 05 58.4**	**-2.5**
MANT				*e*Sg		**Sg**	**22 05 59.2**	**-1.7**
KHAL	**Karahalli**	**0.84**	**159**	⇑*i* P		**Pg**	**22 05 49.5**	**-2.0**
KHAL				*i* S		**Sg**	**22 06 00.5**	**-2.0**
KHAL	**Karahalli**	**0.84**	**159**	P		**Pg**	**22 05 49.5**	**-2.0**
KHAL				S		**Sg**	**22 06

GULT	Gulveren	1.67	40	PN	Pg	22 06 06.7	-0.6
GULT	Gulveren	1.67	40	ePn	Pg	22 06 06.7	-0.6
BUY	Buyukada	1.69	0	PN	Pn	22 06 05.1	0.0
BUY	Buyukada	1.69	0	⇑iP	Pn	22 06 04.2	-0.9
BUY				iS	Sb	22 06 27.7	-0.3
BUY	Buyukada	1.69	0	P	Pn	22 06 04.2	-0.9
BUY	Buyukada	1.69	0	ePn	Pn	22 06 05.1	0.0
BUY				S	Sb	22 06 27.7	-0.3
TAVA	DENIZLI_Tavas	1.70	185	⇓iP	Pn	22 06 03.2	-2.1
TAVA				iS	Sb	22 06 28.4	+0.1
TAVA	DENIZLI_Tavas	1.70	185	P	Pn	22 06 03.2	-2.1
TAVA				S	Sb	22 06 28.4	+0.1
HRT	Hereke	1.71	14	PN	Pn	22 06 05.3	-0.2
HRT	Hereke	1.71	14	P	Pn	22 06 04.5	-1.0
HRT	Hereke	1.71	14	ePn	Pn	22 06 05.3	-0.2
HRT	Hereke	1.71	14	P	Pn	22 06 04.5	-1.0
DKL	Dikili	1.72	268	PN	Pn	22 06 05.4	0.0
DKL	Dikili	1.72	268	ePn	Pn	22 06 05.4	0.0
ISP	Isparta	1.74	140	PN	Pn	22 06 05.4	-0.4
ISP	Isparta	1.74	140	⇓iP	Pn	22 06 04.6	-1.2
ISP	Isparta	1.74	140	S	Sn	22 06 27.0	-1.2
ISP	Isparta	1.74	140	ePn	Pn	22 06 04.6	-1.2
ISP				ePg	Pg	22 06 08.6	0.0
ISP				eSg	Sn	22 06 28.4	+0.2
ISP	Isparta	1.74	140	P	Pn	22 06 04.2	-1.6
ISP	Isparta	1.74	140	iP	Pn	22 06 04.1	-1.7
ISP	Isparta	1.74	140	ePn	Pn	22 06 05.4	-0.4
ISP	Isparta	1.74	140	d iP	Pn	22 06 04.1	-1.7
BAGO	Egridir - ISPA	1.76	131	⇓iP	Pn	22 06 05.4	-0.7
BAGO				iS	Sg	22 06 33.1	+1.3
AYDN	Tasoluk	1.78	213	⇓iP	Pn	22 06 04.9	-1.5
AYDN				iS	Sg	22 06 32.4	-0.1
AYDN	Tasoluk	1.78	213	P	Pn	22 06 04.9	-1.5
AYDN				S	Sg	22 06 32.4	-0.1
SPNC	Sapanca-Adapaz	1.78	31	PN	Pb	22 06 07.7	-0.5
SPNC	Sapanca-Adapaz	1.78	31	ePn	Pb	22 06 07.7	-0.5
BLCB	Balcova	1.79	245	PN	Pn	22 06 05.5	-0.9
BLCB	Balcova	1.79	245	ePn	Pn	22 06 05.5	-0.9
SAUV	Serdivan-Sakar	1.83	30	PN	Pn	22 06 06.8	-0.3
SAUV	Serdivan-Sakar	1.83	30	ePn	Pn	22 06 06.8	-0.3
KRBG	Karabiga-Canak	1.86	312	PN	Pn	22 06 08.1	+0.7
KRBG	Karabiga-Canak	1.86	312	ePn	Pn	22 06 08.1	+0.7
AYVA	Ayvalik	1.88	275	⇓iP	Pn	22 06 06.8	-0.9
AYVA				iS	Sb	22 06 33.0	-0.6
AYVA	Ayvalik	1.88	275	P	Pn	22 06 06.8	-0.9
AYVA				S	Sb	22 06 33.0	-0.6
SVRH	Sivrihisar-ESK	1.90	81	PN	Pn	22 06 07.6	-0.4
SVRH	Sivrihisar-ESK	1.90	81	ePn	Pn	22 06 07.6	-0.4
ISK	Istanbul-Kandi	1.90	359	PN	Pn	22 06 07.7	-0.3
ISK	Istanbul-Kandi	1.90	359	eP	Pn	22 06 07.2	-0.8
ISK	Istanbul-Kandi	1.90	359	ePn	Pn	22 06 07.7	-0.3
ISK	Istanbul-Kandi	1.90	359	eP	Pn	22 06 07.2	-0.8
AUSIV	SIVRIHISAR	1.91	81	⇑iP	Pn	22 06 06.6	-1.5
AUSIV				iS	Sb	22 06 34.0	-0.3
AUSIV	SIVRIHISAR	1.91	81	P	Pn	22 06 06.6	-1.5
AUSIV				S	Sb	22 06 34.0	-0.3
SBT3	Marmara-Eregli	1.93	334	PN	Pb	22 06 09.5	-1.1
SBT3	Marmara-Eregli	1.93	334	ePn	Pb	22 06 09.5	-1.1
GOLH	Golhisar	1.95	169	⇓iP	Pn	22 06 06.8	-2.0
GOLH				iS	Sg	22 06 36.6	-1.4
GOLH	Golhisar	1.95	169	P	Pn	22 06 06.8	-2.0
GOLH				S	Sg	22 06 36.6	-1.4
AUMIH	MIHALICIK	1.97	68	⇑iP	Pn	22 06 08.5	-0.5
AUMIH				iS	Sg	22 06 38.2	-0.3
AUMIH	MIHALICIK	1.97	68	P	Pn	22 06 08.5	-0.5
AUMIH				S	Sg	22 06 38.2	-0.3
BTAS	Taskesti	2.03	45	⇑iP	Pn	22 06 09.1	-0.6
BTAS				iS	Sg	22 06 39.9	-0.5
BTAS	Taskesti	2.03	45	P	Pn	22 06 09.1	-0.6
BTAS				S	Sg	22 06 39.9	-0.5
SILT	Sile	2.03	11	PN	Pn	22 06 09.9	+0.1
SILT	Sile	2.03	11	ePn	Pn	22 06 09.9	+0.1
BGKT	Bogazkoy	2.04	353	PN	Pn	22 06 09.9	+0.1
BGKT	Bogazkoy	2.04	353	ePn	Pn	22 06 09.9	+0.1
ELBA	Catalca	2.05	346	⇑iP	Pn	22 06 09.6	-0.5
ELBA				iS	Sb	22 06 38.6	+0.2
ELBA	Catalca	2.05	346	P	Pn	22 06 09.6	-0.5
ELBA				S	Sb	22 06 38.6	+0.2
BCK	Bucak	2.06	145	PN	Pn	22 06 09.8	-0.4
BCK	Bucak	2.06	145	ePn	Pn	22 06 09.8	-0.4
BCK	Bucak	2.06	145	P	Pn	22 06 09.6	-0.6
DGB	˜zmir	2.06	238	⇓iP	Pn	22 06 08.6	-1.6
DGB				iS	Sg	22 06 41.5	-0.1
BAYC	CANAKKALE_Bayr	2.07	287	⇓iP	Pn	22 06 09.3	-1.0
BAYC				iS	Sb	22 06 40.4	+1.5
BAYC	CANAKKALE_Bayr	2.07	287	P	Pn	22 06 09.3	-1.0
BAYC				S	Sb	22 06 40.4	+1.5
GCAM	G?zelcaml?	2.07	226	PN	Pn	22 06 08.9	-1.4
GCAM	G?zelcaml?	2.07	226	⇓iP	Pn	22 06 08.6	-1.7
GCAM				iS	Sg	22 06 42.3	+0.5
GCAM	G?zelcaml?	2.07	226	P	Pn	22 06 08.6	-1.7
GCAM	G?zelcaml?	2.07	226	ePn	Pn	22 06 08.9	-1.4
GCAM				S	Sg	22 06 42.3	+0.5
KRBN	Karaburun	2.07	255	PN	Pn	22 06 10.2	-0.1
KRBN	Karaburun	2.07	255	ePn	Pn	22 06 10.2	-0.1
MDUB	Mudurnu	2.07	50	PN	Pn	22 06 10.9	+0.4
MDUB	Mudurnu	2.07	50	ePn	Pn	22 06 10.9	+0.4
KLYT	Kilyos	2.09	359	PN	Pn	22 06 10.6	0.0
KLYT	Kilyos	2.09	359	ePn	Pn	22 06 10.6	0.0
KAND	Kocaeli-Kandir	2.10	23	⇑iP	Pn	22 06 10.2	-0.5
KAND				iS	Sg	22 06 42.8	0.0
KAND	Kocaeli-Kandir	2.10	23	P	Pn	22 06 10.2	-0.5
KAND				S	Sg	22 06 42.8	0.0
URLA	Izmir	2.12	249	PN	Pn	22 06 09.5	-1.5
URLA	Izmir	2.12	249	⇓iP	Pn	22 06 08.0	-3.0
URLA				iS	Sb	22 06 39.2	-1.2
URLA	Izmir	2.12	249	P	Pn	22 06 08.0	-3.0
URLA	Izmir	2.12	249	ePn	Pn	22 06 09.5	-1.5
URLA				S	Sb	22 06 39.2	-1.2
YER	Yerkesik	2.12	198	PN	Pn	22 06 10.7	-0.4
YER	Yerkesik	2.12	198	P	Pn	22 06 09.4	-1.7
YER	Yerkesik	2.12	198	P	Pn	22 06 09.4	-1.7
YER	Yerkesik	2.12	198	P	Pn	22 06 09.4	-1.7
YER	Yerkesik	2.12	198	ePn	Pn	22 06 10.7	-0.4
YER	Yerkesik	2.12	198	P	Pn	22 06 09.4	-1.7
CTKS	Kestanelik-??a	2.12	348	PN	Pn	22 06 11.0	0.0
CTKS	Kestanelik-??a	2.12	348	ePn	Pn	22 06 11.0	0.0
RKY	Sarkoy-Tekirda	2.13	316	PN	Pn	22 06 11.6	+0.4
RKY	Sarkoy-Tekirda	2.13	316	ePn	Pn	22 06 11.6	+0.4
SART	Tekirdag	2.13	316	⇑iP	Pn	22 06 10.5	-0.7
SART				iS	Sb	22 06 42.0	+1.3
SART	Tekirdag	2.13	316	P	Pn	22 06 10.5	-0.7
SART				S	Sb	22 06 42.0	+1.3
MLSB	Milas	2.14	210	PN	Pn	22 06 10.1	-1.1
MLSB	Milas	2.14	210	ePn	Pn	22 06 10.1	-1.1
SAHE	Sakarya_HENDEK	2.16	38	⇑iP	Pn	22 06 10.8	-0.7
SAHE				iS	Sg	22 06 43.7	-0.9
SAHE	Sakarya_HENDEK	2.16	38	P	Pn	22 06 10.8	-0.7
SAHE				S	Sg	22 06 43.7	-0.9
LPK	Lapseki	2.18	305	PN	Pn	22 06 11.5	-0.3
LPK	Lapseki	2.18	305	ePn	Pn	22 06 11.5	-0.3
SLVT	Silivri	2.18	342	PN	Pn	22 06 12.4	+0.6
SLVT	Silivri	2.18	342	P	Pn	22 06 10.0	-1.8
SLVT	Silivri	2.18	342	ePn	Pn	22 06 12.4	+0.6
SLVT				S	Sb	22 06 40.8	-1.3
TKR	Tekirdag	2.19	327	PN	Pn	22 06 11.5	-0.4
TKR	Tekirdag	2.19	327	ePn	Pn	22 06 11.5	-0.4
PRK	Paraskevi	2.21	273	P	Pn	22 06 11.4	-0.7
PRK	Paraskevi	2.21	273	P	Pn	22 06 11.4	-0.7
PRK	Paraskevi	2.21	273	P	Pn	22 06 11.4	-0.7
PRK	Paraskevi	2.21	273	P	Pn	22 06 11.4	-0.7
CRLT	Corlu	2.23	332	PN	Pn	22 06 13.2	+0.7
CRLT	Corlu	2.23	332	ePn	Pn	22 06 13.2	+0.7
ZEY	˜zmir	2.24	247	⇓iP	Pn	22 06 11.3	-1.2
ZEY				iS	Sb	22 06 45.4	+1.7
SUTC	Sutluce-Ispart	2.24	138	PN	Pn	22 06 13.2	+0.4
SUTC	Sutluce-Ispart	2.24	138	ePn	Pn	22 06 13.2	+0.4
EZN	Ezine	2.25	288	PN	Pn	22 06 13.3	+0.5
EZN	Ezine	2.25	288	P	Pn	22 06 12.5	-0.3
EZN	Ezine	2.25	288	P	Pn	22 06 12.5	-0.3
EZN	Ezine	2.25	288	P	Pn	22 06 12.5	-0.3
EZN	Ezine	2.25	288	ePn	Pn	22 06 13.3	+0.5
EZN	Ezine	2.25	288	P	Pn	22 06 12.5	-0.3
DOGA	KONYA_Doganhis	2.26	117	⇓iP	Pn	22 06 12.8	-0.3
DOGA				iS	Sg	22 06 49.8	+1.8
DOGA	KONYA_Doganhis	2.26	117	P	Pn	22 06 12.8	-0.3
DOGA				S	Sg	22 06 49.8	+1.8
SMG	Samos	2.30	232	P	Pn	22 06 11.3	-2.1
SMG	Samos	2.30	232	P	Pn	22 06 11.3	-2.1
SMG	Samos	2.30	232	P	Pn	22 06 11.3	-2.1
TURN	Turunc	2.32	190	PN	Pn	22 06 14.9	+1.2
TURN	Turunc	2.32	190	⇓iP	Pn	22 06 14.6	+0.9
TURN				iS	Sg	22 06 54.5	+4.8
TURN	Turunc	2.32	190	P	Pn	22 06 14.6	+0.9
TURN	Turunc	2.32	190	ePn	Pn	22 06 14.9	+1.2
TURN				S	Sg	22 06 54.5	+4.8
KORT	Korkueli	2.37	155	PN	Pn	22 06 14.2	-0.3
KORT	Korkueli	2.37	155	⇓iP	Pn	22 06 13.6	-0.9
KORT				iS	Sg	22 06 52.3	+0.9
KORT	Korkueli	2.37	155	P	Pn	22 06 13.6	-0.9
KORT	Korkueli	2.37	155	ePn	Pn	22 06 14.2	-0.3
KORT				S	Sg	22 06 52.3	+0.9
GELI	Tayfur-Gelibol	2.38	302	PN	Pn	22 06 16.1	+1.6
GELI	Tayfur-Gelibol	2.38	302	ePn	Pn	22 06 16.1	+1.6
CTYL	Yalikoy Yolu	2.40	345	PN	Pn	22 06 14.1	-0.7
CTYL	Yalikoy Yolu	2.40	345	ePn	Pn	22 06 14.1	-0.7
KDHN	Kadinhani	2.43	104	⇓iP	Pn	22 06 14.8	-0.6
KDHN				iS	Sg	22 06 55.6	+2.1
KDHN	Kadinhani	2.43	104	P	Pn	22 06 14.8	-0.6
KDHN				S	Sg	22 06 55.6	+2.1
BOZC	Bozcaada	2.46	287	⇓iP	Pn	22 06 15.1	-0.5
BOZC				iS	Sn	22 06 45.2	-0.7
BDRM	Kayabasi	2.47	213	⇓iP	Pn	22 06 13.9	-1.9
BDRM				iS	Sg	22 06 54.5	-0.1
BDRM	Kayabasi	2.47	213	P	Pn	22 06 13.9	-1.9
BDRM				S	Sg	22 06 54.5	-0.1
ELL	Elmali	2.49	165	PN	Pn	22 06 16.7	+0.5
ELL	Elmali	2.49	165	P	Pn	22 06 16.1	-0.1
ELL	Elmali	2.49	165	ePn	Pn	22 06 16.7	+0.5
ELL	Elmali	2.49	165	P	Pn	22 06 16.1	-0.1
KESN	Edirne-Kesan	2.50	313	iP	Pn	22 06 16.0	-0.5
KESN				iS	Sg	22 06 55.0	-0.6
KESN	Edirne-Kesan	2.50	313	P	Pn	22 06 16.0	-0.5
KESN				S	Sg	22 06 55.0	-0.6
ERIK	Erikli-Kesan	2.50	308	PN	Pn	22 06 16.8	+0.6
ERIK	Erikli-Kesan	2.50	308	ePn	Pn	22 06 16.8	+0.6
CHOS	Chios island	2.51	253	PN	Pn	22 06 17.2	+0.8
CHOS	Chios island	2.51	253	P	Pn	22 06 15.2	-1.2
CHOS	Chios island	2.51	253	P	Pn	22 06 15.2	-1.2
CHOS	Chios island	2.51	253	P	Pn	22 06 15.2	-1.2
CHOS	Chios island	2.51	253	ePn	Pn	22 06 17.2	+0.8
FETY	Fethiye	2.52	180	PN	Pn	22 06 15.3	-1.2
FETY	Fethiye	2.52	180	P	Pn	22 06 14.8	-1.7
FETY	Fethiye	2.52	180	P	Pn	22 06 14.8	-1.7
FETY	Fethiye	2.52	180	P	Pn	22 06 14.8	-1.7
FETY	Fethiye	2.52	180	ePn	Pn	22 06 15.3	-1.2
FETY				S	Sn	22 06 47.7	+0.3
BODT	Bodrum	2.53	215	PN	Pn	22 06 16.3	-0.3
BODT	Bodrum	2.53	215	P	Pn	22 06 13.9	-2.7
BODT	Bodrum	2.53	215	P	Pn	22 06 13.9	-2.7
BODT	Bodrum	2.53	215	P	Pn	22 06 13.9	-2.7
BODT	Bodrum	2.53	215	ePn	Pn	22 06 16.3	-0.3
SIGR	SIGRI	2.53	272	PN	Pn	22 06 16.7	+0.1
SIGR	SIGRI	2.53	272	P	Pn	22 06 15.7	-0.9
SIGR	SIGRI	2.53	272	P	Pn	22 06 15.7	-0.9
SIGR	SIGRI	2.53	272	P	Pn	22 06 15.7	-0.9
SIGR	SIGRI	2.53	272	ePn	Pn	22 06 16.7	+0.1
ANTB	Antalya	2.56	151	PN	Pn	22 06 18.1	+1.0
ANTB	Antalya	2.56	151	ePn	Pn	22 06 18.1	+1.0
GADA	Gvkgeada	2.68	294	PN	Pn	22 06 18.7	0.0
GADA	Gvkgeada	2.68	294	P	Pn	22 06 18.7	0.0
GADA	Gvkgeada	2.68	294	P	Pn	22 06 18.7	0.0
GADA	Gvkgeada	2.68	294	ePn	Pn	22 06 18.7	0.0
LADK	Ladik-KONYA	2.72	110	PN	Pn	22 06 19.7	+0.3
LADK	Ladik-KONYA	2.72	110	ePn	Pn	22 06 19.7	+0.3
PHSR	Pinarhisar	2.75	334	PN	Pn	22 06 20.2	+0.6
PHSR	Pinarhisar	2.75	334	ePn	Pn	22 06 20.2	+0.6
ENEZ	Enez	2.76	306	PN	Pn	22 06 19.7	-0.1
ENEZ	Enez	2.76	306	P	Pn	22 06 19.9	+0.1
ENEZ	Enez	2.76	306	P	Pn	22 06 19.9	+0.1
BCAM	Yenicaga	2.81	53	⇑iP	Pn	22 06 20.4	-0.2
BCAM				iS	Sg	22 07 05.2	-0.3
BCAM	Yenicaga	2.81	53	P	Pn	22 06 20.4	-0.2
BCAM				S	Sg	22 07 05.2	-0.3
KMER	Konya-Meram	2.91	117	⇓iP	Pn	22 06 22.1	+0.1
KMER				iS	Sg	22 07 13.1	+4.3
KMER	Konya-Meram	2.91	117	P	Pn	22 06 22.1	+0.1
KMER				S	Sg	22 07 13.1	+4.3
CMDR	Camlidere-ANKA	2.92	62	⇑iP	Pn	22 06 22.0	0.0
CMDR				iS	Sg	22 07 11.2	+2.3
CMDR	Camlidere-ANKA	2.92	62	P	Pn	22 06 22.0	0.0
CMDR				S	Sg	22 07 11.2	+2.3
BR231	Keskin MP Arra	2.92	75	ePn	Pn	22 06 22.5	+0.5
BR231				eSn	Sg	22 07 12.2	+3.2
BR231	Keskin MP Arra	2.92	75	ePn	Pn	22 06 22.5	+0.5
LOD	Lodumlu	2.92	74	PN	Pn	22 06 22.7	+0.7
LOD	Lodumlu	2.92	74	ePn	Pn	22 06 22.7	+0.7
ALN	Alexandroupoli	2.92	307	PN	Pn	22 06 21.5	-0.5
ALN	Alexandroupoli	2.92	307	P	Pn	22 06 21.5	-0.5
ALN	Alexandroupoli	2.92	307	P	Pn	22 06 21.5	-0.5
ALN	Alexandroupoli	2.92	307	ePn	Pn	22 06 21.5	-0.5
ALN	Alexandroupoli	2.92	307	P	Pn	22 06 21.5	-0.5
ANTO	Ankara	2.94	75	PN	Pn	22 06 22.8	+0.5
ANTO	Ankara	2.94	75	⇑iP	Pn	22 06 21.8	-0.5
ANTO	Ankara	2.94	75	ePn	Pn	22 06 22.6	+0.4
ANTO				Pg	Pg	22 06 30.1	-1.4
ANTO				eSg	Sg	22 07 11.1	+1.5
ANTO	Ankara	2.94	75	Pn	Pn	22 06 22.7	+0.4
	SNR=251						
ANTO	Ankara	2.94	75	P	Pn	22 06 22.7	+0.4
	SNR=251						
ANTO	Ankara	2.94	75	ePn	Pn	22 06 22.8	+0.5
ANTO	Ankara	2.94	75	eP	Pn	22 06 22.6	+0.4
AKAS	Kas	2.95	172	PN	Pn	22 06 21.5	-1.0
AKAS	Kas	2.95	172	⇓iP	Pn	22 06 21.2	-1.3
AKAS				iS	Sg	22 07 16.1	+6.1
AKAS	Kas	2.95	172	P	Pn	22 06 21.2	-1.3
AKAS	Kas	2.95	172	ePn	Pn	22 06 21.5	-1.0
AKAS				S	Sg	22 07 16.1	+6.1
KKUL	Konya-Kulu	2.96	89	iP	Pn	22 06 22.7	+0.1
KKUL				iS	Sg	22 07 17.5	+7.1
KKUL	Konya-Kulu	2.96	89	P	Pn	22 06 22.7	+0.1
KKUL				S	Sg	22 07 17.5	+7.1
NISR	Nisiros	2.99	212	P	Pb	22 06 29.4	+0.7
KEPZ	Antalya-Kepez	2.99	138	⇓iP	Pn	22 06 22.3	-0.8
KEPZ				iS	Sn	22 07 01.7	+2.6
KEPZ	Antalya-Kepez	2.99	138	P	Pn	22 06 22.3	-0.8
KEPZ				S	Sn	22 07 01.7	+2.6
KSL	Kastellorizon	3.03	173	P	Pn	22 06 23.0	-0.4
KSL	Kastellorizon	3.03	173	P	Pn	22 06 23.0	-0.4
ARG	Arkhangelos	3.04	195	P	Pn	22 06 23.4	-0.2
ARG	Arkhangelos	3.04	195	P	Pn	22 06 23.4	-0.2
ARG	Arkhangelos	3.04	195	P	Pn	22 06 23.4	-0.2
ARG	Arkhangelos	3.04	195	P	Pn	22 06 23.4	-0.2
SMTH	Samothraki Isl	3.05	297	P	Pn	22 06 23.5	-0.3
SMTH	Samothraki Isl	3.05	297	P	Pn	22 06 23.5	-0.3
SMTH	Samothraki Isl	3.05	297	P	Pn	22 06 23.5	-0.3
AFSR	Af¯ar-Bala (A	3.09	83	PN	Pn	22 06 24.5	+0.1
AFSR	Af¯ar-Bala (A	3.09	83	ePn	Pn	22 06 24.5	+0.1
LIA	Limnos Island	3.12	285	P	Pn	22 06 24.2	-0.6
LIA	Limnos Island	3.12	285	P	Pn	22 06 24.2	-0.6
LIA	Limnos Island	3.12	285	P	Pn	22 06 24.2	-0.6
BBAL	Bala	3.14	82	iP	Pn	22 06 26.0	+0.9
BBAL				iS	Sg	22 07 16.6	+0.6
BBAL	Bala	3.14	82	P	Pn	22 06 26.0	+0.9
BBAL				S	Sg	22 07 16.6	+0.6
RDO	Rodhopi	3.38	307	P	Pn	22 06 28.3	0.0
RDO	Rodhopi	3.38	307	P	Pn	22 06 28.3	0.0
RDO	Rodhopi	3.38	307	P	Pn	22 06 28.3	0.0
BTIN	Bart˜–n	3.45	43	⇑iP	Pn	22 06 29.0	-0.2
BTIN				iS	Sg	22 07 23.8	-2.1
BTIN	Bart˜–n	3.45	43	P	Pn	22 06 29.0	-0.2
BTIN				S	Sg	22 07 23.8	-2.1
SERE	Sereflikochisa	3.48	92	PN	Pn	22 06 30.9	+1.2
SERE	Sereflikochisa	3.48	92	ePn	Pn	22 06 30.9	+1.2
APE	Apeiranthos	3.51	235	PN	Pn	22 06 30.4	+0.3
APE	Apeiranthos	3.51	235	⇓iP	Pn	22 06 29.2	-0.9
APE	Apeiranthos	3.51	235	S	Sg	22 07 28.0	0.0
APE	Apeiranthos	3.51	235	P	Pn	22 06 28.6	-1.6
APE	Apeiranthos	3.51	235	P	Pn	22 06 28.6	-1.6
APE	Apeiranthos	3.51	235	P	Pn	22 06 28.6	-1.6
APE	Apeiranthos	3.51	235	ePn	Pn	22 06 30.4	+0.3
APE	Apeiranthos	3.51	235	d eP	Pn	22 06 28.5	-1.6
BR131	Keskin Array S	3.55	79	ePn	Pn	22 06 30.7	-0.1
BR131	Keskin Array S	3.55	79	ePn	Pn	22 06 30.7	-0.1
BRTR	Keskin Array B	3.55	79	Pn	Pn	22 06 30.6	-0.3
	8.4nm,0.3s,baz=254,slow=14,SNR=176						
BRTR				Pg	Pg	22 06 41.9	-1.5
	21nm,0.3s,baz=259,slow=16,SNR=77						
BRTR				Sn	Sn	22 07 11.6	-1.4
	28nm,0.3s,baz=196,slow=26,SNR=10						
BRTR				Lg	Lg	22 07 29.4	
	42nm,0.3s,baz=268,slow=23,SNR=9.0						
BRTR				LR	LR	22 08 29.8	
	comp=Z,1µm,19.6s,baz=244,slow=50						
SKY	Skiros Island	3.56	267	P	Pn	22 06 30.4	-0.4
SKY	Skiros Island	3.56	267	P	Pn	22 06 30.4	-0.4
SKY	Skiros Island	3.56	267	P	Pn	22 06 30.4	-0.4
SULT	Sultanhani-AKS	3.58	104	PN	Pn	22 06 31.9	+0.8
SULT	Sultanhani-AKS	3.58	104	ePn	Pn	22 06 31.9	+0.8
CANT	Cankiri	3.76	66	PN	Pn	22 06 34.4	+0.8
KDZ	Kurdzhali	3.76	313	ePn	Pn	22 06 34.3	+0.8
KDZ	Kurdzhali	3.76	313	P	Pn	22 06 34.3	+0.8
KARY	Karystos	3.83	254	P	Pn	22 06 32.6	-1.9
KARY	Karystos	3.83	254	P	Pn	22 06 32.6	-1.9
KARP	Karpathos	3.93	204	PN	Pn	22 06 35.4	-0.4
KARP	Karpathos	3.93	204	ePn	Pn	22 06 34.5	-1.3
KARP	Karpathos	3.93	204	P	Pn	22 06 34.4	-1.4
KARP	Karpathos	3.93	204	P	Pn	22 06 34.4	-1.4
KARP	Karpathos	3.93	204	ePn	Pn	22 06 35.4	-0.4
KAVA	Kavala	3.97	299	P	Pn	22 06 36.4	-0.1
KAVA	Kavala	3.97	299	P	Pn	22 06 36.4	-0.1
KAVA	Kavala	3.97	299	P	Pn	22 06 36.4	-0.1
THR2	Thira island,	3.98	228	P	Pn	22 06 37.3	+0.8
THR2	Thira island,	3.98	228	P	Pn	22 06 37.3	+0.8
THR2	Thira island,	3.98	228	P	Pn	22 06 37.3	+0.8
THR8	Santorini-Mono	3.98	227	P	Pn	22 06 35.7	-0.8
THR8	Santorini-Mono	3.98	227	P	Pn	22 06 35.7	-0.8
SAP2K	Karterados	3.99	228	P	Pg	22 06 50.0	-1.8
ILGA	Ilgaz	4.01	60	ePn	Pn	22 06 37.8	+0.6
ILGA	Ilgaz	4.01	60	ePn	Pn	22 06 37.8	+0.6
SANT	Santorini	4.01	227	PN	Pn	22 06 36.7	-0.4
SANT	Santorini	4.01	227	⇑iP	Pn	22 06 35.9	-1.2
SANT	Santorini	4.01	227	ePn	Pn	22 06 36.2	-0.9
SANT				ePg	Pg	22 06 50.7	-1.4
SANT				eSg	Sg	22 07 47.3	+3.1
SANT	Santorini	4.01	227	P	Pn	22 06 34.9	-2.2
SANT	Santorini	4.01	227	⇑iP	Pn	22 06 35.9	-1.2
SANT	Santorini	4.01	227	ePn	Pn	22 06 36.7	-0.4
THR3	Thira Island,	4.02	228	P	Pn	22 06 37.7	+0.6
THR3	Thira Island,	4.02	228	P	Pn	22 06 37.7	+0.6
THR3	Thira Island,	4.02	228	P	Pn	22 06 37.7	+0.6
THR5	Thira Island,	4.05	229	P	Pb	22 06 45.8	-0.9
THR6	Thira Island,	4.06	228	P	Pn	22 06 37.5	-0.1
THR6	Thira Island,	4.06	228	P	Pn	22 06 37.5	-0.1
THR6	Thira Island,	4.06	228	P	Pn	22 06 37.5	-0.1
GULA	Gulagac	4.09	100	PN	Pn	22 06 39.2	+1.0
GULA	Gulagac	4.09	100	ePn	Pn	22 06 39.2	+1.0
EREA	Eretria	4.11	261	P	Pn	22 06 37.4	-1.0
EREA	Eretria	4.11	261	P	Pn	22 06 37.4	-1.0
OUR	Ouranopolis	4.12	288	PN	Pn	22 06 38.5	0.0
OUR	Ouranopolis	4.12	288	P	Pn	22 06 37.8	-0.7
OUR	Ouranopolis	4.12	288	P	Pn	22 06 37.8	-0.7
OUR	Ouranopolis	4.12	288	P	Pn	22 06 37.8	-0.7
OUR	Ouranopolis	4.12	288	ePn	Pn	22 06 38.5	0.0
OUR	Ouranopolis	4.12	288	P	Pn	22 06 37.8	-0.7
PTL	Penteli	4.25	257	P	Pn	22 06 40.2	-0.2
PTL	Penteli	4.25	257	P	Pn	22 06 40.2	-0.2
PTL	Penteli	4.25	257	P	Pn	22 06 40.2	-0.2
PAIG	Paliouri	4.27	282	P	Pn	22 06 39.9	-0.6
PAIG	Paliouri	4.27	282	P	Pn	22 06 39.9	-0.6
PAIG	Paliouri	4.27	282	P	Pn	22 06 39.9	-0.6
PAIG	Paliouri	4.27	282	P	Pn	22 06 39.9	-0.6
ATHU	Athens Univers	4.34	256	P	Pn	22 06 41.6	+0.1
ATHU	Athens Univers	4.34	256	P	Pn	22 06 41.6	+0.1
ATHU	Athens Univers	4.34	256	P	Pn	22 06 41.6	+0.1
VLY	Voula,Athens	4.37	254	P	Pn	22 06 41.0	-0.9
VLY	Voula,Athens	4.37	254	P	Pn	22 06 41.0	-0.9
VLY	Voula,Athens	4.37	254	P	Pn	22 06 41.0	-0.9
TEKE	Tekeli-Mersin	4.38	132	PN	Pn	22 06 43.7	+1.7
TEKE	Tekeli-Mersin	4.38	132	ePn	Pn	22 06 43.7	+1.7
TEVE	Tevekalti-Mers	4.38	127	PN	Pn	22 06 43.4	+1.3
TEVE	Tevekalti-Mers	4.38	127	ePn	Pn	22 06 43.4	+1.3
CORM	Corum	4.38	75	PN	Pn	22 06 43.7	+1.5
CORM	Corum	4.38	75	ePn	Pn	22 06 43.7	+1.5
SKIA	Skiathos	4.39	272	P	Pn	22 06 41.8	-0.3
SKIA	Skiathos	4.39	272	P	Pn	22 06 41.8	-0.3
PLD	Plovdiv	4.46	313	PN	Pn	22 06 43.3	+0.2
PLD	Plovdiv	4.46	313	ePn	Pn	22 06 43.3	+0.2
PLD	Plovdiv	4.46	313	P	Pn	22 06 43.8	+0.7
PLD	Plovdiv	4.46	313	P	Pn	22 06 43.8	+0.7
MHLO	Agia Marina, M	4.46	238	P	Pg	22 07 00.3	-0.5
PLG	Polygyros	4.53	287	P	Pn	22 06 43.8	-0.3
PLG	Polygyros	4.53	287	P	Pn	22 06 43.8	-0.3
PLG	Polygyros	4.53	287	P	Pn	22 06 44.0	-0.1
PLG	Polygyros	4.53	287	P	Pn	22 06 44.0	-0.1
NEO	Neokhori	4.57	274	P	Pn	22 06 44.3	-0.4
NEO	Neokhori	4.57	274	P	Pn	22 06 44.3	-0.4
NEO	Neokhori	4.57	274	P	Pn	22 06 44.3	-0.4
NVR	Nevrokopi	4.57	300	P	Pn	22 06 44.8	+0.1
NVR	Nevrokopi	4.57	300	P	Pn	22 06 44.8	+0.1
NVR	Nevrokopi	4.57	300	P	Pn	22 06 44.8	+0.1
PSN	Preselentsi	4.57	352	iPn	Pn	22 06 44.6	-0.1
XOR	Xorichti	4.60	274	P	Pn	22 06 44.5	-0.6
XOR	Xorichti	4.60	274	P	Pn	22 06 44.5	-0.6
XOR	Xorichti	4.60	274	P	Pn	22 06 44.5	-0.6
SMIA	Simia	4.60	268	P	Pg	22 07 06.3	+2.8
AKKU	Akkuyu-Mersin	4.62	129	PN	Pn	22 06 47.2	+1.8
AKKU	Akkuyu-Mersin	4.62	129	iPn	Pn	22 06 47.2	+1.8
VILL	Villia	4.64	259	P	Pn	22 06 45.3	-0.4
VILL	Villia	4.64	259	P	Pn	22 06 45.3	-0.4
ZKR	Zakros	4.65	211	P	Pn	22 06 46.4	+0.6
ZKR	Zakros	4.65	211	P	Pn	22 06 46.4	+0.6
ZKR	Zakros	4.65	211	P	Pn	22 06 46.4	+0.6
SRS	Serrai	4.66	297	P	Pn	22 06 45.2	-0.7
SRS	Serrai	4.66	297	P	Pn	22 06 45.2	-0.7
SRS	Serrai	4.66	297	P	Pn	22 06 46.3	+0.4
SRS	Serrai	4.66	297	P	Pn	22 06 46.3	+0.4
MANR	Mangalia	4.67	355	⇑iP	Pn	22 06 46.2	+0.2
MANR	Mangalia	4.67	355	⇑iP	Pn	22 06 46.2	+0.2
SOH	Sokhos	4.72	292	P	Pn	22 06 47.4	+0.6
SOH	Sokhos	4.72	292	P	Pn	22 06 47.4	+0.6
SOH	Sokhos	4.72	292	P	Pn	22 06 47.4	+0.6
SOH	Sokhos	4.72	292	P	Pn	22 06 47.6	+0.8
NPS	Neapolis	4.79	217	P	Pn	22 06 47.9	+0.2
NPS	Neapolis	4.79	217	P	Pn	22 06 47.9	+0.2
NPS	Neapolis	4.79	217	P	Pn	22 06 47.9	+0.2
NPS	Neapolis	4.79	217	P	Pn	22 06 47.9	+0.2
LKR	Lokris	4.79	266	P	Pn	22 06 47.0	-0.7
LKR	Lokris	4.79	266	P	Pn	22 06 47.0	-0.7
LKR	Lokris	4.79	266	P	Pn	22 06 47.0	-0.7
YOZ	Yozgat	4.83	82	PN	Pn	22 06 49.8	+1.4
YOZ	Yozgat	4.83	82	iPn	Pn	22 06 49.8	+1.4
AKMC	Akamas	4.86	147	P	Pn	22 06 49.5	+0.8
ALFC	Alefka	4.87	144	P	Pn	22 06 46.4	-2.5
DID	Didima	4.90	252	P	Pn	22 06 49.3	0.0
DID	Didima	4.90	252	P	Pn	22 06 49.3	0.0
DID	Didima	4.90	252	P	Pn	22 06 49.3	0.0
EFOR	EFORIE	4.93	356	⇑iP	Pn	22 06 49.8	+0.3
EFOR	EFORIE	4.93	356	⇑iP	Pn	22 06 49.8	+0.3
LAST	Lasithi	4.93	217	P	Pn	22 06 49.5	-0.2
LAST	Lasithi	4.93	217	P	Pn	22 06 49.5	-0.2
LAST	Lasithi	4.93	217	P	Pn	22 06 49.5	-0.2
LTK	Loutraki	4.94	259	P	Pn	22 06 49.4	-0.4
LTK	Loutraki	4.94	259	P	Pn	22 06 49.4	-0.4
LTK	Loutraki	4.94	259	P	Pn	22 06 49.4	-0.4
LOUT	Loutraki	4.95	258	P	Pn	22 06 50.2	+0.3
LOUT	Loutraki	4.95	258	P	Pn	22 06 50.2	+0.3
KRND	KRANIDI	5.01	251	P	Pn	22 06 50.8	+0.1
KRND	KRANIDI	5.01	251	P	Pn	22 06 50.8	+0.1
AXAR	Agios Charalam	5.04	268	P	Pn	22 06 52.2	+1.0
AXAR	Agios Charalam	5.04	268	P	Pn	22 06 52.2	+1.0
AXAR	Agios Charalam	5.04	268	P	Pn	22 06 52.2	+1.0
IDI	Anoyia	5.12	222	Pn	Pn	22 06 51.6	-0.8
	3.4nm,0.3s,baz=353,slow=8.6,SNR=44						
IDI				Sn	Sn	22 07 54.3	+2.6
	3.1nm,0.3s,baz=21,slow=11,SNR=3.6						
IDI				Lg	Lg	22 08 17.2	
	2.1nm,0.3s,baz=328,slow=21,SNR=3.1						
IDI				LR	LR	22 08 45.8	
	comp=Z,2µm,20.7s,baz=64,slow=38						
IDI	Anoyia	5.12	222	PN	Pn	22 06 53.1	+0.7
IDI	Anoyia	5.12	222	⇑iP	Pn	22 06 52.0	-0.4
IDI	Anoyia	5.12	222	ePn	Pn	22 06 51.6	-0.8
	102nm,1.0s						
IDI				Sn	Sn	22 07 54.3	+2.6
IDI	Anoyia	5.12	222	ePn	Pn	22 06 51.6	-0.8
	102nm,1.0s						
IDI	Anoyia	5.12	222	⇑iP	Pn	22 06 52.0	-0.4

IDI Sn Sn 22 07 54.3 +2.6
MAMC Mammari 5.16 139 P Pn 22 06 53.2 +0.4
KNT Kendrikon 5.16 295 PN Pn 22 06 54.6 +1.8
KNT Kendrikon 5.16 295 P Pn 22 06 53.2 +0.4
KNT Kendrikon 5.16 295 P Pn 22 06 53.2 +0.4
KNT Kendrikon 5.16 295 P Pn 22 06 53.2 +0.4
KNT Kendrikon 5.16 295 *i* Pn Pn 22 06 54.6 +1.8
KNT Kendrikon 5.16 295 P Pn 22 06 53.2 +0.4
THAL Thalero 5.17 260 P Pn 22 06 53.5 +0.6
THAL Thalero 5.17 260 P Pn 22 06 53.5 +0.6
LIT Litokhoron 5.20 283 *e*Pn Pn 22 06 54.0 +0.7
LIT Litokhoron 5.20 283 P Pn 22 06 54.7 +1.4
LIT Litokhoron 5.20 283 *e*P Pn 22 06 54.0 +0.7
LIT Litokhoron 5.20 283 *e*P Pn 22 06 54.0 +0.7
DSF Desfina 5.20 264 P Pn 22 06 52.9 -0.4
DSF Desfina 5.20 264 P Pn 22 06 52.9 -0.4
DSF Desfina 5.20 264 P Pn 22 06 52.9 -0.4
BNN Bunyan 5.26 91 PN Pn 22 06 57.1 +2.9
BNN Bunyan 5.26 91 *i* Pn Pn 22 06 57.1 +2.9
AGG Agios Georgios 5.28 271 *e*Pn Pn 22 06 54.9 +0.5
AGG Agios Georgios 5.28 271 P Pn 22 06 54.7 +0.3
AGG Agios Georgios 5.28 271 *e*Pn Pn 22 06 54.8 +0.5
AGG Agios Georgios 5.28 271 *e*P Pn 22 06 54.9 +0.5
ZIMR 5.30 329 ⇓ *i*P Pn 22 06 55.4 +0.7
TIRR Tirgusor 5.32 355 ⇑ *i*P Pn 22 06 54.8 -0.1
TIRR Tirgusor 5.32 355 *e*Pn Pn 22 06 54.8 -0.1
TIRR *e*Sn Sn 22 07 56.1 -0.2
TIRR Tirgusor 5.32 355 *e*P Pn 22 06 54.8 -0.1
TIRR *e*S Sn 22 07 56.1 -0.2
TIRR Tirgusor 5.32 355 *e*P Pn 22 06 54.8 -0.1
TIRR *e* 22 07 56.1
SZAC Souni 5.33 144 P Pn 22 06 55.9 +0.7
SIVA Sivas 5.38 221 P Pn 22 06 57.1 +1.4
SIVA Sivas 5.38 221 P Pn 22 06 57.1 +1.4
SIVA Sivas 5.38 221 P Pn 22 06 57.1 +1.4
CSS Mathiatis 5.38 140 *e*Pn Pn 22 06 54.6 -1.2
CSS Mathiatis 5.38 140 P Pn 22 06 52.8 -3.0
CSS Mathiatis 5.38 140 P Pn 22 06 52.8 -3.0
CSS Mathiatis 5.38 140 *e*Pn Pn 22 06 54.6 -1.2
VAM Vamos 5.42 228 P Pn 22 06 57.7 +1.4
VAM Vamos 5.42 228 P Pn 22 06 57.7 +1.4
VAM Vamos 5.42 228 P Pn 22 06 57.7 +1.4
VAM Vamos 5.42 228 P Pn 22 06 57.7 +1.4
GUR Goura 5.44 259 P Pn 22 06 56.6 -0.2
GUR Goura 5.44 259 P Pn 22 06 56.6 -0.2
GUR Goura 5.44 259 P Pn 22 06 56.6 -0.2
VAY Valandovo 5.45 295 P Pn 22 06 58.6 +1.9
VAY Valandovo 5.45 295 P Pn 22 06 58.6 +1.9
VAY Valandovo 5.45 295 P Pn 22 06 58.6 +1.9
VAY Valandovo 5.45 295 *i* Pn Pn 22 06 58.0 +1.3
VAY Valandovo 5.45 295 P Pn 22 06 58.6 +1.9
GRG Griva 5.45 291 P Pn 22 06 58.6 +1.8
GRG Griva 5.45 291 P Pn 22 06 58.6 +1.8
GRG Griva 5.45 291 P Pn 22 06 58.6 +1.8
GRG Griva 5.45 291 P Pn 22 06 58.6 +1.8
SNOP Sinop 5.45 56 PN Pn 22 06 59.9 +3.2
SNOP Sinop 5.45 56 *i* Pn Pn 22 06 59.9 +3.2
VLI Veliai 5.45 245 P Pn 22 06 56.3 -0.5
VLI Veliai 5.45 245 P Pn 22 06 56.3 -0.5
VLI Veliai 5.45 245 P Pn 22 06 56.3 -0.5
KALE Kalithea 5.50 264 P Pn 22 06 57.5 0.0
KALE Kalithea 5.50 264 P Pn 22 06 57.5 0.0
KALE Kalithea 5.50 264 P Pn 22 06 57.5 0.0
IMMV Iera Moni Meta 5.51 229 P Pn 22 06 57.3 -0.2
THL Klokotos Trika 5.51 276 P Pn 22 06 58.1 +0.5
KOZT Kozan 5.54 106 PN Pn 22 07 01.3 +3.3
KOZT Kozan 5.54 106 *i* Pn Pn 22 07 01.3 +3.3
SERG Sergoula 5.56 265 P Pn 22 06 58.0 -0.3
KLV Kalavryta, Ach 5.56 261 P Pn 22 06 58.2 -0.2
KLV Kalavryta, Ach 5.56 261 P Pn 22 06 58.2 -0.2
KLV Kalavryta, Ach 5.56 261 P Pn 22 06 58.2 -0.2
SGRR Singureni 5.58 336 ⇑ *i*P Pn 22 06 58.9 +0.5
VLX Vlachokerasia 5.59 253 P Pn 22 06 59.0 +0.2
VLX Vlachokerasia 5.59 253 P Pn 22 06 59.0 +0.2
VLX Vlachokerasia 5.59 253 P Pn 22 06 59.0 +0.2
HARR Harsova 5.59 351 ⇓ *i*P Pn 22 07 00.0 +1.3
AMRR Amara 5.61 347 ⇑ *i*P Pn 22 07 00.4 +1.6
VTS Vitosha 5.63 309 ⇓ *i*P Pn 22 07 00.7 +1.3
VTS Vitosha 5.63 309 P Pn 22 07 00.2 +0.8
VTS Vitosha 5.63 309 P Pn 22 07 00.2 +0.8
VTS Vitosha 5.63 309 P Pn 22 07 00.2 +0.8
VTS Vitosha 5.63 309 P Pn 22 07 00.2 +0.8
ANX Ano Chora 5.64 266 P Pn 22 07 00.1 +0.7
LAKA Lakka 5.65 263 P Pn 22 06 59.9 +0.3
LAKA Lakka 5.65 263 P Pn 22 06 59.9 +0.3
LAKA Lakka 5.65 263 P Pn 22 06 59.9 +0.3
EFP Efpalio 5.67 265 P Pn 22 07 00.4 +0.6
EVR Evrytania 5.69 270 P Pn 22 07 00.9 +0.8
EVR Evrytania 5.69 270 P Pn 22 07 00.9 +0.8
EVR Evrytania 5.69 270 P Pn 22 07 00.9 +0.8
KZN Kozani 5.77 284 P Pn 22 07 02.4 +1.2
KZN Kozani 5.77 284 P Pn 22 07 02.4 +1.2
KZN Kozani 5.77 284 P Pn 22 07 02.4 +1.2
KZN Kozani 5.77 284 P Pn 22 07 02.4 +1.2
GVD Gavdhos 5.89 225 P Pn 22 07 04.6 +1.8
GVD Gavdhos 5.89 225 P Pn 22 07 04.6 +1.8
GVD Gavdhos 5.89 225 P Pn 22 07 04.6 +1.8
DRO Drossia 5.92 261 P Pn 22 07 04.3 +1.0
PGOR Pogoanele 5.96 345 ⇓ *i*P Pn 22 07 05.9 +2.2
ITM Ithomi 5.99 253 P Pn 22 07 05.8 +1.6
ITM Ithomi 5.99 253 P Pn 22 07 05.8 +1.6
ITM Ithomi 5.99 253 P Pn 22 07 05.8 +1.6
TLCR 6.05 358 ⇓ *i*P Pn 22 07 05.0 +0.4
KPRO Kipourio 6.04 280 P Pn 22 07 05.0 +0.1
AMT Artemida-Makis 6.04 257 P Pn 22 07 09.8 +4.9
CFR Carcaliu 6.06 353 ⇑ *i*P Pn 22 07 04.8 -0.2
SVSK Karacayir 6.14 80 PN Pn 22 07 10.0 +3.7
SVSK Karacayir 6.14 80 *i* Pn Pn 22 07 10.0 +3.7
FNA Florina 6.16 288 PN Pn 22 07 08.4 +1.9
FNA Florina 6.16 288 P Pn 22 07 07.5 +1.0
FNA Florina 6.16 288 P Pn 22 07 07.5 +1.0
FNA Florina 6.16 288 P Pn 22 07 07.5 +1.0
FNA Florina 6.16 288 *i* Pn Pn 22 07 08.4 +1.9
FNA Florina 6.16 288 P Pn 22 07 07.5 +1.0
HUMR Humele 6.19 331 ⇑ *i*P Pn 22 07 07.3 +0.5
HUMR Humele 6.19 331 ⇑ *i*P Pn 22 07 07.3 +0.5
PDO Prodromos 6.21 267 P Pn 22 07 10.3 +3.1
DSL Palaion Diasel 6.23 272 P Pn 22 07 09.8 +2.3
DSL Palaion Diasel 6.23 272 P Pn 22 07 09.8 +2.3
DSL Palaion Diasel 6.23 272 P Pn 22 07 09.8 +2.3
PENT Pentalofos 6.24 282 P Pn 22 07 08.3 +0.7
PENT Pentalofos 6.24 282 P Pn 22 07 08.3 +0.7
BIA Bitola 6.25 290 *i* Pn Pn 22 07 09.7 +1.9
ISR Istrita 6.25 343 ⇓ *i*P Pn 22 07 09.4 +1.6
ISR Istrita 6.25 343 ⇓ *i*P Pn 22 07 09.4 +1.6
SECR 6.29 340 ⇓ *i*P Pn 22 07 10.1 +1.8
SECR 6.29 340 ⇓ *i*P Pn 22 07 10.1 +1.8
NEST Nestorio 6.33 284 P Pn 22 07 11.8 +2.8
GIUM Giurgiulesti 6.36 354 ⇑ *i*P Pn 22 07 10.3 +1.1
GIUM Giurgiulesti 6.36 354 ⇑ *i*P Pn 22 07 10.3 +1.1
SEV Sevastopol' 6.37 31 *e*P Pn 22 07 07.5 -1.8
65nm,0.3s
SEV Sevastopol' 6.37 31 ⇓ *e*P Pn 22 07 07.5 -1.8
SEV *e*S Sn 22 08 18.3 -3.8
SEV pmax pmax
comp=Z,65nm,0.3s
SEV smax smax
comp=N,22nm,0.3s
SEV smax smax
comp=E,106nm,0.6s
YAYL Yayladag 6.37 117 PN Pn 22 07 11.4 +1.9
YAYL Yayladag 6.37 117 *i* Pn Pn 22 07 11.4 +1.9
KRUS Krusevo 6.40 293 *i* Pn Pn 22 07 10.8 +0.9
GRER 6.41 346 ⇑ *i*P Pn 22 07 11.4 +1.4
GRER 6.41 346 ⇑ *i*P Pn 22 07 11.4 +1.4
JAN Janina 6.42 277 P Pn 22 07 15.1 +5.1
JAN Janina 6.42 277 P Pn 22 07 15.1 +5.1
JAN Janina 6.42 277 P Pn 22 07 15.1 +5.1
YAL Yalta 6.52 34 *i* P Pn 22 07 10.6 -0.8
comp=E,288nm,0.9s
YAL Yalta 6.52 34 ⇑ *i*P Pn 22 07 10.6 -0.8
YAL *e*S Sn 22 08 21.8 -4.1
YAL pmax pmax
comp=Z,288nm,0.9s
YAL smax smax
comp=N,109nm,0.5s
YAL smax smax
comp=E,89nm,0.5s
YAL MLR MLR
comp=Z,5μm,15.3s

BARS Barje 6.62 306 *e*Pn Pn 22 07 14.0 +1.2
OHR Ohrid 6.66 290 *i* Pn Pn 22 07 13.5 +0.1
PETR Petresti 6.70 349 ⇑ *i*P Pn 22 07 15.0 +1.1
PETR Petresti 6.70 349 ⇑ *i*P Pn 22 07 15.0 +1.1
MLR Muntele Rosu 6.75 341 Pn Pn 22 07 15.8 +1.1
comp=Z,1.2nm,0.3s,baz=154,slow=4.1,SNR=178
MLR Sn Sn 22 08 33.2 +1.5
baz=278,slow=19,SNR=2.3
MLR Lg Lg 22 09 11.6
comp=Z,0.4nm,0.3s,baz=73,slow=19,SNR=2.0
MLR LR LR 22 10 33.0
comp=Z,404nm,19.1s,baz=158,slow=44
MLR Muntele Rosu 6.75 341 ⇑ *i*P Pn 22 07 16.1 +1.4
MTUR Matau 6.76 335 ⇓ *i*P Pn 22 07 15.7 +0.8
MTUR Matau 6.76 335 ⇓ *i*P Pn 22 07 15.7 +0.8
ODBI Odobesti 6.77 348 ⇓ *i*P Pn 22 07 16.2 +1.3
ODBI Odobesti 6.77 348 ⇓ *i*P Pn 22 07 16.2 +1.3
ALU Alushta 6.78 34 *e*P Pn 22 07 14.6 -0.4
comp=Z,28nm,0.3s
ALU Alushta 6.78 34 *e*P Pn 22 07 14.6 -0.4
ALU *e*S Sn 22 08 28.6 -3.8
ALU pmax pmax
comp=Z,28nm,0.3s
ALU smax smax
comp=N,53nm,0.3s
ALU smax smax
comp=E,127nm,0.6s
IGT Igoumenitsa 6.81 276 P Pn 22 07 17.8 +2.3
IGT Igoumenitsa 6.81 276 P Pn 22 07 17.8 +2.3
IGT Igoumenitsa 6.81 276 P Pn 22 07 17.8 +2.3
IGT Igoumenitsa 6.81 276 P Pn 22 07 17.8 +2.3
SIM Simferopol' 6.88 31 *i* P Pn 22 07 16.0 -0.4
comp=E,308nm,0.3s
SIM Simferopol' 6.88 31 ⇑ *i*P Pn 22 07 16.0 -0.4
SIM *e*S Sn 22 08 31.5 -3.3
SIM pmax pmax
comp=Z,308nm,0.3s
SIM smax smax
comp=N,114nm,1.0s
SIM smax smax
comp=E,612nm,0.9s
SGD Sagiada 6.89 277 P Pn 22 07 18.4 +1.9
SGD Sagiada 6.89 277 P Pn 22 07 18.4 +1.9
PLOR Plostina 6.93 346 ⇑ *i*P Pn 22 07 18.5 +1.4
PLOR Plostina 6.93 346 ⇑ *i*P Pn 22 07 18.5 +1.4
VRI Vrincioaia 6.93 346 ⇑ *i*P Pn 22 07 18.0 +0.9
VRI Vrincioaia 6.93 346 ⇑ *i*P Pn 22 07 18.0 +0.9
ZAGS Zajecar 6.95 314 *e*Pn Pn 22 07 17.1 -0.2
VOIR 6.96 336 ⇓ *i*P Pn 22 07 18.5 +1.0
VOIR 6.96 336 ⇓ *i*P Pn 22 07 18.5 +1.0
ARR Arges 7.03 333 ⇑ *i*P Pn 22 07 19.2 +0.6
ARR Arges 7.03 333 ⇑ *i*P Pn 22 07 19.2 +0.6
PHP Peshkopia 7.08 294 P Pn 22 07 21.5 +2.3
PHP Peshkopia 7.08 294 P Pn 22 07 21.5 +2.3
PHP Peshkopia 7.08 294 P Pn 22 07 21.5 +2.3
PHP Peshkopia 7.08 294 P Pn 22 07 21.5 +2.3
BOVS Bovan 7.14 311 *e*Pn Pn 22 07 21.5 +1.6
SUDU Sudak 7.21 36 *e*P Pn 22 07 21.0 +0.1
comp=E,45nm,0.4s
SUDU Sudak 7.21 36 *e*P Pn 22 07 21.0 +0.1
SUDU *e*S Sn 22 08 41.2 -1.7
SUDU pmax pmax
comp=Z,45nm,0.4s
SUDU smax smax
comp=N,70nm,0.7s
SUDU smax smax
comp=E,178nm,0.7s
SELS Selova 7.26 307 *e*Pn Pn 22 07 22.2 +0.5
DOPR Dopca 7.34 339 ⇑ *i*P Pn 22 07 23.8 +1.2
DOPR Dopca 7.34 339 ⇑ *i*P Pn 22 07 23.8 +1.2
LEOM Leova 7.34 355 PN Pn 22 07 23.7 +1.1
LEOM Leova 7.34 355 ⇑ *i*P Pn 22 07 23.6 +1.0
LEOM Leova 7.34 355 ⇑ *i*P Pn 22 07 23.6 +1.0
HWQ Hawqa 7.34 129 *e*P Pn 22 07 21.0 -1.8
TIR Tirane 7.40 290 *e*Pn Pn 22 07 25.4 +1.9
comp=E,42nm,0.7s
TIR Tirane 7.40 290 *e*P Pn 22 07 25.4 +1.9
comp=E,42nm,0.7s
TIR Tirane 7.40 290 *e*P Pn 22 07 25.4 +1.9
TIR pmax pmax
comp=Z,42nm,0.7s
LOT Lotru 7.42 330 ⇑ *i*P Pn 22 07 24.8 +0.8
LOT Lotru 7.42 330 ⇑ *i*P Pn 22 07 24.8 +0.8
FEO Feodosiya 7.49 37 *e*P Pn 22 07 24.8 +0.1
comp=Z,45nm,0.5s
FEO *e*S Sn 22 08 49.3 -0.4
comp=Z,191nm,0.9s
FEO Feodosiya 7.49 37 ⇑ *e*P Pn 22 07 24.8 +0.1
FEO *e*S Sn 22 08 49.3 -0.4
FEO pmax pmax
comp=Z,45nm,0.5s
FEO smax smax
comp=N,191nm,0.9s
FEO smax smax
comp=E,37nm,0.4s
TESR Tescani 7.57 347 ⇑ *i*P Pn 22 07 25.2 -0.6
TESR Tescani 7.57 347 ⇑ *i*P Pn 22 07 25.2 -0.6
KUBS Kucevo 7.64 316 *e*Pn Pn 22 07 25.5 -1.3
QRWL Qaraoun 7.71 135 *e*P Pn 22 07 26.3 -1.6
PVY Plav 7.74 299 ⇑ *i*Pn Pn 22 07 28.9 +0.7
PVY *e*Sn Sn 22 08 54.5 -1.5
PVY Plav 7.74 299 ⇑ *i*Pn Pn 22 07 28.9 +0.7
PVY *e*Sn Sn 22 08 54.5 -1.5
MILM Milestii Mici 7.76 358 ⇑ *i*P Pn 22 07 28.4 0.0
MILM Milestii Mici 7.76 358 ⇑ *i*P Pn 22 07 28.4 0.0
MDB Medias 7.80 335 ⇓ *i*P Pn 22 07 29.9 +0.9
MDB Medias 7.80 335 ⇓ *i*P Pn 22 07 29.9 +0.9
KIS Kishinev 7.84 359 ⇑ *i*P Pn 22 07 29.0 -0.5
comp=E,400nm,1.5s
KIS *e*S Sn 22 09 00.0 +1.7
KIS *i* Li 22 09 40.0
KIS *i* LQ LQ 22 10 06.0
KIS *i* LR LR 22 10 52.0
comp=E,1μm,14.0s
KIS Kishinev 7.84 359 *i* P Pn 22 07 29.0 -0.5
comp=E,400nm,1.5s
KIS *e*S Sn 22 09 00.0 +1.7
comp=E,1μm,14.0s
KIS Kishinev 7.84 359 α *i*P Pn 22 07 29.0 -0.5
KIS *e*S Sn 22 09 00.0 +1.7
KIS pmax pmax
comp=Z,400nm,1.5s
KIS pmax pmax
comp=Z,400nm,1.5s
KIS MLR MLR
comp=Z,1μm,13.0s
KIS MLR MLR
comp=N,1μm,14.0s
GRUS Gruza 7.87 310 *e*Pn Pn 22 07 30.6 +0.6
BEY Berane 7.89 301 ⇓ *i*Pn Pn 22 07 31.1 +0.7
BEY *e*Sn Sn 22 08 51.6 -1.3
IVA Berane 7.89 301 ⇓ *i*Pn Pn 22 07 31.1 +0.7
IVA *e*Sn Sn 22 08 58.6 -1.2
SHBL Chebaa 7.89 135 *e*P Pn 22 07 29.4 -1.0
MMAI Mount Meron Ar 7.97 138 Pn Pn 22 07 30.3 -1.1
comp=N,16nm,0.3s,baz=318,slow=15,SNR=100
MMAI Sn Sn 22 08 59.6 -2.2
comp=N,4.0nm,0.3s,baz=314,slow=25,SNR=4.4
ULC Ulcinj 8.01 294 *e*Pn Pn 22 07 33.3 +1.3
ULC *e*Sn Sn 22 09 01.2 -1.6
ULC Ulcinj 8.01 294 *e*Pn Pn 22 07 33.3 +1.3
ULC *e*Sn Sn 22 09 01.2 -1.6
IVAS Ivanjica 8.05 306 *e*Pn Pn 22 07 33.1 +0.6
IAS Iasi 8.11 352 ⇓ *i*P Pn 22 07 34.2 +1.0
IAS Iasi 8.11 352 ⇓ *i*P Pn 22 07 34.2 +1.0
DRME Dracevica, Mon 8.12 295 *e*Pn Pn 22 07 35.3 +1.8
DRME *e*Sn Sn 22 09 04.2 -1.3
DRME Dracevica, Mon 8.12 295 *e*Pn Pn 22 07 35.3 +1.8
DRME *e*Sn Sn 22 09 04.2 -1.3
KOME Kolasin 8.14 300 *e*Pn Pn 22 07 35.0 +1.3
KOME *e*Sn Sn 22 09 04.4 -1.5
KOME Kolasin 8.14 300 *e*Pn Pn 22 07 35.0 +1.3
KOME *e*Sn Sn 22 09 04.4 -1.5
PDG Podgorica 8.16 297 ⇓ *i*P Pn 22 07 32.5 -1.4
PDG Podgorica 8.16 297 ⇓ *i*P Pn 22 07 32.5 -1.4
PDG Podgorica 8.16 297 ⇓ *i*Pn Pn 22 07 35.3 +1.4
PDG *e*Sn Sn 22 09 05.0 -1.2
TTG Podgorica 8.16 297 ⇓ *i*Pn Pn 22 07 35.3 +1.4
TTG *e*Sn Sn 22 09 05.0 -1.2
TTG Podgorica 8.16 297 *e*Pn Pn 22 07 37.2 +3.3
TTG Podgorica 8.16 297 *e*P Pn 22 07 37.2 +3.3
TRUS Trudelj 8.24 311 *e*Pn Pn 22 07 35.3 +0.2
BUM Brajici-Budva 8.37 295 ⇑ *i*Pn Pn 22 07 38.6 +1.8

BUM *e*Sn Sn 22 09 10.0 -1.5
BUM Brajici-Budva 8.37 295 ⇑ *i*Pn Pn 22 07 38.6 +1.8
BUM *e*Sn Sn 22 09 10.0 -1.5
ANN Anapa 8.38 45 *e*P Pn 22 07 35.5 -1.4
comp=N,25nm,1.1s
ANN Anapa 8.38 45 *e*P Pn 22 07 35.5 -1.4
ANN *e*S Sn 22 09 09.2 -2.4
ANN pmax pmax
comp=Z,25nm,1.1s
DIVS Divibare 8.42 309 *e*Pn Pn 22 07 37.8 +0.2
DIVS Divibare 8.42 309 *e*Pn Pn 22 07 37.8 +0.2
PLE Pljevlja 8.42 303 ⇑ *i*Pn Pn 22 07 38.6 +0.9
PLE *e*Sn Sn 22 09 11.4 -1.6
PLE Pljevlja 8.42 303 ⇑ *i*Pn Pn 22 07 38.6 +0.9
CEME Cevo 8.43 297 ⇓ *i*Pn Pn 22 07 39.5 +1.8
CEME *e*Sn Sn 22 09 11.7 -1.4
CEME Cevo 8.43 297 ⇓ *i*Pn Pn 22 07 39.5 +1.8
CEME *e*Sn Sn 22 09 11.7 -1.4
PRAR RASCA 8.46 347 ⇓ *i*P Pn 22 07 38.2 +0.1
PRAR RASCA 8.46 347 ⇓ *i*P Pn 22 07 38.2 +0.1
NKY Niksic 8.48 299 ⇓ *i*Pn Pn 22 07 39.9 +1.5
NKY *e*Sn Sn 22 09 12.8 -1.4
NKY Niksic 8.48 299 ⇓ *i*Pn Pn 22 07 39.9 +1.5
NKY *e*Sn Sn 22 09 12.8 -1.4
NKME Niksic 8.49 298 ⇓ *i*Pn Pn 22 07 39.7 +1.2
NKME *e*Sn Sn 22 09 13.0 -1.4
NKME Niksic 8.49 298 ⇓ *i*Pn Pn 22 07 39.7 +1.2
NKME *e*Sn Sn 22 09 13.0 -1.4
BZS Buzias 8.50 322 ⇓ *i*P Pn 22 07 38.4 -0.2
BZS Buzias 8.50 322 ⇓ *i*P Pn 22 07 38.4 -0.2
CJR Cluj-Napoca 8.56 334 ⇑ *i*P Pn 22 07 41.1 +1.6
CJR Cluj-Napoca 8.56 334 ⇑ *i*P Pn 22 07 41.1 +1.6
BANR Banloc 8.58 319 ⇑ *i*P Pn 22 07 40.1 +0.5
BANR Banloc 8.58 319 ⇑ *i*P Pn 22 07 40.1 +0.5
ARCR ARCALIA 8.65 338 ⇑ *i*P Pn 22 07 41.4 +0.8
ARCR ARCALIA 8.65 338 ⇑ *i*P Pn 22 07 41.4 +0.8
UPM Unac-Piva 8.69 301 ⇓ *i*Pn Pn 22 07 42.5 +1.1
UPM *e*Sn Sn 22 09 18.1 -1.5
UPM Unac-Piva 8.69 301 ⇓ *i*Pn Pn 22 07 42.5 +1.1
UPM *e*Sn Sn 22 09 18.1 -1.5
HCY Herceg Novi 8.69 296 ⇓ *i*Pn Pn 22 07 43.0 +1.7
HCY *e*Sn Sn 22 09 18.3 -1.1
HCY Herceg Novi 8.69 296 ⇓ *i*Pn Pn 22 07 43.0 +1.7
HCY *e*Sn Sn 22 09 18.3 -1.1
BRY Bratogost 8.82 298 *e*Pn Pn 22 07 44.5 +1.4
BRY *e*Sn Sn 22 09 21.3 -1.4
TREB Trebinje 8.88 297 *e*Pn Pn 22 07 44.6 +0.7
BURAR Bucovina Array 8.91 343 ⇑ *i*P Pn 22 07 45.2 +0.9
BURAR Bucovina Array 8.91 343 ⇑ *i*P Pn 22 07 45.2 +0.9
BUR04 Bucovina Ar. S 8.92 343 *e*Pn Pn 22 07 44.5 +0.1
BUR04 Bucovina Ar. S 8.92 343 *e*Pn Pn 22 07 44.5 +0.1
BUR08 Bucovina Ar. S 8.94 343 *e*Pn Pn 22 07 44.4 -0.4
BUR08 Bucovina Ar. S 8.94 343 *e*Pn Pn 22 07 44.4 -0.4
TEKS Tekeris 8.95 310 *e*Pn Pn 22 07 44.7 0.0
SORM Soroca 8.99 357 ⇓ *i*P Pn 22 07 45.2 -0.1
SORM Soroca 8.99 357 ⇓ *i*P Pn 22 07 45.2 -0.1
HAPS Han Pijesak,Bl 9.06 306 *e*Pn Pn 22 07 46.1 -0.3
SOC Sochi 9.12 58 *e*P Pn 22 07 46.9 -0.1
SOC *e*S Sn 22 09 32.6 +2.8
comp=Z,2μm,11.0s
SOC Sochi 9.12 58 *e*P Pn 22 07 46.9 -0.1
SOC *e* 22 09 32.6
SOC MLR MLR
comp=Z,2μm,11.0s
STON Ston 9.39 297 *e*Pn Pn 22 07 51.8 +1.1
ASF Jabal al Asfar 9.42 135 Pn Pn 22 07 52.6 +1.3
comp=Z,0.3nm,0.3s,baz=252,slow=8.3,SNR=9.1
ASF Sn Sn 22 09 37.0 -0.4
comp=Z,0.4nm,0.3s,baz=103,slow=19,SNR=3.6
BMR Baia Mare 9.44 336 ⇓ *i*P Pn 22 07 52.5 +1.1
BMR Baia Mare 9.44 336 ⇓ *i*P Pn 22 07 52.5 +1.1
TIP Timpagrande 9.59 274 *e*Pn Pn 22 07 54.5 +0.8
comp=Z,40nm,1.1s
TIP Timpagrande 9.59 274 P Pn 22 07 53.2 -0.5
TIP Timpagrande 9.59 274 P Pn 22 07 53.2 -0.5
TIP Timpagrande 9.59 274 *e*Pn Pn 22 07 54.5 +0.8
comp=Z,40nm,1.1s
MATE Matera 9.65 283 ⇑ *i*P Pn 22 07 55.8 +1.5
MATE Matera 9.65 283 ⇑ *i*P Pn 22 07 55.8 +1.5
TRPA Tarpa 10.15 334 ⇑ *i*P Pn 22 08 01.1 0.0
TRPA Tarpa 10.15 334 *e*Pn Pn 22 08 01.3 +0.2
TRPA Tarpa 10.15 334 *e*P Pn 22 08 01.3 +0.2
MORH M¯ŧr¡gy, Hung 10.44 316 *e*Pn Pn 22 08 05.4 +0.3
MORH M¯ŧr¡gy, Hung 10.44 316 *e*P Pn 22 08 05.4 +0.3
EIL Elat 10.62 151 Pn Pn 22 08 09.0 +1.3
comp=Z,1.4nm,0.3s,baz=15,slow=2.0,SNR=14
EIL Sn Sn 22 10 06.4 -0.4
comp=Z,1.3nm,0.3s,baz=70,slow=15,SNR=6.1
UZH Uzhgorod 10.66 335 *e*P Pn 22 08 09.7 +1.5
UZH *e*S Sn 22 10 11.0 +3.3
comp=Z,1μm,13.0s
UZH Uzhgorod 10.66 335 *e*P Pn 22 08 09.7 +1.5
UZH *e*S Sn 22 10 11.0 +3.3
UZH MLR MLR
comp=Z,1μm,13.0s
PSZ Piszkesteto 11.01 326 *e*Pn Pn 22 08 15.1 +2.1
PSZ Piszkesteto 11.01 326 *e*P Pn 22 08 15.1 +2.1
PSZ Piszkesteto 11.01 326 *e*P Pn 22 08 15.1 +2.1
NEY Neytrino 11.04 64 ⇑ *e*P Pn 22 08 16.4 +2.9
CRVS Cervenica-Dubn 11.18 333 *e*P Pn 22 08 15.5 +0.2
CRVS Cervenica-Dubn 11.18 333 *e*PN Pn 22 08 15.5 +0.2
CRVS Cervenica-Dubn 11.18 333 *e*P Pn 22 08 15.5 +0.2
AKH Akhalkalaki 11.22 74 *e*Pn Pn 22 08 19.8 +3.8
AKH Akhalkalaki 11.22 74 *e*P Pn 22 08 19.8 +3.8
KIV Kislovodsk 11.24 60 *e*Pn Pn 22 08 17.6 +1.4
KIV Kislovodsk 11.24 60 Pn Pn 22 08 20.8 +4.5
SNR=15
KIV Kislovodsk 11.24 60 P Pn 22 08 20.8 +4.5
SNR=15
KIV Kislovodsk 11.24 60 *e*Pn Pn 22 08 17.6 +1.4
KIV Kislovodsk 11.24 60 *i* P Pn 22 08 19.1 +2.8
SNR=7.9
KIV Kislovodsk 11.24 60 *e*P Pn 22 08 19.0 +2.8
KIV *e*S Sn 22 10 27.4 +5.3
KIV pmax pmax
comp=Z,22nm,1.1s
KIV MLR MLR
comp=Z,384nm,10.0s
KVAR Kislovodsk Arr 11.25 60 Pn Pn 22 08 18.5 +2.1
baz=195,slow=4.8,SNR=15
KVAR LR LR 22 13 26.8
comp=Z,428nm,18.3s,baz=231,slow=42
LVV L'vov 11.25 343 *e*P Pn 22 08 17.0 +0.7
LVV L'vov 11.25 343 *e*P Pn 22 08 17.0 +0.7
LVV MLR MLR
comp=N,1μm,10.0s
LVV MLR MLR
comp=E,500nm,10.0s
LVV MLR MLR
comp=Z,900nm,10.0s
KBZ Khabaz 11.31 62 Pn Pn 22 08 19.2 +2.2
comp=Z,0.1nm,0.3s,baz=260,slow=12,SNR=8.5
KBZ LR LR 22 13 46.5
comp=Z,1μm,19.0s,baz=258,slow=44
KWP Kalwaria Pacla 11.42 339 *e*P Pn 22 08 19.3 +0.7
KWP *e*S Sn 22 10 38.1 +12
KWP Kalwaria Pacla 11.42 339 *e*P Pn 22 08 19.3 +0.7
KWP Kalwaria Pacla 11.42 339 *e*P Pn 22 08 19.3 +0.7
KWP *e*S Sn 22 10 38.1 +12
AK11 Malin Array Si 11.52 0 *e*Pn Pn 22 08 20.7 +0.8
AK11 Malin Array Si 11.52 0 *e*Pn Pn 22 08 20.7 +0.8
KIEV Kiev 11.53 0 *e*Pn Pn 22 08 19.4 -0.7
KIEV Sn Sn 22 10 33.6 +4.6
KIEV Kiev 11.53 0 *i* P Pn 22 08 19.4 -0.7
KIEV Kiev 11.53 0 *i* P Pn 22 08 18.9 -1.2
SNR=10
KIEV Kiev 11.53 0 *d* *i*P Pn 22 08 19.4 -0.7
AKASG Malin Array Be 11.54 0 Pn Pn 22 08 18.4 -1.8
comp=Z,1.5nm,0.3s,baz=177,slow=12,SNR=19
AKASG Sn Sn 22 10 30.9 +1.7
comp=Z,1.2nm,0.3s,baz=182,slow=26,SNR=4.5
AKBB Malin Array Si 11.54 0 *e*Pn Pn 22 08 19.4 -0.8
AKBB Malin Array Si 11.54 0 *e*P Pn 22 08 19.4 -0.8
AKBB Malin Array Si 11.54 0 *e*P Pn 22 08 19.4 -0.8
VAE Valguarnera 11.67 266 Pn Pn 22 08 23.7 +1.6
comp=Z,0.4nm,0.3s,baz=101,slow=10,SNR=2.3
STHS Stebnicka Huta 11.69 334 *e*P Pn 22 08 23.5 +1.2
STHS Stebnicka Huta 11.69 334 *e*PN Pn 22 08 23.5 +1.2
STHS Stebnicka Huta 11.69 334 *e*P Pn 22 08 23.5 +1.2
NCK Nalchik 11.72 64 *e*P Pn 22 08 24.6 +1.9
NCK Nalchik 11.72 64 ⇑ *e*P Pn 22 08 24.6 +1.9
ZEI Tsey 11.75 67 *e*P Pn 22 08 26.6 +3.2

ZEI pmax pmax
comp=Z,22nm,1.4s
GOF Gofitskoye 11.90 56 *e*P **Pn 22 08 26.9 +1.7**
comp=Z,36nm,0.7s
GOF Gofitskoye 11.90 56⇑ *e*P **Pn 22 08 26.9 +1.7**
GOF pmax pmax
comp=Z,36nm,0.7s
VYHS Vyhne 11.91 325 *e*P **Pn 22 08 25.1 -0.2**
VYHS Vyhne 11.91 325 *e*PN **Pn 22 08 25.1 -0.2**
VYHS Vyhne 11.91 325 *e*P **Pn 22 08 25.1 -0.2**
NIE Niedzica 12.03 331 *e*P **Pn 22 08 25.6 -1.4**
NIE Niedzica 12.03 331 *e*P **Pn 22 08 25.6 -1.4**
NIE Niedzica 12.03 331 *e*P **Pn 22 08 25.6 -1.4**
BOJS Bojanci 12.05 306 *e*Pn **Pn 22 08 31.1 +4.0**
WDD Wied Dalam 12.05 259 *e*Pn **Pn 22 08 27.1 -0.1**
comp=Z,95nm,1.0s
WDD Wied Dalam 12.05 259 *e*Pn **Pn 22 08 27.1 -0.1**
comp=Z,95nm,1.0s
GNI Garni 12.09 80 Pn **Pn 22 08 27.6 -0.3**
comp=Z,0.2nm,0.3s,baz=127,slow=3.6,SNR=3.1
GNI LR LR 22 14 08.9
comp=Z,781nm,20.1s,baz=276,slow=43
GNI Garni 12.09 80 *e*Pn **Pn 22 08 28.5 +0.5**
GNI Garni 12.09 80 *e*Pn **Pn 22 08 28.5 +0.5**
GNI Garni 12.09 80 P **Pn 22 08 31.1 +3.2**
GNI Garni 12.09 80⇑ *e*P **Pn 22 08 30.5 +2.5**
LANS Liptovska Anna 12.14 328 *e* Pn 22 08 40.5 +12
LANS Liptovska Anna 12.14 328 *e*P Pn 22 08 40.5 +12
VISS Visnje 12.44 307 *e*Pn **Pn 22 08 34.6 +2.0**
VISS Visnje 12.44 307 *e*Pn **Pn 22 08 34.6 +2.0**
SOKA Soboth 12.75 311 *i* P **Pn 22 08 40.3 +3.4**
comp=Z,2.6nm,0.8s
ARSA Arzberg 12.78 314 P **Pn 22 08 39.3 +2.2**
comp=Z,8.2nm,0.7s
ARSA Arzberg 12.78 314 *i* P **Pn 22 08 39.3 +2.2**
comp=Z,8.2nm,0.7s
OJC Ojcow 12.88 332 *e*P **Pn 22 08 37.4 -1.1**
OJC Ojcow 12.88 332 *e*P **Pn 22 08 37.4 -1.1**
OBKA Obir 12.95 309 P **Pn 22 08 41.1 +1.5**
comp=Z,14nm,1.4s
OBKA Obir 12.95 309 *i* P **Pn 22 08 41.1 +1.5**
comp=Z,14nm,1.4s
JAVS Javornik 12.97 306 *i* Pn **Pn 22 08 43.0 +3.2**
CONA Conrad Observa 12.99 317 *i* P **Pn 22 08 42.1 +2.0**
comp=Z,8.7nm,0.9s
GROC Groznyy 13.20 67 *e*P **Pn 22 08 46.9 +4.0**
GROC pmax pmax
comp=Z,44nm,1.3s
OKC Ostrava-Krasne 13.22 327 *e*P **Pn 22 08 47.7 +4.6**
OKC AMS AMS 22 14 50.0
comp=Z,2μm,11.8s
OKC Ostrava-Krasne 13.22 327 *e*P **Pn 22 08 47.7 +4.6**
OKC MLR MLR
comp=Z,2μm,11.8s
MORC Moravsky Berou 13.43 326 *e*Pn **Pn 22 08 47.9 +1.8**
MORC Moravsky Berou 13.43 326 *e*P **Pn 22 08 47.9 +1.8**
MORC Moravsky Berou 13.43 326 *e*P **Pn 22 08 47.9 +1.8**
VRAC Vranov 13.53 323 Pn **Pn 22 08 47.2 -0.1**
comp=Z,0.1nm,0.3s,baz=145,slow=13,SNR=3.6
VRAC LR LR 22 14 26.0
comp=Z,299nm,20.6s,baz=130,slow=39
MYKA Terra Mystica 13.56 308 P **Pn 22 08 50.1 +2.2**
comp=Z,21nm,1.3s
MYKA Terra Mystica 13.56 308 P **Pn 22 08 50.1 +2.2**
comp=Z,21nm,1.3s
VORD Divnogorie 13.81 28 *e*P **Pn 22 08 52.3 +1.2**
comp=Z,30nm,0.9s
VORD Divnogorie 13.81 28 *e*P **Pn 22 08 52.3 +1.2**
VORD pmax pmax
comp=Z,30nm,0.9s
MOA Molln 13.82 314 *i* P **P 22 08 57.0 -2.8**
comp=Z,12nm,1.0s
KBA Koelnbreinsper 13.95 310 *i* P **P 22 09 02.2 +0.7**
comp=Z,13nm,1.1s
VSR Storozhevoye 13.97 27 *e*P **Pn 22 08 52.5 -0.8**
comp=Z,50nm,1.1s
VSR Storozhevoye 13.97 27 *e*P **Pn 22 08 52.5 -0.8**
VSR pmax pmax
comp=Z,50nm,1.1s
KRLC Kraliky 13.98 325 *e*P **Pn 22 08 53.5 -0.1**
KRLC *ex* x 22 08 59.0
KRLC *ex* x 22 09 05.7
KRLC Kraliky 13.98 325 *e*P **Pn 22 08 53.5 -0.1**
KRLC Kraliky 13.98 325 *e*P **Pn 22 08 53.5 -0.1**
TREC Trest 14.05 321 AMS AMS 22 15 00.0
comp=Z,1μm,8.4s
ABTA Abfaltersbach 14.31 307 *i* P **P 22 09 07.9 +2.5**
comp=Z,17nm,1.3s
VORR Voronezh 14.36 26 P **Pn 22 08 58.0 -0.7**
DPC Dobruska-Polom 14.39 325 *e*P **P 22 09 04.2 -2.0**
DPC *ex* x 22 09 10.9
DPC *ex* x 22 09 21.7
DPC AMS AMS 22 15 50.0
comp=Z,1μm,10.7s
DPC Dobruska-Polom 14.39 325 *e*P **P 22 09 04.2 -2.0**
DPC MLR MLR
comp=Z,1μm,10.7s
MAK Makhachkala 14.39 69 *e*P **P 22 09 03.0 -3.2**
MAK *e*S S 22 11 49.2 -10
MAK pmax pmax
comp=Z,88nm,1.9s
MAK MLR MLR
comp=Z,464nm,13.0s
UPC Upice 14.64 325 AMS AMS 22 16 00.0
comp=Z,1μm,12.2s
GEA0 GERESS Array S 14.69 316 *e*Pn **Pn 22 09 03.4 +0.1**
GEA0 GERESS Array S 14.69 316 *e*Pn **Pn 22 09 03.4 +0.1**
GEC2 GERESS Array S 14.69 316 *e*Pn **Pn 22 09 05.3 +1.9**
GEC2 GERESS Array S 14.69 316 *e*Pn **Pn 22 09 05.3 +1.9**
GEC2 GERESS Array S 14.69 316 *e*P **Pn 22 09 05.3 +1.9**
GERES GERESS Array B 14.69 316 Pn **Pn 22 09 04.2 +0.8**
comp=Z,0.1nm,0.3s,baz=116,slow=12,SNR=16
GERES LR LR 22 15 10.7
comp=Z,368nm,21.5s,baz=123,slow=39
GOPC GO Pecny, Ondr 14.80 321 AMS AMS 22 15 50.0
comp=Z,1μm,13.3s
KHC Kasperske Hory 14.93 317 *e*P **Pn 22 09 07.9 +1.4**
KHC *ep*P **P 22 09 10.8 -1.4**
KHC *es*P 22 09 16.0
KHC AMS AMS 22 16 40.0
comp=Z,900nm,9.9s
KHC Kasperske Hory 14.93 317 *e*Pn **Pn 22 09 08.3 +1.8**
comp=Z,2.4nm,1.1s
KHC Kasperske Hory 14.93 317 *e*Pn **Pn 22 09 08.3 +1.8**
comp=Z,2.4nm,1.1s
KHC Kasperske Hory 14.93 317 *e*P **Pn 22 09 08.3 +1.8**
KHC pmax pmax
comp=Z,2.0nm,1.1s
VRH Novokhopyorsk 14.94 32 *e*P **Pn 22 09 05.8 -0.8**
VRH pmax pmax
comp=Z,30nm,0.8s
PRU Pruhonice 14.97 321 *e*P **P 22 09 10.5 -2.1**
PRU *ep*P Pn 22 09 15.5 +8.5
PRU AMS AMS 22 16 10.0
comp=Z,1μm,12.1s
PRU Pruhonice 14.97 321 *e*P **P 22 09 10.5 -2.1**
PRU MLR MLR
comp=Z,1μm,12.1s
LPSR Galich'ya Gora 15.06 24 *e*P **Pn 22 09 06.1 -2.1**
LPSR pmax pmax
comp=Z,50nm,0.8s
WTTA Wattenberg 15.07 308 *i* P **P 22 09 16.2 +2.2**
comp=Z,24nm,1.4s
PRA Prague 15.08 321 AMS AMS 22 16 00.0
comp=Z,1μm,14.7s
WATA Walderalm 15.14 308 P **P 22 09 17.0 +2.3**
comp=Z,23nm,1.0s
WATA Walderalm 15.14 308 *i* P **P 22 09 17.0 +2.3**
comp=Z,23nm,1.0s
PVCC Panska Ves 15.31 323 AMS AMS 22 15 40.0
comp=Z,900nm,10.5s
MICGM Minsk 15.37 357 *e*P **Pn 22 09 08.0 -4.3**
MICGM eLR LR 22 15 04.0
MNK Minsk 15.37 357 *e*P **Pn 22 09 08.0 -4.3**
SUW Suwalki 15.40 347 *e*P **Pn 22 09 14.6 +2.0**
SUW Suwalki 15.40 347 *e*P **Pn 22 09 14.6 +2.0**
MOTA Moosalm 15.44 308 P **P 22 09 20.0 +2.0**
comp=Z,12nm,0.9s,SNR=6.7
MOTA Moosalm 15.44 308 *i* P **P 22 09 20.0 +2.0**
comp=Z,12nm,0.9s,SNR=6.7
FETA Feichten 15.53 306 P **P 22 09 19.1 0.0**
comp=Z,44nm,1.0s,SNR=13
FETA Feichten 15.53 306 *i* pP **P 22 09 19.1 0.0**
comp=Z,44nm,1.0s,SNR=13
FUORN Ofenpass-Fuorn 15.67 304 *e*Pn **P 22 09 19.0 -1.8**
comp=Z,24nm,1.1s
FUORN Ofenpass-Fuorn 15.67 304 *e*Pn **P 22 09 19.0 -1.8**
comp=Z,24nm,1.1s
RETA Reutte 15.71 308 P **P 22 09 22.8 +1.9**
comp=Z,34nm,1.6s,SNR=5.7
RETA Reutte 15.71 308 *i* P **P 22 09 22.8 +1.9**
comp=Z,34nm,1.6s,SNR=5.7
NACGM Naroch 15.83 355 *e* **Pn 22 09 15.0 -3.3**
NACGM eLR LR 22 13 39.0
BRG Berggiesshubel 15.84 323 *e*P **Pn 22 09 19.1 +0.6**
comp=Z,12nm,1.8s
BRG *e* 22 09 25.8
comp=Z,33nm,1.5s
comp=N,1μm,11.6s
comp=E,479nm,12.1s
comp=Z,1μm,8.8s
BRG Berggiesshubel 15.84 323 *e*P **Pn 22 09 19.1 +0.6**
BRG pmax pmax
comp=Z,12nm,1.8s
BRG MLR MLR
comp=E,1μm,12.1s
BRG MLR MLR
comp=Z,479nm,8.8s
KEST Kesra 16.06 264 Pn **Pn 22 09 22.1 +0.7**
comp=Z,0.2nm,0.3s,baz=332,slow=3.3,SNR=16
KEST LR LR 22 16 34.1
comp=Z,348nm,21.4s,baz=2.5,slow=41
KEST Kesra 16.06 264 *e*Pn **Pn 22 09 22.7 +1.2**
comp=Z,33nm,1.0s
KEST Kesra 16.06 264 *e*Pn **Pn 22 09 22.7 +1.2**
comp=Z,33nm,1.0s
DAVA Damuels 16.17 306 P **P 22 09 28.2 +2.1**
comp=Z,26nm,1.2s,SNR=7.9
DAVA Damuels 16.17 306 *i* P **P 22 09 28.2 +2.1**
comp=Z,26nm,1.2s,SNR=7.9
NKC Novy Kostel 16.17 319 AMS AMS 22 17 00.0
comp=Z,1μm,10.1s
TUE Stuetta 16.21 303 *e*Pn **P 22 09 25.9 -0.8**
comp=Z,15nm,1.0s
TUE Stuetta 16.21 303 *e*Pn **P 22 09 25.9 -0.8**
comp=Z,15nm,1.0s
IDID Didziasalis 16.24 355 *e*P **Pn 22 09 20.5 -3.0**
IDID IAmb IAmb 22 09 31.7
comp=Z,23nm,1.0s
IDID Didziasalis 16.24 355 *e*P **Pn 22 09 20.5 -3.0**
SNR=35
IIGN Ignalina 16.31 354 *e*P **Pn 22 09 21.4 -3.1**
IIGN IAmb IAmb 22 09 32.5
comp=Z,32nm,1.0s
IIGN Ignalina 16.31 354 *e*P **Pn 22 09 21.4 -3.1**
SNR=35
GRFO Grafenberg 16.51 315 *e*Pn **P 22 09 28.9 -0.8**
comp=Z,24nm,1.2s
GRFO Grafenberg 16.51 315 *e*P **P 22 09 28.9 -0.8**
comp=Z,24nm,1.2s
GRFO Grafenberg 16.51 315 *e*P **P 22 09 28.9 -0.8**
GRFO pmax pmax
comp=Z,24nm,1.2s
CLL Collm 16.57 322 *e*(pP) **Pn 22 09 29.0 +1.2**
CLL *i* 22 09 31.2
CLL *i* (PP) 22 09 33.2
comp=Z,45nm,1.9s
CLL *e* 22 09 47.0
CLL *es*SS **S 22 12 49.0 +5.4**
CLL LmV 22 16 00.0
comp=Z,400nm,20.0s
CLL Lmax 22 17 00.0
CLL Collm 16.57 322 *e*P **Pn 22 09 29.0 +1.2**
comp=Z,400nm,20.0s
CLL Collm 16.57 322 *e*P **Pn 22 09 29.0 +1.2**
CLL MLR MLR
comp=Z,400nm,20.0s
KLNR Kaliningrad 16.58 342⇑ *e*P **Pn 22 09 25.5 -2.4**
IZAR Zarasai 16.71 354 *e*P **Pn 22 09 25.7 -3.8**
IZAR IAmb IAmb 22 09 28.8
comp=Z,10nm,1.0s
OBN Obninsk 16.73 15 Pn **Pn 22 09 26.3 -3.4**
comp=Z,1.1nm,0.3s,baz=238,slow=0.9,SNR=9.7
OBN Sn **Sn 22 12 26.1 -9.5**
comp=Z,0.4nm,0.3s,baz=180,slow=20,SNR=2.3
OBN LR LR 22 17 05.9
comp=Z,541nm,18.1s,baz=232,slow=41
OBN Obninsk 16.73 15 *e*Pn **Pn 22 09 26.8 -3.0**
comp=Z,75nm,1.2s
OBN Sn **Sn 22 12 26.1 -9.5**
OBN Obninsk 16.73 15 *de*P **Pn 22 09 26.5 -3.3**
OBN *e*S **Sn 22 12 34.1 -1.5**
OBN pmax pmax
comp=Z,50nm,1.4s
OBN MLR MLR
comp=Z,422nm,15.0s
SENIN Lac Senin/Sane 17.53 301 *e*Pn **P 22 09 42.2 +0.9**
comp=Z,82nm,1.8s
MOS Moscow 17.53 16 *e*P **Pn 22 09 35.5 -4.3**
MOS pmax pmax
comp=Z,131nm,1.4s
MOS pmax pmax
comp=Z,400nm,2.1s
BFO Black Forest 17.55 308 *e*Pn **P 22 09 42.3 +1.1**
comp=Z,37nm,1.2s
BFO Black Forest 17.55 308 *e*P **P 22 09 42.3 +1.1**
BFO pmax pmax
comp=Z,37nm,1.2s
BNI Bardonecchia 17.63 297 *e*Pn **P 22 09 43.0 +0.7**
comp=Z,62nm,1.3s
BNI Bardonecchia 17.63 297 *e*P **P 22 09 43.0 +0.7**
comp=Z,63nm,1.3s
BNI Bardonecchia 17.63 297 *e*P **P 22 09 43.0 +0.7**
BNI pmax pmax
comp=Z,63nm,1.3s
CDF Champ du Feu 18.22 308 *e*P **P 22 09 50.2 +1.4**
CDF pmax pmax
comp=Z,39nm,1.4s
ECH Echery 18.22 307 *e*Pn **P 22 09 50.3 +1.6**
comp=Z,52nm,1.6s
ECH Echery 18.22 307 *e*P **P 22 09 50.3 +1.6**
comp=Z,52nm,1.6s
ECH Echery 18.22 307 *e*P **P 22 09 50.3 +1.6**
ECH pmax pmax
comp=Z,52nm,1.6s
CABF La Chapelle 18.40 301 *e*P **P 22 09 51.4 +0.7**
comp=Z,69nm,1.4s
CABF La Chapelle 18.40 301 *e*P **P 22 09 51.4 +0.7**
CABF pmax pmax
comp=Z,69nm,1.4s
HAU Haudompre 18.66 306 *e*P **Pn 22 09 55.1 +1.4**
HAU pmax pmax
comp=Z,24nm,1.2s
VIVF Saint-Julien-l 19.00 295 *e*P **Pn 22 09 58.5 +0.6**
comp=Z,17nm,1.1s
VIVF Saint-Julien-l 19.00 295 *e*P **Pn 22 09 58.5 +0.6**
VIVF pmax pmax
comp=Z,17nm,1.1s
VSU Vasula 19.38 356 *d*⇓ *i*P **P 22 10 00.6 -0.6**
MEM Membach 19.89 313 ⇑P **P 22 10 06.0 -0.9**
comp=Z,22nm,1.3s
MEM Membach 19.89 313 P **Pn 22 10 09.7 +1.3**
MEM pmax pmax
comp=Z,36nm,1.2s
SMF Signal de Mont 19.91 300 *e*P **Pn 22 10 08.1 -0.7**
SMF pmax pmax
comp=Z,38nm,1.4s
BCLA Clavier 20.21 312 ⇓P **P 22 10 10.7 +0.3**
comp=Z,36nm,1.9s
BCLA Clavier 20.21 312 P **P 22 10 10.6 +0.3**
comp=Z,36nm,1.9s
SSF Saint Saulge 20.23 301 *e*P **P 22 10 11.2 +0.6**
SSF pmax pmax
comp=Z,50nm,1.5s
AVF Avril sur Loir 20.27 300 *e*P **P 22 10 11.8 +0.8**
AVF pmax pmax
comp=Z,35nm,1.2s
DOU Dourbes 20.49 310 ⇓P **P 22 10 13.9 +0.5**
BGF Bois d'Agland 20.56 300 *e*P **P 22 10 14.9 +0.7**
BGF pmax pmax
comp=Z,37nm,1.1s
MTLF Montolieu 20.61 290 *e*P **P 22 10 15.6 +0.8**
comp=Z,39nm,1.2s
MTLF Montolieu 20.61 290 *e*P **P 22 10 15.6 +0.8**
MTLF pmax pmax
comp=Z,39nm,1.2s
PUL Pulkovo 20.64 2⇑ *e*P Pn 22 10 16.8 -0.4
PUL pmax pmax
comp=Z,99nm,1.0s
BAIF Baives 20.71 310 *e*P **P 22 10 16.2 +0.4**
comp=Z,37nm,1.4s
BAIF Baives 20.71 310 *e*P **P 22 10 16.2 +0.4**
BAIF pmax pmax
comp=Z,37nm,1.4s
RAYN Ar Rayn 20.90 133 *e*P **P 22 10 18.6 +0.5**
comp=Z,24nm,1.0s
RAYN Ar Rayn 20.90 133 *e*P **P 22 10 18.6 +0.5**
comp=Z,24nm,1.0s
TCF Toulx Ste Croi 20.94 299 *e*P **P 22 10 19.3 +0.9**
comp=Z,61nm,1.5s
TCF Toulx Ste Croi 20.94 299 *e*P **P 22 10 19.3 +0.9**
TCF pmax pmax
comp=Z,61nm,1.5s
RJF Les Rejaudoux 21.27 296 *e*P **P 22 10 25.2 +3.2**
RJF pmax pmax
comp=Z,52nm,1.6s
MUD Monsted U'grnd 21.74 329 *i* P **P 22 10 31.8 +5.0**
MUD Monsted U'grnd 21.74 329 *e*P **P 22 10 31.8 +5.0**
FINES FINESS Array B 22.39 356 P **P 22 10 33.0 -0.7**
comp=Z,20nm,0.9s,baz=147,slow=11,SNR=27
FINES LR LR 22 19 54.6
comp=Z,642nm,19.0s,baz=174,slow=38
FIA1 FINESS Array S 22.39 356 *e*P **P 22 10 36.1 +2.4**
KLMR Klimovskoe 22.67 13 *e*P **P 22 10 34.9 -1.8**
KLMR AMP 22 10 41.0
comp=Z,136nm,1.3s
KLMR *e*S **S 22 14 44.1 -0.7**
KLMR *e*S **S 22 14 44.1 -0.7**
KLMR LQ LQ 22 17 34.7
KLMR LQ LQ 22 17 34.7
KLMR LR LR 22 19 25.2
KLMR Klimovskoe 22.67 13 *e*P **P 22 10 34.9 -1.8**
KLMR *e*S **S 22 14 44.0 -0.7**
KLMR pmax pmax
comp=Z,136nm,1.3s
GEYT Alibeck 22.68 84 P **P 22 10 37.8 +0.6**
comp=Z,24nm,1.2s,baz=281,slow=10,SNR=31
GYA0B ALIBECK ARRAY 22.68 84 *e*P **P 22 10 39.1 +1.9**
comp=Z,23nm,1.0s
GYA0B ALIBECK ARRAY 22.68 84 *e*P **P 22 10 39.1 +1.9**
comp=Z,23nm,1.0s
LDF La Druitiere 22.96 304 *e*P **P 22 10 38.9 -1.1**
comp=Z,52nm,1.6s
LDF La Druitiere 22.96 304 *e*P **P 22 10 38.9 -1.1**
LDF pmax pmax
comp=Z,52nm,1.6s
SJPF Ste Jean 23.12 290 *e*P **P 22 10 42.9 +1.2**
comp=Z,39nm,1.2s
SJPF Ste Jean 23.12 290 *e*P **P 22 10 42.9 +1.2**
SJPF pmax pmax
comp=Z,39nm,1.2s
HFS Hagfors 23.13 340 P **P 22 10 40.5 -1.0**
comp=Z,11nm,0.9s,baz=145,slow=15,SNR=5.0
HFS LR LR 22 20 40.0
comp=Z,272nm,18.2s,baz=152,slow=39
AKTO Aktyubinsk 23.25 52 P **P 22 10 42.5 -0.4**
comp=Z,22nm,1.1s,baz=247,slow=13,SNR=21
AKTO LR LR 22 23 39.2
comp=Z,391nm,19.2s,baz=256,slow=47
GRR Gorron 23.40 303 *e*P **P 22 10 43.4 -1.0**
GRR pmax pmax
comp=Z,56nm,1.1s
KONO Kongsberg 23.94 335⇑ *e*P **P 22 10 49.6 0.0**
KONO pmax pmax
comp=Z,10.0nm,1.3s
ABKAR Akbulak array 24.14 55 *e*P **P 22 10 52.7 +1.1**
comp=Z,59nm,0.9s
ABKAR Akbulak array 24.14 55 *e*P **P 22 10 52.7 +1.1**
comp=Z,59nm,0.9s
SGMF Saint Gilles 24.48 302 *e*P **P 22 10 54.8 +0.1**
comp=Z,76nm,1.5s
SGMF Saint Gilles 24.48 302 *e*P **P 22 10 54.8 +0.1**
SGMF pmax pmax
comp=Z,76nm,1.5s
NAO01 NORSAR Array S 24.50 338 *e*P **P 22 10 56.5 +1.8**
NB2 NORSAR Subarra 24.56 339 P **P 22 10 55.4 +0.1**
comp=Z,18nm,1.1s,baz=143,slow=10
NOA NORSAR Array B 24.56 339 P **P 22 10 55.5 +0.2**
comp=Z,7.3nm,0.9s,baz=143,slow=9.3,SNR=13
NOA LR LR 22 21 34.7
comp=Z,244nm,18.9s,baz=140,slow=39
NOA NORSAR Array B 24.56 339 P **P 22 10 55.6 +0.2**
NOA pmax pmax
comp=Z,8.0nm,0.9s
NOA MLR MLR
comp=Z,244nm,18.9s
NBO02 NORSAR Array S 24.67 339 *e*P **P 22 10 59.3 +3.0**
NBO00 NORSAR Array S 24.68 338 *e*P **P 22 10 58.0 +1.7**
ROSF Rostrenen 24.97 302 *e*P **P 22 11 00.3 +1.2**
ROSF pmax pmax
comp=Z,158nm,1.7s
ES19 SONSECA Array 25.43 282 *e*P **P 22 11 03.8 +0.4**
ES19 SONSECA Array 25.43 282 *e*P **P 22 11 03.8 +0.4**
ESDC Sonseca Array 25.48 282 P **P 22 11 03.9 +0.1**
comp=Z,2.7nm,0.9s,baz=71,slow=11,SNR=11
TMCR Tamitsa 25.59 9 *e*P **P 22 11 06.6 +2.1**
TMCR pmax pmax
comp=Z,39nm,0.9s
PAB San Pablo 25.79 282 *e*P **P 22 11 08.2 +1.5**
comp=Z,18nm,1.4s
PAB San Pablo 25.79 282 *e*P **P 22 11 08.2 +1.5**
comp=Z,18nm,1.4s
PAB San Pablo 25.79 282 *e*P **P 22 11 08.2 +1.5**
PAB pmax pmax
comp=Z,18nm,1.4s
TAM Tamanrasset 25.87 238 *e*P **P 22 11 08.5 +0.9**
comp=Z,29nm,1.3s
TAM Tamanrasset 25.87 238 *e*P **P 22 11 08.5 +0.9**
comp=Z,29nm,1.3s
TAM Tamanrasset 25.87 238 *e*P **P 22 11 08.5 +0.9**
TAM pmax pmax
comp=Z,29nm,1.3s
ARU Arti 25.97 39 P **P 22 11 08.7 +0.7**
ARU LR LR 22 23 11.1
comp=Z,183nm,20.3s,baz=268,slow=41
ARU Arti 25.97 39 *e*P **P 22 11 08.9 +0.8**
comp=Z,82nm,1.2s
ARU Arti 25.97 39 *c i*P **P 22 11 09.2 +1.2**
ARU 22 11 46.4
ARU S **S 22 15 43.0 +4.5**
ARU SS **SnSn 22 16 38.5 +3.5**
ARU pmax pmax
comp=Z,114nm,1.7s
ARU MLR MLR
comp=Z,441nm,16.0s
SHME Shamm 26.15 112 P **P 22 11 09.2 -0.8**
MZR Muzera 26.25 121 P **P 22 11 10.6 -0.2**
BANOM Banah 26.34 112 P **P 22 11 11.0 -0.7**
SNR=6.7
BANOM Banah 26.34 112 *i* P **P 22 11 11.0 -0.7**
SNR=6.7
NAZ Nazwa, Dubai 26.45 114 P **P 22 11 15.1 +2.4**
SNR=7.2
NAZ Nazwa, Dubai 26.45 114 P **P 22 11 15.1 +2.4**
SNR=7.2
NAZ Nazwa, Dubai 26.45 114 P **P 22 11 13.0 +0.3**
SNR=7.5
NAZ Nazwa, Dubai 26.45 114 *i* P **P 22 11 13.0 +0.3**
SNR=7.5
MSFE Esma-Masafi 26.57 113 P **P 22 11 13.6 -0.3**
MDH Madha 26.71 113 P **P 22 11 14.9 -0.2**
UOSS Minazif 26.86 114 *e*P **P 22 11 15.9 -0.5**
comp=Z,18nm,0.9s
UOSS Minazif 26.86 114 *e*P **P 22 11 15.9 -0.5**
comp=Z,18nm,0.9s
UOSS Minazif 26.86 114 *i* P **P 22 11 15.7 -0.7**
SNR=6.4
HATD Hatta, Dubai 26.88 114 P **P 22 11 17.0 +0.3**
SNR=5.3
HATD Hatta, Dubai 26.88 114 P **P 22 11 17.0 +0.3**
SNR=5.3
HATD Hatta, Dubai 26.88 114 P **P 22 11 16.1 -0.5**
SNR=11
HATD Hatta, Dubai 26.88 114 *i* P **P 22 11 16.1 -0.5**
SNR=11
EKA Eskdalemuir Ar 26.90 318 P **P 22 11 15.8 -0.7**
comp=Z,2.5nm,0.4s,baz=114,slow=12,SNR=18
EKA Eskdalemuir Ar 26.90 318 P **P 22 11 15.8 -0.7**
EKA pmax pmax
comp=Z,5.0nm,0.9s
ALNE Al Ain 27.10 116 P **P 22 11 19.0 +0.4**
SNR=8.1
ALNE Al Ain 27.10 116 *i* P **P 22 11 18.3 -0.3**
SNR=22
SVE Sverdlovsk 27.17 39 *e*P **P 22 11 20.4 +1.5**
SVE *e*S **S 22 16 02.6 +5.2**
SVE pmax pmax
comp=Z,40nm,1.4s

SVE					MLR	MLR				
	comp=Z,413nm,16.0s									
SOHO	**SOHO**	**27.60**	**115**		P	**P**	**22 11 22.5**	**-0.6**		
	SNR=14									
SOHO	**SOHO**	**27.60**	**115**	*i*	P	**P**	**22 11 22.5**	**-0.6**		
	SNR=14									
DAMY	**Dhamar**	**27.95**	**147**	*e*	P	**P**	**22 11 27.6**	**+1.0**		
	comp=Z,46nm,1.2s									
PVRL	**Vila Real**	**28.07**	**286**	*e*	P	**P**	**22 11 26.7**	**-0.5**		
PVRL	**Vila Real**	**28.07**	**286**	*e*	P	**P**	**22 11 26.7**	**-0.5**		
MTE	**Manteigas**	**28.07**	**284**	*e*	P	**P**	**22 11 26.5**	**-0.7**		
MTE	**Manteigas**	**28.07**	**284**	*e*	P	**P**	**22 11 26.5**	**-0.7**		
POLO	**Lamas de Olo**	**28.11**	**286**	*e*	P	**P**	**22 11 27.5**	**-0.1**		
POLO	**Lamas de Olo**	**28.11**	**286**	*e*	P	**P**	**22 11 27.5**	**-0.1**		
PCBR	**Castelo Branco**	**28.12**	**283**	*e*	P	**P**	**22 11 27.6**	**+0.1**		
PCBR	**Castelo Branco**	**28.12**	**283**	*e*	P	**P**	**22 11 27.6**	**+0.1**		
PCAB	**Cabril**	**28.24**	**287**	*e*	P	**P**	**22 11 29.6**	**+0.9**		
PCAB	**Cabril**	**28.24**	**287**	*e*	P	**P**	**22 11 29.6**	**+0.9**		
PVAQ	**Vaqueiros**	**28.84**	**278**	*e*	P	**P**	**22 11 30.0**	**-4.0**		
LVZ	**Lovozero**	**28.95**	**4**	‖ *e*	P	**P**	**22 11 33.9**	**-0.9**		
LVZ					pmax	pmax				
	comp=Z,10.0nm,1.2s									
WSAR	**Wadi Sarin**	**29.65**	**114**		P	**P**	**22 11 41.4**	**0.0**		
	comp=Z,3.0nm,0.8s,baz=331,slow=11,SNR=3.6									
ARCES	**ARCESS Array B**	**30.50**	**358**		P	**P**	**22 11 48.2**	**-0.2**		
	comp=Z,5.4nm,0.8s,baz=171,slow=9.8,SNR=15									
ARCES					LR	LR	22 24 36.5			
	comp=Z,441nm,20.0s,baz=166,slow=37									
ARCES	**ARCESS Array B**	**30.50**	**358**	*e*	P	**P**	**22 11 50.6**	**+2.2**		
ARCES	**ARCESS Array B**	**30.50**	**358**	*e*	P	**P**	**22 11 50.6**	**+2.2**		
KKAR	**Karatay Array**	**31.20**	**69**	*e*	P	**P**	**22 11 56.0**	**+1.1**		
	comp=Z,6.6nm,0.8s									
KKAR	**Karatay Array**	**31.20**	**69**	*e*	P	**P**	**22 11 56.0**	**+1.1**		
	comp=Z,6.6nm,0.8s									
KKAR	**Karatay Array**	**31.20**	**69**	*e*	P	**P**	**22 11 56.0**	**+1.1**		
KKAR					pmax	pmax				
	comp=Z,7.0nm,0.8s									
BRVK	**Borovoye**	**31.28**	**50**	*de*	P	**P**	**22 11 58.1**	**+2.7**		
BRVK					pmax	pmax				
	comp=Z,11nm,1.7s									
BVAR	**Borovoye Array**	**31.33**	**50**		P	**P**	**22 11 56.8**	**+0.9**		
	comp=Z,1.3nm,0.9s,baz=268,slow=14,SNR=7.9									
BVAR					LR	LR	22 27 53.5			
	comp=Z,288nm,18.1s,baz=230,slow=43									
KBL	**Kabul**	**32.10**	**86**	*e*	P	**P**	**22 12 03.8**	**+0.7**		
	comp=Z,4.4nm,1.1s									
KBL	**Kabul**	**32.10**	**86**	*e*	P	**P**	**22 12 03.8**	**+0.7**		
	comp=Z,4.4nm,1.1s									
KBL	**Kabul**	**32.10**	**86**	*e*	P	**P**	**22 12 03.8**	**+0.7**		
KBL					pmax	pmax				
	comp=Z,4.0nm,1.1s									
AAK	**Ala-Archa**	**34.17**	**69**		LR	LR	22 29 10.3			
	comp=Z,147nm,18.9s,baz=282,slow=42									
AAK	**Ala-Archa**	**34.17**	**69**	*e*	P	**P**	**22 12 21.1**	**0.0**		
	comp=Z,6.8nm,1.0s									
AAK	**Ala-Archa**	**34.17**	**69**		P	**P**	**22 12 22.7**	**+1.6**		
	SNR=6.9									
AAK	**Ala-Archa**	**34.17**	**69**		P	**P**	**22 12 22.7**	**+1.6**		
	SNR=6.9									
AAK	**Ala-Archa**	**34.17**	**69**	*i*	P	**P**	**22 12 22.3**	**+1.3**		
	SNR=9.0									
AAK	**Ala-Archa**	**34.17**	**69**	*de*	P	**P**	**22 12 21.7**	**+0.7**		
AAK					pmax	pmax				
	comp=Z,5.0nm,1.0s									
FRU	**Bishkek**	**34.22**	**69**	*e*	P	**P**	**22 12 22.5**	**+1.1**		
FRU					pmax	pmax				
	comp=Z,70nm,1.8s									
TOA0	**Torodi Ar. Sit**	**35.47**	**231**	*e*	P	**P**	**22 12 31.6**	**-0.6**		
TORD	**Torodi Ar. Bea**	**35.47**	**231**		P	**P**	**22 12 30.6**	**-1.6**		
	comp=Z,11nm,0.8s,baz=34,slow=8.9,SNR=58									
TORD					PP	**PP**	**22 13 52.5**	**-0.3**		
	comp=Z,4.2nm,1.1s,baz=35,slow=11,SNR=4.3									
TORD					PcP	**PcP**	**22 15 01.1**	**-0.8**		
	comp=Z,3.2nm,0.9s,baz=35,slow=3.2,SNR=6.6									
TORD					LR	LR	22 30 42.3			
	comp=Z,66nm,18.3s,baz=40,slow=43									
NIL	**Nilore**	**35.68**	**85**	*e*	P	**P**	**22 12 34.6**	**+0.6**		
	comp=Z,37nm,0.9s									
NIL	**Nilore**	**35.68**	**85**	*e*	P	**P**	**22 12 34.6**	**+0.6**		
	comp=Z,37nm,0.9s									
NIL	**Nilore**	**35.68**	**85**	*e*	P	**P**	**22 12 34.6**	**+0.6**		
NIL					pmax	pmax				
	comp=Z,37nm,0.9s									
KSH	**Kashi**	**35.93**	**74**		P	**P**	**22 12 35.5**	**-0.7**		
KURBB	**Kurchatov Arra**	**36.20**	**55**		P	**P**	**22 12 38.3**	**+0.1**		
	comp=Z,6.3nm,1.0s,baz=280,slow=8.9,SNR=33									
KURBB					PP	**PP**	**22 14 02.0**	**+1.7**		
	comp=Z,2.1nm,0.9s,baz=274,slow=14,SNR=5.7									
KURK	**Kurchatov**	**36.25**	**55**	*e*	P	**P**	**22 12 39.7**	**+1.0**		
	comp=Z,14nm,1.3s									
KURK					PP	**PP**	**22 14 02.0**	**+1.1**		
KURK	**Kurchatov**	**36.25**	**55**		P	**P**	**22 12 41.4**	**+2.7**		
	SNR=6.6									
KURK	**Kurchatov**	**36.25**	**55**		P	**P**	**22 12 41.4**	**+2.7**		
	SNR=6.6									
KURK	**Kurchatov**	**36.25**	**55**	*ce*	P	**P**	**22 12 40.1**	**+1.4**		
KURK					pmax	pmax				
	comp=Z,18nm,1.7s									
KOWA	**Kowa**	**38.09**	**239**		P	**P**	**22 12 54.1**	**-0.5**		
	comp=Z,1.8nm,0.7s,baz=32,slow=9.5,SNR=4.3									
KOWA					PcP	**PcP**	**22 15 09.6**	**-0.2**		
	comp=Z,3.9nm,0.7s,baz=59,slow=1.9,SNR=7.8									
KOWA					LR	LR	22 30 10.3			
	comp=Z,127nm,19.1s,baz=41,slow=39									
KOWA	**Kowa**	**38.09**	**239**	*e*	P	**P**	**22 12 54.8**	**+0.2**		
	comp=Z,10nm,1.2s									
KOWA					PcP	**PcP**	**22 15 09.6**	**-0.2**		
BORG	**Borgarnes**	**38.69**	**328**		LR	LR	22 30 32.1			
	comp=Z,270nm,19.7s,baz=99,slow=39									
MK31	**Makanchi Array**	**39.01**	**61**	*e*	P	**P**	**22 13 02.4**	**+0.3**		
MK31	**Makanchi Array**	**39.01**	**61**	*e*	P	**P**	**22 13 02.4**	**+0.3**		
MKAR	**Makanchi Array**	**39.01**	**61**		P	**P**	**22 13 02.1**	**+0.1**		
	comp=Z,1.6nm,0.5s,baz=270,slow=8.6,SNR=18									
MKAR					LR	LR	22 33 49.8			
	comp=Z,167nm,18.5s,baz=278,slow=44									
MKAR	**Makanchi Array**	**39.01**	**61**	*e*	P	**P**	**22 13 02.4**	**+0.3**		
	comp=Z,31nm,1.0s									
MKAR	**Makanchi Array**	**39.01**	**61**	*e*	P	**P**	**22 13 02.4**	**+0.3**		
MKAR					pmax	pmax				
	comp=Z,31nm,1.0s									
MK01	**Makanchi Array**	**39.02**	**61**	*e*	P	**P**	**22 13 01.9**	**-0.2**		
NVS	**Novosibirsk**	**39.05**	**48**	*e*	P	**P**	**22 13 02.5**	**+0.2**		
NVS				*e*			22 14 32.7			
NVS					pmax	pmax				
	comp=N,5.0nm,1.0s									
NVS					pmax	pmax				
	comp=E,6.0nm,1.0s									
NVS					pmax	pmax				
	comp=Z,13nm,1.0s									
SPA0	**Spitsbergen Ar**	**39.49**	**356**	*e*	P	**P**	**22 13 07.8**	**+2.1**		
SPITS	**Spitsbergen Ar**	**39.49**	**356**		P	**P**	**22 13 05.5**	**-0.1**		
	comp=Z,9.0nm,0.9s,baz=134,slow=8.3,SNR=4.1									
SPITS					LR	LR	22 30 27.2			
	comp=Z,279nm,18.4s,baz=170,slow=38									
ZAA0	**Zalesovo Array**	**39.99**	**49**	*e*	P	**P**	**22 13 10.8**	**+0.7**		
	comp=Z,6.1nm,0.9s									
ZALV	**Zalesovo Beam**	**39.99**	**49**		P	**P**	**22 13 10.1**	**0.0**		
	comp=Z,2.9nm,0.6s,baz=265,slow=7.4,SNR=12									
ZALV					LR	LR	22 33 19.9			
	comp=Z,196nm,18.9s,baz=248,slow=42									
ZALV	**Zalesovo Beam**	**39.99**	**49**	*e*	P	**P**	**22 13 10.3**	**+0.2**		
ZALV	**Zalesovo Beam**	**39.99**	**49**	*e*	P	**P**	**22 13 10.3**	**+0.2**		
DGZ	**Jazzator, Alta**	**41.98**	**56**	*e*	P	**P**	**22 13 26.9**	**+0.1**		
DGZ					pmax	pmax				
	comp=Z,5.0nm,1.3s									
WMQ	**Urumqi**	**43.34**	**64**		P	**P**	**22 13 40.0**	**+2.2**		
WMQ					pP	sP	22 13 43.3	+1.9		
WMQ					sP	pP	22 13 47.0	+6.6		
WMQ					pmax	pmax				
	comp=Z,39nm,1.3s									
WMQ					pmax	pmax				
	comp=Z,220nm,3.9s									
WMQ					LR	LR				
	comp=Z,770nm,15.3s									
WMQ					LR	LR				
	comp=Z,820nm,17.5s									
WMQ					LR	LR				
	comp=Z,620nm,20.3s									
DBIC	**Dimbokro**	**44.52**	**232**		PP	PP	22 15 30.1	-1.2		
	comp=Z,4.4nm,0.9s,baz=31,slow=12,SNR=4.0									
DBIC					LR	LR	22 32 46.2			
	comp=Z,128nm,21.8s,baz=18,slow=37									
DBIC	**Dimbokro**	**44.52**	**232**	*e*	P	**P**	**22 13 46.6**	**-0.7**		
	comp=Z,55nm,1.8s									
DBIC					PP	**PcP**	**22 15 30.1**	**-0.6**		
DBIC	**Dimbokro**	**44.52**	**232**	*e*	P	**P**	**22 13 46.7**	**-0.7**		
DBIC					pmax	pmax	22 15 30.1			
	comp=Z,55nm,1.8s									
TIC	**Toumodi**	**44.63**	**232**	*e*	P	**P**	**22 13 47.0**	**-1.4**		
KIC	**Kosan Boka**	**44.69**	**232**	*e*	P	**P**	**22 13 47.7**	**-1.1**		
	comp=Z,77nm,1.6s									
LIC	**Lamto**	**44.97**	**232**	*e*	P	**P**	**22 13 49.8**	**-1.2**		
	comp=Z,70nm,1.5s									
PYUN	**Piuthan**	**45.61**	**87**	*e*	P	**P**	**22 13 56.1**	**-0.2**		
	comp=Z,51nm,1.0s									
HVS	**Khovu-Aksy**	**45.69**	**53**	‖ *e*	P	**P**	**22 13 57.1**	**+0.6**		
HVS					pmax	pmax				
	comp=Z,7.0nm,1.0s									
DANN	**Dangsing**	**46.09**	**86**	*e*	P	**P**	**22 14 00.3**	**+0.1**		
KOLN	**Koldanda**	**46.24**	**87**	*e*	P	**P**	**22 14 00.8**	**-0.5**		
	comp=Z,29nm,1.0s									
BBTS	**Babate**	**46.82**	**252**		LR	LR	22 36 21.9			
	comp=Z,138nm,18.5s,baz=50,slow=40									
GKN	**Gorkha**	**46.93**	**86**	*e*	P	**P**	**22 14 05.8**	**-0.9**		
	comp=Z,43nm,1.2s									
DMN	**Daman**	**47.49**	**86**	*e*	P	**P**	**22 14 10.5**	**-0.6**		
KKN	**Kakani**	**47.53**	**86**	*e*	P	**P**	**22 14 10.3**	**-1.1**		
	comp=Z,21nm,1.2s									
GUN	**Gumba**	**47.94**	**86**	*e*	P	**P**	**22 14 13.9**	**-0.8**		
	comp=Z,25nm,1.0s									
JIRN	**Jiri**	**48.30**	**86**	*e*	P	**P**	**22 14 16.9**	**-0.7**		
	comp=Z,35nm,1.2s									
RAMN	**Ramite**	**48.97**	**86**	*e*	P	**P**	**22 14 21.3**	**-1.2**		
	comp=Z,47nm,1.1s									
ODAN	**Odan**	**49.62**	**86**	*e*	P	**P**	**22 14 26.8**	**-0.8**		
SFJD	**Kangerlussuaq**	**50.74**	**330**		LR	LR	22 37 27.3			
	comp=Z,135nm,18.6s,baz=90,slow=38									
LSA	**Lhasa**	**51.16**	**81**	*e*	P	**P**	**22 14 39.5**	**+0.1**		
	comp=Z,6.7nm,1.1s									
LSA	**Lhasa**	**51.16**	**81**	*e*	P	**P**	**22 14 39.5**	**+0.1**		
	comp=Z,6.7nm,1.1s									
LSA	**Lhasa**	**51.16**	**81**		P	**P**	**22 14 39.8**	**+0.4**		
LSA	**Lhasa**	**51.16**	**81**	*e*	P	**P**	**22 14 39.5**	**+0.1**		
LSA					pmax	pmax				
	comp=Z,7.0nm,1.1s									
TLY	**Talaya**	**51.59**	**50**	*e*	P	**P**	**22 14 43.2**	**+1.4**		
TLY					eS	**S**	**22 21 55.2**	**-7.5**		
TLY					pmax	pmax				
	comp=Z,17nm,1.6s									
TLY					MLR	MLR				
	comp=Z,135nm,19.0s									
ZAK	**Zakamensk**	**51.76**	**52**	*e*	P	**P**	**22 14 42.2**	**-1.0**		
ZAK					pmax	pmax				
	comp=Z,5.0nm,1.2s									
GTA	**Gaotai**	**53.37**	**66**	*e*	P	**P**	**22 14 55.5**	**+0.2**		
GTA					pP	sP	22 15 00.0	+1.1		
GTA					sP	pP	22 15 03.0	+5.1		
GTA					S	**S**	**22 22 25.0**	**-2.5**		
GTA					sS	sS	22 22 33.0	+1.2		
GTA					SS	**SS**	**22 26 03.0**	**-4.0**		
GTA					pmax	pmax				
	comp=Z,3.0nm,0.9s									
GTA					pmax	pmax				
	comp=Z,69nm,4.8s									
GTA					LR	LR				
	comp=Z,140nm,16.6s									
GTA					LR	LR				
	comp=Z,92nm,14.3s									
GTA					LR	LR				
	comp=Z,93nm,15.4s									
SONA1	**Songino Array**	**54.55**	**54**	*e*	P	**P**	**22 15 04.3**	**+0.5**		
SONM	**Songino Array**	**54.55**	**54**		P	**P**	**22 15 04.1**	**+0.3**		
	comp=Z,1.7nm,0.8s,baz=282,slow=7.5,SNR=12									
SONM					LR	LR	22 42 23.5			
	comp=Z,205nm,18.3s,baz=272,slow=40									
ULN	**Ulaanbaatar**	**54.95**	**54**	*e*	P	**P**	**22 15 07.2**	**+0.4**		
	comp=Z,4.4nm,1.1s									
ULN	**Ulaanbaatar**	**54.95**	**54**	‖ *e*	P	**P**	**22 15 06.8**	**+0.1**		
ULN					pmax	pmax				
	comp=Z,4.0nm,1.1s									
BOD	**Bodaibo**	**55.37**	**40**	*e*	P	**P**	**22 15 08.5**	**-0.9**		
BOD					pmax	pmax				
	comp=Z,6.0nm,1.7s									
TIXI	**Tiksi**	**56.30**	**22**	‖ *e*	P	**P**	**22 15 17.6**	**+1.7**		
TIXI					pmax	pmax				
	comp=Z,8.0nm,2.6s									
LZH	**Lanzhou**	**57.68**	**68**	*e*	P	**P**	**22 15 25.8**	**-0.6**		
LZH					pP	sP	22 15 29.5	-0.6		
LZH					sP	pP	22 15 32.8	+3.7		
LZH					PP	**PP**	**22 17 34.8**	**+0.7**		
LZH					pmax	pmax				
	comp=Z,34nm,0.9s									
LZH					pmax	pmax				
	comp=Z,190nm,4.3s									
LZH					LR	LR				
	comp=Z,190nm,14.5s									
LZH					LR	LR				
	comp=Z,200nm,14.3s									
LZH					LR	LR				
	comp=Z,270nm,17.8s									
HHC	**Hu-ho-hao-te**	**60.84**	**59**	*e*	P	**P**	**22 15 49.8**	**+1.6**		
HHC					S	**S**	**22 24 06.0**	**+0.1**		
HHC					pmax	pmax				
	comp=Z,21nm,1.2s									
HHC					pmax	pmax				
	comp=Z,61nm,7.8s									
HHC					LR	LR				
	comp=Z,190nm,17.1s									
HHC					LR	LR				
	comp=Z,220nm,17.8s									
HIA	**Hailar**	**61.99**	**48**	‖ *e*	P	**P**	**22 15 56.4**	**+0.7**		
HIA					pmax	pmax				
	comp=Z,12nm,1.3s									
SCHQ	**Schefferville**	**62.20**	**319**		LR	LR	22 42 06.6			
	comp=Z,93nm,20.8s,baz=50,slow=35									
XAN	**Xi'an**	**62.31**	**67**		P	**P**	**22 15 57.8**	**-0.3**		
XAN					pmax	pmax				
	comp=Z,8.0nm,1.4s									
XAN					pmax	pmax				
	comp=Z,43nm,4.3s									
CMAR	**Chiang Mai Arr**	**63.11**	**88**		P	**P**	**22 16 02.2**	**-1.3**		
	comp=Z,1.1nm,0.3s,baz=301,slow=7.3,SNR=7.4									
CMAR					LR	LR	22 50 19.3			
	comp=Z,48nm,18.7s,baz=271,slow=43									
LBTB	**Lobatse**	**63.92**	**184**	*e*	P	**P**	**22 16 09.7**	**+0.9**		
	comp=Z,20nm,1.2s									
LBTB	**Lobatse**	**63.92**	**184**	*e*	P	**P**	**22 16 09.7**	**+0.9**		
LBTB					pmax	pmax				
	comp=Z,20nm,1.2s									
BJI	**Beijing**	**64.31**	**58**	‖ *e*	P	**P**	**22 16 10.3**	**-0.8**		
BJI					pmax	pmax				
	comp=Z,12nm,1.3s									
BOSA	**Boshof**	**67.52**	**184**		P	**P**	**22 16 32.1**	**+0.2**		
	comp=Z,6.4nm,0.8s,baz=32,slow=6.6,SNR=9.4									
BOSA					LR	LR	22 47 42.6			
	comp=Z,91nm,18.4s,baz=24,slow=38									
BOSA	**Boshof**	**67.52**	**184**	*e*	P	**P**	**22 16 33.1**	**+1.2**		
	comp=Z,24nm,1.4s									
BILL	**Bilibino**	**68.39**	**16**	*i*	P	**P**	**22 16 36.7**	**-0.2**		
BILL					*i*		22 16 44.6			
BILL					*i*		22 17 00.1			
BILL					pmax	pmax				
	comp=Z,4.0nm,1.3s									
BILL					MLR	MLR				
	comp=Z,90nm,20.0s									
SEY	**Seymchan**	**68.64**	**24**	↑ *i*	P	**P**	**22 16 38.8**	**+0.3**		
KLR	**Kul'dur**	**68.69**	**43**	*ce*	P	**P**	**22 16 38.9**	**-0.2**		
NJ2	**Nanjing**	**70.42**	**64**	*e*	P	**P**	**22 16 51.0**	**+1.0**		
NJ2					pmax	pmax				
	comp=Z,10.0nm,0.5s									
USRK	**Ussuriysk Ar.**	**71.80**	**48**		P	**P**	**22 16 58.0**	**-0.2**		
	comp=Z,3.3nm,0.8s,baz=222,slow=2.6,SNR=4.8									
INK	**Inuvik**	**72.06**	**353**		LR	LR	22 49 30.4			
	comp=Z,37nm,21.5s,baz=16,slow=37									
KS01	**Wonju Array Si**	**73.35**	**55**	*e*	P	**P**	**22 17 06.7**	**-0.8**		
KSAR	**Wonju Array Be**	**73.36**	**55**		P	**P**	**22 17 07.1**	**-0.5**		
KSAR	**Wonju Array Be**	**73.36**	**55**		P	**P**	**22 17 07.1**	**-0.5**		
KSRS	**Korea Array**	**73.38**	**55**		P	**P**	**22 17 07.1**	**-0.6**		
	comp=Z,7.0nm,0.9s,baz=310,slow=5.4,SNR=20									
KSRS					LR	LR	22 54 16.6			
	comp=Z,162nm,18.2s,baz=300,slow=40									
SADO	**Sadowa**	**74.45**	**315**		LR	LR	22 48 31.3			
	comp=Z,95nm,21.5s,baz=90,slow=35									
YKA	**Yellowknife Ar**	**74.57**	**343**		P	**P**	**22 17 13.8**	**-0.4**		
	comp=Z,0.9nm,1.0s,baz=27,slow=5.8,SNR=10									
IM3	**Indian Mountai**	**75.17**	**1**	*e*	P	**P**	**22 17 17.4**	**-0.2**		
MDM	**Murphy Dome**	**76.20**	**359**	*e*	P	**P**	**22 17 24.6**	**+1.1**		
ILAR	**Eielson Array**	**76.36**	**358**		P	**P**	**22 17 24.9**	**+0.4**		
	comp=Z,0.4nm,0.8s,baz=349,slow=5.8,SNR=4.2									
ILAR					LR	LR	22 51 26.7			
	comp=Z,49nm,19.9s,baz=346,slow=36									
WRH	**Wood River Hil**	**76.68**	**359**	*e*	P	**P**	**22 17 26.8**	**+0.5**		
CAST	**Castle Rocks**	**77.76**	**1**	*e*	P	**P**	**22 17 32.8**	**+0.4**		
PETK	**Petropavlovsk-**	**77.91**	**29**		LR	LR	22 54 55.1			
	comp=Z,100nm,19.4s,baz=309,slow=38									
JNU	**Nakatsue**	**77.94**	**57**		LR	LR	22 56 07.3			
	comp=Z,98nm,18.9s,baz=301,slow=39									
ULM	**Lac du Bonnet**	**78.69**	**328**		P	**P**	**22 17 37.1**	**-0.6**		
	comp=Z,0.6nm,0.3s,baz=13,slow=11,SNR=3.0									
ULM					LR	LR	22 53 13.6			
	comp=Z,134nm,19.8s,baz=28,slow=36									
SUA	**Susitna One**	**79.73**	**360**	*e*	P	**P**	**22 17 44.1**	**+0.7**		
MJAR	**Matsushiro Arr**	**80.33**	**51**		P	**P**	**22 17 46.8**	**-0.1**		
	comp=Z,4.5nm,1.0s,baz=292,slow=7.3,SNR=8.2									
TKL	**Tuckaleechee C**	**83.18**	**311**		P	**P**	**22 18 01.8**	**-0.2**		
	comp=Z,3.2nm,0.8s,baz=58,slow=15,SNR=2.6									
TKL					LR	LR	22 54 21.2			
	comp=Z,55nm,20.5s,baz=14,slow=35									
PLAL	**Pickwick Lake**	**86.14**	**313**	*e*	P	**P**	**22 18 15.9**	**-1.0**		
NEW	**Newport**	**87.93**	**338**		LR	LR	22 59 33.0			
	comp=Z,92nm,18.8s,baz=42,slow=37									
PDAR	**Pinedale Array**	**90.25**	**331**		LR	LR	23 01 24.2			
	comp=Z,68nm,18.9s,baz=38,slow=37									
SDV	**Santo Domingo**	**91.92**	**283**		P	**P**	**22 18 44.8**	**-0.1**		
	comp=Z,7.3nm,0.8s,baz=0.0,slow=4.0,SNR=8.3									
SDV	**Santo Domingo**	**91.92**	**283**	*e*	P	**P**	**22 18 44.5**	**-0.3**		
	comp=Z,12nm,1.0s									
ELK	**Elko**	**94.08**	**334**		LR	LR	23 03 31.4			
	comp=Z,73nm,19.0s,baz=87,slow=37									
YBH	**Yreka Blue Hor**	**95.50**	**339**		LR	LR	23 02 25.8			
	comp=Z,62nm,18.4s,baz=3.0,slow=36									
NVAR	**Mina Array Bea**	**97.19**	**335**		LR	LR	23 05 28.5			
	comp=Z,124nm,19.2s,baz=273,slow=37									
TXAR	**Lajitas Array**	**98.89**	**320**		LR	LR	23 03 41.7			
	comp=Z,56nm,20.7s,baz=0.0,slow=35									
ASAR	**Alice Springs**	**115.66**	**100**		PKP	**PKPdf**	**22 24 16.3**	**-2.0**		
	comp=Z,0.8nm,1.0s,baz=332,slow=1.5,SNR=5.1									
ASAR					PKKPbc	**PKKPbc**	**22 34 49.6**	**-0.1**		
	comp=Z,0.6nm,0.6s,baz=114,slow=3.9,SNR=4.4									
STKA	**Stephens Creek**	**125.70**	**105**		PKP	**PKPdf**	**22 24 36.3**	**-1.0**		
	comp=Z,2.6nm,1.0s,baz=356,slow=14,SNR=4.3									
QSPA	**South Pole Qui**	**129.00**	**180**		PKP	**PKPdf**	**22 24 41.1**	**-1.5**		
	comp=Z,5.6nm,1.1s,baz=292,slow=1.8,SNR=7.1									

UPP ***26*** *22:10:20.2, 67.17N×20.65E, h0km, ML0.9, Mining explosion.*

HEL 26 22:10:20.9±0.1, 67.17N×20.64E, h0km, ML1.3, ML0.9(UPP)**, Explosion, Sweden**

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
MASU	**Masugnsbyn**	**0.60**	**61**	P	Pg	22	10	31.6	-0.8
MASU				S	Sg	22	10	39.6	-0.5
MASU	**Masugnsbyn**	**0.60**	**61**	*i* P	Pg	22	10	31.6	-0.7
MASU				*i* S	Sg	22	10	39.6	-0.5
RATU	**Laukkuluspa**	**0.77**	**329**	P	Pg	22	10	34.7	-0.9
RATU	**Laukkuluspa**	**0.77**	**329**	*i* P	Pg	22	10	34.7	-0.9
KUA	**Kurravaara**	**0.79**	**352**	P	Pg	22	10	34.8	-1.3
KUA	**Kurravaara**	**0.79**	**352**	*i* P	Pg	22	10	34.8	-1.2
SALU	**Saltoluokta**	**0.85**	**285**	P	Pg	22	10	36.4	-0.8
SALU	**Saltoluokta**	**0.85**	**285**	*i* P	Pg	22	10	36.4	-0.8
ERTU	**Ertsjaerv**	**0.87**	**135**	P	Pg	22	10	36.3	-1.3
ERTU	**Ertsjaerv**	**0.87**	**135**	*e* P	Pg	22	10	36.3	-1.3
NIKU	**Nikkaluokta**	**0.93**	**319**	P	Pg	22	10	37.9	-0.

comp=N,1034µm,0.2s
APE Apeiranthos 0.46 339 P **Pg 22 16 27.6 +0.2**
APE S **Sg 22 16 33.9 +0.3**
APE Apeiranthos 0.46 339 P **Pg 22 16 27.6 +0.2**
APE S **Sg 22 16 33.9 +0.3**
TNSA Tinos 1.01 333 P **Pn 22 16 38.0 0.0**
TNSA Tinos 1.01 333 P **Pb 22 16 37.5 0.0**
MHLA Plaka, Milos I 1.06 276 P **Pb 22 16 37.9 -0.5**
MHLA S **Sg 22 16 52.6 0.0**
MHLA AML AML 22 16 55.1
comp=E,439µm,0.4s
MHLA AML AML 22 16 57.2
comp=N,563µm,0.6s
MHLA Plaka, Milos I 1.06 276 P **Pb 22 16 37.9 -0.5**
MHLA S **Sg 22 16 52.6 0.0**
MHLO Agia Marina, M 1.08 273 P **Pg 22 16 39.4 +0.4**
MHLO S **Sb 22 16 52.8 +0.3**
MHLO AML AML 22 16 54.5
comp=E,1190µm,0.3s
MHLO AML AML 22 16 54.9
comp=N,955µm,0.3s
MHLO Agia Marina, M 1.08 273 P **Pn 22 16 38.9 0.0**
MHLO S **Sn 22 16 53.7 +0.1**
MHLO Agia Marina, M 1.08 273 P **Pn 22 16 38.8 -0.1**
MHLO S **Sg 22 16 52.9 -0.1**
SERI Serifos 1.13 298 P **Pb 22 16 38.5 -1.1**
SERI Serifos 1.13 298 P **Pb 22 16 38.8 -0.8**
SERI S **Sg 22 16 54.6 -0.2**
SERI Serifos 1.13 298 P **Pb 22 16 38.8 -0.8**
SERI S **Sg 22 16 54.6 -0.2**
BODT Bodrum 1.33 71 P **Pn 22 16 41.8 -0.6**
BODT S **Sg 22 17 01.4 +0.3**
NPS Neapolis 1.38 184 P **Pn 22 16 42.9 -0.1**
NPS Neapolis 1.38 184 P **Pn 22 16 43.2 +0.2**
NPS S **Sn 22 17 00.2 -0.8**
NPS Neapolis 1.38 184 P **Pn 22 16 43.2 +0.2**
NPS S **Sn 22 17 00.2 -0.8**
SMG Samos 1.38 39 P **Pb 22 16 43.7 -0.2**
SMG Samos 1.38 39 P **Pb 22 16 43.7 -0.2**
LAST Lasithi 1.49 188 P **Pn 22 16 43.9 -0.7**
LAST S **Sn 22 17 03.7 -0.2**
LAST Lasithi 1.49 188 P **Pn 22 16 43.9 -0.7**
LAST S **Sn 22 17 03.7 -0.2**
KARP Karpathos 1.58 133 P **Pn 22 16 46.4 +0.5**
KARP S **Sn 22 17 06.6 +0.4**
CHOS Chios island 1.76 8 P **Pn 22 16 48.5 +0.1**
CHOS Chios island 1.76 8 P **Pn 22 16 48.8 +0.4**
IMMV Iera Moni Meta 1.85 231 P **Pn 22 16 50.0 +0.5**
IMMV S **Sn 22 17 13.5 +0.9**
IMMV Iera Moni Meta 1.85 231 P **Pn 22 16 50.0 +0.5**
IMMV S **Sn 22 17 13.5 +0.9**
VLY Voula,Athens 1.97 309 P **Pn 22 16 51.2 0.0**
VLY Voula,Athens 1.97 309 P **Pn 22 16 51.2 0.0**
DID Didima 2.18 294 P **Pn 22 16 53.2 -0.9**
DID Didima 2.18 294 P **Pn 22 16 53.9 -0.2**

*IDC **26** 22:17:02.9±1.1,0.°44N×92.°32E, h0km, mb3.9/12, mb1 4.0/14, mb1mx3.7/72, mbtmp3.9/14, ML4.0/2, MS3.4/12, Ms1 3.4/12, ms1mx3.1/56, Error ellipse: s-maj=32.4km s-min=18.4km az=40.0*
*NEIC **26** 22:17:03.1±0.7,0.°23N×92.°28E, h10km, mb4.3/5, Error ellipse: s-maj=14.8km s-min=7.9km az=201.0*
*ISCJB **26** 22:17:05.8±0.5,0.°42N±0.°06×92.°42E±0.°04, h33km, mb4.1/18, MS3.6/12, Error ellipse: s-maj=10.1km s-min=4.5km az=28.7*
*DJA **26** 22:17:07.9±2.9,1.°N±9.°×9.°2E±2.°5, h129km±31km, M4.6/13, mb4.8/13, mB5.0/9, MLv4.9/7, Mw(mB)4.4/9*
ISC 26 22:17:08.1±0.7,**0.°43N**±0.°09×**92.°49E**±0.°07,**h35km**,**n96,** σ1**60**/80,**mb4.1**/21,**MS3.5**/12,**Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSI	**Gunungsitoli**	**5.16**	**80**	P	**Pn**	**22 18 23.9**	**+1.0**
	208nm,1.1s,3µm0.7nm						
GSI	**Gunungsitoli**	**5.16**	**80**	*e*Pn	**Pn**	**22 18 23.9**	**+1.0**
MLSI	**Meulaboh, Aceh**	**5.46**	**46**	P	**Pn**	**22 18 26.4**	**-0.7**
	172nm,0.9s,3µm0.8nm						
TPTI		**5.47**	**59**	P	**Pn**	**22 18 27.2**	**+0.1**
BSI	**Banda Aceh**	**5.76**	**29**	P	**Pn**	**22 18 31.2**	**0.0**
PBSI	**Pulau Batu**	**5.81**	**95**	P	**Pn**	**22 18 33.3**	**+1.5**
KCSI	**Kotacane, Aceh**	**6.11**	**60**	P	**Pn**	**22 18 36.8**	**+0.8**
LHMI	**Lhok Sumawe**	**6.52**	**43**	P	**Pn**	**22 18 46.2**	**+4.5**
LHMI	**Lhok Sumawe**	**6.52**	**43**	*e*Pn	**Pn**	**22 18 44.8**	**+3.1**
SISI	**Saibi**	**6.82**	**105**	P	**Pn**	**22 18 46.8**	**+1.0**
PSI	**Prapat**	**6.85**	**70**	Pn	**Pn**	**22 18 45.9**	**-0.3**
	2.3nm,0.3s,baz=3.0,slow=7.1,SNR=5.3						
PSI				Sn	**Sn**	**22 19 58.9**	**-4.2**
	2.0nm,0.3s,baz=148,slow=19,SNR=4.9						
PSI				LR	LR	22 21 47.1	
	comp=Z,697nm,19.9s,baz=224,slow=41						
PSI	**Prapat**	**6.85**	**70**	*e*Pn	**Pn**	**22 18 47.1**	**+0.8**
PSI				Sn	**Sn**	**22 19 58.9**	**-4.2**
MNSI	**Mandailing Nat**	**7.10**	**87**	P	**Pn**	**22 18 51.0**	**+1.4**
PDSI	**Padang**	**8.08**	**99**	P	**Pn**	**22 19 04.0**	**+0.9**
PPSI	**Pulau Pagai**	**8.16**	**113**	P	**Pn**	**22 19 05.6**	**+1.5**
BKNI	**Bangkinang**	**8.55**	**43**	P	**Pn**	**22 19 09.9**	**+0.4**
KRJI	**Kerinci**	**9.31**	**106**	P	**Pn**	**22 19 21.9**	**+1.8**
IPM	**Ipoh**	**9.43**	**65**	*e*Pn	**Pn**	**22 19 22.2**	**+0.6**
PKDT	**Phuket**	**9.43**	**38**	P	Pn	22 19 28.5	+6.9
	23nm,1.0s,353nm						
KULM	**Kulim**	**9.47**	**59**	*e*Pn	**Pn**	**22 19 23.1**	**+0.9**
TRTT	**Trang**	**10.28**	**44**	P	Pn	22 19 45.2	+12
	10nm,1.1s						
MASI	**Maura Aman, Be**	**10.37**	**110**	P	**Pn**	**22 19 35.3**	**+0.8**
PBA	**Port Blair**	**11.16**	**1**	*e*P	Pn	22 19 44.5	-0.7
MNAI	**Manna**	**11.49**	**115**	*e*Pn	**Pn**	**22 19 46.1**	**-3.7**
DGPR	**DIGLIPUR**	**12.68**	**2**	*e*P	**Pn**	**22 20 05.2**	**-0.9**
PALK	**Pallekele**	**13.58**	**300**	Pn	Pn	22 20 12.3	-6.2
	0.7nm,0.3s,baz=115,slow=13,SNR=5.1						
PALK				Sn	Sn	22 22 27.0	-21
	0.6nm,0.3s,baz=108,slow=3.2,SNR=3.1						
PALK	**Pallekele**	**13.58**	**300**	*e*Pn	Pn	22 20 12.7	-5.8
PALK				Sn	Sn	22 22 27.0	-21
NAYO	**Nakonayok**	**16.33**	**32**	P	P	22 21 08.3	+11
	10nm,1.1s						
KSM	**Kuching**	**17.84**	**87**	*e*Pn	**P**	**22 21 14.3**	**0.0**
	16nm,0.9s						
PBKT	**Sadao Pong**	**18.09**	**27**	P	P	22 21 27.7	+11
	11nm,1.0s						
CM01	**Chiang Mai Arr**	**18.98**	**19**	*e*P	**Pn**	**22 21 28.7**	**+1.1**
CMAR	**Chiang Mai Arr**	**19.00**	**19**	P	**P**	**22 21 27.0**	**0.0**
	0.2nm,0.3s,baz=218,slow=12,SNR=9.6						
CMAR				LR	LR	22 29 13.1	
	comp=Z,52nm,19.5s,baz=293,slow=38						
CHTO	**Chiang Mai**	**19.34**	**19**	*e*P	**Pn**	**22 21 32.6**	**+0.7**
	6.0nm,1.1s						
VIS	**Vishakhapatnam**	**19.41**	**333**	*e*P	**P**	**22 21 30.0**	**-1.4**
VIS				IAmb	IAmb	22 21 32.9	
	comp=Z,18nm,0.7s						
SBUM	**Sibu**	**19.82**	**84**	*e*P	**Pn**	**22 21 37.2**	**-0.6**
	comp=Z,16nm,1.1s						
BWNR	**Bhubaneshwar**	**20.80**	**342**	*e*P	**P**	**22 21 46.8**	**+0.2**
H08S2	**Diego Garcia H**	**21.49**	**248**	T	T	22 43 56.7	
	baz=68,slow=75,SNR=3.8						
H08S3	**Diego Garcia H**	**21.50**	**248**	T	T	22 43 50.0	
	baz=68,slow=75,SNR=5.0						
H08S1	**Diego Carcia H**	**21.51**	**248**	T	T	22 43 52.5	
	baz=68,slow=75,SNR=4.5						
HYB	**Hyderabad**	**21.75**	**322**	*i* P	**P**	**22 21 56.0**	**-0.9**
HYB	**Hyderabad**	**21.75**	**322**	*e*P	**P**	**22 21 54.4**	**-2.5**
HYB				IAmb	IAmb	22 23 36.4	
GOA	**Goa**	**23.74**	**310**	*e*P	**P**	**22 22 14.2**	**-3.1**
BOK	**Bokaro**	**24.10**	**345**	*e*P	**P**	**22 22 21.1**	**+0.5**
BOK				IAmb	IAmb	22 22 21.7	
	comp=Z,10nm,0.9s						
IMP	**Imphal**	**24.30**	**3**	*e*P	**P**	**22 22 22.5**	**-0.1**
KKM	**Kota Kinabalu**	**24.32**	**76**	*e*P	**P**	**22 22 22.1**	**-0.9**
	comp=Z,14nm,0.9s						
SHL	**Shillong**	**25.00**	**359**	*e*P	**P**	**22 22 29.1**	**+0.1**
KOHI	**KOHIMA**	**25.19**	**3**	*e*P	**P**	**22 22 30.4**	**-0.3**
GUWA	**GUWAHATI**	**25.63**	**358**	*e*P	**P**	**22 22 34.8**	**+0.3**
MOKO	**MOKOCHONG**	**25.82**	**4**	*e*P	**P**	**22 22 37.2**	**+0.9**
ITAN	**ITANAGAR**	**26.59**	**2**	*e*P	**P**	**22 22 43.4**	**+0.1**
ODAN	**Odare**	**26.73**	**350**	*e*P	**P**	**22 22 44.8**	**0.0**
	comp=Z,41nm,0.9s						
RAMN	**Ramite**	**26.97**	**348**	*e*P	**P**	**22 22 47.5**	**+0.6**
	comp=Z,51nm,1.1s						
GTK	**Tadong**	**27.00**	**352**	*e*P	**P**	**22 22 47.8**	**+0.7**
JIRN	**Jiri**	**27.75**	**348**	*e*P	**P**	**22 22 53.8**	**-0.2**
	comp=Z,40nm,0.9s						
GUN	**Gumba**	**28.05**	**347**	*e*P	**P**	**22 22 56.5**	**-0.2**
	comp=Z,15nm,0.7s						
GKN	**Gorkha**	**28.43**	**345**	*e*P	**P**	**22 22 59.6**	**-0.3**
	comp=Z,5.8nm,0.5s						
KOLN	**Koldanda**	**28.49**	**343**	*e*P	**P**	**22 23 00.1**	**-0.4**
	comp=Z,7.3nm,0.6s						
PYUN	**Piuthan**	**28.98**	**342**	*e*P	**P**	**22 23 04.5**	**-0.4**
LSA	**Lhasa**	**29.14**	**358**	*e*P	**P**	**22 23 08.0**	**+1.5**
DAV	**Davao City (W)**	**33.65**	**78**	LR	LR	22 37 49.9	
	comp=Z,47nm,22.0s,baz=174,slow=37						
SMLA	**Simla**	**33.81**	**336**	*e*P	**P**	**22 23 46.7**	**-0.4**
SMLA				IAmb	IAmb	22 23 49.2	
	comp=Z,18nm,0.2s						
DHRM	**DHARAMSHALA**	**35.15**	**336**	*e*P	**P**	**22 23 56.7**	**-2.2**
DHRM				IAmb	IAmb	22 23 58.0	
	comp=Z,3.1nm,0.5s						
LZH	**Lanzhou**	**37.02**	**15**	*e*P	**P**	**22 24 17.5**	**+2.7**
LZH				pP	pP	22 24 21.0	-3.9
LZH				sP	sP	22 24 23.5	-5.7
LZH				PP	**PnPn**	**22 25 46.0**	**+6.0**
LZH				pmax	pmax		
	comp=Z,13nm,1.0s						
LZH				pmax	pmax		
	comp=Z,220nm,4.3s						
LZH				LR	LR		
	comp=N,170nm,15.0s						
LZH				LR	LR		
	comp=E,170nm,15.3s						
LZH				LR	LR		
	comp=Z,240nm,16.4s						
NIL	**Nilore**	**37.66**	**333**	*e*P	**P**	**22 24 19.1**	**-1.0**
	comp=Z,4.3nm,0.5s						
GTA	**Gaotai**	**39.37**	**9**	*e*P	**P**	**22 24 35.0**	**+0.5**
GTA				pP	pP	22 24 39.5	-5.3
GTA				sP	sP	22 24 42.5	-6.5
GTA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
WMQ	**Urumqi**	**43.42**	**355**	P	**P**	**22 25 08.5**	**+0.9**
WMQ				LR	LR		
	comp=N,700nm,14.7s						
WMQ				LR	LR		
	comp=E,830nm,17.5s						
WMQ				LR	LR		
	comp=Z,610nm,18.9s						
HHC	**Hu-ho-hao-te**	**43.80**	**21**	*e*P	**P**	**22 25 12.5**	**+1.7**
HHC				pmax	pmax		
	comp=Z,12nm,1.1s						
HHC				pmax	pmax		
	comp=Z,23nm,6.8s						
WRA	**Warramunga Arr**	**45.71**	**119**	P	**P**	**22 25 27.1**	**+0.8**
	comp=Z,1nm,0.8s,baz=295,slow=8.6,SNR=8.9						
ASAR	**Alice Springs**	**46.79**	**124**	P	**P**	**22 25 35.6**	**+0.9**
	comp=Z,0.2nm,0.3s,baz=296,slow=7.7,SNR=5.0						
MK01	**Makanchi Array**	**47.01**	**350**	*e*P	**P**	**22 25 34.9**	**-1.1**
MK31	**Makanchi Array**	**47.03**	**350**	*e*P	**P**	**22 25 35.5**	**-0.7**
MKAR	**Makanchi Array**	**47.03**	**350**	P	**P**	**22 25 35.5**	**-0.7**
	comp=Z,1.7nm,0.7s,baz=171,slow=9.4,SNR=9.1						
MKAR	**Makanchi Array**	**47.03**	**350**	*e*P	**P**	**22 25 35.5**	**-0.7**
	comp=Z,19nm,0.6s						
SONM	**Songino Array**	**48.74**	**12**	P	**P**	**22 25 49.9**	**+0.4**
	comp=Z,2.4nm,0.7s,baz=199,slow=6.3,SNR=8.2						
SONA1	**Songino Array**	**48.75**	**12**	*e*P	**P**	**22 25 49.4**	**-0.2**
GEYT	**Alibeck**	**48.91**	**324**	P	**P**	**22 25 50.0**	**-1.0**
	comp=Z,0.6nm,0.5s,baz=146,slow=14,SNR=3.1						
KSAR	**Wonju Array Be**	**49.21**	**38**	P	**P**	**22 25 54.5**	**+1.4**
KSRS	**Korea Array**	**49.24**	**38**	P	**P**	**22 25 54.5**	**+1.2**
	comp=Z,0.7nm,0.4s,baz=236,slow=10,SNR=2.8						
KURBB	**Kurchatov Arra**	**51.40**	**349**	P	**P**	**22 26 08.5**	**-1.0**
	comp=Z,1.2nm,0.8s,baz=171,slow=6.6,SNR=6.7						
KURK	**Kurchatov**	**51.47**	**349**	P	**P**	**22 26 08.5**	**-1.5**
ZALV	**Zalesovo Beam**	**53.72**	**354**	P	**P**	**22 26 25.5**	**-1.0**
	comp=Z,1.3nm,0.4s,baz=175,slow=8.7,SNR=5.8						
ZALV				LR	LR	22 50 55.5	
	comp=Z,37nm,21.1s,baz=250,slow=38						
ZALV	**Zalesovo Beam**	**53.72**	**354**	*e*P	**P**	**22 26 25.3**	**-1.3**
BVAR	**Borovoye Array**	**55.56**	**344**	LR	LR	22 50 36.3	
	comp=Z,61nm,20.2s,baz=171,slow=36						
AKTO	**Aktyubinsk**	**57.80**	**335**	P	**P**	**22 26 55.5**	**-0.4**
	comp=Z,0.9nm,0.6s,baz=82,slow=7.1,SNR=3.3						
GNI	**Garni**	**58.66**	**318**	LR	LR	22 53 25.1	
	comp=Z,40nm,20.9s,baz=129,slow=37						
BRTR	**Keskin Array B**	**66.20**	**314**	P	**P**	**22 27 52.3**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=104,slow=6.1,SNR=3.2						
AKASG	**Malin Array Be**	**73.04**	**324**	LR	LR	23 03 51.9	
	comp=Z,19nm,18.0s,baz=320,slow=38						
MLR	**Muntele Rosu**	**73.43**	**318**	LR	LR	23 03 12.1	
	comp=Z,8.0nm,20.8s,baz=51,slow=38						
TIXI	**Tiksi**	**74.81**	**11**	*e*P	**P**	**22 28 46.5**	**+2.0**
	comp=Z,1.2nm,0.8s						
ARCES	**ARCESS Array B**	**81.69**	**341**	P	**P**	**22 29 22.7**	**+0.1**
	comp=Z,2.1nm,1.0s,baz=130,slow=9.8,SNR=2.8						
GERES	**GERESS Array B**	**82.30**	**319**	P	**P**	**22 29 26.2**	**-0.1**
	comp=Z,0.8nm,0.6s,baz=101,slow=4.8,SNR=8.4						
HFS	**Hagfors**	**84.05**	**330**	LR	LR	23 08 54.3	
	comp=Z,12nm,18.3s,baz=141,slow=37						
NOA	**NORSAR Array B**	**85.39**	**331**	LR	LR	23 11 21.4	
	comp=Z,22nm,18.2s,baz=5.0,slow=38						
SPITS	**Spitsbergen Ar**	**86.75**	**348**	LR	LR	23 16 23.3	
	comp=Z,27nm,18.1s,baz=195,slow=41						
TORD	**Tordis Ar. Bea**	**90.68**	**283**	LR	LR	23 09 18.9	
	comp=Z,32nm,18.7s,baz=140,slow=35						
TXAR	**Lajitas Array**	**146.62**	**26**	PKPbc	**PKPbc**	**22 36 47.2**	**+0.3**
	comp=Z,0.5nm,0.8s,baz=191,slow=1.9,SNR=3.8						

*TIR **26** 22:18:15.3,38.°25N×20.°59E, h27km, Md3.0/3*
*ISCJB **26** 22:18:18.1±0.7,38.°42N±0.°02×20.°41E±0.°04, h3km±4km, Error ellipse: s-maj=5.3km s-min=3.1km az=154.0*
*CSEM **26** 22:18:18.3±0.3,38.°42N×20.°43E, h2km, ML2.3, Error ellipse: s-maj=5.5km s-min=3.2km az=63.0*
*THE **26** 22:18:19.1,38.°43N×20.°45E, h7km±1km, ML2.3/19, Error ellipse: s-maj=1.3km s-min=0.7km az=67.0*
*ATH **26** 22:18:19.1,38.°44N×20.°53E, h10km±1km, ML2.3/7, Error ellipse: s-maj=2.5km s-min=0.9km az=271.0*
ISC 26 22:18:18.8±0.9,**38.°44N**±0.°02×**20.°50E**±0.°03,**h8km**±5km, **n72,** σ0**81**/118,**Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FSK	**Fiskardo**	**0.05**	**67**	P	**Pg**	**22 18 20.4**	**-0.2**
FSK				S	**Sg**	**22 18 21.9**	**0.0**
FSK	**Fiskardo**	**0.05**	**67**	P	**Pg**	**22 18 20.7**	**+0.1**
FSK				S	**Sg**	**22 18 22.1**	**+0.3**
VLS	**Valsamata**	**0.27**	**165**	P	**Pg**	**22 18 24.2**	**0.0**
VLS				AML	AML	22 18 29.1	
	comp=E,2758µm,0.1s						
VLS				S	**Sb**	**22 18 29.5**	**-1.2**
VLS				AML	AML	22 18 30.4	
	comp=N,4902µm,0.3s						
VLS	**Valsamata**	**0.27**	**165**	P	**Pg**	**22 18 24.3**	**+0.1**
VLS				S	**Sg**	**22 18 29.0**	**+1.1**
VLS	**Valsamata**	**0.27**	**165**	P	**Pg**	**22 18 24.3**	**+0.1**
VLS				S	**Sg**	**22 18 28.9**	**+1.1**
MGNA	**Meganis,,,**	**0.32**	**46**	P	**Pg**	**22 18 25.7**	**+0.6**
MGNA				S	**Sb**	**22 18 31.1**	**-0.9**
MGNA				AML	AML	22 18 31.4	
	comp=N,3063µm,0.1s						
MGNA				AML	AML	22 18 32.2	
	comp=E,3445µm,0.1s						
MGNA	**Meganis,,,**	**0.32**	**46**	P	**Pg**	**22 18 25.4**	**+0.4**
MGNA				S	**Sg**	**22 18 30.4**	**+1.2**
LKD2	**Lefkada island**	**0.37**	**19**	P	**Pg**	**22 18 26.2**	**0.0**
LKD2				S	**Sb**	**22 18 32.9**	**-0.8**
LKD2				AML	AML	22 18 33.5	
	comp=N,844µm,0.3s						
LKD2				AML	AML	22 18 34.9	
	comp=E,1190µm,0.2s						
LKD2	**Lefkada island**	**0.37**	**19**	P	**Pg**	**22 18 26.4**	**+0.3**
LKD2				S	**Sb**	**22 18 32.5**	**-1.1**
LKD2	**Lefkada island**	**0.37**	**19**	P	**Pg**	**22 18 26.3**	**+0.2**
LKD2				S	**Sg**	**22 18 32.3**	**+1.3**
KFL	**Anninata**	**0.40**	**145**	P	**Pg**	**22 18 27.1**	**+0.4**
KFL				S	**Sb**	**22 18 33.5**	**-0.9**
KFL	**Anninata**	**0.40**	**145**	P	**Pg**	**22 18 26.8**	**+0.2**
KFL				S	**Sb**	**22 18 33.8**	**-0.6**
KFL	**Anninata**	**0.40**	**145**	P	**Pg**	**22 18 26.8**	**+0.2**
KFL				S	**Sg**	**22 18 32.8**	**+0.9**
PDO	**Prodromos**	**0.56**	**73**	P	**Pb**	**22 18 30.5**	**-0.4**
PDO				AML	AML	22 18 42.6	
	comp=E,602µm,0.2s						
PDO				AML	AML	22 18 46.1	
	comp=N,846µm,0.4s						
PDO	**Prodromos**	**0.56**	**73**	P	**Pg**	**22 18 30.0**	**+0.4**
PDO				S	**Sb**	**22 18 39.9**	**+0.9**
PDO	**Prodromos**	**0.56**	**73**	P	**Pg**	**22 18 30.0**	**+0.4**
PDO				S	**Sb**	**22 18 39.9**	**+0.9**
VTN	**Vitineika**	**0.75**	**134**	P	**Pb**	**22 18 34.1**	**0.0**
VTN	**Vitineika**	**0.75**	**134**	P	**Pb**	**22 18 33.9**	**-0.2**
VTN				S	**Sn**	**22 18 46.1**	**-1.1**
VTN	**Vitineika**	**0.75**	**134**	P	**Pg**	**22 18 33.6**	**+0.3**
VTN				S	**Sn**	**22 18 46.1**	**-1.1**
PVO	**Paravola**	**0.82**	**77**	P	**Pb**	**22 18 35.2**	**-0.2**
PVO				S	**Sn**	**22 18 48.6**	**-0.5**
PVO	**Paravola**	**0.82**	**77**	P	**Pb**	**22 18 35.2**	**-0.2**
PVO				S	**Sn**	**22 18 48.6**	**-0.5**
DSL	**Palaion Diasel**	**0.84**	**34**	P	**Pg**	**22 18 34.8**	**-0.1**
DSL				AML	AML	22 18 55.4	
	comp=E,363µm,0.3s						
DSL				AML	AML	22 18 60.0	
	comp=N,492µm,0.4s						
DSL	**Palaion Diasel**	**0.84**	**34**	P	**Pg**	**22 18 34.9**	**0.0**
DSL				S	**Sn**	**22 18 48.6**	**-0.9**
DSL	**Palaion Diasel**	**0.84**	**34**	P	**Pg**	**22 18 34.9**	**0.0**
DSL				S	**Sn**	**22 18 48.6**	**-0.9**
RLS	**Riolos of Patr**	**0.85**	**116**	P	**Pb**	**22 18 35.7**	**-0.1**
RLS				AML	AML	22 18 55.6	
	comp=E,227µm,0.5s						
RLS				AML	AML	22 18 57.1	
	comp=N,190µm,0.3s						
RLS	**Riolos of Patr**	**0.85**	**116**	P	**Pg**	**22 18 35.3**	**+0.1**
RLS				S	**Sn**	**22 18 49.2**	**-0.5**
RLS	**Riolos of Patr**	**0.85**	**116**	P	**Pg**	**22 18 35.3**	**+0.1**
RLS				S	**Sn**	**22 18 49.2**	**-0.5**
DRO	**Drossia**	**1.07**	**117**	P	**Pg**	**22 18 38.4**	**-0.9**
DRO				AML	AML	22 18 58.5	
	comp=E,545µm,0.3s						
DRO				AML	AML	22 19 01.9	
	comp=N,569µm,0.3s						
DRO	**Drossia**	**1.07**	**117**	P	**Pg**	**22 18 38.8**	**-0.6**
DRO				S	**Sn**	**22 18 56.4**	**+1.2**
DRO	**Drossia**	**1.07**	**117**	P	**Pg**	**22 18 38.8**	**-0.6**
DRO				S	**Sn**	**22 18 56.4**	**+1.2**
IGT	**Igoumenitsa**	**1.10**	**353**	P	**Pg**	**22 18 40.0**	**0.0**
IGT	**Igoumenitsa**	**1.10**	**353**	P	**Pg**	**22 18 40.0**	**0.0**
IGT				S	**Sn**	**22 18 56.4**	**+0.5**
IGT	**Igoumenitsa**	**1.10**	**353**	P	**Pg**	**22 18 40.0**	**0.0**
IGT				S	**Sn**	**22 18 56.4**	**+0.5**
EFP	**Efpalio**	**1.10**	**90**	P	**Pg**	**22 18 39.4**	**-0.6**
EFP	**Efpalio**	**1.10**	**90**	P	**Pg**	**22 18 39.6**	**-0.4**
EFP				S	**Sn**	**22 18 57.0**	**+1.0**
EFP	**Efpalio**	**1.10**	**90**	P	**Pg**	**22 18 39.6**	**-0.4**
EFP				S	**Sn**	**22 18 57.0**	**+1.0**
ANX	**Ano Chora**	**1.12**	**82**	P	**Pg**	**22 18 40.2**	**-0.2**
ANX	**Ano Chora**	**1.12**	**82**	P	**Pg**	**22 18 40.1**	**-0.3**
EVR	**Evrytania**	**1.13**	**65**	P	**Pg**	**22 18 39.2**	**-1.3**
EVR	**Evrytania**	**1.13**	**65**	P	**Pg**	**22 18 40.5**	**0.0**
EVR				S	**Sn**	**22 18 58.7**	**+1.9**
EVR	**Evrytania**	**1.13**	**65**	P	**Pg**	**22 18 40.5**	**0.0**
EVR				S	**Sn**	**22 18 58.7**	**+1.9**
LAKA	**Lakka**	**1.18**	**99**	P	**Pb**	**22 18 40.0**	**-1.5**
LAKA	**Lakka**	**1.18**	**99**	P	**Pb**	**22 18 40.6**	**-0.9**
LAKA				S	**Sn**	**22 18 58.4**	**+0.5**
LAKA	**Lakka**	**1.18**	**99**	P	**Pb**	**22 18 40.6**	**-0.9**
LAKA				S	**Sn**	**22 18 58.4**	**+0.5**
SGD	**Sagiada**	**1.19**	**350**	P	**Pb**	**22 18 41.4**	**-0.3**
SGD	**Sagiada**	**1.19**	**350**	P	**Pb**	**22 18 41.1**	**-0.5**
SGD	**Sagiada**	**1.19**	**350**	P	**Pb**	**22 18 41.5**	**-0.1**
SERG	**Sergoula**	**1.22**	**91**	P	**Pb**	**22 18 41.4**	**-0.8**
SERG				S	**Sn**	**22 19 00.5**	**+1.5**
SERG	**Sergoula**	**1.22**	**91**	P	**Pb**	**22 18 41.4**	**-0.8**
SERG				S	**Sn**	**22 19 00.5**	**+1.5**
TRIZ	**Trizonia**	**1.24**	**93**	P	**Pn**	**22 18 41.3**	**-1.1**
TRIZ	**Trizonia**	**1.24**	**93**	P	**Pn**	**22 18 41.6**	**-0.8**
TRIZ				S	**Sn**	**22 18 59.1**	**-0.2**
TRIZ	**Trizonia**	**1.24**	**93**	P	**Pn**	**22 18 41.7**	**-0.7**
TRIZ				S	**Sn**	**22 18 59.1**	**-0.2**
ALIK	**Aliki, Aigiali**	**1.28**	**98**	P	**Pn**	**22 18 42.9**	**-0.1**
ALIK	**Aliki, Aigiali**	**1.28**	**98**	P	**Pn**	**22 18 42.9**	**-0.1**
KALE	**Kalithea**	**1.29**	**92**	P	**Pn**	**22 18 41.9**	**-1.3**
KALE	**Kalithea**	**1.29**	**92**	P	**Pn**	**22 18 42.4**	**-0.8**
AMT	**Artemida-Makis**	**1.32**	**133**	P	**Pg**	**22 18 44.0**	**-0.1**
AMT	**Artemida-Makis**	**1.32**	**133**	P	**Pg**	**22 18 44.0**	**-0.1**
AMT				S	**Sn**	**22 19 02.5**	**+1.2**
AMT	**Artemida-Makis**	**1.32**	**133**	P	**Pb**	**22 18 43.7**	**-0.1**
AMT				S	**Sn**	**22 19 02.5**	**+1.2**
KLV	**Kalavryta, Ach**	**1.36**	**106**	P	**Pn**	**22 18 43.1**	**-1.1**
KLV	**Kalavryta, Ach**	**1.36**	**106**	P	**Pn**	**22 18 43.8**	**-0.3**
KLV				S	**Sg**	**22 19 04.5**	**+2.0**
KLV	**Kalavryta, Ach**	**1.36**	**106**	P	**Pn**	**22 18 43.8**	**-0.3**
KLV				S	**Sg**	**22 19 04.5**	**+2.0**
KEK	**Kerkira**	**1.38**	**337**	P	**Pn**	**22 18 44.7**	**+0.2**
KEK				S	**Sg**	**22 19 03.9**	**+0.5**
KEK	**Kerkira**	**1.38**

KCTX	**Karacabey (Bur**	**1.32**	**332**	*e*Pn		**Pg**	**22 23 08.4**	**-0.1**
BALY	**Balya**	**1.35**	**299**	*i* P		**Pn**	**22 23 08.1**	**-0.3**
BALY				*i* S		**Sg**	**22 23 26.2**	**-0.5**
BALY	**Balya**	**1.35**	**299**	P		**Pn**	**22 23 08.1**	**-0.3**
BALY				S		**Sg**	**22 23 26.2**	**-0.5**
YLV	**Yalova**	**1.47**	**6**	PN		**Pg**	**22 23 11.9**	**+0.4**
YLV	**Yalova**	**1.47**	**6**	*e*Pn		**Pg**	**22 23 11.9**	**+0.4**
ARMT	**Armutlu**	**1.48**	**351**	PN		**Pg**	**22 23 12.2**	**+0.6**
ARMT	**Armutlu**	**1.48**	**351**	*e*Pn		**Pg**	**22 23 12.2**	**+0.6**
AYDB	**Zeytinkoy-Aydi**	**1.52**	**221**	PN		**Pb**	**22 23 11.5**	**-0.3**
AYDB	**Zeytinkoy-Aydi**	**1.52**	**221**	*e*Pn		**Pb**	**22 23 11.5**	**-0.3**
EDC	**Edincik**	**1.59**	**322**	PN		**Pg**	**22 23 13.5**	**-0.3**
EDC	**Edincik**	**1.59**	**322**	*e*Pn		**Pg**	**22 23 13.5**	**-0.3**
SILT	**Sile**	**2.08**	**10**	PN		**Pb**	**22 23 20.2**	**-1.0**
SILT	**Sile**	**2.08**	**10**	*e*Pn		**Pb**	**22 23 20.2**	**-1.0**
RKY	**Sarkoy-Tekirda**	**2.20**	**317**	PN		**Pb**	**22 23 22.0**	**-1.2**
RKY	**Sarkoy-Tekirda**	**2.20**	**317**	*e*Pn		**Pb**	**22 23 22.0**	**-1.2**

*IDC **26** 22:26:24.9±44.0, 17°.24S×171°.95W, h0km, mb4.1/3, mb1 4.3/3, mb1mx3.6/49, mbtmp4.1/3, Error ellipse: s-maj=855.8km s-min=181.0km az=81.0*
*ISCJB **26** 22:26:25.2±0.8, 17°.1S±0°.2×171°.9W±0°.1, h20km, mb4.2/6, Error ellipse: s-maj=23.7km s-min=14.4km az=16.6*
*NEIC **26** 22:26:26.1±0.6, 17°.18S×171°.91W, h10km, mb4.3/3, Error ellipse: s-maj=17.1km s-min=10.4km az=197.0*

ISC 26 22:26:27.6±0.9, 17°.2S±0°.2×171°.9W±0°.1, h20km, n8, σ0§39/8, mb4.1/6, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAR	**Rarotonga**	**12.14**	**111**	Pn	**Pn**	**22 29 19.4**	**0.0**
FUNA	**Funafuti** 48nm,0.4s	**12.21**	**314**	Pn	**Pn**	**22 29 20.6**	**+0.2**
STKA	**Stephens Creek** 1.2nm,0.6s,baz=82,slow=14,SNR=3.6	**44.46**	**242**	P	**P**	**22 34 37.8**	**+0.1**
WRAB	**Tennant Creek** 1.1nm,0.3s	**50.87**	**258**	P	**P**	**22 35 27.3**	**-0.3**
WRA	**Warramunga Arr** 0.6nm,0.3s,baz=98,slow=6.8,SNR=35	**50.88**	**258**	P	**P**	**22 35 27.0**	**-0.6**
ASAR	**Alice Springs** 4.5nm,0.7s,baz=88,slow=8.5,SNR=40	**50.97**	**253**	P	**P**	**22 35 28.1**	**-0.3**
CASY	**Casey** 0.3nm,0.3s	**69.44**	**205**	P	**P**	**22 37 34.4**	**+0.3**
CMB	**Columbia Colle** 4.7nm,0.5s	**73.14**	**40**	P	**P**	**22 37 56.9**	**0.0**

*DDA **26** 22:26:41.0, 39°.10N×29°.14E, h7km, Ml2.5*
*ISK **26** 22:26:40.4, 39°.05N×29°.21E, h5km, ML2.2/5*
*ISCJB **26** 22:26:41.2±0.6, 39°.08N±0°.03×29°.14E±0°.03, h0km±8km, Error ellipse: s-maj=6.0km s-min=4.2km az=158.3*
*CSEM **26** 22:26:41.4±0.1, 39°.09N×29°.16E, h2km, ML2.2, Error ellipse: s-maj=3.0km s-min=2.4km az=126.0*

ISC 26 22:26:41.4±1.0, 39°.09N±0°.03×29°.16E±0°.02, h8km±9km, n28, σ0§59/42, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIMA	**Simav-Kutahya**	**0.14**	**267**	PG	**Pg**	**22 26 44.3**	**-0.1**
SIMA	**Simav-Kutahya**	**0.14**	**267**	*e*Pg	**Pg**	**22 26 44.3**	**-0.1**
GDZ	**Gediz**	**0.25**	**91**	*i* P	**Pg**	**22 26 46.3**	**-0.1**
GDZ				*i* S	**Sg**	**22 26 50.2**	**+0.4**
GDZ	**Gediz**	**0.25**	**91**	P	**Pg**	**22 26 46.3**	**-0.1**
GDZ				S	**Sg**	**22 26 50.2**	**+0.4**
DEMI	**Demirci**	**0.35**	**262**	*i* P	**Pg**	**22 26 48.0**	**-0.3**
DEMI				*i* S	**Sg**	**22 26 52.5**	**-0.4**
DEMI	**Demirci**	**0.35**	**262**	P	**Pg**	**22 26 48.0**	**-0.3**
DEMI				S	**Sg**	**22 26 52.5**	**-0.4**
TVSB	**Tavsanli**	**0.43**	**33**	PG	**Pg**	**22 26 48.9**	**-0.9**
TVSB	**Tavsanli**	**0.43**	**33**	*e*Pg	**Pg**	**22 26 48.9**	**-0.9**
KULA	**Kula-Manisa**	**0.70**	**214**	PG	**Pg**	**22 26 54.7**	**-0.1**
KULA				SG	**Sg**	**22 27 03.7**	**-0.2**
KULA	**Kula-Manisa**	**0.70**	**214**	*e*Pg	**Pg**	**22 26 54.7**	**-0.1**
KULA				*e*Sg	**Sg**	**22 27 03.7**	**-0.2**
DURS	**Dursunbey**	**0.74**	**314**	*i* P	**Pg**	**22 26 55.2**	**-0.4**
DURS				*i* S	**Sn**	**22 27 09.0**	**-0.7**
DURS	**Dursunbey**	**0.74**	**314**	P	**Pg**	**22 26 55.2**	**-0.4**
DURS				S	**Sn**	**22 27 09.0**	**-0.7**
MANT	**Manisa**	**0.76**	**218**	*i* P	**Pg**	**22 26 55.9**	**-0.2**
MANT				*i* S	**Sg**	**22 27 05.7**	**-0.3**
MANT	**Manisa**	**0.76**	**218**	P	**Pg**	**22 26 55.9**	**-0.2**
MANT				S	**Sg**	**22 27 05.7**	**-0.3**
KHAL	**Karahalli**	**0.77**	**160**	*i* P	**Pb**	**22 26 56.8**	**-0.3**
KHAL				*i* S	**Sb**	**22 27 07.2**	**-0.5**
KHAL	**Karahalli**	**0.77**	**160**	P	**Pb**	**22 26 56.8**	**-0.3**
KHAL				S	**Sb**	**22 27 07.2**	**-0.5**
AKHS	**Akhisar**	**1.07**	**259**	*i* P	**Pg**	**22 27 01.2**	**-0.8**
AKHS				*i* S	**Sb**	**22 27 15.9**	**-0.5**
BALB	**Balikesir**	**1.13**	**299**	PN	**Pn**	**22 27 05.3**	**+1.7**
BALB	**Balikesir**	**1.13**	**299**	*e*Pn	**Pn**	**22 27 05.3**	**+1.7**
STEP	**BALIKESIR_Sava**	**1.16**	**285**	*i* P	**Pb**	**22 27 03.4**	**-0.3**
STEP				*i* S	**Sb**	**22 27 18.9**	**+0.1**
MDNY	**Mudanya-Bursa**	**1.29**	**351**	PN	**Pb**	**22 27 06.5**	**+0.5**
MDNY	**Mudanya-Bursa**	**1.29**	**351**	*e*Pn	**Pb**	**22 27 06.5**	**+0.5**
YLV	**Yalova**	**1.48**	**6**	PN	**Pg**	**22 27 09.3**	**-0.6**
YLV	**Yalova**	**1.48**	**6**	*e*Pn	**Pg**	**22 27 09.3**	**-0.6**
ARMT	**Armutlu**	**1.49**	**351**	PN	**Pg**	**22 27 09.6**	**-0.4**
ARMT	**Armutlu**	**1.49**	**351**	*e*Pn	**Pg**	**22 27 09.6**	**-0.4**
GULT	**Gulveren**	**1.70**	**38**	PN	**Pb**	**22 27 12.6**	**-0.4**
GULT	**Gulveren**	**1.70**	**38**	*e*Pn	**Pb**	**22 27 12.6**	**-0.4**

*ISCJB **26** 22:28:53.3±1.3, 36°.57N±0°.05×21°.51E±0°.07, h25km±6km, mb3.5/2, Error ellipse: s-maj=11.6km s-min=4.7km az=136.5*
*ATH **26** 22:28:53.2, 36°.60N×21°.54E, h30km±1km, ML3.0/3, Error ellipse: s-maj=4.0km s-min=1.0km az=56.0*
*CSEM **26** 22:28:54.2±0.4, 36°.61N×21°.58E, h20km, ML3.0, Error ellipse: s-maj=9.2km s-min=4.4km az=47.0*
*THE **26** 22:28:54.4, 36°.62N×21°.57E, h17km±1km, ML2.7/10, Error ellipse: s-maj=2.2km s-min=1.0km az=47.0*
*IDC **26** 22:29:02.8±5.1, 37°.36N×23°.81E, h0km, mb3.6/2, mb1 3.4/3, mb1mx3.0/65, mbtmp3.4/3, ML2.2/2, Error ellipse: s-maj=101.4km s-min=33.1km az=97.0*

ISC 26 22:28:52.7±1.3, 36°.56N±0°.04×21°.52E±0°.05, h29km±7km, n89, σ1§21/113, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MES2	**Methoni**	**0.31**	**30**	P	**Pb**	**22 29 00.3**	**+0.1**
MES2				S	**Sb**	**22 29 05.5**	**+0.2**
MES2				AML	AML	22 29 06.0	
	comp=N,9927μm,0.3s						
MES2				AML	AML	22 29 06.0	
	comp=E,9849μm,0.4s						
MES2	**Methoni**	**0.31**	**30**	P	**Pb**	**22 29 00.3**	**+0.1**
MES2				S	**Sb**	**22 29 05.4**	**+0.2**
PYL	**PYLOS**	**0.38**	**28**	P	**Pb**	**22 29 01.1**	**-0.2**
PYL				S	**Sb**	**22 29 07.6**	**+0.5**
PYL				AML	AML	22 29 07.8	
	comp=E,5470μm,0.3s						
PYL				AML	AML	22 29 08.7	
	comp=N,3321μm,0.2s						
PYL	**PYLOS**	**0.38**	**28**	P	**Pb**	**22 29 01.1**	**-0.2**
PYL				S	**Sb**	**22 29 05.5**	**-1.6**
PYL	**PYLOS**	**0.38**	**28**	P	**Pb**	**22 29 01.1**	**-0.2**
PYL				S	**Sb**	**22 29 05.5**	**-1.6**
DYR	**Agios Nikonas**	**0.69**	**72**	P	**Pn**	**22 29 06.2**	**-0.3**
DYR	**Agios Nikonas**	**0.69**	**72**	P	**Pn**	**22 29 06.3**	**-0.3**
DYR				S	**Sn**	**22 29 16.4**	**+0.1**
DYR	**Agios Nikonas**	**0.69**	**72**	P	**Pn**	**22 29 06.4**	**-0.2**
MES3	**Kyparissia**	**0.70**	**10**	P	**Pb**	**22 29 06.0**	**-0.5**
MES3				S	**Sn**	**22 29 17.4**	**+0.8**
MES3	**Kyparissia**	**0.70**	**10**	P	**Pb**	**22 29 06.2**	**-0.2**
MES3				S	**Sn**	**22 29 16.8**	**+0.2**
ITM	**Ithomi**	**0.70**	**28**	P	**Pb**	**22 29 06.0**	**-0.4**
ITM				S	**Sb**	**22 29 15.7**	**-0.1**
ITM				AML	AML	22 29 17.5	
	comp=E,1379μm,0.4s						
ITM				AML	AML	22 29 19.3	
	comp=N,2516μm,0.3s						
ITM	**Ithomi**	**0.70**	**28**	P	**Pb**	**22 29 06.1**	**-0.4**
ITM				S	**Sb**	**22 29 16.0**	**+0.1**
ITM	**Ithomi**	**0.70**	**28**	P	**Pb**	**22 29 06.2**	**-0.3**
ITM				S	**Sb**	**22 29 15.9**	**+0.1**
AMT	**Artemida-Makis**	**0.99**	**9**	P	**Pn**	**22 29 10.9**	**+0.3**
AMT	**Artemida-Makis**	**0.99**	**9**	P	**Pn**	**22 29 10.6**	**-0.1**
AMT				S	**Sb**	**22 29 24.3**	**+0.4**
AMT	**Artemida-Makis**	**0.99**	**9**	P	**Pn**	**22 29 11.2**	**+0.5**
AMT				S	**Sb**	**22 29 24.3**	**+0.4**
VLX	**Vlachokerasia**	**1.07**	**40**	P	**Pn**	**22 29 12.3**	**+0.4**
VLX	**Vlachokerasia**	**1.07**	**40**	P	**Pb**	**22 29 12.4**	**-0.2**
VLX				S	**Sn**	**22 29 27.6**	**+1.8**
VLX	**Vlachokerasia**	**1.07**	**40**	P	**Pb**	**22 29 12.5**	**-0.2**
VLX				S	**Sn**	**22 29 27.6**	**+1.8**
TRIP	**Tripoli**	**1.14**	**32**	P	**Pn**	**22 29 13.2**	**+0.4**
TRIP	**Tripoli**	**1.14**	**32**	P	**Pb**	**22 29 13.6**	**-0.3**
VLI	**Veliai**	**1.16**	**82**	P	**Pb**	**22 29 14.8**	**+0.7**
VLI	**Veliai**	**1.16**	**82**	P	**Pb**	**22 29 15.0**	**+1.0**
VLI				S	**Sn**	**22 29 29.9**	**+2.1**
VLI	**Veliai**	**1.16**	**82**	P	**Pb**	**22 29 14.7**	**+0.7**
VLI				S	**Sn**	**22 29 29.9**	**+2.1**
MNVA	**Monemvasia**	**1.23**	**83**	P	**Pb**	**22 29 15.5**	**+0.2**
MNVA	**Monemvasia**	**1.23**	**83**	P	**Pb**	**22 29 15.6**	**+0.2**
KYTH	**Kithira**	**1.27**	**103**	P	**Pb**	**22 29 17.1**	**+1.0**
KYTH	**Kithira**	**1.27**	**103**	P	**Pb**	**22 29 16.8**	**+0.8**
KYTH				S	**Sb**	**22 29 33.0**	**+1.0**
KYTH	**Kithira**	**1.27**	**103**	P	**Pb**	**22 29 16.8**	**+0.8**
KYTH				S	**Sb**	**22 29 33.0**	**+1.0**
DRO	**Drossia**	**1.40**	**6**	P	**Pn**	**22 29 17.6**	**+1.3**
DRO	**Drossia**	**1.40**	**6**	P	**Pb**	**22 29 18.1**	**-0.2**
DRO				S	**Sb**	**22 29 36.0**	**+0.2**
DRO	**Drossia**	**1.40**	**6**	P	**Pn**	**22 29 17.8**	**+1.4**
DRO				S	**Sb**	**22 29 36.0**	**+0.2**
GUR	**Goura**	**1.53**	**25**	P	**Pb**	**22 29 19.8**	**-0.6**
GUR	**Goura**	**1.53**	**25**	P	**Pn**	**22 29 19.5**	**+1.3**
GUR	**Goura**	**1.53**	**25**	P	**Pn**	**22 29 19.5**	**+1.3**
KRND	**KRANIDI**	**1.55**	**57**	P	**Pn**	**22 29 18.5**	**+0.1**
KRND	**KRANIDI**	**1.55**	**57**	P	**Pn**	**22 29 19.3**	**+1.0**
KRND	**KRANIDI**	**1.55**	**57**	P	**Pn**	**22 29 19.3**	**+1.0**
KLV	**Kalavryta, Ach**	**1.57**	**19**	P	**Pb**	**22 29 20.3**	**-0.8**
KLV	**Kalavryta, Ach**	**1.57**	**19**	P	**Pb**	**22 29 20.3**	**-0.8**
KLV	**Kalavryta, Ach**	**1.57**	**19**	P	**Pb**	**22 29 20.3**	**-0.8**
ANKY	**Antikythira Is**	**1.60**	**115**	P	**Pb**	**22 29 21.6**	**-0.1**
ANKY	**Antikythira Is**	**1.60**	**115**	P	**Pb**	**22 29 21.5**	**-0.1**
ANKY				S	**Sb**	**22 29 40.9**	**-0.5**
ANKY	**Antikythira Is**	**1.60**	**115**	P	**Pb**	**22 29 21.5**	**-0.1**
ANKY				S	**Sb**	**22 29 40.9**	**-0.5**
KFL	**Anninata**	**1.66**	**340**	P	**Pb**	**22 29 22.6**	**+0.1**
KFL	**Anninata**	**1.66**	**340**	P	**Pb**	**22 29 22.6**	**+0.1**
DID	**Didima**	**1.67**	**55**	P	**Pn**	**22 29 20.6**	**+0.5**
DID	**Didima**	**1.67**	**55**	P	**Pn**	**22 29 20.6**	**+0.5**
LAKA	**Lakka**	**1.72**	**12**	P	**Pb**	**22 29 23.3**	**-0.3**
LAKA	**Lakka**	**1.72**	**12**	P	**Pb**	**22 29 22.9**	**-0.8**
LAKA	**Lakka**	**1.72**	**12**	P	**Pb**	**22 29 22.9**	**-0.8**
THAL	**Thalero**	**1.74**	**31**	P	**Pn**	**22 29 22.2**	**+1.2**
THAL	**Thalero**	**1.74**	**31**	P	**Pn**	**22 29 22.2**	**+1.2**
VLS	**Valsamata**	**1.78**	**336**	P	**Pn**	**22 29 22.3**	**+0.8**
VLS				S	**Sn**	**22 29 44.2**	**+1.0**
VLS	**Valsamata**	**1.78**	**336**	P	**Pn**	**22 29 22.3**	**+0.8**
VLS				S	**Sn**	**22 29 44.2**	**+1.0**
TRIZ	**Trizonia**	**1.86**	**14**	P	**Pb**	**22 29 26.1**	**+0.1**
TRIZ	**Trizonia**	**1.86**	**14**	P	**Pb**	**22 29 25.2**	**-0.8**
LTK	**Loutraki**	**1.87**	**38**	P	**Pn**	**22 29 23.4**	**+0.7**
LTK	**Loutraki**	**1.87**	**38**	P	**Pn**	**22 29 23.4**	**+0.7**
EFP	**Efpalio**	**1.89**	**9**	P	**Pb**	**22 29 26.1**	**-0.5**
EFP	**Efpalio**	**1.89**	**9**	P	**Pb**	**22 29 25.6**	**-1.0**
EFP	**Efpalio**	**1.89**	**9**	P	**Pb**	**22 29 25.5**	**-1.0**
KALE	**Kalithea**	**1.90**	**15**	P	**Pb**	**22 29 26.5**	**-0.2**
KALE	**Kalithea**	**1.90**	**15**	P	**Pb**	**22 29 25.7**	**-1.0**
KALE	**Kalithea**	**1.90**	**15**	P	**Pb**	**22 29 25.7**	**-1.0**
SERG	**Sergoula**	**1.90**	**13**	P	**Pb**	**22 29 25.9**	**-0.9**
SERG	**Sergoula**	**1.90**	**13**	P	**Pb**	**22 29 25.9**	**-0.9**
DSF	**Desfina**	**2.02**	**23**	P	**Pn**	**22 29 25.9**	**+1.0**
DSF	**Desfina**	**2.02**	**23**	P	**Pn**	**22 29 25.9**	**+1.0**
VILL	**Villia**	**2.15**	**41**	P	**Pn**	**22 29 26.6**	**-0.1**
VILL	**Villia**	**2.15**	**41**	P	**Pn**	**22 29 26.6**	**-0.1**
VLY	**Voula,Athens**	**2.23**	**54**	P	**Pn**	**22 29 27.6**	**-0.2**
VLY	**Voula,Athens**	**2.23**	**54**	P	**Pn**	**22 29 27.6**	**-0.2**
ATHU	**Athens Univers**	**2.29**	**51**	P	**Pn**	**22 29 28.9**	**+0.3**
ATHU	**Athens Univers**	**2.29**	**51**	P	**Pn**	**22 29 28.9**	**+0.3**
AXAR	**Agios Charalam**	**2.38**	**22**	P	**Pn**	**22 29 32.5**	**+2.6**
AXAR	**Agios Charalam**	**2.38**	**22**	P	**Pn**	**22 29 32.5**	**+2.6**
PTL	**Penteli**	**2.39**	**51**	P	**Pn**	**22 29 30.2**	**+0.2**
PTL	**Penteli**	**2.39**	**51**	P	**Pn**	**22 29 30.2**	**+0.2**
LKR	**Lokris**	**2.40**	**29**	P	**Pn**	**22 29 30.3**	**+0.3**
LKR	**Lokris**	**2.40**	**29**	P	**Pn**	**22 29 30.3**	**+0.3**
DSL	**Palaion Diasel**	**2.59**	**353**	P	**Pn**	**22 29 34.8**	**+2.0**
DSL	**Palaion Diasel**	**2.59**	**353**	P	**Pn**	**22 29 34.8**	**+2.0**
IDI	**Anoyia**	**3.02**	**114**	Pn	**Pn**	**22 29 41.3**	**+2.7**
	comp=N,0.3nm,0.3s,baz=263,slow=3.3,SNR=9.4						
IDI				Sn	**Sn**	**22 30 05.8**	**-8.0**
	comp=N,1.4nm,0.3s,baz=314,slow=18,SNR=7.3						
STON	**Ston**	**6.96**	**336**	*i* Pn	Pn	22 30 29.9	-2.7
STON				Sn	Sn	22 31 41.1	-10
NVLJ	**Novalja**	**9.46**	**330**	*e*Pn	**Pn**	**22 31 06.0**	**-1.0**
NVLJ				Sn	Sn	22 32 43.8	-8.4
BRTR	**Keskin Array B**	**10.06**	**68**	Pn	Pn	22 31 03.4	-12
	comp=N,0.1nm,0.3s,baz=252,slow=18,SNR=3.7						
MKAR	**Makanchi Array**	**45.49**	**57**	P	**P**	**22 37 08.1**	**-1.3**
	comp=N,0.1nm,0.3s,baz=269,slow=7.8,SNR=4.5						
ZALV	**Zalesovo Beam**	**46.20**	**47**	P	**P**	**22 37 13.6**	**-1.1**
	comp=N,0.8nm,0.4s,baz=263,slow=12,SNR=3.1						

*DDA **26** 22:29:54.9, 39°.09N×29°.13E, h7km, Ml2.9*
*ISK **26** 22:29:54.9, 39°.06N×29°.17E, h5km, ML2.2/6*
*ISCJB **26** 22:29:55.2±0.6, 39°.08N±0°.03×29°.14E±0°.03, h0km±7km, Error ellipse: s-maj=5.9km s-min=3.7km az=157.3*
*CSEM **26** 22:29:55.3±0.1, 39°.09N×29°.16E, h2km, ML2.2, Error ellipse: s-maj=3.0km s-min=2.1km az=136.0*

ISC 26 22:29:55.3±1.0, 39°.09N±0°.03×29°.16E±0°.02, h7km±9km, n29, σ0§38/45, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIMA	**Simav-Kutahya**	**0.14**	**268**	PG	**Pg**	**22 29 58.2**	**0.0**
SIMA	**Simav-Kutahya**	**0.14**	**268**	*i* Pg	**Pg**	**22 29 58.2**	**0.0**
GDZ	**Gediz**	**0.25**	**90**	*i* P	**Pg**	**22 30 00.0**	**-0.3**
GDZ				*i* S	**Sg**	**22 30 04.4**	**+0.6**
GDZ	**Gediz**	**0.25**	**90**	P	**Pg**	**22 30 00.0**	**-0.3**
GDZ				S	**Sg**	**22 30 04.4**	**+0.6**
DEMI	**Demirci**	**0.34**	**263**	*i* P	**Pg**	**22 30 02.1**	**0.0**
DEMI				*i* S	**Sg**	**22 30 06.4**	**-0.2**
DEMI	**Demirci**	**0.34**	**263**	P	**Pg**	**22 30 02.1**	**0.0**
DEMI				S	**Sg**	**22 30 06.4**	**-0.2**
TVSB	**Tavsanli**	**0.43**	**33**	PG	**Pg**	**22 30 02.9**	**-0.8**
TVSB	**Tavsanli**	**0.43**	**33**	*e*Pg	**Pg**	**22 30 02.9**	**-0.8**
KULA	**Kula-Manisa**	**0.69**	**214**	PG	**Pg**	**22 30 08.7**	**+0.1**
KULA				SG	**Sg**	**22 30 17.8**	**+0.2**
KULA	**Kula-Manisa**	**0.69**	**214**	*i* Pg	**Pg**	**22 30 08.7**	**+0.1**
KULA				*i* Sg	**Sg**	**22 30 17.8**	**+0.2**
DURS	**Dursunbey**	**0.74**	**314**	*i* P	**Pg**	**22 30 09.2**	**-0.3**
DURS				*i* S	**Sn**	**22 30 23.3**	**-0.5**
DURS	**Dursunbey**	**0.74**	**314**	P	**Pg**	**22 30 09.2**	**-0.3**
DURS				S	**Sn**	**22 30 23.3**	**-0.5**
MANT	**Manisa**	**0.76**	**218**	*i* P	**Pg**	**22 30 09.8**	**-0.1**
MANT				*i* S	**Sg**	**22 30 19.6**	**-0.1**
MANT	**Manisa**	**0.76**	**218**	P	**Pg**	**22 30 09.8**	**-0.1**
MANT				S	**Sg**	**22 30 19.6**	**-0.1**
KHAL	**Karahalli**	**0.76**	**160**	*i* P	**Pb**	**22 30 10.6**	**-0.4**
KHAL				*i* S	**Sb**	**22 30 21.2**	**-0.4**
KHAL	**Karahalli**	**0.76**	**160**	P	**Pb**	**22 30 10.6**	**-0.4**
AKHS	**Akhisar**	**1.07**	**259**	*i* P	**Pg**	**22 30 15.5**	**-0.2**
AKHS				*i* S	**Sg**	**22 30 29.2**	**-0.4**
STEP	**BALIKESIR_Sava**	**1.15**	**285**	*i* P	**Pb**	**22 30 17.3**	**-0.3**
STEP				*i* S	**Sb**	**22 30 33.1**	**+0.3**
IGD	**Bursa**	**1.18**	**2**	*i* P	**Pg**	**22 30 17.5**	**-0.4**
IGD				*i* S	**Sn**	**22 30 34.4**	**-0.1**
CAVI	**Cavuskoy**	**1.23**	**25**	PN	**Pn**	**22 30 19.8**	**+0.8**
CAVI	**Cavuskoy**	**1.23**	**25**	*e*Pn	**Pn**	**22 30 19.8**	**+0.8**
BORA	**Eskisehir**	**1.28**	**51**	*i* P	**Pb**	**22 30 19.6**	**-0.2**
BORA				*i* S	**Sn**	**22 30 37.0**	**-0.1**
BORA	**Eskisehir**	**1.28**	**51**	P	**Pb**	**22 30 19.6**	**-0.2**
BORA				S	**Sn**	**22 30 37.0**	**-0.1**
MDNY	**Mudanya-Bursa**	**1.30**	**351**	PN	**Pg**	**22 30 20.5**	**+0.3**
MDNY	**Mudanya-Bursa**	**1.30**	**351**	*i* Pn	**Pg**	**22 30 20.5**	**+0.3**
YLV	**Yalova**	**1.49**	**6**	PN	**Pg**	**22 30 23.8**	**0.0**
YLV	**Yalova**	**1.49**	**6**	*e*Pn	**Pg**	**22 30 23.8**	**0.0**
ARMT	**Armutlu**	**1.49**	**351**	PN	**Pg**	**22 30 23.9**	**0.0**
ARMT	**Armutlu**	**1.49**	**351**	*e*Pn	**Pg**	**22 30 23.9**	**0.0**

*TAP **26** 22:40:49.9, 25°.30N×122°.23E, h186km±1km, ML3.0, D*
*ISCJB **26** 22:40:51.0±0.7, 25°.12N±0°.06×122°.25E±0°.03, h177km±5km, Error ellipse: s-maj=10.6km s-min=3.9km az=170.5*

*JMA **26** 22:40:52.1±0.2, 25°.28N×122°.30E, h164km±4km, M2.6*

ISC 26 22:40:50.2±2.2, 25°.2N±0°.1×122°.22E±0°.04, h183km±12km, n40, σ0§70/77, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TWB1	**Santiao Chiao** baz=207	**0.27**	**232**	*e*P	**Pn**	**22 41 14.9**	**+0.3**
TIPB	**Shuangxi** baz=237	**0.41**	**241**	P	**Pn**	**22 41 14.5**	**-0.5**
TIPB				*e*S	**Sn**	**22 41 33.9**	**-0.3**
	baz=237						
YM07	**YM07** baz=268	**0.54**	**270**	*e*P	**Pn**	**22 41 15.1**	**-0.4**
EOS1	**EOS1** baz=186	**0.63**	**188**	P	**Pn**	**22 41 16.5**	**+0.6**
EOS1				S	**Sn**	**22 41 35.5**	**-0.3**
	baz=186						
TWC	**Suao** baz=200	**0.66**	**211**	*e*P	**Pn**	**22 41 16.1**	**0.0**
TWC				*e*S	**Sn**	**22 41 36.2**	**+0.2**
	baz=200						
TWE	**Neicheng** baz=223	**0.67**	**228**	*e*P	**Pn**	**22 41 16.6**	**+0.4**
TWE				*e*S	**Sn**	**22 41 36.8**	**+0.7**
	baz=223						
SLBB	**Yuanshan** baz=226	**0.68**	**232**	P	**Pn**	**22 41 16.5**	**+0.2**
SLBB				*e*S	**Sn**	**22 41 36.5**	**+0.3**
	baz=226						
NWLT	**Wulai** baz=231	**0.76**	**239**	P	**Pn**	**22 41 17.0**	**+0.3**
NWLT				S	**Sn**	**22 41 36.8**	**-0.2**
	baz=231						
ENTT	**Nioudou** baz=221	**0.80**	**228**	*i* P	**Pn**	**22 41 17.5**	**+0.6**
ENTT				*e*S	**Sn**	**22 41 38.0**	**+0.5**
	baz=221						
ENAH	**Nanao** baz=198	**0.81**	**207**	*e*P	**Pn**	**22 41 17.8**	**+0.8**
ENAH				*e*S	**Sn**	**22 41 38.0**	**+0.4**
	baz=198						
NANB	**Nanao** baz=199	**0.86**	**210**	P	**Pn**	**22 41 18.0**	**+0.7**
NANB				*e*S	**Sn**	**22 41 38.1**	**-0.1**
	baz=199						
ENA	**Nanau** baz=199	**0.86**	**210**	P	**Pn**	**22 41 18.0**	**+0.7**
ENA				*e*S	**Sn**	**22 41 38.3**	**+0.1**
	baz=199						
YHNB	**Yeheng** baz=230	**0.92**	**237**	P	**Pn**	**22 41 17.9**	**+0.1**
YHNB				*e*S	**Sn**	**22 41 38.1**	**-0.9**
	baz=230						
JYNG	**Yonagunijimaku**	**0.98**	**137**	P	**Pn**	**22 41 18.5**	**+0.4**
JYNG				S	**Sn**	**22 41 39.0**	**-0.6**
YOJ	**Yonaguni jima**	**1.01**	**134**	P	**Pn**	**22 41 18.6**	**+0.3**
YOJ				*e*S	**Sn**	**22 41 38.7**	**-1.3**
NNS	**Nan Shan** baz=226	**1.06**	**227**	P	**Pn**	**22 41 19.3**	**+0.4**
NNS				*e*S	**Sn**	**22 41 41.1**	**+0.1**
	baz=226						
NNSB	**Datong** baz=226	**1.06**	**226**	P	**Pn**	**22 41 19.4**	**+0.5**
NNSB				*e*S	**Sn**	**22 41 40.7**	**-0.3**
	baz=226						
NACB	**Ninganchiao** baz=214	**1.15**	**210**	*e*P	**Pn**	**22 41 19.1**	**-0.3**
NACB				*e*S	**Sn**	**22 41 41.1**	**-0.8**
	baz=214						
LIOB	**Emei** baz=234	**1.21**	**245**	*e*P	**Pn**	**22 41 20.2**	**+0.2**
LIOB				*e*S	**Sn**	**22 41 42.5**	**-0.3**
	baz=234						
TWD	**Chiawan** baz=214	**1.23**	**208**	*e*P	**Pn**	**22 41 20.0**	**0.0**
TWD				*e*S	**Sn**	**22 41 42.3**	**-0.8**
	baz=214						
NSTT	**Nanjuang** baz=233	**1.23

KULA				SG	**Sg**	**22 43 56.5**	**0.0**		
KULA	**Kula-Manisa**	**0.70**	**215**	*e*Pg	**Pg**	**22 43 47.4**	**0.0**		
KULA				*e*Sg	**Sg**	**22 43 56.5**	**0.0**		
DURS	**Dursunbey**	**0.74**	**314**	*i* P	**Pg**	**22 43 47.6**	**-0.6**		
DURS				*i* S	**Sn**	**22 44 01.7**	**-0.5**		
DURS	**Dursunbey**	**0.74**	**314**	P	**Pg**	**22 43 47.6**	**-0.6**		
DURS				S	**Sn**	**22 44 01.7**	**-0.5**		
KHAL	**Karahalli**	**0.76**	**161**	*i* P	**Pb**	**22 43 49.1**	**-0.2**		
KHAL				*i* S	**Sb**	**22 43 59.6**	**-0.3**		
KHAL	**Karahalli**	**0.76**	**161**	P	**Pb**	**22 43 49.2**	**-0.2**		
KHAL				S	**Sb**	**22 43 59.6**	**-0.3**		
MANT	**Manisa**	**0.77**	**219**	*i* P	**Pg**	**22 43 48.5**	**-0.2**		
MANT				*i* S	**Sg**	**22 43 58.3**	**-0.4**		
MANT	**Manisa**	**0.77**	**219**	P	**Pg**	**22 43 48.5**	**-0.2**		
MANT				S	**Sg**	**22 43 58.3**	**-0.4**		
IGD	**Bursa**	**1.17**	**1**	*i* P	**Pg**	**22 43 55.3**	**-1.0**		
IGD				*i* S	**Sb**	**22 44 11.8**	**+0.2**		
BORA	**Eskisehir**	**1.27**	**51**	*i* P	**Pn**	**22 43 58.5**	**+0.6**		
BORA				*i* S	**Sb**	**22 44 15.0**	**+0.5**		
BORA	**Eskisehir**	**1.27**	**51**	P	**Pn**	**22 43 58.5**	**+0.6**		
BORA				S	**Sb**	**22 44 15.0**	**+0.5**		
MDNY	**Mudanya-Bursa**	**1.30**	**350**	PN	**Pg**	**22 43 58.5**	**-0.2**		
MDNY	**Mudanya-Bursa**	**1.30**	**350**	*e*Pn	**Pg**	**22 43 58.5**	**-0.2**		
KCTX	**Karacabey (Bur**	**1.33**	**332**	PN	**Pg**	**22 43 59.7**	**+0.3**		
KCTX	**Karacabey (Bur**	**1.33**	**332**	*e*Pn	**Pg**	**22 43 59.7**	**+0.3**		
YLV	**Yalova**	**1.48**	**6**	PN	**Pg**	**22 44 02.2**	**-0.1**		
YLV	**Yalova**	**1.48**	**6**	*e*Pn	**Pg**	**22 44 02.2**	**-0.1**		
ARMT	**Armutlu**	**1.49**	**351**	PN	**Pg**	**22 44 02.3**	**-0.2**		
ARMT	**Armutlu**	**1.49**	**351**	*e*Pn	**Pg**	**22 44 02.3**	**-0.2**		
AYDB	**Zeytinkoy-Aydi**	**1.52**	**222**	PN	**Pb**	**22 44 02.3**	**0.0**		
AYDB	**Zeytinkoy-Aydi**	**1.52**	**222**	*e*Pn	**Pb**	**22 44 02.3**	**0.0**		
EDC	**Edincik**	**1.61**	**322**	PN	**Pg**	**22 44 04.3**	**-0.4**		
EDC	**Edincik**	**1.61**	**322**	*e*Pn	**Pg**	**22 44 04.3**	**-0.4**		
GULT	**Gulveren**	**1.69**	**37**	PN	**Pb**	**22 44 05.6**	**+0.3**		
GULT	**Gulveren**	**1.69**	**37**	*e*Pn	**Pb**	**22 44 05.6**	**+0.3**		

CSEM ***26*** *22:46:31.8₀0.1, 39.°09N×29.°14E, h2ᵏᵐ, ML2.4, Error ellipse: s-maj=2.8km s-min=2.1km az=129.0*
ISK ***26*** *22:46:31.1, 39.°06N×29.°18E, h5ᵏᵐ, ML2.4/6*
DDA ***26*** *22:46:31.6, 39.°10N×29.°13E, h7ᵏᵐ, Ml2.7*

ISC 26 22:46:31.9±1.0, 39.°09N±0.°03×29.°14E±0.°02, h7ᵏᵐ±9ᵏᵐ, n33, σ0ˢ41/50, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIMA	**Simav-Kutahya**	**0.12**	**266**	PG	**Pg**	**22 46 34.6**	**+0.1**
SIMA	**Simav-Kutahya**	**0.12**	**266**	*e*Pg	**Pg**	**22 46 34.6**	**+0.1**
GDZ	**Gediz**	**0.27**	**91**	*i* P	**Pg**	**22 46 36.7**	**-0.5**
GDZ				*i* S	**Sg**	**22 46 41.1**	**+0.3**
GDZ	**Gediz**	**0.27**	**91**	P	**Pg**	**22 46 36.7**	**-0.5**
GDZ				S	**Sg**	**22 46 41.1**	**+0.3**
DEMI	**Demirci**	**0.33**	**262**	*i* P	**Pg**	**22 46 38.4**	**-0.1**
DEMI				*i* S	**Sg**	**22 46 42.6**	**-0.2**
DEMI	**Demirci**	**0.33**	**262**	P	**Pg**	**22 46 38.3**	**-0.1**
DEMI				S	**Sg**	**22 46 42.6**	**-0.2**
TVSB	**Tavsanli**	**0.44**	**35**	PG	**Pg**	**22 46 39.3**	**-1.1**
TVSB	**Tavsanli**	**0.44**	**35**	*e*Pg	**Pg**	**22 46 39.3**	**-1.1**
KULA	**Kula-Manisa**	**0.69**	**213**	PG	**Pg**	**22 46 45.0**	**-0.1**
KULA				SG	**Sg**	**22 46 54.1**	**+0.1**
KULA	**Kula-Manisa**	**0.69**	**213**	*e*Pg	**Pg**	**22 46 45.0**	**-0.1**
KULA				*e*Sg	**Sg**	**22 46 54.1**	**+0.1**
DURS	**Dursunbey**	**0.72**	**315**	*i* P	**Pg**	**22 46 45.3**	**-0.5**
DURS				*i* S	**Sn**	**22 46 59.4**	**-0.6**
DURS	**Dursunbey**	**0.72**	**315**	P	**Pg**	**22 46 45.3**	**-0.5**
DURS				S	**Sn**	**22 46 59.4**	**-0.6**
MANT	**Manisa**	**0.75**	**217**	*i* P	**Pg**	**22 46 46.2**	**-0.2**
MANT				*i* S	**Sg**	**22 46 55.8**	**-0.3**
MANT	**Manisa**	**0.75**	**217**	P	**Pg**	**22 46 46.2**	**-0.2**
MANT				S	**Sg**	**22 46 55.8**	**-0.3**
KHAL	**Karahalli**	**0.77**	**159**	*i* P	**Pb**	**22 46 47.3**	**-0.4**
KHAL				*i* S	**Sg**	**22 46 57.4**	**+0.7**
KHAL	**Karahalli**	**0.77**	**159**	P	**Pb**	**22 46 47.3**	**-0.4**
KHAL				S	**Sg**	**22 46 57.4**	**+0.7**
STEP	**BALIKESIR_Sava**	**1.14**	**285**	*i* P	**Pb**	**22 46 53.6**	**-0.3**
STEP				*i* S	**Sb**	**22 47 09.3**	**+0.4**
STEP	**BALIKESIR_Sava**	**1.14**	**285**	P	**Pb**	**22 46 53.6**	**-0.3**
STEP				S	**Sb**	**22 47 09.3**	**+0.4**
IGD	**Bursa**	**1.17**	**2**	*i* P	**Pb**	**22 46 54.3**	**-0.1**
IGD				*i* S	**Sn**	**22 47 10.9**	**0.0**
CAVI	**Cavuskoy**	**1.23**	**26**	PN	**Pn**	**22 46 56.1**	**+0.5**
CAVI	**Cavuskoy**	**1.23**	**26**	*e*Pn	**Pn**	**22 46 56.1**	**+0.5**
BORA	**Eskisehir**	**1.29**	**52**	*i* P	**Pb**	**22 46 56.7**	**+0.2**
BORA				*i* S	**Sb**	**22 47 13.5**	**+0.3**
BORA	**Eskisehir**	**1.29**	**52**	P	**Pb**	**22 46 56.7**	**+0.2**
BORA				S	**Sb**	**22 47 13.5**	**+0.3**
MDNY	**Mudanya-Bursa**	**1.29**	**351**	PN	**Pg**	**22 46 56.9**	**+0.3**
MDNY	**Mudanya-Bursa**	**1.29**	**351**	*e*Pn	**Pg**	**22 46 56.9**	**+0.3**
KCTX	**Karacabey (Bur**	**1.32**	**333**	PN	**Pg**	**22 46 57.0**	**-0.1**
KCTX	**Karacabey (Bur**	**1.32**	**333**	*e*Pn	**Pg**	**22 46 57.0**	**-0.1**
YLV	**Yalova**	**1.48**	**7**	PN	**Pg**	**22 47 00.1**	**-0.2**
YLV	**Yalova**	**1.48**	**7**	*e*Pn	**Pg**	**22 47 00.1**	**-0.2**
ARMT	**Armutlu**	**1.49**	**352**	PN	**Pg**	**22 47 00.5**	**+0.1**
ARMT	**Armutlu**	**1.49**	**352**	*e*Pn	**Pg**	**22 47 00.5**	**+0.1**
AYDB	**Zeytinkoy-Aydi**	**1.50**	**221**	PN	**Pb**	**22 46 59.8**	**-0.4**
AYDB	**Zeytinkoy-Aydi**	**1.50**	**221**	*e*Pn	**Pb**	**22 46 59.8**	**-0.4**

ISCJB ***26*** *22:49:24.9₀0.7, 7.°44N×126.°5E, h138ᵏᵐ, mb3.6/19, Error ellipse: s-maj=21.4km s-min=8.9km az=154.2*
MAN ***26*** *22:49:26, 7.°34N×126.°44E, h120ᵏᵐ, mb4.7, ML3.6, MS3.5*
IDC ***26*** *22:49:26.2±1.7, 7.°54N×126.°55E, h133ᵏᵐ±13ᵏᵐ, mb3.5/19, mb1 3.7/19, mb1mx3.5/53, mbtmp3.9/19, MS3.3/1, Ms1 3.5/1, ms1mx2.5/39, Error ellipse: s-maj=35.2km s-min=12.0km az=66.0*

ISC 26 22:49:25.6±0.8, 7.°47N±0.°08×126.°6E±0.°1, h130ᵏᵐ±6ᵏᵐ, n26, σ0ˢ93/35, mb3.8/19, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**0.59**	**209**	*e*P	**Pn**	**22 49 44.9**	**-0.3**
MATI				*e*S	**Sn**	**22 49 59.5**	**-0.5**
DAV	**Davao City (W)**	**1.04**	**248**	P	**Pn**	**22 49 49.6**	**+0.8**
	112nm,0.3s,baz=43,slow=2.0,SNR=21						
DAV				S	**Sn**	**22 50 08.3**	**+1.8**
	436nm,0.3s,baz=261,slow=21,SNR=14						
BUKP	**Musuan**	**1.53**	**286**	*e*P	**Pn**	**22 49 54.1**	**+0.1**
BUKP				*e*S	**Sn**	**22 50 14.5**	**-1.1**
BUTP	**Butuan**	**1.75**	**328**	*e*P	**Pn**	**22 49 57.5**	**+0.9**
BUTP				*e*S	**Sn**	**22 50 21.9**	**+1.7**
CGP	**Cagayan de Oro**	**2.08**	**298**	*e*P	**Pn**	**22 50 00.9**	**+0.4**
CGP				*e*S	**Sn**	**22 50 26.9**	**-0.4**
WRA	**Warramunga Arr**	**28.30**	**164**	P	**P**	**22 55 07.4**	**+0.3**
	0.2nm,0.4s,baz=345,slow=8.3,SNR=5.3						
WRA				pP	**pP**	**22 55 33.4**	**-1.6**
	0.4nm,0.5s,baz=340,slow=11,SNR=2.2						
WRA				PcP	**PcP**	**22 58 18.7**	**+1.5**
	0.5nm,0.6s,baz=334,slow=2.8,SNR=5.6						
CMAR	**Chiang Mai Arr**	**28.99**	**295**	LR	LR	23 07 24.5	
	comp=Z,50nm,18.6s,baz=194,slow=37						
ASAR	**Alice Springs**	**31.77**	**167**	P	**P**	**22 55 38.2**	**+0.5**
	0.5nm,0.4s,baz=348,slow=8.2,SNR=8.1						
ASAR				PcP	**PcP**	**22 58 27.1**	**+1.0**
	0.9nm,0.6s,baz=358,slow=3.1,SNR=8.2						
STKA	**Stephens Creek**	**41.68**	**161**	P	**P**	**22 57 01.9**	**+0.3**
	0.5nm,0.3s,baz=330,slow=16,SNR=3.6						
SONM	**Songino Array**	**43.73**	**340**	P	**P**	**22 57 17.9**	**-0.1**
	0.3nm,0.4s,baz=158,slow=9.0,SNR=3.0						
MKAR	**Makanchi Array**	**54.42**	**324**	P	**P**	**22 58 39.8**	**+0.4**
	3.0nm,0.5s,baz=118,slow=7.5,SNR=41						
MKAR				PcP	**PcP**	**22 59 42.0**	**+0.6**
	0.9nm,0.6s,baz=121,slow=3.6,SNR=6.1						
ZALV	**Zalesovo Beam**	**57.21**	**332**	P	**P**	**22 58 57.9**	**-1.1**
	0.5nm,0.4s,baz=141,slow=5.5,SNR=3.1						
KURBB	**Kurchatov Arra**	**58.53**	**326**	P	**P**	**22 59 08.2**	**-0.1**
	1.5nm,0.6s,baz=128,slow=6.1,SNR=17						
KURBB				pP	**pP**	**22 59 39.5**	**+0.2**
	0.3nm,0.5s,baz=127,slow=6.5,SNR=2.2						
BVAR	**Borovoye Array**	**64.12**	**326**	P	**P**	**22 59 46.3**	**+0.3**
	0.8nm,0.6s,baz=96,slow=7.2,SNR=5.1						
GEYT	**Alibeck**	**68.45**	**308**	P	**P**	**23 00 14.1**	**+0.1**
	1.0nm,0.6s,baz=90,slow=6.1,SNR=4.5						
AKTO	**Aktyubinsk**	**70.65**	**321**	P	**P**	**23 00 26.9**	**-0.2**
	1.4nm,0.6s,baz=92,slow=10,SNR=6.8						
KBZ	**Khabaz**	**80.30**	**313**	P	**P**	**23 01 23.2**	**+0.8**
	0.3nm,0.4s,baz=135,slow=1.4,SNR=3.5						
ILAR	**Eielson Array**	**81.83**	**26**	P	**P**	**23 01 30.1**	**+0.1**
	0.2nm,0.6s,baz=238,slow=5.2,SNR=2.5						
ARCES	**ARCESS Array B**	**86.90**	**340**	P	**P**	**23 01 53.8**	**-1.8**
	1.7nm,0.9s,baz=53,slow=4.6,SNR=4.1						
MMAI	**Mount Meron Ar**	**86.94**	**303**	P	**P**	**23 01 56.3**	**-0.3**
	0.9nm,0.5s,baz=98,slow=8.0,SNR=5.2						
VNDA	**Vanda**	**87.13**	**173**	P	**P**	**23 01 57.6**	**+1.2**
	1.2nm,1.1s,baz=283,slow=6.4,SNR=5.6						
BRTR	**Keskin Array B**	**87.51**	**310**	P	**P**	**23 01 58.5**	**-0.7**
	0.7nm,0.7s,baz=116,slow=4.4,SNR=5.7						
FINES	**FINESS Array B**	**88.47**	**332**	P	**P**	**23 02 02.3**	**-0.8**
	0.9nm,0.6s,baz=83,slow=5.8,SNR=5.8						
AKASG	**Malin Array Be**	**88.90**	**321**	P	**P**	**23 02 03.8**	**-1.6**
	0.3nm,0.4s,baz=64,slow=4.2,SNR=3.3						
YKA	**Yellowknife Ar**	**96.19**	**24**	P	**P**	**23 02 38.9**	**+0.2**
	0.1nm,0.4s,baz=306,slow=5.6,SNR=5.4						
TORD	**Torodi Ar. Bea**	**121.52**	**290**	PKP	**PKPdf**	**23 08 04.6**	**-0.2**
	0.7nm,0.7s,baz=58,slow=2.2,SNR=12						

ISCJB ***26*** *23:02:56.9₀0.5, 39.°07N±0.°03×29.°13E±0.°03, h1ᵏᵐ±6ᵏᵐ, Error ellipse: s-maj=4.6km s-min=3.8km az=154.6*
DDA ***26*** *23:02:56.6, 39.°08N×29.°12E, h7ᵏᵐ, Ml2.9*
ISK ***26*** *23:02:56.9, 39.°06N×29.°13E, h5ᵏᵐ, ML2.6/11*
CSEM ***26*** *23:02:57.1±0.1, 39.°07N×29.°14E, h2ᵏᵐ, ML2.6, Error ellipse: s-maj=2.7km s-min=2.3km az=127.0*

ISC 26 23:02:56.9±1.0, 39.°08N±0.°02×29.°15E±0.°02, h6ᵏᵐ±10ᵏᵐ, n53, σ0ˢ56/70, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIMA	**Simav-Kutahya**	**0.13**	**271**	PG	**Pg**	**23 02 59.7**	**+0.1**
SIMA	**Simav-Kutahya**	**0.13**	**271**	*e*Pg	**Pg**	**23 02 59.7**	**+0.1**
GDZ	**Gediz**	**0.26**	**88**	*i* P	**Pg**	**23 03 01.9**	**-0.1**
GDZ				*i* S	**Sg**	**23 03 06.1**	**+0.6**
GDZ	**Gediz**	**0.26**	**88**	P	**Pg**	**23 03 01.9**	**-0.1**
GDZ				S	**Sg**	**23 03 06.1**	**+0.6**
DEMI	**Demirci**	**0.34**	**264**	*i* P	**Pg**	**23 03 03.5**	**0.0**
DEMI				*i* S	**Sg**	**23 03 07.7**	**-0.3**
DEMI	**Demirci**	**0.34**	**264**	P	**Pg**	**23 03 03.5**	**0.0**
DEMI				S	**Sg**	**23 03 07.7**	**-0.3**
TVSB	**Tavsanli**	**0.44**	**33**	PG	**Pg**	**23 03 04.5**	**-1.0**
TVSB	**Tavsanli**	**0.44**	**33**	*e*Pg	**Pg**	**23 03 04.5**	**-1.0**
KULA	**Kula-Manisa**	**0.68**	**214**	PG	**Pg**	**23 03 10.2**	**+0.2**
KULA				SG	**Sg**	**23 03 19.2**	**+0.3**
KULA	**Kula-Manisa**	**0.68**	**214**	*e*Pg	**Pg**	**23 03 10.2**	**+0.2**
KULA				*e*Sg	**Sg**	**23 03 19.2**	**+0.3**
DURS	**Dursunbey**	**0.74**	**315**	*i* P	**Pg**	**23 03 11.0**	**-0.1**
DURS				*i* S	**Sb**	**23 03 22.4**	**-0.2**
DURS	**Dursunbey**	**0.74**	**315**	P	**Pg**	**23 03 11.0**	**-0.1**
DURS				S	**Sb**	**23 03 22.4**	**-0.2**
MANT	**Manisa**	**0.75**	**218**	*i* P	**Pg**	**23 03 11.3**	**0.0**
MANT				*i* S	**Sg**	**23 03 21.0**	**0.0**
MANT	**Manisa**	**0.75**	**218**	P	**Pg**	**23 03 11.3**	**0.0**
MANT				S	**Sg**	**23 03 21.0**	**0.0**
KHAL	**Karahalli**	**0.76**	**159**	*i* P	**Pb**	**23 03 12.4**	**-0.2**
KHAL				*i* S	**Sb**	**23 03 22.5**	**-0.8**
KHAL	**Karahalli**	**0.76**	**159**	P	**Pb**	**23 03 12.4**	**-0.2**
KHAL				S	**Sb**	**23 03 22.5**	**-0.8**
AKHS	**Akhisar**	**1.06**	**259**	*i* P	**Pg**	**23 03 17.1**	**-0.2**
AKHS				*i* S	**Sg**	**23 03 30.6**	**-0.3**
AKHS	**Akhisar**	**1.06**	**259**	P	**Pg**	**23 03 17.0**	**-0.2**
AKHS				S	**Sg**	**23 03 30.6**	**-0.3**
BALB	**Balikesir**	**1.13**	**300**	PN	**Pn**	**23 03 19.3**	**0.0**
BALB	**Balikesir**	**1.13**	**300**	*e*Pn	**Pn**	**23 03 19.3**	**0.0**
STEP	**BALIKESIR_Sava**	**1.15**	**285**	*i* P	**Pb**	**23 03 19.1**	**-0.1**
STEP				*i* S	**Sb**	**23 03 34.3**	**-0.1**
STEP	**BALIKESIR_Sava**	**1.15**	**285**	P	**Pb**	**23 03 19.1**	**-0.1**
STEP				S	**Sb**	**23 03 34.3**	**-0.1**
IGD	**Bursa**	**1.18**	**2**	*i* P	**Pg**	**23 03 19.3**	**-0.3**
IGD				*i* S	**Sg**	**23 03 35.3**	**+0.3**
SHUT	**Suhut-Afyon**	**1.22**	**115**	PN	**Pn**	**23 03 20.9**	**+0.3**
SHUT	**Suhut-Afyon**	**1.22**	**115**	*e*Pn	**Pn**	**23 03 20.9**	**+0.3**
CAVI	**Cavuskoy**	**1.24**	**25**	PN	**Pn**	**23 03 21.5**	**+0.6**
CAVI	**Cavuskoy**	**1.24**	**25**	*e*Pn	**Pn**	**23 03 21.5**	**+0.6**
MDNY	**Mudanya-Bursa**	**1.30**	**351**	PN	**Pg**	**23 03 22.0**	**+0.1**
MDNY	**Mudanya-Bursa**	**1.30**	**351**	*e*Pn	**Pg**	**23 03 22.0**	**+0.1**
KCTX	**Karacabey (Bur**	**1.33**	**333**	PN	**Pb**	**23 03 22.3**	**0.0**
KCTX	**Karacabey (Bur**	**1.33**	**333**	*e*Pn	**Pb**	**23 03 22.3**	**0.0**
GONE	**Gonen-Balikesi**	**1.48**	**311**	PN	**Pb**	**23 03 25.0**	**+0.1**
GONE	**Gonen-Balikesi**	**1.48**	**311**	*e*Pn	**Pb**	**23 03 25.0**	**+0.1**
YLV	**Yalova**	**1.49**	**7**	PN	**Pb**	**23 03 25.4**	**+0.3**
YLV	**Yalova**	**1.49**	**7**	*e*Pn	**Pb**	**23 03 25.4**	**+0.3**
ARMT	**Armutlu**	**1.50**	**352**	PN	**Pg**	**23 03 25.6**	**-0.1**
ARMT	**Armutlu**	**1.50**	**352**	*e*Pn	**Pg**	**23 03 25.6**	**-0.1**
AYDB	**Zeytinkoy-Aydi**	**1.50**	**221**	PN	**Pb**	**23 03 25.0**	**-0.3**
AYDB	**Zeytinkoy-Aydi**	**1.50**	**221**	*e*Pn	**Pb**	**23 03 25.0**	**-0.3**
EDC	**Edincik**	**1.61**	**322**	PN	**Pb**	**23 03 26.5**	**-0.5**
EDC	**Edincik**	**1.61**	**322**	*e*Pn	**Pb**	**23 03 26.5**	**-0.5**
GULT	**Gulveren**	**1.71**	**38**	PN	**Pb**	**23 03 28.9**	**0.0**
GULT	**Gulveren**	**1.71**	**38**	*e*Pn	**Pb**	**23 03 28.9**	**0.0**
BLCB	**Balcova**	**1.79**	**248**	PN	**Pn**	**23 03 28.9**	**+0.6**
BLCB	**Balcova**	**1.79**	**248**	*e*Pn	**Pn**	**23 03 28.9**	**+0.6**
ISK	**Istanbul-Kandi**	**1.98**	**358**	PN	**Pb**	**23 03 32.4**	**-1.0**
ISK	**Istanbul-Kandi**	**1.98**	**358**	*e*Pn	**Pb**	**23 03 32.4**	**-1.0**
SILT	**Sile**	**2.10**	**10**	PN	**Pn**	**23 03 34.1**	**+1.4**
SILT	**Sile**	**2.10**	**10**	*e*Pn	**Pn**	**23 03 34.1**	**+1.4**
RKY	**Sarkoy-Tekirda**	**2.21**	**317**	PN	**Pb**	**23 03 35.8**	**-1.5**
RKY	**Sarkoy-Tekirda**	**2.21**	**317**	*e*Pn	**Pb**	**23 03 35.8**	**-1.5**
LPK	**Lapseki**	**2.25**	**306**	PN	**Pn**	**23 03 35.9**	**+1.2**
LPK	**Lapseki**	**2.25**	**306**	*e*Pn	**Pn**	**23 03 35.9**	**+1.2**

MEX 26 23:15:08.4±0.6, 16.°28N×98.°48W, h1ᵏᵐ, MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.36**	**71**	*i* P	Pg	23 15 14.8	-0.5
PNIG				*e*S	Sg	23 15 20.7	+0.6
TLIG	**Tlapa**	**1.28**	**356**	*e*P	Pg	23 15 29.5	-3.5
VHO	**Vista Hermosa**	**1.85**	**64**	*e*P	Pn	23 15 38.1	-3.5
CAIG	**El Cayaco**	**1.88**	**294**	*e*P	Pn	23 15 38.9	-2.8
HUIG	**Huatulco**	**2.34**	**102**	*e*P	Pn	23 15 48.1	+0.1

HEL ***26*** *23:26:46.7, 67.°77N×20.°32E, h0ᵏᵐ, ML1.6, Explosion*
CSEM ***26*** *23:26:46.0±0.3, 67.°78N×20.°31E, h2ᵏᵐ, ML1.5, Error ellipse: s-maj=6.0km s-min=4.6km az=61.0, Mining explosion.*

UPP 26 23:26:46.4, 67.°82N×20.°20E, h0ᵏᵐ, ML1.5, Mining explosion., Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.15**	**20**	P	Pg	23 26 49.5	+0.3
KUA				S	Sg	23 26 51.4	+0.3
KUA	**Kurravaara**	**0.15**	**20**	*i* P	Pg	23 26 49.5	+0.3
KUA				*i* S	Sg	23 26 51.4	+0.3
RATU	**Laukkuluspa**	**0.23**	**272**	P	Pg	23 26 51.1	+0.3
RATU	**Laukkuluspa**	**0.23**	**272**	*i* P	Pg	23 26 51.1	+0.3
NIKU	**Nikkaluokta**	**0.45**	**277**	P	Pg	23 26 55.0	+0.1
NIKU	**Nikkaluokta**	**0.45**	**277**	*i* P	Pg	23 26 55.0	+0.1
DUNU	**Dundret**	**0.71**	**168**	P	Pg	23 26 59.9	-0.1
DUNU	**Dundret**	**0.71**	**168**	*i* P	Pg	23 26 59.9	-0.1
LANU	**Lannavaara**	**0.71**	**70**	*e*P	Pg	23 26 59.8	-0.3
LANU	**Lannavaara**	**0.71**	**70**	*e*P	Pg	23 26 59.8	-0.3
MASU	**Masugnsbyn**	**0.78**	**117**	P	Pg	23 27 01.1	-0.1
MASU	**Masugnsbyn**	**0.78**	**117**	*i* P	Pg	23 27 01.1	-0.1
KIF	**Kilpisjarvi**	**1.21**	**10**	*e*Pb	Pb	23 27 10.2	0.0
KIF				*e*Sb	Sb	23 27 26.0	-0.4
KIF	**Kilpisjarvi**	**1.21**	**10**	*e*PB	Pb	23 27 10.2	0.0
KIF				MSG		23 27 25.6	
	comp=Z,8.7nm,0.2s						
KIF				*e*SB	Sb	23 27 26.0	-0.4
KIF	**Kilpisjarvi**	**1.21**	**10**	*e*P	Pb	23 27 10.2	0.0
PAJU	**Pajala**	**1.38**	**124**	P	Pg	23 27 11.7	-1.1
PAJU	**Pajala**	**1.38**	**124**	*e*P	Pg	23 27 11.7	-1.0
HEF	**Hetta**	**1.43**	**64**	*e*P	Pn	23 27 12.5	-1.0
HEF	**Hetta**	**1.43**	**64**	*e*P	Pn	23 27 12.5	-1.0
	baz=244						
HEF				MSG		23 27 28.9	
	comp=Z,3.2nm,0.2s						
ERTU	**Ertsjaerv**	**1.49**	**148**	*e*Pg	Pn	23 27 13.7	-0.6
ERTU				*e*Sn	Sn	23 27 34.4	0.0
ERTU	**Ertsjaerv**	**1.49**	**148**	*e*PG	Pn	23 27 13.7	-0.7
ERTU				*e*SN	Sn	23 27 34.4	0.0
KTK1	**Kautokeino**	**1.64**	**42**	*e*P	Pn	23 27 16.4	-0.1
KALU	**Kalix**	**2.33**	**146**	*e*Pb	Pn	23 27 27.3	+1.4
KALU				*e*Sg	Sb	23 27 59.3	+0.9
KALU	**Kalix**	**2.33**	**146**	*e*PB	Pn	23 27 27.3	+1.4
KALU				*e*SG	Sb	23 27 59.3	+0.9
TOF	**Tornio**	**2.38**	**135**	*e*Pb	Pn	23 27 28.1	+1.5
TOF				*e*Sg	Sb	23 28 00.1	+0.1
	comp=Z,2.4nm,0.2s						
TOF				*e*SG	Sb	23 28 00.1	+0.1
SGF	**Sodankyl**	**2.45**	**96**	*e*Pb	Pb	23 27 29.7	-1.5
SGF	**Sodankyl**	**2.45**	**96**	*e*PB	Pb	23 27 29.7	-1.6
RNF	**Rovaniemi**	**2.57**	**116**	*e*Pb	Pn	23 27 31.1	+1.9
RNF				*e*Sg	Sb	23 28 05.3	0.0
RNF	**Rovaniemi**	**2.57**	**116**	*e*PB	Pn	23 27 31.1	+2.0
RNF				*e*SG	Sb	23 28 05.3	0.0
ARE0	**ARCESS Array S**	**2.59**	**46**	*e*P	Pn	23 27 30.8	+1.2
ARE0				*e*Sb	Sb	23 28 05.1	-1.0
ARE0	**ARCESS Array S**	**2.59**	**46**	*e*P	Pn	23 27 30.8	+1.2
	baz=226						
ARE0				*e*SB	Sb	23 28 05.1	-1.0
UMAU	**Umeaa**	**3.96**	**177**	*e*Pb	Pb	23 27 55.6	-1.3
UMAU	**Umeaa**	**3.96**	**177**	*e*PB	Pb	23 27 55.6	-1.3
KU6	**Riekki**	**4.22**	**111**	*e*Pb	Pb	23 27 57.6	-3.7
KU6	**Riekki**	**4.22**	**111**	*e*PB	Pb	23 27 57.6	-3.7

CSEM ***26*** *23:26:51.0, 67.°83N×20.°18E, h0ᵏᵐ, ML1.7, Mining explosion.*

UPP 26 23:26:51.0±0.0, 67.°83N×20.°18E, h0ᵏᵐ, ML1.7, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.14**	**25**	P	Pg	23 26 53.9	+0.3
KUA				S	Sg	23 26 55.8	+0.4
KUA	**Kurravaara**	**0.14**	**25**	P	Pg	23 26 53.9	+0.3
KUA				S	Sg	23 26 55.8	+0.4
RATU	**Laukkuluspa**	**0.23**	**269**	P	Pg	23 26 55.6	+0.3
RATU	**Laukkuluspa**	**0.23**	**269**	P	Pg	23 26 55.6	+0.3
DUNU	**Dundret**	**0.73**	**168**	P	Pg	23 27 04.6	-0.3
DUNU	**Dundret**	**0.73**	**168**	P	Pg	23 27 04.6	-0.3
MASU	**Masugnsbyn**	**0.79**	**117**	P	Pg	23 27 06.0	0.0
MASU	**Masugnsbyn**	**0.79**	**117**	P	Pg	23 27 06.0	-0.1
PAJU	**Pajala**	**1.39**	**124**	P	Pg	23 27 16.3	-1.2
PAJU	**Pajala**	**1.39**	**124**	P	Pg	23 27 16.3	-1.3

ISCJB ***26*** *23:26:50.4₀0.7, 1.°68N₀0.°09×93.°60E₀0.°06, h10ᵏᵐ, mb3.8/7, Error ellipse

TRN 26 23:39:48.4, 17.62N×60.66W, h35km, MD3.5, 2C, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ANWB	**Willy Bob**	**1.07**	**273**	*iP*	Pb	23 40 08.7	+0.1
ANWB				*eS*	Sb	23 40 22.8	+0.5
BPA	**Boggy Peak**	**1.27**	**244**	*eP*	Pb	23 40 11.2	-0.7
BPA				*eS*	Sb	23 40 27.1	-1.0
DEG	**La Desirade**	**1.35**	**196**	*eP*	Pb	23 40 12.7	-0.6
SEG	**Port Louis**	**1.45**	**214**	*eP*	Pb	23 40 13.9	-1.0
MBWH		**1.70**	**240**	*eP*	Pn	23 40 17.4	+1.7
MBWH		**1.70**	**240**	*iP*	Pb	23 40 18.5	-0.6
MLYT	**Lee's Yard**	**1.71**	**239**	*eP*	Pb	23 40 17.6	-1.7
MLYT				*eS*	Sb	23 40 38.6	-1.9
MGG	**Marie-Galante**	**1.80**	**201**	*eP*	Pn	23 40 18.7	+1.7
MGG				*eS*	Sn	23 40 40.2	+1.6
MLG	**Mont-d'or**	**1.84**	**213**	*eP*	Pb	23 40 19.9	-1.7
NEV	**Hard Times**	**1.89**	**256**	*eP*	Pn	23 40 19.8	+1.6
NEV				*eS*	Sb	23 40 43.2	-2.3
TBG	**Guadaloupe-3**	**1.99**	**208**	*eP*	Pn	23 40 21.2	+1.6
TBG				*eS*	Sb	23 40 46.0	-2.5
SKI	**Saint Kitts**	**2.00**	**262**	*eP*	Pn	23 40 22.0	+2.2
SKI				*eS*	Sn	23 40 46.0	+2.3
MDVC	**Dominica, Viel**	**2.12**	**200**	*eP*	Pn	23 40 22.1	+0.8
MDVC				*eS*	Sn	23 40 49.1	+2.7
MDMP	**Dominica, Moor**	**2.13**	**200**	*eP*	Pn	23 40 22.9	+1.3
MDMP				*eS*	Sn	23 40 48.5	+1.6
MDPO	**Dominica; Chan**	**2.17**	**201**	*eP*	Pn	23 40 23.2	+1.2
MDPO				*eS*	Sb	23 40 50.7	-2.8
BBL	**Barber's Block**	**2.22**	**201**	*eP*	Pn	23 40 24.4	+1.6
BBL				*eS*	Sn	23 40 51.1	+2.1
BAMF	**Morne Balai**	**2.82**	**190**	*eP*	Pn	23 40 32.6	+1.5
BAMF	**Morne Balai**	**2.82**	**190**	*eP*	Pn	23 40 33.0	+1.9
PCM	**Pelee Case Pet**	**2.83**	**191**	*eP*	Pn	23 40 32.8	+1.5
PCM	**Pelee Case Pet**	**2.83**	**191**	*eP*	Pn	23 40 33.2	+1.9

NIED ***26*** *23:46:00, 40.90N×145.30E, h5km, Mw3.4 Best double couple: M0 1.36000×10^14 NP1:ϕs 173.00000°, δ45.00000°, λ-95.00000°. NP2:ϕs 359.00000°, δ45.00000°, λ-85.00000°.*

JMA 26 23:46:08.6±0.4, 40.93N×145.28E, h66km±5km, M3.5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JEM	**Erimo**	**1.93**	**305**	P	Pn	23 46 40.8	+1.6
JEM				*eS*	Sn	23 47 01.2	-1.2
JAK	**Akkeshi**	**2.11**	**348**	P	Pn	23 46 42.7	+1.1
JCH	**Churui**	**2.21**	**320**	P	Pn	23 46 43.9	+0.9
JCH				*eS*	Sn	23 47 08.5	-0.8
JOB	**Onbets**	**2.25**	**332**	*eS*	Sn	23 47 10.6	+0.5
JNBK	**Urakawa-nobuka**	**2.33**	**306**	P	Pn	23 46 46.1	+1.6
JNBK				*eS*	Sn	23 47 13.1	+1.0
NEM2	**Nemuro 2**	**2.46**	**8**	*eS*	Sn	23 47 15.8	+0.6
JAR	**Ashorobuto**	**2.62**	**335**	P	Pn	23 46 49.3	+0.8
JAR				*eS*	Sn	23 47 18.1	-1.1
JBT2	**Biratori 2**	**2.86**	**311**	*eS*	Sn	23 47 27.1	+2.1
JANG	**Nango**	**2.92**	**260**	P	Pn	23 46 51.8	-0.8
JFR	**Furan**	**3.00**	**319**	*eS*	Sn	23 47 27.0	-1.5
JTM	**Tenmabayashi**	**3.20**	**269**	*eS*	Sn	23 47 30.9	-2.4
JTKR	**Abashiri--Toko**	**3.20**	**342**	*eS*	Sn	23 47 34.5	+1.1
JMP	**Maruseppu**	**3.39**	**336**	*eS*	Sn	23 47 37.9	-0.1

DDA ***26*** *23:46:53.2, 39.11N×29.12E, h10km, Ml3.5*
ISK ***26*** *23:46:53.4, 39.10N×29.15E, h5km, ML3.3/53*
CSEM ***26*** *23:46:54.3±0.1, 39.10N×29.13E, h2km, ML3.3, Error ellipse: s-maj=2.8km s-min=2.5km az=101.0*

ISC 26 23:46:53.7±0.9, 39.11N±0.01×29.13E±0.01, h8km±7km, n212, σ0.89/245, 11C-14D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIMA	**Simav-Kutahya**	**0.11**	**259**	PG	**Pg**	**23 46 56.5**	**+0.2**
SIMA	**Simav-Kutahya**	**0.11**	**259**	*ePg*	**Pg**	**23 46 56.5**	**+0.2**
GDZ	**Gediz**	**0.28**	**93**	*iP*	**Pg**	**23 46 58.2**	**-1.0**
GDZ				*iS*	**Sg**	**23 47 02.5**	**-0.4**
GDZ	**Gediz**	**0.28**	**93**	P	**Pg**	**23 46 58.2**	**-1.0**
GDZ				S	**Sg**	**23 47 02.5**	**-0.4**
DEMI	**Demirci**	**0.33**	**259**	*iP*	**Pg**	**23 47 00.4**	**+0.3**
DEMI				*iS*	**Sg**	**23 47 04.8**	**+0.4**
DEMI	**Demirci**	**0.33**	**259**	P	**Pg**	**23 47 00.4**	**+0.3**
DEMI				S	**Sg**	**23 47 04.8**	**+0.4**
TVSB	**Tavsanli**	**0.43**	**37**	PG	**Pg**	**23 47 01.1**	**-1.0**
TVSB	**Tavsanli**	**0.43**	**37**	*ePg*	**Pg**	**23 47 01.2**	**-1.0**
KULA	**Kula-Manisa**	**0.69**	**212**	PG	**Pg**	**23 47 06.9**	**-0.2**
KULA	**Kula-Manisa**	**0.69**	**212**	*ePg*	**Pg**	**23 47 06.9**	**-0.2**
DURS	**Dursunbey**	**0.71**	**315**	*iP*	**Pg**	**23 47 07.3**	**0.0**
DURS				*iS*	**Sn**	**23 47 21.1**	**-0.2**
DURS	**Dursunbey**	**0.71**	**315**	P	**Pg**	**23 47 07.3**	**0.0**
DURS				S	**Sn**	**23 47 21.1**	**-0.2**
MANT	**Manisa**	**0.76**	**216**	*iP*	**Pg**	**23 47 08.0**	**-0.3**
MANT				*iS*	**Sg**	**23 47 17.8**	**-0.4**
MANT	**Manisa**	**0.76**	**216**	P	**Pg**	**23 47 08.0**	**-0.3**
MANT				S	**Sg**	**23 47 17.8**	**-0.4**
KHAL	**Karahalli**	**0.79**	**159**	*iP*	**Pg**	**23 47 08.9**	**0.0**
KHAL				*iS*	**Sg**	**23 47 18.7**	**-0.4**
KHAL	**Karahalli**	**0.79**	**159**	P	**Pg**	**23 47 08.9**	**0.0**
KHAL				S	**Sg**	**23 47 18.7**	**-0.4**
ORLT	**Orhaneli**	**0.96**	**349**	PG	**Pb**	**23 47 12.5**	**-0.1**
ORLT	**Orhaneli**	**0.96**	**349**	*ePg*	**Pb**	**23 47 12.5**	**-0.1**
AKHS	**Akhisar**	**1.05**	**258**	*iP*	**Pb**	**23 47 13.9**	**-0.2**
AKHS				*iS*	**Sb**	**23 47 28.2**	**+0.2**
AKHS	**Akhisar**	**1.05**	**258**	P	**Pb**	**23 47 13.9**	**-0.2**
AKHS				S	**Sb**	**23 47 28.2**	**+0.2**
AKS	**Akhisar**	**1.05**	**258**	PG	**Pb**	**23 47 14.4**	**+0.3**
AKS	**Akhisar**	**1.05**	**258**	*ePg*	**Pb**	**23 47 14.4**	**+0.3**
AUBOZ	**BOZOYUK**	**1.07**	**41**	*iP*	**Pg**	**23 47 13.9**	**-0.3**
AUBOZ				*iS*	**Sb**	**23 47 28.7**	**+0.1**
AUBOZ	**BOZOYUK**	**1.07**	**41**	P	**Pg**	**23 47 13.9**	**-0.3**
AUBOZ				S	**Sb**	**23 47 28.7**	**+0.1**
AUKUT	**KUTAHYA**	**1.09**	**39**	*iP*	Pg	23 47 07.7	-7.0
AUKUT				*iS*	Sg	23 47 18.6	-10
BALB	**Balikesir**	**1.10**	**299**	PN	**Pn**	**23 47 15.8**	**+0.3**
BALB	**Balikesir**	**1.10**	**299**	*ePn*	**Pn**	**23 47 15.8**	**+0.3**
STEP	**BALIKESIR_Sava**	**1.13**	**284**	*iP*	**Pn**	**23 47 15.9**	**+0.1**
STEP				*iS*	**Sn**	**23 47 31.4**	**-0.1**
STEP	**BALIKESIR_Sava**	**1.13**	**284**	P	**Pn**	**23 47 15.9**	**+0.1**
STEP				S	**Sn**	**23 47 31.4**	**-0.1**
IGD	**Bursa**	**1.16**	**3**	*iP*	**Pg**	**23 47 15.5**	**-0.5**
IGD				*iS*	**Sn**	**23 47 32.4**	**+0.2**
KZIL	**AFYON_Kizioren**	**1.16**	**137**	*iP*	**Pg**	**23 47 15.7**	**-0.3**
KZIL				*iS*	**Sn**	**23 47 32.3**	**-0.2**
KZIL	**AFYON_Kizioren**	**1.16**	**137**	P	**Pg**	**23 47 15.7**	**-0.3**
KZIL				S	**Sn**	**23 47 32.3**	**-0.2**
CAVI	**Cavuskoy**	**1.23**	**27**	PN	**Pn**	**23 47 17.7**	**+0.5**
CAVI	**Cavuskoy**	**1.23**	**27**	*ePn*	**Pn**	**23 47 17.7**	**+0.5**
SHUT	**Suhut-Afyon**	**1.24**	**116**	PN	**Pn**	**23 47 17.7**	**+0.2**
SHUT	**Suhut-Afyon**	**1.24**	**116**	*ePn*	**Pn**	**23 47 17.7**	**+0.2**
IZI	**Iznik**	**1.26**	**12**	PN	**Pn**	**23 47 18.9**	**+1.2**
IZI	**Iznik**	**1.26**	**12**	*ePn*	**Pn**	**23 47 18.9**	**+1.2**
MDNY	**Mudanya-Bursa**	**1.28**	**352**	PN	**Pb**	**23 47 18.7**	**+0.7**
MDNY	**Mudanya-Bursa**	**1.28**	**352**	*ePn*	**Pb**	**23 47 18.7**	**+0.7**
BORA	**Eskisehir**	**1.29**	**53**	*iP*	**Pg**	**23 47 17.7**	**-0.7**
BORA				*iS*	**Sb**	**23 47 35.1**	**+0.2**
BORA	**Eskisehir**	**1.29**	**53**	P	**Pg**	**23 47 17.7**	**-0.7**
BORA				S	**Sb**	**23 47 35.1**	**+0.2**
KCTX	**Karacabey (Bur**	**1.30**	**333**	PN	**Pn**	**23 47 18.0**	**-0.2**
KCTX	**Karacabey (Bur**	**1.30**	**333**	*ePn*	**Pn**	**23 47 18.0**	**-0.2**
BALY	**Balya**	**1.33**	**299**	*iP*	**Pn**	**23 47 18.0**	**-0.6**
BALY				*iS*	**Sg**	**23 47 35.8**	**-0.6**
BALY	**Balya**	**1.33**	**299**	P	**Pn**	**23 47 18.0**	**-0.6**
BALY				S	**Sg**	**23 47 35.8**	**-0.6**
GEMT	**Gemlik**	**1.33**	**2**	PN	**Pn**	**23 47 18.6**	**0.0**
GEMT	**Gemlik**	**1.33**	**2**	*ePn*	**Pn**	**23 47 18.6**	**0.0**
DENT	**Denizli**	**1.35**	**183**	PN	**Pg**	**23 47 20.4**	**+0.8**
DENT	**Denizli**	**1.35**	**183**	*ePn*	**Pg**	**23 47 20.4**	**+0.8**
ESKT	**Eskisehir**	**1.40**	**72**	PN	**Pg**	**23 47 22.1**	**+1.5**
ESKT	**Eskisehir**	**1.40**	**72**	*ePn*	**Pg**	**23 47 22.1**	**+1.5**
ADVT	**Abdulvahap**	**1.41**	**19**	PN	**Pg**	**23 47 21.0**	**+0.3**
ADVT	**Abdulvahap**	**1.41**	**19**	*ePn*	**Pg**	**23 47 21.0**	**+0.3**
GONE	**Gonen-Balikesi**	**1.46**	**311**	PN	**Pg**	**23 47 21.3**	**-0.3**
GONE	**Gonen-Balikesi**	**1.46**	**311**	*ePn*	**Pg**	**23 47 21.3**	**-0.3**
ARMT	**Armutlu**	**1.47**	**352**	PN	**Pg**	**23 47 21.8**	**-0.1**
ARMT	**Armutlu**	**1.47**	**352**	*ePn*	**Pg**	**23 47 21.8**	**-0.1**
YLV	**Yalova**	**1.47**	**7**	PN	**Pg**	**23 47 22.1**	**+0.2**
YLV	**Yalova**	**1.47**	**7**	*ePn*	**Pg**	**23 47 22.1**	**+0.2**
BOLV	**Bolvadin**	**1.48**	**105**	*iP*	**Pg**	**23 47 21.9**	**-0.1**
BOLV				*iS*	**Sg**	**23 47 41.1**	**0.0**
BOLV	**Bolvadin**	**1.48**	**105**	P	**Pg**	**23 47 21.9**	**-0.1**
BOLV				S	**Sg**	**23 47 41.1**	**0.0**
GPA	**Golpazari**	**1.49**	**37**	PN	**Pg**	**23 47 22.2**	**-0.1**
GPA	**Golpazari**	**1.49**	**37**	*ePn*	**Pg**	**23 47 22.2**	**-0.1**
AYDB	**Zeytinkoy-Aydi**	**1.51**	**220**	PN	**Pg**	**23 47 22.2**	**-0.4**
AYDB	**Zeytinkoy-Aydi**	**1.51**	**220**	*ePn*	**Pg**	**23 47 22.2**	**-0.4**
EDC	**Edincik**	**1.58**	**322**	PN	**Pg**	**23 47 23.5**	**-0.4**
EDC	**Edincik**	**1.58**	**322**	*ePn*	**Pg**	**23 47 23.5**	**-0.4**
BRDR	**BURDUR-Merkez**	**1.59**	**152**	*iP*	**Pn**	**23 47 22.0**	**-0.2**
BRDR				*iS*	**Sg**	**23 47 47.0**	**+2.3**
BRDR	**BURDUR-Merkez**	**1.59**	**152**	P	**Pn**	**23 47 22.0**	**-0.2**
BRDR				S	**Sg**	**23 47 47.0**	**+2.3**
GEYV	**SAKARYA_Geyve**	**1.65**	**33**	*iP*	**Pb**	**23 47 23.7**	**-0.6**
GEYV				*iS*	**Sg**	**23 47 47.6**	**+1.0**
GEYV	**SAKARYA_Geyve**	**1.65**	**33**	P	**Pb**	**23 47 23.7**	**-0.6**
GEYV				S	**Sg**	**23 47 47.6**	**+1.0**
TAVA	**DENIZLI_Tavas**	**1.65**	**186**	*iP*	**Pb**	**23 47 23.7**	**-0.6**
TAVA				*iS*	**Sg**	**23 47 47.5**	**+0.9**
TAVA	**DENIZLI_Tavas**	**1.65**	**186**	P	**Pb**	**23 47 23.7**	**-0.6**
TAVA				S	**Sg**	**23 47 47.5**	**+0.9**
ISP	**Isparta**	**1.69**	**139**	PN	**Pb**	**23 47 24.6**	**-0.4**
ISP	**Isparta**	**1.69**	**139**	P	**Pg**	**23 47 25.3**	**-0.7**
ISP	**Isparta**	**1.69**	**139**	*ePn*	**Pb**	**23 47 24.6**	**-0.4**
ISP	**Isparta**	**1.69**	**139**	P	**Pg**	**23 47 25.3**	**-0.7**
GULT	**Gulveren**	**1.70**	**38**	PN	**Pg**	**23 47 26.2**	**-0.2**
GULT	**Gulveren**	**1.70**	**38**	*ePn*	**Pg**	**23 47 26.2**	**-0.2**
BAGO	**Egridir - ISPA**	**1.71**	**130**	*iP*	**Pn**	**23 47 23.1**	**-0.8**
BAGO				*iS*	**Sg**	**23 47 52.2**	**+3.4**
DKL	**Dikili**	**1.73**	**270**	PN	**Pb**	**23 47 25.8**	**+0.1**
DKL	**Dikili**	**1.73**	**270**	*ePn*	**Pb**	**23 47 25.8**	**+0.1**
HRT	**Hereke**	**1.76**	**13**	PN	**Pb**	**23 47 26.6**	**+0.3**
HRT	**Hereke**	**1.76**	**13**	*ePn*	**Pb**	**23 47 26.6**	**+0.3**
BLCB	**Balcova**	**1.78**	**247**	PN	**Pg**	**23 47 27.7**	**-0.1**
BLCB	**Balcova**	**1.78**	**247**	*ePn*	**Pg**	**23 47 27.7**	**-0.1**
SPNC	**Sapanca-Adapaz**	**1.82**	**30**	PN	**Pb**	**23 47 27.7**	**+0.4**
SPNC	**Sapanca-Adapaz**	**1.82**	**30**	*ePn*	**Pb**	**23 47 27.7**	**+0.4**
SAUV	**Serdivan-Sakar**	**1.88**	**29**	PN	**Pn**	**23 47 26.3**	**+0.2**
SAUV	**Serdivan-Sakar**	**1.88**	**29**	*ePn*	**Pn**	**23 47 26.3**	**+0.2**
SVRH	**Sivrihisar-ESK**	**1.89**	**79**	PN	**Pb**	**23 47 28.0**	**-0.5**
SVRH	**Sivrihisar-ESK**	**1.89**	**79**	*ePn*	**Pb**	**23 47 28.0**	**-0.5**
KRBG	**Karabiga-Canak**	**1.91**	**313**	PN	**Pb**	**23 47 28.1**	**-0.7**
KRBG	**Karabiga-Canak**	**1.91**	**313**	*ePn*	**Pb**	**23 47 28.1**	**-0.7**
FOCM	**Fo¸ça**	**1.91**	**259**	PN	**Pb**	**23 47 28.3**	**-0.5**
FOCM	**Fo¸ça**	**1.91**	**259**	*ePn*	**Pb**	**23 47 28.3**	**-0.5**
ISK	**Istanbul-Kandi**	**1.96**	**359**	PN	**Pg**	**23 47 30.3**	**-0.9**
ISK	**Istanbul-Kandi**	**1.96**	**359**	*ePn*	**Pg**	**23 47 30.3**	**-0.9**
AUMIH	**MIHALICIK**	**1.98**	**67**	*iP*	**Pg**	**23 47 30.7**	**-0.9**
AUMIH				*iS*	**Sg**	**23 47 59.1**	**+1.9**
AUMIH	**MIHALICIK**	**1.98**	**67**	P	**Pg**	**23 47 30.7**	**-0.9**
SBT3	**Marmara-Eregli**	**1.98**	**334**	PN	**Pb**	**23 47 30.3**	**+0.3**
SBT3	**Marmara-Eregli**	**1.98**	**334**	*ePn*	**Pb**	**23 47 30.3**	**+0.3**
GCAM	**G?zelcami?**	**2.04**	**227**	PN	**Pb**	**23 47 31.4**	**+0.3**
GCAM	**G?zelcami?**	**2.04**	**227**	*ePn*	**Pb**	**23 47 31.4**	**+0.3**
YER	**Yerkesik**	**2.08**	**199**	P	**Pg**	**23 47 32.5**	**-1.0**
YER	**Yerkesik**	**2.08**	**199**	P	**Pg**	**23 47 32.5**	**-1.0**
SILT	**Sile**	**2.08**	**11**	PN	**Pb**	**23 47 31.8**	**+0.1**
SILT	**Sile**	**2.08**	**11**	*ePn*	**Pb**	**23 47 31.8**	**+0.1**
BGKT	**Bogazkoy**	**2.09**	**353**	PN	**Pb**	**23 47 31.3**	**-0.6**
BGKT	**Bogazkoy**	**2.09**	**353**	*ePn*	**Pb**	**23 47 31.3**	**-0.6**
MLSB	**Milas**	**2.10**	**211**	PN	**Pb**	**23 47 31.8**	**-0.2**
MLSB	**Milas**	**2.10**	**211**	*ePn*	**Pb**	**23 47 31.8**	**-0.2**
MDUB	**Mudurnu**	**2.10**	**49**	PN	**Pb**	**23 47 31.4**	**-0.7**
MDUB	**Mudurnu**	**2.10**	**49**	*ePn*	**Pb**	**23 47 31.4**	**-0.7**
URLA	**Izmir**	**2.11**	**250**	PN	**Pb**	**23 47 31.8**	**-0.5**
URLA	**Izmir**	**2.11**	**250**	*ePn*	**Pb**	**23 47 31.8**	**-0.5**
KLYT	**Kilyos**	**2.15**	**358**	PN	**Pn**	**23 47 31.3**	**+1.5**
KLYT	**Kilyos**	**2.15**	**358**	*ePn*	**Pn**	**23 47 31.3**	**+1.5**
RKY	**Sarkoy-Tekirda**	**2.18**	**317**	PN	**Pb**	**23 47 33.8**	**+0.4**
CTKS	**Kestanelik-??a**	**2.18**	**348**	PN	**Pb**	**23 47 32.9**	**-0.5**
CTKS	**Kestanelik-??a**	**2.18**	**348**	*ePn*	**Pb**	**23 47 32.9**	**-0.5**
SUTC	**Sutluce-Ispart**	**2.19**	**137**	PN	**Pb**	**23 47 32.7**	**-1.0**
SUTC	**Sutluce-Ispart**	**2.19**	**137**	*ePn*	**Pb**	**23 47 32.7**	**-1.0**
LPK	**Lapseki**	**2.22**	**305**	PN	**Pb**	**23 47 33.8**	**-0.3**
LPK	**Lapseki**	**2.22**	**305**	*ePn*	**Pb**	**23 47 33.8**	**-0.3**
PRK	**Paraskevi**	**2.22**	**275**	P	**Pn**	**23 47 30.8**	**-0.1**
PRK	**Paraskevi**	**2.22**	**275**	P	**Pn**	**23 47 30.8**	**-0.1**
SLVT	**Silivri**	**2.23**	**342**	PN	**Pb**	**23 47 34.1**	**-0.2**
SLVT	**Silivri**	**2.23**	**342**	*ePn*	**Pb**	**23 47 34.1**	**-0.2**
TKR	**Tekirdag**	**2.24**	**328**	PN	**Pb**	**23 47 33.2**	**-1.3**
TKR	**Tekirdag**	**2.24**	**328**	*ePn*	**Pb**	**23 47 33.2**	**-1.3**
TURN	**Turunc**	**2.27**	**191**	PN	**Pg**	**23 47 36.1**	**-1.0**
SMG	**Samos**	**2.28**	**233**	P	**Pg**	**23 47 36.6**	**-0.7**
SMG	**Samos**	**2.28**	**233**	P	**Pg**	**23 47 36.6**	**-0.7**
EZN	**Ezine**	**2.28**	**289**	PN	**Pn**	**23 47 34.2**	**-1.0**
EZN	**Ezine**	**2.28**	**289**	P	**Pn**	**23 47 32.6**	**+0.9**
EZN	**Ezine**	**2.28**	**289**	P	**Pn**	**23 47 32.6**	**+0.9**
EZN	**Ezine**	**2.28**	**289**	*ePn*	**Pb**	**23 47 34.2**	**-1.0**
CRLT	**Corlu**	**2.29**	**333**	PN	**Pn**	**23 47 32.4**	**+0.7**
CRLT	**Corlu**	**2.29**	**333**	*ePn*	**Pn**	**23 47 32.4**	**+0.7**
KORT	**Korkueli**	**2.31**	**155**	PN	**Pn**	**23 47 33.3**	**+1.1**
KORT	**Korkueli**	**2.31**	**155**	*ePn*	**Pn**	**23 47 33.3**	**+1.1**
GELI	**Tayfur-Gelibol**	**2.42**	**303**	PN	**Pb**	**23 47 37.1**	**-0.3**
ELL	**Elmali**	**2.43**	**165**	PN	**Pn**	**23 47 35.6**	**+1.7**
ELL	**Elmali**	**2.43**	**165**	*ePn*	**Pn**	**23 47 35.6**	**+1.7**
CTYL	**Yalikoy Yolu**	**2.45**	**345**	PN	**Pb**	**23 47 36.7**	**-1.3**
CTYL	**Yalikoy Yolu**	**2.45**	**345**	*ePn*	**Pb**	**23 47 36.7**	**-1.3**
FETY	**Fethiye**	**2.47**	**181**	P	**Pn**	**23 47 34.0**	**-0.2**
FETY	**Fethiye**	**2.47**	**181**	P	**Pn**	**23 47 34.0**	**-0.2**
BODT	**Bodrum**	**2.49**	**216**	PN	**Pn**	**23 47 36.2**	**+1.6**
BODT	**Bodrum**	**2.49**	**216**	P	**Pn**	**23 47 33.6**	**-1.0**
BODT	**Bodrum**	**2.49**	**216**	P	**Pn**	**23 47 33.6**	**-1.0**
BODT	**Bodrum**	**2.49**	**216**	*ePn*	**Pn**	**23 47 36.2**	**+1.6**
CHOS	**Chios island**	**2.51**	**254**	PN	**Pn**	**23 47 37.6**	**-1.4**
CHOS	**Chios island**	**2.51**	**254**	P	**Pn**	**23 47 35.0**	**+0.2**
CHOS	**Chios island**	**2.51**	**254**	P	**Pn**	**23 47 35.0**	**+0.2**
CHOS	**Chios island**	**2.51**	**254**	*ePn*	**Pb**	**23 47 37.6**	**-1.4**
ANTB	**Antalya**	**2.51**	**151**	PN	**Pb**	**23 47 37.3**	**-1.7**
ANTB	**Antalya**	**2.51**	**151**	*ePn*	**Pb**	**23 47 37.3**	**-1.7**
SIGR	**SIGRI**	**2.54**	**273**	PN	**Pb**	**23 47 37.5**	**-2.1**
SIGR	**SIGRI**	**2.54**	**273**	P	**Pb**	**23 47 39.0**	**-0.6**
SIGR	**SIGRI**	**2.54**	**273**	*ePn*	**Pb**	**23 47 37.5**	**-2.1**
SIGR	**SIGRI**	**2.54**	**273**	P	**Pb**	**23 47 39.0**	**-0.6**
ERIK	**Erikli-Kesan**	**2.55**	**309**	PN	**Pb**	**23 47 37.7**	**-1.9**
ERIK	**Erikli-Kesan**	**2.55**	**309**	*ePn*	**Pb**	**23 47 37.7**	**-1.9**
GADA	**Gvkgeada**	**2.72**	**295**	PN	**Pn**	**23 47 39.5**	**+1.8**
GADA	**Gvkgeada**	**2.72**	**295**	P	**Pn**	**23 47 38.8**	**+1.1**
GADA	**Gvkgeada**	**2.72**	**295**	P	**Pn**	**23 47 38.8**	**+1.1**
GADA	**Gvkgeada**	**2.72**	**295**	*ePn*	**Pn**	**23 47 38.8**	**+1.8**
ANTO	**Ankara**	**2.94**	**74**	*iP*	**Pg**	**23 47 50.4**	**+0.4**
ALN	**Alexandroupoli**	**2.97**	**308**	P	**Pn**	**23 47 41.6**	**+0.5**
ALN	**Alexandroupoli**	**2.97**	**308**	P	**Pn**	**23 47 41.6**	**+0.5**
KSL	**Kastellorizon**	**2.97**	**173**	P	**Pn**	**23 47 42.8**	**+1.6**
ARG	**Arkhangelos**	**2.99**	**196**	P	**Pn**	**23 47 43.4**	**+2.0**
ARG	**Arkhangelos**	**2.99**	**196**	P	**Pn**	**23 47 43.4**	**+2.0**
SMTH	**Samothraki Isl**	**3.09**	**297**	P	**Pn**	**23 47 43.4**	**+0.6**
SMTH	**Samothraki Isl**	**3.09**	**297**	P	**Pn**	**23 47 43.4**	**+0.6**
LIA	**Limnos Island**	**3.15**	**286**	P	**Pn**	**23 47 44.2**	**+0.6**
LIA	**Limnos Island**	**3.15**	**286**	P	**Pn**	**23 47 44.2**	**+0.6**
RDO	**Rodhopi**	**3.42**	**308**	P	**Pn**	**23 47 47.8**	**+0.4**
RDO	**Rodhopi**	**3.42**	**308**	P	**Pn**	**23 47 47.8**	**+0.4**
APE	**Apeiranthos**	**3.49**	**235**	*iP*	**Pn**	**23 47 48.5**	**+0.2**
APE	**Apeiranthos**	**3.49**	**235**	S	**Sg**	**23 48 48.1**	**+2.3**
APE	**Apeiranthos**	**3.49**	**235**	*iP*	**Pn**	**23 47 48.5**	**+0.2**
PAIG	**Palilouri**	**4.29**	**283**	P	**Pn**	**23 48 00.4**	**+1.1**
PAIG	**Palilouri**	**4.29**	**283**	P	**Pn**	**23 48 00.4**	**+1.1**
NVR	**Nevrokopi**	**4.61**	**301**	P	**Pn**	**23 48 04.7**	**+1.0**
NVR	**Nevrokopi**	**4.61**	**301**	P	**Pn**	**23 48 04.7**	**+1.0**
MANR	**Mangalia**	**4.72**	**355**	*iP*	**Pn**	**23 48 05.9**	**+0.7**
MANR	**Mangalia**	**4.72**	**355**	*iP*	**Pn**	**23 48 05.9**	**+0.7**
IDI	**Anoyia**	**5.09**	**223**	*iP*	**Pn**	**23 48 11.7**	**+1.3**
IDI	**Anoyia**	**5.09**	**223**	*iP*	**Pn**	**23 48 11.7**	**+1.3**
TIRR	**Tirgusor**	**5.38**	**355**	*iP*	**Pn**	**23 48 14.7**	**+0.5**
TIRR	**Tirgusor**	**5.38**	**355**	*iP*	**Pn**	**23 48 14.7**	**+0.5**
TIRR				S	**Sn**	**23 49 13.6**	**-2.6**
VTS	**Vitosha**	**5.68**	**310**	*iP*	**Pn**	**23 48 19.1**	**+0.6**
VTS	**Vitosha**	**5.68**	**310**	S	**Sn**	**23 49 22.7**	**-1.3**
VTS	**Vitosha**	**5.68**	**310**	*iP*	**Pn**	**23 48 19.1**	**+0.6**
TLCR		**6.08**	**358**	*iP*	**Pn**	**23 48 24.8**	**+0.9**
TLCR		**6.08**	**358**	*iP*	**Pn**	**23 48 24.8**	**+0.9**
CFR	**Carcaliu**	**6.11**	**353**	*iP*	**Pn**	**23 48 24.4**	**+0.1**
CFR	**Carcaliu**	**6.11**	**353**	*iP*	**Pn**	**23 48 24.4**	**+0.1**
MLR	**Muntele Rosu**	**6.80**	**341**	*iP*	**Pn**	**23 48 34.8**	**+0.9**
MLR	**Muntele Rosu**	**6.80**	**341**	*iP*	**Pn**	**23 48 34.8**	**+0.9**
VRI	**Vrincioaia**	**6.99**	**346**	*iP*	**Pn**	**23 48 38.0**	**+1.7**
VRI	**Vrincioaia**	**6.99**	**346**	*iP*	**Pn**	**23 48 38.0**	**+1.7**
VOIR		**7.01**	**336**	*iP*	**Pn**	**23 48 37.6**	**+0.9**
VOIR		**7.01**	**336**	*iP*	**Pn**	**23 48 37.6**	**+0.9**
DOPR	**Dopca**	**7.39**	**339**	*iP*	**Pn**	**23 48 41.7**	**-0.2**
DOPR	**Dopca**	**7.39**	**339**	*iP*	**Pn**	**23 48 41.7**	**-0.2**
BURAR	**Bucovina Array**	**8.97**	**343**	*iP*	**Pn**	**23 49 04.9**	**+1.3**
BURAR	**Bucovina Array**	**8.97**	**343**	*iP*	**Pn**	**23 49 04.9**	**+1.3**

ISCJB ***26*** *23:47:50.3±0.5, 18.72N±0.06×145.5E±0.2, h200km, mb3.6/14, Error ellipse: s-maj=22.7km s-min=8.7km az=2.6*
IDC ***26*** *23:47:53.4±7.0, 18.74N×145.48E, h214km±66km, mb3.5/14, mb1 3.6/14, mb1mx3.3/63, mbtmp4.0/14, Error ellipse: s-maj=20.3km s-min=12.4km az=79.0*

**IS

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIMA	**Simav-Kutahya**	**0.13**	**276**	**P**	**Pg**	**00 02 45.5**	**+0.3**
SIMA	**Simav-Kutahya**	**0.13**	**276**	*e*Pg	**Pg**	**00 02 45.5**	**+0.3**
GDZ	**Gediz**	**0.26**	**86**	*i* P	**Pg**	**00 02 47.5**	**-0.2**
GDZ				*i* S	**Sg**	**00 02 51.9**	**+0.7**
GDZ	**Gediz**	**0.26**	**86**	P	**Pg**	**00 02 47.5**	**-0.2**
GDZ				S	**Sg**	**00 02 51.9**	**+0.7**
DEMI	**Demirci**	**0.34**	**265**	*i* P	**Pg**	**00 02 49.2**	**+0.1**
DEMI				*i* S	**Sg**	**00 02 53.2**	**-0.3**
DEMI	**Demirci**	**0.34**	**265**	P	**Pg**	**00 02 49.2**	**+0.1**
DEMI				S	**Sg**	**00 02 53.2**	**-0.3**
TVSB	**Tavsanli**	**0.45**	**33**	PG	**Pg**	**00 02 50.2**	**-1.1**
TVSB	**Tavsanli**	**0.45**	**33**	*e*Pg	**Pg**	**00 02 50.2**	**-1.1**
KULA	**Kula-Manisa**	**0.67**	**214**	PG	**Pg**	**00 02 54.5**	**-1.0**
KULA				SG	**Sg**	**00 03 04.5**	**+0.3**
KULA	**Kula-Manisa**	**0.67**	**214**	*e*Pg	**Pg**	**00 02 54.5**	**-1.0**
KULA				*e*Sg	**Sg**	**00 03 04.5**	**+0.3**
MANT	**Manisa**	**0.74**	**219**	*i* P	**Pg**	**00 02 57.1**	**+0.3**
MANT				*i* S	**Sg**	**00 03 06.7**	**+0.3**
MANT	**Manisa**	**0.74**	**219**	P	**Pg**	**00 02 57.1**	**+0.3**
MANT				S	**Sg**	**00 03 06.7**	**+0.3**
DURS	**Dursunbey**	**0.74**	**316**	*i* P	**Pg**	**00 02 56.5**	**-0.3**
DURS				*i* S	**Sb**	**00 03 08.2**	**-0.2**
DURS	**Dursunbey**	**0.74**	**316**	P	**Pg**	**00 02 56.5**	**-0.3**
DURS				S	**Sb**	**00 03 08.2**	**-0.2**
KHAL	**Karahalli**	**0.75**	**159**	*i* P	**Pb**	**00 02 58.1**	**0.0**
KHAL				*i* S	**Sb**	**00 03 08.2**	**-0.5**
KHAL	**Karahalli**	**0.75**	**159**	P	**Pb**	**00 02 58.1**	**0.0**
KHAL				S	**Sb**	**00 03 08.2**	**-0.5**
AUBOZ	**BOZOYUK**	**1.08**	**39**	*i* P	**Pg**	**00 03 03.2**	**-0.2**
AUBOZ				*i* S	**Sb**	**00 03 18.6**	**+0.4**
AUBOZ	**BOZOYUK**	**1.08**	**39**	P	**Pg**	**00 03 03.2**	**-0.2**
AUBOZ				S	**Sb**	**00 03 18.6**	**+0.4**
BALB	**Balikesir**	**1.13**	**300**	PN	**Pn**	**00 03 05.5**	**+0.5**
BALB				SN	**Sn**	**00 03 21.3**	**+0.4**
BALB	**Balikesir**	**1.13**	**300**	*e*Pn	**Pn**	**00 03 05.5**	**+0.5**
BALB				*e*Sn	**Sn**	**00 03 21.3**	**+0.4**
STEP	**BALIKESIR_Sava**	**1.15**	**286**	*i* P	**Pb**	**00 03 04.5**	**-0.4**
STEP				*i* S	**Sb**	**00 03 19.7**	**-0.4**
STEP	**BALIKESIR_Sava**	**1.15**	**286**	P	**Pb**	**00 03 04.5**	**-0.4**
STEP				S	**Sb**	**00 03 19.7**	**-0.4**
IGD	**Bursa**	**1.19**	**2**	*i* P	**Pg**	**00 03 04.1**	**-1.3**
IGD				*i* S	**Sg**	**00 03 18.8**	**-2.1**
CAVI	**Cavuskoy**	**1.25**	**25**	PN	**Pg**	**00 03 06.2**	**-0.4**
CAVI				SN	**Sn**	**00 03 24.3**	**+0.4**
CAVI	**Cavuskoy**	**1.25**	**25**	*e*Pn	**Pg**	**00 03 06.2**	**-0.4**
CAVI				*e*Sn	**Sn**	**00 03 24.3**	**+0.4**
BORA	**Eskisehir**	**1.30**	**51**	*i* P	**Pb**	**00 03 07.2**	**-0.2**
BORA				*i* S	**Sb**	**00 03 24.5**	**+0.1**
BORA	**Eskisehir**	**1.30**	**51**	P	**Pb**	**00 03 07.2**	**-0.2**
BORA				S	**Sb**	**00 03 24.5**	**+0.1**
MDNY	**Mudanya-Bursa**	**1.31**	**351**	PN	**Pb**	**00 03 07.8**	**+0.2**
MDNY				SN	**Sn**	**00 03 26.8**	**+1.5**
MDNY	**Mudanya-Bursa**	**1.31**	**351**	*e*Pn	**Pb**	**00 03 07.8**	**+0.2**
MDNY				*e*Sn	**Sn**	**00 03 26.8**	**+1.5**
KCTX	**Karacabey (Bur**	**1.34**	**333**	PN	**Pn**	**00 03 07.5**	**-0.4**
KCTX	**Karacabey (Bur**	**1.34**	**333**	*e*Pn	**Pn**	**00 03 07.5**	**-0.4**
ADVT	**Abdulvahap**	**1.44**	**18**	PN	**Pn**	**00 03 09.2**	**0.0**
ADVT				SN	**Sg**	**00 03 29.4**	**+0.7**
ADVT	**Abdulvahap**	**1.44**	**18**	*e*Pn	**Pn**	**00 03 09.2**	**0.0**
ADVT				*e*Sn	**Sg**	**00 03 29.4**	**+0.7**
AYDB	**Zeytinkoy-Aydi**	**1.49**	**222**	PN	**Pn**	**00 03 09.4**	**-0.7**
AYDB	**Zeytinkoy-Aydi**	**1.49**	**222**	*e*Pn	**Pn**	**00 03 09.4**	**-0.7**
YLV	**Yalova**	**1.50**	**7**	PN	**Pg**	**00 03 11.1**	**-0.3**
YLV				SN	**Sg**	**00 03 31.4**	**+0.5**
YLV	**Yalova**	**1.50**	**7**	*e*Pn	**Pg**	**00 03 11.1**	**-0.3**
YLV				*e*Sn	**Sg**	**00 03 31.4**	**+0.5**
ARMT	**Armutlu**	**1.51**	**352**	PN	**Pg**	**00 03 11.0**	**-0.5**
ARMT				SN	**Sg**	**00 03 31.2**	**+0.1**
ARMT	**Armutlu**	**1.51**	**352**	*e*Pn	**Pg**	**00 03 11.0**	**-0.5**
ARMT				*e*Sn	**Sg**	**00 03 31.2**	**+0.1**
GULT	**Gulveren**	**1.72**	**37**	PN	**Pn**	**00 03 12.9**	**-0.3**
GULT	**Gulveren**	**1.72**	**37**	*e*Pn	**Pn**	**00 03 12.9**	**-0.3**

*IDC **27** 00:13:47.9±1.9,32°.43N×47°.20E,h0km,mb3.7/8,*
mb1 3.7/9,mb1mx3.4/53,mbtmp3.7/9,ML3.2/1, Error
ellipse: s-maj=44.6km s-min=20.3km az=167.0
*ISN **27** 00:13:48.3±0.9,32°.4N×47°.01E,h0km±3km,ML3.4*
*CSEM **27** 00:13:50.6±0.1,32°.40N×47°.12E,h10km,ML3.4, Error*
ellipse: s-maj=4.5km s-min=3.1km az=2.0
*TEH **27** 00:13:50.6,32°.48N×47°.02E,h5km,ML3.4*
ISC 27 00:13:52.0±1.6,32°.46N±0.05×47°.10E±0.05,h25km±14km,
n29,σ0=91/35,mb3.6/8,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKFM	**Kafar-mosalman**	**1.23**	**30**	*e*Pg	**Pn**	**00 14 12.2**	**-1.4**
IKFM				*e*AMB	AMB	00 14 15.3	
	comp=Z,99nm,0.2s						
IKFM				*e*Sg	**Sb**	**00 14 30.0**	**-0.2**
SHGR	**Shooshtar-Gavs**	**1.48**	**103**	*e*Pg	**Pb**	**00 14 18.7**	**-0.1**
NSR	**Nassriya**	**1.66**	**210**	*e*Pn	**Pn**	**00 14 19.0**	**-0.5**
	SNR=4.0						
NSR				Sn	**Sn**	**00 14 41.0**	**+1.0**
	SNR=4.0						
IKOM	**Komasi**	**1.75**	**11**	*e*Pn	**Pn**	**00 14 21.4**	**+0.5**
IKOM				*e*AMB	AMB	00 14 25.2	
	comp=Z,7μm,0.1s						
IGHG	**Ghaleghazi**	**1.92**	**347**	*e*Pn	**Pn**	**00 14 23.4**	**+0.1**
IGHG				*e*AMB	AMB	00 15 01.9	
	comp=Z,6μm,0.4s						
IVIS	**Veis**	**2.08**	**354**	*e*Pn	**Pn**	**00 14 25.4**	**+0.1**
IVIS				*e*Sg	**Sb**	**00 14 54.2**	**-0.3**
IVIS				*e*AMB	AMB	00 14 59.1	
	comp=Z,4μm,0.2s						
BHD	**Baghdad**	**2.43**	**290**	*e*Pn	**Pn**	**00 14 30.5**	**+0.4**
	SNR=4.0						
BHD				Sn	**Sn**	**00 15 01.0**	**+2.0**
	SNR=4.0						
ILIN	**Lien**	**2.46**	**357**	*e*Pn	**Pn**	**00 14 31.3**	**+0.6**
ILIN				*e*AMB	AMB	00 15 09.4	
	comp=Z,2μm,0.3s						
SNGE	**Sanandaj**	**2.64**	**4**	*e*Pn	**Pn**	**00 14 33.6**	**+0.4**
SNGE				*e*Sg	**Sb**	**00 15 10.7**	**0.0**
KHMZ	**Khomeyn**	**2.72**	**61**	*e*Pn	**Pn**	**00 14 35.2**	**+0.9**
HAGD	**Aghdareh**	**2.91**	**35**	*e*Pn	**Pn**	**00 14 37.5**	**+0.6**
HAGD				*e*AMB	AMB	00 14 44.3	
	comp=Z,99nm,0.1s						
ASAO	**Ashtian**	**3.21**	**49**	*e*Pn	**Pn**	**00 14 41.8**	**+0.7**
HKZM	**Kohzaman**	**3.27**	**27**	*e*Pn	**Pn**	**00 14 43.3**	**+1.3**
HKZM				*e*AMB	AMB	00 15 31.6	
	comp=Z,99nm,0.2s						
IKLH	**Kolahrood**	**3.86**	**76**	*e*Pn	**Pn**	**00 14 51.5**	**+1.4**
IKLH				*e*AMB	AMB	00 15 59.8	
	comp=Z,459nm,0.3s						
QAM	**Ghamsar**	**3.86**	**69**	*e*Pn	**Pn**	**00 14 51.5**	**+1.5**
QAM				*e*AMB	AMB	00 15 48.5	
	comp=Z,602nm,0.2s						
GHVR	**GHOM**	**4.04**	**59**	*e*Pn	**Pn**	**00 14 52.8**	**+0.4**
IZEF	**Zefreh**	**4.43**	**83**	*e*Pn	**Pn**	**00 14 58.8**	**+1.0**
IZEF				*e*AMB	AMB	00 15 16.1	
	comp=Z,166nm,0.2s						
IRAM	**Ramesheh**	**4.52**	**97**	*e*Pn	**Pn**	**00 15 00.0**	**+0.9**
IRAM				*e*AMB	AMB	00 16 35.2	
	comp=Z,171nm,0.4s						
IKAZ	**Kazeroun**	**4.86**	**122**	*e*Pn	**Pn**	**00 15 04.8**	**+1.0**
IKAZ				*e*AMB	AMB	00 16 05.4	
	comp=Z,498nm,0.2s						
RTB	**Rutbah**	**5.75**	**278**	*e*Pn	**Pn**	**00 15 16.5**	**+0.6**
	SNR=4.0						
RTB				Sn	**Sn**	**00 16 21.0**	**-0.1**
	SNR=4.0						
IDI	**Anoyia**	**18.66**	**285**	P	**Pn**	**00 18 08.7**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=134,slow=11,SNR=2.4						
BVAR	**Borovoye Array**	**26.53**	**32**	P	**P**	**00 19 26.8**	**-0.6**
	comp=Z,1.2nm,0.7s,baz=223,slow=5.7,SNR=7.3						
KURBB	**Kurchatov Arra**	**29.40**	**43**	P	**P**	**00 19 51.8**	**-1.3**
	comp=Z,0.2nm,0.2s,baz=251,slow=8.9,SNR=2.8						
MKAR	**Makanchi Array**	**30.37**	**52**	P	**P**	**00 20 01.7**	**-0.1**
	comp=Z,0.7nm,0.6s,baz=252,slow=6.9,SNR=7.2						
FINES	**FINESS Array B**	**32.05**	**341**	P	**P**	**00 20 14.7**	**-1.6**
	comp=Z,2.0nm,1.0s,baz=181,slow=12,SNR=3.8						
HFS	**Hagfors**	**35.35**	**332**	P	**P**	**00 20 45.7**	**+0.6**
	comp=Z,1.5nm,0.8s,baz=139,slow=11,SNR=4.7						
NOA	**NORSAR Array B**	**36.88**	**332**	P	**P**	**00 20 59.1**	**+0.9**
	comp=Z,0.9nm,0.8s,baz=118,slow=10,SNR=2.8						
TORD	**Torodi Ar. Bea**	**45.66**	**256**	P	**P**	**00 22 10.7**	**-0.1**
	comp=Z,0.5nm,0.9s,baz=67,slow=7.6,SNR=4.8						
SONM	**Songino Array**	**46.72**	**53**	P	**P**	**00 22 18.3**	**-0.7**
	comp=Z,0.5nm,0.7s,baz=294,slow=11,SNR=3.9						

SJA 27 00:22:44.8±1.0,28°.21S×65°.09W,h20km±8km,ML3.0,
MW3.5,Santiago del Estero Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CYA	**Choya**	**0.67**	**250**	*e*P	Pn	00 22 58.7	-0.4
CYA				*e*S	Sb	00 23 07.6	+0.9
CYA				IAML		00 23 08.0	
	comp=Z,489nm,0.3s						
AHML	**Horco Molle**	**1.44**	**351**	*e*P	Pb	00 23 11.6	+0.6
AHML				IAML		00 23 31.4	
	comp=Z,145nm,0.5s						
FSA	**Cafayete**	**2.24**	**339**	*e*P	Pb	00 23 22.8	-1.8
FSA				*e*S	Sb	00 23 52.3	+0.3
APLL	**PUNTA DE LOS L**	**2.51**	**210**	*e*P	Pn	00 23 26.8	+2.2
APLL				IAML		00 24 08.6	
	comp=Z,100nm,0.5s						
VCA	**Vinchina**	**2.79**	**258**	*e*P	Pb	00 23 31.9	-2.2
VCA				IAML		00 24 19.9	
	comp=Z,116nm,0.3s						
TCA	**Tanti**	**3.14**	**172**	*e*P	Pn	00 23 36.3	+3.0
AGUA	**GUANDACOL**	**3.24**	**246**	*e*P	Pn	00 23 37.8	+3.1

*ISK **27** 00:22:58.9,38°.66N×26°.64E,h8km,ML3.3/24*
*DDA **27** 00:22:58.5,38°.66N×26°.62E,h26km,Ml3.4*
*ISCJB **27** 00:22:59.2±0.3,38°.65N±0°.01×26°.60E±0°.02,h10km±2km,*
Error ellipse: s-maj=2.5km s-min=1.9km az=167.1
*ATH **27** 00:22:59.1,38°.65N×26°.62E,h31km±1km,ML3.3/6, Error*
ellipse: s-maj=2.6km s-min=0.9km az=268.0
*THE **27** 00:22:59.9,38°.65N×26°.61E,h15km±1km,ML3.2/8, Error*
ellipse: s-maj=1.7km s-min=0.6km az=256.0
*CSEM **27** 00:22:59.4±0.1,38°.64N×26°.62E,h10km,ML3.3, Error*
ellipse: s-maj=1.9km s-min=1.5km az=81.0
ISC 27 00:22:59.0±0.8,38°.66N±0°.01×26°.62E±0°.01,h10km±5km,
n182,σ0=80/261,9C-7D,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRBN	**Karaburun**	**0.08**	**222**	PG	**Pg**	**00 23 02.2**	**+0.8**
KRBN	**Karaburun**	**0.08**	**222**	*e*Pg	**Pg**	**00 23 02.2**	**+0.8**
FOCM	**Fo˜§a**	**0.10**	**55**	PG	**Pg**	**00 23 01.1**	**-0.5**
FOCM				SG	**Sg**	**00 23 03.0**	**-0.5**
FOCM	**Fo˜§a**	**0.10**	**55**	*e*Pg	**Pg**	**00 23 01.1**	**-0.5**
FOCM				*e*Sg	**Sg**	**00 23 03.0**	**-0.5**
URLA	**Izmir**	**0.29**	**184**	PG	**Pg**	**00 23 04.9**	**-0.1**
URLA	**Izmir**	**0.29**	**184**	*i* P	**Pg**	**00 23 04.8**	**-0.1**
URLA				*i* S	**Sg**	**00 23 09.9**	**+1.0**
URLA	**Izmir**	**0.29**	**184**	*e*Pg	**Pg**	**00 23 04.9**	**-0.1**
URLA				S	**Sg**	**00 23 09.9**	**+1.0**
CESE	**˜e˜me**	**0.41**	**218**	PG	**Pb**	**00 23 07.7**	**-0.7**
CESE	**˜e˜me**	**0.41**	**218**	*e*Pg	**Pb**	**00 23 07.7**	**-0.7**
BLCB	**Balcova**	**0.42**	**129**	PG	**Pg**	**00 23 07.9**	**+0.6**
BLCB				SG	**Sb**	**00 23 14.6**	**-0.4**
BLCB	**Balcova**	**0.42**	**129**	*e*Pg	**Pg**	**00 23 07.9**	**+0.6**
BLCB				*e*Sg	**Sb**	**00 23 14.6**	**-0.4**
ZEY	**˜zmir**	**0.43**	**193**	*i* P	**Pg**	**00 23 07.8**	**+0.5**
ZEY				*i* S	**Sb**	**00 23 15.3**	**+0.3**
DKL	**Dikili**	**0.47**	**28**	PG	**Pb**	**00 23 09.0**	**-0.4**
DKL				SG	**Sg**	**00 23 15.4**	**+1.0**
DKL	**Dikili**	**0.47**	**28**	*e*Pg	**Pb**	**00 23 09.0**	**-0.4**
DKL				*e*Sg	**Sg**	**00 23 15.4**	**+1.0**
CHOS	**Chios island**	**0.52**	**239**	PG	**Pb**	**00 23 10.8**	**+0.5**
CHOS	**Chios island**	**0.52**	**239**	P	**Pb**	**00 23 10.7**	**+0.4**
CHOS				S	**Sb**	**00 23 17.2**	**-0.7**
CHOS				AML	AML	00 23 23.0	
	comp=E,7435μm,0.2s						
CHOS				AML	AML	00 23 24.0	
	comp=N,7327μm,0.3s						
CHOS	**Chios island**	**0.52**	**239**	P	**Pb**	**00 23 10.3**	**0.0**
CHOS				S	**Sb**	**00 23 17.5**	**-0.4**
CHOS	**Chios island**	**0.52**	**239**	P	**Pb**	**00 23 10.3**	**0.0**
CHOS	**Chios island**	**0.52**	**239**	*e*Pg	**Pb**	**00 23 10.8**	**+0.5**
CHOS				S	**Sb**	**00 23 17.5**	**-0.4**
GMLD	**Gumuldur**	**0.62**	**158**	PG	**Pb**	**00 23 11.5**	**-0.4**
GMLD	**Gumuldur**	**0.62**	**158**	*e*Pg	**Pb**	**00 23 11.5**	**-0.4**
DGB	**˜zmir**	**0.64**	**161**	*i* P	**Pg**	**00 23 11.6**	**+0.3**
DGB				*i* S	**Sb**	**00 23 20.9**	**-0.2**
PRK	**Paraskevi**	**0.65**	**335**	P	**Pg**	**00 23 11.9**	**+0.3**
PRK				S	**Sb**	**00 23 21.3**	**-0.3**
PRK				AML	AML	00 23 25.3	
	comp=E,7807μm,0.2s						
PRK				AML	AML	00 23 25.4	
	comp=N,9361μm,0.4s						
PRK	**Paraskevi**	**0.65**	**335**	P	**Pb**	**00 23 12.1**	**-0.4**
PRK				S	**Sb**	**00 23 21.5**	**-0.1**
PRK	**Paraskevi**	**0.65**	**335**	P	**Pb**	**00 23 12.2**	**-0.3**
PRK				S	**Sb**	**00 23 21.5**	**-0.1**
AYVA	**Ayvalik**	**0.66**	**5**	*i* P	**Pg**	**00 23 11.8**	**+0.1**
AYVA				*i* S	**Sb**	**00 23 21.5**	**-0.2**
AYVA	**Ayvalik**	**0.66**	**5**	P	**Pg**	**00 23 11.8**	**+0.1**
AYVA				S	**Sb**	**00 23 21.5**	**-0.2**
SIGR	**SIGRI**	**0.82**	**313**	PG	**Pn**	**00 23 15.9**	**-0.7**
SIGR	**SIGRI**	**0.82**	**313**	P	**Pb**	**00 23 15.6**	**+0.3**
SIGR				S	**Sn**	**00 23 27.3**	**-1.4**
SIGR				AML	AML	00 23 29.3	
	comp=E,4142μm,0.3s						
SIGR				AML	AML	00 23 29.5	
	comp=N,4220μm,0.4s						
SIGR	**SIGRI**	**0.82**	**313**	P	**Pb**	**00 23 15.4**	**+0.1**
SIGR				S	**Sb**	**00 23 26.7**	**+0.3**
SIGR	**SIGRI**	**0.82**	**313**	P	**Pb**	**00 23 15.4**	**+0.1**
SIGR	**SIGRI**	**0.82**	**313**	*e*Pg	**Pn**	**00 23 15.9**	**-0.7**
SIGR				S	**Sb**	**00 23 26.7**	**+0.3**
PSRA	**Psara**	**0.84**	**263**	P	**Pn**	**00 23 16.6**	**-0.2**
PSRA				S	**Sn**	**00 23 29.0**	**-0.2**
PSRA				AML	AML	00 23 30.5	
	comp=E,5011μm,0.4s						
PSRA				AML	AML	00 23 31.1	
	comp=N,3028μm,0.2s						
PSRA	**Psara**	**0.84**	**263**	P	**Pn**	**00 23 16.1**	**-0.7**
PSRA				S	**Sn**	**00 23 28.3**	**-0.9**
GPNR	**Gulpinar-Canak**	**0.89**	**335**	PG	**Pb**	**00 23 16.2**	**-0.3**
GPNR	**Gulpinar-Canak**	**0.89**	**335**	*e*Pg	**Pb**	**00 23 16.2**	**-0.3**
AKHS	**Akhisar**	**0.96**	**76**	*i* P	**Pb**	**00 23 17.5**	**-0.2**
AKHS				*i* S	**Sn**	**00 23 31.0**	**-1.2**
AKHS	**Akhisar**	**0.96**	**76**	P	**Pb**	**00 23 17.5**	**-0.2**
AKHS				S	**Sn**	**00 23 31.0**	**-1.2**
AKS	**Akhisar**	**0.96**	**76**	PG	**Pb**	**00 23 17.3**	**-0.4**
AKS				SG	**Sn**	**00 23 31.6**	**-0.6**
AKS	**Akhisar**	**0.96**	**76**	*e*Pg	**Pb**	**00 23 17.3**	**-0.4**
AKS				*e*Sg	**Sn**	**00 23 31.6**	**-0.6**
SMG	**Samos**	**0.96**	**170**	P	**Pb**	**00 23 17.4**	**-0.3**
SMG				S	**Sn**	**00 23 32.2**	**0.0**
SMG				AML	AML	00 23 33.8	
	comp=N,6536μm,0.5s						
SMG				AML	AML	00 23 34.0	
	comp=E,3985μm,0.3s						
SMG	**Samos**	**0.96**	**170**	P	**Pb**	**00 23 17.4**	**-0.3**
SMG				S	**Sn**	**00 23 30.9**	**-1.3**
SMG	**Samos**	**0.96**	**170**	P	**Pb**	**00 23 17.5**	**-0.2**
SMG				S	**Sn**	**00 23 30.9**	**-1.3**
GCAM	**G?zelcaml?**	**1.07**	**153**	PG	**Pg**	**00 23 19.7**	**+0.2**
GCAM				SG	**Sn**	**00 23 34.5**	**-0.4**
GCAM	**G?zelcaml?**	**1.07**	**153**	*i* P	**Pn**	**00 23 19.5**	**-0.5**
GCAM				*i* S	**Sn**	**00 23 35.0**	**+0.1**
GCAM	**G?zelcaml?**	**1.07**	**153**	*e*Pg	**Pg**	**00 23 19.7**	**+0.2**
GCAM				*e*Sg	**Sn**	**00 23 34.5**	**-0.4**
GCAM				S	**Sn**	**00 23 35.0**	**+0.1**
BAYC	**CANAKKALE_Bayr**	**1.09**	**357**	*i* P	**Pn**	**00 23 19.9**	**-0.3**
BAYC				*i* S	**Sn**	**00 23 34.7**	**-0.7**
BAYC	**CANAKKALE_Bayr**	**1.09**	**357**	P	**Pn**	**00 23 20.0**	**-0.3**
BAYC				S	**Sn**	**00 23 34.7**	**-0.7**
STEP	**BALIKESIR_Sava**	**1.12**	**49**	*i* P	**Pb**	**00 23 20.3**	**-0.1**
STEP				*i* S	**Sn**	**00 23 36.1**	**-0.1**
STEP	**BALIKESIR_Sava**	**1.12**	**49**	P	**Pb**	**00 23 20.3**	**-0.1**
STEP				S	**Sn**	**00 23 36.1**	**-0.1**
EZN	**Ezine**	**1.19**	**349**	PN	**Pg**	**00 23 21.9**	**0.0**
EZN				SN	**Sg**	**00 23 38.6**	**+1.2**
EZN	**Ezine**	**1.19**	**349**	P	**Pn**	**00 23 21.2**	**-0.5**
EZN				S	**Sg**	**00 23 37.8**	**+0.4**
EZN	**Ezine**	**1.19**	**349**	P	**Pn**	**00 23 21.2**	**-0.5**
EZN	**Ezine**	**1.19**	**349**	*e*Pn	**Pg**	**00 23 21.9**	**0.0**
EZN				S	**Sg**	**00 23 37.8**	**+0.4**
EZN				*e*Sn	**Sg**	**00 23 38.6**	**+1.2**
AYDB	**Zeytinkoy-Aydi**	**1.22**	**125**	PN	**Pb**	**00 23 22.3**	**0.0**
AYDB				SN	**Sg**	**00 23 39.6**	**+1.2**
AYDB	**Zeytinkoy-Aydi**	**1.22**	**125**	*e*Pn	**Pb**	**00 23 22.3**	**0.0**
AYDB				*e*Sn	**Sg**	**00 23 39.6**	**+1.2**
BOZC	**Bozcaada**	**1.27**	**340**	*i* P	**Pb**	**00 23 22.9**	**-0.1**
BOZC				*i* S	**Sg**	**00 23 40.2**	**+0.4**
BALY	**Balya**	**1.33**	**35**	*i* P	**Pn**	**00 23 22.7**	**-1.0**
BALY				*i* S	**Sb**	**00 23 41.4**	**+0.2**
BALY	**Balya**	**1.33**	**35**	P	**Pn**	**00 23 22.7**	**-1.0**
BALY				S	**Sb**	**00 23 41.4**	**+0.2**
BALB	**Balikesir**	**1.39**	**44**	PN	**Pb**	**00 23 24.5**	**-0.5**
BALB				SN	**Sg**	**00 23 44.2**	**+0.6**
BALB	**Balikesir**	**1.39**	**44**	*e*Pn	**Pb**	**00 23 24.5**	**-0.5**
BALB				*e*Sn	**Sg**	**00 23 44.2**	**+0.6**
AYDN	**Tasoluk**	**1.40**	**135**	*i* P	**Pn**	**00 23 24.4**	**-0.3**
AYDN				*i* S	**Sg**	**00 23 43.9**	**-0.2**
AYDN	**Tasoluk**	**1.40**	**135**	P	**Pn**	**00 23 24.4**	**-0.3**
AYDN				S	**Sg**	**00 23 43.9**	**-0.2**
MANT	**Manisa**	**1.52**	**96**	*i* P	**Pn**	**00 23 26.6**	**+0.1**
MANT				*i* S	**Sb**	**00 23 47.4**	**+0.3**
MANT	**Manisa**	**1.52**	**96**	P	**Pn**	**00 23 26.6**	**+0.1**
MANT				S	**Sb**	**00 23 47.3**	**+0.3**
TNSA	**Tinos**	**1.60**	**226**	P	**Pn**	**00 23 26.1**	**-1.3**
TNSA	**Tinos**	**1.60**	**226**	P	**Pn**	**00 23 26.6**	**-0.7**
KULA	**Kula-Manisa**	**1.60**	**94**	PN	**Pb**	**00 23 27.8**	**-0.9**
KULA	**Kula-Manisa**	**1.60**	**94**	*e*Pn	**Pb**	**00 23 27.8**	**-0.9**
GADA	**Gvkgeada**	**1.63**	**340**	PN	**Pn**	**00 23 28.2**	**+0.4**
GADA				SN	**Sb**	**00 23 50.2**	**+0.3**
GADA	**Gvkgeada**	**1.63**	**340**	P	**Pn**	**00 23 27.9**	**+0.1**
GADA				S	**Sn**	**00 23 47.8**	**-1.1**
GADA	**Gvkgeada**	**1.63**	**340**	P	**Pn**	**00 23 27.9**	**+0.1**
GADA	**Gvkgeada**	**1.63**	**340**	*e*Pn	**Pn**	**00 23 28.2**	**+0.4**
GADA				S	**Sn**	**00 23 47.8**	**-1.1**
GADA				*e*Sn	**Sb**	**00 23 50.2**	**+0.3**
MLSB	**Milas**	**1.64**	**146**	PN	**Pb**	**00 23 29.1**	**-0.2**
MLSB	**Milas**	**1.64**	**146**	*e*Pn	**Pb**	**00 23 29.1**	**-0.2**
SKY	**Skiros Island**	**1.64**	**278**	P	**Pn**	**00 23 27.8**	**0.0**
SKY	**Skiros Island**	**1.64**	**278**	P	**Pn**	**00 23 27.8**	**0.0**
LIA	**Limnos Island**	**1.67**	**318**	P	**Pn**	**00 23 29.1**	**-0.7**
LIA				S	**Sn**	**00 23 48.8**	**-1.0**
LIA				AML	AML	00 23 56.0	
	comp=N,518μm,0.3s						
LIA				AML	AML	00 23 57.0	
	comp=E,670μm,0.5s						
LIA	**Limnos Island**	**1.67**	**318**	P	**Pn**	**00 23 28.5**	**+0.2**
LIA				S	**Sn**	**00 23 48.5**	**-1.3**
LIA	**Limnos Island**	**1.67**	**318**	P	**Pn**	**00 23 28.7**	**+0.4**
LIA				S	**Sn**	**00 23 49.2**	**-0.6**
DEMI	**Demirci**	**1.68**	**76**	*i* P	**Pn**	**00 23 28.7**	**+0.2**
DEMI				*i* S	**Sb**	**00 23 51.5**	**+0.2**
DEMI	**Demirci**	**1.68**	**76**	P	**Pn**	**00 23 28.7**	**+0.2**
DEMI				S	**Sb**	**00 23 51.5**	**+0.2**
BODT	**Bodrum**	**1.68**	**161**	PN	**Pb**	**00 23 28.9**	**-1.1**
BODT	**Bodrum**	**1.68**	**161**	P	**Pn**	**00 23 27.3**	**-1.2**
BODT				S	**Sn**	**00 23 48.8**	**-1.3**
BODT	**Bodrum**	**1.68**	**161**	P	**Pn**	**00 23 27.3**	**-1.2**
BODT	**Bodrum**	**1.68**	**161**	*e*Pn	**Pb**	**00 23 28.9**	**-1.1**
BODT				S	**Sn**	**00 23 48.8**	**-1.3**
BDRM	**Kayabasi**	**1.71**	**157**	*i* P	**Pn**	**00 23 28.6**	**-0.3**
BDRM				*i* S	**Sg**	**00 23 55.0**	**+0.9**
BDRM	**Kayabasi**	**1.71**	**157**	P	**Pn**	**00 23 28.6**	**-0.3**
BDRM				S	**Sg**	**00 23 55.0**	**+

MLR	**Muntele Rosu**	**6.85**	**356**	⇑*iP*	**Pn**	**00 24 41.7**	**+2.1**
MLR	**Muntele Rosu**	**6.85**	**356**	⇑*iP*	**Pn**	**00 24 41.7**	**+2.1**
PLOR	**Plostina**	**7.19**	**0**	⇑*iP*	Pn	00 24 50.1	+5.9
VRI	**Vrincioaia**	**7.21**	**1**	⇓*iP*	Pn	00 24 50.3	+5.9
DOPR	**Dopca**	**7.37**	**353**	⇓*iP*	**Pn**	**00 24 50.9**	**+4.3**
BZS	**Buzias**	**7.89**	**333**	⇓*iP*	**Pn**	**00 24 55.5**	**+1.8**
BZS	**Buzias**	**7.89**	**333**	⇓*iP*	**Pn**	**00 24 55.5**	**+1.8**

ISN ***27*** *00:23:04.8±1.3, 32.°53N×47.°09E, h15km, ML2.5*
TEH 27 00:23:04.7, 32.°53N×47.°08E, h7km, ML2.5, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKFM	**Kafar-mosalman**	**1.18**	**33**	*eP*g	Pg	00 23 24.2	-3.2
IKFM				*e*AMB	AMB	00 23 29.8	
	comp=Z,99nm,0.1s						
IKFM				*e*Sg	Sg	00 23 41.6	-1.2
IGHG	**Ghaleghazi**	**1.85**	**347**	*e*Pn	Pn	00 23 37.1	+0.1
IGHG				*e*AMB	AMB	00 24 13.2	
	comp=Z,309nm,0.2s						
IVIS	**Veis**	**2.00**	**355**	*e*Pn	Pn	00 23 38.7	-0.3
IVIS				*e*Sg	Sb	00 24 07.5	+0.8
IVIS				*e*AMB	AMB	00 24 11.0	
	comp=Z,360nm,0.2s						
IDHR	**Dehrash**	**2.24**	**345**	*e*Pn	Pn	00 23 41.8	-0.6
IDHR				*e*AMB	AMB	00 23 46.1	
	comp=Z,341nm,0.1s						
IDHR				*e*Sg	Sb	00 24 14.6	+0.9
IKLH	**Kolahrood**	**3.87**	**77**	*e*AMB	AMB	00 24 18.7	
	comp=Z,60nm,0.2s						
IKLH				*e*Pn	Pn	00 24 04.5	-0.3
IZEF	**Zefreh**	**4.44**	**84**	*e*Pn	Pn	00 24 12.0	-0.7
IZEF				*e*AMB	AMB	00 24 17.2	
	comp=Z,35nm,0.1s						

ISCJB ***27*** *00:28:12.9±1.0, 6.°57S±0.°09×128.°66E±0.°10, h334km, mb3.5/3, Error ellipse: s-maj=14.3km s-min=11.6km az=140.2*
IDC ***27*** *00:28:13.9±4.0, 6.°57S×128.°60E, h326km±41km, mb3.2/3, mb1 3.6/6, mb1mx3.0/55, mbtmp4.3/6, Error ellipse: s-maj=49.8km s-min=13.5km az=61.0*
ISC 27 00:28:14.6±1.3, 6.7S±0.1×128.6E±0.1, h334km, n6, σ1§22/9, mb3.5/3, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**6.00**	**234**	P	**Pn**	**00 29 45.4**	**+0.3**
	21nm,0.3s,baz=14,slow=0.7,SNR=21						
BATI				S		00 30 57.7	-0.5
	14nm,0.3s,baz=135,slow=20,SNR=9.0						
WRA	**Warramunga Arr**	**14.35**	**158**	P	**P**	**00 31 23.1**	**+0.1**
	1.4nm,0.3s,baz=340,slow=11,SNR=46						
WRA				S	**S**	**00 33 57.1**	**-2.2**
	0.3nm,0.3s,baz=335,slow=22,SNR=5.8						
ASAR	**Alice Springs**	**17.68**	**164**	P	**P**	**00 32 00.1**	**+1.0**
	3.3nm,0.3s,baz=345,slow=12,SNR=202						
ASAR				S	**S**	**00 35 06.3**	**+1.0**
	0.3nm,0.3s,baz=340,slow=19,SNR=12						
STKA	**Stephens Creek**	**27.89**	**156**	P	**P**	**00 33 35.8**	**+0.9**
	1.4nm,0.6s,baz=335,slow=9.9,SNR=4.7						
MKAR	**Makanchi Array**	**67.16**	**327**	P	**P**	**00 38 33.4**	**0.0**
	0.6nm,0.5s,baz=120,slow=7.4,SNR=8.6						
ZALV	**Zalesovo Beam**	**70.65**	**334**	P	**P**	**00 38 53.6**	**-0.8**
	0.5nm,0.4s,baz=134,slow=4.2,SNR=2.3						

ISCJB ***27*** *00:28:17.5±1.0, 32.°62S±0.°06×69.°96W±0.°08, h122km±8km, Error ellipse: s-maj=13.8km s-min=5.1km az=40.5*
GUC ***27*** *00:28:17.8±0.5, 32.°56S×69.°93W, h101km±7km, ML2.4*
SJA ***27*** *00:28:17.6±0.5, 32.°61S×69.°93W, h118km±3km, ML2.6, MW3.0*
ISC 27 00:28:18.1±2.2, 32.°62S±0.°07×69.°97W±0.°07, h119km±16km, n14, σ0§36/25, 1D, Mendoza Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AUSP	**Uspallata**	**0.63**	**51**	*e*P	**Pn**	**00 28 37.1**	**-0.1**
AUSP				*e*S	**Sn**	**00 28 51.6**	**+0.1**
FCH	**Farellones**	**0.75**	**201**	⇓*iP*	**Pn**	**00 28 38.0**	**-0.2**
FCH				*i* S	**Sn**	**00 28 53.4**	**+0.1**
FCH				IAML		00 28 53.9	
	comp=E,245nm,0.3s						
PEL	**Peldehue**	**0.80**	**229**	*e*P	**Pn**	**00 28 37.9**	**-0.3**
PEL				*i* S	**Sn**	**00 28 52.9**	**-0.5**
ARCO	**CERRO ARCO**	**0.90**	**104**	*e*P	**Pn**	**00 28 39.3**	**0.0**
ARCO				IAML		00 28 39.7	
	comp=Z,104nm,0.2s						
ARCO				*e*S	**Sn**	**00 28 55.1**	**-0.1**
ASAL	**Salagasta**	**0.96**	**88**	*e*P	**Pn**	**00 28 39.7**	**0.0**
ASAL				*e*S	**Sn**	**00 28 55.8**	**-0.3**
RTLS	**Leoncito**	**1.00**	**35**	*e*P	**Pn**	**00 28 40.8**	**+0.4**
RTLS				*e*S	**Sn**	**00 28 58.1**	**+0.9**
RTLS				IAML		00 28 59.9	
	comp=Z,73nm,0.2s						
AAGR	**Agrelo**	**1.06**	**116**	*e*P	**Pn**	**00 28 40.9**	**+0.1**
ANTU	**Antumapu**	**1.10**	**211**	*e*S	**Sn**	**00 28 58.9**	**+0.4**
RCDM	**Rinconada Maip**	**1.11**	**219**	*e*P	**Pn**	**00 28 41.0**	**-0.2**
RCDM				*i* S	**Sn**	**00 28 58.7**	**0.0**
LMEL	**Las Melosas**	**1.24**	**189**	*e*P	**Pn**	**00 28 42.8**	**+0.1**
LMEL				*i* S	**Sn**	**00 29 01.8**	**+0.5**
LMEL				IAML		00 29 10.8	
	comp=N,58nm,0.1s						
RTCV	**Cerro Valdivia**	**1.43**	**58**	*e*P	**Pn**	**00 28 44.4**	**-0.3**
RTCV				*e*S	**Sn**	**00 29 04.5**	**-0.4**
RTLL	**Cerro Villicun**	**1.81**	**45**	*e*P	**Pn**	**00 28 49.1**	**-0.1**
RTLL				*e*S	**Sn**	**00 29 12.7**	**-0.2**
RTLL				IAML		00 29 14.8	
	comp=Z,44nm,0.5s						
AMOG	**MOGNA**	**2.10**	**37**	*e*P	**Pn**	**00 28 52.8**	**0.0**
AMOG				*e*S	**Sn**	**00 29 18.7**	**-0.6**
AGUA	**GUANDACOL**	**3.37**	**22**	*e*P	**Pn**	**00 29 09.7**	**+0.3**

NIED ***27*** *00:30:00, 39.°40N×143.°40E, h14km, Mw3.7 Best double couple: M0 3.68000×10^14 NP1:φs 200.00000°, δ40.00000°, λ95.00000°. NP2:φs 14.00000°, δ50.00000°, λ86.00000°.*
JMA ***27*** *00:30:30.3±0.1, 39.°37N×143.°39E, h18km±2km, M3.9*
ISCJB ***27*** *00:30:31.3±1.1, 39.°33N±0.°04×143.°46E±0.°08, h34km±9km, mb3.9/14, Error ellipse: s-maj=10.4km s-min=7.0km az=18.6*
IDC ***27*** *00:30:36.5±2.7, 39.°29N×143.°25E, h62km±23km, mb3.4/13, mb1 3.5/17, mb1mx3.4/67, mbtmp3.6/17, ML3.2/3, MS2.7/2, Ms1 2.7/2, ms1mx2.3/56, Error ellipse: s-maj=22.5km s-min=14.5km az=103.0*
ISC 27 00:30:35.0±2.0, 39.°34N±0.°06×143.°3E±0.°1, h46km±17km, n35, σ1§28/39, mb3.7/14, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIYJ	**Miyakonagasawa**	**1.14**	**282**	P	**Pn**	**00 30 52.5**	**-2.0**
MIYJ				S	**Sn**	**00 31 08.8**	**-0.2**
JTH	**Tanohata**	**1.23**	**299**	P	**Pn**	**00 30 53.8**	**-2.0**
JTH				S	**Sn**	**00 31 10.7**	**-0.6**
OFUJ	**Ofunato**	**1.26**	**259**	P	**Pn**	**00 30 54.5**	**-1.7**
JOM	**Ohasama**	**1.53**	**276**	P	**Pn**	**00 30 58.8**	**-1.1**
JOM				S	**Sn**	**00 31 19.8**	**+1.2**
JMK	**Ichinoseki**	**1.63**	**257**	P	**Pn**	**00 31 00.5**	**-0.8**
JMK				S	**Sn**	**00 31 23.1**	**+2.0**
JANG	**Nango**	**1.69**	**308**	P	**Pn**	**00 31 00.2**	**-1.9**
JIO	**Ouri**	**1.73**	**240**	P	**Pn**	**00 31 01.4**	**-1.2**
JIO				S	**Sn**	**00 31 24.2**	**+0.6**
JRG	**Rokugo**	**2.04**	**272**	P	**Pn**	**00 31 06.5**	**-0.3**
JAH	**Hinai**	**2.19**	**294**	P	**Pn**	**00 31 08.3**	**-0.6**
JAH				S	**Sn**	**00 31 36.6**	**+1.8**
JTM	**Tenmabayashi**	**2.22**	**311**	P	**Pn**	**00 31 08.3**	**-1.0**
JTM				S	**Sn**	**00 31 37.3**	**+1.9**
JYK	**Kaneyama**	**2.29**	**260**	P	**Pn**	**00 31 10.2**	**-0.2**
JNBK	**Urakawa-nobuka**	**2.96**	**353**	P	**Pn**	**00 31 17.4**	**-2.1**
JNBK				S	**Sn**	**00 31 52.5**	**-1.3**
ASAJ	**Asahikawa**	**4.80**	**354**	P	**Pn**	**00 31 48.0**	**+3.3**
	0.6nm,0.3s,baz=163,slow=20,SNR=2.4						
ASAJ				S	Sn	00 32 57.0	+18
	0.4nm,0.3s,baz=15,slow=20,SNR=1.8						
MAT	**Matsushiro**	**4.87**	**237**	P	**Pn**	**00 31 46.5**	**+0.7**
MJAR	**Matsushiro Arr**	**4.87**	**237**	P	**Pn**	**00 31 46.9**	**+1.2**
	1.8nm,0.3s,baz=38,slow=12,SNR=23						
USRK	**Ussuriysk Ar.**	**9.72**	**304**	P	**Pn**	**00 32 52.0**	**-0.1**
	0.1nm,0.3s,baz=133,slow=14,SNR=1.9						
KSRS	**Korea Array**	**12.18**	**266**	P	**Pn**	**00 33 27.1**	**+1.3**
	0.2nm,0.3s,baz=67,slow=15,SNR=3.1						
KSRS				LR	LR	00 37 47.2	
	comp=Z,27nm,18.8s,baz=220,slow=35						
JOW	**Kunigami**	**17.67**	**230**	LR	LR	00 40 33.7	
	comp=Z,29nm,19.8s,baz=164,slow=34						
SEY	**Seymchan**	**24.26**	**10**	P	**P**	**00 35 47.8**	**+0.4**
	1.8nm,0.6s,baz=180,slow=7.3,SNR=4.5						
SONM	**Songino Array**	**27.80**	**300**	P	**P**	**00 36 20.0**	**+0.2**
	0.2nm,0.4s,baz=103,slow=12,SNR=2.4						
H11N2	**WAKE ISLAND Hy**	**28.22**	**127**	T	T	01 05 56.1	
	baz=318,slow=75,SNR=9.9						
H11N1	**WAKE ISLAND Hy**	**28.23**	**127**	T	T	01 05 56.1	
	baz=318,slow=75,SNR=5.8						
H11N3	**WAKE ISLAND Hy**	**28.24**	**127**	T	T	01 05 56.1	
	baz=318,slow=75,SNR=7.0						
TGY	**Tagaytay City**	**31.91**	**224**	P	**P**	**00 36 54.9**	**-1.4**
	217nm,0.3s,baz=135,slow=1.4,SNR=3.2						
ZALV	**Zalesovo Beam**	**41.48**	**310**	P	**P**	**00 38 17.4**	**+0.1**
	0.6nm,0.5s,baz=99,slow=8.2,SNR=3.3						
MKAR	**Makanchi Array**	**44.17**	**300**	P	**P**	**00 38 40.0**	**+0.8**
	0.5nm,0.8s,baz=81,slow=8.9,SNR=4.2						
KURBB	**Kurchatov Arra**	**45.77**	**306**	P	**P**	**00 38 51.8**	**0.0**
	1.3nm,0.6s,baz=80,slow=8.5,SNR=9.4						
ILAR	**Eielson Array**	**46.77**	**34**	P	**P**	**00 38 59.5**	**+0.1**
	0.3nm,0.7s,baz=254,slow=6.8,SNR=4.5						
BVAR	**Borovoye Array**	**50.12**	**311**	P	**P**	**00 39 25.7**	**+0.3**
	0.5nm,0.6s,baz=72,slow=4.7,SNR=3.5						
WRA	**Warramunga Arr**	**59.56**	**190**	P	**P**	**00 40 33.6**	**-0.3**
	0.7nm,0.6s,baz=6.5,slow=7.0,SNR=5.0						
YKA	**Yellowknife Ar**	**61.09**	**31**	P	**P**	**00 40 43.8**	**-0.1**
	0.1nm,0.6s,baz=300,slow=6.2,SNR=3.8						
ASAR	**Alice Springs**	**63.29**	**190**	P	**P**	**00 40 58.7**	**-0.4**
	0.3nm,0.5s,baz=340,slow=4.3,SNR=3.5						
FINES	**FINESS Array B**	**67.45**	**332**	P	**P**	**00 41 25.6**	**+0.1**
	3.7nm,1.1s,baz=346,slow=4.7,SNR=2.7						
HFS	**Hagfors**	**72.58**	**336**	P	**P**	**00 41 55.9**	**-1.1**
	3.9nm,1.1s,baz=70,slow=4.7,SNR=3.0						
NOA	**NORSAR Array B**	**72.61**	**338**	P	**P**	**00 41 57.6**	**+0.3**
	0.3nm,0.6s,baz=14,slow=4.2,SNR=2.4						

ISCJB ***27*** *00:32:46.2±0.8, 2.°0N±0.°1×90.°70E±0.°07, h10km, mb4.0/14, MS3.5/1, Error ellipse: s-maj=18.7km s-min=9.4km az=14.2*
IDC ***27*** *00:32:46.3±1.0, 1.°96N×90.°67E, h0km, mb3.9/12, mb1 4.0/15, mb1mx3.7/72, mbtmp3.9/15, ML3.7/3, MS3.3/2, Ms1 3.3/2, ms1mx2.7/55, Error ellipse: s-maj=32.7km s-min=17.6km az=34.0*
NEIC ***27*** *00:32:47.9±0.7, 2.°00N×90.°68E, h10km, mb4.2/2, Error ellipse: s-maj=16.9km s-min=8.5km az=194.0*
ISC 27 00:32:48.1±1.0, 2.°1N±0.°2×90.°59E±0.°08, h10km, n24, σ1§94/23, mb4.1/14, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**8.36**	**85**	Pn	**Pn**	**00 34 49.6**	**+0.1**
	0.5nm,0.3s,baz=274,slow=14,SNR=2.4						
PSI				Sn	Sn	00 36 05.4	-19
	0.8nm,0.3s,baz=343,slow=21,SNR=3.5						
PSI				LR	LR	00 37 35.3	
	comp=Z,177nm,20.4s,baz=276,slow=35						
KULM	**Kulim**	**10.54**	**72**	*e*Pn	**Pn**	**00 35 19.1**	**-0.2**
PALK	**Pallekele**	**11.13**	**298**	Pn	**Pn**	**00 35 29.8**	**+2.3**
	1.5nm,0.3s,baz=115,slow=14,SNR=7.5						
PALK				Sn	**Sn**	**00 37 27.5**	**-4.7**
	0.3nm,0.3s,baz=115,slow=12,SNR=2.2						
PALK	**Pallekele**	**11.13**	**298**	*e*Pn	**Pn**	**00 35 30.6**	**+3.0**
PALK				Sn	**Sn**	**00 37 27.5**	**-4.7**
CMAR	**Chiang Mai Arr**	**18.23**	**26**	P	**Pn**	**00 37 01.3**	**-0.2**
	0.1nm,0.3s,baz=209,slow=14,SNR=2.6						
H08S2	**Diego Garcia H**	**20.47**	**242**	T	T	00 58 32.1	
	baz=63,slow=75,SNR=3.3						
H08S3	**Diego Garcia H**	**20.47**	**242**	T	T	00 58 37.9	
	baz=63,slow=75,SNR=3.4						
H08S1	**Diego Garcia H**	**20.49**	**242**	T	T	00 58 38.9	
	baz=63,slow=75,SNR=3.0						
NACB	**Ninganchiao**	**37.16**	**51**	*e*P	**P**	**00 39 58.3**	**-1.2**
	1.4nm,0.3s						
YHNB	**Yeheng**	**37.25**	**50**	P	**P**	**00 39 59.3**	**-1.1**
	2.8nm,0.5s						
WSAR	**Wadi Sarin**	**37.45**	**307**	P	**P**	**00 40 02.5**	**+0.5**
	3.3nm,1.0s,baz=180,slow=9.1,SNR=2.4						
MKAR	**Makanchi Array**	**45.14**	**352**	P	**P**	**00 41 05.5**	**+0.7**
	0.5nm,0.5s,baz=175,slow=10,SNR=6.8						
GEYT	**Allbeck**	**46.48**	**324**	P	**P**	**00 41 18.1**	**+2.4**
	1.5nm,0.8s,baz=123,slow=11,SNR=4.1						
SONM	**Songino Array**	**47.60**	**14**	P	**P**	**00 41 24.9**	**+0.5**
	1.0nm,0.5s,baz=196,slow=9.5,SNR=6.1						
WRA	**Warramunga Arr**	**48.16**	**119**	P	**P**	**00 41 27.7**	**-1.3**
	2.8nm,0.9s,baz=296,slow=8.4,SNR=8.3						
ASAR	**Alice Springs**	**49.27**	**124**	P	**P**	**00 41 36.6**	**-1.0**
	0.4nm,0.7s,baz=312,slow=12,SNR=4.0						
KURBB	**Kurchatov Arra**	**49.45**	**350**	P	**P**	**00 41 38.5**	**+0.1**
	0.8nm,0.8s,baz=171,slow=6.5,SNR=8.1						
KURK	**Kurchatov**	**49.53**	**350**	P	**P**	**00 41 38.5**	**-0.4**
ZALV	**Zalesovo Beam**	**51.93**	**356**	P	**P**	**00 41 57.0**	**0.0**
	0.9nm,0.5s,baz=181,slow=7.2,SNR=5.5						
ZALV				LR	LR	01 05 27.0	
	comp=Z,41nm,20.3s,baz=190,slow=38						
BRTR	**Keskin Array B**	**63.70**	**314**	P	**P**	**00 43 20.5**	**+0.2**
	0.7nm,0.7s,baz=133,slow=7.4,SNR=6.4						
IDI	**Anoyia**	**69.09**	**307**	P	**P**	**00 43 55.3**	**+0.5**
	1.9nm,0.5s,baz=112,slow=12,SNR=6.6						
FINES	**FINESS Array B**	**76.23**	**333**	P	**P**	**00 44 36.7**	**+0.1**
	1.7nm,0.9s,baz=179,slow=9.5,SNR=4.1						
GERES	**GERESS Array B**	**79.83**	**319**	P	**P**	**00 44 57.7**	**+0.7**
	1.2nm,0.7s,baz=101,slow=5.6,SNR=12						
TXAR	**Lajitas Array**	**145.93**	**23**	PKPbc	**PKPdf**	**00 52 26.4**	**-1.8**
	0.4nm,0.7s,baz=31,slow=1.2,SNR=4.4						

ISCJB ***27*** *00:43:48.0±0.4, 35.°38S±0.°09×78.°73E±0.°09, h14km, mb4.2/32, MS4.1/30, Error ellipse: s-maj=13.6km s-min=10.6km az=5.2*
IDC ***27*** *00:43:47.7±0.6, 35.°34S×78.°75E, h0km, mb4.1/21, mb1 4.2/21, mb1mx4.0/55, mbtmp4.1/21, MS4.1/30, Ms1 4.1/30, ms1mx3.9/44, Error ellipse: s-maj=19.5km s-min=16.1km az=18.0*
NEIC ***27*** *00:43:48.9±0.4, 35.°36S×78.°69E, h10km, mb4.0/7, Error ellipse: s-maj=13.7km s-min=10.3km az=181.0*
GCMT ***27*** *00:43:48.9±0.2, 35.°18S×78.°62E, h12km, MW5.0/92, Moment Tensor Solution. s44,c58; s92,c129; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-0.81±.09; Mθθ-2.91±.08; Mφφ3.72±.08; Mrθ0.81±.25; Mφθ0.03±.09; Mφr0.18±.23; Best double couple: M0 3.45800×10^16 NP1:φs 224.00000°, δ78.00000°, λ-15.00000°. NP2: φs 317.00000°, δ75.00000°, λ-168.00000°. Principal axes: T 3.7270, Plg2.0000°, Azm271.0000°; N -0.5400, Plg71.0000°, Azm7.0000°; P -3.1890, Plg19.0000°, Azm180.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 27 00:43:49.6±0.5, 35.4S±0.1×78.7E±0.1, h14km, n59, σ1§14/35, mb4.1/32, MS4.1/30, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S2	**Diego Garcia H**	**28.16**	**347**	T	T	01 18 54.3	
	baz=169,slow=76,SNR=406						
H08S1	**Diego Garcia H**	**28.16**	**347**	T	T	01 18 49.3	
	baz=169,slow=76,SNR=468						
H08S3	**Diego Garcia H**	**28.18**	**347**	T	T	01 18 47.6	
	baz=169,slow=76,SNR=468						
H01W2	**Cape Leeuwin H**	**28.89**	**100**	T	T	01 20 02.2	
	baz=259,slow=74,SNR=91						
H01W3	**Cape Leeuwin H**	**28.89**	**99**	T	T	01 20 00.3	
	baz=259,slow=74,SNR=90						
H01W1	**Cape Leeuwin H**	**28.90**	**99**	T	T	01 20 08.4	
	baz=259,slow=74,SNR=82						
H08N1	**Diego Garcia H**	**29.73**	**344**	T	T	01 21 00.9	
	baz=217						
H08N3	**Diego Garcia H**	**29.73**	**344**	T	T	01 20 53.5	
	baz=217						
H08N2	**Diego Garcia H**	**29.75**	**344**	T	T	01 20 55.4	
	baz=217						
OPO	**Ambohidratompo**	**32.51**	**293**	LR	LR	01 00 08.1	
	comp=Z,669nm,19.9s,baz=167,slow=30						
MAW	**Mawson**	**33.55**	**191**	LR	LR	01 01 41.3	
	comp=Z,458nm,18.9s,baz=40,slow=32						
LEM	**Lembang**	**38.87**	**50**	LR	LR	01 04 19.1	
	comp=Z,263nm,18.9s,baz=232,slow=32						
PSI	**Prapat**	**42.42**	**31**	LR	LR	01 05 47.5	
	comp=Z,328nm,19.3s,baz=194,slow=31						
BOSA	**Boshof**	**45.38**	**263**	P	**P**	**00 52 08.5**	**+0.6**
	2.2nm,0.8s,baz=37,slow=5.9,SNR=4.4						
BOSA				LR	LR	01 06 57.1	
	comp=Z,484nm,21.2s,baz=110,slow=31						
LBTB	**Lobatse**	**46.57**	**268**	P	**P**	**00 52 14.5**	**-2.8**
	2.4nm,0.8s,baz=121,slow=12,SNR=3.7						
SUR	**Sutherland**	**47.58**	**256**	P	**P**	**00 52 25.1**	**-0.1**
	0.8nm,1.0s,baz=112,slow=11,SNR=4.0						
BATI	**Baumata**	**47.87**	**70**	P	**P**	**00 52 27.4**	**0.0**
	8.2nm,0.4s,baz=270,slow=6.1,SNR=2.1						
BATI				LR	LR	01 09 08.7	
	comp=Z,210nm,21.3s,baz=248,slow=32						
ASAR	**Alice Springs**	**48.88**	**92**	P	**P**	**00 52 35.1**	**0.0**
	1.8nm,0.8s,baz=244,slow=6.2,SNR=18						
ASAR				LR	LR	01 10 59.3	
	comp=Z,236nm,20.1s,baz=260,slow=33						
LSZ	**Lusaka**	**49.27**	**281**	*e*P	**P**	**00 52 38.0**	**-0.3**
	1.1nm,0.6s						
WRA	**Warramunga Arr**	**50.99**	**88**	P	**P**	**00 52 51.5**	**+0.3**
	6.3nm,0.9s,baz=241,slow=7.2,SNR=11						
WRA				LR	LR	01 12 07.2	
	comp=Z,431nm,21.9s,baz=275,slow=33						
WRAB	**Tennant Creek**	**51.01**	**88**	*e*P	**P**	**00 52 51.4**	**+0.1**
	2.6nm,0.8s						
STKA	**Stephens Creek**	**51.71**	**105**	P	**P**	**00 52 56.9**	**+0.5**
	1.8nm,0.9s,baz=297,slow=9.0,SNR=3.4						
VNDA	**Vanda**	**54.31**	**165**	P	**P**	**00 53 14.9**	**0.0**
	1.5nm,0.9s,baz=254,slow=4.2,SNR=4.5						
VNDA				LR	LR	01 14 33.8	
	comp=Z,224nm,18.4s,baz=273,slow=34						
QSPA	**South Pole Qui**	**54.80**	**180**	P	**P**	**00 53 19.3**	**+0.5**
	2.9nm,1.1s,baz=261,slow=3.1,SNR=4.8						
QSPA				LR	LR	01 14 42.5	
	comp=Z,512nm,20.6s,baz=260,slow=34						
TSUM	**Tsumeb**	**55.85**	**270**	*e*P	**P**	**00 53 26.3**	**-0.7**
	0.9nm,0.7s						
CMAR	**Chiang Mai Arr**	**56.86**	**23**	P	**P**	**00 53 34.1**	**+0.2**
	0.6nm,0.3s,baz=225,slow=8.9,SNR=2.9						
CMAR				LR	LR	01 13 38.4	
	comp=Z,52nm,21.5s,baz=196,slow=32						
CHTO	**Chiang Mai**	**57.19**	**23**	P	**P**	**00 53 36.4**	**+0.2**
	0.8nm,0.5s						
ATD	**Arta Tunnel**	**57.66**	**317**	LR	LR	01 13 07.4	
	comp=Z,54nm,21.0s,baz=140,slow=30						
DAV	**Davao City (W)**	**61.04**	**56**	LR	LR	01 17 15.3	
	comp=Z,103nm,22.0s,baz=172,slow=33						
WSAR	**Wadi Sarin**	**61.30**	**339**	P	**P**	**00 54 04.5**	**-0.1**
	2.5nm,0.7s,baz=136,slow=4.1,SNR=3.7						
RAYN	**Ar Rayn**	**66.47**	**327**	*e*P	**P**	**00 54 39.2**	**+0.5**
	0.8nm,0.8s						
PMG	**Port Moresby**	**67.06**	**85**	LR	LR	01 22 47.4	
	comp=Z,511nm,19.0s,baz=233,slow=35						
GEYT	**Allbeck**	**75.38**	**343**	P	**P**	**00 55 34.3**	**+1.7**
	0.5nm,0.4s,baz=146,slow=10,SNR=3.0						
GEYT				LR	LR	01 24 54.2	
	comp=Z,45nm,19.9s,baz=180,slow=33						
HNR	**Honiara**	**77.49**	**93**	LR	LR	01 27 19.3	
	comp=Z,170nm,20.6s,baz=211,slow=34						
KKAR	**Karatay Array**	**78.44**	**354**	*e*P	**P**	**00 55 50.8**	**+1.2**
	0.3nm,0.5s						
MMAI	**Mount Meron Ar**	**79.20**	**324**	P	**P**	**00 55 53.2**	**-1.0**
	0.7nm,0.7s,baz=144,slow=2.7,SNR=2.7						
GNI	**Garni**	**81.39**	**334**	LR	LR	01 30 24.5	
	comp=Z,81nm,19.5s,baz=144,slow=34						
GNI	**Garni**	**81.39**	**334**	P	**P**	**00 56 06.2**	**+0.3**
	12nm,0.8s						
MKAR	**Makanchi Array**	**81.84**	**2**	P	**P**	**00 56 07.6**	**-0.3**
	0.8nm,0.7s,baz=198,slow=6.4,SNR=5.9						
JNU	**Nakatsue**	**83.83**	**42**	P	**P**	**00 56 17.5**	**-1.2**
	8.9nm,1.1s,baz=233,slow=5.1,SNR=3.1						
JNU				LR	LR	01 34 05.6	
	comp=Z,29nm,18.1s,baz=284,slow=36						
KBZ	**Khabaz**	**85.19**	**335**	P	**P**	**00 56 25.9**	**+0.7**
	1.1nm,0.9s,baz=121,slow=5.9,SNR=2.2						
KBZ				LR	LR	01 32 30.0	
	comp=Z,28nm,18.8s,baz=164,slow=34						
BRTR	**Keskin Array B**	**85.49**	**327**	P	**P**	**00 56 25.0**	**-2.0**
	0.9nm,0.8s,baz=150,slow=5.9,SNR=7.6						
BRTR				LR	LR	01 29 55.3	
	comp=Z,47nm,21.5s,baz=137,slow=32						
KURBB	**Kurchatov Arra**	**85.61**	**360**	P	**P**	**00 56 27.9**	**+0.8**
	2.5nm,0.8s,baz=194,slow=4.3,SNR=9.9						
KSRS	**Korea Array**	**85.64**	**37**	LR	LR	01 34 50.6	
	comp=Z,33nm,18.4s,baz=207,slow=36						
KURK	**Kurchatov**	**85.70**	**360**	*e*P	**P**	**00 56 27.7**	**+0.2**
	26nm,0.8s						
SONM	**Songino Array**	**86.44**	**18**	P	**P**	**00 56 29.0**	**-2.5**
	0.7nm,0.6s,baz=207,slow=1.0,SNR=4.3						
SONM				LR	LR	01 33 16.7	
	comp

*ISCJB **27** 00:49:07.5±0.4,38°.88N±0°.02×37°.60E±0°.03,h3km±4km, Error ellipse: s-maj=3.7km s-min=3.3km az=17.1*
*CSEM **27** 00:49:07.3±0.1,38°.88N×37°.60E,h5km,ML2.6, Error ellipse: s-maj=2.9km s-min=2.6km az=45.0*
*DDA **27** 00:49:07.2,38°.87N×37°.60E,h7km,Ml2.6*
ISC 27 00:49:07.7±1.0,**38°.88N**±0°.02×**37°.61E**±0°.02,**h7**km±9km, **n34**,σ0**966**/65,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HEKM	**Malatya_Hekimh**	**0.27**	**90**	*i* P	**Pg**	**00 49 13.4**	**+0.4**
HEKM				*i* S	**Sb**	**00 49 18.5**	**-1.3**
HEKM	**Malatya_Hekimh**	**0.27**	**90**	P	**Pg**	**00 49 13.4**	**+0.4**
HEKM				S	**Sb**	**00 49 18.5**	**-1.3**
CUGUR	**Gurin_S¨VAS**	**0.31**	**240**	*i* P	**Pg**	**00 49 13.4**	**-0.4**
CUGUR				*i* S	**Sg**	**00 49 18.5**	**+0.6**
CUGUR	**Gurin_S¨VAS**	**0.31**	**240**	P	**Pg**	**00 49 13.4**	**-0.4**
CUGUR				S	**Sg**	**00 49 18.5**	**+0.6**
DARE	**Darende-Malaty**	**0.33**	**198**	PG	**Pg**	**00 49 13.8**	**-0.3**
DARE				SG	**Sg**	**00 49 18.8**	**+0.4**
DARE	**Darende-Malaty**	**0.33**	**198**	*e*Pg	**Pg**	**00 49 13.8**	**-0.3**
DARE				*e*Sg	**Sg**	**00 49 18.8**	**+0.4**
CUKAN	**kangal_SIVAS**	**0.45**	**345**	*i* P	**Pg**	**00 49 15.6**	**-0.9**
CUKAN				*i* S	**Sg**	**00 49 23.4**	**+1.0**
CUKAN	**kangal_SIVAS**	**0.45**	**345**	P	**Pg**	**00 49 15.6**	**-0.9**
CUKAN				S	**Sg**	**00 49 23.4**	**+1.0**
AKCD	**Akcadag**	**0.63**	**157**	*i* P	**Pg**	**00 49 19.3**	**-0.6**
AKCD				*i* S	**Sb**	**00 49 30.8**	**+0.6**
AKCD	**Akcadag**	**0.63**	**157**	P	**Pg**	**00 49 19.3**	**-0.6**
AKCD				S	**Sb**	**00 49 30.8**	**+0.6**
CUALT	**Altinyayla-SIV**	**0.77**	**301**	*i* P	**Pg**	**00 49 21.7**	**-0.8**
CUALT				*i* S	**Sb**	**00 49 33.7**	**-0.6**
CUALT	**Altinyayla-SIV**	**0.77**	**301**	P	**Pg**	**00 49 21.7**	**-0.8**
CUALT				S	**Sb**	**00 49 33.7**	**-0.6**
KEMA	**Kemaliye**	**0.79**	**60**	*i* P	**Pb**	**00 49 23.2**	**-0.5**
KEMA				*i* S	**Sb**	**00 49 34.1**	**-0.5**
KEMA	**Kemaliye**	**0.79**	**60**	P	**Pb**	**00 49 23.2**	**-0.5**
KEMA				S	**Sb**	**00 49 34.1**	**-0.5**
MALT	**Malatya**	**0.85**	**131**	PG	**Pg**	**00 49 22.9**	**-1.1**
MALT				SG	**Sb**	**00 49 36.2**	**-0.3**
MALT	**Malatya**	**0.85**	**131**	*e*Pg	**Pg**	**00 49 22.9**	**-1.1**
MALT				*e*Sg	**Sb**	**00 49 36.2**	**-0.3**
ILIC	**ilic-Erzincan**	**0.94**	**52**	PG	**Pg**	**00 49 25.5**	**-0.2**
ILIC				SG	**Sb**	**00 49 39.3**	**+0.3**
ILIC	**ilic-Erzincan**	**0.94**	**52**	*e*Pg	**Pg**	**00 49 25.5**	**-0.2**
ILIC				*e*Sg	**Sb**	**00 49 39.3**	**+0.3**
CUZAR	**Zara_SIVAS**	**1.01**	**7**	*i* P	**Pb**	**00 49 27.3**	**-0.4**
CUZAR	**Zara_SIVAS**	**1.01**	**7**	P	**Pb**	**00 49 27.3**	**-0.4**
ELZG	**Elazig**	**1.14**	**109**	*i* P	**Pg**	**00 49 28.4**	**-1.1**
ELZG				*i* S	**Sb**	**00 49 44.9**	**+0.1**
ELZG	**Elazig**	**1.14**	**109**	P	**Pg**	**00 49 28.4**	**-1.1**
ELZG				S	**Sb**	**00 49 44.9**	**+0.1**
SVSK	**Karacayir**	**1.14**	**335**	PN	**Pb**	**00 49 29.6**	**-0.1**
SVSK				SN	**Sn**	**00 49 46.7**	**+0.8**
SVSK	**Karacayir**	**1.14**	**335**	*e*Pn	**Pb**	**00 49 29.6**	**-0.1**
SVSK				*e*Sn	**Sn**	**00 49 46.7**	**+0.8**
BNN	**Bunyan**	**1.38**	**269**	PN	**Pn**	**00 49 33.2**	**-0.3**
BNN				SN	**Sn**	**00 49 53.3**	**+1.3**
BNN	**Bunyan**	**1.38**	**269**	*e*Pn	**Pn**	**00 49 33.2**	**-0.3**
BNN				*e*Sn	**Sn**	**00 49 53.3**	**+1.3**
PTK	**Pertek**	**1.39**	**89**	PN	**Pg**	**00 49 34.1**	**-0.2**
PTK				SN	**Sn**	**00 49 53.3**	**+1.0**
PTK	**Pertek**	**1.39**	**89**	*e*Pn	**Pg**	**00 49 34.1**	**-0.2**
PTK				*e*Sn	**Sn**	**00 49 53.3**	**+1.0**
SUSE	**Susehri**	**1.40**	**19**	*i* P	**Pn**	**00 49 33.7**	**-0.1**
SUSE				*i* S	**Sb**	**00 49 52.3**	**-0.2**
SUSE	**Susehri**	**1.40**	**19**	P	**Pn**	**00 49 33.7**	**-0.1**
SUSE				S	**Sb**	**00 49 52.3**	**-0.2**
SVRC	**Sivrice-ELAZID**	**1.42**	**110**	PN	**Pn**	**00 49 34.0**	**0.0**
SVRC				SN	**Sn**	**00 49 53.3**	**+0.3**
SVRC	**Sivrice-ELAZID**	**1.42**	**110**	*e*Pn	**Pn**	**00 49 34.0**	**0.0**
SVRC				*e*Sn	**Sn**	**00 49 53.3**	**+0.3**
KELT	**Kelkit**	**1.79**	**45**	*i* P	**Pn**	**00 49 39.2**	**0.0**
KELT				*i* S	**Sg**	**00 50 05.6**	**+0.3**
KELT	**Kelkit**	**1.79**	**45**	P	**Pn**	**00 49 39.2**	**0.0**

*IDC **27** 00:55:59.3±1.0,22°.10N×145°.58E,h0km,mb3.8/12, mb1 4.0/14,mb1mx3.7/64,mbtmp3.8/14,ML4.3/1,MS3.1/3, Ms1 3.1/3,ms1mx2.6/56, Error ellipse: s-maj=36.9km s-min=18.2km az=83.0*
*ISCJB **27** 00:56:02.0±0.6,22°.07N±0°.07×145°.7E±0°.1,h36km, mb3.9/21,MS3.3/2, Error ellipse: s-maj=14.1km s-min=10.3km az=167.0*
*NEIC **27** 00:56:03.7±0.5,22°.06N×145°.74E,h35km,mb4.1/8, Error ellipse: s-maj=12.5km s-min=9.7km az=83.0*
ISC 27 00:56:04.4±0.7,**22°.17N**±0°.09×**145°.6E**±0°.1,**h36**km,**n35**, σ1**963**/29,**mb3.9**/21,**North Pacific Ocean**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**5.82**	**328**	Pn	**Pn**	**00 57 28.9**	**+0.8**
CBIJ				Sn	**Sn**	**00 58 29.9**	**-3.7**
JCJ	**Chichijima** baz=165,slow=18	**5.82**	**328**	Pn	**Pn**	**00 57 28.9**	**+0.8**
JCJ				Sn	**Sn**	**00 58 29.9**	**-3.7**
	10nm,0.3s,baz=296,slow=23,SNR=5.7						
GUMO	**Guam** comp=Z,76nm,19.0s,baz=64,slow=35	**8.56**	**185**	LR	LR	01 00 57.4	
MJAR	**Matsushiro Arr** 1.3nm,0.3s,baz=143,slow=14,SNR=5.4	**15.71**	**337**	Pn	**Pn**	**00 59 43.4**	**+0.4**
H11N1	**WAKE ISLAND Hy** baz=284	**20.01**	**93**	T	T	01 22 12.8	
H11N2	**WAKE ISLAND Hy** baz=284	**20.02**	**93**	T	T	01 21 57.7	
H11N3	**WAKE ISLAND Hy** baz=284	**20.03**	**93**	T	T	01 22 01.4	
H11S3	**WAKE ISLAND Hy** baz=284	**20.09**	**97**	T	T	01 22 11.9	
H11S1	**WAKE ISLAND Hy** baz=284	**20.09**	**97**	T	T	01 22 02.1	
H11S2	**WAKE ISLAND Hy** baz=284	**20.10**	**97**	T	T	01 22 05.3	
KSRS	**Korea Array** 0.9nm,0.6s,baz=147,slow=10,SNR=4.0	**21.57**	**319**	P	**P**	**01 00 53.7**	**+2.9**
KSAR	**Wonju Array Be**	**21.59**	**319**	P	**P**	**01 00 53.7**	**+2.7**
NACB	**Ninganchiao** 2.1nm,0.5s	**22.18**	**280**	P	**P**	**01 00 58.9**	**+1.5**
SONM	**Songino Array** 0.3nm,0.5s,baz=126,slow=7.3,SNR=2.1	**40.45**	**319**	P	**P**	**01 03 40.0**	**+0.5**
WRAB	**Tennant Creek** 1.5nm,0.9s	**43.27**	**196**	P	**P**	**01 04 00.0**	**-2.6**
WRA	**Warramunga Arr** 0.6nm,0.4s,baz=15,slow=8.2,SNR=14	**43.28**	**196**	P	**P**	**01 04 02.5**	**-0.2**
TLY	**Talaya** 0.7nm,0.6s	**43.73**	**323**	P	**P**	**01 04 06.5**	**+0.4**
KULM	**Kulim** 1.4nm,0.4s	**46.58**	**256**	P	**P**	**01 04 28.5**	**-0.6**
ASAR	**Alice Springs** 0.6nm,0.4s,baz=17,slow=8.9,SNR=13	**46.96**	**195**	P	**P**	**01 04 31.5**	**-0.4**
UNV	**Unalaska Valle** 6.6nm,0.7s	**47.89**	**36**	P	**P**	**01 04 37.9**	**-0.9**
ZALV	**Zalesovo Beam** 0.5nm,0.4s,baz=106,slow=5.1,SNR=3.7	**55.26**	**321**	P	**P**	**01 05 34.1**	**+0.2**
MKAR	**Makanchi Array** 0.4nm,0.6s,baz=92,slow=8.2,SNR=5.6	**56.05**	**312**	P	**P**	**01 05 40.0**	**+0.2**
KURK	**Kurchatov**	**58.68**	**317**	P	**P**	**01 05 58.7**	**+0.5**
KURBB	**Kurchatov Arra** 0.8nm,0.4s,baz=91,slow=7.7,SNR=17	**58.73**	**317**	P	**P**	**01 05 58.7**	**+0.1**
ILAR	**Eielson Array** 0.4nm,0.7s,baz=270,slow=3.6,SNR=2.8	**60.59**	**27**	P	**P**	**01 06 12.3**	**+1.1**
BVAR	**Borovoye Array** 0.9nm,0.5s,baz=80,slow=9.1,SNR=6.5	**63.79**	**319**	P	**P**	**01 06 33.7**	**+1.0**
PALK	**Pallekele** 1.7nm,0.6s	**64.09**	**267**	P	**P**	**01 06 34.1**	**-1.3**
YKA	**Yellowknife Ar** 0.1nm,0.6s,baz=292,slow=5.1,SNR=3.3	**74.98**	**28**	P	**P**	**01 07 42.6**	**+0.9**
CMB	**Columbia Colle** 2.3nm,0.5s	**79.68**	**53**	P	**P**	**01 08 07.4**	**-1.2**
KBZ	**Khabaz** 1.2nm,1.0s,baz=90,slow=2.0,SNR=2.1	**83.66**	**315**	P	**P**	**01 08 29.2**	**-0.2**
FINES	**FINESS Array B** 0.7nm,0.4s,baz=70,slow=6.7,SNR=6.0	**83.72**	**335**	P	**P**	**01 08 30.5**	**+1.2**
FINES				LR	LR	01 48 39.4	
	comp=Z,33nm,19.6s,baz=208,slow=38						
DUG	**Dugway, Tooele** 0.8nm,0.6s	**84.33**	**49**	P	**P**	**01 08 30.6**	**-2.5**
HFS	**Hagfors** 0.9nm,0.6s,baz=82,slow=15,SNR=2.7	**89.15**	**338**	P	**P**	**01 08 56.2**	**+0.2**
NOA	**NORSAR Array B** comp=Z,4.1nm,21.0s,baz=140,slow=39	**89.31**	**340**	LR	LR	01 54 09.2	
TORD	**Torodi Ar. Bea** 0.1nm,0.6s,baz=34,slow=2.2,SNR=2.2	**130.17**	**311**	PKP	**PKPdf**	**01 15 12.3**	**+0.8**

WEL 27 00:58:07.1,43°.**3S**±4°.×17°.**1E**±°,**h5**km,**ML3.9**/11,**South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WVZ	**Waitaha Valley**	**0.09**	**291**	P	Pg	00 58 10.2	+1.2
WVZ	**Waitaha Valley**	**0.09**	**291**	S	Sg	00 58 11.7	+1.4
INZ	**Inchbonnie**	**0.58**	**49**	P	Pb	00 58 19.7	0.0
INZ	**Inchbonnie**	**0.58**	**49**	S	Sb	00 58 29.0	+0.8
RPZ	**Rata Peaks**	**0.63**	**166**	P	Pb	00 58 20.2	-0.3
FOZ	**Fox Glacier**	**0.87**	**240**	P	Pg	00 58 24.0	+0.3
FOZ	**Fox Glacier**	**0.87**	**240**	S	Sb	00 58 36.1	-0.4
OXZ	**Oxford**	**0.90**	**105**	P	Pn	00 58 26.2	-0.1
LTZ	**Lake Taylor**	**1.09**	**73**	P	Pn	00 58 30.0	+1.0
EYCZ	**Eyrewell**	**1.14**	**107**	P	Pn	00 58 31.4	+1.7
LBZ	**Lake Benmore**	**1.37**	**200**	P	Pn	00 58 32.6	-0.2
MQZ	**McQueen's Vall**	**1.45**	**115**	P	Pg	00 58 34.6	-0.1
DSZ	**Denniston Nort**	**1.53**	**28**	P	Pb	00 58 36.1	+0.1
AKCZ	**Akaroa Harbour**	**1.68**	**118**	P	Pn	00 58 37.7	+0.5
OKCZ	**Okains Bay**	**1.72**	**112**	P	Pb	00 58 39.1	-0.1
JCZ	**Jackson Bay**	**1.79**	**236**	P	Pn	00 58 38.4	-0.2
ODZ	**Otahua Downs**	**1.94**	**184**	P	Pn	00 58 41.3	+0.6
THZ	**Tophouse**	**2.03**	**49**	P	Pb	00 58 43.9	-0.6
KHZ	**Kahutara**	**2.10**	**72**	P	Pb	00 58 44.6	-0.9
WKZ	**Wanaka**	**2.17**	**217**	P	Pn	00 58 44.1	+0.3
EAZ	**Earnscleugh**	**2.40**	**207**	P	Pn	00 58 47.4	+0.4
QRZ	**Quartz Range**	**2.60**	**29**	P	Pn	00 58 51.0	+1.3
NNZ	**Nelson**	**2.66**	**46**	P	Pb	00 58 53.4	-1.8
HHSZ	**Highcliff Hill**	**2.78**	**184**	P	Pn	00 58 53.7	+1.5
TUWZ	**Tuamarina**	**2.84**	**55**	P	Pb	00 58 55.7	-2.5
TUZ	**Tuapeka**	**2.98**	**197**	P	Pn	00 58 55.4	+0.6
MLZ	**Mavora Lakes**	**2.99**	**220**	P	Pn	00 58 55.3	+0.1
SYZ	**Scrubby Hill**	**3.64**	**199**	P	Pn	00 59 03.8	-0.2
KIW	**Kapiti Island**	**3.77**	**55**	P	Pn	00 59 07.1	+1.3
MTW	**Mount Morrison**	**3.97**	**62**	P	Pn	00 59 09.0	+0.4
HOWZ	**Holdsworth Sta**	**4.12**	**59**	P	Pn	00 59 12.2	+1.6
APZ	**The Paps**	**4.24**	**208**	P	Pn	00 59 11.5	-0.8
PYZ	**Puysegur Point**	**4.27**	**223**	P	Pn	00 59 14.1	+1.5
MRZ	**Mangatainoka R**	**4.29**	**57**	P	Pn	00 59 13.7	+0.7
HIZ	**Hauiti**	**5.50**	**35**	P	Pn	00 59 31.1	+1.5

*ISK **27** 01:18:44.2,39°.10N×29°.17E,h5km,ML2.6/4*
*DDA **27** 01:18:45.0,39°.09N×29°.16E,h7km,Ml2.4*
*CSEM **27** 01:18:45.1±0.1,39°.10N×29°.17E,h2km,ML2.6, Error ellipse: s-maj=2.9km s-min=2.4km az=125.0*
ISC 27 01:18:45.1±0.9,**39°.09N**±0°.02×**29°.16E**±0°.02,**h7**km±8km, **n30**,σ0**937**/44,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIMA	**Simav-Kutahya**	**0.14**	**267**	PG	**Pg**	**01 18 48.2**	**+0.1**
SIMA				SG	**Sg**	**01 18 50.1**	**-0.1**
SIMA	**Simav-Kutahya**	**0.14**	**267**	*e*Pg	**Pg**	**01 18 48.2**	**+0.1**
SIMA				*e*Sg	**Sg**	**01 18 50.1**	**-0.1**
GDZ	**Gediz**	**0.25**	**91**	*i* P	**Pg**	**01 18 49.6**	**-0.4**
GDZ				*i* S	**Sg**	**01 18 54.1**	**+0.8**
GDZ	**Gediz**	**0.25**	**91**	P	**Pg**	**01 18 49.6**	**-0.4**
GDZ				S	**Sg**	**01 18 54.2**	**+0.8**
DEMI	**Demirci**	**0.35**	**262**	*i* P	**Pg**	**01 18 52.0**	**0.0**
DEMI				*i* S	**Sg**	**01 18 56.3**	**-0.4**
DEMI	**Demirci**	**0.35**	**262**	P	**Pg**	**01 18 52.0**	**0.0**
DEMI				S	**Sg**	**01 18 56.3**	**-0.4**
TVSB	**Tavsanli**	**0.42**	**33**	PG	**Pg**	**01 18 52.8**	**-0.6**
TVSB	**Tavsanli**	**0.42**	**33**	*e*Pg	**Pg**	**01 18 52.8**	**-0.6**
KULA	**Kula-Manisa**	**0.70**	**214**	PG	**Pg**	**01 18 58.8**	**+0.3**
KULA	**Kula-Manisa**	**0.70**	**214**	*e*Pg	**Pg**	**01 18 58.8**	**+0.3**
DURS	**Dursunbey**	**0.74**	**314**	*i* P	**Pg**	**01 18 59.0**	**-0.3**
DURS				*i* S	**Sg**	**01 19 09.3**	**+0.4**
DURS	**Dursunbey**	**0.74**	**314**	P	**Pg**	**01 18 59.0**	**-0.3**
DURS				S	**Sg**	**01 19 09.3**	**+0.4**
KHAL	**Karahalli**	**0.77**	**160**	*i* P	**Pb**	**01 19 00.8**	**0.0**
KHAL				*i* S	**Sb**	**01 19 11.1**	**-0.3**
KHAL	**Karahalli**	**0.77**	**160**	P	**Pb**	**01 19 00.8**	**0.0**
KHAL				S	**Sb**	**01 19 11.1**	**-0.3**
MANT	**Manisa**	**0.77**	**218**	*i* P	**Pg**	**01 18 59.7**	**-0.1**
MANT				*i* S	**Sg**	**01 19 09.2**	**-0.6**
MANT	**Manisa**	**0.77**	**218**	P	**Pg**	**01 18 59.7**	**-0.1**
MANT				S	**Sg**	**01 19 09.2**	**-0.6**
STEP	**BALIKESIR_Sava**	**1.16**	**285**	*i* P	**Pb**	**01 19 07.4**	**0.0**
STEP				*i* S	**Sn**	**01 19 24.1**	**+0.3**
STEP	**BALIKESIR_Sava**	**1.16**	**285**	P	**Pb**	**01 19 07.4**	**0.0**
STEP				S	**Sn**	**01 19 24.1**	**+0.3**
CAVI	**Cavuskoy**	**1.23**	**25**	PN	**Pn**	**01 19 08.7**	**0.0**
CAVI	**Cavuskoy**	**1.23**	**25**	*e*Pn	**Pn**	**01 19 08.7**	**0.0**
MDNY	**Mudanya-Bursa**	**1.29**	**350**	PN	**Pb**	**01 19 10.1**	**+0.4**
MDNY	**Mudanya-Bursa**	**1.29**	**350**	*e*Pn	**Pb**	**01 19 10.1**	**+0.4**
ADVT	**Abdulvahap**	**1.41**	**18**	PN	**Pg**	**01 19 12.2**	**0.0**
ADVT	**Abdulvahap**	**1.41**	**18**	*e*Pn	**Pg**	**01 19 12.2**	**0.0**
YLV	**Yalova**	**1.48**	**6**	PN	**Pg**	**01 19 13.1**	**-0.4**
YLV	**Yalova**	**1.48**	**6**	*e*Pn	**Pg**	**01 19 13.1**	**-0.4**
ARMT	**Armutlu**	**1.49**	**351**	PN	**Pg**	**01 19 13.4**	**-0.3**
ARMT	**Armutlu**	**1.49**	**351**	*e*Pn	**Pg**	**01 19 13.4**	**-0.3**
AYDB	**Zeytinkoy-Aydi**	**1.52**	**222**	PN	**Pb**	**01 19 13.9**	**+0.3**
AYDB	**Zeytinkoy-Aydi**	**1.52**	**222**	*e*Pn	**Pb**	**01 19 13.9**	**+0.3**

IDC 27 01:19:00.3±1.9,**1°.22N**×**91°.97E**,**h0**km,**mb3.7**/6,**mb1 3.9**/6, **mb1mx3.5**/62,**mbtmp3.7**/6,**Error ellipse: s-maj=72.0km s-min=31.6km az=53.0**,**North Indian Ocean**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array** 0.4nm,0.7s,baz=180,slow=8.4,SNR=4.7	**46.17**	**351**	P	P	01 27 27.0	+0.2
WRA	**Warramunga Arr** 0.8nm,1.1s,baz=293,slow=8.7,SNR=2.0	**46.55**	**119**	P	P	01 27 30.1	-0.1
SONM	**Songino Array** 0.9nm,0.5s,baz=185,slow=8.7,SNR=4.8	**48.08**	**13**	P	P	01 27 42.6	+0.8
KURBB	**Kurchatov Arra** 0.6nm,0.7s,baz=174,slow=7.5,SNR=4.8	**50.52**	**349**	P	P	01 27 59.2	-1.1
ZALV	**Zalesovo Beam** 0.9nm,0.5s,baz=180,slow=5.3,SNR=3.0	**52.88**	**355**	P	P	01 28 17.3	-0.5
GERES	**GERESS Array B** 0.5nm,0.5s,baz=101,slow=5.2,SNR=7.7	**81.36**	**319**	P	P	01 31 19.6	+0.5
TXAR	**Lajitas Array** 0.3nm,0.8s,baz=321,slow=2.3,SNR=3.5	**146.13**	**25**	PKPbc	PKPdf	01 38 41.9	-0.6

*ISK **27** 01:21:22.4,39°.06N×29°.15E,h5km,ML2.6/12*
*DDA **27** 01:21:22.3,39°.09N×29°.13E,h7km,Ml2.9*
*CSEM **27** 01:21:22.9±0.1,39°.08N×29°.15E,h2km,ML2.6, Error ellipse: s-maj=3.0km s-min=2.5km az=116.0*
ISC 27 01:21:22.6±1.0,**39°.08N**±0°.02×**29°.15E**±0°.02,**h5**km±9km, **n56**,σ0**951**/78,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIMA	**Simav-Kutahya**	**0.13**	**273**	PG	**Pg**	**01 21 25.3**	**0.0**
SIMA	**Simav-Kutahya**	**0.13**	**273**	*e*Pg	**Pg**	**01 21 25.3**	**0.0**
GDZ	**Gediz**	**0.26**	**87**	*i* P	**Pg**	**01 21 27.6**	**0.0**
GDZ				*i* S	**Sg**	**01 21 31.9**	**+0.9**
GDZ	**Gediz**	**0.26**	**87**	P	**Pg**	**01 21 27.6**	**0.0**
GDZ				S	**Sg**	**01 21 31.9**	**+0.9**
DEMI	**Demirci**	**0.34**	**265**	*i* P	**Pg**	**01 21 29.0**	**-0.2**
DEMI				*i* S	**Sg**	**01 21 33.4**	**-0.3**
DEMI	**Demirci**	**0.34**	**265**	P	**Pg**	**01 21 29.0**	**-0.2**
DEMI				S	**Sg**	**01 21 33.4**	**-0.3**
TVSB	**Tavsanli**	**0.44**	**33**	PG	**Pg**	**01 21 30.2**	**-1.0**
TVSB	**Tavsanli**	**0.44**	**33**	*e*Pg	**Pg**	**01 21 30.2**	**-1.0**
KULA	**Kula-Manisa**	**0.68**	**215**	PG	**Pg**	**01 21 35.8**	**+0.2**
KULA				SG	**Sg**	**01 21 44.6**	**+0.2**
KULA	**Kula-Manisa**	**0.68**	**215**	*e*Pg	**Pg**	**01 21 35.8**	**+0.2**
KULA				*e*Sg	**Sg**	**01 21 44.6**	**+0.2**
DURS	**Dursunbey**	**0.74**	**315**	*i* P	**Pg**	**01 21 36.0**	**-0.8**
DURS				*i* S	**Sg**	**01 21 47.2**	**+0.7**
DURS	**Dursunbey**	**0.74**	**315**	P	**Pg**	**01 21 36.0**	**-0.8**
DURS				S	**Sg**	**01 21 47.2**	**+0.7**
MANT	**Manisa**	**0.75**	**219**	*i* P	**Pg**	**01 21 36.9**	**0.0**
MANT				*i* S	**Sg**	**01 21 46.1**	**-0.5**
MANT	**Manisa**	**0.75**	**219**	P	**Pg**	**01 21 36.9**	**0.0**
MANT				S	**Sg**	**01 21 46.1**	**-0.5**
KHAL	**Karahalli**	**0.75**	**159**	*i* P	**Pb**	**01 21 38.2**	**0.0**
KHAL				*i* S	**Sb**	**01 21 48.5**	**-0.3**
KHAL	**Karahalli**	**0.75**	**159**	P	**Pb**	**01 21 38.2**	**0.0**
KHAL				S	**Sb**	**01 21 48.5**	**-0.3**
ORLT	**Orhaneli**	**0.99**	**349**	PG	**Pb**	**01 21 42.4**	**+0.2**
ORLT	**Orhaneli**	**0.99**	**349**	*e*Pg	**Pb**	**01 21 42.4**	**+0.2**
AUBOZ	**BOZOYUK**	**1.08**	**39**	*i* P	**Pb**	**01 21 43.4**	**-0.3**
AUBOZ				*i* S	**Sn**	**01 21 59.3**	**-0.4**
AUBOZ	**BOZOYUK**	**1.08**	**39**	P	**Pb**	**01 21 43.4**	**-0.3**
AUBOZ				S	**Sn**	**01 21 59.3**	**-0.4**
AUKUT	**KUTAHYA**	**1.11**	**37**	*i* P	Pg	01 21 36.7	-7.1
AUKUT				*i* S	Sg	01 21 47.3	-11
AUKUT	**KUTAHYA**	**1.11**	**37**	P	Pg	01 21 36.7	-7.1
AUKUT				S	Sg	01 21 47.3	-11
KZIL	**AFYON_Kizioren**	**1.13**	**136**	*i* P	**Pn**	**01 21 44.8**	**-0.2**
KZIL				*i* S	**Sn**	**01 22 00.8**	**-0.2**
KZIL	**AFYON_Kizioren**	**1.13**	**136**	P	**Pn**	**01 21 44.8**	**-0.2**
KZIL				S	**Sn**	**01 22 00.8**	**-0.2**
BALB	**Balikesir**	**1.14**	**300**	PN	**Pn**	**01 21 45.1**	**0.0**
BALB	**Balikesir**	**1.14**	**300**	*e*Pn	**Pn**	**01 21 45.1**	**0.0**
SHUT	**Suhut-Afyon**	**1.21**	**115**	PN	**Pb**	**01 21 45.9**	**-0.1**
SHUT	**Suhut-Afyon**	**1.21**	**115**	*e*Pn	**Pb**	**01 21 45.9**	**-0.1**
CAVI	**Cavuskoy**	**1.25**	**25**	PN	**Pn**	**01 21 46.6**	**0.0**
CAVI				SN	**Sn**	**01 22 04.9**	**+1.1**
CAVI	**Cavuskoy**	**1.25**	**25**	*e*Pn	**Pn**	**01 21 46.6**	**0.0**
CAVI				*e*Sn	**Sn**	**01 22 04.9**	**+1.1**
BORA	**Eskisehir**	**1.29**	**51**	*i* P	**Pg**	**01 21 46.8**	**-0.5**
BORA				*i* S	**Sb**	**01 22 04.1**	**-0.1**
BORA	**Eskisehir**	**1.29**	**51**	P	**Pg**	**01 21 46.8**	**-0.5**
BORA				S	**Sb**	**01 22 04.1**	**-0.1**
MDNY	**Mudanya-Bursa**	**1.31**	**351**	PN	**Pg**	**01 21 47.9**	**+0.3**
MDNY	**Mudanya-Bursa**	**1.31**	**351**	*e*Pn	**Pg**	**01 21 47.9**	**+0.3**
KCTX	**Karacabey (Bur**	**1.34**	**333**	PN	**Pg**	**01 21 48.7**	**+0.5**
KCTX	**Karacabey (Bur**	**1.34**	**333**	*e*Pn	**Pg**	**01 21 48.7**	**+0.5**
ADVT	**Abdulvahap**	**1.43**	**18**	PN	**Pg**	**01 21 50.3**	**+0.3**
ADVT	**Abdulvahap**	**1.43**	**18**	*e*Pn	**Pg**	**01 21 50.3**	**+0.3**
YLV	**Yalova**	**1.50**	**6**	PN	**Pg**	**01 21 51.5**	**+0.2**
YLV				SN	**Sg**	**01 22 11.1**	**+0.4**
YLV	**Yalova**	**1.50**	**6**	*e*Pn	**Pg**	**01 21 51.5**	**+0.2**
YLV				*e*Sn	**Sg**	**01 22 11.1**	**+0.4**
AYDB	**Zeytinkoy-Aydi**	**1.50**	**222**	PN	**Pg**	**01 21 51.6**	**+0.3**
AYDB	**Zeytinkoy-Aydi**	**1.50**	**222**	*e*Pn	**Pg**	**01 21 51.6**	**+0.3**
ARMT	**Armutlu**	**1.50**	**352**	PN	**Pg**	**01 21 51.1**	**-0.3**
ARMT				SN	**Sg**	**01 22 11.3**	**+0.4**
ARMT	**Armutlu**	**1.50**	**352**	*e*Pn	**Pg**	**01 21 51.1**	**-0.3**
ARMT				*e*Sn	**Sg**	**01 22 11.3**	**+0.4**
EDC	**Edincik**	**1.61**	**322**	PN	**Pg**	**01 21 53.3**	**-0.2**
EDC	**Edincik**	**1.61**	**322**	*e*Pn	**Pg**	**01 21 53.3**	**-0.2**
GULT	**Gulveren**	**1.71**	**37**	PN	**Pb**	**01 21 54.4**	**-0.2**
GULT	**Gulveren**	**1.71**	**37**	*e*Pn	**Pb**	**01 21 54.4**	**-0.2**
DKL	**Dikili**	**1.75**	**271**	PN	**Pb**	**01 21 55.0**	**-0.1**
DKL	**Dikili**	**1.75**	**271**	*e*Pn	**Pb**	**01 21 55.0**	**-0.1**
BLCB	**Balcova**	**1.79**	**248**	PN	**Pb**	**01 21 55.4**	**-0.4**
BLCB	**Balcova**	**1.79**	**248**	*e*Pn	**Pb**	**01 21 55.4**	**-0.4**
RKY	**Sarkoy-Tekirda**	**2.21**	**317**	PN	**Pn**	**01 22 00.9**	**+0.9**
RKY	**Sarkoy-Tekirda**	**2.21**	**317**	*e*Pn	**Pn**	**01 22 00.9**	**+0.9**
CTKS	**Kestanelik-??a**	**2.21**	**347**	PN	**Pb**	**01 22 01.5**	**-1.5**
CTKS	**Kestanelik-??a**	**2.21**	**347**	*e*Pn	**Pb**	**01 22 01.5**	**-1.5**

KEPZ S **Sn** **01 39 14.6 +0.7**
AYDN Tasoluk 1.79 315 *i* P **Pn** **01 38 52.0 -0.4**
AYDN *i* S **Sn** **01 39 14.6 +0.6**
AYDN Tasoluk 1.79 315 P **Pn** **01 38 52.0 -0.4**
AYDN S **Sn** **01 39 14.6 +0.6**
BODT Bodrum 1.85 291 PN **Pn** **01 38 53.0 -0.3**
BODT SN **Sn** **01 39 14.2 -1.4**
BODT Bodrum 1.85 291 P **Pn** **01 38 51.8 -1.5**
BODT S **Sn** **01 39 13.7 -1.9**
BODT Bodrum 1.85 291 *e*Pn **Pn** **01 38 53.0 -0.3**
BODT S **Sn** **01 39 13.7 -1.9**
BODT *e*Sn Sn 01 39 14.2 -1.4
YKAV Yalikavak-Bodr 1.90 293 PN **Pn** **01 38 54.4 +0.5**
YKAV Yalikavak-Bodr 1.90 293 *e*Pn **Pn** **01 38 54.4 +0.5**
BAGO Egridir - ISPA 1.90 33 *i* P **Pn** **01 38 53.6 -0.4**
BAGO *i* S **Sn** **01 39 13.2 -3.7**
AYDB Zeytinkoy-Aydi 1.99 321 PN **Pn** **01 38 55.3 0.0**
AYDB Zeytinkoy-Aydi 1.99 321 *e*Pn **Pn** **01 38 55.3 0.0**
KARP Karpathos 2.06 246 PN **Pn** **01 38 55.5 -0.6**
KARP SN **Sn** **01 39 20.8 +0.2**
KARP Karpathos 2.06 246 P **Pn** **01 38 55.7 -0.4**
KARP S **Sn** **01 39 19.7 -0.9**
KARP AML AML 01 39 21.8
comp=E,335µm,0.2s
KARP AML AML 01 39 21.8
comp=N,490µm,0.2s
KARP Karpathos 2.06 246 *e*Pn **Pn** **01 38 55.5 -0.6**
KARP S **Sn** **01 39 19.7 -0.9**
KARP *e*Sn Sn 01 39 20.8 +0.2
KULA Kula-Manisa 2.20 343 PN **Pn** **01 38 57.7 -0.5**
KULA Kula-Manisa 2.20 343 *e*Pn **Pn** **01 38 57.7 -0.5**
SHUT Suhut-Afyon 2.31 22 PN **Pn** **01 38 59.1 -0.6**
SHUT SN **Sn** **01 39 26.2 -0.8**
SHUT Suhut-Afyon 2.31 22 *e*Pn **Pn** **01 38 59.1 -0.6**
SHUT *e*Sn **Sn** **01 39 26.2 -0.8**
SMG Samos 2.48 303 P **Pn** **01 39 00.4 -1.5**
SMG S **Sn** **01 39 28.1 -2.9**
SMG AML AML 01 39 30.1
comp=N,347µm,0.2s
SMG AML AML 01 39 30.7
comp=E,301µm,0.2s
SMG Samos 2.48 303 P **Pn** **01 39 00.3 -1.5**
SMG S **Sn** **01 39 28.2 -2.7**
BLCB Balcova 2.77 316 PN **Pn** **01 39 06.2 +0.4**
BLCB Balcova 2.77 316 *e*Pn **Pn** **01 39 06.2 +0.4**
ZKR Zakros 2.94 245 P **Pn** **01 39 08.2 0.0**
ZKR Zakros 2.94 245 P **Pn** **01 39 08.0 -0.2**
APE Apeiranthos 3.23 283 PN **Pn** **01 39 12.5 +0.2**
APE SN **Sn** **01 39 49.1 -0.5**
APE Apeiranthos 3.23 283 *e*Pn **Pn** **01 39 12.5 +0.2**
APE *e*Sn **Sn** **01 39 49.1 -0.5**
NPS Neapolis 3.33 251 P **Pn** **01 39 11.7 -1.9**
NPS S **Sn** **01 39 50.0 -2.1**
NPS AML AML 01 39 53.1
comp=N,107µm,0.3s
NPS AML AML 01 39 53.7
comp=E,169µm,0.3s
NPS Neapolis 3.33 251 P **Pn** **01 39 12.4 -1.2**
NPS S **Sn** **01 39 50.3 -1.8**
CHOS Chios island 3.36 307 PN **Pn** **01 39 13.8 -0.3**
CHOS SN **Sn** **01 39 52.1 -0.8**
CHOS Chios island 3.36 307 P **Pn** **01 39 12.8 -1.3**
CHOS Chios island 3.36 307 P **Pn** **01 39 12.8 -1.3**
CHOS Chios island 3.36 307 *e*Pn **Pn** **01 39 13.8 -0.3**
CHOS *e*Sn **Sn** **01 39 52.1 -0.8**
LAST Lasithi 3.47 250 P **Pn** **01 39 14.1 -1.5**
LAST Lasithi 3.47 250 P **Pn** **01 39 14.6 -1.0**
SIVA Sivas 4.04 251 P **Pn** **01 39 23.8 +0.6**
SIVA Sivas 4.04 251 P **Pn** **01 39 23.4 +0.2**
GVD Gavdhos 4.65 252 P **Pn** **01 39 29.7 -2.1**
GVD Gavdhos 4.65 252 P **Pn** **01 39 30.7 -1.0**

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*ISCJB **27** 01:40:50.2±0.2,2.°20N±0.°03×89.°73E±0.°02,h10km, mb4.7/165,MS4.0/52,Error ellipse: s-maj=4.0km s-min=2.7km az=33.2*
*MOS **27** 01:40:50.2±0.9,2.°27N×89.°79E,h10km,mb5.1/63, MS4.0/5,Error ellipse: s-maj=7.7km s-min=4.3km az=115.5*
*IDC **27** 01:40:50.1±0.4,2.°21N×89.°75E,h0km,mb4.5/43, mb1 4.6/45,mb1mx4.5/66,mbtmp4.5/45,ML4.2/2,MS3.8/45, Ms1 3.8/45,ms1mx3.7/64,Error ellipse: s-maj=12.6km s-min=10.2km az=38.0*
*BJI **27** 01:40:51.8,2.°20N×89.°70E,h15km,mb4.9/48,mB4.9/32, Ms4.3/25,Ms7 4.1/24*
*NEIC **27** 01:40:53.8±1.6,2.°20N×89.°76E,h23km±11km,mb4.8/73, Error ellipse: s-maj=5.1km s-min=3.2km az=220.0*
ISC 27 01:40:52.1±0.3,2.°26N±0.°04×89.°76E±0.°04,h10km,n457,
σ1$37/449,mb4.8/168,MS3.9/52,20C-20D,North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BSI	**Banda Aceh**	**6.39**	**60**	P		**Pn**	**01 42 27.6**	**+1.1**
MLSI	**Meulaboh, Aceh**	**6.93**	**73**	P		**Pn**	**01 42 34.8**	**+1.0**
	249nm,0.7s,3µm1.2nm							
TPTI		**7.48**	**82**	P		**Pn**	**01 42 41.3**	**0.0**
LHMI	**Lhok Sumawe**	**7.75**	**67**	*e*Pn		**Pn**	**01 42 46.2**	**+1.0**
GSI	**Gunungsitoli**	**7.87**	**97**	P		**Pn**	**01 42 48.0**	**+1.3**
GSI	**Gunungsitoli**	**7.87**	**97**	*e*Pn		**Pn**	**01 42 46.1**	**-0.6**
GSI				*e*Sn		**Sn**	**01 44 15.1**	**-0.9**
PBSI	**Pulau Batu**	**8.82**	**105**	P		**Pn**	**01 42 59.1**	**-0.7**
PSI	**Prapat**	**9.17**	**86**	Pn		**Pn**	**01 43 05.1**	**+0.4**
	0.7nm,0.3s,baz=280,slow=12,SNR=3.4							
PSI				Sn		**Sn**	**01 44 43.6**	**-4.5**
	2.6nm,0.3s,baz=270,slow=19,SNR=2.8							
PSI				LR		LR	01 46 32.3	
	comp=Z,753nm,21.8s,baz=245,slow=37							
PBA	**Port Blair**	**9.80**	**17**	*e*P		Pn	01 43 15.1	+2.0
MNSI	**Mandailing Nat**	**9.92**	**98**	P		Pn	01 43 21.5	+6.6
SISI	**Saibi**	**9.98**	**111**	P		Pn	01 43 21.1	+5.4
PKDT	**Phuket**	**10.21**	**56**	P		Pn	01 43 26.9	+8.0
	22nm,0.8s,1µm							
PALK	**Pallekele**	**10.31**	**299**	Pn		**Pn**	**01 43 19.6**	**-0.6**
	6.7nm,0.3s,baz=116,slow=12,SNR=2.1							
PALK				Sn		Sn	01 45 04.4	-12
	52nm,0.3s,baz=116,slow=2.5,SNR=17							
PALK				LR		LR	01 47 04.2	
	comp=Z,1µm,18.1s,baz=116,slow=36							
PALK	**Pallekele**	**10.31**	**299**	*e*Pn		**Pn**	**01 43 19.1**	**-1.2**
PALK				*e*Sn		Sn	01 45 04.0	-12
PALK	**Pallekele**	**10.31**	**299**	*i* P		**Pn**	**01 43 20.5**	**+0.2**
PDSI	**Padang**	**11.15**	**106**	P		**Pn**	**01 43 36.3**	**+4.5**
KULM	**Kulim**	**11.28**	**74**	*e*Pn		**Pn**	**01 43 33.1**	**-0.3**
DGPR	**DIGLIPUR**	**11.30**	**16**	*e*P		**Pn**	**01 43 35.0**	**+1.3**
TRTT	**Trang**	**11.34**	**60**	P		Pn	01 43 41.7	+7.4
	13nm,1.0s							
IPM	**Ipoh**	**11.46**	**79**	*e*Pn		**Pn**	**01 43 36.0**	**0.0**
KRJI	**Kerinci**	**12.47**	**110**	P		Pn	01 43 56.8	+6.9
MASI	**Maura Aman, Be**	**13.58**	**113**	P		**P**	**01 44 12.5**	**-1.6**
TRD	**Trivandrum**	**14.17**	**296**	*e*P		**Pn**	**01 44 12.2**	**-0.9**
MDRS	**Chennai**	**14.29**	**319**	*e*P		**Pn**	**01 44 12.6**	**-2.0**
MDRS				IAmb		IAmb	01 44 14.3	
PHET	**Kaeng Krachan**	**14.40**	**42**	P		**P**	**01 44 27.1**	**+3.9**
SKHT	**Srikalahasti**	**15.13**	**319**	*e*P		**Pn**	**01 44 25.5**	**-0.6**
SRDT	**SRDT**	**15.16**	**37**	P		**P**	**01 44 35.6**	**+3.9**
MDSI	**Maura Dua**	**15.89**	**115**	P		**P**	**01 44 41.2**	**+1.5**
LWLI	**Liwa**	**16.01**	**117**	P		**P**	**01 44 44.0**	**+2.8**
NAYO	**Nakonayok**	**16.55**	**43**	P		**P**	**01 44 50.5**	**+3.4**
	14nm,1.8s,561nm							
ADKI	**Addanki**	**16.59**	**325**	*e*P		**Pn**	**01 44 44.8**	**-0.3**
VIS	**Vishakhapatnam**	**16.62**	**338**	*e*P		**Pn**	**01 44 44.4**	**-0.9**
VIS				IAmb		IAmb	01 44 47.8	
	comp=Z,691nm,0.1s							
VIS				*i* x		x	01 47 36.3	
KASI	**Kota Agung**	**16.62**	**118**	P		**P**	**01 44 48.0**	**+0.1**
SRAK	**Srakaew**	**16.85**	**45**	P		P	01 45 06.5	+16
RCLA	**Racherla**	**16.90**	**322**	*e*P		**Pn**	**01 44 48.8**	**-0.1**
PVM	**Polavaram**	**16.91**	**332**	*e*P		**Pn**	**01 44 48.6**	**-0.5**
CHLP	**Challavanipeta**	**17.09**	**341**	*e*P		**Pn**	**01 44 51.4**	**+0.1**
SRLM	**Srisailam**	**17.43**	**323**	*e*P		**Pn**	**01 44 55.6**	**0.0**
NJS	**Nagarjunasagar**	**17.54**	**325**	*e*P		**Pn**	**01 44 56.6**	**-0.4**
URV	**Uravakonda**	**17.64**	**316**	*e*P		**Pn**	**01 44 58.7**	**+0.5**
PBKT	**Sadao Pong**	**18.00**	**37**	P		**P**	**01 45 04.1**	**+1.0**
	comp=Z,30nm,1.3s							
CHAI	**Chaiyaphum**	**18.14**	**41**	P		**P**	**01 45 06.5**	**+1.9**
	comp=Z,14nm,0.8s							
PHIT	**Phitsanulok**	**18.16**	**35**	P		**P**	**01 45 07.5**	**+2.6**
	comp=Z,41nm,1.0s,comp=Z,338nm							
CGJI	**Cibinong**	**18.18**	**119**	P		P	01 45 17.2	+12
BWNR	**Bhubaneshwar**	**18.34**	**348**	*e*P		**P**	**01 45 07.8**	**+0.9**
CM01	**Chiang Mai Arr**	**18.42**	**29**	*e*P		**Pn**	**01 45 10.0**	**+2.2**
CMAR	**Chiang Mai Arr**	**18.45**	**29**	P		**Pn**	**01 45 10.7**	**+2.6**
	comp=Z,0.6nm,0.3s,baz=222,slow=12,SNR=34							
CMAR				LR		LR	01 52 24.6	
	comp=Z,242nm,20.6s,baz=213,slow=38							
HYB	**Hyderabad**	**18.66**	**325**	*i* P		**Pn**	**01 45 12.0**	**+1.2**
	comp=Z,50nm,1.0s							
HYB				*e*S		**Sn**	**01 48 35.0**	**-4.6**
HYB	**Hyderabad**	**18.66**	**325**	*e*P		**P**	**01 45 10.6**	**+0.1**
HYB				IAmb		IAmb	01 45 12.5	
	comp=Z,24nm,0.7s							
HYBB	**Hyderabad (bro**	**18.66**	**325**	*e*P		**Pn**	**01 45 11.5**	**+0.7**
CHTO	**Chiang Mai**	**18.75**	**28**	P		**Pn**	**01 45 14.4**	**+2.5**
	comp=Z,126nm,1.0s							
CHTO	**Chiang Mai**	**18.75**	**28**	*e*P		**Pn**	**01 45 12.7**	**+0.8**
	comp=Z,27nm,1.0s							
CHTO	**Chiang Mai**	**18.75**	**28**	*e*P		**Pn**	**01 45 12.7**	**+0.8**
CHTO				pmax		pmax		
	comp=Z,27nm,1.0s							
CMMT	**Chiang Mai**	**18.76**	**28**	P		**Pn**	**01 45 13.4**	**+1.5**
	comp=Z,28nm,1.0s,comp=Z,477nm							
LAMP	**Lampang**	**18.84**	**30**	P		**Pn**	**01 45 14.7**	**+1.8**
	comp=Z,16nm,0.9s,comp=Z,132nm							
KHON	**Khomkaen**	**19.00**	**42**	P		**Pn**	**01 45 17.3**	**+2.4**
	comp=Z,28nm,0.9s,comp=Z,2µm							
CBJI	**Citeko**	**19.11**	**117**	P		Pn	01 45 25.7	+9.4
RPR	**Rampur**	**19.43**	**329**	*e*P		**P**	**01 45 19.4**	**+0.6**
PAYA	**Payao**	**19.67**	**29**	P		**Pn**	**01 45 24.5**	**+1.6**
	comp=Z,18nm,0.9s,comp=Z,310nm							
CMAI	**Chiengmai2**	**19.77**	**27**	P		**Pn**	**01 45 30.5**	**+6.2**
H08S2	**Diego Garcia H**	**19.84**	**240**	T		T	02 05 38.7	
	baz=60,slow=75,SNR=201							
H08S3	**Diego Garcia H**	**19.84**	**240**	T		T	02 05 43.9	
	baz=60,slow=75,SNR=114							
H08S1	**Diego Garcia H**	**19.85**	**240**	T		T	02 05 51.5	
	baz=60,slow=75,SNR=98							
LEM	**Lembang**	**19.98**	**117**	LR		LR	01 52 48.7	
	comp=Z,251nm,18.2s,baz=32,slow=36							
UBPT	**Hong Chiam**	**20.19**	**49**	P		**P**	**01 45 27.6**	**+0.5**
	comp=Z,80nm,0.8s							
SKNT	**Sakolnakorn**	**20.23**	**43**	P		**P**	**01 45 27.7**	**+0.1**
	comp=Z,11nm,1.0s							
KLRI	**Killari**	**20.34**	**321**	*e*P		**P**	**01 45 29.1**	**+0.3**
JCJI	**Jatiwangi**	**20.42**	**115**	P		Pn	01 45 43.9	+12
CISI	**Cisompet, Garu**	**20.48**	**119**	P		Pn	01 45 37.4	+4.8
CISI	**Cisompet, Garu**	**20.48**	**119**	*e*P		**P**	**01 45 30.0**	**-0.4**
GOA	**Goa**	**20.49**	**311**	*e*P		**P**	**01 45 29.1**	**-1.3**
KSM	**Kuching**	**20.55**	**92**	*e*P		Pn	01 45 32.9	-0.5
	comp=Z,49nm,1.3s							
BELO	**BELONIA**	**20.93**	**4**	*e*P		**P**	**01 45 33.1**	**-2.0**
KPJI	**Karang Pucung**	**21.37**	**117**	P		**P**	**01 45 40.8**	**+0.8**
NGP	**Nagpur**	**21.48**	**332**	*e*P		**P**	**01 45 42.4**	**+1.3**
NGP				IAmb		IAmb	01 45 46.8	
	comp=Z,38nm,0.5s							
BOK	**Bokaro**	**21.74**	**350**	*e*P		**P**	**01 45 45.6**	**+1.8**
BOK				IAmb		IAmb	01 45 59.1	
	comp=Z,81nm,1.2s							
STKI	**Sintang**	**21.82**	**95**	P		**P**	**01 45 49.0**	**+4.2**
POO	**Poona**	**22.47**	**317**	*e*P		**P**	**01 45 53.5**	**+1.8**
SMRI	**Semarang**	**22.61**	**114**	*e*P		**P**	**01 45 52.4**	**-1.0**
	comp=Z,45nm,0.5s							
SHL	**Shillong**	**23.27**	**5**	*e*P		**P**	**01 46 01.0**	**+0.8**
SHL				IAmb		IAmb	01 46 11.6	
	comp=Z,129nm,0.2s							
SHL	**Shillong**	**23.27**	**5**	P		**P**	**01 46 01.3**	**+1.1**
SHL				pmax		pmax		
	comp=Z,82nm,1.1s							
WOJI	**Wonogiri, Jawa**	**23.37**	**116**	P		**P**	**01 46 02.2**	**+1.1**
PCJI	**Pacitan**	**23.75**	**116**	P		**P**	**01 46 05.5**	**+0.6**
BHPL	**Bhopal**	**24.05**	**331**	*e*P		**P**	**01 46 08.1**	**+0.4**
BHPL				IAmb		IAmb	01 46 27.9	
	comp=Z,8.2nm,0.6s							
TEZP	**TEZPUR**	**24.40**	**7**	*ex*		**P**	**01 46 07.5**	**-3.3**
ODAN	**Odare**	**24.57**	**355**	*e*P		**P**	**01 46 14.6**	**+1.9**
	comp=Z,70nm,0.8s							
RAMN	**Ramite**	**24.74**	**353**	*e*P		**P**	**01 46 16.7**	**+2.5**
	comp=Z,162nm,0.8s							
GTK	**Tadong**	**24.95**	**358**	*e*P		**P**	**01 46 16.0**	**0.0**
MTKI	**Muara Teweh, K**	**25.33**	**97**	P		**P**	**01 46 23.1**	**+3.7**
ZIRO	**ZIRO**	**25.43**	**8**	*e*P		**P**	**01 46 19.9**	**-0.5**
JIRN	**Jiri**	**25.49**	**353**	*e*P		**P**	**01 46 23.4**	**+2.3**
	comp=Z,322nm,0.8s							
PKIN	**Phulchoki**	**25.52**	**351**	*e*P		**P**	**01 46 23.9**	**+2.6**
	comp=Z,55nm,0.7s							
DMN	**Daman**	**25.60**	**350**	*e*P		**P**	**01 46 24.2**	**+2.2**
KKN	**Kakani**	**25.75**	**351**	*e*P		**P**	**01 46 25.3**	**+2.0**
	comp=Z,76nm,0.9s							
QIZ	**Qiongzhong**	**25.78**	**48**	*e*P		**P**	**01 46 23.4**	**0.0**
	comp=Z,27nm,0.9s							
GUN	**Gumba**	**25.78**	**352**	*e*P		**P**	**01 46 25.9**	**+2.2**
	comp=Z,121nm,0.8s							
KMI	**Kunming**	**25.95**	**28**	P		P	01 46 37.0	+12
KMI				S		S	01 51 14.5	+19
KOLN	**Koldanda**	**26.05**	**347**	*e*P		**P**	**01 46 28.2**	**+2.2**
	comp=Z,25nm,0.6s							
GKN	**Gonka**	**26.07**	**350**	*e*P		**P**	**01 46 28.3**	**+2.2**
	comp=Z,90nm,0.8s							
PYUN	**Piuthan**	**26.50**	**347**	*e*P		**P**	**01 46 32.2**	**+2.1**
	comp=Z,52nm,0.9s							
JAGI	**Jajag, Banyuwa**	**26.55**	**114**	*e*P		**P**	**01 46 28.5**	**-2.0**
	comp=Z,17nm,0.6s							
DANN	**Dangsing**	**26.57**	**348**	*e*P		**P**	**01 46 33.1**	**+2.2**
	comp=Z,5.9nm,1.0s							
KKM	**Kota Kinabalu**	**26.65**	**81**	*e*P		**P**	**01 46 31.7**	**+0.2**
	comp=Z,15nm,0.9s							
LSA	**Lhasa**	**27.33**	**3**	P		**P**	**01 46 39.5**	**+1.7**
LSA	**Lhasa**	**27.33**	**3**	P		**P**	**01 46 39.8**	**+2.0**
LSA				pmax		pmax		
	comp=Z,18nm,0.8s							
LSA	**Lhasa**	**27.33**	**3**	*e*P		**P**	**01 46 39.5**	**+1.7**
	comp=Z,24nm,0.8s							
LSA	**Lhasa**	**27.33**	**3**	*e*P		**P**	**01 46 39.5**	**+1.7**
LSA				pmax		pmax		
	comp=Z,24nm,0.8s							
DDI	**Dehra Dun**	**30.04**	**339**	*e*P		**P**	**01 47 01.2**	**-0.3**
SMLA	**Simla**	**31.09**	**339**	*e*P		**P**	**01 47 10.5**	**-0.1**
CD2	**Chengdu**	**31.43**	**23**	*e*P		**P**	**01 47 14.5**	**+0.7**
CD2				S		**S**	**01 52 24.0**	**+2.4**
CD2				pmax		pmax		
	comp=Z,10.0nm,0.5s							
CD2				pmax		pmax		
	comp=Z,170nm,5.8s							
CD2				LR		LR		
	comp=Z,360nm,12.3s							
CD2				LR		LR		
	comp=Z,280nm,11.1s							
DHRM	**DHARAMSHALA**	**32.41**	**338**	*e*P		**P**	**01 47 23.1**	**+0.5**
ENH	**Enshi**	**33.56**	**32**	*e*P		**P**	**01 47 32.4**	**-0.1**
	comp=Z,31nm,0.8s							
NIL	**Nilore**	**34.84**	**335**	*e*P		**P**	**01 47 44.9**	**+1.3**
NIL	**Nilore**	**34.84**	**335**	*e*P		**P**	**01 47 44.9**	**+1.3**
BATI	**Baumata**	**35.95**	**111**	LR		LR	02 04 10.6	
	comp=Z,229nm,19.1s,baz=255,slow=39							
LZH	**Lanzhou**	**36.10**	**20**	*e*P		**P**	**01 47 54.3**	**-0.2**
LZH				pP		sP	01 47 59.0	+0.2
LZH				sP		pP	01 48 01.0	+3.4
LZH				pmax		pmax		
	comp=Z,20nm,1.1s							
LZH				pmax		pmax		
	comp=Z,110nm,5.2s							
LZH				LR		LR		
	comp=Z,430nm,15.7s							
LZH				LR		LR		
	comp=Z,270nm,15.7s							
LZH				LR		LR		
	comp=Z,2µm,16.4s							
XAN	**Xi'an**	**36.34**	**27**	P		**P**	**01 47 55.8**	**-0.6**
XAN				pP		sP	01 48 01.0	+0.3
XAN				sP		pP	01 48 05.0	+5.5
XAN				PP		**PnPn**	**01 49 16.0**	**-2.5**
XAN				S		**S**	**01 53 29.5**	**-8.0**
XAN				pmax		pmax		
	comp=Z,17nm,0.9s							
XAN				pmax		pmax		
	comp=Z,80nm,4.1s							
XAN				LR		LR		
	comp=Z,170nm,18.7s							
XAN				LR		LR		
	comp=Z,280nm,16.5s							
XAN				LR		LR		
	comp=Z,250nm,19.2s							
WHN	**Wuhan**	**36.52**	**37**	⇑P		**P**	**01 47 59.8**	**+1.9**
WSAR	**Wadi Sarin**	**36.67**	**307**	P		**P**	**01 47 59.3**	**-0.1**
	comp=Z,2.1nm,0.8s,baz=118,slow=14,SNR=3.0							
WSAR				LR		LR	02 01 59.1	
	comp=Z,378nm,18.5s,baz=134,slow=35							
YULB	**Yu-li**	**37.07**	**53**	*e*P		**P**	**01 48 05.2**	**+2.4**
	comp=Z,14nm,0.8s							
MBWA	**Marble Bar**	**37.45**	**130**	*e*P		**P**	**01 48 06.0**	**0.0**
	comp=Z,86nm,0.8s							
KBL	**Kabul**	**37.48**	**331**	*e*P		**P**	**01 48 07.5**	**+1.2**
	comp=Z,5.8nm,0.8s							
KBL	**Kabul**	**37.48**	**331**	*e*P		**P**	**01 48 07.5**	**+1.2**
KBL				pmax		pmax		
	comp=Z,6.0nm,0.8s							
GTA	**Gaotai**	**38.10**	**13**	*e*P		**P**	**01 48 12.5**	**+1.1**
GTA				pP		sP	01 48 17.0	+1.3
GTA				sP		pP	01 48 19.8	+5.3
GTA				S		**S**	**01 54 05.5**	**+1.1**
GTA				sS		ScP	01 54 14.0	-0.5
GTA				SS		**SnSn**	**01 56 42.3**	**-5.2**
GTA				pmax		pmax		
	comp=Z,25nm,0.9s							
GTA				LR		LR		
	comp=Z,94nm,13.1s							
GTA				LR		LR		
	comp=Z,65nm,13.3s							
GTA				LR		LR		
	comp=Z,69nm,12.1s							
KSH	**Kashi**	**39.16**	**343**	P		**P**	**01 48 19.3**	**-1.0**
KSH				pP		sP	01 48 25.0	+0.4
KSH				S		**S**	**01 54 17.0**	**-3.4**
KSH				pmax		pmax		
	comp=Z,37nm,0.9s							
KSH				pmax		pmax		
	comp=Z,170nm,3.0s							
KSH				LR		LR		
	comp=Z,230nm,4.7s							
KSH				LR		LR		
	comp=Z,230nm,4.7s							
KSH				LR		LR		
	comp=Z,440nm,14.7s							
MEEK	**Meekatharra**	**40.01**	**138**	P		**P**	**01 48 28.2**	**+0.7**
	baz=40,SNR=19							
MORW	**Morawa**	**40.05**	**143**	P		**P**	**01 48 29.1**	**+1.4**
	baz=40,SNR=8.8							
NJ2	**Nanjing**	**40.35**	**40**	*e*P		**P**	**01 48 31.3**	**+1.1**
NJ2				pmax		pmax		
	comp=Z,5.0nm,0.5s							
WMQ	**Urumqi**	**41.43**	**358**	P		**P**	**01 48 39.8**	**+0.8**
WMQ				sP		sP	01 48 47.0	+3.7
WMQ				pmax		pmax		
	comp=Z,43nm,0.9s							
WMQ				pmax		pmax		
	comp=Z,83nm,3.7s							
AAK	**Ala-Archa**	**42.46**	**343**	*e*P		**P**	**01 48 49.9**	**+2.4**
	comp=Z,7.3nm,1.1s							
AAK	**Ala-Archa**	**42.46**	**343**	*de*P		**P**	**01 48 48.3**	**+0.7**
AAK				pmax		pmax		
	comp=Z,4.0nm,1.0s							
KLBR	**Kellerberrin**	**42.90**	**144**	P		**P**	**01 48 51.4**	**+0.3**
	baz=43,SNR=7.3							
HHC	**Hu-ho-hao-te**	**43.17**	**24**	*e*P		**P**	**01 48 54.0**	**+0.7**
HHC				pP		sP	01 48 58.5	+0.8
HHC				sP		pP	01 49 01.0	+4.6
HHC				PP		**PP**	**01 50 37.0**	**+3.3**
HHC				S		**S**	**01 55 20.0**	**-0.1**
HHC				SS		**SS**	**01 58 26.3**	**-6.7**
HHC				ScS		**ScS**	**01 58 51.8**	**-2.4**
HHC				pmax		pmax		
	comp=Z,21nm,1.1s							
HHC				pmax		pmax		
	comp=Z,77nm,6.3s							
HHC				LR		LR		
	comp=Z,630nm,14.9s							
HHC				LR		LR		
	comp=Z,770nm,15.5s							
HHC				LR		LR		
	comp=Z,790nm,14.5s							
H01W3	**Cape Leeuwin H**	**43.45**	**150**	T		T	02 35 23.9	
	baz=324,slow=74							
H01W2	**Cape Leeuwin H**	**43.46**	**150**	T		T	02 35 31.7	
	baz=324							
H01W1	**Cape Leeuwin H**	**43.46**	**150**	T		T	02 35 16.0	
	baz=324,slow=74							
NWAO	**Narrogin (SRO)**	**43.58**	**146**	P		**P**	**01 48 56.6**	**0.0**
	baz=44,SNR=9.3							
NWAO				P		**P**	**01 48 56.6**	**0.0**
	baz=44,SNR=9.3							
NWAO	**Narrogin (SRO)**	**43.58**	**146**	*e*P		**P**	**01 48 56.5**	**0.0**
	comp=Z,28nm,0.8s							
NWAO	**Narrogin (SRO)**	**43.58**	**146**	*e*P		**P**	**01 48 56.5**	**0.0**
NWAO				pmax		pmax		
	comp=Z,28nm,0.8s							
KK31	**Karatay Array**	**44.15**	**340**	*e*P		**P**	**01 49 02.5**	**+1.4**
KK31	**Karatay Array**	**44.15**	**340**	*ce*P		**P**	**01 49 01.8**	**+0.8**
KK31				pmax		pmax		
	comp=Z,11nm,0.9s							
KKAR	**Karatay Array**	**44.15**	**340**	*e*P		**P**	**01 49 01.9**	**+0.9**
	comp=Z,2.6nm,0.5s							
KKAR	**Karatay Array**	**44.15**	**340**	*e*P		**P**	**01 49 01.9**	**+0.9**
KKAR				pmax		pmax		
	comp=Z,3.0nm,0.5s							
JOW	**Kunigami**	**44.26**	**53**	LR		LR	02 06 51.0	
	comp=Z,45nm,21.5s,baz=188,slow=35							
BJI	**Beijing**	**44.59**	**29**	⇑*e*P		**P**	**01 49 06.0**	**+1.4**
BJI				pmax		pmax		
	comp=Z,27nm,0.6s							
MK01	**Makanchi Array**	**44.81**	**353**	*e*P		**P**	**01 49 06.1**	**-0.2**
MK31	**Makanchi Array**	**44.84**	**353**	*e*P		**P**	**01 49 06.8**	**+0.3**
MK31	**Makanchi Array**	**44.84**	**353**	*e*P		**P**	**01 49 06.8**	**+0.3**
MKAR	**Makanchi Array**	**44.84**	**353**	P		**P**	**01 49 06.8**	**+0.3**
	comp=Z,4.5nm,0.7s,baz=168,slow=9.0,SNR=44							
MKAR				LR		LR	02 09 32.4	
	comp=Z,199nm,18.4s,baz=171,

comp=Z,42nm,1.2s
WB2 Warramunga Arr 48.99 119 *e*P P **01 49 38.2 -1.2**
WC3 Warramunga Arr 49.01 119 P P **01 49 39.0 -0.6**
baz=49
FORT Forrest 49.08 135 P P **01 49 40.4 +0.5**
baz=49,SNR=31
FORT Forrest 49.08 135 *e*P P **01 49 40.3 +0.5**
KURBB Kurchatov Arra 49.12 351 P P **01 49 40.3 +0.4**
comp=Z,8.0nm,1.0s,baz=174,slow=7.2,SNR=46
KURBB PcP **PcP 01 51 03.4 +0.1**
comp=Z,0.7nm,0.5s,baz=168,slow=4.7,SNR=3.2
KURK Kurchatov 49.20 351 *e*P P **01 49 40.9 +0.5**
comp=Z,15nm,1.0s
KURK PcP **PcP 01 51 03.4 -0.1**
KURK Kurchatov 49.20 351 *d i*P P **01 49 40.8 +0.4**
KURK pmax pmax
comp=Z,19nm,1.2s
JNU Nakatsue 49.23 47 LR LR 02 11 35.0
comp=Z,115nm,19.3s,baz=280,slow=37
ZAK Zakamensk 49.31 11 *e*P P **01 49 41.8 +0.4**
ZAK pmax pmax
comp=Z,6.0nm,1.3s
KSAR Wonju Array Be 49.51 40 P P **01 49 43.1 +0.1**
KSAR Wonju Array Be 49.51 40 P P **01 49 43.2 +0.1**
KS01 Wonju Array Si 49.53 40 *e*P P **01 49 42.9 -0.3**
KSRS Korea Array 49.54 40 P P **01 49 43.1 -0.1**
comp=Z,3.0nm,0.8s,baz=217,slow=9.6,SNR=9.0
KSRS LR LR 02 13 15.5
comp=Z,87nm,18.4s,baz=233,slow=39
ASAR Alice Springs 50.07 124 P P **01 49 47.6 0.0**
comp=Z,7.2nm,0.9s,baz=296,slow=7.3,SNR=37
ASAR PcP **PcP 01 51 06.6 -0.8**
comp=Z,4.4nm,0.8s,baz=301,slow=3.6,SNR=9.9
AS31 Alice Springs 50.07 124 *e*P P **01 49 47.4 -0.2**
comp=Z,2.1nm,0.5s
AS01 Alice Springs 50.11 124 *e*P P **01 49 47.5 -0.4**
MOY Mondy 50.13 9 *e*P P **01 49 48.8 +1.1**
TLY Talaya 50.61 11 *e*P P 01 49 58.4 +7.2
TLY pmax pmax
comp=Z,9.0nm,0.8s
TLY MLR MLR
comp=Z,76nm,17.0s
ZAA0 Zalesovo Array 51.69 356 *e*P P **01 49 59.0 -0.2**
comp=Z,12nm,1.0s
ZALV Zalesovo Beam 51.69 356 P P **01 49 58.9 -0.3**
comp=Z,8.4nm,0.8s,baz=188,slow=8.4,SNR=28
ZALV LR LR 02 13 28.9
comp=Z,99nm,19.8s,baz=250,slow=38
ZALV Zalesovo Beam 51.69 356 *e*P P **01 49 58.7 -0.5**
ZALV Zalesovo Beam 51.69 356 *e*P P **01 49 58.7 -0.5**
CN2 Changchun 52.08 32 *e*P P **01 50 02.3 0.0**
CN2 *e*S S **01 57 28.0 +1.7**
CN2 pmax pmax
comp=Z,10.0nm,0.7s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=Z,200nm,20.0s
CN2 LR LR
comp=Z,100nm,20.0s
CN2 LR LR
comp=Z,400nm,23.0s
LKRN Lenkeran, Azer 52.08 319 P P **01 50 02.9 +0.5**
KMBO Kilima Mbogo 52.60 267 P P **01 50 06.2 -0.8**
comp=Z,0.9nm,0.4s,baz=72,slow=13,SNR=3.4
KMBO Kilima Mbogo 52.60 267 *e*P P **01 50 06.2 -0.8**
comp=Z,2.2nm,0.4s
KMBO Kilima Mbogo 52.60 267 *e*P P **01 50 06.2 -0.8**
KMBO pmax pmax
comp=Z,2.0nm,0.4s
NVS Novosibirsk 52.69 355 *e*P P **01 50 06.0 -0.6**
NVS pmax pmax
comp=N,13nm,1.0s
NVS pmax pmax
comp=E,9.0nm,1.0s
NVS pmax pmax
comp=Z,21nm,1.0s
BVA0 Borovoye Array 53.09 345 P P **01 50 08.6 -1.1**
BVA0 pmax pmax
comp=Z,9.0nm,1.1s
BVAR Borovoye Array 53.09 345 P P **01 50 09.2 -0.4**
comp=Z,3.1nm,0.8s,baz=154,slow=7.2,SNR=24
BVAR LR LR 02 13 47.6
comp=Z,242nm,18.2s,baz=152,slow=37
BRVK Borovoye 53.15 345 *e*P P **01 50 09.5 -0.5**
comp=Z,6.3nm,1.1s
BRVK Borovoye 53.15 345 *de*P P **01 50 09.4 -0.7**
BRVK pmax pmax
comp=Z,7.0nm,1.2s
AB31 Akbulak array 53.30 336 *ce*P P **01 50 11.2 -0.1**
AB31 pmax pmax
comp=Z,8.0nm,0.6s
ABKAR Akbulak array 53.30 336 *e*P P **01 50 11.7 +0.4**
comp=Z,11nm,0.6s
HIA Hailar 53.38 24‖ *e*P P **01 50 12.4 +0.5**
HIA pmax pmax
comp=Z,11nm,1.0s
QIS Mount Isa 53.83 117 P P **01 50 14.2 -1.5**
baz=54,SNR=4.8
MNGR Mingechevir, A 54.31 321 P P **01 50 19.3 +0.5**
SEKA Sheki 54.48 321 P P **01 50 20.1 -0.1**
NAX Nakhchivan 54.49 318 P P **01 50 20.6 +0.3**
GANJ Ganja 54.73 320 P P **01 50 22.3 +0.4**
MDJ Mudanjiang 54.87 34 P P **01 50 23.0 +0.2**
MDJ pmax pmax
comp=Z,12nm,0.8s
MDJ pmax pmax
comp=Z,97nm,3.2s
AKTO Aktyubinsk 55.01 336 P P **01 50 23.8 +0.1**
comp=Z,1.8nm,0.7s,baz=141,slow=6.5,SNR=6.6
AKTO LR LR 02 16 00.7
comp=Z,66nm,18.7s,baz=140,slow=38
ZKTA Zakatala 55.08 321 P P **01 50 24.9 +0.5**
GNI Garni 55.49 319 LR LR 02 16 00.7
comp=Z,54nm,20.1s,baz=108,slow=38
GNI Garni 55.49 319 *e*P P **01 50 26.4 -1.2**
comp=Z,6.2nm,1.1s
GNI Garni 55.49 319 *d i*P P **01 50 28.6 +1.0**
GNI pmax pmax
comp=Z,24nm,1.2s
BBOO Buckleboo 55.92 133 P P **01 50 30.1 -0.5**
baz=56,SNR=6.3
BBOO Buckleboo 55.92 133 *e*P P **01 50 29.8 -0.8**
comp=Z,4.5nm,0.5s
USRK Ussuriysk Ar. 55.99 36 P P **01 50 31.1 +0.2**
comp=Z,4.2nm,0.9s,baz=226,slow=3.9,SNR=6.8
USRK LR LR 02 18 16.7
comp=Z,98nm,18.2s,baz=201,slow=40
MAJO Matsushiro 56.16 47 *e*P P **01 50 32.3 +0.1**
comp=Z,9.1nm,0.7s
MAJO Matsushiro 56.16 47‖ *e*P P **01 50 32.1 -0.2**
MAJO pmax pmax
comp=Z,7.0nm,1.1s
MJAR Matsushiro Arr 56.16 47 P P **01 50 32.7 +0.4**
comp=Z,3.2nm,0.8s,baz=236,slow=7.8,SNR=7.7
MJAR PcP **PcP 01 51 29.2 -1.0**
comp=Z,1.9nm,0.7s,baz=252,slow=5.4,SNR=2.1
MJAR LR LR 02 16 24.0
comp=Z,56nm,18.1s,baz=270,slow=38
TBLG Delisi 56.32 320 *e*P P **01 50 34.4 +1.1**
comp=Z,17nm,1.2s
TBLG Delisi 56.32 320 *e*P P **01 50 34.4 +1.1**
TBLG pmax pmax
comp=Z,17nm,1.2s
GROC Groznyy 56.46 322 *e*P P **01 50 33.8 -0.4**
GROC pmax pmax
comp=Z,26nm,0.7s
MTSU Mount Surprise 57.39 113 P P **01 50 41.7 +0.4**
baz=57,SNR=7.0
ZEI Tsey 57.40 321 *e*P P **01 50 41.2 0.0**
ZEI pmax pmax
comp=Z,7.0nm,0.9s
ASF Jabal al Asfar 57.84 307 P P **01 50 44.1 -0.3**
comp=Z,0.9nm,0.5s,baz=108,slow=13,SNR=3.1
NCK Nalchik 57.96 322‖ *e*P P **01 50 44.7 -0.3**
NCK pmax pmax
comp=Z,4.0nm,1.0s
HTT Hallett 58.33 132 P P **01 50 47.7 0.0**
baz=58,SNR=3.7
PMG Port Moresby 58.34 102 LR LR 02 21 06.6
comp=Z,47nm,18.4s,baz=238,slow=41
NEY Neytrino 58.38 321↑ *e*P P **01 50 48.9 +0.8**
NEY pmax pmax
comp=Z,1.0nm,0.7s
KBZ Khabaz 58.52 322 P P **01 50 49.4 +0.7**
comp=Z,4.8nm,0.9s,baz=119,slow=6.3,SNR=11
KBZ LR LR 02 20 48.5
comp=Z,40nm,18.5s,baz=67,slow=41
BOD Bodaibo 58.63 15 *e*P P **01 50 48.9 -0.3**
BOD pmax pmax
comp=Z,24nm,0.9s
EIL Elat 58.64 304 LR LR 02 16 30.4
comp=Z,190nm,18.0s,baz=64,slow=36
KVAR Kislovodsk Arr 58.76 322 LR LR 02 18 14.5
comp=Z,51nm,21.3s,slow=38
KIV Kislovodsk 58.77 322 *e*P P **01 50 51.2 +0.6**
comp=Z,11nm,0.9s
KIV Kislovodsk 58.77 322 *e*P P **01 50 50.7 +0.1**
KIV pmax pmax
comp=Z,25nm,1.0s
KLR Kul'dur 58.91 31 P P **01 50 51.2 -0.2**
comp=Z,1.1nm,0.9s,baz=266,slow=9.8,SNR=25
KLR Kul'dur 58.91 31 *ce*P P **01 50 50.9 -0.5**
GOF Gofitskoye 59.13 323↑ *e*P P 01 51 00.7 +7.7
GOF pmax pmax
comp=Z,20nm,1.3s
SVE Sverdlovsk 59.17 342 *e*P P **01 50 52.9 -0.1**
SVE pmax pmax
comp=Z,28nm,1.1s
MMAI Mount Meron Ar 59.31 307 P P **01 50 54.6 0.0**
comp=Z,0.2nm,0.3s,baz=109,slow=7.8,SNR=2.7
MMAI LR LR 02 17 30.1
comp=Z,281nm,18.2s,baz=105,slow=37
ARU Arti 59.51 340 *e*P P **01 50 55.2 -0.2**
comp=Z,11nm,1.1s
ARU Arti 59.51 340 *c i*P P **01 50 54.7 -0.7**
ARU S S **01 59 04.1 -0.9**
ARU SS SS **02 03 00.0 -0.3**
ARU pmax pmax
comp=Z,12nm,1.2s
ARU MLR MLR
comp=Z,152nm,18.0s
CTA Charters Tower 59.66 115 P P **01 50 57.3 +0.2**
baz=60
CTAO Charters Tower 59.66 115 *e*P P **01 50 57.6 +0.4**
comp=Z,33nm,0.9s
STKA Stephens Creek 59.68 129 P P **01 50 57.0 -0.1**
comp=Z,16nm,0.7s,baz=301,slow=6.4,SNR=49
STKA LR LR 02 15 19.3
comp=Z,85nm,19.5s,baz=217,slow=35
STKA Stephens Creek 59.68 129 P P **01 50 57.0 -0.1**
baz=60,SNR=13
STKA Stephens Creek 59.68 129 *e*P P **01 50 57.0 -0.1**
comp=Z,3.6nm,0.8s
STKA Stephens Creek 59.68 129 *e*P P **01 50 57.0 -0.1**
STKA pmax pmax
comp=Z,4.0nm,0.8s
ZEA Zeya 59.84 25 *e*P P **01 50 57.0 -0.7**
ZEA pmax pmax
comp=Z,17nm,1.0s
SOC Sochi 60.45 320 *e*P P **01 51 05.6 +3.5**
SOC *e*S S **01 59 23.1 +5.6**
SOC pmax pmax
comp=Z,32nm,1.0s
SOC MLR MLR
comp=Z,480nm,31.0s
ARPS Mount Arapiles 61.98 134 P P **01 51 13.0 +0.4**
baz=62,SNR=11
GRNR Gornyy 62.25 31 *e*P P **01 51 12.9 -1.3**
GRNR pmax pmax
comp=Z,42nm,1.0s
CMSA Cobar Meteorol 62.77 127 P P **01 51 18.3 +0.3**
baz=63,SNR=7.0
BRTR Keskin Array B 62.97 314 P P **01 51 19.0 -0.4**
comp=Z,2.6nm,0.7s,baz=128,slow=6.8,SNR=24
BRTR LR LR 02 20 33.3
comp=Z,67nm,20.1s,baz=110,slow=38
BR131 Keskin Array S 62.97 314 *e*P P **01 51 19.1 -0.3**
VRH Novokhopyorsk 63.21 328 *e*P P **01 51 20.3 -0.2**
VRH *e**PP **sP 01 51 29.4 +4.4**
VRH pmax pmax
comp=Z,10.0nm,0.7s
LSZ Lusaka 63.33 252 *e*P P **01 51 21.7 -0.5**
comp=Z,3.8nm,1.1s
LSZ Lusaka 63.33 252 *e*P P **01 51 21.7 -0.5**
LSZ pmax pmax
comp=Z,4.0nm,1.1s
ANTO Ankara 63.63 314 *e*P P **01 51 23.3 -0.4**
comp=Z,5.5nm,0.6s
ANTO Ankara 63.63 314 *e*P P **01 51 23.3 -0.4**
ANTO pmax pmax
comp=Z,6.0nm,0.6s
RMQ Roma 63.65 121 P P **01 51 24.9 +0.9**
baz=64,SNR=4.7
YSS Yuzh-Sakhalins 63.87 38 *e*P P **01 51 24.4 -0.6**
YSS pmax pmax
comp=Z,30nm,1.1s
VSR Storozhevoye 64.57 327 *e*P P **01 51 28.3 -1.2**
VSR pmax pmax
comp=Z,7.0nm,0.7s
TOO Toolangi 64.95 134 P P **01 51 31.3 -1.1**
baz=65,SNR=4.6
EIDS Eidsvold 65.34 119 P P **01 51 35.1 0.0**
baz=65,SNR=5.6
EIDS Eidsvold 65.34 119 *e*P P **01 51 34.8 -0.2**
comp=Z,11nm,0.8s
LPSR Galich'ya Gora 65.42 329 *e*P P **01 51 34.0 -1.0**
LPSR *e**PP **sP 01 51 43.2 +3.7**
LPSR pmax pmax
comp=Z,6.0nm,0.7s
KUR Kuril'sk 66.38 41↑ *e*P P **01 51 41.2 -0.1**
KARP Karpathos 66.57 308 *e*P P **01 51 42.3 -0.5**
comp=Z,12nm,1.0s
YAK Yakutsk 66.69 19 *e*P P **01 51 40.9 -2.1**
YAK *e* 01 52 14.7
YAK *e**SS sS 02 01 06.1 +26
YAK pmax pmax
comp=Z,32nm,0.9s
YAK pmax pmax
comp=E,11nm,1.2s
YAK pmax pmax
comp=N,7.0nm,1.0s
CAN Canberra 66.71 130 *e*P P **01 51 43.6 -0.2**
comp=N,10nm,0.7s
CAN Canberra 66.71 130 *e*P P **01 51 43.6 -0.2**
CAN pmax pmax
comp=Z,10.0nm,0.7s
LBTB Lobatse 67.75 242 *e*P P **01 51 50.5 -0.1**
comp=Z,22nm,0.8s
LBTB Lobatse 67.75 242 *e*P P **01 51 50.5 -0.1**
LBTB pmax pmax
comp=Z,22nm,0.8s
OBN Obninsk 67.92 330 LR LR 02 23 23.5
comp=Z,65nm,21.6s,baz=90,slow=38
OBN Obninsk 67.92 330↑ *e*P P **01 51 51.1 +0.2**
OBN *e* 01 51 56.6
OBN 01 52 16.0
OBN *e*S S **02 00 53.5 +4.0**
OBN SS SS **02 05 10.0 -1.4**
OBN pmax pmax
comp=Z,6.0nm,0.6s
OBN MLR MLR
comp=Z,70nm,20.0s
PSN Preselentsi 68.16 317 *e*P P **01 51 52.8 +0.1**
TIRR Tirgusor 68.26 317‖ *i*P P **01 51 53.3 0.0**
TIRR Tirgusor 68.26 317 *e*P P **01 51 53.0 -0.3**
comp=Z,5.9nm,1.0s
TIRR Tirgusor 68.26 317 *e*P P **01 51 53.0 -0.3**
TIRR pmax pmax
comp=Z,6.0nm,1.0s
IDI Anoyia 68.31 307 P P **01 51 53.8 -0.1**
comp=Z,4.8nm,0.8s,baz=109,slow=8.4,SNR=6.6
IDI Anoyia 68.31 307‖ *i*P P **01 51 54.4 +0.5**
IDI Anoyia 68.31 307 *e*P P **01 51 55.5 +1.7**
CFR Carcaliu 68.68 318‖ *i*P P **01 51 56.1 +0.1**
CFR Carcaliu 68.68 318 *e*P P **01 51 56.0 +0.1**
BOSA Boshof 68.93 238 P P **01 51 57.3 -0.6**
comp=Z,17nm,0.8s,baz=79,slow=5.2,SNR=32
BOSA LR LR 02 21 00.9
comp=Z,41nm,18.0s,baz=44,slow=35
BOSA Boshof 68.93 238 *e*P P **01 51 57.4 -0.6**
comp=Z,26nm,1.0s
BOSA Boshof 68.93 238 *e*P P **01 51 57.4 -0.6**
BOSA pmax pmax
comp=Z,26nm,1.0s
SORM Soroca 69.55 321‖ *i*P P **01 52 00.8 -0.5**
SORM Soroca 69.55 321 P P **01 52 00.8 -0.5**
KLMR Klimovskoe 69.70 336 *e*P P **01 52 00.7 -1.2**
KLMR AMP 01 52 12.2
comp=Z,24nm,0.8s
KLMR Klimovskoe 69.70 336 *e*P P **01 52 00.7 -1.2**
KLMR pmax pmax
comp=Z,24nm,0.8s
VRI Vrincioaia 69.84 318‖ *i*P P **01 52 03.7 +0.5**
VRI Vrincioaia 69.84 318 P P **01 52 03.7 +0.5**
PLOR Plostina 69.89 318↑ *i*P P **01 52 04.6 +1.1**
PLOR Plostina 69.89 318 P P **01 52 04.6 +1.1**
AKASG Malin Array Be 69.96 324 P P **01 52 02.9 -0.8**
comp=Z,1.8nm,0.8s,baz=93,slow=4.9,SNR=6.9
AKASG LR LR 02 24 41.7
comp=Z,56nm,21.6s,baz=90,slow=38
KIEV Kiev 69.96 324‖ *e*P P **01 52 03.0 -0.7**
KIEV pmax pmax
comp=Z,3.0nm,1.1s
CASY Casey 69.99 171 *e*P P **01 52 03.7 +0.2**
comp=Z,14nm,0.8s
TESR Tescani 70.10 319↑ *i*P P **01 52 04.0 -0.7**
MLR Muntele Rosu 70.25 318 P P **01 52 06.5 +0.7**
comp=Z,2.8nm,0.7s,baz=70,slow=3.6,SNR=26
MLR LR LR 02 26 32.7
comp=Z,19nm,20.8s,baz=78,slow=39
MLR Muntele Rosu 70.25 318‖ *i*P P **01 52 06.6 +0.8**
MLR Muntele Rosu 70.25 318 *e*P P **01 52 05.8 0.0**
comp=Z,16nm,0.9s
MLR Muntele Rosu 70.25 318 *e*P P **01 52 05.8 0.0**
MLR pmax pmax
comp=Z,16nm,0.9s
PRAR RASCA 70.64 320‖ *i*P P **01 52 08.2 +0.2**
HNR Honiara 70.86 101 LR LR 02 28 03.8
comp=Z,26nm,18.1s,baz=340,slow=40
ARR Arges 71.09 317‖ *i*P P **01 52 10.5 -0.4**
KKB Krupnik 71.25 314 *e*P P 01 52 20.7 +8.9
VTS Vitosha 71.34 314↑ *i*P P **01 52 11.9 -0.7**
VTS Vitosha 71.34 314 *e*P P **01 52 11.8 -0.7**
comp=Z,5.4nm,0.9s
VTS Vitosha 71.34 314 *e*P P 01 52 21.7 +9.2
VTS Vitosha 71.34 314 *e*P P **01 52 11.8 -0.7**
VTS pmax pmax
comp=Z,5.0nm,0.9s
BURAR Bucovina Array 71.38 320‖ *i*P P **01 52 13.4 +0.8**
BURAR Bucovina Array 71.38 320 P P **01 52 13.3 +0.7**
BUR04 Bucovina Ar. S 71.38 320 *e*P P **01 52 12.8 +0.2**
BUR08 Bucovina Ar. S 71.39 320 *e*P P **01 52 13.4 +0.7**
TMCR Tamitsa 72.16 339 *e*P P **01 52 15.2 -1.6**
TMCR pmax pmax
comp=Z,45nm,1.3s
MAW Mawson 72.22 190 LR LR 02 17 10.3
comp=Z,92nm,18.2s,baz=264,slow=30
LVV L'vov 72.79 322 *e*P P 01 52 30.3 +9.4
BZS Buzias 73.21 317↑ *i*P P **01 52 23.2 -0.2**
BZS Buzias 73.21 317 P P **01 52 23.1 -0.3**
UZH Uzhgorod 73.54 320 *e*P P **01 52 24.7 -0.6**
UZH *e* 01 52 30.9
UZH *i* 01 52 34.7
KWP Kalwaria Pacla 73.56 321 *e*P P **01 52 24.9 -0.5**
comp=Z,60nm,1.0s
KWP Kalwaria Pacla 73.56 321 P P **01 52 25.0 -0.5**
KWP pmax pmax
comp=Z,60nm,1.0s
TIXI Tiksi 73.58 12 P P **01 52 23.5 -1.6**
comp=Z,22nm,0.8s,baz=225,slow=3.3,SNR=53
TIXI Tiksi 73.58 12 *e*P P **01 52 23.4 -1.8**
TIXI Tiksi 73.58 12 *c i*P P **01 52 23.3 -1.8**
TIXI pmax pmax
comp=Z,27nm,0.8s
MA2 Magadan 73.73 28 P P **01 52 25.5 -0.7**
comp=Z,5.5nm,0.4s,baz=197,slow=11,SNR=3.2
DIVS Divibare 73.97 315 *e*P P **01 52 27.8 -0.3**
comp=Z,4.1nm,0.8s
TTG Podgorica 74.15 313 *e*P P **01 52 28.0 -1.0**
comp=Z,5.8nm,1.1s
TTG Podgorica 74.15 313 *e*P P **01 52 28.0 -1.0**
TTG pmax pmax
comp=Z,6.0nm,1.1s
VSU Vasula 74.25 331↑ *e*P P **01 52 29.6 +0.4**
VSU pmax pmax
comp=Z,26nm,1.0s
STHS Stebnicka Huta 74.42 321 *e*P P **01 52 31.5 +1.0**
STHS *es*P **PcP 01 52 41.0 -4.1**
STHS Stebnicka Huta 74.42 321 *e*P P **01 52 31.5 +1.0**
STHS *e* 01 52 41.0
STHS pmax pmax
comp=Z,9.0nm,0.9s
SUW Suwalki 74.58 326 *e*P P **01 52 30.8 -0.5**
comp=Z,15nm,0.9s
SUW Suwalki 74.58 326 *e*P P **01 52 30.8 -0.5**
SUW pmax pmax
comp=Z,15nm,0.9s
PETK Petropavlovsk- 75.08 35 LR LR 02 29 16.9
comp=Z,46nm,19.4s,baz=257,slow=39
LVZ Lovozero 75.38 341 *e*P P **01 52 35.5 -0.1**
comp=Z,12nm,0.7s
LVZ Lovozero 75.38 341 *c i*P P **01 52 35.6 -0.1**
LVZ pmax pmax
comp=Z,10.0nm,0.9s
TIP Timpagrande 75.42 310 *e*P P **01 52 35.1 -1.5**
comp=Z,1.6nm,0.9s
OJC Ojcow 75.53 321 *e*P P **01 52 36.5 -0.4**
comp=Z,3.7nm,0.8s
OJC Ojcow 75.53 321 *e*P P **01 52 36.5 -0.4**
OJC pmax pmax
comp=Z,4.0nm,0.8s
FIA1 FINESS Array S 75.69 334 *e*P P **01 52 37.5 0.0**
comp=Z,10nm,0.9s
FINES FINESS Array B 75.69 334 P P **01 52 37.4 -0.1**
comp=Z,6.2nm,0.8s,baz=112,slow=5.7,SNR=16
FINES LR LR 02 27 36.9
comp=Z,104nm,19.6s,baz=160,slow=37
VYHS Vyhne 75.73 320 *e*P P 01 52 48.0 +10
SEY Seymchan 75.82 25 P P **01 52 36.8 -1.4**
comp=Z,2.0nm,0.9s,baz=235,slow=15,SNR=3.2
SEY Seymchan 75.82 25‖ *e*P P **01 52 37.0 -1.2**
BLY Banja Luka 76.08 316 *e*P P **01 52 39.9 -0.2**
comp=Z,5.8nm,1.1s
CUC Castrocucco 76.27 311 *e*P P **01 52 41.0 -0.4**
comp=Z,3.9nm,0.8s
MODS Modra-Piesok 76.72 319 *e*P P 01 52 53.0 +9.3
VAE Valguarnera 77.01 308 P P **01 52 45.0 -0.6**
comp=Z,1.7nm,0.4s,baz=90,slow=1.0,SNR=2.6
KRLC Kraliky 77.39 321 *e*P P **01 52 48.0 +0.5**
KRLC *ep*P **PcP 01 52 58.0 0.0**
KRLC Kraliky 77.39 321 *e*P P **01 52 48.0 +0.5**
KRLC *e* 01 52 58.0
BOJS Bojanci 77.56 316 *i*P P **01 52 47.9 -0.5**
CONA Conrad Observa 77.57 319 *e*P P **01 52 48.4 -0.1**
comp=Z,3.5nm,1.0s
ARSA Arzberg 77.67 318 *e*P P **01 52 49.7 +0.6**
comp=Z,12nm,0.9s
DPC Dobruska-Polom 77.73 321 *e*P P **01 52 49.7 +0.3**
DPC *ep*P **PcP 01 53 00.0 +0.6**
DPC Dobruska-Polom 77.73 321 *e*P P **01 52 49.7 +0.3**
DPC *e* 01 53 00.0
PERS Pernice 77.84 317 *i*P P **01 52 49.6 -0.5**
SOKA Soboth 77.90 317 *e*P P **01 52 50.1 -0.4**
comp=Z,8.2nm,0.8s,SNR=5.7
TREC Trest 78.06 320 *e*P P **01 52 51.1 -0.1**
TREC *ep*P **PcP 01 53 01.2 +0.3**
TREC Trest 78.06 320 *e*P P **01 52 51.1 -0.1**
TREC *e* 01 53 01.2
OBKA Obir 78.20 317 *e*P P **01 52 50.9 -1.2**
comp=Z,8.4nm,1.1s
AQU L'Aquila 78.41 313 *e*P P **01 52 53.8 +0.5**
comp=Z,7.2nm,0.9s
AQU L'Aquila 78.41 313 *e*P P **01 52 53.8 +0.5**
AQU pmax pmax
comp=Z,7.0nm,0.9s
DZM Mont Dzumac 78.53 113 P P **01 52 54.3 -0.1**
comp=Z,6.5nm,0.9s,baz=225,slow=5.7,SNR=6.9
DZM LR LR 02 30 55.9
comp=Z,82nm,18.1s,baz=326,slow=38
GOPC GO Pecny, Ondr 78.62 320 *e*P P **01 52 56.4 +2.1**
GOPC *ep*P **PcP 01 53 04.3 +1.0**
GOPC GO Pecny, Ondr 78.62 320 *e*P P **01 52 56.4 +2.1**
GOPC *e* 01 53 04.3
PRU Pruhonice 78.79 320 *e*P P **01 52 55.8 +0.6**
PRU *ep*P **PcP 01 53 05.2 +1.2**
PRU Pruhonice 78.79 320 *e*P P **01 52 55.8 +0.6**
PRU *e* 01 53 05.2
MYKA Terra Mystica 78.84 317 *e*P P **01 52 55.4 -0.3**
comp=Z,7.8nm,0.7s
PVCC Panska Ves 78.87 321 *e*P P **01 52 56.7 +1.1**
PVCC *ep*P **PcP 01 53 06.2 +1.9**
PVCC Panska Ves 78.87 321 *e*P P **01 52 56.7 +1.1**
PVCC *e* 01 53 06.2
PRA Prague 78.87 321 *ep*P pP 01 53 03.5 +4.6
PRA Prague 78.87 321 *e*P P 01 53 03.5 +7.9

ARCES	**ARCESS Array B**	**79.09**	**341**	P		**P**	**01 52 56.9**	**+0.5**
	comp=Z,7.1nm,0.9s,baz=120,slow=7.2,SNR=15							
ARCES	**ARCESS Array B**	**79.09**	**341**	*e*P		**P**	**01 52 57.0**	**+0.5**
ARCES	**ARCESS Array B**	**79.09**	**341**	*e*P		**P**	**01 52 57.0**	**+0.5**
ARE0	**ARCESS Array S**	**79.09**	**341**	*e*P		**P**	**01 52 56.9**	**+0.4**
	comp=Z,10nm,1.0s							
KBA	**Koelnbreinsper**	**79.11**	**317**	*e*P		**P**	**01 52 56.8**	**-0.4**
	comp=Z,6.1nm,1.3s							
GEA0	**GERESS Array S**	**79.14**	**319**	*e*P		**P**	**01 52 56.6**	**-0.7**
GEC2	**GERESS Array S**	**79.14**	**319**	*e*P		**P**	**01 52 57.4**	**+0.1**
	comp=Z,11nm,1.1s							
GEC2	**GERESS Array S**	**79.14**	**319**	*e*P		**P**	**01 52 57.4**	**+0.1**
GEC2					pmax	pmax		
	comp=Z,11nm,1.1s							
GERES	**GERESS Array B**	**79.14**	**319**	P		**P**	**01 52 57.5**	**+0.2**
	comp=Z,4.4nm,0.8s,baz=101,slow=5.6,SNR=34							
GERES					LR	LR	02 32 47.7	
	comp=Z,51nm,18.9s,baz=82,slow=39							
KHC	**Kasperske Hory**	**79.27**	**320**	*e*P		**P**	**01 52 58.0**	**+0.1**
KHC				*e*pP		**PcP**	**01 53 07.9**	**+1.8**
KHC	**Kasperske Hory**	**79.27**	**320**	*e*P		**P**	**01 52 58.2**	**+0.4**
	comp=Z,1.4nm,0.8s							
KHC	**Kasperske Hory**	**79.27**	**320**	*e*P		**P**	**01 52 58.0**	**+0.1**
KHC				*e*			01 53 07.9	
BRG	**Berggiesshubel**	**79.32**	**321**	*i* P		P	01 53 08.4	+10
	comp=Z,18nm,1.3s							
BRG	**Berggiesshubel**	**79.32**	**321**	*i* P		P	01 53 08.4	+10
BRG					pmax	pmax		
	comp=Z,18nm,1.3s							
ABTA	**Abfaltersbach**	**79.63**	**317**	*e*P		**P**	**01 52 59.6**	**-0.4**
	comp=Z,4.9nm,0.8s							
CLL	**Collm**	**79.97**	**322**	*i* P		**P**	**01 53 01.4**	**-0.2**
	comp=Z,3.0nm,0.9s							
CLL				*i* sP		**PcP**	**01 53 11.3**	**+2.2**
	comp=Z,13nm,1.1s							
CLL	**Collm**	**79.97**	**322**	*i* P		**P**	**01 53 01.4**	**-0.2**
CLL				*i*			01 53 11.3	
CLL					pmax	pmax		
	comp=Z,3.0nm,0.9s							
NKC	**Novy Kostel**	**80.16**	**321**	*e*pP		pP	01 53 13.4	+7.4
NKC	**Novy Kostel**	**80.16**	**321**	*e*P		pP	01 53 13.4	+7.4
WTTA	**Wattenberg**	**80.29**	**317**	*e*P		**P**	**01 53 03.6**	**-0.1**
	comp=Z,8.8nm,0.9s							
WATA	**Walderalm**	**80.34**	**318**	*e*P		**P**	**01 53 03.3**	**-0.6**
	comp=Z,4.6nm,0.6s							
MOTA	**Moosalm**	**80.66**	**317**	*e*P		**P**	**01 53 04.5**	**-1.1**
	comp=Z,9.7nm,0.7s,SNR=5.8							
GRFO	**Grafenberg**	**80.87**	**320**	*e*P		**P**	**01 53 07.3**	**+0.8**
	comp=Z,17nm,0.9s							
GRFO	**Grafenberg**	**80.87**	**320**	*e*P		**P**	**01 53 07.3**	**+0.8**
GRFO					pmax	pmax		
	comp=Z,17nm,0.9s							
FETA	**Feichten**	**80.88**	**317**	*e*P		**P**	**01 53 06.5**	**-0.3**
	comp=Z,7.9nm,0.9s							
KEST	**Kesra**	**80.90**	**306**	P		**P**	**01 53 07.3**	**+0.2**
	comp=Z,3.8nm,0.8s,baz=341,slow=3.6,SNR=4.1							
KEST					LR	LR	02 33 46.5	
	comp=Z,29nm,18.5s,baz=262,slow=39							
KEST	**Kesra**	**80.90**	**306**	*e*P		**P**	**01 53 08.1**	**+1.0**
	comp=Z,11nm,1.1s							
RETA	**Reutte**	**80.91**	**318**	*i* P		**P**	**01 53 06.2**	**-0.6**
	comp=Z,6.9nm,0.9s,SNR=5.2							
HFS	**Hagfors**	**81.12**	**331**	P		**P**	**01 53 07.6**	**0.0**
	comp=Z,8.2nm,1.0s,baz=121,slow=5.6,SNR=6.4							
HFS					LR	LR	02 31 49.1	
	comp=Z,65nm,21.1s,baz=128,slow=38							
FUORN	**Ofenpass-Fuorn**	**81.15**	**317**	*e*P		**P**	**01 53 08.7**	**+0.3**
	comp=Z,3.4nm,1.0s							
DAVA	**Damuels**	**81.48**	**317**	*e*P		**P**	**01 53 10.1**	**+0.1**
	comp=Z,11nm,0.9s,SNR=5.2							
TUE	**Stuetta**	**81.76**	**316**	*e*P		**P**	**01 53 10.8**	**-0.7**
	comp=Z,7.0nm,0.8s							
NB2	**NORSAR Subarra**	**82.49**	**331**	P		**P**	**01 53 13.9**	**-0.9**
	comp=Z,7.4nm,0.9s,baz=97,slow=6.2							
NOA	**NORSAR Array B**	**82.49**	**331**	P		**P**	**01 53 14.2**	**-0.6**
	comp=Z,1.1nm,0.8s,baz=95,slow=6.2,SNR=3.8							
NOA					LR	LR	02 34 07.7	
	comp=Z,41nm,18.0s,baz=95,slow=39							
BFO	**Black Forest**	**82.62**	**318**	*e*P		**P**	**01 53 16.0**	**+0.2**
	comp=Z,6.8nm,1.0s							
BFO	**Black Forest**	**82.62**	**318**	*e*P		**P**	**01 53 16.0**	**+0.2**
BFO					pmax	pmax		
	comp=Z,7.0nm,1.0s							
BILL	**Bilibino**	**82.88**	**22**	*i* P		**P**	**01 53 15.0**	**-1.7**
BILL				*i*			01 53 22.8	
BILL					pmax	pmax		
	comp=Z,2.0nm,1.0s							
BILL					MLR	MLR		
	comp=Z,81nm,20.0s							
SENIN	**Lac Senin/Sane**	**83.17**	**316**	*e*P		**P**	**01 53 19.3**	**+0.4**
	comp=Z,6.4nm,0.9s							
ECH	**Echery**	**83.39**	**318**	*e*P		**P**	**01 53 19.4**	**-0.4**
	comp=Z,15nm,0.9s							
ECH	**Echery**	**83.39**	**318**	*e*P		**P**	**01 53 19.4**	**-0.4**
ECH					pmax	pmax		
	comp=Z,15nm,0.9s							
BNI	**Bardonecchia**	**83.52**	**315**	*e*P		**P**	**01 53 20.1**	**-0.5**
	comp=Z,17nm,0.8s							
BNI	**Bardonecchia**	**83.52**	**315**	*e*P		**P**	**01 53 20.1**	**-0.5**
BNI					pmax	pmax		
	comp=Z,17nm,0.8s							
TAM	**Tamanrasset**	**83.82**	**293**	*e*P		**P**	**01 53 22.7**	**0.0**
	comp=Z,7.4nm,1.0s							
TAM	**Tamanrasset**	**83.82**	**293**	*e*P		**P**	**01 53 22.7**	**0.0**
TAM					pmax	pmax		
	comp=Z,7.0nm,1.0s							
SPITS	**Spitsbergen Ar**	**84.42**	**349**	P		**P**	**01 53 24.4**	**-0.1**
	comp=Z,12nm,1.0s,baz=104,slow=6.1,SNR=3.2							
SPITS					LR	LR	02 35 11.9	
	comp=Z,92nm,19.4s,baz=175,slow=39							
SSB	**Saint Sauveur**	**85.04**	**315**	*e*P		**P**	**01 53 28.1**	**-0.2**
	comp=Z,14nm,0.9s							
SSB	**Saint Sauveur**	**85.04**	**315**	*e*P		**P**	**01 53 28.1**	**-0.2**
SSB					pmax	pmax		
	comp=Z,14nm,0.9s							
TOA0	**Torodi Ar. Sit**	**87.61**	**283**	*e*P		**P**	**01 53 41.0**	**-0.5**
TORD	**Torodi Ar. Bea**	**87.61**	**283**	P		**P**	**01 53 40.9**	**-0.5**
	comp=Z,1.0nm,0.6s,baz=93,slow=5.4,SNR=22							
TORD					LR	LR	02 31 59.7	
	comp=Z,87nm,18.6s,baz=160,slow=35							
NVL	**N'lazarevskaya**	**88.14**	**199**	*i* P		**P**	**01 53 42.7**	**-0.1**
NVL					pmax	pmax		
	comp=Z,14nm,0.9s							
VNDA	**Vanda**	**88.36**	**168**	P		**P**	**01 53 43.2**	**-0.5**
	comp=Z,2.8nm,0.8s,baz=294,slow=5.5,SNR=17							
VNDA					LR	LR	02 26 58.6	
	comp=Z,127nm,19.5s,baz=288,slow=31							
VNDA	**Vanda**	**88.36**	**168**	*e*P		**P**	**01 53 43.4**	**-0.3**
	comp=Z,2.6nm,0.9s							
VNDA	**Vanda**	**88.36**	**168**	*e*P		**P**	**01 53 43.4**	**-0.3**
VNDA					pmax	pmax		
	comp=Z,3.0nm,0.9s							
SBA	**Scott Base**	**89.46**	**168**	*e*P		**P**	**01 53 50.2**	**+1.3**
	comp=Z,8.1nm,0.8s							
SBA	**Scott Base**	**89.46**	**168**	*e*P		**P**	**01 53 50.2**	**+1.3**
SBA					pmax	pmax		
	comp=Z,8.0nm,0.8s							
EKA	**Eskdalemuir Ar**	**89.83**	**325**	P		**P**	**01 53 50.8**	**-0.3**
	comp=Z,3.5nm,0.9s,baz=92,slow=5.0,SNR=3.6							
EKA					LR	LR	02 39 27.7	
	comp=Z,32nm,18.5s,baz=55,slow=39							
ES19	**SONSECA Array**	**91.39**	**310**	*e*P		**P**	**01 53 59.2**	**+0.4**
ESDC	**Sonseca Array**	**91.44**	**310**	P		**P**	**01 53 59.2**	**+0.2**
	comp=Z,1.5nm,0.9s,baz=77,slow=4.7,SNR=5.6							
QSPA	**South Pole Qui**	**92.20**	**180**	P		**P**	**01 54 01.4**	**-0.6**
	comp=Z,3.9nm,1.0s,baz=286,slow=4.5,SNR=6.2							
SNAA	**Sanae**	**92.95**	**198**	P		**P**	**01 54 04.4**	**-0.9**
	comp=Z,2.6nm,1.0s,baz=96,slow=10,SNR=4.8							
KOWA	**Kowa**	**93.10**	**285**	P		**P**	**01 54 07.1**	**0.0**
	comp=Z,6.1nm,1.0s,baz=90,slow=5.5,SNR=12							
KOWA					LR	LR	02 34 55.3	
	comp=Z,69nm,19.1s,baz=49,slow=35							
KOWA	**Kowa**	**93.10**	**285**	*e*P		**P**	**01 54 07.6**	**+0.5**
	comp=Z,10nm,1.1s							
DBIC	**Dimbokro**	**94.32**	**277**	LR		LR	02 36 40.7	
	comp=Z,38nm,18.5s,baz=68,slow=36							
AFI	**Afiamalu**	**98.75**	**104**	LR		LR	02 42 11.9	
	comp=Z,13nm,18.1s,baz=154,slow=37							
YBH	**Yreka Blue Hor**	**127.23**	**30**	PKP		**PKPdf**	**01 59 56.0**	**-1.5**
	comp=Z,3.2nm,0.3s,baz=319,slow=20,SNR=5.9							
PDAR	**Pinedale Array**	**131.91**	**19**	PKP		**PKPdf**	**02 00 04.6**	**-1.9**
	comp=Z,0.8nm,0.9s,baz=56,slow=2.3,SNR=4.2							
NVAR	**Mina Array Bea**	**131.94**	**30**	PKP		**PKPdf**	**02 00 06.0**	**-0.7**
	comp=Z,0.9nm,0.6s,baz=260,slow=2.6,SNR=3.7							
ANMO	**Albuquerque**	**139.99**	**21**	*c i*PKIKP		**PKPdf**	**02 00 22.6**	**+0.9**
ANMO					pmax	pmax		
	comp=Z,1.0nm,0.8s							

CPUP	**Villa Florida**	**140.36**	**230**	PKP		**PKPdf**	**02 00 21.3**	**-1.0**
	comp=Z,1.2nm,0.9s,baz=135,slow=1.4,SNR=2.2							
ABTX	**Abilene, Hawle**	**144.19**	**14**	*e*PKPdf		**PKPab**	**02 00 26.3**	**-0.4**
NATX	**Nacogdoches**	**145.91**	**7**	*e*PKPbc		**PKPdf**	**02 00 32.6**	**+0.6**
TXAR	**Lajitas Array**	**146.06**	**21**	PKPbc		**PKPdf**	**02 00 32.6**	**+0.1**
	comp=Z,10nm,1.0s,baz=298,slow=1.7,SNR=54							
JCT	**Junction City**	**146.19**	**15**	*e*PKPbc		**PKPdf**	**02 00 32.5**	**-0.1**
JCT	**Junction City**	**146.19**	**15**	*e*PKP2		**PKPdf**	**02 00 32.5**	**-0.1**
SAML	**Samuel**	**152.28**	**255**	*e*PKPdf		**PKPdf**	**02 00 42.2**	**-0.4**
SAML				*e*PKPbc		**sPKPdf**	**02 00 48.3**	**+1.0**
SAML				*e*PKPab		**PKPab**	**02 00 58.7**	**-0.6**
SAML	**Samuel**	**152.28**	**255**	*e*PKIKP		**PKPdf**	**02 00 42.2**	**-0.4**
SAML				*e*			02 00 48.3	
SAML				*e*			02 00 58.7	
LPAZ	**La Paz**	**154.15**	**236**	PKPbc		**PKPbc**	**02 00 53.2**	**-1.0**
	comp=Z,2.9nm,0.9s,baz=131,slow=2.7,SNR=9.0							
APG	**El Apazote**	**162.85**	**1**	PKPab		**PKPab**	**02 01 43.4**	**-1.3**
	comp=Z,4.9nm,0.7s,baz=315,slow=2.9,SNR=3.5							

TIR ***27*** *01:41:36.4, 39˚.57N×20˚.28E, h7km, Md2.5/2*
CSEM ***27*** *01:41:36.0, 39˚.58N×20˚.37E, h20km, ML1.7/5*
ATH 27 01:41:36.0, 39˚.58N×20˚.37E, h20km±1km, ML1.7/5, Error ellipse: s-maj=3.5km s-min=1.0km az=181.0, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IGT	**Igoumenitsa**	**0.06**	**210**	P	Pb	01 41 39.8	+0.1
IGT				S	Sb	01 41 41.8	-0.4
IGT				AML	AML	01 41 42.8	
	comp=N,2038μm,0.2s						
IGT				AML	AML	01 41 42.9	
	comp=E,2055μm,0.2s						
IGT	**Igoumenitsa**	**0.06**	**210**	P	Pb	01 41 39.7	0.0
IGT				S	Sb	01 41 42.0	-0.2
KASA	**Kassiopi**	**0.37**	**296**	P	Pb	01 41 44.6	+0.8
KASA				S	Sb	01 41 50.1	+1.0
KASA	**Kassiopi**	**0.37**	**296**	P	Pb	01 41 44.2	+0.4
KASA				S	Sb	01 41 49.8	+0.7
JAN	**Janina**	**0.38**	**79**	P	Pb	01 41 44.8	+0.9
JAN				S	Sb	01 41 50.1	+0.7
JAN				AML	AML	01 41 52.0	
	comp=N,464μm,0.3s						
JAN				AML	AML	01 41 52.4	
	comp=E,382μm,0.2s						
JAN	**Janina**	**0.38**	**79**	P	Pb	01 41 44.3	+0.4
JAN				S	Sb	01 41 49.9	+0.6
SRN	**Sarande**	**0.41**	**316**	*i* PG	Pb	01 41 39.5	-5.0
SRN				*i* SG	Sb	01 41 42.6	-7.7
KEK	**Kerkira**	**0.46**	**287**	P	Pb	01 41 45.1	-0.2
KEK				S	Sb	01 41 52.6	+0.9
KEK				AML	AML	01 41 57.4	
	comp=E,190μm,0.3s						
KEK				AML	AML	01 41 58.3	
	comp=N,184μm,0.5s						
KEK	**Kerkira**	**0.46**	**287**	P	Pb	01 41 45.2	-0.1
KEK				S	Sb	01 41 52.4	+0.7
KPRO	**Kipourio**	**0.85**	**64**	P	Pb	01 41 51.6	-0.5
KPRO				S	Sn	01 42 05.1	+0.3
KPRO				AML	AML	01 42 06.7	
	comp=E,70μm,0.7s						
KPRO				AML	AML	01 42 07.3	
	comp=N,65μm,0.4s						
KPRO	**Kipourio**	**0.85**	**64**	P	Pb	01 41 52.0	-0.1
KPRO				S	Sn	01 42 04.7	-0.1
PENT	**Pentalofos**	**0.85**	**44**	P	Pb	01 41 51.4	-0.8
PENT				AML	AML	01 42 06.1	
	comp=E,28μm,0.4s						
PENT				AML	AML	01 42 08.0	
	comp=N,39μm,0.6s						
PENT	**Pentalofos**	**0.85**	**44**	P	Pb	01 41 51.8	-0.3
NEST	**Nestorio**	**0.98**	**32**	P	Pb	01 41 53.7	-0.6
NEST	**Nestorio**	**0.98**	**32**	P	Pb	01 41 54.2	-0.1
THL	**Klokotos Trika**	**1.27**	**90**	P	Pb	01 42 00.2	+1.0
THL	**Klokotos Trika**	**1.27**	**90**	P	Pb	01 42 00.1	+0.9
FNA	**Florina**	**1.43**	**32**	P	Pb	01 42 02.7	+0.8
FNA	**Florina**	**1.43**	**32**	P	Pb	01 42 02.8	+0.9
SCTE	**Santa Cesarea**	**1.54**	**289**	P	Pb	01 42 04.4	+0.6
SCTE	**Santa Cesarea**	**1.54**	**289**	P	Pb	01 42 04.5	+0.6

IDC 27 01:56:08.9±2.0, 5˚.60S×147˚.23E, h185km±17km, mb3.5/4, mb1 3.8/6, mb1mx3.3/46, mbtmp4.1/6, Error ellipse: s-maj=34.1km s-min=14.5km az=118.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.78**	**181**	P	Pn	01 57 09.2	+1.8
	6.4nm,0.3s,baz=347,slow=14,SNR=14						
PMG				S	Sn	01 57 52.7	-0.6
	22nm,0.3s,baz=327,slow=18,SNR=14						
WRA	**Warramunga Arr**	**18.98**	**220**	P	P	02 00 17.3	+0.8
	4.4nm,0.3s,baz=46,slow=12,SNR=76						
WRA				S	S	02 03 40.7	-1.6
	0.1nm,0.3s,baz=42,slow=20,SNR=3.3						
ASAR	**Alice Springs**	**22.07**	**214**	P	P	02 00 50.2	+1.0
	6.6nm,0.6s,baz=49,slow=8.2,SNR=64						
ASAR				S	S	02 04 40.8	+1.6
	1.3nm,0.8s,baz=35,slow=23,SNR=7.3						
FITZ	**Fitzroy Crossi**	**24.47**	**238**	P	P	02 01 10.9	-0.2
	8.1nm,0.4s,baz=50,slow=10,SNR=40						
VNDA	**Vanda**	**72.29**	**177**	P	P	02 07 14.5	+0.8
	0.3nm,0.6s,baz=348,slow=6.4,SNR=3.8						
ILAR	**Eielson Array**	**85.03**	**23**	P	P	02 08 21.8	-1.5
	0.2nm,0.5s,baz=233,slow=4.4,SNR=4.4						
TORD	**Torodi Ar. Bea**	**145.21**	**285**	PKPbc	PKPdf	02 15 24.7	-0.8
	0.3nm,0.8s,baz=61,slow=2.7,SNR=3.3						

ISCJB ***27*** *02:09:19.9±0.2, 47˚.07N±0˚.01×10˚.00E±0˚.02, h5km±3km, Error ellipse: s-maj=2.5km s-min=1.7km az=13.9*
LDG ***27*** *02:09:20.8±0.2, 47˚.01N×10˚.04E, h2km, Md2.8/4, Ml2.5/7, Error ellipse: s-maj=5.8km s-min=3.6km az=42.0*
VIE ***27*** *02:09:20.5±0.3, 47˚.05N×10˚.01E, h11km±6km, mb1.7/6, ML2.3/10, Error ellipse: s-maj=1.3km s-min=1.2km az=91.0*
CSEM ***27*** *02:09:20.5±0.1, 47˚.03N×10˚.01E, h5km, ML2.5/16, Error ellipse: s-maj=2.5km s-min=1.8km az=16.0*
ZUR ***27*** *02:09:20.4, 47˚.04N×9˚.97E, h-2km±2km, ML2.2/18*
BGR ***27*** *02:09:21.7±0.3, 47˚.07N×10˚.02E, h10km, ML2.3/9, Error ellipse: s-maj=4.4km s-min=2.2km az=172.0*
ROM ***27*** *02:09:21.4±0.2, 47˚.00N×9˚.98E, h10km, Md2.4/8, Ml1.9/6, Error ellipse: s-maj=2.9km s-min=1.6km az=156.0*
PRU ***27*** *02:09:23.6, 47˚.25N×10˚.04E, h7km*
STR ***27*** *02:09:28.9±0.3, 47˚.20N±0˚.01×9˚.60E±0˚.02, h10km, MLv2.4/16*
ISC 27 02:09:20.5±0.8, 47˚.05N±0˚.01×10˚.00E±0˚.01, h16km±5km, n153, σ1s01/223, 10C-17D, Germany

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAVA	**Damuels**	**0.25**	**342**	*i* Pg	**Pg**	**02 09 25.7**	**-0.4**
	683nm,0.5s						
DAVA	**Damuels**	**0.25**	**342**	*e*Pg	**Pg**	**02 09 25.8**	**-0.4**
DAVA				*e*Sg	**Sg**	**02 09 29.5**	**-0.5**
DAVA	**Damuels**	**0.25**	**342**	Pg	**Pg**	**02 09 25.8**	**-0.4**
DAVA				Sg	**Sg**	**02 09 29.5**	**-0.5**
DAVA	**Damuels**	**0.25**	**342**	*e*Pg	**Pg**	**02 09 25.7**	**-0.4**
	53nm,0.1s,SNR=120						
DAVA				*e*Sg	**Sg**	**02 09 29.4**	**-0.5**
	76nm,0.1s						
DAVOX	**Davos/Dischmat**	**0.28**	**197**	*i* Pg	**Pg**	**02 09 26.6**	**0.0**
	597nm,0.3s						
DAVOX				*i* Sg	**Sg**	**02 09 30.8**	**+0.1**
	597nm,0.3s						
DAVOX	**Davos/Dischmat**	**0.28**	**197**	*i* Pg	**Pg**	**02 09 26.6**	**0.0**
DAVOX				*i* Sg	**Sg**	**02 09 30.8**	**+0.1**
SCUC	**Scuol-Clozza**	**0.33**	**140**	*i* Pg	**Pg**	**02 09 27.4**	**+0.1**
SZER	**Zernez**	**0.36**	**169**	*i* Pg	**Pg**	**02 09 28.0**	**+0.1**
SCUG	**Chur Gewerbesc**	**0.38**	**240**	*e*Pg	**Pg**	**02 09 28.2**	**0.0**
SCUG	**Chur Gewerbesc**	**0.38**	**240**	*e*Pg	**Pg**	**02 09 28.2**	**0.0**
OBER	**Oberstdorf**	**0.41**	**29**	*e*Pg	**Pg**	**02 09 28.8**	**-0.1**
OBER				*e*Sg	**Sg**	**02 09 34.9**	**+0.3**
OBER	**Oberstdorf**	**0.41**	**29**	Pg	**Pg**	**02 09 28.8**	**-0.1**
OBER				Sg	**Sg**	**02 09 34.9**	**+0.3**
PLONS	**Plons/SG**	**0.42**	**271**	*i* Pg	**Pg**	**02 09 28.9**	**-0.1**
	223nm,0.4s						
PLONS	**Plons/SG**	**0.42**	**271**	*e*Pg	**Pg**	**02 09 29.0**	**-0.1**
PLONS				*e*Sg	**Sg**	**02 09 35.4**	**+0.6**
PLONS	**Plons/SG**	**0.42**	**271**	Pg	**Pg**	**02 09 29.0**	**-0.1**
PLONS				Sg	**Sg**	**02 09 35.4**	**+0.6**
LIENZ	**Kamor/St.Gall**	**0.42**	**306**	*e*Pg	**Pg**	**02 09 29.1**	**0.0**
	322nm,0.7s						
LIENZ	**Kamor/St.Gall**	**0.42**	**306**	*e*Pg	**Pg**	**02 09 29.1**	**0.0**
FUORN	**Ofenpass-Fuorn**	**0.47**	**157**	*i* Pg	**Pg**	**02 09 30.0**	**+0.1**
	89nm,0.4s						
FUORN	**Ofenpass-Fuorn**	**0.47**	**157**	*i* Pg	**Pg**	**02 09 30.0**	**+0.1**
SVAM	**Vaz, Muldain**	**0.48**	**222**	*i* Pg	**Pg**	**02 09 30.0**	**-0.1**
FETA	**Feichten**	**0.50**	**93**	*e*Pg	**Pg**	**02 09 30.4**	**-0.1**
	6.4nm,0.2s,SNR=36						
FETA				*e*Sg	**Sg**	**02 09 37.3**	**0.0**
	23nm,0.2s						
SGT05	**Eggersriet**	**0.54**	**317**	*e*Pg	**Pb**	**02 09 32.0**	**+0.3**
	224nm,0.4s						
SGT05	**Eggersriet**	**0.54**	**317**	*e*Pg	**Pb**	**02 09 32.0**	**+0.3**
MOSI	**Grossmontoni**	**0.57**	**138**	*i* Pg	**Pg**	**02 09 32.1**	**+0.2**
	462nm,0.3s						
MOSI	**Grossmontoni**	**0.57**	**138**	*i* Pg	**Pg**	**02 09 32.0**	**+0.2**
MOSI					Sg	**Sb**	**02 09 40.3**	**-0.1**
	108nm,0.5s						
MOSI	**Grossmontoni**	**0.57**	**138**	Pg	**Pg**	**02 09 32.1**	**+0.2**
MOSI					Sg	**Sb**	**02 09 40.3**	**-0.1**
	108nm,0.5s						
SGT00	**Sennh˙...lsen**	**0.60**	**309**	*i* Pg	**Pb**	**02 09 32.8**	**+0.1**
SGT00	**Sennh˙...lsen**	**0.60**	**309**	*i* Pg	**Pb**	**02 09 33.1**	**+0.4**
BRMO	**Bormio**	**0.63**	**155**	Pg	**Pg**	**02 09 32.7**	**-0.1**
BRMO					Sg	**Sg**	**02 09 41.2**	**0.0**
	11nm,0.3s						
BRMO	**Bormio**	**0.63**	**155**	Pg	**Pg**	**02 09 32.7**	**-0.1**
BRMO					Sg	**Sg**	**02 09 41.2**	**0.0**
	11nm,0.3s						
BERNI	**Berninapass**	**0.63**	**178**	*e*Pg	**Pg**	**02 09 33.1**	**0.0**
	85nm,0.3s						
BERNI	**Berninapass**	**0.63**	**178**	*e*Pg	**Pg**	**02 09 33.0**	**0.0**
PANIX	**Pigniu (Panix)**	**0.65**	**250**	*i* Pg	**Pg**	**02 09 33.0**	**-0.2**
	51nm,0.5s						
PANIX	**Pigniu (Panix)**	**0.65**	**250**	*i* Pg	**Pg**	**02 09 32.8**	**-0.4**
VDL	**Val di Lei**	**0.68**	**214**	*i* Pg	**Pg**	**02 09 33.6**	**-0.2**
	71nm,0.2s						
VDL	**Val di Lei**	**0.68**	**214**	*i* Pg	**Pg**	**02 09 33.6**	**-0.2**
RETA	**Reutte**	**0.68**	**50**	Pg	**Pg**	**02 09 33.5**	**-0.4**
	2.6nm,0.1s,SNR=17						
RETA					Sg	**Sb**	**02 09 43.2**	**-0.2**
	4.3nm,0.1s						
RETA	**Reutte**	**0.68**	**50**	Pg	**Pg**	**02 09 33.5**	**-0.4**
	2.6nm,0.1s,SNR=17						
RETA				*e*Sg	**Sb**	**02 09 43.2**	**-0.2**
	4.3nm,0.1s						
SGT02	**Zihlschlacht**	**0.69**	**313**	*e*Pg	**Pb**	**02 09 34.6**	**+0.4**
	234nm,0.6s						
SGT02	**Zihlschlacht**	**0.69**	**313**	*e*Pg	**Pb**	**02 09 34.6**	**+0.4**
TUE	**Stuetta**	**0.73**	**218**	Pg	**Pg**	**02 09 34.4**	**-0.3**
TUE					Sg	**Sg**	**02 09 44.2**	**-0.2**
	12nm,0.2s						
TUE	**Stuetta**	**0.73**	**218**	Pg	**Pg**	**02 09 34.4**	**-0.3**
TUE					Sg	**Sg**	**02 09 44.2**	**-0.2**
	12nm,0.2s						
MOTA	**Moosalm**	**0.81**	**68**	Pg	**Pb**	**02 09 35.8**	**-0.5**
	6.1nm,0.2s,SNR=12						
WILA	**Wila**	**0.83**	**297**	*i* Pg	**Pg**	**02 09 37.1**	**+0.5**
	361nm,0.3s						
WILA	**Wila**	**0.83**	**297**	*e*Pg	**Pn**	**02 09 37.3**	**-0.4**
WILA				*e*Sg	**Sn**	**02 09 49.3**	**-0.3**
WILA	**Wila**	**0.83**	**297**	*i* Pg	**Pn**	**02 09 37.2**	**-0.4**
WILA				Sg	**Sn**	**02 09 49.3**	**-0.3**
WEIN	**Weingarten**	**0.84**	**305**	*i* Pg	**Pg**	**02 09 37.2**	**+0.4**
	117nm,0.3s						
WEIN	**Weingarten**	**0.84**	**305**	*i* Pg	**Pn**	**02 09 37.5**	**-0.2**
ABSI	**Aberstueckl**	**0.96**	**109**	Pg	**Pg**	**02 09 39.3**	**+0.1**
ABSI					Sg	**Sg**	**02 09 52.0**	**+0.2**
	47nm,0.4s						
ABSI	**Aberstueckl**	**0.96**	**109**	Pg	**

ECH	**Echery**	**2.25**	**302**	Pn		**Pn**	**02 09 58.2**	**+1.1**
ECH	**Echery**	**2.25**	**302**	Pg		**Pg**	**02 10 04.1**	**+0.5**
ECH				Sg		**Sg**	**02 10 32.0**	**-0.7**
ECH	**Echery**	**2.25**	**302**	Pn		**Pb**	**02 10 01.1**	**+0.4**
HINF	**Hinteralfeld**	**2.27**	**291**	*e*Pn		**Pn**	**02 09 58.2**	**+0.8**
HINF	**Hinteralfeld**	**2.27**	**291**	*e*Pg		**Pg**	**02 10 03.5**	**-0.5**
HINF				*e*Sn		**Sn**	**02 10 25.3**	**+0.2**
HINF				*e*Sg		**Sg**	**02 10 33.3**	**-0.1**
	7.1nm,0.3s							
HINF	**Hinteralfeld**	**2.27**	**291**	*e*Pn		**Pn**	**02 09 58.2**	**+0.8**
HINF	**Hinteralfeld**	**2.27**	**291**	*e*Pg		**Pg**	**02 10 03.5**	**-0.5**
HINF				*e*Sn		**Sn**	**02 10 25.3**	**+0.2**
HINF				*e*Sg		**Sg**	**02 10 33.3**	**-0.1**
	3.5nm,0.3s							
GRC4	**Grafenberg Arr**	**2.29**	**26**	*e*Sg		**Sg**	**02 10 32.8**	**-1.1**
GRC4	**Grafenberg Arr**	**2.29**	**26**	Sg		**Sg**	**02 10 32.8**	**-1.1**
CDF	**Champ du Feu**	**2.29**	**308**	*e*Pn		**Pn**	**02 09 58.8**	**+1.1**
CDF	**Champ du Feu**	**2.29**	**308**	*e*Pg		**Pg**	**02 10 04.4**	**0.0**
CDF				*e*Sg		**Sg**	**02 10 34.5**	**+0.5**
	15nm,0.4s							
CDF	**Champ du Feu**	**2.29**	**308**	*e*Pn		**Pn**	**02 09 58.8**	**+1.1**
CDF	**Champ du Feu**	**2.29**	**308**	*e*Pg		**Pg**	**02 10 04.4**	**0.0**
CDF				*e*Sg		**Sg**	**02 10 34.5**	**+0.5**
	7.6nm,0.4s							
KBA	**Koelnbreinsper**	**2.29**	**88**	*e*Pg		**Pg**	**02 10 03.8**	**-0.6**
KBA				*e*Sg		**Sg**	**02 10 34.6**	**+0.5**
KBA	**Koelnbreinsper**	**2.29**	**88**	Pg		**Pg**	**02 10 03.8**	**-0.6**
KBA				Sg		**Sg**	**02 10 34.3**	**+0.2**
	2.6nm,0.2s							
KBA	**Koelnbreinsper**	**2.29**	**88**	Pg		**Pg**	**02 10 03.7**	**-0.7**
	4.3nm,0.3s							
KBA				Sg		**Sg**	**02 10 34.3**	**+0.2**
	2.6nm,0.2s							
LANF	**Langenberg**	**2.43**	**324**	Pn		**Pb**	**02 10 03.5**	**-0.3**
LANF				Sg		**Sg**	**02 10 39.5**	**+0.9**
LANF	**Langenberg**	**2.43**	**324**	Pn		**Pb**	**02 10 03.5**	**-0.3**
HAU	**Haudompre**	**2.65**	**293**	*e*Pn		**Pn**	**02 10 03.8**	**+1.2**
HAU	**Haudompre**	**2.65**	**293**	*e*Pg		**Pg**	**02 10 10.9**	**-0.4**
HAU				*e*Sg		**Sg**	**02 10 45.3**	**-0.4**
	12nm,0.3s							
HAU	**Haudompre**	**2.65**	**293**	*e*Pn		**Pn**	**02 10 03.8**	**+1.2**
HAU	**Haudompre**	**2.65**	**293**	*e*Pg		**Pg**	**02 10 10.9**	**-0.4**
HAU				*e*Sg		**Sg**	**02 10 45.3**	**-0.4**
	5.8nm,0.3s							
CABF	**La Chapelle**	**2.72**	**262**	*e*Pg		**Pg**	**02 10 11.6**	**-1.0**
CABF				*e*Sg		**Sg**	**02 10 47.5**	**-0.3**
	1.3nm,0.2s							
CABF	**La Chapelle**	**2.72**	**262**	*e*Pg		**Pg**	**02 10 11.6**	**-1.0**
LPG	**La Plagne**	**2.73**	**237**	*e*Pg		**Pg**	**02 10 11.8**	**-1.1**
LPG	**La Plagne**	**2.73**	**237**	*e*Pg		**Pg**	**02 10 11.8**	**-1.1**
LPL	**La Plagne**	**2.73**	**237**	*e*Pg		**Pg**	**02 10 11.2**	**-1.7**
LPL	**La Plagne**	**2.73**	**237**	*e*Pg		**Pg**	**02 10 11.2**	**-1.7**
WET	**Wettzell**	**2.85**	**42**	*e*Pn		**Pn**	**02 10 06.4**	**+1.0**
WET	**Wettzell**	**2.85**	**42**	Pn		**Pn**	**02 10 06.4**	**+1.0**
THEF	**They Montfort**	**2.96**	**295**	Pn		**Pb**	**02 10 10.2**	**-2.6**
THEF				Sg		**Sg**	**02 10 54.5**	**-0.9**
THEF	**They Montfort**	**2.96**	**295**	Pn		**Pb**	**02 10 10.3**	**-2.6**
MOA	**Molln**	**3.01**	**73**	Pg		**Pg**	**02 10 16.6**	**-1.5**
	0.6nm,0.2s							
MOA				Sn		**Sn**	**02 10 45.5**	**+2.2**
	0.4nm,0.1s							
MOA				Sg		**Sg**	**02 10 57.8**	**+0.7**
	0.8nm,0.1s							
MOA	**Molln**	**3.01**	**73**	*e*Pg		**Pg**	**02 10 16.6**	**-1.5**
	0.6nm,0.2s							
MOA				Sn		**Sn**	**02 10 45.5**	**+2.2**
	0.4nm,0.1s							
MOA				Sg		**Sg**	**02 10 57.8**	**+0.7**
	0.8nm,0.1s							
ROTZ	**Rotzenmuhle**	**3.10**	**28**	*e*Pn		**Pn**	**02 10 08.3**	**-0.4**
ROTZ	**Rotzenmuhle**	**3.10**	**28**	Pn		**Pn**	**02 10 08.3**	**-0.4**
KHC	**Kasperske Hory**	**3.18**	**48**	*e*PN		**Pn**	**02 10 11.7**	**+1.8**
KHC				*e*PG		**Pb**	**02 10 17.2**	**+0.6**
KHC				*e*SN		**Sn**	**02 10 47.5**	**-0.1**
KHC				*e*SG		**Sg**	**02 10 59.6**	**-3.0**
	comp=Z,3.8nm,0.2s							
KHC	**Kasperske Hory**	**3.18**	**48**	Pn		**Pn**	**02 10 11.7**	**+1.8**
PAGF	**Fort de Pagny**	**3.25**	**299**	*e*Pn		**Pn**	**02 10 12.0**	**+1.2**
PAGF				*e*Sg		**Sg**	**02 11 04.3**	**-0.5**
	0.8nm,0.2s							
PAGF	**Fort de Pagny**	**3.25**	**299**	*e*Pn		**Pn**	**02 10 12.0**	**+1.2**
PAGF				*e*Sg		**Sg**	**02 11 04.3**	**-0.5**
	0.4nm,0.2s							
SFTF	**Sexfontaines**	**3.55**	**291**	*e*Pn		**Pn**	**02 10 15.9**	**+1.0**
SFTF				*e*Sg		**Sg**	**02 11 13.7**	**-0.6**
	1.9nm,0.3s							
SFTF	**Sexfontaines**	**3.55**	**291**	*e*Pn		**Pn**	**02 10 15.9**	**+1.0**
SFTF				*e*Sg		**Sg**	**02 11 13.7**	**-0.6**
	0.9nm,0.3s							
NKC	**Novy Kostel**	**3.58**	**26**	*e*SG		**Sg**	**02 11 11.5**	**-3.9**
	comp=Z,4.1nm,0.3s							
NKC	**Novy Kostel**	**3.58**	**26**	Sg		**Sg**	**02 11 11.5**	**-3.9**
	4.1nm,0.3s							
MEZF	**Maizieres J'vi**	**3.64**	**295**	*e*Sg		**Sg**	**02 11 16.6**	**-0.6**
MEZF	**Maizieres J'vi**	**3.64**	**295**	*e*Sg		**Sg**	**02 11 16.6**	**-0.6**
LOR	**Lormes**	**4.19**	**275**	*e*Pg		**Pg**	**02 10 38.8**	**-2.0**
LOR				*e*Sg		**Sg**	**02 11 33.4**	**-1.6**
	1.8nm,0.2s							
LOR	**Lormes**	**4.19**	**275**	*e*Pg		**Pg**	**02 10 38.8**	**-2.0**
LOR				*e*Sg		**Sg**	**02 11 33.4**	**-1.6**
	0.9nm,0.2s							
PRU	**Pruhonice**	**4.22**	**44**	*e*SG		**Sg**	**02 11 33.1**	**-2.7**
	comp=Z,2.5nm,0.3s							
PRU	**Pruhonice**	**4.22**	**44**	Sg		**Sg**	**02 11 33.1**	**-2.7**
	2.5nm,0.3s							

ISCJB ***27*** *02:27:08.3±0.4,24.°13N±0.°03×122.°40E±0.°02,h23km±5km, Error ellipse: s-maj=4.6km s-min=3.0km az=171.0*
JMA ***27*** *02:27:08.3±0.1,24.°12N×122.°42E,h18km±3km,M2.2*
TAP ***27*** *02:27:09.4,24.°23N×122.°35E,h28km,ML2.7,C*

ISC 27 02:27:07.9±1.3, 24.°13N±0.°03×122.°39E±0.°02, h19km±3km, n36,σ0°39/61, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS1	**EOS1**	**0.48**	**330**	P	**Pg**	**02 27 17.8**	**+0.1**
	baz=324						
EOS1				S	**Sb**	**02 27 24.8**	**+0.3**
	baz=324						
JYNG	**Yonagunijimaku**	**0.60**	**58**	P	**Pb**	**02 27 19.4**	**-0.3**
JYNG				*e*S	**Sb**	**02 27 27.3**	**-0.5**
ENAH	**Nanao**	**0.62**	**301**	*e*P	**Pb**	**02 27 19.9**	**-0.1**
	baz=294						
ENAH				*e*S	**Sb**	**02 27 27.9**	**-0.3**
	baz=294						
NANB	**Nanao**	**0.65**	**297**	*e*P	**Pb**	**02 27 20.8**	**+0.1**
	baz=300						
NANB				*e*S	**Sb**	**02 27 29.4**	**+0.1**
	baz=300						
YOJ	**Yonaguni jima**	**0.66**	**60**	*e*P	**Pb**	**02 27 20.6**	**-0.2**
	baz=68						
YOJ	**Yonaguni jima**	**0.66**	**60**	P	**Pb**	**02 27 20.4**	**-0.3**
ENA	**Nanau**	**0.66**	**297**	*e*P	**Pb**	**02 27 20.8**	**0.0**
	baz=300						
ENA				*e*S	**Sb**	**02 27 29.9**	**+0.3**
	baz=300						
TWC	**Suao**	**0.69**	**314**	P	**Pb**	**02 27 21.2**	**0.0**
	baz=310						
TWC				*e*S	**Sb**	**02 27 29.1**	**-1.2**
	baz=310						
NACB	**Ninganchiao**	**0.73**	**274**	P	**Pn**	**02 27 23.2**	**0.0**
	baz=272						
NACB				*e*S	**Sn**	**02 27 33.5**	**-0.3**
	baz=272						
EGS		**0.82**	**330**	*e*P	**Pg**	**02 27 24.3**	**+0.2**
	baz=322						
EGS				*e*S	**Sb**	**02 27 34.2**	**-0.2**
	baz=322						
ILA	**Ilan**	**0.86**	**317**	*e*S	**Sn**	**02 27 37.0**	**-0.1**
	baz=309						
NTC	**Toucheng**	**0.88**	**325**	P	**Pb**	**02 27 24.8**	**+0.2**
	baz=322						
NTC				S	**Sb**	**02 27 36.0**	**-0.1**
	baz=322						
ENTT	**Nioudou**	**0.91**	**304**	P	**Pb**	**02 27 25.2**	**+0.2**
	baz=300						
ENTT				*e*S	**Sb**	**02 27 36.5**	**-0.2**
	baz=300						
TWB1	**Santiao Chiao**	**0.95**	**337**	*e*P	**Pb**	**02 27 26.1**	**+0.3**
	baz=346						
TWB1				*e*S	**Sb**	**02 27 37.4**	**-0.6**
	baz=346						
NNSB	**Datong**	**0.96**	**288**	P	**Pn**	**02 27 26.8**	**+0.2**
	baz=283						
NNSB				*e*S	**Sg**	**02 27 39.3**	**-0.3**
	baz=283						
NWLT	**Wulai**	**1.03**	**309**	P	**Pg**	**02 27 28.0**	**0.0**
	baz=305						
NWLT				*e*S	**Sb**	**02 27 40.5**	**+0.1**
	baz=305						
YHNB	**Yeheng**	**1.07**	**300**	*e*P	**Pg**	**02 27 28.6**	**-0.1**
	baz=283						
YHNB				*e*S	**Sb**	**02 27 41.5**	**-0.1**
	baz=283						
NSK	**Sanguang**	**1.09**	**300**	*e*P	**Pg**	**02 27 29.1**	**+0.1**
	baz=283						
NSK				S	**Sb**	**02 27 42.2**	**+0.2**
	baz=283						
NWF	**Wu-fen Shan**	**1.09**	**330**	*e*P	**Pn**	**02 27 28.6**	**+0.3**
	baz=328						
NWF				*e*S	**Sn**	**02 27 43.1**	**+0.2**
	baz=328						
WFSB	**Wu-fen Shan**	**1.09**	**330**	P	**Pn**	**02 27 28.7**	**+0.6**
	baz=328						
WFSB				*e*S	**Sn**	**02 27 42.7**	**0.0**
	baz=328						
CHGB	**Renai**	**1.11**	**267**	P	**Pb**	**02 27 29.3**	**+0.6**
	baz=250						
EHY	**Hungye**	**1.16**	**238**	*e*P	**Pn**	**02 27 28.6**	**-0.5**
	baz=226						
YULB	**Yu-li**	**1.24**	**234**	*e*P	**Pn**	**02 27 30.5**	**+0.2**
	baz=219						
YULB				*e*S	**Sb**	**02 27 46.7**	**+0.3**
	baz=219						
IRIF	**Iriomote-Funau**	**1.24**	**80**	P	**Pn**	**02 27 30.5**	**+0.2**
IRIF				*e*S	**Sn**	**02 27 46.6**	**+0.1**
YM07	**YM07**	**1.25**	**326**	*e*P	**Pn**	**02 27 30.9**	**+0.4**
	baz=324						
YM07				*e*S	**Sb**	**02 27 46.1**	**-0.7**
	baz=324						
TWF1	**Yuli**	**1.27**	**232**	*e*P	**Pn**	**02 27 30.4**	**-0.2**
	baz=218						
TWF1				*e*S	**Sn**	**02 27 47.2**	**+0.1**
	baz=218						
YM10	**YM10**	**1.27**	**324**	*e*P	**Pn**	**02 27 30.3**	**-0.4**
	baz=322						
YM05	**YM05**	**1.27**	**324**	*e*P	**Pn**	**02 27 30.3**	**-0.5**
	baz=335						
YM05				*e*S	**Sn**	**02 27 48.4**	**+0.9**
	baz=335						
YM04	**YM04**	**1.28**	**323**	*e*P	**Pn**	**02 27 31.3**	**+0.4**
	baz=320						
HATJ	**Hateruma jima**	**1.30**	**93**	*e*S	**Sn**	**02 27 47.6**	**-0.2**
SSLB	**Suanglung**	**1.36**	**256**	*e*P	**Pn**	**02 27 31.9**	**0.0**
	baz=241						
FULB	**Fuli**	**1.37**	**228**	*e*P	**Pn**	**02 27 31.9**	**-0.1**
	baz=212						
FULB				*e*S	**Sn**	**02 27 49.5**	**-0.2**
	baz=212						
JKRS	**Kuro-shima**	**1.48**	**86**	P	**Pb**	**02 27 34.6**	**-0.3**
JKRS				*e*S	**Sb**	**02 27 54.5**	**+1.1**
JIJ	**Ishigaki jima**	**1.62**	**81**	*e*S	**Sn**	**02 27 55.3**	**-0.5**
JISG	**Ishigakijimahi**	**1.81**	**75**	P	**Pn**	**02 27 38.9**	**+0.8**
JISG				*e*S	**Sn**	**02 28 00.4**	**-0.1**
JTJ	**Tarama**	**2.17**	**76**	*e*S	**Sn**	**02 28 09.6**	**+0.2**

IDC 27 02:28:27.4±2.2, 30.°67N×41.°77W, h0km, mb3.6/6, mb1 3.8/6, mb1mx3.4/60, mbtmp3.6/6, MS3.3/5, Ms1 3.4/5, ms1mx2.7/62, Error ellipse: s-maj=70.7km s-min=26.8km az=17.0, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOWA	**Kowa**	**38.18**	**106**	LR	LR	02 49 12.6	
	comp=Z,40nm,20.4s,baz=33,slow=33						
TORD	**Torodi Ar. Bea**	**43.63**	**104**	P	P	02 36 33.7	-0.2
	0.5nm,0.7s,baz=293,slow=6.2,SNR=4.4						
GERES	**GERESS Array B**	**45.28**	**50**	P	P	02 36 47.2	+0.4
	0.4nm,0.7s,baz=269,slow=3.9,SNR=3.6						
H10N2	**ASCENSION HYDR**	**46.37**	**141**	T	T	03 26 22.3	
	baz=327,slow=75,SNR=84						
H10N3	**ASCENSION HYDR**	**46.37**	**141**	T	T	03 26 22.6	
	baz=327,slow=75,SNR=216						
H10N1	**ASCENSION HYDR**	**46.39**	**141**	T	T	03 26 25.1	
	baz=327,slow=75,SNR=165						
HFS	**Hagfors**	**46.85**	**34**	LR	LR	02 53 11.5	
	comp=Z,28nm,19.1s,baz=15,slow=32						
H10S1	**ASCENSION HYDR**	**47.22**	**142**	T	T	03 27 22.4	
	baz=327,slow=75,SNR=71						
H10S3	**ASCENSION HYDR**	**47.22**	**142**	T	T	03 27 22.6	
	baz=327,slow=75,SNR=82						
H10S2	**ASCENSION HYDR**	**47.23**	**142**	T	T	03 27 23.7	
	baz=327,slow=75,SNR=88						
PDAR	**Pinedale Array**	**54.31**	**303**	P	P	02 37 56.0	+0.1
	0.5nm,0.7s,baz=79,slow=9.3,SNR=3.1						
YKA	**Yellowknife Ar**	**55.41**	**327**	P	P	02 38 03.0	-0.2
	0.2nm,0.8s,baz=85,slow=7.5,SNR=4.3						
INK	**Inuvik**	**62.52**	**335**	LR	LR	03 04 20.1	
	comp=Z,24nm,19.1s,baz=340,slow=34						
YBH	**Yreka Blue Hor**	**64.01**	**305**	LR	LR	03 06 26.9	
	comp=Z,36nm,19.7s,baz=312,slow=36						
ILAR	**Eielson Array**	**68.75**	**334**	P	P	02 39 37.1	+4.3
	1.1nm,0.9s,baz=64,slow=4.1,SNR=10						
ILAR				LR	LR	03 09 06.2	
	comp=Z,23nm,18.8s,baz=54,slow=36						
KURBB	**Kurchatov Array**	**83.43**	**34**	P	P	02 40 56.1	-0.6
	1.1nm,0.9s,baz=299,slow=5.9,SNR=3.8						
ZALV	**Zalesovo Beam**	**83.92**	**29**	P	P	02 40 59.4	+0.2
	0.4nm,0.3s,baz=335,slow=6.4,SNR=2.9						

IDC 27 02:40:49.3±2.3, 17.°61S×178.°20W, h332km±26km, mb3.1/5, mb1 3.5/6, mb1mx3.2/44, mbtmp3.8/6, Error ellipse: s-maj=118.8km s-min=16.3km az=152.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.19**	**60**	P	Pn	02 42 35.4	+1.7
	8.0nm,0.3s,baz=233,slow=5.1,SNR=7.8						
AFI				S	S	02 43 56.4	-2.0
	3.8nm,0.3s,baz=229,slow=20,SNR=2.6						
WRA	**Warramunga Arr**	**44.89**	**259**	P	P	02 48 31.9	-0.4
	0.4nm,0.3s,baz=96,slow=8.3,SNR=20						
ASAR	**Alice Springs**	**45.07**	**254**	P	P	02 48 33.5	-0.2
	2.1nm,0.4s,baz=90,slow=8.4,SNR=29						
ILAR	**Eielson Array**	**85.55**	**13**	P	P	02 52 50.4	+0.2
	0.2nm,0.7s,baz=226,slow=5.7,SNR=4.1						
TXAR	**Lajitas Array**	**85.66**	**58**	P	P	02 52 51.5	-0.1
	0.5nm,0.8s,baz=227,slow=6.5,SNR=6.1						
YKA	**Yellowknife Ar**	**93.98**	**25**	P	P	02 53 29.3	-0.3
	0.1nm,0.5s,baz=237,slow=4.4,SNR=3.3						
GERES	**GERESS Array B**	**147.38**	**345**	PKPbc	PKPbc	02 59 53.8	-0.5
	0.1nm,0.3s,baz=35,slow=3.9,SNR=2.4						

MEX 27 02:50:57.9±1.0, 14.°10N×93.°33W, h16km±149km, MD3.8, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.60**	**4**	*e*P	Pn	02 51 21.6	-3.9
PCIG				*e*S	Sn	02 51 34.8	-11
CCIG	**Comitan**	**2.45**	**28**	*e*P	Pn	02 51 36.6	-0.9
CCIG				*e*S	Sn	02 52 03.0	-4.2
TGIG		**2.67**	**4**	*e*P	Pn	02 51 38.3	-2.0

DDA ***27*** *02:54:00.2,39.°11N×29.°13E,h19km,MI3.4*
ISK ***27*** *02:54:00.1,39.°12N×29.°15E,h5km,ML3.4/37*
CSEM ***27*** *02:54:02.0±0.1,39.°10N×29.°14E,h10km,ML3.4, Error ellipse: s-maj=3.1km s-min=2.7km az=84.0*

ISC 27 02:54:00.4±1.1, 39.°10N±0.°02×29.°13E±0.°01, h1km±10km, n206,σ1°19/236, 7C-11D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIMA	**Simav-Kutahya**	**0.11**	**262**	PG	**Pg**	**02 54 03.7**	**+1.1**
SIMA	**Simav-Kutahya**	**0.11**	**262**	*e*Pg	**Pg**	**02 54 03.7**	**+1.1**
GDZ	**Gediz**	**0.28**	**92**	*i* P	**Pg**	**02 54 05.8**	**+0.1**
GDZ				*i* S	**Sg**	**02 54 10.0**	**+0.7**
GDZ	**Gediz**	**0.28**	**92**	P	**Pg**	**02 54 05.8**	**+0.1**
GDZ				S	**Sg**	**02 54 10.0**	**+0.7**
DEMI	**Demirci**	**0.33**	**260**	*i* P	**Pg**	**02 54 07.3**	**+0.6**
DEMI				*i* S	**Sg**	**02 54 11.5**	**+0.6**
TVSB	**Tavsanli**	**0.44**	**36**	PG	**Pg**	**02 54 08.4**	**-0.4**
TVSB	**Tavsanli**	**0.44**	**36**	*e*Pg	**Pg**	**02 54 08.4**	**-0.4**
KULA	**Kula-Manisa**	**0.69**	**212**	PG	**Pg**	**02 54 14.1**	**+0.5**
KULA	**Kula-Manisa**	**0.69**	**212**	*e*Pg	**Pg**	**02 54 14.1**	**+0.5**
DURS	**Dursunbey**	**0.71**	**315**	*i* P	**Pg**	**02 54 14.6**	**+0.5**
DURS	**Dursunbey**	**0.71**	**315**	P	**Pg**	**02 54 14.6**	**+0.5**
MANT	**Manisa**	**0.75**	**216**	*i* P	**Pg**	**02 54 15.2**	**+0.4**
MANT				*i* S	**Sg**	**02 54 24.6**	**-0.1**
MANT	**Manisa**	**0.75**	**216**	P	**Pg**	**02 54 15.2**	**+0.4**
MANT				S	**Sg**	**02 54 24.5**	**-0.1**
KHAL	**Karahalli**	**0.78**	**159**	*i* P	**Pb**	**02 54 16.4**	**-0.5**
KHAL				*i* S	**Sg**	**02 54 18.5**	**-7.0**
KHAL	**Karahalli**	**0.78**	**159**	P	**Pb**	**02 54 16.4**	**-0.5**
ORLT	**Orhaneli**	**0.96**	**349**	PG	**Pb**	**02 54 19.4**	**-0.6**
ORLT	**Orhaneli**	**0.96**	**349**	*e*Pg	**Pb**	**02 54 19.4**	**-0.6**
AKHS	**Akhisar**	**1.05**	**258**	*i* P	**Pb**	**02 54 21.0**	**-0.4**
AKHS				*i* S	**Sg**	**02 54 34.7**	**+0.6**
AKHS	**Akhisar**	**1.05**	**258**	P	**Pb**	**02 54 21.0**	**-0.4**
AKHS				S	**Sg**	**02 54 34.7**	**+0.6**
AKS	**Akhisar**	**1.05**	**258**	PG	**Pb**	**02 54 21.5**	**+0.1**
AKS	**Akhisar**	**1.05**	**258**	*e*Pg	**Pb**	**02 54 21.5**	**+0.1**
AUBOZ	**BOZOYUK**	**1.07**	**41**	*i* P	**Pg**	**02 54 21.2**	**+0.2**
AUBOZ				*i* S	**Sg**	**02 54 35.2**	**+0.3**
AUKUT	**KUTAHYA**	**1.10**	**39**	*i* P	Pg	02 54 15.5	-6.1
AUKUT				*i* S	Sg	02 54 26.4	-9.4
BALB	**Balikesir**	**1.11**	**300**	PN	**Pn**	**02 54 22.8**	**-0.3**
BALB				SN	**Sn**	**02 54 39.7**	**+0.6**
BALB	**Balikesir**	**1.11**	**300**	*e*Pn	**Pn**	**02 54 22.8**	**-0.3**
BALB				*e*Sn	**Sn**	**02 54 39.7**	**+0.6**
STEP	**BALIKESIR_Sava**	**1.13**	**285**	*i* P	**Pb**	**02 54 22.8**	**0.0**
STEP				*i* S	**Sn**	**02 54 38.7**	**-1.0**
STEP	**BALIKESIR_Sava**	**1.13**	**285**	P	**Pb**	**02 54 22.8**	**0.0**
STEP				S	**Sn**	**02 54 38.7**	**-1.0**
KZIL	**AFYON_Kizioren**	**1.16**	**136**	*i* P	**Pn**	**02 54 23.3**	**-0.6**
KZIL				*i* S	**Sn**	**02 54 39.2**	**-1.2**
KZIL	**AFYON_Kizioren**	**1.16**	**136**	P	**Pn**	**02 54 23.3**	**-0.6**
KZIL				S	**Sn**	**02 54 39.2**	**-1.2**
IGD	**Bursa**	**1.17**	**3**	*i* P	**Pg**	**02 54 22.6**	**-0.2**
IGD				*i* S	**Sg**	**02 54 36.7**	**-1.2**
CAVI	**Cavuskoy**	**1.23**	**26**	PN	**Pn**	**02 54 24.6**	**-0.3**
CAVI				SN	**Sn**	**02 54 41.9**	**-0.3**
CAVI	**Cavuskoy**	**1.23**	**26**	*e*Pn	**Pn**	**02 54 24.6**	**-0.3**
CAVI				*e*Sn	**Sn**	**02 54 41.9**	**-0.3**
SHUT	**Suhut-Afyon**	**1.24**	**116**	PN	**Pn**	**02 54 24.9**	**-0.1**
SHUT	**Suhut-Afyon**	**1.24**	**116**	*e*Pn	**Pn**	**02 54 24.9**	**-0.1**
IZI	**Iznik**	**1.27**	**12**	PN	**Pn**	**02 54 25.4**	**0.0**
IZI				SN	**Sn**	**02 54 43.8**	**+0.7**
IZI	**Iznik**	**1.27**	**12**	*e*Pn	**Pn**	**02 54 25.4**	**0.0**
IZI				*e*Sn	**Sn**	**02 54 43.8**	**+0.7**
MDNY	**Mudanya-Bursa**	**1.28**	**352**	PN	**Pb**	**02 54 25.2**	**-0.2**
MDNY				SN	**Sn**	**02 54 44.1**	**+0.7**
MDNY	**Mudanya-Bursa**	**1.28**	**352**	*e*Pn	**Pb**	**02 54 25.2**	**-0.2**
MDNY				*e*Sn	**Sn**	**02 54 44.1**	**+0.7**
BORA	**Eskisehir**	**1.29**	**52**	*i* P	**Pg**	**02 54 24.9**	**-0.2**
KCTX	**Karacabey (Bur**	**1.31**	**333**	PN	**Pb**	**02 54 25.9**	**0.0**
KCTX	**Karacabey (Bur**	**1.31**	**333**	*e*Pn	**Pb**	**02 54 25.9**	**0.0**
BALY	**Balya**	**1.33**	**299**	*i* P	**Pn**	**02 54 25.1**	**-1.3**
BALY	**Balya**	**1.33**	**299**	P	**Pn**	**02 54 25.0**	**-1.3**
GEMT	**Gemlik**	**1.34**	**2**	PN	**Pn**	**02 54 25.9**	**-0.4**
GEMT	**Gemlik**	**1.34**	**2**	*e*Pn	**Pn**	**02 54 25.9**	**-0.4**
DENT	**Denizli**	**1.34**	**183**	PN	**Pg**	**02 54 27.2**	**+1.0**
DENT	**Denizli**	**1.34**	**183**	*e*Pn	**Pg**	**02 54 27.2**	**+1.0**
ESKT	**Eskisehir**	**1.40**	**72**	PN	**Pg**	**02 54 27.9**	**+0.6**
ESKT	**Eskisehir**	**1.40**	**72**	*e*Pn	**Pg**	**02 54 27.9**	**+0.6**
ADVT	**Abdulvahap**	**1.41**	**19**	PN	**Pg**	**02 54 28.3**	**+0.8**
ADVT	**Abdulvahap**	**1.41**	**19**	*e*Pn	**Pg**	**02 54 28.3**	**+0.8**
GONE	**Gonen-Balikesi**	**1.46**	**311**	PN	**Pg**	**02 54 29.3**	**+0.8**
GONE	**Gonen-Balikesi**	**1.46**	**311**	*e*Pn	**Pg**	**02 54 29.3**	**+0.8**
BOLV	**Bolvadin**	**1.47**	**104**	*i* P	**Pg**	**02 54 29.1**	**+0.4**
BOLV				*i* S	**Sg**	**02 54 48.1**	**+0.4**
BOLV	**Bolvadin**	**1.47**	**104**	P	**Pg**	**02 54 29.1**	**+0.4**
BOLV				S	**Sg**	**02 54 48.1**	**+0.4**
YLV	**Yalova**	**1.48**	**7**	PN	**Pg**	**02 54 28.8**	**0.0**
YLV	**Yalova**	**1.48**	**7**	*e*Pn	**Pg**	**02 54 28.8**	**0.0**
ARMT	**Armutlu**	**1.48**	**352**	PN	**Pb**	**02 54 28.3**	**-0.5**
ARMT	**Armutlu**	**1.48**	**352**	*e*Pn	**Pb**	**02 54 28.3**	**-0.5**
GPA	**Golpazari**	**1.50**	**37**	PN	**Pb**	**02 54 28.8**	**-0.3**
GPA	**Golpazari**	**1.50**

SAHE	**Sakarya_HENDEK**	**2.20 37**	*i* P		**Pn**	02 54 38.1	**0.0**	
LPK	**Lapseki**	**2.23 306**	PN		**Pb**	02 54 40.4	**-1.1**	
LPK	**Lapseki**	**2.23 306**	*e*Pn		**Pb**	02 54 40.4	**-1.1**	
ZEY	**¨zmir**	**2.23 248**	*i* P		**Pg**	02 54 42.9	**-0.2**	
SLVT	**Silivri**	**2.24 342**	PN		**Pn**	02 54 39.7	**+1.0**	
SLVT	**Silivri**	**2.24 342**	*e*Pn		**Pn**	02 54 39.7	**+1.0**	
TURN	**Turunc**	**2.26 191**	PN		**Pg**	02 54 43.0	**-0.8**	
TURN	**Turunc**	**2.26 191**	*i* P		**Pb**	02 54 40.9	**-1.2**	
TURN	**Turunc**	**2.26 191**	P		**Pb**	02 54 40.9	**-1.2**	
EZN	**Ezine**	**2.29 289**	PN		**Pb**	02 54 41.2	**-1.3**	
EZN	**Ezine**	**2.29 289**	*e*Pn		**Pb**	02 54 41.2	**-1.3**	
CRLT	**Corlu**	**2.29 333**	PN		**Pn**	02 54 39.7	**+0.3**	
CRLT	**Corlu**	**2.29 333**	*e*Pn		**Pn**	02 54 39.7	**+0.3**	
KORT	**Korkueli**	**2.31 155**	PN		**Pn**	02 54 40.9	**+1.2**	
KORT	**Korkueli**	**2.31 155**	*i* P		**Pn**	02 54 40.6	**+0.9**	
KORT			*i* S		**Sg**	02 55 19.9	**+5.4**	
KORT	**Korkueli**	**2.31 155**	P		**Pn**	02 54 40.6	**+0.9**	
KORT	**Korkueli**	**2.31 155**	*e*Pn		**Pn**	02 54 40.9	**+1.2**	
KDHN	**Kadinhani**	**2.41 103**	*i* P		**Pn**	02 54 41.7	**+0.6**	
KDHN	**Kadinhani**	**2.41 103**	P		**Pn**	02 54 41.7	**+0.6**	
GELI	**Tayfur-Gelibol**	**2.42 303**	PN		**Pn**	02 54 42.5	**+1.3**	
GELI	**Tayfur-Gelibol**	**2.42 303**	*e*Pn		**Pn**	02 54 42.5	**+1.3**	
ELL	**Elmali**	**2.43 165**	PN		**Pb**	02 54 43.8	**-1.2**	
ELL	**Elmali**	**2.43 165**	*e*Pn		**Pb**	02 54 43.8	**-1.2**	
CTYL	**Yalikoy Yolu**	**2.46 345**	PN		**Pb**	02 54 43.3	**-2.2**	
CTYL	**Yalikoy Yolu**	**2.46 345**	*e*Pn		**Pb**	02 54 43.3	**-2.2**	
FETY	**Fethiye**	**2.46 181**	PN		**Pn**	02 54 41.5	**-0.2**	
FETY	**Fethiye**	**2.46 181**	P		**Pn**	02 54 41.1	**-0.6**	
FETY	**Fethiye**	**2.46 181**	*e*Pn		**Pn**	02 54 41.5	**-0.2**	
BODT	**Bodrum**	**2.49 216**	PN		**Pb**	02 54 44.1	**-1.9**	
BODT	**Bodrum**	**2.49 216**	*e*Pn		**Pb**	02 54 44.1	**-1.9**	
CHOS	**Chios island**	**2.51 254**	PN		**Pb**	02 54 44.5	**-1.8**	
CHOS	**Chios island**	**2.51 254**	*e*Pn		**Pb**	02 54 44.5	**-1.8**	
SIGR	**SIGRI**	**2.55 274**	PN		**Pn**	02 54 44.6	**+1.7**	
SIGR	**SIGRI**	**2.55 274**	*e*Pn		**Pn**	02 54 44.6	**+1.7**	
ERIK	**Erikli-Kesan**	**2.55 309**	PN		**Pb**	02 54 44.8	**-2.2**	
ERIK	**Erikli-Kesan**	**2.55 309**	*e*Pn		**Pb**	02 54 44.8	**-2.2**	
KESN	**Edirne-Kesan**	**2.55 313**	*i* P		**Pn**	02 54 42.7	**-0.6**	
KESN	**Edirne-Kesan**	**2.55 313**	P		**Pn**	02 54 42.7	**-0.6**	
GADA	**Gvkgeada**	**2.72 295**	PN		**Pn**	02 54 46.4	**+1.1**	
GADA	**Gvkgeada**	**2.72 295**	*e*Pn		**Pn**	02 54 46.4	**+1.1**	
BCAM	**Yenicaga**	**2.83 52**	*i* P		**Pn**	02 54 46.6	**-0.4**	
KEPZ	**Antalya-Kepez**	**2.94 138**	*i* P		**Pn**	02 54 48.8	**+0.4**	
KEPZ	**Antalya-Kepez**	**2.94 138**	P		**Pn**	02 54 48.8	**+0.4**	
PSN	**Preselentsi**	**4.63 351**	*i* P		**Pn**	02 55 11.2	**-0.4**	
SZH	**Strazhica**	**4.81 331**	*i* P		**Pn**	02 55 13.8	**-0.2**	
PVL	**Pavlikeni**	**5.01 326**	*e*P		**Pn**	02 55 17.3	**+0.5**	
TIRR	**Tirgusor**	**5.38 355** ǁ	*i*P		**Pn**	02 55 22.2	**+0.3**	
TIRR	**Tirgusor**	**5.38 355**	S	x		02 55 55.2		
TIRR	**Tirgusor**	**5.38 355** ǁ	*i*P		**Pn**	02 55 22.2	**+0.3**	
VTS	**Vitosha**	**5.69 310** ǁ	*i*P		**Pg**	02 55 45.5	**-3.9**	
VTS	**Vitosha**	**5.69 310**	S		**Sn**	02 56 36.5	**+4.3**	
VTS	**Vitosha**	**5.69 310**	*i* P		**Sn**	02 55 27.6	**+1.4**	
SULR		**5.97 340** ⇑	*i*P		**Pn**	02 55 33.2	**+3.2**	
SULR		**5.97 340** ⇑	*i*P		**Pn**	02 55 33.2	**+3.2**	
TLCR		**6.09 358** ⇑	*i*P		**Pn**	02 55 31.9	**+0.4**	
CFR	**Carcaliu**	**6.12 353** ǁ	*i*P		**Pn**	02 55 31.6	**-0.4**	
MLR	**Muntele Rosu**	**6.81 341** ǁ	*i*P		**Pn**	02 55 43.1	**+1.5**	
PLOR	**Plostina**	**6.99 346** ⇑	*i*P		**Pn**	02 55 45.3	**+1.3**	
PLOR	**Plostina**	**6.99 346** ⇑	*i*P		**Pn**	02 55 45.3	**+1.3**	
VRI	**Vrincioaia**	**6.99 346** ǁ	*i*P		**Pn**	02 55 44.2	**+0.2**	
VRI	**Vrincioaia**	**6.99 346** ǁ	*i*P		**Pn**	02 55 44.2	**+0.2**	
DOPR	**Dopca**	**7.40 339** ǁ	*i*P		**Pn**	02 55 50.9	**+1.3**	
DOPR	**Dopca**	**7.40 339** ǁ	*i*P		**Pn**	02 55 50.9	**+1.3**	
TESR	**Tescani**	**7.63 347** ǁ	*i*P		**Pn**	02 55 52.3	**-0.4**	
TESR	**Tescani**	**7.63 347** ǁ	*i*P		**Pn**	02 55 52.3	**-0.4**	
BURAR	**Bucovina Array**	**8.97 343** ⇑	*i*P		**Pn**	02 56 12.6	**+1.3**	
BURAR	**Bucovina Array**	**8.97 343** ⇑	*i*P		**Pn**	02 56 12.6	**+1.3**	
NVLJ	**Novalja**	**11.95 302**	*e*Pn		Pn	02 57 00.2	**+8.3**	

TIR ***27*** *02:55:11.3, 38˚.88N×20˚.63E, h14km, Md3.0/5*
ATH ***27*** *02:55:11.6, 38˚.43N×20˚.41E, h6km±2km, ML2.4/17, Error ellipse: s-maj=2.3km s-min=0.7km az=63.0*
CSEM ***27*** *02:55:12.5±0.3, 38˚.45N×20˚.45E, h2km, ML2.5, Error ellipse: s-maj=6.2km s-min=3.6km az=65.0*

THE 27 02:55:12.1, 38˚.42N×20˚.43E, h6km±1km, ML2.5/15, Error ellipse: s-maj=1.4km s-min=0.8km az=70.0, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FSK	**Fiskardo**	**0.11**	**71**	P	Pg	02 55 14.2	-0.4
FSK				S	Sg	02 55 15.5	-0.7
VLS	**Valsamata**	**0.28**	**152**	P	Pg	02 55 18.4	+0.8
VLS				AML	AML	02 55 22.8	
	comp=N,4484μm,0.1s						
VLS				S	Sb	02 55 23.1	-1.2
VLS				AML	AML	02 55 23.9	
	comp=E,3577μm,0.1s						
VLS	**Valsamata**	**0.28**	**152**	P	Pg	02 55 17.8	+0.3
VLS				S	Sg	02 55 22.2	+1.0
VLS	**Valsamata**	**0.28**	**152**	P	Pg	02 55 17.8	+0.3
VLS				S	Sg	02 55 22.2	+1.0
MGNA	**Meganis¸¸**	**0.37**	**51**	P	Pg	02 55 18.7	-0.6
MGNA				S	Sg	02 55 24.6	+0.4
MGNA	**Meganis¸¸**	**0.37**	**51**	P	Pg	02 55 18.8	-0.5
MGNA				S	Sg	02 55 24.4	+0.2
LKD2	**Lefkada island**	**0.41**	**26**	P	Pg	02 55 20.1	0.0
LKD2				S	Sg	02 55 25.9	+0.4
LKD2				AML	AML	02 55 27.5	
	comp=E,980μm,0.3s						
LKD2				AML	AML	02 55 31.5	
	comp=N,1195μm,0.4s						
LKD2	**Lefkada island**	**0.41**	**26**	P	Pg	02 55 19.6	-0.5
LKD2				S	Sg	02 55 26.3	+0.9
LKD2	**Lefkada island**	**0.41**	**26**	P	Pg	02 55 19.8	-0.3
LKD2				S	Sg	02 55 25.6	+0.2
KFL	**Anninata**	**0.42**	**137**	P	Pg	02 55 20.5	+0.2
KFL				AML	AML	02 55 27.6	
	comp=N,6752μm,0.4s						
KFL				S	Sb	02 55 27.8	-0.8
KFL				AML	AML	02 55 30.7	
	comp=E,5019μm,0.5s						
KFL	**Anninata**	**0.42**	**137**	P	Pg	02 55 20.2	-0.1
KFL				S	Sg	02 55 26.9	+1.1
KFL	**Anninata**	**0.42**	**137**	P	Pg	02 55 20.3	0.0
KFL				S	Sg	02 55 26.9	+1.1
PDO	**Prodromos**	**0.62**	**73**	P	Pg	02 55 23.6	-0.4
PDO				S	Sb	02 55 33.2	-1.0
PDO				AML	AML	02 55 37.2	
	comp=E,635μm,0.3s						
PDO				AML	AML	02 55 37.3	
	comp=N,1049μm,0.6s						
PDO	**Prodromos**	**0.62**	**73**	P	Pg	02 55 23.4	-0.7
PDO				S	Sg	02 55 32.8	+0.7
PDO	**Prodromos**	**0.62**	**73**	P	Pg	02 55 23.6	-0.5
PDO				S	Sg	02 55 32.8	+0.7
VTN	**Vitineika**	**0.78**	**130**	P	Pg	02 55 26.9	-0.3
VTN				S	Sg	02 55 37.1	-0.2
VTN	**Vitineika**	**0.78**	**130**	P	Pg	02 55 26.8	-0.4
VTN				S	Sg	02 55 37.5	+0.2
DSL	**Palaion Diasel**	**0.88**	**36**	P	Pg	02 55 28.4	-0.7
DSL				S	Sg	02 55 40.0	-0.6
DSL				AML	AML	02 55 48.8	
	comp=E,439μm,0.4s						
DSL				AML	AML	02 55 50.3	
	comp=N,409μm,0.7s						
DSL	**Palaion Diasel**	**0.88**	**36**	P	Pg	02 55 28.1	-1.0
DSL				S	Sb	02 55 42.4	+0.5
DSL	**Palaion Diasel**	**0.88**	**36**	P	Pg	02 55 28.4	-0.7
DSL				S	Sg	02 55 40.3	-0.2
PVO	**Paravola**	**0.89**	**77**	P	Pg	02 55 29.2	+0.1
PVO				S	Sb	02 55 41.5	-0.3
PVO				AML	AML	02 55 45.3	
	comp=N,462μm,0.6s						
PVO				AML	AML	02 55 46.7	
	comp=E,469μm,0.4s						
PVO	**Paravola**	**0.89**	**77**	P	Pg	02 55 28.8	-0.3
PVO				S	Sb	02 55 42.3	+0.4
PVO	**Paravola**	**0.89**	**77**	P	Pg	02 55 28.8	-0.3
PVO				S	Sg	02 55 41.2	+0.6
RLS	**Riolos of Patr**	**0.90**	**114**	P	Pg	02 55 28.4	-0.9
RLS				S	Sb	02 55 42.0	-0.3
RLS				AML	AML	02 55 50.4	
	comp=N,269μm,0.3s						
RLS				AML	AML	02 55 55.1	
	comp=E,228μm,0.5s						
RLS	**Riolos of Patr**	**0.90**	**114**	P	Pg	02 55 28.7	-0.6
RLS				S	Sb	02 55 43.0	+0.8
RLS	**Riolos of Patr**	**0.90**	**114**	P	Pg	02 55 28.7	-0.6
RLS				S	Sb	02 55 41.7	-0.5

IGT	**Igoumenitsa**	**1.11**	**356**	P	Pg	02 55 33.4	0.0	
IGT				S	Sb	02 55 48.1	-0.3	
IGT				AML	AML	02 55 54.1		
	comp=E,222μm,0.3s							
IGT				AML	AML	02 55 54.2		
	comp=N,224μm,0.5s							
IGT	**Igoumenitsa**	**1.11**	**356**	P	Pn	02 55 34.0	-0.2	
IGT				S	Sn	02 55 49.4	-0.4	
IGT	**Igoumenitsa**	**1.11**	**356**	P	Pg	02 55 32.9	-0.5	
IGT				S	Sg	02 55 47.9	+0.1	
DRO	**Drossia**	**1.12**	**114**	P	Pg	02 55 32.4	-1.2	
DRO				S	Sb	02 55 48.9	+0.3	
DRO				AML	AML	02 55 56.3		
	comp=E,880μm,0.3s							
DRO				AML	AML	02 55 58.6		
	comp=N,668μm,0.4s							
DRO	**Drossia**	**1.12**	**114**	P	Pg	02 55 32.4	-1.1	
DRO				S	Sn	02 55 49.7	-0.2	
DRO	**Drossia**	**1.12**	**114**	P	Pg	02 55 32.4	-1.1	
DRO				S	Sb	02 55 48.7	+0.1	
EFP	**Efpalio**	**1.16**	**89**	P	Pg	02 55 31.9	-2.5	
EFP				S	Sn	02 55 50.9	-0.1	
EFP				AML	AML	02 55 56.5		
	comp=E,502μm,0.4s							
EFP				AML	AML	02 55 57.7		
	comp=N,328μm,0.6s							
EFP	**Efpalio**	**1.16**	**89**	P	Pg	02 55 32.7	-1.7	
EFP				S	Sn	02 55 50.5	-0.5	
EFP	**Efpalio**	**1.16**	**89**	P	Pg	02 55 32.9	-1.5	
EFP				S	Sn	02 55 50.5	-0.5	
ANX	**Ano Chora**	**1.19**	**81**	P	Pg	02 55 33.5	-1.4	
ANX				S	Sn	02 55 52.6	+0.8	
ANX				AML	AML	02 55 58.0		
	comp=N,756μm,0.5s							
ANX				AML	AML	02 55 58.7		
	comp=E,456μm,0.6s							
ANX	**Ano Chora**	**1.19**	**81**	P	Pg	02 55 33.8	-1.1	
ANX				S	Sn	02 55 52.3	+0.5	
ANX	**Ano Chora**	**1.19**	**81**	P	Pg	02 55 33.8	-1.1	
ANX				S	Sn	02 55 51.6	-0.2	
EVR	**Evrytania**	**1.19**	**65**	P	Pg	02 55 33.3	-1.6	
EVR				S	Sn	02 55 52.8	+0.9	
EVR				AML	AML	02 56 00.2		
	comp=N,142μm,0.7s							
EVR				AML	AML	02 56 09.1		
	comp=E,136μm,0.6s							
EVR	**Evrytania**	**1.19**	**65**	P	Pg	02 55 33.7	-1.2	
EVR				S	Sn	02 55 51.7	-0.2	
SGD	**Sagiada**	**1.20**	**353**	P	Pg	02 55 34.2	-0.9	
SGD	**Sagiada**	**1.20**	**353**	P	Pg	02 55 34.6	-0.5	
SGD	**Sagiada**	**1.20**	**353**	P	Pg	02 55 34.6	-0.5	
LAKA	**Lakka**	**1.24**	**98**	P	Pg	02 55 34.1	-1.7	
LAKA				S	Sn	02 55 53.1	+0.2	
LAKA	**Lakka**	**1.24**	**98**	P	Pg	02 55 34.1	-1.7	
LAKA				S	Sn	02 55 53.1	+0.2	
JAN	**Janina**	**1.28**	**15**	P	Pn	02 55 36.0	-0.4	
TRIZ	**Trizonia**	**1.30**	**92**	P	Pn	02 55 34.2	-2.5	
TRIZ				S	Sn	02 55 54.2	0.0	
TRIZ	**Trizonia**	**1.30**	**92**	P	Pn	02 55 35.1	-1.6	
TRIZ				S	Sg	02 55 54.0	+0.2	
TRIZ	**Trizonia**	**1.30**	**92**	P	Pn	02 55 35.2	-1.5	
TRIZ				S	Sn	02 55 54.2	-0.1	
KALE	**Kalithea**	**1.35**	**91**	P	Pn	02 55 34.8	-2.7	
KALE				S	Sb	02 55 55.3	0.0	
KALE				AML	AML	02 56 04.0		
	comp=N,213μm,0.5s							
KALE				AML	AML	02 56 07.5		
	comp=E,210μm,0.5s							
KALE	**Kalithea**	**1.35**	**91**	P	Pn	02 55 35.9	-1.6	
KALE				S	Sg	02 55 55.5	+0.1	
AMT	**Artemida-Makis**	**1.35**	**131**	P	Pb	02 55 37.8	0.0	
AMT	**Artemida-Makis**	**1.35**	**131**	P	Pn	02 55 37.5	0.0	
KEK	**Kerkira**	**1.38**	**339**	P	Pn	02 55 37.2	-0.6	
KEK				S	Sb	02 55 56.6	-0.5	
KEK	**Kerkira**	**1.38**	**339**	P	Pn	02 55 37.2	-0.6	
KEK				S	Sb	02 55 55.8	-0.3	
KLV	**Kalavryta, Ach**	**1.41**	**105**	P	Pn	02 55 35.9	-2.5	
KLV				S	Sg	02 55 59.0	+1.6	
KLV				AML	AML	02 56 00.9		
	comp=E,104μm,0.4s							
KLV				AML	AML	02 56 09.9		
	comp=N,108μm,0.6s							
KLV	**Kalavryta, Ach**	**1.41**	**105**	P	Pn	02 55 37.0	-1.3	
KLV				S	Sb	02 55 57.1	0.0	
KLV	**Kalavryta, Ach**	**1.41**	**105**	P	Pn	02 55 37.1	-1.2	
KLV				S	Sg	02 55 58.4	+1.0	
SRN	**Sarande**	**1.49**	**347**	*i* PN	Pg	02 55 41.0	+0.3	
SRN				*i* SN	Sg	02 56 03.9	+3.8	
GUR	**Goura**	**1.59**	**107**	P	Pn	02 55 38.7	-2.1	
GUR				S	Sg	02 56 03.9	+0.8	
GUR				AML	AML	02 56 09.2		
	comp=N,710μm,0.4s							
GUR				AML	AML	02 56 09.9		
	comp=E,435μm,0.5s							
GUR	**Goura**	**1.59**	**107**	P	Pn	02 55 40.0	-0.8	
GUR				S	Sn	02 56 01.9	+0.2	
GUR	**Goura**	**1.59**	**107**	P	Pn	02 55 40.1	-0.7	
GUR				S	Sg	02 56 03.7	+0.6	
AGG	**Agios Georgios**	**1.61**	**68**	P	Pn	02 55 41.1	+0.1	
AGG	**Agios Georgios**	**1.61**	**68**	P	Pn	02 55 41.5	+0.5	
DSF	**Desfina**	**1.65**	**90**	P	Pb	02 55 42.9	-0.1	
DSF	**Desfina**	**1.65**	**90**	P	Pb	02 55 42.8	-0.1	
THL	**Klokotos Trika**	**1.68**	**47**	P	Pg	02 55 44.3	-0.1	
THL				S	Sg	02 56 08.9	+2.7	
THL				AML	AML	02 56 12.4		
	comp=N,147μm,0.7s							
THL				AML	AML	02 56 12.8		
	comp=E,132μm,0.8s							
THL	**Klokotos Trika**	**1.68**	**47**	P	Pb	02 55 43.8	+0.4	
THL				S	Sg	02 56 07.6	+1.4	
KPRO	**Kipourio**	**1.69**	**25**	P	Pb	02 55 43.7	0.0	
KPRO	**Kipourio**	**1.69**	**25**	P	Pb	02 55 43.5	-0.2	
ITM	**Ithomi**	**1.72**	**136**	P	Pn	02 55 43.0	+0.4	
ITM				S	Sg	02 56 08.0	+0.7	
ITM				AML	AML	02 56 15.1		
	comp=N,68μm,0.3s							
ITM				AML	AML	02 56 22.9		
	comp=E,83μm,0.5s							
ITM	**Ithomi**	**1.72**	**136**	P	Pb	02 55 43.5	-0.6	
ITM				S	Sg	02 56 07.9	+0.6	
PYL	**PYLOS**	**1.85**	**145**	P	Pn	02 55 44.6	+0.3	
PYL	**PYLOS**	**1.85**	**145**	P	Pb	02 55 45.3	-1.0	
PENT	**Pentalofos**	**1.85**	**17**	P	Pb	02 55 46.9	+0.5	
PENT	**Pentalofos**	**1.85**	**17**	P	Pb	02 55 46.5	0.0	
VLX	**Vlachokerasia**	**1.87**	**124**	P	Pb	02 55 47.0	+0.3	
VLX	**Vlachokerasia**	**1.87**	**124**	P	Pb	02 55 46.7	0.0	
PROD	**Prodromos**	**1.95**	**94**	P	Pb	02 55 47.7	-0.4	
PROD	**Prodromos**	**1.95**	**94**	P	Pb	02 55 47.6	-0.5	
LKR	**Lokris**	**2.03**	**83**	P	Pn	02 55 47.7	+0.8	
LKR	**Lokris**	**2.03**	**83**	P	Pb	02 55 48.2	-1.2	
LTK	**Loutraki**	**2.04**	**100**	P	Pb	02 55 48.8	-0.8	
LTK	**Loutraki**	**2.04**	**100**	P	Pb	02 55 48.8	-0.8	
NEST	**Nestorio**	**2.05**	**13**	P	Pn	02 55 48.0	+0.9	
NEST	**Nestorio**	**2.05**	**13**	P	Pn	02 55 48.4	+1.3	
KBN	**Korca**	**2.22**	**7**	*i* PN	Pb	02 55 52.6	0.0	
DYR	**Agios Nikonas**	**2.25**	**137**	P	Pb	02 55 51.7	-1.3	
DYR	**Agios Nikonas**	**2.25**	**137**	P	Pb	02 55 51.7	-1.4	
VIL2	**Platees**	**2.25**	**94**	P	Pb	02 55 54.0	+0.9	
VILL	**Villia**	**2.29**	**96**	P	Pb	02 55 53.1	-0.7	
KRND	**KRANIDI**	**2.39**	**115**	P	Pb	02 55 55.4	-0.1	
KRND	**KRANIDI**	**2.39**	**115**	P	Pb	02 55 54.6	-0.9	
DID	**Didima**	**2.40**	**112**	P	Pb	02 55 54.8	-1.0	
DID	**Didima**	**2.40**	**112**	P	Pb	02 55 54.4	-1.3	
VLI	**Veliai**	**2.62**	**130**	P	Pb	02 55 57.7	-1.7	
VLI	**Veliai**	**2.62**	**130**	P	Pb	02 55 57.4	-2.1	
DION	**Dionisos Attik**	**2.78**	**96**	P	Pn	02 55 58.4	+1.2	
DION	**Dionisos Attik**	**2.78**	**96**	P	Pn	02 55 58.9	+1.7	
PUK	**Puka**	**3.64**	**354**	*i* PN	Pn	02 56 08.3	-0.7	

ISCJB ***27*** *02:57:10.0±0.4, 42˚.51N±0˚.05×142˚.60E±0˚.04, h119km±2km, mb3.8/15, Error ellipse: s-maj=7.7km s-min=4.9km az=163.6*
JMA ***27*** *02:57:11.1±0.2, 42˚.55N×142˚.64E, h116km±2km, M3.4*
IDC ***27*** *02:57:14.6±1.8, 42˚.80N×142˚.47E, h131km±8km, mb3.4/14, mb1 3.5/16, mb1mx3.3/72, mbtmp3.8/16, Error ellipse: s-maj=25.0km s-min=13.0km az=154.0*

ISC 27 02:57:11.0±0.7, 42˚.49N±0˚.05×142˚.60E±0˚.04, h114km±5km, n41, σ0s 60/50, mb3.8/15, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNBK	**Urakawa-nobuka**	**0.24**	**151**	P	**Pn**	02 57 27.8	**+0.8**
JNBK				*e*S	**Sn**	02 57 40.4	**+1.5**
JBT2	**Biratori 2**	**0.34**	**329**	P	**Pn**	02 57 27.5	**+0.2**
JBT2				*e*S	**Sn**	02 57 39.2	**-0.5**
JCH	**Churui**	**0.58**	**77**	P	**Pn**	02 57 28.8	**+0.1**
JCH				*e*S	**Sn**	02 57 41.4	**-0.7**
JEM	**Erimo**	**0.63**	**138**	P	**Pn**	02 57 29.7	**+0.6**
JFR	**Furan**	**0.68**	**360**	P	**Pn**	02 57 29.4	**-0.1**
JFR				*e*S	**Sn**	02 57 43.2	**-0.3**
JEW	**Eniwo**	**0.92**	**293**	P	**Pn**	02 57 31.7	**+0.1**
JEW				*e*S	**Sn**	02 57 47.6	**+0.3**
JOB	**Onbets**	**1.00**	**65**	P	**Pn**	02 57 32.8	**+0.4**
JOB				*e*S	**Sn**	02 57 48.6	**-0.1**
JAB	**Ashibetsu**	**1.05**	**345**	P	**Pn**	02 57 33.1	**+0.1**
JAB				*e*S	**Sn**	02 57 49.4	**-0.3**
JNB	**Noboribetsu**	**1.16**	**270**	P	**Pn**	02 57 33.6	**-0.5**
JNB				*e*S	**Sn**	02 57 50.6	**-0.9**
JAR	**Ashorobuto**	**1.18**	**46**	P	**Pn**	02 57 34.2	**-0.1**
JAR				*e*S	**Sn**	02 57 50.8	**-1.3**
JKB	**Kayabe**	**1.31**	**243**	P	**Pn**	02 57 35.4	**-0.4**
JKB				*e*S	**Sn**	02 57 53.3	**-1.3**
JKK2	**Kamakawa 2**	**1.39**	**4**	P	**Pn**	02 57 37.3	**+0.6**
JKK2				*e*S	**Sn**	02 57 56.1	**-0.2**
JOT	**Ohata**	**1.60**	**227**	P	**Pn**	02 57 38.9	**-0.3**
JAK	**Akkeshi**	**1.63**	**71**	P	**Pn**	02 57 39.1	**-0.4**
JAK				*e*S	**Sn**	02 57 59.4	**-1.8**
ASAJ	**Asahikawa**	**1.63**	**360**	P	**Pn**	02 57 39.9	**+0.4**
	20nm,0.3s,baz=176,slow=13,SNR=25						
ASAJ				S	**Sn**	02 58 00.9	**-0.3**
	8.9nm,0.3s,baz=180,slow=20,SNR=20						
JTKR	**Abashiri--Toko**	**1.76**	**32**	P	**Pn**	02 57 41.3	**+0.2**
JTKR				*e*S	**Sn**	02 58 03.5	**-0.7**
JSK	**Shakotan**	**1.78**	**300**	P	**Pn**	02 57 41.3	**-0.1**
JSK				*e*S	**Sn**	02 58 04.5	**-0.1**
MJAR	**Matsushiro Arr**	**6.84**	**211**	P	Pn	02 58 55.9	+7.2
	0.3nm,0.3s,baz=23,slow=14,SNR=3.7						
USRK	**Ussuriysk Ar.**	**7.92**	**286**	P	**Pn**	02 59 04.3	**+1.1**
	0.3nm,0.3s,baz=93,slow=13,SNR=3.7						
USRK				S	**Sn**	03 00 31.4	**+0.2**
	2.5nm,0.3s,baz=177,slow=25,SNR=22						
SONM	**Songino Array**	**25.92**	**294**	P	**P**	03 02 32.8	**+0.3**
	0.3nm,0.4s,baz=84,slow=8.4,SNR=3.6						
H11N2	**WAKE ISLAND Hy**	**30.58**	**130**	T	T	03 35 03.1	
	baz=326,slow=75						
H11N1	**WAKE ISLAND Hy**	**30.59**	**130**	T	T	03 34 59.8	
	baz=326,slow=75						
H11N3	**WAKE ISLAND Hy**	**30.60**	**130**	T	T	03 35 04.4	
	baz=326,slow=75						
H11S1	**WAKE ISLAND Hy**	**31.46**	**132**	T	T	03 36 09.5	
	baz=328,slow=76,SNR=22						
H11S3	**WAKE ISLAND Hy**	**31.46**	**132**	T	T	03 36 08.9	
	baz=328,slow=76,SNR=24						
H11S2	**WAKE ISLAND Hy**	**31.47**	**132**	T	T	03 36 09.8	
	baz=328,slow=76,SNR=16						
ZALV	**Zalesovo Beam**	**39.11**	**308**	P	**P**	03 04 26.6	**-0.3**
	0.7nm,0.4s,baz=92,slow=8.7,SNR=4.5						
MKAR	**Makanchi Array**	**42.21**	**297**	P	**P**	03 04 52.0	**-0.4**
	0.6nm,0.5s,baz=84,slow=9.5,SNR=7.0						
KURBB	**Kurchatov Arra**	**43.55**	**304**	P	**P**	03 05 03.1	**-0.1**
	1.9nm,0.3s,baz=74,slow=9.0,SNR=7.4						
ILAR	**Eielson Array**	**44.46**	**35**	P	**P**	03 05 10.5	**+0.3**
	0.3nm,0.4s,baz=266,slow=5.3,SNR=7.3						
BVAR	**Borovoye Array**	**47.72**	**309**	P	**P**	03 05 36.4	**+0.

LPAZ	**La Paz**	**4.06**	**5**	P		**Pn**	**03 04 24.2**	**+1.7**
	comp=E,0.4nm,0.3s,baz=190,slow=5.4,SNR=11							
LPAZ				S		**Sn**	**03 05 12.2**	**+2.3**
	comp=E,0.1nm,0.3s,baz=220,slow=13,SNR=1.4							
SIV	**San Ignacio**	**8.27**	**60**	P		**Pn**	**03 05 15.1**	**-3.4**
	comp=E,0.4nm,0.3s,baz=256,slow=12,SNR=10							
TORD	**Torodi Ar. Bea**	**76.60**	**70**	P		**P**	**03 14 56.3**	**-1.2**
	comp=E,0.5nm,0.7s,baz=255,slow=5.5,SNR=18							
YKA	**Yellowknife Ar**	**90.25**	**340**	P		**P**	**03 16 06.8**	**+0.6**
	comp=E,0.1nm,0.5s,baz=133,slow=4.8,SNR=7.0							

DDA ***27*** *03:10:33.0,39.09N×29.16E,h7km,Ml2.5*
CSEM ***27*** *03:10:33.7±0.1,39.10N×29.18E,h2km,ML2.4, Error ellipse: s-maj=2.9km s-min=2.4km az=124.0*
ISK ***27*** *03:10:33.5,39.10N×29.15E,h4km,ML2.4/9*

ISC 27 03:10:33.7±1.0, 39.09N±0.02×29.18E±0.02, h5km±9km, n36, σ0948/54, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIMA	**Simav-Kutahya**	**0.15**	**267**	PG	**Pg**	**03 10 37.1**	**+0.3**
SIMA				SG	**Sg**	**03 10 39.2**	**+0.4**
SIMA	**Simav-Kutahya**	**0.15**	**267**	*e*Pg	**Pg**	**03 10 37.1**	**+0.3**
SIMA				*e*Sg	**Sg**	**03 10 39.2**	**+0.4**
GDZ	**Gediz**	**0.24**	**90**	*i* P	**Pg**	**03 10 38.3**	**-0.1**
GDZ				*i* S	**Sg**	**03 10 42.0**	**+0.5**
GDZ	**Gediz**	**0.24**	**90**	P	**Pg**	**03 10 38.3**	**-0.1**
GDZ				S	**Sg**	**03 10 42.0**	**+0.5**
DEMI	**Demirci**	**0.36**	**262**	*i* P	**Pg**	**03 10 40.4**	**-0.3**
DEMI				*i* S	**Sg**	**03 10 45.0**	**-0.5**
DEMI	**Demirci**	**0.36**	**262**	P	**Pg**	**03 10 40.4**	**-0.3**
DEMI				S	**Sg**	**03 10 45.0**	**-0.5**
TVSB	**Tavsanli**	**0.42**	**32**	PG	**Pg**	**03 10 40.9**	**-1.0**
TVSB	**Tavsanli**	**0.42**	**32**	*e*Pg	**Pg**	**03 10 40.9**	**-1.0**
KULA	**Kula-Manisa**	**0.70**	**215**	PG	**Pg**	**03 10 47.5**	**+0.3**
KULA	**Kula-Manisa**	**0.70**	**215**	*e*Pg	**Pg**	**03 10 47.5**	**+0.3**
DURS	**Dursunbey**	**0.75**	**313**	*i* P	**Pg**	**03 10 47.7**	**-0.3**
DURS	**Dursunbey**	**0.75**	**313**	P	**Pg**	**03 10 47.7**	**-0.3**
KHAL	**Karahalli**	**0.76**	**161**	*i* P	**Pb**	**03 10 49.1**	**-0.4**
KHAL	**Karahalli**	**0.76**	**161**	P	**Pb**	**03 10 49.1**	**-0.4**
MANT	**Manisa**	**0.77**	**219**	*i* P	**Pg**	**03 10 48.1**	**-0.4**
MANT	**Manisa**	**0.77**	**219**	P	**Pg**	**03 10 48.1**	**-0.4**
BALB	**Balikesir**	**1.15**	**299**	PN	**Pn**	**03 10 56.2**	**-0.2**
BALB				SN	**Sn**	**03 11 11.9**	**-0.6**
BALB	**Balikesir**	**1.15**	**299**	*e*Pn	**Pn**	**03 10 56.2**	**-0.2**
BALB				*e*Sn	**Sn**	**03 11 11.9**	**-0.6**
SHUT	**Suhut-Afyon**	**1.20**	**116**	PN	**Pn**	**03 10 57.3**	**0.0**
SHUT				SN	**Sn**	**03 11 14.8**	**+0.7**
SHUT	**Suhut-Afyon**	**1.20**	**116**	*e*Pn	**Pn**	**03 10 57.3**	**0.0**
SHUT				*e*Sn	**Sn**	**03 11 14.8**	**+0.7**
CAVI	**Cavuskoy**	**1.22**	**25**	PN	**Pn**	**03 10 57.3**	**-0.3**
CAVI				SN	**Sn**	**03 11 14.9**	**+0.4**
CAVI	**Cavuskoy**	**1.22**	**25**	*e*Pn	**Pn**	**03 10 57.3**	**-0.3**
CAVI				*e*Sn	**Sn**	**03 11 14.9**	**+0.4**
MDNY	**Mudanya-Bursa**	**1.30**	**350**	PN	**Pb**	**03 10 58.6**	**0.0**
MDNY				SN	**Sn**	**03 11 17.3**	**+1.0**
MDNY	**Mudanya-Bursa**	**1.30**	**350**	*e*Pn	**Pb**	**03 10 58.6**	**0.0**
MDNY				*e*Sn	**Sn**	**03 11 17.3**	**+1.0**
KCTX	**Karacabey (Bur**	**1.33**	**332**	PN	**Pb**	**03 10 59.6**	**+0.4**
KCTX	**Karacabey (Bur**	**1.33**	**332**	*e*Pn	**Pb**	**03 10 59.6**	**+0.4**
GEMT	**Gemlik**	**1.34**	**0**	PN	**Pg**	**03 10 59.6**	**+0.2**
GEMT	**Gemlik**	**1.34**	**0**	*e*Pn	**Pg**	**03 10 59.6**	**+0.2**
YLV	**Yalova**	**1.48**	**6**	PN	**Pg**	**03 11 02.1**	**0.0**
YLV				SN	**Sg**	**03 11 21.9**	**+0.6**
YLV	**Yalova**	**1.48**	**6**	*e*Pn	**Pg**	**03 11 02.1**	**0.0**
YLV				*e*Sn	**Sg**	**03 11 21.9**	**+0.6**
ARMT	**Armutlu**	**1.49**	**351**	PN	**Pg**	**03 11 02.3**	**0.0**
ARMT				SN	**Sg**	**03 11 21.9**	**+0.2**
ARMT	**Armutlu**	**1.49**	**351**	*e*Pn	**Pg**	**03 11 02.3**	**0.0**
ARMT				*e*Sn	**Sg**	**03 11 21.9**	**+0.2**
AYDB	**Zeytinkoy-Aydi**	**1.52**	**222**	PN	**Pg**	**03 11 02.8**	**-0.1**
AYDB	**Zeytinkoy-Aydi**	**1.52**	**222**	*e*Pn	**Pg**	**03 11 02.8**	**-0.1**
GULT	**Gulveren**	**1.69**	**37**	PN	**Pb**	**03 11 04.6**	**-0.8**
GULT	**Gulveren**	**1.69**	**37**	*e*Pn	**Pb**	**03 11 04.6**	**-0.8**

IDC 27 03:32:51.5±5.6, 15°10S×173°15W, h0km, mb3.4/2, mb1 3.7/2, mb1mx3.3/46, mbtmp3.4/2, Error ellipse: s-maj=325.4km s-min=27.8km az=147.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**1.78**	**49**	Pn	Pn	03 33 23.3	-0.3
	4.3nm,0.3s,baz=244,slow=17,SNR=2.4						
AFI				Sn	Sn	03 33 41.3	-5.7
	36nm,0.3s,baz=230,slow=16,SNR=8.3						
WRA	**Warramunga Arr**	**50.14**	**256**	P	P	03 41 49.1	0.0
	0.2nm,0.7s,baz=90,slow=6.7,SNR=5.6						
ASAR	**Alice Springs**	**50.43**	**252**	P	P	03 41 50.7	-0.6
	0.6nm,0.7s,baz=86,slow=8.4,SNR=5.6						
BRTR	**Keskin Array B**	**146.07**	**321**	PKPbc	PKPbc	03 52 33.7	-0.3
	0.2nm,0.6s,baz=64,slow=3.4,SNR=1.7						

IDC 27 03:35:35.5±6.8, 0°88N×89°08E, h0km, mb3.3/4, mb1 3.5/4, mb1mx3.2/66, mbtmp3.3/4, MS3.2/3, Ms1 3.3/3, ms1mx2.7/32, Error ellipse: s-maj=306.0km s-min=28.8km az=56.0, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**10.03**	**79**	LR	LR	03 41 49.9	
	comp=Z,115nm,18.9s,baz=254,slow=37						
CMAR	**Chiang Mai Arr**	**19.97**	**28**	LR	LR	03 46 53.9	
	comp=Z,72nm,18.2s,baz=187,slow=34						
JOW	**Kunigami**	**45.63**	**52**	LR	LR	04 02 08.2	
	comp=Z,33nm,21.1s,baz=136,slow=35						
MKAR	**Makanchi Array**	**46.11**	**354**	P	P	03 44 02.1	+0.6
	0.2nm,0.5s,baz=185,slow=7.2,SNR=2.4						
WRA	**Warramunga Arr**	**48.93**	**118**	P	P	03 44 23.6	-0.3
	0.4nm,0.7s,baz=294,slow=8.5,SNR=2.6						
ASAR	**Alice Springs**	**49.90**	**122**	P	P	03 44 31.6	+0.3
	0.1nm,0.3s,baz=294,slow=8.0,SNR=1.1						
KURBB	**Kurchatov Arra**	**50.37**	**351**	P	P	03 44 34.0	-0.3
	0.3nm,0.5s,baz=181,slow=6.9,SNR=3.3						
TXAR	**Lajitas Array**	**147.58**	**21**	PKPbc	PKPdf	03 55 21.3	+1.2
	0.4nm,1.0s,baz=315,slow=0.3,SNR=2.2						

ISCJB ***27*** *03:46:28.0±1.3, 16°63N±0.08×100°43W±0.08, h30km±6km, mb3.1/3, Error ellipse: s-maj=12.7km s-min=12.1km az=9.6*
MEX ***27*** *03:46:29.9±0.9, 16°60N×100°46W, h16km±6km, MD3.9*
IDC ***27*** *03:46:35.1±6.2, 17°89N×99°68W, h0km, mb3.3/3, mb1 3.6/4, mb1mx3.4/47, mbtmp3.2/4, ML2.7/1, Error ellipse: s-maj=156.4km s-min=27.6km az=27.0*

ISC 27 03:46:28.6±2.1, 16°62N±0.10×100°39W±0.07, h23km±12km, n12, σ1°99/17, mb3.2/3, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CAIG	**El Cayaco**	**0.44**	**16**	*i* P	**Pb**	**03 46 37.5**	**-0.3**
CAIG				*i* S	**Sb**	**03 46 44.5**	**+0.5**
ACP2	**Acapulco**	**0.55**	**63**	*e*P	**Pb**	**03 46 39.3**	**-0.3**
ACP2				*e*S	**Sb**	**03 46 47.6**	**+0.6**
ACX	**Acapulco**	**0.57**	**64**	*i* P	**Pb**	**03 46 39.9**	**0.0**
ZIIG	**Zihuatanejo**	**1.42**	**314**	*e*P	**Pn**	**03 46 50.9**	**-2.1**
MEIG	**Mezcala**	**1.49**	**30**	*e*P	**Pn**	**03 46 53.6**	**-0.5**
MEIG				*e*S	**Sn**	**03 47 11.6**	**-1.3**
ARIG	**Puente Sto Nin**	**1.65**	**2**	*e*P	**Pn**	**03 46 56.0**	**-0.2**
ARIG				*e*S	**Sn**	**03 47 14.2**	**-2.5**
PLIG	**Platanillo**	**1.96**	**26**	*e*P	**Pn**	**03 47 00.3**	**-0.2**
PLIG				*e*S	**Sn**	**03 47 24.4**	**0.0**
CMIG	**Matias Romero**	**5.30**	**84**	Pn	**Pn**	**03 47 46.8**	**+0.4**
	0.3nm,0.3s,baz=277,slow=12,SNR=4.1						
CMIG				Sn	**Sn**	**03 48 42.2**	**-4.5**
	0.4nm,0.3s,baz=271,slow=19,SNR=6.6						
CMIG				Lg	Lg	03 49 15.4	
	0.4nm,0.3s,baz=255,slow=6.0,SNR=3.8						
APG	**El Apazote**	**9.69**	**98**	Lg	Lg	03 51 46.2	
	0.1nm,0.3s,baz=245,slow=12,SNR=1.6						
NVAR	**Mina Array Bea**	**26.82**	**328**	P	**P**	**03 52 11.5**	**+4.1**
	0.4nm,0.6s,baz=154,slow=11,SNR=3.0						
PDAR	**Pinedale Array**	**27.21**	**345**	P	**P**	**03 52 11.4**	**+0.5**
	0.4nm,0.6s,baz=139,slow=8.4,SNR=3.9						
YKA	**Yellowknife Ar**	**46.90**	**351**	P	**P**	**03 54 57.7**	**+0.8**
	0.2nm,0.9s,baz=163,slow=7.3,SNR=5.1						

IDC ***27*** *03:50:01.2±2.4, 32°68N×131°40E, h127km±5km, mb3.0/4, mb1 3.0/5, mb1mx2.8/68, mbtmp3.3/5, Error ellipse: s-maj=54.6km s-min=32.5km az=8.0*
JMA ***27*** *03:50:02.4±0.1, 32°53N×131°15E, h123km±1km, M3.0*

ISC 27 03:50:01.0±0.9, 32°49N±0°08×131°23E±0°07, h132km±6km, n12, σ0°72/18, mb3.3/4, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JKIT	**Kitakata**	**0.23**	**54**	P	**Pn**	**03 50 20.0**	**+0.8**
JKIT				S	**Sn**	**03 50 32.8**	**-0.1**
JIU2	**Izumi 2**	**0.36**	**280**	P	**Pn**	**03 50 19.9**	**+0.3**
JIU2				S	**Sn**	**03 50 32.5**	**-1.2**
JTZ	**Takazaki**	**0.59**	**192**	P	**Pn**	**03 50 21.6**	**+0.7**
JTZ				S	**Sn**	**03 50 36.2**	**+0.3**
JNU	**Nakatsue**	**0.70**	**335**	P	**Pn**	**03 50 22.1**	**+0.4**
	38nm,0.3s,baz=132,slow=1.8,SNR=412						
JNU				LR	LR	03 50 24.7	
	comp=Z,24nm,20.6s,baz=286,slow=38						
JNU				S	**Sn**	**03 50 36.7**	**-0.7**
	48nm,0.3s,baz=131,slow=16,SNR=57						
JTO	**Tosashimizu**	**1.38**	**74**	P	**Pn**	**03 50 28.2**	**+0.3**
JTO				S	**Sn**	**03 50 48.1**	**-0.3**
JNA	**Nagahama**	**1.50**	**44**	P	**Pn**	**03 50 29.7**	**+0.5**
JNA				S	**Sn**	**03 50 49.8**	**-0.9**
JSJ	**Shimokoshiki**	**1.52**	**238**	P	**Pn**	**03 50 29.3**	**-0.1**
KSRS	**Korea Array**	**5.65**	**332**	P	**Pn**	**03 51 23.6**	**+0.9**
	0.3nm,0.3s,baz=148,slow=15,SNR=7.5						
SONM	**Songino Array**	**24.25**	**316**	P	**P**	**03 55 06.7**	**+1.0**
	1.0nm,0.7s,baz=126,slow=7.3,SNR=6.0						
MKAR	**Makanchi Array**	**39.66**	**306**	P	**P**	**03 57 20.2**	**+0.2**
	0.2nm,0.6s,baz=95,slow=6.5,SNR=3.4						
FINES	**FINESS Array B**	**68.74**	**330**	P	**P**	**04 00 49.8**	**-0.3**
	1.1nm,0.9s,baz=76,slow=5.9,SNR=4.6						
YKA	**Yellowknife Ar**	**71.77**	**26**	P	**P**	**04 01 07.8**	**-0.8**
	0.1nm,0.6s,baz=312,slow=5.8,SNR=2.7						

ISCJB ***27*** *03:51:51.8±0.6, 8°41S±0.07×120°59E±0.05, h200km, mb3.3/1, Error ellipse: s-maj=10.4km s-min=6.7km az=14.6*
IDC ***27*** *03:51:52.0±5.6, 8°20S×120°67E, h182km±54km, mb3.2/1, mb1 3.2/4, mb1mx2.8/58, mbtmp3.6/4, Error ellipse: s-maj=142.0km s-min=29.3km az=58.0*
DJA ***27*** *03:51:54.5±0.5, 8°S±4°×12°1E±°, h161km±6km, M3.6/10, MLv3.6/10*

ISC 27 03:51:52.3±1.0, 8°41S±0.07×120°61E±0.05, h200km, n14, σ1°10/17, Flores region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EDFI	**Ende, Flores**	**1.12**	**108**	P	**Pn**	**03 52 21.9**	**-1.2**
WBSI	**Waikabubak, Su**	**1.72**	**224**	P	**Pn**	**03 52 27.8**	**-0.3**
WBSI				S	**Sn**	**03 52 53.4**	**-2.6**
BASI	**Baing, Sumba**	**1.80**	**181**	P	**Pn**	**03 52 28.6**	**-0.2**
BSSI	**Bau Bau, Buton**	**2.25**	**357**	P	**Pn**	**03 52 32.7**	**-0.9**
PLAI	**Plampang**	**2.83**	**261**	P	**Pn**	**03 52 41.0**	**+1.0**
PLAI				S	**Sn**	**03 53 16.8**	**-0.5**
BATI	**Baumata**	**3.50**	**121**	P	**Pn**	**03 52 49.2**	**+1.2**
	9.3nm,0.3s,baz=300,slow=20,SNR=8.5						
BATI				S	**Sn**	**03 53 30.9**	**-0.8**
	21nm,0.3s,baz=287,slow=19,SNR=5.8						
BATI	**Baumata**	**3.50**	**121**	P	**Pn**	**03 52 49.0**	**+1.0**
TWSI	**Taliwang, Sumb**	**3.70**	**265**	P	**Pn**	**03 52 51.4**	**+1.0**
SOEI	**Soe**	**3.85**	**111**	P	**Pn**	**03 52 53.3**	**+0.9**
BNSI	**Bone**	**4.01**	**353**	P	**Pn**	**03 52 54.4**	**+0.1**
WRA	**Warramunga Arr**	**17.55**	**132**	P	**Pn**	**03 55 45.3**	**+0.1**
	0.2nm,0.3s,baz=307,slow=13,SNR=13						
ASAR	**Alice Springs**	**19.81**	**142**	P	**Pn**	**03 56 11.0**	**-1.0**
	0.1nm,0.3s,baz=321,slow=13,SNR=7.1						
MKAR	**Makanchi Array**	**64.67**	**332**	P	**P**	**04 02 09.4**	**+0.6**
	0.3nm,0.4s,baz=149,slow=7.0,SNR=3.7						
TORD	**Torodi Ar. Bea**	**119.92**	**280**	PKP	**PKPdf**	**04 10 21.0**	**+1.1**
	0.3nm,0.9s,baz=90,slow=1.4,SNR=2.9						

IDC ***27*** *04:24:37.9±1.1, 1°08N×127°15E, h0km, mb3.8/7, mb1 3.9/7, mb1mx3.6/55, mbtmp3.9/7, Error ellipse: s-maj=129.8km s-min=16.6km az=67.0*
ISCJB ***27*** *04:24:49.9±0.7, 1°44N±0.07×128°2E±0.1, h128km, mb3.8/7, Error ellipse: s-maj=20.3km s-min=9.7km az=174.6*
DJA ***27*** *04:24:51.2±0.7, 1°N±5°×12°8E±°, h115km±8km, M3.5/6, mb3.8/2, MLv3.3/6*

ISC 27 04:24:51.7±0.9, 1°36N±0°09×128°1E±0°1, h128km, n9, σ0°72/10, mb3.6/7, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LBMI	**Labuha**	**2.08**	**197**	P	**Pn**	**04 25 26.3**	**-0.3**
LBMI				S	**Sn**	**04 25 54.5**	**+1.2**
FAKI	**Fak Fak**	**5.93**	**136**	P	**Pn**	**04 26 17.6**	**+0.3**
WRA	**Warramunga Arr**	**22.04**	**164**	P	**P**	**04 29 35.3**	**-0.8**
	2.0nm,0.7s,baz=340,slow=11,SNR=15						
ASAR	**Alice Springs**	**25.51**	**168**	P	**P**	**04 30 07.9**	**-0.6**
	0.4nm,0.6s,baz=348,slow=8.7,SNR=3.3						
STKA	**Steuns Creek**	**35.45**	**160**	P	**P**	**04 31 35.5**	**-0.2**
	1.3nm,0.6s,baz=344,slow=7.4,SNR=3.9						
SONM	**Songino Array**	**49.97**	**341**	P	**P**	**04 33 33.5**	**+0.7**
	0.4nm,0.4s,baz=136,slow=6.7,SNR=3.1						
MKAR	**Makanchi Array**	**60.28**	**325**	P	**P**	**04 34 47.1**	**+0.3**
	1.6nm,0.5s,baz=116,slow=8.2,SNR=19						
KURBB	**Kurchatov Arra**	**64.47**	**327**	P	**P**	**04 35 14.3**	**-0.1**
	2.4nm,0.6s,baz=128,slow=6.1,SNR=22						
BVAR	**Borovoye Array**	**70.05**	**327**	P	**P**	**04 35 49.0**	**-0.7**
	0.4nm,0.4s,baz=99,slow=7.7,SNR=3.2						

ISCJB ***27*** *04:25:49.2±1.4, 2°2N±0°2×89°08E±0°08, h10km, mb3.7/5, Error ellipse: s-maj=31.8km s-min=7.6km az=15.7*
IDC ***27*** *04:25:50.5±1.7, 2°33N×89°31E, h0km, mb3.6/5, mb1 3.8/7, mb1mx3.5/68, mbtmp3.7/7, ML3.5/2, Error ellipse: s-maj=49.8km s-min=23.3km az=36.0*

ISC 27 04:25:51.1±1.5, 2°2N±0°3×89°1E±0°1, h10km, n14, σ1°60/10, mb3.7/5, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PALK	**Pallekele**	**9.80**	**302**	Pn	**Pn**	**04 28 13.5**	**+1.2**
	0.5nm,0.3s,baz=115,slow=16,SNR=2.0						
PALK				Sn	**Sn**	**04 30 02.0**	**-0.6**
	4.5nm,0.3s,baz=116,slow=7.2,SNR=10						
PSI	**Prapat**	**9.82**	**86**	Pn	**Pn**	**04 28 10.8**	**-1.8**
	0.3nm,0.3s,baz=262,slow=7.1,SNR=2.3						
PSI				Sn	**Sn**	**04 30 06.3**	**+3.2**
	1.9nm,0.3s,baz=295,slow=6.2,SNR=6.2						
H08S3	**Diego Garcia H**	**19.23**	**239**	T	T	04 50 40.2	
	baz=60,slow=75,SNR=43						
H08S2	**Diego Garcia H**	**19.23**	**239**	T	T	04 50 46.6	
	baz=60,slow=75,SNR=78						
H08S1	**Diego Garcia H**	**19.24**	**239**	T	T	04 50 41.5	
	baz=60,slow=75,SNR=62						
H01W3	**Cape Leeuwin H**	**43.68**	**150**	T	T	05 21 06.1	
	baz=327						
H01W2	**Cape Leeuwin H**	**43.69**	**150**	T	T	05 21 07.8	
	baz=327,slow=74						
H01W1	**Cape Leeuwin H**	**43.70**	**150**	T	T	05 21 08.1	
	baz=327,slow=74						
MKAR	**Makanchi Array**	**44.86**	**353**	P	**P**	**04 34 05.3**	**-0.3**
	0.5nm,0.6s,baz=171,slow=8.6,SNR=6.4						
SONM	**Songino Array**	**47.90**	**16**	P	**P**	**04 34 28.5**	**-1.1**
	0.9nm,0.7s,baz=196,slow=7.0,SNR=5.0						
KURBB	**Kurchatov Arra**	**49.12**	**351**	P	**P**	**04 34 38.8**	**0.0**
	0.8nm,0.9s,baz=174,slow=7.4,SNR=6.8						
WRA	**Warramunga Arr**	**49.50**	**119**	P	**P**	**04 34 42.1**	**-0.2**
	0.4nm,0.9s,baz=300,slow=8.3,SNR=2.7						
BRTR	**Keskin Array B**	**62.58**	**314**	P	**P**	**04 36 16.8**	**+1.0**
	0.5nm,0.6s,baz=120,slow=5.8,SNR=3.8						
TXAR	**Lajitas Array**	**146.38**	**20**	PKPbc	**PKPab**	**04 45 33.5**	**-0.5**
	0.5nm,0.9s,baz=306,slow=1.1,SNR=3.6						

ISCJB ***27*** *04:33:22.4±0.7, 50°17N±0.05×19°06E±0.04, h0km, Error ellipse: s-maj=6.9km s-min=3.7km az=4.6*
CSEM ***27*** *04:33:23.4±0.4, 50°13N×19°06E, h1km, Error ellipse: s-maj=10.0km s-min=5.5km az=4.0*
PRU ***27*** *04:33:23.9,50°17N×19°08E,h0km*

ISC 27 04:33:23.3±0.9, 50°14N±0°04×19°07E±0°03, h0km, n15, σ0°46/26, Poland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OJC	**Ojcow**	**0.48**	**80**	*e*Pg	**Pg**	**04 33 32.9**	**+0.4**
OJC				*e*Sg	**Sg**	**04 33 38.4**	**-0.2**
OKC	**Ostrava-Krasne**	**0.67**	**244**	*e*SG	**Sb**	**04 33 47.2**	**-0.3**
	comp=Z,6.5nm,0.8s						
OKC	**Ostrava-Krasne**	**0.67**	**244**	Sg	**Sb**	**04 33 47.2**	**-0.3**
	6.5nm,0.8s						
LANS	**Liptovska Anna**	**1.02**	**165**	*e*Pg	**Pg**	**04 33 43.1**	**+0.3**
LANS				*e*Sg	**Sg**	**04 33 56.6**	**+0.5**
LANS	**Liptovska Anna**	**1.02**	**165**	*e*PG	**Pg**	**04 33 43.1**	**+0.3**
LANS				*e*SG	**Sg**	**04 33 56.6**	**+0.5**
MORC	**Moravsky Berou**	**1.05**	**250**	*e*Pg	**Pg**	**04 33 44.2**	**+0.8**
MORC				*e*Sg	**Sb**	**04 33 58.5**	**-0.1**
NIE	**Niedzica**	**1.08**	**132**	*e*Pg	**Pb**	**04 33 45.0**	**+0.2**
NIE				*e*Sg	**Sb**	**04 33 60.0**	**+0.6**
NIE	**Niedzica**	**1.08**	**132**	*e*Pg	**Pb**	**04 33 45.0**	**+0.2**
NIE				*e*Sg	**Sb**	**04 34 00.0**	**+0.6**
STHS	**Stebnicka Huta**	**1.58**	**116**	*e*Pg	**Pb**	**04 33 53.5**	**0.0**
STHS	**Stebnicka Huta**	**1.58**	**116**	*e*PG	**Pb**	**04 33 53.5**	**0.0**
STHS				*e*LG	Lg	04 34 22.8	
VYHS	**Vyhne**	**1.65**	**185**	*e*Pg	**Pn**	**04 33 52.8**	**-0.7**
VYHS				*e*Sn	**Sn**	**04 34 14.9**	**-0.6**
VYHS	**Vyhne**	**1.65**	**185**	*e*PG	**Pn**	**04 33 52.8**	**-0.7**
VYHS				*e*SG	**Sn**	**04 34 14.9**	**-0.6**
VYHS				*e*LG	Lg	04 34 16.6	
DPC	**Dobruska-Polom**	**1.77**	**278**	*e*PG	**Pb**	**04 33 57.0**	**+0.3**
DPC				*e*SG	**Sb**	**04 34 19.6**	**+0.1**
	comp=Z,5.5nm,0.7s						
DPC	**Dobruska-Polom**	**1.77**	**278**	Pg	**Pb**	**04 33 57.0**	**+0.3**
DPC				Sg	**Sb**	**04 34 19.6**	**+0.1**
	5.5nm,0.7s						

DDA ***27*** *04:33:51.8,39.00N×29.01E,h7km,Ml2.9*
ISK ***27*** *04:33:52.1,39.03N×29.02E,h2km,ML2.6/14*
CSEM ***27*** *04:33:53.1±0.2,39.04N×29.01E,h2km,ML2.6, Error ellipse: s-maj=4.1km s-min=3.7km az=108.0*

ISC 27 04:33:52.2±1.0, 39.03N±0.02×28.99E±0.02, h3km±9km, n59, σ1°08/77, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIMA	**Simav-Kutahya**	**0.05**	**351**	PG	**Pg**	**04 33 53.3**	**-0.1**
SIMA	**Simav-Kutahya**	**0.05**	**351**	*e*Pg	**Pg**	**04 33 53.3**	**-0.1**
GDZ	**Gediz**	**0.38**	**82**	*i* P	**Pg**	**04 33 58.6**	**-1.0**
GDZ				*i* S	**Sg**	**04 34 05.4**	**+0.8**
GDZ	**Gediz**	**0.38**	**82**	P	**Pg**	**04 33 58.6**	**-1.0**
GDZ				S	**Sg**	**04 34 05.4**	**+0.8**
TVSB	**Tavsanli**	**0.55**	**41**	PG	**Pg**	**04 34 01.9**	**-0.9**
TVSB	**Tavsanli**	**0.55**	**41**	*e*Pg	**Pg**	**04 34 01.9**	**-0.9**
KULA	**Kula-Manisa**	**0.58**	**207**	PG	**Pb**	**04 34 04.5**	**-0.5**
KULA				SG	**Sb**	**04 34 12.5**	**-1.1**
KULA	**Kula-Manisa**	**0.58**	**207**	*e*Pg	**Pb**	**04 34 04.5**	**-0.5**
KULA				*e*Sg	**Sb**	**04 34 12.5**	**-1.1**
DURS	**Dursunbey**	**0.69**	**325**	*i* P	**Pg**	**04 34 05.1**	**-0.4**
DURS	**Dursunbey**	**0.69**	**325**	P	**Pg**	**04 34 05.1**	**-0.4**
KHAL	**Karahalli**	**0.77**	**149**	*i* P	**Pn**	**04 34 09.0**	**-1.0**
KHAL				*i* S	**Sg**	**04 34 16.8**	**-0.1**
KHAL	**Karahalli**	**0.77**	**149**	P	**Pn**	**04 34 09.0**	**-1.0**
KHAL				S	**Sg**	**04 34 16.8**	**-0.1**
AKS	**Akhisar**	**0.93**	**261**	PG	**Pn**	**04 34 11.6**	**-0.6**
AKS	**Akhisar**	**0.93**	**261**	*e*Pg	**Pn**	**04 34 11.6**	**-0.6**
ORLT	**Orhaneli**	**1.01**	**356**	PG	**Pb**	**04 34 12.2**	**-0.2**
ORLT	**Orhaneli**	**1.01**	**356**	*e*Pg	**Pb**	**04 34 12.2**	**-0.2**
BALB	**Balikesir**	**1.05**	**305**	PN	**Pn**	**04 34 13.9**	**+0.1**
BALB	**Balikesir**	**1.05**	**305**	*e*Pn	**Pn**	**04 34 13.9**	**+0.1**
AUBOZ	**BOZOYUK**	**1.19**	**42**	*i* P	**Pg**	**04 34 15.9**	**+0.9**
AUBOZ				*i* S	**Sn**	**04 34 34.3**	**+1.8**
AUBOZ	**BOZOYUK**	**1.19**	**42**	P	**Pg**	**04 34 15.9**	**+0.9**
AUBOZ				S	**Sn**	**04 34 34.3**	**+1.8**
IGD	**Bursa**	**1.24**	**7**	*i* P	**Pg**	**04 34 16.8**	**+0.8**
IGD				*i* S	**Sb**	**04 34 29.7**	**-2.8**
SHUT	**Suhut-Afyon**	**1.31**	**111**	PN	**Pg**	**04 34 18.5**	**+1.2**
SHUT

	comp=N,835nm,1.0s								
MOY	**Mondy**	**2.80**	**91**	*e*PN		**Pg**	**04 38 04.9**	**+0.8**
MOY				*e*			04 38 45.5	
MOY				pmax	pmax			
	comp=Z,144nm,0.7s							
MOY				smax	smax			
	comp=N,930nm,1.2s							
CERR	**Cheremushki**	**3.29**	**291**	*i* Pg		**Pn**	**04 38 01.2**	**-0.7**
CERR				*i* Sg		**Sn**	**04 38 43.5**	**+2.4**
CERR	**Cheremushki**	**3.29**	**291**	*i* PN		**Pn**	**04 38 01.2**	**-0.7**
CERR				*i*			04 38 43.5	
MINR	**Mina**	**3.40**	**337**	PN		**Pn**	**04 38 06.4**	**+3.0**
ARS	**Arshan**	**3.68**	**86**	*e*PN		**Pb**	**04 38 14.6**	**-0.9**
ARS				*e*			04 38 21.0	
ARS				*e*			04 39 11.8	
ARS				pmax	pmax			
	comp=Z,151nm,0.5s							
ARS				smax	smax			
	comp=N,1μm,0.5s							
TLY	**Talaya**	**4.45**	**89**	Pg		**Pg**	**04 38 34.2**	**-1.4**
	comp=N,0.1nm,0.3s,baz=292,slow=10,SNR=10.0							
TLY				Lg		Lg	04 39 35.6	
	comp=N,0.3nm,0.3s,baz=226,slow=16,SNR=13							
TLY	**Talaya**	**4.45**	**89**	*e*P		**Pn**	**04 38 18.6**	**+0.7**
TLY	**Talaya**	**4.45**	**89**	*e*Pn		**Pg**	**04 38 35.0**	**-0.5**
TLY				*e*			04 39 35.4	
TLY				pmax	pmax			
	comp=Z,22nm,0.6s							
ZAK	**Zakamensk**	**4.51**	**106**	*e*PN		**Pb**	**04 38 26.4**	**-3.2**
ZAK				*e*			04 39 39.4	
ZAK				pmax	pmax			
	comp=Z,66nm,1.1s							
ZAK				smax	smax			
	comp=N,622nm,1.6s							
KRAR	**Krasnoyarsk**	**4.73**	**335**	*e*PN		**Pn**	**04 38 20.1**	**-1.6**
IRK	**Irkutsk**	**4.83**	**82**	*e*PN		**Pg**	**04 38 42.4**	**-0.4**
IRK				*e*			04 39 45.3	
IRK				pmax	pmax			
	comp=Z,124nm,0.1s							
IRK				smax	smax			
	comp=N,815nm,1.2s							
LUZB	**Luzhba, Kemero**	**4.98**	**295**	PN		**Pn**	**04 38 24.9**	**-0.2**
TASR	**Tashtagol**	**5.37**	**284**	*e*Pg		**Pb**	**04 38 43.1**	**-1.2**
TASR				*e*Sg		**Sb**	**04 39 47.2**	**-1.6**
TASR	**Tashtagol**	**5.37**	**284**	*e*PN		**Pb**	**04 38 43.1**	**-1.2**
TASR				*e*			04 39 47.2	
CUR	**Chagan-Uzun**	**5.42**	**255**	PN		**Pn**	**04 38 31.2**	**-0.1**
ULGR	**Ulagan, Altay**	**5.49**	**261**	PN		**Pn**	**04 38 32.4**	**+0.1**
AKAR	**Aktash**	**5.79**	**259**	*e*Pg		**Pb**	**04 38 53.4**	**+2.0**
AKAR				*e*Sg		**Sb**	**04 40 00.0**	**-0.8**
AKAR	**Aktash**	**5.79**	**259**	*e*PN		**Pb**	**04 38 53.4**	**+2.0**
AKAR				*e*			04 40 00.0	
CHBI	**Chibit, Altay**	**5.86**	**259**	PN		**Pn**	**04 38 37.5**	**+0.2**
DGZ	**Jazzator, Alta**	**6.12**	**253**	*e*PN		**Pn**	**04 38 41.1**	**+0.1**
BRCR	**Berchikul'**	**6.19**	**312**	PN		**Pn**	**04 38 41.3**	**-0.5**
ELT	**Eltsovka**	**6.43**	**287**	*e*Pg		**Pb**	**04 39 00.5**	**-1.7**
ELT				*e*Sg		**Sb**	**04 40 21.2**	**+2.2**
ELT	**Eltsovka**	**6.43**	**287**	*e*PN		**Pb**	**04 39 00.5**	**-1.7**
ELT				*e*			04 40 21.2	
OGRR	**Ongureny**	**6.99**	**70**	*e*P		Pn	04 39 00.2	+7.4
OGRR				pmax	pmax			
	comp=Z,22nm,0.7s							
ZAA0	**Zalesovo Array**	**7.39**	**292**	⇑Pn		**Pn**	**04 38 57.9**	**-0.2**
	comp=Z,6.3nm,0.8s,baz=99,slow=12							
ZAA0				⇓Lg		Lg	04 40 47.5	
	comp=Z,92nm,0.8s							
ZAA0	**Zalesovo Array**	**7.39**	**292**	*e*Pn		**Pn**	**04 38 58.6**	**+0.5**
ZALV	**Zalesovo Beam**	**7.39**	**292**	Pn		**Pn**	**04 38 58.4**	**+0.2**
	comp=Z,2.0nm,0.3s,baz=99,slow=12,SNR=15							
ZALV				Lg		Lg	04 40 48.6	
	comp=Z,5.7nm,0.3s,baz=114,slow=25,SNR=8.3							
ZALV				LR		LR	04 42 12.1	
	comp=Z,18nm,19.1s,baz=146,slow=42							
ZAA1	**Zalesovo Array**	**7.39**	**292**	*e*Pn		**Pn**	**04 38 58.4**	**+0.2**
ZAA1				*e*Lg		Lg	04 40 48.6	
UKR	**Ust'-Kan**	**7.39**	**268**	*e*Pg		**Pb**	**04 39 20.4**	**+1.7**
UKR				*e*Sg		**Sb**	**04 40 52.0**	**+5.2**
UKR	**Ust'-Kan**	**7.39**	**268**	*e*P*		**Pb**	**04 39 20.4**	**+1.7**
SONA0	**Songino Array**	**7.53**	**118**	*e*Pn		Pn	04 39 06.1	+5.7
SONA0				*e*Pg		Pg	04 39 29.4	-5.1
SONA0				*e*Lg		Lg	04 41 13.6	
SONM	**Songino Array**	**7.53**	**118**	Pn		Pn	04 39 06.1	+5.7
	comp=Z,0.1nm,0.3s,baz=298,slow=14,SNR=3.6							
SONM				Pg		Pg	04 39 29.4	-5.1
	comp=Z,1.1nm,0.3s,baz=301,slow=18,SNR=26							
SONM				Lg		Lg	04 41 13.6	
	comp=Z,2.5nm,0.3s,baz=303,slow=30,SNR=13							
ULN	**Ulaanbaatar**	**7.88**	**116**	⇑eP		**Pn**	**04 39 05.5**	**+0.3**
ULN	**Ulaanbaatar**	**7.88**	**116**	*ce*P		**Pn**	**04 39 05.4**	**+0.3**
NVS	**Novosibirsk**	**8.50**	**296**	*e*Pg		Pg	04 39 39.1	-14
NVS				*e*Sg		Sg	04 41 22.6	-20
NVS	**Novosibirsk**	**8.50**	**296**	*e*P		Pn	04 39 05.6	-7.8
MK31	**Makanchi Array**	**10.54**	**247**	⇑Pn		**Pn**	**04 39 39.9**	**-1.5**
	comp=Z,0.6nm,0.5s,baz=77,slow=14,SNR=13							
MK31				⇑Lg		Lg	04 42 31.8	
	comp=Z,22nm,0.9s							
MK31	**Makanchi Array**	**10.54**	**247**	*e*Pn		**Pn**	**04 39 40.6**	**-0.8**
MK31	**Makanchi Array**	**10.54**	**247**	*e*P		**Pn**	**04 39 40.6**	**-0.8**
MK32	**Makanchi Array**	**10.54**	**247**	*e*Pn		**Pn**	**04 39 40.5**	**-0.9**
MK32				*e*Lg		Lg	04 42 37.0	
MKAR	**Makanchi Array**	**10.54**	**247**	Pn		**Pn**	**04 39 40.5**	**-0.9**
	comp=Z,0.3nm,0.3s,baz=51,slow=16,SNR=11							
MKAR				Lg		Lg	04 42 37.0	
	comp=Z,0.6nm,0.3s,baz=12,slow=30,SNR=4.2							
MKAR				LR		LR	04 44 03.1	
	comp=Z,40nm,20.6s,baz=32,slow=40							
MKAR	**Makanchi Array**	**10.54**	**247**	*e*P		**Pn**	**04 39 40.6**	**-0.8**
MK01	**Makanchi Array**	**10.54**	**247**	*e*Pn		**Pn**	**04 39 39.3**	**-2.2**
MAKZ	**Makanchi**	**10.71**	**248**	⇓Pn		**Pn**	**04 39 40.4**	**-3.3**
	comp=Z,1.6nm,0.9s							
MAKZ				⇑Lg		Lg	04 42 38.2	
	comp=Z,34nm,1.4s							
MAKZ	**Makanchi**	**10.71**	**248**	*e*Pn		**Pn**	**04 39 44.9**	**+1.2**
MAKZ	**Makanchi**	**10.71**	**248**	*e*P		**Pn**	**04 39 44.9**	**+1.2**
KURK	**Kurchatov**	**11.25**	**272**	⇓Pn		**Pn**	**04 39 50.6**	**-0.5**
	comp=Z,10nm,2.3s							
KURK				⇑Sn		Sn	04 42 08.8	+12
	comp=Z,8.3nm,0.7s							
KURK				⇓Lg		Lg	04 42 50.2	
	comp=Z,69nm,1.6s							
KURK	**Kurchatov**	**11.25**	**272**	*e*Pn		**Pn**	**04 39 51.4**	**+0.3**
KURK				*e*Sn		Sn	04 42 10.1	+13
KURK				*e*Lg		Lg	04 42 56.0	
KURK	**Kurchatov**	**11.25**	**272**	⇑eP		**Pn**	**04 39 51.8**	**+0.7**
KURBB	**Kurchatov Arra**	**11.33**	**271**	Pn		**Pn**	**04 39 51.8**	**-0.4**
	comp=Z,0.1nm,0.3s,baz=73,slow=15,SNR=11							
KURBB				Sn		Sn	04 42 10.1	+11
	comp=Z,0.1nm,0.3s,baz=75,slow=24,SNR=4.2							
KURBB				Lg		Lg	04 42 56.0	
	comp=Z,0.1nm,0.3s,baz=76,slow=32,SNR=4.9							
KURBB	**Kurchatov Arra**	**11.33**	**271**	⇓Pn		**Pn**	**04 39 52.6**	**+0.5**
	comp=Z,7.2nm,1.6s,baz=76,slow=15							
KURBB				⇑Sn		Sn	04 42 18.1	+19
	comp=Z,21nm,0.7s							
KURBB				⇓Lg		Lg	04 42 52.8	
	comp=Z,86nm,1.4s,baz=80,slow=29							
BVAR	**Borovoye Array**	**15.95**	**285**	Pn		**Pn**	**04 40 53.1**	**-1.6**
	comp=Z,0.2nm,0.3s,baz=97,slow=12,SNR=4.2							
BRVK	**Borovoye**	**16.01**	**285**	⇑eP		**Pn**	**04 40 54.7**	**-0.7**
AAK	**Ala-Archa**	**17.47**	**247**	LR		LR	04 48 04.5	
	comp=Z,43nm,18.7s,baz=62,slow=38							
AAK	**Ala-Archa**	**17.47**	**247**	⇑eP		**Pn**	**04 41 13.5**	**-0.7**
ARU	**Arti**	**22.50**	**297**	P		**P**	**04 42 10.8**	**+0.9**
	comp=Z,3.1nm,0.2s,baz=68,slow=6.3,SNR=5.3							
ARU	**Arti**	**22.50**	**297**	*e*P		**P**	**04 42 10.8**	**+0.9**
	comp=Z,4.1nm,0.6s							
ARU	**Arti**	**22.50**	**297**	*c i*P		**P**	**04 42 11.8**	**+2.0**
ARU							04 42 32.7	
ARU				SS		Sn	04 46 49.6	+20
ARU				pmax	pmax			
	comp=Z,3.0nm,0.6s							
ABKAR	**Akbulak array**	**23.22**	**278**	*e*P		**P**	**04 42 19.1**	**+1.8**
	comp=Z,11nm,0.7s							
AKTO	**Aktyubinsk**	**24.01**	**282**	P		**P**	**04 42 24.7**	**-0.4**
	comp=Z,2.6nm,0.6s,baz=86,slow=10,SNR=14							
TIXI	**Tiksi**	**24.55**	**24**	P		**P**	**04 42 32.4**	**+2.6**
	comp=Z,2.9nm,0.6s,baz=244,slow=6.4,SNR=8.4							
TIXI	**Tiksi**	**24.55**	**24**	⇑eP		**P**	**04 42 31.9**	**+2.1**
TIXI				pmax	pmax			
	comp=Z,3.0nm,0.6s							
KSRS	**Korea Array**	**26.32**	**111**	LR		LR	04 54 29.5	
	comp=Z,11nm,18.1s,baz=250,slow=39							
YSS	**Yuzh-Sakhalins**	**30.10**	**81**	P		P	04 43 25.5	+5.7
PETK	**Petropavlovsk-**	**36.33**	**63**	LR		LR	04 59 54.0	
	comp=Z,35nm,19.2s,baz=48,slow=37							
FIA0	**FINESS Array S**	**38.05**	**313**	*e*P		**P**	**04 44 29.6**	**+1.0**
FIA0	**FINESS Array S**	**38.05**	**313**	*e*P		**P**	**04 44 29.6**	**+1.0**
FINES	**FINESS Array B**	**38.05**	**313**	P		**P**	**04 44 29.6**	**+1.0**
	comp=Z,0.6nm,0.4s,baz=77,slow=8.9,SNR=7.4							
AKASG	**Malin Array Be**	**40.75**	**296**	P		**P**	**04 44 50.6**	**-0.6**
	comp=Z,0.3nm,0.3s,baz=56,slow=9.0,SNR=3.3							
AKBB	**Malin Array Si**	**40.75**	**296**	*e*P		**P**	**04 44 50.6**	**-0.6**
	comp=Z,3.8nm,1.3s							
AKBB	**Malin Array Si**	**40.75**	**296**	*e*P		**P**	**04 44 50.6**	**-0.6**
AKBB				pmax	pmax			
	comp=Z,4.0nm,1.3s							
HFS	**Hagfors**	**44.15**	**315**	P		**P**	**04 45 19.2**	**+0.5**
	comp=Z,1.2nm,0.6s,baz=77,slow=7.6,SNR=4.8							
BR101	**Keskin Array S**	**44.15**	**280**	*e*P		**P**	**04 45 19.2**	**+0.1**
BRTR	**Keskin Array B**	**44.15**	**280**	P		**P**	**04 45 19.2**	**+0.1**
	comp=Z,0.3nm,0.6s,baz=79,slow=7.5,SNR=3.1							
NB2	**NORSAR Subarra**	**44.80**	**316**	P		**P**	**04 45 24.6**	**+0.7**
	comp=Z,0.7nm,0.5s,baz=58,slow=7.9							
NB200	**NORSAR Array S**	**44.80**	**316**	*e*P		**P**	**04 45 25.1**	**+1.2**
NOA	**NORSAR Array B**	**44.80**	**316**	P		**P**	**04 45 25.1**	**+1.2**
	comp=Z,0.9nm,0.6s,baz=61,slow=7.9,SNR=3.8							
NOA				LR		LR	05 05 52.4	
	comp=Z,16nm,18.8s,baz=85,slow=38							
ESK	**Eskdalemuir**	**54.31**	**316**	*i* P		**P**	**04 46 34.6**	**-1.9**
TOA1	**Torodi Ar. Sit**	**82.73**	**282**	*e*P		**P**	**04 49 34.8**	**+0.3**
TORD	**Torodi Ar. Bea**	**82.73**	**282**	P		**P**	**04 49 34.8**	**+0.3**
	comp=Z,0.4nm,0.7s,baz=23,slow=3.2,SNR=5.8							

PRE 27 04:41:24.0±1.4, 25°.35S×15°.39E, h5km, ML3.8, Namibia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARMS	**Ukamas**	**4.73**	**126**	*e*P	Pn	04 42 37.6	+1.5
ARMS				*e*S	Sn	04 43 30.0	-1.3
ARMS				AML	AML	04 43 35.4	
	comp=Z,33nm,0.3s						
KOMG	**Komaggas**	**4.81**	**158**	*e*P	Pn	04 42 36.7	-0.4
KOMG				*e*S	Sn	04 43 32.2	-1.0
KOMG				AML	AML	04 43 36.4	
	comp=Z,38nm,0.5s						
UPI	**Upington**	**6.04**	**121**	*e*P	Pn	04 42 55.1	+1.0
UPI				*e*S	Sn	04 44 00.3	-3.3
UPI				AML	AML	04 44 20.6	
	comp=Z,31nm,0.3s						
SUR	**Sutherland**	**8.47**	**147**	*e*P	Pn	04 43 28.4	+0.9
SUR				AML	AML	04 45 34.3	
	comp=Z,39nm,0.5s						

IDC 27 04:44:30.3±2.9, 6°.75S×127°.45E, h419km, 33km, mb3.3/3, mb1 3.5/6, mb1mx2.9/53, mbtmp4.3/6, Error ellipse: s-maj=48.7km s-min=12.5km az=60.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**5.08**	**227**	P	P	04 45 54.0	+0.1
	8.4nm,0.3s,baz=66,slow=9.2,SNR=5.4						
BATI				S	S	04 47 02.5	+0.1
	8.1nm,0.3s,baz=330,slow=20,SNR=9.7						
WRA	**Warramunga Arr**	**14.72**	**154**	P	P	04 47 38.5	-0.7
	2.3nm,0.3s,baz=334,slow=11,SNR=160						
WRA				S	S	04 50 13.1	-2.4
	0.3nm,0.3s,baz=334,slow=21,SNR=6.2						
ASAR	**Alice Springs**	**17.93**	**160**	P	P	04 48 13.9	+0.5
	1.3nm,0.3s,baz=343,slow=11,SNR=63						
ASAR				S	S	04 51 17.8	+0.2
	0.1nm,0.3s,baz=336,slow=20,SNR=5.3						
STKA	**Stephens Creek**	**28.27**	**154**	P	P	04 49 48.0	+0.4
	1.8nm,0.4s,baz=331,slow=9.1,SNR=13						
MKAR	**Makanchi Array**	**66.65**	**328**	P	P	04 54 37.8	0.0
	0.4nm,0.4s,baz=117,slow=8.1,SNR=7.6						
KURBB	**Kurchatov Arra**	**71.00**	**329**	P	P	04 55 03.9	-0.2
	0.9nm,0.5s,baz=132,slow=5.1,SNR=8.7						

*ISCJB **27** 04:45:13.8±0.5, 39°.10N±0°.03×29°.11E±0°.03, h1km±5km,*
Error ellipse: s-maj=4.8km s-min=3.5km az=169.4
*CSEM **27** 04:45:13.9±0.1, 39°.10N×29°.11E, h2km, ML2.5, Error*
ellipse: s-maj=2.9km s-min=2.3km az=128.0
*DDA **27** 04:45:13.3, 39°.11N×29°.11E, h7km, Ml2.7*
*ISK **27** 04:45:13.7, 39°.08N×29°.11E, h5km, ML2.5/8*

ISC 27 04:45:14.0±0.9, 39°.09N±0°.02×29°.12E±0°.02, h8km±6km, n41, σ0°.62/74, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIMA	**Simav-Kutahya**	**0.10**	**269**	PG	**Pg**	**04 45 16.7**	**+0.2**
SIMA				SG	**Sg**	**04 45 18.7**	**+0.4**
SIMA	**Simav-Kutahya**	**0.10**	**269**	*e*Pg	**Pg**	**04 45 16.7**	**+0.2**
SIMA				*e*Sg	**Sg**	**04 45 18.7**	**+0.4**
GDZ	**Gediz**	**0.28**	**89**	*i* P	**Pg**	**04 45 19.2**	**-0.5**
GDZ				*i* S	**Sg**	**04 45 23.6**	**+0.1**
GDZ	**Gediz**	**0.28**	**89**	P	**Pg**	**04 45 19.2**	**-0.5**
GDZ				S	**Sg**	**04 45 23.6**	**+0.1**
DEMI	**Demirci**	**0.32**	**263**	*i* P	**Pg**	**04 45 20.3**	**0.0**
DEMI				*i* S	**Sg**	**04 45 24.5**	**+0.1**
DEMI	**Demirci**	**0.32**	**263**	P	**Pg**	**04 45 20.3**	**0.0**
DEMI				S	**Sg**	**04 45 24.5**	**+0.1**
TVSB	**Tavsanli**	**0.45**	**36**	PG	**Pg**	**04 45 21.6**	**-1.2**
TVSB	**Tavsanli**	**0.45**	**36**	*e*Pg	**Pg**	**04 45 21.6**	**-1.2**
KULA	**Kula-Manisa**	**0.67**	**212**	PG	**Pg**	**04 45 27.2**	**+0.2**
KULA				SG	**Sg**	**04 45 35.9**	**+0.2**
KULA	**Kula-Manisa**	**0.67**	**212**	*e*Pg	**Pg**	**04 45 27.2**	**+0.2**
KULA				*e*Sg	**Sg**	**04 45 35.9**	**+0.2**
DURS	**Dursunbey**	**0.72**	**316**	*i* P	**Pg**	**04 45 27.6**	**-0.2**
DURS				*i* S	**Sg**	**04 45 36.3**	**-0.9**
DURS	**Dursunbey**	**0.72**	**316**	P	**Pg**	**04 45 27.6**	**-0.2**
DURS				S	**Sg**	**04 45 36.3**	**-0.9**
MANT	**Manisa**	**0.74**	**217**	*i* P	**Pg**	**04 45 28.4**	**+0.2**
MANT				*i* S	**Sg**	**04 45 38.0**	**+0.2**
MANT	**Manisa**	**0.74**	**217**	P	**Pg**	**04 45 28.4**	**+0.2**
MANT				S	**Sg**	**04 45 38.0**	**+0.2**
KHAL	**Karahalli**	**0.77**	**158**	*i* P	**Pb**	**04 45 29.4**	**-0.3**
KHAL				*i* S	**Sb**	**04 45 39.9**	**-0.4**
KHAL	**Karahalli**	**0.77**	**158**	P	**Pb**	**04 45 29.4**	**-0.3**
KHAL				S	**Sb**	**04 45 39.9**	**-0.4**
BALB	**Balikesir**	**1.11**	**300**	PN	**Pg**	**04 45 34.6**	**-0.7**
BALB				SN	**Sn**	**04 45 51.1**	**-0.1**
BALB	**Balikesir**	**1.11**	**300**	*e*Pn	**Pg**	**04 45 34.6**	**-0.7**
BALB				*e*Sn	**Sn**	**04 45 51.1**	**-0.1**
STEP	**BALIKESIR_Sava**	**1.13**	**285**	*i* P	**Pg**	**04 45 35.0**	**-0.6**
STEP				*i* S	**Sg**	**04 45 49.3**	**-0.9**
STEP	**BALIKESIR_Sava**	**1.13**	**285**	P	**Pg**	**04 45 35.0**	**-0.6**
STEP				S	**Sg**	**04 45 49.3**	**-0.9**
IGD	**Bursa**	**1.18**	**3**	*i* P	**Pb**	**04 45 36.3**	**-0.3**
IGD				*i* S	**Sb**	**04 45 51.9**	**-0.2**
CAVI	**Cavuskoy**	**1.25**	**26**	PN	**Pn**	**04 45 38.6**	**+0.8**
CAVI				SN	**Sn**	**04 45 55.9**	**+1.1**
CAVI	**Cavuskoy**	**1.25**	**26**	*e*Pn	**Pn**	**04 45 38.6**	**+0.8**
CAVI				*e*Sn	**Sn**	**04 45 55.9**	**+1.1**
MDNY	**Mudanya-Bursa**	**1.29**	**352**	PN	**Pg**	**04 45 39.0**	**+0.1**
MDNY				SN	**Sn**	**04 45 57.3**	**+1.4**
MDNY	**Mudanya-Bursa**	**1.29**	**352**	*e*Pn	**Pg**	**04 45 39.0**	**+0.1**
MDNY				*e*Sn	**Sn**	**04 45 57.3**	**+1.4**
BORA	**Eskisehir**	**1.30**	**52**	*i* P	**Pn**	**04 45 37.6**	**-1.0**
BORA				*i* S	**Sb**	**04 45 55.8**	**+0.1**
BORA	**Eskisehir**	**1.30**	**52**	P	**Pn**	**04 45 37.6**	**-1.0**
BORA				S	**Sb**	**04 45 55.8**	**+0.1**
KCTX	**Karacabey (Bur**	**1.32**	**334**	PN	**Pg**	**04 45 39.5**	**+0.2**
KCTX				SN	**Sn**	**04 45 57.4**	**+0.9**
KCTX	**Karacabey (Bur**	**1.32**	**334**	*e*Pn	**Pg**	**04 45 39.5**	**+0.2**
KCTX				*e*Sn	**Sn**	**04 45 57.4**	**+0.9**
ADVT	**Abdulvahap**	**1.43**	**19**	PN	**Pg**	**04 45 41.7**	**+0.3**
ADVT				SN	**Sg**	**04 46 01.1**	**+1.1**
ADVT	**Abdulvahap**	**1.43**	**19**	*e*Pn	**Pg**	**04 45 41.7**	**+0.3**
ADVT				*e*Sn	**Sg**	**04 46 01.1**	**+1.1**
GONE	**Gonen-Balikesi**	**1.47**	**311**	PN	**Pb**	**04 45 41.2**	**-0.3**
GONE	**Gonen-Balikesi**	**1.47**	**311**	*e*Pn	**Pb**	**04 45 41.2**	**-0.3**
AYDB	**Zeytinkoy-Aydi**	**1.49**	**221**	PN	**Pg**	**04 45 42.3**	**-0.3**
AYDB	**Zeytinkoy-Aydi**	**1.49**	**221**	*e*Pn	**Pg**	**04 45 42.3**	**-0.3**
ARMT	**Armutlu**	**1.49**	**352**	PN	**Pg**	**04 45 42.6**	**0.0**
ARMT				SN	**Sg**	**04 46 01.4**	**-0.6**
ARMT	**Armutlu**	**1.49**	**352**	*e*Pn	**Pg**	**04 45 42.6**	**0.0**
ARMT				*e*Sn	**Sg**	**04 46 01.4**	**-0.6**
YLV	**Yalova**	**1.49**	**7**	PN	**Pb**	**04 45 41.9**	**-0.1**
YLV				SN	**Sg**	**04 46 02.5**	**+0.5**
YLV	**Yalova**	**1.49**	**7**	*e*Pn	**Pb**	**04 45 41.9**	**-0.1**
YLV				*e*Sn	**Sg**	**04 46 02.5**	**+0.5**
GULT	**Gulveren**	**1.72**	**38**	PN	**Pb**	**04 45 45.2**	**-0.7**
GULT	**Gulveren**	**1.72**	**38**	*e*Pn	**Pb**	**04 45 45.2**	**-0.7**

IDC 27 05:09:05.0±3.5, 3°.44N×95°.13E, h0km, mb3.7/5, mb1 3.7/5, mb1mx3.4/69, mbtmp3.7/5, Error ellipse: s-maj=137.1km s-min=27.4km az=57.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**44.60**	**347**	P	P	05 17 19.2	+0.1
	0.8nm,0.5s,baz=167,slow=8.6,SNR=7.0						
WRA	**Warramunga Arr**	**44.97**	**123**	P	P	05 17 22.2	-0.2
	0.5nm,0.6s,baz=302,slow=8.7,SNR=6.3						
SONM	**Songino Array**	**45.28**	**11**	P	P	05 17 24.4	-0.2
	0.2nm,0.5s,baz=203,slow=9.3,SNR=2.4						
KURBB	**Kurchatov Arra**	**49.06**	**346**	P	P	05 17 52.8	-1.1
	0.3nm,0.2s,baz=170,slow=6.4,SNR=6.4						
ZALV	**Zalesovo Beam**	**51.05**	**352**	P	P	05 18 09.7	+0.7
	0.7nm,0.5s,baz=165,slow=12,SNR=2.8						

*ISCJB **27** 05:11:05.7±0.6, 39°.07N±0°.03×29°.13E±0°.04, h1km±5km,*
Error ellipse: s-maj=4.9km s-min=4.2km az=18.9
*ISK **27** 05:11:05.9, 39°.06N×29°.11E, h6km, ML2.9/13*
*DDA **27** 05:11:05.7, 39°.11N×29°.13E, h7km, Ml3.2*
*CSEM **27** 05:11:06.0±0.2, 39°.07N×29°.12E, h2km, ML2.9, Error*
ellipse: s-maj=3.8km s-min=3.1km az=124.0

ISC 27 05:11:05.9±0.9, 39°.08N±0°.02×29°.12E±0°.02, h7km±7km, n57, σ0°.59/71, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIMA	**Simav-Kutahya**	**0.11**	**270**	PG	**Pg**	**05 11 08.6**	**+0.2**
SIMA				SG	**Sg**	**05 11 10.3**	**+0.2**
SIMA	**Simav-Kutahya**	**0.11**	**270**	*e*Pg	**Pg**	**05 11 08.6**	**+0.2**
SIMA				*e*Sg	**Sg**	**05 11 10.3**	**+0.2**
GDZ	**Gediz**	**0.28**	**89**	*i* P	**Pg**	**05 11 10.9**	**-0.6**
GDZ	**Gediz**	**0.28**	**89**	P	**Pg**	**05 11 10.9**	**-0.6**
DEMI	**Demirci**	**0.32**	**263**	*i* P	**Pg**	**05 11 12.2**	**0.0**
DEMI				*i* S	**Sg**	**05 11 16.5**	**+0.1**
DEMI	**Demirci**	**0.32**	**263**	P	**Pg**	**05 11 12.2**	**0.0**
DEMI				S	**Sg**	**05 11 16.5**	**+0.1**
TVSB	**Tavsanli**	**0.45**	**36**	PG	**Pg**	**05 11 13.4**	**-1.3**
TVSB	**Tavsanli**	**0.45**	**36**	*e*Pg	**Pg**	**05 11 13.4**	**-1.3**
KULA	**Kula-Manisa**	**0.67**	**213**	PG	**Pg**	**05 11 19.1**	**+0.2**
KULA				SG	**Sg**	**05 11 28.3**	**+0.7**
KULA	**Kula-Manisa**	**0.67**	**213**	*e*Pg	**Pg**	**05 11 19.1**	**+0.2**
KULA				*e*Sg	**Sg**	**05 11 28.3**	**+0.7**
DURS	**Dursunbey**	**0.72**	**316**	*i* P	**Pg**	**05 11 19.2**	**-0.6**
DURS	**Dursunbey**	**0.72**	**316**	P	**Pg**	**05 11 19.2**	**-0.6**
MANT	**Manisa**	**0.74**	**217**	*i* P	**Pg**	**05 11 20.3**	**+0.1**
MANT				*i* S	**Sg**	**05 11 28.8**	**-0.9**
MANT	**Manisa**	**0.74**	**217**	P	**Pg**	**05 11 20.3**	**+0.1**
MANT				S	**Sg**	**05 11 28.8**	**-0.9**
KHAL	**Karahalli**	**0.77**	**158**	*i* P	**Pb**	**05 11 21.5**	**-0.2**
KHAL	**Karahalli**	**0.77**	**158**	P	**Pb**	**05 11 21.5**	**-0.2**
ORLT	**Orhaneli**	**0.98**	**350**	PG	**Pb**	**05 11 25.8**	**+0.6**
ORLT				SG	**Sn**	**05 11 39.9**	**-0.4**
ORLT	**Orhaneli**	**0.98**	**350**	*e*Pg	**Pb**	**05 11 25.8**	**+0.6**
ORLT

IDC ***27*** *05:17:20.7±1.8,44°.98N×147°.16E,h166km±16km, mb3.8/21,mb1 4.0/25,mb1mx3.7/66,mbtmp4.2/25,Error ellipse: s-maj=16.2km s-min=11.0km az=174.0*

SKHL ***27*** *05:17:20.0±0.7,45°.05N×147°.15E,h145km±4km, mb5.3/6, msh5.9/5*

JMA ***27*** *05:17:21.2±0.4,44°.61N×147°.38E,h157km, M4.2*

ISC 27 05:17:19.2±0.6,44°.85N±0'.06×147°.36E±0'.05,h156km±4km, n255,σ1§24/270,mb4.2/109,11C-7D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Dp	ISC	h m s	ISC
KUR	**Kuril'sk**	**0.53**	**43**	*i* P	**Pn**	**05 17 42.7**	**+1.4**
KUR				AMB	AMB	05 17 43.6	
	270nm,0.3s						
KUR				*i* S	**Sn**	**05 17 59.3**	**+1.0**
KUR				A	A	05 18 03.7	
	980nm,0.5s						
KUR				A	A	05 18 03.7	
	1μm,0.5s						
KUR	**Kuril'sk**	**0.53**	**43**	*c i* PN	**Pn**	**05 17 42.7**	**+1.4**
KUR				*i* S	**Sn**	**05 17 59.2**	**+1.0**
KUR				pmax	pmax		
	comp=E,64nm,0.3s						
KUR				pmax	pmax		
	comp=Z,185nm,0.3s						
KUR				pmax	pmax		
	comp=N,49nm,0.2s						
KUR				smax	smax		
	comp=N,529nm,0.3s						
KUR				smax	smax		
	comp=E,379nm,0.3s						
SHO	**Shikotan**	**1.05**	**202**	*e*P	**Pn**	**05 17 44.4**	**-0.5**
SHO				AMB	AMB	05 17 45.8	
	comp=E,362nm,0.4s						
SHO				*i* S	**Sn**	**05 18 02.6**	**-1.9**
SHO				A	A	05 18 03.2	
	comp=E,7μm,0.5s						
SHO				A	A	05 18 03.2	
	comp=E,1μm,0.5s						
SHO	**Shikotan**	**1.05**	**202**	*d i* PN	**Pn**	**05 17 44.4**	**-0.5**
SHO				*i* S	**Sn**	**05 18 02.6**	**-1.9**
SHO				pmax	pmax		
	comp=E,136nm,0.4s						
SHO				pmax	pmax		
	comp=Z,362nm,0.4s						
SHO				pmax	pmax		
	comp=N,296nm,0.2s						
SHO				smax	smax		
	comp=N,7μm,0.5s						
SHO				smax	smax		
	comp=E,12μm,0.3s						
YUK	**Yuzh-Kuril'sk**	**1.34**	**233**	*i* P	**Pn**	**05 17 48.9**	**+1.3**
YUK				AMB	AMB	05 17 49.6	
	comp=E,1μm,0.2s						
YUK				*i* S	**Sn**	**05 18 10.9**	**+1.6**
YUK				A	A	05 18 13.5	
	comp=E,960nm,0.3s						
YUK				A	A	05 18 13.5	
	comp=E,2μm,0.3s						
YUK	**Yuzh-Kuril'sk**	**1.34**	**233**	*d i* PN	**Pn**	**05 17 48.9**	**+1.3**
YUK				*i* S	**Sn**	**05 18 10.9**	**+1.6**
YUK				pmax	pmax		
	comp=E,530nm,0.2s						
YUK				pmax	pmax		
	comp=Z,1μm,0.2s						
YUK				pmax	pmax		
	comp=N,249nm,0.1s						
YUK				smax	smax		
	comp=N,958nm,0.3s						
YUK				smax	smax		
	comp=E,2μm,0.3s						
LAGR	**Lagunnoye**	**1.38**	**236**	*e*P	**Pn**	**05 17 49.2**	**+1.3**
LAGR				AMB	AMB	05 17 52.3	
	comp=E,1μm,0.3s						
LAGR				*i* S	**Sn**	**05 18 10.6**	**+0.7**
LAGR				A	A	05 18 18.1	
	comp=E,2μm,0.4s						
LAGR				A	A	05 18 18.1	
	comp=E,2μm,0.4s						
LAGR	**Lagunnoye**	**1.38**	**236**	*e*PN	**Pn**	**05 17 49.2**	**+1.3**
LAGR				*i* S	**Sn**	**05 18 12.6**	**+2.7**
LAGR				pmax	pmax		
	comp=E,401nm,0.3s						
LAGR				pmax	pmax		
	comp=Z,1μm,0.3s						
LAGR				pmax	pmax		
	comp=N,457nm,0.2s						
LAGR				smax	smax		
	comp=N,2μm,0.4s						
LAGR				smax	smax		
	comp=E,2μm,0.4s						
GRPR	**Tuman**	**1.42**	**234**	*e*P	**Pn**	**05 17 49.7**	**+1.3**
GRPR				AMB	AMB	05 17 52.5	
	comp=E,920nm,0.3s						
GRPR	**Tuman**	**1.42**	**234**	*i* PN	**Pn**	**05 17 49.7**	**+1.3**
GRPR				pmax	pmax		
	comp=Z,924nm,0.3s						
GRPR				pmax	pmax		
	comp=N,1μm,0.4s						
GLVR	**Golovnino**	**1.72**	**231**	*e*P	**Pn**	**05 17 53.0**	**+1.5**
GLVR				AMB	AMB	05 17 55.8	
	comp=N,560nm,0.3s						
GLVR				*e*S	**Sn**	**05 18 18.3**	**+2.0**
GLVR				A	A	05 18 24.3	
	comp=N,2μm,0.3s						
GLVR				A	A	05 18 24.3	
	comp=N,2μm,0.3s						
GLVR	**Golovnino**	**1.72**	**231**	*e*PN	**Pn**	**05 17 53.0**	**+1.5**
GLVR				*e*S	**Sn**	**05 18 18.3**	**+2.0**
GLVR				pmax	pmax		
	comp=N,404nm,0.3s						
GLVR				pmax	pmax		
	comp=Z,564nm,0.3s						
GLVR				pmax	pmax		
	comp=E,448nm,0.4s						
GLVR				smax	smax		
	comp=N,3μm,0.3s						
GLVR				smax	smax		
	comp=E,2μm,0.3s						
JRA	**Rausu**	**1.84**	**241**	P	**Pn**	**05 17 54.1**	**+1.3**
JRA				*e*S	**Sn**	**05 18 20.7**	**+2.0**
NEM2	**Nemuro 2**	**1.88**	**219**	P	**Pn**	**05 17 53.4**	**+0.1**
NEM2				*e*S	**Sn**	**05 18 17.8**	**-1.7**
JNK	**Nakash**	**2.28**	**237**	P	**Pn**	**05 17 59.1**	**+1.2**
JTKR	**Abashiri--Toko**	**2.62**	**252**	P	**Pn**	**05 18 03.3**	**+1.3**
JTKR				*e*S	**Sn**	**05 18 36.2**	**+1.1**
JAK	**Akkeshi**	**2.67**	**227**	P	**Pn**	**05 18 03.0**	**+0.4**
JAK				*e*S	**Sn**	**05 18 35.5**	**-0.6**
JMP	**Maruseppu**	**2.99**	**255**	P	**Pn**	**05 18 07.9**	**+1.3**
JAR	**Ashorobuto**	**3.02**	**240**	P	**Pn**	**05 18 08.6**	**+1.7**
JSE	**Soyaes**	**3.40**	**274**	P	**Pn**	**05 18 12.7**	**+1.0**
JKK2	**Kamakawa 2**	**3.45**	**255**	P	**Pn**	**05 18 14.3**	**+1.9**
JKK2				*e*S	**Sn**	**05 18 55.4**	**+1.7**
ASAJ	**Asahikawa**	**3.49**	**260**	P	**Pn**	**05 18 14.4**	**+1.5**
	comp=E,35nm,0.3s,baz=86,slow=18,SNR=69						
ASAJ				S	**Sn**	**05 18 57.3**	**+2.7**
	baz=59,slow=33,SNR=2.5						
ASAJ	**Asahikawa**	**3.49**	**260**	*e*Pn	**Pn**	**05 18 15.0**	**+2.1**
ASAJ				S	**Sn**	**05 18 57.3**	**+2.7**
JCH	**Churui**	**3.66**	**234**	P	**Pn**	**05 18 15.6**	**+0.5**
JCH				*e*S	**Sn**	**05 18 56.7**	**-1.8**
JFR	**Furan**	**3.83**	**246**	P	**Pn**	**05 18 19.1**	**+1.8**
YSS	**Yuzh-Sakhalins**	**3.84**	**305**	*e*P	**Pn**	**05 18 14.4**	**-3.1**
YSS	**Yuzh-Sakhalins**	**3.84**	**305**	*e*Pn	Pn	05 18 12.2	-5.3
YSS	**Yuzh-Sakhalins**	**3.84**	**305**	*e*PN	Pn	05 18 05.1	-12
YSS				pmax	pmax		
	comp=Z,30nm,0.8s						
YSS				pmax	pmax		
	comp=N,40nm,0.5s						
YSS				pmax	pmax		
	comp=E,20nm,0.6s						
ERM	**Erimo**	**4.17**	**229**	*e*P	**Pn**	**05 18 23.1**	**+1.4**
ERM	**Erimo**	**4.17**	**229**	*e*Pn	**Pn**	**05 18 23.2**	**+1.4**
ERM				*e*Sn	**Sn**	**05 19 09.0**	**-1.4**
ERM	**Erimo**	**4.17**	**229**	*c i* PN	**Pn**	**05 18 23.1**	**+1.4**
JNBK	**Urakawa-nobuka**	**4.22**	**234**	P	**Pn**	**05 18 21.9**	**-0.5**
JKB	**Kayabe**	**5.48**	**240**	P	**Pn**	**05 18 38.4**	**-0.5**
JOT	**Ohata**	**5.77**	**235**	P	**Pn**	**05 18 41.8**	**-1.0**
TYV	**Tymovskoe**	**6.80**	**334**	*e*P	**Pn**	**05 18 56.0**	**-0.4**
SKR	**Severo-Kuril's**	**8.30**	**42**	*e*P	**Pn**	**05 19 17.6**	**+1.3**
SKR	**Severo-Kuril's**	**8.30**	**42**	*e*PN	**Pn**	**05 19 16.1**	**-0.2**
SKR				pmax	pmax		
	comp=Z,39nm,0.7s						
GRNR	**Gornyy**	**9.44**	**313**	*i* PN	**Pn**	**05 19 31.7**	**+0.1**
PEA0B	**Petropavlovsk-**	**10.69**	**36**	*e*Pn	**Pn**	**05 19 47.5**	**-0.5**
PETK	**Petropavlovsk-**	**10.69**	**36**	P	**Pn**	**05 19 47.3**	**-0.7**
	comp=Z,0.6nm,0.3s,baz=183,slow=9.6,SNR=9.1						
PETK	**Petropavlovsk-**	**10.69**	**36**	*e*Pn	**Pn**	**05 19 47.4**	**-0.6**
PETK	**Petropavlovsk-**	**10.69**	**36**	*e*PN	**Pn**	**05 19 47.4**	**-0.6**
PEA1	**Petropavlovsk-**	**10.70**	**36**	*e*Pn	**Pn**	**05 19 47.3**	**-0.8**
MJAR	**Matsushiro Arr**	**10.81**	**223**	P	**Pn**	**05 19 49.2**	**-0.6**
	comp=Z,0.7nm,0.3s,baz=37,slow=14,SNR=2.9						
MJB9	**Matsu-Tunnel**	**10.81**	**223**	*e*Pn	**Pn**	**05 19 50.0**	**+0.3**
MAJO	**Matsushiro**	**10.81**	**223**	*e*Pn	**Pn**	**05 19 49.2**	**-0.6**
MAJO	**Matsushiro**	**10.81**	**223**	*e*PN	**Pn**	**05 19 49.2**	**-0.6**
USRK	**Ussuriysk Ar.**	**11.00**	**272**	P	**Pn**	**05 19 52.2**	**+0.1**
	comp=Z,0.3nm,0.3s,baz=83,slow=13,SNR=5.1						
KLR	**Kul'dur**	**11.52**	**298**	P	**Pn**	**05 19 58.0**	**-0.8**
	comp=Z,0.0nm,0.3s,baz=110,slow=15,SNR=7.1						
KLR	**Kul'dur**	**11.52**	**298**	*e*P	**Pn**	**05 19 55.5**	**-3.3**
KLR	**Kul'dur**	**11.52**	**298**	*e*PN	**Pn**	**05 19 55.5**	**-3.3**
BJT	**Baijiatuao**	**23.44**	**269**	*e*P	**P**	**05 22 15.3**	**+1.1**
	comp=Z,9.4nm,0.5s						
BJT	**Baijiatuao**	**23.44**	**269**	*e*P	**P**	**05 22 15.3**	**+1.1**
BJT				pmax	pmax		
	comp=Z,9.0nm,0.5s						
BOD	**Bodaibo**	**24.26**	**314**	*e*P	**P**	**05 22 17.7**	**-3.8**
BOD				pmax	pmax		
	comp=Z,4.0nm,1.5s						
ULN	**Ulaanbaatar**	**27.76**	**291**	*e*P	**P**	**05 22 53.1**	**-0.2**
	comp=Z,2.6nm,0.7s						
ULN	**Ulaanbaatar**	**27.76**	**291**	*c e*P	**P**	**05 22 53.6**	**+0.3**
ULN				pmax	pmax		
	comp=Z,2.0nm,0.8s						
SONA1	**Songino Array**	**28.20**	**291**	*e*P	**P**	**05 22 57.4**	**+0.2**
SONA0	**Songino Array**	**28.20**	**291**	*e*P	**P**	**05 22 57.1**	**-0.1**
SONM	**Songino Array**	**28.20**	**291**	P	**P**	**05 22 57.1**	**-0.1**
	comp=Z,2.0nm,0.5s,baz=80,slow=8.5,SNR=15						
SONM	**Songino Array**	**28.20**	**291**	*e*P	**P**	**05 22 57.8**	**+0.6**
SONM				pmax	pmax		
	comp=Z,2.0nm,0.5s						
TIXI	**Tiksi**	**28.32**	**348**	*e*P	**P**	**05 22 58.5**	**+0.8**
TIXI				pmax	pmax		
	comp=Z,1.0nm,0.9s						
H11N2	**WAKE ISLAND Hy**	**29.84**	**141**	T	T	05 54 34.9	
	baz=330,slow=75,SNR=99						
H11N1	**WAKE ISLAND Hy**	**29.85**	**141**	T	T	05 54 28.2	
	baz=330,slow=75,SNR=62						
H11N3	**WAKE ISLAND Hy**	**29.86**	**141**	T	T	05 54 29.5	
	baz=330,slow=75,SNR=78						
H11S1	**WAKE ISLAND Hy**	**30.83**	**142**	T	T	05 55 38.3	
	baz=332,slow=76,SNR=229						
H11S3	**WAKE ISLAND Hy**	**30.84**	**142**	T	T	05 55 41.6	
	baz=332,slow=76,SNR=139						
H11S2	**WAKE ISLAND Hy**	**30.85**	**142**	T	T	05 55 42.3	
	baz=332,slow=76,SNR=104						
IM3	**Indian Mountai**	**37.66**	**35**	*e*P	**P**	**05 24 19.2**	**+0.5**
OHAK	**Old Harbor**	**38.09**	**49**	*e*P	**P**	**05 24 22.3**	**-0.1**
	comp=Z,13nm,1.4s						
PPLA	**Purkeypile**	**38.24**	**40**	*e*P	**P**	**05 24 25.6**	**+1.8**
	comp=Z,5.4nm,1.1s						
CAST	**Castle Rocks**	**38.28**	**39**	*e*P	**P**	**05 24 25.2**	**+1.3**
	comp=Z,4.9nm,0.7s						
SPU	**Mount Spurr**	**38.36**	**43**	*e*P	**P**	**05 24 26.4**	**+1.7**
KDAK	**Kodiak Island**	**38.40**	**48**	*e*P	**P**	**05 24 25.0**	**0.0**
KDAK	**Kodiak Island**	**38.40**	**48**	*e*P	**P**	**05 24 25.2**	**+0.3**
	comp=Z,18nm,1.4s						
KDAK	**Kodiak Island**	**38.40**	**48**	*i* P	**P**	**05 24 25.0**	**0.0**
BPAW	**Bear Paw Mtn.**	**38.76**	**38**	*e*P	**P**	**05 24 29.2**	**+1.2**
	comp=Z,8.4nm,1.5s						
KTH	**Kantishna Hill**	**38.80**	**39**	*e*P	**P**	**05 24 29.7**	**+1.3**
	comp=Z,6.5nm,0.9s						
MLY	**Manley**	**38.87**	**37**	*e*P	**P**	**05 24 30.2**	**+1.3**
	comp=Z,2.3nm,0.8s						
SUA	**Susitna One**	**38.98**	**42**	*e*P	**P**	**05 24 30.1**	**+0.2**
	comp=Z,4.1nm,0.7s						
BRLK	**Bradley Lake**	**39.05**	**45**	*e*P	**P**	**05 24 30.5**	**+0.1**
	comp=Z,4.4nm,1.1s						
TRF	**Thorofare Moun**	**39.09**	**39**	*e*P	**P**	**05 24 31.8**	**+0.9**
	comp=Z,5.6nm,1.4s						
COLD	**Coldfoot**	**39.15**	**33**	*e*P	**P**	**05 24 31.6**	**+0.4**
	comp=Z,1.3nm,0.5s						
TOLK	**Toolik Lake Re**	**39.47**	**31**	*e*P	**P**	**05 24 34.3**	**+0.5**
	comp=Z,2.2nm,1.3s						
MCK	**McKinley**	**39.68**	**39**	*e*P	**P**	**05 24 36.8**	**+1.2**
	comp=Z,3.6nm,1.0s						
MCK	**McKinley**	**39.68**	**39**	*e*P	**P**	**05 24 36.8**	**+1.2**
MCK				pmax	pmax		
	comp=Z,4.0nm,1.0s						
RND	**Reindeer**	**39.73**	**39**	*e*P	**P**	**05 24 36.5**	**+0.4**
	comp=Z,3.2nm,0.9s						
RND	**Reindeer**	**39.73**	**39**	*e*P	**P**	**05 24 36.5**	**+0.4**
RND				pmax	pmax		
	comp=Z,3.0nm,0.9s						
PMR	**Palmer**	**39.74**	**42**	*e*P	**P**	**05 24 37.2**	**+1.2**
	comp=Z,4.7nm,1.3s						
PMR	**Palmer**	**39.74**	**42**	*e*P	**P**	**05 24 37.2**	**+1.2**
PMR				pmax	pmax		
	comp=Z,5.0nm,1.3s						
GHO	**Glory Hole Cre**	**39.82**	**42**	*e*P	**P**	**05 24 37.8**	**+1.0**
	comp=Z,8.7nm,0.8s						
MDM	**Murphy Dome**	**39.94**	**37**	*e*P	**P**	**05 24 38.5**	**+0.8**
	comp=Z,5.3nm,0.9s						
DGZ	**Jazzator, Alta**	**40.01**	**299**	*e*P	**P**	**05 24 39.5**	**+0.9**
DGZ				pmax	pmax		
	comp=Z,1.0nm,1.3s						
WRH	**Wood River Hil**	**40.02**	**37**	*e*P	**P**	**05 24 38.9**	**+0.6**
	comp=Z,3.7nm,1.1s						
SML	**Sawmill**	**40.10**	**42**	*e*P	**P**	**05 24 40.0**	**+1.0**
	comp=Z,12nm,0.7s						
SML	**Sawmill**	**40.10**	**42**	*e*P	**P**	**05 24 40.0**	**+1.0**
SML				pmax	pmax		
	comp=Z,12nm,0.7s						
COLA	**College**	**40.10**	**37**	*e*P	**P**	**05 24 39.7**	**+0.7**
COLA	**College**	**40.10**	**37**	*e*P	**P**	**05 24 40.3**	**+1.3**
	comp=Z,14nm,0.4s						
COLA	**College**	**40.10**	**37**	*e*P	**P**	**05 24 40.3**	**+1.3**
COLA				pmax	pmax		
	comp=Z,14nm,0.4s						
CCB	**Clear Creek Bu**	**40.13**	**37**	*e*P	**P**	**05 24 39.7**	**+0.5**
	comp=Z,6.0nm,1.5s						
DHY	**Denali Highway**	**40.42**	**40**	*e*P	**P**	**05 24 42.6**	**+0.7**
	comp=Z,3.2nm,0.7s						
ZAA1	**Zalesovo Array**	**40.47**	**306**	*e*P	**P**	**05 24 41.4**	**-0.8**
ZALV	**Zalesovo Beam**	**40.47**	**306**	P	**P**	**05 24 41.4**	**-0.8**
	comp=Z,0.7nm,0.3s,baz=72,slow=7.0,SNR=3.5						
IL1	**Eielson Array**	**40.52**	**37**	*e*P	**P**	**05 24 43.0**	**+0.5**
ILAR	**Eielson Array**	**40.52**	**37**	P	**P**	**05 24 42.8**	**+0.4**
	comp=Z,2.2nm,0.6s,baz=276,slow=9.0,SNR=34						
ILB	**Eielson Array**	**40.52**	**37**	*e*P	**P**	**05 24 42.8**	**+0.4**
SCM	**Sheep Creek Mo**	**40.57**	**42**	*e*P	**P**	**05 24 44.1**	**+1.1**
	comp=Z,4.1nm,0.8s						
SCM	**Sheep Creek Mo**	**40.57**	**42**	*e*P	**P**	**05 24 44.1**	**+1.1**
SCM				pmax	pmax		
	comp=Z,4.0nm,0.8s						
KLU	**Klutina**	**41.28**	**42**	*e*P	**P**	**05 24 49.8**	**+1.0**
	comp=Z,6.6nm,1.1s						
RIDG	**Independ'e Rid**	**41.49**	**38**	*e*P	**P**	**05 24 50.5**	**0.0**
	comp=Z,2.8nm,0.6s						
HARP	**HAARP**	**41.51**	**40**	*e*P	**P**	**05 24 52.8**	**+2.2**
	comp=Z,7.2nm,0.7s						
SCRK	**Sand Creek**	**41.84**	**38**	*e*P	**P**	**05 24 53.7**	**+0.3**
	comp=Z,3.4nm,0.8s						
DOT	**Dot Lake**	**41.85**	**39**	*e*P	**P**	**05 24 53.5**	**+0.1**
	comp=Z,6.9nm,0.7s						
BMRM	**Bremner River**	**41.99**	**43**	*e*P	**P**	**05 24 55.5**	**+1.0**
	comp=Z,6.2nm,1.0s						
RAGM	**Ragged Mountai**	**42.05**	**43**	*e*P	**P**	**05 24 56.5**	**+1.4**
	comp=Z,7.8nm,0.9s						
MENT	**Mentasta**	**42.10**	**40**	*e*P	**P**	**05 24 56.6**	**+1.3**
	comp=Z,5.4nm,1.3s						
TGL	**Tana Glacier**	**42.88**	**43**	*e*P	**P**	**05 25 03.1**	**+1.3**
	comp=Z,4.9nm,0.9s						
EGAK	**Eagle**	**42.96**	**37**	*e*P	**P**	**05 25 02.8**	**+0.5**
	comp=Z,5.4nm,0.6s						
BALM	**Baldy**	**43.06**	**42**	*e*P	**P**	**05 25 04.6**	**+1.4**
	comp=Z,12nm,1.4s						
BALM	**Baldy**	**43.06**	**42**	*e*P	**P**	**05 25 04.6**	**+1.4**
BALM				pmax	pmax		
	comp=Z,12nm,1.4s						
DAWY	**Dawson**	**43.83**	**37**	*e*P	**P**	**05 25 10.2**	**+0.8**
	comp=Z,1.6nm,0.6s						
MK31	**Makanchi Array**	**44.22**	**297**	*e*P	**P**	**05 25 12.3**	**-0.2**
MK31	**Makanchi Array**	**44.22**	**297**	*e*P	**P**	**05 25 12.4**	**-0.2**
MK32	**Makanchi Array**	**44.22**	**297**	*e*P	**P**	**05 25 12.2**	**-0.5**
MKAR	**Makanchi Array**	**44.22**	**297**	P	**P**	**05 25 12.2**	**-0.5**
	comp=Z,2.9nm,0.5s,baz=77,slow=8.7,SNR=40						
MKAR	**Makanchi Array**	**44.22**	**297**	*e*P	**P**	**05 25 12.7**	**+0.1**
MKAR	**Makanchi Array**	**44.22**	**297**	*e*P	**P**	**05 25 12.3**	**-0.3**
	comp=Z,36nm,0.6s						
MKAR	**Makanchi Array**	**44.22**	**297**	*e*P	**P**	**05 25 12.7**	**+0.1**
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.5s						
MK01	**Makanchi Array**	**44.22**	**297**	*e*P	**P**	**05 25 11.9**	**-0.7**
MAKZ	**Makanchi**	**44.41**	**297**	*e*P	**P**	**05 25 14.2**	**+0.1**
	comp=Z,4.1nm,0.8s						
MAKZ	**Makanchi**	**44.41**	**297**	*e*P	**P**	**05 25 14.2**	**+0.1**
MAKZ				pmax	pmax		
	comp=Z,4.0nm,0.8s						
KURK	**Kurchatov**	**45.05**	**303**	*e*P	**P**	**05 25 17.8**	**-1.3**
KURK	**Kurchatov**	**45.05**	**303**	*e*P	**P**	**05 25 18.0**	**-1.1**
	comp=Z,2.7nm,0.4s						
KURK	**Kurchatov**	**45.05**	**303**	*i* P	**P**	**05 25 17.8**	**-1.3**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.6s						
KURBB	**Kurchatov Arra**	**45.14**	**303**	P	**P**	**05 25 18.4**	**-1.3**
	comp=Z,2.2nm,0.4s,baz=73,slow=8.3,SNR=17						
INK	**Inuvik**	**45.38**	**31**	*e*P	**P**	**05 25 21.7**	**+0.3**
	comp=Z,3.4nm,1.4s						
INK	**Inuvik**	**45.38**	**31**	*e*P	**P**	**05 25 21.7**	**+0.3**
INK				pmax	pmax		
	comp=Z,3.0nm,1.4s						
HYT	**Haines Junctio**	**45.41**	**42**	*e*P	**P**	**05 25 23.4**	**+1.5**
	comp=Z,9.7nm,0.8s						
BVAR	**Borovoye Array**	**48.93**	**309**	P	**P**	**05 25 48.1**	**-1.0**
	comp=Z,0.4nm,0.3s,baz=90,slow=7.2,SNR=4.5						
BRVK	**Borovoye**	**48.98**	**309**	*e*P	**P**	**05 25 48.4**	**-1.1**
BRVK	**Borovoye**	**48.98**	**309**	*e*P	**P**	**05 25 48.4**	**-1.1**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.9s						
TARG	**Taragay, Kyrgy**	**49.30**	**292**	*e*P	**P**	**05 25 53.8**	**+1.2**
	comp=Z,4.3nm,0.8s						
KDJ	**Kajisay**	**49.52**	**293**	*e*P	**P**	**05 25 54.9**	**+0.8**
	comp=Z,12nm,1.0s						
DLBC	**Dease Lake**	**49.77**	**43**	*e*P	**P**	**05 25 58.0**	**+2.5**
	comp=Z,5.7nm,1.4s						
AAK	**Ala-Archa**	**51.03**	**295**	*e*P	**P**	**05 26 06.1**	**+0.8**
AAK	**Ala-Archa**	**51.03**	**295**	*e*P	**P**	**05 26 06.1**	**+0.8**
	comp=Z,9.3nm,1.4s						
AAK	**Ala-Archa**	**51.03**	**295**	*i* P	**P**	**05 26 06.1**	**+0.8**
AAK				pmax	pmax		
	comp=Z,7.0nm,1.3s						
JIRN	**Jiri**	**51.04**	**272**	*e*P	**P**	**05 26 06.8**	**+1.0**
	comp=Z,22nm,0.5s						
GUN	**Gumba**	**51.11**	**273**	*e*P	**P**	**05 26 07.3**	**+1.0**
	comp=Z,7.5nm,0.2s						
RAMN	**Ramite**	**51.17**	**271**	*e*P	**P**	**05 26 07.4**	**+0.8**
	comp=Z,19nm,0.5s						
PKIN	**Phulchoki**	**51.65**	**273**	*e*P	**P**	**05 26 11.3**	**+1.1**
	comp=Z,12nm,0.6s						
DMN	**Daman**	**51.84**	**273**	*e*P	**P**	**05 26 12.7**	**+1.1**
	comp=Z,13nm,0.6s						
GKN	**Gorkha**	**51.94**	**273**	*e*P	**P**	**05 26 13.6**	**+1.4**
	comp=Z,9.2nm,0.3s						
KOLN	**Koldanda**	**52.81**	**274**	*e*P	**P**	**05 26 19.8**	**+1.1**
PYUN	**Piuthan**	**53.05**	**275**	*e*P	**P**	**05 26 20.9**	**+0.4**
KK31	**Karatay Array**	**53.34**	**297**	*e*P	**P**	**05 26 22.4**	**+0.2**
KK31	**Karatay Array**	**53.34**	**297**	*e*P	**P**	**05 26 22.4**	**+0.2**
KKAR	**Karatay Array**	**53.34**	**297**	*e*P	**P**	**05 26 22.4**	**+0.2**
KKAR	**Karatay Array**	**53.34**	**297**	*e*P	**P**	**05 26 22.4**	**+0.2**
ARU	**Arti**	**53.65**	**316**	*e*P	**P**	**05 26 23.1**	**-1.1**
	comp=Z,9.9nm,0.6s						
ARU	**Arti**	**53.65**	**316**	*c i*P	**P**	**05 26 22.4**	**-1.8**
ARU				S	**S**	**05 33 44.4**	**-1.1**
ARU				SS	**SKiKP**	**05 37 21.2**	**-0.2**
ARU				pmax	pmax		
	comp=Z,11nm,0.8s						
RES	**Resolute Bay**	**53.88**	**17**	*e*P	**P**	**05 26 24.1**	**-1.4**
	comp=Z,2.2nm,1.1s						
RES	**Resolute Bay**	**53.88**	**17**	*e*P	**P**	**05 26 24.1**	**-1.4**
RES				pmax	pmax		
	comp=Z,2.0nm,1.1s						
YKW3	**Yellowknife Ar**	**54.77**	**34**	*e*P	**P**	**05 26 33.3**	**+1.1**
	comp=Z,2.7nm,0.8s						
YKA	**Yellowknife Ar**	**54.81**	**34**	P	**P**	**05 26 33.0**	**+0.6**
	comp=Z,1.6nm,0.5s,baz=302,slow=7.3,SNR=38						
YKA	**Yellowknife Ar**	**54.81**	**34**	P	**P**	**05 26 33.0**	**+0.6**
ABKAR	**Akbulak array**	**56.50**	**308**	*e*P	**P**	**05 26 44.1**	**-0.6**
	comp=Z,30nm,0.8s						
KEV	**Kevo**	**57.74**	**339**	*e*P	**P**	**05 26 51.6**	**-1.5**
	comp=Z,18nm,1.3s						
KEV	**Kevo**	**57.74**	**339**	*e*P	**P**	**05 26 51.6**	**-1.5**
KEV				pmax	pmax		
	comp=Z,18nm,1.3s						
ARA0	**ARCESS Array S**	**58.27**	**339**	*e*P	**P**	**05 26 55.1**	**-1.7**
ARCES	**ARCESS Array B**	**58.27**	**339**	P	**P**	**05 26 55.1**	**-1.7**
	comp=Z,1.4nm,0.3s,baz=47,slow=7.4,SNR=17						
ARCES	**ARCESS Array B**	**58.27**	**339**	*e*P	**P**	**05 26 54.9**	**-1.9**
LTY	**Liberty**	**60.14**	**52**	*e*P	**P**	**05 27 11.2**	**+1.1**
	comp=Z,4.5nm,0.9s						
PINE	**Pine Mountain**	**62.01**	**55**	*e*P	**P**	**05 27 25.4**	**+2.5**
	comp=Z,7.5nm,0.8s						
K05A	**Summer Lake**	**62.67**	**56**	*e*P	**P**	**05 27 29.7**	**+2.4**
	comp=Z,17nm,1.5s						
JTMT	**Jette**	**63.33**	**48**	*e*P	**P**	**05 27 32.8**	**+1.3**
	comp=Z,3.3nm,1.0s

DUG					pmax	pmax		
	comp=Z,3.0nm,1.1s							
TPNV	**Topopah Spring**	**69.07**	**58**	*e*P	**P**	**P**	**05 28 09.8**	**+1.5**
	comp=Z,3.9nm,1.0s							
TPNV	**Topopah Spring**	**69.07**	**58**	*e*P	**P**	**P**	**05 28 09.8**	**+1.5**
TPNV					pmax	pmax		
	comp=Z,4.0nm,1.0s							
BW06	**Boulder Array**	**69.09**	**50**	*e*P	**P**	**P**	**05 28 09.5**	**+1.1**
	comp=Z,1.3nm,0.6s							
PD31	**Pinedale Array**	**69.09**	**50**	*e*P	**P**	**P**	**05 28 09.7**	**+1.3**
PDAR	**Pinedale Array**	**69.09**	**50**	P	**P**	**P**	**05 28 09.3**	**+1.0**
	comp=Z,1.3nm,0.7s,baz=274,slow=1.5,SNR=13							
PDAR	**Pinedale Array**	**69.09**	**50**	*e*P	**P**	**P**	**05 28 09.5**	**+1.1**
KIV	**Kislovodsk**	**69.15**	**312**	*e*P	**P**	**P**	**05 28 09.8**	**+1.3**
KIV	**Kislovodsk**	**69.15**	**312**	*e*P	**P**	**P**	**05 28 09.3**	**+0.8**
KIV					pmax	pmax		
	comp=Z,15nm,1.1s							
KIV					MLR	MLR		
	comp=Z,33nm,17.0s							
KBZ	**Khabaz**	**69.19**	**311**	P	**P**	**P**	**05 28 09.3**	**+0.7**
	comp=Z,7.2nm,0.7s,baz=73,slow=4.1,SNR=21							
ZEI	**Tsey**	**69.28**	**310**	*e*P	**P**	**P**	**05 28 08.8**	**-0.7**
ZEI					pmax	pmax		
	comp=Z,4.0nm,0.6s							
ULM	**Lac du Bonnet**	**70.54**	**37**	*e*P	**P**	**P**	**05 28 16.8**	**0.0**
	comp=Z,3.2nm,1.2s							
ULM	**Lac du Bonnet**	**70.54**	**37**	*e*P	**P**	**P**	**05 28 16.8**	**0.0**
ULM					pmax	pmax		
	comp=Z,3.0nm,1.2s							
MTPU	**Mount Pierson**	**70.77**	**55**	*e*P	**P**	**P**	**05 28 20.8**	**+2.0**
	comp=Z,7.5nm,1.5s							
AKASG	**Malin Array Be**	**70.79**	**324**	P	**P**	**P**	**05 28 17.5**	**-0.8**
	comp=Z,1.2nm,0.4s,baz=34,slow=5.4,SNR=7.2							
K22A	**Casper**	**70.81**	**49**	*e*P	**P**	**P**	**05 28 19.9**	**+1.1**
	comp=Z,9.3nm,1.4s							
AK11	**Malin Array Si**	**70.83**	**324**	*e*P	**P**	**P**	**05 28 18.1**	**-0.4**
LCMT	**Little Creek M**	**70.83**	**57**	*e*P	**P**	**P**	**05 28 20.8**	**+1.8**
	comp=Z,2.2nm,0.6s							
SRU	**San Rafael Swe**	**71.01**	**54**	*e*P	**P**	**P**	**05 28 21.7**	**+1.6**
	comp=Z,4.9nm,0.9s							
SRU	**San Rafael Swe**	**71.01**	**54**	*e*P	**P**	**P**	**05 28 21.7**	**+1.6**
SRU					pmax	pmax		
	comp=Z,5.0nm,0.9s							
SMCO	**Snowmass**	**72.97**	**52**	*e*P	**P**	**P**	**05 28 33.2**	**+1.2**
	comp=Z,1.2nm,0.6s							
Y14A	**Wickenburg**	**73.05**	**59**	*e*P	**P**	**P**	**05 28 33.9**	**+1.8**
	comp=Z,2.6nm,0.6s							
SORM	**Soroca**	**73.10**	**322**	⇓P	**P**	**P**	**05 28 31.1**	**-0.9**
X16A	**Lo Mia Camp, P**	**73.67**	**58**	*e*P	**P**	**P**	**05 28 37.7**	**+1.8**
	comp=Z,2.7nm,0.8s							
BUR08	**Bucovina Ar. S**	**74.83**	**324**	*e*P	**P**	**P**	**05 28 42.8**	**+0.5**
BUR04	**Bucovina Ar. S**	**74.84**	**324**	*e*P	**P**	**P**	**05 28 42.8**	**+0.4**
BURAR	**Bucovina Array**	**74.84**	**324**	⇑P	**P**	**P**	**05 28 42.6**	**+0.2**
TIRR	**Tirgusor**	**75.88**	**320**	⇑P	**P**	**P**	**05 28 47.3**	**-0.8**
MORC	**Moravsky Berou**	**76.13**	**329**	⇑P	**P**	**P**	**05 28 48.5**	**-1.1**
MLR	**Muntele Rosu**	**76.19**	**322**	P	**P**	**P**	**05 28 50.5**	**+0.4**
	comp=Z,0.9nm,0.6s,baz=68,slow=11,SNR=6.9							
MLR	**Muntele Rosu**	**76.19**	**322**	⇑P	**P**	**P**	**05 28 51.1**	**+1.0**
CLL	**Collm**	**76.41**	**333**	*i* P	**P**	**P**	**05 28 50.6**	**-0.5**
CLL					pmax	pmax		
	comp=Z,5.0nm,0.6s							
VOIR		**76.62**	**322**	⇓P	**P**	**P**	**05 28 53.1**	**+0.6**
BR101	**Keskin Array S**	**76.90**	**314**	*e*P	**P**	**P**	**05 28 53.8**	**-0.4**
BRTR	**Keskin Array B**	**76.90**	**314**	P	**P**	**P**	**05 28 53.8**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=23,slow=4.7,SNR=3.0							
KHC	**Kasperske Hory**	**78.08**	**331**	*e*P	**P**	**P**	**05 29 01.2**	**+0.8**
	comp=Z,1.9nm,0.6s							
KHC	**Kasperske Hory**	**78.08**	**331**	*e*P	**P**	**P**	**05 29 01.2**	**+0.8**
KHC					pmax	pmax		
	comp=Z,2.0nm,0.6s							
GERES	**GERESS Array B**	**78.28**	**331**	P	**P**	**P**	**05 29 00.7**	**-0.9**
	comp=Z,1.4nm,0.4s,baz=34,slow=6.5,SNR=11							
GERES	**GERESS Array B**	**78.28**	**331**	*e*P	**P**	**P**	**05 29 01.7**	**+0.1**
GERES	**GERESS Array B**	**78.28**	**331**	*e*P	**P**	**P**	**05 29 01.7**	**+0.1**
GERES					pmax	pmax		
	comp=Z,1.0nm,0.4s							
GEA0	**GERESS Array S**	**78.28**	**331**	*e*P	**P**	**P**	**05 29 02.0**	**+0.4**
TX31	**Lajitas Ar. Si**	**81.92**	**57**	*e*P	**P**	**P**	**05 29 23.0**	**+1.6**
TXAR	**Lajitas Array**	**81.92**	**57**	P	**P**	**P**	**05 29 22.9**	**+1.4**
	comp=Z,1.3nm,0.6s,baz=304,slow=4.1,SNR=30							
IDI	**Anoyia**	**84.74**	**316**	*e*P	**P**	**P**	**05 29 34.7**	**-1.0**
	comp=Z,3.4nm,0.9s							
PLCA	**Paso Flores**	**152.05**	**95**	PKPbc	**PKPbc**	**PKPbc**	**05 36 56.2**	**+0.6**
	comp=Z,0.9nm,0.5s,baz=342,slow=2.1,SNR=9.1							
PLCA	**Paso Flores**	**152.05**	**95**	*e*PKPbc	**PKPbc**	**PKPbc**	**05 36 56.8**	**+1.2**

DDA ***27*** *05:19:41.8,39.˚13N×29.˚12E,h7km,Ml2.5*
ISK ***27*** *05:19:41.2,39.˚11N×29.˚16E,h5km,ML2.2/3*
ISCJB ***27*** *05:19:42.5±0.5,39.˚09N±0.˚04×29.˚14E±0.˚03,h3km±7km, Error ellipse: s-maj=6.1km s-min=4.5km az=173.7*
CSEM ***27*** *05:19:42.4±0.2,39.˚10N×29.˚16E,h5km, ML2.2, Error ellipse: s-maj=5.6km s-min=4.2km az=128.0*

ISC 27 05:19:42.0±0.9, 39.˚10N±0.˚03×29.˚16E±0.˚03, h9km±7km, n25, σ0s59/39, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
				Op		ISC	h	m	s	ISC
SIMA	**Simav-Kutahya**	**0.14**	**263**	PG		**Pg**	**05**	**19**	**45.3**	**+0.2**
SIMA				SG		**Sg**	**05**	**19**	**47.1**	**-0.2**
SIMA	**Simav-Kutahya**	**0.14**	**263**	*e*Pg		**Pg**	**05**	**19**	**45.3**	**+0.2**
SIMA				*e*Sg		**Sg**	**05**	**19**	**47.1**	**-0.2**
GDZ	**Gediz**	**0.25**	**93**	*i* P		**Pn**	**05**	**19**	**47.4**	**+0.2**
GDZ				*i* S		**Sb**	**05**	**19**	**52.0**	**-1.5**
GDZ	**Gediz**	**0.25**	**93**	P		**Pg**	**05**	**19**	**47.4**	**+0.2**
GDZ				S		**Sb**	**05**	**19**	**52.0**	**-1.5**
DEMI	**Demirci**	**0.35**	**260**	*i* P		**Pg**	**05**	**19**	**48.8**	**-0.1**
DEMI				*i* S		**Sg**	**05**	**19**	**53.2**	**-0.4**
DEMI	**Demirci**	**0.35**	**260**	P		**Pg**	**05**	**19**	**48.8**	**-0.1**
DEMI				S		**Sg**	**05**	**19**	**53.2**	**-0.4**
TVSB	**Tavsanli**	**0.42**	**34**	PG		**Pg**	**05**	**19**	**49.9**	**-0.4**
TVSB	**Tavsanli**	**0.42**	**34**	*e*Pg		**Pg**	**05**	**19**	**49.9**	**-0.4**
KULA	**Kula-Manisa**	**0.70**	**214**	PG		**Pg**	**05**	**19**	**55.9**	**+0.3**
KULA	**Kula-Manisa**	**0.70**	**214**	*e*Pg		**Pg**	**05**	**19**	**55.9**	**+0.3**
DURS	**Dursunbey**	**0.73**	**314**	*i* P		**Pn**	**05**	**19**	**58.6**	**0.0**
DURS	**Dursunbey**	**0.73**	**314**	P		**Pn**	**05**	**19**	**58.6**	**0.0**
MANT	**Manisa**	**0.77**	**218**	*i* P		**Pg**	**05**	**19**	**56.9**	**0.0**
MANT				*i* S		**Sg**	**05**	**20**	**06.3**	**-0.6**
MANT	**Manisa**	**0.77**	**218**	P		**Pg**	**05**	**19**	**56.9**	**0.0**
MANT				S		**Sg**	**05**	**20**	**06.3**	**-0.6**
KHAL	**Karahalli**	**0.78**	**160**	*i* P		**Pb**	**05**	**19**	**58.3**	**+0.5**
KHAL				*i* S		**Sb**	**05**	**20**	**08.6**	**+0.1**
KHAL	**Karahalli**	**0.78**	**160**	P		**Pb**	**05**	**19**	**58.3**	**+0.5**
KHAL				S		**Sb**	**05**	**20**	**08.6**	**+0.1**
BORA	**Eskisehir**	**1.27**	**52**	*i* P		**Pg**	**05**	**20**	**06.0**	**-0.3**
BORA				*i* S		**Sn**	**05**	**20**	**24.2**	**+0.9**
BORA	**Eskisehir**	**1.27**	**52**	P		**Pg**	**05**	**20**	**06.1**	**-0.3**
BORA				S		**Sn**	**05**	**20**	**24.2**	**+0.9**
YLV	**Yalova**	**1.47**	**6**	PN		**Pg**	**05**	**20**	**09.9**	**-0.4**
YLV	**Yalova**	**1.47**	**6**	*e*Pn		**Pg**	**05**	**20**	**09.9**	**-0.4**
ARMT	**Armutlu**	**1.48**	**351**	PN		**Pg**	**05**	**20**	**10.3**	**-0.1**
ARMT				SN		**Sg**	**05**	**20**	**30.9**	**+1.3**
ARMT	**Armutlu**	**1.48**	**351**	*e*Pn		**Pg**	**05**	**20**	**10.3**	**-0.1**
ARMT				*e*Sn		**Sg**	**05**	**20**	**30.9**	**+1.3**
AYDB	**Zeytinkoy-Aydi**	**1.52**	**221**	PN		**Pg**	**05**	**20**	**10.9**	**-0.3**
AYDB	**Zeytinkoy-Aydi**	**1.52**	**221**	*e*Pn		**Pg**	**05**	**20**	**10.9**	**-0.3**
LANS	**Liptovska Anna**	**12.21**	**329**	*e*Pg		**Pn**	**05**	**22**	**35.7**	**-0.4**

ISCJB ***27*** *05:36:59.0±0.6,37.˚72N±0.˚04×36.˚53E±0.˚03,h4km±7km, Error ellipse: s-maj=6.5km s-min=3.9km az=26.0*
CSEM ***27*** *05:36:58.9±0.2,37.˚71N×36.˚52E,h8km, ML2.6, Error ellipse: s-maj=5.7km s-min=3.9km az=27.0*
ISK ***27*** *05:36:58.1,37.˚72N×36.˚52E,h6km, ML2.2/6*
DDA ***27*** *05:36:59.0,37.˚70N×36.˚49E,h7km, Ml2.6*

ISC 27 05:36:59.2±0.9, 37.˚71N±0.˚03×36.˚52E±0.˚02, h11km±8km, n24, σ0s85/39, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
				Op		ISC	h	m	s	ISC
ANDN	**Andirin**	**0.19**	**226**	*i* P		**Pg**	**05**	**37**	**03.0**	**-0.4**
ANDN				*i* S		**Sg**	**05**	**37**	**08.1**	**+1.8**
ANDN	**Andirin**	**0.19**	**226**	P		**Pg**	**05**	**37**	**03.0**	**-0.4**
KMRS	**Kahramanmaras**	**0.37**	**124**	PG		**Pg**	**05**	**37**	**05.9**	**-0.6**
KMRS				SG		**Sg**	**05**	**37**	**11.4**	**-0.1**
KMRS	**Kahramanmaras**	**0.37**	**124**	*e*Pg		**Pg**	**05**	**37**	**05.9**	**-0.6**
KMRS				*e*Sg		**Sg**	**05**	**37**	**11.4**	**-0.1**
SAIM	**ADANA**	**0.43**	**307**	*i* P		**Pg**	**05**	**37**	**06.7**	**-1.0**
SAIM				*i* S		**Sb**	**05**	**37**	**14.9**	**-0.5**
SAIM	**ADANA**	**0.43**	**307**	P		**Pg**	**05**	**37**	**06.7**	**-1.0**
SAIM				S		**Sb**	**05**	**37**	**14.9**	**-0.5**
KOZT	**Kozan**	**0.60**	**247**	PG		**Pg**	**05**	**37**	**10.1**	**-0.7**
KOZT				SG		**Sg**	**05**	**37**	**19.1**	**+0.5**
KOZT	**Kozan**	**0.60**	**247**	*e*Pg		**Pg**	**05**	**37**	**10.1**	**-0.7**
KOZT				*e*Sg		**Sg**	**05**	**37**	**19.1**	**+0.5**
GAZ	**Gaziantep**	**0.77**	**134**	PG		**Pg**	**05**	**37**	**13.6**	**-0.5**
GAZ				SG		**Sb**	**05**	**37**	**24.6**	**-0.6**
GAZ	**Gaziantep**	**0.77**	**134**	*e*Pg		**Pg**	**05**	**37**	**13.6**	**-0.5**
GAZ				*e*Sg		**Sb**	**05**	**37**	**24.6**	**-0.6**
YAHY	**KAYSERI_Yahyal**	**0.99**	**293**	*i* P		**Pn**	**05**	**37**	**19.6**	**+0.6**
YAHY				*i* S		**Sb**	**05**	**37**	**31.3**	**-0.1**
YAHY	**KAYSERI_Yahyal**	**0.99**	**293**	P		**Pn**	**05**	**37**	**19.6**	**+0.6**
YAHY				S		**Sb**	**05**	**37**	**31.3**	**-0.1**
KUZU	**Kuzuini**	**1.04**	**154**	*i* P		**Pg**	**05**	**37**	**18.3**	**-0.9**
KUZU				*i* S		**Sn**	**05**	**37**	**33.9**	**-0.3**
KUZU	**Kuzuini**	**1.04**	**154**	P		**Pg**	**05**	**37**	**18.3**	**-0.9**
KUZU				S		**Sn**	**05**	**37**	**33.9**	**-0.3**
DARE	**Darende-Malaty**	**1.15**	**41**	PN		**Pg**	**05**	**37**	**20.3**	**-0.9**
DARE	**Darende-Malaty**	**1.15**	**41**	*e*Pn		**Pg**	**05**	**37**	**20.3**	**-0.9**
AKCD	**Akcadag**	**1.25**	**62**	*i* P		**Pn**	**05**	**37**	**23.5**	**+0.8**
AKCD				*i* S		**Sn**	**05**	**37**	**41.7**	**+2.1**
AKCD	**Akcadag**	**1.25**	**62**	P		**Pn**	**05**	**37**	**23.5**	**+0.8**
AKCD				S		**Sn**	**05**	**37**	**41.7**	**+2.1**
BNN	**Bunyan**	**1.25**	**335**	PN		**Pb**	**05**	**37**	**22.2**	**-0.7**
BNN	**Bunyan**	**1.25**	**335**	*e*Pn		**Pb**	**05**	**37**	**22.2**	**-0.7**
MALT	**Malatya**	**1.62**	**68**	PN		**Pn**	**05**	**37**	**28.3**	**+0.5**
MALT	**Malatya**	**1.62**	**68**	*e*Pn		**Pn**	**05**	**37**	**28.3**	**+0.5**
YAYL	**Yayladag**	**1.71**	**191**	PN		**Pn**	**05**	**37**	**29.4**	**+0.4**
YAYL	**Yayladag**	**1.71**	**191**	*e*Pn		**Pn**	**05**	**37**	**29.4**	**+0.4**

NIED ***27*** *05:37:00,39.˚90N×143.˚20E,h17km,Mw4.9 Best double couple: M0 2.70000×10^16 NP1:φs185.00000°,δ19.00000°, λ67.00000°. NP2:φs29.00000°,δ73.00000°,λ98.00000°.*
JMA ***27*** *05:37:06.8±0.2,39.˚94N×143.˚20E,h17km±2km,M4.9*
JMA Felt II J1.
BJI ***27*** *05:37:06.6,39.˚85N×143.˚30E,h35km,mb5.0/65,mB5.1/44, Ms4.8/71,Ms7 4.7/67*
ISCJB ***27*** *05:37:07.6±0.7,39.˚88N±0.˚02×143.˚14E±0.˚03,h24km±4km, mb4.8/195,MS4.6/77,Error ellipse: s-maj=4.1km s-min=2.6km az=141.5*
IDC ***27*** *05:37:10.3±3.3,39.˚90N×143.˚12E,h32km±24km,mb4.4/47, mb1 4.5/55,mb1mx4.4/79,mbtmp4.6/55,ML4.3/7,MS4.3/54, Ms1 4.3/54,ms1mx4.2/67,Error ellipse: s-maj=11.5km s-min=10.0km az=119.0*
GCMT ***27*** *05:37:11.7±0.3,40.˚01N×143.˚22E,h30km±1km,MW5.0/92, Moment Tensor Solution. s42,c51; s92,c126; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr2.55±.14; Mθθ-0.20±.09; Mφφ-2.35±.09; Mre1.16±.14; Mθφ-0.78±.07; Mφr2.86±.16; Best double couple: M0 4.02100×10^16 NP1:φs21.00000°,δ70.00000°,λ92.00000°. NP2: φs195.00000°,δ20.00000°,λ84.00000°. Principal axes: T 3.9980, Plg65.0000°, Azm295.0000°; N 0.0440, Plg2.0000°, Azm200.0000°; P -4.0440, Plg25.0000°, Azm109.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***27*** *05:37:11.7±0.4,39.˚88N×143.˚03E,h43km±4km,mb4.9/92 Error ellipse: s-maj=4.3km s-min=2.8km az=134.0*
NEIC Recorded [2 JMA] in Aomori, Iwate and Miyagi.
MOS ***27*** *05:37:12.6±1.0,40.˚26N×142.˚97E,h49km,mb5.1/82, MS4.5/26,Error ellipse: s-maj=6.7km s-min=3.9km az=103.5*

ISC 27 05:37:09.0±0.5, 39.˚87N±0.˚03×143.˚18E±0.˚03, h26km±2km, h26km:pP-P,n472,σ1s50/494,mb4.9/196,MS4.6/77, 29C-11D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
				Op		ISC	h	m	s	ISC
JTH	**Tanohata**	**1.02**	**274**	P		**Pn**	**05**	**37**	**25.9**	**-1.7**
MIYJ	**Miyakonagasawa**	**1.09**	**255**	P		**Pn**	**05**	**37**	**27.5**	**-1.1**
MIYJ				*e*S		**Sn**	**05**	**37**	**42.7**	**-0.2**
JANG	**Nango**	**1.38**	**292**	P		**Pn**	**05**	**37**	**30.9**	**-1.7**
JANG				*e*S		**Sn**	**05**	**37**	**48.8**	**-1.1**
JOM	**Ohasama**	**1.51**	**255**	P		**Pn**	**05**	**37**	**34.3**	**-0.1**
JOM				*e*S		**Sn**	**05**	**37**	**54.0**	**+0.7**
JMK	**Ichinoseki**	**1.78**	**240**	P		**Pn**	**05**	**37**	**38.2**	**+0.2**
JMK				S		**Sb**	**05**	**38**	**01.5**	**-1.2**
JTM	**Tenmabayashi**	**1.86**	**300**	P		**Pn**	**05**	**37**	**38.8**	**-0.4**
JTM				*e*S		**Sn**	**05**	**38**	**02.0**	**+0.2**
JAH	**Hinai**	**1.98**	**280**	P		**Pn**	**05**	**37**	**41.0**	**+0.1**
JAH				*e*S		**Sb**	**05**	**38**	**08.0**	**-0.7**
JIO	**Ouri**	**2.01**	**226**	P		**Pn**	**05**	**37**	**40.8**	**-0.4**
JIO				S		**Sb**	**05**	**38**	**07.6**	**-1.8**
JRG	**Rokugo**	**2.02**	**257**	P		**Pn**	**05**	**37**	**41.9**	**+0.4**
JRG				*e*S		**Sb**	**05**	**38**	**09.3**	**-0.6**
ERM	**Erimo**	**2.15**	**359**	*e*Pn		**Pn**	**05**	**37**	**43.2**	**+0.1**
ERM	**Erimo**	**2.15**	**359**	*i* P		**Pn**	**05**	**37**	**43.4**	**+0.3**
JEM	**Erimo**	**2.15**	**359**	P		**Pn**	**05**	**37**	**42.6**	**-0.5**
JEM				*e*S		**Sn**	**05**	**38**	**08.3**	**-0.6**
JOT	**Ohata**	**2.22**	**314**	P		**Pn**	**05**	**37**	**44.2**	**+0.1**
JOT				*e*S		**Sn**	**05**	**38**	**12.1**	**+1.4**
JYK	**Kaneyama**	**2.39**	**247**	P		**Pn**	**05**	**37**	**47.2**	**+0.8**
JYK				*e*S		**Sb**	**05**	**38**	**17.8**	**-2.5**
JNBK	**Urakawa-nobuka**	**2.43**	**352**	P		**Pn**	**05**	**37**	**46.9**	**-0.2**
GLVR	**Golovnino**	**4.24**	**24**	*e*P		**Pn**	**05**	**38**	**10.8**	**-1.1**
GLVR				*i* S		**Sn**	**05**	**38**	**56.9**	**-3.7**
GLVR				pmax	pmax					
	comp=N,156nm,0.3s									
GLVR				pmax	pmax					
	comp=Z,331nm,0.3s									
GLVR				smax	smax					
	comp=N,3μm,0.3s									
GLVR				smax	smax					
	comp=E,800nm,0.3s									
ASAJ	**Asahikawa**	**4.27**	**354**	Pn		**Pn**	**05**	**38**	**13.0**	**+0.7**
	comp=E,17nm,0.3s,baz=207,slow=16,SNR=24									
ASAJ				Sn		**Sb**	**05**	**39**	**16.6**	**+2.2**
	comp=E,24nm,0.3s,baz=348,slow=19,SNR=3.7									
ASAJ	**Asahikawa**	**4.27**	**354**	*e*Pn		**Pn**	**05**	**38**	**13.5**	**+1.2**
ASAJ				Sn		**Sb**	**05**	**39**	**16.6**	**+2.2**
GRPR	**Tuman**	**4.55**	**24**	*e*P		**Pn**	**05**	**38**	**15.1**	**-1.1**
GRPR				*i* S		**Sn**	**05**	**39**	**04.2**	**-4.0**
GRPR				pmax	pmax					
	comp=E,212nm,0.3s									
GRPR				pmax	pmax					
	comp=Z,509nm,0.3s									
GRPR				pmax	pmax					
	comp=N,166nm,0.4s									
GRPR				smax	smax					
	comp=N,2μm,0.3s									
GRPR				smax	smax					
	comp=E,2μm,0.3s									
LAGR	**Lagunnoye**	**4.61**	**24**	*e*P		**Pn**	**05**	**38**	**16.8**	**-0.2**
LAGR				*i* S		**Sn**	**05**	**39**	**06.4**	**-3.3**
LAGR				pmax	pmax					
	comp=E,366nm,0.3s									
LAGR				pmax	pmax					
	comp=Z,522nm,0.3s									
LAGR				pmax	pmax					
	comp=N,205nm,0.2s									
LAGR				smax	smax					
	comp=N,3μm,0.5s									
LAGR				smax	smax					
	comp=E,2μm,0.4s									
YUK	**Yuzh-Kuril'sk**	**4.62**	**25**	*e*P		**Pn**	**05**	**38**	**16.0**	**-1.1**
YUK				*i* S		**Sn**	**05**	**39**	**06.2**	**-3.6**
YUK				pmax	pmax					
	comp=Z,401nm,0.2s									
YUK				pmax	pmax					
	comp=N,284nm,0.3s									
YUK				smax	smax					
	comp=N,2μm,0.3s									
YUK				smax	smax					
	comp=E,2μm,0.5s									
SHO	**Shikotan**	**4.84**	**33**	*d* iP		**Pn**	**05**	**38**	**17.4**	**-2.7**
SHO				*i* S		**Sn**	**05**	**39**	**08.4**	**-6.8**
SHO				pmax	pmax					
	comp=E,100nm,0.3s									
SHO				pmax	pmax					
	comp=Z,109nm,0.3s									
SHO				pmax	pmax					
	comp=N,34nm,0.2s									
SHO				smax	smax					
	comp=N,534nm,0.4s									
MAJO	**Matsushiro**	**5.14**	**231**	*e*Pn		**Pn**	**05**	**38**	**25.6**	**+1.3**
MAJO	**Matsushiro**	**5.14**	**231**	*c i*P		**Pn**	**05**	**38**	**26.1**	**+1.8**
MAT	**Matsushiro**	**5.14**	**231**	P		**Pn**	**05**	**38**	**25.7**	**+1.4**
MAT				*e*S		**Sn**	**05**	**39**	**25.2**	**+2.5**
MJAR	**Matsushiro Arr**	**5.14**	**231**	Pn		**Pn**	**05**	**38**	**25.3**	**+1.1**
	comp=N,18nm,0.3s,baz=46,slow=12,SNR=94									
MJAR				LR		LR	05	40	37.8	
	comp=N,3μm,18.9s,baz=50,slow=41									
MJB9	**Matsu-Tunnel**	**5.14**	**231**	*e*Pn		**Pn**	**05**	**38**	**25.6**	**+1.3**
KUR	**Kuril'sk**	**6.38**	**31**	*e*P		**Pn**	**05**	**38**	**40.8**	**-0.5**
KUR				*e*S		**Sn**	**05**	**39**	**47.8**	**-5.4**
KUR				pmax	pmax					
	comp=Z,209nm,0.6s									
KUR				pmax	pmax					
	comp=E,373nm,0.4s									
KUR				pmax	pmax					
	comp=N,163nm,0.5s									
KUR				smax	smax					
	comp=N,454nm,0.9s									
KUR				smax	smax					
	comp=E,324nm,0.5s									
KUR				smax	smax					
	comp=N,2μm,2.3s									
KUR				smax	smax					
	comp=E,919nm,1.6s									
KUR				MLR	MLR					
	comp=Z,2μm,12.0s									
KUR				MLR	MLR					
	comp=N,2μm,11.0s									
KUR				MLR	MLR					
	comp=E,1μm,11.0s									
INU	**Inuyama**	**6.66**	**229**	*e*Pn		**Pn**	**05**	**38**	**45.7**	**+0.6**
YSS	**Yuzh-Sakhalins**	**7.09**	**358**	*e*Pn		**Pn**	**05**	**38**	**53.6**	**+2.6**
YSS	**Yuzh-Sakhalins**	**7.09**	**358**	*e*P		**Pn**	**05**	**38**	**52.9**	**+1.9**
YSS				*e*S		**Sn**	**05**	**40**	**13.9**	**+3.2**
YSS				pmax	pmax					
	comp=Z,40nm,0.8s									
YSS				smax	smax					
	comp=E,70nm,1.2s									
YSS				smax	smax					
	comp=E,50nm,0.7s									
YSS				MLR	MLR					
	comp=Z,3μm,14.0s									
YSS				MLR	MLR					
	comp=N,3μm,12.0s									
YSS				MLR	MLR					
	comp=E,2μm,16.0s									
TEY	**Ternei**	**7.09**	**319**	*e*P		**Pn**	**05**	**38**	**51.8**	**+0.7**
TEY				pmax	pmax					
	comp=E,52nm,0.8s									
TEY				pmax	pmax					
	comp=Z,84nm,0.9s									
TEY				MLR	MLR					
	comp=N,3μm,15.0s									
TEY				MLR	MLR					
	comp=E,3μm,15.0s									
TEY				MLR	MLR					
	comp=Z,5μm,15.0s									
JHJ2	**Mitsune**	**7.27**	**203**	*e*Pn		**Pn**	**05**	**38**	**52.8**	**-0.7**
JHJ	**Hachijo jima 2**	**7.27**	**203**	Pn		**Pn**	**05**	**38**	**52.7**	**-0.8**
	comp=Z,62nm,0.3s,baz=344,slow=22,SNR=28									
JHJ				Sn		**Sn**	**05**	**40**	**08.5**	**-6.7**
	comp=Z,74nm,0.3s,baz=254,slow=21,SNR=4.3									
JHJ				LR		LR	05	42	11.2	
	comp=Z,1μm,20.2s,baz=101,slow=41									
USRK	**Ussuriysk Ar.**	**9.38**	**301**	Pn		**Pn**	**05**	**39**	**24.4**	**+1.9**
	comp=Z,7.5nm,0.3s,baz=106,slow=15,SNR=91									
USRK				LR		LR	05	42	52.5	
	comp=Z,4μm,19.1s,baz=94,slow=37									
TYV	**Tymovskoe**	**11.00**	**358**	*e*P		Pn	05	39	49.6	+5.0
TYV				pmax	pmax					
	comp=Z,27nm,1.6s									
MDJ	**Mudanjiang**	**11.13**	**300**	P		**Pn**	**05**	**39**	**48.0**	**+1.6**
MDJ				pP			05	39	55.3	
MDJ				sP			05	40	00.5	
MDJ				S		**Sn**	**05**	**41**	**52.0**	**+2.0**
MDJ				sS			05	42	03.0	
M

	comp=E,42nm,0.8s							
ZEA				pmax	pmax			
	comp=Z,56nm,0.8s							
ZEA				MLR	MLR			
	comp=N,1µm,15.0s							
ZEA				MLR	MLR			
	comp=E,2µm,15.0s							
ZEA				MLR	MLR			
	comp=Z,3µm,15.0s							
JOW	**Kunigami**	**17.97**	**228**	P	**Pn**	**05**	**41**	**16.4 -0.7**
	comp=Z,1.2nm,0.3s,baz=254,slow=18,SNR=2.9							
JOW	**Kunigami**	**17.97**	**228**	*e*Pn	**Pn**	**05**	**41**	**16.8 -0.3**
	comp=Z,31nm,1.2s							
HIA	**Hailar**	**19.10**	**307**	*e*P	**P**	**05**	**41**	**27.3 -2.4**
	comp=E,28nm,0.6s							
HIA	**Hailar**	**19.10**	**307**	*e*P	**P**	**05**	**41**	**27.3 -2.4**
HIA				pmax	pmax			
	comp=E,28nm,0.6s							
MA2	**Magadan**	**20.30**	**11**	P	**P**	**05**	**41**	**41.8 -0.9**
	comp=Z,22nm,0.7s,baz=194,slow=10,SNR=9.2							
MA2				LR	LR	05	50	49.6
	comp=Z,438nm,19.1s,baz=192,slow=40							
MA2	**Magadan**	**20.30**	**11**⇓	*e*P	**P**	**05**	**41**	**41.5 -1.2**
BJI	**Beijing**	**20.68**	**279**⇓	*e*P	**P**	**05**	**41**	**45.0 -1.9**
BJI				pP	**pP**	**05**	**41**	**55.0 +0.9**
BJI				S	**S**	**05**	**45**	**38.8 +2.2**
BJI				pmax	pmax			
	comp=Z,29nm,2.0s							
BJI				pmax	pmax			
	comp=Z,460nm,14.3s							
BJI				LR	LR			
	comp=Z,2µm,15.5s							
BJI				LR	LR			
	comp=Z,2µm,17.7s							
BJI				LR	LR			
	comp=Z,2µm,22.7s							
BJT	**Baijiatuau**	**20.69**	**279**	*e*P	**P**	**05**	**41**	**45.0 -2.1**
	comp=Z,19nm,0.8s							
BJT	**Baijiatuau**	**20.69**	**279**	*e*P	**P**	**05**	**41**	**45.0 -2.1**
BJT				pmax	pmax			
	comp=Z,19nm,0.8s							
CLNS	**Chul'man**	**20.77**	**331**	*e*P	**P**	**05**	**41**	**47.2 -0.6**
CLNS				pmax	pmax			
	comp=Z,19nm,1.0s							
CLNS				pmax	pmax			
	comp=E,7.0nm,0.9s							
CLNS				pmax	pmax			
	comp=N,14nm,0.9s							
CLNS				MLR	MLR			
	comp=Z,2µm,14.0s							
CLNS				MLR	MLR			
	comp=N,2µm,14.0s							
CLNS				MLR	MLR			
	comp=E,1µm,16.0s							
TIA	**Tai'an**	**20.82**	**268**	P	**P**	**05**	**41**	**47.0 -1.5**
TIA				pmax	pmax			
	comp=E,24nm,0.9s							
TIA				LR	LR			
	comp=E,750nm,14.0s							
TIA				LR	LR			
	comp=E,2µm,14.9s							
TIA				LR	LR			
	comp=E,4µm,14.7s							
NJ2	**Nanjing**	**21.14**	**256**	*e*P	**P**	**05**	**41**	**53.3 +1.4**
NJ2				LR	LR			
	comp=E,1µm,16.8s							
NJ2				LR	LR			
	comp=E,2µm,16.8s							
NJ2				LR	LR			
	comp=E,2µm,16.3s							
YAK	**Yakutsk**	**23.67**	**344**	P	**P**	**05**	**42**	**16.3 -1.8**
	comp=E,44nm,0.4s,baz=206,slow=3.3,SNR=9.1							
YAK				LR	LR	05	51	54.7
	comp=E,665nm,21.9s,baz=264,slow=37							
YAK	**Yakutsk**	**23.67**	**344**	*e*P	**P**	**05**	**42**	**16.8 -1.3**
	comp=E,72nm,0.7s							
YAK	**Yakutsk**	**23.67**	**344**	*e*P	**P**	**05**	**42**	**15.5 -2.6**
YAK				*e**PP	**pP**	**05**	**42**	**23.6 -2.0**
YAK				*e*		05	42	37.2
YAK				*e*		05	46	10.0
YAK				*e*S	**S**	**05**	**46**	**24.6 -6.5**
YAK				*e**SS	**sS**	**05**	**46**	**42.5 -1.2**
YAK				*e*		05	53	24.9
YAK				pmax	pmax			
	comp=E,5.0nm,0.8s							
YAK				pmax	pmax			
	comp=N,14nm,1.0s							
YAK				pmax	pmax			
	comp=Z,47nm,0.9s							
YAK				smax	smax			
	comp=E,105nm,2.2s							
YAK				smax	smax			
	comp=N,124nm,1.6s							
YAK				MLR	MLR			
	comp=Z,764nm,22.0s							
YAK				MLR	MLR			
	comp=E,601nm,21.0s							
CIT	**Chita**	**23.74**	**311**	*e*P	**P**	**05**	**42**	**14.2 -4.8**
CIT				*e*		05	42	27.4
CIT				*e*		05	42	53.4
NACB	**Ninganchiao**	**23.99**	**236**	*e*P	**P**	**05**	**42**	**19.7 -1.8**
	comp=E,19nm,0.9s							
TIY	**Taiyuan**	**24.01**	**275**	*e*P	**P**	**05**	**42**	**19.5 -2.2**
TIY				S	S	05	46	22.8 -14
TIY				LR	LR			
	comp=E,1µm,15.9s							
TIY				LR	LR			
	comp=E,640nm,14.8s							
TIY				LR	LR			
	comp=E,950nm,17.7s							
HHC	**Hu-ho-hao-te**	**24.05**	**283**	*e*P	**P**	**05**	**42**	**21.5 -0.6**
HHC				pP	pP	05	42	27.0 -2.8
HHC				sP	sP	05	42	30.3 -2.7
HHC				PP	**PnPn**	**05**	**42**	**55.3 +4.0**
HHC				S	**S**	**05**	**46**	**33.5 -4.4**
HHC				SS	**SnSn**	**05**	**47**	**24.0 +4.7**
HHC				ScS	**ScS**	**05**	**53**	**27.0 0.0**
HHC				pmax	pmax			
	comp=E,34nm,0.8s							
HHC				pmax	pmax			
	comp=E,190nm,4.3s							
HHC				LR	LR			
	comp=E,510nm,13.3s							
HHC				LR	LR			
	comp=E,3µm,12.1s							
HHC				LR	LR			
	comp=E,3µm,12.7s							
SSLB	**Suanglung**	**24.67**	**236**	*e*P	**P**	**05**	**42**	**26.5 -1.4**
	comp=E,40nm,1.3s							
YULB	**Yu-li**	**24.74**	**235**	*e*P	**P**	**05**	**42**	**26.9 -1.5**
	comp=E,12nm,0.8s							
TPUB	**Ta-pu**	**25.23**	**236**	*e*P	**P**	**05**	**42**	**33.5 +0.6**
	comp=E,158nm,1.9s							
WHN	**Wuhan**	**25.24**	**257**⇓	*i*P	**P**	**05**	**42**	**33.0 +0.1**
WHN				S	**S**	**05**	**46**	**53.8 -3.1**
WHN				pmax	pmax			
	comp=E,490nm,1.7s							
WHN				LR	LR			
	comp=E,1µm,15.4s							
WHN				LR	LR			
	comp=E,2µm,13.9s							
WHN				LR	LR			
	comp=E,3µm,18.5s							
QZH	**Quanzhou**	**25.43**	**242**	*e*P	**P**	**05**	**42**	**35.8 +1.2**
QZH				pP	**sP**	**05**	**42**	**46.3 +0.8**
QZH				S	**S**	**05**	**47**	**01.3 +1.3**
QZH				LR	LR			
	comp=E,920nm,15.2s							
QZH				LR	LR			
	comp=E,310nm,12.8s							
QZH				LR	LR			
	comp=E,810nm,15.6s							
BOD	**Bodaibo**	**25.98**	**323**⇓	*i*P	**P**	**05**	**42**	**38.5 -0.8**
BOD				pmax	pmax			
	comp=Z,56nm,0.8s							
GUMO	**Guam**	**26.22**	**176**	LR	LR	05	51	53.8
	comp=Z,370nm,21.8s,baz=10.0,slow=34							
ULN	**Ulaanbaatar**	**27.05**	**299**	*e*P	**P**	**05**	**42**	**49.1 -0.2**
	comp=Z,129nm,2.0s							
ULN	**Ulaanbaatar**	**27.05**	**299**	P	**P**	**05**	**42**	**49.8 +0.5**
	SNR=14							
ULN	**Ulaanbaatar**	**27.05**	**299**	P	**P**	**05**	**42**	**49.8 +0.5**
	SNR=14							
ULN	**Ulaanbaatar**	**27.05**	**299***c*	*i*P	**P**	**05**	**42**	**49.1 -0.2**
ULN				pmax	pmax			
	comp=Z,17nm,0.7s							
SONA1	**Songino Array**	**27.49**	**299**	*e*P	**P**	**05**	**42**	**52.9 -0.3**
SONM	**Songino Array**	**27.49**	**299**	P	**P**	**05**	**42**	**53.2 0.0**
	comp=Z,14nm,0.7s,baz=92,slow=8.7,SNR=58							
SONM				LR	LR	05	54	27.2
	comp=Z,3µm,18.1s,baz=94,slow=38							
SONM	**Songino Array**	**27.49**	**299**	P	**P**	**05**	**42**	**53.2 0.0**
SONM				pmax	pmax			
	comp=Z,14nm,0.7s							
SONM				MLR	MLR			
	comp=Z,3µm,18.1s							
XAN	**Xi'an**	**27.88**	**269**	P	**P**	**05**	**42**	**55.3 -1.4**
XAN				pP	pP	05	43	04.8 +0.4
XAN				sP	sP	05	43	09.0 +1.4
XAN				pmax	pmax			
	comp=Z,12nm,0.9s							
XAN				pmax	pmax			
	comp=Z,170nm,5.3s							
XAN				LR	LR			
	comp=Z,560nm,13.6s							
XAN				LR	LR			
	comp=Z,2µm,14.6s							
XAN				LR	LR			
	comp=Z,2µm,15.7s							
H11N2	**WAKE ISLAND Hy**	**28.59**	**128**	T	T	06	13	04.3
	baz=320,slow=75							
H11N1	**WAKE ISLAND Hy**	**28.60**	**128**	T	T	06	13	01.0
	baz=320,slow=75							
H11N3	**WAKE ISLAND Hy**	**28.61**	**128**	T	T	06	12	56.8
	baz=320,slow=75							
ENH	**Enshi**	**29.05**	**261**	*e*P	**P**	**05**	**43**	**06.3 -0.8**
	comp=Z,53nm,0.8s							
H11S1	**WAKE ISLAND Hy**	**29.41**	**130**	T	T	06	14	09.3
	baz=322,slow=74							
H11S3	**WAKE ISLAND Hy**	**29.41**	**130**	T	T	06	14	10.9
	baz=322							
H11S2	**WAKE ISLAND Hy**	**29.43**	**130**	T	T	06	14	10.8
	baz=322,slow=74							
TLY	**Talaya**	**29.64**	**307**	P	**P**	**05**	**43**	**12.5 +0.3**
	comp=Z,5.0nm,0.5s,baz=108,slow=3.2,SNR=3.5							
TLY				LR	LR	05	55	37.7
	comp=Z,714nm,19.6s,baz=96,slow=37							
TLY	**Talaya**	**29.64**	**307**	*e*P	**P**	**05**	**43**	**12.2 +0.1**
	comp=Z,7.1nm,0.7s							
TLY	**Talaya**	**29.64**	**307**	*e*P	**P**	**05**	**43**	**09.3 -2.9**
TLY				*e*		05	44	15.6
TLY				*e*SS	SS	05	49	55.2 -17
TLY				pmax	pmax			
	comp=Z,6.0nm,0.9s							
TLY				MLR	MLR			
	comp=Z,1µm,15.0s							
ZAK	**Zakamensk**	**29.72**	**304**	*e*P	**P**	**05**	**43**	**11.4 -1.6**
ZAK				pmax	pmax			
	comp=Z,30nm,1.5s							
BILL	**Bilibino**	**30.92**	**17***d*	*i*P	**P**	**05**	**43**	**23.1 -0.1**
BILL				*i*		05	43	31.8
BILL				*i*		05	43	41.9
BILL				*i*		05	44	24.9
BILL				*i*		05	46	19.0
BILL				*i* S	**S**	**05**	**48**	**29.1 +3.5**
BILL				pmax	pmax			
	comp=Z,9.0nm,1.2s							
LZH	**Lanzhou**	**31.07**	**276**	*e*P	**P**	**05**	**43**	**25.5 +0.4**
LZH				pP	pP	05	43	34.0 +1.2
LZH				sP	sP	05	43	37.3 +1.3
LZH				PP	**PnPn**	**05**	**44**	**24.0 -2.6**
LZH				*e*S	**S**	**05**	**48**	**25.5 -3.4**
LZH				sS	sS	05	48	43.5 +1.9
LZH				SS	**SnSn**	**05**	**50**	**16.8 +6.1**
LZH				pmax	pmax			
	comp=Z,34nm,1.0s							
LZH				pmax	pmax			
	comp=Z,240nm,4.3s							
LZH				LR	LR			
	comp=Z,940nm,13.5s							
LZH				LR	LR			
	comp=Z,3µm,15.0s							
LZH				LR	LR			
	comp=Z,3µm,15.7s							
MOY	**Mondy**	**31.28**	**306**	*e*P	**P**	**05**	**43**	**26.4 -0.3**
MOY				pmax	pmax			
	comp=Z,28nm,2.9s							
TIXI	**Tiksi**	**32.67**	**352**	P	**P**	**05**	**43**	**37.6 -0.9**
	comp=Z,1.7nm,0.4s,baz=151,slow=9.5,SNR=4.0							
TIXI				LR	LR	05	58	16.0
	comp=Z,423nm,19.2s,baz=202,slow=39							
TIXI	**Tiksi**	**32.67**	**352**	*e*P	**P**	**05**	**43**	**37.8 -0.8**
	comp=Z,26nm,1.9s							
TIXI	**Tiksi**	**32.67**	**352**⇑	*i*P	**P**	**05**	**43**	**37.7 -0.8**
TIXI				pmax	pmax			
	comp=Z,7.0nm,1.7s							
GYA	**Guiyang**	**33.13**	**257**⇑	*i*P	**P**	**05**	**43**	**42.5 -0.8**
GYA				pP	sP	05	43	54.8 +0.6
GYA				PP	**PnPn**	**05**	**44**	**55.5 +2.2**
GYA				S	**S**	**05**	**49**	**01.0 -0.2**
GYA				sS	sS	05	49	16.5 +2.6
GYA				SS	**SnSn**	**05**	**51**	**02.3 +1.3**
GYA				pmax	pmax			
	comp=Z,20nm,0.8s							
GYA				pmax	pmax			
	comp=Z,120nm,5.2s							
GYA				LR	LR			
	comp=Z,530nm,16.7s							
GYA				LR	LR			
	comp=Z,460nm,17.3s							
GYA				LR	LR			
	comp=Z,450nm,17.1s							
CD2	**Chengdu**	**33.14**	**267**	P	**P**	**05**	**43**	**42.0 -1.2**
CD2				pP	sP	05	43	53.5 -0.6
CD2				sP	pP	05	43	59.0 +8.1
CD2				S	**S**	**05**	**49**	**00.0 -1.1**
CD2				pmax	pmax			
	comp=Z,40nm,0.5s							
CD2				pmax	pmax			
	comp=Z,160nm,5.0s							
CD2				LR	LR			
	comp=Z,2µm,13.7s							
CD2				LR	LR			
	comp=Z,1µm,15.5s							
CD2				LR	LR			
	comp=Z,2µm,13.7s							
GTA	**Gaotai**	**33.16**	**283**	*e*P	**P**	**05**	**43**	**43.8 +0.4**
GTA				pP	sP	05	43	53.3 -1.0
GTA				sP	pP	05	43	57.3 +6.2
GTA				PcP	**PcP**	**05**	**46**	**27.3 +1.4**
GTA				S	**S**	**05**	**48**	**58.0 -3.4**
GTA				sS	sS	05	49	15.5 +1.3
GTA				SS	**SnSn**	**05**	**51**	**00.5 -0.9**
GTA				pmax	pmax			
	comp=Z,19nm,1.0s							
GTA				pmax	pmax			
	comp=Z,240nm,6.7s							
GTA				LR	LR			
	comp=Z,880nm,18.8s							
GTA				LR	LR			
	comp=Z,2µm,17.8s							
GTA				LR	LR			
	comp=Z,3µm,17.1s							
QIZ	**Qiongzhong**	**35.39**	**244**	P	**P**	**05**	**44**	**03.8 +1.0**
QIZ				S	**S**	**05**	**49**	**36.5 +0.6**
QIZ				pmax	pmax			
	comp=Z,160nm,3.2s							
QIZ				LR	LR			
	comp=Z,600nm,18.6s							
QIZ				LR	LR			
	comp=Z,540nm,14.7s							
QIZ				LR	LR			
	comp=Z,740nm,16.7s							
HVS	**Khovu-Aksy**	**35.82**	**305**	*i*P	**P**	**05**	**44**	**06.2 0.0**
HVS				pmax	pmax			
	comp=Z,10.0nm,0.8s							
DAV	**Davao City (W)**	**36.28**	**210**	LR	LR	05	59	58.6
	comp=Z,260nm,19.1s,baz=345,slow=38							
KMI	**Kunming**	**36.82**	**259**	P	**P**	**05**	**44**	**15.0 -0.2**
KMI				pP	pP	05	44	23.0 0.0
KMI				S	**S**	**05**	**49**	**54.0 -4.1**
KMI				pmax	pmax			
	comp=Z,37nm,1.2s							
KMI				LR	LR			
	comp=Z,950nm,16.0s							
KMI				LR	LR			
	comp=Z,980nm,15.5s							
KMI				LR	LR			
	comp=Z,1µm,16.3s							
DGZ	**Jazzator, Alta**	**39.93**	**303**	*i* P	**P**	**05**	**44**	**41.9 +0.9**
DGZ				pmax	pmax			
	comp=Z,30nm,0.7s							
WMQ	**Urumqi**	**40.87**	**294**	P	**P**	**05**	**44**	**47.8 -1.0**
WMQ				sP	sP	05	44	58.8 -1.0
WMQ				pmax	pmax			
	comp=Z,52nm,0.9s							
WMQ				pmax	pmax			
	comp=Z,340nm,3.7s							
WMQ				LR	LR			
	comp=Z,1µm,17.5s							
WMQ				LR	LR			
	comp=Z,840nm,14.3s							
WMQ				LR	LR			
	comp=Z,640nm,19.7s							
SKNT	**Sakolnakorn**	**40.89**	**248**	P	**P**	**05**	**44**	**49.5 +0.4**
	comp=Z,6.6nm,1.4s							
ZAA0	**Zalesovo Array**	**41.10**	**310**	*e*P	**P**	**05**	**44**	**50.0 -0.4**
ZALV	**Zalesovo Beam**	**41.10**	**310**	P	**P**	**05**	**44**	**50.6 +0.2**
	comp=Z,18nm,0.5s,baz=90,slow=7.5,SNR=70							
ZALV				PcP	**PcP**	**05**	**46**	**49.8 +0.3**
	comp=Z,3.4nm,0.6s,baz=70,slow=1.7,SNR=3.2							
ZALV				LR	LR	06	02	39.8
	comp=Z,1µm,18.9s,baz=73,slow=37							
ZALV	**Zalesovo Beam**	**41.10**	**310**	*e*P	**P**	**05**	**44**	**50.0 -0.4**
ZALV				PcP	**PcP**	**05**	**46**	**49.8 +0.3**
ZALV	**Zalesovo Beam**	**41.10**	**310**	*e*P	**P**	**05**	**44**	**50.0 -0.4**
ZALV						05	46	49.8
NVS	**Novosibirsk**	**41.95**	**311**	*e*P	**P**	**05**	**44**	**56.8 -0.5**
NVS				pmax	pmax			
	comp=N,7.0nm,0.8s							
NVS				pmax	pmax			
	comp=E,9.0nm,0.8s							
NVS				pmax	pmax			
	comp=Z,15nm,0.8s							
KHON	**Khomkaen**	**42.14**	**248**	P	**P**	**05**	**45**	**01.0 +1.7**
	comp=Z,13nm,0.6s							
PAYA	**Payao**	**42.34**	**254**	P	P	05	45	08.2 +7.2
CHAI	**Chaiyaphum**	**43.02**	**248**	P	**P**	**05**	**45**	**06.4 -0.1**
	comp=Z,10nm,0.6s,comp=Z,1µm							
LAMP	**Lampang**	**43.04**	**253**	P	**P**	**05**	**45**	**07.5 +0.8**
	comp=Z,6.4nm,0.7s							
PBKT	**Sadao Pong**	**43.31**	**250**	P	**P**	**05**	**45**	**08.4 -0.4**
	comp=Z,11nm,1.4s							
PHIT	**Phitsanulok**	**43.31**	**251**	P	**P**	**05**	**45**	**10.4 +1.6**
	comp=Z,9.9nm,0.9s							
CMMT	**Chiang Mai**	**43.37**	**254**	P	**P**	**05**	**45**	**08.4 -0.9**
	comp=Z,13nm,1.0s							
CHTO	**Chiang Mai**	**43.37**	**254**	P	**P**	**05**	**45**	**09.4 +0.1**
	comp=Z,52nm,0.8s							
CHTO	**Chiang Mai**	**43.37**	**254**	*e*P	**P**	**05**	**45**	**08.8 -0.5**
	comp=Z,8.2nm,0.6s							
CHTO	**Chiang Mai**	**43.37**	**254**	*e*P	**P**	**05**	**45**	**08.8 -0.5**
CHTO				pmax	pmax			
	comp=Z,8.0nm,0.6s							
LSA	**Lhasa**	**43.39**	**273**	*e*P	**P**	**05**	**45**	**10.9 +0.9**
	comp=Z,10nm,0.6s							
LSA	**Lhasa**	**43.39**	**273**	*e*P	**P**	**05**	**45**	**10.9 +0.9**
LSA				pmax	pmax			
	comp=Z,10.0nm,0.6s							
IM3	**Indian Mountai**	**43.51**	**32**	*e*P	**P**	**05**	**45**	**10.0 +0.1**
CMAR	**Chiang Mai Arr**	**43.59**	**254**	P	**P**	**05**	**45**	**10.4 -0.7**
	comp=Z,2.6nm,0.4s,baz=37,slow=7.7,SNR=13							
CMAR				LR	LR	06	04	58.6
	comp=Z,229nm,18.3s,baz=64,slow=38							
CM01	**Chiang Mai Arr**	**43.60**	**254**	*e*P	**P**	**05**	**45**	**11.3 +0.1**
OHAK	**Old Harbor**	**43.75**	**45**	*e*P	**P**	**05**	**45**	**12.1 +0.2**
	comp=Z,42nm,1.8s							
MK01	**Makanchi Array**	**43.85**	**300**	*e*P	**P**	**05**	**45**	**12.6 -0.3**
MK31	**Makanchi Array**	**43.85**	**300**	*e*P	**P**	**05**	**45**	**12.4 -0.5**
MK31	**Makanchi Array**	**43.85**	**300***ce*	P	**P**	**05**	**45**	**12.5 -0.5**
MK31				pmax	pmax			
	comp=Z,12nm,0.7s							
MKAR	**Makanchi Array**	**43.85**	**300**	P	**P**	**05**	**45**	**12.5 -0.5**
	comp=Z,2.5nm,0.7s,baz=83,slow=9.4,SNR=14							
MKAR				LR	LR	06	04	25.2
	comp=Z,1µm,18.7s,baz=71,slow=37							
MKAR	**Makanchi Array**	**43.85**	**300**	*e*P	**P**	**05**	**45**	**12.6 -0.3**
	comp=Z,85nm,0.6s							
MKAR	**Makanchi Array**	**43.85**	**300**	*e*P	**P**	**05**	**45**	**12.6 -0.3**
MKAR				pmax	pmax			
	comp=Z,85nm,0.6s							
MAKZ	**Makanchi**	**44.06**	**300**	*e*P	**P**	**05**	**45**	**14.6 0.0**
	comp=Z,52nm,1.5s							
MAKZ	**Makanchi**	**44.06**	**300**	*e*P	**P**	**05**	**45**	**14.6 0.0**
MAKZ				pmax	pmax			
	comp=Z,52nm,1.5s							
PPLA	**Purkeypile**	**44.06**	**37**	*e*P	**P**	**05**	**45**	**16.8 +2.2**
	comp=Z,86nm,2.0s							
KDAK	**Kodiak Island**	**44.08**	**44**	P	**P**	**05**	**45**	**14.9 +0.4**
	comp=Z,2.1nm,0.3s,baz=288,slow=6.5,SNR=18							
KDAK	**Kodiak Island**	**44.08**	**44**	*e*P	**P**	**05**	**45**	**15.3 +0.8**
	comp=Z,16nm,1.0s							
KDAK	**Kodiak Island**	**44.08**	**44***ce*	P	**P**	**05**	**45**	**15.4 +0.8**
CAST	**Castle Rocks**	**44.11**	**36**	*e*P	**P**	**05**	**45**	**17.1 +2.3**
	comp=Z,8.8nm,0.8s							
SPU	**Mount Spurr**	**44.15**	**39**	*e*P	**P**	**05**	**45**	**16.2 +1.0**
SRAK	**Srakaew**	**44.26**	**246**	P	P	05	45	26.4 +10
BPAW	**Bear Paw Mtn.**	**44.60**	**35**	*e*P	**P**	**05**	**45**	**20.8 +2.1**
	comp=Z,5.0nm,0.8s							
KTH	**Kantishna Hill**	**44.63**	**36**	*e*P	**P**	**05**	**45**	**19.9 +0.9**
	comp=Z,18nm,1.0s							
MLY	**Manley**	**44.72**	**33**	*e*P	**P**	**05**	**45**	**21.6 +2.0**
	comp=Z,8.7nm,0.9s							
SUA	**Susitna One**	**44.77**	**39**	*e*P	**P**	**05**	**45**	**21.0 +0.8**
	comp=Z,8.6nm,0.8s							
LUWI	**Luwuk**	**44.79**	**210**	*e*P	**P**	**05**	**45**	**20.6 -0.1**
	comp=Z,44nm,1.4s							
BRLK	**Bradley Lake**	**44.80**	**41**	*e*P	**P**	**05**	**45**	**20.9 +0.5**
	comp=Z,27nm,1.8s							
TRF	**Thorofare Moun**	**44.92**	**36**	*e*P	**P**	**05**	**45**	**23.5 +2.1**
	comp=Z,6.3nm,1.0s							
COLD	**Coldfoot**	**45.01**	**30**	*e*P	**P**	**05**	**45**	**23.5 +1.7**
	comp=Z,13nm,1.4s							
TOLK	**Toolik Lake Re**	**45.32**	**28**	*e*P	**P**	**05**	**45**	**25.6 +1.2**
	comp=Z,12nm,1.1s							
KURK	**Kurchatov**	**45.33**	**306**	*e*P	**P**	**05**	**45**	**24.5 -0.1**
	comp=Z,47nm,0.6s							
KURK	**Kurchatov**	**45.33**	**306**	P	**P**	**05**	**45**	**24.7 0.0**
	SNR=25							
KURK	**Kurchatov**	**45.33**	**306**	P	**P**	**05**	**45**	**24.7 0.0**
	SNR=25							
KURK	**Kurchatov**	**45.33**	**306***c*	*i*P	**P**	**05**	**45**	**24.2 -0.4**
KURK				pmax	pmax			
	comp=Z,77nm,1.7s							
KURBB	**Kurchatov Arra**	**45.41**	**306**	P	**P**	**05**	**45**	**25.0 -0.2**
	comp=Z,24nm,0.7s,baz=81,slow=8.9,SNR=82							
MCK	**McKinley**	**45.51**	**35**	*e*P	**P**	**05**	**45**	**27.3 +1.3**
	comp=Z,18nm,1.2s							
MCK	**McKinley**	**45.51**	**35**	*e*P	**P**	**05**	**45**	**27.3 +1.3**
MCK				pmax	pmax			
	comp=Z,18nm,1.2s							
PMR	**Palmer**	**45.53**	**38**	*e*P	**P**	**05**	**45**	**26.5 +0.4**
	comp=Z,5.9nm,0.8s							
PMR	**Palmer**	**45.53**	**38**	*e*P	**P**	**05**	**45**	**26.5 +0.4**
PMR				pmax	pmax			
	comp=Z,6.0nm,0.8s							
RND	**Reindeer**	**45.56**	**36**	*e*P	**P**	**05**	**45**	**26.9 +0.5**
	comp=Z,27nm,1.5s							
RND	**Reindeer**	**45.56**	**36**	*e*P	**P**	**05**	**45**	**26.9 +0.5**
RND				pmax	pmax			
	comp=Z,27nm,1.5s							
MDM	**Murphy Dome**	**45.78**	**34**	*e*P	**P**	**05**	**45**	**29.8 +1.7**
	comp=Z,17nm,1.1s							
SML	**Sawmill**	**45.90**	**38**	*e*P	**P**	**05**	**45**	**30.4 +1.4**
	comp=Z,37nm,1.6s							
SML	**Sawmill**	**45.90**	**38**	*e*P	**P**	**05**	**45**	**30.4 +1.4**
SML				pmax	pmax			
	comp=Z,37nm,1.6s							
COLA	**College**	**45.95**	**34**	*e*P	**P**	**05**	**45**	**30.1 +0.8**
	comp=Z,16nm,1.0s							
COLA	**College**	**45.95**	**34**	*e*P	**P**	**05**	**45**	**30.1 +0.8**
COLA				pmax	pmax			
	comp=Z,16nm,1.0s						

FYU Fort Yukon 46.97 31 *e*P P 05 45 39.7 +2.4
comp=Z,56nm,1.8s
KLU Klutina 47.07 38 *e*P P 05 45 39.7 +1.4
comp=Z,9.0nm,0.8s
DIV Divide 47.19 39 *e*P P 05 45 40.5 +1.4
comp=Z,11nm,0.8s
HARP HAARP 47.33 37 *e*P P 05 45 41.8 +1.5
comp=Z,14nm,0.8s
ODAN Odare 47.67 272 *e*P P 05 45 43.9 +0.3
comp=Z,32nm,0.5s
SCRK Sand Creek 47.68 35 *e*P P 05 45 43.8 +0.8
comp=Z,8.2nm,0.7s
DOT Dot Lake 47.69 35 *e*P P 05 45 43.4 +0.4
comp=Z,11nm,0.8s
BMRM Bremner River 47.77 39 *e*P P 05 45 45.4 +1.7
comp=Z,8.7nm,0.9s
RAGM Ragged Mountai 47.83 40 *e*P P 05 45 45.6 +1.5
comp=Z,30nm,1.4s
MENT Mentasta 47.92 36 *e*P P 05 45 45.4 +0.5
comp=Z,7.1nm,0.8s
JIRN Jiri 48.19 274 *e*P P 05 45 48.1 +0.4
comp=Z,44nm,0.5s
RAMN Ramite 48.23 273 *e*P P 05 45 48.1 +0.2
comp=Z,88nm,0.6s
GUN Gumba 48.30 274 *e*P P 05 45 48.8 +0.2
comp=Z,132nm,0.7s
TARG Taragay, Kyrgy 48.44 295 *e*P P 05 45 49.1 -0.5
comp=Z,21nm,0.8s
KDJ Kajisay 48.73 295 *e*P P 05 45 51.5 -0.1
comp=Z,12nm,0.8s
EGAK Eagle 48.81 33 *e*P P 05 45 52.9 +1.3
comp=Z,8.7nm,0.8s
KKN Kakani 48.82 274 *e*P P 05 45 52.7 +0.3
comp=Z,64nm,0.7s
PKIN Phulchoki 48.84 274 *e*P P 05 45 53.1 +0.5
comp=Z,56nm,0.6s
BALM Baldy 48.85 39 *e*P P 05 45 53.6 +1.5
comp=Z,7.6nm,0.8s
BALM Baldy 48.85 39 *e*P P 05 45 53.6 +1.5
BALM pmax pmax
comp=Z,8.0nm,0.8s
DMN Daman 49.05 274 *e*P P 05 45 54.0 -0.2
comp=Z,27nm,0.7s
PMG Port Moresby 49.16 175 LR LR 06 05 13.3
comp=Z,73nm,21.6s,baz=358,slow=34
GKN Gorkha 49.21 275 *e*P P 05 45 55.3 0.0
comp=Z,56nm,0.8s
TKM2 Tokmak 2 49.55 297 P P 05 45 58.5 +0.7
SNR=39
DAWY Dawson 49.67 34 *e*P P 05 46 00.0 +1.7
comp=Z,17nm,1.8s
DANN Dangsing 49.71 276 *e*P P 05 45 59.9 +0.6
comp=Z,5.6nm,0.7s
BVA0 Borovoye Array 49.73 311 *i* P P 05 45 58.8 0.0
BVA0 pmax pmax
comp=Z,16nm,0.6s
BVAR Borovoye Array 49.73 311 P P 05 45 59.0 +0.2
comp=Z,22nm,0.5s,baz=71,slow=8.5,SNR=109
BVAR LR LR 06 08 07.1
comp=Z,722nm,18.2s,baz=81,slow=37
BRVK Borovoye 49.79 311 *e*P P 05 45 59.5 +0.2
comp=Z,23nm,0.8s
BRVK Borovoye 49.79 311 P P 05 45 59.7 +0.5
SNR=10
BRVK Borovoye 49.79 311 P P 05 45 59.7 +0.5
SNR=10
BRVK Borovoye 49.79 311*c i*P P 05 45 59.4 +0.2
BRVK pmax pmax
comp=Z,14nm,0.6s
NRN Naryn 49.81 295 P P 05 46 00.8 +0.8
NRN pmax pmax
comp=Z,9.0nm,1.1s
OTUK Ortayu 49.93 304 P P 05 46 00.3 -0.1
OTUK pmax pmax
comp=Z,11nm,1.1s
KBK Karagaybulak 50.09 297 P P 05 46 02.4 +0.5
SNR=36
KZA Kyzart 50.09 296 P P 05 46 03.4 +1.2
SNR=9.3
KOLN Koldanda 50.12 275 *e*P P 05 46 02.4 +0.1
comp=Z,27nm,0.7s
USP Ospenovka 50.18 298 P P 05 46 02.5 +0.1
SNR=9.0
AAK Ala-Archa 50.41 297 P P 05 46 04.3 +0.1
comp=Z,5.1nm,0.4s,baz=109,slow=5.8,SNR=17
AAK Ala-Archa 50.41 297 *e*P P 05 46 04.4 +0.1
SNR=9.6
AAK Ala-Archa 50.41 297 *e*P P 05 46 04.4 +0.1
comp=Z,10.0nm,0.6s
AAK Ala-Archa 50.41 297 P P 05 46 04.6 +0.3
SNR=6.7
AAK Ala-Archa 50.41 297 P P 05 46 04.6 +0.3
SNR=6.7
AAK Ala-Archa 50.41 297*c i*P P 05 46 04.2 -0.1
AAK pmax pmax
comp=Z,7.0nm,0.6s
PYUN Piuthan 50.42 276 *e*P P 05 46 04.7 +0.1
comp=Z,41nm,0.6s
KSH Kashi 50.56 293 P P 05 46 09.5 +4.0
KSH pmax pmax
comp=Z,21nm,0.7s
EKS2 Erkin-Say 50.89 297 P P 05 46 08.0 +0.1
SNR=15
AML Almayashu 51.15 297 P P 05 46 10.8 +0.6
SNR=15
HYT Haines Junctio 51.20 38 *e*P P 05 46 11.7 +1.7
comp=Z,20nm,0.9s
INK Inuvik 51.23 28 P P 05 46 10.6 +0.7
comp=Z,1.4nm,0.4s,baz=278,slow=6.8,SNR=22
INK Inuvik 51.23 28 *e*P P 05 46 11.0 +1.1
comp=Z,10nm,1.1s
INK Inuvik 51.23 28 *e*P P 05 46 11.0 +1.1
INK pmax pmax
comp=Z,10.0nm,1.1s
HNR Honiara 51.45 159 LR LR 06 08 24.4
comp=Z,100nm,19.5s,baz=342,slow=36
MNAS Manas 51.83 297 P P 05 46 15.0 +0.1
MNAS pmax pmax
comp=Z,26nm,0.7s
SFK Sufi-Kurgan 52.11 294 P P 05 46 17.0 -0.2
SFK pmax pmax
comp=Z,18nm,0.8s
WHY Whitehorse 52.49 38 *e*P P 05 46 21.7 +2.2
comp=Z,7.7nm,1.0s
KK31 Karatay Array 52.94 299 *e*P P 05 46 22.8 -0.3
KK31 Karatay Array 52.94 299 *e*P P 05 46 22.8 -0.3
KKAR Karatay Array 52.94 299 *e*P P 05 46 22.8 -0.3
KKAR Karatay Array 52.94 299 *e*P P 05 46 22.8 -0.3
COEN Coen 53.55 180 *e*P P 05 46 28.1 +0.5
comp=Z,14nm,0.9s
SVE Sverdlovsk 53.97 318 *e*P P 05 46 30.4 +0.1
SVE pmax pmax
comp=Z,34nm,0.8s
SVE MLR MLR
comp=Z,2μm,15.0s
PSI Prapat 54.44 239 LR LR 06 09 46.7
comp=Z,216nm,21.8s,baz=36,slow=36
NIL Nilore 55.08 287 *e*P P 05 46 39.7 +0.9
comp=Z,34nm,0.8s
NIL Nilore 55.08 287 *e*P P 05 46 39.7 +0.9
NIL pmax pmax
comp=Z,34nm,0.8s
ARU Arti 55.18 318 P P 05 46 38.9 -0.2
comp=Z,4.2nm,0.2s,baz=69,slow=6.0,SNR=18
ARU Arti 55.18 318 *e*P P 05 46 39.3 +0.2
comp=Z,66nm,1.4s
ARU Arti 55.18 318*c i*P P 05 46 39.3 +0.2
ARU *PP **sP** 05 46 49.4 -0.9
ARU 05 47 38.3
ARU 05 48 40.3
ARU S **S** 05 54 21.4 +0.9
ARU SS **SS** 05 58 03.4 -0.7
ARU pmax pmax
comp=Z,52nm,1.7s
ARU MLR MLR
comp=Z,2μm,15.0s
DLBC Dease Lake 55.55 40 P P 05 46 43.6 +1.8
comp=Z,2.1nm,1.0s,baz=239,slow=5.9,SNR=2.8
DZET Dzherino 55.90 295 P P 05 46 54.2 +9.5
DZET pmax pmax
comp=Z,11nm,0.5s
AB31 Akbulak array 57.20 309*ce*P P 05 46 53.4 -0.2
AB31 pmax pmax
comp=Z,12nm,0.5s
ABKAR Akbulak array 57.20 309 *e*P P 05 46 53.5 -0.1
comp=Z,196nm,0.6s
KBL Kabul 57.73 290 *e*P P 05 46 57.4 -0.5
comp=Z,29nm,0.8s
KBL Kabul 57.73 290 *e*P P 05 46 57.4 -0.5
KBL pmax pmax
comp=Z,29nm,0.8s
AKTO Aktyubinsk 57.84 311 P P 05 46 57.8 -0.4
comp=Z,9.9nm,0.8s,baz=62,slow=10,SNR=20
AKTO LR LR 06 13 05.1
comp=Z,536nm,19.6s,baz=73,slow=37
SPITS Spitsbergen Ar 58.02 349 P P 05 46 58.9 -0.1
comp=Z,2.0nm,0.6s,baz=84,slow=8.5,SNR=4.3
SPITS LR LR 06 12 47.1
comp=Z,271nm,21.6s,baz=15,slow=37
RES Resolute Bay 59.51 15 P P 05 47 09.5 +0.1
comp=Z,6.3nm,1.0s,baz=316,slow=6.8,SNR=16
RES Resolute Bay 59.51 15 *e*P P 05 47 09.4 +0.1
comp=Z,6.9nm,0.8s
HYB Hyderabad 59.68 268 *i* P P 05 47 11.0 -0.4
FITZ Fitzroy Crossi 59.95 199 *e*P P 05 47 12.4 -0.5
comp=Z,18nm,0.9s
WRAB Tennant Creek 60.06 190 *e*P P 05 47 13.7 0.0
comp=Z,29nm,1.1s
WRAB Tennant Creek 60.06 190 *i* P P 05 47 18.3 +4.5
WRAB pmax pmax
comp=Z,12nm,0.8s
WB2 Warramunga Arr 60.07 190 *e*P P 05 47 13.7 -0.1
comp=Z,32nm,1.1s
WRA Warramunga Arr 60.07 190 P P 05 47 13.6 -0.3
comp=Z,8.8nm,0.9s,baz=8.1,slow=6.9,SNR=84
WC3 Warramunga Arr 60.08 190 *e*P P 05 47 14.3 +0.4
comp=Z,29nm,1.1s
YKA Yellowknife Ar 60.66 31 P P 05 47 17.8 +0.4
comp=Z,0.7nm,0.8s,baz=302,slow=6.4,SNR=12
TMCR Tamitsa 60.94 331 *e*P P 05 47 18.6 -0.6
TMCR pmax pmax
comp=Z,30nm,1.0s
ARCES ARCESS Array B 61.84 339 P P 05 47 25.0 -0.3
comp=Z,3.6nm,0.8s,baz=46,slow=7.4,SNR=10
ARCES LR LR 06 17 30.9
comp=Z,275nm,20.7s,baz=42,slow=39
ARCES ARCESS Array B 61.84 339 *e*P P 05 47 25.4 +0.1
ARCES ARCESS Array B 61.84 339 *e*P P 05 47 25.4 +0.1
ARE0 ARCESS Array S 61.84 339 *e*P P 05 47 25.7 +0.4
comp=Z,61nm,1.8s
DAG Danmarks Havn 63.07 355 *i* P P 05 47 33.1 -0.3
comp=Z,10nm,1.1s
DAG Danmarks Havn 63.07 355 *i* P P 05 47 33.1 -0.3
DAG pmax pmax
comp=Z,10.0nm,1.1s
GEYT Alibeck 63.69 298 P P 05 47 38.2 0.0
comp=Z,7.9nm,0.6s,baz=46,slow=4.2,SNR=13
GEYT LR LR 06 17 17.7
comp=Z,366nm,18.2s,baz=165,slow=38
GYA0B ALIBECK ARRAY 63.69 298 *e*P P 05 47 38.4 +0.1
comp=Z,13nm,0.8s
AS01 Alice Springs 63.79 189 *e*P P 05 47 39.4 +0.6
ASAR Alice Springs 63.80 189 P P 05 47 39.1 +0.3
comp=Z,3.5nm,0.9s,baz=3.9,slow=5.1,SNR=24
ASAR LR LR 06 15 11.4
comp=Z,102nm,19.8s,baz=5.5,slow=36
JOF Joensuu 64.12 332 P P 05 47 41.0 +0.5
JOF pmax pmax
comp=Z,15nm,2.0s
OUL Oulu 64.60 335 P P 05 47 45.3 +1.7
OUL pmax pmax
comp=Z,21nm,1.3s
DZM Mont Dzumac 65.33 156 P P 05 47 50.8 +1.8
comp=Z,6.6nm,1.1s,baz=61,slow=13,SNR=3.5
DZM LR LR 06 12 16.5
comp=Z,240nm,21.7s,baz=2.5,slow=32
DZM Mont Dzumac 65.33 156 *e*P P 05 47 51.3 +2.3
comp=Z,36nm,1.3s
DZM *e*S **S** 05 56 31.0 -0.4
comp=Z,100nm,28.6s
DZM Mont Dzumac 65.33 156 *e*LR LR 06 07 35.9
comp=Z,409nm,21.9s
MOS Moscow 65.81 323 *e*P P 05 47 48.5 -3.1
VRH Novokhopyorsk 66.42 318 *e*P P 05 47 55.1 -0.5
VRH pmax pmax
comp=Z,20nm,0.7s
OBN Obninsk 66.66 323⇑*i*P P
OBN *e**PP **sP** 05 48 07.8 -0.6
OBN *e**SP pP 05 48 14.3 +9.0
OBN *e* 05 48 26.5
OBN *e* 05 50 28.0
OBN *e*S **S** 05 56 48.1 +1.4
OBN pmax pmax
comp=Z,11nm,0.4s
OBN MLR MLR
comp=Z,884nm,15.0s
FIA1 FINESS Array S 66.95 332 *e*P P 05 47 59.0 +0.1
FINES FINESS Array B 66.96 332 P P 05 47 58.8 -0.1
comp=Z,8.2nm,0.6s,baz=48,slow=7.8,SNR=52
FINES LR LR 06 19 58.3
comp=Z,892nm,18.3s,baz=32,slow=38
LPSR Galich'ya Gora 67.02 320 *e*P P 05 47 59.3 -0.1
LPSR pmax pmax
comp=Z,10.0nm,0.7s
YBH Yreka Blue Hor 67.53 54 LR LR 06 10 28.0
comp=Z,85nm,21.1s,baz=312,slow=30
VSR Storozhevoye 67.72 319 *e*P P 05 48 03.3 -0.6
VSR pmax pmax
comp=Z,10.0nm,0.8s
SUMG Summit 67.85 1 *i* P P 05 48 06.1 +1.2
comp=Z,22nm,1.3s
SUMG Summit 67.85 1 *e*P P 05 48 06.1 +1.2
comp=Z,18nm,1.2s
SUMG Summit 67.85 1 *i* P P 05 48 06.1 +1.2
SUMG pmax pmax
comp=Z,22nm,1.3s
AFI Afiamalu 67.94 132 LR LR 06 11 32.2
comp=Z,182nm,20.7s,baz=278,slow=30
GOF Gofitskoye 69.25 312⇑*e*P P 05 48 12.2 -1.4
GOF pmax pmax
comp=Z,42nm,0.7s
SCO Scoresbysund 69.43 355 *i* P P 05 48 15.1 +0.9
SCO Scoresbysund 69.43 355 *i* P P 05 48 15.1 +0.9
ZEI Tsey 70.08 309 *e*P P 05 48 17.6 -1.4
ZEI pmax pmax
comp=Z,21nm,1.5s
KVAR Kislovodsk Arr 70.10 311 P P 05 48 20.1 +1.1
comp=Z,19nm,0.6s,baz=14,slow=4.8,SNR=20
KIV Kislovodsk 70.10 311 P P 05 48 20.6 +1.7
SNR=13
KIV Kislovodsk 70.10 311 P P 05 48 20.6 +1.7
SNR=13
KIV Kislovodsk 70.10 311 *e*P P 05 48 19.0 0.0
KIV pmax pmax
comp=Z,59nm,1.1s
KIV MLR MLR
comp=Z,681nm,17.0s
KBZ Khabaz 70.11 311 P P 05 48 19.7 +0.8
comp=Z,12nm,0.8s,baz=57,slow=4.8,SNR=29
KBZ LR LR 06 23 27.9
comp=Z,358nm,18.8s,baz=36,slow=40
NEY Neytrino 70.50 310⇑*e*P P 05 48 23.1 +1.6
NEY pmax pmax
comp=Z,2.0nm,0.6s
FFC Flin Flon 70.58 34 *e*P P 05 48 22.3 +0.8
comp=Z,6.8nm,1.1s
FCC Fort Churchill 70.85 28 *e*P P 05 48 23.3 +0.2
comp=Z,7.7nm,1.1s
FCC Fort Churchill 70.85 28 *e*P P 05 48 23.3 +0.2
FCC pmax pmax
comp=Z,8.0nm,1.1s
GNI Garni 71.13 307 P P 05 48 26.0 +0.7
comp=Z,12nm,0.4s,baz=78,slow=20,SNR=5.5
GNI LR LR 06 22 33.9
comp=Z,407nm,18.5s,baz=78,slow=38
GNI Garni 71.13 307 P P 05 48 26.9 +1.5
SNR=5.7
GNI Garni 71.13 307 P P 05 48 26.9 +1.5
SNR=5.7
GNI Garni 71.13 307 *i* P P 05 48 26.1 +0.7
GNI pmax pmax
comp=Z,91nm,1.6s
AKH Akhalkalaki 71.14 308⇑*i*P P 05 48 26.3 +0.8
EGMT Eagleton 71.24 43 *e*P P 05 48 26.1 +0.3
comp=Z,5.2nm,0.8s
STKA Stephens Creek 71.40 181 P P 05 48 28.1 +1.5
comp=Z,1.0nm,0.5s,baz=27,slow=6.6,SNR=5.8
HLID Hailey 71.44 48 *e*P P 05 48 28.8 +1.5
comp=Z,2.5nm,0.8s
WSAR Wadi Sarin 71.48 285 LR LR 06 23 48.2
comp=Z,192nm,18.3s,baz=68,slow=39
NC405 NORSAR Array S 71.90 337 *e*P P 05 48 29.0 -0.5
NC204 NORSAR Array S 72.05 338 *e*P P 05 48 30.8 +0.4
HFS Hagfors 72.07 336 P P 05 48 30.5 -0.1
comp=Z,7.2nm,0.6s,baz=56,slow=6.1,SNR=29
HFS LR LR 06 23 24.2
comp=Z,454nm,19.1s,baz=34,slow=38
NB201 NORSAR Array S 72.07 338 *e*P P 05 48 30.1 -0.5
NB2 NORSAR Subarra 72.11 338 P P 05 48 30.5 -0.2
comp=Z,8.0nm,0.7s,baz=36,slow=6.2
NOA NORSAR Array B 72.11 338 P P 05 48 30.8 0.0
comp=Z,5.7nm,0.6s,baz=37,slow=6.0,SNR=17
NOA LR LR 06 24 14.5
comp=Z,248nm,18.9s,baz=45,slow=39
NV01 Mina Array Sit 72.20 55 *e*P P 05 48 33.3 +1.4
NVAR Mina Array Bea 72.20 55 P P 05 48 33.2 +1.3
comp=Z,1.7nm,0.8s,baz=271,slow=5.8,SNR=6.1
NVAR LR LR 06 13 51.8
comp=Z,76nm,21.9s,baz=94,slow=30
NBO02 NORSAR Array S 72.20 338 *e*P P 05 48 31.7 +0.4
NBO00 NORSAR Array S 72.24 338 *e*P P 05 48 32.2 +0.7
UOSS Minazif 72.27 288 *e*P P 05 48 32.4 +0.1
comp=Z,10nm,0.8s
BBOO Buckleboo 72.61 186 *e*P P 05 48 36.1 +2.2
comp=Z,11nm,0.9s
AKASG Malin Array Be 72.90 323 P P 05 48 35.4 -0.2
comp=Z,2.8nm,0.5s,baz=42,slow=6.1,SNR=13
AKASG LR LR 06 23 57.8
comp=Z,296nm,18.3s,baz=45,slow=38
AKBB Malin Array Si 72.90 323 *e*P P 05 48 35.5 -0.1
comp=Z,8.4nm,0.9s
AKBB Malin Array Si 72.90 323 *e*P P 05 48 35.5 -0.1
AKBB pmax pmax
comp=Z,8.0nm,0.9s
KIEV Kiev 72.91 323 *e*P P 05 48 35.5 -0.2
comp=Z,8.1nm,0.9s
KIEV Kiev 72.91 323⇑*i*P P 05 48 35.5 -0.2
KIEV pmax pmax
comp=Z,25nm,2.0s
SFJD Kangerlussuaq 72.94 6 LR LR 06 22 21.9
comp=Z,242nm,21.0s,baz=345,slow=37
FRB Frobisher Bay 73.69 14 P P 05 48 40.2 +0.2
comp=Z,7.2nm,0.6s,baz=327,slow=7.0,SNR=14
TPNV Topopah Spring 74.39 55 *e*P P 05 48 46.6 +1.8
comp=Z,8.1nm,1.0s
TPNV Topopah Spring 74.39 55 *e*P P 05 48 46.6 +1.8
TPNV pmax pmax
comp=Z,8.0nm,1.0s
PDAR Pinedale Array 74.70 47 P P 05 48 47.2 +0.6
comp=Z,0.7nm,0.6s,baz=279,slow=2.9,SNR=5.5
PDAR LR LR 06 18 03.7
comp=Z,51nm,22.0s,baz=340,slow=33
PDAR Pinedale Array 74.70 47 *e*P P 05 48 47.6 +1.0
BORG Borgarnes 75.01 353 P P 05 48 49.0 +1.4
comp=Z,7.4nm,0.8s,baz=19,slow=3.9,SNR=4.4
BORG LR LR 06 22 59.4
comp=Z,50nm,18.6s,baz=19,slow=37
BORG Borgarnes 75.01 353 *e*P P 05 48 50.3 +2.6
comp=Z,108nm,1.7s
BORG Borgarnes 75.01 353 *e*P P 05 48 50.3 +2.6
BORG pmax pmax
comp=Z,108nm,1.7s
ULM Lac du Bonnet 76.38 35 P P 05 48 54.9 -0.9
comp=Z,3.5nm,1.0s,baz=1.4,slow=6.1,SNR=3.9
SRU San Rafael Swe 76.52 50 *e*P P 05 48 58.1 +1.1
comp=Z,3.0nm,0.7s
SRU San Rafael Swe 76.52 50 *e*P P 05 48 58.2 +1.1
SRU pmax pmax
comp=Z,3.0nm,0.7s
BUR08 Bucovina Ar. S 76.93 322 *e*P P 05 48 59.7 +0.6
BUR04 Bucovina Ar. S 76.94 322 *e*P P 05 48 59.5 +0.4
BURAR Bucovina Array 76.94 322 ⇓*i*P P 05 49 00.1 +0.9
BURAR Bucovina Array 76.94 322 ⇓P P 05 49 00.0 +0.9
CFR Carcaliu 77.24 319 ⇓*i*P P 05 49 00.9 +0.2
CFR Carcaliu 77.24 319 ⇓P P 05 49 00.9 +0.2
STHS Stebnicka Huta 77.43 325 *e*P P 05 49 02.7 +0.9
STHS Stebnicka Huta 77.43 325 *e*P P 05 49 02.7 +0.9
STHS pmax pmax
comp=Z,6.0nm,1.2s
VRI Vrincioaia 77.46 320⇓*i*P P 05 49 03.8 +1.8
VRI Vrincioaia 77.46 320 ⇓P P 05 49 03.8 +1.8
UZH Uzhgorod 77.55 324 *e*P P 05 49 02.9 +0.5
UZH *e* 05 49 17.3
TIRR Tirgusor 77.60 318 P P 05 49 05.2 +2.5
TIRR pmax pmax
comp=Z,9.0nm,1.7s
TRPA Tarpa 77.81 324⇑*i*P P 05 49 04.7 +0.9
BRTR Keskin Array B 78.00 312 P P 05 49 05.5 +0.3
comp=Z,1.9nm,0.7s,baz=95,slow=4.7,SNR=16
BRTR LR LR 06 27 29.4
comp=Z,149nm,18.2s,baz=43,slow=39
MLR Muntele Rosu 78.11 320 P P 05 49 05.7 -0.1
comp=Z,0.4nm,0.5s,baz=38,slow=6.0,SNR=5.1
MLR LR LR 06 27 08.2
comp=Z,138nm,18.2s,baz=46,slow=38
MLR Muntele Rosu 78.11 320⇑*i*P P 05 49 07.1 +1.3
MLR Muntele Rosu 78.11 320 ⇑P P 05 49 07.1 +1.3
WUAZ Wupatki 78.34 53 *e*P P 05 49 09.3 +2.1
comp=Z,10nm,1.0s
OKC Ostrava-Krasne 78.44 327 AMS AMS 06 26 30.0
comp=Z,700nm,19.6s
MORC Moravsky Berou 78.73 328⇑*i*P P 05 49 09.9 +0.9
MORC Moravsky Berou 78.73 328 *e*P P 05 49 09.1 +0.1
comp=Z,33nm,1.0s
MORC Moravsky Berou 78.73 328 ⇑P P 05 49 10.0 +1.0
DPC Dobruska-Polom 78.78 328 *e*P P 05 49 10.1 +0.8
DPC *epP **sP** 05 49 21.1 +0.4
DPC AMS AMS 06 26 40.0
comp=Z,400nm,19.0s
DPC Dobruska-Polom 78.78 328 *e*P P 05 49 10.1 +0.8
DPC *e* 05 49 21.1
DPC MLR MLR
comp=Z,400nm,19.0s
UPC Upice 78.79 329 AMS AMS 06 26 50.0
comp=Z,500nm,16.0s
ARR Arges 78.84 321⇑*i*P P 05 49 11.8 +2.1
BRG Berggiesshubel 79.31 330 *e*P P 05 49 12.5 +0.4
comp=Z,8.4nm,1.1s
BRG Berggiesshubel 79.31 330 PG 05 50 17.8
BRG SG 05 50 38.8
comp=Z,11nm,0.4s
BRG Berggiesshubel 79.31 330 *e*P P 05 49 12.5 +0.4
BRG pmax pmax
comp=Z,8.0nm,1.1s
CLL Collm 79.32 331⇑*i*P P 05 49 12.3 +0.2
comp=Z,12nm,1.1s
CLL *i* PcP **PcP** 05 49 20.9 +0.6
CLL *e*(PP) 05 52 20.0
CLL *e*S **S** 05 59 05.0 -5.7
CLL *e*PPS PPS 06 00 09.0
CLL *e*SS SS 06 04 30.0 +13
CLL LMH 06 25 00.0
comp=N,100nm,18.9s
CLL LMH 06 25 00.0
comp=E,400nm,19.4s
CLL LMV 06 28 00.0
comp=N,200nm,21.0s
CLL LMV 06 28 00.0
comp=E,200nm,18.1s
CLL LMV 06 28 00.0
comp=Z,400nm,19.1s
CLL Collm 79.32 331⇑*i*P P 05 49 12.3 +0.2
CLL *i* 05 49 20.9
CLL *e*S **S** 05 59 05.0 -5.7
CLL pmax pmax
comp=Z,12nm,1.1s
CLL MLR MLR
comp=Z,400nm,19.1s
PVCC Panska Ves 79.34 330 AMS AMS 06 27 10.0
comp=Z,600nm,17.5s
GOPC GO Pecny, Ondr 79.74 329 *e*P P 05 49 15.4 +0.9
GOPC AMS AMS 06 27 20.0
comp=Z,500nm,17.7s
GOPC GO Pecny, Ondr 79.74 329 *e*P P 05 49 15.4 +0.9
GOPC MLR MLR
comp=Z,500nm,17.7s
PRA Prague 79.76 329 AMS AMS 06 27 20.0
comp=Z,800nm,19.0s
PRU Pruhonice 79.78 329 *e*P P 05 49 15.5 +0.9
PRU AMS AMS 06 27 10.0
comp=Z,500nm,15.4s
PRU Pruhonice 79.78 329 *e*P P 05 49 15.5 +0.9
PRU MLR MLR
comp=Z,500nm,15.4s
TREC Trest 79.95 328 AMS AMS 06 27 20.0
comp=Z,500nm,18.9s
RAR Rarotonga 80.74 128 LR LR 06 16 35.9
comp=Z,199nm,21.4s,baz=290,slow=29
KHC Kasperske Hory 80.84 329 *e*P P 05 49 21.0 +0.6
KHC *epP **sP** 05 49 31.9 0.0

KHC					AMS	AMS	06 28 00.0	
	comp=Z,500nm,13.4s							
KHC	**Kasperske Hory**	**80.84**	**329**	*e*P		**P**	**05 49 21.2**	**+0.8**
	comp=Z,2.7nm,0.8s							
KHC	**Kasperske Hory**	**80.84**	**329**	*e*P		**P**	**05 49 21.0**	**+0.6**
KHC				*e*			05 49 31.9	
KHC					MLR	MLR		
	comp=Z,500nm,13.4s							
RAYN	**Ar Rayn**	**80.85**	**293**	*e*P		**P**	**05 49 20.9**	**-0.1**
	comp=Z,38nm,1.8s							
RAYN	**Ar Rayn**	**80.85**	**293**	P		**P**	**05 49 20.9**	**-0.1**
CONA	**Conrad Observa**	**80.87**	**327**	*i* P		**P**	**05 49 21.6**	**+0.9**
	comp=Z,4.1nm,0.8s							
EKA	**Eskdalemuir Ar**	**80.91**	**341**	P		**P**	**05 49 20.9**	**+0.2**
	comp=Z,1.2nm,0.5s,baz=24,slow=4.8,SNR=7.1							
EKA					LR	LR	06 29 49.5	
	comp=Z,173nm,18.2s,baz=45,slow=39							
GEC2	**GERESS Array S**	**81.02**	**329**	*e*P		**P**	**05 49 22.1**	**+0.6**
	comp=Z,3.3nm,0.6s							
GEC2	**GERESS Array S**	**81.02**	**329**	*e*P		**P**	**05 49 22.1**	**+0.6**
GEC2					pmax	pmax		
	comp=Z,3.0nm,0.6s							
GERES	**GERESS Array B**	**81.02**	**329**	P		**P**	**05 49 21.7**	**+0.2**
	comp=Z,1.7nm,0.5s,baz=23,slow=4.4,SNR=14							
GERES					LR	LR	06 28 32.7	
	comp=Z,352nm,18.4s,baz=22,slow=38							
GEA0	**GERESS Array S**	**81.03**	**329**	*e*P		**P**	**05 49 21.7**	**+0.2**
ASF	**Jabal al Asfar**	**81.07**	**305**	P		**P**	**05 49 22.1**	**+0.1**
	comp=Z,1.6nm,0.7s,baz=86,slow=5.1,SNR=5.2							
ASF	**Jabal al Asfar**	**81.07**	**305**	P		**P**	**05 49 22.1**	**+0.1**
ASF					pmax	pmax		
	comp=Z,1.0nm,0.6s							
MMAI	**Mount Meron Ar**	**81.44**	**306**	P		**P**	**05 49 24.3**	**+0.3**
	comp=Z,2.8nm,0.6s,baz=54,slow=7.3,SNR=7.0							
MMAI					LR	LR	06 29 34.3	
	comp=Z,425nm,19.3s,baz=80,slow=39							
ARSA	**Arzberg**	**81.54**	**327**	*e*P		**P**	**05 49 25.3**	**+1.1**
	comp=Z,2.2nm,0.7s							
ARSA				*i* P		**P**	**05 49 25.3**	**+1.1**
VTS	**Vitosha**	**81.57**	**320**	⇑*i*P		**P**	**05 49 25.6**	**+1.0**
VTS	**Vitosha**	**81.57**	**320**	*e*P		**P**	**05 49 25.4**	**+0.9**
	comp=Z,7.8nm,0.7s							
VTS	**Vitosha**	**81.57**	**320**	*e*P		**P**	**05 49 25.5**	**+0.9**
VTS					pmax	pmax		
	comp=Z,8.0nm,0.7s							
MOA	**Molln**	**81.59**	**328**	*e*P		**P**	**05 49 25.6**	**+1.2**
	comp=Z,2.0nm,0.5s							
ANMO	**Albuquerque**	**81.71**	**51**	*c e*P		**P**	**05 49 28.0**	**+2.5**
ANMO					pmax	pmax		
	comp=Z,4.0nm,1.2s							
DIVS	**Divibare**	**82.00**	**322**	*e*P		**P**	**05 49 26.7**	**0.0**
	comp=Z,20nm,1.8s							
PERS	**Pernice**	**82.20**	**327**	*i* P		**P**	**05 49 28.1**	**+0.4**
SOKA	**Soboth**	**82.20**	**327**	*e*P		**P**	**05 49 28.3**	**+0.5**
	comp=Z,6.5nm,0.6s,SNR=8.2							
SCHQ	**Schefferville**	**82.23**	**17**	LR		LR	06 31 06.9	
	comp=Z,126nm,18.1s,baz=356,slow=39							
OBKA	**Obir**	**82.54**	**327**	*i* P		**P**	**05 49 29.5**	**0.0**
	comp=Z,4.4nm,0.7s							
KBA	**Koelnbreinsper**	**82.58**	**328**	*e*P		**P**	**05 49 29.8**	**-0.1**
	comp=Z,5.8nm,0.8s,SNR=5.5							
KBA	**Koelnbreinsper**	**82.58**	**328**	P		**P**	**05 49 31.9**	**+2.1**
KBA					pmax	pmax		
	comp=Z,10.0nm,0.9s							
KNT	**Kendrikon**	**82.79**	**319**	P		**P**	**05 49 33.2**	**+2.4**
MYKA	**Terra Mystica**	**82.82**	**328**	*e*P		**P**	**05 49 30.6**	**-0.4**
	comp=Z,3.3nm,0.5s							
WATA	**Walderalm**	**83.08**	**329**	*e*P		**P**	**05 49 33.0**	**+0.6**
	comp=Z,2.1nm,0.4s							
WTTA	**Wattenberg**	**83.12**	**329**	*e*P		**P**	**05 49 32.2**	**-0.4**
	comp=Z,6.0nm,0.9s							
ABTA	**Abfaltersbach**	**83.19**	**328**	*e*P		**P**	**05 49 32.4**	**-0.5**
	comp=Z,3.3nm,0.9s							
GBRS	**Gornja Briga**	**83.21**	**326**	*i* P		**P**	**05 49 32.7**	**-0.2**
MOTA	**Moosalm**	**83.26**	**329**	*e*P		**P**	**05 49 33.9**	**+0.6**
	comp=Z,3.8nm,0.8s							
RETA	**Reutte**	**83.28**	**330**	*e*P		**P**	**05 49 34.1**	**+0.8**
	comp=Z,16nm,1.1s							
PAIG	**Paliouri**	**83.30**	**318**	P		**P**	**05 49 34.5**	**+1.1**
BFO	**Black Forest**	**83.50**	**332**	*e*P		**P**	**05 49 35.0**	**+0.6**
	comp=Z,31nm,1.8s							
BFO	**Black Forest**	**83.50**	**332**	*e*P		**P**	**05 49 35.0**	**+0.6**
BFO					pmax	pmax		
	comp=Z,31nm,1.8s							
PDG	**Podgorica**	**83.62**	**322**	⇑*i*P		**P**	**05 49 35.4**	**+0.4**
FETA	**Feichten**	**83.67**	**329**	*e*PcP		**P**	**05 49 36.3**	**+0.8**
	comp=Z,11nm,1.3s							
DAVA	**Damuels**	**83.78**	**330**	*e*PcP		**P**	**05 49 36.8**	**+0.8**
PMOR	**Pomariorio Ree**	**84.07**	**115**	*e*T		T	07 22 14.2	
	comp=Z,14nm,0.2s							
FUORN	**Ofenpass-Fuorn**	**84.18**	**330**	*e*P		**P**	**05 49 39.1**	**+1.0**
	comp=Z,14nm,0.9s							
HINF	**Hinteralfeld**	**84.46**	**332**	*e*P		**P**	**05 49 41.7**	**+2.4**
HINF					pmax	pmax		
	comp=Z,66nm,2.2s							
PPT	**Papeete**	**84.69**	**118**	LR		LR	06 20 12.6	
	comp=Z,235nm,20.1s,baz=306,slow=30							
PPT2	**Papeete2**	**84.71**	**118**	*e*S		**S**	**06 00 04.5**	**-2.6**
	comp=Z,50nm,28.0s							
PPT2	**Papeete2**	**84.71**	**118**	*e*LR		LR	06 16 19.5	
	comp=Z,483nm,22.5s,baz=320							
PPT2	**Papeete2**	**84.71**	**118**	*e*T		T	07 23 02.2	
	comp=Z,5.2nm,0.3s							
TAOE	**Nuku Hiva Isla**	**85.54**	**105**	*e*LR		LR	06 16 57.0	
	comp=Z,394nm,21.0s							
IDI	**Anoyia**	**86.06**	**314**	P		**P**	**05 49 47.0**	**-0.6**
	comp=Z,1.9nm,0.4s,baz=45,slow=2.9,SNR=3.6							
IDI	**Anoyia**	**86.06**	**314**	*e*P		**P**	**05 49 47.6**	**0.0**
	comp=Z,7.7nm,1.0s							
SSF	**Saint Saulge**	**86.28**	**334**	*e*P		**P**	**05 49 48.3**	**-0.1**
SSF					pmax	pmax		
	comp=Z,8.0nm,0.9s							
LPL	**La Plagne**	**86.46**	**331**	*e*P		**P**	**05 49 49.5**	**0.0**
LPL					pmax	pmax		
	comp=Z,28nm,1.5s							
LPG	**La Plagne**	**86.47**	**331**	*e*P		**P**	**05 49 49.7**	**0.0**
LPG					pmax	pmax		
	comp=Z,46nm,1.7s							
GRR	**Gorron**	**86.52**	**337**	*e*P		**P**	**05 49 47.7**	**-1.8**
GRR					pmax	pmax		
	comp=Z,35nm,1.3s							
AVF	**Avril sur Loir**	**86.57**	**334**	*e*P		**P**	**05 49 49.8**	**0.0**
AVF					pmax	pmax		
	comp=Z,15nm,0.7s							
LPIG	**La Paz**	**86.59**	**61**	LR		LR	06 24 36.7	
	comp=Z,54nm,18.3s,baz=298,slow=33							
ORIF	**Oris-en-Rattie**	**87.28**	**331**	*e*P		**P**	**05 49 54.1**	**+0.7**
ORIF					pmax	pmax		
	comp=Z,58nm,2.2s							
TX31	**Lajitas Ar. Si**	**87.31**	**53**	*e*P		**P**	**05 49 55.2**	**+1.4**
TXAR	**Lajitas Array**	**87.31**	**53**	P		**P**	**05 49 54.5**	**+0.7**
	comp=Z,0.6nm,0.7s,baz=293,slow=3.6,SNR=13							
TXAR					LR	LR	06 23 56.1	
	comp=Z,60nm,21.6s,baz=0.0,slow=32							
CCM	**Cathedral Cave**	**87.79**	**40**	*e*P		**P**	**05 49 56.5**	**+0.6**
	comp=Z,13nm,1.1s							
CCM	**Cathedral Cave**	**87.79**	**40**	*e*P		**P**	**05 49 56.5**	**+0.6**
CCM					pmax	pmax		
	comp=Z,13nm,1.1s							
MFF	**Saint Martin d**	**87.89**	**336**	*e*P		**P**	**05 49 56.5**	**+0.4**
MFF					pmax	pmax		
	comp=Z,152nm,2.4s							
TBI	**Tubuai**	**88.81**	**122**	*e*T		T	07 28 07.8	
	comp=Z,12nm,0.3s							
VAE	**Valguarnera**	**89.80**	**322**	LR		LR	06 34 28.4	
	comp=Z,228nm,19.1s,baz=126,slow=38							
ATD	**Arta Tunnel**	**90.49**	**285**	LR		LR	06 36 09.2	
	comp=Z,100nm,18.6s,baz=7.5,slow=39							
ETSF	**Etsaut**	**91.32**	**334**	*e*P		**P**	**05 50 13.3**	**+0.9**
ETSF					pmax	pmax		
	comp=Z,34nm,1.6s							
KEST	**Kesra**	**93.58**	**324**	LR		LR	06 37 16.0	
	comp=Z,427nm,18.8s,baz=270,slow=39							
ESDC	**Sonseca Array**	**95.34**	**335**	P		**P**	**05 50 30.6**	**-0.3**
	comp=Z,0.4nm,0.4s,baz=7.4,slow=4.4,SNR=3.4							
ESDC					LR	LR	06 39 02.2	
	comp=Z,298nm,19.1s,baz=40,slow=39							
TORD	**Torodi Ar. Bea**	**116.25**	**317**	PKP		**PKPdf**	**05 55 49.7**	**-0.8**
	comp=Z,0.5nm,0.8s,baz=12,slow=1.4,SNR=3.3							
SNAA	**Sanae**	**143.86**	**197**	PKP		PKPab	05 56 38.1	+0.2
	comp=Z,1.6nm,0.6s,baz=214,slow=5.0,SNR=15							
SNAA	**Sanae**	**143.86**	**197**	*e*PKPpre		PKPab	05 56 38.4	+0.4
SNAA	**Sanae**	**143.86**	**197**	*e*PKHKP		PKPab	05 56 38.4	+0.5
LPAZ	**La Paz**	**144.04**	**58**	PKP		PKPbc	05 56 42.0	+0.7
	comp=Z,0.9nm,0.7s,baz=65,slow=7.0,SNR=5.2							
LPAZ	**La Paz**	**144.04**	**58**	*e*PKPdf		PKPbc	05 56 42.2	+0.9
MNMC	**Minye Minye**	**145.06**	**63**	*e*PKPbc		**PKPdf**	**05 56 45.8**	**+1.1**
PB11	**IPOC Station P**	**145.45**	**64**	*e*PKPdf		**PKPab**	**05 56 46.5**	**+1.1**
PB01	**IPOC Station P**	**146.42**	**66**	*e*PKPdf		**PKPab**	**05 56 49.5**	**+0.5**
LCO	**Las Campanas**	**150.19**	**79**	*e*PKPdf		**PKPdf**	**05 56 54.8**	**+1.9**

*ISCJB **27** 05:49:29.2±0.2,36°.43N±0°.02×71°.16E±0°.02,h226km±2km, mb4.4/150,Error ellipse: s-maj=3.2km s-min=2.6km az=151.3*
*BJI **27** 05:49:30.4,36°.56N×71°.17E,h233km,mb4.5/29,mB4.7/16*
*MOS **27** 05:49:30.0±0.8,36°.46N×71°.17E,h232km,mb4.6/70,Error ellipse: s-maj=5.8km s-min=3.7km az=101.5*
*NEIC **27** 05:49:30.4±0.4,36°.41N×71°.18E,h226km±3km,mb4.5/102, Error ellipse: s-maj=3.7km s-min=3.2km az=163.0*
*IDC **27** 05:49:31.8±0.4,36°.43N×71°.14E,h242km±3km,mb4.1/32, mb1 4.2/40,mb1mx4.0/70,mbtmp4.8/40,Error ellipse: s-maj=7.6km s-min=6.7km az=174.0*
*NNC **27** 05:49:32.6±5.9,36°.80N×71°.03E,h0km,mb5.7,mpv5.3, Error ellipse: s-maj=44.2km s-min=34.8km az=0.0*

ISC 27 05:49:31.2±0.3,36°.43N±0°.03×71°.16E±0°.03,h236km±2km, h236km:pP-P,n407,σ1955/484,mb4.5/153,19C-12D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
KBL	**Kabul**	**2.56**	**223**	*e*Pn	**Pn**	**05 50 17.4**	**-0.9**
KBL				*e*S	**S**	**05 50 52.3**	**-3.0**
KBL	**Kabul**	**2.56**	**223**	*e*PN	**Pn**	**05 50 17.4**	**-0.9**
KBL				*e*S	**S**	**05 50 52.3**	**-3.0**
CEP	**Cherat**	**2.67**	**167**	⇑P	**Pn**	**05 50 19.0**	**-0.5**
CHCP	**Chirah Chowk**	**3.26**	**147**	P	**Pn**	**05 50 25.7**	**-0.1**
NIL	**Nilore**	**3.26**	**148**	*e*Pn	**Pn**	**05 50 25.6**	**-0.2**
NIL				*e*S	**S**	**05 51 05.9**	**-2.9**
NIL	**Nilore**	**3.26**	**148**	*e*PN	**Pn**	**05 50 25.6**	**-0.2**
NIL				*e*S	**S**	**05 51 05.9**	**-2.9**
THW	**Thamme Wali**	**3.66**	**172**	⇑P	**Pn**	**05 50 29.8**	**-0.6**
SFK	**Sufi-Kurgan**	**4.03**	**27**	⇓P	**Pn**	**05 50 33.7**	**-1.2**
	67nm,0.2s						
SFK				⇓S	**S**	**05 51 20.6**	**-4.6**
	2μm,0.4s						
SFK	**Sufi-Kurgan**	**4.03**	**27**	PN	**Pn**	**05 50 33.7**	**-1.2**
SFK				S	**S**	**05 51 20.6**	**-4.6**
SFK				pmax	pmax		
	comp=Z,67nm,0.2s						
SFK				smax	smax		
	comp=N,2μm,0.4s						
SARP	**Sargodha**	**4.67**	**164**	P	**Pn**	**05 50 41.8**	**-0.7**
KSH	**Kashi**	**4.89**	**49**	P	Pn	05 50 39.3	-6.0
KSH				S	S	05 51 21.0	-23
KSH				smax	smax		
	comp=N,6μm,0.4s						
KSH				smax	smax		
	comp=N,5μm,0.5s						
TAS	**Tashkent**	**5.11**	**344**	⇓P	**Pn**	**05 50 46.9**	**-1.0**
	comp=N,958nm,0.6s						
TAS				⇓S	**S**	**05 51 43.8**	**-5.0**
	comp=N,3μm,0.7s						
TAS	**Tashkent**	**5.11**	**344**	PN	**Pn**	**05 50 46.9**	**-1.0**
TAS				S	**S**	**05 51 43.8**	**-5.0**
TAS				pmax	pmax		
	comp=Z,958nm,0.6s						
TAS				smax	smax		
	comp=N,3μm,0.7s						
DHRM	**DHARAMSHALA**	**5.95**	**133**	*e*P	**Pn**	**05 50 56.9**	**-1.8**
DHRM				*e*S	**S**	**05 52 03.4**	**-5.0**
AML	**Almayashu**	**6.03**	**18**	P	**Pn**	**05 50 58.3**	**-1.4**
	SNR=847						
MNAS	**Manas**	**6.14**	**9**	⇑P	**Pn**	**05 51 00.2**	**-0.7**
	comp=N,293nm,0.4s						
MNAS				⇑S	**S**	**05 52 07.3**	**-5.2**
	comp=N,1μm,0.7s						
MNAS	**Manas**	**6.14**	**9**	PN	**Pn**	**05 51 00.2**	**-0.7**
MNAS				S	**S**	**05 52 07.3**	**-5.2**
MNAS				pmax	pmax		
	comp=Z,293nm,0.4s						
MNAS				smax	smax		
	comp=N,1μm,0.7s						
NRN	**Naryn**	**6.26**	**36**	PN	**Pn**	**05 51 00.0**	**-2.6**
NRN				S	**S**	**05 52 09.8**	**-5.7**
UCH	**Uchtor**	**6.35**	**23**	P	**Pn**	**05 51 02.8**	**-1.0**
	SNR=346						
KZA	**Kyzart**	**6.47**	**28**	P	**Pn**	**05 51 03.8**	**-1.6**
	SNR=112						
EKS2	**Erkin-Say**	**6.55**	**17**	P	**Pn**	**05 51 05.0**	**-1.0**
	SNR=132						
KK31	**Karatay Array**	**6.69**	**356**	P	**Pn**	**05 51 06.1**	**-1.6**
	comp=N,64nm,0.5s,baz=176,slow=12,SNR=543						
KK31				⇑S	**S**	**05 52 18.0**	**-6.8**
	comp=N,707nm,0.8s,baz=184,slow=22						
KK31	**Karatay Array**	**6.69**	**356**	*e*Pn	**Pn**	**05 51 06.5**	**-1.2**
KK31				*e*S	**S**	**05 52 19.1**	**-5.7**
KK31	**Karatay Array**	**6.69**	**356**	*e*PN	**Pn**	**05 51 06.5**	**-1.2**
KKAR	**Karatay Array**	**6.69**	**356**	*e*Pn	**Pn**	**05 51 06.2**	**-1.4**
KKAR				*e*S	**S**	**05 52 19.1**	**-5.7**
KKAR	**Karatay Array**	**6.69**	**356**	*e*PN	**Pn**	**05 51 06.3**	**-1.4**
AAK	**Ala-Archa**	**6.71**	**22**	P	**Pn**	**05 51 07.4**	**-0.8**
	comp=N,66nm,0.3s,baz=154,slow=4.8,SNR=326						
AAK				S	**S**	**05 52 21.7**	**-3.9**
	comp=N,24nm,0.3s,baz=325,slow=24,SNR=4.9						
AAK	**Ala-Archa**	**6.71**	**22**	⇑P	**Pn**	**05 51 07.3**	**-0.9**
	comp=N,80nm,0.4s						
AAK				⇓S	**S**	**05 52 21.3**	**-4.4**
	comp=N,395nm,0.8s						
AAK	**Ala-Archa**	**6.71**	**22**	P	**Pn**	**05 51 07.4**	**-0.8**
	SNR=194						
AAK	**Ala-Archa**	**6.71**	**22**	Pn	**Pn**	**05 51 07.5**	**-0.7**
	SNR=31						
AAK	**Ala-Archa**	**6.71**	**22**	*i* P	**Pn**	**05 51 07.4**	**-0.8**
	SNR=183						
AAK	**Ala-Archa**	**6.71**	**22**	*d i*PN	**Pn**	**05 51 07.1**	**-1.1**
KBK	**Karagaybulak**	**6.87**	**24**	P	**Pn**	**05 51 09.7**	**-0.5**
	SNR=118						
FRU1	**Bishkek**	**6.91**	**22**	PN	**Pn**	**05 51 10.1**	**-0.5**
FRU	**Bishkek**	**6.93**	**22**	*e*PN	**Pn**	**05 51 10.0**	**-0.8**
FRU				*i* S	**S**	**05 52 28.0**	**-2.5**
FRU				pmax	pmax		
	comp=Z,150nm,1.0s						
FRU				smax	smax		
	comp=N,100nm,1.4s						
ULHL	**Ulahol**	**7.02**	**33**	P	**Pn**	**05 51 10.9**	**-1.2**
	SNR=89						
CHMS	**Chumysh**	**7.12**	**22**	P	**Pn**	**05 51 12.0**	**-1.2**
	SNR=36						
SMLA	**Simla**	**7.27**	**135**	*e*P	**Pn**	**05 51 14.3**	**-0.9**
SMLA				*e*S	**S**	**05 52 33.0**	**-5.6**
USP	**Ospenovka**	**7.30**	**20**	P	**Pn**	**05 51 13.7**	**-1.8**
	SNR=49						
TKM2	**Tokmak 2**	**7.33**	**26**	⇓P	**Pn**	**05 51 15.3**	**-0.8**
	comp=N,375nm,1.0s						
TKM2				⇑S	**S**	**05 52 35.4**	**-4.6**
	comp=N,183nm,1.1s						
TKM2	**Tokmak 2**	**7.33**	**26**	P	**Pn**	**05 51 14.9**	**-1.2**
	SNR=381						
TKM2	**Tokmak 2**	**7.33**	**26**	PN	**Pn**	**05 51 15.3**	**-0.8**
TKM2				S	**S**	**05 52 35.4**	**-4.6**
TKM2				pmax	pmax		
	comp=Z,375nm,1.0s						
TKM2				smax	smax		
	comp=N,183nm,1.1s						
KDJ	**Kajisay**	**7.36**	**37**	*e*Pn	**Pn**	**05 51 15.2**	**-1.3**
KDJ	**Kajisay**	**7.36**	**37**	PN	**Pn**	**05 51 14.9**	**-1.5**
TARG	**Taragay, Kyrgy**	**7.40**	**42**	*e*Pn	**Pn**	**05 51 15.1**	**-2.1**
MDOK	**Medeo**	**8.11**	**32**	⇓P	**Pn**	**05 51 24.6**	**-1.3**
	comp=N,67nm,0.6s						
DDI	**Dehra Dun**	**8.38**	**135**	*e*P	**Pn**	**05 51 28.6**	**-0.9**
DDI				*e*S	**S**	**05 52 56.0**	**-8.5**
DDI				*e*S	S	05 52 58.6	-5.9
DDI				IAML		05 53 03.0	
	comp=E,626nm,0.6s						
DDI				IAML		05 53 04.8	
	comp=N,582nm,0.8s						
PDGK	**Podgornoye**	**9.40**	**40**	P	**Pn**	**05 51 41.8**	**-0.6**
PDGK				pmax	pmax		
	comp=Z,18nm,0.6s						
GEYT	**Alibeck**	**10.52**	**282**	P	**Pn**	**05 51 55.0**	**-1.6**
	comp=Z,1.8nm,0.3s,baz=104,slow=11,SNR=28						
GEYT				S	**S**	**05 53 48.2**	**-6.2**
	baz=102,slow=19,SNR=2.7						
GYA0B	**ALIBECK ARRAY**	**10.52**	**282**	*e*Pn	**Pn**	**05 51 54.6**	**-2.0**
OTUK	**Ortayu**	**11.84**	**4**	P	**Pn**	**05 52 11.8**	**-1.2**
OTUK				pmax	pmax		
	comp=Z,79nm,0.9s						
PYUN	**Piuthan**	**12.99**	**126**	*e*P	**Pn**	**05 52 25.6**	**-2.2**
	comp=Z,155nm,0.4s						
MAKZ	**Makanchi**	**13.14**	**35**	*e*Pn	**Pn**	**05 52 27.8**	**-1.4**
MAKZ	**Makanchi**	**13.14**	**35**	*e*P	**Pn**	**05 52 27.8**	**-1.4**
BHJ	**Bhuj**	**13.19**	**186**	*e*P	**P**	**05 52 31.8**	**-0.1**
MK01	**Makanchi Array**	**13.26**	**35**	*e*Pn	**Pn**	**05 52 28.7**	**-2.0**
MK31	**Makanchi Array**	**13.27**	**35**	*e*Pn	**Pn**	**05 52 28.9**	**-1.9**
MK31	**Makanchi Array**	**13.27**	**35**	*e*P	**Pn**	**05 52 28.9**	**-1.9**
MKAR	**Makanchi Array**	**13.27**	**35**	P	**Pn**	**05 52 29.4**	**-1.5**
	comp=Z,3.7nm,0.3s,baz=219,slow=14,SNR=77						
MKAR	**Makanchi Array**	**13.27**	**35**	*e*Pn	**Pn**	**05 52 28.9**	**-1.9**
MKAR	**Makanchi Array**	**13.27**	**35**	*e*P	**Pn**	**05 52 28.9**	**-1.9**
DANN	**Dangsing**	**13.34**	**124**	*e*P	**Pn**	**05 52 30.8**	**-1.3**
	comp=Z,17nm,1.0s						
KOLN	**Koldanda**	**13.61**	**126**	*e*P	**Pn**	**05 52 33.8**	**-1.6**
	comp=Z,59nm,0.2s						
GKN	**Gorkha**	**14.15**	**123**	*e*P	**Pn**	**05 52 41.2**	**-0.7**
	comp=Z,220nm,0.5s						
BHPL	**Bhopal**	**14.21**	**156**	*e*P	**Pn**	**05 52 40.7**	**-1.8**
BHPL				*ex*	x	05 55 12.2	
WMQ	**Urumqi**	**14.63**	**55**	P	**Pn**	**05 52 47.0**	**-0.5**
WMQ				S	S	05 55 17.0	-12
WMQ				pmax	pmax		
	comp=Z,10.0nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,290nm,6.7s						
WMQ				LR	LR		
	comp=Z,1μm,16.7s						
WMQ				LR	LR		
	comp=Z,1μm,19.1s						
WMQ				LR	LR		
	comp=Z,640nm,19.1s						
DMN	**Daman**	**14.72**	**123**	*e*P	**Pn**	**05 52 47.8**	**-1.2**
	comp=Z,122nm,0.4s						
KKN	**Kakani**	**14.73**	**122**	*e*P	**Pn**	**05 52 47.7**	**-1.3**
	comp=Z,279nm,0.5s						
PKIN	**Phulchoki**	**14.94**	**122**	*e*P	**P**	**05 52 50.6**	**-1.0**
	comp=Z,178nm,0.3s						
PKI	**Pulchoki**	**14.95**	**122**	*e*P	**P**	**05 52 51.4**	**-0.4**
GUN	**Gumba**	**15.07**	**120**	*e*P	**P**	**05 52 52.2**	**-0.8**
	comp=Z,245nm,0.6s						
KURBB	**Kurchatov Arra**	**15.15**	**18**	P	**P**	**05 52 51.8**	**-1.6**
	comp=Z,1.0nm,0.3s,baz=206,slow=12,SNR=33						
ABKAR	**Akbulak array**	**15.21**	**331**	*e*P	**P**	**05 52 52.7**	**-1.4**
	comp=Z,323nm,0.3s						
ABKAR				*e*S	**S**	**05 55 41.4**	**-0.6**
KURK	**Kurchatov**	**15.26**	**18**	*e*P	**P**	**05 52 53.1**	**-1.5**
	comp=Z,17nm,0.8s						
KURK	**Kurchatov**	**15.26**	**18**	P	**P**	**05 52 53.7**	**-0.8**
	SNR=7.0						
KURK	**Kurchatov**	**15.26**	**18**	P	**P**	**05 52 53.7**	**-0.8**
	SNR=7.0						
KURK	**Kurchatov**	**15.26**	**18**	*c i*P	**P**	**05 52 53.0**	**-1.5**
KURK				pmax	pmax		
	comp=Z,18nm,0.8s						
JIRN	**Jiri**	**15.44**	**120**	*e*P	**P**	**05 52 56.9**	**-0.2**
	comp=Z,362nm,0.4s						
RAMN	**Ramite**	**16.16**	**121**	*e*P	**P**	**05 53 05.3**	**+0.3**
	comp=Z,189nm,0.5s						
BVAR	**Borovoye Array**	**16.61**	**358**	P	**P**	**05 53 09.9**	**+0.6**
	comp=Z,13nm,0.3s,baz=157,slow=12,SNR=87						
BVAR				S	**S**	**05 56 09.5**	**-1.1**
	comp=Z,0.4nm,0.3s,baz=181,slow=20,SNR=4.7						
BRVK	**Borovoye**	**16.64**	**358**	*e*P	**P**	**05 53 09.7**	**0.0**
	comp=Z,37nm,0.4s						
BRVK				*e*S	**S**	**05 56 10.4**	**-0.9**
BRVK	**Borovoye**	**16.64**	**358**	P	**Pn**	**05 53 10.9**	**-0.4**
	SNR=11						
BRVK	**Borovoye**	**16.64**	**358**	P	**Pn**	**05 53 10.9**	**-0.4**
	SNR=11						
BRVK	**Borovoye**	**16.64**	**358**	*c i*P	**Pn**	**05 53 10.5**	**-0.8**
BRVK				pmax	pmax		
	comp=Z,22nm,0.6s						
NGP	**Nagpur**	**16.71**	**154**	*e*P	**P**	**05 53 10.9**	**+0.2**
ODAN	**Odare**	**16.77**	**120**	*e*P	**Pn**	**05 53 13.0**	**-0.3**
AKTO	**Aktyubinsk**	**16.91**	**330**	P	**P**	**05 53 13.4**	**+0.7**
	comp=Z,7.0nm,0.3s,baz=139,slow=10,SNR=168						
AKTO				S	**S**	**05 56 14.7**	**-2.0**
	comp=Z,0.4nm,0.3s,baz=313,slow=18,SNR=6.5						
WSAR	**Wadi Sarin**	**17.03**	**223**	P	**Pn**	**05 53 15.9**	**-0.3**
	comp=Z,0.7nm,0.3s,baz=69,slow=10,SNR=11						
UOSS	**Minazif**	**17.20**	**232**	*e*P	**P**	**05 53 15.8**	**-0.3**
	comp=Z,24nm,0.8s						
GTK	**Tadong**	**17.35**	**117**	*e*P	**P**	**05 53 16.9**	**-1.0**
DGZ	**Jazzator, Alta**	**17.76**	**37**	*i* P	**P**	**05 53 22.8**	**+0.7**
DGZ				pmax	pmax		
	comp=Z,18nm,0.4s						
**BO

comp=Z,45nm,1.1s
AKH Akhalkalaki 22.05 292 *e*P **P** **05 54 08.9 +1.9**
AKH pmax pmax
comp=Z,45nm,1.1s
NCK Nalchik 22.21 297⇑ *i*P **P** **05 54 08.4 +0.1**
NCK pmax pmax
comp=Z,22nm,0.8s
MOKO MOKOCHONG 22.29 110 *e*P **P** **05 54 07.1 -2.2**
KOHI KOHIMA 22.31 112 *e*P **P** **05 54 10.5 +1.0**
IMP Imphal 22.70 114 *e*P **P** **05 54 14.1 +1.1**
KBZ Khabaz 22.75 297 P **P** **05 54 11.7 -1.4**
comp=Z,8.5nm,0.8s,baz=124,slow=8.6,SNR=15
GTA Gaotai 22.76 74 *e*P **P** **05 54 15.3 +1.9**
GTA S **S** **05 58 06.5 +2.2**
GTA pmax pmax
comp=Z,23nm,0.6s
GTA LR LR
comp=Z,270nm,14.0s
GTA LR LR
comp=Z,290nm,16.2s
GTA LR LR
comp=Z,95nm,13.1s
NEY Neytrino 22.81 296⇑ *i*P **P** **05 54 15.6 +1.7**
NEY pmax pmax
comp=Z,4.0nm,0.8s
GOF Gofitskoye 22.89 301⇑ *e*P **P** **05 54 15.5 +1.1**
GOF pmax pmax
comp=Z,101nm,1.0s
KIV Kislovodsk 22.94 298 *e*P **P** **05 54 15.3 +0.3**
comp=Z,13nm,0.7s
KIV Kislovodsk 22.94 298 *e*P **P** **05 54 15.7 +0.8**
KIV pmax pmax
comp=Z,17nm,1.0s
MDRS Chennai 24.65 158 *ex* **P** **05 54 25.6 -5.0**
RAYN Ar Rayn 25.59 247 *e*P **P** **05 54 38.9 -0.2**
comp=Z,17nm,0.9s
RAYN *e*PcP **PcP** **05 58 04.1 +0.7**
RAYN Ar Rayn 25.59 247 P **P** **05 54 38.9 -0.2**
RAYN pmax pmax
comp=Z,17nm,0.9s
LZH Lanzhou 26.29 81 *e*P **P** **05 54 47.3 +1.9**
LZH pP pP 05 55 36.5 +4.7
LZH sP sP 05 55 59.3 +0.1
LZH pmax pmax
comp=Z,19nm,1.1s
LZH pmax pmax
comp=Z,95nm,4.5s
LZH LR LR
comp=Z,450nm,13.5s
LZH LR LR
comp=Z,360nm,13.5s
LZH LR LR
comp=Z,820nm,15.7s
ANN Anapa 26.79 299 *e*P **P** **05 54 50.5 +1.1**
ANN *e**PP **pP** **05 55 36.5 +0.6**
ANN *e*S **S** **05 59 11.0 +3.5**
ANN pmax pmax
comp=Z,56nm,1.3s
VSR Storozhevoye 27.15 313 *e*P **P** **05 54 51.8 -0.8**
VSR pmax pmax
comp=Z,10.0nm,0.6s
CD2 Chengdu 27.60 92 *e*P **P** **05 54 56.0 -0.9**
LPSR Galich'ya Gora 27.80 316 *e*P **P** **05 54 58.4 +0.1**
LPSR pmax pmax
comp=Z,30nm,0.9s
SONM Songino Array 28.27 55 P **P** **05 55 04.3 +1.5**
comp=Z,5.3nm,0.7s,baz=262,slow=9.2,SNR=23
SONM pP **pP** **05 55 51.7 +2.2**
comp=Z,2.4nm,0.7s,baz=254,slow=11,SNR=6.9
SONM sP **sP** **05 56 18.6 +1.7**
comp=Z,1.1nm,0.6s,baz=261,slow=11,SNR=1.7
SONM Songino Array 28.27 55 P **P** **05 55 04.3 +1.5**
SONM *PP **pP** **05 55 51.7 +2.2**
SONM *SP **sP** **05 56 18.6 +1.7**
SONM pmax pmax
comp=Z,4.0nm,0.5s
SONA1 Songino Array 28.28 55 *e*P **P** **05 55 04.3 +1.5**
SONA1 *e*PcP **PcP** **05 58 10.1 +0.5**
ULN Ulaanbaatar 28.71 55 *e*P **P** **05 55 07.7 +1.0**
comp=Z,3.9nm,0.6s
ULN Ulaanbaatar 28.71 55‖ *e*P **P** **05 55 07.4 +0.7**
ULN *i *PP **pP** **05 55 54.4 +0.9**
ULN pmax pmax
comp=Z,3.0nm,0.8s
MMAI Mount Meron Ar 29.48 274 PcP **PcP** **05 58 13.1 +0.3**
comp=Z,1.9nm,0.3s,baz=79,slow=4.3,SNR=6.0
BR131 Keskin Array S 29.58 288 *e*P **P** **05 55 15.0 +0.6**
BRTR Keskin Array B 29.58 288 P **P** **05 55 15.0 +0.6**
comp=Z,4.9nm,0.8s,baz=100,slow=8.3,SNR=26
BRTR PcP **PcP** **05 58 12.4 -0.6**
comp=Z,1.0nm,0.5s,baz=131,slow=3.0,SNR=4.4
OBN Obninsk 30.08 319 P **P** **05 55 19.1 +0.7**
comp=Z,27nm,0.4s,baz=42,slow=6.5,SNR=6.5
OBN Obninsk 30.08 319 *e*P **P** **05 55 18.6 +0.2**
comp=Z,43nm,1.0s
OBN Obninsk 30.08 319 *ce*P **P** **05 55 18.8 +0.4**
OBN *e* 05 56 32.4
OBN *e*SS SS 06 01 54.7 -15
OBN pmax pmax
comp=Z,51nm,1.2s
DGPR DIGLIPUR 30.29 134 *e*P **P** **05 55 21.2 +0.4**
CMAR Chiang Mai Arr 30.30 119 P **P** **05 55 22.4 +1.6**
comp=Z,2.2nm,0.3s,baz=303,slow=8.4,SNR=11
CMAR pP **pP** **05 56 09.4 +1.5**
comp=Z,1.2nm,0.3s,baz=299,slow=10,SNR=2.2
XAN Xi'an 30.81 83 P **P** **05 55 26.0 +0.8**
XAN pmax pmax
comp=Z,9.0nm,0.7s
HHC Hu-ho-hao-te 31.66 69 *e*P **P** **05 55 33.8 +1.1**
HHC pmax pmax
comp=Z,37nm,1.0s
HHC pmax pmax
comp=Z,84nm,4.6s
AKASG Malin Array Be 33.09 309 P **P** **05 55 44.6 -0.2**
comp=Z,3.9nm,0.5s,baz=81,slow=7.1,SNR=31
AKASG pP **pP** **05 56 34.6 +2.4**
comp=Z,0.7nm,0.5s,baz=94,slow=7.7,SNR=1.6
AKASG sP **sP** **05 57 00.4 +0.9**
comp=Z,2.9nm,0.7s,baz=82,slow=7.7,SNR=2.0
AKASG PcP **PcP** **05 58 20.1 -2.0**
comp=Z,2.3nm,0.6s,baz=85,slow=3.2,SNR=5.8
AKBB Malin Array Si 33.09 309 *e*P **P** **05 55 44.2 -0.6**
comp=Z,9.8nm,0.7s
AKBB *e*PcP **PcP** **05 58 21.3 -0.8**
AKBB Malin Array Si 33.09 309 *e*P **P** **05 55 44.2 -0.6**
AKBB *e* 05 58 21.3
AKBB pmax pmax
comp=Z,10.0nm,0.7s
KIEV Kiev 33.10 309 *e*P **P** **05 55 44.1 -0.7**
comp=Z,9.5nm,0.7s
KIEV *e*PcP **PcP** **05 58 21.3 -0.8**
KIEV Kiev 33.10 309‖ *i*P **P** **05 55 44.5 -0.4**
KIEV *i *PP **pP** **05 56 33.2 +0.9**
KIEV *i *SP **sP** **05 56 59.4 -0.1**
KIEV pmax pmax
comp=Z,25nm,1.7s
AK11 Malin Array Si 33.12 309 *e*P **P** **05 55 44.8 -0.3**
SORM Soroca 33.35 304 P **P** **05 55 47.3 +0.2**
CFR Carcaliu 33.39 299 P **P** **05 55 48.3 +0.9**
MANT Manisa 33.66 287 *e*P **P** **05 55 50.7 +0.5**
comp=Z,34nm,1.0s
TMCR Tamitsa 34.17 335 *e*P **P** **05 55 54.2 +0.4**
TMCR pmax pmax
comp=Z,26nm,0.6s
VRI Vrincioaia 34.38 300 P **P** **05 55 56.6 +0.7**
PLOR Plostina 34.43 300 P **P** **05 55 58.2 +1.8**
MLR Muntele Rosu 34.93 299 *e*P **P** **05 56 01.8 +1.0**
comp=Z,28nm,1.0s
MLR Muntele Rosu 34.93 299 *e*P **P** **05 56 01.8 +1.0**
MLR pmax pmax
comp=Z,28nm,1.0s
KARP Karpathos 35.38 282 *e*P **P** **05 56 04.8 +0.1**
comp=Z,16nm,1.0s
BURAR Bucovina Array 35.44 303 P **P** **05 56 06.2 +1.2**
BUR04 Bucovina Ar. S 35.44 303 *e*P **P** **05 56 05.3 +0.2**
BUR08 Bucovina Ar. S 35.45 303 *e*P **P** **05 56 05.4 +0.3**
BUR08 *e*PcP **PcP** **05 58 30.7 +1.6**
IDID Didziasalis 35.48 316 *e*P **P** **05 56 06.1 +1.0**
IDID IAmb IAmb 05 56 06.8
comp=Z,15nm,0.4s
VOIR 35.56 299 P **P** **05 56 07.4 +1.3**
ATD Arta Tunnel 35.58 233 P **P** **05 56 08.9 +2.4**
comp=Z,12nm,0.8s,baz=9.9,slow=5.2,SNR=8.4
ATD Arta Tunnel 35.58 233 *e*P **P** **05 56 08.7 +2.1**
comp=Z,24nm,1.1s

IIGN Ignalina 35.77 316 *e*P **P** **05 56 08.6 +0.9**
IIGN IAmb IAmb 05 56 09.6
comp=Z,14nm,0.7s
IZAR Zarasai 35.85 317 *e*P **P** **05 56 09.2 +0.9**
IZAR IAmb IAmb 05 56 10.3
comp=Z,17nm,0.7s
JOF Joensuu 36.00 330 P **P** **05 56 10.2 +0.8**
JOF pmax pmax
comp=Z,61nm,1.4s
VSU Vasula 36.32 322 *ce*P **P** **05 56 12.1 -0.1**
VSU pmax pmax
comp=Z,40nm,0.9s
VTS Vitosha 37.11 295 *e*P **P** **05 56 19.8 +0.5**
comp=Z,3.0nm,0.8s
VTS Vitosha 37.11 295 *e*P **P** **05 56 19.8 +0.5**
VTS pmax pmax
comp=Z,3.0nm,0.8s
KWP Kalwaria Pacla 37.16 306 *e*P **P** **05 56 20.0 +0.5**
comp=Z,296nm,1.3s
KWP Kalwaria Pacla 37.16 306 *e*P **P** **05 56 20.0 +0.5**
SUW Suwalki 37.26 314 *e*P **P** **05 56 20.0 -0.2**
comp=Z,40nm,1.1s
SUW Suwalki 37.26 314 *e*P **P** **05 56 20.0 -0.2**
SUW pmax pmax
comp=Z,40nm,1.1s
UZH Uzhgorod 37.41 305 *e*P **P** **05 56 25.1 +3.6**
LVZ Lovozero 37.58 338⇑ *i*P **P** **05 56 22.9 +0.2**
LVZ pmax pmax
comp=Z,35nm,1.7s
FIA1 FINESS Array S 37.62 326 *e*P **P** **05 56 22.2 -0.8**
comp=Z,16nm,0.7s
FINES FINESS Array B 37.62 326 P **P** **05 56 23.4 +0.3**
comp=Z,17nm,0.7s,baz=116,slow=9.7,SNR=75
BZS Buzias 37.96 300 P **P** **05 56 27.8 +1.6**
BZS pmax pmax
comp=Z,7.0nm,1.4s
STHS Stebnicka Huta 38.11 306 *e*P **P** **05 56 27.9 +0.5**
STHS pmax pmax
comp=Z,3.0nm,0.7s
MSF Maaselka 38.31 334 P **P** **05 56 29.3 +0.5**
MSF pmax pmax
comp=Z,27nm,0.9s
NIE Niedzica 38.72 306 *e*P **P** **05 56 33.7 +1.2**
PSZ Piszkesteto 39.02 304 *e*P **P** **05 56 35.0 -0.1**
comp=Z,5.0nm,0.8s
PSZ Piszkesteto 39.02 304 *e*P **P** **05 56 35.0 -0.1**
PSZ pmax pmax
comp=Z,5.0nm,0.8s
OJC Ojcow 39.05 307 *e*P **P** **05 56 35.1 -0.1**
comp=Z,16nm,1.0s
OJC Ojcow 39.05 307 *e*P **P** **05 56 35.1 -0.1**
OJC pmax pmax
comp=Z,16nm,1.0s
DIVS Divibare 39.26 298 *e*P **P** **05 56 36.8 -0.3**
comp=Z,4.4nm,1.0s
NJ2 Nanjing 39.35 82 *e*P **P** **05 56 39.0 +1.1**
NJ2 pmax pmax
comp=Z,12nm,0.5s
MORC Moravsky Berou 40.51 307 *e*P **P** **05 56 47.1 -0.2**
comp=Z,24nm,0.8s
MORC Moravsky Berou 40.51 307 *e*P **P** **05 56 47.1 -0.2**
MORC pmax pmax
comp=Z,24nm,0.8s
KEV Kevo 40.92 338 *e*P **P** **05 56 49.7 -0.5**
comp=Z,18nm,0.8s
KEV Kevo 40.92 338 *e*P **P** **05 56 49.7 -0.5**
KEV pmax pmax
comp=Z,18nm,0.8s
ARCES ARCESS Array B 41.26 338 P **P** **05 56 53.7 +0.6**
comp=Z,16nm,0.5s,baz=114,slow=8.2,SNR=150
ARCES pP **pP** **05 57 43.6 +1.4**
comp=Z,2.5nm,0.5s,baz=113,slow=9.3,SNR=2.3
ARCES sP **sP** **05 58 10.2 +1.2**
comp=Z,4.5nm,0.8s,baz=116,slow=8.2,SNR=2.8
ARE0 ARCESS Array S 41.26 338 *e*P **P** **05 56 54.1 +1.0**
comp=Z,23nm,0.7s
DPC Dobruska-Polom 41.28 307 *e*P **P** **05 56 54.4 +0.9**
DPC *ex* x 05 56 59.3
DPC Dobruska-Polom 41.28 307 *e*P **P** **05 56 54.4 +0.9**
UPC Upice 41.47 308 *e*P **P** **05 56 56.0 +1.0**
UPC Upice 41.47 308 *e*P **P** **05 56 56.0 +1.0**
KTK1 Kautokeino 41.74 336 *e*P **P** **05 56 57.3 +0.5**
TREC Trest 41.87 306 *e*P **P** **05 56 59.2 +0.9**
TREC Trest 41.87 306 *e*P **P** **05 56 59.2 +0.9**
PSI Prapat 42.14 136 P **P** **05 57 01.6 +0.8**
comp=Z,2.9nm,0.3s,baz=343,slow=12,SNR=4.1
HAMF Hammerfest 42.34 339 *e*P **P** **05 57 02.8 +1.1**
TIP Timpagrande 42.54 291 *e*P **P** **05 57 03.7 -0.2**
comp=Z,5.5nm,1.1s
GSI Gunungsitoli 42.65 139 *e*P **P** **05 57 04.6 -0.3**
comp=Z,22nm,0.5s
BRG Berggiesshubel 42.77 308 *e*P **P** **05 57 05.8 +0.4**
BRG pmax pmax
comp=Z,10.0nm,0.9s
BRG MLR MLR
comp=N,258nm,12.5s
BRG MLR MLR
comp=E,420nm,19.7s
BRG MLR MLR
comp=Z,485nm,14.4s
CUC Castrocucco 43.05 292 *e*P **P** **05 57 08.4 +0.5**
comp=Z,8.0nm,0.9s
GERES GERESS Array B 43.08 305 P **P** **05 57 08.6 +0.5**
comp=Z,1.4nm,0.8s,baz=91,slow=7.2,SNR=8.0
GERES pP **pP** **05 57 59.3 +1.7**
comp=Z,0.4nm,0.4s,baz=176,slow=37,SNR=1.9
GERES PP **PP** **05 58 51.5 -1.6**
comp=Z,0.5nm,0.3s,baz=72,slow=8.8,SNR=5.7
GEA0 GERESS Array S 43.08 305 *e*P **P** **05 57 08.1 0.0**
KHC Kasperske Hory 43.13 306 *e*P **P** **05 57 09.8 +1.4**
KHC Kasperske Hory 43.13 306 *e*P **P** **05 57 09.8 +1.4**
HFS Hagfors 43.20 322 P **P** **05 57 08.8 0.0**
comp=Z,12nm,0.5s,baz=106,slow=9.6,SNR=59
HFS pP **pP** **05 57 59.9 +1.6**
comp=Z,6.9nm,0.6s,baz=98,slow=10,SNR=3.6
CLL Collm 43.34 309 *e*P **P** **05 57 10.0 0.0**
CLL *i *PP **pP** **05 58 00.0 +0.4**
CLL pmax pmax
comp=Z,6.0nm,0.6s
TRO Tromso 43.39 336 *e*P **P** **05 57 10.8 +0.8**
MOR8 Moi Rana 43.94 331 *e*P **P** **05 57 14.5 -0.1**
STEI Steigen 44.10 333 *e*P **P** **05 57 16.5 +0.7**
NC405 NORSAR Array S 44.28 323 *e*P **P** **05 57 16.5 -0.8**
NC602 NORSAR Array S 44.33 323 *e*P **P** **05 57 17.1 -0.6**
NC303 NORSAR Array S 44.46 323 *e*P **P** **05 57 19.0 +0.3**
NB201 NORSAR Array S 44.48 323 *e*P **P** **05 57 17.9 -1.0**
NB2 NORSAR Subarra 44.52 323 P **P** **05 57 18.7 -0.5**
comp=Z,30nm,1.0s,baz=94,slow=7.4
NB2 NORSAR Subarra 44.52 323 P **P** **05 57 18.7 -0.5**
baz=94,slow=7.4
NB2 NORSAR Subarra 44.52 323 P **P** **05 57 18.7 -0.5**
NB2 pmax pmax
comp=Z,26nm,1.1s
NOA NORSAR Array B 44.52 323 P **P** **05 57 19.0 -0.2**
comp=Z,18nm,0.9s,baz=96,slow=7.7,SNR=31
NOA sP **sP** **05 58 36.0 +0.3**
comp=Z,3.0nm,0.7s,baz=95,slow=8.0,SNR=3.9
KONS Konsvik 44.54 331 *e*P **P** **05 57 19.4 +0.2**
STOK Stokkvaagen 44.54 331 *e*P **P** **05 57 19.8 +0.6**
GRF Grafenberg Arr 44.61 307 P **P** **05 57 21.0 +0.9**
GRF pmax pmax
comp=Z,47nm,1.7s
NBO02 NORSAR Array S 44.69 323 *e*P **P** **05 57 20.6 +0.1**
NBO00 NORSAR Array S 44.73 323 *e*P **P** **05 57 20.7 -0.2**
KSAR Wonju Array Be 44.75 71 P **P** **05 57 22.2 +0.8**
KSAR PcP **PcP** **05 58 59.0 -0.2**
KSAR Wonju Array Be 44.75 71 P **P** **05 57 22.2 +0.8**
KSAR 05 58 59.0
NC204 NORSAR Array S 44.76 323 *e*P **P** **05 57 20.8 -0.4**
KSRS Korea Array 44.78 71 P **P** **05 57 22.2 +0.6**
comp=Z,1.6nm,0.4s,baz=282,slow=6.8,SNR=6.1
KSRS PcP **PcP** **05 58 59.0 -0.3**
comp=Z,2.3nm,0.7s,baz=286,slow=3.7,SNR=4.2
KLR Kul'dur 45.08 54 P **P** **05 57 23.9 +0.1**
comp=Z,0.1nm,0.4s,baz=283,slow=7.8,SNR=7.2
KLR Kul'dur 45.08 54‖ *i*P **P** **05 57 24.5 +0.7**
KONO Kongsberg 45.23 321 *e*P **P** **05 57 24.9 +0.2**
comp=Z,16nm,1.0s
KONO Kongsberg 45.23 321 *e*P **P** **05 57 25.0 +0.2**
KONO pmax pmax
comp=Z,16nm,1.0s
FUORN Ofenpass-Fuorn 45.68 303 *e*P **P** **05 57 31.6 +2.8**
comp=Z,4.0nm,0.8s
TIXI Tiksi 45.79 22 P **P** **05 57 29.3 +0.3**
comp=Z,4.3nm,0.3s,baz=317,slow=4.0,SNR=12

TIXI pP **pP** **05 58 21.3 +2.1**
comp=Z,2.8nm,0.5s,baz=277,slow=5.2,SNR=2.0
TIXI sP **sP** **05 58 46.4 +0.8**
comp=Z,4.7nm,0.7s,baz=286,slow=4.0,SNR=2.2
TIXI Tiksi 45.79 22 *e*P **P** **05 57 29.0 0.0**
comp=Z,5.5nm,0.8s
TIXI pP **pP** **05 58 21.3 +2.1**
TIXI sP **sP** **05 58 46.4 +0.8**
USRK Ussuriysk Ar. 46.09 61 PcP **PcP** **05 59 02.6 -1.2**
comp=Z,1.0nm,0.5s,baz=313,slow=4.5,SNR=4.6
HSPB Hornsund (broa 47.24 345 *e*P **P** **05 57 41.9 +1.8**
SPA0 Spitsbergen Ar 47.59 347 *e*P **P** **05 57 44.1 +1.2**
SPITS Spitsbergen Ar 47.59 347 P **P** **05 57 44.3 +1.4**
comp=Z,4.1nm,0.4s,baz=120,slow=5.1,SNR=76
SENIN Lac Senin/Sane 47.74 303 *e*P **P** **05 57 44.5 -0.2**
comp=Z,8.5nm,0.8s
JNU Nakatsue 48.48 75 *e*P **P** **05 57 51.2 +0.8**
comp=Z,15nm,1.2s
KBS Kingsbay 48.71 347 *e*P **P** **05 57 52.7 +1.3**
comp=Z,11nm,0.7s
KBS Kingsbay 48.71 347 *e*P **P** **05 57 52.7 +1.3**
KBS pmax pmax
comp=Z,11nm,0.7s
KMBO Kilima Mbogo 48.88 228 P **P** **05 57 55.5 +1.7**
comp=Z,4.3nm,0.6s,baz=28,slow=11,SNR=8.0
KEST Kesra 49.18 289 P **P** **05 57 56.1 +0.4**
comp=Z,6.0nm,0.9s,baz=204,slow=3.7,SNR=5.1
SSB Saint Sauveur 49.86 302 *e*P **P** **05 58 00.7 +0.1**
comp=Z,5.8nm,0.8s
SSB Saint Sauveur 49.86 302 *e*P **P** **05 58 00.7 +0.1**
SSB pmax pmax
comp=Z,6.0nm,0.8s
EKA Eskdalemuir Ar 52.43 316 P **P** **05 58 18.7 -0.7**
comp=Z,9.8nm,0.9s,baz=84,slow=8.6,SNR=9.5
DAG Danmarks Havn 54.84 344 *i* P **P** **05 58 37.0 +0.5**
DAG pmax pmax
comp=Z,14nm,0.8s
SCO Scoresbysund 57.17 336 *e*P **P** **05 58 54.5 +1.4**
comp=Z,3.4nm,0.9s
SCO Scoresbysund 57.17 336 *e*P **P** **05 58 54.5 +1.4**
SCO pmax pmax
comp=Z,3.0nm,0.9s
ES19 SONSECA Array 57.55 298 *e*P **P** **05 58 56.2 -0.1**
ESDC Sonseca Array 57.61 298 P **P** **05 58 56.0 -0.7**
comp=Z,2.1nm,0.7s,baz=57,slow=7.4,SNR=14
BILL Bilibino 58.62 26*d* *i*P **P** **05 59 04.3 +1.2**
BILL *i* 05 59 49.6
BILL *i *PP **pP** **05 59 56.9 +1.1**
BILL *i* 06 01 12.0
BILL pmax pmax
comp=Z,5.0nm,1.2s
MTE Manteigas 59.85 300 *e*P **P** **05 59 12.7 +0.6**
PVIS Viseu 59.97 300 *e*P **P** **05 59 13.2 +0.3**
PBAR Barrancos 60.41 297 *e*P **P** **05 59 15.9 +0.1**
PTOM Tomar 60.78 299 *e*P **P** **05 59 18.7 +0.4**
PBEJ Beja 61.06 298 *e*P **P** **05 59 20.3 0.0**
SUMG Summit 61.17 341 *e*P **P** **05 59 22.2 +1.3**
comp=Z,13nm,0.8s
SUMG Summit 61.17 341 *i* P **P** **05 59 22.0 +1.1**
SUMG pmax pmax
comp=Z,13nm,0.8s
PNCL Nicolau / Gran 61.50 298 *e*P **P** **05 59 23.5 +0.4**
PMAFR Mafra 61.67 299 *e*P **P** **05 59 25.6 +1.3**
TULEG Thule 64.53 350 *e*P **P** **05 59 42.8 +0.3**
comp=Z,8.5nm,1.1s
LSZ Lusaka 65.50 226 *e*P **P** **05 59 50.2 +0.6**
comp=Z,13nm,0.8s
LSZ Lusaka 65.50 226 *e*P **P** **05 59 50.2 +0.6**
LSZ pmax pmax
comp=Z,13nm,0.8s
TOA0 Torodi Ar. Sit 65.85 269 *e*P **P** **05 59 49.9 -1.9**
TORD Torodi Ar. Bea 65.85 269 P **P** **05 59 49.8 -2.0**
comp=Z,11nm,0.5s,baz=49,slow=6.1,SNR=129
TORD pP **pP** **06 00 48.5 +2.6**
comp=Z,2.2nm,0.7s,baz=49,slow=5.7,SNR=2.9
RES Resolute Bay 68.78 356 *e*P **P** **06 00 10.0 +0.8**
comp=Z,2.2nm,0.9s
RES Resolute Bay 68.78 356 *e*P **P** **06 00 10.0 +0.8**
RES pmax pmax
comp=Z,2.0nm,0.9s
KOWA Kowa 69.70 273 P **P** **06 00 14.6 -1.2**
comp=Z,13nm,0.5s,baz=56,slow=8.0,SNR=54
KOWA Kowa 69.70 273 *e*P **P** **06 00 14.8 -1.1**
comp=Z,16nm,0.6s
TOLK Toolik Lake Re 70.96 15 *e*P **P** **06 00 23.6 +1.0**
comp=Z,12nm,0.6s
COLD Coldfoot 72.00 16 *e*P **P** **06 00 30.0 +1.2**
comp=Z,8.2nm,0.8s
IM3 Indian Mountai 72.20 18 *e*P **P** **06 00 30.3 +0.3**
FYU Fort Yukon 73.61 14 *e*P **P** **06 00 39.9 +1.7**
comp=Z,8.6nm,0.8s
MLY Manley 73.71 17 *e*P **P** **06 00 39.7 +0.8**
comp=Z,6.7nm,0.8s
INK Inuvik 73.96 9 P **P** **06 00 40.8 +0.6**
comp=Z,8.4nm,0.9s,baz=355,slow=6.9,SNR=32
INK pP **pP** **06 01 36.6 +1.2**
comp=Z,2.1nm,0.6s,baz=235,slow=6.8,SNR=2.7
INK Inuvik 73.96 9 *e*P **P** **06 00 41.3 +1.1**
comp=Z,15nm,1.1s
INK pP **pP** **06 01 36.6 +1.2**
INK Inuvik 73.96 9 *e*P **P** **06 00 41.3 +1.1**
INK *PP **pP** **06 01 36.6 +1.2**
INK pmax pmax
comp=Z,15nm,1.1s
MDM Murphy Dome 74.35 16 *e*P **P** **06 00 43.4 +0.7**
comp=Z,12nm,1.0s
BPAW Bear Paw Mtn. 74.42 18 *e*P **P** **06 00 43.4 +0.3**
comp=Z,7.8nm,1.1s
COLA College 74.51 16 *e*P **P** **06 00 44.3 +0.9**
comp=Z,14nm,0.6s
COLA College 74.51 16 *e*P **P** **06 00 44.3 +0.9**
COLA pmax pmax
comp=Z,15nm,0.6s
CAST Castle Rocks 74.71 19 *e*P **P** **06 00 45.4 +0.7**
comp=Z,20nm,0.9s
LBTB Lobatse 74.71 222 *e*P **P** **06 00 45.9 +0.6**
comp=Z,31nm,1.3s
LBTB Lobatse 74.71 222 *e*P **P** **06 00 45.9 +0.6**
LBTB pmax pmax
comp=Z,31nm,1.3s
CCB Clear Creek Bu 74.72 16 *e*P **P** **06 00 45.2 +0.5**
comp=Z,3.7nm,1.0s
FITZ Fitzroy Crossi 74.74 127 *e*P **P** **06 00 45.5 0.0**
comp=Z,6.6nm,0.9s
MTN Manton Dam 74.75 119 *e*P **P** **06 00 45.0 -0.5**
comp=Z,30nm,1.4s
WRH Wood River Hil 74.80 17 *e*P **P** **06 00 45.0 -0.1**
comp=Z,3.0nm,0.8s
IL1 Eielson Array 74.81 16 *e*P **P** **06 00 44.9 -0.3**
ILAR Eielson Array 74.81 16 P **P** **06 00 45.0 -0.2**
comp=Z,3.4nm,0.8s,baz=314,slow=4.9,SNR=26
ILAR pP **pP** **06 01 40.7 +0.1**
comp=Z,1.2nm,0.9s,baz=313,slow=4.8,SNR=4.0
ILB Eielson Array 74.81 16 *e*P **P** **06 00 45.1 -0.2**
DBIC Dimbokro 74.83 267 P **P** **06 00 44.9 -1.3**
comp=Z,4.0nm,0.5s,baz=27,slow=6.6,SNR=14
KTH Kantishna Hill 74.89 18 *e*P **P** **06 00 46.2 +0.4**
comp=Z,11nm,0.9s
KIC Kosan Boka 74.91 267 *e*P **P** **06 00 45.1 -1.6**
comp=Z,13nm,0.6s
TIC Toumodi 74.97 267 *e*P **P** **06 00 45.4 -1.6**
TSUM Tsumeb 74.97 232 *e*P **P** **06 00 47.4 +0.4**
comp=Z,19nm,1.3s
PPLA Purkeypile 75.11 19 *e*P **P** **06 00 47.5 +0.3**
comp=Z,3.6nm,0.8s
TRF Thorofare Moun 75.14 18 *e*P **P** **06 00 48.3 +1.0**
comp=Z,3.3nm,0.9s
LIC Lamto 75.22 267 *e*P **P** **06 00 46.8 -1.6**
comp=Z,54nm,1.8s
MCK McKinley 75.23 17 *e*P **P** **06 00 48.1 +0.4**
comp=Z,4.0nm,0.6s
MCK McKinley 75.23 17 *e*P **P** **06 00 48.1 +0.4**
MCK pmax pmax
comp=Z,4.0nm,0.6s
RND Reindeer 75.53 17 *e*P **P** **06 00 49.1 -0.3**
comp=Z,5.2nm,0.6s
RND Reindeer 75.53 17 *e*P **P** **06 00 49.1 -0.3**
RND pmax pmax
comp=Z,5.0nm,0.6s
EGAK Eagle 75.99 14 *e*P **P** **06 00 52.5 +0.6**
comp=Z,5.3nm,0.9s
SCRK Sand Creek 76.13 15 *e*P **P** **06 00 53.6 +0.7**
comp=Z,5.8nm,0.6s
RIDG Independ'e Rid 76.16 16 *e*P **P** **06 00 52.8 -0.1**
comp=Z,6.1nm,1.0s
DHY Denali Highway 76.16 17 *e*P **P** **06 00 53.4 +0.3**

	comp=Z,8.7nm,0.7s								
DOT	**Dot Lake**	**76.41**	**15**	*e*P		**P**	**06 00 54.5**	**+0.2**
	comp=Z,9.7nm,0.7s								
SUA	**Susitna One**	**76.68**	**19**	*e*P		**P**	**06 00 56.3**	**+0.3**
	comp=Z,8.8nm,1.3s								
PAX	**Paxson**	**76.69**	**16**	*e*P		**P**	**06 00 56.3**	**+0.3**
	comp=Z,6.3nm,0.6s								
PAX	**Paxson**	**76.69**	**16**	*e*P		**P**	**06 00 56.3**	**+0.3**
PAX					pmax	pmax			
	comp=Z,6.0nm,0.6s								
DAWY	**Dawson**	**76.96**	**13**	*e*P		**P**	**06 00 58.0**	**+0.6**
	comp=Z,5.7nm,0.8s								
PMR	**Palmer**	**76.99**	**19**	*e*P		**P**	**06 00 57.7**	**+0.1**
	comp=Z,4.7nm,0.9s								
PMR	**Palmer**	**76.99**	**19**	*e*P		**P**	**06 00 57.7**	**+0.1**
PMR					pmax	pmax			
	comp=Z,5.0nm,0.9s								
SML	**Sawmill**	**77.01**	**18**	*e*P		**P**	**06 00 58.1**	**+0.3**
	comp=Z,14nm,0.8s								
SML	**Sawmill**	**77.01**	**18**	*e*P		**P**	**06 00 58.1**	**+0.3**
SML					pmax	pmax			
	comp=Z,14nm,0.8s								
MENT	**Mentasta**	**77.11**	**16**	*e*P		**P**	**06 00 59.5**	**+1.3**
	comp=Z,3.2nm,0.9s								
SCM	**Sheep Creek Mo**	**77.24**	**18**	*e*P		**P**	**06 00 59.5**	**+0.4**
	comp=Z,8.1nm,0.6s								
SCM	**Sheep Creek Mo**	**77.24**	**18**	*e*P		**P**	**06 00 59.5**	**+0.4**
SCM					pmax	pmax			
	comp=Z,8.0nm,0.6s								
RC01	**Rabbit Creek A**	**77.26**	**19**	*e*P		**P**	**06 00 58.9**	**-0.2**
	comp=Z,6.0nm,0.7s								
BOSA	**Boshof**	**77.78**	**220**	P		**P**	**06 01 02.2**	**-0.3**
	comp=Z,7.6nm,0.8s,baz=13,slow=3.9,SNR=11								
BOSA	**Boshof**	**77.78**	**220**	*e*P		**P**	**06 01 02.1**	**-0.3**
	comp=Z,6.9nm,0.9s								
BOSA	**Boshof**	**77.78**	**220**	*e*P		**P**	**06 01 02.1**	**-0.3**
BOSA					pmax	pmax			
	comp=Z,7.0nm,0.9s								
KLU	**Klutina**	**77.87**	**17**	*e*P		**P**	**06 01 03.4**	**+0.9**
	comp=Z,6.9nm,0.9s								
BRLK	**Bradley Lake**	**78.06**	**20**	*e*P		**P**	**06 01 03.1**	**-0.5**
	comp=Z,8.2nm,0.8s								
DIV	**Divide**	**78.23**	**17**	*e*P		**P**	**06 01 05.5**	**+1.0**
	comp=Z,6.3nm,0.6s								
BMRM	**Bremner River**	**78.64**	**17**	*e*P		**P**	**06 01 07.2**	**+0.4**
	comp=Z,12nm,1.2s								
EYAK	**Cordova Ski Ar**	**78.74**	**18**	*e*P		**P**	**06 01 08.2**	**+1.1**
	comp=Z,15nm,1.0s								
BALM	**Baldy**	**79.10**	**16**	*e*P		**P**	**06 01 10.3**	**+1.0**
	comp=Z,4.6nm,0.7s								
BALM	**Baldy**	**79.10**	**16**	*e*P		**P**	**06 01 10.3**	**+1.0**
BALM					pmax	pmax			
	comp=Z,5.0nm,0.7s								
RAGM	**Ragged Mountai**	**79.14**	**17**	*e*P		**P**	**06 01 11.1**	**+1.6**
	comp=Z,12nm,1.0s								
KDAK	**Kodiak Island**	**79.22**	**22**	*e*P		**P**	**06 01 10.4**	**+0.6**
	comp=Z,16nm,0.9s								
KDAK	**Kodiak Island**	**79.22**	**22**	*c e*P		**P**	**06 01 09.9**	**+0.1**
OHAK	**Old Harbor**	**79.46**	**23**	*e*P		**P**	**06 01 11.7**	**+0.6**
	comp=Z,28nm,1.4s								
HYT	**Haines Junctio**	**80.29**	**14**	*e*P		**P**	**06 01 15.6**	**-0.1**
	comp=Z,4.4nm,0.9s								
WHY	**Whitehorse**	**80.93**	**13**	*e*P		**P**	**06 01 19.0**	**-0.1**
	comp=Z,2.7nm,0.7s								
YKW3	**Yellowknife Ar**	**81.24**	**3**	*e*P		**P**	**06 01 20.9**	**+0.4**
	comp=Z,8.4nm,1.0s								
YKA	**Yellowknife Ar**	**81.31**	**3**	P		**P**	**06 01 21.2**	**+0.3**
	comp=Z,4.3nm,0.5s,baz=351,slow=5.3,SNR=150								
YKA					pP	**pP**	**06 02 18.2**	**+1.1**
	comp=Z,2.9nm,0.8s,baz=350,slow=5.5,SNR=5.0								
WRA	**Warramunga Arr**	**81.84**	**122**	P		**P**	**06 01 23.2**	**-1.1**
	comp=Z,5.5nm,0.4s,baz=324,slow=5.0,SNR=166								
WRA					pP	**pP**	**06 02 20.6**	**-0.1**
	comp=Z,2.5nm,0.7s,baz=326,slow=5.0,SNR=5.6								
WRAB	**Tennant Creek**	**81.84**	**122**	*e*P		**P**	**06 01 23.5**	**-0.8**
	comp=Z,18nm,1.0s								
WRAB					*e*pP	**pP**	**06 02 21.0**	**+0.3**
WRAB	**Tennant Creek**	**81.84**	**122**	*c i*P		**P**	**06 01 23.1**	**-1.2**
WRAB					pmax	pmax			
	comp=Z,44nm,2.8s								
WB2	**Warramunga Arr**	**81.85**	**122**	*e*P		**P**	**06 01 23.5**	**-0.8**
	comp=Z,18nm,0.4s								
WB2					*e*pP	**pP**	**06 02 21.2**	**+0.5**
WC3	**Warramunga Arr**	**81.87**	**122**	*e*P		**P**	**06 01 23.5**	**-1.0**
	comp=Z,13nm,0.4s								
WC3					*e*pP	**pP**	**06 02 20.9**	**+0.1**
DLBC	**Dease Lake**	**83.84**	**11**	P		**P**	**06 01 33.5**	**-0.6**
	comp=Z,1.4nm,0.7s,baz=21,slow=2.6,SNR=5.3								
DLBC	**Dease Lake**	**83.84**	**11**	*e*P		**P**	**06 01 34.1**	**0.0**
	comp=Z,7.2nm,1.4s								
AS31	**Alice Springs**	**84.11**	**125**	*e*P		**P**	**06 01 35.0**	**-0.8**
	comp=Z,3.6nm,0.6s								
ASAR	**Alice Springs**	**84.11**	**125**	P		**P**	**06 01 35.0**	**-0.9**
	comp=Z,8.7nm,0.6s,baz=311,slow=5.0,SNR=99								
ASAR					pP	**pP**	**06 02 32.3**	**-0.2**
	comp=Z,0.9nm,0.6s,baz=313,slow=4.7,SNR=2.7								
AS01	**Alice Springs**	**84.14**	**125**	*e*P		**P**	**06 01 35.1**	**-0.9**
COEN	**Coen**	**84.25**	**112**	*e*P		**P**	**06 01 36.4**	**-0.4**
	comp=Z,24nm,1.4s								
FCC	**Fort Churchill**	**84.37**	**352**	*e*P		**P**	**06 01 37.2**	**+0.6**
	comp=Z,8.7nm,1.1s								
FCC	**Fort Churchill**	**84.37**	**352**	*e*P		**P**	**06 01 37.2**	**+0.6**
FCC					pmax	pmax			
	comp=Z,9.0nm,1.1s								
FORT	**Forrest**	**85.52**	**134**	*e*P		**P**	**06 01 42.3**	**-0.4**
	comp=Z,360nm,0.6s								
FFC	**Flin Flon**	**89.02**	**356**	*e*P		**P**	**06 01 59.7**	**+0.6**
	comp=Z,6.5nm,0.9s								
FFC	**Flin Flon**	**89.02**	**356**	*e*P		**P**	**06 01 59.7**	**+0.6**
FFC					pmax	pmax			
	comp=Z,7.0nm,0.9s								
CTAO	**Charters Tower**	**90.39**	**115**	*e*P		**P**	**06 02 05.5**	**-0.5**
	comp=Z,14nm,1.3s								
CTAO	**Charters Tower**	**90.39**	**115**	*e*P		**P**	**06 02 05.5**	**-0.5**
CTAO					pmax	pmax			
	comp=Z,14nm,1.3s								
EDM	**Edmonton**	**90.63**	**3**	*e*P		**P**	**06 02 07.7**	**+0.9**
	comp=Z,16nm,1.1s								
EDM	**Edmonton**	**90.63**	**3**	*e*P		**P**	**06 02 07.7**	**+0.9**
EDM					pmax	pmax			
	comp=Z,17nm,1.1s								
ULM	**Lac du Bonnet**	**92.94**	**352**	P		**P**	**06 02 16.6**	**-0.7**
	comp=Z,3.7nm,0.8s,baz=47,slow=2.6,SNR=5.8								
ULM	**Lac du Bonnet**	**92.94**	**352**	*e*P		**P**	**06 02 17.2**	**-0.2**
	comp=Z,5.0nm,0.9s								
ULM	**Lac du Bonnet**	**92.94**	**352**	*e*P		**P**	**06 02 17.2**	**-0.2**
ULM					pmax	pmax			
	comp=Z,5.0nm,0.9s								
SNAA	**Sanae**	**119.37**	**200**	*e*PKPdf		**PKPdf**	**06 07 50.9**	**-0.5**
SNAA	**Sanae**	**119.37**	**200**	*e*PKIKP		**PKPdf**	**06 07 50.9**	**-0.5**
LTZ	**Lake Taylor**	**120.96**	**123**	*e*PKPdf		**PKPdf**	**06 07 53.9**	**-1.4**
CRLZ	**Canterbury Las**	**121.50**	**123**	*e*PKPdf		**PKPdf**	**06 07 57.1**	**+0.9**
PTGA	**Pitinga**	**122.54**	**297**	*e*PKPdf		**PKPdf**	**06 07 59.0**	**-0.2**
CCIG	**Comitan**	**125.25**	**340**	*e*PKPdf		**PKPdf**	**06 08 04.2**	**-0.4**
VNDA	**Vanda**	**125.39**	**165**	*e*PKPdf		**PKPdf**	**06 08 01.8**	**-0.9**
VNDA	**Vanda**	**125.39**	**165**	*e*PKIKP		**PKPdf**	**06 08 01.8**	**-0.9**
QSPA	**South Pole Qui**	**126.22**	**180**	*e*PKPdf		**PKPdf**	**06 08 03.7**	**-0.9**
CPUP	**Villa Florida**	**135.34**	**268**	PKP		**PKPdf**	**06 08 22.1**	**-1.0**
	comp=Z,3.4nm,0.6s,baz=94,slow=2.4,SNR=6.8								
CPUP	**Villa Florida**	**135.34**	**268**	*e*PKPdf		**PKPdf**	**06 08 22.2**	**-0.9**
CPUP	**Villa Florida**	**135.34**	**268**	*e*PKIKP		**PKPdf**	**06 08 22.2**	**-0.9**
LPAZ	**La Paz**	**138.76**	**288**	PKP		**PKPdf**	**06 08 29.1**	**-1.3**
	comp=Z,1.0nm,0.8s,baz=12,slow=1.4,SNR=3.9								
TRQA	**Tornquist**	**142.97**	**253**	*e*PKPdf		**PKPdf**	**06 08 37.0**	**+0.3**
PB10	**IPOC Station P**	**144.65**	**281**	*e*PKPbc		**PKPab**	**06 08 38.8**	**-0.6**
LCO	**Las Campanas**	**147.24**	**272**	*e*PKPbc		**PKPbc**	**06 08 47.0**	**-0.3**
PEL	**Peldehue**	**148.63**	**265**	*e*PKPbc		**PKPbc**	**06 08 49.4**	**-1.1**
PEL	**Peldehue**	**148.63**	**265**	*e*PKP2		**PKPbc**	**06 08 49.4**	**-1.1**
ROC1	**El Roble**	**148.85**	**265**	*e*PKPbc		**PKPbc**	**06 08 50.7**	**-0.6**
PLCA	**Paso Flores**	**149.93**	**250**	PKPbc		**PKPbc**	**06 08 53.3**	**-0.1**
	comp=Z,13nm,0.9s,baz=130,slow=2.3,SNR=29								
PLCA	**Paso Flores**	**149.93**	**250**	*e*PKPbc		**PKPbc**	**06 08 53.6**	**+0.2**
GO05	**HualaæØ**	**150.12**	**262**	*e*PKPdf		**PKPdf**	**06 08 49.0**	**+0.3**
GO05					*e*PKPbc	**PKPbc**	**06 08 53.6**	**-0.4**

CSEM ***27*** *06:13:18.9≈0.6,36.˙27N×28.˙73E, h5km, ML2.5, Error ellipse: s-maj=10.9km s-min=6.4km az=8.0*
DDA ***27*** *06:13:18.1,36.˙27N×28.˙74E, h7km, Ml2.6*
ISK ***27*** *06:13:19.9,36.˙41N×28.˙77E, h14km, ML2.5/5*
ISC 27 06:13:18.6±1.7,36.˙30N±0.˙07×28.˙73E±0.˙04,h3km±11km, n21,σ0°74/35,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FETY	**Fethiye**	**0.44**	**40**	PG	**Pg**	**06 13 27.0**	**0.0**
FETY				SG	**Sg**	**06 13 32.5**	**-0.3**
FETY	**Fethiye**	**0.44**	**40**	P	**Pg**	**06 13 27.1**	**0.0**
FETY				*e*Sg	**Sg**	**06 13 32.5**	**-0.3**
FETY				S	**Sb**	**06 13 33.7**	**-2.3**
TURN	**Turunc**	**0.59**	**350**	PG	**Pb**	**06 13 31.3**	**-0.1**
TURN				SG	**Sb**	**06 13 39.7**	**-0.4**
TURN	**Turunc**	**0.59**	**350**	*i* P	**Pb**	**06 13 31.4**	**0.0**
TURN				*i* S	**Sb**	**06 13 39.7**	**-0.4**
TURN	**Turunc**	**0.59**	**350**	*e*Pg	**Pb**	**06 13 31.3**	**-0.1**
TURN				S	**Sb**	**06 13 39.7**	**-0.4**
AKAS	**Kas**	**0.71**	**95**	PG	**Pb**	**06 13 33.9**	**+0.3**
AKAS	**Kas**	**0.71**	**95**	*e*Pg	**Pb**	**06 13 33.9**	**+0.3**
YER	**Yerkesik**	**0.91**	**337**	PG	**Pg**	**06 13 36.4**	**+0.3**
YER	**Yerkesik**	**0.91**	**337**	*e*Pg	**Pg**	**06 13 36.4**	**+0.3**
ELL	**Elmali**	**1.05**	**64**	PG	**Pg**	**06 13 39.3**	**+0.6**
ELL	**Elmali**	**1.05**	**64**	*e*Pg	**Pg**	**06 13 39.3**	**+0.6**
GOLH	**Golhisar**	**1.15**	**35**	*i* P	**Pg**	**06 13 40.0**	**-0.7**
GOLH				*i* S	**Sn**	**06 13 57.6**	**-0.3**
GOLH	**Golhisar**	**1.15**	**35**	P	**Pg**	**06 13 40.0**	**-0.7**
GOLH				S	**Sn**	**06 13 57.7**	**-0.3**
TAVA	**DENIZLI_Tavas**	**1.18**	**7**	*i* P	**Pn**	**06 13 43.3**	**+1.3**
TAVA				*i* S	**Sb**	**06 13 58.1**	**+0.9**
TAVA	**DENIZLI_Tavas**	**1.18**	**7**	P	**Pn**	**06 13 43.3**	**+1.3**
TAVA				S	**Sb**	**06 13 58.2**	**+0.9**
BDRM	**Kayabasi**	**1.29**	**307**	*i* P	**Pn**	**06 13 42.5**	**-1.0**
BDRM				*i* S	**Sn**	**06 14 01.5**	**+0.3**
BDRM	**Kayabasi**	**1.29**	**307**	P	**Pn**	**06 13 42.5**	**-1.0**
BDRM				S	**Sn**	**06 14 01.5**	**+0.3**
BODT	**Bodrum**	**1.38**	**304**	PN	**Pn**	**06 13 44.2**	**-0.4**
BODT	**Bodrum**	**1.38**	**304**	*e*Pn	**Pn**	**06 13 44.2**	**-0.4**
AYDN	**Tasoluk**	**1.52**	**334**	*i* P	**Pg**	**06 13 48.5**	**+0.7**
AYDN				*i* S	**Sn**	**06 14 07.2**	**+0.1**
AYDN	**Tasoluk**	**1.52**	**334**	P	**Pg**	**06 13 48.5**	**+0.7**
AYDN				S	**Sn**	**06 14 07.2**	**+0.1**

DJA 27 06:13:21.6±1.0,2.˙2N±5.˙9°4E±˚,h10km,M3.7/7,mB5.4/1, MLv3.7/7,Mw(mB)4.8/1,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MLSI	**Meulaboh, Aceh**	**2.84**	**43**	P	Pn	06 14 06.9	-0.1
MLSI				S	Sn	06 14 42.6	+1.3
TPTI		**2.92**	**68**	P	Pn	06 14 08.0	-0.2
GSI	**Gunungsitoli**	**3.23**	**106**	P	Pn	06 14 12.1	-0.4
GSI				S	Sn	06 14 51.2	+0.1
BSI	**Banda Aceh**	**3.40**	**14**	P	Pn	06 14 13.6	-1.1
KCSI	**Kotacane, Aceh**	**3.57**	**68**	P	Pn	06 14 17.5	+0.4
KCSI				S	Sn	06 14 59.7	+0.4
MNSI	**Mandailing Nat**	**5.30**	**105**	P	Pn	06 14 41.2	+0.3

CSEM ***27*** *06:14:01.5≈0.3,39.˙09N×29.˙11E, h10km, ML2.1, Error ellipse: s-maj=11.8km s-min=7.3km az=108.0*
ISK 27 06:14:00.3,39.˙04N×29.˙18E, h6km, ML2.1/5, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIMA	**Simav-Kutahya**	**0.16**	**287**	PG	Pg	06 14 04.7	+1.1
SIMA				SG	Sg	06 14 06.5	+0.8
SIMA	**Simav-Kutahya**	**0.16**	**287**	*e*Pg	Pg	06 14 04.7	+1.1
SIMA				*e*Sg	Sg	06 14 06.5	+0.8
TVSB	**Tavsanli**	**0.47**	**28**	PG	Pg	06 14 09.5	+0.2
TVSB	**Tavsanli**	**0.47**	**28**	*e*Pg	Pg	06 14 09.5	+0.2
KULA	**Kula-Manisa**	**0.66**	**218**	PG	Pg	06 14 13.3	+0.3
KULA				SG	Sb	06 14 23.1	-0.7
KULA	**Kula-Manisa**	**0.66**	**218**	*e*Pg	Pg	06 14 13.3	+0.3
KULA				*e*Sg	Sb	06 14 23.1	-0.7
KHAL	**Karahalli**	**0.71**	**160**	*i* P	Pn	06 14 17.6	+0.6
KHAL				*i* S	Sn	06 14 27.7	-0.6
KHAL	**Karahalli**	**0.71**	**160**	P	Pn	06 14 17.6	+0.6
KHAL				S	Sn	06 14 27.7	-0.7
CAVI	**Cavuskoy**	**1.27**	**24**	PN	Pb	06 14 24.8	+0.1
CAVI	**Cavuskoy**	**1.27**	**24**	*e*Pn	Pb	06 14 24.8	+0.1
ARMT	**Armutlu**	**1.55**	**351**	PN	Pb	06 14 29.2	-0.2
ARMT	**Armutlu**	**1.55**	**351**	*e*Pn	Pb	06 14 29.2	-0.2

IDC ***27*** *06:41:43.6≈1.0, 18.˚08N×69.˚37W, h0km, mb3.6/6, mb1 3.9/9, mb1mx3.6/64, mbtmp3.7/9, ML3.6/3, MS3.1/3, Ms1 3.1/3, ms1mx2.6/40, Error ellipse: s-maj=20.7km s-min=16.5km az=13.0*
ISCJB ***27*** *06:41:47.6≈0.8, 18.˚00N±0.˚09×69.˚35W±0.˚07, h46km, mb3.6/5, MS3.1/3, Error ellipse: s-maj=13.3km s-min=8.8km az=172.7*
ISC 27 06:41:49.7±0.9,17.˚90N±0.˚09×69.˚37W±0.˚09, h46km, n15, σ1°93/14, mb3.7/5, MS2.9/3, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SJG	**San Juan**	**3.07**	**86**	Pn	**Pn**	**06 42 35.1**	**-0.5**
	12nm,0.3s,baz=290,slow=13,SNR=20						
SJG				Sn	**Sn**	**06 43 10.0**	**-1.1**
	39nm,0.3s,baz=71,slow=22,SNR=9.2						
SJG				Lg	Lg	06 43 20.7	
	45nm,0.3s,baz=139,slow=19,SNR=5.2						
MBWH		**6.95**	**98**	*e*P	**Pn**	**06 43 28.8**	**-0.2**
TAG	**Tarade**	**7.60**	**103**	*e*P	**Pn**	**06 43 38.5**	**+0.5**
MGG	**Marie-Galante**	**7.95**	**103**	*e*P	**Pn**	**06 43 43.7**	**+1.0**
PCRV	**Puerto La Cruz**	**8.95**	**149**	Pn	**Pn**	**06 43 58.2**	**+1.8**
	1.6nm,0.3s,baz=310,slow=3.0,SNR=13						
PCRV				Sn	Sn	06 45 25.8	-10
	3.6nm,0.3s,baz=321,slow=18,SNR=4.7						
SDV	**Santo Domingo**	**9.05**	**188**	Pn	**Pn**	**06 43 59.0**	**+1.1**
	1.2nm,0.3s,baz=13,slow=12,SNR=6.6						
SDV				Sn	**Sn**	**06 45 33.4**	**-5.2**
	2.6nm,0.3s,baz=339,slow=18,SNR=5.4						
PTGA	**Pitinga**	**20.70**	**152**	P	**P**	**06 46 27.3**	**+1.1**
	2.2nm,0.6s,baz=322,slow=14,SNR=4.7						
TKL	**Tuckaleechee C**	**21.82**	**327**	LR	LR	06 54 54.3	
	comp=Z,50nm,19.3s,baz=360,slow=36						
TXAR	**Lajitas Array**	**33.30**	**296**	P	**P**	**06 48 23.3**	**0.0**
	0.3nm,0.9s,baz=115,slow=8.1,SNR=3.8						
LPAZ	**La Paz**	**34.00**	**178**	P	**P**	**06 48 31.9**	**+2.0**
	0.6nm,0.6s,baz=14,slow=4.2,SNR=3.2						
PDAR	**Pinedale Array**	**42.07**	**315**	LR	LR	07 07 15.8	
	comp=Z,17nm,21.4s,baz=80,slow=36						
SFJD	**Kangerlussuaq**	**50.56**	**9**	LR	LR	07 09 50.8	
	comp=Z,35nm,21.1s,baz=181,slow=34						
YKA	**Yellowknife Ar**	**54.41**	**336**	P	**P**	**06 51 10.9**	**-1.0**
	0.4nm,0.7s,baz=116,slow=7.5,SNR=3.2						
PLCA	**Paso Flores**	**58.34**	**181**	P	**P**	**06 51 40.6**	**+0.5**
	0.8nm,0.6s,baz=16,slow=7.0,SNR=6.7						
TORD	**Torodi Ar. Bea**	**68.28**	**83**	P	**P**	**06 52 46.7**	**+0.3**
	0.4nm,0.5s,baz=292,slow=6.9,SNR=6.1						

NIED ***27*** *06:48:00, 39.˚40N×143.˚40E, h14km, Mw4.2 Best double couple: M≈2.00000×10^15 NP1:φ=191.00000°, δ40.00000°, λ101.00000°. NP2:φ=357.00000°, δ51.00000°, λ81.00000°.*
IDC ***27*** *06:48:11.9≈0.6, 39.˚37N×143.˚29E, h0km, mb4.2/28, mb1 4.3/30, mb1mx4.2/71, mbtmp4.2/30, ML3.9/2, MS3.2/10, Ms1 3.2/10, ms1mx2.9/63, Error ellipse: s-maj=15.1km s-min=13.2km az=128.0*
JMA ***27*** *06:48:12.9≈0.2, 39.˚38N×143.˚43E, h19km±4km, M4.3*
BJI ***27*** *06:48:12.2, 39.˚39N×143.˚73E, h30km, mb4.5/25, mB4.9/16, Ms4.2/10, Ms7 4.0/10*
ISCJB ***27*** *06:48:14.5≈0.9, 39.˚42N±0.˚03×143.˚36E±0.˚03, h27km±6km, mb4.3/72, MS3.6/10, Error ellipse: s-maj=5.1km s-min=3.6km az=146.7*
MOS ***27*** *06:48:16.9≈1.0, 39.˚52N×143.˚27E, h45km, mb4.4/38, Error ellipse: s-maj=9.0km s-min=6.0km az=97.9*
NEIC ***27*** *06:48:18.2≈0.6, 39.˚42N×143.˚26E, h40km±6km, mb4.5/23, Error ellipse: s-maj=7.2km s-min=4.8km az=125.0*
ISC 27 06:48:15.9±1.9,39.˚39N±0.˚04×143.˚42E±0.˚05, h26km±13km, n164,σ1°58/177, mb4.4/72, MS3.4/10, 8C-1D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MIYJ	**Miyakonagasawa**	**1.25**	**279**	P	**Pn**	**06 48 35.5**	**-2.1**
MIYJ				*e*S	**Sn**	**06 48 52.6**	**-1.0**
JTH	**Tanohata**	**1.32**	**295**	P	**Pn**	**06 48 36.9**	**-1.6**
JTH				*e*S	**Sn**	**06 48 53.9**	**-1.4**
OFUJ	**Ofunato**	**1.39**	**258**	P	**Pn**	**06 48 37.6**	**-2.0**
OFUJ				*e*S	**Sn**	**06 48 55.2**	**-1.9**
JOM	**Ohasama**	**1.65**	**273**	P	**Pn**	**06 48 41.9**	**-1.2**
JOM				*e*S	**Sn**	**06 49 02.8**	**-0.6**
JANG	**Nango**	**1.76**	**304**	P	**Pn**	**06 48 42.3**	**-2.4**
JANG				*e*S	**Sn**	**06 49 05.6**	**-0.6**
JMK	**Ichinoseki**	**1.76**	**256**	P	**Pn**	**06 48 43.6**	**-1.1**
JMK				*e*S	**Sn**	**06 49 04.8**	**-1.4**
JIO	**Ouri**	**1.86**	**240**	P	**Pn**	**06 48 44.5**	**-1.6**
JIO				*e*S	**Sn**	**06 49 06.5**	**-2.2**
JRG	**Rokugo**	**2.15**	**271**	P	**Pn**	**06 48 49.4**	**-0.7**
JRG				*e*S	**Sn**	**06 49 18.0**	**+2.0**
JTM	**Tenmabayashi**	**2.28**	**308**	P	**Pn**	**06 48 50.7**	**-1.0**
JAH	**Hinai**	**2.28**	**291**	P	**Pn**	**06 48 51.1**	**-0.8**
JYK	**Kaneyama**	**2.42**	**260**	P	**Pn**	**06 48 53.2**	**-0.6**
ERM	**Erimo**	**2.63**	**356**	*e*Pn	**Pn**	**06 48 56.2**	**-0.3**
ERM	**Erimo**	**2.63**	**356**	*i* P	**Pn**	**06 48 55.9**	**-0.7**
JOT	**Ohata**	**2.69**	**318**	*e*S	**Sn**	**06 49 27.0**	**-2.0**
JNBK	**Urakawa-nobuka**	**2.93**	**350**	P	**Pn**	**06 49 00.3**	**-0.4**
JNBK				*e*S	**Sn**	**06 49 34.1**	**-0.9**
ASAJ	**Asahikawa**	**4.76**	**353**	Pn	**Pn**	**06 49 25.5**	**-0.4**
	2.8nm,0.3s,baz=220,slow=19,SNR=6.4						
ASAJ				Sn	**Sn**	**06 50 21.3**	**+1.1**
	2.6nm,0.3s,baz=259,slow=8.2,SNR=3.9						
ASAJ	**Asahikawa**	**4.76**	**353**	*e*Pn	**Pn**	**06 49 26.0**	**+0.1**
ASAJ				Sn	**Sn**	**06 50 21.3**	**+1.1**
YUK	**Yuzh-Kuril'sk**	**4.99**	**21**	*e*P	**Pn**	**06 49 27.7**	**-1.3**
YUK				*i* S	**Sn**	**06 50 21.3**	**-4.4**
YUK				pmax	pmax		
	comp=Z,128nm,0.3s						
YUK				pmax	pmax		
	comp=N,22nm,0.2s						
YUK				smax	smax		
	comp=N,448nm,0.5s						
YUK				smax	smax		
	comp=E,29nm,0.5s						
MJAR	**Matsushiro Arr**	**5.00**	**237**	Pn	**Pn**	**06 49 29.6**	**+0.3**
	comp=E,7.6nm,0.3s,baz=38,slow=12,SNR=73						
MJAR				LR	LR	06 51 28.2	
	comp=E,150nm,21.4s,baz=70,slow=40						
MAJO	**Matsushiro**	**5.00**	**237**	*e*Pn	**Pn**	**06 49 30.4**	**+1.1**
MAJO	**Matsushiro**	**5.00**	**237**	*e*P	**Pn**	**06 49 30.4**	**+1.1**
MAT	**Matsushiro**	**5.00**	**237**	P	**Pn**	**06 49 29.8**	**+0.5**
MAT				*e*S	**Sn**	**06 50 28.1**	**+1.9**
MJB9	**Matsu-Tunnel**	**5.00**	**237**	*e*Pn	**Pn**	**06 49 30.4**	**+1.1**
SHO	**Shikotan**	**5.15**	**29**	*c i*P	**Pn**	**06 49 28.3**	**-3.0**
SHO				*i* S	**Sn**	**06 50 22.3**	**-7.6**
SHO				pmax	pmax		
	comp=Z,29nm,0.4s						
SHO				pmax	pmax		
	comp=N,16nm,0.2s						
SHO				pmax	pmax		
	comp=E,25nm,0.3s						
SHO				smax	smax		
	comp=N,249nm,0.4s						
SHO				smax	smax		
	comp=E,84nm,0.3s						
INU	**Inuyama**	**6.50**	**234**	*e*Pn	**Pn**	**06 49 50.7**	**+0.9**
KUR	**Kuril'sk**	**6.70**	**28**	*e*P	**Pn**	**06 49 52.8**	**+0.3**
KUR				*e*S	**Sn**	**06 51 04.6**	**-3.4**
KUR				smax	smax		
	comp=N,134nm,0.6s						
KUR				smax	smax		
	comp=E,68nm,0.6s						
JHJ2	**Mitsune**	**6.91**	**206**	*e*Pn	**Pn**	**06 49 53.8**	**-1.6**
JHJ	**Hachijo jima 2**	**6.91**	**206**	Pn	**Pn**	**06 49 53.5**	**-1.9**
	comp=E,17nm,0.3s,baz=84,slow=22,SNR=5.2						
JHJ				Sn	**Sn**	**06 51 08.4**	**-4.9**
	comp=E,9.0nm,0.3s,baz=252,slow=19,SNR=4.1						
YSS	**Yuzh-Sakhalins**	**7.57**	**357**	*e*Pn	**Pn**	**06

TLY pmax pmax
comp=Z,5.0nm,1.1s
TLY MLR MLR
comp=Z,60nm,15.0s
ZAK Zakamensk 30.13 305 *eP* **P 06 54 22.7 -0.8**
ZAK pmax pmax
comp=Z,3.0nm,1.3s
LZH Lanzhou 31.30 277 *eP* **P 06 54 37.5 +3.6**
LZH pP pP 06 54 43.0 +1.3
LZH sP sP 06 54 46.0 +1.1
LZH PP **PnPn 06 55 35.3 -1.1**
LZH *eS* **S 06 59 40.0 +0.7**
LZH SS **SnSn 07 01 25.8 +2.7**
LZH pmax pmax
comp=Z,13nm,1.0s
LZH pmax pmax
comp=Z,120nm,5.7s
LZH LR LR
comp=Z,1μm,13.9s
LZH LR LR
comp=Z,1μm,15.7s
LZH LR LR
comp=Z,2μm,16.4s
BILL Bilibino 31.32 16 *i* P **P 06 54 32.1 -1.5**
BILL *i* 06 57 25.5
BILL pmax pmax
comp=Z,2.0nm,0.9s
CD2 Chengdu 33.30 268 *eP* **P 06 54 49.5 -1.9**
GTA Gaotai 33.45 284 *eP* **P 06 54 52.8 +0.1**
GTA pP pP 06 55 00.0 -0.5
GTA sP sP 06 55 03.3 -0.3
GTA S **S 07 00 11.8 -0.9**
GTA pmax pmax
comp=Z,5.0nm,1.0s
GTA pmax pmax
comp=Z,210nm,6.2s
GTA LR LR
comp=Z,180nm,11.9s
GTA LR LR
comp=Z,310nm,14.3s
GTA LR LR
comp=Z,190nm,14.5s
DGZ Jazzator, Alta 40.34 304 *i* P **P 06 55 51.4 +0.1**
DGZ pmax pmax
comp=Z,2.0nm,0.6s
WMQ Urumqi 41.23 295 P **P 06 55 59.0 +0.4**
WMQ pmax pmax
comp=Z,25nm,0.7s
WMQ pmax pmax
comp=Z,140nm,3.8s
ZAA0 Zalesovo Array 41.54 310 *eP* **P 06 56 00.6 -0.2**
comp=Z,3.0nm,0.6s
ZALV Zalesovo Beam 41.54 310 P **P 06 56 00.2 -0.6**
comp=Z,3.9nm,0.6s,baz=86,slow=7.3,SNR=10
ZALV PcP **PcP 06 57 58.0 +0.2**
comp=Z,2.6nm,0.7s,baz=80,slow=3.6,SNR=4.4
ZALV Zalesovo Beam 41.54 310 *eP* **P 06 56 00.7 -0.1**
ZALV PcP **PcP 06 57 58.0 +0.2**
ZALV Zalesovo Beam 41.54 310 *eP* **P 06 56 00.7 -0.1**
ZALV 06 57 58.0
CMAR Chiang Mai Arr 43.63 255 P **P 06 56 18.1 -0.2**
comp=Z,1.1nm,0.3s,baz=46,slow=6.4,SNR=3.9
OHAK Old Harbor 43.96 44 *eP* **P 06 56 21.2 +0.8**
comp=Z,10nm,1.4s
MK01 Makanchi Array 44.24 300 *eP* **P 06 56 22.2 -0.7**
MK31 Makanchi Array 44.24 300 *eP* **P 06 56 22.3 -0.6**
MK31 Makanchi Array 44.24 300 *ceP* **P 06 56 21.8 -1.1**
MK31 pmax pmax
comp=Z,4.0nm,0.6s
MKAR Makanchi Array 44.24 300 P **P 06 56 22.6 -0.4**
comp=Z,2.5nm,0.7s,baz=84,slow=9.2,SNR=31
MKAR Makanchi Array 44.24 300 *eP* **P 06 56 22.3 -0.6**
comp=Z,30nm,0.6s
MKAR Makanchi Array 44.24 300 *eP* **P 06 56 22.3 -0.6**
MKAR pmax pmax
comp=Z,31nm,0.6s
KDAK Kodiak Island 44.30 44 P **P 06 56 23.6 +0.5**
comp=Z,2.2nm,0.7s,baz=248,slow=7.8,SNR=5.6
KDAK Kodiak Island 44.30 44 *i* P **P 06 56 24.2 +1.1**
CAST Castle Rocks 44.39 35 *eP* **P 06 56 26.3 +2.4**
comp=Z,1.0nm,0.7s
BRLK Bradley Lake 45.05 41 *eP* **P 06 56 30.4 +1.3**
comp=Z,10nm,1.4s
TRF Thorofare Moun 45.20 35 *eP* **P 06 56 33.0 +2.6**
comp=Z,3.0nm,1.1s
KURK Kurchatov 45.76 307 *eP* **P 06 56 34.1 -0.8**
comp=Z,9.0nm,0.6s
KURK PcP **PcP 06 58 12.6 +0.5**
KURK Kurchatov 45.76 307 *ceP* **P 06 56 34.0 -0.8**
KURK pmax pmax
comp=Z,5.0nm,0.7s
KURBB Kurchatov Arra 45.83 306 P **P 06 56 34.9 -0.6**
comp=Z,7.3nm,0.6s,baz=80,slow=8.3,SNR=58
KURBB PcP **PcP 06 58 12.6 +0.2**
comp=Z,0.4nm,0.6s,baz=79,slow=4.8,SNR=2.2
WRH Wood River Hil 46.15 34 *eP* **P 06 56 40.6 +2.8**
comp=Z,8.7nm,1.4s
CCB Clear Creek Bu 46.27 34 *eP* **P 06 56 41.1 +2.4**
comp=Z,1.6nm,0.8s
IL1 Eielson Array 46.66 34 *eP* **P 06 56 43.3 +1.5**
ILAR Eielson Array 46.66 34 P **P 06 56 42.6 +0.8**
comp=Z,1.6nm,0.7s,baz=266,slow=6.6,SNR=20
ILB Eielson Array 46.66 34 *eP* **P 06 56 43.1 +1.4**
RIDG Independ'e Rid 47.62 35 *eP* **P 06 56 51.2 +1.9**
comp=Z,7.7nm,1.2s
DOT Dot Lake 47.97 35 *eP* **P 06 56 53.0 +1.0**
comp=Z,11nm,1.5s
SCRK Sand Creek 47.97 35 *eP* **P 06 56 53.0 +0.9**
comp=Z,7.1nm,1.4s
EGAK Eagle 49.11 33 *eP* **P 06 57 01.7 +1.0**
comp=Z,2.1nm,1.1s
TKM2 Tokmak 2 49.92 297 *i* P **P 06 57 07.0 -0.5**
TKM2 pmax pmax
comp=Z,5.0nm,0.9s
BVA0 Borovoye Array 50.18 311 *i* P **P 06 57 08.7 -0.3**
BVA0 pmax pmax
comp=Z,3.0nm,0.7s
BVAR Borovoye Array 50.18 311 P **P 06 57 08.6 -0.5**
comp=Z,3.0nm,0.6s,baz=72,slow=9.7,SNR=12
BRVK Borovoye 50.23 311 *ceP* **P 06 57 09.2 -0.2**
BRVK pmax pmax
comp=Z,2.0nm,0.6s
OTUK Ortayu 50.35 305 P **P 06 57 09.9 -0.5**
OTUK pmax pmax
comp=Z,3.0nm,2.8s
AAK Ala-Archa 50.78 297 LR LR 07 19 41.7
comp=Z,44nm,18.4s,baz=95,slow=37
INK Inuvik 51.57 28 P **P 06 57 20.0 +0.8**
comp=Z,1.2nm,0.5s,baz=297,slow=6.6,SNR=16
INK Inuvik 51.57 28 *eP* **P 06 57 20.5 +1.3**
comp=Z,1.9nm,0.9s
INK Inuvik 51.57 28 *eP* **P 06 57 20.5 +1.3**
INK pmax pmax
comp=Z,2.0nm,0.9s
MNAS Manas 52.21 298 *i* P **P 06 57 23.7 -0.9**
MNAS pmax pmax
comp=Z,3.0nm,0.7s
SFK Sufi-Kurgan 52.47 295 *i* P **P 06 57 25.8 -0.9**
SFK pmax pmax
comp=Z,2.0nm,0.7s
MTN Manton Dam 53.21 195 *eP* **P 06 57 31.7 -0.3**
comp=Z,30nm,1.4s
ARU Arti 55.65 318 P **P 06 57 47.9 -1.5**
comp=Z,2.7nm,0.2s,baz=100,slow=4.3,SNR=6.8
ARU Arti 55.65 318 *di* P **P 06 57 49.4 +0.1**
ARU 06 59 52.4
ARU S **S 07 05 36.3 +2.7**
ARU SS **SS 07 09 18.5 +0.1**
ARU pmax pmax
comp=Z,8.0nm,1.0s
AB31 Akbulak array 57.64 310 *ceP* **P 06 58 02.8 -0.8**
AB31 pmax pmax
comp=Z,3.0nm,0.5s
ABKAR Akbulak array 57.64 310 *eP* **P 06 58 03.3 -0.2**
comp=Z,4.1nm,0.6s
AKTO Aktyubinsk 58.28 311 P **P 06 58 07.8 -0.3**
comp=Z,0.9nm,0.3s,baz=72,slow=11,SNR=6.2
AKTO Aktyubinsk 58.28 311 *i* P **P 06 58 09.2 +1.1**
AKTO pmax pmax
comp=Z,4.0nm,0.9s
SPITS Spitsbergen Ar 58.52 349 LR LR 07 24 54.8
comp=Z,18nm,18.1s,baz=80,slow=38
WB2 Warramunga Arr 59.63 190 *eP* **P 06 58 16.9 -0.7**
comp=Z,4.7nm,0.8s
WRA Warramunga Arr 59.63 190 P **P 06 58 16.7 -1.0**
comp=Z,3.5nm,0.7s,baz=8.5,slow=6.9,SNR=38

RES Resolute Bay 59.92 15 P **P 06 58 19.2 +0.2**
comp=Z,2.6nm,0.8s,baz=326,slow=7.4,SNR=9.5
RES Resolute Bay 59.92 15 *eP* **P 06 58 19.6 +0.6**
comp=Z,2.7nm,0.8s
RES Resolute Bay 59.92 15 *eP* **P 06 58 19.6 +0.6**
RES pmax pmax
comp=Z,3.0nm,0.8s
YKA Yellowknife Ar 60.98 31 P **P 06 58 27.1 +0.7**
comp=Z,0.6nm,0.6s,baz=301,slow=6.6,SNR=16
ARCES ARCESS Array B 62.35 339 P **P 06 58 35.7 +0.1**
comp=Z,1.6nm,0.8s,baz=59,slow=7.5,SNR=4.3
AS01 Alice Springs 63.35 190 *eP* **P 06 58 43.1 +0.3**
ASAR Alice Springs 63.36 190 P **P 06 58 42.5 -0.3**
comp=Z,1.3nm,0.7s,baz=11,slow=6.3,SNR=13
SGF Sodankyl 63.39 337 P **P 06 58 42.0 -0.5**
SGF pmax pmax
comp=Z,6.0nm,1.2s
JOF Joensuu 64.62 332 P **P 06 58 50.2 -0.5**
JOF pmax pmax
comp=Z,7.0nm,2.4s
COCO West Island 67.16 230 *i* P **P 06 59 03.8 -3.8**
FIA1 FINESS Array S 67.46 332 *eP* **P 06 59 09.0 +0.1**
FINES FINESS Array B 67.46 332 P **P 06 59 08.7 -0.2**
comp=Z,2.7nm,0.7s,baz=58,slow=7.6,SNR=7.7
HOPS Hopland Field 68.95 56 *eP* **P 06 59 18.7 0.0**
comp=Z,71nm,0.6s
MCCM Marconi Confer 69.56 57 *eP* **P 06 59 24.9 +2.5**
comp=Z,37nm,1.1s
KIV Kislovodsk 70.55 311 *eP* **P 06 59 27.9 -0.6**
KIV pmax pmax
comp=Z,10.0nm,1.1s
KBZ Khabaz 70.56 311 P **P 06 59 28.9 +0.4**
comp=Z,1.8nm,0.7s,baz=22,slow=3.4,SNR=6.0
FFC Flin Flon 70.87 34 *i* P **P 06 59 32.1 +1.9**
GNI Garni 71.56 307 LR LR 07 34 33.6
comp=Z,31nm,18.3s,baz=247,slow=39
NV01 Mina Array Sit 72.33 55 *eP* **P 06 59 41.1 +1.6**
NVAR Mina Array Bea 72.33 55 P **P 06 59 40.8 +1.3**
comp=Z,1.0nm,0.8s,baz=274,slow=6.1,SNR=7.7
NC405 NORSAR Array S 72.41 338 *eP* **P 06 59 38.4 -0.9**
NC204 NORSAR Array S 72.55 338 *eP* **P 06 59 40.6 +0.3**
HFS Hagfors 72.58 336 P **P 06 59 40.4 +0.1**
comp=Z,2.8nm,0.6s,baz=67,slow=8.0,SNR=9.4
NB201 NORSAR Array S 72.58 338 *eP* **P 06 59 39.6 -0.8**
UOSS Minazif 72.58 288 *eP* **P 06 59 41.3 +0.3**
comp=Z,4.3nm,0.9s
NB2 NORSAR Subarra 72.61 338 P **P 06 59 40.0 -0.6**
comp=Z,1.5nm,0.6s,baz=38,slow=6.2
NB2 NORSAR Subarra 72.61 338 P **P 06 59 40.6 0.0**
NB2 pmax pmax
comp=Z,1.0nm,0.6s
NOA NORSAR Array B 72.61 338 P **P 06 59 40.5 0.0**
comp=Z,2.4nm,0.7s,baz=38,slow=6.0,SNR=7.0
NBO00 NORSAR Array S 72.75 338 *eP* **P 06 59 42.0 +0.6**
AKASG Malin Array Be 73.39 323 P **P 06 59 45.2 -0.1**
comp=Z,0.6nm,0.4s,baz=39,slow=5.2,SNR=3.2
SFJD Kangerlussuaq 73.40 6 LR LR 07 32 40.9
comp=Z,14nm,18.7s,baz=198,slow=36
SNOW Snow King Moun 73.78 47 *eP* **P 06 59 50.0 +1.9**
comp=Z,3.3nm,0.6s
FRB Frobisher Bay 74.11 14 P **P 06 59 49.5 +0.3**
comp=Z,2.0nm,0.6s,baz=37,slow=10,SNR=3.7
PDAR Pinedale Array 74.90 47 P **P 06 59 55.3 +0.7**
comp=Z,1.0nm,0.8s,baz=276,slow=3.7,SNR=7.9
PDAR Pinedale Array 74.90 47 *eP* **P 06 59 55.7 +1.1**
SRU San Rafael Swe 76.68 50 *eP* **P 07 00 06.0 +1.2**
comp=Z,3.2nm,0.8s
SRU San Rafael Swe 76.68 50 *eP* **P 07 00 06.0 +1.2**
SRU pmax pmax
comp=Z,3.0nm,0.8s
RWWY Rawlins 76.92 46 *eP* **P 07 00 04.4 -1.8**
comp=Z,7.2nm,0.8s
BUR04 Bucovina Ar. S 77.42 322 *eP* **P 07 00 09.6 +0.9**
BRTR Keskin Array B 78.45 312 P **P 07 00 14.6 -0.1**
comp=Z,0.6nm,0.6s,baz=76,slow=6.4,SNR=3.4
GERES GERESS Array B 81.52 329 P **P 07 00 30.9 -0.1**
comp=Z,0.3nm,0.2s,baz=328,slow=4.7,SNR=4.6
FUORN Ofenpass-Fuorn 84.68 330 *eP* **P 07 00 48.3 +0.7**
comp=Z,8.3nm,0.8s
TX31 Lajitas Ar. Si 87.44 54 *eP* **P 07 01 02.4 +1.1**
TXAR Lajitas Array 87.44 54 P **P 07 01 02.0 +0.7**
comp=Z,0.7nm,0.9s,baz=297,slow=0.8,SNR=5.0
TXAR Lajitas Array 87.44 54 P **P 07 01 02.0 +0.7**
TXAR pmax pmax
comp=Z,1.0nm,0.9s
SNAA Sanae 143.46 197 PKhKP PKPpre 07 07 43.4
comp=Z,1.4nm,0.7s,baz=156,slow=4.4,SNR=8.8
SNAA Sanae 143.46 197 *ePKPpre* PKPpre 07 07 43.7
LPAZ La Paz 144.13 59 PKP **PKPdf 07 07 50.5 +0.1**
comp=Z,0.8nm,0.9s,baz=315,slow=1.4,SNR=2.3
MNMC Minye Minye 145.11 64 *ePKPbc* **PKPdf 07 07 53.0 +1.4**
PB11 IPOC Station P 145.49 65 *ePKPdf* **PKPab 07 07 53.0 +0.6**

IDC 27 06:49:48.0±6.7, 10°33S×12°58W, h0km, mb4.0/3, mb1 3.8/4, mb1mx3.6/52, mbtmpg3.9/4, ML3.6/1, MS3.5/15, Ms1 3.5/15, ms1mx3.3/44, Error ellipse: s-maj=252.6km s-min=113.2km az=111.0, Ascension Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DBIC	**Dimbokro**	**18.55**	**25**	P		Pn		06 54 07.8	+1.2
	comp=Z,0.2nm,0.3s,baz=213,slow=5.0,SNR=3.2								
KOWA	**Kowa**	**26.08**	**19**	P		P		06 55 23.2	-0.4
	comp=Z,2.3nm,0.7s,baz=215,slow=11,SNR=10.0								
KOWA				LR		LR		07 04 29.1	
	comp=Z,192nm,20.6s,baz=200,slow=34								
TORD	**Torodi Ar. Bea**	**27.29**	**32**	P		P		06 55 34.0	-0.5
	1.9nm,0.9s,baz=211,slow=9.1,SNR=9.9								
TORD				LR		LR		07 05 41.2	
	comp=Z,86nm,18.3s,baz=30,slow=35								
BOSA	**Boshof**	**39.81**	**123**	LR		LR		07 11 05.9	
	comp=Z,132nm,19.1s,baz=285,slow=32								
ESDC	**Sonseca Array**	**50.38**	**9**	LR		LR		07 20 01.0	
	comp=Z,50nm,18.2s,baz=315,slow=36								
SDV	**Santo Domingo**	**60.85**	**286**	LR		LR		07 24 33.3	
	comp=Z,24nm,19.8s,baz=89,slow=34								
SNAA	**Sanae**	**61.59**	**177**	LR		LR		07 21 18.2	
	comp=Z,44nm,20.4s,baz=314,slow=31								
ROSC	**El Rosal**	**63.30**	**281**	LR		LR		07 26 42.1	
	comp=Z,46nm,19.3s,baz=250,slow=35								
GERES	**GERESS Array B**	**63.31**	**19**	LR		LR		07 27 20.8	
	comp=Z,51nm,20.9s,baz=227,slow=36								
ATAH	**Atahualpa**	**65.04**	**267**	LR		LR		07 26 08.1	
	comp=Z,52nm,20.6s,baz=93,slow=34								
AKASG	**Malin Array Be**	**70.79**	**27**	P		P		07 01 06.6	+0.4
	0.3nm,0.4s,baz=224,slow=7.0,SNR=4.0								
AKASG				LR		LR		07 35 21.0	
	comp=Z,28nm,18.1s,baz=225,slow=39								
FINES	**FINESS Array B**	**77.70**	**18**	LR		LR		07 37 49.8	
	comp=Z,28nm,18.6s,baz=78,slow=37								
APG	**El Apazote**	**81.16**	**287**	LR		LR		07 37 49.5	
	comp=Z,26nm,19.7s,baz=300,slow=36								
AKTO	**Aktyubinsk**	**85.86**	**37**	LR		LR		07 47 43.0	
	comp=Z,9.8nm,18.2s,baz=238,slow=40								
ULM	**Lac du Bonnet**	**93.60**	**320**	LR		LR		07 39 19.9	
	comp=Z,45nm,18.5s,baz=294,slow=32								
TXAR	**Lajitas Array**	**95.92**	**299**	LR		LR		07 45 09.4	
	comp=Z,7.5nm,19.6s,baz=0.0,slow=35								

*ISCJB **27** 07:07:03.1±0.5, 17°.06N±0°.04×120°.47E±0°.06, h108km±5km, mb3.5/8, Error ellipse: s-maj=10.5km s-min=7.0km az=17.3*
*MAN **27** 07:07:03, 17°.05N×120°.45E, h92km, mb4.9, ML3.8, MS3.8*
*IDC **27** 07:07:11.7±2.4, 16°.69N×120°.51E, h195km±22km, mb3.1/9, mb1 3.3/9, mb1mx3.1/67, mbtmpg3.7/9, Error ellipse: s-maj=41.7km s-min=13.3km az=58.0*
ISC 27 07:07:03.2±0.8, 17°.04N±0°.05×120°.49E±0°.07, h109km±7km, n19, σ1°65/23, mb3.6/8, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ABRA	**Dolores**	**0.65**	**19**	*eP*		**Pn**		**07 07 20.8**	**-0.2**
ABRA				*eS*		**Sn**		**07 07 34.2**	**-0.2**
BOLP	**Bolinao**	**0.85**	**220**	*eP*		**Pn**		**07 07 23.1**	**+0.2**
BOLP				*eS*		**Sn**		**07 07 37.9**	**+0.3**
APYP	**Conner**	**1.09**	**41**	*eP*		**Pn**		**07 07 25.4**	**+0.1**
APYP				*eS*		**Sn**		**07 07 41.7**	**-0.3**
CAUP	**Cauayan**	**1.28**	**94**	*eP*		**Pn**		**07 07 28.2**	**+0.8**
CAUP				*eS*		**Sn**		**07 07 48.3**	**+2.6**
SCZP	**Santa Cruz**	**1.37**	**204**	*eP*		**Pn**		**07 07 27.8**	**-0.6**
CVP	**Callao Caves**	**1.44**	**62**	*eP*		**Pn**		**07 07 29.1**	**-0.1**
PCPH	**Palayan**	**1.58**	**158**	*eP*		**Pn**		**07 07 30.8**	**-0.1**
PCPH				*eS*		**Sn**		**07 07 49.9**	**-2.0**
BALP	**Baler**	**1.66**	**141**	*eP*		**Pn**		**07 07 32.0**	**+0.2**
BALP				*eS*		**Sn**		**07 07 54.5**	**+0.8**
TGY	**Tagaytay City**	**2.95**	**171**	P		Pn		07 07 56.6	+8.0
	56nm,0.3s,baz=38,slow=12,SNR=5.3								
TGY				S		**Sn**		**07 08 27.4**	**+3.9**
	78nm,0.3s,baz=319,slow=19,SNR=3.9								
LUBP	**Lubang**	**3.29**	**184**	*eP*		**Pn**		**07 07 54.7**	**+1.6**
CMAR	**Chiang Mai Arr**	**20.57**	**277**	P		Pn		07 11 37.2	+0.5
	1.1nm,0.4s,baz=80,slow=11,SNR=4.7								
WRA	**Warramunga Arr**	**39.18**	**159**	P		P		07 14 17.6	-3.2
	0.4nm,0.5s,baz=340,slow=9.2,SNR=6.3								
ASAR	**Alice Springs**	**42.52**	**162**	P		**P**		**07 14 45.4**	**-2.8**
	0.6nm,0.4s,baz=338,slow=7.1,SNR=8.9								
MKAR	**Makanchi Array**	**43.27**	**322**	P		**P**		**07 14 56.0**	**+2.0**
	0.4nm,0.8s,baz=128,slow=9.3,SNR=4.2								
KURBB	**Kurchatov Arra**	**47.34**	**325**	P		**P**		**07 15 27.5**	**+1.4**
	1.1nm,0.8s,baz=120,slow=7.9,SNR=7.3								
STKA	**Stephens Creek**	**52.68**	**157**	P		**P**		**07 16 04.0**	**-2.6**
	1.0nm,0.5s,baz=341,slow=9.5,SNR=2.9								
FINES	**FINESS Array B**	**77.29**	**331**	P		**P**		**07 18 46.3**	**+0.8**
	1.5nm,1.0s,baz=64,slow=3.2,SNR=2.7								
AKASG	**Malin Array Be**	**77.80**	**319**	P		**P**		**07 18 48.5**	**0.0**
	0.2nm,0.3s,baz=59,slow=3.6,SNR=3.5								
YKA	**Yellowknife Ar**	**89.79**	**22**	P		**P**		**07 19 49.9**	**+0.6**
	0.1nm,0.8s,baz=316,slow=3.5,SNR=3.5								

*CSEM **27** 07:13:25.9, 39°.07N×29°.13E, h7km, ML2.0*
DDA 27 07:13:25.9, 39°.07N×29°.13E, h7km, Ml2.0, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GDZ	**Gediz**	**0.27**	**86**	*i* P		Pg		07 13 31.3	-0.1
GDZ				*i* S		Sg		07 13 35.8	+0.8
GDZ	**Gediz**	**0.27**	**86**	P		Pg		07 13 31.3	-0.1
GDZ				S		Sg		07 13 35.8	+0.7
DEMI	**Demirci**	**0.32**	**265**	*i* P		Pg		07 13 32.7	+0.4
DEMI				*i* S		Sg		07 13 37.1	+0.5
DEMI	**Demirci**	**0.32**	**265**	P		Pg		07 13 32.7	+0.4
DEMI				S		Sg		07 13 37.1	+0.5
MANT	**Manisa**	**0.73**	**218**	*i* P		Pb		07 13 40.9	-0.2
MANT				*i* S		Sg		07 13 50.3	+0.7
MANT	**Manisa**	**0.73**	**218**	P		Pb		07 13 40.9	-0.2
MANT				S		Sg		07 13 50.3	+0.8
DURS	**Dursunbey**	**0.73**	**316**	*i* P		Pb		07 13 40.7	-0.4
DURS	**Dursunbey**	**0.73**	**316**	P		Pb		07 13 40.7	-0.4
KHAL	**Karahalli**	**0.75**	**158**	*i* P		Pb		07 13 42.1	+0.6
KHAL				*i* S		Sb		07 13 51.8	-0.2
KHAL	**Karahalli**	**0.75**	**158**	P		Pb		07 13 42.1	+0.7
KHAL				S		Sb		07 13 51.8	-0.2

*DDA **27** 07:14:04.4, 39°.10N×29°.13E, h7km, Ml2.5*
*CSEM **27** 07:14:04.3±0.1, 39°.13N×29°.16E, h8km, ML2.2, Error ellipse: s-maj=3.8km s-min=3.0km az=113.0*
ISK 27 07:14:04.1, 39°.16N×29°.12E, h8km, ML2.2/8, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SIMA	**Simav-Kutahya**	**0.13**	**235**	PG		Pg		07 14 08.1	+1.2
SIMA				SG		Sg		07 14 09.6	+0.8
SIMA	**Simav-Kutahya**	**0.13**	**235**	*ePg*		Pg		07 14 08.1	+1.2
SIMA				*eSg*		Sg		07 14 09.6	+0.8
GDZ	**Gediz**	**0.29**	**103**	*i* P		Pg		07 14 08.9	-1.0
GDZ				*i* S		Sg		07 14 14.0	+0.1
GDZ	**Gediz**	**0.29**	**103**	P		Pg		07 14 08.9	-1.0
GDZ				S		Sg		07 14 14.0	+0.2
DEMI	**Demirci**	**0.33**	**250**	*i* P		Pg		07 14 11.4	+0.8
DEMI				*i* S		Sg		07 14 15.9	+0.9
DEMI	**Demirci**	**0.33**	**250**	P		Pg		07 14 11.4	+0.8
DEMI				S		Sg		07 14 15.9	+0.9
TVSB	**Tavsanli**	**0.40**	**42**	PG		Pg		07 14 12.4	+0.5
TVSB	**Tavsanli**	**0.40**	**42**	*ePg*		Pg		07 14 12.4	+0.5
DURS	**Dursunbey**	**0.67**	**312**	*i* P		Pn		07 14 19.2	-0.8
DURS				*i* S		Sb		07 14 27.3	-0.3
DURS	**Dursunbey**	**0.67**	**312**	P		Pn		07 14 19.2	-0.8
DURS				S		Sb		07 14 27.3	-0.3
KULA	**Kula-Manisa**	**0.73**	**209**	PG		Pg		07 14 18.5	+0.3
KULA	**Kula-Manisa**	**0.73**	**209**	*ePg*		Pg		07 14 18.5	+0.3
MANT	**Manisa**	**0.79**	**213**	*i* P		Pg		07 14 19.5	+0.1
MANT				*i* S		Sg		07 14 29.1	-0.7
MANT	**Manisa**	**0.79**	**213**	P		Pg		07 14 19.5	+0.1
MANT				S		Sg		07 14 29.1	-0.6
KHAL	**Karahalli**	**0.84**	**159**	*i* P		Pb		07 14 20.8	-0.3
KHAL				*i* S		Sg		07 14 30.8	-0.3
KHAL	**Karahalli**	**0.84**	**159**	P		Pb		07 14 20.8	-0.2
KHAL				S		Sg		07 14 30.8	-0.3
IGD	**Bursa**	**1.11**	**3**	*i* P		Pn		07 14 27.8	+1.8
IGD				*i* S		Sn		07 14 43.0	+1.5
CAVI	**Cavuskoy**	**1.19**	**28**	PN		Pn		07 14 27.1	0.0
CAVI	**Cavuskoy**	**1.19**	**28**	*ePn*		Pn		07 14 27.1	0.0
KCTX	**Karacabey (Bur**	**1.25**	**332**	PN		Pg		07 14 28.2	0.0
KCTX	**Karacabey (Bur**	**1.25**	**332**	*ePn*		Pg		07 14 28.2	0.0
ARMT	**Armutlu**	**1.42**	**352**	PN		Pb		07 14 30.8	-0.1
ARMT	**Armutlu**	**1.42**	**352**	*ePn*		Pb		07 14 30.8	-0.1
YLV	**Yalova**	**1.42**	**8**	PN		Pg		07 14 31.3	-0.1
YLV	**Yalova**	**1.42**	**8**	*ePn*		Pg		07 14 31.3	-0.1
AYDB	**Zeytinkoy-Aydi**	**1.54**	**219**	PN		Pn		07 14 32.5	+0.4
AYDB	**Zeytinkoy-Aydi**	**1.54**	**219**	*ePn*		Pn		07 14 32.5	+0.4

*ISCJB **27** 07:22:31.0±1.3, 10°.2S±0°.1×76°.0W±0°.1, h100km, mb3.6/3, Error ellipse: s-maj=27.5km s-min=8.8km az=42.9*
*IDC **27** 07:22:33.0±2.4, 10°.30S×76°.19W, h128km±17km, mb3.4/3, mb1 3.5/9, mb1mx3.3/43, mbtmpg3.9/9, Error ellipse: s-maj=39.8km s-min=14.7km az=39.0*
ISC 27 07:22:31.2±1.3, 10°3S±0°.2×76°.1W±0°.2, h100km, n10, σ1°72/11, mb3.4/3, Central Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ATAH	**Atahualpa**	**3.87**	**324**	P		**Pn**		**07 23 30.9**	**+1.8**
	14nm,0.3s,baz=169,slow=5.7,SNR=110								
ATAH				S		**Sn**		**07 24 16.0**	**+2.3**
	5.2nm,0.3s,baz=318,slow=13,SNR=5.1								
LPAZ	**La Paz**	**9.79**	**128**	P		**Pn**		**07 24 51.8**	**+2.1**
	0.1nm,0.3s,baz=293,slow=15,SNR=3.7								
ROSC	**El Rosal**	**15.15**	**7**	P		**Pn**		**07 26 00.6**	**+0.3**
	0.6nm,0.3s,baz=230,slow=17,SNR=2.9								
SIV	**San Ignacio**	**15.70**	**113**	P		**Pn**		**07 26 07.4**	**+0.6**
	0.3nm,0.3s,baz=312,slow=9.6,SNR=8.8								
PTGA	**Pitinga**	**18.66**	**60**	P		**P**		**07 26 41.8**	**+0.3**
	0.4nm,0.3s,baz=285,slow=20,SNR=4.1								
SDV	**Santo Domingo**	**19.83**	**16**	P		**P**		**07 26 54.6**	**+0.2**
	2.2nm,0.3s,baz=173,slow=12,SNR=19								
TXAR	**Lajitas Array**	**47.53**	**327**	P		**P**		**07 30 55.9**	**-0.8**
	0.3nm,0.5s,baz=156,slow=9.1,SNR=11								
ULM	**Lac du Bonnet**	**62.72**	**346**	P		**P**		**07 32 43.0**	**-2.4**
	3.2nm,0.8s,baz=150,slow=7.4,SNR=4.9								
YKA	**Yellowknife Ar**	**78.45**	**343**	P		**P**		**07 34 18.9**	**-1.8**
	0.2nm,0.6s,baz=142,slow=6.1,SNR=8.0								
TORD	**Torodi Ar. Bea**	**80.66**	**75**	P		**P**		**07 34 33.3**	**-0.5**
	170nm,0.8s,baz=260,slow=5.2,SNR=614								

IDC 27 07:33:26.7±2.3, 6°.68S×128°.94E, h0km, mb3.5/1, mb1 3.7/3, mb1mx3.4/46, mbtmpg3.5/3, ML3.5/2, Error ellipse: s-maj=152.5km s-min=32.5km az=67.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.19**	**159**	Pn		Pn		07 36 48.5	-0.6
	0.2nm,0.3s,baz=341,slow=13,SNR=6.8								
WRA				Sn		Sn		07 39 14.9	-12
	0.5nm,0.3s,baz=342,slow=21,SNR=10.0								
ASAR	**Alice

SIMA	**Simav-Kutahya**	**0.11**	**294**	PG	**Pg**	**07 39 58.8**	**+0.4**
SIMA				SG	**Sg**	**07 40 01.0**	**+0.4**
SIMA	**Simav-Kutahya**	**0.11**	**294**	*e*Pg	**Pg**	**07 39 58.8**	**+0.4**
SIMA				*e*Sg	**Sg**	**07 40 01.0**	**+0.4**
GDZ	**Gediz**	**0.30**	**81**	*i* P	Pg	07 39 57.5	-3.9
GDZ				*i* S	**Sg**	**07 40 01.7**	**-3.9**
DEMI	**Demirci**	**0.30**	**271**	*i* P	**Pg**	**07 39 58.9**	**-2.5**
DEMI				*i* S	**Sg**	**07 40 03.2**	**-2.5**
DEMI	**Demirci**	**0.30**	**271**	P	**Pg**	**07 39 58.9**	**-2.5**
DEMI				S	**Sg**	**07 40 03.2**	**-2.5**
TVSB	**Tavsanli**	**0.49**	**34**	PG	**Pg**	**07 40 06.0**	**+1.1**
TVSB	**Tavsanli**	**0.49**	**34**	*e*Pg	**Pg**	**07 40 06.0**	**+1.1**
KULA	**Kula-Manisa**	**0.63**	**214**	PG	**Pg**	**07 40 10.0**	**+2.6**
KULA	**Kula-Manisa**	**0.63**	**214**	*e*Pg	**Pg**	**07 40 10.0**	**+2.6**
MANT	**Manisa**	**0.70**	**218**	*i* P	**Pg**	**07 40 07.0**	**-1.7**
MANT				*i* S	Sg	07 40 11.3	-6.6
MANT	**Manisa**	**0.70**	**218**	P	**Pg**	**07 40 07.0**	**-1.7**
KHAL	**Karahalli**	**0.73**	**156**	*i* P	**Pg**	**07 40 08.0**	**-1.4**
KHAL				*i* S	**Sg**	**07 40 14.2**	**-4.8**
KHAL	**Karahalli**	**0.73**	**156**	P	**Pg**	**07 40 08.0**	**-1.4**
DURS	**Dursunbey**	**0.74**	**319**	*i* P	**Pg**	**07 40 06.9**	**-2.7**
DURS				*i* S	**Sb**	**07 40 19.9**	**0.0**
DURS	**Dursunbey**	**0.74**	**319**	P	**Pg**	**07 40 06.9**	**-2.7**
DURS				S	**Sb**	**07 40 19.9**	**0.0**
ORLT	**Orhaneli**	**1.02**	**351**	PG	**Pb**	**07 40 14.9**	**+0.4**
ORLT	**Orhaneli**	**1.02**	**351**	*e*Pg	**Pb**	**07 40 14.9**	**+0.4**
AKS	**Akhisar**	**1.02**	**261**	PG	**Pb**	**07 40 16.3**	**+1.7**
AKS	**Akhisar**	**1.02**	**261**	*e*Pg	**Pb**	**07 40 16.3**	**+1.7**
BALB	**Balikesir**	**1.12**	**303**	PG	**Pn**	**07 40 17.5**	**+1.1**
BALB	**Balikesir**	**1.12**	**303**	*e*Pg	**Pn**	**07 40 17.5**	**+1.1**
CAVI	**Cavuskoy**	**1.29**	**26**	PN	**Pg**	**07 40 20.7**	**+0.8**
CAVI	**Cavuskoy**	**1.29**	**26**	*e*Pn	**Pg**	**07 40 20.7**	**+0.8**
BORA	**Eskisehir**	**1.34**	**51**	P	Pn	07 40 14.6	-4.8
MDNY	**Mudanya-Bursa**	**1.34**	**353**	PN	**Pg**	**07 40 20.9**	**+0.1**
MDNY	**Mudanya-Bursa**	**1.34**	**353**	*e*Pn	**Pg**	**07 40 20.9**	**+0.1**
KCTX	**Karacabey (Bur**	**1.35**	**335**	PN	**Pg**	**07 40 21.3**	**+0.2**
KCTX	**Karacabey (Bur**	**1.35**	**335**	*e*Pn	**Pg**	**07 40 21.3**	**+0.2**
GEMT	**Gemlik**	**1.39**	**3**	PN	**Pg**	**07 40 22.3**	**+0.4**
GEMT	**Gemlik**	**1.39**	**3**	*e*Pn	**Pg**	**07 40 22.3**	**+0.4**
AYDB	**Zeytinkoy-Aydi**	**1.45**	**222**	PN	**Pb**	**07 40 24.7**	**+2.8**
AYDB	**Zeytinkoy-Aydi**	**1.45**	**222**	*e*Pn	**Pb**	**07 40 24.7**	**+2.8**
ADVT	**Abdulvahap**	**1.47**	**19**	PN	**Pg**	**07 40 23.5**	**+0.1**
ADVT	**Abdulvahap**	**1.47**	**19**	*e*Pn	**Pg**	**07 40 23.5**	**+0.1**
GONE	**Gonen-Balikesi**	**1.49**	**313**	PN	**Pg**	**07 40 23.5**	**-0.2**
GONE	**Gonen-Balikesi**	**1.49**	**313**	*e*Pn	**Pg**	**07 40 23.5**	**-0.2**
ARMT	**Armutlu**	**1.54**	**353**	PN	**Pg**	**07 40 24.3**	**-0.3**
ARMT	**Armutlu**	**1.54**	**353**	*e*Pn	**Pg**	**07 40 24.3**	**-0.3**
YLV	**Yalova**	**1.54**	**8**	PN	**Pb**	**07 40 24.3**	**+0.9**
YLV	**Yalova**	**1.54**	**8**	*e*Pn	**Pb**	**07 40 24.3**	**+0.9**
EDC	**Edincik**	**1.62**	**324**	PN	**Pg**	**07 40 25.9**	**-0.3**
EDC	**Edincik**	**1.62**	**324**	*e*Pn	**Pg**	**07 40 25.9**	**-0.3**
GULT	**Gulveren**	**1.76**	**38**	PN	**Pb**	**07 40 28.1**	**+0.8**
GULT	**Gulveren**	**1.76**	**38**	*e*Pn	**Pb**	**07 40 28.1**	**+0.8**
BUY	**Buyukada**	**1.81**	**0**	PN	**Pb**	**07 40 27.9**	**-0.1**
BUY	**Buyukada**	**1.81**	**0**	*e*Pn	**Pb**	**07 40 27.9**	**-0.1**
HRT	**Hereke**	**1.83**	**13**	PN	**Pb**	**07 40 28.5**	**+0.1**
HRT	**Hereke**	**1.83**	**13**	*e*Pn	**Pb**	**07 40 28.5**	**+0.1**

*ISCJB **27** 07:42:38.5±0.5,57.4°42N±0.04°×21.3°32E±0.05,h0km, Error ellipse: s-maj=5.8km s-min=3.0km az=158.0*
*HEL **27** 07:42:39.5±0.2,57.3°34N×21.5°35E, h0km, ML2.2, ML2.6(UPP), Explosion*
*CSEM **27** 07:42:39.0±0.2,57.3°33N×21.5°35E, h1km, ML2.0, Error ellipse: s-maj=4.8km s-min=2.6km az=152.0, Mining explosion.*
*IDC **27** 07:42:40.8±2.4,57.4°49N×21.6°37E, h0km, mb1 3.3/4, mb1mx3.0/62, mbtmp3.2/4, ML2.8/4, Error ellipse: s-maj=23.9km s-min=10.0km az=169.0*
*BER **27** 07:42:41.0±4.9,57.4°43N×21.3°39E, h0km, ML2.2(NAO), Suspected explosion*
*UPP **27** 07:42:41.7±1.0,57.5°45N×21.1°05E, h0km, ML2.6*
*NAO **27** 07:42:42.2±1.8,57.6°65N×21.4°43E, ML2.2*
ISC 27 07:42:38.2±0.9,**57.34N**±0.04°×**21.33E**±0.02°,**h0**km,**n76,** σ1.9**28**/116,**Baltic States-Belarus-Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLIT	**Slitere, Latvi**	**0.59**	**61**	*e*P	**Pg**	**07 42 50.4**	**+0.8**
	SNR=90						
SLIT				*e*S	**Sg**	**07 42 59.2**	**+1.9**
	325nm,0.6s,SNR=90						
PBUR	**Paburg** SNR=90	**1.36**	**166**	*e*P	**Pn**	**07 43 03.5**	**-0.9**
GOTU	**Gotland**	**1.53**	**284**	P	**Pn**	**07 43 06.3**	**-0.3**
GOTU				S	**Sg**	**07 43 27.4**	**+0.2**
GOTU	**Gotland**	**1.53**	**284**	P	**Pn**	**07 43 06.3**	**-0.3**
GOTU				*S*	**Sg**	**07 43 27.4**	**+0.2**
GOTU	**Gotland**	**1.53**	**284**	*e*P	**Pn**	**07 43 06.3**	**-0.3**
GOTU				*e*S	**Sg**	**07 43 27.4**	**+0.2**
MTSE	**Matsula**	**1.91**	**43**	*e*P	**Pn**	**07 43 13.0**	**+1.1**
MTSE				*e*S	**Sb**	**07 43 38.3**	**+0.1**
	SNR=68						
MTSE	**Matsula**	**1.91**	**43**	*e*P	**Pn**	**07 43 13.0**	**+1.1**
MTSE				*e*S	**Sb**	**07 43 38.7**	**+0.6**
BYXU	**Byxelkrok**	**2.34**	**271**	P	**Pn**	**07 43 19.6**	**+1.7**
BYXU				S	**Sn**	**07 43 48.9**	**+1.6**
BYXU	**Byxelkrok**	**2.34**	**271**	P	**Pn**	**07 43 19.6**	**+1.7**
BYXU				*S*	**Sn**	**07 43 48.9**	**+1.6**
BYXU	**Byxelkrok**	**2.34**	**271**	*e*P	**Pn**	**07 43 19.6**	**+1.7**
BYXU				*e*S	**Sn**	**07 43 48.9**	**+1.6**
NYNU	**Nynaeshamn**	**2.42**	**315**	P	**Pn**	**07 43 20.3**	**+1.3**
NYNU	**Nynaeshamn**	**2.42**	**315**	P	**Pn**	**07 43 20.3**	**+1.3**
NYNU	**Nynaeshamn**	**2.42**	**315**	*e*P	**Pn**	**07 43 20.3**	**+1.3**
ASPU	**Aespoe**	**2.56**	**274**	P	**Pn**	**07 43 22.5**	**+1.6**
ASPU	**Aespoe**	**2.56**	**274**	P	**Pn**	**07 43 22.5**	**+1.6**
ASPU	**Aespoe**	**2.56**	**274**	*e*P	**Pn**	**07 43 22.5**	**+1.6**
VSTU	**Vaestervik**	**2.60**	**279**	P	**Pn**	**07 43 23.2**	**+1.7**
VSTU	**Vaestervik**	**2.60**	**279**	P	**Pn**	**07 43 23.2**	**+1.7**
VSTU	**Vaestervik**	**2.60**	**279**	*e*P	**Pn**	**07 43 23.2**	**+1.7**
VIKU	**Vikbolandet**	**2.73**	**297**	P	**Pn**	**07 43 24.5**	**+1.3**
VIKU	**Vikbolandet**	**2.73**	**297**	P	**Pn**	**07 43 24.5**	**+1.3**
VIKU	**Vikbolandet**	**2.73**	**297**	*e*P	**Pn**	**07 43 24.5**	**+1.3**
NRTU	**Norrtaelje**	**2.73**	**330**	P	**Pn**	**07 43 24.6**	**+1.4**
NRTU	**Norrtaelje**	**2.73**	**330**	P	**Pn**	**07 43 24.6**	**+1.4**
NRTU	**Norrtaelje**	**2.73**	**330**	*e*P	**Pn**	**07 43 24.6**	**+1.4**
OSKU	**Oskarshamn**	**2.84**	**269**	P	**Pn**	**07 43 26.3**	**+1.6**
OSKU	**Oskarshamn**	**2.84**	**269**	P	**Pn**	**07 43 26.3**	**+1.6**
OSKU	**Oskarshamn**	**2.84**	**269**	*e*P	**Pn**	**07 43 26.3**	**+1.6**
AAL	**Aland**	**2.93**	**347**	*e*P	**Pn**	**07 43 26.6**	**+0.7**
AAL				*e*S	**Sn**	**07 44 02.3**	**+0.6**
AAL	**Aland**	**2.93**	**347**	*e*P	**Pn**	**07 43 26.6**	**+0.7**
AAL				*e*S	**Sn**	**07 44 02.3**	**+0.6**
VSU	**Vasula**	**3.10**	**66**	Pn	**Pn**	**07 43 28.9**	**+0.7**
VSU				Pg	**Pb**	**07 43 33.2**	**-0.9**
VSU				Sn	**Sn**	**07 44 06.6**	**+0.7**
VSU				Lg	Lg	07 44 14.8	
VSU	**Vasula**	**3.10**	**66**	*e*P	**Pn**	**07 43 28.9**	**+0.7**
	SNR=46						
VSU				Sn	**Sn**	**07 44 06.6**	**+0.7**
VSU				Lg	Lg	07 44 14.8	
VSU	**Vasula**	**3.10**	**66**	Pn	**Pn**	**07 43 28.9**	**+0.7**
VSU				Pg	**Pb**	**07 43 33.2**	**-0.9**
VSU				Sn	**Sn**	**07 44 06.6**	**+0.7**
VSU				Lg	Lg	07 44 14.8	
ESKU	**Eskilstuna**	**3.22**	**308**	P	**Pn**	**07 43 31.5**	**+1.5**
ESKU	**Eskilstuna**	**3.22**	**308**	P	**Pn**	**07 43 31.5**	**+1.5**
ESKU	**Eskilstuna**	**3.22**	**308**	*e*P	**Pn**	**07 43 31.5**	**+1.5**
LNKU	**Linkoeping**	**3.24**	**288**	P	**Pn**	**07 43 31.9**	**+1.7**
LNKU	**Linkoeping**	**3.24**	**288**	P	**Pn**	**07 43 31.9**	**+1.7**
LNKU	**Linkoeping**	**3.24**	**288**	*e*P	**Pn**	**07 43 31.9**	**+1.7**
EKSU	**Eksjoe**	**3.26**	**277**	P	**Pn**	**07 43 31.9**	**+1.3**
EKSU	**Eksjoe**	**3.26**	**277**	P	**Pn**	**07 43 31.9**	**+1.3**
EKSU	**Eksjoe**	**3.26**	**277**	*e*P	**Pn**	**07 43 31.9**	**+1.3**
MEF	**Metsahovi**	**3.30**	**28**	*e*P	**Pn**	**07 43 33.0**	**+2.0**
MEF				*e*S	**Sn**	**07 44 11.3**	**+0.5**
MEF	**Metsahovi**	**3.30**	**28**	*e*P	**Pn**	**07 43 33.0**	**+2.0**
MEF				*e*S	**Sn**	**07 44 11.3**	**+0.5**
MEF				MSG		07 44 29.9	
	comp=Z,5.4nm,0.1s						
GRAU	**Graesoe**	**3.33**	**335**	P	**Pn**	**07 43 32.0**	**+0.5**
GRAU	**Graesoe**	**3.33**	**335**	P	**Pn**	**07 43 32.0**	**+0.5**
GRAU	**Graesoe**	**3.33**	**335**	*e*P	**Pn**	**07 43 32.0**	**+0.5**
RAF	**Rauma**	**3.70**	**3**	*e*P	**Pn**	**07 43 37.5**	**+1.0**
RAF				*e*S	**Sn**	**07 44 21.5**	**+0.8**
	comp=Z,5.8nm,0.5s,SNR=46						
RAF	**Rauma**	**3.70**	**3**	*e*P	**Pn**	**07 43 37.5**	**+1.0**
RAF				*e*S	**Sn**	**07 44 21.2**	**+0.5**
RAF				MSG		07 44 38.3	
	comp=Z,4.8nm,0.2s						
PVF	**Pernaja**	**3.98**	**34**	*e*P	**Pn**	**07 43 42.1**	**+1.7**
PVF				*e*S	**Sn**	**07 44 27.9**	**+0.2**
PVF	**Pernaja**	**3.98**	**34**	*e*P	**Pn**	**07 43 42.1**	**+1.7**
PVF				*e*S	**Sn**	**07 44 27.9**	**+0.2**
BSD	**Bornholm Skovb**	**4.22**	**241**	*i* P	**Pn**	**07 43 43.6**	**0.0**
BSD				*e*S	**Sn**	**07 44 33.1**	**-0.5**
BSD	**Bornholm Skovb**	**4.22**	**241**	*e*P	**Pn**	**07 43 43.7**	**+0.1**
	SNR=46						
BSD				*e*S	**Sn**	**07 44 33.0**	**-0.5**
	comp=Z,0.5nm,0.7s,SNR=46						
FIA0	**FINESS Array S**	**4.78**	**29**	Pn	**Pn**	**07 43 52.2**	**+0.9**
	baz=213,slow=12						
FIA0				Pg	**Pb**	**07 44 00.9**	**-1.8**
	baz=209,slow=12						
FIA0				Sn	**Sn**	**07 44 46.0**	**-1.3**
	baz=208,slow=22						
FIA0				Lg	Lg	07 45 03.5	
	baz=207,slow=37						
FIA0	**FINESS Array S**	**4.78**	**29**	Pn	**Pn**	**07 43 52.2**	**+0.9**
	baz=213,slow=11,SNR=1.5						
FIA0				Sn	**Sn**	**07 44 46.0**	**-1.3**
	baz=208,slow=21						
FIA0				Lg	Lg	07 45 03.5	
	SNR=7.6						
FIA0	**FINESS Array S**	**4.78**	**29**	*e*P	**Pn**	**07 43 52.0**	**+0.7**
FIA0				*e*S	**Sn**	**07 44 46.6**	**-0.7**
FIA0	**FINESS Array S**	**4.78**	**29**	Pn	**Pn**	**07 43 52.2**	**+0.9**
	baz=213,slow=12						
FIA0				Pg	**Pb**	**07 44 00.9**	**-1.8**
	baz=209,slow=12						
FIA0				Sn	**Sn**	**07 44 46.0**	**-1.3**
	baz=208,slow=22						
FIA0				Lg	Lg	07 45 03.5	
	baz=207,slow=37						
FINES	**FINESS Array B**	**4.78**	**29**	Pn	**Pn**	**07 43 52.5**	**+1.2**
	comp=Z,0.4nm,0.3s,baz=215,slow=11,SNR=44						
FINES				Sn	**Sn**	**07 44 47.0**	**-0.3**
	comp=Z,0.7nm,0.3s,baz=212,slow=21,SNR=5.3						
FINES				Lg	Lg	07 45 06.5	
	comp=Z,1.7nm,0.3s,baz=214,slow=28,SNR=9.2						
FIA1	**FINESS Array S**	**4.78**	**29**	*e*P	**Pn**	**07 43 52.0**	**+0.7**
FIA1				*e*S	**Sn**	**07 44 46.6**	**-0.7**
HFS	**Hagfors**	**4.86**	**308**	Pn	**Pn**	**07 43 53.5**	**+1.0**
	baz=128,slow=16						
HFS				Lg	Lg	07 45 08.8	
	baz=126,slow=22						
HFS	**Hagfors**	**4.86**	**308**	Pn	**Pn**	**07 43 53.0**	**+0.6**
	comp=Z,0.5nm,0.3s,baz=126,slow=14,SNR=21						
HFS				Sn	**Sn**	**07 44 48.3**	**-1.1**
	comp=Z,0.3nm,0.3s,baz=113,slow=28,SNR=3.4						
HFS				Lg	Lg	07 45 10.7	
	comp=Z,1.6nm,0.3s,baz=119,slow=30,SNR=7.7						
HFS	**Hagfors**	**4.86**	**308**	Pn	**Pn**	**07 43 53.5**	**+1.0**
	baz=128,slow=16						
HFS				Lg	Lg	07 45 08.8	
	baz=126,slow=22						
KEF	**Keuruu**	**5.16**	**19**	*e*P	**Pn**	**07 43 58.3**	**+1.7**
KEF				*e*S	**Sn**	**07 44 56.2**	**-0.6**
KEF	**Keuruu**	**5.16**	**19**	*e*P	**Pn**	**07 43 58.3**	**+1.7**
KEF				*e*S	**Sn**	**07 44 56.1**	**-0.6**
KAF	**Kangasniemi**	**5.41**	**26**	*e*P	**Pn**	**07 44 00.8**	**+0.8**
KAF				*e*S	**Sn**	**07 45 01.7**	**-1.1**
VAF	**Ylistaro**	**5.76**	**6**	*e*P	**Pn**	**07 44 05.8**	**+1.1**
VAF				*e*S	**Sn**	**07 45 09.4**	**-2.0**
VAF	**Ylistaro**	**5.76**	**6**	*e*P	**Pn**	**07 44 05.8**	**+1.1**
VAF				*e*S	**Sn**	**07 45 09.4**	**-2.0**
NRA0	**NORESS Array S**	**6.09**	**308**	Pn	**Pn**	**07 44 07.9**	**-1.4**
	baz=114,slow=11						
NRA0				Sn	**Sn**	**07 45 21.3**	**+1.7**
	baz=108,slow=28						
NRA0	**NORESS Array S**	**6.09**	**308**	Pn	**Pn**	**07 44 07.9**	**-1.4**
	baz=114,slow=11						
NRA0				Sn	**Sn**	**07 45 21.3**	**+1.7**
	baz=108,slow=28						
NB2	**NORSAR Subarra**	**6.38**	**310**	Pn	**Pn**	**07 44 13.0**	**-0.4**
	baz=125,slow=14						
NB2	**NORSAR Subarra**	**6.38**	**310**	Pn	**Pn**	**07 44 13.0**	**-0.4**
	baz=125,slow=13,SNR=1.6						
NB2	**NORSAR Subarra**	**6.38**	**310**	Pn	**Pn**	**07 44 13.0**	**-0.4**
	baz=125,slow=14						
NOA	**NORSAR Array B**	**6.38**	**310**	Pn	**Pn**	**07 44 12.7**	**-0.7**
	comp=Z,0.3nm,0.3s,baz=132,slow=11,SNR=7.0						
NOA				Lg	Lg	07 45 58.6	
	comp=Z,0.7nm,0.3s,baz=123,slow=19,SNR=4.2						
ARA0	**ARCESS Array S**	**12.38**	**7**	Pn	**Pn**	**07 45 32.4**	**-3.0**
	baz=184,slow=14						
ARA0	**ARCESS Array S**	**12.38**	**7**	Pn	**Pn**	**07 45 32.4**	**-3.0**
	baz=184,slow=14						
ARCES	**ARCESS Array B**	**12.38**	**7**	Pn	**Pn**	**07 45 32.5**	**-2.9**
	comp=Z,0.2nm,0.3s,baz=192,slow=13,SNR=5.7						

*CSEM **27** 07:48:59.7±0.1,39.1°13N×29.1°13E, h2km, ML2.4, Error ellipse: s-maj=3.1km s-min=2.9km az=107.0*
*DDA **27** 07:48:59.5,39.1°10N×29.1°16E, h7km, ML2.6*
*ISK **27** 07:48:59.5,39.1°15N×29.1°11E, h4km, ML2.4/13*
ISC 27 07:48:59.8±0.9,**39.14N**±0.02°×**29.14E**±0.02°,**h7**km±8km, **n47,** σ0.**962**/65,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIMA	**Simav-Kutahya**	**0.14**	**247**	PG	**Pg**	**07 49 02.9**	**+0.2**
SIMA				SG	**Sg**	**07 49 05.1**	**+0.4**
SIMA	**Simav-Kutahya**	**0.14**	**247**	*e*Pg	**Pg**	**07 49 02.9**	**+0.2**
SIMA				*e*Sg	**Sg**	**07 49 05.1**	**+0.4**
GDZ	**Gediz**	**0.27**	**100**	*i* P	**Pg**	**07 49 04.4**	**-0.7**
GDZ				*i* S	**Sg**	**07 49 08.4**	**-0.3**
GDZ	**Gediz**	**0.27**	**100**	P	**Pg**	**07 49 04.4**	**-0.7**
GDZ				S	**Sg**	**07 49 08.4**	**-0.3**
DEMI	**Demirci**	**0.34**	**255**	*i* P	**Pg**	**07 49 06.6**	**0.0**
DEMI				*i* S	**Sg**	**07 49 11.5**	**+0.4**
DEMI	**Demirci**	**0.34**	**255**	P	**Pg**	**07 49 06.6**	**0.0**
DEMI				S	**Sg**	**07 49 11.5**	**+0.4**
TVSB	**Tavsanli**	**0.40**	**38**	PG	**Pg**	**07 49 07.1**	**-0.5**
TVSB	**Tavsanli**	**0.40**	**38**	*e*Pg	**Pg**	**07 49 07.1**	**-0.5**
DURS	**Dursunbey**	**0.70**	**312**	*i* P	**Pb**	**07 49 13.7**	**-0.6**
DURS				*i* S	**Sn**	**07 49 27.9**	**+0.6**
DURS	**Dursunbey**	**0.70**	**312**	P	**Pb**	**07 49 13.7**	**-0.6**
KULA	**Kula-Manisa**	**0.73**	**211**	PG	**Pg**	**07 49 12.9**	**-0.9**
KULA	**Kula-Manisa**	**0.73**	**211**	*e*Pg	**Pg**	**07 49 12.9**	**-0.9**
MANT	**Manisa**	**0.79**	**216**	*i* P	**Pg**	**07 49 14.5**	**-0.5**
MANT				*i* S	**Sg**	**07 49 24.2**	**-1.0**
MANT	**Manisa**	**0.79**	**216**	P	**Pg**	**07 49 14.5**	**-0.5**
MANT				S	**Sg**	**07 49 24.2**	**-1.0**
KHAL	**Karahalli**	**0.81**	**160**	*i* P	**Pg**	**07 49 14.7**	**-0.7**
KHAL				*i* S	**Sg**	**07 49 25.6**	**-0.3**
KHAL	**Karahalli**	**0.81**	**160**	P	**Pg**	**07 49 14.7**	**-0.7**
KHAL				S	**Sg**	**07 49 25.6**	**-0.3**
ORLT	**Orhaneli**	**0.93**	**348**	PG	**Pg**	**07 49 17.5**	**-0.2**
ORLT	**Orhaneli**	**0.93**	**348**	*e*Pg	**Pg**	**07 49 17.5**	**-0.2**
BALB	**Balikesir**	**1.10**	**298**	PN	**Pb**	**07 49 20.7**	**-0.5**
BALB	**Balikesir**	**1.10**	**298**	*e*Pn	**Pb**	**07 49 20.7**	**-0.5**
IGD	**Bursa**	**1.13**	**2**	*i* P	**Pn**	**07 49 21.9**	**-0.1**
IGD				*i* S	**Sn**	**07 49 38.1**	**+0.3**
KZIL	**AFYON_Kizioren**	**1.17**	**138**	*i* P	**Pn**	**07 49 22.8**	**0.0**
KZIL				*i* S	**Sb**	**07 49 38.3**	**+0.4**
KZIL	**AFYON_Kizioren**	**1.17**	**138**	P	**Pn**	**07 49 22.8**	**0.0**
KZIL				S	**Sb**	**07 49 38.3**	**+0.4**
CAVI	**Cavuskoy**	**1.19**	**27**	PN	**Pn**	**07 49 23.5**	**+0.5**
CAVI	**Cavuskoy**	**1.19**	**27**	*e*Pn	**Pn**	**07 49 23.5**	**+0.5**
SHUT	**Suhut-Afyon**	**1.24**	**117**	PN	**Pn**	**07 49 26.1**	**+2.4**
SHUT	**Suhut-Afyon**	**1.24**	**117**	*e*Pn	**Pn**	**07 49 26.1**	**+2.4**
MDNY	**Mudanya-Bursa**	**1.25**	**351**	PN	**Pg**	**07 49 23.5**	**-0.2**
MDNY	**Mudanya-Bursa**	**1.25**	**351**	*e*Pn	**Pg**	**07 49 23.5**	**-0.2**
BORA	**Eskisehir**	**1.26**	**53**	*i* P	**Pn**	**07 49 24.1**	**+0.2**
BORA				*i* S	**Sn**	**07 49 41.2**	**+0.1**
BORA	**Eskisehir**	**1.26**	**53**	P	**Pn**	**07 49 24.1**	**+0.2**
BORA				S	**Sn**	**07 49 41.2**	**+0.1**
KCTX	**Karacabey (Bur**	**1.28**	**332**	PN	**Pn**	**07 49 24.3**	**+0.1**
KCTX	**Karacabey (Bur**	**1.28**	**332**	*e*Pn	**Pn**	**07 49 24.3**	**+0.1**
BALY	**Balya**	**1.32**	**298**	*i* P	**Pb**	**07 49 24.9**	**-0.1**
BALY				*i* S	**Sg**	**07 49 41.8**	**-0.6**
BALY	**Balya**	**1.32**	**298**	P	**Pb**	**07 49 25.0**	**-0.1**
BALY				S	**Sg**	**07 49 41.8**	**-0.6**
YLV	**Yalova**	**1.44**	**7**	PN	**Pg**	**07 49 27.3**	**-0.1**
YLV	**Yalova**	**1.44**	**7**	*e*Pn	**Pg**	**07 49 27.3**	**-0.1**
ARMT	**Armutlu**	**1.45**	**351**	PN	**Pb**	**07 49 26.9**	**-0.2**
ARMT	**Armutlu**	**1.45**	**351**	*e*Pn	**Pb**	**07 49 26.9**	**-0.2**
GONE	**Gonen-Balikesi**	**1.45**	**309**	PN	**Pn**	**07 49 26.4**	**0.0**
GONE	**Gonen-Balikesi**	**1.45**	**309**	*e*Pn	**Pn**	**07 49 26.4**	**0.0**
AYDB	**Zeytinkoy-Aydi**	**1.54**	**220**	PN	**Pg**	**07 49 29.1**	**-0.2**
AYDB	**Zeytinkoy-Aydi**	**1.54**	**220**	*e*Pn	**Pg**	**07 49 29.1**	**-0.2**
EDC	**Edincik**	**1.56**	**321**	PN	**Pb**	**07 49 28.5**	**-0.5**
EDC	**Edincik**	**1.56**	**321**	*e*Pn	**Pb**	**07 49 28.5**	**-0.5**
GULT	**Gulveren**	**1.67**	**39**	PN	**Pb**	**07 49 31.1**	**+0.1**
GULT	**Gulveren**	**1.67**	**39**	*e*Pn	**Pb**	**07 49 31.1**	**+0.1**

*ISCJB **27** 07:49:39.8±0.3,4.°82S±0.05°×145.°16E±0.06, h100km, mb4.2/33, Error ellipse: s-maj=9.3km s-min=6.0km az=22.9*
*IDC **27** 07:49:40.6±3.9,4.°81S×145.°33E, h105km±37km, mb3.6/9, mb1 3.9/11, mb1mx3.6/43, mbtmp4.0/11, MS3.1/4, Ms1 3.1/4, ms1mx2.7/42, Error ellipse: s-maj=24.3km s-min=21.7km az=91.0*
*NEIC **27** 07:49:44.4±0.8,4.°80S×145.°04E, h129km±7km, mb4.3/27, Error ellipse: s-maj=8.9km s-min=5.6km az=127.0*
ISC 27 07:49:41.1±0.6,**4.83S**±0.07°×**145.24E**±0.08,**h100**km,**n55,** σ1.5**57**/53,**mb4.2**/33,**Near north coast of New Guinea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MANU	**Manus Island**	**3.48**	**38**	*e*Pn	Pn	07 50 38.7	+5.4
PMG	**Port Moresby**	**4.93**	**157**	P	**Pn**	**07 50 52.8**	**-0.1**
	23nm,0.3s,baz=315,slow=7.1,SNR=35						
PMG				S	**Sn**	**07 51 46.1**	**-2.7**
	50nm,0.3s,baz=43,slow=19,SNR=14						
PMG				LR	LR	07 52 52.7	
	comp=Z,120nm,19.6s,baz=38,slow=39						
PMG	**Port Moresby**	**4.93**	**157**	*e*Pn	**Pn**	**07 50 52.8**	**-0.1**
PMG				*e*Sn	**Sn**	**07 51 46.7**	**-2.1**
RABL	**Rabaul**	**6.93**	**85**	*e*Pn	Pn	07 51 26.7	+6.6
COEN	**Coen**	**9.30**	**193**	*e*Pn	**Pn**	**07 51 53.5**	**+1.1**
FAKI	**Fak Fak**	**13.10**	**278**	*e*Pn	**Pn**	**07 52 44.2**	**+0.8**
CTAO	**Charters Tower** 13nm,1.0s	**15.20**	**176**	*e*P	**P**	**07 53 13.7**	**+0.5**
MTN	**Manton Dam** 35nm,0.8s	**16.05**	**239**	*e*Pn	**Pn**	**07 53 19.8**	**-1.3**
GUMO	**Guam**	**18.30**	**359**	LR	LR	07 59 06.0	
	comp=Z,32nm,20.2s,baz=74,slow=31						
WRAB	**Tennant Creek** 13nm,1.1s	**18.39**	**214**	*e*P	**P**	**07 53 47.2**	**-1.1**
WB2	**Warramunga Arr** 8.9nm,0.6s	**18.39**	**214**	*e*P	**P**	**07 53 47.6**	**-0.8**
WRA	**Warramunga Arr** 0.9nm,0.3s,baz=34,slow=11,SNR=69	**18.40**	**214**	P	**P**	**07 53 47.4**	**-1.1**
WRA				S	**Sn**	**07 57 19.7**	**+4.2**
	baz=31,slow=17,SNR=5.2						
EIDS	**Eidsvold** 15nm,1.4s	**21.18**	**165**	*e*P	**P**	**07 54 21.9**	**+3.4**
SOEI	**Soe** 118nm,1.0s	**21.37**	**256**	*e*P	**P**	**07 54 20.3**	**-0.5**
AS01	**Alice Springs**	**21.67**	**209**	*e*P	**P**	**07 54

ARS	**Arshan**	**2.88**	**35**	*e*Pn	Pn	07 52 12.8	-0.9
ARS				*e*		07 52 16.5	
ARS				*e*Pg	Pb	07 52 18.8	0.0
ARS				*e*Sn	Sn	07 52 47.4	-1.7
ARS				*e*Sg	Sg	07 52 57.4	-1.7
ARS				*e*SgSg	SnSn	07 53 09.1	+8.9
ARS				Pmax			
	comp=N,39nm,0.3s						
ARS				max			
	comp=N,293nm,0.9s						
ARS	**Arshan**	**2.88**	**35**	*e*PN	Pn	07 52 15.2	+1.5
ARS				*e*		07 52 18.7	
ARS				*e*		07 52 57.7	
ARS				pmax	pmax		
	comp=Z,47nm,0.4s						
ARS				smax	smax		
	comp=E,290nm,0.5s						
ORL	**Orlik**	**2.95**	**1**	*e*Pn	Pn	07 52 15.7	+1.0
ORL				*e*Pg	Pb	07 52 19.5	-0.5
ORL				*e*Sn	Sn	07 52 49.7	-1.2
ORL				*e*Sg	Sb	07 52 58.8	+2.2
ORL				Pmax			
	comp=E,49nm,0.6s						
ORL				Smax			
	comp=E,208nm,0.8s						
ORL	**Orlik**	**2.95**	**1**	*e*PN	Pb	07 52 19.4	-0.6
ORL				*e*		07 52 58.3	
ORL				pmax	pmax		
	comp=Z,51nm,0.6s						
ORL				smax	smax		
	comp=E,206nm,0.8s						
TLY	**Talaya**	**3.24**	**48**	*e*Pn	Pn	07 52 18.9	+0.3
TLY				*e*Pg	Pb	07 52 24.6	-0.3
TLY				*e*Sn	Sn	07 52 55.5	-2.4
TLY				*e*Sg	Sb	07 53 07.2	+2.3
TLY				Pmax			
	comp=E,52nm,0.4s						
TLY				Smax			
	comp=E,172nm,0.9s						
TLY	**Talaya**	**3.24**	**48***c*	*i*PN	Pb	07 52 24.7	-0.2
TLY				*e*		07 53 07.7	
TLY				pmax	pmax		
	comp=Z,46nm,0.4s						
IVK	**Ivanovka**	**3.70**	**51**	*e*Pn	Pn	07 52 25.4	+0.6
IVK				*e*Pg	Pb	07 52 33.0	+0.4
IVK				*e*		07 52 53.8	
IVK				*e*Sn	Sn	07 53 07.7	-1.4
IVK				*e*Sg	Sg	07 53 21.8	-3.4
IVK				Pmax			
	comp=E,19nm,0.7s						
IVK				Smax			
	comp=E,94nm,0.7s						
IRK	**Irkutsk**	**3.90**	**45**	*e*Pg	Pb	07 52 36.5	+0.4
IRK				*e*Sg	Sb	07 53 27.6	+3.8
IRK				Pmax			
	comp=E,173nm,0.1s						
IRK				Smax			
	comp=E,327nm,0.3s						
IRK	**Irkutsk**	**3.90**	**45**	*e*PN	Pb	07 52 36.4	+0.3
IRK				*e*		07 53 27.3	
IRK				pmax	pmax		
	comp=Z,175nm,0.2s						
IRK				smax	smax		
	comp=E,377nm,1.3s						
LSTR	**Listvyanka**	**3.95**	**53**	*e*Pg	Pb	07 52 37.3	+0.4
LSTR				*e*		07 52 44.4	
LSTR				*e*Sn	Sn	07 53 13.0	-2.3
LSTR				*e*Sg	Sb	07 53 28.9	+3.6
LSTR				Pmax			
	comp=E,11nm,0.4s						
LSTR				Smax			
	comp=E,74nm,0.5s						
BGT	**Bolshoye Golou**	**4.35**	**53**	*e*Pn	Pn	07 52 32.3	-1.4
BGT				*e*Pg	Pb	07 52 44.4	+0.8
BGT				*e*Sn	Sn	07 53 22.0	-3.1
BGT				*e*Sg	Sb	07 53 41.0	+4.4
BGT				Pmax			
	comp=E,15nm,0.2s						
BGT				Smax			
	comp=E,133nm,0.6s						
ULN	**Ulaanbaatar**	**5.13**	**107**	*e*Pn	Pn	07 52 44.0	-0.6
ULN				*e*Pg	Pb	07 52 58.4	+1.3
ULN				*e*Sg	Sg	07 54 06.2	-5.0
TRG	**Tyrgan**	**5.22**	**50**	*e*Pn	Pn	07 52 46.0	+0.2
TRG				*e*Pg	Pb	07 52 59.2	+0.6
TRG				*e*Sn	Sn	07 53 44.1	-2.6
TRG				*e*Sg	Sb	07 54 06.5	+4.7
TRG				Pmax			
	comp=E,9.0nm,0.3s						
TRG				Smax			
	comp=E,62nm,0.5s						
TRG	**Tyrgan**	**5.22**	**50**	*e*PN	Pn	07 52 44.1	-1.7
TRG				*e*		07 52 59.1	
TRG				*e*S	Sn	07 53 42.8	-3.9
TRG				*e*		07 54 06.5	
TRG				pmax	pmax		
	comp=Z,14nm,1.2s						
TRG				smax	smax		
	comp=E,62nm,0.4s						
UUDB	**Ulan-Yde**	**5.52**	**63**	*e*Pn	Pn	07 52 48.8	-1.0
UUDB				*e*Pg	Pb	07 53 04.9	+1.3
UUDB				*e*Sn	Sn	07 53 51.2	-2.7
UUDB				*e*Sg	Sg	07 54 17.3	-6.2
UUDB				Pmax			
	comp=E,13nm,0.3s						
UUDB				Smax			
	comp=E,184nm,1.4s						
TRTB	**Turuntaevo**	**5.64**	**59**	*e*Pn	Pn	07 52 51.0	-0.5
TRTB				*e*Pg	Pb	07 53 07.7	+2.0
TRTB				*e*Sn	Sn	07 53 53.2	-3.8
TRTB				*e*Sg	Sb	07 54 20.3	+6.5
TRTB				Pmax			
	comp=E,6.0nm,0.5s						
TRTB				Smax			
	comp=E,35nm,0.6s						
OGRR	**Ongureny**	**6.35**	**47**	*e*Pn	Pn	07 53 01.7	+0.5
OGRR				*e*Pg	Pb	07 53 19.9	+2.2
OGRR				*e*Sn	Sn	07 54 09.8	-4.6
OGRR				*e*Sg	Sb	07 54 41.7	+7.5
OGRR				Pmax			
	comp=E,7.0nm,0.4s						
OGRR				Smax			
	comp=E,63nm,0.8s						
KPC	**Khapcheranga**	**8.20**	**84**	*e*Pg	Pb	07 53 54.4	+5.1
KPC				*e*Sn	Sn	07 54 54.4	-5.6
KPC				*e*Sg	Sg	07 55 41.5	-8.1
KPC				Pmax			
	comp=E,1.0nm,0.1s						
KPC				Smax			
	comp=E,62nm,1.4s						
NIZ	**Nizh Angarsk**	**8.58**	**40**	*e*Pg	Pg	07 54 00.2	-10
NIZ				*e*		07 55 25.6	
NIZ				*e*Sg	Sg	07 55 51.1	-11
NIZ				Pmax			
	comp=E,1.0nm,0.2s						
NIZ				Smax			
	comp=E,22nm,0.7s						
YLYR	**Ulyunkhan**	**8.77**	**49**	*e*Pn	Pn	07 53 35.1	+0.7
YLYR				*e*Pg	Pg	07 54 04.6	-10
YLYR				*e*Sg	Sg	07 55 56.6	-11
YLYR				Pmax			
	comp=E,1.0nm,0.5s						
YLYR				Smax			
	comp=E,13nm,0.8s						
KMO	**Kumora**	**9.37**	**43**	*e*Pn	Pn	07 54 15.3	+33
KMO				*e*		07 55 45.2	
KMO				*e*Sg	Sn	07 56 17.3	+49
KMO				Pmax			
	comp=E,5.0nm,0.6s						
KMO				Smax			
	comp=E,28nm,1.2s						
UKT	**Uakit**	**10.30**	**50**	*e*Pg	Pn	07 54 31.6	+36
UKT				*e*Sn	Sn	07 55 44.9	-6.7
UKT				*e*Sg		07 56 45.1	
UKT				Pmax			
	comp=E,1.0nm,0.4s						
UKT				Smax			
	comp=E,14nm,1.8s						
TUP	**Tupik**	**13.34**	**61**	*e*		07 57 33.7	
TUP				*e*Sg	S	07 58 19.4	+49
TUP				Smax			
	comp=E,25nm,2.2s						

IDC 27 07:55:01.7±0.6, 34°57S×55°00E, *h*0km, mb3.9/9, mb1 4.1/9, mb1mx3.8/57, mbtmp3.9/9, MS3.3/6, Ms1 3.3/6, ms1mx2.9/50, Error ellipse: s-maj=25.6km s-min=20.5km az=85.0, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Garcia H**	**31.26**	**35**	T	T	08 34 11.2	
	baz=208,slow=76,SNR=29						
H08S2	**Diego Garcia H**	**31.27**	**35**	T	T	08 34 12.3	
	baz=208,slow=76,SNR=14						
H08S3	**Diego Garcia H**	**31.28**	**35**	T	T	08 34 12.8	
	baz=208,slow=76,SNR=31						
H08N3	**Diego Garcia H**	**31.74**	**31**	T	T	08 34 45.1	
	baz=206,slow=76,SNR=4.3						
H08N1	**Diego Garcia H**	**31.75**	**31**	T	T	08 34 53.1	
	baz=206,slow=76,SNR=5.7						
H08N2	**Diego Garcia H**	**31.76**	**31**	T	T	08 34 52.6	
	baz=206,slow=76,SNR=4.1						
TSUM	**Tsumeb**	**36.48**	**285**	LR	LR	08 14 59.6	
	comp=Z,42nm,20.9s,baz=152,slow=33						
KMBO	**Kilima Mbogo**	**37.18**	**330**	LR	LR	08 14 37.7	
	comp=Z,66nm,21.5s,baz=278,slow=32						
SNAA	**Sanae**	**47.56**	**201**	P	P	08 03 38.2	-0.5
	1.0nm,0.8s,baz=84,slow=10,SNR=3.8						
QSPA	**South Pole Qui**	**55.60**	**180**	P	P	08 04 39.0	0.0
	3.5nm,0.8s,baz=260,slow=2.4,SNR=11						
VNDA	**Vanda**	**60.04**	**166**	P	P	08 05 09.7	-0.1
	0.8nm,0.8s,baz=298,slow=5.7,SNR=4.2						
CMAR	**Chiang Mai Arr**	**67.28**	**46**	P	P	08 05 58.4	+0.1
	0.9nm,0.3s,baz=234,slow=7.3,SNR=2.5						
ASAR	**Alice Springs**	**68.22**	**104**	P	P	08 06 04.9	+0.5
	0.6nm,0.6s,baz=232,slow=5.8,SNR=8.0						
TORD	**Torodi Ar. Bea**	**69.35**	**303**	P	P	08 06 11.7	+0.3
	0.2nm,0.5s,baz=145,slow=6.6,SNR=3.6						
MMAI	**Mount Meron Ar**	**69.71**	**343**	LR	LR	08 33 17.6	
	comp=Z,21nm,19.7s,baz=150,slow=33						
DBIC	**Dimbokro**	**69.73**	**294**	LR	LR	08 35 27.7	
	comp=Z,26nm,18.5s,baz=115,slow=35						
WRA	**Warramunga Arr**	**70.42**	**101**	P	P	08 06 18.3	+0.2
	2.5nm,0.9s,baz=233,slow=5.0,SNR=11						
IDI	**Anoyia**	**74.98**	**335**	LR	LR	08 40 56.5	
	comp=Z,9.0nm,19.4s,baz=280,slow=37						
KEST	**Kesra**	**81.91**	**324**	LR	LR	08 44 28.5	
	comp=Z,34nm,18.4s,baz=302,slow=36						
MKAR	**Makanchi Array**	**84.64**	**18**	P	P	08 07 36.6	-0.2
	0.2nm,0.6s,baz=202,slow=5.4,SNR=2.5						
KURBB	**Kurchatov Arra**	**87.34**	**15**	P	P	08 07 49.8	-0.2
	0.5nm,0.2s,baz=179,slow=4.5,SNR=2.8						
ILAR	**Eielson Array**	**146.99**	**17**	PKPbc	PKPdf	08 14 43.8	+0.4
	0.3nm,0.6s,baz=323,slow=4.4,SNR=5.9						
YKA	**Yellowknife Ar**	**151.30**	**350**	PKPbc	PKPbc	08 14 55.2	-1.1
	0.5nm,0.7s,baz=15,slow=1.8,SNR=19						
ULM	**Lac du Bonnet**	**153.62**	**315**	PKPab	PKPab	08 15 15.5	+0.9
	1.4nm,0.7s,baz=65,slow=3.6,SNR=2.3						
NVAR	**Mina Array Bea**	**173.38**	**307**	PKPab	PKPab	08 16 41.6	-0.1
	0.1nm,0.3s,baz=72,slow=2.9,SNR=2.1						

IDC 27 08:09:25.8±1.2, 9°41S×106°86E, h0km, mb3.9/9, mb1 4.0/10, mb1mx3.7/62, mbtmp3.9/10, ML4.0/1, MS3.0/2, Ms1 3.1/2, ms1mx2.6/61, Error ellipse: s-maj=41.9km s-min=16.6km az=57.0

ISCJB 27 08:09:27.1±0.6, 9°44S±0°06×107°03E±0°06, h22km, mb3.9/11, MS3.1/1, Error ellipse: s-maj=9.5km s-min=7.1km az=144.1

DJA 27 08:09:28.7±0.9, 9°S±7°×107°7E±°, h10km, M4.0/10, MLv4.0/10

NEIC 27 08:09:34.0±0.9, 9°18S×107°32E, h51km±8km, mb4.3/3, Error ellipse: s-maj=11.9km s-min=8.1km az=47.0

ISC 27 08:09:30.7±0.7, 9°32S±0°07×107°21E±0°07, h22km, n33, σ1s67°/35, mb4.2/11, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CISI	**Cisompet, Garu**	**1.85**	**19**	P	**Pn**	**08 10 00.7**	**-0.5**
CISI				S	**Sn**	**08 10 25.9**	**+1.8**
CISI	**Cisompet, Garu**	**1.85**	**19**	*e*Pn	**Pn**	**08 10 00.9**	**-0.3**
CMJI	**Cimerak**	**1.96**	**39**	P	**Pn**	**08 10 02.8**	**+0.2**
SKJI	**Sukabumi**	**2.39**	**344**	P	**Pn**	**08 10 08.4**	**-0.2**
LEM	**Lembang**	**2.51**	**9**	Pn	**Pn**	**08 10 11.3**	**+0.9**
	25nm,0.3s,baz=273,slow=18,SNR=20						
LEM				Sn	**Sn**	**08 10 45.7**	**+5.3**
	11nm,0.3s,baz=345,slow=21,SNR=4.5						
LEM				LR	LR	08 11 05.7	
	comp=Z,170nm,20.1s,baz=226,slow=37						
LEM	**Lembang**	**2.51**	**9**	P	**Pn**	**08 10 10.8**	**+0.4**
KPJI	**Karang Pucung**	**2.61**	**41**	P	**Pn**	**08 10 12.9**	**+1.4**
CGJI	**Cibinong**	**3.08**	**331**	P	**Pn**	**08 10 16.7**	**-1.4**
UGM	**Wanagama**	**3.56**	**67**	P	**Pn**	**08 10 24.9**	**+0.2**
UGM	**Wanagama**	**3.56**	**67**	*e*Pn	**Pn**	**08 10 24.9**	**+0.2**
PCJI	**Pacitan**	**4.08**	**74**	P	**Pn**	**08 10 31.4**	**-0.3**
PWJI	**Pagerwojo**	**4.72**	**74**	P	**Pn**	**08 10 40.3**	**-0.3**
JAGI	**Jajag, Banyuwa**	**6.91**	**83**	*e*Pn	**Pn**	**08 11 11.2**	**+0.5**
COCO	**West Island**	**10.59**	**253**	*e*Pn	**Pn**	**08 12 05.9**	**+4.7**
COCO				*e*Sn	Sn	08 14 18.0	+19
MBWA	**Marble Bar**	**16.85**	**136**	*e*Pn	**Pn**	**08 13 23.8**	**-1.5**
	24nm,1.4s						
WRA	**Warramunga Arr**	**28.24**	**115**	P	**P**	**08 15 23.1**	**+0.7**
	0.5nm,0.9s,baz=289,slow=10,SNR=3.2						
WR1	**Warramunga Arr**	**28.24**	**115**	*e*P	**P**	**08 15 23.1**	**+0.7**
	8.7nm,1.2s						
CM31	**Chiang Mai Arr**	**28.79**	**344**	*e*P	**P**	**08 15 24.7**	**-2.5**
CMAR	**Chiang Mai Arr**	**28.79**	**344**	P	**P**	**08 15 24.7**	**-2.5**
	1.4nm,0.3s,baz=184,slow=9.9,SNR=6.7						
CMAR				LR	LR	08 27 00.2	
	comp=Z,43nm,19.5s,baz=210,slow=37						
ASAR	**Alice Springs**	**29.22**	**122**	P	**P**	**08 15 32.7**	**+1.6**
	0.3nm,0.8s,baz=300,slow=8.4,SNR=3.1						
STKA	**Stephens Creek**	**38.96**	**130**	P	**P**	**08 16 55.1**	**-0.2**
	1.0nm,0.7s,baz=270,slow=9.1,SNR=4.0						
SONA0	**Songino Array**	**56.59**	**159**	*e*P	**P**	**08 19 13.3**	**-0.9**
SONM	**Songino Array**	**56.91**	**359**	P	**P**	**08 19 13.3**	**-0.9**
	0.5nm,0.6s,baz=170,slow=8.8,SNR=2.6						
MK01	**Makanchi Array**	**60.11**	**340**	*e*P	**P**	**08 19 35.7**	**-0.6**
MK31	**Makanchi Array**	**60.13**	**340**	*e*P	**P**	**08 19 35.9**	**-0.6**
MK32	**Makanchi Array**	**60.13**	**340**	*e*P	**P**	**08 19 35.4**	**-1.1**
MKAR	**Makanchi Array**	**60.13**	**340**	P	**P**	**08 19 35.4**	**-1.1**
	1.5nm,0.6s,baz=141,slow=8.1,SNR=13						
KURBB	**Kurchatov Arra**	**64.69**	**340**	P	**P**	**08 20 05.7**	**-1.2**
	1.6nm,0.9s,baz=157,slow=5.5,SNR=7.3						
KURK	**Kurchatov**	**64.74**	**340**	*e*P	**P**	**08 20 06.7**	**-0.5**
	2.9nm,0.8s						
BVAR	**Borovoye Array**	**69.58**	**337**	P	**P**	**08 20 36.1**	**-1.8**
	1.5nm,0.7s,baz=140,slow=7.0,SNR=4.8						
PETK	**Petropavlovsk-**	**75.51**	**29**	P	**P**	**08 21 12.1**	**-1.1**
	1.8nm,0.7s,baz=232,slow=7.1,SNR=2.6						
PEA1	**Petropavlovsk-**	**75.52**	**29**	*e*P	**P**	**08 21 12.1**	**-1.1**
YKA	**Yellowknife Ar**	**118.95**	**21**	PKP	**PKPdf**	**08 28 16.6**	**-0.6**
	0.1nm,0.6s,baz=312,slow=1.1,SNR=3.7						

IDC 27 08:16:54.0±1.1, 0°.69N×92°.45E, h0km, mb4.0/11, mb1 4.1/13, mb1mx3.8/65, mbtmp4.0/13, ML4.1/2, MS3.5/2, Ms1 3.5/2, ms1mx2.6/65, Error ellipse: s-maj=36.3km s-min=18.0km az=45.0

DJA 27 08:16:55.3±2.5, 1°N±7°×9°2E±1°3, h26km±26km, M4.6/8, mb4.7/8, mB5.2/4, MLv4.6/6, Mw(mB)4.6/4

NEIC 27 08:16:55.4±0.3, 0°.69N×92°.46E, h10km, mb4.5/5, Error ellipse: s-maj=9.6km s-min=4.5km az=219.0

ISCJB 27 08:16:57.2±0.6, 0°.75N±0°.08×92°.58E±0°.06, h33km, mb4.1/16, MS3.6/2, Error ellipse: s-maj=12.4km s-min=6.5km az=30.6

ISC 27 08:16:59.6±0.8, 0°.8N±0°.1×92°.65E±0°.09, h35km, n40, σ0s85°/38, mb4.2/16, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSI	**Gunungsitoli**	**4.96**	**84**	P	**Pn**	**08 18 12.6**	**+1.0**
GSI	**Gunungsitoli**	**4.96**	**84**	*e*Pn	**Pn**	**08 18 12.6**	**+1.0**
TPTI		**5.16**	**61**	P	**Pn**	**08 18 14.7**	**+0.4**
BSI	**Banda Aceh**	**5.38**	**29**	P	**Pn**	**08 18 18.1**	**+0.7**
KCSI	**Kotacane, Aceh**	**5.80**	**62**	P	**Pn**	**08 18 24.9**	**+1.7**
PSI	**Prapat**	**6.59**	**72**	Pn	**Pn**	**08 18 35.2**	**+1.1**
	1.6nm,0.3s,baz=243,slow=8.1,SNR=6.2						
PSI				Sn	**Sn**	**08 19 45.4**	**-2.7**
	1.0nm,0.3s,baz=154,slow=18,SNR=3.1						
SISI	**Saibi**	**6.77**	**108**	P	**Pn**	**08 18 37.1**	**+0.6**
MNSI	**Mandailing Nat**	**6.93**	**90**	P	**Pn**	**08 18 40.1**	**+1.4**
PDSI	**Padang**	**7.99**	**102**	P	**Pn**	**08 18 53.9**	**+0.6**
MNAI	**Manna**	**11.49**	**116**	*e*Pn	**Pn**	**08 19 40.9**	**-0.4**
PALK	**Pallekele**	**13.54**	**299**	Sn	Sn	08 22 22.8	-16
	1.3nm,0.3s,baz=90,slow=1.0,SNR=3.5						
CMAR	**Chiang Mai Arr**	**18.63**	**19**	P	**P**	**08 21 15.0**	**+0.8**
	0.4nm,0.3s,baz=212,slow=13,SNR=11						
WR1	**Warramunga Arr**	**45.74**	**119**	*e*P	**P**	**08 25 18.5**	**+0.6**
	8.8nm,1.4s						
WRA	**Warramunga Arr**	**45.74**	**119**	P	**P**	**08 25 18.5**	**+0.6**
	2.0nm,0.6s,baz=296,slow=8.6,SNR=26						
WRAB	**Tennant Creek**	**45.75**	**119**	*e*P	**P**	**08 25 18.9**	**+0.9**
	3.7nm,0.8s						
WB2	**Warramunga Arr**	**45.75**	**119**	*e*P	**P**	**08 25 18.9**	**+0.9**
	4.6nm,1.1s						
MK01	**Makanchi Array**	**46.69**	**350**	*e*P	**P**	**08 25 25.2**	**+0.3**
MK32	**Makanchi Array**	**46.72**	**350**	*e*P	**P**	**08 25 25.1**	**0.0**
MKAR	**Makanchi Array**	**46.72**	**350**	P	**P**	**08 25 25.1**	**0.0**
	1.5nm,0.6s,baz=163,slow=8.9,SNR=7.6						
ASAR	**Alice Springs**	**46.86**	**124**	P	**P**	**08 25 27.0**	**+0.4**
	0.7nm,0.7s,baz=295,slow=7.5,SNR=6.8						
SONA0	**Songino Array**	**48.37**	**12**	*e*P	**P**	**08 25 38.7**	**+0.7**
SONM	**Songino Array**	**48.37**	**12**	P	**P**	**08 25 38.7**	**+0.7**
	1.6nm,0.6s,baz=191,slow=10,SNR=7.4						
GEYT	**Alibeck**	**48.73**	**323**	P	**P**	**08 25 41.3**	**+0.4**
	3.1nm,1.0s,baz=194,slow=12,SNR=3.8						
KURBB	**Kurchatov Arra**	**51.09**	**348**	P	**P**	**08 25 58.5**	**-0.1**
	1.5nm,0.8s,baz=174,slow=7.0,SNR=14						
KURK	**Kurchatov**	**51.16**	**349**	*e*P	**P**	**08 25 58.5**	**-0.6**
ZAA0	**Zalesovo Array**	**53.39**	**354**	*e*P	**P**	**08 26 15.5**	**0.0**
	2.1nm,0.6s						
ZALV	**Zalesovo Beam**	**53.39**	**354**	P	**P**	**08 26 15.5**	**-0.1**
	2.0nm,0.5s,baz=178,slow=6.9,SNR=6.2						
ZALV	**Zalesovo Beam**	**53.39**	**354**	*e*P	**P**	**08 26 15.7**	**+0.2**
ZAA1	**Zalesovo Array**	**53.39**	**354**	*e*P	**P**	**08 26 15.5**	**-0.1**
BVAR	**Borovoye Array**	**55.27**	**344**	P	**P**	**08 26 28.3**	**-1.0**
	0.5nm,0.5s,baz=137,slow=6.9,SNR=4.0						
KMBO	**Kilima Mbogo**	**55.42**	**268**	LR	LR	08 50 06.7	
	comp=Z,22nm,18.1s,baz=250,slow=36						
BR101	**Keskin Array S**	**66.07**	**314**	*e*P	**P**	**08 27 42.5**	**-0.8**
BRTR	**Keskin Array B**	**66.07**	**314**	P	**P**	**08 27 42.5**	**-0.8**
	0.6nm,0.6s,baz=115,slow=7.5,SNR=4.0						
TIXI	**Tiksi**	**74.44**	**11**	*e*P	**P**	**08 28 33.3**	**-0.4**
	3.1nm,0.5s						
FIA1	**FINESS Array S**	**78.30**	**333**	*e*P	**P**	**08 28 55.5**	**-0.3**
FIA0	**FINESS Array S**	**78.30**	**333**	*e*P	**P**	**08 28 55.2**	**-0.6**
FINES	**FINESS Array B**	**78.30**	**333**	P	**P**	**08 28 55.2**	**-0.6**
	0.9nm,0.6s,baz=120,slow=5.0,SNR=4.0						
GERES	**GERESS Array B**	**82.14**	**319**	P	**P**	**08 29 16.9**	**0.0**
	0.5nm,0.4s,baz=116,slow=6.1,SNR=7.7						
SNAA	**Sanae**	**92.47**	**198**	LR	LR	09 05 15.5	
	comp=Z,43nm,18.2s,baz=246,slow=31						
TXAR	**Lajitas Array**	**146.24**	**26**	PKPbc	**PKPbc**	**08 36 36.9**	**-0.3**
	0.1nm,0.5s,baz=300,slow=2.0,SNR=3.2						

JMA 27 08:18:34.7±0.4, 44°.09N×148°.22E, h0km, M3.6

SKHL 27 08:18:36.3±0.2, 44°.58N×148°.53E, h48km±7km, mb4.3/3

ISC 27 08:18:29.8±3.7, 44°41N±0°09×148°6E±0°2, h3km±14km, n9, σ1s84°/16, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**0.97**	**328**	*i* P	**Pn**	**08 18 50.5**	**+0.1**
KUR				AMB	AMB	08 18 50.8	
	132nm,0.2s						
KUR				*i* S	**Sg**	**08 19 01.3**	**+0.3**
KUR				A	A	08 19 02.7	
	2µm,0.3s						
KUR				A	A	08 19 02.7	
	350nm,0.3s						
SHO	**Shikotan**	**1.38**	**248**	*e*P	**Pb**	**08 18 55.8**	**-0.3**
SHO				*i* S	**Sn**	**08 19 10.4**	**-4.2**
SHO				A	A	08 19 18.8	
	150nm,0.2s						
SHO				A	A	08 19 18.8	
	190nm,0.2s						
YUK	**Yuzh-Kuril'sk**	**2.00**	**260**	*e*P	**Pb**	**08 19 06.8**	**+0.1**
YUK				AMB	AMB	08 19 07.3	
	54nm,0.2s						
YUK				*i* S	**Sn**	**08 19 29.5**	**-0.4**
YUK				A	A	08 19 36.9	
	114nm,0.2s						
YUK				A	A	08 19 36.9	
	227nm,0.2s						
GRPR	**Tuman**	**2.07**	**259**	*e*P	**Pg**	**08 19 08.7**	**-0.7**
GRPR				AMB	AMB	08 19 13.7	
	50nm,0.3s						
GRPR				*e*S	**Sn**	**08 19 32.1**	**+0.4**
GRPR				A	A	08 19 34.9	
	250nm,0.3s						
GRPR				A	A	08 19 34.9	
	190nm,0.3s						
NEM2	**Nemuro 2**	**2.31**	**244**	P	**Pn**	**08 19 09.4**	**+0.7**
NEM2				*e*S	**Sn**	**08 19 35.0**	**-2.5**
GLVR	**Golovnino**	**2.31**	**254**	*e*P	**Pb**	**08 19 11.6**	**-0.5**
GLVR				*i* S	**Sn**	**08 19 38.0**	**+0.3**
GLVR				A	A	08 19 43.1	
	250nm,0.3s						
GLVR				A	A	08 19 43.1	
	280nm,0.3s						
JNK	**Nakash**	**2.91**	**255**	P	**Pn**	**08 19 19.0**	**+2.0**
JAK	**Akkeshi**	**3.15**	**245**	P	**Pn**	**08 19 21.6**	**+1.2**
JAR	**Ashorobuto**	**3.66**	**254**	P	**Pn**	**08 19 30.2**	**+2.9**
JAR				*e*S	**Sn**	**08 20 11.7**	**+0.8**

MEX 27 08:26:43.6±0.4, 18°.14N×103°.45W, h2km±5km, MD3.5, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMIG	**Aquila**	**0.17**	**33**	*i* P	Pg	08 26 46.7	-0.3
MMIG				*i* S	Sg	08 26 49.5	+0.2
ZIIG	**Zihuatanejo**	**1.96**	**105**	*e*P	Pn	08 27 14.8	-3.1
ZIIG				*e*S	Sn	08 27 38.2	-4.8
CJM	**Chamela**	**2.03**	**312**	*e*P	Pn	08 27 15.6	-3.1
CJM				*e*S	Sn	08 27 40.1	-4.6

NEIC 27 08:38:37.7±0.0, 40°.38N×125°.01W, h13km, mb4.1/6, MW3.8(BRK), After NCEDC.

NEIC Felt at Crescent City, Eureka, Ferndale, Samoa and Whitethorn.

IDC 27 08:38:38.9±1.8, 40°.53N×124°.62W, h0km, mb2.9/3, mb1 3.5/5, mb1mx3.3/66, mbtmp3.1/5, ML3.2/2, MS2.9/4, Ms1 2.9/4, ms1mx2.6/12, Error ellipse: s-maj=22.6km s-min=16.8km az=63.0

**ISC 27 08:38:37.7±2.1, 40°38N±0°05×124°93W±0°07, h6km±13km, n88,

	baz=241,SNR=16								
MCCM	**Marconi Confer**		**2.74**	**144**	*e*Pn		**Pn**	**08 39 20.5**	**-1.7**
ORV	**Oroville**		**2.76**	**106**	*e*Pn		**Pn**	**08 39 21.0**	**-1.4**
ORV					*e*Sn		**Sn**	**08 39 53.7**	**-2.4**
K04D	**Chiloquin, OR**		**3.27**	**46**	P		**Pn**	**08 39 28.3**	**-1.3**
	baz=228								
AFDM	**Forest Hills D**		**3.37**	**114**	*e*Pn		**Pn**	**08 39 30.5**	**-0.4**
I03D	**Drain, OR**		**3.52**	**19**	P		**Pn**	**08 39 32.2**	**-0.6**
	baz=201,SNR=35								
I03D					S		**Sn**	**08 40 12.3**	**-2.5**
	baz=201								
BEKR	**Beckworth**		**3.54**	**97**	*e*Pn		**Pn**	**08 39 34.1**	**+0.7**
BEKR					*e*Sn		**Sn**	**08 40 16.5**	**+0.9**
J04D	**Umpqua Nationa**		**3.55**	**35**	S		**Sn**	**08 40 12.9**	**-3.0**
	baz=218								
MOD	**Modoc Plateau**		**3.81**	**65**	*e*Pn		**Pn**	**08 39 36.4**	**-0.6**
K05A	**Summer Lake**		**3.83**	**51**	*e*Pn		**Pn**	**08 39 37.1**	**-0.3**
RDG13	**Poverty Ridge**		**3.85**	**139**	*e*Pn		**Pn**	**08 39 35.9**	**-1.8**
I04A	**Tendick Farm,**		**3.89**	**28**	P		**Pn**	**08 39 38.1**	**0.0**
	baz=210,SNR=6.3								
I04A					S		**Sn**	**08 40 21.9**	**-2.2**
	baz=210								
RUBR	**Rubicon Trail**		**3.91**	**108**	*e*Pn		**Pn**	**08 39 39.5**	**+1.0**
J05D	**Fort Rock, OR**		**4.00**	**42**	P		**Pn**	**08 39 39.8**	**+0.1**
	baz=225,SNR=29								
VCNR	**Virginia City**		**4.20**	**103**	*e*Pn		**Pn**	**08 39 43.2**	**+0.6**
CMB	**Columbia Colle**		**4.23**	**122**	*e*Pn		**Pn**	**08 39 42.7**	**-0.1**
COR	**Corvallis**		**4.37**	**15**	*e*Pn		**Pn**	**08 39 45.2**	**+0.6**
PINE	**Pine Mountain**		**4.52**	**40**	*e*Pn		**Pn**	**08 39 47.6**	**+0.8**
SAO	**San Andreas Ge**		**4.52**	**142**	*e*Pn		**Pn**	**08 39 44.0**	**-2.8**
YERR	**Yerington**		**4.60**	**106**	*e*Pn		**Pn**	**08 39 47.9**	**-0.1**
WAKR	**Walker**		**4.64**	**112**	*e*Pn		**Pn**	**08 39 50.0**	**+1.5**
H04A	**Detroit Lake**		**4.75**	**24**	*e*Pn		**Pn**	**08 39 51.5**	**+1.6**
H04A					*e*Sn		**Sn**	**08 40 44.7**	**-0.7**
WVOR	**Wild Horse Val**		**5.15**	**64**	*e*Pn		**Pn**	**08 39 56.6**	**+1.1**
RYN	**Ryan**		**5.25**	**107**	*e*Pn		**Pn**	**08 39 56.0**	**-1.0**
PMPB	**Monarch Peak**		**5.27**	**141**	*e*Pn		**Pn**	**08 39 55.6**	**-1.5**
MDPB	**Devils Postpil**		**5.32**	**119**	*e*Pn		**Pn**	**08 39 59.8**	**+1.9**
KVN	**Kaiserville**		**5.43**	**102**	*e*Pn		**Pn**	**08 39 58.9**	**-0.4**
NV01	**Mina Array Sit**		**5.49**	**109**	*e*Pn		**Pn**	**08 40 00.5**	**+0.3**
NVAR	**Mina Array Bea**		**5.49**	**109**	Pn		**Pn**	**08 40 00.5**	**+0.3**
	baz=286,slow=15,SNR=13								
NVAR					Lg		Lg	08 41 20.4	
	baz=238,slow=23,SNR=1.9								
J08A	**Circle Bar Ran**		**5.66**	**56**	*e*Pn		**Pn**	**08 40 01.9**	**-0.6**
PAGB	**Antelope Grade**		**5.93**	**140**	*e*Pn		**Pn**	**08 40 04.1**	**-1.9**
VES	**Vestal, Richgr**		**6.46**	**133**	P		**Pn**	**08 40 12.6**	**-0.7**
	baz=316								
ISA	**Isabella, Lake**		**6.93**	**131**	P		**Pn**	**08 40 20.5**	**+0.6**
	baz=314								
ISA	**Isabella, Lake**		**6.93**	**131**	*e*Pn		**Pn**	**08 40 21.0**	**+1.1**
DAC	**Darwin (Calif)**		**7.07**	**123**	*e*Pn		**Pn**	**08 40 24.0**	**+2.1**
ARVC	**Arvin**		**7.13**	**135**	P		**Pn**	**08 40 22.6**	**+0.1**
	baz=319								
BMO	**Blue Mountains**		**7.18**	**49**	*e*Pn		**Pn**	**08 40 25.3**	**+2.0**
EDW2	**Edwards Air Fo**		**7.77**	**133**	P		**Pn**	**08 40 31.4**	**+0.1**
	baz=317								
GSC	**Goldstone, Bar**		**8.18**	**126**	P		**Pn**	**08 40 37.7**	**+0.7**
	baz=311								
GSC	**Goldstone, Bar**		**8.18**	**126**	*e*Pn		**Pn**	**08 40 38.2**	**+1.1**
RRX	**Edison Barstow**		**8.35**	**129**	P		**Pn**	**08 40 40.0**	**+0.7**
	baz=313								
TUQ	**Turquoise Moun**		**8.66**	**122**	P		**Pn**	**08 40 45.1**	**+1.5**
	baz=307								
GMRC	**Granite Mounta**		**9.23**	**124**	P		**Pn**	**08 40 51.2**	**-0.3**
	baz=310								
BELC	**Belle Mtn. Jos**		**9.55**	**129**	P		**Pn**	**08 40 55.7**	**-0.2**
	baz=314								
PFO	**Pinyon Flats O**		**9.56**	**132**	*e*Pn		**Pn**	**08 40 55.7**	**-0.3**
XPFO	**Piæon Flat**		**9.56**	**132**	*e*Pn		**Pn**	**08 40 55.6**	**-0.4**
NEW	**Newport**		**9.66**	**33**	LR		LR	08 44 24.2	
	comp=Z,59nm,20.7s,baz=258,slow=37								
IRM	**Iron Mountain**		**9.96**	**125**	P		**Pn**	**08 41 01.2**	**-0.2**
	baz=311								
BC3	**Big Chuckawall**		**10.11**	**129**	P		**Pn**	**08 41 03.1**	**-0.5**
	baz=314								
MSO	**Missoula**		**10.24**	**47**	*e*Pn		**Pn**	**08 41 06.7**	**+1.4**
GLA	**Glamis**		**10.91**	**129**	*e*Pn		**Pn**	**08 41 14.4**	**0.0**
PDAR	**Pinedale Array**		**11.76**	**73**	LR		LR	08 46 36.7	
	comp=Z,56nm,19.0s,baz=256,slow=42								
GCMT	**Greycliff**		**12.39**	**59**	*e*Pn		**Pn**	**08 41 34.0**	**-0.7**
CRAG	**Craig**		**16.05**	**343**	*e*Pn		**P**	**08 42 28.3**	**+1.1**
	133nm,1.7s								
MHTCO	**State Highway**		**16.11**	**95**	*e*Pn		**P**	**08 42 28.4**	**0.0**
	4.6nm,0.8s								
DLBC	**Dease Lake**		**18.37**	**351**	P		**P**	**08 42 54.9**	**+1.9**
	0.0nm,0.3s,baz=180,slow=16,SNR=2.5								
LPIG	**La Paz**		**20.36**	**138**	LR		LR	08 50 13.3	
	comp=Z,36nm,21.3s,baz=284,slow=34								
TXAR	**Lajitas Array**		**20.58**	**116**	P		Pn	08 43 18.4	-1.3
	0.3nm,0.8s,baz=291,slow=7.6,SNR=3.2								
FFC	**Flin Flon**		**20.98**	**39**	*e*P		**P**	**08 43 22.0**	**+0.5**
	17nm,1.8s								
HYT	**Haines Junctio**		**21.89**	**343**	*e*P		**P**	**08 43 30.3**	**-1.0**
	12nm,1.6s								
ULM	**Lac du Bonnet**		**22.56**	**54**	P		**P**	**08 43 44.0**	**+5.6**
	1.7nm,0.6s,baz=309,slow=9.3,SNR=3.2								
YKA	**Yellowknife Ar**		**23.00**	**12**	P		**P**	**08 43 42.8**	**-0.1**
	0.3nm,0.8s,baz=197,slow=9.5,SNR=5.6								
BMRM	**Bremner River**		**23.91**	**336**	*e*P		**P**	**08 43 54.2**	**+2.1**
	7.6nm,1.2s								
PMR	**Palmer**		**25.85**	**333**	*e*P		**P**	**08 44 12.2**	**+2.6**
	6.8nm,1.4s								
ILAR	**Eielson Array**		**27.54**	**340**	P		**P**	**08 44 26.2**	**+1.3**
	0.3nm,0.6s,baz=150,slow=8.2,SNR=4.6								
IM3	**Indian Mountai**		**30.38**	**337**	*e*P		**P**	**08 44 52.0**	**+1.9**
TKL	**Tuckaleechee C**		**32.55**	**85**	LR		LR	08 58 37.3	
	comp=Z,22nm,19.1s,baz=340,slow=37								
H11N3	**WAKE ISLAND Hy**		**61.05**	**272**	T		T	09 55 30.6	
	baz=53,slow=75,SNR=26								
H11N2	**WAKE ISLAND Hy**		**61.05**	**272**	T		T	09 55 28.9	
	baz=53,slow=75,SNR=13								
H11N1	**WAKE ISLAND Hy**		**61.06**	**272**	T		T	09 55 32.6	
	baz=53,slow=75,SNR=14								
H11S1	**WAKE ISLAND Hy**		**61.92**	**271**	T		T	09 56 36.3	
	baz=54,slow=75,SNR=18								
H11S2	**WAKE ISLAND Hy**		**61.92**	**271**	T		T	09 56 36.9	
	baz=54,slow=75,SNR=16								
H11S3	**WAKE ISLAND Hy**		**61.93**	**271**	T		T	09 56 35.4	
	baz=54,slow=75,SNR=9.5								

ISCJB ***27*** *08:53:02.1±0.9,39.10N±0.07×29.22E±0.06,h3km±9km, Error ellipse: s-maj=13.0km s-min=6.5km az=156.7*
ISK ***27*** *08:53:02.3,39.13N×29.17E,h6km, ML2.4/10*
CSEM ***27*** *08:53:02.5±0.2,39.10N×29.20E, h8km, ML2.4, Error ellipse: s-maj=4.4km s-min=2.3km az=137.0*
DDA ***27*** *08:53:03.3,39.10N×29.13E,h7km, Ml2.7*

ISC 27 08:53:02.5±1.1,39.11N±0.05×29.20E±0.04,h9km±8km, n28,σ0.44/34,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SIMA	**Simav-Kutahya**	**0.17**	**260**	PG		**Pg**	**08 53 06.4**	**+0.3**
SIMA				SG		**Sg**	**08 53 08.4**	**-0.2**
SIMA	**Simav-Kutahya**	**0.17**	**260**	*e*Pg		**Pg**	**08 53 06.4**	**+0.3**
SIMA				*e*Sg		**Sg**	**08 53 08.4**	**-0.2**
DEMI	**Demirci**	**0.38**	**259**	*i* P		**Pg**	**08 53 10.1**	**+0.1**
DEMI				*i* S		**Sg**	**08 53 15.1**	**+0.1**
DEMI	**Demirci**	**0.38**	**259**	P		**Pg**	**08 53 10.1**	**+0.1**
DEMI				S		**Sg**	**08 53 15.1**	**+0.1**
TVSB	**Tavsanli**	**0.39**	**31**	PG		**Pg**	**08 53 10.2**	**0.0**
TVSB	**Tavsanli**	**0.39**	**31**	*e*Pg		**Pg**	**08 53 10.2**	**0.0**
KULA	**Kula-Manisa**	**0.73**	**215**	PG		**Pb**	**08 53 16.7**	**-0.7**
KULA	**Kula-Manisa**	**0.73**	**215**	*e*Pg		**Pb**	**08 53 16.7**	**-0.7**
DURS	**Dursunbey**	**0.74**	**311**	*i* P		**Pg**	**08 53 16.8**	**0.0**
DURS	**Dursunbey**	**0.74**	**311**	P		**Pg**	**08 53 16.8**	**0.0**
MANT	**Manisa**	**0.80**	**219**	*i* P		**Pg**	**08 53 17.8**	**0.0**
MANT	**Manisa**	**0.80**	**219**	P		**Pg**	**08 53 17.8**	**0.0**
BALB	**Balikesir**	**1.15**	**298**	PN		**Pg**	**08 53 24.3**	**-0.2**
BALB	**Balikesir**	**1.15**	**298**	*e*Pn		**Pg**	**08 53 24.3**	**-0.2**
STEP	**BALIKESIR_Sava**	**1.18**	**283**	*i* P		**Pn**	**08 53 26.0**	**+0.8**
STEP				*i* S		**Sn**	**08 53 41.2**	**-0.1**
STEP	**BALIKESIR_Sava**	**1.18**	**283**	P		**Pn**	**08 53 26.0**	**+0.8**
STEP				S		**Sn**	**08 53 41.2**	**-0.1**
CAVI	**Cavuskoy**	**1.20**	**24**	PN		**Pg**	**08 53 25.4**	**0.0**
CAVI	**Cavuskoy**	**1.20**	**24**	*e*Pn		**Pg**	**08 53 25.4**	**0.0**
MDNY	**Mudanya-Bursa**	**1.28**	**349**	PN		**Pn**	**08 53 26.6**	**+0.1**
MDNY	**Mudanya-Bursa**	**1.28**	**349**	*e*Pn		**Pn**	**08 53 26.6**	**+0.1**
YLV	**Yalova**	**1.46**	**5**	PN		**Pn**	**08 53 29.6**	**+0.6**
YLV	**Yalova**	**1.46**	**5**	*e*Pn		**Pn**	**08 53 29.6**	**+0.6**
ARMT	**Armutlu**	**1.47**	**350**	PN		**Pn**	**08 53 29.8**	**+0.6**
ARMT	**Armutlu**	**1.47**	**350**	*e*Pn		**Pn**	**08 53 29.8**	**+0.6**
GONE	**Gonen-Balikesi**	**1.49**	**309**	PN		**Pn**	**08 53 29.9**	**+0.4**
GONE	**Gonen-Balikesi**	**1.49**	**309**	*e*Pn		**Pn**	**08 53 29.9**	**+0.4**
GULT	**Gulveren**	**1.66**	**37**	PN		**Pn**	**08 53 32.7**	**+0.8**
GULT	**Gulveren**	**1.66**	**37**	*e*Pn		**Pn**	**08 53 32.7**	**+0.8**

NNC 27 08:56:16.8±1.7,53.58N×87.85E,h0km,mb3.6,mpv3.2, 6C-4D,Error ellipse: s-maj=13.2km s-min=7.8km az=79.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
ZAA0	**Zalesovo Array**	**1.83**	**283**	⇓Pn		Pn	08 56 49.2	-0.3
	8.6nm,0.7s,baz=99,slow=16							
ZAA0				⇑Sn		Sb	08 57 14.5	-0.2
	27nm,0.7s,baz=100,slow=20							
KURK	**Kurchatov**	**6.36**	**247**	⇑Pn		Pn	08 57 52.7	+1.0
	2.9nm,0.9s							
KURK				⇓Sn		Sn	08 59 06.0	+1.0
	2.1nm,0.8s							
KURK				⇓Lg		Lg	08 59 38.3	
	8.3nm,0.9s							
KURBB	**Kurchatov Arra**	**6.46**	**246**	⇑Pn		Pn	08 57 54.0	+0.9
	3.1nm,0.6s,baz=63,slow=14							
KURBB				⇓Sn		Sn	08 59 03.2	-4.2
	4.3nm,0.8s							
KURBB				⇑Lg		Lg	08 59 38.0	
	15nm,0.9s							
MK31	**Makanchi Array**	**7.67**	**210**	Pn		Pn	08 58 11.0	+1.3
	0.4nm,0.5s,baz=37,slow=12,SNR=7.4							
MK31				⇑Sn		Sn	08 59 37.1	-0.3
	1.0nm,0.6s							
MK31				⇑Lg		Lg	09 00 18.9	
	2.3nm,0.8s							

IDC ***27*** *08:59:11.1±0.7, 18.59N×121.18E,h0km,mb3.9/14, mb1 4.1/17,mb1mx3.9/78,mbtmp4.0/17, ML3.7/3, MS3.3/20, Ms1 3.3/20,ms1mx3.1/67, Error ellipse: s-maj=23.8km s-min=14.6km az=89.0*
ISCJB ***27*** *08:59:12.6±0.3, 18.78N±0.02×120.88E±0.04, h10km, mb4.3/37, MS3.5/18, Error ellipse: s-maj=5.8km s-min=3.1km az=164.0*
NEIC ***27*** *08:59:13.8±2.5, 18.55N×121.06E, h19km±15km, mb4.6/22, Error ellipse: s-maj=8.7km s-min=6.7km az=121.0*
MAN ***27*** *08:59:13, 18.76N×121.02E, h1km, mb4.9, ML3.8, MS3.8*
BJI ***27*** *08:59:16.6, 18.77N×120.74E, h30km, mb4.4/20, mB4.3/11, ML4.1/2, Ms3.9/10, Ms7 3.6/8*

ISC 27 08:59:13.0±1.5, 18.64N±0.03×120.93E±0.05, h12km±10km, n88,σ1.94/86,mb4.5/37,MS3.4/18,2D,Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
APYP	**Conner**	**0.83**	**159**	*e*P		**Pn**	**08 59 31.6**	**+1.0**
APYP				*e*S		**Sn**	**08 59 44.3**	**+1.5**
ABRA	**Dolores**	**1.01**	**192**	*e*P		**Pn**	**08 59 33.7**	**+0.7**
ABRA				*e*S		**Sn**	**08 59 53.9**	**+6.8**
SGCP	**Mt. Cagua**	**1.13**	**110**	*e*P		**Pn**	**08 59 35.4**	**+0.6**
SGCP				*e*S		**Sn**	**08 59 51.6**	**+1.4**
CVP	**Callao Caves**	**1.26**	**138**	⇓*i*P		**Pn**	**08 59 39.1**	**+2.6**
CVP				*i* S		**Sn**	**08 59 57.5**	**+4.2**
CAUP	**Cauayan**	**1.89**	**153**	*e*P		**Pg**	**08 59 49.8**	**+0.5**
BALP	**Baler**	**2.95**	**168**	*e*P		**Pb**	**09 00 04.3**	**-1.3**
SCZP	**Santa Cruz**	**3.01**	**199**	*e*P		**Pb**	**09 00 04.4**	**-2.2**
SCZP				*e*S		**Sg**	**09 00 46.8**	**-3.0**
PCPH	**Palayan**	**3.07**	**177**	*e*P		**Pb**	**09 00 07.0**	**-0.6**
TWG	**Pinlang**	**4.16**	**2**	*e*Pn		**Pn**	**09 00 16.9**	**+0.5**
TGY	**Tagaytay City**	**4.51**	**180**	Pn		Pb	09 00 26.8	-5.5
	25nm,0.3s,baz=298,slow=8.6,SNR=4.1							
TGY				Lg		Lg	09 01 34.1	
	34nm,0.3s,baz=277,slow=17,SNR=2.0							
TGY				LR		LR	09 02 24.4	
	comp=Z,907nm,18.2s,baz=258,slow=43							
TPUB	**Ta-pu**	**4.64**	**357**	*e*Pn		**Pn**	**09 00 24.1**	**+1.0**
YULB	**Yu-li**	**4.74**	**4**	*e*Pn		**Pn**	**09 00 25.3**	**+0.9**
YULB				*e*Sn		**Sn**	**09 01 19.5**	**+0.2**
SSLB	**Suanglung**	**5.12**	**0**	*e*Pn		**Pn**	**09 00 31.2**	**+1.6**
SSLB				*e*Sn		**Sn**	**09 01 30.4**	**+1.6**
NACB	**Ninganchiao**	**5.54**	**6**	*e*Pn		**Pn**	**09 00 36.2**	**+0.8**
NACB				*e*Sn		**Sn**	**09 01 38.4**	**-0.6**
YHNB	**Yeheng**	**6.01**	**4**	*e*Pn		**Pn**	**09 00 45.0**	**+3.0**
YHNB				*e*Sn		**Sn**	**09 01 50.8**	**0.0**
YOJ	**Yonaguni jima**	**6.11**	**18**	*e*Pn		**Pn**	**09 00 44.9**	**+1.7**
TATO	**Taipei**	**6.33**	**5**	*e*Pn		**Pn**	**09 00 49.0**	**+2.9**
QIZ	**Qiongzhong**	**10.51**	**274**	P		**Pn**	**09 01 42.5**	**-1.1**
QIZ				S		**Sn**	**09 03 41.8**	**+0.5**
QIZ				LR		LR		
	comp=N,340nm,18.6s							
QIZ				LR		LR		
	comp=Z,220nm,14.7s							
QIZ	**Qiongzhong**	**10.51**	**274**	*e*Pn		**Pn**	**09 01 43.0**	**-0.6**
QIZ				*e*Sn		**Sn**	**09 03 38.0**	**-3.2**
JOW	**Kunigami**	**10.60**	**38**	Pn		**Pn**	**09 01 43.4**	**-1.4**
	1.7nm,0.3s,baz=293,slow=4.5,SNR=6.2							
JOW				LR		LR	09 05 43.8	
	comp=Z,87nm,19.4s,baz=264,slow=37							
JOW	**Kunigami**	**10.60**	**38**	*e*Pn		**Pn**	**09 01 44.7**	**-0.1**
DAV	**Davao City (W)**	**12.36**	**158**	LR		LR	09 07 39.9	
	comp=Z,235nm,19.3s,baz=336,slow=42							
NJ2	**Nanjing**	**13.48**	**352**	*e*P		**Pn**	**09 02 26.3**	**+2.1**
NJ2				pmax		pmax		
	comp=Z,6.0nm,0.5s							
MYLDM	**Lahad Datu**	**13.59**	**190**	*e*Pn		**Pn**	**09 02 23.2**	**-2.5**
JNU	**Nakatsue**	**16.96**	**30**	Pn		**Pn**	**09 03 09.6**	**-0.7**
	0.2nm,0.3s,baz=183,slow=8.6,SNR=2.9							
JNU				LR		LR	09 09 26.4	
	comp=Z,110nm,21.4s,baz=233,slow=36							
XAN	**Xi'an**	**18.71**	**327**	P		**P**	**09 03 32.5**	**+1.0**
XAN				pmax		pmax		
	comp=Z,8.0nm,1.1s							
XAN				pmax		pmax		
	comp=Z,55nm,3.8s							
KSAR	**Wonju Array Be**	**19.70**	**17**	P		**P**	**09 03 41.9**	**-0.3**
KSRS	**Korea Array**	**19.72**	**17**	P		**P**	**09 03 41.9**	**-0.5**
	0.3nm,0.3s,baz=196,slow=12,SNR=6.8							
KSRS				LR		LR	09 11 46.9	
	comp=Z,100nm,19.1s,baz=199,slow=38							
CD2	**Chengdu**	**19.77**	**311**	*e*P		**P**	**09 03 43.5**	**+0.3**
CD2				pmax		pmax		
	comp=Z,10.0nm,0.5s							

CMAR	**Chiang Mai Arr**		**20.85**	**273**	P		**P**	**09 03 58.2**	**+3.3**
	1.4nm,0.4s,baz=89,slow=8.4,SNR=7.0								
CMAR					LR		LR	09 12 06.1	
	comp=Z,39nm,18.3s,baz=185,slow=37								
BJI	**Beijing**		**21.72**	**350**	⇓*e*P		**P**	**09 04 07.8**	**+3.8**
BJI					pmax		pmax		
	comp=Z,31nm,0.8s								
JHJ	**Hachijo jima 2**		**22.21**	**46**	LR		LR	09 12 08.6	
	comp=Z,31nm,19.0s,baz=332,slow=35								
LZH	**Lanzhou**		**23.01**	**322**	*e*P		**P**	**09 04 19.5**	**+1.4**
LZH					pP		sP	09 04 30.3	+7.3
LZH					PP		**PnPn**	**09 04 51.0**	**+8.1**
LZH					*e*S		S	09 08 20.8	-7.8
LZH					pmax		pmax		
	comp=Z,28nm,1.1s								
LZH					pmax		pmax		
	comp=Z,97nm,4.3s								
LZH					LR		LR		
	comp=N,1μm,12.5s								
LZH					LR		LR		
	comp=E,1μm,12.8s								
LZH					LR		LR		
	comp=Z,1μm,14.4s								
MJAR	**Matsushiro Arr**		**23.44**	**37**	P		**P**	**09 04 21.4**	**-0.9**
	1.2nm,0.8s,baz=218,slow=6.9,SNR=3.2								
HHC	**Hu-ho-hao-te**		**23.55**	**342**	*e*P		**P**	**09 04 24.5**	**+1.1**
HHC					S		**S**	**09 08 33.8**	**-3.6**
HHC					pmax		pmax		
	comp=Z,18nm,0.8s								
HHC					pmax		pmax		
	comp=Z,40nm,4.0s								
HHC					LR		LR		
	comp=N,1μm,12.1s								
HHC					LR		LR		
	comp=E,920nm,11.9s								
HHC					LR		LR		
	comp=Z,1μm,12.5s								
SONM	**Songino Array**		**31.44**	**341**	P		**P**	**09 05 35.6**	**+1.2**
	2.2nm,0.9s,baz=156,slow=5.9,SNR=6.9								
SONM					LR		LR	09 20 23.1	
	comp=Z,67nm,18.6s,baz=238,slow=40								
SONA1	**Songino Array**		**31.45**	**341**	*e*P		**P**	**09 05 35.2**	**+0.8**
SONA1					*e*PcP		**PcP**	**09 08 25.3**	**-2.3**
KLR	**Kul'dur**		**31.74**	**14**	P		**P**	**09 05 36.5**	**-0.3**
	0.2nm,0.8s,baz=232,slow=5.0,SNR=5.4								
WMQ	**Urumqi**		**37.51**	**319**	P		**P**	**09 06 26.5**	**-0.4**
WMQ					pmax		pmax		
	comp=Z,25nm,1.5s								
WMQ					LR		LR		
	comp=N,130nm,23.5s								
WMQ					LR		LR		
	comp=E,780nm,38.9s								
WMQ					LR		LR		
	comp=Z,69nm,20.5s								
WRA	**Warramunga Arr**		**40.54**	**160**	P		**P**	**09 06 49.7**	**-2.6**
	0.4nm,0.6s,baz=342,slow=9.2,SNR=14								
WB2	**Warramunga Arr**		**40.54**	**160**	*e*P		**P**	**09 06 51.2**	**-1.2**
	15nm,1.4s								
MKAR	**Makanchi Array**		**42.29**	**320**	LR		LR	09 25 26.2	
	comp=Z,30nm,19.5s,baz=140,slow=37								
H11N1	**WAKE ISLAND Hy**		**43.32**	**81**	T		T	09 53 06.8	
	baz=277,SNR=7.0								
H11N2	**WAKE ISLAND Hy**		**43.33**	**81**	T		T	09 53 20.4	
	baz=277								
H11N3	**WAKE ISLAND Hy**		**43.34**	**81**	T		T	09 53 21.4	
	baz=277								
ASAR	**Alice Springs**		**43.91**	**163**	P		**P**	**09 07 19.8**	**-0.1**
	0.8nm,0.7s,baz=340,slow=7.0,SNR=8.2								
PETK	**Petropavlovsk-**		**44.65**	**31**	LR		LR	09 26 13.0	
	comp=Z,36nm,19.7s,baz=212,slow=36								
ZALV	**Zalesovo Beam**		**44.84**	**330**	LR		LR	09 27 01.7	
	comp=Z,40nm,20.0s,baz=264,slow=37								
NIL	**Nilore**		**44.95**	**299**	*e*P		**P**	**09 07 29.0**	**+0.8**
	8.9nm,0.8s								
SEY	**Seymchan**		**49.27**	**18**	P		**P**	**09 08 01.5**	**+0.1**
	0.6nm,0.3s,baz=226,slow=5.1,SNR=4.3								
TIXI	**Tiksi**		**53.22**	**3**	P		**P**	**09 08 31.1**	**+0.3**
	1.6nm,0.3s,baz=168,slow=3.9,SNR=5.5								
TIXI	**Tiksi**		**53.22**	**3**	*e*P		**P**	**09 08 29.9**	**-0.9**
	14nm,1.3s								
STKA	**Stephens Creek**		**54.00**	**158**	P		**P**	**09 08 36.6**	**-0.5**
	0.8nm,0.7s,baz=0.0,slow=12,SNR=2.1								
ABKAR	**Akbulak array**		**57.23**	**317**	*e*P		**P**	**09 09 01.5**	**+1.3**
	12nm,0.8s								
ARU	**Arti**		**59.44**	**325**	P		**P**	**09 09 16.2**	**+0.7**
	1.8nm,0.3s,baz=90,slow=7.1,SNR=3.7								
GNI	**Garni**		**67.82**	**307**	LR		LR	09 43 51.5	
	comp=Z,17nm,18.3s,baz=183,slow=39								
KBZ	**Khabaz**		**68.81**	**310**	P		**P**	**09 10 18.3**	**+1.0**
	2.0nm,0.9s,baz=177,slow=2.5,SNR=4.0								
KBZ					LR		LR	09 42 29.5	
	comp=Z,32nm,21.1s,baz=86,slow=38								
KVAR	**Kislovodsk Arr**		**68.94**	**311**	LR		LR	09 45 27.4	
	comp=Z,23nm,18.1s,baz=46,slow=40								
IM3	**Indian Mountai**		**71.24**	**26**	*e*P		**P**	**09 10 32.3**	**+0.5**
CAST	**Castle Rocks**		**72.17**	**28**	*e*P		**P**	**09 10 37.7**	**+0.1**
	6.3nm,0.8s								
PPLA	**Purkeypile**		**72.18**	**29**	*e*P		**P**	**09 10 38.1**	**+0.4**
	6.1nm,1.3s								
OHAK	**Old Harbor**		**72.27**	**35**	*e*P		**P**	**09 10 38.3**	**+0.2**
	12nm,1.2s								
KDAK	**Kodiak Island**		**72.58**	**34**	P		**P**	**09 10 39.6**	**-0.4**
	baz=212,slow=9.5								
KDAK	**Kodiak Island**		**72.58**	**34**	*e*P		**P**	**09 10 40.2**	**+0.2**
	4.9nm,0.9s								
MLY	**Manley**		**72.58**	**26**

mb3.8/17,MS3.3/1,Error ellipse: s-maj=6.4km s-min=4.6km az=27.1
BJI ***27*** *09:01:04.0,43.54N×87.49E,h5km,mb4.2/7,mB4.3/3, ML3.9/11,Ms3.7/4,Ms7 3.5/4*
NNC ***27*** *09:01:05.1±2.6,43.80N×87.26E,h0km,mb4.2,mpv3.8, Error ellipse: s-maj=20.5km s-min=17.8km az=99.0*

ISC 27 09:01:05.2±0.8,**43.71N**±0.06×**87.56E**±0.05,**h29**km±5km, **n69**,σ1§**25**/**90**,**mb3.8**/17,**10C-12D**,**Northern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WMQ	**Urumqi**	**0.15**	**40**	Pg	**Pb**	**09 01 10.0**	**-0.8**
WMQ				Sg	**Sb**	**09 01 15.5**	**+0.8**
WMQ				smax	smax		
	comp=N,36μm,0.7s						
WMQ				smax	smax		
	comp=E,38μm,0.7s						
WMQ	**Urumqi**	**0.15**	**40**	Pg	**Pb**	**09 01 10.0**	**-0.8**
WMQ				Sg	**Sb**	**09 01 15.5**	**+0.8**
WMQ	**Urumqi**	**0.15**	**40**	P	**Pb**	**09 01 10.0**	**-0.8**
WMQ						09 01 15.5	
MK01	**Makanchi Array**	**4.81**	**311**	*e*Pn	**Pn**	**09 02 16.0**	**+0.2**
MK01				*e*Sn	**Sn**	**09 03 12.3**	**+1.8**
MK31	**Makanchi Array**	**4.83**	**312**	⇑Pn	**Pn**	**09 02 16.5**	**+0.5**
	1.5nm,0.2s,baz=129,slow=14,SNR=240						
MK31				⇓Pg	Pb	09 02 22.9	-6.2
	8.5nm,0.4s,baz=133,slow=14,SNR=14						
MK31				⇓Sn	**Sn**	**09 03 12.2**	**+1.2**
	44nm,0.6s						
MK31				⇓Lg	Lg	09 03 31.5	
	61nm,0.5s						
MK31	**Makanchi Array**	**4.83**	**312**	*e*Pn	**Pn**	**09 02 16.6**	**+0.5**
MK31				*e*Sn	**Sn**	**09 03 12.6**	**+1.6**
MK31	**Makanchi Array**	**4.83**	**312**	*e*P	**Pn**	**09 02 16.5**	**+0.5**
MK32	**Makanchi Array**	**4.83**	**312**	*e*Pn	**Pn**	**09 02 16.4**	**+0.3**
MK32				*e*Sn	**Sn**	**09 03 12.4**	**+1.3**
MK32				*e*Lg	Lg	09 03 29.8	
MKAR	**Makanchi Array**	**4.83**	**312**	Pn	**Pn**	**09 02 16.4**	**+0.3**
	4.7nm,0.3s,baz=131,slow=14,SNR=270						
MKAR				Sn	**Sn**	**09 03 12.4**	**+1.3**
	12nm,0.3s,baz=138,slow=18,SNR=5.0						
MKAR				Lg	Lg	09 03 29.8	
	17nm,0.3s,baz=131,slow=30,SNR=6.4						
MKAR				LR	LR	09 04 39.0	
	comp=Z,86nm,21.8s,baz=224,slow=45						
MKAR	**Makanchi Array**	**4.83**	**312**	*e*Pn	**Pn**	**09 02 16.5**	**+0.5**
MKAR				*e*Sn	**Sn**	**09 03 12.7**	**+1.7**
MKAR				*e*Lg	Lg	09 03 29.8	
MKAR	**Makanchi Array**	**4.83**	**312**	*e*P	**Pn**	**09 02 16.5**	**+0.5**
MKAR				pmax	pmax		
	comp=Z,5.0nm,0.3s						
MAKZ	**Makanchi**	**5.02**	**310**	⇓Pn	**Pn**	**09 02 18.9**	**+0.5**
	comp=Z,7.9nm,0.4s						
MAKZ				⇑Pg	Pb	09 02 24.8	-7.4
	comp=Z,13nm,0.4s						
MAKZ				⇓Sn	**Sn**	**09 03 15.8**	**+0.3**
	comp=Z,40nm,0.6s						
MAKZ				⇓Lg	Lg	09 03 37.1	
	comp=Z,91nm,1.0s						
MAKZ	**Makanchi**	**5.02**	**310**	*e*Pn	**Pn**	**09 02 19.0**	**+0.5**
MAKZ				*e*Sn	**Sn**	**09 03 17.0**	**+1.6**
MAKZ	**Makanchi**	**5.02**	**310**	*e*P	**Pn**	**09 02 18.9**	**+0.5**
PDGK	**Podgornoye**	**5.88**	**269**	⇓Pn	**Pn**	**09 02 33.0**	**+2.5**
	comp=Z,5.2nm,0.4s						
PDGK				⇑Sn	**Sn**	**09 03 35.6**	**-1.4**
	comp=Z,29nm,0.7s						
PDGK				⇑Lg	Lg	09 04 01.8	
	comp=Z,114nm,0.9s						
PDGK	**Podgornoye**	**5.88**	**269**	*e*P	**Pn**	**09 02 30.6**	**+0.1**
DGZ	**Jazzator, Alta**	**6.00**	**359**	*i* P	**Pn**	**09 02 35.8**	**+3.7**
DGZ				*i* S	**Sn**	**09 03 43.6**	**+3.8**
TARG	**Taragay, Kyrgy**	**7.45**	**258**	*e*Pn	**Pn**	**09 02 53.8**	**+1.5**
TARG				*e*Sn	**Sn**	**09 04 15.1**	**-1.0**
KDJ	**Kajisay**	**7.78**	**262**	*e*Pn	**Pn**	**09 02 57.9**	**+1.3**
KDJ				*e*Sn	**Sn**	**09 04 25.1**	**+1.2**
TKM2	**Tokmak 2**	**8.76**	**269**	⇓Pn	**Pn**	**09 03 10.5**	**+0.4**
	comp=Z,3.5nm,0.6s						
TKM2				⇓Lg	Lg	09 05 36.0	
	comp=Z,15nm,0.7s						
TKM2	**Tokmak 2**	**8.76**	**269**	*e*P	**Pn**	**09 03 10.5**	**+0.4**
KURBB	**Kurchatov Arra**	**9.25**	**322**	Pn	**Pn**	**09 03 15.5**	**-1.0**
	comp=Z,0.4nm,0.3s,baz=132,slow=12,SNR=26						
KURBB				Sn	**Sn**	**09 04 58.2**	**-1.4**
	comp=Z,0.5nm,0.3s,baz=138,slow=14,SNR=4.4						
KURBB				Lg	Lg	09 05 53.7	
	comp=Z,0.5nm,0.3s,baz=146,slow=29,SNR=4.7						
KURBB	**Kurchatov Arra**	**9.25**	**322**	⇓Pn	**Pn**	**09 03 15.2**	**-1.4**
	comp=Z,4.5nm,0.4s						
KURBB				⇑Lg	Lg	09 05 50.0	
	comp=Z,64nm,0.7s						
KURK	**Kurchatov**	**9.28**	**322**	⇑Pn	**Pn**	**09 03 15.6**	**-1.3**
	comp=Z,1.8nm,0.3s						
KURK				⇑Lg	Lg	09 05 59.4	
	comp=Z,56nm,0.9s						
KURK	**Kurchatov**	**9.28**	**322**	*e*Pn	**Pn**	**09 03 15.8**	**-1.1**
KURK				*e*Sn	**Sn**	**09 04 58.8**	**-1.4**
KURK				*e*Lg	Lg	09 05 53.7	
KURK	**Kurchatov**	**9.28**	**322**	⇑ *i*P	**Pn**	**09 03 15.6**	**-1.3**
AAK	**Ala-Archa**	**9.61**	**268**	Pn	Pn	09 03 28.8	+7.1
	comp=Z,0.3nm,0.3s,baz=193,slow=4.4,SNR=4.1						
AAK				Lg	Lg	09 06 02.2	
	comp=Z,0.2nm,0.3s,baz=105,slow=20,SNR=2.7						
GTA	**Gaotai**	**10.13**	**111**	*e*P	Pn	09 03 34.0	+5.2
GTA				pP		09 03 38.5	
GTA				sP		09 03 41.8	
GTA				pmax	pmax		
	comp=Z,6.0nm,0.5s						
ZAA0	**Zalesovo Array**	**10.41**	**351**	⇑Pn	**Pn**	**09 03 31.7**	**-0.6**
	comp=Z,1.7nm,0.4s						
ZAA0				⇓Sn	**Sn**	**09 05 24.8**	**-3.0**
	comp=Z,26nm,0.8s						
ZAA0	**Zalesovo Array**	**10.41**	**351**	*e*Pn	**Pn**	**09 03 31.6**	**-0.8**
ZAA0				*e*Sn	**Sn**	**09 05 25.5**	**-2.4**
ZALV	**Zalesovo Beam**	**10.41**	**351**	Pn	**Pn**	**09 03 31.9**	**-0.5**
	comp=Z,1.8nm,0.3s,baz=168,slow=14,SNR=14						
ZALV				Sn	**Sn**	**09 05 25.9**	**-1.9**
	comp=Z,3.7nm,0.3s,baz=169,slow=27,SNR=10.0						
ZALV				LR	LR	09 08 09.5	
	comp=Z,84nm,18.4s,baz=70,slow=41						
ZALV	**Zalesovo Beam**	**10.41**	**351**	*e*Pn	**Pn**	**09 03 31.8**	**-0.5**
ZALV				*e*Sn	**Sn**	**09 05 26.4**	**-1.4**
ZALV	**Zalesovo Beam**	**10.41**	**351**	*e*P	**Pn**	**09 03 31.8**	**-0.5**
ZALV				*e*		09 05 26.5	
ZAA1	**Zalesovo Array**	**10.41**	**351**	*e*Pn	**Pn**	**09 03 31.9**	**-0.5**
ZAA1				*e*Sn	**Sn**	**09 05 25.9**	**-2.0**
OTUK	**Ortayu**	**11.52**	**298**	*e*P	**Pn**	**09 03 47.6**	**-0.1**
SONA0	**Songino Array**	**13.77**	**66**	*e*Pn	**Pn**	**09 04 18.5**	**0.0**
SONM	**Songino Array**	**13.77**	**66**	Pn	**Pn**	**09 04 18.5**	**0.0**
	comp=Z,0.1nm,0.3s,baz=271,slow=12,SNR=2.5						
SONM				Lg	Lg	09 08 22.7	
	comp=Z,0.1nm,0.3s,baz=261,slow=33,SNR=5.9						
BVAR	**Borovoye Array**	**14.70**	**315**	Pn	**Pn**	**09 04 32.6**	**+1.6**
	comp=Z,0.3nm,0.3s,baz=104,slow=12,SNR=2.8						
BVAR				LR	LR	09 10 42.8	
	comp=Z,80nm,19.4s,baz=119,slow=40						
BRVK	**Borovoye**	**14.78**	**315**	⇑*e*P	**Pn**	**09 04 31.8**	**-0.2**
CD2	**Chengdu**	**18.10**	**130**	*e*P	**P**	**09 05 15.3**	**+0.6**
CD2				pP	Pn	09 05 17.8	+3.3
CD2				S	**Sn**	**09 08 37.5**	**+1.9**
CD2				sS	S	09 08 47.3	+6.7
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,120nm,5.0s						
CD2				LR	LR		
	comp=Z,400nm,16.4s						
CD2				LR	LR		
	comp=Z,220nm,13.4s						
AKTO	**Aktyubinsk**	**21.12**	**299**	P	**P**	**09 05 46.4**	**-1.1**
	comp=Z,0.9nm,0.4s,baz=50,slow=7.9,SNR=2.9						
BOD	**Bodaibo**	**21.70**	**40**	*e*P	**P**	**09 05 53.9**	**+0.4**
BOD				pmax	pmax		
	comp=Z,5.0nm,1.3s						
ARU	**Arti**	**22.35**	**315**	P	**P**	**09 06 00.3**	**-0.1**
	comp=Z,2.7nm,0.4s,baz=98,slow=7.1,SNR=5.0						
ARU	**Arti**	**22.35**	**315**	*e*P	**P**	**09 06 00.4**	**-0.1**
	comp=Z,3.7nm,0.8s						
ARU	**Arti**	**22.35**	**315**	*d* iP	**P**	**09 06 01.8**	**+1.3**
ARU						09 06 21.6	
ARU				S	**S**	**09 10 04.6**	**+0.2**
ARU				pmax	pmax		
	comp=Z,4.0nm,0.8s						
GEYT	**Alibeck**	**22.95**	**266**	P	**P**	**09 06 07.4**	**+0.3**
	comp=Z,0.9nm,0.3s,baz=87,slow=7.4,SNR=2.2						
CMAR	**Chiang Mai Arr**	**26.94**	**156**	P	**P**	**09 06 42.8**	**-1.2**
	comp=Z,0.8nm,0.3s,baz=321,slow=8.1,SNR=3.8						
FIA0	**FINESS Array S**	**39.63**	**319**	*e*P	**P**	**09 08 33.6**	**-0.3**
FIA0	**FINESS Array S**	**39.63**	**319**	*e*P	**P**	**09 08 33.6**	**-0.3**
FINES	**FINESS Array B**	**39.63**	**319**	P	**P**	**09 08 33.6**	**-0.3**
	comp=Z,1.4nm,0.8s,baz=78,slow=14,SNR=3.2						
FINES	**FINESS Array B**	**39.63**	**319**	P	P	**09 08 33.6**	**-0.3**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
BR101	**Keskin Array S**	**39.86**	**283**	*e*P	**P**	**09 08 38.0**	**+1.7**
BRTR	**Keskin Array B**	**39.86**	**283**	P	**P**	**09 08 38.0**	**+1.7**
	comp=Z,0.2nm,0.4s,baz=86,slow=5.8,SNR=2.3						
BRTR	**Keskin Array B**	**39.86**	**283**	*e*P	P	09 08 43.5	+7.3
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
RAYN	**Ar Rayn**	**39.87**	**254**	*e*P	**P**	**09 08 36.8**	**+0.4**
	comp=Z,4.4nm,1.4s						
ARA0	**ARCESS Array S**	**40.18**	**331**	*e*P	**P**	**09 08 38.4**	**0.0**
ARA0				*e*PcP	**PcP**	**09 10 41.2**	**-0.8**
ARCES	**ARCESS Array B**	**40.18**	**331**	P	**P**	**09 08 38.4**	**0.0**
	comp=Z,0.5nm,0.4s,baz=83,slow=7.4,SNR=3.2						
ARCES				PcP	**PcP**	**09 10 41.2**	**-0.8**
	comp=Z,1.2nm,0.8s,baz=46,slow=3.5,SNR=3.7						
HFS	**Hagfors**	**45.82**	**318**	P	**P**	**09 09 23.7**	**-0.4**
	comp=Z,3.6nm,1.0s,baz=101,slow=7.5,SNR=2.9						
NB2	**NORSAR Subarra**	**46.78**	**320**	P	**P**	**09 09 30.8**	**-0.9**
	comp=Z,1.6nm,0.6s,baz=73,slow=7.9						
NB200	**NORSAR Array S**	**46.78**	**320**	*e*P	**P**	**09 09 31.2**	**-0.4**
NOA	**NORSAR Array B**	**46.78**	**320**	P	**P**	**09 09 31.2**	**-0.4**
	comp=Z,0.4nm,0.5s,baz=76,slow=7.8,SNR=2.6						
TULEG	**Thule**	**59.09**	**354**	*e*P	**P**	**09 11 03.4**	**+1.3**
	comp=Z,4.4nm,1.1s						
ILAR	**Eielson Array**	**63.81**	**23**	P	**P**	**09 11 34.9**	**+0.7**
	comp=Z,0.4nm,0.7s,baz=308,slow=7.3,SNR=3.1						
INK	**Inuvik**	**64.15**	**16**	LR	LR	09 45 13.8	
	comp=Z,19nm,18.2s,baz=82,slow=41						
KDAK	**Kodiak Island**	**67.17**	**30**	P	**P**	**09 11 56.3**	**+0.4**
	comp=Z,1.9nm,0.5s,baz=297,slow=4.5,SNR=5.4						
WR1	**Warramunga Arr**	**76.48**	**135**	*e*P	**P**	**09 12 50.6**	**-1.7**
	comp=Z,3.6nm,1.4s						
WRA	**Warramunga Arr**	**76.48**	**135**	P	**P**	**09 12 50.6**	**-1.7**
	comp=Z,0.5nm,0.6s,baz=321,slow=3.5,SNR=8.4						
TOA1	**Torodi Ar. Sit**	**78.08**	**277**	*e*P	**P**	**09 13 00.2**	**-1.3**
TORD	**Torodi Ar. Bea**	**78.08**	**277**	P	**P**	**09 13 00.2**	**-1.3**
	comp=Z,0.1nm,0.4s,baz=46,slow=5.4,SNR=2.8						

IDC 27 09:03:36.8±8.3,6.09S×149.86E,h48km±65km,mb2.8/2, mb1 3.3/3,mb1mx2.9/52,mbtmp3.2/3,ML1.7/1,Error ellipse: s-maj=123.4km s-min=59.2km az=123.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.25**	**219**	P	Pn	09 04 39.4	+0.3
	2.9nm,0.3s,baz=45,slow=8.6,SNR=6.4						
PMG				S	Sn	09 05 28.2	+0.7
	4.9nm,0.3s,baz=298,slow=17,SNR=5.2						
WRA	**Warramunga Arr**	**20.43**	**226**	P	P	09 08 10.4	0.0
	0.6nm,0.5s,baz=52,slow=11,SNR=4.6						
ASAR	**Alice Springs**	**23.27**	**220**	P	P	09 08 40.3	-0.1
	0.2nm,0.7s,baz=53,slow=9.4,SNR=2.5						
TORD	**Torodi Ar. Bea**	**147.87**	**285**	PKPbc	PKPbc	09 23 17.1	-0.7
	0.2nm,0.3s,baz=86,slow=2.0,SNR=4.2						

IDC 27 09:04:45.4±1.4,16.51S×178.31W,h0km,mb3.9/8, mb1 4.2/8,mb1mx3.9/43,mbtmp3.9/8,Error ellipse: s-maj=102.6km s-min=18.9km az=149.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**39.40**	**240**	P	P	09 12 17.0	-0.1
	2.4nm,0.7s,baz=85,slow=11,SNR=7.4						
WRA	**Warramunga Arr**	**44.99**	**258**	P	P	09 13 02.9	-0.1
	1.3nm,0.5s,baz=94,slow=7.0,SNR=33						
ASAR	**Alice Springs**	**45.27**	**253**	P	P	09 13 05.0	-0.2
	9.2nm,0.7s,baz=88,slow=8.5,SNR=134						
NVAR	**Mina Array Bea**	**78.36**	**44**	P	P	09 16 48.5	+0.4
	0.5nm,0.7s,baz=233,slow=7.5,SNR=3.3						
ILAR	**Eielson Array**	**84.51**	**13**	P	P	09 17 20.2	+0.4
	0.3nm,0.4s,baz=220,slow=5.2,SNR=4.7						
TXAR	**Lajitas Array**	**85.17**	**58**	P	P	09 17 24.2	+0.1
	0.8nm,0.9s,baz=220,slow=5.7,SNR=8.9						
PDAR	**Pinedale Array**	**86.28**	**43**	P	P	09 17 29.0	-0.5
	0.5nm,0.8s,baz=188,slow=6.1,SNR=3.4						
YKA	**Yellowknife Ar**	**93.03**	**25**	P	P	09 17 59.9	-0.6
	0.1nm,0.5s,baz=248,slow=4.3,SNR=3.7						

IDC ***27*** *09:16:07.2±0.6,12.38N×144.13E,h0km,mb4.1/16, mb1 4.3/16,mb1mx4.0/55,mbtmp4.1/16,MS3.2/8, Ms1 3.2/8,ms1mx2.8/54,Error ellipse: s-maj=20.4km s-min=13.8km az=103.0*
ISCJB ***27*** *09:16:09.5±4.5,12.32N±0.07×144.06E±0.09, h27km±32km,mb4.3/23,MS3.1/7,Error ellipse: s-maj=16.5km s-min=9.8km az=26.2*
NEIC ***27*** *09:16:11.3±4.0,12.34N×144.15E,h28km±27km,mb4.7/8, Error ellipse: s-maj=12.5km s-min=9.1km az=103.0*

ISC 27 09:16:09.6±4.1,**12.37N**±0.09×**144.1E**±0.1,**h15**km±24km, **n51**,σ0§**91**/**48**,**mb4.3**/23,**MS3.2**/7,**South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**1.40**	**30**	Pn	**Pb**	**09 16 35.1**	**-0.4**
	92nm,0.3s,baz=192,slow=6.4,SNR=42						
GUMO				Sn	**Sb**	**09 16 54.2**	**+1.0**
	127nm,0.3s,baz=303,slow=23,SNR=9.9						
GUMO	**Guam**	**1.40**	**30**	*e*Pn	**Pb**	**09 16 35.6**	**+0.1**
GUMO				*e*Sn	**Sn**	**09 16 51.5**	**-1.4**
SIJI	**Sorong**	**18.34**	**225**	LR	LR	09 27 10.2	
	comp=Z,90nm,18.6s,baz=346,slow=36						
H11N1	**WAKE ISLAND Hy**	**23.03**	**69**	T	T	09 45 15.4	
	baz=255,slow=75,SNR=24						
H11N2	**WAKE ISLAND Hy**	**23.04**	**69**	T	T	09 45 16.3	
	baz=255,slow=75,SNR=27						
H11N3	**WAKE ISLAND Hy**	**23.05**	**69**	T	T	09 45 22.7	
	baz=255,slow=75,SNR=22						
MJAR	**Matsushiro Arr**	**24.65**	**348**	LR	LR	09 30 41.4	
	comp=Z,76nm,18.3s,baz=190,slow=36						
KSRS	**Korea Array**	**28.89**	**333**	LR	LR	09 32 15.0	
	comp=Z,9.0nm,18.1s,baz=180,slow=34						
WR1	**Warramunga Arr**	**33.53**	**197**	*e*P	**P**	**09 22 47.9**	**-1.1**
	5.4nm,0.8s						
WR1				*e*PcP	**PcP**	**09 25 30.5**	**+0.8**
WRA	**Warramunga Arr**	**33.53**	**197**	P	**P**	**09 22 47.9**	**-1.1**
	2.5nm,0.8s,baz=20,slow=9.8,SNR=18						
WRA				PcP	**PcP**	**09 25 30.5**	**+0.8**
	0.4nm,0.9s,baz=7.2,slow=2.7,SNR=3.0						
ASAR	**Alice Springs**	**37.19**	**196**	P	**P**	**09 23 19.6**	**-0.8**
	1.4nm,0.6s,baz=18,slow=8.9,SNR=25						
ASAR				PcP	**PcP**	**09 25 41.0**	**+0.5**
	0.4nm,0.8s,baz=36,slow=3.0,SNR=4.1						
KLR	**Kul'dur**	**38.15**	**347**	PcP	**PcP**	**09 25 43.4**	**+0.5**
	0.0nm,0.5s,baz=154,slow=2.3,SNR=3.8						
PETK	**Petropavlovsk-**	**42.05**	**12**	LR	LR	09 38 48.8	
	comp=Z,24nm,20.7s,baz=164,slow=32						
CMAR	**Chiang Mai Arr**	**43.90**	**284**	P	**P**	**09 24 16.2**	**+0.1**
	0.8nm,0.4s,baz=81,slow=5.7,SNR=4.1						
CMAR				LR	LR	09 43 55.4	
	comp=Z,24nm,18.1s,baz=55,slow=38						
STKA	**Stephens Creek**	**44.07**	**183**	P	**P**	**09 24 17.1**	**-0.1**
	1.0nm,0.6s,baz=329,slow=9.7,SNR=3.3						
SONA0	**Songino Array**	**47.32**	**326**	*e*P	**P**	**09 24 43.8**	**+0.9**
SONM	**Songino Array**	**47.32**	**326**	P	**P**	**09 24 43.8**	**+0.9**
	0.4nm,0.5s,baz=161,slow=9.4,SNR=3.8						
MK01	**Makanchi Array**	**61.86**	**317**	*e*P	**P**	**09 26 28.1**	**-0.3**
MK31	**Makanchi Array**	**61.87**	**317**	*e*P	**P**	**09 26 28.9**	**+0.4**
MK32	**Makanchi Array**	**61.87**	**317**	*e*P	**P**	**09 26 28.4**	**0.0**
MKAR	**Makanchi Array**	**61.87**	**317**	P	**P**	**09 26 28.4**	**0.0**
	1.6nm,0.6s,baz=93,slow=8.9,SNR=21						
MKAR	**Makanchi Array**	**61.87**	**317**	*e*P	**P**	**09 26 28.9**	**+0.4**
	10.0nm,0.6s						
MAKZ	**Makanchi**	**62.09**	**317**	*e*P	**P**	**09 26 30.4**	**+0.5**
	2.4nm,0.8s						
ZALV	**Zalesovo Beam**	**62.20**	**325**	P	**P**	**09 26 30.1**	**-0.4**
	0.7nm,0.4s,baz=130,slow=6.6,SNR=2.3						
ZALV				PcP	**PcP**	**09 27 09.3**	**-1.1**
	0.5nm,0.4s,baz=156,slow=5.4,SNR=3.9						
ZAA1	**Zalesovo Array**	**62.20**	**325**	*e*P	**P**	**09 26 30.1**	**-0.4**
ZAA1				*e*PcP	**PcP**	**09 27 09.3**	**-1.1**
KURK	**Kurchatov**	**65.06**	**320**	*e*P	**P**	**09 26 49.3**	**-0.1**
	8.3nm,1.4s						
KURBB	**Kurchatov Arra**	**65.09**	**320**	P	**P**	**09 26 49.4**	**-0.2**
	2.0nm,0.6s,baz=102,slow=6.8,SNR=18						
IL1	**Eielson Array**	**69.96**	**25**	*e*P	**P**	**09 27 17.9**	**-2.3**
ILAR	**Eielson Array**	**69.96**	**25**	P	**P**	**09 27 18.8**	**-1.4**
	1.0nm,0.6s,baz=247,slow=5.7,SNR=17						
ILB	**Eielson Array**	**69.96**	**25**	*e*P	**P**	**09 27 18.9**	**-1.3**
BVAR	**Borovoye Array**	**70.44**	**322**	P	**P**	**09 27 23.1**	**-0.2**
	2.0nm,0.5s,baz=102,slow=6.8,SNR=13						
BVAR				LR	LR	09 58 28.9	
	comp=Z,27nm,20.3s,baz=131,slow=36						
DOT	**Dot Lake**	**70.93**	**27**	*e*P	**P**	**09 27 26.2**	**0.0**
	7.1nm,0.8s						
INK	**Inuvik**	**75.75**	**22**	*e*P	**P**	**09 27 54.2**	**-0.3**
	3.3nm,1.0s						
ABKAR	**Akbulak array**	**76.96**	**318**	*e*P	**P**	**09 28 01.0**	**-0.7**
AKTO	**Aktyubinsk**	**78.12**	**319**	P	**P**	**09 28 07.2**	**-0.9**
	0.9nm,0.3s,baz=84,slow=12,SNR=5.0						
GEYT	**Alibeck**	**79.40**	**307**	P	**P**	**09 28 15.6**	**0.0**
	1.9nm,0.7s,baz=250,slow=4.3,SNR=4.2						
WSAR	**Wadi Sarin**	**81.15**	**292**	P	**P**	**09 28 26.9**	**+1.8**
	4.3nm,0.9s,baz=323,slow=5.1,SNR=3.9						
YBH	**Yreka Blue Hor**	**84.20**	**49**	LR	LR	09 57 46.5	
	comp=Z,18nm,21.9s,baz=280,slow=30						
YKA	**Yellowknife Ar**	**84.26**	**27**	P	**P**	**09 28 40.5**	**0.0**
	1.4nm,0.9s,baz=288,slow=5.4,SNR=21						
RES	**Resolute Bay**	**85.89**	**13**	*e*P	**P**	**09 28 48.8**	**+0.3**
	5.8nm,0.8s						
EDM	**Edmonton**	**87.54**	**36**	*e*P	**P**	**09 28 57.6**	**+0.6**
	7.1nm,1.0s						
NV01	**Mina Array Sit**	**88.23**	**51**	*e*P	**P**	**09 29 02.1**	**+1.2**
NVAR	**Mina Array Bea**	**88.23**	**51**	P	**P**	**09 29 02.0**	**+1.1**
	1.0nm,0.7s,baz=259,slow=6.3,SNR=9.1						
FIA0	**FINESS Array S**	**91.96**	**335**	*e*P	**P**	**09 29 15.8**	**-1.7**
FINES	**FINESS Array B**	**91.96**	**335**	P	**P**	**09 29 15.8**	**-1.7**
	1.6nm,0.7s,baz=75,slow=3.8,SNR=7.6						
PDAR	**Pinedale Array**	**93.32**	**45**	LR	LR	10 04 13.3	
	comp=Z,10nm,20.8s,baz=321,slow=31						
TOA1	**Torodi Ar. Sit**	**134.94**	**303**	*e*PKPdf	**PKPdf**	**09 35 29.4**	**+0.2**
TORD	**Torodi Ar. Bea**	**134.94**	**303**	PKP	**PKPdf**	**09 35 29.4**	**+0.2**
	0.3nm,0.6s,baz=57,slow=2.3,SNR=3.0						
DBIC	**Dimbokro**	**143.84**	**300**	PKP	PKPbc	09 35 43.2	+0.2
	2.9nm,0.7s,baz=37,slow=4.7,SNR=5.1						
LPAZ	**La Paz**	**148.51**	**101**	PKPbc	**PKPbc**	**09 35 58.1**	**+0.5**
	1.4nm,0.7s,baz=316,slow=4.1,SNR=5.9						
LPAZ	**La Paz**	**148.51**	**101**	*e*PKPbc	**PKPbc**	**09 35 58.7**	**+1.1**

IDC ***27*** *09:24:52.0±1.5,17.67N×94.82E,h0km,mb3.7/5, mb1 3.9/6,mb1mx3.5/76,mbtmp3.7/6,ML4.1/1,Error ellipse: s-maj=50.2km s-min=19.3km az=62.0*
ISCJB ***27*** *09:24:55.4±1.1,17.8N±0.1×95.03E±0.09,h33km,mb3.7/5, Error ellipse: s-maj=20.7km s-min=12.4km az=10.9*

ISC 27 09:24:57.9±1.5,**17.8N**±0.2×**95.0E**±0.1,**h35**km,**n6**,σ1§**04**/**7**, **mb3.8**/5,**Myanmar**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**3.79**	**79**	Pn	**Pn**	**09 25 55.3**	**+1.4**
	3.3nm,0.3s,baz=261,slow=15,SNR=26						
CMAR				Sn	**Sn**	**09 26 36.0**	**-1.3**
	5.4nm,0.3s,baz=258,slow=30,SNR=7.0						
CMAR				Lg	Lg	09 26 48.7	
	3.1nm,0.3s,baz=256,slow=32,SNR=7.1						
MKAR	**Makanchi Array**	**30.78**	**343**	P	**P**	**09 31 10.2**	**+0.2**
	0.5nm,0.6s,baz=156,slow=9.3,SNR=6.7						
SONM	**Songino Array**	**31.39**	**15**	P	**P**	**09 31 15.4**	**-0.2**
	0.3nm,0.4s,baz=196,slow=9.8,SNR=2.6						
KURBB	**Kurchatov Arra**	**35.32**	**342**	P	**P**	**09 31 49.1**	**-0.4**
	1.2nm,0.6s,baz=153,slow=8.4,SNR=7.4						
WRA	**Warramunga Arr**	**53.81**	**132**	P	**P**	**09 34 17.1**	**-0.4**

ASAR	**Alice Springs**	**57.99**	**183**	P	**P**	**09 36 10.2**	**-1.2**
	1.7nm,0.8s,baz=358,slow=6.0,SNR=31							
GEYT	**Alibeck**	**61.46**	**298**	P	**P**	**09 36 35.4**	**+0.6**
	1.1nm,0.4s,baz=355,slow=1.6,SNR=3.8							
DZM	**Mont Dzumac**	**63.15**	**149**	P	**P**	**09 36 46.3**	**+0.3**
	2.3nm,0.6s,baz=338,slow=19,SNR=3.8							
STKA	**Stephens Creek**	**66.29**	**175**	P	**P**	**09 37 05.5**	**-0.3**
	0.9nm,0.5s,baz=323,slow=10,SNR=4.9							
FINES	**FINESS Array B**	**69.05**	**331**	P	**P**	**09 37 22.9**	**+0.4**
	1.1nm,0.5s,baz=35,slow=5.1,SNR=2.2							
KBZ	**Khabaz**	**69.38**	**309**	P	**P**	**09 37 25.5**	**+0.6**
	3.1nm,0.7s,baz=81,slow=7.6,SNR=10							
AKASG	**Malin Array Be**	**73.69**	**321**	P	**P**	**09 37 50.4**	**+0.1**
	0.8nm,0.5s,baz=50,slow=5.6,SNR=4.2							
HFS	**Hagfors**	**74.58**	**334**	P	**P**	**09 37 55.4**	**+0.2**
	1.7nm,0.5s,baz=63,slow=10,SNR=5.8							
NOA	**NORSAR Array B**	**74.81**	**336**	P	**P**	**09 37 56.8**	**+0.2**
	0.6nm,0.5s,baz=42,slow=5.5,SNR=3.3							
BRTR	**Keskin Array B**	**77.37**	**310**	P	**P**	**09 38 11.8**	**+0.5**
	1.1nm,0.9s,baz=79,slow=6.4,SNR=4.6							
MMAI	**Mount Meron Ar**	**80.00**	**303**	P	**P**	**09 38 26.3**	**+0.7**
	0.7nm,0.4s,baz=102,slow=4.7,SNR=2.6							
GERES	**GERESS Array B**	**82.56**	**326**	P	**P**	**09 38 38.8**	**+0.1**
	0.4nm,0.2s,baz=82,slow=2.8,SNR=4.0							
TXAR	**Lajitas Array**	**94.79**	**49**	P	**P**	**09 39 37.6**	**+0.6**
	0.1nm,0.5s,baz=298,slow=2.7,SNR=3.7							

*ISCJB **27** 09:32:57.3±1.1, 67°.53N±0°.03×33°.6E±0°.2, h0km, Error ellipse: s-maj=8.7km s-min=5.0km az=176.7*
*CSEM **27** 09:32:57.5±0.8, 67°.54N×33°.75E, h1km, ML2.4, Error ellipse: s-maj=17.0km s-min=9.3km az=89.0, Mining explosion.*
*HEL **27** 09:32:58.7±0.5, 67°.53N×33°.83E, h0km, ML2.4, Explosion*
*IDC **27** 09:33:00.9±1.8, 67°.68N×33°.51E, h0km, mb1 3.5/5, mb1mx3.1/80, mbtmp3.6/5, ML3.3/5, Error ellipse: s-maj=19.9km s-min=9.6km az=82.0*
*NAO **27** 09:33:01.1±1.8, 67°.60N×33°.23E, ML3.0*

ISC 27 09:32:56.1±1.5, **67°.56N**±0°.04×**33°.94E**±0°.08, **h0**km, **n37, σ1§60/55, Baltic States-Belarus-Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
VRF	**Varrio**	**1.67**	**279**	Pg		**Pg**	**09 33 28.1**	**+0.1**
VRF	**Varrio**	**1.67**	**279**	PG		**Pg**	**09 33 28.1**	**+0.1**
VRF				MSG			09 33 47.4	
	comp=Z,42nm,0.2s							
VRF				SN		**Sg**	**09 33 49.5**	**0.0**
KU6	**Riekki**	**2.22**	**228**	Pg		**Pb**	**09 33 37.6**	**+0.6**
KU6				Sg		**Sg**	**09 34 08.0**	**+0.7**
	comp=Z,22nm,0.2s							
KU6	**Riekki**	**2.22**	**228**	PG		**Pb**	**09 33 37.6**	**+0.6**
	baz=45							
KU6				MSG			09 34 03.0	
	comp=Z,22nm,0.2s							
KU6				SG		**Sg**	**09 34 08.0**	**+0.7**
MSF	**Maaselka**	**2.55**	**232**	Pg		**Pb**	**09 33 43.5**	**+0.9**
MSF	**Maaselka**	**2.55**	**232**	PG		**Pb**	**09 33 43.5**	**+0.9**
MSF				SG		**Sg**	**09 34 18.1**	**+0.2**
SGF	**Sodankyl**	**2.85**	**271**	Pn		**Pn**	**09 33 45.0**	**+2.2**
SGF	**Sodankyl**	**2.85**	**271**	PN		**Pn**	**09 33 45.0**	**+2.2**
SGF				SG		**Sb**	**09 34 24.6**	**+1.4**
RNF	**Rovaniemi**	**3.24**	**257**	Pn		**Pn**	**09 33 50.5**	**+2.4**
RNF				Sb		**Sb**	**09 34 31.4**	**-3.0**
RNF	**Rovaniemi**	**3.24**	**257**	PN		**Pn**	**09 33 50.5**	**+2.4**
	baz=70							
RNF				SB		**Sb**	**09 34 31.4**	**-3.0**
ARA0	**ARCESS Array S**	**3.68**	**307**	Pn		**Pn**	**09 33 55.6**	**+1.5**
	baz=121,slow=14							
ARA0				Sn		**Sn**	**09 34 37.5**	**-0.6**
	baz=122,slow=28							
ARA0				Lg		Lg	09 34 48.9	
	baz=122,slow=37							
ARA0	**ARCESS Array S**	**3.68**	**307**	Pn		**Pn**	**09 33 55.7**	**+1.5**
	baz=121,slow=14,SNR=409							
ARA0				Sn		**Sn**	**09 34 37.5**	**-0.6**
	baz=122,slow=25,SNR=8.7							
ARA0				Lg		Lg	09 34 48.9	
	SNR=8.9							
ARA0	**ARCESS Array S**	**3.68**	**307**	Pn		**Pn**	**09 33 55.6**	**+1.5**
	baz=121,slow=14							
ARA0				Sn		**Sn**	**09 34 37.5**	**-0.6**
	baz=122,slow=28							
ARA0				Lg		Lg	09 34 48.9	
	baz=122,slow=37							
ARCES	**ARCESS Array B**	**3.68**	**307**	Pn		**Pn**	**09 33 55.7**	**+1.5**
	comp=Z,10nm,0.3s,baz=120,slow=15,SNR=163							
ARCES				Sn		**Sn**	**09 34 37.5**	**-0.6**
	comp=Z,4.6nm,0.3s,baz=123,slow=25,SNR=11							
ARCES				Lg		Lg	09 34 49.2	
	comp=Z,4.9nm,0.3s,baz=120,slow=36,SNR=5.5							
ARE0	**ARCESS Array S**	**3.68**	**307**	Pn		**Pn**	**09 33 55.7**	**+1.6**
ARE0				Sn		**Sn**	**09 34 38.3**	**+0.1**
ARE0	**ARCESS Array S**	**3.68**	**307**	PN		**Pn**	**09 33 55.7**	**+1.6**
	baz=122							
ARE0				SN		**Sn**	**09 34 38.3**	**+0.1**
HEF	**Hetta**	**3.96**	**287**	Pn		**Pn**	**09 33 59.6**	**+1.6**
HEF				Sn		**Sn**	**09 34 46.3**	**+1.2**
HEF	**Hetta**	**3.96**	**287**	PN		**Pn**	**09 33 59.6**	**+1.6**
HEF				SN		**Sn**	**09 34 46.3**	**+1.2**
TOF	**Tornio**	**4.08**	**253**	Pn		**Pn**	**09 34 01.3**	**+1.7**
TOF	**Tornio**	**4.08**	**253**	PN		**Pn**	**09 34 01.3**	**+1.7**
OUL	**Oulu**	**4.08**	**236**	PB		**Pb**	**09 34 08.0**	**-0.7**
JOF	**Joensuu**	**4.79**	**195**	Pn		**Pn**	**09 34 11.2**	**+1.9**
JOF	**Joensuu**	**4.79**	**195**	PN		**Pn**	**09 34 11.2**	**+1.9**
FIA0	**FINESS Array S**	**7.00**	**213**	Pn		**Pn**	**09 34 42.4**	**+2.7**
	baz=25,slow=14							
FIA0				Sn		**Sn**	**09 35 57.4**	**-2.5**
	baz=40,slow=28							
FIA0				Lg		Lg	09 36 35.0	
	baz=20,slow=28							
FIA0	**FINESS Array S**	**7.00**	**213**	Pn		**Pn**	**09 34 42.4**	**+2.7**
	baz=25,slow=14							
FIA0				Sn		**Sn**	**09 35 57.4**	**-2.5**
	baz=40,slow=28							
FIA0				Lg		Lg	09 36 35.0	
	baz=20,slow=28							
FINES	**FINESS Array B**	**7.00**	**213**	Pn		**Pn**	**09 34 42.7**	**+3.0**
	comp=Z,0.3nm,0.3s,baz=28,slow=13,SNR=10							
FINES				Sn		**Sn**	**09 36 00.6**	**+0.7**
	comp=Z,0.5nm,0.3s,baz=39,slow=20,SNR=4.0							
FINES				Lg		Lg	09 36 34.7	
	comp=Z,1.6nm,0.3s,baz=39,slow=29,SNR=8.7							
HFS	**Hagfors**	**11.57**	**240**	Pn		**Pn**	**09 35 40.5**	**-1.7**
	baz=43,slow=14							
HFS	**Hagfors**	**11.57**	**240**	Pn		**Pn**	**09 35 42.1**	**-0.1**
	comp=Z,0.3nm,0.3s,baz=54,slow=15,SNR=5.7							
HFS	**Hagfors**	**11.57**	**240**	PN		**Pn**	**09 35 40.5**	**-1.7**
	baz=43,slow=14							
NB2	**NORSAR Subarra**	**11.77**	**247**	Pn		**Pn**	**09 35 45.1**	**+0.2**
NB2	**NORSAR Subarra**	**11.77**	**247**	PN		**Pn**	**09 35 45.1**	**+0.2**
NOA	**NORSAR Array B**	**11.77**	**247**	Pn		**Pn**	**09 35 44.2**	**-0.8**
	comp=Z,0.3nm,0.3s,baz=43,slow=10,SNR=4.3							
NOA				Lg		Lg	09 39 07.4	
	comp=Z,0.3nm,0.3s,baz=16,slow=12,SNR=3.2							
SPA0	**Spitsbergen Ar**	**11.77**	**342**	Pn		**Pn**	**09 35 43.6**	**-1.3**
	baz=148,slow=8.6							
SPA0	**Spitsbergen Ar**	**11.77**	**342**	Pn		**Pn**	**09 35 43.6**	**-1.3**
	baz=148,slow=8.6							
SPITS	**Spitsbergen Ar**	**11.77**	**342**	Pn		**Pn**	**09 35 43.6**	**-1.3**
	baz=146,slow=8.0,SNR=5.0							
NRA0	**NORESS Array S**	**11.86**	**246**	Pn		**Pn**	**09 35 45.1**	**-1.1**
	baz=55,slow=16							
NRA0	**NORESS Array S**	**11.86**	**246**	Pn		**Pn**	**09 35 45.1**	**-1.1**
	baz=55,slow=16							

FIA0 27 09:33:29.7, 60°.27N×29°.06E, h0km, ML0.8, Explosion, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
FIA0	**FINESS Array S**	**1.87**	**310**	PG		Pn	09 34 03.2	+0.2
	comp=Z,0.2nm,0.2s							
FIA0				LG		Lg	09 34 29.0	
	comp=Z,0.6nm,0.3s							

BJI 27 09:34:44.5, 31°.31N×103°.44E, h13km, ML3.5/12, **Ms3.4**/2, **Ms7 3.4**/1, **1C, Sichuan**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CD2	**Chengdu**	**0.48**	**146**	↑*i*		Pg	09 34 52.0	-2.0
CD2						Sg	09 34 58.0	-2.5
CD2						smax	smax	
	comp=N,4μm,0.7s							
CD2						smax	smax	
	comp=E,3μm,0.6s							
LZH	**Lanzhou**	**4.78**	**4**	*e*Pn		Pn	09 35 55.3	-1.0
LZH						Pg	09 36 06.8	-1.4
LZH						Sn	09 36 51.3	-0.3
LZH						Sg	09 37 07.0	+1.4
LZH						smax	smax	
	comp=N,75nm,1.1s							
LZH						smax	smax	
	comp=E,69nm,1.2s							
LZH						LR	LR	
	comp=N,340nm,6.1s							
LZH						LR	LR	
	comp=Z,330nm,8.5s							
XAN	**Xi'an**	**5.36**	**58**	Pg		Pb	09 36 21.3	+3.2
XAN				Sn		Sn	09 37 12.5	+6.5
XAN				Sg		Sb	09 37 26.0	+3.6
XAN				smax		smax		
	comp=N,44nm,0.8s							
XAN				smax		smax		
	comp=E,41nm,0.9s							

*ISCJB **27** 09:39:32.7±0.2, 59°.84N±0°.03×153°.22W±0°.05, h134km±2km, mb4.0/6, Error ellipse: s-maj=5.1km s-min=3.1km az=42.6*
*IDC **27** 09:39:32.7±1.3, 59°.84N×153°.24W, h111km±20km, mb3.8/6, mb1 3.7/10, mb1mx3.3/80, mbtmp4.0/10, MS3.2/1, Ms1 3.2/1, ms1mx2.3/68, Error ellipse: s-maj=28.8km s-min=11.4km az=109.0*
*NEIC **27** 09:39:35.2±0.0, 59°.79N×153°.17W, h121km, ML3.4(AEIC), After AEIC.*

ISC 27 09:39:33.5±0.7, **59°.80N**±0°.04×**153°.17W**±0°.04, **h130**km, 6km, **n98, σ1§03**/121, **mb4.1**/6, **Southern Alaska**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
ILIM	**Iliamna**	**0.30**	**20**	P		**Pn**	**09 39 51.8**	**+0.1**
ILIM				S		**Sn**	**09 40 05.3**	**-0.2**
RSO	**Redoubt South**	**0.70**	**17**	*e*Pn		**Pn**	**09 39 54.3**	**+0.5**
RSO				*e*Sn		**Sn**	**09 40 09.7**	**0.0**
RDWB	**Redoubt West**	**0.71**	**13**	P		**Pn**	**09 39 54.3**	**+0.2**
RDWB				S		**Sn**	**09 40 09.0**	**-0.7**
NCT	**North Crescent**	**0.78**	**9**	P		**Pn**	**09 39 54.9**	**+0.3**
NCT				S		**Sn**	**09 40 10.1**	**-0.4**
RDJH	**Redoubt Jeurge**	**0.82**	**13**	P		**Pn**	**09 39 55.2**	**+0.3**
RDJH				S		**Sn**	**09 40 11.1**	**-0.1**
DFR	**Drift River**	**0.83**	**17**	P		**Pn**	**09 39 55.2**	**+0.2**
DFR				S		**Sn**	**09 40 10.6**	**-0.8**
RDT	**Redoubt**	**0.87**	**26**	P		**Pn**	**09 39 55.7**	**+0.5**
BRLK	**Bradley Lake**	**1.16**	**91**	P		**Pn**	**09 39 58.5**	**+0.6**
BRLK				S		**Sn**	**09 40 16.3**	**-0.1**
CKL	**Chakachamna La**	**1.46**	**16**	P		**Pn**	**09 40 01.9**	**+0.6**
KAHC	**Katmai Hardscr**	**1.49**	**220**	P		**Pn**	**09 40 01.6**	**+0.1**
KAHC				S		**Sn**	**09 40 22.0**	**-0.9**
SPWE	**Spurr West**	**1.51**	**11**	P		**Pn**	**09 40 02.6**	**+0.9**
KARR	**Katmai Rainbow**	**1.52**	**212**	P		**Pn**	**09 40 02.2**	**+0.4**
SPCP	**Crater Peak Br**	**1.56**	**18**	P		**Pn**	**09 40 03.1**	**+0.7**
SPCP				S		**Sn**	**09 40 25.0**	**+0.6**
SLKM	**Skilak Lake**	**1.64**	**63**	P		**Pn**	**09 40 03.8**	**+0.6**
STLK	**Strandline Lak**	**1.83**	**20**	P		**Pn**	**09 40 06.0**	**+0.6**
KABU	**Katmai Buttres**	**1.88**	**216**	P		**Pn**	**09 40 06.6**	**+0.5**
KABU				S		**Sn**	**09 40 30.6**	**-0.4**
KELA	**Mount Kelaz**	**1.90**	**225**	P		**Pn**	**09 40 06.3**	**0.0**
ANCK	**Angle Creek**	**2.00**	**218**	P		**Pn**	**09 40 07.9**	**+0.4**
KDAK	**Kodiak Island**	**2.04**	**171**	P		**Pn**	**09 40 07.3**	**-0.6**
	8.7nm,0.3s,baz=19,slow=8.3,SNR=107							
KDAK				S		**Sn**	**09 40 33.3**	**-1.0**
	34nm,0.3s,baz=127,slow=20,SNR=33							
KDAK	**Kodiak Island**	**2.04**	**171**	P		**Pn**	**09 40 07.3**	**-0.6**
KDAK				S		**Sn**	**09 40 32.5**	**-1.7**
KDAK				S		**Sn**	**09 40 33.3**	**-1.0**
SUA	**Susitna One**	**2.06**	**35**	P		**Pn**	**09 40 08.8**	**+0.7**
SUA				S		**Sn**	**09 40 34.9**	**+0.1**
CAHL	**Cahill**	**2.07**	**213**	P		**Pn**	**09 40 08.8**	**+0.4**
RC01	**Rabbit Creek A**	**2.14**	**51**	P		**Pn**	**09 40 09.5**	**+0.4**
RC01				S		**Sn**	**09 40 35.6**	**-0.8**
KJL	**Kejulik**	**2.15**	**217**	P		**Pn**	**09 40 09.9**	**+0.6**
SKT	**Skwentna**	**2.33**	**19**	P		**Pn**	**09 40 11.8**	**+0.3**
OHAK	**Old Harbor**	**2.58**	**181**	P		**Pn**	**09 40 13.7**	**-1.0**
OHAK				S		**Sn**	**09 40 43.4**	**-3.0**
PMR	**Palmer**	**2.68**	**46**	P		**Pn**	**09 40 15.3**	**-0.6**
PMR				S		**Sn**	**09 40 46.2**	**-2.3**
KNK	**Knik Glacier**	**2.83**	**53**	P		**Pn**	**09 40 17.6**	**-0.3**
GHO	**Glory Hole Cre**	**2.87**	**45**	P		**Pn**	**09 40 18.0**	**-0.5**
SML	**Sawmill**	**3.11**	**48**	P		**Pn**	**09 40 21.0**	**-0.5**
PPLA	**Purkeypile**	**3.15**	**8**	P		**Pn**	**09 40 23.1**	**+1.0**
TT01	**Tatalina**	**3.41**	**337**	P		**Pn**	**09 40 25.0**	**-0.3**
JPK	**Jack Peak**	**3.49**	**66**	P		**Pn**	**09 40 25.7**	**-0.3**
SCM	**Sheep Creek Mo**	**3.52**	**52**	P		**Pn**	**09 40 26.6**	**-0.2**
VLZ	**Valdez**	**3.64**	**65**	P		**Pn**	**09 40 28.2**	**-0.1**
CAST	**Castle Rocks**	**3.67**	**8**	P		**Pn**	**09 40 29.0**	**+0.2**
EYAK	**Cordova Ski Ar**	**3.78**	**75**	P		**Pn**	**09 40 30.4**	**+0.2**
ANNW	**Aniakchak Nort**	**3.89**	**225**	P		**Pn**	**09 40 32.8**	**+1.0**
DIV	**Divide**	**3.90**	**67**	P		**Pn**	**09 40 32.4**	**+0.5**
TRF	**Thorofare Moun**	**3.92**	**19**	P		**Pn**	**09 40 32.0**	**-0.2**
KTH	**Kantishna Hill**	**3.92**	**15**	P		**Pn**	**09 40 31.9**	**-0.2**
AZAC	**Aniakchak**	**3.95**	**225**	P		**Pn**	**09 40 32.7**	**+0.1**
KLU	**Klutina**	**3.95**	**61**	P		**Pn**	**09 40 32.5**	**-0.1**
KLU				S		**Sn**	**09 41 15.9**	**-2.5**
RND	**Reindeer**	**4.17**	**28**	P		**Pn**	**09 40 35.1**	**-0.3**
RAGM	**Ragged Mountai**	**4.29**	**78**	P		**Pn**	**09 40 37.4**	**+0.3**
DHY	**Denali Highway**	**4.31**	**38**	P		**Pn**	**09 40 37.1**	**-0.2**
BMRM	**Bremner River**	**4.41**	**71**	P		**Pn**	**09 40 38.5**	**-0.1**
MCK	**McKinley**	**4.43**	**25**	P		**Pn**	**09 40 39.1**	**+0.2**
BPAW	**Bear Paw Mtn.**	**4.44**	**12**	P		**Pn**	**09 40 38.2**	**-0.7**
NICHA	**Nichawak Mount**	**4.64**	**81**	P		**Pn**	**09 40 42.7**	**+1.0**
HARP	**HAARP**	**4.69**	**53**	P		**Pn**	**09 40 42.6**	**+0.3**
VNHG	**Veniaminof 1**	**4.80**	**224**	P		**Pn**	**09 40 44.7**	**+0.8**
PAX	**Paxson**	**4.88**	**46**	P		**Pn**	**09 40 45.0**	**+0.1**
KHIT	**Khitrov Hills**	**5.00**	**78**	P		**Pn**	**09 40 47.2**	**+0.6**
VRDI	**Verde Repeater**	**5.01**	**69**	P		**Pn**	**09 40 47.5**	**+0.7**
MCARA	**McCarthy VSAT**	**5.25**	**68**	P		**Pn**	**09 40 51.2**	**+1.5**
GCSA	**Galena City Sc**	**5.26**	**342**	P		**Pn**	**09 40 49.6**	**-0.2**
WRH	**Wood River Hil**	**5.26**	**25**	P		**Pn**	**09 40 49.3**	**-0.6**
MLY	**Manley**	**5.37**	**11**	P		**Pn**	**09 40 50.7**	**-0.8**
ISLE	**Juniper Island**	**5.46**	**77**	P		**Pn**	**09 40 53.7**	**+0.9**
CCB	**Clear Creek Bu**	**5.47**	**25**	P		**Pn**	**09 40 52.0**	**-0.7**
KIAG	**Kiagna River**	**5.48**	**73**	P		**Pn**	**09 40 53.9**	**+0.8**
BALM	**Baldy**	**5.50**	**72**	P		**Pn**	**09 40 54.5**	**+1.2**
MENT	**Mentasta**	**5.53**	**51**	P		**Pn**	**09 40 53.4**	**-0.2**
BAGL	**Bagley Icefiel**	**5.58**	**78**	P		**Pn**	**09 40 55.9**	**+1.8**
RIDG	**Independ'e Rid**	**5.59**	**41**	P		**Pn**	**09 40 54.7**	**+0.3**
MESA	**MESA**	**5.65**	**81**	P		**Pn**	**09 40 56.7**	**+1.4**
COLA	**College**	**5.66**	**24**	P		**Pn**	**09 40 54.9**	**-0.4**
MDM	**Murphy Dome**	**5.67**	**22**	P		**Pn**	**09 40 54.8**	**-0.6**
ILAR	**Eielson Array**	**5.79**	**28**	P		**Pn**	**09 40 56.1**	**-0.8**
	6.0nm,0.3s,baz=216,slow=14,SNR=413							
ILAR				S		**Sn**	**09 42 00.2**	**-1.9**
	1.1nm,0.3s,baz=214,slow=19,SNR=4.2							
ILB	**Eielson Array**	**5.79**	**28**	P		**Pn**	**09 40 56.3**	**-0.7**
DOT	**Dot Lake**	**5.80**	**44**	*e*Pn		**Pn**	**09 40 56.9**	**-0.3**
DOT				*e*Sn		**Sn**	**09 42 01.4**	**-1.1**
BARN	**Barnard Glacie**	**5.84**	**73**	P		**Pn**	**09 40 59.1**	**+1.3**
SDPT	**Sand Point**	**5.94**	**225**	P		**Pn**	**09 40 58.1**	**-1.0**
CTGM	**Chitina Glacie**	**5.99**	**74**	P		**Pn**	**09 41 01.2**	**+1.3**
SCRK	**Sand Creek**	**6.03**	**42**	P		**Pn**	**09 40 59.8**	**-0.6**
LOGN	**Logan Glacier**	**6.13**	**75**	P		**Pn**	**09 41 02.6**	**+0.8**
IM3	**Indian Mountai**	**6.22**	**358**	P		**Pn**	**09 41 02.5**	**-0.2**
BCA3	**Beaver Creek A**	**6.37**	**54**	P		**Pn**	**09 41 05.2**	**+0.4**
PRP	**Porcupine Dome**	**6.73**	**28**	P		**Pn**	**09 41 09.2**	**-0.6**
DT1	**Dutton Round H**	**6.80**	**230**	P		**Pn**	**09 41 11.0**	**+0.4**
EGAK	**Eagle**	**7.50**	**43**	P		**Pn**	**09 41 19.6**	**-0.3**
DAWY	**Dawson**	**7.77**	**51**	P		**Pn**	**09 41 24.6**	**+0.9**
HYT	**Haines Junctio**	**7.85**	**76**	P		**Pn**	**09 41 26.2**	**+1.4**
BM3	**Burnt Mountain**	**8.54**	**23**	P		**Pn**	**09 41 31.9**	**-2.1**
SKAG	**Skagway**	**9.04**	**84**	*e*Pn		**Pn**	**09 41 44.2**	**+3.4**
SKAG				*e*Sn		**Sn**	**09 43 24.6**	**+3.9**
DLBC	**Dease Lake**	**11.95**	**86**	P		**P**	**09 42 24.4**	**-2.6**
	0.6nm,0.3s,baz=272,slow=5.2,SNR=14							
DLBC				S		**Sn**	**09 44 32.5**	**+1.3**
	0.1nm,0.3s,baz=324,slow=14,SNR=3.7							
INK	**Inuvik**	**12.05**	**37**	P		**Pn**	**09 42 20.1**	**-0.6**
	0.2nm,0.3s,baz=243,slow=14,SNR=20							
INK				S		**S**	**09 44 50.5**	**-2.4**
	0.1nm,0.3s,baz=239,slow=29,SNR=11							
YKA	**Yellowknife Ar**	**18.61**	**65**	P		**Pn**	**09 43 42.0**	**-0.3**
	0.2nm,0.3s,baz=277,slow=10,SNR=61							
YKA				PcP		**PcP**	**09 48 04.1**	**+0.9**
	0.0nm,0.3s,baz=246,slow=1.4,SNR=4.3							
ARCES	**ARCESS Array B**	**50.96**	**1**	LR		LR	10 10 58.3	
	comp=Z,25nm,21.8s,baz=154,slow=37							
KSRS	**Korea Array**	**53.14**	**283**	P		**P**	**09 48 38.6**	**+1.1**
	1.0nm,0.5s,baz=34,slow=7.4,SNR=3.6							
KSAR	**Wonju Array Be**	**53.17**	**283**	P		**P**	**09 48 38.6**	**+0.9**
SONM	**Songino Array**	**54.84**	**306**	P		**P**	**09 48 51.3**	**+1.4**
	1.5nm,0.7s,baz=48,slow=6.7,SNR=7.2							
ZALV	**Zalesovo Beam**	**57.49**	**324**	P		**P**	**09 49 09.3**	**+0.9**
	3.0nm,0.4s,baz=26,slow=6.7,SNR=8.0							
KURK	**Kurchatov**	**62.15**	**326**	P		**P**	**09 49 41.5**	**+1.2**
BVAR	**Borovoye Array**	**62.21**	**332**	P		**P**	**09 49 41.4**	**+0.7**
	2.2nm,0.6s,baz=28,slow=6.5,SNR=9.2							
KURBB	**Kurchatov Arra**	**62.26**	**326**	P		**P**	**09 49 41.5**	**+0.5**
	1.0nm,0.4s,baz=28,slow=6.5,SNR=7.5							
MKAR	**Makanchi Array**	**64.54**	**321**	P		**P**	**09 49 56.4**	**+0.2**
	0.5nm,0.5s,baz=38,slow=6.7,SNR=6.4							

*KRNET **27** 09:51:15.9±0.1, 40°.29N×71°.95E, h1km, mb2.4*
*NNC **27** 09:51:16.2±4.7, 40°.03N×71°.92E, h0km, mb2.5, mpv2.4, Error ellipse: s-maj=42.3km s-min=12.8km az=35.0*
*ISCJB **27** 09:51:17.3±0.8, 40°.16N±0°.06×71°.94E±0°.05, h10km, Error ellipse: s-maj=9.2km s-min=5.3km az=162.2*

ISC 27 09:51:16.2±1.1, **40°.16N**±0°.06×**71°.95E**±0°.04, **h10**km, **n9, σ1§40/18, 16C-2D, Tajikistan**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
BTK	**Batken**	**0.87**	**264**	↑*e*P		**Pg**	**09 51 32.8**	**-0.2**
	baz=56							
BTK				↑*i*S		**Sn**	**09 51 46.4**	**-1.0**
	baz=56							
SFK	**Sufi-Kurgan**	**1.20**	**96**	↑P		**Pb**	**09 51 39.0**	**-0.1**
	1.6nm,0.3s							
SFK				↓S		**Sn**	**09 51 56.5**	**+0.8**
	7.7nm,0.3s							
SFK	**Sufi-Kurgan**	**1.20**	**96**	↑*e*P		**Pg**	**09 51 39.6**	**+0.3**
	baz=2.0							
SFK				↑*i*S		**Sn**	**09 51 56.0**	**+0.3**
	baz=2.0							
ARSB	**Arslanbob**	**1.41**	**34**	↑*i*P		**Pn**	**09 51 40.7**	**-1.3**
	baz=37							
ARSB				↑*i*S		**Sb**	**09 51 58.8**	**-1.9**
	baz=37							
MNAS	**Manas**	**2.37**	**10**	↑Pn		**Pb**	**09 51 58.1**	**-0.9**
	1.2nm,0.3s							
MNAS				↓Sn		**Sb**	**09 52 29.3**	**+1.0**
	2.9nm,0.4s							
MNAS	**Manas**	**2.37**	**10**	↑*e*P		**Pn**	**09 51 56.6**	**+1.4**
	baz=11							
MNAS				↑*i*S		**Sb**	**09 52 26.0**	**-2.3**
	baz=11							
AML	**Almayashu**	**2.37**	**33**	↑*i*P		**Pb**	**09 51 57.4**	**-1.8**
	baz=35							
AML				↑*i*S		**Sb**	**09 52 27.5**	**-1.2**
	baz=35							
UCH	**Uchtor**	**2.83**	**42**	↑*i*P		**Pn**	**09 52 03.5**	**+1.6**
	baz=44							
UCH				↑*i*S		**Sn**	**09 52 38.3**	**+2.0**
	baz=44							
KK31	**Karatay Array**	**3.13**	**340**	↑Pn		**Pb**	**09 52 12.8**	**+0.8**
	0.3nm,0.3s,baz=164,slow=17,SNR=4.0							
KK31				↑Sn		**Sb**	**09 52 51.5**	**+1.2**
	1.0nm,0.4s,baz=162,slow=31							

IDC 27 09:56:47.2±48.0, **15°.83S×173°.50W, h0km, mb4.0**/3, **mb1 4.2**/3, **mb1mx3.6**/47, **mbtmp4.0**/3, **Error ellipse: s-maj=920.0km s-min=182.6km az=79.0, Tonga Isl

YLV	Yalova	1.47	7	PN	Pn	10 19 31.6	+0.3
YLV	Yalova	1.47	7	*e*Pn	Pn	10 19 31.6	+0.3
ARMT	Armutlu	1.47	352	PN	Pb	10 19 31.9	-0.2
ARMT	Armutlu	1.47	352	*e*Pn	Pb	10 19 31.9	-0.2
AYDB	Zeytinkoy-Aydi	1.52	221	PN	Pn	10 19 32.2	+0.3
AYDB	Zeytinkoy-Aydi	1.52	221	*e*Pn	Pn	10 19 32.2	+0.3
EDC	Edincik	1.58	322	PN	Pn	10 19 33.3	+0.6
EDC	Edincik	1.58	322	*e*Pn	Pn	10 19 33.3	+0.6
GULT	Gulveren	1.70	38	PN	Pb	10 19 35.7	-0.2
GULT	Gulveren	1.70	38	*e*Pn	Pb	10 19 35.7	-0.2

IDC 27 10:19:23.4±10.0, 7°.05S×129°.67E, h150km±110km, mb3.0/1, mb1 3.0/4, mb1mx2.8/57, mbtmp3.4/4, ML3.3/3, Error ellipse: s-maj=122.0km s-min=32.9km az=45.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**6.72**	**242**	P	Pn	10 21 00.2	+0.4
	4.0nm,0.3s,baz=75,slow=6.1,SNR=3.2						
FITZ	**Fitzroy Crossi**	**11.67**	**199**	S	Sn	10 24 06.7	-8.0
	0.1nm,0.3s,baz=339,slow=20,SNR=2.8						
WRA	**Warramunga Arr**	**13.61**	**161**	P	Pn	10 22 29.1	-1.3
	0.1nm,0.3s,baz=342,slow=13,SNR=8.3						
WRA				S	Sn	10 24 52.4	-8.8
	0.2nm,0.3s,baz=334,slow=23,SNR=6.4						
ASAR	**Alice Springs**	**17.03**	**167**	P	Pn	10 23 13.3	+0.5
	0.0nm,0.3s,baz=345,slow=11,SNR=5.1						
ASAR				S	S	10 26 15.3	-6.9
	0.0nm,0.3s,baz=42,slow=33,SNR=3.7						
MKAR	**Makanchi Array**	**68.08**	**327**	P	P	10 30 06.9	-0.1
	0.2nm,0.5s,baz=128,slow=6.7,SNR=3.5						

*ISCJB **27** 10:23:00.3±1.0, 17°.5S±0°.5×178°.6W±0°.2, h550km, mb3.3/7, Error ellipse: s-maj=69.1km s-min=10.3km az=154.4*
*IDC **27** 10:23:01.0±1.6, 17°.77S×178°.34W, h559km±21km, mb2.8/8, mb1 3.1/10, mb1mx2.9/52, mbtmp3.8/10, Error ellipse: s-maj=87.5km s-min=12.4km az=152.0*
ISC 27 10:23:00.8±1.2, 17°.6S±0°.5×178°.5W±0°.3, h550km, n10, σ0=81/11, mb3.4/7, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**7.40**	**61**	P		10 24 52.6	-0.2
	2.7nm,0.3s,baz=258,slow=6.2,SNR=4.7						
AFI				S		10 26 25.9	+1.4
	0.7nm,0.3s,baz=217,slow=20,SNR=3.5						
DZM	**Mont Dzumac**	**14.89**	**250**	P	P	10 26 10.4	+1.1
	0.3nm,0.3s,baz=43,slow=19,SNR=4.4						
CTA	**Charters Tower**	**33.46**	**260**	P	P	10 28 55.6	+0.7
	7.2nm,1.1s,baz=80,slow=9.8,SNR=5.9						
STKA	**Stephens Creek**	**38.74**	**241**	P	P	10 29 37.5	-0.8
	0.8nm,0.5s,baz=90,slow=11,SNR=3.6						
WRA	**Warramunga Arr**	**44.65**	**259**	P	P	10 30 25.0	-0.1
	0.6nm,0.5s,baz=96,slow=7.0,SNR=25						
ASAR	**Alice Springs**	**44.84**	**254**	P	P	10 30 26.1	-0.4
	1.9nm,0.6s,baz=89,slow=8.5,SNR=35						
NVAR	**Mina Array Bea**	**79.23**	**44**	P	P	10 34 09.5	-0.1
	0.2nm,0.6s,baz=231,slow=6.9,SNR=2.7						
ILAR	**Eielson Array**	**85.60**	**13**	P	P	10 34 40.3	-0.5
	0.1nm,0.4s,baz=224,slow=6.3,SNR=5.0						
TXAR	**Lajitas Array**	**85.87**	**58**	P	P	10 34 42.9	-0.2
	0.2nm,0.9s,baz=200,slow=6.6,SNR=3.6						
YKA	**Yellowknife Ar**	**94.07**	**25**	P	P	10 35 19.6	-0.5
	0.0nm,0.5s,baz=232,slow=7.0,SNR=3.6						

*ISCJB **27** 10:23:59.9±0.8, 38°.44N±0°.03×20°.43E±0°.05, h6km±4km, Error ellipse: s-maj=6.8km s-min=4.3km az=174.7*
*ATH **27** 10:23:60.0, 38°.43N×20°.44E, h16km±2km, ML2.3/8, Error ellipse: s-maj=2.9km s-min=1.0km az=156.0*
*CSEM **27** 10:24:00.1±0.3, 38°.45N×20°.45E, h2km, ML2.5, Error ellipse: s-maj=5.9km s-min=3.5km az=73.0*
*THE **27** 10:24:00.3, 38°.43N×20°.44E, h0km±2km, ML2.5/4, Error ellipse: s-maj=2.9km s-min=0.6km az=273.0*
ISC 27 10:23:59.5±1.0, 38°.48N±0°.02×20°.46E±0°.04, h13km±6km, n55, σ0=81/77, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FSK	**Fiskardo**	**0.08**	**106**	P	Pg	10 24 02.3	+0.1
FSK				S	Sg	10 24 03.9	-0.3
MGNA	**Meganis**	**0.31**	**56**	P	Pb	10 24 07.1	+0.1
MGNA				S	Sb	10 24 11.1	-0.9
MGNA				AML	AML	10 24 13.1	
	comp=N,1238μm,0.2s						
MGNA				AML	AML	10 24 13.4	
	comp=E,1064μm,0.2s						
MGNA	**Meganis**	**0.31**	**56**	P	Pb	10 24 07.1	+0.1
MGNA				S	Sb	10 24 11.8	-0.2
VLS	**Valsamata**	**0.32**	**161**	P	Pg	10 24 06.2	+0.1
VLS				S	Sg	10 24 10.5	+0.1
VLS				AML	AML	10 24 10.8	
	comp=E,2370μm,0.2s						
VLS				AML	AML	10 24 12.4	
	comp=N,2652μm,0.3s						
VLS	**Valsamata**	**0.32**	**161**	P	Pg	10 24 05.9	-0.2
VLS				S	Sg	10 24 09.9	-0.5
VLS	**Valsamata**	**0.32**	**161**	P	Pg	10 24 05.9	-0.2
VLS				S	Sg	10 24 09.9	-0.5
LKD2	**Lefkada island**	**0.34**	**27**	P	Pb	10 24 08.2	+0.7
LKD2				S	Sn	10 24 15.1	-2.0
LKD2				AML	AML	10 24 15.3	
	comp=E,862μm,0.5s						
LKD2				AML	AML	10 24 15.4	
	comp=N,1012μm,0.5s						
LKD2	**Lefkada island**	**0.34**	**27**	P	Pb	10 24 07.9	+0.4
LKD2				S	Sn	10 24 14.1	-3.0
LKD2	**Lefkada island**	**0.34**	**27**	P	Pb	10 24 07.9	+0.4
LKD2				S	Sn	10 24 14.1	-3.0
KFL	**Anninata**	**0.45**	**145**	P	Pg	10 24 08.5	0.0
KFL				S	Sg	10 24 15.6	+1.1
KFL				AML	AML	10 24 15.8	
	comp=N,3521μm,0.3s						
KFL				AML	AML	10 24 18.9	
	comp=E,4021μm,0.4s						
KFL	**Anninata**	**0.45**	**145**	P	Pg	10 24 08.3	-0.1
KFL				S	Sg	10 24 15.2	+0.7
KFL	**Anninata**	**0.45**	**145**	P	Pg	10 24 08.4	0.0
KFL				S	Sg	10 24 15.1	+0.6
PDO	**Prodromos**	**0.58**	**78**	P	Pb	10 24 11.7	+0.2
PDO				S	Sn	10 24 21.1	-1.8
PDO				AML	AML	10 24 26.4	
	comp=N,876μm,0.4s						
PDO				AML	AML	10 24 26.8	
	comp=E,732μm,0.4s						
PDO	**Prodromos**	**0.58**	**78**	P	Pb	10 24 11.5	0.0
PDO	**Prodromos**	**0.58**	**78**	P	Pb	10 24 11.7	+0.2
PDO				S	Sn	10 24 20.7	-2.2
DSL	**Palaion Diasel**	**0.82**	**37**	P	Pn	10 24 16.8	0.0
DSL				S	Sn	10 24 30.0	+1.2
DSL				AML	AML	10 24 34.8	
	comp=E,453μm,0.5s						
DSL				AML	AML	10 24 38.5	
	comp=N,299μm,0.3s						
DSL	**Palaion Diasel**	**0.82**	**37**	P	Pn	10 24 16.7	-0.1
DSL				S	Sn	10 24 29.3	+0.5
PVO	**Paravola**	**0.85**	**81**	P	Pn	10 24 17.5	+0.3
PVO				S	Sn	10 24 29.3	-0.2
PVO				AML	AML	10 24 36.3	
	comp=E,426μm,0.6s						
PVO				AML	AML	10 24 37.2	
	comp=N,412μm,0.5s						
PVO	**Paravola**	**0.85**	**81**	P	Pn	10 24 17.0	-0.1
RLS	**Riolos of Patr**	**0.90**	**118**	P	Pg	10 24 17.3	+0.4
RLS				S	Sn	10 24 31.1	+0.4
RLS				AML	AML	10 24 33.6	
	comp=E,148μm,0.3s						
RLS				AML	AML	10 24 35.9	
	comp=N,180μm,0.3s						
RLS	**Riolos of Patr**	**0.90**	**118**	P	Pb	10 24 17.1	+0.1
RLS				S	Sn	10 24 30.2	-0.5
IGT	**Igoumenitsa**	**1.05**	**355**	P	Pb	10 24 19.8	+0.2
IGT	**Igoumenitsa**	**1.05**	**355**	P	Pn	10 24 20.3	+0.3
DRO	**Drossia**	**1.12**	**118**	P	Pn	10 24 21.2	+0.3
DRO	**Drossia**	**1.12**	**118**	P	Pn	10 24 21.1	+0.2
EFP	**Efpalio**	**1.14**	**92**	P	Pb	10 24 20.8	-0.2
EFP	**Efpalio**	**1.14**	**92**	P	Pn	10 24 21.2	+0.1
EVR	**Evrytania**	**1.14**	**67**	P	Pb	10 24 20.7	-0.4
EVR	**Evrytania**	**1.14**	**67**	P	Pg	10 24 21.5	0.0
ANX	**Ano Chora**	**1.15**	**84**	P	Pg	10 24 22.4	+0.7
ANX	**Ano Chora**	**1.15**	**84**	P	Pg	10 24 22.2	+0.5
LAKA	**Lakka**	**1.22**	**101**	P	Pb	10 24 22.4	-0.1
LAKA				S	Sg	10 24 38.9	+0.1
LAKA	**Lakka**	**1.22**	**101**	P	Pb	10 24 22.7	+0.3
SERG	**Sergoula**	**1.26**	**93**	P	Pn	10 24 22.6	-0.2
SERG				S	Sg	10 24 41.4	+1.4
SERG	**Sergoula**	**1.26**	**93**	P	Pb	10 24 23.2	+0.1
SERG				S	Sg	10 24 41.4	+1.4
TRIZ	**Trizonia**	**1.27**	**95**	P	Pn	10 24 22.9	-0.1
TRIZ	**Trizonia**	**1.27**	**95**	P	Pb	10 24 23.5	+0.2
KALE	**Kalithea**	**1.32**	**93**	P	Pn	10 24 23.6	-0.1
KALE	**Kalithea**	**1.32**	**93**	P	Pb	10 24 24.4	+0.2
KEK	**Kerkira**	**1.33**	**338**	P	Pg	10 24 25.7	+0.7
KEK	**Kerkira**	**1.33**	**338**	P	Pg	10 24 25.8	+0.7
AMT	**Artemida-Makis**	**1.37**	**133**	P	Pg	10 24 26.8	+1.0
AMT	**Artemida-Makis**	**1.37**	**133**	P	Pg	10 24 26.1	+0.3
KLV	**Kalavryta, Ach**	**1.40**	**108**	P	Pn	10 24 24.6	-0.2
KLV	**Kalavryta, Ach**	**1.40**	**108**	P	Pb	10 24 25.5	-0.1
AGG	**Agios Georgios**	**1.56**	**69**	P	Pg	10 24 29.9	+0.5
AGG	**Agios Georgios**	**1.56**	**69**	P	Pg	10 24 29.8	+0.4
MES3	**Kyparissia**	**1.56**	**142**	P	Pn	10 24 27.7	+0.8
MES3	**Kyparissia**	**1.56**	**142**	P	Pb	10 24 28.3	+0.1
THL	**Klokotos Trika**	**1.62**	**48**	P	Pg	10 24 31.6	+1.0
THL	**Klokotos Trika**	**1.62**	**48**	P	Pg	10 24 31.2	+0.5
ITM	**Ithomi**	**1.74**	**138**	P	Pb	10 24 32.3	+0.9
ITM	**Ithomi**	**1.74**	**138**	P	Pb	10 24 31.9	+0.5
DID	**Didima**	**2.40**	**113**	P	Pb	10 24 43.1	+0.5
DID	**Didima**	**2.40**	**113**	P	Pb	10 24 42.0	-0.6

*IDC **27** 10:29:36.2±0.4, 2°.64S×121°.86E, h0km, mb4.6/32, mb1 4.6/35, mb1mx4.5/59, mbtmp4.6/35, ML4.5/2, MS4.4/41, Ms1 4.4/41, ms1mx4.2/59, Error ellipse: s-maj=14.2km s-min=8.0km az=62.0*
*NEIC **27** 10:29:38.0±0.2, 2°.66S×121°.91E, h10km, mb5.1/66, Error ellipse: s-maj=5.3km s-min=4.0km az=54.0*
NEIC Felt [IV] at Bungku and Morowali.
*ISCJB **27** 10:29:39.9±0.1, 2°.64S±0°.02×121°.89E±0°.02, h33km, mb4.9/119, MS4.4/47, Error ellipse: s-maj=2.8km s-min=2.5km az=151.5*
*DJA **27** 10:29:39.4±0.1, 3°.S±2°.×12°.2E±°, h10km, M5.2/54, mb5.2/54, mB5.7/37, MLv5.4/27, Mw(mB)5.2/37, Mwp6.3/3*
*BJI **27** 10:29:40.4, 3°.10S×121°.69E, h55km, mb4.8/38, mB5.1/32, Ms4.7/38, Ms7 4.4/37*
*MOS **27** 10:29:41.2±1.5, 2°.75S×121°.83E, h47km, mb5.1/38, MS4.4/16, Error ellipse: s-maj=9.6km s-min=6.0km az=121.6*
*GCMT **27** 10:29:42.6±0.1, 2°.63S×121°.87E, h16km±1km, MW5.2/120, Moment Tensor Solution. s75,c112; s120,c206; Duration: 1ś0 Moment tensor: Scale 10^16 Nm; Mrr0.18±.13; Mθθ5.57±.12; Mφφ-5.76±.14; Mrθ4.42±.47; Mrφ2.33±.10; Mθφ2.78±.39; Best double couple: M07.86900×10^16 NP1:φs34.00000°, δ83.00000°, λ144.00000°. NP2:φs129.00000°, δ54.00000°, λ8.00000°. Principal axes: T 8.8490, Plg30.0000°, Azm345.0000°; N -1.9670, Plg53.0000°, Azm205.0000°; P -6.8890, Plg20.0000°, Azm87.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 27 10:29:42.3±0.2, 2°.66S±0°.03×121°.91E±0°.04, h35km, n328, σ1ś84/340, mb4.9/119, MS4.4/49, 2C-3D, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KDI	**Kendari**	**1.47**	**151**	P	Pn	10 30 06.2	-0.1
APSI	**Ampana**	**1.75**	**351**	P	Pn	10 30 08.0	-2.2
LUWI	**Luwuk**	**1.82**	**28**	P	Pn	10 30 10.0	-1.1
LUWI	**Luwuk**	**1.82**	**28**	*e*Pn	Pn	10 30 10.4	-0.7
LUWI				*e*Sn	Sn	10 30 34.4	+1.5
TTSI	**Tana Toraja**	**2.13**	**259**	P	Pn	10 30 12.8	-2.5
BNSI	**Bone**	**2.50**	**226**	P	Pn	10 30 19.0	-1.5
PCI	**Palu**	**2.71**	**310**	P	Pn	10 30 22.9	-0.4
PCI	**Palu**	**2.71**	**310**	P	Pn	10 30 22.9	-0.4
MRSI	**Marisa**	**3.11**	**0**	P	Pn	10 30 27.1	-1.8
MPSI	**Mapaga**	**3.59**	**326**	P	Pn	10 30 33.4	-2.1
BSSI	**Bau Bau, Buton**	**3.74**	**202**	P	Pn	10 30 37.0	-0.6
KMSI	**Cibinong**	**3.82**	**33**	P	Pn	10 30 41.3	+2.7
SGKI	**Sangatta, Kali**	**4.80**	**296**	P	Pn	10 30 52.6	+0.5
SMKI	**Samarinda**	**5.19**	**295**	P	Pn	10 30 56.6	-0.9
BKB	**Balikpapan**	**5.20**	**285**	P	Pn	10 30 56.3	-1.3
NLAI	**Namlea**	**5.21**	**97**	P	Pn	10 30 57.8	0.0
KBKI	**Kotabaru**	**5.77**	**263**	P	Pn	10 31 04.7	-0.8
LBMI	**Labuha**	**5.93**	**70**	P	Pn	10 31 07.4	-0.3
EDFI	**Ende, Flores**	**6.06**	**182**	P	Pn	10 31 08.3	-1.2
AAI	**Ambon**	**6.36**	**99**	P	Pn	10 31 15.1	+1.6
AAI	**Ambon**	**6.36**	**99**	P	Pn	10 31 15.5	+2.0
AAI				pmax	pmax		
	comp=Z,542nm,1.1s						
TNTI	**Ternate**	**6.43**	**58**	*e*Pn	Pn	10 31 13.8	-0.7
TNTI				*e*Sn	Sn	10 32 27.0	+0.3
MSAI	**Masohi**	**7.04**	**96**	P	Pn	10 31 24.1	+1.2
MTKI	**Muara Teweh, K**	**7.22**	**284**	P	Pn	10 31 24.5	-0.9
SGSI	**Sangihe**	**7.26**	**30**	P	Pn	10 31 25.7	-0.3
WBSI	**Waikabubak, Su**	**7.38**	**200**	P	Pn	10 31 27.5	-0.1
PLAI	**Plampang**	**7.38**	**214**	P	Pn	10 31 29.6	+1.9
SOEI	**Soe**	**7.43**	**162**	P	Pn	10 31 30.5	+2.1
SOEI	**Soe**	**7.43**	**162**	*e*Pn	Pn	10 31 31.0	+2.6
BASI	**Baing, Sumba**	**7.63**	**190**	P	Pn	10 31 33.3	+2.3
BATI	**Baumata**	**7.70**	**167**	Pn	Pn	10 31 33.9	+1.9
	comp=Z,5.9nm,0.3s,baz=248,slow=11,SNR=13						
BATI				LR	LR	10 35 01.9	
	comp=Z,11μm,18.1s,baz=356,slow=42						
BATI	**Baumata**	**7.70**	**167**	P	Pn	10 31 34.9	+2.9
TWSI	**Taliwang, Sumb**	**7.85**	**219**	P	Pn	10 31 31.8	-2.2
BNDI	**Bandanaira**	**8.19**	**103**	P	Pn	10 31 39.3	+0.6
MYLDM	**Lahad Datu**	**8.50**	**336**	*e*Pn	Pn	10 31 42.3	-0.6
SRBI	**Singaraja**	**8.58**	**231**	P	Pn	10 31 43.2	-0.8
SIJI	**Sorong**	**9.52**	**79**	Pn	Pn	10 31 56.4	-0.6
	comp=Z,17nm,0.3s,baz=260,slow=10,SNR=37						
SIJI				Sn	Sn	10 33 41.0	-1.7
	comp=Z,0.6nm,0.3s,baz=270,slow=20,SNR=2.7						
SIJI				LR	LR	10 36 04.9	
	comp=Z,2μm,21.6s,baz=250,slow=41						
JAGI	**Jajag, Banyuwa**	**9.64**	**233**	P	Pn	10 32 00.2	+1.5
JAGI	**Jajag, Banyuwa**	**9.64**	**233**	*e*Pn	Pn	10 31 59.7	+1.0
FAKI	**Fak Fak**	**10.33**	**92**	P	Pn	10 32 07.2	-0.9
FAKI	**Fak Fak**	**10.33**	**92**	*e*Pn	Pn	10 32 07.2	-0.9
DAV	**Davao City (W)**	**10.33**	**21**	LR	LR	10 36 04.5	
	comp=Z,2μm,19.2s,baz=20,slow=38						
KKM	**Kota Kinabalu**	**10.35**	**327**	*e*Pn	Pn	10 32 08.6	+0.2
KKM				*e*Sn	Sn	10 33 59.0	-4.3
STKI	**Sintang**	**10.78**	**284**	P	Pn	10 32 13.4	-0.8
SBUM	**Sibu**	**10.94**	**298**	*e*Pn	Pn	10 32 17.5	+1.1
PWJI	**Pagerwojo**	**11.39**	**242**	P	Pn	10 32 23.3	+0.7
NGJI	**Ngawi**	**11.41**	**245**	P	Pn	10 32 22.3	-0.6
PCJI	**Pacitan**	**12.02**	**242**	P	Pn	10 32 30.7	-0.5
WOJI	**Wonogiri, Jawa**	**12.09**	**244**	P	Pn	10 32 31.6	-0.6
SMRI	**Semarang**	**12.23**	**249**	*e*Pn	Pn	10 32 37.3	+3.2
KSM	**Kuching**	**12.30**	**289**	*e*Pn	Pn	10 32 37.5	+2.3
MTN	**Manton Dam**	**13.63**	**138**	*e*Pn	Pn	10 32 49.9	-3.3
KPJI	**Karang Pucung**	**13.74**	**250**	P	P	10 33 04.2	+1.4
LEM	**Lembang**	**14.84**	**253**	Pn	Pn	10 33 06.7	-3.1
	baz=45,slow=20,SNR=1.4						
FITZ	**Fitzroy Crossi**	**15.78**	**167**	Pn	Pn	10 33 19.8	-2.1
	comp=Z,0.6nm,0.3s,baz=12,slow=7.4,SNR=16						
FITZ				LR	LR	10 40 31.1	
	comp=Z,1μm,18.7s,baz=344,slow=41						
FITZ	**Fitzroy Crossi**	**15.78**	**167**	*e*Pn	Pn	10 33 19.6	-2.3
	comp=Z,134nm,0.9s						
TGY	**Tagaytay City**	**16.68**	**357**	LR	LR	10 41 05.3	
	comp=Z,824nm,18.2s,baz=174,slow=41						
DSRI	**Dabo**	**17.46**	**277**	P	P	10 33 49.0	+4.8
KASI	**Kota Agung**	**17.60**	**260**	P	Pn	10 33 44.7	-0.3
TPRI	**Tanjung Pinang**	**17.74**	**281**	P	P	10 33 54.2	+6.9
MDSI	**Maura Dua**	**17.79**	**264**	P	P	10 33 50.0	+2.1
LWLI	**Liwa**	**17.97**	**262**	P	P	10 34 00.5	+11
GENI	**Genyem**	**18.23**	**90**	P	Pn	10 33 53.5	+0.7
MBWA	**Marble Bar**	**18.52**	**186**	*e*P	P	10 33 55.2	-0.5
	comp=Z,73nm,1.0s						
MYKOM	**Kota Tinggi**	**18.59**	**284**	*e*P	P	10 33 56.5	-0.2
	comp=Z,53nm,1.1s						
JAY	**Jayapura**	**18.77**	**90**	P	Pn	10 33 59.5	+0.1
MNAI	**Manna**	**19.00**	**264**	*e*P	Pn	10 34 01.8	-0.2
	comp=Z,449nm,1.4s						
MASI	**Maura Aman, Be**	**19.66**	**268**	P	P	10 34 08.3	-0.1
KRJI	**Kerinci**	**20.44**	**271**	P	P	10 34 16.9	-0.1
WRAB	**Tennant Creek**	**21.03**	**146**	*e*P	P	10 34 21.4	-1.8
	comp=Z,129nm,1.0s						
WRAB	**Tennant Creek**	**21.03**	**146**	*ce*P	P	10 34 21.1	-2.2
WRAB				pmax	pmax		
	comp=Z,102nm,1.2s						
WR1	**Warramunga Arr**	**21.04**	**146**	*e*P	P	10 34 21.0	-2.3
	comp=Z,122nm,0.9s						
WR1				*e*S	S	10 38 19.0	+3.2
WRA	**Warramunga Arr**	**21.04**	**146**	P	P	10 34 21.0	-2.3
	comp=Z,25nm,1.1s,baz=325,slow=8.5,SNR=61						
WRA				S	S	10 38 19.0	+3.2
	comp=Z,2.0nm,1.0s,baz=320,slow=26,SNR=3.8						
WRA				LR	LR	10 43 55.4	
	comp=Z,2μm,18.2s,baz=325,slow=41						
WRA	**Warramunga Arr**	**21.04**	**146**	P	P	10 34 21.0	-2.3
WRA				S	S	10 38 19.0	+3.2
WRA				pmax	pmax		
	comp=Z,58nm,1.0s						
WRA				smax	smax		
	comp=N,2.0nm,1.0s						
WRA				MLR	MLR		
	comp=Z,2μm,18.2s						
WB2	**Warramunga Arr**	**21.04**	**146**	*e*P	P	10 34 21.4	-2.0
BKNI	**Bangkinang**	**21.08**	**278**	P	P	10 34 33.5	+10
BKNI	**Bangkinang**	**21.08**	**278**	*e*P	P	10 34 22.3	-1.5
	comp=Z,245nm,1.2s						
PDSI	**Padang**	**21.51**	**274**	P	P	10 34 32.3	+3.9
IPM	**Ipoh**	**22.04**	**289**	*e*P	P	10 34 32.8	-1.4
	comp=Z,34nm,0.8s						
MNSI	**Mandailing Nat**	**22.59**	**278**	P	P	10 34 39.9	-0.1
KULM	**Kulim**	**22.66**	**290**	*e*P	P	10 34 40.0	-0.7
	comp=Z,52nm,1.1s						
WRKA	**Warakurna**	**23.09**	**165**	P	P	10 34 44.6	-0.5
	baz=23,SNR=61						
SKLT	**Songkhla**	**23.39**	**295**	P	P	10 34 54.0	+5.9
	comp=Z,119nm,1.5s,comp=Z,1μm						
PSI	**Prapat**	**23.61**	**283**	P	P	10 34 47.7	-2.8
	comp=Z,16nm,0.8s,baz=105,slow=9.3,SNR=10						
PSI				LR	LR	10 45 22.9	
	comp=Z,2μm,19.1s,baz=105,slow=40						
PSI	**Prapat**	**23.61**	**283**	*e*P	P	10 34 49.2	-1.3
	comp=Z,227nm,1.3s						
PSI	**Prapat**	**23.61**	**283**	P	P	10 34 47.7	-2.8
PSI				pmax	pmax		
	comp=Z,34nm,0.9s						
PSI				MLR	MLR		
	comp=Z,2μm,19.1s						
COEN	**Coen**	**23.82**	**119**	P	P	10 34 51.5	-0.8
	baz=24,SNR=28						
COEN	**Coen**	**23.82**	**119**	*e*P	P	10 34 50.6	-1.6
	comp=Z,42nm,0.8s						
AS31	**Alice Springs**	**23.89**	**152**	*e*P	P	10 34 51.7	-1.3
	comp=Z,43nm,0.8s						
ASAR	**Alice Springs**	**23.89**	**152**	P	P	10 34 51.9	-1.1
	comp=Z,188nm,1.4s,baz=326,slow=8.5,SNR=76						
ASAR				S	S	10 39 12.9	+5.8
	comp=Z,1.5nm,0.9s,baz=340,slow=16,SNR=2.4						
ASAR				LR	LR	10 46 17.5	
	comp=Z,1μm,18.2s,baz=324,slow=42						
AS01	**Alice Springs**	**23.91**	**152**	*e*P	P	10 34 51.9	-1.2
UBPT	**Khong Chiam**	**24.13**	**318**	P	P	10 34 54.8	-0.4
	comp=Z,146nm,2.2s						
TRTT	**Trang**	**24.50**	**295**	P	P	10 35 02.6	+4.1
	comp=Z,18nm,1.8s,comp=Z,436nm						
QIZ	**Qiongzhong**	**24.60**	**332**	P	P	10 35 00.5	+1.1
QIZ				S	S	10 39 20.0	+1.6
QIZ				pmax	pmax		
	comp=Z,280nm,3.5s						
QIZ				LR	LR		
	comp=Z,510nm,20.6s						
QIZ				LR	LR		
	comp=Z,630nm,12.7s						
QIZ				LR	LR		
	comp=Z,840nm,17.7s						
GSI	**Gunungsitoli**	**24.65**	**279**	P	P	10 35 00.2	+0.3
GSI	**Gunungsitoli**	**24.65**	**279**	*e*P	P	10 34 59.4	-0.6
	comp=Z,168nm,1.3s						
QIS	**Mount Isa**	**24.79**	**137**	P	P	10 35 00.5	-0.6
	baz=25,SNR=20						
TWG	**Pinlang**	**25.33**	**358**	*e*P	P	10 35 06.8	+0.8
	comp=Z,111nm,1.0s						
TPTI		**25.41**	**283**	P	P	10 35 16.3	+9.5
SRAK	**Srakaew**	**25.74**	**311**	P	P	10 35 08.6	-1.1
YULB	**Yu-li**	**25.90**	**359**	*e*P	P	10 35 09.6	-1.5
	comp=Z,41nm,1.2s						
PMG	**Port Moresby**	**25.97**	**106**	P	P	10 35 10.0	-1.9
	comp=Z,35nm,0.9s,baz=315,slow=4.8,SNR=15						
PMG				LR	LR	10 48 33.3	
	comp=Z,533nm,18.1s,baz=292,slow=44						
PMG	**Port Moresby**	**25.97**	**106**	*e*P	P	10 35 11.8	-0.2
	comp=Z,98nm,0.9s						
PMG	**Port Moresby**	**25.97**	**106**	*d*iP	P	10 35 11.4	-0.5
PMG				pmax	pmax		
	comp=Z,464nm,1.0s						
SSLB	**Suanglung**	**26.30**	**358**	*e*P	P	10 35 14.7	-0.1
	comp=Z,39nm,1.1s						
SKNT	**Sakolnakorn**	**26.34**	**318**	P	P	10 35 15.1	-

CHTO Chiang Mai 31.08 314 eP P 10 35 56.5 -0.9
CHTO pmax pmax
comp=Z,16nm,1.0s
CMAI Chiengmai2 31.75 316 P P 10 36 09.5 +6.0
comp=Z,403nm,0.4s,comp=Z,34µm
QLP Quilpie 32.01 140 P **P 10 36 05.4 -0.1**
baz=32,SNR=30
RKGY Rocky Gully 32.12 188 P **P 10 36 08.8 +2.4**
baz=32,SNR=4.5
PBA Port Blair 32.30 297 eP P 10 36 05.6 -2.6
comp=Z,72nm,1.2s
BBOO Buckleboo 32.80 158 eP **P 10 36 11.1 -1.3**
comp=Z,32nm,0.8s
KMI Kunming 33.29 327 P **P 10 36 17.0 0.0**
KMI S **S 10 41 36.0 +0.5**
KMI pmax pmax
comp=Z,14nm,0.7s
KMI pmax pmax
comp=Z,170nm,6.7s
KMI LR LR
comp=Z,390nm,15.1s
KMI LR LR
comp=Z,520nm,22.7s
KMI LR LR
comp=Z,650nm,20.4s
WHN Wuhan 33.79 348 P **P 10 36 22.8 +1.8**
WHN S **S 10 41 41.5 -1.1**
WHN LR LR
comp=Z,1µm,17.0s
STKA Stephens Creek 34.47 150 P **P 10 36 26.2 -0.7**
comp=Z,34nm,1.0s,baz=322,slow=8.8,SNR=20
STKA PP **PP 10 37 47.4 +1.9**
comp=Z,16nm,0.9s,baz=314,slow=10,SNR=3.1
STKA LR LR 10 52 31.8
comp=Z,813nm,19.2s,baz=324,slow=40
STKA Stephens Creek 34.47 150 P **P 10 36 26.5 -0.5**
baz=35,SNR=37
STKA Stephens Creek 34.47 150 eP **P 10 36 26.3 -0.7**
comp=Z,11nm,1.0s
HTT Hallett 34.51 154 P **P 10 36 27.1 -0.2**
baz=35,SNR=46
NJ2 Nanjing 34.64 355 eP **P 10 36 28.0 -0.3**
NJ2 pmax pmax
comp=Z,4.0nm,0.5s
RMQ Roma 34.99 135 P **P 10 36 31.6 +0.1**
baz=35,SNR=8.8
JCJ Chichijima 35.46 32 P **P 10 36 35.8 +0.3**
comp=Z,81nm,0.7s,baz=190,slow=6.1,SNR=2.6
CBIJ Chichi jima 35.46 32 eP **P 10 36 35.1 -0.3**
comp=Z,146nm,0.9s
CMSA Cobar Meteorol 36.44 145 P **P 10 36 43.7 -0.2**
baz=37,SNR=27
JNU Nakatsue 36.58 13 P **P 10 36 43.4 -1.7**
comp=Z,10.0nm,1.1s,baz=196,slow=19,SNR=2.8
JNU LR LR 10 52 16.8
comp=Z,264nm,21.3s,baz=202,slow=37
JNU Nakatsue 36.58 13 eP **P 10 36 43.7 -1.3**
comp=Z,24nm,1.3s
CD2 Chengdu 37.60 334 P **P 10 36 53.0 -0.8**
CD2 pP sP 10 37 07.3 -0.9
CD2 sP pP 10 37 14.0 +10
CD2 S **S 10 42 40.5 -0.6**
CD2 sS sS 10 43 05.0 +7.0
CD2 pmax pmax
comp=Z,20nm,0.5s
CD2 pmax pmax
comp=Z,240nm,4.0s
CD2 LR LR
comp=Z,790nm,22.8s
CD2 LR LR
comp=Z,640nm,17.4s
CD2 LR LR
comp=Z,860nm,22.9s
HNR Honiara 38.39 102 eP **P 10 37 04.0 +3.4**
HNR Honiara 38.39 102 P **P 10 37 00.4 -0.2**
comp=Z,308nm,0.9s,baz=193,slow=2.4,SNR=9.9
HNR LR LR 10 56 08.9
comp=Z,248nm,18.1s,baz=278,slow=41
HNR Honiara 38.39 102 eP **P 10 37 00.4 -0.2**
comp=Z,613nm,0.8s
HNR Honiara 38.39 102 P **P 10 37 00.4 -0.2**
HNR pmax pmax
comp=Z,289nm,0.9s
HNR MLR MLR
comp=Z,249nm,18.1s
XAN Xi'an 38.50 343 P **P 10 37 04.0 +2.7**
XAN pP sP 10 37 18.0 +2.3
XAN sP pP 10 37 24.3 +13
XAN pmax pmax
comp=Z,6.0nm,1.0s
XAN pmax pmax
comp=Z,90nm,6.0s
XAN LR LR
comp=Z,490nm,16.8s
XAN LR LR
comp=Z,500nm,19.5s
XAN LR LR
comp=Z,620nm,20.3s
ARPS Mount Arapiles 38.60 154 P **P 10 37 02.0 -0.1**
baz=39,SNR=44
ARMA Armidale 39.41 138 P **P 10 37 10.3 +1.2**
baz=40,SNR=9.3
ARMA Armidale 39.41 138 eP **P 10 37 09.2 +0.1**
comp=Z,43nm,1.1s
YNG Young 40.00 145 P **P 10 37 14.6 +0.7**
baz=40,SNR=18
KS15 Wonju Array Si 40.28 7 eP **P 10 37 15.3 -0.7**
KSRS Korea Array 40.29 7 P **P 10 37 15.6 -0.5**
comp=Z,2.7nm,0.8s,baz=181,slow=11,SNR=5.1
KSRS LR LR 10 54 51.2
comp=Z,349nm,19.4s,baz=195,slow=38
KS01 Wonju Array Si 40.31 7 eP **P 10 37 16.5 +0.2**
TOO Toolangi 40.94 151 P **P 10 37 22.5 +0.9**
baz=41,SNR=14
CNB Canberra Magne 41.28 145 P **P 10 37 24.7 +0.2**
baz=41,SNR=7.1
MAJO Matsushiro 41.85 20 eP **P 10 37 26.9 -2.1**
comp=Z,18nm,1.0s
MAJO Matsushiro 41.85 20 eP **P 10 37 26.9 -2.1**
MAJO pmax pmax
comp=Z,18nm,1.0s
MAT Matsushiro 41.85 20 P **P 10 37 29.6 +0.6**
MAT eS **S 10 43 43.0 -1.7**
MJAR Matsushiro Arr 41.85 20 P **P 10 37 27.3 -1.7**
comp=Z,12nm,0.8s,baz=193,slow=9.1,SNR=24
MJAR LR LR 10 54 09.2
comp=Z,212nm,21.4s,baz=210,slow=35
MJB9 Matsu-Tunnel 41.85 20 eP **P 10 37 26.9 -2.2**
comp=Z,19nm,1.0s
LZH Lanzhou 42.08 338 eP P 10 37 37.8 +6.7
LZH pP sP 10 37 52.5 +7.0
LZH sP pP 10 37 58.3 +17
LZH PP **PcP 10 39 18.0 -7.5**
LZH eS **S 10 43 55.3 +7.0**
LZH sS sS 10 44 23.8 +19
LZH SS **SS 10 46 56.5 -0.2**
PALK Pallekele 42.29 284 LR LR 10 57 20.7
comp=Z,700nm,18.9s,baz=116,slow=39
BJT Baijiatuau 42.79 354 eP **P 10 37 35.1 -1.4**
comp=Z,28nm,1.2s
BJT Baijiatuau 42.79 354 eP **P 10 37 35.2 -1.4**
BJT pmax pmax
comp=Z,28nm,1.2s
BJI Beijing 42.81 354‖ eP **P 10 37 39.3 +2.6**
BJI pP **sP 10 37 50.0 -1.2**
BJI S **S 10 43 59.5 +0.9**
BJI pmax pmax
comp=Z,24nm,1.0s
BJI LR LR
comp=Z,530nm,18.2s
BJI LR LR
comp=Z,470nm,20.8s
BJI LR LR
comp=Z,770nm,33.2s
HHC Hu-ho-hao-te 44.32 349 eP **P 10 37 50.3 +1.3**
HHC pP sP 10 38 05.5 +1.9
HHC sP pP 10 38 12.8 +13
HHC S **S 10 44 20.5 -0.4**
HHC pmax pmax
comp=Z,37nm,1.1s
HHC pmax pmax
comp=Z,83nm,6.1s
HHC LR LR
comp=Z,1µm,15.7s
HHC LR LR
comp=Z,1µm,15.7s
HHC LR LR
comp=Z,1µm,15.7s
ODAN Odare 44.39 314 eP **P 10 37 47.9 -2.1**
RAMN Ramite 45.02 313 eP **P 10 37 53.8 -1.2**
comp=Z,71nm,1.0s
JIRN Jiri 45.73 314 eP **P 10 37 59.1 -1.7**
GUN Gumba 46.09 314 eP **P 10 38 02.2 -1.5**
comp=Z,48nm,0.8s
CN2 Changchun 46.35 4 eP **P 10 38 08.0 +3.0**
CN2 eS **S 10 44 51.5 +1.5**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=Z,200nm,22.0s
CN2 LR LR
comp=Z,800nm,22.0s
CN2 LR LR
comp=Z,200nm,24.0s
GTA Gaotai 46.53 336 eP **P 10 38 10.0 +3.4**
GTA pP sP 10 38 22.5 +1.3
GTA sP pP 10 38 27.3 +10
GTA S **S 10 44 53.8 +0.8**
GTA pmax pmax
comp=Z,6.0nm,0.6s
GTA LR LR
comp=Z,420nm,18.3s
GTA LR LR
comp=Z,400nm,20.0s
GTA LR LR
comp=Z,350nm,19.5s
GKN Gorkha 47.05 313 eP **P 10 38 09.2 -1.7**
HYB Hyderabad 47.18 297 iP **P 10 38 12.0 +0.1**
DZM Mont Dzumac 47.33 118 P **P 10 38 12.4 -0.7**
comp=Z,5.0nm,0.9s,baz=320,slow=17,SNR=3.2
DZM LR LR 11 00 40.8
comp=Z,495nm,18.8s,baz=294,slow=39
DZM Mont Dzumac 47.33 118 eP **P 10 38 16.5 +3.4**
comp=Z,50nm,1.1s
DZM eS **S 10 45 03.3 -1.6**
comp=Z,548nm,27.2s
DZM eLQ LQ 10 49 41.0
comp=Z,2µm,31.6s
DZM eLR LR 10 51 31.4
comp=Z,741nm,25.8s
DZM Mont Dzumac 47.33 118 eP **P 10 38 12.1 -1.1**
comp=Z,16nm,0.9s
USRK Ussuriysk Ar. 47.51 10 P **P 10 38 12.3 -1.7**
comp=Z,7.6nm,0.7s,baz=187,slow=8.2,SNR=9.6
USRK LR LR 10 58 46.6
comp=Z,248nm,19.7s,baz=178,slow=37
MDJ Mudanjiang 47.56 7 P **P 10 38 16.8 +2.4**
MDJ sP sP 10 38 38.0 +9.0
MDJ pmax pmax
comp=Z,24nm,0.8s
MDJ pmax pmax
comp=Z,230nm,3.6s
MDJ Mudanjiang 47.56 7 eP **P 10 38 15.0 +0.6**
comp=Z,41nm,1.3s
KOLN Koldanda 47.69 312 eP **P 10 38 14.1 -1.8**
comp=Z,17nm,0.6s
PYUN Piuthan 48.32 312 eP **P 10 38 19.4 -1.4**
comp=Z,82nm,1.0s
ASAJ Asahikawa 50.12 19 P **P 10 38 34.8 +0.7**
comp=Z,14nm,0.7s,baz=240,slow=15,SNR=8.7
ULN Ulaanbaatar 51.97 347 eP **P 10 38 47.8 -0.3**
comp=Z,10nm,1.4s
ULN Ulaanbaatar 51.97 347 iP **P 10 38 51.0 +2.9**
ULN pmax pmax
comp=Z,3.0nm,0.6s
SONA0 Songino Array 52.09 347 eP **P 10 38 47.1 -1.8**
SONM Songino Array 52.09 347 P **P 10 38 47.1 -1.8**
comp=Z,0.5nm,0.6s,baz=177,slow=2.9,SNR=3.4
SONM LR LR 11 03 00.3
comp=Z,524nm,20.7s,baz=157,slow=38
SONA1 Songino Array 52.09 347 eP **P 10 38 48.9 -0.1**
KLR Kul'dur 52.38 8 P **P 10 38 49.9 -1.0**
comp=Z,0.2nm,0.8s,baz=164,slow=7.9,SNR=5.4
KLR Kul'dur 52.38 8 eP **P 10 38 51.1 +0.2**
YSS Yuzh-Sakhalins 52.70 18 eP **P 10 38 56.0 +2.7**
YSS e 10 39 06.4
YSS pmax pmax
comp=Z,20nm,0.9s
GRNR Gornyy 54.65 11 iP **P 10 39 10.9 +3.3**
WMQ Urumqi 55.52 330 P **P 10 39 13.0 -1.0**
WMQ PP **PP 10 41 21.5 +3.1**
WMQ S **S 10 46 57.0 -0.1**
WMQ pmax pmax
comp=Z,25nm,2.3s
WMQ pmax pmax
comp=Z,140nm,3.6s
WMQ LR LR
comp=Z,660nm,22.9s
WMQ LR LR
comp=Z,990nm,28.1s
WMQ LR LR
comp=Z,750nm,28.1s
TLY Talaya 56.32 346 P **P 10 39 20.1 +0.5**
comp=Z,1.3nm,0.5s,baz=225,slow=14,SNR=3.0
TLY Talaya 56.32 346 eP **P 10 39 20.5 +1.0**
TLY eS **S 10 47 08.3 +1.0**
TLY eSS **SS 10 50 57.5 +2.8**
TLY pmax pmax
comp=Z,3.0nm,1.0s
TLY MLR MLR
comp=Z,344nm,19.0s
MSVF Nonsavu 57.01 109 eP **P 10 39 25.0 -0.2**
comp=Z,52nm,0.9s
MSVF Nonsavu 57.01 109 eP **P 10 39 25.0 -0.2**
MSVF pmax pmax
comp=Z,52nm,0.9s
KSH Kashi 59.46 320 P **P 10 39 44.5 +2.5**
KSH pmax pmax
comp=Z,22nm,0.8s
TARG Taragay, Kyrgy 59.58 323 eP **P 10 39 39.7 -3.4**
comp=Z,4.7nm,0.9s
RPZ Rata Peaks 59.63 141 eP **P 10 39 42.7 -0.3**
comp=Z,79nm,0.8s
MCQ Macquarie Isla 59.84 156 eP **P 10 39 44.0 0.0**
comp=Z,196nm,1.4s
MCQ Macquarie Isla 59.84 156 eP **P 10 39 44.1 0.0**
MCQ pmax pmax
comp=Z,196nm,1.4s
DGZ Jazzator, Alta 60.02 335 iP **P 10 39 44.4 -1.3**
DGZ pmax pmax
comp=Z,5.0nm,0.8s
KDJ Kajisay 60.19 323 eP **P 10 39 46.2 -0.9**
comp=Z,6.9nm,1.1s
MK01 Makanchi Array 60.29 330 eP **P 10 39 47.0 -0.5**
MK31 Makanchi Array 60.31 330 eP **P 10 39 46.5 -1.1**
MK31 Makanchi Array 60.31 330 eP **P 10 39 46.5 -1.1**
MK32 Makanchi Array 60.31 330 eP **P 10 39 46.2 -1.4**
MKAR Makanchi Array 60.31 330 P **P 10 39 46.2 -1.4**
comp=Z,2.6nm,0.6s,baz=135,slow=8.0,SNR=5.4
KBL Kabul 61.85 312 eP **P 10 39 55.8 -2.7**
comp=Z,15nm,0.8s
KBL Kabul 61.85 312 eP **P 10 39 55.8 -2.7**
KBL pmax pmax
comp=Z,15nm,0.8s
AAK Ala-Archa 62.11 322 P **P 10 39 59.5 -0.5**
comp=Z,5.7nm,0.9s,baz=63,slow=6.6,SNR=3.0
AAK Ala-Archa 62.11 322 eP **P 10 39 56.5 -3.5**
comp=Z,8.7nm,0.9s
AAK Ala-Archa 62.11 322 eP **P 10 39 56.5 -3.5**
AAK pmax pmax
comp=Z,9.0nm,0.9s
PETK Petropavlovsk- 63.14 23 P **P 10 40 06.3 -0.2**
comp=Z,6.5nm,1.0s,baz=207,slow=2.5,SNR=9.8
PETK LR LR 11 06 39.8
comp=Z,166nm,21.6s,baz=220,slow=35
PETK Petropavlovsk- 63.14 23 eP **P 10 40 06.4 0.0**
PETK Petropavlovsk- 63.14 23 eP **P 10 40 06.4 0.0**
PEA1 Petropavlovsk- 63.14 23 eP **P 10 40 06.3 -0.2**
PET Petropavlovsk 63.46 24 eP **P 10 40 10.3 +1.8**
comp=Z,69nm,1.3s
PET Petropavlovsk 63.46 24 eP **P 10 40 10.1 +1.6**
PET eS **S 10 48 34.8 -4.2**
PET pmax pmax
comp=Z,46nm,1.5s
CASY Casey 64.01 185 eP **P 10 40 13.5 +1.6**
comp=Z,11nm,0.8s
ZAA0 Zalesovo Array 64.29 337 eSn **P 10 40 13.5 -0.5**
ZALV Zalesovo Beam 64.29 337 P **P 10 40 12.0 -2.0**
comp=Z,3.0nm,0.8s,baz=160,slow=4.6,SNR=4.4
ZALV Zalesovo Beam 64.29 337 e **P 10 40 11.9 -2.0**
ZALV Zalesovo Beam 64.29 337 eSn **P 10 40 11.9 -2.0**
ZAA1 Zalesovo Array 64.29 337 eP **P 10 40 12.0 -2.0**
KURBB Kurchatov Arra 64.72 331 P **P 10 40 15.2 -1.7**
comp=Z,2.8nm,0.9s,baz=130,slow=6.6,SNR=5.9
KURK Kurchatov 64.74 331 eP **P 10 40 15.2 -1.8**
KURK Kurchatov 64.74 331 P **P 10 40 15.2 -1.8**
KURK pmax pmax
comp=Z,3.0nm,0.9s
YAK Yakutsk 64.78 4 P **P 10 40 16.4 -0.6**
comp=Z,11nm,0.5s,baz=257,slow=1.7,SNR=2.6
YAK LR LR 11 10 05.9
comp=Z,159nm,21.2s,baz=186,slow=38
YAK Yakutsk 64.78 4 eP **P 10 40 16.6 -0.4**
comp=Z,43nm,0.6s
YAK Yakutsk 64.78 4 eP **P 10 40 19.6 +2.6**
YAK e*PP **pP 10 40 29.6 +1.8**
YAK e 10 40 50.1
YAK e 10 42 39.2
YAK eS **S 10 48 59.6 +4.5**
YAK e*SS **sS 10 49 17.1 +4.2**
YAK e 10 50 06.5
YAK eSS **SS 10 53 08.7 +1.7**
YAK pmax pmax
comp=N,4.0nm,1.0s
YAK pmax pmax
comp=Z,36nm,1.1s
YAK pmax pmax
comp=E,2.0nm,1.0s
YAK pmax pmax
comp=Z,61nm,3.0s
YAK pmax pmax
comp=E,36nm,3.7s
YAK pmax pmax
comp=N,19nm,1.9s
YAK smax smax
comp=E,53nm,4.6s
YAK smax smax
comp=N,27nm,3.9s
YAK MLR MLR
comp=Z,154nm,21.0s
YAK MLR MLR
comp=E,91nm,19.0s
YAK MLR MLR
comp=N,220nm,20.0s
KK31 Karatay Array 64.84 321 eP **P 10 40 17.6 -0.3**
KK31 Karatay Array 64.84 321 eP **P 10 40 17.6 -0.3**
KKAR Karatay Array 64.84 321 eP **P 10 40 17.5 -0.4**
KKAR Karatay Array 64.84 321 eP **P 10 40 17.5 -0.4**
NVS Novosibirsk 65.57 337 iP **P 10 40 21.9 -0.4**
MIDW Midway 65.82 58 eP **P 10 40 23.6 -0.9**
comp=N,181nm,1.4s
MA2 Magadan 66.07 16 LR LR 11 12 05.0
comp=N,79nm,18.5s,baz=172,slow=39
MA2 Magadan 66.07 16‖ eP **P 10 40 28.6 +3.2**
MA2 pmax pmax
comp=Z,17nm,0.9s
AFI Afiamalu 66.38 104 LR LR 11 08 38.7
comp=Z,74nm,21.1s,baz=186,slow=35
WSAR Wadi Sarin 66.73 297 P **P 10 40 28.8 -1.6**
comp=Z,5.4nm,0.9s,baz=117,slow=6.6,SNR=4.0
WSAR LR LR 11 10 27.5
comp=Z,278nm,21.0s,baz=121,slow=37
UOSS Minazif 69.28 298 eP **P 10 40 44.1 -2.4**
comp=Z,7.1nm,0.8s
GEYT Alibeck 71.30 311 P **P 10 40 57.1 -1.5**
comp=Z,1.7nm,0.4s,baz=38,slow=7.3,SNR=2.3
GEYT LR LR 11 16 44.7
comp=Z,410nm,20.9s,baz=125,slow=40
TIXI Tiksi 74.31 2 eP **P 10 41 17.4 +1.8**
comp=Z,20nm,0.9s
TIXI Tiksi 74.31 2 iP **P 10 41 17.2 +1.6**
TIXI pmax pmax
comp=Z,20nm,0.9s
AKTO Aktyubinsk 75.78 324 LR LR 11 18 38.6
comp=Z,223nm,21.4s,baz=126,slow=39
BILL Bilibino 76.94 16 iP **P 10 41 29.6 -1.2**
BILL pmax pmax
comp=Z,12nm,1.1s
BILL MLR MLR
comp=Z,159nm,18.0s
VNDA Vanda 77.79 172 P **P 10 41 34.4 -1.0**
comp=Z,6.5nm,0.9s,baz=318,slow=7.4,SNR=12
VNDA LR LR 11 16 09.5
comp=Z,538nm,18.7s,baz=335,slow=36
VNDA Vanda 77.79 172 eP **P 10 41 35.0 -0.5**
ATD Arta Tunnel 79.83 282 LR LR 11 15 33.5
comp=Z,108nm,18.9s,baz=38,slow=35
ZEI Tsey 83.02 313 eP **P 10 42 04.2 -0.3**
ZEI pmax pmax
comp=Z,10.0nm,1.0s
KBZ Khabaz 83.90 314 P **P 10 42 09.8 +1.2**
comp=Z,3.6nm,0.8s,baz=111,slow=6.7,SNR=7.0
KBZ LR LR 11 26 46.5
comp=Z,119nm,20.8s,baz=92,slow=41
KVAR Kislovodsk Arr 84.08 314 P **P 10 42 06.8 -3.0**
comp=Z,4.3nm,0.4s,baz=111,slow=14,SNR=2.5
KIV Kislovodsk 84.09 314 eP **P 10 42 09.1 -0.7**
KIV pmax pmax
comp=Z,8.0nm,1.1s
KMBO Kilima Mbogo 84.62 269 P **P 10 42 12.0 -1.3**
comp=Z,1.3nm,0.3s,baz=67,slow=7.7,SNR=2.5
KMBO LR LR 11 16 18.1
comp=Z,211nm,20.7s,baz=94,slow=33
KMBO Kilima Mbogo 84.62 269 eP **P 10 42 11.8 -1.5**
comp=Z,14nm,1.4s
KMBO Kilima Mbogo 84.62 269 eP **P 10 42 11.8 -1.5**
KMBO pmax pmax
comp=Z,14nm,1.4s
VRH Novokhopyorsk 85.91 322 eP **P 10 42 19.0 +0.4**
VRH pmax pmax
comp=Z,10.0nm,0.7s
ASF Jabal al Asfar 87.18 302 P **P 10 42 25.8 +0.4**
comp=Z,4.4nm,0.9s,baz=104,slow=3.8,SNR=7.6
QSPA South Pole Qui 87.30 180 P **P 10 42 24.2 -1.1**
comp=Z,7.3nm,0.8s,baz=11,slow=4.2,SNR=11
QSPA LR LR 11 21 08.6
comp=Z,188nm,20.5s,baz=338,slow=35
QSPA South Pole Qui 87.30 180 eP **P 10 42 24.1 -1.2**
comp=Z,22nm,1.4s
VORD Divnogorie 87.39 321 eP **P 10 42 25.8 -0.1**
VORD pmax pmax
comp=Z,6.0nm,0.8s
VSR Storozhevoye 87.50 321 eP **P 10 42 28.1 +1.7**
VSR pmax pmax
comp=Z,10.0nm,0.8s
PPT2 Papeete2 87.79 107 eS **S 10 53 09.3 0.0**
comp=Z,131nm,26.5s
PPT2 eSS **SS 10 58 53.0 -3.8**
comp=Z,119nm,26.0s
PPT2 Papeete2 87.79 107 eLR LR 11 10 15.8
comp=Z,223nm,24.2s
PPT Papeete 87.79 107 LR LR 11 17 30.3
comp=Z,110nm,19.4s,baz=276,slow=33
LPSR Galich'ya Gora 87.83 323 eP **P 10 42 31.0 +3.1**
LPSR pmax pmax
comp=Z,10.0nm,0.8s
MMAI Mount Meron Ar 88.50 303 P **P 10 42 32.0 +0.3**
comp=Z,0.8nm,0.4s,baz=76,slow=6.1,SNR=3.2
MMAI LR LR 11 28 10.5
comp=Z,273nm,18.7s,baz=120,slow=40
KLMR Klimovskoe 88.59 331 eP **P 10 42 30.6 -0.8**
KLMR pmax pmax
comp=Z,29nm,1.3s
OHAK Old Harbor 89.39 33 eP **P 10 42 34.5 -0.7**
comp=Z,13nm,1.0s
IM3 Indian Mountai 90.09 24 eP **P 10 42 38.1 -0.3**
BR101 Keskin Array S 90.35 310 eP **P 10 42 38.9 -1.4**
BRTR Keskin Array B 90.35 310 P **P 10 42 38.9 -1.4**
comp=Z,1.3nm,0.8s,baz=110,slow=5.9,SNR=8.8
BRTR LR LR 11 31 02.6
comp=Z,90nm,20.1s,baz=104,slow=41
CAST Castle Rocks 90.56 27 eP **P 10 42 39.7 -0.9**
comp=Z,3.2nm,0.9s
MLY Manley 91.26 25 eP **P 10 42 43.3 -0.6**
comp=Z,10nm,1.3s
APA Apatity 91.86 337‖ iP **P 10 42 47.8 +1.3**
APA pmax pmax
comp=Z,23nm,0.7s
MCK McKinley 91.98 26 eP **P 10 42 46.1 -1.1**
comp=Z,7.7nm,1.2s
MCK McKinley 91.98 26 eP **P 10 42 46.1 -1.1**
MCK pmax pmax
comp=Z,8.0nm,1.2s
SML Sawmill 92.20 28 eP **P 10 42 46.2 -2.1**
comp=Z,6.4nm,0.8s
SML Sawmill 92.20 28 eP **P 10 42 46.2 -2.1**

SML					pmax	pmax			
	comp=Z,6.0nm,0.8s								
CCB	**Clear Creek Bu**	**92.50**	**26**	*eP*	**P**		**10 42 48.0**	**-1.5**	
	comp=Z,9.2nm,1.5s								
DHY	**Denali Highway**	**92.67**	**27**	*eP*	**P**		**10 42 50.1**	**-0.5**	
	comp=Z,4.4nm,1.0s								
ILAR	**Eielson Array**	**92.90**	**25**	P	**P**		**10 42 50.0**	**-1.4**	
	comp=Z,0.3nm,0.7s,baz=239,slow=4.5,SNR=2.9								
ILAR				PP	**PP**		**10 46 38.2**	**+4.3**	
	comp=Z,0.9nm,1.0s,baz=252,slow=7.8,SNR=4.6								
ILB	**Eielson Array**	**92.90**	**25**	*eP*	**P**		**10 42 49.9**	**-1.4**	
PAX	**Paxson**	**93.54**	**27**	*eP*	**P**		**10 42 58.1**	**+3.6**	
	comp=Z,10nm,1.4s								
PAX	**Paxson**	**93.54**	**27**	*eP*	**P**		**10 42 58.1**	**+3.6**	
PAX					pmax	pmax			
	comp=Z,10.0nm,1.4s								
HARP	**HAARP**	**93.70**	**28**	*eP*	**P**		**10 42 55.2**	**0.0**	
	comp=Z,38nm,1.4s								
AKASG	**Malin Array Be**	**93.75**	**320**	P	**P**		**10 42 53.6**	**-2.0**	
	comp=Z,0.4nm,0.3s,baz=74,slow=4.3,SNR=3.0								
AKASG				LR	LR		11 31 30.6		
	comp=Z,88nm,18.5s,baz=75,slow=40								
AKBB	**Malin Array Si**	**93.75**	**320**	*eP*	**P**		**10 42 55.1**	**-0.5**	
	comp=Z,3.2nm,1.0s								
AKBB	**Malin Array Si**	**93.75**	**320**	*eP*	**P**		**10 42 55.1**	**-0.5**	
AKBB					pmax	pmax			
	comp=Z,3.0nm,1.0s								
MENT	**Mentasta**	**94.34**	**27**	*eP*	**P**		**10 42 58.0**	**-0.1**	
	comp=Z,4.5nm,1.0s								
CRQM	**Cirque**	**94.73**	**29**	*eP*	**P**		**10 42 59.5**	**-0.6**	
	comp=Z,8.4nm,1.0s								
SPA0	**Spitsbergen Ar**	**95.75**	**348**	*eP*	**P**		**10 43 02.8**	**-1.5**	
SPITS	**Spitsbergen Ar**	**95.75**	**348**	P	**P**		**10 43 01.6**	**-2.6**	
	comp=Z,15nm,1.1s,baz=54,slow=7.3,SNR=3.0								
SPITS				LR	LR		11 32 26.8		
	comp=Z,128nm,18.4s,baz=135,slow=39								
MLR	**Muntele Rosu**	**96.07**	**315**	LR	LR		11 35 51.8		
	comp=Z,38nm,18.8s,baz=67,slow=41								
DAWY	**Dawson**	**96.19**	**26**	*eP*	**P**		**10 43 05.9**	**-0.6**	
	comp=Z,3.9nm,1.0s								
TAOE	**Nuku Hiva Isla**	**97.43**	**99**	*e*LR	LR		11 14 41.4		
	comp=Z,151nm,24.1s								
SNAA	**Sanae**	**97.85**	**195**	LR	LR		11 23 16.1		
	comp=Z,300nm,21.1s,baz=112,slow=33								
WHY	**Whitehorse**	**98.77**	**29**	*eP*	**P**		**10 43 17.9**	**-0.4**	
	comp=Z,5.1nm,1.1s								
YKA	**Yellowknife Ar**	**107.25**	**24**	PKiKP	**PKiKP**		**10 48 03.7**	**-0.9**	
	comp=Z,0.3nm,0.8s,baz=330,slow=3.6,SNR=4.3								
NVAR	**Mina Array Bea**	**114.72**	**49**	PKP	PKPdf		10 48 18.8	-1.0	
	comp=Z,0.7nm,0.7s,baz=242,slow=1.9,SNR=2.2								
RLMT	**Red Lodge**	**118.41**	**39**	*e*PKPdf	**PKPdf**		**10 48 26.8**	**+0.1**	
PDAR	**Pinedale Array**	**119.30**	**41**	PKP	**PKPdf**		**10 48 28.0**	**-0.5**	
	comp=Z,0.5nm,0.8s,baz=318,slow=2.4,SNR=2.4								
TOA0	**Torodi Ar. Sit**	**120.01**	**284**	*e*PKPdf	**PKPdf**		**10 48 29.4**	**-0.9**	
TORD	**Torodi Ar. Bea**	**120.01**	**284**	PKP	**PKPdf**		**10 48 29.1**	**-1.2**	
	comp=Z,1.0nm,0.8s,baz=53,slow=2.0,SNR=10.0								
TOA1	**Torodi Ar. Sit**	**120.01**	**284**	*e*PKPdf	**PKPdf**		**10 48 29.1**	**-1.2**	
MNTX	**Cornudas Mount**	**126.98**	**52**	*e*PKPdf	**PKPdf**		**10 48 43.8**	**+0.5**	
TXAR	**Lajitas Array**	**129.27**	**54**	PKP	**PKPdf**		**10 48 48.4**	**+0.6**	
	comp=Z,1.4nm,0.9s,baz=190,slow=0.5,SNR=13								
JCT	**Junction City**	**131.83**	**50**	*e*PKPdf	**PKPdf**		**10 48 53.7**	**+1.1**	
JCT	**Junction City**	**131.83**	**50**	*e*PKIKP	**PKPdf**		**10 48 53.7**	**+1.1**	
V40A	**Witts Springs**	**133.96**	**40**	*e*PKPdf	**PKPdf**		**10 48 56.8**	**+0.4**	
CPUP	**Villa Florida**	**151.18**	**181**	PKPbc	**PKPbc**		**10 49 34.0**	**+1.3**	
	comp=Z,5.6nm,0.7s,baz=165,slow=1.6,SNR=9.8								
LPAZ	**La Paz**	**158.72**	**153**	PKPab	**PKPab**		**10 50 14.1**	**+0.6**	
	comp=Z,3.0nm,0.8s,baz=161,slow=4.2,SNR=3.7								

ISCJB ***27*** *10:30:54.5±0.6, 17°.19N±0°.06×94°.90W±0°.04, h127km±7km, mb3.1/2, Error ellipse: s-maj=9.7km s-min=5.6km az=8.1*
NEIC ***27*** *10:30:57.4±0.0, 17°.21N×94°.87W, h121km, MD4.0(MEX), After MEX.*
MEX ***27*** *10:30:57.4±0.8, 17°.21N×94°.87W, h121km±13km, MD4.0*
IDC ***27*** *10:30:58.3±3.6, 17°.79N×94°.11W, h135km±66km, mb2.9/2, mb1 3.2/4, mb1mx3.0/45, mbtmp3.3/4, Error ellipse: s-maj=137.0km s-min=46.1km az=37.0*
ISC 27 10:30:55.0±0.9, 17°.18N±0°.05×94°.93W±0°.03, h127km±8km, n18, σ1s88/32, Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
TUIG	**Tuzandepetl**	**0.97**	**30**	*eP*		**Pn**	**10 31 17.1**	**-0.4**
TUIG				*eS*		**Sn**	**10 31 33.3**	**-1.1**
TUIG	**Tuzandepetl**	**0.97**	**30**	*eP*		**Pn**	**10 31 17.1**	**-0.4**
TUIG				*eS*		**Sn**	**10 31 33.3**	**-1.1**
VHO	**Vista Hermosa**	**1.73**	**267**	*eP*		**Pn**	**10 31 27.2**	**+1.4**
VHO				*eS*		**Sn**	**10 31 51.0**	**+1.9**
VHO	**Vista Hermosa**	**1.73**	**267**	*eP*		**Pn**	**10 31 27.2**	**+1.4**
VHO				*eS*		**Sn**	**10 31 51.0**	**+1.9**
TGIG		**1.78**	**103**	*eP*		**Pn**	**10 31 26.2**	**0.0**
TGIG				*eS*		**Sn**	**10 31 48.5**	**-1.6**
TGIG		**1.78**	**103**	*eP*		**Pn**	**10 31 26.2**	**0.0**
TGIG				*eS*		**Sn**	**10 31 48.5**	**-1.6**
HUIG	**Huatulco**	**1.80**	**219**	*eP*		**Pn**	**10 31 25.9**	**-0.6**
HUIG				*eS*		**Sn**	**10 31 51.3**	**+0.8**
HUIG	**Huatulco**	**1.80**	**219**	*eP*		**Pn**	**10 31 25.9**	**-0.6**
HUIG				*eS*		**Sn**	**10 31 51.3**	**+0.8**
PCIG		**2.21**	**132**	*eP*		**Pn**	**10 31 32.0**	**+0.6**
PCIG				*eS*		**Sn**	**10 31 59.3**	**+0.1**
PCIG		**2.21**	**132**	*eP*		**Pn**	**10 31 32.0**	**+0.6**
PCIG				*eS*		**Sn**	**10 31 59.3**	**+0.1**
CCIG	**Comitan**	**2.83**	**108**	*e*Pn		**Pn**	**10 31 39.5**	**0.0**
CCIG				*e*Sn		**Sn**	**10 32 14.4**	**+0.8**
PNIG	**Pinotepa**	**3.16**	**256**	*eP*		**Pn**	**10 31 42.7**	**-1.0**
PNIG				*eS*		**Sn**	**10 32 15.6**	**-5.6**
PNIG	**Pinotepa**	**3.16**	**256**	*eP*		**Pn**	**10 31 42.7**	**-1.0**
PNIG				*eS*		**Sn**	**10 32 15.6**	**-5.6**
TLIG	**Tlapa**	**3.49**	**277**	*e*Pn		**Pn**	**10 31 49.2**	**+1.1**
TLIG				*e*Sn		**Sn**	**10 32 28.2**	**-0.9**
APG	**El Apazote**	**4.81**	**116**	P		**Pn**	**10 32 04.5**	**-1.3**
	0.3nm,0.3s,baz=326,slow=18,SNR=7.2							
APG				S		Sn	10 32 49.9	-11
	2.8nm,0.3s,baz=320,slow=16,SNR=7.4							
TXAR	**Lajitas Array**	**14.51**	**328**	P		**P**	**10 34 16.8**	**-0.6**
	0.1nm,0.3s,baz=137,slow=16,SNR=6.1							
NVAR	**Mina Array Bea**	**29.43**	**321**	P		**P**	**10 36 49.7**	**+2.8**
	0.3nm,0.6s,baz=135,slow=9.0,SNR=3.0							
YKA	**Yellowknife Ar**	**47.31**	**348**	P		**P**	**10 39 14.9**	**-0.6**
	0.2nm,0.5s,baz=154,slow=7.2,SNR=5.5							

ISCJB ***27*** *10:32:41.1±0.2, 38°.75N±0°.02×69°.80E±0°.03, h27km, mb4.3/40, MS3.5/8, Error ellipse: s-maj=3.6km s-min=3.4km az=144.6*
NNC ***27*** *10:32:42.1±1.7, 38°.56N×69°.91E, h0km, mb4.7, mpv4.4, Error ellipse: s-maj=17.8km s-min=5.0km az=170.0*
IDC ***27*** *10:32:42.4±3.0, 38°.60N×69°.91E, h26km±19km, mb3.9/19, mb1 4.1/27, mb1mx3.9/76, mbtmp4.1/27, ML3.7/8, MS3.3/11, Ms1 3.3/11, ms1mx2.9/80, Error ellipse: s-maj=17.4km s-min=10.2km az=165.0*
MOS ***27*** *10:32:44.1±1.3, 38°.79N×69°.80E, h54km, mb4.4/21, Error ellipse: s-maj=8.1km s-min=4.5km az=75.8*
BJI ***27*** *10:32:44.4, 38°.73N×70°.11E, h40km, mb4.6/17, mB4.8/8, Ms4.2/8, Ms7 3.9/6*
NEIC ***27*** *10:32:45.3±0.7, 38°.80N×69°.82E, h45km±7km, mb4.4/17, Error ellipse: s-maj=7.7km s-min=7.0km az=139.0*
ISC 27 10:32:42.2±0.3, 38°.72N±0°.03×69°.86E±0°.02, h27km, n170, σ2s51/182, mb4.3/41, MS3.5/8, 11C-12D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**0.81**	**276**	⇓P		**Pn**	**10 32 59.7**	**+1.8**
	339nm,0.5s							
DZET				⇑S		**Sn**	**10 33 11.5**	**+2.4**
	2µm,0.4s							
DZET	**Dzherino**	**0.81**	**276**	P		**Pn**	**10 32 59.7**	**+1.8**
DZET				S		**Sn**	**10 33 11.5**	**+2.4**
DZET				pmax	pmax			
	comp=Z,339nm,0.5s							
DZET				smax	smax			
	comp=N,2µm,0.4s							
TAS	**Tashkent**	**2.64**	**351**	⇓P		**Pb**	**10 33 28.9**	**+0.1**
	comp=N,524nm,0.5s							
TAS				⇑S		**Sb**	**10 34 03.9**	**+3.0**
	comp=N,2µm,0.5s							
TAS	**Tashkent**	**2.64**	**351**	PN		**Pb**	**10 33 28.9**	**+0.1**
TAS				S		**Sb**	**10 34 03.9**	**+3.0**
TAS				pmax	pmax			
	comp=Z,524nm,0.5s							
TAS				smax	smax			
	comp=N,2µm,0.5s							

SFK	**Sufi-Kurgan**	**3.11**	**64**	⇑P		**Pb**	**10 33 33.9**	**-3.0**	
	comp=N,17nm,0.6s								
SFK				⇑Pg		Pn	10 33 39.5	+10	
	comp=N,88nm,0.4s								
SFK				⇓Lg		Lg	10 34 20.8		
	comp=N,932nm,1.1s								
SFK	**Sufi-Kurgan**	**3.11**	**64**	PN		**Pb**	**10 33 33.9**	**-3.0**	
SFK				pmax	pmax				
	comp=Z,17nm,0.6s								
KBL	**Kabul**	**4.22**	**189**	*e*Pn		**Pn**	**10 33 48.1**	**+3.1**	
KBL				*e*Sn		**Sn**	**10 34 32.4**	**-1.1**	
KBL	**Kabul**	**4.22**	**189**	*e*PN		**Pn**	**10 33 48.1**	**+3.1**	
MNAS	**Manas**	**4.27**	**27**	⇑P		**Pn**	**10 33 48.1**	**+2.5**	
	comp=Z,43nm,0.4s								
MNAS				⇑S		**Sb**	**10 34 44.4**	**-3.3**	
	comp=Z,130nm,0.7s								
MNAS	**Manas**	**4.27**	**27**	PN		**Pn**	**10 33 48.6**	**+3.1**	
MNAS				S		**Sb**	**10 34 44.4**	**-3.3**	
MNAS				pmax	pmax				
	comp=Z,43nm,0.4s								
MNAS				smax	smax				
	comp=N,130nm,0.7s								
KK31	**Karatay Array**	**4.41**	**6**	⇓P		**Pn**	**10 33 50.2**	**+2.9**	
	comp=N,16nm,0.4s,baz=203,slow=15,SNR=211								
KK31				⇓Pg		**Pb**	**10 34 01.7**	**+2.8**	
	comp=N,14nm,0.3s,baz=194,slow=17,SNR=7.6								
KK31	**Karatay Array**	**4.41**	**6**	*e*Pn		**Pn**	**10 33 50.2**	**+2.9**	
KK31				*e*Sn		**Sn**	**10 34 36.8**	**-1.0**	
KK31	**Karatay Array**	**4.41**	**6**	*e*PN		**Pn**	**10 33 50.2**	**+2.9**	
KKAR	**Karatay Array**	**4.41**	**6**	*e*Pn		**Pn**	**10 33 50.2**	**+2.9**	
KKAR				*e*Sn		**Sn**	**10 34 36.6**	**-1.1**	
KKAR	**Karatay Array**	**4.41**	**6**	*e*PN		**Pn**	**10 33 50.2**	**+2.9**	
AML	**Almayashu**	**4.49**	**39**	P		**Pn**	**10 33 51.3**	**+2.5**	
	SNR=211								
EKS2	**Erkin-Say**	**4.94**	**36**	P		Pn	10 33 59.6	+4.8	
	SNR=14								
UCH	**Uchtor**	**4.99**	**44**	P		**Pn**	**10 33 60.0**	**+4.3**	
	SNR=17								
CEP	**Cherat**	**5.16**	**161**	P		Pn	10 34 02.7	+4.9	
AAK	**Ala-Archa**	**5.27**	**41**	Pn		**Pn**	**10 34 03.2**	**+3.9**	
	comp=N,10nm,0.3s,baz=201,slow=6.4,SNR=89								
AAK				Pg		Pb	10 34 18.3	+4.7	
	comp=N,18nm,0.3s,baz=162,slow=4.5,SNR=15								
AAK				Sn		**Sn**	**10 35 01.5**	**+2.4**	
	comp=N,2.4nm,0.3s,baz=210,slow=16,SNR=3.1								
AAK				LR		LR	10 36 17.5		
	comp=N,109nm,18.2s,baz=193,slow=40								
AAK	**Ala-Archa**	**5.27**	**41**	⇓P		**Pn**	**10 34 02.5**	**+3.2**	
	comp=N,37nm,0.5s								
AAK				⇓Pg		**Pb**	**10 34 10.5**	**-3.2**	
	comp=N,39nm,0.5s								
AAK				⇓S		**Sb**	**10 35 10.8**	**-5.7**	
	comp=N,82nm,0.9s								
AAK	**Ala-Archa**	**5.27**	**41**	P		Pn	10 34 04.0	+4.8	
	SNR=71								
AAK	**Ala-Archa**	**5.27**	**41**	*e*Pn		**Pn**	**10 34 02.9**	**+3.6**	
AAK				*e*Sn		**Sn**	**10 35 02.7**	**+3.6**	
AAK	**Ala-Archa**	**5.27**	**41**	*e*PN		**Pn**	**10 34 02.9**	**+3.6**	
AAK				*e*			10 35 02.7		
KZA	**Kyzart**	**5.31**	**49**	P		Pn	10 34 05.8	+5.7	
	SNR=54								
NRN	**Naryn**	**5.44**	**58**	*e*Pn		**Pn**	**10 34 03.2**	**+1.5**	
NRN	**Naryn**	**5.44**	**58**	*e*PN		**Pn**	**10 34 03.2**	**+1.5**	
FRU1	**Bishkek**	**5.46**	**40**	PN		Pn	10 34 06.2	+4.4	
FRU	**Bishkek**	**5.47**	**40**	*e*PN		Pn	10 34 08.0	+6.0	
FRU				*e*S		**Sn**	**10 35 12.0**	**+8.0**	
FRU				pmax	pmax				
	comp=Z,160nm,1.2s								
FRU				smax	smax				
	comp=E,550nm,1.6s								
KBK	**Karagaybulak**	**5.52**	**43**	P		Pn	10 34 08.9	+6.2	
	SNR=38								
CHMS	**Chumysh**	**5.66**	**39**	P		Pn	10 34 09.6	+5.0	
	SNR=53								
USP	**Ospenovka**	**5.74**	**36**	P		Pn	10 34 10.7	+5.0	
	SNR=11								
NIL	**Nilore**	**5.76**	**150**	*e*Pn		**Pn**	**10 34 09.3**	**+3.4**	
NIL				*e*Sn		**Sn**	**10 35 15.0**	**+4.0**	
NIL	**Nilore**	**5.76**	**150**	*e*PN		**Pn**	**10 34 09.3**	**+3.4**	
TKM2	**Tokmak 2**	**6.05**	**44**	⇓P		**Pn**	**10 34 12.1**	**+2.0**	
	comp=E,28nm,0.5s								
TKM2				⇑S		Sn	10 35 28.0	+10	
	comp=E,111nm,0.9s								
TKM2	**Tokmak 2**	**6.05**	**44**	P		Pn	10 34 15.2	+5.2	
	SNR=12								
TKM2	**Tokmak 2**	**6.05**	**44**	PN		**Pn**	**10 34 12.6**	**+2.6**	
TKM2				S		Sn	10 35 28.0	+10	
TKM2				pmax	pmax				
	comp=Z,28nm,0.5s								
TKM2				smax	smax				
	comp=N,111nm,1.0s								
THW	**Thamme Wali**	**6.11**	**165**	P		**Pn**	**10 34 14.9**	**+4.2**	
KDJ	**Kajisay**	**6.54**	**56**	*e*Pn		Pn	10 34 21.2	+4.4	
KDJ				*e*Sn		**Sn**	**10 35 32.9**	**+2.2**	
KDJ	**Kajisay**	**6.54**	**56**	PN		Pn	10 34 21.2	+4.4	
TARG	**Taragay, Kyrgy**	**6.79**	**61**	*e*Pn		**Pn**	**10 34 24.3**	**+3.9**	
TARG				*e*Sn		**Sn**	**10 35 36.4**	**-0.5**	
DHRM	**DHARAMSHALA**	**8.32**	**139**	*e*P		**Pn**	**10 34 43.0**	**+1.7**	
DHRM				*e*S		Pb	10 35 13.0	+7.3	
PDGK	**Podgornoye**	**8.61**	**55**	⇓P		**Pn**	**10 34 48.0**	**+2.9**	
	comp=N,11nm,0.8s								
PDGK	**Podgornoye**	**8.61**	**55**	P		**Pn**	**10 34 48.1**	**+2.9**	
PDGK				pmax	pmax				
	comp=Z,11nm,0.8s								
GEYT	**Alibeck**	**9.26**	**269**	Pn		**Pn**	**10 34 54.0**	**+0.1**	
	comp=Z,1.2nm,0.3s,baz=96,slow=10,SNR=5.0								
GEYT				Sn		**Sn**	**10 36 38.1**	**+0.9**	
	comp=Z,1.7nm,0.3s,baz=37,slow=14,SNR=4.2								
GEYT				LR		LR	10 39 21.5		
	comp=Z,95nm,18.4s,baz=0.0,slow=43								
SMLA	**Simla**	**9.66**	**139**	*e*P		**Pn**	**10 34 59.6**	**+0.2**	
SMLA				*e*S		**Sn**	**10 36 39.6**	**-7.4**	
OTUK	**Ortayu**	**9.69**	**10**	⇓P		**Pn**	**10 35 01.0**	**+1.2**	
	comp=Z,5.8nm,0.5s								
OTUK	**Ortayu**	**9.69**	**10**	P		**Pn**	**10 35 01.0**	**+1.2**	
OTUK				pmax	pmax				
	comp=Z,6.0nm,0.5s								
MAKZ	**Makanchi**	**12.02**	**44**	*e*Pn		**Pn**	**10 35 32.9**	**+1.3**	
MAKZ	**Makanchi**	**12.02**	**44**	*e*P		**Pn**	**10 35 32.9**	**+1.3**	
MK01	**Makanchi Array**	**12.17**	**45**	*e*Pn		**Pn**	**10 35 34.8**	**+1.0**	
MK31	**Makanchi Array**	**12.18**	**45**	*e*Pn		**Pn**	**10 35 34.9**	**+1.1**	
MK31	**Makanchi Array**	**12.18**	**45**	*e*P		**Pn**	**10 35 34.9**	**+1.1**	
MK32	**Makanchi Array**	**12.18**	**45**	*e*Pn		**Pn**	**10 35 35.0**	**+1.2**	
MKAR	**Makanchi Array**	**12.18**	**45**	Pn		**Pn**	**10 35 35.0**	**+1.2**	
	comp=Z,0.4nm,0.3s,baz=226,slow=15,SNR=16								
MKAR	**Makanchi Array**	**12.18**	**45**	*e*Pn		**Pn**	**10 35 34.9**	**+1.1**	
MKAR	**Makanchi Array**	**12.18**	**45**	*e*P		**Pn**	**10 35 34.9**	**+1.1**	
AB31	**Akbulak array**	**12.71**	**329**	⇓P		**Pn**	**10 35 40.5**	**-0.5**	
	comp=Z,2.8nm,0.3s								
AB31				⇑S		**Sn**	**10 37 56.8**	**-4.8**	
	comp=Z,13nm,0.6s								
AB31	**Akbulak array**	**12.71**	**329**	P		**Pn**	**10 35 40.5**	**-0.5**	
AB31				pmax	pmax				
	comp=Z,3.0nm,0.4s								
ABKAR	**Akbulak array**	**12.71**	**329**	*e*Pn		**Pn**	**10 35 40.5**	**-0.5**	
ABKAR				*e*Sn		**Sn**	**10 37 56.0**	**-5.5**	
KURBB	**Kurchatov Arra**	**13.39**	**25**	Pn		**Pn**	**10 35 48.8**	**-1.5**	
	comp=Z,0.1nm,0.3s,baz=213,slow=11,SNR=6.8								
KURK	**Kurchatov**	**13.50**	**25**	*e*Pn		**Pn**	**10 35 48.8**	**-3.0**	
KURK	**Kurchatov**	**13.50**	**25**	P		**Pn**	**10 35 48.8**	**-3.0**	
BVA0	**Borovoye Array**	**14.31**	**1**	P		**Pn**	**10 36 01.5**	**-1.4**	
	comp=Z,3.4nm,0.5s,baz=166,slow=6.8,SNR=27								
BVA0	**Borovoye Array**	**14.31**	**1**	P		**Pn**	**10 36 01.5**	**-1.4**	
BVA0				pmax	pmax				
	comp=Z,3.0nm,0.5s								
BVAR	**Borovoye Array**	**14.31**	**1**	Pn		**Pn**	**10 36 01.9**	**-1.0**	
	comp=Z,2.5nm,0.3s,baz=165,slow=13,SNR=32								
BRVK	**Borovoye**	**14.34**	**1**	⇑P		**Pn**	**10 36 01.7**	**-1.6**	
	comp=Z,3.9nm,0.6s								
BRVK	**Borovoye**	**14.34**	**1**	*e*Pn		**Pn**	**10 36 02.9**	**-0.4**	
BRVK				*e*Sn		**Sn**	**10 38 41.8**	**+0.4**	
BRVK	**Borovoye**	**14.34**	**1**	*e*P		**Pn**	**10 36 02.9**	**-0.4**	
BRVK				*e*			10 38 41.8		
WMQ	**Urumqi**	**14.35**	**64**	P		**Pn**	**10 36 05.5**	**+2.0**	
WMQ				LR		LR			
	comp=Z,750nm,21.9s								
WMQ				LR		LR			
	comp=Z,350nm,9.1s								
AKTO	**Aktyubinsk**	**14.41**	**328**	Pn		**Pn**	**10 36 04.1**	**-0.2**	
	comp=Z,0.7nm,0.3s,baz=134,slow=14,SNR=14								
AKTO				LR		LR	10 42 02.9		
	comp=Z,52nm,18.9s,baz=140,slow=39								
AKTO	**Aktyubinsk**	**14.41**	**328**	⇑P		**Pn**	**10 36 04.0**	**-0.2**	
	comp=Z,5.5nm,0.8s								
AKTO				⇑S		**Sn**	**10 38 35.9**	**-7.1**	

	comp=Z,24nm,0.8s								
PYUN	**Piuthan**	**15.23**	**130**	*e*P		**Pn**	**10 36 10.7**	**-4.9**	
	comp=Z,32nm,0.8s								
KOLN	**Koldanda**	**15.84**	**130**	*e*P		**Pn**	**10 36 18.2**	**-5.3**	
	comp=Z,10nm,0.4s								
GKN	**Gorkha**	**16.31**	**127**	*e*P		**Pn**	**10 36 27.2**	**-2.3**	
	comp=Z,73nm,0.6s								
DMN	**Daman**	**16.88**	**126**	*e*P		**Pn**	**10 36 33.6**	**-3.2**	
	comp=Z,47nm,0.6s								
GUN	**Gumba**	**17.17**	**124**	*e*P		**Pn**	**10 36 40.1**	**-0.4**	
	comp=Z,81nm,1.0s								
JIRN	**Jiri**	**17.54**	**124**	*e*P		**Pn**	**10 36 44.0**	**-1.1**	
	comp=Z,61nm,0.6s								
RAMN	**Ramite**	**18.29**	**125**	*e*P		**Pn**	**10 36 49.4**	**-4.8**	
	comp=Z,31nm,0.5s								
ZAA0	**Zalesovo Array**	**18.34**	**29**	*e*P		**P**	**10 36 53.6**	**-0.7**	
	comp=Z,5.4nm,0.9s								
ZALV	**Zalesovo Beam**	**18.34**	**29**	P		**P**	**10 36 53.8**	**-0.6**	
	comp=Z,0.9nm,0.3s,baz=230,slow=13,SNR=9.6								
ZALV	**Zalesovo Beam**	**18.34**	**29**	*e*P		**P**	**10 36 53.7**	**-0.6**	
ZALV	**Zalesovo Beam**	**18.34**	**29**	*e*P		**P**	**10 36 53.7**	**-0.6**	
ZAA1	**Zalesovo Array**	**18.35**	**29**	*e*P		**P**	**10 36 53.8**	**-0.6**	
NVS	**Novosibirsk**	**18.49**	**25**	*i* P		**Pn**	**10 36 56.6**	**+0.4**	
ODAN	**Odare**	**18.86**	**124**	*e*P		**P**	**10 36 57.0**	**-3.5**	
	comp=Z,29nm,0.6s								
ARU	**Arti**	**19.24**	**341**	P		**P**	**10 37 04.6**	**+0.4**	
	comp=Z,0.0nm,0.3s,baz=125,slow=8.2,SNR=6.8								
ARU				LR		LR	10 45 20.4		
	comp=Z,67nm,20.0s,baz=175,slow=39								
GNI	**Garni**	**19.44**	**282**	LR		LR	10 46 15.1		
	comp=Z,40nm,18.6s,baz=24,slow=42								
ZEI	**Tsey**	**20.05**	**290**	*e*P		Pn	10 37 18.3	+3.1	
ZEI				pmax	pmax				
	comp=Z,3.0nm,0.7s								
KBZ	**Khabaz**	**20.84**	**293**	P		**P**	**10 37 21.7**	**0.0**	
	comp=Z,4.3nm,0.8s,baz=142,slow=9.5,SNR=10								
KBZ				LR		LR	10 47 25.2		
	comp=Z,62nm,20.9s,baz=58,slow=42								
KBZ	**Khabaz**	**20.84**	**293**	P		**P**	**10 37 21.7**	**0.0**	
KBZ				pmax	pmax				
	comp=Z,2.0nm,0.7s								
KBZ				MLR		MLR			
	comp=Z,62nm,20.9s								
KVAR	**Kislovodsk Arr**	**21.01**	**293**	P		**P**	**10 37 25.4**	**+1.8**	
	comp=Z,2.9nm,0.3s,baz=68,slow=14,SNR=2.5								
KVAR				LR		LR	10 47 38.6		
	comp=Z,81nm,18.1s,baz=140,slow=42								
GTA	**Gaotai**	**23.23**	**79**	*e*P		**P**	**10 37 48.5**	**+1.2**	
GTA				pP		sP	10 37 59.0	+0.8	
GTA				sP		pP	10 38 06.0	+11	
GTA				S		**S**	**10 41 53.0**	**-4.7**	
GTA				sS		sS	10 42 13.0	+2.3	
GTA				SS		**SnSn**	**10 42 41.0**	**+8.8**	
GTA				pmax	pmax				
	comp=Z,3.0nm,1.0s								
GTA				pmax	pmax				
	comp=Z,250nm,6.9s								
GTA				LR	LR				
	comp=Z,480nm,19.2s								
GTA				LR

NC204	NORSAR Array S	42.31	322	*e*P		**P**	**10 40 34.2**	**+0.9**
TIXI	**Tiksi**	**44.07**	**23**	*e*P		**P**	**10 40 47.9**	**+0.6**
	comp=Z,6.0nm,0.7s							
TIXI	**Tiksi**	**44.07**	**23**	*e*P		**P**	**10 40 47.9**	**+0.6**
TIXI				pmax	pmax			
	comp=Z,6.0nm,0.7s							
PSI	**Prapat**	**44.51**	**136**	*e*P		**P**	**10 40 52.5**	**+0.9**
	comp=Z,11nm,1.2s							
PSI	**Prapat**	**44.51**	**136**	*e*P		**P**	**10 40 52.5**	**+0.9**
PSI				pmax	pmax			
	comp=Z,11nm,1.2s							
SPA0	**Spitsbergen Ar**	**45.13**	**346**	*e*P		**P**	**10 40 56.8**	**+1.1**
SPITS	**Spitsbergen Ar**	**45.13**	**346**	P		**P**	**10 40 56.8**	**+1.1**
	comp=Z,3.8nm,0.9s,baz=148,slow=8.5,SNR=3.8							
EKA	**Eskdalemuir Ar**	**50.07**	**315**	P		**P**	**10 41 35.5**	**+1.1**
	comp=Z,1.1nm,0.6s,baz=81,slow=6.5,SNR=4.0							
YSS	**Yuzh-Sakhalins**	**52.31**	**56**	P		**P**	**10 41 54.2**	**+3.0**
ESDC	**Sonseca Array**	**55.64**	**296**	P		**P**	**10 42 16.9**	**+1.1**
	comp=Z,0.5nm,0.4s,baz=53,slow=7.2,SNR=5.3							
TOA1	**Torodi Ar. Sit**	**64.89**	**267**	*e*P		**P**	**10 43 19.6**	**+0.2**
TOA0	**Torodi Ar. Sit**	**64.89**	**267**	*e*P		**P**	**10 43 19.3**	**-0.1**
TORD	**Torodi Ar. Bea**	**64.89**	**267**	P		**P**	**10 43 19.6**	**+0.2**
	comp=Z,1.3nm,0.6s,baz=50,slow=5.8,SNR=16							
KOWA	**Kowa**	**68.57**	**272**	P		**P**	**10 43 43.9**	**+1.1**
	comp=Z,0.6nm,0.4s,baz=38,slow=12,SNR=3.3							
TOLK	**Toolik Lake Re**	**69.00**	**14**	*e*P		**P**	**10 43 46.1**	**+1.4**
	comp=Z,4.4nm,0.6s							
INK	**Inuvik**	**71.86**	**9**	P		**P**	**10 44 03.4**	**+1.3**
	comp=Z,2.1nm,0.6s,baz=344,slow=5.0,SNR=19							
INK	**Inuvik**	**71.86**	**9**	*e*P		**P**	**10 44 03.1**	**+1.0**
	comp=Z,2.6nm,0.7s							
INK	**Inuvik**	**71.86**	**9**	*e*P		**P**	**10 44 03.1**	**+1.0**
INK				pmax	pmax			
	comp=Z,3.0nm,0.7s							
ILAR	**Eielson Array**	**72.89**	**16**	P		**P**	**10 44 08.8**	**+0.4**
	comp=Z,1.3nm,0.9s,baz=322,slow=4.8,SNR=9.1							
ILB	**Eielson Array**	**72.89**	**16**	*e*P		**P**	**10 44 09.2**	**+0.8**
SCM	**Sheep Creek Mo**	**75.37**	**17**	*e*P		**P**	**10 44 21.0**	**-1.9**
	comp=Z,12nm,0.7s							
SCM	**Sheep Creek Mo**	**75.37**	**17**	*e*P		**P**	**10 44 21.0**	**-1.9**
SCM				pmax	pmax			
	comp=Z,12nm,0.7s							
KLU	**Klutina**	**75.99**	**17**	*e*P		**P**	**10 44 27.8**	**+1.3**
	comp=Z,20nm,1.4s							
YKA	**Yellowknife Ar**	**79.07**	**2**	P		**P**	**10 44 44.2**	**+0.6**
	comp=Z,0.9nm,0.5s,baz=352,slow=5.4,SNR=36							
WR1	**Warramunga Arr**	**83.93**	**121**	*e*P		**P**	**10 45 09.7**	**-0.2**
	comp=Z,7.4nm,1.4s							
WRA	**Warramunga Arr**	**83.93**	**121**	P		**P**	**10 45 09.7**	**-0.2**
	comp=Z,1.1nm,0.9s,baz=323,slow=5.0,SNR=7.9							
ASAR	**Alice Springs**	**86.26**	**124**	P		**P**	**10 45 21.1**	**-0.4**
	comp=Z,0.6nm,0.7s,baz=308,slow=4.6,SNR=11							
EDM	**Edmonton**	**88.39**	**2**	*e*P		**P**	**10 45 33.0**	**+1.5**
	comp=Z,2.8nm,0.6s							
EDM	**Edmonton**	**88.39**	**2**	*e*P		**P**	**10 45 33.0**	**+1.5**
EDM				pmax	pmax			
	comp=Z,3.0nm,0.6s							
REDW	**Red Top Meadow**	**98.30**	**1**	*e*P		**P**	**10 46 17.8**	**+0.3**
	comp=Z,1.6nm,1.0s							
PDAR	**Pinedale Array**	**98.89**	**360**	LR	LR		11 34 25.4	
	comp=Z,75nm,20.3s,baz=313,slow=37							
YBH	**Yreka Blue Hor**	**99.11**	**9**	LR	LR		11 35 55.7	
	comp=Z,53nm,19.1s,baz=302,slow=38							

ISCJB ***27*** *10:41:16.9±0.9, 14°.3N±0°.1×53°.3E±0°.1, h10km, mb3.7/12, Error ellipse: s-maj=21.7km s-min=17.7km az=146.3*
IDC ***27*** *10:41:16.7±1.1, 14°.15N×53°.34E, h0km, mb3.7/12, mb1 3.8/13, mb1mx3.5/76, mbtmp3.7/13, ML2.9/1, MS2.9/1, Ms1 2.9/1, ms1mx2.4/63, Error ellipse: s-maj=26.1km s-min=23.1km az=176.0*

ISC 27 10:41:18.4±1.2, 14°.2N±0°.2×53°.4E±0°.2, h10km, n16, σ0852/13, mb3.6/12, Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m s	ISC
WSAR	**Wadi Sarin**	**10.28**	**28**	Pn		**Pn**	**10 43 45.5**		**-0.6**
	0.1nm,0.3s,baz=248,slow=11,SNR=2.9								
WSAR				Sn		Sn	10 45 26.4		-15
	0.2nm,0.3s,baz=180,slow=12,SNR=3.7								
WSAR				LR		LR	10 47 05.8		
	comp=Z,61nm,19.3s,baz=136,slow=34								
H08N2	**Diego Garcia H**	**26.88**	**138**	T		T	11 14 38.9		
	baz=320,slow=76,SNR=8.9								
H08N3	**Diego Garcia H**	**26.89**	**138**	T		T	11 14 39.6		
	baz=320,slow=76,SNR=9.5								
H08N1	**Diego Garcia H**	**26.90**	**138**	T		T	11 14 41.0		
	baz=320,slow=76,SNR=8.5								
MKAR	**Makanchi Array**	**40.50**	**31**	P		**P**	**10 48 58.0**		**+0.4**
	0.3nm,0.5s,baz=224,slow=7.9,SNR=3.7								
BVAR	**Borovoye Array**	**41.02**	**16**	P		**P**	**10 49 02.6**		**+0.8**
	0.6nm,0.6s,baz=192,slow=5.7,SNR=2.9								
KURBB	**Kurchatov Arra**	**41.66**	**24**	P		**P**	**10 49 07.1**		**+0.1**
	1.0nm,0.8s,baz=225,slow=8.3,SNR=5.5								
ZALV	**Zalesovo Beam**	**46.71**	**25**	P		**P**	**10 49 46.8**		**-0.6**
	1.5nm,0.6s,baz=230,slow=9.4,SNR=5.2								
TORD	**Torodi Ar. Bea**	**50.13**	**275**	P		**P**	**10 50 14.5**		**+0.1**
	0.7nm,0.9s,baz=85,slow=4.8,SNR=2.7								
FINES	**FINESS Array B**	**51.09**	**344**	P		**P**	**10 50 20.9**		**0.0**
	1.8nm,0.6s,baz=161,slow=8.8,SNR=9.9								
SONM	**Songino Array**	**55.03**	**41**	P		**P**	**10 50 51.2**		**+0.7**
	0.2nm,0.4s,baz=226,slow=5.6,SNR=2.8								
ESDC	**Sonseca Array**	**56.00**	**308**	P		**P**	**10 50 57.0**		**-0.4**
	0.2nm,0.4s,baz=79,slow=6.7,SNR=3.3								
ARCES	**ARCESS Array B**	**58.00**	**349**	P		**P**	**10 51 11.0**		**-0.1**
	0.8nm,0.5s,baz=129,slow=7.1,SNR=6.4								
SPITS	**Spitsbergen Ar**	**66.52**	**352**	P		**P**	**10 52 08.5**		**+0.4**
	2.8nm,0.9s,baz=159,slow=8.8,SNR=3.1								
WRA	**Warramunga Arr**	**86.54**	**111**	P		**P**	**10 54 02.3**		**-0.1**
	0.4nm,0.9s,baz=294,slow=4.0,SNR=3.1								
ASAR	**Alice Springs**	**87.21**	**115**	P		**P**	**10 54 05.2**		**-0.4**
	0.2nm,0.7s,baz=286,slow=3.9,SNR=2.7								

IDC 27 10:43:59.6±2.0, 15°.12S×173°.57W, h0km, mb3.5/4, mb1 3.9/5, mb1mx3.5/55, mbtmp3.6/5, ML4.3/1, Error ellipse: s-maj=129.2km s-min=21.9km az=151.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m s	ISC
AFI	**Afiamalu**	**2.11**	**56**	Pn		Pn	10 44 35.5		-0.8
	99nm,0.3s,baz=270,slow=3.0,SNR=177								
AFI				Sn		Sn	10 44 56.5		-6.8
	70nm,0.3s,baz=308,slow=18,SNR=10								
WRA	**Warramunga Arr**	**49.75**	**257**	P		P	10 52 54.2		0.0
	0.3nm,0.5s,baz=92,slow=6.8,SNR=8.7								
ASAR	**Alice Springs**	**50.04**	**252**	P		P	10 52 56.0		-0.4
	0.7nm,0.5s,baz=88,slow=7.9,SNR=20								
TXAR	**Lajitas Array**	**80.59**	**56**	P		P	10 56 15.0		+0.5
	0.2nm,0.7s,baz=231,slow=5.7,SNR=3.6								
ILAR	**Eielson Array**	**82.20**	**11**	P		P	10 56 22.4		+0.3
	0.3nm,1.0s,baz=214,slow=6.2,SNR=3.3								

ISCJB ***27*** *10:46:10.9±0.8, 22°.34S±0°.04×67°.8W±0°.2, h201km±12km, mb3.4/2, Error ellipse: s-maj=23.0km s-min=6.3km az=5.7*
GUC ***27*** *10:46:10.9±0.6, 22°.34S×67°.98W, h206km±6km, ML4.2*
IDC ***27*** *10:46:14.6±9.3, 22°.03S×67°.22W, h196km±64km, mb3.4/2, mb1 3.6/3, mb1mx3.1/39, mbtmp3.9/3, Error ellipse: s-maj=101.3km s-min=45.8km az=29.0*

ISC 27 10:46:11.1±1.4, 22°.34S±0°.05×67°.7W±0°.2, h187km±15km, n15, σ0985/28, 8C-1D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m s	ISC
PB09	**IPOC Station P**	**1.52**	**291**	⇑*i*P		**Pn**	**10 46 44.7**		**+0.6**
PB09				*i* S		**Sn**	**10 47 10.4**		**+0.9**
PB09				IAML			10 47 13.6		
	comp=N,518nm,0.1s								
PB06	**IPOC Station P**	**1.76**	**258**	*e*P		**Pn**	**10 46 46.5**		**+0.2**
PB06				*i* S		**Sn**	**10 47 13.6**		**0.0**
PB06				IAML			10 47 15.7		
	comp=E,1μm,0.2s								
PB15	**IPOC Station P**	**1.84**	**242**	⇑*i*P		**Pn**	**10 46 47.3**		**+0.1**
PB15				*e*S		**Sn**	**10 47 15.4**		**+0.1**
PB01	**IPOC Station P**	**2.10**	**308**	⇑*i*P		**Pn**	**10 46 49.9**		**0.0**
PB01				*i* S		**Sn**	**10 47 19.8**		**-0.1**
PB01				IAML			10 47 21.0		
	comp=N,2μm,0.3s								
PB07	**IPOC Station P**	**2.11**	**286**	*e*P		**Pn**	**10 46 50.3**		**+0.3**
PB07				*i* S		**Sn**	**10 47 19.7**		**-0.6**
PB07				IAML			10 47 20.3		
	comp=N,2μm,0.2s								
PB04	**IPOC Station P**	**2.26**	**270**	⇑*i*P		**Pn**	**10 46 51.6**		**-0.1**
PB04				*i* S		**Sn**	**10 47 22.3**		**-0.9**
PB04				IAML			10 47 26.9		
	comp=E,1μm,0.2s								
PB02	**IPOC Station P**	**2.27**	**296**	⇑*i*P		**Pn**	**10 46 51.7**		**-0.1**
PB02				*i* S		**Sn**	**10 47 22.4**		**-0.9**
PB02				IAML			10 47 23.0		
	comp=N,1μm,0.4s								
PB08	**IPOC Station P**	**2.57**	**328**	⇑*i*P		**Pn**	**10 46 56.0**		**+0.6**
PB08				*i* S		**Sn**	**10 47 30.3**		**+0.4**
PB08				IAML			10 47 31.2		
	comp=N,212nm,0.3s								
PB10	**IPOC Station P**	**2.87**	**245**	⇑*i*P		**Pn**	**10 46 58.5**		**0.0**
PB10				*i* S		**Sn**	**10 47 34.3**		**-1.3**
PB10				IAML			10 47 35.4		
	comp=N,242nm,0.3s								
PB11	**IPOC Station P**	**3.15**	**324**	⇑*i*P		**Pn**	**10 47 01.1**		**-0.9**
PB11				*i* S		**Sn**	**10 47 40.6**		**-1.2**
PB11				IAML			10 47 42.4		
	comp=E,617nm,0.3s								
GO02	**Mina Guanaco**	**3.30**	**211**	⇓*i*P		**Pn**	**10 47 03.7**		**-0.2**
GO02				*i* S		**Sn**	**10 47 43.9**		**-1.4**
GO02				IAML			10 47 44.1		
	comp=N,498nm,0.3s								
MNMC	**Minye Minye**	**3.65**	**331**	*e*P		**Pn**	**10 47 08.0**		**-0.4**
MNMC				*i* S		**Sn**	**10 47 52.1**		**-1.0**
MNMC				IAML			10 47 53.6		
	comp=E,442nm,0.4s								
LPAZ	**La Paz**	**6.04**	**356**	P		**Pn**	**10 47 39.5**		**+0.2**
	comp=E,3.1nm,0.3s,baz=180,slow=11,SNR=100								
LPAZ				S		**Sn**	**10 48 47.0**		**-1.8**
	comp=E,0.2nm,0.3s,baz=225,slow=4.3,SNR=2.6								
TORD	**Torodi Ar. Bea**	**76.59**	**70**	P		**P**	**10 57 40.9**		**-0.6**
	comp=E,0.7nm,0.4s,baz=257,slow=5.6,SNR=14								
YKA	**Yellowknife Ar**	**92.35**	**340**	P		**P**	**10 59 01.4**		**+1.7**
	comp=E,0.2nm,0.6s,baz=134,slow=4.4,SNR=7.5								

IASPEI ***27*** *10:49:05.7±0.8, 38°.66N±0°.01×26°.66E±0°.02, h10km±5km, Error ellipse: s-maj=2.9km s-min=2.1km az=98.1, GT5 selection from ISC bulletin GT5 identified by Bond¨jr and McLaughlin (2009) selection criteria Bond¨jr and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009*
ISCJB ***27*** *10:49:06.0±0.3, 38°.66N±0°.01×26°.65E±0°.02, h9km±2km, Error ellipse: s-maj=3.0km s-min=2.1km az=170.0*
ATH ***27*** *10:49:05.9, 38°.65N×26°.63E, h30km±2km, ML3.4/6, Error ellipse: s-maj=3.4km s-min=1.1km az=271.0*
ISK ***27*** *10:49:05.6, 38°.65N×26°.67E, h7km, ML3.5/36*
DDA ***27*** *10:49:05.5, 38°.66N×26°.66E, h17km, Ml3.7*
THE ***27*** *10:49:06.7, 38°.65N×26°.61E, h15km±1km, ML3.2/6, Error ellipse: s-maj=2.2km s-min=0.7km az=255.0*
CSEM ***27*** *10:49:06.3±0.1, 38°.65N×26°.66E, h8km, ML3.5, Error ellipse: s-maj=2.5km s-min=2.0km az=83.0*

ISC 27 10:49:05.7±0.8, 38°.66N±0°.01×26°.66E±0°.02, h10km±5km, n169, σ1807/217, 4C, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m s	ISC
FOCM	**Fo¨şa**	**0.08**	**44**	PG		**Pg**	**10 49 07.9**		**-0.1**
FOCM				SG		**Sg**	**10 49 09.4**		**-0.3**
FOCM	**Fo¨şa**	**0.08**	**44**	*e*Pg		**Pg**	**10 49 07.9**		**-0.1**
FOCM				*e*Sg		**Sg**	**10 49 09.4**		**-0.3**
KRBN	**Karaburun**	**0.10**	**233**	PG		**Pg**	**10 49 08.7**		**+0.4**
KRBN	**Karaburun**	**0.10**	**233**	*e*Pg		**Pg**	**10 49 08.7**		**+0.4**
URLA	**Izmir**	**0.30**	**190**	PG		**Pg**	**10 49 11.6**		**-0.1**
URLA				SG		**Sg**	**10 49 16.7**		**+0.9**
URLA	**Izmir**	**0.30**	**190**	⇑*i*P		**Pg**	**10 49 11.5**		**-0.3**
URLA				*i* S		**Sb**	**10 49 17.0**		**-1.2**
URLA	**Izmir**	**0.30**	**190**	*e*Pg		**Pg**	**10 49 11.6**		**-0.1**
URLA				*e*Sg		**Sg**	**10 49 16.7**		**+0.9**
URLA				S		**Sb**	**10 49 17.0**		**-1.2**
CAND	**Candarli**	**0.32**	**21**	PG		**Pg**	**10 49 12.5**		**+0.4**
BLCB	**Balcova**	**0.40**	**132**	PG		**Pg**	**10 49 14.2**		**+0.5**
BLCB	**Balcova**	**0.40**	**132**	*e*Pg		**Pg**	**10 49 14.2**		**+0.5**
CESE	**¯e¨me**	**0.43**	**221**	PG		**Pg**	**10 49 14.7**		**+0.6**
CESE	**¯e¨me**	**0.43**	**221**	*e*Pg		**Pg**	**10 49 14.7**		**+0.6**
ZEY	**¯zmir**	**0.43**	**196**	⇑*i*P		**Pg**	**10 49 14.7**		**+0.5**
ZEY				*i* S		**Sb**	**10 49 22.0**		**0.0**
DKL	**Dikili**	**0.46**	**25**	PG		**Pg**	**10 49 14.8**		**+0.1**
DKL	**Dikili**	**0.46**	**25**	*e*Pg		**Pg**	**10 49 14.8**		**+0.1**
CHOS	**Chios island**	**0.55**	**241**	PG		**Pb**	**10 49 17.7**		**+0.3**
CHOS	**Chios island**	**0.55**	**241**	P		**Pb**	**10 49 17.2**		**-0.2**
CHOS				S		**Sg**	**10 49 24.2**		**+0.7**
CHOS				AML	AML		10 49 29.7		
	comp=E,13844μm,0.3s								
CHOS				AML	AML		10 49 30.8		
	comp=N,9103μm,0.3s								
CHOS	**Chios island**	**0.55**	**241**	P		**Pb**	**10 49 17.0**		**-0.4**
CHOS				S		**Sb**	**10 49 24.6**		**-0.7**
CHOS	**Chios island**	**0.55**	**241**	P		**Pb**	**10 49 17.0**		**-0.4**
CHOS	**Chios island**	**0.55**	**241**	*e*Pg		**Pb**	**10 49 17.7**		**+0.3**
CHOS				S		**Sb**	**10 49 24.6**		**-0.7**
GMLD	**Gumuldur**	**0.61**	**161**	PG		**Pg**	**10 49 17.5**		**-0.1**
GMLD	**Gumuldur**	**0.61**	**161**	*e*Pg		**Pg**	**10 49 17.5**		**-0.1**
DGB	**¯zmir**	**0.63**	**164**	⇑*i*P		**Pg**	**10 49 18.1**		**+0.3**
DGB				*i* S		**Sb**	**10 49 27.1**		**-0.6**
AYVA	**Ayvalik**	**0.65**	**2**	⇑*i*P		**Pg**	**10 49 18.1**		**-0.2**
AYVA				*i* S		**Sb**	**10 49 28.6**		**+0.3**
AYVA	**Ayvalik**	**0.65**	**2**	P		**Pg**	**10 49 18.1**		**-0.2**
AYVA				S		**Sb**	**10 49 28.6**		**+0.3**
PRK	**Paraskevi**	**0.66**	**333**	P		**Pg**	**10 49 18.4**		**-0.1**
PRK				S		**Sn**	**10 49 30.0**		**-1.6**
PRK				AML	AML		10 49 32.1		
	comp=N,9459μm,0.5s								
PRK				AML	AML		10 49 32.5		
	comp=E,7142μm,0.3s								
PRK	**Paraskevi**	**0.66**	**333**	P		**Pg**	**10 49 18.8**		**+0.3**
PRK				S		**Sb**	**10 49 28.3**		**-0.3**
PRK	**Paraskevi**	**0.66**	**333**	P		**Pg**	**10 49 18.8**		**+0.3**
PRK				S		**Sb**	**10 49 28.3**		**-0.3**
SIGR	**SIGRI**	**0.84**	**312**	PG		**Pn**	**10 49 23.1**		**-0.5**
SIGR	**SIGRI**	**0.84**	**312**	P		**Pg**	**10 49 22.1**		**+0.3**
SIGR				S		**Sb**	**10 49 34.0**		**+0.3**
SIGR				AML	AML		10 49 36.0		
	comp=E,4464μm,0.4s								
SIGR				AML	AML		10 49 37.1		
	comp=N,3957μm,0.4s								
SIGR	**SIGRI**	**0.84**	**312**	P		**Pg**	**10 49 22.1**		**+0.3**
SIGR				S		**Sb**	**10 49 33.8**		**+0.1**
SIGR	**SIGRI**	**0.84**	**312**	P		**Pg**	**10 49 22.1**		**+0.3**
SIGR	**SIGRI**	**0.84**	**312**	*e*Pg		**Pn**	**10 49 23.1**		**-0.5**
SIGR				S		**Sb**	**10 49 34.0**		**+0.3**
PSRA	**Psara**	**0.87**	**263**	P		**Pn**	**10 49 23.4**		**-0.5**
PSRA				S		**Sn**	**10 49 35.2**		**-1.4**
PSRA				AML	AML		10 49 39.9		
	comp=N,3775μm,0.2s								
PSRA				AML	AML		10 49 44.9		
	comp=E,4156μm,0.4s								
PSRA	**Psara**	**0.87**	**263**	P		**Pg**	**10 49 22.9**		**+0.5**
PSRA				S		**Sn**	**10 49 34.9**		**-1.7**
GPNR	**Gulpinar-Canak**	**0.90**	**333**	PG		**Pn**	**10 49 23.9**		**-0.5**
GPNR	**Gulpinar-Canak**	**0.90**	**333**	*e*Pg		**Pn**	**10 49 23.9**		**-0.5**
AKHS	**Akhisar**	**0.93**	**76**	*i* P		**Pg**	**10 49 24.0**		**+0.4**
AKHS				*i* S		**Sg**	**10 49 36.9**		**+1.2**
AKHS	**Akhisar**	**0.93**	**76**	P		**Pg**	**10 49 24.0**		**+0.4**
AKS	**Akhisar**	**0.93**	**76**	PG		**Pg**	**10 49 24.1**		**+0.5**
AKS	**Akhisar**	**0.93**	**76**	*e*Pg		**Pg**	**10 49 24.1**		**+0.5**
SMG	**Samos**	**0.96**	**172**	P		**Pb**	**10 49 24.0**		**-0.3**
SMG				S		**Sn**	**10 49 38.5**		**-0.4**
SMG				AML	AML		10 49 40.4		
	comp=N,10867μm,0.6s								
SMG				AML	AML		10 49 40.6		
	comp=E,7524μm,0.3s								
SMG	**Samos**	**0.96**	**172**	P		**Pb**	**10 49 24.1**		**-0.3**
SMG				S		**Sn**	**10 49 37.6**		**-1.3**
SMG	**Samos**	**0.96**	**172**	P		**Pg**	**10 49 24.2**		**+0.1**
SMG				S		**Sn**	**10 49 37.6**		**-1.3**
GCAM	**G?zelcaml?**	**1.06**	**154**	PG		**Pb**	**10 49 25.7**		**-0.4**
GCAM	**G?zelcaml?**	**1.06**	**154**	*i* P		**Pn**	**10 49 25.9**		**-0.6**
GCAM				*i* S		**Sn**	**10 49 40.8**		**-0.5**
GCAM	**G?zelcaml?**	**1.06**	**154**	*e*Pg		**Pb**	**10 49 25.7**		**-0.4**
GCAM	**G?zelcaml?**	**1.06**	**154**	P		**Pn**	**10 49 26.0**		**-0.6**
GCAM				S		**Sn**	**10 49 40.8**		**-0.5**
BAYC	**CANAKKALE_Bayr**	**1.09**	**355**	*i* P		**Pb**	**10 49 26.3**		**-0.3**
BAYC				*i* S		**Sn**	**10 49 41.5**		**-0.7**
BAYC	**CANAKKALE_Bayr**	**1.09**	**355**	P		**Pb**	**10 49 26.3**		**-0.3**
BAYC				S		**Sn**	**10 49 41.5**		**-0.7**
STEP	**BALIKESIR_Sava**	**1.09**	**49**	*i* P		**Pb**	**10 49 26.7**		**-0.1**
STEP				*i* S		**Sn**	**10 49 42.3**		**-0.1**
STEP	**BALIKESIR_Sava**	**1.09**	**49**	P		**Pb**	**10 49 26.7**		**-0.1**
STEP				S		**Sn**	**10 49 42.3**		**-0.1**
EZN	**Ezine**	**1.20**	**348**	PN		**Pb**	**10 49 28.3**		**-0.2**
EZN	**Ezine**	**1.20**	**348**	P		**Pb**	**10 49 28.2**		**-0.2**
EZN				S		**Sn**	**10 49 44.4**		**-0.4**
EZN	**Ezine**	**1.20**	**348**	*e*Pn		**Pb**	**10 49 28.3**		**-0.2**
EZN				S		**Sn**	**10 49 44.4**		**-0.4**
AYDB	**Zeytinkoy-Aydi**	**1.20**	**126**	PN		**Pb**	**10 49 28.7**		**+0.1**
AYDB	**Zeytinkoy-Aydi**	**1.20**	**126**	*e*Pn		**Pb**	**10 49 28.7**		**+0.1**
BOZC	**Bozcaada**	**1.27**	**338**	*i* P		**Pn**	**10 49 28.7**		**-0.9**
BOZC				*i* S		**Sb**	**10 49 45.8**		**-0.5**
BALY	**Balya**	**1.31**	**34**	*i* P		**Pn**	**10 49 29.3**		**-0.9**
BALY				*i* S		**Sg**	**10 49 48.4**		**+0.4**
BALY	**Balya**	**1.31**	**34**	P		**Pn**	**10 49 29.3**		**-0.9**
BALY				S		**Sg**	**10 49 48.4**		**+0.4**
BALB	**Balikesir**	**1.37**	**44**	PN		**Pg**	**10 49 31.8**		**-0.1**
BALB	**Balikesir**	**1.37**	**44**	*e*Pn		**Pg**	**10 49 31.8**		**-0.1**
AYDN	**Tasoluk**	**1.38**	**136**	*i* P		**Pb**	**10 49 31.3**		**-0.4**
AYDN				*i* S		**Sb**	**10 49 48.9**		**-0.5**
AYDN	**Tasoluk**	**1.38**	**136**	P		**Pb**	**10 49 31.3**		**-0.4**
AYDN				S		**Sb**	**10 49 48.9**		**-0.5**
KULA	**Kula-Manisa**	**1.57**	**95**	PN		**Pb**	**10 49 34.4**		**-0.6**
KULA	**Kula-Manisa**	**1.57**	**95**	*e*Pn		**Pb**	**10 49 34.4**		**-0.6**
GONE	**Gonen-Balikesi**	**1.60**	**29**	PN		**Pb**	**10 49 35.2**		**-0.2**
GONE	**Gonen-Balikesi**	**1.60**	**29**	*e*Pn		**Pb**	**10 49 35.2**		**-0.2**
YKAV	**Yalikavak-Bodr**	**1.61**	**162**	PN		**Pb**	**10 49 35.1**		**-0.3**
YKAV	**Yalikavak-Bodr**	**1.61**	**162**	*e*Pn		**Pb**	**10 49 35.1**		**-0.3**
MLSB	**Milas**	**1.62**	**147**	PN		**Pb**	**10 49 35.5**		**-0.2**
MLSB	**Milas**	**1.62**	**147**	*e*Pn		**Pb**	**10 49 35.5**		**-0.2**
GADA	**Gvkgeada**	**1.64**	**339**	PN		**Pn**	**10 49 34.7**		**+0.1**
GADA	**Gvkgeada**	**1.64**	**339**	P		**Pn**	**10 49 34.7**		**+0.1**
GADA				S		**Sn**	**10 49 54.0**		**-1.8**
GADA	**Gvkgeada**	**1.64**	**339**	P		**Pn**	**10 49 34.7**		**+0.1**
GADA				S		**Sn**	**10 49 54.0**		**-1.8**
GOKC	**Gokceada-Canak**	**1.65**	**340**	PN		**Pb**	**10 49 35.8**		**-0.3**
GOKC	**Gokceada-Canak**	**1.65**	**340**	*e*Pn		**Pb**	**10 49 35.8**		**-0.3**
BODT	**Bodrum**	**1.67**	**162**	PN		**Pn**	**10 49 33.8**		**-1.3**
BODT	**Bodrum**	**1.67**	**162**	P		**Pn**	**10 49 34.0**		**-1.1**
BODT				S		**Sb**	**10 49 56.8**		**-0.9**
BODT	**Bodrum**	**1.67**	**162**	P		**Pn**	**10 49 34.0**		**-1.1**
LIA	**Limnos Island**	**1.69**	**318**	P		**Pn**	**10 49 34.6**		**-0.6**
LIA				S		**Sn**	**10 49 54.9**		**-2.1**
LIA				AML	AML		10 50 04.0		
	comp=E,800μm,0.5s								
LIA				AML	AML		10 50 06.4		
	comp=N,520μm,0.5s								
LIA	**Limnos Island**	**1.69**	**318**	P		**Pn**	**10 49 34.9**		**-0.4**
LIA				S		**Sn**	**10 49 55.1**		**-1.9**
LIA	**Limnos Island**	**1.69**	**318**	P		**Pn**	**10 49 34.9**		**-0.4**
LIA				S		**Sn**	**10 49 55.7**		**-1.2**
LPK	**Lapseki**	**1.

comp=Z,186nm,20.5s,baz=235,slow=39
BATI Baumata 16.88 244 P **P** **10 56 16.6 +2.9**
8.5nm,0.3s,baz=162,slow=7.5,SNR=5.1
GUMO Guam 17.42 19 LR LR 11 01 59.8
comp=Z,56nm,19.1s,baz=223,slow=33
WRA Warramunga Arr 17.50 195 P **Pn** **10 56 20.5 +0.6**
0.6nm,0.3s,baz=18,slow=12,SNR=25
WRA S **Sn** **10 59 29.4 -4.6**
0.1nm,0.3s,baz=9.5,slow=22,SNR=4.4
FITZ Fitzroy Crossi 19.98 220 P **Pn** **10 56 49.1 -0.6**
2.8nm,0.6s,baz=48,slow=16
ASAR Alice Springs 21.18 193 P **P** **10 57 02.5 +1.7**
3.5nm,0.7s,baz=18,slow=10.0,SNR=22
ASAR S **S** **11 00 55.5 +1.5**
1.5nm,0.9s,baz=11,slow=26,SNR=4.2
STKA Stephens Creek 28.88 175 LR LR 11 11 29.7
comp=Z,161nm,21.9s,baz=350,slow=40
KSRS Korea Array 41.50 347 LR LR 11 16 15.0
comp=Z,52nm,20.4s,baz=240,slow=35
SONM Songino Array 58.07 335 P **P** **11 02 08.7 +0.9**
0.5nm,0.4s,baz=138,slow=11,SNR=3.4
MKAR Makanchi Array 70.17 322 P **P** **11 03 26.5 -0.5**
1.7nm,0.7s,baz=103,slow=7.3,SNR=11
ZALV Zalesovo Beam 72.30 330 P **P** **11 03 39.4 -0.3**
0.7nm,0.5s,baz=116,slow=7.5,SNR=3.0
KURBB Kurchatov Arra 74.11 325 P **P** **11 03 50.3 -0.2**
0.5nm,0.6s,baz=121,slow=5.3,SNR=6.0
BVAR Borovoye Array 79.69 325 P **P** **11 04 21.4 -0.4**
1.0nm,0.6s,baz=97,slow=6.0,SNR=5.9
ILAR Eielson Array 85.92 24 P **P** **11 04 52.4 -1.5**
0.7nm,0.6s,baz=262,slow=4.2,SNR=13

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*ISCJB **27** 10:53:50.2±1.0,39.01N±0.04×142.39E±0.09,h42km±9km, mb3.8/11, Error ellipse: s-maj=12.1km s-min=6.0km az=18.7*
*JMA **27** 10:53:50.0±0.1,39.05N×142.41E,h34km±1km,M4.1*
JMA Felt II J1.
*IDC **27** 10:53:55.1±2.9,38.94N×142.28E,h71km±28km,mb3.5/11, mb1 3.6/14,mb1mx3.4/75,mbtmp3.8/14, Error ellipse: s-maj=20.5km s-min=16.4km az=100.0*
ISC 27 10:53:50.1±2.0, 38.99N±0.05×142.38E±0.08, h24km±14km, n31,σ1s59/35, mb3.9/11, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**0.56**	**280**	P	**Pb**	**10 54 01.7**	**+0.4**
OFUJ				*i* S	**Sb**	**10 54 09.6**	**+0.7**
MIYJ	**Miyakonagasawa**	**0.73**	**324**	P	**Pb**	**10 54 03.2**	**-1.0**
MIYJ				S	**Sb**	**10 54 12.6**	**-1.3**
JMK	**Ichinoseki**	**0.91**	**268**	P	**Pn**	**10 54 06.9**	**-0.4**
JMK				S	**Sb**	**10 54 18.9**	**+0.2**
JIO	**Ouri**	**0.96**	**237**	P	**Pn**	**10 54 07.6**	**-0.5**
JIO				S	**Sb**	**10 54 19.9**	**-0.5**
JOM	**Ohasama**	**0.97**	**300**	P	**Pn**	**10 54 07.6**	**-0.7**
JOM				S	**Sb**	**10 54 20.2**	**-0.6**
JTH	**Tanohata**	**1.03**	**337**	P	**Pn**	**10 54 07.4**	**-1.7**
JKZ	**Kuzumaki**	**1.29**	**321**	P	**Pn**	**10 54 12.0**	**-0.6**
JKZ				S	**Sn**	**10 54 28.1**	**-1.0**
JRG	**Rokugo**	**1.42**	**287**	P	**Pn**	**10 54 14.6**	**+0.2**
JRG				*e*S	**Sb**	**10 54 33.0**	**-0.5**
JANG	**Nango**	**1.54**	**335**	P	**Pn**	**10 54 15.7**	**-1.0**
JANG				*e*S	**Sn**	**10 54 33.7**	**-1.6**
MJAR	**Matsushiro Arr**	**4.11**	**235**	P	**Pn**	**10 54 53.6**	**+2.3**
	2.4nm,0.3s,baz=38,slow=11,SNR=32						
MAT	**Matsushiro**	**4.11**	**235**	P	**Pn**	**10 54 53.8**	**+2.4**
MAT				*e*S	**Sb**	**10 55 46.8**	**-4.1**
ASAJ	**Asahikawa**	**5.13**	**2**	P	**Pn**	**10 55 06.3**	**+0.9**
	0.7nm,0.3s,baz=208,slow=14,SNR=10						
ASAJ				S	**Sn**	**10 56 05.8**	**+2.0**
	1.2nm,0.3s,baz=235,slow=16,SNR=4.8						
USRK	**Ussuriysk Ar.**	**9.36**	**307**	P	**Pn**	**10 56 07.8**	**+4.3**
	0.2nm,0.3s,baz=117,slow=15,SNR=3.0						
JNU	**Nakatsue**	**10.99**	**241**	P	**Pn**	**10 56 28.5**	**+2.7**
	0.2nm,0.3s,baz=31,slow=19,SNR=2.8						
H11N2	**WAKE ISLAND Hy 28.57**	**125**		T	T	11 30 05.6	
	baz=318,slow=75,SNR=174						
H11N1	**WAKE ISLAND Hy 28.58**	**125**		T	T	11 30 11.9	
	baz=318,slow=75,SNR=123						
H11N3	**WAKE ISLAND Hy 29.35**	**125**		T	T	11 30 16.8	
	baz=318,slow=75,SNR=103						
H11S1	**WAKE ISLAND Hy 29.35**	**127**		T	T	11 31 15.6	
	baz=319,slow=76,SNR=25						
H11S3	**WAKE ISLAND Hy 29.35**	**127**		T	T	11 31 16.8	
	baz=319,slow=76,SNR=22						
H11S2	**WAKE ISLAND Hy 29.37**	**127**		T	T	11 31 17.3	
	baz=319,slow=76,SNR=22						
ZALV	**Zalesovo Beam 41.19**	**311**		P	**P**	**11 01 31.9**	**-0.7**
	1.0nm,0.4s,baz=99,slow=7.0,SNR=3.7						
MKAR	**Makanchi Array 43.76**	**301**		P	**P**	**11 01 52.9**	**-0.6**
	1.3nm,0.7s,baz=84,slow=10,SNR=15						
KDAK	**Kodiak Island 45.15**	**43**		P	**P**	**11 02 04.5**	**+0.1**
	1.5nm,0.7s,baz=225,slow=11,SNR=2.5						
KURBB	**Kurchatov Arra 45.43**	**307**		P	**P**	**11 02 05.8**	**-0.9**
	2.7nm,0.5s,baz=81,slow=8.4,SNR=9.1						
ILAR	**Eielson Array 47.44**	**33**		P	**P**	**11 02 21.9**	**-0.5**
	0.4nm,0.6s,baz=268,slow=6.0,SNR=7.0						
BVAR	**Borovoye Array 49.84**	**311**		P	**P**	**11 02 40.5**	**-0.5**
	1.0nm,0.5s,baz=82,slow=10,SNR=4.0						
WRA	**Warramunga Arr 59.10**	**189**		P	**P**	**11 03 47.3**	**-1.2**
	0.9nm,0.5s,baz=6.3,slow=5.3,SNR=9.0						
YKA	**Yellowknife Ar 61.74**	**31**		P	**P**	**11 04 05.2**	**-0.9**
	0.1nm,0.6s,baz=82,slow=30,SNR=2.9						
ARCES	**ARCESS Array B 62.44**	**339**		P	**P**	**11 04 10.5**	**-0.2**
	2.3nm,0.8s,baz=358,slow=9.9,SNR=2.8						
ASAR	**Alice Springs 62.83**	**189**		P	**P**	**11 04 13.1**	**-0.7**
	0.4nm,0.7s,baz=18,slow=11,SNR=3.7						
PDAR	**Pinedale Array 75.76**	**46**		P	**P**	**11 05 35.7**	**+1.6**
	0.2nm,0.4s,baz=2.6,slow=4.0,SNR=2.7						

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*ISCJB **27** 11:03:53.9±1.0,40.70N±0.05×31.24E±0.07,h0km, Error ellipse: s-maj=8.1km s-min=7.5km az=33.6*
*ISK **27** 11:03:55.5,40.60N×31.14E,h10km, ML2.3/6*
*CSEM **27** 11:03:55.0±0.7,40.60N×31.22E,h1km, ML2.3, Error ellipse: s-maj=13.9km s-min=8.7km az=59.0, Suspected Mining explosion.*
*DDA **27** 11:03:56.3,40.53N×31.20E,h7km, Ml2.8, Suspected Mining explosion.*
ISC 27 11:03:55.4±1.2, 40.61N±0.04×31.17E±0.05, h0km, n30, σ0s69/40, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTAS	**Taskesti**	**0.13**	**254**	*i* P	**Pg**	**11 03 59.2**	**+1.2**
BTAS				*i* S	**Sg**	**11 04 00.9**	**+1.2**
BTAS	**Taskesti**	**0.13**	**254**	P	**Pg**	**11 03 59.2**	**+1.2**
BTAS				S	**Sg**	**11 04 00.9**	**+1.2**
MDUB	**Mudurnu**	**0.14**	**170**	PG	**Pg**	**11 03 58.5**	**+0.4**
MDUB	**Mudurnu**	**0.14**	**170**	*e*Pg	**Pg**	**11 03 58.5**	**+0.4**
SAHE	**Sakarya_HENDEK**	**0.34**	**316**	*i* P	**Pb**	**11 04 04.8**	**+0.4**
SAHE				*i* S	**Sb**	**11 04 11.0**	**+0.6**
SAHE	**Sakarya_HENDEK**	**0.34**	**316**	P	**Pb**	**11 04 04.8**	**+0.4**
SAHE				S	**Sb**	**11 04 11.0**	**+0.6**
GULT	**Gulveren**	**0.53**	**251**	PG	**Pg**	**11 04 06.5**	**+1.0**
GULT				SG	**Sg**	**11 04 13.1**	**+0.7**
GULT	**Gulveren**	**0.53**	**251**	*e*Pg	**Pg**	**11 04 06.5**	**+1.0**
GULT				*e*Sg	**Sg**	**11 04 13.1**	**+0.7**
SAUV	**Serdivan-Sakar**	**0.65**	**282**	PG	**Pg**	**11 04 08.3**	**+0.4**
SAUV	**Serdivan-Sakar**	**0.65**	**282**	*e*Pg	**Pg**	**11 04 08.3**	**+0.4**
GEYV	**SAKARYA_Geyve**	**0.68**	**260**	*i* P	**Pb**	**11 04 09.7**	**-0.4**
GEYV				*i* S	**Sb**	**11 04 19.8**	**-0.2**
GEYV	**SAKARYA_Geyve**	**0.68**	**260**	P	**Pb**	**11 04 09.7**	**-0.4**
GEYV				S	**Sb**	**11 04 19.8**	**-0.2**
BORA	**Eskisehir**	**0.91**	**217**	*i* P	**Pg**	**11 04 12.9**	**0.0**
BORA				*i* S	**Sn**	**11 04 29.0**	**-0.4**
BORA	**Eskisehir**	**0.91**	**217**	P	**Pg**	**11 04 12.9**	**0.0**
BORA				S	**Sn**	**11 04 29.0**	**-0.4**
CAVI	**Cavuskoy**	**1.09**	**249**	PG	**Pg**	**11 04 15.9**	**-0.4**
CAVI	**Cavuskoy**	**1.09**	**249**	*e*Pg	**Pg**	**11 04 15.9**	**-0.4**
HRT	**Hereke**	**1.16**	**281**	PN	**Pg**	**11 04 17.7**	**0.0**
HRT	**Hereke**	**1.16**	**281**	*e*Pn	**Pg**	**11 04 17.7**	**0.0**
SVRH	**Sivrihisar-ESK**	**1.19**	**167**	PN	**Pn**	**11 04 19.2**	**-0.3**
SVRH	**Sivrihisar-ESK**	**1.19**	**167**	*e*Pn	**Pn**	**11 04 19.2**	**-0.3**
SILT	**Sile**	**1.28**	**296**	PN	**Pg**	**11 04 19.8**	**-0.1**
SILT	**Sile**	**1.28**	**296**	*e*Pn	**Pg**	**11 04 19.8**	**-0.1**
YLV	**Yalova**	**1.37**	**269**	PN	**Pg**	**11 04 20.9**	**-0.7**
YLV	**Yalova**	**1.37**	**269**	*e*Pn	**Pg**	**11 04 20.9**	**-0.7**
KLYT	**Kilyos**	**1.73**	**293**	PN	**Pn**	**11 04 25.6**	**-1.2**
KLYT	**Kilyos**	**1.73**	**293**	*e*Pn	**Pn**	**11 04 25.6**	**-1.2**
TVSB	**Tavsanli**	**1.75**	**229**	PN	**Pn**	**11 04 26.3**	**-0.8**
TVSB	**Tavsanli**	**1.75**	**229**	*e*Pn	**Pn**	**11 04 26.3**	**-0.8**
ARMT	**Armutlu**	**1.76**	**269**	PN	**Pn**	**11 04 26.6**	**-0.6**
ARMT	**Armutlu**	**1.76**	**269**	*e*Pn	**Pn**	**11 04 26.6**	**-0.6**

IDC 27 11:04:10.8±1.1, 6.33N×33.33W, h0km, mb3.9/7, mb1 4.1/7, mb1mx3.7/61, mbtmp3.9/7, MS3.9/14, Ms1 3.9/14, ms1mx3.5/58, Error ellipse: s-maj=45.0km s-min=21.3km az=171.0, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H10N3	**ASCENSION HYDR 23.47**	**127**		T	T	11 33 34.9	
	baz=306,slow=75,SNR=210						
H10N2	**ASCENSION HYDR 23.48**	**127**		T	T	11 33 34.7	
	baz=306,slow=75,SNR=227						
H10N1	**ASCENSION HYDR 23.49**	**127**		T	T	11 33 36.2	
	baz=306,slow=75,SNR=214						
H10S3	**ASCENSION HYDR 24.02**	**129**		T	T	11 34 17.1	
	baz=308,slow=75,SNR=90						
H10S1	**ASCENSION HYDR 24.02**	**129**		T	T	11 34 15.4	
	baz=308,slow=75,SNR=127						
H10S2	**ASCENSION HYDR 24.03**	**129**		T	T	11 34 19.1	
	baz=308,slow=75,SNR=85						
PTGA	**Pitinga 27.50**	**256**		P	P	11 09 58.7	-0.6
	1.5nm,0.3s,baz=80,slow=7.1,SNR=4.7						
PTGA				LR	LR	11 20 47.6	
	comp=Z,199nm,18.1s,baz=68,slow=36						
H05S1	**Guadeloupe/Mar 28.20**	**289**		T	T	11 39 24.4	
	SNR=6.7						
DBIC	**Dimbokro 28.29**	**88**		P	P	11 10 05.9	-0.4
	3.3nm,0.8s,baz=266,slow=6.6,SNR=3.9						
DBIC				LR	LR	11 18 53.3	
	comp=Z,170nm,21.5s,baz=240,slow=31						
KOWA	**Kowa 29.92**	**72**		LR	LR	11 21 25.4	
	comp=Z,290nm,18.6s,baz=234,slow=35						
TORD	**Torodi Ar. Bea 35.15**	**76**		P	P	11 11 06.8	+0.2
	1.6nm,0.8s,baz=268,slow=8.6,SNR=8.2						
CPUP	**Villa Florida 39.95**	**215**		LR	LR	11 28 05.7	
	comp=Z,292nm,18.4s,baz=234,slow=36						
ROSC	**El Rosal 40.81**	**270**		LR	LR	11 28 44.6	
	comp=Z,107nm,19.6s,baz=334,slow=36						
LPAZ	**La Paz 41.12**	**236**		P	P	11 11 58.0	+0.4
	2.6nm,0.8s,baz=48,slow=9.2,SNR=4.4						
LPAZ				LR	LR	11 28 09.0	
	comp=Z,139nm,18.5s,baz=66,slow=35						
VAE	**Valguarnera 53.26**	**47**		LR	LR	11 36 34.9	
	comp=Z,178nm,19.1s,baz=180,slow=36						
PLCA	**Paso Flores 57.98**	**213**		LR	LR	11 38 56.8	
	comp=Z,334nm,19.2s,baz=104,slow=36						
GERES	**GERESS Array B 58.01**	**35**		LR	LR	11 36 49.2	
	comp=Z,163nm,21.2s,baz=84,slow=34						
NOA	**NORSAR Array B 63.87**	**22**		LR	LR	11 39 53.8	
	comp=Z,65nm,19.6s,baz=40,slow=34						
PDAR	**Pinedale Array 75.62**	**312**		P	P	11 15 58.8	+0.6
	0.5nm,0.7s,baz=108,slow=6.0,SNR=3.9						
GNI	**Garni 76.83**	**50**		LR	LR	11 50 57.4	
	comp=Z,44nm,20.3s,baz=289,slow=36						
YKA	**Yellowknife Ar 80.38**	**332**		P	P	11 16 23.8	-0.1
	0.2nm,0.7s,baz=100,slow=5.3,SNR=5.7						
NVAR	**Mina Array Bea 82.17**	**308**		P	P	11 16 34.0	-0.3
	0.4nm,0.7s,baz=114,slow=4.0,SNR=3.6						
AKTO	**Aktyubinsk 86.03**	**40**		LR	LR	11 57 14.3	
	comp=Z,20nm,18.1s,baz=282,slow=37						
BVAR	**Borovoye Array 93.16**	**36**		LR	LR	11 57 17.8	
	comp=Z,38nm,21.7s,baz=274,slow=34						
ILAR	**Eielson Array 94.09**	**337**		LR	LR	11 59 43.3	
	comp=Z,54nm,18.1s,baz=322,slow=35						

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*ISCJB **27** 11:12:33.3±0.6,24.24N±0.1×93.15E±0.07,h33km, mb3.6/8, Error ellipse: s-maj=17.8km s-min=5.3km az=26.8*
*IDC **27** 11:12:36.7±0.9,24.43N×93.52E,h49km±8km, mb3.4/8, mb1 3.6/9,mb1mx3.3/74,mbtmp3.6/9, Error ellipse: s-maj=36.4km s-min=13.2km az=58.0*
ISC 27 11:12:34.8±0.7, 24.34N±0.1×93.29E±0.09, h35km, n21, σ1s98/35, mb4.0/9, 1C, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHL	**Shillong 1.75**	**314**		*i* PG	**Pn**	**11 13 04.0**	**+1.2**
SHL				*i* SG	**Sn**	**11 13 26.0**	**+2.0**
ODAN	**Odare 5.87**	**296**		*e*Pn	**Pn**	**11 14 02.7**	**+3.1**
ODAN				*e*Sn	**Sn**	**11 15 06.0**	**+0.2**
	304nm,0.5s						
RAMN	**Ramite 6.56**	**295**		*e*Pn	**Pn**	**11 14 12.1**	**+3.1**
RAMN				*e*Sn	**Sn**	**11 15 20.9**	**-1.8**
	100nm,0.4s						
JIRN	**Jiri 7.18**	**299**		*e*Pn	**Pn**	**11 14 20.4**	**+2.8**
JIRN				*e*Sn	**Sn**	**11 15 36.9**	**-1.2**
	237nm,0.4s						
GUN	**Gumba 7.54**	**300**		*e*Pn	**Pn**	**11 14 24.7**	**+2.2**
GUN				*e*Sn	**Sn**	**11 15 47.0**	**+0.1**
PKIN	**Phulchoki 7.79**	**296**		*e*Pn	**Pn**	**11 14 27.7**	**+1.8**
PKIN				*e*Sn	**Sn**	**11 15 51.2**	**-1.8**
	57nm,0.4s						
CMAR	**Chiang Mai Arr 7.89**	**137**		P	**Pn**	**11 14 29.1**	**+2.0**
	0.3nm,0.3s,baz=317,slow=13,SNR=7.1						
KKN	**Kakani 7.96**	**297**		*e*Pn	**Pn**	**11 14 30.6**	**+2.3**
KKN				*e*Sn	**Sn**	**11 15 56.4**	**-0.9**
	24nm,0.2s						
DMN	**Daman 8.04**	**295**		*e*Pn	**Pn**	**11 14 31.6**	**+2.3**
DMN				*e*Sn	**Sn**	**11 15 57.8**	**-1.3**
	31nm,0.3s						
GKN	**Gorkha 8.57**	**297**		*e*Pn	**Pn**	**11 14 37.8**	**+1.3**
GKN				*e*Sn	**Sn**	**11 16 09.5**	**-2.6**
	148nm,0.6s						
KOLN	**Koldanda 9.35**	**293**		*e*Pn	**Pn**	**11 14 48.4**	**+1.2**
KOLN				*e*Sn	**Sn**	**11 16 28.3**	**-2.9**
PYUN	**Piuthan 9.96**	**294**		*e*Pn	**Pn**	**11 14 56.4**	**+0.7**
PYUN				*e*Sn	**Sn**	**11 16 41.8**	**-4.6**
	72nm,0.7s						
MKAR	**Makanchi Array 24.05**	**341**		P	**P**	**11 17 47.6**	**+1.0**
	0.4nm,0.5s,baz=152,slow=11,SNR=4.2						
SONM	**Songino Array 25.64**	**21**		P	**P**	**11 18 00.1**	**-1.0**
	0.9nm,0.7s,baz=205,slow=11,SNR=5.2						
KURBB	**Kurchatov Arra 28.60**	**340**		P	**P**	**11 18 29.7**	**+2.1**
	0.1nm,0.4s,baz=146,slow=10,SNR=2.6						
ZALV	**Zalesovo Beam 30.22**	**350**		P	**P**	**11 18 42.5**	**+0.6**
	0.6nm,0.5s,baz=182,slow=7.1,SNR=2.3						
ZALV				pP	**sP**	**11 18 55.6**	**-0.6**
	0.9nm,0.3s,baz=173,slow=5.8,SNR=3.1						
MJAR	**Matsushiro Arr 40.25**	**62**		P	**P**	**11 20 06.3**	**-2.0**
	1.3nm,0.8s,baz=266,slow=9.6,SNR=4.1						
AKASG	**Malin Array Be 55.23**	**316**		P	**P**	**11 22 04.7**	**+0.5**
	0.3nm,0.3s,baz=88,slow=6.7,SNR=2.6						
AKASG				pP	**sP**	**11 22 17.4**	**-1.5**
	1.1nm,0.4s,baz=80,slow=6.7,SNR=4.3						
WRA	**Warramunga Arr 59.48**	**134**		P	**P**	**11 22 33.9**	**-0.6**
	1.8nm,0.6s,baz=319,slow=7.5,SNR=60						
WRA				pP	**sP**	**11 22 46.9**	**-2.4**
	1.5nm,0.9s,baz=321,slow=7.5,SNR=2.8						
ASAR	**Alice Springs 61.90**	**137**		P	**P**	**11 22 50.8**	**-0.2**
	1.1nm,0.5s,baz=320,slow=7.0,SNR=36						
ASAR				pP	**sP**	**11 23 05.8**	**-0.1**
	0.7nm,0.8s,baz=320,slow=6.5,SNR=3.7						
GERES	**GERESS Array B 65.36**	**314**		pP	pP	11 23 27.0	+2.6
	1.4nm,0.7s,baz=77,slow=5.9,SNR=4.8						

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*DDA **27** 11:19:00.5,38.65N×26.64E,h27km, Ml3.7*
*ISK **27** 11:19:00.9,38.67N×26.64E,h10km, ML3.5/42*
*ATH **27** 11:19:01.5,38.64N×26.60E,h36km±3km, ML3.4/6, Error ellipse: s-maj=3.3km s-min=1.1km az=243.0*
*CSEM **27** 11:19:01.7±0.1,38.66N×26.63E,h10km, ML3.5, Error ellipse: s-maj=2.1km s-min=1.8km az=82.0*
*IASPEI **27** 11:19:01.2±0.8,38.66N±0.02×26.64E±0.02,h15km±5km, Error ellipse: s-maj=2.8km s-min=2.3km az=85.0, GT5 selection from ISC bulletin GT5 identified by Bondˇjr and McLaughlin (2009) selection criteria Bondˇjr and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009*
*ISCJB **27** 11:19:01.3±0.3,38.67N±0.01×26.61E±0.02,h11km±2km, Error ellipse: s-maj=3.0km s-min=2.3km az=154.3*
*THE **27** 11:19:02.0,38.66N×26.60E,h15km±1km, ML3.2/8, Error ellipse: s-maj=1.9km s-min=0.7km az=257.0*
ISC 27 11:19:01.4±0.8, 38.64N±0.02×26.64E±0.02, h16km±5km, n174, σ0s99/225, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRBN	**Karaburun**	**0.08**	**233**	PG	**Pg**	**11 19 04.3**	**-0.3**
KRBN				SG	**Sg**	**11 19 06.6**	**0.0**
KRBN	**Karaburun**	**0.08**	**233**	*e*Pg	**Pg**	**11 19 04.3**	**-0.3**
KRBN				*e*Sg	**Sg**	**11 19 06.6**	**0.0**
URLA	**Izmir 0.28**	**186**		PG	**Pg**	**11 19 06.8**	**-0.7**
URLA				SG	**Sb**	**11 19 12.4**	**-0.3**
URLA	**Izmir 0.28**	**186**		*i* P	**Pg**	**11 19 06.9**	**-0.7**
URLA				*i* S	**Sb**	**11 19 12.3**	**-0.5**
URLA	**Izmir 0.28**	**186**		*e*Pg	**Pg**	**11 19 06.8**	**-0.7**
URLA				*e*Sg	**Sb**	**11 19 12.4**	**-0.3**
CAND	**Candarli 0.34**	**23**		PG	**Pg**	**11 19 07.8**	**-0.7**
CESE	**¨e¨me 0.41**	**220**		PG	**Pb**	**11 19 10.0**	**-0.3**
CESE	**¨e¨me 0.41**	**220**		*e*Pg	**Pb**	**11 19 10.0**	**-0.3**
BLCB	**Balcova 0.41**	**129**		PG	**Pb**	**11 19 09.9**	**-0.4**
BLCB	**Balcova 0.41**	**129**		*e*Pg	**Pb**	**11 19 09.9**	**-0.4**
ZEY	**¨zmir 0.42**	**194**		*i* P	**Pb**	**11 19 10.1**	**-0.4**
ZEY				*i* S	**Sb**	**11 19 17.4**	**+0.9**
DKL	**Dikili 0.48**	**26**		PG	**Pg**	**11 19 10.4**	**-0.6**
DKL	**Dikili 0.48**	**26**		*e*Pg	**Pg**	**11 19 10.4**	**-0.6**
CHOS	**Chios island 0.52**	**241**		PG	**Pb**	**11 19 12.1**	**-0.2**
CHOS	**Chios island 0.52**	**241**		P	**Pb**	**11 19 12.3**	**0.0**
CHOS				S	**Sb**	**11 19 19.4**	**-0.3**
CHOS				AML	AML	11 19 25.0	
	comp=E,13460μm,0.3s						
CHOS				AML	AML	11 19 25.7	
	comp=N,7330μm,0.4s						
CHOS	**Chios island 0.52**	**241**		P	**Pb**	**11 19 12.4**	**+0.1**
CHOS				S	**Sb**	**11 19 19.4**	**-0.3**
CHOS	**Chios island 0.52**	**241**		*e*Pg	**Pb**	**11 19 12.1**	**-0.2**
CHOS	**Chios island 0.52**	**241**		P	**Pb**	**11 19 12.4**	**+0.1**
CHOS				S	**Sb**	**11 19 19.4**	**-0.3**
GMLD	**Gumuldur 0.61**	**159**		PG	**Pb**	**11 19 13.2**	**-0.5**
GMLD	**Gumuldur 0.61**	**159**		*e*Pg	**Pb**	**11 19 13.2**	**-0.5**
DGB	**¨zmir 0.62**	**162**		*i* P	**Pb**	**11 19 13.5**	**-0.4**
DGB				*i* S	**Sb**	**11 19 22.6**	**+0.2**
AYVA	**Ayvalik 0.67**	**4**		*i* P	**Pg**	**11 19 13.6**	**-0.9**
AYVA				*i* S	**Sg**	**11 19 23.9**	**+0.6**
PRK	**Paraskevi 0.67**	**335**		P	**Pg**	**11 19 13.4**	**-1.1**
PRK				S	**Sb**	**11 19 25.4**	**+1.6**
PRK				AML	AML	11 19 27.3	
	comp=E,7890μm,0.2s						
PRK				AML	AML	11 19 27.4	
	comp=N,10120μm,0.4s						
PRK	**Paraskevi 0.67**	**335**		P	**Pg**	**11 19 14.1**	**-0.4**
PRK				S	**Sg**	**11 19 23.2**	**-0.2**
PRK	**Paraskevi 0.67**	**335**		P	**Pg**	**11 19 14.3**	**-0.2**
PRK				S	**Sg**	**11 19 23.2**	**-0.2**
SIGR	**SIGRI 0.83**	**313**		PG	**Pg**	**11 19 17.4**	**-0.2**
SIGR	**SIGRI 0.83**	**313**		P	**Pg**	**11 19 17.3**	**-0.4**
SIGR				S	**Sb**	**11 19 30.2**	**+1.7**
SIGR				AML	AML	11 19 31.6	
	comp=N,5041μm,0.3s						
SIGR				AML	AML	11 19 31.6	
	comp=E,4881μm,0.3s						
SIGR	**SIGRI 0.83**	**313**		P	**Pg**	**11 19 17.4**	**-0.2**
SIGR				S	**Sg**	**11 19 28.6**	**0.0**
SIGR	**SIGRI 0.83**	**313**		P	**Pg**	**11 19 17.4**	**-0.2**
SIGR				S	**Sg**	**11 19 28.6**	**0.0**
PSRA	**Psara 0.85**	**264**		P	**Pb**	**11 19 18.2**	**+1.0**
PSRA				S	**Sb**	**11 19 29.8**	**+0.9**
PSRA				AML	AML	11 19 32.2	
	comp=E,5392μm,0.3s						
PSRA				AML	AML	11 19 32.6	
	comp=N,3724μm,0.2s						
PSRA	**Psara 0.85**	**264**		P	**Pb**	**11 19 18.2**	**+0.4**
PSRA				S	**Sb**	**11 19 29.6**	**+0.7**
GPNR	**Gulpinar-Canak 0.90**	**334**		PG	**Pg**	**11 19 18.5**	**-0.4**
GPNR	**Gulpinar-Canak 0.90**	**334**		*e*Pg	**Pg**	**11 19 18.5**	**-0.4**
SMG	**Samos 0.95**	**170**		P	**Pb**	**11 19 19.3**	**-0.2**
SMG				S	**Sn**	**11 19 34.1**	**+0.8**
SMG				AML	AML	11 19 36.5	
	comp=E,4981μm,0.3s						
SMG				AML	AML	11 19 36.8	
	comp=N,7760μm,0.3s						
SMG	**Samos 0.95**	**170**		P	**Pb**	**11 19 19.4**	**0.0**
SMG				S	**Sn**	**11 19 33.4**	**+0.1**
SMG	**Samos 0.95**	**170**		P	**Pb**	**11 19 19.5**	**0.0**
SMG				S	**Sn**	**11 19 33.4**	**+0.1**
AKS	**Akhisar 0.95**	**75**		PG	**Pg**	**11 19 19.3**	**-0.6**
AKS	**Akhisar 0.95**	**75**		*e*Pg	**Pg**	**11 19 19.3**	**-0.6**
AKHS	**Akhisar 0.95**	**75**		*i* P	**Pg**	**11 19 19.4**	**-0.4**
AKHS				*i* S	**Sb**	**11 19 32.5**	**+0.5**
AKHS	**Akhisar 0.95**	**75**		P	**Pg**	**11 19 19.4**	**-0.4**
AKHS				S	**Sb**	**11 19 32.5**	**+0.5**
GCAM	**G?zelcaml? 1.05**	**153**		PG	**Pn**	**11 19 21.6**	**+0.1**
GCAM	**G?zelcaml? 1.05**	**153**		*i* P	**Pb**	**11 19 21.3**	**+0.1**
GCAM				*i* S	**Sn**	**11 19 36.2**	**+0.3**

SMTH				S		Sn	11 19 57.9	-1.9
SMTH	**Samothraki Isl**	**2.02**	**335**	P		**Pn**	11 19 34.9	+0.1
SMTH				S		**Sn**	11 19 58.7	-1.0
SMTH	**Samothraki Isl**	**2.02**	**335**	P		**Pn**	11 19 35.1	+0.3
SMTH				S		**Sn**	11 19 58.7	-1.0
ERIK	**Erikli-Kesan**	**2.03**	**357**	PN		**Pn**	11 19 35.7	+0.7
ERIK	**Erikli-Kesan**	**2.03**	**357**	*e*Pn		**Pn**	11 19 35.7	+0.7
RKY	**Sarkoy-Tekirda**	**2.08**	**11**	PN		**Pn**	11 19 36.9	+1.1
RKY	**Sarkoy-Tekirda**	**2.08**	**11**	*e*Pn		**Pn**	11 19 36.9	+1.1
KCTX	**Karacabey (Bur**	**2.10**	**39**	PN		**Pn**	11 19 36.9	+0.9
KCTX	**Karacabey (Bur**	**2.10**	**39**	*e*Pn		**Pn**	11 19 36.9	+0.9
ENEZ	**Enez**	**2.12**	**350**	PN		**Pn**	11 19 37.2	+0.9
ENEZ	**Enez**	**2.12**	**350**	*e*Pn		**Pn**	11 19 37.2	+0.9
SERI	**Serifos**	**2.25**	**230**	P		**Pn**	11 19 38.0	-0.1
KHAL	**Karahalli**	**2.26**	**96**	*i* P		**Pn**	11 19 39.1	+0.9
KHAL				*i* S		**Sg**	11 20 12.1	-2.0
KHAL	**Karahalli**	**2.26**	**96**	P		**Pn**	11 19 39.1	+0.9
ALN	**Alexandroupoli**	**2.30**	**349**	PN		**Pn**	11 19 39.9	+1.2
ALN	**Alexandroupoli**	**2.30**	**349**	P		**Pn**	11 19 38.9	+0.3
ALN	**Alexandroupoli**	**2.30**	**349**	P		**Pn**	11 19 38.8	+0.1
ALN				S		**Sn**	11 20 05.5	-1.1
ALN	**Alexandroupoli**	**2.30**	**349**	P		**Pn**	11 19 39.0	+0.3
ALN	**Alexandroupoli**	**2.30**	**349**	*e*Pn		**Pn**	11 19 39.9	+1.2
ALN				S		**Sn**	11 20 05.5	-1.1
TVSB	**Tavsanli**	**2.34**	**69**	PN		**Pn**	11 19 40.3	+0.9
TVSB	**Tavsanli**	**2.34**	**69**	*e*Pn		**Pn**	11 19 40.3	+0.9
TURN	**Turunc**	**2.36**	**138**	PN		**Pn**	11 19 40.0	+0.5
TURN	**Turunc**	**2.36**	**138**	*e*Pn		**Pn**	11 19 40.0	+0.5
TKR	**Tekirdag**	**2.44**	**16**	PN		**Pn**	11 19 42.4	+1.7
TKR	**Tekirdag**	**2.44**	**16**	*e*Pn		**Pn**	11 19 42.4	+1.7
MDNY	**Mudanya-Bursa**	**2.45**	**45**	PN		**Pn**	11 19 42.4	+1.6
MDNY	**Mudanya-Bursa**	**2.45**	**45**	*e*Pn		**Pn**	11 19 42.4	+1.6
SANT	**Santorini**	**2.45**	**203**	PN		**Pn**	11 19 42.3	+1.4
SANT	**Santorini**	**2.45**	**203**	*e*Pn		**Pn**	11 19 42.3	+1.4
SBT3	**Marmara-Eregli**	**2.47**	**24**	PN		**Pn**	11 19 41.9	+1.1
SBT3	**Marmara-Eregli**	**2.47**	**24**	*e*Pn		**Pn**	11 19 41.9	+1.1
ARMT	**Armutlu**	**2.58**	**41**	PN		**Pn**	11 19 43.6	+1.0
ARMT	**Armutlu**	**2.58**	**41**	*e*Pn		**Pn**	11 19 43.6	+1.0
RDO	**Rodhopi**	**2.64**	**342**	P		**Pn**	11 19 43.6	+0.2
RDO	**Rodhopi**	**2.64**	**342**	P		**Pn**	11 19 43.4	0.0
RDO				S		**Sn**	11 20 14.1	-1.0
RDO	**Rodhopi**	**2.64**	**342**	P		**Pn**	11 19 43.7	+0.3
RDO				S		**Sn**	11 20 14.1	-1.0
FETY	**Fethiye**	**2.79**	**135**	PN		**Pn**	11 19 47.0	+1.5
FETY	**Fethiye**	**2.79**	**135**	*e*Pn		**Pn**	11 19 47.0	+1.5
SLVT	**Silivri**	**2.85**	**25**	PN		**Pn**	11 19 47.0	+0.7
SLVT	**Silivri**	**2.85**	**25**	*e*Pn		**Pn**	11 19 47.0	+0.7
YLV	**Yalova**	**2.86**	**47**	PN		**Pn**	11 19 48.3	+1.8
YLV	**Yalova**	**2.86**	**47**	*e*Pn		**Pn**	11 19 48.3	+1.8
BUY	**Buyukada**	**2.92**	**40**	PN		**Pn**	11 19 48.6	+1.4
BUY	**Buyukada**	**2.92**	**40**	*e*Pn		**Pn**	11 19 48.6	+1.4
CAVI	**Cavuskoy**	**2.93**	**57**	PN		**Pn**	11 19 48.9	+1.5
CAVI	**Cavuskoy**	**2.93**	**57**	*e*Pn		**Pn**	11 19 48.9	+1.5
CTKS	**Kestanelik-??a**	**2.96**	**28**	PN		**Pn**	11 19 49.1	+1.3
CTKS	**Kestanelik-??a**	**2.96**	**28**	*e*Pn		**Pn**	11 19 49.1	+1.3
ADVT	**Abdulvahap**	**2.99**	**52**	PN		**Pn**	11 19 49.7	+1.5
ADVT	**Abdulvahap**	**2.99**	**52**	*e*Pn		**Pn**	11 19 49.7	+1.5
BGKT	**Bogazkoy**	**3.02**	**32**	PN		**Pn**	11 19 50.4	+1.8
BGKT	**Bogazkoy**	**3.02**	**32**	*e*Pn		**Pn**	11 19 50.4	+1.8
ISK	**Istanbul-Kandi**	**3.06**	**37**	PN		**Pn**	11 19 50.5	+1.4
ISK	**Istanbul-Kandi**	**3.06**	**37**	*e*Pn		**Pn**	11 19 50.5	+1.4
CTYL	**Yalikoy Yolu**	**3.10**	**24**	PN		**Pn**	11 19 51.7	+2.0
CTYL	**Yalikoy Yolu**	**3.10**	**24**	*e*Pn		**Pn**	11 19 51.7	+2.0
HRT	**Hereke**	**3.19**	**46**	PN		**Pn**	11 19 52.4	+1.3
HRT	**Hereke**	**3.19**	**46**	*e*Pn		**Pn**	11 19 52.4	+1.3
KLYT	**Kilyos**	**3.20**	**35**	PN		**Pn**	11 19 52.3	+1.3
KLYT	**Kilyos**	**3.20**	**35**	*e*Pn		**Pn**	11 19 52.3	+1.3
HORT	**Hortiatis**	**3.36**	**307**	PN		**Pn**	11 19 54.1	+0.8
HORT	**Hortiatis**	**3.36**	**307**	*e*Pn		**Pn**	11 19 54.1	+0.8
KORT	**Korkueli**	**3.37**	**118**	PN		**Pn**	11 19 55.8	+2.3
KORT	**Korkueli**	**3.37**	**118**	*e*Pn		**Pn**	11 19 55.8	+2.3
AKAS	**Kas**	**3.37**	**135**	PN		**Pn**	11 19 55.6	+2.0
AKAS	**Kas**	**3.37**	**135**	*e*Pn		**Pn**	11 19 55.6	+2.0
SRS	**Serrai**	**3.41**	**318**	*e*Pn		**Pn**	11 19 54.8	+0.9
SILT	**Sile**	**3.41**	**42**	PN		**Pn**	11 19 55.7	+1.7
SILT	**Sile**	**3.41**	**42**	*e*Pn		**Pn**	11 19 55.7	+1.7
GULT	**Gulveren**	**3.49**	**58**	PN		**Pn**	11 19 57.3	+2.1
GULT	**Gulveren**	**3.49**	**58**	*e*Pn		**Pn**	11 19 57.3	+2.1
PLD	**Plovdiv**	**3.76**	**338**	*e*Pn		**Pn**	11 20 00.3	+1.5
KNT	**Kendrikon**	**3.82**	**312**	PN		**Pn**	11 20 01.4	+1.8
KNT	**Kendrikon**	**3.82**	**312**	*e*Pn		**Pn**	11 20 01.4	+1.8
MDUB	**Mudurnu**	**3.97**	**61**	PN		**Pn**	11 20 03.3	+1.5
MDUB	**Mudurnu**	**3.97**	**61**	*e*Pn		**Pn**	11 20 03.3	+1.5
GRG	**Griva**	**4.00**	**307**	PN		**Pn**	11 20 04.0	+1.9
GRG	**Griva**	**4.00**	**307**	*e*Pn		**Pn**	11 20 04.0	+1.9
ZAGS	**Zajecar**	**6.14**	**329**	*e*Pn		**Pn**	11 20 30.9	-0.6

ISCJB ***27*** *11:20:14.0±0.5, 40°.85N±0°.03×39°.88E±0°.04, h0km, Error ellipse: s-maj=4.5km s-min=3.4km az=141.5*
ISK ***27*** *11:20:13.9, 40°.88N×39°.95E, h6km, ML2.1/4, Suspected Mining explosion.*
DDA ***27*** *11:20:14.2, 40°.84N×39°.78E, h8km, Ml2.8, Suspected Mining explosion.*
CSEM ***27*** *11:20:14.1±0.2, 40°.85N×39°.88E, h1km, ML2.8, Error ellipse: s-maj=5.1km s-min=4.1km az=43.0, Suspected Mining explosion.*

ISC 27 11:20:13.3±0.8**, 40°.79N**±0°.03×**39°.88E**±0°.02**, h0km, n22,** σ0§51/36**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
					Op		h m s	ISC
MACK	**Trabzon**	**0.18**	**331**	*i* P		**Pg**	**11 20 16.7**	**0.0**
MACK				*i* S		**Sg**	**11 20 18.9**	**-0.1**
MACK	**Trabzon**	**0.18**	**331**	P		**Pg**	**11 20 16.7**	**0.0**
MACK				S		**Sg**	**11 20 18.9**	**-0.1**
KTUT	**Trabzon**	**0.22**	**337**	PG		**Pg**	**11 20 18.0**	**+0.5**
KTUT				SG		**Sg**	**11 20 21.1**	**+0.8**
KTUT	**Trabzon**	**0.22**	**337**	*e*Pg		**Pg**	**11 20 18.0**	**+0.5**
KTUT				*e*Sg		**Sg**	**11 20 21.1**	**+0.8**
BAYT	**Ayd¯–ntepe-Bay**	**0.44**	**153**	PG		**Pb**	**11 20 24.2**	**+0.1**
BAYT	**Ayd¯–ntepe-Bay**	**0.44**	**153**	*e*Pg		**Pb**	**11 20 24.2**	**+0.1**
BAYB	**BAYBURT**	**0.60**	**151**	*i* P		**Pb**	**11 20 27.6**	**+0.8**
BAYB				*i* S		**Sb**	**11 20 36.8**	**+0.9**
BAYB	**BAYBURT**	**0.60**	**151**	P		**Pb**	**11 20 27.6**	**+0.8**
BAYB				S		**Sb**	**11 20 36.8**	**+0.9**
CHOM	**Cayeli-Rize**	**0.73**	**65**	*e*Pg		**Pg**	**11 20 27.1**	**-0.3**
KELT	**Kelkit**	**0.80**	**217**	*i* P		**Pb**	**11 20 30.4**	**+0.3**
KELT				*i* S		**Sb**	**11 20 41.2**	**-0.3**
KELT	**Kelkit**	**0.80**	**217**	P		**Pb**	**11 20 30.4**	**+0.3**
KELT				S		**Sb**	**11 20 41.2**	**-0.3**
ESPY	**Espiye-Giresun**	**0.89**	**279**	PG		**Pb**	**11 20 31.3**	**-0.2**
ESPY	**Espiye-Giresun**	**0.89**	**279**	*e*Pg		**Pb**	**11 20 31.3**	**-0.2**
KOPT	**Kop Dagi**	**0.90**	**148**	*i* P		**Pn**	**11 20 33.5**	**0.0**
KOPT				*i* S		**Sn**	**11 20 47.7**	**+0.3**
KOPT	**Kop Dagi**	**0.90**	**148**	P		**Pn**	**11 20 33.5**	**0.0**
KOPT				S		**Sn**	**11 20 47.7**	**+0.3**
DBAD	**Bademkaya**	**1.39**	**80**	*i* P		**Pg**	**11 20 39.5**	**-0.5**
DBAD				*i* S		**Sg**	**11 20 57.8**	**-0.3**
DBAD	**Bademkaya**	**1.39**	**80**	P		**Pg**	**11 20 39.5**	**-0.5**
DBAD				S		**Sg**	**11 20 57.8**	**-0.3**
SUSE	**Susehri**	**1.41**	**246**	*i* P		**Pg**	**11 20 39.5**	**-0.7**
SUSE				*i* S		**Sg**	**11 20 58.8**	**+0.4**
SUSE	**Susehri**	**1.41**	**246**	P		**Pg**	**11 20 39.5**	**-0.7**
SUSE				S		**Sg**	**11 20 58.8**	**+0.4**
BCA	**Borcka**	**1.47**	**63**	PN		**Pn**	**11 20 40.1**	**-1.0**
BNGB	**Bing¯¶l**	**1.90**	**161**	PN		**Pg**	**11 20 49.5**	**-0.1**
BINT	**Bingol**	**1.97**	**166**	*e*Pn		**Pb**	**11 20 49.5**	**-0.5**

IDC ***27*** *11:38:00.3±1.2, 51°.23N×171°.26W, h0km, mb3.5/7, mb1 3.7/8, mb1mx3.5/77, mbtmp3.5/8, ML3.5/1, Error ellipse: s-maj=35.3km s-min=21.9km az=168.0*
ISCJB ***27*** *11:38:03.8±0.8, 51°.26N±0°.08×171°.15W±0°.06, h30km, mb3.5/7, Error ellipse: s-maj=11.4km s-min=4.6km az=168.6*
NEIC ***27*** *11:38:06.6±0.0, 51°.46N×171°.22W, h40km, ML3.2(AEIC), After AEIC.*

ISC 27 11:38:05.1±1.0**, 51°.3N**±0°.1×**171°.18W**±0°.05**, h30km, n25,** σ0§92/27**, mb3.5/7, Fox Islands**

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
					Op		h m s	ISC
KOFP	**Korovin Flat P**	**2.06**	**300**	P		**Pn**	**11 38 38.6**	**+0.9**
KOFP				S		**Sn**	**11 39 02.9**	**+0.3**
ATKA	**Atka Island**	**2.09**	**297**	P		**Pn**	**11 38 38.2**	**+0.2**
ATKA				S		**Sn**	**11 39 02.4**	**-0.5**
KOKL	**Mount Kliuchef**	**2.14**	**300**	P		**Pn**	**11 38 39.5**	**+0.6**
KOWE	**Korovin West**	**2.19**	**301**	P		**Pn**	**11 38 40.7**	**+1.2**
NIKH	**Nikolski High**	**2.21**	**39**	P		**Pn**	**11 38 40.0**	**+0.2**
NIKH				S		**Sn**	**11 39 05.6**	**-0.5**
OKSP	**Okmok Steeple**	**2.65**	**41**	P		**Pn**	**11 38 46.0**	**+0.2**
OKSP				S		**Sn**	**11 39 16.6**	**-0.3**
OKWE	**Okmok W'ng Wal**	**2.83**	**38**	P		**Pn**	**11 38 49.8**	**+1.5**
OKTU	**Okmok Mt. Tuli**	**2.85**	**41**	P		**Pn**	**11 38 49.4**	**+0.9**
OKAK	**Okmok**	**2.87**	**36**	P		**Pn**	**11 38 48.3**	**-0.5**
ADAG	**Mount Adagdak**	**3.45**	**284**	P		**Pn**	**11 38 57.2**	**+0.5**
MSOM	**Makushin Julie**	**3.62**	**44**	P		**Pn**	**11 39 00.1**	**+1.1**
UNV	**Unalaska Valle**	**3.83**	**46**	P		**Pn**	**11 39 03.1**	**+1.1**
UNV				S		**Sn**	**11 39 46.1**	**+0.1**
AKRB	**Akutan Reef Bi**	**4.21**	**46**	P		**Pn**	**11 39 08.9**	**+1.7**
KDAK	**Kodiak Island**	**12.58**	**52**	Pn		**Pn**	**11 40 59.9**	**-1.9**

0.4nm,0.3s,baz=206,slow=5.3,SNR=13

ILAR	**Eielson Array**	**18.48**	**34**	P		**P**	**11 42 16.5**	**-1.8**

0.2nm,0.3s,baz=224,slow=11,SNR=14

INK	**Inuvik**	**24.87**	**33**	P		**P**	**11 43 24.7**	**+0.1**

1.1nm,0.6s,baz=248,slow=9.0,SNR=10.0

YKA	**Yellowknife Ar**	**31.80**	**47**	P		**P**	**11 44 27.2**	**+0.7**

0.1nm,0.4s,baz=274,slow=7.8,SNR=3.8

H11S1	**WAKE ISLAND Hy**	**37.10**	**216**	T		T	12 24 30.5	

baz=23,slow=76,SNR=4.7

H11S2	**WAKE ISLAND Hy**	**37.12**	**216**	T		T	12 24 37.3	

baz=23,slow=76,SNR=4.5

H11S3	**WAKE ISLAND Hy**	**37.12**	**216**	T		T	12 24 34.5	

baz=23,slow=76,SNR=4.7

PDAR	**Pinedale Array**	**41.73**	**77**	P		**P**	**11 45 51.8**	**+0.3**

0.4nm,0.6s,baz=308,slow=2.0,SNR=5.2

TXAR	**Lajitas Array**	**53.91**	**87**	P		**P**	**11 47 26.1**	**+0.3**

0.4nm,0.8s,baz=299,slow=5.2,SNR=3.4

KURBB	**Kurchatov Arra**	**62.53**	**318**	P		**P**	**11 48 25.7**	**+0.1**

0.3nm,0.6s,baz=45,slow=7.8,SNR=4.1

MKAR	**Makanchi Array**	**63.72**	**313**	P		**P**	**11 48 33.7**	**+0.1**

0.3nm,0.7s,baz=50,slow=7.7,SNR=2.9

ASAR	**Alice Springs**	**88.84**	**229**	P		**P**	**11 50 55.2**	**-0.9**

0.8nm,0.7s,baz=28,slow=5.1,SNR=11

NIED ***27*** *12:06:00, 36°.40N×140°.60E, h53km, Mw3.8 Best double couple: M0 6.36000×10^14 NP1:φs102.00000°, δ68.00000°, λ5.00000°. NP2:φs10.00000°, δ85.00000°, λ158.00000°.*
IDC ***27*** *12:06:22.9±1.1, 36°.51N×140°.69E, h0km, mb3.6/6, mb1 3.7/10, mb1mx3.5/68, mbtmp3.6/10, ML3.5/2, Error ellipse: s-maj=26.0km s-min=17.7km az=77.0*
ISCJB ***27*** *12:06:27.9±0.6, 36°.41N±0°.04×140°.62E±0°.06, h57km±4km, mb3.6/6, Error ellipse: s-maj=8.7km s-min=5.7km az=28.1*
JMA ***27*** *12:06:28.5±0.1, 36°.37N×140°.60E, h51km±1km, M3.9 Broadband fault plane solution: P waves. NP1: φs12.00000°, δ79.00000°, λ153.00000°. NP2: φs108.00000°, δ64.00000°, λ13.00000°. Principal axes: T Plg27.0000°, Azm327.0000°; N Plg61.0000°, Azm171.0000°; P Plg10.0000°, Azm62.0000°;*
JMA Felt II J1.

ISC 27 12:06:29.0±0.9**, 36°.43N**±0°.05×**140°.60E**±0°.06**, h47**km±7km**, n26,** σ0§84/29**, mb3.6/6, 3C-4D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
					Op		h m s	ISC
JHO	**Hitachi**	**0.18**	**352**	⇑P		**Pn**	**12 06 37.5**	**+0.5**
JHO				S		**Sn**	**12 06 43.2**	**+0.6**
JYT	**Yasato**	**0.39**	**238**	⇓P		**Pn**	**12 06 38.5**	**-0.3**
JYT				S		**Sn**	**12 06 45.2**	**-0.5**
ONAJ	**Iwakimizuishiy**	**0.69**	**13**	⇓P		**Pn**	**12 06 42.5**	**-0.1**
ONAJ				S		**Sn**	**12 06 52.5**	**+0.2**
JAG	**Ashikaga**	**0.93**	**270**	⇓P		**Pn**	**12 06 45.5**	**-0.2**
JAG				S		**Sn**	**12 06 56.9**	**-1.0**
JFK	**Kawauchi**	**0.96**	**13**	⇓P		**Pn**	**12 06 45.8**	**-0.4**
JFK				S		**Sn**	**12 06 58.5**	**-0.2**
JFT	**Otama**	**1.10**	**349**	⇑P		**Pn**	**12 06 48.7**	**+0.6**
JFT				S		**Sn**	**12 07 03.5**	**+1.3**
JKT	**Katashina**	**1.14**	**287**	P		**Pn**	**12 06 49.1**	**+0.5**
JKT				S		**Sn**	**12 07 04.0**	**+0.8**
JFY	**Yanaizu**	**1.21**	**324**	⇑P		**Pn**	**12 06 50.2**	**+0.6**
MJAR	**Matsushiro Arr**	**1.93**	**274**	Pn		**Pn**	**12 06 59.2**	**-0.2**

13nm,0.3s,baz=116,slow=8.1,SNR=186

MAT	**Matsushiro**	**1.93**	**274**	P		**Pn**	**12 06 59.7**	**+0.3**
MAT				*e*S		**Sn**	**12 07 23.4**	**+0.9**
JHJ	**Hachijo jima 2**	**3.37**	**192**	Pn		**Pn**	**12 07 19.5**	**+0.3**

4.7nm,0.3s,baz=106,slow=15,SNR=3.0

JHJ				S		**Sn**	**12 07 58.2**	**+0.2**

21nm,0.3s,baz=56,slow=17,SNR=3.5

ASAJ	**Asahikawa**	**7.82**	**11**	Pn		**Pn**	**12 08 18.6**	**-1.6**

0.9nm,0.3s,baz=216,slow=7.0,SNR=8.5

USRK	**Ussuriysk Ar.**	**10.16**	**322**	Pn		**Pn**	**12 08 51.0**	**-1.2**

0.2nm,0.3s,baz=148,slow=14,SNR=2.7

KSRS	**Korea Array**	**10.20**	**280**	Pn		**Pn**	**12 08 53.8**	**+1.0**

baz=97,slow=15,SNR=2.7

SONM	**Songinsi Array**	**27.59**	**305**	P		**P**	**12 12 10.8**	**-1.0**

0.3nm,0.3s,baz=111,slow=7.9,SNR=3.0

H11N2	**WAKE ISLAND Hy**	**28.42**	**119**	T		T	12 42 16.2	

baz=312,slow=75,SNR=41

H11N1	**WAKE ISLAND Hy**	**28.43**	**119**	T		T	12 42 16.9	

baz=312,slow=75,SNR=34

H11N3	**WAKE ISLAND Hy**	**28.43**	**119**	T		T	12 42 17.7	

baz=312,slow=75,SNR=33

H11S1	**WAKE ISLAND Hy**	**29.10**	**121**	T		T	12 43 13.7	

baz=314,slow=76,SNR=106

H11S3	**WAKE ISLAND Hy**	**29.10**	**121**	T		T	12 43 11.8	

baz=314,slow=76,SNR=62

H11S2	**WAKE ISLAND Hy**	**29.11**	**121**	T		T	12 43 11.9	

baz=314,slow=76,SNR=57

ZALV	**Zalesovo Beam**	**41.84**	**313**	P		**P**	**12 14 14.0**	**0.0**

2.2nm,0.7s,baz=101,slow=6.0,SNR=2.7

KURBB	**Kurchatov Arra**	**45.86**	**308**	P		**P**	**12 14 45.2**	**-1.1**

0.8nm,0.5s,baz=83,slow=7.7,SNR=6.3

ILAR	**Eielson Array**	**50.35**	**32**	P		**P**	**12 15 21.1**	**+0.3**

0.4nm,0.7s,baz=271,slow=6.0,SNR=4.7

WRA	**Warramunga Arr**	**56.38**	**187**	P		**P**	**12 16 05.1**	**-0.5**

0.5nm,0.9s,baz=2.0,slow=7.4,SNR=4.1

ASAR	**Alice Springs**	**60.11**	**187**	P		**P**	**12 16 33.5**	**+1.9**

0.4nm,0.8s,baz=7.8,slow=7.5,SNR=3.7

ISCJB ***27*** *12:18:14.7±0.5, 21°.57S±0°.03×70°.07W±0°.07, h56km±4km, mb3.9/7, MS4.6/1, Error ellipse: s-maj=11.6km s-min=5.5km az=11.3*
GUC ***27*** *12:18:15.1±0.6, 21°.61S×70°.01W, h44km±1km, ML4.1*
IDC ***27*** *12:18:24.4±2.9, 21°.12S×69°.66W, h108km±25km, mb3.6/7, mb1 3.6/10, mb1mx3.5/40, mbtmp3.9/10, MS3.6/2, Ms1 3.7/2, ms1mx2.8/44, Error ellipse: s-maj=27.3km s-min=19.6km az=99.0*

ISC 27 12:18:15.1±0.8**, 21°.58S**±0°.04×**70°.10W**±0°.07**, h45**km±6km**, n27,** σ1§04/26**, mb4.0/7, 1C-4D, Near coast of northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
					Op		h m s	ISC
PB07	**IPOC Station P**	**0.24**	**126**	⇓*i* P		**Pn**	**12 18 23.8**	**+0.3**
PB07				*e*S		**Sn**	**12 18 29.1**	**-0.3**
PB07				IAML			12 18 30.1	

comp=E,43μm,0.6s

PB02	**IPOC Station P**	**0.32**	**36**	⇓*i* P		**Pn**	**12 18 24.4**	**+0.3**
PB02				*e*S		**Sn**	**12 18 30.8**	**+0.2**
PB02				IAML			12 18 30.9	

comp=E,47μm,0.2s

PB04	**IPOC Station P**	**0.75**	**184**	⇑*i* P		**Pn**	**12 18 29.8**	**+0.3**
PB04				*e*S		**Sn**	**12 18 40.9**	**+1.1**
PB04				IAML			12 18 42.0	

comp=N,18μm,0.4s

PB01	**IPOC Station P**	**0.78**	**47**	⇓*i* P		**Pn**	**12 18 30.1**	**+0.2**
PB01				*e*S		**Sn**	**12 18 40.8**	**+0.2**
PB01				IAML			12 18 41.4	

comp=E,8μm,0.1s

PB09	**IPOC Station P**	**0.82**	**105**	⇓*i* P		**Pn**	**12 18 31.4**	**+0.9**
PB09				*e*S		**Sn**	**12 18 42.2**	**+0.6**
PB09				IAML			12 18 43.9	

comp=E,11μm,0.7s

PB06	**IPOC Station P**	**1.22**	**156**	*e*P		**Pn**	**12 18 36.0**	**+0.1**
PB06				*e*S		**Sn**	**12 18 52.0**	**+0.8**
PB06				IAML			12 18 52.5	

comp=E,8μm,0.4s

PB11	**IPOC Station P**	**1.86**	**13**	*e*P		**Pn**	**12 18 45.4**	**+0.8**
PB11				IAML			12 19 14.5	

comp=N,3μm,0.2s

PB10	**IPOC Station P**	**1.97**	**192**	*e*P		**Pn**	**12 18 45.5**	**-0.4**
PB10				*e*S		**Sn**	**12 19 10.3**	**+0.9**
PB12	**IPOC Station P**	**2.96**	**356**	*e*P		**Pn**	**12 19 00.1**	**+0.4**
PB12				IAML			12 19 49.2	

comp=E,677nm,1.2s

LPAZ	**La Paz**	**5.59**	**20**	P		**Pn**	**12 19 39.1**	**+2.9**

comp=E,1.4nm,0.3s,baz=152,slow=3.3,SNR=20

LPAZ				LR		LR	12 21 29.8	

comp=E,74nm,18.1s,baz=75,slow=37

SIV	**San Ignacio**	**10.20**	**58**	P		**Pn**	**12 20 38.7**	**-0.2**

comp=E,1.0nm,0.3s,baz=257,slow=8.6,SNR=24

PLCA	**Paso Flores**	**19.09**	**181**	P		Pn	12 22 44.2	+9.0

comp=E,0.1nm,0.3s,baz=28,slow=15,SNR=3.3

PTGA	**Pitinga**	**22.96**	**27**	P		**P**	**12 23 13.5**	**-2.3**

comp=E,1.4nm,0.3s,baz=270,slow=20,SNR=3.3

QSPA	**South Pole Qui**	**68.61**	**180**	P		P	12 29 18.3	+5.1

comp=E,4.2nm,1.1s,baz=252,slow=0.5,SNR=5.1

DBIC	**Dimbokro**	**69.82**	**74**	P		**P**	**12 29 20.6**	**-0.8**

comp=E,2.7nm,0.8s,baz=176,slow=3.6,SNR=3.1

PDAR	**Pinedale Array**	**73.64**	**331**	LR		LR	13 02 46.5	

comp=E,364nm,21.9s,baz=318,slow=36

KOWA	**Kowa**	**74.07**	**67**	P		**P**	**12 29 46.4**	**-0.4**

comp=E,1.1nm,0.6s,baz=260,slow=6.2,SNR=3.7

NVAR	**Mina Array Bea**	**74.88**	**323**	P		**P**	**12 29 53.0**	**+1.6**

comp=E,0.1nm,0.4s,baz=119,slow=9.4,SNR=4.5

TORD	**Torodi Ar. Bea**	**78.43**	**71**	P		**P**	**12 30 10.9**	**-0.7**

comp=E,1.8nm,0.8s,baz=255,slow=5.0,SNR=10.0

| | | | | | | | | |
|

RKT	**Rikitea**	**30.37**	**324**	*e*LR	LR	12 35 27.0	
	1µm,28.2s,baz=157						
RKT	**Rikitea**	**30.37**	**324**	*e*T	T	12 59 13.0	
	1.0nm,0.3s						
TBI	**Tubuai**	**37.03**	**303**	*e*LQ	LQ	12 37 02.0	
	498nm,26.0s						
TBI				*e*LR	LR	12 38 36.0	
	873nm,26.2s,baz=149						
PPT2	**Papeete2**	**41.82**	**308**	*e*S	S	12 35 36.8	-4.4
	148nm,26.0s						
PPT2				*e*LQ	LQ	12 38 57.7	
	1µm,28.5s						
PPT2				*e*LR	LR	12 40 46.3	
	1µm,27.2s,baz=149						
TAOE	**Nuku Hiva Isla**	**45.37**	**326**	*e*S	S	12 36 27.0	-6.1
	125nm,25.1s						
TAOE				*e*LR	LR	12 42 28.3	
	963nm,27.1s,baz=166						
DZM	**Mont Dzumac**	**65.48**	**264**	*e*LR	LR	12 51 58.0	
	244nm,23.9s						

UPP ***27*** *12:28:55.2, 67.65N×21.00E, h17km, ML0.8, Mining explosion.*

HEL 27 12:28:55.6±0.1, 67.65N×20.99E, h0km, ML1.7, ML0.8(UPP), Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUA	**Kurravaara**	**0.40**	**321**	P	Pg	12 29 02.7	-0.5
KUA				S	Sg	12 29 08.2	-0.1
KUA	**Kurravaara**	**0.40**	**321**	*i* P	Pg	12 29 02.6	-0.5
KUA				*i* S	Sg	12 29 08.2	0.0
LANU	**Lannavaara**	**0.55**	**43**	P	Pg	12 29 05.4	-0.7
LANU	**Lannavaara**	**0.55**	**43**	*e*P	Pg	12 29 05.4	-0.8
DUNU	**Dundret**	**0.56**	**197**	P	Pg	12 29 05.6	-0.6
DUNU	**Dundret**	**0.56**	**197**	*i* P	Pg	12 29 05.5	-0.6
RATU	**Laukkuluspa**	**0.56**	**289**	P	Pg	12 29 05.6	-0.8
RATU	**Laukkuluspa**	**0.56**	**289**	*i* P	Pg	12 29 05.6	-0.8
NIKU	**Nikkaluokta**	**0.78**	**287**	P	Pg	12 29 09.6	-0.9
NIKU	**Nikkaluokta**	**0.78**	**287**	*i* P	Pg	12 29 09.6	-0.9
SALU	**Saltoluokta**	**0.99**	**255**	P	Pg	12 29 13.4	-1.2
SALU	**Saltoluokta**	**0.99**	**255**	*e*P	Pg	12 29 13.4	-1.2
PAJU	**Pajala**	**1.03**	**126**	P	Pg	12 29 14.1	-1.3
PAJU	**Pajala**	**1.03**	**126**	*e*P	Pg	12 29 14.1	-1.2
ERTU	**Ertsjaerv**	**1.20**	**156**	*e*P	Pg	12 29 16.5	-2.0
ERTU				*e*Sb	Sg	12 29 33.7	-0.2
ERTU	**Ertsjaerv**	**1.20**	**156**	*e*P	Pg	12 29 16.5	-1.9
ERTU				*e*SB	Sg	12 29 33.7	-0.2
HEF	**Hetta**	**1.26**	**52**	*e*P	Pg	12 29 18.2	-1.5
HEF				*e*Sb	Sg	12 29 34.8	-1.2
HEF	**Hetta**	**1.26**	**52**	*e*P	Pg	12 29 18.2	-1.5
	baz=231						
HEF				MSG		12 29 33.6	
	comp=Z,3.6nm,0.2s						
HEF				*e*SB	Sg	12 29 34.9	-1.2
KIF	**Kilpisjarvi**	**1.36**	**357**	*e*Pn	Pg	12 29 21.7	0.0
KIF				*e*Sb	Sg	12 29 39.6	+0.3
KIF	**Kilpisjarvi**	**1.36**	**357**	*e*PN	Pg	12 29 21.7	0.0
KIF				MSG		12 29 38.8	
	comp=Z,11nm,0.2s						
KIF				*e*SB	Sg	12 29 39.6	+0.3
KALU	**Kalix**	**2.03**	**151**	*e*Pg	Pb	12 29 32.2	-1.0
KALU				*e*Sg	Sb	12 29 58.3	-0.6
KALU	**Kalix**	**2.03**	**151**	*e*PG	Pb	12 29 32.2	-1.0
KALU				*e*SG	Sb	12 29 58.3	-0.6
TOF	**Tornio**	**2.05**	**139**	*e*Pb	Pn	12 29 32.0	+0.7
TOF				*e*Sg	Sb	12 29 59.0	-0.7
	comp=Z,4.7nm,0.2s						
TOF	**Tornio**	**2.05**	**139**	*e*PB	Pn	12 29 32.0	+0.7
TOF				MSG		12 29 56.1	
	comp=Z,4.7nm,0.2s						
TOF				*e*SG	Sb	12 29 59.0	-0.7
SGF	**Sodankyl**	**2.13**	**93**	*e*Pg	Pb	12 29 34.1	-1.0
SGF				*e*Sb	Sn	12 30 00.5	+0.9
SGF	**Sodankyl**	**2.13**	**93**	*e*PG	Pb	12 29 34.1	-1.0
	baz=279						
SGF				*e*SB	Sn	12 30 00.5	+0.9
RNF	**Rovaniemi**	**2.22**	**116**	*e*Pb	Pn	12 29 34.2	+0.6
RNF				*e*Sg	Sb	12 30 03.8	-0.8
RNF	**Rovaniemi**	**2.22**	**116**	*e*PB	Pn	12 29 34.2	+0.6
RNF				*e*SG	Sb	12 30 03.9	-0.7
ARE0	**ARCESS Array S**	**2.52**	**39**	*e*Pb	Pn	12 29 38.8	+1.1
ARE0				*e*S	Sn	12 30 09.7	+0.7
ARE0	**ARCESS Array S**	**2.52**	**39**	*e*PB	Pn	12 29 38.8	+1.1
	baz=218						
ARE0				*e*S	Sn	12 30 09.7	+0.7
VRF	**Varrio**	**3.29**	**84**	*e*SG	Sb	12 30 35.5	+0.2
MSF	**Maaselka**	**3.63**	**115**	*e*P	Pn	12 29 54.9	+1.9
MSF	**Maaselka**	**3.63**	**115**	*e*P	Pn	12 29 54.9	+1.9

KRNET ***27*** *12:31:40.5±0.1, 41.54N×76.54E, h12km, mb3.5*
SOME ***27*** *12:31:40.9, 41.47N×76.60E, h15km*
IDC ***27*** *12:31:41.2±2.0, 41.51N×76.54E, h0km, mb3.4/2, mb1 3.4/4, mb1mx3.1/71, mbtmp3.2/4, ML2.6/2, Error ellipse: s-maj=26.0km s-min=12.9km az=174.0*
NNC ***27*** *12:31:43.6±1.4, 41.63N×76.46E, h0km, mb3.5, mpv3.3, Error ellipse: s-maj=11.0km s-min=7.6km az=123.0*
KNET ***27*** *12:31:43.6±0.8, 41.64N×76.38E, h10km±3km, ml3.1, Error ellipse: s-maj=5.8km s-min=2.9km az=107.0*

ISC 27 12:31:41.3±1.2, 41.58N±0.03×76.52E±0.02, h1km±10km, n56, σ1°38/98, 31C-25D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NRN	**Naryn**	**0.42**	**249**	⇑*i*P	**Pg**	**12 31 49.1**	**-0.2**
	baz=55						
NRN				⇑*i*S	**Sg**	**12 31 55.0**	**+0.3**
	baz=55						
ULHL	**Ulahol**	**0.69**	**343**	P	**Pg**	**12 31 54.8**	**+0.2**
	60nm,0.2s,SNR=288						
ULHL				⇓S	**Sb**	**12 32 05.3**	**-1.2**
	297nm,0.1s						
ULHL	**Ulahol**	**0.69**	**343**	⇑*i*P	**Pg**	**12 31 54.6**	**0.0**
	baz=43						
ULHL				⇑*i*S	**Sg**	**12 32 04.5**	**+0.9**
	baz=43						
KDJ	**Kajisay**	**0.74**	**42**	⇑*i*P	**Pg**	**12 31 55.3**	**-0.2**
	baz=40						
KDJ				⇑*i*S	**Sb**	**12 32 05.8**	**-1.9**
	baz=40						
TARG	**Taragay, Kyrgy**	**0.98**	**81**	⇑*i*P	**Pg**	**12 31 58.7**	**-1.3**
	baz=78						
TARG				⇑*i*S	**Sg**	**12 32 12.0**	**-0.7**
	baz=78						
KZA	**Kyzart**	**1.07**	**298**	⇑P	**Pb**	**12 32 01.4**	**-1.4**
	51nm,0.2s,SNR=79						
KZA				⇓S	**Sn**	**12 32 17.2**	**-2.2**
	123nm,0.2s						
KZA	**Kyzart**	**1.07**	**298**	⇓*i*P	**Pb**	**12 32 01.4**	**-1.4**
	baz=0.0						
KZA				⇓*i*S	**Sb**	**12 32 16.5**	**-0.9**
	baz=0.0						
IZV	**Izvestkoviy**	**1.46**	**3**	*e*P	**Pg**	**12 32 09.3**	**+0.1**
	46nm,0.2s						
IZV				*e*S	**Sg**	**12 32 29.8**	**+1.7**
	113nm,0.2s						
TNSS	**Tian-Shan**	**1.49**	**12**	*e*P	**Pb**	**12 32 09.4**	**-0.6**
	31nm,0.2s						
TNSS				*e*S	**Sg**	**12 32 30.1**	**+1.0**
	169nm,0.4s						
TKM2	**Tokmak 2**	**1.50**	**333**	⇓P	**Pb**	**12 32 09.6**	**-0.5**
	8.5nm,0.5s						
TKM2				⇑S	**Sg**	**12 32 30.3**	**+0.7**
	28nm,0.3s						
TKM2	**Tokmak 2**	**1.50**	**333**	⇓P	**Pb**	**12 32 09.5**	**-0.5**
	17nm,0.1s,SNR=30						
TKM2				⇑S	**Sg**	**12 32 30.6**	**+0.9**
	76nm,0.1s						
TKM2	**Tokmak 2**	**1.50**	**333**	⇓*i*P	**Pb**	**12 32 09.3**	**-0.8**
	baz=33						
TKM2				⇓*i*S	**Sg**	**12 32 30.5**	**+0.9**
	baz=33						
KST	**Kastek**	**1.52**	**344**	*e*P	**Pb**	**12 32 09.9**	**-0.4**
	30nm,0.2s						
KST				*e*S	**Sg**	**12 32 30.8**	**+0.7**
	85nm,0.3s						
KBK	**Karagaybulak**	**1.59**	**313**	⇓P	**Pg**	**12 32 11.4**	**-0.3**
	83nm,0.3s,SNR=15						
KBK	**Karagaybulak**	**1.59**	**313**	⇑*i*P	**Pg**	**12 32 11.2**	**-0.5**
	baz=14						
KBK				⇑*e*S	**Sg**	**12 32 33.1**	**+0.8**
	baz=14						
MDOK	**Medeo**	**1.63**	**14**	⇑P	**Pb**	**12 32 11.8**	**-0.4**
	62nm,0.5s						
MDOK				⇑S	**Sg**	**12 32 34.1**	**+0.5**
	148nm,0.4s						
MDOK	**Medeo**	**1.63**	**14**	*e*P	**Pb**	**12 32 11.8**	**-0.4**
	92nm,0.5s						
MDOK				*e*S	**Sg**	**12 32 34.2**	**+0.6**
	249nm,0.4s						
UCH	**Uchtor**	**1.63**	**294**	⇑P	**Pb**	**12 32 11.7**	**-0.7**
	71nm,0.3s,SNR=57						
UCH	**Uchtor**	**1.63**	**294**	⇑*i*P	**Pb**	**12 32 11.6**	**-0.7**
	baz=95						
UCH				⇑*i*S	**Sg**	**12 32 34.2**	**+0.6**
	baz=95						
BMNS	**Besmoynak**	**1.65**	**338**	*e*P	**Pg**	**12 32 12.4**	**-0.5**
	51nm,0.3s						
BMNS				*e*S	**Sg**	**12 32 34.9**	**+0.6**
	378nm,0.5s						
AAA	**Alma-Ata**	**1.65**	**10**	*e*P	**Pg**	**12 32 13.0**	**0.0**
	60nm,0.2s						
AAA				*e*S	**Sg**	**12 32 36.1**	**+1.7**
	190nm,0.2s						
PRZ	**Przheval'sk**	**1.67**	**57**	⇑*i*P	**Pb**	**12 32 11.9**	**-1.0**
	baz=55						
PRZ				⇑*i*S	**Sg**	**12 32 34.8**	**-0.1**
	baz=55						
KNDC	**Almaty**	**1.67**	**11**	⇓P	**Pg**	**12 32 12.9**	**-0.3**
	54nm,0.6s						
KNDC				⇓S	**Sg**	**12 32 36.6**	**+1.7**
	197nm,0.4s						
KOTS	**Kotyrbulak**	**1.71**	**15**	*e*P	**Pg**	**12 32 13.6**	**-0.4**
	67nm,0.1s						
KOTS				*e*S	**Sg**	**12 32 37.3**	**+1.1**
	379nm,0.4s						
DGS	**Degeres**	**1.75**	**342**	*e*P	**Pg**	**12 32 14.2**	**-0.6**
	7.4nm,0.2s						
DGS				*e*S	**Sg**	**12 32 38.2**	**+0.7**
	98nm,0.5s						
AAK	**Ala-Archa**	**1.84**	**306**	Pn	**Pg**	**12 32 15.7**	**-0.8**
	5.7nm,0.3s,baz=114,slow=10,SNR=32						
AAK				Pg	**Pb**	**12 32 19.4**	**+3.6**
	31nm,0.3s,baz=122,slow=11,SNR=82						
AAK				Sn	**Sg**	**12 32 42.4**	**+2.0**
	7.4nm,0.3s,baz=271,slow=20,SNR=11						
AAK	**Ala-Archa**	**1.84**	**306**	⇓P	**Pg**	**12 32 15.7**	**-0.8**
	47nm,0.2s,SNR=19						
AAK	**Ala-Archa**	**1.84**	**306**	⇑*i*P	**Pb**	**12 32 15.5**	**-0.3**
	baz=6.0						
AAK				⇑*i*S	**Sg**	**12 32 40.3**	**0.0**
	baz=6.0						
CHMS	**Chumysh**	**1.93**	**318**	⇓P	**Pb**	**12 32 17.1**	**-0.1**
	62nm,0.3s,SNR=53						
CHMS	**Chumysh**	**1.93**	**318**	⇓*i*P	**Pb**	**12 32 17.1**	**-0.1**
	baz=18						
CHMS				⇓*i*S	**Sg**	**12 32 43.4**	**+0.1**
	baz=18						
SATY	**Saty**	**2.04**	**43**	*e*P	**Pg**	**12 32 18.9**	**-1.4**
	102nm,0.6s						
SATY				*e*S	**Sg**	**12 32 46.4**	**-0.3**
	462nm,0.2s						
KTBS	**Karatobe**	**2.13**	**3**	*e*P	**Pg**	**12 32 21.0**	**-1.2**
	27nm,0.2s						
KTBS				*e*S	**Sg**	**12 32 49.7**	**-0.1**
	178nm,0.3s						
AML	**Almayashu**	**2.18**	**286**	⇑P	**Pb**	**12 32 21.6**	**-0.1**
	45nm,0.2s,SNR=104						
AML	**Almayashu**	**2.18**	**286**	⇑*i*P	**Pb**	**12 32 20.4**	**-1.3**
	baz=87						
AML				⇑*i*S	**Sb**	**12 32 48.9**	**-0.4**
	baz=87						
USP	**Ospenovka**	**2.25**	**319**	⇑P	**Pg**	**12 32 23.2**	**-1.2**
	33nm,0.3s,SNR=47						
USP	**Ospenovka**	**2.25**	**319**	⇑*i*P	**Pb**	**12 32 21.4**	**-1.3**
	baz=20						
USP				⇑*i*S	**Sb**	**12 32 50.2**	**-0.9**
	baz=20						
KURS	**Kuram**	**2.26**	**32**	*e*P	**Pg**	**12 32 23.5**	**-1.1**
	10nm,0.6s						
KURS				*e*S	**Sg**	**12 32 54.0**	**0.0**
	76nm,0.9s						
CHKK	**Chushkaly**	**2.30**	**9**	*e*P	**Pg**	**12 32 23.9**	**-1.4**
	31nm,0.2s						
CHKK				*e*S	**Sg**	**12 32 54.8**	**-0.3**
	260nm,0.2s						
EKS2	**Erkin-Say**	**2.31**	**299**	⇓*i*P	**Pb**	**12 32 22.0**	**-1.7**
	baz=0.0						
EKS2				⇓*i*S	**Sb**	**12 32 51.8**	**-0.9**
	baz=0.0						
KUU	**Kurty**	**2.31**	**357**	*e*P	**Pb**	**12 32 24.2**	**+0.4**
	45nm,0.3s						
KUU				*e*S	**Sg**	**12 32 55.2**	**-0.4**
	169nm,0.3s						
UZB	**Uzynbulak**	**2.43**	**49**	*e*P	**Pb**	**12 32 25.1**	**-0.7**
	22nm,0.3s						
UZB				*e*S	**Sg**	**12 32 56.9**	**-2.4**
	189nm,0.4s						
SHLS	**Shalkode**	**2.69**	**53**	*e*P	**Pg**	**12 32 34.3**	**+1.4**
	27nm,0.2s						
SHLS				*e*S	**Sg**	**12 33 12.6**	**+4.9**
	208nm,0.5s						
MRKS	**Merke**	**2.71**	**297**	*e*P	**Pg**	**12 32 32.0**	**-1.2**
	32nm,0.4s						
MRKS				*e*S	**Sg**	**12 33 08.7**	**+0.4**
	46nm,0.6s						
SFK	**Sufi-Kurgan**	**2.77**	**237**	⇓Pn	**Pb**	**12 32 29.0**	**-2.7**
	3.7nm,0.5s						
SFK				⇓Pg	**Pg**	**12 32 37.8**	**+3.4**
	4.6nm,0.4s						
SFK				⇑Lg	Lg	12 33 07.8	
	33nm,0.5s						
ARXS	**Arharly**	**2.80**	**20**	*e*P	**Pb**	**12 32 31.6**	**-0.5**
	6.3nm,0.4s						
ARXS				*e*S	**Sb**	**12 33 08.2**	**+1.3**
	179nm,0.4s						
PDGK	**Podgornoye**	**2.81**	**51**	⇑Pn	**Pb**	**12 32 30.8**	**-1.5**
	8.5nm,0.4s						
PDGK				⇓Lg	Lg	12 33 07.6	
	355nm,1.0s						
PDGK	**Podgornoye**	**2.81**	**51**	⇓*e*P	**Pb**	**12 32 28.9**	**-3.4**
	baz=50						
PDGK				⇓*e*S	**Sb**	**12 33 04.4**	**-2.8**
	baz=50						
MNBS	**Baschi**	**2.85**	**28**	*e*P	**Pb**	**12 32 33.5**	**+0.5**
	23nm,0.6s						
MNBS				*e*S	**Sg**	**12 33 11.5**	**-1.5**
	169nm,0.3s						
KTMS	**Ketmen**	**3.39**	**55**	*e*P	**Pb**	**12 32 41.9**	**-0.4**
	6.3nm,0.6s						
KTMS				*e*S	**Sb**	**12 33 25.8**	**+1.7**
	99nm,1.0s						
KK31	**Karatay Array**	**4.70**	**291**	Pg	**Pg**	**12 33 08.4**	**-3.0**
	0.8nm,0.3s,baz=107,slow=15,SNR=20						
KK31				⇓Lg	Lg	12 34 09.5	
	7.2nm,0.5s,baz=108,slow=30						
MK31	**Makanchi Array**	**6.66**	**37**	⇑Pn	**Pn**	**12 33 23.0**	**+2.8**
	0.2nm,0.3s,baz=213,slow=15,SNR=7.0						
MK31				⇓Pg	Pb	12 33 41.6	+3.8
	1.4nm,0.6s,baz=213,slow=14,SNR=5.3						
MK31				⇓Lg	Lg	12 34 58.3	
	3.3nm,0.5s,baz=221,slow=29						
MKAR	**Makanchi Array**	**6.66**	**37**	Pn	**Pn**	**12 33 22.4**	**+2.2**
	0.2nm,0.3s,baz=213,slow=15,SNR=6.1						
MKAR				Lg	Lg	12 35 12.5	
	0.7nm,0.3s,baz=217,slow=30,SNR=6.3						
KURBB	**Kurchatov Arra**	**9.15**	**8**	Pn	**Pn**	**12 33 55.2**	**+0.9**
	0.0nm,0.3s,baz=194,slow=12,SNR=4.4						
KURBB				Lg	Lg	12 36 30.8	
	0.1nm,0.3s,baz=193,slow=31,SNR=5.9						
BVAR	**Borovoye Array**	**12.17**	**342**	Lg	Lg	12 38 08.4	
	0.2nm,0.3s,baz=142,slow=32,SNR=5.1						
BRTR	**Keskin Array B**	**32.34**	**281**	P	**P**	**12 38 12.9**	**+0.8**
	0.5nm,0.5s,baz=67,slow=11,SNR=2.4						
YKA	**Yellowknife Ar**	**75.89**	**5**	P	**P**	**12 43 29.0**	**+0.2**
	0.2nm,0.8s,baz=345,slow=5.8,SNR=5.3						

IDC ***27*** *12:36:10.9±7.2, 62.95N×150.50W, h66km±68km, mb2.9/1, mb1 3.2/3, mb1mx2.8/79, mbtmp3.0/3, ML2.9/2, Error ellipse: s-maj=54.9km s-min=22.8km az=40.0*
ISCJB ***27*** *12:36:12.1±0.4, 63.04N±0.02×150.40W±0.06, h112km±4km, mb2.9/1, Error ellipse: s-maj=4.7km s-min=3.6km az=24.9*
NEIC ***27*** *12:36:13.2±0.0, 63.04N×150.45W, h104km, ML2.9(AEIC), After AEIC.*

ISC 27 12:36:13.2±1.0, 63.05N±0.03×150.43W±0.03, h107km±7km, n67, σ0°66/80, Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HUR	**Hurricane**	**0.37**	**100**	P	**Pn**	**12 36 28.9**	**0.0**
HUR				S	**Sn**	**12 36 41.0**	**+0.2**
TRF	**Thorofare Moun**	**0.41**	**9**	P	**Pn**	**12 36 29.3**	**-0.1**
TRF				S	**Sn**	**12 36 41.7**	**+0.1**
KTH	**Kantishna Hill**	**0.56**	**337**	P	**Pn**	**12 36 30.1**	**-0.1**
KTH				S	**Sn**	**12 36 42.6**	**-0.4**
RND	**Reindeer**	**0.80**	**62**	P	**Pn**	**12 36 32.3**	**+0.1**
PPLA	**Purkeypile**	**0.82**	**260**	P	**Pn**	**12 36 32.5**	**0.0**
PPLA				S	**Sn**	**12 36 46.7**	**-0.3**
CAST	**Castle Rocks**	**0.84**	**297**	P	**Pn**	**12 36 32.1**	**-0.5**
CAST				S	**Sn**	**12 36 46.1**	**-1.0**
MCK	**McKinley**	**0.96**	**44**	P	**Pn**	**12 36 33.9**	**+0.1**
MCK				S	**Sn**	**12 36 48.9**	**-0.5**
BPAW	**Bear Paw Mtn.**	**1.09**	**347**	P	**Pn**	**12 36 34.9**	**-0.2**
SKT	**Skwentna**	**1.18**	**206**	P	**Pn**	**12 36 35.6**	**-0.6**
SKT				S	**Sn**	**12 36 52.7**	**-0.8**
DHY	**Denali Highway**	**1.39**	**87**	P	**Pn**	**12 36 38.8**	**+0.1**
DHY				S	**Sn**	**12 36 58.1**	**+0.1**
GHO	**Glory Hole Cre**	**1.46**	**151**	P	**Pn**	**12 36 39.5**	**+0.1**
GHO				S	**Sn**	**12 37 00.3**	**+1.0**
PMR	**Palmer**	**1.58**	**157**	P	**Pn**	**12 36 40.2**	**-0.6**
PMR				S	**Sn**	**12 37 00.8**	**-0.9**
SML	**Sawmill**	**1.58**	**141**	P	**Pn**	**12 36 40.5**	**-0.3**
SUA	**Susitna One**	**1.59**	**185**	P	**Pn**	**12 36 41.1**	**+0.1**
STLK	**Strandline Lak**	**1.69**	**204**	P	**Pn**	**12 36 41.8**	**-0.4**
WRH	**Wood River Hil**	**1.77**	**35**	P	**Pn**	**12 36 43.1**	**0.0**
KNK	**Knik Glacier**	**1.88**	**150**	P	**Pn**	**12 36 44.0**	**-0.5**
SCM	**Sheep Creek Mo**	**1.89**	**129**	P	**Pn**	**12 36 44.5**	**-0.2**
SPCP	**Crater Peak Br**	**1.96**	**205**	P	**Pn**	**12 36 45.5**	**-0.2**
SPCP				S	**Sn**	**12 37 10.2**	**-0.2**
CCB	**Clear Creek Bu**	**1.98**	**35**	P	**Pn**	**12 36 45.7**	**-0.1**
RC01	**Rabbit Creek A**	**1.99**	**170**	P	**Pn**	**12 36 45.4**	**-0.5**
MLY	**Manley**	**2.00**	**356**	P	**Pn**	**12 36 45.9**	**-0.1**
SPWE	**Spurr West**	**2.04**	**210**	P	**Pn**	**12 36 47.2**	**+0.6**
CKL	**Chakachamna La**	**2.06**	**207**	P	**Pn**	**12 36 46.7**	**-0.2**
HDA	**Harding Lake**	**2.07**	**47**	P	**Pn**	**12 36 46.9**	**0.0**
PS10	**TAPS Pump St10**	**2.14**	**78**	P	**Pn**	**12 36 49.0**	**+1.1**
MDM	**Murphy Dome**	**2.15**	**26**	P	**Pn**	**12 36 48.0**	**0.0**
COLA	**College**	**2.16**	**31**	P	**Pn**	**12 36 48.1**	**+0.1**
PS08	**TAPS Pump Stn8**	**2.20**	**45**	P	**Pn**	**12 36 48.4**	**-0.1**
PS08				S	**Sn**	**12 37 14.3**	**-1.3**
PAX	**Paxson**	**2.27**	**90**	P	**Pn**	**12 36 49.8**	**+0.3**
ILAR	**Eielson Array**	**2.34**	**41**	P	**Pn**	**12 36 50.2**	**-0.1**
	1.8nm,0.3s,baz=222,slow=14,SNR=122						
ILAR				S	**Sn**	**12 37 17.1**	**-1.7**
	3.8nm,0.3s,baz=227,slow=17,SNR=20						
ILB	**Eielson Array**	**2.34**	**41**	P	**Pn**	**12 36 50.2**	**-0.1**
PS11	**TAPS Pump St11**	**2.49**	**111**	P	**Pn**	**12 36 52.9**	**+0.6**
HARP	**HAARP**	**2.51**	**102**	P	**Pn**	**12 36 53.0**	**+0.4**
SLKM	**Skilak Lake**	**2.55**	**178**	P	**Pn**	**12 36 53.1**	**0.0**
TT01	**Tatalina**	**2.56**	**269**	P	**Pn**	**12 36 52.4**	**-0.8**
RIDG	**Independ'e Rid**	**2.61**	**72**	P	**Pn**	**12 36 54.5**	**+0.5**
KLU	**Klutina**	**2.62**	**124**	P	**Pn**	**12 36 53.0**	**-1.1**
DFR	**Drift River**	**2.68**	**205**	P	**Pn**	**12 36 56.0**	**+1.0**
JPK	**Jack Peak**	**2.69**	**136**	P	**Pn**	**12 36 53.9**	**-1.1**
RDWB	**Redoubt West**	**2.81**	**205**	P	**Pn**	**12 36 57.3**	**+0.6**
PS06	**TAPS Pump Stn6**	**2.84**	**6**	P	**Pn**	**12 36 56.8**	**0.0**
DIV	**Divide**	**2.92**	**129**	P	**Pn**	**12 36 56.5**	**-1.5**
DOT	**Dot Lake**	**2.93**	**75**	P	**Pn**	**12 36 57.9**	**-0.3**
SCRK	**Sand Creek**	**3.04**	**69**	P	**Pn**	**12 36 59.3**	**-0.4**
MENT	**Mentasta**	**3.06**	**89**	P	**Pn**	**12 37 00.0**	**+0.1**
PRP	**Porcupine Dome**	**3.28**	**39**	P	**Pn**	**12 37 02.7**	**-0.1**
IM3	**Indian Mountai**	**3.28**	**336**	P	**Pn**	**12 37 02.5**	**-0.3**
BRLK	**Bradley Lake**	**3.30**	**184**	P	**Pn**	**12 37 02.8**	**-0.3**
GCSA	**Galena City Sc**	**3.32**	**304**	P	**Pn**	**12 37 03.1**	**-0.2**
BMRM	**Bremner River**	**3.45**	**125**	P	**Pn**	**12 37 03.7**	**-1.4**
VRDI	**Verde Repeater**	**3.75**	**116**	P	**Pn**	**12 37 08.3**	**-0.9**
RAGM	**Ragged Mountai**	**3.82**	**132**	P	**Pn**	**12 37 09.1**	**-1.0**
MCARA	**McCarthy VSAT**	**3.85**	**112**	P	**Pn**	**12 37 10.2**	**-0.2**
BCA3	**Beaver Creek A**	**3.94**	**86**	P	**Pn**	**12 37 10.9**	**-0.7**
BALM	**Baldy**	**4.31**	**114**	P	**Pn**	**12 37 15.6**	**-1.1**
KIAG	**Kiagna River**	**4.36**	**116**	P	**Pn**	**12 37 16.1**	**-1.3**
EGAK	**Eagle**	**4.45**	**63**	P	**Pn**	**12 37 18.5**	**+0.1**
ISLE	**Juniper Island**	**4.55**	**119**	P	**Pn**	**12 37 18.4**	**-1.6**
BARN	**Barnard Glacie**	**4.58**	**112**	P	**Pn**	**12 37 20.2**	**-0.2**
BAGL	**Bagley Icefiel**	**4.72**	**119**	P	**Pn**	**12 37 21.0**	**-1.0**
CTGM	**Chitina Glacie**	**4.77**	**112**	P	**Pn**	**12 37 22.3**	**-0.6**
LOGN	**Logan Glacier**	**4.98**	**112**	P	**Pn**	**12 37 25.4**	**-0.4**
BM3	**Burnt Mountain**	**5.03**	**27**	P	**Pn**	**12 37 26.1**	**-0.1**
DAWY	**Dawson**	**5.04**	**73**	P	**Pn**	**12 37 26.1**	**-0.4**
YKA	**Yellowknife Ar**	**16.28**	**76**	P	**P**	**12 39 56.3**	**+0.1**
	0.1nm,0.3s,baz=286,slow=10,SNR=10						
TXAR	**Lajitas Array**	**45.05**	**116**	P	**P**	**12 44 19.4**	**+1.2**
	0.1nm,0.4s,baz=325,slow=7.6,SNR=4.1						

ISK ***27*** *12:37:24.5, 38.79N×43.39E, h5km, ML2.9/2*
CSEM ***27*** *12:37:25.9±0.4, 38.74N×43.49E, h5km, ML2.8, Error ellipse: s-maj=10.1km s-min=6.4km az=116.0*
ISCJB ***27*** *12:37:26.3

VMUR	**Van-Muradiye**	**0.26**	**4**	P	**Pg**	**12 46 20.6**	**-0.8**
VMUR				S	**Sb**	**12 46 26.7**	**-0.3**
ERCV	**ERCIS-VAN**	**0.33**	**331**	PG	**Pg**	**12 46 21.8**	**-0.9**
ERCV				SG	**Sb**	**12 46 27.9**	**-1.1**
ERCV	**ERCIS-VAN**	**0.33**	**331**	*e*Pg	**Pg**	**12 46 21.8**	**-0.9**
ERCV				*e*Sg	**Sb**	**12 46 27.9**	**-1.1**
CLDR	**Caldiran**	**0.51**	**35**	PG	**Pg**	**12 46 23.9**	**-1.9**
CLDR				SG	**Sg**	**12 46 32.4**	**-0.2**
CLDR	**Caldiran**	**0.51**	**35**	*i* P	**Pg**	**12 46 23.9**	**-1.9**
CLDR				*i* S	**Sb**	**12 46 33.1**	**-0.9**
CLDR	**Caldiran**	**0.51**	**35**	P	**Pg**	**12 46 23.9**	**-1.9**
CLDR				*e*Sg	**Sg**	**12 46 32.4**	**-0.2**
CLDR				S	**Sb**	**12 46 33.1**	**-0.9**
GEVA	**Gevas**	**0.56**	**223**	*i* P	**Pg**	**12 46 25.3**	**-1.6**
GEVA				*i* S	**Sb**	**12 46 34.9**	**-0.7**
GEVA	**Gevas**	**0.56**	**223**	P	**Pg**	**12 46 25.3**	**-1.6**
GEVA				S	**Sb**	**12 46 34.9**	**-0.7**
ADCV	**BITLIS_Adilcev**	**0.65**	**277**	*i* P	**Pg**	**12 46 27.2**	**-1.3**
ADCV				*i* S	**Sb**	**12 46 37.9**	**-0.2**
ADCV	**BITLIS_Adilcev**	**0.65**	**277**	P	**Pg**	**12 46 27.2**	**-1.3**
ADCV				S	**Sb**	**12 46 37.8**	**-0.2**
DYDN	**Diyadin**	**0.82**	**8**	*i* P	**Pg**	**12 46 30.3**	**-1.5**
DYDN				*i* S	**Sb**	**12 46 44.1**	**+1.0**
DYDN	**Diyadin**	**0.82**	**8**	P	**Pg**	**12 46 30.3**	**-1.5**
DYDN				S	**Sb**	**12 46 44.1**	**+1.0**
TUTA	**Tutak**	**0.88**	**320**	*i* P	**Pg**	**12 46 31.3**	**-1.6**
TUTA				*i* S	**Sg**	**12 46 44.0**	**-0.5**
TUTA	**Tutak**	**0.88**	**320**	P	**Pg**	**12 46 31.3**	**-1.6**
TUTA				S	**Sg**	**12 46 44.0**	**-0.5**
HAKT	**HAKKARI**	**1.18**	**174**	*i* P	**Pg**	**12 46 36.2**	**-2.2**
HAKT	**HAKKARI**	**1.18**	**174**	P	**Pg**	**12 46 36.2**	**-2.2**
GURO	**Guroymak-BITLI**	**1.20**	**262**	PN	**Pg**	**12 46 36.6**	**-2.3**
IGDI	**IGDIR**	**1.21**	**20**	*i* P	**Pg**	**12 46 37.7**	**-1.4**
IGDI				*i* S	**Sn**	**12 46 56.1**	**+1.3**
EKAR	**Karacoban**	**1.27**	**295**	*i* P	**Pg**	**12 46 37.6**	**-2.6**
EKAR				*i* S	**Sn**	**12 46 58.2**	**+1.8**
EKAR	**Karacoban**	**1.27**	**295**	P	**Pg**	**12 46 37.6**	**-2.6**
EKAR				S	**Sn**	**12 46 58.2**	**+1.8**
YOVA	**Hakkari_Yˆ…kse**	**1.28**	**153**	*i* P	**Pg**	**12 46 38.7**	**-1.8**
YOVA				*i* S	**Sn**	**12 46 57.2**	**+0.5**
YOVA	**Hakkari_Yˆ…kse**	**1.28**	**153**	P	**Pg**	**12 46 38.7**	**-1.8**
YOVA				S	**Sn**	**12 46 57.2**	**+0.5**
TASB	**TASBURUN-IGDIR**	**1.36**	**23**	PN	**Pn**	**12 46 40.6**	**0.0**
TASB	**TASBURUN-IGDIR**	**1.36**	**23**	*e*Pn	**Pn**	**12 46 40.6**	**0.0**
EATA	**Eleskirt**	**1.40**	**324**	*i* P	**Pn**	**12 46 41.2**	**0.0**
EATA				*i* S	**Sn**	**12 47 01.0**	**+1.3**
EATA	**Eleskirt**	**1.40**	**324**	P	**Pn**	**12 46 41.2**	**0.0**
EATA				S	**Sn**	**12 47 01.0**	**+1.3**
HYR	**Heyderabad**	**1.42**	**45**	⇑P	**Pb**	**12 46 41.7**	**-0.4**
HYR				⇑S	**Sn**	**12 47 04.1**	**+4.2**
SRTM	**Siirt_Merkez**	**1.47**	**241**	*i* P	**Pb**	**12 46 42.6**	**-0.5**
SRTM				*i* S	**Sg**	**12 47 03.3**	**+0.1**
SRTM	**Siirt_Merkez**	**1.47**	**241**	P	**Pb**	**12 46 42.6**	**-0.5**
SRTM				S	**Sg**	**12 47 03.3**	**+0.1**
SIRT	**Sirnak**	**1.50**	**216**	PN	**Pb**	**12 46 42.9**	**-0.7**
SIRT	**Sirnak**	**1.50**	**216**	*e*Pn	**Pb**	**12 46 42.9**	**-0.7**
SIRN	**S˜–rnak**	**1.52**	**216**	*i* P	**Pb**	**12 46 43.6**	**-0.2**
SIRN				*i* S	**Sg**	**12 47 05.7**	**+1.0**
SIRN	**S˜–rnak**	**1.52**	**216**	P	**Pb**	**12 46 43.7**	**-0.2**
SIRN				S	**Sg**	**12 47 05.7**	**+1.0**
NAX	**Nakhchivan**	**1.58**	**73**	⇓P	**Pg**	**12 46 44.8**	**-1.4**
NAX				⇓S	**Sg**	**12 47 09.6**	**+2.8**
VRTB	**Varto-Mus**	**1.69**	**285**	PN	**Pn**	**12 46 45.8**	**+0.7**
VRTB	**Varto-Mus**	**1.69**	**285**	*e*Pn	**Pn**	**12 46 45.8**	**+0.7**
SBZ	**Shahbuz**	**1.70**	**66**	⇓P	**Pb**	**12 46 46.2**	**-0.7**
SBZ				⇑S	**Sg**	**12 47 12.2**	**+1.7**
ORD	**Ordubad**	**1.92**	**83**	⇑P	**Pb**	**12 46 49.5**	**-1.2**
ORD				⇓S	**Sg**	**12 47 18.1**	**+0.5**
KARS	**Kars**	**1.93**	**349**	PN	**Pn**	**12 46 48.6**	**+0.2**
KARS	**Kars**	**1.93**	**349**	*e*Pn	**Pn**	**12 46 48.6**	**+0.2**
SVAN	**Silvan-Diyarba**	**1.93**	**253**	PN	**Pn**	**12 46 49.4**	**+1.1**
SVAN	**Silvan-Diyarba**	**1.93**	**253**	*e*Pn	**Pn**	**12 46 49.4**	**+1.1**
SENK	**Senkaya-Erzuru**	**2.05**	**334**	PN	**Pn**	**12 46 51.1**	**+1.0**
SENK	**Senkaya-Erzuru**	**2.05**	**334**	*e*Pn	**Pn**	**12 46 51.1**	**+1.0**
BNGB	**Bingˆ¶l**	**2.25**	**278**	PN	**Pn**	**12 46 53.7**	**+0.9**
BINT	**Bingol**	**2.39**	**274**	*e*Pn	**Pn**	**12 46 53.7**	**-1.1**
YEDI	**Yedisu-Bingol**	**2.44**	**288**	PN	**Pn**	**12 46 56.5**	**+1.0**
YEDI	**Yedisu-Bingol**	**2.44**	**288**	*e*Pn	**Pn**	**12 46 56.5**	**+1.0**
GDB	**GEDABAY**	**2.62**	**40**	⇓P	**Pn**	**12 46 58.0**	**+0.1**
GDB				⇑S	**Sb**	**12 47 33.4**	**-1.4**
QZX	**Qazax, Azerbai**	**2.72**	**31**	⇑P	**Pn**	**12 46 58.6**	**-0.6**
QZX				⇑S	**Sn**	**12 47 34.5**	**+2.6**
DIY	**Diyarbakir**	**2.74**	**253**	*e*Pn	**Pn**	**12 47 01.5**	**+2.0**
MAZI	**Mazidag**	**2.75**	**244**	PN	**Pn**	**12 46 59.9**	**+0.2**
MAZI	**Mazidag**	**2.75**	**244**	*e*Pn	**Pn**	**12 46 59.9**	**+0.2**
DYBB	**Diyarbakir**	**2.79**	**255**	PN	**Pn**	**12 47 01.5**	**+1.4**
GANJ	**Ganja**	**2.87**	**47**	⇓P	**Pn**	**12 47 01.8**	**+0.5**
GANJ				⇓S	**Sb**	**12 47 40.2**	**-1.8**
BCA	**Borcka**	**3.09**	**332**	PN	**Pn**	**12 47 05.9**	**+1.7**
BCA	**Borcka**	**3.09**	**332**	*e*Pn	**Pn**	**12 47 05.9**	**+1.7**
PTK	**Pertek**	**3.25**	**274**	PN	**Pn**	**12 47 07.9**	**+1.3**
PTK	**Pertek**	**3.25**	**274**	*e*Pn	**Pn**	**12 47 07.9**	**+1.3**
SVRC	**Sivrice-ELAZID**	**3.34**	**265**	PN	**Pn**	**12 47 09.3**	**+1.4**
SVRC	**Sivrice-ELAZID**	**3.34**	**265**	*e*Pn	**Pn**	**12 47 09.3**	**+1.4**
SEKA	**Sheki**	**3.74**	**47**	⇑P	**Pn**	**12 47 14.4**	**+1.1**
LRK	**Lerik**	**3.75**	**90**	⇓P	**Pn**	**12 47 14.6**	**+1.1**
GLBA	**Clilabad**	**3.81**	**81**	⇓P	**Pn**	**12 47 15.4**	**+1.3**
XNQ	**Khinaliq**	**4.29**	**54**	⇑P	**Pn**	**12 47 21.4**	**+0.4**
PQL	**Pirkuli**	**4.40**	**61**	⇓P	**Pn**	**12 47 23.1**	**+0.7**

*PGC **27** 12:51:12.6±3.0, 50°.47N×130°.08W, h10^{km}, MLSn3.5/17, Mw4.2, 190km west of Pt. Hardy, Bc Vancouver Island, Canada Region*
*NEIC **27** 12:51:12.6±0.0, 50°.47N×130°.08W, h10^{km}, mb3.6/3, MW4.2(OTT), After OTT.*
*IDC **27** 12:51:14.0±2.0, 50°.53N×129°.71W, h0^{km}, mb1 3.8/5, mb1mx3.4/77, mbtmp3.4/5, ML3.3/5, Error ellipse: s-maj=28.7km s-min=15.5km az=73.0*
*ISCJB **27** 12:51:14.2±0.8, 50°.59N±0°.05×129°.7W±0°.1, h10^{km}, mb3.6/1, Error ellipse: s-maj=10.4km s-min=5.7km az=151.6*
ISC 27 12:51:14.4±0.9**, 50°.60N**±0°.06×**129°.81W**±0°.06**, h10**^{km}**, n70,** σ**1**^{s}**75**/75**, Vancouver Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PACB	**Port Alice, BC**	**1.49**	**96**	Pn	**Pn**	**12 51 38.2**	**-3.0**
PHC	**Port Hardy**	**1.52**	**85**	Pn	**Pn**	**12 51 40.5**	**-1.0**
PHC				Sn	**Sn**	**12 52 00.8**	**-0.5**
PHC	**Port Hardy**	**1.52**	**85**	*e*Pn	**Pn**	**12 51 40.5**	**-1.0**
PHC				*e*Sn	**Sn**	**12 52 00.8**	**-0.5**
EDB	**Eliza Dome**	**1.88**	**112**	Pn	**Pn**	**12 51 43.8**	**-2.6**
EDB	**Eliza Dome**	**1.88**	**112**	*e*Pn	**Pn**	**12 51 43.8**	**-2.6**
TLCB	**Telegraph Cove**	**1.90**	**91**	Pn	**Pn**	**12 51 45.3**	**-1.4**
BBB	**Bella Bella**	**1.91**	**33**	Pn	**Pb**	**12 51 46.8**	**-2.5**
	8.3nm,0.3s,baz=228,slow=14,SNR=8.9						
BBB				Sn	**Sb**	**12 52 11.2**	**-1.9**
	27nm,0.3s,baz=339,slow=19,SNR=15						
BBB	**Bella Bella**	**1.91**	**33**	Pn	**Pb**	**12 51 46.5**	**-2.7**
BBB				Sn	**Sb**	**12 52 10.4**	**-2.7**
BBB	**Bella Bella**	**1.91**	**33**	*e*Pn	**Pb**	**12 51 46.5**	**-2.7**
BBB				*e*Sn	**Sb**	**12 52 10.4**	**-2.7**
WOSB	**Woss**	**2.12**	**101**	Pn	**Pn**	**12 51 48.8**	**-1.1**
WOSB	**Woss**	**2.12**	**101**	*e*Pn	**Pn**	**12 51 48.8**	**-1.1**
BNB	**Barry Inlet**	**2.32**	**329**	Pn	**Pn**	**12 51 49.9**	**-2.7**
BNB	**Barry Inlet**	**2.32**	**329**	*e*Pn	**Pn**	**12 51 49.9**	**-2.7**
NCRB	**Newcastle Ridg**	**2.41**	**93**	Pn	**Pn**	**12 51 53.3**	**-0.6**
NCRB	**Newcastle Ridg**	**2.41**	**93**	*e*Pn	**Pn**	**12 51 53.3**	**-0.6**
GDR	**Gold River**	**2.57**	**107**	Pn	**Pn**	**12 51 53.7**	**-2.3**
GDR	**Gold River**	**2.57**	**107**	*e*Pn	**Pn**	**12 51 53.7**	**-2.3**
SPLB	**Strathcona Par**	**2.76**	**103**	Pn	**Pn**	**12 51 57.6**	**-1.0**
CBB	**Campbell River**	**2.91**	**100**	Pn	**Pn**	**12 51 59.9**	**-0.8**
CBB	**Campbell River**	**2.91**	**100**	*e*Pn	**Pn**	**12 51 59.9**	**-0.8**
BTB	**Buttle Lake**	**2.99**	**111**	Pn	**Pn**	**12 52 00.2**	**-1.8**
BTB	**Buttle Lake**	**2.99**	**111**	*e*Pn	**Pn**	**12 52 00.2**	**-1.8**
MWAB	**Mount Washingt**	**3.03**	**105**	Pn	**Pn**	**12 52 00.5**	**-1.9**
DIB	**Dawson Inlet,**	**3.08**	**329**	Pn	**Pn**	**12 52 00.4**	**-2.6**
DIB	**Dawson Inlet,**	**3.08**	**329**	*e*Pn	**Pn**	**12 52 00.4**	**-2.6**
OZB	**Mount Ozzard**	**3.25**	**119**	Pn	**Pn**	**12 52 04.8**	**-0.5**
OZB	**Mount Ozzard**	**3.25**	**119**	*e*Pn	**Pn**	**12 52 04.8**	**-0.5**
TXB	**Texada**	**3.58**	**103**	Pn	**Pn**	**12 52 09.8**	**-0.1**
TXB	**Texada**	**3.58**	**103**	*e*Pn	**Pn**	**12 52 09.8**	**-0.1**
MGB	**Mount Grey**	**3.69**	**114**	Pn	**Pn**	**12 52 10.7**	**-0.7**
MGB	**Mount Grey**	**3.69**	**114**	*e*Pn	**Pn**	**12 52 10.7**	**-0.7**
SHB	**Sechelt**	**3.95**	**102**	Pn	**Pn**	**12 52 14.8**	**-0.3**
SHB	**Sechelt**	**3.95**	**102**	*e*Pn	**Pn**	**12 52 14.8**	**-0.3**
YOUB	**Youbou, Lake C**	**3.98**	**113**	Pn	**Pn**	**12 52 15.2**	**-0.3**
YOUB	**Youbou, Lake C**	**3.98**	**113**	*e*Pn	**Pn**	**12 52 15.2**	**-0.3**
UBRB	**Upper Baezaeko**	**4.24**	**55**	Pn	**Pn**	**12 52 21.1**	**+2.1**
UBRB	**Upper Baezaeko**	**4.24**	**55**	*e*Pn	**Pn**	**12 52 21.1**	**+2.1**
MCW	**Mount Constitu**	**4.93**	**110**	Pn	**Pn**	**12 52 29.4**	**+1.0**
MCW	**Mount Constitu**	**4.93**	**110**	*e*Pn	**Pn**	**12 52 29.4**	**+1.0**
LLLB	**Lillooet**	**5.05**	**87**	*e*Pn	**Pn**	**12 52 30.9**	**+0.7**
VDB	**Vedder Mountai**	**5.24**	**105**	Pn	**Pn**	**12 52 33.7**	**+1.1**
VDB	**Vedder Mountai**	**5.24**	**105**	*e*Pn	**Pn**	**12 52 33.7**	**+1.1**
MBW	**Mount Baker**	**5.45**	**106**	Pn	**Pn**	**12 52 36.6**	**+0.9**
MBW	**Mount Baker**	**5.45**	**106**	*e*Pn	**Pn**	**12 52 36.6**	**+0.9**
JCW	**Jim Creek**	**5.68**	**112**	Pn	**Pn**	**12 52 39.6**	**+0.8**
JCW	**Jim Creek**	**5.68**	**112**	*e*Pn	**Pn**	**12 52 39.6**	**+0.8**
B06A	**Marblemount**	**5.81**	**108**	Pn	**Pn**	**12 52 41.4**	**+1.0**
B06A	**Marblemount**	**5.81**	**108**	*e*Pn	**Pn**	**12 52 41.5**	**+1.1**
FMW	**Mount Fremont**	**6.51**	**121**	Pn	**Pn**	**12 52 51.5**	**+1.1**
FMW	**Mount Fremont**	**6.51**	**121**	*e*Pn	**Pn**	**12 52 51.5**	**+1.1**
LON	**Longmire**	**6.55**	**123**	Pn	**Pn**	**12 52 52.3**	**+1.5**
LON	**Longmire**	**6.55**	**123**	*e*Pn	**Pn**	**12 52 52.3**	**+1.5**
LTY	**Liberty**	**6.89**	**116**	Pn	**Pn**	**12 52 56.9**	**+1.5**
LTY	**Liberty**	**6.89**	**116**	*e*Pn	**Pn**	**12 52 56.9**	**+1.5**
B08A	**Colville Reser**	**7.19**	**104**	Pn	**Pn**	**12 53 00.7**	**+1.2**
B08A	**Colville Reser**	**7.19**	**104**	*e*Pn	**Pn**	**12 53 00.1**	**+0.6**
DLBC	**Dease Lake**	**7.85**	**359**	Pn	**Pn**	**12 53 09.7**	**+1.1**
	0.4nm,0.3s,baz=175,slow=7.0,SNR=9.3						
DLBC	**Dease Lake**	**7.85**	**359**	Pn	**Pn**	**12 53 10.0**	**+1.4**
DLBC	**Dease Lake**	**7.85**	**359**	*e*Pn	**Pn**	**12 53 10.0**	**+1.4**
YHH	**Holmes Hill**	**14.02**	**107**	*e*Pn	**Pn**	**12 54 34.9**	**+1.8**
YKA	**Yellowknife Ar**	**14.52**	**29**	Pn	**Pn**	**12 54 39.0**	**-0.6**
	0.0nm,0.3s,baz=218,slow=12,SNR=8.8						
FXWY	**Fox Creek**	**14.54**	**111**	*e*Pn	**Pn**	**12 54 42.5**	**+2.2**
NVAR	**Mina Array Bea**	**14.66**	**142**	Pn	**Pn**	**12 54 44.2**	**+2.3**
	baz=338,slow=11,SNR=2.3						
NV11	**Mina Array Sit**	**14.71**	**141**	*e*Pn	**P**	**12 54 46.8**	**-2.0**
PDAR	**Pinedale Array**	**15.92**	**112**	Pn	**P**	**12 55 00.1**	**-2.2**
	0.1nm,0.3s,baz=304,slow=12,SNR=9.8						
ILAR	**Eielson Array**	**16.79**	**334**	Pn	**P**	**12 55 13.6**	**+2.1**
	0.0nm,0.3s,baz=144,slow=10,SNR=9.4						
TRF	**Thorofare Moun**	**16.91**	**327**	*e*P	**P**	**12 55 16.8**	**+3.8**
	16nm,1.6s						
FFC	**Flin Flon**	**17.32**	**65**	*e*P	**P**	**12 55 19.5**	**+2.0**
	2.8nm,1.0s						
IM3	**Indian Mountai**	**19.69**	**330**	*e*P	**Pn**	**12 55 47.5**	**+2.8**
FCC	**Fort Churchill**	**21.98**	**54**	*e*P	**P**	**12 56 11.0**	**+2.9**
	1.9nm,0.8s						

*NEIC **27** 12:52:43.0±0.0, 50°.49N×130°.06W, h10^{km}, mb4.3/95, MW4.9(OTT), After OTT.*
*ISCJB **27** 12:52:43.8±0.9, 50°.65N±0°.02×129°.65W±0°.03, h6^{km}±6^{km}, mb4.3/30, MS4.0/43, Error ellipse: s-maj=4.2km s-min=2.0km az=140.5*
*PGC **27** 12:52:43.5±3.6, 50°.49N×130°.02W, h10^{km}, MLSn4.0/31, Mw4.9, 185km west of Pt. Hardy, Bc Vancouver Island, Canada Region*
*GCMT **27** 12:52:43.0±0.3, 50°.31N×130°.23W, h12^{km}, MW4.8/91, Moment Tensor Solution. s15,c17; s91,c122; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.27±.07; $M_{\theta\theta}$-1.73±.06; $M_{\phi\phi}$1.46±.06; $M_{r\theta}$-1.03±.20; $M_{\theta\phi}$0.87±.06; $M_{\phi r}$-0.09±.18; Best double couple: $M_0$2.04700×10^{16} NP1:ϕ_s60.00000°, δ86.00000°, λ-26.00000°. NP2: ϕ_s151.00000°, δ64.00000°, λ-176.00000°. Principal axes: T 1.7720, Plg15.0000°, Azm108.0000°; N 0.5530, Plg64.0000°, Azm232.0000°; P -2.3230, Plg21.0000°, Azm12.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*IDC **27** 12:52:44.2±0.7, 50°.56N×129°.76W, h0^{km}, mb4.2/12, mb1 4.3/21, mb1mx4.0/81, mbtmp4.2/21, ML3.5/9, MS3.9/49, Ms1 3.9/49, ms1mx3.8/73 Error ellipse: s-maj=13.3km s-min=8.9km az=60.0*
ISC 27 12:52:46.7±3.3**, 50°.60N**±0°.05×**129°.63W**±0°.05**, h17**^{km}±22^{km}**, n481,** σ**1**^{s}**20**/433**, mb4.4**/30**, MS4.0**/43**, Vancouver Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PACB	**Port Alice, BC**	**1.38**	**96**	Pn	**Pn**	**12 53 08.7**	**-2.4**
PACB				Sn	**Sn**	**12 53 28.2**	**-0.6**
PHC	**Port Hardy**	**1.40**	**85**	Pn	**Pn**	**12 53 10.3**	**-1.1**
PHC				Sn	**Sn**	**12 53 29.8**	**+0.3**
EDB	**Eliza Dome**	**1.77**	**113**	Pn	**Pn**	**12 53 14.0**	**-2.4**
TLCB	**Telegraph Cove**	**1.78**	**91**	Pn	**Pn**	**12 53 15.2**	**-1.4**
BBB	**Bella Bella**	**1.85**	**30**	Pn	**Pn**	**12 53 16.9**	**-0.6**
	26nm,0.3s,baz=240,slow=5.6,SNR=6.9						
BBB				Sn	**Sn**	**12 53 41.5**	**+1.0**
	104nm,0.3s,baz=328,slow=20,SNR=11						
BBB				LR	LR	12 54 12.3	
	comp=Z,2μm,21.1s,baz=228,slow=46						
BBB	**Bella Bella**	**1.85**	**30**	Pn	**Pn**	**12 53 16.4**	**-1.2**
BBB				Sn	**Sn**	**12 53 41.2**	**+0.7**
WOSB	**Woss**	**2.01**	**102**	Pn	**Pn**	**12 53 18.3**	**-1.5**
NCRB	**Newcastle Ridg**	**2.29**	**94**	Pn	**Pn**	**12 53 23.2**	**-0.6**
ETB	**Estevan Point**	**2.34**	**120**	Pn	**Pn**	**12 53 22.6**	**-1.7**
BNB	**Barry Inlet**	**2.38**	**327**	Pn	Pn	12 53 19.5	-5.4
GDR	**Gold River**	**2.45**	**108**	Pn	**Pn**	**12 53 24.3**	**-1.6**
SPLB	**Strathcona Par**	**2.65**	**104**	Pn	**Pn**	**12 53 27.1**	**-1.5**
CBB	**Campbell River**	**2.79**	**100**	Pn	**Pn**	**12 53 30.0**	**-0.5**
TOFB	**Tofino**	**2.81**	**120**	Pn	**Pn**	**12 53 28.5**	**-2.2**
TOFB				Sn	**Sn**	**12 54 02.6**	**-1.6**
BTB	**Buttle Lake**	**2.88**	**112**	Pn	**Pn**	**12 53 30.2**	**-1.8**
MWAB	**Mount Washingt**	**2.91**	**106**	Pn	**Pn**	**12 53 30.6**	**-1.8**
DIB	**Dawson Inlet,**	**3.15**	**327**	Pn	Pn	12 53 30.5	-4.9
DIB	**Dawson Inlet,**	**3.15**	**327**	*e*Pn	**Pn**	**12 53 31.3**	**-4.1**
OZB	**Mount Ozzard**	**3.15**	**120**	Pn	**Pn**	**12 53 34.6**	**-0.8**
OZB				Sn	**Sn**	**12 54 11.0**	**-1.6**
ALB	**Alberni**	**3.38**	**111**	Pn	**Pn**	**12 53 38.3**	**-0.2**
B927	**Port Alberni**	**3.41**	**112**	Pn	**Pn**	**12 53 38.5**	**-0.5**
B928	**Bamfield**	**3.41**	**120**	Pn	**Pn**	**12 53 37.9**	**-1.1**
TXB	**Texada**	**3.46**	**103**	Pn	**Pn**	**12 53 40.0**	**+0.3**
MGB	**Mount Grey**	**3.58**	**115**	Pn	**Pn**	**12 53 40.7**	**-0.8**
GHNB	**Nanoose**	**3.72**	**108**	Pn	**Pn**	**12 53 43.0**	**-0.2**
SHB	**Sechelt**	**3.84**	**103**	Pn	**Pn**	**12 53 44.8**	**-0.3**
YOUB	**Youbou, Lake C**	**3.88**	**114**	Pn	**Pn**	**12 53 44.7**	**-0.8**
NLLB	**Nanaimo Lost L**	**3.90**	**109**	Pn	**Pn**	**12 53 45.1**	**-0.6**
PFB	**Port Renfrew**	**3.94**	**119**	Pn	**Pn**	**12 53 45.5**	**-0.9**
OCP	**Olym-Cheeka Pk**	**4.00**	**123**	Pn	**Pn**	**12 53 46.4**	**-0.8**
UBRB	**Upper Baezaeko**	**4.14**	**54**	Pn	**Pn**	**12 53 51.1**	**+2.0**
LZB	**Mount Lazard**	**4.27**	**116**	Pn	**Pn**	**12 53 50.2**	**-0.7**
GOBB	**Galiano Island**	**4.30**	**110**	Pn	**Pn**	**12 53 51.2**	**0.0**
WSLR	**Whistler**	**4.32**	**94**	Pn	**Pn**	**12 53 52.7**	**+1.1**
B010	**North Saanich**	**4.47**	**114**	Pn	**Pn**	**12 53 53.3**	**-0.2**
B009	**North Saanich**	**4.47**	**114**	Pn	**Pn**	**12 53 54.0**	**+0.4**
PGC	**Sidney**	**4.47**	**114**	Pn	**Pn**	**12 53 53.2**	**-0.3**
PGC	**Sidney**	**4.47**	**114**	*e*Pn	**Pn**	**12 53 54.2**	**+0.6**
B011	**North Saanich**	**4.47**	**114**	Pn	**Pn**	**12 53 53.5**	**-0.1**
SNB	**Saturna Island**	**4.58**	**111**	Pn	**Pn**	**12 53 55.6**	**+0.6**
VGZ	**Gonzales**	**4.66**	**116**	Pn	**Pn**	**12 53 56.1**	**0.0**
MCW	**Mount Constitu**	**4.82**	**111**	Pn	**Pn**	**12 53 59.2**	**+0.7**
A04D	**Lummi Island**	**4.88**	**110**	P	**Pn**	**12 53 60.0**	**+0.8**
	baz=293,SNR=5.6						
LLLB	**Lillooet**	**4.94**	**87**	Pn	**Pn**	**12 54 00.9**	**+0.8**
LLLB	**Lillooet**	**4.94**	**87**	*e*Pn	**Pn**	**12 54 00.8**	**+0.8**
NLWA	**Neilton Lookou**	**4.97**	**128**	*e*Pn	**Pn**	**12 54 00.8**	**+0.3**
BLN	**Blyn Mountain**	**5.07**	**118**	Pn	**Pn**	**12 54 02.2**	**+0.3**
VDB	**Vedder Mountai**	**5.12**	**105**	Pn	**Pn**	**12 54 03.6**	**+1.0**
CRAG	**Craig**	**5.31**	**338**	*e*Pn	**Pn**	**12 54 05.3**	**+0.2**
MBW	**Mount Baker**	**5.34**	**107**	Pn	**Pn**	**12 54 06.2**	**+0.5**
B05A	**Bryant**	**5.44**	**113**	P	**Pn**	**12 54 07.7**	**+0.8**
	baz=296,SNR=12						
JCW	**Jim Creek**	**5.58**	**113**	Pn	**Pn**	**12 54 09.7**	**+0.8**
B06A	**Marblemount**	**5.70**	**108**	Pn	**Pn**	**12 54 11.1**	**+0.6**
B06A	**Marblemount**	**5.70**	**108**	*e*Pn	**Pn**	**12 54 11.1**	**+0.6**
D05A	**Enumclaw**	**6.09**	**121**	Pn	**Pn**	**12 54 17.1**	**+1.3**
D05A	**Enumclaw**	**6.09**	**121**	*e*Pn	**Pn**	**12 54 17.4**	**+1.6**
F04D	**Rainier, OR**	**6.32**	**133**	P	**Pn**	**12 54 19.7**	**+0.7**
	baz=316						
FMW	**Mount Fremont**	**6.42**	**122**	Pn	**Pn**	**12 54 21.1**	**+0.6**
LON	**Longmire**	**6.45**	**124**	Pn	**Pn**	**12 54 21.6**	**+0.7**
LON	**Longmire**	**6.45**	**124**	*e*Pn	**Pn**	**12 54 21.3**	**+0.4**
PNT	**Penticton**	**6.59**	**97**	Pn	**Pn**	**12 54 24.1**	**+1.4**
LTY	**Liberty**	**6.79**	**116**	Pn	**Pn**	**12 54 27.0**	**+1.5**
LTY	**Liberty**	**6.79**	**116**	*e*Pn	**Pn**	**12 54 27.0**	**+1.5**
G03D	**McMinnville, O**	**6.88**	**139**	P	**Pn**	**12 54 28.0**	**+1.3**
	baz=322						
DOWB	**Downie Slide**	**7.07**	**78**	Pn	**Pn**	**12 54 31.7**	**+2.4**
B08A	**Colville Reser**	**7.08**	**105**	Pn	**Pn**	**12 54 30.3**	**+0.9**
B08A	**Colville Reser**	**7.08**	**105**	*e*Pn	**Pn**	**12 54 30.7**	**+1.3**
MNB	**Mounoet Dainar**	**7.22**	**73**	Pn	**Pn**	**12 54 34.0**	**+2.5**
G05D	**Wamic, OR**	**7.74**	**131**	P	**Pn**	**12 54 39.6**	**+1.0**
	baz=315						
H04A	**Detroit Lake**	**7.76**	**137**	*e*Pn	**Pn**	**12 54 41.6**	**+2.7**
DLBC	**Dease Lake**	**7.86**	**358**	Pn	**Pn**	**12 54 39.5**	**-0.6**
	0.9nm,0.3s,baz=193,slow=3.4,SNR=28						
DLBC				Sn	**Sn**	**12 56 09.4**	**+0.9**
	0.9nm,0.3s,baz=106,slow=19,SNR=2.5						
DLBC				LR	LR	12 57 43.9	
	comp=Z,2μm,18.5s,baz=219,slow=38						
DLBC	**Dease Lake**	**7.86**	**358**	Pn	**Pn**	**12 54 40.2**	**0.0**
DLBC	**Dease Lake**	**7.86**	**358**	*e*Pn	**Pn**	**12 54 40.4**	**+0.3**
DLBC				*e*Sn	**Sn**	**12 56 09.4**	**+0.9**
D08A	**Wollman Farm,**	**7.91**	**113**	*e*Pn	**Pn**	**12 54 40.9**	**+0.1**
HAWA	**Hanford**	**7.92**	**118**	*e*Pn	**Pn**	**12 54 42.6**	**+1.6**
C09A	**Chrisman Ranch**	**7.95**	**106**	Pn	**Pn**	**12 54 42.1**	**+0.8**
C09A	**Chrisman Ranch**	**7.95**	**106**	*e*Pn	**Pn**	**12 54 42.3**	**+0.9**
F07A	**Phinny Hill Vi**	**8.01**	**122**	*e*Pn	**Pn**	**12 54 43.5**	**+1.4**
I05D	**Terrebonne, OR**	**8.41**	**135**	P	**Pn**	**12 54 48.2**	**+0.4**
	baz=319						
NEW	**Newport**	**8.48**	**101**	Pn	**Pn**	**12 54 49.4**	**+0.6**
	0.7nm,0.3s,baz=288,slow=17,SNR=4.8						
NEW				LR	LR	12 58 09.8	
	comp=Z,2μm,18.4s,baz=287,slow=38						
NEW	**Newport**	**8.48**	**101**	P	**Pn**	**12 54 49.3**	**+0.6**
	baz=290						
NEW	**Newport**	**8.48**	**101**	*e*Pn	**Pn**	**12 54 50.4**	**+1.7**
E09A	**Wood Farm, Sta**	**8.64**	**114**	*e*Pn	**Pn**	**12 54 52.4**	**+1.5**
J04D	**Umpqua Nationa**	**8.98**	**142**	P	**Pn**	**12 54 57.1**	**+1.4**
	baz=326						
PINE	**Pine Mountain**	**9.02**	**136**	*e*Pn	**Pn**	**12 54 58.6**	**+2.4**
HUMO	**Hull Mountain**	**9.22**	**148**	*e*Pn	**Pn**	**12 55 00.5**	**+1.6**
J05D	**Fort Rock, OR**	**9.30**	**139**	P	**Pn**	**12 55 01.3**	**+1.3**
	baz=323						
L02D	**Cave Junction,**	**9.41**	**151**	P	**Pn**	**12 55 02.8**	**+1.3**
	baz=334						
I07A	**Izee**	**9.47**	**130**	*e*Pn	**Pn**	**12 55 04.2**	**+1.8**
F10A	**Beach Ranch, E**	**9.47**	**114**	*e*Pn	**Pn**	**12 55 03.1**	**+0.7**
K04D	**Chiloquin, OR**	**9.64**	**143**	P	**Pn**	**12 55 05.7**	**+1.0**
	baz=327						
YBH	**Yreka Blue Hor**	**10.08**	**149**	Pn	**Pn**	**12 55 11.7**	**+1.0**
	0.1nm,0.3s,baz=332,slow=11,SNR=7.3						
YBH				LR	LR	12 58 20.4	
	comp=Z,408nm,19.4s,baz=332,slow=33						
BMO	**Blue Mountains**	**10.10**	**120**	*e*Pn	**Pn**	**12 55 11.5**	**+0.6**
WALA	**Waterton Lakes**	**10.28**	**93**	*e*Pn	**Pn**	**12 55 15.6**	**+2.2**
M04C	**Macdoel**	**10.34**	**146**	P	**Pn**	**12 55 15.7**	**+1.5**
	baz=330						
M02C	**Callahan**	**10.34**	**150**	P	**Pn**	**12 55 16.4**	**+2.1**
	baz=334						
EDM	**Edmonton**	**10.39**	**69**	*e*Pn	**Pn**	**12 55 16.2**	**+1.3**
JTMT	**Jette**	**10.45**	**100**	*e*Pn	**Pn**	**12 55 16.9**	**+1.2**
WHY	**Whitehorse**	**10.50**	**346**	Pn	**Pn**	**12 55 13.9**	**-2.5**
WHY	**Whitehorse**	**10.50**	**346**	*e*Pn	**Pn**	**12 55 14.7**	**-1.7**
KHMM	**Horse Mountain**	**10.56**	**155**	*e*Pn	**Pn**	**12 55 20.1**	**+2.7**
N02D	**Trinity Center**	**10.77**	**151**	P	**Pn**	**12 55 22.1**	**+2.0**
	baz=334						
MOD	**Modoc Plateau**	**10.83**	**140**	*e*Pn	**Pn**	**12 55 22.9**	**+2.0**
MSO	**Missoula**	**11.03**	**104**	P	**Pn**	**12 55 24.2**	**+0.5**
	baz=295,SNR=8.5						
MSO	**Missoula**	**11.03**	**104**	*e*Pn	**Pn**	**12 55 24.6**	**+0.9**
YUK7	**Dusty Glacier**	**11.04**	**338**	Pn	**Pn**	**12 55 20.5**	**-3.4**
WVOR	**Wild Horse Val**	**11.13**	**133**	*e*Pn	**Pn**	**12 55 27.0**	**+1.9**
HYT	**Haines Junctio**	**11.16**	**340**	Pn	**Pn**	**12 55 23.9**	**-1.5**
HYT	**Haines Junctio**	**11.16**	**340**	*e*Pn	**Pn**	**12 55 26.7**	**+1.4**
KMRM	**Mail Ridge**	**11.18**	**156**	*e*Pn	**Pn**	**12 55 28.7**	**+3.0**
WDC	**Whiskeytown Da**	**11.18**	**151**	*e*Pn	**Pn**	**12 55 28.0**	**+2.4**
YUK5	**Granite Creek**	**11.51**	**340**	Pn	**Pn**	**12 55 28.8**	**-1.4**
O03D	**Paynes Creek**	**11.67**	**149**	P	**Pn**	**12 55 33.7**	**+1.2**
	baz=333						
KCPM	**Cahto Peak**	**11.71**	**156**	*e*Pn	**Pn**	**12 55 35.4**	**+2.3**
MFID	**Camas Ranch**	**11.84**	**122**	*e*Pn	**Pn**	**12 55 36.9**	**+2.2**
HBMT	**Mount Humbug**	**12.33**	**106**	Pn	**Pn**	**12 55 42.1**	**+0.5**
LRM	**Limekiln Ridge**	**12.41**	**106**	Pn	**Pn**	**12 55 43.5**	**+0.9**
LRM	**Limekiln Ridge**	**12.41**	**106**	*e*Pn	**Pn**	**12 55 43.1**	**+0.4**
ORV	**Oroville**	**12.44**	**150**	*e*Pn	**Pn**	**12 55 44.1**	**+1.2**
HLID	**Hailey**	**12.52**	**118**	P	**Pn**	**12 55 45.3**	**+1.1**
	baz=309,SNR=9.5						
HLID	**Hailey**	**12.52**	**118**	*e*Pn	**Pn**	**12 55 47.7**	**+3.6**
DLMT	**Dillon**	**12.55**	**108**	*e*Pn	**Pn**	**12 55 45.3**	**+0.8**
BEKR	**Beckworth**	**12.55**	**145**	*e*Pn	**Pn**	**12 55 46.6**	**+2.0**
TGL	**Tana Glacier**	**12.58**	**329**	*e*Pn	**Pn**	**12 55 44.7**	**-0.1**
BALM	**Baldy**	**12.64**	**331**	*e*Pn	**Pn**	**12 55 46.1**	**+0.5**
MCMT	**McKenzie Canyo**	**12.68**	**111**	*e*Pn	**Pn**	**12 55 49.8**	**+3.4**
GDXM	**Geysers**	**12.75**	**155**	*e*Pn	**Pn**	**12 55 49.6**	**+2.5**
RAGM	**Ragged Mountai**	**12.96**	**325**	*e*Pn	**Pn**	**12 55 49.1**	**-0.7**
BOZ	**Bozeman (W)**	**13.02**	**106**	P	**Pn**	**12 55 52.0**	**+1.1**
	baz=298						
BOZ	**Bozeman (W)**	**13.02**	**106**	*e*Pn	**Pn**	**12 55 51.8**	**+0.9**
AFDM	**Forest Hills D**	**13.16**	**149**	*e*Pn	**Pn**	**12 55 55.1**	**+2.3**
EGMT	**Eagleton**	**13.22**	**94**	P	**Pn**	**12 55 54.4**	**+0.9**
	baz=288						
EGMT	**Eagleton**	**13.22**	**94**	*e*Pn	**Pn**	**12 55 54.6**	**+1.1**
VCNR	**Virginia City**	**13.32**	**144**	*e*Pn	**Pn**	**12 55 57.2**	**+2.2**
BMRM	**Bremner River**	**13.33**	**327**	*e*Pn	**Pn**	**12 55 54.5**	**-0.4**
RUBR	**Rubicon Trail**	**13.35**	**146**	*e*Pn	**Pn**	**12 55 57.6**	**+2.1**
BMN	**Battle Mountai**	**13.36**	**135**	*e*Pn	**Pn**	**12 55 56.9**	**+1.3**
QLMT	**Earthquake Lak**	**13.53**	**108**	*e*Pn	**Pn**	**12 55 59.2**	**+1.2**
YHB	**Horse Butte**	**13.72**	**108**	*e*Pn	**Pn**	**12 56 01.6**	**+1.1**
YERR	**Yerington**	**13.74**	**144**	*e*Pn	**Pn**	**12 56 01.6**	**+0.8**
DIV	**Divide**	**13.86**	**326**	*e*Pn	**Pn**	**12 56 01.8**	**-0.4**
YMR	**Madison River**	**13.90**	**108**	*e*Pn	**Pn**	**12 56 04.5**	**+1.6**
YHH	**Holmes Hill**	**13.91**	**107**	*e*Pn	**Pn**	**12 56 04.3**	**+1.2**
YFT	**Old Faithful**	**14.09**	**109**	*e*Pn	**Pn**	**12 56 08.2**	**+2.5**
KVN	**Kaiserville**	**14.13**	**140**	*e*Pn	**Pn**	**12 56 07.5**	**+1.4**
KLU	**Klutina**	**14.16**	**327**	*e*Pn	**Pn**	**12 56 06.0**	**-0.2**
YPP	**Pitchstone Pla**	**14.21**	**109**	*e*Pn	**Pn**	**12 56 08.9**	**+1.6**
H17A	**Grant Village**	**14.28**	**108**	P	**Pn**	**12 56 09.5**	**+1.2**
	baz=302,SNR=7.1						
H17A	**Grant Village**	**14.28**	**108**	*e*Pn	**Pn**	**12 56 10.8**	**+2.5**
RYN	**Ryan**	**14.33**	**142**	*e*Pn	**Pn**	**12 56 10.0**	**+1.2**
IMW	**Indian Meadow**	**14.34**	**111**	*e*Pn	**Pn**	**12 56 11.2**	**+2.2**
FXWY	**Fox Creek**	**14.43**	**112**	*e*Pn	**Pn**	**12 56 12.4**	**+2.1**
DAWY	**Dawson**	**14.46**	**343**	Pn	**Pn**	**12 56 08.7**	**-1.8**
DAWY	**Dawson**	**14.46**	**343**	*e*Pn	**Pn**	**12 56 11.1**	**+0.7**
YKA	**Yellowknife Ar**	**14.46**	**29**	Pn	**Pn**	**12 56 08.3**	**-2.0**
	0.1nm,0.3s,baz=219,slow=12,SNR=18						
YKA				Sn	**Sn**	**12 58 46.4**	**-3.6**
	0.2nm,0.3s,baz=217,slow=24,SNR=6.6						
YKW1	**Yellowknife Ar**	**14.49**	**29**	Pn	**Pn**	**12 56 09.7**	**-1.0**
YKW3	**Yellowknife Ar**	**14.51**	**29**	Pn	**Pn**	**12 56 09.6**	**-1.4**
YKW3	**Yellowknife Ar**	**14.51**	**29**	*e*Pn	**Pn**	**12 56 09.9**	**-1.1**
MENT	**Mentasta**	**14.53**	**334**	*e*Pn	**Pn**	**12 56 10.9**	**-0.4**
MOOW	**Moose Ponds**	**14.54**	**111**	*e*Pn	**Pn**	**12 56 14.1**	**+2.4**
HARP	**HAARP**	**14.55**	**330**	*e*Pn	**Pn**	**12 56 10.7**	**-1.0**
TPAW	**Teton Pass**	**14.56**	**112**	*e*Pn	**P**	**12 56 15.6**	**-3.0**
NV01	**Mina Array Sit**	**14.59**	**142**	*e*Pn	**Pn**	**12 56 13.5**	**+1.1**
NVAR	**Mina Array Bea**	**14.59**	**142**	Pn	**Pn**	**12 56 13.8**	**+1.4**
	baz=326,slow=11,SNR=9.4						
HVU	**Hansel Valley**	**14.61**	**121**	*e*Pn	**Pn**	**12 56 14.4**	**+1.8**
NV11	**Mina Array Sit**	**14.64**	**142**	*e*Pn	**Pn**	**12 56 14.4**	**+1.3**
SNOW	**Snow King Moun**	**14.70**	**112**	*e*Pn	**Pn**	**12 56 16.2**	**+2.3**
REDW	**Red Top Meadow**	**14.70**	**112**	*e*Pn	**P**	**12 56 17.3**	**-2.7**
LOHW	**Long Hollow**	**14.70**	**111**	*e*Pn	**Pn**	**12 56 16.6**	**+2.7**
RLMT	**Red Lodge**	**14.71**	**104**	P	**Pn**	**12 56 14.8**	**+0.8**
	baz=299						
RLMT	**Red Lodge**	**14.71**	**104**	*e*Pn	**Pn**	**12 56 16.6**	**+2.6**
SCM	**Sheep Creek Mo**	**14.88**	**326**	*e*Pn	**Pn**	**12 56 14.7**	**-1.4**
AHID	**Auburn Hatcher**	**14.91**	**115**	*e*Pn	**Pn**	**12 56 16.2**	**-0.6**
MDPB	**Devils Postpil**	**15.00**	**146**	*e*Pn	**Pn**	**12 56 20.7**	**+2.7**
	9.9nm,1.2s						
BGU	**Big Grassy Mou**	**15.06**	**124**	*e*Pn	**Pn**	**12 56 20.8**	**+2.0**
	24nm,1.3s						
PAX	**Paxson**	**15.07**	**331**	Pn	**Pn**	**12 56 16.7**	**-2.0**
PAX	**Paxson**	**15.07**	**331**	*e*Pn	**Pn**	**12 56 19.5**	**+0.9**
BRLK	**Bradley Lake**	**15.15**	**315**	*e*Pn	**Pn**	**12 56 19.5**	**-0.1**
	21nm,1.2s						
KDAK	**Kodiak Island**	**15.18**	**307**	Pn	**Pn**	**12 56 17.4**	**-2.6**
	0.1nm,0.3s,baz=110,slow=9.9,SNR=4.3						
KDAK				LR	LR	13 00 35.5	
	comp=Z,713nm,20.4s,baz=132,slow=31						
DOT	**Dot Lake**	**15.19**	**335**	Pn	**Pn**	**12 56 19.5**	**-0.6**
DOT	**Dot Lake**	**15.19**	**335**	*e*Pn	**Pn**	**12 56 19.4**	**-0.8**
	105nm,1.3s						
SML	**Sawmill**	**15.23**	**325**	*e*Pn	**Pn**	**12 56 20.5**	**-0.3**
	23nm,1.2s						
HWUT	**Hardware Ranch**	**15.39**	**119**	*e*Pn	**Pn**	**12 56 24.8**	**+1.6**
	36nm,1.4s						
PMR	**Palmer**	**15.40**	**323**	*e*Pn	**Pn**	**12 56 23.6**	**+0.7**
	20nm,1.4s						
SCRK	**Sand Creek**	**15.43**	**336**	*e*Pn	**Pn**	**12 56 23.4**	**-0.1**
	54nm,1.2s						
GHO	**Glory Hole Cre**	**15.43**	**324**	*e*Pn	**Pn**	**12 56 22.7**	**-0.7**
	13nm,1.0s						
EGAK	**Eagle**	**15.45**	**341**	*e*Pn	**Pn**	**12 56 21.9**	**-1.7**
	25nm,1.4s						
RIDG	**Independ'e Rid**	**15.47**	**334**	*e*Pn	**Pn**	**12 56 22.7**	**-1.2**

	72nm,1.2s								
DUG	Dugway, Tooele	15.70	125	P	Pn	12 56	28.3	+1.2	
	baz=316,SNR=10								
DUG	Dugway, Tooele	15.70	125	*e*Pn	Pn	12 56	28.6	+1.4	
	35nm,1.4s								
DHY	Denali Highway	15.75	329	*e*Pn	Pn	12 56	26.2	-1.3	
	30nm,1.3s								
R11A	Troy Canyon, C	15.79	135	P	Pn	12 56	28.9	+0.6	
	baz=324								
R11A	Troy Canyon, C	15.79	135	*e*Pn	Pn	12 56	28.6	+0.2	
	5.4nm,1.1s								
TCUT	Toone Canyon	15.81	120	*e*Pn	Pn	12 56	28.9	+0.3	
	9.4nm,0.8s								
BW06	Boulder Array	15.81	112	P	Pn	12 56	30.5	+1.9	
	baz=306,SNR=13								
BW06	Boulder Array	15.81	112	*e*Pn	P	12 56	31.6	-0.8	
	38nm,1.3s								
PD31	Pinedale Array	15.81	112	*e*Pn	P	12 56	31.6	-0.8	
PDAR	Pinedale Array	15.81	112	Pn	P	12 56	30.8	-1.7	
	0.2nm,0.3s,baz=307,slow=11,SNR=36								
LAO	LASA Array	15.94	95	P	Pn	12 56	30.9	+0.8	
	baz=292,SNR=9.0								
LAO	LASA Array	15.94	95	*e*Pn	P	12 56	33.0	-0.6	
	21nm,0.9s								
SUA	Susitna One	15.96	321	*e*Pn	Pn	12 56	30.7	+0.4	
	25nm,0.6s								
RCTC	Rector, Farmer	16.13	148	P	P	12 56	35.4	-0.3	
	baz=335								
JLU	Jordanelle	16.14	121	*e*Pn	Pn	12 56	34.6	+1.7	
	11nm,1.1s								
GRAC	Grapevine Rang	16.20	142	P	Pn	12 56	35.0	+1.6	
	baz=330								
NLU	North Lily Min	16.27	124	*e*Pn	Pn	12 56	36.1	+1.7	
	13nm,1.1s								
LDBN	Lake De Bois	16.34	7	Pn	P	12 56	36.6	-1.2	
PAGB	Antelope Grade	16.34	152	*e*Pn	Pn	12 56	36.6	+1.4	
	60nm,1.4s								
SPU	Mount Spurr	16.35	319	*e*Pn	Pn	12 56	34.3	-0.9	
CWC	Cottonwood Cre	16.42	145	P	P	12 56	38.7	-0.4	
	baz=332								
MPU	Maple Canyon	16.46	123	*e*Pn	P	12 56	38.9	-0.6	
	9.7nm,1.1s								
RND	Reindeer	16.46	328	*e*Pn	Pn	12 56	35.8	-0.8	
	25nm,1.2s								
SKT	Skwentna	16.56	322	*e*Pn	Pn	12 56	37.3	-0.5	
	19nm,1.3s								
DGMT	Dagmar	16.62	88	P	Pn	12 56	39.9	+1.1	
	baz=287								
TPNV	Topopah Spring	16.68	140	P	Pn	12 56	40.5	+0.8	
	baz=328,SNR=11								
TPNV	Topopah Spring	16.68	140	*e*Pn	Pn	12 56	40.8	+1.1	
	25nm,1.2s								
DAC	Darwin (Calif)	16.74	144	*e*Pn	P	12 56	43.7	+1.0	
	15nm,1.3s								
SMMC	Simmler	16.80	152	P	P	12 56	43.0	-0.2	
	baz=337								
IL1	Eielson Array	16.84	334	*e*Pn	Pn	12 56	41.7	+0.4	
ILAR	Eielson Array	16.84	334	Pn	Pn	12 56	42.0	+0.7	
	0.0nm,0.3s,baz=142,slow=12,SNR=23								
ILAR				LR	LR	13 02	52.3		
	comp=Z,135nm,20.9s,baz=148,slow=36								
ILB	Eielson Array	16.84	334	*e*Pn	P	12 56	42.9	-0.5	
FURC	Furnace Creek,	16.86	142	P	Pn	12 56	42.6	+0.9	
	baz=330,SNR=6.0								
WRH	Wood River Hil	16.97	332	*e*Pn	Pn	12 56	42.5	-0.4	
	25nm,1.1s								
MPMC	Manual Prospec	16.98	144	P	P	12 56	45.0	-0.2	
	baz=332,SNR=6.7								
ISA	Isabella, Lake	16.98	147	P	Pn	12 56	44.0	+0.7	
	baz=334,SNR=7.8								
ISA	Isabella, Lake	16.98	147	*e*Pn	P	12 56	45.8	+0.7	
	40nm,1.4s								
TRF	Thorofare Moun	16.98	327	*e*Pn	Pn	12 56	42.1	-1.2	
	16nm,1.6s								
CCB	Clear Creek Bu	17.01	333	*e*Pn	P	12 56	45.7	+0.4	
	21nm,1.2s								
TCRU	Three Creeks R	17.08	128	*e*Pn	Pn	12 56	46.3	-0.2	
	22nm,1.4s								
WHFN	White Fish Lak	17.13	37	Pn	Pn	12 56	43.6	-1.4	
COLA	College	17.19	333	*e*Pn	P	12 56	49.0	+1.8	
	28nm,1.2s								
TMUT	Trail Mountain	17.20	124	*e*Pn	P	12 56	48.1	+0.2	
	21nm,1.0s								
FFC	Flin Flon	17.22	65	*e*Pn	Pn	12 56	46.0	-0.1	
	1.8nm,0.8s								
DHRN	Dharma Camp	17.25	13	Pn	Pn	12 56	45.7	-0.8	
KTH	Kantishna Hill	17.26	327	*e*Pn	Pn	12 56	46.0	-0.8	
	30nm,1.1s								
MSU	Marysvale	17.29	128	*e*Pn	P	12 56	48.7	-0.1	
P17A	Butcher Ranch,	17.32	123	*e*Pn	P	12 56	50.1	+1.0	
	10.0nm,1.0s								
PPLA	Purkeypile	17.33	324	*e*Pn	Pn	12 56	47.7	+0.1	
	20nm,1.0s								
MDM	Murphy Dome	17.36	333	*e*Pn	P	12 56	48.9	-0.3	
	18nm,1.2s								
HPLN	Hepburn Lake,	17.39	19	Pn	Pn	12 56	46.6	-1.6	
LRMC	Laurel Mtn Rad	17.42	146	P	P	12 56	50.7	+0.5	
	baz=333								
CCUT	Cedar City	17.46	132	*e*Pn	P	12 56	52.1	+1.4	
	14nm,1.4s								
P18A	Preston Nutter	17.48	121	*e*Pn	P	12 56	51.7	+0.7	
	24nm,1.3s								
SHPR	Sheep Range	17.52	138	*e*Pn	P	12 56	51.0	-0.2	
	20nm,1.5s								
SZCU	Shurtz Canyon	17.56	131	*e*Pn	P	12 56	51.9	+0.2	
	7.7nm,0.8s								
CAST	Castle Rocks	17.59	325	*e*Pn	Pn	12 56	51.0	+0.2	
	14nm,1.3s								
BPAW	Bear Paw Mtn.	17.63	328	*e*Pn	Pn	12 56	51.1	-0.1	
	26nm,1.2s								
MTPU	Mount Pierson	17.65	129	*e*Pn	P	12 56	53.9	+1.0	
	24nm,1.5s								
SRU	San Rafael Swe	17.70	123	*e*Pn	P	12 56	54.5	+1.2	
	11nm,1.1s								
RWWY	Rawlins	17.85	111	*e*Pn	Pn	12 56	53.8	-0.6	
	26nm,0.9s								
FYU	Fort Yukon	17.86	339	*e*Pn	P	12 56	54.4	-0.2	
	101nm,1.3s								
INK	Inuvik	17.86	355	P	Pn	12 56	53.8	-0.2	
	0.1nm,0.3s,baz=167,slow=9.9,SNR=13								
INK				LR	LR	13 03	26.7		
	comp=Z,485nm,19.8s,baz=173,slow=36								
INK	Inuvik	17.86	355	Pn	Pn	12 56	52.4	-1.6	
INK	Inuvik	17.86	355	*e*Pn	Pn	12 56	53.6	-0.4	
	31nm,1.4s								
GSC	Goldstone, Bar	17.90	144	P	P	12 56	55.7	+0.3	
	baz=332								
LCMT	Little Creek M	17.95	133	*e*Pn	P	12 56	56.0	-0.1	
	8.0nm,1.1s								
TUQ	Turquoise Moun	18.12	142	P	P	12 56	58.7	+0.8	
	baz=330								
MLY	Manley	18.17	331	*e*Pn	P	12 56	58.5	+0.4	
	17nm,1.1s								
O20A	White River Ci	18.25	117	P	P	12 57	00.2	+0.9	
	baz=312,SNR=8.3								
O20A	White River Ci	18.25	117	*e*Pn	P	12 57	00.7	+1.4	
	38nm,1.3s								
MWC	Mount Wilson	18.43	148	*e*P	Pn	12 57	02.5	+1.2	
	21nm,1.2s								
RSSD	Black Hills	18.46	101	P	Pn	12 57	02.4	+0.7	
	baz=299								
RSSD	Black Hills	18.46	101	*e*P	Pn	12 57	02.7	+1.0	
	8.4nm,1.0s								
HEC	Hector,Ludlow	18.50	143	P	Pn	12 57	02.8	+0.7	
	baz=332								
BFSC	Mount Baldy Ra	18.55	147	P	Pn	12 57	03.1	+0.3	
	baz=335								
KUKN	Kugluktuk,NWT	18.71	17	Pn	Pn	12 57	04.7	+0.3	
BBRC	Big Bear Solar	18.79	146	P	Pn	12 57	06.6	+0.8	
	baz=333								
FMP	Fort Macarthur	18.82	149	P	Pn	12 57	06.3	+0.4	
	baz=336								
U15A	North Rim	18.88	132	*e*Pn	Pn	12 57	07.6	+0.7	
	13nm,1.1s								
PV10	Paradox Valley	19.03	122	*e*P	Pn	12 57	09.9	+1.1	
	49nm,1.3s								
N23A	Red Feather La	19.09	111	P	P	12 57	08.9	+0.2	
	baz=308								
N23A	Red Feather La	19.09	111	*e*P	Pn	12 57	10.3	+0.8	
	22nm,1.1s								
PV04	Paradox Valley	19.09	122	*e*P	Pn	12 57	09.7	+0.2	
PHWY	Pilot Hill	19.14	110	*e*P	P	12 57	09.6	+0.5	
	19nm,0.9s								
PV07	Paradox Valley	19.20	121	*e*P	Pn	12 57	10.5	-0.2	
	14nm,1.3s								
PV05	Paradox Valley	19.22	123	*e*P	Pn	12 57	11.0	0.0	
	23nm,1.2s								
PV03	Paradox Valley	19.23	122	*e*P	Pn	12 57	10.9	-0.2	
	27nm,1.3s								
W13A	Hualapai Mount	19.26	138	*e*P	Pn	12 57	11.6	+0.2	
	13nm,1.3s								
BELC	Belle Mtn. Jos	19.36	144	P	P	12 57	11.8	+0.4	
	baz=332								
PV15	Paradox Valley	19.36	121	*e*P	P	12 57	12.3	+0.7	
	7.2nm,0.9s								
PV01	Paradox Valley	19.46	122	*e*P	P	12 57	13.3	+0.6	
	28nm,1.4s								
PFO	Pinyon Flats O	19.54	145	*e*P	Pn	12 57	15.4	+0.7	
	14nm,1.1s								
XPFO	Piæon Flat	19.54	145	*e*P	Pn	12 57	15.4	+0.6	
	15nm,1.1s								
MDND	Maddock	19.74	86	P	P	12 57	16.1	+0.7	
	baz=289								
MDND	Maddock	19.74	86	*e*P	P	12 57	16.0	+0.6	
	227nm,1.3s								
IM3	Indian Mountai	19.75	330	*e*P	P	12 57	14.6	-0.7	
PDMCI	Parker Dam,Lak	19.83	139	P	Pn	12 57	17.7	-0.4	
	baz=329								
BC3	Big Chuckawall	19.87	143	P	Pn	12 57	18.4	-0.3	
	baz=332								
ISCO	Idaho Springs	19.99	113	P	Pn	12 57	19.6	-0.6	
	baz=310								
ISCO	Idaho Springs	19.99	113	*e*P	P	12 57	18.9	+0.4	
	10nm,1.1s								
WUAZ	Wupatki	20.05	132	P	P	12 57	19.6	+0.6	
	baz=324								
WUAZ	Wupatki	20.05	132	*e*P	Pn	12 57	20.1	-0.7	
	14nm,1.1s								
Y12C	Blythe	20.16	141	P	P	12 57	20.9	+0.9	
	baz=330								
Y12C	Blythe	20.16	141	*e*P	Pn	12 57	21.6	-0.3	
	27nm,1.5s								
MVCO	Mesa Verde	20.18	123	P	P	12 57	21.0	+0.4	
	baz=318,SNR=9.2								
MVCO	Mesa Verde	20.18	123	*e*P	P	12 57	21.1	+0.6	
	47nm,1.5s								
MONP2	Monument Peak	20.20	146	P	P	12 57	20.8	+0.1	
	baz=334								
SWSC	Sam W. Stewart	20.38	145	P	P	12 57	22.4	0.0	
	baz=333								
TOLK	Toolik Lake Re	20.52	339	*e*P	P	12 57	24.7	+0.9	
	87nm,1.4s								
IKP	In-Ko-Pah, Jac	20.53	146	P	P	12 57	24.6	+0.4	
	baz=334								
Y14A	Wickenburg	20.62	138	*e*P	P	12 57	25.8	+0.7	
	10.0nm,1.2s								
GLA	Glamis	20.65	143	P	P	12 57	25.9	+0.5	
	baz=332,SNR=5.8								
GLA	Glamis	20.65	143	*e*P	P	12 57	26.2	+0.8	
	24nm,1.3s								
S22A	4UR Ranch, Cre	20.70	120	P	P	12 57	27.4	+1.2	
	baz=315,SNR=9.4								
S22A	4UR Ranch, Cre	20.70	120	*e*P	Pn	12 57	27.6	-0.9	
	25nm,1.4s								
Q24A	Divide	20.81	115	P	P	12 57	28.4	+1.0	
	baz=312								
Q24A	Divide	20.81	115	*e*P	P	12 57	28.8	+1.4	
	16nm,1.3s								
X16A	Lo Mia Camp, P	20.92	134	*e*P	P	12 57	29.9	+1.4	
	16nm,1.0s								
C31A	Landman Farms,	20.95	85	P	P	12 57	29.9	+1.5	
	baz=289								
W18A	Petrified Fore	21.16	129	P	P	12 57	31.9	+0.8	
	baz=322,SNR=5.7								
W18A	Petrified Fore	21.16	129	*e*P	P	12 57	32.2	+1.2	
	30nm,1.1s								
D31A	Mcclaflin, Tow	21.21	87	P	P	12 57	32.4	+1.0	
	baz=291								
113A	Mohawk Valley,	21.32	141	*e*P	P	12 57	34.4	+1.9	
	12nm,1.4s								
F31A	Hesa	21.34	91	P	P	12 57	33.4	+0.6	
	baz=294								
A32A	Rocking H Ranc	21.38	82	P	P	12 57	33.2	+0.1	
	baz=287,SNR=5.6								
ULM	Lac du Bonnet	21.41	78	P	P	12 57	33.6	+0.2	
	6.8nm,0.6s,baz=287,slow=10,SNR=8.7								
ULM				LR	LR	13 04	57.3		
	comp=Z,281nm,20.1s,baz=284,slow=34								
ULM	Lac du Bonnet	21.41	78	Pn	P	12 57	33.5	+0.1	
ULM	Lac du Bonnet	21.41	78	*e*P	P	12 57	33.8	+0.4	
	17nm,0.9s								
OGNE	Ogallala	21.42	106	P	P	12 57	34.7	+1.0	
	baz=306								
OGNE	Ogallala	21.42	106	*e*P	P	12 57	35.6	+1.9	
	35nm,1.0s								
SDCO	Great Sand Dun	21.44	118	P	P	12 57	34.8	+0.6	
	baz=314,SNR=14								
SDCO	Great Sand Dun	21.44	118	*e*P	P	12 57	35.1	+1.0	
	9.1nm,1.0s								
B32A	Ashes, Strandq	21.51	83	P	P	12 57	35.5	+0.9	
	baz=288								
X18A	Snowflake	21.53	131	*e*P	P	12 57	36.5	+1.4	
	56nm,1.4s								
FCC	Fort Churchill	21.88	54	Pn	P	12 57	39.3	+0.9	
FCC	Fort Churchill	21.88	54	*e*P	P	12 57	39.7	+1.3	
	1.9nm,0.8s								
AGMN	Agassiz Nation	21.97	83	P	P	12 57	39.9	+0.4	
	baz=289								
AGMN	Agassiz Nation	21.97	83	*e*P	P	12 57	40.5	+1.0	
	15nm,0.7s								
A33A	Warroad	22.07	81	P	P	12 57	40.6	+0.1	
	baz=287								
KSCO	Kaye Shedlock'	22.26	111	P	P	12 57	43.3	+0.5	
	baz=310								
KSCO	Kaye Shedlock'	22.26	111	*e*P	P	12 57	43.5	+0.7	
	58nm,1.1s								
MHTCO	State Highway	22.33	118	*e*P	P	12 57	46.0	+2.3	
	21nm,1.2s								
214A	Organ Pipe Nat	22.42	140	P	P	12 57	45.6	+1.1	
	baz=330,SNR=5.7								
H32A	Carlson Farm,	22.45	93	P	P	12 57	44.8	+0.1	
	baz=297								
T25A	Trinidad	22.48	117	*e*P	P	12 57	46.5	+1.2	
	23nm,1.4s								
E33A	Westby DABS, E	22.51	87	P	P	12 57	45.6	+0.3	
	baz=293								
F33A	5 Mile Ranch,	22.60	89	P	P	12 57	46.6	+0.4	
	baz=294								
B34A	Aery, Baudette	22.67	82	P	P	12 57	47.2	+0.2	
	baz=288								
G33A	Ortonville	22.78	91	P	P	12 57	48.1	0.0	
	baz=296								
H33A	Prehn Over Nor	22.81	92	P	P	12 57	48.6	+0.1	
	baz=297								
D34A	Park Rapids	22.81	85	P	P	12 57	48.0	-0.4	
	baz=292								
EPLO	Experimental L	22.90	78	Pn	P	12 57	49.3	0.0	
ANMO	Albuquerque	22.97	124	P	P	12 57	50.6	+0.2	
	baz=320								
ANMO	Albuquerque	22.97	124	*e*P	P	12 57	51.1	+0.6	
	15nm,1.4s								
TUC	Tucson	22.98	136	P	P	12 57	50.4	0.0	
	baz=328								
TUC	Tucson	22.98	136	*e*P	P	12 57	50.9	+0.5	
	13nm,1.1s								
E34A	Wadena	23.04	87	P	P	12 57	51.8	+0.9	
	baz=293								
B35A	Bob, Littlefor	23.30	81	P	P	12 57	53.5	+0.1	
	baz=289								
ECSD	EROS Data Cent	23.33	94	P	P	12 57	54.1	+0.3	
	baz=298,SNR=9.3								
ECSD	EROS Data Cent	23.33	94	*e*P	P	12 57	54.5	+0.6	
	28nm,1.2s								
C35A	Jirik Farms, M	23.36	83	P	P	12 57	54.3	+0.2	
	baz=290								
H34A	Spellman Lake,	23.43	91	P	P	12 57	55.8	+1.0	
	baz=297								
D35A	Remer	23.54	85	P	P	12 57	56.5	+0.7	
	baz=292								
F35A	Swanville	23.68	88	P	P	12 57	58.4	+1.2	
	baz=294								
L33A	Hoskins	23.71	98	P	P	12 57	58.3	+0.8	
	baz=302								
SOLO	Sioux Is Sokout	23.82	77	Pn	P	12 57	58.4	-0.2	
G35A	Watkins	24.01	89	P	P	12 58	00.9	+0.6	
	baz=295								
H35A	Sunnyside Ranc	24.02	91	P	P	12 58	01.5	+1.1	
	baz=296								
C36A	Pine Crest Far	24.06	82	P	P	12 58	01.3	+0.5	
	baz=290								
D36A	Goodland	24.06	84	P	P	12 58	00.7	-0.2	
	baz=292								
121A	Cookes Peak, D	24.20	130	P	P	12 58	02.9	+0.4	
	baz=324,SNR=5.4								
E36A	McGregor	24.26	85	P	P	12 58	01.3	-1.4	
	baz=293								
F36A	Milaca	24.35	87	P	P	12 58	03.9	+0.4	
	baz=294								
319A	Douglas	24.45	134	*e*P	P	12 58	06.2	+1.5	
	8.8nm,0.9s								
ATKO	Atikokan Iron	24.48	79	Pn	P	12 58	04.9	+0.3	
C37A	Embarrass	24.48	82	P	P	12 58	04.6	-0.1	
	baz=291								
PKLO	Pickle Lake	24.51	73	Pn	P	12 58	04.7	-0.2	
D37A	Cotton	24.54	84	P	P	12 58	05.5	+0.3	
	baz=292								
EYMN	Ely	24.84	81	P	P	12 58	08.5	+0.6	
	baz=290								
EYMN	Ely	24.84	81	*e*P	P	12 58	08.6	+0.6	
	21nm,1.3s								
J36A	Seneca 1, Swea	24.98	93	P	P	12 58	09.9	+0.7	
	baz=299								
C38A	Sawbill Land.	25.06	82	P	P	12 58	09.7	-0.2	
	baz=291								
F38A	Pierce - Schro	25.36	86	P	P	12 58	12.5	-0.1	
	baz=294								
AMTX	Amarillo	25.64	117	P	P	12 58	14.3	-1.1	
	baz=316								
AMTX	Amarillo	25.64	117	*e*P	P	12 58	13.9	-1.5	
	24nm,1.0s								
MSTX	Muleshoe	25.70	120	P	P	12 58	16.3	+0.4	
	baz=318								
C39A	Grand Marais	25.75	81	P	P	12 58	16.0	-0.2	
	baz=291								
L37A	Phoenix Point,	25.96	95	P	P	12 58	17.9	-0.1	
	baz=301								
F39A	Loretta	25.98	85	P	P	12 58	18.5	+0.2	
	baz=294								
E39A	Mellen	26.03	84	P	P	12 58	19.1	+0.5	
	baz=294								
MNTX	Cornudas Mount	26.07	127	P	P	12 58	19.4	+0.2	
	baz=323,SNR=17								
MNTX	Cornudas Mount	26.07	127	*e*P	P	12 58	19.1	-0.1	
	17nm,1.3s								
G39A	Holcombe	26.09	87	P	P	12 58	19.8	+0.5	
	baz=296								
J38A	Wedel Dairy, R	26.17	92	P	P	12 58	19.1	-0.9	
	baz=299								
F40A	Park Falls	26.49	85	P	P	12 58	24.3	+1.4	
	baz=294								
I39A	Houston	26.52	90	P	P	12 58	24.6	+1.5	
	baz=298								
J39A	Decorah	26.65	91	P	P	12 58	24.9	+0.5	
	baz=299								
M38A	Pleasantville	26.68	96	P	P	12 58	25.6	+0.9	
	baz=302								
G40A	Rib Lake	26.72	86	P	P	12 58	25.4	+0.5	
	baz=296								
GTO	Geraldton	27.07	75	Pn	P	12 58	28.1	0.0	
L39A	Vinton	27.07	94	P	P	12 58	27.7	-0.4	
	baz=301								
WMOK	Wichita Mounta	27.41	113	*e*P	P	12 58	31.9	+0.6	
	13nm,1.4s								
N39A	Derby Farms, D	27.42	96	P	P	12 58	32.2	+0.9	
	baz=303								
P38A	Dawn	27.48	100	P	P	12 58	32.3	+0.5	
	baz=305								
Q38A	Cooks Store, C	27.81	101	P	P	12 58	35.0	+0.2	
	baz=306								
P39B	Salisbury	28.04	99	P	P	12 58	36.8	-0.1	
	baz=305								
L41A	Preston	28.05	92	P	P	12 58	35.7	-1.2	
	baz=301								
RES	Resolute Bay	28.10	19	P	P	12 58	36.9	-0.1	
	0.9nm,0.7s,baz=219,slow=8.3,SNR=4.1								
RES				LR	LR	13 09	47.3		
	comp=Z,408nm,21.3s,baz=274,slow=36								
S38A	Stockton	28.44	103	P	P	12 58	40.0	-0.4	
	baz=308								
TX31	Lajitas Ar. Si	28.85	128	*e*P	P	12 58	43.4	-0.8	
TXAR	Lajitas Array	28.85	128	P	P	12 58	44.4	+0.1	
	4.4nm,1.1s,baz=332,slow=7.1,SNR=17								
TXAR				LR	LR	13 11	05.9		
	comp=Z,261nm,19.6s,baz=0.0,slow=38								
V39A	Pettigrew	29.75	106	P	P	12 58	52.3	+0.2	
	baz=311								
U40A	Yellville	29.90	104	P	P	12 58	53.1	-0.3	
	baz=310								
V40A	Witts Springs	30.28	105	P	P	12 58	55.6	-1.1	
	baz=311								
Q43A	New Douglas	30.29	97	P	P	12 58	55.9	-0.9	
	baz=306								
X39A	Fountain Ranch	30.35	108	P	P	12 58	57.5	+0.1	
	baz=313								
LPIG	La Paz	30.40	143	LR	LR	13 11	55.3		
	comp=Z,138nm,18.6s,baz=334,slow=38								
MIAR	Mount Ida	30.65	108	P	P	12 58	59.7	-0.3	
	baz=312								
V41A	Mountainview	30.70	104	P	P	12 59	00.7	+0.2	
	baz=310								
S43A	Fulton Ridge,	30.87	100	P	P	12 59	01.4	-0.5	
	baz=308								
W41B	Gary Mavity, V	31.04	105	P	P	12 59	04.2	+0.8	
	baz=311								
V42A	Cord	31.16	104	P	P	12 59	03.4	-1.1	
	baz=310								
833A	Chaparral WMA,	31.89	123	P	P	12 59	11.5	+0.6	
	baz=322								
WVT	Waverly	33.18	100	P	P	12 59	22.1	-0.1	
	baz=309								
OXF	Oxford	33.23	103	P	P	12 59	22.7	0.0	
	baz=311								
S48A	Wiedeman Farm,	33.36	96	P	P	12 59	23.6	-0.2	
	baz=307								
W46A	Michie	33.47	101	P	P	12 59	25.5	+0.8	
	baz=310								
V47A	Nunnelly	33.56	100	P	P	12 59	24.8	-0.8	
	baz=309								
TKL	Tuckaleechee C	36.03	97	LR	LR	13 15	06.9		

	comp=Z,117nm,18.5s,baz=16,slow=37										
PMOR	**Pomariorio Ree**	**67.26**	**199**	*eT*	T	14 16 19.8					
	13nm,0.3s										
TLY	**Talaya**	**68.54**	**328**	LR	LR	13 35 14.0					
	comp=Z,70nm,20.0s,baz=31,slow=37										
KSRS	**Korea Array**	**69.06**	**304**	LR	LR	13 33 15.9					
	comp=Z,33nm,18.5s,baz=36,slow=35										
PPT	**Papeete**	**70.11**	**200**	LR	LR	13 25 43.0					
	comp=Z,124nm,19.9s,baz=358,slow=28										
PPT2	**Papeete2**	**70.13**	**200**	*e*LR	LR	13 25 11.6					
	206nm,25.8s										
PPT2	**Papeete2**	**70.13**	**200**	*eT*	T	14 19 54.8					
	2.5nm,0.2s										
JNU	**Nakatsue**	**70.67**	**299**	LR	LR	13 30 34.7					
	comp=Z,68nm,21.9s,baz=50,slow=32										
SONA0	**Songino Array**	**70.76**	**324**	*e*P	**P**	**13 04 03.5 +1.7**					
SONM	**Songino Array**	**70.76**	**324**	P	**P**	**13 04 03.5 +1.7**					
	1.8nm,1.1s,baz=46,slow=6.4,SNR=7.6										
SONM				LR	LR	13 35 21.2					
	comp=Z,90nm,19.3s,baz=66,slow=36										
ZALV	**Zalesovo Beam**	**71.88**	**339**	LR	LR	13 40 41.1					
	comp=Z,54nm,18.6s,baz=76,slow=40										
ARU	**Arti**	**73.12**	**355**	LR	LR	13 38 26.4					
	comp=Z,51nm,19.6s,baz=344,slow=38										
RKT	**Rikitea**	**73.55**	**185**	*eT*	T	14 24 14.5					
	1.2nm,0.2s										
OBN	**Obninsk**	**74.03**	**8**	LR	LR	13 39 57.8					
	comp=Z,80nm,18.0s,baz=298,slow=38										
TBI	**Tubuai**	**75.69**	**199**	*e*LR	LR	13 27 41.5					
	136nm,29.5s										
TBI	**Tubuai**	**75.69**	**199**	*eT*	T	14 26 51.0					
	3.8nm,0.2s										
GERES	**GERESS Array B**	**76.06**	**24**	LR	LR	13 40 07.5					
	comp=Z,110nm,18.8s,baz=305,slow=37										
KURK	**Kurchatov**	**76.23**	**342**	*e*P	**P**	**13 04 35.8 +2.1**					
RAR	**Rarotonga**	**76.29**	**209**	LR	LR	13 33 58.0					
	comp=Z,82nm,18.3s,baz=20,slow=32										
KURBB	**Kurchatov Arra**	**76.33**	**342**	P	**P**	**13 04 35.8 +1.5**					
	0.6nm,0.2s,baz=17,slow=5.7,SNR=5.6										
VRAC	**Vranov**	**76.35**	**22**	LR	LR	13 39 48.9					
	comp=Z,147nm,18.8s,baz=323,slow=37										
AKASG	**Malin Array Be**	**77.48**	**14**	LR	LR	13 39 37.6					
	comp=Z,130nm,20.4s,baz=330,slow=36										
ESDC	**Sonseca Array**	**78.27**	**40**	P	**P**	**13 04 45.6 +0.2**					
	0.5nm,0.3s,baz=327,slow=4.8,SNR=4.9										
AKTO	**Aktyubinsk**	**79.13**	**355**	LR	LR	13 44 59.3					
	comp=Z,37nm,18.3s,baz=15,slow=40										
MLR	**Muntele Rosu**	**81.97**	**17**	LR	LR	13 42 37.0					
	comp=Z,47nm,20.3s,baz=16,slow=36										
AAK	**Ala-Archa**	**84.78**	**342**	P	**P**	**13 05 22.3 +2.3**					
	1.3nm,0.8s,baz=240,slow=4.3,SNR=5.2										
LPAZ	**La Paz**	**85.57**	**122**	P	**P**	**13 05 24.9 +0.3**					
	1.2nm,0.4s,baz=126,slow=6.7,SNR=8.5										
LPAZ				LR	LR	13 49 08.3					
	comp=Z,28nm,18.4s,baz=333,slow=40										
VAE	**Valguarnera**	**86.76**	**28**	LR	LR	13 45 48.2					
	comp=Z,105nm,18.2s,baz=315,slow=37										
BRTR	**Keskin Array B**	**88.86**	**13**	LR	LR	13 48 08.4					
	comp=Z,58nm,20.5s,baz=332,slow=37										
IDI	**Anoyia**	**91.57**	**21**	LR	LR	13 49 51.6					
	comp=Z,64nm,19.5s,baz=282,slow=37										
PMG	**Port Moresby**	**92.91**	**259**	LR	LR	13 42 06.0					
	comp=Z,49nm,19.5s,baz=348,slow=32										
DAV	**Davao City (W)**	**93.86**	**286**	LR	LR	13 40 20.8					
	comp=Z,62nm,21.8s,baz=122,slow=30										
MMAI	**Mount Meron Ar**	**95.70**	**13**	LR	LR	13 52 06.8					
	comp=Z,77nm,20.0s,baz=350,slow=37										
CMAR	**Chiang Mai Arr**	**99.07**	**314**	LR	LR	13 54 13.0					
	comp=Z,34nm,18.9s,baz=215,slow=37										
CPUP	**Villa Florida**	**99.56**	**120**	LR	LR	13 55 22.1					
	comp=Z,40nm,21.8s,baz=22,slow=38										
KOWA	**Kowa**	**99.66**	**53**	LR	LR	13 50 17.7					
	comp=Z,53nm,20.1s,baz=28,slow=35										

NIED ***27*** *13:03:00,33.60N×134.60E,h44km,Mw3.6 Best double couple: M0 2.56000×10^14 NP1:φs133.00000°,δ51.00000°, λ-176.00000°. NP2:φs41.00000°,δ87.00000°, λ-39.00000°.*

JMA 27 13:03:45.1,33.58N×134.59E,h34km±1km**,M3.6,5C-3D Broadband fault plane solution: P waves. NP1:** φs307.00000°,δ89.00000°,λ-157.00000°. **NP2:** φs216.00000°,δ67.00000°,λ-1.00000°. **Principal axes:** T Plg15.0000°, Azm79.0000°; N Plg67.0000°, Azm310.0000°; P Plg17.0000°, Azm174.0000°; **Shikoku**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAI	**Aioi**	**0.24**	**331**	⇓P	Pb	13 03 52.1	-0.2
JAI				S	Sb	13 03 56.7	-0.4
MRT2	**Murotomisaki 2**	**0.42**	**243**	⇑P	Pb	13 03 54.1	-0.5
MRT2				S	Sb	13 04 00.3	-0.8
JMN	**Monobe**	**0.61**	**284**	⇑P	Pn	13 03 57.1	-0.2
JMN				S	Sn	13 04 05.7	-0.4
JWM	**Minabe**	**0.69**	**67**	⇑P	Pn	13 03 58.1	-0.3
JWM				S	Sn	13 04 07.4	-0.6
JAJ2	**Tsuna**	**0.87**	**16**	⇓P	Pn	13 04 01.1	+0.1
JAJ2				S	Sn	13 04 12.4	-0.1
JWZ	**Kozaga**	**0.94**	**93**	⇑P	Pn	13 04 01.5	-0.4
JWZ				S	Sn	13 04 13.0	-1.2
JJS	**Sakaide**	**0.96**	**325**	⇓P	Pn	13 04 02.1	-0.1
JJS				S	Sn	13 04 14.1	-0.6
JWY	**Kouya**	**1.05**	**52**	⇑P	Pn	13 04 03.4	-0.1
JWY				*e*S	Sn	13 04 16.2	-0.8
MAT	**Matsushiro**	**4.19**	**44**	P	Pn	13 04 47.5	+0.9

ISK ***27*** *13:11:08.7,36.75N×38.72E,h5km,ML2.2/5*
CSEM ***27*** *13:11:09.2±0.6,36.68N×38.71E,h2km,ML2.9, Error ellipse: s-maj=13.0km s-min=9.2km az=160.0*
DDA ***27*** *13:11:09.3,36.76N×38.78E,h7km,Ml2.9*

ISC 27 13:11:09.3±1.4,36.76N±0.06×38.74E±0.03,h16km±7km**, n19,σ0991/32,Jordan-Syria region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SURC	**SANLIURFA_SURC**	**0.16**	**319**	*i*P	**Pg**	**13 11 13.2**	**-0.3**
SURC				*i*S	**Sg**	**13 11 16.3**	**0.0**
SURC	**SANLIURFA_SURC**	**0.16**	**319**	P	**Pg**	**13 11 13.2**	**-0.3**
SURC				S	**Sg**	**13 11 16.3**	**0.0**
SANL	**SANLIURFA_Merk**	**0.46**	**25**	*i*P	**Pb**	**13 11 19.0**	**0.0**
SANL	**SANLIURFA_Merk**	**0.46**	**25**	P	**Pb**	**13 11 19.0**	**0.0**
URFA	**Urfa**	**0.69**	**5**	PG	**Pb**	**13 11 22.9**	**-0.1**
URFA				SG	**Sn**	**13 11 33.9**	**-1.0**
URFA	**Urfa**	**0.69**	**5**	*e*Pg	**Pb**	**13 11 22.9**	**-0.1**
URFA				*e*Sg	**Sn**	**13 11 33.9**	**-1.0**
GAZ	**Gaziantep**	**1.29**	**289**	PN	**Pg**	**13 11 33.7**	**-0.6**
GAZ				SN	**Sg**	**13 11 53.2**	**+2.0**
GAZ	**Gaziantep**	**1.29**	**289**	*e*Pn	**Pg**	**13 11 33.7**	**-0.6**
GAZ				*e*Sn	**Sg**	**13 11 53.2**	**+2.0**
MAZI	**Mazidag**	**1.53**	**62**	PN	**Pg**	**13 11 38.8**	**0.0**
MAZI	**Mazidag**	**1.53**	**62**	*e*Pn	**Pg**	**13 11 38.8**	**0.0**
MALT	**Malatya**	**1.57**	**351**	PN	**Pg**	**13 11 39.3**	**-0.3**
MALT				SN	**Sg**	**13 12 00.2**	**+0.1**
MALT	**Malatya**	**1.57**	**351**	*e*Pn	**Pg**	**13 11 39.3**	**-0.3**
MALT				*e*Sn	**Sg**	**13 12 00.2**	**+0.1**
AKCD	**Akcadag**	**1.67**	**337**	*i*P	**Pg**	**13 11 41.1**	**-0.3**
AKCD				*i*S	**Sg**	**13 12 03.7**	**+0.6**
AKCD	**Akcadag**	**1.67**	**337**	P	**Pg**	**13 11 41.1**	**-0.3**
AKCD				S	**Sg**	**13 12 03.7**	**+0.6**
SVRC	**Sivrice-ELAZID**	**1.68**	**15**	PN	**Pg**	**13 11 40.6**	**-1.0**
SVRC	**Sivrice-ELAZID**	**1.68**	**15**	*e*Pn	**Pg**	**13 11 40.6**	**-1.0**
MARD	**Mardin**	**1.72**	**71**	*i*P	**Pb**	**13 11 40.4**	**-0.3**
MARD				*i*S	**Sg**	**13 12 05.6**	**+0.9**
ELZG	**Elazig**	**1.75**	**6**	*i*P	**Pg**	**13 11 43.5**	**+0.6**
ELZG				*i*S	**Sg**	**13 12 07.5**	**+1.9**
ELZG	**Elazig**	**1.75**	**6**	P	**Pg**	**13 11 43.5**	**+0.6**
ELZG				S	**Sg**	**13 12 07.6**	**+1.9**

IDC 27 13:11:52.4±0.6,6.19S×128.38E,h372km±70km**,mb2.8/1, mb1 3.0/4,mb1mx2.7/53,mbtmp3.7/4,Error ellipse: s-maj=80.0km s-min=23.1km az=50.0,Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**6.14**	**229**	P	Pn	13 13 25.1	-0.5
	2.2nm,0.3s,baz=79,slow=10,SNR=2.6						
BATI				S	S	13 14 42.2	+0.7
	1.1nm,0.3s,baz=45,slow=20,SNR=4.6						
WRA	**Warramunga Arr**	**14.85**	**158**	P	P	13 15 03.8	-0.6
	0.6nm,0.3s,baz=341,slow=12,SNR=42						
WRA				S	S	13 17 42.3	-1.2
	0.2nm,0.3s,baz=335,slow=21,SNR=4.3						

ASAR	**Alice Springs**	**18.17**	**164**	P	P	13 15 40.6	+0.5				
	0.2nm,0.3s,baz=342,slow=11,SNR=14										
MKAR	**Makanchi Array**	**66.67**	**327**	P	P	13 22 04.4	0.0				
	0.2nm,0.5s,baz=116,slow=6.7,SNR=3.9										

NEIC ***27*** *13:13:20.3±0.0,15.52N×97.07W,h16km,MD4.0(MEX), After MEX.*

MEX 27 13:13:20.3±0.6,15.52N×97.07W,h16km±13km**,MD4.0, Near coast of Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HUIG	**Huatulco**	**0.96**	**75**	*e*P	Pb	13 13 35.4	-3.1
HUIG				*e*S	Sb	13 13 46.4	-4.6
HUIG	**Huatulco**	**0.96**	**75**	*e*P	Pb	13 13 35.4	-3.1
HUIG				*e*S	Sb	13 13 46.4	-4.6
PNIG	**Pinotepa**	**1.33**	**311**	*e*P	Pn	13 13 40.6	-3.6
PNIG				*e*S	Sn	13 13 56.2	-5.5
PNIG	**Pinotepa**	**1.33**	**311**	*e*P	Pn	13 13 40.6	-3.6
PNIG				*e*S	Sn	13 13 56.2	-5.5
VHO	**Vista Hermosa**	**1.57**	**12**	*e*P	Pn	13 13 44.8	-2.9
VHO				*e*S	Sn	13 14 02.9	-4.9
VHO	**Vista Hermosa**	**1.57**	**12**	*e*P	Pn	13 13 44.8	-2.9
VHO				*e*S	Sn	13 14 02.9	-4.9
TLIG	**Tlapa**	**2.48**	**325**	Pn	Pn	13 13 59.9	-0.2
TLIG				*e*Sn	Sn	13 14 25.8	-4.4

IDC ***27*** *13:27:43.8±1.3,32.51N×48.62E,h0km,mb3.7/8, mb1 3.7/10,mb1mx3.5/64,mbtmp3.7/10,ML3.4/2,Error ellipse: s-maj=32.1km s-min=21.1km az=168.0*
ISN ***27*** *13:27:44.6±1.5,32.40N×48.76E,h0km±23km,ML3.5*
SGS ***27*** *13:27:45.3,32.92N×48.78E,h27km*
CSEM ***27*** *13:27:47.6±0.3,32.53N×48.76E,h5km,ML3.5,Error ellipse: s-maj=7.6km s-min=5.1km az=10.0*
ISCJB ***27*** *13:27:47.6±0.4,32.45N±0.03×48.69E±0.03,h17km, mb3.6/8,Error ellipse: s-maj=4.4km s-min=4.1km az=19.1*
TEH ***27*** *13:27:47.8,32.46N×48.67E,h5km,ML3.5*

ISC 27 13:27:47.5±0.6,32.50N±0.04×48.73E±0.04,h17km**,n43,** σ1**81**/51**,mb3.6/8,Western Iran**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SHGR	**Shooshtar-Gavs**	**0.40**	**171**	*e*Pg	**Pg**	**13 27 56.3**	**+0.7**
IKFM	**Kafar-mosalman**	**1.26**	**324**	*e*Pg	**Pn**	**13 28 10.0**	**-0.3**
IKFM				*e*Sg	**Sb**	**13 28 28.1**	**+1.3**
IKFM				*e*AMB	AMB	13 28 34.9	
	comp=E,99nm,0.2s						
IKFM	**Kafar-mosalman**	**1.26**	**324**	*e*Pg	**Pn**	**13 28 10.0**	**-0.3**
IKFM				*e*Sg	**Sb**	**13 28 28.1**	**+1.3**
KHMZ	**Khomeyn**	**1.61**	**39**	*e*Pg	**Pn**	**13 28 16.1**	**+0.8**
IPIR	**Pirpir**	**1.83**	**84**	*e*Pg	**Pn**	**13 28 21.5**	**+3.0**
IPIR				*e*AMB	AMB	13 28 55.3	
	comp=Z,4μm,0.3s						
IPIR	**Pirpir**	**1.83**	**84**	*e*Pg	**Pn**	**13 28 21.5**	**+3.0**
IKOM	**Komasi**	**1.96**	**329**	*e*Pg	**Pn**	**13 28 21.7**	**+1.6**
IKOM				*e*AMB	AMB	13 28 57.9	
	comp=Z,5μm,0.2s						
ASAO	**Ashtian**	**2.31**	**28**	*e*Pn	**Pn**	**13 28 26.2**	**+1.2**
IKLH	**Kolahrood**	**2.53**	**70**	*e*Pn	**Pn**	**13 28 30.6**	**+2.6**
IKLH				*e*Sg	**Sg**	**13 29 08.6**	**-0.3**
IKLH				*e*AMB	AMB	13 29 14.0	
	comp=Z,2μm,0.2s						
IKLH	**Kolahrood**	**2.53**	**70**	*e*Pn	**Pn**	**13 28 30.6**	**+2.6**
IKLH				*e*Sg	**Sg**	**13 29 08.6**	**-0.3**
IVIS	**Veis**	**2.56**	**323**	*e*Pn	**Pn**	**13 28 30.2**	**+1.9**
IVIS				*e*AMB	AMB	13 29 17.7	
	comp=Z,1μm,0.3s						
IVIS	**Veis**	**2.56**	**323**	*e*Pn	**Pn**	**13 28 30.2**	**+1.9**
IGHG	**Ghaleghazi**	**2.57**	**316**	*e*Pn	**Pn**	**13 28 30.8**	**+2.2**
IGHG				*e*AMB	AMB	13 29 40.7	
	comp=Z,2μm,0.4s						
IGHG	**Ghaleghazi**	**2.57**	**316**	*e*Pn	**Pn**	**13 28 30.8**	**+2.2**
QAM	**Ghamsar**	**2.60**	**60**	*e*Pn	**Pn**	**13 28 32.1**	**+3.2**
QAM				*e*AMB	AMB	13 29 14.1	
	comp=Z,3μm,0.2s						
NSR	**Nassriya**	**2.66**	**237**	*e*Pn	**Pn**	**13 28 30.0**	**+0.4**
	SNR=4.0						
NSR				*e*Sn	**Sn**	**13 29 01.0**	**-0.4**
	SNR=4.0						
IGAR	**Gharneh**	**2.80**	**91**	*e*AMB	AMB	13 29 18.5	
	comp=Z,801nm,0.2s						
ILIN	**Lien**	**2.83**	**329**	*e*Pn	**Pn**	**13 28 33.1**	**+1.0**
ILIN				*e*AMB	AMB	13 29 20.4	
	comp=Z,1μm,0.2s						
ILIN	**Lien**	**2.83**	**329**	*e*Pn	**Pn**	**13 28 33.1**	**+1.0**
SNGE	**Sanandaj**	**2.83**	**336**	*e*Pn	**Pn**	**13 28 33.7**	**+1.6**
HKZM	**Kohzaman**	**2.87**	**3**	*e*Pn	**Pn**	**13 28 34.7**	**+1.9**
HKZM				*e*AMB	AMB	13 29 20.4	
	comp=Z,99nm,0.3s						
HKZM	**Kohzaman**	**2.87**	**3**	*e*Pn	**Pn**	**13 28 34.7**	**+1.9**
GHVR	**GHOM**	**2.91**	**47**	*e*Pn	**Pn**	**13 28 34.0**	**+0.9**
IZEF	**Zefreh**	**3.06**	**82**	*e*Pn	**Pn**	**13 28 37.7**	**+2.4**
IZEF				*e*AMB	AMB	13 29 30.2	
	comp=Z,875nm,0.2s						
IZEF	**Zefreh**	**3.06**	**82**	*e*Pn	**Pn**	**13 28 37.7**	**+2.4**
IRAM	**Ramesheh**	**3.17**	**102**	*e*Pn	**Pn**	**13 28 38.6**	**+1.8**
IRAM				*e*AMB	AMB	13 29 41.6	
	comp=Z,526nm,0.4s						
IRAM	**Ramesheh**	**3.17**	**102**	*e*Pn	**Pn**	**13 28 38.6**	**+1.8**
BHD	**Baghdad**	**3.74**	**283**	*e*Pn	**Pn**	**13 28 46.0**	**+1.6**
	SNR=4.0						
BHD				*e*Sn	**Sn**	**13 29 31.0**	**+2.9**
	SNR=4.0						
KFJS		**4.35**	**189**	P	**Pn**	**13 28 54.9**	**+2.0**
KFJS				S	**Sn**	**13 29 45.6**	**+2.4**
IKRK	**Kirkuk**	**4.66**	**310**	*e*Pn	**Pn**	**13 28 59.5**	**+2.5**
	SNR=4.0						
IKRK				*e*Sn	**Sn**	**13 29 54.0**	**+3.3**
	SNR=4.0						
ASYS		**6.27**	**219**	P	**Pn**	**13 29 19.0**	**-0.2**
BQQSS		**6.63**	**175**	P	**Pn**	**13 29 25.0**	**+0.8**
RTB	**Rutbah**	**7.12**	**277**	*e*Pn	**Pn**	**13 29 32.0**	**+1.1**
	SNR=4.0						
RTB				*e*Sn	**Sn**	**13 30 53.0**	**+1.6**
	SNR=4.0						
GEYT	**Alibeck**	**9.39**	**52**	Pn	**Pn**	**13 30 03.3**	**+1.2**
	comp=Z,0.3nm,0.3s,baz=269,slow=17,SNR=2.3						
WSAR	**Wadi Sarin**	**12.71**	**134**	Pn	**Pn**	**13 30 46.8**	**-0.8**
	comp=Z,0.3nm,0.3s,baz=312,slow=9.7,SNR=4.7						
BVAR	**Borovoye Array**	**25.77**	**31**	P	**P**	**13 33 16.6**	**-0.6**
	comp=Z,0.6nm,0.4s,baz=243,slow=6.3,SNR=6.5						
KURBB	**Kurchatov Arra**	**28.44**	**42**	P	**P**	**13 33 40.8**	**-0.4**
	comp=Z,0.4nm,0.5s,baz=245,slow=9.4,SNR=2.9						
MKAR	**Makanchi Array**	**29.27**	**51**	P	**P**	**13 33 49.0**	**+0.4**
	comp=Z,1.5nm,0.6s,baz=247,slow=9.2,SNR=16						
FINES	**FINESS Array B**	**32.47**	**340**	P	**P**	**13 34 15.4**	**-1.2**
	comp=Z,0.3nm,0.4s,baz=160,slow=7.1,SNR=4.5						
HFS	**Hagfors**	**35.98**	**331**	P	**P**	**13 34 45.5**	**-1.6**
	comp=Z,1.0nm,0.4s,baz=138,slow=9.0,SNR=11						
TORD	**Torodi Ar. Bea**	**47.01**	**257**	P	**P**	**13 36 17.1**	**-1.0**
	comp=Z,0.2nm,0.4s,baz=53,slow=8.6,SNR=2.4						
KSRS	**Korea Array**	**63.26**	**61**	P	**P**	**13 38 13.8**	**-1.4**
	comp=Z,0.9nm,0.7s,baz=274,slow=6.2,SNR=3.2						
YKA	**Yellowknife Ar**	**84.39**	**352**	P	**P**	**13 40 16.0**	**-2.5**
	comp=Z,0.1nm,0.7s,baz=17,slow=4.9,SNR=4.8						

MEX 27 13:31:35.4±0.6,16.33N×98.29W,h5km**,MD3.5,Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.16**	**67**	*e*P	Pg	13 31 38.2	-0.5
PNIG				*e*S	Sg	13 31 41.0	+0.1
TLIG	**Tlapa**	**1.26**	**348**	*e*P	Pg	13 31 56.4	-3.2
TLIG				*e*S	Sg	13 32 11.7	-4.1

IDC ***27*** *13:31:59.2±1.1,10.79N×139.37E,h0km,mb3.7/7, mb1 3.9/8,mb1mx3.5/61,mbtmp3.8/8,ML4.3/1,MS3.5/4, Ms1 3.5/4,ms1mx2.8/54,Error ellipse: s-maj=28.3km s-min=26.0km az=131.0*
ISCJB ***27*** *13:32:02.2±0.9,10.8N±0.2×139.4E±0.1,h33km,mb3.6/7, MS3.5/4,Error ellipse: s-maj=23.8km s-min=16.7km az=159.3*

ISC 27 13:32:04.4±1.0,10.8N±0.2×139.4E±0.1,h35km**,n12,** σ0**60/8,mb3.8/7,MS3.5/4,Western Caroline Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**6.08**	**62**	Pn	**Pn**	**13 33 32.2**	**+0.3**
	7.0nm,0.3s,baz=150,slow=22,SNR=7.4						
JNU	**Nakatsue**	**23.59**	**342**	LR	LR	13 45 13.0	
	comp=Z,59nm,18.2s,baz=358,slow=34						
BATI	**Baumata**	**26.02**	**217**	LR	LR	13 46 15.1	
	comp=Z,170nm,20.9s,baz=14,slow=33						
CTA	**Charters Tower**	**31.39**	**167**	LR	LR	13 52 08.6	
	comp=Z,187nm,18.4s,baz=346,slow=38						
ASAR	**Alice Springs**	**34.62**	**189**	P	**P**	**13 38 50.4**	**-0.1**
	0.2nm,0.7s,baz=18,slow=12,SNR=9.3						
CMAR	**Chiang Mai Arr**	**39.78**	**286**	P	**P**	**13 39 34.9**	**+0.5**
	1.2nm,0.7s,baz=91,slow=6.8,SNR=8.7						
MKAR	**Makanchi Array**	**59.88**	**318**	P	**P**	**13 42 07.0**	**+0.1**
	0.6nm,0.7s,baz=101,slow=10.0,SNR=9.5						
KURBB	**Kurchatov Arra**	**63.38**	**322**	P	**P**	**13 42 30.0**	**-0.3**
	0.7nm,0.6s,baz=114,slow=6.0,SNR=4.4						
BVAR	**Borovoye Array**	**68.85**	**323**	P	**P**	**13 43 05.2**	**-0.2**
	0.9nm,0.7s,baz=101,slow=7.7,SNR=6.4						
KDAK	**Kodiak Island**	**69.32**	**32**	LR	LR	14 10 09.2	
	comp=Z,22nm,19.8s,baz=210,slow=33						
ILAR	**Eielson Array**	**73.42**	**25**	P	**P**	**13 43 31.9**	**-1.0**
	0.2nm,0.6s,baz=252,slow=5.8,SNR=7.0						
YKA	**Yellowknife Ar**	**87.82**	**27**	P	**P**	**13 44 50.5**	**+0.6**
	0.4nm,0.8s,baz=293,slow=5.2,SNR=8.8						

NNC ***27*** *13:32:04.6±8.3,37.49N×71.14E,h0km,mb4.3,mpv4.0, Error ellipse: s-maj=67.0km s-min=51.7km az=158.0*
IDC ***27*** *13:32:07.6±5.6,37.21N×71.84E,h142km±47km,mb1 3.0/7, mb1mx2.8/75,mbtmp3.6/7,Error ellipse: s-maj=68.5km s-min=24.6km az=148.0*

ISC 27 13:32:05.6±2.2,37.3N±0.1×71.23E±0.08,h100km**,n21,** σ1**68/28,6C-4D,Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SFK	**Sufi-Kurgan**	**3.26**	**32**	⇑P	**Pn**	**13 32 55.8**	**+0.9**
	12nm,0.3s						
SFK				⇑S	**Sn**	**13 33 35.2**	**+2.2**
	51nm,0.2s						
AML	**Almayashu**	**5.20**	**21**	P	**Pn**	**13 33 22.2**	**+0.9**
	SNR=43						
MNAS	**Manas**	**5.29**	**10**	⇓P	**Pn**	**13 33 23.4**	**+1.1**
	4.0nm,0.3s						
MNAS				⇑S	**Sn**	**13 34 23.3**	**+1.2**
	75nm,0.9s						
UCH	**Uchtor**	**5.55**	**26**	P	**Pn**	**13 33 26.4**	**+0.2**
	SNR=11						
KZA	**Kyzart**	**5.71**	**32**	P	**Pn**	**13 33 27.7**	**-0.5**
	SNR=7.6						
EKS2	**Erkin-Say**	**5.72**	**19**	P	**Sn**	**13 34 34.8**	**+2.4**
	SNR=8.5						
KK31	**Karatay Array**	**5.84**	**355**	P	**Pn**	**13 33 31.8**	**+2.1**
	23nm,0.5s,baz=178,slow=13,SNR=146						
KK31				⇑S	**Sn**	**13 34 36.9**	**+1.7**
	4.9nm,0.3s,baz=173,slow=20						
AAK	**Ala-Archa**	**5.91**	**24**	P	**Pn**	**13 33 31.6**	**+0.8**
	6.3nm,0.3s,baz=194,slow=5.4,SNR=35						
AAK				S	**Sn**	**13 34 37.2**	**+0.1**
	2.3nm,0.3s,baz=319,slow=12,SNR=21						
AAK	**Ala-Archa**	**5.91**	**24**	⇑P	**Pn**	**13 33 31.5**	**+0.8**
	6.7nm,0.3s						
AAK				⇓S	**Sn**	**13 34 37.5**	**+0.4**
	25nm,0.7s						
AAK	**Ala-Archa**	**5.91**	**24**	P	**Pn**	**13 33 31.5**	**+0.8**
	SNR=15						
CHMS	**Chumysh**	**6.32**	**24**	P	**Pn**	**13 33 36.8**	**+0.7**
	SNR=7.1						
USP	**Ospennovka**	**6.48**	**22**	P	**Pn**	**13 33 39.2**	**+0.9**
	SNR=9.6						
TKM2	**Tokmak 2**	**6.55**	**29**	⇑P	**Pn**	**13 33 39.1**	**-0.4**
	3.8nm,0.5s						
TKM2				⇓S	**Sn**	**13 34 52.9**	**+0.1**
	8.3nm,0.8s						
TKM2	**Tokmak 2**	**6.55**	**29**	P	**Pn**	**13 33 39.5**	**0.0**
	SNR=9.8						
GEYT	**Alibeck**	**10.43**	**278**	P	Pn	13 34 40.6	+8.6
	0.6nm,0.3s,baz=104,slow=12,SNR=3.2						
GEYT				S	**Sn**	**13 36 27.3**	**+0.4**
	1.0nm,0.3s,baz=114,slow=29,SNR=5.4						
MKAR	**Makanchi Array**	**12.55**	**37**	P	**Pn**	**13 34 58.6**	**-1.8**
	0.0nm,0.3s,baz=221,slow=15,SNR=

PRK	**Paraskevi**	**1.15 211**	P	**Pg**	**13 37 28.4**	**0.0**
PRK			S	**Sn**	**13 37 44.2**	**+0.3**
PRK			AML	AML	13 37 45.7	
	comp=E,95μm,0.4s					
PRK			AML	AML	13 37 50.1	
	comp=N,86μm,0.6s					
SMTH	**Samothraki Isl**	**1.18 282**	P	**Pn**	**13 37 28.8**	**+0.1**
SMTH			S	**Sg**	**13 37 44.1**	**-0.1**
SMTH			AML	AML	13 37 46.0	
	comp=N,98μm,0.3s					
SMTH			AML	AML	13 37 46.2	
	comp=E,68μm,0.2s					
SMTH	**Samothraki Isl**	**1.18 282**	P	**Pb**	**13 37 28.6**	**0.0**
SMTH			S	**Sb**	**13 37 44.0**	**+0.1**
SIGR	**SIGRI**	**1.37 222**	PN	**Pn**	**13 37 31.3**	**+0.1**
SIGR	**SIGRI**	**1.37 222**	P	**Pn**	**13 37 31.1**	**-0.1**
SIGR			S	**Sg**	**13 37 50.1**	**-0.2**
SIGR			AML	AML	13 37 51.6	
	comp=E,54μm,0.4s					
SIGR			AML	AML	13 37 52.3	
	comp=N,84μm,0.5s					
SIGR	**SIGRI**	**1.37 222**	ePn	**Pn**	**13 37 31.3**	**+0.1**
SIGR			S	**Sg**	**13 37 49.9**	**-0.4**
ARMT	**Armutlu**	**1.43 76**	PN	**Pn**	**13 37 32.3**	**+0.1**
ARMT	**Armutlu**	**1.43 76**	ePn	**Pn**	**13 37 32.3**	**+0.1**
RDO	**Rodhopi**	**1.46 309**	P	**Pb**	**13 37 33.7**	**+0.3**
RDO			S	**Sn**	**13 37 51.5**	**-0.2**
RDO			AML	AML	13 37 54.5	
	comp=E,39μm,0.2s					
RDO			AML	AML	13 37 56.9	
	comp=N,29μm,0.1s					
RDO	**Rodhopi**	**1.46 309**	P	**Pb**	**13 37 33.4**	**-0.1**
RDO			S	**Sn**	**13 37 51.7**	**0.0**
CTKS	**Kestanelik-??a**	**1.50 48**	PN	**Pn**	**13 37 32.9**	**-0.2**
CTKS	**Kestanelik-??a**	**1.50 48**	ePn	**Pn**	**13 37 32.9**	**-0.2**
CHOS	**Chios island**	**1.99 203**	P	**Pn**	**13 37 41.0**	**+1.0**
CHOS	**Chios island**	**1.99 203**	P	**Pn**	**13 37 40.9**	**+1.0**

*DDA **27** 13:41:15.8, 38˚.66N×26˚.65E, h7km, Ml2.6*
*ISCJB **27** 13:41:16.1±0.8, 38˚.67N±0˚.03×26˚.65E±0˚.05, h9km±7km, Error ellipse: s-maj=7.2km s-min=4.9km az=144.3*
*CSEM **27** 13:41:16.3±0.3, 38˚.63N×26˚.66E, h15km, ML2.0, Error ellipse: s-maj=7.2km s-min=5.5km az=70.0*
*ATH **27** 13:41:16.8, 38˚.61N×26˚.52E, h38km±4km, ML2.0/4, Error ellipse: s-maj=5.5km s-min=1.3km az=247.0*
ISC 27 13:41:15.4±1.4, 38˚.61N±0˚.02×26˚.66E±0˚.03, h8km±12km, n16, σ0s85/32, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
URLA	**Izmir**	**0.25**	**191**	*i* P		**Pb**	**13 41 21.3**	**-1.0**
URLA				*i* S		**Sb**	**13 41 26.8**	**0.0**
URLA	**Izmir**	**0.25**	**191**	P		**Pb**	**13 41 21.3**	**-1.0**
URLA				S		**Sb**	**13 41 26.8**	**0.0**
ZEY	**˜zmir**	**0.39**	**198**	*i* P		**Pb**	**13 41 24.7**	**+0.1**
ZEY				*i* S		**Sb**	**13 41 32.2**	**+1.6**
CHOS	**Chios island**	**0.52**	**245**	P		**Pb**	**13 41 27.1**	**+0.3**
CHOS				S		**Sb**	**13 41 34.9**	**+0.3**
CHOS				AML	AML	13 41 35.0		
	comp=N,186μm,0.2s							
CHOS				AML	AML	13 41 37.6		
	comp=E,269μm,0.2s							
CHOS	**Chios island**	**0.52**	**245**	P		**Pb**	**13 41 27.0**	**+0.1**
CHOS				S		**Sb**	**13 41 34.6**	**0.0**
DGB	**˜zmir**	**0.58**	**162**	*i* P		**Pb**	**13 41 28.0**	**+0.2**
DGB				*i* S		**Sb**	**13 41 37.4**	**+1.1**
PRK	**Paraskevi**	**0.70**	**335**	P		**Pb**	**13 41 30.4**	**+0.5**
PRK				AML	AML	13 41 41.8		
	comp=E,306μm,0.2s							
PRK				S		**Sn**	**13 41 42.3**	**-0.4**
PRK				AML	AML	13 41 42.9		
	comp=N,324μm,0.5s							
PRK	**Paraskevi**	**0.70**	**335**	P		**Pb**	**13 41 30.4**	**+0.5**
PRK				S		**Sb**	**13 41 41.3**	**+1.6**
SIGR	**SIGRI**	**0.87**	**314**	P		**Pg**	**13 41 31.4**	**-0.7**
SIGR				S		**Sg**	**13 41 43.4**	**+0.1**
SIGR				AML	AML	13 41 46.4		
	comp=N,170μm,0.2s							
SIGR				AML	AML	13 41 47.3		
	comp=E,165μm,0.4s							
SIGR	**SIGRI**	**0.87**	**314**	P		**Pg**	**13 41 31.9**	**-0.1**
SIGR				S		**Sg**	**13 41 43.6**	**+0.3**
SMG	**Samos**	**0.91**	**171**	P		**Pn**	**13 41 34.5**	**0.0**
SMG				S		**Sn**	**13 41 48.5**	**+0.6**
SMG				AML	AML	13 41 51.1		
	comp=E,195μm,0.3s							
SMG				AML	AML	13 41 51.4		
	comp=N,232μm,0.3s							
SMG	**Samos**	**0.91**	**171**	P		**Pn**	**13 41 34.7**	**+0.2**
SMG				S		**Sn**	**13 41 48.3**	**+0.5**
AKHS	**Akhisar**	**0.94**	**73**	*i* P		**Pb**	**13 41 33.7**	**-0.3**
AKHS				*i* S		**Sb**	**13 41 47.4**	**+0.6**
AKHS	**Akhisar**	**0.94**	**73**	P		**Pb**	**13 41 33.7**	**-0.3**
AKHS				S		**Sb**	**13 41 47.3**	**+0.6**
SMTH	**Samothraki Isl**	**2.05**	**335**	P		**Pn**	**13 41 50.9**	**+0.6**
SMTH				S		**Sn**	**13 42 13.8**	**-2.3**
SMTH	**Samothraki Isl**	**2.05**	**335**	P		**Pn**	**13 41 50.5**	**+0.3**
SMTH				S		**Sn**	**13 42 14.1**	**-2.0**

*IDC **27** 13:52:29.7±0.8, 8˚.82N×94˚.02E, h0km, mb3.9/13, mb1 3.9/14, mb1mx3.7/69, mbtmp3.8/14, ML3.5/1, MS3.6/4, Ms1 3.6/4, ms1mx2.8/63, Error ellipse: s-maj=33.5km s-min=18.4km az=62.0*
*ISCJB **27** 13:52:31.4±0.7, 8˚.9N±0˚.1×94˚.1E±0˚.1, h22km, mb3.9/13, MS3.7/3, Error ellipse: s-maj=22.5km s-min=15.2km az=150.0*
ISC 27 13:52:33.0±0.8, 8˚.8N±0˚.1×94˚.0E±0˚.2, h22km, n23, σ0s92/16, mb3.8/13, MS3.6/3, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**10.76**	**26**	Pn		**Pn**	**13 55 06.0**	**+0.2**
	0.1nm,0.3s,baz=217,slow=15,SNR=2.9							
PALK	**Pallekele**	**13.26**	**265**	LR		LR	14 00 12.4	
	comp=Z,91nm,20.1s,baz=116,slow=35							
H08S3	**Diego Garcia H**	**26.93**	**233**	T		T	14 26 07.2	
	baz=60,slow=74,SNR=5.8							
H08S2	**Diego Garcia H**	**26.94**	**233**	T		T	14 26 07.8	
	baz=60,slow=74,SNR=5.7							
H08S1	**Diego Garcia H**	**26.95**	**233**	T		T	14 25 55.8	
	baz=60,slow=74,SNR=3.8							
JOW	**Kunigami**	**37.07**	**57**	LR		LR	14 16 51.9	
	comp=Z,69nm,18.6s,baz=37,slow=40							
MKAR	**Makanchi Array**	**39.20**	**347**	P		**P**	**13 59 59.5**	**+0.1**
	1.2nm,0.8s,baz=171,slow=8.3,SNR=12							
GEYT	**Alibeck**	**43.46**	**318**	P		**P**	**14 00 36.2**	**+1.6**
	2.2nm,0.4s,baz=150,slow=10.0,SNR=5.2							
KURBB	**Kurchatov Arra**	**43.66**	**346**	P		**P**	**14 00 34.5**	**-1.4**
	0.4nm,0.3s,baz=165,slow=7.4,SNR=5.3							
ZALV	**Zalesovo Beam**	**45.66**	**352**	P		**P**	**14 00 51.9**	**0.0**
	2.0nm,0.5s,baz=161,slow=9.4,SNR=10							
BVAR	**Borovoye Array**	**48.11**	**341**	P		**P**	**14 01 09.1**	**-1.9**
	0.5nm,0.5s,baz=119,slow=12,SNR=3.9							
USRK	**Ussuriysk Ar.**	**48.27**	**36**	LR		LR	14 21 52.5	
	comp=Z,65nm,18.5s,baz=332,slow=37							
WRA	**Warramunga Arr**	**48.88**	**126**	P		**P**	**14 01 17.9**	**+0.4**
	0.4nm,0.7s,baz=305,slow=8.9,SNR=5.6							
ASAR	**Alice Springs**	**50.58**	**130**	P		**P**	**14 01 30.4**	**-0.1**
	0.3nm,0.8s,baz=286,slow=6.3,SNR=4.2							
GERES	**GERESS Array B**	**77.08**	**318**	P		**P**	**14 04 25.0**	**+0.2**
	0.6nm,0.5s,baz=101,slow=6.9,SNR=7.3							
HFS	**Hagfors**	**77.63**	**330**	P		**P**	**14 04 26.8**	**-0.7**
	2.3nm,0.8s,baz=106,slow=11,SNR=4.6							
SPITS	**Spitsbergen Ar**	**78.94**	**348**	P		**P**	**14 04 34.8**	**+0.3**
	2.6nm,0.8s,baz=170,slow=12,SNR=5.2							
EKA	**Eskdalemuir Ar**	**86.92**	**325**	P		**P**	**14 05 17.0**	**+0.8**
	1.1nm,0.6s,baz=108,slow=6.0,SNR=4.8							
TORD	**Torodi Ar. Bea**	**90.27**	**283**	P		**P**	**14 05 32.3**	**-0.6**
	0.6nm,0.9s,baz=70,slow=4.3,SNR=2.6							
ILAR	**Eielson Array**	**93.97**	**22**	P		**P**	**14 05 48.5**	**-0.5**
	0.3nm,0.8s,baz=305,slow=3.2,SNR=4.1							
QSPA	**South Pole Qui**	**98.66**	**180**	LR		LR	14 41 36.8	
	comp=Z,62nm,21.8s,baz=69,slow=30							
PLCA	**Paso Flores**	**145.33**	**201**	PKPbc		**PKPdf**	**14 12 10.2**	**+0.5**
	2.3nm,0.8s,baz=200,slow=2.6,SNR=6.1							
CPUP	**Villa Florida**	**147.69**	**234**	PKPbc		**PKPbc**	**14 12 16.1**	**-0.6**
	1.3nm,0.9s,baz=165,slow=6.5,SNR=3.2							

IDC 27 13:57:34.9±11.0, 8˚.73N×93˚.59E, h0km, mb3.6/4, mb1 3.7/4, mb1mx3.3/68, mbtmp3.6/4, Error ellipse: s-maj=571.2km s-min=26.9km az=58.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**39.14**	**348**	P		P	14 05 04.2	-0.1
	0.3nm,0.7s,baz=154,slow=6.6,SNR=4.3							
KURBB	**Kurchatov Arra**	**43.59**	**346**	P		P	14 05 40.4	-0.3
	0.2nm,0.2s,baz=146,slow=6.7,SNR=2.6							
ZALV	**Zalesovo Beam**	**45.64**	**353**	P		P	14 05 57.2	+0.1
	0.6nm,0.4s,baz=178,slow=10,SNR=4.6							
WRA	**Warramunga Arr**	**49.20**	**126**	P		P	14 06 25.2	-0.1
	0.3nm,0.7s,baz=308,slow=8.7,SNR=3.2							

*IDC **27** 14:02:13.0±3.4, 37˚.05N×142˚.65E, h0km, mb3.8/3, mb1 3.6/6, mb1mx3.4/70, mbtmp3.8/6, ML3.3/3, Error ellipse: s-maj=56.3km s-min=28.4km az=112.0*
*ISCJB **27** 14:02:13.3±0.9, 36˚.98N±0˚.04×142˚.74E±0˚.08, h25km, mb3.7/3, Error ellipse: s-maj=8.8km s-min=5.4km az=14.1*
*JMA **27** 14:02:13.6±0.1, 36˚.98N×142˚.76E, h44km, M3.4*
ISC 27 14:02:14.4±1.3, 36˚.96N±0˚.05×142˚.79E±0˚.09, h25km, n21, σ1s37/30, mb3.7/3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**1.58**	**285**	P		**Pn**	**14 02 39.4**	**-1.4**
JFK				*e*S		**Sn**	**14 02 58.4**	**-2.1**
ONAJ	**Iwakimizuishiy**	**1.60**	**276**	P		**Pn**	**14 02 39.8**	**-1.3**
JHO	**Hitachi**	**1.81**	**260**	P		**Pn**	**14 02 42.9**	**-1.1**
JMM	**Marumori**	**1.82**	**300**	P		**Pn**	**14 02 43.0**	**-1.1**
JMM				*e*S		**Sn**	**14 03 04.7**	**-1.8**
JIO	**Ouri**	**1.88**	**323**	P		**Pn**	**14 02 43.8**	**-1.0**
JFT	**Otama**	**2.03**	**287**	P		**Pn**	**14 02 46.6**	**-0.4**
JMK	**Ichinoseki**	**2.34**	**329**	P		**Pn**	**14 02 50.7**	**-0.5**
JMK				*e*S		**Sn**	**14 03 17.8**	**-1.4**
JAG	**Ashikaga**	**2.73**	**260**	P		**Pn**	**14 02 56.1**	**-0.5**
BSO1	**Boso 1**	**2.73**	**213**	P		**Pn**	**14 02 56.2**	**+0.1**
BSO1				*e*S		**Sn**	**14 03 28.4**	**+0.3**
JYK	**Kaneyama**	**2.74**	**316**	P		**Pn**	**14 02 56.5**	**-0.2**
JOM	**Ohasama**	**2.77**	**335**	P		**Pn**	**14 02 56.9**	**-0.2**
JRY	**Ryogami san**	**3.27**	**254**	P		**Pn**	**14 03 03.6**	**-0.4**
JOD2	**Odawara 2**	**3.44**	**242**	P		**Pn**	**14 03 06.1**	**-0.3**
MJAR	**Matsushiro Arr**	**3.70**	**265**	Pn		**Pn**	**14 03 09.7**	**-0.3**
	1.9nm,0.3s,baz=77,slow=31,SNR=24							
MJAR					Sn	**Sn**	**14 03 53.5**	**+0.8**
	0.9nm,0.3s,baz=40,slow=16,SNR=4.0							
MAT	**Matsushiro**	**3.70**	**265**	P		**Pn**	**14 03 10.7**	**+0.7**
MAT				*e*S		**Sn**	**14 03 52.5**	**-0.3**
JYN	**Shimob**	**3.73**	**248**	P		**Pn**	**14 03 10.8**	**+0.4**
JYN				S		**Sn**	**14 03 53.0**	**-0.5**
JHJ	**Hachijo jima 2**	**4.56**	**214**	Pn		**Pn**	**14 03 22.1**	**+0.4**
	5.7nm,0.3s,baz=16,slow=15,SNR=3.6							
JHJ					Sn	**Sn**	**14 04 09.1**	**-4.8**
	22nm,0.3s,baz=53,slow=20,SNR=6.2							
ASAJ	**Asahikawa**	**7.15**	**359**	Pn		**Pn**	**14 03 57.2**	**-0.1**
	0.6nm,0.3s,baz=203,slow=7.7,SNR=7.6							
ASAJ					Sn	**Sn**	**14 05 16.1**	**-1.5**
	0.3nm,0.3s,baz=3.5,slow=19,SNR=2.9							
SONM	**Songino Array**	**28.74**	**304**	P		**P**	**14 08 11.2**	**+1.4**
	1.2nm,0.8s,baz=100,slow=9.1,SNR=7.0							
MKAR	**Makanchi Array**	**45.09**	**302**	P		**P**	**14 10 30.1**	**+1.8**
	0.5nm,0.7s,baz=96,slow=7.8,SNR=5.9							
KURBB	**Kurchatov Arra**	**46.91**	**308**	P		**P**	**14 10 43.3**	**+0.8**
	0.4nm,0.3s,baz=81,slow=8.5,SNR=3.4							

*IDC **27** 14:02:55.5±0.7, 8˚.80N×93˚.97E, h0km, mb4.0/22, mb1 4.0/23, mb1mx3.8/67, mbtmp3.9/23, ML3.9/1, MS3.2/1, Ms1 3.2/1, ms1mx2.4/64, Error ellipse: s-maj=21.9km s-min=15.9km az=82.0*
*ISCJB **27** 14:02:57.1±0.6, 8˚.74N±0˚.07×93˚.95E±0˚.09, h22km, mb3.9/22, Error ellipse: s-maj=13.5km s-min=9.5km az=11.6*
ISC 27 14:02:58.7±0.7, 8˚.72N±0˚.09×94˚.0E±0˚.1, h22km, n33, σ1s05/34, mb4.0/22, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**10.82**	**26**	Pn		**Pn**	**14 05 30.4**	**-2.0**
	0.3nm,0.3s,baz=214,slow=15,SNR=3.3							
CMAR					Sn	**Sn**	**14 07 35.9**	**+3.1**
	0.2nm,0.3s,baz=229,slow=32,SNR=2.8							
PALK	**Pallekele**	**13.22**	**265**	LR		LR	14 10 40.4	
	comp=Z,92nm,19.4s,baz=116,slow=35							
RAMN	**Ramite**	**19.43**	**340**	*e*P		**Pn**	**14 07 25.5**	**+0.3**
	28nm,0.6s							
JIRN	**Jiri**	**20.22**	**340**	*e*P		**P**	**14 07 33.2**	**+0.4**
PKIN	**Phulchoki**	**20.43**	**338**	*e*P		**P**	**14 07 35.2**	**+0.3**
	6.8nm,0.6s							
GUN	**Gumba**	**20.56**	**339**	*e*P		**P**	**14 07 36.9**	**+0.5**
GKN	**Gorkha**	**21.11**	**337**	*e*P		**P**	**14 07 42.5**	**+0.4**
	17nm,0.6s							
KOLN	**Koldanda**	**21.33**	**334**	*e*P		**P**	**14 07 45.3**	**+0.7**
PYUN	**Piuthan**	**21.88**	**333**	*e*P		**P**	**14 07 52.2**	**+1.7**
	16nm,0.7s							
MKAR	**Makanchi Array**	**39.23**	**347**	P		**P**	**14 10 25.5**	**0.0**
	1.2nm,0.8s,baz=168,slow=8.5,SNR=12							
MKAR					PcP	**PcP**	**14 12 33.5**	**-0.9**
	0.2nm,0.7s,baz=173,slow=3.8,SNR=2.8							
SONM	**Songino Array**	**40.38**	**13**	P		**P**	**14 10 34.2**	**-0.9**
	0.4nm,0.7s,baz=202,slow=7.4,SNR=3.1							
GEYT	**Alibeck**	**43.46**	**318**	P		**P**	**14 11 01.7**	**+1.3**
	2.4nm,0.6s,baz=153,slow=10.0,SNR=6.0							
KURBB	**Kurchatov Arra**	**43.63**	**346**	P		**P**	**14 11 01.5**	**-0.4**
	0.4nm,0.3s,baz=162,slow=6.8,SNR=6.8							
ZALV	**Zalesovo Beam**	**45.70**	**352**	P		**P**	**14 11 18.1**	**+0.2**
	1.8nm,0.5s,baz=168,slow=7.6,SNR=12							
BVAR	**Borovoye Array**	**48.14**	**341**	P		**P**	**14 11 36.4**	**-0.7**
	0.7nm,0.6s,baz=140,slow=7.6,SNR=3.4							
WRA	**Warramunga Arr**	**48.89**	**126**	P		**P**	**14 11 44.9**	**+1.6**
	0.3nm,0.6s,baz=304,slow=8.7,SNR=5.0							
ASAR	**Alice Springs**	**50.59**	**130**	P		**P**	**14 11 56.2**	**-0.1**
	0.4nm,0.8s,baz=310,slow=6.3,SNR=4.8							
AKTO	**Aktyubinsk**	**51.13**	**331**	P		**P**	**14 11 58.5**	**-1.3**
	1.0nm,0.5s,baz=104,slow=8.3,SNR=3.5							
OPO	**Ambohidratompo**	**53.52**	**239**	P		**P**	**14 12 18.1**	**-0.3**
	2.3nm,0.7s,baz=47,slow=9.7,SNR=2.2							
BRTR	**Keskin Array B**	**61.75**	**310**	P		**P**	**14 13 15.1**	**-0.8**
	0.4nm,0.6s,baz=90,slow=10,SNR=3.3							
FINES	**FINESS Array B**	**71.89**	**332**	P		**P**	**14 14 19.5**	**-0.4**
	1.6nm,0.8s,baz=64,slow=4.4,SNR=4.7							
ARCES	**ARCESS Array B**	**74.42**	**340**	P		**P**	**14 14 33.8**	**-0.9**
	2.8nm,0.8s,baz=101,slow=8.6,SNR=3.4							
BOSA	**Boshof**	**75.89**	**238**	P		**P**	**14 14 45.6**	**+1.5**
	1.0nm,0.6s,baz=77,slow=4.9,SNR=3.1							
GERES	**GERESS Array B**	**77.09**	**318**	P		**P**	**14 14 51.2**	**+0.6**
	0.6nm,0.6s,baz=90,slow=4.0,SNR=5.8							
HFS	**Hagfors**	**77.64**	**330**	P		**P**	**14 14 53.2**	**-0.1**
	2.6nm,0.9s,baz=123,slow=5.3,SNR=4.2							
NOA	**NORSAR Array B**	**78.92**	**331**	P		**P**	**14 15 00.2**	**-0.2**
	0.6nm,0.7s,baz=94,slow=6.1,SNR=3.0							
SPITS	**Spitsbergen Ar**	**78.98**	**348**	P		**P**	**14 15 00.5**	**+0.1**
	2.3nm,0.7s,baz=197,slow=4.4,SNR=4.5							
KEST	**Kesra**	**80.62**	**305**	P		**P**	**14 15 11.2**	**+1.0**
	2.0nm,0.6s,baz=83,slow=19,SNR=2.8							
TORD	**Torodi Ar. Bea**	**90.24**	**283**	P		**P**	**14 15 57.6**	**-0.9**
	0.4nm,0.8s,baz=70,slow=3.7,SNR=2.6							
ILAR	**Eielson Array**	**94.03**	**22**	P		**P**	**14 16 14.7**	**-0.3**
	0.4nm,0.8s,baz=299,slow=4.4,SNR=5.8							
INK	**Inuvik**	**96.23**	**16**	P		**P**	**14 16 24.7**	**-0.3**
	0.6nm,0.7s,baz=304,slow=3.6,SNR=2.0							
PLCA	**Paso Flores**	**145.28**	**201**	PKPbc		**PKPbc**	**14 22 33.8**	**-1.2**
	1.8nm,0.8s,baz=193,slow=6.3,SNR=5.8							
CPUP	**Villa Florida**	**147.63**	**234**	PKPbc		**PKPbc**	**14 22 43.1**	**+0.9**
	2.0nm,0.8s,baz=70,slow=6.1,SNR=3.2							

KRSC 27 14:04:32.5±1.3, 54˚.96N×165˚.56E, h50km±13km, ML3.9, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.35**	**44**	*e*P		Pn	14 04 43.0	+0.9
BKI				*e*S		Sn	14 04 48.7	-0.2
KBTR	**Krutoberegovo**	**2.00**	**310**	*e*P		Pn	14 05 04.4	+0.6
KBTR				*e*S		Sn	14 05 27.4	-0.1
SMKR	**Semkarok**	**2.83**	**307**	*e*P		Pn	14 05 18.2	+3.0
SMKR				*e*S		Sn	14 05 50.8	+2.8
ZLN	**Zelenaya**	**2.91**	**293**	*e*P		Pn	14 05 20.0	+3.7
ZLN				*e*S		Sn	14 05 53.5	+3.5
BZGR	**Bezymyannyi-Gr**	**2.94**	**292**	*e*P		Pn	14 05 20.9	+4.2
BZGR				*e*S		Sn	14 05 55.0	+4.2
BDR	**Baidarnaya**	**2.94**	**305**	*e*P		Pn	14 05 20.2	+3.5
BDR				*e*S		Sn	14 05 54.8	+4.0
CIRR	**Tsirk**	**2.97**	**295**	*e*P		Pn	14 05 21.0	+3.8
TUMD	**Tumrok D**	**2.98**	**277**	*e*P		Pn	14 05 20.3	+3.1
TUMD				*e*S		Sn	14 05 55.4	+3.8
LGNR	**Loginova**	**2.99**	**294**	*e*P		Pn	14 05 21.9	+4.3
SRKR	**Sorokina**	**3.00**	**306**	*e*P		Pn	14 05 20.4	+2.8
KZV	**Kizimen**	**3.03**	**275**	*e*P		Pn	14 05 21.4	+3.3
BZMR	**Bezymyannaya**	**3.05**	**291**	*e*P		Pn	14 05 22.4	+4.1
BZMR				*e*S		Sn	14 05 57.3	+3.7
BZWR	**Bezymyannyi-We**	**3.05**	**291**	*e*P		Pn	14 05 22.6	+4.2
KLY	**Klyuchi**	**3.10**	**298**	*e*P		Pn	14 05 21.2	+2.4
KLY				*e*S		Sn	14 05 56.1	+1.6
KRSR	**Krestovskiy**	**3.10**	**296**	*e*P		Pn	14 05 23.1	+4.1
KRSR				*e*S		Sn	14 05 58.7	+3.9
TUMR	**Tumrok**	**3.12**	**278**	*e*P		Pn	14 05 23.3	+4.0
TUMR				*e*S		Sn	14 06 00.8	+5.4
KIRR	**Kirishev**	**3.13**	**291**	*e*P		Pn	14 05 23.8	+4.4
KIRR				*e*S		Sn	14 06 00.5	+4.9
KMNR	**Kamenistaya**	**3.14**	**287**	*e*P		Pn	14 05 23.9	+4.4
KMNR				*e*S		Sn	14 05 59.9	+4.1
KPT	**Kopyto**	**3.20**	**291**	*e*P		Pn	14 05 24.5	+4.2
KOZ	**Kozyrevsk**	**3.42**	**291**	*e*P		Pn	14 05 27.8	+4.6
KII	**Karymskiy**	**3.68**	**258**	*e*P		Pn	14 05 30.9	+4.0
SPN	**Mys Shipunski**	**3.75**	**243**	*e*P		Pn	14 05 30.7	+2.9
ESO	**Esso**	**4.02**	**287**	*e*P		Pn	14 05 35.8	+4.3
NLC	**Nalytchevo**	**4.07**	**247**	*e*S		Sn	14 06 21.5	+3.0
SDLR	**Sedlovina**	**4.27**	**250**	*e*P		Pn	14 05 39.0	+4.0
SDLR				*e*S		Sn	14 06 26.2	+2.6
SMAR	**Somma**	**4.32**	**250**	*e*P		Pn	14 05 39.6	+3.8
SMAR				*e*S		Sn	14 06 27.4	+2.4
KRER	**Koryakskii**	**4.33**	**250**	*e*P		Pn	14 05 40.3	+4.4
UGLR	**Uglovaya**	**4.33**	**249**	*e*P		Pn	14 05 40.0	+4.1
UGLR				*e*S		Sn	14 06 28.1	+3.0
AVH	**Avacha**	**4.35**	**250**	*e*P		Pn	14 05 40.4	+4.3
KRX	**Arik**	**4.36**	**251**	*e*P		Pn	14 05 40.6	+4.3
KRX				*e*S		Sn	14 06 28.7	+2.8
KOK	**Koryaka**	**4.40**	**251**	*e*P		Pn	14 05 41.1	+4.4
DALK	**Dalny**	**4.45**	**247**	*e*P		Pn	14 05 41.1	+3.7
OSSR	**Ossora**	**4.52**	**343**	*e*P		Pn	14 05 41.6	+3.4
OSSR				*e*S		Sn	14 06 31.0	+1.6
GNL	**Ganaly**	**4.63**	**257**	*e*P		Pn	14 05 44.7	+4.7
KRMR	**Karymshinskiy**	**4.88**	**247**	*e*P		Pn	14 05 47.6	+4.4
RUS	**Russkaya**	**4.89**	**242**	*e*P		Pn	14 05 46.3	+3.0
MTVR	**Mutnovka**	**5.03**	**244**	*e*P		Pn	14 05 49.4	+4.0
KDTR	**Khodutka, Kamc**	**5.47**	**238**	*e*P		Pn	14 05 54.1	+2.7

*MAN **27** 14:22:56, 9˚.36N×126˚.73E, h6km, mb5.0, ML3.9, MS4.0*
*IDC **27** 14:22:59.8±4.2, 9˚.47N×126˚.54E, h34km±34km, mb3.8/17, mb1 3.9/20, mb1mx3.7/58, mbtmp4.1/20, ML3.9/3, MS3.2/6, Ms1 3.2/6, ms1mx2.7/63, Error ellipse: s-maj=25.7km s-min=12.6km az=81.0*
*NEIC **27** 14:23:00.4±1.5, 9˚.44N×126˚.46E, h41km±15km, mb4.0/1, Error ellipse: s-maj=17.5km s-min=8.3km az=88.0*
ISC 27 14:22:55.7±1.6, 9˚.34N±0˚.03×126˚.76E±0˚.05, h10km±9km, n49, σ1s86/52, mb4.0/22, 2C-4D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
BUTP	**Butuan**	**1.19**	**252**	*e*P		**Pg**	**14 23 17.8**	**-0.6**
BUTP				*e*S		**Sn**	**14 23 37.6**	**+3.0**
BIPH	**Bislig**	**1.22**	**199**	*i* P		**Pg**	**14 23 19.3**	**+0.2**
BIPH				*i* S		**Sg**	**14 23 32.7**	**-2.2**
SCPH	**Surigao**	**1.33**	**289**	*e*P		**Pg**	**14 23 20.9**	**-0.4**
SCPH				*e*S		**Sn**	**14 23 38.8**	**+0.7**
MSLP	**Maasin**	**2.03**	**293**	*e*P		**

λ84.00000°. NP2:ϕ≈232.00000°, δ45.00000°, λ96.00000°.
BJI **27** *14:48:33.4, 23°.79N × 121°.83E, h49km, mb4.3/32, mB4.5/21, ML4.2/8, Ms3.9/23, Ms7 3.8/19*
NEIC **27** *14:48:34.6±0.0, 23°.75N × 121°.87E, h34km, mb4.4/16, ML5.1(TAP), After TAP.*
NEIC Recorded [4 TAP] at Hualien; [3 TAP] at Changhua and Taitung; [2 TAP] at Nantou, Taichung, Yilan and Yunlin; [1 TAP] at Chiayi, Miaoli and Penghu.
JMA **27** *14:48:34.9±0.1, 23°.77N × 121°.74E, h41km±3km, M4.3*
ISCJB **27** *14:48:35.3±0.1, 23°.79N±0°.01×121°.79E±0°.01, h57km±1km, mb4.1/47, MS3.6/20, Error ellipse: s-maj=2.3km s-min=1.6km az=137.7*
TAP **27** *14:48:35.8, 23°.79N × 121°.73E, h44km, ML5.0, B*
IDC **27** *14:48:36.6±3.0, 23°.79N × 121°.79E, h58km±28km, mb3.9/32, mb1 4.0/34, mb1mx3.9/70, mbtmp4.1/34, ML3.8/2, MS3.5/24, Ms1 3.5/24, ms1mx3.3/69, Error ellipse: s-maj=13.6km s-min=10.3km az=62.0*
ISC 27 14:48:34.9±0.7, 23°.78N±0°.02×121°.79E±0°.02, h41km±5km, n240, σ1§67/323, mb4.2/47, MS3.6/20, 17C-61D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ENLB	**Shoufeng** baz=312	**0.21**	**305**	⇑*i*	*P*		**Pn**	**14 48 43.5**	**+1.0**
ENLB					*S*		**Sn**	**14 48 49.5**	**+1.9**
HWA	**Hwalien** baz=334	**0.26**	**319**	⇑*i*	*P*		**Pn**	**14 48 43.8**	**+0.9**
HWA					*eS*		**Sn**	**14 48 49.8**	**+1.4**
ESL	**Shilin** baz=274	**0.33**	**275**	⇑*i*	*P*		**Pn**	**14 48 44.1**	**+0.5**
ESL					*S*		**Sn**	**14 48 49.6**	**0.0**
TWD	**Chiawan** baz=341	**0.34**	**330**	⇑*i*	*P*		**Pn**	**14 48 44.4**	**+0.6**
TWD					*S*		**Sn**	**14 48 50.4**	**+0.4**
NACB	**Ninganchiao** baz=345	**0.43**	**336**	⇑	*P*		**Pn**	**14 48 45.2**	**+0.5**
NACB					*S*		**Sn**	**14 48 52.1**	**+0.4**
NACB	**Ninganchiao**	**0.43**	**336**		*ePn*		**Pn**	**14 48 45.3**	**+0.5**
NACB					*eSn*		**Sn**	**14 48 52.5**	**+0.7**
HGSD	**Ruisui** baz=220	**0.44**	**229**	⇑	*P*		**Pn**	**14 48 45.7**	**+0.8**
HGSD					*S*		**Sn**	**14 48 53.2**	**+1.2**
EHY	**Hungye** baz=241	**0.51**	**237**	⇑*i*	*P*		**Pn**	**14 48 46.0**	**+0.2**
OWD	**Renai** baz=287	**0.58**	**287**	⇓	*P*		**Pn**	**14 48 47.5**	**+0.5**
OWD					*eS*		**Sn**	**14 48 55.3**	**-0.2**
YULB	**Yu-li** baz=234	**0.59**	**229**	⇑	*P*		**Pn**	**14 48 47.2**	**+0.2**
YULB	**Yu-li**	**0.59**	**229**		*ePn*		**Pn**	**14 48 46.9**	**-0.1**
YULB					*eSn*		**Sn**	**14 48 56.1**	**+0.5**
CHGB	**Renai** baz=302	**0.62**	**296**	⇓	*P*		**Pn**	**14 48 48.2**	**+0.6**
CHGB					*S*		**Sn**	**14 48 56.5**	**-0.1**
NANB	**Nanao** baz=1.0	**0.64**	**357**	⇓	*P*		**Pn**	**14 48 48.3**	**+0.6**
NANB					*S*		**Sn**	**14 48 57.5**	**+0.7**
ENA	**Nanau** baz=1.0	**0.64**	**356**	⇓	*P*		**Pn**	**14 48 48.3**	**+0.7**
ENA					*eS*		**Sn**	**14 48 58.0**	**+1.3**
ENAH	**Nanao** baz=359	**0.66**	**2**	⇓	*P*		**Pn**	**14 48 48.9**	**+0.9**
ENAH					*eS*		**Sn**	**14 48 58.5**	**+1.3**
TWT	**Tachien** baz=311	**0.73**	**310**	⇓*i*	*P*		**Pn**	**14 48 49.9**	**+1.0**
TWT					*S*		**Sn**	**14 48 59.5**	**+0.4**
FULB	**Fuli** baz=226	**0.74**	**218**	⇓	*P*		**Pn**	**14 48 49.4**	**+0.4**
FULB					*eS*		**Sn**	**14 49 00.7**	**+1.7**
NNSB	**Datong** baz=327	**0.74**	**330**	⇓	*P*		**Pn**	**14 48 49.7**	**+0.6**
NNSB					*S*		**Sn**	**14 48 59.3**	**+0.1**
TDCB	**Techi** baz=311	**0.74**	**309**	⇓	*P*		**Pn**	**14 48 49.9**	**+0.8**
TDCB					*S*		**Sn**	**14 48 59.4**	**0.0**
NNS	**Nan Shan** baz=327	**0.76**	**330**	⇓*i*	*P*		**Pn**	**14 48 49.9**	**+0.6**
NNS					*eS*		**Sn**	**14 48 59.5**	**-0.1**
SSLB	**Suanglung** baz=265	**0.76**	**270**	⇓	*P*		**Pn**	**14 48 49.7**	**+0.4**
SSLB					*eS*		**Sn**	**14 48 59.5**	**-0.2**
SSLB	**Suanglung**	**0.76**	**270**		*ePn*		**Pn**	**14 48 49.8**	**+0.5**
SSLB					*eSn*		**Sn**	**14 48 59.8**	**+0.2**
CHKT	**Chengkung** baz=197	**0.78**	**210**	⇓*i*	*P*		**Pn**	**14 48 49.6**	**0.0**
CHKT					*eS*		**Sn**	**14 48 59.5**	**-0.6**
SMLT	**Sun Moon Lake** baz=279	**0.82**	**277**	⇓*i*	*P*		**Pn**	**14 48 51.0**	**+0.8**
SMLT					*S*		**Sn**	**14 49 01.2**	**+0.1**
EOS1	**EOS1** baz=37	**0.82**	**22**	⇑	*eP*		**Pn**	**14 48 51.9**	**+1.8**
EOS1					*eS*		**Sn**	**14 49 03.8**	**+2.8**
TWC	**Suao** baz=8.0	**0.82**	**4**	⇓*i*	*P*		**Pn**	**14 48 51.4**	**+1.3**
TWC					*S*		**Sn**	**14 49 02.4**	**+1.3**
DPDB	**Guoxing** baz=288	**0.83**	**288**	⇓*i*	*P*		**Pn**	**14 48 51.0**	**+0.8**
TYC	**Yuchr** baz=282	**0.86**	**278**	⇓*i*	*P*		**Pn**	**14 48 51.4**	**+0.8**
TYC					*eS*		**Sn**	**14 49 01.4**	**-0.6**
ENTT	**Nioudou** baz=349	**0.88**	**347**	⇓	*P*		**Pn**	**14 48 51.7**	**+0.8**
ELDTW	**Lidau** baz=223	**0.92**	**230**	⇑*i*	*P*		**Pn**	**14 48 51.6**	**+0.1**
ALS	**Alishan** baz=251	**0.94**	**253**	⇓	*P*		**Pn**	**14 48 53.1**	**+1.2**
ALS					*S*		**Sn**	**14 49 04.7**	**+0.3**
TWE	**Neicheng** baz=347	**0.94**	**353**	⇓*i*	*P*		**Pn**	**14 48 52.7**	**+1.1**
TWE					*S*		**Sn**	**14 49 04.8**	**+0.9**
YHNB	**Yeheng** baz=339	**0.96**	**337**	⇓	*P*		**Pn**	**14 48 53.0**	**+1.0**
YHNB					*eS*		**Sn**	**14 49 04.4**	**-0.2**
YHNB	**Yeheng**	**0.96**	**337**		*ePn*		**Pn**	**14 48 53.0**	**+1.0**
YHNB					*eSn*		**Sn**	**14 49 05.0**	**+0.5**
WJS	**Zhushan** baz=271	**0.97**	**272**	⇓	*P*		**Pn**	**14 48 53.8**	**+1.7**
WJS					*eS*		**Sn**	**14 49 06.5**	**+1.8**
ILA	**Ilan** baz=1.0	**0.98**	**358**		*P*		**Pn**	**14 48 53.7**	**+1.5**
ILA					*eS*		**Sn**	**14 49 07.0**	**+2.2**
WNT	**Mingjian** baz=275	**1.01**	**276**	⇓*i*	*P*		**Pn**	**14 48 54.5**	**+1.9**
WNT					*eS*		**Sn**	**14 49 07.7**	**+2.0**
NWLT	**Wulai** baz=341	**1.02**	**345**	⇓	*P*		**Pn**	**14 48 53.9**	**+1.0**
NWLT					*eS*		**Sn**	**14 49 06.0**	**0.0**
CHN5	**Tsauling** baz=258	**1.03**	**260**	⇓	*P*		**Pn**	**14 48 54.5**	**+1.4**
CHN5					*eS*		**Sn**	**14 49 08.1**	**+1.7**
EGS	baz=9.0	**1.06**	**7**	⇓	*P*		**Pn**	**14 48 55.3**	**+1.9**
NTC	**Toucheng** baz=3.0	**1.07**	**2**		*eP*		**Pn**	**14 48 54.4**	**+0.9**
TCU	**Taichung** baz=290	**1.08**	**290**	⇓	*P*		**Pn**	**14 48 55.6**	**+2.0**
TCU					*eS*		**Sn**	**14 49 09.9**	**+2.6**
TWQ1	**Liyutan** baz=302	**1.08**	**301**	⇓	*iP*		**Pn**	**14 48 55.4**	**+1.8**
TWQ1					*i S*		**Sn**	**14 49 08.9**	**+1.4**
TWH	**Lutao** baz=193	**1.10**	**195**	⇓	*P*		**Pn**	**14 48 54.0**	**0.0**
NSTT	**Nanjuang** baz=309	**1.11**	**320**	⇓	*iP*		**Pn**	**14 48 55.9**	**+1.9**
NSTT					*S*		**Sn**	**14 49 09.7**	**+1.6**
LIOB	**Emei** baz=310	**1.11**	**321**	⇓	*iP*		**Pn**	**14 48 56.2**	**+2.2**
LIOB					*S*		**Sn**	**14 49 09.4**	**+1.2**
WGK	**Gukeng** baz=264	**1.13**	**265**	⇓	*P*		**Pn**	**14 48 55.7**	**+1.5**
WGK					*eS*		**Sn**	**14 49 10.7**	**+2.2**
STYT	**Tauyuan** baz=229	**1.13**	**237**	⇑	*iP*		**Pn**	**14 48 55.7**	**+1.4**
WDLH	**Douliu** baz=264	**1.15**	**266**		*eP*		**Pn**	**14 48 56.3**	**+1.7**
WDLH					*eS*		**Sn**	**14 49 11.5**	**+2.4**
TWGBT	**Beinan** baz=213	**1.16**	**214**		*eP*		**Pn**	**14 48 54.3**	**-0.4**
TWG	**Pinlang** baz=213	**1.16**	**215**		*eP*		**Pn**	**14 48 54.3**	**-0.4**
TWG	**Pinlang**	**1.16**	**215**		*ePn*		**Pn**	**14 48 54.3**	**-0.4**
WCHH	**Zhanghua** baz=284	**1.16**	**285**	⇓	*P*		**Pn**	**14 48 56.7**	**+2.0**
WCHH					*eS*		**Sn**	**14 49 12.1**	**+2.7**
TPUB	**Ta-pu** baz=244	**1.17**	**246**	⇑	*P*		**Pn**	**14 48 56.4**	**+1.6**
TPUB					*S*		**Sn**	**14 49 11.4**	**+1.9**
TPUB	**Ta-pu**	**1.17**	**246**		*ePn*		**Pn**	**14 48 56.6**	**+1.8**
TPUB					*eSn*		**Sn**	**14 49 11.0**	**+1.5**
WLTB	**Daxi** baz=340	**1.17**	**336**	⇓	*iP*		**Pn**	**14 48 56.9**	**+2.1**
WLTB					*S*		**Sn**	**14 49 11.9**	**+2.3**
CHN4	**Tsaushan** baz=247	**1.18**	**249**		*eP*		**Pn**	**14 48 57.1**	**+2.2**
CHN4					*S*		**Sn**	**14 49 12.7**	**+3.0**
NMLH	**Miaoli** baz=311	**1.18**	**310**	⇓	*P*		**Pn**	**14 48 56.7**	**+1.7**
NMLH					*eS*		**Sn**	**14 49 12.2**	**+2.3**
TTN	**Taitung** baz=208	**1.18**	**210**		*eP*		**Pn**	**14 48 55.7**	**+0.7**
WTP	**Ta-pu** baz=241	**1.20**	**244**	⇑	*P*		**Pn**	**14 48 57.0**	**+1.7**
WTP					*eS*		**Sn**	**14 49 13.1**	**+2.7**
TATO	**Taipei** baz=349	**1.22**	**347**	⇓	*P*		**Pn**	**14 48 56.9**	**+1.4**
TATO					*S*		**Sn**	**14 49 11.9**	**+1.1**
TATO	**Taipei**	**1.22**	**347**		*ePn*		**Pn**	**14 48 56.7**	**+1.2**
TATO					*eSn*		**Sn**	**14 49 11.3**	**+0.6**
CHN2	**Minshiung** baz=257	**1.23**	**259**	⇓	*P*		**Pn**	**14 48 57.9**	**+2.3**
CHN2					*S*		**Sn**	**14 49 14.1**	**+3.1**
TWB1	**Santiao Chiao** baz=11	**1.23**	**9**	⇓	*P*		**Pn**	**14 48 57.4**	**+1.7**
TWB1					*eS*		**Sn**	**14 49 14.1**	**+2.9**
SBCB	**Hsinchu** baz=326	**1.24**	**324**	⇓	*P*		**Pn**	**14 48 57.8**	**+2.0**
SBCB					*S*		**Sn**	**14 49 14.2**	**+2.8**
JYNG	**Yonagunijimaku**	**1.25**	**58**		*P*		**Pn**	**14 48 57.7**	**+1.8**
HSN	**Hsinchu** baz=328	**1.26**	**324**	⇓	*P*		**Pn**	**14 48 58.1**	**+2.0**
HSN					*S*		**Sn**	**14 49 14.7**	**+2.9**
TAP	**Taipei** baz=351	**1.28**	**349**		*eP*		**Pn**	**14 48 57.0**	**+0.7**
TAP					*eS*		**Sn**	**14 49 13.5**	**+1.3**
CHY	**Chiayi** baz=255	**1.28**	**257**		*eP*		**Pn**	**14 48 58.1**	**+1.7**
CHY					*eS*		**Sn**	**14 49 14.8**	**+2.5**
NWF	**Wu-fen Shan** baz=350	**1.28**	**360**	⇓*i*	*P*		**Pn**	**14 48 58.3**	**+1.8**
NWF					*S*		**Sn**	**14 49 15.0**	**+2.5**
WFSB	**Wu-fen Shan** baz=350	**1.28**	**360**	⇓	*P*		**Pn**	**14 48 58.3**	**+1.9**
WFSB					*S*		**Sn**	**14 49 14.5**	**+2.2**
TWK	**Hsinying** baz=244	**1.30**	**247**	⇓	*P*		**Pn**	**14 48 58.4**	**+1.7**
TWK					*eS*		**Sn**	**14 49 15.1**	**+2.2**
CHN1	**Nanshi** baz=241	**1.30**	**243**	⇑	*eP*		**Pn**	**14 48 58.3**	**+1.7**
CHN1					*eS*		**Sn**	**14 49 15.4**	**+2.6**
NCUH	**Zhongli** baz=336	**1.30**	**335**		*eP*		**Pn**	**14 48 58.4**	**+1.7**
NCU	**National Centr** baz=338	**1.30**	**335**	⇓	*P*		**Pn**	**14 48 58.1**	**+1.5**
NCU					*S*		**Sn**	**14 49 15.2**	**+2.3**
SGST	**Jiashian** baz=236	**1.31**	**238**	⇑	*P*		**Pn**	**14 48 58.8**	**+2.0**
SGST					*S*		**Sn**	**14 49 16.2**	**+3.2**
YOJ	**Yonaguni jima** baz=60	**1.31**	**59**		*P*		**Pn**	**14 48 58.6**	**+1.9**
YOJ					*S*		**Sn**	**14 49 15.2**	**+2.3**
YOJ	**Yonaguni jima**	**1.31**	**59**		*P*		**Pn**	**14 48 58.5**	**+1.8**
YOJ					*S*		**Sn**	**14 49 15.1**	**+2.1**
YOJ	**Yonaguni jima**	**1.31**	**59**		*ePn*		**Pn**	**14 48 58.6**	**+1.9**
YOJ					*eSn*		**Sn**	**14 49 12.8**	**-0.2**
SLGT	**Liugui** baz=221	**1.31**	**233**		*eP*		**Pn**	**14 48 58.9**	**+2.1**
SLGT					*eS*		**Sn**	**14 49 16.2**	**+3.2**
RLNB	**Erlin** baz=274	**1.31**	**275**	⇓	*P*		**Pn**	**14 48 58.6**	**+1.9**
RLNB					*eS*		**Sn**	**14 49 15.4**	**+2.4**
TWS1	**Kuangyinshan** baz=348	**1.35**	**346**		*eP*		**Pn**	**14 48 58.6**	**+1.2**
TWS1					*eS*		**Sn**	**14 49 15.8**	**+1.7**
WTCT	**Ta-ch'eng** baz=272	**1.38**	**274**	⇓	*iP*		**Pn**	**14 48 59.5**	**+1.8**
WTCT					*S*		**Sn**	**14 49 17.4**	**+2.6**
YM10	**YM10** baz=352	**1.38**	**351**	⇓	*P*		**Pn**	**14 48 58.8**	**+1.0**
YM04	**YM04** baz=351	**1.38**	**351**		*P*		**Pn**	**14 48 58.6**	**+0.8**
YM11	**YM11** baz=353	**1.39**	**352**	⇓	*P*		**Pn**	**14 48 59.0**	**+1.0**
YM07	**YM07** baz=342	**1.39**	**354**	⇓	*eP*		**Pn**	**14 48 58.0**	**0.0**
WLGB	**Puzi** baz=256	**1.40**	**258**		*eP*		**Pn**	**14 48 59.4**	**+1.5**
WLGB					*eS*		**Sn**	**14 49 17.9**	**+2.7**
ECL	**Taimali** baz=212	**1.41**	**213**	⇓	*P*		**Pn**	**14 48 57.5**	**-0.6**
YM03	**YM03** baz=351	**1.41**	**351**	⇓	*P*		**Pn**	**14 48 58.9**	**+0.8**
NTST	**Danshui** baz=348	**1.41**	**347**		*eP*		**Pn**	**14 48 59.3**	**+1.2**
YM08	**YM08** baz=341	**1.41**	**353**	⇓	*P*		**Pn**	**14 48 58.9**	**+0.7**
WSF	**Szhu** baz=263	**1.44**	**265**	⇓	*iP*		**Pn**	**14 49 00.1**	**+1.6**
WSF					*eS*		**Sn**	**14 49 18.4**	**+2.1**
SSD	**Sandimen** baz=223	**1.48**	**226**		*eP*		**Pn**	**14 49 00.2**	**+1.1**
SSD					*eS*		**Sn**	**14 49 20.3**	**+3.0**
CHN3	**Shinhua** baz=240	**1.48**	**242**		*eP*		**Pn**	**14 49 01.8**	**+2.7**
CHN3					*eS*		**Sn**	**14 49 21.0**	**+3.7**
TWY	**Chenhua** baz=343	**1.50**	**354**		*eP*		**Pn**	**14 49 00.2**	**+0.9**
CHN8	**Yiju** baz=251	**1.51**	**254**		*eP*		**Pn**	**14 49 00.9**	**+1.4**
CHN8					*eS*		**Sn**	**14 49 20.2**	**+2.3**
TWM1	**Shoushan** baz=244	**1.58**	**233**		*eP*		**Pn**	**14 49 03.4**	**+2.9**
MASBT	**Mashibuluo** baz=220	**1.58**	**223**	⇓	*eP*		**Pn**	**14 49 01.3**	**+0.9**
MASBT					*eS*		**Sn**	**14 49 21.7**	**+2.1**
SCLT	**Jiali** baz=246	**1.58**	**248**	⇑	*P*		**Pn**	**14 49 02.2**	**+1.7**
SCLT					*S*		**Sn**	**14 49 22.2**	**+2.5**
SGLT	**Jiouru** baz=215	**1.59**	**229**		*eP*		**Pn**	**14 49 03.8**	**+3.2**
SGLT					*eS*		**Sn**	**14 49 25.1**	**+5.2**
TAI1	**Yung-k'ang** baz=253	**1.61**	**243**		*eP*		**Pn**	**14 49 03.2**	**+2.3**
TAI1					*eS*		**Sn**	**14 49 23.4**	**+3.0**
TAW	**Tawu** baz=209	**1.64**	**210**		*eP*		**Pn**	**14 49 01.3**	**+0.1**
EAST	**Anshuo** baz=211	**1.64**	**212**		*eP*		**Pn**	**14 49 01.2**	**-0.2**
SSPT	**Xinbi** baz=221	**1.71**	**221**		*eP*		**Pn**	**14 49 05.2**	**+3.0**
LAY	**Lan-yu** baz=187	**1.75**	**187**	⇓	*P*		**Pn**	**14 49 02.3**	**-0.5**
SCZT	**Fangliau** baz=217	**1.77**	**218**		*eP*		**Pn**	**14 49 04.5**	**+1.4**
IRIF	**Iriomote-Funau**	**1.86**	**72**		*P*		**Pn**	**14 49 06.3**	**+2.0**
IRIF					*S*		**Sn**	**14 49 29.2**	**+2.6**
HATJ	**Hateruma jima**	**1.87**	**81**		*P*		**Pn**	**14 49 06.4**	**+2.0**
HATJ					*S*		**Sn**	**14 49 29.0**	**+2.2**
WLCH	**Liuqiu** baz=223	**1.93**	**223**		*eP*		**Pn**	**14 49 08.8**	**+3.5**
TWP	**Hsiaoliuchiu** baz=223	**1.94**	**223**		*eP*		**Pn**	**14 49 08.4**	**+3.0**
HEN	**Hengchun** baz=199	**2.02**	**209**		*eP*		**Pn**	**14 49 08.5**	**+2.1**
WDGT	**Dungji** baz=253	**2.02**	**255**		*eP*		**Pn**	**14 49 07.2**	**+0.8**
WDGT					*eS*		**Sn**	**14 49 30.1**	**-0.5**
TWKBT	**Hengchun** baz=194	**2.04**	**206**	⇓	*eP*		**Pn**	**14 49 07.6**	**+0.7**
TWKBT					*eS*		**Sn**	**14 49 32.0**	**+1.0**
TWK1	**Hengchun** baz=198	**2.04**	**206**		*eP*		**Pn**	**14 49 07.5**	**+0.7**
TSEB	**Hengchuen, Pin** baz=193	**2.04**	**204**		*eP*		**Pn**	**14 49 07.9**	**+1.0**
TSEB					*eS*		**Sn**	**14 49 32.0**	**+0.9**
PHUB	**P'eng-hu** baz=249	**2.05**	**263**	⇓	*P*		**Pn**	**14 49 07.8**	**+0.9**
PHUB					*eS*		**Sn**	**14 49 31.3**	**+0.1**
PNG	**Penghu** baz=262	**2.06**	**264**	⇓	*P*		**Pn**	**14 49 07.9**	**+0.9**
PNG					*eS*		**Sn**	**14 49 31.8**	**+0.3**
JKRS	**Kuro-shima**	**2.08**	**77**		*P*		**Pn**	**14 49 09.6**	**+2.3**
JKRS					*S*		**Sn**	**14 49 34.8**	**+2.7**
JIJ	**Ishigaki jima**	**2.23**	**75**		*P*		**Pn**	**14 49 11.0**	**+1.6**
JIJ					*eS*		**Sn**	**14 49 36.7**	**+1.0**
JISG	**Ishigakijimahi**	**2.44**	**70**		*P*		**Pn**	**14 49 13.8**	**+1.5**
JISG					*S*		**Sn**	**14 49 41.9**	**+1.0**
VWUC	**VWUC** baz=300	**2.45**	**300**	⇓	*eP*		**Pn**	**14 49 12.3**	**-0.1**
JTJ	**Tarama**	**2.80**	**72**		*P*		**Pn**	**14 49 18.9**	**+1.7**
JTJ					*S*		**Sn**	**14 49 51.6**	**+2.0**
MATB	**Ma-tsu** baz=314	**2.89**	**325**	⇓	*eP*		**Pn**	**14 49 18.3**	**-0.2**
QZH	**Quanzhou**	**3.13**	**292**	⇓	*iP*		**Pn**	**14 49 21.5**	**-0.3**
QZH					*S*		**Sn**	**14 49 55.0**	**-3.0**
QZH	comp=N,2μm,0.2s					smax	smax		
QZH	comp=E,950nm,0.2s					smax	smax		
KNMB	**Chin-men Tao** baz=282	**3.18**	**283**	⇓	*eP*		**Pn**	**14 49 22.5**	**+0.1**
JIRB	**Irabujima**	**3.26**	**71**		*P*		**Pn**	**14 49 25.4**	**+1.9**
JIRB					*eS*		**Sn**	**14 50 02.1**	**+1.0**
JIKM	**Ikemajima**	**3.35**	**70**		*P*		**Pn**	**14 49 27.0**	**+2.2**
JIKM					*eS*		**Sn**	**14 50 05.0**	**+1.6**
JMJ	**Miyako jima 2** baz=84	**3.36**	**71**		*eP*		**Pn**	**14 49 27.3**	**+2.4**
JMJ	**Miyako jima 2**	**3.36**	**71**		*P*		**Pn**	**14 49 27.5**	**+2.6**
JMJ					*eS*		**Sn**	**14 50 05.4**	**+1.8**
JOGS	**Gusukube**	**3.44**	**73**		*P*		**Pn**	**14 49 28.2**	**+2.1**
JOGS					*S*		**Sn**	**14 50 07.9**	**+2.3**
JOW	**Kunigami** 5.6nm,0.3s,baz=330,slow=9.5,SNR=35	**6.61**	**61**		*P*		**Pn**	**14 50 10.0**	**+0.4**
JOW	baz=346,slow=17,SNR=2.0					*S*	**Sn**	**14 51 18.1**	**-5.6**
JOW	**Kunigami** baz=61	**6.61**	**61**		*eP*		**Pn**	**14 50 10.9**	**+1.3**
WHN	**Wuhan**	**9.44**	**317**	⇑	*P*		**Pn**	**14 50 48.3**	**-0.1**
WHN					*S*		**Sn**	**14 52 36.3**	**+3.1**
TGY	**Tagaytay City** comp=Z,152nm,20.8s,baz=74,slow=37	**9.66**	**185**		LR		LR	14 54 30.4	
JNU	**Nakatsue** comp=Z,117nm,19.2s,baz=202,slow=42	**12.26**	**39**		LR		LR	14 57 07.3	
ENH	**Enshi** 23nm,1.1s	**12.72**	**303**		*ePn*		**Pn**	**14 51 30.6**	**-2.7**
GYA	**Guiyang**	**13.96**	**284**		*eP*		**Pn**	**14 51 50.8**	**+0.5**
GYA					*pP*		P	14 51 59.8	+2.3
GYA					*S*		**Sn**	**14 54 24.0**	**+0.1**
GYA					*SS*		**S**	**14 54 41.8**	**-2.4**
GYA	comp=Z,10.0nm,0.7s					pmax	pmax		
GYA	comp=N,430nm,9.7s					LR	LR		
GYA	comp=E,360nm,10.3s					LR	LR		
GYA	comp=Z,350nm,10.1s					LR	LR		
KSAR	**Wonju Array Be**	**14.59**	**20**		*P*		**P**	**14 52 02.9**	**-1.4**
KSRS	**Korea Array** 0.4nm,0.3s,baz=202,slow=12,SNR=8.5	**14.61**	**20**		*P*		**P**	**14 52 02.9**	**-1.6**
KSRS	comp=Z,127nm,18.1s,baz=196,slow=40					LR	LR	14 58 23.1	
XAN	**Xi'an**	**15.20**	**315**		*P*		**Pn**	**14 52 07.0**	**+0.3**
XAN	comp=Z,11nm,0.9s					pmax	pmax		
XAN	comp=Z,100nm,4.3s					pmax	pmax		
DAV	**Davao City (W)** comp=Z,87nm,18.9s,baz=350,slow=39	**17.01**	**167**		LR		LR	14 59 45.0	
CD2	**Chengdu**	**17.51**	**298**		*eP*		**Pn**	**14 52 35.8**	**-0.2**
CD2					*pP*		pP	14 52 47.5	+0.6
CD2					*sP*		sP	14 52 54.0	+1.9
CD2					*S*		**Sn**	**14 55 50.5**	**+0.4**
CD2	comp=Z,10.0nm,0.5s					pmax	pmax		
CD2	comp=Z,120nm,5.0s					pmax	pmax		
CD2	comp=E,310nm,15.9s					LR	LR		
CD2	comp=Z,430nm,11.5s					LR	LR		
JHJ	**Hachijo jima 2** comp=Z,64nm,20.3s,baz=106,slow=35	**18.33**	**56**		LR		LR	14 59 21.9	
MAJO	**Matsushiro**	**19.02**	**44**		*eP*		**Pn**	**14 52 55.4**	**+0.9**
MJAR	**Matsushiro Arr** 0.2nm,0.3s,baz=236,slow=9.5,SNR=3.0	**19.02**	**44**		*P*		**Pn**	**14 52 55.4**	**+0.9**
MJAR	comp=Z,59nm,20.9s,baz=205,slow=40					LR	LR	15 01 19.4	
HHC	**Hu-ho-hao-te**	**19.06**	**336**		*eP*		**Pn**	**14 52 56.5**	**+1.6**
HHC					*S*		**Sn**	**14 56 24.3**	**-3.2**
HHC	comp=Z,28nm,0.8s					pmax	pmax		
HHC	comp=Z,44nm,4.0s					pmax	pmax		
HHC	comp=N,1μm,10.4s					LR	LR		
HHC						LR	LR		

comp=E,1μm,11.8s
HHC LR LR
comp=Z,1μm,11.2s
LZH Lanzhou 19.76 312 *eP* **Pn 14 53 05.8 +2.4**
LZH pP sP 14 53 17.5 +0.5
LZH PP **PnPn 14 53 23.3 +5.4**
LZH *eS* **S 14 56 37.5 -4.8**
LZH sS Sn 14 56 51.8 +7.2
LZH SS **SnSn 14 57 05.5 +6.2**
LZH pmax pmax
comp=Z,43nm,1.4s
LZH pmax pmax
comp=Z,170nm,5.3s
LZH LR LR
comp=N,330nm,10.6s
LZH LR LR
comp=E,370nm,10.0s
LZH LR LR
comp=Z,600nm,12.4s
CHTO Chiang Mai 21.84 261 *eP* **P 14 53 23.7 -0.3**
11nm,1.2s
CM01 Chiang Mai Arr 21.94 260 *eP* **P 14 53 25.6 +0.4**
CM31 Chiang Mai Arr 21.95 260 *eP* **P 14 53 26.2 +1.0**
CMAR Chiang Mai Arr 21.95 260 P **P 14 53 26.2 +1.0**
1.4nm,0.7s,baz=66,slow=8.0,SNR=11
CMAR LR LR 15 01 52.5
comp=Z,96nm,21.0s,baz=46,slow=36
USRK Ussuriysk Ar. 22.02 20 P **P 14 53 25.9 +0.2**
1.4nm,0.6s,baz=170,slow=9.6,SNR=3.5
GUMO Guam 24.07 111 LR LR 15 01 52.5
comp=Z,43nm,20.2s,baz=286,slow=33
GTA Gaotai 24.26 315 *eP* **P 14 53 49.5 +1.2**
GTA pmax pmax
comp=Z,4.0nm,1.3s
ASAJ Asahikawa 26.50 35 P **P 14 54 07.3 -1.1**
1.1nm,0.6s,baz=306,slow=18,SNR=2.5
KLR Kul'dur 26.58 15 P **P 14 54 09.2 +0.1**
0.1nm,0.5s,baz=180,slow=8.0,SNR=3.3
KLR LR LR 15 05 41.6
comp=Z,9.8nm,19.4s,baz=252,slow=39
ULN Ulaanbaatar 26.74 338 *eP* **P 14 54 08.0 -2.7**
2.7nm,0.8s
SONA0 Songino Array 26.95 337 *eP* **P 14 54 12.6 0.0**
SONM Songino Array 26.95 337 P **P 14 54 12.6 0.0**
1.7nm,0.6s,baz=153,slow=9.7,SNR=15
SONM LR LR 15 06 11.3
comp=Z,197nm,18.7s,baz=144,slow=39
SONA1 Songino Array 26.96 337 *eP* **P 14 54 11.9 -0.8**
LSA Lhasa 27.94 289 *eP* **P 14 54 21.4 -0.6**
14nm,0.6s
TLY Talaya 31.15 338 LR LR 15 08 46.7
comp=Z,109nm,18.9s,baz=135,slow=39
ODAN Odare 31.19 283 *eP* **P 14 54 52.0 +1.4**
RAMN Ramite 31.89 283 *eP* **P 14 54 58.2 +1.4**
JIRN Jiri 32.23 285 *eP* **P 14 55 01.3 +1.4**
54nm,0.8s
GUN Gumba 32.50 285 *eP* **P 14 55 03.4 +1.1**
24nm,0.8s
PKIN Phulchoki 32.94 284 *eP* **P 14 55 06.3 +0.3**
KKN Kakani 33.03 285 *eP* **P 14 55 07.5 +0.7**
27nm,1.0s
DMN Daman 33.20 284 *eP* **P 14 55 08.9 +0.7**
20nm,0.9s
GKN Gorkha 33.60 285 *eP* **P 14 55 12.1 +0.5**
WMQ Urumqi 34.33 314 P **P 14 55 19.0 +1.3**
WMQ pmax pmax
comp=Z,21nm,0.7s
WMQ pmax pmax
comp=Z,190nm,6.1s
WMQ LR LR
comp=N,77nm,22.5s
WMQ LR LR
comp=E,51nm,19.9s
WMQ LR LR
comp=Z,54nm,17.3s
KOLN Koldanda 34.52 285 *eP* **P 14 55 20.6 +0.9**
22nm,0.9s
PYUN Piuthan 35.05 285 *eP* **P 14 55 25.1 +0.8**
MK01 Makanchi Array 38.99 316 *eP* **P 14 55 57.3 0.0**
MK31 Makanchi Array 39.01 316 *eP* **P 14 55 56.3 -1.1**
MK32 Makanchi Array 39.01 316 *eP* **P 14 55 57.6 +0.2**
MKAR Makanchi Array 39.01 316 P **P 14 55 57.6 +0.2**
2.1nm,0.6s,baz=108,slow=9.4,SNR=31
MKAR LR LR 15 13 32.6
comp=Z,128nm,18.3s,baz=68,slow=38
MAKZ Makanchi 39.21 316 *eP* **P 14 55 57.5 -1.6**
2.9nm,0.7s
PETK Petropavlovsk- 39.89 33 LR LR 15 13 12.6
comp=Z,49nm,18.4s,baz=221,slow=37
ZAA0 Zalesovo Array 40.88 327 *eP* **P 14 56 10.9 -1.9**
3.1nm,0.8s
ZALV Zalesovo Beam 40.88 327 P **P 14 56 12.2 -0.6**
2.9nm,0.5s,baz=118,slow=7.6,SNR=10
ZALV LR LR 15 14 23.7
comp=Z,93nm,19.6s,baz=139,slow=38
ZALV Zalesovo Beam 40.88 327 *eP* **P 14 56 11.6 -1.2**
ZAA1 Zalesovo Array 40.88 327 *eP* **P 14 56 12.2 -0.6**
MA2 Magadan 41.15 22 LR LR 15 14 55.7
comp=Z,76nm,18.4s,baz=264,slow=38
PMG Port Moresby 41.27 140 P **P 14 56 17.1 +0.7**
7.4nm,1.0s,baz=315,slow=5.7,SNR=3.7
H11N1 WAKE ISLAND Hy 41.96 87 T T 15 41 35.7
baz=283,slow=74,SNR=56
H11N2 WAKE ISLAND Hy 41.96 86 T T 15 41 36.5
baz=283,slow=74,SNR=70
H11N3 WAKE ISLAND Hy 41.98 87 T T 15 41 36.9
baz=283,slow=74,SNR=31
H11S3 WAKE ISLAND Hy 42.08 88 T T 15 41 43.5
baz=284,slow=75,SNR=255
H11S1 WAKE ISLAND Hy 42.09 88 T T 15 41 49.0
baz=284,slow=75,SNR=195
H11S2 WAKE ISLAND Hy 42.10 88 T T 15 41 44.9
baz=284,slow=75,SNR=254
KURK Kurchatov 42.75 320 *eP* **P 14 56 28.5 +0.3**
3.9nm,1.1s
KURBB Kurchatov Arra 42.77 320 P **P 14 56 28.5 +0.2**
1.3nm,0.5s,baz=109,slow=9.9,SNR=14
SEY Seymchan 44.17 20 P **P 14 56 40.0 +0.7**
0.8nm,0.7s,baz=185,slow=12,SNR=2.7
WR1 Warramunga Arr 45.15 163 *eP* **P 14 56 46.8 -0.9**
4.6nm,0.6s
WRA Warramunga Arr 45.15 163 P **P 14 56 46.8 -0.9**
2.9nm,0.5s,baz=346,slow=8.7,SNR=74
BVAR Borovoye Array 48.33 321 P **P 14 57 12.0 -0.2**
1.1nm,0.4s,baz=105,slow=9.3,SNR=9.8
AS31 Alice Springs 48.61 165 *eP* **P 14 57 14.2 -0.5**
1.0nm,0.9s
ASAR Alice Springs 48.61 165 P **P 14 57 14.4 -0.3**
1.1nm,0.4s,baz=340,slow=7.1,SNR=46
AS01 Alice Springs 48.62 165 *eP* **P 14 57 12.0 -2.8**
CTA Charters Tower 49.70 149 P **P 14 57 23.6 +0.5**
3.3nm,0.7s,baz=346,slow=12,SNR=3.2
ABKAR Akbulak array 54.11 315 *eP* P 14 57 48.7 -7.0
AKTO Aktyubinsk 55.44 316 P **P 14 58 05.8 +0.5**
1.1nm,0.5s,baz=61,slow=10,SNR=2.6
AKTO LR LR 15 23 25.7
comp=Z,52nm,21.6s,baz=114,slow=38
GEYT Alibeck 55.47 301 P **P 14 58 06.8 +1.1**
2.7nm,0.7s,baz=114,slow=1.8,SNR=6.7
ARU Arti 55.76 323 P **P 14 58 06.7 -0.7**
1.6nm,0.4s,baz=101,slow=16
ARU Arti 55.76 323 *eP* P 14 58 03.9 -3.5
4.5nm,1.1s
WSAR Wadi Sarin 57.46 283 P **P 14 58 20.7 +0.6**
1.8nm,0.6s,baz=71,slow=1.7,SNR=2.8
STKA Stephens Creek 58.50 160 P **P 14 58 26.6 -0.4**
4.0nm,0.5s,baz=344,slow=6.7,SNR=29
STKA Stephens Creek 58.50 160 *eP* **P 14 58 26.6 -0.4**
0.8nm,0.6s
GNI Garni 65.48 305 LR LR 15 32 21.4
comp=Z,27nm,18.0s,baz=40,slow=40
IM3 Indian Mountai 66.29 26 *eP* **P 14 59 20.0 +1.2**
CAST Castle Rocks 67.30 29 *eP* **P 14 59 26.1 +0.9**
3.4nm,0.8s
TOLK Toolik Lake Re 67.60 23 *eP* **P 14 59 26.4 -0.7**
5.9nm,0.6s
MDM Murphy Dome 68.72 27 *eP* **P 14 59 34.2 +0.1**
8.1nm,0.8s
RND Reindeer 68.73 29 *eP* **P 14 59 35.1 +0.8**
8.1nm,0.6s
ILAR Eielson Array 69.31 27 P **P 14 59 37.9 +0.1**
1.4nm,0.6s,baz=297,slow=7.8,SNR=23
SPITS Spitsbergen Ar 69.99 348 P **P 14 59 41.4 -0.4**
4.4nm,0.9s,baz=35,slow=5.3,SNR=4.2
SPITS LR LR 15 34 42.8
comp=Z,68nm,18.3s,baz=50,slow=40
FIA0 FINESS Array S 72.07 330 *eP* **P 14 59 53.6 -1.0**
FINES FINESS Array B 72.07 330 P **P 14 59 53.6 -1.0**
0.7nm,0.4s,baz=46,slow=5.5,SNR=7.0
FINES LR LR 15 34 30.7
comp=Z,68nm,19.7s,baz=50,slow=38
INK Inuvik 73.39 22 P **P 15 00 02.4 +0.2**
7.4nm,0.7s,baz=302,slow=6.2,SNR=40
INK Inuvik 73.39 22 *eP* **P 15 00 01.1 -1.2**
9.1nm,0.8s
AKASG Malin Array Be 73.53 319 P **P 15 00 02.4 -1.1**
0.8nm,0.5s,baz=62,slow=6.3,SNR=3.6
BR101 Keskin Array S 73.85 307 *eP* **P 15 00 05.8 0.0**
BRTR Keskin Array B 73.85 307 P **P 15 00 05.8 0.0**
1.0nm,0.5s,baz=103,slow=5.3,SNR=8.8
MLR Muntele Rosu 77.32 314 P **P 15 00 25.0 -0.5**
0.5nm,0.6s,baz=217,slow=7.3,SNR=3.7
MLR LR LR 15 37 45.5
comp=Z,7.3nm,18.7s,baz=164,slow=38
HFS Hagfors 78.18 331 P **P 15 00 29.1 -0.7**
1.4nm,0.7s,baz=59,slow=5.6,SNR=3.7
HFS LR LR 15 38 19.7
comp=Z,124nm,18.6s,baz=84,slow=38
NB200 NORSAR Array S 78.83 332 *eP* **P 15 00 32.6 -0.8**
NOA NORSAR Array B 78.83 332 P **P 15 00 32.7 -0.8**
0.7nm,0.7s,baz=64,slow=4.5,SNR=3.0
NOA LR LR 15 38 50.6
comp=Z,81nm,19.2s,baz=60,slow=38
IDI Anoyia 81.92 305 P **P 15 00 49.5 -1.0**
2.2nm,0.6s,baz=34,slow=11,SNR=3.5
YKA Yellowknife Ar 83.12 23 P **P 15 00 56.0 -0.2**
1.2nm,0.6s,baz=310,slow=5.0,SNR=43
YKA Yellowknife Ar 83.12 23 P **P 15 00 56.0 -0.2**
GEC2 GERESS Array S 83.50 321 *eP* **P 15 00 58.2 -0.3**
2.7nm,1.0s
GERES GERESS Array B 83.50 321 P **P 15 00 58.2 -0.3**
1.7nm,0.7s,baz=59,slow=3.9,SNR=12
GERES LR LR 15 41 24.3
comp=Z,27nm,18.5s,baz=82,slow=38
GEA0 GERESS Array S 83.50 321 *eP* **P 15 00 56.5 -2.1**
BORG Borgarnes 87.25 345 LR LR 15 43 09.8
comp=Z,31nm,20.2s,baz=16,slow=38
EKA Eskdalemuir Ar 88.32 332 LR LR 15 44 30.2
comp=Z,54nm,19.5s,baz=75,slow=38
YBH Yreka Blue Hor 91.68 43 P **P 15 01 38.8 +0.5**
1.6nm,0.8s,baz=0.0,slow=12,SNR=2.9
NVAR Mina Array Bea 96.35 43 P **P 15 01 59.2 -0.7**
0.8nm,0.8s,baz=279,slow=5.5,SNR=6.2
SDV Santo Domingo 145.34 22 PKPbc **PKPbc 15 08 08.2 -1.1**
4.8nm,0.6s,baz=326,slow=3.3,SNR=5.8

MEX 27 14:52:08.0±0.7, 28.11N×112.40W, h10km, MD3.9, Gulf of California

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SRIG	**Santa Rosalia**	**0.80**	**170**	*eP*		Pg	14 52 21.1	-2.4
SRIG				*eS*		Sg	14 52 32.0	-1.9
GUYB	**Guaymas**	**1.36**	**99**	*eP*		Pn	14 52 29.3	-3.7
GUYB				*eS*		Sb	14 52 46.6	-4.5
HSIG		**1.56**	**54**	*eP*		Pn	14 52 31.8	-4.1
HSIG				*eS*		Sn	14 52 51.0	-5.1

ISCJB ***27*** *15:02:29.8±0.3, 24.62N±0.02×122.35E±0.01, h77km±3km, Error ellipse: s-maj=3.5km s-min=2.1km az=167.5*
JMA ***27*** *15:02:29.4±0.1, 24.56N×122.32E, h83km±2km, M3.1*
TAP ***27*** *15:02:29.9, 24.63N×122.28E, h82km, ML3.9, C*
ISC 27 15:02:30.0±1.2, 24.62N±0.03×122.34E±0.02, h79km±6km, n92, σ0.84/172, 1C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
EOS1	**EOS1**	**0.20**	**251**	P		**Pn**	**15 02 42.1**	**+0.5**
	baz=240							
EOS1				*eS*		**Sn**	**15 02 51.5**	**+1.3**
	baz=240							
EGS		**0.43**	**302**	P		**Pn**	**15 02 43.4**	**+0.2**
	baz=305							
EGS				*eS*		**Sn**	**15 02 53.5**	**+0.8**
	baz=305							
TWC	**Suao**	**0.45**	**269**	P		**Pn**	**15 02 43.0**	**-0.2**
	baz=267							
TWC				*eS*		**Sn**	**15 02 52.6**	**-0.4**
	baz=267							
TWB1	**Santiao Chiao**	**0.51**	**321**	*eP*		**Pn**	**15 02 43.7**	**0.0**
	baz=326							
TWB1				*eS*		**Sn**	**15 02 53.0**	**-0.8**
	baz=326							
ENAH	**Nanao**	**0.51**	**251**	P		**Pn**	**15 02 44.0**	**+0.2**
	baz=247							
ENAH				*eS*		**Sn**	**15 02 54.3**	**+0.4**
	baz=247							
NTC	**Toucheng**	**0.52**	**297**	*eP*		**Pn**	**15 02 43.6**	**-0.2**
	baz=299							
NTC				*eS*		**Sn**	**15 02 53.5**	**-0.5**
	baz=299							
ILA	**Ilan**	**0.56**	**286**	*eP*		**Pn**	**15 02 44.5**	**+0.4**
	baz=286							
ILA				*eS*		**Sn**	**15 02 55.0**	**+0.4**
	baz=286							
NANB	**Nanao**	**0.57**	**251**	P		**Pn**	**15 02 44.5**	**+0.2**
	baz=247							
NANB				*eS*		**Sn**	**15 02 55.1**	**+0.2**
	baz=247							
ENA	**Nanau**	**0.57**	**251**	⇑ *iP*		**Pn**	**15 02 44.6**	**+0.2**
	baz=247							
ENA				S		**Sn**	**15 02 55.6**	**+0.7**
	baz=247							
JYNG	**Yonagunijimaku**	**0.58**	**106**	P		**Pn**	**15 02 44.4**	**0.0**
JYNG				S		**Sn**	**15 02 55.1**	**+0.1**
TWE	**Neicheng**	**0.62**	**280**	*eP*		**Pn**	**15 02 45.0**	**+0.2**
	baz=279							
TWE				*eS*		**Sn**	**15 02 55.3**	**-0.4**
	baz=279							
YOJ	**Yonaguni jima**	**0.63**	**104**	*eP*		**Pn**	**15 02 44.9**	**0.0**
	baz=103							
YOJ				*eS*		**Sn**	**15 02 55.0**	**-0.9**
	baz=103							
YOJ	**Yonaguni jima**	**0.63**	**104**	P		**Pn**	**15 02 44.9**	**0.0**
YOJ				*eS*		**Sn**	**15 02 55.9**	**0.0**
NWF	**Wu-fen Shan**	**0.68**	**312**	*eP*		**Pn**	**15 02 45.7**	**+0.2**
	baz=314							
NWF				*eS*		**Sn**	**15 02 56.8**	**-0.2**
	baz=314							
WFSB	**Wu-fen Shan**	**0.68**	**312**	*eP*		**Pn**	**15 02 45.7**	**+0.3**
	baz=314							
WFSB				*eS*		**Sn**	**15 02 56.8**	**0.0**
	baz=314							
ENTT	**Nioudou**	**0.70**	**272**	*eP*		**Pn**	**15 02 46.4**	**+0.7**
	baz=271							
ENTT				*eS*		**Sn**	**15 02 57.7**	**+0.5**
	baz=271							
TWA	**Mucha**	**0.78**	**298**	P		**Pn**	**15 02 46.5**	**0.0**
	baz=299							
TWA				S		**Sn**	**15 02 58.1**	**-0.5**
	baz=299							
NWLT	**Wulai**	**0.78**	**282**	*eP*		**Pn**	**15 02 46.6**	**+0.1**
	baz=282							
NWLT				*eS*		**Sn**	**15 02 58.1**	**-0.6**
	baz=282							
NACB	**Ninganchiao**	**0.81**	**237**	P		**Pn**	**15 02 46.2**	**-0.6**
	baz=234							
NACB				S		**Sn**	**15 02 58.2**	**-1.0**
	baz=234							
TATO	**Taipei**	**0.85**	**295**	*eP*		**Pn**	**15 02 47.0**	**-0.3**
	baz=296							
TATO				*eS*		**Sn**	**15 02 58.8**	**-1.3**
	baz=296							
YM07	**YM07**	**0.86**	**311**	*eP*		**Pn**	**15 02 46.3**	**-1.1**
	baz=312							
YM07				*eS*		**Sn**	**15 02 59.1**	**-1.2**
	baz=312							
TWD	**Chiawan**	**0.86**	**232**	P		**Pn**	**15 02 47.1**	**-0.3**
	baz=228							
TWD				S		**Sn**	**15 02 59.8**	**-0.5**
	baz=228							
TAP	**Taipei**	**0.87**	**299**	*eP*		**Pn**	**15 02 47.3**	**-0.1**
	baz=300							
TAP				*eS*		**Sn**	**15 02 59.9**	**-0.5**
	baz=300							
YHNB	**Yeheng**	**0.88**	**274**	*eP*		**Pn**	**15 02 48.1**	**+0.4**
	baz=273							
YHNB				*eS*		**Sn**	**15 03 01.3**	**+0.5**
	baz=273							
YM08	**YM08**	**0.89**	**310**	*eP*		**Pn**	**15 02 47.4**	**-0.3**
	baz=311							
YM08				*eS*		**Sn**	**15 03 00.1**	**-0.7**
	baz=311							
YM10	**YM10**	**0.89**	**308**	*eP*		**Pn**	**15 02 47.6**	**-0.1**
	baz=309							
YM10				*eS*		**Sn**	**15 03 00.1**	**-0.9**
	baz=309							
NNSB	**Datong**	**0.89**	**258**	P		**Pn**	**15 02 47.9**	**0.0**
	baz=256							
NNSB				*eS*		**Sn**	**15 03 00.9**	**-0.2**
	baz=256							
NNS	**Nan Shan**	**0.90**	**259**	P		**Pn**	**15 02 48.0**	**+0.1**
	baz=257							
NNS				*eS*		**Sn**	**15 03 00.9**	**-0.4**
	baz=257							
YM04	**YM04**	**0.91**	**307**	*eP*		**Pn**	**15 02 47.7**	**-0.2**
	baz=307							
YM04				*eS*		**Sn**	**15 03 00.4**	**-0.8**
	baz=307							
YM03	**YM03**	**0.92**	**308**	*eP*		**Pn**	**15 02 47.7**	**-0.4**
	baz=309							
HWA	**Hwalien**	**0.92**	**227**	*eP*		**Pn**	**15 02 48.0**	**-0.1**
	baz=223							
HWA				*eS*		**Sn**	**15 03 02.1**	**+0.6**
	baz=223							
TWY	**Chenhua**	**0.94**	**315**	*eP*		**Pn**	**15 02 48.3**	**0.0**
	baz=316							
TWS1	**Kuangyinshan**	**0.97**	**300**	*eP*		**Pn**	**15 02 48.8**	**+0.1**
	baz=301							
TWS1				*eS*		**Sn**	**15 03 02.6**	**+0.1**
	baz=301							
NTST	**Danshui**	**0.97**	**304**	*eP*		**Pn**	**15 02 48.9**	**+0.2**
	baz=305							
NTST				*eS*		**Sn**	**15 03 02.7**	**0.0**
	baz=305							
ENLB	**Shoufeng**	**0.98**	**224**	*eP*		**Pn**	**15 02 48.6**	**-0.1**
	baz=220							
ENLB				*eS*		**Sn**	**15 03 02.4**	**-0.3**
	baz=220							
WLTB	**Daxi**	**1.01**	**284**	*eP*		**Pn**	**15 02 49.8**	**+0.6**
	baz=283							
WLTB				*eS*		**Sn**	**15 03 04.2**	**+0.7**
	baz=283							
NCU	**National Centr**	**1.10**	**289**	*eP*		**Pn**	**15 02 50.6**	**+0.3**
	baz=289							
NCU				*eS*		**Sn**	**15 03 06.7**	**+1.2**
	baz=289							
NCUH	**Zhongli**	**1.11**	**289**	*eP*		**Pn**	**15 02 50.5**	**+0.2**
	baz=288							
TWT	**Tachien**	**1.12**	**251**	*eP*		**Pn**	**15 02 51.2**	**+0.6**
	baz=249							
TWT				*eS*		**Sn**	**15 03 06.0**	**0.0**
	baz=249							
TDCB	**Techi**	**1.13**	**252**	*eP*		**Pn**	**15 02 51.1**	**+0.3**
	baz=249							
TDCB				*eS*		**Sn**	**15 03 06.2**	**-0.2**
	baz=249							
ESL	**Shilin**	**1.15**	**226**	*eP*		**Pn**	**15 02 50.0**	**-0.8**
	baz=223							
ESL				*eS*		**Sn**	**15 03 05.0**	**-1.4**
	baz=223							
CHGB	**Renai**	**1.20**	**243**	P		**Pn**	**15 02 51.8**	**+0.2**
	baz=240							
CHGB				S		**Sn**	**15 03 07.3**	**-0.6**
	baz=240							
LIOB	**Emei**	**1.20**	**272**	*eP*		**Pn**	**15 02 51.9**	**+0.4**
	baz=271							
LIOB				*eS*		**Sn**	**15 03 07.7**	**0.0**
	baz=271							
NSTT	**Nanjuang**	**1.22**	**271**	*eP*		**Pn**	**15 02 52.1**	**+0.4**
	baz=270							
NSTT				*eS*		**Sn**	**15 03 08.2**	**+0.2**
	baz=270							
SBCB	**Hsinchu**	**1.24**	**278**	*eP*		**Pn**	**15 02 52.1**	**+0.1**
	baz=278							
SBCB				*eS*		**Sn**	**15 03 09.0**	**+0.4**
	baz=278							
OWD	**Renai**	**1.25**	**238**	*eP*		**Pn**	**15 02 52.0**	**-0.2**
	baz=236							
OWD				*eS*		**Sn**	**15 03 08.0**	**-0.9**
	baz=236							
HSN	**Hsinchu**	**1.26**	**279**	*eP*		**Pn**	**15 02 51.9**	**-0.3**
	baz=279							
HSN				*eS*		**Sn**	**15 03 08.7**	**-0.1**
	baz=279							
IRIF	**Iriomote-Funau**	**1.30**	**102**	P		**Pn**	**15 02 52.4**	**-0.3**
IRIF				S		**Sn**	**15 03 09.4**	**-0.4**
HGSD	**Ruisui**	**1.40**	**217**	*eP*		**Pn**	**15 02 53.5**	**-0.5**
	baz=214							
HGSD				*eS*		**Sn**	**15 03 11.0**	**-1.0**
	baz=214							
NMLH	**Miaoli**	**1.41**	**267**	*eP*		**Pn**	**15 02 54.4**	**+0.3**
	baz=266							
NMLH				*eS*		**Sn**	**15 03 12.4**	**+0.1**
	baz=266							
DPDB	**Guoxing**	**1.41**	**246**	*eP*		**Pn**	**15 02 54.9**	**+0.7**
	baz=244							
DPDB				*eS*		**Sn**	**15 03 13.6**	**+1.1**
	baz=244							
EHY	**Hungye**	**1.44**	**220**	*eP*		**Pn**	**15 02 54.0**	**-0.6**
	baz=217							
HATJ	**Hateruma jima**	**1.45**	**112**	P		**Pn**	**15 02 55.1**	**+0.5**
HATJ				*eS*		**Sn**	**15 03 13.4**	**+0.2**
TWQ1	**Liyutan**	**1.45**	**260**	*eP*		**Pn**	**15 02 55.1**	**+0.4**
	baz=258							
TWQ1				*eS*		**Sn**	**15 03 13.4**	**+0.1**
	baz=258							
SMLT	**Sun Moon Lake**	**1.50**	**241**	*eP*		**Pn**	**15 02 56.7**	**+1.2**
	baz=239							
SMLT				*eS*		**Sn**	**15 03 16.0**	**+1.4**
	baz=239							
SSLB	**Suanglung**	**1.51**	**237**	*eP*		**Pn**	**15 02 56.6**	**+1.1**
	baz=235							
SSLB				*eS*		**Sn**	**15 03 15.7**	**+1.1**
	baz=235							
YULB	**Yu-li**	**1.54**	**218**	*eP*		**Pn**	**15 02 54.9**	**-1.1**
	baz=216							
JKRS	**Kuro-shima**	**1.57**	**104**	P		**Pn**	**15 02 56.4**	**+0.2**
JKRS				S		**Sn**	**15 03 16.1**	**+0.1**
TCU	**Taichung**	**1.58**	**253**	*eP*		**Pn**	**15 02 56.6**	**+0.2**
	baz=251							
TCU				*eS*		**Sn**	**15 03 16.3**	**-0.1**
	baz=251							
JIJ	**Ishigaki jima**	**1.66**	**98**	P		**Pn**	**15 02 57.1**	**-0.3**
JIJ				S		**Sn**	**15 03 17.2**	**-1.0**
WJS	**Zhushan**	**1.67**	**242**	*eP*		**Pn**	**15 02 58.7**	**+1.2**
	baz=240							
WJS				*eS*		**Sn**	**15 03 20.2**	**+1.8**
	baz=240							
WNT	**Mingjian**	**1.68**	**244**	*eP*		**Pn**	**15 02 58.6**	**+1.0**
	baz=242							
FULB	**Fuli**	**1.70**	**214**	*eP*		**Pn**	**15 02 57.6**	**-0.4**
	baz=212							
FULB				*eS*		**Sn**	**15 03 17.9**	**-1.3**
	baz=212							
WCHH	**Zhanghua**	**1.71**	**252**	*eP*		**Pn**	**15 02 58.1**	**+0.1**
	baz=250							
WCHH				*eS*		**Sn**	**15 03 19.5**	**+0.2**
	baz=250							
CHKT	**Chengkung**	**1.75**	**211**	*eP*		**Pn**	**15 02 57.4**	**-1.2**
	baz=208							
ALS	**Alishan**	**1.78**	**232**	*eP*		**Pn**	**15 03 00.3**	**+1.0**
	baz=230							
ALS				*eS*		**Sn**	**15 03 22.0**	**+0.6**
	baz=230							
JISG	**Ishigakijimahi**	**1.80**	**90**	P		**Pn**	**15 02 59.0**	**-0.2**
JISG				*eS*		**Sn**	**15 03 21.7**	**+0.4**
CHN5	**Tsauling**	**1.82**	**237**	*eP*		**Pn**	**15 03 00.5**	**+0.9**
	baz=234							
CHN5				*eS*		**Sn**	**15 03 23.3**	**+1.2**
	baz=234							
ELDTW	**Lidau**	**1.86**	**221**	*eP*		**Pn**	**15 02 59.3**	**-0.9**
	baz=218							
WGK	**Gukeng**	**1.87**	**241**	*eP*		**Pn**	**15 03 01.4**	**+1.2**
	baz=238							
WGK				*eS*		**Sn**	**15 03 25.0**	**+2.0**
	baz=238							
WTCT	**Ta-ch'eng**	**2.02**	**249**	*eP*		**Pn**	**15 03 02.2**	**0.0**
	baz=247							
WTCT				*eS*		**Sn**	**15 03 26.2**	**-0.5**
	baz=247							
CHN4	**Tsaushan**	**2.03**	**232**	*eP*		**Pn**	**15 03 04.2**	**+1.8**
	baz=230							
CHN4				*eS*		**Sn**	**15 03 28.8**	**+1.8**
	baz=230							
TPUB	**Ta-pu**	**2.04**	**230**	*eP*		**Pn**	**15 03 04.2**	**+1.7**
	baz=228							
TPUB				*eS*		**Sn**	**15 03 28.1**	**+1.0**
	baz=228							
STYT	**Tauyuan**	**2.04**	**225**	*eP*		**Pn**	**15 03 03.9**	**+1.3**

	baz=223								
STYT				*e*S		**Sn**	**15 03 28.2**	**+0.8**	
	baz=223								
WTP	**Ta-pu**	**2.08**	**230**	*e*P		**Pn**	**15 03 04.5**	**+1.4**	
	baz=227								
WTP				*e*S		**Sn**	**15 03 29.9**	**+1.6**	
	baz=227								
TWGBT	**Beinan**	**2.13**	**213**	*e*P		**Pn**	**15 03 02.8**	**-0.8**	
	baz=211								
TWGBT				*e*S		**Sn**	**15 03 26.4**	**-2.9**	
	baz=211								
TWG	**Pinlang**	**2.13**	**213**	*e*P		**Pn**	**15 03 02.8**	**-0.9**	
	baz=211								
TWG				*e*S		**Sn**	**15 03 27.0**	**-2.4**	
	baz=211								
JTJ	**Tarama**	**2.15**	**89**	P		**Pn**	**15 03 04.2**	**+0.3**	
JTJ				*e*S		**Sn**	**15 03 29.8**	**0.0**	
TWK	**Hsinying**	**2.16**	**232**	*e*P		**Pn**	**15 03 05.1**	**+1.0**	
	baz=230								
TWK				*e*S		**Sn**	**15 03 30.9**	**+0.8**	
	baz=230								
CHN1	**Nanshi**	**2.18**	**230**	*e*P		**Pn**	**15 03 05.4**	**+1.0**	
	baz=228								
CHN1				*e*S		**Sn**	**15 03 31.3**	**+0.6**	
	baz=228								
SGST	**Jiashian**	**2.22**	**227**	*e*P		**Pn**	**15 03 05.9**	**+1.0**	
	baz=225								
SGST				*e*S		**Sn**	**15 03 32.9**	**+1.5**	
	baz=225								
ECL	**Taimali**	**2.38**	**213**	*e*P		**Pn**	**15 03 05.5**	**-1.5**	
	baz=210								
ECL				*e*S		**Sn**	**15 03 33.1**	**-2.1**	
	baz=210								
SSD	**Sandimen**	**2.43**	**220**	*e*P		**Pn**	**15 03 08.8**	**+1.2**	
	baz=218								
MASBT	**Mashibuluo**	**2.53**	**218**	*e*P		**Pn**	**15 03 10.2**	**+1.1**	
	baz=216								
MASBT				*e*S		**Sn**	**15 03 39.3**	**+0.3**	
	baz=216								
JIRB	**Irabujima**	**2.59**	**85**	P		**Pn**	**15 03 10.1**	**+0.3**	
JIRB				*e*S		**Sn**	**15 03 40.5**	**+0.2**	
EAST	**Anshuo**	**2.61**	**212**	*e*P		**Pn**	**15 03 09.5**	**-0.6**	
	baz=210								
MATB	**Ma-tsu**	**2.65**	**306**	*e*P		**Pn**	**15 03 09.7**	**-0.9**	
	baz=305								
VWUC	**VWUC**	**2.65**	**279**	*e*P		**Pn**	**15 03 09.9**	**-0.8**	
	baz=278								
VWUC				*e*S		**Sn**	**15 03 38.9**	**-2.9**	
	baz=278								
JIKM	**Ikemajima**	**2.66**	**83**	P		**Pn**	**15 03 11.7**	**+0.9**	
JIKM				S		**Sn**	**15 03 42.7**	**+0.6**	
LAY	**Lan-yu**	**2.66**	**196**	*e*P		**Pn**	**15 03 09.8**	**-1.1**	
	baz=194								
JMJ	**Miyako jima 2**	**2.69**	**85**	P		**Pn**	**15 03 11.4**	**+0.2**	
JMJ				*e*S		**Sn**	**15 03 43.3**	**+0.4**	
JOGS	**Gusukube**	**2.79**	**86**	P		**Pn**	**15 03 13.4**	**+0.8**	
JOGS				*e*S		**Sn**	**15 03 46.4**	**+1.1**	

*JMA **27** 15:09:52.7±0.1, 23°.75N×121°.75E, h36^{km}±3^{km}, M2.8*
*ISCJB **27** 15:09:53.2±0.3, 23°.77N±0°.02×121°.78E±0°.02, h32^{km}±2^{km}, Error ellipse: s-maj=3.0km s-min=1.9km az=143.8*
*TAP **27** 15:09:53.2, 23°.77N×121°.73E, h43^{km}, ML3.3, C*

ISC 27 15:09:53.7±1.0, 23°.77N±0°.02×121°.75E±0°.02, h32^{km}±3^{km}, n99, σ0^{s}88/145, 10C-9D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ENLB	**Shoufeng**	**0.19**	**314**	*i* P	**Pn**	**15 10 00.9**	**+0.6**
	baz=325						
ENLB				S	**Sb**	**15 10 06.9**	**+2.6**
	baz=325						
HWA	**Hwalien**	**0.24**	**327**	*e*P	**Pn**	**15 10 01.3**	**+0.2**
	baz=332						
ESL	**Shilin**	**0.29**	**278**	*e*P	**Pn**	**15 10 01.4**	**-0.4**
	baz=279						
TWD	**Chiawan**	**0.34**	**336**	↑ *i* P	**Pb**	**15 10 01.9**	**+0.2**
	baz=343						
TWD				S	**Sn**	**15 10 08.3**	**+0.2**
	baz=343						
HGSD	**Ruisui**	**0.41**	**227**	P	**Pb**	**15 10 03.0**	**+0.2**
	baz=223						
HGSD				S	**Sb**	**15 10 10.2**	**+1.2**
	baz=223						
NACB	**Ninganchiao**	**0.42**	**341**	↑ P	**Pb**	**15 10 02.8**	**-0.3**
	baz=346						
NACB				S	**Sb**	**15 10 09.9**	**+0.5**
	baz=346						
EHY	**Hungye**	**0.47**	**236**	*e*P	**Pb**	**15 10 03.2**	**-0.5**
	baz=243						
OWD	**Renai**	**0.55**	**289**	*e*P	**Pn**	**15 10 04.8**	**-0.7**
	baz=290						
YULB	**Yu-li**	**0.56**	**228**	↑ P	**Pn**	**15 10 04.5**	**-1.0**
	baz=236						
CHGB	**Renai**	**0.60**	**299**	⇓ P	**Pn**	**15 10 05.6**	**-0.6**
	baz=300						
CHGB				S	**Sn**	**15 10 14.0**	**-0.9**
	baz=300						
NANB	**Nanao**	**0.65**	**0**	↑ P	**Pn**	**15 10 05.9**	**-0.8**
	baz=1.0						
NANB				*e*S	**Sn**	**15 10 15.4**	**-0.5**
	baz=1.0						
ENA	**Nanau**	**0.65**	**359**	↑ P	**Pn**	**15 10 05.9**	**-0.8**
	baz=1.0						
ENA				*e*S	**Sn**	**15 10 15.5**	**-0.4**
	baz=1.0						
ENAH	**Nanao**	**0.68**	**5**	*e*P	**Pn**	**15 10 06.5**	**-0.6**
	baz=5.0						
ENAH				*e*S	**Sn**	**15 10 16.3**	**-0.2**
	baz=5.0						
FULB	**Fuli**	**0.71**	**216**	*e*P	**Pn**	**15 10 06.8**	**-0.8**
	baz=228						
TWT	**Tachien**	**0.71**	**313**	*e*P	**Pn**	**15 10 07.3**	**-0.4**
	baz=312						
TWT				*e*S	**Sn**	**15 10 16.9**	**-0.7**
	baz=312						
TDCB	**Techi**	**0.72**	**312**	*e*P	**Pn**	**15 10 07.3**	**-0.4**
	baz=312						
TDCB				S	**Sn**	**15 10 16.7**	**-1.1**
	baz=312						
SSLB	**Suanglung**	**0.73**	**271**	*e*P	**Pn**	**15 10 07.0**	**-0.8**
	baz=278						
NNSB	**Datong**	**0.73**	**333**	⇓ P	**Pn**	**15 10 07.2**	**-0.7**
	baz=328						
NNSB				*e*S	**Sn**	**15 10 17.2**	**-0.9**
	baz=328						
NNS	**Nan Shan**	**0.75**	**333**	*e*P	**Pn**	**15 10 07.5**	**-0.6**
	baz=328						
NNS				*e*S	**Sn**	**15 10 17.6**	**-0.9**
	baz=328						
CHKT	**Chengkung**	**0.76**	**208**	P	**Pn**	**15 10 06.9**	**-1.3**
	baz=197						
CHKT				S	**Sn**	**15 10 16.8**	**-1.7**
	baz=197						
SMLT	**Sun Moon Lake**	**0.78**	**278**	⇓ *i* P	**Pn**	**15 10 08.2**	**-0.4**
	baz=282						
SMLT				S	**Sn**	**15 10 18.4**	**-0.9**
	baz=282						
DPDB	**Guoxing**	**0.80**	**289**	*e*P	**Pn**	**15 10 08.0**	**-0.7**
	baz=290						
TYC	**Yuchr**	**0.83**	**279**	⇓ P	**Pn**	**15 10 08.6**	**-0.5**
	baz=283						
TYC				*e*S	**Sn**	**15 10 19.1**	**-1.1**
	baz=283						
TWC	**Suao**	**0.84**	**6**	P	**Pn**	**15 10 09.0**	**-0.3**
	baz=2.0						
TWC				S	**Sn**	**15 10 20.2**	**-0.2**
	baz=2.0						
EOS1	**EOS1**	**0.85**	**24**	*e*P	**Pn**	**15 10 09.3**	**0.0**
	baz=36						
EOS1				*e*S	**Sb**	**15 10 21.9**	**+1.0**
	baz=36						
ENTT	**Nioudou**	**0.88**	**349**	⇓ P	**Pn**	**15 10 09.4**	**-0.4**
	baz=349						
ELDTW	**Lidau**	**0.89**	**229**	↑ P	**Pn**	**15 10 08.9**	**-1.2**
	baz=229						
ALS	**Alishan**	**0.90**	**253**	*e*P	**Pn**	**15 10 10.6**	**+0.2**
	baz=261						
WJS	**Zhushan**	**0.94**	**273**	*e*P	**Pn**	**15 10 10.8**	**+0.2**
	baz=273						
TWE	**Neicheng**	**0.95**	**356**	*e*P	**Pn**	**15 10 10.6**	**-0.2**
	baz=346						
YHNB	**Yeheng**	**0.95**	**339**	⇓ P	**Pn**	**15 10 10.6**	**-0.4**
	baz=340						
YHNB				S	**Sn**	**15 10 22.4**	**-1.2**
	baz=340						
WNT	**Mingjian**	**0.98**	**276**	⇓ *e*P	**Pn**	**15 10 11.8**	**+0.6**
	baz=277						
CHN5	**Tsauling**	**1.00**	**260**	⇓ P	**Pn**	**15 10 11.7**	**+0.2**
	baz=260						
CHN5				*e*S	**Sn**	**15 10 25.3**	**+0.7**
	baz=260						
NWLT	**Wulai**	**1.02**	**347**	*e*P	**Pn**	**15 10 11.6**	**-0.3**
	baz=347						
TCU	**Taichung**	**1.05**	**291**	*e*P	**Pn**	**15 10 13.1**	**+1.0**
	baz=291						
EGS		**1.08**	**9**	*e*P	**Pn**	**15 10 12.6**	**0.0**
	baz=9.0						
WGK	**Gukeng**	**1.09**	**266**	*e*P	**Pn**	**15 10 13.0**	**+0.3**
	baz=266						
NSTT	**Nanjuang**	**1.09**	**322**	*e*P	**Pn**	**15 10 13.1**	**+0.4**
	baz=307						
STYT	**Tauyuan**	**1.09**	**236**	⇑ P	**Pn**	**15 10 12.9**	**0.0**
	baz=231						
STYT				*e*S	**Sn**	**15 10 27.1**	**+0.1**
	baz=231						
LIOB	**Emei**	**1.10**	**323**	*e*P	**Pn**	**15 10 13.7**	**+0.9**
	baz=310						
LIOB				*e*S	**Sn**	**15 10 27.6**	**+0.7**
	baz=310						
WDLH	**Douliu**	**1.11**	**266**	*e*P	**Pn**	**15 10 13.2**	**+0.2**
	baz=266						
TPUB	**Ta-pu**	**1.13**	**246**	*e*P	**Pn**	**15 10 13.7**	**+0.4**
	baz=246						
WCHH	**Zhanghua**	**1.13**	**286**	*e*P	**Pn**	**15 10 14.1**	**+0.8**
	baz=286						
TWGBT	**Beinan**	**1.13**	**213**	*e*P	**Pn**	**15 10 11.4**	**-1.9**
	baz=213						
TWG	**Pinlang**	**1.13**	**213**	*e*P	**Pn**	**15 10 11.8**	**-1.5**
	baz=213						
CHN4	**Tsaushan**	**1.14**	**249**	*e*P	**Pn**	**15 10 14.3**	**+0.9**
	baz=249						
CHN4				*e*S	**Sn**	**15 10 29.5**	**+1.5**
	baz=249						
NMLH	**Miaoli**	**1.16**	**311**	*e*P	**Pn**	**15 10 14.1**	**+0.4**
	baz=311						
WLTB	**Daxi**	**1.17**	**337**	*e*P	**Pn**	**15 10 14.7**	**+0.9**
	baz=347						
WTP	**Ta-pu**	**1.17**	**243**	*e*P	**Pn**	**15 10 13.9**	**+0.1**
	baz=243						
WTP				*e*S	**Sn**	**15 10 30.0**	**+1.3**
	baz=243						
CHN2	**Minshiung**	**1.19**	**259**	*e*P	**Pn**	**15 10 14.8**	**+0.6**
	baz=267						
TWA	**Mucha**	**1.21**	**353**	*e*P	**Pn**	**15 10 14.5**	**+0.1**
	baz=338						
TATO	**Taipei**	**1.22**	**349**	*e*P	**Pn**	**15 10 14.5**	**0.0**
	baz=349						
TATO				*e*S	**Sn**	**15 10 30.0**	**+0.1**
	baz=349						
SBCB	**Hsinchu**	**1.23**	**326**	*e*P	**Pn**	**15 10 13.7**	**-1.0**
	baz=340						
CHY	**Chiayi**	**1.25**	**258**	*e*P	**Pn**	**15 10 15.1**	**+0.3**
	baz=258						
TWB1	**Santiao Chiao**	**1.25**	**10**	*e*P	**Pn**	**15 10 15.1**	**+0.2**
	baz=9.0						
TWK	**Hsinying**	**1.26**	**247**	*e*P	**Pn**	**15 10 15.9**	**+0.8**
	baz=246						
TWK				*e*S	**Sn**	**15 10 32.4**	**+1.4**
	baz=246						
CHN1	**Nanshi**	**1.26**	**243**	⇑ *e*P	**Pn**	**15 10 15.8**	**+0.6**
	baz=243						
CHN1				*e*S	**Sn**	**15 10 32.2**	**+1.1**
	baz=243						
SGST	**Jiashian**	**1.27**	**237**	*e*P	**Pn**	**15 10 16.2**	**+0.9**
	baz=237						
SGST				*e*S	**Sb**	**15 10 33.4**	**+0.3**
	baz=237						
SLGT	**Liugui**	**1.28**	**233**	*e*P	**Pn**	**15 10 16.1**	**+0.7**
	baz=221						
RLNB	**Erlin**	**1.28**	**276**	⇓ P	**Pn**	**15 10 15.9**	**+0.6**
	baz=275						
RLNB				S	**Sn**	**15 10 32.8**	**+1.5**
	baz=275						
JYNG	**Yonagunijimaku**	**1.29**	**58**	P	**Pn**	**15 10 15.4**	**0.0**
JYNG				*e*S	**Sn**	**15 10 32.0**	**+0.4**
NWF	**Wu-fen Shan**	**1.29**	**1**	*e*P	**Pn**	**15 10 16.0**	**+0.4**
	baz=349						
NWF				*e*S	**Sn**	**15 10 33.1**	**+1.3**
	baz=349						
WFSB	**Wu-fen Shan**	**1.29**	**1**	*e*P	**Pn**	**15 10 16.1**	**+0.6**
	baz=349						
WFSB				*e*S	**Sn**	**15 10 32.9**	**+1.1**
	baz=349						
YOJ	**Yonaguni jima**	**1.34**	**59**	*e*P	**Pn**	**15 10 16.5**	**+0.3**
	baz=59						
YOJ				*e*S	**Sn**	**15 10 33.9**	**+0.9**
	baz=59						
YOJ	**Yonaguni jima**	**1.34**	**59**	P	**Pn**	**15 10 16.3**	**+0.1**
YOJ				*e*S	**Sn**	**15 10 32.9**	**-0.1**
WTCT	**Ta-ch'eng**	**1.35**	**274**	*e*P	**Pn**	**15 10 16.7**	**+0.4**
	baz=274						
WTCT				*e*S	**Sb**	**15 10 35.2**	**0.0**
	baz=274						
TWS1	**Kuangyinshan**	**1.35**	**347**	*e*P	**Pn**	**15 10 16.5**	**+0.1**
	baz=347						
WLGB	**Puzi**	**1.36**	**258**	*e*P	**Pn**	**15 10 16.2**	**-0.3**
	baz=259						
ECL	**Taimali**	**1.38**	**212**	*e*P	**Pn**	**15 10 14.3**	**-2.4**
	baz=212						
YM10	**YM10**	**1.39**	**353**	*e*P	**Pn**	**15 10 17.0**	**+0.1**
	baz=352						
YM04	**YM04**	**1.39**	**352**	*e*P	**Pn**	**15 10 17.4**	**+0.5**
	baz=351						
YM05	**YM05**	**1.39**	**353**	*e*P	**Pn**	**15 10 16.1**	**-0.9**
	baz=352						
YM11	**YM11**	**1.40**	**354**	*e*P	**Pn**	**15 10 16.9**	**-0.2**
	baz=352						
YM07	**YM07**	**1.40**	**355**	*e*P	**Pn**	**15 10 15.8**	**-1.2**
	baz=341						
WSF	**Szhu**	**1.41**	**265**	*e*P	**Pn**	**15 10 17.4**	**+0.4**
	baz=253						
WSF				*e*S	**Sn**	**15 10 36.3**	**+1.8**
	baz=253						
YM03	**YM03**	**1.41**	**352**	*e*P	**Pn**	**15 10 16.8**	**-0.4**
	baz=352						
YM08	**YM08**	**1.42**	**354**	*e*P	**Pn**	**15 10 16.6**	**-0.6**
	baz=341						
SSD	**Sandimen**	**1.45**	**225**	*e*P	**Pn**	**15 10 18.2**	**+0.5**
	baz=226						
CHN8	**Yiju**	**1.47**	**254**	*e*P	**Pn**	**15 10 17.8**	**-0.2**
	baz=254						
CHN8				*e*S	**Sn**	**15 10 37.4**	**+1.2**
	baz=254						
TWM1	**Shoushan**	**1.54**	**232**	*e*P	**Pn**	**15 10 21.4**	**+2.4**
	baz=246						
MASBT	**Mashibuluo**	**1.55**	**222**	*e*P	**Pn**	**15 10 18.8**	**-0.2**
	baz=222						
MASBT				*e*S	**Sn**	**15 10 40.0**	**+2.0**
	baz=222						
EAST	**Anshuo**	**1.61**	**211**	*e*P	**Pn**	**15 10 20.6**	**+0.7**
	baz=211						
SCZT	**Fangliau**	**1.74**	**217**	*e*P	**Pn**	**15 10 22.3**	**+0.6**
	baz=209						
IRIF	**Iriomote-Funau**	**1.90**	**72**	P	**Pn**	**15 10 24.1**	**+0.3**
IRIF				*e*S	**Sn**	**15 10 46.8**	**+0.2**
HATJ	**Hateruma jima**	**1.90**	**81**	P	**Pn**	**15 10 24.1**	**+0.2**
HATJ				*e*S	**Sn**	**15 10 46.9**	**+0.1**
WDGT	**Dungji**	**1.98**	**255**	*e*P	**Pn**	**15 10 22.9**	**-2.1**
	baz=256						
PHUB	**P'eng-hu**	**2.01**	**263**	*e*P	**Pn**	**15 10 25.1**	**-0.3**
	baz=251						
PHUB				*e*S	**Sn**	**15 10 47.9**	**-1.6**
	baz=251						
TWKBT	**Hengchun**	**2.02**	**205**	*e*P	**Pn**	**15 10 25.8**	**+0.3**
	baz=198						
PNG	**Penghu**	**2.02**	**265**	*e*P	**Pn**	**15 10 25.0**	**-0.5**
	baz=265						
JKRS	**Kuro-shima**	**2.12**	**77**	P	**Pn**	**15 10 27.6**	**+0.7**
JKRS				*e*S	**Sn**	**15 10 52.9**	**+0.8**
JIJ	**Ishigaki jima**	**2.27**	**74**	P	**Pn**	**15 10 28.8**	**-0.1**
JIJ				S	**Sn**	**15 10 55.0**	**-0.8**
VWUC	**VWUC**	**2.42**	**301**	⇑ *e*P	**Pn**	**15 10 29.8**	**-1.3**
	baz=300						
JISG	**Ishigakijimahi**	**2.48**	**70**	P	**Pn**	**15 10 31.6**	**-0.2**
JISG				S	**Sn**	**15 10 59.7**	**-1.3**
JTJ	**Tarama**	**2.83**	**72**	P	**Pn**	**15 10 36.8**	**+0.1**
JTJ				*e*S	**Sn**	**15 11 09.2**	**-0.5**
MATB	**Ma-tsu**	**2.88**	**326**	*e*P	**Pn**	**15 10 35.6**	**-1.7**
	baz=314						
KNMB	**Chin-men Tao**	**3.15**	**283**	*e*P	**Pn**	**15 10 39.5**	**-1.5**
	baz=283						
JIRB	**Irabujima**	**3.30**	**71**	P	**Pn**	**15 10 44.1**	**+1.0**
JIRB				*e*S	**Sn**	**15 11 20.9**	**-0.3**
JIKM	**Ikemajima**	**3.39**	**70**	*e*S	**Sn**	**15 11 22.6**	**-0.9**
JOGS	**Gusukube**	**3.48**	**73**	P	**Pn**	**15 10 46.4**	**+0.8**
JOGS				*e*S	**Sn**	**15 11 26.0**	**+0.2**

MEX 27 15:10:34.6±0.8, 16°.20N×97°.97W, h6^{km}±5^{km}, MD3.9, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.24**	**321**	*i* P	Pg	15 10 38.9	-0.5
PNIG				*e*S	Sg	15 10 42.7	+0.1
TLIG	**Tlapa**	**1.47**	**337**	*e*P	Pn	15 10 58.6	-3.1
TLIG				*e*S	Sn	15 11 15.5	-5.8
VHO	**Vista Hermosa**	**1.47**	**54**	*e*P	Pn	15 10 57.8	-3.9
VHO				*e*S	Sn	15 11 16.5	-4.9
CAIG	**El Cayaco**	**2.36**	**291**	*e*P	Pn	15 11 10.5	-3.3
CAIG				*e*S	Sn	15 11 38.8	-4.3

*IDC **27** 15:12:55.4±0.9, 5°.10N×92°.44E, h0^{km}, mb3.8/11, mb1 3.9/14, mb1mx3.7/73, mbtmp3.8/14, ML4.1/3, Error ellipse: s-maj=31.1km s-min=15.8km az=48.0*
*ISCJB **27** 15:12:57.2±0.6, 5°.1N±0°.1×92°.47E±0°.09, h27^{km}, mb3.8/11, Error ellipse: s-maj=17.0km s-min=10.8km az=37.0*

ISC 27 15:12:58.9±0.8, 5°.1N±0°.1×92°.37E±0°.08, h27^{km}, n20, σ1^{s}72/15, mb3.9/11, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**6.92**	**109**	Pn	**Pn**	**15 14 36.3**	**-2.4**
	3.0nm,0.3s,baz=307,slow=12,SNR=6.5						
PSI				Sn	Sn	15 15 41.3	-15
	1.3nm,0.3s,baz=18,slow=20,SNR=3.5						
PALK	**Pallekele**	**11.81**	**281**	Pn	**Pn**	**15 15 46.8**	**+1.1**
	2.2nm,0.3s,baz=116,slow=16,SNR=16						
PALK				Sn	**Sn**	**15 17 52.3**	**-4.4**
	3.0nm,0.3s,baz=302,slow=1.3,SNR=7.5						
CMAR	**Chiang Mai Arr**	**14.77**	**25**	Pn	**Pn**	**15 16 24.9**	**-1.2**
	0.2nm,0.3s,baz=216,slow=15,SNR=6.9						
H08S3	**Diego Garcia H**	**23.52**	**238**	T	T	15 43 27.5	
	baz=59,slow=75,SNR=29						
H08S2	**Diego Garcia H**	**23.52**	**238**	T	T	15 43 29.2	
	baz=59,slow=75,SNR=34						
H08S1	**Diego Garcia H**	**23.53**	**238**	T	T	15 43 30.5	
	baz=59,slow=75,SNR=28						
MKAR	**Makanchi Array**	**42.47**	**350**	P	**P**	**15 20 52.1**	**+0.5**
	0.5nm,0.5s,baz=167,slow=8.3,SNR=8.8						
SONM	**Songino Array**	**44.27**	**14**	P	**P**	**15 21 06.3**	**0.0**
	0.5nm,0.6s,baz=198,slow=9.1,SNR=3.5						
H01W3	**Cape Leeuwin H**	**44.72**	**154**	T	T	16 08 17.5	
	baz=330						
H01W2	**Cape Leeuwin H**	**44.73**	**154**	T	T	16 08 16.0	
	baz=330						
H01W1	**Cape Leeuwin H**	**44.74**	**154**	T	T	16 07 56.6	
	baz=330						
GEYT	**Alibeck**	**45.18**	**321**	P	**P**	**15 21 15.7**	**+2.0**
	1.4nm,0.5s,baz=159,slow=9.5,SNR=3.7						
KURBB	**Kurchatov Arra**	**46.86**	**348**	P	**P**	**15 21 27.3**	**+0.7**
	1.0nm,0.7s,baz=167,slow=7.1,SNR=11						
WRA	**Warramunga Arr**	**48.16**	**122**	P	**P**	**15 21 37.7**	**+0.4**
	0.9nm,0.8s,baz=298,slow=9.0,SNR=5.0						
ZALV	**Zalesovo Beam**	**49.11**	**354**	P	**P**	**15 21 44.5**	**+0.5**
	1.4nm,0.4s,baz=175,slow=6.9,SNR=6.5						
ASAR	**Alice Springs**	**49.56**	**127**	P	**P**	**15 21 48.3**	**+0.3**
	0.4nm,0.8s,baz=316,slow=7.9,SNR=4.4						
BVAR	**Borovoye Array**	**51.10**	**343**	P	**P**	**15 21 59.5**	**+0.4**
	0.7nm,0.5s,baz=146,slow=8.2,SNR=4.6						
STKA	**Stephens Creek**	**59.51**	**132**	P	**P**	**15 23 01.2**	**+1.1**
	0.8nm,0.7s,baz=300,slow=6.6,SNR=4.3						
BRTR	**Keskin Array B**	**62.96**	**312**	P	**P**	**15 23 23.2**	**-0.3**
	0.7nm,0.7s,baz=127,slow=8.0,SNR=5.0						
TORD	**Torodi Ar. Bea**	**89.52**	**283**	P	**P**	**15 25 55.1**	**+0.5**
	0.2nm,0.5s,baz=207,slow=1.4,SNR=3.0						

MEX 27 15:15:00.3±0.9, 14°.08N×93°.23W, h16^{km}±217^{km}, MD3.9, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PCIG		**1.61**	**0**	*e*P	Pn	15 15 25.4	-2.7
PCIG				*e*S	Sn	15 15 42.7	-5.9
CCIG	**Comitan**	**2.43**	**26**	*e*P	Pn	15 15 38.5	-1.0
TGIG		**2.68**	**2**	*e*P	Pn	15 15 40.4	-2.5
TGIG				*e*S	Sn	15 16 09.9	-5.2

*ISCJB **27** 15:20:55.9±0.7, 22°.82N±0°.03×121°.63E±0°.04, h17^{km}±10^{km}, Error ellipse: s-maj=6.2km s-min=4.9km az=13.5*
*JMA **27** 15:20:55.6±0.1, 22°.82N×121°.60E, h23^{km}±4^{km}, M3.1*
*TAP **27** 15:20:57.2, 22°.88N×121°.49E, h15^{km}±1^{km}, ML3.0, C*

ISC 27 15:20:56.4±1.1, 22°.84N±0°.03×121°.56E±0°.03, h19^{km}±2^{km}, n42, σ0^{s}60/67, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CHKT	**Chengkung**	**0.31**	**324**	P	**Pb**	**15 21 03.4**	**0.0**
	baz=333						
CHKT				S	**Sb**	**15 21 07.7**	**-0.5**
	baz=333						
TTN	**Taitung**	**0.39**	**257**	*e*P	**Pb**	**15 21 05.2**	**+0.3**
	baz=247						
TTN				*e*S	**Sb**	**15 21 11.3**	**+0.7**
	baz=247						
FULB	**Fuli**	**0.43**	**325**	P	**Pb**	**15 21 05.2**	**-0.3**
	baz=329						
FULB				S	**Sb**	**15 21 11.4**	**-0.3**
	baz=329						
TWGBT	**Beinan**	**0.45**	**267**	*e*P	**Pb**	**15 21 05.5**	**-0.2**
	baz=260						
TWGBT				*e*S	**Sb**	**15 21 11.6**	**-0.5**
	baz=260						
TWG	**Pinlang**	**0.45**	**267**	P	**Pb**	**15 21 05.6**	**-0.3**
	baz=260						
TWG				*e*S	**Sg**	**15 21 11.5**	**-0.4**
	baz=260						
YULB	**Yu-li**	**0.60**	**336**	*e*P	**Pg**	**15 21 08.4**	**0.0**
	baz=340						
YULB				*e*S	**Sg**	**15 21 16.9**	**+0.5**
	baz=340						
ELDTW	**Lidau**	**0.61**	**304**	*i* P	**Pb**	**15 21 08.1**	**-0.3**
	baz=305						
ELDTW				S	**Sb**	**15 21 15.8**	**-0.8**
	baz=305						
ECL	**Taimali**	**0.61**	**247**	*e*P	**Pg**	**15 21 08.5**	**-0.1**
	baz=239						
ECL				*e*S	**Sg**	**15 21 16.5**	**-0.4**
	baz=239						
HGSD	**Ruisui**	**0.66**	**349**	*e*P	**Pb**	**15 21 08.4**	**-0.9**
	baz=354						
EHY	**Hungye**	**0.69**	**341**	*e*P	**Pg**	**15 21 10.1**	**-0.1**
	baz=346						
EHY				*e*S	**Sg**	**15 21 20.1**	**+0.6**

baz=288
CHN4 Tsaushan 1.03 300 *e*P **Pg** 15 21 16.3 -0.1
baz=299
CHN4 *e*S **Sg** 15 21 30.9 +1.0
baz=299
TWM1 Shoushan 1.05 269 *e*P **Pg** 15 21 16.6 -0.3
baz=266
TWK Hsinying 1.08 293 *e*P **Pg** 15 21 17.0 -0.3
baz=292
TWK *e*S **Sg** 15 21 31.0 -0.5
baz=292
SSLB Suanglung 1.09 329 *e*P **Pn** 15 21 17.0 +0.2
baz=331
CHN5 Tsauling 1.11 313 P **Pg** 15 21 17.9 0.0
baz=313
CHN5 *e*S **Sg** 15 21 33.1 +0.6
baz=313
SMLT Sun Moon Lake 1.20 330 *e*P **Pb** 15 21 18.9 +0.2
baz=331
TYC Yuchr 1.24 329 *e*P **Pg** 15 21 19.9 -0.4
baz=330
CHGB Renai 1.26 344 *e*P **Pn** 15 21 18.9 -0.3
baz=346
NACB Ninganchiao 1.32 1 *e*P **Pn** 15 21 19.0 -0.9
baz=4.0
TWQ1 Liyutan 1.66 334 *e*P **Pb** 15 21 26.8 +0.3
baz=335
ENTT Nioudou 1.79 0 *e*P **Pn** 15 21 26.3 0.0
baz=2.0
JYNG Yonagunijimaku 2.04 38 P **Pn** 15 21 30.4 +0.6
JYNG *e*S **Sn** 15 21 55.2 +0.5
YOJ Yonaguni jima 2.09 39 P **Pn** 15 21 31.3 +0.9
YOJ *e*S **Sn** 15 21 56.6 +0.7
HATJ Hateruma jima 2.39 59 P **Pn** 15 21 34.8 +0.3
HATJ *e*S **Sn** 15 22 02.7 -0.6
IRIF Iriomote-Funau 2.48 53 P **Pn** 15 21 36.7 +0.9
IRIF *e*S **Sn** 15 22 06.5 +0.9
JKRS Kuro-shima 2.64 58 P **Pn** 15 21 38.7 +0.7
JKRS *e*S **Sn** 15 22 09.2 -0.3
JIJ Ishigaki jima 2.81 57 P **Pn** 15 21 40.9 +0.6
JIJ *e*S **Sn** 15 22 12.0 -1.7
JISG Ishigakijimahi 3.06 55 P **Pn** 15 21 44.1 +0.3
JISG S **Sn** 15 22 18.8 -1.1
JTJ Tarama 3.39 58 P **Pn** 15 21 49.1 +0.8
JTJ *e*S **Sn** 15 22 27.8 -0.2
JIRB Irabujima 3.85 58 P **Pn** 15 21 55.5 +0.8
JIRB *e*S **Sn** 15 22 38.2 -1.2
JOGS Gusukube 4.00 61 *e*S **Sn** 15 22 44.3 +1.1

IDC ***27*** *15:22:30.2±0.7,26.97N×66.98E,h0km,mb3.7/22, mb1 3.9/23,mb1mx3.7/68,mbtmp3.8/23,ML3.8/1, Error ellipse: s-maj=17.9km s-min=15.5km az=4.0*
ISCJB ***27*** *15:22:33.5±0.6,27.05N±0.08×67.03E±0.08,h33km, mb3.7/22,Error ellipse: s-maj=12.5km s-min=9.1km az=153.5*
ISC 27 15:22:35.5±0.7,27.0N±0.1×66.96E±0.09,h35km,n29, σ1ᵖ**07**/29**,mb3.6**/22**, Pakistan**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SARP	**Sargodha**	**6.96**	**44**	P	**Pn**	**15 24 15.0**	**0.0**
THW	**Thamme Wali**	**7.08**	**35**	P	**Pn**	**15 24 15.4**	**-1.2**
CEP	**Cherat**	**8.00**	**31**	P	**Pn**	**15 24 29.1**	**-0.2**
WSAR	**Wadi Sarin**	**8.44**	**245**	Pn	**Pn**	**15 24 33.4**	**-2.0**
	1.3nm,0.3s,baz=113,slow=12,SNR=22						
WSAR				Sn	Sn	15 25 59.8	-10
	0.6nm,0.3s,baz=242,slow=17,SNR=4.8						
CHCP	**Chirah Chowk**	**8.55**	**38**	P	**Pn**	**15 24 36.7**	**-0.2**
AAK	**Ala-Archa**	**16.73**	**20**	Pn	**Pn**	**15 26 24.3**	**-3.0**
	0.3nm,0.3s,baz=183,slow=7.3,SNR=8.7						
MKAR	**Makanchi Array**	**23.14**	**28**	P	**P**	**15 27 37.9**	**-0.7**
	1.0nm,0.7s,baz=210,slow=9.3,SNR=13						
AKTO	**Aktyubinsk**	**24.35**	**346**	P	**P**	**15 27 50.0**	**0.0**
	1.1nm,0.5s,baz=150,slow=10,SNR=4.5						
KURBB	**Kurchatov Arra**	**25.16**	**17**	P	**P**	**15 27 57.6**	**+0.4**
	0.9nm,1.0s,baz=209,slow=9.2,SNR=4.7						
KBZ	**Khabaz**	**25.60**	**317**	P	**P**	**15 28 02.1**	**+0.8**
	0.7nm,0.6s,baz=146,slow=15,SNR=2.2						
BVAR	**Borovoye Array**	**26.09**	**5**	P	**P**	**15 28 07.1**	**+1.4**
	0.9nm,0.5s,baz=257,slow=33,SNR=6.4						
ZALV	**Zalesovo Beam**	**29.94**	**21**	P	**P**	**15 28 39.6**	**-0.4**
	0.4nm,0.4s,baz=227,slow=5.7,SNR=2.4						
CMAR	**Chiang Mai Arr**	**30.64**	**99**	P	**P**	**15 28 46.2**	**-0.4**
	0.7nm,0.6s,baz=289,slow=10,SNR=4.6						
SONM	**Songino Array**	**37.04**	**45**	P	**P**	**15 29 43.7**	**+1.7**
	0.4nm,0.6s,baz=226,slow=9.9,SNR=4.6						
AKASG	**Malin Array Be**	**37.11**	**320**	P	**P**	**15 29 42.1**	**-0.3**
	0.1nm,0.3s,baz=107,slow=6.0,SNR=3.3						
MLR	**Muntele Rosu**	**37.37**	**310**	P	**P**	**15 29 45.9**	**+1.0**
	0.4nm,0.5s,baz=129,slow=14,SNR=4.2						
FINES	**FINESS Array B**	**43.90**	**333**	P	**P**	**15 30 38.2**	**-0.1**
	0.6nm,0.4s,baz=160,slow=6.1,SNR=3.7						
GERES	**GERESS Array B**	**46.22**	**313**	P	**P**	**15 30 56.9**	**-0.2**
	0.2nm,0.4s,baz=87,slow=6.0,SNR=3.2						
HFS	**Hagfors**	**48.82**	**328**	P	**P**	**15 31 16.8**	**-0.2**
	1.4nm,0.8s,baz=132,slow=8.6,SNR=2.7						
ARCES	**ARCESS Array B**	**48.82**	**342**	P	**P**	**15 31 18.7**	**+1.7**
	1.7nm,1.0s,baz=134,slow=7.7,SNR=3.6						
KEST	**Kesra**	**49.34**	**295**	P	**P**	**15 31 21.9**	**+0.4**
	2.3nm,0.8s,baz=90,slow=9.1,SNR=3.0						
KSRS	**Korea Array**	**51.81**	**62**	P	**P**	**15 31 39.8**	**-0.1**
	1.3nm,0.8s,baz=268,slow=8.5,SNR=3.5						
TORD	**Torodi Ar. Bea**	**62.24**	**271**	P	**P**	**15 32 53.6**	**-0.6**
	1.5nm,0.6s,baz=62,slow=5.9,SNR=10						
BOSA	**Boshof**	**68.28**	**219**	P	**P**	**15 33 34.9**	**+1.8**
	0.9nm,0.4s,baz=29,slow=8.7,SNR=3.9						
WRA	**Warramunga Arr**	**80.25**	**118**	P	**P**	**15 34 42.1**	**-0.8**
	0.6nm,0.6s,baz=321,slow=4.6,SNR=5.1						
ASAR	**Alice Springs**	**81.96**	**122**	P	**P**	**15 34 51.7**	**-0.3**
	0.4nm,0.6s,baz=306,slow=5.0,SNR=4.3						
INK	**Inuvik**	**83.74**	**8**	P	**P**	**15 35 01.1**	**+0.7**
	1.0nm,0.5s,baz=19,slow=5.3,SNR=4.5						
YKA	**Yellowknife Ar**	**90.78**	**1**	P	**P**	**15 35 34.7**	**+0.1**
	0.3nm,1.0s,baz=353,slow=5.2,SNR=3.7						
TXAR	**Lajitas Array**	**123.23**	**350**	PKP	**PKPdf**	**15 41 29.3**	**+0.1**
	0.1nm,0.6s,baz=45,slow=2.7,SNR=2.5						

IDC ***27*** *15:22:52.0±0.4, 14.39S×166.94E,h0km,mb4.6/30, mb1 4.7/31,mb1mx4.6/45,mbtmp4.6/31,ML5.1/1,MS3.5/14, Ms1 3.5/14,ms1mx3.2/44,Error ellipse: s-maj=14.3km s-min=11.9km az=96.0*
MOS ***27*** *15:22:56.5±1.2, 14.45S×166.98E,h45km,mb4.9/43,Error ellipse: s-maj=10.5km s-min=8.1km az=35.9*
ISCJB ***27*** *15:22:58.6±0.3, 14.52S±0.05×166.87E±0.06,h67km, mb4.5/57, Error ellipse: s-maj=8.5km s-min=6.5km az=15.3*
NEIC ***27*** *15:22:58.6±1.1, 14.49S×166.95E,h50km±10km,mb4.6/9, Error ellipse: s-maj=8.7km s-min=7.7km az=174.0*
BJI ***27*** *15:22:59.8, 14.10S×167.12E,h69km,mb4.8/27,mB4.9/18, Ms4.6/6,Ms7 4.3/6*
ISC 27 15:23:00.5±0.3,14.48S±0.05×166.92E±0.06,h67km,n120, σ2ᵖ**15**/131**,mb4.6**/56**,8C-6D, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**7.56**	**183**	Pn	**Pn**	**15 24 47.0**	**-1.2**
	29nm,0.3s,baz=342,slow=9.1,SNR=165						
DZM				Sn	**Sn**	**15 26 08.7**	**-3.8**
	19nm,0.3s,baz=322,slow=20,SNR=5.5						
DZM	**Mont Dzumac**	**7.56**	**183**	*e*Pn	**Pn**	**15 24 47.0**	**-1.2**
	131nm,0.3s						
DZM				*e*Sn	Sn	15 26 02.2	-10
	119nm,0.3s						
DZM				*e*LR	LR	15 26 25.9	
	991nm,26.4s						
HNR	**Honiara**	**8.47**	**306**	*e*P	**Pn**	**15 25 01.0**	**+0.5**
HNR				*e*S		15 25 30.0	
HNR	**Honiara**	**8.47**	**306**	Pn	**Pn**	**15 25 00.6**	**+0.1**
	25nm,0.3s,baz=174,slow=7.2,SNR=17						
HNR				Sn	**Sn**	**15 26 29.7**	**-4.9**
	16nm,0.3s,baz=40,slow=16,SNR=4.1						
HNR				LR	LR	15 28 23.1	
	comp=Z,213nm,18.1s,baz=178,slow=39						
HNR	**Honiara**	**8.47**	**306**	*e*Pn	**Pn**	**15 25 01.0**	**+0.5**
HNR				*e*Sn	**Sn**	**15 26 30.5**	**-4.1**
MSVF	**Nonsavu**	**11.18**	**108**	*e*Pn	**Pn**	**15 25 33.8**	**-3.8**
MSVF				*e*Sn	Sn	15 27 25.4	-16
MSVF	**Nonsavu**	**11.18**	**108**	P	**Pn**	**15 25 33.8**	**-3.8**
EIDS	**Eidsvold**	**18.39**	**231**	*e*P	**P**	**15 27 08.3**	**-1.9**
	33nm,0.6s						
PMG	**Port Moresby**	**19.97**	**282**	P	**Pn**	**15 27 29.0**	**-0.8**
	0.6nm,0.3s,baz=118,slow=8.4,SNR=9.6						
PMG				LR	LR	15 33 59.7	
	comp=Z,176nm,20.2s,baz=24,slow=33						
PMG	**Port Moresby**	**19.97**	**282**	⇑*i*P	**Pn**	**15 27 30.5**	**+0.7**
PMG				pmax	pmax		
	comp=Z,105nm,1.2s						
CTA	**Charters Tower**	**20.50**	**251**	P	Pn	15 27 35.0	-1.0
	comp=Z,28nm,0.9s,baz=82,slow=12,SNR=22						
CTA				S	**S**	**15 31 20.8**	**+1.8**
	comp=Z,1.2nm,0.6s,baz=24,slow=18,SNR=1.7						
CTAO	**Charters Tower**	**20.50**	**251**	*e*P	**P**	**15 27 32.1**	**-1.1**
	comp=Z,41nm,1.0s						
AFI	**Afiamalu**	**20.66**	**91**	P	**P**	**15 27 35.0**	**-0.1**
	comp=Z,28nm,0.9s,baz=251,slow=18,SNR=1.9						
AFI				LR	LR	15 33 16.1	
	comp=Z,72nm,18.6s,baz=160,slow=30						
AFI	**Afiamalu**	**20.66**	**91**	P	**P**	**15 27 35.0**	**-0.1**
AFI				pmax	pmax		
	comp=Z,29nm,0.9s						
ARMA	**Armidale**	**21.20**	**219**	*e*P	**P**	**15 27 39.5**	**-1.4**
	comp=Z,31nm,1.3s						
URZ	**Urewera**	**25.35**	**161**	P	**P**	**15 28 21.3**	**+0.1**
	comp=Z,5.5nm,0.5s,baz=259,slow=3.0,SNR=6.1						
URZ				S	**S**	**15 32 46.9**	**+4.1**
	comp=Z,10nm,1.0s,baz=336,slow=18,SNR=2.6						
STKA	**Stephens Creek**	**28.90**	**229**	P	**P**	**15 28 54.2**	**+1.0**
	comp=Z,16nm,0.5s,baz=46,slow=8.6,SNR=87						
STKA				PcP	**PcP**	**15 32 02.9**	**+1.8**
	comp=Z,5.6nm,0.6s,baz=90,slow=2.0,SNR=6.9						
STKA				LR	LR	15 39 21.6	
	comp=Z,204nm,19.6s,baz=46,slow=34						
STKA	**Stephens Creek**	**28.90**	**229**	*e*P	**P**	**15 28 51.2**	**-2.0**
	comp=Z,3.3nm,0.8s						
STKA				PcP	**PcP**	**15 32 02.9**	**+1.8**
RPZ	**Rata Peaks**	**29.35**	**174**	P	**P**	**15 28 57.1**	**+0.1**
	comp=Z,14nm,0.8s,baz=338,slow=5.4,SNR=2.7						
WB2	**Warramunga Arr**	**31.55**	**255**	*e*P	**P**	**15 29 12.7**	**-4.1**
WRAB	**Tennant Creek**	**31.55**	**255**	⇑*i*P	**P**	**15 29 16.2**	**-0.5**
WRAB				pmax	pmax		
	comp=Z,4.0nm,0.8s						
WRA	**Warramunga Arr**	**31.56**	**255**	P	**P**	**15 29 15.8**	**-1.1**
	comp=Z,7.0nm,0.7s,baz=85,slow=9.4,SNR=108						
WRA				PcP	**PcP**	**15 32 08.7**	**+0.5**
	comp=Z,0.8nm,0.7s,baz=86,slow=3.8,SNR=3.8						
WRA				ScP	**ScP**	**15 35 56.1**	**+10**
	comp=Z,1.1nm,0.9s,baz=86,slow=3.4,SNR=4.9						
RAR	**Rarotonga**	**32.36**	**107**	LR	LR	15 41 29.9	
	comp=Z,48nm,18.3s,baz=294,slow=34						
AS01	**Alice Springs**	**32.40**	**249**	*e*P	**P**	**15 29 21.8**	**-2.5**
AS31	**Alice Springs**	**32.44**	**249**	*e*P	**P**	**15 29 23.7**	**-0.9**
	comp=Z,2.8nm,0.6s						
ASAR	**Alice Springs**	**32.45**	**249**	P	**P**	**15 29 23.9**	**-0.8**
	comp=Z,6.1nm,0.5s,baz=72,slow=9.6,SNR=134						
ASAR				PcP	**PcP**	**15 32 10.4**	**-0.2**
	comp=Z,1.0nm,0.6s,baz=81,slow=2.5,SNR=4.2						
ASAR				ScP	**ScP**	**15 35 56.5**	**+7.7**
	comp=Z,0.9nm,0.9s,baz=87,slow=2.8,SNR=4.5						
BBOO	**Buckleboo**	**33.46**	**232**	*e*P	**P**	**15 29 34.2**	**+0.9**
	comp=Z,21nm,1.0s						
PPT2	**Papeete2**	**41.86**	**100**	*e*LR	LR	15 42 26.9	
	comp=Z,222nm,26.2s,baz=257						
TBI	**Tubuai**	**42.06**	**109**	*e*LR	LR	15 42 29.8	
	comp=Z,183nm,28.2s						
BATI	**Baumata**	**42.42**	**271**	P	**P**	**15 30 50.5**	**+1.5**
	comp=Z,17nm,0.8s,baz=135,slow=3.3,SNR=5.8						
BATI				LR	LR	15 47 26.9	
	comp=Z,189nm,19.5s,baz=68,slow=35						
NWAO	**Narrogin (SRO)**	**48.59**	**239**	P	**P**	**15 31 37.2**	**-0.3**
	comp=Z,9.9nm,0.7s,baz=146,slow=9.3,SNR=12						
NWAO				LR	LR	15 51 22.3	
	comp=Z,162nm,19.6s,baz=290,slow=35						
JOW	**Kunigami**	**55.63**	**317**	P	**P**	**15 32 28.0**	**-1.8**
	comp=Z,8.8nm,0.9s,baz=111,slow=9.6,SNR=4.0						
JOW				LR	LR	15 56 39.8	
	comp=Z,24nm,18.3s,baz=352,slow=36						
MJAR	**Matsushiro Arr**	**57.53**	**333**	P	**P**	**15 32 42.2**	**-0.9**
	comp=Z,8.0nm,0.8s,baz=172,slow=8.8,SNR=21						
MJAR				LR	LR	15 55 54.9	
	comp=Z,16nm,20.6s,baz=90,slow=34						
MJAR	**Matsushiro Arr**	**57.53**	**333**	P	**P**	**15 32 42.2**	**-0.9**
MJAR				pmax	pmax		
	comp=Z,9.0nm,0.7s						
MAJO	**Matsushiro**	**57.53**	**333**	*e*P	**P**	**15 32 43.0**	**-0.2**
	comp=Z,12nm,0.7s						
MAJO	**Matsushiro**	**57.53**	**333**	*c i*P	**P**	**15 32 42.9**	**-0.2**
MAJO				*i* *PP	**pP**	**15 32 58.8**	**-1.8**
MAJO				*i*		15 33 33.2	
MAJO				pmax	pmax		
	comp=Z,11nm,0.9s						
JNU	**Nakatsue**	**58.52**	**325**	P	**P**	**15 32 50.3**	**+0.1**
	comp=Z,17nm,0.8s,baz=107,slow=3.8,SNR=15						
JNU				LR	LR	15 57 22.6	
	comp=Z,22nm,18.0s,baz=88,slow=35						
LEM	**Lembang**	**58.64**	**271**	P	**P**	**15 32 52.6**	**+1.1**
	comp=Z,5.4nm,0.4s,baz=84,slow=16,SNR=2.0						
ASAJ	**Asahikawa**	**62.39**	**340**	P	**P**	**15 33 17.1**	**+0.8**
	comp=Z,5.9nm,0.6s,baz=164,slow=7.4,SNR=7.2						
VNDA	**Vanda**	**63.10**	**181**	P	**P**	**15 33 22.8**	**+2.2**
	comp=Z,1.4nm,0.5s,baz=354,slow=9.5,SNR=14						
VNDA				LR	LR	15 56 40.8	
	comp=Z,28nm,18.5s,baz=337,slow=32						
KSRS	**Korea Array**	**63.34**	**326**	P	**P**	**15 33 23.3**	**+0.6**
	comp=Z,3.3nm,0.9s,baz=136,slow=7.3,SNR=9.6						
KSAR	**Wonju Array Be**	**63.36**	**326**	P	**P**	**15 33 23.3**	**+0.5**
YSS	**Yuzh-Sakhalins**	**64.89**	**342**	⇓*e*P	**P**	**15 33 34.1**	**+1.5**
YSS				pmax	pmax		
	comp=Z,20nm,1.1s						
NJ2	**Nanjing**	**65.26**	**316**	*e*P	**P**	**15 33 34.3**	**-1.1**
NJ2				pmax	pmax		
	comp=Z,12nm,0.5s						
USRK	**Ussuriysk Ar.**	**66.51**	**333**	P	**P**	**15 33 44.5**	**+1.4**
	comp=Z,9.7nm,0.9s,baz=143,slow=6.7,SNR=10						
PET	**Petropavlovsk**	**67.60**	**355**	*i* P	**P**	**15 33 47.9**	**-2.0**
PET				pmax	pmax		
	comp=Z,11nm,1.1s						
PETK	**Petropavlovsk-**	**67.78**	**354**	P	**P**	**15 33 51.5**	**+0.4**
	comp=Z,7.0nm,0.7s,baz=137,slow=4.5,SNR=14						
PETK				LR	LR	15 58 07.3	
	comp=Z,19nm,20.6s,baz=150,slow=31						
PETK	**Petropavlovsk-**	**67.78**	**354**	*e*P	**P**	**15 33 49.1**	**-1.9**
CN2	**Changchun**	**69.26**	**329**	*e*P	**P**	**15 34 01.0**	**+0.6**
CN2				pmax	pmax		
	comp=Z,20nm,0.8s						
PSI	**Prapat**	**69.48**	**279**	P	**P**	**15 34 02.5**	**-0.1**
	comp=Z,3.4nm,0.3s,baz=178,slow=4.7,SNR=11						
GRNR	**Gornyy**	**70.24**	**340**	*e*P	**P**	**15 34 06.5**	**+0.1**
GRNR				pmax	pmax		
	comp=Z,42nm,1.0s						
KLR	**Kul'dur**	**70.64**	**336**	*d i*P	**P**	**15 34 09.1**	**+0.3**
NKL	**Nikolayevsk**	**71.04**	**344**	*e*P	**P**	**15 34 11.0**	**-0.1**
XAN	**Xi'an**	**73.27**	**313**	P	**P**	**15 34 25.5**	**+0.5**
XAN				pmax	pmax		
	comp=Z,10.0nm,0.7s						
XAN				pmax	pmax		
	comp=Z,36nm,3.2s						
CM01	**Chiang Mai Arr**	**74.51**	**294**	*e*P	**P**	**15 34 32.3**	**-0.2**
CMAR	**Chiang Mai Arr**	**74.54**	**294**	P	**P**	**15 34 33.8**	**+1.1**
	comp=Z,9.9nm,0.8s,baz=127,slow=4.2,SNR=18						
CHTO	**Chiang Mai**	**74.67**	**294**	*e*P	**P**	**15 34 33.6**	**+0.3**
	comp=Z,4.1nm,0.9s						
CHTO	**Chiang Mai**	**74.67**	**294**	P	**P**	**15 34 33.7**	**+0.3**
CHTO				pmax	pmax		
	comp=Z,4.0nm,0.9s						
HHC	**Hu-ho-hao-te**	**75.18**	**320**	*e*P	**P**	**15 34 35.8**	**-0.2**
HHC				pmax	pmax		
	comp=Z,11nm,1.3s						
QSPA	**South Pole Qui**	**75.55**	**180**	P	**P**	**15 34 37.4**	**-0.3**
	comp=Z,7.2nm,0.9s,baz=6.5,slow=1.6,SNR=14						
HIA	**Hailar**	**75.90**	**330**	⇓*i*P	**P**	**15 34 39.9**	**+0.1**
HIA				pmax	pmax		
	comp=Z,7.0nm,1.1s						
ZEA	**Zeya**	**75.93**	**337**	*e*P	**P**	**15 34 40.8**	**+1.0**
ZEA				pmax	pmax		
	comp=Z,15nm,0.8s						
LZH	**Lanzhou**	**77.90**	**312**	*e*P	**P**	**15 34 49.0**	**-2.6**
LZH				pP	pP	15 35 08.8	-1.0
LZH				sP	sP	15 35 15.8	-1.4
LZH				pmax	pmax		
	comp=Z,25nm,1.1s						
LZH				pmax	pmax		
	comp=Z,93nm,4.5s						
LZH				LR	LR		
	comp=Z,260nm,14.6s						
LZH				LR	LR		
	comp=Z,260nm,12.1s						
LZH				LR	LR		
	comp=Z,280nm,17.1s						
SEY	**Seymchan**	**78.00**	**353**	⇓*i*P	**P**	**15 34 50.5**	**-0.7**
YAK	**Yakutsk**	**81.69**	**343**	*e*P	**P**	**15 35 09.5**	**-1.7**
YAK				pmax	pmax		
	comp=Z,10.0nm,0.9s						
YAK				pmax	pmax		
	comp=N,2.0nm,1.1s						
ULN	**Ulaanbaatar**	**81.74**	**324**	⇑*i*P	**P**	**15 35 11.8**	**-0.2**
ULN				pmax	pmax		
	comp=Z,8.0nm,1.7s						
MAW	**Mawson**	**81.99**	**202**	LR	LR	16 07 39.7	
	comp=Z,28nm,19.4s,baz=232,slow=33						
SONM	**Songino Array**	**82.10**	**324**	P	**P**	**15 35 14.2**	**+0.3**
	comp=Z,2.6nm,1.1s,baz=138,slow=6.7,SNR=11						
SONA1	**Songino Array**	**82.10**	**324**	*e*P	**P**	**15 35 12.6**	**-1.3**
GTA	**Gaotai**	**82.25**	**314**	*e*P	**P**	**15 35 15.8**	**+0.9**
GTA				pP	pP	15 35 36.0	+2.7
GTA				sP	sP	15 35 44.5	+3.9
GTA				pmax	pmax		
	comp=Z,8.0nm,1.1s						
BILL	**Bilibino**	**82.29**	**360**	*c i*P	**P**	**15 35 13.9**	**-0.4**
BILL				*i*		15 35 24.2	
BILL				pmax	pmax		
	comp=Z,7.0nm,1.0s						
SHL	**Shillong**	**83.15**	**298**	P	**P**	**15 35 21.0**	**+1.1**
CAST	**Castle Rocks**	**83.86**	**17**	*e*P	**P**	**15 35 20.4**	**-2.1**
	comp=Z,5.3nm,0.9s						
RND	**Reindeer**	**84.81**	**18**	*e*P	**P**	**15 35 26.6**	**-0.8**
	comp=Z,5.4nm,0.8s						
RND	**Reindeer**	**84.81**	**18**	P	**P**	**15 35 26.6**	**-0.8**
RND				pmax	pmax		
	comp=Z,5.0nm,0.8s						
ZAK	**Zakamensk**	**85.15**	**325**	*e*P	**P**	**15 35 27.8**	**-1.6**
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.4s						
YBH	**Yreka Blue Hor**	**85.48**	**45**	P	**P**	**15 35 31.9**	**+0.6**
	comp=Z,2.7nm,0.6s,baz=234,slow=1.8,SNR=5.5						
TLY	**Talaya**	**85.60**	**326**	*e*P	**P**	**15 35 31.6**	**+0.1**
TLY				pmax	pmax		
	comp=Z,2.0nm,0.6s						
COLA	**College**	**86.18**	**18**	⇑*i*P	**P**	**15 35 34.2**	**+0.2**
COLA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
ILAR	**Eielson Array**	**86.40**	**18**	P	**P**	**15 35 34.1**	**-1.1**
	comp=Z,2.3nm,0.7s,baz=232,slow=5.7,SNR=26						
NVAR	**Mina Array Bea**	**87.37**	**49**	P	**P**	**15 35 41.4**	**+0.7**
	comp=Z,1.3nm,0.8s,baz=224,slow=8.0,SNR=8.2						
TIXI	**Tiksi**	**89.66**	**349**	⇑*i*P	**P**	**15 35 50.1**	**-0.4**
TIXI				pmax	pmax		
	comp=Z,2.0nm,1.0s						
WMQ	**Urumqi**	**92.31**	**315**	P	**P**	**15 36 02.0**	**-1.6**
WMQ				pmax	pmax		
	comp=Z,21nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,46nm,4.1s						
WMQ				LR	LR		
	comp=Z,75nm,39.1s						
WMQ				LR	LR		
	comp=Z,35nm,38.8s						
WMQ				LR	LR		
	comp=Z,76nm,24.9s						
SNAA	**Sanae**	**93.78**	**183**	P	**P**	**15 36 08.6**	**-1.3**
	comp=Z,1.5nm,0.7s,baz=214,slow=3.4,SNR=11						
SNAA				LR	LR	16 17 00.7	
	comp=Z,31nm,18.0s,baz=356,slow=35						
SNAA	**Sanae**	**93.78**	**183**	⇓*i*P	**P**	**15 36 07.6**	**-2.3**
SNAA				*i* *PP	**pP**	**15 36 27.0**	**-1.6**
DGZ	**Jazzator, Alta**	**94.26**	**320**	⇓*i*P	**P**	**15 36 11.5**	**-1.0**
DGZ				pmax	pmax		
	comp=Z,1.0nm,0.8s						
PDAR	**Pinedale Array**	**95.03**	**47**	P	**P**	**15 36 16.6**	**+0.3**
	comp=Z,0.2nm,0.4s,baz=232,slow=4.4,SNR=2.2						
TXAR	**Lajitas Array**	**96.46**	**61**	P	**P**	**15 36 22.5**	**-0.5**
	comp=Z,0.3nm,0.7s,baz=183,slow=2.5,SNR=4.2						
MKAR	**Makanchi Array**	**96.79**	**316**	P	**P**	**15 36 24.3**	**+0.3**
	comp=Z,1.5nm,0.7s,baz=100,slow=6.4,SNR=19						
ZALV	**Zalesovo Beam**	**96.99**	**324**	P	**P**	**15 36 23.5**	**-1.1**
	comp=Z,1.6nm,0.7s,baz=130,slow=4.6,SNR=6.4						
YKA	**Yellowknife Ar**	**97.48**	**27**	P	Pdif	15 36 27.0	+0.3
	comp=Z,0.1nm,0.6s,baz=257,slow=4.7,SNR=6.0						
KURK	**Kurchatov**	**99.99**	**320**	P	**Pdif**	**15 36 39.0**	**+0.8**
KURK	**Kurchatov**	**99.99**	**320**	*ce*P	**Pdif**	**15 36 37.5**	**-0.7**
KURK				pmax	pmax		
	comp=Z,5.0nm,2.5s						
KURBB	**Kurchatov Arra**	**100.03**	**320**	P	**Pdif**	**15 36 39.0**	**+0.6**
	comp=Z,0.2nm,0.5s,baz=96,slow=4.7,SNR=3.1						
BVAR	**Borovoye Array**	**105.34**	**322**	PKiKP	**PKiKP**	**15 41 17.1**	**+1.5**
	comp=Z,0.4nm,0.5s,baz=169,slow=1.5,SNR=4.5						
AKTO	**Aktyubinsk**	**113.06**	**319**	PKiKP	**PKiKP**	**15 41 30.4**	**+0.3**
	comp=Z,0.9nm,0.6s,baz=59,slow=5.9,SNR=3.9						
SPITS	**Spitsbergen Ar**	**114.65**	**354**	PKP	PKPdf	15 41 33.4	+0.9
	comp=Z,7.7nm,0.7s,baz=147,slow=2.9,SNR=4.0						
ARCES	**ARCESS Array B**	**119.33**	**345**	PKP	**PKPdf**	**15 41 42.4**	**-0.4**
	comp=Z,8.3nm,0.7s,baz=37,slow=0.6,SNR=36						
GNI	**Garni**	**123.71**	**309**	PKP	**PKPdf**	**15 41 51.4**	**+0.3**
	comp=Z,6.6nm,0.8s,baz=333,slow=2.3,SNR=3.7						
FINES	**FINESS Array B**	**125.37**	**338**	PKP	**PKPdf**	**15 41 53.3**	**-0.1**
	comp=Z,4.9nm,0.8s,baz=76,

PMG	**Port Moresby**	**7.93**	**253**	P	**Pn**	**15 55 05.3**	**+0.4**
	0.8nm,0.3s,baz=53,slow=12,SNR=4.0						
PMG				S	**Sn**	**15 56 33.4**	**0.0**
	0.6nm,0.3s,baz=65,slow=14,SNR=2.5						
PMG				LR	LR	15 57 48.7	
	comp=Z,65nm,19.6s,baz=31,slow=35						
CTA	**Charters Tower**	**15.37**	**212**	P	**Pn**	**15 56 46.6**	**+0.5**
	0.2nm,0.3s,baz=18,slow=17,SNR=2.8						
WRA	**Warramunga Arr**	**23.63**	**235**	P	**P**	**15 58 17.8**	**-1.9**
	1.7nm,1.0s,baz=60,slow=9.8,SNR=10						
ASAR	**Alice Springs**	**25.99**	**228**	P	**P**	**15 58 40.4**	**-0.9**
	0.6nm,0.8s,baz=62,slow=9.3,SNR=8.2						
STKA	**Stephens Creek**	**27.58**	**205**	P	**P**	**15 58 55.8**	**+0.4**
	1.9nm,0.9s,baz=20,slow=16,SNR=5.0						
STKA				LR	LR	16 08 45.8	
	comp=Z,42nm,18.5s,baz=34,slow=34						
PETK	**Petropavlovsk-**	**60.02**	**2**	P	**P**	**16 03 15.0**	**+0.6**
	1.4nm,0.8s,baz=177,slow=2.9,SNR=3.0						
CMAR	**Chiang Mai Arr**	**60.68**	**296**	P	**P**	**16 03 19.8**	**+0.1**
	0.7nm,0.6s,baz=120,slow=5.4,SNR=6.1						
SONM	**Songino Array**	**69.33**	**327**	P	**P**	**16 04 15.8**	**+0.3**
	0.5nm,0.5s,baz=133,slow=4.6,SNR=3.9						
QSPA	**South Pole Qui**	**82.88**	**180**	P	**P**	**16 05 32.5**	**+0.2**
	1.4nm,0.8s,baz=36,slow=8.7,SNR=3.7						
MKAR	**Makanchi Array**	**83.37**	**319**	P	**P**	**16 05 35.5**	**+0.5**
	1.1nm,0.7s,baz=106,slow=5.2,SNR=14						
ILAR	**Eielson Array**	**83.52**	**22**	P	**P**	**16 05 34.1**	**-1.3**
	0.3nm,0.4s,baz=242,slow=5.3,SNR=5.9						
ZALV	**Zalesovo Beam**	**84.17**	**326**	P	**P**	**16 05 38.6**	**-0.3**
	0.4nm,0.4s,baz=107,slow=7.7,SNR=2.4						
KURBB	**Kurchatov Arra**	**86.84**	**322**	P	**P**	**16 05 51.2**	**-1.0**
	0.2nm,0.7s,baz=115,slow=3.9,SNR=3.0						
INK	**Inuvik**	**89.87**	**21**	P	**P**	**16 06 06.3**	**+0.2**
	0.4nm,0.4s,baz=263,slow=5.8,SNR=3.6						
YKA	**Yellowknife Ar**	**96.50**	**28**	P	**P**	**16 06 37.1**	**+0.3**
	0.4nm,0.6s,baz=265,slow=4.2,SNR=10						
TORD	**Torodi Ar. Bea**	**152.89**	**285**	PKPbc	**PKPbc**	**16 13 05.9**	**0.0**
	0.4nm,0.5s,baz=87,slow=1.8,SNR=4.2						

MAN 27 16:02:08,9˙23N×126˙69E,h19km,mb4.6,ML3.4,MS3.3, 2C-1D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUTP	**Butuan**	**1.09**	**256**	*e*P	Pb	16 02 27.7	-0.6
BUTP				*e*S	Sg	16 02 44.4	+0.9
BIPH	**Bislig**	**1.09**	**197**	*i*P	Pn	16 02 28.3	0.0
BIPH				*i*S	Sb	16 02 42.3	+0.2
SCPH	**Surigao**	**1.31**	**295**	*e*P	Pn	16 02 30.2	-1.0
MSLP	**Maasin**	**2.02**	**297**	*e*P	Pn	16 02 42.0	+0.9
MSLP				*e*S	Sg	16 03 24.9	+12
BUKP	**Musuan**	**2.10**	**230**	*e*P	Pb	16 02 44.5	-1.0
BUKP				*e*S	Sg	16 03 14.1	-1.6
CGP	**Cagayan de Oro**	**2.12**	**249**	*e*P	Pn	16 02 44.1	+1.6
CGP				*e*S	Sb	16 03 10.3	-1.5
BESP	**Borongan**	**2.66**	**332**	*e*P	Pn	16 02 31.3	-19
GUIM	**Jordan**	**4.27**	**289**	*e*P	Pb	16 03 25.2	+2.6

*DJA **27** 16:02:20.7±0.4,8˚S±3˚×11˚8E±˚,h10km,M3.3/7,MLv3.3/7*
*IDC **27** 16:02:21.8±17.0,8˙43S×118˙35E,h0km,mb3.5/2, mb1 3.5/3,mb1mx3.2/55,mbtmp3.3/3,ML3.3/1,Error ellipse: s-maj=309.5km s-min=178.6km az=1.0*
*ISCJB **27** 16:02:22.2±1.0,8˙1S±0˙1×118˙36E±0˙06,h33km,mb3.5/2, Error ellipse: s-maj=15.6km s-min=7.3km az=158.9*
ISC 27 16:02:23.6±1.3,8˙08S±0˙09×118˙30E±0˙07,h35km,n8, σ0§97/10,Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLAI	**Plampang**	**0.90**	**215**	P	**Pn**	**16 02 38.1**	**-1.7**
PLAI				S	**Sn**	**16 02 51.7**	**+0.1**
TWSI	**Taliwang, Sumb**	**1.54**	**245**	P	**Pn**	**16 02 48.5**	**-0.2**
TWSI				S	**Sn**	**16 03 08.9**	**+1.4**
WBSI	**Waikabubak, Su**	**1.89**	**145**	P	**Pn**	**16 02 53.2**	**-0.3**
WSI	**Waingapu**	**2.53**	**129**	P	**Pn**	**16 03 02.0**	**-0.2**
BSSI	**Bau Bau, Buton**	**2.91**	**49**	P	**Pn**	**16 03 06.7**	**-0.8**
WRA	**Warramunga Arr**	**19.50**	**129**	P	**P**	**16 06 47.4**	**-0.6**
	0.1nm,0.3s,baz=302,slow=12,SNR=6.7						
ASAR	**Alice Springs**	**21.54**	**138**	P	**P**	**16 07 10.5**	**+0.4**
	0.9nm,0.6s,baz=311,slow=8.5,SNR=20						
STKA	**Stephens Creek**	**32.10**	**141**	P	**P**	**16 08 48.2**	**+0.5**
	0.4nm,0.3s,baz=326,slow=15,SNR=3.5						

*DDA **27** 16:02:24.0,39˙14N×29˙08E,h7km,Ml2.6*
*CSEM **27** 16:02:26.5±0.3,38˙96N×29˙21E,h2km,ML2.6, Error ellipse: s-maj=7.4km s-min=6.9km az=131.0*
*ISK **27** 16:02:28.6,39˙14N×29˙15E,h5km,ML2.6/13*
ISC 27 16:02:25.8±1.1,38˙99N±0˙03×29˙22E±0˙02,h3km±14km, n49,σ1§45/55,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIMA	**Simav-Kutahya**	**0.21**	**297**	PG	**Pg**	**16 02 32.6**	**+2.8**
SIMA				SG	**Sg**	**16 02 34.5**	**+2.0**
SIMA	**Simav-Kutahya**	**0.21**	**297**	*e*Pg	**Pg**	**16 02 32.6**	**+2.8**
SIMA				*e*Sg	**Sg**	**16 02 34.5**	**+2.0**
GDZ	**Gediz**	**0.23**	**64**	*i*P	**Pg**	**16 02 29.2**	**-1.0**
GDZ				*i*S	**Sg**	**16 02 31.8**	**-1.4**
GDZ	**Gediz**	**0.23**	**64**	P	**Pg**	**16 02 29.2**	**-1.0**
GDZ				S	**Sg**	**16 02 31.8**	**-1.4**
DEMI	**Demirci**	**0.40**	**278**	*i*P	**Pg**	**16 02 30.4**	**-3.0**
DEMI				*i*S	**Sg**	**16 02 34.8**	**-3.7**
DEMI	**Demirci**	**0.40**	**278**	P	**Pg**	**16 02 30.4**	**-3.0**
TVSB	**Tavsanli**	**0.49**	**22**	PG	**Pb**	**16 02 36.6**	**-0.6**
TVSB				SG	**Sg**	**16 02 42.1**	**+0.3**
TVSB	**Tavsanli**	**0.49**	**22**	*e*Pg	**Pb**	**16 02 36.6**	**-0.6**
TVSB				*e*Sg	**Sg**	**16 02 42.1**	**+0.3**
KULA	**Kula-Manisa**	**0.65**	**223**	PG	**Pn**	**16 02 42.8**	**+0.8**
KHAL	**Karahalli**	**0.66**	**161**	*i*P	**Pb**	**16 02 39.9**	**-0.1**
KHAL	**Karahalli**	**0.66**	**161**	P	**Pb**	**16 02 39.9**	**-0.1**
MANT	**Manisa**	**0.72**	**226**	*i*P	**Pg**	**16 02 38.7**	**-0.9**
MANT	**Manisa**	**0.72**	**226**	P	**Pg**	**16 02 38.7**	**-0.9**
KUTH	**Kutahya**	**0.74**	**57**	PG	**Pn**	**16 02 43.2**	**-0.2**
KUTH	**Kutahya**	**0.74**	**57**	*e*Pg	**Pn**	**16 02 43.2**	**-0.2**
DURS	**Dursunbey**	**0.84**	**317**	*i*P	Pg	16 02 37.0	-4.9
ORLT	**Orhaneli**	**1.08**	**347**	PG	**Pb**	**16 02 46.9**	**-0.3**
ORLT	**Orhaneli**	**1.08**	**347**	*e*Pg	**Pb**	**16 02 46.9**	**-0.3**
AUBOZ	**BOZOYUK**	**1.11**	**34**	PG	**Pn**	**16 02 48.9**	**+0.5**
BALB	**Balikesir**	**1.22**	**302**	PN	**Pg**	**16 02 50.2**	**+0.9**
BALB	**Balikesir**	**1.22**	**302**	*e*Pn	**Pg**	**16 02 50.2**	**+0.9**
CAVI	**Cavuskoy**	**1.30**	**22**	PN	**Pg**	**16 02 51.9**	**+1.1**
CAVI	**Cavuskoy**	**1.30**	**22**	*e*Pn	**Pg**	**16 02 51.9**	**+1.1**
BORA	**Eskisehir**	**1.30**	**47**	PN	**Pg**	**16 02 53.1**	**+2.3**
MDNY	**Mudanya-Bursa**	**1.40**	**349**	PN	**Pg**	**16 02 52.9**	**+0.3**
MDNY	**Mudanya-Bursa**	**1.40**	**349**	*e*Pn	**Pg**	**16 02 52.9**	**+0.3**
KCTX	**Karacabey (Bur**	**1.44**	**333**	PN	**Pg**	**16 02 53.4**	**+0.1**
KCTX	**Karacabey (Bur**	**1.44**	**333**	*e*Pn	**Pg**	**16 02 53.4**	**+0.1**
AYDB	**Zeytinkoy-Aydi**	**1.48**	**225**	PN	**Pg**	**16 02 57.8**	**+3.7**
ADVT	**Abdulvahap**	**1.50**	**15**	PN	**Pg**	**16 02 55.1**	**+0.6**
ADVT	**Abdulvahap**	**1.50**	**15**	*e*Pn	**Pg**	**16 02 55.1**	**+0.6**
YLV	**Yalova**	**1.58**	**4**	PN	**Pg**	**16 02 56.0**	**-0.1**
YLV	**Yalova**	**1.58**	**4**	*e*Pn	**Pg**	**16 02 56.0**	**-0.1**
GONE	**Gonen-Balikesi**	**1.59**	**312**	PN	**Pg**	**16 02 55.9**	**-0.3**
GONE	**Gonen-Balikesi**	**1.59**	**312**	*e*Pn	**Pg**	**16 02 55.9**	**-0.3**
ARMT	**Armutlu**	**1.60**	**350**	PN	**Pb**	**16 02 56.1**	**+0.1**
ARMT	**Armutlu**	**1.60**	**350**	*e*Pn	**Pb**	**16 02 56.1**	**+0.1**
EDC	**Edincik**	**1.71**	**323**	PN	**Pb**	**16 02 57.5**	**-0.4**
EDC	**Edincik**	**1.71**	**323**	*e*Pn	**Pb**	**16 02 57.5**	**-0.4**
GULT	**Gulveren**	**1.75**	**34**	PN	**Pb**	**16 02 59.3**	**+0.6**
GULT	**Gulveren**	**1.75**	**34**	*e*Pn	**Pb**	**16 02 59.3**	**+0.6**
HRT	**Hereke**	**1.86**	**11**	PN	**Pb**	**16 02 59.8**	**-0.7**
HRT	**Hereke**	**1.86**	**11**	*e*Pn	**Pb**	**16 02 59.8**	**-0.7**
SBT3	**Marmara-Eregli**	**2.12**	**334**	PN	**Pb**	**16 03 03.6**	**-1.2**
SBT3	**Marmara-Eregli**	**2.12**	**334**	*e*Pn	**Pb**	**16 03 03.6**	**-1.2**
CTKS	**Kestanelik-??a**	**2.31**	**347**	PN	**Pb**	**16 03 06.2**	**-1.9**
CTKS	**Kestanelik-??a**	**2.31**	**347**	*e*Pn	**Pb**	**16 03 06.2**	**-1.9**
RKY	**Sarkoy-Tekirda**	**2.31**	**318**	PN	**Pb**	**16 03 06.4**	**-1.8**
RKY	**Sarkoy-Tekirda**	**2.31**	**318**	*e*Pn	**Pb**	**16 03 06.4**	**-1.8**

*ISK **27** 16:04:47.1,36˙96N×36˙93E,h5km,ML2.0/7*
*DDA **27** 16:04:47.4,36˙98N×36˙93E,h7km,Ml2.5*
*ISCJB **27** 16:04:48.1±0.5,36˙99N±0˙03×36˙90E±0˙04,h9km±5km, Error ellipse: s-maj=5.0km s-min=4.7km az=165.9*
*CSEM **27** 16:04:48.0±0.1,36˙97N×36˙90E,h10km,ML2.5,Error ellipse: s-maj=3.2km s-min=2.6km az=154.0*
ISC 27 16:04:48.2±0.9,37˙00N±0˙03×36˙91E±0˙03,h13km±7km, n25,σ0§73/38,Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUZU	**Kuzuini**	**0.26**	**150**	*i*P	**Pg**	**16 04 53.4**	**-0.3**
KUZU				*i*S	**Sg**	**16 04 58.3**	**+1.0**
KUZU	**Kuzuini**	**0.26**	**150**	P	**Pg**	**16 04 53.4**	**-0.3**
KUZU				S	**Sg**	**16 04 58.3**	**+1.0**
GAZ	**Gaziantep**	**0.30**	**54**	PG	**Pg**	**16 04 53.6**	**-0.7**
GAZ				SG	**Sg**	**16 04 58.4**	**-0.1**
GAZ	**Gaziantep**	**0.30**	**54**	*e*Pg	**Pg**	**16 04 53.6**	**-0.7**
GAZ				*e*Sg	**Sg**	**16 04 58.4**	**-0.1**
KMRS	**Kahramanmaras**	**0.51**	**359**	PG	**Pb**	**16 04 58.5**	**-0.5**
KMRS				SG	**Sg**	**16 05 05.7**	**+0.7**
KMRS	**Kahramanmaras**	**0.51**	**359**	*e*Pg	**Pb**	**16 04 58.5**	**-0.5**
KMRS				*e*Sg	**Sg**	**16 05 05.7**	**+0.7**
KOZT	**Kozan**	**0.99**	**299**	PG	**Pb**	**16 05 07.3**	**0.0**
KOZT				SG	**Sn**	**16 05 21.9**	**+0.1**
KOZT	**Kozan**	**0.99**	**299**	*e*Pg	**Pb**	**16 05 07.3**	**0.0**
KOZT				*e*Sg	**Sn**	**16 05 21.9**	**+0.1**
YURE	**YUREGIR**	**1.04**	**261**	PG	**Pb**	**16 05 07.9**	**-0.2**
YURE	**YUREGIR**	**1.04**	**261**	*i*P	**Pg**	**16 05 07.4**	**-0.8**
YURE	**YUREGIR**	**1.04**	**261**	P	**Pg**	**16 05 07.4**	**-0.8**
YURE	**YUREGIR**	**1.04**	**261**	*e*Pg	**Pb**	**16 05 07.9**	**-0.2**
YAYL	**Yayladag**	**1.16**	**214**	PN	**Pg**	**16 05 09.3**	**-1.2**
YAYL				SN	**Sb**	**16 05 25.3**	**+0.1**
YAYL	**Yayladag**	**1.16**	**214**	*i*P	**Pg**	**16 05 09.3**	**-1.2**
YAYL				*i*S	**Sn**	**16 05 25.6**	**-0.5**
YAYL	**Yayladag**	**1.16**	**214**	P	**Pg**	**16 05 09.3**	**-1.2**
YAYL				*e*Sn	**Sb**	**16 05 25.3**	**+0.1**
SAIM	**ADANA**	**1.18**	**326**	*i*P	**Pg**	**16 05 10.3**	**-0.5**
SAIM	**ADANA**	**1.18**	**326**	P	**Pg**	**16 05 10.4**	**-0.5**
SURC	**SANLIURFA_SURC**	**1.37**	**94**	*i*P	**Pg**	**16 05 13.4**	**-1.1**
SURC				*i*S	**Sn**	**16 05 31.8**	**+0.7**
SURC	**SANLIURFA_SURC**	**1.37**	**94**	P	**Pg**	**16 05 13.4**	**-1.1**
SURC				S	**Sn**	**16 05 31.8**	**+0.7**
URFA	**Urfa**	**1.59**	**73**	PN	**Pb**	**16 05 16.8**	**-0.7**
URFA	**Urfa**	**1.59**	**73**	*e*Pn	**Pb**	**16 05 16.8**	**-0.7**
DARE	**Darende-Malaty**	**1.64**	**16**	PN	**Pb**	**16 05 17.8**	**-0.5**
DARE	**Darende-Malaty**	**1.64**	**16**	*e*Pn	**Pb**	**16 05 17.8**	**-0.5**
MALT	**Malatya**	**1.78**	**42**	PN	**Pn**	**16 05 19.7**	**+0.9**
MALT	**Malatya**	**1.78**	**42**	*e*Pn	**Pn**	**16 05 19.7**	**+0.9**

*IDC **27** 16:13:50.0±1.7,0˙04N×92˙01E,h0km,mb3.8/8, mb1 3.9/10,mb1mx3.6/72,mbtmp3.8/10,ML3.4/1,MS3.5/1, Ms1 3.5/1,ms1mx2.5/60,Error ellipse: s-maj=52.0km s-min=19.7km az=55.0*
*ISCJB **27** 16:13:53.8±1.2,0˙2N±0˙2×92˙2E±0˙2,h33km,mb3.8/8, Error ellipse: s-maj=27.8km s-min=16.1km az=136.6*
ISC 27 16:13:55.9±1.7,0˙2N±0˙2×92˙2E±0˙2,h35km,n10, σ0§42/10,mb3.8/8,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**7.24**	**69**	Pn	**Pn**	**16 15 39.4**	**+0.1**
	0.6nm,0.3s,baz=251,slow=7.3,SNR=3.4						
PSI				LR	LR	16 18 13.1	
	comp=Z,333nm,18.6s,baz=262,slow=36						
CMAR	**Chiang Mai Arr**	**19.36**	**20**	P	**Pn**	**16 18 19.5**	**-0.4**
	baz=211,slow=12,SNR=9.8						
WRA	**Warramunga Arr**	**45.86**	**118**	P	**P**	**16 22 15.1**	**-0.1**
	1.4nm,0.8s,baz=295,slow=8.7,SNR=11						
ASAR	**Alice Springs**	**46.91**	**123**	P	**P**	**16 22 23.4**	**0.0**
	0.5nm,0.3s,baz=299,slow=8.0,SNR=4.5						
MKAR	**Makanchi Array**	**47.24**	**351**	P	**P**	**16 22 26.1**	**+0.5**
	0.7nm,0.7s,baz=162,slow=8.5,SNR=11						
SONM	**Songino Array**	**49.07**	**13**	P	**P**	**16 22 40.3**	**+0.4**
	1.4nm,0.8s,baz=194,slow=7.8,SNR=6.8						
KURBB	**Kurchatov Arra**	**51.60**	**349**	P	**P**	**16 22 58.7**	**0.0**
	1.0nm,0.9s,baz=167,slow=7.4,SNR=7.4						
ZALV	**Zalesovo Beam**	**53.95**	**355**	P	**P**	**16 23 16.5**	**+0.4**
	0.8nm,0.5s,baz=183,slow=5.2,SNR=4.5						
BVAR	**Borovoye Array**	**55.73**	**344**	P	**P**	**16 23 28.5**	**-0.5**
	0.6nm,0.7s,baz=138,slow=9.1,SNR=4.9						
TIXI	**Tiksi**	**75.13**	**11**	P	**P**	**16 25 33.7**	**-0.4**
	0.7nm,0.7s,baz=240,slow=3.7,SNR=10						

*ISCJB **27** 16:14:47.3±0.6,50˙54N±0˙05×129˙93W±0˙08,h10km, mb3.7/3,MS3.6/2,Error ellipse: s-maj=9.4km s-min=3.8km az=44.7*
*PGC **27** 16:14:47.5±2.1,50˙42N×130˙19W,h10km,MLSn3.7/17, Mw4.5, 198km west of Pt. Hardy, Bc Vancouver Island, Canada Region*
*NEIC **27** 16:14:47.5±0.0,50˙42N×130˙19W,h10km,mb3.9/6, MW4.5(OTT),After OTT.*
*IDC **27** 16:14:51.1±1.4,50˙62N×129˙64W,h0km,mb3.8/3, mb1 4.0/9,mb1mx3.6/80,mbtmp3.7/9,ML3.6/6,MS3.7/2, Ms1 3.7/2,ms1mx2.9/69,Error ellipse: s-maj=22.2km s-min=13.1km az=74.0*
ISC 27 16:14:49.6±0.9,50˙53N±0˙07×129˙92W±0˙07,h10km,n60, σ1§82/56,mb3.8/3,Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PACB	**Port Alice, BC**	**1.55**	**92**	Pn	**Pn**	**16 15 13.9**	**-3.3**
PHC	**Port Hardy**	**1.59**	**83**	Pn	**Pn**	**16 15 16.1**	**-1.7**
PHC				Sn	**Sn**	**16 15 37.4**	**-1.0**
EDB	**Eliza Dome**	**1.91**	**109**	Pn	**Pn**	**16 15 35.5**	**-2.7**
BBB	**Bella Bella**	**2.01**	**34**	Pn	**Pn**	**16 15 22.1**	**-1.4**
	32nm,0.3s,baz=231,slow=12,SNR=14						
BBB				Sn	**Sn**	**16 15 47.9**	**-0.8**
	77nm,0.3s,baz=249,slow=20,SNR=7.8						
BBB	**Bella Bella**	**2.01**	**34**	Pn	**Pn**	**16 15 22.1**	**-1.4**
BBB				Sn	**Sn**	**16 15 47.1**	**-1.5**
WOSB	**Woss**	**2.17**	**98**	Pn	**Pn**	**16 15 24.3**	**-1.7**
BNB	**Barry Inlet**	**2.35**	**332**	Pn	**Pn**	**16 15 24.8**	**-3.5**
NCRB	**Newcastle Ridg**	**2.47**	**91**	Pn	**Pn**	**16 15 28.8**	**-1.2**
GDR	**Gold River**	**2.61**	**105**	Pn	**Pn**	**16 15 29.8**	**-2.0**
CBB	**Campbell River**	**2.96**	**98**	Pn	**Pn**	**16 15 35.5**	**-1.2**
BTB	**Buttle Lake**	**3.03**	**109**	Pn	**Pn**	**16 15 35.6**	**-2.1**
DIB	**Dawson Inlet,**	**3.11**	**330**	Pn	**Pn**	**16 15 35.3**	**-3.4**
H02S1	**DAWSON INLET T**	**3.11**	**330**	Pn	**Pn**	**16 15 35.3**	**-3.4**
H02S1				Sn	**Sn**	**16 16 12.2**	**-3.7**
OZB	**Mount Ozzard**	**3.27**	**117**	Pn	**Pn**	**16 15 39.5**	**-1.5**
TXB	**Texada**	**3.62**	**101**	Pn	**Pn**	**16 15 44.3**	**-1.5**
MGB	**Mount Grey**	**3.72**	**112**	Pn	**Pn**	**16 15 46.4**	**-0.8**
SHB	**Sechelt**	**4.00**	**101**	Pn	**Pn**	**16 15 49.8**	**-1.2**
PFB	**Port Renfrew**	**4.07**	**117**	Pn	**Pn**	**16 15 49.7**	**-2.2**
OCP	**Olym-Cheeka Pk**	**4.11**	**121**	Pn	**Pn**	**16 15 50.3**	**-2.2**
UBRB	**Upper Baezaeko**	**4.33**	**55**	Pn	**Pn**	**16 15 56.3**	**+0.7**
BIB	**Bowen Island**	**4.41**	**102**	Pn	**Pn**	**16 15 56.3**	**-0.3**
GOBB	**Galiano Island**	**4.45**	**108**	Pn	**Pn**	**16 15 57.4**	**+0.4**
MCW	**Mount Constitu**	**4.96**	**109**	Pn	**Pn**	**16 16 04.5**	**+0.3**
LLLB	**Lillooet**	**5.12**	**86**	Pn	**Pn**	**16 16 06.3**	**-0.1**
VDB	**Vedder Mountai**	**5.28**	**104**	Pn	**Pn**	**16 16 09.0**	**+0.5**
MBW	**Mount Baker**	**5.49**	**105**	Pn	**Pn**	**16 16 12.0**	**+0.4**
JCW	**Jim Creek**	**5.72**	**111**	Pn	**Pn**	**16 16 15.3**	**+0.7**
B06A	**Marblemount**	**5.85**	**107**	Pn	**Pn**	**16 16 15.8**	**+0.5**
B08A	**Colville Reser**	**7.23**	**103**	Pn	**Pn**	**16 16 35.6**	**+0.2**
DLBC	**Dease Lake**	**7.93**	**360**	Pn	**Pn**	**16 16 45.5**	**+0.7**
	1.2nm,0.3s,baz=200,slow=13,SNR=10						
DLBC	**Dease Lake**	**7.93**	**360**	Pn	**Pn**	**16 16 44.9**	**0.0**
WALA	**Waterton Lakes**	**10.46**	**92**	Pn	**Pn**	**16 17 19.5**	**-0.1**
WHY	**Whitehorse**	**10.53**	**347**	Pn	**Pn**	**16 17 20.0**	**-0.6**
DAWY	**Dawson**	**14.48**	**343**	*e*Pn	**Pn**	**16 18 13.6**	**-0.8**
YKA	**Yellowknife Ar**	**14.62**	**29**	Pn	**Pn**	**16 18 14.0**	**-2.2**
	0.1nm,0.3s,baz=218,slow=12,SNR=17						
NVAR	**Mina Array Bea**	**14.64**	**141**	Pn	**P**	**16 18 22.6**	**-0.7**
	baz=311,slow=14,SNR=3.2						
YKW3	**Yellowknife Ar**	**14.66**	**29**	Pn	**Pn**	**16 18 15.1**	**-1.7**
DOT	**Dot Lake**	**15.18**	**335**	Pn	**Pn**	**16 18 25.0**	**+1.2**
	56nm,1.5s						
EGAK	**Eagle**	**15.46**	**342**	*e*Pn	**Pn**	**16 18 29.2**	**+1.7**
	5.6nm,1.0s						
PDAR	**Pinedale Array**	**15.96**	**111**	Pn	**P**	**16 18 36.5**	**-1.4**
	0.1nm,0.3s,baz=307,slow=11,SNR=8.7						
ILAR	**Eielson Array**	**16.83**	**334**	Pn	**P**	**16 18 49.3**	**+2.1**
	0.1nm,0.3s,baz=146,slow=9.8,SNR=14						
TRF	**Thorofare Moun**	**16.94**	**328**	*e*Pn	**P**	**16 18 50.8**	**+2.2**
	33nm,1.7s						
KTH	**Kantishna Hill**	**17.23**	**327**	*e*Pn	**P**	**16 18 50.8**	**-0.9**
	9.9nm,1.1s						
WHFN	**White Fish Lak**	**17.30**	**37**	Pn	**Pn**	**16 18 50.5**	**-0.4**
DHRN	**Dharma Camp**	**17.36**	**14**	Pn	**Pn**	**16 18 51.3**	**-0.5**
FFC	**Flin Flon**	**17.42**	**65**	P	**Pn**	**16 18 48.7**	**-3.7**
	5.7nm,0.9s						
HPLN	**Hepburn Lake,**	**17.52**	**20**	Pn	**Pn**	**16 18 52.6**	**-1.1**
BPAW	**Bear Paw Mtn.**	**17.60**	**329**	*e*Pn	**P**	**16 18 56.0**	**+0.3**
	3.0nm,1.4s						
INK	**Inuvik**	**17.92**	**356**	P	**Pn**	**16 18 59.0**	**+0.4**
	0.0nm,0.3s,baz=176,slow=12,SNR=4.9						
ULM	**Lac du Bonnet**	**21.60**	**77**	P	**P**	**16 19 40.1**	**+0.7**
	4.6nm,0.7s,baz=258,slow=6.0,SNR=4.8						
TXAR	**Lajitas Array**	**28.95**	**127**	P	**P**	**16 20 51.5**	**+2.4**
	0.7nm,0.9s,baz=330,slow=9.0,SNR=4.0						
SADO	**Sadowa**	**34.12**	**80**	LR	LR	16 36 16.1	
	comp=Z,140nm,18.2s,baz=225,slow=38						
FRB	**Frobisher Bay**	**34.36**	**44**	LR	LR	16 35 58.3	
	comp=Z,94nm,21.2s,baz=272,slow=37						
H11N2	**WAKE ISLAND Hy**	**58.02**	**262**	T	T	17 27 16.3	
	baz=43,slow=74,SNR=102						
H11N3	**WAKE ISLAND Hy**	**58.03**	**262**	T	T	17 27 19.3	
	baz=43						
H11N1	**WAKE ISLAND Hy**	**58.04**	**262**	T	T	17 27 25.5	
	baz=43						
H11S1	**WAKE ISLAND Hy**	**59.05**	**262**	T	T	17 28 39.6	
	baz=47,slow=75,SNR=13						
H11S2	**WAKE ISLAND Hy**	**59.06**	**262**	T	T	17 28 49.6	
	baz=47,slow=75,SNR=9.6						
H11S3	**WAKE ISLAND Hy**	**59.07**	**262**	T	T	17 28 52.0	
	baz=47,slow=75,SNR=7.6						
MKAR	**Makanchi Array**	**79.14**	**338**	P	**P**	**16 26 58.4**	**+4.1**
	0.8nm,0.9s,baz=47,slow=5.8,SNR=6.7						

*PGC **27** 16:20:13.1±3.9,50˙46N×130˙19W,h10km,MLSn3.8/20, Mw4.4, 197km west of Pt. Hardy, Bc Vancouver Island, Canada Region*
*NEIC **27** 16:20:13.1±0.0,50˙46N×130˙19W,h10km,mb3.8/6, MW4.3(OTT),After OTT.*
*ISCJB **27** 16:20:15.3±0.5,50˙61N±0˙04×129˙63W±0˙08,h10km, mb3.8/9,Error ellipse: s-maj=8.3km s-min=3.9km az=142.2*
*IDC **27** 16:20:16.9±0.8,50˙61N×129˙52W,h0km,mb3.9/9, mb1 4.0/16,mb1mx3.8/83,mbtmp3.8/16,ML3.3/7,Error ellipse: s-maj=16.8km s-min=10.5km az=69.0*
ISC 27 16:20:16.4±0.7,50˙65N±0˙05×129˙62W±0˙06,h10km,n74, σ1§75/72,mb3.8/9,Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PACB	**Port Alice, BC**	**1.37**	**98**	Pn	**Pn**	**16 20 39.5**	**-2.1**
PHC	**Port Hardy**	**1.39**	**87**	Pn	**Pg**	**16 20 41.8**	**-1.3**
PHC				Sn	**Sg**	**16 21 02.6**	**+1.5**
EDB	**Eliza Dome**	**1.78**	**115**	Pn	**Pn**	**16 20 45.1**	**-2.1**
BBB	**Bella Bella**	**1.80**	**31**	Pn	**Pb**	**16 20 47.6**	**-1.9**
	11nm,0.3s,baz=236,slow=6.1,SNR=9.8						
BBB				Sn	**Sg**	**16 21 12.6**	**-1.6**
	50nm,0.3s,baz=276,slow=5.1,SNR=8.1						
BBB	**Bella Bella**	**1.80**	**31**	Pn	**Pb**	**16 20 47.5**	**-1.9**
BBB				Sn	**Sg**	**16 21 12.2**	**-2.1**
WOSB	**Woss**	**2.01**	**103**	Pn	**Pn**	**16 20 49.9**	**-0.5**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
	region						
PACB	**Port Alice, BC**	**1.51**	**95**	Pn	**Pn**	**16 22 56.9**	**-2.3**
PHC	**Port Hardy**	**1.54**	**84**	Pn	**Pn**	**16 22 59.1**	**-0.6**
PHC				Sn	**Sn**	**16 23 17.8**	**-1.9**
EDB	**Eliza Dome**	**1.89**	**111**	Pn	**Pn**	**16 23 02.4**	**-2.1**
BBB	**Bella Bella**	**1.94**	**33**	Pn	**Pn**	**16 23 05.1**	**0.0**
	22nm,0.3s,baz=244,slow=5.4,SNR=6.7						
BBB				Sn	**Sn**	**16 23 30.6**	**+1.1**
	124nm,0.3s,baz=282,slow=16,SNR=9.6						
BBB	**Bella Bella**	**1.94**	**33**	Pn	**Pn**	**16 23 05.1**	**0.0**
BBB				Sn	**Sn**	**16 23 29.1**	**-0.4**
BBB	**Bella Bella**	**1.94**	**33**	*e*Pn	**Pn**	**16 23 05.5**	**+0.4**
BBB				Sn	**Sn**	**16 23 30.6**	**+1.1**
WOSB	**Woss**	**2.14**	**100**	Pn	**Pn**	**16 23 07.3**	**-0.7**
BNB	**Barry Inlet**	**2.33**	**330**	Pn	**Pn**	**16 23 07.2**	**-3.3**
NCRB	**Newcastle Ridg**	**2.43**	**93**	Pn	**Pn**	**16 23 11.5**	**-0.5**
ETB	**Estevan Point**	**2.45**	**118**	Pn	**Pn**	**16 23 10.2**	**-1.9**
GDR	**Gold River**	**2.58**	**107**	Pn	**Pn**	**16 23 12.9**	**-1.1**
CBB	**Campbell River**	**2.92**	**99**	Pn	**Pn**	**16 23 18.4**	**-0.2**
CBB				Sn	**Sn**	**16 23 53.5**	**-0.3**
BTB	**Buttle Lake**	**3.00**	**110**	Pn	**Pn**	**16 23 18.9**	**-1.1**
MWAB	**Mount Washingt**	**3.04**	**104**	Pn	**Pn**	**16 23 18.9**	**-1.5**
DIB	**Dawson Inlet,**	**3.09**	**329**	Pn	**Pn**	**16 23 18.4**	**-2.6**
H02S1	**DAWSON INLET T**	**3.09**	**329**	Pn	**Pn**	**16 23 18.2**	**-2.7**
H02S1				Sn	**Sn**	**16 23 55.5**	**-2.4**
OZB	**Mount Ozzard**	**3.25**	**118**	Pn	**Pn**	**16 23 22.8**	**-0.5**
B928	**Bamfield**	**3.52**	**118**	Pn	**Pn**	**16 23 26.5**	**-0.4**
B927	**Port Alberni**	**3.53**	**121**	Pn	**Pn**	**16 23 26.9**	**-0.0**
TXB	**Texada**	**3.59**	**102**	Pn	**Pn**	**16 23 28.1**	**+0.2**
MGB	**Mount Grey**	**3.70**	**113**	Pn	**Pn**	**16 23 28.7**	**-0.7**
SHB	**Sechelt**	**3.97**	**102**	Pn	**Pn**	**16 23 33.0**	**-0.2**
YOUB	**Youbou, Lake C**	**3.99**	**113**	Pn	**Pn**	**16 23 33.8**	**+0.3**
NLLB	**Nanaimo Lost L**	**4.02**	**107**	Pn	**Pn**	**16 23 34.0**	**+0.2**
PFB	**Port Renfrew**	**4.05**	**118**	Pn	**Pn**	**16 23 33.7**	**-0.5**
OCP	**Olym-Cheeka Pk**	**4.10**	**122**	Pn	**Pn**	**16 23 35.2**	**+0.3**
UBRB	**Upper Baezaeko**	**4.26**	**55**	Pn	**Pn**	**16 23 39.6**	**+2.4**
LZB	**Mount Lazard**	**4.38**	**114**	Pn	**Pn**	**16 23 39.5**	**+0.7**
GOBB	**Galiano Island**	**4.42**	**109**	Pn	**Pn**	**16 23 40.9**	**+1.7**
MCW	**Mount Constitu**	**4.94**	**110**	Pn	**Pn**	**16 23 47.5**	**+1.1**
NLWA	**Neilton Lookou**	**5.07**	**127**	*e*Pn	**Pn**	**16 23 48.4**	**+0.2**
LLLB	**Lillooet**	**5.07**	**87**	Pn	**Pn**	**16 23 49.5**	**+1.2**
LLLB	**Lillooet**	**5.07**	**87**	*e*Pn	**Pn**	**16 23 49.4**	**+1.2**
BLN	**Blyn Mountain**	**5.18**	**117**	Pn	**Pn**	**16 23 50.2**	**+0.4**
VDB	**Vedder Mountai**	**5.25**	**104**	Pn	**Pn**	**16 23 52.3**	**+1.7**
HDW	**Hoodsport**	**5.34**	**121**	Pn	**Pn**	**16 23 51.7**	**-0.2**
MBW	**Mount Baker**	**5.46**	**106**	Pn	**Pn**	**16 23 55.0**	**+1.2**
HOPB	**Hope**	**5.57**	**99**	Pn	**Pn**	**16 23 56.5**	**+1.5**
JCW	**Jim Creek**	**5.70**	**112**	Pn	**Pn**	**16 23 57.7**	**+1.0**
E03A	**Lebam**	**5.80**	**132**	Pn	**Pn**	**16 23 58.6**	**+0.3**
B06A	**Marblemount**	**5.82**	**108**	Pn	**Pn**	**16 23 59.5**	**+1.1**
B06A	**Marblemount**	**5.82**	**108**	*e*Pn	**Pn**	**16 23 59.6**	**+1.2**
FMW	**Mount Fremont**	**6.52**	**121**	Pn	**Pn**	**16 24 09.5**	**+1.2**
LON	**Longmire**	**6.56**	**123**	Pn	**Pn**	**16 24 09.5**	**+0.8**
LON	**Longmire**	**6.56**	**123**	*e*Pn	**Pn**	**16 24 10.5**	**+1.9**
LTY	**Liberty**	**6.90**	**115**	Pn	**Pn**	**16 24 14.9**	**+1.5**
LTY	**Liberty**	**6.90**	**115**	*e*Pn	**Pn**	**16 24 15.5**	**+2.1**
B08A	**Colville Reser**	**7.20**	**104**	Pn	**Pn**	**16 24 18.9**	**+1.5**
B08A	**Colville Reser**	**7.20**	**104**	*e*Pn	**Pn**	**16 24 19.1**	**+1.6**
DLBC	**Dease Lake**	**7.87**	**359**	Pn	**Pn**	**16 24 28.8**	**+2.1**
	0.9nm,0.3s,baz=55,slow=2.4,SNR=6.7						
DLBC				Sn	**Sn**	**16 26 00.4**	**+4.6**
	0.7nm,0.3s,baz=296,slow=18,SNR=2.9						
DLBC	**Dease Lake**	**7.87**	**359**	Pn	**Pn**	**16 24 28.5**	**+1.8**
C09A	**Chrisman Ranch**	**8.08**	**106**	Pn	**Pn**	**16 24 30.1**	**+0.6**
C09A	**Chrisman Ranch**	**8.08**	**106**	*e*Pn	**Pn**	**16 24 30.1**	**+0.6**
NEW	**Newport**	**8.61**	**101**	Pn	**Pn**	**16 24 39.1**	**+2.3**
	0.4nm,0.3s,baz=290,slow=12,SNR=3.3						
I07A	**Izee**	**9.56**	**129**	*e*Pn	**Pn**	**16 24 52.5**	**+2.6**
YBH	**Yreka Blue Hor**	**10.13**	**148**	Pn	**Pn**	**16 25 00.9**	**+3.2**
	0.1nm,0.3s,baz=344,slow=9.3,SNR=4.6						
BMO	**Blue Mountains**	**10.21**	**119**	*e*Pn	**Pn**	**16 25 00.3**	**+1.6**
BSMT	**Bassoo Peak**	**10.23**	**100**	Pn	**Pn**	**16 25 01.2**	**+2.2**
WHY	**Whitehorse**	**10.49**	**346**	Pn	**Pn**	**16 25 03.1**	**+0.6**
WHY	**Whitehorse**	**10.49**	**346**	*e*Pn	**Pn**	**16 25 03.4**	**+0.8**
J08A	**Circle Bar Ran**	**10.60**	**129**	*e*Pn	Pn	16 25 09.4	+5.2
MOD	**Modoc Plateau**	**10.90**	**139**	*e*Pn	**Pn**	**16 25 12.3**	**+4.0**
HYT	**Haines Junctio**	**11.13**	**340**	Pn	**Pn**	**16 25 11.8**	**+0.6**
MSO	**Missoula**	**11.16**	**104**	*e*Pn	**Pn**	**16 25 12.8**	**+1.0**
WVOR	**Wild Horse Val**	**11.22**	**132**	*e*Pn	**Pn**	**16 25 14.8**	**+2.2**
HBMT	**Mount Humbug**	**12.45**	**106**	Pn	**Pn**	**16 25 30.1**	**+0.5**
ORV	**Oroville**	**12.49**	**149**	*e*Pn	**Pn**	**16 25 32.1**	**+2.2**
PAHR	**Pah Rah Range**	**13.13**	**142**	*e*Pn	P	16 25 43.3	-5.6
BOZ	**Bozeman (W)**	**13.15**	**105**	*e*Pn	**Pn**	**16 25 39.8**	**+0.8**
VCNR	**Virginia City**	**13.38**	**144**	*e*Pn	P	16 25 46.7	-5.1
YHB	**Horse Butte**	**13.84**	**108**	*e*Pn	**Pn**	**16 25 50.5**	**+2.0**
YMR	**Madison River**	**14.02**	**108**	*e*Pn	**Pn**	**16 25 53.4**	**+2.4**
YHH	**Holmes Hill**	**14.03**	**107**	*e*Pn	**Pn**	**16 25 53.0**	**+1.9**
KLU	**Klutina**	**14.10**	**327**	*e*Pn	**P**	**16 25 55.3**	**-4.2**
RYN	**Ryan**	**14.39**	**142**	*e*P	**P**	**16 26 06.9**	**+3.8**
H17A	**Grant Village**	**14.40**	**108**	*e*Pn	**Pn**	**16 25 59.8**	**+3.5**
IMW	**Indian Meadow**	**14.46**	**110**	*e*Pn	**P**	**16 26 01.0**	**-2.9**
YKA	**Yellowknife Ar**	**14.55**	**29**	Pn	**Pn**	**16 25 57.8**	**0.0**
	0.2nm,0.3s,baz=217,slow=12,SNR=7.1						
YKA				Sn	**Sn**	**16 28 35.7**	**-3.2**
	0.2nm,0.3s,baz=221,slow=22,SNR=6.3						
FXWY	**Fox Creek**	**14.55**	**111**	*e*Pn	**P**	**16 26 02.1**	**-2.8**
YKW1	**Yellowknife Ar**	**14.58**	**29**	Pn	**Pn**	**16 25 58.1**	**-0.1**
YKW3	**Yellowknife Ar**	**14.59**	**29**	Pn	**Pn**	**16 25 58.3**	**-0.1**
YKW3	**Yellowknife Ar**	**14.59**	**29**	*e*Pn	**Pn**	**16 26 00.2**	**+1.7**
NVAR	**Mina Array Bea**	**14.65**	**142**	Pn	**P**	**16 26 03.2**	**-2.8**
	baz=336,slow=8.4,SNR=3.6						
MOOW	**Moose Ponds**	**14.66**	**110**	*e*Pn	**P**	**16 26 04.3**	**-1.7**
NV11	**Mina Array Sit**	**14.71**	**141**	*e*Pn	**P**	**16 26 05.9**	**-0.6**
LOHW	**Long Hollow**	**14.82**	**111**	*e*Pn	**P**	**16 26 05.9**	**-2.0**
RLMT	**Red Lodge**	**14.84**	**104**	*e*Pn	**P**	**16 26 06.0**	**-2.0**
AHID	**Auburn Hatcher**	**15.03**	**114**	*e*Pn	**Pn**	**16 26 03.9**	**-0.8**
	42nm,1.4s						
BRLK	**Bradley Lake**	**15.07**	**316**	*e*P	**P**	**16 26 15.0**	**+4.7**
KDAK	**Kodiak Island**	**15.09**	**307**	LR	LR	16 30 23.1	
	comp=Z,367nm,19.4s,baz=128,slow=31						
DOT	**Dot Lake**	**15.15**	**335**	Pn	**Pn**	**16 26 04.6**	**-1.4**
DOT	**Dot Lake**	**15.15**	**335**	Pn	**Pn**	**16 26 02.5**	**-3.4**
	53nm,1.3s						
SML	**Sawmill**	**15.17**	**325**	*e*Pn	**Pn**	**16 26 04.2**	**-2.1**
	2.4nm,1.0s						
EGAK	**Eagle**	**15.42**	**342**	*e*Pn	**P**	**16 26 11.2**	**-3.0**
	9.7nm,0.8s						
HWUT	**Hardware Ranch**	**15.50**	**118**	*e*Pn	**Pn**	**16 26 09.5**	**-1.4**
	30nm,1.4s						
DUG	**Dugway, Tooele**	**15.80**	**125**	*e*Pn	**Pn**	**16 26 14.3**	**-0.5**
	24nm,1.4s						
BW06	**Boulder Array**	**15.93**	**112**	*e*P	**Pn**	**16 26 16.3**	**-0.3**
	30nm,1.2s						
PDAR	**Pinedale Array**	**15.93**	**112**	Pn	**P**	**16 26 20.2**	**0.0**
	0.2nm,0.3s,baz=307,slow=11,SNR=18						
PDAR				LR	LR	16 32 24.9	
	comp=Z,318nm,20.0s,baz=318,slow=37						
JLU	**Jordanelle**	**16.25**	**121**	*e*Pn	**Pn**	**16 26 22.0**	**+1.4**
	8.8nm,1.0s						
LDBN	**Lake De Bois**	**16.38**	**7**	Pn	**Pn**	**16 26 21.9**	**0.0**
ILAR	**Eielson Array**	**16.80**	**334**	Pn	**P**	**16 26 28.8**	**-0.6**
	0.1nm,0.3s,baz=146,slow=11,SNR=16						
KTH	**Kantishna Hill**	**17.21**	**327**	*e*Pn	**Pn**	**16 26 30.2**	**-2.2**
	19nm,1.2s						
WHFN	**White Fish Lak**	**17.23**	**37**	Pn	**Pn**	**16 26 33.7**	**+1.1**
DHRN	**Dharma Camp**	**17.30**	**14**	Pn	**Pn**	**16 26 32.5**	**-0.9**
FFC	**Flin Flon**	**17.35**	**65**	*e*Pn	**Pn**	**16 26 33.8**	**-0.4**
	12nm,1.0s						
MSU	**Marysvale**	**17.39**	**127**	Pn	**Pn**	**16 26 32.8**	**-2.2**
HPLN	**Hepburn Lake,**	**17.46**	**20**	Pn	**Pn**	**16 26 35.6**	**+0.1**
BPAW	**Bear Paw Mtn.**	**17.58**	**328**	*e*Pn	**P**	**16 26 39.6**	**+1.5**
	17nm,1.1s						
INK	**Inuvik**	**17.87**	**356**	P	**P**	**16 26 42.0**	**+0.8**
	0.1nm,0.3s,baz=168,slow=13,SNR=5.5						
INK				LR	LR	16 34 11.7	
	comp=Z,420nm,20.7s,baz=182,slow=39						
INK	**Inuvik**	**17.87**	**356**	Pn	**Pn**	**16 26 40.1**	**-0.5**
KUKN	**Kugluktuk,NWT**	**18.77**	**17**	Pn	**P**	**16 26 51.5**	**+0.4**
ULM	**Lac du Bonnet**	**21.55**	**78**	P	**P**	**16 27 22.3**	**+0.9**
	5.1nm,0.5s,baz=284,slow=10,SNR=7.6						
ULM				LR	LR	16 34 46.0	
	comp=Z,180nm,21.2s,baz=282,slow=34						
ULM	**Lac du Bonnet**	**21.55**	**78**	P	**P**	**16 27 20.7**	**-0.7**
FCC	**Fort Churchill**	**22.01**	**54**	P	**P**	**16 27 27.2**	**+1.1**
EPLO	**Experimental L**	**23.04**	**78**	P	**P**	**16 27 36.7**	**-0.6**
SOLO	**Sioux Lookout**	**23.96**	**77**	P	**P**	**16 27 47.2**	**+0.8**
PKLO	**Pickle Lake**	**24.65**	**72**	P	**P**	**16 27 53.0**	**+0.3**
RES	**Resolute Bay**	**28.16**	**19**	P	**P**	**16 28 25.9**	**+1.8**
	1.0nm,0.6s,baz=206,slow=9.8,SNR=2.8						
RES				LR	LR	16 39 35.3	
	comp=Z,240nm,21.5s,baz=222,slow=36						
TXAR	**Lajitas Array**	**28.95**	**127**	P	**P**	**16 28 32.9**	**+1.3**
	1.7nm,0.9s,baz=321,slow=6.9,SNR=9.5						
TXAR				LR	LR	16 41 02.9	
	comp=Z,157nm,19.2s,baz=0.0,slow=38						
TKL	**Tuckaleechee C**	**36.17**	**96**	LR	LR	16 44 45.1	
	comp=Z,439nm,19.2s,baz=318,slow=37						
SCHQ	**Schefferville**	**37.27**	**58**	LR	LR	16 45 39.4	
	comp=Z,171nm,19.2s,baz=297,slow=37						
SFJD	**Kangerlussuaq**	**40.95**	**36**	LR	LR	16 47 41.5	
	comp=Z,214nm,18.4s,baz=292,slow=37						
SEY	**Seymchan**	**41.68**	**318**	P	**P**	**16 30 21.1**	**+0.6**
	2.4nm,1.0s,baz=63,slow=11,SNR=3.5						
PETK	**Petropavlovsk-**	**43.07**	**303**	LR	LR	16 45 32.9	
	comp=Z,82nm,21.5s,baz=78,slow=32						
TIXI	**Tiksi**	**46.27**	**335**	P	**P**	**16 30 57.8**	**+0.7**
	1.1nm,0.9s,baz=78,slow=6.7,SNR=3.4						
SPITS	**Spitsbergen Ar**	**49.86**	**9**	LR	LR	16 53 37.0	
	comp=Z,240nm,18.5s,baz=330,slow=37						
BORG	**Borgarnes**	**52.48**	**31**	LR	LR	16 54 17.5	
	comp=Z,127nm,18.5s,baz=337,slow=36						
H11N2	**WAKE ISLAND Hy**	**58.08**	**262**	T	T	17 35 07.7	
	baz=42,slow=76,SNR=31						
H11N3	**WAKE ISLAND Hy**	**58.08**	**262**	T	T	17 35 07.7	
	baz=42,slow=76,SNR=34						
H11N1	**WAKE ISLAND Hy**	**58.09**	**262**	T	T	17 35 10.2	
	baz=42,slow=76,SNR=28						
H11S1	**WAKE ISLAND Hy**	**59.10**	**262**	T	T	17 36 30.8	
	baz=46,slow=74,SNR=7.1						
H11S2	**WAKE ISLAND Hy**	**59.12**	**262**	T	T	17 36 24.2	
	baz=46,slow=74,SNR=7.4						
H11S3	**WAKE ISLAND Hy**	**59.12**	**262**	T	T	17 36 27.1	
	baz=46,slow=74,SNR=5.2						
SDV	**Santo Domingo**	**63.85**	**109**	LR	LR	17 03 42.1	
	comp=Z,58nm,19.0s,baz=284,slow=39						
PPT	**Papeete**	**70.04**	**200**	LR	LR	16 55 55.1	
	comp=Z,79nm,20.1s,baz=346,slow=29						
BVAR	**Borovoye Array**	**75.36**	**348**	P	**P**	**16 34 15.9**	**+0.5**
	0.1nm,0.5s,baz=25,slow=4.8,SNR=3.7						
BVAR				LR	LR	17 08 59.6	
	comp=Z,56nm,21.5s,baz=10,slow=37						
KURK	**Kurchatov**	**76.21**	**342**	P	**P**	**16 34 21.5**	**+1.2**
KURBB	**Kurchatov Arra**	**76.31**	**342**	P	**P**	**16 34 21.5**	**+0.6**
	0.2nm,0.4s,baz=21,slow=4.6,SNR=3.6						
AKASG	**Malin Array Be**	**77.53**	**13**	P	**P**	**16 34 27.9**	**+0.2**
	0.1nm,0.3s,baz=352,slow=5.8,SNR=4.0						
ESDC	**Sonseca Array**	**78.38**	**40**	P	**P**	**16 34 34.6**	**+1.9**
	0.2nm,0.3s,baz=336,slow=2.8,SNR=3.9						
MKAR	**Makanchi Array**	**79.11**	**338**	P	**P**	**16 34 36.7**	**+0.1**
	0.3nm,0.8s,baz=46,slow=4.2,SNR=3.2						
BRTR	**Keskin Array B**	**88.91**	**13**	LR	LR	17 18 17.8	
	comp=Z,43nm,19.1s,baz=310,slow=38						
DAV	**Davao City (W)**	**93.73**	**286**	LR	LR	17 08 50.2	
	comp=Z,38nm,21.9s,baz=51,slow=30						
KOWA	**Kowa**	**99.78**	**53**	LR	LR	17 20 26.4	
	comp=Z,68nm,19.3s,baz=208,slow=35						

JMA ***27*** *16:24:23.4±0.1,24°.00N×121°.66E,h27km±1km,M2.3*
ISCJB ***27*** *16:24:24.4±0.2,24°.04N±0°.01×121°.69E±0°.01,h25km±2km,*
Error ellipse: s-maj=2.6km s-min=1.6km az=42.9
TAP ***27*** *16:24:24.1,24°.04N×121°.64E,h29km,ML3.0,B*
ISC 27 16:24:24.4±0.9,24°.03N±0°.02×121°.66E±0°.02,h29km±4km,
n83,σ0°79/159,2D,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HWA	**Hwalien**	**0.07**	**225**	*i* P	**Pb**	**16 24 29.7**	**+0.3**
	baz=216						
HWA				S	**Sb**	**16 24 34.3**	**+1.6**
	baz=216						
TWD	**Chiawan**	**0.08**	**310**	⇓*i* P	**Pb**	**16 24 29.1**	**-0.3**
	baz=309						
TWD				*i* S	**Sb**	**16 24 32.8**	**0.0**
	baz=309						
ENLB	**Shoufeng**	**0.14**	**204**	*i* P	**Pn**	**16 24 30.0**	**-0.6**
	baz=198						
ENLB				*i* S	**Sb**	**16 24 35.1**	**+1.6**
	baz=198						
NACB	**Ninganchiao**	**0.16**	**337**	⇓*i* P	**Pb**	**16 24 29.4**	**-0.6**
	baz=335						
NACB				*i* S	**Sb**	**16 24 33.2**	**-0.7**
	baz=335						
ESL	**Shilin**	**0.30**	**224**	P	**Pb**	**16 24 30.8**	**-0.9**
	baz=227						
ESL				*e*S	**Sn**	**16 24 36.9**	**-1.5**
	baz=227						
ENA	**Nanau**	**0.40**	**10**	P	**Pb**	**16 24 32.8**	**-0.5**
	baz=4.0						
ENA				*e*S	**Sb**	**16 24 38.6**	**-0.6**
	baz=4.0						
NANB	**Nanao**	**0.40**	**11**	P	**Pb**	**16 24 32.7**	**-0.6**
	baz=4.0						
NANB				S	**Sb**	**16 24 38.8**	**-0.5**
	baz=4.0						
ENAH	**Nanao**	**0.44**	**18**	*e*P	**Pb**	**16 24 33.4**	**-0.4**
	baz=9.0						
ENAH				*e*S	**Sb**	**16 24 40.3**	**+0.1**
	baz=9.0						
CHGB	**Renai**	**0.45**	**274**	P	**Pb**	**16 24 33.3**	**-0.7**
	baz=267						
CHGB				S	**Sb**	**16 24 39.7**	**-1.0**
	baz=267						
OWD	**Renai**	**0.45**	**260**	P	**Pb**	**16 24 33.3**	**-0.7**
	baz=266						
OWD				*e*S	**Sb**	**16 24 39.4**	**-1.3**
	baz=266						
NNSB	**Datong**	**0.47**	**327**	P	**Pb**	**16 24 33.6**	**-0.8**
	baz=326						
NNSB				S	**Sb**	**16 24 40.0**	**-1.2**
	baz=326						
NNS	**Nan Shan**	**0.49**	**327**	P	**Pb**	**16 24 33.8**	**-0.8**
	baz=326						
NNS				S	**Sb**	**16 24 40.6**	**-1.0**
	baz=326						
TWT	**Tachien**	**0.50**	**297**	P	**Pb**	**16 24 34.4**	**-0.4**
	baz=294						
TWT				*e*S	**Sb**	**16 24 41.4**	**-0.5**
	baz=294						
TDCB	**Techi**	**0.51**	**296**	P	**Pb**	**16 24 34.4**	**-0.6**
	baz=295						
TDCB				*e*S	**Sb**	**16 24 41.4**	**-0.9**
	baz=295						
HGSD	**Ruisui**	**0.58**	**202**	*e*P	**Pn**	**16 24 36.7**	**0.0**
	baz=214						
HGSD				*e*S	**Sn**	**16 24 46.0**	**+0.9**
	baz=214						
TWC	**Suao**	**0.60**	**16**	*e*P	**Pb**	**16 24 35.9**	**-0.5**
	baz=11						
TWC				*e*S	**Sb**	**16 24 44.9**	**+0.2**
	baz=11						
EHY	**Hungye**	**0.61**	**211**	*e*P	**Pb**	**16 24 35.5**	**-1.1**
	baz=208						
ENTT	**Nioudou**	**0.61**	**352**	P	**Pb**	**16 24 35.8**	**-0.9**
	baz=351						
ENTT				*e*S	**Sb**	**16 24 44.3**	**-0.7**
	baz=351						
EOS1	**EOS1**	**0.67**	**39**	*e*P	**Pn**	**16 24 38.1**	**+0.3**
	baz=55						
EOS1				*e*S	**Sn**	**16 24 49.0**	**+1.6**
	baz=55						
DPDB	**Guoxing**	**0.67**	**270**	P	**Pb**	**16 24 36.9**	**-0.7**
	baz=268						
DPDB				*e*S	**Sn**	**16 24 46.5**	**-1.1**
	baz=268						
TWE	**Neicheng**	**0.69**	**0**	*e*P	**Pb**	**16 24 37.0**	**-0.8**
	baz=354						
TWE				*e*S	**Sn**	**16 24 47.3**	**-0.6**
	baz=354						
YHNB	**Yeheng**	**0.69**	**338**	P	**Pb**	**16 24 37.1**	**-0.8**
	baz=336						
YHNB				*e*S	**Sb**	**16 24 45.8**	**-1.4**
	baz=336						
SSLB	**Suanglung**	**0.69**	**250**	P	**Pb**	**16 24 37.0**	**-0.9**
	baz=255						
SSLB				*e*S	**Sb**	**16 24 45.7**	**-1.5**
	baz=255						
SMLT	**Sun Moon Lake**	**0.71**	**258**	P	**Pb**	**16 24 37.6**	**-0.7**
	baz=256						
SMLT				S	**Sn**	**16 24 47.5**	**-1.2**
	baz=256						
YULB	**Yu-li**	**0.72**	**208**	*e*P	**Pb**	**16 24 36.5**	**-1.9**
	baz=209						
YULB				*e*S	**Sn**	**16 24 48.6**	**0.0**
	baz=209						
ILA	**Ilan**	**0.74**	**6**	*e*P	**Pn**	**16 24 39.6**	**+0.8**
	baz=1.0						
TYC	**Yuchr**	**0.75**	**260**	*e*P	**Pb**	**16 24 38.0**	**-0.8**
	baz=259						
TYC				*e*S	**Sb**	**16 24 47.4**	**-1.3**
	baz=259						
NWLT	**Wulai**	**0.76**	**349**	*e*P	**Pb**	**16 24 38.4**	**-0.7**
	baz=339						
NWLT				*e*S	**Sb**	**16 24 47.7**	**-1.4**
	baz=339						
NTC	**Toucheng**	**0.83**	**11**	*e*P	**Pb**	**16 24 40.1**	**-0.2**
	baz=354						
NTC				*e*S	**Sn**	**16 24 52.5**	**+0.9**
	baz=354						
EGS		**0.85**	**17**	*e*P	**Pb**	**16 24 41.1**	**+0.6**
	baz=8.0						
EGS				*e*S	**Sn**	**16 24 54.0**	**+2.1**
	baz=8.0						
NSTT	**Nanjuang**	**0.85**	**315**	*e*P	**Pb**	**16 24 40.2**	**-0.3**
	baz=313						
NSTT				*e*S	**Sn**	**16 24 51.4**	**-0.5**
	baz=313						
LIOB	**Emei**	**0.85**	**316**	*e*P	**Pb**	**16 24 40.6**	**0.0**
	baz=314						
LIOB				*e*S	**Sn**	**16 24 51.5**	**-0.4**
	baz=314						
TWQ1	**Liyutan**	**0.87**	**291**	P	**Pb**	**16 24 41.0**	**0.0**
	baz=296						
TWQ1				*e*S	**Sn**	**16 24 52.4**	**-0.1**
	baz=296						
WJS	**Zhushan**	**0.88**	**257**	*e*P	**Pb**	**16 24 41.2**	**+0.2**
	baz=258						
WJS				*e*S	**Sn**	**16 24 52.8**	**+0.1**
	baz=258						
FULB	**Fuli**	**0.89**	**202**	*e*P	**Pb**	**16 24 41.0**	**-0.4**
	baz=215						
WLTB	**Daxi**	**0.90**	**336**	*e*P	**Pb**	**16 24 41.5**	**+0.1**
	baz=336						
WLTB				*e*S	**Sn**	**16 24 53.6**	**+0.5**
	baz=336						
WNT	**Mingjian**	**0.91**	**261**	*e*P	**Pb**	**16 24 41.6**	**0.0**
	baz=251						
WNT				*e*S	**Sn**	**16 24 54.3**	**+1.0**
	baz=251						
TCU	**Taichung**	**0.91**	**278**	*e*P	**Pb**	**16 24 41.6**	**+0.1**
	baz=278						
TCU				*e*S	**Sn**	**16 24 54.9**	**+1.6**
	baz=278						
ALS	**Alishan**	**0.94**	**237**	*e*P	**Pb**	**16 24 41.8**	**-0.4**
	baz=230						
ALS				*e*S	**Sn**	**16 24 54.1**	**-0.4**
	baz=230						
NMLH	**Miaoli**	**0.94**	**303**	*e*P	**Pb**	**16 24 42.7**	**+0.6**
	baz=301						
NMLH				*e*S	**Sn**	**16 24 55.8**	**+1.6**
	baz=301						
TATO	**Taipei**	**0.95**	**350**	P	**Pn**	**16 24 41.6**	**-0.3**
	baz=347						
TATO				*e*S	**Sn**	**16 24 54.0**	**-0.5**
	baz=347						
CHKT	**Chengkung**	**0.97**	**196**	*e*P	**Pb**	**16 24 42.0**	**-0.5**
	baz=212						
CHKT				*e*S	**Sb**	**16 24 55.1**	**+0.2**
	baz=212						
CHN5	**Tsauling**	**1.00**	**245**	*e*P	**Pb**	**16 24 43.4**	**+0.3**
	baz=236						
CHN5				*e*S	**Sb**	**16 24 57.0**	**+1.0**
	baz=236						
WCHH	**Zhanghua**	**1.01**	**273**	*e*P	**Pb**	**16 24 43.2**	**-0.1**
	baz=273						
WCHH				*e*S	**Sb**	**16 24 57.7**	**+1.5**
	baz=273						
ELDTW	**Lidau**	**1.02**	**215**	*e*P	**Pn**	**16 24 42.1**	**-0.8**
	baz=219						
ELDTW				*e*S	**Sb**	**16 24 56.2**	**-0.5**
	baz=219						
WFSB	**Wu-fen Shan**	**1.04**	**6**	*e*P	**Pb**	**16 24 44.1**	**+0.3**
	baz=350						
WFSB				*e*S	**Sb**	**16 24 58.4**	**+1.2**
	baz=350						
WGK	**Gukeng**	**1.06**	**251**	*e*P	**Pb**	**16 24 44.8**	**+0.7**

baz=228
CHN8 Yiju 1.49 243 *e*P **Pb** 16 24 52.0 +0.6
baz=248
CHN8 *e*S **Sb** 16 25 10.1 0.0
baz=248
SSD Sandimen 1.59 217 *e*P **Pb** 16 24 52.2 -0.9
baz=211
SSD *e*S **Sb** 16 25 12.6 -0.2
baz=211
MASBT Mashibuluo 1.70 214 *e*P **Pb** 16 24 54.0 -0.9
baz=221
MASBT *e*S **Sb** 16 25 14.9 -1.0
baz=221
IRIF Iriomote-Funau 1.91 80 P **Pn** 16 24 55.1 +0.1
IRIF *e*S **Sn** 16 25 19.1 +1.0
HATJ Hateruma jima 1.96 89 P **Pn** 16 24 55.3 -0.4
HATJ *e*S **Sn** 16 25 20.3 +1.0
PHUB P'eng-hu 1.98 255 *e*P **Pn** 16 24 56.5 +0.5
baz=260
PHUB *e*S **Sn** 16 25 20.2 +0.3
baz=260
PNG Penghu 1.98 257 *e*P **Pn** 16 24 56.8 +0.8
baz=260
PNG *e*S **Sn** 16 25 20.6 +0.7
baz=260
JKRS Kuro-shima 2.15 84 P **Pn** 16 24 58.9 +0.6
JKRS *e*S **Sn** 16 25 24.3 +0.2
JIJ Ishigaki jima 2.29 81 P **Pn** 16 25 00.0 -0.2
JIJ *e*S **Sn** 16 25 27.0 -0.5
JISG Ishigakijimahi 2.48 77 P **Pn** 16 25 02.6 -0.2
JISG *e*S **Sn** 16 25 30.2 -1.9
JTJ Tarama 2.84 77 S **Sn** 16 25 41.6 +0.6
JIRB Irabujima 3.30 75 *e*S **Sn** 16 25 53.4 +1.1

BJI 27 16:41:15.0, 25°04N×115°65E, h8km, ML3.6/10, 1C, Southeastern China

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
QZH	**Quanzhou**	**2.67**	**91**⇑	*i*P*n*	Pn	16 41 56.5	-1.8
QZH				Sn	Sn	16 42 26.5	-4.4
QZH	comp=N,220nm,0.2s			smax	smax		
QZH	comp=E,100nm,0.5s			smax	smax		
GZH	**Guangzhou**	**2.87**	**228**	Pn	Pn	16 41 56.5	-4.5
GZH	comp=E,220nm,0.4s			smax	smax		

MAN 27 16:41:52, 8°76N×125°85E, h6km, mb3.6, ML2.3, MS1.8, 2C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BUTP	**Butuan**	**0.31**	**313**	*e*P	Pn	16 42 05.8	+2.7
BUTP				*e*S	Sb	16 42 20.9	+15
BIPH	**Bislig**	**0.76**	**138**⇓	*e*P	Pg	16 42 05.8	-0.8
BIPH				*e*S	Sb	16 42 19.5	+1.3
SCPH	**Surigao**	**1.08**	**341**⇑	*e*P	Pg	16 42 12.6	-0.2
SCPH				*e*S	Sn	16 42 31.4	+2.4
BUKP	**Musuan**	**1.17**	**222**	*e*P	Pg	16 42 12.9	-1.6
BUKP				*e*S	Sn	16 42 32.5	+1.2
CGP	**Cagayan de Oro**	**1.18**	**255**⇑	*i*P	Pg	16 42 13.9	-0.8
CGP				*i* S	Sn	16 42 32.9	+1.4

IDC 27 16:46:05.4±1.8, 2°19N×89°63E, h0km, mb3.7/7, mb1 3.7/7, mb1mx3.4/65, mbtmp3.7/7, MS3.6/1, Ms1 3.6/1, ms1mx2.5/60, Error ellipse: s-maj=56.9km s-min=28.5km az=50.0, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H08S3	**Diego Garcia H**	**19.68**	**240**	T	T	17 10 54.4	
	baz=60,slow=75,SNR=20						
H08S2	**Diego Garcia H**	**19.68**	**240**	T	T	17 11 04.0	
	baz=60,slow=75,SNR=28						
H08S1	**Diego Garcia H**	**19.70**	**240**	T	T	17 10 58.0	
	baz=60,slow=75,SNR=31						
MKAR	**Makanchi Array**	**44.89**	**353**	P	P	16 54 21.6	-0.2
	0.8nm,0.7s,baz=168,slow=8.8,SNR=9.0						
GEYT	**Alibeck**	**45.82**	**325**	P	P	16 54 30.2	+0.9
	1.4nm,0.7s,baz=141,slow=9.6,SNR=4.5						
SONM	**Songino Array**	**47.73**	**15**	P	P	16 54 44.5	+0.3
	1.4nm,0.7s,baz=199,slow=9.0,SNR=6.8						
KURBB	**Kurchatov Arra**	**49.17**	**351**	P	P	16 54 54.7	-0.4
	0.5nm,0.7s,baz=177,slow=7.7,SNR=6.0						
ASAR	**Alice Springs**	**50.15**	**124**	P	P	16 55 03.0	-0.1
	0.2nm,0.8s,baz=296,slow=7.1,SNR=4.3						
ZALV	**Zalesovo Beam**	**51.74**	**356**	P	P	16 55 13.8	-0.7
	0.7nm,0.4s,baz=164,slow=7.1,SNR=4.0						
STKA	**Stephens Creek**	**59.74**	**129**	LR	LR	17 22 25.0	
	comp=Z,50nm,18.1s,baz=23,slow=36						
BRTR	**Keskin Array B**	**62.92**	**314**	P	P	16 56 33.5	-0.4
	0.5nm,0.6s,baz=128,slow=9.5,SNR=5.3						

*ISCJB **27** 17:03:33.3±0.4, 49°87N±0°03×18°46E±0°03, h0km, Error ellipse: s-maj=4.8km s-min=2.3km az=8.9*
*IPEC **27** 17:03:34.5±0.2, 49°85N×18°57E, h0km±4km, ML1.8/3, Error ellipse: s-maj=2.2km s-min=1.1km az=161.0*
*CSEM **27** 17:03:34.5±0.2, 49°85N×18°49E, h1km, ML2.8/8, Error ellipse: s-maj=6.1km s-min=2.9km az=8.0*
*PRU **27** 17:03:35.4, 49°88N×18°49E, h0km*
ISC 27 17:03:34.4±0.8, 49°85N±0°03×18°50E±0°02, h0km, n32, σ0≥91/53, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OKC	**Ostrava-Krasne**	**0.23**	**268**	*e*PG	**Pg**	**17 03 40.3**	**+1.5**
OKC				*e*SG	**Sg**	**17 03 43.3**	**+1.6**
	comp=Z,40nm,0.3s						
OKC	**Ostrava-Krasne**	**0.23**	**268**	Pg	**Pg**	**17 03 40.3**	**+1.5**
OKC				Sg	**Sg**	**17 03 43.3**	**+1.6**
	40nm,0.3s						
MORC	**Moravsky Berou**	**0.62**	**264**	*e*Pg	**Pb**	**17 03 47.3**	**-0.9**
MORC				*e*Sg	**Sg**	**17 03 55.6**	**+1.2**
	25nm,0.3s						
OJC	**Ojcow**	**0.92**	**66**	*e*Pg	**Pg**	**17 03 51.3**	**-0.6**
OJC				*e*Sg	**Sg**	**17 04 03.7**	**-0.1**
OJC	**Ojcow**	**0.92**	**66**	*e*Pg	**Pg**	**17 03 51.3**	**-0.6**
OJC				*e*Sg	**Sg**	**17 04 03.7**	**-0.1**
LANS	**Liptovska Anna**	**0.94**	**138**	*e*Pg	**Pg**	**17 03 52.5**	**+0.1**
LANS				*e*Sg	**Sb**	**17 04 07.1**	**+0.5**
LANS	**Liptovska Anna**	**0.94**	**138**	*e*PG	**Pg**	**17 03 52.5**	**+0.1**
LANS				*e*SG	**Sb**	**17 04 07.1**	**+0.5**
KRLC	**Kraliky**	**1.13**	**282**	*e*SG	**Sb**	**17 04 11.6**	**-0.6**
	comp=Z,7.0nm,0.2s						
KRLC	**Kraliky**	**1.13**	**282**	Sg	**Sb**	**17 04 11.6**	**-0.6**
	7.0nm,0.2s						
NIE	**Niedzica**	**1.25**	**109**	*e*Pg	**Pg**	**17 03 58.2**	**-0.1**
NIE				*e*Sg	**Sb**	**17 04 15.7**	**+0.3**
NIE	**Niedzica**	**1.25**	**109**	*e*PG	**Pg**	**17 03 58.2**	**-0.1**
NIE				*e*SG	**Sb**	**17 04 15.7**	**+0.3**
VRAC	**Vranov**	**1.35**	**247**	*e*PG	**Pg**	**17 04 00.4**	**+0.1**
VRAC				*e*SG	**Sb**	**17 04 18.3**	**-0.2**
	13nm,0.2s						
VYHS	**Vyhne**	**1.37**	**171**	*e*Pg	**Pg**	**17 04 00.2**	**-0.5**
VYHS				*e*Sn	**Sg**	**17 04 18.6**	**+0.2**
VYHS	**Vyhne**	**1.37**	**171**	*e*PG	**Pg**	**17 04 00.2**	**-0.5**
VYHS				*e*SG	**Sg**	**17 04 18.6**	**+0.2**
VYHS				*e*LG	Lg	17 04 21.2	
DPC	**Dobruska-Polom**	**1.49**	**291**	*e*PG	**Pn**	**17 04 02.3**	**-0.2**
DPC				*e*SG	**Sn**	**17 04 22.7**	**0.0**
	comp=Z,10nm,0.2s						
DPC	**Dobruska-Polom**	**1.49**	**291**	Pg	**Pn**	**17 04 02.3**	**-0.2**
DPC				Sg	**Sn**	**17 04 22.7**	**0.0**
	10nm,0.2s						
SMOL	**Smolenice**	**1.51**	**208**	*e*Sn	**Sb**	**17 04 23.1**	**+0.2**
SMOL	**Smolenice**	**1.51**	**208**	*e*SN	**Sb**	**17 04 23.1**	**+0.2**
KRUC	**Moravsky**	**1.58**	**241**	*e*Pg	**Pn**	**17 04 03.9**	**+0.2**
KRUC				*e*Sg	**Sg**	**17 04 25.4**	**+0.2**
	7.1nm,0.2s						
MODS	**Modra-Piesok**	**1.68**	**209**	*e*Sn	**Sn**	**17 04 26.0**	**-1.3**
MODS	**Modra-Piesok**	**1.68**	**209**	*e*SN	**Sn**	**17 04 26.0**	**-1.3**
MODS				*e*LG	Lg	17 04 27.8	
UPC	**Upice**	**1.73**	**293**	*e*PG	**Pb**	**17 04 06.7**	**-0.3**
UPC				*e*SG	**Sg**	**17 04 30.9**	**+0.9**
	comp=Z,11nm,0.4s						
UPC	**Upice**	**1.73**	**293**	Pg	**Pb**	**17 04 06.7**	**-0.3**
UPC				Sg	**Sg**	**17 04 30.9**	**+0.9**
	11nm,0.4s						
STHS	**Stebnicka Huta**	**1.83**	**103**	*e*Pn	**Pb**	**17 04 09.3**	**+0.5**
STHS				*e*Sg	**Sg**	**17 04 35.7**	**+2.4**
STHS	**Stebnicka Huta**	**1.83**	**103**	*e*PN	**Pb**	**17 04 09.3**	**+0.5**
STHS				*e*SG	**Sg**	**17 04 35.7**	**+2.4**
STHS				*e*LG	Lg	17 04 38.2	
GOPC	**GO Pecny, Ondr**	**2.40**	**273**	*e*SG	**Sb**	**17 04 49.9**	**+1.2**
GOPC	**GO Pecny, Ondr**	**2.40**	**273**	Sg	**Sb**	**17 04 49.9**	**+1.2**
PRU	**Pruhonice**	**2.56**	**275**	*e*SG	**Sg**	**17 04 55.4**	**-1.3**
	comp=Z,2.7nm,0.2s						
PRU	**Pruhonice**	**2.56**	**275**	Sg	**Sg**	**17 04 55.4**	**-1.3**
	2.7nm,0.2s						
BRG	**Berggiesshubel**	**3.09**	**291**	SG	**Sg**	**17 05 12.4**	**-1.3**
	3.5nm,0.5s						
KHC	**Kasperske Hory**	**3.29**	**259**	*e*PN	**Pn**	**17 04 26.5**	**-0.7**
KHC				*e*PG	**Pg**	**17 04 37.5**	**+0.1**
KHC				*e*SG	**Sg**	**17 05 20.6**	**+0.6**
	comp=Z,2.8nm,0.4s						
KHC	**Kasperske Hory**	**3.29**	**259**	Pn	**Pn**	**17 04 26.5**	**-0.7**

*ISCJB **27** 17:09:35.7±1.2, 50°77N±0°07×130°1W±0°1, h10km, Error ellipse: s-maj=13.4km s-min=8.4km az=145.5*
*IDC **27** 17:09:37.1±2.0, 50°68N×129°62W, h0km, mb1 3.5/6, mb1mx3.3/72, mbtmp3.2/6, ML3.4/4, Error ellipse: s-maj=27.8km s-min=14.2km az=75.0*
ISC 27 17:09:35.1±1.3, 50°65N±0°09×129°96W±0°09, h10km, n11, σ2≥31/11, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BBB	**Bella Bella**	**1.92**	**36**	Pn	**Pn**	**17 10 07.1**	**-0.7**
	3.0nm,0.3s,baz=224,slow=5.7,SNR=50						
BBB				Sn	**Sn**	**17 10 31.7**	**-0.3**
	11nm,0.3s,baz=270,slow=20,SNR=16						
H02S1	**DAWSON INLET T**	**2.99**	**330**	Pn	**Pn**	**17 10 20.5**	**-2.0**
H02S1				Sn	**Sn**	**17 10 56.8**	**-1.6**
DLBC	**Dease Lake**	**7.80**	**360**	Pn	**Pn**	**17 11 31.1**	**+2.5**
	0.1nm,0.3s,baz=53,slow=4.1,SNR=1.8						
DLBC				Sn	**Sn**	**17 13 00.2**	**+3.3**
	0.1nm,0.3s,baz=174,slow=13,SNR=1.6						
YKA	**Yellowknife Ar**	**14.52**	**29**	Pn	**Pn**	**17 12 58.5**	**-1.8**
	0.0nm,0.3s,baz=220,slow=12,SNR=5.6						
NVAR	**Mina Array Bea**	**14.75**	**141**	Pn	**P**	**17 13 10.0**	**0.0**
	baz=323,slow=12,SNR=2.2						
PDAR	**Pinedale Array**	**16.02**	**112**	Pn	**Pn**	**17 13 22.8**	**+2.2**
	0.1nm,0.3s,baz=330,slow=8.6,SNR=4.4						
ILAR	**Eielson Array**	**16.71**	**334**	Pn	**P**	**17 13 34.2**	**+3.0**
	baz=150,slow=12,SNR=5.4						
INK	**Inuvik**	**17.80**	**356**	P	**P**	**17 13 44.4**	**+1.2**
	0.1nm,0.3s,baz=288,slow=4.6,SNR=2.4						
H11N2	**WAKE ISLAND Hy**	**58.02**	**262**	T	T	18 22 04.1	
	baz=42,slow=76,SNR=72						
H11N3	**WAKE ISLAND Hy**	**58.02**	**262**	T	T	18 22 09.3	
	baz=42,slow=76,SNR=98						
H11N1	**WAKE ISLAND Hy**	**58.03**	**262**	T	T	18 22 05.3	
	baz=42,slow=76,SNR=64						

*TIR **27** 17:12:12.1, 40°57N×20°02E, h7km, Md2.8/5*
SKO 27 17:12:03.4, 40°87N×19°92E, h1km, 1C-1D, Albania

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KBN	**Korca**	**0.70**	**110**	*i* PG	Pn	17 12 20.3	-0.2
KBN				*i* SG	Sb	17 12 29.0	+0.4
OHR	**Ohrid**	**0.71**	**70**⇑	*i*Pg	Pg	17 12 16.0	-0.9
OHR				*i* Sg	Sg	17 12 26.0	-0.2
SRN	**Sarande**	**0.99**	**176**	*i* PG	Pb	17 12 23.0	-0.3
SRN				*i* SG	Sg	17 12 28.7	-6.5
KRUS	**Krusevo**	**1.12**	**63**⇓	*i*Pg	Pg	17 12 23.9	-1.0
KRUS				*i* Sg	Sg	17 12 38.9	-0.5

KRSC 27 17:13:23.6±1.4, 48°35N×156°13E, h16km±30km, ML3.8, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**2.34**	**360**	*e*P	Pn	17 14 02.4	+1.0
SKR				*e*S	Sn	17 14 31.8	+2.0
PAU	**Pauzhetka**	**3.16**	**8**	*e*S	Sb	17 14 54.0	-3.5
KDTR	**Khodutka, Kamc**	**3.69**	**19**	*e*P	Pn	17 14 23.9	+4.0
KDTR				*e*S	Sb	17 15 08.1	-4.7
MIPR	**Malaya Ipel'ka**	**3.96**	**6**	*e*P	Pn	17 14 25.7	+2.1
ASAK	**Asacha**	**4.20**	**15**	*e*P	Pn	17 14 31.3	+4.3
RUS	**Russkaya**	**4.37**	**20**	*e*P	Pn	17 14 32.5	+3.3
RUS				*e*S	Sn	17 15 24.5	+4.7
KRMR	**Karymshinskiy**	**4.67**	**15**	*e*P	Pn	17 14 37.9	+4.5
DALK	**Dalny**	**4.98**	**19**	*e*P	Pn	17 14 42.3	+4.7
DALK				*e*S	Sn	17 15 40.0	+5.2
UGLR	**Uglovaya**	**5.16**	**18**	*e*P	Pn	17 14 48.2	+4.9
AVH	**Avacha**	**5.20**	**18**	*e*P	Pn	17 14 45.6	+4.9
SMAR	**Somma**	**5.21**	**18**	*e*P	Pn	17 14 45.4	+4.4
KRER	**Koryakskii**	**5.24**	**17**	*e*P	Pn	17 14 46.1	+4.7
SDLR	**Sedlovina**	**5.24**	**18**	*e*P	Pn	17 14 45.8	+4.5
SPN	**Mys Shipunski**	**5.36**	**26**	*e*P	Pn	17 14 46.6	+3.7
GNL	**Ganaly**	**5.48**	**11**	*e*P	Pn	17 14 49.2	+4.6

IDC 27 17:26:07.1±6.1, 29°99S×176°48W, h67km±61km, mb3.3/3, mb1 3.4/3, mb1mx3.2/45, mbtmp3.6/3, Error ellipse: s-maj=183.9km s-min=50.7km az=26.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.45**	**300**	P	Pn	17 26 31.1	-0.2
	239nm,0.3s,baz=90,slow=8.3,SNR=16						
RAO				S	Sn	17 26 49.5	0.0
	227nm,0.3s,baz=101,slow=24,SNR=13						
STKA	**Stephens Creek**	**35.85**	**256**	P	P	17 33 00.0	-0.5
	1.8nm,0.9s,baz=69,slow=9.0,SNR=3.8						
ASAR	**Alice Springs**	**44.45**	**266**	P	P	17 34 12.1	+0.3
	0.2nm,0.6s,baz=106,slow=7.4,SNR=5.3						
WRA	**Warramunga Arr**	**45.40**	**271**	P	P	17 34 19.1	-0.3
	0.4nm,0.4s,baz=112,slow=7.3,SNR=5.9						

*ISCJB **27** 17:40:24.0±0.5, 53°69N±0°05×87°82E±0°08, h10km, mb3.7/13, MS2.9/1, Error ellipse: s-maj=7.8km s-min=6.0km az=149.7*
*IDC **27** 17:40:24.3±0.6, 53°71N×87°99E, h0km, mb3.8/13, mb1 3.9/19, mb1mx3.7/78, mbtmp3.8/19, ML3.2/6, MS3.0/1, Ms1 3.0/1, ms1mx2.1/68, Error ellipse: s-maj=11.0km s-min=7.9km az=154.0*
*NNC **27** 17:40:25.5±3.0, 53°40N×87°83E, h0km, mb4.4, mpv4.3, Error ellipse: s-maj=23.5km s-min=13.0km az=80.0*
ISC 27 17:40:25.8±0.6, 53°66N±0°07×87°81E±0°05, h10km, n32, σ1≥91/38, mb3.8/13, 19C-6D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ZAA0	**Zalesovo Array**	**1.80**	**281**	⇑Pn	**Pb**	**17 40 57.9**	**-0.8**
	97nm,0.7s,baz=102,slow=14						
ZAA0				⇑Sn	**Sg**	**17 41 24.2**	**+0.7**
	272nm,0.8s,baz=105,slow=24						
ZALV	**Zalesovo Beam**	**1.80**	**281**	Pg	**Pb**	**17 40 58.0**	**-0.7**
	14nm,0.3s,baz=109,slow=12,SNR=357						
ZALV				Lg	Lg	17 41 24.9	
	37nm,0.3s,baz=103,slow=24,SNR=22						
KURK	**Kurchatov**	**6.37**	**246**	⇑Pn	**Pn**	**17 42 01.1**	**+1.5**
	23nm,0.7s						
KURK				⇑Sn	**Sn**	**17 43 09.5**	**-2.8**
	23nm,0.7s						
KURK				⇑Lg	Lg	17 43 45.5	
	109nm,0.9s						
KURBB	**Kurchatov Arra**	**6.47**	**246**	Pn	**Pn**	**17 42 02.4**	**+1.5**
	1.2nm,0.3s,baz=62,slow=14,SNR=51						
KURBB				Sn	**Sn**	**17 43 19.6**	**+4.8**
	0.4nm,0.3s,baz=135,slow=19,SNR=5.5						
KURBB				Lg	Lg	17 43 51.7	
	0.4nm,0.3s,baz=64,slow=33,SNR=17						
KURBB	**Kurchatov Arra**	**6.47**	**246**	⇓Pn	**Pn**	**17 42 02.6**	**+1.6**
	45nm,0.7s,baz=63,slow=14						
KURBB				⇓Sn	**Sn**	**17 43 14.2**	**-0.5**
	46nm,0.6s						
KURBB				⇑Lg	Lg	17 43 46.6	
	143nm,0.8s,baz=67,slow=32						
MK31	**Makanchi Array**	**7.72**	**209**	⇓Pn	**Pn**	**17 42 19.8**	**+1.6**
	16nm,0.9s,baz=26,slow=13,SNR=133						
MK31				⇑Pg	Pb	17 42 28.1	-12
	7.4nm,0.7s,baz=29,slow=14,SNR=5.8						
MK31				⇑Sn	**Sn**	**17 43 43.2**	**-2.5**
	32nm,1.1s						
MK31				⇑Lg	Lg	17 44 25.7	
	49nm,0.8s,baz=32,slow=29						
MKAR	**Makanchi Array**	**7.72**	**209**	Pn	**Pn**	**17 42 19.7**	**+1.5**
	1.3nm,0.3s,baz=30,slow=12,SNR=171						
MKAR				Sn	**Sn**	**17 43 48.1**	**+2.4**
	0.8nm,0.3s,baz=27,slow=19,SNR=5.3						
MKAR				Lg	Lg	17 44 30.7	
	0.9nm,0.3s,baz=33,slow=31,SNR=10.0						
MAKZ	**Makanchi**	**7.80**	**211**	⇑Pn	**Pn**	**17 42 20.6**	**+1.3**
	10nm,0.7s						
MAKZ				⇑Pg	Pb	17 42 29.5	-12
	12nm,0.8s						
MAKZ				⇑Sn	**Sn**	**17 43 43.4**	**-4.3**
	12nm,0.8s						
MAKZ				⇓Lg	Lg	17 44 28.8	
	58nm,0.9s						
TLY	**Talaya**	**9.82**	**95**	Lg	Lg	17 45 33.7	
	baz=42,slow=13,SNR=3.1						
BVA0	**Borovoye Array**	**10.44**	**274**	⇑Pn	**Pn**	**17 42 57.3**	**+1.9**
	2.9nm,0.6s,baz=67,slow=16,SNR=36						
BVA0				⇓Pg		17 43 07.4	
	5.1nm,0.7s,baz=78,slow=16,SNR=8.8						
BVA0				⇑Lg	Lg	17 44 47.2	
	9.1nm,0.7s						
BVAR	**Borovoye Array**	**10.44**	**274**	Pn	**Pn**	**17 42 56.0**	**+0.6**
	1.3nm,0.3s,baz=65,slow=15,SNR=32						
BVAR				Sn	**Sn**	**17 44 48.9**	**-3.3**
	0.9nm,0.3s,baz=82,slow=25,SNR=7.7						
BRVK	**Borovoye**	**10.50**	**274**	⇑Pn	**Pn**	**17 42 58.1**	**+1.9**
	4.2nm,0.8s						
BRVK				⇑Pg		17 43 06.9	
	6.1nm,0.7s						
BRVK				⇓Lg	Lg	17 44 49.0	
	14nm,0.9s						
OTUK	**Ortayu**	**11.15**	**247**	⇑Pn	**Pn**	**17 43 04.3**	**-0.9**
	3.4nm,0.7s						
PDGK	**Podgornoye**	**11.70**	**211**	⇑Pn	**Pn**	**17 43 10.1**	**-2.7**
	1.9nm,0.8s						
PDGK				⇑Pg		17 43 25.0	
	3.2nm,0.8s						
SONM	**Songino Array**	**13.12**	**109**	Pn	**Pn**	**17 43 33.8**	**+1.7**
	0.2nm,0.3s,baz=290,slow=12,SNR=8.0						
SONM				Lg		17 47 16.3	
	0.2nm,0.3s,baz=295,slow=26,SNR=5.7						
AAK	**Ala-Archa**	**14.13**	**224**	Pn	**Pn**	**17 43 48.1**	**+2.1**
	0.1nm,0.3s,baz=20,slow=19,SNR=2.2						
AAK				Lg	Lg	17 47 51.4	
	0.1nm,0.3s,baz=275,slow=14,SNR=5.4						
ARU	**Arti**	**16.93**	**291**	P	**P**	**17 44 23.2**	**-1.3**
	0.0nm,0.3s,baz=84,slow=9.7,SNR=3.3						
AKTO	**Aktyubinsk**	**18.54**	**272**	P	**P**	**17 44 41.4**	**-0.8**
	0.1nm,0.3s,baz=79,slow=8.3,SNR=5.1						
YAK	**Yakutsk**	**23.42**	**52**	P	**P**	**17 45 32.6**	**-2.0**
	2.8nm,0.3s,baz=66,slow=3.4,SNR=4.3						
TIXI	**Tiksi**	**25.27**	**29**	P	**P**	**17 45 51.0**	**-0.6**
	3.0nm,0.8s,baz=263,slow=6.9,SNR=19						
GEYT	**Alibeck**	**25.74**	**244**	P	**P**	**17 45 56.9**	**+0.6**
	1.1nm,0.6s,baz=319,slow=4.3,SNR=4.5						
KSRS	**Korea Array**	**31.91**	**104**	P	**P**	**17 46 51.8**	**+0.6**
	1.0nm,0.8s,baz=309,slow=8.5,SNR=3.2						
FINES	**FINESS Array B**	**32.84**	**309**	P	**P**	**17 46 59.9**	**+0.8**
	0.9nm,0.7s,baz=88,slow=11,SNR=2.7						
SPITS	**Spitsbergen Ar**	**34.38**	**340**	LR	LR	18 05 02.2	
	comp=Z,21nm,18.3s,baz=30,slow=43						
AKASG	**Malin Array Be**	**35.17**	**290**	P	**P**	**17 47 19.2**	**-0.2**
	3.1nm,0.8s,baz=58,slow=9.0,SNR=6.4						
CMAR	**Chiang Mai Arr**	**36.17**	**162**	P	**P**	**17 47 29.0**	**+0.7**
	0.6nm,0.7s,baz=341,slow=9.9,SNR=6.2						
GERES	**GERESS Array B**	**44.69**	**295**	P	**P**	**17 48 39.5**	**+0.9**
	0.5nm,0.6s,baz=61,slow=8.2,SNR=5.8						
ILAR	**Eielson Array**	**54.65**	**25**	P	**P**	**17 49 53.9**	**-0.2**
	0.5nm,0.9s,baz=324,slow=6.0,SNR=5.0						
ESDC	**Sonseca Array**	**60.21**	**297**	P	**P**	**17 50 34.4**	**+0.6**
	0.6nm,0.5s,baz=41,slow=7.5,SNR=12						
YKA	**Yellowknife Ar**	**62.86**	**11**	P	**P**	**17 50 49.7**	**-1.4**
	0.1nm,0.7s,baz=344,slow=7.2,SNR=2.6						
TORD	**Torodi Ar. Bea**	**77.24**	**275**	P	**P**	**17 52 21.6**	**+1.5**
	0.7nm,0.9s,baz=19,slow=5.7,SNR=2.8						
ASAR	**Alice Springs**	**86.69**	**139**	P	**P**	**17 53 08.2**	**-1.3**
	0.8nm,0.9s,baz=326,slow=4.5,SNR=6.4						

*CSEM **27** 17:52:23.8±0.1, 50°16N×7°81E, h15km, ML1.6, Error ellipse: s-maj=2.2km s-min=1.6km az=63.0*
*BGR **27** 17:52:24.1±0.3, 50°20N×7°83E, h10km, ML1.7/5, Error ellipse: s-maj=3.3km s-min=2.2km az=48.0*
*LDG **27** 17:52:24.5±0.1, 50°17N×7°81E, h8km, Md2.6/2, Ml2.4/11, Error ellipse: s-maj=1.6km s-min=1.2km az=64.0*
*BNS **27** 17:52:25.9±0.9, 50°23N×7°75E, h8km±7km, ML1.6*
*STR **27** 17:52:26.4±0.7, 50°01N±0°03×7°87E±0°07, h5km, MLv2.2/7*
ISC 27 17:52:24.5±0.8, 50°18N±0°01×7°80E±0°01, h15km±6km, n114, σ1≥107/189, 6C-1D, Germany

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FACH	**Fachingen**	**0.22**	**35**⇑	*i*P*	**Pg**	**17 52 28.6**	**-0.8**
FACH				S*	**Sg**	**17 52 31.5**	**-1.3**
FACH	**Fachingen**	**0.22**	**35**	Pb	**Pg**	**17 52 28.6**	**-0.8**
FACH				Sb	**Sg**	**17 52 31.5**	**-1.3**
KOE	**Koeppel**	**0.25**	**351**⇓	*e*Pg	**Pg**	**17 52 29.8**	**-0.2**
KOE				*e*Sg	**Sg**	**17 52 32.9**	**-0.8**
	93nm,0.1s						
KOE	**Koeppel**	**0.25**	**351**	Pg	**Pg**	**17 52 29.8**	**-0.2**
KOE				Sg	**Sg**	**17 52 32.9**	**-0.8**
	93nm,0.1s						
BGG	**Burgeitz**	**0.30**	**276**⇑	*i*Pg	**Pg**	**17 52 31.0**	**+0.3**
BGG				*e*Sg	**Sg**	**17 52 34.9**	**0.0**
	161nm,0.1s						
BGG	**Burgeitz**	**0.30**	**276**	Pg	**Pg**	**17 52 31.0**	**+0.3**
BGG				Sg	**Sg**	**17 52 34.9**	**0.0**
	161nm,0.1s						
ABH	**Alteburg**	**0.34**	**208**	P*	**Pg**	**17 52 31.8**	**

LOH	**Wallersheim-Lo**	**0.81**	**271**	*e*Pg	**Pg**	**17 52 40.5**	**+0.3**
LOH				*e*Sg	**Sg**	**17 52 51.4**	**+0.5**
	13nm,0.1s						
LOH	**Wallersheim-Lo**	**0.81**	**271**	Pg	**Pg**	**17 52 40.5**	**+0.3**
LOH				Sg	**Sg**	**17 52 51.4**	**+0.5**
	13nm,0.1s						
RIVT	**Riveris**	**0.81**	**235**	P*	**Pg**	**17 52 39.0**	**-1.3**
RIVT				PmP		17 52 41.1	
RIVT	**Riveris**	**0.81**	**235**	Pb	**Pg**	**17 52 39.0**	**-1.3**
RIVT	**Riveris**	**0.81**	**235**	P	**Pb**	**17 52 41.1**	**+0.8**
WBA	**Furth**	**0.84**	**128**	P*	**Sb**	**17 52 52.6**	**+0.7**
WBA	**Furth**	**0.84**	**128**	Pb	**Sb**	**17 52 52.7**	**+0.7**
HOBG	**Hohbusch**	**0.86**	**340**	*e*Pg	**Pg**	**17 52 40.8**	**-0.3**
HOBG	**Hohbusch**	**0.86**	**340**	Pg	**Pg**	**17 52 40.8**	**-0.3**
TOD	**Tromm**	**0.87**	**131**	P*	**Pg**	**17 52 40.9**	**-0.4**
TOD	**Tromm**	**0.87**	**131**	Pb	**Pg**	**17 52 40.9**	**-0.4**
KTD	**Kalmit**	**0.88**	**168**	P*	**Pg**	**17 52 40.9**	**-0.6**
KTD				PmP		17 52 41.7	
KTD				S*	**Sg**	**17 52 52.2**	**-0.9**
KTD				SmS		17 52 54.1	
KTD	**Kalmit**	**0.88**	**168**	Pb	**Pg**	**17 52 40.9**	**-0.6**
KTD	**Kalmit**	**0.88**	**168**	P	**Pb**	**17 52 41.7**	**+0.3**
KTD				Sb	**Sg**	**17 52 52.2**	**-0.9**
KTD				S	**Sb**	**17 52 54.1**	**+1.1**
SWS	**Schriesheim-Wi**	**0.91**	**139**	P*	**Pg**	**17 52 42.0**	**-0.1**
SWS				S*	**Sg**	**17 52 53.1**	**-0.9**
SWS	**Schriesheim-Wi**	**0.91**	**139**	Pb	**Pg**	**17 52 42.0**	**-0.1**
SWS				Sb	**Sg**	**17 52 53.1**	**-0.9**
OLFT	**Oleftalsperre**	**0.94**	**290**	*e*Pg	**Pg**	**17 52 42.7**	**+0.1**
OLFT				*e*Sg	**Sg**	**17 52 55.3**	**+0.4**
OLFT	**Oleftalsperre**	**0.94**	**290**	Pg	**Pg**	**17 52 42.7**	**+0.1**
OLFT				Sg	**Sg**	**17 52 55.3**	**+0.4**
BLI	**Bleialf**	**0.97**	**274**	Pg	**Pg**	**17 52 43.0**	**-0.3**
BLI	**Bleialf**	**0.97**	**274**	Pg	**Pg**	**17 52 43.0**	**-0.3**
DUP	**Duppenweiler**	**1.01**	**221**	Pg	**Pb**	**17 52 44.2**	**+0.6**
DUP				Sg	**Sn**	**17 52 59.0**	**+1.0**
DUP	**Duppenweiler**	**1.01**	**221**	Pg	**Pb**	**17 52 44.2**	**+0.6**
DUP				Sg	**Sn**	**17 52 59.0**	**+1.0**
PLH	**Pulheim**	**1.03**	**323**	*e*Sg	**Sg**	**17 52 57.7**	**-0.3**
	44nm,0.1s						
PLH	**Pulheim**	**1.03**	**323**	Sg	**Sg**	**17 52 57.7**	**-0.3**
	44nm,0.1s						
KLL	**Kalltalsperre**	**1.06**	**297**	*e*Pg	**Pg**	**17 52 44.3**	**-0.6**
KLL	**Kalltalsperre**	**1.06**	**297**	Pg	**Pg**	**17 52 44.3**	**-0.6**
GSH	**Grosshau**	**1.06**	**302**	*e*Sg	**Sg**	**17 52 58.8**	**-0.1**
	30nm,0.1s						
GSH	**Grosshau**	**1.06**	**302**	Sg	**Sg**	**17 52 58.8**	**-0.1**
	30nm,0.1s						
DREG	**Dreilaegerbach**	**1.11**	**297**	*e*Pg	**Pg**	**17 52 46.0**	**+0.1**
DREG				*e*Sg	**Sg**	**17 52 58.9**	**-1.5**
	10.0nm,0.2s						
DREG	**Dreilaegerbach**	**1.11**	**297**	Pg	**Pg**	**17 52 46.0**	**+0.1**
DREG				Sg	**Sg**	**17 52 58.9**	**-1.5**
	10.0nm,0.2s						
PEB	**Petersbachel**	**1.11**	**183**	P	**Pg**	**17 52 44.4**	**-1.5**
PEB				Pg	**Pb**	**17 52 45.4**	**0.0**
PEB				S	**Sg**	**17 52 59.5**	**-0.9**
PEB				Sg	**Sb**	**17 53 00.8**	**+1.1**
PEB	**Petersbachel**	**1.11**	**183**	P	**Pg**	**17 52 44.4**	**-1.5**
WLF	**Walferdange**	**1.18**	**245**	P	**Pb**	**17 52 45.8**	**-0.8**
WLF				Pg	**Pg**	**17 52 46.5**	**-0.7**
WLF				*e*Sg	**Sn**	**17 53 03.8**	**+1.6**
WLF	**Walferdange**	**1.18**	**245**	P	**Pb**	**17 52 45.8**	**-0.8**
LANF	**Langenberg**	**1.20**	**180**	Pg	**Pb**	**17 52 47.1**	**+0.2**
LANF	**Langenberg**	**1.20**	**180**	Pg	**Pb**	**17 52 47.1**	**+0.2**
LANF				Sg	**Sg**	**17 53 00.7**	**-2.5**
LANF	**Langenberg**	**1.20**	**180**	Pg	**Pb**	**17 52 46.1**	**-0.8**
MEM	**Membach**	**1.22**	**291**	*e*Pg	**Pn**	**17 52 47.2**	**+0.2**
MEM				*e*Sg	**Sb**	**17 53 03.2**	**+0.3**
MEM	**Membach**	**1.22**	**291**	Pg	**Pn**	**17 52 47.2**	**+0.2**
MEM				Sg	**Sb**	**17 53 03.2**	**+0.3**
BRET	**Bretten**	**1.30**	**153**	Pg	**Pg**	**17 52 49.3**	**-0.2**
BRET				Sg	**Sb**	**17 53 05.7**	**+0.5**
BRET	**Bretten**	**1.30**	**153**	Pg	**Pg**	**17 52 49.3**	**-0.2**
BRET				Sg	**Sb**	**17 53 05.7**	**+0.5**
BUG	**Bochum--Univer**	**1.31**	**345**	*e*Sg	**Sb**	**17 53 05.4**	**+0.1**
HGN	**Heimansgroeve**	**1.33**	**297**	*e*Pg	**Pn**	**17 52 49.4**	**+1.0**
HGN				*e*Sg	**Sb**	**17 53 06.4**	**+0.5**
HGN	**Heimansgroeve**	**1.33**	**297**	*e*Pg	**Pn**	**17 52 47.7**	**-0.7**
HGN				*e*Sg	**Sb**	**17 53 05.3**	**-0.6**
HGN	**Heimansgroeve**	**1.33**	**297**	Pg	**Pn**	**17 52 49.4**	**+1.0**
HGN				Sg	**Sb**	**17 53 06.4**	**+0.5**
SIND	**Sindeldorf**	**1.44**	**125**	Sg	**Sn**	**17 53 09.5**	**+0.9**
SIND	**Sindeldorf**	**1.44**	**125**	Sg	**Sn**	**17 53 09.5**	**+0.9**
UBBA	**Unterbreizbach**	**1.55**	**65**	*e*Sg	**Sn**	**17 53 12.3**	**+1.1**
UBBA	**Unterbreizbach**	**1.55**	**65**	Sg	**Sn**	**17 53 12.3**	**+1.1**
WLS	**Welschbruch**	**1.79**	**189**	Pg	**Pb**	**17 52 57.2**	**+0.2**
WLS	**Welschbruch**	**1.79**	**189**	Pg	**Pb**	**17 52 57.2**	**+0.2**
CDF	**Champ du Feu**	**1.80**	**191**	*e*Pn	**Pn**	**17 52 54.7**	**-0.3**
CDF	**Champ du Feu**	**1.80**	**191**	*e*Pg	**Pb**	**17 52 57.2**	**0.0**
CDF				*e*Sg	**Sb**	**17 53 20.6**	**+1.0**
	6.4nm,0.3s						
CDF	**Champ du Feu**	**1.80**	**191**	*e*Pn	**Pn**	**17 52 54.7**	**-0.3**
CDF	**Champ du Feu**	**1.80**	**191**	*e*Pg	**Pb**	**17 52 57.2**	**0.0**
CDF				*e*Sg	**Sb**	**17 53 20.6**	**+1.0**
	3.2nm,0.3s						
BFO	**Black Forest**	**1.88**	**169**	Sg	**Sg**	**17 53 24.0**	**-1.0**
BFO	**Black Forest**	**1.88**	**169**	Sg	**Sg**	**17 53 24.0**	**-1.0**
GIVF	**Givet**	**1.91**	**269**	*e*Pn	**Pn**	**17 52 55.8**	**-0.7**
GIVF				*e*Sg	**Sb**	**17 53 24.8**	**+2.1**
	8.7nm,0.4s						
GIVF	**Givet**	**1.91**	**269**	*e*Pn	**Pn**	**17 52 55.8**	**-0.7**
GIVF				*e*Sg	**Sb**	**17 53 24.8**	**+2.1**
	4.3nm,0.4s						
ECH	**Echery**	**2.01**	**192**	*e*Pg	**Pg**	**17 53 02.1**	**-0.9**
ECH				*e*Sg	**Sb**	**17 53 27.6**	**+2.1**
ECH	**Echery**	**2.01**	**192**	Pg	**Pg**	**17 53 02.1**	**-0.9**
ECH				Sg	**Sb**	**17 53 27.6**	**+2.1**
PAGF	**Fort de Pagny**	**2.11**	**221**	*e*Pg	**Pb**	**17 53 03.8**	**+1.3**
	baz=37						
PAGF				*e*Sn	**Sn**	**17 53 23.6**	**-1.7**
	baz=30						
PAGF				*e*Sg	**Sg**	**17 53 31.4**	**-1.0**
	0.7nm,0.2s						
PAGF	**Fort de Pagny**	**2.11**	**221**	*e*Pg	**Pb**	**17 53 03.8**	**+1.3**
PAGF				*e*Sn	**Sn**	**17 53 23.6**	**-1.7**
PAGF				*e*Sg	**Sg**	**17 53 31.4**	**-1.0**
	0.3nm,0.2s						
GUT	**Gutenstein**	**2.28**	**157**	Sg	**Sg**	**17 53 36.9**	**-0.9**
GUT	**Gutenstein**	**2.28**	**157**	Sg	**Sg**	**17 53 36.8**	**-0.9**
THEF	**They Montfort**	**2.29**	**212**	Pg	**Pg**	**17 53 07.4**	**-0.8**
THEF	**They Montfort**	**2.29**	**212**	Pg	**Pg**	**17 53 07.4**	**-0.8**
FELD	**Feldberg im Sc**	**2.31**	**177**	Pg	**Pb**	**17 53 06.5**	**+0.7**
FELD				Sg	**Sb**	**17 53 35.9**	**+1.7**
FELD	**Feldberg im Sc**	**2.31**	**177**	Pg	**Pb**	**17 53 06.6**	**+0.7**
BAIF	**Baives**	**2.31**	**268**	*e*Pn	**Pn**	**17 52 02.4**	**+0.4**
BAIF				*e*Sn	**Sn**	**17 53 28.0**	**-2.1**
BAIF				*e*Sg	**Sg**	**17 53 37.4**	**-1.4**
	3.1nm,0.3s						
BAIF	**Baives**	**2.31**	**268**	*e*Pn	**Pn**	**17 53 02.4**	**+0.4**
BAIF				*e*Sn	**Sn**	**17 53 28.0**	**-2.1**
MOF	**Molkenrain**	**2.37**	**191**	Pg	**Pb**	**17 53 07.6**	**+0.7**
MOF				Sg	**Sb**	**17 53 38.4**	**+2.5**
MOF	**Molkenrain**	**2.37**	**191**	Pg	**Pb**	**17 53 07.7**	**+0.7**
HAU	**Haudompre**	**2.37**	**204**	*e*Pg	**Pb**	**17 53 07.5**	**+0.6**
HAU				*e*Sg	**Sb**	**17 53 38.8**	**+2.8**
	3.1nm,0.2s						
HAU	**Haudompre**	**2.37**	**204**	*e*Pg	**Pb**	**17 53 07.5**	**+0.6**
HINF	**Hinteralfeld**	**2.44**	**195**	*e*Pg	**Pb**	**17 53 09.7**	**+1.6**
HINF				*e*Sn	**Sn**	**17 53 31.1**	**-2.4**
HINF				*e*Sg	**Sb**	**17 53 39.9**	**+1.9**
	3.4nm,0.2s						
HINF	**Hinteralfeld**	**2.44**	**195**	*e*Pg	**Pb**	**17 53 09.7**	**+1.6**
HINF				*e*Sn	**Sn**	**17 53 31.1**	**-2.4**
HINF				*e*Sg	**Sb**	**17 53 39.9**	**+1.9**
	1.7nm,0.2s						
MEZF	**Maizieres J'vi**	**2.46**	**228**	*e*Sg	**Sb**	**17 53 41.4**	**+3.1**
	3.9nm,0.3s,baz=54						
SFTF	**Sexfontaines**	**2.68**	**224**	*e*Pn	**Pn**	**17 53 06.5**	**-0.5**
SFTF				*e*Sg	**Sg**	**17 53 48.4**	**-2.1**
	3.9nm,0.4s,baz=46						
SFTF	**Sexfontaines**	**2.68**	**224**	*e*Pn	**Pn**	**17 53 06.5**	**-0.5**
LOR	**Lormes**	**3.91**	**223**	*e*Pn	**Pn**	**17 53 22.9**	**-1.0**
	baz=42						
LOR				*e*Sn	**Sn**	**17 54 06.3**	**-3.2**
	baz=26						
LOR	**Lormes**	**3.91**	**223**	*e*Pn	**Pn**	**17 53 22.9**	**-1.0**
LOR				*e*Sn	**Sn**	**17 54 06.3**	**-3.2**

MEX 27 17:56:22.5±0.5, 16°.61N×98°.48W, h6^{km}±17^{km}, **MD3.5,**

Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.40**	**122**	*e*P	Pg	17 56 29.9	-0.4
PNIG				*e*S	Sg	17 56 35.7	+0.1
TLIG	**Tlapa**	**0.95**	**355**	*e*P	Pg	17 56 38.5	-2.4
TLIG				*e*S	Sg	17 56 50.7	-2.6
CAIG	**El Cayaco**	**1.77**	**285**	*e*P	Pn	17 56 50.4	-3.3

SJA **27** 17:58:14.7±0.4, 35°.11S×72°.60W, h10^{km}, ML4.8, MW4.3
ISCJB **27** 17:58:23.6±0.3, 35°.13S±0°.03×71°.94W±0°.05, h57^{km}±3^{km}, mb4.6/44, MS3.4/6, Error ellipse: s-maj=7.1km s-min=3.8km az=18.1
GUC **27** 17:58:24.7±0.6, 35°.12S×71°.90W, h43^{km}±1^{km}, ML4.9
NEIC **27** 17:58:24.0±0.0, 35°.12S×71°.90W, h43^{km}, mb4.7/36, ML4.9(GUC), After GUC.
NEIC Felt [V] at Longavi, San Clemente and Talca; [IV] at Constitucion, Curico, Duao, Hualane, Iloca, Licanten, Linares, Maule, Molina, Pencahue, Rio Claro and Romeral. Felt widely in central Chile as far as Concepcion and Santiago.
IDC **27** 17:58:24.6±0.4, 35°.09S×71°.71W, h47^{km}±3^{km}, mb4.3/19, mb1 4.4/22, mb1mx4.3/36, mbtmp4.5/22, MS3.4/8, Ms1 3.4/8, ms1mx3.2/30, Error ellipse: s-maj=17.2km s-min=10.1km az=81.0
ISC 27 17:58:23.6±0.3, **35°.13S**±0°.03×**72°.01W**±0°.05, **h45**^{km}±2^{km}, **h45**^{km}:**pP-P,n140,**σ1°**63**/198,**mb4.7**/44,**MS3.4**/6,1C-3D,**
Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO05	**HualaæØ**	**0.14**	**30**	*e*Pn	**Pn**	**17 58 31.5**	**+0.5**
GO05				*e*Sn	**Sn**	**17 58 37.1**	**+0.9**
GO05	**HualaæØ**	**0.14**	**30**‖	*e*P	**Pn**	**17 58 31.4**	**+0.4**
GO05				*e*S	**Sn**	**17 58 36.7**	**+0.5**
NICH	**Los Niches**	**0.65**	**79**↓	*i*P	**Pn**	**17 58 36.2**	**-0.3**
NICH				*e*S	**Sn**	**17 58 44.6**	**-1.2**
CHPI	**Pichilemu**	**0.73**	**1**	*e*P	**Pn**	**17 58 38.0**	**+0.4**
CHPI				*e*S	**Sn**	**17 58 48.9**	**+1.2**
COCH	**Cobquecura**	**1.19**	**212**↓	*i*P	**Pn**	**17 58 45.2**	**+1.5**
COCH				*e*S	**Sn**	**17 59 01.4**	**+2.7**
CCHI	**Chillan**	**1.47**	**182**	*e*P	**Pn**	**17 58 49.5**	**+1.8**
CCHI				*e*S	**Sn**	**17 59 08.0**	**+2.3**
CCHI				IAML		17 59 18.8	
	comp=E,14μm,0.5s						
ANTU	**Antumapu**	**1.93**	**37**	*e*P	**Pn**	**17 58 54.5**	**+0.6**
ANTU				*e*S	**Sn**	**17 59 18.9**	**+1.9**
ANTU				IAML		17 59 21.9	
	comp=E,21μm,0.3s						
LMEL	**Las Melosas**	**1.96**	**50**	*i*P	**Pn**	**17 58 55.0**	**+0.5**
LMEL				*e*S	**Sn**	**17 59 18.3**	**+0.2**
LMEL				IAML		17 59 23.3	
	comp=N,17μm,0.2s						
PEL	**Peldehue**	**2.26**	**29**	*e*Pn	**Pn**	**17 58 59.6**	**+1.0**
PEL				*e*Sn	**Sn**	**17 59 29.4**	**+4.1**
FCH	**Farellones**	**2.29**	**39**	*e*P	**Pn**	**17 58 59.7**	**+0.5**
FCH				*e*S	**Sn**	**17 59 27.0**	**+0.7**
FCH				IAML		17 59 33.5	
	comp=N,10μm,0.3s						
ROC1	**El Roble**	**2.30**	**21**	*e*Pn	**Pn**	**17 59 00.3**	**+1.1**
ROC1				*e*Sn	**Sn**	**17 59 30.4**	**+4.0**
ROCH	**El Roble**	**2.31**	**21**‖	*e*P	**Pn**	**17 58 60.0**	**+0.7**
ROCH				*e*S	**Sn**	**17 59 28.1**	**+1.6**
ROCH				IAML		17 59 34.3	
	comp=N,12μm,0.5s						
CANA	**Caviahue**	**2.86**	**165**	*e*P	**Pn**	**17 59 05.8**	**-1.1**
RFA	**San Rafael**	**2.94**	**84**	*e*P	**Pn**	**17 59 10.7**	**+2.9**
RFA				IAML		17 59 26.6	
	comp=Z,2μm,0.3s						
AVIZ	**Vizcacheras**	**3.33**	**61**	*e*P	**Pn**	**17 59 15.8**	**+2.5**
AAGR	**Agrelo**	**3.33**	**53**	*e*P	**Pn**	**17 59 15.4**	**+2.1**
ARCO	**CERRO ARCO**	**3.43**	**49**	*e*P	**Pn**	**17 59 16.2**	**+1.6**
ARCO				IAML		17 59 35.9	
	comp=Z,2μm,0.5s						
AUSP	**Uspallata**	**3.63**	**38**	*e*P	**Pn**	**17 59 18.8**	**+1.3**
AUSP				*e*S	**Sn**	**18 00 06.3**	**+7.0**
ASAL	**Salagasta**	**3.66**	**47**	*e*P	**Pn**	**17 59 19.1**	**+1.4**
ASAL				*e*S	**Sn**	**18 00 07.7**	**+8.0**
RTCV	**Cerro Valdivia**	**4.36**	**43**	*e*P	**Pn**	**17 59 28.8**	**+1.4**
GO06	**Curarrehue**	**4.47**	**175**	*e*Pn	**Pn**	**17 59 30.4**	**+1.5**
GO04	**Tololo Observa**	**5.04**	**12**	*e*Pn	**Pn**	**17 59 36.8**	**-0.1**
GO04				*e*Sn	**Sn**	**18 00 33.0**	**-1.1**
AMOG	**MOGNA**	**5.12**	**36**	*e*P	**Pn**	**17 59 38.8**	**+1.0**
AMOG				*e*S	**Sn**	**18 00 41.3**	**+5.7**
AROD	**Rodeo**	**5.39**	**24**	*e*P	**Pn**	**17 59 42.4**	**+0.7**
PLCA	**Paso Flores**	**5.71**	**169**	P	**Pn**	**17 59 48.3**	**+2.4**
	comp=Z,4.7nm,0.3s,baz=6.8,slow=12,SNR=166						
PLCA				LR	LR	18 02 10.8	
	comp=Z,318nm,21.5s,baz=15,slow=40						
PLCA	**Paso Flores**	**5.71**	**169**	*e*Pn	**Pn**	**17 59 47.9**	**+1.9**
LCO	**Las Campanas**	**6.20**	**11**	*e*Pn	**Pn**	**17 59 51.7**	**-1.1**
LCO				*e*Sn	**Sn**	**18 01 00.6**	**-1.9**
AGUA	**GUANDACOL**	**6.36**	**29**	*e*P	**Pn**	**17 59 55.3**	**+0.4**
GO03	**Copiap**	**7.66**	**12**	*e*Pn	**Pn**	**18 00 10.9**	**-1.8**
GO03				*e*Sn	**Sn**	**18 01 45.4**	**+7.2**
TRQA	**Tornquist**	**8.58**	**113**	*e*Pn	**Pn**	**18 00 25.6**	**+0.4**
GO02	**Mina Guanaco**	**10.15**	**13**	*e*Pn	**Pn**	**18 00 42.8**	**-4.2**
PB10	**IPOC Station P**	**11.64**	**7**	*e*Pn	**Pn**	**18 01 05.4**	**-1.7**
CHRN	**Cochrane**	**12.12**	**182**	*e*Pn	**Pn**	**18 01 12.3**	**-1.2**
PB01	**IPOC Station P**	**14.21**	**10**	*e*Pn	**Pn**	**18 01 41.4**	**-0.8**
CPUP	**Villa Florida**	**15.36**	**59**	P	**Pn**	**18 01 53.6**	**-3.7**
	comp=Z,0.3nm,0.3s,baz=253,slow=8.1,SNR=3.9						
CPUP				LR	LR	18 08 32.0	
	comp=Z,383nm,18.4s,baz=234,slow=40						
CPUP	**Villa Florida**	**15.36**	**59**	*e*Pn	Pn	18 01 49.3	-8.0
	comp=Z,1.8nm,0.8s						
PB11	**IPOC Station P**	**15.45**	**8**	*e*Pn	**Pn**	**18 01 57.7**	**-0.9**
	comp=Z,48nm,0.8s						
MNMC	**Minye Minye**	**16.08**	**8**	*e*Pn	**Pn**	**18 02 06.2**	**-0.6**
	comp=Z,60nm,0.8s						
LPAZ	**La Paz**	**19.08**	**11**	P	**Pn**	**18 02 44.7**	**+0.5**
	comp=Z,1.5nm,0.3s,baz=191,slow=6.4,SNR=33						
LPAZ	**La Paz**	**19.08**	**11**	*e*P	**Pn**	**18 02 44.0**	**-0.1**
	comp=Z,15nm,0.8s						
EFI	**East Falkland**	**19.34**	**153**	*e*P	**P**	**18 02 43.4**	**-1.7**
	comp=Z,46nm,1.2s						
SIV	**San Ignacio**	**21.43**	**30**	P	**P**	**18 03 06.6**	**-1.3**
	comp=Z,15nm,0.8s,baz=220,slow=9.4,SNR=72						
SIV				sP	**sP**	**18 03 24.4**	**0.0**
	comp=Z,38nm,1.0s,baz=226,slow=11,SNR=16						
SAML	**Samuel**	**27.28**	**19**	*e*P	**P**	**18 04 00.8**	**-3.0**
	comp=Z,3.4nm,0.9s						
HOPE	**Hope Point**	**31.22**	**139**	*e*P	P	18 04 32.0	-6.5
	comp=Z,33nm,1.0s						
RPN	**Rapa Nui**	**32.78**	**274**	LR	LR	18 14 49.2	
	comp=Z,96nm,18.6s,baz=86,slow=30						
OTAV	**Otavalo**	**35.69**	**349**	*e*P	**P**	**18 05 18.0**	**-0.3**
	comp=Z,3.7nm,1.1s						
PTGA	**Pitinga**	**36.02**	**21**	*e*P	**P**	**18 05 18.5**	**-2.0**
	comp=Z,8.9nm,0.9s						
PRAC	**Prado**	**38.73**	**355**	*e*P	**P**	**18 05 45.0**	**+1.5**
	comp=Z,11nm,0.5s						
ROSC	**El Rosal**	**39.81**	**356**	P	**P**	**18 05 54.5**	**+1.5**
	comp=Z,6.3nm,0.4s,baz=134,slow=23,SNR=2.7						
ROSC	**El Rosal**	**39.81**	**356**	*e*P	**P**	**18 05 53.6**	**+0.7**
	comp=Z,4.9nm,0.5s						
RUSC	**La Rusia**	**40.81**	**358**	*e*P	**P**	**18 06 01.7**	**+0.4**
	comp=Z,5.0nm,0.7s						
HELC	**Santa Helena**	**41.23**	**355**	*e*P	**P**	**18 06 04.0**	**-0.6**
	comp=Z,23nm,0.8s						
SDV	**Santo Domingo**	**43.79**	**2**	P	**P**	**18 06 24.8**	**-0.5**
	comp=Z,5.8nm,0.7s,baz=188,slow=11,SNR=8.0						
SDV				LR	LR	18 25 28.6	
	comp=Z,26nm,21.8s,baz=270,slow=37						
SDV	**Santo Domingo**	**43.79**	**2**	*e*P	**P**	**18 06 24.4**	**-0.9**
	comp=Z,7.8nm,0.9s						
RCBR	**Riachuelo**	**44.23**	**57**	*e*P	**P**	**18 06 26.7**	**-1.9**
	comp=Z,12nm,1.0s						
PCRV	**Puerto La Cruz**	**45.59**	**10**	P	**P**	**18 06 39.4**	**-0.1**
	comp=Z,12nm,0.8s,baz=158,slow=5.4,SNR=2.2						
JTS	**JuntasAbangare**	**46.80**	**342**	P	**P**	**18 06 49.9**	**+1.0**
	comp=Z,2.4nm,0.6s,baz=84,slow=22,SNR=1.9						
JTS				LR	LR	18 22 14.3	
	comp=Z,38nm,19.6s,baz=210,slow=30						
SNAA	**Sanae**	**50.54**	**157**	P	**P**	**18 07 17.2**	**+0.1**
	comp=Z,6.2nm,0.8s,baz=248,slow=5.2,SNR=54						
SNAA	**Sanae**	**50.54**	**157**	*e*P	**P**	**18 07 16.5**	**-0.5**
	comp=Z,10nm,1.0s						
APG	**El Apazote**	**52.84**	**337**	P	**P**	**18 07 36.7**	**+1.7**
	comp=Z,2.8nm,0.6s,baz=325,slow=14,SNR=3.4						
QSPA	**South Pole Qui**	**55.11**	**180**	P	**P**	**18 07 52.2**	**+1.2**
	comp=Z,8.2nm,0.8s,baz=176,slow=1.2,SNR=19						
QSPA				pP	**pP**	**18 08 05.4**	**+1.8**
	comp=Z,4.5nm,0.6s,baz=278,slow=1.4,SNR=7.1						
QSPA	**South Pole Qui**	**55.11**	**180**	*e*P	**P**	**18 07 51.8**	**+0.8**
	comp=Z,15nm,1.0s						
VNDA	**Vanda**	**63.00**	**191**	P	**P**	**18 08 47.1**	**+1.9**
	comp=Z,0.8nm,0.9s,baz=131,slow=7.0,SNR=2.5						
VNDA	**Vanda**	**63.00**	**191**	*e*P	**P**	**18 08 47.4**	**+2.1**
TX31	**Lajitas Ar. Si**	**70.73**	**331**	*e*P	**P**	**18 09 35.7**	**+0.7**
TXAR	**Lajitas Array**	**70.73**	**331**	P	**P**	**18 09 36.4**	**+1.4**
	comp=Z,1.4nm,0.4s,baz=155,slow=8.4,SNR=29						
TXAR				pP	**pP**	**18 09 49.3**	**+1.2**
	comp=Z,0.9nm,0.5s,baz=150,slow=9.2,SNR=6.4						
TXAR				sP	**PcP**	**18 09 55.6**	**0.0**
	comp=Z,1.3nm,0.5s,baz=148,slow=9.1,SNR=6.0						
TXAR				LR	LR	18 36 13.9	
	comp=Z,20nm,18.7s,baz=0.0,slow=32						
SWET	**Sewanee**	**71.18**	**348**	*e*P	**P**	**18 09 37.8**	**+0.2**
	comp=Z,12nm,0.5s						
PLAL	**Pickwick Lake**	**71.34**	**346**	*e*P	**P**	**18 09 38.3**	**-0.2**
	comp=Z,8.6nm,0.5s						
MAW	**Mawson**	**72.10**	**163**	P	**P**	**18 09 43.4**	**+0.7**
	comp=Z,2.8nm,0.6s,baz=236,slow=9.9,SNR=5.2						
MAW	**Mawson**	**72.10**	**163**	*e*P	**P**	**18 09 43.1**	**+0.4**
	comp=Z,1.6nm,0.8s						
WVT	**Waverly**	**72.41**	**347**	*e*P	**P**	**18 09 44.8**	**0.0**
	comp=Z,18nm,0.7s						
W39A	**Magazine**	**72.86**	**341**	*e*P	**P**	**18 09 48.0**	**+0.5**
	comp=Z,7.5nm,0.8s						
MNTX	**Cornudas Mount**	**73.50**	**331**	*e*P	**P**	**18 09 51.8**	**+0.3**
	comp=Z,2.4nm,0.6s						
CCM	**Cathedral Cave**	**74.97**	**344**	*e*P	**P**	**18 09 59.6**	**-0.2**
	comp=Z,9.0nm,0.8s						
LIC	**Lamto**	**75.11**	**71**	*e*P	**P**	**18 10 00.5**	**-0.8**
	comp=Z,18nm,0.5s						
TIC	**Toumodi**	**75.38**	**71**	*e*P	**P**	**18 10 01.9**	**-0.9**
KIC	**Kosan Boka**	**75.42**	**71**	*e*P	**P**	**18 10 02.4**	**-0.6**
	comp=Z,22nm,0.5s						
DBIC	**Dimbokro**	**75.52**	**71**	P	**P**	**18 10 03.1**	**-0.5**
	comp=Z,8.9nm,0.6s,baz=211,slow=5.9,SNR=16						
DBIC				sP	**sP**	**18 10 19.9**	**-1.9**
	comp=Z,2.4nm,0.5s,baz=233,slow=6.8,SNR=2.8						
DBIC				LR	LR	18 39 54.0	
	comp=Z,22nm,21.5s,baz=112,slow=33						
DBIC	**Dimbokro**	**75.52**	**71**	*e*P	**P**	**18 10 02.6**	**-0.9**
	comp=Z,9.9nm,0.7s						
DBIC				sP	**sP**	**18 10 19.9**	**-1.9**
T25A	**Trinidad**	**77.95**	**334**	*e*P	**P**	**18 10 18.7**	**+1.7**
	comp=Z,4.3nm,0.8s						
X16A	**Lo Mia Camp, P**	**78.40**	**328**	*e*P	**P**	**18 10 20.6**	**+1.1**
	comp=Z,3.5nm,1.1s						
Y14A	**Wickenburg**	**78.69**	**326**	*e*P	**P**	**18 10 21.3**	**+0.3**
	comp=Z,3.3nm,0.9s						
BOSA	**Boshof**	**79.53**	**118**	P	**P**	**18 10 25.6**	**-0.5**
	comp=Z,5.4nm,0.5s,baz=249,slow=3.1,SNR=20						
BOSA	**Boshof**	**79.53**	**118**	*e*P	**P**	**

KURK	**Kurchatov**	**153.67**	**45**	*e*PKPbc	**PKPbc**	**18 18 16.5**	**-0.4**
KURK				*e*PKPab	**sPKPdf**	**18 18 28.8**	**+0.8**
KURK				*ep*PKPab	**sPKPbc**	**18 18 36.0**	**+0.2**
NRN	**Naryn**	**154.21**	**66**	*e*PKPdf	**PKPdf**	**18 18 08.1**	**-2.6**
NRN				*e*PKPbc	**PKiKP**	**18 18 19.0**	**0.0**
NRN				*e*PKPab	**pPKPbc**	**18 18 32.2**	**-0.6**
ZAA1	**Zalesovo Array**	**155.16**	**34**	*e*PKPdf	**PKPdf**	**18 18 10.7**	**-0.4**
ZAA1				*e*PKPbc	**pPKPdf**	**18 18 25.0**	**0.0**
ZAA1				*e*PKPab	**PKPab**	**18 18 36.3**	**+0.2**
ZAA1				*ep*PKPab	sPKPbc	18 18 41.5	+2.7
ZALV	**Zalesovo Beam**	**155.16**	**34**	PKP	**PKPdf**	**18 18 10.7**	**-0.4**
	comp=Z,0.8nm,0.6s,baz=181,slow=5.9,SNR=4.2						
ZALV				pPKP	**pPKPdf**	**18 18 25.0**	**0.0**
	comp=Z,1.4nm,0.4s,baz=322,slow=4.5,SNR=5.2						
ZALV				PKPab	**PKPab**	**18 18 36.3**	**+0.2**
	comp=Z,3.2nm,0.7s,baz=293,slow=7.5,SNR=8.2						
ZALV				sPKPab	sPKPbc	18 18 41.5	+2.7
	comp=Z,2.1nm,0.7s,baz=268,slow=5.7,SNR=5.0						
ZALV	**Zalesovo Beam**	**155.16**	**34**	*e*PKPdf	**PKPdf**	**18 18 10.0**	**-1.1**
ZALV				*e*PKPbc	**pPKPdf**	**18 18 19.7**	**-5.3**
ZALV				pPKP	**pPKPdf**	**18 18 25.0**	**0.0**
ZALV				*e*PKPab	**PKPab**	**18 18 35.6**	**-0.4**
ZALV				sPKPab	sPKPbc	18 18 41.5	+2.7
TARG	**Taragay, Kyrgy**	**155.53**	**65**	*e*PKPab	**PKPab**	**18 18 38.5**	**-0.2**
MK31	**Makanchi Array**	**157.47**	**51**	*e*PKPdf	**PKPdf**	**18 18 14.1**	**-0.3**
MK31				*e*PKPab	**PKPab**	**18 18 44.4**	**-1.9**
MK32	**Makanchi Array**	**157.47**	**51**	*e*PKPdf	**PKPdf**	**18 18 14.4**	**-0.1**
MK32				*e*PKPdif	**pPKPdf**	**18 18 29.7**	**+1.3**
MK32				*e*		18 18 44.7	
MK32				*ep*PKPab	**pPKPab**	**18 19 00.1**	**+0.3**
MK32				*e*		18 19 05.0	
MKAR	**Makanchi Array**	**157.47**	**51**	PKP	**PKPdf**	**18 18 14.4**	**-0.1**
	comp=Z,0.3nm,0.7s,baz=270,slow=1.1,SNR=4.4						
MKAR				pPKP	**pPKPdf**	**18 18 29.7**	**+1.3**
	comp=Z,0.6nm,0.8s,baz=268,slow=3.6,SNR=4.9						
MKAR				PKPab	**PKPab**	**18 18 44.7**	**-1.7**
	comp=Z,2.6nm,0.8s,baz=331,slow=2.1,SNR=15						
MKAR				pPKPab	**pPKPab**	**18 19 00.1**	**+0.3**
	comp=Z,1.2nm,0.8s,baz=270,slow=2.4,SNR=2.3						
MKAR				sPKPab	**sPKPab**	**18 19 05.0**	**+0.1**
	comp=Z,1.6nm,0.8s,baz=299,slow=2.5,SNR=5.6						
MKAR	**Makanchi Array**	**157.47**	**51**	*e*PKPdf	**PKPdf**	**18 18 14.2**	**-0.2**
MKAR				pPKP	**pPKPdf**	**18 18 29.7**	**+1.3**
MKAR				*e*PKPab	**PKPab**	**18 18 44.1**	**-2.2**
MKAR				pPKPab	**pPKPab**	**18 19 00.1**	**+0.3**
MKAR				sPKPab	**sPKPab**	**18 19 05.0**	**+0.1**
CMAR	**Chiang Mai Arr**	**161.56**	**152**	PKP	**PKPdf**	**18 18 19.9**	**-0.1**
	comp=Z,0.4nm,0.8s,baz=258,slow=1.5,SNR=4.1						
CMAR				PKPab	**PKPab**	**18 19 04.0**	**-0.6**
	comp=Z,0.4nm,0.7s,baz=217,slow=4.9,SNR=4.1						
SONA1	**Songino Array**	**167.24**	**5**	*e*PKPab	**PKPab**	**18 19 28.9**	**-0.1**
SONA0	**Songino Array**	**167.25**	**5**	*e*PKPab	**PKPab**	**18 19 29.4**	**+0.4**
SONM	**Songino Array**	**167.25**	**5**	PKPab	**PKPab**	**18 19 29.4**	**+0.4**
	comp=Z,1.3nm,0.9s,baz=339,slow=3.3,SNR=6.8						
ULN	**Ulaanbaatar**	**167.25**	**3**	*e*PKPab	**PKPab**	**18 19 29.8**	**+0.6**

*IDC **27** 18:04:12.1±3.7,0.0°18N×91.3°37E,h0km,mb3.5/6,mb1 3.7/8, mb1mx3.4/70,mbtmp3.6/8,ML3.5/2,MS3.3/7,Ms1 3.3/7, ms1mx2.9/51,Error ellipse: s-maj=77.3km s-min=36.8km az=164.0*

ISC 27 18:04:13.6±2.6,0.2°2N±0.4°4×91.4°4E±0.1°1,h10km,n11,σ0°41/9, mb3.6/6,MS3.5/4,North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**7.95**	**71**	LR	LR	18 09 12.9	
	comp=Z,226nm,18.4s,baz=278,slow=38						
PALK	**Pallekele**	**12.79**	**304**	Pn	**Pn**	**18 07 16.2**	**+0.4**
	0.8nm,0.3s,baz=115,slow=14,SNR=5.6						
PALK				Sn	**Sn**	**18 09 38.3**	**-0.2**
	0.6nm,0.3s,baz=117,slow=17,SNR=3.4						
PALK				LR	LR	18 11 38.4	
	comp=Z,68nm,19.2s,baz=116,slow=35						
CMAR	**Chiang Mai Arr**	**19.62**	**22**	P	**P**	**18 08 42.4**	**0.0**
	0.0nm,0.3s,baz=214,slow=11,SNR=10						
CMAR				LR	LR	18 16 41.1	
	comp=Z,24nm,19.4s,baz=212,slow=38						
WSAR	**Wadi Sarin**	**39.23**	**308**	LR	LR	18 27 21.7	
	comp=Z,67nm,18.1s,baz=158,slow=35						
MKAR	**Makanchi Array**	**47.11**	**351**	P	**P**	**18 12 45.9**	**0.0**
	0.3nm,0.7s,baz=151,slow=7.8,SNR=3.9						
SONM	**Songino Array**	**49.22**	**13**	P	**P**	**18 13 02.5**	**+0.2**
	0.3nm,0.5s,baz=195,slow=9.0,SNR=3.4						
SONM				LR	LR	18 34 54.9	
	comp=Z,38nm,18.9s,baz=190,slow=37						
KURBB	**Kurchatov Arra**	**51.44**	**350**	P	**P**	**18 13 18.2**	**-0.7**
	0.4nm,0.6s,baz=169,slow=6.6,SNR=4.2						
ZALV	**Zalesovo Beam**	**53.87**	**355**	P	**P**	**18 13 37.0**	**+0.2**
	0.3nm,0.3s,baz=143,slow=5.0,SNR=3.1						
ZALV				LR	LR	18 37 55.5	
	comp=Z,25nm,21.0s,baz=251,slow=38						
BRTR	**Keskin Array B**	**65.59**	**314**	P	**P**	**18 14 57.6**	**-0.5**
	0.5nm,0.6s,baz=133,slow=6.4,SNR=5.1						
MAW	**Mawson**	**70.50**	**191**	LR	LR	18 41 07.4	
	comp=Z,64nm,20.5s,baz=239,slow=31						
GERES	**GERESS Array B**	**81.78**	**319**	P	**P**	**18 16 33.2**	**+0.3**
	0.3nm,0.6s,baz=90,slow=0.2,SNR=2.8						

*SJA **27** 18:34:28.6±0.4,34.7°74S×72.3°35W,h10km,ML4.3,MW3.9*
*ISCJB **27** 18:34:36.6±0.3,34.7°76S±0.0°03×71.3°83W±0.0°05,h56km±3km, mb4.6/28,MS3.8/3,Error ellipse: s-maj=7.3km s-min=4.1km az=15.7*
*IDC **27** 18:34:37.5±0.5,34.7°75S×71.6°0W,h48km±3km,mb4.2/14, mb1 4.2/15,mb1mx4.1/32,mbtmp4.4/15,MS3.6/5, Ms1 3.6/5,ms1mx3.1/32,Error ellipse: s-maj=19.9km s-min=12.7km az=81.0*
*GUC **27** 18:34:38.0±0.6,34.7°73S×71.7°73W,h43km±2km,ML4.4*
*NEIC **27** 18:34:38.0±0.0,34.7°72S×71.7°72W,h43km,mb4.7/22, ML4.4(GUC),After GUC.*
NEIC Felt [IV] at Lolol, Pichilemu and Santa Cruz; [III] at Cauquenes, Chepica, Constitucion, Curico, Duao, Iloca, Licanten, Linares, Longavi, Maule, Molina, Paredones, Pelarco, Pelluhue, Rancagua, Rengo, San Fernando, Talca and Villa Alegre; [II] at Parral.

ISC 27 18:34:37.1±0.4,34.73S±0.03°×71.81W±0.04°,h47km±3km, h47km:pP-P,n113,σ1°59/139,mb4.7/28,MS3.7/3,2C,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO05	**HualaæØ**	**0.30**	**199**	*e*Pn	**Pn**	**18 34 46.6**	**+0.6**
GO05				*e*Sn	**Sn**	**18 34 52.9**	**+0.6**
GO05	**HualaæØ**	**0.30**	**199**	*i*P	**Pn**	**18 34 46.5**	**+0.4**
GO05				*e*S	**Sn**	**18 34 53.1**	**+0.8**
GO05				IAML		18 34 53.4	
	comp=E,40µm,0.2s						
CHPI	**Pichilemu**	**0.37**	**335**	*e*P	**Pn**	**18 34 47.1**	**+0.4**
CHPI				*e*S	**Sn**	**18 34 54.5**	**+1.1**
NICH	**Los Niches**	**0.55**	**120**	*i*P	**Pn**	**18 34 48.2**	**-0.7**
NICH				*e*S	**Sn**	**18 34 56.3**	**-0.9**
ANTU	**Antumapu**	**1.51**	**41**	*e*P	**Pn**	**18 35 02.2**	**+0.4**
ANTU				IAML		18 35 28.1	
	comp=E,13µm,0.5s						
LMEL	**Las Melosas**	**1.59**	**57**	*e*P	**Pn**	**18 35 03.6**	**+0.6**
LMEL				*e*S	**Sn**	**18 35 23.3**	**+0.8**
LMEL				IAML		18 35 27.1	
	comp=N,10µm,0.1s						
COCH	**Cobquecura**	**1.61**	**209**	*e*P	**Pn**	**18 35 03.7**	**+0.6**
COCH				*e*S	**Sn**	**18 35 27.1**	**+4.3**
COCH				IAML		18 35 31.6	
	comp=E,4µm,0.3s						
PEL	**Peldehue**	**1.83**	**31**	*e*Pn	**Pn**	**18 35 06.8**	**+0.5**
PEL				*e*Sn	**Sn**	**18 35 30.2**	**+1.9**
PEL	**Peldehue**	**1.83**	**31**	*e*P	**Pn**	**18 35 07.0**	**+0.7**
PEL				*e*S	**Sn**	**18 35 28.9**	**+0.6**
ROC1	**El Roble**	**1.87**	**21**	*e*Pn	**Pn**	**18 35 07.5**	**+0.7**
ROC1				*e*Sn	**Sn**	**18 35 30.4**	**+1.1**
ROCH	**El Roble**	**1.87**	**21**	*e*P	**Pn**	**18 35 08.0**	**+1.1**
ROCH				*e*S	**Sn**	**18 35 30.8**	**+1.3**
FCH	**Farellones**	**1.88**	**43**	*i*P	**Pn**	**18 35 07.6**	**+0.5**
FCH				*e*S	**Sn**	**18 35 31.0**	**+1.2**
FCH				IAML		18 35 34.8	
	comp=N,6µm,0.3s						
CCHI	**Chillan**	**1.89**	**186**	*e*P	**Pn**	**18 35 08.4**	**+1.5**
RFA	**San Rafael**	**2.76**	**92**	*e*P	**Pn**	**18 35 21.7**	**+2.9**
AAGR	**Agrelo**	**2.97**	**57**	*e*P	**Pn**	**18 35 24.2**	**+2.3**
AVIZ	**Vizcacheras**	**3.01**	**66**	*e*P	**Pn**	**18 35 24.6**	**+2.3**
ARCO	**CERRO ARCO**	**3.05**	**53**	*e*P	**Pn**	**18 35 24.9**	**+2.0**
ARCO				IAML		18 35 42.7	
	comp=Z,642nm,0.4s						

CANA	**Caviahue**	**3.21**	**169**	*e*P		**Pn**	**18 35 23.7**	**-1.5**
AUSP	**Uspallata**	**3.21**	**40**	*e*P		**Pn**	**18 35 26.9**	**+1.6**
AUSP				*e*S		**Sn**	**18 36 10.4**	**+7.9**
ASAL	**Salagasta**	**3.27**	**50**	*e*P		**Pn**	**18 35 28.2**	**+2.2**
RTLS	**Leoncito**	**3.60**	**37**	*e*P		**Pn**	**18 35 32.1**	**+1.5**
RTLS				*e*S		**Sn**	**18 36 19.5**	**+7.4**
RTLS				IAML			18 36 36.0	
	comp=Z,522nm,0.7s							
RTCV	**Cerro Valdivia**	**3.96**	**45**	*e*P		**Pn**	**18 35 37.3**	**+1.9**
GO04	**Tololo Observa**	**4.62**	**11**	*e*Pn		**Pn**	**18 35 44.6**	**0.0**
GO04				*e*Sn		**Sn**	**18 36 35.4**	**-1.7**
GO05	**Curarrehue**	**4.86**	**177**	*e*Pn		**Pn**	**18 35 48.5**	**+0.7**
AROD	**Rodeo**	**4.96**	**24**	*e*P		**Pn**	**18 35 50.5**	**+1.2**
ACDV	**Cuesta del Vie**	**5.08**	**27**	*e*P		**Pn**	**18 35 52.0**	**+1.1**
LCO	**Las Campanas**	**5.78**	**10**	*e*Pn		**Pn**	**18 35 59.9**	**-0.6**
LCO				*e*Sn		**Sn**	**18 37 03.2**	**-2.4**
PLCA	**Paso Flores**	**6.08**	**171**	P		**Pn**	**18 36 06.5**	**+2.1**
	comp=Z,3.6nm,0.3s,baz=5.6,slow=13,SNR=76							
PLCA				LR		LR	18 38 33.9	
	comp=Z,218nm,18.7s,baz=19,slow=39							
PLCA	**Paso Flores**	**6.08**	**171**	*e*Pn		**Pn**	**18 36 06.0**	**+1.6**
PLCA	**Paso Flores**	**6.08**	**171**	*e*P		**Pn**	**18 36 02.6**	**-1.9**
GO03	**Copiap**	**7.24**	**11**	*e*Pn		**Pn**	**18 36 19.1**	**-1.3**
GO03				*e*Sn		**Sn**	**18 37 35.7**	**-5.5**
TRQA	**Tornquist**	**8.60**	**116**	*e*Pn		**Pn**	**18 36 37.3**	**-1.6**
GO02	**Mina Guanaco**	**9.72**	**12**	*e*Pn		**Pn**	**18 36 52.8**	**-1.8**
PB10	**IPOC Station P**	**11.23**	**6**	*e*Pn		**Pn**	**18 37 15.9**	**-0.9**
CHRN	**Cochrane**	**12.53**	**182**	*e*Pn		**Pn**	**18 37 32.7**	**+0.2**
PB01	**IPOC Station P**	**13.78**	**9**	*e*Pn		**Pn**	**18 37 49.5**	**-0.5**
CPUP	**Villa Florida**	**15.01**	**60**	P		**Pn**	**18 38 07.4**	**+1.2**
	comp=Z,0.2nm,0.3s,baz=200,slow=7.3,SNR=3.7							
CPUP				LR		LR	18 44 25.7	
	comp=Z,222nm,20.6s,baz=230,slow=40							
CPUP	**Villa Florida**	**15.01**	**60**	*e*Pn		**Pn**	**18 38 03.4**	**-2.9**
PB11	**IPOC Station P**	**15.03**	**8**	*e*Pn		**Pn**	**18 38 05.6**	**-1.0**
	comp=Z,79nm,2.0s							
MNMC	**Minye Minye**	**15.66**	**8**	*e*Pn		**Pn**	**18 38 14.6**	**-0.3**
	comp=Z,26nm,0.8s							
LPAZ	**La Paz**	**18.66**	**11**	P		**Pn**	**18 38 53.6**	**+1.2**
	comp=Z,0.4nm,0.3s,baz=165,slow=8.8,SNR=11							
LPAZ	**La Paz**	**18.66**	**11**	*e*P		**Pn**	**18 38 52.6**	**+0.2**
	comp=Z,5.6nm,0.8s							
EFI	**East Falkland**	**19.63**	**154**	*e*P		**P**	**18 38 58.4**	**-3.1**
	comp=Z,109nm,1.8s							
SIV	**San Ignacio**	**21.00**	**30**	P		**P**	**18 39 15.6**	**-1.1**
	comp=Z,15nm,0.7s,baz=222,slow=9.8,SNR=71							
SIV				sP		**sP**	**18 39 33.0**	**-0.6**
	comp=Z,6.9nm,0.8s,baz=229,slow=12,SNR=4.3							
SAML	**Samuel**	**26.85**	**19**	*e*P		**P**	**18 40 12.5**	**-0.9**
	comp=Z,3.3nm,0.8s							
RPN	**Rapa Nui**	**32.92**	**273**	LR		LR	18 50 39.7	
	comp=Z,105nm,19.4s,baz=88,slow=29							
OTAV	**Otavalo**	**35.33**	**348**	*e*P		**P**	**18 41 30.9**	**+2.4**
	comp=Z,17nm,1.9s							
PTGA	**Pitinga**	**35.59**	**21**	*e*P		**P**	**18 41 29.1**	**-1.0**
	comp=Z,14nm,0.8s							
PRAC	**Prado**	**38.34**	**355**	*e*P		**P**	**18 41 55.3**	**+1.7**
	comp=Z,43nm,1.9s							
ROSC	**El Rosal**	**39.42**	**356**	*e*P		**P**	**18 42 03.2**	**+0.2**
	comp=Z,6.6nm,0.6s							
RUSC	**La Rusia**	**40.42**	**358**	*e*P		**P**	**18 42 12.4**	**+1.0**
	comp=Z,4.0nm,0.5s							
HELC	**Santa Helena**	**40.85**	**354**	*e*P		**P**	**18 42 15.6**	**+0.7**
	comp=Z,17nm,1.0s							
SDV	**Santo Domingo**	**43.39**	**2**	P		**P**	**18 42 35.1**	**-0.2**
	comp=Z,5.0nm,0.7s,baz=87,slow=3.6,SNR=5.7							
SDV	**Santo Domingo**	**43.39**	**2**	*e*P		**P**	**18 42 34.7**	**-0.6**
	comp=Z,5.5nm,0.8s							
PCRV	**Puerto La Cruz**	**45.17**	**10**	P		**P**	**18 42 49.3**	**-0.1**
	comp=Z,3.9nm,0.4s,baz=24,slow=3.6,SNR=2.7							
SNAA	**Sanae**	**50.84**	**158**	P		**P**	**18 43 32.4**	**-0.2**
	comp=Z,3.2nm,0.9s,baz=228,slow=5.4,SNR=10							
SNAA	**Sanae**	**50.84**	**158**	*e*P		**P**	**18 43 31.9**	**-0.8**
	comp=Z,6.2nm,1.1s							
QSPA	**South Pole Qui**	**55.51**	**180**	P		**P**	**18 44 08.1**	**+1.0**
	comp=Z,4.4nm,0.8s,baz=144,slow=3.0,SNR=11							
QSPA				sP		**sP**	**18 44 25.8**	**+0.1**
	comp=Z,6.7nm,0.8s,baz=191,slow=3.5,SNR=7.5							
QSPA	**South Pole Qui**	**55.51**	**180**	*e*P		**P**	**18 44 07.8**	**+0.6**
TXAR	**Lajitas Array**	**70.46**	**331**	P		**P**	**18 45 48.1**	**+1.4**
	comp=Z,0.6nm,0.5s,baz=154,slow=8.2,SNR=9.6							
TXAR				pP		**pP**	**18 46 01.1**	**+0.9**
	comp=Z,0.8nm,0.5s,baz=158,slow=8.6,SNR=10							
TX31	**Lajitas Ar. Si**	**70.46**	**331**	*e*P		**P**	**18 45 47.7**	**+1.0**
CPCT	**Cooper Cave**	**70.82**	**349**	*e*P		**P**	**18 45 48.4**	**-0.2**
SWET	**Sewanee**	**70.82**	**348**	*e*P		**P**	**18 45 48.6**	**-0.1**
PLAL	**Pickwick Lake**	**71.00**	**346**	*e*P		**P**	**18 45 49.8**	**+0.1**
	comp=Z,4.6nm,0.5s							
MET	**Memphis--Engin**	**71.52**	**344**	*e*P		**P**	**18 45 54.5**	**+1.7**
	comp=Z,198nm,0.5s							
BBTS	**Babate**	**71.85**	**57**	LR		LR	19 17 29.2	
	comp=Z,74nm,19.0s,baz=251,slow=36							
WVT	**Waverly**	**72.06**	**346**	*e*P		**P**	**18 45 56.1**	**0.0**
	comp=Z,16nm,0.8s							
MAW	**Mawson**	**72.43**	**163**	P		**P**	**18 45 58.1**	**+0.1**
	comp=Z,5.4nm,0.8s,baz=320,slow=7.9,SNR=2.5							
MAW				LR		LR	19 19 41.1	
	comp=Z,43nm,19.6s,baz=238,slow=37							
MAW	**Mawson**	**72.43**	**163**	*e*P		**P**	**18 45 57.9**	**-0.1**
	comp=Z,26nm,2.0s							
W39A	**Magazine**	**72.53**	**341**	*e*P		**P**	**18 45 59.7**	**+0.8**
	comp=Z,7.1nm,0.8s							
WMOK	**Wichita Mounta**	**73.57**	**337**	*e*P		**P**	**18 46 07.0**	**+1.9**
	comp=Z,7.2nm,0.8s							
HHAR	**Hoos**	**73.59**	**342**	*e*P		**P**	**18 46 05.7**	**+0.5**
SUR	**Sutherland**	**74.32**	**119**	*e*P		**P**	**18 46 10.5**	**+0.4**
	comp=Z,95nm,1.9s							
CCM	**Cathedral Cave**	**74.63**	**344**	*e*P		**P**	**18 46 11.4**	**+0.2**
	comp=Z,8.8nm,0.8s							
DBIC	**Dimbokro**	**75.24**	**71**	P		**P**	**18 46 14.6**	**-0.7**
	comp=Z,5.9nm,0.6s,baz=210,slow=5.6,SNR=11							
DBIC				pP		**pP**	**18 46 29.4**	**+0.5**
	comp=Z,2.2nm,0.6s,baz=216,slow=5.9,SNR=2.2							
DBIC	**Dimbokro**	**75.24**	**71**	*e*P		**P**	**18 46 14.2**	**-1.0**
	comp=Z,7.0nm,0.7s							
BOSA	**Boshof**	**79.57**	**117**	P		**P**	**18 46 39.0**	**-0.5**
	comp=Z,5.8nm,0.6s,baz=234,slow=4.5,SNR=18							
BOSA				pP		**pP**	**18 46 53.6**	**+0.4**
	comp=Z,1.9nm,0.5s,baz=320,slow=5.2,SNR=2.4							
KOWA	**Kowa**	**80.77**	**65**	P		**P**	**18 46 45.5**	**-0.3**
	comp=Z,6.9nm,0.5s,baz=234,slow=5.6,SNR=22							
KOWA				pP		**pP**	**18 46 60.0**	**+0.3**
	comp=Z,2.4nm,0.7s,baz=246,slow=12,SNR=2.5							
KOWA	**Kowa**	**80.77**	**65**	*e*P		**P**	**18 46 45.1**	**-0.8**
	comp=Z,7.8nm,0.6s							
TOA0	**Torodi Ar. Sit**	**84.28**	**70**	*e*P		**P**	**18 47 03.3**	**-0.9**
TORD	**Torodi Ar. Bea**	**84.28**	**70**	P		**P**	**18 47 03.7**	**-0.5**
	comp=Z,4.7nm,0.8s,baz=252,slow=4.0,SNR=26							
TORD				pP		**pP**	**18 47 17.6**	**-0.5**
	comp=Z,1.5nm,0.9s,baz=233,slow=3.6,SNR=4.1							
TORD				sP		**sP**	**18 47 22.9**	**-0.3**
	comp=Z,1.1nm,0.6s,baz=292,slow=6.2,SNR=3.4							
TOA1	**Torodi Ar. Sit**	**84.28**	**70**	*e*P		**P**	**18 47 03.7**	**-0.5**
TOA1				*es*P		**sP**	**18 47 22.9**	**-0.3**
PD31	**Pinedale Array**	**84.49**	**333**	*e*P		**P**	**18 47 06.2**	**+1.3**
PDAR	**Pinedale Array**	**84.49**	**333**	P		**P**	**18 47 07.0**	**+2.1**
	comp=Z,0.3nm,0.6s,baz=88,slow=3.4,SNR=3.9							
PDAR				pP		**pP**	**18 47 20.2**	**+1.4**
	comp=Z,0.7nm,0.8s,baz=165,slow=6.2,SNR=3.6							
NV01	**Mina Array St**	**84.58**	**325**	*e*P		**P**	**18 47 07.6**	**+2.1**
NVAR	**Mina Array Bea**	**84.58**	**325**	P		**P**	**18 47 07.0**	**+1.5**
	comp=Z,0.7nm,0.8s,baz=164,slow=5.1,SNR=5.0							
NVAR				pP		**pP**	**18 47 20.4**	**+1.1**
	comp=Z,0.9nm,0.9s,baz=165,slow=5.6,SNR=4.3							
ULM	**Lac du Bonnet**	**87.25**	**345**	P		**P**	**18 47 18.0**	**-0.1**
	comp=Z,2.0nm,0.8s,baz=181,slow=4.1,SNR=3.0							
ASAR	**Alice Springs**	**117.00**	**207**	PKP		**PKPdf**	**18 53 16.1**	**-1.1**
	comp=Z,0.4nm,0.9s,baz=130,slow=1.5,SNR=2.8							
WR1	**Warramunga Arr**	**120.22**	**209**	*e*PKPdf		**PKPdf**	**18 53 22.3**	**-1.2**
WR1				*ep*PKPdf		**pPKPdf**	**18 53 36.9**	**-1.0**
WRA	**Warramunga Arr**	**120.22**	**209**	PKP		**PKPdf**	**18 53 22.3**	**-1.2**
	comp=Z,0.3nm,0.4s,baz=166,slow=1.7,SNR=4.8							
WRA				pPKP		**pPKPdf**	**18 53 36.9**	**-1.0**
	comp=Z,0.2nm,0.4s,baz=156,slow=1.7,SNR=2.7							
BR101	**Keskin Array S**	**122.02**	**61**	*e*PKPdf		**PKPdf**	**18 53 24.4**	**-1.9**
BRTR	**Keskin Array B**	**122.02**	**61**	PKP		**PKPdf**	**18 53 24.5**	**-1.9**
	comp=Z,0.4nm,0.7s,baz=241,slow=3.0,SNR=3.3							
H11S2	**WAKE ISLAND Hyl**	**25.94**	**268**	T		T	21 12 10.1	
	baz=122							
H11S1	**WAKE ISLAND Hyl**	**25.96**	**269**	T		T	21 12 10.3	
	baz=122							
H11S3	**WAKE ISLAND Hyl**	**25.96**	**268**	T		T	21 12 10.7	
	baz=122							
H11N3	**WAKE ISLAND Hyl**	**26.37**	**270**	T		T	21 12 32.5	
	baz=115,slow=78,SNR=5.4							
H11N1	**WAKE ISLAND Hyl**	**26.39**	**270**	T		T	21 12 35.9	
	baz=115,slow=78,SNR=16							
H11N2	**WAKE ISLAND Hyl**	**26.39**	**270**	T		T	21 12 35.2	
	baz=115,slow=78,SNR=8.5							
ABKAR	**Akbulak array**	**141.98**	**53**	*e*PKPpre		PKPpre	18 53 57.3	
GSI	**Gunungsitoli**	**145.31**	**161**	*e*PKPbc		**PKPdf**	**18 54 10.5**	**+0.2**
BRVK	**Borovoye**	**147.61**	**44**	*e*PKPbc		**PKPbc**	**18 54 15.6**	**-0.1**
BVAR	**Borovoye Array**	**147.68**	**44**	PKPbc		**PKPbc**	**18 54 15.8**	**-0.1**
	comp=Z,2.2nm,0.6s,baz=298,slow=3.1,SNR=20							
BVAR				pPKPbc		**pPKPbc**	**18 54 30.4**	**+0.2**
	comp=Z,2.3nm,0.7s,baz=287,slow=2.5,SNR=8.5							
YAK	**Yakutsk**	**149.47**	**340**	*e*PKPbc		**PKPbc**	**18 54 19.9**	**-0.3**
YAK				*e*PKPab		**PKPab**	**18 54 26.1**	**+0.8**
NIL	**Nilore**	**151.16**	**82**	*e*PKPbc		**PKPbc**	**18 54 24.7**	**-0.5**
AAK	**Ala-Archa**	**152.67**	**63**	*e*PKPbc		**PKPbc**	**18 54 28.4**	**-0.2**
KURBB	**Kurchatov Arra**	**153.26**	**44**	PKPbc		**PKPbc**	**18 54 29.3**	**0.0**
	comp=Z,1.5nm,0.7s,baz=296,slow=2.9,SNR=18							
KURBB				pPKPbc		**pPKPbc**	**18 54 44.1**	**+0.4**
	comp=Z,0.8nm,0.5s,baz=302,slow=2.9,SNR=5.5							
KURK	**Kurchatov**	**153.27**	**44**	*e*PKPbc		**PKPbc**	**18 54 29.3**	**0.0**
KURK				*e*PKPab		**pPKPbc**	**18 54 44.1**	**+0.4**
ZAA1	**Zalesovo Array**	**154.73**	**33**	*e*PKPbc		**PKPbc**	**18 54 32.2**	**-0.1**
ZALV	**Zalesovo Beam**	**154.73**	**33**	PKPbc		**PKPbc**	**18 54 32.2**	**-0.1**
	comp=Z,0.6nm,0.5s,baz=318,slow=4.0,SNR=4.1							
MK32	**Makanchi Array**	**157.09**	**50**	*e*PKPab		**PKPab**	**18 54 57.2**	**-0.8**
MK32				*ep*PKPab		**pPKPab**	**18 55 11.8**	**-0.1**
MKAR	**Makanchi Array**	**157.09**	**50**	PKPab		**PKPab**	**18 54 57.2**	**-0.8**
	comp=Z,0.9nm,0.8s,baz=261,slow=4.7,SNR=7.9							
MKAR				pPKPab		**pPKPab**	**18 55 11.8**	**-0.2**
	comp=Z,0.6nm,0.8s,baz=287,slow=6.2,SNR=3.0							
SONA0	**Songino Array**	**166.83**	**5**	*e*PKPab		**PKPab**	**18 55 41.0**	**+0.5**
SONM	**Songino Array**	**166.83**	**5**	PKPab		**PKPab**	**18 55 41.1**	**+0.5**
	comp=Z,0.5nm,0.7s,baz=328,slow=2.2,SNR=3.1							

*IDC **27** 18:36:17.7±1.0,24.2°23S×175.2°82W,h0km,mb4.2/11, mb1 4.3/11,mb1mx4.1/42,mbtmp4.2/11,MS3.7/8, Ms1 3.7/8,ms1mx3.2/48,Error ell

VANB	**Van**	**0.17**	**152**	PG	**Pb**	**18 36 45.5**	**0.0**		
VANB				SG	**Sb**	**18 36 50.3**	**+0.5**		
VANB	**Van**	**0.17**	**152**	*e*Pg	**Pb**	**18 36 45.5**	**0.0**		
VANB				*e*Sg	**Sb**	**18 36 50.3**	**+0.5**		
TVAN	**Van**	**0.24**	**157**	*i* P	**Pb**	**18 36 45.8**	**-0.6**		
TVAN				*i* S	**Sb**	**18 36 50.7**	**-0.4**		
TVAN	**Van**	**0.24**	**157**	P	**Pb**	**18 36 45.8**	**-0.6**		
TVAN				S	**Sb**	**18 36 50.7**	**-0.4**		
VMUR	**Van-Muradiye**	**0.33**	**43**	*i* P	**Pb**	**18 36 46.8**	**-0.6**		
VMUR				*i* S	**Sb**	**18 36 53.4**	**+0.4**		
VMUR	**Van-Muradiye**	**0.33**	**43**	P	**Pb**	**18 36 46.8**	**-0.6**		
VMUR				S	**Sb**	**18 36 53.3**	**+0.4**		
ADCV	**BITLIS_Adilcev**	**0.44**	**278**	*i* P	**Pb**	**18 36 48.6**	**-0.4**		
ADCV				*i* S	**Sb**	**18 36 55.2**	**-0.5**		
ADCV	**BITLIS_Adilcev**	**0.44**	**278**	P	**Pb**	**18 36 48.6**	**-0.4**		
ADCV				S	**Sb**	**18 36 55.2**	**-0.5**		
GEVA	**Gevas**	**0.47**	**202**	*i* P	**Pb**	**18 36 48.8**	**-0.6**		
GEVA	**Gevas**	**0.47**	**202**	P	**Pb**	**18 36 48.8**	**-0.6**		
CLDR	**Caldiran**	**0.63**	**51**	PG	**Pb**	**18 36 51.1**	**-0.9**		
CLDR	**Caldiran**	**0.63**	**51**	*i* P	**Pb**	**18 36 51.4**	**-0.6**		
CLDR	**Caldiran**	**0.63**	**51**	*e*Pg	**Pb**	**18 36 51.1**	**-0.9**		
CLDR	**Caldiran**	**0.63**	**51**	P	**Pb**	**18 36 51.4**	**-0.6**		
TUTA	**Tutak**	**0.75**	**331**	*i* P	**Pb**	**18 36 53.5**	**-0.5**		
AGRB	**Hanur-Agry**	**0.86**	**345**	PG	**Pb**	**18 36 55.3**	**-0.5**		
AGRB				SG	**Sn**	**18 37 07.6**	**+0.8**		
AGRB	**Hanur-Agry**	**0.86**	**345**	*e*Pg	**Pb**	**18 36 55.3**	**-0.5**		
AGRB				*e*Sg	**Sn**	**18 37 07.6**	**+0.8**		
GURO	**Guroymak-BITLI**	**1.00**	**259**	PG	**Pb**	**18 36 57.5**	**-0.6**		
GURO				SG	**Sn**	**18 37 11.3**	**+1.0**		
GURO	**Guroymak-BITLI**	**1.00**	**259**	*e*Pg	**Pb**	**18 36 57.5**	**-0.6**		
GURO				*e*Sg	**Sn**	**18 37 11.3**	**+1.0**		

ISK ***27*** *18:42:35.2, 36˚.90N×28˚.97E, h5km, ML2.5/5*
ISCJB ***27*** *18:42:36.2±0.6, 36˚.89N±0˚.03×28˚.96E±0˚.06, h0km, Error ellipse: s-maj=6.5km s-min=4.7km az=173.1*
DDA ***27*** *18:42:36.5, 36˚.89N×28˚.96E, h7km, Ml2.3, Suspected Mining explosion.*
CSEM ***27*** *18:42:36.3±0.2, 36˚.90N×28˚.98E, h1km, ML2.5, Error ellipse: s-maj=6.2km s-min=4.6km az=75.0, Suspected Mining explosion.*

ISC 27 18:42:36.4±0.8, 36˚.93N±0˚.03×29˚.01E±0˚.03, h0km, n26, σ1°35/35, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
FETY	**Fethiye**	**0.30**	**169**	PG		**Pg**		**18 42 41.3**	**-0.8**
FETY				SG		**Sg**		**18 42 46.9**	**+1.0**
FETY	**Fethiye**	**0.30**	**169**	P		**Pg**		**18 42 41.0**	**-1.1**
FETY	**Fethiye**	**0.30**	**169**	*e*Pg		**Pg**		**18 42 41.3**	**-0.8**
FETY				*e*Sg		**Sg**		**18 42 46.9**	**+1.0**
FETY				S		**Sb**		**18 42 47.2**	**-2.9**
TURN	**Turunc**	**0.33**	**261**	PG		**Pn**		**18 42 47.9**	**-0.6**
TURN				SG		**Sb**		**18 42 56.9**	**+5.9**
TURN	**Turunc**	**0.33**	**261**	*i* P		**Pn**		**18 42 47.8**	**-0.7**
TURN	**Turunc**	**0.33**	**261**	P		**Pn**		**18 42 47.8**	**-0.7**
GOLH	**Golhisar**	**0.54**	**55**	*i* P		**Pg**		**18 42 46.8**	**+0.1**
GOLH				*i* S		**Sb**		**18 42 57.1**	**+0.1**
GOLH	**Golhisar**	**0.54**	**55**	P		**Pg**		**18 42 46.8**	**+0.1**
GOLH				S		**Sb**		**18 42 57.2**	**+0.1**
TAVA	**DENIZLI_Tavas**	**0.54**	**352**	*i* P		**Pb**		**18 42 48.0**	**-0.8**
TAVA				*i* S		**Sb**		**18 42 56.1**	**-1.2**
TAVA	**DENIZLI_Tavas**	**0.54**	**352**	P		**Pb**		**18 42 48.0**	**-0.8**
TAVA				S		**Sb**		**18 42 56.1**	**-1.2**
ELL	**Elmali**	**0.74**	**104**	PG		**Pg**		**18 42 51.2**	**+0.6**
ELL	**Elmali**	**0.74**	**104**	*e*Pg		**Pg**		**18 42 51.2**	**+0.6**
AKAS	**Kas**	**0.84**	**145**	PG		**Pg**		**18 42 52.7**	**+0.2**
AKAS	**Kas**	**0.84**	**145**	*i* P		**Pg**		**18 42 53.4**	**+0.9**
AKAS				*i* S		**Sn**		**18 43 09.7**	**+0.9**
AKAS	**Kas**	**0.84**	**145**	*e*Pg		**Pg**		**18 42 52.7**	**+0.2**
AKAS	**Kas**	**0.84**	**145**	P		**Pg**		**18 42 53.4**	**+0.9**
KORT	**Korkueli**	**1.07**	**86**	PN		**Pb**		**18 42 57.7**	**-0.2**
KORT	**Korkueli**	**1.07**	**86**	*e*Pn		**Pb**		**18 42 57.7**	**-0.2**
AYDB	**Zeytinkoy-Aydi**	**1.35**	**319**	PN		**Pn**		**18 43 02.5**	**-0.1**
AYDB	**Zeytinkoy-Aydi**	**1.35**	**319**	*e*Pn		**Pn**		**18 43 02.5**	**-0.1**
BODT	**Bodrum**	**1.37**	**276**	PN		**Pb**		**18 43 02.0**	**-0.9**
BODT	**Bodrum**	**1.37**	**276**	*e*Pn		**Pb**		**18 43 02.0**	**-0.9**
SUTC	**Sutluce-Ispart**	**1.68**	**70**	PN		**Pn**		**18 43 07.1**	**0.0**
SUTC	**Sutluce-Ispart**	**1.68**	**70**	*e*Pn		**Pn**		**18 43 07.1**	**0.0**
KARP	**Karpathos**	**2.03**	**228**	PN		**Pn**		**18 43 11.3**	**-0.6**
KARP	**Karpathos**	**2.03**	**228**	*e*Pn		**Pn**		**18 43 11.3**	**-0.6**

MAN 27 18:53:04, 9˚.88N×122˚.94E, h37km, mb4.5, ML3.3, MS3.1, 1D, Negros

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SNPH	**Sibulan**	**0.60**	**151**	*i* P			Pn	18 53 17.8	+1.5
SNPH				*i* S			Sn	18 53 27.1	+2.3
GUIM	**Jordan**	**0.82**	**335**	*e*P			Pn	18 53 20.1	+1.0
GUIM				*e*S			Sn	18 53 31.9	+1.8
TBP	**Tagbilaran**	**0.93**	**101**	*e*P			Pn	18 53 19.3	-1.2
MSLP	**Maasin**	**1.91**	**82**	*e*P			Pn	18 53 34.9	+1.0
MSLP				*e*S			Sn	18 53 58.2	+1.5

IDC 27 19:03:32.5±44.0, 15˚.64S×171˚.98W, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.6/54, mbtmp3.9/3, Error ellipse: s-maj=860.7km s-min=184.6km az=79.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**45.11**	**240**	P		P		19 11 50.6	-0.2
	1.4nm,0.8s,baz=77,slow=6.8,SNR=4.9								
WRA	**Warramunga Arr**	**51.12**	**257**	P		P		19 12 37.2	-0.3
	0.3nm,0.4s,baz=93,slow=6.9,SNR=12								
ASAR	**Alice Springs**	**51.34**	**252**	P		P		19 12 39.4	+0.1
	2.3nm,0.4s,baz=89,slow=8.2,SNR=70								

ISCJB ***27*** *19:22:20.1±0.2, 5˚.35S±0˚.04×152˚.09E±0˚.04, h45km, mb4.8/95, MS3.6/26, Error ellipse: s-maj=7.3km s-min=4.5km az=41.6*
BJI ***27*** *19:22:21.5, 5˚.70S×151˚.79E, h61km, mb4.6/25, mB4.9/16, Ms4.6/6, Ms7 4.4/4*
NEIC ***27*** *19:22:22.3±0.6, 5˚.35S×152˚.09E, h52km±5km, mb4.9/73, Error ellipse: s-maj=4.9km s-min=3.5km az=136.0*
IDC ***27*** *19:22:23.4±2.6, 5˚.36S×152˚.10E, h60km±23km, mb4.1/21, mb1 4.2/23, mb1mx4.0/54, mbtmp4.4/23, ML2.7/1, MS3.6/26, Ms1 3.6/26, ms1mx3.4/48, Error ellipse: s-maj=15.7km s-min=13.4km az=89.0*

ISC 27 19:22:22.2±0.4, 5˚.36S±0˚.05×152˚.14E±0˚.06, h45km, n157, σ1°29/151, mb4.9/94, MS3.7/27, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.16**	**1**	*e*Pn			**Pn**	**19 22 40.9**	**-1.1**
RABL				*e*Sn			**Sn**	**19 22 59.9**	**+3.1**
MANU	**Manus Island**	**5.79**	**304**	*e*Pn			**Pn**	**19 23 50.1**	**+4.5**
PMG	**Port Moresby**	**6.37**	**231**	P			**Pn**	**19 23 54.8**	**+1.3**
	11nm,0.3s,baz=83,slow=6.3,SNR=30								
PMG				S			**Sn**	**19 25 07.5**	**+2.5**
	44nm,0.3s,baz=105,slow=22,SNR=12								
PMG				LR		LR		19 25 32.7	
	comp=Z,71nm,20.2s,baz=26,slow=30								
PMG	**Port Moresby**	**6.37**	**231**	*e*Pn			**Pn**	**19 23 54.4**	**+0.8**
PMG				*e*				19 25 01.3	
PMG				*e*Sn			**Sn**	**19 25 07.5**	**+2.5**
PMG				*e*				19 25 32.7	
HNR	**Honiara**	**8.73**	**118**	P			**Pn**	**19 24 28.1**	**+2.1**
	baz=187,slow=6.7,SNR=3.6								
COEN	**Coen**	**12.29**	**225**	*e*Pn			**Pn**	**19 25 13.7**	**-1.0**
PATS	**Pohnpei**	**13.59**	**27**	*e*Pn			**Pn**	**19 25 36.3**	**+3.9**
CTA	**Charters Tower**	**15.72**	**201**	P			**P**	**19 26 04.5**	**+0.5**
	0.2nm,0.3s,baz=46,slow=17,SNR=7.8								
CTAO	**Charters Tower**	**15.72**	**201**	*e*Pn			**P**	**19 26 04.8**	**+0.8**
	10nm,0.8s								
EIDS	**Eidsvold**	**19.92**	**183**	*e*P			**P**	**19 26 50.5**	**+0.3**
	70nm,1.6s								
GUMO	**Guam**	**20.16**	**339**	LR		LR		19 35 02.9	
	comp=Z,53nm,18.2s,baz=164,slow=38								
SAUI	**Saumlaki**	**20.86**	**262**	*e*P			**P**	**19 27 01.0**	**+0.5**
	296nm,0.8s								
DZM	**Mont Dzumac**	**21.62**	**142**	P			**P**	**19 27 08.2**	**-0.5**
	7.6nm,0.8s,baz=302,slow=19,SNR=9.2								
DZM				LR		LR		19 34 39.7	
	comp=Z,257nm,19.7s,baz=302,slow=34								
DZM	**Mont Dzumac**	**21.62**	**142**	*e*P			**P**	**19 27 13.2**	**+4.5**
	43nm,1.1s								
DZM				*e*LR		LR		19 32 27.1	
	361nm,25.8s								
DZM	**Mont Dzumac**	**21.62**	**142**	*e*P			**P**	**19 27 06.5**	**-2.2**
	30nm,1.3s								
MTN	**Manton Dam**	**22.02**	**249**	*e*P			**P**	**19 27 13.2**	**+0.2**
	106nm,1.5s								
WRAB	**Tennant Creek**	**22.57**	**228**	*e*P			**P**	**19 27 17.9**	**-0.9**
	70nm,1.6s								
WB2	**Warramunga Arr**	**22.57**	**228**	*e*P			**P**	**19 27 17.3**	**-1.6**
WR1	**Warramunga Arr**	**22.58**	**228**	*e*P			**P**	**19 27 17.3**	**-1.7**
	64nm,1.4s								
WR1				*e*PcP			**PcP**	**19 31 10.8**	**-0.5**
WRA	**Warramunga Arr**	**22.58**	**228**	P			**P**	**19 27 17.3**	**-1.7**
	14nm,0.8s,baz=53,slow=9.9,SNR=88								
WRA				PcP			**PcP**	**19 31 10.8**	**-0.5**
	2.6nm,0.8s,baz=46,slow=1.8,SNR=7.5								
AS01	**Alice Springs**	**25.26**	**222**	*e*P			**P**	**19 27 42.8**	**-1.6**
AS31	**Alice Springs**	**25.30**	**222**	*e*P			**P**	**19 27 44.7**	**0.0**
	7.1nm,0.9s								
ASAR	**Alice Springs**	**25.30**	**222**	P			**P**	**19 27 43.8**	**-0.9**
	3.5nm,0.6s,baz=56,slow=8.9,SNR=33								
ASAR				PcP			**PcP**	**19 31 16.8**	**-0.3**
	1.4nm,0.9s,baz=86,slow=1.3,SNR=4.5								
ASAR				LR		LR		19 39 16.8	
	comp=Z,100nm,18.6s,baz=70,slow=40								
SOEI	**Soe**	**27.97**	**259**	*e*P			**P**	**19 28 08.2**	**-0.8**
	160nm,1.7s								
STKA	**Stephens Creek**	**28.17**	**199**	P			**P**	**19 28 10.6**	**+0.2**
	1.0nm,0.5s,baz=19,slow=9.9,SNR=4.9								
STKA				LR		LR		19 38 50.2	
	comp=Z,154nm,19.7s,baz=24,slow=35								
STKA	**Stephens Creek**	**28.17**	**199**	*e*P			**P**	**19 28 10.6**	**+0.2**
	6.5nm,1.9s								
BATI	**Baumata**	**28.61**	**259**	P			**P**	**19 28 14.2**	**-0.4**
	23nm,0.7s,baz=130,slow=1.5,SNR=7.9								
BATI				LR		LR		19 41 24.0	
	comp=Z,358nm,20.2s,baz=92,slow=40								
DAV	**Davao City (W)**	**29.24**	**295**	LR		LR		19 39 22.1	
	comp=Z,185nm,18.4s,baz=112,slow=35								
FORT	**Forrest**	**33.94**	**219**	*e*P			**P**	**19 28 59.5**	**-1.8**
	232nm,0.8s								
TGY	**Tagaytay City**	**36.50**	**302**	LR		LR		19 41 39.2	
	comp=Z,87nm,21.6s,baz=178,slow=32								
JOW	**Kunigami**	**39.47**	**325**	P			**P**	**19 29 46.9**	**-1.4**
	8.4nm,1.1s,baz=56,slow=18,SNR=2.3								
JOW				LR		LR		19 42 51.4	
	comp=Z,103nm,21.6s,baz=144,slow=31								
JOW	**Kunigami**	**39.47**	**325**	*e*P			**P**	**19 29 47.0**	**-1.4**
	40nm,1.6s								
JHJ	**Hachijo jima 2**	**40.02**	**344**	LR		LR		19 43 23.2	
	comp=Z,68nm,21.1s,baz=131,slow=32								
NWAO	**Narrogin (SRO)**	**42.53**	**225**	LR		LR		19 49 16.3	
	comp=Z,123nm,18.3s,baz=290,slow=38								
JNU	**Nakatsue**	**43.26**	**334**	P			**P**	**19 30 18.5**	**-0.9**
	3.1nm,0.8s,baz=97,slow=9.0,SNR=4.7								
JNU				LR		LR		19 46 48.9	
	comp=Z,48nm,19.4s,baz=184,slow=34								
JNU	**Nakatsue**	**43.26**	**334**	*e*P			**P**	**19 30 18.3**	**-1.1**
	7.6nm,1.0s								
MJAR	**Matsushiro Arr**	**43.67**	**344**	LR		LR		19 46 47.4	
	comp=Z,43nm,21.6s,baz=180,slow=34								
LEM	**Lembang**	**44.28**	**266**	LR		LR		19 51 08.0	
	comp=Z,35nm,21.4s,baz=58,slow=39								
KSRS	**Korea Array**	**48.21**	**334**	LR		LR		19 49 50.7	
	comp=Z,37nm,19.9s,baz=170,slow=34								
NJ2	**Nanjing**	**48.87**	**322**	*e*P			**P**	**19 31 04.0**	**+0.5**
NJ2				pmax		pmax			
	comp=Z,6.0nm,0.5s								
KLR	**Kul'dur**	**57.20**	**344**	P			**P**	**19 32 04.9**	**+0.3**
	0.1nm,0.7s,baz=291,slow=1.4,SNR=5.6								
PUH	**Pauahi**	**57.33**	**63**	*e*P			**P**	**19 32 06.2**	**0.0**
	156nm,1.1s								
CM01	**Chiang Mai Arr**	**57.50**	**296**	*e*P			**P**	**19 32 06.9**	**-0.4**
CM31	**Chiang Mai Arr**	**57.52**	**296**	*e*P			**P**	**19 32 07.0**	**-0.4**
CMAR	**Chiang Mai Arr**	**57.52**	**296**	P			**P**	**19 32 07.5**	**0.0**
	2.4nm,1.0s,baz=114,slow=5.5,SNR=12								
CHTO	**Chiang Mai**	**57.64**	**296**	*e*P			**P**	**19 32 07.6**	**-0.7**
	7.5nm,1.2s								
PPT2	**Papeete2**	**58.19**	**107**	*e*LR		LR		19 49 29.0	
	46nm,22.5s								
PETK	**Petropavlovsk-**	**58.44**	**4**	LR		LR		19 53 25.1	
	comp=Z,48nm,21.4s,baz=198,slow=32								
PEA1	**Petropavlovsk-**	**58.44**	**4**	*e*PKKPdf		PKKPdf		19 53 25.1	-10
CD2	**Chengdu**	**58.60**	**311**	*e*P			**P**	**19 32 14.3**	**-0.6**
CD2				pmax		pmax			
	comp=Z,10.0nm,0.5s								
HHC	**Hu-ho-hao-te**	**59.12**	**325**	*e*P			**P**	**19 32 20.0**	**+1.6**
HHC				S			**S**	**19 40 22.0**	**-0.6**
HHC				pmax		pmax			
	comp=Z,11nm,1.2s								
HHC				pmax		pmax			
	comp=Z,99nm,5.8s								
HHC				LR		LR			
	comp=Z,540nm,15.2s								
LZH	**Lanzhou**	**61.17**	**316**	*e*P			**P**	**19 32 33.0**	**+0.4**
LZH				pP		pP		19 32 47.5	+2.0
LZH				sP		sP		19 32 55.0	+4.4
LZH				pmax		pmax			
	comp=Z,23nm,1.0s								
GTA	**Gaotai**	**65.62**	**318**	*e*P			**P**	**19 33 01.8**	**-0.1**
GTA				pmax		pmax			
	comp=Z,3.0nm,0.9s								
SHL	**Shillong**	**66.03**	**301**	*e*P			**P**	**19 33 02.8**	**-2.1**
	15nm,1.0s								
ULN	**Ulaanbaatar**	**66.12**	**329**	*e*P			**P**	**19 33 03.9**	**-1.1**
	2.4nm,0.9s								
SONA0	**Songino Array**	**66.45**	**328**	*e*P			**P**	**19 33 06.7**	**-0.4**
SONA0				*e*P'P'df		P'P'df		20 01 18.7	-20
SONM	**Songino Array**	**66.45**	**328**	P			**P**	**19 33 06.7**	**-0.4**
	1.7nm,0.8s,baz=139,slow=5.1,SNR=11								
SONM				LR		LR		20 01 18.7	
	comp=Z,43nm,20.0s,baz=106,slow=35								
SONA1	**Songino Array**	**66.45**	**328**	*e*P			**P**	**19 33 06.1**	**-1.0**
LSA	**Lhasa**	**68.01**	**305**	*e*P			**P**	**19 33 16.6**	**-1.1**
	5.1nm,0.7s								
YAK	**Yakutsk**	**69.39**	**349**	P			**P**	**19 33 26.4**	**+1.3**
	4.0nm,0.4s,baz=329,slow=2.5,SNR=3.2								
YAK	**Yakutsk**	**69.39**	**349**	*e*P			**P**	**19 33 25.0**	**0.0**
	6.0nm,0.5s								
VNDA	**Vanda**	**72.30**	**178**	P			**P**	**19 33 42.5**	**0.0**
	1.2nm,1.0s,baz=4.0,slow=7.9,SNR=2.3								
VNDA	**Vanda**	**72.30**	**178**	*e*P			**P**	**19 33 42.2**	**-0.4**
GAMB	**Gambell**	**74.10**	**16**	*e*P			**P**	**19 33 52.8**	**-0.5**
	5.4nm,1.0s								
WMQ	**Urumqi**	**75.71**	**318**	P			**P**	**19 34 04.0**	**+0.8**
WMQ				pP		sP		19 34 20.3	-1.2
WMQ				pmax		pmax			
	comp=Z,18nm,0.6s								
WMQ				pmax		pmax			
	comp=Z,140nm,4.3s								
WMQ				LR		LR			
	comp=N,96nm,19.5s								
OHAK	**Old Harbor**	**76.34**	**27**	*e*P			**P**	**19 34 05.6**	**-0.7**
	9.2nm,0.7s								
PTCN	**Pitcairn Islan**	**76.67**	**114**	*e*P			**P**	**19 34 08.6**	**-0.4**
	3.6nm,1.9s								
KDAK	**Kodiak Island**	**76.97**	**27**	*e*P			**P**	**19 34 10.1**	**+0.2**
	21nm,1.3s								
SVW2	**Sparrevohn**	**77.59**	**23**	*e*P			**P**	**19 34 13.4**	**0.0**
	8.9nm,0.8s								
TIXI	**Tiksi**	**78.36**	**353**	P			**P**	**19 34 16.8**	**-0.6**
	0.4nm,0.5s,baz=146,slow=8.2,SNR=5.9								
BRLK	**Bradley Lake**	**78.78**	**26**	*e*P			**P**	**19 34 19.4**	**-0.6**
	15nm,0.7s								
SPU	**Mount Spurr**	**79.05**	**24**	*e*P			**P**	**19 34 20.8**	**-0.7**
SKT	**Skwentna**	**79.69**	**24**	*e*P			**P**	**19 34 23.1**	**-1.8**
	4.6nm,1.0s								
SUA	**Susitna One**	**79.73**	**24**	*e*P			**P**	**19 34 24.1**	**-1.1**
	16nm,0.8s								
RC01	**Rabbit Creek A**	**79.95**	**25**	*e*P			**P**	**19 34 25.2**	**-1.1**
	26nm,1.1s								
CAST	**Castle Rocks**	**80.27**	**22**	*e*P			**P**	**19 34 27.0**	**-1.0**
	13nm,0.8s								
MK01	**Makanchi Array**	**80.30**	**319**	*e*P			**P**	**19 34 27.2**	**-1.3**
MK31	**Makanchi Array**	**80.31**	**319**	*e*P			**P**	**19 34 27.7**	**-0.9**
MK32	**Makanchi Array**	**80.31**	**319**	*e*P			**P**	**19 34 27.7**	**-0.9**
MKAR	**Makanchi Array**	**80.31**	**319**	P			**P**	**19 34 27.7**	**-0.9**
	2.2nm,0.9s,baz=113,slow=5.3,SNR=19								
MKAR	**Makanchi Array**	**80.31**	**319**	*e*P			**P**	**19 34 27.5**	**-1.1**
	12nm,0.9s								
PMR	**Palmer**	**80.46**	**24**	*e*P			**P**	**19 34 28.1**	**-0.9**
	13nm,1.0s								
MAKZ	**Makanchi**	**80.52**	**319**	*e*P			**P**	**19 34 28.5**	**-1.2**
	4.4nm,1.1s								
GHO	**Glory Hole Cre**	**80.64**	**24**	*e*P			**P**	**19 34 29.8**	**-0.3**
	12nm,0.8s								
KTH	**Kantishna Hill**	**80.78**	**22**	*e*P			**P**	**19 34 28.9**	**-1.9**
	14nm,1.0s								
SML	**Sawmill**	**80.90**	**24**	*e*P			**P**	**19 34 30.7**	**-0.7**
	29nm,0.7s								
TRF	**Thorofare Moun**	**80.97**	**23**	*e*P			**P**	**19 34 30.6**	**-1.3**
	8.2nm,0.9s								
BPAW	**Bear Paw Mtn.**	**81.05**	**22**	*e*P			**P**	**19 34 30.8**	**-1.4**
	8.0nm,1.0s								
IM3	**Indian Mountai**	**81.13**	**20**	*e*P			**P**	**19 34 32.1**	**-0.4**
ZAA0	**Zalesovo Array**	**81.25**	**327**	*e*P			**P**	**19 34 31.5**	**-1.9**
	2.7nm,1.1s								
ZALV	**Zalesovo Beam**	**81.25**	**327**	P			**P**	**19 34 31.9**	**-1.5**
	1.1nm,0.6s,baz=106,slow=5.4,SNR=5.2								
ZALV				LR		LR		20 09 39.5	
	comp=Z,34nm,20.6s,baz=74,slow=35								
ZAA1	**Zalesovo Array**	**81.25**	**327**	*e*P			**P**	**19 34 31.9**	**-1.5**
ZAA1				*e*				20 09 39.5	
SCM	**Sheep Creek Mo**	**81.33**	**25**	*e*P			**P**	**19 34 33.3**	**-0.4**
	18nm,1.0s								
EYAK	**Cordova Ski Ar**	**81.40**	**26**	*e*P			**P**	**19 34 33.9**	**-0.1**
	19nm,1.3s								
RND	**Reindeer**	**81.49**	**23**	*e*P			**P**	**19 34 33.7**	**-0.9**
	15nm,0.8s								
MCK	**McKinley**	**81.63**	**23**	*e*P			**P**	**19 34 34.1**	**-1.1**
	33nm,1.0s								
MLY	**Manley**	**81.64**	**21**	*e*P			**P**	**19 34 34.5**	**-0.7**
	11nm,0.6s								
DIV	**Divide**	**81.66**	**26**	*e*P			**P**	**19 34 35.4**	**-0.1**
	25nm,1.2s								
KLU	**Klutina**	**81.76**	**25**	*e*P			**P**	**19 34 36.2**	**+0.2**
	18nm,0.9s								
DHY	**Denali Highway**	**81.91**	**24**	*e*P			**P**	**19 34 36.6**	**-0.3**
	13nm,1.0s								
BMRM	**Bremner River**	**82.09**	**26**	*e*P			**P**	**19 34 37.5**	**-0.2**
	12nm,1.0s								
WRH	**Wood River Hil**	**82.32**	**22**	*e*P			**P**	**19 34 37.6**	**-1.2**
	12nm,1.0s								
HARP	**HAARP**	**82.50**	**25**	*e*P			**P**	**19 34 39.9**	**0.0**
	14nm,0.9s								
MDM	**Murphy Dome**	**82.51**	**22**	*e*P			**P**	**19 34 38.5**	**-1.4**
	9.3nm,1.4s								
CCB	**Clear Creek Bu**	**82.52**	**22**	*e*P			**P**	**19 34 38.5**	**-1.3**
	9.9nm,0.9s								
COLA	**College**	**82.61**	**22**	*e*P			**P**	**19 34 38.8**	**-1.4**
	18nm,0.8s								
PAX	**Paxson**	**82.63**	**24**	*e*P			**P**	**19 34 40.2**	**-0.3**
	4.4nm,1.0s								
HDA	**Harding Lake**	**82.72**	**22**	*e*P			**P**	**19 34 39.2**	**-1.7**
	15nm,1.5s								
TGL	**Tana Glacier**	**82.79**	**27**	*e*P			**P**	**19 34 41.4**	**0.0**
	13nm,0.9s								
KSH	**Kashi**	**82.80**	**311**	P			**P**	**19 34 43.0**	**+1.0**
ILAR	**Eielson Array**	**82.92**	**22**	P			**P**	**19 34 40.2**	**-1.7**
	7.4nm,0.7s,baz=250,slow=5.3,SNR=66								
ILAR				LR		LR		20 08 32.2	
	comp=Z,44nm,19.6s,baz=200,slow=33								
ILB	**Eielson Array**	**82.92**	**22**	*e*P			**P**	**19 34 40.2**	**-1.7**
IL1	**Eielson Array**	**82.92**	**22**	*e*P			**P**	**19 34 40.2**	**-1.7**
COLD	**Coldfoot**	**83.00**	**19**	*e*P			**P**	**19 34 42.2**	**-0.1**
	4.1nm,1.0s								
BALM	**Baldy**	**83.12**	**26**	*e*P			**P**	**19 34 42.6**	**-0.6**
	12nm,0.8s								
RIDG	**Independ'e Rid**	**83.23**	**24**	*e*P			**P**	**19 34 42.8**	**-0.9**
	13nm,1.1s								
MENT	**Mentasta**	**83.33**	**24**	*e*P			**P**	**19 34 43.7**	**-0.4**
	454nm,0.2s								
**D

1.8nm,0.3s,baz=137,slow=34,SNR=3.2
JKK2 Kamakawa 2 1.11 94 P **Pn 19 46 11.3 +0.5**
JKK2 eS **Sn 19 46 35.0 +0.5**
JEW Eniwo 1.13 171 P **Pn 19 46 11.9 +0.9**
JFR Furan 1.28 128 P **Pn 19 46 12.1 0.0**
JSE Soyaes 1.40 44 P **Pn 19 46 13.5 +0.5**
JSE eS **Sn 19 46 39.3 +0.8**
JTKR Abashiri--Toko 1.95 89 eS **Sn 19 46 48.4 +0.8**
JAR Ashorobuto 1.97 109 P **Pn 19 46 18.8 +0.3**
JKB Kayabe 2.08 184 P **Pn 19 46 19.5 0.0**
JAK Akkeshi 2.71 110 eS **Sn 19 47 01.1 -1.5**
JHJ Hachijo jima 2 10.88 186 LR LR 19 53 21.1
comp=Z,81nm,18.1s,baz=96,slow=40
SONM Songino Array 24.41 291 P **P 19 50 40.9 +0.6**
0.3nm,0.4s,baz=81,slow=7.7,SNR=3.6
MKAR Makanchi Array 40.65 295 P **P 19 53 00.7 +0.1**
0.5nm,0.6s,baz=80,slow=8.4,SNR=7.0
KURBB Kurchatov Arra 41.89 302 P **P 19 53 10.6 0.0**
1.6nm,0.4s,baz=72,slow=9.1,SNR=7.8
BVAR Borovoye Array 46.01 308 P **P 19 53 43.5 +0.2**
1.6nm,0.5s,baz=69,slow=8.3,SNR=11
FINES FINESS Array B 62.66 331 P **P 19 55 41.0 -2.1**
1.1nm,0.7s,baz=59,slow=7.4,SNR=6.3
HFS Hagfors 67.74 335 P **P 19 56 14.6 -1.1**
0.5nm,0.3s,baz=58,slow=5.4,SNR=7.3
NOA NORSAR Array B 67.77 336 P **P 19 56 14.7 -1.2**
0.9nm,0.8s,baz=53,slow=7.3,SNR=2.6
AKASG Malin Array Be 68.78 321 LR LR 20 26 54.1
comp=Z,30nm,19.9s,baz=25,slow=36
BRTR Keskin Array B 74.20 310 P **P 19 56 55.4 +0.3**
0.3nm,0.6s,baz=20,slow=5.6,SNR=3.2

IDC 27 19:49:22.5±2.0, 2°48N×90°45E, h0km, mb3.6/3, mb1 3.8/4, mb1mx3.3/65, mbtmp3.7/4, ML3.2/1, Error ellipse: s-maj=62.2km s-min=30.1km az=46.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PALK	**Pallekele**	**10.81**	**296**	Pn	Pn	19 51 59.0	+0.2
	0.2nm,0.3s,baz=296,slow=14,SNR=2.4						
PALK				Sn	Sn	19 53 51.5	-9.2
	0.6nm,0.3s,baz=119,slow=4.5,SNR=3.6						
H08S2	**Diego Garcia H**	**20.54**	**241**	T	T	20 15 11.0	
	baz=60,slow=75,SNR=10						
H08S3	**Diego Garcia H**	**20.54**	**241**	T	T	20 15 10.3	
	baz=60,slow=75,SNR=11						
H08S1	**Diego Carcia H**	**20.56**	**241**	T	T	20 15 13.1	
	baz=60,slow=75,SNR=9.6						
SONM	**Songino Array**	**47.23**	**15**	P	P	19 57 57.8	+0.3
	1.1nm,0.5s,baz=194,slow=9.8,SNR=12						
WRA	**Warramunga Arr**	**48.49**	**119**	P	P	19 58 07.4	-0.1
	0.6nm,0.8s,baz=297,slow=8.6,SNR=4.6						
KURBB	**Kurchatov Arra**	**49.02**	**350**	P	P	19 58 10.6	-0.4
	0.3nm,0.6s,baz=172,slow=7.1,SNR=3.9						
TXAR	**Lajitas Array**	**145.60**	**22**	PKPbc	PKPdf	20 09 02.7	-1.1
	0.3nm,0.6s,baz=358,slow=3.0,SNR=3.9						

ISCJB 27 19:50:01.0±0.6, 43°75N±0°06×142°83E±0°07, h199km±4km, mb3.4/4, Error ellipse: s-maj=9.2km s-min=8.2km az=156.3
JMA 27 19:50:02.1±0.2, 43°80N×142°78E, h195km±2km, M2.5
IDC 27 19:50:02.5±6.5, 45°61N×142°08E, h87km±100km, mb3.3/4, mb1 3.3/4, mb1mx2.9/68, mbtmp3.6/4, Error ellipse: s-maj=90.5km s-min=63.4km az=165.0
ISC 27 19:50:01.8±0.9, 43°76N±0°06×142°82E±0°06, h197km±6km, n22, σ0s82/35, mb3.5/4, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JKK2	**Kamakawa 2**	**0.12**	**334**	P	**Pn**	**19 50 28.1**	**+0.5**
JKK2				eS	**S**	**19 50 47.1**	**-0.7**
ASAJ	**Asahikawa**	**0.39**	**335**	P	**Pn**	**19 50 28.1**	**-0.1**
	12nm,0.3s,baz=215,slow=5.3,SNR=165						
ASAJ				S	**S**	**19 50 48.1**	**-0.6**
	1.5nm,0.3s,baz=103,slow=27,SNR=18						
ASAJ	**Asahikawa**	**0.39**	**335**	P	**Pn**	**19 50 28.3**	**+0.1**
ASAJ				eS	**S**	**19 50 47.9**	**-0.8**
JMP	**Maruseppu**	**0.46**	**58**	P	**Pn**	**19 50 28.8**	**+0.4**
JMP				eS	**S**	**19 50 48.5**	**-0.6**
JAB	**Ashibetsu**	**0.51**	**240**	eS	**S**	**19 50 49.3**	**+0.1**
JFR	**Furan**	**0.62**	**196**	P	**Pn**	**19 50 29.5**	**+0.4**
JFR				eS	**S**	**19 50 50.5**	**+0.3**
JTKR	**Abashiri--Toko**	**0.81**	**75**	P	**Pn**	**19 50 30.7**	**+0.7**
JTKR				eS	**S**	**19 50 51.8**	**0.0**
JAR	**Ashorobuto**	**0.83**	**124**	P	**Pn**	**19 50 30.9**	**+0.7**
JAR				eS	**S**	**19 50 52.5**	**+0.5**
JYG	**Yagishiri**	**1.21**	**304**	P	**Pn**	**19 50 32.1**	**-0.6**
JSE	**Soyaes**	**1.21**	**352**	P	**Pn**	**19 50 32.4**	**-0.3**
JCH	**Churui**	**1.21**	**161**	P	**Pn**	**19 50 32.5**	**-0.3**
JCH				eS	**S**	**19 50 55.3**	**-1.5**
JEW	**Eniwo**	**1.36**	**228**	P	**Pn**	**19 50 34.5**	**+0.5**
JEW				eS	**S**	**19 50 58.3**	**-0.6**
JNBK	**Urakawa-nobuka**	**1.48**	**182**	P	**Pn**	**19 50 35.5**	**+0.4**
JNBK				eS	**S**	**19 51 02.1**	**+1.3**
JAK	**Akkeshi**	**1.56**	**119**	P	**Pn**	**19 50 35.6**	**-0.2**
JAK				eS	**S**	**19 51 01.5**	**-0.6**
JRA	**Rausu**	**1.67**	**83**	P	**Pn**	**19 50 38.0**	**+1.2**
JWK2	**Keihoku**	**1.69**	**337**	P	**Pn**	**19 50 36.9**	**0.0**
NEM2	**Nemuro 2**	**2.16**	**100**	P	**Pn**	**19 50 41.1**	**-0.6**
NEM2				eS	**S**	**19 51 10.4**	**-2.3**
JKB	**Kayabe**	**2.29**	**216**	P	**Pn**	**19 50 43.0**	**-0.2**
JKB				eS	**S**	**19 51 13.4**	**-1.9**
SONM	**Songino Array**	**25.57**	**292**	P	**P**	**19 55 13.3**	**+0.6**
	0.7nm,0.5s,baz=91,slow=8.7,SNR=6.0						
MKAR	**Makanchi Array**	**41.78**	**296**	P	**P**	**19 57 32.3**	**+0.5**
	0.2nm,0.4s,baz=81,slow=7.0,SNR=5.0						
KURBB	**Kurchatov Arra**	**42.99**	**303**	P	**P**	**19 57 41.3**	**-0.1**
	0.5nm,0.4s,baz=73,slow=9.1,SNR=4.9						
FINES	**FINESS Array B**	**63.40**	**331**	P	**P**	**20 00 09.8**	**0.0**
	2.1nm,1.0s,baz=32,slow=8.2,SNR=5.7						

MAN 27 19:59:20,10°02N×123°14E, h14km, mb4.4, ML3.2, MS3.0, 1C-2D, Cebu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SNPH	**Sibulan**	**0.68**	**172**	⇓*i*P	Pb	19 59 34.3	+0.7
SNPH				*i* S	Sb	19 59 44.0	+1.1
TBP	**Tagbilaran**	**0.78**	**115**	*e*P	Pg	19 59 34.4	-0.8
TBP				*i* S	Sb	19 59 46.0	+0.2
GUIM	**Jordan**	**0.81**	**318**	*e*P	Pn	19 59 36.6	-0.4
GUIM				eS	Sn	19 59 49.2	+0.2
LLP	**Lapu-Lapu**	**0.86**	**70**	⇓*e*P	Pg	19 59 34.7	-2.1
LLP				eS	Sg	19 59 45.2	-2.9
DCPH	**Dipolog City**	**1.44**	**172**	⇑*e*P	Pn	19 59 45.9	+0.2
DCPH				eS	Sb	20 00 05.4	+0.6
MSLP	**Maasin**	**1.69**	**86**	*e*P	Pn	19 59 49.4	+0.2
MSLP				eS	Sb	20 00 12.2	+0.1
OCLP	**Ormoc**	**1.77**	**54**	*e*P	Pb	19 59 51.4	-0.9

IDC 27 19:59:47.4±8.7, 6°68S×154°27E, h94km±63km, mb3.3/3, mb1 3.5/4, mb1mx3.1/49, mbtmp3.7/4, ML1.7/1, MS3.0/2, Ms1 3.0/2, ms1mx2.6/22, Error ellipse: s-maj=63.7km s-min=50.4km az=96.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**6.25**	**116**	LR	LR	20 03 30.6	
	comp=Z,138nm,19.7s,baz=345,slow=36						
PMG	**Port Moresby**	**7.55**	**248**	P	Pn	20 01 34.4	-0.4
	0.6nm,0.3s,baz=119,slow=18,SNR=4.0						
PMG				S	Sn	20 03 00.8	+1.9
	baz=38,slow=11,SNR=3.5						
DZM	**Mont Dzumac**	**19.30**	**144**	LR	LR	20 09 51.3	
	comp=Z,46nm,18.1s,baz=224,slow=31						
WRA	**Warramunga Arr**	**23.42**	**234**	P	P	20 04 48.1	-0.3
	1.0nm,0.8s,baz=57,slow=9.2,SNR=7.9						
ASAR	**Alice Springs**	**25.86**	**227**	P	P	20 05 10.2	-0.3
	0.3nm,0.4s,baz=58,slow=9.2,SNR=4.1						
STKA	**Stephens Creek**	**27.73**	**204**	P	P	20 05 27.1	-0.1
	1.0nm,0.5s,baz=21,slow=14,SNR=5.4						
TORD	**Torodi Ar. Bea**	**152.25**	**286**	PKPbc	PKPbc	20 19 33.6	+0.2
	1.1nm,0.8s,baz=69,slow=2.2,SNR=6.5						

ISCJB 27 20:03:00.5±0.9, 43°7N±0°1×105°2W±0°1, h0km, mb4.7/1, Error ellipse: s-maj=15.9km s-min=9.6km az=149.5

NEIC 27 20:03:00.6±1.2, 43°47N×104°93W, h0km, ML3.1(AEIC), Error ellipse: s-maj=27.1km s-min=10.5km az=144.0, Suspected Mining explosion.
NEIC 72 km [45 miles] SW of Newcastle.
IDC 27 20:03:01.2±1.6, 43°89N×105°55W, h0km, mb4.6/1, mb1 3.9/4, mb1mx3.4/65, mbtmp3.7/4, ML2.8/2, Error ellipse: s-maj=44.4km s-min=7.8km az=148.0
ISC 27 20:03:00.1±0.9, 43°86N±0°06×105°47W±0°05, h0km, n12, σ1s52/13, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RSSD	**Black Hills**	**1.06**	**76**	*e*Pg	**Pg**	**20 03 19.9**	**-0.6**
K22A	**Casper**	**1.44**	**213**	*e*Pn	**Pb**	**20 03 27.9**	**0.0**
PDAR	**Pinedale Array**	**3.18**	**251**	Pn	**Pb**	**20 03 55.2**	**-2.5**
	5.6nm,0.3s,baz=73,slow=15,SNR=57						
PDAR				Pg	**Pg**	**20 04 00.7**	**-0.4**
	20nm,0.3s,baz=75,slow=19,SNR=51						
PDAR				Lg	Lg	20 04 39.5	
	24nm,0.3s,baz=69,slow=30,SNR=11						
H17A	**Grant Village**	**3.72**	**280**	*e*Pn	**Pb**	**20 04 04.2**	**-2.6**
ISCO	**Idaho Springs**	**4.06**	**182**	*e*Pn	**Pn**	**20 04 04.7**	**+0.9**
O20A	**White River Ci**	**4.26**	**210**	*e*Pn	**Pn**	**20 04 06.6**	**+0.1**
BOZ	**Bozeman (W)**	**4.72**	**294**	*e*Pn	**Pb**	**20 04 23.3**	**-0.6**
	9.2nm,0.3s						
HWUT	**Hardware Ranch**	**5.03**	**245**	*e*Pn	**Pn**	**20 04 19.8**	**+2.8**
	6.1nm,0.4s						
EGMT	**Eagleton**	**5.12**	**326**	*e*Pn	**Pg**	**20 04 38.6**	**+0.3**
ULM	**Lac du Bonnet**	**9.14**	**42**	Pn	**Pn**	**20 05 12.8**	**-0.4**
	0.9nm,0.3s,baz=238,slow=12,SNR=8.5						
ULM				Pg		20 05 41.4	
	0.6nm,0.3s,baz=226,slow=16,SNR=1.9						
ULM				Lg	Lg	20 07 42.7	
	0.4nm,0.3s,baz=319,slow=20,SNR=2.2						
YKA	**Yellowknife Ar**	**19.41**	**347**	P	**Pn**	**20 07 29.4**	**+0.8**
	0.1nm,0.3s,baz=156,slow=11,SNR=6.1						
ARCES	**ARCESS Array B**	**61.34**	**18**	P	**P**	**20 13 17.3**	**+0.3**
	8.0nm,1.2s,baz=340,slow=5.0,SNR=3.5						

IDC 27 20:15:11.4±1.8, 1°83N×92°49E, h0km, mb3.7/2, mb1 3.9/4, mb1mx3.3/67, mbtmp3.6/4, ML3.6/2, Error ellipse: s-maj=58.2km s-min=30.4km az=48.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PALK	**Pallekele**	**12.93**	**295**	Pn	Pn	20 18 16.1	-0.5
	0.3nm,0.3s,baz=116,slow=17,SNR=3.6						
PALK				Sn	Sn	20 20 26.3	-15
	0.9nm,0.3s,baz=118,slow=6.5,SNR=5.0						
CMAR	**Chiang Mai Arr**	**17.69**	**21**	P	Pn	20 19 19.8	+0.3
	0.1nm,0.3s,baz=219,slow=13,SNR=6.0						
WRA	**Warramunga Arr**	**46.40**	**120**	P	P	20 23 40.5	+0.4
	1.4nm,0.6s,baz=299,slow=8.6,SNR=14						
ASAR	**Alice Springs**	**47.58**	**125**	P	P	20 23 48.0	-1.3
	0.4nm,0.8s,baz=300,slow=8.0,SNR=4.2						
TXAR	**Lajitas Array**	**145.36**	**25**	PKPbc	PKPbc	20 34 51.6	-0.4
	0.4nm,0.8s,baz=327,slow=1.5,SNR=5.9						

IDC 27 20:15:20.6±1.5, 1°78N×92°20E, h0km, mb3.5/5, mb1 3.6/6, mb1mx3.4/66, mbtmp3.5/6, ML3.7/1, Error ellipse: s-maj=54.2km s-min=25.1km az=51.0
ISCJB 27 20:15:23.5±1.0, 2°09N±0°09×93°05E±0°06, h33km, mb3.6/5, Error ellipse: s-maj=12.9km s-min=9.1km az=176.0
DJA 27 20:15:24.2±1.5, 2°N±11°×93°3E±1°8, h14km±27km, M4.4/6, mb4.1/1, MLv4.5/6
ISC 27 20:15:27.1±1.1, 2°16N±0°10×93°04E±0°10, h35km, n16, σ2s24/16, mb3.5/5, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MLSI	**Meulaboh, Aceh**	**3.96**	**58**	P	**Pn**	**20 16 23.5**	**-1.9**
MLSI				S	**Sn**	**20 17 10.2**	**-0.4**
BSI	**Banda Aceh**	**4.01**	**34**	P	**Pn**	**20 16 24.5**	**-1.6**
BSI				S	**Sn**	**20 17 11.6**	**-0.3**
TPTI		**4.28**	**75**	P	**Pn**	**20 16 28.0**	**-1.8**
TPTI				S	**Sn**	**20 17 17.7**	**-0.8**
GSI	**Gunungsitoli**	**4.61**	**101**	P	**Pn**	**20 16 32.9**	**-1.5**
KCSI	**Kotacane, Aceh**	**4.92**	**74**	P	**Pn**	**20 16 36.9**	**-1.7**
MNSI	**Mandailing Nat**	**6.67**	**102**	P	**Pn**	**20 17 01.0**	**-1.7**
CMAR	**Chiang Mai Arr**	**17.20**	**19**	P	**P**	**20 19 31.6**	**+5.5**
	0.1nm,0.3s,baz=231,slow=14,SNR=14						
H08S2	**Diego Garcia H**	**22.69**	**244**	T	T	20 41 55.8	
	baz=65,slow=75,SNR=9.5						
H08S3	**Diego Garcia H**	**22.69**	**244**	T	T	20 41 50.5	
	baz=65,slow=75,SNR=13						
H08S1	**Diego Carcia H**	**22.71**	**244**	T	T	20 41 51.6	
	baz=65,slow=75,SNR=13						
MKAR	**Makanchi Array**	**45.44**	**350**	P	**P**	**20 23 42.6**	**0.0**
	0.5nm,0.7s,baz=171,slow=8.5,SNR=6.7						
WRA	**Warramunga Arr**	**46.08**	**120**	P	**P**	**20 23 50.8**	**+2.6**
	0.5nm,1.0s,baz=304,slow=8.7,SNR=14						
KURBB	**Kurchatov Arra**	**49.83**	**348**	P	**P**	**20 24 16.7**	**+0.1**
	0.5nm,0.6s,baz=172,slow=7.2,SNR=3.5						
ZALV	**Zalesovo Beam**	**52.06**	**354**	P	**P**	**20 24 33.3**	**-0.1**
	0.4nm,0.4s,baz=165,slow=6.0,SNR=2.7						
BRTR	**Keskin Array B**	**65.41**	**313**	P	**P**	**20 26 03.5**	**-3.2**
	0.3nm,0.7s,baz=94,slow=4.5,SNR=3.2						
TXAR	**Lajitas Array**	**144.84**	**26**	PKPbc	**PKPdf**	**20 35 01.4**	**+0.1**
	0.3nm,0.7s,baz=297,slow=5.5,SNR=4.2						

IDC 27 20:46:45.3±5.4, 39°03N×110°03E, h0km, mb3.0/3, mb1 3.2/4, mb1mx3.0/72, mbtmp3.1/4, ML2.4/1, Error ellipse: s-maj=114.3km s-min=25.1km az=86.0, Western Nei Mongol

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SONM	**Songino Array**	**9.19**	**344**	Pn	Pn	20 48 59.4	+0.3
	0.0nm,0.3s,baz=158,slow=12,SNR=3.7						
SONM				Lg	Lg	20 51 39.0	
	0.1nm,0.3s,baz=168,slow=27,SNR=5.9						
MKAR	**Makanchi Array**	**21.67**	**300**	P		20 51 38.7	+1.3
	0.6nm,0.9s,baz=96,slow=11,SNR=6.3						
CMAR	**Chiang Mai Arr**	**22.65**	**208**	P		20 51 48.5	+0.4
	0.7nm,0.7s,baz=20,slow=11,SNR=6.5						
KURBB	**Kurchatov Arra**	**24.98**	**308**	P		20 52 08.5	-1.8
	0.2nm,0.8s,baz=108,slow=5.9,SNR=1.6						

ISCJB 27 20:54:23.1±0.4, 23°66N±0°02×121°59E±0°02, h2km±3km, Error ellipse: s-maj=3.4km s-min=2.2km az=40.4
JMA 27 20:54:23.3±0.3, 23°44N×121°51E, h77km, M2.4
TAP 27 20:54:23.3, 23°67N×121°52E, h4km, ML2.8, B
ISC 27 20:54:23.3±0.9, 23°66N±0°02×121°57E±0°02, h9km±6km, n78, σ0s59/102, 4C-9D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EGFH	**Guangfu**	**0.13**	**272**	⇑*e*P	**Pg**	**20 54 25.6**	**-0.7**
	baz=266						
ESL	**Shilin**	**0.20**	**320**	⇓*i*P	**Pg**	**20 54 27.0**	**-0.4**
	baz=324						
ESL				S	**Sg**	**20 54 29.6**	**-0.5**
	baz=324						
HGSD	**Ruisui**	**0.22**	**218**	⇓P	**Pg**	**20 54 28.6**	**+0.8**
	baz=197						
HGSD				S	**Sg**	**20 54 32.6**	**+1.8**
	baz=197						
ENLB	**Shoufeng**	**0.24**	**7**	*e*P	**Pb**	**20 54 29.3**	**+1.1**
	baz=17						
EHY	**Hungye**	**0.28**	**235**	⇑*i*P	**Pg**	**20 54 28.5**	**-0.4**
	baz=236						
EHY				*e*S	**Sg**	**20 54 32.7**	**+0.1**
	baz=236						
HWA	**Hwalien**	**0.31**	**6**	*e*P	**Pb**	**20 54 30.7**	**-0.4**
	baz=2.0						
YULB	**Yu-li**	**0.37**	**223**	⇑P	**Pg**	**20 54 30.6**	**0.0**
	baz=231						
YULB				*e*S	**Sg**	**20 54 36.3**	**+0.9**
	baz=231						
TWD	**Chiawan**	**0.41**	**3**	*e*P	**Pg**	**20 54 31.8**	**+0.3**
	baz=357						
TWD				*e*S	**Sb**	**20 54 38.1**	**-1.1**
	baz=357						
OWD	**Renai**	**0.46**	**309**	P	**Pg**	**20 54 31.9**	**-0.4**
	baz=312						
OWD				*e*S	**Sg**	**20 54 38.0**	**-0.5**
	baz=312						
NACB	**Ninganchiao**	**0.51**	**3**	*e*P	**Pg**	**20 54 33.1**	**-0.1**
	baz=355						
FULB	**Fuli**	**0.53**	**209**	*e*P	**Pb**	**20 54 34.9**	**+0.1**
	baz=225						
CHGB	**Renai**	**0.54**	**318**	⇓P	**Pg**	**20 54 33.7**	**-0.1**
	baz=332						
CHGB				*e*S	**Sg**	**20 54 40.7**	**-0.1**
	baz=332						
SSLB	**Suanglung**	**0.58**	**282**	⇓P	**Pg**	**20 54 34.2**	**-0.3**
	baz=284						
SSLB				S	**Sg**	**20 54 41.0**	**-1.1**
	baz=284						
CHKT	**Chengkung**	**0.59**	**198**	*e*P	**Pb**	**20 54 35.5**	**-0.3**
	baz=180						
SMLT	**Sun Moon Lake**	**0.65**	**290**	⇓*i*P	**Pg**	**20 54 35.8**	**-0.2**
	baz=291						
SMLT				*i* S	**Sg**	**20 54 44.3**	**-0.2**
	baz=291						
ELDTW	**Lidau**	**0.69**	**227**	*e*P	**Pg**	**20 54 36.5**	**-0.2**
	baz=235						
DPDB	**Guoxing**	**0.69**	**302**	⇓*i*P	**Pg**	**20 54 36.9**	**+0.1**
	baz=316						
DPDB				*e*S	**Sg**	**20 54 45.8**	**0.0**
	baz=316						
TDCB	**Techi**	**0.70**	**327**	*e*P	**Pg**	**20 54 36.8**	**0.0**
	baz=330						
ENA	**Nanau**	**0.78**	**12**	*e*P	**Pg**	**20 54 38.3**	**0.0**
	baz=357						
NANB	**Nanao**	**0.78**	**12**	*e*P	**Pg**	**20 54 38.6**	**+0.2**
	baz=357						
NNSB	**Datong**	**0.78**	**347**	*e*P	**Pg**	**20 54 38.4**	**0.0**
	baz=343						
NNSB				*e*S	**Sb**	**20 54 50.0**	**+0.2**
	baz=343						
WJS	**Zhushan**	**0.79**	**282**	*e*P	**Pb**	**20 54 39.6**	**+0.4**
	baz=282						
NNS	**Nan Shan**	**0.79**	**347**	*e*P	**Pg**	**20 54 38.6**	**-0.1**
	baz=344						
ENAH	**Nanao**	**0.81**	**16**	*e*P	**Pb**	**20 54 39.6**	**-0.1**
	baz=8.0						
CHN5	**Tsauling**	**0.82**	**266**	⇓P	**Pb**	**20 54 39.6**	**-0.2**
	baz=265						
WNT	**Mingjian**	**0.84**	**285**	*e*P	**Pb**	**20 54 40.5**	**+0.4**
	baz=285						
WGK	**Gukeng**	**0.92**	**272**	*e*P	**Pn**	**20 54 42.2**	**-0.3**
	baz=273						
WGK				*e*S	**Sn**	**20 54 55.6**	**-0.2**
	baz=273						
TPUB	**Ta-pu**	**0.94**	**247**	⇑P	**Pb**	**20 54 42.0**	**+0.3**
	baz=258						
TPUB				*e*S	**Sb**	**20 54 54.2**	**-0.1**
	baz=258						
WDLH	**Douliu**	**0.95**	**272**	*e*P	**Pn**	**20 54 42.9**	**+0.1**
	baz=272						
CHN4	**Tsaushan**	**0.95**	**251**	*e*P	**Pb**	**20 54 42.1**	**+0.2**
	baz=251						
TCU	**Taichung**	**0.95**	**301**	*e*P	**Pb**	**20 54 42.1**	**+0.1**
	baz=303						
TWH	**Lutao**	**0.95**	**185**	*e*P	**Pb**	**20 54 42.0**	**0.0**
	baz=168						
TWGBT	**Beinan**	**0.95**	**208**	*e*P	**Pg**	**20 54 41.7**	**0.0**
	baz=189						
TWG	**Pinlang**	**0.96**	**209**	*e*P	**Pg**	**20 54 41.2**	**-0.5**
	baz=189						
WTP	**Ta-pu**	**0.97**	**245**	*e*P	**Pb**	**20 54 42.5**	**+0.2**
	baz=244						
ENTT	**Nioudou**	**0.97**	**360**	*e*P	**Pb**	**20 54 42.4**	**+0.1**
TWC	**Suao**	**0.97**	**15**	*e*P	**Pn**	**20 54 43.4**	**+0.2**
	baz=7.0						
TWQ1	**Liyutan**	**1.00**	**313**	*e*P	**Pn**	**20 54 43.7**	**+0.2**
	baz=315						
WCHH	**Zhanghua**	**1.01**	**294**	*e*P	**Pn**	**20 54 43.9**	**+0.2**
	baz=295						
YHNB	**Yeheng**	**1.02**	**350**	⇓*e*P	**Pn**	**20 54 43.1**	**-0.1**
	baz=341						
YHNB				*e*S	**Sb**	**20 54 56.9**	**+0.2**
	baz=341						
EOS1	**EOS1**	**1.02**	**30**	*e*P	**Pn**	**20 54 45.2**	**+1.5**
	baz=49						
TWE	**Neicheng**	**1.06**	**5**	*e*P	**Pn**	**20 54 44.2**	**-0.1**
	baz=5.0						
CHY	**Chiayi**	**1.06**	**261**	*e*P	**Pn**	**20 54 44.7**	**+0.3**
	baz=262						
CHN1	**Nanshi**	**1.07**	**244**	*e*P	**Pn**	**20 54 44.6**	**+0.1**
	baz=243						
CHN1				*e*S	**Sn**	**20 54 59.9**	**+0.4**
	baz=243						
TWK	**Hsinying**	**1.07**	**248**	⇓*e*P	**Pn**	**20 54 44.4**	**-0.2**
	baz=249						
TWK				*e*S	**Sn**	**20 54 59.8**	**+0.2**
	baz=249						
SGST	**Jiashian**	**1.08**	**238**	*e*P	**Pn**	**20 54 44.4**	**-0.2**
	baz=237						
SLGT	**Liugui**	**1.08**	**232**	*e*P	**Pg**	**20 54 44.3**	**+0.2**
	baz=233						
SLBB	**Yuanshan**	**1.09**	**3**	*e*P	**Pn**	**20 54 44.8**	**+0.1**
	baz=2.0						
NSTT	**Nanjuang**	**1.09**	**332**	*e*P	**Pn**	**20 54 44.6**	**-0.2**
	baz=334						
LIOB	**Emei**	**1.10**	**333**	*e*P	**Pn**	**20 54 45.4**	**+0.4**
	baz=335						
NWLT	**Wulai**	**1.11**	**357**	*e*P	**Pn**	**20 54 45.5**	**+0.4**
	baz=357						
NMLH	**Miaoli**	**1.12**	**321**	*e*P	**Pn**	**20 54 46.3**	**+1.1**
	baz=323						
RLNB	**Erlin**	**1.13**	**282**	*e*P	**Pn**	**20 54 45.9**	**+0.5**
	baz=284						
RLNB				*e*S	**Sn**	**20 55 02.3**	**+1.3**
	baz=284						
SSD	**Sandimen**	**1.26**	**224**	*e*P	**Pn**	**20 54 46.6**	**-0.4**
	baz=227						
TATO	**Taipei**	**1.31**	**357**	*e*P	**Pg**	**20 54 48.7**	**+0.3**
	baz=356						
TWM1	**Shoushan**	**1.35**	**232**	*e*P	**Pg**	**20 54 50.4**	**+1.2**
	baz=234						
MASBT	**Mashibuluo**	**1.36**	**220**	*e*P	**Pn**	**20 54 48.3**	**-0.2**
	baz=219						
NWF	**Wu-fen Shan**	**1.41**	**8**	*e*P	**Pg**	**20 54 51.0**	**+0.5**
	baz=5.0						
EAST	**Anshuo**	**1.44**	**208**	*e*P	**Pn**	**20 54 48.2**	**-1.4**
	baz=190						
JYNG	**Yonagunijimaku**	**1.48**	**58**	P	**Pb**	**20 54 51.0**	**0.0**
JYNG				eS	**Sg**	**20 55 11.5**	**+0.5**
YM04	**YM04**	**1.48**	**359**	*e*P	**Pg**	**20 54 52.7**	**+0.8**
	baz=357						
YM10	**

σ0$55/7, **mb3.2**/4, **Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.91**	**189**	P	Pn	21 00 14.8	+4.9
	3.7nm,0.3s,baz=288,slow=20,SNR=9.6						
PMG				S	**Sn**	**21 00 56.5**	**0.0**
	2.7nm,0.3s,baz=288,slow=20,SNR=6.4						
WRA	**Warramunga Arr**	**19.42**	**221**	P	**P**	**21 03 23.2**	**-0.3**
	0.1nm,0.3s,baz=38,slow=11,SNR=12						
ASAR	**Alice Springs**	**22.46**	**215**	P	**P**	**21 03 55.9**	**+0.5**
	0.3nm,0.8s,baz=45,slow=7.5,SNR=3.4						
SONM	**Songino Array**	**64.39**	**330**	P	**P**	**21 09 28.7**	**+0.6**
	0.2nm,0.5s,baz=148,slow=8.5,SNR=2.5						
MKAR	**Makanchi Array**	**77.65**	**320**	P	**P**	**21 10 47.7**	**-0.1**
	0.3nm,0.8s,baz=78,slow=13,SNR=2.9						
ZALV	**Zalesovo Beam**	**79.04**	**328**	P	**P**	**21 10 54.8**	**-0.5**
	0.4nm,0.4s,baz=104,slow=6.7,SNR=2.7						
TORD	**Torodi Ar. Bea**	**145.75**	**285**	PKPbc	**PKPbc**	**21 18 29.8**	**-0.5**
	0.6nm,0.5s,baz=65,slow=3.9,SNR=11						

NIED **27** *21:08:00,22.˚50N×120.˚80E,h32km,Mw4.0 Best double couple: M0 1.27000×10^15 NP1:φs276.00000°,δ15.00000°, λ5.00000°. NP2:φs181.00000°,δ89.00000°,λ105.00000°.*
JMA **27** *21:08:18.5±0.2,22.˚55N×120.˚82E,h106km,M4.2*
TAP **27** *21:08:18.0,22.˚73N×120.˚73E,h24km,ML4.4,B*
ISCJB **27** *21:08:18.5±0.2,22.˚67N±0.˚01×120.˚74E±0.˚02,h33km±3km, mb3.8/14,MS3.0/5,Error ellipse: s-maj=2.4km s-min=2.3km az=17.6*
BJI **27** *21:08:18.7,22.˚80N×120.˚65E,h8km,ML3.5/6*
IDC **27** *21:08:20.8±3.1,22.˚62N×121.˚01E,h52km±29km,mb3.6/16, mb1 3.7/18,mb1mx3.5/72,mbtmp3.8/18,ML3.8/2,MS3.1/9, Ms1 3.1/9,ms1mx2.9/49,Error ellipse: s-maj=17.8km s-min=13.7km az=70.0*

ISC 27 21:08:18.4±0.7,22.˚73N±0.˚02×120.˚74E±0.˚02,h25km±4km, n147,σ1$20/208,mb3.8/14,MS3.0/5,20C-33D,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SSD	**Sandimen**	**0.10**	**281**	⇑*i*P	**Pb**	**21 08 22.8**	**-0.3**
	baz=281						
SSD				*i* S	**Sb**	**21 08 26.1**	**-0.2**
	baz=281						
MASBT	**Mashibuluo**	**0.15**	**222**	⇑P	**Pb**	**21 08 23.2**	**-0.4**
	baz=219						
MASBT				S	**Sb**	**21 08 26.7**	**-0.3**
	baz=219						
SGLT	**Jiouru**	**0.23**	**270**	⇑*i*P	**Pb**	**21 08 25.1**	**+0.6**
	baz=269						
SGLT				*e*S	**Sb**	**21 08 31.1**	**+2.5**
	baz=269						
ECL	**Taimali**	**0.23**	**123**	⇓*i*P	**Pb**	**21 08 24.6**	**+0.1**
	baz=122						
ECL				S	**Sb**	**21 08 29.0**	**+0.4**
	baz=122						
SLGT	**Liugui**	**0.28**	**341**	⇓P	**Pb**	**21 08 25.2**	**0.0**
	baz=348						
SLGT				*e*S	**Sb**	**21 08 30.0**	**+0.2**
	baz=348						
SSPT	**Xinbi**	**0.29**	**214**	⇑P	**Pb**	**21 08 25.4**	**+0.1**
	baz=208						
SSPT				S	**Sb**	**21 08 30.8**	**+0.8**
	baz=208						
TWM1	**Shoushan**	**0.31**	**288**	⇑*i*P	**Pb**	**21 08 26.7**	**+1.0**
	baz=293						
TWM1				*e*S	**Sn**	**21 08 33.2**	**0.0**
	baz=293						
TWG	**Pinlang**	**0.32**	**73**	⇓*i*P	**Pb**	**21 08 26.2**	**+0.5**
	baz=74						
TWG				*i* S	**Sb**	**21 08 31.5**	**+0.8**
	baz=74						
TWGBT	**Beinan**	**0.32**	**74**	⇓*i*P	**Pb**	**21 08 26.2**	**+0.4**
	baz=74						
TWGBT				*i* S	**Sb**	**21 08 31.5**	**+0.6**
	baz=74						
EAST	**Anshuo**	**0.35**	**164**	⇓P	**Pb**	**21 08 26.3**	**0.0**
	baz=158						
EAST				*e*S	**Sb**	**21 08 31.6**	**-0.1**
	baz=158						
SCZT	**Fangliau**	**0.37**	**198**	⇑*i*P	**Pb**	**21 08 26.4**	**-0.2**
	baz=199						
SCZT				S	**Sb**	**21 08 32.0**	**0.0**
	baz=199						
TTN	**Taitung**	**0.37**	**86**	⇓*i*P	**Pb**	**21 08 27.8**	**+1.2**
	baz=80						
TTN				S	**Sn**	**21 08 35.3**	**+0.6**
	baz=80						
SGST	**Jiashian**	**0.38**	**337**	⇑*i*P	**Pb**	**21 08 27.4**	**+0.6**
	baz=339						
SGST				S	**Sb**	**21 08 33.9**	**+1.4**
	baz=339						
TAW	**Tawu**	**0.39**	**159**	⇓*e*P	**Pb**	**21 08 26.9**	**0.0**
	baz=153						
TAW				*e*S	**Sb**	**21 08 32.8**	**+0.1**
	baz=153						
KAU	**Kaohsiung**	**0.43**	**249**	⇓*e*P	**Pb**	**21 08 29.1**	**+1.6**
	baz=247						
KAU				*e*S	**Sn**	**21 08 38.4**	**+2.3**
	baz=247						
STYT	**Tauyuan**	**0.43**	**2**	⇓*i*P	**Pb**	**21 08 27.8**	**+0.2**
	baz=10.0						
STYT				S	**Sb**	**21 08 34.5**	**+0.6**
	baz=10.0						
CHN3	**Shinhua**	**0.49**	**315**	⇓*e*P	**Pn**	**21 08 30.4**	**+0.5**
	baz=316						
CHN3				*e*S	**Sn**	**21 08 39.8**	**+2.1**
	baz=316						
CHN1	**Nanshi**	**0.50**	**337**	⇑P	**Pb**	**21 08 29.1**	**+0.4**
	baz=348						
CHN1				S	**Sn**	**21 08 37.6**	**-0.2**
	baz=348						
WLCH	**Liuqiu**	**0.50**	**222**	⇓P	**Pn**	**21 08 30.8**	**+0.8**
	baz=215						
WLCH				*e*S	**Sn**	**21 08 41.7**	**+3.8**
	baz=215						
TWP	**Hsiaoliuchiu**	**0.52**	**223**	⇓P	**Pb**	**21 08 30.6**	**+1.7**
	baz=221						
TWP				*e*S	**Sn**	**21 08 41.4**	**+3.1**
	baz=221						
ELDTW	**Lidau**	**0.53**	**29**	⇓P	**Pb**	**21 08 29.2**	**0.0**
	baz=31						
ELDTW				S	**Sb**	**21 08 37.5**	**+1.1**
	baz=31						
WTP	**Ta-pu**	**0.53**	**347**	⇑*e*P	**Pb**	**21 08 29.5**	**+0.3**
	baz=349						
WTP				*e*S	**Sb**	**21 08 38.0**	**+1.4**
	baz=349						
TAI1	**Yung-k'ang**	**0.57**	**303**	*e*P	**Pb**	**21 08 30.7**	**+0.9**
	baz=304						
TAI1				*e*S	**Sn**	**21 08 40.7**	**+1.2**
	baz=304						
TPUB	**Ta-pu**	**0.58**	**350**	⇑*e*P	**Pb**	**21 08 30.1**	**+0.1**
	baz=351						
TPUB				*e*S	**Sb**	**21 08 39.2**	**+1.3**
	baz=351						
TWK	**Hsinying**	**0.59**	**336**	*e*P	**Pb**	**21 08 30.3**	**+0.2**
	baz=338						
TWK				*e*S	**Sb**	**21 08 39.1**	**+0.9**
	baz=338						
CHN4	**Tsaushan**	**0.64**	**347**	*e*P	**Pb**	**21 08 31.1**	**+0.2**
	baz=348						
CHN4				S	**Sn**	**21 08 42.1**	**+0.9**
	baz=348						
SCLT	**Jiali**	**0.68**	**312**	⇓P	**Pb**	**21 08 32.1**	**+0.5**
	baz=312						
SCLT				*e*S	**Sn**	**21 08 43.2**	**+1.0**
	baz=312						
TWH	**Lutao**	**0.68**	**91**	P	**Pb**	**21 08 31.7**	**0.0**
	baz=94						
TWH				*e*S	**Sn**	**21 08 41.8**	**-0.5**
	baz=94						
CHKT	**Chengkung**	**0.68**	**57**	⇓*i*P	**Pb**	**21 08 32.1**	**+0.4**
	baz=68						
CHKT				*e*S	**Sn**	**21 08 42.3**	**0.0**
	baz=68						
FULB	**Fuli**	**0.69**	**47**	⇓*i*P	**Pb**	**21 08 32.6**	**+0.7**
	baz=42						
FULB				*e*S	**Sn**	**21 08 43.0**	**+0.4**
	baz=42						
HEN	**Hengchun**	**0.72**	**180**	⇓P	**Pb**	**21 08 33.3**	**+1.0**
	baz=173						
HEN				*e*S	**Sn**	**21 08 44.6**	**+1.4**
	baz=173						
ALS	**Alishan**	**0.78**	**4**	⇓*i*P	**Pb**	**21 08 33.9**	**+0.3**
	baz=11						
ALS				S	**Sn**	**21 08 45.3**	**0.0**
	baz=11						
TWK1	**Hengchun**	**0.78**	**176**	⇓*i*P	**Pn**	**21 08 34.0**	**+0.1**
	baz=174						
TWK1				*i* S	**Sn**	**21 08 45.8**	**+1.0**
	baz=174						
TWKBT	**Hengchun**	**0.79**	**175**	⇓P	**Pn**	**21 08 34.0**	**0.0**
	baz=174						
TWKBT				S	**Sn**	**21 08 45.5**	**+0.6**
	baz=174						
CHN8	**Yiju**	**0.79**	**322**	⇓*e*P	**Pn**	**21 08 33.5**	**-0.4**
	baz=323						
CHN8				*e*S	**Sn**	**21 08 45.3**	**+0.4**
	baz=323						
CHY	**Chiayi**	**0.82**	**339**	*e*P	**Pn**	**21 08 34.4**	**0.0**
	baz=340						
CHY				*e*S	**Sn**	**21 08 47.0**	**+1.2**
	baz=340						
TSEB	**Hengchuen, Pin**	**0.83**	**170**	⇓*e*P	**Pn**	**21 08 34.8**	**+0.2**
	baz=179						
TSEB				*e*S	**Sn**	**21 08 47.5**	**+1.4**
	baz=179						
YULB	**Yu-li**	**0.84**	**37**	⇓P	**Pn**	**21 08 34.4**	**-0.3**
	baz=38						
YULB				*e*S	**Sb**	**21 08 45.0**	**-0.2**
	baz=38						
WLGB	**Puzi**	**0.85**	**331**	⇓P	**Pn**	**21 08 34.7**	**-0.2**
	baz=332						
WLGB				*e*S	**Sn**	**21 08 47.1**	**+0.6**
	baz=332						
CHN5	**Tsauling**	**0.87**	**356**	⇓P	**Pn**	**21 08 35.1**	**0.0**
	baz=357						
CHN5				*e*S	**Sn**	**21 08 48.7**	**+1.6**
	baz=357						
EHY	**Hungye**	**0.94**	**34**	⇓*e*P	**Pn**	**21 08 36.2**	**+0.1**
	baz=36						
EHY				*e*S	**Sb**	**21 08 48.7**	**+0.5**
	baz=36						
WGK	**Gukeng**	**0.97**	**350**	*e*P	**Pn**	**21 08 36.6**	**+0.1**
WGK				*e*S	**Sb**	**21 08 50.6**	**+1.6**
WDLH	**Douliu**	**0.98**	**349**	*e*P	**Pn**	**21 08 36.8**	**+0.2**
	baz=349						
HGSD	**Ruisui**	**0.99**	**39**	⇓P	**Pn**	**21 08 37.1**	**+0.4**
	baz=32						
HGSD				*e*S	**Sb**	**21 08 51.0**	**+1.5**
	baz=32						
LAY	**Lan-yu**	**1.01**	**132**	*e*P	**Pn**	**21 08 35.8**	**-1.3**
	baz=134						
WSF	**Szhu**	**1.03**	**332**	*e*P	**Pn**	**21 08 36.6**	**-0.6**
	baz=333						
WSF				*e*S	**Sn**	**21 08 51.1**	**+0.3**
	baz=333						
SSLB	**Suanglung**	**1.07**	**10**	⇑P	**Pn**	**21 08 38.0**	**+0.1**
	baz=18						
SSLB				*e*S	**Sb**	**21 08 52.6**	**+0.5**
	baz=18						
WJS	**Zhushan**	**1.09**	**359**	*e*P	**Pn**	**21 08 38.4**	**+0.2**
	baz=344						
WJS				*e*S	**Sb**	**21 08 54.7**	**+2.2**
	baz=344						
EGFH	**Guangfu**	**1.13**	**34**	⇓*e*P	**Pb**	**21 08 39.5**	**+0.2**
	baz=42						
WDGT	**Dungji**	**1.13**	**298**	⇓P	**Pn**	**21 08 37.4**	**-1.3**
	baz=297						
WNT	**Mingjian**	**1.15**	**357**	*e*P	**Pn**	**21 08 39.2**	**+0.3**
	baz=357						
SMLT	**Sun Moon Lake**	**1.16**	**7**	⇑*i*P	**Pn**	**21 08 39.7**	**+0.5**
	baz=14						
SMLT				*e*S	**Sb**	**21 08 57.2**	**+2.6**
	baz=14						
TYC	**Yuchr**	**1.18**	**5**	⇑*i*P	**Pn**	**21 08 39.7**	**+0.4**
	baz=6.0						
TYC				*e*S	**Sb**	**21 08 57.9**	**+3.0**
	baz=6.0						
WTCT	**Ta-ch'eng**	**1.21**	**340**	*e*P	**Pn**	**21 08 40.0**	**+0.3**
	baz=339						
RLNB	**Erlin**	**1.21**	**343**	*e*P	**Pn**	**21 08 39.9**	**+0.1**
	baz=343						
ESL	**Shilin**	**1.25**	**30**	*e*P	**Pn**	**21 08 41.0**	**+0.6**
	baz=38						
ESL				*e*S	**Sb**	**21 08 57.7**	**+0.5**
	baz=38						
OWD	**Renai**	**1.28**	**18**	*e*P	**Pb**	**21 08 42.0**	**-0.1**
	baz=18						
DPDB	**Guoxing**	**1.31**	**7**	⇑P	**Pn**	**21 08 41.6**	**+0.4**
	baz=7.0						
PHUB	**P'eng-hu**	**1.33**	**306**	⇓P	**Pn**	**21 08 40.0**	**-1.5**
	baz=307						
PHUB				*e*S	**Sn**	**21 08 56.1**	**-2.3**
	baz=307						
WCHH	**Zhanghua**	**1.36**	**353**	*e*P	**Pn**	**21 08 42.9**	**+1.1**
	baz=352						
PNG	**Penghu**	**1.38**	**308**	⇓P	**Pn**	**21 08 40.7**	**-1.3**
	baz=308						
PNG				*e*S	**Sn**	**21 08 57.4**	**-2.1**
	baz=308						
CHGB	**Renai**	**1.39**	**17**	⇑*e*P	**Pn**	**21 08 43.2**	**+0.8**
	baz=25						
CHGB				*e*S	**Sb**	**21 09 04.5**	**+3.4**
	baz=25						
ENLB	**Shoufeng**	**1.41**	**34**	⇓*e*P	**Pb**	**21 08 43.9**	**-0.3**
	baz=35						
ENLB				*e*S	**Sb**	**21 09 03.8**	**+2.1**
	baz=35						
TCU	**Taichung**	**1.42**	**358**	*e*P	**Pn**	**21 08 43.6**	**+1.0**
	baz=357						
HWA	**Hwalien**	**1.48**	**32**	*e*P	**Pn**	**21 08 44.3**	**+0.9**
	baz=38						
TWD	**Chiawan**	**1.56**	**30**	⇓*e*P	**Pn**	**21 08 45.4**	**+0.8**
	baz=42						
TDCB	**Techi**	**1.57**	**14**	*e*P	**Pn**	**21 08 45.6**	**+0.8**
	baz=7.0						
TWT	**Tachien**	**1.57**	**15**	*e*P	**Pn**	**21 08 45.6**	**+0.7**
	baz=7.0						
TWQ1	**Liyutan**	**1.61**	**1**	⇑*e*P	**Pn**	**21 08 45.9**	**+0.5**
	baz=1.0						
TWQ1				*e*S	**Sb**	**21 09 07.5**	**0.0**
	baz=1.0						
NACB	**Ninganchiao**	**1.64**	**28**	⇑*e*P	**Pn**	**21 08 46.1**	**+0.4**
	baz=30						
NACB				*e*S	**Sb**	**21 09 08.5**	**+0.3**
	baz=30						
NNSB	**Datong**	**1.79**	**19**	*e*P	**Pn**	**21 08 49.3**	**+1.4**
	baz=1.0						
NNS	**Nan Shan**	**1.80**	**19**	*e*P	**Pn**	**21 08 49.6**	**+1.6**
	baz=19						
NNS				*e*S	**Sb**	**21 09 14.3**	**+1.2**
	baz=19						
NMLH	**Miaoli**	**1.80**	**1**	*e*P	**Pn**	**21 08 49.0**	**+1.1**
	baz=344						
NSTT	**Nanjuang**	**1.91**	**7**	*e*P	**Pn**	**21 08 50.2**	**+0.8**
	baz=349						
ENA	**Nanau**	**1.93**	**28**	*e*P	**Pn**	**21 08 50.2**	**+0.5**
	baz=29						
LIOB	**Emei**	**1.93**	**7**	*e*P	**Pn**	**21 08 50.2**	**+0.6**
	baz=349						
NANB	**Nanao**	**1.93**	**28**	⇑*e*P	**Pn**	**21 08 50.4**	**+0.7**
	baz=28						
ENAH	**Nanao**	**1.98**	**30**	*e*P	**Pn**	**21 08 50.9**	**+0.6**
	baz=29						
YHNB	**Yeheng**	**2.02**	**17**	*e*P	**Pn**	**21 08 52.1**	**+1.1**
	baz=358						
ENTT	**Nioudou**	**2.05**	**21**	⇑*e*P	**Pn**	**21 08 53.2**	**+1.9**
	baz=8.0						
ENTT				*e*S	**Sb**	**21 09 20.3**	**+0.3**
	baz=8.0						
TWC	**Suao**	**2.13**	**28**	*e*P	**Pn**	**21 08 53.5**	**+1.1**
	baz=29						
NWLT	**Wulai**	**2.16**	**19**	*e*P	**Pn**	**21 08 54.4**	**+1.5**
	baz=360						
TWE	**Neicheng**	**2.16**	**23**	*e*P	**Pn**	**21 08 54.0**	**+1.1**
	baz=11						
TWE				*e*S	**Sb**	**21 09 23.7**	**+0.5**
	baz=11						
WLTB	**Daxi**	**2.17**	**12**	*e*P	**Pb**	**21 08 56.6**	**-0.4**
	baz=354						
SLBB	**Yuanshan**	**2.18**	**22**	*e*P	**Pn**	**21 08 54.9**	**+1.8**
	baz=2.0						
EOS1	**EOS1**	**2.21**	**35**	*e*P	**Pn**	**21 08 56.1**	**-1.7**
	baz=48						
TATO	**Taipei**	**2.34**	**17**	*e*P	**Pb**	**21 08 58.5**	**-1.5**
	baz=359						
EGS		**2.37**	**27**	*e*P	**Pb**	**21 08 58.6**	**-1.9**
	baz=28						
TWS1	**Kuangyinshan**	**2.44**	**15**	*e*P	**Pn**	**21 08 58.0**	**+1.3**
	baz=357						
NWF	**Wu-fen Shan**	**2.52**	**22**	*e*P	**Pn**	**21 08 59.2**	**+1.3**
	baz=36						
WFSB	**Wu-fen Shan**	**2.52**	**22**	*e*P	**Pn**	**21 08 59.1**	**+1.3**
	baz=36						
YM04	**YM04**	**2.52**	**17**	*e*P	**Pn**	**21 08 57.7**	**-0.2**
YM10	**YM10**	**2.53**	**17**	*e*P	**Pn**	**21 08 58.6**	**+0.5**
	baz=1.0						
YM05	**YM05**	**2.54**	**17**	*e*P	**Pn**	**21 08 58.9**	**+0.7**
	baz=1.0						
TWB1	**Santiao Chiao**	**2.54**	**26**	*e*P	**Pb**	**21 09 01.3**	**-2.0**
	baz=27						
VWUC	**VWUC**	**2.55**	**333**	*e*P	**Pn**	**21 08 57.0**	**-1.1**
	baz=330						
YM07	**YM07**	**2.57**	**18**	*e*P	**Pn**	**21 08 58.1**	**-0.4**
	baz=2.0						
JYNG	**Yonagunijimaku**	**2.65**	**49**	P	**Pn**	**21 09 01.3**	**+1.7**
JYNG				*e*S	**Sn**	**21 09 34.1**	**+3.1**
YOJ	**Yonaguni jima**	**2.70**	**50**	*e*P	**Pn**	**21 09 01.5**	**+1.1**
	baz=62						
YOJ				S	**Sn**	**21 09 34.0**	**+1.7**
	baz=62						
YOJ	**Yonaguni jima**	**2.70**	**50**	P	**Pn**	**21 09 02.1**	**+1.8**
YOJ				*e*S	**Sn**	**21 09 34.9**	**+2.6**
KNMB	**Chin-men Tao**	**2.77**	**309**	*e*P	**Pn**	**21 09 00.3**	**-0.9**
	baz=307						
QZH	**Quanzhou**	**2.96**	**319**	⇑*i*Pn	**Pn**	**21 09 03.0**	**-0.8**
QZH				Sn	**Sn**	**21 09 36.0**	**-2.5**
QZH				smax	smax		
	comp=N,72nm,0.4s						
QZH				smax	smax		
	comp=E,140nm,0.6s						
HATJ	**Hateruma jima**	**3.11**	**64**	P	**Pn**	**21 09 06.7**	**+0.8**
HATJ				*e*S	**Sn**	**21 09 43.7**	**+1.4**
IRIF	**Iriomote-Funau**	**3.17**	**59**	P	**Pn**	**21 09 08.2**	**+1.4**
IRIF				*e*S	**Sn**	**21 09 45.6**	**+1.7**
JKRS	**Kuro-shima**	**3.35**	**63**	P	**Pn**	**21 09 10.4**	**+1.1**
JKRS				*e*S	**Sn**	**21 09 49.8**	**+1.5**
MATB	**Ma-tsu**	**3.49**	**348**	*e*P	**Pn**	**21 09 10.2**	**-0.9**
	baz=346						
JIJ	**Ishigaki jima**	**3.52**	**62**	P	**Pn**	**21 09 12.4**	**+0.9**
JIJ				*e*S	**Sn**	**21 09 53.1**	**+0.7**
JISG	**Ishigakijimahi**	**3.76**	**60**	P	**Pn**	**21 09 15.5**	**+0.7**
JISG				*e*S	**Sn**	**21 09 59.0**	**+0.7**
JTJ	**Tarama**	**4.10**	**62**	P	**Pn**	**21 09 20.5**	**+1.0**
JTJ				*e*S	**Sn**	**21 10 08.5**	**+1.8**
VDOS	**Pratas Island**	**4.24**	**242**	*e*P	**Pn**	**21 09 21.2**	**-0.2**
	baz=240						
JIRB	**Irabujima**	**4.56**	**62**	P	**Pn**	**21 09 26.7**	**+0.8**
JIRB				S	**Sn**	**21 10 18.4**	**+0.2**
JMJ	**Miyako jima 2**	**4.66**	**63**	*e*P	**Pn**	**21 09 27.8**	**+0.6**
	baz=61						
JMJ	**Miyako jima 2**	**4.66**	**63**	P	**Pn**	**21 09 28.8**	**+1.6**
JMJ				*e*S	**Sn**	**21 10 21.1**	**+0.6**
JIKM	**Ikemajima**	**4.67**	**61**	P	**Pn**	**21 09 28.5**	**+1.2**
JIKM				*e*S	**Sn**	**21 10 21.4**	**+0.7**
JOGS	**Gusukube**	**4.73**	**64**	P	**Pn**	**21 09 29.4**	**+1.2**
JOGS				S	**Sn**	**21 10 23.6**	**+1.4**
JOW	**Kunigami**	**7.97**	**58**	P	**Pn**	**21 10 12.0**	**-0.7**
	3.9nm,0.3s,baz=301,slow=12,SNR=35						
JOW				S	**Sn**	**21 11 39.2**	**-2.9**
	1.2nm,0.3s,baz=299,slow=19,SNR=2.5						
JOW	**Kunigami**	**7.97**	**58**	*e*P	**Pn**	**21 10 12.2**	**-0.6**
	baz=55						
TGY	**Tagaytay City**	**8.58**	**179**	LR	LR	21 14 28.6	
	comp=Z,68nm,18.2s,baz=9.0,slow=43						
JNU	**Nakatsue**	**13.68**	**39**	LR	LR	21 17 16.5	
	comp=Z,59nm,20.6s,baz=220,slow=39						
KSRS	**Korea Array**	**15.93**	**21**	P	**Pn**	**21 12 02.5**	**+1.6**
	0.2nm,0.3s,baz=198,slow=11,SNR=4.0						
KSRS				LR	LR	21 18 52.9	
	comp=Z,80nm,18.6s,baz=220,slow=40						
DAV	**Davao City (W)**	**16.25**	**163**	LR	LR	21 18 05.8	
	comp=Z,67nm,21.6s,baz=350,slow=36						
MJAR	**Matsushiro Arr**	**20.45**	**44**	P	**P**	**21 12 54.0**	**-0.1**
	3.1nm,0.8s,baz=239,slow=9.3,SNR=9.6						
MJAR				LR	LR	21 20 46.4	
	comp=Z,46nm,21.6s,baz=230,slow=37						
CMAR	**Chiang Mai Arr**	**20.84**	**262**	P	**P**	**21 12 59.9**	**+1.4**
	1.0nm,0.8s,baz=68,slow=9.2,SNR=8.6						
CMAR				LR	LR	21 22 21.0	
	comp=Z,78nm,18.4s,baz=115,slow=40						
GUMO	**Guam**	**24.63**	**108**	LR	LR	21 21 03.7	
	comp=Z,37nm,21.2s,baz=98,slow=31						
SONM	**Songino Array**	**27.56**	**339**	P	**P**	**21 14 04.4**	**+0.9**
	0.4nm,0.6s,baz=154,slow=9.3,SNR=4.7						
TLY	**Talaya**	**31.79**	**340**	LR	LR	21 27 51.2	
	comp=Z,27nm,18.5s,baz=148,slow=37						
MKAR	**Makanchi Array**	**39.12**	**317**	P	**P**	**21 15 44.6**	**+0.8**
	0.4nm,0.6s,baz=111,slow=9.4,SNR=7.0						
ZALV	**Zalesovo Beam**	**41.26**	**328**	P	**P**	**21 16 02.6**	**+1.2**
	1.0nm,0.3s,baz=123,slow=7.3,SNR=7.4						
PETK	**Petropavlovsk-**	**41.30**	**33**	LR	LR	21 33 43.8	
	comp=Z,48nm,18.5s,baz=201,slow=37						
KURBB	**Kurchatov Arra**	**42.97**	**321**	P	**P**	**21 16 17.0**	**+1.6**
	0.6nm,0.8s,baz=117,slow=8.2,SNR=4.1						
H11N1	**WAKE ISLAND Hy**	**42.99**	**85**	T	T	22 01 46.3	
	baz=281						
H11N2	**WAKE ISLAND Hy**	**43.00**	**85**	T	T	22 01 54.5	
	baz=281,slow=74						
H11N3	**WAKE ISLAND Hy**	**43.01**	**85**	T	T	22 01 56.1	
	baz=281,slow=74						
H11S3	**WAKE ISLAND Hy**	**43.08**	**87**	T	T	22 01 54.0	
	baz=283,slow=74						
H11S1	**WAKE ISLAND Hy**	**43.09**	**87**	T	T	22 01 54.7	
	baz=283,slow=74						
H11S2	**WAKE ISLAND Hy**	**43.10**	**87**	T	T	22 02 02.4	
	baz=283						
WRA	**Warramunga Arr**	**44.44**	**162**	P	**P**	**21 16 25.0**	**-2.5**
	0.7nm,0.6s,baz=343,slow=8.7,SNR=13						
ASAR	**Alice Springs**	**47.86**	**164**	P	**P**	**21 16 52.9**	**-1.6**
	0.9nm,0.6s,baz=354,slow=14,SNR=18						
BVAR	**Borovoye Array**	**48.55**	**322**	P	**P**	**21 17 00.4**	**+0.9**
	0.4nm,0.5s,baz=109,slow=7.8,SNR=3.5						
STKA	**Stephens Creek**	**57.85**	**159**	P	**P**	**21 18 05.9**	**-2.1**
	0.9nm,0.7s,baz=331,slow=8.8,SNR=4.0						
ILAR	**Eielson Array**	**70.69**	**27**	P	**P**	**21 19 30.2**	**-1.7**
	0.3nm,0.5s,baz=295,slow=5.5,SNR=4.9						
ARCES	**ARCESS Array B**	**70.73**	**338**	P	**P**	**21 19 33.5**	**+1.5**
	3.0nm,1.0s,baz=58,slow=12,SNR=3.0						
SPITS	**Spitsbergen Ar**	**70.81**	**348**	P	**P**	**21 19 33.1**	**+0.6**
	6.0nm,1.0s,baz=81,slow=8.9,SNR=5.3						
FINES	**FINESS Array B**	**72.50**	**330**	P	**P**	**21 19 42.3**	**-0.5**
	0.6nm,0.8s,baz=125,slow=24,SNR=2.5						
INK	**Inuvik**	**74.72**	**22**	P	**P**	**21 19 54.1**	**-1.6**
	1.6nm,0.7s,baz=317,slow=7.0,SNR=10						
YKA	**Yellowknife Ar**	**84.46**	**23**	P	**P**	**21 20 47.1**	**-1.7**
	0.7nm,0.5s,baz=311,slow=4.8,SNR=22						
SDV	**Santo Doming

ULHL				⇓*iS*		**Sb**	**21 16 41.8**	**-1.3**
	baz=28							
KZA	**Kyzart**	**3.01**	**314**	P		**Pb**	**21 16 16.2**	**-0.2**
	SNR=50							
KZA	**Kyzart**	**3.01**	**314**	⇑*iP*		**Pn**	**21 16 13.0**	**+2.4**
	baz=15							
KZA				⇑*iS*		**Sb**	**21 16 50.9**	**-2.6**
	baz=15							
SATY	**Saty**	**3.06**	**4**	*eP*		**Pb**	**21 16 17.2**	**+0.1**
	comp=E,120nm,0.7s							
SATY				*eS*		**Sg**	**21 16 59.5**	**-1.3**
	comp=E,185nm,0.4s							
TNSS	**Tian-Shan**	**3.16**	**344**	*eP*		**Pb**	**21 16 18.8**	**-0.2**
	comp=E,44nm,0.5s							
TNSS				*eS*		**Sg**	**21 17 02.2**	**-1.9**
	comp=E,90nm,0.7s							
UZB	**Uzynbulak**	**3.21**	**12**	*eP*		**Pn**	**21 16 17.3**	**+4.2**
	comp=E,3.9nm,0.3s							
UZB				*eS*		**Sb**	**21 16 59.5**	**+0.6**
	comp=E,101nm,0.5s							
IZV	**Izvestkoviy**	**3.24**	**340**	*eP*		**Pb**	**21 16 20.0**	**-0.2**
	comp=E,88nm,0.6s							
IZV				*eS*		**Sg**	**21 17 04.3**	**-2.2**
	comp=E,282nm,0.6s							
MDOK	**Medeo**	**3.26**	**346**	Pn		**Pn**	**21 16 16.4**	**+2.6**
	comp=E,8.8nm,1.0s							
MDOK				⇑Pg		**Pb**	**21 16 21.4**	**+0.8**
	comp=E,96nm,1.6s							
MDOK				⇓Lg		Lg	21 17 05.2	
	comp=E,106nm,0.9s							
MDOK	**Medeo**	**3.26**	**346**	*eP*		**Pb**	**21 16 21.0**	**+0.5**
	comp=E,28nm,0.4s							
MDOK				⇑*iS*		**Sg**	**21 17 05.8**	**-1.4**
	comp=E,95nm,0.5s							
SHLS	**Shalkode**	**3.30**	**17**	*eP*		**Pb**	**21 16 19.9**	**-1.4**
	comp=E,19nm,0.4s							
SHLS				*eS*		**Sb**	**21 17 03.8**	**+2.3**
	comp=E,226nm,0.6s							
KOTS	**Kotyrbulak**	**3.32**	**347**	*eP*		**Pb**	**21 16 21.9**	**+0.3**
	comp=E,6.4nm,0.3s							
KOTS				*eS*		**Sg**	**21 17 07.3**	**-1.8**
	comp=E,140nm,0.7s							
KNDC	**Almaty**	**3.33**	**345**	⇑Pn		**Pb**	**21 16 22.6**	**+0.9**
	comp=E,42nm,0.7s							
KNDC				⇑Lg		Lg	21 17 07.7	
	comp=E,118nm,0.5s							
MTBS	**Maitube**	**3.38**	**338**	*eP*		**Pb**	**21 16 23.0**	**+0.5**
	comp=E,40nm,0.4s							
MTBS				⇓*iS*		**Sg**	**21 17 09.0**	**-1.9**
	comp=E,96nm,0.4s							
PDGK	**Podgornoye**	**3.47**	**16**	⇑Pn		**Pn**	**21 16 18.7**	**+2.0**
	comp=E,13nm,0.5s							
PDGK				⇑Lg		Lg	21 17 02.9	
	comp=E,60nm,0.6s							
KURS	**Kuram**	**3.48**	**0**	*eP*		**Pb**	**21 16 23.8**	**-0.5**
	comp=E,3.2nm,0.5s							
KURS				*eS*		**Sb**	**21 17 10.6**	**+4.0**
	comp=E,96nm,1.4s							
TKM2	**Tokmak 2**	**3.49**	**328**	⇑Pn		**Pn**	**21 16 19.8**	**+2.8**
	comp=E,6.9nm,0.7s							
TKM2				⇑Pg		**Pb**	**21 16 25.6**	**+1.2**
	comp=E,11nm,0.4s							
TKM2				⇓Lg		Lg	21 17 11.0	
	comp=E,41nm,0.5s							
TKM2	**Tokmak 2**	**3.49**	**328**	P		**Pn**	**21 16 20.0**	**+3.0**
	SNR=11							
TKM2	**Tokmak 2**	**3.49**	**328**	⇓*iP*		**Pn**	**21 16 18.7**	**+1.7**
	baz=28							
TKM2				⇓*iS*		**Sb**	**21 17 02.3**	**-4.6**
	baz=28							
UCH	**Uchtor**	**3.53**	**310**	P		**Pn**	**21 16 20.0**	**+2.2**
	SNR=9.7							
UCH	**Uchtor**	**3.53**	**310**	⇓*eP*		**Pn**	**21 16 19.3**	**+1.5**
	baz=11							
UCH				⇓*iS*		**Sb**	**21 17 03.1**	**-5.2**
	baz=11							
SFK	**Sufi-Kurgan**	**3.56**	**272**	⇑Pn		**Pn**	**21 16 18.6**	**+0.6**
	comp=E,3.5nm,0.4s							
SFK				⇑Pg		**Pb**	**21 16 25.9**	**+0.1**
	comp=E,8.9nm,0.3s							
SFK				⇓Sn		**Sn**	**21 17 02.9**	**+2.6**
	comp=E,39nm,0.6s							
SFK				⇑Lg		Lg	21 17 11.9	
	comp=E,44nm,0.4s							
KBK	**Karagaybulak**	**3.58**	**319**	P		**Pb**	**21 16 26.3**	**+0.3**
	SNR=27							
DGS	**Degeres**	**3.69**	**332**	*eP*		**Pb**	**21 16 27.7**	**-0.1**
	comp=E,60nm,0.6s							
DGS				*eS*		**Sg**	**21 17 17.3**	**-3.7**
	comp=E,90nm,0.5s							
AAK	**Ala-Archa**	**3.80**	**315**	⇓Pn		**Pb**	**21 16 27.0**	**-2.8**
	comp=E,6.5nm,0.4s							
AAK				⇑Lg		Lg	21 17 20.7	
	comp=E,108nm,0.8s							
AAK	**Ala-Archa**	**3.80**	**315**	P		**Pb**	**21 16 30.3**	**+0.5**
	SNR=14							
AAK	**Ala-Archa**	**3.80**	**315**	⇓*iP*		**Pn**	**21 16 23.2**	**+1.9**
	baz=15							
AAK				⇓*iS*		**Sn**	**21 17 09.1**	**+2.9**
	baz=15							
KTMS	**Ketmen**	**3.82**	**25**	*eP*		**Pb**	**21 16 29.4**	**-0.7**
	comp=E,0.4nm,0.1s							
KTMS				*eS*		**Sb**	**21 17 20.2**	**+3.8**
	comp=E,89nm,0.6s							
FRU1	**Bishkek**	**3.85**	**318**	⇑*eP*		**Pn**	**21 16 24.1**	**+2.2**
	baz=18							
FRU1				⇑*iS*		**Sn**	**21 17 10.7**	**+3.5**
	baz=18							
KTBS	**Karatobe**	**3.86**	**344**	*eP*		**Pb**	**21 16 30.8**	**+0.1**
	comp=E,10nm,0.5s							
KTBS				*eS*		**Sg**	**21 17 22.9**	**-3.6**
	comp=E,61nm,0.6s							
CHMS	**Chumysh**	**3.93**	**321**	P		**Pb**	**21 16 33.0**	**+1.1**
	SNR=12							
CHMS	**Chumysh**	**3.93**	**321**	⇑*iP*		**Pn**	**21 16 24.7**	**+1.8**
	baz=21							
CHMS				⇑*iS*		**Sn**	**21 17 12.6**	**+3.5**
	baz=21							
CHKK	**Chushkaly**	**3.94**	**348**	*eP*		**Pb**	**21 16 32.5**	**+0.4**
	comp=E,9.5nm,0.4s							
CHKK				*eS*		**Sg**	**21 17 25.6**	**-3.5**
	comp=E,73nm,0.4s							
AML	**Almayashu**	**3.98**	**304**	P		**Pn**	**21 16 27.4**	**+3.5**
	SNR=12							
AML	**Almayashu**	**3.98**	**304**	⇓*eP*		**Pn**	**21 16 24.9**	**+1.0**
	baz=5.0							
AML				⇓*iS*		**Sn**	**21 17 14.1**	**+3.3**
	baz=5.0							
MNBS	**Baschi**	**4.08**	**3**	*eP*		**Pb**	**21 16 35.3**	**+0.8**
	comp=E,26nm,0.7s							
MNBS				*eS*		**Sg**	**21 17 30.7**	**-2.7**
	comp=E,55nm,0.6s							
ARXS	**Arharly**	**4.21**	**357**	*eP*		**Pb**	**21 16 37.6**	**+0.9**
	comp=E,12nm,0.8s							
ARXS				*eS*		**Sg**	**21 17 34.5**	**-3.3**
	comp=E,58nm,0.6s							
USP	**Ospenovka**	**4.25**	**321**	P		**Pb**	**21 16 37.9**	**+0.5**
	SNR=42							
USP	**Ospenovka**	**4.25**	**321**	⇓*eP*		**Pn**	**21 16 30.3**	**+3.0**
	baz=22							
USP				⇓*eS*		**Sn**	**21 17 19.8**	**+2.8**
	baz=22							
MNAS	**Manas**	**4.92**	**302**	⇓Pn		**Pn**	**21 16 39.9**	**+3.3**
	comp=E,2.3nm,0.8s							
MNAS				⇑Pg		**Pb**	**21 16 51.0**	**+2.2**
	comp=E,11nm,0.8s							
MNAS				⇓Lg		Lg	21 17 55.5	
	comp=E,41nm,1.7s							
KK31	**Karatay Array**	**6.51**	**301**	Pg		**Pb**	**21 17 20.2**	**+4.5**
	comp=E,0.9nm,0.5s,baz=124,slow=15,SNR=8.4							
KK31				⇑Lg		Lg	21 18 45.0	
	comp=E,6.8nm,0.7s							
MK31	**Makanchi Array**	**7.43**	**23**	Pn		**Pn**	**21 17 11.3**	**+0.4**
	comp=E,0.3nm,0.3s,baz=193,slow=11,SNR=27							
MKAR	**Makanchi Array**	**7.43**	**23**	Pn		**Pn**	**21 17 11.4**	**+0.4**
	comp=E,0.5nm,0.3s,baz=187,slow=12,SNR=20							
MKAR				Sn		**Sn**	**21 18 37.4**	**+2.1**
	comp=E,0.3nm,0.3s,baz=204,slow=17,SNR=3.7							
MKAR				Lg		Lg	21 19 18.7	
	comp=E,0.3nm,0.3s,baz=205,slow=24,SNR=3.4							
KURBB	**Kurchatov Arra**	**10.62**	**1**	Pn		**Pn**	**21 17 54.3**	**-0.3**
	comp=E,0.0nm,0.3s,baz=190,slow=13,SNR=3.8							
KURBB				Lg		Lg	21 21 00.5	
	comp=E,0.0nm,0.3s,baz=192,slow=32,SNR=6.2							
BVAR	**Borovoye Array**	**14.06**	**340**	Lg		Lg	21 22 47.8	
	comp=E,0.3nm,0.3s,baz=149,slow=25,SNR=4.5							
SONM	**Songino Array**	**21.72**	**60**	P		**P**	**21 20 13.8**	**0.0**
	comp=E,0.6nm,0.6s,baz=246,slow=11,SNR=7.0							
BRTR	**Keskin Array B**	**33.89**	**284**	P		**P**	**21 22 03.7**	**-1.8**
	comp=E,0.4nm,0.7s,baz=115,slow=6.8,SNR=3.4							
FINES	**FINESS Array B**	**37.96**	**322**	P		**P**	**21 22 39.8**	**-0.1**
	comp=E,1.0nm,0.6s,baz=118,slow=9.4,SNR=8.5							
NOA	**NORSAR Array B**	**45.10**	**321**	P		**P**	**21 23 37.5**	**-1.0**
	comp=E,0.7nm,0.8s,baz=74,slow=8.0,SNR=2.5							
PETK	**Petropavlovsk-**	**53.50**	**48**	P		**P**	**21 24 43.6**	**+0.7**
	comp=E,3.8nm,0.9s,baz=270,slow=14,SNR=3.0							
TORD	**Torodi Ar. Bea**	**71.33**	**272**	P		**P**	**21 26 40.8**	**-1.9**
	comp=E,0.6nm,0.5s,baz=48,slow=5.2,SNR=14							
YKA	**Yellowknife Ar**	**77.34**	**6**	P		**P**	**21 27 15.0**	**-1.9**
	comp=E,0.1nm,0.6s,baz=344,slow=5.2,SNR=3.5							
WRA	**Warramunga Arr**	**79.34**	**127**	P		**P**	**21 27 26.7**	**-1.9**
	comp=E,0.5nm,0.9s,baz=331,slow=5.7,SNR=3.8							
ASAR	**Alice Springs**	**81.91**	**130**	P		P	21 27 39.3	-3.0
	comp=E,0.3nm,0.5s,baz=309,slow=4.9,SNR=6.0							

*IDC **27** 21:36:01.3±0.8, 17°.28S×66°.18W, h0km, mb3.9/9, mb1 4.1/11, mb1mx3.9/46, mbtmp3.9/11, ML3.8/2, MS3.3/6, Ms1 3.3/6, ms1mx3.0/41, Error ellipse: s-maj=32.3km s-min=19.9km az=73.0*
*SCB **27** 21:36:03.1±0.1, 17°.17S×66°.13W, h45km, Ml4.3/1, Error ellipse: s-maj=4.9km s-min=3.0km az=32.0*
*ISCJB **27** 21:36:05.1±0.4, 17°.23S±0°.05×65°.94W±0°.05, h33km, mb3.8/11, MS3.4/3, Error ellipse: s-maj=7.4km s-min=7.0km az=135.6*
*NEIC **27** 21:36:08.0±0.5, 17°.21S×66°.09W, h45km±5km, mb4.0/5, Error ellipse: s-maj=6.8km s-min=5.8km az=129.0*
NEIC Felt [V] at Cochabamba and [III] at Colomi.
ISC 27 21:36:07.2±0.6, 17°.18S±0°.06×66°.05W±0°.06, h35km, n40, σ1s52/42, mb3.8/11, MS3.5/3, Central Bolivia

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BBOJ	**La Paz, Jacaqu**	**2.06**	**275**	*e*	Pn	**Pn**	**21 36 39.6**	**-0.3**
LPAZ	**La Paz**	**2.19**	**294**		Pn	**Pn**	**21 36 42.9**	**+1.2**
	164nm,0.3s,baz=124,slow=14,SNR=1568							
LPAZ					Sn	**Sn**	**21 37 12.1**	**+4.2**
	295nm,0.3s,baz=1.4,slow=23,SNR=11							
LPAZ	**La Paz**	**2.19**	**294**	*e*	Pn	**Pn**	**21 36 42.0**	**+0.3**
LPAZ					Sn	**Sn**	**21 37 12.1**	**+4.2**
LPAZ	**La Paz**	**2.19**	**294**	*e*	Pn	**Pn**	**21 36 42.8**	**+1.1**
LPAZ	**La Paz**	**2.19**	**294**	*e*	Pn	**Pn**	**21 36 42.0**	**+0.3**
LPAZ				*e*	Sn	**Sn**	**21 37 10.1**	**+2.2**
BBOB	**La Paz, Bander**	**2.25**	**297**	*e*	Pn	**Pn**	**21 36 42.6**	**+0.1**
MNMC	**Minye Minye**	**3.89**	**240**	*e*	Pn	**Pn**	**21 37 04.2**	**-0.7**
MOCB	**Mochara**	**4.07**	**175**	*e*	Pn	**Pn**	**21 37 09.1**	**+1.7**
MOCB				*e*	Sn	**Sn**	**21 37 57.4**	**+3.4**
	141nm,0.3s							
PB11	**IPOC Station P**	**4.28**	**233**	*e*	Pn	**Pn**	**21 37 10.1**	**0.0**
SIV	**San Ignacio**	**4.91**	**77**	*e*	Pn	**Pn**	**21 37 21.4**	**+2.7**
	18nm,0.3s,baz=261,slow=9.7,SNR=264							
SIV					Lg	Lg	21 38 39.7	
	36nm,0.3s,baz=0.6,slow=21,SNR=8.6							
SIV					LR	LR	21 39 28.9	
	comp=Z,174nm,19.3s,baz=258,slow=41							
SIV	**San Ignacio**	**4.91**	**77**	*e*	Pn	**Pn**	**21 37 21.2**	**+2.5**
PB01	**IPOC Station P**	**5.04**	**220**	*e*	Pn	**Pn**	**21 37 21.2**	**+0.8**
ARE	**Arequipa**	**5.26**	**277**	*e*	P	**Pn**	**21 37 24.0**	**+0.2**
PB04	**IPOC Station P**	**6.42**	**216**	*e*	Pn	**Pn**	**21 37 40.0**	**+0.5**
SAML	**Samuel**	**8.64**	**19**	*e*	Pn	**Pn**	**21 38 10.7**	**+0.7**
CPUP	**Villa Florida**	**12.18**	**140**		Pn	**Pn**	**21 38 57.3**	**-1.0**
	0.1nm,0.3s,baz=338,slow=16,SNR=2.4							
CPUP					Lg	Lg	21 42 23.6	
	0.3nm,0.3s,baz=33,slow=12,SNR=2.9							
CPUP					LR	LR	21 44 12.5	
	comp=Z,82nm,20.2s,baz=307,slow=40							
CPUP	**Villa Florida**	**12.18**	**140**	*e*	Pn	**Pn**	**21 38 58.0**	**-0.3**
PTGA	**Pitinga**	**17.41**	**21**	*e*	P	**Pn**	**21 40 07.1**	**-0.5**
	1.4nm,0.3s,baz=205,slow=18,SNR=12							
PTGA					LR	LR	21 46 11.9	
	comp=Z,64nm,19.1s,baz=200,slow=35							
PTGA	**Pitinga**	**17.41**	**21**	*e*	Pn	**Pn**	**21 40 07.0**	**-0.5**
	9.5nm,1.0s							
PLCA	**Paso Flores**	**23.79**	**189**	P		**P**	**21 41 14.8**	**-2.0**
	1.7nm,0.7s,baz=22,slow=12,SNR=4.2							
PLCA					LR	LR	21 49 59.6	
	comp=Z,110nm,21.6s,baz=28,slow=35							
PLCA	**Paso Flores**	**23.79**	**189**	*e*	P	**P**	**21 41 15.7**	**-1.1**
	3.7nm,1.0s							
RUSC	**La Rusia**	**23.96**	**343**	*e*	P	**P**	**21 41 19.4**	**+0.4**
	2.2nm,1.0s							
SDV	**Santo Domingo**	**26.30**	**350**	P		**P**	**21 41 40.7**	**+0.7**
	1.4nm,0.3s,baz=339,slow=14,SNR=2.6							
APG	**El Apazote**	**40.04**	**322**	LR		LR	22 00 01.0	
	comp=Z,68nm,21.5s,baz=16,slow=36							
TKL	**Tuckaleechee C**	**55.17**	**342**	LR		LR	22 10 34.9	
	comp=Z,36nm,19.4s,baz=349,slow=38							
TXAR	**Lajitas Array**	**58.80**	**321**	P		**P**	**21 46 01.5**	**-0.9**
	0.3nm,0.9s,baz=140,slow=5.7,SNR=2.8							
SNAA	**Sanae**	**65.49**	**162**	P		**P**	**21 46 45.4**	**-1.2**
	1.4nm,0.8s,baz=314,slow=1.9,SNR=3.9							
SNAA	**Sanae**	**65.49**	**162**	*e*	P	**P**	**21 46 45.7**	**-0.9**
	2.6nm,0.9s							
PDAR	**Pinedale Array**	**71.83**	**328**	P		**P**	**21 47 25.8**	**-1.0**
	0.4nm,0.6s,baz=116,slow=6.9,SNR=3.7							
PDAR	**Pinedale Array**	**71.83**	**328**	*e*	P	**P**	**21 47 25.2**	**-1.5**
TOA0	**Torodi Ar. Sit**	**73.36**	**70**	*e*	P	**P**	**21 47 35.7**	**-0.4**
TORD	**Torodi Ar. Bea**	**73.36**	**70**	P		**P**	**21 47 36.0**	**0.0**
	1.7nm,0.8s,baz=248,slow=6.1,SNR=9.0							
RLMT	**Red Lodge**	**73.39**	**330**	*e*	P	**P**	**21 47 35.4**	**-0.6**
	3.4nm,1.0s							
MCMT	**McKenzie Canyo**	**74.97**	**328**	*e*	P	**P**	**21 47 45.5**	**+0.4**
YBH	**Yreka Blue Hor**	**78.55**	**320**	P		**P**	**21 48 04.9**	**-0.4**
	0.3nm,0.3s,baz=59,slow=12,SNR=2.0							
ESDC	**Sonseca Array**	**80.87**	**44**	P		**P**	**21 48 18.4**	**+0.6**
	0.7nm,0.7s,baz=247,slow=6.1,SNR=6.0							
YKA	**Yellowknife Ar**	**88.07**	**340**	P		**P**	**21 48 53.1**	**-0.5**
	1.1nm,0.6s,baz=126,slow=4.6,SNR=32							
ZALV	**Zalesovo Beam**	**136.92**	**25**	PKP		**PKPdf**	**21 55 26.6**	**+0.5**
	0.8nm,0.6s,baz=316,slow=6.0,SNR=3.3							
WRA	**Warramunga Arr**	**138.03**	**209**	PKP		**PKPdf**	**21 55 27.9**	**-1.4**
	0.4nm,0.8s,baz=138,slow=2.0,SNR=3.5							
SONM	**Songino Array**	**148.81**	**10**	PKPbc		**PKPbc**	**21 55 51.7**	**+0.4**
	0.6nm,0.6s,baz=331,slow=0.2,SNR=4.3							

*ISCJB **27** 21:36:18.8±0.7, 36°.55S±0°.04×72°.87W±0°.08, h26km±6km, Error ellipse: s-maj=10.7km s-min=5.9km az=17.7*
*GUC **27** 21:36:18.7±0.4, 36°.57S×72°.90W, h36km±1km, ML3.3*
*SJA **27** 21:36:18.5±1.0, 36°.50S×72°.77W, h36km±5km, ML3.2, MW3.6*
ISC 27 21:36:18.9±1.1, 36°.58S±0°.03×72°.87W±0°.05, h25km±12km, n9, σ0s48/16, 1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CCSP	**San Pedro de C**	**0.33**	**216**	*e*	P	**Pb**	**21 36 26.1**	**-0.2**
CCSP				*e*	S	**Sb**	**21 36 32.1**	**+0.7**
CCSP					IAML		21 36 33.1	
	comp=N,5μm,0.5s							
COCH	**Cobquecura**	**0.45**	**8**	*e*	P	**Pb**	**21 36 28.3**	**+0.1**
COCH				*e*	S	**Sb**	**21 36 34.2**	**-0.5**
COCH	**Cobquecura**	**0.45**	**8**	*e*	P	**Pb**	**21 36 27.9**	**-0.4**
COCH				*e*	S	**Sb**	**21 36 34.8**	**+0.1**
COCH					IAML		21 36 36.2	
	comp=N,3μm,0.1s							
CCHI	**Chillan**	**0.64**	**92**	⇓*eP*		**Pb**	**21 36 31.2**	**-0.1**
CCHI				*e*	S	**Sb**	**21 36 39.9**	**0.0**
CCHI	**Chillan**	**0.64**	**92**	*e*	P	**Pb**	**21 36 30.9**	**-0.4**
CCHI				*e*	S	**Sb**	**21 36 40.0**	**+0.1**
GO05	**HualaæØ**	**1.74**	**26**	*e*	P	**Pn**	**21 36 47.1**	**-0.5**
GO05				*e*	S	**Sn**	**21 37 09.2**	**+0.2**
GO05					IAML		21 37 14.6	
	comp=E,631nm,0.7s							
CANA	**Caviahue**	**1.94**	**133**	*e*	P	**Pn**	**21 36 50.9**	**+0.4**
CANA					IAML		21 37 01.6	
	comp=Z,207nm,0.6s							
TMU	**Temuco**	**2.16**	**174**	*e*	P	**Pn**	**21 36 53.0**	**-0.2**
TMU				*e*	S	**Sb**	**21 37 23.1**	**-0.6**
ASAL	**Salagasta**	**5.19**	**41**	*e*	P	**Pn**	**21 37 35.9**	**+0.9**

*BJI **27** 21:51:20.3, 41°.10S×43°.40E, h10km, mb4.7/19, mB5.2/13, Ms4.9/8, Ms7 4.6/8*
*ISCJB **27** 21:51:21.3±0.3, 41°.07S±0°.05×43°.46E±0°.08, h9km, mb4.7/55, MS4.0/32, Error ellipse: s-maj=8.4km s-min=7.7km az=151.0*
*IDC **27** 21:51:21.2±0.4, 41°.06S×43°.48E, h0km, mb4.4/31, mb1 4.5/32, mb1mx4.4/52, mbtmp4.4/32, ML4.0/1, MS4.0/32, Ms1 4.0/32, ms1mx4.0/41, Error ellipse: s-maj=15.2km s-min=11.8km az=65.0*
*GCMT **27** 21:51:22.9±0.2, 40°.90S×43°.45E, h12km, MW4.9/93, Moment Tensor Solution. s32,c39; s93,c136; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=3.23±.07; Mθθ=2.83±.06; Mφφ=0.39±.07; Mrθ=0.39±.21; Mrφ=-0.30±.06; Mθφ=0.07±.29; Best double couple: Mo=3.07300×10^16 NP1: φs=275.00000°, δ49.00000°, λ=-92.00000°. NP2: φs=99.00000°, δ42.00000°, λ=-87.00000°. Principal axes: T 2.8900, Plg4.0000°, Azm7.0000°; N 0.3630, Plg2.0000°, Azm277.0000°; P -3.2560, Plg86.0000°, Azm160.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **27** 21:51:22.9±0.2, 41°.09S×43°.47E, h10km, mb4.9/28 Error ellipse: s-maj=7.6km s-min=6.4km az=68.0*
ISC 27 21:51:22.7±0.3, 41°.10S±0°.07×43°.47E±0°.08, h9km, n300, σ0s87/283, mb4.8/55, MS4.0/33, Prince Edward Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BOSA	**Boshof**	**19.41**	**304**	P		**P**	**21 55 48.8**	**-0.5**
	0.3nm,0.3s,baz=132,slow=9.3,SNR=9.9							
BOSA				S		Sn	21 59 06.6	-22
	0.1nm,0.3s,baz=218,slow=17,SNR=2.4							
BOSA				LR		LR	22 01 44.0	
	comp=Z,441nm,21.8s,baz=136,slow=32							
BOSA	**Boshof**	**19.41**	**304**	*e*	P	**Pn**	**21 55 50.3**	**-0.1**
	44nm,1.4s							
SUR	**Sutherland**	**20.09**	**288**	P		**P**	**21 55 57.1**	**+0.3**
	1.6nm,0.8s,baz=129,slow=12,SNR=14							
SUR				LR		LR	22 02 16.3	
	comp=Z,14nm,18.7s,baz=124,slow=33							
SUR	**Sutherland**	**20.09**	**288**	*e*	P	Pn	21 55 57.8	-0.8
	81nm,1.4s							
LBTB	**Lobatse**	**21.88**	**312**	P		**P**	**21 56 15.4**	**-0.5**
	18nm,0.9s,baz=145,slow=9.9,SNR=11							
LBTB				LR		LR	22 03 22.7	
	comp=Z,383nm,21.6s,baz=138,slow=33							
LBTB	**Lobatse**	**21.88**	**312**	*e*	P	**P**	**21 56 15.5**	**-0.5**
	112nm,1.6s							
ABPO	**Ambohimpanom**	**22.24**	**9**	*e*	P	**P**	**21 56 20.2**	**+0.2**
	33nm,0.6s							
OPO	**Ambohidratompo**	**22.68**	**9**	P		**P**	**21 56 23.7**	**-1.0**
	6.8nm,0.8s,baz=171,slow=11,SNR=5.0							
MAW	**Mawson**	**28.60**	**165**	LR		LR	22 05 48.1	
	comp=Z,372nm,21.4s,baz=354,slow=30							
LSZ	**Lusaka**	**28.95**	**328**	P		**P**	**21 57 21.7**	**-0.8**
	3.1nm,0.7s,baz=164,slow=9.1,SNR=7.1							
LSZ				LR		LR	22 07 57.8	
	comp=Z,664nm,19.4s,baz=150,slow=34							
LSZ	**Lusaka**	**28.95**	**328**	*e*	P	**P**	**21 57 21.9**	**-0.7**
	2.3nm,0.7s							
TSUM	**Tsumeb**	**31.06**	**307**	*e*	P	**P**	**21 57 41.7**	**+0.4**
	12nm,0.9s							
SNAA	**Sanae**	**38.15**	**202**	P		**P**	**21 58 42.6**	**+0.6**
	5.5nm,1.0s,baz=103,slow=9.3,SNR=11							
SNAA	**Sanae**	**38.15**	**202**	*e*	P	**P**	**21 58 42.5**	**+0.6**
	8.3nm,1.0s							
KMBO	**Kilima Mbogo**	**40.19**	**350**	P		**P**	**21 58 59.1**	**-0.6**
	0.9nm,0.4s,baz=189,slow=14,SNR=3.8							
KMBO				LR		LR	22 13 24.2	
	comp=Z,328nm,20.3s,baz=104,slow=33							
H08S1	**Diego Carcia H**	**42.12**	**46**	T		T	22 44 09.0	
	baz=217							
H08S2	**Diego Garcia H**	**42.13**	**46**	T		T	22 43 56.5	
	baz=217							
H08S3	**Diego Garcia H**	**42.14**	**46**	T		T	22 44 04.8	
	baz=217							
H08N3	**Diego Garcia H**	**42.43**	**43**	T		T	22 44 21.1	
	baz=216,slow=77,SNR=3.3							
H08N1	**Diego Garcia H**	**42.45**	**43**	T		T	22 44 28.6	
	baz=216,slow=77,SNR=3.7							
H08N2	**Diego Garcia H**	**42.45**	**43**	T		T	22 44 15.9	
	baz=216,slow=77,SNR=3.5							
QSPA	**South Pole Qui**	**49.11**	**180**	P		**P**	**22 00 10.0**	**-0.2**
	3.5nm,0.9s,baz=256,slow=6.1,SNR=7.2							
QSPA	**South Pole Qui**	**49.11**	**180**	*e*	P	**P**	**22 00 10.4**	**+0.2**
	68nm,1.2s							
ATD	**Arta Tunnel**	**52.37**	**359**	P		**P**	**22 00 38.7**	**+3.5**
	7.1nm,0.8s,baz=234,slow=19,SNR=4.4							
ATD				LR		LR	22 20 15.6	
	comp=Z,172nm,21.7s,baz=154,slow=33							
H01W2	**Cape Leeuwin H**	**54.64**	**108**	T		T	23 00 05.8	
	baz=241,slow=75,SNR=65							
H01W3	**Cape Leeuwin H**	**54.65**	**108**	T		T	23 00 24.8	
	baz=241,slow=75,SNR=64							
H01W1	**Cape Leeuwin H**	**54.66**	**108**	T

17nm,1.0s
GKN Gorkha 78.62 36 *e*P **P** **22 03 24.5 -0.5**
42nm,1.1s
RAMN Ramite 78.63 38 *e*P **P** **22 03 24.2 -1.0**
42nm,1.2s
ODAN Odare 78.93 39 *e*P **P** **22 03 26.2 -0.6**
PLCA Paso Flores 78.94 225 P **P** **22 03 26.6 -0.2**
7.0nm,0.9s,baz=150,slow=5.6,SNR=15
PLCA LR LR 22 30 55.1
comp=Z,123nm,21.3s,baz=156,slow=30
PLCA Paso Flores 78.94 225 *e*P **P** **22 03 26.3 -0.4**
15nm,1.1s
JIRN Jiri 79.04 38 *e*P **P** **22 03 26.2 -1.4**
45nm,1.2s
GUN Gumba 79.11 37 *e*P **P** **22 03 27.8 -0.1**
51nm,1.2s
NIL Nilore 79.28 25 *e*P **P** **22 03 30.0 +1.7**
GEYT Alibeck 79.78 12 P **P** **22 03 31.0 0.0**
1.0nm,0.7s,baz=204,slow=3.2,SNR=5.3
CPUP Villa Florida 80.69 243 P **P** **22 03 35.8 -0.5**
13nm,0.8s,baz=121,slow=5.8,SNR=20
CPUP LR LR 22 33 33.7
comp=Z,64nm,19.9s,baz=150,slow=31
CPUP Villa Florida 80.69 243 *e*P **P** **22 03 36.2 -0.1**
11nm,0.8s
GNI Garni 80.88 1 LR LR 22 38 48.5
comp=Z,64nm,20.2s,baz=164,slow=35
GNI Garni 80.88 1 *e*P **P** **22 03 37.9 +1.0**
7.5nm,0.7s
BRTR Keskin Array B 80.94 352 P **P** **22 03 36.4 -0.9**
0.9nm,0.7s,baz=169,slow=6.9,SNR=9.1
BRTR LR LR 22 40 51.3
comp=Z,72nm,18.2s,baz=142,slow=37
VAE Valguarnera 82.60 337 P **P** **22 03 46.8 +0.8**
1.9nm,0.5s,baz=45,slow=10.0,SNR=2.7
VAE LR LR 22 41 57.4
comp=Z,278nm,19.0s,baz=140,slow=37
KEST Kesra 82.63 333 P **P** **22 03 47.1 +0.9**
6.0nm,0.9s,baz=318,slow=6.1,SNR=5.3
KEST LR LR 22 41 00.2
comp=Z,281nm,20.6s,baz=57,slow=36
KEST Kesra 82.63 333 *e*P **P** **22 03 47.6 +1.4**
16nm,1.1s
LSA Lhasa 83.11 40 P **P** **22 03 49.8 +0.4**
LSA pmax pmax
comp=Z,4.0nm,1.1s
LSA Lhasa 83.11 40 *e*P **P** **22 03 49.8 +0.4**
20nm,1.1s
PEL Peldehue 84.44 230 *e*P **P** **22 03 55.9 +0.1**
34nm,1.1s
KBZ Khabaz 84.44 360 LR LR 22 41 37.4
comp=Z,86nm,19.9s,baz=186,slow=36
KIV Kislovodsk 84.67 359 *e*P **P** **22 03 58.0 +1.5**
14nm,1.2s
KSH Kashi 85.52 25 P **P** **22 03 58.5 -2.4**
KSH pmax pmax
comp=Z,32nm,1.3s
CTA Charters Tower 86.19 113 P **P** **22 04 04.7 -0.1**
5.7nm,0.7s,baz=229,slow=11,SNR=6.6
KKAR Karatay Array 87.30 19 *e*P **P** **22 04 10.2 +0.8**
4.4nm,0.9s
MLR Muntele Rosu 87.62 348 P **P** **22 04 12.7 +1.6**
0.9nm,0.9s,baz=222,slow=3.9,SNR=2.8
MLR LR LR 22 44 33.6
comp=Z,12nm,19.9s,baz=186,slow=36
MLR Muntele Rosu 87.62 348 *e*P **P** **22 04 14.0 +2.9**
19nm,1.5s
AAK Ala-Archa 87.94 22 P **P** **22 04 12.2 -0.5**
0.6nm,0.4s,baz=170,slow=6.5,SNR=4.3
BUR04 Bucovina Ar. S 89.81 348 *e*P **P** **22 04 21.7 +0.4**
BUR08 Bucovina Ar. S 89.84 348 *e*P **P** **22 04 22.7 +1.3**
CD2 Chengdu 90.73 48 *e*P **P** **22 04 27.5 +1.5**
ES19 SONSECA Array 91.25 325 *e*P **P** **22 04 28.3 +0.2**
ESDC Sonseca Array 91.25 325 P **P** **22 04 27.5 -0.7**
1.0nm,0.8s,baz=155,slow=5.0,SNR=8.0
ESDC LR LR 22 46 34.4
comp=Z,131nm,20.2s,baz=135,slow=36
BNI Bardonecchia 91.89 335 *e*P **P** **22 04 32.7 +1.6**
15nm,1.2s
AKTO Aktyubinsk 92.04 9 LR LR 22 44 26.8
comp=Z,121nm,21.6s,baz=186,slow=35
GERES GERESS Array B 93.34 341 LR LR 22 51 37.1
comp=Z,42nm,18.2s,baz=98,slow=39
PB11 IPOC Station P 93.41 240 *e*P **P** **22 04 36.5 -2.4**
30nm,1.1s
WMQ Urumqi 93.43 30 P **P** **22 04 39.0 +0.9**
WMQ pmax pmax
comp=Z,16nm,0.6s
WMQ pmax pmax
comp=Z,120nm,5.5s
WMQ LR LR
comp=N,160nm,29.5s
WMQ LR LR
comp=E,120nm,21.7s
WMQ LR LR
comp=Z,200nm,21.7s
MNMC Minye Minye 93.82 241 *e*P **P** **22 04 41.2 +0.2**
10nm,1.0s
MAKZ Makanchi 94.00 25 *e*P **P** **22 04 40.7 +0.1**
2.5nm,0.8s
PMG Port Moresby 94.02 106 LR LR 22 42 40.7
comp=Z,59nm,20.8s,baz=228,slow=33
MK01 Makanchi Array 94.07 26 *e*P **P** **22 04 39.5 -1.4**
MK31 Makanchi Array 94.08 26 *e*P **P** **22 04 41.5 +0.4**
MKAR Makanchi Array 94.08 26 P **P** **22 04 40.0 -1.1**
0.8nm,0.8s,baz=205,slow=5.9,SNR=9.1
MKAR LR LR 22 44 38.0
comp=Z,58nm,19.6s,baz=230,slow=34
LZH Lanzhou 94.67 45 *e*P **P** **22 04 43.0 -1.2**
LZH pP pP 22 04 46.3 -0.9
LZH sP sP 22 04 48.0 -0.2
LZH pmax pmax
comp=Z,12nm,1.1s
LPAZ La Paz 94.86 244 P **P** **22 04 46.8 +0.6**
1.8nm,0.8s,baz=98,slow=6.6,SNR=5.9
LPAZ LR LR 22 42 37.5
comp=Z,91nm,18.5s,baz=128,slow=32
LPAZ La Paz 94.86 244 *e*P **P** **22 04 46.9 +0.7**
4.3nm,1.1s
GTA Gaotai 95.14 40 *e*P **P** **22 04 45.8 -0.4**
GTA pP sP 22 04 50.0 -0.3
GTA sP pP 22 04 53.3 +4.1
GTA pmax pmax
comp=Z,2.0nm,1.1s
KURBB Kurchatov Arra 96.36 22 P **P** **22 04 50.0 -1.2**
0.4nm,0.9s,baz=226,slow=4.3,SNR=2.6
KURK Kurchatov 96.47 22 P **P** **22 04 50.0 -1.7**
BVAR Borovoye Array 96.59 16 P **P** **22 04 52.4 +0.1**
0.6nm,0.8s,baz=185,slow=10.0,SNR=3.5
BVAR LR LR 22 44 21.8
comp=Z,66nm,20.2s,baz=184,slow=33
DZM Mont Dzumac 97.87 128 LR LR 22 44 23.9
comp=Z,51nm,18.4s,baz=238,slow=32
NJ2 Nanjing 100.60 57 *e*P **Pdif** **22 05 11.0 +0.2**
NJ2 pmax pmax
comp=Z,6.0nm,0.5s
HHC Hu-ho-hao-te 102.28 46 *e*P **Pdif** **22 05 20.5 +2.3**
HHC pmax pmax
comp=Z,16nm,1.5s
HHC pmax pmax
comp=Z,48nm,8.6s
NOA NORSAR Array B 105.13 344 Pdiff **Pdif** **22 05 32.2 +2.0**
1.0nm,0.8s,baz=165,slow=3.5,SNR=3.0
TBI Tubuai 114.77 167 *e*LR LR 22 44 38.0
225nm,25.0s
PPT2 Papeete2 120.37 166 *e*LR LR 22 47 12.5
172nm,24.2s
TAOE Nuku Hiva Isla 130.18 175 *e*LR LR 22 51 48.2
174nm,26.8s
LONY Lake Ozonia 135.42 296 P **PKPdf** **22 10 43.8 +1.2**
baz=108
655A Horseshoe Beac 135.63 272 P **PKPdf** **22 10 43.8 +0.4**
baz=120
452A Marianna 137.74 273 P **PKPdf** **22 10 47.5 +0.2**
baz=119
TLJG Tlapa 139.89 246 *e*PKPdf **PKPdf** **22 10 51.8 0.0**
RES Resolute Bay 141.39 344 PKP **PKPdf** **22 10 50.9 -1.7**
3.0nm,1.0s,baz=45,slow=10,SNR=4.1
W47A Westpoint 141.50 278 P **PKPdf** **22 10 53.9 -0.1**
baz=114
V47A Nunnelly 141.67 278 P **PKPdf** **22 10 54.4 +0.1**
baz=113
Y46A Houston 141.88 275 P **PKPdf** **22 10 55.1 +0.4**
baz=115
WVT Waverly 142.02 279 P **PKPdf** **22 10 55.5 +0.5**
baz=113
V42A Cord 144.56 276 P **PKPab** **22 10 56.9 -1.1**
baz=113
G43A Wallace 144.57 293 P **PKPab** **22 10 57.0 -0.6**
baz=101
M43A Waltham Townsh 144.60 287 P **PKPab** **22 10 57.2 -0.6**
baz=106
I43A Langenfeld Bro 144.62 291 P **PKPab** **22 10 57.4 -0.4**
baz=103
L43A Garden Prairie 144.64 288 P **PKPab** **22 10 57.2 -0.8**
baz=105
U42A Revenden 144.66 277 P **PKPab** **22 10 57.2 -1.0**
baz=112
J43A Natural Harves 144.70 290 P **PKPab** **22 10 57.6 -0.6**
baz=103
Y41A Eaglette Beard 144.71 273 P **PKPab** **22 10 57.4 -1.1**
baz=115
T42A Van Buren 144.79 279 P **PKPab** **22 10 57.6 -1.1**
baz=111,SNR=16
S42A Caledonia 144.83 280 P **PKPab** **22 10 58.2 -0.7**
baz=110,SNR=21
140A Cam and Jess, 144.91 270 P **PKPab** **22 10 58.4 -0.8**
baz=116
E42A Champion 144.94 295 P **PKPab** **22 10 58.2 -0.8**
baz=99
W41B Gary Mavity, V 144.96 275 P **PKPab** **22 10 58.5 -0.9**
baz=113,SNR=11
F42A Maple Grove Fa 144.98 294 P **PKPab** **22 10 58.4 -0.8**
baz=110
R42A Luebbering 145.00 281 P PKPbc 22 10 58.5 -0.9
baz=109
Q42A Golden Eagle 145.01 282 P **PKPbc** **22 10 58.7 -0.8**
baz=109
Z40A Long Farm, Mag 145.04 271 P **PKPbc** **22 10 58.8 -0.9**
baz=116
O42A Bath 145.07 284 P **PKPbc** **22 10 59.0 -0.6**
baz=107
P42A Winchester 145.08 283 P **PKPbc** **22 10 59.0 -0.6**
baz=108,SNR=10
G42A Mountain 145.09 293 P **PKPbc** **22 10 58.7 -0.9**
baz=101
V41A Mountainview 145.13 276 P **PKPbc** **22 10 58.6 -1.4**
baz=112,SNR=13
X40A Basin Creek Fa 145.13 273 P **PKPbc** **22 10 58.7 -1.3**
baz=114
I42A Draeger Farm, 145.16 291 P **PKPbc** **22 10 59.0 -0.8**
baz=102,SNR=6.4
U41A Viola 145.16 277 P **PKPbc** **22 10 58.9 -1.1**
baz=112,SNR=8.1
J42A Columbus 145.18 290 P **PKPbc** **22 10 59.3 -0.5**
baz=103,SNR=7.1
M42A Sheffield 145.18 286 P **PKPbc** **22 10 59.1 -0.9**
baz=105
N42A Yates City 145.22 285 P **PKPbc** **22 10 59.2 -0.9**
baz=106
K42A Prairie Point, 145.22 289 P **PKPbc** **22 10 59.4 -0.6**
baz=104,SNR=5.6
L42A Oliver, Polo 145.26 287 P **PKPbc** **22 10 59.5 -0.7**
baz=105,SNR=7.5
CCM Cathedral Cave 145.26 280 P **PKPbc** **22 10 59.8 -0.5**
baz=110
CCM Cathedral Cave 145.26 280 *e*PKPbc **PKPbc** **22 10 59.8 -0.5**
Y40A Okolona 145.27 272 P **PKPbc** **22 10 59.3 -1.2**
baz=115
T41A Mountain View 145.30 278 P **PKPbc** **22 10 59.5 -1.0**
baz=111,SNR=18
NATX Nacogdoches 145.33 268 P **PKPbc** **22 11 00.2 -0.5**
baz=118
R41A Rosebud 145.44 280 P **PKPdf** **22 11 00.1 -0.8**
baz=109,SNR=7.7
D41A Chassel 145.47 296 P **PKPdf** **22 11 00.4 -0.2**
baz=98
S41A Jillco Farms, 145.48 279 P **PKPdf** **22 11 00.2 -0.8**
baz=110,SNR=8.0
Q41A Truxton 145.54 282 P **PKPdf** **22 11 00.7 -0.3**
baz=108,SNR=11
W40A Ferguson Farm, 145.59 274 P **PKPdf** **22 11 00.8 -0.4**
baz=113,SNR=8.4
O41A Passleys Farm, 145.63 284 P **PKPdf** **22 11 00.5 -0.7**
baz=107,SNR=6.3
P41A Barry, Barry 145.64 283 P **PKPdf** **22 11 00.5 -0.6**
baz=107,SNR=6.0
V40A Witts Springs 145.64 276 P **PKPdf** **22 11 00.6 -0.8**
baz=112,SNR=9.0
F41A Three Lakes 145.64 294 P **PKPdf** **22 11 00.6 -0.4**
baz=100
E41A Kenton 145.66 295 P **PKPdf** **22 11 00.6 -0.3**
baz=99
MIAR Mount Ida 145.72 273 P **PKPdf** **22 11 01.0 -0.5**
baz=114
MIAR Mount Ida 145.72 273 *e*PKPdf **PKPdf** **22 11 00.1 -1.3**
COWI Conover 145.72 295 *e*PKPdf **PKPdf** **22 11 00.7 -0.4**
M41A Milan 145.73 286 P **PKPdf** **22 11 00.8 -0.4**
baz=105
H41A Junction City 145.83 292 P **PKPdf** **22 11 01.2 -0.1**
baz=101
J41A Loganville 145.83 290 P **PKPdf** **22 11 01.2 -0.2**
baz=102
K41A Shullsburg 145.86 288 P **PKPdf** **22 11 01.4 0.0**
baz=104
I41A Arkdale 145.87 291 P **PKPdf** **22 11 01.3 -0.1**
baz=102
U40A Yellville 145.87 277 P **PKPdf** **22 11 01.3 -0.4**
baz=112,SNR=7.9
L41A Preston 145.88 287 P **PKPdf** **22 11 01.5 0.0**
baz=104
JFWS Jewell Farm 145.89 289 P **PKPdf** **22 11 01.6 +0.1**
baz=103
JFWS Jewell Farm 145.89 289 *e*PKPdf **PKPdf** **22 11 01.8 +0.3**
T40A Mansfield 145.90 278 P **PKPdf** **22 11 01.6 -0.1**
baz=111
C40A Isle Royale Na 145.98 298 P **PKPdf** **22 11 01.6 +0.2**
baz=96
S40A Lebanon 146.04 279 P **PKPdf** **22 11 02.0 +0.1**
baz=110,SNR=15
R40A Maddies Statio 146.10 280 P **PKPdf** **22 11 02.2 +0.2**
baz=109,SNR=6.8
X39A Fountain Ranch 146.11 273 P **PKPbc** **22 11 02.7 -0.4**
baz=114,SNR=11
W39A Magazine 146.13 274 P **PKPdf** **22 11 02.5 +0.4**
baz=113,SNR=7.4
Q40A Laux Farm, Aux 146.18 281 P **PKPdf** **22 11 02.6 +0.5**
baz=108,SNR=5.3
V39A Pettigrew 146.27 275 P **PKPdf** **22 11 02.6 +0.1**
baz=112,SNR=7.7
E40A Wakefield 146.30 295 P **PKPdf** **22 11 02.6 +0.5**
baz=98
P40A Paris 146.32 282 P **PKPdf** **22 11 02.9 +0.6**
baz=107,SNR=5.5
G40A Rib Lake 146.32 293 P **PKPdf** **22 11 02.7 +0.6**
baz=100
H40A Chili 146.34 292 P **PKPbc** **22 11 02.9 -0.6**
baz=100
U39A Green Forest 146.35 276 P **PKPdf** **22 11 02.8 +0.3**
baz=112
J40A Soldiers Grove 146.35 289 P **PKPdf** **22 11 02.7 +0.5**
baz=102
N40A Mertquake, Sal 146.36 285 P **PKPdf** **22 11 02.9 +0.5**
baz=106
O40A La Belle 146.36 283 P **PKPdf** **22 11 03.1 +0.7**
baz=106
F40A Park Falls 146.37 294 P **PKPbc** **22 11 03.0 -0.6**
baz=99
K40A Colesburg 146.48 288 P **PKPdf** **22 11 02.9 +0.4**
baz=103
T39A Clever 146.50 277 P **PKPbc** **22 11 03.5 -0.6**
baz=111,SNR=7.5
C39A Grand Marais 146.62 297 P **PKPdf** **22 11 03.4 +0.8**
baz=96
R39A Chumby, Stover 146.68 280 P **PKPbc** **22 11 04.0 -0.7**
baz=109,SNR=23
S39A Bolivar 146.69 279 P **PKPdf** **22 11 03.6 +0.5**
baz=110,SNR=9.6
E39A Mellen 146.74 295 P **PKPbc** **22 11 03.9 -0.6**
baz=98
P39B Salisbury 146.83 282 P **PKPbc** **22 11 04.4 -0.7**
baz=107
Q39A Willow Grove F 146.86 281 P **PKPdf** **22 11 04.1 +0.9**
baz=108,SNR=5.5
O39A Kirksville 146.89 283 P **PKPbc** **22 11 04.8 -0.4**
baz=106
F39A Loretta 146.92 294 P **PKPbc** **22 11 04.4 -0.7**
baz=98
M39A Webster 146.94 286 P **PKPbc** **22 11 04.7 -0.6**
baz=104
L39A Vinton 146.97 287 P **PKPbc** **22 11 04.7 -0.7**
baz=104
H39A Augusta 146.98 292 P **PKPbc** **22 11 04.8 -0.5**
baz=100
I39A Houston 147.00 290 P **PKPbc** **22 11 04.5 -0.9**
baz=101
G39A Holcombe 147.00 293 P **PKPbc** **22 11 04.7 -0.7**
baz=99
K39A Oelwein 147.02 288 P **PKPbc** **22 11 04.5 -1.0**
baz=103
J39A Decorah 147.03 289 P **PKPbc** **22 11 04.7 -0.8**
baz=102
N39A Derby Farms, D 147.03 284 P **PKPbc** **22 11 05.3 -0.3**
baz=105
435B Jarrell 147.07 264 P **PKPbc** **22 11 05.6 -0.4**
baz=119
S38A Stockton 147.11 278 P **PKPbc** **22 11 04.9 -1.0**
baz=110,SNR=11
833A Chaparral WMA, 147.17 259 P **PKPbc** **22 11 05.4 -0.9**
baz=123
T38A Diamond 147.19 277 P **PKPdf** **22 11 04.9 +1.0**
baz=110,SNR=12
R38A Fenwick Farm, 147.29 279 P **PKPbc** **22 11 05.3 -1.1**
baz=109,SNR=17
Q38A Cooks Store, C 147.31 281 P **PKPbc** **22 11 05.5 -0.9**
baz=108,SNR=12
P38A Dawn 147.45 282 P **PKPbc** **22 11 05.6 -1.2**
baz=107
E38A The Farm, Brul 147.45 295 P **PKPbc** **22 11 05.7 -0.8**
baz=97
G38A Ridgeland 147.46 292 P **PKPbc** **22 11 05.9 -0.7**
baz=99
EYMN Ely 147.55 298 P **PKPbc** **22 11 06.3 -0.5**
baz=95
J38A Wedel Dairy, R 147.57 289 P **PKPbc** **22 11 06.0 -1.0**
baz=102
F38A Pierce - Schro 147.59 294 P **PKPbc** **22 11 06.3 -0.6**
baz=98
I38A Scanlan Farm, 147.61 290 P **PKPbc** **22 11 06.1 -1.0**
baz=100
Q37A Longview Farm, 147.91 280 P **PKPbc** **22 11 07.1 -1.0**
baz=108
TUL1 Leonard 147.92 274 P **PKPbc** **22 11 07.1 -1.1**
baz=112
TUL1 Leonard 147.92 274 *e*PKPbc **PKPbc** **22 11 07.7 -0.5**
C37A Embarrass 147.99 297 P **PKPbc** **22 11 07.4 -0.6**
baz=95
P37A Lathrop 148.04 281 P **PKPbc** **22 11 07.7 -0.7**
baz=107
F37A Hinrichs Farm, 148.08 293 P **PKPbc** **22 11 07.7 -0.5**
baz=98
D37A Cotton 148.10 296 P **PKPbc** **22 11 07.7 -0.6**
baz=96
FCC Fort Churchill 148.16 318 *e*PKPdf **PKPdf** **22 11 03.7 -1.0**
FCC *e*PKPbc **pPKPdf** **22 11 07.6 -0.2**
N37A Lee Faris, Mou 148.25 284 P **PKPbc** **22 11 08.2 -0.7**
baz=105
K37A Belmond 148.30 288 P **PKPbc** **22 11 08.3 -0.6**
baz=102
I37A Lemond, Waseca 148.36 290 P **PKPbc** **22 11 08.5 -0.6**
baz=100
C36A Pine Crest Far 148.43 297 P **PKPbc** **22 11 08.5 -0.6**
baz=94
JCT Junction City 148.59 262 P **PKPbc** **22 11 08.9 -1.2**
baz=120
JCT Junction City 148.59 262 *e*PKPbc **PKPbc** **22 11 09.4 -0.7**
D36A Goodland 148.61 296 P **PKPbc** **22 11 09.1 -0.5**
baz=95
E36A McGregor 148.61 295 P **PKPbc** **22 11 09.0 -0.6**
baz=96
B35A Bob, Littlefor 149.06 298 P **PKPbc** **22 11 09.9 -0.8**
baz=93
C35A Jirik Farms, M 149.20 297 P **PKPbc** **22 11 10.0 -1.1**
baz=94
D35A Remer 149.21 296 P **PKPbc** **22 11 10.1 -1.0**
baz=94
K35A Storm Lake 149.44 287 P **PKPbc** **22 11 11.5 -0.4**
baz=101
GAMB Gambell 149.44 30 *e*PKPbc **PKPbc** **22 11 11.5 +0.4**
F35A Swanville 149.45 293 P **PKPbc** **22 11 10.9 -0.8**
baz=96
ABTX Abilene, Hawle 149.48 266 P **PKPbc** **22 11 11.5 -0.8**
baz=117
KSU1 Kansas State U 149.58 280 P **PKPbc** **22 11 11.6 -0.7**
baz=107
B34A Aery, Baudette 149.69 298 P **PKPbc** **22 11 11.8 -0.4**
baz=92
WMOK Wichita Mounta 149.72 270 P **PKPbc** **22 11 11.8 -1.1**
baz=114
WMOK Wichita Mounta 149.72 270 *e*PKPdf **PKPdf** **22 11 09.7 +1.6**
WMOK *e*PKPbc **sPKPdf** **22 11 12.4 +0.2**
C34A RKJ Ranch, Bem 149.82 297 P **PKPbc** **22 11 11.6 -1.0**
baz=93
D34A Park Rapids 149.98 296 P **PKPbc** **22 11 12.2 -0.9**
baz=94
H34A Spellman Lake, 150.15 291 P **PKPbc** **22 11 12.8 -0.7**
baz=98
A33A Warroad 150.18 299 P **PKPbc** **22 11 12.8 -0.7**
baz=90
C33A Trail 150.41 297 P **PKPbc** **22 11 13.3 -0.8**
baz=92
D33A AnnSam, Wauburn 150.43 296 P **PKPbc** **22 11 13.2 -0.9**
baz=93
ULM Lac du Bonnet 150.48 302 PKPbc **PKPbc** **22 11 13.2 -0.9**
23nm,0.8s,baz=70,slow=3.4,SNR=26
AGMN Agassiz Nation 150.49 298 P **PKPbc** **22 11 13.1 -1.1**
baz=91
AGMN Agassiz Nation 150.49 298 *e*PKPbc **PKPbc** **22 11 14.0 -0.2**
E33A Westby DABS, E 150.50 294 P **PKPbc** **22 11 13.4 -0.9**
baz=94
ECSD EROS Data Cent 150.61 289 P **PKPbc** **22 11 13.7 -1.0**
baz=99
ECSD EROS Data Cent 150.61 289 *e*PKPbc **PKPbc** **22 11 14.3 -0.4**
F33A 5 Mile Ranch, 150.64 293 P **PKPbc** **22 11 13.7 -0.9**
baz=95
L33A Hoskins 150.81 285 P **PKPbc** **22 11 14.5 -0.7**
baz=101
H33A Prehn Over Nor 150.83 290 P **PKPbc** **22 11 14.6 -0.6**
baz=97
TXAR Lajitas Array 150.87 257 PKP **PKPdf** **22 11 10.3 +0.1**
1.7nm,1.0s,baz=144,slow=2.3,SNR=7.2
TXAR PKPbc **PKPbc** **22 11 15.6 -0.2**
11nm,0.8s,baz=136,slow=4.8,SNR=66
A32A Rocking H Ranc 150.91 299 P **PKPbc** **22 11 14.7 -0.5**
baz=90
D32A Dogwood Acres, 151.23 296 P **PKPbc** **22 11 14.9 -1.1**
baz=92
I32A Karley and Nic 151.26 289 P **PKPbc** **22 11 15.2 -1.0**
baz=98
BGNE Belgrade 151.30 283 P **PKPbc** **22 11 15.7 -0.7**
baz=102
H32A Carlson Farm, 151.30 290 P **PKPbc** **22 11 16.0 -0.3**
baz=97
J32A Parkston 151.44 288 P **PKPbc** **22 11 16.1 -0.5**
baz=99
TOLK Toolik Lake Re 151.53 10 P **PKPbc** **22 11 16.2 +0.1**
baz=339
B31A Greenbush Farm 151.68 298 P **PKPbc** **22 11 16.0 -1.0**
baz=90
C31A Landman Farms, 151.73 297 P **PKPbc** **22 11 16.2 -0.9**
baz=91
E31A Nome 151.80 294 P **PKPbc** **22 11 16.5 -0.8**
baz=93
CBKS Cedar Bluff 151.84 278 P **PKPbc** **22 11 16.9 -0.8**
baz=106
G31A Conde 151.93 291 P **PKPbc** **22 11 17.1 -0.5**
baz=95
AMTX Amarillo 151.97 269 P **PKPbc** **22 11 17.6 -0.7**
baz=113
F31A Hecla 152.01 293 P **PKPbc** **22 11 17.1 -0.8**
baz=94
I31A Royce, Wessing 152.03 289 P **PKPbc** **22 11 17.2 -0.8**
baz=97
J31A Geddes 152.07 287 P **PKPbc** **22 11 17.7 -0.3**
baz=99
MSTX Muleshoe 152.43 266 P **PKPbc** **22 11 19.1 -0.2**
baz=115
MSTX Muleshoe 152.43 266 *e*PKPbc **PKPbc** **22 11 19.7 +0.4**
INK Inuvik 152.68 358 PKPbc **PKPbc** **22 11 17.6 -1.0**
baz=349,slow=2.7
COLD Coldfoot 152.75 12 *e*PKPbc **PKPbc** **22 11 18.5 -0.3**
MNTX Cornudas Mount 153.35 259 P **PKPbc** **22 11 20.8 -0.5**
baz=120
T25A Trinidad 154.85 272 P **PKPbc** **22 11 24.1 -0.5**
baz=109
YKA Yellowknife Ar 154.89 336 PKP **PKPdf** **22 11 13.5 -1.3**
0.8nm,1.0s,baz=45,slow=1.3,SNR=7.7
YKA PKPbc **PKPbc** **22 11 21.9 -1.6**
1.0nm,0.7s,baz=39,slow=2.2,SNR=12
ILAR Eielson Array 155.54 11 PKP **PKPdf** **22 11 16.1 +0.4**
0.3nm,0.7s,baz=315,slow=2.7,SNR=3.8
ILAR PKPab **PKPab** **22 11 41.7 +0.1**
0.9nm,1.1s,baz=340,slow=5.1,SNR=3.3

214A	**Organ Pipe Nat**	**158.92**	**252**	P		**PKPdf**	**22 11 20.8**	**-0.2**
	baz=122							
PDAR	**Pinedale Array**	**159.89**	**284**	PKP		**PKPdf**	**22 11 20.1**	**-1.9**
	1.2nm,1.0s,baz=99,slow=5.6,SNR=4.5							
NVAR	**Mina Array Bea**	**165.73**	**265**	PKP		**PKPdf**	**22 11 29.8**	**+1.9**
	0.4nm,0.6s,baz=132,slow=2.7,SNR=4.3							

CSEM ***27*** *22:03:12.3±0.3, 67.1°N×20.7°E, h2km, ML1.5, Error ellipse: s-maj=6.6km s-min=4.5km az=47.0, Mining explosion.*

UPP ***27*** *22:03:13.1±0.0, 67.19°N×20.69°E, h0km, ML1.6*

HEL 27 22:03:13.6±0.0, 67.18°N×20.69°E, h0km, ML1.5, ML1.6(UPP)**, Explosion, Sweden**

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
DUNU	**Dundret**	**0.07**	**221**	P		Pg	22 03 14.9	0.0
DUNU	**Dundret**	**0.07**	**221**	P		Pg	22 03 14.9	-0.1
DUNU	**Dundret**	**0.07**	**221**	*i* P		Pg	22 03 14.9	0.0
MASU	**Masugnsbyn**	**0.58**	**60**	P		Pg	22 03 24.1	-0.5
MASU				S		Sg	22 03 32.5	+0.4
MASU	**Masugnsbyn**	**0.58**	**60**	P		Pn	22 03 28.4	-0.7
MASU				S		Sb	22 03 35.9	+0.5
MASU	**Masugnsbyn**	**0.58**	**60**	P		Pg	22 03 24.1	-0.6
MASU				S		Sg	22 03 32.5	+0.3
MASU	**Masugnsbyn**	**0.58**	**60**	*i* P		Pg	22 03 24.1	-0.5
MASU				*i* S		Sg	22 03 32.5	+0.4
RATU	**Laukkuluspa**	**0.78**	**327**	P		Pg	22 03 27.5	-0.9
RATU	**Laukkuluspa**	**0.78**	**327**	P		Pn	22 03 31.7	-0.1
RATU	**Laukkuluspa**	**0.78**	**327**	P		Pg	22 03 27.5	-0.9
RATU	**Laukkuluspa**	**0.78**	**327**	*i* P		Pg	22 03 27.5	-0.9
KUA	**Kurravaara**	**0.79**	**350**	P		Pg	22 03 27.9	-0.9
KUA	**Kurravaara**	**0.79**	**350**	P		Pn	22 03 32.4	+0.4
KUA				S		Sb	22 03 42.7	+1.2
KUA	**Kurravaara**	**0.79**	**350**	P		Pg	22 03 27.9	-0.9
KUA	**Kurravaara**	**0.79**	**350**	*i* P		Pg	22 03 27.9	-0.9
ERTU	**Ertsjaerv**	**0.86**	**136**	P		Pg	22 03 29.0	-1.1
ERTU	**Ertsjaerv**	**0.86**	**136**	P		Pn	22 03 33.2	+0.2
ERTU	**Ertsjaerv**	**0.86**	**136**	P		Pg	22 03 29.0	-1.1
ERTU	**Ertsjaerv**	**0.86**	**136**	*e*P		Pg	22 03 29.0	-1.1
	baz=305							
SALU	**Saltoluokta**	**0.87**	**285**	P		Pg	22 03 29.4	-0.9
SALU	**Saltoluokta**	**0.87**	**285**	P		Pn	22 03 33.7	+0.6
SALU	**Saltoluokta**	**0.87**	**285**	P		Pg	22 03 29.4	-0.9
SALU	**Saltoluokta**	**0.87**	**285**	*i* P		Pg	22 03 29.4	-0.9
NIKU	**Nikkaluokta**	**0.94**	**318**	P		Pg	22 03 30.5	-1.2
NIKU	**Nikkaluokta**	**0.94**	**318**	P		Pg	22 03 30.5	-1.1
NIKU	**Nikkaluokta**	**0.94**	**318**	*e*P		Pg	22 03 30.5	-1.2
PAJU	**Pajala**	**0.96**	**98**	P		Pg	22 03 31.0	-1.0
PAJU	**Pajala**	**0.96**	**98**	P		Pg	22 03 31.0	-1.0
PAJU	**Pajala**	**0.96**	**98**	*e*P		Pg	22 03 31.0	-1.0
LANU	**Lannavaara**	**1.01**	**29**	P		Pg	22 03 31.8	-1.0
LANU	**Lannavaara**	**1.01**	**29**	P		Pg	22 03 31.8	-1.1
LANU	**Lannavaara**	**1.01**	**29**	*e*Pb		Pg	22 03 32.2	-0.7
LANU	**Lannavaara**	**1.01**	**29**	*e*PB		Pg	22 03 32.2	-0.6
	baz=208							
HEF	**Hetta**	**1.67**	**41**	*e*Pn		Pn	22 03 44.0	-0.1
HEF				*e*Sn		Sg	22 04 07.2	-0.1
HEF	**Hetta**	**1.67**	**41**	*e*PN		Pn	22 03 44.0	-0.1
	baz=218							
HEF				MSG			22 04 04.6	
	comp=Z,2.8nm,0.2s							
HEF				*e*SN		Sg	22 04 07.2	-0.1
KALU	**Kalix**	**1.70**	**140**	*e*Pg		Pn	22 03 44.1	-0.3
KALU	**Kalix**	**1.70**	**140**	*e*PG		Pn	22 03 44.1	-0.3
	baz=316							
TOF	**Tornio**	**1.82**	**126**	*e*Pg		Pn	22 03 46.4	+0.3
TOF				*e*Sn		Sb	22 04 11.4	+0.4
TOF	**Tornio**	**1.82**	**126**	*e*PG		Pn	22 03 46.4	+0.3
	baz=311							
TOF				MSG			22 04 08.2	
	comp=Z,3.2nm,0.2s							
TOF				*e*SN		Sb	22 04 11.4	+0.4
KIF	**Kilpisjarvi**	**1.84**	**1**	*e*Pg		Pb	22 03 47.3	-0.7
KIF				*e*Sg		Sb	22 04 11.9	+0.4
	comp=Z,3.5nm,0.2s							
KIF	**Kilpisjarvi**	**1.84**	**1**	*e*PG		Pb	22 03 47.3	-0.7
	baz=181							
KIF				MSG			22 04 09.8	
	comp=Z,3.5nm,0.2s							
KIF				*e*SG		Sb	22 04 11.8	+0.4
RNF	**Rovaniemi**	**2.18**	**103**	*e*Pb		Pn	22 03 51.6	+0.6
RNF				*e*Sg		Sb	22 04 21.6	+0.4
RNF	**Rovaniemi**	**2.18**	**103**	*e*PB		Pn	22 03 51.6	+0.6
	baz=285							
RNF				*e*SG		Sb	22 04 21.6	+0.4
ARE0	**ARCESS Array S**	**2.96**	**35**	*e*Pg		Pb	22 04 06.5	-0.7
ARE0				*e*Sb		Sb	22 04 41.9	-2.1
ARE0	**ARCESS Array S**	**2.96**	**35**	*e*PG		Pb	22 04 06.5	-0.7
	baz=210							
ARE0				*e*SB		Sb	22 04 41.9	-2.1

ISCJB ***27*** *22:07:15.4±0.6, 72.19°N±0.05°×0.7°E±0.3, h10km, mb3.4/10, MS3.3/13, Error ellipse: s-maj=12.7km s-min=7.1km az=1.1*

NAO ***27*** *22:07:15.4±5.0, 72.08°N×0.24°E, ML3.6*

IDC ***27*** *22:07:16.2±0.9, 72.07°N×0.13°E, h0km, mb3.6/10, mb1 3.8/16, mb1mx3.5/81, mbtmp3.6/16, ML3.4/6, MS3.3/19, Ms1 3.3/19, ms1mx3.0/64, Error ellipse: s-maj=20.7km s-min=14.9km az=80.0*

BER ***27*** *22:07:18.1±1.6, 72.08°N×0.31°E, h15km, ML3.6(NAO)*

ISC 27 22:07:17.2±0.9, 72.14°N±0.08°×0.2°E±0.1, h10km, n42, σ1=17/28**, mb3.6**/10**, MS3.2**/13**, Norwegian Sea**

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
JMIC	**Jan Mayen**	**3.01**	**252**	LR		LR	22 08 57.1	
	comp=Z,135nm,18.1s,baz=347,slow=34							
HSPB	**Hornsund (broa**	**6.34**	**33**	Pn		**Pn**	**22 08 48.9**	**-1.7**
HSP	**Hornsund**	**6.35**	**33**	Pn		**Pn**	**22 08 48.9**	**-1.8**
DAG	**Danmarks Havn**	**6.85**	**321**	*i* P		Pn	22 08 52.8	-4.7
DAG				*e*S		Sn	22 09 54.3	-21
SPA0	**Spitsbergen Ar**	**7.31**	**27**	Pn		**Pn**	**22 09 04.2**	**+0.3**
	baz=227,slow=14							
SPA0	**Spitsbergen Ar**	**7.31**	**27**	Pn		**Pn**	**22 09 04.2**	**+0.3**
	baz=227,slow=14							
SPITS	**Spitsbergen Ar**	**7.31**	**27**	Pn		**Pn**	**22 09 04.1**	**+0.2**
	baz=220,slow=14,SNR=50							
KBS	**Kingsbay**	**7.40**	**18**	Pn		**Pn**	**22 09 04.0**	**-1.2**
KBS	**Kingsbay**	**7.40**	**18**	Pn		**Pn**	**22 09 04.0**	**-1.2**
ARA0	**ARCESS Array S**	**8.67**	**95**	Pn		**Pn**	**22 09 21.0**	**-1.5**
	baz=295,slow=12							
ARA0	**ARCESS Array S**	**8.67**	**95**	Pn		**Pn**	**22 09 21.0**	**-1.5**
	baz=295,slow=12							
ARCES	**ARCESS Array B**	**8.67**	**95**	Pn		**Pn**	**22 09 20.9**	**-1.6**
	0.3nm,0.3s,baz=304,slow=12,SNR=13							
BORG	**Borgarnes**	**10.78**	**237**	LR		LR	22 13 04.9	
	comp=Z,45nm,21.1s,baz=9.6,slow=32							
NOA	**NORSAR Array B**	**11.94**	**153**	Pn		**Pn**	**22 10 08.2**	**+0.9**
	0.2nm,0.3s,baz=322,slow=13,SNR=2.9							
NOA				LR		LR	22 14 28.4	
	comp=Z,91nm,20.4s,baz=340,slow=36							
HFS	**Hagfors**	**13.17**	**149**	Pn		**Pn**	**22 10 22.7**	**-1.3**
	baz=343,slow=11							
HFS	**Hagfors**	**13.17**	**149**	Pn		**Pn**	**22 10 23.1**	**-0.9**
	0.1nm,0.3s,baz=327,slow=16,SNR=4.2							
HFS				Sn		Sn	22 12 40.3	-10
	0.3nm,0.3s,baz=357,slow=25,SNR=6.9							
HFS				LR		LR	22 15 04.9	
	comp=Z,132nm,18.1s,baz=338,slow=36							
HFS	**Hagfors**	**13.17**	**149**	Pn		**Pn**	**22 10 22.7**	**-1.3**
	baz=343,slow=11							
FIA0	**FINESS Array S**	**14.61**	**124**	Pn		**Pn**	**22 10 43.3**	**-0.4**
	baz=334,slow=14							
FIA0	**FINESS Array S**	**14.61**	**124**	Pn		**Pn**	**22 10 43.3**	**-0.4**
	baz=334,slow=14							
FINES	**FINESS Array B**	**14.61**	**124**	Pn		**Pn**	**22 10 41.8**	**-1.9**
	0.1nm,0.3s,baz=311,slow=13,SNR=4.2							
FINES				LR		LR	22 15 41.3	
	comp=Z,127nm,20.9s,baz=340,slow=35							
EKA	**Eskdalemuir Ar**	**16.93**	**187**	Pn		**Pn**	**22 11 13.3**	**-0.6**
	baz=4.9,slow=11,SNR=11							
SFJD	**Kangerlussuaq**	**17.97**	**279**	LR		LR	22 17 26.7	
	comp=Z,80nm,21.7s,baz=25,slow=34							
OBN	**Obninsk**	**22.87**	**119**	LR		LR	22 20 48.9	
	comp=Z,148nm,18.1s,baz=270,slow=36							
VRAC	**Vranov**	**24.08**	**153**	P		**P**	**22 12 32.5**	**+0.1**
	1.3nm,0.5s,baz=346,slow=12,SNR=3.1							
VRAC				LR		LR	22 22 21.8	
	comp=Z,67nm,18.1s,baz=342,slow=38							
GERES	**GERESS Array B**	**24.17**	**158**	P		**P**	**22 12 34.5**	**+1.2**
	1.6nm,0.8s,baz=0.0,slow=9.6,SNR=13							
GERES				LR		LR	22 21 53.7	
	comp=Z,44nm,19.7s,baz=301,slow=36							
RES	**Resolute Bay**	**24.54**	**320**	LR		LR	22 22 15.8	
	comp=Z,77nm,18.7s,baz=347,slow=37							
AKASG	**Malin Array Be**	**25.07**	**133**	P		**P**	**22 12 42.3**	**+0.9**
	0.5nm,0.4s,baz=343,slow=9.7,SNR=4.2							
AKASG				LR		LR	22 22 08.7	
	comp=Z,76nm,19.5s,baz=340,slow=36							
FRB	**Frobisher Bay**	**25.63**	**287**	LR		LR	22 21 57.1	
	comp=Z,56nm,18.4s,baz=198,slow=34							
ARU	**Arti**	**28.25**	**93**	LR		LR	22 23 53.7	
	comp=Z,46nm,20.6s,baz=322,slow=35							
MLR	**Muntele Rosu**	**29.34**	**141**	LR		LR	22 25 13.6	
	comp=Z,28nm,19.4s,baz=48,slow=37							
ESDC	**Sonseca Array**	**32.61**	**186**	P		**P**	**22 13 48.5**	**-0.1**
	0.1nm,0.4s,baz=0.4,slow=8.2,SNR=3.8							
KVAR	**Kislovodsk Arr**	**34.68**	**121**	LR		LR	22 28 11.0	
	comp=Z,64nm,19.6s,baz=14,slow=36							
INK	**Inuvik**	**36.52**	**333**	P		**P**	**22 14 21.7**	**-0.4**
	1.9nm,1.1s,baz=32,slow=5.8,SNR=3.1							
KURBB	**Kurchatov Arra**	**39.36**	**80**	P		**P**	**22 14 46.6**	**+0.3**
	0.1nm,0.4s,baz=335,slow=8.2,SNR=2.8							
ILAR	**Eielson Array**	**41.55**	**339**	P		**P**	**22 15 05.0**	**+0.7**
	0.6nm,0.8s,baz=12,slow=6.1,SNR=6.6							
MKAR	**Makanchi Array**	**43.91**	**79**	P		**P**	**22 15 25.7**	**+2.1**
	0.2nm,0.7s,baz=8.9,slow=10,SNR=3.2							
GEYT	**Alibeck**	**44.60**	**107**	P		**P**	**22 15 30.2**	**+1.0**
	0.5nm,0.5s,baz=296,slow=11,SNR=2.6							
ULM	**Lac du Bonnet**	**44.91**	**295**	LR		LR	22 33 46.2	
	comp=Z,60nm,21.2s,baz=356,slow=35							
TORD	**Torodi Ar. Bea**	**58.97**	**178**	P		**P**	**22 17 16.1**	**-0.5**
	1.6nm,0.7s,baz=356,slow=6.6,SNR=12							
YBH	**Yreka Blue Hor**	**59.66**	**313**	LR		LR	22 43 10.3	
	comp=Z,39nm,18.1s,baz=32,slow=36							
JNU	**Nakatsue**	**69.60**	**43**	LR		LR	22 53 41.5	
	comp=Z,39nm,18.4s,baz=234,slow=40							
ROSC	**El Rosal**	**80.70**	**257**	LR		LR	22 52 49.1	
	comp=Z,44nm,20.5s,baz=184,slow=34							

MEX 27 22:11:16.6±0.6, 16.15°N×98.28°W, h4km±6km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
PNIG	**Pinotepa**	**0.28**	**32**	*i* P		Pg	22 11 21.6	-0.5
PNIG				*e*S		Sg	22 11 26.0	+0.3
TLIG	**Tlapa**	**1.43**	**349**	*e*P		Pn	22 11 39.7	-3.8
TLIG				*e*S		Sb	22 11 57.7	-4.9
VHO	**Vista Hermosa**	**1.74**	**58**	*e*P		Pn	22 11 44.1	-3.7
VHO				*e*S		Sn	22 12 05.2	-5.4
CAIG	**El Cayaco**	**2.10**	**295**	*e*P		Pn	22 11 49.8	-2.9
CAIG				*e*S		Sn	22 12 14.4	-4.9

IDC ***27*** *22:37:54.8±1.5, 7.78°S×125.98°E, h0km, mb3.7/4, mb1 3.8/7, mb1mx3.5/51, mbtmp3.7/7, ML3.6/3, MS3.3/2, Ms1 3.3/2, ms1mx2.5/47, Error ellipse: s-maj=40.7km s-min=24.1km az=84.0*

ISCJB ***27*** *22:37:56.4±0.8, 7.90°S±0.06°×126.23°E±0.08, h33km, mb3.6/4, MS3.4/1, Error ellipse: s-maj=11.7km s-min=8.2km az=147.7*

ISC 27 22:37:58.8±1.1, 7.90°S±0.09°×126.2°E±0.1, h35km, n8, σ2≥15/10**, mb3.7**/4**, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
BATI	**Baumata**	**3.38**	**227**	Pn		**Pn**	**22 38 48.6**	**-0.4**
	17nm,0.3s,baz=138,slow=2.7,SNR=13							
BATI				Sn		**Sn**	**22 39 28.9**	**+1.0**
	24nm,0.3s,baz=356,slow=19,SNR=4.2							
BATI				LR		LR	22 40 22.2	
	comp=Z,284nm,19.6s,baz=120,slow=44							
WRA	**Warramunga Arr**	**14.36**	**147**	Pn		**Pn**	**22 41 20.7**	**+1.1**
	0.2nm,0.3s,baz=322,slow=14,SNR=5.9							
WRA				Sn		**Sn**	**22 43 57.3**	**-0.4**
	0.3nm,0.3s,baz=319,slow=24,SNR=6.0							
ASAR	**Alice Springs**	**17.35**	**156**	P		**P**	**22 42 01.4**	**+2.0**
	0.1nm,0.3s,baz=324,slow=9.8,SNR=5.8							
ASAR				S		**Sn**	**22 45 05.9**	**-4.6**
	0.1nm,0.3s,baz=316,slow=18,SNR=5.8							
STKA	**Stephens Creek**	**27.85**	**151**	LR		LR	22 57 27.2	
	comp=Z,99nm,20.4s,baz=214,slow=42							
CMAR	**Chiang Mai Arr**	**37.51**	**315**	P		**P**	**22 45 08.1**	**-1.6**
	0.4nm,0.3s,baz=139,slow=7.0,SNR=1.5							
MKAR	**Makanchi Array**	**66.95**	**329**	P		**P**	**22 48 47.3**	**-0.6**
	0.3nm,0.5s,baz=126,slow=6.3,SNR=5.9							
AAK	**Ala-Archa**	**68.82**	**322**	P		**P**	**22 49 00.4**	**+0.5**
	0.3nm,0.3s,baz=212,slow=9.5							
KURBB	**Kurchatov Arra**	**71.34**	**330**	P		**P**	**22 49 16.3**	**+1.4**
	0.5nm,0.8s,baz=132,slow=6.4,SNR=3.0							

IDC ***27*** *22:47:10.6±2.2, 10.17°S×118.26°E, h0km, mb3.4/2, mb1 3.7/4, mb1mx3.3/56, mbtmp3.6/4, ML3.6/2, Error ellipse: s-maj=85.3km s-min=26.6km az=42.0*

ISCJB ***27*** *22:47:15.1±0.8, 10.13°S±0.07°×118.57°E±0.06, h37km, mb3.6/1, Error ellipse: s-maj=10.8km s-min=7.3km az=29.8*

DJA ***27*** *22:47:17.2±0.6, 10°S±7°×11°9E±°, h10km, M3.9/7, MLv3.9/7*

ISC 27 22:47:16.0±1.1, 10.07S±0.10×118.51E±0.06, h37km, n11, σ2≥91/14**, South of Sumbawa**

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
WBSI	**Waikabubak, Su**	**0.97**	**64**	P		**Pn**	**22 47 31.6**	**-1.5**
WBSI				S		**Sn**	**22 47 43.3**	**-2.3**
PLAI	**Plampang**	**1.44**	**330**	P		**Pn**	**22 47 40.6**	**+1.1**
WSI	**Waingapu**	**1.80**	**77**	P		**Pn**	**22 47 46.9**	**+2.3**
WSI				S		**Sn**	**22 48 10.6**	**+4.4**
BASI	**Baing, Sumba**	**2.04**	**94**	P		**Pn**	**22 47 50.9**	**+3.1**
TWSI	**Taliwang, Sumb**	**2.09**	**309**	P		**Pn**	**22 47 50.3**	**+1.8**
DNP	**Denpasar**	**3.54**	**293**	P		Pn	22 48 18.2	+10
BSSI	**Bau Bau, Buton**	**4.37**	**27**	P		**Pn**	**22 48 20.4**	**+0.5**
BATI	**Baumata**	**5.07**	**92**	Pn		**Pn**	**22 48 31.5**	**+1.9**
	4.7nm,0.3s,baz=106,slow=5.8,SNR=2.8							
BATI				Sn		**Sn**	**22 49 28.4**	**+1.4**
	3.2nm,0.3s,baz=253,slow=20,SNR=1.8							
WRA	**Warramunga Arr**	**18.15**	**125**	P		**P**	**22 51 24.3**	**-1.0**
	0.1nm,0.3s,baz=294,slow=13,SNR=8.6							
WRA				S		Sn	22 54 31.0	-16
	0.0nm,0.3s,baz=307,slow=21,SNR=1.6							
ASAR	**Alice Springs**	**19.96**	**135**	P		**Pn**	**22 51 46.9**	**-0.2**
	1.1nm,0.6s,baz=308,slow=11,SNR=11							
ASAR				S		**S**	**22 55 21.6**	**-6.3**
	0.3nm,0.6s,baz=316,slow=24,SNR=2.3							
MKAR	**Makanchi Array**	**65.19**	**333**	P		**P**	**22 57 53.5**	**-0.1**
	0.2nm,0.3s,baz=152,slow=7.5,SNR=5.5							

ISCJB ***27*** *22:56:34.4±0.4, 39.13°N±0.02°×29.12°E±0.02, h7km±4km, Error ellipse: s-maj=3.1km s-min=2.9km az=164.5*

CSEM ***27*** *22:56:34.6±0.1, 39.12°N×29.14°E, h5km, ML3.4, Error ellipse: s-maj=1.5km s-min=1.4km az=61.0*

DDA ***27*** *22:56:34.3, 39.11°N×29.15°E, h7km, Ml3.4*

ISK ***27*** *22:56:34.2, 39.13°N×29.13°E, h8km, ML3.4/35*

ISC 27 22:56:34.6±1.1, 39.12°N±0.02°×29.15°E±0.02, h8km±10km, n179, σ0≤57/186**, 12C-7D, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
GDZ	**Gediz**	**0.26**	**96**	*i* P		**Pg**	**22 56 39.5**	**-0.3**
GDZ	**Gediz**	**0.26**	**96**	P		**Pg**	**22 56 39.5**	**-0.3**
DEMI	**Demirci**	**0.35**	**258**	*i* P		**Pg**	**22 56 41.8**	**+0.4**
DEMI				*i* S		**Sg**	**22 56 46.4**	**+0.4**
DEMI	**Demirci**	**0.35**	**258**	P		**Pg**	**22 56 41.8**	**+0.4**
DEMI				S		**Sg**	**22 56 46.4**	**+0.4**
TVSB	**Tavsanli**	**0.41**	**36**	PG		**Pg**	**22 56 42.1**	**-0.6**
DURS	**Dursunbey**	**0.71**	**313**	*i* P		**Pb**	**22 56 48.5**	**-0.8**
DURS	**Dursunbey**	**0.71**	**313**	P		**Pb**	**22 56 48.5**	**-0.8**
KULA	**Kula-Manisa**	**0.71**	**213**	PG		**Pg**	**22 56 48.3**	**0.0**
KULA	**Kula-Manisa**	**0.71**	**213**	*e*Pg		**Pg**	**22 56 48.3**	**0.0**
KUTH	**Kutahya**	**0.73**	**67**	PG		**Pb**	**22 56 49.1**	**-0.5**
KUTH				SG		**Sb**	**22 56 59.3**	**-0.5**
KHAL	**Karahalli**	**0.79**	**160**	*i* P		**Pb**	**22 56 50.2**	**-0.4**
KHAL				*i* S		**Sb**	**22 57 01.0**	**-0.5**
KHAL	**Karahalli**	**0.79**	**160**	P		**Pb**	**22 56 50.2**	**-0.4**
KHAL				S		**Sb**	**22 57 01.0**	**-0.5**
ORLT	**Orhaneli**	**0.95**	**348**	PG		**Pg**	**22 56 52.6**	**-0.2**
ORLT				SG		**Sb**	**22 57 06.0**	**0.0**
ORLT	**Orhaneli**	**0.95**	**348**	*e*Pg		**Pg**	**22 56 52.6**	**-0.2**

AUBOZ	**BOZOYUK**	**1.05**	**40**	PG		**Pg**	**22 56 54.5**	**-0.2**
AUBOZ				SG		**Sb**	**22 57 09.7**	**+0.9**
AUBOZ	**BOZOYUK**	**1.05**	**40**	*i* P		**Pn**	**22 56 55.4**	**-0.2**
AUBOZ	**BOZOYUK**	**1.05**	**40**	P		**Pn**	**22 56 55.4**	**-0.2**
AKHS	**Akhisar**	**1.07**	**258**	*i* P		**Pn**	**22 56 55.3**	**-0.5**
AKHS	**Akhisar**	**1.07**	**258**	P		**Pn**	**22 56 55.3**	**-0.5**
AKS	**Akhisar**	**1.07**	**258**	PG		**Pb**	**22 56 55.1**	**-0.2**
AKS	**Akhisar**	**1.07**	**258**	*e*Pg		**Pb**	**22 56 55.1**	**-0.2**
AUKUT	**KUTAHYA**	**1.07**	**39**	*i* P		Pg	22 56 49.1	-6.1
AUKUT				*i* S		Sg	22 56 59.3	-10
BALB	**Balikesir**	**1.11**	**298**	PN		**Pn**	**22 56 56.2**	**-0.2**
BALB				SN		**Sn**	**22 57 11.7**	**-0.3**
BALB	**Balikesir**	**1.11**	**298**	*e*Pn		**Pn**	**22 56 56.2**	**-0.2**
STEP	**BALIKESIR_Sava**	**1.14**	**284**	*i* P		**Pn**	**22 56 56.8**	**-0.1**
STEP	**BALIKESIR_Sava**	**1.14**	**284**	P		**Pn**	**22 56 56.8**	**-0.1**
IGD	**Bursa**	**1.15**	**2**	*i* P		**Pb**	**22 56 56.6**	**0.0**
KZIL	**AFYON_Kizioren**	**1.16**	**138**	*i* P		**Pn**	**22 56 57.0**	**-0.1**
KZIL	**AFYON_Kizioren**	**1.16**	**138**	P		**Pn**	**22 56 57.0**	**-0.1**
CAVI	**Cavuskoy**	**1.21**	**26**	PN		**Pn**	**22 56 58.0**	**+0.2**
CAVI	**Cavuskoy**	**1.21**	**26**	*e*Pn		**Pn**	**22 56 58.0**	**+0.2**
SHUT	**Suhut-Afyon**	**1.23**	**117**	PN		**Pn**	**22 56 58.7**	**+0.5**
SHUT	**Suhut-Afyon**	**1.23**	**117**	*e*Pn		**Pn**	**22 56 58.7**	**+0.5**
IZI	**Iznik**	**1.24**	**11**	PN		**Pn**	**22 56 58.2**	**-0.1**
IZI	**Iznik**	**1.24**	**11**	*e*Pn		**Pn**	**22 56 58.2**	**-0.1**
BORA	**Eskisehir**	**1.26**	**52**	PN		**Pn**	**22 56 58.4**	**-0.2**
BORA	**Eskisehir**	**1.26**	**52**	*i* P		**Pg**	**22 56 58.8**	**0.0**
BORA	**Eskisehir**	**1.26**	**52**	P		**Pg**	**22 56 58.8**	**0.0**
MDNY	**Mudanya-Bursa**	**1.27**	**351**	PN		**Pg**	**22 56 58.6**	**-0.3**
MDNY	**Mudanya-Bursa**	**1.27**	**351**	*e*Pn		**Pg**	**22 56 58.6**	**-0.3**
KCTX	**Karacabey (Bur**	**1.30**	**332**	PN		**Pg**	**22 56 59.3**	**-0.2**
KCTX	**Karacabey (Bur**	**1.30**	**332**	*e*Pn		**Pg**	**22 56 59.3**	**-0.2**
GEMT	**Gemlik**	**1.32**	**1**	PN		**Pg**	**22 56 59.5**	**-0.4**
GEMT	**Gemlik**	**1.32**	**1**	*e*Pn		**Pg**	**22 56 59.5**	**-0.4**
BALY	**Balya**	**1.34**	**298**	*i* P		**Pn**	**22 56 59.0**	**-0.6**
BALY	**Balya**	**1.34**	**298**	P		**Pn**	**22 56 59.0**	**-0.6**
DENT	**Denizli**	**1.36**	**184**	PN		**Pg**	**22 57 00.4**	**-0.3**
DENT	**Denizli**	**1.36**	**184**	*e*Pn		**Pg**	**22 57 00.4**	**-0.3**
ESKT	**Eskisehir**	**1.38**	**72**	PN		**Pg**	**22 57 00.8**	**-0.2**
ESKT	**Eskisehir**	**1.38**	**72**	*i* P		**Pn**	**22 56 59.9**	**-0.3**
ESKT	**Eskisehir**	**1.38**	**72**	*e*Pn		**Pg**	**22 57 00.8**	**-0.2**
SEYT	**Eskypehyr**	**1.38**	**72**	P		**Pn**	**22 56 59.9**	**-0.3**
ADVT	**Abdulvahap**	**1.39**	**19**	PN		**Pn**	**22 57 00.2**	**0.0**
ADVT	**Abdulvahap**	**1.39**	**19**	*e*Pn		**Pn**	**22 57 00.2**	**0.0**
BOLV	**Bolvadin**	**1.46**	**105**	*i* P		**Pg**	**22 57 02.2**	**-0.4**
BOLV	**Bolvadin**	**1.46**	**105**	P		**Pg**	**22 57 02.2**	**-0.4**
ARMT	**Armutlu**	**1.46**	**351**	PN		**Pn**	**22 57 01.2**	**-0.1**
ARMT	**Armutlu**	**1.46**	**351**	*e*Pn		**Pn**	**22 57 01.2**	**-0.1**
GONE	**Gonen-Balikesi**	**1.46**	**310**	PN		**Pn**	**22 57 01.3**	**+0.1**
GONE	**Gonen-Balikesi**	**1.46**	**310**	*e*Pn		**Pn**	**22 57 01.3**	**+0.1**
GPA	**Golpazari**	**1.47**	**37**	PN		**Pb**	**22 57 01.9**	**-0.3**
GPA	**Golpazari**	**1.47**	**37**	*e*Pn		**Pb**	**22 57 01.9**	**-0.3**
AYDB	**Zeytinkoy-

CFR	**Carcaliu**	**6.10**	**353**	⇑*i*P	**Pn**	**22 58 05.6**	**+0.6**
MLR	**Muntele Rosu**	**6.80**	**341**	⇓*i*P	**Pn**	**22 58 16.2**	**+1.5**
MLR	**Muntele Rosu**	**6.80**	**341**	⇓*i*P	**Pn**	**22 58 16.2**	**+1.5**
VRI	**Vrincioaia**	**6.98**	**346**	⇓*i*P	**Pn**	**22 58 18.8**	**+1.8**
VRI	**Vrincioaia**	**6.98**	**346**	⇓*i*P	**Pn**	**22 58 18.8**	**+1.8**
ARR	**Arges**	**7.09**	**333**	⇑*i*P	**Pn**	**22 58 18.6**	**0.0**
ARR	**Arges**	**7.09**	**333**	⇑*i*P	**Pn**	**22 58 18.6**	**0.0**
BZS	**Buzias**	**8.56**	**322**	⇑*i*P	**Pn**	**22 58 39.5**	**+0.8**
BZS	**Buzias**	**8.56**	**322**	⇑*i*P	**Pn**	**22 58 39.5**	**+0.8**

IDC 27 23:20:55.3±12.0, 7.80S×131.70E, h170km±146km, mb3.2/1, mb1 2.9/3, mb1mx2.7/46, mbtmp3.3/3, ML3.2/2, Error ellipse: s-maj=132.3km s-min=70.7km az=82.0, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**12.34**	**168**	P	Pn	23 23 45.8	+0.3
	0.1nm,0.3s,baz=349,slow=15,SNR=5.7						
WRA				S	Sn	23 26 01.5	-0.9
	0.4nm,0.3s,baz=343,slow=23,SNR=8.7						
ASAR	**Alice Springs**	**15.92**	**173**	P	P	23 24 31.9	+1.5
	0.1nm,0.3s,baz=12,slow=9.7,SNR=4.7						
ASAR				S	S	23 27 25.1	-2.0
	0.2nm,0.3s,baz=356,slow=28,SNR=2.7						
MKAR	**Makanchi Array**	**69.81**	**326**	P	P	23 31 47.2	-0.1
	0.3nm,0.4s,baz=128,slow=7.3,SNR=7.1						

CSEM 27 23:25:37.4±0.2, 67.85N×20.22E, h2km, ML1.6, Error ellipse: s-maj=4.9km s-min=4.3km az=45.0, Mining explosion.
HEL 27 23:25:38.1±0.1, 67.85N×20.19E, h0km, ML1.7, ML1.6(UPP), Explosion

UPP 27 23:25:37.6±0.0, 67.85N×20.20E, h0km, ML1.6, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.12**	**25**	P	Pg	23 25 40.1	+0.2
KUA				S	Sg	23 25 41.7	+0.2
KUA	**Kurravaara**	**0.12**	**25**	*i* P	Pg	23 25 40.1	+0.2
KUA				*i* S	Sg	23 25 41.7	+0.2
KUA	**Kurravaara**	**0.12**	**25**	*i* P	Pg	23 25 40.1	+0.2
KUA				*i* S	Sg	23 25 41.7	+0.2
RATU	**Laukkuluspa**	**0.23**	**265**	P	Pg	23 25 42.2	+0.2
RATU	**Laukkuluspa**	**0.23**	**265**	P	Pg	23 25 42.2	+0.2
RATU	**Laukkuluspa**	**0.23**	**265**	*i* P	Pg	23 25 42.2	+0.2
NIKU	**Nikkaluokta**	**0.44**	**273**	P	Pg	23 25 46.1	+0.1
NIKU	**Nikkaluokta**	**0.44**	**273**	P	Pg	23 25 46.1	0.0
NIKU	**Nikkaluokta**	**0.44**	**273**	*i* P	Pg	23 25 46.1	+0.1
LANU	**Lannavaara**	**0.70**	**72**	P	Pg	23 25 50.9	-0.2
LANU	**Lannavaara**	**0.70**	**72**	P	Pg	23 25 50.9	-0.2
LANU				*e*S	Sg	23 26 00.6	+0.4
LANU	**Lannavaara**	**0.70**	**72**	*e*P	Pg	23 25 50.8	-0.2
LANU				*e*S	Sg	23 26 00.6	+0.4
DUNU	**Dundret**	**0.74**	**169**	P	Pg	23 25 51.4	-0.3
DUNU	**Dundret**	**0.74**	**169**	P	Pg	23 25 51.4	-0.3
DUNU	**Dundret**	**0.74**	**169**	*i* P	Pg	23 25 51.4	-0.3
MASU	**Masugnsbyn**	**0.79**	**119**	P	Pg	23 25 52.5	-0.2
MASU	**Masugnsbyn**	**0.79**	**119**	P	Pg	23 25 52.5	-0.2
MASU	**Masugnsbyn**	**0.79**	**119**	*i* P	Pg	23 25 52.5	-0.2
KIF	**Kilpisjarvi**	**1.19**	**11**	*e*Pb	Pg	23 26 00.3	0.0
KIF				*e*Sb	Sg	23 26 16.0	+0.4
KIF	**Kilpisjarvi**	**1.19**	**11**	*e*PB	Pg	23 26 00.3	0.0
KIF				MSG		23 26 13.0	
	comp=Z,12nm,0.2s						
KIF				*e*SB	Sg	23 26 16.0	+0.4
PAJU	**Pajala**	**1.39**	**125**	P	Pg	23 26 03.1	-1.1
PAJU	**Pajala**	**1.39**	**125**	P	Pg	23 26 03.1	-1.2
PAJU	**Pajala**	**1.39**	**125**	*e*P	Pg	23 26 03.1	-1.1
HEF	**Hetta**	**1.41**	**65**	*e*Sn	Sn	23 26 26.1	+2.3
HEF	**Hetta**	**1.41**	**65**	*e*P	Pn	23 26 03.4	-1.1
HEF	**Hetta**	**1.41**	**65**	*e*P	Pn	23 26 03.4	-1.1
	baz=248						
HEF				MSG		23 26 21.0	
	comp=Z,4.7nm,0.2s						
HEF				*e*SN	Sn	23 26 26.1	+2.3
ERTU	**Ertsjaerv**	**1.51**	**148**	P	Pn	23 26 05.2	-0.7
ERTU	**Ertsjaerv**	**1.51**	**148**	P	Pn	23 26 05.2	-0.7
ERTU				*e*Sb	Sg	23 26 25.6	-0.4
ERTU	**Ertsjaerv**	**1.51**	**148**	*e*P	Pn	23 26 05.2	-0.6
ERTU				*e*SB	Sg	23 26 25.6	-0.5
KALU	**Kalix**	**2.35**	**147**	*e*Sb	Sb	23 26 49.4	-0.9
KALU	**Kalix**	**2.35**	**147**	*e*P	Pn	23 26 18.4	+1.0
KALU	**Kalix**	**2.35**	**147**	*e*P	Pn	23 26 18.4	+1.0
KALU				*e*SB	Sb	23 26 49.4	-0.8
TOF	**Tornio**	**2.40**	**136**	*e*Pb	Pn	23 26 19.5	+1.4
TOF	**Tornio**	**2.40**	**136**	*e*Sg	Sb	23 26 51.9	+0.2
	comp=Z,2.6nm,0.2s						
TOF	**Tornio**	**2.40**	**136**	*e*PB	Pn	23 26 19.5	+1.5
TOF				MSG		23 26 50.2	
	comp=Z,2.6nm,0.2s						
TOF				*e*SG	Sb	23 26 51.9	+0.2
SGF	**Sodankyl**	**2.45**	**97**	*e*Pb	Pn	23 26 20.6	+1.8
SGF	**Sodankyl**	**2.45**	**97**	*e*S	Sn	23 26 51.1	+1.7
SGF	**Sodankyl**	**2.45**	**97**	*e*PB	Pb	23 26 20.6	-1.8
SGF				*e*S	Sn	23 26 51.1	+1.7
RNF	**Rovaniemi**	**2.58**	**116**	*e*Pb	Pn	23 26 22.5	+2.0
RNF				*e*Sb	Sb	23 26 56.1	-0.7
RNF	**Rovaniemi**	**2.58**	**116**	*e*PB	Pn	23 26 22.5	+2.0
RNF				*e*SB	Sb	23 26 56.1	-0.7

CSEM 27 23:25:40.2±0.8, 67.63N×20.73E, h1km, ML0.9, Error ellipse: s-maj=28.4km s-min=10.6km az=50.0, Suspected Mining explosion., Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.36**	**336**	P	Pg	23 25 47.9	+0.8
	baz=217						
KUA				S	Sg	23 25 49.4	-2.4

IDC 27 23:31:11.8±1.4, 34.75N×138.41E, h0km, mb3.5/2, mb1 3.7/3, mb1mx3.2/66, mbtmp3.6/3, ML2.8/1, MS3.2/1, Ms1 3.2/1, ms1mx2.2/51, Error ellipse: s-maj=53.2km s-min=19.1km az=77.0
ISCJB 27 23:31:12.3±0.8, 35.65N±0.03×140.26E±0.07, h70km±7km, mb3.5/2, Error ellipse: s-maj=9.5km s-min=5.7km az=173.9
JMA 27 23:31:13.6±0.1, 35.73N×140.20E, h62km±2km, M2.8

ISC 27 23:31:13.1±1.1, 35.66N±0.04×140.26E±0.07, h65km±9km, n17, σ0°90/26, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCN	**Nagara**	**0.24**	**191**	P	Pn	23 31 24.7	+1.3
TOK	**Tokyo**	**0.41**	**274**	P	Pn	23 31 25.0	+0.4
JYT	**Yasato**	**0.57**	**355**	P	Pn	23 31 25.6	-0.6
JYT				*e*S	Sn	23 31 34.7	-1.1
BSO3	**Boso 3**	**0.88**	**166**	P	Pn	23 31 30.4	+0.8
JAG	**Ashikaga**	**1.00**	**320**	P	Pn	23 31 31.0	-0.5
JAG				S	Sn	23 31 44.3	-0.8
JOD2	**Odawara 2**	**1.03**	**248**	P	Pn	23 31 31.7	-0.2
JOD2				S	Sn	23 31 44.8	-1.0
JIM2	**Oshima 3**	**1.16**	**216**	P	Pn	23 31 33.1	-0.4
JIM2				S	Sn	23 31 47.9	-0.7
JRY	**Ryogami san**	**1.16**	**288**	P	Pn	23 31 33.7	+0.2
JRY				*e*S	Sn	23 31 49.0	+0.3
JKT	**Katashina**	**1.38**	**324**	P	Pn	23 31 36.4	0.0
JKT				S	Sn	23 31 53.3	-0.5
JYN	**Shimodate**	**1.41**	**264**	P	Pn	23 31 36.7	-0.1
JYN				S	Sn	23 31 54.3	-0.2
JIZS	**Izushimoda**	**1.47**	**231**	P	Pn	23 31 37.4	-0.1
JIZS				S	Sn	23 31 54.8	-1.1
MJAR	**Matsushiro Arr**	**1.88**	**299**	Pn	Pn	23 31 43.5	+0.4
	12nm,0.3s,baz=100,slow=14,SNR=98						
MJAR				Sn	Sn	23 32 08.4	+2.6
	5.5nm,0.3s,baz=190,slow=18,SNR=8.2						
MAT	**Matsushiro**	**1.88**	**299**	P	Pn	23 31 43.1	0.0
MAT				*e*S	Sn	23 32 05.2	-0.7
JHJ	**Hachijo jima 2**	**2.56**	**189**	Pn	Pn	23 31 47.2	-5.1
	7.1nm,0.3s,baz=60,slow=16,SNR=2.0						
JHJ				Sn	Sn	23 32 21.6	-0.8
	20nm,0.3s,baz=53,slow=20,SNR=1.9						
TGY	**Tagaytay City**	**27.61**	**224**	LR	LR	23 47 01.6	
	comp=Z,46nm,19.3s,baz=171,slow=37						
MKAR	**Makanchi Array**	**44.07**	**303**	P	P	23 39 15.6	+1.0
	0.3nm,0.7s,baz=84,slow=13,SNR=3.4						
WRA	**Warramunga Arr**	**55.58**	**187**	P	P	23 40 41.4	-0.6
	0.6nm,0.5s,baz=1.7,slow=7.7,SNR=10						

DJA 27 23:36:21.5±3.1, 1.1N±9.9×9.2E±2.7, h10km, M4.8/10, mb4.9/10, mB5.6/4, MLv4.7/6, Mw(mB)5.0/4
IDC 27 23:36:26.4±1.4, 0.54N×92.45E, h0km, mb3.7/7, mb1 3.9/10, mb1mx3.5/71, mbtmp3.8/10, ML4.1/3, MS3.1/4, Ms1 3.1/4, ms1mx2.6/63, Error ellipse: s-maj=40.3km s-min=19.2km az=49.0
NEIC 27 23:36:27.9±0.4, 0.58N×92.47E, h10km, mb4.0/4, Error ellipse: s-maj=9.4km s-min=6.7km az=209.0
ISCJB 27 23:36:29.7±0.7, 0.68N±0.07×92.62E±0.07, h33km, mb3.9/10, MS3.3/2, Error ellipse: s-maj=11.6km s-min=7.9km az=40.7

ISC 27 23:36:31.7±0.8, 0.71N±0.09×92.60E±0.08, h35km, n31, σ1°27/27, mb3.8/10, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSI	**Gunungsitoli**	**5.01**	**83**	P	Pn	23 37 45.1	+0.7
GSI	**Gunungsitoli**	**5.01**	**83**	*e*Pn	Pn	23 37 44.9	+0.4
	66nm,0.6s						
MLSI	**Meulaboh, Aceh**	**5.19**	**47**	P	Pn	23 37 46.5	-0.4
	46nm,0.9s,0.5nm						
TPTI		**5.23**	**61**	P	Pn	23 37 47.7	+0.2
BSI	**Banda Aceh**	**5.46**	**29**	P	Pn	23 37 48.9	-1.8
PSI	**Prapat**	**6.65**	**72**	Pn	Pn	23 38 07.8	+0.6
	3.4nm,0.3s,baz=273,slow=9.7,SNR=7.5						
PSI				Sn	Sn	23 39 17.9	-4.0
	0.8nm,0.3s,baz=131,slow=20,SNR=2.3						
PSI				LR	LR	23 40 56.1	
	comp=Z,152nm,19.4s,baz=282,slow=40						
SISI	**Saibi**	**6.80**	**107**	P	Pn	23 38 08.5	-0.5
	94nm,0.7s,0.3nm						
MNSI	**Mandailing Nat**	**6.98**	**89**	P	Pn	23 38 12.4	+0.9
	245nm,0.5s,4μm1.2nm						
PDSI	**Padang**	**8.02**	**102**	P	Pn	23 38 25.7	-0.2
	54nm,0.8s,2μm						
KULM	**Kulim**	**9.24**	**60**	*e*Pn	Pn	23 38 43.1	+0.6
KRJI	**Kerinci**	**9.29**	**107**	P	Pn	23 38 43.4	+0.1
MDSI	**Maura Dua**	**12.67**	**114**	P	Pn	23 39 29.2	-0.3
PALK	**Pallekele**	**13.54**	**299**	Pn	Pn	23 39 38.8	-2.6
	0.5nm,0.3s,baz=117,slow=15,SNR=3.3						
PALK				Sn	Sn	23 41 55.9	-15
	0.8nm,0.3s,baz=116,slow=18,SNR=4.0						
PALK				LR	LR	23 44 13.1	
	comp=Z,43nm,21.7s,baz=116,slow=35						
CMAR	**Chiang Mai Arr**	**18.71**	**19**	P	Pn	23 40 48.8	+0.9
	0.3nm,0.3s,baz=210,slow=10,SNR=5.8						
CHTO	**Chiang Mai**	**19.04**	**19**	*e*P	Pn	23 40 52.1	+0.2
	0.9nm,0.6s						
H08S2	**Diego Garcia H**	**21.70**	**247**	T	T	00 03 34.6	
	baz=68,slow=75,SNR=4.2						
H08S3	**Diego Garcia H**	**21.70**	**247**	T	T	00 03 28.5	
	baz=68,slow=75,SNR=4.4						
H08S1	**Diego Garcia H**	**21.72**	**247**	T	T	00 03 32.8	
	baz=68,slow=75,SNR=4.7						
WRA	**Warramunga Arr**	**45.75**	**119**	P	P	23 44 50.1	0.0
	3.8nm,0.9s,baz=297,slow=8.5,SNR=18						
WRAB	**Tennant Creek**	**45.76**	**119**	P	P	23 44 50.5	+0.3
	1.1nm,0.5s						
MKAR	**Makanchi Array**	**46.78**	**350**	P	P	23 44 58.1	+0.4
	0.6nm,0.7s,baz=166,slow=8.6,SNR=6.1						
ASAR	**Alice Springs**	**46.86**	**124**	P	P	23 44 59.0	+0.3
	0.9nm,0.8s,baz=297,slow=8.2,SNR=7.7						
SONM	**Songino Array**	**48.45**	**12**	P	P	23 45 12.9	+2.1
	0.4nm,0.7s,baz=193,slow=9.0,SNR=4.5						
ATD	**Arta Tunnel**	**50.53**	**284**	LR	LR	00 03 51.4	
	comp=Z,31nm,19.4s,baz=266,slow=33						
KURBB	**Kurchatov Arra**	**51.15**	**349**	P	P	23 45 32.1	+1.0
	0.5nm,0.8s,baz=169,slow=7.4,SNR=5.6						
KURK	**Kurchatov**	**51.22**	**349**	P	P	23 45 32.1	+0.5
ZALV	**Zalesovo Beam**	**53.45**	**354**	P	P	23 45 48.8	+0.6
	0.4nm,0.3s,baz=187,slow=8.1,SNR=3.3						
PMG	**Port Moresby**	**55.24**	**102**	P	P	23 46 03.0	+1.1
	1.4nm,0.4s						
HNR	**Honiara**	**67.79**	**100**	LR	LR	00 18 22.0	
	comp=Z,20nm,19.0s,baz=69,slow=37						
CASY	**Casey**	**68.06**	**172**	P	P	23 47 26.4	-1.0
	0.8nm,0.8s						
GERES	**GERESS Array B**	**82.16**	**319**	P	P	23 48 50.0	+0.8
	0.7nm,0.8s,baz=99,slow=6.1,SNR=4.2						

ISN 27 23:41:17.1±1.2, 32.68N×46.96E, h0km±12km, ML2.6

TEH 27 23:41:19.5, 32.65N×47.01E, h5km, ML2.6, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKFM	**Kafar-mosalman**	**1.12**	**39**	*e*Pg	Pg	23 41 39.8	-1.2
IKFM				*e*AMB	AMB	23 41 41.7	
	comp=Z,99nm,0.1s						
IGHG	**Ghaleghazi**	**1.71**	**348**	*e*Pg	Pn	23 41 50.8	+0.5
IGHG				*e*AMB	AMB	23 42 28.9	
	comp=Z,557nm,0.3s						
IVIS	**Veis**	**1.88**	**356**	*e*Pg	Pn	23 41 52.4	0.0
IVIS				*e*Sg	Sb	23 42 18.1	-0.1
IVIS				*e*AMB	AMB	23 42 24.2	
	comp=Z,555nm,0.3s						
IDHR	**Dehrash**	**2.11**	**346**	*e*AMB	AMB	23 42 33.2	
	comp=Z,403nm,0.1s						

PGC 27 23:41:32.0±8.0, 50.48N×130.08W, h10km, MLSn2.8/8, Mw3.5/8, 189km west of Pt. Hardy, Bc Vancouver Island, Canada Region, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PACB	**Port Alice, BC**	**1.66**	**91**	Pn	Pn	23 41 58.0	-3.1
PACB				Sn	Sn	23 42 17.2	-5.1
PHC	**Port Hardy**	**1.70**	**81**	Pn	Pn	23 41 59.6	-2.1
PHC				Sn	Sn	23 42 19.4	-4.0
TLCB	**Telegraph Cove**	**2.07**	**87**	Pn	Pn	23 42 04.2	-2.6
BBB	**Bella Bella**	**2.10**	**35**	Pn	Pn	23 42 05.4	-1.8
BBB				Sn	Sn	23 42 29.9	-3.5
WOSB	**Woss**	**2.27**	**97**	Pn	Pn	23 42 07.5	-2.1
NCRB	**Newcastle Ridg**	**2.58**	**90**	Pn	Pn	23 42 12.8	-1.0
CBB	**Campbell River**	**3.06**	**97**	Pn	Pn	23 42 18.8	-1.6
BTB	**Buttle Lake**	**3.11**	**107**	Pn	Pn	23 42 19.2	-2.1
TXB	**Texada**	**3.72**	**100**	Pn	Pn	23 42 28.8	-0.6
MGB	**Mount Grey**	**3.80**	**111**	Pn	Pn	23 42 29.8	-0.8
UBRB	**Upper Baezaeko**	**4.44**	**55**	Pn	Pn	23 42 39.7	+0.3
UBRB				Sn	Sn	23 43 28.2	-3.1

NEIC 27 23:42:55.0±0.0, 18.11N×99.86W, h52km, MD4.0(MEX), After MEX.

MEX 27 23:42:55.0±0.4, 18.11N×99.86W, h52km±4km, MD4.0, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MEIG	**Mezcala**	**0.29**	**128**	*e*P	Pn	23 43 03.1	-1.3
MEIG				*e*S	Sn	23 43 09.4	-1.7
MEIG	**Mezcala**	**0.29**	**128**	*e*P	Pn	23 43 03.1	-1.3
MEIG				*e*S	Sn	23 43 09.4	-1.7
PLIG	**Platanillo**	**0.45**	**50**	*i* P	Pn	23 43 04.4	-1.5
PLIG				*e*S	Sn	23 43 11.8	-1.9
PLIG	**Platanillo**	**0.45**	**50**	*i* P	Pn	23 43 04.4	-1.5
PLIG				*e*S	Sn	23 43 11.8	-1.9
ARIG	**Puente Sto Nin**	**0.49**	**291**	*e*P	Pn	23 43 04.7	-1.6
ARIG				*e*S	Sn	23 43 12.7	-1.8
YAIG	**Yautepec**	**1.07**	**45**	*e*P	Pn	23 43 12.3	-1.5
YAIG				*e*S	Sn	23 43 26.2	-1.5
YAIG	**Yautepec**	**1.07**	**45**	*e*P	Pn	23 43 12.3	-1.5
YAIG				*e*S	Sn	23 43 26.2	-1.5
CAIG	**El Cayaco**	**1.12**	**200**	*e*P	Pn	23 43 12.7	-1.8
CAIG				*e*S	Sn	23 43 27.0	-1.8
CAIG	**El Cayaco**	**1.12**	**200**	*e*P	Pn	23 43 12.7	-1.8
CAIG				*e*S	Sn	23 43 27.0	-1.8
ZIIG	**Zihuatanejo**	**1.60**	**252**	*e*P	Pn	23 43 20.1	-0.9
ZIIG	**Zihuatanejo**	**1.60**	**252**	*e*P	Pn	23 43 20.1	-0.9

IDC 27 23:47:02.6±1.4, 0.09N×92.07E, h0km, mb3.6/6, mb1 3.9/9, mb1mx3.5/72, mbtmp3.7/9, ML4.0/3, MS3.3/2, Ms1 3.3/2, ms1mx2.6/54, Error ellipse: s-maj=37.8km s-min=23.8km az=32.0
NEIC 27 23:47:04.1±0.8, 0.13N×92.17E, h10km, mb4.2/4, Error ellipse: s-maj=17.7km s-min=10.1km az=197.0
ISCJB 27 23:47:05.7±0.9, 0.02N±0.1×92.19E±0.10, h33km, mb3.9/10, MS3.1/1, Error ellipse: s-maj=19.9km s-min=12.0km az=27.8

ISC 27 23:47:07.7±1.0, 0.02N±0.2×92.2E±0.1, h35km, n20, σ1°42/16, mb3.9/10, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSI	**Gunungsitoli**	**5.52**	**78**	*e*Pn	Pn	23 48 25.4	-2.1
	34nm,0.5s						
PSI	**Prapat**	**7.24**	**69**	Pn	Pn	23 48 49.0	-2.2
	1.4nm,0.3s,baz=90,slow=20,SNR=3.9						
PSI				LR	LR	23 51 49.6	
	comp=Z,286nm,18.1s,baz=208,slow=39						
KULM	**Kulim**	**9.87**	**59**	*e*Pn	Pn	23 49 25.4	-1.8
PALK	**Pallekele**	**13.43**	**302**	Pn	Pn	23 50 13.8	-2.2
	0.7nm,0.3s,baz=116,slow=12,SNR=4.1						
PALK				Sn	Sn	23 52 30.3	-14
	1.0nm,0.3s,baz=111,slow=15,SNR=4.0						
CMAR	**Chiang Mai Arr**	**19.34**	**20**	P	Pn	23 51 32.6	+1.1
	0.3nm,0.3s,baz=211,slow=12,SNR=3.9						
H08S2	**Diego Garcia H**	**21.10**	**248**	T	T	00 13 36.9	
	baz=75						
H08S3	**Diego Garcia H**	**21.11**	**248**	T	T	00 13 40.9	
	baz=75						
H08S1	**Diego Garcia H**	**21.12**	**248**	T	T	00 13 36.4	
	baz=75						
YHNB	**Yeheng**	**37.30**	**47**	P	P	23 54 18.2	+1.3
	1.2nm,0.4s						
JOW	**Kunigami**	**43.67**	**50**	LR	LR	00 12 02.2	
	comp=Z,25nm,21.8s,baz=96,slow=34						
WRA	**Warramunga Arr**	**45.88**	**118**	P	P	23 55 27.8	+0.5
	0.6nm,0.7s,baz=295,slow=8.8,SNR=7.6						
WRAB	**Tennant Creek**	**45.89**	**118**	*e*P	P	23 55 27.6	+0.3
	1.5nm,0.8s						
MKAR	**Makanchi Array**	**47.21**	**351**	P	P	23 55 37.2	+0.1
	0.5nm,0.6s,baz=180,slow=8.5,SNR=6.5						
SONM	**Songino Array**	**49.04**	**13**	P	P	23 55 51.4	0.0
	0.8nm,0.7s,baz=195,slow=11,SNR=5.5						
TLY	**Talaya**	**52.21**	**9**	P	P	23 56 16.0	+0.8
	2.1nm,0.6s						
ZALV	**Zalesovo Beam**	**53.92**	**355**	P	P	23 56 29.5	+1.9
	0.4nm,0.3s,baz=181,slow=6.1,SNR=2.9						
CTAO	**Charters Tower**	**56.62**	**114**	P	P	23 56 47.8	0.0
	2.7nm,0.6s						
BRTR	**Keskin Array B**	**66.12**	**314**	P	P	23 57 51.5	-0.4
	0.3nm,0.6s,baz=140,slow=6.4,SNR=3.1						
GERES	**GERESS Array B**	**82.27**	**319**	P	P	23 59 26.8	+1.0
	0.4nm,0.7s,baz=116,slow=8.8,SNR=3.4						
TXAR	**Lajitas Array**	**146.98**	**26**	PKPbc	PKPbc	00 06 47.7	+0.2
	0.1nm,0.5s,baz=298,slow=1.9,SNR=3.3						

KRSC 27 23:47:40.4±1.4, 53.05N×160.30E, h45km±14km, ML4.2
ISCJB 27 23:47:41.9±0.4, 53.04N±0.03×160.25E±0.05, h50km±5km, mb3.6/13, Error ellipse: s-maj=6.6km s-min=3.0km az=40.2
MOS 27 23:47:41.2±0.8, 53.00N×160.33E, h42km, mb4.1/6, Error ellipse: s-maj=8.0km s-min=4.4km az=85.9
IDC 27 23:47:45.8±1.6, 53.42N×159.93E, h70km±21km, mb3.3/12, mb1 3.6/13, mb1mx3.3/73, mbtmp3.7/13, MS2.9/1, Ms1 2.9/1, ms1mx2.3/36, Error ellipse: s-maj=40.5km s-min=15.5km az=177.0

ISC 27 23:47:41.9±0.8, 53.07N±0.03×160.14E±0.04, h40km±5km, n105, σ2°38/156, mb3.5/13, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.07**	**290**	*i* P	Pn	23 47 49.1	+0.7
SPN				*i* S	Sn	23 47 54.3	+1.3
SPN	**Mys Shipunski**	**0.07**	**290**	PN	Pn	23 47 49.1	+0.7
SPN				S	Sn	23 47 54.3	+1.3
NLC	**Nalytchevo**	**0.49**	**282**	*e*P	Pn	23 47 53.1	+0.7
NLC				*e*S	Sn	23 48 01.4	+1.6
NLC	**Nalytchevo**	**0.49**	**282**	PN	Pn	23 47 53.1	+0.7
NLC				S	Sn	23 48 01.4	+1.6
SDLR	**Sedlovina**	**0.78**	**286**	*i* P	Pn	23 47 57.5	+1.0
SDLR				*e*S	Sn	23 48 09.4	+2.3
SDLR	**Sedlovina**	**0.78**	**286**	PN	Pn	23 47 57.5	+1.0
SDLR				S	Sn	23 48 09.4	+2.3
UGLR	**Uglovaya**	**0.80**	**280**	*i* P	Pn	23 47 58.1	+1.3
UGLR				*e*S	Sn	23 48 10.3	+2.7
UGLR	**Uglovaya**	**0.80**	**280**	PN	Pn	23 47 58.1	+1.3
UGLR				S	Sn	23 48 10.3	+2.7
SMAR	**Somma**	**0.83**	**284**	*i* P	Pn	23 47 58.1	+0.9
SMAR				*e*S	Sn	23 48 10.1	+1.7
SMAR	**Somma**	**0.83**	**284**	PN	Pn	23 47 58.1	+0.9
SMAR				S	Sn	23 48 10.1	+1.7
DALK	**Dalny**	**0.84**	**268**	*e*P	Pn	23 47 57.7	+0.6
DALK				*e*S	Sn	23 48 09.9	+1.7
DALK	**Dalny**	**0.84**	**268**	PN	Pn	23 47 57.7	+0.6
DALK				S	Sn	23 48 09.9	+1.7
AVH	**Avacha**	**0.86**	**283**	*i* P	Pn	23 47 58.9	+1.3
AVH				*e*S	Sn	23 48 11.6	+2.5
AVH	**Avacha**	**0.86**	**283**	PN	Pn	23 47 58.9	+1.3
AVH				S	Sn	23 48 11.6	+2.5
KRER	**Koryakskii**	**0.87**	**286**	*i* P	Pn	23 47 59.0	+1.2
KRER				*e*S	Sn	23 48 11.5	+2.2
KRER	**Koryakskii**	**0.87**	**286**	PN	Pn	23 47 59.0	+1.2
KRER				S	Sn	23 48 11.5	+2.2
PET	**Petropavlovsk**	**0.90**	**267**	*i* P	Pn	23 47 58.9	+0.9
PET				*e*S	Sn

KZV				*e*S	**Sn**	**23 48 39.9**	**+1.6**
KZV	**Kizimen**	**2.05**	**3**	PN	**Pn**	**23 48 15.0**	**+1.1**
KZV				S	**Sn**	**23 48 39.9**	**+1.6**
TUMD	**Tumrok D**	**2.14**	**4**	*e*P	**Pn**	**23 48 15.5**	**+0.4**
TUMD				*e*S	**Sn**	**23 48 40.0**	**-0.4**
MIPR	**Malaya Ipel'ka**	**2.21**	**250**	*i* P	**Pn**	**23 48 18.7**	**+2.7**
MIPR	**Malaya Ipel'ka**	**2.21**	**250**	PN	**Pn**	**23 48 18.7**	**+2.7**
TUMR	**Tumrok**	**2.21**	**0**	*i* P	**Pn**	**23 48 17.6**	**+1.4**
TUMR				*e*S	**Sn**	**23 48 44.1**	**+1.7**
TUMR	**Tumrok**	**2.21**	**0**	PN	**Pn**	**23 48 17.6**	**+1.4**
TUMR				S	**Sn**	**23 48 44.1**	**+1.7**
PAU	**Pauzhetka**	**2.60**	**233**	*e*P	**Pn**	**23 48 24.0**	**+2.6**
PAU	**Pauzhetka**	**2.60**	**233**	PN	**Pn**	**23 48 24.0**	**+2.6**
KMNR	**Kamenistaya**	**2.69**	**1**	*e*P	**Pn**	**23 48 24.4**	**+1.7**
KMNR	**Kamenistaya**	**2.69**	**1**	PN	**Pn**	**23 48 24.4**	**+1.7**
BZMR	**Bezymyannaya**	**2.88**	**4**	*e*P	**Pn**	**23 48 27.8**	**+2.5**
BZMR				*e*S	**Sn**	**23 49 05.5**	**+6.8**
BZMR	**Bezymyannaya**	**2.88**	**4**	PN	**Pn**	**23 48 27.8**	**+2.5**
BZMR				S	**Sn**	**23 49 05.5**	**+6.8**
KIRR	**Kirishev**	**2.89**	**2**	*e*P	**Pn**	**23 48 28.3**	**+2.8**
KIRR	**Kirishev**	**2.89**	**2**	PN	**Pn**	**23 48 28.3**	**+2.8**
BZGR	**Bezymyannyi-Gr**	**2.89**	**6**	*e*P	**Pn**	**23 48 27.2**	**+1.7**
BZGR				*e*S	**Sn**	**23 49 04.1**	**+5.1**
BZGR	**Bezymyannyi-Gr**	**2.89**	**6**	PN	**Pn**	**23 48 27.2**	**+1.7**
BZGR				S	**Sn**	**23 49 04.1**	**+5.1**
KPT	**Kopyto**	**2.90**	**1**	*e*P	**Pn**	**23 48 28.4**	**+2.8**
KPT	**Kopyto**	**2.90**	**1**	PN	**Pn**	**23 48 28.4**	**+2.8**
BZWR	**Bezymyannyi-We**	**2.91**	**4**	*e*P	**Pn**	**23 48 27.6**	**+1.9**
BZWR	**Bezymyannyi-We**	**2.91**	**4**	PN	**Pn**	**23 48 27.6**	**+1.9**
ZLN	**Zelenaya**	**2.98**	**7**	*e*P	**Pn**	**23 48 28.7**	**+2.1**
ZLN				*e*S	**Sn**	**23 49 04.8**	**+3.7**
ZLN	**Zelenaya**	**2.98**	**7**	PN	**Pn**	**23 48 28.7**	**+2.1**
ZLN				S	**Sn**	**23 49 04.8**	**+3.7**
ESO	**Esso**	**2.98**	**344**	*e*P	**Pn**	**23 48 27.9**	**+1.3**
ESO	**Esso**	**2.98**	**344**	PN	**Pn**	**23 48 27.9**	**+1.3**
KOZ	**Kozyrevsk**	**3.00**	**357**	*e*P	**Pn**	**23 48 28.4**	**+1.6**
KOZ	**Kozyrevsk**	**3.00**	**357**	PN	**Pn**	**23 48 28.4**	**+1.6**
LGNR	**Loginova**	**3.03**	**6**	*e*P	**Pn**	**23 48 30.3**	**+2.7**
LGNR				*e*S	**Sn**	**23 49 06.5**	**+3.7**
LGNR	**Loginova**	**3.03**	**6**	PN	**Pn**	**23 48 30.3**	**+2.7**
LGNR				S	**Sn**	**23 49 06.5**	**+3.7**
CIRR	**Tsirk**	**3.07**	**6**	*e*P	**Pn**	**23 48 30.1**	**+2.1**
CIRR				*e*S	**Sn**	**23 49 08.4**	**+4.9**
CIRR	**Tsirk**	**3.07**	**6**	PN	**Pn**	**23 48 30.1**	**+2.1**
CIRR				S	**Sn**	**23 49 08.4**	**+4.9**
KRSR	**Krestovskiy**	**3.16**	**4**	*e*P	**Pn**	**23 48 30.6**	**+1.4**
KRSR	**Krestovskiy**	**3.16**	**4**	PN	**Pn**	**23 48 30.6**	**+1.4**
KLY	**Klyuchi**	**3.26**	**5**	*e*P	**Pn**	**23 48 32.9**	**+2.5**
KLY	**Klyuchi**	**3.26**	**5**	PN	**Pn**	**23 48 32.9**	**+2.5**
SKR	**Severo-Kuril's**	**3.45**	**228**	*e*PN	**Pn**	**23 48 36.6**	**+3.5**
SKR				*e*S	**Sn**	**23 49 18.4**	**+5.7**
SKR				smax	smax		
	comp=N,269nm,0.8s						
SKR				smax	smax		
	comp=E,212nm,0.6s						
KBTR	**Krutoberegovo**	**3.51**	**25**	*i* P	**Pn**	**23 48 34.9**	**+1.1**
KBTR				*e*S	**Sn**	**23 49 19.4**	**+5.4**
KBTR	**Krutoberegovo**	**3.51**	**25**	PN	**Pn**	**23 48 34.9**	**+1.1**
KBTR				S	**Sn**	**23 49 19.4**	**+5.4**
BDR	**Baidarnaya**	**3.56**	**10**	*e*P	**Pn**	**23 48 36.6**	**+2.0**
BDR				*e*S	**Sn**	**23 49 18.0**	**+2.6**
BDR	**Baidarnaya**	**3.56**	**10**	PN	**Pn**	**23 48 36.6**	**+2.0**
BDR				S	**Sn**	**23 49 18.0**	**+2.6**
SMKR	**Semkarok**	**3.60**	**12**	*e*P	**Pn**	**23 48 36.6**	**+1.4**
SMKR	**Semkarok**	**3.60**	**12**	PN	**Pn**	**23 48 36.6**	**+1.4**
SRKR	**Sorokina**	**3.64**	**9**	*e*P	**Pn**	**23 48 37.9**	**+2.2**
SRKR	**Sorokina**	**3.64**	**9**	PN	**Pn**	**23 48 37.9**	**+2.2**
BKI	**Bering**	**4.04**	**56**	*e*P	**Pn**	**23 48 40.8**	**-0.3**
BKI	**Bering**	**4.04**	**56**	PN	**Pn**	**23 48 40.8**	**-0.3**
ASAJ	**Asahikawa**	**14.63**	**239**	P	**P**	**23 51 10.2**	**-1.5**
	comp=E,0.7nm,0.3s,baz=63,slow=18,SNR=6.4						
YAK	**Yakutsk**	**18.47**	**311**	LR	LR	23 59 02.5	
	comp=E,36nm,18.9s,baz=253,slow=37						
ILAR	**Eielson Array**	**28.81**	**45**	P	**P**	**23 53 35.6**	**-0.1**
	comp=E,0.5nm,0.7s,baz=262,slow=8.4,SNR=7.0						
H11N2	**WAKE ISLAND Hy**	**33.69**	**168**	T	T	00 30 08.4	
	baz=354						
H11N3	**WAKE ISLAND Hy**	**33.70**	**168**	T	T	00 30 01.1	
	baz=354						
H11N1	**WAKE ISLAND Hy**	**33.71**	**168**	T	T	00 30 11.4	
	baz=354						
INK	**Inuvik**	**33.87**	**38**	P	**P**	**23 54 19.8**	**-0.2**
	comp=E,0.2nm,0.3s,baz=312,slow=9.4,SNR=5.0						
SONM	**Songino Array**	**33.93**	**283**	P	**P**	**23 54 21.7**	**+0.7**
	comp=E,0.1nm,0.4s,baz=81,slow=8.9,SNR=2.5						
H11S1	**WAKE ISLAND Hy**	**34.87**	**169**	T	T	00 31 25.3	
	baz=350						
H11S3	**WAKE ISLAND Hy**	**34.88**	**169**	T	T	00 31 33.8	
	baz=350						
H11S2	**WAKE ISLAND Hy**	**34.89**	**169**	T	T	00 31 42.1	
	baz=350						
YKA	**Yellowknife Ar**	**43.16**	**43**	P	**P**	**23 55 37.3**	**-0.7**
	comp=E,0.2nm,0.6s,baz=298,slow=8.1,SNR=5.0						
SPITS	**Spitsbergen Ar**	**47.16**	**350**	P	**P**	**23 56 07.6**	**-2.0**
	comp=E,4.9nm,1.0s,baz=23,slow=12,SNR=13						
KURK	**Kurchatov**	**47.77**	**302**	P	**P**	**23 56 12.7**	**-1.9**
KURK				pmax	pmax		
	comp=Z,1.0nm,0.5s						
KURBB	**Kurchatov Arra**	**47.87**	**302**	P	**P**	**23 56 12.7**	**-2.7**
	comp=Z,0.7nm,0.5s,baz=59,slow=7.4,SNR=6.0						
MKAR	**Makanchi Array**	**48.19**	**296**	P	**P**	**23 56 15.7**	**-2.2**
	comp=Z,0.2nm,0.5s,baz=67,slow=6.4,SNR=3.1						
NVAR	**Mina Array Bea**	**55.73**	**70**	P	**P**	**23 57 14.9**	**+0.4**
	comp=Z,0.3nm,0.5s,baz=316,slow=7,SNR=2.4						
PDAR	**Pinedale Array**	**57.51**	**61**	P	**P**	**23 57 27.9**	**+0.8**
	comp=Z,0.6nm,0.8s,baz=304,slow=6.4,SNR=4.1						
FINES	**FINESS Array B**	**60.15**	**337**	P	**P**	**23 57 43.1**	**-1.6**
	comp=Z,1.2nm,0.9s,baz=74,slow=5.1,SNR=3.8						
TXAR	**Lajitas Array**	**70.62**	**67**	P	**P**	**23 58 53.6**	**+0.5**
	comp=Z,0.6nm,0.5s,baz=308,slow=4.4,SNR=3.3						
EKA	**Eskdalemuir Ar**	**71.08**	**350**	P	**P**	**23 58 54.4**	**-1.0**
	comp=Z,0.2nm,0.3s,baz=24,slow=5.6,SNR=4.7						

*ISCJB **27** 23:50:50.9±0.4,29°.63N±0°.05×141°.3E±0°.1, h46km, mb3.8/24, MS3.2/13, Error ellipse: s-maj=14.7km s-min=6.0km az=161.1*
*IDC **27** 23:50:51.8±2.4,29°.58N×141°.32E, h40km±21km, mb3.6/24, mb1 3.8/28, mb1mx3.7/71, mbtmp3.9/28, ML3.5/4, MS3.1/20, Ms1 3.2/20, ms1mx3.0/57, Error ellipse: s-maj=18.5km s-min=12.0km az=77.0*
ISC 27 23:50:52.6±0.5, 29°.65N±0°.06×141°.4E±0°.1, h46km, n48, σ1s17/36, mb3.9/24, MS3.2/13, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JCJ	**Chichijima**	**2.65**	**164**	Pn		**Pn**	**23 51 31.2**	**-1.6**
	24nm,0.3s,baz=9.9,slow=22,SNR=14							
JCJ				Sn		**Sn**	**23 52 04.3**	**+0.6**
	100nm,0.3s,baz=302,slow=21,SNR=12							
JHJ	**Hachijo jima 2**	**3.71**	**339**	Pn		**Pn**	**23 51 46.1**	**-1.3**
	13nm,0.3s,baz=189,slow=13,SNR=4.4							
JHJ				Sn		**Sn**	**23 52 26.7**	**-3.1**
	16nm,0.3s,baz=94,slow=14,SNR=2.6							
JHJ				LR		LR	23 53 21.0	
	comp=Z,292nm,20.1s,baz=140,slow=40							
MJAR	**Matsushiro Arr**	**7.36**	**340**	Pn		**Pn**	**23 52 38.3**	**+0.8**
	1.9nm,0.3s,baz=164,slow=12,SNR=17							
MJAR				LR		LR	23 55 42.4	
	comp=Z,137nm,21.0s,baz=170,slow=39							
MAT	**Matsushiro**	**7.36**	**340**	P		**Pn**	**23 52 38.5**	**+1.0**
JNU	**Nakatsue**	**9.59**	**294**	LR		LR	23 55 56.6	
	comp=Z,34nm,19.0s,baz=81,slow=32							
JOW	**Kunigami**	**11.86**	**259**	LR		LR	23 58 04.5	
	comp=Z,85nm,18.2s,baz=104,slow=37							
KSRS	**Korea Array**	**13.63**	**308**	Pn		**Pn**	**23 54 05.6**	**+2.4**
	0.1nm,0.3s,baz=125,slow=12,SNR=2.5							
KSRS				LR		LR	23 58 34.6	
	comp=Z,71nm,21.8s,baz=126,slow=34							
GUMO	**Guam**	**16.31**	**168**	LR		LR	00 00 08.0	
	comp=Z,175nm,20.0s,baz=33,slow=34							
USRK	**Ussuriysk Ar.**	**16.32**	**335**	Pn		**Pn**	**23 54 39.2**	**+0.8**
	0.2nm,0.3s,baz=161,slow=12,SNR=5.7							
USRK				LR		LR	00 01 10.3	
	comp=Z,114nm,20.5s,baz=141,slow=38							
KLR	**Kul'dur**	**20.88**	**342**	P		**P**	**23 55 32.0**	**+1.3**
	0.2nm,0.7s,baz=142,slow=11,SNR=7.0							
TGY	**Tagaytay City**	**24.39**	**235**	LR		LR	00 05 02.8	
	comp=Z,30nm,18.9s,baz=36,slow=35							
H11N2	**WAKE ISLAND Hy**	**25.18**	**107**	T		T	00 22 07.9	
	baz=299							
H11N1	**WAKE ISLAND Hy**	**25.18**	**107**	T		T	00 22 07.2	
	baz=299							
H11N3	**WAKE ISLAND Hy**	**25.19**	**107**	T		T	00 22 10.3	
	baz=299							
H11S3	**WAKE ISLAND Hy**	**25.60**	**110**	T		T	00 23 00.2	
	baz=308							
H11S1	**WAKE ISLAND Hy**	**25.61**	**110**	T		T	00 22 57.9	
	baz=308							
H11S2	**WAKE ISLAND Hy**	**25.62**	**110**	T		T	00 23 06.8	
	baz=308							
PETK	**Petropavlovsk-**	**26.33**	**22**	LR		LR	00 11 47.0	
	comp=Z,11nm,18.0s,baz=207,slow=48							
DAV	**Davao City (W)**	**26.92**	**217**	LR		LR	00 05 25.0	
	comp=Z,68nm,21.4s,baz=10,slow=32							
MA2	**Magadan**	**30.60**	**9**	LR		LR	00 10 13.7	
	comp=Z,14nm,21.6s,baz=162,slow=38							
SONM	**Songino Array**	**32.39**	**314**	P		**P**	**23 57 19.0**	**+1.0**
	0.4nm,0.7s,baz=114,slow=9.8,SNR=2.8							
PMG	**Port Moresby**	**39.23**	**171**	LR		LR	00 13 16.7	
	comp=Z,34nm,21.5s,baz=2.0,slow=34							
CMAR	**Chiang Mai Arr**	**40.09**	**264**	P		**P**	**23 58 24.7**	**+0.8**
	0.4nm,0.3s,baz=81,slow=5.6,SNR=4.4							
CMAR				LR		LR	00 15 50.7	
	comp=Z,43nm,18.0s,baz=171,slow=37							
TIXI	**Tiksi**	**42.60**	**354**	P		**P**	**23 58 43.8**	**0.0**
	0.9nm,0.3s,baz=304,slow=7.3,SNR=3.6							
ZALV	**Zalesovo Beam**	**47.10**	**318**	P		**P**	**23 59 19.3**	**-0.5**
	0.5nm,0.4s,baz=115,slow=9.7,SNR=3.0							
MKAR	**Makanchi Array**	**48.31**	**308**	P		**P**	**23 59 28.7**	**-0.6**
	0.3nm,0.7s,baz=90,slow=12,SNR=3.6							
MKAR				LR		LR	00 19 14.9	
	comp=Z,39nm,19.5s,baz=73,slow=35							
LEM	**Lembang**	**48.64**	**227**	LR		LR	00 20 58.6	
	comp=Z,26nm,18.3s,baz=180,slow=37							
WRA	**Warramunga Arr**	**49.76**	**189**	P		**P**	**23 59 39.4**	**-1.2**
	3.5nm,0.7s,baz=7.8,slow=7.8,SNR=24							
WRA				PcP		**PcP**	**00 01 01.8**	**+0.7**
	1.1nm,0.6s,baz=6.8,slow=3.9,SNR=6.1							
KURBB	**Kurchatov Arra**	**50.75**	**313**	P		**P**	**23 59 46.7**	**-1.1**
	0.4nm,0.6s,baz=92,slow=9.3,SNR=7.9							
ASAR	**Alice Springs**	**53.49**	**188**	P		**P**	**00 00 07.2**	**-1.2**
	0.6nm,0.6s,baz=4.1,slow=5.7,SNR=7.5							
ASAR				PcP		**PcP**	**00 01 16.0**	**+1.1**
	0.9nm,0.8s,baz=5.0,slow=4.5,SNR=5.4							
BVAR	**Borovoye Array**	**55.68**	**316**	P		**P**	**00 00 23.9**	**-0.2**
	0.9nm,0.6s,baz=79,slow=7.5,SNR=5.0							
ILAR	**Eielson Array**	**55.85**	**29**	P		**P**	**00 00 25.3**	**+0.2**
	1.0nm,0.7s,baz=262,slow=6.3,SNR=8.9							
INK	**Inuvik**	**61.03**	**25**	P		**P**	**00 01 00.8**	**-0.2**
	0.9nm,1.0s,baz=278,slow=6.0,SNR=3.2							
STKA	**Stephens Creek**	**61.19**	**180**	P		**P**	**00 01 00.2**	**-2.3**
	1.3nm,0.8s,baz=356,slow=15,SNR=3.7							
AKTO	**Aktyubinsk**	**63.70**	**315**	P		**P**	**00 01 18.4**	**-0.8**
	1.1nm,0.7s,baz=75,slow=12,SNR=4.3							
YKA	**Yellowknife Ar**	**70.26**	**29**	P		**P**	**00 02 00.1**	**-0.5**
	0.1nm,0.6s,baz=297,slow=6.3,SNR=3.7							
ARCES	**ARCESS Array B**	**70.90**	**340**	P		**P**	**00 02 04.9**	**+0.4**
	0.8nm,0.6s,baz=58,slow=11,SNR=4.4							
FINES	**FINESS Array B**	**75.34**	**333**	P		**P**	**00 02 31.0**	**+0.2**
	1.9nm,0.8s,baz=62,slow=4.5,SNR=8.2							
KBZ	**Khabaz**	**75.74**	**312**	P		**P**	**00 02 33.1**	**-0.3**
	0.8nm,0.6s,baz=71,slow=3.0,SNR=4.9							
NVAR	**Mina Array Bea**	**79.52**	**52**	P		**P**	**00 02 55.6**	**+0.7**
	0.6nm,0.6s,baz=297,slow=4.0,SNR=4.6							
AKASG	**Malin Array Be**	**80.13**	**323**	P		**P**	**00 02 57.9**	**+0.2**
	0.6nm,0.4s,baz=53,slow=6.3,SNR=3.2							
HFS	**Hagfors**	**80.80**	**336**	P		**P**	**00 03 00.9**	**-0.2**
	1.7nm,0.9s,baz=50,slow=13,SNR=2.2							
HFS				LR		LR	00 39 45.1	
	comp=Z,26nm,20.1s,baz=348,slow=36							
PDAR	**Pinedale Array**	**82.92**	**45**	P		**P**	**00 03 13.1**	**+0.2**
	0.3nm,0.6s,baz=278,slow=2.6,SNR=2.9							
PDAR				LR		LR	00 33 20.9	
	comp=Z,17nm,22.0s,baz=28,slow=31							
BRTR	**Keskin Array B**	**83.74**	**312**	P		**P**	**00 03 17.6**	**+0.5**
	3.4nm,0.7s,baz=102,slow=3.9,SNR=29							
BRTR				LR		LR	00 43 08.5	
	comp=Z,26nm,18.4s,baz=93,slow=37							
ULM	**Lac du Bonnet**	**85.71**	**33**	LR		LR	00 42 30.1	
	comp=Z,10nm,20.3s,baz=304,slow=36							
MMAI	**Mount Meron Ar**	**86.22**	**306**	P		**P**	**00 03 30.4**	**+0.9**
	0.6nm,0.5s,baz=60,slow=8.5,SNR=5.1							
TXAR	**Lajitas Array**	**94.66**	**53**	P		**P**	**00 04 11.1**	**+1.9**
	0.4nm,0.8s,baz=299,slow=2.6,SNR=4.3							
TXAR				LR		LR	00 40 48.1	
	comp=Z,9.3nm,21.9s,baz=0.0,slow=32							
TORD	**Torodi Ar. Bea**	**122.35**	**312**	PKP		**PKPdf**	**00 09 42.5**	**-0.9**
	0.2nm,0.6s,baz=68,slow=0.1,SNR=2.9							

*KRNET **28** 00:21:35.6±0.1, 41°.63N×75°.55E, h19km, mb2.7*
*NNC **28** 00:21:36.7±1.2, 41°.69N×75°.45E, h0km, mb2.8, mpv2.6, Error ellipse: s-maj=9.6km s-min=7.3km az=140.0*
*SOME **28** 00:21:36.3, 41°.67N×75°.48E, h10km*
*KNET **28** 00:21:36.5±0.9, 41°.68N×75°.49E, h20km±9km, ml2.1, Error ellipse: s-maj=5.9km s-min=3.9km az=167.0*
ISC 28 00:21:35.1±1.1, 41°.64N±0°.03×75°.48E±0°.02, h4km±10km, n49, σ1s00/93, 45C-19D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
NRN	**Naryn**	**0.44**	**118**	⇑*i*P		**Pg**	**00 21 43.1**	**-0.6**
	baz=23							
NRN				⇑*i*S		**Sg**	**00 21 48.6**	**-0.9**
	baz=23							
KZA	**Kyzart**	**0.47**	**339**	⇓P		**Pb**	**00 21 45.5**	**-0.7**
	42nm,0.1s,SNR=48							
KZA				⇑S		**Sb**	**00 21 52.7**	**-1.1**
	130nm,0.1s							
KZA	**Kyzart**	**0.47**	**339**	⇑*i*P		**Pb**	**00 21 45.5**	**-0.7**
	baz=34							
KZA				⇑*i*S		**Sb**	**00 21 52.6**	**-1.1**
	baz=34							
ULHL	**Ulahol**	**0.83**	**43**	⇑P		**Pg**	**00 21 51.1**	**0.0**
	12nm,0.1s,SNR=88							
ULHL				⇑S		**Sg**	**00 22 02.0**	**+0.1**
	42nm,0.1s							
ULHL	**Ulahol**	**0.83**	**43**	⇑*i*P		**Pg**	**00 21 51.0**	**0.0**
	baz=40							
ULHL				⇑*i*S		**Sg**	**00 21 01.9**	**+0.1**
	baz=40							
UCH	**Uchtor**	**0.93**	**309**	⇓P		**Pb**	**00 21 53.8**	**-0.3**
	6.0nm,0.2s,SNR=12							
UCH				⇓S		**Sb**	**00 22 07.0**	**+0.1**
	52nm,0.2s							
UCH	**Uchtor**	**0.93**	**309**	⇑*i*P		**Pb**	**00 21 53.8**	**-0.3**
	baz=8.0							
UCH				⇑*i*S		**Sb**	**00 22 07.0**	**+0.1**
	baz=8.0							
KBK	**Karagaybulak**	**1.09**	**339**	⇓P		**Pn**	**00 21 56.9**	**-0.4**
	19nm,0.1s,SNR=9.2							
KBK				⇑S		**Sn**	**00 22 12.2**	**-0.8**
	145nm,0.2s							
KBK	**Karagaybulak**	**1.09**	**339**	⇑*i*P		**Pn**	**00 21 56.8**	**-0.5**
	baz=37							
KBK				⇑*i*S		**Sn**	**00 22 11.9**	**-1.0**
	baz=37							
AAK	**Ala-Archa**	**1.24**	**324**	⇑P		**Pn**	**00 21 59.2**	**-0.1**
	2.2nm,0.3s							
AAK				⇑S		**Sn**	**00 22 15.9**	**-0.7**
	5.1nm,0.4s							
AAK	**Ala-Archa**	**1.24**	**324**	⇓P		**Pn**	**00 21 59.4**	**+0.1**
	12nm,0.1s,SNR=39							
AAK				⇓S		**Sn**	**00 22 16.4**	**-0.2**
	9.4nm,0.2s							
AAK	**Ala-Archa**	**1.24**	**324**	⇑*i*P		**Pn**	**00 21 59.4**	**+0.1**
	baz=22							
AAK				⇑*i*S		**Sn**	**00 22 16.1**	**-0.5**
	baz=22							
TKM2	**Tokmak 2**	**1.28**	**4**	⇓P		**Pg**	**00 21 59.9**	**+0.2**
	1.0nm,0.2s							
TKM2				⇑S		**Sb**	**00 22 16.9**	**0.0**
	12nm,0.3s							
TKM2	**Tokmak 2**	**1.28**	**4**	⇓P		**Pg**	**00 22 00.0**	**+0.3**
	6.3nm,0.2s,SNR=33							
TKM2				⇓S		**Sn**	**00 22 17.4**	**-0.4**
	34nm,0.1s							
TKM2	**Tokmak 2**	**1.28**	**4**	⇑*i*P		**Pn**	**00 21 59.7**	**-0.3**
	baz=2.0							
TKM2				⇑*i*S		**Sb**	**00 22 16.9**	**0.0**
	baz=2.0							
KDJ	**Kajisay**	**1.36**	**68**	⇑*i*P		**Pn**	**00 22 00.1**	**-0.9**
	baz=67							
KDJ				⇑*i*S		**Sb**	**00 22 17.8**	**-1.2**
	baz=67							
AML	**Almayashu**	**1.42**	**291**	⇑P		**Pg**	**00 22 02.7**	**+0.4**
	17nm,0.2s,SNR=6.6							
AML				⇓S		**Sn**	**00 22 22.0**	**+0.6**
	17nm,0.2s							
AML	**Almayashu**	**1.42**	**291**	⇑*i*P		**Pg**	**00 22 02.8**	**+0.4**
	baz=91							
AML				⇑*i*S		**Sn**	**00 22 22.4**	**+1.0**
	baz=91							
KST	**Kastek**	**1.45**	**14**	*e*P		**Pg**	**00 22 03.2**	**+0.3**
	5.2nm,0.3s							
KST				*e*S		**Sg**	**00 22 22.5**	**+0.9**
	8.8nm,0.3s							
CHMS	**Chumysh**	**1.46**	**339**	⇑P		**Pg**	**00 22 03.5**	**+0.3**
	5.3nm,0.1s,SNR=13							
CHMS				⇑S		**Sg**	**00 22 23.1**	**+1.0**
	16nm,0.2s							
CHMS	**Chumysh**	**1.46**	**339**	⇑*i*P		**Pg**	**00 22 03.0**	**-0.2**
	baz=37							
CHMS				⇑*i*S		**Sg**	**00 22 22.7**	**+0.6**
	baz=37							
DGS	**Degeres**	**1.62**	**8**	*e*P		**Pg**	**00 22 06.1**	**0.0**
	2.7nm,0.3s							
DGS				*e*S		**Sg**	**00 22 27.4**	**+0.4**
	16nm,0.4s							
EKS2	**Erkin-Say**	**1.63**	**309**	⇑*i*P		**Pg**	**00 22 06.3**	**0.0**
	baz=9.0							
EKS2				⇑*i*S		**Sg**	**00 22 28.5**	**+1.1**
	baz=9.0							
IZV	**Izvestkoviy**	**1.63**	**31**	*e*P		**Pg**	**00 22 06.2**	**-0.1**
	7.1nm,0.2s							
IZV				*e*S		**Sg**	**00 22 28.1**	**+0.6**
	25nm,0.2s							
MTBS	**Maitube**	**1.65**	**25**	*e*P		**Pg**	**00 22 06.5**	**-0.2**
	4.9nm,0.2s							
MTBS				⇓*i*S		**Sg**	**00 22 28.4**	**+0.3**
	16nm,0.2s							
TARG	**Taragay, Kyrgy**	**1.74**	**86**	⇓*i*P		**Pn**	**00 22 06.8**	**+0.3**
	baz=86							
TARG				⇓*i*S		**Sn**	**00 22 29.5**	**+0.2**
	baz=86							
TNSS	**Tian-Shan**	**1.77**	**37**	⇓*i*P		**Pb**	**00 22 08.6**	**+0.3**
	6.9nm,0.3s							
TNSS				⇑*i*S		**Sg**	**00 22 32.1**	**+0.1**
	9.7nm,0.2s							
USP	**Ospenovka**	**1.78**	**336**	⇑P		**Pg**	**00 22 09.3**	**0.0**
	5.4nm,0.1s,SNR=27							
USP	**Ospenovka**	**1.78**	**336**	⇑*i*P		**Pb**	**00 22 08.5**	**+0.2**
	baz=35							
USP				⇑*i*S		**Sg**	**00 22 32.8**	**+0.4**
	baz=35							
ARSB	**Arslanbob**	**1.90**	**261**	⇑*e*P		**Pb**	**00 22 10.3**	**-0.2**
	baz=62							
ARSB				⇑*e*S		**Sg**	**00 22 36.2**	**-0.1**
	baz=62							
MDOK	**Medeo**	**1.92**	**37**	Pn		**Pb**	**00 22 10.0**	**-0.7**
	1.5nm,0.4s							
MDOK				⇑Sn		**Sg**	**00 22 36.0**	**-0.7**
	4.7nm,0.5s							
MDOK	**Medeo**	**1.92**	**37**	*e*P		**Pb**	**00 22 10.1**	**-0.5**
	2.4nm,0.5s							
MDOK				*e*S		**Sb**	**00 22 35.0**	**0.0**
	7.0nm,0.4s							
KOTS	**Kotyrbulak**	**2.00**	**37**	*e*P		**Pb**	**00 22 12.3**	**+0.2**
	2.4nm,0.2s							
KOTS				*e*S		**Sb**	**00 22 38.0**	**+0.6**
	8.1nm,0.4s							
MRKS	**Merke**	**2.01**	**304**	*e*P		**Pg**	**00 22 13.4**	**-0.2**
	11nm,0.6s							
MRKS				*e*S		**Sg**	**00 22 40.0**	**+0.3**
	11nm,0.3s							
SFK	**Sufi-Kurgan**	**2.21**	**223**	⇓Pg		**Pg**	**00 22 17.5**	**0.0**
	2.1nm,0.3s							
SFK				⇑Lg		Lg	00 22 48.2	
	5.2nm,0.4s							

QSPA	South Pole Qui	63.52	180	P		P		00 38 30.6	0.0
	4.7nm,0.6s,baz=1.4,slow=2.9,SNR=18								
QSPA	South Pole Qui	63.52	180	*eP*		P		00 38 30.4	-0.2
	1.5nm,0.4s								
MAW	Mawson	76.11	200	P		P		00 39 47.4	0.0
	5.6nm,0.6s,baz=141,slow=7.9,SNR=13								
SNAA	Sanae	81.95	178	P		P		00 40 18.4	-0.9
	0.5nm,0.5s,baz=216,slow=8.7,SNR=7.5								
VNA3	Neumayer Olymp	82.06	176	P		P		00 40 19.1	-0.8
VNA2	Neumayer--Watz	82.51	177	P		P		00 40 18.9	-3.3
	baz=190,slow=6.0								
NVAR	Mina Array Bea	84.99	42	P		P		00 40 36.2	+0.7
	1.0nm,0.6s,baz=223,slow=9.0,SNR=8.4								
TXAR	Lajitas Array	89.77	57	P		P		00 40 59.3	+0.8
	0.8nm,0.8s,baz=204,slow=6.4,SNR=8.9								
PDAR	Pinedale Array	92.91	43	P		P		00 41 12.9	0.0
	0.6nm,0.8s,baz=252,slow=1.8,SNR=4.1								
ARCES	ARCESS Array B	134.99	349	PKP		PKPdf		00 47 15.7	-1.9
	1.5nm,0.9s,baz=60,slow=5.3,SNR=3.3								
FINES	FINESS Array B	141.75	342	PKhKP		PKPpre		00 47 24.7	
	3.3nm,1.0s,baz=5.7,slow=1.4,SNR=4.8								
NB2	NORSAR Subarra	145.06	353	PKP		PKPbc		00 47 35.6	-0.1
	comp=Z,3.5nm,0.8s,baz=10,slow=2.7								
NOA	NORSAR Array B	145.06	353	PKPbc		PKPbc		00 47 35.1	-0.6
	comp=Z,3.5nm,0.9s,baz=16,slow=2.6,SNR=5.9								
HFS	Hagfors	145.62	350	PKPbc		PKPdf		00 47 36.3	-0.6
	comp=Z,2.3nm,0.4s,baz=73,slow=5.0,SNR=19								
AKASG	Malin Array Be	148.55	327	PKPbc		PKPdf		00 47 44.2	+2.1
	comp=Z,0.8nm,0.4s,baz=44,slow=3.6,SNR=4.9								
MMAI	Mount Meron Ar	151.01	291	PKPbc		PKPbc		00 47 51.8	-0.8
	comp=Z,0.8nm,0.4s,baz=71,slow=6.2,SNR=6.7								
BRTR	Keskin Array B	151.15	305	PKPbc		PKPdf		00 47 50.6	+3.8
	comp=Z,0.3nm,0.3s,baz=29,slow=3.3,SNR=6.1								
TORD	Torodi Ar. Bea	166.61	176	PKPab		PKPab		00 49 07.2	-0.8
	comp=Z,0.6nm,0.8s,baz=175,slow=3.7,SNR=5.9								

IDC ***28*** *00:34:04.4±0.9, 32°.53N×47°.00E, h0km, mb3.7/19, mb1 3.7/25, mb1mx3.7/64, mbtmp3.7/25, ML3.3/6, MS3.0/11, Ms1 3.0/11, ms1mx2.7/66, Error ellipse: s-maj=21.1km s-min=12.7km az=155.0*

ISCJB ***28*** *00:34:05.0±0.2, 32°.30N±0°.03×46°.98E±0°.03, h20km, mb3.8/21, MS3.3/8, Error ellipse: s-maj=4.4km s-min=3.4km az=147.7*

SGS ***28*** *00:34:05.3, 32°.78N×47°.26E, h16km*

NEIC ***28*** *00:34:06.2±0.0, 32°.43N×46°.92E, h5km, mb4.2/4, MN3.9(TEH), After TEH.*

TEH ***28*** *00:34:06.2, 32°.43N×46°.92E, h5km, ML3.9*

CSEM ***28*** *00:34:07.7±0.2, 32°.39N×47°.03E, h20km, ML3.9, Error ellipse: s-maj=8.1km s-min=5.8km az=38.0*

THR ***28*** *00:34:09.6±0.4, 32°.48N×47°.17E, h45km±2km, ML3.8*

DSN ***28*** *00:34:13.6±0.2, 32°.13N×47°.64E, h15km, mb5.6/5, Error ellipse: s-maj=13.0km s-min=3.4km az=35.0*

ISC 28 00:34:07.1±0.4, 32°.45N±0°.04×46°.99E±0°.04, h20km, n118, σ18°87/119, mb3.8/21, MS3.0/8, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
IKFM	**Kafar-mosalman**	**1.29**	**34**	*e*Pg		**Pb**	**00 34 30.3**	**-0.4**
IKFM				*e*Sg		**Sb**	**00 34 48.3**	**+1.4**
IKFM				*e*AMB		AMB	00 34 56.4	
	comp=Z,99nm,0.2s							
IKFM	**Kafar-mosalman**	**1.29**	**34**	*e*Pg		**Pb**	**00 34 30.3**	**-0.4**
IKFM				*e*Sg		**Sb**	**00 34 48.3**	**+1.4**
SHGR	**Shooshtar-Gavs**	**1.58**	**102**	*e*Pg		**Pb**	**00 34 35.9**	**+0.3**
SHGR	**Shooshtar-Gavs**	**1.58**	**102**	*e*Pg		**Pb**	**00 34 35.9**	**+0.3**
SHGR				AML		AML	00 35 01.3	
	comp=N,1μm,0.7s							
SHGR				AML		AML	00 35 01.8	
	comp=E,2μm,0.4s							
IKOM	**Komasi**	**1.77**	**14**	*e*Pg		**Pb**	**00 34 38.3**	**-0.8**
IKOM				*e*AMB		AMB	00 35 09.9	
	comp=Z,15μm,0.4s							
IKOM	**Komasi**	**1.77**	**14**	Pg		**Pb**	**00 34 38.2**	**-0.8**
IKOM	**Komasi**	**1.77**	**14**	*e*Pg		**Pb**	**00 34 38.3**	**-0.8**
IGHG	**Ghaleghazi**	**1.90**	**350**	*e*Pg		**Pb**	**00 34 40.4**	**-0.9**
IGHG				*e*AMB		AMB	00 35 12.8	
	comp=Z,16μm,0.4s							
IGHG	**Ghaleghazi**	**1.90**	**350**	Pg		**Pb**	**00 34 40.4**	**-0.9**
IGHG	**Ghaleghazi**	**1.90**	**350**	*e*Pg		**Pb**	**00 34 40.4**	**-0.9**
IVIS	**Veis**	**2.07**	**357**	*e*Pg		**Pb**	**00 34 42.5**	**-1.6**
IVIS				*e*AMB		AMB	00 35 23.2	
	comp=Z,7μm,0.2s							
IVIS	**Veis**	**2.07**	**357**	Pg		**Pb**	**00 34 42.4**	**-1.6**
IVIS	**Veis**	**2.07**	**357**	*e*Pg		**Pb**	**00 34 42.5**	**-1.6**
IDHR	**Dehrash**	**2.30**	**348**	*e*AMB		AMB	00 35 24.1	
	comp=Z,8μm,0.2s							
ILIN	**Lien**	**2.46**	**360**	*e*Pn		**Pn**	**00 34 47.8**	**+1.4**
ILIN				*e*AMB		AMB	00 35 33.8	
	comp=Z,5μm,0.3s							
ILIN	**Lien**	**2.46**	**360**	Pn		**Pn**	**00 34 47.7**	**+1.4**
ILIN	**Lien**	**2.46**	**360**	*e*Pn		**Pn**	**00 34 47.8**	**+1.4**
SNGE	**Sanandaj**	**2.65**	**6**	*e*Pn		**Pn**	**00 34 50.8**	**+1.9**
SNE	**Sanandaj**	**2.65**	**6**	*e*Pn		**Pn**	**00 34 50.8**	**+1.9**
SNGE				*e*Sg		**Sb**	**00 35 30.0**	**+3.8**
SNGE				AML		AML	00 35 37.9	
	comp=E,252nm,0.7s							
KHMZ	**Khomeyn**	**2.81**	**62**	*e*Pn		**Pn**	**00 34 51.3**	**+0.3**
KHMZ	**Khomeyn**	**2.81**	**62**	*e*Pn		**Pn**	**00 34 51.3**	**+0.3**
HAGD	**Aghdareh**	**2.97**	**37**	*e*Pn		**Pn**	**00 34 54.5**	**+1.2**
HAGD				*e*AMB		AMB	00 35 40.5	
	comp=Z,99nm,0.2s							
HAGD	**Aghdareh**	**2.97**	**37**	*e*Pn		**Pn**	**00 34 54.5**	**+1.2**
ASAO	**Ashtian**	**3.29**	**50**	*e*Pn		**Pn**	**00 34 58.5**	**+0.7**
ASAO	**Ashtian**	**3.29**	**50**	*e*Pn		**Pn**	**00 34 58.5**	**+0.7**
HKZM	**Kohzaman**	**3.33**	**28**	*e*Pn		**Pn**	**00 35 00.2**	**+2.0**
HKZM				*e*AMB		AMB	00 35 42.5	
	comp=Z,99nm,0.3s							
HKZM	**Kohzaman**	**3.33**	**28**	*e*Pn		**Pn**	**00 35 00.2**	**+2.0**
IKLH	**Kolahrood**	**3.96**	**76**	*e*Pn		**Pn**	**00 35 08.3**	**+1.3**
IKLH				*e*AMB		AMB	00 36 37.3	
	comp=Z,2μm,0.4s							
IKLH	**Kolahrood**	**3.96**	**76**	*e*Pn		**Pn**	**00 35 08.3**	**+1.3**
GHVR	**GHOM**	**4.13**	**60**	*e*Pn		**Pn**	**00 35 09.0**	**-0.2**
GHVR	**GHOM**	**4.13**	**60**	*e*Pn		**Pn**	**00 35 09.0**	**-0.2**
KFJS		**4.33**	**169**	P		**Pn**	**00 35 14.3**	**+2.5**
KFJS				S		**Sn**	**00 36 05.4**	**+3.7**
IZEF	**Zefreh**	**4.53**	**83**	*e*Pn		**Pn**	**00 35 15.7**	**+0.9**
IZEF				*e*AMB		AMB	00 36 44.5	
	comp=Z,820nm,0.6s							
IZEF	**Zefreh**	**4.53**	**83**	*e*Pn		**Pn**	**00 35 15.7**	**+0.9**
IRAM	**Ramesheh**	**4.62**	**97**	*e*Pn		**Pn**	**00 35 16.6**	**+0.6**
IRAM				*e*AMB		AMB	00 36 58.5	
	comp=Z,1μm,0.4s							
IRAM	**Ramesheh**	**4.62**	**97**	*e*Pn		**Pn**	**00 35 16.6**	**+0.6**
YOVA	**Hakkari_Y`…kse**	**5.58**	**337**	*i*P		**Pn**	**00 35 29.0**	**-0.1**
YOVA				*i*S		**Sn**	**00 36 31.9**	**-0.9**
YOVA	**Hakkari_Y`…kse**	**5.58**	**337**	P		**Pn**	**00 35 29.0**	**-0.1**
HAKT	**HAKKARI**	**5.76**	**333**	*i*P		**Pn**	**00 35 29.9**	**-1.8**
HAKT				*i*S		**Sn**	**00 36 34.4**	**-2.9**
SIRN	**S¨–rnak**	**6.28**	**325**	*i*P		**Pn**	**00 35 38.5**	**-0.1**
SIRN	**S¨–rnak**	**6.28**	**325**	P		**Pn**	**00 35 38.5**	**-0.1**
BOQSS		**6.88**	**162**	S		**Sn**	**00 37 04.7**	**0.0**
BOQSS		**6.88**	**162**	P		**Pn**	**00 35 47.9**	**+1.0**
SRTM	**Siirt_Merkez**	**6.91**	**325**	*i*P		**Pn**	**00 35 47.0**	**-0.3**
SRTM				*i*S		**Sn**	**00 36 59.6**	**-5.7**
SRTM	**Siirt_Merkez**	**6.91**	**325**	P		**Pn**	**00 35 47.0**	**-0.3**
GNI	**Garni**	**7.89**	**347**	LR		LR	00 39 03.6	
	comp=Z,35nm,19.8s,baz=164,slow=38							
SLWS		**8.28**	**156**	P		**Pn**	**00 36 06.0**	**0.0**
SLWS				S		**Sn**	**00 37 36.9**	**-2.0**
ASF	**Jabal al Asfar**	**8.54**	**271**	Pn		**Pn**	**00 36 09.1**	**-0.6**
	comp=Z,0.7nm,0.3s,baz=33,slow=6.4,SNR=8.2							
ASF				Sn		**Sn**	**00 37 38.9**	**-6.7**
	comp=Z,0.1nm,0.3s,baz=230,slow=16,SNR=2.1							
ASF				Lg		Lg	00 38 33.5	
	comp=Z,0.7nm,0.3s,baz=56,slow=18,SNR=2.7							
RAYN	**Ar Rayn**	**8.99**	**189**	*e*Pn		**Pn**	**00 36 15.3**	**-0.6**
RAYN	**Ar Rayn**	**8.99**	**189**	*e*Pn		**Pn**	**00 36 15.3**	**-0.6**
BTHS		**9.04**	**157**	P		**Pn**	**00 36 16.6**	**+0.1**
MMAI	**Mount Meron Ar**	**9.77**	**276**	Pn		**Pn**	**00 36 27.2**	**+0.6**
	comp=Z,0.3nm,0.3s,baz=90,slow=16,SNR=3.8							
MMAI				Lg		Lg	00 39 13.6	
	comp=Z,0.6nm,0.3s,baz=282,slow=40,SNR=3.1							
MMAI				LR		LR	00 41 09.3	
	comp=Z,48nm,18.5s,baz=110,slow=44							
SHME	**Shamm**	**10.23**	**126**	P		**Pn**	**00 36 31.1**	**-1.7**
BANOM	**Banah**	**10.42**	**126**	P		**Pn**	**00 36 33.5**	**-1.9**
	SNR=24							
BANOM	**Banah**	**10.42**	**126**	*i*P		**Pn**	**00 36 33.5**	**-1.9**
	SNR=24							
BANOM				S		**Sn**	**00 38 24.9**	**-6.7**
NAZ	**Nazwa, Dubai**	**10.64**	**132**	P		**Pn**	**00 36 38.0**	**-0.4**
	SNR=7.7							
NAZ	**Nazwa, Dubai**	**10.64**	**132**	*i*P		**Pn**	**00 36 38.0**	**-0.4**
	SNR=7.7							
EIL	**Elat**	**10.69**	**258**	Pn		**Pn**	**00 36 40.4**	**+1.4**
	comp=Z,0.1nm,0.3s,baz=58,slow=13,SNR=2.0							
EIL				Lg		Lg	00 39 51.7	
	comp=Z,0.3nm,0.3s,baz=74,slow=15,SNR=2.7							
EIL				LR		LR	00 41 48.8	
	comp=Z,110nm,20.3s,baz=65,slow=43							
MSFE	**Esma-Masafi**	**10.70**	**129**	P		**Pn**	**00 36 37.9**	**-1.3**
MSFE				S		**Sn**	**00 38 30.9**	**-7.6**
MDH	**Madha**	**10.83**	**129**	P		**Pn**	**00 36 39.0**	**-2.0**
UOSS	**Minazif**	**11.02**	**130**	*e*Pn		**Pn**	**00 36 42.1**	**-1.5**
UOSS	**Minazif**	**11.02**	**130**	P		**Pn**	**00 36 42.1**	**-1.5**
	SNR=8.4							
UOSS	**Minazif**	**11.02**	**130**	*i*P		**Pn**	**00 36 42.1**	**-1.5**
	SNR=8.4							
HATD	**Hatta, Dubai**	**11.05**	**131**	P		**Pn**	**00 36 42.9**	**-1.2**
	SNR=10							
HATD	**Hatta, Dubai**	**11.05**	**131**	*i*P		**Pn**	**00 36 42.9**	**-1.2**
	SNR=10							
ALNE	**Al Ain**	**11.38**	**135**	P		**Pn**	**00 36 47.0**	**-1.6**
CSS	**Mathiatis**	**11.64**	**286**	*e*Pn		**Pn**	**00 36 56.0**	**+3.8**
CSS	**Mathiatis**	**11.64**	**286**	*e*Pn		**Pn**	**00 36 56.0**	**+3.8**
BRTR	**Keskin Array B**	**13.00**	**308**	Pn		**Pn**	**00 37 11.9**	**+1.2**
	comp=Z,0.0nm,0.3s,baz=134,slow=14,SNR=2.6							
WSAR	**Wadi Sarin**	**13.79**	**129**	Pn		**Pn**	**00 37 18.2**	**-3.3**
	comp=Z,0.8nm,0.3s,baz=328,slow=9.0,SNR=12							
WSAR				Sn		Sn	00 39 43.7	-10
	comp=Z,0.3nm,0.3s,baz=132,slow=12,SNR=3.4							
IDI	**Anoyia**	**18.56**	**285**	P		**P**	**00 38 22.2**	**-0.6**
	comp=Z,0.2nm,0.3s,baz=67,slow=7.7,SNR=5.4							
IDI	**Anoyia**	**18.56**	**285**	*e*P		**Pn**	**00 38 24.2**	**+1.2**
	comp=Z,59nm,2.0s							
IDI	**Anoyia**	**18.56**	**285**	*e*P		**Pn**	**00 38 24.2**	**+1.2**
	comp=Z,59nm,2.0s							
AKTO	**Aktyubinsk**	**19.74**	**21**	P		**P**	**00 38 34.6**	**-0.8**
	comp=Z,0.2nm,0.3s,baz=206,slow=13,SNR=2.8							
AKTO				LR		LR	00 48 26.0	
	comp=Z,47nm,18.7s,baz=200,slow=44							
MLR	**Muntele Rosu**	**20.83**	**315**	P		**P**	**00 38 48.3**	**+0.8**
	comp=Z,0.3nm,0.8s,baz=75,slow=1.1,SNR=4.5							
MLR	**Muntele Rosu**	**20.83**	**315**	*e*P		Pn	00 38 50.4	+0.4
	comp=Z,9.6nm,1.4s							
MLR	**Muntele Rosu**	**20.83**	**315**	*e*P		Pn	00 38 50.4	+0.4
	comp=Z,9.6nm,1.4s							
ATD	**Arta Tunnel**	**21.17**	**191**	LR		LR	00 46 40.1	
	comp=Z,49nm,18.8s,baz=84,slow=36							
BUR04	**Bucovina Ar. S**	**22.41**	**319**	*e*P		**P**	**00 39 07.3**	**+2.8**
BUR08	**Bucovina Ar. S**	**22.44**	**319**	*e*P		**P**	**00 39 06.5**	**+1.8**
BUR08	**Bucovina Ar. S**	**22.44**	**319**	*e*P		**P**	**00 39 06.5**	**+1.8**
AKASG	**Malin Array Be**	**22.46**	**329**	P		**P**	**00 39 05.1**	**+0.4**
	comp=Z,0.5nm,0.4s,baz=137,slow=11,SNR=3.5							
AAK	**Ala-Archa**	**23.97**	**57**	LR		LR	00 50 15.7	
	comp=Z,37nm,19.8s,baz=248,slow=41							
KSH	**Kashi**	**24.42**	**65**	P		P	00 39 33.0	+8.5
ARU	**Arti**	**25.29**	**15**	LR		LR	00 51 10.8	
	comp=Z,29nm,18.9s,baz=158,slow=41							
TIP	**Timpagrande**	**25.34**	**294**	*e*P		**P**	**00 39 33.6**	**+0.9**
	comp=Z,3.9nm,0.4s							
TIP	**Timpagrande**	**25.34**	**294**	*e*P		**P**	**00 39 33.6**	**+0.9**
	comp=Z,3.9nm,0.4s							
LANS	**Liptovska Anna**	**26.48**	**317**	*e*P		**P**	**00 39 44.6**	**+1.7**
BRVK	**Borovoye**	**26.56**	**32**	*e*P		**P**	**00 39 45.8**	**+2.2**
	comp=Z,1.5nm,0.7s							
BVAR	**Borovoye Array**	**26.58**	**32**	P		**P**	**00 39 44.0**	**+0.3**
	comp=Z,0.9nm,0.5s,baz=224,slow=8.4,SNR=11							
KURBB	**Kurchatov Arra**	**29.47**	**43**	P		**P**	**00 40 10.1**	**+0.6**
	comp=Z,0.3nm,0.5s,baz=248,slow=9.0,SNR=2.9							
MK01	**Makanchi Array**	**30.45**	**52**	*e*P		**P**	**00 40 18.9**	**+0.6**
MK01	**Makanchi Array**	**30.45**	**52**	*e*P		**P**	**00 40 18.9**	**+0.6**
MK31	**Makanchi Array**	**30.45**	**52**	*e*P		**P**	**00 40 20.2**	**+1.9**
MK31	**Makanchi Array**	**30.45**	**52**	*e*P		**P**	**00 40 20.2**	**+1.9**
MKAR	**Makanchi Array**	**30.45**	**52**	P		**P**	**00 40 18.2**	**-0.1**
	comp=Z,0.4nm,0.5s,baz=247,slow=6.3,SNR=6.1							
MKAR	**Makanchi Array**	**30.45**	**52**	*e*P		**P**	**00 40 18.9**	**+0.6**
	comp=Z,9.1nm,1.0s							
MKAR	**Makanchi Array**	**30.45**	**52**	*e*P		**P**	**00 40 18.9**	**+0.6**
	comp=Z,9.1nm,1.0s							
KEST	**Kesra**	**31.22**	**287**	P		**P**	**00 40 26.3**	**+1.1**
	comp=Z,3.6nm,1.1s,baz=84,slow=10,SNR=2.8							
FINES	**FINESS Array B**	**32.02**	**341**	P		**P**	**00 40 31.6**	**-0.3**
	comp=Z,0.5nm,0.5s,baz=140,slow=8.2,SNR=6.4							
WMQ	**Urumqi**	**33.66**	**58**	P		**P**	**00 40 49.5**	**+2.9**
ZALV	**Zalesovo Beam**	**34.37**	**40**	P		**P**	**00 40 52.3**	**-0.1**
	comp=Z,0.5nm,0.3s,baz=265,slow=8.8,SNR=3.0							
ZALV				LR		LR	00 56 56.0	
	comp=Z,26nm,19.0s,baz=250,slow=40							
KMBO	**Kilima Mbogo**	**34.64**	**197**	LR		LR	00 56 07.3	
	comp=Z,23nm,18.4s,baz=17,slow=38							
HFS	**Hagfors**	**35.31**	**332**	P		**P**	**00 41 00.3**	**-0.2**
	comp=Z,1.3nm,0.4s,baz=124,slow=9.4,SNR=9.2							
NOA	**NORSAR Array B**	**36.83**	**332**	P		**P**	**00 41 12.6**	**-1.0**
	comp=Z,0.5nm,0.8s,baz=131,slow=14,SNR=2.9							
ARCES	**ARCESS Array B**	**39.05**	**348**	P		**P**	**00 41 31.9**	**-0.3**
	comp=Z,1.7nm,1.1s,baz=155,slow=11,SNR=2.4							
ESDC	**Sonseca Array**	**41.35**	**295**	P		**P**	**00 41 51.2**	**-0.5**
	comp=Z,0.2nm,0.5s,baz=63,slow=7.8,SNR=3.9							
EKA	**Eskdalemuir Ar**	**41.59**	**319**	P		**P**	**00 41 53.4**	**0.0**
	comp=Z,0.9nm,0.7s,baz=105,slow=8.2,SNR=3.0							
TORD	**Torodi Ar. Bea**	**45.56**	**256**	P		**P**	**00 42 26.2**	**+0.3**
	comp=Z,0.5nm,0.3s,baz=67,slow=7.5,SNR=18							
SONM	**Songino Array**	**46.80**	**53**	P		**P**	**00 42 34.5**	**-0.9**
	comp=Z,0.3nm,0.5s,baz=285,slow=7.3,SNR=2.3							
SPITS	**Spitsbergen Ar**	**47.73**	**352**	P		**P**	**00 42 42.0**	**-0.1**
	comp=Z,11nm,1.2s,baz=128,slow=9.3,SNR=3.2							
CD2	**Chengdu**	**47.84**	**76**	*e*P		**P**	**00 42 43.3**	**-0.4**
KOWA	**Kowa**	**49.60**	**261**	P		**P**	**00 42 57.7**	**+0.4**
	comp=Z,0.9nm,0.6s,baz=77,slow=9.7,SNR=4.4							
HHC	**Hu-ho-hao-te**	**51.45**	**61**	*e*P		**P**	**00 43 12.5**	**+1.5**
HHC				S		**S**	**00 50 30.3**	**+0.3**
HHC				pmax		pmax		
	comp=Z,14nm,1.2s							
HHC				pmax		pmax		
	comp=Z,46nm,6.8s							
HHC				LR		LR		
	comp=N,610nm,15.5s							
HHC				LR		LR		
	comp=E,610nm,15.9s							
HHC				LR		LR		
	comp=Z,760nm,16.1s							
DBIC	**Dimbokro**	**54.52**	**254**	LR		LR	01 09 57.5	
	comp=Z,38nm,18.3s,baz=32,slow=40							
BOSA	**Boshof**	**64.14**	**201**	P		**P**	**00 44 41.4**	**+1.2**
	comp=Z,2.2nm,0.8s,baz=18,slow=7.9,SNR=5.0							
MA2	**Magadan**	**69.07**	**32**	LR		LR	01 21 22.4	
	comp=Z,21nm,18.1s,baz=213,slow=41							
YKA	**Yellowknife Ar**	**84.23**	**352**	P		**P**	**00 46 36.5**	**-0.3**
	comp=Z,0.1nm,0.5s,baz=11,slow=5.2,SNR=5.3							

IDC 28 00:42:39.2±3.8, 6°.20S×154°.50E, h0km, mb3.6/2, mb1 3.8/2, mb1mx3.3/49, mbtmp3.6/2, Error ellipse: s-maj=201.0km s-min=50.0km az=128.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
WRA	**Warramunga Arr**	**23.88**	**233**	P		P	00 47 55.1	+0.4
	2.0nm,0.8s,baz=57,slow=9.6,SNR=8.6							
ASAR	**Alice Springs**	**26.34**	**227**	P		P	00 48 16.5	-0.6
	0.3nm,0.5s,baz=61,slow=8.4,SNR=5.3							
TORD	**Torodi Ar. Bea**	**152.33**	**286**	PKPbc		PKPbc	01 02 38.2	0.0
	0.3nm,0.5s,baz=83,slow=3.4,SNR=5.4							

DDA ***28*** *00:43:55.9, 37°.29N×30°.88E, h7km, Ml1.9*

ISK ***28*** *00:43:55.7, 37°.35N×30°.82E, h12km, ML2.6/2*

ISCJB ***28*** *00:43:56.2±0.5, 37°.33N±0°.03×30°.84E±0°.05, h10km±5km, Error ellipse: s-maj=7.0km s-min=4.9km az=33.5*

CSEM ***28*** *00:43:56.2±0.2, 37°.32N×30°.84E, h8km, ML2.6, Error ellipse: s-maj=4.3km s-min=3.6km az=133.0*

ISC 28 00:43:56.1±1.0, 37°.31N±0°.03×30°.83E±0°.03, h7km±11km, n27, σ0°69/36, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
SUTC	**Sutluce-Ispart**	**0.21**	**39**	P	G	**Pg**	**00 44 00.2**	**-0.3**
SUTC				S	G	**Sg**	**00 44 03.7**	**+0.3**
SUTC	**Sutluce-Ispart**	**0.21**	**39**	*e*Pg		**Pg**	**00 44 00.2**	**-0.3**
SUTC				*e*Sg		**Sg**	**00 44 03.7**	**+0.3**
BCK	**Bucak**	**0.25**	**308**	P	G	**Pg**	**00 44 00.7**	**-0.3**
BCK				S	G	**Sg**	**00 44 04.5**	**+0.1**
BCK	**Bucak**	**0.25**	**308**	*e*Pg		**Pg**	**00 44 00.7**	**-0.3**
BCK				*e*Sg		**Sg**	**00 44 04.5**	**+0.1**
ANTB	**Antalya**	**0.43**	**199**	PG		**Pb**	**00 44 05.9**	**-0.2**
ANTB				SG		**Sb**	**00 44 13.5**	**+0.7**
ANTB	**Antalya**	**0.43**	**199**	*e*Pg		**Pb**	**00 44 05.9**	**-0.2**
KORT	**Korkueli**	**0.49**	**231**	PG		**Pg**	**00 44 05.8**	**+0.1**
KORT	**Korkueli**	**0.49**	**231**	*i*P		**Pg**	**00 44 05.4**	**-0.3**
KORT				*i*S		**Sb**	**00 44 13.9**	**-0.8**
KORT	**Korkueli**	**0.49**	**231**	P		**Pg**	**00 44 05.4**	**-0.3**
KORT	**Korkueli**	**0.49**	**231**	*e*Pg		**Pg**	**00 44 05.8**	**+0.1**
KORT				S		**Sb**	**00 44 13.9**	**-0.8**
ISP	**Isparta**	**0.57**	**334**	PG		**Pg**	**00 44 07.1**	**-0.1**
ISP	**Isparta**	**0.57**	**334**	*e*Pg		**Pg**	**00 44 07.1**	**-0.1**
BAGO	**Egridir - ISPA**	**0.68**	**357**	*i*P		**Pb**	**00 44 09.9**	**-0.5**
BRDR	**BURDUR-Merkez**	**0.72**	**302**	*i*P		**Pb**	**00 44 11.5**	**+0.3**
BRDR	**BURDUR-Merkez**	**0.72**	**302**	P		**Pb**	**00 44 11.5**	**+0.3**
KEPZ	**Antalya-Kepez**	**0.74**	**123**	*i*P		**Pg**	**00 44 10.0**	**-0.3**
KEPZ	**Antalya-Kepez**	**0.74**	**123**	P		**Pg**	**00 44 10.0**	**-0.3**
ELL	**Elmali**	**0.93**	**233**	PG		**Pg**	**00 44 14.1**	**+0.1**
ELL	**Elmali**	**0.93**	**233**	*e*Pg		**Pg**	**00 44 14.1**	**+0.1**
AKAS	**Kas**	**1.46**	**223**	PN		**Pn**	**00 44 22.9**	**-0.1**
AKAS	**Kas**	**1.46**	**223**	*e*Pn		**Pn**	**00 44 22.9**	**-0.1**
FETY	**Fethiye**	**1.55**	**245**	PN		**Pn**	**00 44 24.1**	**-0.2**
FETY	**Fethiye**	**1.55**	**245**	*e*Pn		**Pn**	**00 44 24.1**	**-0.2**
KDHN	**Kadinhani**	**1.58**	**40**	*i*P		**Pb**	**00 44 24.9**	**-0.9**
KDHN				*i*S		**Sg**	**00 44 49.2**	**+2.2**
KDHN	**Kadinhani**	**1.58**	**40**	P		**Pb**	**00 44 24.9**	**-0.9**
KDHN				S		**Sg**	**00 44 49.2**	**+2.2**
TEKE	**Tekeli-Mersin**	**2.17**	**122**	PN		**Pn**	**00 44 32.8**	**+0.1**
TEKE	**Tekeli-Mersin**	**2.17**	**122**	*e*Pn		**Pn**	**00 44 32.8**	**+0.1**

MAN 28 00:52:52, 10°.08N×123°.19E, h1km, mb4.2, ML3.0, MS2.7, 2C-2D, Cebu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
LLP	**Lapu-Lapu**	**0.80**	**72**	*e*P		Pb	00 53 08.1	-0.6
LLP				*e*S		Sg	00 53 18.7	+1.0
GUIM	**Jordan**	**0.81**	**313**	*e*P		Pb	00 53 08.2	-0.7
GUIM				*e*S		Sg	00 53 19.1	+1.0
JAP	**San Jose, Anti**	**1.40**	**299**	*e*P		Pn	00 53 17.7	-0.9
DCPH	**Dipolog City**	**1.49**	**174**	*e*P		Pb	00 53 20.5	0.0
DCPH				*e*S		Sn	00 53 41.2	+1.2
RCP	**Roxas**	**1.54**	**343**	*e*P		Pb	00 53 21.1	-0.3
RCP				*e*S		Sg	00 53 42.9	+1.3
MSLP	**Maasin**	**1.64**	**88**	*e*P		Pb	00 53 23.0	-0.1
MSLP				*e*S		Sg	00 53 46.9	+2.0
IPIL	**Ipil**	**2.35**	**195**	*e*P		Pb	00 53 34.5	-0

H11N1	**WAKE ISLAND Hy 28.11 120** baz=313,slow=75,SNR=65	T	T	01 36 20.3			
H11N3	**WAKE ISLAND Hy 28.12 120** baz=313,slow=75,SNR=77	T	T	01 36 22.2			
H11S1	**WAKE ISLAND Hy 28.80 122** baz=315,slow=75,SNR=48	T	T	01 37 12.6			
H11S3	**WAKE ISLAND Hy 28.80 122** baz=315,slow=75,SNR=47	T	T	01 37 14.8			
H11S2	**WAKE ISLAND Hy 28.82 122** baz=315,slow=75,SNR=29	T	T	01 37 14.1			
MKAR	**Makanchi Array 44.17 302** 0.3nm,0.6s,baz=72,slow=9.3,SNR=3.4	P	**P**	**01 09 13.2**	**-0.3**		
KURBB	**Kurchatov Arra 46.08 308** 0.4nm,0.6s,baz=85,slow=8.2,SNR=4.8	P	**P**	**01 09 28.5**	**0.0**		
ILAR	**Eielson Array 49.73 32** 0.5nm,0.8s,baz=275,slow=6.0,SNR=6.8	P	**P**	**01 09 57.5**	**+0.9**		
WRA	**Warramunga Arr 56.82 188** 0.7nm,1.0s,baz=5.7,slow=7.1,SNR=3.7	P	**P**	**01 10 48.8**	**-0.5**		

IDC 28 01:01:45.8±1.0, 46.66N×155.79E, h0km, mb3.7/6, mb1 3.9/6, mb1mx3.4/72, mbtmp3.7/6, MS2.7/1, Ms1 2.7/1, ms1mx2.1/64, Error ellipse: s-maj=33.8km s-min=27.9km az=71.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZALV	**Zalesovo Beam 44.15 307** comp=Z,9.3nm,20.0s,baz=250,slow=38			LR	LR	01 29 57.1	
KURBB	**Kurchatov Arra 49.03 305** 0.4nm,0.6s,baz=68,slow=8.9,SNR=3.7			P	P	01 10 35.0	+0.9
BVAR	**Borovoye Array 52.33 310** 0.3nm,0.5s,baz=44,slow=8.6,SNR=3.3			P	P	01 10 58.1	-0.8
WRA	**Warramunga Arr 69.06 202** 0.4nm,0.7s,baz=11,slow=7.5,SNR=2.8			P	P	01 12 53.0	-0.3
ASAR	**Alice Springs 72.74 201** 0.4nm,0.6s,baz=12,slow=6.6,SNR=5.0			P	P	01 13 16.1	+0.4
TXAR	**Lajitas Array 75.92 62** 0.7nm,0.6s,baz=304,slow=4.5,SNR=8.9			P	P	01 13 34.5	0.0
MMAI	**Mount Meron Ar 84.24 313** 0.8nm,0.6s,baz=43,slow=6.7,SNR=5.4			P	P	01 14 19.0	-0.3

IDC 28 01:02:10.3±8.6, 7.51S×156.68E, h431km±88km, mb3.0/5, mb1 3.2/6, mb1mx2.8/50, mbtmp3.8/6, Error ellipse: s-maj=59.9km s-min=27.2km az=77.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower 16.07 218** 0.4nm,0.3s,baz=50,slow=9.3,SNR=5.9			P	P	01 05 33.9	+0.4
WRA	**Warramunga Arr 24.93 238** 0.3nm,0.4s,baz=64,slow=8.7,SNR=6.5			P	P	01 06 57.1	-0.4
SONM	**Songino Array 70.68 327** 0.2nm,0.4s,baz=131,slow=7.9,SNR=2.5			P	P	01 12 41.7	+0.3
QSPA	**South Pole Qui 82.47 180** 0.7nm,0.5s,baz=311,slow=3.5,SNR=4.8			P	P	01 13 46.4	+0.2
MKAR	**Makanchi Array 84.90 318** 0.5nm,0.5s,baz=94,slow=6.6,SNR=5.2			P	P	01 13 58.4	-0.2
YKA	**Yellowknife Ar 96.01 28** 0.1nm,0.6s,baz=269,slow=5.1,SNR=4.6			P	P	01 14 49.1	-0.7

*ISCJB **28** 01:07:19.7±0.9, 33.59S±0.07×70.38W±0.08, h107km±8km, Error ellipse: s-maj=14.4km s-min=6.9km az=44.1*
*GUC **28** 01:07:20.3±0.6, 33.60S×70.36W, h104km±4km, ML3.3*
*SJA **28** 01:07:20.0±0.5, 33.47S×70.13W, h143km±6km, ML2.3, MW2.9*

ISC 28 01:07:20.0±1.6, 33.58S±0.07×70.39W±0.07, h106km±10km, n14, σ0.80/22, 1C-3D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANTU	**Antumapu 0.20 273**			*e*P	**Pn**	**01 07 34.9**	**-0.1**
ANTU				*i* S	**Sn**	**01 07 45.6**	**-0.5**
ANTU	comp=E,2μm,0.2s			IAML		01 07 46.8	
FCH	**Farellones 0.26 18**⇑			*i* P	**Pn**	**01 07 35.5**	**0.0**
FCH				*i* S	**Sn**	**01 07 46.9**	**-0.2**
FCH	comp=E,1μm,0.2s			IAML		01 07 47.5	
PEL	**Peldehue 0.50 330**⇓			*i* P	**Pn**	**01 07 36.2**	**-0.2**
PEL				*i* S	**Sn**	**01 07 48.7**	**-0.1**
ROCH	**El Roble 0.80 319**⇓			*i* P	**Sn**	**01 07 39.4**	**+0.3**
ROCH				*i* S	**Sn**	**01 07 53.6**	**+0.2**
ROCH	comp=N,1μm,0.2s			IAML		01 07 55.4	
AAGR	**Agrelo 1.40 70**			*e*P	**Pn**	**01 07 46.5**	**+1.1**
ARCO	**CERRO ARCO 1.43 59**			*e*P	**Pn**	**01 07 46.7**	**+0.9**
ARCO	comp=Z,22nm,0.4s			IAML		01 08 11.0	
AUSP	**Uspallata 1.59 32**			*e*P	**Pn**	**01 07 48.9**	**+0.9**
ASAL	**Salagasta 1.64 53**			*e*P	**Pn**	**01 07 49.0**	**+0.7**
ASAL				*e*S	**Sn**	**01 08 09.9**	**+0.2**
GO05	**HualaæØ 1.91 221**⇓			*i* P	**Pn**	**01 07 52.3**	**+0.6**
GO05				*i* S	**Sn**	**01 08 15.5**	**-0.4**
RTLS	**Leoncito 2.00 28**			*e*P	**Sn**	**01 07 54.7**	**+1.0**
RTLS				*e*S	**Sn**	**01 08 19.2**	**+0.9**
RTLS	comp=Z,31nm,0.2s			IAML		01 08 20.4	
RTCV	**Cerro Valdivia 2.31 43**			*e*P	**Pn**	**01 07 56.6**	**-0.2**
RTCV				*e*S	**Sn**	**01 08 23.9**	**-1.3**
AMOG	**MOGNA 3.08 32**			*e*P	**Pn**	**01 08 06.7**	**-0.4**
AROD	**Rodeo 3.49 13**			*e*P	**Pn**	**01 08 13.3**	**+0.6**
APLL	**PUNTA DE LOS L 4.56 47**			*e*P	**Pn**	**01 08 25.1**	**-1.8**

MEX 28 01:07:38.0±0.6, 19.13N×104.13W, h7km±8km, MD3.6, Near coast of Jalisco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EZ5V		**0.60**	**55**	*e*P	Pg	01 07 49.2	-0.5
EZ5V				*e*S	Sg	01 07 57.4	-0.2
CJM	**Chamela 0.94 293**			*i* P	Pg	01 07 53.6	-2.5
CJM				*e*S	Sg	01 08 06.0	-2.4
MMIG	**Aquila 1.12 139**			*e*P	Pg	01 07 55.9	-3.6
MMIG				*e*S	Sg	01 08 10.6	-3.4
ZIIG	**Zihuatanejo 2.95 121**			*e*P	Pn	01 08 23.3	-2.0
ARIG	**Puente Sto Nin 3.68 103**			*e*P	Pn	01 08 36.2	+0.8
ARIG				*e*S	Sn	01 09 21.7	+2.6

*CSEM **28** 01:10:49.1, 50.77N×6.29E, h5km, ML0.7*
UCC 28 01:10:49.1, 50.77N×6.29E, h5km, ML0.7, 2C, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HGN	**Heimansgroeve** 3.1nm,0.1s	**0.23**	**268**	*e*Pg	Pg	01 10 53.1	-0.5
HGN				*e*Sg	Sg	01 10 56.3	-0.4
MEM	**Membach 0.24 228**			⇑P	Pg	01 10 53.6	-0.3
MEM				S	Sg	01 10 57.2	+0.2
	comp=N,5.4nm,0.2s						
MEM	**Membach 0.24 228**			P	Pg	01 10 53.6	-0.3
MEM				S	Sg	01 10 57.2	+0.1
	comp=N,5.4nm,0.2s						
BEBN	**Eben Emael 0.39 274**			P	Pg	01 10 56.6	0.0
BEBN	**Eben Emael 0.39 274**			P	Pg	01 10 56.6	-0.1
LKLB	**Kalborn 0.68 190**			⇑P	Pg	01 11 02.1	-0.1
LKLB				S	Sg	01 11 11.0	-0.1
LKLB	**Kalborn 0.68 190**			P	Pg	01 11 02.0	-0.2
LKLB				S	Sg	01 11 10.9	-0.1
BCLA	**Clavier 0.72 241**			P	Pg	01 11 02.2	-0.8
BCLA				S	Sb	01 11 13.8	-0.6
BCLA	**Clavier 0.72 241**			P	Pg	01 11 02.1	-0.9
BCLA				S	Sb	01 11 13.7	-0.6
BGES	**Gesves 0.86 244**			P	Pg	01 11 05.4	-0.2
BGES				S	Sg	01 11 16.4	-0.3
BGES	**Gesves 0.86 244**			P	Pg	01 11 05.3	-0.3
BGES				S	Sg	01 11 16.4	-0.4
RCHB	**Rochefort 0.92 228**			S	Sg	01 11 19.0	+0.4
RCHB	**Rochefort 0.92 228**			S	Sg	01 11 19.0	+0.4
WLF	**Walferdange 1.11 185**			P	Pg	01 11 10.2	-0.2
WLF				S	Sg	01 11 25.0	+0.2
WLF	**Walferdange 1.11 185**			P	Pg	01 11 10.2	-0.2
WLF				S	Sg	01 11 25.0	+0.2
DOU	**Dourbes 1.28 239**			P	Pn	01 11 13.1	-0.5
DOU				S	Sg	01 11 27.4	-2.8
DOU	**Dourbes 1.28 239**			P	Pn	01 11 13.1	-0.5
DOU				S	Sg	01 11 27.3	-2.9

MEX 28 01:16:20.1±0.6, 16.60N×98.52W, h16km±9km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa 0.43 119**			*e*P	Pg	01 16 27.4	-1.4
PNIG				*e*S	Sg	01 16 32.9	-1.7
TLIG	**Tlapa 0.96 357**			*e*P	Pb	01 16 35.2	-3.3
TLIG				*e*S	Sb	01 16 46.4	-4.5
CAIG	**El Cayaco 1.73 285**			*e*P	Pn	01 16 45.6	-4.0
CAIG				*e*S	Sn	01 17 07.2	-4.2
VHO	**Vista Hermosa 1.77 74**			*e*P	Pn	01 16 47.1	-3.2
VHO				*e*S	Sn	01 17 07.6	-5.0

*ISCJB **28** 01:18:22.7±0.8, 1.5N±0.1×85.2W±0.1, h10km, mb3.6/7, MS3.6/21, Error ellipse: s-maj=22.3km s-min=9.8km az=144.6*
*IDC **28** 01:18:22.6±1.3, 1.46N×85.23W, h0km, mb3.5/6, mb1 4.0/11, mb1mx3.8/45, mbtmp3.8/11, ML3.4/5, MS3.6/25, Ms1 3.6/25, ms1mx3.5/32, Error ellipse: s-maj=53.8km s-min=19.6km az=54.0*
*GCMT **28** 01:18:24.0±0.5, 1.31N×85.37W, h24km±1km, MW4.8/75, Moment Tensor Solution. s18,c23; s75,c97; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.27±.11; $M_{\theta\theta}$0.39±.08; $M_{\phi\phi}$-0.65±.11; $M_{r\theta}$-0.02±.17; $M_{\theta\phi}$2.09±.08; $M_{\phi r}$-0.13±.22; Best double couple: M_o2.15900×10^{16} NP1:ϕ_s187.00000°, δ89.00000°, λ176.00000°. NP2: ϕ_s277.00000°, δ86.00000°, λ1.00000°. Principal axes: T 2.0280, Plg3.0000°, Azm142.0000°; N 0.2630, Plg86.0000°, Azm355.0000°; P -2.2900, Plg2.0000°, Azm232.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 28 01:18:24.7±0.8, 1.58N±0.10×85.1W±0.1, h10km, n30, σ1.9/60/12, mb3.7/7, MS3.6/21, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTS	**JuntasAbangare 8.66 1** 0.5nm,0.3s,baz=162,slow=20,SNR=3.2			Pn	**Pn**	**01 20 32.6**	**+2.4**
JTS				Sn	**Sn**	**01 22 05.0**	**-3.0**
JTS	0.1nm,0.3s,baz=198,slow=20,SNR=1.7			LR	LR	01 23 16.4	
	comp=Z,354nm,20.1s,baz=248,slow=34						
ATAH	**Atahualpa 10.96 142** 1.7nm,0.3s,baz=341,slow=7.7,SNR=8.0			Pn	**Pn**	**01 21 02.7**	**+0.7**
ROSC	**El Rosal 11.26 73**			LR	LR	01 25 11.5	
	comp=Z,319nm,19.2s,baz=228,slow=36						
APG	**El Apazote 14.34 339** 0.3nm,0.3s,baz=148,slow=9.3,SNR=1.7			Pn	**Pn**	**01 21 49.8**	**+1.6**
SDV	**Santo Domingo 16.14 63** 0.3nm,0.3s,baz=240,slow=14,SNR=2.9			Pn	**Pn**	**01 22 13.2**	**+1.0**
SDV				LR	LR	01 28 05.8	
	comp=Z,274nm,21.2s,baz=242,slow=36						
CMIG	**Matias Romero 18.16 329** 0.1nm,0.3s,baz=139,slow=9.3,SNR=6.6			P	**Pn**	**01 22 38.2**	**+1.0**
CMIG				LR	LR	01 28 16.6	
	comp=Z,238nm,21.0s,baz=145,slow=33						
PCRV	**Puerto La Cruz 22.08 66**			LR	LR	01 33 02.0	
	comp=Z,160nm,18.6s,baz=264,slow=40						
LPAZ	**La Paz 24.43 137** 1.9nm,0.9s,baz=322,slow=12,SNR=5.1			P	**P**	**01 23 43.4**	**-1.1**
LPAZ				LR	LR	01 34 35.3	
	comp=Z,204nm,19.1s,baz=296,slow=40						
SJG	**San Juan 24.84 47**			LR	LR	01 32 42.0	
	comp=Z,153nm,21.8s,baz=249,slow=34						
PTGA	**Pitinga 25.26 95**			LR	LR	01 33 59.9	
	comp=Z,61nm,18.5s,baz=220,slow=37						
SIV	**San Ignacio 29.49 127**			LR	LR	01 37 05.5	
	comp=Z,191nm,18.7s,baz=352,slow=38						
TXAR	**Lajitas Array 32.77 329** 0.3nm,0.8s,baz=152,slow=10,SNR=3.2			P	**P**	**01 24 57.5**	**-0.8**
TXAR				LR	LR	01 37 02.8	
	comp=Z,139nm,21.0s,baz=0.0,slow=34						
LPIG	**La Paz 33.09 315**			LR	LR	01 34 51.2	
	comp=Z,90nm,21.9s,baz=143,slow=30						
TKL	**Tuckaleechee C 33.93 2**			LR	LR	01 38 11.1	
	comp=Z,70nm,19.9s,baz=199,slow=35						
CPUP	**Villa Florida 38.60 138**			LR	LR	01 43 27.1	
	comp=Z,97nm,18.2s,baz=320,slow=39						
PLCA	**Paso Flores 44.16 164**			LR	LR	01 40 30.7	
	comp=Z,69nm,20.0s,baz=1.0,slow=30						
PDAR	**Pinedale Array 46.47 335** 0.2nm,0.5s,baz=128,slow=7.3,SNR=3.4			P	**P**	**01 26 51.8**	**-0.6**
PDAR				LR	LR	01 46 56.3	
	comp=Z,131nm,19.2s,baz=154,slow=37						
NVAR	**Mina Array Bea 47.62 324** 0.3nm,0.5s,baz=137,slow=7.1,SNR=2.4			P	**P**	**01 27 02.1**	**+0.7**
ULM	**Lac du Bonnet 49.35 351**			LR	LR	01 48 44.5	
	comp=Z,49nm,18.2s,baz=153,slow=37						
YBH	**Yreka Blue Hor 52.34 325**			LR	LR	01 49 57.3	
	comp=Z,94nm,18.1s,baz=142,slow=36						
YKA	**Yellowknife Ar 64.64 345** 1.0nm,0.8s,baz=142,slow=6.5,SNR=11			P	**P**	**01 29 01.6**	**-0.8**
SFJD	**Kangerlussuaq 69.58 14**			LR	LR	02 01 40.9	
	comp=Z,27nm,19.1s,baz=220,slow=37						
INK	**Inuvik 74.21 343** 1.3nm,0.9s,baz=113,slow=6.7,SNR=5.5			P	**P**	**01 30 01.1**	**-0.3**
ILAR	**Eielson Array 76.86 337** 0.7nm,1.0s,baz=122,slow=3.3,SNR=4.6			P	P	01 30 22.6	+5.9
ILAR				LR	LR	02 05 55.6	
	comp=Z,70nm,18.4s,baz=128,slow=37						
BORG	**Borgarnes 77.64 23**			LR	LR	02 01 19.7	
	comp=Z,26nm,20.6s,baz=252,slow=33						
DBIC	**Dimbokro 80.15 84**			LR	LR	02 03 05.1	
	comp=Z,32nm,18.9s,baz=156,slow=33						
KOWA	**Kowa 81.00 76**			LR	LR	02 04 38.1	
	comp=Z,31nm,19.6s,baz=205,slow=34						
TORD	**Torodi Ar. Bea 86.55 77**			LR	LR	02 08 14.7	
	comp=Z,15nm,21.5s,baz=105,slow=34						
SPITS	**Spitsbergen Ar 90.82 12**			LR	LR	02 12 20.7	
	comp=Z,35nm,18.1s,baz=15,slow=36						
NOA	**NORSAR Array B 91.71 29**			LR	LR	02 08 24.4	
	comp=Z,11nm,21.6s,baz=260,slow=33						

MEX 28 01:23:50.7±0.8, 17.08N×94.89W, h138km±21km, MD3.7, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGIG		**1.72**	**100**	*e*P	Pn	01 24 20.6	-1.3
TGIG				*e*S	Sn	01 24 43.8	-1.9
HUIG	**Huatulco 1.75 222**			*e*P	Pn	01 24 20.2	-2.0
HUIG				*e*S	Sn	01 24 44.7	-1.6
VHO	**Vista Hermosa 1.76 270**			*i* P	Pn	01 24 21.7	-0.8
VHO				*e*S	Sn	01 24 44.3	-2.5

*IDC **28** 01:24:42.4±0.7, 46.77N×155.71E, h0km, mb3.8/16, mb1 4.1/18, mb1mx3.8/69, mbtmp3.9/18, ML3.4/2, MS2.4/2, Ms1 2.4/2, ms1mx2.1/62, Error ellipse: s-maj=20.4km s-min=15.1km az=160.0*
*ISCJB **28** 01:24:43.5±0.6, 46.89N±0.08×155.7E±0.1, h18km, mb3.9/17, Error ellipse: s-maj=14.6km s-min=9.3km az=33.1*
*NEIC **28** 01:24:47.6±0.5, 46.75N×155.62E, h35km, mb4.1/2, Error ellipse: s-maj=15.1km s-min=9.5km az=164.0*

ISC 28 01:24:45.3±0.8, 46.9N±0.1×155.6E±0.1, h18km, n26, σ0.91/23, mb4.0/17, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	**Petropavlovsk- 6.40 11** 0.9nm,0.3s,baz=186,slow=11,SNR=6.0			Pn	**Pn**	**01 26 16.7**	**-1.8**
PETK				Sn	**Sn**	**01 27 31.3**	**+0.2**
	0.2nm,0.3s,baz=278,slow=39,SNR=2.4						
PETK				LR	LR	01 29 09.5	
	comp=Z,22nm,18.4s,baz=220,slow=41						
ASAJ	**Asahikawa 9.56 258** 0.8nm,0.3s,baz=16,slow=19,SNR=3.3			Pn	**Pn**	**01 27 00.5**	**-1.4**
MA2	**Magadan 13.07 349** comp=Z,26nm,21.6s,baz=167,slow=36			LR	LR	01 32 30.2	
H11S1	**WAKE ISLAND Hy 29.70 158** baz=345,slow=76,SNR=6.9			T	T	02 01 48.7	
H11S3	**WAKE ISLAND Hy 29.71 158** baz=345,slow=76,SNR=12			T	T	02 01 49.4	
H11S2	**WAKE ISLAND Hy 29.72 158** baz=345,slow=76,SNR=8.5			T	T	02 01 49.2	
SONM	**Songino Array 32.93 290** 0.4nm,0.7s,baz=72,slow=9.3,SNR=3.3			P	**P**	**01 31 19.1**	**+0.5**
INK	**Inuvik 40.63 33** 0.9nm,0.6s,baz=307,slow=5.1,SNR=6.5			P	**P**	**01 32 24.4**	**+0.7**
INK	**Inuvik 40.63 33** 0.8nm,0.5s			*e*P	**P**	**01 32 24.7**	**+1.1**
MKAR	**Makanchi Array 48.42 298** 0.2nm,0.5s,baz=68,slow=8.9,SNR=2.9			P	**P**	**01 33 26.6**	**+0.4**
KURK	**Kurchatov 48.74 305**			*e*P	**P**	**01 33 28.1**	**-0.4**
KURBB	**Kurchatov Arra 48.83 304** 1.1nm,0.6s,baz=68,slow=8.4,SNR=10			P	**P**	**01 33 29.7**	**+0.5**
YKA	**Yellowknife Ar 49.80 37** 0.1nm,0.5s,baz=293,slow=7.0,SNR=5.6			P	**P**	**01 33 35.8**	**-0.6**
BVAR	**Borovoye Array 52.12 310** 1.0nm,0.6s,baz=59,slow=6.9,SNR=7.6			P	**P**	**01 33 54.9**	**+0.8**
BRVK	**Borovoye 52.16 310** 4.0nm,0.6s			*e*P	**P**	**01 33 54.4**	**+0.1**
CMAR	**Chiang Mai Arr 54.08 258** 0.9nm,0.3s,baz=41,slow=8.4,SNR=3.5			P	**P**	**01 34 10.3**	**+1.3**
NVAR	**Mina Array Bea 60.84 64** 0.5nm,0.6s,baz=304,slow=6.4,SNR=3.6			P	**P**	**01 34 56.8**	**+0.2**
PDAR	**Pinedale Array 63.27 55** 0.1nm,0.3s,baz=305,slow=3.2,SNR=3.9			P	**P**	**01 35 13.0**	**0.0**
FINES	**FINESS Array B 64.67 336** 5.7nm,1.2s,baz=44,slow=8.2,SNR=5.3			P	**P**	**01 35 21.0**	**-0.5**
WRA	**Warramunga Arr 69.21 201** 0.9nm,0.6s,baz=21,slow=7.0,SNR=7.4			P	**P**	**01 35 49.4**	**-1.4**
KBZ	**Khabaz 72.02 315** 0.6nm,0.5s,baz=325,slow=10,SNR=4.0			P	**P**	**01 36 08.8**	**+1.0**
ASAR	**Alice Springs 72.89 201** 1.0nm,0.7s,baz=18,slow=6.2,SNR=8.0			P	**P**	**01 36 12.4**	**-0.6**
TXAR	**Lajitas Array 75.92 62** 1.4nm,0.6s,baz=303,slow=4.4,SNR=25			P	**P**	**01 36 31.3**	**+0.3**
BRTR	**Keskin Array B 79.48 318** 0.9nm,0.8s,baz=44,slow=7.3,SNR=7.6			P	**P**	**01 36 51.9**	**+1.2**
MMAI	**Mount Meron Ar 84.03 313** 1.9nm,0.6s,baz=38,slow=7.3,SNR=11			P	**P**	**01 37 15.6**	**+0.9**
PLCA	**Paso Flores 146.50 97** 1.3nm,0.8s,baz=267,slow=4.8,SNR=3.9			PKPbc	**PKPbc**	**01 44 25.0**	**0.0**

*IDC **28** 01:42:50.5±1.2, 4.35N×96.27E, h0km, mb4.1/6, mb1 4.2/7, mb1mx3.6/63, mbtmp4.1/7, ML3.9/1, MS3.3/5, Ms1 3.3/5, ms1mx2.8/62, Error ellipse: s-maj=72.1km s-min=16.1km az=48.0*
*ISCJB **28** 01:42:52.5±0.8, 4.42N±0.04×96.30E±0.05, h23km±4km, mb4.1/7, MS3.4/2, Error ellipse: s-maj=8.7km s-min=5.8km az=163.5*
*DJA **28** 01:42:54.4±0.3, 4.1N±2.2×9.6E±., h10km, M4.6/5, mb4.9/2, MLv4.5/5*
*NEIC **28** 01:42:55.8±2.9, 4.48N×96.50E, h33km±21km, mb4.1/1, Error ellipse: s-maj=13.3km s-min=7.4km az=72.0*

ISC 28 01:42:53.6±1.0, 4.40N±0.03×96.47E±0.04, h19km±4km, n30, σ1.8/08/38, mb4.1/7, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLSI	**Meulaboh, Aceh 0.15 205**			P	**Pg**	**01 42 57.8**	**-0.2**
MLSI				S	**Sg**	**01 43 00.1**	**-0.9**
LHMI	**Lhok Sumawe 0.95 30**			P	**Pg**	**01 43 13.3**	**+1.1**
LHMI				S	**Sn**	**01 43 26.0**	**+1.0**
LHMI	**Lhok Sumawe 0.95 30**			*e*Pn	**Pb**	**01 43 11.6**	**+0.2**
LHMI				*e*Sn	**Sb**	**01 43 23.3**	**-0.4**
TPTI	**1.34 148**			P	**Pb**	**01 43 17.7**	**-0.4**
TPTI				S	**Sg**	**01 43 38.2**	**+1.2**
KCSI	**Kotacane, Aceh 1.57 124**			P	**Pb**	**01 43 22.6**	**+0.6**
KCSI				S	**Sg**	**01 43 43.6**	**-0.7**
BSI	**Banda Aceh 1.59 313**			P	**Pg**	**01 43 23.2**	**-1.2**
BSI				S	**Sg**	**01 43 44.2**	**-0.9**
TSI	**Tuntungan 2.27 113**			P	**Pb**	**01 43 32.7**	**-1.4**
TSI				S	**Sb**	**01 44 01.0**	**-0.8**
PSI	**Prapat 2.92 123** 14nm,0.3s,baz=304,slow=13,SNR=26			P	**Pb**	**01 43 42.6**	**-2.6**
PSI	19nm,0.3s,baz=110,slow=22,SNR=4.8			Sn	**Sb**	**01 44 19.8**	**-0.9**
PSI				LR	LR	01 45 08.9	
	comp=Z,349nm,20.4s,baz=164,slow=44						
GSI	**Gunungsitoli 3.27 160**			P	**Pn**	**01 43 45.6**	**+1.7**
GSI	**Gunungsitoli 3.27 160**			*e*Pn	**Pn**	**01 43 45.8**	**+1.9**
KULM	**Kulim 4.26 78**			*e*Pn	**Pn**	**01 43 57.6**	**+0.1**
KULM				*e*Sn	**Sn**	**01 44 45.2**	**-1.6**
IPM	**Ipoh 4.54 89**			*e*Pn	**Pn**	**01 44 02.4**	**-1.0**
IPM				*e*Sn	**Sn**	**01 44 52.5**	**-1.2**
MNSI	**Mandailing Nat 4.74 139**			P	**Pn**	**01 44 05.7**	**+1.6**
MNAI	**Manna 10.85 143**			*e*Pn	**Pn**	**01 45 28.4**	**+0.3**
MDSI	**Maura Dua 11.72 139**			P	**Pn**	**01 45 41.6**	**+1.7**
CMAR	**Chiang Mai Arr 14.18 10** comp=Z,75nm,18.8s,baz=201,slow=37			LR	LR	01 51 36.8	
LEM	**Lembang 15.76 135** comp=Z,124nm,19.8s,baz=230,slow=36			LR	LR	01 52 21.8	
SOEI	**Soe 31.06 117**			*e*P	**P**	**01 49 10.8**	**-0.1**
MKAR	**Makanchi Array 43.98 346** 0.4nm,0.4s,baz=158,slow=7.7,SNR=6.7			P	**P**	**01 50 58.7**	**-0.9**
SONM	**Songino Array 44.10 10** comp=Z,42nm,18.2s,baz=114,slow=41			LR	LR	02 13 05.4	
WRA	**Warramunga Arr 44.39 124** 7.7nm,0.6s,baz=302,slow=9.1,SNR=45			P	**P**	**01 51 03.9**	**+0.5**
WRA				PcP	**PcP**	**01 52 47.5**	**+0.3**
	0.2nm,0.5s,baz=312,slow=2.4,SNR=2.3						
WRAB	**Tennant Creek 44.39 124**			*e*P	**P**	**01 51 04.0**	**+0.7**
ASAR	**Alice Springs 45.93 129** 1.3nm,0.6s,baz=303,slow=7.7,SNR=12			P	**P**	**01 51 16.3**	**+0.7**
ASAR				PcP	**PcP**	**01 52 52.6**	**+0.1**
	0.4nm,0.8s,baz=319,slow=2.7,SNR=3.5						
FORT	**Forrest 46.20 141**			*e*P	**P**	**01 51 18.3**	**+0.8**
KURBB	**Kurchatov Arra 48.47 345** 1.4nm,0.2s,baz=163,slow=7.5,SNR=2.0			P	**P**	**01 51 35.2**	**+0.4**
KURK	**Kurchatov 48.53 345**			P	**P**	**01 51 35.2**	**-0.1**
RAYN	**Ar Rayn 52.65 296** 2.4nm,1.1s			*e*P	**P**	**01 52 08.2**	**+1.1**
BRTR	**Keskin Array B 66.44 312** 0.5nm,0.6s,baz=134,slow=7.1,SNR=5.5			P	**P**	**01 53 41.6**	**-0.4**
ARCES	**ARCESS Array B 79.30 340** 2.1nm,1.0s,baz=82,slow=6.5,SNR=2.6			P	**P**	**01 54 57.7**	**+0.2**
NOA	**NORSAR Array B 83.87 331** comp=Z,15nm,18.1s,baz=280,slow=40			LR	LR	02 38 09.2	

*ISK **28** 01:53:47.7, 39.12N×29.15E, h5km, ML2.6/3*
*ISCJB **28** 01:53:48.3±0.4, 39.13N±0.03×29.15E±0.03, h6km±4km, Error ellipse: s-maj=6.0km s-min=3.7km az=160.8*
*CSEM **28** 01:53:48.3±0.1, 39.12N×29.16E, h8km, ML2.6, Error ellipse: s-maj=2.7km s-min=2.3km az=152.0*
*DDA **28** 01:53:48.4, 39.11N×29.17E, h7km, Ml2.3*

ISC 28 01:53:48.4±0.9, 39.14N±0.02×29.16E±0.02, h10km±7km, n48, σ1.9/00/58, Turkey

| Code | Station Name | Δ° | A

SHUT	**Suhut-Afyon**	**1.24**	**118**	PN	**Pg**	01 54 11.7	-0.4
SHUT	**Suhut-Afyon**	**1.24**	**118**	*e*Pn	**Pg**	01 54 11.7	-0.4
BORA	**Eskisehir**	**1.25**	**53**	PN	**Pn**	01 54 12.3	+0.4
MDNY	**Mudanya-Bursa**	**1.25**	**350**	PN	**Pn**	01 54 12.3	+0.5
MDNY	**Mudanya-Bursa**	**1.25**	**350**	*e*Pn	**Pn**	01 54 12.3	+0.5
KCTX	**Karacabey (Bur**	**1.28**	**332**	PN	**Pn**	01 54 13.0	+0.6
KCTX	**Karacabey (Bur**	**1.28**	**332**	*e*Pn	**Pn**	01 54 13.0	+0.6
ADVT	**Abdulvahap**	**1.37**	**19**	PN	**Pn**	01 54 14.3	+0.8
ADVT	**Abdulvahap**	**1.37**	**19**	*e*Pn	**Pn**	01 54 14.3	+0.8
YLV	**Yalova**	**1.44**	**7**	PN	**Pb**	01 54 15.7	+0.4
YLV	**Yalova**	**1.44**	**7**	*e*Pn	**Pb**	01 54 15.7	+0.4
ARMT	**Armutlu**	**1.44**	**351**	PN	**Pn**	01 54 15.0	+0.4
ARMT	**Armutlu**	**1.44**	**351**	*e*Pn	**Pn**	01 54 15.0	+0.4
GONE	**Gonen-Balikesi**	**1.45**	**309**	PN	**Pn**	01 54 15.3	+0.6
GONE	**Gonen-Balikesi**	**1.45**	**309**	*e*Pn	**Pn**	01 54 15.3	+0.6
AYDB	**Zeytinkoy-Aydi**	**1.55**	**220**	PN	**Pn**	01 54 16.0	-0.1
AYDB	**Zeytinkoy-Aydi**	**1.55**	**220**	*e*Pn	**Pn**	01 54 16.0	-0.1
EDC	**Edincik**	**1.56**	**321**	PN	**Pn**	01 54 17.0	+0.8
EDC	**Edincik**	**1.56**	**321**	*e*Pn	**Pn**	01 54 17.0	+0.8
GULT	**Gulveren**	**1.66**	**39**	PN	**Pn**	01 54 18.7	+1.0
GULT	**Gulveren**	**1.66**	**39**	*e*Pn	**Pn**	01 54 18.7	+1.0

MEX 28 02:27:47.1±0.4,**16°31N**×**98°53W,h5**km±7km**,MD3.6,Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.40**	**78**	*e*P	Pg	02 27 54.4	-0.5
PNIG				*e*S	Sg	02 28 00.4	+0.4
TLIG	**Tlapa**	**1.25**	**358**	*e*P	Pg	02 28 07.5	-3.6
TLIG				*e*S	Sg	02 28 23.2	-4.1
CAIG	**El Cayaco**	**1.82**	**294**	*e*P	Pn	02 28 15.7	-3.3
CAIG				*e*S	Sn	02 28 37.6	-4.9
VHO	**Vista Hermosa**	**1.88**	**66**	*e*P	Pn	02 28 16.7	-3.5
VHO				*e*S	Sn	02 28 39.6	-4.8

MEX 28 03:01:05.0±0.5,**16°28N**×**98°20W,h17**km±16km**,MD3.6, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.13**	**31**	*i* P	Pg	03 01 08.0	-0.9
PNIG				*i* S	Sg	03 01 10.9	-0.6
TLIG	**Tlapa**	**1.32**	**345**	*e*P	Pn	03 01 25.5	-3.4
TLIG				*e*S	Sn	03 01 41.0	-5.2
CAIG	**El Cayaco**	**2.13**	**291**	*e*P	Pn	03 01 36.6	-3.3

MAN 28 03:08:01,16°78N×**120°99E,h1**km**,mb4.3,ML3.1,MS2.9, Luzon**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABRA	**Dolores**	**0.90**	**343**	*e*P	Pb	03 08 19.6	+0.1
ABRA				*e*S	Sb	03 08 32.3	+0.3
APYP	**Conner**	**1.10**	**13**	*e*P	Pn	03 08 24.6	+1.0
APYP				*e*S	Sn	03 08 40.4	+0.9
BOLP	**Bolinao**	**1.10**	**249**	*e*P	Pn	03 08 23.7	+0.1
PCPH	**Palayan**	**1.22**	**175**	*e*P	Pn	03 08 26.0	+0.9
PCPH				*e*S	Sn	03 08 43.0	+0.8

ATA ***28*** *03:17:03.9±0.5,38°.54N×40°.75E,h0km±26km,ML4.7, MW4.9*
ISK ***28*** *03:17:04.5,38°.50N×40°.73E,h6km,ML4.7/25*
NEIC ***28*** *03:17:04.1±0.0,38°.49N×40°.74E,h5km,mb4.7/101, ML4.7(ISK),After ISK.*
ISCJB ***28*** *03:17:05.3±0.3,38°.47N±0°.01×40°.80E±0°.01,h8km±2km, mb4.6/162,MS3.7/26,Error ellipse: s-maj=2.1km s-min=1.4km azm=177.1*
DDA ***28*** *03:17:05.1,38°.52N×40°.74E,h22km,MI4.6*
IDC ***28*** *03:17:05.1±0.4,38°.48N×40°.74E,h0km,mb4.4/33, mb1 4.4/45,mb1mx4.4/71,mbtmp4.4/45,ML3.6/11, MS3.7/29,Ms1 3.7/29,ms1mx3.5/67,Error ellipse: s-maj=6.9km az=163.0*
CSEM ***28*** *03:17:06.9±0.1,38°.47N×40°.78E,h10km,mb4.7/99,Ms3.4, Error ellipse: s-maj=2.5km s-min=1.7km az=178.0*
MOS ***28*** *03:17:06.2±1.1,38°.48N×40°.77E,h15km,mb4.8/74,Error ellipse: s-maj=4.3km s-min=2.9km az=112.7*
DSN ***28*** *03:17:07.2±0.1,38°.42N×40°.73E,h10km,mb4.9/12,Error ellipse: s-maj=2.2km s-min=0.8km az=247.0*

ISC 28 03:17:06.5±0.7,**38°.50N**±0°.01×**40.76E**±0°.01,**h6**km±4km, **n834,**σ**1**s**35**/925,**mb4.7**/162,**MS3.7**/26,**75C-71D,Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HANI	**Diyarbakir_Han**	**0.30**	**254**	⇓*i*P	**Pg**	03 17 10.9	-1.3
HANI				*i* S	**Sg**	03 17 17.2	+1.0
HANI	**Diyarbakir_Han**	**0.30**	**254**	P	**Pg**	03 17 10.9	-1.3
HANI				S	**Sg**	03 17 17.2	+1.0
BINT	**Bingol**	**0.43**	**331**	*e*Pg	**Pg**	03 17 14.5	-0.5
BINT				*e*Sg	**Sb**	03 17 22.4	-1.1
BINT				S	**Sb**	03 17 23.4	-0.1
BINT	**Bingol**	**0.43**	**331**	P	**Pg**	03 17 14.4	-0.5
BINT				S	**Sb**	03 17 23.4	-0.1
SVAN	**Silvan-Diyarba**	**0.49**	**135**	PG	**Pg**	03 17 14.9	-0.9
SVAN	**Silvan-Diyarba**	**0.49**	**135**	⇑*i*P	**Pg**	03 17 15.1	-0.8
SVAN				*i* S	**Sg**	03 17 22.9	+0.7
SVAN	**Silvan-Diyarba**	**0.49**	**135**	Pg	**Pg**	03 17 15.0	-0.8
SVAN	**Silvan-Diyarba**	**0.49**	**135**	*e*Pg	**Pg**	03 17 14.9	-0.9
SVAN				S	**Sg**	03 17 22.9	+0.7
BNGB	**Bing˜¶l**	**0.50**	**353**	PG	**Pg**	03 17 14.5	-1.6
BNGB				SG	**Sg**	03 17 22.4	-0.2
BNGB	**Bing˜¶l**	**0.50**	**353**	Pg	**Pg**	03 17 14.5	-1.6
BNGB	**Bing˜¶l**	**0.50**	**353**	Pg	**Pg**	03 17 14.5	-1.6
BTMN	**Batman**	**0.72**	**146**	⇑*i*P	**Pg**	03 17 20.1	-0.3
BTMN				*i* S	**Sb**	03 17 31.8	+0.1
BTMN	**Batman**	**0.72**	**146**	P	**Pg**	03 17 20.1	-0.3
DIYA	**Diyarbakir**	**0.76**	**222**	⇓*i*P	**Pg**	03 17 20.6	-0.5
DIYA				*i* S	**Sb**	03 17 32.8	-0.1
DIYA	**Diyarbakir**	**0.76**	**222**	P	**Pg**	03 17 20.6	-0.5
VRTB	**Varto-Mus**	**0.86**	**39**	PG	**Pg**	03 17 21.5	-1.4
VRTB				SG	**Sg**	03 17 33.8	-0.2
VRTB	**Varto-Mus**	**0.86**	**39**	⇓*i*P	**Pg**	03 17 21.5	-1.4
VRTB				*i* S	**Sb**	03 17 35.1	-0.5
VRTB	**Varto-Mus**	**0.86**	**39**	Pg	**Pg**	03 17 21.3	-1.6
VRTB	**Varto-Mus**	**0.86**	**39**	Pg	**Pg**	03 17 21.3	-1.6
VRTB				*e*Sg	**Sg**	03 17 33.8	-0.2
VRTB				S	**Sb**	03 17 35.1	-0.5
YEDI	**Yedisu-Bingol**	**0.95**	**350**	PG	**Pg**	03 17 22.5	-2.4
YEDI				SG	**Sg**	03 17 36.4	-0.8
YEDI	**Yedisu-Bingol**	**0.95**	**350**	Pg	**Pg**	03 17 22.4	-2.4
YEDI	**Yedisu-Bingol**	**0.95**	**350**	Pg	**Pg**	03 17 22.4	-2.4
YEDI				*e*Sg	**Sg**	03 17 36.4	-0.8
GURO	**Guroymak-BITLI**	**1.00**	**87**	PG	**Pg**	03 17 24.6	-1.0
GURO				SG	**Sb**	03 17 39.6	-0.1
GURO	**Guroymak-BITLI**	**1.00**	**87**	*e*Pg	**Pg**	03 17 24.6	-1.0
GURO				*e*Sg	**Sb**	03 17 39.6	-0.1
SRTM	**Siirt_Merkez**	**1.04**	**119**	⇑*i*P	**Pg**	03 17 25.6	-0.9
SRTM				*i* S	**Sb**	03 17 41.5	+0.6
SRTM	**Siirt_Merkez**	**1.04**	**119**	P	**Pg**	03 17 25.6	-0.9
SRTM				S	**Sb**	03 17 41.5	+0.6
MAZI	**Mazidag**	**1.06**	**194**	PG	**Pg**	03 17 25.3	-1.6
MAZI	**Mazidag**	**1.06**	**194**	Pg	**Pg**	03 17 25.3	-1.0
MAZI	**Mazidag**	**1.06**	**194**	*e*Pg	**Pg**	03 17 25.3	-1.6
ECAT	**Cat-ERZURUM**	**1.12**	**8**	*i* P	**Pg**	03 17 25.7	-2.3
ECAT				*e*S	**Sg**	03 17 42.6	+0.1
ECAT				IAML		03 17 50.2	
	comp=Z,936nm,0.5s						
ECAT	**Cat-ERZURUM**	**1.12**	**8**	⇓*i*P	**Pg**	03 17 25.6	-2.3
ECAT				*i* S	**Sg**	03 17 42.3	-0.2
ECAT	**Cat-ERZURUM**	**1.12**	**8**	P	**Pg**	03 17 25.6	-2.3
ECAT				S	**Sg**	03 17 42.3	-0.2
TNCL	**Tunceli-Merkez**	**1.14**	**303**	⇓*i*P	**Pg**	03 17 26.0	-2.3
TNCL				*i* S	**Sn**	03 17 44.5	-0.4
TNCL	**Tunceli-Merkez**	**1.14**	**303**	P	**Pg**	03 17 26.0	-2.3
TNCL				S	**Sn**	03 17 44.5	-0.4
PTK	**Pertek**	**1.14**	**291**	PN	**Pg**	03 17 26.2	-2.2
PTK	**Pertek**	**1.14**	**291**	Pn	**Pg**	03 17 26.7	-1.7
PTK	**Pertek**	**1.14**	**291**	Pn	**Pg**	03 17 26.7	-1.7
SVRC	**Sivrice-ELAZID**	**1.15**	**265**	PN	**Pg**	03 17 26.5	-2.0
SVRC	**Sivrice-ELAZID**	**1.15**	**265**	Pn	**Pg**	03 17 27.3	-1.2
SVRC	**Sivrice-ELAZID**	**1.15**	**265**	Pn	**Pg**	03 17 27.3	-1.2
MARD	**Mardin**	**1.18**	**179**	⇓*i*P	**Pg**	03 17 27.1	-2.0
MARD				*i* S	**Sg**	03 17 44.5	+0.1
EKAR	**Karacoban**	**1.27**	**53**	⇓*i*P	**Pg**	03 17 28.2	-2.6
EKAR				*i* S	**Sn**	03 17 49.8	+1.4
EKAR	**Karacoban**	**1.27**	**53**	P	**Pg**	03 17 28.2	-2.6
ERZN	**Erzincan**	**1.36**	**324**	PN	**Pn**	03 17 29.9	-2.1
ERZN	**Erzincan**	**1.36**	**324**	Pn	**Pn**	03 17 29.9	-2.1
ERZN	**Erzincan**	**1.36**	**324**	Pn	**Pn**	03 17 29.9	-2.1
ELZG	**Elazig**	**1.39**	**271**	⇓*i*P	**Pn**	03 17 30.8	-1.8
ELZG				*i* S	**Sn**	03 17 54.1	+2.7
ELZG	**Elazig**	**1.39**	**271**	P	**Pn**	03 17 30.8	-1.8
EUZM	**Uzumlu**	**1.47**	**326**	*e*P	**Pn**	03 17 31.8	-1.8
EUZM				*e*S	**Sg**	03 17 53.7	+0.1
EUZM				IAML		03 17 59.7	
	comp=Z,573nm,0.7s						
EUZM	**Uzumlu**	**1.47**	**326**	⇓*i*P	**Pn**	03 17 31.8	-1.8
EUZM				*i* S	**Sg**	03 17 54.1	+0.5
EUZM	**Uzumlu**	**1.47**	**326**	P	**Pn**	03 17 31.8	-1.8
EUZM				S	**Sg**	03 17 54.1	+0.5
ERZM	**Erzurum**	**1.48**	**18**	⇓*i*P	**Pn**	03 17 31.7	-2.2
ERZM				*i* S	**Sg**	03 17 56.4	+2.2
ERZM	**Erzurum**	**1.48**	**18**	P	**Pn**	03 17 31.7	-2.2
KOPT	**Kop Dagi**	**1.53**	**352**	⇓*i*P	**Pn**	03 17 33.6	-1.0
KOPT				*i* S	**Sg**	03 17 57.5	+1.8
KOPT	**Kop Dagi**	**1.53**	**352**	P	**Pn**	03 17 33.6	-1.0
KOPT				S	**Sg**	03 17 57.5	+1.8
ADCV	**BITLIS_Adilcev**	**1.57**	**78**	⇑*i*P	**Pn**	03 17 34.0	-1.0
ADCV				*i* S	**Sg**	03 17 59.0	+2.2
ADCV	**BITLIS_Adilcev**	**1.57**	**78**	P	**Pn**	03 17 34.0	-1.0
SIRN	**S˜¬rnak**	**1.64**	**127**	⇑*i*P	**Pn**	03 17 34.8	-1.2
SIRN				*i* S	**Sg**	03 17 59.0	-0.2
SIRN	**S˜¬rnak**	**1.64**	**127**	P	**Pn**	03 17 34.8	-1.2
SIRN				S	**Sg**	03 17 59.0	-0.2
SIRT	**Sirnak**	**1.66**	**126**	PN	**Pn**	03 17 35.2	-0.9
SIRT	**Sirnak**	**1.66**	**126**	*e*Pn	**Pn**	03 17 35.2	-0.9
HOMI	**Horasan**	**1.78**	**30**	⇓*i*P	**Pn**	03 17 36.8	-1.2
HOMI				*i* S	**Sg**	03 18 05.0	+1.2
BAYB	**BAYBURT**	**1.80**	**348**	⇓*i*P	**Pn**	03 17 38.0	-0.2
BAYB				*i* S	**Sg**	03 18 04.0	-0.4
BAYB	**BAYBURT**	**1.80**	**348**	P	**Pn**	03 17 38.0	-0.2
BAYB				S	**Sg**	03 18 04.0	-0.4
GEVA	**Gevas**	**1.81**	**95**	⇑*i*P	**Pn**	03 17 38.7	+0.3
GEVA				*i* S	**Sg**	03 18 06.5	+1.8
GEVA	**Gevas**	**1.81**	**95**	P	**Pn**	03 17 38.7	+0.3
TUTA	**Tutak**	**1.84**	**60**	⇓*i*P	**Pn**	03 17 38.5	-0.3
TUTA				*i* S	**Sg**	03 18 06.7	+1.2
TUTA	**Tutak**	**1.84**	**60**	P	**Pn**	03 17 38.5	-0.3
URFA	**Urfa**	**1.86**	**236**	PN	**Pn**	03 17 37.0	-1.9
URFA	**Urfa**	**1.86**	**236**	Pn	**Pn**	03 17 37.1	-1.9
URFA	**Urfa**	**1.86**	**236**	Pn	**Pn**	03 17 37.1	-1.9
EATA	**Eleskirt**	**1.92**	**44**	⇓*i*P	**Pn**	03 17 40.1	+0.2
EATA				*i* S	**Sb**	03 18 06.7	+0.5
EATA	**Eleskirt**	**1.92**	**44**	P	**Pn**	03 17 40.1	+0.2
EATA				S	**Sb**	03 18 06.7	+0.5
SANL	**SANLIURFA_Merk**	**1.93**	**227**	⇓*i*P	**Pn**	03 17 39.0	-0.8
SANL				*i* S	**Sg**	03 18 07.8	-0.6
SANL	**SANLIURFA_Merk**	**1.93**	**227**	P	**Pn**	03 17 39.0	-0.8
KEMA	**Kemaliye**	**1.93**	**294**	⇑*i*P	**Pn**	03 17 39.5	-0.4
KEMA				*i* S	**Sb**	03 18 07.2	+0.7
KEMA	**Kemaliye**	**1.93**	**294**	P	**Pn**	03 17 39.5	-0.4
BAYT	**Ayd˜¬ntepe-Bay**	**1.95**	**346**	PN	**Pn**	03 17 38.9	-1.4
BAYT	**Ayd˜¬ntepe-Bay**	**1.95**	**346**	Pn	**Pn**	03 17 40.0	-0.3
BAYT	**Ayd˜¬ntepe-Bay**	**1.95**	**346**	Pn	**Pn**	03 17 40.0	-0.3
KELT	**Kelkit**	**2.02**	**325**	⇓*i*P	**Pn**	03 17 41.1	-0.2
KELT				*i* S	**Sg**	03 18 12.1	+0.6
KELT	**Kelkit**	**2.02**	**325**	P	**Pn**	03 17 41.1	-0.2
AGRB	**Hanur-Agry**	**2.04**	**58**	PN	**Pn**	03 17 40.8	-0.8
AGRB	**Hanur-Agry**	**2.04**	**58**	Pn	**Pn**	03 17 41.4	-0.2
AGRB	**Hanur-Agry**	**2.04**	**58**	*e*Pn	**Pn**	03 17 40.8	-0.8
VANB	**Van**	**2.06**	**86**	PN	**Pn**	03 17 41.2	-0.5
VANB	**Van**	**2.06**	**86**	Pn	**Pn**	03 17 41.8	0.0
VANB	**Van**	**2.06**	**86**	Pn	**Pn**	03 17 41.8	0.0
TVAN	**Van**	**2.08**	**88**	⇑*i*P	**Pn**	03 17 42.1	+0.2
TVAN				*i* S	**Sg**	03 18 15.4	+2.3
TVAN	**Van**	**2.08**	**88**	P	**Pn**	03 17 42.2	+0.2
GUMT	**Gumushane**	**2.20**	**334**	Pn	**Pn**	03 17 43.5	-0.1
GUMT	**Gumushane**	**2.20**	**334**	Pn	**Pn**	03 17 43.5	-0.1
ATAB	**Bozova**	**2.20**	**243**	⇓*i*P	**Pn**	03 17 38.1	-5.5
ATAB				*i* S	**Sn**	03 18 05.0	-6.1
HEKM	**Malatya_Hekimh**	**2.23**	**281**	⇑*i*P	**Pn**	03 17 43.7	-0.4
HEKM				*i* S	**Sg**	03 18 18.5	+0.6
HEKM	**Malatya_Hekimh**	**2.23**	**281**	P	**Pn**	03 17 43.7	-0.4
AKCD	**Akcadag**	**2.24**	**266**	⇑*i*P	**Pn**	03 17 43.2	-1.0
AKCD				*i* S	**Sb**	03 18 15.8	+0.3
AKCD	**Akcadag**	**2.24**	**266**	P	**Pn**	03 17 43.2	-1.0
VMUR	**Van-Muradiye**	**2.25**	**77**	⇑*i*P	**Pn**	03 17 44.4	0.0
VMUR				*i* S	**Sg**	03 18 16.1	+0.7
VMUR	**Van-Muradiye**	**2.25**	**77**	P	**Pn**	03 17 44.4	-0.0
SURC	**SANLIURFA_SURC**	**2.35**	**227**	⇓*i*P	**Pn**	03 17 44.6	-1.0
SURC				*i* S	**Sg**	03 18 22.9	+1.0
SURC	**SANLIURFA_SURC**	**2.35**	**227**	P	**Pn**	03 17 44.6	-1.0
SENK	**Senkaya-Erzuru**	**2.40**	**30**	PN	**Pn**	03 17 45.6	-0.9
SENK	**Senkaya-Erzuru**	**2.40**	**30**	*e*Pn	**Pn**	03 17 45.6	-0.9
DYDN	**Diyadin**	**2.51**	**64**	*e*P	**Pn**	03 17 47.9	-0.1
DYDN				*i* S	**Sb**	03 18 24.6	+1.4
DYDN	**Diyadin**	**2.51**	**64**	P	**Pn**	03 17 47.9	-0.1
HAKT	**HAKKARI**	**2.51**	**111**	⇑*i*P	**Pn**	03 17 47.8	-0.2
HAKT				*i* S	**Sg**	03 18 25.1	-1.9
HAKT	**HAKKARI**	**2.51**	**111**	P	**Pn**	03 17 47.8	-0.2
DDEM	**Demirkent**	**2.51**	**17**	⇓*i*P	**Pn**	03 17 48.7	+0.8
DDEM				*i* S	**Sg**	03 18 27.6	+0.5
DDEM	**Demirkent**	**2.51**	**17**	P	**Pn**	03 17 48.7	+0.8
CLDR	**Caldiran**	**2.55**	**74**	PN	**Pn**	03 17 47.3	-1.2
CLDR	**Caldiran**	**2.55**	**74**	⇑*i*P	**Pn**	03 17 47.8	-0.7
CLDR				*i* S	**Sb**	03 18 24.6	+0.2
CLDR	**Caldiran**	**2.55**	**74**	Pn	**Pn**	03 17 48.1	-0.4
CLDR	**Caldiran**	**2.55**	**74**	P	**Pn**	03 17 47.8	-0.7
CLDR	**Caldiran**	**2.55**	**74**	Pn	**Pn**	03 17 48.1	-0.4
MACK	**Trabzon**	**2.56**	**343**	⇓*i*P	**Pn**	03 17 49.0	+0.5
MACK				*i* S	**Sb**	03 18 25.9	+1.4
MACK	**Trabzon**	**2.56**	**343**	P	**Pn**	03 17 49.0	+0.5
DARE	**Darende-Malaty**	**2.57**	**273**	PN	**Pn**	03 17 47.5	-1.2
DARE	**Darende-Malaty**	**2.57**	**273**	Pn	**Pn**	03 17 48.5	-0.2
DARE	**Darende-Malaty**	**2.57**	**273**	Pn	**Pn**	03 17 48.5	-0.2
CHOM	**Cayeli-Rize**	**2.60**	**360**	*e*Pn	**Pn**	03 17 48.6	-0.4
KTUT	**Trabzon**	**2.60**	**343**	PN	**Pn**	03 17 48.6	-0.4
KTUT	**Trabzon**	**2.60**	**343**	Pn	**Pn**	03 17 49.2	+0.2
KTUT	**Trabzon**	**2.60**	**343**	Pn	**Pn**	03 17 49.2	+0.2
DBAD	**Bademkaya**	**2.62**	**16**	⇓*i*P	**Pn**	03 17 50.1	+0.7
DBAD				*i* S	**Sb**	03 18 28.1	+1.8
DBAD	**Bademkaya**	**2.62**	**16**	P	**Pn**	03 17 50.1	+0.7
SUSE	**Susehri**	**2.62**	**312**	⇓*i*P	**Pn**	03 17 49.3	+0.1
SUSE				*i* S	**Sb**	03 18 28.5	+2.2
SUSE	**Susehri**	**2.62**	**312**	P	**Pn**	03 17 49.5	+0.1
CUKAN	**kangal_SIVAS**	**2.70**	**289**	⇑*i*P	**Pn**	03 17 50.4	-0.1
CUKAN				*i* S	**Sg**	03 18 33.7	+0.5
CUKAN	**kangal_SIVAS**	**2.70**	**289**	P	**Pn**	03 17 50.4	-0.1
CUZAR	**Zara_SIVAS**	**2.71**	**302**	⇓*i*P	**Pn**	03 17 51.2	+0.5
CUZAR				*i* S	**Sb**	03 18 30.2	+1.3
CUZAR	**Zara_SIVAS**	**2.71**	**302**	P	**Pn**	03 17 51.2	+0.5
DAGI	**Agillar**	**2.73**	**19**	⇓*i*P	**Pn**	03 17 51.6	+0.8
DAGI				*i* S	**Sb**	03 18 28.1	-1.4
KARS	**Kars**	**2.78**	**39**	PN	**Pn**	03 17 51.2	-0.5
KARS	**Kars**	**2.78**	**39**	Pn	**Pn**	03 17 52.2	+0.6
KARS	**Kars**	**2.78**	**39**	*e*Pn	**Pn**	03 17 51.2	-0.5
KARS	**Kars**	**2.78**	**39**	P	**Pn**	03 17 52.2	+0.6
KARS	**Kars**	**2.78**	**39**	P	**Pn**	03 17 52.2	+0.6
DIGO	**Kars**	**2.79**	**46**	*i* P	**Pn**	03 17 51.3	-0.5
DIGO				*i* S	**Sg**	03 18 37.7	+1.8
DIGO	**Kars**	**2.79**	**46**	P	**Pn**	03 17 51.3	-0.5
ELBS	**KAHRAMANMARAS**	**2.86**	**268**	*e*P	**Pn**	03 17 52.1	-0.6
ELBS				*i* S	**Sg**	03 18 38.1	-0.1
ELBS	**KAHRAMANMARAS**	**2.86**	**268**	P	**Pn**	03 17 52.1	-0.6
ESPY	**Espiye-Giresun**	**2.88**	**328**	PN	**Pn**	03 17 52.3	-0.6
ESPY	**Espiye-Giresun**	**2.88**	**328**	*e*Pn	**Pn**	03 17 52.3	-0.6
BCA	**Borcka**	**3.02**	**12**	PN	**Pn**	03 17 54.1	-0.7
BCA	**Borcka**	**3.02**	**12**	Pn	**Pn**	03 17 55.3	+0.5
BCA	**Borcka**	**3.02**	**12**	Pn	**Pn**	03 17 55.3	+0.5
TASB	**TASBURUN-IGDIR**	**3.08**	**60**	PN	**Pn**	03 17 55.6	-0.1
TASB	**TASBURUN-IGDIR**	**3.08**	**60**	*e*Pn	**Pn**	03 17 55.6	-0.1
GRSN	**GIRESUNGRSN**	**3.09**	**322**	*e*P	**Pn**	03 17 55.5	-0.4
GRSN				*e*S	**Sn**	03 18 32.8	-0.4
GRSN	**GIRESUNGRSN**	**3.09**	**322**	P	**Pn**	03 17 55.5	-0.4
GRSN				S	**Sn**	03 18 32.8	-0.4
GAZ	**Gaziantep**	**3.11**	**246**	PN	**Pn**	03 17 55.2	-0.9
GAZ	**Gaziantep**	**3.11**	**246**	Pn	**Pn**	03 17 56.0	-0.1
GAZ	**Gaziantep**	**3.11**	**246**	*e*Pn	**Pn**	03 17 55.2	-0.9
KMRS	**Kahramanmaras**	**3.21**	**253**	PN	**Pn**	03 17 56.2	-1.2
KMRS	**Kahramanmaras**	**3.21**	**253**	*e*Pn	**Pn**	03 17 56.2	-1.2
SVSK	**Karacayir**	**3.25**	**297**	PN	**Pn**	03 17 57.4	-0.5
SVSK	**Karacayir**	**3.25**	**297**	Pn	**Pn**	03 17 58.8	+0.9
SVSK	**Karacayir**	**3.25**	**297**	*e*Pn	**Pn**	03 17 57.4	-0.5
RSDY	**Resadiye-TOKAT**	**3.27**	**307**	PN	**Pn**	03 17 57.8	-0.4
RSDY	**Resadiye-TOKAT**	**3.27**	**307**	Pn	**Pn**	03 17 58.0	+0.5
RSDY	**Resadiye-TOKAT**	**3.27**	**307**	*e*Pn	**Pn**	03 17 57.8	-0.4
EPOS	**Posof**	**3.36**	**26**	*e*P	**Pn**	03 18 00.0	+0.4
EPOS				IAML		03 18 56.9	
	comp=Z,22nm,0.6s						
HYR	**Heyderabad**	**3.41**	**68**	⇓P	**Pn**	03 17 59.8	-0.4
HYR				⇓S	**Sn**	03 18 41.7	+0.7
GNI	**Garni**	**3.50**	**61**	Pn	**Pn**	03 18 02.4	+0.9
	comp=Z,18nm,0.3s,baz=282,slow=4.2,SNR=31						
GNI				Pg	**Pg**	03 18 10.3	+1.4
	comp=Z,19nm,0.3s,baz=245,slow=12,SNR=52						
GNI				Lg	Lg	03 18 58.8	
	comp=Z,4.3nm,0.3s,baz=45,slow=14,SNR=3.0						
GNI	**Garni**	**3.50**	**61**	*e*Pn	**Pn**	03 18 02.5	+1.0
GNI				*e*Pg	**Pg**	03 18 11.2	-2.3
GNI				Lg	Lg	03 18 58.8	
GNI	**Garni**	**3.50**	**61**	Pn	**Pn**	03 18 02.8	+1.2
	SNR=104						
GNI	**Garni**	**3.50**	**61**	P	**Pn**	03 18 02.8	+1.2
	SNR=104						
GNI	**Garni**	**3.50**	**61**	*e*P	**Pn**	03 18 02.2	+0.7
	comp=Z,141nm,0.7s						
GNI	**Garni**	**3.50**	**61**	Pn	**Pn**	03 18 02.8	+1.2
	SNR=104						
GNI	**Garni**	**3.50**	**61**	*i* P	**Pn**	03 18 02.1	+0.5
	SNR=39						
GNI	**Garni**	**3.50**	**61**	*ce*P	**Pn**	03 18 02.2	+0.7
GNI				pmax	pmax		
	comp=Z,141nm,0.7s						
AKH	**Akhalkalaki**	**3.59**	**35**	PN	**Pn**	03 18 02.5	-0.3
AKH	**Akhalkalaki**	**3.59**	**35**	P	**Pn**	03 18 03.9	+1.0
AKH				S	**Sg**	03 19 14.9	+13
AKH	**Akhalkalaki**	**3.59**	**35**	⇓*i*P	**Pn**	03 18 03.8

GROC **Groznyy** 6.05 37 *e*P Pn 03 18 34.1 -2.4
GROC *e*S Sn 03 19 41.9 -4.2
GROC pmax pmax
comp=Z,11nm,0.6s
GROC smax smax
comp=N,84nm,1.0s
GROC smax smax
comp=N,39nm,0.6s
SAAT Saatly 6.11 75 ⇓P Pn 03 18 35.9 -1.3
SAAT ⇑S Sn 03 19 47.0 -0.3
AKT Akhty 6.12 59 *e*S Sn 03 19 46.1 -1.9
comp=N,7.0nm,0.5s
AKT Akhty 6.12 59 *e*P Pn 03 18 41.5 +3.9
AKT *e*S Sn 03 19 46.1 -1.9
AKT pmax pmax
comp=Z,15nm,0.7s
AKT smax smax
comp=N,7.0nm,0.5s
AKT smax smax
comp=E,18nm,0.9s
AKT smax smax
comp=E,36nm,0.9s
BHL Bhannes 6.17 224 *e*P Pn 03 18 38.8 +0.7
IML Ismayilli 6.17 66 ⇑S Sn 03 19 49.7 +0.7
XNQ Khinaliq 6.28 62 ⇑S Sn 03 19 52.7 +0.9
LKRN Lenkeran, Azer 6.28 86 ⇑P Pn 03 18 38.6 -1.0
SNR=8.5
LKRN ⇑S Sn 03 19 51.4 -0.3
ASTR Astara 6.30 87 ⇑P Pn 03 18 38.8 -1.0
SNR=12
ASTR ⇑S Sn 03 19 52.0 0.0
ANTO Ankara 6.34 285 ⇑*i*P Pn 03 18 42.4 +1.9
ANTO Ankara 6.34 285 *e*Pn Pn 03 18 42.4 +1.9
ANTO Ankara 6.34 285 Pn Pn 03 18 42.6 +2.1
SNR=6.4
ANTO Ankara 6.34 285 P Pn 03 18 42.6 +2.1
SNR=6.4
ANTO Ankara 6.34 285 *e*P Pn 03 18 42.4 +1.9
ANTO Ankara 6.34 285 *e*P Pn 03 18 42.4 +1.9
DQRL Deir Qamar 6.36 223 *e*P Pn 03 18 41.9 +1.1
RCY Rachaya 6.39 220 *e*P Pn 03 18 42.6 +1.3
PQL Pirkuli 6.46 67 ⇑S Sn 03 19 56.9 +0.5
QSAR Qusar 6.50 60 ⇓P Pn 03 18 42.3 -0.3
SNR=14
QSAR ⇑S Sn 03 19 58.1 +1.0
SHBL Chebaa 6.55 220 *e*P Pn 03 18 44.5 +1.0
ALIB Äli-Bayra 6.56 75 ⇑P Pn 03 18 42.8 -0.7
SNR=3.7
ALIB ⇓S Sn 03 19 59.0 +0.4
QUBA Quba, Azerbaij 6.59 62 ⇓P Pn 03 18 43.6 -0.3
SNR=8.3
QUBA ⇓S Sn 03 20 00.4 +1.0
GBS Qobustan 6.64 70 ⇑S Sn 03 20 01.2 +0.5
ATGJ Altiaghaj 6.73 67 ⇑S Sn 03 20 03.6 +0.6
ANN Anapa 6.77 339 *e*P Pb 03 19 01.0 -3.5
ANN pmax pmax
comp=Z,30nm,1.0s
ANN MLR MLR
comp=E,458nm,10.0s
ANN MLR MLR
comp=Z,331nm,10.0s
ANN MLR MLR
comp=N,444nm,10.0s
GOF Gofitskoye 6.77 14⇑*e*P Pn 03 18 49.0 +2.6
SIZA Siyzn 6.78 65 ⇑S Sn 03 20 04.7 +0.7
MAK Makhachkala 6.79 47 *e*P Pn 03 18 53.0 +6.5
MAK pmax pmax
comp=Z,64nm,0.9s
MAK MLR MLR
comp=Z,1µm,16.0s
CSS Mathiatis 6.93 242 *e*P Pn 03 18 50.9 +2.3
CSS Mathiatis 6.93 242 *e*Pn Pn 03 18 46.9 -1.7
CSS Mathiatis 6.93 242 *e*Pn Pn 03 18 46.9 -1.7
MMAI Mount Meron Ar 6.99 220 Pn Pn 03 18 51.2 +1.8
comp=Z,12nm,0.3s,baz=56,slow=12,SNR=79
MMAI Lg Lg 03 20 46.5
comp=Z,3.9nm,0.3s,baz=23,slow=38,SNR=3.8
MMAI LR LR 03 21 54.4
comp=Z,1µm,18.4s,baz=35,slow=42
ASF Jabal al Asfar 7.05 208 Pn Pn 03 18 50.9 +0.6
comp=Z,1.4nm,0.3s,baz=354,slow=9.4,SNR=24
ASF Lg Lg 03 20 48.1
comp=Z,2.0nm,0.3s,baz=168,slow=21,SNR=6.2
ASF LR LR 03 21 54.2
comp=Z,803nm,19.7s,baz=3.0,slow=41
GOBA Gobu 7.20 72 ⇑S Sn 03 20 14.8 +0.6
NDR Nardaran 7.43 71 ⇑S Sn 03 20 20.5 +0.7
GALA Gala 7.51 72 ⇑S Sn 03 20 22.5 +0.5
ISP Isparta 8.10 268 *e*P Pg 03 19 35.8 -5.7
ISP Isparta 8.10 268⇓*e*P Pn 03 19 08.7 +4.1
ISP pmax pmax
comp=Z,15nm,1.5s
SIM Simferopol' 8.14 325*ce*P Pn 03 19 11.5 +6.4
SIM S Sn 03 20 43.3 +6.0
SIM pmax pmax
comp=Z,39nm,0.5s
EIL Elat 10.03 210 Pn Pn 03 19 31.6 +0.5
comp=Z,0.1nm,0.3s,baz=30,slow=14,SNR=3.5
EIL Lg Lg 03 22 24.9
comp=Z,0.4nm,0.3s,baz=29,slow=19,SNR=2.4
EIL LR LR 03 23 50.0
comp=Z,883nm,18.2s,baz=50,slow=40
TIRR Tirgusor 11.01 307⇓*i*P Pn 03 19 47.0 +2.6
TIRR Tirgusor 11.01 307 *e*Pn Pn 03 19 45.7 +1.3
TIRR Tirgusor 11.01 307 *e*P Pn 03 19 45.7 +1.3
TIRR Tirgusor 11.01 307 *e*P Pn 03 19 45.7 +1.3
TLCR 11.13 311⇓*i*P Pn 03 19 48.0 +1.9
KARP Karpathos 11.26 259 *e*Pn Pn 03 19 49.8 +1.8
KARP Karpathos 11.26 259 *e*Pn Pn 03 19 49.8 +1.8
TLB Topalu 11.30 307⇓*i*P Pn 03 19 50.9 +2.5
CFR Carcaliu 11.54 309⇑*i*P Pn 03 19 53.8 +2.2
CFR Carcaliu 11.54 309 P Pn 03 19 53.5 +1.9
comp=Z,11nm,0.9s
CFR Carcaliu 11.54 309 P Pn 03 19 53.5 +1.9
CFR pmax pmax
comp=Z,11nm,0.9s
KIS Kishinev 12.21 318 *e*P Pn 03 20 14.0 +13
KIS Kishinev 12.21 318 *e*P Pn 03 20 14.0 +13
ISR Istrita 12.49 306⇑*i*P Pn 03 20 07.7 +2.9
VORD Divnogorie 12.51 356 *e*P Pn 03 20 05.6 +0.7
VORD pmax pmax
comp=Z,10.0nm,0.9s
VRH Novokhopyorsk 12.72 3 *e*P Pn 03 20 05.5 -2.3
VRH pmax pmax
comp=Z,6.0nm,0.9s
VRI Vrincioaia 12.74 310⇑*i*P Pn 03 20 10.3 +2.2
VRI Vrincioaia 12.74 310 P Pn 03 20 10.4 +2.3
comp=Z,206nm,1.6s
VRI Vrincioaia 12.74 310 P Pn 03 20 10.4 +2.3
VRI pmax pmax
comp=Z,206nm,1.6s
VSR Storozhevoye 12.77 355 *e*P Pn 03 20 09.4 +1.0
comp=Z,4.0nm,0.5s
VSR Storozhevoye 12.77 355 *e*P Pn 03 20 09.4 +1.0
VSR pmax pmax
comp=Z,4.0nm,0.5s
PLOR Plostina 12.78 310⇓*i*P Pn 03 20 10.6 +2.0
PLOR Plostina 12.78 310 P Pn 03 20 10.9 +2.3
PLOR Plostina 12.78 310 P Pn 03 20 10.9 +2.3
MLR Muntele Rosu 13.04 307 Pn Pn 03 20 13.4 +1.1
comp=Z,0.0nm,0.3s,baz=138,slow=4.1,SNR=7.3
MLR Muntele Rosu 13.04 307⇑*i*P Pn 03 20 15.5 +3.2
MLR Muntele Rosu 13.04 307 *e*Pn Pn 03 20 12.7 +0.4
MLR Muntele Rosu 13.04 307 *e*P Pn 03 20 12.7 +0.4
MLR Muntele Rosu 13.04 307 *e*P Pn 03 20 12.7 +0.4
IDI Anoyia 13.10 261 Pn Pn 03 20 12.8 -0.4
comp=Z,0.2nm,0.3s,baz=124,slow=12,SNR=5.6
IDI LR LR 03 25 21.3
comp=Z,143nm,20.4s,baz=74,slow=38
IDI Anoyia 13.10 261⇑*i*P Pn 03 20 15.1 +2.0
IDI Anoyia 13.10 261 *e*Pn Pn 03 20 14.9 +1.8
IDI Anoyia 13.10 261 *e*Pn Pn 03 20 14.9 +1.8
TESR Tescani 13.12 312⇑*i*P Pn 03 20 14.7 +1.4
SORM Soroca 13.19 321⇓*i*P P 03 20 23.2 -1.1
VOIR 13.58 306⇓*i*P Pn 03 20 21.9 +2.3
DOPR Dopca 13.61 308⇓*i*P Pn 03 20 21.3 +1.4
GEYT Alibeck 13.66 87 Pn Pn 03 20 21.8 +1.1
comp=Z,0.3nm,0.3s,baz=269,slow=16,SNR=5.2
ARR Arges 13.82 305⇓*i*P P 03 20 34.5 +3.1
VTS Vitosha 13.96 293⇑*i*P Pn 03 20 27.1 +2.2
VTS Vitosha 13.96 293 *e*Pn Pn 03 20 27.2 +2.4
VTS Vitosha 13.96 293⇑*i*P Pn 03 20 27.1 +2.2
VTS Vitosha 13.96 293 *e*P Pn 03 20 27.2 +2.4
LPSR Galich'ya Gora 14.16 355 *e*P Pn 03 20 27.4 0.0
LPSR pmax pmax
comp=Z,70nm,1.5s
LOT Lotru 14.41 304⇑*i*P P 03 20 40.6 +2.6
BURAR Bucovina Array 14.54 314⇓*i*P Pn 03 20 35.8 +3.0
BUR04 Bucovina Ar. S 14.55 314 *e*Pn P 03 20 36.8 -2.8
BUR04 Bucovina Ar. S 14.55 314 *e*Pn P 03 20 36.8 -2.8
BUR08 Bucovina Ar. S 14.57 314 *e*Pn P 03 20 37.5 -2.3
BUR08 Bucovina Ar. S 14.57 314 *e*Pn P 03 20 37.5 -2.3
AKASG Malin Array Be 14.69 330 Pn Pn 03 20 33.1 -1.6
comp=Z,0.3nm,0.3s,baz=138,slow=12,SNR=40
AKASG LR LR 03 27 04.3
comp=Z,69nm,21.2s,baz=145,slow=41
AKBB Malin Array Si 14.69 330 *e*Pn Pn 03 20 35.1 +0.5
AKBB Malin Array Si 14.69 330 *e*Pn Pn 03 20 35.1 +0.5
AKBB Malin Array Si 14.69 330 *e*P Pn 03 20 35.1 +0.5
KIEV Kiev 14.69 330 *e*Pn Pn 03 20 34.6 0.0
KIEV Kiev 14.69 330 *e*Pn Pn 03 20 34.6 0.0
KIEV Kiev 14.69 330 *i* P Pn 03 20 35.2 +0.6
SNR=13
KIEV Kiev 14.69 330⇓*i*P Pn 03 20 35.6 +1.0
KIEV pmax pmax
comp=Z,43nm,1.4s
AK11 Malin Array Si 14.69 330 *e*Pn Pn 03 20 36.2 +1.5
AK11 Malin Array Si 14.69 330 *e*Pn Pn 03 20 36.2 +1.5
HERR Herculane 15.10 301⇓*i*P P 03 20 48.8 +3.2
RAYN Ar Rayn 15.47 163 *e*Pn Pn 03 20 40.8 -4.4
comp=Z,8.3nm,1.1s
RAYN *e*Sn Sn 03 23 33.2 -3.7
RAYN Ar Rayn 15.47 163 *e*Pn Pn 03 20 40.8 -4.4
comp=Z,8.3nm,1.1s
RAYN *e*Sn Sn 03 23 33.2 -3.7
RAYN Ar Rayn 15.47 163 P Pn 03 20 40.8 -4.4
RAYN pmax pmax
comp=Z,8.0nm,1.1s
SELS Selova 15.59 294⇑*i*P Pn 03 20 48.2 +1.5
BZS Buzias 15.88 303⇓*i*P Pn 03 20 52.3 +1.9
GRUS Gruza 16.01 296⇑*i*P P 03 20 54.7 -1.0
SIRR Siria 16.08 305⇑*i*P P 03 20 54.9 -1.6
TIR Tirane 16.28 287 P P 03 20 57.8 -0.9
TIR Tirane 16.28 287 P P 03 20 57.8 -0.9
IVAS Ivanjica 16.34 295 *e*P P 03 21 00.4 +0.9
TRPA Tarpa 16.35 312⇑*i*P Pn 03 20 57.7 +1.2
TRPA Tarpa 16.35 312⇑*e*Pn P 03 21 01.7 +2.3
LVV L'vov 16.46 319 *e*P P 03 20 59.5 -1.1
LVV L'vov 16.46 319 *e*P P 03 20 59.5 -1.1
DIVS Divibare 16.57 296 *e*Pn P 03 21 01.3 -0.7
comp=Z,7.1nm,1.0s
DIVS Divibare 16.57 296 *e*Pn P 03 21 01.3 -0.7
comp=Z,7.1nm,1.0s
DIVS Divibare 16.57 296⇑*i*P P 03 21 03.9 +2.0
UZH Uzhgorod 16.74 313 *e*P Pn 03 20 59.5 -2.0
TTG Podgorica 16.82 290 *e*Pn P 03 21 08.2 +3.5
comp=Z,12nm,1.1s
TTG Podgorica 16.82 290 *e*Pn P 03 21 08.2 +3.5
comp=Z,12nm,1.1s
TTG Podgorica 16.82 290 *e*P P 03 21 08.2 +3.5
TTG pmax pmax
comp=Z,12nm,1.1s
OBN Obninsk 16.86 352 Pn Pn 03 21 01.7 -1.2
comp=Z,3.4nm,0.3s,baz=194,slow=6.8,SNR=7.3
OBN LR LR 03 28 15.5
comp=Z,299nm,20.1s,baz=104,slow=40
OBN Obninsk 16.86 352 *e*Pn Pn 03 21 01.6 -1.4
OBN Obninsk 16.86 352⇑*i*P Pn 03 21 01.5 -1.4
OBN pmax pmax
comp=Z,43nm,1.2s
OBN MLR MLR
comp=Z,255nm,15.0s
KWP Kalwaria Pacla 17.05 317 *e*P P 03 21 06.9 -0.3
KWP Kalwaria Pacla 17.05 317 *e*Pn P 03 21 07.4 +0.3
comp=Z,523nm,1.1s
KWP Kalwaria Pacla 17.05 317 *e*P P 03 21 06.9 -0.3
KWP Kalwaria Pacla 17.05 317 *e*Pn P 03 21 07.4 +0.3
comp=Z,523nm,1.1s
KWP Kalwaria Pacla 17.05 317 *e*P P 03 21 06.9 -0.3
AKTO Aktyubinsk 17.10 40 P Pn 03 21 04.0 -1.9
comp=Z,0.2nm,0.3s,baz=234,slow=13,SNR=13
AKTO LR LR 03 29 28.4
comp=Z,407nm,19.6s,baz=229,slow=43
AKTO Aktyubinsk 17.10 40 *i* P Pn 03 21 02.9 -3.1
CRVS Cervenica-Dubn 17.36 313 *e*P P 03 21 11.5 +0.9
comp=Z,15nm,1.2s
CRVS Cervenica-Dubn 17.36 313 *e*P P 03 21 11.5 +0.9
CRVS Cervenica-Dubn 17.36 313 *e*P P 03 21 11.5 +0.9
CRVS pmax pmax
comp=Z,15nm,1.2s
MOS Moscow 17.38 354 *e*P Pn 03 21 07.7 -1.7
MOS pmax pmax
comp=Z,78nm,1.4s
AB31 Akbulak array 17.47 46 *i* P Pn 03 21 09.5 -1.0
comp=Z,2.0nm,0.7s
AB31 Akbulak array 17.47 46 *i* P Pn 03 21 09.5 -1.0
AB31 pmax pmax
comp=Z,2.0nm,0.7s
ABKAR Akbulak array 17.47 46 *e*Pn Pn 03 21 08.1 -2.5
comp=Z,42nm,0.8s
ABKAR Akbulak array 17.47 46 *e*Pn Pn 03 21 08.1 -2.5
comp=Z,42nm,0.8s
STHS Stebnicka Huta 17.74 314 *e*P P 03 21 15.6 +0.8
comp=Z,10.0nm,1.0s
STHS Stebnicka Huta 17.74 314 *e*P P 03 21 15.6 +0.8
STHS Stebnicka Huta 17.74 314 *e*P P 03 21 15.6 +0.8
STHS pmax pmax
comp=Z,10.0nm,1.0s
PSZ Piszkesteto 17.84 309⇓*i*P P 03 21 17.9 +1.9
PSZ Piszkesteto 17.84 309⇑*e*Pn P 03 21 18.1 +2.1
PSZ Piszkesteto 17.84 309 *e*Pn P 03 21 17.9 +1.9
PSZ Piszkesteto 17.84 309 *e*P P 03 21 17.9 +1.9
SHME Shamm 17.95 129 P Pn 03 21 15.3 -1.4
MORH M¯ţr¯igy, Hung 18.04 302⇑*e*Pn P 03 21 20.4 +2.3
MORH M¯ţr¯igy, Hung 18.04 302⇑*e*P P 03 21 20.4 +2.3
BANOM Banah 18.13 129 Pn P 03 21 19.8 +0.4
SNR=12
BANOM Banah 18.13 129 P P 03 21 19.8 +0.4
SNR=12
BANOM Banah 18.13 129 P Pn 03 21 18.4 -0.6
SNR=14
BANOM Banah 18.13 129 Pn P 03 21 19.8 +0.4
SNR=12
BANOM Banah 18.13 129 *i* P Pn 03 21 18.4 -0.6
SNR=14
BUD Budapest 18.21 307⇑*e*Pn P 03 21 22.7 +2.7
NIE Niedzica 18.27 313 *e*P P 03 21 22.9 +2.2
NIE Niedzica 18.27 313 *e*P P 03 21 22.9 +2.2
AJN Ajban 18.41 135 *i* P P 03 21 22.4 +0.1
SNR=6.3
NAZ Nazwa, Dubai 18.46 133 Pn Pn 03 21 24.0 +1.1
SNR=35
NAZ Nazwa, Dubai 18.46 133 P Pn 03 21 24.0 +1.1
SNR=35
NAZ Nazwa, Dubai 18.46 133 P Pn 03 21 23.0 +0.1
SNR=27
NAZ Nazwa, Dubai 18.46 133 Pn Pn 03 21 24.0 +1.1
SNR=35
NAZ Nazwa, Dubai 18.46 133 *i* P Pn 03 21 23.0 +0.1
SNR=27
MSFE Esma-Masafi 18.47 131 P P 03 21 22.4 -0.6
SNR=18
MSFE Esma-Masafi 18.47 131 *i* P P 03 21 22.8 -0.2
SNR=13
MDH Madha 18.60 131 *i* P P 03 21 24.1 -0.2
SNR=13
LANS Liptovska Anna 18.63 312 *e*P Pn 03 21 26.7 +1.8
LANS Liptovska Anna 18.63 312 *e*P Pn 03 21 26.7 +1.8
LANS Liptovska Anna 18.63 312 *e*P Pn 03 21 26.7 +1.8
BLY Banja Luka 18.67 297⇓*i*P Pn 03 21 26.6 +1.3
BLY Banja Luka 18.67 297 *e*P Pn 03 21 26.6 +1.3
comp=Z,5.8nm,0.8s
BLY Banja Luka 18.67 297 *e*P Pn 03 21 26.6 +1.3
comp=Z,5.8nm,0.8s
TIP Timpagrande 18.70 280⇓*i*P Pn 03 21 25.8 -0.1
TIP Timpagrande 18.70 280 *e*P P 03 21 24.8 -0.8
comp=Z,38nm,1.1s
TIP Timpagrande 18.70 280 *e*P P 03 21 24.8 -0.8
comp=Z,38nm,1.1s
VYHS Vyhne 18.72 309 *e*P Pn 03 21 28.0 +2.0
VYHS *e* 03 21 34.9
VYHS Vyhne 18.72 309 *e*P Pn 03 21 28.0 +2.0
VYHS pmax pmax
comp=Z,68nm,2.1s
UOSS Minazif 18.81 131 *e*P P 03 21 24.9 -1.8
comp=Z,177nm,1.1s
UOSS Minazif 18.81 131 P P 03 21 26.5 -0.2
SNR=74
UOSS Minazif 18.81 131 *i* P P 03 21 26.5 -0.2
SNR=74
HATD Hatta, Dubai 18.86 132 P Pn 03 21 28.0 +0.2
SNR=61
HATD Hatta, Dubai 18.86 132 P Pn 03 21 28.0 +0.2
SNR=61
HATD Hatta, Dubai 18.86 132 P P 03 21 27.1 -0.1
SNR=25
HATD Hatta, Dubai 18.86 132 *i* P P 03 21 27.1 -0.1
SNR=25
MZR Muzera 18.89 141 *i* P Pn 03 21 28.1 -0.1
SNR=7.7
NACGM Naroch 18.95 335 *e* P 03 21 27.0 -1.0
OJC Ojcow 18.95 315 *e*P Pn 03 21 28.6 -0.2
OJC Ojcow 18.95 315 *e*P Pn 03 21 28.6 -0.2
comp=Z,9.8nm,0.9s
OJC Ojcow 18.95 315 *e*P Pn 03 21 28.6 -0.2
ALNE Al Ain 19.23 134 P Pn 03 21 31.9 -0.4
SNR=11
ALNE Al Ain 19.23 134 P P 03 21 31.4 0.0
IDID Didziasalis 19.30 335 *e*P P 03 21 27.6 -4.2
IDID IAmb IAmb 03 21 35.9
comp=Z,12nm,0.9s
CUC Castrocucco 19.37 282 *e*P Pn 03 21 34.8 +0.9
comp=Z,22nm,1.0s
CUC Castrocucco 19.37 282 *e*P Pn 03 21 34.8 +0.9
comp=Z,22nm,1.0s
CEL Celeste 19.49 277 *e*P Pn 03 21 35.9 +0.5
comp=Z,37nm,1.1s
CEL Celeste 19.49 277 *e*P Pn 03 21 35.8 +0.5
comp=Z,37nm,1.1s
IIGN Ignalina 19.50 335 *e*P P 03 21 29.7 -4.3
IIGN IAmb IAmb 03 21 38.2
comp=Z,28nm,1.1s
IIGN Ignalina 19.50 335 *e*P P 03 21 29.7 -4.3
SNR=34
SMOL Smolenice 19.59 308 *e*P Pn 03 21 38.9 +2.4
SMOL *e* 03 21 45.8
SMOL Smolenice 19.59 308 *e*P Pn 03 21 38.9 +2.4
SOHO SOHO 19.62 132 P P 03 21 35.2 -0.4
SNR=9.8
SOHO SOHO 19.62 132 *i* P P 03 21 35.2 -0.4
SNR=9.8
SUW Suwalki 19.63 328 *e*P Pn 03 21 36.8 0.0
SUW Suwalki 19.63 328 *e*P Pn 03 21 36.8 0.0
MODS Modra-Piesok 19.64 308 *e*P Pn 03 21 36.9 -0.1
MODS Modra-Piesok 19.64 308 *e*P Pn 03 21 36.9 -0.1
MODS pmax pmax
comp=Z,45nm,1.2s
OKC Ostrava-Krasne 19.71 312 *e*P Pn 03 21 38.0 +0.2
OKC Ostrava-Krasne 19.71 312 *e*P Pn 03 21 38.0 +0.2
OKC Ostrava-Krasne 19.71 312 *e*P Pn 03 21 38.0 +0.2
IZAR Zarasai 19.81 335 *e*P P 03 21 33.1 -4.3
IZAR IAmb IAmb 03 21 39.2
comp=Z,13nm,0.7s
SOP Sopron 19.85 305⇓*e*P Pn 03 21 39.9 +0.4
SOP Sopron 19.85 305⇓*e*P Pn 03 21 39.9 +0.4
SOP Sopron 19.85 305 P Pn 03 21 40.3 +0.8
SOP pmax pmax
comp=Z,35nm,1.3s
MORC Moravsky Berou 20.03 312 *e*P Pn 03 21 41.2 -0.5
comp=Z,55nm,0.9s
MORC Moravsky Berou 20.03 312 *e*P Pn 03 21 41.2 -0.6
MORC pmax pmax
comp=Z,55nm,0.9s
CONA Conrad Observa 20.37 306 *i* P Pn 03 21 45.5 -0.3
comp=Z,39nm,1.1s,SNR=27
ARSA Arzberg 20.39 304 P Pn 03 21 45.6 -0.4
comp=Z,18nm,1.2s
ARSA Arzberg 20.39 304 *i* P Pn 03 21 45.6 -0.3
comp=Z,18nm,1.2s
VRAC Vranov 20.41 310 P P 03 21 44.3 +0.3
comp=Z,13nm,0.9s,baz=101,slow=10.0,SNR=13
VRAC LR LR 03 30 50.7
comp=Z,74nm,18.6s,baz=123,slow=40
VRAC Vranov 20.41 310 P P 03 21 44.3 +0.3
VRAC pmax pmax
comp=Z,2.0nm,0.3s
VRAC pmax pmax
comp=Z,74nm,18.6s
HOQ Hoqain 20.50 132 P Pn 03 21 47.0 -0.4
SNR=10
HOQ Hoqain 20.50 132 P Pn 03 21 47.0 -0.4
SNR=10
HOQ Hoqain 20.50 132 P Pn 03 21 47.0 -0.3
SNR=10
SOKA Soboth 20.57 302 *i* P Pn 03 21 47.2 -0.9
comp=Z,15nm,1.4s
KRLC Kraliky 20.61 312 *e*P Pn 03 21 47.6 -0.9
KRLC *e*pP sP 03 21 50.3 +1.5
KRLC Kraliky 20.61 312 *e*P Pn 03 21 47.6 -0.9
KRLC *e* 03 21 50.3
VAE Valguarnera 20.77 275 P P 03 21 49.3 +1.1
comp=Z,24nm,1.0s,baz=13,slow=10,SNR=11
OBKA Obir 20.85 301 *i* P Pn 03 21 52.4 +1.0
comp=Z,19nm,1.2s,SNR=8.1
DPC Dobruska-Polom 20.99 312 *e*P P 03 21 51.4 +1.0
DPC *e*pP Pn 03 21 54.7 +1.7
DPC Dobruska-Polom 20.99 312 *e*P P 03 21 51.4 +1.0
DPC *e* 03 21 54.7
BIDO Bidbid 21.03 130 P P 03 21 53.0 +2.1
SNR=10
BIDO Bidbid 21.03 130 P P 03 21 53.0 +2.1
SNR=10
WDD Wied Dalam 21.05 271 *e*P P 03 21 51.3 +0.2
comp=Z,47nm,1.0s
WDD Wied Dalam 21.05 271 *e*P P 03 21 51.3 +0.2
comp=Z,47nm,1.0s
TREC Trest 21.07 309 *e*P P 03 21 52.2 +0.9
TREC Trest 21.07 309 *e*P P 03 21 52.2 +0.9
BSY Bisya 21.08 133 P P 03 21 52.1 +0.5
SNR=18
BSY Bisya 21.08 133 P P 03 21 52.1 +0.5
SNR=18
AQU L'Aquila 21.14 289 *e*P P 03 21 52.8 +0.7
comp=Z,24nm,1.0s
AQU L'Aquila 21.14 289 *e*P P 03 21 52.8 +0.7
comp=Z,24nm,1.0s
AQU L'Aquila 21.14 289 *e*P P 03 21 52.8 +0.7
AQU pmax pmax
comp=Z,24nm,1.0s
KSP Ksiaz 21.22 313 *e*P P 03 21 53.7 +0.9
KSP Ksiaz 21.22 313 *e*P P 03 21 53.7 +0.9
TRI Trieste 21.22 299 *e*P P 03 21 53.8 +1.0
comp=Z,19nm,1.1s
TRI Trieste 21.22 299 *e*P P 03 21 53.8 +1.0
comp=Z,19nm,1.1s
TRI Trieste 21.22 299 *e*P P 03 21 53.8 +1.0
TRI pmax pmax
comp=Z,19nm,1.1s
UPC Upice 21.24 312 *e*P P 03 21 57.2 +4.2
UPC Upice 21.24 312 *e*P P 03 21 57.2 +4.2
KLNR Kaliningrad 21.30 326⇓*e*P P 03 21 53.3 -0.3
KLNR pmax pmax
comp=Z,92nm,1.0s
SMDO Samad 21.33 131 P P 03 21 55.0 +0.7
SNR=13
SMDO Samad 21.33 131 P P 03 21 55.0 +0.7
SNR=13
MOA Molln 21.38 304 *i* P P 03 21 56.1 +1.5
comp=Z,17nm,1.1s,SNR=12
ARU Arti 21.49 28 P P 03 21 55.3 -0.3
comp=Z,3.7nm,0.5s,baz=229,slow=7.4,SNR=15
ARU LR LR 03 32 22.2
comp=Z,320nm,18.7s,baz=213,slow=43
ARU Arti 21.49 28 *e*P P 03 21 56.4 +0.7
comp=Z,16nm,0.9s
ARU Arti 21.49 28*d i*P P 03 21 56.6 +1.0
ARU 03 22 15.5
ARU S S 03 25 55.4 +1.4
ARU pmax pmax
comp=Z,29nm,1.2s
ARU MLR MLR
comp=Z,340nm,20.0s
MYKA Terra Mystica 21.49 301 *i* P P 03 21 58.8 +3.0
comp=Z,12nm,1.1s
WSAR Wadi Sarin 21.54 130 P P 03 21 56.1 -0.4
comp=Z,31nm,1.0s,baz=335,slow=8.9,SNR=21
WSAR LR LR 03 31 39.1
comp=Z,326nm,18.7s,baz=334,slow=41
CLTB Caltabellotta 21.69 276 *e*P P 03 21 58.5 +0.5
comp=Z,3.6nm,0.5s
CLTB Caltabellotta 21.69 276 *e*P P 03 21 58.5 +0.5
comp=Z,3.6nm,0.5s
GOPC GO Pecny, Ondr 21.72 310 *e*P P 03 21 59.4 +1.2
GOPC *e*pP sP 03 22 02.0 +1.2
GOPC GO Pecny, Ondr 21.72 310 *e*P P 03 21 59.4 +1.2

GOPC *e* 03 22 02.0
KBA Koelnbreinsper 21.79 302 *i* pP **P** **03 22 00.5 +1.4**
comp=Z,34nm,1.0s,SNR=20
KBA Koelnbreinsper 21.79 302 P **P** **03 22 00.7 +1.6**
KBA pmax pmax
comp=Z,34nm,1.1s
JMDO Jabal Madar 21.89 132 P **P** **03 22 02.0 +1.7**
SNR=11
JMDO Jabal Madar 21.89 132 P **P** **03 22 02.0 +1.7**
SNR=11
PRU Pruhonice 21.90 310 *e*P **P** **03 22 01.2 +1.1**
PRU Pruhonice 21.90 310 *e*P **P** **03 22 01.2 +1.1**
GKP Gorka Klasztor 21.91 320 *e*P **P** **03 22 01.1 +0.9**
GKP Gorka Klasztor 21.91 320 *e*P **P** **03 22 01.0 +0.9**
VSU Vasula 21.95 340⇓ *i* P **P** **03 22 00.4 -0.1**
VSU pmax pmax
comp=Z,109nm,1.1s
GEA0 GERESS Array S 22.02 307 *e*P **P** **03 22 01.3 -0.3**
GEC2 GERESS Array S 22.03 307 *e*P **P** **03 22 02.0 +0.4**
comp=Z,12nm,1.0s
GEC2 GERESS Array S 22.03 307 *e*P **P** **03 22 02.0 +0.4**
GEC2 pmax pmax
comp=Z,12nm,1.0s
GERES GERESS Array B 22.03 307 P **P** **03 22 01.7 0.0**
comp=Z,4.9nm,0.9s,baz=113,slow=10,SNR=28
GERES PcP **PcP** **03 25 59.0 -0.6**
comp=Z,0.9nm,0.8s,baz=90,slow=0.1,SNR=5.2
GERES LR LR 03 31 34.5
comp=Z,65nm,18.7s,baz=95,slow=40
PVCC Panska Ves 22.09 311 *e*P **P** **03 22 03.6 +1.5**
PVCC Panska Ves 22.09 311 *e*P **P** **03 22 03.6 +1.5**
KHC Kasperske Hory 22.19 307 *e*P **P** **03 22 03.8 +0.5**
KHC Kasperske Hory 22.19 307 *e*P **P** **03 22 03.5 +0.2**
comp=Z,2.6nm,1.1s
KHC Kasperske Hory 22.19 307 *e*P **P** **03 22 03.6 +0.2**
KHC pmax pmax
comp=Z,3.0nm,1.1s
ABTA Abfaltersbach 22.27 301 P **P** **03 22 06.3 +2.1**
comp=Z,15nm,1.0s,SNR=7.8
ABTA Abfaltersbach 22.27 301 *i* P **P** **03 22 06.3 +2.1**
comp=Z,15nm,1.0s,SNR=7.8
PUL Pulkovo 22.30 346 *ce*P **P** **03 22 05.8 +1.5**
PUL pmax pmax
comp=Z,86nm,0.5s
KLMR Klimovskoe 22.39 358 *e*P **P** **03 22 02.9 -2.4**
KLMR AMP 03 22 11.1
comp=Z,160nm,1.4s
KLMR *e*PcP **PcP** **03 25 59.1 -0.8**
KLMR LQ LQ 03 29 02.9
KLMR LQ LQ 03 29 02.9
KLMR LR LR 03 30 24.6
KLMR Klimovskoe 22.39 358 *e*P **P** **03 22 02.9 -2.4**
KLMR *e* 03 25 59.0
KLMR pmax pmax
comp=Z,160nm,1.4s
SVE Sverdlovsk 22.56 29⇓ *e*P **P** **03 22 08.7 +1.6**
SVE pmax pmax
comp=Z,30nm,1.4s
BRG Berggiesshubel 22.59 312 *e*P **P** **03 22 08.2 +0.7**
comp=Z,11nm,1.1s
BRG Berggiesshubel 22.59 312 *e*P **P** **03 22 08.2 +0.7**
BRG pmax pmax
comp=Z,11nm,1.1s
KK31 Karatay Array 22.92 69 *e*P **P** **03 22 12.3 +1.2**
KK31 Karatay Array 22.92 69 *i* P **P** **03 22 11.9 +0.8**
KK31 pmax pmax
comp=Z,10.0nm,0.9s
KKAR Karatay Array 22.92 69 *e*P **P** **03 22 12.3 +1.2**
comp=Z,28nm,1.1s
KKAR Karatay Array 22.92 69 *e*P **P** **03 22 12.3 +1.2**
KKAR pmax pmax
comp=Z,28nm,1.1s
WTTA Wattenberg 22.96 302 P **P** **03 22 12.8 +1.1**
comp=Z,25nm,1.1s,SNR=9.7
WTTA Wattenberg 22.96 302 *i* P **P** **03 22 12.8 +1.1**
comp=Z,25nm,1.1s,SNR=9.7
WATA Walderalm 23.02 302 *i* P **P** **03 22 13.0 +0.8**
comp=Z,49nm,1.2s,SNR=6.4
KBL Kabul 23.03 91 *e*P **P** **03 22 14.7 +2.2**
comp=Z,31nm,1.1s
KBL Kabul 23.03 91 *e*P **P** **03 22 14.7 +2.2**
comp=Z,31nm,1.1s
KBL Kabul 23.03 91 *e*P **P** **03 22 14.7 +2.2**
KBL pmax pmax
comp=Z,31nm,1.1s
NKC Novy Kostel 23.25 309 *e*P **P** **03 22 14.7 +0.3**
NKC Novy Kostel 23.25 309 *e*P **P** **03 22 14.7 +0.3**
CLL Collm 23.30 312 *e*(sP) **P** **03 22 15.0 +0.1**
comp=Z,35nm,1.1s
CLL *i* 03 22 20.8
CLL LmV 04 25 00.0
comp=Z,200nm,18.2s
CLL Collm 23.30 312 *e*P **P** **03 22 15.4 +0.6**
comp=Z,30nm,1.1s
CLL Collm 23.30 312 *e*P **P** **03 22 15.0 +0.1**
CLL *i* 03 22 20.8
CLL pmax pmax
comp=Z,35nm,1.1s
MOTA Moosalm 23.34 302 *i* P **P** **03 22 14.9 -0.5**
comp=Z,27nm,0.9s,SNR=21
VLC Villacollemand 23.42 294 *e*P **P** **03 22 15.9 -0.3**
comp=Z,18nm,1.2s
VLC Villacollemand 23.42 294 *e*P **P** **03 22 15.9 -0.3**
comp=Z,18nm,1.2s
FETA Feichten 23.52 301 *i* P **P** **03 22 18.0 +0.6**
comp=Z,12nm,1.0s,SNR=8.1
RETA Reutte 23.59 302 P **P** **03 22 17.4 -0.5**
comp=Z,7.3nm,0.9s
RETA Reutte 23.59 302 *i* P **P** **03 22 17.4 -0.5**
comp=Z,7.3nm,0.9s
FUORN Ofenpass-Fuorn 23.77 300 *e*P **P** **03 22 22.0 +2.1**
comp=Z,24nm,1.1s
FUORN Ofenpass-Fuorn 23.77 300 *e*P **P** **03 22 22.0 +2.1**
comp=Z,24nm,1.1s
GRF Grafenberg Arr 23.83 308 P **P** **03 22 20.7 +0.5**
GRF pmax pmax
comp=Z,39nm,1.0s
GRFO Grafenberg 23.83 308 *e*P **P** **03 22 20.7 +0.6**
comp=Z,35nm,1.0s
GRFO Grafenberg 23.83 308 *e*P **P** **03 22 20.7 +0.6**
comp=Z,35nm,1.0s
GRFO Grafenberg 23.83 308 *e*P **P** **03 22 20.7 +0.6**
GRFO pmax pmax
comp=Z,35nm,1.0s
MOX Moxa 23.89 310 P **P** **03 22 22.4 +1.7**
MOX pmax pmax
comp=Z,6.0nm,1.0s
BSD Bornholm Skovb 24.06 322 *i* P **P** **03 22 22.9 +0.7**
comp=Z,43nm,1.2s
BSD Bornholm Skovb 24.06 322 *i* P **P** **03 22 22.9 +0.7**
BSD pmax pmax
comp=Z,43nm,1.2s
DAVA Damuels 24.14 301 P **P** **03 22 23.3 0.0**
comp=Z,16nm,1.3s
DAVA Damuels 24.14 301 *i* P **P** **03 22 23.3 0.0**
comp=Z,16nm,1.3s
TUE Stuetta 24.38 299 *e*P **P** **03 22 26.1 +0.6**
comp=Z,8.8nm,1.1s
RGN Rugen 24.56 320 *e*P **P** **03 22 27.8 +1.1**
comp=Z,35nm,1.1s
FIA1 FINESS Array S 24.72 343 *e*P **P** **03 22 28.8 +0.6**
comp=Z,32nm,1.0s
FINES FINESS Array B 24.72 343 P **P** **03 22 27.7 -0.5**
comp=Z,32nm,1.1s,baz=152,slow=8.6,SNR=26
STU Stuttgart 24.88 305 *e*P **P** **03 22 29.7 -0.1**
STU Stuttgart 24.88 305 *e*P **P** **03 22 29.7 -0.1**
BRVK Borovoye 24.99 45 *e*P **P** **03 22 30.6 -0.2**
comp=Z,10nm,0.9s
BRVK Borovoye 24.99 45 P **P** **03 22 31.9 +1.2**
SNR=7.4
BRVK Borovoye 24.99 45 P **P** **03 22 31.9 +1.2**
SNR=7.4
BRVK Borovoye 24.99 45⇓ *i* P **P** **03 22 31.0 +0.3**
BRVK pmax pmax
comp=Z,17nm,1.2s
BVA0 Borovoye Array 25.04 45 P **P** **03 22 30.6 -0.5**
BVAR Borovoye Array 25.04 45 P **P** **03 22 30.6 -0.5**
comp=Z,5.1nm,0.9s,baz=232,slow=7.3,SNR=24
BVAR LR LR 03 34 09.1
comp=Z,279nm,20.2s,baz=250,slow=41
KEST Kesra 25.14 273 P **P** **03 22 34.2 +1.8**
comp=Z,68nm,1.0s,baz=2.0,slow=2.8,SNR=49
KEST Kesra 25.14 273 *e*P **P** **03 22 34.0 +1.7**
comp=Z,115nm,1.1s
KEST Kesra 25.14 273 *e*P **P** **03 22 34.0 +1.7**
comp=Z,115nm,1.1s

AML Almayashu 25.28 71 P **P** **03 22 35.0 +1.0**
SNR=6.1
EKS2 Erkin-Say 25.32 70 P **P** **03 22 35.8 +1.8**
SNR=14
BFO Black Forest 25.36 303 *e*P **P** **03 22 34.5 +0.3**
comp=Z,5.1nm,1.1s
BFO Black Forest 25.36 303 *e*P **P** **03 22 34.5 +0.3**
BFO pmax pmax
comp=Z,5.0nm,1.1s
LLD Lille Linde 25.50 321 *i* P P 03 22 44.8 +10
comp=Z,26nm,1.0s
LLD Lille Linde 25.50 321 *e*P P 03 22 44.8 +10
LLD pmax pmax
comp=Z,26nm,1.0s
SBF Sospel 25.54 293 *e*P **P** **03 22 37.2 +1.3**
SBF pmax pmax
comp=Z,32nm,1.0s
COP Copenhagen 25.57 321 *i* P **P** **03 22 38.6 +2.7**
comp=Z,26nm,1.0s
COP Copenhagen 25.57 321 *e*P **P** **03 22 38.6 +2.7**
COP pmax pmax
comp=Z,26nm,1.0s
SENIN Lac Senin/Sane 25.77 299 *e*P **P** **03 22 38.2 0.0**
comp=Z,11nm,0.9s
SENIN Lac Senin/Sane 25.77 299 *e*P **P** **03 22 38.2 0.0**
comp=Z,11nm,0.9s
AAK Ala-Archa 25.85 70 P **P** **03 22 39.4 +0.5**
comp=Z,3.3nm,0.9s,baz=246,slow=11,SNR=13
AAK PcP **PcP** **03 26 09.3 +1.3**
comp=Z,0.8nm,0.3s,baz=252,slow=3.2,SNR=4.4
AAK LR LR 03 34 45.1
comp=Z,140nm,18.8s,baz=270,slow=41
AAK Ala-Archa 25.85 70 P **P** **03 22 40.1 +1.2**
SNR=6.5
AAK Ala-Archa 25.85 70 *e*P **P** **03 22 40.1 +1.2**
comp=Z,7.3nm,1.0s
AAK *e*PcP **PcP** **03 26 07.8 -0.1**
AAK Ala-Archa 25.85 70 P **P** **03 22 40.3 +1.4**
SNR=7.3
AAK Ala-Archa 25.85 70 P **P** **03 22 40.3 +1.4**
SNR=7.3
AAK Ala-Archa 25.85 70 *i* P **P** **03 22 39.6 +0.8**
SNR=7.8
AAK Ala-Archa 25.85 70 *i* P **P** **03 22 39.8 +0.9**
FRU Bishkek 25.94 70 *e*P **P** **03 22 42.0 +2.5**
comp=Z,80nm,1.8s
FRU Bishkek 25.94 70⇓ *e*P **P** **03 22 42.0 +2.5**
FRU pmax pmax
comp=Z,80nm,1.8s
CHMS Chumysh 26.03 69 P **P** **03 22 41.3 +1.0**
SNR=5.1
MBDF Montbardon 26.03 295 *e*P **P** **03 22 41.4 +0.9**
comp=Z,11nm,0.8s
MBDF Montbardon 26.03 295 *e*P **P** **03 22 41.4 +0.9**
MBDF pmax pmax
comp=Z,11nm,0.8s
CDF Champ du Feu 26.06 303 *e*P **P** **03 22 40.3 -0.3**
CDF pmax pmax
comp=Z,6.0nm,0.9s
LPG La Plagne 26.08 297 *e*P **P** **03 22 40.8 -0.3**
comp=Z,14nm,1.3s
LPG La Plagne 26.08 297 *e*P **P** **03 22 40.8 -0.3**
LPG pmax pmax
comp=Z,14nm,1.3s
ECH Echery 26.11 303 *e*P **P** **03 22 40.6 -0.4**
comp=Z,10.0nm,1.0s
ECH Echery 26.11 303 *e*P **P** **03 22 40.6 -0.4**
ECH pmax pmax
comp=Z,10.0nm,1.0s
BNI Bardonecchia 26.11 296 *e*P **P** **03 22 40.2 -0.9**
comp=Z,24nm,1.1s
BNI Bardonecchia 26.11 296 *e*P **P** **03 22 40.3 -0.9**
comp=Z,24nm,1.1s
BNI Bardonecchia 26.11 296 *e*P **P** **03 22 40.3 -0.9**
BNI pmax pmax
comp=Z,24nm,1.1s
KBK Karagaybulak 26.19 70 P **P** **03 22 43.3 +1.4**
SNR=7.0
HINF Hinteralfeld 26.25 302 *e*P **P** **03 22 42.7 +0.4**
HINF pmax pmax
comp=Z,6.0nm,1.0s
KZA Kyzart 26.44 71 P **P** **03 22 45.6 +1.1**
SNR=6.3
NIL Nilore 26.62 90 *e*P **P** **03 22 45.4 -0.3**
NIL Nilore 26.62 90 *e*P **P** **03 22 45.4 -0.3**
NIL Nilore 26.62 90 *e*P **P** **03 22 45.4 -0.3**
CABF La Chapelle 26.63 299 *e*P **P** **03 22 45.8 0.0**
CABF pmax pmax
comp=Z,39nm,1.0s
TKM2 Tokmak 2 26.65 69 P **P** **03 22 47.3 +1.2**
SNR=6.8
ATD Arta Tunnel 26.92 175 LR LR 03 32 53.1
comp=Z,206nm,20.1s,baz=348,slow=35
WLF Walferdange 27.02 306 ⇑P **P** **03 22 49.3 +0.2**
comp=Z,13nm,1.1s
WLF Walferdange 27.02 306 *e*P **P** **03 22 49.7 +0.6**
comp=Z,17nm,1.0s
WLF Walferdange 27.02 306 *e*P **P** **03 22 49.7 +0.6**
WLF pmax pmax
comp=Z,17nm,1.0s
NRN Naryn 27.05 73 P **P** **03 22 51.7 +1.8**
NRN pmax pmax
comp=Z,11nm,1.1s
KSH Kashi 27.28 77 P **P** **03 22 51.0 -0.7**
MEM Membach 27.31 308 ⇑P **P** **03 22 51.5 -0.2**
MUD Monsted U'grnd 27.54 321 *i* P **P** **03 22 55.2 +1.5**
MUD Monsted U'grnd 27.54 321 *e*P **P** **03 22 55.2 +1.5**
HFS Hagfors 27.58 331 P **P** **03 22 53.7 -0.3**
comp=Z,7.6nm,0.8s,baz=130,slow=10,SNR=12
HFS LR LR 03 36 03.3
comp=Z,83nm,19.3s,baz=124,slow=41
SSB Saint Sauveur 27.63 296 *e*P **P** **03 22 54.4 -0.3**
comp=Z,6.3nm,1.1s
SSB Saint Sauveur 27.63 296 *e*P **P** **03 22 54.4 -0.3**
SSB pmax pmax
comp=Z,6.0nm,1.1s
AVF Avril sur Loir 28.52 299 *e*P **P** **03 23 01.9 -0.7**
AVF pmax pmax
comp=Z,13nm,1.0s
NB2 NORSAR Subarra 29.10 330 P **P** **03 23 07.7 +0.1**
comp=Z,14nm,0.6s,baz=127,slow=9.3
NOA NORSAR Array B 29.10 330 P **P** **03 23 06.3 -1.3**
comp=Z,3.2nm,0.8s,baz=128,slow=9.0,SNR=8.1
NOA LR LR 03 37 21.5
comp=Z,53nm,18.0s,baz=135,slow=42
KURBB Kurchatov Arra 29.19 53 P **P** **03 23 09.3 +0.7**
comp=Z,2.2nm,0.2s,baz=268,slow=9.4,SNR=36
KURBB PcP **PcP** **03 26 15.7 0.0**
comp=Z,1.8nm,0.8s,baz=261,slow=3.4,SNR=7.5
KURK Kurchatov 29.27 53 *e*P **P** **03 23 10.2 +1.1**
comp=Z,14nm,1.1s
KURK PcP **PcP** **03 26 15.7 -0.1**
KURK Kurchatov 29.27 53 P **P** **03 23 10.5 +1.3**
SNR=9.2
KURK Kurchatov 29.27 53 P **P** **03 23 10.5 +1.3**
SNR=9.2
KURK Kurchatov 29.27 53 *e*P **P** **03 23 10.2 +1.1**
KURK 03 26 15.7
KURK pmax pmax
comp=Z,14nm,1.1s
RJF Les Rejaudoux 29.77 296 *e*P **P** **03 23 13.8 +0.1**
RJF pmax pmax
comp=Z,28nm,1.5s
MFF Saint Martin d 30.92 299 *e*P **P** **03 23 22.8 -1.0**
MFF pmax pmax
comp=Z,108nm,2.3s
MAKZ Makanchi 31.13 61 *e*P **P** **03 23 26.1 +0.3**
comp=Z,4.9nm,1.1s
MAKZ Makanchi 31.13 61 *e*P **P** **03 23 26.1 +0.3**
MAKZ pmax pmax
comp=Z,5.0nm,1.1s
FLN La Foliniere 31.22 303 *e*P **P** **03 23 25.1 -1.3**
FLN pmax pmax
comp=Z,112nm,2.2s
MK31 Makanchi Array 31.35 61 *e*P **P** **03 23 28.7 +1.0**
MK31 Makanchi Array 31.35 61 *e*P **P** **03 23 28.7 +1.0**
MKAR Makanchi Array 31.35 61 P **P** **03 23 28.4 +0.7**
comp=Z,3.7nm,0.8s,baz=274,slow=7.1,SNR=26
MKAR PcP **PcP** **03 26 21.9 +0.5**
comp=Z,1.8nm,1.0s,baz=341,slow=3.1,SNR=4.9
MKAR LR LR 03 38 42.4
comp=Z,90nm,20.2s,baz=246,slow=41
MKAR Makanchi Array 31.35 61 *e*P **P** **03 23 28.7 +1.0**
comp=Z,30nm,1.0s
MKAR PcP **PcP** **03 26 21.9 +0.5**
MKAR Makanchi Array 31.35 61 *e*P **P** **03 23 28.7 +1.0**

MKAR 03 26 21.9
MKAR pmax pmax
comp=Z,30nm,1.0s
MK01 Makanchi Array 31.36 61 *e*P **P** **03 23 27.0 -0.8**
GRR Gorron 31.45 302 P **P** **03 23 27.3 -1.2**
GRR pmax pmax
comp=Z,19nm,1.1s
ARCES ARCESS Array B 32.16 350 P **P** **03 23 34.3 -0.2**
comp=Z,4.7nm,0.8s,baz=157,slow=8.0,SNR=20
ARCES LR LR 03 38 06.6
comp=Z,32nm,19.6s,baz=144,slow=39
ARCES ARCESS Array B 32.16 350 *e*P **P** **03 23 34.5 0.0**
ARCES ARCESS Array B 32.16 350 *e*P **P** **03 23 34.5 0.0**
NVS Novosibirsk 32.81 46 *i* P **P** **03 23 41.6 +1.3**
QUIF Quistinic 32.98 301 *e*P **P** **03 23 40.9 -1.0**
ROSF Rostrenen 33.06 302 *e*P **P** **03 23 41.6 -1.0**
ROSF pmax pmax
comp=Z,71nm,1.8s
ZALV Zalesovo Beam 33.56 48 P **P** **03 23 46.4 -0.4**
comp=Z,1.2nm,0.3s,baz=263,slow=10.0,SNR=3.5
ZALV LR LR 03 39 21.9
comp=Z,113nm,20.4s,baz=229,slow=40
EKA Eskdalemuir Ar 33.73 314 P **P** **03 23 48.2 -0.1**
comp=Z,2.5nm,0.6s,baz=95,slow=8.6,SNR=9.6
ESK Eskdalemuir 33.75 314 *e*P **P** **03 23 49.4 +0.9**
comp=Z,11nm,0.9s
ESK Eskdalemuir 33.75 314 *e*P **P** **03 23 49.4 +0.9**
ESK pmax pmax
comp=Z,11nm,0.9s
TAM Tamanrasset 33.88 253 *e*P **P** **03 23 51.3 +1.1**
comp=Z,14nm,1.0s
TAM Tamanrasset 33.88 253 *e*P **P** **03 23 51.3 +1.1**
comp=Z,14nm,1.0s
TAM Tamanrasset 33.88 253 *e*P **P** **03 23 51.3 +1.1**
TAM pmax pmax
comp=Z,14nm,1.0s
ES19 SONSECA Array 34.41 286 *e*P **P** **03 23 53.8 -0.8**
ESDC Sonseca Array 34.47 286 P **P** **03 23 54.2 -0.8**
comp=Z,4.4nm,0.9s,baz=67,slow=9.0,SNR=24
ESDC PcP **PcP** **03 26 29.4 -0.8**
comp=Z,0.2nm,0.5s,baz=33,slow=3.1,SNR=4.1
ESLA Sonseca Array 34.47 286 *e*P **P** **03 23 54.8 -0.2**
comp=Z,5.0nm,0.9s
ESLA Sonseca Array 34.47 286 *e*P **P** **03 23 54.8 -0.2**
comp=Z,5.0nm,0.9s
DGZ Jazzator, Alta 34.81 56 *i* P **P** **03 23 58.7 +0.7**
DGZ pmax pmax
comp=Z,7.0nm,1.2s
WMQ Urumqi 35.36 66 P **P** **03 24 04.5 +1.8**
WMQ pmax pmax
comp=Z,29nm,1.9s
WMQ pmax pmax
comp=Z,230nm,3.7s
MVO Moncorvo 36.44 290 *e*P **P** **03 24 11.2 -0.8**
PYUN Piuthan 36.51 94 *e*P **P** **03 24 13.3 +0.4**
comp=Z,43nm,0.8s
PVRL Vila Real 36.92 290 *e*P **P** **03 24 15.8 -0.3**
MTE Manteigas 36.98 289 *e*P **P** **03 24 16.9 +0.3**
DANN Dangsing 37.00 93 *e*P **P** **03 24 18.1 +0.9**
PCBR Castelo Branco 37.06 288 *e*P **P** **03 24 17.3 +0.1**
PMRV Marv??o 37.10 287 *e*P **P** **03 24 16.4 -1.2**
KOLN Koldanda 37.14 94 *e*P **P** **03 24 18.5 +0.2**
comp=Z,40nm,1.0s
PBAR Barrancos 37.16 285 *e*P **P** **03 24 17.9 -0.2**
PVIS Viseu 37.17 289 *e*P **P** **03 24 16.7 -1.5**
PESTR Estremoz 37.39 286 *e*P **P** **03 24 19.8 -0.3**
PESTR Estremoz 37.39 286 *e*P **P** **03 24 19.5 -0.5**
comp=Z,6.3nm,1.0s
PTOM Tomar 37.82 288 *e*P **P** **03 24 23.9 +0.3**
PBEJ Beja 37.83 285 *e*P **P** **03 24 23.8 +0.1**
GKN Gorkha 37.84 93 *e*P **P** **03 24 24.5 +0.3**
PVAQ Vaqueiros 37.89 284 *e*P **P** **03 24 23.8 -0.5**
PCVE Castro Verde 38.07 284 *e*P **P** **03 24 24.9 -0.9**
PBDV Barranco-do-Ve 38.10 284 *e*P **P** **03 24 26.3 +0.2**
DMN Daman 38.40 93 *e*P **P** **03 24 29.4 +0.5**
comp=Z,161nm,1.4s
KKN Kakani 38.45 93 *e*P **P** **03 24 29.3 0.0**
PKIN Phulchoki 38.64 93 *e*P **P** **03 24 31.2 +0.2**
comp=Z,67nm,1.2s
GUN Gumba 38.86 92 *e*P **P** **03 24 33.2 +0.2**
comp=Z,139nm,1.2s
JIRN Jiri 39.22 92 *e*P **P** **03 24 36.3 +0.3**
comp=Z,71nm,1.1s
KMBO Kilima Mbogo 39.56 186 LR LR 03 41 06.6
comp=Z,136nm,19.9s,baz=350,slow=36
RAMN Ramite 39.88 93 *e*P **P** **03 24 41.4 +0.1**
comp=Z,162nm,1.4s
ODAN Odare 40.54 92 *e*P **P** **03 24 47.3 +0.5**
comp=Z,132nm,1.3s
SPA0 Spitsbergen Ar 41.07 353 *e*P **P** **03 24 52.1 +1.8**
SPITS Spitsbergen Ar 41.07 353 P **P** **03 24 50.4 +0.1**
comp=Z,9.1nm,0.8s,baz=159,slow=5.6,SNR=15
SPITS LR LR 03 44 56.1
comp=Z,60nm,18.0s,baz=110,slow=41
TOA0 Torodi Ar. Sit 42.81 245 *e*P **P** **03 25 04.3 -0.9**
comp=Z,17nm,1.0s
TORD Torodi Ar. Bea 42.81 245 P **P** **03 25 04.1 -1.1**
comp=Z,13nm,1.0s,baz=49,slow=7.7,SNR=55
TORD PcP **PcP** **03 26 54.6 -1.9**
comp=Z,2.5nm,1.0s,baz=42,slow=3.7,SNR=5.0
TORD LR LR 03 46 09.2
comp=Z,67nm,18.9s,baz=140,slow=41
BORG Borgarnes 44.15 327 LR LR 03 44 49.8
comp=Z,36nm,18.4s,baz=255,slow=38
ZAK Zakamensk 44.92 54 *e*P **P** **03 25 22.5 +0.5**
ZAK *e* 03 27 03.5
ZAK pmax pmax
comp=Z,3.0nm,1.5s
TLY Talaya 44.95 52 *e*P **P** **03 25 21.7 -0.3**
comp=Z,4.4nm,1.0s
TLY Talaya 44.95 52 *e*P **P** **03 25 17.5 -4.5**
TLY pmax pmax
comp=Z,6.0nm,1.3s
TLY MLR MLR
comp=Z,138nm,17.0s
SCO Scoresbysund 45.19 335 *e*P **P** **03 25 26.0 +2.4**
comp=Z,8.8nm,1.1s
SCO Scoresbysund 45.19 335 *e*P **P** **03 25 26.0 +2.4**
SCO pmax pmax
comp=Z,9.0nm,1.1s
GTA Gaotai 45.20 69 P **P** **03 25 25.5 +1.1**
GTA pP sP 03 25 30.8 +3.7
GTA sP pP 03 25 34.3 +8.0
GTA S **S** **03 32 06.5 +1.8**
GTA sS sS 03 32 14.0 +6.1
GTA pmax pmax
comp=Z,10.0nm,1.4s
GTA pmax pmax
comp=Z,74nm,4.1s
GTA LR LR
comp=Z,100nm,14.7s
GTA LR LR
comp=Z,100nm,15.2s
KOWA Kowa 46.08 251 P **P** **03 25 31.4 0.0**
comp=Z,14nm,1.0s,baz=48,slow=5.5,SNR=25
KOWA LR LR 03 49 55.7
comp=Z,43nm,18.1s,baz=35,slow=43
KOWA Kowa 46.08 251 *e*P **P** **03 25 31.3 -0.1**
comp=Z,17nm,1.0s
SONM Songino Array 47.45 56 P **P** **03 25 42.5 +0.6**
comp=Z,0.7nm,0.6s,baz=292,slow=7.6,SNR=5.4
SONM PcP **PcP** **03 27 12.0 -0.2**
comp=Z,0.9nm,0.6s,baz=259,slow=4.1,SNR=5.7
SONM LR LR 03 48 07.1
comp=Z,269nm,18.8s,baz=282,slow=39
SONA1 Songino Array 47.45 56 *e*P **P** **03 25 42.6 +0.6**
SONA1 *e*PcP **PcP** **03 27 12.1 -0.2**
ULN Ulaanbaatar 47.87 56 *e*P **P** **03 25 45.8 +0.6**
comp=Z,14nm,1.1s
ULN Ulaanbaatar 47.87 56 P **P** **03 25 46.3 +1.0**
SNR=7.1
ULN Ulaanbaatar 47.87 56 P **P** **03 25 46.3 +1.0**
SNR=7.1
ULN Ulaanbaatar 47.87 56 *ce*P **P** **03 25 45.9 +0.6**
ULN pmax pmax
comp=Z,16nm,1.1s
LZH Lanzhou 49.36 72 *e*P **P** **03 25 56.5 -0.4**
LZH pP sP 03 25 59.8 +0.2
LZH sP pP 03 26 01.5 +2.7
LZH SS SS 03 36 25.5 -10
LZH pmax pmax
comp=Z,29nm,1.1s
LZH pmax pmax
comp=Z,130nm,4.6s
LZH LR LR
comp=Z,180nm,14.1s

LZH LR LR
comp=Z,250nm,14.1s
LZH LR LR
comp=Z,240nm,16.4s
BOD Bodaibo 49.85 42 *e*P **P 03 25 58.9 -1.2**
BOD pmax pmax
comp=Z,24nm,1.4s
DBIC Dimbokro 51.92 244 P **P 03 26 14.7 -1.5**
comp=Z,8.5nm,0.8s,baz=48,slow=8.2,SNR=9.6
DBIC LR LR 03 52 07.2
comp=Z,69nm,18.2s,baz=42,slow=40
DBIC Dimbokro 51.92 244 *e*P **P 03 26 14.3 -1.9**
comp=Z,11nm,0.8s
DBIC Dimbokro 51.92 244 *e*P **P 03 26 14.3 -1.9**
DBIC pmax pmax
comp=Z,11nm,0.8s
TIC Toumodi 52.06 245 *e*P **P 03 26 15.7 -1.5**
KIC Kosan Boka 52.06 244 *e*P **P 03 26 15.5 -1.7**
comp=Z,37nm,1.0s
LIC Lamto 52.36 244 *e*P **P 03 26 18.8 -0.6**
comp=Z,51nm,1.0s
HHC Hu-ho-hao-te 53.16 64 *e*P **P 03 26 26.8 +1.6**
HHC PP **PP 03 28 28.0 +3.1**
HHC S **S 03 33 55.8 -0.5**
HHC ScS **ScS 03 36 14.5 -1.0**
HHC pmax pmax
comp=Z,29nm,1.3s
HHC pmax pmax
comp=Z,60nm,6.6s
HHC LR LR
comp=Z,600nm,15.8s
HHC LR LR
comp=Z,570nm,16.3s
HHC LR LR
comp=Z,650nm,15.6s
TIXI Tiksi 53.40 23 P **P 03 26 26.1 -0.3**
comp=Z,1.4nm,0.3s,baz=308,slow=0.7,SNR=3.6
TIXI Tiksi 53.40 23 *e*P **P 03 26 26.6 +0.3**
comp=Z,10.0nm,1.1s
TIXI Tiksi 53.40 23 ⇓*i*P **P 03 26 26.9 +0.5**
TIXI pmax pmax
comp=Z,9.0nm,1.0s
KMI Kunming 53.42 85 P **P 03 26 28.0 +0.5**
KMI pmax pmax
comp=Z,20nm,1.0s
KMI pmax pmax
comp=Z,84nm,5.9s
CHTO Chiang Mai 53.80 94 *e*P **P 03 26 28.2 -1.9**
comp=Z,15nm,1.1s
CHTO Chiang Mai 53.80 94 *e*P **P 03 26 28.2 -1.9**
CHTO pmax pmax
comp=Z,15nm,1.1s
XAN Xi'an 54.00 72 P **P 03 26 31.0 -0.4**
XAN pmax pmax
comp=Z,16nm,1.1s
XAN pmax pmax
comp=Z,51nm,3.5s
CMAR Chiang Mai Arr 54.00 94 P **P 03 26 31.2 -0.4**
comp=Z,4.0nm,0.8s,baz=311,slow=7.1,SNR=8.7
CMAR PP **PP 03 28 31.2 -1.7**
comp=Z,1.1nm,0.3s,baz=289,slow=8.2,SNR=4.8
LSZ Lusaka 54.77 195 *e*P **P 03 26 37.6 +0.5**
comp=Z,1.6nm,0.6s
LSZ Lusaka 54.77 195 *e*P **P 03 26 37.6 +0.5**
LSZ pmax pmax
comp=Z,2.0nm,0.6s
YAK Yakutsk 56.38 34 LR LR 03 54 42.0
comp=Z,146nm,19.4s,baz=284,slow=40
OPO Ambidratompo 57.08 173 P **P 03 26 53.5 -0.2**
comp=Z,8.2nm,0.9s,baz=74,slow=7.4,SNR=4.6
OPO LR LR 03 50 29.0
comp=Z,81nm,19.1s,baz=320,slow=35
TSUM Tsumeb 61.38 205 *e*P **P 03 27 22.4 -1.0**
comp=Z,6.3nm,1.1s
NJ2 Nanjing 62.30 70 *e*P **P 03 27 30.0 +0.5**
NJ2 pmax pmax
comp=Z,15nm,0.5s
KLR Kul'dur 62.66 48 *i*P **P 03 27 31.7 0.0**
RES Resolute Bay 63.35 348 P **P 03 27 36.5 +0.7**
comp=Z,1.8nm,0.9s,baz=41,slow=7.1,SNR=5.8
RES Resolute Bay 63.35 348 *e*P **P 03 27 36.9 +1.0**
comp=Z,2.1nm,0.9s
RES Resolute Bay 63.35 348 *e*P **P 03 27 36.9 +1.0**
RES pmax pmax
comp=Z,2.0nm,0.9s
PSI Prapat 63.67 109 *e*P **P 03 27 37.8 -1.2**
comp=Z,1.4nm,0.5s
PSI Prapat 63.67 109 *e*P **P 03 27 37.8 -1.2**
PSI pmax pmax
comp=Z,1.0nm,0.5s
IPM Ipoh 64.14 106 *e*P **P 03 27 40.2 -1.8**
WIN Windhoek 64.67 204 P **P 03 27 45.9 +0.5**
WIN pmax pmax
comp=Z,10.0nm,0.9s
SEY Seymchan 65.23 28*c**e*P **P 03 27 48.4 +0.1**
KS01 Wonju Array Si 66.00 60 *e*P **P 03 27 53.0 -0.7**
KSAR Wonju Array Be 66.01 60 P **P 03 27 53.5 -0.3**
KSAR Wonju Array Be 66.01 60 P **P 03 27 53.5 -0.3**
KSRS Korea Array 66.03 60 P **P 03 27 53.5 -0.4**
comp=Z,6.4nm,1.1s,baz=307,slow=5.6,SNR=14
KSRS Korea Array 66.03 60 P **P 03 27 53.5 -0.4**
KSRS pmax pmax
comp=Z,5.0nm,1.0s
BILL Bilibino 66.24 20*c* *i*P **P 03 27 54.8 0.0**
BILL *i* 03 28 02.0
BILL pmax pmax
comp=Z,5.0nm,1.0s
PDSI Padang 67.29 111 P **P 03 28 01.9 -0.4**
BOSA Boshof 68.32 195 P **P 03 28 07.9 -0.6**
comp=Z,5.6nm,1.0s,baz=352,slow=4.4,SNR=8.4
BOSA LR LR 04 00 54.5
comp=Z,84nm,18.4s,baz=49,slow=38
JOW Kunigami 72.02 70 P **P 03 28 29.6 -1.7**
comp=Z,16nm,0.9s,baz=285,slow=12,SNR=3.0
COCO West Island 72.65 122 *i*P **P 03 28 39.2 +4.1**
TOLK Toolik Lake Re 72.90 4 *e*P **P 03 28 36.9 +0.9**
comp=Z,12nm,1.0s
MAT Matsushiro 73.40 56 P **P 03 28 38.4 -1.1**
MJAR Matsushiro Arr 73.41 56 P **P 03 28 39.1 -0.4**
comp=Z,6.2nm,1.1s,baz=304,slow=6.7,SNR=11
INK Inuvik 73.43 358 *e*P **P 03 28 38.5 -0.5**
comp=Z,5.7nm,1.0s
INK Inuvik 73.43 358 *e*P **P 03 28 38.5 -0.5**
INK pmax pmax
comp=Z,6.0nm,1.0s
COLD Coldfoot 74.27 4 *e*P **P 03 28 44.7 +0.8**
comp=Z,9.4nm,1.0s
FYU Fort Yukon 75.16 2 *e*P **P 03 28 50.9 +1.8**
comp=Z,14nm,1.2s
IM3 Indian Mountai 75.24 6 *e*P **P 03 28 49.5 -0.1**
FCC Fort Churchill 76.07 338 *e*P **P 03 28 55.0 +0.6**
comp=Z,7.6nm,1.0s
FCC Fort Churchill 76.07 338 *e*P **P 03 28 55.0 +0.6**
FCC pmax pmax
comp=Z,8.0nm,1.0s
MLY Manley 76.41 5 *e*P **P 03 28 57.1 +0.7**
comp=Z,6.1nm,1.0s
MDM Murphy Dome 76.64 4 *e*P **P 03 28 58.2 +0.5**
comp=Z,14nm,1.1s
COLA College 76.74 4 *e*P **P 03 28 58.4 +0.3**
comp=Z,16nm,1.0s
COLA College 76.74 4 *e*P **P 03 28 58.4 +0.3**
COLA pmax pmax
comp=Z,16nm,1.0s
IL1 Eielson Array 76.89 3 *e*P **P 03 28 58.3 -0.7**
ILAR Eielson Array 76.89 3 P **P 03 28 58.9 -0.1**
comp=Z,2.0nm,1.1s,baz=326,slow=3.0,SNR=16
CCB Clear Creek Bu 76.97 4 *e*P **P 03 28 59.4 -0.1**
comp=Z,8.8nm,1.0s
EGAK Eagle 77.05 1 *e*P **P 03 29 00.8 +0.9**
comp=Z,6.0nm,0.9s
WRH Wood River Hil 77.13 4 *e*P **P 03 29 00.7 +0.3**
comp=Z,8.2nm,1.1s
BPAW Bear Paw Mtn. 77.32 5 *e*P **P 03 29 02.0 +0.5**
comp=Z,10nm,1.2s
YKW3 Yellowknife Ar 77.35 349 *e*P **P 03 29 01.4 -0.2**
comp=Z,8.1nm,1.0s
YKA Yellowknife Ar 77.42 349 P **P 03 29 01.9 -0.1**
comp=Z,3.0nm,0.9s,baz=18,slow=6.1,SNR=44
DAWY Dawson 77.78 0 *e*P **P 03 29 04.3 +0.3**
comp=Z,9.9nm,1.1s
SCRK Sand Creek 77.80 2 *e*P **P 03 29 04.8 +0.5**
comp=Z,9.1nm,1.0s
MCK McKinley 77.82 4 *e*P **P 03 29 04.6 +0.3**
comp=Z,14nm,1.2s
MCK McKinley 77.82 4 *e*P **P 03 29 04.6 +0.3**
MCK pmax pmax
comp=Z,14nm,1.2s
KTH Kantishna Hill 77.86 5 *e*P **P 03 29 04.8 +0.2**
comp=Z,6.0nm,1.0s
CAST Castle Rocks 77.91 6 *e*P **P 03 29 04.9 +0.1**
comp=Z,20nm,1.2s
RIDG Independ'e Rid 78.00 3 *e*P **P 03 29 06.1 +0.8**
comp=Z,17nm,1.0s
DOT Dot Lake 78.12 2 *e*P **P 03 29 06.6 +0.6**
comp=Z,29nm,1.0s
RND Reindeer 78.15 4 *e*P **P 03 29 05.8 -0.4**
comp=Z,15nm,1.2s
RND Reindeer 78.15 4 *e*P **P 03 29 05.8 -0.4**
RND pmax pmax
comp=Z,15nm,1.2s
MENT Mentasta 78.84 2 *e*P **P 03 29 10.7 +0.7**
comp=Z,9.3nm,1.0s
PMR Palmer 79.94 5 *e*P **P 03 29 14.9 -0.9**
comp=Z,6.8nm,1.1s
PMR Palmer 79.94 5 *e*P **P 03 29 14.9 -0.9**
PMR pmax pmax
comp=Z,7.0nm,1.1s
SUA Susitna One 79.95 6 *e*P **P 03 29 16.2 +0.1**
comp=Z,16nm,1.0s
SPU Mount Spurr 80.12 6 *e*P **P 03 29 17.5 +0.6**
RC01 Rabbit Creek A 80.39 5 *e*P **P 03 29 18.6 +0.2**
comp=Z,7.4nm,1.0s
EYAK Cordova Ski Ar 81.16 3 *e*P **P 03 29 24.0 +1.6**
comp=Z,11nm,1.0s
FFC Flin Flon 81.80 339 *e*P **P 03 29 26.2 +0.2**
comp=Z,6.4nm,1.0s
FFC Flin Flon 81.80 339 *e*P **P 03 29 26.2 +0.2**
FFC pmax pmax
comp=Z,6.0nm,1.0s
SSPA Standing Stone 83.35 318 *e*P **P 03 29 35.0 +0.7**
comp=Z,20nm,1.0s
ULM Lac du Bonnet 83.74 334 P **P 03 29 36.0 -0.2**
comp=Z,6.2nm,1.0s,baz=59,slow=5.9,SNR=5.2
ULM Lac du Bonnet 83.74 334 *e*P **P 03 29 36.3 +0.2**
comp=Z,4.9nm,0.8s
ULM Lac du Bonnet 83.74 334 P **P 03 29 36.0 -0.2**
ULM pmax pmax
comp=Z,6.0nm,1.0s
COWI Conover 84.55 328 *e*P **P 03 29 41.0 +0.7**
comp=Z,20nm,1.0s
G42A Mountain 84.93 327 *e*P **P 03 29 42.9 +0.6**
comp=Z,14nm,1.1s
MCWV Mont Chateau 85.09 318 *e*P **P 03 29 44.1 +0.9**
comp=Z,21nm,0.9s
AGMN Agassiz Nation 85.38 333 *e*P **P 03 29 44.7 +0.2**
comp=Z,7.2nm,1.0s
IP07 Quail 85.38 316 *e*P **P 03 29 45.4 +0.7**
comp=Z,14nm,0.9s
EDM Edmonton 85.94 345 *e*P **P 03 29 48.2 +1.0**
comp=Z,11nm,0.9s
EDM Edmonton 85.94 345 *e*P **P 03 29 48.2 +1.0**
EDM pmax pmax
comp=Z,11nm,0.9s
ACSO Alum Creek Sta 86.27 320 *e*P **P 03 29 49.5 +0.4**
comp=Z,16nm,1.0s
TKL Tuckaleechee C 90.14 318 P **P 03 30 06.8 -0.8**
comp=Z,4.0nm,1.0s,baz=136,slow=3.0,SNR=3.8
SIUC Southern Illin 91.27 323 *e*P **P 03 30 13.4 +0.6**
comp=Z,20nm,0.9s
NEW Newport 91.41 345 *e*P **P 03 30 14.7 +1.4**
comp=Z,11nm,0.9s
NEW Newport 91.41 345 *e*P **P 03 30 14.7 +1.4**
NEW pmax pmax
comp=Z,11nm,0.9s
MSO Missoula 92.09 343 *e*P **P 03 30 17.8 +1.2**
comp=Z,3.1nm,0.8s
RLMT Red Lodge 92.49 339 *e*P **P 03 30 20.1 +1.5**
comp=Z,5.3nm,1.1s
PLAL Pickwick Lake 92.88 320 *e*P **P 03 30 19.6 -0.7**
comp=Z,11nm,1.0s
FAKI Fak Fak 92.96 91 *e*P **P 03 30 19.6 -1.4**
YHH Holmes Hill 93.23 340 *e*P **P 03 30 24.0 +1.9**
comp=Z,3.0nm,1.1s
LRAL Lakeview Retre 93.86 318 *e*P **P 03 30 23.9 -0.9**
comp=Z,5.0nm,0.9s
MOOW Moose Ponds 94.16 340 *e*P **P 03 30 28.1 +1.7**
comp=Z,0.9nm,0.6s
FXWY Fox Creek 94.34 340 *e*P **P 03 30 28.9 +1.7**
comp=Z,1.6nm,0.9s
TPAW Teton Pass 94.46 340 *e*P **P 03 30 29.6 +1.8**
comp=Z,2.8nm,1.1s
PLCA Paso Flores 128.29 244 PKP **PKPdf 03 36 13.1 -0.6**
comp=Z,2.5nm,1.0s,baz=22,slow=2.6,SNR=4.3
QSPA South Pole Qui 128.33 180 PKP **PKPdf 03 36 11.1 -1.8**
comp=Z,1.0nm,0.6s,baz=209,slow=3.7,SNR=3.5

*ISCJB **28** 03:20:57.7±0.5,39.°13N±0.°04×29.°17E±0.°04,h6km±5km, Error ellipse: s-maj=7.0km s-min=4.6km az=155.3*
*CSEM **28** 03:20:57.7±0.1,39.°13N×29.°18E,h8km,ML2.5,Error ellipse: s-maj=2.4km s-min=1.8km az=136.0*
*DDA **28** 03:20:57.9,39.°11N×29.°18E,h7km,Ml2.6*
*ISK **28** 03:20:57.1,39.°14N×29.°18E,h6km,ML2.5/4*
ISC 28 03:20:57.8±0.9,**39.°13N**±0.°03×**29.°18E**±0.°02,**h9**km±8km, **n35,**σ**0°32**/41,**Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
SIMA	**Simav-Kutahya**	**0.16**	**253**		PG	**Pg**	**03 21 01.1**	**-0.2**
SIMA					SG	**Sg**	**03 21 03.6**	**-0.1**
SIMA	**Simav-Kutahya**	**0.16**	**253**	*e*Pg		**Pg**	**03 21 01.1**	**-0.2**
SIMA				*e*Sg		**Sg**	**03 21 03.6**	**-0.1**
GDZ	**Gediz**	**0.24**	**99**	*i*P		**Pg**	**03 21 02.8**	**+0.1**
GDZ				*i*S		**Sg**	**03 21 06.5**	**+0.4**
GDZ	**Gediz**	**0.24**	**99**	P		**Pg**	**03 21 02.8**	**+0.1**
GDZ				S		**Sg**	**03 21 06.5**	**+0.4**
DEMI	**Demirci**	**0.37**	**257**	*i*P		**Pg**	**03 21 05.2**	**+0.1**
DEMI	**Demirci**	**0.37**	**257**	P		**Pg**	**03 21 05.2**	**+0.1**
TVSB	**Tavsanli**	**0.39**	**35**	PG		**Pg**	**03 21 05.2**	**-0.3**
TVSB				SG		**Sg**	**03 21 10.8**	**+0.1**
TVSB	**Tavsanli**	**0.39**	**35**	*e*Pg		**Pg**	**03 21 05.2**	**-0.3**
TVSB				*e*Sg		**Sg**	**03 21 10.8**	**+0.1**
DURS	**Dursunbey**	**0.72**	**311**	*i*P		**Pg**	**03 21 11.9**	**+0.2**
DURS	**Dursunbey**	**0.72**	**311**	P		**Pg**	**03 21 11.9**	**+0.2**
KULA	**Kula-Manisa**	**0.73**	**213**	PG		**Pg**	**03 21 11.6**	**-0.3**
KULA	**Kula-Manisa**	**0.73**	**213**	*e*Pg		**Pg**	**03 21 11.6**	**-0.3**
KHAL	**Karahalli**	**0.80**	**162**	*i*P		**Pb**	**03 21 13.5**	**-0.3**
KHAL	**Karahalli**	**0.80**	**162**	P		**Pb**	**03 21 13.5**	**-0.3**
AUBOZ	**BOZOYUK**	**1.02**	**40**	PG		**Pg**	**03 21 16.7**	**-0.8**
BALB	**Balikesir**	**1.13**	**297**	PN		**Pg**	**03 21 19.4**	**0.0**
BALB	**Balikesir**	**1.13**	**297**	*e*Pn		**Pg**	**03 21 19.4**	**0.0**
IGD	**Bursa**	**1.13**	**1**	*i*P		**Pn**	**03 21 20.2**	**+0.4**
STEP	**BALIKESIR_Sava**	**1.16**	**283**	*i*P		**Pn**	**03 21 20.5**	**+0.4**
STEP	**BALIKESIR_Sava**	**1.16**	**283**	P		**Pn**	**03 21 20.5**	**+0.4**
BORA	**Eskisehir**	**1.24**	**52**	PN		**Pg**	**03 21 21.4**	**-0.2**
BORA	**Eskisehir**	**1.24**	**52**	*i*P		**Pn**	**03 21 21.9**	**+0.6**
BORA	**Eskisehir**	**1.24**	**52**	P		**Pn**	**03 21 21.9**	**+0.6**
MDNY	**Mudanya-Bursa**	**1.26**	**350**	PN		**Pn**	**03 21 21.1**	**-0.4**
MDNY	**Mudanya-Bursa**	**1.26**	**350**	*e*Pn		**Pn**	**03 21 21.1**	**-0.4**
KCTX	**Karacabey (Bur**	**1.30**	**331**	PN		**Pn**	**03 21 22.3**	**+0.2**
KCTX	**Karacabey (Bur**	**1.30**	**331**	*e*Pn		**Pn**	**03 21 22.3**	**+0.2**
YLV	**Yalova**	**1.44**	**6**	PN		**Pn**	**03 21 24.1**	**0.0**
YLV	**Yalova**	**1.44**	**6**	*e*Pn		**Pn**	**03 21 24.1**	**0.0**
ARMT	**Armutlu**	**1.46**	**351**	PN		**Pn**	**03 21 24.7**	**+0.5**
ARMT	**Armutlu**	**1.46**	**351**	*e*Pn		**Pn**	**03 21 24.7**	**+0.5**
AYDB	**Zeytinkoy-Aydi**	**1.55**	**221**	PN		**Pn**	**03 21 25.8**	**+0.2**
AYDB	**Zeytinkoy-Aydi**	**1.55**	**221**	*e*Pn		**Pn**	**03 21 25.8**	**+0.2**
GULT	**Gulveren**	**1.66**	**38**	PN		**Pn**	**03 21 27.3**	**+0.2**
GULT	**Gulveren**	**1.66**	**38**	*e*Pn		**Pn**	**03 21 27.3**	**+0.2**

*IDC **28** 03:34:01.1±0.7,0.°29S×124.°79E,h0km,mb3.9/9, mb1 4.0/10,mb1mx3.8/59,mbtmp4.0/10,ML3.8/1,MS3.5/5, Ms1 3.5/5,ms1mx2.9/52,Error ellipse: s-maj=51.4km s-min=14.9km az=61.0*
*ISCJB **28** 03:34:08.5±0.4,0.°15S±0.°05×125.°18E±0.°03,h74km±5km, mb3.9/12,Error ellipse: s-maj=8.8km s-min=4.9km az=4.3*
*NEIC **28** 03:34:08.6±0.8,0.°20S×125.°19E,h60km±9km,mb4.1/3, Error ellipse: s-maj=10.7km s-min=7.8km az=213.0*
*DJA **28** 03:34:08.8±1.3,0.°3S±5.°×12.°5E±.°,h21km±11km,M4.5/12, mb4.7/7,mB5.1/5,MLv4.5/12,Mw(mB)4.5/5*
ISC 28 03:34:09.6±1.0,**0.°16S**±0.°07×**125.°20E**±0.°04,**h64**km±10km, **n44,**σ**1°47**/44,**mb4.0**/12,**Southern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**1.42**	**301**	P		**Pn**	**03 34 32.4**	**-0.9**
KMSI				S		**Sn**	**03 34 51.2**	**+0.1**

LBMI	**Labuha**	**2.35**	**102**	P		**Pn**	**03 34 46.4**	**+0.5**
LBMI				S		**Sn**	**03 35 14.3**	**+0.6**
TNTI	**Ternate**	**2.36**	**67**	*e*Pn		**Pn**	**03 34 46.4**	**+0.4**
TNTI				*e*Sn		**Sn**	**03 35 13.2**	**-0.7**
LUWI	**Luwuk**	**2.58**	**250**	P		**Pn**	**03 34 49.7**	**+0.7**
LUWI				S		**Sn**	**03 35 22.2**	**+2.9**
LUWI	**Luwuk**	**2.58**	**250**	*e*Pn		**Pn**	**03 34 48.8**	**-0.2**
LUWI				*e*Sn		**Sn**	**03 35 18.1**	**-1.2**
MRSI	**Marisa**	**3.32**	**281**	P		**Pn**	**03 34 59.4**	**+0.3**
APSI	**Ampana**	**3.63**	**258**	P		**Pn**	**03 35 03.7**	**+0.4**
MSAI	**Masohi**	**4.89**	**130**	P		**Pn**	**03 35 22.3**	**+1.7**
MPSI	**Mapaga**	**5.32**	**275**	P		**Pn**	**03 35 27.1**	**+0.6**
PCI	**Palu**	**5.41**	**262**	P		**Pn**	**03 35 28.5**	**+0.7**
TTSI	**Tana Toraja**	**6.09**	**242**	P		**Pn**	**03 35 36.7**	**-0.4**
SIJI	**Sorong**	**6.11**	**97**	Pn		**Pn**	**03 35 38.5**	**+1.2**
	1.8nm,0.3s,baz=256,slow=12,SNR=7.5							
BNSI	**Bone**	**6.61**	**230**	P		**Pn**	**03 35 44.2**	**+0.1**
KAPI	**Kappang**	**7.27**	**228**	*e*Pn		**Pn**	**03 35 51.1**	**-2.1**
	12nm,0.4s							
KAPI				*e*Sn		**Sn**	**03 37 11.5**	**-2.8**
FAKI	**Fak Fak**	**7.56**	**111**	P		**Pn**	**03 35 58.4**	**+1.2**
FAKI	**Fak Fak**	**7.56**	**111**	*e*Pn		**Pn**	**03 35 54.1**	**-3.1**
	17nm,0.6s							
BATI	**Baumata**	**10.10**	**189**	LR		LR	03 41 06.1	
	comp=Z,201nm,19.4s,baz=92,slow=43							
KKM	**Kota Kinabalu**	**10.88**	**305**	*e*Pn		**Pn**	**03 36 42.1**	**-0.6**
TGY	**Tagaytay City**	**14.78**	**344**	LR		LR	03 44 46.2	
	comp=Z,31nm,18.7s,baz=292,slow=44							
NGJI	**Ngawi**	**15.46**	**242**	P		P	03 37 55.6	+8.5
KPJI	**Karang Pucung**	**17.72**	**246**	P		**Pn**	**03 38 12.9**	**+0.8**
LEM	**Lembang**	**18.75**	**249**	LR		LR	03 46 33.7	
	comp=Z,134nm,19.3s,baz=326,slow=41							
CGJI	**Cibinong**	**20.49**	**251**	P		**P**	**03 38 44.6**	**+2.1**
	54nm,0.7s							
MDSI	**Maura Dua**	**21.43**	**258**	P		**P**	**03 38 57.4**	**+4.8**
WRAB	**Tennant Creek**	**21.60**	**156**	*e*P		**P**	**03 38 53.4**	**-1.0**
WRA	**Warramunga Arr**	**21.60**	**156**	P		**P**	**03 38 52.0**	**-2.4**
	1.6nm,0.6s,baz=334,slow=11,SNR=9.8							
COEN	**Coen**	**22.46**	**128**	*e*P		**P**	**03 39 04.0**	**+0.3**
	5.8nm,0.6s							
RGRI	**Rengat**	**22.86**	**269**	P		P	03 39 15.3	+7.4
ASAR	**Alice Springs**	**24.85**	**161**	P		**P**	**03 39 26.2**	**0.0**
	1.0nm,0.6s,baz=338,slow=8.7,SNR=16							
ASAR				PcP		**PcP**	**03 43 01.9**	**+0.8**
	0.3nm,0.5s,baz=341,slow=2.4,SNR=4.3							
KULM	**Kulim**	**25.11**	**283**	*e*P		**P**	**03 39 26.8**	**-1.9**
	4.4nm,0.6s							
PSI	**Prapat**	**26.43**	**277**	LR		LR	03 50 10.5	
	comp=Z,207nm,18.5s,baz=166,slow=37							
STKA	**Stephens Creek**	**35.15**	**155**	P		**P**	**03 40 57.5**	**+0.2**
	2.7nm,0.6s,baz=354,slow=10,SNR=8.6							
SONM	**Songino Array**	**50.52**	**344**	P		**P**	**03 43 02.1**	**+0.6**
	0.5nm,0.5s,baz=161,slow=9.2,SNR=4.1							
MKAR	**Makanchi Array**	**59.92**	**327**	P		**P**	**03 44 08.0**	**-1.1**
	1.1nm,0.4s,baz=123,slow=8.3,SNR=16							
MKAR				PcP		**PcP**	**03 44 54.6**	**-0.2**
	0.6nm,0.6s,baz=123,slow=4.4,SNR=2.6							
MA2	**Magadan**	**62.83**	**14**	LR		LR	04 10 54.7	
	comp=Z,435nm,19.1s,baz=151,slow=35							
ZALV	**Zalesovo Beam**	**63.38**	**335**	P		**P**	**03 44 30.3**	**-1.9**
	0.6nm,0.4s,baz=133,slow=8.5,SNR=2.3							
KURBB	**Kurchatov Arra**	**64.22**	**329**	P		**P**	**03 44 37.8**	**+0.1**
	1.2nm,0.7s,baz=128,slow=6.0,SNR=13							
KURK	**Kurchatov**	**64.22**	**329**	P		**P**	**03 44 37.8**	**0.0**
BVAR	**Borovoye Array**	**69.76**	**328**	P		**P**	**03 45 12.4**	**-0.5**
	0.5nm,0.5s,baz=134,slow=6.2,SNR=5.1							
ABKAR	**Akbulak array**	**74.21**	**322**	*e*P		**P**	**03 45 39.1**	**-0.4**
	0.5nm,0.4s							
AKTO	**Aktyubinsk**	**75.77**	**323**	P		**P**	**03 45 48.9**	**+0.3**
	1.6nm,0.3s,baz=97,slow=9.7,SNR=9.6							
COLA	**College**	**88.84**	**25**	*e*P		**P**	**03 46 56.2**	**-0.2**
IDI	**Anoyia**	**98.51**	**306**	LR		LR	04 39 29.4	
	comp=Z,56nm,20.4s,baz=307,slow=40							
TORD	**Torodi Ar. Bea**	**122.57**	**285**	PKP		**PKPdf**	**03 52 58.9**	**0.0**
	0.3nm,0.7s,baz=89,slow=1.6,SNR=6.2							

*ISCJB **28** 03:37:56.8±0.3,22.°96N±0.°02×121.°52E±0.°02,h31km±2km, Error ellipse: s-maj=3.5km s-min=2.5km az=139.8*
*JMA **28** 03:37:56.9±0.1,23.°03N×121.°45E,h37km±3km,M3.2*
*TAP **28** 03:37:57.4,23.°01N×121.°43E,h40km,ML3.1,B*
ISC 28 03:37:57.4±0.9,**22.°98N**±0.°02×**121.°47E**±0.°03,**h32**km±5km, **n65,**σ**0°93**/101,**2C-6D,Taiwan region**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
CHKT	**Chengkung**	**0.15**	**320**	⇓*i*P		**Pb**	**03 38 04.2**	**+0.6**
	baz=328							
CHKT				*i*S		**Sb**	**03 38 09.1**	**+1.4**
	baz=328							
TWH	**Lutao**	**0.27**	**179**	⇑*i*P		**Pn**	**03 38 05.8**	**+0.7**
	baz=172							
TWH				S		**Sn**	**03 38 12.0**	**+1.8**
	baz=172							
FULB	**Fuli**	**0.27**	**323**	⇓*i*P		**Pb**	**03 38 05.0**	**+0.2**
	baz=320							
FULB				*e*S		**Sb**	**03 38 11.0**	**+1.2**
	baz=320							
TTN	**Taitung**	**0.38**	**233**	*e*S		**Sn**	**03 38 14.6**	**+1.8**
	baz=235							
TWGBT	**Beinan**	**0.40**	**246**	*e*P		**Pb**	**03 38 06.2**	**-0.2**
TWGBT	baz=240							
				*e*S		**Sb**	**03 38 12.3**	**-0.3**
TWG	**Pinlang**	**0.40**	**247**	⇓*i*P		**Pb**	**03 38 06.2**	**-0.3**
	baz=249							
TWG				S		**Sb**	**03 38 12.3**	**-0.4**
	baz=249							
TWF1	**Yuli**	**0.41**	**336**	⇓*i*P		**Pb**	**03 38 06.1**	**-0.5**
	baz=330							
TWF1				*e*S		**Sb**	**03 38 14.2**	**+1.3**
	baz=330							
YULB	**Yu-li**	**0.44**	**338**	*e*P		**Pb**	**03 38 06.4**	**-0.7**
	baz=331							
YULB				*e*S		**Sb**	**03 38 12.6**	**-1.2**
	baz=331							
ELDTW	**Lidau**	**0.47**	**296**	⇓*i*P		**Pb**	**03 38 06.8**	**-0.8**
	baz=299							
ELDTW				*e*S		**Sb**	**03 38 13.1**	**-1.5**
	baz=299							
HGSD	**Ruisui**	**0.51**	**355**	*e*P		**Pb**	**03 38 07.7**	**-0.5**
	baz=7.0							
EHY	**Hungye**	**0.54**	**345**	P		**Pb**	**03 38 07.7**	**-1.0**
	baz=339							
EHY				*e*S		**Sb**	**03 38 16.8**	**+0.4**
	baz=339							
ECL	**Taimali**	**0.61**	**232**	*e*P		**Pb**	**03 38 10.0**	**+0.2**
	baz=227							
ECL				*e*S		**Sb**	**03 38 16.8**	**-1.5**
	baz=227							
SLGT	**Liugui**	**0.76**	**271**	P		**Pn**	**03 38 12.0**	**0.0**
	baz=273							
SLGT				*e*S		**Sn**	**03 38 21.6**	**-0.8**
	baz=273							
ALS	**Alishan**	**0.81**	**311**	⇓P		**Pn**	**03 38 13.1**	**+0.1**
	baz=315							
ALS				*e*S		**Sn**	**03 38 23.9**	**0.0**
	baz=315							
SSD	**Sandimen**	**0.81**	**253**	*e*P		**Pn**	**03 38 12.1**	**-0.5**
	baz=251							
SSD				*e*S		**Sn**	**03 38 21.8**	**-1.8**
	baz=251							
TAW	**Tawu**	**0.82**	**221**	*e*S		**Sn**	**03 38 22.5**	**-1.2**
	baz=221							
SGST	**Jiashian**	**0.83**	**277**	*e*P		**Pn**	**03 38 13.6**	**+0.7**
	baz=279							
SGST				*e*S		**Sb**	**03 38 25.5**	**+1.2**
	baz=279							
EAST	**Anshuo**	**0.83**	**224**	⇑P		**Pn**	**03 38 12.0**	**-0.9**
	baz=224							
EAST				*e*S		**Sn**	**03 38 22.8**	**-1.3**
	baz=224							
ESL	**Shilin**	**0.83**	**357**	*e*P		**Pn**	**03 38 12.8**	**-0.1**
	baz=352							
WTP	**Ta-pu**	**0.83**	**289**	*e*P		**Pn**	**03 38 13.5**	**+0.5**
	baz=288							
WTP				*e*S		**Sb**	**03 38 25.5**	**+1.0**
	baz=288							

CHN4	**Tsaushan**	**0.89**	**295**	*e*P	**Pn**	**03 38 14.5**	**+0.7**
	baz=294							
CHN4				e S	**Sb**	**03 38 27.3**	**+1.3**
	baz=294							
CHN1	**Nanshi**	**0.90**	**283**	*e*P	**Pn**	**03 38 14.8**	**+1.0**
	baz=284							
CHN1				e S	**Sb**	**03 38 27.5**	**+1.3**
	baz=284							
ENLB	**Shoufeng**	**0.93**	**7**	*e*P	**Pn**	**03 38 14.0**	**-0.2**
	baz=22							
SSLB	**Suanglung**	**0.94**	**329**	*e*P	**Pn**	**03 38 14.1**	**-0.3**
	baz=336							
LAY	**Lan-yu**	**0.94**	**176**	*e*P	**Pn**	**03 38 14.2**	**-0.2**
	baz=166							
LAY				e S	**Sn**	**03 38 27.0**	**+0.2**
	baz=166							
TWK	**Hsinying**	**0.95**	**288**	*e*P	**Pn**	**03 38 15.4**	**+0.8**
	baz=295							
TWK				e S	**Sn**	**03 38 28.6**	**+1.5**
	baz=295							
CHN5	**Tsauling**	**0.96**	**310**	*e*P	**Pn**	**03 38 15.7**	**+1.0**
	baz=310							
CHN5				e S	**Sn**	**03 38 28.2**	**+0.9**
	baz=310							
SCZT	**Fangliau**	**0.99**	**233**	*e*P	**Pn**	**03 38 15.2**	**0.0**
	baz=229							
OWD	**Renai**	**1.01**	**344**	*e*P	**Pn**	**03 38 14.8**	**-0.7**
	baz=356							
SMLT	**Sun Moon Lake**	**1.04**	**330**	*e*P	**Pn**	**03 38 16.2**	**+0.2**
	baz=333							
TYC	**Yuchr**	**1.08**	**328**	*e*P	**Pn**	**03 38 17.0**	**+0.6**
	baz=330							
WJS	**Zhushan**	**1.08**	**321**	*e*P	**Pn**	**03 38 17.2**	**+0.8**
	baz=322							
TWD	**Chiawan**	**1.10**	**6**	*e*P	**Pn**	**03 38 16.0**	**-0.6**
	baz=359							
CHGB	**Renai**	**1.11**	**346**	*e*P	**Pn**	**03 38 16.5**	**-0.5**
	baz=356							
CHGB				e S	**Sn**	**03 38 29.4**	**-1.9**
	baz=356							
WDLH	**Douliu**	**1.11**	**310**	*e*P	**Pn**	**03 38 18.2**	**+1.4**
	baz=310							
WDLH				e S	**Sn**	**03 38 32.5**	**+1.4**
	baz=310							
WNT	**Mingjian**	**1.15**	**321**	*e*P	**Pn**	**03 38 18.4**	**+1.1**
	baz=322							
DPDB	**Guoxing**	**1.16**	**334**	*e*P	**Pn**	**03 38 18.1**	**+0.6**
	baz=344							
NACB	**Ninganchiao**	**1.19**	**5**	*e*P	**Pn**	**03 38 16.7**	**-1.2**
	baz=359							
TSEB	**Hengchuen, Pin**	**1.20**	**206**	*e*P	**Pn**	**03 38 18.3**	**+0.3**
	baz=200							
TWKBT	**Hengchun**	**1.20**	**211**	*e*P	**Pn**	**03 38 18.0**	**0.0**
	baz=200							
TWKBT				e S	**Sn**	**03 38 33.0**	**-0.2**
	baz=200							
TWK1	**Hengchun**	**1.20**	**211**	*e*P	**Pn**	**03 38 18.1**	**0.0**
	baz=201							
NNSB	**Datong**	**1.44**	**357**	*e*P	**Pn**	**03 38 21.0**	**-0.5**
	baz=8.0							
ENA	**Nanau**	**1.46**	**10**	*e*P	**Pn**	**03 38 21.3**	**-0.3**
	baz=1.0							
NANB	**Nanao**	**1.46**	**10**	*e*P	**Pn**	**03 38 20.7**	**-0.9**
	baz=1.0							
TWQ1	**Liyutan**	**1.51**	**335**	*e*P	**Pn**	**03 38 23.9**	**+1.7**
	baz=335							
TWQ1				e S	**Sb**	**03 38 43.5**	**-0.1**
	baz=335							
ENTT	**Nioudou**	**1.66**	**3**	*e*P	**Pn**	**03 38 24.2**	**-0.1**
	baz=5.0							
TWC	**Suao**	**1.66**	**12**	*e*P	**Pn**	**03 38 25.1**	**+0.9**
	baz=3.0							
EOS1	**EOS1**	**1.67**	**21**	*e*P	**Pn**	**03 38 25.1**	**+0.6**
	baz=32							
EOS1				e S	**Sn**	**03 38 45.4**	**+0.6**
	baz=32							
YHNB	**Yeheng**	**1.69**	**357**	*e*P	**Pn**	**03 38 24.9**	**+0.2**
	baz=10.0							
LIOB	**Emei**	**1.71**	**346**	*e*P	**Pn**	**03 38 26.2**	**+1.1**
	baz=347							
NWLT	**Wulai**	**1.79**	**1**	*e*P	**Pn**	**03 38 26.5**	**+0.4**
	baz=13							
PHUB	**P'eng-hu**	**1.83**	**287**	*e*P	**Pn**	**03 38 27.8**	**+1.2**
	baz=286							
JYNG	**Yonagunijimaku**	**1.99**	**42**	P	**Pn**	**03 38 29.5**	**+0.6**
JYNG				e S	**Sn**	**03 38 53.7**	**+1.0**
YOJ	**Yonaguni jima**	**2.04**	**43**	*i* P	**Pn**	**03 38 30.5**	**+0.9**
	baz=54							
YOJ				*i* S	**Sn**	**03 38 54.4**	**+0.6**
	baz=54							
YOJ	**Yonaguni jima**	**2.04**	**43**	P	**Pn**	**03 38 30.3**	**+0.8**
YOJ				e S	**Sn**	**03 38 54.5**	**+0.6**
HATJ	**Hateruma jima**	**2.39**	**63**	e S	**Sn**	**03 39 01.9**	**-0.7**
IRIF	**Iriomote-Funau**	**2.47**	**56**	P	**Pn**	**03 38 36.3**	**+0.9**
IRIF				S	**Sn**	**03 39 05.0**	**+0.5**
JKRS	**Kuro-shima**	**2.64**	**61**	P	**Pn**	**03 38 38.6**	**+0.8**
JKRS				e S	**Sn**	**03 39 08.3**	**-0.4**
VWUC	**VWUC**	**2.73**	**318**	*e*P	**Pn**	**03 38 38.5**	**-0.5**
	baz=318							
VWUC				e S	**Sn**	**03 39 08.6**	**-2.3**
	baz=318							
JIJ	**Ishigaki jima**	**2.81**	**60**	P	**Pn**	**03 38 40.3**	**+0.2**
JIJ				S	**Sn**	**03 39 11.7**	**-1.2**
JISG	**Ishigakijimahi**	**3.05**	**58**	P	**Pn**	**03 38 43.4**	**0.0**
JISG				e S	**Sn**	**03 39 17.3**	**-1.6**
JTJ	**Tarama**	**3.39**	**60**	S	**Sn**	**03 39 27.4**	**+0.2**
MATB	**Ma-tsu**	**3.45**	**337**	*e*P	**Pn**	**03 38 48.3**	**-0.7**
	baz=337							

MAN 28 03:39:31.9˝27.N×123˚22.E, h9km, mb4.1, ML2.9, MS2.6, 1C, Negros

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCPH	**Dipolog City**	**0.69**	**169**	*e*P	Pg	03 39 44.8	+0.4
DCPH				e S	Sb	03 39 54.5	-0.5
PAGZ	**Pagadian**	**1.42**	**174**	*e*P	Pb	03 39 57.5	-0.2
PAGZ				e S	Sb	03 40 16.3	+0.3
GUIM	**Jordan**	**1.48**	**335**	*e*P	Pn	03 39 57.9	0.0
GUIM				e S	Sb	03 40 18.2	+0.4
IPIL	**Ipil**	**1.61**	**204**	*e*P	Pn	03 39 59.7	+0.1
IPIL				e S	Sb	03 40 21.9	+0.6

*PGC **28** 03:42:19.2±1.6, 50˚.43N×130˚.17W, h10km, mb4.5, MLSn4.1/35, Mw4.7/35, 197km west of Pt. Hardy, Bc Vancouver Island, Canada Region*

*IDC **28** 03:42:19.9±0.7, 50˚.52N×129˚.94W, h0km, mb4.0/15, mb1 4.2/25, mb1mx4.0/77, mbtmp4.1/25, ML3.7/10, MS4.0/57, Ms1 4.0/57, ms1mx4.0/69, Error ellipse: s-maj=12.6km s-min=8.7km az=62.0*

*ISCJB **28** 03:42:19.9±0.8, 50˚.66N±0˚.02×129˚.69W±0˚.03, h2km±5km, mb4.4/52, MS4.1/52, Error ellipse: s-maj=3.8km s-min=1.9km az=144.3*

*BJI **28** 03:42:20.9, 50˚.60N×129˚.80W, h10km, mb4.7/20, mB5.0/9, Ms4.8/6, Ms7 4.5/5*

*NEIC **28** 03:42:23.0±0.2, 50˚.63N×129˚.79W, h10km, mb4.5/108, Error ellipse: s-maj=5.0km s-min=1.8km az=49.0*

*GCMT **28** 03:42:23.0±0.3, 50˚.33N×130˚.27W, h12km, MW4.9/105, Moment Tensor Solution. s27,c35; s105,c159; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.19±.07; $M_{\theta\theta}$-2.28±.06; $M_{\phi\phi}$2.09±.06; $M_{r\theta}$-1.09±.18; $M_{\theta\phi}$1.30±.06; $M_{\phi r}$-0.17±.18; Best double couple: M_o2.75200×10^{16} NP1:ϕ_s60.00000°, δ86.00000°, λ-21.00000°. NP2: ϕ_s152.00000°, δ69.00000°, λ-176.00000°. Principal axes: T 2.5420, Plg12.0000°, Azm108.0000°; N 0.4230, Plg68.0000°, Azm229.0000°; P -2.9620, Plg18.0000°, Azm14.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 28 03:42:25.0±1.7, 50˚.58N±0˚.05×129˚.70W±0˚.05, h31km±11km, n572, σ1§52/518, mb4.5/52, MS4.2/52, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PACB	**Port Alice, BC**	**1.42**	**95**	P	**Pn**	**03 42 45.8**	**-2.8**
PACB				Sn	**Sn**	**03 43 06.0**	**-0.1**
PHC	**Port Hardy**	**1.45**	**84**	P	**Pn**	**03 42 48.0**	**-1.0**
PHC				Sn	**Sb**	**03 43 08.9**	**-0.5**
EDB	**Eliza Dome**	**1.80**	**112**	Pn	**Pn**	**03 42 51.0**	**-2.9**
BBB	**Bella Bella**	**1.89**	**31**	Pn	**Pn**	**03 42 54.1**	**-0.9**
	39nm,0.3s,baz=242,slow=6.0,SNR=664						
BBB				Sn	**Sn**	**03 43 18.3**	**+0.5**
	214nm,0.3s,baz=253,slow=19,SNR=20						
BBB				LR	LR	03 43 49.7	
	comp=Z,3μm,21.3s,baz=228,slow=44						
BBB	**Bella Bella**	**1.89**	**31**	*e*Pn	**Pn**	**03 42 53.8**	**-1.3**
BBB				Sn	**Sn**	**03 43 18.2**	**+0.4**
BBB	**Bella Bella**	**1.89**	**31**	*e*Pn	**Pn**	**03 42 53.8**	**-1.3**
BBB				Sn	**Sn**	**03 43 18.3**	**+0.5**
WOSB	**Woss**	**2.05**	**101**	Pn	**Pn**	**03 42 56.1**	**-1.2**
NCRB	**Newcastle Ridg**	**2.33**	**93**	Pn	**Pn**	**03 43 00.5**	**-0.9**
ETB	**Estevan Point**	**2.37**	**119**	Pn	**Pn**	**03 42 59.1**	**-2.5**
BNB	**Barry Inlet**	**2.37**	**328**	Pn	Pn	03 42 56.5	-5.4
GDR	**Gold River**	**2.49**	**107**	Pn	**Pn**	**03 43 01.4**	**-2.0**
CBB	**Campbell River**	**2.83**	**99**	Pn	**Pn**	**03 43 07.3**	**-0.7**
TOFB	**Tofino**	**2.84**	**119**	Sn	**Sn**	**03 43 37.9**	**-3.3**
BTB	**Buttle Lake**	**2.92**	**111**	Pn	**Pn**	**03 43 07.5**	**-1.9**
BTB				Sn	**Sn**	**03 43 38.0**	**-5.3**
DIB	**Dawson Inlet,**	**3.14**	**328**	Pn	**Pn**	**03 43 07.8**	**-4.4**
DIB	**Dawson Inlet,**	**3.14**	**328**	*e*Pn	**Pn**	**03 43 08.2**	**-4.0**
B012	**Ucluelet**	**3.16**	**120**	Pn	**Pn**	**03 43 10.4**	**-2.2**
B012				Sn	**Sn**	**03 43 49.8**	**+0.5**
OZB	**Mount Ozzard**	**3.17**	**119**	Pn	**Pn**	**03 43 10.1**	**-2.7**
ALB	**Alberni**	**3.41**	**111**	Pn	**Pn**	**03 43 14.4**	**-1.5**
B928	**Bamfield**	**3.44**	**119**	Pn	**Pn**	**03 43 14.9**	**-1.4**
B927	**Port Alberni**	**3.44**	**111**	Pn	**Pn**	**03 43 14.6**	**-1.7**
TXB	**Texada**	**3.50**	**103**	Pn	**Pn**	**03 43 16.4**	**-0.9**
MGB	**Mount Grey**	**3.61**	**114**	Pn	**Pn**	**03 43 17.3**	**-1.5**
GHNB	**Nanoose**	**3.75**	**108**	Pn	**Pn**	**03 43 18.9**	**-1.7**
SHB	**Sechelt**	**3.88**	**102**	Pn	**Pn**	**03 43 21.5**	**-1.0**
YOUB	**Youbou, Lake C**	**3.91**	**113**	Pn	**Pn**	**03 43 21.6**	**-1.3**
NLLB	**Nanaimo Lost L**	**3.93**	**108**	Pn	**Pn**	**03 43 20.7**	**-2.5**
PFB	**Port Renfrew**	**3.97**	**118**	Pn	**Pn**	**03 43 22.6**	**-1.2**
UBRB	**Upper Baezaeko**	**4.19**	**54**	Pn	**Pn**	**03 43 28.6**	**+1.8**
BPCB	**Bare Point**	**4.22**	**111**	Pn	**Pn**	**03 43 27.4**	**+0.3**
LZB	**Mount Lazard**	**4.30**	**115**	Pn	**Pn**	**03 43 27.1**	**-1.2**
GOBB	**Galiano Island**	**4.33**	**110**	Pn	**Pn**	**03 43 28.0**	**-0.6**
WSLR	**Whistler**	**4.36**	**93**	Pn	**Pn**	**03 43 28.8**	**-0.4**
B010	**North Saanich**	**4.50**	**113**	Pn	**Pn**	**03 43 29.8**	**-1.1**
B009	**North Saanich**	**4.50**	**113**	Pn	**Pn**	**03 43 30.6**	**-0.3**
PA02	**PA02 Ocean**	**4.50**	**113**	Pn	**Pn**	**03 43 29.5**	**-1.4**
PGC	**Sidney**	**4.50**	**113**	Pn	**Pn**	**03 43 30.4**	**-0.5**
PGC	**Sidney**	**4.50**	**113**	*e*Pn	**Pn**	**03 43 30.7**	**-0.2**
B011	**North Saanich**	**4.50**	**113**	Pn	**Pn**	**03 43 29.8**	**-1.1**
PA01	**PA01 North**	**4.50**	**113**	Pn	**Pn**	**03 43 29.8**	**-1.1**
PA12	**PA12 Sannich**	**4.50**	**113**	Pn	**Pn**	**03 43 29.4**	**-1.5**
PA04	**PA04 Cage**	**4.50**	**113**	Pn	**Pn**	**03 43 28.8**	**-1.1**
PA05	**PA05 Willingdo**	**4.50**	**113**	Pn	**Pn**	**03 43 30.1**	**-0.9**
SNB	**Saturna Island**	**4.61**	**111**	Pn	**Pn**	**03 43 31.5**	**-1.0**
VGZ	**Gonzales**	**4.69**	**115**	Pn	**Pn**	**03 43 33.5**	**0.0**
A04D	**Lummi Island**	**4.91**	**110**	P	**Pn**	**03 43 37.6**	**+1.0**
	baz=295,SNR=31						
LLLB	**Lillooet**	**4.98**	**87**	Pn	**Pn**	**03 43 38.1**	**+0.5**
LLLB	**Lillooet**	**4.98**	**87**	*e*Pn	**Pn**	**03 43 38.0**	**+0.4**
NLWA	**Neilton Lookou**	**4.99**	**128**	*e*Pn	**Pn**	**03 43 38.0**	**+0.3**
VDB	**Vedder Mountai**	**5.16**	**105**	Pn	**Pn**	**03 43 40.8**	**+0.8**
CRAG	**Craig**	**5.32**	**338**	*e*Pn	**Pn**	**03 43 38.4**	**-3.7**
HOPB	**Hope**	**5.47**	**99**	Pn	**Pn**	**03 43 45.1**	**+0.8**
B05A	**Bryant**	**5.47**	**112**	P	**Pn**	**03 43 45.4**	**+1.0**
	baz=298,SNR=48						
B06A	**Marblemount**	**5.73**	**108**	*e*Pn	**Pn**	**03 43 48.4**	**+0.6**
E03A	**Lebam**	**5.73**	**132**	*e*Pn	**Pn**	**03 43 47.9**	**0.0**
WRAK	**Wrangell Islan**	**6.06**	**346**	*e*Pn	**Pn**	**03 43 49.6**	**-2.7**
	22nm,0.6s						
D05A	**Enumclaw**	**6.11**	**121**	*e*Pn	**Pn**	**03 43 54.7**	**+1.6**
LON	**Longmire**	**6.48**	**123**	*e*Pn	**Pn**	**03 43 58.8**	**+0.6**
PNT	**Penticton**	**6.63**	**97**	Pn	**Pn**	**03 44 00.6**	**+0.4**
BLBC	**Blue River**	**6.72**	**73**	Pn	**Pn**	**03 44 04.5**	**+2.8**
LTY	**Liberty**	**6.81**	**116**	*e*Pn	**Pn**	**03 44 03.8**	**+0.9**
B08A	**Colville Reser**	**7.11**	**104**	*e*Pn	**Pn**	**03 44 07.4**	**+0.5**
DOWB	**Downie Slide**	**7.11**	**78**	Pn	**Pn**	**03 44 07.8**	**+1.0**
MNB	**Mounoet Dainar**	**7.26**	**73**	Pn	**Pn**	**03 44 11.3**	**+2.1**
COR	**Corvallis**	**7.39**	**142**	*e*Pn	**Pn**	**03 44 10.6**	**0.0**
E07A	**Sunnyside**	**7.67**	**118**	*e*Pn	**Pn**	**03 44 14.4**	**-0.1**
H04A	**Detroit Lake**	**7.78**	**136**	*e*Pn	**Pn**	**03 44 18.2**	**+2.2**
DLBC	**Dease Lake**	**7.88**	**359**	Pn	**Pn**	**03 44 16.9**	**-0.5**
	1.1nm,0.3s,baz=176,slow=12,SNR=31						
DLBC				Sn	**Sn**	**03 45 45.9**	**+0.5**
	0.4nm,0.3s,baz=180,slow=20,SNR=2.3						
DLBC				Lg	Lg	03 46 31.3	
	0.1nm,0.3s,baz=189,slow=12,SNR=3.7						
DLBC				LR	LR	03 47 21.0	
	comp=Z,4μm,18.1s,baz=194,slow=38						
DLBC	**Dease Lake**	**7.88**	**359**	Pn	**Pn**	**03 44 16.8**	**-0.5**
DLBC	**Dease Lake**	**7.88**	**359**	*e*Pn	**Pn**	**03 44 17.6**	**+0.3**
DLBC				Sn	**Sn**	**03 45 45.9**	**+0.5**
DLBC				Lg	Lg	03 46 31.3	
D08A	**Wollman Farm,**	**7.94**	**112**	*e*Pn	**Pn**	**03 44 18.6**	**+0.5**
HAWA	**Hanford**	**7.95**	**118**	*e*Pn	**Pn**	**03 44 17.7**	**-0.5**
C09A	**Chrisman Ranch**	**7.99**	**106**	*e*Pn	**Pn**	**03 44 18.9**	**+0.1**
I05D	**Terrebonne, OR**	**8.43**	**135**	P	**Pn**	**03 44 26.4**	**+1.4**
	baz=321						
NEW	**Newport**	**8.52**	**101**	Pn	**Pn**	**03 44 25.5**	**-0.7**
	1.0nm,0.3s,baz=294,slow=11,SNR=8.5						
NEW				Lg	Lg	03 46 50.4	
	0.1nm,0.3s,baz=285,slow=16,SNR=2.7						
NEW				LR	LR	03 47 47.1	
	comp=Z,3μm,18.2s,baz=290,slow=38						
NEW	**Newport**	**8.52**	**101**	P	**Pn**	**03 44 26.9**	**+0.7**
	baz=291						
NEW	**Newport**	**8.52**	**101**	*e*Pn	**Pn**	**03 44 26.7**	**+0.5**
NEW				Lg	Lg	03 46 50.4	
E09A	**Wood Farm, Sta**	**8.68**	**114**	*e*Pn	**Pn**	**03 44 28.8**	**+0.5**
G08A	**Pilot Rock**	**8.94**	**122**	*e*Pn	**Pn**	**03 44 32.1**	**+0.1**
J04D	**Umpqua Nationa**	**8.99**	**142**	P	**Pn**	**03 44 34.4**	**+1.6**
	baz=327,SNR=9.4						
PINE	**Pine Mountain**	**9.03**	**135**	*e*Pn	**Pn**	**03 44 36.4**	**+3.0**
FNBB	**Fort Nelson**	**9.18**	**22**	Pn	**Pn**	**03 44 32.6**	**-2.5**
HUMO	**Hull Mountain**	**9.22**	**147**	*e*Pn	**Pn**	**03 44 36.5**	**+0.7**
J05D	**Fort Rock, OR**	**9.31**	**138**	P	**Pn**	**03 44 38.9**	**+1.8**
	baz=325						
L02D	**Cave Junction,**	**9.41**	**151**	P	**Pn**	**03 44 40.2**	**+1.8**
	baz=336,SNR=7.4						
I07A	**Izee**	**9.49**	**129**	*e*Pn	**Pn**	**03 44 40.9**	**+1.4**
F10A	**Beach Ranch, E**	**9.50**	**114**	*e*Pn	**Pn**	**03 44 40.4**	**+0.6**
YBH	**Yreka Blue Hor**	**10.09**	**149**	Pn	**Pn**	**03 44 49.2**	**+1.6**
	0.1nm,0.3s,baz=342,slow=15,SNR=11						
YBH				LR	LR	03 47 58.6	
	comp=Z,560nm,21.5s,baz=332,slow=34						
YBH	**Yreka Blue Hor**	**10.09**	**149**	*e*Pn	**Pn**	**03 44 50.5**	**+2.8**
BMO	**Blue Mountains**	**10.12**	**120**	*e*Pn	**Pn**	**03 44 48.6**	**+0.5**
WALA	**Waterton Lakes**	**10.32**	**92**	Pn	**Pn**	**03 44 52.2**	**+1.3**
WALA	**Waterton Lakes**	**10.32**	**92**	*e*Pn	**Pn**	**03 44 54.1**	**+3.2**
M04C	**Macdoel**	**10.34**	**145**	P	**Pn**	**03 44 53.1**	**+1.8**
	baz=331						
M02C	**Callahan**	**10.35**	**150**	P	**Pn**	**03 44 53.8**	**+2.6**
	baz=335,SNR=9.0						
EDM	**Edmonton**	**10.44**	**69**	*e*Pn	**Pn**	**03 44 54.8**	**+2.3**
JTMT	**Jette**	**10.49**	**100**	*e*Pn	**Pn**	**03 44 54.8**	**+1.5**
WHY	**Whitehorse**	**10.52**	**346**	Pn	**Pn**	**03 44 50.7**	**-2.8**
WHY	**Whitehorse**	**10.52**	**346**	*e*Pn	**Pn**	**03 44 52.4**	**-1.1**
J08A	**Circle Bar Ran**	**10.53**	**129**	*e*Pn	**Pn**	**03 44 54.8**	**+1.0**
KHMM	**Horse Mountain**	**10.56**	**155**	*e*Pn	**Pn**	**03 44 56.3**	**+2.1**
N02D	**Trinity Center**	**10.77**	**150**	P	**Pn**	**03 44 59.7**	**+2.6**
	baz=335						
MOD	**Modoc Plateau**	**10.84**	**140**	*e*Pn	**Pn**	**03 44 59.0**	**+0.9**
MSO	**Missoula**	**11.07**	**104**	P	**Pn**	**03 45 01.6**	**+0.6**
	baz=296,SNR=12						
MSO	**Missoula**	**11.07**	**104**	*e*Pn	**Pn**	**03 45 01.7**	**+0.6**
WVOR	**Wild Horse Val**	**11.15**	**133**	*e*Pn	**Pn**	**03 45 02.5**	**+0.2**
KMRM	**Mail Ridge**	**11.18**	**156**	*e*Pn	**Pn**	**03 45 06.2**	**+3.5**
WDC	**Whiskeytown Da**	**11.18**	**151**	*e*Pn	**Pn**	**03 45 05.3**	**+2.7**
YUK5	**Granite Creek**	**11.51**	**340**	Pn	**Pn**	**03 45 02.5**	**-4.7**
O03D	**Paynes Creek**	**11.68**	**149**	P	**Pn**	**03 45 10.6**	**+1.2**
	baz=334						
KCPM	**Cahto Peak**	**11.71**	**156**	*e*Pn	**Pn**	**03 45 12.7**	**+2.7**
MFID	**Camas Ranch**	**11.86**	**122**	*e*Pn	**Pn**	**03 45 12.7**	**+0.7**
ORV	**Orroville**	**12.45**	**149**	*e*Pn	**Pn**	**03 45 21.3**	**+1.4**
HLID	**Hailey**	**12.55**	**118**	P	**Pn**	**03 45 23.5**	**+2.1**
	baz=310,SNR=12						
HLID	**Hailey**	**12.55**	**118**	*e*Pn	**Pn**	**03 45 23.2**	**+1.7**
BEKR	**Beckworth**	**12.56**	**145**	*e*Pn	**Pn**	**03 45 23.4**	**+1.8**
DLMT	**Dillon**	**12.58**	**108**	*e*Pn	**Pn**	**03 45 22.4**	**+0.5**
MCMT	**McKenzie Canyo**	**12.71**	**110**	*e*Pn	**Pn**	**03 45 24.7**	**+0.9**
RAGM	**Ragged Mountai**	**12.95**	**325**	*e*Pn	**Pn**	**03 45 26.5**	**-0.2**
BOZ	**Bozeman (W)**	**13.06**	**105**	P	**Pn**	**03 45 28.9**	**+0.6**
	baz=299						
BOZ	**Bozeman (W)**	**13.06**	**105**	*e*Pn	**Pn**	**03 45 28.8**	**+0.4**
AFDM	**Forest Hills D**	**13.17**	**149**	*e*Pn	**Pn**	**03 45 30.8**	**+1.0**
VCNR	**Virginia City**	**13.32**	**144**	*e*Pn	**Pn**	**03 45 34.9**	**+2.9**
BMRM	**Bremner River**	**13.33**	**327**	*e*Pn	**Pn**	**03 45 30.8**	**-1.0**
RUBR	**Rubicon Trail**	**13.36**	**146**	*e*Pn	**Pn**	**03 45 35.2**	**+2.7**
BMN	**Battle Mountai**	**13.38**	**135**	*e*Pn	**Pn**	**03 45 32.4**	**-0.4**
EYAK	**Cordova Ski Ar**	**13.46**	**324**	*e*Pn	**Pn**	**03 45 32.1**	**-1.4**
QLMT	**Earthquake Lak**	**13.57**	**108**	*e*Pn	**Pn**	**03 45 36.0**	**+0.6**
YERR	**Yerington**	**13.75**	**143**	*e*Pn	**Pn**	**03 45 38.8**	**+0.9**
YHB	**Horse Butte**	**13.75**	**108**	*e*Pn	**Pn**	**03 45 38.8**	**+0.9**
DIV	**Divide**	**13.85**	**326**	*e*Pn	**Pn**	**03 45 38.6**	**-0.4**
YMR	**Madison River**	**13.93**	**108**	*e*Pn	**Pn**	**03 45 41.1**	**+0.7**
YHH	**Holmes Hill**	**13.94**	**107**	*e*Pn	**Pn**	**03 45 41.4**	**+0.9**
WAKR	**Walker**	**14.10**	**145**	*e*Pn	**Pn**	**03 45 45.4**	**+2.8**
YFT	**Old Faithful**	**14.13**	**108**	*e*Pn	**Pn**	**03 45 46.6**	**+3.6**
KVN	**Kaiserville**	**14.14**	**140**	*e*Pn	**Pn**	**03 45 43.8**	**+0.6**
KLU	**Klutina**	**14.15**	**327**	*e*Pn	**Pn**	**03 45 41.6**	**-1.5**
CMB	**Columbia Colle**	**14.19**	**149**	*e*Pn	**Pn**	**03 45 45.3**	**+1.6**
YPP	**Pitchstone Pla**	**14.24**	**109**	*e*Pn	**Pn**	**03 45 46.6**	**+1.9**
H17A	**Grant Village**	**14.31**	**108**	P	**Pn**	**03 45 48.0**	**+2.4**
	baz=303,SNR=12						
H17A	**Grant Village**	**14.31**	**108**	*e*Pn	**Pn**	**03 45 48.5**	**+2.9**
RYN	**Ryan**	**14.34**	**142**	*e*Pn	**Pn**	**03 45 46.9**	**+1.0**
IMW	**Indian Meadow**	**14.37**	**110**	*e*Pn	**Pn**	**03 45 48.5**	**+2.1**
YKR1	**Yellowknife Ar**	**14.40**	**28**	Pn	**Pn**	**03 45 44.0**	**-2.3**
YKR2	**Yellowknife Ar**	**14.41**	**28**	Pn	**Pn**	**03 45 44.2**	**-2.4**
YKR3	**Yellowknife Ar**	**14.43**	**29**	Pn	**Pn**	**03 45 44.7**	**-2.1**
YKB1	**Yellowknife Ar**	**14.43**	**29**	Pn	**Pn**	**03 45 44.5**	**-2.3**
YKR4	**Yellowknife Ar**	**14.44**	**29**	Pn	**Pn**	**03 45 45.5**	**-1.4**
YKR5	**Yellowknife Ar**	**14.46**	**29**	Pn	**Pn**	**03 45 45.4**	**-1.8**
FXWY	**Fox Creek**	**14.46**	**111**	*e*Pn	**Pn**	**03 45 49.6**	**+1.9**
DAWY	**Dawson**	**14.47**	**343**	*e*Pn	**Pn**	**03 45 45.2**	**-2.2**
YKR6	**Yellowknife Ar**	**14.47**	**29**	Pn	**Pn**	**03 45 45.9**	**-1.5**
YKB4	**Yellowknife Ar**	**14.48**	**29**	Pn	**Pn**	**03 45 45.3**	**-2.2**
YKR7	**Yellowknife Ar**	**14.49**	**29**	Pn	**Pn**	**03 45 45.5**	**-2.0**
YKA	**Yellowknife Ar**	**14.50**	**29**	Pn	**Pn**	**03 45 46.0**	**-1.7**
	0.2nm,0.3s,baz=218,slow=12,SNR=30						
YKA				Sn	**Sn**	**03 48 20.4**	**-6.8**
	0.2nm,0.3s,baz=222,slow=22,SNR=4.5						
YKA				Lg	Lg	03 50 02.8	
	baz=220,slow=25,SNR=2.7						
YKR9	**Yellowknife Ar**	**14.52**	**29**	Pn	**Pn**	**03 45 46.2**	**-1.7**
YKB6	**Yellowknife Ar**	**14.52**	**29**	Pn	**Pn**	**03 45 46.3**	**-1.7**
YKW1	**Yellowknife Ar**	**14.53**	**29**	Pn	**Pn**	**03 45 46.4**	**-1.8**
YKB7	**Yellowknife Ar**	**14.54**	**29**	Pn	**Pn**	**03 45 46.4**	**-1.8**
YKW3	**Yellowknife Ar**	**14.55**	**29**	Pn	**Pn**	**03 45 46.5**	**-1.9**
YKW3	**Yellowknife Ar**	**14.55**	**29**	*e*Pn	**Pn**	**03 45 49.0**	**+0.6**
YKB8	**Yellowknife Ar**	**14.55**	**29**	Pn	**Pn**	**03 45 46.8**	**-1.6**
MOOW	**Moose Ponds**	**14.57**	**111**	*e*Pn	**Pn**	**03 45 51.3**	**+2.3**
YKB9	**Yellowknife Ar**	**14.57**	**29**	Pn	**Pn**	**03 45 47.3**	**-1.4**
YKB0	**Yellowknife Ar**	**14.59**	**29**	Pn

COLA College 78nm,1.6s 17.19 333 ePn P 03 46 23.0 -0.8
PKM Mcpherson Peak baz=338 17.26 152 P P 03 46 26.3 +1.3
KTH Kantishna Hill 69nm,1.4s 17.26 327 ePn Pn 03 46 22.9 -0.5
FFC Flin Flon 54nm,1.6s 17.27 65 ePn P 03 46 24.2 -0.5
MSU Marysvale 17.31 127 ePn P 03 46 25.3 -0.3
PPLA Purkeypile 45nm,1.4s 17.32 324 ePn P 03 46 24.8 -0.7
MDM Murphy Dome 49nm,1.6s 17.36 333 ePn P 03 46 26.1 +0.3
LRMC Laurel Mtn Rad baz=334 17.43 145 P P 03 46 28.3 +1.5
CCUT Cedar City 31nm,1.6s 17.48 132 ePn P 03 46 28.0 +0.5
P18A Preston Nutter 17nm,1.0s 17.51 121 ePn P 03 46 29.1 +1.3
SHPR Sheep Range 24nm,1.5s 17.53 138 ePn P 03 46 28.3 +0.3
SZCU Shurtz Canyon 19nm,1.1s 17.58 131 ePn P 03 46 29.4 +0.8
CAST Castle Rocks 50nm,1.7s 17.59 325 ePn P 03 46 27.5 -0.8
BPAW Bear Paw Mtn. 79nm,1.6s 17.63 328 ePn P 03 46 28.2 -0.5
MTPU Mount Pierson 39nm,1.6s 17.67 128 ePn P 03 46 30.8 +1.1
SRU San Rafael Swe 62nm,1.9s 17.73 123 eP P 03 46 30.5 +0.3
K22A Casper baz=305,SNR=13 17.73 108 P P 03 46 30.5 +0.3
K22A Casper 35nm,1.2s 17.73 108 ePn P 03 46 30.7 +0.5
SVW2 Sparrevohn 45nm,1.5s 17.82 316 ePn Pn 03 46 27.6 -2.7
EDW2 Edwards Air Fo baz=335 17.86 147 P P 03 46 32.7 +1.2
FYU Fort Yukon 236nm,1.5s 17.86 340 ePn P 03 46 31.7 +0.5
INK Inuvik 0.1nm,0.3s,baz=173,slow=9.0,SNR=19 17.88 355 P P 03 46 30.6 -0.7
INK LR LR 03 53 03.9
comp=Z,707nm,19.2s,baz=174,slow=36
INK Inuvik 39nm,1.4s 17.88 355 Pn P 03 46 30.7 -0.7
INK Inuvik 39nm,1.4s 17.88 355 ePn P 03 46 30.9 -0.5
GSC Goldstone, Bar baz=332 17.91 144 P P 03 46 34.2 +2.1
GSC Goldstone, Bar 57nm,1.8s 17.91 144 ePn P 03 46 33.5 +1.4
CHGN Chignik 49nm,1.1s 17.96 300 ePn P 03 46 32.1 -0.2
LCMT Little Creek M 27nm,1.4s 17.97 133 ePn P 03 46 33.7 +0.9
PKCU Pink Cliffs 38nm,1.6s 18.07 130 ePn P 03 46 36.9 +2.8
TUQ Turquoise Moun baz=331 18.13 141 P P 03 46 36.0 +1.3
KNB Kanab 21nm,1.3s 18.17 132 ePn P 03 46 37.1 +2.1
MLY Manley 30nm,1.2s 18.17 331 ePn P 03 46 35.8 +1.1
O20A White River Ci baz=312,SNR=9.6 18.28 117 P Pn 03 46 37.6 +1.3
O20A White River Ci 36nm,1.3s 18.28 117 ePn Pn 03 46 38.3 +2.0
MWC Mount Wilson 30nm,1.3s 18.43 148 eP Pn 03 46 38.6 +0.5
RSSD Black Hills baz=300 18.49 101 P Pn 03 46 39.0 +0.1
RSSD Black Hills 50nm,1.8s 18.49 101 eP Pn 03 46 39.2 +0.2
HEC Hector,Ludlow baz=332 18.51 143 P Pn 03 46 39.8 +0.8
BFSC Mount Baldy Ra baz=335 18.55 147 P Pn 03 46 40.1 +0.6
LDFC Landfair 114nm,1.8s 18.77 140 eP P 03 46 41.9 +0.3
BBRC Big Bear Solar baz=334 18.79 145 P Pn 03 46 43.4 +0.9
U15A North Rim 16nm,1.2s 18.89 132 eP Pn 03 46 45.0 +1.2
PV09 Paradox Valley 18.92 122 eP Pn 03 46 45.2 +1.1
SDPT Sand Point 53nm,0.9s 19.05 296 eP Pn 03 46 45.3 0.0
PV10 Paradox Valley 19.06 122 eP Pn 03 46 47.1 +1.3
PV04 Paradox Valley 19.12 122 eP P 03 46 46.0 +0.6
N23A Red Feather La baz=309 19.13 111 P Pn 03 46 46.3 -0.3
N23A Red Feather La 81nm,1.6s 19.13 111 eP Pn 03 46 46.8 +0.1
PHWY Pilot Hill 25nm,1.0s 19.17 110 eP Pn 03 46 47.0 -0.1
PV05 Paradox Valley 19.24 123 eP Pn 03 46 48.6 +0.6
W13A Hualapai Mount 22nm,1.5s 19.27 137 eP Pn 03 46 48.9 +0.6
MURC Murrieta baz=335 19.29 147 P Pn 03 46 49.3 +0.9
BELC Belle Mtn. Jos baz=333 19.37 144 P Pn 03 46 49.1 -0.3
PV01 Paradox Valley 19.49 122 eP P 03 46 50.3 +0.7
PFO Pinyon Flats O 27nm,1.6s 19.54 145 eP P 03 46 50.5 +0.4
TPFO Pinon Flats baz=334 19.55 145 P Pn 03 46 52.4 +0.9
IRM Iron Mountain baz=332,SNR=5.1 19.56 142 P Pn 03 46 52.5 +0.9
COLD Coldfoot 49nm,1.2s 19.59 336 eP Pn 03 46 51.9 +0.2
IM3 Indian Mountai 19.74 330 eP P 03 46 51.2 -0.7
MDND Maddock baz=289,SNR=6.7 19.79 86 P Pn 03 46 55.8 +1.6
MDND Maddock 19.79 86 eP Pn 03 46 56.6 +2.4
PDMCI Parker Dam,Lak baz=330 19.84 139 P Pn 03 46 54.9 0.0
BC3 Big Chuckawall baz=333 19.88 143 P Pn 03 46 55.8 +0.3
109C Camp Elliot, M baz=336 19.97 148 P P 03 46 55.3 +0.8
CPE Camp Elliot 50nm,1.6s 19.97 148 eP Pn 03 46 55.8 -0.6
ISCO Idaho Springs baz=311,SNR=6.8 20.02 113 P Pn 03 46 57.1 -0.2
ISCO Idaho Springs 14nm,1.1s 20.02 113 eP Pn 03 46 57.0 -0.3
WUAZ Wupatki baz=324,SNR=10 20.07 132 P Pn 03 46 57.2 -0.6
WUAZ Wupatki 79nm,2.0s 20.07 132 eP Pn 03 46 57.4 -0.4
Y12C Blythe baz=331 20.16 141 P Pn 03 46 58.2 -0.5
Y12C Blythe 74nm,1.9s 20.16 141 eP Pn 03 46 58.4 -0.3
MVCO Mesa Verde baz=318,SNR=16 20.20 123 P P 03 46 58.1 +0.7
MVCO Mesa Verde 133nm,1.8s 20.20 123 eP Pn 03 46 58.6 -0.8
MONP2 Monument Peak baz=335 20.20 146 P P 03 46 58.4 +1.1
SWSC Sam W. Stewart baz=334 20.38 145 P P 03 46 59.4 +0.4
TOLK Toolik Lake Re baz=142,SNR=26 20.53 339 P Pn 03 47 01.4 -1.4
TOLK Toolik Lake Re 110nm,1.4s 20.53 339 eP Pn 03 47 01.9 -0.8
IKP In-Ko-Pah, Jac baz=335 20.54 146 P P 03 47 01.9 +1.1
Y14A Wickenburg 30nm,1.5s 20.64 137 eP Pn 03 47 03.4 -0.9
GLA Glamis baz=332 20.66 142 P P 03 47 02.8 +0.7
GLA Glamis 19nm,1.1s 20.66 142 eP P 03 47 03.0 +0.9
S22A 4UR Ranch, Cre baz=316,SNR=15 20.72 119 P Pn 03 47 04.6 -0.9
S22A 4UR Ranch, Cre 37nm,1.4s 20.72 119 eP Pn 03 47 04.7 -0.9
FALS False Pass 100nm,1.6s 20.74 295 eP P 03 47 01.1 -1.6
Q24A Divide baz=312 20.84 114 P Pn 03 47 05.9 -1.0
B31A Greenbush Farm baz=288,SNR=16 20.84 83 P P 03 47 04.7 +0.8
X16A Lo Mia Camp, P 18nm,1.0s 20.93 134 eP Pn 03 47 07.0 -0.9
A31A Linda, St. Vin baz=287 20.98 82 P Pn 03 46 06.9 -1.1
C31A Landman Farms, baz=290,SNR=19 20.99 85 P P 03 47 06.4 +0.8
W18A Petrified Fore baz=323 21.18 129 P P 03 47 08.8 +0.9
W18A Petrified Fore 45nm,1.0s 21.18 129 eP P 03 47 09.3 +1.4
D31A Mcclaflin, Tow baz=292 21.26 87 P P 03 47 09.3 +0.9
113A Mohawk Valley, 27nm,1.5s 21.33 141 eP P 03 47 10.1 +0.9
E31A Nome baz=293 21.34 88 P P 03 47 10.1 +0.8
F31A Hecla baz=294 21.38 91 P P 03 47 10.8 +1.1
A32A Rocking H Ranc baz=287,SNR=18 21.42 82 P P 03 47 11.3 +1.1
ULM Lac du Bonnet 13nm,0.6s,baz=284,slow=8.0,SNR=11 21.45 78 P P 03 47 11.0 +0.6
ULM LR LR 03 54 34.7
comp=Z,455nm,20.4s,baz=283,slow=34
ULM Lac du Bonnet 19nm,0.8s 21.45 78 P P 03 47 09.4 -1.1
ULM Lac du Bonnet 19nm,0.8s 21.45 78 eP P 03 47 10.9 +0.4
OGNE Ogallala baz=306 21.46 106 P P 03 47 12.2 +1.5
SDCO Great Sand Dun baz=315,SNR=14 21.47 117 P P 03 47 12.3 +1.2
SDCO Great Sand Dun 10nm,0.9s 21.47 117 eP P 03 47 12.2 +1.2
B32A Ashes, Strandq baz=288,SNR=14 21.55 83 P P 03 47 12.9 +1.3
FCC Fort Churchill 21.93 54 Pn P 03 47 15.5 +0.1
FCC Fort Churchill 26nm,1.2s 21.93 54 eP P 03 47 17.3 +1.9
AGMN Agassiz Nation baz=289,SNR=14 22.01 83 P P 03 47 17.2 +0.6
AGMN Agassiz Nation 19nm,0.6s 22.01 83 eP P 03 47 17.1 +0.6
A33A Warroad baz=288 22.11 81 P P 03 47 18.6 +1.0
B33A Robert and Kas baz=289,SNR=7.8 22.19 83 P P 03 47 20.1 +1.6
J31A Geddes baz=300 22.24 97 P P 03 47 20.4 +1.4
KSCO Kaye Shedlock' baz=310,SNR=8.6 22.29 111 P P 03 47 21.1 +1.4
KSCO Kaye Shedlock' 80nm,1.3s 22.29 111 eP P 03 47 21.6 +1.9
MHTCO State Highway 54nm,1.5s 22.36 117 eP P 03 47 22.6 +2.0
YBKN Baker Lake, Hu 22.40 39 P P 03 47 19.3 -1.1
214A Organ Pipe Nat baz=331,SNR=8.0 22.43 140 P P 03 47 22.1 +1.0
214A Organ Pipe Nat 67nm,1.1s 22.43 140 eP P 03 47 21.5 +0.4
H32A Carlson Farm, baz=297 22.49 93 P P 03 47 22.1 +0.4
T25A Trinidad baz=315 22.51 117 P P 03 47 23.2 +1.0
T25A Trinidad 42nm,1.5s 22.51 117 eP P 03 47 25.6 +3.4
F33A 5 Mile Ranch, baz=294 22.64 89 P P 03 47 24.2 +1.0
B34A Aery, Baudette baz=289,SNR=5.8 22.72 82 P P 03 47 25.2 +1.2
J32A Parkston baz=300 22.77 96 P P 03 47 25.9 +1.3
G33A Ortonville baz=296 22.82 91 P P 03 47 25.8 +0.7
H33A Prehn Over Nor baz=297,SNR=8.8 22.85 92 P P 03 47 26.7 +1.2
D34A Park Rapids baz=292 22.85 85 P P 03 47 26.7 +1.2
ANMO Albuquerque baz=320 23.00 124 P P 03 47 28.6 +1.4
ANMO Albuquerque 20nm,1.4s 23.00 124 eP P 03 47 28.2 +1.0
TUC Tucson baz=328 23.00 135 P P 03 47 28.2 +1.1
TUC Tucson 19nm,1.1s 23.00 135 eP P 03 47 28.1 +1.0
LAZ Ladron 23.06 126 eP P 03 47 29.5 +1.6
G34A Benson baz=296 23.31 90 P P 03 47 31.4 +1.3
B35A Bob, Littlefor baz=289 23.34 81 P P 03 47 31.3 +0.9
J33A Davis baz=300 23.35 95 P P 03 47 31.6 +1.0
ECSD EROS Data Cent baz=299,SNR=16 23.37 94 P P 03 47 31.6 +0.9
ECSD EROS Data Cent 21nm,1.0s 23.37 94 eP P 03 47 31.3 +0.6
LPM Los Pinos Moun 23.39 125 eP P 03 47 32.6 +1.4
C35A Jirik Farms, M baz=291 23.41 83 P P 03 47 32.3 +1.2
H34A Spellman Lake, baz=297 23.47 91 P P 03 47 33.1 +1.4
BNM Barren Site 23.52 125 eP P 03 47 33.4 +0.9
D35A Remer baz=292 23.58 85 P P 03 47 33.5 +0.8
BGNE Belgrade baz=304 23.61 101 P P 03 47 34.1 +1.1
BGNE Belgrade 46nm,1.2s 23.61 101 eP P 03 47 35.0 +2.0
K33A Hardington baz=301 23.69 97 P P 03 47 35.2 +1.4
F35A Swanville baz=294 23.73 88 P P 03 47 35.0 +0.9
SOLO Sioux Lookout 23.87 77 P P 03 47 35.2 -0.2
G35A Watkins baz=296 24.05 89 P P 03 47 39.1 +1.9
H35A Sunnyside Ranc baz=297 24.06 91 P P 03 47 38.8 +1.5
C36A Pine Crest Far baz=291 24.11 82 P P 03 47 38.6 +0.9
CBKS Cedar Bluff baz=309 24.16 108 P P 03 47 38.7 +0.4
CBKS Cedar Bluff 89nm,1.9s 24.16 108 eP P 03 47 39.3 +1.1
121A Cookes Peak, D baz=325,SNR=5.0 24.22 130 P P 03 47 40.3 +1.3
121A Cookes Peak, D 21nm,1.3s 24.22 130 eP P 03 47 40.1 +1.1
E36A McGregor baz=293 24.30 85 P P 03 47 40.7 +1.2
F36A Milaca baz=294 24.39 87 P P 03 47 40.9 +0.6
319A Douglas 19nm,1.1s 24.47 134 eP P 03 47 44.6 +3.4
PKLO Pickle Lake 24.56 72 P P 03 47 42.1 +0.3
NUNN Nunuq Camp, NU 24.69 39 P P 03 47 43.5 +0.8
EYMN Ely baz=291 24.89 81 P P 03 47 46.2 +1.5
EYMN Ely 19nm,1.1s 24.89 81 eP P 03 47 46.3 +1.5
F37A Hinrichs Farm, baz=295 25.02 87 P P 03 47 47.0 +1.0
C38A Sawbill Land. baz=291 25.11 82 P P 03 47 47.1 +0.3
SPMN Marine on St. baz=296 25.12 88 P P 03 47 48.4 +1.5
SPMN Marine on St. 10nm,0.7s 25.12 88 eP P 03 47 49.2 +2.3
H37A Dierke Farm, C baz=297 25.33 89 P P 03 47 51.4 +2.6
F38A Pierce - Schro baz=294,SNR=8.2 25.40 86 P P 03 47 51.4 +1.9
AMTX Amarillo baz=316 25.67 117 P P 03 47 53.5 +1.5
AMTX Amarillo 23nm,0.9s 25.67 117 eP P 03 47 53.4 +1.4
MSTX Muleshoe baz=318 25.73 120 P P 03 47 53.6 +1.0
MSTX Muleshoe 13nm,1.3s 25.73 120 eP P 03 47 53.5 +1.0
GAMB Gambell 15nm,1.6s 25.75 317 eP P 03 47 50.8 -1.6
I38A Scanlan Farm, baz=298 25.96 90 P P 03 47 56.2 +1.7
F39A Loretta baz=295 26.03 85 P P 03 47 56.1 +0.9
KUGN Kugaaruk Camp, 26.06 33 P P 03 47 55.5 +0.4
E39A Mellen baz=294 26.07 84 P P 03 47 56.1 +0.6
MNTX Cornudas Mount baz=324,SNR=18 26.09 127 P P 03 47 56.7 +0.9
MNTX Cornudas Mount 20nm,1.3s 26.09 127 eP P 03 47 57.1 +1.2
G39A Holcombe baz=296 26.14 87 P P 03 47 57.2 +1.0
M37A Trindle Farm, baz=303 26.19 97 P P 03 47 58.4 +1.8
H39A Augusta baz=297 26.33 88 P P 03 47 59.2 +1.3
C40A Isle Royale Na baz=291 26.37 80 P P 03 47 59.3 +1.1
E40A Wakefield baz=294 26.46 83 P P 03 48 00.3 +1.3
L38A Oak Wood Farm, baz=301 26.49 94 P P 03 48 01.2 +1.8
I39A Houston baz=298 26.56 90 P P 03 48 01.4 +1.4
J39A Decorah baz=299,SNR=9.8 26.69 91 P P 03 48 02.5 +1.4
M38A Pleasantville baz=303 26.73 96 P P 03 48 03.0 +1.5
G40A Rib Lake baz=296 26.76 86 P P 03 48 03.0 +1.2
H40A Chili baz=297 26.93 87 P P 03 48 04.0 +0.7
P37A Lathrop baz=306 27.02 100 P P 03 48 05.2 +1.1
N38A Joes South For baz=304 27.04 97 P P 03 48 05.6 +1.3
COWI Conover 56nm,1.9s 27.08 84 eP P 03 48 05.9 +1.2
GTO Geraldton 27.12 75 P P 03 48 04.9 0.0
I40A Norwalk baz=298 27.12 89 P P 03 48 06.4 +1.4
F41A Three Lakes baz=295 27.25 84 P P 03 48 06.7 +0.5
J40A Soldiers Grove baz=299 27.28 90 P P 03 48 07.5 +1.1
M39A Webster baz=302 27.34 95 P P 03 48 08.7 +1.7
K40A Colesburg baz=300 27.37 92 P P 03 48 08.8 +1.6
WMOK Wichita Mounta baz=315,SNR=9.9 27.45 113 P P 03 48 09.0 +1.0
WMOK Wichita Mounta 8.9nm,0.9s 27.45 113 eP P 03 48 09.3 +1.3
P38A Dawn baz=306,SNR=5.5 27.51 99 P P 03 48 09.6 +1.0
Q38A Cooks Store, C baz=307 27.85 101 P P 03 48 08.9 -2.6
K41A Shullsburg baz=300 27.95 91 P P 03 48 13.0 +0.6
P39B Salisbury baz=306 28.08 99 P P 03 48 14.0 +0.3
RES Resolute Bay 1.3nm,1.0s,baz=208,slow=17,SNR=3.2 28.13 19 P P 03 48 14.0 +0.3
RES LR LR 03 59 24.5
comp=Z,569nm,20.5s,baz=219,slow=36
RES Resolute Bay 28.13 19 P P 03 48 13.2 -0.5
RES Resolute Bay 6.7nm,1.2s 28.13 19 eP P 03 48 14.2 +0.5
Q39A Willow Grove F baz=306 28.20 100 P P 03 48 15.5 +0.8
TUL1 Leonard baz=312 28.43 108 P P 03 48 17.2 +0.4
TUL1 Leonard 10nm,0.8s 28.43 108 eP P 03 48 18.3 +1.5
ABTX Abilene, Hawle baz=318 28.47 118 P P 03 48 17.6 +0.4
ABTX Abilene, Hawle 27nm,1.7s 28.47 118 eP P 03 48 17.6 +0.4
S38A Stockton baz=309 28.48 103 P P 03 48 17.6 +0.4
T38A Diamond baz=310 28.61 105 P P 03 48 19.0 +0.6
I43A Langenfeld Bro baz=298 28.70 87 P P 03 48 19.0 -0.1
TX31 Lajitas Ar. Si 28.87 127 eP P 03 48 22.1 +1.2
TXAR Lajitas Array 3.2nm,0.9s,baz=318,slow=7.3,SNR=22 28.87 127 P P 03 48 22.0 +1.2
TXAR PcP PcP 03 51 28.3 -1.4
0.2nm,0.6s,baz=357,slow=2.0,SNR=2.6
TXAR LR LR 04 00 43.8
comp=Z,378nm,20.2s,baz=0.0,slow=38
P41A Barry, Barry baz=305 29.04 97 P P 03 48 23.3 +1.1
N42A Yates City baz=303 29.05 94 P P 03 48 22.5 +0.3
R40A Maddies Statio baz=307 29.10 100 P P 03 48 22.9 +0.2
T39A Clever baz=309 29.19 104 P P 03 48 24.3 +0.8
Q41A Truxton baz=306,SNR=5.1 29.36 98 P P 03 48 25.1 +0.2
U39A Green Forest baz=310 29.53 105 P P 03 48 26.7 +0.1
T40A Mansfield baz=309 29.64 103 P P 03 48 27.4 -0.1
R41A Rosebud baz=307 29.65 100 P P 03 48 28.0 +0.4
CCM Cathedral Cave baz=308 29.88 100 P P 03 48 29.8 +0.2
U40A Yellville baz=310 29.94 104 P P 03 48 30.3 +0.2
JCT Junction City baz=321 30.01 121 P P 03 48 30.9 +0.1
JCT Junction City 17nm,1.1s 30.01 121 eP P 03 48 31.2 +0.4
W39A Magazine baz=312 30.12 107 P P 03 48 32.2 +0.5
T41A Mountain View baz=309 30.18 102 P P 03 48 32.3 +0.1
WHTX Lake Whitney, baz=318 30.19 116 P P 03 48 33.1 +0.7
V40A Witts Springs baz=311 30.31 105 P P 03 48 33.6 +0.1
S42A Caledonia baz=308 30.34 100 P P 03 48 32.9 -0.8
X39A Fountain Ranch baz=313 30.38 108 P P 03 48 34.6 +0.5
LPIG La Paz comp=Z,161nm,18.7s,baz=354,slow=38 30.41 143 LR LR 04 01 41.6
U41A Viola baz=310 30.52 103 P P 03 48 35.4 +0.1
W40A Ferguson Farm, baz=312 30.56 106 P P 03 48 37.2 +1.6
T42A Van Buren baz=309 30.61 101 P P 03 48 35.3 -0.7
MIAR Mount Ida baz=313 30.69 108 P P 03 48 37.9 +1.1
MIAR Mount Ida 17nm,1.5s 30.69 108 eP P 03 48 37.8 +1.1
V41A Mountainview baz=311,SNR=6.0 30.74 104 P P 03 48 37.7 +0.5
S43A Fulton Ridge, baz=308 30.91 99 P P 03 48 38.4 -0.3
T43A Greenville baz=309 31.08 100 P P 03 48 40.0 -0.2
P45A Graceland, Par baz=305 31.23 94 P P 03 48 41.1 -0.4
S44A Carbondale baz=308 31.35 99 P P 03 48 42.9 +0.3
833A Chaparral WMA, baz=323 31.91 123 P P 03 48 48.0 +0.4
P47A Martinsville baz=305 32.19 93 P P 03 48 50.6 +0.7
W45A Hickory Valley baz=311 32.99 102 P P 03 48 57.7 +0.8
WVT Waverly baz=309 33.22 99 P P 03 48 59.3 +0.3
V46A Holladay baz=310 33.24 100 P P 03 48 59.5 +0.3
OXF Oxford baz=312,SNR=7.5 33.27 103 P P 03 48 59.7 +0.3
OXF Oxford 32nm,1.0s 33.27 103 eP P 03 48 59.8 +0.3
X45A UM Field Stati baz=312 33.34 103 P P 03 49 01.2 +1.2
S48A Wiedeman Farm, baz=307 33.40 96 P P 03 49 01.1 +0.6
V47A Nunnelly baz=310 33.60 100 P P 03 49 02.3 0.0
W47A Westpoint baz=310 33.92 100 P P 03 49 05.6 +0.5
Y46A Houston baz=312 34.03 104 P P 03 49 06.6 +0.6
W48A Pulaski baz=310 34.41 100 P P 03 49 09.3 0.0
X48A Hartselle baz=311 34.78 101 P P 03 49 12.9 +0.4

ZAIG	**Zacatecas**	**34.90**	**133**	*e*P	**P**	**03 49 15.1**	**+1.1**
347A	**Saraland**	**35.91**	**106**	P	**P**	**03 49 22.4**	**+0.1**
	baz=314							
Y50A	**Piedmont**	**35.97**	**101**	P	**P**	**03 49 22.6**	**-0.2**
	baz=311							
TKL	**Tuckaleechee C**	**36.07**	**96**	P	**P**	**03 49 23.1**	**-0.5**
	2.1nm,0.8s,baz=310,slow=17,SNR=2.9							
TKL				LR	LR	04 04 44.3		
	comp=Z,1μm,18.6s,baz=328,slow=37							
Z50A	**Ashland**	**36.27**	**102**	P	**P**	**03 49 25.7**	**+0.3**
	baz=312							
249A	**Camden**	**36.39**	**104**	P	**P**	**03 49 27.1**	**+0.8**
	baz=314							
150A	**Eclectic**	**36.64**	**102**	P	**P**	**03 49 29.0**	**+0.5**
	baz=313							
SCHQ	**Schefferville**	**37.19**	**58**	LR	LR	04 03 28.3		
	comp=Z,397nm,19.5s,baz=266,slow=34							
BLA	**Blacksburg**	**37.25**	**92**	P	**P**	**03 49 32.7**	**-1.0**
	baz=307							
251A	**Midway**	**37.37**	**102**	P	**P**	**03 49 34.7**	**0.0**
	baz=313							
252A	**Lumpkin**	**37.86**	**102**	P	**P**	**03 49 38.9**	**+0.1**
	baz=313							
KMSC	**Kings Mountain**	**37.95**	**95**	P	**P**	**03 49 39.8**	**+0.3**
	baz=309							
SFJD	**Kangerlussuaq**	**40.90**	**36**	LR	LR	04 07 39.5		
	comp=Z,451nm,18.2s,baz=290,slow=37							
SEY	**Seymchan**	**41.74**	**318**	P	**P**	**03 50 10.0**	**-0.8**
	1.1nm,0.2s,baz=17,slow=19,SNR=2.7							
PETK	**Petropavlovsk-**	**43.15**	**303**	P	**P**	**03 50 20.3**	**-2.0**
	1.7nm,0.8s,baz=71,slow=15,SNR=2.6							
PETK				LR	LR	04 06 02.7		
	comp=Z,201nm,20.3s,baz=60,slow=33							
TIXI	**Tiksi**	**46.31**	**335**	P	**P**	**03 50 46.6**	**-0.6**
	1.2nm,0.3s,baz=80,slow=7.2,SNR=5.9							
TIXI	**Tiksi**	**46.31**	**335**	*e*P	**P**	**03 50 46.8**	**-0.4**
	24nm,2.0s							
APG	**El Apazote**	**47.52**	**124**	LR	LR	04 11 53.8		
	comp=Z,78nm,18.8s,baz=315,slow=37							
SPITS	**Spitsbergen Ar**	**49.85**	**9**	LR	LR	04 13 27.0		
	comp=Z,391nm,18.6s,baz=335,slow=37							
JMIC	**Jan Mayen**	**51.71**	**21**	LR	LR	04 13 58.2		
	comp=Z,282nm,19.3s,baz=360,slow=37							
BORG	**Borgarnes**	**52.43**	**31**	LR	LR	04 14 16.9		
	comp=Z,16nm,18.2s,baz=336,slow=36							
H11N2	**WAKE ISLAND Hy**	**58.17**	**262**	T	T	04 54 55.2		
	baz=42,slow=76,SNR=1930							
H11N3	**WAKE ISLAND Hy**	**58.17**	**262**	T	T	04 54 55.3		
	baz=42,slow=76,SNR=1190							
H11N1	**WAKE ISLAND Hy**	**58.19**	**262**	T	T	04 54 56.5		
	baz=42,slow=76,SNR=935							
KLR	**Kul'dur**	**58.69**	**311**	LR	LR	04 16 43.8		
	comp=Z,15nm,19.8s,slow=35							
ARCES	**ARCESS Array B**	**59.83**	**10**	LR	LR	04 17 55.6		
	comp=Z,170nm,22.0s,baz=325,slow=36							
H11S1	**WAKE ISLAND Hy**	**59.20**	**262**	T	T	04 56 08.4		
	baz=47,slow=74,SNR=44							
H11S2	**WAKE ISLAND Hy**	**59.21**	**262**	T	T	04 56 16.7		
	baz=47,slow=74,SNR=29							
H11S3	**WAKE ISLAND Hy**	**59.22**	**262**	T	T	04 56 18.8		
	baz=47,slow=74,SNR=25							
TAOE	**Nuku Hiva Isla**	**59.88**	**192**	*e*S	**S**	**04 00 31.0**	**-6.6**
	86nm,30.9s							
TAOE				*e*LR	LR	04 09 58.2		
	408nm,29.1s							
TAOE	**Nuku Hiva Isla**	**59.88**	**192**	*e*T	T	04 56 50.8		
	23nm,0.2s							
USRK	**Ussuriysk Ar.**	**62.03**	**306**	LR	LR	04 19 25.2		
	comp=Z,139nm,19.2s,baz=46,slow=36							
SDV	**Santo Domingo**	**63.76**	**109**	LR	LR	04 23 32.5		
	comp=Z,76nm,19.7s,baz=232,slow=39							
NOA	**NORSAR Array B**	**64.39**	**20**	LR	LR	04 21 06.2		
	comp=Z,187nm,19.5s,baz=330,slow=36							
RUSC	**La Rusia**	**64.69**	**113**	*e*P	**P**	**03 53 00.1**	**-0.5**
	4.8nm,1.2s							
ROSC	**El Rosal**	**64.82**	**115**	LR	LR	04 25 08.9		
	comp=Z,44nm,19.0s,baz=294,slow=40							
EKA	**Eskdalemuir Ar**	**65.46**	**30**	LR	LR	04 21 32.0		
	comp=Z,185nm,18.1s,baz=305,slow=36							
JHJ	**Hachijo jima 2**	**65.54**	**293**	LR	LR	04 15 03.9		
	comp=Z,77nm,21.6s,baz=72,slow=30							
HFS	**Hagfors**	**65.74**	**19**	LR	LR	04 22 27.2		
	comp=Z,329nm,18.7s,baz=335,slow=37							
OTAV	**Otavalo**	**66.28**	**122**	*e*P	**P**	**03 53 11.3**	**+0.4**
	7.8nm,1.2s							
PCRV	**Puerto La Cruz**	**66.43**	**103**	LR	LR	04 22 01.2		
	comp=Z,151nm,21.5s,baz=325,slow=36							
FINES	**FINESS Array B**	**66.65**	**12**	LR	LR	04 23 44.8		
	comp=Z,138nm,18.6s,baz=9.0,slow=37							
PMOR	**Pomariorio Ree**	**67.23**	**199**	*e*T	T	05 05 59.6		
	18nm,0.3s							
KSRS	**Korea Array**	**69.04**	**304**	LR	LR	04 19 41.4		
	comp=Z,38nm,22.0s,baz=21,slow=32							
PPT	**Papeete**	**70.07**	**200**	LR	LR	04 15 44.6		
	comp=Z,127nm,20.4s,baz=3.0,slow=29							
PPT2	**Papeete2**	**70.09**	**200**	*e*LR	LR	04 14 39.8		
	255nm,26.8s,baz=21							
TVO	**Taravao**	**70.21**	**200**	*e*T	T	05 09 42.2		
	3.5nm,0.3s							
SONM	**Songino Array**	**70.75**	**324**	P	**P**	**03 53 41.6**	**+3.6**
	0.8nm,0.7s,baz=48,slow=4.7,SNR=8.6							
SONM				LR	LR	04 24 57.3		
	comp=Z,156nm,19.6s,baz=72,slow=36							
ZALV	**Zalesovo Beam**	**71.89**	**339**	P	**P**	**03 53 43.2**	**-1.3**
	0.4nm,0.3s,baz=15,slow=6.0,SNR=3.2							
ZALV				LR	LR	04 30 27.1		
	comp=Z,80nm,18.2s,baz=59,slow=40							
RKT	**Rikitea**	**73.52**	**185**	*e*LR	LR	04 16 17.3		
	349nm,29.0s							
RKT	**Rikitea**	**73.52**	**185**	*e*T	T	05 13 54.8		
	2.1nm,0.3s							
HHC	**Hu-ho-hao-te**	**74.37**	**316**	*e*P	**P**	**03 53 59.3**	**-0.3**
HHC				pmax	pmax			
	comp=Z,10.0nm,1.3s							
HHC				pmax	pmax			
	comp=Z,19nm,7.6s							
BVAR	**Borovoye Array**	**75.39**	**348**	P	**P**	**03 54 06.0**	**+0.9**
	0.4nm,0.4s,baz=18,slow=5.0,SNR=2.7							
BVAR				LR	LR	04 31 58.7		
	comp=Z,68nm,18.8s,baz=16,slow=40							
TBI	**Tubuai**	**75.65**	**199**	*e*T	T	05 16 35.0		
	5.4nm,0.3s							
GERES	**GERESS Array B**	**76.10**	**24**	LR	LR	04 29 44.4		
	comp=Z,136nm,18.2s,baz=334,slow=37							
KURK	**Kurchatov**	**76.24**	**342**	P	**P**	**03 54 10.1**	**+0.1**
RAR	**Rarotonga**	**76.25**	**209**	LR	LR	04 24 20.3		
	comp=Z,77nm,18.2s,baz=39,slow=33							
KURBB	**Kurchatov Arra**	**76.34**	**342**	P	**P**	**03 54 10.1**	**-0.5**
	0.2nm,0.2s,baz=27,slow=6.3,SNR=4.1							
GUMO	**Guam**	**76.75**	**275**	LR	LR	04 20 48.5		
	comp=Z,98nm,20.3s,baz=76,slow=30							
AKASG	**Malin Array Be**	**77.51**	**14**	P	**P**	**03 54 16.7**	**-0.4**
	0.4nm,0.5s,baz=8.6,slow=6.8,SNR=4.2							
AKASG				LR	LR	04 29 14.9		
	comp=Z,221nm,18.5s,baz=335,slow=36							
NJ2	**Nanjing**	**77.94**	**306**	*e*P	**P**			
NJ2				pmax	pmax			
	comp=Z,12nm,0.5s							
ESDC	**Sonseca Array**	**78.31**	**40**	P	**P**	**03 54 22.3**	**+0.3**
	0.6nm,0.8s,baz=320,slow=5.4,SNR=4.2							
AKTO	**Aktyubinsk**	**79.15**	**355**	LR	LR	04 33 39.9		
	comp=Z,57nm,18.2s,baz=6.7,slow=39							
MKAR	**Makanchi Array**	**79.15**	**338**	P	**P**	**03 54 26.0**	**-0.4**
	0.3nm,0.6s,baz=37,slow=9.1,SNR=3.5							
MKAR				LR	LR	04 33 48.9		
	comp=Z,108nm,18.1s,baz=36,slow=39							
RPN	**Rapa Nui**	**79.44**	**162**	LR	LR	04 21 00.9		
	comp=Z,34nm,20.6s,baz=14,slow=29							
ABKAR	**Akbulak array**	**80.20**	**354**	*e*P	**P**	**03 54 31.0**	**-1.0**
	7.5nm,1.4s							
GTA	**Gaotai**	**80.42**	**323**	*e*P	**P**	**03 54 37.8**	**+4.3**
GTA				pP	pP	03 54 42.3	-1.0
GTA				sP	sP	03 54 44.8	-2.1
GTA				S	**S**	**04 04 44.8**	**+7.4**
GTA				pmax	pmax			
	comp=Z,3.0nm,1.1s							
GTA				pmax	pmax			
	comp=Z,44nm,5.6s							
GTA				LR	LR			
	comp=N,81nm,19.0s							
GTA				LR	LR			
	comp=E,150nm,16.2s							
GTA				LR	LR			
	comp=Z,160nm,19.5s							
WMQ	**Urumqi**	**80.51**	**334**	P	**P**	**03 54 37.8**	**+4.0**
WMQ				LR	LR			
	comp=N,170nm,21.7s							
WMQ				LR	LR			
	comp=E,230nm,25.9s							
WMQ				LR	LR			
	comp=Z,170nm,21.7s							
LZH	**Lanzhou**	**81.67**	**319**	*e*P	**P**	**03 54 39.3**	**-1.0**
LZH				pP	PcP	03 54 43.8	-2.2
LZH				sP	pP	03 54 46.8	-3.3
LZH				PP	**PP**	**03 57 49.0**	**+2.6**
LZH				*e*S	**S**	**04 04 44.3**	**-6.3**
LZH				pmax	pmax			
	comp=Z,17nm,1.1s							
LZH				pmax	pmax			
	comp=Z,94nm,4.3s							
LZH				LR	LR			
	comp=N,1μm,16.6s							
LZH				LR	LR			
	comp=E,1μm,16.8s							
LZH				LR	LR			
	comp=Z,1μm,18.6s							
HNR	**Honiara**	**85.06**	**249**	LR	LR	04 27 40.2		
	comp=Z,43nm,19.1s,baz=123,slow=32							
LPAZ	**La Paz**	**85.60**	**122**	P	**P**	**03 55 01.8**	**+0.8**
	1.2nm,0.9s,baz=332,slow=6.7,SNR=4.2							
LPAZ				LR	LR	04 35 57.2		
	comp=Z,36nm,21.2s,baz=310,slow=38							
KBZ	**Khabaz**	**85.85**	**5**	P	**P**	**03 55 01.6**	**+0.3**
	0.5nm,0.4s,baz=307,slow=5.1,SNR=2.6							
KBZ				LR	LR	04 37 01.9		
	comp=Z,98nm,18.3s,baz=360,slow=38							
KEST	**Kesra**	**86.78**	**32**	LR	LR	04 35 11.1		
	comp=Z,117nm,18.0s,baz=272,slow=36							
VAE	**Valguarnera**	**86.80**	**28**	LR	LR	04 35 06.3		
	comp=Z,101nm,19.2s,baz=326,slow=36							
KSH	**Kashi**	**87.49**	**340**	P	P	03 55 16.0	+6.4	
DZM	**Mont Dzumac**	**91.56**	**236**	LR	LR	04 32 53.5		
	comp=Z,52nm,18.2s,baz=106,slow=33							
GEYT	**Alibeck**	**91.60**	**354**	LR	LR	04 42 20.6		
	comp=Z,43nm,18.1s,baz=35,slow=39							
BBTS	**Babate**	**92.81**	**63**	LR	LR	04 36 02.0		
	comp=Z,108nm,18.5s,baz=321,slow=35							
PMG	**Port Moresby**	**92.86**	**259**	LR	LR	04 28 48.5		
	comp=Z,62nm,21.8s,baz=41,slow=30							
DAV	**Davao City (W)**	**93.82**	**286**	LR	LR	04 29 47.3		
	comp=Z,101nm,21.9s,baz=38,slow=30							
MMAI	**Mount Meron Ar**	**95.73**	**13**	LR	LR	04 41 21.8		
	comp=Z,64nm,21.7s,baz=20,slow=37							
CMAR	**Chiang Mai Arr**	**99.06**	**314**	LR	LR	04 44 19.2		
	comp=Z,72nm,18.3s,baz=39,slow=38							
CPUP	**Vila Florida**	**99.59**	**120**	LR	LR	04 45 13.4		
	comp=Z,51nm,21.2s,baz=356,slow=38							
KOWA	**Kowa**	**99.70**	**53**	LR	LR	04 39 04.2		
	comp=Z,76nm,18.9s,baz=334,slow=34							

ATH ***28*** *03:53:55.6,38.74N×25.62E,h29km±1km, ML2.5/3, Error ellipse: s-maj=2.9km s-min=1.3km az=244.0*
CSEM ***28*** *03:53:56.2±0.1,38.76N×25.64E,h15km, ML2.5, Error ellipse: s-maj=3.0km s-min=1.8km az=71.0*
ISCJB ***28*** *03:53:56.5±0.5,38.76N±0.02×25.62E±0.05,h22km±4km, Error ellipse: s-maj=6.4km s-min=3.7km az=163.4*
ISK ***28*** *03:53:56.2,38.77N×25.70E,h20km, ML2.7/8*
THE ***28*** *03:53:56.7,38.77N×25.66E,h10km±1km, ML2.1/5, Error ellipse: s-maj=2.4km s-min=0.7km az=77.0*
DDA ***28*** *03:53:58.3,38.86N×25.91E,h7km, Ml2.6*
ISC 28 03:53:56.3±0.9, 38.76N±0.02×25.65E±0.03, h16km±9km, n66, σ0.42/88, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PSRA	**Psara**	**0.23**	**196**	P		P	**Pg**	**03 54 01.6**	**+0.2**
PSRA				S		S	**Sb**	**03 54 05.6**	**-0.2**
PSRA				AML		AML	03 54 06.4		
	comp=E,3422μm,0.2s								
PSRA				AML		AML	03 54 06.8		
	comp=N,2790μm,0.1s								
PSRA	**Psara**	**0.23**	**196**	P		**Pb**	**Pb**	**03 54 01.8**	**-0.2**
PSRA				S		**Sb**	**Sb**	**03 54 06.1**	**+0.2**
SIGR	**SIGRI**	**0.48**	**20**	PG		**Pb**	**Pb**	**03 54 06.0**	**-0.2**
SIGR				SG		**Sb**	**Sb**	**03 54 13.3**	**+0.3**
SIGR	**SIGRI**	**0.48**	**20**	P		**Pg**	**Pg**	**03 54 05.8**	**0.0**
SIGR				AML		AML	03 54 14.6		
	comp=N,546μm,0.4s								
SIGR				AML		AML	03 54 16.8		
	comp=E,475μm,0.2s								
SIGR	**SIGRI**	**0.48**	**20**	P		**Pb**	**Pb**	**03 54 06.0**	**-0.2**
SIGR				S		**Sg**	**Sg**	**03 54 12.3**	**0.0**
SIGR	**SIGRI**	**0.48**	**20**	P		**Pb**	**Pb**	**03 54 06.0**	**-0.2**
SIGR				S		**Sg**	**Sg**	**03 54 12.3**	**0.0**
SIGR				*e*Sg		**Sb**	**Sb**	**03 54 13.3**	**+0.3**
CHOS	**Chios island**	**0.49**	**139**	PG		**Pb**	**Pb**	**03 54 06.5**	**-0.1**
CHOS				SG		**Sb**	**Sb**	**03 54 13.5**	**-0.1**
CHOS	**Chios island**	**0.49**	**139**	P		**Pb**	**Pb**	**03 54 07.2**	**+0.6**
CHOS				S		**Sb**	**Sb**	**03 54 13.8**	**+0.2**
CHOS				AML		AML	03 54 13.9		
	comp=N,1255μm,0.2s								
CHOS				AML		AML	03 54 13.9		
	comp=E,2426μm,0.2s								
CHOS	**Chios island**	**0.49**	**139**	P		**Pb**	**Pb**	**03 54 06.7**	**+0.1**
CHOS				S		**Sg**	**Sg**	**03 54 13.1**	**+0.3**
CHOS	**Chios island**	**0.49**	**139**	*e*Pg		**Pb**	**Pb**	**03 54 06.5**	**-0.1**
CHOS				S		**Sg**	**Sg**	**03 54 13.1**	**+0.3**
CESE	**¯e¯me**	**0.67**	**130**	PG		**Pg**	**Pg**	**03 54 08.9**	**-0.5**
CESE	**¯e¯me**	**0.67**	**130**	*e*Pg		**Pg**	**Pg**	**03 54 08.9**	**-0.5**
PRK	**Paraskevi**	**0.69**	**45**	P		**Pg**	**Pg**	**03 54 09.6**	**-0.1**
PRK	**Paraskevi**	**0.69**	**45**	P		**Pg**	**Pg**	**03 54 09.6**	**-0.1**
PRK				S		**Sb**	**Sb**	**03 54 20.0**	**+1.0**
PRK	**Paraskevi**	**0.69**	**45**	P		**Pb**	**Pb**	**03 54 09.7**	**-0.1**
PRK				S		**Sb**	**Sb**	**03 54 20.0**	**+1.0**
KRBN	**Karaburun**	**0.73**	**103**	PG		**Pb**	**Pb**	**03 54 10.9**	**+0.3**
KRBN	**Karaburun**	**0.73**	**103**	*e*Pg		**Pb**	**Pb**	**03 54 10.9**	**+0.3**
GPNR	**Gulpinar-Canak**	**0.79**	**29**	PG		**Pb**	**Pb**	**03 54 11.9**	**+0.3**
GPNR	**Gulpinar-Canak**	**0.79**	**29**	*e*Pg		**Pb**	**Pb**	**03 54 11.9**	**+0.3**
URLA	**Izmir**	**0.85**	**118**	PG		**Pb**	**Pb**	**03 54 12.1**	**-0.4**
URLA				SG		**Sb**	**Sb**	**03 54 24.3**	**+0.6**
URLA	**Izmir**	**0.85**	**118**	*i* P		**Pb**	**Pb**	**03 54 12.2**	**-0.4**
URLA				*i* S		**Sb**	**Sb**	**03 54 24.2**	**+0.5**
URLA	**Izmir**	**0.85**	**118**	P		**Pb**	**Pb**	**03 54 12.1**	**-0.4**
URLA				*e*Sg		**Sb**	**Sb**	**03 54 24.3**	**+0.6**
FOCM	**Fo¯şa**	**0.85**	**93**	PG		**Pg**	**Pg**	**03 54 12.8**	**0.0**
FOCM	**Fo¯şa**	**0.85**	**93**	*e*Pg		**Pg**	**Pg**	**03 54 12.8**	**0.0**
ZEY	**¯zmir**	**0.85**	**128**	*i* P		**Pg**	**Pg**	**03 54 13.1**	**+0.3**
ZEY				*i* S		**Sg**	**Sg**	**03 54 24.6**	**+0.6**
CAND	**Candarli**	**0.92**	**78**	PG		**Pg**	**Pg**	**03 54 14.2**	**0.0**
EFSA	**Agios Efstrati**	**0.93**	**327**	P		**Pn**	**Pn**	**03 54 14.5**	**-0.1**
EFSA	**Agios Efstrati**	**0.93**	**327**	P		**Pg**	**Pg**	**03 54 14.2**	**-0.1**
AYVA	**Ayvalik**	**0.98**	**56**	*i* P		**Pn**	**Pn**	**03 54 15.5**	**+0.2**
AYVA	**Ayvalik**	**0.98**	**56**	P		**Pn**	**Pn**	**03 54 15.5**	**+0.2**
DKL	**Dikili**	**1.03**	**72**	PG		**Pb**	**Pb**	**03 54 15.7**	**0.0**
DKL				SG		**Sg**	**Sg**	**03 54 29.5**	**-0.2**
DKL	**Dikili**	**1.03**	**72**	*e*Pg		**Pb**	**Pb**	**03 54 15.7**	**0.0**
DKL				*e*Sg		**Sg**	**Sg**	**03 54 29.5**	**-0.2**
BOZC	**Bozcaada**	**1.12**	**16**	*i* P		**Pn**	**Pn**	**03 54 17.4**	**+0.1**
BLCB	**Balcova**	**1.16**	**109**	PN		**Pn**	**Pn**	**03 54 17.5**	**-0.2**
BLCB	**Balcova**	**1.16**	**109**	*e*Pn		**Pn**	**Pn**	**03 54 17.5**	**-0.2**
EZN	**Ezine**	**1.19**	**26**	PN		**Pn**	**Pn**	**03 54 17.7**	**-0.4**
EZN	**Ezine**	**1.19**	**26**	*e*Pn		**Pn**	**Pn**	**03 54 17.7**	**-0.4**
LIA	**Limnos Island**	**1.19**	**343**	P		**Pg**	**Pg**	**03 54 18.8**	**-0.4**
LIA	**Limnos Island**	**1.19**	**343**	P		**Pb**	**Pb**	**03 54 18.6**	**+0.2**
LIA				S		**Sg**	**Sg**	**03 54 34.9**	**+0.2**
LIA	**Limnos Island**	**1.19**	**343**	P		**Pb**	**Pb**	**03 54 18.5**	**+0.2**
LIA				S		**Sg**	**Sg**	**03 54 34.9**	**+0.2**
BAYC	**CANAKKALE_Bayr**	**1.20**	**35**	*i* P		**Pn**	**Pn**	**03 54 17.9**	**-0.5**
BAYC	**CANAKKALE_Bayr**	**1.20**	**35**	P		**Pn**	**Pn**	**03 54 17.9**	**-0.5**
DGB	**¯zmir**	**1.20**	**126**	*i* P		**Pb**	**Pb**	**03 54 18.6**	**0.0**
SMG	**Samos**	**1.41**	**138**	P		**Pn**	**Pn**	**03 54 21.1**	**-0.1**
SMG	**Samos**	**1.41**	**138**	P		**Pn**	**Pn**	**03 54 21.3**	**+0.1**
SMG				S		**Sg**	**Sg**	**03 54 40.8**	**-1.0**
SMG	**Samos**	**1.41**	**138**	P		**Pn**	**Pn**	**03 54 21.3**	**+0.1**
SMG				S		**Sg**	**Sg**	**03 54 40.8**	**-1.0**
GADA	**Gvkgeada**	**1.44**	**8**	PN		**Pn**	**Pn**	**03 54 21.6**	**0.0**
GADA	**Gvkgeada**	**1.44**	**8**	*e*Pn		**Pn**	**Pn**	**03 54 21.6**	**0.0**
GCAM	**G?zelcaml?**	**1.64**	**130**	PN		**Pn**	**Pn**	**03 54 24.6**	**+0.2**
GCAM	**G?zelcaml?**	**1.64**	**130**	*e*Pn		**Pn**	**Pn**	**03 54 24.6**	**+0.2**
APE	**Apeiranthos**	**1.69**	**183**	PN		**Pn**	**Pn**	**03 54 25.5**	**+0.3**
APE	**Apeiranthos**	**1.69**	**183**	*e*Pn		**Pn**	**Pn**	**03 54 25.5**	**+0.3**
SMTH	**Samothraki Isl**	**1.71**	**357**	P		**Pn**	**Pn**	**03 54 24.1**	**-1.3**
SMTH	**Samothraki Isl**	**1.71**	**357**	P		**Pn**	**Pn**	**03 54 24.9**	**-0.4**
GELI	**Tayfur-Gelibol**	**1.75**	**21**	PN		**Pn**	**Pn**	**03 54 26.3**	**+0.4**
GELI	**Tayfur-Gelibol**	**1.75**	**21**	*e*Pn		**Pn**	**Pn**	**03 54 26.3**	**+0.4**
BALY	**Balya**	**1.82**	**57**	*i* P		**Pb**	**Pb**	**03 54 28.0**	**-1.1**
BALY	**Balya**	**1.82**	**57**	P		**Pb**	**Pb**	**03 54 28.0**	**-1.1**
AYDB	**Zeytinkoy-Aydi**	**1.94**	**114**	PN		**Pn**	**Pn**	**03 54 28.9**	**+0.2**
AYDB	**Zeytinkoy-Aydi**	**1.94**	**114**	*e*Pn		**Pn**	**Pn**	**03 54 28.9**	**+0.2**
BALB	**Balikesir**	**1.94**	**63**	PN		**Pn**	**Pn**	**03 54 28.2**	**-0.4**
BALB	**Balikesir**	**1.94**	**63**	*e*Pn		**Pn**	**Pn**	**03 54 28.2**	**-0.4**
ERIK	**Erikli-Kesan**	**2.02**	**19**	PN		**Pn**	**Pn**	**03 54 29.9**	**+0.3**
ERIK	**Erikli-Kesan**	**2.02**	**19**	*e*Pn		**Pn**	**Pn**	**03 54 29.9**	**+0.3**
ALN	**Alexandroupoli**	**2.15**	**8**	PN		**Pn**	**Pn**	**03 54 31.6**	**+0.2**
ALN	**Alexandroupoli**	**2.15**	**8**	*e*Pn		**Pn**	**Pn**	**03 54 31.6**	**+0.2**

NIED ***28*** *04:11:00,37.00N×142.60E,h17km,Mw3.9 Best double couple: M0 9.12000×10^14 NP1:φ=209.00000°,δ=30.00000°, λ=102.00000°. NP2:φ=15.00000°,δ=61.00000°,λ=83.00000°.*
ISCJB ***28*** *04:11:14.6±0.6,37.06N±0.05×142.68E±0.06,h9km, mb3.8/9,MS3.8/2,Error ellipse: s-maj=7.4km s-min=6.2km az=147.0*
IDC ***28*** *04:11:14.8±1.2,37.05N×142.72E,h0km,mb3.8/7, mb1 3.9/11,mb1mx3.6/69,mbtmp3.8/11,ML3.6/4,MS3.5/3, Ms1 3.5/3,ms1mx2.7/64,Error ellipse: s-maj=27.6km s-min=21.0km az=108.0*
JMA ***28*** *04:11:16.7±0.3,37.03N×142.57E,h22km,M3.6*
NEIC ***28*** *04:11:20.2±0.8,37.11N×142.61E,h35km,mb4.0/2,Error ellipse: s-maj=15.8km s-min=8.8km az=136.0*
ISC 28 04:11:15.7±0.9, 37.03N±0.06×142.66E±0.07, h9km, n38, σ1§43/37, mb3.8/9, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**1.46**	**284**	P		P	**Pn**	**04 11 41.2**	**-1.1**
JFK				S		S	**Sn**	**04 11 59.4**	**-2.3**
JMM	**Marumori**	**1.70**	**300**	P		P	**Pn**	**04 11 44.7**	**-0.9**
JMM				*e*S		S	**Sn**	**04 12 05.3**	**-2.2**
JHO	**Hitachi**	**1.73**	**257**	P		P	**Pn**	**04 11 45.3**	**-0.6**
JIO	**Ouri**	**1.76**	**324**	P		P	**Pn**	**04 11 46.3**	**-0.1**
JFT	**Otama**	**1.91**	**286**	P		P	**Pn**	**04 11 48.5**	**0.0**
JFT				*e*S		S	**Sn**	**04 12 11.5**	**-1.3**
JOU	**Okura**	**2.07**	**311**	P		P	**Pn**	**04 11 51.2**	**+0.5**
JMK	**Ichinoseki**	**2.23**	**330**	P		P	**Pn**	**04 11 53.3**	**+0.4**
JYK	**Kaneyama**	**2.62**	**317**	P		P	**Pn**	**04 11 58.8**	**+0.6**
JAG	**Ashikaga**	**2.64**	**258**	P		P	**Pn**	**04 11 58.8**	**+0.3**
JOM	**Ohasama**	**2.67**	**337**	P		P	**Pn**	**04 11 58.9**	**0.0**
BSO1	**Boso 1**	**2.73**	**210**	P		P	**Pn**	**04 12 00.4**	**+1.1**
JRY	**Ryogami san**	**3.19**	**253**	P		P	**Pn**	**04 12 06.1**	**0.0**
MJAR	**Matsushiro Arr**	**3.60**	**264**	Pn		Pn	**Pn**	**04 12 12.8**	**+1.0**
	3.8nm,0.3s,baz=90,slow=15,SNR=24								
MJAR						Sn	**Sb**	**04 13 01.3**	**-2.2**
	1.8nm,0.3s,baz=308,slow=12,SNR=4.6								
MJAR				LR		LR	04 13 47.0		
	comp=Z,224nm,18.1s,baz=105,slow=42								
MAJO	**Matsushiro**	**3.60**	**264**	*e*Pn		**Pn**	**Pn**	**04 12 12.6**	**+0.8**
MAT	**Matsushiro**	**3.60**	**264**	P		Pn	**Pn**	**04 12 13.0**	**+1.2**
MAT				*e*S		S	**Sn**	**04 12 57.2**	**+2.7**
JHJ	**Hachijo jima 2**	**4.55**	**212**	Pn		Pn	**Pn**	**04 12 25.1**	**+0.3**
	8.6nm,0.3s,baz=72,slow=20,SNR=3.7								
JHJ						Sn	**Sn**	**04 13 13.2**	**-4.6**
	97nm,0.3s,baz=268,slow=23,SNR=11								
ERM	**Erimo**	**5.00**	**4**	*e*Pn		Pn	**Pn**	**04 12 30.6**	**-0.3**
**ASAJ

AKAS				*i* S		**Sn**	04 15 28.5	**+6.0**
AKAS	**Kas**	**1.20**	**122**	*e*Pn		**Pn**	04 15 06.2	**-1.0**
GCAM	**G?zelcaml?**	**1.22**	**313**	PN		**Pn**	04 15 07.7	**+0.4**
GCAM	**G?zelcaml?**	**1.22**	**313**	*e*Pn		**Pn**	04 15 07.7	**+0.4**
KSL	**Kastellorizon**	**1.23**	**125**	P		**Pn**	04 15 06.6	**-0.9**
KSL				S		**Sn**	04 15 22.4	**-0.7**
ELL	**Elmali**	**1.26**	**95**	PN		**Pn**	04 15 07.1	**-1.0**
ELL	**Elmali**	**1.26**	**95**	*e*Pn		**Pn**	04 15 07.1	**-1.0**
SMG	**Samos**	**1.47**	**305**	P		**Pn**	04 15 10.9	**+0.1**
SMG				S		**Sn**	04 15 29.1	**+0.2**
SMG				AML	AML		04 15 30.9	
	comp=E,367µm,0.4s							
SMG				AML	AML		04 15 31.9	
	comp=N,266µm,0.4s							
SMG	**Samos**	**1.47**	**305**	P		**Pn**	04 15 10.9	**+0.1**
SMG				S		**Sn**	04 15 29.1	**+0.2**
KARP	**Karpathos**	**1.63**	**216**	PN		**Pn**	04 15 12.1	**-0.9**
KARP	**Karpathos**	**1.63**	**216**	P		**Pn**	04 15 12.4	**-0.6**
KARP				S		**Sn**	04 15 33.6	**+0.7**
KARP	**Karpathos**	**1.63**	**216**	P		**Pn**	04 15 12.7	**-0.3**
KARP				S		**Sn**	04 15 33.6	**+0.7**
KARP	**Karpathos**	**1.63**	**216**	*e*Pn		**Pn**	04 15 12.1	**-0.9**
KARP	**Karpathos**	**1.63**	**216**	P		**Pn**	04 15 12.7	**-0.3**
KARP				S		**Sn**	04 15 33.1	**+0.2**
GMLD	**Gumuldur**	**1.66**	**317**	PN		**Pn**	04 15 13.3	**0.0**
GMLD	**Gumuldur**	**1.66**	**317**	*e*Pn		**Pn**	04 15 13.3	**0.0**
URLA	**Izmir**	**2.04**	**318**	PN		**Pn**	04 15 18.2	**-0.3**
URLA	**Izmir**	**2.04**	**318**	*i* P		**Pn**	04 15 17.4	**-1.1**
URLA				*i* S		**Sn**	04 15 41.8	**-1.0**
URLA	**Izmir**	**2.04**	**318**	P		**Pn**	04 15 17.5	**-1.1**
URLA	**Izmir**	**2.04**	**318**	*e*Pn		**Pn**	04 15 18.2	**-0.3**
URLA				S		**Sn**	04 15 41.8	**-1.0**
APE	**Apeiranthos**	**2.26**	**276**	PN		**Pn**	04 15 21.1	**-0.6**
APE	**Apeiranthos**	**2.26**	**276**	P		**Pn**	04 15 22.1	**+0.5**
APE				S		**Sn**	04 15 47.6	**-0.8**
APE	**Apeiranthos**	**2.26**	**276**	*e*Pn		**Pn**	04 15 21.1	**-0.6**
APE	**Apeiranthos**	**2.26**	**276**	P		**Pn**	04 15 21.9	**+0.2**
APE				S		**Sn**	04 15 47.7	**-0.7**
CHOS	**Chios island**	**2.37**	**310**	PN		**Pn**	04 15 23.5	**+0.4**
CHOS	**Chios island**	**2.37**	**310**	P		**Pn**	04 15 23.8	**+0.7**
CHOS				S		**Sn**	04 15 50.1	**-0.9**
CHOS	**Chios island**	**2.37**	**310**	*e*Pn		**Pn**	04 15 23.5	**+0.4**
CHOS				S		**Sn**	04 15 50.5	**-0.5**
KEPZ	**Antalya-Kepez**	**2.61**	**88**	*i* P		**Pn**	04 15 27.1	**+0.7**
KEPZ				*i* S		**Sn**	04 15 56.6	**-0.3**
KEPZ	**Antalya-Kepez**	**2.61**	**88**	P		**Pn**	04 15 27.1	**+0.7**
KEPZ				S		**Sn**	04 15 56.7	**-0.3**
NPS	**Neapolis**	**2.73**	**235**	P		**Pn**	04 15 28.0	**0.0**
NPS	**Neapolis**	**2.73**	**235**	P		**Pn**	04 15 28.1	**0.0**
NPS	**Neapolis**	**2.73**	**235**	P		**Pn**	04 15 28.1	**0.0**
LAST	**Lasithi**	**2.88**	**235**	P		**Pn**	04 15 29.9	**-0.2**
LAST	**Lasithi**	**2.88**	**235**	P		**Pn**	04 15 30.1	**-0.1**

UCR 28 04:16:23.2±1.6, 13°24′N×89°44′W, h64km±10km, ML4.0, El Salvador

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
COLS	**Colinas**	**0.44**	**18**	*e*P		Pn	04 16 35.1	0.0
SANM	**San Marcos**	**0.49**	**31**	*e*S		Sn	04 16 44.7	+0.3
SNET	**Serv Nac Est T**	**0.49**	**24**	*e*P		Pn	04 16 35.5	0.0
SNET				*e*S		Sn	04 16 44.8	+0.4
SNET				IAML			04 16 47.6	
	comp=Z,5µm,0.3s							
UTEC	**San Salvador**	**0.51**	**27**	IAML			04 16 46.9	
	comp=Z,8µm,0.2s							
BOQS	**Boqueron**	**0.51**	**17**	*e*P		Pn	04 16 36.0	+0.1
BOQS				*e*S		Sn	04 16 45.5	+0.3
UEES	**San Salvador**	**0.52**	**21**	*e*S		Sn	04 16 45.4	+0.4
OPAM	**San Salvador**	**0.53**	**26**	*e*P		Pn	04 16 36.1	+0.2
OPAM				*e*S		Sn	04 16 45.9	+0.8
OPAM				IAML			04 16 48.8	
	comp=Z,8µm,0.2s							
LFRS	**El Faro**	**0.53**	**44**	*e*P		Pn	04 16 36.1	+0.2
UDBS	**Soyapango**	**0.55**	**29**	*e*P		Pn	04 16 36.4	+0.2
UDBS				IAML			04 16 49.1	
	comp=Z,5µm,0.2s							
LFU	**La Fuente**	**0.59**	**32**	*e*P		Pn	04 16 37.2	+0.6
LFU				*e*S		Sn	04 16 47.8	+1.3
SBLS	**San Blas**	**0.62**	**343**	*e*P		Pn	04 16 37.1	+0.1
LBRS	**Las Brisas**	**0.62**	**38**	*e*P		Pn	04 16 37.7	+0.8
LBRS				*e*S		Sn	04 16 47.8	+0.8
SNJE	**San Jose**	**0.65**	**345**	*e*P		Pn	04 16 37.4	+0.1
UESV	**Ojushtada**	**0.65**	**77**	*e*P		Pn	04 16 38.9	+1.8
RTR	**El Retiro**	**0.68**	**343**	*e*P		Pn	04 16 37.9	+0.2
SNVI	**San Vicente**	**0.69**	**58**	*e*P		Pn	04 16 37.9	+0.2
SNVI				*e*S		Sn	04 16 49.7	+1.3
LLGN	**La Laguna**	**1.04**	**27**	*e*P		Pn	04 16 42.3	+0.3
LLGN				*e*S		Sn	04 16 57.2	+1.2
LCY	**Lacayo**	**1.13**	**81**	*e*P		Pn	04 16 44.4	+1.3
VSM	**San Miguel**	**1.15**	**81**	*e*P		Pn	04 16 44.3	+0.7
MTO3	**Montecristo**	**1.15**	**4**	*e*P		Pn	04 16 43.9	+0.2
MTO3				*e*S		Sn	04 16 59.3	+0.4
IXG	**Ixpaco**	**1.36**	**313**	*e*P		Pn	04 16 46.1	-0.1
MOMN	**Momotombo**	**2.94**	**106**	*e*P		Pn	04 17 07.6	0.0
COPN	**Copaltepe**	**2.97**	**110**	*e*P		Pn	04 17 08.7	+0.7
COPN				*e*S		Sn	04 17 40.9	-1.5
XAVN	**Gruta Xavier**	**3.22**	**109**	*e*P		Pn	04 17 11.9	+0.4

*ISCJB **28** 04:36:19.2±0.9, 22°.61S±0°.06×68°.8W±0°.1, h119km±9km, mb3.5/2, Error ellipse: s-maj=21.7km s-min=8.9km az=7.5*
*GUC **28** 04:36:19.2±0.6, 22°.60S×68°.79W, h113km±4km, ML3.7*
*IDC **28** 04:36:30.3±10.0, 21°.84S×68°.10W, h171km±70km, mb3.3/2, mb1 3.3/4, mb1mx3.0/38, mbtmp3.6/4, Error ellipse: s-maj=116.1km s-min=33.6km az=10.0*

ISC 28 04:36:19.1±1.0, 22°62S±0°.06×68°.67W±0°.10, h107km±9km, n14, σ0s95/22, 5C-4D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PB06	**IPOC Station P**	**0.84**	**264**	⇑*i*P		**Pn**	**04 36 38.5**	**-0.1**
PB06				*i* S		**Sn**	**04 36 53.5**	**+0.1**
PB06				IAML			04 36 56.5	
	comp=N,3µm,0.2s							
PB15	**IPOC Station P**	**0.94**	**232**	⇑*i*P		**Pn**	**04 36 40.2**	**+0.4**
PB15				*i* S		**Sn**	**04 36 55.9**	**+0.5**
PB09	**IPOC Station P**	**0.98**	**327**	⇑*i*P		**Pn**	**04 36 40.6**	**+0.5**
PB09				*i* S		**Sn**	**04 36 56.5**	**+0.7**
PB09				IAML			04 36 57.3	
	comp=E,2µm,0.3s							
PB04	**IPOC Station P**	**1.40**	**281**	⇑*i*P		**Pn**	**04 36 44.6**	**-0.2**
PB04				*i* S		**Sn**	**04 37 03.7**	**-0.5**
PB04				IAML			04 37 06.1	
	comp=N,1µm,0.1s							
PB07	**IPOC Station P**	**1.44**	**308**	⇑*i*P		**Pn**	**04 36 45.3**	**+0.1**
PB07				*i* S		**Sn**	**04 37 04.6**	**-0.4**
PB07				IAML			04 37 05.6	
	comp=E,1µm,0.5s							
PB02	**IPOC Station P**	**1.73**	**318**	⇓*i*P		**Pn**	**04 36 48.8**	**+0.2**
PB02				*i* S		**Sn**	**04 37 10.8**	**-0.4**
PB02				IAML			04 37 15.9	
	comp=E,2µm,0.2s							
PB01	**IPOC Station P**	**1.74**	**334**	⇓*i*P		**Pn**	**04 36 49.1**	**+0.1**
PB01				*i* S		**Sn**	**04 37 11.4**	**-0.1**
PB01				IAML			04 37 14.0	
	comp=E,1µm,0.2s							
PB10	**IPOC Station P**	**1.95**	**243**	⇓*i*P		**Pn**	**04 36 51.1**	**-0.3**
PB08	**IPOC Station P**	**2.51**	**350**	⇓*i*P		**Pn**	**04 36 59.6**	**+0.6**
LPAZ	**La Paz**	**6.32**	**5**	P		**Pn**	**04 37 52.5**	**+2.0**
	comp=E,0.3nm,0.3s,baz=175,slow=10,SNR=8.3							
SIV	**San Ignacio**	**9.74**	**49**	P		**Pn**	**04 38 33.4**	**-2.9**
	comp=E,0.4nm,0.3s,baz=236,slow=10,SNR=13							
SIV				S		Sn	04 40 14.2	-10
	comp=E,0.1nm,0.3s,baz=211,slow=13,SNR=1.8							
TORD	**Torodi Ar. Bea**	**77.52**	**70**	P		**P**	**04 48 03.4**	**-0.2**
	comp=E,0.5nm,0.4s,baz=249,slow=5.8,SNR=20							
TORD				pP		**pP**	**04 48 30.7**	**-0.2**
	comp=E,0.7nm,0.8s,baz=249,slow=5.3,SNR=3.5							
YKA	**Yellowknife Ar**	**92.31**	**340**	P		**P**	**04 49 16.8**	**0.0**
	comp=E,0.2nm,0.7s,baz=135,slow=4.5,SNR=6.5							
MKAR	**Makanchi Array**	**146.40**	**37**	PKPbc		**PKPbc**	**04 55 48.7**	**+1.1**
	comp=E,0.3nm,0.8s,baz=329,slow=2.5,SNR=2.5							

*ISCJB **28** 04:39:27.0±1.0, 9°.21S±0°.08×79°.3W±0°.2, h64km, mb3.7/5, Error ellipse: s-maj=22.0km s-min=11.5km az=8.6*
*IDC **28** 04:39:30.3±4.5, 9°.05S×79°.19W, h76km±36km, mb3.5/5, mb1 3.6/7, mb1mx3.3/44, mbtmp3.7/7, ML3.6/2, MS2.3/1, Ms1 2.3/1, ms1mx2.2/30, Error ellipse: s-maj=40.0km s-min=23.0km az=58.0*

ISC 28 04:39:28.6±0.9, 9°.2S±0°.1×79°.2W±0°.2, h64km, n10, σ0s92/12, mb3.8/5, Off coast of northern Peru

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ATAH	**Atahualpa**	**2.15**	**21**	P		**Pn**	**04 40 03.1**	**+0.5**
	67nm,0.3s,baz=305,slow=1.2,SNR=466							
ATAH				S		**Sn**	**04 40 28.9**	**+0.4**
	108nm,0.3s,baz=12,slow=21,SNR=15							
ATAH				LR		LR	04 40 48.3	
	comp=Z,74nm,21.2s,baz=231,slow=38							
SIV	**San Ignacio**	**18.92**	**113**	P		**Pn**	**04 43 45.0**	**-0.7**
	0.1nm,0.3s,baz=275,slow=11,SNR=1.7							
NVAR	**Mina Aray Bea**	**59.75**	**325**	P		**P**	**04 49 27.0**	**-0.3**
	0.6nm,0.7s,baz=132,slow=6.6,SNR=4.6							
YKA	**Yellowknife Ar**	**76.50**	**344**	P		**P**	**04 51 10.9**	**-0.4**
	0.4nm,0.6s,baz=140,slow=6.0,SNR=18							
SNAA	**Sanae**	**77.07**	**162**	P		**P**	**04 51 16.1**	**+1.4**
	1.0nm,1.0s,baz=260,slow=11,SNR=2.1							
KOWA	**Kowa**	**78.13**	**73**	P		**P**	**04 51 22.3**	**+0.8**
	1.0nm,0.5s,baz=259,slow=2.8,SNR=2.4							
TORD	**Torodi Ar. Bea**	**83.29**	**76**	P		**P**	**04 51 49.1**	**0.0**
	0.7nm,0.8s,baz=274,slow=5.1,SNR=4.6							
TORD				pP		**pP**	**04 52 05.1**	**-1.8**
	1.0nm,1.0s,baz=255,slow=5.0,SNR=4.1							
ASAR	**Alice Springs**	**134.07**	**224**	PKP		**PKPdf**	**04 58 39.2**	**-0.5**
	0.2nm,0.4s,baz=106,slow=3.0,SNR=1.9							
WRA	**Warramunga Arr**	**136.13**	**229**	PKP		**PKPdf**	**04 58 44.2**	**+0.5**
	0.6nm,0.5s,baz=122,slow=1.9,SNR=11							
MKAR	**Makanchi Array**	**139.30**	**20**	PKP		**PKPdf**	**04 58 48.4**	**-0.3**
	0.2nm,0.7s,baz=343,slow=1.5,SNR=1.7							

*IDC **28** 05:08:27.2±2.6, 53°.52N×165°.97W, h0km, mb3.5/5, mb1 3.8/7, mb1mx3.4/79, mbtmp3.5/7, ML3.2/2, Error ellipse: s-maj=44.1km s-min=32.0km az=69.0*
*ISCJB **28** 05:08:34.6±0.8, 53°.5N±0°.1×165°.7W±0°.1, h74km±8km, mb3.4/5, Error ellipse: s-maj=19.0km s-min=5.9km az=151.9*
*NEIC **28** 05:08:34.7±0.0, 53°.37N×165°.62W, h41km, ML3.3(AEIC), After AEIC.*

ISC 28 05:08:34.1±1.3, 53°.4N±0°.1×165°.60W±0°.06, h55km±15km, n33, σ1s76/34, mb3.4/5, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
UNV	**Unalaska Valle**	**0.72**	**312**	P		**Pn**	**05 08 48.6**	**+0.2**
UNV				S		**Sn**	**05 08 58.8**	**+0.1**
AHB	**Akutan Harbor**	**0.77**	**350**	P		**Pn**	**05 08 49.1**	**+0.2**
AKSA	**Akutan Strait**	**0.78**	**356**	P		**Pn**	**05 08 49.0**	**0.0**
AKUT	**Akutan**	**0.78**	**352**	P		**Pn**	**05 08 49.3**	**+0.3**
AKUT				S		**Sn**	**05 09 00.7**	**+0.7**
AKRB	**Akutan Reef Bi**	**0.82**	**340**	P		**Pn**	**05 08 50.0**	**+0.4**
AKRB				S		**Sn**	**05 09 01.8**	**+0.8**
MGOD	**Makushin Gods**	**0.88**	**300**	P		**Pn**	**05 08 50.8**	**+0.4**
MCIR	**Makushin Cirqu**	**0.97**	**308**	P		**Pn**	**05 08 52.6**	**+1.0**
WESP	**Westdahl Peak**	**1.25**	**24**	P		**Pn**	**05 08 56.6**	**+1.3**
WESP				S		**Sn**	**05 09 12.8**	**+1.7**
WESN	**West Dahl Nort**	**1.35**	**26**	P		**Pn**	**05 08 58.1**	**+1.5**
OKTU	**Okmok Mt. Tuli**	**1.46**	**272**	P		**Pn**	**05 08 59.6**	**+1.4**
SSLS	**Shishaldin Sou**	**1.65**	**34**	P		**Pn**	**05 09 01.7**	**+1.0**
SSLW	**Shishaldin Wes**	**1.66**	**31**	P		**Pn**	**05 09 02.0**	**+1.2**
OKAK	**Okmok**	**1.66**	**279**	P		**Pn**	**05 09 01.9**	**+1.0**
ISLZ	**Isanotski Laza**	**1.76**	**38**	P		**Pn**	**05 09 03.0**	**+0.8**
FALS	**False Pass**	**1.97**	**40**	P		**Pn**	**05 09 06.1**	**+1.0**
FALS				S		**Sn**	**05 09 29.6**	**+1.0**
NIKH	**Nikolski High**	**2.00**	**260**	P		**Pn**	**05 09 06.2**	**+0.8**
NIKH				S		**Sn**	**05 09 29.4**	**+0.2**
SDPT	**Sand Point**	**3.60**	**54**	P		**Pn**	**05 09 28.0**	**+0.8**
SPIA	**Saint Paul Isl**	**4.66**	**327**	P		**Pn**	**05 09 43.2**	**+1.5**
KDAK	**Kodiak Island**	**8.60**	**54**	Pn		**Pn**	**05 10 34.8**	**-0.8**
	0.6nm,0.3s,baz=179,slow=4.6,SNR=32							
KDAK				Sn		**Sn**	**05 12 05.8**	**-5.2**
	0.1nm,0.3s,baz=307,slow=20,SNR=4.1							
SML	**Sawmill**	**12.51**	**41**	*e*Pn		**Pn**	**05 11 27.9**	**-1.2**
	1.2nm,0.6s							
DIV	**Divide**	**13.21**	**46**	*e*Pn		**Pn**	**05 11 35.6**	**-3.1**
	5.4nm,0.3s							
ILAR	**Eielson Array**	**14.86**	**32**	Pn		**Pn**	**05 11 56.5**	**-4.2**
	0.0nm,0.3s,baz=233,slow=14,SNR=2.9							
INK	**Inuvik**	**21.26**	**31**	P		**P**	**05 13 13.4**	**-1.8**
	1.2nm,0.4s,baz=243,slow=12,SNR=11							
YKA	**Yellowknife Ar**	**27.86**	**51**	P		**P**	**05 14 20.0**	**+2.1**
	0.2nm,0.3s,baz=274,slow=8.5,SNR=17							
NVAR	**Mina Array Bea**	**35.44**	**95**	P		**P**	**05 15 27.3**	**+2.4**
	0.2nm,0.6s,baz=312,slow=8.3,SNR=2.7							
H11N2	**WAKE ISLAND Hy**	**39.70**	**223**	T		T	05 58 45.9	
	baz=25,slow=76,SNR=32							
H11N3	**WAKE ISLAND Hy**	**39.71**	**223**	T		T	05 58 42.9	
	baz=25,slow=76,SNR=28							
H11N1	**WAKE ISLAND Hy**	**39.72**	**223**	T		T	05 58 45.6	
	baz=25,slow=76,SNR=28							
H11S1	**WAKE ISLAND Hy**	**40.88**	**222**	T		T	06 00 21.9	
	baz=25,slow=76,SNR=31							
H11S2	**WAKE ISLAND Hy**	**40.89**	**222**	T		T	06 00 17.7	
	baz=25,slow=76,SNR=27							
H11S3	**WAKE ISLAND Hy**	**40.90**	**222**	T		T	06 00 23.2	
	baz=25,slow=76,SNR=23							
TXAR	**Lajitas Array**	**50.48**	**93**	P		**P**	**05 17 27.6**	**+1.2**
	0.2nm,0.5s,baz=307,slow=6.0,SNR=4.7							
FINES	**FINESS Array B**	**65.17**	**354**	P		**P**	**05 19 08.1**	**-0.6**
	1.1nm,0.8s,baz=12,slow=10.0,SNR=3.5							

*NNC **28** 05:13:49.4±1.9, 44°.45N×81°.19E, h0km, mb2.7, mpv2.4, Error ellipse: s-maj=27.0km s-min=9.4km az=124.0*
*SOME **28** 05:13:50.9, 44°.37N×81°.32E, h20km*

ISC 28 05:13:47.8±1.8, 44°29N±0°.05×81°42E±0°.07, h2km±12km, n17, σ1s26/30, 5C-2D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KTMS	**Ketmen**	**1.15**	**223**	*e*P		**Pn**	**05 14 12.0**	**+1.1**
	12nm,0.1s							
KTMS				*e*S		**Sn**	**05 14 27.5**	**+0.2**
	53nm,0.3s							
DJR	**Jarkent**	**1.17**	**273**	*e*P		**Pg**	**05 14 10.7**	**+0.5**
	19nm,0.1s							
DJR				*e*S		**Sg**	**05 14 25.3**	**-0.2**
	17nm,0.3s							
PDGK	**Podgornoye**	**1.70**	**236**	⇑P		**Pb**	**05 14 19.9**	**+0.1**
	1.5nm,0.2s							
PDGK				⇑S		**Sb**	**05 14 42.0**	**+0.4**
	13nm,0.3s							
KAPS	**Kapalarasan**	**1.78**	**305**	*e*P		**Pb**	**05 14 20.5**	**-0.6**
	5.2nm,0.1s							
KAPS				*e*S		**Sn**	**05 14 42.1**	**-0.6**
	37nm,0.3s							
SHLS	**Shalkode**	**1.82**	**232**	*e*P		**Pn**	**05 14 19.2**	**-0.9**
	14nm,0.2s							
SHLS				*e*S		**Sn**	**05 14 40.0**	**-3.8**
	113nm,0.4s							
UZB	**Uzynbulak**	**2.08**	**238**	*e*P		**Pg**	**05 14 28.2**	**+0.5**
	4.5nm,0.2s							
UZB				*e*S		**Sg**	**05 14 54.5**	**-0.1**
	22nm,0.3s							
KPKS	**Kokpek**	**2.15**	**248**	*e*P		**Pb**	**05 14 28.2**	**+0.9**
	18nm,0.2s							
KPKS				*e*S		**Sb**	**05 14 55.7**	**+1.3**
	68nm,0.2s							
MNBS	**Baschi**	**2.19**	**265**	*e*P		**Pb**	**05 14 29.1**	**+1.0**
	3.3nm,0.1s							
MNBS				*e*S		**Sb**	**05 14 56.6**	**+1.0**
	48nm,0.4s							
KURS	**Kuram**	**2.48**	**252**	*e*P		**Pb**	**05 14 34.4**	**+1.2**
	1.1nm,0.7s							
KURS				*e*S		**Sb**	**05 15 05.6**	**+1.4**
	4.2nm,0.4s							
MAKZ	**Makanchi**	**2.55**	**9**	⇑Pg		**Pb**	**05 14 34.7**	**+0.5**
	1.0nm,0.4s							
MAKZ				⇑Lg		Lg	05 15 05.2	
	4.3nm,0.3s							
MK31	**Makanchi Array**	**2.58**	**13**	⇓Pg		**Pb**	**05 14 35.0**	**+0.4**
	0.3nm,0.2s,baz=193,slow=15,SNR=12							
MK31				⇓Lg		Lg	05 15 05.6	
	1.0nm,0.2s,baz=200,slow=27,SNR=22							
ARXS	**Arharly**	**2.59**	**270**	*e*P		**Pb**	**05 14 35.9**	**+1.1**
	2.4nm,0.2s							
ARXS				*e*S		**Sb**	**05 15 08.0**	**+0.9**
	19nm,0.3s							
CHKK	**Chushkaly**	**3.23**	**264**	*e*P		**Pb**	**05 14 46.0**	**+0.3**
	1.9nm,0.3s							
CHKK				*e*S		**Sb**	**05 15 25.7**	**+0.2**
	16nm,0.2s							
KUU	**Kurty**	**3.69**	**266**	*e*P		**Pb**	**05 14 54.6**	**+1.1**
	1.5nm,0.4s							
KUU				*e*S		**Sb**	**05 15 40.2**	**+1.6**
	6.6nm,0.3s							
IZV	**Izvestkoviy**	**3.71**	**252**	*e*P		**Pg**	**05 14 57.1**	**-1.7**
	3.9nm,0.5s							
IZV				*e*S		**Sg**	**05 15 44.9**	**-2.0**
	4.6nm,0.6s							
DGS	**Degeres**	**4.23**	**258**	*e*P		**Pb**	**05 15 03.7**	**+0.9**
	2.0nm,0.5s							
DGS				*e*S		**Sb**	**05 15 55.5**	**+1.2**
	6.6nm,0.5s							
TKM2	**Tokmak 2**	**4.45**	**254**	⇑Lg		Lg	05 16 10.2	
	1.0nm,0.3s							

MEX 28 05:15:34.9±0.7, 16°.16N×98°.30W, h3km±8km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.28**	**35**	*e*P		Pg	05 15 39.9	-0.5
PNIG				*e*S		Sg	05 15 44.5	+0.4
TLIG	**Tlapa**	**1.42**	**350**	*e*P		Pn	05 15 58.1	-3.6
TLIG				*e*S		Sg	05 16 15.9	-4.7
VHO	**Vista Hermosa**	**1.75**	**59**	*e*P		Pn	05 16 03.0	-3.4
VHO				*e*S		Sn	05 16 22.9	-6.4
CAIG	**El Cayaco**	**2.09**	**295**	*e*P		Pn	05 16 06.6	-4.2

MEX 28 05:18:23.0±0.8, 15°.21N×93°.65W, h44km±58km, MD3.6, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PCIG		**0.64**	**40**	*e*P		Pn	05 18 34.1	-1.7
PCIG				*e*S		Sn	05 18 43.0	-1.9
TGIG		**1.64**	**18**	*e*P		Pn	05 18 47.1	-2.4
CCIG	**Comitan**	**1.80**	**54**	*e*P		Pn	05 18 50.7	-1.1

IDC 28 05:20:13.6±5.0, 26°.43N×141°.96E, h50km±100km, mb3.1/3, mb1 3.5/4, mb1mx3.1/58, mbtmp3.5/4, ML3.9/1, Error ellipse: s-maj=221.0km s-min=26.9km az=71.0, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**0.69**	**17**	P		Pn	05 20 27.7	+0.5
	baz=293,slow=18							
JCJ				S		Sn	05 20 45.4	+8.2
	baz=294,slow=19							
MJAR	**Matsushiro Arr**	**10.58**	**343**	P		Pn	05 22 43.5	+1.0
	0.9nm,0.3s,baz=159,slow=10,SNR=6.2							
WRA	**Warramunga Arr**	**46.69**	**190**	P		P	05 28 37.5	+0.1
	0.8nm,0.6s,baz=11,slow=8.4,SNR=7.6							
MKAR	**Makanchi Array**	**50.75**	**310**	P		P	05 29 07.3	-1.2
	0.2nm,0.6s,baz=105,slow=9.5,SNR=2.6							
KURBB	**Kurchatov Arra**	**53.36**	**315**	P		P	05 29 28.4	+0.6
	0.2nm,0.4s,baz=89,slow=7.2,SNR=2.7							

MEX 28 05:21:05.6±0.6, 16°.25N×98°.46W, h8km±7km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.35**	**65**	*e*P		Pg	05 21 12.4	-0.2
PNIG				*e*S		Sg	05 21 17.1	-0.2
TLIG	**Tlapa**	**1.31**	**356**	*e*P		Pn	05 21 26.6	-3.8
TLIG				*e*S		Sb	05 21 42.5	-5.2
VHO	**Vista Hermosa**	**1.85**	**63**	*e*P		Pn	05 21 33.9	-3.9
VHO				*e*S		Sn	05 21 57.0	-4.5
CAIG	**El Cayaco**	**1.91**	**295**	*e*P		Pn	05 21 34.4	-4.0
CAIG				*e*S		Sn	05 21 58.4	-4.2

*DDA **28** 05:29:04.9, 36°.91N×30°.36E, h16km, MI2.7*
*ISCJB **28** 05:29:07.8±0.5, 37°.02N±0°.04×30°.41E±0°.04, h10km, Error ellipse: s-maj=5.4km s-min=4.6km az=150.1*
*CSEM **28** 05:29:07.7±0.4, 37°.07N×30°.35E, h10km, ML2.2, Error ellipse: s-maj=11.8km s-min=8.4km az=141.0*
*ISK **28** 05:29:07.2, 37°.05N×30°.41E, h5km, ML2.2/4*

ISC 28 05:29:07.3±0.8, 37°.08N±0°.03×30°.37E±0°.03, h10km, n20, σ1s18/30, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KORT	**Korkueli**	**0.08**	**193**	PG		**Pg**	**05 29 08.8**	**-1.0**
KORT				SG		**Sg**	**05 29 10.4**	**-1.2**

FETY	**Fethiye**	**1.14**	**248**	PN	**Pg**	**05 48 33.4**	**-0.2**
FETY	**Fethiye**	**1.14**	**248**	P	**Pg**	**05 48 31.6**	**-2.0**
FETY	**Fethiye**	**1.14**	**248**	*e*Pn	**Pg**	**05 48 33.4**	**-0.2**
FETY				S	**Sn**	**05 48 52.1**	**+1.3**
TAVA	**DENIZLI_Tavas**	**1.24**	**289**	*i* P	**Pg**	**05 48 35.5**	**-0.2**
TAVA				*i* S	**Sn**	**05 48 54.9**	**+1.3**
TAVA	**DENIZLI_Tavas**	**1.24**	**289**	P	**Pg**	**05 48 35.5**	**-0.2**
TAVA				S	**Sn**	**05 48 54.9**	**+1.3**
TURN	**Turunc**	**1.45**	**263**	PN	**Pg**	**05 48 42.9**	**+3.3**

IDC ***28*** *05:53:26.5±1.8, 3°.50N×92°.68E, h0km, mb3.8/5, mb1 4.1/8, mb1mx3.6/73, mbtmp4.0/8, ML4.3/3, MS3.3/13, Ms1 3.3/13, ms1mx3.0/63, Error ellipse: s-maj=47.2km s-min=22.8km az=44.0*

DJA ***28*** *05:53:27.2±0.5, 3°N±4°×9°3E±°, h10km, M4.7/13, mb4.6/13, mB5.6/4, MLv4.7/6, Mw(mB)5.0/4*

NEIC ***28*** *05:53:28.8±2.5, 3°.54N×92°.72E, h14km±16km, mb4.6/6, Error ellipse: s-maj=9.8km s-min=5.4km az=48.0*

ISCJB ***28*** *05:53:29.2±0.6, 3°.51N±0°.06×92°.77E±0°.05, h33km, mb4.5/11, MS3.4/10, Error ellipse: s-maj=9.9km s-min=5.3km az=42.5*

ISC 28 05:53:31.3±0.8, 3°.53N±0°.09×92°.83E±0°.07, h35km, n64, σ1f49/53, mb4.4/11, MS3.4/10, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSI	**Banda Aceh**	**3.14**	**51**	P	**Pn**	**05 54 18.6**	**+0.3**
MLSI	**Meulaboh, Aceh**	**3.64**	**78**	P	**Pn**	**05 54 26.2**	**+1.0**
TPTI		**4.35**	**93**	P	**Pn**	**05 54 36.0**	**+1.1**
LHMI	**Lhok Sumawe**	**4.44**	**67**	*e*Pn	**Pn**	**05 54 38.1**	**+2.0**
KCSI	**Kotacane, Aceh**	**4.93**	**90**	P	**Pn**	**05 54 46.0**	**+3.0**
	105nm,0.7s,3µm1.2nm						
GSI	**Gunungsitoli**	**5.23**	**115**	P	**Pn**	**05 54 47.8**	**+0.7**
	104nm,0.6s,0.3nm						
GSI	**Gunungsitoli**	**5.23**	**115**	*e*Pn	**Pn**	**05 54 48.0**	**+0.9**
PSI	**Prapat**	**6.12**	**97**	Pn	**Pn**	**05 55 01.2**	**+1.8**
PSI				Sn	**Sn**	**05 56 06.8**	**-1.7**
	1.8nm,0.3s,baz=0.0,slow=20,SNR=2.8						
PSI	**Prapat**	**6.12**	**97**	*e*Pn	**Pn**	**05 55 01.6**	**+2.2**
PSI				*e*Sn	**Sn**	**05 56 08.8**	**+0.3**
PKDT	**Phuket**	**6.98**	**51**	P	**Pn**	**05 55 11.5**	**+0.3**
	29nm,0.7s,956nm0.1nm						
MNSI	**Mandailing Nat**	**7.27**	**112**	P	**Pn**	**05 55 15.7**	**+0.6**
	58nm,0.5s,3µm0.4nm						
KULM	**Kulim**	**7.99**	**77**	*e*Pn	**Pn**	**05 55 26.5**	**+1.5**
KULM				*e*Sn	**Sn**	**05 56 50.2**	**-4.0**
TRTT	**Trang**	**8.05**	**58**	P	**Pn**	**05 55 25.6**	**-0.3**
	17nm,0.8s,0.1nm						
PBA	**Port Blair**	**8.08**	**359**	*e*Pn	Pn	05 55 25.6	-0.5
PPI	**Padang Panjang**	**8.53**	**117**	P	**Pn**	**05 55 33.7**	**+1.2**
	209nm,0.8s,26µm						
RGRI	**Rengat**	**10.25**	**112**	P	Pn	05 56 03.2	+7.2
MASI	**Maura Aman, Be**	**11.50**	**125**	P	**Pn**	**05 56 11.0**	**-2.2**
	36nm,0.6s						
PALK	**Pallekele**	**12.64**	**288**	Pn	**Pn**	**05 56 26.2**	**-2.5**
	1.2nm,0.3s,baz=116,slow=14,SNR=4.7						
PALK				Sn	Sn	05 58 32.3	-16
	1.4nm,0.3s,baz=308,slow=1.1,SNR=3.0						
PALK				LR	LR	06 00 45.9	
	comp=Z,144nm,18.5s,baz=116,slow=35						
PALK	**Pallekele**	**12.64**	**288**	*e*Pn	**Pn**	**05 56 26.5**	**-2.2**
PALK				Sn	Sn	05 58 32.3	-16
MNAI	**Manna**	**12.79**	**128**	*e*Pn	**Pn**	**05 56 31.7**	**+0.8**
CHBT	**CHBT**	**13.12**	**45**	P	**P**	**05 56 41.0**	**-4.0**
	124nm,0.7s						
MDSI	**Maura Dua**	**13.85**	**125**	P	**Pn**	**05 56 46.1**	**+0.8**
	8.5nm,0.7s,1µm						
CM01	**Chiang Mai Arr**	**15.97**	**22**	*e*Pn	**Pn**	**05 57 12.5**	**-1.0**
CM31	**Chiang Mai Arr**	**16.00**	**22**	*e*Pn	**Pn**	**05 57 13.3**	**-0.5**
CMAR	**Chiang Mai Arr**	**16.00**	**22**	Pn	**Pn**	**05 57 13.1**	**-0.7**
	0.9nm,0.3s,baz=218,slow=14,SNR=22						
CMAR				LR	LR	06 04 44.6	
	comp=Z,86nm,18.1s,baz=220,slow=42						
LAMP	**Lampang**	**16.32**	**24**	P	**P**	**05 57 21.9**	**+1.4**
	5.6nm,0.9s						
CHTO	**Chiang Mai**	**16.32**	**21**	P	**P**	**05 57 21.4**	**+0.8**
	34nm,0.8s						
CHTO	**Chiang Mai**	**16.32**	**21**	*e*Pn	**Pn**	**05 57 17.4**	**-0.6**
	5.6nm,0.7s						
CMMT	**Chiang Mai**	**16.33**	**21**	P	**P**	**05 57 20.3**	**-0.3**
	7.7nm,0.8s						
SKNT	**Sakolnakorn**	**17.27**	**39**	P	**Pn**	**05 57 29.1**	**-0.8**
	8.6nm,0.9s						
CMAI	**Chiengmai2**	**17.39**	**20**	P	**P**	**05 57 36.3**	**+3.7**
LEM	**Lembang**	**17.99**	**125**	LR	LR	06 04 39.7	
	comp=Z,96nm,18.5s,baz=108,slow=37						
H08S2	**Diego Garcia H**	**23.13**	**241**	T	T	06 24 27.5	
	baz=61,slow=75,SNR=23						
H08S3	**Diego Garcia H**	**23.13**	**241**	T	T	06 24 27.5	
	baz=61,slow=75,SNR=24						
H08S1	**Diego Carcia H**	**23.15**	**241**	T	T	06 24 28.7	
	baz=61,slow=75,SNR=18						
LSA	**Lhasa**	**26.08**	**357**	*e*P	**P**	**05 59 01.9**	**-0.3**
	5.9nm,0.6s						
KAPI	**Kappang**	**28.20**	**107**	*e*P	**P**	**05 59 20.6**	**-0.4**
	210nm,0.6s						
TWG	**Pinlang**	**33.40**	**52**	*e*P	**P**	**06 00 08.1**	**+1.3**
MK01	**Makanchi Array**	**44.03**	**350**	*e*P	**P**	**06 01 36.5**	**+0.8**
MK31	**Makanchi Array**	**44.06**	**350**	*e*P	**P**	**06 01 36.6**	**+0.8**
MK32	**Makanchi Array**	**44.06**	**350**	*e*P	**P**	**06 01 35.9**	**+0.1**
MKAR	**Makanchi Array**	**44.06**	**350**	P	**P**	**06 01 35.9**	**+0.1**
	0.6nm,0.6s,baz=166,slow=9.7,SNR=4.6						
MKAR				LR	LR	06 25 00.6	
	comp=Z,20nm,18.1s,baz=141,slow=43						
MKAR	**Makanchi Array**	**44.06**	**350**	*e*P	**P**	**06 01 36.6**	**+0.8**
	16nm,0.6s						
SONA0	**Songino Array**	**45.66**	**13**	*e*P	**P**	**06 01 49.8**	**+1.1**
SONM	**Songino Array**	**45.66**	**13**	P	**P**	**06 01 49.8**	**+1.1**
	1.0nm,0.7s,baz=194,slow=7.9,SNR=6.4						
SONA1	**Songino Array**	**45.67**	**13**	*e*P	**P**	**06 01 49.7**	**+0.9**
JNU	**Nakatsue**	**46.14**	**46**	LR	LR	06 22 02.4	
	comp=Z,52nm,18.8s,baz=257,slow=37						
KSRS	**Korea Array**	**46.61**	**39**	LR	LR	06 22 32.6	
	comp=Z,48nm,18.0s,baz=246,slow=37						
WR1	**Warramunga Arr**	**46.96**	**121**	*e*P	**P**	**06 02 00.1**	**+0.9**
	4.7nm,1.0s						
WRA	**Warramunga Arr**	**46.96**	**121**	P	**P**	**06 02 00.1**	**+0.9**
	1.0nm,0.7s,baz=298,slow=8.7,SNR=3.8						
ASAR	**Alice Springs**	**48.28**	**126**	LR	LR	06 23 29.8	
	comp=Z,36nm,18.6s,baz=150,slow=37						
KURBB	**Kurchatov Arra**	**48.46**	**348**	P	**P**	**06 02 10.8**	**+0.6**
	0.2nm,0.3s,baz=163,slow=6.8,SNR=2.8						
KURK	**Kurchatov**	**48.52**	**348**	*e*P	**P**	**06 02 10.8**	**0.0**
ZALV	**Zalesovo Beam**	**50.69**	**354**	P	**P**	**06 02 27.4**	**+0.2**
	1.0nm,0.4s,baz=173,slow=7.6,SNR=3.3						
ZALV				LR	LR	06 28 33.3	
	comp=Z,24nm,18.0s,baz=250,slow=42						
ZALV	**Zalesovo Beam**	**50.69**	**354**	*e*P	**P**	**06 02 27.9**	**+0.7**
ZAA1	**Zalesovo Array**	**50.69**	**354**	*e*P	**P**	**06 02 27.4**	**+0.2**
BVAR	**Borovoye Array**	**52.70**	**343**	LR	LR	06 26 21.2	
	comp=Z,46nm,19.3s,baz=104,slow=38						
MJAR	**Matsushiro Arr**	**53.07**	**46**	LR	LR	06 27 14.7	
	comp=Z,25nm,18.3s,baz=255,slow=38						
BRTR	**Keskin Array B**	**64.33**	**313**	LR	LR	06 32 53.2	
	comp=Z,11nm,18.5s,baz=94,slow=37						
TIXI	**Tiksi**	**71.72**	**11**	*e*P	**P**	**06 04 49.8**	**+0.4**
	2.5nm,0.5s						
FIA1	**FINESS Array S**	**75.94**	**333**	*e*P	**P**	**06 05 15.2**	**+0.8**
	13nm,1.4s						
SPITS	**Spitsbergen Ar**	**83.80**	**348**	LR	LR	06 47 52.6	
	comp=Z,14nm,21.2s,baz=60,slow=39						
TORD	**Torodi Ar. Bea**	**90.32**	**283**	LR	LR	06 46 12.2	
	comp=Z,18nm,18.1s,baz=190,slow=35						
JOHN	**Johnston Islan**	**96.29**	**73**	*e*P	**P**	**06 06 56.7**	**-0.2**
	241nm,1.1s						

SOME ***28*** *06:10:34.5, 42°.42N×82°.83E, h15km*

NNC ***28*** *06:10:42.1±4.7, 42°.39N×82°.60E, h0km, mb3.5, mpv3.2, Error ellipse: s-maj=45.1km s-min=20.1km az=158.0*

ISC 28 06:10:36.9±2.4, 42°.44N±0°.09×82°.68E±0°.08, h10km, n20, σ2f15/35, 8C-3D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**2.47**	**288**	*e*P	**Pn**	**06 11 18.3**	**+0.9**
	35nm,0.4s						
SHLS				*e*S	**Sn**	**06 11 50.1**	**+2.4**
	328nm,0.6s						
PDGK	**Podgornoye**	**2.50**	**292**	⇑Pn	**Pb**	**06 11 22.2**	**+0.2**
	14nm,0.5s						
PDGK				⇑Sn	**Sg**	**06 11 56.3**	**-1.1**
	40nm,0.6s						
UZB	**Uzynbulak**	**2.78**	**286**	*e*P	**Pb**	**06 11 25.8**	**-1.0**
	6.2nm,0.3s						
UZB				*e*S	**Sb**	**06 12 02.5**	**+1.5**
	40nm,0.4s						
DJR	**Jarkent**	**2.83**	**313**	*e*P	**Pb**	**06 11 26.9**	**-0.6**
	10nm,0.4s						
DJR				*e*S	**Sb**	**06 12 04.9**	**+2.6**
	48nm,0.8s						
KPKS	**Kokpek**	**3.11**	**291**	*e*P	**Pb**	**06 11 30.0**	**-2.3**
	9.4nm,0.3s						
KPKS				*e*S	**Sb**	**06 12 10.1**	**-0.1**
	91nm,0.7s						
SATY	**Saty**	**3.21**	**283**	*e*P	**Pb**	**06 11 31.5**	**-2.5**
	14nm,0.4s						
SATY				*e*S	**Sb**	**06 12 12.4**	**-0.8**
	41nm,0.3s						
KURS	**Kuram**	**3.47**	**289**	*e*P	**Pg**	**06 11 41.4**	**-2.0**
	3.4nm,0.6s						
KURS				*e*S	**Sg**	**06 12 29.2**	**+0.9**
	19nm,0.5s						
KAPS	**Kapalarasan**	**3.72**	**321**	*e*P	**Pb**	**06 11 40.9**	**-1.9**
	20nm,0.4s						
KAPS				*e*S	**Sb**	**06 12 28.5**	**+0.6**
	20nm,0.5s						
ARXS	**Arharly**	**3.96**	**298**	*e*P	**Pg**	**06 11 50.1**	**-2.6**
	6.2nm,0.7s						
ARXS				*e*S	**Sg**	**06 12 44.1**	**+0.2**
	57nm,0.8s						
MDOK	**Medeo**	**4.21**	**282**	*e*P	**Pb**	**06 11 49.4**	**-1.7**
	3.7nm,0.5s						
MDOK				*e*S	**Sb**	**06 12 43.2**	**+1.3**
	16nm,0.8s						
TNSS	**Tian-Shan**	**4.26**	**280**	*e*P	**Pb**	**06 11 50.5**	**-1.7**
	7.6nm,0.6s						
TNSS				*e*S	**Sb**	**06 12 45.1**	**+1.2**
	11nm,0.6s						
MK31	**Makanchi Array**	**4.36**	**356**	Pn	**Pb**	**06 11 49.4**	**-4.2**
	0.1nm,0.2s,baz=186,slow=12,SNR=39						
MK31				Pg	**Pg**	**06 12 03.0**	**+2.6**
	2.8nm,0.3s,baz=176,slow=14,SNR=8.1						
MK31				⇑Lg	Lg	06 13 04.5	
	5.6nm,0.5s,baz=189,slow=24,SNR=5.2						
CHKK	**Chushkaly**	**4.40**	**291**	*e*P	**Pg**	**06 11 58.9**	**-2.2**
	4.2nm,0.8s						
CHKK				*e*S	**Sg**	**06 12 59.4**	**+1.3**
	16nm,0.5s						
KUU	**Kurty**	**4.86**	**290**	*e*P	**Pg**	**06 12 07.8**	**-2.2**
	2.3nm,0.4s						
KUU				*e*S	**Sg**	**06 13 15.1**	**+2.3**
	16nm,0.7s						
KST	**Kastek**	**4.98**	**279**	⇑*i*P	**Pg**	**06 12 08.3**	**-4.0**
	7.6nm,0.8s						
KST				*e*S	**Sg**	**06 13 16.0**	**-0.9**
	14nm,0.6s						
DGS	**Degeres**	**5.14**	**281**	*e*P	**Pb**	**06 12 09.0**	**+2.0**
	2.4nm,0.4s						
DGS				*e*S	**Sg**	**06 13 17.6**	**-4.3**
	17nm,0.6s						
TKM2	**Tokmak 2**	**5.24**	**278**	⇓Pg	**Pg**	**06 12 18.3**	**+1.0**
	2.2nm,0.5s						
TKM2				⇑Lg	Lg	06 13 23.9	
	5.7nm,0.6s						
AAK	**Ala-Archa**	**6.05**	**275**	⇑Pg	**Pg**	**06 12 36.1**	**+3.3**
	3.8nm,0.9s						
AAK				⇓Lg	Lg	06 13 48.2	
	4.8nm,0.7s						
MNAS	**Manas**	**7.52**	**274**	⇑Pg	**Pg**	**06 13 00.9**	**0.0**
	0.7nm,0.6s						
MNAS				⇓Lg	Lg	06 14 40.5	
	1.8nm,0.6s						
KK31	**Karatay Array**	**8.97**	**278**	Pg	Pn	06 13 21.0	+34
	0.6nm,0.7s,baz=248,slow=13,SNR=4.6						
KK31				⇑Lg	Lg	06 15 22.7	
	0.7nm,0.5s,baz=79,slow=28						

MEX 28 06:23:37.7±0.5, 16°.23N×98°.32W, h5km±4km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.24**	**50**	*e*P	Pg	06 23 42.0	-0.4
PNIG				*e*S	Sg	06 23 45.8	+0.1
TLIG	**Tlapa**	**1.34**	**350**	*e*P	Pn	06 23 59.5	-3.7
TLIG				*e*S	Sg	06 24 16.6	-4.3
VHO	**Vista Hermosa**	**1.73**	**61**	*e*P	Pn	06 24 05.5	-3.2
VHO				*e*S	Sn	06 24 26.2	-5.2
CAIG	**El Cayaco**	**2.04**	**294**	*e*P	Pn	06 24 08.7	-3.9

IDC 28 06:33:43.7±28.0, 20°.28S×173°.99W, h0km, mb4.0/4, mb1 4.2/4, mb1mx3.7/44, mbtmp4.0/4, Error ellipse: s-maj=527.6km s-min=168.5km az=75.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**37.26**	**263**	P	P	06 40 58.2	+0.7
	2.2nm,0.4s,baz=93,slow=10,SNR=5.3						
STKA	**Stephens Creek**	**41.28**	**245**	P	P	06 41 31.2	+0.2
	0.6nm,0.4s,baz=80,slow=9.8,SNR=3.2						
ASAR	**Alice Springs**	**48.23**	**256**	P	P	06 42 26.2	-0.5
	1.9nm,0.8s,baz=98,slow=8.0,SNR=22						
WRA	**Warramunga Arr**	**48.36**	**261**	P	P	06 42 27.1	-0.6
	0.7nm,0.3s,baz=97,slow=8.5,SNR=30						

IDC 28 06:34:59.0±1.4, 27°.63N×101°.47E, h0km, mb3.1/3, mb1 3.5/4, mb1mx3.2/68, mbtmp3.3/4, ML4.1/1, Error ellipse: s-maj=56.2km s-min=24.3km az=75.0, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**9.41**	**195**	Pn	Pn	06 37 15.9	0.0
	0.5nm,0.3s,baz=357,slow=16,SNR=5.8						
CMAR				Sn	Sn	06 38 51.4	-11
	0.6nm,0.3s,baz=347,slow=24,SNR=2.6						
SONM	**Songino Array**	**20.54**	**9**	P	P	06 39 38.9	-0.2
	0.2nm,0.3s,baz=184,slow=14,SNR=2.8						
MKAR	**Makanchi Array**	**24.36**	**327**	P	P	06 40 18.8	+0.1
	0.3nm,0.6s,baz=141,slow=9.5,SNR=3.9						
WRA	**Warramunga Arr**	**57.00**	**142**	P	P	06 44 46.6	-0.1
	0.4nm,0.8s,baz=326,slow=7.6,SNR=2.6						

IDC ***28*** *06:36:21.7±1.9, 15°.67N×89°.08W, h0km, mb3.8/6, mb1 4.2/7, mb1mx3.8/43, mbtmp3.8/7, ML4.4/1, MS3.2/7, Ms1 3.2/7, ms1mx2.7/51, Error ellipse: s-maj=39.0km s-min=13.9km az=142.0*

UCR ***28*** *06:36:24.4±0.8, 15°.95N×89°.36W, h26km±144km, ML3.8, mb4.2(NEIC)*

NEIC ***28*** *06:36:27.7±2.5, 15°.70N×89°.35W, h28km±20km, mb4.2/29, Error ellipse: s-maj=10.6km s-min=7.9km az=222.0*

ISC 28 06:36:26.9±1.7, 15°.75N±0°.05×89°.36W±0°.06, h24km±15km, n71, σ1f31/71, mb4.2/30, MS3.3/7, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APG	**El Apazote**	**1.30**	**235**	Pg	**Pn**	**06 36 49.4**	**-0.4**
	231nm,0.3s,baz=98,slow=13,SNR=1510						
APG				Lg	Lg	06 37 08.8	
	387nm,0.3s,baz=77,slow=22,SNR=21						
APG				LR	LR	06 37 30.6	
	comp=Z,1µm,21.2s,baz=62,slow=46						
SNJE	**San Jose**	**1.88**	**187**	*e*P	**Pn**	**06 36 58.0**	**+0.2**
SBLS	**San Blas**	**1.92**	**188**	*e*P	**Pn**	**06 36 58.9**	**+0.6**
LFU	**La Fuente**	**2.00**	**173**	*e*P	**Pn**	**06 36 59.5**	**+0.2**
LFU				*e*S	**Sb**	**06 37 26.3**	**-1.0**
BOQS	**Boqueron**	**2.00**	**178**	*e*P	**Pn**	**06 36 59.8**	**+0.3**
BOQS				*e*S	**Sb**	**06 37 27.3**	**-0.1**
UEES	**San Salvador**	**2.01**	**177**	*e*P	**Pn**	**06 36 59.8**	**+0.3**
UEES				*e*S	**Sb**	**06 37 27.1**	**-0.4**
UEES				IAML		06 37 33.7	
	comp=Z,1µm,0.5s						
LBRS	**Las Brisas**	**2.02**	**171**	*e*P	**Pn**	**06 36 59.1**	**-0.5**
LBRS				*e*S	**Sb**	**06 37 26.9**	**-0.9**
OPAM	**San Salvador**	**2.02**	**176**	*e*P	**Pn**	**06 36 59.3**	**-0.3**
OPAM				*e*S	**Sb**	**06 37 27.6**	**-0.3**
OPAM				IAML		06 37 37.9	
	comp=Z,613nm,0.7s						
SNET	**Serv Nac Est T**	**2.05**	**177**	*e*Pn	**Pn**	**06 37 00.4**	**+0.3**
SNET	**Serv Nac Est T**	**2.05**	**177**	*e*P	**Pn**	**06 37 00.3**	**+0.3**
SNET				*e*S	**Sb**	**06 37 27.7**	**-1.0**
SNET				IAML		06 37 35.9	
	comp=Z,1µm,0.5s						
COLS	**Colinas**	**2.07**	**178**	*e*P	**Pn**	**06 37 00.4**	**+0.1**
LFRS	**El Faro**	**2.13**	**172**	*e*P	**Pn**	**06 37 00.8**	**-0.3**
SNVI	**San Vicente**	**2.18**	**167**	*e*P	**Pn**	**06 37 02.5**	**+0.6**
SNVI				*e*S	**Sb**	**06 37 31.7**	**-0.8**
TECA	**Tecapa**	**2.39**	**160**	*e*P	**Pn**	**06 37 04.4**	**-0.4**
TGUH	**Tegucigalpa,Un**	**2.62**	**130**	*e*Pn	**Pn**	**06 37 08.4**	**+0.6**
CCIG	**Comitan**	**2.73**	**282**	*e*Pn	**Pn**	**06 37 11.2**	**+1.8**
MYIG	**MØrida**	**5.20**	**356**	*e*Pn	**Pn**	**06 37 41.6**	**-1.6**
CMIG	**Matias Romero**	**5.47**	**285**	Pn	**Pn**	**06 37 45.1**	**-1.8**
	comp=Z,0.2nm,0.3s,baz=86,slow=16,SNR=3.6						
CMIG				Sn	**Sn**	**06 38 47.2**	**-1.9**
	comp=Z,2.0nm,0.3s,baz=314,slow=23,SNR=6.4						
CMIG				Lg	Lg	06 39 20.9	
	comp=Z,6.6nm,0.3s,baz=58,slow=23,SNR=6.4						
ESPN	**Las Esperanzas**	**6.05**	**125**	*e*Pg	**Pb**	**06 38 11.8**	**+0.2**
LNIG	**Linares**	**13.14**	**315**	*e*Pn	**Pn**	**06 39 30.9**	**-1.2**
WHTX	**Lake Whitney,**	**17.77**	**337**	*e*Pn	**P**	**06 40 37.9**	**+4.4**
	comp=Z,24nm,0.5s						
WLAR	**White Oak Lake**	**18.18**	**350**	*e*Pn	**P**	**06 40 41.2**	**+3.3**
	comp=Z,26nm,0.9s						
GOGA	**Godfrey**	**18.38**	**16**	*e*P	**Pn**	**06 40 42.6**	**+2.5**
	comp=Z,7.7nm,1.3s						
TXAR	**Lajitas Array**	**18.88**	**318**	P	**Pn**	**06 40 48.0**	**+1.6**
	comp=Z,0.3nm,0.3s,baz=134,slow=9.9,SNR=25						
TX31	**Lajitas Ar. Si**	**18.88**	**318**	*e*P	**Pn**	**06 40 48.4**	**+2.0**
MIAR	**Mount Ida**	**19.10**	**349**	*e*P	**P**	**06 40 48.3**	**+0.3**
	comp=Z,6.6nm,0.9s						
ABTX	**Abilene, Hawle**	**19.22**	**333**	*e*P	**Pn**	**06 40 50.7**	**+0.2**
	comp=Z,6.5nm,0.8s						
W41B	**Gary Mavity, V**	**19.52**	**353**	*e*P	**Pn**	**06 40 53.7**	**-0.2**
	comp=Z,12nm,1.4s						
V40A	**Witts Springs**	**20.21**	**352**	*e*P	Pn	06 41 02.9	+0.6
	comp=Z,4.9nm,0.6s						
TKL	**Tuckaleechee C**	**20.45**	**13**	LR	LR	06 49 16.7	
	comp=Z,50nm,18.8s,baz=264,slow=38						
WMOK	**Wichita Mounta**	**20.72**	**338**	*e*P	**P**	**06 41 06.3**	**+0.6**
	comp=Z,9.2nm,1.3s						
TUL1	**Leonard**	**20.89**	**345**	*e*P	**P**	**06 41 07.9**	**+0.4**
	comp=Z,10nm,0.8s						
AGP	**Aguadilla**	**21.40**	**80**	*e*P	**P**	**06 41 13.3**	**+0.2**
	comp=Z,166nm,1.3s						
CRPR	**Cabo Rojo, PR**	**21.41**	**81**	*e*P	**P**	**06 41 11.2**	**-2.0**
	comp=Z,109nm,1.4s						
MNTX	**Cornudas Mount**	**21.57**	**320**	*e*P	**P**	**06 41 16.2**	**+1.3**
	comp=Z,3.4nm,0.9s						
MSTX	**Muleshoe**	**21.81**	**329**	*e*P	**P**	**06 41 17.2**	**-0.3**
	comp=Z,8.6nm,0.9s						
CCM	**Cathedral Cave**	**22.28**	**356**	*e*P	**P**	**06 41 23.6**	**+1.2**
	comp=Z,2.0nm,0.8s						
SJG	**San Juan**	**22.32**	**81**	LR	LR	06 48 57.6	
	comp=Z,24nm,18.7s,baz=112,slow=34						
KSU1	**Kansas State U**	**24.12**	**346**	*e*P	**P**	**06 41 40.9**	**0.0**
	comp=Z,8.9nm,0.9s						
Y22D	**IRIS PASSCAL I**	**24.15**	**322**	*e*P	**P**	**06 41 42.2**	**+0.7**
	comp=Z,18nm,1.1s						
T25A	**Trinidad**	**25.14**	**331**	*e*P	**P**	**06 41 52.4**	**+1.9**
	comp=Z,6.9nm,1.0s						
ATAH	**Atahualpa**	**25.20**	**154**	LR	LR	06 50 42.2	
	comp=Z,46nm,19.1s,baz=30,slow=34						
MHTCO	**State Highway**	**25.27**	**330**	*e*P	**P**	**06 41 53.3**	**+1.6**
	comp=Z,4.7nm,0.9s						
ANWB	**Willy Bob**	**26.47**	**82**	*e*P	**P**	**06 42 05.5**	**+3.1**
	comp=Z,76nm,0.8s						
P18A	**Preston Nutter**	**29.99**	**327**	*e*P	**P**	**06 42 35.1**	**+1.1**
	comp=Z,2.0nm,1.0s						
P17A	**Butcher Ranch,**	**30.14**	**326**	*e*P	**P**	**06 42 35.8**	**+0.5**
	comp=Z,3.3nm,0.9s						
PDAR	**Pinedale Array**	**32.01**	**331**	P	**P**	**06 42 51.3**	**-0.4**
	comp=Z,1nm,0.3s,baz=203,slow=8.8,SNR=3.1						
HWUT	**Hardware Ranch**	**32.11**	**328**	*e*P	**P**	**06 42 53.4**	**+0.8**
	comp=Z,2.2nm,0.9s						
REDW	**Red Top Meadow**	**33.07**	**331**	*e*P	**P**	**06 43 01.8**	**+0.8**
	comp=Z,6.1nm,0.6s						
SNOW	**Snow King Moun**	**33.10**	**331**	*e*P	**P**	**06 43 02.2**	**+0.9**
	comp=Z,6.3nm,0.6s						
NV11	**Mina Array Sit**	**33.93**	**317**	*e*P	**P**	**06 43 10.1**	**+1.6**
	comp=Z,0.3nm,1.1s						
NV01	**Mina Array Sit**	**34.03**	**317**	*e*P	**P**	**06 43 10.4**	**+1.0**
NVAR	**Mina Array Bea**	**34.03**	**317**	P	**P**	**06 43 10.9**	**+1.5**
	comp=Z,2.4nm,0.6s,baz=125,slow=8.4,SNR=23						
KVN	**Kaiserville**	**34.24**	**318**	*e*P	**P**	**06 43 12.4**	**+1.2**
	comp=Z,3.3nm,1.0s						
ULM	**Lac du Bonnet**	**34.82**	**353**	P	**P**	**06 43 13.6**	**-2.2**
	comp=Z,2.3nm,0.7s,baz=164,slow=7.4,SNR=3.6						
YERR	**Yerington**	**34.95**	**317**	*e*P	**P**	**06 43 18.6**	**+1.2**
	comp=Z,4.7nm,1.2s						
BEKR	**Beckworth**	**36.15**	**318**	*e*P	**P**	**06 43 28.9**	**+1.2**

IDC 28 06:50:03.0±19.0, 20°.50S×178°.43W, h492km±164km, mb2.9/3, mb1 3.2/3, mb1mx2.8/48, mbtmp3.7/3, Error ellipse: s-maj=230.1km s-min=46.5km az=135.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**44.12**	**257**	P	P	06 57 27.1	-0.2
	0.8nn,0.4s,baz=96,slow=8.0,SNR=10.0						
ASAR				PcP	PcP	06 59 02.2	+0.3
	0.4nn,0.6s,baz=108,slow=3.4,SNR=6.0						
WRA	**Warramunga Arr**	**44.20**	**262**	P	P	06 57 27.7	-0.2
	0.3nn,0.3s,baz=93,slow=6.7,SNR=22						
ILAR	**Eielson Array**	**88.41**	**13**	P	P	07 02 01.7	+0.2
	0.2nn,0.5s,baz=208,slow=3.7,SNR=3.4						
ARCES	**ARCESS Array B**	**128.85**	**349**	PKP	PKPdf	07 08 13.3	-0.2
	1.7nn,1.0s,baz=50,slow=2.8,SNR=3.1						
AKASG	**Malin Array Be**	**142.82**	**331**	PKP	PKPdf	07 08 37.6	-2.2
	1.2nn,0.4s,baz=43,slow=4.2,SNR=7.0						
BRTR	**Keskin Array B**	**146.54**	**312**	PKPbc	PKPbc	07 08 48.5	-0.6
	0.5nn,0.5s,baz=147,slow=1.6,SNR=3.0						

*CSEM **28** 07:06:36.7±0.2, 38°.53N×40°.76E, h10km, ML3.1, Error ellipse: s-maj=4.4km s-min=3.6km az=28.0*
*ATA **28** 07:06:36.8±1.6, 38°.62N×40°.79E, h10km±16km, ML3.4, MW3.6*
*DDA **28** 07:06:36.7, 38°.53N×40°.75E, h7km, Ml3.1*
*ISK **28** 07:06:36.1, 38°.53N×40°.80E, h13km, ML3.2/7*

ISC 28 07:06:36.7±1.0, 38°.52N±0°.02×40°.77E±0°.02, h8km±9km, n56, σ0°81/82, 1C, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HANI	**Diyarbakir_Han**	**0.31**	**250**	*i* P	**Pg**	**07 06 42.6**	**-0.3**
HANI				*i* S	**Sg**	**07 06 47.3**	**+0.3**
HANI	**Diyarbakir_Han**	**0.31**	**250**	P	**Pg**	**07 06 42.6**	**-0.3**
HANI				S	**Sg**	**07 06 47.3**	**+0.3**
BINT	**Bingol**	**0.42**	**328**	*e*Pg	**Pb**	**07 06 46.0**	**-0.5**
BINT				*e*Sg	**Sb**	**07 06 53.2**	**+0.1**
BNGB	**Bing¯¶l**	**0.48**	**351**	PG	**Pg**	**07 06 46.0**	**0.0**
BNGB				SG	**Sg**	**07 06 53.2**	**+1.0**
SVAN	**Silvan-Diyarba**	**0.50**	**138**	PG	**Pg**	**07 06 46.3**	**0.0**
SVAN				SG	**Sg**	**07 06 53.7**	**+0.8**
SVAN	**Silvan-Diyarba**	**0.50**	**138**	*i* P	**Pb**	**07 06 47.4**	**-0.4**
SVAN				*i* S	**Sb**	**07 06 54.2**	**-1.0**
SVAN	**Silvan-Diyarba**	**0.50**	**138**	*e*Pg	**Pg**	**07 06 46.3**	**0.0**
SVAN	**Silvan-Diyarba**	**0.50**	**138**	P	**Pg**	**07 06 47.4**	**-0.4**
SVAN				*e*Sg	**Sg**	**07 06 53.7**	**+0.8**
SVAN				S	**Sb**	**07 06 54.2**	**-1.0**
BTMN	**Batman**	**0.74**	**148**	*i* P	**Pb**	**07 06 51.7**	**-0.2**
BTMN				*i* S	**Sb**	**07 07 03.3**	**+1.0**
BTMN	**Batman**	**0.74**	**148**	P	**Pb**	**07 06 51.7**	**-0.2**
BTMN				S	**Sb**	**07 07 03.3**	**+1.0**
VRTB	**Varto-Mus**	**0.83**	**40**	PG	**Pg**	**07 06 52.2**	**-0.5**
VRTB	**Varto-Mus**	**0.83**	**40**	*i* P	**Pg**	**07 06 52.9**	**+0.2**
VRTB				*i* S	**Sb**	**07 07 04.1**	**-0.9**
VRTB	**Varto-Mus**	**0.83**	**40**	*e*Pg	**Pg**	**07 06 52.2**	**-0.5**
VRTB	**Varto-Mus**	**0.83**	**40**	P	**Pg**	**07 06 52.9**	**+0.2**
VRTB				S	**Sb**	**07 07 04.1**	**-0.9**
YEDI	**Yedisu-Bingol**	**0.93**	**349**	PG	**Pg**	**07 06 53.7**	**-1.0**
YEDI	**Yedisu-Bingol**	**0.93**	**349**	*e*Pg	**Pg**	**07 06 53.7**	**-1.0**
GURO	**Guroymak-BITLI**	**0.99**	**88**	PG	**Pg**	**07 06 54.9**	**-0.8**
GURO	**Guroymak-BITLI**	**0.99**	**88**	*e*Pg	**Pg**	**07 06 54.9**	**-0.8**
SRTM	**Siirt_Merkez**	**1.05**	**120**	*i* P	**Pb**	**07 06 57.1**	**-0.1**
SRTM				*i* S	**Sn**	**07 07 12.4**	**-0.3**
SRTM	**Siirt_Merkez**	**1.05**	**120**	P	**Pb**	**07 06 57.1**	**-0.1**
SRTM				S	**Sn**	**07 07 12.4**	**-0.3**
MAZI	**Mazidag**	**1.09**	**194**	PN	**Pg**	**07 06 57.1**	**-0.6**
MAZI	**Mazidag**	**1.09**	**194**	*e*Pn	**Pg**	**07 06 57.1**	**-0.6**
ECAT	**Cat-ERZURUM**	**1.09**	**8**	*e*P	**Pg**	**07 06 55.3**	**-2.4**
ECAT				*e*S	**Sg**	**07 07 11.2**	**-0.8**
ECAT				IAML		07 07 18.4	
	comp=Z,30nm,0.4s						
TNCL	**Tunceli-Merkez**	**1.13**	**302**	*e*P	**Pg**	**07 06 58.2**	**-0.2**
TNCL				*e*S	**Sb**	**07 07 13.8**	**+0.2**
TNCL				IAML		07 07 18.1	
	comp=Z,82nm,0.5s						
PTK	**Pertek**	**1.14**	**289**	PN	**Pg**	**07 06 58.5**	**-0.2**
PTK	**Pertek**	**1.14**	**289**	*e*Pn	**Pg**	**07 06 58.5**	**-0.2**
SVRC	**Sivrice-ELAZID**	**1.16**	**263**	PN	**Pg**	**07 06 58.8**	**-0.2**
SVRC	**Sivrice-ELAZID**	**1.16**	**263**	*e*Pn	**Pg**	**07 06 58.8**	**-0.2**
MARD	**Mardin**	**1.21**	**180**	*i* P	**Pg**	**07 06 58.5**	**-1.3**
MARD				*i* S	**Sg**	**07 07 15.3**	**-0.1**
EKAR	**Karacoban**	**1.25**	**53**	*e*P	**Pg**	**07 07 00.3**	**-0.3**
EKAR	**Karacoban**	**1.25**	**53**	*i* P	**Pn**	**07 07 00.6**	**-0.1**
EKAR				*i* S	**Sn**	**07 07 20.7**	**+2.8**
EKAR	**Karacoban**	**1.25**	**53**	P	**Pn**	**07 07 00.6**	**-0.1**
ERZN	**Erzincan**	**1.34**	**323**	PN	**Pn**	**07 07 01.1**	**-0.9**
ELZG	**Elazig**	**1.40**	**270**	*i* P	**Pn**	**07 07 02.7**	**-0.1**
ELZG				*i* S	**Sg**	**07 07 23.0**	**+1.1**
ELZG	**Elazig**	**1.40**	**270**	P	**Pn**	**07 07 02.7**	**-0.1**
ERZM	**Erzurum**	**1.46**	**18**	*e*P	**Pn**	**07 07 03.7**	**0.0**
SIRN	**S¯¬rnak**	**1.65**	**128**	*i* P	**Pn**	**07 07 06.5**	**+0.4**
SIRN				*i* S	**Sg**	**07 07 29.8**	**+0.1**
SIRN	**S¯¬rnak**	**1.65**	**128**	P	**Pn**	**07 07 06.5**	**+0.4**
SIRN				S	**Sg**	**07 07 29.8**	**+0.1**
EZC	**Erzincan**	**1.65**	**318**	*e*Pn	Pn	07 07 01.1	-5.1
SIRT	**Sirnak**	**1.66**	**127**	PN	**Pn**	**07 07 05.4**	**-0.9**
SIRT	**Sirnak**	**1.66**	**127**	*e*Pn	**Pn**	**07 07 05.4**	**-0.9**
HOMI	**Horasan**	**1.76**	**30**	*e*P	**Pb**	**07 07 09.2**	**-0.2**
HOMI				*e*S	**Sg**	**07 07 32.5**	**-0.7**
HOMI				IAML		07 07 35.9	
	comp=Z,22nm,0.7s						
BAYB	**BAYBURT**	**1.78**	**347**	*e*P	**Pg**	**07 07 10.5**	**-0.4**
GEVA	**Gevas**	**1.81**	**96**	*i*P	**Pb**	**07 07 09.4**	**-0.8**
GEVA				*e*S	**Sg**	**07 07 36.9**	**+2.1**
GEVA				IAML		07 07 43.1	
	comp=Z,42nm,0.5s						
TUTA	**Tutak**	**1.82**	**60**	*e*P	**Pb**	**07 07 10.4**	**-0.1**
TUTA				*e*S	**Sg**	**07 07 36.9**	**+1.7**
TUTA				IAML		07 07 42.9	
	comp=Z,30nm,0.5s						
TUTA	**Tutak**	**1.82**	**60**	*i* P	**Pb**	**07 07 10.3**	**-0.1**
TUTA				*i* S	**Sb**	**07 07 34.0**	**+0.5**
TUTA	**Tutak**	**1.82**	**60**	P	**Pb**	**07 07 10.3**	**-0.1**
MALT	**Malatya**	**1.85**	**264**	PN	**Pn**	**07 07 08.7**	**-0.3**
MALT	**Malatya**	**1.85**	**264**	*e*Pn	**Pn**	**07 07 08.7**	**-0.3**
URFA	**Urfa**	**1.88**	**236**	PN	**Pn**	**07 07 08.9**	**-0.4**
URFA	**Urfa**	**1.88**	**236**	*e*Pn	**Pn**	**07 07 08.9**	**-0.4**
EATA	**Eleskirt**	**1.89**	**44**	*e*P	**Pg**	**07 07 12.8**	**-0.2**
KEMA	**Kemaliye**	**1.93**	**293**	*e*P	**Pb**	**07 07 11.7**	**-0.5**
KEMA				*e*S	**Sg**	**07 07 39.3**	**+0.5**
KEMA				IAML		07 07 45.9	
	comp=Z,3.1nm,0.5s						
KELT	**Kelkit**	**2.01**	**325**	*e*P	**Pg**	**07 07 14.3**	**-0.9**
KELT				*e*S	**Sg**	**07 07 43.7**	**+2.5**
GAZ	**Gaziantep**	**3.12**	**246**	PN	**Pn**	**07 07 26.9**	**+0.5**
GAZ	**Gaziantep**	**3.12**	**246**	*e*Pn	**Pn**	**07 07 26.9**	**+0.5**

*NIED **28** 07:15:00, 37°.00N×141°.90E, h23km, Mw3.5 Best double couple: M0 2.01000×10^14 NP1:ϕ=252.00000°, δ=15.00000°, λ=147.00000°. NP2:ϕ=14.00000°, δ=82.00000°, λ=78.00000°.*
*IDC **28** 07:15:05.0±0.9, 36°.93N×142°.26E, h0km, mb3.4/7, mb1 3.6/8, mb1mx3.4/73, mbtmp3.4/8, ML3.6/1, MS2.6/2, Ms1 2.2/2, ms1mx2.2/42, Error ellipse: s-maj=27.6km s-min=20.6km az=116.0*
*JMA **28** 07:15:09.2±0.2, 37°.04N×141°.86E, h44km±3km, M3.5*

ISC 28 07:15:05.3±2.3, 36°.98N±0°.05×141°.90E±0°.07, h2km±13km, n28, σ1°39/31, mb3.5/7, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.89**	**278**	P	**Pn**	**07 15 24.8**	**0.0**
ONAJ				*e*S	**Sg**	**07 15 35.1**	**+1.2**
JFK	**Kawauchi**	**0.91**	**296**	P	**Pn**	**07 15 24.8**	**-0.3**
JFK				*e*S	**Sg**	**07 15 35.4**	**+1.0**
JHO	**Hitachi**	**1.13**	**252**	P	**Pn**	**07 15 28.4**	**+0.3**
JHO				*e*S	**Sn**	**07 15 43.2**	**-0.9**
JMM	**Marumori**	**1.25**	**316**	P	**Pb**	**07 15 29.6**	**0.0**
JMM				*e*S	**Sg**	**07 15 45.0**	**-0.5**
JFT	**Otama**	**1.36**	**294**	P	**Pb**	**07 15 32.3**	**+0.9**
JFT				*e*S	**Sg**	**07 15 48.8**	**-0.2**
JIO	**Ouri**	**1.54**	**344**	P	**Pn**	**07 15 33.0**	**-0.7**
JIO				*e*S	**Sn**	**07 15 50.4**	**-3.8**
JOU	**Okura**	**1.70**	**325**	P	**Pb**	**07 15 36.8**	**-0.4**
JOU				*e*S	**Sn**	**07 15 57.4**	**-0.8**
JFY	**Yanaizu**	**1.81**	**284**	P	**Pg**	**07 15 39.9**	**0.0**
JYS	**Shirataka**	**1.92**	**311**	*e*S	**Sn**	**07 16 04.5**	**+0.9**
JAG	**Ashikaga**	**2.04**	**255**	P	**Pb**	**07 15 42.2**	**-0.9**
JAG				*e*S	**Sn**	**07 16 07.3**	**+0.6**
JMK	**Ichinoseki**	**2.04**	**345**	P	**Pn**	**07 15 41.0**	**+0.4**
JYK	**Kaneyama**	**2.29**	**328**	P	**Pn**	**07 15 44.7**	**+0.7**
MJAR	**Matsushiro Arr**	**3.00**	**263**	Pn	**Pb**	**07 15 57.6**	**-1.7**
	6.8nn,0.3s,baz=86,slow=14,SNR=40						
MJAR				Sn	**Sb**	**07 16 33.9**	**-2.5**
	3.1nn,0.3s,baz=294,slow=42,SNR=6.5						
MJAR				LR	LR	07 17 26.1	
	comp=Z,94nm,18.5s,baz=65,slow=43						
MAT	**Matsushiro**	**3.00**	**263**	P	**Pb**	**07 15 57.8**	**-1.6**
MAT				*e*S	**Sb**	**07 16 34.5**	**-1.9**
KSRS	**Korea Array**	**11.16**	**277**	LR	LR	07 21 41.6	
	comp=Z,31nn,19.8s,baz=80,slow=34						
H11N2	**WAKE ISLAND Hy**	**27.78**	**121**	T	T	07 50 00.4	
	baz=314,slow=75,SNR=26						
H11N1	**WAKE ISLAND Hy**	**27.79**	**121**	T	T	07 50 01.0	
	baz=314,slow=75,SNR=14						
H11N3	**WAKE ISLAND Hy**	**27.80**	**121**	T	T	07 50 01.7	
	baz=314,slow=75,SNR=16						
SONM	**Songino Array**	**28.14**	**304**	P	**P**	**07 21 02.0**	**+3.3**
	0.5nn,0.6s,baz=102,slow=8.5,SNR=3.5						
H11S1	**WAKE ISLAND Hy**	**28.50**	**123**	T	T	07 50 55.3	
	baz=316,slow=76,SNR=9.6						
H11S3	**WAKE ISLAND Hy**	**28.50**	**124**	T	T	07 50 55.1	
	baz=316,slow=76,SNR=6.5						
H11S2	**WAKE ISLAND Hy**	**28.52**	**123**	T	T	07 51 00.1	
	baz=316,slow=76,SNR=6.1						
KURBB	**Kurchatov Arra**	**46.34**	**308**	P	**P**	**07 23 33.8**	**+1.4**
	0.6nn,0.6s,baz=83,slow=8.3,SNR=3.4						
ILAR	**Eielson Array**	**49.33**	**32**	P	**P**	**07 23 55.0**	**-0.4**
	0.3nn,0.6s,baz=260,slow=6.9,SNR=5.7						
INK	**Inuvik**	**54.26**	**27**	P	**P**	**07 24 31.4**	**-0.8**
	0.3nn,0.6s,baz=321,slow=4.4,SNR=4.3						
WRA	**Warramunga Arr**	**57.06**	**188**	P	**P**	**07 24 52.4**	**-0.4**
	0.4nn,0.8s,baz=6.9,slow=7.3,SNR=5.7						
ASAR	**Alice Springs**	**60.79**	**188**	P	**P**	**07 25 19.2**	**+0.5**
	0.3nn,0.7s,baz=10,slow=6.7,SNR=3.4						
YKA	**Yellowknife Ar**	**63.66**	**30**	P	**P**	**07 25 36.8**	**-0.7**
	0.1nn,0.8s,baz=305,slow=7.4,SNR=4.3						

*IDC **28** 07:26:40.5±3.2, 35°.11S×179°.59W, h0km, mb3.6/2, mb1 3.8/3, mb1mx3.5/41, mbtmp3.6/3, ML3.3/1, Error ellipse: s-maj=74.9km s-min=46.4km az=125.0*
*ISCJB **28** 07:26:45.3±1.3, 35°.27S±0°.08×179°.7W±0°.2, h41km, mb3.4/2, Error ellipse: s-maj=25.0km s-min=7.6km az=22.0*
*WEL **28** 07:26:46.8±1.3, 35°.S±16°×18°.0W±2°.1, h33km, ML4.0/9*

ISC 28 07:26:45.9±2.0, 35°.3S±0°.1×179°.5W±0°.2, h41km, n31, σ0°89/32, East of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**2.86**	**217**	P	**Pn**	**07 27 28.6**	**-0.4**
WMGZ	**Waiomatatini S**	**3.02**	**213**	P	**Pn**	**07 27 31.6**	**+0.4**
WMGZ	**Waiomatatini S**	**3.02**	**213**	S	**Sn**	**07 28 07.3**	**+1.2**
PKGZ	**Pakihiroa**	**3.23**	**216**	P	**Pn**	**07 27 34.1**	**-0.1**
PKGZ	**Pakihiroa**	**3.23**	**216**	S	**Sn**	**07 28 12.1**	**+0.6**
HAZ	**Te Kaha**	**3.28**	**221**	P	**Pn**	**07 27 35.3**	**+0.5**
HAZ	**Te Kaha**	**3.28**	**221**	S	**Sn**	**07 28 14.7**	**+2.2**
PUZ	**Puketiti**	**3.30**	**212**	P	**Pn**	**07 27 34.7**	**-0.3**
PUZ	**Puketiti**	**3.30**	**212**	S	**Sn**	**07 28 13.3**	**+0.2**
RUGZ	**Raukumara Rang**	**3.49**	**219**	P	**Pn**	**07 27 38.5**	**+0.7**
RUGZ	**Raukumara Rang**	**3.49**	**219**	S	**Sn**	**07 28 19.2**	**+1.3**
TWGZ	**Tauwhareparae**	**3.51**	**214**	S	**Pn**	**07 27 38.5**	**+0.5**
TWGZ	**Tauwhareparae**	**3.51**	**214**	S	**Sn**	**07 28 17.8**	**-0.4**
CNGZ	**Carnagh Statio**	**3.67**	**209**	P	**Pn**	**07 27 40.6**	**+0.5**
CNGZ	**Carnagh Statio**	**3.67**	**209**	S	**Sn**	**07 28 23.0**	**+0.9**
MWZ	**Matawai**	**3.85**	**217**	P	**Pn**	**07 27 44.0**	**+1.3**
MWZ	**Matawai**	**3.85**	**217**	S	**Sn**	**07 28 26.5**	**-0.2**
URZ	**Urewera**	**4.01**	**221**	Pn	**Pn**	**07 27 44.0**	**-0.8**
	2.0nn,0.3s,baz=267,slow=4.3,SNR=18						
URZ				Sn	**Sn**	**07 28 28.7**	**-1.8**
	2.7nn,0.3s,baz=164,slow=21,SNR=5.9						
URZ	**Urewera**	**4.01**	**221**	P	**Pn**	**07 27 44.2**	**-0.6**
URZ	**Urewera**	**4.01**	**221**	S	**Sn**	**07 28 29.2**	**-1.3**
PRGZ	**Paritu Road**	**4.17**	**209**	S	**Sn**	**07 28 33.2**	**-1.5**
SNGZ	**Shannon Statio**	**4.29**	**215**	P	**Pn**	**07 27 48.6**	**-0.1**
SNGZ	**Shannon Statio**	**4.29**	**215**	S	**Sn**	**07 28 37.2**	**-0.4**
RTZ	**Ruatahuna**	**4.34**	**219**	P	**Pn**	**07 27 48.7**	**-0.7**
RTZ	**Ruatahuna**	**4.34**	**219**	S	**Sn**	**07 28 38.2**	**-0.6**
MUGZ	**Murupara**	**4.35**	**222**	P	**Pn**	**07 27 49.1**	**-0.4**
MUGZ	**Murupara**	**4.35**	**222**	S	**Sn**	**07 28 38.4**	**-0.6**
TOZ	**Tahuroa Road**	**4.69**	**237**	P	**Pn**	**07 27 55.0**	**+0.9**
ASAR	**Alice Springs**	**41.83**	**273**	P	**P**	**07 34 31.6**	**-0.3**
	0.2nn,0.3s,baz=116,slow=7.6,SNR=8.4						
WRA	**Warrunga Arr**	**43.26**	**278**	P	**P**	**07 34 43.4**	**-0.1**
	0.6nn,0.5s,baz=118,slow=7.7,SNR=13						
FINES	**FINESS Array B**	**149.19**	**336**	PKPbc	**PKPbc**	**07 46 29.2**	**+0.1**
	0.6nn,0.6s,baz=151,slow=3.2,SNR=4.1						

*TAP **28** 07:27:39.8, 24°.81N×122°.16E, h18km, ML2.8, C*
*JMA **28** 07:27:39.6, 24°.71N×122°.24E, h0km*

ISC 28 07:27:38.6±1.0, 24°.82N±0°.03×122°.25E±0°.02, h12km±9km, n31, σ0°57/61, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS1	**EOS1**	**0.29**	**202**	*e*P	**Pb**	**07 27 45.6**	**-0.1**
	baz=190						
EOS1				*e*S	**Sb**	**07 27 50.3**	**-0.2**
	baz=190						
TWB1	**Santiao Chiao**	**0.30**	**309**	P	**Pb**	**07 27 45.9**	**-0.2**
	baz=329						
TWB1				*e*S	**Sb**	**07 27 49.9**	**-1.1**
	baz=329						
TWC	**Suao**	**0.42**	**240**	P	**Pg**	**07 27 47.1**	**+0.2**
	baz=233						
TWC				S	**Sg**	**07 27 52.0**	**-0.6**
	baz=233						
NWF	**Wu-fen Shan**	**0.49**	**301**	*e*P	**Pn**	**07 27 50.8**	**-0.8**
	baz=308						
NWF				*e*S	**Sb**	**07 27 56.8**	**+0.2**
	baz=308						
ENAH	**Nanao**	**0.54**	**228**	*e*P	**Pb**	**07 27 49.8**	**-0.3**
	baz=215						
ENAH				*e*S	**Sg**	**07 27 56.1**	**-0.3**
	baz=215						
NANB	**Nanao**	**0.60**	**230**	*e*P	**Pg**	**07 27 50.2**	**0.0**
	baz=218						
NANB				*e*S	**Sg**	**07 27 57.7**	**-0.5**
	baz=218						
ENA	**Nanau**	**0.60**	**230**	*e*P	**Pg**	**07 27 50.6**	**+0.2**
	baz=218						
ENA				*e*S	**Sg**	**07 27 57.7**	**-0.7**
	baz=218						
ENTT	**Nioudou**	**0.65**	**254**	*e*P	**Pb**	**07 27 51.7**	**-0.2**
	baz=252						
ENTT				*e*S	**Sg**	**07 27 59.8**	**+0.1**
	baz=252						
YM07	**YM07**	**0.67**	**302**	*e*P	**Pb**	**07 27 52.5**	**+0.1**
	baz=307						
YM07				*e*S	**Sg**	**07 28 00.8**	**+0.2**
	baz=307						
NWLT	**Wulai**	**0.68**	**267**	*e*P	**Pb**	**07 27 52.9**	**-0.4**
	baz=267						
NWLT				*e*S	**Sb**	**07 28 03.0**	**+1.1**
	baz=267						
YM08	**YM08**	**0.70**	**302**	*e*P	**Pn**	**07 27 53.8**	**-0.7**
	baz=306						
YM08				*e*S	**Sb**	**07 28 03.5**	**+1.0**
	baz=306						
YM04	**YM04**	**0.73**	**298**	*e*P	**Pn**	**07 27 54.6**	**-0.2**
	baz=301						
YM04				*e*S	**Sn**	**07 28 04.6**	**-1.3**
	baz=301						
JYNG	**Yonagunijimaku**	**0.73**	**120**	P	**Pb**	**07 27 53.3**	**0.0**
JYNG				*e*S	**Sg**	**07 28 03.1**	**+0.7**
TWY	**Chenhua**	**0.75**	**308**	*e*P	**Pn**	**07 27 54.9**	**-0.1**
	baz=302						
TWY				*e*S	**Sn**	**07 28 05.8**	**-0.5**
	baz=302						
YOJ	**Yonaguni jima**	**0.78**	**117**	*e*P	**Pb**	**07 27 54.3**	**+0.1**
	baz=113						
YOJ				*e*S	**Sb**	**07 28 04.8**	**+0.1**
	baz=113						
YOJ	**Yonaguni jima**	**0.78**	**117**	P	**Pb**	**07 27 54.2**	**+0.1**
YOJ				*e*S	**Sg**	**07 28 04.4**	**+0.5**
YHNB	**Yeheng**	**0.81**	**260**	*e*P	**Pb**	**07 27 54.9**	**+0.2**
	baz=267						
YHNB				*e*S	**Sb**	**07 28 06.4**	**+0.8**
	baz=267						
NACB	**Ninganchiao**	**0.88**	**223**	*e*P	**Pg**	**07 27 55.3**	**-0.2**
	baz=209						
NACB				*e*S	**Sg**	**07 28 06.1**	**-0.8**
	baz=209						
NNSB	**Datong**	**0.88**	**244**	*e*P	**Pg**	**07 27 55.8**	**+0.2**
	baz=234						
NNSB				*e*S	**Sg**	**07 28 07.3**	**+0.2**
	baz=234						
NNS	**Nan Shan**	**0.88**	**245**	*e*P	**Pg**	**07 27 55.8**	**+0.1**
	baz=235						
NNS				*e*S	**Sg**	**07 28 06.5**	**-0.7**
	baz=235						
TWD	**Chiawan**	**0.94**	**219**	P	**Pg**	**07 27 56.8**	**-0.1**
	baz=214						
TWD				*e*S	**Sg**	**07 28 08.1**	**-1.1**
	baz=214						
TWT	**Tachien**	**1.13**	**240**	*e*P	**Pn**	**07 28 01.6**	**+1.1**
	baz=239						
TWT				*e*S	**Sn**	**07 28 15.8**	**-0.1**
	baz=239						
LIOB	**Emei**	**1.14**	**262**	*e*P	**Pg**	**07 28 01.8**	**+1.3**
	baz=281						
LIOB				*e*S	**Sn**	**07 28 16.8**	**+0.9**
	baz=281						
ESL	**Shilin**	**1.25**	**217**	*e*P	**Pg**	**07 28 02.9**	**+0.3**
	baz=231						
ESL				*e*S	**Sb**	**07 28 17.8**	**-0.3**
	baz=231						
IRIF	**Iriomote-Funau**	**1.43**	**109**	P	**Pg**	**07 28 06.2**	**+0.1**
IRIF				S	**Sg**	**07 28 25.5**	**+0.8**
SMLT	**Sun Moon Lake**	**1.54**	**233**	*e*P	**Pg**	**07 28 08.8**	**+0.5**
	baz=232						
SMLT				*e*S	**Sb**	**07 28 26.9**	**+0.2**
	baz=232						
TYC	**Yuchr**	**1.56**	**235**	*e*P	**Pg**	**07 28 08.7**	**+0.1**
	baz=233						
TYC				*e*S	**Sb**	**07 28 27.6**	**+0.4**
	baz=233						
JKRS	**Kuro-shima**	**1.70**	**109**	P	**Pg**	**07 28 11.0**	**-0.3**
JKRS				*e*S	**Sg**	**07 28 33.2**	**-0.3**
JIJ	**Ishigaki jima**	**1.78**	**104**	P	**Pb**	**07 28 11.2**	**0.0**
JIJ				S	**Sb**	**07 28 34.2**	**+0.7**
JISG	**Ishigakijimahi**	**1.89**	**97**	P	**Pb**	**07 28 12.8**	**-0.3**
JISG				*e*S	**Sb**	**07 28 36.3**	**-0.3**
JTJ	**Tarama**	**2.24**	**94**	P	**Pb**	**07 28 18.6**	**-0.4**

IDC 28 07:59:57.4±3.7, 52°.01N×36°.94E, h0km, mb2.9/1, mb1 3.4/4, mb1mx3.1/62, mbtmp3.2/4, ML3.2/3, Error ellipse: s-maj=58.7km s-min=23.6km az=126.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OBN	**Obninsk**	**3.12**	**356**	Lg	Lg	08 01 30.8	
	6.4nn,0.3s,baz=159,slow=17,SNR=2.7						
AKASG	**Malin Array Be**	**5.01**	**258**	Pn	Pn	08 01 12.4	-1.4
	1.5nn,0.3s,baz=62,slow=16,SNR=4.5						
AKASG				Sn	Sn	08 02 02.5	-10
	2.9nn,0.3s,baz=62,slow=22,SNR=5.0						
AKASG				Lg	Lg	08 02 20.4	
	3.8nn,0.3s,baz=63,slow=30,SNR=5.5						
FINES	**FINESS Array B**	**11.16**	**332**	Pn	Pn	08 02 33.3	-4.8
	0.2nn,0.3s,baz=155,slow=13,SNR=7.1						
FINES				Sn	Sn	08 04 19.8	-24
	0.1nn,0.3s,baz=147,slow=23,SNR=2.7						
ARCES	**ARCESS Array B**	**18.39**	**347**	P	Pn	08 04 11.8	-1.7
	0.2nn,0.3s,baz=157,slow=12,SNR=8.1						
YKA	**Yellowknife Ar**	**63.65**	**346**	P	P	08 10 30.0	+0.3
	0.1nn,0.5s,baz=14,slow=6.8,SNR=2.8						

*ISCJB **28** 08:29:31.2±0.5, 20°.6S±0°.1×178°.6W±0°.1, h587km, mb3.6/11, Error ellipse: s-maj=19.3km s-min=8.8km az=135.3*
*IDC **28** 08:29:32.7±1.9, 20°.60S×178°.57W, h593km±22km, mb3.1/11, mb1 3.4/14, mb1mx3.2/46, mbtmp4.1/14, Error ellipse: s-maj=19.0km s-min=13.7km az=142.0*

ISC 28 08:29:32.0±0.5, 20°.6S±0°.1×178°.5W±0°.1, h587km, n26, σ1°12/27, mb3.6/11, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**9.21**	**45**	P	**P**	**08 31 43.3**	**+0.5**
	2.5nn,0.3s,baz=74,slow=7.8,SNR=4.0						
AFI				S	**S**	**08 33 28.0**	**-2.1**
	2.0nn,0.3s,baz=53,slow=20,SNR=4.4						
DZM	**Mont Dzumac**	**14.13**	**261**	P	**P**	**08 32 34.2**	**+1.7**
	0.5nn,0.3s,baz=116,slow=21,SNR=5.6						
URZ	**

ROCH			IAML		08 36 27.3
	comp=N,612nm,0.3s				
CCHI	**Chillan**	**1.88 189**	IAML		08 36 33.1
	comp=E,495nm,0.2s				

*ISCJB **28** 08:44:35.3±0.9, 37.°11N±0.°05×27.°98E±0.°06, h0km, Error ellipse: s-maj=7.1km s-min=6.5km az=39.8*
*CSEM **28** 08:44:35.7±0.3, 37.°10N×27.°95E, h1km, ML2.2, Error ellipse: s-maj=6.2km s-min=5.5km az=168.0, Suspected Mining explosion.*
*ISK **28** 08:44:36.1, 37.°15N×27.°82E, h17km, ML2.2/4*
*DDA **28** 08:44:38.7, 37.°35N×27.°60E, h7km, Ml2.8, Suspected Mining explosion.*

ISC 28 08:44:34.7±1.3, 37.°11N±0.°04×28.°03E±0.°05, h0km, n14, σ0961/20, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLSB	**Milas**	**0.27**	**313**	PG	**Pg**	**08 44 40.3**	**+0.4**
MLSB				SG	**Sg**	**08 44 43.7**	**+0.3**
MLSB	**Milas**	**0.27**	**313**	*e*Pg	**Pg**	**08 44 40.3**	**+0.4**
MLSB				*e*Sg	**Sg**	**08 44 43.7**	**+0.3**
BDRM	**Kayabasi**	**0.47**	**264**	*i* P	**Pg**	**08 44 43.9**	**+0.2**
BDRM				*i* S	**Sg**	**08 44 50.8**	**+1.1**
BDRM	**Kayabasi**	**0.47**	**264**	P	**Pg**	**08 44 43.9**	**+0.2**
BDRM				S	**Sg**	**08 44 50.8**	**+1.1**
TURN	**Turunc**	**0.52**	**117**	PG	**Pb**	**08 44 46.7**	**0.0**
TURN	**Turunc**	**0.52**	**117**	*e*Pg	**Pb**	**08 44 46.7**	**0.0**
AYDN	**Tasoluk**	**0.56**	**348**	*i* P	**Pb**	**08 44 47.1**	**-0.4**
AYDN				*i* S	**Sg**	**08 44 52.9**	**+0.2**
AYDN	**Tasoluk**	**0.56**	**348**	P	**Pb**	**08 44 47.1**	**-0.4**
AYDN				S	**Sg**	**08 44 52.9**	**+0.2**
BODT	**Bodrum**	**0.57**	**265**	PG	**Pg**	**08 44 44.9**	**-0.8**
BODT	**Bodrum**	**0.57**	**265**	*e*Pg	**Pg**	**08 44 44.9**	**-0.8**
YKAV	**Yalikavak-Bodr**	**0.60**	**271**	PG	**Pb**	**08 44 45.2**	**-1.0**
YKAV	**Yalikavak-Bodr**	**0.60**	**271**	*e*Pg	**Pg**	**08 44 45.2**	**-1.0**
AYDB	**Zeytinkoy-Aydi**	**0.84**	**353**	PG	**Pb**	**08 44 52.2**	**-0.1**
AYDB	**Zeytinkoy-Aydi**	**0.84**	**353**	*e*Pg	**Pb**	**08 44 52.2**	**-0.1**

IDC 28 08:48:00.3±1.7, 0.°21S×124.°44E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.3/54, mbtmp3.4/3, Error ellipse: s-maj=204.3km s-min=24.7km az=63.0, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.87**	**154**	P	P	08 52 53.7	-1.2
	0.3nm,0.4s,baz=330,slow=11,SNR=14						
ASAR	**Alice Springs**	**25.06**	**159**	P	P	08 53 27.5	+0.9
	0.3nm,0.4s,baz=345,slow=12,SNR=9.1						
MKAR	**Makanchi Array**	**59.56**	**328**	P	P	08 58 05.6	-0.1
	0.2nm,0.3s,baz=122,slow=7.0,SNR=4.2						

IDC 28 08:50:16.3±1.8, 3.°42N×92.°88E, h0km, mb3.6/3, mb1 3.9/5, mb1mx3.4/69, mbtmp3.6/5, ML3.9/2, MS2.9/1, Ms1 3.1/1, ms1mx2.4/63, Error ellipse: s-maj=52.3km s-min=23.9km az=38.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**6.06**	**96**	Pn	Pn	08 51 47.2	-0.2
	0.4nm,0.3s,baz=334,slow=18,SNR=3.1						
PSI				Sn	Sn	08 52 58.5	+0.8
	0.7nm,0.3s,baz=38,slow=19,SNR=2.8						
CMAR	**Chiang Mai Arr**	**16.08**	**21**	Pn	Pn	08 54 03.2	-0.7
	0.6nm,0.3s,baz=217,slow=13,SNR=9.4						
CMAR				LR	LR	08 59 26.2	
	comp=Z,41nm,19.9s,baz=265,slow=34						
H08S2	**Diego Garcia H**	**23.12**	**242**	T	T	09 19 05.5	
	baz=61,slow=75,SNR=9.1						
H08S3	**Diego Garcia H**	**23.12**	**242**	T	T	09 19 03.4	
	baz=61,slow=75,SNR=8.3						
H08S1	**Diego Carcia H**	**23.14**	**242**	T	T	09 19 10.6	
	baz=61,slow=75,SNR=6.9						
MKAR	**Makanchi Array**	**44.17**	**350**	P	P	08 58 27.3	+0.4
	1.0nm,0.7s,baz=167,slow=8.6,SNR=9.7						
WRA	**Warramunga Arr**	**46.87**	**121**	P	P	08 58 48.8	+0.1
	0.3nm,0.9s,baz=297,slow=9.0,SNR=3.2						
GERES	**GERESS Array B**	**80.31**	**319**	P	P	09 02 29.1	-0.4
	0.8nm,0.8s,baz=100,slow=5.5,SNR=4.9						

*IDC **28** 08:55:52.7±0.7, 9.°79S×124.°68E, h0km, mb4.1/9, mb1 4.4/11, mb1mx3.9/55, mbtmp4.2/11, ML4.3/2, MS3.5/13, Ms1 3.5/13, ms1mx3.2/53, Error ellipse: s-maj=16.0km s-min=11.4km az=157.0*
*ISCJB **28** 08:55:53.7±0.3, 10.°09S±0.°04×124.°59E±0.°04, h19km, mb4.4/16, MS3.6/10, Error ellipse: s-maj=7.4km s-min=4.1km az=43.2*
*NEIC **28** 08:55:57.6±0.3, 10.°04S×124.°50E, h35km, mb4.5/12, Error ellipse: s-maj=10.2km s-min=6.3km az=49.0*
*DJA **28** 08:55:58.5±0.5, 10.°S±3.°×12.°5E±.°, h23km±4km, M4.7/12, mb4.8/12, mB5.3/7, MLv4.6/9, Mw(mB)4.7/7*

ISC 28 08:55:55.4±0.4, 10.°16S±0.°05×124.°55E±0.°05, h19km, n82, σ2856/75, mb4.4/15, MS3.5/10, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**0.49**	**325**	P	**Pn**	**08 56 07.6**	**+0.1**
SOEI				S	**Sn**	**08 56 15.5**	**-0.1**
SOEI	**Soe**	**0.49**	**325**	*e*Pg	**Pn**	**08 56 08.2**	**+0.7**
BATI	**Baumata**	**0.88**	**267**	Pg	**Pn**	**08 56 15.4**	**+2.7**
	396nm,0.3s,baz=120,slow=6.9,SNR=210						
BATI				Lg	Lg	08 56 27.6	
	1µm,0.3s,baz=150,slow=20,SNR=51						
BATI	**Baumata**	**0.88**	**267**	P	**Pn**	**08 56 15.5**	**+2.7**
BATI				S	**Sn**	**08 56 28.6**	**+3.6**
BASI	**Baing, Sumba**	**3.91**	**269**	P	Pg	08 57 17.6	+7.2
WBSI	**Waikabubak, Su**	**5.11**	**275**	P	**Pn**	**08 57 12.4**	**+1.4**
	214nm,1.0s,4µm0.7nm						
BSSI	**Bau Bau, Buton**	**5.66**	**314**	P	**Pn**	**08 57 20.3**	**+1.7**
	260nm,1.1s,3µm0.9nm						
KDI	**Kendari**	**6.45**	**343**	P	**Pn**	**08 57 31.6**	**+2.1**
	33nm,1.0s,0.2nm						
BKSI	**Bulukumba**	**6.51**	**317**	P	**Pn**	**08 57 32.0**	**+1.8**
	1.2nm,0.8s,0.0nm						
PLAI	**Plampang**	**6.81**	**281**	P	**Pn**	**08 57 36.3**	**+1.9**
MTN	**Manton Dam**	**6.98**	**113**	*e*Pn	**Pn**	**08 57 40.6**	**+3.9**
MTN				*e*Sn	**Sn**	**08 58 57.6**	**+1.9**
BNSI	**Bone**	**7.22**	**322**	P	**Pn**	**08 57 43.0**	**+3.0**
	67nm,0.9s,1µm0.3nm						
TWSI	**Taliwang, Sumb**	**7.70**	**280**	P	**Pn**	**08 57 47.0**	**+0.4**
	97nm,1.0s,1µm0.3nm						
FITZ	**Fitzroy Crossi**	**7.96**	**173**	*e*Pn	**Pn**	**08 57 53.5**	**+3.3**
FITZ				*e*Sn	**Sn**	**08 59 19.1**	**-0.7**
TTSI	**Tana Toraja**	**8.49**	**326**	P	**Pn**	**08 57 59.3**	**+1.9**
	31nm,1.3s						
LUWI	**Luwuk**	**9.23**	**349**	P	**Pn**	**08 58 10.0**	**+2.4**
SRBI	**Singaraja**	**9.45**	**282**	P	**Pn**	**08 58 12.2**	**+1.6**
	22nm,0.8s						
JAGI	**Jajag, Banyuwa**	**10.40**	**278**	*e*Pn	**Pn**	**08 58 21.0**	**-2.7**
FAKI	**Fak Fak**	**10.49**	**47**	*e*Pn	**Pn**	**08 58 26.7**	**+1.8**
MRSI	**Marisa**	**10.88**	**346**	P	Pn	08 58 22.1	-8.1
SIJI	**Sorong**	**11.39**	**36**	LR	LR	09 02 41.5	
	comp=Z,88nm,21.1s,baz=314,slow=37						
WR1	**Warramunga Arr**	**13.56**	**137**	*e*Pn	**Pn**	**08 59 06.9**	**0.0**
WR1				*e*Sn	**Sn**	**09 01 29.9**	**-7.1**
WRA	**Warramunga Arr**	**13.56**	**137**	Pn	**Pn**	**08 59 06.9**	**0.0**
	1.3nm,0.3s,baz=314,slow=13,SNR=58						
WRA				Sn	**Sn**	**09 01 29.9**	**-7.1**
	6.2nm,0.3s,baz=309,slow=23,SNR=12						
WRAB	**Tennant Creek**	**13.56**	**137**	*e*Pn	**Pn**	**08 59 07.5**	**+0.7**
WB2	**Warramunga Arr**	**13.56**	**137**	*e*Pn	**Pn**	**08 59 07.5**	**+0.6**
WB2				*e*Sn	**Sn**	**09 01 30.9**	**-6.4**
KPJI	**Karang Pucung**	**15.69**	**279**	P	**Pn**	**08 59 37.4**	**+1.8**
AS31	**Alice Springs**	**16.13**	**148**	*e*Pn	**Pn**	**08 59 42.5**	**+1.3**
	8.2nm,0.6s						
AS31				*e*Sn	**Sn**	**09 02 33.3**	**-6.5**
ASAR	**Alice Springs**	**16.13**	**148**	Pn	**Pn**	**08 59 42.0**	**+0.8**
	1.1nm,0.3s,baz=321,slow=11,SNR=138						
ASAR				Sn	**Sn**	**09 02 33.3**	**-6.5**
	2.6nm,0.3s,baz=315,slow=22,SNR=12						
AS01	**Alice Springs**	**16.15**	**147**	*e*Pn	**Pn**	**08 59 43.0**	**+1.5**
CISI	**Cisompet, Garu**	**16.74**	**278**	*e*Pn	**Pn**	**08 59 48.6**	**-0.5**
	37nm,0.9s						
LEM	**Lembang**	**17.07**	**280**	LR	LR	09 07 43.4	
	comp=Z,224nm,18.2s,baz=89,slow=42						
DAV	**Davao City (W)**	**17.15**	**3**	LR	LR	09 07 33.8	
	comp=Z,40nm,20.1s,baz=163,slow=42						
GENI	**Genyem**	**17.23**	**65**	P	**P**	**08 59 58.4**	**+1.7**
COEN	**Coen**	**18.60**	**104**	*e*P	**Pn**	**09 00 15.2**	**+3.1**
	10nm,0.9s						
FORT	**Forest**	**20.77**	**171**	*e*P	Pn	09 00 38.1	+0.2
	985nm,0.6s						
PMG	**Port Moresby**	**22.29**	**90**	LR	LR	09 10 17.4	
	comp=Z,144nm,18.6s,baz=255,slow=39						
CTA	**Charters Tower**	**23.13**	**118**	P	**P**	**09 01 01.7**	**+1.0**
	9.3nm,1.0s,baz=294,slow=9.4,SNR=6.3						
CTAO	**Charters Tower**	**23.13**	**118**	*e*P	**P**	**09 01 03.0**	**+2.3**
	18nm,1.1s						
NWAO	**Narrogin (SRO)**	**23.64**	**195**	LR	LR	09 12 12.2	
	comp=Z,82nm,18.1s,baz=345,slow=41						
NWAO	**Narrogin (SRO)**	**23.64**	**195**	*e*P	**P**	**09 01 07.1**	**+1.5**
	9.3nm,1.0s						
BBOO	**Buckleboo**	**24.92**	**156**	*e*P	**P**	**09 01 20.8**	**+3.4**
	14nm,1.1s						
STKA	**Stephens Creek**	**26.76**	**146**	P	**P**	**09 01 37.5**	**+3.4**
	1.2nm,0.2s,baz=300,slow=16,SNR=4.3						
STKA				S	S	09 06 33.6	+24
	2.7nm,0.7s,baz=243,slow=18,SNR=1.8						
STKA				LR	LR	09 13 12.1	
	comp=Z,222nm,19.6s,baz=353,slow=38						
STKA	**Stephens Creek**	**26.76**	**146**	*e*P	**P**	**09 01 35.1**	**+1.0**
	2.0nm,0.9s						
STKA				S	S	09 06 33.6	+24
COCO	**West Island**	**27.26**	**263**	*e*P	**P**	**09 01 37.3**	**-1.4**
	99nm,0.4s						
PSI	**Prapat**	**28.58**	**295**	LR	LR	09 14 30.5	
	comp=Z,112nm,21.8s,baz=142,slow=39						
HNR	**Honiara**	**34.88**	**92**	LR	LR	09 17 57.8	
	comp=Z,48nm,19.8s,baz=169,slow=38						
CMAR	**Chiang Mai Arr**	**38.04**	**318**	P	**P**	**09 03 10.8**	**-2.1**
	1.1nm,0.3s,baz=134,slow=6.4,SNR=3.7						
CMAR				LR	LR	09 20 47.2	
	comp=Z,67nm,18.5s,baz=190,slow=40						
DZM	**Mont Dzumac**	**41.82**	**112**	LR	LR	09 22 33.6	
	comp=Z,78nm,18.3s,baz=235,slow=38						
MAJO	**Matsushiro**	**48.20**	**15**	*e*P	**P**	**09 04 32.2**	**-2.6**
MJAR	**Matsushiro Arr**	**48.20**	**15**	P	**P**	**09 04 32.2**	**-2.6**
	2.9nm,0.8s,baz=190,slow=9.4,SNR=8.5						
MJB9	**Matsu-Tunnel**	**48.20**	**15**	*e*P	**P**	**09 04 34.5**	**-0.3**
	4.1nm,0.6s						
RPZ	**Rata Peaks**	**52.26**	**138**	LR	LR	09 28 04.4	
	comp=Z,98nm,18.1s,baz=270,slow=37						
FUNA	**Funafuti**	**53.89**	**93**	*e*P	**P**	**09 05 17.2**	**-0.9**
	78nm,1.0s						
URZ	**Urewera**	**54.60**	**130**	LR	LR	09 29 46.9	
	comp=Z,129nm,18.5s,baz=234,slow=37						
SONA0	**Songino Array**	**59.95**	**346**	*e*P	**P**	**09 05 58.1**	**-2.4**
SONM	**Songino Array**	**59.95**	**346**	P	**P**	**09 05 58.1**	**-2.4**
	0.3nm,0.3s,baz=173,slow=9.8,SNR=4.9						
MK01	**Makanchi Array**	**68.06**	**330**	*e*P	**P**	**09 06 51.3**	**-2.4**
MK31	**Makanchi Array**	**68.08**	**330**	*e*P	**P**	**09 06 51.8**	**-2.1**
MK32	**Makanchi Array**	**68.08**	**330**	*e*P	**P**	**09 06 51.7**	**-2.2**
MKAR	**Makanchi Array**	**68.08**	**330**	P	**P**	**09 06 51.7**	**-2.2**
	0.6nm,0.5s,baz=132,slow=7.5,SNR=6.9						
MKAR	**Makanchi Array**	**68.08**	**330**	*e*P	**P**	**09 06 51.6**	**-2.2**
	9.8nm,0.7s						
PETK	**Petropavlovsk-**	**69.08**	**21**	P	**P**	**09 06 59.1**	**-0.8**
	0.7nm,0.5s,baz=218,slow=5.2,SNR=4.6						
PETK	**Petropavlovsk-**	**69.08**	**21**	*e*P	**P**	**09 06 59.7**	**-0.2**
PEA1	**Petropavlovsk-**	**69.08**	**21**	*e*P	**P**	**09 06 59.1**	**-0.9**
VNDA	**Vanda**	**70.04**	**172**	P	**P**	**09 07 07.3**	**+1.8**
	0.5nm,0.6s,baz=298,slow=9.6,SNR=5.2						
VNDA	**Vanda**	**70.04**	**172**	*e*P	**P**	**09 07 03.0**	**-2.5**
ABKAR	**Akulak array**	**81.71**	**323**	*e*P	**P**	**09 08 12.0**	**-0.6**
	12nm,1.0s						
GNI	**Garni**	**88.80**	**311**	LR	LR	09 56 13.6	
	comp=Z,21nm,19.1s,baz=146,slow=41						
SNAA	**Sanae**	**91.31**	**195**	P	**P**	**09 09 01.4**	**+1.8**
SNAA	**Sanae**	**91.31**	**195**	P	**P**	**09 09 01.3**	**+1.8**
	1.2nm,0.6s,baz=166,slow=4.4,SNR=10						
SNAA	**Sanae**	**91.31**	**195**	*e*P	**P**	**09 09 01.5**	**+2.0**
	1.9nm,0.8s						
VNA1	**Neumayer--Stat**	**93.31**	**194**	P	**P**	**09 09 07.3**	**-1.4**
TOLK	**Toolik Lake Re**	**97.88**	**22**	*e*P	Pdif	09 09 29.9	+0.3
	2.3nm,0.8s						
DLMT	**Dillon**	**120.05**	**43**	*e*PKPdf	**PKPdf**	**09 14 45.6**	**+0.3**
FCC	**Fort Churchill**	**123.39**	**23**	*e*PKPdf	**PKPdf**	**09 14 50.8**	**-0.2**
LAO	**LASA Array**	**123.76**	**40**	*e*PKPdf	**PKPdf**	**09 14 52.9**	**+0.6**
PLCA	**Paso Flores**	**127.47**	**166**	PKP	**PKPdf**	**09 15 01.4**	**+1.8**
	0.7nm,0.7s,baz=183,slow=1.4,SNR=3.2						
N59A	**State Game Lan**	**144.49**	**27**	*e*PKPdf	PKPbc	09 15 29.6	+0.2
GOGA	**Godfrey**	**145.39**	**44**	*e*PKPbc	**PKPdf**	**09 15 33.3**	**+0.6**
SPRD	**Spring Road, M**	**145.71**	**32**	*e*PKPdf	**PKPdf**	**09 15 33.1**	**0.0**
LPAZ	**La Paz**	**150.88**	**154**	PKPbc	**PKPbc**	**09 15 49.4**	**+0.9**
	3.1nm,0.9s,baz=147,slow=4.0,SNR=7.8						
LPAZ	**La Paz**	**150.88**	**154**	*e*PKPbc	**PKPbc**	**09 15 49.5**	**+1.0**

*NIED **28** 09:07:00, 29.°30N×130.°70E, h32km, Mw4.1 Best double couple: M0 1.66000×10^15 NP1:φs106.00000°, δ27.00000°, λ157.00000°. NP2:φs217.00000°, δ80.00000°, λ65.00000°.*
*IDC **28** 09:07:10.4±0.8, 29.°30N×130.°45E, h0km, mb3.5/11, mb1 3.6/15, mb1mx3.5/74, mbtmp3.5/15, ML3.4/4, MS3.1/4, Ms1 3.1/4, ms1mx2.7/60, Error ellipse: s-maj=23.5km s-min=15.6km az=95.0*
*ISCJB **28** 09:07:14.0±0.6, 29.°29N±0.°03×130.°76E±0.°06, h47km±6km, mb3.5/11, MS3.1/3, Error ellipse: s-maj=9.4km s-min=3.5km az=22.1*
*JMA **28** 09:07:14.3±0.1, 29.°33N×130.°66E, h67km±4km, M3.6*

ISC 28 09:07:14.0±1.4, 29.°27N±0.°04×130.°69E±0.°07, h28km±10km, n34, σ1902/46, mb3.5/11, MS3.1/3, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNN	**Nakanoshima**	**0.91**	**309**	P	**Pn**	**09 07 30.5**	**-0.5**
JNN				S	**Sb**	**09 07 44.4**	**+1.4**
JYAK	**Yakushimahirau**	**0.98**	**351**	P	**Pn**	**09 07 31.5**	**-0.5**
JYAK				S	**Sb**	**09 07 45.2**	**+0.2**
JZK	**Kikaishima**	**1.14**	**214**	P	**Pb**	**09 07 35.4**	**+0.4**
JKC	**Kuchinoerabu**	**1.27**	**340**	P	**Pn**	**09 07 35.3**	**-0.6**
JKC				*e*S	**Sn**	**09 07 51.7**	**-0.3**
JAM	**Amami Oshima**	**1.27**	**228**	P	**Pb**	**09 07 36.6**	**-0.8**
JAM				*e*S	**Sb**	**09 07 53.9**	**+0.6**
JTAJ	**Takarajima**	**1.30**	**265**	P	**Pb**	**09 07 37.3**	**-0.5**
JTAJ				*e*S	**Sb**	**09 07 54.4**	**+0.3**
JTN	**Tanegashima 3**	**1.41**	**10**	P	**Pn**	**09 07 37.3**	**-0.5**
JTN				*e*S	**Sn**	**09 07 55.6**	**+0.1**
JAMN	**Amaminishikomi**	**1.67**	**233**	P	**Pn**	**09 07 42.2**	**+0.7**
JAMN				*e*S	**Sb**	**09 08 04.3**	**-0.5**
JTSR	**Tashiro 2**	**1.91**	**6**	P	**Pn**	**09 07 44.7**	**0.0**
JTSR				*e*S	**Sn**	**09 08 07.0**	**-0.8**
JTK	**Tokunoshima**	**2.12**	**226**	P	**Pn**	**09 07 48.9**	**+1.2**
JTK				*e*S	**Sb**	**09 08 15.6**	**-2.1**
JSU	**Suzuyama**	**2.24**	**355**	P	**Pn**	**09 07 48.7**	**-0.6**
JSU				*e*S	**Sn**	**09 08 15.5**	**-0.6**
JNAR	**Kushima--Naru**	**2.31**	**13**	P	**Pn**	**09 07 50.6**	**+0.4**
JNAR				*e*S	**Sn**	**09 08 17.6**	**-0.1**
JOKE	**Okinoerabujima**	**2.66**	**225**	P	**Pn**	**09 07 56.0**	**+0.9**
JOKE				*e*S	**Sn**	**09 08 28.5**	**+2.1**
JOW	**Kunigami**	**3.23**	**222**	Pn	**Pn**	**09 08 03.1**	**+0.2**
	6.9nm,0.3s,baz=55,slow=19,SNR=41						
JOW				Sn	**Sn**	**09 08 40.0**	**-0.5**
	20nm,0.3s,baz=343,slow=9.0,SNR=4.6						
JOW	**Kunigami**	**3.23**	**222**	P	**Pn**	**09 08 03.6**	**+0.7**
JMZ	**Minamidaito 2**	**3.47**	**172**	P	**Pn**	**09 08 05.4**	**-0.8**
JNU	**Nakatsue**	**3.85**	**2**	Pn	**Pn**	**09 08 11.9**	**+0.5**
	6.7nm,0.3s,baz=215,slow=7.2,SNR=63						
JNU				Sn	**Sn**	**09 08 53.8**	**-1.9**
	4.3nm,0.3s,baz=240,slow=23,SNR=6.6						
KSRS	**Korea Array**	**8.49**	**345**	Pn	**Pn**	**09 09 17.4**	**+2.3**
	0.1nm,0.3s,baz=161,slow=15,SNR=3.1						
KSRS				LR	LR	09 12 49.1	
	comp=Z,123nm,19.1s,baz=182,slow=40						
MJAR	**Matsushiro Arr**	**9.62**	**39**	Pn	**Pn**	**09 09 31.5**	**+0.9**
	0.4nm,0.3s,baz=212,slow=16,SNR=5.3						
USRK	**Ussuriysk Ar.**	**14.94**	**4**	Pn	**P**	**09 10 49.4**	**+0.8**
	0.2nm,0.3s,baz=165,slow=8.5,SNR=4.1						
KLR	**Kul'dur**	**19.95**	**2**	P	**P**	**09 11 42.8**	**-1.0**
	0.0nm,0.3s,baz=200,slow=4.5,SNR=5.7						
GUMO	**Guam**	**20.40**	**137**	LR	LR	09 18 39.3	
	comp=Z,34nm,18.6s,baz=38,slow=34						
SONM	**Songino Array**	**26.36**	**321**	P	**P**	**09 12 47.0**	**-0.9**
	0.4nm,0.6s,baz=142,slow=7.3,SNR=2.9						
MA2	**Magadan**	**33.25**	**19**	LR	LR	09 28 12.8	
	comp=Z,35nm,18.4s,baz=206,slow=38						
MKAR	**Makanchi Array**	**41.24**	**309**	P	**P**	**09 14 56.2**	**-0.4**
	0.4nm,0.4s,baz=88,slow=10,SNR=8.8						
KURBB	**Kurchatov Arra**	**44.24**	**314**	P	**P**	**09 15 20.1**	**-0.7**
	1.0nm,0.5s,baz=100,slow=8.9,SNR=5.9						
WRA	**Warramunga Arr**	**49.05**	**175**	P	**P**	**09 15 59.1**	**+0.4**
	0.3nm,0.6s,baz=355,slow=8.3,SNR=4.0						
BVAR	**Borovoye Array**	**49.52**	**316**	P	**P**	**09 16 01.1**	**-1.0**
	1.8nm,0.6s,baz=89,slow=10,SNR=7.6						
ASAR	**Alice Springs**	**52.72**	**176**	P	**P**	**09 16 27.0**	**+0.6**
	0.3nm,0.6s,baz=10.0,slow=13,SNR=7.2						
ILAR	**Eielson Array**	**60.74**	**29**	P	**P**	**09 17 24.8**	**+2.0**
	0.1nm,0.5s,baz=281,slow=11,SNR=2.9						
FINES	**FINESS Array B**	**71.30**	**331**	P	**P**	**09 18 29.0**	**-1.7**
	0.3nm,0.4s,baz=60,slow=5.5,SNR=5.3						
AKASG	**Malin Array Be**	**74.64**	**320**	P	**P**	**09 18 50.2**	**-0.5**
	0.5nm,0.5s,baz=58,slow=5.8,SNR=2.2						
YKA	**Yellowknife Ar**	**74.86**	**26**	P	**P**	**09 18 53.4**	**+1.7**
	0.2nm,1.0s,baz=295,slow=6.1,SNR=3.3						
BRTR	**Keskin Array B**	**76.88**	**308**	P	**P**	**09 19 04.1**	**+0.1**
	0.4nm,0.6s,baz=60,slow=3.5,SNR=2.7						
BRTR				LR	LR	09 55 47.2	
	comp=Z,20nm,19.2s,baz=84,slow=38						

*ISCJB **28** 09:23:44.4±0.6, 36.°59N±0.°04×1.°52E±0.°06, h14km, Error ellipse: s-maj=7.2km s-min=5.2km az=13.7*
*CSEM **28** 09:23:44.4±0.3, 36.°57N×1.°57E, h5km, mb4.0, Error ellipse: s-maj=9.4km s-min=6.7km az=121.0*
*CRAAG **28** 09:23:44.6, 36.°56N×1.°55E, Ml3.2*
*MDD **28** 09:23:45.2±0.6, 36.°56N×1.°56E, h0km, mb4.0/2, Error ellipse: s-maj=8.6km s-min=5.8km az=125.0, PRXIMO*

ISC 28 09:23:44.8±1.0, 36.°54N±0.°05×1.°59E±0.°05, h14km, n22, σ1908/28, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EBNR	**Beni Rached**	**0.26**	**191**	P	**Pg**	**09 23 51.7**	**+1.4**
EBNR	**Beni Rached**	**0.26**	**191**	P	**Pg**	**09 23 51.7**	**+1.4**
ECHA	**Ech Chlef**	**0.43**	**205**	P	**Pg**	**09 23 52.1**	**-1.3**
ECHA	**Ech Chlef**	**0.43**	**205**	P	**Pg**	**09 23 52.1**	**-1.3**
ECHF	**Ech Chlef**	**0.43**	**208**	P	**Pg**	**09 23 52.1**	**-1.4**
ECHF	**Ech Chlef**	**0.43**	**208**	P	**Pg**	**09 23 52.1**	**-1.4**
EANR	**'Ain N'Sour**	**0.71**	**214**	P	**Pg**	**09 23 59.7**	**+1.0**
EANR	**'Ain N'Sour**	**0.71**	**214**	P	**Pn**	**09 23 59.7**	**+1.0**
EANR	**'Ain N'Sour**	**0.71**	**214**	P	**Pg**	**09 23 59.7**	**+1.0**
EMHD	**Djebel Mahouad**	**1.15**	**107**	P	**Pn**	**09 24 06.7**	**+0.1**
EMHD	**Djebel Mahouad**	**1.15**	**107**	P	**Pn**	**09 24 06.7**	**+0.1**
EMHD	**Djebel Mahouad**	**1.15**	**107**	P	**Pn**	**09 24 06.7**	**+0.1**
ABA	**Alger-Bouzarea**	**1.19**	**77**	P	**Pn**	**09 24 07.5**	**+0.5**
ABA	**Alger-Bouzarea**	**1.19**	**77**	P	**Pn**	**09 24 07.5**	**+0.5**
ABA	**Alger-Bouzarea**	**1.19**	**77**	P	**Pn**	**09 24 07.5**	**+0.5**
EIBI	**Ibiza**	**2.49**	**356**	P	**Pn**	**09 24 25.4**	**+0.5**
	3.4nm,0.1s,SNR=7.9						
EIBI				S	**Sn**	**09 24 55.0**	**-0.1**
	28nm,1.0s,SNR=7.9						
EIBI	**Ibiza**	**2.49**	**356**	P	**Pn**	**09 24 25.4**	**+0.5**
	3.4nm,0.1s,SNR=7.9						
EIBI				S	**Sn**	**09 24 55.0**	**-0.1**
	28nm,1.0s,SNR=7.9						
ETOS	**Mallorca**	**3.36**	**16**	P	**Pn**	**09 24 37.9**	**+1.0**
	SNR=7.9						
ETOS				S	**Sn**	**09 25 15.5**	**-1.1**
	SNR=7.9						
ETOS	**Mallorca**	**3.36**	**16**	P	**Pn**	**09 24 37.9**	**+1.0**
	SNR=7.9						
ETOS				S	**Sn**	**09 25 15.5**	**-1.1**
	SNR=7.9						
EBER	**Berja**	**3.62**	**277**	P	**Pn**	**09 24 41.4**	**+0.8**
	14nm,0.8s,SNR=7.9						
EBER				S	**Sn**	**09 25 22.1**	**-1.1**
	8.3nm,1.3s,SNR=7.9						
EBER	**Berja**	**3.62**	**277**	P	**Pn**	**09 24 41.4**	**+0.8**
	14nm,0.8s,SNR=7.9						
EBER				S	**Sn**	**09 25 22.1**	**-1.1**
	8.3nm,1.3s,SNR=7.9						
EPOB	**Poblet**	**

JFT	**Otama**	**1.48 242**	P	**Pn**	**09 58 25.4**	**+0.7**
JFT			S	**Sn**	**09 58 43.0**	**+0.1**
JYS	**Shirataka**	**1.50 270**	P	**Pn**	**09 58 25.6**	**+0.5**
JYS			S	**Sn**	**09 58 43.0**	**-0.5**
JRG	**Rokugo**	**1.56 318**	P	**Pn**	**09 58 27.1**	**+1.2**
JRG			S	**Sn**	**09 58 45.4**	**+0.4**
JYA	**Atsumi**	**1.81 282**	P	**Pn**	**09 58 29.9**	**+0.6**
JYA			S	**Sn**	**09 58 51.1**	**0.0**
MJAR	**Matsushiro Arr**	**3.44 242**	Pn	**Pn**	**09 58 55.4**	**+3.6**
	0.6nm,0.3s,baz=78,slow=12,SNR=7.1					
ASAJ	**Asahikawa**	**5.90 4**	Pn	**Pn**	**09 59 26.4**	**+0.9**
	0.8nm,0.3s,baz=192,slow=14,SNR=8.9					
H11N2	**WAKE ISLAND Hy 28.41 123**		T	T	10 33 51.3	
	baz=316,slow=75,SNR=7.4					
H11N1	**WAKE ISLAND Hy 28.42 123**		T	T	10 34 06.3	
	baz=316,slow=75,SNR=16					
H11N3	**WAKE ISLAND Hy 28.43 123**		T	T	10 34 06.9	
	baz=316,slow=75,SNR=10					
H11S1	**WAKE ISLAND Hy 29.16 125**		T	T	10 35 03.5	
	baz=318,slow=76,SNR=7.1					
H11S3	**WAKE ISLAND Hy 29.16 125**		T	T	10 35 02.5	
	baz=318,slow=76,SNR=10					
H11S2	**WAKE ISLAND Hy 29.18 125**		T	T	10 35 04.5	
	baz=318,slow=76,SNR=6.1					
WRA	**Warramunga Arr**	**58.31 188**	P	**P**	**10 07 50.8**	**-1.3**
	0.1nm,0.4s,baz=6.3,slow=7.4,SNR=4.5					
ASAR	**Alice Springs**	**62.03 188**	P	**P**	**10 08 17.1**	**-0.4**
	0.4nm,1.0s,baz=17,slow=7.6,SNR=4.1					

MOS ***28*** *10:08:03.3±0.8, 18.˚66S×174.˚68W, h102km, mb6.3/53, MS6.0/20, Error ellipse: s-maj=6.7km s-min=5.5km az=59.9*

ISCJB ***28*** *10:08:05.2±0.7, 18.˚61S±0.˚02×174.˚71W±0.˚02, h119km±5km, mb6.3/293, Error ellipse: s-maj=3.0km s-min=2.2km az=142.4*

BJI ***28*** *10:08:06.2, 18.˚55S×174.˚65W, h120km, mb5.9/76, mB6.3/64*

NEIC ***28*** *10:08:07.0±0.0, 18.˚64S×174.˚51W, h140km Best double couple: NP1:ϕs246.00000°, δ69.00000°, λ-91.00000°. NP2:ϕs69.00000°, δ21.00000°, λ-86.00000°. Principal axes: T 1.0600, Plg23.0000°, Azm336.0000°; N 0.0000, Plg1.0000°, Azm246.0000°; P -1.0600, Plg66.0000°, Azm153.0000°;*

IDC ***28*** *10:08:08.0±0.5, 18.˚66S×174.˚72W, h129km±3km, mb5.9/45, mb1 5.9/46, mb1mx5.9/46, mbtmp6.2/46, MS5.8/39, Ms1 5.8/39, ms1mx5.7/52 Error ellipse: s-maj=7.9km s-min=6.3km az=174.0*

NEIC ***28*** *10:08:08.1±0.1, 18.˚69S×174.˚71W, mb6.4/161, ME6.8, MW6.7, MW6.7, MW6.6, Error ellipse: s-maj=3.7km s-min=2.5km az=140.0 Best double couple: NP1: ϕs93.00000°, δ23.00000°, λ-64.00000°. NP2:ϕs245.00000°, δ69.00000°, λ-101.00000°. Principal axes: T 1.3400, Plg23.0000°, Azm343.0000°; N 0.0000, Plg10.0000°, Azm248.0000°; P -1.3400, Plg64.0000°, Azm137.0000°; Broadband fault plane solution: P waves. NP1: ϕs97.00000°, δ22.00000°, λ-64.00000°. NP2:ϕs250.00000°, δ70.00000°, λ-100.00000°. Principal axes: T Plg24.0000°, Azm348.0000°; N Plg0.0000°, Azm0.0000°; P Plg64.0000°, Azm144.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*

NEIC Felt at Neiafu, Nuku'alofa and Pangai. Felt at Afono, Atu'u and Pava'ia'i, American Samoa and at Apia and Faleula, Samoa.

WEL ***28*** *10:08:08.0, 18.˚69S×174.˚71W, h135km*

GCMT ***28*** *10:08:08.1±0.0, 18.˚79S×174.˚26W, h141km, MW6.7/157, Moment Tensor Solution. s154,c413; s157,c741; Duration: 52 Moment tensor: Scale 10^19 Nm; Mrr-0.76±.01; Mθθ 0.79±.01; Mϕϕ -0.03±.01; Mrθ 0.85±.00; Mθϕ 0.25±.00; Mϕr 0.41±.00; Best double couple: M0 1.24400×10^19 NP1:ϕs246.00000°, δ70.00000°, λ-96.00000°. NP2:ϕs84.00000°, δ21.00000°, λ-73.00000°. Principal axes: T 1.2840, Plg25.0000°, Azm341.0000°; N -0.0810, Plg6.0000°, Azm248.0000°; P -1.2040, Plg65.0000°, Azm146.0000°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to surface/mantle waves, cutoff=50s.*

NEIC ***28*** *10:08:24.5±0.0, 18.˚57S×174.˚88W, h125km Best double couple: NP1:ϕs248.00000°, δ69.00000°, λ-94.00000°. NP2:ϕs78.00000°, δ22.00000°, λ-80.00000°. Principal axes: T 1.2600, Plg23.0000°, Azm341.0000°; N 0.0000, Plg4.0000°, Azm249.0000°; P -1.2600, Plg66.0000°, Azm151.0000°;*

ISC 28 10:08:07.2±0.2, 18.˚73S±0.˚03×174.˚69W±0.˚03, h133km±1km, h133km:pP-P, n2353, σ1s60/2632, mb6.3/292, 54C-147D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIUE	**Niue**	**4.52**	**95**	P	**Pn**	**10 09 09.3**	**-4.7**
	baz=4.5						
AFI	**Afiamalu**	**5.55**	**31**	P	Pn	10 09 21.1	-6.7
	618nm,0.3s,baz=181,slow=2.0,SNR=451						
AFI				S	Sn	10 10 15.0	-16
	6µm,0.3s,baz=224,slow=23,SNR=13						
AFI	**Afiamalu**	**5.55**	**31**	*e*Pn	Pn	10 09 20.3	-7.5
AFI				*e*Sn	Sn	10 10 15.9	-15
MSVF	**Nonsavu**	**6.97**	**277**	*e*Pn	Pn	10 09 53.0	+6.0
MSVF				*e*Sn	Sn	10 10 18.2	+13
MSVF	**Nonsavu**	**6.97**	**277**	*e*P	Pn	10 09 53.3	+6.0
RIZ	**Raoul Island**	**10.88**	**195**	P	**Pn**	**10 10 39.5**	**+0.3**
RIZ	**Raoul Island**	**10.88**	**195**	S	**Sn**	**10 12 34.9**	**-4.3**
RAO	**Raoul Island**	**10.88**	**195**	P	**Pn**	**10 10 38.4**	**-0.8**
	1µm,0.3s,baz=275,slow=9.3,SNR=35						
RAO				S	**Sn**	**10 12 33.9**	**-5.4**
	1µm,0.3s,baz=231,slow=24,SNR=12						
RAO	**Raoul Island**	**10.88**	**195**	*e*Pn	**Pn**	**10 10 38.6**	**-0.7**
RAO				*e*Sn	**Sn**	**10 12 31.4**	**-7.9**
RAO	**Raoul Island**	**10.88**	**195**	*e*P	**Pn**	**10 10 38.6**	**-0.7**
RAO				*e*		10 12 31.4	
GLKZ	**Green Lake**	**10.89**	**195**	P	**Pn**	**10 10 39.9**	**+0.5**
GLKZ	**Green Lake**	**10.89**	**195**	S	**Sn**	**10 12 36.1**	**-3.4**
FUNA	**Funafuti**	**11.75**	**329**	*e*Pn	**Pn**	**10 10 52.5**	**+1.6**
FUNA				*e*Sn	**Sn**	**10 13 00.9**	**+0.4**
RAR	**Rarotonga**	**14.24**	**102**	P	**Pn**	**10 11 20.4**	**-2.5**
	190nm,0.3s,baz=249,slow=5.4,SNR=201						
RAR				S	**Sn**	**10 13 53.8**	**-6.6**
	67nm,0.3s,baz=162,slow=20,SNR=3.4						
RAR				LR	LR	10 15 57.2	
	comp=Z,52µm,18.2s,baz=275,slow=33						
RAR	**Rarotonga**	**14.24**	**102**	*e*Pn	**Pn**	**10 11 20.2**	**-2.7**
RAR				*e*Sn	**Sn**	**10 13 58.8**	**-1.7**
RAR	**Rarotonga**	**14.24**	**102**	P	**Pn**	**10 11 22.5**	**-0.4**
RAR	**Rarotonga**	**14.24**	**102**	S	Sn	10 13 48.3	-12
KNTN	**Kanton**	**16.12**	**11**	*e*Pn	**Pn**	**10 11 43.8**	**-2.7**
	8µm,1.2s						
DZM	**Mont Dzumac**	**18.00**	**256**	P	**Pn**	**10 12 09.6**	**+0.5**
	37nm,0.3s,baz=83,slow=13,SNR=112						
DZM				S	**Sn**	**10 15 30.7**	**-0.2**
	baz=76,slow=19,SNR=1.6						
DZM	**Mont Dzumac**	**18.00**	**256**	⇓*i*P	**Pn**	**10 12 11.0**	**+1.8**
	7µm,1.6s						
DZM	**Mont Dzumac**	**18.00**	**256**	*e*P	**Pn**	**10 12 10.5**	**+1.3**
	4µm,1.4s						
DZM				*e*S	**Sn**	**10 15 31.4**	**+0.5**
NFK	**Norfolk Island**	**18.89**	**234**	P	**Pn**	**10 12 20.1**	**+0.5**
	baz=19,SNR=40						
OUZ	**Omahuta**	**19.44**	**210**	*e*P	**Pn**	**10 12 25.5**	**-0.3**
	1µm,0.9s						
GRZ	**Great Barrier**	**19.50**	**204**	P	**Pn**	**10 12 27.5**	**+1.0**
MXZ	**Matakaoa Point**	**19.74**	**197**	*e*P	**Pn**	**10 12 30.2**	**+0.9**
	2µm,1.4s						
MXZ	**Matakaoa Point**	**19.74**	**197**	P	**Pn**	**10 12 29.3**	**-0.1**
MXZ	**Matakaoa Point**	**19.74**	**197**	S	**S**	**10 15 52.9**	**-9.0**
KUZ	**Kuaotunu**	**19.83**	**203**	P	**Pn**	**10 12 31.2**	**+0.7**
WIZ	**White Island**	**20.03**	**199**	P	Pn	10 12 34.1	+1.3
HAZ	**Te Kaha**	**20.07**	**198**	S	**S**	**10 16 03.1**	**-5.3**
HAZ	**Te Kaha**	**20.07**	**198**	P	Pn	10 12 33.2	0.0
PUZ	**Puketiti**	**20.23**	**196**	S	**S**	**10 16 00.9**	**-11**
PUZ	**Puketiti**	**20.23**	**196**	P	Pn	10 12 35.4	+0.2
RUGZ	**Raukumara Rang**	**20.29**	**198**	P	**P**	**10 12 33.2**	**+0.5**
RUGZ	**Raukumara Rang**	**20.29**	**198**	S	**S**	**10 16 06.6**	**-6.4**
WHRZ	**Whale Island**	**20.40**	**199**	P	Pn	10 12 37.4	+0.3
WHRZ	**Whale Island**	**20.40**	**199**	S	**S**	**10 16 11.4**	**-3.6**
TGRZ	**Tauranga**	**20.52**	**201**	P	Pn	10 12 38.4	-0.1
OPRZ	**Ohinepanea**	**20.53**	**200**	P	Pn	10 12 37.0	-1.6
OPRZ	**Ohinepanea**	**20.53**	**200**	S	**S**	**10 16 16.8**	**-0.6**
MARZ	**Manawahe**	**20.62**	**200**	P	Pn	10 12 39.2	-0.5
MARZ	**Manawahe**	**20.62**	**200**	S	**S**	**10 16 21.5**	**+2.3**
CNGZ	**Carnagh Statio**	**20.63**	**196**	P	Pn	10 12 39.6	-0.2
CNGZ	**Carnagh Statio**	**20.63**	**196**	S	**S**	**10 16 16.7**	**-2.8**
MWZ	**Matawai**	**20.68**	**198**	P	**P**	**10 12 36.7**	**0.0**
MWZ	**Matawai**	**20.68**	**198**	S	**S**	**10 16 16.9**	**-3.6**
TKGZ	**Te Karaka**	**20.69**	**197**	P	Pn	10 12 38.9	-1.6
TKGZ	**Te Karaka**	**20.69**	**197**	S	**S**	**10 16 14.5**	**-6.0**
EDRZ	**Edgecumbe**	**20.71**	**199**	P	Pn	10 12 39.8	-1.1
EDRZ	**Edgecumbe**	**20.71**	**199**	S	**S**	**10 16 23.0**	**+2.0**
LIRZ	**Lichensteins R**	**20.73**	**200**	P	Pn	10 12 41.0	0.0
LIRZ	**Lichensteins R**	**20.73**	**200**	S	**S**	**10 16 26.3**	**+4.9**
URZ	**Urewera**	**20.73**	**198**	P	**P**	**10 12 37.9**	**+0.7**
	4µm,0.9s,baz=14,slow=1.7,SNR=244						
URZ				S	**S**	**10 16 11.8**	**-10**
	169nm,0.6s,baz=257,slow=19,SNR=5.3						
URZ				LR	LR	10 19 03.7	
	comp=Z,26µm,20.2s,baz=2.5,slow=32						
URZ	**Urewera**	**20.73**	**198**	*e*P	**P**	**10 12 38.8**	**+1.5**
	9µm,1.2s						
URZ				S	**S**	**10 16 11.8**	**-10**
URZ	**Urewera**	**20.73**	**198**	P	**P**	**10 12 37.0**	**-0.2**
URZ	**Urewera**	**20.73**	**198**	S	**S**	**10 16 18.3**	**-3.1**
KMRZ	**Kaimai**	**20.73**	**201**	P	Pn	10 12 41.3	+0.2
TOZ	**Tahuroa Road**	**20.79**	**202**	P	Pn	10 12 41.3	-0.3
KARZ	**Kaharoa**	**20.79**	**201**	P	Pn	10 12 41.4	-0.4
MKRZ	**Makatiti**	**20.82**	**200**	P	Pn	10 12 43.8	+1.5
OMRZ	**Omania**	**20.82**	**200**	P	Pn	10 12 41.1	-1.1
RAGZ	**Rawiri**	**20.86**	**198**	P	**P**	**10 12 39.2**	**+0.5**
RAGZ	**Rawiri**	**20.86**	**198**	S	**S**	**10 16 20.3**	**-3.8**
TARZ	**Mount Tarawera**	**20.90**	**200**	P	Pn	10 12 41.6	-1.5
TARZ	**Mount Tarawera**	**20.90**	**200**	S	**S**	**10 16 24.3**	**-0.5**
UTU	**Utuhina**	**20.95**	**200**	P	Pn	10 12 43.3	-0.3
RIGZ	**Rimuhau**	**20.96**	**197**	P	**P**	**10 12 39.4**	**-0.3**
RIGZ	**Rimuhau**	**20.96**	**197**	S	**S**	**10 16 20.8**	**-5.1**
HLRZ	**Highlands Stat**	**20.96**	**200**	P	Pn	10 12 42.3	-1.5
RRRZ	**Republican Roa**	**20.99**	**200**	P	Pn	10 12 42.4	-1.8
RRRZ	**Republican Roa**	**20.99**	**200**	S	**S**	**10 16 24.9**	**-1.6**
MUGZ	**Murupara**	**21.04**	**199**	P	**P**	**10 12 40.7**	**+0.2**
HSRZ	**Hossack Road**	**21.05**	**200**	P	**P**	**10 12 44.2**	**+3.5**
RTZ	**Ruatahuna**	**21.10**	**198**	P	**P**	**10 12 40.5**	**-0.7**
HRRZ	**Handcock Road**	**21.11**	**200**	P	**P**	**10 12 43.1**	**+1.8**
GRRZ	**Galatos Road**	**21.13**	**200**	P	**P**	**10 12 43.9**	**+2.3**
PRGZ	**Paritu Road**	**21.13**	**196**	P	**P**	**10 12 44.3**	**+2.8**
SNGZ	**Shannon Statio**	**21.15**	**197**	P	**P**	**10 12 42.8**	**+1.0**
PRRZ	**Plateau Road**	**21.18**	**200**	P	**P**	**10 12 44.6**	**+2.6**
ALRZ	**Allen Road**	**21.25**	**200**	P	**P**	**10 12 43.5**	**+0.7**
WPRZ	**Whakapapataran**	**21.27**	**200**	P	**P**	**10 12 45.0**	**+2.0**
KNZ	**Kokohu**	**21.28**	**197**	P	**P**	**10 12 45.6**	**+2.5**
TLZ	**Tolley Road**	**21.31**	**202**	P	**P**	**10 12 46.4**	**+2.9**
MHGZ	**Mahia Peninsul**	**21.34**	**196**	P	**P**	**10 12 45.7**	**+1.9**
RAHZ	**Arahi**	**21.35**	**198**	P	**P**	**10 12 44.6**	**+0.7**
KUTZ	**Kaahu Road**	**21.35**	**201**	P	**P**	**10 12 47.4**	**+3.5**
MTHZ	**Maungataniwha**	**21.36**	**198**	P	**P**	**10 12 44.5**	**+0.4**
WHHZ	**Waihua**	**21.45**	**197**	P	**P**	**10 12 47.3**	**+2.3**
WHTZ	**Whakaora**	**21.47**	**200**	P	**P**	**10 12 47.9**	**+2.7**
MRHZ	**Matea Rd**	**21.47**	**199**	P	**P**	**10 12 45.7**	**+0.4**
NMHZ	**Naumai**	**21.60**	**198**	P	**P**	**10 12 46.3**	**-0.3**
RATZ	**Rangitukua**	**21.71**	**200**	P	**P**	**10 12 49.2**	**+1.4**
HIZ	**Hauiti**	**21.71**	**203**	*e*P	**P**	**10 12 50.7**	**+2.9**
	3µm,0.9s						
HIZ	**Hauiti**	**21.71**	**203**	P	**P**	**10 12 50.8**	**+3.1**
BKZ	**Black Stump Fm**	**21.75**	**199**	*e*P	**P**	**10 12 48.2**	**0.0**
	2µm,1.2s						
BKZ	**Black Stump Fm**	**21.75**	**199**	P	**P**	**10 12 47.2**	**-1.1**
KATZ	**Kakaramea**	**21.83**	**200**	P	**P**	**10 12 51.1**	**+1.9**
KRVZ	**Karewarewa**	**21.96**	**200**	P	**P**	**10 12 51.2**	**+0.8**
WTVZ	**West Tongariro**	**22.00**	**201**	P	**P**	**10 12 51.6**	**+0.8**
TWVZ	**Taurewa**	**22.01**	**201**	P	**P**	**10 12 52.0**	**+1.1**
KWHZ	**Kaweka Forest**	**22.01**	**199**	P	**P**	**10 12 51.3**	**+0.3**
CKHZ	**Cape Kidnapper**	**22.04**	**197**	P	**P**	**10 12 53.3**	**+2.2**
NGZ	**Ngauruhoe**	**22.05**	**200**	P	**P**	**10 12 51.7**	**+0.3**
COVZ	**Chateau Observ**	**22.09**	**201**	P	**P**	**10 12 52.5**	**+0.8**
TUVZ	**Tukino**	**22.11**	**200**	P	**P**	**10 12 52.1**	**0.0**
FWVZ	**Far West T-bar**	**22.13**	**200**	P	**P**	**10 12 52.3**	**0.0**
WHVZ	**Whangaehu Hut**	**22.15**	**200**	P	**P**	**10 12 52.7**	**+0.2**
DRZ	**Dome Shelter**	**22.15**	**200**	P	**P**	**10 12 53.8**	**+1.2**
TRVZ	**Turoa**	**22.18**	**200**	P	**P**	**10 12 52.6**	**-0.1**
BHHZ	**Black Hill Sta**	**22.18**	**199**	P	**P**	**10 12 51.4**	**-1.2**
KRHZ	**Kereru**	**22.23**	**198**	P	**P**	**10 12 51.9**	**-1.2**
PKVZ	**Pokaka**	**22.23**	**201**	P	**P**	**10 12 53.6**	**+0.4**
MTVZ	**Mangateitei**	**22.28**	**200**	P	**P**	**10 12 55.0**	**+1.3**
VRZ	**Vera Road**	**22.29**	**202**	P	**P**	**10 12 56.0**	**+2.3**
MHEZ	**Mangahewa**	**22.41**	**203**	P	**P**	**10 13 00.7**	**+5.9**
PXZ	**Pawanui**	**22.45**	**197**	P	**P**	**10 12 55.1**	**-0.1**
PNHZ	**Pukenui**	**22.53**	**199**	P	**P**	**10 12 55.6**	**-0.4**
DREZ	**Durham Road**	**22.55**	**203**	P	**P**	**10 12 59.9**	**+3.7**
WPHZ	**Waipukurau**	**22.60**	**198**	P	**P**	**10 12 58.1**	**+1.5**
PKEZ	**Pukeiti**	**22.63**	**203**	P	**P**	**10 13 01.3**	**+4.3**
PREZ	**Palmer Road**	**22.70**	**203**	P	**P**	**10 13 01.1**	**+3.4**
LREZ	**Lake Rotokare**	**22.71**	**202**	P	**P**	**10 12 59.7**	**+1.9**
PRHZ	**Porangahau**	**22.73**	**197**	P	**P**	**10 12 59.0**	**+1.1**
TSZ	**Takapari Road**	**22.74**	**199**	P	**P**	**10 12 57.5**	**-0.5**
WAZ	**Wanganui**	**22.77**	**201**	P	**P**	**10 12 59.0**	**+0.7**
NMEZ	**Namu Road**	**22.87**	**203**	P	**P**	**10 13 03.0**	**+3.8**
DVHZ	**Dannevirke**	**22.89**	**198**	P	**P**	**10 13 00.6**	**+1.1**
ANWZ	**Angora Road**	**22.95**	**197**	P	**P**	**10 13 01.7**	**+1.7**
OHWZ	**Ohakea**	**23.07**	**200**	P	**P**	**10 13 02.5**	**+1.4**
POWZ	**Post Office Ro**	**23.10**	**199**	P	**P**	**10 13 02.3**	**+0.9**
PRWZ	**Pori Road**	**23.19**	**198**	P	**P**	**10 13 04.0**	**+1.7**
BFZ	**Birch Farm**	**23.22**	**198**	*e*P	**P**	**10 13 03.3**	**+0.7**
	1µm,1.2s						
BFZ	**Birch Farm**	**23.22**	**198**	P	**P**	**10 13 03.7**	**+1.1**
TARA	**Tarawa**	**23.38**	**327**	*e*P	**P**	**10 13 02.9**	**-1.3**
	7µm,1.8s						
TARA				*e*S	**S**	**10 17 07.5**	**+0.2**
MRZ	**Mangatainoka R**	**23.40**	**199**	P	**P**	**10 13 04.1**	**-0.1**
TIWZ	**Tintock**	**23.42**	**198**	P	**P**	**10 13 05.8**	**+1.5**
OGWZ	**Otaki Gorge**	**23.67**	**199**	P	**P**	**10 13 06.5**	**-0.1**
PAE	**Paea**	**23.87**	**91**	⇓*i*P	**P**	**10 13 07.8**	**-0.8**
	520nm,1.2s						
PAE	**Paea**	**23.87**	**91**	*e*T	T	10 37 28.1	
	240nm,0.3s						
PPT2	**Papeete2**	**23.88**	**91**	⇓*i*P	**P**	**10 13 08.2**	**-0.7**
	3µm,1.2s						
PPT2	**Papeete2**	**23.88**	**91**	*e*T	T	10 37 33.3	
	199nm,0.3s						
PPT	**Papeete**	**23.89**	**91**	P	**P**	**10 13 09.1**	**+0.3**
	3µm,1.1s,baz=324,slow=2.7,SNR=56						
PPT				LR	LR	10 20 03.6	
	comp=Z,29µm,22.0s,baz=255,slow=30						
PPTF	**Pamatai, Papee**	**23.89**	**91**	*e*P	**P**	**10 13 08.1**	**-0.8**
	4µm,1.2s						
TBI	**Tubuai**	**23.98**	**105**	⇓*i*P	**P**	**10 13 09.7**	**+0.2**
	6µm,1.2s						
TBI	**Tubuai**	**23.98**	**105**	*e*T	T	10 37 33.0	
	328nm,0.3s						
TIAR	**Tiarei**	**24.11**	**91**	⇓*i*P	**P**	**10 13 10.2**	**-0.6**
	786nm,1.2s						
TIAR	**Tiarei**	**24.11**	**91**	*e*T	T	10 37 28.1	
	37nm,0.3s						
TVO	**Taravao**	**24.17**	**92**	⇓*i*P	**P**	**10 13 10.9**	**-0.5**
	700nm,1.2s						
TVO	**Taravao**	**24.17**	**92**	*e*T	T	10 37 23.4	
	31nm,0.3s						
SNZO	**South Karori**	**24.27**	**200**	*e*P	**P**	**10 13 11.1**	**-0.8**
	913nm,0.9s						
SNZO				*e*S	**S**	**10 17 17.2**	**-3.9**
THZ	**Tophouse**	**25.28**	**202**	*e*P	**P**	**10 13 20.7**	**-0.6**
	905nm,1.1s						
KHZ	**Kahutara**	**25.64**	**200**	*e*P	**P**	**10 13 25.1**	**+0.7**
	1µm,1.2s						
PMOR	**Pomariorio Ree**	**25.89**	**86**	⇓*i*P	**P**	**10 13 26.2**	**-0.8**
	3µm,1.2s						
PMOR	**Pomariorio Ree**	**25.89**	**86**	*e*T	T	10 39 26.8	
	44nm,0.3s						
VAH	**Vaihoa**	**26.10**	**86**	⇓*i*P	**P**	**10 13 27.8**	**-1.1**
	2µm,1.1s						
VAH	**Vaihoa**	**26.10**	**86**	*e*T	T	10 39 39.2	
	52nm,0.3s						
HNR	**Honiara**	**26.25**	**287**	*e*P	**P**	**10 13 31.0**	**+0.8**
HNR	**Honiara**	**26.25**	**287**	P	**P**	**10 13 30.7**	**+0.4**
	383nm,0.9s,baz=216,slow=3.9,SNR=22						
HNR	**Honiara**	**26.25**	**287**	*e*P	**P**	**10 13 31.2**	**+0.9**
	6µm,1.8s						
HNR	**Honiara**	**26.25**	**287**	*e*P	**P**	**10 13 31.2**	**+0.9**
HNR				pmax	pmax		
	comp=Z,6µm,1.8s						
LTZ	**Lake Taylor**	**26.40**	**202**	*e*P	**P**	**10 13 31.6**	**+0.2**
	comp=Z,2µm,0.6s						
XMAS	**Kiritimati**	**26.72**	**41**	*e*P	**P**	**10 13 33.1**	**-1.3**
	comp=Z,1µm,1.4s						
XMAS				*e*pP	**pP**	**10 14 05.1**	**+2.5**
LHI	**Lord Howe Isla**	**26.88**	**237**	P	**P**	**10 13 37.4**	**+1.7**
	baz=27,SNR=23						
LHI	**Lord Howe Isla**	**26.88**	**237**	*e*P	**P**	**10 13 37.0**	**+1.2**
	comp=Z,518nm,0.9s						
OXZ	**Oxford**	**26.96**	**202**	*e*P	**P**	**10 13 36.5**	**+0.2**
	comp=Z,1µm,0.8s						
CRLZ	**Canterbury Las**	**26.98**	**201**	*e*P	**P**	**10 13 38.0**	**+1.6**
	comp=Z,662nm,0.9s						
MQZ	**McQueen's Vall**	**27.09**	**200**	*e*P	**P**	**10 13 38.2**	**+0.8**
	comp=Z,640nm,1.2s						
MQZ				*e*S	**S**	**10 18 12.5**	**+6.9**
RPZ	**Rata Peaks**	**27.65**	**203**	P	**P**	**10 13 43.1**	**+0.6**
	comp=Z,141nm,0.6s,baz=8.8,slow=2.5,SNR=51						
RPZ				S	**S**	**10 18 14.6**	**0.0**
	comp=Z,26nm,0.8s,baz=294,slow=20,SNR=2.1						
RPZ				LR	LR	10 24 48.9	
	comp=Z,19µm,20.1s,baz=19,slow=36						
RPZ	**Rata Peaks**	**27.65**	**203**	*e*P	**P**	**10 13 43.3**	**+0.8**
	comp=Z,3µm,1.3s						
RPZ				S	**S**	**10 18 14.6**	**0.0**
FOZ	**Fox Glacier**	**27.96**	**204**	*e*P	**P**	**10 13 45.4**	**+0.2**
	comp=Z,2µm,1.1s						
LBZ	**Lake Benmore**	**28.55**	**203**	*e*P	**P**	**10 13 50.3**	**-0.1**
	comp=Z,703nm,1.3s						
ODZ	**Otahua Downs**	**28.95**	**202**	*e*P	**P**	**10 13 55.4**	**+1.4**
	comp=Z,691nm,1.0s						
WKZ	**Wanaka**	**29.36**	**204**	*e*P	**P**	**10 13 57.8**	**+0.1**
	comp=Z,652nm,1.0s						
MLZ	**Mavora Lakes**	**30.16**	**205**	*e*P	**P**	**10 14 05.2**	**+0.4**
	comp=Z,922nm,1.0s						
DCZ	**Deep Cove**	**30.63**	**205**	*e*P	**P**	**10 14 10.0**	**+1.2**
	comp=Z,696nm,1.2s						
WHZ	**Wether Hill Ro**	**30.67**	**204**	*e*P	**P**	**10 14 10.2**	**+1.0**
	comp=Z,1µm,1.1s						
PYZ	**Puysegur Point**	**31.39**	**205**	*e*P	**P**	**10 14 19.1**	**+3.5**
	comp=Z,362nm,1.1s						
EIDS	**Eidsvold**	**32.35**	**252**	P	**P**	**10 14 24.4**	**+0.3**
	baz=32,SNR=78						
EIDS	**Eidsvold**	**32.35**	**252**	*e*P	**P**	**10 14 24.0**	**-0.1**
	comp=Z,1µm,1.8s						
EIDS				*e*pP	**pP**	**10 14 54.7**	**+1.9**
EIDS				*e*PP	**PP**	**10 15 42.5**	**+2.7**
EIDS				*e*S	**S**	**10 19 27.6**	**-0.9**
ARMA	**Armidale**	**32.65**	**243**	P	**P**	**10 14 28.0**	**+1.2**
	baz=33,SNR=186						
ARMA	**Armidale**	**32.65**	**243**	*e*P	**P**	**10 14 28.2**	**+1.3**
	comp=Z,398nm,1.1s						
MGCD	**Mangrove Creek**	**33.79**	**238**	P	**P**	**10 14 37.3**	**+0.7**
	baz=34,SNR=107						
RIV	**Riverview**	**33.93**	**237**	P	**P**	**10 14 39.0**	**+1.1**
	baz=34,SNR=20						
RIV	**Riverview**	**33.93**	**237**	P	**P**	**10 14 40.1**	**+2.3**
RIV				pmax	pmax		
	comp=Z,666nm,1.0s						
RMQ	**Roma**	**34.53**	**250**	P	**P**	**10 14 44.0**	**+0.9**
	baz=35,SNR=91						
TAOE	**Nuku Hiva Isla**	**34.89**	**78**	*e*P	**P**	**10 14 45.4**	**-0.9**
	comp=Z,2µm,1.1s						
TAOE	**Nuku Hiva Isla**	**34.89**	**78**	*e*T	T	10 50 35.2	
	comp=Z,599nm,0.3s						
TAOE	**Nuku Hiva Isla**	**34.89**	**78**	*e*P	**P**	**10 14 45.6**	**-0.7**
	comp=Z,829nm,1.1s						
RABL	**Rabaul**	**35.46**	**290**	*e*P	**P**	**10 14 50.6**	**-0.5**
	comp=Z,1µm,1.5s						
JOHN	**Johnston Islan**	**35.60**	**9**	*e*P	**P**	**10 14 53.5**	**+1.3**
	comp=Z,2µm,1.2s						
CNB	**Canberra Magne**	**35.80**	**235**	P	**P**	**10 14 54.4**	**+0.5**
	baz=36,SNR=193						
CAN	**Canberra**	**36.08**	**235**	*e*P	**P**	**10 14 56.0**	**-0.2**
	comp=Z,626nm,1.1s						
CAN	**Canberra**	**36.08

baz=25,slow=70,SNR=6.8
H11N2 T T 11 00 59.0
baz=147,slow=74,SNR=48
KHLU Kahalu'u 42.31 27 *e*P **P 10 15 49.3 +1.1**
comp=Z,707nm,1.0s
KKH Kailua Kona 42.32 27 *e*P **P 10 15 50.4 +2.3**
KKH Kailua Kona 42.32 27 *e*P **P 10 15 50.4 +2.3**
MLOA Mauna Loa Obse 42.40 27 *e*P **P 10 15 50.5 +1.2**
comp=Z,1μm,1.8s
POHA Pohakuloa 42.62 27 *e*P **P 10 15 51.7 +0.9**
comp=Z,402nm,0.9s
HPAH Hawaii Prepara 42.78 27 *e*P **P 10 15 52.9 +0.9**
comp=Z,755nm,0.9s
MHA Mahukona 42.84 26 *e*P **P 10 15 53.4 +1.1**
MHA Mahukona 42.84 26 *e*P **P 10 15 53.4 +1.1**
QIS Mount Isa 42.98 260 P **P 10 15 53.3 -0.4**
baz=43,SNR=102
HON Honolulu 43.03 23 *e*P **P 10 15 56.0 +2.2**
HON Honolulu 43.03 23 *e*P **P 10 15 56.0 +2.2**
KEKH Kekaha 43.03 21 *e*P **P 10 15 54.7 +0.9**
comp=Z,604nm,0.8s
KIP Kipapa 43.12 23 *e*P **P 10 15 55.1 +0.6**
comp=Z,2μm,1.8s
KIP Kipapa 43.12 23*c i*P **P 10 15 54.8 +0.3**
KIP pmax pmax
comp=Z,9μm,2.1s
HLK Haleakala 43.20 26 *e*P **P 10 15 56.8 +1.3**
comp=Z,594nm,1.0s
KHLH Kahului Airpor 43.26 25 *e*P **P 10 15 57.3 +1.6**
comp=Z,3μm,1.9s
KHLH *e*pP **pP 10 16 29.5 +4.0**
OPA Opana 43.36 23 *e*P **P 10 15 57.6 +1.1**
comp=Z,188nm,0.9s
OPA Opana 43.36 23 *e*P **P 10 15 57.6 +1.1**
OPA pmax pmax
comp=Z,188nm,0.9s
HTT Hallett 43.81 241 P **P 10 16 00.0 -0.1**
baz=44,SNR=231
BBOO Buckleboo 46.13 242 P **P 10 16 18.0 -0.4**
baz=46,SNR=375
BBOO Buckleboo 46.13 242 *e*P **P 10 16 18.1 -0.4**
comp=Z,2μm,1.4s
JAY Jayapura 46.53 285 P **P 10 16 21.5 -0.4**
MIDW Midway 46.74 357 *e*P **P 10 16 23.7 +0.6**
comp=Z,2μm,1.4s
GENI Genyem 46.99 284 P **P 10 16 25.8 +0.4**
AS01 Alice Springs 47.94 255 *e*P **P 10 16 29.0 -3.6**
WB2 Warramunga Arr 47.95 260 *e*P **P 10 16 32.3 -0.5**
WRAB Tennant Creek 47.95 260 *e*P **P 10 16 32.2 -0.7**
comp=Z,887nm,0.9s
WRAB Tennant Creek 47.95 260*d i*P **P 10 16 32.1 -0.7**
WRAB pmax pmax
comp=Z,1μm,1.0s
WRA Warramunga Arr 47.96 260 P **P 10 16 32.6 -0.2**
comp=Z,288nm,0.4s,baz=97,slow=8.1,SNR=814
WRA ScP **ScP 10 21 43.9 +2.5**
comp=Z,114nm,1.3s,baz=93,slow=4.3,SNR=10
WRA S **S 10 23 17.5 -3.4**
comp=Z,77nm,1.0s,baz=95,slow=13,SNR=15
WRA LR LR 10 36 23.2
comp=Z,21μm,20.0s,baz=75,slow=35
WRA PKPPKP P'P'df 10 47 32.3 -12
comp=Z,3.3nm,1.2s,baz=269,slow=1.6,SNR=5.2
WRA PKP2ab 10 48 36.8
comp=Z,4.1nm,1.1s,baz=300,slow=2.5,SNR=5.2
AS31 Alice Springs 47.98 255 *e*P **P 10 16 32.9 -0.1**
comp=Z,258nm,0.7s
ASAR Alice Springs 47.98 255 P **P 10 16 32.9 -0.1**
comp=Z,744nm,0.6s,baz=95,slow=8.0,SNR=1046
ASAR ScP **ScP 10 21 45.5 +4.1**
comp=Z,80nm,1.2s,baz=104,slow=4.2,SNR=7.1
ASAR S **S 10 23 18.4 -2.7**
comp=Z,163nm,0.9s,baz=95,slow=16,SNR=24
ASAR LR LR 10 35 54.8
comp=Z,17μm,19.8s,baz=120,slow=35
ASAR PKPPKP P'P'df 10 47 29.9 -14
comp=Z,2.2nm,1.0s,baz=244,slow=1.4,SNR=5.6
ASAR PKP2ab 10 48 38.6
comp=Z,3.6nm,1.0s,baz=277,slow=3.0,SNR=5.4
ASAR Alice Springs 47.98 255 P **P 10 16 32.9 -0.1**
ASAR S **S 10 23 18.4 -2.7**
ASAR pmax pmax
comp=Z,733nm,0.6s
ASAR smax smax
comp=N,163nm,1.0s
GUMO Guam 51.19 306 P **P 10 16 58.5 +1.2**
comp=N,2μm,1.2s,baz=173,slow=11,SNR=26
GUMO LR LR 10 36 54.8
comp=N,5μm,20.1s,baz=126,slow=34
GUMO Guam 51.19 306 *e*P **P 10 16 58.7 +1.5**
comp=N,2μm,1.3s
GUMO Guam 51.19 306 *e*P **P 10 16 58.7 +1.5**
GUMO pmax pmax
comp=Z,2μm,1.3s
MTN Manton Dam 52.31 268 P **P 10 17 05.2 -0.4**
baz=52,SNR=417
MTN Manton Dam 52.31 268 *e*P **P 10 17 05.2 -0.4**
comp=Z,1μm,0.7s
KMPI Kaimana, Papua 52.58 280 P **P 10 17 07.8 +0.1**
FORT Forrest 52.86 245 P **P 10 17 08.8 -0.8**
baz=53,SNR=448
FORT Forrest 52.86 245 *e*P **P 10 17 08.8 -0.8**
comp=Z,26μm,0.7s
RKPI Ransiki, Papua 52.93 283 P **P 10 17 11.8 +1.5**
comp=Z,900nm,0.8s,comp=Z,41μm
WRKA Warakurna 52.96 252 P **P 10 17 10.2 -0.3**
baz=53,SNR=1000
SAUI Saumlaki 53.45 274 P **P 10 17 17.6 +3.5**
SAUI Saumlaki 53.45 274 *e*P **P 10 17 16.1 +2.1**
comp=Z,3μm,1.4s
KNRA Kununurra 53.92 264 P **P 10 17 17.4 0.0**
baz=54,SNR=296
FAKI Fak Fak 54.20 280 P **P 10 17 19.3 -0.2**
comp=Z,539nm,1.4s,comp=Z,16μm
FAKI Fak Fak 54.20 280 *e*P **P 10 17 19.4 -0.2**
comp=Z,556nm,1.1s
BNDI Bandanaira 55.85 277 P **P 10 17 31.8 +0.4**
comp=Z,2μm,1.4s,comp=Z,35μm
FITZ Fitzroy Crossi 56.38 260 P **P 10 17 35.2 +0.1**
baz=56,SNR=351
FITZ Fitzroy Crossi 56.38 260 *e*P **P 10 17 35.3 +0.1**
comp=Z,2μm,1.7s
PALU Palau 56.42 293 P **P 10 17 36.6 +1.2**
baz=56,SNR=22
MSAI Masohi 57.16 278 P **P 10 17 40.8 +0.1**
comp=Z,205nm,0.7s,comp=Z,4μm
AAI Ambon 57.73 278 P **P 10 17 45.2 +0.5**
comp=Z,1μm,1.3s,comp=Z,14μm
KMBL Kambalda 58.14 244 P **P 10 17 46.7 -0.6**
baz=58,SNR=44
LBMI Labuha 59.45 281 P **P 10 17 57.4 +0.8**
comp=Z,1μm,1.1s,comp=Z,15μm
SOEI Soe 59.60 270 P **P 10 17 59.3 +1.5**
comp=Z,3μm,0.8s,comp=Z,38μm
SOEI Soe 59.60 270 *e*P **P 10 17 58.9 +1.1**
comp=Z,2μm,0.7s
SBA Scott Base 59.85 184 *e*P **P 10 18 01.6 +3.3**
comp=Z,725nm,0.8s
SBA Scott Base 59.85 184 *e*P **P 10 18 01.6 +3.3**
SBA pmax pmax
comp=Z,725nm,0.8s
VNDA Vanda 59.96 186 P **P 10 18 01.8 +2.7**
comp=Z,349nm,0.9s,baz=5.8,slow=6.9,SNR=411
VNDA S **S 10 26 03.7 +3.1**
comp=Z,5.5nm,1.1s,baz=36,slow=8.7,SNR=1.8
VNDA PKPPKP **P'P'df 10 47 18.2 -6.0**
comp=Z,1.8nm,1.1s,baz=260,slow=2.8,SNR=6.2
VNDA PKP2bc 10 47 34.3
comp=Z,27nm,1.4s,baz=282,slow=3.4,SNR=3.2
VNDA Vanda 59.96 186 *e*P **P 10 18 01.8 +2.7**
comp=Z,3μm,2.0s
VNDA S **S 10 26 03.7 +3.1**
VNDA P'P' 10 47 18.2
VNDA ⇑*e* 10 47 34.3
BATI Baumata 60.05 269 P **P 10 18 02.6 +1.9**
comp=Z,482nm,0.7s,baz=205,slow=2.6,SNR=49
BATI S **S 10 26 05.8 +2.2**
comp=Z,13nm,0.3s,baz=31,slow=19,SNR=3.7
BATI LR LR 10 44 34.7
comp=Z,11μm,19.4s,baz=128,slow=36
BATI Baumata 60.05 269 P **P 10 18 02.7 +1.9**
comp=Z,284nm,0.7s,comp=Z,14μm
TNTI Ternate 60.09 282 *e*P **P 10 18 00.5 -0.5**
comp=Z,759nm,0.8s
RPN Rapa Nui 60.20 111 P **P 10 18 04.2 +2.7**
comp=Z,170nm,1.0s,baz=280,slow=7.2,SNR=15
RPN LR LR 10 37 58.6
comp=Z,19μm,19.9s,baz=274,slow=30
RPN Rapa Nui 60.20 111 *e*P **P 10 18 04.2 +2.7**
comp=Z,811nm,1.4s
MBWA Marble Bar 61.30 256 *e*P **P 10 18 08.6 -0.5**
comp=Z,816nm,1.4s
MBWA Marble Bar 61.30 256 P **P 10 18 09.1 0.0**
SNR=37
MEEK Meekatharra 61.45 249 P **P 10 18 09.3 -0.8**
baz=62,SNR=84
KLBR Kellerberrin 61.63 244 P **P 10 18 10.9 -0.3**
baz=62,SNR=127
JCJ Chichijima 61.84 316 P **P 10 18 13.5 +1.0**
comp=Z,363nm,1.0s,baz=164,slow=7.4,SNR=18
JCJ LR LR 10 40 55.7
comp=Z,5μm,18.9s,baz=104,slow=32
CBIJ Chichi jima 61.84 316 *e*P **P 10 18 12.4 0.0**
comp=Z,1μm,1.2s
NWAO Narrogin (SRO) 61.95 242 P **P 10 18 14.2 +1.0**
comp=Z,210nm,1.0s,baz=322,slow=7.4,SNR=29
NWAO S **S 10 26 26.0 -1.2**
comp=Z,7.0nm,0.9s,baz=36,slow=19,SNR=3.1
NWAO Narrogin (SRO) 61.95 242 P **P 10 18 13.3 0.0**
baz=62,SNR=39
NWAO P **P 10 18 13.3 0.0**
baz=62,SNR=39
NWAO Narrogin (SRO) 61.95 242 *e*P **P 10 18 13.1 -0.2**
comp=Z,522nm,1.3s
NWAO S **S 10 26 26.0 -1.2**
NWAO pmax pmax
comp=Z,522nm,1.3s
RKGY Rocky Gully 62.03 240 P **P 10 18 14.8 +1.0**
baz=62,SNR=31
BLDU Baldu 62.63 245 P **P 10 18 17.5 -0.3**
baz=63,SNR=60
KDI Kendari 62.90 275 P **P 10 18 20.5 +0.7**
comp=Z,276nm,1.5s,comp=Z,7μm
SGSI Sangihe 62.90 284 P **P 10 18 20.4 +0.6**
comp=Z,713nm,0.7s,comp=Z,11μm
MUN Mundaring 62.91 243 P **P 10 18 19.7 +0.1**
baz=63,SNR=65
BASI Baing, Sumba 62.97 268 P **P 10 18 22.5 +2.2**
comp=Z,2μm,1.6s,comp=Z,24μm
KMSI Cibinong 63.16 280 P **P 10 18 21.8 +0.2**
comp=Z,1μm,0.7s,comp=Z,11μm
MORW Morawa 63.39 246 P **P 10 18 22.7 -0.2**
baz=63,SNR=22
MATI Mati 63.55 288 *e*P **P 10 18 21.5 -2.6**
LUWI Luwuk 63.73 278 P **P 10 18 26.5 +1.2**
comp=Z,2μm,1.4s,comp=Z,20μm
LUWI Luwuk 63.73 278 *e*P **P 10 18 26.4 +1.1**
comp=Z,2μm,1.2s
DAV Davao City (W) 64.21 288 P **P 10 18 29.2 +0.8**
comp=Z,298nm,0.4s,baz=329,slow=2.3,SNR=8.0
DAV LR LR 10 46 29.6
comp=Z,2μm,18.1s,baz=104,slow=36
DAV Davao City (W) 64.21 288‖*e*P **P 10 18 28.0 -0.4**
DAV Davao City (W) 64.21 288 P **P 10 18 30.3 +1.8**
SNR=6.8
BSSI Bau Bau, Buton 64.23 272 P **P 10 18 28.7 +0.1**
comp=Z,446nm,1.5s,comp=Z,12μm
WBSI Waikabubak, Su 64.26 268 P **P 10 18 29.4 +0.6**
comp=Z,694nm,1.0s,comp=Z,16μm
H01W1 Cape Leeuwin H 64.32 240 P **P 10 18 32.2 +3.6**
baz=109,slow=8.0,SNR=9.2
H01W2 Cape Leeuwin H 64.34 240 P **P 10 18 32.2 +3.5**
baz=109,slow=8.0,SNR=7.4
H01W3 Cape Leeuwin H 64.34 240 P **P 10 18 32.5 +3.8**
baz=109,slow=8.0,SNR=7.6
APSI Ampana 64.82 278 P **P 10 18 34.0 +1.5**
comp=Z,2μm,1.4s,comp=Z,20μm
BUTP Butuan 64.97 290 *e*P **P 10 18 34.3 +0.9**
BUKP Musuan 65.01 288 *e*P **P 10 18 34.7 +1.0**
MRSI Marisa 65.03 280 P **P 10 18 33.7 -0.1**
comp=Z,302nm,1.0s,comp=Z,4μm
BNSI Bone 65.13 274 P **P 10 18 35.0 +0.6**
comp=Z,742nm,1.4s,comp=Z,10μm
CGP Cagayan de Oro 65.58 289‖*e*P **P 10 18 39.4 +2.0**
TTSI Tana Toraja 65.83 275 P **P 10 18 39.7 +0.7**
comp=Z,248nm,1.4s,comp=Z,6μm
PLAI Plampang 66.01 268 P **P 10 18 39.9 -0.2**
comp=Z,1μm,1.1s,comp=Z,16μm
MSLP Masin 66.15 291 *e*P **P 10 18 38.3 -2.6**
BESP Borongan 66.28 292 *e*P **P 10 18 43.4 +1.6**
PLP Palo 66.49 292‖*e*P **P 10 18 42.8 -0.3**
PCI Palu 66.53 277 P **P 10 18 45.4 +2.0**
comp=Z,2μm,1.2s,comp=Z,21μm
OCLP Ormoc 66.77 291 *e*P **P 10 18 45.4 +0.5**
TWSI Taliwang, Sumb 66.89 268 P **P 10 18 45.5 -0.2**
comp=Z,820nm,1.0s,comp=Z,10μm
CASY Casey 66.89 205 *e*P **P 10 18 46.2 +1.5**
comp=Z,554nm,1.3s
MPSI Mapaga 66.90 279 P **P 10 18 45.8 +0.1**
comp=Z,412nm,1.1s,comp=Z,6μm
LLP Lapu-Lapu 67.02 290‖*e*P **P 10 18 47.1 +0.6**
LLP *e*S **S 10 27 29.9 0.0**
IPIL Ipil 67.22 287 *e*P **P 10 18 47.6 -0.2**
CNP Catarman 67.36 293 *e*P **P 10 18 48.8 +0.2**
JHJ2 Mitsune 67.42 320 *e*P **P 10 18 50.4 +1.9**
comp=Z,2μm,1.0s
JHJ Hachijo jima 2 67.44 320 P **P 10 18 49.4 +0.6**
comp=Z,417nm,0.4s,baz=207,slow=16,SNR=28
DNP Denpasar 68.49 268 P **P 10 18 57.0 +1.3**
comp=Z,684nm,0.6s,comp=Z,28μm
IGBI Denpasar 68.51 268 P **P 10 18 56.2 +0.4**
comp=Z,2μm,1.1s,comp=Z,27μm
RCP Roxas 68.64 291‖*e*P **P 10 18 56.9 +0.4**
SRBI Singaraja 68.65 268 P **P 10 18 56.8 0.0**
comp=Z,273nm,1.5s,comp=Z,10μm
SGKI Sangatta, Kali 68.75 277 P P 10 19 05.9 +8.5
SMKI Samarinda 69.15 277 P **P 10 19 03.7 +3.8**
BKB Balikpapan 69.18 276 P **P 10 19 04.2 +4.2**
KBKI Kotabaru 69.20 274 P **P 10 19 01.4 +1.2**
comp=Z,358nm,1.4s,comp=Z,9μm
AUQP San Andres 69.46 293 *e*P **P 10 19 04.4 +2.7**
JAGI Jajag, Banyuwa 69.55 268 P **P 10 19 01.4 -0.9**
comp=Z,535nm,0.7s,comp=Z,8μm
JAGI Jajag, Banyuwa 69.55 268 *e*P **P 10 19 01.1 -1.2**
comp=Z,510nm,0.9s
OTRP Odiongan 69.62 291 *e*P **P 10 19 02.6 0.0**
GQP Guinayangan 69.91 293‖*e*P **P 10 19 05.2 +0.8**
MYLDM Lahad Datu 69.94 283 *e*P **P 10 19 06.8 +2.2**
comp=Z,690nm,1.3s
BOAC Boac 70.24 292 *e*P **P 10 19 07.8 +1.4**
GMJI Gumukmas 70.28 268 P **P 10 19 06.6 -0.1**
comp=Z,300nm,1.1s,comp=Z,9μm
BLJI Banyuglugur 70.29 268 P **P 10 19 07.2 +0.4**
comp=Z,602nm,0.8s,comp=Z,12μm
SJMP San Jose 70.46 291 *e*P **P 10 19 09.0 +1.3**
ATKA Atka Island 70.63 0 *e*P **P 10 19 07.9 -0.1**
INU Inuyama 70.64 320 *e*P **P 10 19 08.9 +0.5**
comp=Z,863nm,1.6s
MJAR Matsushiro Arr 70.71 321 P **P 10 19 09.2 +0.3**
comp=Z,131nm,0.7s,baz=163,slow=6.1,SNR=148
MJAR S **S 10 28 13.7 +0.9**
comp=Z,0.4nm,0.4s,baz=148,slow=7.4,SNR=4.2
MJAR LR LR 10 45 59.4
comp=Z,3μm,21.6s,baz=135,slow=32
MJAR PKP2bc 10 47 03.6
comp=Z,17nm,1.2s,baz=298,slow=2.9,SNR=23
MAJO Matsushiro 70.72 321*de*P **P 10 19 09.2 +0.3**
MAJO pmax pmax
comp=Z,343nm,0.9s
MAT Matsushiro 70.72 321 P **P 10 19 09.1 +0.2**
MAT S **S 10 28 11.2 -1.6**
MJB9 Matsu-Tunnel 70.72 321 *e*P **P 10 19 09.6 +0.6**
comp=Z,261nm,0.8s
MTKI Muara Teweh, K 71.17 276 P **P 10 19 13.3 +1.1**
TGY Tagaytay City 71.31 293 P **P 10 19 14.8 +1.8**
comp=Z,280nm,0.3s,baz=300,slow=3.4,SNR=16
TGY LR LR 10 45 46.7
comp=Z,8μm,21.4s,baz=108,slow=32
QSPA South Pole Qui 71.33 180 P **P 10 19 14.6 +2.2**
comp=Z,695nm,0.8s,baz=37,slow=2.3,SNR=533
QSPA S **S 10 28 16.5 -2.8**
comp=Z,3.2nm,0.9s,baz=325,slow=3.5,SNR=6.2
QSPA LR LR 10 43 56.2
comp=Z,7μm,22.0s,baz=32,slow=30
ENPP El Nido 71.44 289 *e*P **P 10 19 14.1 +0.4**
BALP Baler 71.47 294 *e*P **P 10 19 14.8 +0.9**
JOW Kunigami 71.49 308 P **P 10 19 14.9 +1.1**
comp=Z,128nm,0.9s,baz=121,slow=1.9,SNR=22
JOW S **S 10 28 21.2 -0.9**
comp=Z,6.2nm,0.6s,baz=54,slow=17,SNR=2.1
JOW Kunigami 71.49 308 *e*P **P 10 19 15.3 +1.5**
comp=Z,350nm,1.3s
JOW S **S 10 28 21.2 -0.9**
NIKH Nikolski High 71.58 4 *e*P **P 10 19 13.7 0.0**
comp=Z,714nm,1.0s
GRJI Gresik 71.59 269 P **P 10 19 17.1 +2.4**
comp=Z,419nm,1.2s,comp=Z,5μm
BWJI Bawean 71.74 270 P **P 10 19 18.9 +3.3**
comp=Z,43nm,0.5s,comp=Z,2μm
LUBP Lubang 71.76 292 *e*P **P 10 19 14.4 -1.2**
CAUP Cauayan 71.80 296 *e*P **P 10 19 17.4 +1.7**
SMY Shemya 71.82 353 *e*P **P 10 19 15.2 +0.1**
comp=Z,1μm,1.1s
SMY Shemya 71.82 353 *e*P **P 10 19 15.2 +0.1**
SMY pmax pmax
comp=Z,1μm,1.1s
ERM Erimo 71.90 328 *e*P **P 10 19 18.5 +2.7**
comp=Z,530nm,1.7s
ERM Erimo 71.90 328*d i*P **P 10 19 18.2 +2.4**
ERM pmax pmax
comp=Z,226nm,1.2s
PWJI Pagerwojo 71.90 267 P **P 10 19 16.4 -0.1**
comp=Z,519nm,0.8s,comp=Z,8μm
YUK Yuzh-Kuril'sk 72.14 331 *e*P **P 10 19 17.8 +0.6**
YUK *e* 10 19 35.1
YUK *i* *PP **pP 10 19 52.1 +2.2**
YUK *e* 10 21 59.8
YUK *i* S **S 10 28 29.6 +0.9**
YUK *i* *SS **sS 10 29 20.4 -4.7**
YUK pmax pmax
comp=N,161nm,1.5s
YUK pmax pmax
comp=Z,497nm,1.5s
YUK pmax pmax
comp=E,124nm,1.2s
YUK pmax pmax
comp=Z,967nm,1.8s
KUR Kuril'sk 72.19 333*c i*P **P 10 19 19.3 +1.8**
KUR *i* 10 19 35.7
KUR *i* *PP **pP 10 19 52.4 +2.2**
KUR *i* 10 21 59.3
KUR *i* PPP PPP 10 23 46.9
KUR *i* S **S 10 28 31.9 +2.6**
KUR *i* 10 29 14.6
KUR pmax pmax
comp=Z,2μm,1.7s
KUR pmax pmax
comp=Z,11μm,8.6s
TBJI Tambak Boyo 72.21 269 P **P 10 19 20.7 +2.3**
comp=Z,649nm,1.1s,comp=Z,11μm
KKM Kota Kinabalu 72.37 283 *e*P **P 10 19 20.1 +0.7**
comp=Z,242nm,0.9s
NGJI Ngawi 72.42 268 P **P 10 19 22.0 +2.4**
comp=Z,444nm,0.8s,comp=Z,14μm
PCJI Pacitan 72.44 267 P **P 10 19 20.4 +0.6**
comp=Z,2μm,0.8s,comp=Z,18μm
UNV Unalaska Valle 72.62 5 *e*P **P 10 19 19.1 -0.7**
comp=Z,197nm,0.8s
APYP Conner 72.70 296 *e*P **P 10 19 22.0 +0.9**
WOJI Wonogiri, Jawa 72.79 267 P **P 10 19 22.4 +0.6**
comp=Z,484nm,1.3s,comp=Z,8μm
H06S1 SOCORRO T 72.81 63 P **P 10 19 23.1 +1.3**
SNR=7.4
H06S1 T T 11 39 05.1
SNR=9.1
H06E1 SOCORRO T-PHAS 72.85 63 P **P 10 19 23.5 +1.4**
H06E1 T T 11 38 59.6
SNR=152
AKUT Akutan 72.97 5 *e*P **P 10 19 21.2 -0.6**
comp=Z,2μm,1.8s
ABRA Dolores 73.06 296 *e*P **P 10 19 24.7 +1.5**
UGM Wanagama 73.15 267 P **P 10 19 24.7 +0.7**
comp=Z,700nm,0.8s,comp=Z,10μm
UGM Wanagama 73.15 267 *e*P **P 10 19 24.4 +0.4**
comp=Z,783nm,1.1s
BOLP Bolinao 73.19 294 *e*P **P 10 19 24.5 +0.4**
JNU Nakatsue 73.20 315 P **P 10 19 24.6 +0.8**
comp=Z,234nm,0.9s,baz=84,slow=3.4,SNR=103
JNU S **S 10 28 38.9 -2.5**
comp=Z,3.4nm,1.0s,baz=137,slow=18,SNR=1.8
JNU Nakatsue 73.20 315 *e*P **P 10 19 24.3 +0.5**
comp=Z,370nm,0.9s
JNU S **S 10 28 38.9 -2.5**
SMRI Semarang 73.48 268 P **P 10 19 27.7 +1.8**
comp=Z,765nm,0.8s,comp=Z,14μm
SMRI Semarang 73.48 268 *e*P **P 10 19 26.9 +1.0**
comp=Z,649nm,0.9s
PBKI Pangkalan Bun 73.65 273 P **P 10 19 28.9 +2.0**
comp=Z,1μm,1.1s,comp=Z,13μm
ASAJ Asahikawa 73.73 329 P **P 10 19 28.4 +1.7**
comp=Z,90nm,0.8s,baz=190,slow=2.2,SNR=64
ASAJ S **S 10 28 46.2 -0.6**
comp=Z,1.7nm,0.9s,baz=304,slow=18,SNR=2.2
ASAJ LR LR 10 45 28.6
comp=Z,21nm,21.8s,baz=147,slow=30
ASAJ Asahikawa 73.73 329 *e*P **P 10 19 28.4 +1.7**
comp=Z,248nm,1.0s
ASAJ S **S 10 28 46.2 -0.6**
SKR Severo-Kuril's 73.74 341*c i*P **P 10 19 27.3 +0.8**
SKR *e**PP **pP 10 19 56.1 -3.2**
SKR *i* S **S 10 28 45.9 -0.6**
SKR *e**SS **pS 10 29 32.3 +6.3**
SKR *e*SS **SS 10 33 31.1 -2.4**
SKR pmax pmax
comp=Z,5μm,5.5s
SKR pmax pmax
comp=Z,477nm,1.2s
SKR pmax pmax
comp=Z,2μm,9.3s
SKR smax smax
comp=N,15μm,13.4s
SKR MLR MLR
comp=Z,4μm,18.0s
SNCC San Nicolas Is 73.77 46 P **P 10 19 28.0 +0.8**
baz=234
SNCC San Nicolas Is 73.77 46 *e*P **P 10 19 27.1 0.0**
comp=Z,72nm,0.9s
SNCC *e*pP **pP 10 20 03.0 +3.0**
MIR Mirnyy 73.90 205 *e*P **P 10 19 28.0 +0.7**
MIR pmax pmax
comp=Z,12μm,12.0s
SCZ2 Santa Cruz Isl 74.13 45 P **P 10 19 30.0 +0.8**
baz=234,SNR=14
SCI2 San Clemente I 74.28 46 P **P 10 19 31.0 +0.8**
baz=235,SNR=11
YOJ Yonaguni jima 74.34 303 *e*P **P 10 19 31.6 +1.0**
comp=Z,1μm,1.5s
YOJ Yonaguni jima 74.34 303 *e*P **P 10 19 31.6 +1.0**
YOJ pmax pmax
comp=Z,1μm,1.5s
SBC Santa Barbara 74.34 45 P **P 10 19 31.2 +0.8**
baz=234,SNR=11
PKM Mcpherson Peak 74.54 44 P **P 10 19 32.7 +0.8**
baz=233,SNR=25
BLG Laguna Peak, P 74.58 45 P **P 10 19 32.2 +0.4**
baz=234,SNR=9.1
MCCM Marconi Confer 74.59 40 *e*P **P 10 19 33.9 +2.1**
comp=Z,872nm,1.5s
CIS Catalina Islan 74.61 46 P **P 10 19 32.6 +0.5**
baz=235,SNR=15
SAO San Andreas Ge 74.62 42 *e*P **P 10 19 32.6 +0.6**
comp=Z,817nm,1.4s
SAO San Andreas Ge 74.62 42 *e*P **P 10 19 32.6 +0.6**
SAO pmax pmax
comp=Z,817nm,1.4s
SMMC Simmler 74.67 44 P **P 10 19 33.3 +0.9**
baz=233,SNR=42
PMPB Monarch Peak 74.69 43 *e*P **P 10 19 34.1 +1.6**
comp=Z,1μm,1.6s
STKI Sintang 74.72 275 P **P 10 19 34.8 +1.7**
comp=Z,472nm,0.7s
PAGB Antelope Grade 74.76 43 *e*P **P 10 19 33.8 +0.9**
SDPT Sand Point 74.77 8 *e*P **P 10 19 31.6 -0.8**
comp=Z,826nm,1.2s
SBUM Sibu 74.82 278 *e*P **P 10 19 34.8 +1.1**
KPJI Karang Pucung 74.82 267 P **P 10 19 34.0 +0.3**
comp=Z,482nm,1.5s,comp=Z,7μm
RDG13 Poverty Ridge 74.84 41 *e*P **P 10 19 34.1 +0.8**
comp=Z,1μm,1.6s
FMP Fort Macarthur 74.88 46 P **P 10 19 33.9 +0.4**
baz=235
GDXM Geysers 75.06 40 *e*P **P 10 19 36.2 +1.6**
comp=Z,554nm,1.6s
PET Petropavlovsk 75.09 344 *e*P **P 10 19 34.2 -0.1**
comp=Z,2μm,2.0s
PET Petropavlovsk 75.09 344α *i*P **P 10 19 34.8 +0.5**

PET e 10 22 28.4
PET i S **S** **10 29 00.7 -0.8**
PET e*SS **sS** **10 29 56.0 -2.3**
PET eSS **SS** **10 33 50.5 -3.5**
PET pmax pmax
comp=Z,321nm,1.7s
PET pmax pmax
comp=Z,5μm,9.5s
PET pmax pmax
comp=Z,2μm,13.2s
PET smax smax
comp=E,7μm,7.1s
PET smax smax
comp=N,16μm,10.7s
PET smax smax
comp=N,19μm,19.0s
OSI Osito Audit: C 75.11 45 P **P** **10 19 35.7 +0.8**
baz=234,SNR=15
OSI Osito Audit: C 75.11 45 eP **P** **10 19 35.6 +0.8**
comp=N,739nm,1.5s
TWG Pinlang 75.11 301 eP **P** **10 19 34.5 -0.6**
comp=N,1μm,0.7s
CMJI Cimerak 75.15 267 P **P** **10 19 35.9 +0.4**
comp=N,480nm,1.2s,comp=N,6μm
KCPM Cahto Peak 75.16 38 eP **P** **10 19 37.1 +1.9**
comp=N,1μm,1.5s
DECC Green Verdugo 75.16 46 P **P** **10 19 35.4 +0.2**
baz=235,SNR=16
YULB Yu-li 75.20 301 eP **P** **10 19 35.6 0.0**
PASC Pasadena Art C 75.21 46 eP **P** **10 19 35.7 +0.2**
109C Camp Elliot, M 75.23 47 P **P** **10 19 35.8 +0.3**
baz=236,SNR=26
CPE Camp Elliot 75.23 47 eP **P** **10 19 35.9 +0.4**
comp=N,549nm,1.6s
NACB Ninganchiao 75.33 302 eP **P** **10 19 36.9 +0.6**
MWC Mount Wilson 75.33 46 eP **P** **10 19 36.5 +0.1**
comp=N,533nm,1.4s
MWC Mount Wilson 75.33 46 eP **P** **10 19 36.5 +0.1**
MWC pmax pmax
comp=Z,533nm,1.4s
ARVC Arvin 75.33 45 P **P** **10 19 36.3 +0.2**
baz=234,SNR=35
PEA0B Petropavlovsk- 75.43 343 eP **P** **10 19 36.8 +0.5**
comp=Z,2μm,1.6s
PETK Petropavlovsk- 75.43 343 P **P** **10 19 36.4 +0.2**
comp=Z,126nm,0.7s,baz=111,slow=9.3,SNR=104
PETK pP **pP** **10 20 11.9 +2.7**
comp=Z,150nm,0.9s,baz=122,slow=8.3,SNR=4.5
PETK S **S** **10 29 04.3 -1.0**
comp=Z,1.7nm,0.8s,baz=160,slow=15,SNR=2.6
PETK LR LR 10 46 20.8
comp=Z,11μm,21.1s,baz=162,slow=30
KMRM Mail Ridge 75.43 38 eP **P** **10 19 37.8 +1.2**
comp=Z,2μm,1.3s
MURC Murrieta 75.56 47 P **P** **10 19 38.0 +0.4**
baz=236,SNR=71
VES Vestal, Richgr 75.58 44 P **P** **10 19 38.1 +0.5**
baz=234,SNR=138
BFSC Mount Baldy Ra 75.61 46 P **P** **10 19 38.2 +0.3**
baz=235,SNR=52
JCC Jacoby Creek, 75.63 37 eP **P** **10 19 39.0 +1.4**
comp=Z,864nm,1.5s
SSLB Suanglung 75.66 302 eP **P** **10 19 38.1 -0.1**
TPUB Ta-pu 75.70 301 eP **P** **10 19 36.9 -1.6**
JCJI Jatiwangi 75.70 268 P **P** **10 19 39.6 +0.9**
comp=Z,967nm,1.3s,comp=Z,33μm
MONP2 Monument Peak 75.71 48 P **P** **10 19 39.1 +0.5**
baz=236,SNR=69
YHNB Yeheng 75.74 303 eP **P** **10 19 39.5 +0.8**
EDW2 Edwards Air Fo 75.75 45 P **P** **10 19 39.0 +0.4**
baz=235,SNR=142
RCTC Rector, Farmer 75.75 43 P **P** **10 19 38.0 -0.5**
baz=234,SNR=30
YSS Yuzh-Sakhalins 75.78 331 eP **P** **10 19 39.5 +1.2**
comp=Z,938nm,1.3s
YSS Yuzh-Sakhalins 75.78 331 α iP **P** **10 19 39.7 +1.4**
YSS e 10 19 44.4
YSS eS **S** **10 29 05.0 -4.3**
YSS e 10 29 38.0
YSS ePS **PnS** **10 30 10.0 +5.4**
YSS eSS **SS** **10 34 08.0 +3.4**
YSS pmax pmax
comp=Z,5μm,6.0s
YSS pmax pmax
comp=N,1μm,4.0s
YSS pmax pmax
comp=E,1μm,2.0s
YSS smax smax
comp=N,14μm,14.0s
YSS smax smax
comp=E,13μm,8.0s
IKP In-Ko-Pah, Jac 75.79 48 P **P** **10 19 39.4 +0.5**
baz=236,SNR=52
TATO Taipei 75.80 303 eP **P** **10 19 39.7 +0.7**
comp=E,3μm,1.8s
TATO Taipei 75.80 303 P **P** **10 19 40.9 +2.0**
SNR=35
CISI Cisompet, Garu 75.81 267 P **P** **10 19 39.0 -0.4**
comp=E,647nm,0.9s,comp=E,14μm
CISI Cisompet, Garu 75.81 267 eP **P** **10 19 38.8 -0.6**
comp=E,2μm,1.6s
LPIG La Paz 75.83 58 P **P** **10 19 40.4 +1.3**
comp=E,422nm,1.1s,baz=359,slow=0.2,SNR=17
LPIG LR LR 10 47 05.2
comp=E,3μm,18.6s,baz=238,slow=31
KHMM Horse Mountain 75.84 37 eP **P** **10 19 40.5 +1.5**
comp=E,801nm,1.5s
SRIG Santa Rosalia 75.86 54 eP **P** **10 19 40.2 +1.0**
ISA Isabella, Lake 75.88 44 P **P** **10 19 39.8 +0.5**
baz=234,SNR=224
ISA Isabella, Lake 75.88 44 eP **P** **10 19 39.8 +0.5**
comp=E,765nm,1.4s
ISA Isabella, Lake 75.88 44 eP **P** **10 19 39.8 +0.5**
ISA pmax pmax
comp=Z,765nm,1.4s
SLBS Sierra La Lagu 75.92 59 eP **P** **10 19 41.5 +1.6**
comp=Z,1μm,1.5s
CHGN Chignik 75.99 9 eP **P** **10 19 39.5 +0.2**
comp=Z,664nm,1.4s
CMB Columbia Colle 76.06 41 eP **P** **10 19 40.3 0.0**
comp=Z,464nm,1.4s
CMB Columbia Colle 76.06 41 eP **P** **10 19 40.3 0.0**
CMB pmax pmax
comp=Z,464nm,1.4s
PFO Pinyon Flats O 76.08 47 P **P** **10 19 41.0 +0.5**
baz=236,SNR=57
PFO Pinyon Flats O 76.08 47 eP **P** **10 19 40.8 +0.2**
comp=Z,514nm,1.5s
PFO Pinyon Flats O 76.08 47 eP **P** **10 19 40.8 +0.2**
PFO pmax pmax
comp=Z,513nm,1.5s
XPFO Piæon Flat 76.08 47 eP **P** **10 19 40.8 +0.2**
comp=Z,503nm,1.5s
BBRC Big Bear Solar 76.13 46 P **P** **10 19 41.4 +0.4**
baz=236,SNR=28
SWSC Sam W. Stewart 76.17 48 P **P** **10 19 41.4 +0.5**
baz=237,SNR=66
LEM Lembang 76.22 267 P **P** **10 19 43.3 +1.5**
comp=Z,638nm,0.7s,baz=54,slow=6.7,SNR=45
LEM S **S** **10 29 15.1 -0.9**
comp=Z,45nm,0.8s,baz=231,slow=18,SNR=9.9
LEM LR LR 10 54 17.3
comp=Z,7μm,20.5s,baz=128,slow=36
AFDM Forest Hills D 76.26 40 eP **P** **10 19 41.6 +0.2**
comp=Z,451nm,1.4s
KSM Kuching 76.29 276 eP **P** **10 19 42.8 +0.7**
LRMC Laurel Mtn Rad 76.30 45 P **P** **10 19 42.3 +0.5**
baz=235,SNR=169
ORV Oroville 76.31 40 eP **P** **10 19 41.7 +0.1**
comp=Z,510nm,1.5s
ORV Oroville 76.31 40 eP **P** **10 19 41.7 +0.1**
ORV pmax pmax
comp=Z,510nm,1.5s
WDC Whiskeytown Da 76.34 38 eP **P** **10 19 42.1 +0.4**
comp=Z,862nm,1.5s
WDC Whiskeytown Da 76.34 38 eP **P** **10 19 42.1 +0.4**
WDC pmax pmax
comp=Z,862nm,1.5s
RRX Edison Barstow 76.42 46 P **P** **10 19 42.9 +0.5**
baz=235,SNR=9.8
KBO Bosley Butte 76.44 36 eP **P** **10 19 44.7 +2.4**
comp=Z,1μm,1.7s
N02D Trinity Center 76.50 38 P **P** **10 19 43.5 +0.8**
baz=230,SNR=158
CWC Cottonwood Cre 76.59 44 P **P** **10 19 44.2 +0.7**
baz=234
O03D Paynes Creek 76.60 39 P **P** **10 19 43.6 +0.4**
baz=231,SNR=191
BELC Belle Mtn. Jos 76.61 47 P **P** **10 19 44.1 +0.5**
baz=236,SNR=76
MDPB Devils Postpil 76.65 42 eP **P** **10 19 44.3 +0.4**
comp=Z,405nm,1.3s
M02C Callahan 76.68 37 P **P** **10 19 44.6 +0.9**
baz=230,SNR=179
L02D Cave Junction, 76.75 36 P **P** **10 19 44.9 +0.9**
baz=229,SNR=34
MPMC Manual Prospec 76.76 44 P **P** **10 19 45.0 +0.5**
baz=235,SNR=222
GSC Goldstone, Bar 76.79 45 P **P** **10 19 44.8 +0.3**
baz=236,SNR=113
GSC Goldstone, Bar 76.79 45 eP **P** **10 19 44.8 +0.3**
comp=Z,593nm,1.4s
GSC Goldstone, Bar 76.79 45 eP **P** **10 19 44.8 +0.3**
GSC pmax pmax
comp=Z,593nm,1.4s
MLAC Mammoth, Mammo 76.80 42 P **P** **10 19 45.5 +0.8**
baz=234,SNR=20
BC3 Big Chuckawall 76.80 47 P **P** **10 19 45.3 +0.6**
baz=237,SNR=119
KEBM Edson Butte 76.81 36 eP **P** **10 19 46.3 +1.9**
DAC Darwin (Calif) 76.82 44 eP **P** **10 19 45.1 +0.3**
comp=Z,777nm,1.7s
DAC Darwin (Calif) 76.82 44 eP **P** **10 19 45.1 +0.3**
DAC pmax pmax
comp=Z,777nm,1.7s
RUBR Rubicon Trail 76.83 41 eP **P** **10 19 45.7 +0.9**
comp=Z,1μm,1.8s
HEC Hector,Ludlow 76.84 46 P **P** **10 19 45.1 +0.3**
baz=236,SNR=126
TIN Tinemaha, Big 76.85 43 P **P** **10 19 45.5 +0.6**
baz=234,SNR=10
GLA Glamis 76.92 48 P **P** **10 19 46.0 +0.8**
baz=237,SNR=120
GLA Glamis 76.92 48 eP **P** **10 19 46.0 +0.8**
comp=Z,577nm,1.4s
GLA Glamis 76.92 48 eP **P** **10 19 46.0 +0.8**
GLA pmax pmax
comp=Z,577nm,1.4s
WAKR Walker 76.94 41 eP **P** **10 19 46.0 +0.6**
comp=Z,931nm,1.5s
YBH Yreka Blue Hor 76.98 37 P **P** **10 19 46.2 +0.8**
comp=Z,189nm,1.2s,baz=170,slow=5.2,SNR=119
YBH pP **pP** **10 20 21.6 +3.1**
comp=Z,288nm,1.1s,baz=199,slow=6.6,SNR=8.7
YBH S **S** **10 29 25.2 +2.3**
comp=Z,0.8nm,0.8s,baz=336,slow=22,SNR=6.7
YBH LR LR 10 45 25.8
comp=Z,7μm,22.0s,baz=228,slow=29
YBH PKPPKP P'P'df 10 47 02.5 +8.0
comp=Z,1.0nm,0.4s,baz=80,slow=6.2,SNR=4.2
YBH Yreka Blue Hor 76.98 37 eP **P** **10 19 46.1 +0.7**
comp=Z,481nm,1.2s
YBH pP **pP** **10 20 21.6 +3.1**
YBH S **S** **10 29 25.2 +2.3**
YBH P'P' 10 47 02.5
SKJI Sukabumi 77.17 267 P **P** **10 19 48.8 +1.8**
comp=Z,933nm,0.7s,comp=Z,11μm
GMRC Granite Mounta 77.28 46 P **P** **10 19 47.9 +0.6**
baz=236,SNR=144
VCNR Virginia City 77.28 41 eP **P** **10 19 47.8 +0.4**
comp=Z,693nm,1.6s
IRM Iron Mountain 77.29 47 P **P** **10 19 47.9 +0.6**
baz=237,SNR=226
YERR Yerington 77.35 41 eP **P** **10 19 48.0 +0.3**
comp=Z,922nm,1.6s
GRAC Grapevine Rang 77.38 44 P **P** **10 19 48.7 +1.0**
baz=235,SNR=96
TEY Ternei 77.39 327 eP **P** **10 19 48.0 +0.6**
TEY e 10 20 21.0
TEY eS **S** **10 29 32.0 +5.0**
TEY pmax pmax
comp=N,1μm,4.0s
TEY pmax pmax
comp=E,1μm,4.0s
TEY pmax pmax
comp=Z,4μm,4.4s
TEY pmax pmax
comp=E,216nm,1.8s
TEY pmax pmax
comp=Z,733nm,1.8s
TEY smax smax
comp=E,20μm,16.0s
HUMO Hull Mountain 77.40 36 eP **P** **10 19 48.4 +0.8**
comp=E,572nm,1.4s
FURC Furnace Creek, 77.41 44 P **P** **10 19 48.4 +0.6**
baz=235,SNR=138
TJN Taejon 77.44 316 deP **P** **10 19 49.4 +1.4**
TUQ Turquoise Moun 77.46 46 P **P** **10 19 48.8 +0.5**
baz=236,SNR=33
SHOC Shoshone, Teco 77.48 45 P **P** **10 19 48.7 +0.4**
baz=236,SNR=67
Y12C Blythe 77.50 48 P **P** **10 19 49.1 +0.7**
baz=237,SNR=60
Y12C Blythe 77.50 48 eP **P** **10 19 49.1 +0.7**
M04C Macdoel 77.51 38 P **P** **10 19 49.1 +0.6**
baz=231,SNR=93
RYN Ryan 77.59 42 eP **P** **10 19 49.3 +0.4**
comp=E,966nm,1.6s
NV01 Mina Array Sit 77.61 42 eP **P** **10 19 47.8 -1.4**
NVAR Mina Array Bea 77.61 42 P **P** **10 19 49.7 +0.5**
comp=E,165nm,1.1s,baz=227,slow=7.0,SNR=276
NVAR pP **pP** **10 20 24.0 +1.7**
comp=E,173nm,1.1s,baz=226,slow=7.4,SNR=6.0
NVAR S **S** **10 29 30.4 +0.2**
comp=E,1.5nm,1.1s,baz=192,slow=8.1,SNR=2.5
NVAR PKKP **PKKPdf** **10 38 39.6 -1.8**
comp=E,0.5nm,0.7s,baz=80,slow=1.7,SNR=4.1
NVAR PKKPbc **PKKPbc** **10 38 53.5 +0.1**
comp=E,2.2nm,0.8s,baz=72,slow=2.2,SNR=7.3
NVAR PKPPKP P'P'df 10 46 42.5 -11
comp=E,1.5nm,1.0s,baz=118,slow=1.0,SNR=4.5
NVAR LR LR 10 48 43.1
comp=E,7μm,18.5s,baz=114,slow=31
HSIG 77.69 54 eP **P** **10 19 49.8 +0.2**
KSRS Korea Array 77.69 317 P **P** **10 19 51.1 +1.8**
comp=E,98nm,0.8s,baz=133,slow=5.8,SNR=155
KSRS LR LR 10 51 30.0
comp=E,5μm,18.1s,baz=126,slow=34
NV11 Mina Array Sit 77.71 42 eP **P** **10 19 49.8 +0.2**
KS15 Wonju Array Si 77.71 317 eP **P** **10 19 51.5 +2.0**
KSAR Wonju Array Be 77.71 317 P **P** **10 19 51.1 +1.7**
KSAR Wonju Array Be 77.71 317 P **P** **10 19 51.2 +1.7**
KS01 Wonju Array Si 77.72 317 eP **P** **10 19 50.4 +0.9**
OHAK Old Harbor 77.75 12 eP **P** **10 19 49.4 +0.3**
214A Organ Pipe Nat 77.78 50 P **P** **10 19 50.7 +0.7**
baz=239,SNR=126
214A Organ Pipe Nat 77.78 50 eP **P** **10 19 50.5 +0.5**
comp=E,2μm,1.5s
214A epP **pP** **10 20 23.1 -0.1**
214A eS **S** **10 29 31.6 -0.3**
LDFC Landfair 77.82 46 eP **P** **10 19 51.2 +0.9**
comp=E,986nm,1.4s
SBJI Serang 77.84 268 P **P** **10 19 51.5 +0.8**
comp=E,941nm,1.5s,comp=E,24μm
I03D Drain, OR 77.89 35 P **P** **10 19 51.0 +0.7**
baz=229,SNR=31
NEE2 Needles Airpor 77.99 47 P **P** **10 19 51.9 +0.8**
baz=237
PDMCI Parker Dam,Lak 78.07 47 P **P** **10 19 52.2 +0.7**
baz=237,SNR=162
TPNV Topopah Spring 78.09 44 P **P** **10 19 52.2 +0.4**
baz=236,SNR=192
TPNV Topopah Spring 78.09 44 eP **P** **10 19 52.0 +0.2**
comp=E,581nm,1.4s
TPNV Topopah Spring 78.09 44 eP **P** **10 19 52.0 +0.2**
TPNV pmax pmax
comp=Z,581nm,1.4s
K04D Chiloquin, OR 78.10 37 P **P** **10 19 52.2 +0.5**
baz=231,SNR=33
CGJI Cibinong 78.10 267 P **P** **10 19 51.8 -0.4**
comp=Z,842nm,0.7s,comp=Z,10μm
QZH Quanzhou 78.10 302 ||| iP **P** **10 19 53.5 +1.6**
QZH pP **pP** **10 20 25.3 +0.3**
QZH sP **sP** **10 20 40.3 +1.2**
QZH S **S** **10 29 34.0 -1.5**
QZH pmax pmax
comp=Z,270nm,1.4s
QZH pmax pmax
comp=Z,2μm,3.8s
QZH LR LR
comp=Z,5μm,18.0s
QZH LR LR
comp=Z,5μm,19.4s
QZH LR LR
comp=Z,10μm,37.9s
J04D Umpqua Nationa 78.29 36 P **P** **10 19 53.2 +0.5**
baz=230,SNR=46
KDAK Kodiak Island 78.41 12 LR LR 10 47 10.7
comp=Z,3μm,19.8s,baz=202,slow=30
KDAK Kodiak Island 78.41 12 eP **P** **10 19 53.0 +0.2**
comp=Z,2μm,1.6s
KDAK Kodiak Island 78.41 12 iP **P** **10 19 52.8 0.0**
I04A Tendick Farm, 78.47 36 P **P** **10 19 53.9 +0.3**
baz=230,SNR=25
MOD Modoc Plateau 78.48 38 eP **P** **10 19 53.8 0.0**
COR Corvallis 78.50 35 eP **P** **10 19 56.0 +2.4**
COR epP **pP** **10 20 30.3 +3.5**
COR Corvallis 78.50 35 eP **P** **10 19 56.0 +2.4**
COR e*PP **pP** **10 20 30.3 +3.5**
INCN Inchon 78.55 316 eP **P** **10 19 56.5 +2.3**
comp=Z,2μm,2.0s
INCN Inchon 78.55 316 P **P** **10 19 56.5 +2.3**
SNR=20
SHPR Sheep Range 78.57 45 eP **P** **10 19 55.2 +0.7**
K05A Summer Lake 78.65 37 eP **P** **10 19 55.4 +0.6**
VLA Vladivostok 78.69 323 iP **P** **10 19 57.1 +2.4**
VLA pmax pmax
comp=Z,270nm,1.6s
TYV Tymovskoe 78.77 334 eP **P** **10 19 55.1 +0.2**
TYV e 10 20 30.2
TYV eS **S** **10 29 38.2 -3.3**
TYV pmax pmax
comp=Z,351nm,1.4s
TYV pmax pmax
comp=Z,4μm,5.7s
TYV smax smax
comp=E,9μm,7.5s
MSHR Mys Shultsa 78.77 322 diP **P** **10 19 57.4 +2.3**
J05D Fort Rock, OR 78.81 37 P **P** **10 19 56.2 +0.6**
baz=231,SNR=188
BLSI Bandar Lampung 78.91 268 P **P** **10 19 58.7 +2.1**
G03D McMinnville, O 78.93 34 P **P** **10 19 56.7 +0.7**
baz=229,SNR=18
SSE Sheshan 79.00 308 P **P** **10 19 58.0 +1.3**
SSE pP **pP** **10 20 26.3 -3.6**
SSE S **S** **10 29 47.8 +2.9**
SSE pmax pmax
comp=E,62nm,0.8s
SSE pmax pmax
comp=E,410nm,3.9s
SSE LR LR
comp=E,5μm,25.5s
PPBI Pangkal Pinang 79.06 271 P **P** **10 19 59.1 +1.7**
comp=E,1.6nm,0.8s,comp=E,1μm
H04A Detroit Lake 79.17 35 eP **P** **10 19 57.2 -0.2**
PINE Pine Mountain 79.30 36 eP **P** **10 19 58.9 +0.6**
R11A Troy Canyon, C 79.31 43 P **P** **10 19 58.6 +0.2**
baz=236,SNR=219
R11A Troy Canyon, C 79.31 43 eP **P** **10 19 58.5 0.0**
USRK Ussuriysk Ar. 79.32 324 P **P** **10 20 00.4 +2.3**
comp=E,71nm,1.0s,baz=108,slow=4.2,SNR=83
USRK S **S** **10 29 48.5 +0.9**
comp=E,1.2nm,0.5s,baz=106,slow=14,SNR=2.2
USRK PKKPbc **PKKPbc** **10 38 47.1 -2.5**
comp=E,1.7nm,0.4s,baz=300,slow=2.1,SNR=4.8
USRK LR LR 10 51 28.4
comp=E,6μm,19.6s,baz=127,slow=33
I05D Terrebonne, OR 79.42 36 P **P** **10 19 59.3 +0.5**
baz=231,SNR=63
KLI Kotabumi 79.43 268 P **P** **10 20 01.0 +1.6**
comp=E,106nm,1.1s,comp=E,6μm
TUC Tucson 79.44 51 P **P** **10 20 00.2 +1.1**
baz=240
TUC Tucson 79.44 51 eP **P** **10 20 00.3 +1.1**
TUC Tucson 79.44 51 eP **P** **10 20 00.3 +1.1**
BMN Battle Mountai 79.46 41 eP **P** **10 19 59.6 +0.4**
BMN Battle Mountai 79.46 41 eP **P** **10 19 59.6 +0.4**
KASI Kota Agung 79.57 268 P **P** **10 20 00.0 -0.2**
comp=E,585nm,0.9s,comp=E,7μm
F04D Rainier, OR 79.64 34 P **P** **10 20 00.6 +0.8**
baz=229,SNR=6.3
E03A Lebam 79.65 33 eP **P** **10 20 01.6 +1.8**
WVOR Wild Horse Val 79.79 39 eP **P** **10 20 01.0 +0.1**
WVOR Wild Horse Val 79.79 39 eP **P** **10 20 01.0 +0.1**
G05D Wamic, OR 80.00 35 P **P** **10 20 02.3 +0.4**
baz=230,SNR=20
X16A Lo Mia Camp, P 80.03 49 eP **P** **10 20 03.5 +1.1**
NLWA Neilton Lookou 80.06 32 eP **P** **10 20 03.7 +1.6**
LCMT Little Creek M 80.14 46 eP **P** **10 20 03.6 +0.7**
LWLI Liwa 80.14 268 P **P** **10 20 04.2 +0.8**
comp=E,330nm,0.7s,comp=E,16μm
MDSI Maura Dua 80.19 269 P **P** **10 20 02.5 -1.0**
comp=E,112nm,1.3s,comp=E,5μm
I07A Izee 80.29 37 eP **P** **10 20 04.0 +0.5**
HOM Homer 80.34 12 eP **P** **10 20 04.6 +1.4**
CCUT Cedar City 80.34 45 eP **P** **10 20 05.0 +0.9**
DIB Dawson Inlet, 80.37 24 eP **P** **10 20 05.3 +1.8**
DIB epP **pP** **10 20 39.7 +2.9**
H02S1 DAWSON INLET T 80.37 24 P **P** **10 20 05.2 +1.7**
G06A Carlson Farm, 80.37 35 eP **P** **10 20 04.0 +0.2**
KNB Kanab 80.42 46 eP **P** **10 20 05.4 +0.9**
KNB Kanab 80.42 46 eP **P** **10 20 05.4 +0.9**
J08A Circle Bar Ran 80.44 38 eP **P** **10 20 04.6 +0.2**
U15A North Rim 80.48 46 eP **P** **10 20 05.9 +1.0**
SZCU Shurtz Canyon 80.55 45 eP **P** **10 20 06.0 +0.8**
BRLK Bradley Lake 80.59 12 eP **P** **10 20 04.4 -0.2**
HKC Hong Kong Obse 80.60 297 ⇑P **P** **10 20 09.0 +3.5**
WUAZ Wupatki 80.64 48 P **P** **10 20 06.7 +1.0**
baz=239,SNR=135
WUAZ Wupatki 80.64 48 eP **P** **10 20 06.6 +1.0**
LON Longmire 80.70 34 eP **P** **10 20 05.4 -0.2**
LON Longmire 80.70 34 eP **P** **10 20 05.4 -0.2**
HPIG 80.84 58 eP **P** **10 20 07.0 0.0**
D05A Enumclaw 80.89 33 eP **P** **10 20 07.7 +1.2**
MDJ Mudanjiang 80.92 323 P **P** **10 20 06.8 +0.1**
MDJ pP pP 10 20 35.3 -4.8
MDJ sP sP 10 20 47.5 -6.6
MDJ S **S** **10 30 06.0 +1.6**
MDJ pmax pmax
comp=E,330nm,1.9s
MDJ pmax pmax
comp=E,14μm,9.0s
MDJ LR LR
comp=E,8μm,23.5s
MDJ LR LR
comp=E,2μm,17.8s
MDJ LR LR
comp=E,26μm,44.9s
MDJ Mudanjiang 80.92 323 eP **P** **10 20 08.5 +1.8**
comp=E,2μm,2.0s
MDJ epP **pP** **10 20 39.8 -0.3**
MDJ eS **S** **10 30 05.0 +0.6**
PKCU Pink Cliffs 81.00 46 eP **P** **10 20 09.7 +1.9**
SVW2 Sparrevohn 81.02 9 eP **P** **10 20 06.3 -0.6**
MCO Taipa Grande 81.05 297 P **P** **10 20 11.0 +3.1**
DSRI Dabo 81.07 273 P **P** **10 20 09.9 +1.7**
comp=E,561nm,1.6s,comp=E,21μm
PGC Sidney 81.11 32 eP **P** **10 20 08.2 +0.7**
F07A Phinny Hill Vi 81.17 35 eP **P** **10 20 09.7 +1.7**
F07A epP **pP** **10 20 43.6 +2.3**
NJ2 Nanjing 81.21 308 eP **P** **10 20 10.8 +2.3**
NJ2 pP **pP** **10 20 43.0 +1.1**
NJ2 sP **sP** **10 20 50.3 -5.6**
NJ2 PP **PP** **10 23 18.5 +2.5**
NJ2 S **S** **10 30 11.0 +3.1**
NJ2 sS **sS** **10 31 00.0 -5.5**
NJ2 SS **SS** **10 35 30.8 +4.1**
NJ2 pmax pmax
comp=E,110nm,1.4s
NJ2 pmax pmax
comp=E,1μm,4.8s
NJ2 LR LR
comp=E,9μm,20.6s
NJ2 LR LR
comp=E,7μm,18.4s
NJ2 LR LR
comp=E,13μm,24.9s
MID Middleton Isla 81.26 14 eP **P** **10 20 09.4 +1.3**
MID Middleton Isla 81.26 14 eP **P** **10 20 09.4 +1.3**
NKL Nikolayevsk 81.29 335 iP **P** **10 20 10.0 +1.6**
NKL iS **S** **10 30 06.0 -1.8**
NKL pmax pmax
comp=N,250nm,1.6s
NKL pmax pmax
comp=E,150nm,1.6s
NKL pmax pmax
comp=Z,930nm,1.6s
NKL pmax pmax

comp=N,1µm,13.0s
NKL pmax pmax
comp=E,1µm,13.0s
NKL pmax pmax
comp=Z,4µm,12.0s
NKL smax smax
comp=N,12µm,10.0s
NKL smax smax
comp=E,10µm,10.0s
G08A Pilot Rock 81.33 36 *e*P **P 10 20 09.3 +0.3**
MNAI Manna 81.39 268 P **P 10 20 12.6 +2.7**
comp=E,959nm,1.3s,comp=E,15µm
MNAI Manna 81.39 268 *e*P **P 10 20 10.0 +0.1**
MTPU Mount Pierson 81.39 45 *e*P **P 10 20 11.2 +1.4**
BBB Bella Bella 81.40 27 LR LR 10 49 21.7
comp=E,1µm,19.3s,baz=232,slow=30
BBB Bella Bella 81.40 27 *e*P **P 10 20 10.9 +2.0**
BBB *e*pP **pP 10 20 44.5 +2.2**
GRNR Gornyy 81.42 331 *e*P **P 10 20 10.2 +1.0**
GRNR *i* 10 20 45.0
GRNR *i* 10 30 09.8
GRNR pmax pmax
comp=N,180nm,1.1s
GRNR pmax pmax
comp=E,220nm,1.1s
GRNR pmax pmax
comp=Z,560nm,1.1s
A04D Lummi Island 81.52 32 P **P 10 20 10.4 +0.7**
baz=229,SNR=17
B05A Bryant 81.53 32 P **P 10 20 10.2 +0.4**
baz=230,SNR=42
MOIG Morelia 81.56 66 *e*P **P 10 20 11.6 +0.7**
TPRI Tanjung Pinang 81.57 274 P **P 10 20 12.6 +1.7**
comp=Z,268nm,1.4s,comp=Z,7µm
W18A Petrified Fore 81.60 49 P **P 10 20 11.8 +1.1**
baz=240,SNR=26
W18A Petrified Fore 81.60 49 *e*P **P 10 20 11.8 +1.1**
ZAIG Zacatecas 81.62 63 *e*P **P 10 20 12.3 +1.0**
E07A Sunnyside 81.62 35 *e*P **P 10 20 11.6 +1.2**
GZH Guangzhou 81.62 298 P **P 10 20 12.5 +1.6**
GZH pP **pP 10 20 45.3 +1.0**
GZH S **S 10 30 15.5 +3.0**
GZH sS **sS 10 31 12.5 +2.3**
LTY Liberty 81.63 34 *e*P **P 10 20 10.3 -0.1**
MSU Marysvale 81.65 45 *e*P **P 10 20 11.6 +0.6**
MSU Marysvale 81.65 45 *e*P **P 10 20 11.6 +0.6**
PMSA Palmer Station 81.65 156 *e*P **P 10 20 11.5 +1.2**
comp=Z,2µm,1.2s
SPU Mount Spurr 81.69 11 *e*P **P 10 20 09.2 -1.2**
HAWA Hanford 81.70 35 *e*P **P 10 20 11.1 +0.3**
121A Cookes Peak, D 81.76 52 P **P 10 20 13.1 +1.4**
baz=242,SNR=149
121A Cookes Peak, D 81.76 52 *e*P **P 10 20 12.8 +1.1**
comp=Z,621nm,1.4s
121A *e*pP **pP 10 20 47.2 +2.1**
CRAG Craig 81.87 22 *e*P **P 10 20 12.5 +1.1**
C06D Leavenworth 81.93 33 P **P 10 20 11.8 -0.2**
baz=230
BMO Blue Mountains 82.01 37 *e*P **P 10 20 12.5 -0.1**
BMO Blue Mountains 82.01 37 *e*P **P 10 20 12.5 -0.1**
B06A Marblemount 82.01 33 *e*P **P 10 20 13.2 +0.9**
E08A Dider Farm, El 82.02 35 *e*P **P 10 20 13.5 +1.1**
E08A *e*pP **pP 10 20 47.2 +1.4**
RC01 Rabbit Creek A 82.03 12 *e*P **P 10 20 13.0 +0.8**
MFID Camas Ranch 82.04 39 *e*P **P 10 20 12.9 +0.1**
DUG Dugway, Tooele 82.12 43 P **P 10 20 13.9 +0.5**
baz=238,SNR=87
DUG Dugway, Tooele 82.12 43 *e*P **P 10 20 13.5 +0.2**
DUG Dugway, Tooele 82.12 43 *e*P **P 10 20 13.5 +0.2**
SUA Susitna One 82.19 11 *e*P **P 10 20 12.7 -0.4**
GAMB Gambell 82.27 1 *e*P **P 10 20 14.1 +0.8**
EPT El Paso 82.37 53 *e*P **P 10 20 15.8 +1.0**
BGU Big Grassy Mou 82.38 42 *e*P **P 10 20 14.9 +0.2**
EYAK Cordova Ski Ar 82.39 14 *e*P **P 10 20 13.8 -0.3**
D08A Wollman Farm, 82.44 35 *e*P **P 10 20 15.6 +0.9**
MASI Maura Aman, Be 82.44 269 P **P 10 20 16.5 +1.0**
comp=Z,700nm,1.6s,comp=Z,10µm
NLU North Lily Min 82.47 44 *e*P **P 10 20 15.8 +0.6**
MYKOM Kota Tinggi 82.49 274 *e*P **P 10 20 16.7 +1.0**
RAGM Ragged Mountai 82.50 15 *e*P **P 10 20 15.0 +0.3**
Q16A Castle Valley 82.53 45 *e*P **P 10 20 16.6 +1.0**
E09A Wood Farm, Sta 82.53 36 *e*P **P 10 20 16.4 +1.3**
E09A *e*pP **pP 10 20 50.6 +2.1**
JRQG Juriquilla Cam 82.60 65 *e*P **P 10 20 17.4 +1.0**
PMR Palmer 82.61 12 *e*P **P 10 20 14.7 -0.5**
PMR Palmer 82.61 12 *e*P **P 10 20 14.7 -0.5**
DL2 Dalian 82.64 315 ⇓ *i*P **P 10 20 17.5 +1.7**
DL2 pP **pP 10 20 52.5 +3.2**
DL2 sP **sP 10 21 04.8 +1.5**
DL2 S **S 10 30 23.3 +1.0**
DL2 sS **sS 10 31 17.0 -3.0**
DL2 pmax pmax
comp=Z,150nm,1.3s
DL2 pmax pmax
comp=Z,2µm,3.5s
KLR Kul'dur 82.65 328 PKKPbc PKKPbc 10 38 40.2 -2.0
comp=Z,0.5nm,0.9s,baz=314,slow=4.1,SNR=7.8
KLR PKPPKP **P'P'df 10 46 40.9 -2.9**
comp=Z,0.3nm,0.9s,baz=286,slow=2.7,SNR=4.4
KLR LR LR 10 50 54.4
comp=Z,759nm,21.6s,baz=138,slow=31
KLR Kul'dur 82.65 328 *d* /P **P 10 20 16.4 +0.8**
TMUT Trail Mountain 82.70 44 *e*P **P 10 20 17.4 +0.8**
comp=Z,2µm,1.4s
TMUT *e*pP **pP 10 20 50.6 +0.6**
F10A Beach Ranch, E 82.72 36 *e*P **P 10 20 15.8 -0.4**
MPU Maple Canyon 82.80 44 *e*P **P 10 20 17.5 +0.6**
CN2 Changchun 82.86 321 ⇓ P **P 10 20 18.8 +1.9**
CN2 *e*pP pP 10 20 51.3 +1.0
CN2 *e*S **S 10 30 21.0 -3.3**
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=Z,2µm,18.0s
CN2 LR LR
comp=Z,4µm,18.0s
CN2 LR LR
comp=Z,5µm,19.0s
WRAK Wrangell Islan 82.88 22 *e*P **P 10 20 17.1 +0.5**
comp=Z,546nm,1.6s
WRAK *e*pP **pP 10 20 49.0 -1.1**
DIV Divide 82.90 14 *e*P **P 10 20 16.5 -0.3**
SNY Shenyang 82.92 318 ⇓ P **P 10 20 18.5 +1.3**
SNY S **S 10 30 27.0 +2.1**
SNY pmax pmax
comp=Z,310nm,1.9s
SNY LR LR
comp=Z,3µm,16.0s
SNY LR LR
comp=Z,3µm,19.6s
SNY LR LR
comp=Z,6µm,20.6s
SPUT South Promonto 82.95 42 *e*P **P 10 20 18.6 +0.9**
MA2 Magadan 82.96 343 PKPPKP 10 46 41.4
comp=Z,1.7nm,0.3s,baz=7.2,slow=4.5,SNR=4.0
MA2 LR LR 10 52 08.4
comp=Z,9µm,20.8s,baz=151,slow=32
MA2 Magadan 82.96 343 *e*P **P 10 20 17.1 +0.2**
comp=Z,3µm,1.6s
MA2 *e*pP **pP 10 20 48.9 -1.6**
MA2 *e*S **S 10 30 19.9 -4.8**
MA2 P'P' 10 46 41.4
MA2 Magadan 82.96 343 *e*P **P 10 20 17.2 +0.2**
MA2 *e**PP **pP 10 20 48.9 -1.6**
MA2 *e*S **S 10 30 19.9 -4.8**
MA2 pmax pmax
comp=Z,3µm,1.6s
HLID Hailey 82.97 39 P **P 10 20 18.5 +0.8**
baz=236,SNR=320
HLID Hailey 82.97 39 *e*P **P 10 20 18.2 +0.5**
SML Sawmill 82.97 12 *e*P **P 10 20 16.6 -0.5**
SML Sawmill 82.97 12 *e*P **P 10 20 16.6 -0.5**
HVU Hansel Valley 83.00 42 *e*P **P 10 20 18.0 +0.1**
HVU Hansel Valley 83.00 42 *e*P **P 10 20 18.0 +0.1**
B08A Colville Reser 83.02 34 *e*P **P 10 20 17.2 -0.5**
QIZ Qiongzhong 83.02 293 P **P 10 20 19.0 +0.7**
QIZ sP **sP 10 21 00.3 -5.5**
QIZ S **S 10 30 29.8 +2.8**
QIZ pmax pmax
comp=Z,2µm,1.6s
QIZ LR LR
comp=Z,12µm,19.6s
QIZ LR LR
comp=Z,11µm,17.7s
QIZ LR LR
comp=Z,6µm,41.2s
QIZ Qiongzhong 83.02 293 *e*P **P 10 20 19.6 +1.3**
comp=Z,386nm,1.5s
QIZ *e*pP **pP 10 20 52.6 +0.8**
QIZ *e*S **S 10 30 30.5 +3.5**
BMRM Bremner River 83.03 14 *e*P **P 10 20 17.2 -0.2**
YKU2 Yakutat 83.04 17 *e*P **P 10 20 19.6 +2.2**
TLIG Tlapa 83.04 69 *e*P **P 10 20 19.7 +1.2**
SRU San Rafael Swe 83.06 45 *e*P **P 10 20 18.8 +0.5**
SRU San Rafael Swe 83.06 45 *e*P **P 10 20 18.8 +0.5**
CTU Camp Tracy 83.08 43 *e*P **P 10 20 18.5 +0.2**
P17A Butcher Ranch, 83.10 44 *e*P **P 10 20 19.2 +0.7**
LAZ Ladron 83.12 50 *e*P **P 10 20 20.0 +1.3**
Y22D IRIS PASSCAL I 83.13 51 P **P 10 20 20.4 +1.8**
baz=242,SNR=95
Y22D IRIS PASSCAL I 83.13 51 *e*P **P 10 20 20.2 +1.6**
LENM Lemitar 83.13 51 *e*P **P 10 20 21.4 +2.6**
LLLB Lillooet 83.16 31 *e*P **P 10 20 18.9 +0.5**
MNTX Cornudas Mount 83.19 53 P **P 10 20 20.0 +1.1**
baz=243
MNTX Cornudas Mount 83.19 53 *e*P **P 10 20 20.0 +1.1**
KLU Klutina 83.19 13 *e*P **P 10 20 18.0 -0.3**
SCM Sheep Creek Mo 83.20 13 *e*P **P 10 20 18.1 -0.2**
SCM Sheep Creek Mo 83.20 13 *e*P **P 10 20 18.1 -0.2**
JLU Jordanelle 83.22 43 *e*P **P 10 20 19.4 +0.2**
C09A Chrisman Ranch 83.24 34 *e*P **P 10 20 18.9 +0.1**
PPLA Purkeypile 83.26 10 *e*P **P 10 20 17.2 -1.5**
BNM Barren Site 83.38 51 *e*P **P 10 20 21.1 +1.0**
LPM Los Pinos Moun 83.45 51 *e*P **P 10 20 21.4 +1.0**
TX31 Lajitas Ar. Si 83.48 56 *e*P **P 10 20 21.8 +1.2**
TXAR Lajitas Array 83.48 56 P **P 10 20 21.7 +1.2**
comp=Z,304nm,1.2s,baz=217,slow=6.7,SNR=360
TXAR PKKP **PKKPdf 10 38 31.4 +0.5**
comp=Z,1.4nm,0.9s,baz=107,slow=4.3,SNR=4.2
TXAR PKPPKP P'P'df 10 46 31.8 -12
comp=Z,0.6nm,0.8s,baz=114,slow=3.0,SNR=4.1
TXAR LR LR 10 51 03.8
comp=Z,3µm,19.6s,baz=0.0,slow=31
MVCO Mesa Verde 83.50 47 P **P 10 20 21.0 +0.4**
baz=241,SNR=64
MVCO Mesa Verde 83.50 47 *e*P **P 10 20 21.1 +0.4**
PV05 Paradox Valley 83.51 46 *e*P **P 10 20 21.8 +1.2**
P18A Preston Nutter 83.51 45 *e*P **P 10 20 21.2 +0.5**
KRJI Kerinci 83.51 270 P **P 10 20 24.7 +3.6**
comp=Z,114nm,0.5s,comp=Z,7µm
TCUT Toone Canyon 83.52 43 *e*P **P 10 20 21.2 +0.5**
PV09 Paradox Valley 83.69 46 *e*P **P 10 20 22.4 +0.7**
PV10 Paradox Valley 83.69 46 *e*P **P 10 20 21.8 +0.1**
BESE Bessie Mountai 83.72 20 *e*P **P 10 20 22.0 +1.0**
CAST Castle Rocks 83.77 10 *e*P **P 10 20 19.4 -1.7**
PV04 Paradox Valley 83.80 46 *e*P **P 10 20 22.6 +0.6**
PV04 *e*pP **pP 10 20 59.1 +3.5**
ANMO Albuquerque 83.87 50 P **P 10 20 23.6 +1.0**
baz=242
ANMO Albuquerque 83.87 50 *e*P **P 10 20 23.5 +1.0**
ANMO Albuquerque 83.87 50 *d* /P **P 10 20 23.5 +1.0**
ANMO pmax pmax
comp=Z,711nm,1.5s
PV01 Paradox Valley 83.90 46 *e*P **P 10 20 22.9 +0.3**
SDSI Sungai Dareh 83.91 271 P **P 10 20 26.1 +3.1**
WHN Wuhan 83.96 305 ⇓ P **P 10 20 24.3 +1.5**
WHN pP **pP 10 20 53.3 -3.0**
WHN S **S 10 30 34.3 -1.6**
WHN sS **sS 10 31 27.8 -6.1**
WHN SS **SS 10 36 13.5 +6.0**
WHN pmax pmax
comp=Z,3µm,2.7s
WHN LR LR
comp=Z,17µm,19.3s
KTH Kantishna Hill 84.09 10 *e*P **P 10 20 21.6 -1.2**
TRF Thorofare Moun 84.11 11 *e*P **P 10 20 22.3 -0.7**
NEW Newport 84.14 35 PKPPKP 10 46 46.0
comp=Z,5.3nm,0.9s,baz=292,slow=5.4,SNR=4.7
NEW LR LR 10 50 56.6
comp=Z,3µm,20.4s,baz=247,slow=30
NEW Newport 84.14 35 P **P 10 20 23.1 -0.2**
baz=234
NEW Newport 84.14 35 *e*P **P 10 20 23.6 +0.3**
NEW P'P' 10 46 46.0
NEW Newport 84.14 35 *e*P **P 10 20 23.6 +0.3**
HARP HAARP 84.17 13 *e*P **P 10 20 23.7 +0.5**
GDL2 Guadalupe Moun 84.19 53 *e*P **P 10 20 25.4 +1.3**
MAW Mawson 84.26 199 P **P 10 20 25.1 +1.4**
comp=Z,205nm,0.7s,baz=138,slow=8.6,SNR=135
MAW LR LR 10 57 17.0
comp=Z,3µm,18.1s,baz=120,slow=35
MAW Mawson 84.26 199 P **P 10 20 25.1 +1.4**
baz=84,SNR=196
SKAG Skagway 84.27 19 *e*P **P 10 20 24.7 +1.0**
DHY Denali Highway 84.31 12 *e*P **P 10 20 23.6 -0.5**
RND Reindeer 84.33 11 *e*P **P 10 20 23.6 -0.4**
RND Reindeer 84.33 11 *e*P **P 10 20 23.6 -0.4**
CHRN Cochrane 84.36 138 *e*P **P 10 20 26.7 +2.1**
CHRN Cochrane 84.36 138 *i* P **P 10 20 26.7 +2.1**
TIA Tai'an 84.43 311 P **P 10 20 26.5 +1.4**
TIA pP **pP 10 21 00.0 +1.3**
TIA sP **sP 10 21 12.3 -0.4**
TIA SKS **S 10 30 39.0 -1.5**
TIA pmax pmax
comp=Z,100nm,1.1s
TIA pmax pmax
comp=Z,1µm,5.0s
TIA LR LR
comp=Z,5µm,18.1s
TIA LR LR
comp=Z,3µm,20.6s
TIA LR LR
comp=Z,3µm,13.3s
AHID Auburn Hatcher 84.58 41 *e*P **P 10 20 26.2 +0.3**
CLNB Carlsbad 84.58 53 *e*P **P 10 20 27.3 +1.2**
comp=Z,7.4nm,0.6s
BPAW Bear Paw Mtn. 84.59 10 *e*P **P 10 20 23.8 -1.4**
MCMT McKenzie Canyo 84.60 39 *e*P **P 10 20 26.5 +0.5**
PAX Paxson 84.61 13 *e*P **P 10 20 24.7 -0.7**
PAX Paxson 84.61 13 *e*P **P 10 20 24.7 -0.7**
MCK McKinley 84.61 11 *e*P **P 10 20 25.0 -0.3**
MCK McKinley 84.61 11 *e*P **P 10 20 25.0 -0.3**
PPSI Pulau Pagai 84.68 269 P **P 10 20 31.3 +4.5**
BKNI Bangkinang 84.68 272 P **P 10 20 29.7 +2.9**
comp=Z,573nm,1.3s,comp=Z,12µm
BKNI Bangkinang 84.68 272 *e*P **P 10 20 29.2 +2.4**
HYT Haines Junctio 84.74 17 *e*P **P 10 20 25.4 -0.8**
COCO West Island 84.75 259 *e*P **P 10 20 29.9 +2.7**
COCO West Island 84.75 259 P **P 10 20 29.9 +2.7**
SNR=6.9
COCO West Island 84.75 259 *e*P **P 10 20 29.9 +2.7**
PDSI Padang 84.83 271 P **P 10 20 27.7 0.0**
comp=Z,173nm,1.1s,comp=Z,6µm
S22A 4UR Ranch, Cre 84.92 47 P **P 10 20 29.0 +1.1**
baz=242,SNR=362
S22A 4UR Ranch, Cre 84.92 47 *e*P **P 10 20 28.5 +0.6**
MENT Mentasta 84.96 14 *e*P **P 10 20 27.5 +0.3**
REDW Red Top Meadow 85.04 41 *e*P **P 10 20 28.0 -0.3**
DLMT Dillon 85.04 39 *e*P **P 10 20 28.7 +0.6**
MSO Missoula 85.07 37 P **P 10 20 27.8 -0.4**
baz=236,SNR=73
MSO Missoula 85.07 37 *e*P **P 10 20 27.6 -0.5**
LNIG Linares 85.07 62 *e*P **P 10 20 27.1 -1.4**
FXWY Fox Creek 85.08 41 *e*P **P 10 20 28.7 +0.2**
O20A White River Ci 85.10 45 P **P 10 20 28.9 +0.3**
baz=241
O20A White River Ci 85.10 45 *e*P **P 10 20 28.9 +0.3**
SNOW Snow King Moun 85.16 41 *e*P **P 10 20 29.3 +0.4**
DLBC Dease Lake 85.23 22 PKPPKP 10 46 40.2
comp=Z,4.9nm,1.1s,baz=342,slow=3.7,SNR=6.0
DLBC LR LR 10 50 50.9
comp=Z,3µm,21.9s,baz=222,slow=30
DLBC Dease Lake 85.23 22 *e*P **P 10 20 29.1 +0.5**
DLBC P'P' 10 46 40.2
IMW Indian Meadow 85.27 41 *e*P **P 10 20 29.8 +0.3**
MOOW Moose Ponds 85.31 41 *e*P **P 10 20 29.7 +0.1**
LOHW Long Hollow 85.33 41 *e*P **P 10 20 29.9 +0.2**
WHY Whitehorse 85.37 18 *e*P **P 10 20 29.6 +0.3**
LRM Limekiln Ridge 85.38 38 *e*P **P 10 20 30.2 +0.3**
JTMT Jette 85.39 36 *e*P **P 10 20 29.6 -0.1**
SEY Seymchan 85.41 346 PKKPbc PKKPbc 10 38 33.8 -2.5
comp=Z,2.3nm,0.7s,baz=320,slow=1.7,SNR=6.1
SEY PKPPKP **P'P'df 10 46 37.0 -0.7**
comp=Z,3.9nm,0.9s,baz=273,slow=3.8,SNR=6.4
SEY LR LR 10 51 53.4
comp=Z,5µm,21.5s,baz=142,slow=31
SEY Seymchan 85.41 346 ⇓ *i*P **P 10 20 29.3 0.0**
RIDG Independ'e Rid 85.42 13 *e*P **P 10 20 29.1 -0.3**
WRH Wood River Hil 85.44 11 *e*P **P 10 20 29.0 -0.4**
QLMT Earthquake Lak 85.46 40 *e*P **P 10 20 31.2 +0.9**
MLY Manley 85.49 10 *e*P **P 10 20 29.0 -0.7**
SMCO Snowmass 85.50 46 *e*P **P 10 20 31.4 +0.6**
DOT Dot Lake 85.51 13 *e*P **P 10 20 29.8 0.0**
YPP Pitchstone Pla 85.55 40 *e*P **P 10 20 31.8 +0.9**
BW06 Boulder Array 85.55 42 P **P 10 20 30.8 -0.1**
baz=240
BW06 Boulder Array 85.55 42 *e*P **P 10 20 30.4 -0.4**
PD31 Pinedale Array 85.55 42 *e*P **P 10 20 30.4 -0.4**
PDAR Pinedale Array 85.55 42 P **P 10 20 30.4 -0.4**
comp=Z,60nm,1.1s,baz=217,slow=3.8,SNR=171
PDAR pP **pP 10 21 04.2 -0.3**
comp=Z,63nm,0.9s,baz=207,slow=2.9,SNR=5.5
PDAR PP **PP 10 23 46.5 -5.0**
comp=Z,27nm,1.3s,baz=286,slow=6.5,SNR=3.1
PDAR PKKP **PKKPdf 10 38 30.6 +2.5**
comp=Z,4.6nm,0.9s,baz=128,slow=2.4,SNR=3.7
PDAR PKPPKP P'P'df 10 46 28.4 -11
comp=Z,0.9nm,0.9s,baz=99,slow=6.8,SNR=4.5
PDAR LR LR 10 52 21.5
comp=Z,5µm,19.4s,baz=235,slow=31
PDAR Pinedale Array 85.55 42 *e*P **P 10 20 29.6 -1.2**
PDAR pP **pP 10 21 04.2 -0.3**
PDAR PP **PP 10 23 46.5 -5.0**
PDAR PKKP **PKKPdf 10 38 30.6 +2.5**
PDAR P'P' 10 46 28.4
YHB Horse Butte 85.56 40 *e*P **P 10 20 31.7 +0.9**
HDA Harding Lake 85.60 12 *e*P **P 10 20 29.2 -1.1**
YFT Old Faithful 85.62 40 *e*P **P 10 20 32.9 +1.8**
CCB Clear Creek Bu 85.65 11 *e*P **P 10 20 29.9 -0.5**
YMR Madison River 85.65 40 *e*P **P 10 20 32.3 +1.0**
LVIG Laguna Verde 85.73 68 *e*P **P 10 20 32.3 +0.5**
BOZ Bozeman (W) 85.74 39 P **P 10 20 32.1 +0.5**
baz=238,SNR=215
BOZ Bozeman (W) 85.74 39 P **P 10 20 31.8 +0.2**
H17A Grant Village 85.75 40 P **P 10 20 33.3 +1.5**
baz=239,SNR=80
H17A Grant Village 85.75 40 *e*P **P 10 20 33.2 +1.5**
YHH Holmes Hill 85.79 40 *e*P **P 10 20 32.7 +0.6**
SCRK Sand Creek 85.81 13 *e*P **P 10 20 31.5 0.0**
COLA College 85.85 11 *e*P **P 10 20 30.7 -0.7**
comp=Z,410nm,0.8s
COLA *e*pP **pP 10 21 03.0 -2.1**
COLA College 85.85 11 *e*P **P 10 20 30.7 -0.7**
COLA *e**PP **pP 10 21 03.0 -2.1**
COLA pmax pmax
comp=Z,410nm,0.8s
SDCO Great Sand Dun 85.85 48 P **P 10 20 32.5 +0.1**
baz=243,SNR=143
SDCO Great Sand Dun 85.85 48 *e*P **P 10 20 32.6 +0.1**
MDM Murphy Dome 85.86 11 *e*P **P 10 20 31.0 -0.5**
IM3 Indian Mountai 85.92 8 *e*P **P 10 20 30.9 -0.9**
ILAR Eielson Array 85.93 12 P **P 10 20 31.2 -0.6**
comp=Z,156nm,1.0s,baz=199,slow=5.0,SNR=287
ILAR pP **pP 10 21 05.7 +0.1**
comp=Z,235nm,1.3s,baz=224,slow=5.4,SNR=2.2
ILAR SKiKP SKiKP 10 29 14.2 +12
comp=Z,1.3nm,1.0s,baz=219,slow=4.2,SNR=2.5
ILAR S **SKSac 10 30 44.4 -0.5**
comp=Z,0.9nm,0.9s,baz=236,slow=2.7,SNR=2.2
ILAR PKKPbc **PKKPbc 10 38 32.4 -2.9**
comp=Z,1.1nm,0.6s,baz=319,slow=2.4,SNR=5.0
ILAR PKPPKP **P'P'df 10 46 39.2 +2.5**
comp=Z,3.6nm,1.1s,baz=336,slow=2.7,SNR=9.6
ILAR LR LR 10 56 22.7
comp=Z,1µm,18.0s,baz=206,slow=34
ILB Eielson Array 85.93 12 *e*P **P 10 20 31.3 -0.6**
IL1 Eielson Array 85.93 12 *e*P **P 10 20 30.3 -1.5**
SISI Saibi 86.00 270 P **P 10 20 36.6 +3.2**
comp=Z,252nm,1.3s,comp=Z,8µm
IPM Ipoh 86.03 276 *e*P **P 10 20 34.9 +1.3**
MHTCO State Highway 86.14 49 *e*P **P 10 20 34.9 +1.1**
MSTX Muleshoe 86.16 52 P **P 10 20 34.4 +0.6**
baz=244
MSTX Muleshoe 86.16 52 *e*P **P 10 20 34.5 +0.6**
MNSI Mandailing Nat 86.21 272 P **P 10 20 34.4 0.0**
comp=Z,210nm,0.8s,comp=Z,5µm
HRY Holter Researc 86.22 38 *e*P **P 10 20 34.7 +0.8**
WALA Waterton Lakes 86.33 35 *e*P **P 10 20 34.2 -0.2**
T25A Trinidad 86.35 49 P **P 10 20 35.1 +0.3**
baz=243,SNR=38
T25A Trinidad 86.35 49 *e*P **P 10 20 34.7 -0.2**
833A Chaparral WMA, 86.47 59 P **P 10 20 35.9 +0.5**
baz=247,SNR=115
RWWY Rawlins 86.54 44 *e*P **P 10 20 36.1 +0.4**
KULM Kulim 86.64 277 *e*P **P 10 20 38.1 +1.5**
Q24A Divide 86.65 47 P **P 10 20 36.9 +0.5**
baz=243,SNR=51
ISCO Idaho Springs 86.72 46 P **P 10 20 37.3 +0.5**
baz=242,SNR=27
ISCO Idaho Springs 86.72 46 *e*P **P 10 20 36.9 +0.2**
ISCO Idaho Springs 86.72 46 *e*P **P 10 20 36.9 +0.2**
BJT Baijiatuao 86.87 314 *e*P **P 10 20 38.1 +1.1**
comp=Z,4µm,2.1s
BJT *e*pP **pP 10 21 11.2 +0.4**
BJT *e*S **SKSac 10 30 47.5 -4.2**
BJT Baijiatuao 86.87 314 *e*P **P 10 20 38.1 +1.1**
BJT *e**PP **pP 10 21 11.2 +0.4**
BJT *e*S **SKSac 10 30 47.5 -4.2**
BJT pmax pmax
comp=Z,4µm,2.1s
BJI Beijing 86.87 314 P **P 10 20 39.0 +2.0**
BJI pP **pP 10 21 13.0 +2.2**
BJI pmax pmax
comp=Z,340nm,1.9s
BJI LR LR
comp=Z,3µm,15.7s
BJI LR LR
comp=Z,7µm,25.0s
BJI LR LR
comp=Z,6µm,24.9s
RLMT Red Lodge 86.92 40 P **P 10 20 38.1 +0.6**
baz=240,SNR=18
RLMT Red Lodge 86.92 40 *e*P **P 10 20 38.6 +1.1**
DAWY Dawson 86.94 15 *e*P **P 10 20 37.3 +0.4**
N23A Red Feather La 87.00 45 P **P 10 20 38.3 +0.3**
baz=242,SNR=52
N23A Red Feather La 87.00 45 *e*P **P 10 20 38.1 +0.1**
JCT Junction City 87.00 57 P **P 10 20 38.1 +0.1**
baz=246
JCT Junction City 87.00 57 *e*P **P 10 20 38.2 +0.1**
JCT Junction City 87.00 57 *e*P **P 10 20 38.2 +0.2**
GCMT Greycliff 87.02 39 *e*P **P 10 20 39.9 +2.0**
GCMT *e*pP **pP 10 21 14.3 +2.7**
EGAK Eagle 87.13 14 *e*P **P 10 20 37.9 +0.2**
AMTX Amarillo 87.36 52 P **P 10 20 40.1 +0.5**
baz=245
AMTX Amarillo 87.36 52 *e*P **P 10 20 39.9 +0.2**
KVTX Kingsville 87.40 60 *e*P **P 10 20 43.5 +3.6**
K22A Casper 87.44 43 P **P 10 20 40.2 +0.2**
baz=242,SNR=19
K22A Casper 87.44 43 *e*P **P 10 20 39.8 -0.1**
PSI Prapat 87.47 274 P **P 10 20 41.1 +0.4**
comp=Z,251nm,1.0s,baz=152,slow=1.8,SNR=132
PSI S **SKSac 10 30 55.8 -1.0**
comp=Z,1.8nm,0.3s,baz=168,slow=23,SNR=6.4
PSI PKKPbc **PKKPbc 10 38 29.8 +1.0**
comp=Z,8.9nm,0.9s,baz=226,slow=10.0,SNR=4.9
PSI Prapat 87.47 274 *e*P **P 10 20 40.3 -0.4**
PSI S **SKSac 10 30 55.8 -1.0**
PSI PKKPbc **PKKPbc 10 38 29.8 +1.0**
PHWY Pilot Hill 87.52 45 *e*P **P 10 20 40.6 +0.1**
CHBT CHBT 87.54 284 P **P 10 20 43.5 +2.7**
comp=Z,608nm,1.7s,comp=Z,132µm
COLD Coldfoot 87.61 9 *e*P **P 10 20 40.5 +0.6**
BILL Bilibino 87.64 353 *d* /P **P 10 20 39.8 -0.3**
BILL *i* 10 21 10.0
BILL *i* 10 24 09.2
BILL pmax pmax
comp=Z,2µm,2.8s
BILL pmax pmax
comp=Z,2µm,3.0s
BILL MLR MLR
comp=Z,3µm,17.0s
ZEA Zeya 87.65 330 *e*P **P 10 20 41.7 +1.3**
ZEA *e* 10 21 16.9
ZEA *e* 10 30 58.3
ZEA pmax pmax
comp=E,170nm,1.2s
ZEA pmax pmax
comp=Z,1µm,1.2s
ZEA pmax pmax

comp=N,760nm,1.4s
ENH Enshi 87.67 303 *e*P **P** **10 20 42.6 +1.4**
comp=N,5µm,1.9s
ENH *e*pP **pP** **10 21 16.1 +1.1**
FYU Fort Yukon 87.85 11 *e*P **P** **10 20 41.5 +0.4**
ABTX Abilene, Hawle 87.99 55 P **P** **10 20 43.2 +0.6**
baz=246
GO06 Curarrehue 87.99 131 ⇓*i*P **P** **10 20 43.8 +1.1**
TSI Tuntungan 88.03 274 P **P** **10 20 47.2 +4.0**
comp=N,482nm,1.0s,comp=N,10µm
EGMT Eagleton 88.11 37 P **P** **10 20 42.8 -0.1**
baz=239
EGMT Eagleton 88.11 37 *e*P **P** **10 20 44.2 +1.3**
PLCA Paso Flores 88.19 132 P **P** **10 20 45.0 +1.4**
comp=N,22nm,0.5s,baz=267,slow=5.1,SNR=68
PLCA PKKPbc **PKKPbc** **10 38 28.1 +0.5**
comp=N,6.2nm,1.0s,baz=142,slow=1.7,SNR=11
PLCA PKPPKP **P'P'df** **10 46 30.9 -5.6**
comp=N,2.4nm,1.0s,baz=95,slow=5.3,SNR=3.1
PLCA LR LR 10 52 03.2
comp=N,10µm,20.1s,baz=285,slow=30
PLCA Paso Flores 88.19 132 *i*P **P** **10 20 45.7 +2.1**
PLCA Paso Flores 88.19 132 ⇓*i*P **P** **10 20 45.1 +1.5**
PLCA Paso Flores 88.19 132 *e*P **P** **10 20 45.1 +1.5**
GSI Gunungsitoli 88.27 272 P **P** **10 20 46.5 +2.1**
comp=N,520nm,1.3s,comp=N,12µm
GSI Gunungsitoli 88.27 272 *e*P **P** **10 20 46.1 +1.7**
COCH Cobquecura 88.33 128 *i*P **P** **10 20 45.4 +1.2**
COCH Cobquecura 88.33 128 ⇓*i*P **P** **10 20 45.4 +1.2**
CCIG Comitan 88.33 72 *e*P **P** **10 20 45.7 +1.0**
CCIG *e*S **S** **10 31 22.8 +3.5**
TRTT Trang 88.37 279 P **P** **10 20 46.1 +1.3**
comp=N,392nm,1.0s,comp=N,4µm
KSCO Kaye Shedlock' 88.43 48 P **P** **10 20 44.9 +0.2**
baz=244,SNR=50
TIY Taiyuan 88.46 311 *e*P **P** **10 20 45.5 +0.7**
TIY pP **pP** **10 21 19.3 +0.6**
TIY sP **sP** **10 21 33.5 +0.9**
TIY PP **PP** **10 24 14.8 -0.1**
TIY SKS **SKSac** **10 31 01.8 +0.1**
TIY S **S** **10 31 16.5 -3.1**
TIY SS **SS** **10 37 13.3 -0.1**
TIY pmax pmax
comp=N,220nm,1.1s
TIY pmax pmax
comp=N,1µm,7.9s
TIY LR LR
comp=N,3µm,12.6s
TIY LR LR
comp=N,800nm,8.7s
TIY LR LR
comp=N,5µm,19.1s
GYA Guiyang 88.52 298 ⇓*i*P **P** **10 20 48.0 +2.6**
GYA pP pP 10 21 21.5 +2.2
GYA sP sP 10 21 34.8 +1.6
GYA PP **PP** **10 24 19.0 +3.3**
GYA S **S** **10 31 20.5 -0.2**
GYA sS sS 10 32 19.3 +0.1
GYA SS **SS** **10 37 17.8 +3.0**
GYA pmax pmax
comp=N,110nm,1.0s
GYA pmax pmax
comp=N,940nm,6.8s
GYA LR LR
comp=N,7µm,18.6s
GYA LR LR
comp=N,6µm,23.5s
GYA LR LR
comp=N,6µm,22.9s
CCHI Chillan 88.68 128 *i*P **P** **10 20 47.0 +1.1**
CCHI Chillan 88.68 128 ⇑*i*P **P** **10 20 48.4 +2.5**
435B Jarrell 88.88 57 P **P** **10 20 47.8 +0.9**
baz=248,SNR=36
CHAI Chaiyaphum 88.91 287 P **P** **10 20 48.7 +1.5**
comp=N,28nm,0.9s,comp=N,365nm
CANA Caviahue 88.94 130 *i*P **P** **10 20 48.1 +0.8**
EDM Edmonton 88.95 32 *e*pP pP 10 21 19.5 -1.1
TOLK Toolik Lake Re 89.00 9 P **P** **10 20 47.3 +0.8**
baz=204
TOLK Toolik Lake Re 89.00 9 *e*P **P** **10 20 46.7 +0.1**
HIA Hailar 89.11 323 *e*P **P** **10 20 47.6 +0.1**
comp=N,541nm,1.6s
HIA *e*PP **PP** **10 24 15.5 -4.2**
HIA *e*S **SKSac** **10 30 57.3 -7.5**
HIA Hailar 89.11 323 *e*P **P** **10 20 47.6 +0.1**
HIA *e* 10 24 15.5
HIA pmax pmax
comp=Z,541nm,1.6s
SYO Syowa Base 89.11 192 ⇑*i*P **P** **10 20 46.0 -1.2**
SYO Syowa Base 89.11 192 ⇓*i*PcP **PcP** **10 20 48.3 -0.3**
TPTI 89.27 274 P **P** **10 20 50.4 +1.4**
comp=Z,554nm,1.4s,comp=Z,10µm
GO05 HualaæØ 89.40 127 *e*P **P** **10 20 50.4 +1.1**
GO05 HualaæØ 89.40 127 ⇓*i*P **P** **10 20 50.1 +0.8**
APG El Apazote 89.42 74 P **P** **10 20 51.5 +1.6**
comp=Z,222nm,1.1s,baz=278,slow=8.3,SNR=135
APG S **SKSac** **10 31 11.4 +2.9**
comp=Z,2.0nm,0.7s,baz=162,slow=20,SNR=3.5
WHTX Lake Whitney, 89.44 56 P **P** **10 20 49.9 +0.5**
baz=248,SNR=26
WHTX Lake Whitney, 89.44 56 *e*P **P** **10 20 51.0 +1.6**
WMOK Wichita Mounta 89.48 53 P **P** **10 20 49.5 -0.1**
baz=247
WMOK Wichita Mounta 89.48 53 *e*P **P** **10 20 49.4 -0.1**
WMOK Wichita Mounta 89.48 53 *e*P **P** **10 20 49.4 -0.1**
LAO LASA Array 89.54 40 P **P** **10 20 50.5 +0.9**
baz=242
LAO LASA Array 89.54 40 *e*P **P** **10 20 50.7 +1.0**
XAN Xi'an 89.58 306 P **P** **10 20 51.3 +1.2**
XAN pP pP 10 21 25.8 +1.8
XAN sP sP 10 21 37.8 -0.1
XAN pmax pmax
comp=Z,230nm,1.4s
XAN LR LR
comp=Z,5µm,16.8s
XAN LR LR
comp=Z,7µm,17.6s
XAN LR LR
comp=Z,4µm,18.9s
SNAA Sanae 89.66 177 P **P** **10 20 50.8 +0.9**
SNAA Sanae 89.66 177 P **P** **10 20 51.0 +1.2**
comp=Z,199nm,0.8s,baz=206,slow=4.5,SNR=277
SNAA S **SKSac** **10 31 09.0 +1.2**
comp=Z,8.7nm,1.2s,baz=352,slow=23,SNR=10
SNAA PKKPbc **PKKPbc** **10 38 22.1 -2.9**
comp=Z,4.6nm,1.1s,baz=40,slow=5.4,SNR=4.7
SNAA LR LR 10 55 03.4
comp=Z,6µm,21.8s,baz=208,slow=31
SNAA Sanae 89.66 177 *e*P **P** **10 20 50.4 +0.5**
SNAA S **SKSac** **10 31 09.0 +1.2**
SNAA PKKPbc **PKKPbc** **10 38 22.1 -2.9**
SNAA Sanae 89.66 177 *d*P **P** **10 20 50.3 +0.5**
PKDT Phuket 89.66 278 P **P** **10 20 52.7 +1.9**
comp=Z,139nm,1.2s,comp=Z,4µm
VNA3 Neumayer Olymp 89.67 175 P **P** **10 20 50.9 +1.1**
OGNE Ogallala 89.67 46 P **P** **10 20 50.4 0.0**
baz=245
RSSD Black Hills 89.73 43 P **P** **10 20 50.4 -0.4**
baz=243
RSSD Black Hills 89.73 43 *e*P **P** **10 20 50.4 -0.4**
RSSD Black Hills 89.73 43 *e*P **P** **10 20 50.4 -0.4**
HKT Hockley 89.97 58 *e*P **P** **10 20 53.7 +1.9**
HKT Hockley 89.97 58 *e*P **P** **10 20 53.7 +1.9**
PBKT Sadao Pong 90.05 287 P **P** **10 20 53.7 +1.2**
comp=Z,180nm,1.3s,comp=Z,7µm
PHET Kaeng Krachan 90.08 284 P **P** **10 20 55.5 +2.8**
comp=Z,115nm,0.9s,comp=Z,964nm
BOQS Boqueron 90.09 76 *e*P **P** **10 20 54.8 +1.7**
LHMI Lhok Sumawe 90.11 275 P P 10 20 58.7 +5.7
LHMI Lhok Sumawe 90.11 275 *e*P **P** **10 20 54.7 +1.7**
LHMI *e*pP **pP** **10 21 28.1 +1.2**
LHMI *e*S **S** **10 31 30.0 -5.7**
SNET Serv Nac Est T 90.12 76 *e*P **P** **10 20 53.2 +0.1**
VNA2 Neumayer--Watz 90.14 176 P **P** **10 20 53.5 +1.4**
baz=180,slow=3.2
MLSI Meulaboh, Aceh 90.32 274 P **P** **10 20 55.6 +1.7**
comp=Z,636nm,1.5s,comp=Z,9µm
VNA1 Neumayer--Stat 90.35 176 P **P** **10 20 54.4 +1.5**
HHC Hu-ho-hao-te 90.39 313 *e*P **P** **10 20 56.3 +2.5**
HHC pP pP 10 21 28.8 +1.1
HHC sP sP 10 21 42.0 +0.4
HHC PP **PP** **10 24 34.8 +4.6**
HHC SKS **SKSac** **10 31 16.5 +3.6**
HHC S **S** **10 31 38.0 +0.6**
HHC SS **SS** **10 37 45.5 +4.2**
HHC pmax pmax
comp=Z,250nm,1.3s
HHC pmax pmax
comp=Z,560nm,5.7s
CBKS Cedar Bluff 90.40 49 P **P** **10 20 53.7 -0.1**
baz=246,SNR=28
CBKS Cedar Bluff 90.40 49 *e*P **P** **10 20 54.4 +0.6**
CBKS Cedar Bluff 90.40 49 *e*P **P** **10 20 54.4 +0.6**
CLNS Chul'man 90.55 331 *e*P **P** **10 20 55.3 +1.3**
CLNS *e**PP **pP** **10 21 30.4 +2.4**
CLNS *e* 10 24 30.2
CLNS *e*PPP PPP 10 26 29.1
CLNS *e*S **SKSac** **10 31 11.6 -1.3**
CLNS *e* 10 31 40.7
CLNS pmax pmax
comp=N,185nm,1.2s
CLNS pmax pmax
comp=Z,390nm,1.2s
CLNS pmax pmax
comp=E,149nm,1.3s
CLNS pmax pmax
comp=E,17nm,1.1s
CLNS pmax pmax
comp=Z,35nm,1.3s
CLNS pmax pmax
comp=N,37nm,1.3s
CLNS smax smax
comp=N,4µm,12.1s
CLNS smax smax
comp=E,4µm,12.1s
NVL N'lazarevskaya 90.62 182 *e*P **P** **10 20 54.2 0.0**
NVL *e* 10 24 27.1
PHIT Phitsanulok 90.75 288 P **P** **10 20 58.0 +2.2**
comp=E,156nm,1.0s,comp=E,1µm
EFI East Falkland 90.84 146 *e*P **P** **10 20 57.1 +1.5**
EFI East Falkland 90.84 146 *d*P **P** **10 20 56.8 +1.2**
EFI pmax pmax
comp=Z,993nm,2.1s
ROC1 El Roble 90.88 125 *e*P **P** **10 20 58.3 +1.7**
ROC1 El Roble 90.88 125 *i*P **P** **10 20 58.7 +2.1**
PACA Pacayal 90.88 76 *e*P **P** **10 20 56.4 -0.2**
LCY Lacayo 90.89 76 *e*P **P** **10 20 55.3 -1.4**
SRDT SRDT 91.01 285 P **P** **10 20 58.8 +1.8**
comp=Z,251nm,1.3s,comp=Z,8µm
PEL Peldehue 91.07 125 *e*P **P** **10 20 58.6 +1.4**
PEL Peldehue 91.07 125 ⇑*i*P **P** **10 20 57.6 +0.4**
PEL Peldehue 91.07 125 *e*P **P** **10 20 58.6 +1.4**
LMEL Las Melosas 91.16 126 ⇓*i*P **P** **10 20 59.1 +1.3**
BTO Baotou 91.36 313 *e*P **P** **10 20 58.8 +0.5**
KMI Kunming 91.36 296 P **P** **10 20 59.8 +1.0**
KMI pP pP 10 21 35.0 +2.3
KMI sP sP 10 21 47.0 +0.3
KMI PP **PP** **10 24 41.5 +3.2**
KMI SKS **SKSac** **10 31 20.0 +0.6**
KMI S **S** **10 31 44.0 -3.1**
KMI sS sS 10 32 43.8 -2.2
KMI SS **SS** **10 37 52.0 -4.1**
KMI pmax pmax
comp=Z,91nm,0.9s
KMI pmax pmax
comp=Z,6µm,6.9s
KMI LR LR
comp=Z,2µm,17.7s
KMI LR LR
comp=Z,4µm,17.7s
KMI LR LR
comp=Z,4µm,17.7s
NATX Nacogdoches 91.57 57 P **P** **10 21 00.2 +0.9**
baz=249,SNR=19
NATX Nacogdoches 91.57 57 *e*P **P** **10 21 00.9 +1.7**
DGMT Dagmar 91.58 39 P **P** **10 20 59.6 +0.6**
baz=243,SNR=43
DGMT Dagmar 91.58 39 *e*P **P** **10 21 00.1 +1.1**
YAK Yakutsk 91.68 337 LR LR 10 54 49.1
comp=Z,3µm,21.6s,baz=88,slow=31
YAK Yakutsk 91.68 337 *e*P **P** **10 20 58.8 -0.2**
YAK Yakutsk 91.68 337 *e*P **P** **10 20 58.8 -0.2**
YAK *e**PP **pP** **10 21 29.6 -3.4**
YAK *e* 10 24 35.0
YAK *e*S **SKSac** **10 31 16.5 -2.4**
YAK *e**SS **ScS** **10 31 53.5 +3.3**
YAK pmax pmax
comp=Z,123nm,1.1s
YAK pmax pmax
comp=N,23nm,1.1s
YAK pmax pmax
comp=E,44nm,1.3s
YAK pmax pmax
comp=Z,2µm,4.0s
YAK pmax pmax
comp=E,432nm,2.3s
YAK pmax pmax
comp=N,668nm,3.9s
YAK smax smax
comp=N,5µm,5.2s
YAK smax smax
comp=E,4µm,5.2s
INK Inuvik 91.78 14 S **SKSac** **10 31 18.9 -0.4**
comp=E,1.8nm,0.9s,baz=345,slow=20,SNR=4.5
INK PKKP 10 38 18.7
comp=E,4.9nm,1.0s,baz=13,slow=3.4,SNR=5.7
INK PKPPKP P'P'df 10 46 16.5 -9.3
comp=E,1.7nm,1.1s,baz=34,slow=3.5,SNR=3.6
INK Inuvik 91.78 14 *e*P **P** **10 20 59.1 -0.3**
INK S **SKSac** **10 31 18.9 -0.4**
INK PKKP **PKKPdf** **10 38 18.7 +1.0**
INK P'P' 10 46 16.5
INK Inuvik 91.78 14 *e*P **P** **10 20 59.1 -0.3**
INK S **SKSac** **10 31 18.9 -0.4**
LAMP Lampang 91.89 289 P **P** **10 21 03.3 +2.2**
comp=E,78nm,0.9s,comp=E,736nm
PAYA Payao 91.95 290 P **P** **10 21 03.1 +1.7**
comp=E,51nm,0.9s,comp=E,604nm
TGUH Tegucigalpa,Un 92.04 76 *e*P **P** **10 21 02.2 +0.4**
COPN Copaltepe 92.07 78 *e*P **P** **10 21 03.2 +1.3**
CNGN Cerro Negro 92.07 78 *e*P **P** **10 21 01.3 -0.8**
TLL Tololo Astrono 92.14 123 ⇓*i*P **P** **10 21 03.5 +1.0**
GO04 Tololo Observa 92.14 123 ⇓*i*P **P** **10 21 03.5 +1.0**
541A Lake Charles 92.16 59 P **P** **10 21 04.2 +2.2**
baz=250
TUL1 Leonard 92.19 53 P **P** **10 21 02.6 +0.5**
baz=248,SNR=71
TUL1 Leonard 92.19 53 *e*P **P** **10 21 02.8 +0.7**
MGAN Managua 92.38 78 *e*P **P** **10 21 03.2 -0.2**
240A Hunter Patters 92.38 57 P **P** **10 21 03.9 +0.9**
baz=249,SNR=11
441A DeRidder 92.39 58 P **P** **10 21 04.5 +1.4**
baz=250,SNR=9.4
AUSP Uspallata 92.44 125 *i*P **P** **10 21 06.0 +2.1**
CMAR Chiang Mai Arr 92.49 289 P **P** **10 21 05.8 +2.0**
comp=E,76nm,1.0s,baz=106,slow=2.6,SNR=188
CMAR pP **pP** **10 21 38.1 +0.3**
comp=E,20nm,0.9s,baz=114,slow=2.5,SNR=1.5
CMAR S **SKSac** **10 31 26.5 +1.0**
comp=E,1.1nm,0.3s,baz=38,slow=9.1,SNR=3.9
CMAR PKKP **PKKPbc** **10 38 16.6 0.0**
comp=E,2.5nm,0.3s,baz=297,slow=4.0,SNR=8.0
CMAR PKPPKP **P'P'df** **10 46 29.1 +0.8**
comp=E,0.6nm,0.3s,baz=285,slow=3.5,SNR=4.6
CD2 Chengdu 92.50 302 ⇓P **P** **10 21 04.8 +1.1**
CD2 pP pP 10 21 36.0 -1.7
CD2 sP sP 10 21 48.8 -2.8
CD2 SKS **SKSac** **10 31 25.0 -0.1**
CD2 S **ScS** **10 31 59.5 +0.9**
CD2 sS sS 10 32 53.0 -2.7
CD2 SS **SS** **10 38 14.5 +2.6**
CD2 pmax pmax
comp=E,110nm,0.5s
CD2 pmax pmax
comp=E,1µm,6.6s
CD2 LR LR
comp=E,9µm,28.8s
CD2 LR LR
comp=E,9µm,28.8s
CD2 LR LR
comp=E,8µm,31.8s
ARCO CERRO ARCO 92.54 126 *i*P **P** **10 21 05.9 +1.7**
BGNE Belgrade 92.54 47 P **P** **10 21 04.3 +0.7**
baz=247,SNR=52
BGNE Belgrade 92.54 47 *e*P **P** **10 21 05.2 +1.5**
ESTN Estel 92.57 77 *e*P **P** **10 21 04.9 +0.5**
AVIZ Vizcaches 92.60 127 *i*P **P** **10 21 06.2 +1.9**
CMMT Chiang Mai 92.60 289 P **P** **10 21 05.0 +0.6**
comp=E,134nm,1.4s,comp=E,6µm
CHTO Chiang Mai 92.61 289 P **P** **10 21 06.0 +1.6**
comp=E,595nm,1.4s,comp=E,27µm
CHTO Chiang Mai 92.61 289 *e*P **P** **10 21 06.2 +1.8**
CHTO Chiang Mai 92.61 289 P **P** **10 21 06.4 +2.0**
SNR=69
CHTO Chiang Mai 92.61 289 *e*P **P** **10 21 06.2 +1.8**
341A Kurthwood 92.61 58 P **P** **10 21 05.3 +1.2**
baz=250,SNR=32
LCO Las Campanas 92.67 122 *e*P **P** **10 21 06.8 +1.8**
LCO Las Campanas 92.67 122 *e*P **P** **10 21 06.4 +1.5**
LCO Las Campanas 92.67 122 P **P** **10 21 06.7 +1.8**
RTLS Leoncito 92.68 125 *i*P **P** **10 21 07.3 +2.3**
542A Morse 92.69 59 P **P** **10 21 06.8 +2.3**
baz=250
ASAL Salagasta 92.72 126 *i*P **P** **10 21 06.5 +1.6**
140A Cam and Jess, 92.74 57 P **P** **10 21 06.0 +1.3**
baz=250,SNR=18
KSU1 Kansas State U 92.76 50 P **P** **10 21 05.1 +0.5**
baz=248,SNR=31
KSU1 Kansas State U 92.76 50 *e*P **P** **10 21 05.4 +0.7**
CONN Concepcion 92.77 79 *e*P **P** **10 21 06.8 +1.5**
J31A Geddes 92.87 45 P **P** **10 21 04.9 -0.2**
baz=247,SNR=20
CMAI Chiengmai2 92.87 290 P **P** **10 21 08.3 +2.5**
comp=E,990nm,1.2s,comp=E,36µm
RCON San Juan de Ri 92.88 77 *e*P **P** **10 21 02.2 -3.8**
MATN Matagalpa 92.92 77 *e*P **P** **10 21 06.3 +0.3**
X39A Fountain Ranch 92.97 55 P **P** **10 21 06.4 +0.6**
baz=249,SNR=96
442A Mamou 92.99 59 P **P** **10 21 07.6 +1.7**
baz=250,SNR=5.9
JTS JuntasAbangare 93.00 80 P **P** **10 21 08.1 +1.7**
comp=E,194nm,0.9s,baz=338,slow=4.7,SNR=106
JTS LR LR 10 54 45.1
comp=E,8µm,18.7s,baz=312,slow=30
JTS JuntasAbangare 93.00 80 *e*P **P** **10 21 06.8 +0.5**
comp=E,346nm,1.0s
JTS *e*pP **pP** **10 21 42.6 +2.3**
JTS *e*sP **sP** **10 21 55.4 +1.2**
JTS *e*PP **PP** **10 24 48.6 -2.6**
JTS JuntasAbangare 93.00 80 *e*P **P** **10 21 07.5 +1.2**
JTS JuntasAbangare 93.00 80 *e*P **P** **10 21 06.8 +0.5**
JTS *e**PP **pP** **10 21 42.6 +2.3**
JTS *e* 10 24 48.6
JTS pmax pmax
comp=Z,346nm,1.0s
BOAB BOACO BROADBA 93.01 78 *e*P **P** **10 21 06.1 -0.2**
241A Mo Tay, Goldon 93.05 57 P **P** **10 21 07.5 +1.4**
baz=250,SNR=15
Z40A Long Farm, Mag 93.09 56 P **P** **10 21 07.3 +1.0**
baz=250,SNR=26
TEIG Tepich 93.09 70 *e*P **P** **10 21 05.1 -1.5**
SUSD Miller 93.18 44 P **P** **10 21 06.0 -0.5**
baz=247
AROD Rodeo 93.20 123 *i*P **P** **10 21 09.7 +2.2**
RTCV Cerro Valdivia 93.24 125 *i*P **P** **10 21 08.7 +1.4**
543A St. Martinvill 93.25 59 P **P** **10 21 09.3 +2.2**
baz=250
141A Papa Simpson, 93.26 57 P **P** **10 21 08.3 +1.2**
baz=250,SNR=21
ZON Zonda 93.27 125 ⇑*i*P **P** **10 21 09.7 +2.3**
I31A Royce, Wessing 93.29 45 P **P** **10 21 06.7 -0.3**
baz=247
342A Flagon Creek P 93.30 58 P **P** **10 21 08.5 +1.2**
baz=250,SNR=18
MIAR Mount Ida 93.40 55 P **P** **10 21 08.1 +0.4**
baz=250,SNR=112
MIAR Mount Ida 93.40 55 *e*P **P** **10 21 08.2 +0.6**
MIAR Mount Ida 93.40 55 *e*P **P** **10 21 08.3 +0.6**
L33A Hoskins 93.44 47 P **P** **10 21 07.7 0.0**
baz=248,SNR=25
Y40A Okolona 93.44 55 P **P** **10 21 08.5 +0.6**
baz=250,SNR=67
W39A Magazine 93.46 54 P **P** **10 21 08.6 +0.7**
baz=250,SNR=168
WLAR White Oak Lake 93.46 56 *e*P **P** **10 21 09.2 +1.2**
ACDV Cuesta del Vie 93.48 123 *i*P **P** **10 21 10.2 +1.7**
J32A Parkston 93.50 45 P **P** **10 21 07.8 -0.2**
baz=248,SNR=37
H31A Wolsey 93.50 44 P **P** **10 21 07.8 -0.1**
baz=247,SNR=9.3
RTLL Cerro Villicun 93.51 125 ⇓*i*P **P** **10 21 11.3 +2.8**
443A Delano Plantat 93.54 59 P **P** **10 21 10.1 +1.7**
baz=250
Z41A Richland Creek 93.56 56 P **P** **10 21 09.4 +1.0**
baz=250,SNR=24
YKA Yellowknife Ar 93.62 24 P **P** **10 21 07.7 -0.3**
comp=Z,47nm,1.1s,baz=236,slow=4.2,SNR=156
YKA pP **pP** **10 21 42.9 +0.9**
comp=Z,21nm,0.9s,baz=236,slow=4.1,SNR=4.4
YKA PP **PP** **10 24 53.5 -1.4**
comp=Z,7.8nm,1.1s,baz=241,slow=7.3,SNR=5.2
YKA PKiKP **PKiKP** **10 25 53.6 +0.8**
comp=Z,0.8nm,0.6s,baz=251,slow=1.4,SNR=7.4
YKA PKKP **PKKPdf** **10 38 11.1 -3.1**
comp=Z,2.3nm,0.4s,baz=45,slow=2.1,SNR=42
YKA PKPPKP **P'P'df** **10 46 18.1 -4.7**
comp=Z,0.4nm,0.9s,baz=23,slow=1.4,SNR=5.6
YKA LR LR 10 57 26.7
comp=Z,177nm,20.0s,baz=264,slow=32
YKA Yellowknife Ar 93.62 24 P **P** **10 21 07.7 -0.3**
YKA *PP **pP** **10 21 42.9 +0.9**
YKA 10 24 53.5
YKA pmax pmax
comp=Z,46nm,1.1s
YKA pmax pmax
comp=Z,8.0nm,1.1s
ATAH Atahualpa 93.65 99 P **P** **10 21 12.4 +2.6**
comp=Z,51nm,1.0s,baz=280,slow=4.5,SNR=33
ATAH PP **PP** **10 24 56.3 -0.3**
comp=Z,3.7nm,0.6s,baz=298,slow=9.8,SNR=3.3
AMOG MOGNA 93.66 124 *i*P **P** **10 21 10.6 +1.4**
242A Grayson 93.67 58 P **P** **10 21 10.1 +1.2**
baz=250
HDC Heredia 93.69 81 *e*P **P** **10 21 12.2 +2.5**
T38A Diamond 93.72 52 P **P** **10 21 09.5 +0.4**
baz=249,SNR=195
HHAR Hobbs 93.72 53 *e*P **P** **10 21 09.4 +0.2**
K33A Hardington 93.79 46 P **P** **10 21 09.2 -0.2**
baz=248,SNR=7.5
V39A Pettigrew 93.79 54 P **P** **10 21 09.9 +0.3**
baz=250,SNR=235
544A White Castle 93.83 60 P **P** **10 21 11.7 +2.0**
baz=251
343A Vidalia 93.84 58 P **P** **10 21 11.4 +1.6**
baz=250
CIT Chita 93.88 324 *e*P **P** **10 21 11.8 +2.3**
CIT *e* 10 21 47.8
CIT *e* 10 31 32.8
CIT pmax pmax
comp=Z,370nm,1.9s
Y41A Eaglette Beard 93.92 56 P **P** **10 21 10.5 +0.4**
baz=250,SNR=61
X40A Basin Creek Fa 93.95 55 P **P** **10 21 10.3 +0.1**
baz=250,SNR=38
G31A Conde 93.97 44 P **P** **10 21 09.2 -0.9**
baz=247
142A Monroe 94.00 57 P **P** **10 21 11.8 +1.3**
baz=250,SNR=13
I32A Karley and Nic 94.01 45 P **P** **10 21 09.8 -0.5**
baz=248,SNR=9.8
W40A Ferguson Farm, 94.01 54 P **P** **10 21 10.9 +0.5**
baz=250,SNR=72
W40A Ferguson Farm, 94.01 54 *e*P **P** **10 21 11.5 +1.0**
645A Chauvin 94.07 60 P **P** **10 21 13.0 +2.1**
baz=251
J33A Davis 94.08 46 P **P** **10 21 10.1 -0.5**
baz=248,SNR=106
U39A Green Forest 94.10 53 P **P** **10 21 11.2 +0.2**
baz=250,SNR=194
MDND Maddock 94.11 41 P **P** **10 21 10.5 -0.1**
baz=247,SNR=23
MDND Maddock 94.11 41 *e*P **P** **10 21 11.8 +1.2**
ACAN Cantantal 94.12 126 *i*P **P** **10 21 12.4 +1.1**
243A Waterproof 94.15 58 P **P** **10 21 12.4 +1.3**
baz=251
F31A Hecla 94.18 43 P **P** **10 21 10.1 -1.0**
baz=247,SNR=24
ESPN Las Esperanzas 94.20 79 *e*P **P** **10 21 11.3 -0.5**
H32A Carlson Farm, 94.20 44 P **P** **10 21 10.5 -0.7**
baz=248,SNR=18
LZH Lanzhou 94.20 307 *e*P **P** **10 21 13.0 +1.4**
LZH pP pP 10 21 47.5 +1.9
LZH sP sP 10 22 02.0 +2.5
LZH PP **PP** **10 25 00.5 +0.2**
LZH SKS **SKSac** **10 31 34.5 0.0**

LZH eS S 10 32 11.5 -0.2
LZH sS sS 10 33 07.3 -3.6
LZH SS SS 10 38 37.5 +1.2
LZH pmax pmax
comp=Z,170nm,1.3s
LZH pmax pmax
comp=Z,580nm,4.6s
X41A Kaden, Bauxite 94.20 55 P P 10 21 12.1 +0.7
baz=250,SNR=37
S38A Stockton 94.21 52 P P 10 21 11.6 +0.2
baz=250,SNR=110
Z42A Norrel Spur, H 94.24 56 P P 10 21 12.5 +0.9
baz=250,SNR=14
Q37A Longview Farm, 94.25 50 P P 10 21 11.7 +0.2
baz=249,SNR=40
AGUA GUANDACOL 94.25 123 *i* P P 10 21 14.1 +2.1
444A Pine Grove 94.36 59 P P 10 21 13.5 +1.4
baz=251
T39A Clever 94.40 53 P P 10 21 12.6 +0.3
baz=250,SNR=112
R38A Fenwick Farm, 94.41 51 P P 10 21 12.3 +0.1
baz=250,SNR=193
V40A Witts Springs 94.41 54 P P 10 21 12.7 +0.4
baz=250,SNR=181
UALR University of 94.43 55 *e*P P 10 21 13.9 +1.5
G32A Webster 94.44 44 P P 10 21 11.8 -0.4
baz=248
I33A Coleman 94.46 45 P P 10 21 12.0 -0.4
baz=248,SNR=5.4
ECSD EROS Data Cent 94.47 45 P P 10 21 12.2 -0.2
baz=248,SNR=125
ECSD EROS Data Cent 94.47 45 *e*P P 10 21 11.8 -0.6
143A Socs Landing, 94.48 57 P P 10 21 13.5 +0.8
baz=251,SNR=14
Y42A Garnett, Star 94.55 56 P P 10 21 14.1 +1.1
baz=251,SNR=13
N36A Muff Farm, Cla 94.56 49 P P 10 21 13.5 +0.6
baz=249,SNR=85
P37A Lathrop 94.57 50 P P 10 21 13.1 +0.2
baz=250,SNR=102
U40A Yellville 94.57 53 P P 10 21 13.5 +0.4
baz=250,SNR=206
CCAR Cane Creek 94.59 56 *e*P P 10 21 15.6 +2.4
CCAR *e*pP pP 10 21 51.5 +4.3
344A Westbrook Farm 94.61 58 P P 10 21 14.8 +1.5
baz=251,SNR=13
PB14 IPOC Station P 94.62 118 ǁ *i*P P 10 21 15.6 +1.5
W41B Gary Mavity, V 94.64 55 P P 10 21 14.2 +0.8
baz=250,SNR=104
WHAR Wooly Hollow 94.65 54 *e*P P 10 21 14.1 +0.7
S39A Bolivar 94.67 52 P P 10 21 13.6 +0.1
baz=250,SNR=138
E31A Nome 94.68 42 P P 10 21 12.6 -0.7
baz=248,SNR=17
445A Amite 94.70 59 P P 10 21 14.9 +1.2
baz=251
H33A Prehn Over Nor 94.73 44 P P 10 21 13.3 -0.3
baz=248,SNR=37
J34A George 94.75 46 P P 10 21 13.3 -0.4
baz=249,SNR=24
Z43A Armstrong Fami 94.78 57 P P 10 21 14.4 +0.4
baz=251
VCA Vinchina 94.79 122 *i* P P 10 21 17.7 +3.1
VCA *i* P P 10 21 18.0 +3.5
VCA Vinchina 94.79 122 ǁ *i*P P 10 21 16.8 +2.2
244A Avery, Jackson 94.84 58 P P 10 21 15.1 +0.7
baz=251,SNR=11
Q38A Cooks Store, C 94.89 51 P P 10 21 14.2 -0.2
baz=250,SNR=84
M36A Felix, Anita 94.90 48 P P 10 21 14.3 -0.1
baz=249,SNR=8.6
V41A Mountainview 94.91 54 P P 10 21 14.9 +0.3
baz=251,SNR=73
F32A Veblen 94.92 43 P P 10 21 13.5 -0.9
baz=248
O37A Wolven Farm, M 94.92 49 P P 10 21 14.6 +0.1
baz=250,SNR=53
X42A Stuttgart 94.92 55 P P 10 21 15.2 +0.5
baz=251
PB10 IPOC Station P 94.92 117 *e*P P 10 21 17.6 +2.6
D31A Mcclaflin, Tow 94.97 42 P P 10 21 13.7 -0.9
baz=248,SNR=8.7
VBMS Vicksburg 95.03 58 P P 10 21 16.3 +1.1
baz=251,SNR=8.9
VBMS Vicksburg 95.03 58 *e*P P 10 21 17.6 +2.4
K35A Storm Lake 95.04 47 P P 10 21 15.1 0.0
baz=249,SNR=48
546A Slidell 95.05 60 P P 10 21 17.2 +1.9
baz=251
N37A Lee Faris, Mou 95.08 49 P P 10 21 15.4 +0.1
baz=250,SNR=46
I34A Hadley 95.09 45 P P 10 21 15.1 -0.2
baz=249
T40A Mansfield 95.09 53 P P 10 21 15.6 +0.2
baz=250,SNR=193
R39A Chumby, Stover 95.09 51 P P 10 21 15.6 +0.2
baz=250,SNR=154
G33A Ortonville 95.12 44 P P 10 21 14.8 -0.6
baz=249,SNR=20
345A Thompson Farm, 95.13 59 P P 10 21 16.9 +1.2
baz=251
P38A Dawn 95.17 50 P P 10 21 15.4 -0.3
baz=250,SNR=25
L36A Harm Buss Farm 95.22 47 P P 10 21 15.9 +0.1
baz=250,SNR=112
E32A Braaten, Kindr 95.22 43 P P 10 21 14.7 -1.1
baz=248
W42A Bald Knob 95.23 55 P P 10 21 16.7 +0.7
baz=251,SNR=21
144A Alexander Plac 95.24 57 P P 10 21 17.0 +0.8
baz=251
C31A Landman Farms, 95.25 41 P P 10 21 15.0 -0.8
baz=248,SNR=32
S40A Lebanon 95.25 52 P P 10 21 16.4 +0.2
baz=250,SNR=181
Y43A Makayla and Ka 95.25 56 P P 10 21 17.5 +1.4
baz=251,SNR=6.2
U41A Viola 95.28 54 P P 10 21 16.6 +0.3
baz=251,SNR=159
J35A Milford 95.29 46 P P 10 21 15.6 -0.6
baz=249
TRQA Tornquist 95.33 133 *e*P P 10 21 18.3 +1.7
TRQA Tornquist 95.33 133 ǁ *i*P P 10 21 16.4 -0.2
H34A Spellman Lake, 95.37 45 P P 10 21 16.3 -0.2
baz=249,SNR=13
Q39A Willow Grove F 95.39 51 P P 10 21 16.5 -0.2
baz=250,SNR=69
O38A Galt 95.39 50 P P 10 21 16.6 -0.1
baz=250,SNR=58
SUCO SUCO 95.40 128 *i* P P 10 21 17.7 +0.5
M37A Trindle Farm, 95.41 48 P P 10 21 17.2 +0.5
baz=250,SNR=146
APLL PUNTA DE LOS L 95.42 124 *i* P P 10 21 18.4 +1.2
Z44A Pea Ridge, Bel 95.44 57 P P 10 21 17.4 +0.3
baz=251
F33A 5 Mile Ranch, 95.45 43 P P 10 21 16.4 -0.4
baz=249,SNR=28
D32A Dogwood Acres, 95.45 42 P P 10 21 15.7 -1.1
baz=248,SNR=8.1
245A Little AP, Sta 95.47 58 P P 10 21 18.3 +1.1
baz=251,SNR=9.6
X43A Marvell 95.48 56 P P 10 21 18.5 +1.2
baz=251,SNR=7.0
V42A Cord 95.51 54 P P 10 21 17.4 0.0
baz=251,SNR=53
446A Poplarville 95.51 60 P P 10 21 18.5 +1.0
baz=252
B31A Greenbush Farm 95.53 41 P P 10 21 16.4 -0.7
baz=248,SNR=24
FFC Flin Flon 95.54 34 *e*P P 10 21 17.1 +0.1
FFC Flin Flon 95.54 34 *e*P P 10 21 17.1 +0.1
K36A Gilmore City 95.56 47 P P 10 21 17.6 +0.2
baz=250,SNR=39
I35A Creekview Farm 95.61 46 P P 10 21 17.2 -0.4
baz=250,SNR=9.9
346A Big Creek Wild 95.62 59 P P 10 21 18.8 +0.9
baz=252
T41A Mountain View 95.63 53 P P 10 21 18.1 +0.3
baz=251,SNR=348
145A Houston Renfro 95.63 58 P P 10 21 18.7 +0.8
baz=252
R40A Maddies Statio 95.66 52 P P 10 21 17.9 0.0
baz=251,SNR=159
G34A Benson 95.66 44 P P 10 21 17.3 -0.5
baz=249,SNR=14
P39B Salisbury 95.69 50 P P 10 21 17.8 -0.3
baz=250,SNR=64

PB04 IPOC Station P 95.72 116 *e*P P 10 21 22.5 +3.6
N38A Joes South For 95.78 49 P P 10 21 18.4 -0.1
baz=250,SNR=86
U42A Revenden 95.80 54 P P 10 21 18.6 -0.1
baz=251,SNR=56
W43A Forest City 95.81 55 P P 10 21 19.1 +0.4
baz=251
S41A Jillco Farms, 95.82 52 P P 10 21 18.9 +0.2
baz=251,SNR=222
Y44A Strider, Charl 95.83 56 P P 10 21 19.7 +0.9
baz=251
L37A Phoenix Point, 95.86 48 P P 10 21 19.0 +0.2
baz=250,SNR=46
J36A Seneca 1, Swea 95.87 46 P P 10 21 18.7 -0.1
baz=250,SNR=23
E33A Westby DABS, E 95.87 43 P P 10 21 18.1 -0.7
baz=249,SNR=6.5
OTAV Otavalo 95.98 92 *e*P P 10 21 22.6 +2.0
OTAV Otavalo 95.98 92 *e*P P 10 21 20.9 +0.3
OTAV Otavalo 95.98 92 P P 10 21 22.2 +1.6
HBAR Harrisburg 95.99 55 *e*P P 10 21 20.3 +0.8
A31A Linda, St. Vin 96.01 40 P P 10 21 18.4 -0.9
baz=248
H35A Sunnyside Ranc 96.01 45 P P 10 21 18.9 -0.5
baz=250,SNR=14
C32A Crookston 96.01 42 P P 10 21 18.5 -0.9
baz=249
M38A Pleasantville 96.02 48 P P 10 21 19.4 -0.1
baz=250,SNR=106
Q40A Lacx Farm, Aux 96.03 51 P P 10 21 19.6 0.0
baz=251,SNR=59
X44A Crenshaw 96.06 56 P P 10 21 19.8 0.0
baz=252
Z45A Winona 96.06 57 P P 10 21 20.7 +0.8
baz=252,SNR=7.3
PBA Port Blair 96.07 280 *e*P P 10 21 20.1 -0.2
PBA IAmb IAmb 10 21 20.8
comp=Z,4μm,4.6s
246A Jackson Lee, B 96.09 58 P P 10 21 20.5 +0.4
baz=252
ULN Ulaanbaatar 96.09 318 *e*P P 10 21 21.3 +1.4
ULN Ulaanbaatar 96.09 318 P P 10 21 21.7 +1.8
SNR=38
ULN Ulaanbaatar 96.09 318 *d i*P P 10 21 20.3 +0.4
ULN pmax pmax
comp=Z,53nm,1.3s
447A Lucedale 96.09 60 P P 10 21 21.4 +1.3
baz=252
O39A Kirksville 96.10 50 P P 10 21 19.9 0.0
baz=251,SNR=26
F34A Alexandria 96.11 44 P P 10 21 19.8 0.0
baz=250,SNR=19
T42A Van Buren 96.13 53 P P 10 21 20.0 -0.1
baz=251,SNR=95
BOD Bodaibo 96.15 329 *e*P P 10 21 19.9 +0.2
BOD *e* 10 21 55.2
BOD *e*S SKSac 10 31 42.4 -1.0
BOD pmax pmax
comp=Z,72nm,1.9s
V43A Jonesboro 96.15 54 P P 10 21 20.9 +0.6
baz=251,SNR=7.6
K37A Belmond 96.16 47 P P 10 21 20.2 +0.1
baz=250,SNR=45
SCIA State Center 96.17 48 P P 10 21 20.5 +0.3
baz=250,SNR=14
SCIA State Center 96.17 48 *e*P P 10 21 22.0 +1.8
D33A AnnSam, Waubun 96.20 42 P P 10 21 19.8 -0.5
baz=249
B32A Asas, Strandq 96.21 41 P P 10 21 19.6 -0.6
baz=249,SNR=86
P40A Paris 96.22 50 P P 10 21 20.5 0.0
baz=251,SNR=34
R41A Rosebud 96.32 52 P P 10 21 20.4 -0.5
baz=251,SNR=82
I36A Fitzsimmons Fa 96.33 46 P P 10 21 20.7 -0.1
baz=250,SNR=26
Y45A Yeager Farm, C 96.33 57 P P 10 21 21.7 +0.6
baz=252,SNR=10
N39A Derby Farms, D 96.33 49 P P 10 21 20.7 -0.2
baz=251,SNR=54
146A Union 96.34 58 P P 10 21 21.9 +0.8
baz=252,SNR=11
CCM Cathedral Cave 96.34 52 P P 10 21 20.5 -0.6
baz=251
CCM Cathedral Cave 96.34 52 *e*P P 10 21 20.5 -0.6
CCM Cathedral Cave 96.34 52 *e*P P 10 21 20.5 -0.6
DGPR DIGLIPUR 96.36 282 *e*P P 10 21 21.1 -0.5
DGPR IAmb IAmb 10 21 25.4
comp=Z,170nm,1.3s
347A Saraland 96.37 59 P P 10 21 22.1 +0.8
baz=252
J37A Redenius Farm, 96.40 47 P P 10 21 21.3 +0.1
baz=250,SNR=24
E34A Wadena 96.42 43 P P 10 21 20.6 -0.6
baz=250,SNR=8.5
MET Memphis--Engin 96.42 55 *e*P P 10 21 21.5 +0.1
MET *e*pP pP 10 21 56.6 +1.1
G35A Watkins 96.42 44 P P 10 21 21.3 +0.1
baz=250,SNR=24
L38A Oak Wood Farm, 96.43 48 P P 10 21 21.8 +0.4
baz=251,SNR=45
A32A Rocking H Ranc 96.43 41 P P 10 21 20.9 -0.3
baz=249,SNR=86
U43A Rector 96.44 54 P P 10 21 21.7 +0.1
baz=252,SNR=10
C33A Trail 96.47 42 P P 10 21 20.6 -0.8
baz=249
SONA1 Songino Array 96.50 318 *e*P P 10 21 22.2 +0.5
SONM Songino Array 96.50 318 P P 10 21 22.9 +1.2
comp=Z,15nm,1.1s,baz=129,slow=3.5,SNR=46
SONM pP pP 10 21 56.8 +1.0
comp=Z,5.0nm,0.7s,baz=126,slow=7.2,SNR=2.2
SONM PP PP 10 25 09.3 -8.5
comp=Z,4.0nm,1.1s,baz=132,slow=7.0,SNR=3.7
SONM S SKSac 10 31 46.2 +0.2
comp=Z,0.9nm,0.8s,baz=168,slow=7.4,SNR=2.8
SONM PKKPbc PKKPbc 10 38 06.1 -1.3
comp=Z,1.8nm,0.8s,baz=264,slow=3.0,SNR=3.6
SONM PKPPKP P'P'df 10 46 17.3 -1.5
comp=Z,1.6nm,1.0s,baz=199,slow=1.6,SNR=8.2
W44A Shelby Farms P 96.51 55 P P 10 21 22.4 +0.5
baz=252
247A Quitman 96.52 59 P P 10 21 22.8 +0.8
baz=252,SNR=5.7
O40A La Belle 96.54 50 P P 10 21 21.7 -0.3
baz=251,SNR=35
PBMO Polar Bluff 96.55 54 *e*P P 10 21 22.5 +0.5
H36A Jessenland, He 96.57 45 P P 10 21 22.0 0.0
baz=250,SNR=30
F35A Swanville 96.58 44 P P 10 21 22.0 0.0
baz=250,SNR=55
S42A Caledonia 96.59 52 P P 10 21 22.0 -0.2
baz=252,SNR=76
D34A Park Rapids 96.60 43 P P 10 21 21.4 -0.6
baz=250,SNR=8.2
AGMN Agassiz Nation 96.60 41 P P 10 21 21.0 -1.0
baz=249,SNR=58
AGMN Agassiz Nation 96.60 41 *e*P P 10 21 21.0 -1.0
Z46A Louisville 96.60 57 P P 10 21 23.1 +0.8
baz=252,SNR=8.8
GNAR Gosnell 96.61 54 *e*P P 10 21 23.5 +1.2
GNAR *e*pP pP 10 21 59.2 +2.8
X45A UM Field Stati 96.62 56 P P 10 21 22.5 +0.1
baz=252,SNR=10
OXF Oxford 96.64 56 P P 10 21 22.7 +0.2
baz=252,SNR=13
OXF Oxford 96.64 56 *e*P P 10 21 23.0 +0.5
OXF *e*pP pP 10 22 01.0 +4.5
OXF Oxford 96.64 56 *e*P P 10 21 23.0 +0.5
OXF *e**PP pP 10 22 01.0 +4.5
Q41A Truxton 96.64 51 P P 10 21 22.3 -0.1
baz=251,SNR=23
V44A Blytheville 96.67 55 P P 10 21 23.1 +0.5
baz=252
K38A Parkersburg 96.72 47 P P 10 21 22.6 -0.1
baz=251,SNR=32
I37A Lemond, Waseca 96.74 46 P P 10 21 22.7 0.0
baz=251,SNR=48
R42A Luebbering 96.75 52 P P 10 21 22.8 -0.1
baz=252,SNR=16
T43A Greenville 96.76 53 P P 10 21 23.0 0.0
baz=252,SNR=76
B33A Robert and Kas 96.76 41 P P 10 21 21.7 -1.0
baz=250,SNR=21
M39A Webster 96.77 49 P P 10 21 22.8 -0.1
baz=251,SNR=31
448A Bay Minette 96.78 60 P P 10 21 24.1 +0.9
baz=252
PB01 IPOC Station P 96.79 115 *e*P P 10 21 25.5 +1.9
CYA Choya 96.83 123 ǁ *i*P P 10 21 24.9 +1.2
Y46A Houston 96.88 57 P P 10 21 23.6 0.0
baz=252,SNR=33
348A Jackson 96.90 59 P P 10 21 25.0 +1.3
baz=252
G36A St. Michael 96.91 45 P P 10 21 24.0 +0.5
baz=250,SNR=27
E35A Pequot Lakes 96.93 43 P P 10 21 23.6 +0.1
baz=250,SNR=7.2
C34A RKJ Ranch, Bem 96.97 42 P P 10 21 23.0 -0.8
baz=250,SNR=9.4
147A Livingston 96.98 58 P P 10 21 24.3 +0.3
baz=252,SNR=11
P41A Barry, Barry 96.99 51 P P 10 21 24.3 +0.3
baz=252,SNR=44
N40A Mertquake, Sal 97.00 49 P P 10 21 24.0 +0.1
baz=251,SNR=27
W45A Hickory Valley 97.01 55 P P 10 21 24.2 +0.1
baz=252,SNR=8.1
PARMO Parma 97.03 54 *e*P Pdif 10 21 24.4 +0.2
PARMO *es*P sP 10 22 14.2 +2.1
U44A Portageville 97.04 54 P Pdif 10 21 24.6 +0.3
baz=252
S43A Fulton Ridge, 97.07 53 P P 10 21 24.3 -0.1
baz=252,SNR=50
L39A Vinton 97.10 48 P P 10 21 24.2 -0.2
baz=251,SNR=33
A33A Warroad 97.12 41 P P 10 21 23.4 -0.9
baz=250,SNR=6.5
PB11 IPOC Station P 97.14 114 *e*P Pdif 10 21 27.2 +1.8
Q42A Golden Eagle 97.14 51 P Pdif 10 21 24.9 +0.2
baz=252,SNR=24
J38A Wedel Dairy, R 97.15 47 P P 10 21 24.2 -0.4
baz=251,SNR=29
M40A Post Highland 97.21 49 P Pdif 10 21 25.0 +0.1
baz=252,SNR=31
248A Dixon Mills 97.23 59 P Pdif 10 21 25.7 +0.4
baz=252,SNR=8.3
U44B Burton Farm, H 97.24 54 P Pdif 10 21 26.0 +0.7
baz=252
H37A Dierke Farm, C 97.26 45 P Pdif 10 21 25.2 +0.1
baz=251,SNR=19
O41A Passleys Farm, 97.26 50 P Pdif 10 21 25.3 +0.1
baz=252,SNR=45
449A Pace 97.26 60 P Pdif 10 21 26.1 +0.6
baz=253
GLAT Glass 97.27 54 *e*P Pdif 10 21 26.6 +1.2
F36A Milaca 97.27 44 P P 10 21 25.0 -0.1
baz=251,SNR=56
ULM Lac du Bonnet 97.28 39 P P 10 21 25.0 0.0
comp=Z,41nm,1.2s,baz=245,slow=4.7,SNR=27
ULM pP pP 10 21 59.2 +0.2
comp=Z,83nm,1.2s,baz=248,slow=4.6,SNR=9.7
ULM PP PP 10 25 18.9 -4.6
comp=Z,24nm,1.3s,baz=252,slow=9.6,SNR=4.9
ULM PKKP PKKPbc 10 38 02.5 -2.7
comp=Z,3.4nm,0.7s,baz=68,slow=3.5,SNR=4.7
ULM LR LR 10 58 33.5
comp=Z,6μm,20.5s,baz=256,slow=31
SLM Saint Louis 97.28 52 *e*P Pdif 10 21 27.2 +1.9
SLM Saint Louis 97.28 52 *e*P Pdif 10 21 27.3 +2.0
T44A Benton 97.29 53 P P 10 21 25.2 -0.2
baz=252,SNR=16
X46A Booneville 97.30 56 P P 10 21 25.4 -0.1
baz=252,SNR=8.1
Z47A Carrollton 97.30 58 P P 10 21 25.3 -0.2
baz=252
D35A Remer 97.33 43 P P 10 21 24.6 -0.7
baz=250,SNR=20
K39A Oelwein 97.36 48 P P 10 21 25.0 -0.6
baz=251,SNR=33
V45A Humboldt 97.36 55 P Pdif 10 21 25.9 +0.1
baz=252
R43A Red Bud 97.39 52 P Pdif 10 21 26.1 +0.2
baz=252,SNR=38
B34A Aery, Baudette 97.42 41 P P 10 21 24.7 -1.0
baz=250,SNR=31
MNMC Minye Minye 97.43 113 *e*P Pdif 10 21 28.5 +1.7
BCIP Isla Barro Col 97.45 83 *e*P P 10 21 25.9 -0.7
BCIP AMb AMB 10 21 31.0
comp=Z,523nm,1.8s
349A Repton 97.46 60 P Pdif 10 21 26.7 +0.4
baz=253
N41A Harden Midland 97.47 50 P Pdif 10 21 26.2 0.0
baz=252,SNR=8.1
I38A Scanlan Farm, 97.48 46 P P 10 21 26.1 0.0
baz=251,SNR=61
P42A Winchester 97.49 51 P Pdif 10 21 26.4 +0.1
baz=252,SNR=48
BRAL Brewton 97.52 60 P Pdif 10 21 27.0 +0.4
baz=253
148A Greensboro 97.53 58 P Pdif 10 21 26.6 0.0
baz=253
SPMN Marine on St. 97.54 45 P P 10 21 26.3 0.0
baz=251,SNR=37
SPMN Marine on St. 97.54 45 *e*P Pdif 10 21 26.9 +0.5
C35A Jirik Farms, M 97.59 42 P P 10 21 25.6 -0.9
baz=251,SNR=30
UTMT University of 97.62 54 *e*P Pdif 10 21 28.8 +1.9
L40A Anamosa 97.63 48 P Pdif 10 21 27.0 +0.2
baz=252,SNR=17
W46A Michie 97.63 56 P Pdif 10 21 27.1 +0.1
baz=253,SNR=8.7
FLAM Flamenco Islan 97.65 83 *e*P Pdif 10 21 28.3 +0.7
E36A McGregor 97.66 44 P P 10 21 26.4 -0.4
baz=251,SNR=32
Y47A UCPARC, Winfie 97.68 57 P P 10 21 27.0 -0.3
baz=253,SNR=9.7
J39A Decorah 97.69 47 P P 10 21 26.5 -0.5
baz=252,SNR=52
U45A Rockin P Farm, 97.70 54 P Pdif 10 21 27.7 +0.4
baz=252,SNR=10
249A Camden 97.70 59 P Pdif 10 21 27.6 +0.2
baz=253,SNR=6.5
H38A Maiden Rock 97.72 46 P Pdif 10 21 27.2 +0.1
baz=251,SNR=5.3
S44A Carbondale 97.73 53 P Pdif 10 21 27.9 +0.6
baz=252,SNR=20
SIUC Southern Illin 97.76 53 *e*P Pdif 10 21 28.7 +1.2
Z48A Northport 97.76 58 P P 10 21 27.2 -0.4
baz=253
Q43A New Duglas 97.77 52 P Pdif 10 21 27.7 +0.2
baz=252,SNR=26
450A Crestview 97.79 60 P Pdif 10 21 28.7 +0.9
baz=253
F37A Hinrichs Farm, 97.82 44 P Pdif 10 21 27.7 +0.1
baz=251,SNR=34
PLAL Pickwick Lake 97.83 56 *e*P P 10 21 27.6 -0.3
X47A Russelville 97.86 56 P P 10 21 27.7 -0.4
baz=253,SNR=10
TIXI Tiksi 97.86 345 LR LR 11 00 31.7
comp=Z,8μm,21.4s,baz=130,slow=32
TIXI Tiksi 97.86 345 *e*P P 10 21 26.6 -0.5
TIXI Tiksi 97.86 345 *d i*P P 10 21 26.9 -0.2
TIXI pmax pmax
comp=Z,95nm,1.3s
O42A Bath 97.87 50 P P 10 21 27.8 -0.1
baz=252,SNR=16
K40A Colesburg 97.88 48 P P 10 21 27.8 -0.1
baz=252,SNR=17
M41A Milan 97.90 49 P P 10 21 27.9 -0.1
baz=252,SNR=9.1
AHML Horco Molle 97.91 122 *i* P Pdif 10 21 30.2 +1.6
D36A Goodland 97.94 43 P P 10 21 27.9 -0.1
baz=251,SNR=34
B35A Bob, Littlefor 97.96 42 P P 10 21 27.4 -0.7
baz=251,SNR=26
I39A Houston 97.97 46 P P 10 21 27.9 -0.4
baz=252,SNR=28
T45A Paducah 97.99 54 P Pdif 10 21 28.8 +0.3
baz=253
R44A Waltonville 98.02 52 P P 10 21 28.6 0.0
baz=253,SNR=12
V46A Holladay 98.03 55 P P 10 21 28.6 -0.1
baz=253,SNR=11
N42A Yates City 98.10 50 P P 10 21 28.8 -0.1
baz=252,SNR=8.6
LRAL Lakeview Retre 98.11 58 P P 10 21 28.9 -0.3
baz=253
LRAL Lakeview Retre 98.11 58 *e*P Pdif 10 21 30.0 +0.8
P43A Skaggs, Pawnee 98.11 51 P P 10 21 29.0 0.0
baz=252,SNR=18
L41A Preston 98.14 48 P P 10 21 29.1 0.0
baz=252,SNR=7.8
149A Jones 98.15 58 P Pdif 10 21 29.5 +0.1

baz=253,SNR=9.8
U46A Springville 98.15 54 P Pdif 10 21 29.6 +0.3
baz=253,SNR=7.3
G38A Ridgeland 98.16 45 P **P** **10 21 28.9 -0.2**
baz=252,SNR=63
350A Dozier 98.18 60 P Pdif 10 21 30.3 +0.8
baz=253
Y48A Jasper 98.23 57 P **P** **10 21 29.0 -0.6**
baz=253
S45A Carrier Mills 98.23 53 P Pdif 10 21 30.0 +0.4
baz=253,SNR=27
E37A Wrenshall 98.24 44 P **P** **10 21 29.2 -0.2**
baz=252,SNR=6.2
Q44A Meyer Farm, Va 98.27 52 P Pdif 10 21 29.9 +0.2
baz=253,SNR=7.7
W47A Westpoint 98.28 56 P Pdif 10 21 30.0 +0.1
baz=253,SNR=14
GTA Gaotai 98.29 309 ⇑P Pdif 10 21 32.0 +2.0
GTA pP pP 10 22 06.5 +2.4
GTA sP sP 10 22 21.3 +3.3
GTA SKS **SKSac** **10 31 55.0 -0.6**
GTA S **ScS** **10 32 47.5 +0.7**
GTA sS sS 10 33 45.0 -1.1
GTA pmax pmax
comp=Z,24nm,1.5s
GTA pmax pmax
comp=Z,280nm,7.3s
GTA LR LR
comp=Z,3μm,20.0s
GTA LR LR
comp=Z,4μm,23.3s
GTA LR LR
comp=Z,7μm,25.2s
C36A Pine Crest Far 98.33 42 P **P** **10 21 29.3 -0.5**
baz=252,SNR=19
WVT Waverly 98.35 55 P **P** **10 21 30.1 0.0**
baz=253
WVT Waverly 98.35 55 *e*P Pdif 10 21 31.3 +1.1
WVT Waverly 98.35 55 *e*P Pdif 10 21 31.3 +1.1
J40A Soldiers Grove 98.38 47 P **P** **10 21 29.9 -0.2**
baz=252,SNR=35
F38A Pierce - Schro 98.39 44 P Pdif 10 21 30.4 +0.3
baz=252,SNR=35
250A Grady 98.39 59 P Pdif 10 21 30.6 +0.2
baz=253
H39A Augusta 98.39 46 P **P** **10 21 29.7 -0.4**
baz=252,SNR=47
D37A Cotton 98.41 43 P **P** **10 21 30.1 -0.1**
baz=252,SNR=38
451A Vernon 98.43 61 P Pdif 10 21 31.0 +0.3
baz=253
K41A Shullsburg 98.44 48 P **P** **10 21 30.3 -0.1**
baz=252,SNR=15
O43A Sugar Creek Fa 98.46 50 P **P** **10 21 30.3 -0.2**
baz=253
X48A Hartselle 98.48 57 P **P** **10 21 30.6 -0.1**
baz=253,SNR=7.0
M42A Sheffield 98.48 49 P **P** **10 21 30.5 -0.1**
baz=253
V47A Nunnelly 98.51 55 P **P** **10 21 30.9 0.0**
baz=253,SNR=9.6
Z49A Columbiana 98.53 58 P **P** **10 21 30.9 -0.1**
baz=253,SNR=12
HDIL Hopedale 98.55 50 P **P** **10 21 30.6 -0.3**
baz=253
HDIL Hopedale 98.55 50 *e*P Pdif 10 21 32.0 +1.0
T46A Princeton 98.57 54 P Pdif 10 21 31.3 +0.2
baz=253,SNR=21
JFWS Jewell Farm 98.57 48 P **P** **10 21 30.7 -0.3**
baz=252,SNR=18
JFWS Jewell Farm 98.57 48 *e*P Pdif 10 21 31.5 +0.5
JFWS Jewell Farm 98.57 48 *e*P Pdif 10 21 31.5 +0.5
I40A Norwalk 98.61 47 P **P** **10 21 30.7 -0.4**
baz=252,SNR=18
R45A Skylar, Fairfi 98.64 53 P Pdif 10 21 31.5 +0.1
baz=253,SNR=14
SLA San Lorenzo 98.65 120 ⇓*i*P Pdif 10 21 33.4 +1.3
G39A Holcombe 98.66 45 P **P** **10 21 31.0 -0.3**
baz=252,SNR=39
552A Lynn Haven 98.67 61 P Pdif 10 21 32.0 +0.2
baz=253
L42A Oliver, Polo 98.71 49 P Pdif 10 21 31.7 +0.1
baz=253
P44A Sand Creek, Wi 98.73 51 P Pdif 10 21 32.3 +0.5
baz=253,SNR=5.2
351A Pinckard 98.74 60 P Pdif 10 21 32.4 +0.4
baz=253,SNR=5.5
C37A Embarrass 98.74 43 P **P** **10 21 31.0 -0.7**
baz=252,SNR=6.2
N43A Stutzman Famil 98.75 50 P Pdif 10 21 32.3 +0.4
baz=253
W48A Pulaski 98.77 56 P **P** **10 21 31.8 -0.2**
baz=253,SNR=10
150A Eclectic 98.77 59 P Pdif 10 21 32.4 +0.2
baz=253,SNR=6.8
E38A The Farm, Brul 98.80 44 P **P** **10 21 31.8 -0.1**
baz=252,SNR=5.5
Y49A Blount Mountai 98.81 57 P **P** **10 21 32.3 0.0**
baz=253,SNR=6.4
U47A Clarksville 98.86 55 P Pdif 10 21 32.8 +0.4
baz=253
J41A Loganville 98.87 47 P **P** **10 21 32.2 -0.1**
baz=253,SNR=20
S46A Don Dixon Farm 98.89 53 P Pdif 10 21 32.7 +0.2
baz=253
Q45A Warren Harvey, 98.91 52 P Pdif 10 21 32.6 +0.1
baz=253,SNR=10
HOPE Hope Point 98.96 157 *e*P Pdif 10 21 35.3 +2.7
452A Marianna 98.96 61 P **P** **10 21 32.8 -0.2**
baz=254
H40A Chili 98.98 46 P **P** **10 21 32.6 -0.1**
baz=253,SNR=28
USIN University of 99.01 53 *e*P **Pdif** **10 21 34.7 +1.7**
F39A Loretta 99.02 45 P **Pdif** **10 21 32.9 -0.1**
baz=252,SNR=36
V48A Smith Brothers 99.03 55 P **Pdif** **10 21 32.8 -0.4**
baz=254,SNR=6.1
Z50A Ashland 99.04 58 P **Pdif** **10 21 33.3 -0.1**
baz=254
O44A Mansfield 99.04 51 P **Pdif** **10 21 33.3 +0.1**
baz=253
M43A Waltham Townsh 99.05 49 P **Pdif** **10 21 33.1 -0.1**
baz=253
X49A Woodville 99.07 57 P **Pdif** **10 21 33.3 -0.1**
baz=254,SNR=9.8
251A Midway 99.13 59 P **Pdif** **10 21 33.6 -0.1**
baz=254
K42A Prairie Point, 99.17 48 P **Pdif** **10 21 33.3 -0.3**
baz=253,SNR=13
I41A Arkdale 99.17 47 P **Pdif** **10 21 33.4 -0.3**
baz=253,SNR=9.8
R46A Gibon Southern 99.20 53 P **Pdif** **10 21 34.0 +0.1**
baz=254
EYMN Ely 99.25 43 P **Pdif** **10 21 33.1 -0.8**
baz=252,SNR=6.4
EYMN Ely 99.25 43 *e*P **Pdif** **10 21 35.0 +1.1**
EYMN *e*pP **pP** **10 22 09.9 +1.9**
IRK Irkutsk 99.26 322 *e*P **Pdif** **10 21 33.9 0.0**
IRK pmax pmax
comp=Z,35nm,1.2s
ZAK Zakamensk 99.27 320 *e*P **Pdif** **10 21 34.3 +0.2**
ZAK pmax pmax
comp=Z,13nm,1.4s
G40A Rib Lake 99.30 45 P **Pdif** **10 21 34.3 0.0**
baz=253,SNR=22
151A Opelika 99.31 59 P **Pdif** **10 21 34.3 -0.2**
baz=254
C38A Sawbill Land. 99.32 43 P **Pdif** **10 21 33.6 -0.7**
baz=253,SNR=7.5
352A Blakely 99.35 60 P **Pdif** **10 21 34.7 0.0**
baz=254
Y50A Piedmont 99.36 57 P **Pdif** **10 21 34.7 0.0**
baz=254
E39A Mellen 99.39 44 P **Pdif** **10 21 34.1 -0.5**
baz=253,SNR=12
P45A Graceland, Par 99.39 52 P **Pdif** **10 21 34.8 +0.1**
baz=254
553A Crawfordville 99.40 61 P **Pdif** **10 21 35.4 +0.4**
baz=254
L43A Garden Prairie 99.42 49 P **Pdif** **10 21 35.2 +0.4**
baz=253
TLY Talaya 99.45 321 *e*P **Pdif** **10 21 33.4 -1.4**
comp=Z,14nm,1.0s
TLY *e*pP **pP** **10 22 07.0 -1.9**
TLY Talaya 99.45 321 Pdiff **Pdif** **10 21 35.7 +0.9**
SNR=13
TLY Talaya 99.45 321 *c i*P **Pdif** **10 21 35.9 +1.2**
TLY *e* 10 25 37.7
TLY *e* 10 32 02.8
TLY *e*PS **PS** **10 34 33.2 -7.2**
TLY *e*SS SS 10 39 49.9 +0.6
TLY pmax pmax
comp=Z,45nm,2.3s
TLY MLR MLR
comp=Z,4μm,16.0s
U48A Cassie Pea, Po 99.46 55 P **Pdif** **10 21 35.1 0.0**
baz=254,SNR=9.4
N44A Piper City 99.47 50 P **Pdif** **10 21 35.2 +0.1**
baz=254
J42A Columbus 99.48 48 P **Pdif** **10 21 34.7 -0.3**
baz=253,SNR=7.0
H41A Junction City 99.49 46 P **Pdif** **10 21 34.6 -0.4**
baz=253,SNR=15
Q46A CEJHS Indians, 99.54 52 P **Pdif** **10 21 35.3 -0.1**
baz=254
F40A Park Falls 99.55 45 P **Pdif** **10 21 35.5 +0.2**
baz=253,SNR=29
SWET Sewanee 99.58 56 *e*P **Pdif** **10 21 35.4 -0.3**
comp=Z,52nm,1.9s
O45A Potomac 99.61 51 P **Pdif** **10 21 35.8 +0.1**
baz=254
252A Lumpkin 99.65 60 P **Pdif** **10 21 35.9 -0.2**
baz=254
453A Whigham 99.68 61 P **Pdif** **10 21 36.4 +0.2**
baz=254
M44A Midewin, Midew 99.70 50 P **Pdif** **10 21 36.2 +0.1**
baz=254
T48A Bowling Green 99.74 54 P **Pdif** **10 21 36.4 +0.1**
baz=254,SNR=11
I42A Draeger Farm, 99.79 47 P **Pdif** **10 21 36.2 -0.2**
baz=254
LPAZ La Paz 99.81 111 P **Pdif** **10 21 40.6 +2.7**
comp=Z,7.1nm,0.8s,baz=265,slow=5.0,SNR=20
LPAZ PP **PP** **10 25 44.5 +0.5**
comp=Z,14nm,1.1s,baz=246,slow=5.3,SNR=8.3
LPAZ PKKPbc **PKKPbc** **10 37 53.8 -3.6**
comp=Z,1.6nm,0.3s,baz=306,slow=4.9,SNR=8.1
LPAZ PKPPKP **P'P'df** **10 46 12.6 -3.5**
comp=Z,2.9nm,1.1s,baz=49,slow=5.6,SNR=6.2
LPAZ LR LR 10 57 53.3
comp=Z,9μm,20.3s,baz=273,slow=30
P46A Rosedale 99.82 52 P **Pdif** **10 21 36.8 +0.2**
baz=254
E40A Wakefield 99.85 44 P **Pdif** **10 21 36.9 +0.3**
baz=253,SNR=16
K43A Burlington 99.86 48 P **Pdif** **10 21 36.6 -0.1**
baz=254
353A Camilla 99.90 60 P **Pdif** **10 21 37.1 -0.1**
baz=254
N45A Kentland 99.93 50 P **Pdif** **10 21 37.8 +0.7**
baz=254
R47A Wooly Knot Far 99.96 53 P **Pdif** **10 21 37.7 +0.4**
baz=254
G41A Antigo 99.98 46 P **Pdif** **10 21 36.8 -0.4**
baz=254,SNR=5.7
J43A Natural Harves 99.99 48 P **Pdif** **10 21 37.1 -0.2**
baz=254
554A Perry 100.00 62 P **Pdif** **10 21 37.5 -0.1**
baz=254
L44A Lake County Fo 100.01 49 P **Pdif** **10 21 37.7 +0.3**
baz=254
C39A Grand Marais 100.09 43 P **Pdif** **10 21 37.1 -0.5**
baz=253
SFIN Lafayette 100.11 51 P **Pdif** **10 21 37.8 -0.1**
baz=254,SNR=9.7
SFIN Lafayette 100.11 51 *e*Pdif **Pdif** **10 21 38.7 +0.8**
comp=Z,57nm,1.1s
WCI Wyandotte Cave 100.12 53 P **Pdif** **10 21 38.0 -0.1**
baz=254
WCI Wyandotte Cave 100.12 53 *e*Pdif **Pdif** **10 21 37.9 -0.1**
comp=Z,182nm,1.4s
WCI Wyandotte Cave 100.12 53 *e*P **Pdif** **10 21 37.9 -0.1**
WCI pmax pmax
comp=Z,182nm,1.4s
S48A Wiedeman Farm, 100.15 54 P **Pdif** **10 21 38.1 0.0**
baz=254,SNR=8.9
253A Americus 100.16 60 P **Pdif** **10 21 38.5 +0.2**
baz=254
F41A Three Lakes 100.18 45 P **Pdif** **10 21 38.3 +0.2**
baz=254,SNR=24
655A Horseshoe Beac 100.20 62 P **Pdif** **10 21 38.4 -0.1**
baz=254
BLO Bloomington 100.21 52 *e*Pdif **Pdif** **10 21 38.2 -0.1**
comp=Z,15nm,1.0s
BLO Bloomington 100.21 52 *e*P **Pdif** **10 21 38.3 -0.1**
BLO pmax pmax
comp=Z,15nm,1.0s
454A Quitman 100.21 61 P **Pdif** **10 21 38.4 -0.2**
baz=254
Q47A Bedord North L 100.21 52 P **Pdif** **10 21 38.3 -0.1**
baz=254,SNR=5.8
H42A Shiocton 100.22 47 P **Pdif** **10 21 38.3 0.0**
baz=254
COWI Conover 100.26 45 *e*Pdif **Pdif** **10 21 38.6 +0.1**
comp=Z,310nm,1.6s
M45A Boilermakers S 100.27 50 P **Pdif** **10 21 39.1 +0.5**
baz=254
I43A Langenfeld Bro 100.32 47 P **Pdif** **10 21 38.8 0.0**
baz=254
TIGA Tifton 100.44 60 P **Pdif** **10 21 39.3 -0.3**
baz=254
E41A Kenton 100.47 45 P **Pdif** **10 21 39.4 +0.1**
baz=254,SNR=16
P47A Martinsville 100.48 52 P **Pdif** **10 21 39.5 0.0**
baz=254
R48A Northridge Ran 100.49 53 P **Pdif** **10 21 39.7 +0.1**
baz=254
G42A Mountain 100.50 46 P **Pdif** **10 21 39.4 -0.1**
baz=254,SNR=8.6
N46A Monticello 100.51 50 P **Pdif** **10 21 39.9 +0.2**
baz=254
153A Fort Valley 100.56 59 P **Pdif** **10 21 40.0 -0.1**
baz=254
957A Wimauma 100.57 64 P **Pdif** **10 21 39.5 -0.7**
baz=254
555A McAlpin 100.60 62 P **Pdif** **10 21 40.1 -0.3**
baz=254
455A Stateville 100.72 61 P **Pdif** **10 21 40.6 -0.2**
baz=255
857A Zephyrhills 100.73 64 P **Pdif** **10 21 41.2 +0.3**
baz=254
H43A Windswept, Lux 100.74 47 P **Pdif** **10 21 40.4 -0.2**
baz=254
CPCT Cooper Cave 100.75 56 *e*Pdif **Pdif** **10 21 38.6 -2.3**
CPCT *e*PP **PP** **10 25 48.6 -1.7**
C40A Isle Royale Na 100.75 43 P **Pdif** **10 21 40.5 -0.1**
baz=254,SNR=6.9
O47A Sheridan 100.75 51 P **Pdif** **10 21 40.4 -0.3**
baz=253,SNR=7.4
656A Willston 100.77 63 P **Pdif** **10 21 40.6 -0.4**
baz=255
254A Abbeville 100.82 60 P **Pdif** **10 21 41.1 -0.1**
baz=255
F42A Maple Grove Fa 100.84 45 P **Pdif** **10 21 40.7 -0.3**
baz=254
SHL Shillong 100.85 293 *e*P **Pdif** **10 21 41.5 -0.3**
SHL IAmb IAmb 10 21 47.1
comp=Z,11nm,0.4s
SHL Shillong 100.85 293 *e*P **Pdif** **10 21 43.0 +1.2**
059Z Ave Maria 100.89 66 P **Pdif** **10 21 42.2 +0.6**
baz=254
D41A Chassel 100.90 44 P **Pdif** **10 21 41.3 0.0**
baz=254,SNR=11
M46A Old House Fiel 100.93 50 P **Pdif** **10 21 42.1 +0.6**
baz=255
958A Wauchula 100.95 65 P **Pdif** **10 21 42.0 +0.1**
baz=255
G43A Wallace 101.01 46 P **Pdif** **10 21 41.7 -0.1**
baz=255
355A Pearson 101.02 61 P **Pdif** **10 21 42.0 -0.2**
baz=255
MOY Mondy 101.03 321 *e*P **Pdif** **10 21 43.4 +1.5**
MOY pmax pmax
comp=Z,40nm,2.0s
556A Lake Butler 101.04 62 P **Pdif** **10 21 42.4 +0.1**
baz=255
757A Oxford 101.05 63 P **Pdif** **10 21 41.9 -0.4**
baz=255
FCC Fort Churchill 101.05 32 *e*Pdif **Pdif** **10 21 42.1 +0.5**
comp=Z,54nm,1.4s
FCC Fort Churchill 101.05 32 *e*P **Pdif** **10 21 42.1 +0.5**
FCC pmax pmax
comp=Z,54nm,1.4s
GOGA Godfrey 101.06 58 P **Pdif** **10 21 42.4 +0.1**
baz=255,SNR=6.4
GOGA Godfrey 101.06 58 *e*Pdif **Pdif** **10 21 42.4 +0.1**
GOGA pmax pmax
comp=Z,52nm,1.7s
154A Montrose 101.14 59 P **Pdif** **10 21 42.8 +0.1**
baz=255
E42A Champion 101.16 45 P **Pdif** **10 21 42.7 +0.3**
baz=255,SNR=11
059A Moore Haven 101.32 65 P **Pdif** **10 21 43.4 -0.2**
baz=255
ROSC El Rosal 101.34 89 P **Pdif** **10 21 46.5 +2.1**
comp=Z,3.7nm,0.4s,baz=319,slow=4.4,SNR=5.6
ROSC PP **PP** **10 25 58.2 +2.5**
comp=Z,3.4nm,0.4s,baz=296,slow=8.0,SNR=3.8
657A Interlachen 101.38 63 P **Pdif** **10 21 44.0 +0.2**
baz=255
TKL Tuckaleechee C 101.39 56 P **Pdif** **10 21 44.0 +0.2**
comp=Z,8.3nm,0.9s,baz=194,slow=9.9,SNR=5.5
TKL PKKPbc **PKKPbc** **10 37 53.6 +0.7**
comp=Z,6.6nm,0.8s,baz=126,slow=3.0,SNR=6.5
TKL Tuckaleechee C 101.39 56 P **Pdif** **10 21 44.0 +0.2**
TKL pmax pmax
comp=Z,8.0nm,0.9s
858A St. Cloud 101.45 64 P **Pdif** **10 21 44.4 +0.2**
baz=255
F43A Flat Rock, Esc 101.51 45 P **Pdif** **10 21 44.2 +0.2**
baz=255,SNR=6.0
456A Hilliard 101.55 61 P **Pdif** **10 21 45.2 +0.7**
baz=255
557A Orange Park 101.61 62 P **Pdif** **10 21 45.3 +0.5**
baz=255
356A Blackshear 101.61 61 P **Pdif** **10 21 44.9 +0.1**
baz=255
155A Kite 101.67 59 P **Pdif** **10 21 45.1 +0.1**
baz=255
E43A Lone Tree Farm 101.76 45 P **Pdif** **10 21 45.1 0.0**
baz=255,SNR=9.9
758A Lake Helen 101.79 63 P **Pdif** **10 21 45.3 -0.3**
baz=255
TZTN Tazewell 101.79 55 P **Pdif** **10 21 45.4 -0.1**
baz=255
TZTN Tazewell 101.79 55 *e*Pdif **Pdif** **10 21 45.9 +0.4**
comp=Z,104nm,2.0s
859A Kempfer Cattle 101.81 64 P **Pdif** **10 21 46.3 +0.6**
baz=255
658A Bunnell 101.86 63 P **Pdif** **10 21 45.5 -0.4**
baz=255
256A Glennville 101.98 60 P **Pdif** **10 21 46.3 -0.1**
baz=255
F44A Big Bay de Noc 102.05 45 P **Pdif** **10 21 46.3 -0.1**
baz=256
E44A Grand Marais A 102.54 45 P **Pdif** **10 21 49.7 +1.2**
baz=256
LSA Lhasa 102.55 297 P **Pdif** **10 21 51.8 +2.2**
LSA pmax pmax
comp=Z,11nm,2.5s
LSA LR LR
comp=Z,3μm,51.8s
LSA LR LR
comp=Z,1μm,31.6s
LSA LR LR
comp=Z,6μm,46.0s
LSA Lhasa 102.55 297 P **Pdif** **10 21 51.6 +2.0**
F45A CMU Biological 102.59 46 P **Pdif** **10 21 48.7 -0.1**
baz=256
E45A Wooded Hills, 102.98 45 P **Pdif** **10 21 50.7 +0.2**
baz=256
AAM Ann Arbor 103.10 50 P **Pdif** **10 21 51.8 +0.7**
baz=257
AAM Ann Arbor 103.10 50 *e*Pdif **Pdif** **10 21 52.7 +1.6**
comp=Z,33nm,0.9s
AAM Ann Arbor 103.10 50 *e*P **Pdif** **10 21 52.7 +1.6**
AAM pmax pmax
comp=Z,33nm,0.9s
ACSO Alum Creek Sta 103.12 52 P **Pdif** **10 21 51.6 +0.3**
baz=257
F46A Macinaw City C 103.13 46 P **Pdif** **10 21 51.5 +0.3**
baz=257
KMSC Kings Mountain 103.20 57 P **Pdif** **10 21 51.9 +0.1**
baz=256
KMSC Kings Mountain 103.20 57 *e*Pdif **Pdif** **10 21 52.4 +0.6**
comp=Z,57nm,1.7s
BLA Blacksburg 104.39 55 P **Pdif** **10 21 58.1 +1.1**
baz=257
CPUP Villa Florida 104.48 125 Pdiff **Pdif** **10 21 59.4 +1.7**
comp=Z,5.0nm,1.0s,baz=278,slow=4.0,SNR=9.9
CPUP PKiKP **PP** **10 26 15.7 -2.1**
comp=Z,5.0nm,1.1s,baz=224,slow=6.4,SNR=6.8
CPUP PKKPbc **PKKPbc** **10 37 44.0 +0.7**
comp=Z,4.1nm,0.9s,baz=0.6,slow=4.6,SNR=5.0
CPUP Villa Florida 104.48 125 *e*P **Pdif** **10 21 53.7 -4.0**
VWCC Virginia Weste 104.74 55 *e*Pdif **Pdif** **10 21 58.8 +0.2**
BWNR Bhubaneshwar 104.89 287 *e*P **Pdif** **10 21 56.8 -2.8**
RES Resolute Bay 105.25 16 *e*Pdif **Pdif** **10 22 00.7 +0.8**
comp=Z,61nm,2.5s
RES Resolute Bay 105.25 16 *e*P **Pdif** **10 22 00.7 +0.8**
RES pmax pmax
comp=Z,61nm,2.5s
RAMN Ramite 105.78 294 *e*P **PKKPbc** **10 37 40.4 +0.6**
comp=Z,47nm,0.9s
ACTO Acton 105.95 49 P **PKiKP** **10 26 15.7 +0.1**
baz=259
CHLP Challavanipeta 106.04 284 *e*Pdif **Pdif** **10 22 05.4 +0.7**
CHLP *ep*Pdif **pPdif** **10 22 38.4 -0.4**
CHLP *e*PKiKP **PKiKP** **10 26 15.8 -0.6**
CHLP *e*SKSac **SKSac** **10 32 30.3 -2.4**
SDV Santo Domingo 106.04 86 Pdiff **Pdif** **10 22 06.2 +1.1**
comp=Z,1.4nm,0.3s,baz=279,slow=13,SNR=4.0
SDV PKiKP **PKiKP** **10 26 18.0 +1.3**
comp=Z,2.0nm,0.4s,baz=0.0,slow=2.0,SNR=3.7
SDV PP **PP** **10 26 30.5 +0.1**
comp=Z,15nm,1.0s,baz=253,slow=7.4,SNR=9.5
SDV PKKPbc **PKKPbc** **10 37 37.7 -0.8**
comp=Z,3.0nm,0.8s,baz=275,slow=2.9,SNR=2.6
SDV Santo Domingo 106.04 86 *e*Pdif **Pdif** **10 22 05.9 +0.8**
comp=Z,31nm,1.5s
SDV *e*PKPdf **PKiKP** **10 26 15.3 -1.5**
SDV *e*PP **PP** **10 26 29.6 -0.8**
SDV PKKPbc **PKKPbc** **10 37 37.7 -0.8**
SDV Santo Domingo 106.04 86 *e*P **Pdif** **10 22 04.4 -0.7**
PALK Pallekele 106.10 272 PP PP 10 26 31.0 +0.3
comp=Z,48nm,1.2s,baz=116,slow=7.8,SNR=9.7
SIV San Ignacio 106.12 113 Pdiff **Pdif** **10 22 07.3 +2.0**
comp=Z,5.5nm,0.9s,baz=243,slow=4.6,SNR=20
SIV PP **PP** **10 26 28.0 -2.4**
comp=Z,2.8nm,0.9s,baz=244,slow=12,SNR=3.3
SIV PKKPbc **PKKPbc** **10 37 37.9 -0.2**
comp=Z,6.3nm,1.0s,baz=104,slow=4.8,SNR=11
JIRN Jiri 106.30 294 *e*P **PKKPbc** **10 37 39.4 +1.0**
comp=Z,47nm,0.8s
VIS Vishakhapatnam 106.51 283 *e*P **Pdif** **10 22 03.3 -3.5**
GUN Gumba 106.62 294 *e*P **PKKPbc** **10 37 38.4 +1.1**
comp=Z,196nm,1.4s
BUKO Buck Lake 106.75 47 P **PKiKP** **10 26 17.1 +0.2**
baz=260
SADO Sadowa 106.81 48 PKKPbc PKKPbc 10 37 36.8 -0.1
comp=Z,14nm,1.0s,baz=131,slow=4.7,SNR=4.9
PKIN Phulchoki 106.97 294 *e*P **PKKPbc** **10 37 36.7 +0.5**
SSPA Standing Stone 107.00 52 *e*PKPdf **PKiKP** **10 26 18.4 +0.8**
SAML Samuel 107.09 106 *e*Pdif **Pdif** **10 22 10.9 +1.3**
comp=Z,7.6nm,1.1s
KKN Kakani 107.12 294 *e*P **PKKPbc** **10 37 36.7 +1.1**
DMN Daman 107.23 294 *e*P **PKKPbc** **10 37 35.7 +0.4**
BANO Bancroft 107.70 48 P **PKiKP** **10 26 18.8 +0.1**
baz=261
GKN Gorkha 107.72 294 *e*P **PKKPbc** **10 37 34.8 +1.1**
PVM Polavaram 107.96 283 *e*Pdif **Pdif** **10 22 13.2 -0.1**
PVM *ep*Pdif **pPdif** **10 22 47.2 -0.2**
PVM *e*PKiKP **PKiKP** **10 26 19.7 -0.2**
PVM *e*SKSac **SKSac** **10 32 39.2 -2.0**
SDDR Presa de Saban 108.12 76 *e*P **Pdif** **10 22 13.6 -0.5**
WMQ Urumqi 108.13 311 Pdif **Pdif** **10 22 15.0 +1.4**
WMQ PP **PP** **10 26 48.5 +3.6**
WMQ AMB AMB
comp=Z,3μm,11.7s
WMQ LR LR
comp=Z,16μm,26.1s
WMQ LR LR
comp=Z,7μm,39.1s
WMQ LR LR
comp=Z,11μm,38.9s
MDRS Chennai 108.17 278 *e*P **Pdif** **10 22 12.1 -2.1**
KOLN Koldanda 108.57 294 *e*P **PKKPbc** **10 37 31.0 -0.1**
SKHT Srikalahasti 108.85 279 *e*Pdif **Pdif** **10 22 17.1 -0.2**
SKHT *ep*Pdif **pPdif** **10 22 49.0 -2.4**

SKHT				eSKSac	SKSac	10 32 44.6	-0.5
DGZ	Jazzator, Alta	109.09	317	i P	Pdif	10 22 19.8	+2.0
ADKI	Addanki	109.15	281	ePdif	Pdif	10 22 17.6	-1.0
ADKI				epPdif	pPdif	10 22 53.3	+0.6
ADKI				ePKiKP	PKiKP	10 26 22.9	+0.7
ADKI				ePP	PP	10 26 52.7	-0.1
ADKI				eSKSac	SKSac	10 32 45.4	-0.9
PYUN	Piuthan	109.16	294	eP	PKKPbc	10 37 29.3	+0.1
ALFO	Alfred	109.91	47	P	PKiKP	10 26 22.9	+0.1
	baz=263						
NJS	Nagarjunasagar	109.94	281	ePdif	Pdif	10 22 22.1	0.0
NJS				epPdif	pPdif	10 22 56.4	+0.2
NJS				ePKiKP	PKiKP	10 26 24.4	+0.8
NJS				ePP	PP	10 26 55.4	-3.2
NJS				eSKSac	SKSac	10 32 49.3	-0.4
SRLM	Srisailam	110.21	281	ePdif	Pdif	10 22 23.1	-0.3
SRLM				epPdif	pPdif	10 22 58.7	+1.3
SRLM				eSKSac	SKSac	10 32 48.2	-2.7
RPR	Rampur	110.50	284	ePdif	Pdif	10 22 24.6	0.0
RPR				epPdif	pPdif	10 22 59.2	+0.5
RPR				ePKiKP	PKiKP	10 26 24.4	-0.3
RPR				eSKSac	SKSac	10 32 50.7	-1.2
ZSN	Zaisan	110.55	315	i PP	PP	10 27 03.4	+1.1
ZSN				i SP	SP	10 36 21.1	+3.0
HYB	Hyderabad	110.85	282	ePKP	PKiKP	10 26 25.5	+0.1
HYB				e		10 27 36.0	
HYB				eSKS	SKSac	10 32 54.0	+0.5
HYB				e		10 33 56.0	
HYB				e		10 34 36.0	
HYB				e		10 35 36.0	
HYB				ePS	PS	10 36 30.0	-7.8
HYB				ePKKPbc	PKKPbc	10 37 25.5	+2.2
HYB				ePKKPab	PKKPab	10 37 36.0	+2.4
HYB				ePPS	PPS	10 37 42.0	
HYB				eSS	SS	10 42 24.0	-2.2
HYB	Hyderabad	110.85	282	eP	PKiKP	10 26 23.9	-1.6
HYBB	Hyderabad (bro	110.85	282	ePdif	Pdif	10 22 27.4	+1.2
HYBB				epPdif	pPdif	10 23 00.0	-0.2
HYBB				ePKiKP	PKiKP	10 26 25.2	-0.2
HYBB				ePP	PP	10 27 03.4	-1.8
HYBB				eSKSac	SKSac	10 32 50.4	-3.1
ZALV	Zalesovo Beam	111.07	321	PKiKP	PKiKP	10 26 24.4	-0.3
	comp=Z,18nm,0.7s,baz=164,slow=1.6,SNR=15						
ZALV				PP	PP	10 27 00.3	-5.4
	comp=Z,12nm,1.0s,baz=83,slow=4.6,SNR=3.6						
ZALV				S	SKSac	10 32 52.0	-0.6
	comp=Z,2.1nm,0.4s,baz=101,slow=7.5,SNR=2.0						
ZALV				PKKPbc	PKKPbc	10 37 22.8	-0.8
	comp=Z,3.4nm,0.7s,baz=266,slow=4.0,SNR=5.1						
SRSP	Sriramsagar	111.39	284	ePdif	Pdif	10 22 28.7	+0.2
SRSP				epPdif	pPdif	10 23 03.3	+0.7
SRSP				ePKiKP	PKiKP	10 26 26.9	+0.5
SRSP				eSKSac	SKSac	10 32 52.2	-3.4
URV	Uravakonda	111.45	279	ePdif	Pdif	10 22 27.2	-1.7
URV				epPdif	pPdif	10 23 02.4	-0.5
URV				ePKiKP	PKiKP	10 26 27.5	+0.9
URV				eSKSac	SKSac	10 32 54.9	-1.1
NVS	Novosibirsk	112.03	322	eP	Pdif	10 22 28.2	-2.3
NVS				e		10 26 26.2	
NVS				i		10 27 08.2	
NVS				e		10 32 58.6	
NVS				pmax	pmax		
	comp=Z,43nm,2.4s						
NVS				pmax	pmax		
	comp=N,18nm,2.0s						
NVS				pmax	pmax		
	comp=E,19nm,2.1s						
MKAR	Makanchi Array	112.25	314	Pdiff	Pdif	10 22 33.8	+2.0
	comp=E,3.6nm,1.1s,baz=94,slow=4.9,SNR=15						
MKAR				PKiKP	PKiKP	10 26 26.8	-0.5
	comp=E,22nm,0.8s,baz=106,slow=0.8,SNR=64						
MKAR				PP	PP	10 27 07.9	-6.5
	comp=E,7.3nm,0.8s,baz=90,slow=1.8,SNR=4.7						
MKAR				PKKPbc	PKKPbc	10 37 19.4	-0.1
	comp=E,7.4nm,0.7s,baz=268,slow=3.6,SNR=45						
MAKZ	Makanchi	112.47	314	PKiKP	PKiKP	10 26 27.1	-0.6
SJG	San Juan	112.65	78	PKiKP	PKiKP	10 26 28.3	-0.5
	comp=E,23nm,0.9s,baz=326,slow=7.6,SNR=4.6						
SJG				PP	PP	10 27 16.7	-1.3
	comp=E,4.4nm,0.3s,baz=250,slow=7.6,SNR=4.1						
KLRI	Killari	112.81	282	ePdif	Pdif	10 22 35.1	+0.2
KLRI				epPdif	pPdif	10 23 07.2	-1.8
KLRI				ePKiKP	PKiKP	10 26 29.1	-0.1
KLRI				eSKSac	SKSac	10 32 57.7	-3.7
BHPL	Bhopal	113.14	288	eP	PKiKP	10 26 29.1	-0.6
BHPL				IAmb	IAmb	10 26 30.1	
	comp=Z,48nm,1.2s						
SEM	Semipalatinsk	113.76	318	ePKiKP	PKiKP	10 26 30.9	+0.7
SEM				i SP	SP	10 36 46.6	-1.0
DDI	Dehra Dun	113.79	296	eP	PKiKP	10 26 31.2	+0.4
DDI				IAmb	IAmb	10 26 36.2	
	comp=Z,5μm,4.8s						
PDGK	Podgornoye	114.00	310	PKIKP	PKiKP	10 26 30.8	-0.1
SHLS	Shalkode	114.01	310	ePKiKP	PKPdf	10 26 30.5	-0.4
SHLS				i PKKP	PKKPdf	10 37 33.1	-2.8
UZB	Uzunbulak	114.33	310	ePKiKP	PKiKP	10 26 31.8	+0.2
UZB				i PP	PP	10 27 28.6	-0.9
KPKS	Kokpek	114.60	310	ePKiKP	PKiKP	10 26 32.5	+0.5
KPKS				i PP	PP	10 27 30.6	-0.7
SMLA	Simla	114.66	296	eP	PKPdf	10 26 32.8	+0.5
ZHN	Zhinishke	114.77	310	ePKiKP	PKiKP	10 26 32.4	+0.1
ZHN				i PP	PP	10 27 31.2	-1.3
SATY	Saty	114.78	309	ePKiKP	PKPdf	10 26 32.3	0.0
SATY				i PP	PP	10 27 31.9	-0.7
GOA	Goa	114.80	279	eP	PKPdf	10 26 32.9	-0.1
KURK	Kurchatov	114.80	318	ePKPdf	PKPdf	10 26 31.6	-0.3
KURK				PKKPbc	PKKPbc	10 37 05.6	-5.4
KURK				SKKP		10 40 58.9	
KURK	Kurchatov	114.80	318	PKPdf	PKPdf	10 26 32.6	+0.7
	SNR=15						
KURK	Kurchatov	114.80	318	d iPKIKP	PKPdf	10 26 31.3	-0.6
KURBB	Kurchatov Arra	114.86	318	PKP	PKPdf	10 26 31.8	-0.3
	comp=Z,26nm,0.8s,baz=91,slow=1.8,SNR=67						
KURBB				PKKPbc	PKKPbc	10 37 05.6	-5.2
	comp=Z,1.1nm,0.5s,baz=261,slow=4.2,SNR=8.5						
KURBB				SKKP		10 40 58.9	
	comp=Z,1.7nm,0.9s,baz=270,slow=3.2,SNR=3.6						
KULLO	Kullorsuaq	115.12	15	i P	PKPdf	10 26 31.6	-0.3
KULLO	Kullorsuaq	115.12	15	i PKIKP	PKPdf	10 26 31.6	-0.3
SCHQ	Schefferville	115.37	38	PKP	PKPdf	10 26 32.7	-0.2
	comp=Z,8.4nm,1.0s,baz=215,slow=2.5,SNR=3.7						
SCHQ				PKKPbc	PKKPbc	10 37 08.2	-1.0
	comp=Z,9.5nm,0.7s,baz=89,slow=6.4,SNR=4.8						
POO	Poona	115.46	282	eP	PKPdf	10 26 33.4	-0.9
POO	Poona	115.46	282	↑ i P	PKPdf	10 26 32.0	-2.2
	comp=Z,80nm,1.0s						
DHRM	DHARAMSHALA	115.54	297	eP	PKPdf	10 26 33.6	-0.7
MDOK	Medeo	115.78	310	ePKiKP	PKiKP	10 26 34.8	+0.4
MDOK				i PP	PP	10 27 39.4	-0.3
MDOK				i SP	SP	10 37 04.9	-1.5
AAA	Alma-Ata	115.88	310	ePKiKP	PKiKP	10 26 35.3	+0.9
AAA				i PP	PP	10 27 40.5	+0.2
KUU	Kurty	116.31	310	ePKiKP	PKPdf	10 26 35.1	-0.1
KSH	Kashi	116.43	305	PKP	PKPdf	10 26 36.8	+1.1
KSH				PP	PP	10 27 48.3	+4.0
KSH				AMB	AMB		
	comp=Z,8μm,7.6s						
KSH				LR	LR		
	comp=Z,5μm,18.8s						
KSH				LR	LR		
	comp=Z,3μm,14.4s						
KSH				LR	LR		
	comp=Z,7μm,25.3s						
FDF	Fort de France	116.54	83	ePKPdf	PKPdf	10 26 33.9	-2.5
FDF	Fort de France	116.54	83	ePKIKP	PKPdf	10 26 33.9	-2.5
BMNS	Besmoynak	116.79	309	ePKiKP	PKPdf	10 26 36.1	-0.1
TKM2	Tokmak 2	116.83	309	P	PKPdf	10 26 36.0	-0.5
	SNR=56						
TKM2	Tokmak 2	116.83	309	PKIKP	PKPdf	10 26 35.9	-0.5
KZA	Kyzart	117.07	308	P	PKPdf	10 26 38.0	+0.8
	SNR=31						
KBK	Karagaybulak	117.31	309	P	PKPdf	10 26 37.3	0.0
	SNR=20						
CHMS	Chumysh	117.46	309	P	PKPdf	10 26 37.3	-0.1
	SNR=21						
FRU	Bishkek	117.55	309	i PKIKP	PKPdf	10 26 39.0	+1.4
FRU				i		10 27 48.0	
FRU				e		10 33 20.0	
FRU				pmax	pmax		
	comp=Z,160nm,1.9s						
UCH	Uchtor	117.62	308	P	PKPdf	10 26 38.7	+0.4
	SNR=53						
AAK	Ala-Archa	117.64	309	PKKPbc	PKKPbc	10 37 01.5	+0.5
	comp=Z,12nm,0.8s,baz=246,slow=4.5,SNR=18						
AAK	Ala-Archa	117.64	309	P	PKPdf	10 26 38.2	+0.3
	SNR=33						
AAK	Ala-Archa	117.64	309	ePKPdf	PKPdf	10 26 36.7	-1.2
AAK				ePP	PP	10 27 47.3	-5.4
AAK				PKKPbc	PKKPbc	10 37 01.5	+0.5
AAK	Ala-Archa	117.64	309	PKPdf	PKPdf	10 26 37.4	-0.6
	SNR=19						
AAK	Ala-Archa	117.64	309	i P	PKPdf	10 26 38.0	0.0
	SNR=38						
AAK	Ala-Archa	117.64	309	d iPKIKP	PKPdf	10 26 37.5	-0.4
USP	Ospenovka	117.64	310	P	PKPdf	10 26 37.6	-0.2
	SNR=30						
BTLS	Baital	117.96	312	i PKKP	PKKPdf	10 37 26.5	-1.8
EKS2	Erkin-Say	118.17	309	P	PKPdf	10 26 39.2	+0.3
	SNR=26						
NIL	Nilore	118.23	299	ePKPdf	PKPdf	10 26 38.6	-0.5
NIL	Nilore	118.23	299	ePKIKP	PKPdf	10 26 38.6	-0.5
AML	Almayashu	118.23	308	P	PKPdf	10 26 39.6	+0.3
	SNR=71						
SFK	Sufi-Kurgan	118.35	306	PKIKP	PKPdf	10 26 39.4	-0.1
BRZS	Berezniki	118.63	317	ePKiKP	PKPdf	10 26 39.4	-0.1
BRZS				i PP	PP	10 27 58.1	-0.9
OTUK	Ortayu	118.99	315	PKIKP	PKPdf	10 26 39.4	-0.8
ILULI	Ilulissat	119.03	20	↓ iP	PKPdf	10 26 39.8	+0.2
ILULI	Ilulissat	119.03	20	↓ i PKIKP	PKPdf	10 26 39.8	+0.2
MNAS	Manas	119.11	309	PKIKP	PKPdf	10 26 40.8	0.0
KBS	Kingsbay	119.68	359	ePKPdf	PKPdf	10 26 40.9	+0.3
KBS				ePP	PP	10 27 58.4	-6.8
KBS	Kingsbay	119.68	359	ePKIKP	PKPdf	10 26 40.9	+0.3
BVA0	Borovoye Array	119.71	321	i PKIKP	PKPdf	10 26 41.2	-0.2
BVA0				pmax	pmax		
	comp=Z,4.0nm,0.5s						
BVAR	Borovoye Array	119.71	321	PKP	PKPdf	10 26 41.5	+0.1
	comp=Z,34nm,0.4s,baz=114,slow=1.3,SNR=118						
BVAR				PP	PP	10 28 04.0	-2.3
	comp=Z,9.2nm,0.7s,baz=79,slow=7.5,SNR=2.6						
BVAR				PKKPbc	PKKPab	10 36 52.3	-0.7
	comp=Z,5.5nm,0.8s,baz=270,slow=2.9,SNR=10						
BRVK	Borovoye	119.77	321	ePKPdf	PKPdf	10 26 41.2	-0.3
BRVK				ePP	PP	10 28 04.5	-2.2
BRVK	Borovoye	119.77	321	PKPdf	PKPdf	10 26 41.1	-0.3
	SNR=29						
BRVK	Borovoye	119.77	321	d iPKIKP	PKPdf	10 26 41.1	-0.3
DZA	Taraz	119.97	309	ePKIKP	PKiKP	10 26 43.0	+0.6
DZA				i PP	PP	10 28 08.5	0.0
SFJD	Kangerlussuaq	120.14	22	PKP	PKPdf	10 26 42.2	+0.5
	comp=Z,9.4nm,0.4s,baz=20,slow=3.7,SNR=12						
SFJD				PKKPbc	PKKPab	10 36 51.1	+0.5
	comp=Z,18nm,0.9s,baz=172,slow=7.1,SNR=3.4						
SFJD	Kangerlussuaq	120.14	22	i P	PKPdf	10 26 41.8	+0.1
SFJD	Kangerlussuaq	120.14	22	ePKPdf	PKPdf	10 26 41.4	-0.3
SFJD				PKKPbc	PKKPab	10 36 51.1	+0.5
BHJ	Bhuj	120.18	286	eP	PKPdf	10 26 42.9	-0.3
BHJ				IAmb	IAmb	10 26 44.9	
	comp=Z,712nm,2.2s						
SPITS	Spitsbergen Ar	120.27	357	PKP	PKPdf	10 26 42.1	+0.3
	comp=Z,53nm,0.8s,baz=17,slow=6.0,SNR=67						
SPITS				PKKPbc	PKKPab	10 36 50.3	+0.4
	comp=Z,25nm,0.9s,baz=235,slow=5.1,SNR=11						
KK31	Karatay Array	120.56	309	i PKIKP	PKPdf	10 26 42.5	-0.9
KK31				pmax	pmax		
	comp=Z,14nm,0.9s						
KKAR	Karatay Array	120.56	309	ePKPdf	PKPdf	10 26 43.3	-0.1
KKAR	Karatay Array	120.56	309	ePKIKP	PKPdf	10 26 43.3	-0.1
DAG	Danmarks Havn	120.67	6	↓ iP	PKPdf	10 26 41.4	-1.1
	comp=Z,33nm,1.1s						
DAG				i		10 28 08.5	
	comp=Z,4μm,20.0s						
DAG	Danmarks Havn	120.67	6	i P	PKKPab	10 36 49.6	+1.5
	comp=Z,22nm,0.9s						
DAG	Danmarks Havn	120.67	6	↓ i PKIKP	PKPdf	10 26 41.4	-1.1
DAG				i		10 28 08.5	
DAG				pmax	pmax		
	comp=Z,33nm,1.1s						
DAG				MLR	MLR		
	comp=Z,4μm,20.0s						
SUMG	Summit	120.70	14	↓ iP	PKPdf	10 26 43.3	+0.1
	comp=Z,40nm,1.3s						
	comp=Z,2μm,17.0s						
SUMG	Summit	120.70	14	i P	PKKPab	10 36 50.3	+1.7
	comp=Z,51nm,1.5s						
SUMG	Summit	120.70	14	ePKPdf	PKPdf	10 26 44.5	+1.3
SUMG	Summit	120.70	14	ePKIKP	PKPdf	10 26 44.5	+1.3
IUG	luzhnay	120.96	308	ePKiKP	PKiKP	10 26 44.6	+0.3
HSPB	Hornsund (broa	121.47	357	ePKPdf	PKPdf	10 26 44.1	+0.1
HSPB	Hornsund (broa	121.47	357	ePKIKP	PKPdf	10 26 45.8	+1.7
HSPB				e		10 28 15.6	
HSPB				eSP	SP	10 37 56.5	+1.3
HSPB				ePS	PS	10 38 04.2	-7.7
HSPB				eSS	SS	10 45 03.5	+22
SVE	Sverdlovsk	124.27	327	c iPKIKP	PKPdf	10 26 50.2	+0.2
SVE				pmax	pmax		
	comp=Z,194nm,1.4s						
ABPO	Ambohimpanom	124.32	230	ePKPdf	PKPdf	10 26 52.0	+0.5
ABPO				ePP	PP	10 28 36.4	-1.5
ABPO	Ambohimpanom	124.32	230	ePKIKP	PKPdf	10 26 52.0	+0.5
ABPO				e		10 28 36.4	
OPO	Ambohidratompo	124.64	230	PKP	PKPdf	10 26 53.2	+1.1
	comp=Z,76nm,0.8s,baz=133,slow=1.8,SNR=35						
NRS	Narsarsuaq	124.75	27	i P	PKPdf	10 26 50.9	+0.2
	comp=Z,126nm,1.2s						
	comp=Z,4μm,18.0s						
NRS	Narsarsuaq	124.75	27	i PKIKP	PKPdf	10 26 50.9	+0.2
NRS				pmax	pmax		
	comp=Z,130nm,1.2s						
NRS				MLR	MLR		
	comp=Z,4μm,18.0s						
ARU	Arti	125.48	327	ePKPdf	PKPdf	10 26 52.3	+0.1
ARU				ePP	PP	10 28 42.9	-2.1
ARU	Arti	125.48	327	i PKIKP	PKPdf	10 26 52.4	+0.1
ARU						10 28 43.0	
ARU				PPP	PPP	10 31 24.4	
ARU						10 33 46.3	
ARU				PS	PS	10 38 44.8	-3.2
SCO	Scoresbysund	125.71	11	↓ iP	PKPdf	10 26 53.0	+0.6
	comp=Z,134nm,1.2s						
SCO	Scoresbysund	125.71	11	↓ i PKIKP	PKPdf	10 26 53.0	+0.6
SCO				pmax	pmax		
	comp=Z,130nm,1.2s						
AB31	Akbulak array	126.91	318	PKIKP	PKPdf	10 26 55.7	+0.4
ABKAR	Akbulak array	126.91	318	ePKPdf	PKPdf	10 26 55.6	+0.3
ABKAR				ePP	PP	10 28 51.9	-2.9
HAMF	Hammerfest	126.93	352	ePKPdf	PKPdf	10 26 54.2	-0.5
SUR	Sutherland	127.06	196	ePKPdf	PKPdf	10 26 57.3	+0.8
SUR	Sutherland	127.06	196	PKPdf	PKPdf	10 26 58.0	+1.5
	SNR=13						
KEV	Kevo	127.28	351	ePKPdf	PKPdf	10 26 55.5	+0.1
KEV				ePP	PP	10 28 54.4	-1.8
KEV	Kevo	127.28	351	ePKIKP	PKPdf	10 26 55.5	+0.1
KEV				e		10 28 54.4	
LVZ	Lovozero	127.45	346	ePKPdf	PKPdf	10 26 56.2	+0.4
LVZ	Lovozero	127.45	346	↓ ePKIKP	PKPdf	10 26 56.4	+0.6
ARCES	ARCESS Array B	127.70	351	PKhKP	PKPpre	10 26 42.0	
	comp=Z,2.5nm,0.9s,baz=357,slow=1.8,SNR=5.8						
ARCES				PKP	PKiKP	10 26 56.7	-0.1
	comp=Z,33nm,0.6s,baz=0.0,slow=0.9,SNR=163						
ARCES				SKKPbc	SKKPbc	10 40 02.2	-2.3
	comp=Z,11nm,1.0s,baz=156,slow=2.7,SNR=5.6						
ARE0	ARCESS Array S	127.70	351	ePKPdf	PKPdf	10 26 56.6	+0.4
AKTO	Aktyubinsk	127.78	320	PKP	PKPdf	10 26 58.1	+1.2
	comp=Z,38nm,1.0s,baz=44,slow=2.7,SNR=69						
AKTO				PP	PP	10 28 57.6	-2.8
	comp=Z,8.9nm,0.9s,baz=72,slow=11,SNR=2.7						
APA	Apatity	127.99	347	↓ iPKIKP	PKPdf	10 26 56.7	-0.1
APA				i *PP		11 27 29.0	
APA				i		11 29 00.0	
APA				i		11 33 52.0	
APA				pmax	pmax		
	comp=Z,52nm,1.1s						
TRO	Tromso	128.42	354	ePKPdf	PKPdf	10 26 58.4	+0.9
BOSA	Boshof	129.14	203	PKhKP	PKPpre	10 26 49.9	
	comp=Z,2.8nm,0.8s,baz=123,slow=2.8,SNR=5.8						
BOSA				PKP	PKiKP	10 27 01.9	+0.8
	comp=Z,84nm,1.1s,baz=146,slow=1.5,SNR=32						
BOSA				PP	PP	10 29 08.2	-0.4
	comp=Z,9.5nm,0.9s,baz=159,slow=9.7,SNR=1.8						
TMCR	Tamitsa	129.51	342	ePKIKP	PKPdf	10 26 59.5	-0.3
TMCR				pmax	pmax		
	comp=Z,204nm,1.5s						
WSAR	Wadi Sarin	130.24	285	PKP	PKPdf	10 27 02.2	-0.3
	comp=Z,46nm,1.1s,baz=162,slow=1.8,SNR=40						
WSAR				SKPbc	SKPbc	10 30 15.9	+2.3
	comp=Z,74nm,1.2s,baz=133,slow=3.5,SNR=11						
STEI	Steigen	130.41	355	ePKPdf	PKPdf	10 27 02.2	+0.9
GEYT	Alibeck	130.42	304	PKhKP	PKPpre	10 26 52.3	
	comp=Z,4.3nm,0.7s,baz=202,slow=1.6,SNR=6.7						
GEYT				PKP	PKiKP	10 27 03.9	+0.7
	comp=Z,42nm,0.8s,baz=277,slow=1.2,SNR=43						
GEYT				PP	PP	10 29 16.3	-2.0
	comp=Z,39nm,1.1s,baz=79,slow=3.2,SNR=8.7						
GEYT				SKPbc	SKPbc	10 30 16.9	+3.1
	comp=Z,32nm,1.1s,baz=42,slow=4.8,SNR=5.5						
JMDO	Jabal Madar	130.64	284	P	PKPdf	10 27 08.0	+4.7
	SNR=6.5						
JMDO	Jabal Madar	130.64	284	PKPdf	PKPdf	10 27 08.0	+4.7
	SNR=6.5						
BIDO	Bidbid	130.72	285	P	PKPdf	10 27 06.0	+2.6
	SNR=22						
BIDO	Bidbid	130.72	285	PKPdf	PKPdf	10 27 06.0	+2.6
	SNR=22						
SMDO	Samad	130.75	285	P	PKPdf	10 27 11.0	+7.4
	SNR=12						
SMDO	Samad	130.75	285	PKPdf	PKPdf	10 27 11.0	+7.4
	SNR=12						
KLMR	Klimovskoe	131.45	338	ePKPdf	PKPdf	10 27 02.9	-0.6
KLMR				AMP		10 27 06.4	
	comp=Z,382nm,1.4s						
KLMR				epPKPdf	pPKPdf	10 27 41.5	+2.5
KLMR				esPKPdf	sPKPdf	10 27 49.6	-3.0
KLMR				ePP	PP	10 29 14.5	-9.1
KLMR				eSKP		10 30 16.4	
KLMR				ePKS	PKSdf	10 30 39.0	-0.7
KLMR				ePKS	PKSdf	10 30 39.0	-0.7
KLMR				eSKKPbc	SKKPbc	10 39 51.6	+0.8
KLMR				eSKKP		10 40 27.1	
KLMR				eSS	SS	10 46 26.8	-19
KLMR				eSS	SS	10 46 26.8	-19
KLMR	Klimovskoe	131.45	338	ePKIKP	PKPdf	10 27 02.8	-0.7
KLMR				e		10 27 41.5	
KLMR				pmax	pmax		
	comp=Z,382nm,1.4s						
BSY	Bisya	131.51	284	P	PKPdf	10 27 12.0	+7.1
	SNR=8.7						
BSY	Bisya	131.51	284	PKPdf	PKPdf	10 27 12.0	+7.1
	SNR=8.7						
STOK	Stokkvaagen	132.15	356	ePKPdf	PKPdf	10 27 05.5	+0.8
MOR8	Moi Rana	132.21	355	ePKPdf	PKPdf	10 27 05.7	+0.8
SOHO	SOHO	132.23	286	i P	PKPdf	10 27 06.2	+0.1
	SNR=44						
MDH	Madha	132.51	287	i P	PKPdf	10 27 06.1	-0.6
	SNR=30						
BANOM	Banah	132.53	288	P	PKPdf	10 27 08.7	+2.0
	SNR=8.9						
BANOM	Banah	132.53	288	PKPdf	PKPdf	10 27 08.7	+2.0
	SNR=8.9						
BANOM	Banah	132.53	288	i P	PKPdf	10 27 06.4	-0.4
	SNR=16						
UOSS	Minazif	132.57	287	i P	PKPdf	10 27 06.0	-0.8
	SNR=20						
RCBR	Riachuelo	132.62	117	PKP	PKPdf	10 27 07.8	+0.5
	comp=Z,45nm,0.8s,baz=236,slow=1.4,SNR=3.1						
HATD	Hatta, Dubai	132.63	287	P	PKPdf	10 27 08.1	+1.1
	SNR=39						
HATD	Hatta, Dubai	132.63	287	PKPdf	PKPdf	10 27 08.1	+1.1
	SNR=39						
HATD	Hatta, Dubai	132.63	287	i P	PKPdf	10 27 06.7	-0.2
	SNR=39						
MSFE	Esma-Masafi	132.64	288	i P	PKPdf	10 27 06.9	-0.1
	SNR=19						
SHME	Shamm	132.68	288	i P	PKPdf	10 27 07.0	0.0
	SNR=16						
ALNE	Al Ain	132.94	286	i P	PKPdf	10 27 07.5	0.0
	SNR=25						
NAZ	Nazwa, Dubai	133.07	287	P	PKPdf	10 27 09.0	+1.2
	SNR=22						
NAZ	Nazwa, Dubai	133.07	287	PKPdf	PKPdf	10 27 09.0	+1.2
	SNR=22						
NAZ	Nazwa, Dubai	133.07	287	i P	PKPdf	10 27 09.0	+1.2
	SNR=18						
UMQ	Umm Al-Quwin	133.09	288	i P	PKPdf	10 27 08.4	+0.7
	SNR=11						
AJN	Ajban	133.66	286	i P	PKPdf	10 27 09.1	+0.3
	SNR=20						
FINES	FINESS Array B	134.89	346	PKhKP	PKPpre	10 26 57.5	
	comp=Z,3.6nm,0.9s,baz=69,slow=6.3,SNR=8.4						
FINES				PKP	PKiKP	10 27 10.8	-0.7
	comp=Z,35nm,0.7s,baz=48,slow=4.1,SNR=32						
FINES				PP	PP	10 29 43.3	-2.1
	comp=Z,13nm,0.9s,baz=52,slow=3.1,SNR=5.5						
MZR	Muzera	134.95	284	i P	PKPdf	10 27 12.2	+0.9
	SNR=16						
PUL	Pulkovo	135.23	342	↑ i PKIKP	PKPdf	10 27 12.3	+1.6
TBLU	Trondheim	135.38	357	ePKPdf	PKPdf	10 27 10.9	0.0
MOS	Moscow	135.74	334	K iPKIKP	PKPdf	10 27 11.1	-0.7
MOS				e		10 27 48.1	
MOS				i		10 29 48.

LSZ	**Lusaka**	**139.39**	215	*e*PKPdf	**PKPdf**	**10 27 18.4**	**-1.5**	
LSZ				*e*PP	**PP**	**10 30 12.5**	**-1.5**	
LSZ	**Lusaka**	**139.39**	215	*e*PKIKP	**PKPdf**	**10 27 18.4**	**-1.5**	
LSZ				*e*		10 30 12.5		
NCK	**Nalchik**	**139.49**	316	⇓*e*PKIKP	**PKPdf**	**10 27 19.5**	**+0.4**	
KMY	**Karmoy**	**139.57**	**0**	*e*PKPdf	**PKPdf**	**10 27 20.0**	**+1.3**	
ZEI	**Tsey**	**139.58**	315	*i* PKHKP	PKPpre	10 27 13.7		
ZEI				pmax	pmax			
	comp=Z,56nm,0.9s							
IZAR	**Zarasai**	**139.79**	342	*e*P	PKPpre	10 27 14.4		
KBZ	**Khabaz**	**139.84**	317	PKhKP	PKPpre	10 27 13.4		
	comp=Z,10nm,0.9s,baz=167,slow=2.3,SNR=18							
KBZ				PP	**PP**	**10 30 16.3**	**-0.7**	
	comp=Z,34nm,1.2s,baz=8.5,slow=4.7,SNR=5.5							
KIV	**Kislovodsk**	**139.88**	317	*e*PKPdf	**PKPdf**	**10 27 19.6**	**-0.3**	
KIV				*e*SKPbc	**SKPbc**	**10 30 44.4**	**+0.8**	
KIV	**Kislovodsk**	**139.88**	317	*i* P	**PKPdf**	**10 27 20.4**	**+0.5**	
	SNR=17							
KIV	**Kislovodsk**	**139.88**	317	*i* PKIKP	**PKPdf**	**10 27 20.2**	**+0.3**	
KIV				*e**PP	**pPKPdf**	**10 27 54.4**	**-1.0**	
KIV				*e*		10 30 15.3		
KIV				*e*PPP	PPP	10 33 19.5		
KIV				*e*		10 34 15.5		
KIV				*e*SS	SS	10 48 26.7	-1.5	
KIV				pmax	pmax			
	comp=Z,90nm,1.0s							
GNI	**Garni**	**140.00**	311	PKP	**PKPdf**	**10 27 20.9**	**+0.6**	
	comp=Z,104nm,1.2s,baz=162,slow=0.9,SNR=23							
GNI	**Garni**	**140.00**	311	*e*PKPdf	**PKPdf**	**10 27 21.3**	**+1.0**	
GNI				*ep*PKPdf	**pPKPdf**	**10 27 57.2**	**+1.3**	
GNI				*e*SKPbc	**SKiKP**	**10 30 46.6**	**-0.2**	
GNI	**Garni**	**140.00**	311	PKPdf	**PKPdf**	**10 27 21.8**	**+1.4**	
	SNR=42							
GNI	**Garni**	**140.00**	311	*i* P	**PKPdf**	**10 27 21.3**	**+1.0**	
	SNR=25							
GNI	**Garni**	**140.00**	311	*d*PKIKP	**PKPdf**	**10 27 21.2**	**+0.8**	
IDID	**Didziasalis**	**140.01**	341	*e*P	PKPpre	10 27 15.2		
IIGN	**Ignalina**	**140.14**	341	*e*P	PKPpre	10 27 14.9		
NEY	**Neytrino**	**140.17**	316	⇓*e*PKIKP	PKPpre	10 27 17.0		
MICGM	**Minsk**	**140.32**	339	*e*PKP	PKPpre	10 27 15.0		
MICGM				*ep*PKP	pPKPdf	10 27 45.0	-11	
MICGM				*e*SKP		10 28 16.0		
MICGM				*e*PP	PP	10 29 46.0	-33	
MICGM				*e*PKS	PKSdf	10 30 46.0	-10	
MICGM				*e*PPP	PPP	10 31 44.0		
MICGM				*e*SKS	SKSdf	10 34 00.0	-18	
MICGM				*e*SKKS		10 35 36.0		
MICGM				*e*SP	SKKPab	10 39 04.0	-13	
MICGM				*e*PS		10 39 42.0		
MICGM				*e*		10 42 14.0		
MICGM				*e*SS	SS	10 48 18.0	-14	
MICGM				*e*SSS	SSS	10 53 28.0		
MICGM				*e*LR	LR	11 14 40.0		
MICGM				LRM	MLR	11 22 26.0		
	comp=Z,13nm,26.0s							
MNK	**Minsk**	**140.32**	339	*e*PKHKP	PKPpre	10 27 15.0		
NACGM	**Naroch**	**140.35**	341	*e*PKP	PKPpre	10 27 15.0		
NACGM				*ep*PKP	pPKPdf	10 27 50.0	-5.8	
NACGM				*e*PP	**PP**	**10 30 16.0**	**-3.3**	
NACGM				*e*SKP		10 30 46.0		
NACGM				*e*PKS	**PKSdf**	**10 30 57.0**	**+1.0**	
NACGM				*e*		10 31 47.0		
NACGM				*e*PPP	PPP	10 33 16.0		
NACGM				*e*SKS	SKSdf	10 33 53.0	-25	
NACGM				*e*SKKS	**SKKSac**	**10 36 56.0**	**-4.4**	
NACGM				*e*SP	SKKPbc	10 40 10.0	+53	
NACGM				*e*PPS	PPS	10 42 24.0		
NACGM				*e*SS	**SS**	**10 48 26.0**	**-6.0**	
NACGM				*e*SSS	SSS	10 52 22.0		
NACGM				LRM	MLR	11 23 46.0		
	comp=Z,15nm,24.0s							
AKH	**Akhalkalaki**	**140.41**	313	⇑*e*P	**PKPdf**	**10 27 18.6**	**-2.5**	
SNART	**Snartemo**	**140.42**	358	*e*	PKPpre	10 27 13.9		
TSUM	**Tsumeb**	**140.43**	198	PKhKP	PKPpre	10 27 17.8		
	baz=180,slow=4.6							
TSUM				PP	**PP**	**10 30 22.8**	**+3.0**	
	comp=Z,46nm,0.9s,baz=167,slow=8.1,SNR=8.7							
TSUM	**Tsumeb**	**140.43**	198	*e*PKPdf	PKPpre	10 27 17.4		
TSUM				*e*PP	**PP**	**10 30 18.9**	**-0.9**	
HOMB	**Homborsund**	**140.44**	357	*e*PKPdf	PKPpre	10 27 14.5		
KAC	**Achnashellach**	**140.49**	**9**	*e*P	PKPpre	10 27 13.8		
DAGI	**Agillar**	**141.64**	313	*i* P	PKPpre	10 27 18.9		
DBAD	**Bademkaya**	**141.81**	313	*i* P	PKPpre	10 27 20.1		
EAB	**Aberfoyle**	**141.90**	**9**	*e*P	PKPpre	10 27 16.8		
SOC	**Sochi**	**141.95**	318	*e*PKIKP	**PKPdf**	**10 27 20.1**	**-3.4**	
SOC				*e*		10 30 25.5		
SOC				*e*		10 34 19.0		
SOC				pmax	pmax			
	comp=Z,23nm,0.6s							
SUW	**Suwalki**	**142.19**	343	*e*PKPdf	PKPpre	10 27 19.9		
SUW				*ep*PKPdf	pPKPdf	10 27 54.0	-5.1	
SUW				*e*PP	PP	10 30 52.6	+22	
SUW				*e*PKS	**PKSdf**	**10 31 04.2**	**+5.1**	
SUW				*e*SKKS		10 37 10.1		
SUW				*e*SS	**SS**	**10 48 50.8**	**-2.5**	
SUW				LMZ	LR	11 22 40.2		
	comp=Z,15µm,26.2s							
SUW	**Suwalki**	**142.19**	343	*e*PKIKP	**PKPdf**	**10 27 20.0**	**-3.6**	
SUW				*e*		10 27 54.0		
SUW				*e*SS	SS	10 48 50.8	-2.5	
MUD	**Monsted U'grnd**	**142.22**	357	*i* P	**PKPdf**	**10 27 21.3**	**-2.2**	
MUD	**Monsted U'grnd**	**142.22**	357	*e*PKIKP	**PKPdf**	**10 27 21.3**	**-2.2**	
RAYN	**Ar Rayn**	**142.29**	284	*e*PKPdf	PKPpre	10 27 20.8		
RAYN				*e*SKPbc	**SKiKP**	**10 30 53.6**	**+1.7**	
H07S1	**FLORES T-PHASE**	**142.37**	**49**	*e*PKPdf	PKPpre	10 27 18.7		
DAMY	**Dhamar**	**142.38**	270	*e*PKPdf	PKPpre	10 27 21.5		
DAMY				*ep*PKPdf	pPKPdf	10 27 56.2	-4.8	
DAMY				*e*SKPbc	**SKiKP**	**10 30 53.5**	**+1.0**	
ESY	**Stoneypath**	**142.39**	**7**	*e*P	PKPpre	10 27 19.7		
KLNR	**Kaliningrad**	**142.41**	346	*de*PKIKP	**PKPdf**	**10 27 20.7**	**-3.2**	
ANN	**Anapa**	**142.71**	321	*i* PKIKP	**PKPdf**	**10 27 22.1**	**-2.7**	
ANN				*e*		10 27 56.1		
ANN				*e*		10 30 32.0		
ANN				*e*		10 34 23.1		
ANN				*e*SS	SS	10 48 58.1	-2.4	
ANN				pmax	pmax			
	comp=Z,164nm,1.5s							
COP	**Copenhagen**	**142.71**	353	*i* P	**PKPdf**	**10 27 22.6**	**-1.8**	
	comp=Z,54nm,1.0s							
COP				*i*		10 30 55.5		
	comp=Z,3µm,19.0s							
COP	**Copenhagen**	**142.71**	353	*e*PKIKP	**PKPdf**	**10 27 22.6**	**-1.8**	
COP				pmax	pmax			
	comp=Z,54nm,1.0s							
COP				MLR	MLR			
	comp=Z,3µm,19.0s							
AKASG	**Malin Array Be**	**142.87**	335	PKhKP	PKPpre	10 27 20.9		
	comp=Z,13nm,0.4s,baz=42,slow=3.6,SNR=78							
AKASG				PKP	**PKPdf**	**10 27 25.2**	**+0.4**	
	comp=Z,32nm,0.8s,baz=39,slow=4.1,SNR=36							
KIEV	**Kiev**	**142.88**	335	*e*PKPdf	PKPpre	10 27 19.7		
KIEV	**Kiev**	**142.88**	335	*i* P	PKPpre	10 27 21.3		
	SNR=12							
KIEV	**Kiev**	**142.88**	335	*c i*PKIKP	**PKPdf**	**10 27 26.4**	**+1.5**	
EKA	**Eskdalemuir Ar**	**142.90**	**8**	PKhKP	PKPpre	10 27 20.8		
	comp=Z,19nm,0.7s,baz=348,slow=2.7,SNR=24							
ESK	**Eskdalemuir**	**142.91**	**8**	*e*PKPdf	PKPpre	10 27 21.4		
ESK				*ep*PKPdf	pPKPdf	10 27 53.9	-6.5	
ESK				*e*PP	**PP**	**10 30 33.3**	**-1.4**	
ESK	**Eskdalemuir**	**142.91**	**8**	*e*PKIKP	PKPpre	10 27 21.5		
ESK				*e*		10 27 53.9		
ESK				*e*		10 30 33.3		
KMBO	**Kilima Mbogo**	**142.93**	241	PKP	**PKPdf**	**10 27 25.7**	**-0.8**	
	comp=Z,111nm,1.1s,baz=99,slow=3.5,SNR=100							
KMBO	**Kilima Mbogo**	**142.93**	241	*e*PKPdf	PKPpre	10 27 22.8		
KMBO				*ep*PKPdf	pPKPdf	10 27 58.4	-3.6	
KMBO				*e*PP	**PP**	**10 30 34.4**	**-2.3**	
KMBO	**Kilima Mbogo**	**142.93**	241	PKPdf	**PKPdf**	**10 27 24.6**	**-1.9**	
	SNR=106							
KMBO	**Kilima Mbogo**	**142.93**	241	*i* P	**PKPdf**	**10 27 24.3**	**-2.2**	
	SNR=73							
KMBO	**Kilima Mbogo**	**142.93**	241	*e*PKHKP	PKPpre	10 27 22.8		
KMBO				*e*		10 30 34.4		
BSD	**Bornholm Skovb**	**142.95**	351	*i* P	PKPpre	10 27 21.7		
	comp=Z,177nm,1.3s							
	comp=Z,7µm,21.0s							
BSD	**Bornholm Skovb**	**142.95**	351	*i* PKIKP	PKPpre	10 27 21.7		
BSD				pmax	pmax			
	comp=Z,180nm,1.3s							
BSD				MLR	MLR			
	comp=Z,7µm,21.0s							
LLD	**Lille Linde**	**143.08**	353	*i* P	PKPbc	10 27 22.2	-0.1	
	comp=Z,189nm,1.1s							
LLD	**Lille Linde**	**143.08**	353	*i* PKIKP	PKPbc	10 27 22.2	-0.1	
LLD				pmax	pmax			
	comp=Z,190nm,1.1s							
BHH	**Howats Hill**	**143.12**	**8**	*e*P	PKPbc	10 27 22.1	-0.3	
ATD	**Arta Tunnel**	**143.12**	264	PKP	**PKPdf**	**10 27 26.6**	**+0.1**	
	comp=Z,50nm,1.0s,baz=65,slow=4.4,SNR=8.7							
BAYB	**BAYBURT**	**143.12**	313	*i* P	PKPbc	10 27 23.6	+0.3	
BBO1	**Bothel**	**143.46**	**8**	*e*P	PKPab	10 27 21.9	-0.5	
RGN	**Rugen**	**143.72**	352	*e*PKPdf	PKPbc	10 27 24.5	+0.4	
RGN				*ep*PKPdf	pPKPdf	10 27 59.8	-2.0	
SHEL	**Horse Pasture**	**143.85**	162	*e*PKPdf	**PKPdf**	**10 27 26.8**	**-0.9**	
SHEL				*e*PP	**PP**	**10 30 43.8**	**+3.3**	
SHEL	**Horse Pasture**	**143.85**	162	*i* PKIKP	**PKPdf**	**10 27 27.8**	**0.0**	
GKP	**Gorka Klasztor**	**144.30**	348	*e*PKIKP	PKPbc	10 27 26.1	+0.1	
GKP				*ep*PKPdf	pPKPdf	10 28 02.4	-0.4	
GKP				*e*SS	SS	10 49 20.6	+3.2	
GKP				LMZ	LR	11 18 35.2		
	comp=Z,16µm,37.8s							
GKP	**Gorka Klasztor**	**144.30**	348	*e*PKIKP	PKPbc	10 27 26.1	+0.1	
GKP				*e*		10 28 02.4		
GKP				*e*SS	SS	10 49 20.6	+3.2	
HPK	**Haverah Park**	**144.43**	**7**	*e*P	**PKPab**	**10 27 24.3**	**-1.7**	
PCED	**Cedros**	**144.46**	**49**	*e*PKPdf	**PKPdf**	**10 27 28.3**	**+0.2**	
CALA	**Caldeira**	**144.48**	**49**	*e*PKPdf	**PKPdf**	**10 27 29.2**	**+1.0**	
SIM	**Simferopol'**	**144.53**	324	*de*PKIKP	**PKPdf**	**10 27 28.1**	**+0.1**	
SIM				pmax	pmax			
	comp=Z,332nm,1.0s							
SIM				pmax	pmax			
	comp=Z,3µm,9.4s							
HOR	**Horta**	**144.55**	**49**	*e*PKPdf	**PKPab**	**10 27 26.8**	**-0.2**	
WPS	**Cemaes, Angles**	**144.57**	**10**	*e*P	**PKPab**	**10 27 23.6**	**-3.0**	
VAL	**Valentia**	**144.67**	17	⇑*i*P	**PKPdf**	**10 27 28.0**	**0.0**	
VAL				*e*S	**SKKSac**	**10 37 27.9**	**+2.5**	
PCAN	**Candelaria**	**144.68**	**49**	*e*PKPdf	**PKPab**	**10 27 26.3**	**-1.3**	
WLF1	**Llynfaes**	**144.69**	**10**	*e*P	**PKPab**	**10 27 24.5**	**-2.5**	
PICO	**Pico**	**144.71**	**49**	*e*PKPdf	**PKPdf**	**10 27 28.4**	**-0.2**	
ROSA	**Rosais**	**144.75**	**49**	*e*PKPdf	**PKPab**	**10 27 26.3**	**-1.5**	
BEL	**Belsk**	**144.79**	343	*e*PKPdf	**PKPdf**	**10 27 28.5**	**+0.3**	
BEL				*ep*PKPdf	**pPKPdf**	**10 28 03.9**	**+0.2**	
BEL				LMZ	LR	11 20 52.0		
	comp=Z,10µm,33.9s							
BEL	**Belsk**	**144.79**	343	*e*PKIKP	**PKPdf**	**10 27 28.5**	**+0.3**	
BEL				*e*		10 28 03.9		
PGRA	**Graciosa**	**144.80**	**48**	*e*PKPdf	**PKPab**	**10 27 26.8**	**-1.2**	
LBWR	**Ladybower, Pea**	**144.97**	**7**	*e*P	PKPbc	10 27 26.4	-1.6	
IWEX	**Carrickbyrne,**	**145.11**	**13**	*e*P	**PKPbc**	**10 27 25.5**	**-3.0**	
SORM	**Soroca**	**145.20**	333	⇓*i*P	**PKPab**	**10 27 29.3**	**+0.2**	
SORM	**Soroca**	**145.20**	333	⇓PKIKP	**PKPab**	**10 27 29.3**	**+0.2**	
STNC	**Stoke**	**145.21**	**8**	*e*P	**PKPbc**	**10 27 28.6**	**-0.3**	
LLW	**Llanuwychllyn**	**145.24**	**10**	*e*P	**PKPbc**	**10 27 26.1**	**-2.8**	
FOEL	**Foel Wylfa**	**145.27**	**9**	*e*P	**PKPbc**	**10 27 26.8**	**-2.3**	
ANKE	**Ethiopia-Afar**	**145.47**	260	*i* P	**PKPab**	**10 27 32.0**	**+0.3**	
ANKE	**Ethiopia-Afar**	**145.47**	260	*i* P	**PKPab**	**10 27 32.0**	**+0.3**	
ADH	**Angra Heroismo**	**145.49**	**48**	*e*PKPdf	**PKPdf**	**10 27 29.8**	**0.0**	
LVV	**L'vov**	**145.54**	338	*e*PKP2	**PKPab**	**10 27 31.0**	**+0.6**	
LVV				*e*		10 30 59.0		
LVV				MLR	MLR			
	comp=Z,6µm,22.0s							
PSCM	**Serra do Cume**	**145.55**	**48**	*e*PKPdf	**PKPdf**	**10 27 30.1**	**+0.1**	
AKCD	**Akcadag**	**145.60**	311	*i* P	**PKPab**	**10 27 31.9**	**+0.7**	
CWF	**Charnwood Fore**	**145.67**	**7**	*e*P	**PKPdf**	**10 27 26.5**	**-3.2**	
ATAB	**Bozova**	**145.68**	310	*i* P	**PKPdf**	**10 27 27.5**	**-2.8**	
KIS	**Kishinev**	**145.85**	331	*i* PKP	**PKPdf**	**10 27 30.5**	**+0.3**	
	comp=Z,3µm,1.8s							
KIS				*i* pPKP	pPKP	10 27 50.0		
KIS				*i* sPKP	sPKP	10 28 03.0		
KIS	**Kishinev**	**145.85**	331	*e*PKS	**PKSdf**	**10 31 00.0**	**-5.5**	
KIS	**Kishinev**	**145.85**	331	*e*PP	PP	10 31 23.0	+30	
KIS				*e*SKS	SKSdf	10 34 00.0	-27	
KIS				*e*SKKS	**SKKSac**	**10 37 31.0**	**-1.4**	
KIS	**Kishinev**	**145.85**	331	*e*PS		10 40 53.0		
KIS				LRM	MLR	11 30 50.0		
	comp=Z,2µm,21.0s							
KIS	**Kishinev**	**145.85**	331	⇑*i*P	**PKPab**	**10 27 32.4**	**+0.8**	
KIS	**Kishinev**	**145.85**	331	*d i*PKP2	**PKPdf**	**10 27 30.5**	**+0.3**	
KIS				*e*		10 31 00.0		
KIS				pmax	pmax			
	comp=Z,7µm,4.4s							
KIS				pmax	pmax			
	comp=Z,3µm,1.8s							
WACR	**West Acre**	**145.88**	**5**	*e*P	**PKPdf**	**10 27 29.0**	**-1.1**	
LPW	**Lampeter**	**145.88**	**10**	*e*P	**PKPdf**	**10 27 28.6**	**-1.4**	
DESE	**Dese**	**146.03**	262	*i* P	**PKPab**	**10 27 34.7**	**+1.0**	
DESE	**Dese**	**146.03**	262	*i* P	**PKPab**	**10 27 34.7**	**+1.0**	
KWP	**Kalwaria Pacla**	**146.15**	340	*e*PKPdf	**PKPdf**	**10 27 31.1**	**+0.4**	
KWP				*ep*PKPdf	pPKPab	10 28 08.9	+1.6	
KWP				*e*SKKS		10 37 34.8		
KWP				*e*SS	**SS**	**10 49 43.6**	**+4.7**	
KWP				LMZ	LR	11 25 40.0		
	comp=Z,11µm,26.1s							
KWP	**Kalwaria Pacla**	**146.15**	340	*e*PKIKP	**PKPdf**	**10 27 31.1**	**+0.4**	
KWP				*e*		10 28 08.9		
KWP				*e*SS	SS	10 49 43.6	+4.7	
H10S3	**ASCENSION HYDR**	**146.16**	143	PKPbc	**PKPab**	**10 27 33.6**	**+0.1**	
	baz=260,slow=3.5,SNR=5.4							
MCH1	**Michaelchurch**	**146.16**	**9**	*e*P	**PKPdf**	**10 27 27.7**	**-2.9**	
H10S2	**ASCENSION HYDR**	**146.17**	143	PKPbc	**PKPab**	**10 27 34.7**	**+1.3**	
	baz=260,slow=3.5,SNR=12							
AAE	**Adis Abeba**	**146.18**	258	*i* P	**PKPbc**	**10 27 33.4**	**0.0**	
AAE	**Adis Abeba**	**146.18**	258	*i* P	PKPpre	10 27 26.4		
AAE	**Adis Abeba**	**146.18**	258	*i* P	**PKPbc**	**10 27 33.4**	**0.0**	
AAE	**Adis Abeba**	**146.18**	258	*i* P	PKPpre	10 27 26.4		
H10S1	**ASCENSION HYDR**	**146.18**	143	PKPbc	**PKPab**	**10 27 34.1**	**+0.6**	
	baz=260,slow=3.5,SNR=15							
IAS	**Iasi**	**146.27**	332	⇑*i*P	**PKPbc**	**10 27 32.2**	**0.0**	
IAS	**Iasi**	**146.27**	332	⇑PKP2	**PKPbc**	**10 27 32.2**	**0.0**	
MONM	**Monmouth**	**146.35**	**9**	*e*P	**PKPdf**	**10 27 28.0**	**-2.9**	
SSW	**Stow on the Wo**	**146.36**	**8**	*e*P	**PKPbc**	**10 27 32.5**	**+0.2**	
SLMH	**Al Salmeh**	**146.44**	308	*e*P	**PKPbc**	**10 27 32.8**	**-0.4**	
SLMH				*e*S	**pPKPdf**	**10 28 01.7**	**-5.4**	
SLMH				AML	AML	10 28 17.2		
	comp=E,96nm,0.8s							
SLMH				AML	AML	10 28 19.0		
	comp=N,94nm,0.8s							
SLMH	**Al Salmeh**	**146.44**	308	*e*P	**PKPbc**	**10 27 32.8**	**-0.4**	
SLMH				*e*S	**pPKPdf**	**10 28 01.7**	**-5.4**	
SLMH				AML	AML	10 28 17.1		
	comp=E,96nm,0.8s							
SLMH				AML	AML	10 28 19.3		
	comp=N,94nm,0.9s							
LEOM	**Leova**	**146.50**	331	⇓*i*P	**PKPab**	**10 27 33.6**	**-0.5**	
LEOM	**Leova**	**146.50**	331	⇓PKP2	**PKPab**	**10 27 33.6**	**-0.5**	
STRD	**Stroud**	**146.50**	**8**	*e*P	**PKPdf**	**10 27 29.6**	**-1.5**	
OJC	**Ojcow**	**146.52**	343	*e*PKPdf	**PKPdf**	**10 27 31.6**	**+0.3**	
OJC				*ep*PKPdf	pPKPab	10 28 09.9	+1.2	
OJC				*e*PKS	PKSdf	10 31 27.7	+21	
OJC				*e*SKKS		10 37 38.1		
OJC				*e*SS	**SS**	**10 49 38.4**	**-4.4**	
OJC	**Ojcow**	**146.52**	343	*e*PKIKP	**PKPdf**	**10 27 31.6**	**+0.3**	
OJC				*e*		10 28 09.9		
HGH	**Gray Hill**	**146.54**	**9**	*e*P	**PKPdf**	**10 27 31.8**	**+0.6**	
OLDB	**Oldbury-Upon-S**	**146.56**	**9**	*e*P	**PKPdf**	**10 27 29.4**	**-1.8**	
PRAR	**RASCA**	**146.71**	334	⇑*i*P	**PKPbc**	**10 27 34.0**	**+0.4**	
KSP	**Ksiaz**	**146.79**	347	*e*PKPdf	**PKPdf**	**10 27 32.6**	**+0.9**	
KSP				*ep*PKPdf	pPKPab	10 28 10.8	+1.1	
KSP				*e*SKKS		10 37 38.8		
KSP				*e*SS	**SS**	**10 49 45.8**	**0.0**	
KSP				LME		11 28 54.3		
	comp=N,5µm,24.1s							
KSP	**Ksiaz**	**146.79**	347	*e*PKIKP	**PKPdf**	**10 27 32.6**	**+0.9**	
KSP				*e*		10 28 10.8		
KSP				*e*SS	SS	10 49 45.8	0.0	
BATH	**Bath**	**146.80**	**9**	*e*P	**PKPdf**	**10 27 29.7**	**-2.0**	
SWN1	**Swindon**	**146.81**	**8**	*e*P	**PKPdf**	**10 27 31.7**	**0.0**	
STHS	**Stebnicka Huta**	**146.81**	341	*e*PKP	**PKPbc**	**10 27 33.6**	**-0.2**	
STHS				*e*		10 27 35.5		
STHS				*e*		10 28 08.9		
STHS	**Stebnicka Huta**	**146.81**	341	*e*PKP2	**PKPbc**	**10 27 33.6**	**-0.2**	
WTSB	**Winterswijk**	**146.81**	358	*e*PKPbc	**PKPdf**	**10 27 31.2**	**-0.4**	
	comp=N,3µm,1.8s							
WTSB				*ep*PKPbc	pPKPab	10 28 10.0	+0.4	
PSET	**Sete Cidades**	**146.93**	**48**	*e*PKPdf	**PKPdf**	**10 27 33.4**	**+1.0**	
CLL	**Collm**	**146.93**	351	⇑*i*PKP2	**PKPbc**	**10 27 33.5**	**-0.5**	
CLL				pmax	pmax			
	comp=Z,292nm,1.4s							
PDA	**Ponta Delgada**	**147.00**	**49**	*e*PKPdf	**PKPbc**	**10 27 34.2**	**-0.4**	
ANDN	**Andirin**	**147.03**	311	*i* P	**PKPbc**	**10 27 34.2**	**-0.7**	
WOL	**Wolverton**	**147.08**	**8**	*e*P	**PKPdf**	**10 27 30.5**	**-1.6**	
GRON	**Grota Negra**	**147.08**	**48**	*e*PKPdf	**PKPbc**	**10 27 35.3**	**+0.3**	
CMLA	**Cha da Macela**	**147.09**	**48**	*e*PKPdf	**PKPbc**	**10 27 34.6**	**-0.3**	
CMLA	**Cha da Macela**	**147.09**	**48**	*e*PKPdf	**PKPbc**	**10 27 34.3**	**-0.6**	
CMLA				*ep*PKPdf	**pPKPdf**	**10 28 04.1**	**-4.0**	
CMLA	**Cha da Macela**	**147.09**	**48**	*e*PKP2	**PKPbc**	**10 27 34.3**	**-0.6**	
NIE	**Niedzica**	**147.09**	342	*e*PKPdf	**PKPdf**	**10 27 33.4**	**+1.1**	
NIE				*ep*PKPdf	**pPKPab**	**10 28 10.7**	**-0.2**	
NIE				*e*PP	PP	10 31 32.5	+33	
NIE				*e*SKKS		10 37 39.5		
NIE				*e*SS	**SS**	**10 49 48.1**	**-1.4**	
NIE				LMZ	LR	11 24 10.9		
	comp=Z,5µm,27.8s							
NIE	**Niedzica**	**147.09**	342	*e*PKIKP	**PKPdf**	**10 27 33.4**	**+1.1**	
NIE				*e*		10 28 10.7		
NIE				*e*SS	SS	10 49 48.1	-1.4	
H10N3	**ASCENSION HYDR**	**147.15**	142	PKPbc	**PKPbc**	**10 27 36.3**	**+0.9**	
	baz=230,slow=75,SNR=8.4							
UZH	**Uzhgorod**	**147.15**	339	*e*PKIKP	**PKPdf**	**10 27 31.8**	**-0.5**	
UZH				*i*		10 27 36.6		
UZH				*i*		10 28 04.6		
UZH				*i*		10 28 12.2		
UZH				*e*		10 31 02.2		
UZH				*i*		10 34 31.4		
ASCN	**Ascension**	**147.16**	142	*e*PKPdf	**PKPdf**	**10 27 33.4**	**0.0**	
H10N1	**ASCENSION HYDR**	**147.16**	142	PKPbc	**PKPbc**	**10 27 36.0**	**+0.6**	
	baz=230,slow=75,SNR=8.6							
UPC	**Upice**	**147.16**	347	*e*PKP	**PKPdf**	**10 27 33.4**	**+1.1**	
UPC				*ep*PKP	**pPKPab**	**10 28 14.4**	**+3.3**	
UPC				*ex*	x	10 31 24.8		
UPC				*e*SKKS		10 37 39.0		
UPC				*e*SS	**SS**	**10 49 44.3**	**-5.7**	
UPC				AMS	AMS	11 29 30.0		
UPC	**Upice**	**147.16**	347	*e*PKIKP	**PKPdf**	**10 27 33.4**	**+1.1**	
UPC				*e*		10 28 14.4		
UPC				MLR	MLR			
	comp=E,4µm,22.5s							
TLCR		**147.17**	329	⇓*i*P	**PKPbc**	**10 27 34.6**	**-0.3**	
TLCR		**147.17**	329	⇓PKP2	**PKPbc**	**10 27 34.6**	**-0.3**	
H10N2	**ASCENSION HYDR**	**147.17**	142	PKPbc	**PKPab**	**10 27 36.7**	**-0.6**	
	baz=230,slow=75,SNR=10							
TESR	**Tescani**	**147.19**	332	⇑*i*P	**PKPdf**	**10 27 33.6**	**+1.1**	
CRVS	**Cervenica-Dubn**	**147.19**	340	*e*PKP	**PKPdf**	**10 27 33.3**	**+0.8**	
CRVS				*e*		10 27 36.7		
CRVS				*e*		10 28 09.9		
CRVS				*e*PP	PP	10 31 27.6	+27	
CRVS	**Cervenica-Dubn**	**147.19**	340	*e*PKIKP	**PKPdf**	**10 27 33.3**	**+0.8**	
CRVS				*e*		10 27 36.7		
CRVS				*e*		10 28 09.9		
CRVS				*e*SS	SS	10 49 52.4	+1.8	
BRG	**Berggiesshubel**	**147.20**

comp=Z,5µm,21.1s
HARR Harsova 147.96 329 ⇓ *i*P **PKPdf 10 27 35.4 +1.6**
HARR Harsova 147.96 329 ⇓ PKIKP **PKPdf 10 27 35.4 +1.6**
GOPC GO Pecny, Ondr 147.97 348 *e*PKP **PKPdf 10 27 34.6 +0.9**
GOPC *ex* x 10 27 38.6
GOPC *e*SKKS 10 37 47.2
GOPC AMS AMS 11 30 10.0
comp=Z,6µm,21.3s
GOPC GO Pecny, Ondr 147.97 348 *e*PKIKP **PKPdf 10 27 34.6 +0.9**
GOPC *e* 10 27 38.6
GOPC MLR MLR
comp=Z,6µm,21.3s
TLB Topalu 147.98 329 ⇓ *i*P **PKPdf 10 27 34.8 +1.0**
TLB Topalu 147.98 329 ⇓ PKIKP **PKPdf 10 27 34.9 +1.1**
UCC Uccle 147.99 1 ⇑ PKP **PKPbc 10 27 35.3 -1.6**
UCC ⇑ APKP **pPKPab 10 28 14.2 -0.1**
BEBN Eben Emael 148.00 360 ⇑ PKP **PKPbc 10 27 35.4 -1.6**
BEBN ⇑ APKP **pPKPab 10 28 14.7 +0.3**
HGN Heimansgroeve 148.03 359 *e*PKPbc **PKPdf 10 27 33.3 -0.4**
comp=Z,2µm,1.8s
HGN *ep*PKPbc **pPKPab 10 28 13.7 -0.8**
EFOR EFORIE 148.05 327 ⇓ *i*P **PKPbc 10 27 36.0 -1.3**
NKC Novy Kostel 148.06 351 *e*PKP **PKPdf 10 27 35.4 +1.5**
NKC *ex* x 10 27 38.8
NKC *e*SKP 10 30 58.9
NKC *e*SKKS 10 37 46.2
NKC AMS AMS 11 30 20.0
comp=Z,4µm,20.9s
NKC Novy Kostel 148.06 351 *e*PKIKP **PKPdf 10 27 35.4 +1.5**
NKC *e* 10 27 38.8
NKC MLR MLR
comp=Z,4µm,20.9s
DOPR Dopca 148.16 333 ⇓ *i*P **PKPbc 10 27 36.0 -1.6**
VRAC Vranov 148.17 346 ⇓ *i*P **PKPdf 10 27 35.5 +1.4**
VRAC Vranov 148.17 346 ⇓ PKIKP **PKPdf 10 27 35.5 +1.4**
MEM Membach 148.19 359 ⇑ PKP **PKPdf 10 27 35.5 +1.5**
MEM ⇑ APKP **pPKPbc 10 28 11.6 -1.1**
BCAM Yenicaga 148.22 320 *i* P **PKPdf 10 27 34.1 -0.5**
SNF Seneffe 148.28 1 ⇑ PKP **PKPdf 10 27 35.8 +1.7**
SNF ⇑ APKP **pPKPab 10 28 15.4 -0.1**
MLR Muntele Rosu 148.29 332 PKP **PKPdf 10 27 34.0 -0.5**
comp=Z,20nm,1.2s,baz=351,slow=3.4,SNR=62
MLR PKPbc **PKiKP 10 27 38.9 -0.7**
comp=Z,65nm,1.0s,baz=27,slow=3.3,SNR=62
MLR Muntele Rosu 148.29 332 ⇓ *i*P **PKPdf 10 27 35.2 +0.7**
MLR Muntele Rosu 148.29 332 ⇓ PKIKP **PKPdf 10 27 35.2 +0.7**
CJR Cluj-Napoca 148.30 336 ⇓ *i*P **PKPdf 10 27 35.3 +0.9**
CJR Cluj-Napoca 148.30 336 ⇓ PKIKP **PKPdf 10 27 35.3 +0.9**
ISR Istrita 148.30 331 ⇑ *i*P **PKPdf 10 27 36.2 +1.7**
ISR Istrita 148.30 331 ⇑ PKIKP **PKPdf 10 27 36.2 +1.7**
ANTO Ankara 148.31 317 ⇓ *i*P **PKPdf 10 27 36.3 +1.6**
ANTO Ankara 148.31 317 *e*PKPdf **PKPdf 10 27 33.8 -0.9**
ANTO *ep*PKPdf **pPKPbc 10 28 13.6 +0.1**
ANTO Ankara 148.31 317 PKPdf **PKPdf 10 27 35.3 +0.6**
SNR=275
ANTO Ankara 148.31 317 ⇓ PKIKP **PKPdf 10 27 36.4 +1.7**
AMRR Amara 148.31 329 ⇓ *i*P **PKPdf 10 27 35.7 +1.3**
AMRR Amara 148.31 329 ⇓ PKIKP **PKPdf 10 27 35.7 +1.3**
AKSY AKSARAY - Alti 148.32 315 *i* P **PKPdf 10 27 29.8 -4.9**
VYHS Vyhne 148.35 343 *e*PKP **PKPdf 10 27 35.2 +0.8**
VYHS *e* 10 27 40.0
VYHS *e* 10 28 13.4
VYHS *e*PP PP 10 31 31.7 +25
VYHS Vyhne 148.35 343 *e*PKIKP **PKPdf 10 27 35.2 +0.8**
VYHS *e* 10 27 40.0
VYHS *e* 10 28 13.4
VYHS *e*SS SS 10 50 02.2 -1.3
BCLA Clavier 148.38 0 ⇑ PKP **PKPdf 10 27 35.5 +1.2**
BCLA ⇑ APKP **pPKPab 10 28 15.1 -0.8**
TREC Trest 148.42 347 *e*PKP **PKPdf 10 27 35.2 +0.7**
TREC *e*SKKS 10 37 49.2
TREC *e*SS **SS 10 50 01.9 -2.3**
TREC AMS AMS 11 33 30.0
comp=Z,8µm,20.1s
TREC Trest 148.42 347 *e*PKIKP **PKPdf 10 27 35.2 +0.7**
TREC *e* 10 50 01.9
TREC MLR MLR
comp=Z,8µm,20.1s
ICOR Ion Corvin 148.44 328 ⇑ *i*P **PKPdf 10 27 35.8 +1.2**
PSZ Piszkesteto 148.55 341 ⇓ *i*P **PKPdf 10 27 35.9 +1.1**
PSZ Piszkesteto 148.55 341 ⇓ *e*PKPdf **PKPdf 10 27 35.2 +0.4**
PSZ Piszkesteto 148.55 341 *e*PKPdf **PKPdf 10 27 34.3 -0.5**
PSZ *ep*PKPdf **pPKPab 10 28 15.8 -1.0**
PSZ Piszkesteto 148.55 341 ⇓ PKIKP **PKPdf 10 27 35.9 +1.1**
DRGR 148.57 337 ⇓ *i*P **PKPdf 10 27 35.7 +0.8**
DRGR 148.57 337 ⇓ PKIKP **PKPdf 10 27 35.7 +0.8**
SECR 148.59 331 ⇑ *i*P **PKPdf 10 27 36.2 +1.3**
TOTH TOTAH 148.62 304 *e*P **PKPbc 10 27 38.9 -0.3**
TOTH AML AML 10 27 44.2
comp=N,279nm,0.7s
TOTH AML AML 10 27 44.9
comp=E,61nm,0.8s
TOTH *e*S **pPKPab 10 28 13.0 -4.6**
TOTH TOTAH 148.62 304 *e*P **PKPbc 10 27 38.9 -0.3**
TOTH *e*S **pPKPab 10 28 12.7 -4.9**
TOTH AML AML 10 28 22.5
comp=N,90nm,0.8s
TOTH AML AML 10 28 40.9
comp=E,47nm,0.9s
HWQ Hawqa 148.67 306 *e*P **PKPdf 10 27 35.8 +0.3**
QASN Qassioun 148.68 304 *e*P **PKPdf 10 27 37.0 +1.5**
QASN AML AML 10 27 44.3
comp=E,122nm,0.9s
QASN AML AML 10 27 55.2
comp=N,127nm,0.7s
QASN Qassioun 148.68 304 *e*P **PKPdf 10 27 37.0 +1.5**
QASN AML AML 10 28 24.1
comp=N,104nm,0.4s
QASN AML AML 10 28 43.9
comp=E,69nm,0.8s
GIVF Givet 148.70 1 *e*PKIKP **PKPdf 10 27 35.6 +0.7**
DOU Dourbes 148.70 1 ⇑ PKP **PKPdf 10 27 36.4 +1.5**
DOU ⇑ APKP **pPKPab 10 28 16.8 -0.4**
SMOL Smolenice 148.71 344 *e*PKP **PKPbc 10 27 37.0 -1.9**
SMOL *e* 10 27 40.3
SMOL Smolenice 148.71 344 *e*PKIKP **PKPbc 10 27 37.0 -1.9**
SMOL *e* 10 27 40.3
VOIR 148.73 333 ⇓ *i*P **PKPdf 10 27 36.3 +1.1**
VOIR 148.73 333 ⇓ PKIKP **PKPdf 10 27 36.3 +1.1**
BAIF Baives 148.73 1 *e*PKIKP **PKPdf 10 27 35.7 +0.8**
GRFO Grafenberg 148.75 353 *e*PKPdf **PKPdf 10 27 35.8 +0.8**
GRFO *ep*PKPdf **pPKPdf 10 28 10.5 -0.1**
GRFO Grafenberg 148.75 353 *e*PKIKP **PKPdf 10 27 35.8 +0.8**
GRFO *e* 10 28 10.5
MODS Modra-Piesok 148.87 344 *e*PKP **PKPdf 10 27 35.1 -0.1**
MODS *e* 10 27 39.9
MODS *e* 10 28 14.7
MODS *e*PP PP 10 31 32.7 +23
MODS Modra-Piesok 148.87 344 *e*PKIKP **PKPdf 10 27 35.1 -0.1**
MODS *e* 10 27 39.9
MODS *e* 10 28 14.7
KHC Kasperske Hory 148.95 349 *e*PKP **PKPdf 10 27 35.7 +0.3**
KHC *ex* x 10 27 39.6
KHC *ep*PKP **pPKPab 10 28 17.1 -1.2**
KHC *ex* x 10 31 39.5
KHC *e*SKKS 10 37 52.3
KHC AMS AMS 11 31 10.0
comp=E,6µm,21.8s
KHC Kasperske Hory 148.95 349 *e*PKPdf **PKPdf 10 27 35.3 -0.1**
KHC *ep*PKPdf **pPKPbc 10 28 16.0 +1.2**
KHC Kasperske Hory 148.95 349 *e*PKIKP **PKPdf 10 27 35.7 +0.3**
KHC *e* 10 27 39.6
KHC *e* 10 28 17.1
KHC MLR MLR
comp=Z,6µm,21.8s
ARR Arges 148.96 333 ⇑ *i*P **PKPdf 10 27 36.9 +1.4**
BRBR Barbar 148.98 304 *e*P **PKPdf 10 27 36.6 +0.5**
BRBR AML AML 10 27 45.1
comp=N,138nm,0.8s
BRBR AML AML 10 27 55.1
comp=E,81nm,0.7s
BRBR *e*S **pPKPdf 10 28 10.0 -1.7**
BRBR Barbar 148.98 304 *e*P **PKPdf 10 27 37.4 +1.3**
BRBR *e*S **pPKPdf 10 28 10.0 -1.7**
BRBR AML AML 10 28 23.2
comp=N,41nm,0.8s
BRBR AML AML 10 28 54.0
comp=E,48nm,0.8s
JRS Jersey 149.03 9 *e*P **PKPdf 10 27 36.8 +1.4**
JQE Queens East 149.03 9 *e*P **PKPdf 10 27 34.1 -1.2**
BHL Bhannes 149.03 305 *e*P **PKPdf 10 27 36.2 +0.2**
ZST Bratislava 149.08 345 *e*PKP **PKPdf 10 27 35.3 -0.2**
ZST *e* 10 27 41.5
ZST *e* 10 28 15.1
ZST Bratislava 149.08 345 *e*PKIKP **PKPdf 10 27 35.3 -0.2**
ZST *e* 10 27 41.5
ZST *e* 10 28 15.1
WLF Walferdange 149.13 359 ⇓ PKP **PKPdf 10 27 37.6 +2.1**
WLF ⇓ APKP **pPKPab 10 28 17.9 -1.0**
WLF Walferdange 149.13 359 *e*PKPdf **PKPdf 10 27 36.4 +0.8**
WLF *e*PKPbc **PKiKP 10 27 40.8 -0.2**
WLF *ep*PKPdf **pPKPbc 10 28 14.5 -0.7**
WLF Walferdange 149.13 359 *e*PKIKP **PKPdf 10 27 36.4 +0.8**
WLF *e* 10 27 40.8
WLF *e* 10 28 14.5
AUMIH MIHALICIK 149.14 319 *i* P **PKPdf 10 27 36.1 0.0**
SHBL Chebaa 149.16 304 *e*P **PKPdf 10 27 36.8 +0.5**
GERES GERESS Array B 149.20 349 PKP **PKPdf 10 27 35.9 0.0**
comp=E,18nm,1.1s,baz=48,slow=2.0,SNR=86
GERES PKPbc **PKiKP 10 27 40.9 -0.5**
comp=E,140nm,1.1s,baz=29,slow=2.2,SNR=182
BUD Budapest 149.21 342 ⇓ *e*PKPdf **PKPdf 10 27 36.3 +0.6**
SGRR Singureni 149.25 330 ⇓ *i*P **PKPdf 10 27 37.8 +1.9**
DEV Deva 149.25 336 ⇑ *i*P **PKPdf 10 27 36.8 +0.9**
LOT Lotru 149.26 334 ⇓ *i*P **PKPdf 10 27 36.7 +0.6**
SIRR Siria 149.40 337 ⇓ *i*P **PKPdf 10 27 37.2 +1.1**
HUMR Humele 149.47 332 ⇑ *i*P **PKPdf 10 27 37.7 +1.4**
CSKK Cs˙‡kako 149.54 343 ⇓ *e*PKPdf **PKPbc 10 27 41.8 +0.8**
MMAI Mount Meron Ar 149.54 304 PKP **PKPdf 10 27 38.5 +1.6**
comp=E,195nm,0.9s,baz=252,slow=0.9,SNR=40
MMAI PKPbc **PKiKP 10 27 43.1 +0.5**
comp=E,436nm,1.0s,baz=64,slow=3.4,SNR=100
CONA Conrad Observa 149.63 346 *i* PKPdf **PKPdf 10 27 37.4 +0.8**
comp=E,164nm,2.0s,SNR=92
CONA *i* PKiKP **PKiKP 10 27 42.5 +0.2**
comp=E,762nm,1.3s
FLN La Foliniere 149.68 8 *e*PKHKP **PKPdf 10 27 36.9 +0.4**
SOP Sopron 149.69 345 ⇓ *e*PKPdf **PKPdf 10 27 37.4 +0.9**
STU Stuttgart 149.87 355 *e*PKPdf **PKPdf 10 27 37.0 +0.2**
STU *e*PKPbc **PKiKP 10 27 42.4 -0.3**
BZS Buzias 149.97 337 ⇓ *i*P **PKPdf 10 27 37.8 +0.8**
GRR Gorron 149.99 8 *e*PKHKP **PKPdf 10 27 37.5 +0.5**
MOA Molln 150.05 348 *i* PKPdf **PKPdf 10 27 37.5 +0.4**
comp=E,68nm,1.4s,SNR=64
MOA *i* PKiKP **PKiKP 10 27 43.1 0.0**
comp=E,266nm,1.2s
QUIF Quistinic 150.08 11 *e*PKIKP **PKPdf 10 27 37.5 +0.4**
QUIF pmax pmax
comp=Z,824nm,1.6s
SRE Strehaia 150.13 334 ⇓ *i*P **PKPdf 10 27 38.5 +1.2**
SRE Strehaia 150.13 334 ⇓ PKIKP **PKPdf 10 27 38.5 +1.2**
BANR Banloc 150.35 337 ⇓ *i*P **PKPdf 10 27 39.2 +1.6**
ARSA Arzberg 150.35 346 *i* PKPdf **PKPdf 10 27 37.9 +0.3**
comp=Z,87nm,2.0s,SNR=38
ARSA *i* PKiKP **PKiKP 10 27 43.7 0.0**
comp=Z,227nm,1.2s
CDF Champ du Feu 150.35 357 *e*PKIKP **PKPdf 10 27 38.0 +0.3**
CDF pmax pmax
comp=Z,754nm,1.4s
CSS Mathiatis 150.37 309 *e*PKPdf **PKPdf 10 27 37.0 -1.0**
CSS *e*PKPbc **PKiKP 10 27 44.5 +0.4**
CSS *e*PKPab **PKPab 10 27 50.6 +0.4**
CSS Mathiatis 150.37 309 P **PKPdf 10 27 37.5 -0.5**
BFO Black Forest 150.37 356 *e*PKPdf **PKPdf 10 27 38.0 +0.4**
BFO *e*PKPbc **PKiKP 10 27 43.5 -0.2**
BFO *e*PKPab **PKPab 10 27 50.8 +1.1**
BFO *ep*PKPdf **pPKPdf 10 28 13.4 +0.2**
BFO Black Forest 150.37 356 *e*PKIKP **PKPdf 10 27 38.0 +0.4**
BFO *e* 10 27 50.8
BFO *e* 10 28 13.4
MORH M˜‡r˜igy, Hung 150.46 341 ⇓ *e*PKPdf **PKPdf 10 27 38.0 +0.2**
ECH Echery 150.55 357 *e*PKPdf **PKPdf 10 27 38.1 +0.2**
ECH *e*PKPbc **PKPbc 10 27 43.6 +0.2**
ECH *e*PKPab **PKPab 10 27 51.2 +0.7**
ECH *ep*PKPdf **pPKPbc 10 28 17.3 -1.4**
ECH Echery 150.55 357 *e*PKIKP **PKPdf 10 27 38.1 +0.2**
ECH *e* 10 27 51.2
ECH *e* 10 28 17.3
BAGO Egridir - ISPA 150.65 316 *i* P **PKPdf 10 27 40.1 +1.6**
BEHE Becsehely 150.76 344 ⇓ *e*PKPdf **PKPdf 10 27 38.7 +0.5**
HAU Haudompre 150.79 359 *e*PKIKP **PKPdf 10 27 38.6 +0.3**
HAU pmax pmax
comp=Z,410nm,1.1s
ISP Isparta 150.92 316 ⇓ *i*P **PKPdf 10 27 39.2 +0.3**
ISP Isparta 150.92 316 *e*PKPdf **PKPdf 10 27 37.2 -1.7**
ISP *e*PKPbc **PKPbc 10 27 44.6 -0.1**
ISP *ep*PKPdf **pPKPdf 10 28 15.9 +1.4**
ISP Isparta 150.92 316 P **PKPdf 10 27 37.9 -1.0**
ISP Isparta 150.92 316 *d* PKIKP **PKPdf 10 27 38.1 -0.8**
HINF Hinteralfeld 150.96 358 *e*PKIKP **PKPdf 10 27 38.9 +0.3**
HINF pmax pmax
comp=Z,772nm,1.8s
KBA Koelnbreinsper 150.97 349 *i* PKPdf **PKPdf 10 27 38.5 -0.3**
comp=Z,75nm,1.4s,SNR=46
KBA *i* PKPbc **PKPbc 10 27 44.6 0.0**
comp=Z,318nm,1.1s
RETA Reutte 150.97 352 *i* PKPdf **PKPdf 10 27 39.0 +0.4**
comp=Z,87nm,2.1s,SNR=22
RETA *i* PKiKP **PKiKP 10 27 45.2 +0.1**
comp=Z,457nm,1.3s
SOKA Soboth 151.00 346 *i* PKPdf **PKPdf 10 27 38.6 -0.1**
comp=Z,134nm,2.1s,SNR=64
SOKA *i* PKPbc **PKPbc 10 27 44.6 +0.1**
comp=Z,403nm,1.2s
WATA Walderalm 151.01 351 *i* PKPdf **PKPdf 10 27 39.8 +1.0**
comp=Z,51nm,1.1s,SNR=49
WATA *i* PKiKP **PKiKP 10 27 45.5 +0.3**
comp=Z,264nm,0.9s
PERS Pernice 151.02 346 *e*PKPdf **PKPdf 10 27 38.4 -0.4**
PERS *i* PKPbc **PKiKP 10 27 45.2 +0.1**
MOTA Moosalm 151.07 352 *i* PKPdf **PKPdf 10 27 38.8 -0.1**
comp=Z,63nm,1.1s,SNR=27
MOTA *i* PKiKP **PKiKP 10 27 45.8 +0.5**
comp=Z,317nm,0.9s
WTTA Wattenberg 151.07 351 *i* PKPdf **PKPdf 10 27 39.4 +0.4**
comp=Z,56nm,1.3s,SNR=46
WTTA *i* PKiKP **PKiKP 10 27 45.4 0.0**
comp=Z,110nm,0.5s
OBKA Obir 151.27 347 *i* PKPdf **PKPdf 10 27 38.8 -0.3**
comp=Z,59nm,1.9s,SNR=34
OBKA *i* PKPbc **PKPbc 10 27 45.4 +0.1**
comp=Z,177nm,1.2s
DAVA Damuels 151.27 354 *i* PKPdf **PKPdf 10 27 39.7 +0.5**
comp=Z,94nm,1.9s,SNR=25
DAVA *i* PKiKP **PKiKP 10 27 46.2 +0.4**
comp=Z,589nm,1.3s
BRDR BURDUR-Merkez 151.29 316 *i* P **PKPbc 10 27 43.3 -2.3**
MYKA Terra Mystica 151.34 348 *i* PKPdf **PKPdf 10 27 38.8 -0.4**
comp=Z,90nm,1.8s,SNR=34
MYKA *i* PKPbc **PKPbc 10 27 44.9 -0.5**
comp=Z,304nm,1.1s
FETA Feichten 151.44 352 *i* PKPdf **PKPdf 10 27 39.6 +0.2**
comp=Z,108nm,1.1s,SNR=46
FETA *i* PKiKP **PKiKP 10 27 46.4 +0.2**
comp=Z,490nm,1.1s
ABTA Abfaltersbach 151.44 350 *i* PKPdf **PKPdf 10 27 39.3 -0.1**
comp=Z,152nm,1.2s,SNR=56
ABTA *i* PKPbc **PKPbc 10 27 45.6 0.0**
comp=Z,712nm,1.3s
ALN Alexandroupoli 151.65 326 P **PKPdf 10 27 38.5 -1.3**
ENEZ Enez 151.70 325 P **PKPdf 10 27 39.0 -0.8**
RDO Rodhopi 151.74 327 P **PKPdf 10 27 39.0 -0.9**
VTS Vitosha 151.79 331 ⇓ *i*P **PKPdf 10 27 40.9 +0.8**
VTS Vitosha 151.79 331 P **PKPdf 10 27 40.0 -0.1**
VTS Vitosha 151.79 331 ⇓ PKIKP **PKPdf 10 27 40.9 +0.8**
OZLJ Ozalj 151.90 345 P **PKPdf 10 27 40.6 +0.7**
JAVS Javornik 151.96 347 *i* PKPdf **PKPdf 10 27 40.0 -0.2**
JAVS *i* PKPbc **PKPbc 10 27 46.8 -0.1**
AVF Avril sur Loir 151.97 3 *e*PKIKP **PKPdf 10 27 40.4 +0.3**
AVF pmax pmax
comp=Z,313nm,1.3s
AKHS Akhisar 152.00 320 *i* P **PKPdf 10 27 41.4 +1.1**
BOJS Bojanci 152.05 345 *e*PKPdf **PKPdf 10 27 40.6 +0.4**
BOJS *e*PKPbc **PKiKP 10 27 48.4 +1.2**
TUE Stuetta 152.13 354 *e*PKPdf **PKPdf 10 27 39.5 -1.1**
TUE *e*PKPbc **PKiKP 10 27 47.9 +0.3**
BAYC CANAKKALE_Bayi 152.17 323 *i* P **PKPdf 10 27 39.2 -1.4**
TRI Trieste 152.20 347 *e*PKPdf **PKPdf 10 27 39.8 -0.6**
TRI *e*PKPbc **PKPbc 10 27 47.3 +0.1**
TRI *ep*PKPdf **pPKPdf 10 28 16.7 +0.7**
TRI Trieste 152.20 347 *e*PKIKP **PKPdf 10 27 39.8 -0.6**
TRI *e* 10 28 16.7
GADA Gvkgeada 152.22 325 P **PKPdf 10 27 39.6 -1.0**
BLY Banja Luka 152.22 342 ⇓ *i*P **PKPdf 10 27 40.8 +0.3**
SMTH Samothraki Isl 152.23 326 P **PKPdf 10 27 39.5 -1.2**
EZN Ezine 152.24 324 P **PKPdf 10 27 39.9 -0.8**
KAVA Kavala 152.38 328 P **PKPdf 10 27 40.2 -0.6**
BOZC Bozcaada 152.38 324 *i* P **PKPdf 10 27 44.0 +3.1**
AKAS Kas 152.40 314 *i* P **PKPbc 10 27 46.2 -2.0**
NVR Nevrokopi 152.44 329 P **PKPdf 10 27 40.0 -1.0**
KSL Kastellorizon 152.46 314 P **PKPdf 10 27 40.4 -0.7**
FETY Fethiye 152.53 315 P **PKPdf 10 27 40.1 -1.2**
PRK Paraskevi 152.66 323 P **PKPdf 10 27 40.8 -0.5**
AYDN Tasoluk 152.71 318 *i* P **PKPdf 10 27 40.7 -0.8**
SRS Serrai 152.75 329 P **PKPdf 10 27 39.1 -2.3**
PLE Pljevlja 152.75 337 ⇓ *i*PKP **PKPdf 10 27 41.3 -0.2**
LIA Limnos Island 152.82 325 P **PKPdf 10 27 41.3 -0.2**
SIGR SIGRI 152.92 323 P **PKPdf 10 27 40.4 -1.3**
IVA Berane 152.95 336 ⇓ *i*PKP **PKPdf 10 27 41.3 -0.5**
NVLJ Novalja 153.03 345 P **PKPdf 10 27 41.4 -0.3**
UPM Unac-Piva 153.04 338 *e*PKP **PKPdf 10 27 42.1 +0.1**
KNT Kendrikon 153.05 330 P **PKPdf 10 27 40.7 -1.2**
SKO Skopje 153.07 333 *i* PKP **PKPdf 10 27 43.1 +1.2**
VAY Valandovo 153.08 330 *i* PKP **PKPdf 10 27 41.2 -0.7**
SOH Sokhos 153.09 329 P **PKPdf 10 27 40.3 -1.7**
KOME Kolasin 153.12 336 ⇓ *i*PKP **PKPdf 10 27 41.6 -0.4**
OUR Ouranopolis 153.14 327 P **PKPdf 10 27 41.3 -0.7**
PVY Plav 153.16 336 *e*PKP **PKPdf 10 27 41.6 -0.5**
LPL La Plagne 153.26 358 *e*PKIKP **PKPdf 10 27 43.3 +1.0**
LPL pmax pmax
comp=Z,157nm,1.2s
LPG La Plagne 153.28 358 *e*PKIKP **PKPdf 10 27 43.5 +1.1**
LPG pmax pmax
comp=Z,109nm,1.3s
RJF Les Rejaudoux 153.31 6 *e*PKIKP **PKPdf 10 27 42.7 +0.6**
RJF pmax pmax
comp=Z,207nm,1.6s
SMG Samos 153.33 320 P **PKPdf 10 27 41.5 -0.9**
NKY Niksic 153.34 337 ⇓ *i*PKP **PKPdf 10 27 42.1 -0.3**
CHOS Chios island 153.36 322 P **PKPdf 10 27 41.8 -0.7**
PLG Polygyros 153.38 328 P **PKPdf 10 27 41.0 -1.4**
HORT Hortiatis 153.38 329 P **PKPdf 10 27 41.3 -1.2**
NKME Niksic 153.40 337 *e*PKP **PKPdf 10 27 41.8 -0.6**
ARG Arkhangelos 153.40 316 P **PKPdf 10 27 42.4 -0.1**
THE Thessaloniki 153.42 329 P **PKPdf 10 27 40.8 -1.6**
BRY Bratogost 153.43 338 ⇓ *i*PKP **PKPdf 10 27 41.8 -0.7**
BODT Bodrum 153.44 318 P **PKPdf 10 27 40.8 -1.8**
GRG Griva 153.44 330 P **PKPdf 10 27 41.3 -1.2**
SSB Saint Sauveur 153.52 1 *e*PKPdf **PKPdf 10 27 42.9 +0.5**
SSB *e*PKPbc **PKiKP 10 27 51.4 +1.0**
SSB *e*PKPab **PKPab 10 28 04.2 +1.2**
SSB Saint Sauveur 153.52 1 *e*PKIKP **PKPdf 10 27 42.9 +0.5**
SSB *e* 10 28 04.2
PDG Podgorica 153.57 336 ⇓ *i*P **PKPdf 10 27 43.0 +0.5**
PDG Podgorica 153.57 336 P **PKPdf 10 27 42.1 -0.5**
TTG Podgorica 153.57 336 ⇓ *i*PKP **PKPdf 10 27 42.0 -0.5**
PAIG Paliouri 153.59 327 P **PKPdf 10 27 41.3 -1.3**
CEME Cevo 153.60 337 ⇓ *i*PKP **PKPdf 10 27 42.1 -0.6**
KRUS Krusevo 153.64 332 *i* PKP **PKPdf 10 27 42.8 0.0**
BNI Bardonecchia 153.73 358 *e*PKPdf **PKPdf 10 27 43.4 +0.5**
BNI *ep*PKPab **PKPab 10 28 06.0 +2.0**
BNI Bardonecchia 153.73 358 *e*PKIKP **PKPdf 10 27 43.4 +0.5**
BNI *e* 10 28 06.0
PHP Peshkopia 153.73 334 P **PKPdf 10 27 42.1 -0.8**
CAF Calviac 153.74 5 *e*PKIKP **PKPdf 10 27 43.6 +0.8**
CAF pmax pmax
comp=Z,111nm,1.3s
STON Ston 153.75 339 P **PKPdf 10 27 40.7 -2.0**
DRME Dracevica, Mon 153.81 336 ⇓ *i*PKP **PKPdf 10 27 42.7 -0.2**
BUM Brajici-Budva 153.82 337 ⇓ *i*PKP **PKPdf 10 27 42.6 -0.4**
NISR Nisiros 153.82 317 P **PKPdf 10 27 43.0 -0.1**
HCY Herceg Novi 153.84 337 ⇓ *i*PKP **PKPdf 10 27 42.2 -0.7**
ORIF Oris-en-Rattie 153.88 359 *e*PKIKP **PKPdf 10 27 43.9 +0.8**
SKY Skiros Island 153.89 324 P **PKPdf 10 27 42.0 -1.1**
BIA Bitola 153.89 332 *i* PKP **PKPdf 10 27 44.3 +1.2**
VIVF Saint-Julien-l 153.94 1 *e*PKIKP **PKPdf 10 27 44.1 +1.0**
VIVF pmax pmax
comp=Z,194nm,1.7s
ULC Ulcinj 153.98 336 ⇓ *i*PKP **PKPdf 10 27 42.7 -0.5**
OHR Ohrid 154.05 333 *i* PKP **PKPdf 10 27 42.8 -0.6**
FNA Fiolina 154.06 331 P **PKPdf 10 27 42.5 -0.9**
LIT Litokhoron 154.06 329 P **PKPdf 10 27 42.2 -1.2**
PGAV Gavieira, Arco 154.11 24 *e*PKPdf **PKPdf 10 27 44.3 +0.8**
PGAV Gavieira, Arco 154.11 24 *e*SS SS 10 51 11.6 +4.1
KZN Kozani 154.25 330 P **PKPdf 10 27 42.6 -1.1**
TIR Tirane 154.25 334 *e*PKPdf **PKPdf 10 27 43.1 -0.4**
TIR *e*PKPbc **PKiKP 10 27 53.3 +1.4**
TIR *e*PKPab **PKPab 10 28 07.5 +1.3**
TIR Tirane 154.25 334 P **PKPdf 10 27 43.6 +0.1**
TIR Tirane 154.25 334 *e*PKIKP **PKPdf 10 27 43.1 -0.4**
TIR *e* 10 28 07.5
XOR Xorichti 154.26 327 P **PKPdf 10 27 42.6 -1.1**
SKIA Skiathos 154.27 326 P **PKPdf 10 27 42.6 -1.1**
VLC Villacollemand 154.29 352 *e*PKPdf **PKPdf 10 27 41.4 -2.1**
VLC *e*PKPab **PKiKP 10 27 52.1 +0.2**
VLC *e*PKPab **PKPab 10 28 06.1 -0.2**
FYTO Fytoko, Volos 154.36 327 P **PKPdf 10 27 42.7 -1.1**
PCAB Cabril 154.42 24 *e*PKPdf **PKPdf 10 27 44.4 +0.6**
PCAB Cabril 154.42 24 *e*PKPab **PKPab 10 28 07.6 +0.6**
PCAB Cabril 154.42 24 *e*PP PP 10 31 42.1 +0.2
KARP Karpathos 154.43 315 P **PKPdf 10 27 43.5 -0.5**
KBN Korca 154.45 332 P **PKPdf 10 27 43.7 -0.3**
NEST Nestorio 154.50 331 P **PKPdf 10 27 43.8 -0.3**
APE Apeiranthos 154.54 320 P **PKPdf 10 27 42.4 -1.8**
KARY Karystos 154.54 323 P **PKPdf 10 27 42.9 -1.2**
EREA Eretria 154.55 324 P **PKPdf 10 27 42.8 -1.3**
SMIA Simia 154.61 326 P **PKPdf 10 27 43.5 -0.7**
THL Klokotos Trika 154.71 329 P **PKPdf 10 27 42.9 -1.3**
KPRO Kipourio 154.72 330 P **PKPdf 10 27 43.9 -0.4**
POLO Lamas de Olo 154.80 24 *e*PKPdf **PKPdf 10 27 44.4 0.0**
POLO Lamas de Olo 154.80 24 *e*PKPab **PKPab 10 28 09.7 +1.0**
POLO Lamas de Olo 154.80 24 *e*SS SS 10 51 14.3 -0.7
PBRG Braganca 154.81 22 *e*PKPdf **PKPdf 10 27 44.8 +0.4**
PBRG Braganca 154.81 22 *e*PKPab **PKPab 10 28 09.1 +0.5**
PTL Penteli 154.85 324 P **PKPdf 10 27 42.9 -1.6**
LKR Lokris 154.89 326 P **PKPdf 10 27 43.0 -1.0**
PVRL Vila Real 154.91 24 *e*PKPdf **PKPdf 10 27 45.7 +1.2**
PVRL Vila Real 154.91 24 *e*PKPab **PKPab 10 28 09.3 +0.2**
PVRL Vila Real 154.91 24 *e*PP PP 10 31 44.6 -0.1
ATHU Athens Univers 154.96 324 P **PKPdf 10 27 43.1 -1.5**
AGG Agios Georgios 154.96 327 P **PKPdf 10 27 43.0 -1.7**
AXAR Agios Charalam 154.99 327 P **PKPdf 10 27 45.1 +0.4**
ATH Athens Observa 154.99 324 P **PKPdf 10 27 43.4 -1.3**
SANT Santorini 155.03 319 *e*PKPdf **PKPdf 10 27 42.9 -1.9**
SANT *e*PKPbc PKPbc 10 27 52.5
SANT *e*PKPab **PKPab 10 28 08.9 -0.9**
VLY Voula,Athens 155.03 324 P **PKPdf 10 27 43.1 -1.6**
SAP3 Santorini-Thir 155.06 319 P **PKPdf 10 27 45.0 +0.2**
SJPF Ste Jean 155.07 11 *e*PKIKP **PKPdf 10 27 45.8 +1.1**
SJPF pmax pmax
comp=Z,350nm,2.0s
VILL Villia 155.08 325 P **PKPdf 10 27 42.9 -2.0**
SERI Serifos 155.11 321 P **PKPdf 10 27 43.1 -1.8**
JAN Janina 155.20 330 P **PKPdf 10 27 45.0 0.0**
PROD Prodromos 155.23 325 P **PKPdf 10 27 45.0 0.0**
MVO Moncorvo 155.27 23 *e*PKPdf **PKPdf 10 27 46.3 +1.2**
MVO Moncorvo 155.27 23 *e*PKPab **PKPab 10 28 11.6 +1.0**
MVO Moncorvo 155.27 23 *e*PP PP 10 31 52.0 +5.4
MVO Moncorvo 155.27 23 *e*SS SS 10 51 21.9 +2.0
ZKR Zakros 155.31 316 P **PKPdf 10 27 45.4 +0.2**
EVR Evrytania 155.31 328 P **PKPdf 10 27 45.1 -0.1**
DSF Desfina 155.32 326 P **PKPdf 10 27 43.6 -1.6**
MTLF Montolieu 155.32 5 *e*PKIKP **PKPdf 10 27 47.2 +2.2**
MTLF pmax pmax
comp=Z,258nm,2.0s
PVIS Viseu 155.33 25 *e*PKPdf **PKPdf 10 27 46.1 +1.0**
PVIS Viseu 155.33 25 *e*PKPab **PKPab 10 28 11.2 +0.3**
PVIS Viseu 155.33 25 *e*PP PP 10 31 47.4 +0.4
LTK Loutraki 155.37 325 P **PKPdf 10 27 43.8 -1.4**
LOUT Loutraki 155.39 325 P **PKPdf 10 27 43.9 -1.3**
ETSF Etsaut 155.40 10 *e*PKIKP **PKPdf 10 27 47.4 +2.2**
ETSF pmax pmax
comp=Z,247nm,2.0s
SRN Sarande 155.40 332 P **PKPdf 10 27 44.7 -0.4**
**PMOZ Porto Moniz, M 155.41

IGT	Igoumenitsa	155.53	331	P	PKPdf	10 27 44.4	-1.0
KALE	Kalithea	155.54	327	P	PKPdf	10 27 44.7	-0.8
SERG	Sergoula	155.56	327	P	PKPdf	10 27 45.0	-0.5
DID	Didima	155.59	324	P	PKPdf	10 27 44.2	-1.3
TRIZ	Trizonia	155.59	327	P	PKPdf	10 27 44.5	-0.9
NPS	Neapolis	155.62	317	P	PKPdf	10 27 45.4	-0.2
KEK	Kerkira	155.63	332	P	PKPdf	10 27 44.7	-0.8
EFP	Efpalio	155.63	327	P	PKPdf	10 27 45.7	+0.2
PCAS	Casmilo, Conde	155.64	26	ePKPdf	PKPdf	10 27 47.0	+1.5
PCAS	Casmilo, Conde	155.64	26	ePKPab	PKPab	10 28 13.1	+0.9
PCAS	Casmilo, Conde	155.64	26	ePP	PP	10 31 49.6	+0.9
PCAS	Casmilo, Conde	155.64	26	eSS	SS	10 51 26.7	+2.7
PMAR	Madeira	155.67	51	ePKPdf	PKPdf	10 27 48.4	+2.4
PMAR	Madeira	155.67	51	ePKPab	PKPab	10 28 14.2	+1.3
PMAR				*i* P	pPKPab	10 28 48.8	+1.7
PMAR	Madeira	155.67	51	ePP	PP	10 31 54.5	+4.4
PVO	Paravola	155.68	328	P	PKPdf	10 27 45.6	0.0
KRND	KRANIDI	155.72	324	P	PKPdf	10 27 44.4	-1.3
FUL	Funchal	155.72	51	ePKPdf	PKPdf	10 27 48.6	+2.8
FUL	Funchal	155.72	51	ePKPab	PKPab	10 28 13.8	+1.0
FUL	Funchal	155.72	51	ePP	PP	10 31 53.6	+3.5
LAKA	Lakka	155.73	327	P	PKPdf	10 27 46.0	+0.3
MTE	Manteigas	155.73	24	ePKPdf	PKPdf	10 27 46.1	+0.4
MTE	Manteigas	155.73	24	ePKPab	PKPab	10 28 13.3	+0.7
MTE	Manteigas	155.73	24	eSS	SS	10 51 28.6	+3.5
MTE	Manteigas	155.73	24	ePKPdf	PKPdf	10 27 45.6	-0.1
MTE				ePKPab	PKPab	10 28 13.0	+0.3
LAST	Lasithi	155.77	317	P	PKPdf	10 27 45.1	-0.8
GUR	Goura	155.77	326	P	PKPdf	10 27 45.1	-0.8
KLV	Kalavryta, Ach	155.79	326	P	PKPdf	10 27 44.7	-1.1
PDO	Prodromos	155.87	328	P	PKPdf	10 27 45.6	-0.2
PMPS	Porto Santo	155.93	49	ePKPdf	PKPdf	10 27 47.2	+1.1
PMPS	Porto Santo	155.93	49	ePKPab	PKPab	10 28 14.9	+1.2
LKD2	Lefkada island	155.97	329	P	PKPdf	10 27 45.4	-0.6
PTOM	Tomar	156.04	27	ePKPdf	PKPdf	10 27 47.9	+1.9
PTOM	Tomar	156.04	27	ePKPab	PKPab	10 28 14.7	+0.8
PTOM	Tomar	156.04	27	ePP	PP	10 31 51.8	+0.9
PGF	Pioggiola	156.05	353	ePKIKP	PKPdf	10 27 46.3	+0.2
PGF				pmax	pmax		
	comp=Z,283nm,1.7s						
MATE	Matera	156.06	338	*i* P	PKPdf	10 27 46.5	+0.5
IDI	Anoyia	156.07	317	PKP	PKPdf	10 27 46.8	+0.5
	comp=Z,39nm,1.0s,baz=109,slow=3.0,SNR=9.4						
IDI	Anoyia	156.07	317	*i* P	PKPdf	10 27 47.0	+0.7
IDI	Anoyia	156.07	317	ePKPdf	PKPdf	10 27 46.0	-0.2
IDI				ePKPab	PKPab	10 28 14.5	+0.2
DRO	Drossia	156.09	327	P	PKPdf	10 27 46.5	+0.3
TRIP	Tripoli	156.10	325	P	PKPdf	10 27 46.2	-0.1
RLS	Riolos of Patr	156.14	327	P	PKPdf	10 27 46.3	+0.1
VLX	Vlachokerasia	156.16	325	P	PKPdf	10 27 46.1	-0.3
PMAFR	Mafra	156.19	29	ePKPdf	PKPdf	10 27 47.2	+0.9
PMAFR	Mafra	156.19	29	ePKPab	PKPab	10 28 15.7	+1.1
PMAFR				*i* P	pPKPab	10 28 48.6	-0.2
PMAFR	Mafra	156.19	29	eSS	SS	10 51 28.4	-1.8
PCBR	Castelo Branco	156.24	25	ePKPdf	PKPdf	10 27 46.8	+0.5
PCBR	Castelo Branco	156.24	25	ePKPab	PKPab	10 28 14.9	+0.2
FSK	Fiskardo	156.28	329	P	PKPdf	10 27 45.7	-0.7
SIVA	Sivas	156.29	317	P	PKPdf	10 27 45.9	-0.6
VLI	Veliai	156.31	323	P	PKPdf	10 27 45.4	-1.1
ALMR	Almeirim	156.35	28	eP	PKPdf	10 27 46.6	+0.1
ALMR				eSS	SS	10 51 34.5	+2.8
ALMR				AMS	AMS	11 43 56.2	
	comp=Z,3µm,14.4s						
ALMR	Almeirim	156.35	28	ePKPdf	PKPdf	10 27 47.4	+1.0
ALMR	Almeirim	156.35	28	ePKPab	PKPab	10 28 15.8	+0.6
ALMR				*i* P	pPKPab	10 28 49.3	-0.2
ALMR	Almeirim	156.35	28	ePP	PP	10 31 54.3	+1.6
AMT	Artemida-Makis	156.40	326	P	PKPdf	10 27 46.0	-0.6
PMST	Lisbon--Monsan	156.42	29	ePKPdf	PKPdf	10 27 47.8	+1.3
PMST	Lisbon--Monsan	156.42	29	ePKPab	PKPab	10 28 16.5	+1.0
PMST				*i* P	pPKPab	10 28 49.9	+0.1
VAM	Vamos	156.43	319	P	PKPdf	10 27 46.7	0.0
KFL	Anninata	156.44	328	P	PKPdf	10 27 46.0	-0.6
LIS	Lisbon	156.45	29	eP	PKPdf	10 27 46.7	+0.1
LIS				eSS	SS	10 51 35.7	+2.8
LIS				AMS	AMS	11 45 00.8	
	comp=Z,3µm,18.7s						
VLS	Valsamata	156.49	329	P	PKPdf	10 27 46.0	-0.7
IMMV	Iera Moni Meta	156.53	319	P	PKPdf	10 27 46.5	-0.3
ITM	Ithomi	156.55	325	P	PKPdf	10 27 46.0	-0.8
KYTH	Kithira	156.56	322	P	PKPdf	10 27 46.0	-0.9
PMTG	Montargil	156.57	27	ePKPdf	PKPdf	10 27 47.0	+0.3
PMTG	Montargil	156.57	27	ePKPab	PKPab	10 28 16.7	+0.5
PMTG				*i* P	pPKPab	10 28 50.1	-0.3
PMTG	Montargil	156.57	27	eSS	SS	10 51 30.4	-3.7
DYR	Agios Nikonas	156.62	324	P	PKPdf	10 27 46.0	-0.9
PMRV	Marv??o	156.62	25	ePKPdf	PKPdf	10 27 47.6	+0.8
PMRV	Marv??o	156.62	25	ePKPab	PKPab	10 28 17.3	+0.9
PMRV				*i* P	pPKPab	10 28 50.1	-0.6
PMRV	Marv??o	156.62	25	eSS	SS	10 51 29.8	-4.8
ANKY	Antikythira Is	156.68	321	P	PKPdf	10 27 47.3	+0.3
PYL	PYLOS	156.85	325	P	PKPdf	10 27 45.9	-1.3
GVD	Gavdhos	156.86	318	P	PKPdf	10 27 46.3	-0.9
CUC	Castrocucco	156.95	339	ePKPdf	PKPdf	10 27 45.4	-1.9
PESTR	Estremoz	157.01	27	ePKPdf	PKPdf	10 27 47.8	+0.5
PESTR	Estremoz	157.01	27	ePKPab	PKPab	10 28 18.8	+0.7
PESTR				*i* P	pPKPab	10 28 50.8	-1.6
PESTR	Estremoz	157.01	27	eSS	SS	10 51 36.2	-2.6
EVO	Evora	157.11	28	ePKPdf	PKPdf	10 27 48.4	+0.9
EVO	Evora	157.11	28	ePKPab	PKPab	10 28 19.4	+0.9
EVO				*i* P	pPKPab	10 28 51.7	-1.1
EVO	Evora	157.11	28	ePP	PP	10 31 55.9	-1.0
PNCL	Nicolau / Gran	157.22	29	ePKPdf	PKPdf	10 27 48.7	+1.1
PNCL	Nicolau / Gran	157.22	29	ePKPab	PKPab	10 28 20.0	+1.0
PNCL				*i* P	pPKPab	10 28 51.8	-1.4
PNCL	Nicolau / Gran	157.22	29	eSS	SS	10 51 38.1	-3.0
TIP	Timpagrande	157.34	336	*i* P	PKPdf	10 27 48.3	+0.5
TIP	Timpagrande	157.34	336	ePKPdf	PKPdf	10 27 45.7	-2.1
TIP				ePKPab	PKPab	10 28 20.6	+1.1
TIP	Timpagrande	157.34	336	P	PKPdf	10 27 47.3	-0.5
PTEO	Sao Teotonio	157.59	30	ePKPdf	PKPdf	10 27 50.3	+2.2
PTEO	Sao Teotonio	157.59	30	ePKPab	PKPab	10 28 21.1	+0.5
PBEJ	Beja	157.59	28	ePKPdf	PKPdf	10 27 48.4	+0.8
PBEJ	Beja	157.59	28	ePKPab	PKPab	10 28 21.7	+1.1
PBEJ				*i* P	pPKPab	10 28 55.9	+1.0
PBEJ	Beja	157.59	28	ePP	PP	10 31 59.8	+0.2
PAB	San Pablo	157.63	20	ePKPdf	PKPdf	10 27 49.2	+1.0
PAB				ePKPab	PKPab	10 28 21.9	+1.1
PAB	San Pablo	157.63	20	ePKIKP	PKPdf	10 27 49.2	+1.0
PAB				*e*		10 28 21.9	
ESDC	Sonseca Array	157.64	19	PKP	PKPdf	10 27 48.8	+0.6
	comp=Z,12nm,1.0s,baz=347,slow=2.0,SNR=53						
ESDC				PKPab	PKPab	10 28 21.4	+0.5
	comp=Z,60nm,1.1s,baz=353,slow=3.3,SNR=4.4						
ESDC				PP	PP	10 31 58.1	-1.5
	comp=Z,2.7nm,0.9s,baz=302,slow=5.8,SNR=3.5						
MORF	Marmelete	157.81	31	eP	PKPdf	10 27 48.4	0.0
MORF				AMS	AMS	11 43 12.9	
	comp=Z,3µm,29.5s						
MORF	Marmelete	157.81	31	ePKPdf	PKPdf	10 27 49.6	+1.2
MORF	Marmelete	157.81	31	ePKPab	PKPab	10 28 22.4	+0.7
MORF				*i* P	pPKPab	10 28 58.7	+2.8
MORF	Marmelete	157.81	31	eSS	SS	10 51 43.0	-4.6
PBAR	Barrancos	157.83	27	ePKPdf	PKPdf	10 27 49.5	+1.1
PBAR	Barrancos	157.83	27	ePKPab	PKPab	10 28 22.4	+0.8
PBAR				*i* P	pPKPab	10 28 57.8	+1.9
PBAR	Barrancos	157.83	27	ePP	PP	10 32 01.6	+0.8
PBAR	Barrancos	157.83	27	eSS	SS	10 51 50.3	+2.8
PCVE	Castro Verde	157.84	29	ePKPdf	PKPdf	10 27 49.5	+1.1
PCVE	Castro Verde	157.84	29	ePKPab	PKPab	10 28 22.7	+1.0
PCVE				*i* P	pPKPab	10 28 49.4	-6.5
PCVE	Castro Verde	157.84	29	eSS	SS	10 51 49.6	+1.9
PFVI	Vila Bisbo	157.86	31	ePKPdf	PKPdf	10 27 50.2	+1.8
PFVI	Vila Bisbo	157.86	31	ePKPab	PKPab	10 28 22.4	+0.6
PFVI				*i* P	pPKPab	10 28 59.0	+3.0
PFVI	Vila Bisbo	157.86	31	eSS	SS	10 51 43.5	-4.6
PVAQ	Vaqueiros	158.17	29	ePKPdf	PKPdf	10 27 49.9	+1.1
PVAQ	Vaqueiros	158.17	29	ePKPab	PKPab	10 28 24.1	+1.0
PVAQ				*i* P	pPKPab	10 28 57.8	+0.4
PVAQ	Vaqueiros	158.17	29	eSS	SS	10 51 45.5	-5.7
PBDV	Barranco-do-Ve	158.20	30	ePKPdf	PKPdf	10 27 50.5	+1.6
PBDV	Barranco-do-Ve	158.20	30	ePKPab	PKPab	10 28 24.9	+1.6
PBDV				*i* P	pPKPab	10 29 00.8	+3.2
PBDV	Barranco-do-Ve	158.20	30	eSS	SS	10 51 46.4	-5.3
CEL	Celeste	158.47	337	ePKPdf	PKPdf	10 27 47.5	-1.7
CEL				ePKPab	PKPab	10 28 22.2	-2.2
BBTS	Babate	158.69	98	PKP	PKPdf	10 27 51.5	+1.5
	comp=Z,106nm,1.0s,baz=57,slow=0.8,SNR=14						
BBTS				PKPab	PKPab	10 28 27.8	+1.6
	comp=Z,135nm,1.0s,baz=234,slow=1.7,SNR=8.5						
BBTS				PP	PP	10 32 06.7	-0.6
	comp=Z,30nm,0.8s,baz=5.6,slow=1.1,SNR=5.2						
VSL	Villasalto	159.01	351	ePKPdf	PKPdf	10 27 50.0	+0.2
VSL				*ep*PKPdf	pPKPdf	10 28 25.1	-0.3
VSL				*e*SKPdf	SKPdf	10 31 10.6	+0.6
VAE	Valguarnera	159.69	339	PKP	PKPdf	10 27 52.1	+1.4
	comp=Z,13nm,0.3s,baz=3.4,slow=17,SNR=10						
CLTB	Caltabellotta	159.99	341	ePKPdf	PKPdf	10 27 50.9	-0.1
WDD	Wied Dalam	161.11	336	ePKPdf	PKPdf	10 27 51.2	-0.9
CAEH	'Ain El Ouahch	161.97	356	P	PKPdf	10 27 52.5	-0.6
CMAH	Djebel Manchou	162.08	354	P	PKPdf	10 27 52.9	-0.4
DFRA	Djebel Bou Aff	162.25	359	P	PKPdf	10 27 53.9	+0.4
CKFL	Kef-Lekhel	162.35	356	P	PKPdf	10 27 53.3	-0.3
SET	Setif	162.60	360	P	PKPdf	10 27 56.0	+2.2
KEST	Kesra	162.69	349	PKP	PKPdf	10 27 55.7	+1.8
	comp=Z,33nm,1.0s,baz=168,slow=1.2,SNR=19						
CTEI	Djebel Teioual	162.71	357	P	PKPdf	10 27 53.4	-0.6
CKHR	Kef el Ahmar	162.78	359	P	PKPdf	10 27 54.2	+0.1
LIC	Lamto	164.00	140	ePKIKP	PKPdf	10 27 55.1	-0.6
	comp=Z,429nm,1.4s						
KIC	Kosan Boka	164.28	140	ePKIKP	PKPdf	10 27 55.3	-0.6
	comp=Z,502nm,1.3s						
TIC	Toumodi	164.33	139	ePKIKP	PKPdf	10 27 55.5	-0.5
DBIC	Dimbokro	164.45	139	PKP	PKPdf	10 27 55.6	-0.5
	comp=Z,56nm,1.0s,baz=166,slow=2.0,SNR=25						
DBIC				PKPab	PKPab	10 28 52.2	+1.1
	comp=Z,19nm,0.5s,baz=191,slow=5.4,SNR=10.0						
DBIC				PP	PP	10 32 35.3	-1.4
	comp=Z,14nm,1.1s,baz=207,slow=9.2,SNR=4.1						
KOWA	Kowa	170.12	114	PKP	PKPdf	10 27 59.7	-0.5
	comp=Z,121nm,1.3s,baz=249,slow=0.9,SNR=57						
KOWA				PKPab	PKPab	10 29 17.2	+0.8
	comp=Z,71nm,1.1s,baz=232,slow=5.6,SNR=9.8						
KOWA				PP	PP	10 33 05.7	-1.1
	comp=Z,16nm,1.1s,baz=212,slow=2.9,SNR=6.7						
TORD	Torodi Ar. Bea	173.45	147	PKP	PKPdf	10 28 01.0	-0.7
	comp=Z,58nm,1.0s,baz=322,slow=0.8,SNR=135						
TORD				PKPab	PKPab	10 29 32.6	+1.7
	comp=Z,44nm,0.9s,baz=236,slow=4.1,SNR=15						
TORD				PP	PP	10 33 23.9	+2.1
	comp=Z,15nm,0.9s,baz=192,slow=1.6,SNR=7.8						
TAM	Tamanrasset	175.95	357	ePKPdf	PKPdf	10 28 02.3	-0.2
TAM	Tamanrasset	175.95	357	ePKIKP	PKPdf	10 28 02.3	-0.2

UPP ***28*** *10:17:33.4±3.7, 68.03°N×33.77°E, h0km, ML1.7*
CSEM ***28*** *10:17:50.0±1.0, 67.58°N×30.37°E, h1km, ML1.9, Error ellipse: s-maj=21.7km s-min=9.9km az=73.0, Mining explosion.*
KOLA ***28*** *10:17:51.4, 67.51°N×30.47°E, h0km*

HEL 28 10:17:51.3±0.2, 67.56°N×30.41°E, h0km, ML1.9, Explosion, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
VRF	Varrio	0.36	302	PG	Pg			10 17 57.8	-0.4
	baz=118								
VRF				SG	Sg			10 18 02.6	-0.2
APA0	Apatity Array	0.99	86	P	Pg			10 18 08.8	-1.5
APA0				S	Sg			10 18 21.5	-1.6
APA	Apatity	1.15	88	P	Pg			10 18 11.4	-1.9
APA				S	Sg			10 18 26.1	-2.1
SGF	Sodankyl	1.50	267	Pg	Pn			10 18 18.5	-0.9
SGF				Sg	Sg			10 18 38.3	-1.0
SGF	Sodankyl	1.50	267	PG	Pn			10 18 18.5	-0.9
SGF				SG	Sg			10 18 38.3	-1.0
KU6	Riekki	1.56	188	Pg	Pn			10 18 19.3	-0.9
KU6				Sg	Sn			10 18 39.5	-1.6
	8.6nm,0.2s								
KU6	Riekki	1.56	188	PG	Pn			10 18 19.3	-0.9
KU6				MSG				10 18 38.0	
	comp=Z,8.6nm,0.2s								
KU6				SG	Sn			10 18 39.5	-1.6
MSF	Maaselka	1.75	199	Pg	Pn			10 18 22.7	-0.1
MSF				Sg	Sn			10 18 45.7	0.0
MSF	Maaselka	1.75	199	PG	Pn			10 18 22.7	-0.1
	baz=21								
MSF				SG	Sn			10 18 45.6	-0.1
RNF	Rovaniemi	1.97	243	Pg	Pn			10 18 26.2	+0.4
RNF				Sg	Sn			10 18 51.3	+0.1
RNF	Rovaniemi	1.97	243	PG	Pn			10 18 26.2	+0.4
	baz=59								
RNF				SG	Sn			10 18 51.4	+0.2
ARE0	ARCESS Array S	2.68	320	Pb	Pn			10 18 36.1	+0.5
ARE0	ARCESS Array S	2.68	320	PB	Pn			10 18 36.1	+0.5
	baz=139								
HEF	Hetta	2.68	292	Pb	Pn			10 18 36.7	+1.1
HEF	Hetta	2.68	292	PB	Pn			10 18 36.7	+1.1
	baz=101								
HEF				MSG				10 19 10.3	
	comp=Z,6.3nm,0.2s								
HEF				SG	Sb			10 19 12.8	-0.7
PAJU	Pajala	2.88	263	P	Pn			10 18 38.3	-0.1
PAJU	Pajala	2.88	263	P	Pn			10 18 38.3	-0.1
OUL	Oulu	3.08	218	PG	Pb			10 18 46.2	-0.7
LANU	Lannavaara	3.23	283	P	Pn			10 18 40.8	-2.5
LANU	Lannavaara	3.23	283	P	Pn			10 18 43.0	-2.4
MASU	Masugnsbyn	3.23	272	P	Pn			10 18 43.0	-0.2
MASU	Masugnsbyn	3.23	272	P	Pn			10 18 43.0	-0.3
KALU	Kalix	3.28	242	P	Pn			10 18 44.2	+0.3
KALU	Kalix	3.28	242	P	Pn			10 18 44.2	+0.4
ERTU	Ertsjaerv	3.37	256	P	Pn			10 18 45.2	+0.1
ERTU	Ertsjaerv	3.37	256	P	Pn			10 18 45.2	0.0
KIF	Kilpisjarvi	3.85	296	PN	Pn			10 18 51.8	+0.1
OUF	Merijarvi	3.96	219	Pn	Pn			10 18 53.1	-0.1
OUF	Merijarvi	3.96	219	PN	Pn			10 18 53.1	0.0
SJUU	Sjulsmark	4.08	244	P	Pn			10 18 54.3	-0.5
SJUU	Sjulsmark	4.08	244	P	Pn			10 18 54.3	-0.5
LILU	Lilltraesk	4.81	247	P	Pn			10 19 03.7	-1.2
LILU	Lilltraesk	4.81	247	P	Pn			10 19 03.7	-1.2

UPP 28 10:18:10.3±3.0, 67.58N×31.67E, h0km, ML2.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PAJU	Pajala	3.37	264	P	Pn			10 19 03.6	-0.4
PAJU				S	Sn			10 19 44.4	-0.2
LANU	Lannavaara	3.71	282	P	Pn			10 19 08.0	-0.7
MASU	Masugnsbyn	3.72	273	P	Pn			10 19 08.6	-0.3
KALU	Kalix	3.72	246	P	Pn			10 19 08.5	-0.4
ERTU	Ertsjaerv	3.85	259	P	Pn			10 19 10.5	-0.1
SJUU	Sjulsmark	4.53	247	P	Pn			10 19 19.5	-0.4
RATU	Laukkuluspa	4.61	279	P	Pn			10 19 21.3	+0.2

JMA 28 10:23:10.2±0.2, 37.99N×142.62E, h27km±2km, M3.5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JIO	Ouri	1.10	295	P	Pn			10 23 29.8	-0.1
OFUJ	Ofunato	1.32	326	P	Pn			10 23 33.2	+0.3
OFUJ				eS	Sn			10 23 49.9	+0.3
JMM	Marumori	1.45	266	P	Pn			10 23 34.9	+0.3
JMK	Ichinoseki	1.46	312	P	Pn			10 23 35.2	+0.4
JFK	Kawauchi	1.52	246	P	Pn			10 23 36.1	+0.5
JFK				eS	Sn			10 23 55.3	+0.8
JOU	Okura	1.59	284	P	Pn			10 23 37.6	+1.1
JOM	Ohasama	1.81	325	P	Pn			10 23 40.8	+1.2
JFT	Otama	1.87	256	P	Pb			10 23 42.3	-1.4
JYK	Kaneyama	2.00	298	P	Pn			10 23 43.4	+1.2
JRG	Rokugo	2.10	313	P	Pb			10 23 45.7	-1.8
JRG				eS	Sb			10 24 11.9	-1.2
JANG	Nango	2.53	341	P	Pn			10 23 52.1	+2.6
JAW	Awa shima	2.70	281	P	Pn			10 23 54.1	+2.3

WEL 28 10:25:26.0±0.7, 33°S±13°×18°0W±3°, h33km, ML5.0/12, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GLKZ	Green Lake	3.99	27	S	Sn			10 27 07.7	-2.9
WMGZ	Waiomatatini S	5.12	194	P	Pn			10 26 43.7	+3.3
WMGZ	Waiomatatini S	5.12	194	S	Sn			10 27 39.9	+1.5
HAZ	Te Kaha	5.22	200	P	Pn			10 26 44.6	+2.8
HAZ	Te Kaha	5.22	200	S	Sn			10 27 43.4	+2.6
PKGZ	Pakihiroa	5.27	197	P	Pn			10 26 44.2	+1.7
PKGZ	Pakihiroa	5.27	197	S	Sn			10 27 43.4	+1.4
PUZ	Puketiti	5.40	195	P	Pn			10 26 44.7	+0.5
PUZ	Puketiti	5.40	195	S	Sn			10 27 44.8	-0.4
RUGZ	Raukumara Rang	5.45	200	P	Pn			10 26 45.4	+0.5
RUGZ	Raukumara Rang	5.45	200	S	Sn			10 27 46.5	0.0
TWGZ	Tauwhareparae	5.56	197	P	Pn			10 26 49.2	+2.6
TWGZ	Tauwhareparae	5.56	197	S	Sn			10 27 49.1	-0.3
MWZ	Matawai	5.83	200	P	Pn			10 26 51.4	+1.2
MWZ	Matawai	5.83	200	S	Sn			10 27 54.3	-1.6
URZ	Urewera	5.89	203	P	Pn			10 26 52.1	+1.1
URZ	Urewera	5.89	203	S	Sn			10 27 56.9	-0.4
RAGZ	Rawiri	6.01	200	P	Pn			10 26 53.4	+0.7
RAGZ	Rawiri	6.01	200	S	Sn			10 27 59.7	-0.7
RIGZ	Rimuhau	6.12	197	P	Pn			10 26 55.5	+1.4
RIGZ	Rimuhau	6.12	197	S	Sn			10 28 02.1	-0.9
MUGZ	Murupara	6.20	204	P	Pn			10 26 56.0	+0.8
MUGZ	Murupara	6.20	204	S	Sn			10 28 02.8	-2.2
RTZ	Ruatahuna	6.26	202	P	Pn			10 26 55.9	-0.2
RTZ	Ruatahuna	6.26	202	S	Sn			10 28 07.1	+0.6
SNGZ	Shannon Statio	6.30	199	P	Pn			10 26 57.0	+0.4
SNGZ	Shannon Statio	6.30	199	S	Sn			10 28 04.8	-2.7
MTHZ	Maungataniwha	6.52	202	P	Pn			10 27 00.1	+0.5
ARHZ	Aropaoanui	6.85	200	P	Pn			10 27 03.9	-0.2

ISK ***28*** *10:26:41.7, 39.11N×29.20E, h8km, ML2.1/4*
ISCJB ***28*** *10:26:42.2±0.5, 39.12N±0.04°×29.15E±0.04, h12km±4km, Error ellipse: s-maj=8.3km s-min=4.4km az=148.8*
DDA ***28*** *10:26:42.2, 39.13N×29.14E, h7km, Ml2.2*
CSEM ***28*** *10:26:42.3±0.1, 39.12N×29.16E, h10km, ML2.1, Error ellipse: s-maj=3.3km s-min=1.9km az=135.0*

ISC 28 10:26:42.4±0.9, 39.11N±0.03°×29.15E±0.03, h13km±6km, n21, σ0945/33, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SIMA	Simav-Kutahya	0.14	257	P	Pg			10 26 46.0	+0.1
SIMA				S	Sg			10 26 48.4	0.0
SIMA	Simav-Kutahya	0.14	257	*i* Pg	Pg			10 26 46.0	+0.1
SIMA				*e*Sg	Sg			10 26 48.4	0.0
GDZ	Gediz	0.26	95	*i* P	Pg			10 26 47.9	0.0
GDZ				*i* S	Sg			10 26 51.8	+0.2
GDZ	Gediz	0.26	95	P	Pg			10 26 47.9	0.0
GDZ				S	Sg			10 26 51.8	+0.2
DEMI	Demirci	0.35	258	*i* P	Pg			10 26 49.2	-0.3
DEMI				*i* S	Sg			10 26 53.9	-0.3
DEMI	Demirci	0.35	258	P	Pg			10 26 49.2	-0.3
DEMI				S	Sg			10 26 53.9	-0.3
TVSB	Tavsanli	0.41	35	PG	Pg			10 26 50.3	-0.4
TVSB				SG	Sg			10 26 55.9	-0.3
TVSB	Tavsanli	0.41	35	*e*Pg	Pg			10 26 50.3	-0.4
TVSB				*e*Sg	Sg			10 26 55.9	-0.3
KULA	Kula-Manisa	0.71	213	PG	Pg			10 26 56.1	-0.1
KULA	Kula-Manisa	0.71	213	*e*Pg	Pg			10 26 56.1	-0.1
DURS	Dursunbey	0.72	313	*i* P	Pg			10 26 50.6	-0.3
DURS				*i* S	Sn			10 27 10.6	+1.2
DURS	Dursunbey	0.72	313	P	Pg			10 26 56.0	-0.3
DURS				S	Sn			10 27 10.6	+1.2
MANT	Manisa	0.78	217	*i* P	Pb			10 26 57.8	-0.2
MANT				*i* S	Sg	

LSA	**Lhasa**	**28.54**	**352**	*e*P	**P**	**10 51 53.0**	**+1.9**
	9.6nm,1.1s							
FITZ	**Fitzroy Crossi**	**35.23**	**125**	*e*P	**P**	**10 52 48.2**	**-1.3**
	4.3nm,1.2s							
H01W3	**Cape Leeuwin H**	**39.96**	**156**	T	T	11 36 50.7		
	baz=333,slow=76,SNR=2.5							
H01W2	**Cape Leeuwin H**	**39.97**	**156**	T	T	11 36 48.4		
	baz=333,slow=76,SNR=5.0							
H01W1	**Cape Leeuwin H**	**39.97**	**156**	T	T	11 36 49.1		
	baz=333,slow=76,SNR=5.0							
WRA	**Warramunga Arr**	**43.39**	**121**	P	**P**	**10 53 57.3**	**-0.3**
	0.8nm,0.7s,baz=300,slow=8.3,SNR=16							
WRAB	**Tennant Creek**	**43.39**	**121**	*e*P	**P**	**10 53 58.2**	**+0.6**
	6.3nm,1.4s							
ASAR	**Alice Springs**	**44.68**	**126**	P	**P**	**10 54 07.5**	**-0.4**
	0.6nm,0.6s,baz=296,slow=8.0,SNR=16							
KSAR	**Wonju Array Be**	**46.58**	**36**	P	**P**	**10 54 23.9**	**+1.3**
KSRS	**Korea Array**	**46.60**	**36**	P	**P**	**10 54 23.9**	**+1.0**
	1.6nm,0.8s,baz=236,slow=8.7,SNR=5.4							
MKAR	**Makanchi Array**	**46.77**	**347**	P	**P**	**10 54 24.8**	**+0.8**
	4.7nm,0.7s,baz=161,slow=8.3,SNR=12							
SONM	**Songino Array**	**47.24**	**10**	P	**P**	**10 54 28.9**	**+1.1**
	1.7nm,0.7s,baz=192,slow=8.7,SNR=9.7							
KURBB	**Kurchatov Arra**	**51.22**	**346**	P	**P**	**10 54 58.8**	**+0.7**
	1.9nm,0.7s,baz=168,slow=7.1,SNR=8.4							
KURK	**Kurchatov**	**51.29**	**346**	P	**P**	**10 54 58.8**	**+0.2**
ZALV	**Zalesovo Beam**	**53.20**	**352**	P	**P**	**10 55 13.4**	**+0.7**
	5.6nm,0.5s,baz=182,slow=7.0,SNR=14							
STKA	**Stephens Creek**	**54.57**	**131**	P	**P**	**10 55 23.2**	**+0.1**
	1.6nm,0.7s,baz=309,slow=9.0,SNR=2.9							
BVAR	**Borovoye Array**	**55.64**	**342**	P	**P**	**10 55 29.9**	**-0.5**
	2.1nm,0.8s,baz=139,slow=7.9,SNR=8.6							
ABKAR	**Akbulak array**	**56.70**	**333**	*e*P	**P**	**10 55 36.8**	**-1.2**
	0.7nm,0.4s							
KBZ	**Khabaz**	**62.99**	**320**	P	**P**	**10 56 21.0**	**-0.4**
	0.5nm,0.3s,baz=102,slow=6.3,SNR=4.8							
BRTR	**Keskin Array B**	**67.91**	**313**	P	**P**	**10 56 52.0**	**-1.5**
	0.7nm,0.8s,baz=127,slow=7.9,SNR=4.3							
TIXI	**Tiksi**	**73.32**	**10**	P	**P**	**10 57 25.3**	**-0.4**
	1.2nm,0.5s,baz=204,slow=2.3,SNR=5.5							
MLR	**Muntele Rosu**	**74.94**	**317**	LR	LR	11 32 46.9		
	comp=Z,1μm,21.9s,baz=42,slow=38							
FINES	**FINESS Array B**	**79.19**	**333**	P	**P**	**10 57 58.5**	**-0.7**
	1.6nm,0.7s,baz=147,slow=4.5,SNR=4.8							
ARCES	**ARCESS Array B**	**81.90**	**340**	P	**P**	**10 58 13.6**	**-0.1**
	2.4nm,0.8s,baz=79,slow=4.7,SNR=2.7							
VAE	**Valguarnera**	**82.27**	**307**	LR	LR	11 40 24.8		
	comp=Z,3μm,19.9s,baz=32,slow=40							
GERES	**GERESS Array B**	**83.72**	**319**	P	**P**	**10 58 23.2**	**-0.4**
	0.5nm,0.8s,baz=144,slow=7.9,SNR=4.0							
HFS	**Hagfors**	**84.86**	**330**	P	**P**	**10 58 28.5**	**-0.5**
	0.9nm,0.5s,baz=94,slow=8.9,SNR=4.6							
NVAR	**Mina Array Bea**	**129.54**	**35**	PKP	**PKPdf**	**11 05 04.9**	**+0.9**
	0.2nm,0.6s,baz=288,slow=0.9,SNR=3.1							
TXAR	**Lajitas Array**	**144.32**	**30**	PKP	**PKPdf**	**11 05 30.1**	**-1.3**
	0.3nm,0.5s,baz=348,slow=1.4,SNR=6.0							

IDC 28 10:46:05.5±1.6, 11°54N×92°08E, h0km, mb3.7/4, mb1 4.0/5, mb1mx3.5/74, mbtmp3.7/5, ML4.3/1, MS4.1/1, Ms1 4.1/1, ms1mx3.8/67, Error ellipse: s-maj=57.4km s-min=27.9km az=59.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**9.55**	**43**	Pn	Pn	10 48 23.6	-0.8
	0.8nm,0.3s,baz=230,slow=15,SNR=6.3						
H08S3	**Diego Garcia H**	**27.25**	**227**	T	T	11 20 28.7	
	baz=45,slow=76,SNR=4.3						
H08S2	**Diego Garcia H**	**27.26**	**227**	T	T	11 20 29.2	
	baz=45,slow=76,SNR=4.3						
H08S1	**Diego Carcia H**	**27.27**	**227**	T	T	11 20 30.5	
	baz=45,slow=76,SNR=5.8						
KLR	**Kul'dur**	**49.86**	**33**	LR	LR	11 16 33.2	
	comp=Z,211nm,21.1s,baz=278,slow=37						
WRA	**Warramunga Arr**	**52.05**	**127**	P	P	10 55 15.3	-2.1
	0.4nm,0.6s,baz=305,slow=8.6,SNR=5.3						
ASAR	**Alice Springs**	**53.82**	**131**	P	P	10 55 32.0	+1.5
	0.3nm,0.5s,baz=310,slow=7.2,SNR=2.7						
FINES	**FINESS Array B**	**68.54**	**332**	P	P	10 57 08.9	-0.8
	1.6nm,0.9s,baz=119,slow=4.9,SNR=4.5						
ILAR	**Eielson Array**	**92.12**	**22**	P	P	10 59 17.7	+1.1
	0.4nm,0.7s,baz=295,slow=4.6,SNR=3.0						

IDC 28 10:54:41.2±2.3, 20°31S×167°75E, h0km, mb3.6/3, mb1 3.8/4, mb1mx3.5/43, mbtmp3.5/4, ML2.5/1, Error ellipse: s-maj=65.7km s-min=26.4km az=126.0, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**2.14**	**215**	Pn	Pn	10 55 18.0	-0.3
	1.6nm,0.3s,baz=97,slow=8.6,SNR=74						
DZM				Sn	Sn	10 55 46.5	+1.0
	5.3nm,0.3s,baz=123,slow=21,SNR=11						
WRA	**Warramunga Arr**	**31.34**	**265**	P	P	11 01 03.4	-0.3
	0.4nm,1.0s,baz=92,slow=8.8,SNR=3.6						
ASAR	**Alice Springs**	**31.52**	**258**	P	P	11 01 05.6	+0.3
	0.6nm,0.7s,baz=89,slow=8.9,SNR=8.9						
ILAR	**Eielson Array**	**91.67**	**18**	P	P	11 07 49.9	0.0
	0.5nm,0.9s,baz=238,slow=2.9,SNR=2.6						

*ISK **28** 11:10:59.2, 41°12N×36°15E, h13km, MD2.0/1*
*ISCJB **28** 11:11:00.8±0.7, 41°19N±0°03×36°05E±0°06, h0km, Error ellipse: s-maj=6.8km s-min=4.5km az=11.3*
*CSEM **28** 11:11:00.5±0.4, 41°18N×36°08E, h1km, ML2.5, Error ellipse: s-maj=10.1km s-min=5.8km az=95.0, Suspected Mining explosion.*
*DDA **28** 11:11:00.7, 41°19N×36°05E, h7km, Ml2.5, Suspected Mining explosion.*

ISC 28 11:11:01.2±1.3, 41°17N±0°03×36°08E±0°04, h0km, n12, σ0s71/22, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KVT	**Kavak**	**0.09**	**196**	PG	**Pg**	**11 11 02.3**	**-0.6**
KVT				SG	**Sg**	**11 11 04.5**	**+0.4**
KVT	**Kavak**	**0.09**	**196**	*i* Pg	**Pg**	**11 11 02.3**	**-0.6**
KVT				*e*Sg	**Sg**	**11 11 04.5**	**+0.4**
SAMS	**Samsun-Alacam**	**0.21**	**23**	*i* P	**Pg**	**11 11 04.6**	**-0.6**
SAMS				*i* S	**Sg**	**11 11 08.9**	**+1.0**
SAMS	**Samsun-Alacam**	**0.21**	**23**	P	**Pg**	**11 11 04.6**	**-0.6**
SAMS				S	**Sg**	**11 11 08.9**	**+1.0**
HAVZ	**Havza**	**0.29**	**251**	*i* P	**Pg**	**11 11 06.2**	**-0.5**
HAVZ				*i* S	**Sg**	**11 11 11.2**	**+0.8**
HAVZ	**Havza**	**0.29**	**251**	P	**Pg**	**11 11 06.2**	**-0.5**
HAVZ				S	**Sg**	**11 11 11.2**	**+0.8**
DIKM	**Dikmen**	**0.78**	**308**	PG	**Pg**	**11 11 16.1**	**-0.1**
DIKM	**Dikmen**	**0.78**	**308**	*e*Pg	**Pg**	**11 11 16.1**	**-0.1**
SNOP	**Sinop**	**1.07**	**323**	PN	**Pg**	**11 11 21.2**	**-0.6**
SNOP				SN	**Sb**	**11 11 37.5**	**+0.3**
SNOP	**Sinop**	**1.07**	**323**	*e*Pn	**Pg**	**11 11 21.2**	**-0.6**
SNOP				*e*Sn	**Sb**	**11 11 37.5**	**+0.3**
SINO	**SINOP_Merkez**	**1.07**	**323**	*i* P	**Pg**	**11 11 20.5**	**-1.3**
SINO				*i* S	**Sg**	**11 11 35.7**	**0.0**
SINO	**SINOP_Merkez**	**1.07**	**323**	P	**Pg**	**11 11 20.5**	**-1.3**
SINO				S	**Sg**	**11 11 35.7**	**0.0**

*IDC **28** 11:15:37.0±1.0, 12°72N×143°67E, h0km, mb3.5/5, mb1 3.7/5, mb1mx3.3/63, mbtmp3.5/5, Error ellipse: s-maj=32.4km s-min=20.5km az=108.0*
*ISCJB **28** 11:15:39.3±0.8, 12°7N±0°1×143°6E±0°1, h27km, mb3.5/5, Error ellipse: s-maj=23.4km s-min=10.2km az=139.3*

ISC 28 11:15:40.9±1.0, 12°7N±0°2×143°7E±0°1, h27km, n9, σ0s45/7, mb3.7/5, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**1.40**	**52**	Pn	**Pn**	**11 16 04.6**	**-0.1**
	5.4nm,0.3s,baz=163,slow=11,SNR=6.5						
GUMO				Sn	**Sb**	**11 16 23.9**	**-0.1**
	15nm,0.3s,baz=187,slow=22,SNR=4.6						
H11N1	**WAKE ISLAND Hy**	**23.28**	**70**	T	T	11 45 17.6	
	baz=255,slow=75,SNR=12						
H11N2	**WAKE ISLAND Hy**	**23.29**	**70**	T	T	11 45 18.8	
	baz=255,slow=75,SNR=6.8						
H11N3	**WAKE ISLAND Hy**	**23.30**	**70**	T	T	11 45 24.7	
	baz=255,slow=75,SNR=9.5						
WRA	**Warramunga Arr**	**33.75**	**196**	P	**P**	**11 22 20.0**	**-0.5**
	1.2nm,0.8s,baz=20,slow=9.7,SNR=14						
ASAR	**Alice Springs**	**37.42**	**195**	P	**P**	**11 22 52.4**	**+0.4**
	0.2nm,0.6s,baz=17,slow=12,SNR=5.1						
SONM	**Songino Array**	**46.81**	**326**	P	**P**	**11 24 08.6**	**+0.1**
	0.4nm,0.5s,baz=142,slow=7.9,SNR=3.6						
KURBB	**Kurchatov Arra**	**64.57**	**320**	P	**P**	**11 26 15.4**	**-0.3**
	0.9nm,0.7s,baz=105,slow=6.8,SNR=7.6						
YKA	**Yellowknife Ar**	**84.13**	**27**	P	**P**	**11 28 09.8**	**+0.5**
	0.1nm,0.5s,baz=283,slow=4.8,SNR=2.9						

*ISK **28** 11:18:34.9, 39°13N×29°17E, h8km, ML2.0/5*
*ISCJB **28** 11:18:35.4±0.5, 39°11N±0°04×29°15E±0°04, h9km±4km, Error ellipse: s-maj=7.1km s-min=4.0km az=154.4*
*CSEM **28** 11:18:35.3±0.1, 39°11N×29°17E, h10km, ML2.0, Error ellipse: s-maj=3.7km s-min=2.0km az=137.0*
*DDA **28** 11:18:35.3, 39°11N×29°15E, h7km, Ml2.6*

ISC 28 11:18:35.4±0.9, 39°12N±0°03×29°16E±0°02, h12km±7km, n24, σ0s36/37, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIMA	**Simav-Kutahya**	**0.14**	**257**	PG	**Pg**	**11 18 39.1**	**+0.3**
SIMA				SG	**Sg**	**11 18 41.1**	**-0.2**
SIMA	**Simav-Kutahya**	**0.14**	**257**	*i* Pg	**Pg**	**11 18 39.1**	**+0.3**
SIMA				*e*Sg	**Sg**	**11 18 41.1**	**-0.2**
GDZ	**Gediz**	**0.25**	**96**	*i* P	**Pg**	**11 18 40.8**	**+0.1**
GDZ				*i* S	**Sg**	**11 18 44.5**	**+0.2**
GDZ	**Gediz**	**0.25**	**96**	P	**Pg**	**11 18 40.8**	**+0.1**
GDZ				S	**Sg**	**11 18 44.5**	**+0.2**
DEMI	**Demirci**	**0.35**	**258**	*i* P	**Pg**	**11 18 42.6**	**+0.1**
DEMI				*i* S	**Sg**	**11 18 47.1**	**-0.1**
DEMI	**Demirci**	**0.35**	**258**	P	**Pg**	**11 18 42.6**	**+0.1**
DEMI				S	**Sg**	**11 18 47.1**	**-0.1**
TVSB	**Tavsanli**	**0.41**	**35**	PG	**Pg**	**11 18 43.2**	**-0.3**
TVSB				SG	**Sg**	**11 18 48.6**	**-0.4**
TVSB	**Tavsanli**	**0.41**	**35**	*e*Pg	**Pg**	**11 18 43.2**	**-0.3**
TVSB				*e*Sg	**Sg**	**11 18 48.6**	**-0.4**
KULA	**Kula-Manisa**	**0.71**	**213**	PG	**Pg**	**11 18 49.4**	**+0.1**
KULA	**Kula-Manisa**	**0.71**	**213**	*e*Pg	**Pg**	**11 18 49.4**	**+0.1**
DURS	**Dursunbey**	**0.72**	**313**	*i* P	**Pg**	**11 18 49.3**	**-0.1**
DURS				*i* S	**Sg**	**11 18 59.5**	**+0.7**
MANT	**Manisa**	**0.78**	**217**	*i* P	**Pg**	**11 18 50.6**	**+0.1**
MANT				*i* S	**Sg**	**11 19 00.1**	**-0.6**
MANT	**Manisa**	**0.78**	**217**	P	**Pg**	**11 18 50.6**	**+0.1**
MANT				S	**Sg**	**11 19 00.2**	**-0.6**
CAVI	**Cavuskoy**	**1.21**	**26**	PN	**Pb**	**11 18 57.8**	**-0.4**
CAVI	**Cavuskoy**	**1.21**	**26**	*e*Pn	**Pb**	**11 18 57.8**	**-0.4**
BORA	**Eskisehir**	**1.26**	**52**	PN	**Pn**	**11 18 59.3**	**+0.3**
BORA	**Eskisehir**	**1.26**	**52**	*i* P	**Pg**	**11 19 00.0**	**+0.4**
BORA				*i* S	**Sg**	**11 19 16.1**	**+0.1**
BORA	**Eskisehir**	**1.26**	**52**	P	**Pg**	**11 19 00.0**	**+0.4**
BORA				S	**Sg**	**11 19 16.1**	**+0.1**
KCTX	**Karacabey (Bur**	**1.30**	**332**	PN	**Pn**	**11 18 59.9**	**+0.4**
KCTX	**Karacabey (Bur**	**1.30**	**332**	*e*Pn	**Pn**	**11 18 59.9**	**+0.4**
YLV	**Yalova**	**1.46**	**6**	PN	**Pn**	**11 19 01.6**	**-0.1**
YLV	**Yalova**	**1.46**	**6**	*e*Pn	**Pn**	**11 19 01.6**	**-0.1**
ARMT	**Armutlu**	**1.47**	**351**	PN	**Pn**	**11 19 02.4**	**+0.7**
ARMT	**Armutlu**	**1.47**	**351**	*e*Pn	**Pn**	**11 19 02.4**	**+0.7**

*TAP **28** 11:30:54.9, 21°41N×122°10E, h22km±1km, ML3.4, C*
*IDC **28** 11:30:54.3±1.5, 21°05N×121°79E, h0km, mb3.2/3, mb1 3.4/4, mb1mx3.1/60, mbtmp3.2/4, ML3.4/1, Error ellipse: s-maj=71.6km s-min=25.2km az=66.0*
*ISCJB **28** 11:30:57.3±1.1, 21°47N±0°05×122°05E±0°03, h28km±7km, mb3.0/3, Error ellipse: s-maj=9.2km s-min=3.8km az=168.5*
*JMA **28** 11:30:57.6±0.3, 21°51N×121°87E, h102km, M3.4*

ISC 28 11:30:57.7±1.1, 21°47N±0°08×121°97E±0°04, h22km±5km, n37, σ1s30/54, mb3.1/3, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LAY	**Lan-yu**	**0.69**	**325**	*i* P	**Pb**	**11 31 10.3**	**-0.7**
	baz=322						
LAY				S	**Sn**	**11 31 21.4**	**-0.8**
	baz=322						
TSEB	**Hengchuen, Pin**	**1.09**	**293**	P	**Pb**	**11 31 17.8**	**0.0**
	baz=293						
TSEB				S	**Sn**	**11 31 34.8**	**+2.8**
	baz=293						
TWKBT	**Hengchun**	**1.18**	**293**	*e*P	**Pb**	**11 31 18.8**	**-0.5**
	baz=294						
TWKBT				*e*S	**Sn**	**11 31 36.6**	**+2.3**
	baz=294						
TWK1	**Hengchun**	**1.18**	**293**	*e*P	**Pb**	**11 31 19.1**	**-0.4**
	baz=294						
TWK1				*e*S	**Sn**	**11 31 35.4**	**+1.0**
	baz=294						
HEN	**Hengchun**	**1.27**	**295**	*e*P	**Pb**	**11 31 20.6**	**-0.3**
	baz=309						
HEN				*e*S	**Sb**	**11 31 38.1**	**+1.4**
	baz=309						
EAST	**Anshuo**	**1.38**	**311**	P	**Pn**	**11 31 20.5**	**-1.3**
	baz=310						
EAST				S	**Sb**	**11 31 40.1**	**0.0**
	baz=310						
ECL	**Taimali**	**1.47**	**320**	P	**Pn**	**11 31 21.5**	**-1.4**
	baz=319						
ECL				*e*S	**Sn**	**11 31 41.1**	**-0.2**
	baz=319						
SCZT	**Fangliau**	**1.54**	**306**	*e*P	**Pn**	**11 31 23.9**	**0.0**
	baz=305						
SCZT				*e*S	**Sb**	**11 31 44.6**	**-0.1**
	baz=305						
TWG	**Pinlang**	**1.58**	**328**	P	**Pn**	**11 31 23.7**	**-0.8**
	baz=311						
TWG				*e*S	**Sn**	**11 31 44.8**	**+0.5**
	baz=311						
MASBT	**Mashibuluo**	**1.68**	**313**	*e*P	**Pn**	**11 31 25.0**	**-0.9**
	baz=312						
MASBT				*e*S	**Sn**	**11 31 47.5**	**+0.7**
	baz=312						
CHKT	**Chengkung**	**1.71**	**341**	*e*P	**Pn**	**11 31 24.0**	**-2.3**
	baz=339						
SSD	**Sandimen**	**1.77**	**316**	*e*P	**Pn**	**11 31 26.6**	**-0.5**
	baz=315						
FULB	**Fuli**	**1.83**	**340**	*e*P	**Pn**	**11 31 26.2**	**-1.7**
	baz=348						
FULB				*e*S	**Sn**	**11 31 48.5**	**-2.0**
	baz=348						
STYT	**Tauyuan**	**2.02**	**326**	*e*P	**Pn**	**11 31 31.2**	**+0.6**
	baz=325						
STYT				*e*S	**Sn**	**11 31 56.9**	**+1.6**
	baz=325						
SGST	**Jiashian**	**2.06**	**321**	*e*P	**Pb**	**11 31 33.0**	**-1.3**
	baz=321						
SGST				*e*S	**Sb**	**11 32 00.2**	**+0.8**
	baz=321						
PHUB	**P'eng-hu**	**3.01**	**313**	*e*P	**Pn**	**11 31 43.9**	**-0.2**
	baz=301						
PHUB				*e*S	**Sn**	**11 32 17.9**	**-1.6**
	baz=301						
PNG	**Penghu**	**3.06**	**313**	*e*P	**Pn**	**11 31 42.8**	**-2.0**
	baz=313						
PNG				*e*S	**Sn**	**11 32 19.0**	**-1.7**
	baz=313						
HATJ	**Hateruma jima**	**3.08**	**33**	P	**Pn**	**11 31 45.9**	**+0.9**
HATJ				*e*S	**Sn**	**11 32 20.9**	**-0.3**
JYNG	**Yonagunijimaku**	**3.10**	**17**	P	**Pn**	**11 31 45.4**	**+0.1**
JYNG				*e*S	**Sn**	**11 32 22.3**	**+0.7**
YOJ	**Yonaguni jima**	**3.12**	**18**	P	**Pn**	**11 31 46.3**	**+0.6**
YOJ				S	**Sn**	**11 32 23.2**	**+0.9**
IRIF	**Iriomote-Funau**	**3.27**	**29**	P	**Pn**	**11 31 48.7**	**+0.9**
IRIF				*e*S	**Sn**	**11 32 26.0**	**-0.1**
JKRS	**Kuro-shima**	**3.33**	**34**	P	**Pn**	**11 31 49.5**	**+1.0**
JKRS				*e*S	**Sn**	**11 32 27.1**	**-0.3**
JIJ	**Ishigaki jima**	**3.50**	**34**	P	**Pn**	**11 31 51.3**	**+0.4**
JIJ				S	**Sn**	**11 32 30.5**	**-1.2**
JISG	**Ishigakijimahi**	**3.77**	**34**	P	**Pn**	**11 31 54.9**	**+0.3**
JISG				*e*S	**Sn**	**11 32 36.6**	**-1.7**
JTJ	**Tarama**	**4.03**	**38**	P	**Pn**	**11 31 58.9**	**+0.8**
JTJ				*e*S	**Sn**	**11 32 44.4**	**-0.3**
JIRB	**Irabujima**	**4.45**	**41**	*e*S	**Sn**	**11 32 53.9**	**-1.2**
JOGS	**Gusukube**	**4.55**	**43**	*e*S	**Sn**	**11 32 58.0**	**+0.5**
KSRS	**Korea Array**	**16.74**	**17**	P	**P**	**11 34 55.6**	**+2.7**
	0.1nm,0.3s,baz=199,slow=12,SNR=4.9						
MKAR	**Makanchi Array**	**40.80**	**318**	P	**P**	**11 38 38.5**	**+1.0**
	0.2nm,0.5s,baz=106,slow=9.2,SNR=2.7						
H11N1	**WAKE ISLAND Hy**	**41.98**	**84**	T	T	12 24 11.3	
	baz=282						
H11N2	**WAKE ISLAND Hy**	**41.98**	**84**	T	T	12 24 08.3	
	baz=282						
H11N3	**WAKE ISLAND Hy**	**41.99**	**84**	T	T	12 24 10.9	
	baz=282						
H11S3	**WAKE ISLAND Hy**	**42.02**	**86**	T	T	12 23 59.0	
	baz=282,slow=75,SNR=6.2						
H11S1	**WAKE ISLAND Hy**	**42.03**	**86**	T	T	12 24 05.9	
	baz=282,slow=75,SNR=8.1						
H11S2	**WAKE ISLAND Hy**	**42.04**	**86**	T	T	12 24 04.9	
	baz=282,slow=75,SNR=6.7						
WRA	**Warramunga Arr**	**42.90**	**163**	P	**P**	**11 38 51.8**	**-3.1**
	0.2nm,0.6s,baz=344,slow=9.3,SNR=3.6						
KURBB	**Kurchatov Arra**	**44.66**	**321**	P	**P**	**11 39 10.8**	**+2.1**
	0.2nm,0.6s,baz=119,slow=7.7,SNR=2.8						

*ISK **28** 11:45:58.7, 39°09N×29°17E, h5km, ML2.3/4*
*ISCJB **28** 11:45:59.3±0.5, 39°08N±0°03×29°15E±0°04, h7km±5km, Error ellipse: s-maj=5.4km s-min=4.6km az=9.6*
*DDA **28** 11:45:59.1, 39°08N×29°15E, h7km, Ml2.5*
*CSEM **28** 11:45:59.3±0.1, 39°10N×29°17E, h5km, ML2.3, Error ellipse: s-maj=2.3km s-min=1.8km az=113.0*

ISC 28 11:45:59.3±0.9, 39°09N±0°03×29°17E±0°02, h10km±7km, n27, σ0s30/39, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIMA	**Simav-Kutahya**	**0.14**	**269**	PG	**Pg**	**11 46 02.5**	**-0.1**
SIMA				SG	**Sg**	**11 46 04.7**	**-0.2**
SIMA	**Simav-Kutahya**	**0.14**	**269**	*e*Pg	**Pg**	**11 46 02.5**	**-0.1**
SIMA				*e*Sg	**Sg**	**11 46 04.7**	**-0.2**
GDZ	**Gediz**	**0.25**	**89**	*i* P	**Pg**	**11 46 04.5**	**+0.1**
GDZ				*i* S	**Sg**	**11 46 08.3**	**+0.5**
GDZ	**Gediz**	**0.25**	**89**	P	**Pg**	**11 46 04.5**	**+0.1**
GDZ				S	**Sg**	**11 46 08.3**	**+0.5**
DEMI	**Demirci**	**0.35**	**263**	*i* P	**Pg**	**11 46 06.6**	**+0.3**
DEMI				*i* S	**Sg**	**11 46 10.9**	**-0.1**
DEMI	**Demirci**	**0.35**	**263**	P	**Pg**	**11 46 06.6**	**+0.3**
DEMI				S	**Sg**	**11 46 10.9**	**-0.1**
TVSB	**Tavsanli**	**0.43**	**32**	PG	**Pg**	**11 46 07.1**	**-0.7**
TVSB	**Tavsanli**	**0.43**	**32**	*e*Pg	**Pg**	**11 46 07.1**	**-0.7**
KULA	**Kula-Manisa**	**0.69**	**215**	PG	**Pg**	**11 46 12.6**	**-0.1**
KULA	**Kula-Manisa**	**0.69**	**215**	*e*Pg	**Pg**	**11 46 12.6**	**-0.1**
DURS	**Dursunbey**	**0.74**	**314**	*i* P	**Pg**	**11 46 13.8**	**+0.2**
DURS				*i* S	**Sg**	**11 46 23.7**	**+0.3**
DURS	**Dursunbey**	**0.74**	**314**	P	**Pg**	**11 46 13.9**	**+0.2**
DURS				S	**Sg**	**11 46 23.7**	**+0.3**
KHAL	**Karahalli**	**0.76**	**160**	*i* P	**Pb**	**11 46 14.7**	**-0.1**
KHAL				*i* S	**Sb**	**11 46 24.8**	**-0.4**
KHAL	**Karahalli**	**0.76**	**160**	P	**Pb**	**11 46 14.7**	**-0.1**
KHAL				S	**Sb**	**11 46 24.8**	**-0.4**
MANT	**Manisa**	**0.76**	**219**	*i* P	**Pg**	**11 46 13.9**	**-0.1**
MANT				*i* S	**Sg**	**11 46 23.9**	**-0.1**
MANT	**Manisa**	**0.76**	**219**	P	**Pg**	**11 46 13.9**	**-0.1**
MANT				S	**Sg**	**11 46 23.9**	**-0.1**
CAVI	**Cavuskoy**	**1.23**	**25**	PN	**Pb**	**11 46 22.7**	**0.0**
CAVI	**Cavuskoy**	**1.23**	**25**	*e*Pn	**Pb**	**11 46 22.7**	**0.0**
BORA	**Eskisehir**	**1.27**	**51**	PN	**Pn**	**11 46 23.8**	**+0.5**
MDNY	**Mudanya-Bursa**	**1.30**	**350**	PN	**Pn**	**11 46 23.8**	**+0.2**
MDNY	**Mudanya-Bursa**	**1.30**	**350**	*e*Pn	**Pn**	**11 46 23.8**	**+0.2**
KCTX	**Karacabey (Bur**	**1.33**	**332**	PN	**Pn**	**11 46 24.4**	**+0.3**
KCTX	**Karacabey (Bur**	**1.33**	**332**	*e*Pn	**Pn**	**11 46 24.4**	**+0.3**
YLV	**Yalova**	**1.49**	**6**	PN	**Pb**	**11 46 27.0**	**-0.1**
YLV	**Yalova**	**1.49**	**6**	*e*Pn	**Pb**	**11 46 27.0**	**-0.1**
ARMT	**Armutlu**	**1.50**	**351**	PN	**Pb**	**11 46 27.0**	**-0.3**
ARMT	**Armutlu**	**1.50**	**351**	*e*Pn	**Pb**	**11 46 27.0**	**-0.3**

*ISCJB **28** 11:53:14.0±0.5, 39°39N±0°03×28°25E±0°04, h7km±5km, Error ellipse: s-maj=6.1km s-min=3.9km az=151.9*
*DDA **28** 11:53:14.5, 39°37N×28°35E, h7km, Ml2.7*
*CSEM **28** 11:53:14.2±0.2, 39°39N×28°27E, h5km, ML2.7, Error ellipse: s-maj=4.0km s-min=2.5km az=62.0*
*ISK **28** 11:53:14.0, 39°40N×28°26E, h6km, ML2.9/12*

ISC 28 11:53:14.3±1.0, 39°39N±0°02×28°26E±0°03, h11km±9km, n46, σ0s62/60, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DURS	**Dursunbey**	**0.27**	**37**	*i* P	**Pg**	**11 53 19.6**	**-0.3**
DURS				*i* S	**Sg**	**11 53 23.9**	**+0.4**
DURS	**Dursunbey**	**0.27**	**37**	P	**Pg**	**11 53 19.6**	**-0.3**
DURS				S	**Sg**	**11 53 24.0**	**+0.4**
BALB	**Balikesir**	**0.39**	**311**	PG	**Pg**	**11 53 22.1**	**+0.1**
BALB				SG	**Sb**	**11 53 28.6**	**-0.6**
BALB	**Balikesir**	**0.39**	**311**	*i* Pg	**Pg**	**11 53 22.1**	**+0.1**
BALB				*i* Sg	**Sb**	**11 53 28.6**	**-0.6**

IDC 28 12:23:38.5±2.7, 7°93S×119°44E, h203km±21km, mb2.9/3, mb1 3.0/5, mb1mx2.8/59, mbtmp3.5/5, Error ellipse: s-maj=60.4km s-min=12.1km az=51.0, Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**4.75**	**119**	P	Pn	12 24 50.3	+0.5
	baz=270,slow=15						
BATI				S	S	12 25 45.8	+0.3
	3.5nm,0.3s,baz=292,slow=19,SNR=2.8						
WRA	**Warramunga Arr**	**18.73**	**131**	P	P	12 27 42.9	+0.7
	0.2nm,0.3s,baz=300,slow=12,SNR=9.6						
WRA				S	S	12 31 05.4	+0.6
	0.0nm,0.3s,baz=306,slow=24,SNR=3.4						
ASAR	**Alice Springs**	**20.91**	**140**	P	P	12 28 05.4	-0.1
	0.5nm,0.5s,baz=316,slow=9.3,SNR=12						
SONM	**Songino Array**	**56.71**	**350**	P	P	12 33 00.9	-0.1
	0.3nm,0.5s,baz=159,slow=8.6,SNR=3.0						
MKAR	**Makanchi Array**	**63.71**	**332**	P	P	12 33 48.3	-0.1
	0.4nm,0.5s,baz=142,slow=7.2,SNR=5.5						

*DDA **28** 12:24:10.6, 37°16N×28°18E, h7km, Ml2.6, Suspected Mining explosion.*
*ISK **28** 12:24:11.6, 37°25N×28°21E, h16km, ML2.1/4*
*ISCJB **28** 12:24:12.2±0.6, 37°25N±0°04×28°22E±0°04, h0km, Error ellipse: s-maj=6.0km s-min=4.0km az=14.3*
*CSEM **28** 12:24:12.3±0.2, 37°25N×28°22E, h1km, ML2.1, Error ellipse: s-maj=3.9km s-min=2.7km az=17.0, Suspected Mining explosion.*

ISC 28 12:24:12.7±1.3, 37°24N±0°03×28°22E±0°02, h0km, n12, σ0s56/22, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLSB	**Milas**	**0.36**	**279**	PG	**Pg**	**12 24 19.2**	**-0.3**
MLSB				SG	**Sg**	**12 24 24.6**	**+0.5**
MLSB	**Milas**	**0.36**	**279**	*e*Pg	**Pg**	**12 24 19.2**	**-0.3**
MLSB				*e*Sg	**Sg**	**12 24 24.6**	**+0.5**
TURN	**Turunc**	**0.48**	**140**	PG	**Pg**	**12 24 21.3**	**-0.6**
TURN				SG	**Sg**	**12 24 28.8**	**+0.7**
TURN	**Turunc**	**0.48**	**140**	*e*Pg	**Pg**	**12 24 21.3**	**-0.6**
TURN				*e*Sg	**Sg**	**12 24 28.8**	**+0.7**
AYDN	**Tasoluk**	**0.50**	**327**	*i* P	**Pg**	**12 24 22.3**	**+0.1**
AYDN				*i* S	**Sg**	**12 24 28.5**	**-0.1**
AYDN	**Tasoluk**	**0.50**	**327**	P	**Pg**	**12 24 22.3**	**+0.1**
AYDN				S	**Sg**	**12 24 28.5**	**-0.1**
TAVA	**DENIZLI_Tavas**	**0.60**	**68**	*i* P	**Pg**	**12 24 23.7**	**-0.4**
TAVA				*i* S	**Sg**	**12 24 32.4**	**+0.6**
TAVA	**DENIZLI_Tavas**	**0.60**	**68**	P	**Pg**	**12 24 23.7**	**-0.4**
TAVA				S	**Sg**	**12 24 32.4**	**+0.6**
BODT	**Bodrum**	**0.75**	**256**	PG	**Pg**	**12 24 26.3**	**-0.7**
BODT				SG	**Sg**	**12 24 37.4**	**+0.7**
BODT	**Bodrum**	**0.75**	**256**	*e*Pg	**Pg**	**12 24 26.3**	**-0.7**
BODT				*e*Sg	**Sg**	**12 24 37.4**	**+0.7**
AYDB	**Zeytinkoy-Aydi**	**0.75**	**340**	PG	**Pg**	**12 24 26.5**	**-0.5**
AYDB	**Zeytinkoy-Aydi**	**0.75**	**340**	*e*Pg	**Pg**	**12 24 26.5**	**-0.5**

IDC 28 12:27:43.2±26.0, 20°85S×172°85W, h0km, mb4.1/4, mb1 4.2/4, mb1mx3.6/46, mbtmp4.1/4, Error ellipse: s-maj=493.3km s-min=158.9km az=75.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**38.25**	**264**	P	P	12 35 05.8	+0.4
	3.9nm,0.9s,baz=95,slow=11,SNR=2.9						
STKA	**Stephens Creek**	**42.00**	**245**	P	P	12 35 36.0	-0.3
	1.4nm,0.5s,baz=76,slow=9.1,SNR=6.1						
ASAR	**Alice Springs**	**49.12**	**256**	P	P	12 36 32.8	-0.2
	1.3nm,0.6s,baz=89,slow=8.5,SNR=20						
WRA	**Warramunga Arr**	**49.32**	**261**	P	P	12 36 34.2	-0.3
	1.3nm,0.6s,baz=100,slow=7.7,SNR=72						

IDC 28 12:43:39.0±2.5, 3°79N×95°59E, h0km, mb3.6/3, mb1 3.9/5, mb1mx3.4/67, mbtmp3.6/5, ML3.9/2, Error ellipse: s-maj=82.4km s-min=25.7km az=57.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**3.47**	**106**	Pn	Pn	12 44 33.9	-0.6
	3.8nm,0.3s,baz=306,slow=12,SNR=14						
PSI				Sn	Sn	12 45 16.4	0.0
	7.0nm,0.3s,baz=10.0,slow=23,SNR=13						
CMAR	**Chiang Mai Arr**	**14.95**	**12**	Pn	Pn	12 47 13.6	+1.8
	0.3nm,0.3s,baz=203,slow=12,SNR=3.3						
H08S2	**Diego Garcia H**	**25.69**	**244**	T	T	13 16 47.1	
	baz=61,slow=75,SNR=7.5						
H08S3	**Diego Garcia H**	**25.69**	**244**	T	T	13 16 44.1	
	baz=61,slow=75,SNR=5.1						
H08S1	**Diego Garcia H**	**25.70**	**244**	T	T	13 16 50.0	
	baz=61,slow=75,SNR=4.4						
MKAR	**Makanchi Array**	**44.37**	**347**	P	P	12 51 50.6	-0.6
	0.2nm,0.4s,baz=152,slow=9.7,SNR=4.1						
WRA	**Warramunga Arr**	**44.78**	**123**	P	P	12 51 54.8	-0.1
	2.7nm,0.6s,baz=301,slow=9.2,SNR=27						
ASAR	**Alice Springs**	**46.24**	**128**	P	P	12 52 06.8	+0.3
	0.4nm,0.6s,baz=298,slow=7.5,SNR=9.1						

IDC 28 12:57:51.2±2.0, 6°16S×130°19E, h0km, mb3.8/2, mb1 3.8/4, mb1mx3.4/56, mbtmp3.6/4, ML3.5/2, Error ellipse: s-maj=141.8km s-min=30.5km az=70.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.28**	**164**	Pn	Pn	13 01 13.5	-1.3
	0.2nm,0.3s,baz=347,slow=13,SNR=19						
WRA				Sn	Sn	13 03 39.7	-14
	0.8nm,0.3s,baz=341,slow=21,SNR=8.9						
ASAR	**Alice Springs**	**17.77**	**169**	Pn	P	13 02 01.2	+0.2
	0.3nm,0.3s,baz=348,slow=11,SNR=21						
ASAR				Sn	Sn	13 05 04.0	-15
	0.1nm,0.3s,baz=348,slow=26,SNR=4.4						
MKAR	**Makanchi Array**	**67.63**	**327**	P	P	13 08 50.3	+0.3
	0.6nm,0.4s,baz=117,slow=7.7,SNR=12						
KURBB	**Kurchatov Arra**	**71.90**	**328**	P	P	13 09 15.8	-0.3
	0.3nm,0.5s,baz=129,slow=5.6,SNR=3.4						

*IDC **28** 13:01:10.8±0.8, 3°01S×129°90E, h0km, mb3.9/10, mb1 4.0/11, mb1mx3.8/59, mbtmp3.9/11, ML4.0/1, Error ellipse: s-maj=38.7km s-min=14.6km az=70.0*
*ISCJB **28** 13:01:13.6±0.6, 2°74S±0°06×130°15E±0°05, h25km, mb3.9/10, Error ellipse: s-maj=8.4km s-min=7.0km az=162.9*
*DJA **28** 13:01:15.5±1.2, 3°S±3°×13°0E±°, h24km±10km, M4.1/6, MLv4.1/6*

ISC 28 13:01:14.2±0.6, 2°87S±0°05×130°11E±0°04, h25km, n17, σ2s46/23, mb3.9/9, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSAI	**Masohi**	**1.27**	**248**	P	**Pb**	**13 01 37.5**	**+0.1**
MSAI				S	**Sb**	**13 01 55.2**	**+1.8**
BNDI	**Bandanaira**	**1.65**	**187**	P	**Pb**	**13 01 44.6**	**+0.6**
BNDI				S	**Sb**	**13 02 09.4**	**+5.0**
AAI	**Ambon**	**2.08**	**247**	P	**Pn**	**13 01 49.0**	**+1.6**
AAI				S	**Sb**	**13 02 15.6**	**-1.0**
FAKI	**Fak Fak**	**2.14**	**91**	P	**Pb**	**13 01 51.4**	**-0.9**
FAKI				S	**Sb**	**13 02 18.9**	**+0.5**
LBMI	**Labuha**	**3.42**	**310**	P	**Pn**	**13 02 04.8**	**-1.2**
LBMI				S	**Sn**	**13 02 46.8**	**+1.0**
RKPI	**Ransiki, Papua**	**4.29**	**72**	P	**Pn**	**13 02 20.1**	**+2.2**
WRA	**Warramunga Arr**	**17.46**	**167**	P	**Pn**	**13 05 13.0**	**-3.2**
	0.6nm,0.3s,baz=349,slow=13,SNR=6.1						
WRA				S	Sn	13 08 16.0	-14
	0.2nm,0.3s,baz=353,slow=24,SNR=3.1						
ASAR	**Alice Springs**	**21.00**	**170**	P	**P**	**13 05 55.4**	**-0.5**
	9.9nm,0.6s,baz=349,slow=10,SNR=71						
ASAR				S	**S**	**13 09 41.3**	**-7.4**
	0.9nm,0.8s,baz=347,slow=20,SNR=4.5						
CTA	**Charters Tower**	**23.26**	**139**	P	**P**	**13 06 21.5**	**+1.5**
	2.5nm,0.7s,baz=324,slow=14,SNR=2.6						
STKA	**Stephens Creek**	**30.81**	**161**	P	**P**	**13 07 28.1**	**0.0**
	1.0nm,0.3s,baz=325,slow=7.7,SNR=5.9						
NWAO	**Narrogin (SRO)**	**32.24**	**201**	P	**P**	**13 07 38.4**	**-2.3**
	2.0nm,0.5s,baz=30,slow=16,SNR=3.7						
CMAR	**Chiang Mai Arr**	**37.30**	**306**	P	**P**	**13 08 26.0**	**+1.4**
	0.4nm,0.3s,baz=138,slow=6.8,SNR=2.5						

SONM	**Songino Array**	**54.60**	**341**	P	**P**	**13 10 40.1**	**-0.6**
	0.3nm,0.5s,baz=152,slow=6.5,SNR=2.4						
MKAR	**Makanchi Array**	**64.87**	**326**	P	**P**	**13 11 51.6**	**+0.3**
	0.2nm,0.3s,baz=111,slow=8.1,SNR=7.2						
SEY	**Seymchan**	**67.76**	**11**	P	**P**	**13 12 11.4**	**+2.0**
	0.8nm,0.6s,baz=197,slow=19,SNR=7.5						
KURBB	**Kurchatov Arra**	**69.08**	**328**	P	**P**	**13 12 18.2**	**+0.2**
	0.8nm,0.3s,baz=127,slow=6.0,SNR=13						
BVAR	**Borovoye Array**	**74.66**	**327**	P	**P**	**13 12 52.0**	**+0.6**
	0.3nm,0.4s,baz=123,slow=5.3,SNR=2.7						

*BER **28** 13:03:50.8±3.5, 61°54N×31°35E, h0km, ML2.3(NAO), Suspected explosion*
*CSEM **28** 13:03:51.2±2.5, 61°72N×31°23E, h2km, ML2.3, Error ellipse: s-maj=68.7km s-min=17.2km az=117.0*
*ISCJB **28** 13:03:52.9±2.7, 62°01N±0°09×30°4E±0°4, h0km, Error ellipse: s-maj=31.5km s-min=5.9km az=23.2*
*IDC **28** 13:03:52.5±2.7, 61°55N×31°24E, h0km, mb1 3.2/4, mb1mx2.9/71, mbtmp3.2/4, ML2.8/4, Error ellipse: s-maj=28.3km s-min=12.0km az=132.0*
*NAO **28** 13:03:53.5±2.2, 61°64N×30°95E, ML2.3*

ISC 28 13:03:53.9±1.9, 61°89N±0°07×30°6E±0°1, h0km, n21, σ1s70/29, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FIA0	**FINESS Array S**	**2.18**	**260**	Pn	**Pb**	**13 04 34.1**	**-0.2**
	baz=98,slow=14						
FIA0				Lg	Lg	13 05 07.3	
	baz=78,slow=28						
FIA0	**FINESS Array S**	**2.18**	**260**	Pn	**Pb**	**13 04 34.1**	**-0.2**
	SNR=198						
FIA0				Lg	Lg	13 05 07.3	
	SNR=2.0						
FIA0	**FINESS Array S**	**2.18**	**260**	Pn	**Pb**	**13 04 34.1**	**-0.2**
	baz=98,slow=14						
FIA0				Lg	Lg	13 05 07.3	
	baz=78,slow=28						
FINES	**FINESS Array B**	**2.18**	**260**	Pn	**Pb**	**13 04 34.0**	**-0.2**
	1.6nm,0.3s,baz=88,slow=17,SNR=79						
FINES				Sn	**Sg**	**13 05 07.0**	**+3.1**
	3.4nm,0.3s,baz=86,slow=21,SNR=24						
MEF	**Metsahovi**	**3.43**	**243**	*e*P	**Pn**	**13 04 49.3**	**+0.7**
	SNR=50						
MEF				*e*S	**Sn**	**13 05 32.5**	**+2.6**
	6.4nm,0.3s,SNR=50						
VSU	**Vasula**	**3.93**	**211**	*e*S	**Sn**	**13 05 38.6**	**-3.6**
	25nm,0.3s,SNR=50						
RAF	**Rauma**	**4.31**	**262**	*e*P	**Pn**	**13 05 04.3**	**+3.7**
	SNR=50						
RAF				*e*S	**Sb**	**13 05 59.2**	**-3.7**
	5.7nm,0.5s,SNR=50						
MTSE	**Matsula**	**4.62**	**229**	*e*S	**Sn**	**13 06 00.8**	**+1.6**
	SNR=50						
SLIT	**Slitere, Latvi**	**5.97**	**228**	*e*S	**Sn**	**13 06 30.9**	**-1.6**
	SNR=50						
ARA0	**ARCESS Array S**	**7.95**	**347**	Pn	**Pn**	**13 05 51.0**	**+0.4**
	baz=155,slow=16						
ARA0				Sn	**Sn**	**13 07 20.1**	**-1.0**
	baz=164,slow=18						
ARA0				Lg	Lg	13 08 10.6	
	baz=156,slow=37						
ARA0	**ARCESS Array S**	**7.95**	**347**	Pn	**Pn**	**13 05 51.0**	**+0.4**
	baz=155,slow=16						
ARA0				Sn	**Sn**	**13 07 20.1**	**-1.0**
	baz=164,slow=18						
ARA0				Lg	Lg	13 08 10.6	
	baz=156,slow=37						
ARCES	**ARCESS Array B**	**7.95**	**347**	Pn	**Pn**	**13 05 50.8**	**+0.2**
	0.3nm,0.3s,baz=159,slow=15,SNR=12						
ARCES				Sn	**Sn**	**13 07 21.9**	**+0.8**
	0.3nm,0.3s,baz=164,slow=23,SNR=3.1						
ARCES				Lg	Lg	13 08 10.2	
	0.4nm,0.3s,baz=169,slow=26,SNR=4.1						
HFS	**Hagfors**	**8.37**	**265**	Pn	**Pn**	**13 05 56.9**	**+0.4**
	baz=86,slow=12						
HFS				Lg	Lg	13 08 21.0	
	baz=77,slow=37						
HFS	**Hagfors**	**8.37**	**265**	Pn	**Pn**	**13 05 56.8**	**+0.4**
	0.2nm,0.3s,baz=74,slow=11,SNR=5.0						
HFS				Sn	**Sn**	**13 07 30.1**	**-1.4**
	0.2nm,0.3s,baz=78,slow=27,SNR=3.6						
HFS				Lg	Lg	13 08 20.8	
	0.2nm,0.3s,baz=77,slow=31,SNR=2.6						
HFS	**Hagfors**	**8.37**	**265**	Pn	**Pn**	**13 05 56.9**	**+0.4**
	baz=86,slow=12						
HFS				Lg	Lg	13 08 21.0	
	baz=77,slow=37						
NRA0	**NORESS Array S**	**9.21**	**271**	Pn	**Pn**	**13 06 07.9**	**0.0**
	baz=86,slow=12						
NRA0	**NORESS Array S**	**9.21**	**271**	Pn	**Pn**	**13 06 07.9**	**0.0**
	SNR=6.2						
NRA0	**NORESS Array S**	**9.21**	**271**	Pn	**Pn**	**13 06 07.9**	**0.0**
	baz=86,slow=12						
NB2	**NORSAR Subarra**	**9.29**	**273**	Pn	**Pn**	**13 06 09.9**	**+0.9**
NB2	**NORSAR Subarra**	**9.29**	**273**	Pn	**Pn**	**13 06 09.9**	**+0.9**
NOA	**NORSAR Array B**	**9.29**	**273**	Pn	**Pn**	**13 06 09.7**	**+0.7**
	0.1nm,0.3s,baz=83,slow=18,SNR=2.5						
NOA				Sn	**Sn**	**13 07 51.9**	**-2.2**
	0.1nm,0.3s,baz=136,slow=26,SNR=2.7						
NOA				Lg	Lg	13 08 51.9	
	0.2nm,0.3s,baz=115,slow=17,SNR=3.0						

*ISK **28** 13:10:14.7, 39°12N×29°16E, h5km, ML2.5/10*
*DDA **28** 13:10:14.9, 39°09N×29°13E, h7km, Ml2.6*
*ISCJB **28** 13:10:15.0±0.5, 39°11N±0°03×29°15E±0°03, h3km±5km, Error ellipse: s-maj=4.3km s-min=4.0km az=10.4*
*CSEM **28** 13:10:15.2±0.1, 39°12N×29°14E, h5km, ML2.5, Error ellipse: s-maj=2.3km s-min=2.1km az=94.0*

ISC 28 13:10:15.1±0.9, 39°12N±0°02×29°14E±0°02, h11km±6km, n43, σ0s28/59, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIMA	**Simav-Kutahya**	**0.13**	**253**	PG	**Pg**	**13 10 18.3**	**+0.1**
SIMA				SG	**Sg**	**13 10 20.4**	**-0.1**
SIMA	**Simav-Kutahya**	**0.13**	**253**	*e*Pg	**Pg**	**13 10 18.3**	**+0.1**
SIMA				*e*Sg	**Sg**	**13 10 20.4**	**-0.1**
GDZ	**Gediz**	**0.27**	**97**	*i* P	**Pg**	**13 10 20.3**	**-0.3**
GDZ				*i* S	**Sg**	**13 10 24.3**	**0.0**
GDZ	**Gediz**	**0.27**	**97**	P	**Pg**	**13 10 20.3**	**-0.3**
GDZ				S	**Sg**	**13 10 24.3**	**0.0**
DEMI	**Demirci**	**0.34**	**257**	*i* P	**Pg**	**13 10 22.0**	**+0.1**
DEMI				*i* S	**Sg**	**13 10 26.7**	**+0.2**
DEMI	**Demirci**	**0.34**	**257**	P	**Pg**	**13 10 22.0**	**+0.1**
DEMI				S	**Sg**	**13 10 26.7**	**+0.2**
TVSB	**Tavsanli**	**0.41**	**37**	PG	**Pg**	**13 10 22.7**	**-0.5**
TVSB				SG	**Sg**	**13 10 28.6**	**-0.1**
TVSB	**Tavsanli**	**0.41**	**37**	*e*Pg	**Pg**	**13 10 22.7**	**-0.5**
TVSB				*e*Sg	**Sg**	**13 10 28.6**	**-0.1**
DURS	**Dursunbey**	**0.70**	**313**	*i* P	**Pg**	**13 10 28.4**	**-0.3**
DURS				*i* S	**Sn**	**13 10 41.8**	**-0.3**
DURS	**Dursunbey**	**0.70**	**313**	P	**Pg**	**13 10 28.4**	**-0.3**
DURS				S	**Sn**	**13 10 41.8**	**-0.3**
KULA	**Kula-Manisa**	**0.71**	**212**	PG	**Pg**	**13 10 28.7**	**-0.2**
KULA	**Kula-Manisa**	**0.71**	**212**	*e*Pg	**Pg**	**13 10 28.7**	**-0.2**
MANT	**Manisa**	**0.78**	**216**	*i* P	**Pg**	**13 10 30.0**	**-0.1**
MANT				*i* S	**Sg**	**13 10 39.6**	**-0.7**
MANT	**Manisa**	**0.78**	**216**	P	**Pg**	**13 10 30.0**	**-0.1**
MANT				S	**Sg**	**13 10 39.6**	**-0.7**
KHAL	**Karahalli**	**0.80**	**160**	*i* P	**Pb**	**13 10 31.1**	**0.0**
KHAL				*i* S	**Sg**	**13 10 40.9**	**0.0**
KHAL	**Karahalli**	**0.80**	**160**	P	**Pb**	**13 10 31.1**	**0.0**
KHAL				S	**Sg**	**13 10 40.9**	**0.0**
ORLT	**Orhaneli**	**0.94**	**348**	PG	**Pb**	**13 10 33.8**	**+0.3**
ORLT	**Orhaneli**	**0.94**	**348**	*e*Pg	**Pb**	**13 10 33.8**	**+0.3**
BALB	**Balikesir**	**1.11**	**298**	PN	**Pn**	**13 10 36.7**	**+0.2**
BALB	**Balikesir**	**1.11**	**298**	*e*Pn	**Pn**	**13 10 36.7**	**+0.2**
KZIL	**AFYON_Kizioren**	**1.17**	**137**	*i* P	**Pn**	**13 10 38.0**	**+0.5**
KZIL				*i* S	**Sn**	**13 10 53.3**	**-0.2**
KZIL	**AFYON_Kizioren**	**1.17**	**137**	P	**Pn**	**13 10 38.0**	**+0.5**
KZIL				S	**Sn**	**13 10 53.3**	**-0.2**
CAVI	**Cavuskoy**	**1.21**	**26**	PN	**Pn**	**13 10 38.2**	**+0.2**
CAVI	**Cavuskoy**	**1.21**	**26**	*e*Pn	**Pn**	**13 10 38.2**	**+0.2**
SHUT	**Suhut-Afyon**	**1.24**	**117**	PN	**Pb**	**13 10 38.8**	**+0.2**
SHUT	**Suhut-Afyon**	**1.24**	**117**	*e*Pn	**Pb**	**13 10 38.8**	**+0.2**
MDNY	**Mudanya-Bursa**	**1.26**	**351**	PN	**Pg**	**13 10 39.7**	**+0.4**
MDNY	**Mudanya-Bursa**	**1.26**	**351**	*e*Pn	**Pg**	**13 10 39.7**	**+0.4**
BORA	**Eskisehir**	**1.27**	**53**	PN	**Pg**	**13 10 39.7**	**+0.3**
KCTX	**Karacabey (Bur**	**1.29**	**332**	PN	**Pg**	**13 10 39.9**	**0.0**
KCTX	**Karacabey (Bur**	**1.29**	**332**	*e*Pn	**Pg**	**13 10 39.9**	**0.0**
ADVT	**Abdulvahap**	**1.39**	**19**	PN	**Pb**	**13 10 41.4**	**+0.3**
ADVT	**Abdulvahap**	**1.39**	**19**	*e*Pn	**Pb**	**13 10 41.4**	**+0.3**
YLV	**Yalova**	**1.45**	**7**	PN	**Pg**	**13 10 42.9**	**-0.1**
YLV	**Yalova**	**1.45**	**7**	*e*Pn	**Pg**	**13 10 42.9**	**-0.1**
GONE	**Gonen-Balikesi**	**1.46**	**310**	PN	**Pg**	**13 10 42.9**	**-0.1**
GONE	**Gonen-Balikesi**	**1.46**	**310**	*e*Pn	**Pg**	**13 10 42.9**	**-0.1**
ARMT	**Armutlu**	**1.46**	**352**	PN	**Pg**	**13 10 42.9**	**-0.2**
ARMT	**Armutlu**	**1.46**	**352**	*e*Pn	**Pg**	**13 10 42.9**	**-0.2**
EDC	**Edincik**	**1.57**	**322**	PN	**Pb**	**13 10 44.0**	**-0.2**
EDC	**Edincik**	**1.57**	**322**	*e*Pn	**Pb**	**13 10 44.0**	**-0.2**
GULT	**Gulveren**	**1.68**	**39**	PN	**Pb**	**13 10 45.9**	**-0.2**
GULT	**Gulveren**	**1.68**	**39**	*e*Pn	**Pb**	**13 10 45.9**	**-0.2**

*IDC **28** 13:13:45.3±0.9, 18°44N×122°68E, h0km, mb3.6/8, mb1 3.7/9, mb1mx3.5/61, mbtmp3.6/9, ML3.5/1, Error ellipse: s-maj=34.9km s-min=17.8km az=68.0*
*ISCJB **28** 13:13:47.3±0.7, 18°43N±0°06×122°7E±0°2, h27km, mb3.5/8, Error ellipse: s-maj=23.1km s-min=7.9km az=175.1*

ISC 28 13:13:49.4±0.9, 18°44N±0°08×122°7E±0°2, h27km, n16, σ0s64/11, mb3.6/8, 1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GQP	**Guinayangan**	**4.51**	**183**	*e*P	**Pn**	**13 14 56.7**	**+0.8**
GQP				*e*S	**Sn**	**13 15 46.8**	**-0.8**
KSRS	**Korea Array**	**19.50**	**13**	P	**P**	**13 18 14.3**	**-0.1**
	0.1nm,0.3s,baz=192,slow=11,SNR=5.0						
CMAR	**Chiang Mai Arr**	**22.51**	**274**	P	**P**	**13 18 47.3**	**+0.1**
	0.5nm,0.3s,baz=79,slow=8.9,SNR=6.3						
SONM	**Songino Array**	**32.20**	**339**	P	**P**	**13 20 15.6**	**+0.4**
	0.2nm,0.4s,baz=159,slow=9.1,SNR=2.5						
WRA	**Warramunga Arr**	**39.82**	**163**	P	**P**	**13 21 19.8**	**-0.7**
	0.4nm,0.8s,baz=344,slow=9.2,SNR=3.6						
H11S3	**WAKE ISLAND Hy**	**41.67**	**83**	T	T	14 06 09.2	
	baz=277,slow=75,SNR=39						
H11S1	**WAKE ISLAND Hy**	**41.68**	**83**	T	T	14 06 07.5	
	baz=277,slow=75,SNR=31						
H11S2	**WAKE ISLAND Hy**	**41.69**	**83**	T	T	14 06 08.2	
	baz=277,slow=75,SNR=33						
H11N1	**WAKE ISLAND Hy**	**41.72**	**81**	T	T	14 06 10.3	
	baz=276,slow=75,SNR=43						
H11N2	**WAKE ISLAND Hy**	**41.73**	**81**	T	T	14 06 10.4	
	baz=276,slow=75,SNR=45						
H11N3	**WAKE ISLAND Hy**	**41.74**	**81**	T	T	14 06 11.4	
	baz=276,slow=75,SNR=35						
ASAR	**Alice Springs**	**43.26**	**165**	P	**P**	**13 21 49.1**	**+0.4**
	0.3nm,0.8s,baz=340,slow=6.3,SNR=3.5						
MKAR	**Makanchi Array**	**43.51**	**320**	P	**P**	**13 21 50.6**	**0.0**
	1.1nm,0.7s,baz=110,slow=10.0,SNR=12						
ZALV	**Zalesovo Beam**	**45.84**	**330**	P	**P**	**13 22 08.4**	**-0.6**
	1.2nm,0.6s,baz=114,slow=8.9,SNR=3.7						
KURBB	**Kurchatov Arra**	**47.45**	**323**	P	**P**	**13 22 20.8**	**-0.9**
	0.6nm,0.5s,baz=117,slow=7.7,SNR=4.4						
YKA	**Yellowknife Ar**	**87.70**	**23**	P	**P**	**13 26 35.6**	**+0.2**
	0.4nm,0.8s,baz=304,slow=4.4,SNR=9.5						

*CSEM **28** 13:26:31.9±0.1, 39°61N×26°05E, h10km, ML3.0, Error ellipse: s-maj=1.7km s-min=1.4km az=80.0*
*ATH **28** 13:26:31.6, 39°61N×26°04E, h24km±2km, ML2.5/8, Error ellipse: s-maj=2.6km s-min=0.9km az=226.0*
*ISK **28** 13:26:31.2, 39°62N×26°04E, h7km, ML3.0/11*
*ISCJB **28** 13:26:31.8±0.3, 39°61N±0°01×26°04E±0°02, h8km±3km, Error ellipse: s-maj=3.0km s-min=2.5km az=172.3*
*DDA **28** 13:26:32.2, 39°62N×26°09E, h7km, Ml3.0*
*THE **28** 13:26:32.1, 39°61N×26°04E, h8km±1km, ML2.4/9, Error ellipse: s-maj=1.2km s-min=0.5km az=88.0*

ISC 28 13:26:32.0±0.8, 39°62N±0°01×26°04E±0°02, h12km±6km, n96, σ0s55/144, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GPNR	**Gulpinar-Canak**	**0.17**	**157**	PG	**Pg**	**13 26 35.4**	**-0.4**
GPNR				SG	**Sg**	**13 26 38.1**	**-0.4**
GPNR	**Gulpinar-Canak**	**0.17**	**157**	*e*Pg	**Pg**	**13 26 35.4**	**-0.4**
GPNR				*e*Sg	**Sg**	**13 26 38.1**	**-0.4**
BOZC	**Bozcaada**	**0.23**	**2**	*i* P	**Pg**	**13 26 36.9**	**+0.1**
BOZC				*i* S	**Sg**	**13 26 40.5**	**+0.4**
EZN	**Ezine**	**0.30**	**46**	PG	**Pg**	**13 26 37.9**	**-0.2**
EZN				SG	**Sg**	**13 26 42.6**	**+0.4**
EZN	**Ezine**	**0.30**	**46**	P	**Pg**	**13 26 38.1**	**0.0**
EZN				S	**Sg**	**13 26 42.7**	**+0.5**
EZN	**Ezine**	**0.30**	**46**	*e*Pg	**Pg**	**13 26 37.9**	**-0.2**
EZN				S	**Sg**	**13 26 42.7**	**+0.5**
BAYC	**CANAKKALE_Bayr**	**0.41**	**72**	*i* P	**Pg**	**13 26 40.1**	**0.0**
BAYC				*i* S	**Sg**	**13 26 45.5**	**0.0**
BAYC	**CANAKKALE_Bayr**	**0.41**	**72**	P	**Pg**	**13 26 40.1**	**0.0**
BAYC				S	**Sg**	**13 26 45.5**	**0.0**
PRK	**Paraskevi**	**0.41**	**154**	P	**Pg**	**13 26 40.4**	**+0.4**
PRK				S	**Sg**	**13 26 46.2**	**+0.8**
PRK				AML	AML	13 26 46.6	
	comp=N,4494μm,0.3s	

PSRA	**Psara**	**1.14**	**199**	P	**Pg**	13 26 52.9	**-0.9**
PSRA	**Psara**	**1.14**	**199**	P	**Pg**	13 26 53.0	**-0.8**
BALY	**Balya**	**1.22**	**84**	*i* P	**Pb**	13 26 53.9	**-1.1**
BALY				*i* S	**Sg**	13 27 09.8	**-1.6**
BALY	**Balya**	**1.22**	**84**	P	**Pb**	13 26 53.9	**-1.1**
BALY				S	**Sg**	13 27 09.8	**-1.6**
CHOS	**Chios island**	**1.23**	**180**	PN	**Pb**	13 26 55.3	**+0.1**
CHOS	**Chios island**	**1.23**	**180**	P	**Pb**	13 26 54.5	**-0.6**
CHOS				AML	AML	13 27 15.3	
	comp=N,366μm,0.2s						
CHOS				AML	AML	13 27 15.3	
	comp=E,741μm,0.2s						
CHOS	**Chios island**	**1.23**	**180**	P	**Pb**	13 26 54.6	**-0.6**
CHOS				S	**Sg**	13 27 11.2	**-0.3**
CHOS	**Chios island**	**1.23**	**180**	P	**Pb**	13 26 54.7	**-0.5**
CHOS	**Chios island**	**1.23**	**180**	*e*Pn	**Pb**	13 26 55.3	**+0.1**
CHOS				S	**Sg**	13 27 11.2	**-0.3**
KRBG	**Karabiga-Canak**	**1.24**	**51**	PN	**Pn**	13 26 55.3	**+0.2**
KRBG	**Karabiga-Canak**	**1.24**	**51**	*e*Pn	**Pn**	13 26 55.3	**+0.2**
ALN	**Alexandroupoli**	**1.28**	**0**	PN	**Pn**	13 26 56.2	**+0.5**
ALN	**Alexandroupoli**	**1.28**	**0**	P	**Pn**	13 26 55.7	**-0.1**
ALN				S	**Sb**	13 27 13.0	**+0.6**
ALN				AML	AML	13 27 14.0	
	comp=E,304μm,0.4s						
ALN				AML	AML	13 27 14.9	
	comp=N,124μm,0.7s						
ALN	**Alexandroupoli**	**1.28**	**0**	P	**Pn**	13 26 55.8	**+0.1**
ALN				S	**Sg**	13 27 13.2	**0.0**
ALN	**Alexandroupoli**	**1.28**	**0**	P	**Pn**	13 26 55.8	**+0.1**
ALN	**Alexandroupoli**	**1.28**	**0**	*e*Pn	**Pn**	13 26 56.2	**+0.5**
ALN				S	**Sg**	13 27 13.2	**0.0**
KESN	**Edirne-Kesan**	**1.30**	**22**	*i* P	**Pn**	13 26 56.8	**+0.4**
KESN				*i* S	**Sg**	13 27 13.5	**-0.6**
KESN	**Edirne-Kesan**	**1.30**	**22**	P	**Pn**	13 26 56.8	**+0.4**
KESN				S	**Sg**	13 27 13.5	**-0.6**
KNL	**Bal¨–kesir**	**1.31**	**60**	*i* P	**Pn**	13 26 56.2	**+0.1**
KNL				*i* S	**Sn**	13 27 14.3	**+0.7**
STEP	**BALIKESIR_Sava**	**1.32**	**100**	*i* P	**Pn**	13 26 56.6	**+0.4**
STEP				*i* S	**Sn**	13 27 15.4	**+1.6**
STEP	**BALIKESIR_Sava**	**1.32**	**100**	P	**Pn**	13 26 56.6	**+0.4**
STEP				S	**Sn**	13 27 15.4	**+1.6**
URLA	**Izmir**	**1.32**	**161**	PN	**Pn**	13 26 56.7	**+0.3**
URLA	**Izmir**	**1.32**	**161**	*e*Pn	**Pn**	13 26 56.7	**+0.3**
GONE	**Gonen-Balikesi**	**1.33**	**71**	PN	**Pn**	13 26 56.9	**+0.4**
GONE	**Gonen-Balikesi**	**1.33**	**71**	*e*Pn	**Pn**	13 26 56.9	**+0.4**
SKY	**Skiros Island**	**1.37**	**238**	P	**Pn**	13 26 56.1	**-0.9**
SKY				S	**Sg**	13 27 16.0	**-0.2**
SKY	**Skiros Island**	**1.37**	**238**	P	**Pn**	13 26 56.1	**-0.9**
SKY				S	**Sg**	13 27 16.0	**-0.2**
RKY	**Sarkoy-Tekirda**	**1.38**	**39**	PN	**Pn**	13 26 57.5	**+0.4**
RKY	**Sarkoy-Tekirda**	**1.38**	**39**	*e*Pn	**Pn**	13 26 57.5	**+0.4**
BALB	**Balikesir**	**1.42**	**88**	PN	**Pn**	13 26 58.1	**+0.5**
BALB	**Balikesir**	**1.42**	**88**	*e*Pn	**Pn**	13 26 58.1	**+0.5**
BLCB	**Balcova**	**1.45**	**147**	PN	**Pn**	13 26 58.5	**+0.4**
BLCB	**Balcova**	**1.45**	**147**	*e*Pn	**Pn**	13 26 58.5	**+0.4**
EDC	**Edincik**	**1.58**	**62**	PN	**Pn**	13 27 00.6	**+0.8**
EDC	**Edincik**	**1.58**	**62**	*e*Pn	**Pn**	13 27 00.6	**+0.8**
RDO	**Rodhopi**	**1.58**	**346**	P	**Pb**	13 27 01.0	**-0.1**
RDO				AML	AML	13 27 20.9	
	comp=E,74μm,0.2s						
RDO				AML	AML	13 27 22.0	
	comp=N,88μm,0.2s						
RDO	**Rodhopi**	**1.58**	**346**	P	**Pn**	13 26 59.9	**+0.1**
RDO				S	**Sn**	13 27 20.4	**+0.2**
RDO	**Rodhopi**	**1.58**	**346**	P	**Pn**	13 26 59.9	**+0.1**
RDO				S	**Sn**	13 27 20.4	**+0.2**
OUR	**Ouranopolis**	**1.74**	**295**	PN	**Pn**	13 27 02.8	**+0.8**
OUR	**Ouranopolis**	**1.74**	**295**	P	**Pn**	13 27 02.2	**+0.2**
OUR	**Ouranopolis**	**1.74**	**295**	P	**Pn**	13 27 02.3	**+0.3**
OUR	**Ouranopolis**	**1.74**	**295**	*e*Pn	**Pn**	13 27 02.8	**+0.8**
TKR	**Tekirdag**	**1.79**	**39**	PN	**Pn**	13 27 03.4	**+0.7**
TKR	**Tekirdag**	**1.79**	**39**	*e*Pn	**Pn**	13 27 03.4	**+0.7**
KAVA	**Kavala**	**1.81**	**320**	P	**Pn**	13 27 02.8	**-0.2**
KAVA				AML	AML	13 27 25.2	
	comp=E,206μm,0.3s						
KAVA				AML	AML	13 27 25.8	
	comp=N,184μm,0.4s						
KAVA	**Kavala**	**1.81**	**320**	P	**Pn**	13 27 03.0	**+0.1**
KAVA				S	**Sn**	13 27 25.0	**-0.9**
KAVA	**Kavala**	**1.81**	**320**	P	**Pn**	13 27 03.1	**+0.1**
KAVA				S	**Sn**	13 27 25.0	**-0.9**
DURS	**Dursunbey**	**1.88**	**90**	*i* P	**Pn**	13 27 04.4	**+0.4**
DURS				*i* S	**Sn**	13 27 27.4	**-0.3**
DURS	**Dursunbey**	**1.88**	**90**	P	**Pn**	13 27 04.4	**+0.4**
DURS				S	**Sn**	13 27 27.4	**-0.3**
SBT3	**Marmara-Eregli**	**1.95**	**49**	PN	**Pn**	13 27 05.4	**+0.7**
SBT3	**Marmara-Eregli**	**1.95**	**49**	*e*Pn	**Pn**	13 27 05.4	**+0.7**
SMG	**Samos**	**2.00**	**162**	P	**Pn**	13 27 06.9	**+1.2**
SMG	**Samos**	**2.00**	**162**	P	**Pn**	13 27 06.5	**+0.8**

IDC ***28*** *13:49:15.3±0.6, 17°.59N×83°.69W, h0km, mb4.2/21, mb1 4.3/25, mb1mx4.2/52, mbtmp4.2/25, ML3.7/4, MS3.5/5, Ms1 3.5/5, ms1mx3.0/51, Error ellipse: s-maj=19.3km s-min=12.9km az=61.0*

NEIC ***28*** *13:49:16.2±0.3, 17°.57N×83°.74W, h10km, mb4.3/20, Error ellipse: s-maj=7.5km s-min=6.1km az=80.0*

ISCJB ***28*** *13:49:17.2±0.3, 17°.69N±0°.03×83°.61W±0°.03, h18km, mb4.2/28, MS3.6/3, Error ellipse: s-maj=4.9km s-min=4.5km az=10.8*

ISC 28 13:49:17.2±0.4, 17°.49N±0°.05×83°.65W±0°.05, h18km, n215, σ1s37/222, mb4.1/28, MS3.6/3, North of Honduras

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WBCY	**West Bay, Gran**	**2.85**	**48**	*e*Pn	**Pn**	**13 50 01.3**	**-0.5**
WBCY				*e*Sn	**Sn**	**13 50 32.5**	**-3.1**
LCCY	**Blossom Villag**	**4.02**	**57**	*e*Pn	**Pn**	**13 50 18.2**	**+0.3**
LCCY				*e*Sn	**Sn**	**13 51 03.7**	**-0.9**
CBCY	**The Bluff, Cay**	**4.32**	**58**	*e*Pn	**Pn**	**13 50 22.1**	**0.0**
CBCY				*e*Sn	**Sn**	**13 51 11.2**	**-0.7**
TGUH	**Tegucigalpa,Un**	**4.88**	**226**	*e*Pn	**Pn**	**13 50 28.8**	**-1.0**
TGUH				*e*Sn	**Sn**	**13 51 22.4**	**-3.4**
APG	**El Apazote**	**6.99**	**250**	Pn	**Pn**	**13 50 59.8**	**+0.7**
	0.9nm,0.3s,baz=71,slow=8.3,SNR=9.6						
JTS	**JuntasAbangare**	**7.27**	**190**	Pn	**Pn**	**13 51 02.6**	**0.0**
	3.2nm,0.3s,baz=78,slow=10,SNR=8.2						
JTS				Lg	Lg	13 52 59.3	
	4.4nm,0.3s,baz=0.0,slow=19,SNR=3.5						
CCIG	**Comitan**	**8.21**	**263**	*e*Pn	**Pn**	**13 51 13.3**	**-2.4**
059Z	**Ave Maria**	**9.04**	**13**	P	**Pn**	**13 51 26.6**	**-0.3**
	baz=194						
058A	**Arcadia**	**9.67**	**10**	P	**Pn**	**13 51 34.8**	**-0.7**
	baz=191						
059A	**Moore Haven**	**9.71**	**13**	P	**Pn**	**13 51 35.7**	**-0.4**
	baz=195						
959A	**Okeechobee**	**10.31**	**14**	P	**Pn**	**13 51 43.7**	**-0.6**
	baz=195						
DWPF	**Disney Wildern**	**10.76**	**11**	P	**Pn**	**13 51 49.9**	**-0.6**
	baz=192						
857A	**Zephyrhills**	**10.80**	**7**	P	**Pn**	**13 51 49.8**	**-1.2**
	baz=188						
859A	**Kempfer Cattle**	**10.82**	**13**	P	**Pn**	**13 51 50.9**	**-0.4**
	baz=195						
858A	**St. Cloud**	**10.88**	**11**	P	**Pn**	**13 51 51.5**	**-0.5**
	baz=192						
757A	**Oxford**	**11.49**	**7**	P	**Pn**	**13 51 59.8**	**-0.6**
	baz=188,SNR=6.0						
758A	**Lake Helen**	**11.64**	**11**	P	**Pn**	**13 52 01.6**	**-0.9**
	baz=192						
655A	**Horseshoe Beac**	**11.97**	**2**	P	**Pn**	**13 52 06.2**	**-0.8**
	baz=182						
657A	**Interlachen**	**12.15**	**7**	P	**Pn**	**13 52 07.6**	**-1.9**
	baz=188						
556A	**Lake Butler**	**12.50**	**5**	P	**Pn**	**13 52 12.5**	**-1.8**
	baz=186						
554A	**Perry**	**12.53**	**360**	P	**Pn**	**13 52 14.0**	**-0.8**
	baz=180						
555A	**McAlpin**	**12.59**	**3**	P	**Pn**	**13 52 14.8**	**-0.6**
	baz=183						
553A	**Crawfordville**	**12.66**	**357**	P	**Pn**	**13 52 15.8**	**-0.7**
	baz=177,SNR=6.5						
552A	**Lynn Haven**	**12.67**	**354**	P	**Pn**	**13 52 16.2**	**-0.4**
	baz=173						
454A	**Quitman**	**13.16**	**0**	P	**Pn**	**13 52 22.7**	**-0.7**
	baz=180						
451A	**Vernon**	**13.20**	**352**	P	**Pn**	**13 52 22.6**	**-1.3**
	baz=172						
455A	**Stateville**	**13.20**	**2**	P	**Pn**	**13 52 22.7**	**-1.1**
	baz=183						
452A	**Marianna**	**13.37**	**354**	P	**Pn**	**13 52 25.0**	**-1.1**
	baz=174						
450A	**Crestview**	**13.52**	**349**	P	**Pn**	**13 52 27.2**	**-1.0**
	baz=168						
353A	**Camilla**	**13.80**	**358**	P	**Pn**	**13 52 29.8**	**-2.3**
	baz=178						
351A	**Pinckard**	**13.84**	**353**	P	**Pn**	**13 52 31.9**	**-0.6**
	baz=172						
356A	**Blackshear**	**13.84**	**5**	P	**Pn**	**13 52 31.7**	**-0.9**
	baz=186						
350A	**Dozier**	**14.08**	**351**	P	**Pn**	**13 52 33.5**	**-2.3**
	baz=170						
349A	**Repton**	**14.16**	**348**	P	**Pn**	**13 52 35.2**	**-1.8**
	baz=166						
254A	**Abbeville**	**14.39**	**1**	P	**Pn**	**13 52 38.1**	**-2.1**
	baz=182						
252A	**Lumpkin**	**14.47**	**356**	P	**Pn**	**13 52 39.2**	**-2.0**
	baz=176						
251A	**Midway**	**14.62**	**354**	P	**Pn**	**13 52 42.3**	**-1.0**
	baz=174						
151A	**Opelika**	**15.04**	**355**	P	**Pn**	**13 52 47.8**	**-1.2**
	baz=174						
155A	**Kite**	**15.10**	**4**	P	**Pn**	**13 52 48.3**	**-1.4**
	baz=185						
247A	**Quitman**	**15.18**	**344**	P	**Pn**	**13 52 47.8**	**-2.9**
	baz=162						
150A	**Eclectic**	**15.20**	**352**	P	**Pn**	**13 52 49.4**	**-1.6**
	baz=172						
SDV	**Santo Domingo**	**15.29**	**122**	Pn	**Pn**	**13 52 53.0**	**+0.6**
	1.5nm,0.3s,baz=335,slow=8.7,SNR=6.4						
SDV				Sn	**Sn**	**13 55 34.9**	**-6.7**
	1.1nm,0.3s,baz=331,slow=19,SNR=4.0						
SDV	**Santo Domingo**	**15.29**	**122**	*e*Pn	**Pn**	**13 52 53.4**	**+0.9**
	5.8nm,0.7s						
SDV				Sn	**Sn**	**13 55 34.9**	**-6.7**
149A	**Jones**	**15.30**	**350**	P	**Pn**	**13 52 50.0**	**-2.4**
	baz=169						
LRAL	**Lakeview Retre**	**15.77**	**350**	P	**Pn**	**13 52 56.3**	**-2.2**
	baz=168						
LRAL	**Lakeview Retre**	**15.77**	**350**	*e*Pn	**Pn**	**13 52 55.8**	**-2.6**
	18nm,0.8s						
244A	**Avery, Jackson**	**15.82**	**338**	P	**Pn**	**13 52 58.3**	**-0.8**
	baz=155						
Z50A	**Ashland**	**15.83**	**353**	P	**Pn**	**13 52 57.5**	**-1.8**
	baz=172						
146A	**Union**	**15.85**	**343**	P	**Pn**	**13 52 58.4**	**-1.1**
	baz=161						
Z49A	**Columbiana**	**15.85**	**351**	P	**Pn**	**13 52 58.3**	**-1.2**
	baz=170,SNR=6.2						
GOGA	**Godfrey**	**15.85**	**1**	P	**Pn**	**13 52 58.2**	**-1.3**
	baz=181						
Z47A	**Carrollton**	**16.14**	**347**	P	**Pn**	**13 53 01.0**	**-2.1**
	baz=165						
Z48A	**Northport**	**16.20**	**348**	P	**Pn**	**13 53 02.7**	**-1.3**
	baz=167						
Y50A	**Piedmont**	**16.44**	**354**	P	**Pn**	**13 53 08.0**	**+1.0**
	baz=173						
Y49A	**Blount Mountai**	**16.48**	**352**	P	**Pn**	**13 53 08.0**	**+0.4**
	baz=171,SNR=6.2						
SJG	**San Juan**	**16.68**	**85**	LR	LR	13 59 21.1	
	comp=Z,50nm,20.1s,baz=257,slow=36						
Y47A	**UCPARC, Winfie**	**16.77**	**348**	P	**Pn**	**13 53 10.8**	**-0.4**
	baz=166,SNR=10						
Y46A	**Houston**	**16.98**	**345**	P	**Pn**	**13 53 13.8**	**0.0**
	baz=163						
X49A	**Woodville**	**17.12**	**352**	P	**Pn**	**13 53 16.0**	**+0.4**
	baz=172						
KMSC	**Kings Mountain**	**17.70**	**6**	*e*Pn	**Pn**	**13 53 20.4**	**-2.4**
	6.9nm,0.6s						
OXF	**Oxford**	**17.71**	**344**	P	**Pn**	**13 53 21.7**	**-1.3**
	baz=162						
OXF	**Oxford**	**17.71**	**344**	*e*Pn	**Pn**	**13 53 22.0**	**-1.0**
	56nm,1.0s						
W48A	**Pulaski**	**17.82**	**351**	P	**Pn**	**13 53 24.2**	**-0.1**
	baz=170,SNR=5.7						
PLAL	**Pickwick Lake**	**17.86**	**348**	*e*Pn	**Pn**	**13 53 24.0**	**-0.8**
	14nm,1.1s						
OTAV	**Otavalo**	**17.90**	**163**	*e*P	**P**	**13 53 27.8**	**+1.4**
	19nm,1.1s						
CPCT	**Cooper Cave**	**17.90**	**358**	*e*P	**Pn**	**13 53 23.1**	**-2.2**
W47A	**Westpoint**	**18.03**	**350**	P	**Pn**	**13 53 26.1**	**-0.8**
	baz=168						
TKL	**Tuckaleechee C**	**18.09**	**360**	P	**Pn**	**13 53 27.3**	**-0.4**
	0.3nm,0.3s,baz=173,slow=14,SNR=5.8						
TKL				S	Sn	13 56 38.3	-11
	0.4nm,0.3s,baz=122,slow=19,SNR=3.4						
TKL				LR	LR	14 00 33.4	
	comp=Z,147nm,18.2s,baz=181,slow=38						
V48A	**Smith Brothers**	**18.39**	**352**	P	**P**	**13 53 31.5**	**+0.2**
	baz=171,SNR=11						
V47A	**Nunnelly**	**18.58**	**350**	P	**P**	**13 53 34.6**	**+1.2**
	baz=169,SNR=6.5						
V46A	**Holladay**	**18.66**	**349**	P	**P**	**13 53 34.1**	**-0.1**
	baz=167						
X40A	**Basin Creek Fa**	**18.81**	**336**	P	**P**	**13 53 36.6**	**+0.7**
	baz=152						
WVT	**Waverly**	**18.93**	**350**	P	**P**	**13 53 38.4**	**+1.2**
	baz=168						
WVT	**Waverly**	**18.93**	**350**	*e*P	**P**	**13 53 37.6**	**+0.4**
	23nm,1.0s						
U48A	**Cassie Pea, Po**	**19.11**	**353**	P	**P**	**13 53 40.7**	**+1.5**
	baz=172,SNR=8.4						
U47A	**Clarksville**	**19.15**	**351**	P	**P**	**13 53 40.8**	**+1.2**
	baz=170,SNR=7.4						
MIAR	**Mount Ida**	**19.16**	**334**	P	**P**	**13 53 40.7**	**+0.9**
	baz=150,SNR=7.6						
MIAR	**Mount Ida**	**19.16**	**334**	*e*P	**P**	**13 53 36.1**	**-3.6**
	11nm,1.0s						
W41B	**Gary Mavity, V**	**19.20**	**338**	P	**P**	**13 53 41.4**	**+1.2**
	baz=155						
JCT	**Junction City**	**19.58**	**314**	*e*P	**P**	**13 53 44.4**	**-0.1**
	12nm,0.7s						
T48A	**Bowling Green**	**19.69**	**353**	P	**P**	**13 53 46.2**	**+0.7**
	baz=172,SNR=5.4						
W39A	**Magazine**	**19.81**	**335**	P	**P**	**13 53 47.7**	**+0.9**
	baz=150						
T46A	**Princeton**	**19.83**	**350**	P	**P**	**13 53 47.9**	**+0.9**
	baz=168,SNR=6.9						
BLA	**Blacksburg**	**19.85**	**8**	P	**P**	**13 53 48.6**	**+1.3**
	baz=189						
U42A	**Revenden**	**19.95**	**342**	P	**P**	**13 53 49.2**	**+0.9**
	baz=159						
V40A	**Witts Springs**	**19.97**	**338**	P	**P**	**13 53 49.6**	**+0.9**
	baz=154						
U41A	**Viola**	**20.15**	**340**	P	**P**	**13 53 50.8**	**+0.3**
	baz=157						
S48A	**Wiedeman Farm,**	**20.20**	**354**	P	**P**	**13 53 51.6**	**+0.5**
	baz=174						
V39A	**Pettigrew**	**20.31**	**336**	P	**P**	**13 53 54.0**	**+1.6**
	baz=152,SNR=6.2						
T43A	**Greenville**	**20.37**	**345**	P	**P**	**13 53 54.6**	**+1.7**
	baz=162,SNR=6.0						
U40A	**Yellville**	**20.48**	**338**	P	**P**	**13 53 55.5**	**+1.4**
	baz=154						
T42A	**Van Buren**	**20.54**	**343**	P	**P**	**13 53 55.7**	**+1.0**
	baz=160,SNR=9.5						
S45A	**Carrier Mills**	**20.57**	**349**	P	**P**	**13 53 56.3**	**+1.3**
	baz=167						
USIN	**University of**	**20.70**	**351**	*e*P	**P**	**13 53 57.1**	**+0.6**
	58nm,1.2s						
S44A	**Carbondale**	**20.72**	**347**	P	**P**	**13 53 56.9**	**+0.3**
	baz=165						
U39A	**Green Forest**	**20.73**	**337**	P	**P**	**13 53 57.7**	**+0.9**
	baz=153,SNR=7.7						
SIUC	**Southern Illin**	**20.73**	**347**	*e*P	**P**	**13 53 56.7**	**-0.1**
	40nm,1.0s						
T41A	**Mountain View**	**20.75**	**341**	P	**P**	**13 53 58.4**	**+1.3**
	baz=158,SNR=16						
S43A	**Fulton Ridge,**	**20.78**	**345**	P	**P**	**13 53 58.7**	**+1.3**
	baz=163						
WCI	**Wyandotte Cave**	**20.79**	**354**	P	**P**	**13 53 59.0**	**+1.6**
	baz=173						
WCI	**Wyandotte Cave**	**20.79**	**354**	*e*P	**P**	**13 53 56.9**	**-0.5**
	80nm,0.9s						
ABTX	**Abilene, Hawle**	**20.86**	**319**	*e*P	**P**	**13 53 59.2**	**+0.9**
	20nm,1.0s						
R47A	**Wooly Knot Far**	**20.88**	**354**	P	**P**	**13 53 59.1**	**+0.7**
	baz=172,SNR=5.6						
R46A	**Gibon Southern**	**20.92**	**351**	P	**P**	**13 54 00.5**	**+1.6**
	baz=170						
T40A	**Mansfield**	**21.08**	**340**	P	**P**	**13 54 01.7**	**+1.0**
	baz=156,SNR=6.2						
R45A	**Skylar, Fairfi**	**21.11**	**350**	P	**P**	**13 54 02.8**	**+1.8**
	baz=168						
S42A	**Caledonia**	**21.15**	**344**	P	**P**	**13 54 03.0**	**+1.6**
	baz=161,SNR=6.4						
R44A	**Waltonville**	**21.22**	**348**	P	**P**	**13 54 02.8**	**+0.7**
	baz=166						
S41A	**Jillco Farms,**	**21.25**	**342**	P	**P**	**13 54 03.5**	**+1.1**
	baz=158						
T39A	**Clever**	**21.26**	**338**	P	**P**	**13 54 04.2**	**+1.6**
	baz=154,SNR=7.9						
R43A	**Red Bud**	**21.42**	**346**	P	**P**	**13 54 05.3**	**+1.1**
	baz=164						
S40A	**Lebanon**	**21.49**	**341**	P	**P**	**13 54 06.0**	**+1.0**
	baz=157,SNR=16						
Q47A	**Bedord North L**	**21.50**	**354**	P	**P**	**13 54 06.4**	**+1.3**
	baz=173,SNR=5.4						
OLIL	**Olney**	**21.52**	**350**	*e*P	**P**	**13 54 05.9**	**+0.7**
	91nm,1.2s						
CCM	**Cathedral Cave**	**21.54**	**344**	P	**P**	**13 54 07.4**	**+1.8**
	baz=160						
T38A	**Diamond**	**21.61**	**336**	P	**P**	**13 54 07.0**	**+0.7**
	baz=152						
Q45A	**Warren Harvey,**	**21.68**	**350**	P	**P**	**13 54 08.4**	**+1.4**
	baz=168,SNR=12						
BLO	**Bloomington**	**21.74**	**354**	*e*P	**P**	**13 54 05.5**	**-2.2**
	40nm,1.0s						
TXAR	**Lajitas Array**	**21.78**	**306**	P	**P**	**13 54 07.9**	**-0.4**
	1.0nm,0.7s,baz=127,slow=10,SNR=9.4						
TXAR				PcP	**PcP**	**13 58 10.0**	**+1.5**
	0.5nm,0.6s,baz=90,slow=2.7,SNR=3.8						
R41A	**Rosebud**	**21.80**	**343**	P	**P**	**13 54 09.1**	**+0.7**
	baz=160						
Q44A	**Meyer Farm, Va**	**21.84**	**349**	P	**P**	**13 54 10.0**	**+1.3**
	baz=166,SNR=7.3						
S39A	**Bolivar**	**21.84**	**339**	P	**P**	**13 54 10.1**	**+1.3**
	baz=155,SNR=6.4						
WMOK	**Wichita Mounta**	**21.85**	**325**	P	**P**	**13 54 09.8**	**+0.9**
	baz=138,SNR=7.8						
WMOK	**Wichita Mounta**	**21.85**	**325**	*e*P	**P**	**13 54 08.3**	**-0.6**
	5.3nm,0.8s						
S38A	**Stockton**	**21.99**	**338**	P	**P**	**13 54 11.5**	**+1.1**
	baz=153,SNR=10.0						
R40A	**Maddies Statio**	**22.05**	**342**	P	**P**	**13 54 11.8**	**+0.8**
	baz=158						
Q42A	**Golden Eagle**	**22.17**	**346**	P	**P**	**13 54 12.6**	**+0.3**
	baz=163						
P45A	**Graceland, Par**	**22.24**	**352**	P	**P**	**13 54 13.9**	**+0.8**
	baz=170						
P46A	**Rosedale**	**22.26**	**353**	P	**P**	**13 54 14.0**	**+0.8**
	baz=171						
R39A	**Chumby, Stover**	**22.31**	**340**	P	**P**	**13 54 14.4**	**+0.6**
	baz=156,SNR=8.6						
P44A	**Sand Creek, Wi**	**22.32**	**350**	P	**P**	**13 54 15.7**	**+1.8**
	baz=168						
MCWV	**Mont Chateau**	**22.33**	**8**	P	**P**	**13 54 15.7**	**+1.6**
	baz=190						
Q41A	**Truxton**	**22.38**	**344**	P	**P**	**13 54 15.5**	**+0.9**
	baz=161						
R38A	**Fenwick Farm,**	**22.49**	**338**	P	**P**	**13 54 16.9**	**+1.2**
	baz=154						
Q40A	**Laux Farm, Aux**	**22.65**	**343**	P	**P**	**13 54 17.8**	**+0.4**
	baz=159						
O44A	**Mansfield**	**22.96**	**351**	P	**P**	**13 54 22.5**	**+1.9**
	baz=168						
SFIN	**Lafayette**	**23.00**	**353**	P	**P**	**13 54 22.5**	**+1.4**
	baz=172						
Q38A	**Cooks Store, C**	**23.09**	**340**	P	**P**	**13 54 23.1**	**+1.1**
	baz=155						
P40A	**Paris**	**23.14**	**343**	P	**P**	**13 54 23.2**	**+0.7**
	baz=159						
P39B	**Salisbury**	**23.30**	**342**	P	**P**	**13 54 24.7**	**+0.6**
	baz=158						
O41A	**Passleys Farm,**	**23.40**	**346**	P	**P**	**13 54 25.1**	**+0.1**
	baz=163						
AMTX	**Amarillo**	**23.63**	**321**	P	**P**	**13 54 27.9**	**+0.3**
	baz=133						
P38A	**Dawn**	**23.66**	**341**	P	**P**	**13 54 29.0**	**+1.2**
	baz=156						
N42A	**Yates City**	**23.90**	**348**	P	**P**	**13 54 31.2**	**+1.2**
	baz=165,SNR=14						
P37A	**Lathop**	**23.90**	**339**	P	**P**	**13 54 30.5**	**+0.5**
	baz=154						
N41A	**Harden Midland**	**23.95**	**346**	P	**P**	**13 54 31.3**	**+0.9**
	baz=163						
MNTX	**Cornudas Mount**	**24.23**	**310**	P	**P**	**13 54 32.3**	**-0.9**
	baz=121,SNR=6.0						
MNTX	**Cornudas Mount**	**24.23**	**310**	*e*P	**P**	**13 54 31.4**	**-1.8**
	5.7nm,1.1s						
N40A	**Mertquake, Sal**	**24.29**	**345**	P	**P**	**13 54 34.5**	**+0.9**
	baz=162						
N59A	**State Game Lan**	**24.31**	**15**	P	**P**	**13 54 35.0**	**+1.2**
	baz=199						
N39A	**Derby Farms, D**	**24.52**	**344**	P	**P**	**13 54 36.6**	**+0.9**
	baz=160						
M41A	**Milan**	**24.53**	**347**	P	**P**	**13 54 36.8**	**+1.0**
	baz=164,SNR=5.3						
N38A	**Joes South For**	**24.65**	**342**	P	**P**	**13 54 37.9**	**+1.1**
	baz=158						
M40A	**Post Highland**	**24.77**	**346**	P	**P**	**13 54 38.1**	**+0.2**
	baz=162						
L42A	**Oliver, Polo**	**24.97**	**349**	P	**P**	**13 54 40.1**	**+0.4**
	baz=166						
M39A	**Webster**	**25.00**	**345**	P	**P**	**13 54 41.0**	**+1.0**
	baz=161						
ATAH	**Atahualpa**	**25.02**	**168**	P	**P**	**13 54 44.5**	**+3.6**
	21nm,1.0s,baz=349,slow=5.5,SNR=6.1						
ATAH				LR	LR	14 04 49.1	
	comp=Z,107nm,20.1s,baz=328,slow=37						
L41A	**Preston**	**25.19**	**348**	P	**P**	**13

ULM	**Lac du Bonnet**	**34.12**	**346**	P	**P**	**13 55 59.4**	**-1.6**
	8.7nm,0.8s,baz=147,slow=8.9,SNR=9.1						
MCMT	**McKenzie Canyo**	**36.61**	**324**	*eP*	**P**	**13 56 22.9**	**+0.2**
NVAR	**Mina Array Bea**	**36.72**	**312**	P	**P**	**13 56 24.7**	**+1.0**
	1.0nm,0.8s,baz=112,slow=9.0,SNR=6.1						
NVAR				PcP	**PcP**	**13 58 47.3**	**+1.1**
	1.0nm,0.7s,baz=130,slow=3.6,SNR=8.1						
HLID	**Hailey**		**36.74**	**322**	P	**P**	**13 56 22.9**	**-1.0**
	baz=126						
LPAZ	**La Paz**		**36.89**	**155**	P	**P**	**13 56 26.8**	**+1.1**
	2.7nm,0.7s,baz=325,slow=8.6,SNR=10						
SCHQ	**Schefferville**	**39.45**	**15**	LR	LR	14 13 40.7	
	comp=Z,115nm,18.2s,baz=263,slow=37						
M04C	**Macdoel**		**40.59**	**315**	P	**P**	**13 56 55.3**	**-0.8**
	baz=115						
FCC	**Fort Churchill**		**41.92**	**352**	*eP*	**P**	**13 57 04.4**	**-2.1**
	8.7nm,0.9s						
YKA	**Yellowknife Ar**		**49.86**	**342**	P	**P**	**13 58 08.9**	**-0.3**
	1.0nm,0.7s,baz=134,slow=8.1,SNR=28						
YKA				PcP	**PcP**	**13 59 29.9**	**+0.4**
	0.4nm,0.8s,baz=140,slow=4.1,SNR=5.7						
RES	**Resolute Bay**		**57.54**	**356**	P	**P**	**13 59 04.8**	**-0.4**
	0.9nm,0.6s,baz=174,slow=10,SNR=5.9						
ILAR	**Eielson Array**		**62.99**	**335**	P	**P**	**13 59 43.4**	**+0.7**
	3.0nm,0.7s,baz=113,slow=5.1,SNR=32						
TRF	**Thorofare Moun**		**64.09**	**333**	*eP*	**P**	**13 59 48.8**	**-1.4**
	3.4nm,0.6s						
BPAW	**Bear Paw Mtn.**		**64.54**	**333**	*eP*	**P**	**13 59 50.4**	**-2.5**
	1.0nm,0.7s						
TOLK	**Toolik Lake Re**		**65.12**	**338**	P	**P**	**13 59 57.5**	**+0.8**
	baz=106						
EKA	**Eskdalemuir Ar**		**70.41**	**37**	P	**P**	**14 00 30.7**	**+0.5**
	1.9nm,0.7s,baz=264,slow=6.2,SNR=5.7						
ESDC	**Sonseca Array**		**71.23**	**53**	P	**P**	**14 00 37.5**	**+1.9**
	1.2nm,0.7s,baz=282,slow=5.9,SNR=7.7						
KOWA	**Kowa**		**76.08**	**79**	P	**P**	**14 01 05.6**	**+1.2**
	1.1nm,0.6s,baz=259,slow=10,SNR=3.6						
NOA	**NORSAR Array B**		**77.20**	**30**	P	**P**	**14 01 11.1**	**+1.1**
	1.5nm,0.7s,baz=282,slow=7.8,SNR=4.2						
ARCES	**ARCESS Array B**		**80.24**	**20**	P	**P**	**14 01 26.8**	**+0.3**
	1.7nm,0.8s,baz=308,slow=6.0,SNR=5.2						
GERES	**GERESS Array B**		**81.75**	**41**	P	**P**	**14 01 35.4**	**+0.3**
	0.4nm,0.5s,baz=261,slow=3.8,SNR=3.6						
FINES	**FINESS Array B**		**83.85**	**27**	P	**P**	**14 01 46.2**	**+0.7**
	0.6nm,0.5s,baz=278,slow=5.4,SNR=9.1						
TIXI	**Tiksi**		**88.37**	**350**	P	**P**	**14 02 07.7**	**0.0**
	1.0nm,0.7s,baz=29,slow=4.9,SNR=12						
SEY	**Seymchan**		**88.75**	**338**	P	**P**	**14 02 10.5**	**+0.9**
	2.0nm,0.6s,baz=68,slow=7.5,SNR=14						
MA2	**Magadan**		**91.45**	**336**	P	**P**	**14 02 23.3**	**+0.9**
	3.1nm,0.6s,baz=31,slow=5.4,SNR=4.0						
WRA	**Warramunga Arr**		**143.98**	**260**	PKhKP	PKPpre	14 08 50.0	
	2.4nm,0.7s,baz=84,slow=3.6,SNR=26						
ASAR	**Alice Springs**		**144.38**	**254**	PKP	**PKPab**	**14 08 51.2**	**-0.1**
	4.4nm,0.8s,baz=109,slow=3.7,SNR=50						

*SOME **28** 13:51:22.9,46°.83N×82°.48E,h25km*
*NNC **28** 13:51:23.1±0.3,46°.94N×82°.54E,h0km,mb3.3,mpv2.5, Error ellipse: s-maj=2.5km s-min=1.3km az=119.0*
ISC 28 13:51:23.8±1.1,46°.79N±0°.06×82°.55E±0°.06,h15km±7km, n16,σ0§65/30,20C-6D,Kazakhstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MK06	**Makanchi Array**	**0.16**	**266**	⇑P	**Pg**	**13 51 27.8**	**-0.1**
MK06				⇑S	**Sg**	**13 51 30.9**	**+0.3**
MK07	**Makanchi Array**	**0.16**	**258**	⇑P	**Pg**	**13 51 27.8**	**-0.1**
MK07				⇑S	**Sg**	**13 51 31.0**	**+0.4**
MK02	**Makanchi Array**	**0.17**	**264**	⇑P	**Pg**	**13 51 27.7**	**-0.2**
MK02				⇑S	**Sg**	**13 51 30.9**	**+0.2**
MK01	**Makanchi Array**	**0.17**	**264**	⇑P	**Pg**	**13 51 27.8**	**-0.1**
MK01				⇑S	**Sg**	**13 51 31.1**	**+0.3**
MK03	**Makanchi Array**	**0.17**	**263**	⇓P	**Pg**	**13 51 27.8**	**-0.2**
MK03				⇑S	**Sg**	**13 51 31.1**	**+0.3**
MK04	**Makanchi Array**	**0.17**	**265**	⇓P	**Pg**	**13 51 27.8**	**-0.2**
MK04				⇑S	**Sg**	**13 51 31.1**	**+0.2**
MK05	**Makanchi Array**	**0.18**	**272**	⇓P	**Pg**	**13 51 27.8**	**-0.3**
MK05				⇑S	**Sg**	**13 51 30.8**	**-0.1**
MK31	**Makanchi Array**	**0.18**	**272**	⇑P	**Pg**	**13 51 27.7**	**-0.4**
	2.2nm,0.1s,baz=245,slow=43,SNR=6919						
MK31				⇑S	**Sg**	**13 51 30.8**	**-0.2**
	158nm,0.3s						
MK08	**Makanchi Array**	**0.18**	**260**	⇑P	**Pg**	**13 51 28.1**	**0.0**
MK08				⇑S	**Sg**	**13 51 31.6**	**+0.5**
MK09	**Makanchi Array**	**0.19**	**266**	⇑P	**Pg**	**13 51 27.9**	**-0.3**
MK09				⇑S	**Sg**	**13 51 31.4**	**+0.2**
MAKZ	**Makanchi**	**0.39**	**273**	⇓P	**Pg**	**13 51 31.3**	**-0.5**
	2.2nm,0.3s						
MAKZ				⇓S	**Sg**	**13 51 36.8**	**-0.3**
	22nm,0.2s						
ZSN	**Zaisan**	**1.72**	**66**	*eP*	**Pn**	**13 51 53.4**	**+0.3**
	2.3nm,0.2s						
ZSN				*eS*	**Sb**	**13 52 16.5**	**+0.1**
	7.4nm,0.5s						
KAPS	**Kapalarasan**	**2.68**	**237**	*eP*	**Pb**	**13 52 10.3**	**-1.2**
	1.3nm,0.1s						
KAPS				*eS*	**Sb**	**13 52 44.5**	**+0.3**
	18nm,0.5s						
DJR	**Jarkent**	**3.13**	**219**	*eP*	**Pb**	**13 52 18.2**	**-0.9**
	3.0nm,0.3s						
DJR				*eS*	**Sb**	**13 52 59.2**	**+2.2**
	3.7nm,0.3s						
KURBB	**Kurchatov Arra**	**4.67**	**327**	⇓Pg	**Pb**	**13 52 46.2**	**+0.9**
	0.6nm,0.3s						
KURBB				⇑Lg	Lg	13 53 47.7	
	19nm,0.8s						
KURK	**Kurchatov**	**4.71**	**328**	⇑Pg	**Pb**	**13 52 44.9**	**-1.1**
	0.9nm,0.4s						
KURK				⇑Lg	Lg	13 53 48.6	
	5.1nm,0.5s						

*ISCJB **28** 13:53:46.2±0.6,85°.43N±0°.09×87°.8E±0°.7,h10km,mb3.6/9, MS3.6/2,Error ellipse: s-maj=13.6km s-min=8.3km az=174.7*
*IDC **28** 13:53:46.6±0.7,85°.38N×90°.02E,h0km,mb3.7/9, mb1 3.9/10,mb1mx3.5/76,mbtmp3.7/10,ML3.3/1,MS3.5/2, Ms1 3.5/2,ms1mx2.6/75,Error ellipse: s-maj=21.8km s-min=16.5km az=130.0*
*IEPN **28** 13:53:50.0,84°.63N×91°.95E,h20km,station ZFI2 has station magnitude of 2.80*
ISC 28 13:53:48.2±0.7,85°.4N±0°.1×89°.13E±0°.09,h10km,n15, σ0§79/15,mb3.7/9,North of Severnaya Zemlya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZFI2	**Zemlya Franca-**	**6.54**	**249**	*i* P	**Pn**	**13 55 24.3**	**+0.1**
ZFI2				*i* S	Sn	13 56 34.8	-3.8
	2.9nm,0.7s						
KBS	**Kingsbay**	**11.07**	**281**	*i* P	**Pn**	**13 56 26.6**	**+0.4**
KBS				*i* S	**Sn**	**13 58 28.1**	**-1.7**
SPA0	**Spitsbergen Ar**	**11.41**	**275**	*i* P	**Pn**	**13 56 31.7**	**+0.9**
SPA0				*i* S	Sn	13 58 33.7	-4.3
SPITS	**Spitsbergen Ar**	**11.41**	**275**	Pn	**Pn**	**13 56 30.9**	**+0.1**
	baz=33,slow=16,SNR=7.6						
SPITS				Sn	Sn	13 58 29.2	-8.8
	baz=48,slow=26,SNR=2.7						
INK	**Inuvik**	**25.41**	**36**	P	**P**	**13 59 14.3**	**-0.9**
	2.8nm,0.9s,baz=356,slow=12,SNR=8.4						
SEY	**Seymchan**	**25.45**	**108**	P	**P**	**13 59 15.1**	**-0.5**
	5.5nm,1.1s,baz=335,slow=14,SNR=8.9						
FINES	**FINESS Array B**	**26.91**	**251**	P	**P**	**13 59 29.8**	**+1.0**
	1.3nm,0.9s,baz=355,slow=9.8,SNR=2.9						
YKA	**Yellowknife Ar**	**31.95**	**21**	P	**P**	**14 00 13.7**	**+0.3**
	0.9nm,1.0s,baz=353,slow=9.0,SNR=8.7						
YKA				PcP	**PcP**	**14 03 03.5**	**+0.4**
	0.2nm,0.7s,baz=338,slow=3.8,SNR=5.2						
BVAR	**Borovoye Array**	**32.80**	**201**	P	**P**	**14 00 21.8**	**+0.7**
	0.2nm,0.3s,baz=1.6,slow=5.0,SNR=3.4						
MKAR	**Makanchi Array**	**38.80**	**188**	P	**P**	**14 01 11.8**	**-0.8**
	0.5nm,0.7s,baz=0.2,slow=8.1,SNR=5.8						
AAK	**Ala-Archa**	**43.09**	**196**	LR	LR	14 21 14.9	
	comp=Z,60nm,19.2s,baz=38,slow=38						
TXAR	**Lajitas Array**	**65.35**	**12**	P	**P**	**14 04 30.5**	**+0.3**
	0.5nm,0.6s,baz=357,slow=3.0,SNR=8.3						
CMAR	**Chiang Mai Arr**	**67.10**	**170**	P	**P**	**14 04 41.1**	**-0.3**
	0.5nm,0.6s,baz=351,slow=7.7,SNR=4.2						
TORD	**Torodi Ar. Bea**	**76.77**	**269**	P	**P**	**14 05 39.5**	**+0.1**
	0.3nm,0.6s,baz=354,slow=5.9,SNR=2.5						
HNR	**Honiara**	**97.82**	**110**	LR	LR	14 45 24.3	
	comp=Z,27nm,21.8s,baz=165,slow=32						

*ISCJB **28** 14:08:06.8±1.4,1°.6S±0°.1×134°.46E±0°.08,h10km,mb3.3/2, Error ellipse: s-maj=16.2km s-min=9.6km az=33.2*
*IDC **28** 14:08:06.4±3.0,1°.55S×134°.72E,h0km,mb3.3/2, mb1 3.6/3,mb1mx3.2/60,mbtmp3.3/3,ML3.4/1,Error ellipse: s-maj=141.9km s-min=26.5km az=78.0*
*DJA **28** 14:08:10.6±1.0,2°.3S×13°.4E±°,h10km,M3.7/4,MLv3.7/4*
ISC 28 14:08:08.7±1.7,1°.6S±0°.1×134°.4E±0°.1,h10km,n5,σ0§65/7, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RKPI	**Ransiki, Papua**	**0.25**	**292**	P	**Pg**	**14 08 13.8**	**0.0**
RKPI				S	**Sg**	**14 08 16.5**	**-0.7**
FAKI	**Fak Fak**	**2.52**	**239**	P	**Pn**	**14 08 50.1**	**+0.4**
FAKI				S	**Sn**	**14 09 20.9**	**+0.4**
WRA	**Warramunga Arr**	**18.22**	**180**	P	**P**	**14 12 21.5**	**-0.6**
	0.1nm,0.3s,baz=0.1,slow=12,SNR=11						
ASAR	**Alice Springs**	**21.93**	**181**	P	**P**	**14 13 01.9**	**-0.6**
	1.0nm,0.7s,baz=6.8,slow=9.6,SNR=18						
MKAR	**Makanchi Array**	**66.33**	**324**	P	**P**	**14 18 58.0**	**+0.4**
	0.2nm,0.6s,baz=110,slow=6.4,SNR=3.2						

*ISCJB **28** 14:12:47.3±0.6,37°.26N±0°.04×141°.93E±0°.05,h40km, mb3.4/8,Error ellipse: s-maj=6.0km s-min=4.9km az=136.8*
*JMA **28** 14:12:48.2±0.1,37°.31N×141°.86E,h40km±3km,M3.8 JMA Felt I J1.*
*IDC **28** 14:12:50.2±2.3,37°.25N×141°.81E,h48km±23km,mb3.1/8, mb1 3.4/11,mb1mx3.2/72,mbtmp3.5/11,ML3.3/3,Error ellipse: s-maj=26.0km s-min=15.7km az=102.0*
ISC 28 14:12:49.1±0.8,37°.27N±0°.05×141°.89E±0°.08,h40km,n28, σ1§18/37,mb3.5/8,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.81**	**277**	P	**Pn**	**14 13 03.0**	**-1.1**
JFK				S	**Sn**	**14 13 13.0**	**-2.0**
ONAJ	**Iwakimizuishiy**	**0.89**	**259**	P	**Pn**	**14 13 04.2**	**-0.9**
ONAJ				S	**Sn**	**14 13 15.1**	**-1.7**
JMM	**Marumori**	**1.05**	**305**	P	**Pn**	**14 13 06.2**	**-1.1**
JMM				S	**Sn**	**14 13 19.1**	**-1.7**
JHO	**Hitachi**	**1.24**	**238**	P	**Pn**	**14 13 09.2**	**-0.8**
JHO				S	**Sn**	**14 13 23.9**	**-1.6**
JIO	**Ouri**	**1.25**	**340**	P	**Pn**	**14 13 08.9**	**-1.2**
JIO				S	**Sn**	**14 13 23.8**	**-2.0**
JFT	**Otama**	**1.26**	**282**	P	**Pn**	**14 13 10.2**	**0.0**
JFT				S	**Sn**	**14 13 25.4**	**-0.5**
JOU	**Okura**	**1.46**	**319**	P	**Pn**	**14 13 12.7**	**-0.2**
JOU				S	**Sn**	**14 13 30.4**	**-0.5**
JYS	**Shirataka**	**1.73**	**304**	P	**Pn**	**14 13 17.7**	**+1.1**
JYS				S	**Sn**	**14 13 38.7**	**+1.3**
JFY	**Yanaizu**	**1.74**	**275**	P	**Pn**	**14 13 17.3**	**+0.4**
JFY				S	**Sn**	**14 13 38.7**	**+0.8**
JMK	**Ichinoseki**	**1.76**	**343**	P	**Pn**	**14 13 16.4**	**-0.6**
MJAR	**Matsushiro Arr**	**3.04**	**257**	P	**Pn**	**14 13 35.4**	**+0.8**
	2.6nm,0.3s,baz=84,slow=15,SNR=30						
MJAR				S	**Sn**	**14 14 09.8**	**+0.1**
	4.5nm,0.3s,baz=105,slow=30,SNR=4.8						
MAT	**Matsushiro**	**3.04**	**257**	P	**Pn**	**14 13 36.3**	**+1.7**
MAT				*eS*	**Sn**	**14 14 11.4**	**+1.6**
JHJ	**Hachijo jima 2**	**4.49**	**203**	P	**Pn**	**14 13 54.4**	**-0.1**
	14nm,0.3s,baz=303,slow=14,SNR=4.9						
JHJ				S	**Sn**	**14 14 42.4**	**-3.1**
	20nm,0.3s,baz=107,slow=19,SNR=3.3						
ASAJ	**Asahikawa**	**6.86**	**4**	P	**Pn**	**14 14 27.8**	**+0.7**
	0.4nm,0.3s,baz=202,slow=9.9,SNR=5.3						
ASAJ				S	**Sn**	**14 15 42.3**	**-1.5**
	0.2nm,0.3s,baz=126,slow=19,SNR=4.0						
SEY	**Seymchan**	**26.49**	**11**	P	**P**	**14 18 23.4**	**+1.1**
	0.8nm,0.7s,baz=253,slow=19,SNR=3.5						
H11N2	**WAKE ISLAND Hy**	**27.95**	**122**	T	T	14 48 14.6	
	baz=314,slow=75,SNR=34						
H11N1	**WAKE ISLAND Hy**	**27.96**	**122**	T	T	14 48 07.0	
	baz=314,slow=75,SNR=30						
H11N3	**WAKE ISLAND Hy**	**27.97**	**122**	T	T	14 48 16.9	
	baz=314,slow=75,SNR=26						
SONM	**Songino Array**	**27.97**	**303**	P	**P**	**14 18 36.3**	**+0.4**
	0.2nm,0.4s,baz=111,slow=7.9,SNR=2.0						
H11S1	**WAKE ISLAND Hy**	**28.68**	**124**	T	T	14 49 01.0	
	baz=316,slow=76,SNR=23						
H11S3	**WAKE ISLAND Hy**	**28.68**	**124**	T	T	14 49 05.7	
	baz=316,slow=76,SNR=20						
H11S2	**WAKE ISLAND Hy**	**28.69**	**124**	T	T	14 49 05.6	
	baz=316,slow=76,SNR=14						
MKAR	**Makanchi Array**	**44.31**	**302**	P	**P**	**14 20 54.5**	**-0.5**
	0.3nm,0.7s,baz=74,slow=8.9,SNR=3.6						
MKAR				pP	**pP**	**14 21 06.3**	**0.0**
	0.6nm,0.7s,baz=89,slow=11,SNR=6.6						
KURBB	**Kurchatov Arra**	**46.15**	**308**	P	**P**	**14 21 08.8**	**-0.6**
	0.6nm,0.5s,baz=81,slow=7.9,SNR=4.4						
ILAR	**Eielson Array**	**49.09**	**32**	P	**P**	**14 21 32.6**	**+0.6**
	0.4nm,0.7s,baz=276,slow=6.1,SNR=5.1						
WRA	**Warramunga Arr**	**57.35**	**188**	P	**P**	**14 22 32.9**	**-0.3**
	0.2nm,0.4s,baz=6.4,slow=7.3,SNR=9.4						
WRA				pP	**pP**	**14 22 44.7**	**-0.2**
	0.3nm,0.5s,baz=6.0,slow=7.2,SNR=2.7						
ASAR	**Alice Springs**	**61.08**	**188**	P	**P**	**14 22 59.1**	**+0.2**
	0.3nm,1.5s,baz=16,slow=7.6,SNR=8						
YKA	**Yellowknife Ar**	**63.41**	**30**	P	**P**	**14 23 14.7**	**+0.6**
	0.1nm,0.6s,baz=303,slow=6.8,SNR=4.0						

PGC 28 14:16:07.8±3.1,50°.42N×130°.25W,h10km,MLSn3.1/14, Mw3.7/14,203km west of Pt. Hardy, Bc Vancouver Island, Canada Region,Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PACB	**Port Alice, BC**	**1.77**	**88**	Pn	Pn	14 16 35.1	-3.2
PACB				Sn	Sn	14 16 55.3	-5.5
PHC	**Port Hardy**	**1.82**	**80**	Pn	Pn	14 16 37.5	-1.6
PHC				Sn	Sn	14 16 57.6	-4.6
EDB	**Eliza Dome**	**2.09**	**104**	Pn	Pn	14 16 40.6	-2.2
EDB				Sn	Sn	14 17 05.0	-3.9
TLCB	**Telegraph Cove**	**2.19**	**85**	Pn	Pn	14 16 41.8	-2.3
BBB	**Bella Bella**	**2.22**	**36**	Pn	Pn	14 16 43.1	-1.5
BNB	**Barry Inlet**	**2.36**	**337**	Pn	Pn	14 16 44.6	-1.9
BNB				Sn	Sn	14 17 12.7	-2.8
WOSB	**Woss**	**2.38**	**95**	Pn	Pn	14 16 45.4	-1.4
NCRB	**Newcastle Ridg**	**2.69**	**89**	Pn	Pn	14 16 49.2	-1.9
NCRB				Sn	Sn	14 17 20.2	-3.6
GDR	**Gold River**	**2.79**	**102**	Pn	Pn	14 16 50.4	-1.8
SPLB	**Strathcona Par**	**3.00**	**98**	Pn	Pn	14 16 53.4	-2.0
CBB	**Campbell River**	**3.16**	**95**	Pn	Pn	14 16 56.5	-1.1
CBB				Sn	Sn	14 17 32.2	-3.2
BTB	**Buttle Lake**	**3.20**	**105**	Pn	Pn	14 16 57.0	-1.3
MWAB	**Mount Washingt**	**3.26**	**100**	Pn	Pn	14 16 57.2	-1.8
OZB	**Mount Ozzard**	**3.42**	**113**	Sn	Sn	14 17 39.8	-1.9
TXB	**Texada**	**3.82**	**99**	Pn	Pn	14 17 05.4	-1.2
SHB	**Sechelt**	**4.20**	**99**	Pn	Pn	14 17 11.4	-0.5
PFB	**Port Renfrew**	**4.21**	**114**	Pn	Pn	14 17 10.6	-1.4
LZB	**Mount Lazard**	**4.56**	**111**	Sn	Sn	14 18 07.6	-2.4
UBRB	**Upper Baezaeko**	**4.57**	**55**	Pn	Pn	14 17 17.8	+0.7
UBRB				Sn	Sn	14 18 10.3	+0.1
SNB	**Saturna Island**	**4.89**	**107**	Pn	Pn	14 17 22.4	+1.1
MCW	**Mount Constitu**	**5.13**	**107**	Pn	Pn	14 17 25.8	+1.1
VDB	**Vedder Mountai**	**5.47**	**102**	Pn	Pn	14 17 30.3	+1.1
MBW	**Mount Baker**	**5.67**	**104**	Pn	Pn	14 17 33.5	+1.3
JCW	**Jim Creek**	**5.88**	**109**	Pn	Pn	14 17 36.2	+1.3
B06A	**Marblemount**	**6.02**	**105**	Pn	Pn	14 17 38.2	+1.4
FMW	**Mount Fremont**	**6.67**	**118**	Pn	Pn	14 17 48.3	+2.4
DLBC	**Dease Lake**	**8.04**	**1**	Pn	Pn	14 18 06.6	+2.1

*DJA **28** 14:31:00.7±0.4,7°.S±3°.×10°.6E±°,h10km,M4.6/19,mB6.1/1, mb4.6/4,MLv4.6/19,Mw(mB)5.7/1*
*ISCJB **28** 14:31:02.6±0.3,7°.24S±0°.05×106°.52E±0°.04,h91km, mb4.0/33,Error ellipse: s-maj=8.6km s-min=3.9km az=30.0*
*NEIC **28** 14:31:04.0±0.9,7°.09S×106°.64E,h85km±8km,mb4.3/8, Error ellipse: s-maj=17.2km s-min=6.8km az=223.0*
NEIC Felt [III] at Cianjur and Cisarua.
*IDC **28** 14:31:06.3±1.0,6°.94S×106°.66E,h102km±9km,mb3.8/25, mb1 3.9/25,mb1mx3.8/60,mbtmp4.1/25,MS3.6/2, Ms1 3.6/2,ms1mx2.8/59,Error ellipse: s-maj=20.5km s-min=10.3km az=59.0*
ISC 28 14:31:04.5±0.4,7°.25S±0°.07×106°.47E±0°.06,h91km,n81, σ1§64/77,mb4.1/33,Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKJI	**Sukabumi**	**0.25**	**19**	P	Pn	14 31 11.0	-6.9
SKJI				S	Sn	14 31 17.9	-10
CGJI	**Cibinong**	**1.00**	**309**	P	**Pn**	**14 31 22.2**	**-2.1**
CGJI				S	**Sn**	**14 31 35.0**	**-4.1**
TNG	**Tangerang**	**1.08**	**9**	P	**Pn**	**14 31 24.6**	**-0.7**
TNG				P	**Pn**	**14 31 25.0**	**-0.3**
SBJI	**Serang**	**1.17**	**343**	P	**Pn**	**14 31 25.0**	**-1.3**
LEM	**Lembang**	**1.21**	**70**	P	**Pn**	**14 31 24.7**	**-2.2**
	816nm,0.3s,baz=276,slow=1.9,SNR=228						
LEM				S	**Sn**	**14 31 42.6**	**-1.1**
	792nm,0.3s,baz=270,slow=20,SNR=20						
CISI	**Cisompet, Garu**	**1.36**	**103**	P	**Pn**	**14 31 24.1**	**-4.6**
CISI	**Cisompet, Garu**	**1.36**	**103**	*e*Pn	Pn	14 31 23.8	-4.9
JCJI	**Jatiwangi**	**1.94**	**67**	P	**Pn**	**14 31 34.2**	**-1.7**
CMJI	**Cimerak**	**2.03**	**105**	P	**Pn**	**14 31 35.1**	**-2.0**
BLSI	**Bandar Lampung**	**2.23**	**327**	P	**Pn**	**14 31 39.7**	**-0.2**
KPJI	**Karang Pucung**	**2.44**	**92**	P	**Pn**	**14 31 41.2**	**-1.4**
KASI	**Kota Agung**	**2.61**	**311**	P	**Pn**	**14 31 44.1**	**-0.7**
KLI	**Kotabumi**	**2.86**	**326**	P	**Pn**	**14 31 48.9**	**+0.6**
LWLI	**Liwa**	**3.27**	**313**	P	**Pn**	**14 31 53.3**	**-0.5**
MDSI	**Maura Dua**	**3.57**	**320**	P	**Pn**	**14 31 58.4**	**+0.6**
SMRI	**Semarang**	**3.94**	**87**	*e*Pn	**Pn**	**14 32 02.7**	**-0.1**
UGM	**Wanagama**	**4.07**	**100**	*e*Pn	**Pn**	**14 32 01.8**	**-2.7**
WOJI	**Wonogiri, Jawa**	**4.45**	**98**	P	**Pn**	**14 32 09.5**	**-0.2**
MNAI	**Manna**	**4.53**	**309**	*e*Pn	**Pn**	**14 32 10.4**	**-0.4**
NGJI	**Ngawi**	**4.95**	**92**	P	**Pn**	**14 32 16.4**	**-0.1**
PWJI	**Pagerwojo**	**5.34**	**99**	P	**Pn**	**14 32 21.4**	**-0.4**
MASI	**Maura Aman, Be**	**5.87**	**314**	P	**Pn**	**14 32 29.3**	**+0.3**
DSRI	**Dabo**	**6.98**	**344**	P	**Pn**	**14 32 46.0**	**+1.8**
JAGI	**Jajag, Banyuwa**	**7.70**	**100**	*e*Pn	**Pn**	**14 32 52.3**	**-1.8**
STKI	**Sintang**	**8.81**	**35**	P	**Pn**	**14 33 10.8**	**+1.6**
MYKOM	**Kota Tinggi**	**9.35**	**344**	*e*Pn	**Pn**	**14 33 16.1**	**-0.4**
PSI	**Prapat**	**12.51**	**323**	LR	LR	14 38 40.3	
	comp=Z,199nm,18.7s,baz=174,slow=37						
MBWA	**Marble Bar**	**18.86**	**139**	*e*P	**P**	**14 35 15.1**	**-2.5**
	60nm,2.0s						
FITZ	**Fitzroy Crossi**	**21.56**	**122**	*e*P	**P**	**14 35 46.3**	**-0.5**
	16nm,1.6s						
MTN	**Manton Dam**	**24.90**	**105**	*e*P	**P**	**14 36 17.9**	**-1.3**
	18nm,1.1s						
CMAR	**Chiang Mai Arr**	**26.60**	**344**	P	**P**	**14 36 31.4**	**-3.1**
	0.7nm,0.6s,baz=181,slow=8.0,SNR=10.0						
H01W3	**Cape Leeuwin H**	**28.39**	**167**	T	T	15 06 28.7	
	baz=345,slow=76,SNR=150						
H01W1	**Cape Leeuwin H**	**28.41**	**167**	T	T	15 06 23.7	
	baz=345,slow=76,SNR=115						
H01W2	**Cape Leeuwin H**	**28.41**	**167**	T	T	15 06 29.8	
	baz=345,slow=76,SNR=187						
WRA	**Warramunga Arr**	**29.82**	**118**	P	**P**	**14 37 02.9**	**-0.3**
	1.2nm,0.4s,baz=291,slow=11,SNR=34						
WRA				PcP	**PcP**	**14 40 05.5**	**+0.7**
	0.5nm,0.3s,baz=310,slow=2.0,SNR=8.7						
WRAB	**Tennant Creek**	**29.82**	**118**	*e*P	**P**	**14 37 01.8**	**-1.5**
	8.4nm,1.3s						
WB2	**Warramunga Arr**	**29.83**	**118**	*e*P	**P**	**14 37 03.3**	**-0.1**
	20nm,1.8s						
AS31	**Alice Springs**	**30.97**	**125**	*e*P	**P**	**14 37 14.2**	**+0.8**
	1.5nm,1.3s						
ASAR	**Alice Springs**	**30.97**	**125**	P	**P**	**14 37 13.3**	**-0.1**
	0.5nm,0.4s,baz=301,slow=8.0,SNR=38						
ASAR				PcP	**PcP**	**14 40 08.5**	**+0.7**
	0.4nm,0.3s,baz=307,slow=2.3,SNR=5.4						
AS01	**Alice Springs**	**31.01**	**125**	*e*P	**P**	**14 37 12.1**	**-1.6**
H08S2	**Diego Garcia H**	**33.69**	**267**	T	T	15 13 15.5	
	baz=91,slow=75,SNR=177						
H08S3	**Diego Garcia H**	**33.70**	**267**	T	T	15 13 11.7	
	baz=91,slow=75,SNR=140						
H08S1	**Diego Garcia H**	**33.71**	**267**	T	T	15 13 14.2	
	baz=91,slow=75,SNR=133						
STKA	**Stephens Creek**	**40.87**	**132**	P	**P**	**14 38 38.5**	**+0.8**
	8.0nm,0.4s,baz=306

KEPZ	**Antalya-Kepez**	**0.47**	**215**	P	**Pg**	**14 32 43.3**	**-0.6**
KEPZ				S	**Sg**	**14 32 50.8**	**+0.8**
KMER	**Konya-Meram**	**0.58**	**35**	*i* P	**Pg**	**14 32 45.4**	**-0.6**
KMER				*i* S	**Sb**	**14 32 55.0**	**-0.9**
KMER	**Konya-Meram**	**0.58**	**35**	P	**Pg**	**14 32 45.4**	**-0.6**
KMER				S	**Sb**	**14 32 55.0**	**-0.9**
SUTC	**Sutluce-Ispart**	**0.78**	**284**	PG	**Pg**	**14 32 49.4**	**-0.2**
SUTC				SG	**Sb**	**14 33 01.2**	**-0.2**
SUTC	**Sutluce-Ispart**	**0.78**	**284**	*e*Pg	**Pg**	**14 32 49.4**	**-0.2**
SUTC				*e*Sg	**Sb**	**14 33 01.2**	**-0.2**
LADK	**Ladik-KONYA**	**0.97**	**20**	PG	**Pg**	**14 32 53.0**	**-0.3**
LADK				SG	**Sb**	**14 33 07.7**	**+0.7**
LADK	**Ladik-KONYA**	**0.97**	**20**	*e*Pg	**Pg**	**14 32 53.0**	**-0.3**
LADK				*e*Sg	**Sb**	**14 33 07.7**	**+0.7**
ERMK	**Ermenek**	**1.01**	**130**	*i* P	**Pg**	**14 32 53.8**	**-0.3**
ERMK				*i* S	**Sn**	**14 33 09.9**	**-0.2**
ERMK	**Ermenek**	**1.01**	**130**	P	**Pg**	**14 32 53.8**	**-0.3**
BAGO	**Egridir - ISPA**	**1.15**	**308**	*i* P	**Pg**	**14 32 55.9**	**-0.9**
BAGO				*i* S	**Sn**	**14 33 13.5**	**+0.1**
KDHN	**Kadinhani**	**1.24**	**6**	*i* P	**Pb**	**14 32 58.4**	**-0.1**
KDHN				*i* S	**Sn**	**14 33 15.8**	**+0.2**
KDHN	**Kadinhani**	**1.24**	**6**	P	**Pb**	**14 32 58.4**	**-0.1**
KDHN				S	**Sn**	**14 33 15.8**	**+0.2**
TEVE	**Tevekalti-Mers**	**1.47**	**125**	PN	**Pb**	**14 33 02.2**	**-0.3**
TEVE	**Tevekalti-Mers**	**1.47**	**125**	*e*Pn	**Pb**	**14 33 02.2**	**-0.3**
TEKE	**Tekeli-Mersin**	**1.48**	**140**	PN	**Pn**	**14 33 01.9**	**+0.1**
TEKE				SN	**Sg**	**14 33 23.2**	**+0.9**
TEKE	**Tekeli-Mersin**	**1.48**	**140**	*e*Pn	**Pn**	**14 33 01.9**	**+0.1**
TEKE				*e*Sn	**Sg**	**14 33 23.2**	**+0.9**
GULN	**MERSIN_Gulnar**	**1.69**	**130**	*i* P	**Pb**	**14 33 05.5**	**-0.8**
GULN				*i* S	**Sg**	**14 33 29.9**	**+0.7**
GULN	**MERSIN_Gulnar**	**1.69**	**130**	P	**Pb**	**14 33 05.4**	**-0.8**
AKKU	**Akkuyu-Mersin**	**1.71**	**131**	PN	**Pn**	**14 33 05.5**	**+0.5**
AKKU	**Akkuyu-Mersin**	**1.71**	**131**	*e*Pn	**Pn**	**14 33 05.5**	**+0.5**

*ISCJB **28** 14:39:26.8±0.4, 19°.2S±0°.1×177°.59W±0°.10, h550km, mb3.7/14, Error ellipse: s-maj=15.8km s-min=8.5km az=140.4*

*IDC **28** 14:39:27.7±1.7, 19°.27S×177°.53W, h552km±18km, mb3.3/14, mb1 3.5/15, mb1mx3.2/51, mbtmp4.2/15, Error ellipse: s-maj=14.8km s-min=12.6km az=134.0*

ISC 28 14:39:27.2±0.5,**19°.3S**±0°.1×**177°.52W**±0°.10,**h550**km,**n39,** σ1**§47**/43,**mb3.8**/14,**Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**7.69**	**47**	P	**P**	**14 41 22.5**	**+0.5**
	16nm,0.3s,baz=163,slow=2.2,SNR=35						
AFI				S	**S**	**14 42 52.6**	**-3.5**
	3.5nm,0.3s,baz=217,slow=20,SNR=4.4						
URZ	**Urewera**	**19.45**	**193**	P	**P**	**14 43 17.8**	**-0.3**
	2.6nm,0.3s,baz=345,slow=3.9,SNR=23						
URZ				S	**S**	**14 46 19.5**	**-6.0**
	0.2nm,0.3s,baz=72,slow=20,SNR=7.7						
CTA	**Charters Tower**	**34.07**	**262**	P	**P**	**14 45 25.5**	**-1.0**
	4.0nm,1.0s,baz=90,slow=10,SNR=5.1						
PMG	**Port Moresby**	**35.54**	**281**	P	**P**	**14 45 40.0**	**+1.3**
	8.8nm,0.8s,baz=63,slow=4.5,SNR=6.5						
STKA	**Stephens Creek**	**38.72**	**243**	P	**P**	**14 46 05.8**	**+1.2**
	2.0nm,0.3s,baz=113,slow=13,SNR=5.3						
WRA	**Warramunga Arr**	**45.22**	**261**	P	**P**	**14 46 56.0**	**0.0**
	1.0nm,0.5s,baz=97,slow=7.8,SNR=31						
WRA				PcP	**PcP**	**14 48 24.5**	**+0.1**
	0.6nm,1.0s,baz=96,slow=3.0,SNR=4.8						
ASAR	**Alice Springs**	**45.24**	**256**	P	**P**	**14 46 56.6**	**+0.6**
	1.7nm,0.4s,baz=86,slow=7.8,SNR=69						
ASAR				PcP	**PcP**	**14 48 24.5**	**+0.1**
	1.4nm,0.7s,baz=105,slow=4.0,SNR=8.0						
ASAR				S	**S**	**14 52 54.1**	**-2.4**
	1.8nm,0.8s,baz=91,slow=15,SNR=16						
VNDA	**Vanda**	**59.13**	**185**	P	**P**	**14 48 33.9**	**-0.8**
	1.1nm,0.6s,baz=14,slow=6.1,SNR=7.5						
QSPA	**South Pole Qui**	**70.75**	**180**	P	**P**	**14 49 50.4**	**+2.3**
	8.4nm,0.9s,baz=24,slow=1.2,SNR=20						
NVAR	**Mina Array Bea**	**79.85**	**43**	P	**P**	**14 50 40.3**	**+1.1**
	0.7nm,0.8s,baz=219,slow=6.7,SNR=4.9						
MAW	**Mawson**	**82.83**	**200**	P	**P**	**14 50 54.8**	**+1.1**
	3.0nm,0.8s,baz=129,slow=8.8,SNR=3.3						
TXAR	**Lajitas Array**	**86.03**	**57**	P	**P**	**14 51 12.1**	**+1.8**
	0.7nm,0.7s,baz=221,slow=6.5,SNR=6.3						
ILAR	**Eielson Array**	**87.06**	**13**	P	**P**	**14 51 12.8**	**-1.2**
	0.4nm,0.8s,baz=209,slow=5.2,SNR=3.2						
PDAR	**Pinedale Array**	**87.79**	**43**	P	**P**	**14 51 18.4**	**+0.1**
	0.4nm,0.6s,baz=174,slow=3.0,SNR=3.8						
SNAA	**Sanae**	**89.18**	**178**	P	**P**	**14 51 24.2**	**+0.1**
SNAA	**Sanae**	**89.18**	**178**	P	**P**	**14 51 24.4**	**+0.2**
	2.3nm,0.9s,baz=218,slow=7.9,SNR=8.3						
VNA3	**Neumayer Olymp**	**89.29**	**176**	P	**P**	**14 51 25.7**	**+1.1**
VNA2	**Neumayer--Watz**	**89.74**	**177**	P	**P**	**14 51 28.1**	**+1.4**
	baz=184,slow=3.7						
VNA1	**Neumayer--Stat**	**89.97**	**176**	P	**P**	**14 51 29.0**	**+1.3**
CMAR	**Chiang Mai Arr**	**90.14**	**289**	P	**P**	**14 51 30.0**	**+0.4**
	0.8nm,0.8s,baz=116,slow=4.1,SNR=3.7						
MKAR	**Makanchi Array**	**110.71**	**314**	PKiKP	**PKiKP**	**14 56 56.4**	**-1.3**
	0.4nm,0.5s,baz=74,slow=1.5,SNR=5.4						
KURBB	**Kurchatov Arra**	**113.48**	**318**	PKiKP	**PKiKP**	**14 57 01.4**	**-1.4**
	0.4nm,0.6s,baz=88,slow=1.6,SNR=4.3						
BVAR	**Borovoye Array**	**118.46**	**320**	PKP	**PKPdf**	**14 57 11.4**	**-0.9**
	0.9nm,0.5s,baz=154,slow=4.0,SNR=4.6						
ARCES	**ARCESS Array B**	**127.83**	**350**	PKP	**PKPdf**	**14 57 29.6**	**-0.3**
	0.4nm,0.4s,baz=12,slow=1.7,SNR=5.6						
AKASG	**Malin Array Be**	**142.19**	**332**	PKhKP	PKPpre	14 57 52.3	
	0.3nm,0.3s,baz=42,slow=4.4,SNR=4.0						
EKA	**Eskdalemuir Ar**	**143.78**	**5**	PKP	PKPbc	14 57 57.3	-1.4
	2.3nm,0.8s,baz=348,slow=3.0,SNR=3.3						
BRTR	**Keskin Array B**	**146.36**	**314**	PKPbc	**PKPbc**	**14 58 06.4**	**-0.7**
	0.9nm,0.5s,baz=160,slow=3.9,SNR=5.6						
MMAI	**Mount Meron Ar**	**147.60**	**302**	PKPbc	**PKPbc**	**14 58 10.9**	**+0.4**
	2.8nm,0.6s,baz=64,slow=3.8,SNR=7.9						
GERES	**GERESS Array B**	**149.17**	**345**	PKPbc	**PKPbc**	**14 58 13.7**	**-0.2**
	1.1nm,0.7s,baz=11,slow=1.4,SNR=8.0						
CONA	**Conrad Observa**	**149.45**	**342**	*i* PKPbc	**PKPbc**	**14 58 15.2**	**+0.6**
	3.1nm,0.7s						
MOA	**Molln**	**149.96**	**344**	*i* PKPbc	**PKPbc**	**14 58 15.8**	**+0.1**
	1.4nm,0.5s						
SOKA	**Soboth**	**150.82**	**342**	*i* PKPbc	**PKPbc**	**14 58 17.4**	**-0.5**
	3.0nm,1.1s						
KBA	**Koelnbreinsper**	**150.91**	**345**	*e*PKPbc	**PKPbc**	**14 58 17.5**	**-0.6**
	2.1nm,0.5s						
RETA	**Reutte**	**151.09**	**348**	*i* PKPbc	**PKPbc**	**14 58 18.4**	**-0.1**
	1.4nm,0.5s						
MYKA	**Terra Mystica**	**151.25**	**344**	*i* PKPbc	**PKPbc**	**14 58 18.1**	**-0.7**
	1.8nm,0.6s						
ABTA	**Abfaltersbach**	**151.42**	**345**	*i* PKPbc	**PKPbc**	**14 58 18.7**	**-0.5**
	4.4nm,0.6s						
DAVA	**Damuels**	**151.45**	**349**	*e*PKPbc	**PKPbc**	**14 58 19.4**	**+0.1**
	9.7nm,1.5s						
FETA	**Feichten**	**151.54**	**348**	*i* PKPbc	**PKPbc**	**14 58 19.7**	**+0.1**
	4.6nm,1.1s						
TORD	**Torodi Ar. Bea**	**173.83**	**173**	PKP	**PKPdf**	**14 58 33.8**	**-0.8**
	1.1nm,1.1s,baz=232,slow=1.0,SNR=4.2						
TORD				PKPab	**PKPab**	**15 00 09.5**	**+0.8**
	0.3nm,0.6s,baz=172,slow=4.1,SNR=2.6						

*NIED **28** 14:46:00, 38°.70N×142°.40E, h53km, Mw4.0 Best double couple: M0 1.06000×10^15 NP1:ϕs324.00000°, δ44.00000°, λ67.00000°. NP2:ϕs175.00000°, δ51.00000°, λ111.00000°.*

*ISCJB **28** 14:46:22.7±0.9, 38°.71N±0°.04×142°.43E±0°.09, h56km±8km, mb3.8/8, Error ellipse: s-maj=11.8km s-min=5.8km az=11.7*

*JMA **28** 14:46:23.9±0.1, 38°.72N×142°.38E, h46km±1km, M3.8 JMA Felt II J1.*

*IDC **28** 14:46:25.1±2.3, 38°.70N×142°.39E, h61km±21km, mb3.5/8, mb1 3.7/13, mb1mx3.4/76, mbtmp3.8/13, ML3.5/4, Error ellipse: s-maj=22.0km s-min=15.5km az=90.0*

ISC 28 14:46:24.5±1.1,**38°.71N**±0°.05×**142°.39E**±0°.09,**h52**km±10km, **n32,** σ1**§69**/39,**mb3.8**/10,**Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OFUJ	**Ofunato**	**0.67**	**303**	P	**Pn**	**14 46 37.1**	**-0.9**
OFUJ				S	**Sn**	**14 46 46.4**	**-1.4**
JIO	**Ouri**	**0.86**	**253**	P	**Pn**	**14 46 39.5**	**-0.8**
JIO				S	**Sn**	**14 46 50.4**	**-1.5**
JMK	**Ichinoseki**	**0.95**	**285**	P	**Pn**	**14 46 40.9**	**-0.6**
JMK				S	**Sn**	**14 46 53.1**	**-1.0**
JOM	**Ohasama**	**1.15**	**312**	P	**Pn**	**14 46 43.7**	**-0.5**
JOM				S	**Sn**	**14 46 58.1**	**-0.7**
JOU	**Okura**	**1.40**	**256**	P	**Pn**	**14 46 47.3**	**-0.3**
JOU				S	**Sn**	**14 47 04.7**	**-0.3**
JMM	**Marumori**	**1.52**	**237**	P	**Pn**	**14 46 48.5**	**-0.7**
JMM				S	**Sn**	**14 47 06.4**	**-1.4**
JRG	**Rokugo**	**1.53**	**297**	P	**Pn**	**14 46 49.2**	**-0.2**
JRG				S	**Sn**	**14 47 08.8**	**+0.6**
JYK	**Kaneyama**	**1.60**	**278**	P	**Pn**	**14 46 50.1**	**-0.3**
JYK				S	**Sn**	**14 47 09.9**	**0.0**
JANG	**Nango**	**1.79**	**338**	P	**Pn**	**14 46 52.1**	**-0.9**
JANG				S	**Sn**	**14 47 13.3**	**-1.3**
JFK	**Kawauchi**	**1.80**	**222**	P	**Pn**	**14 46 52.7**	**-0.4**
JFK				S	**Sn**	**14 47 14.3**	**-0.5**
MJAR	**Matsushiro Arr**	**3.96**	**238**	P	**Pn**	**14 47 24.2**	**+1.4**
	4.7nm,0.3s,baz=36,slow=12,SNR=35						
MJAR				S	**Sn**	**14 48 05.9**	**-2.1**
	0.5nm,0.3s,baz=75,slow=23,SNR=2.5						
MAT	**Matsushiro**	**3.97**	**238**	P	**Pn**	**14 47 24.2**	**+1.4**
MAT				*e*S	**Sn**	**14 48 12.7**	**+4.7**
ASAJ	**Asahikawa**	**5.40**	**2**	P	**Pn**	**14 47 41.9**	**-0.5**
	0.7nm,0.3s,baz=270,slow=4.9,SNR=8.6						
ASAJ				S	**Sn**	**14 48 40.8**	**-2.4**
	0.4nm,0.3s,baz=246,slow=20,SNR=3.1						
JHJ	**Hachijo jima 2**	**5.97**	**202**	P	**Pn**	**14 47 49.1**	**-1.2**
	6.7nm,0.3s,baz=0.0,slow=20,SNR=2.5						
JHJ				S	**Sn**	**14 48 51.6**	**-5.7**
	16nm,0.3s,baz=79,slow=22,SNR=5.6						
USRK	**Ussuriysk Ar.**	**9.54**	**308**	P	**Pn**	**14 48 40.0**	**+0.9**
	0.1nm,0.3s,baz=124,slow=13,SNR=2.9						
KSRS	**Korea Array**	**11.47**	**268**	P	**Pn**	**14 49 08.5**	**+3.0**
	0.3nm,0.3s,baz=76,slow=14,SNR=9.6						
SONM	**Songino Array**	**27.54**	**301**	P	**P**	**14 52 06.0**	**-0.3**
	0.7nm,0.4s,baz=96,slow=8.9,SNR=5.3						
H11N2	**WAKE ISLAND Hy**	**28.40**	**125**	T	T	15 22 46.0	
	baz=317,slow=75,SNR=242						
H11N1	**WAKE ISLAND Hy**	**28.41**	**125**	T	T	15 22 46.6	
	baz=317,slow=75,SNR=215						
H11N3	**WAKE ISLAND Hy**	**28.42**	**125**	T	T	15 22 47.3	
	baz=317,slow=75,SNR=218						
H11S1	**WAKE ISLAND Hy**	**29.18**	**127**	T	T	15 23 41.6	
	baz=318,slow=76,SNR=32						
H11S3	**WAKE ISLAND Hy**	**29.18**	**127**	T	T	15 23 39.1	
	baz=318,slow=76,SNR=48						
H11S2	**WAKE ISLAND Hy**	**29.20**	**127**	T	T	15 23 42.6	
	baz=318,slow=76,SNR=38						
ZALV	**Zalesovo Beam**	**41.38**	**311**	P	**P**	**14 54 04.0**	**-1.2**
	1.1nm,0.5s,baz=96,slow=7.8,SNR=4.9						
MKAR	**Makanchi Array**	**43.91**	**301**	P	**P**	**14 54 25.7**	**-0.2**
	0.9nm,0.6s,baz=93,slow=9.9,SNR=10						
KURBB	**Kurchatov Arra**	**45.60**	**307**	P	**P**	**14 54 38.9**	**-0.4**
	2.6nm,0.4s,baz=80,slow=8.4,SNR=22						
ILAR	**Eielson Array**	**47.67**	**33**	P	**P**	**14 54 56.1**	**+0.9**
	0.2nm,0.7s,baz=263,slow=6.3,SNR=4.4						
ILAR				pP	**pP**	**14 55 10.9**	**+1.8**
	0.9nm,0.8s,baz=270,slow=6.0,SNR=8.5						
BVAR	**Borovoye Array**	**50.03**	**311**	pP	pP	14 55 28.8	+1.3
	0.7nm,0.5s,baz=82,slow=11,SNR=3.6						
WRA	**Warramunga Arr**	**58.83**	**189**	P	**P**	**14 56 16.9**	**-0.7**
	1.0nm,0.7s,baz=7.4,slow=7.0,SNR=13						
YKA	**Yellowknife Ar**	**61.97**	**31**	pP	pP	14 56 53.7	+0.7
	0.4nm,0.9s,baz=311,slow=7.4,SNR=4.3						
ASAR	**Alice Springs**	**62.56**	**189**	P	**P**	**14 56 42.8**	**-0.2**
	0.5nm,0.6s,baz=13,slow=6.0,SNR=10						
PDAR	**Pinedale Array**	**75.94**	**46**	P	**P**	**14 58 05.5**	**-0.5**
	0.2nm,0.5s,baz=292,slow=4.8,SNR=3.0						

*TIR **28** 14:54:54.0, 41°.06N×20°.11E, h20km, Md2.8/4*

*SKO **28** 14:54:56.7, 41°.12N×20°.17E, h8km*

CSEM 28 14:54:54.0, 41°.06N×20°.11E, h20km,**ML2.8, 3C, Albania**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TIR	**Tirane**	**0.34**	**327**	*i* Pg	Pn	14 55 02.7	-1.2
TIR				*i* Sg	Sn	14 55 09.0	-1.2
TIR	**Tirane**	**0.34**	**327**	*i* PG	Pn	14 55 02.7	-1.1
TIR				*i* SG	Sn	14 55 09.0	-1.2
OHR	**Ohrid**	**0.52**	**84**	*i* Pg	Pb	14 55 05.3	+0.7
OHR				*i* Sg	Sb	14 55 13.0	+1.3
PHP	**Peshkopia**	**0.67**	**22**	*i* Pg	Pb	14 55 07.3	+0.2
PHP				*i* Sg	Sn	14 55 18.2	-0.2
PHP	**Peshkopia**	**0.67**	**22**	*i* PG	Pb	14 55 07.3	+0.2
PHP				*i* SG	Sn	14 55 18.2	-0.2
KBN	**Korca**	**0.67**	**130**	*i* Pg	Pn	14 55 08.9	+0.4
KBN				*i* Sg	Sn	14 55 18.9	+0.4
KBN	**Korca**	**0.67**	**130**	*i* PG	Pn	14 55 08.9	+0.4
KBN				*i* SG	Sn	14 55 18.9	+0.4
KRUS	**Krusevo**	**0.91**	**70**	*i* Pg	Pb	14 55 11.4	+0.2
KRUS				*i* Sg	Sn	14 55 24.3	-0.1
BIA	**Bitola**	**0.92**	**92**	*i* Pg	Pn	14 55 13.1	+1.3
BIA				*i* Sg	Sn	14 55 25.2	+0.8
PUK	**Puka**	**0.99**	**351**	*i* Pg	Pn	14 55 14.4	+1.5
PUK				*i* Sg	Sn	14 55 30.4	+4.0
PUK	**Puka**	**0.99**	**351**	*i* PG	Pn	14 55 14.4	+1.5
PUK				*i* SG	Sn	14 55 30.4	+4.0

*IDC **28** 15:07:25.1±1.6, 34°.01N×117°.61W, h0km, mb3.9/6, mb1 3.9/10, mb1mx3.6/62, mbtmp3.6/10, ML3.4/4, MS3.4/2, Ms1 3.4/2, ms1mx2.6/62, Error ellipse: s-maj=27.9km s-min=15.4km az=57.0*

*ISCJB **28** 15:07:26.9±0.4, 34°.21N±0°.01×117°.43W±0°.02, h11km±3km, mb3.9/7, MS3.4/2, Error ellipse: s-maj=2.6km s-min=2.0km az=23.4*

*NEIC **28** 15:07:27.9±0.0, 34°.24N×117°.43W, h10km, MW3.8(PAS), After PAS.*

NEIC Felt [IV] at Cedarpines Park, Crestline and Fontana and [III] in the Apple Valley-West Covina-Winchester area. Felt throughout the Los Angeles Basin.

ISC 28 15:07:27.1±0.9,**34°.14N**±0°.02×**117°.45W**±0°.02,**h11**km±6km, **n116,** σ1**§31**/142,**mb4.0**/7,**Southern California**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BFSC	**Mount Baldy Ra**	**0.20**	**299**	P	**Pg**	**15 07 31.7**	**+0.4**
	baz=91,SNR=1000						
BFSC				S	**Sg**	**15 07 35.0**	**+0.6**
	baz=91						
BBRC	**Big Bear Solar**	**0.46**	**75**	P	**Pg**	**15 07 36.2**	**+0.1**
	baz=266,SNR=371						
BBRC				S	**Sg**	**15 07 42.2**	**+0.1**
	baz=266						
MWC	**Mount Wilson**	**0.51**	**279**	*e*Pg	**Pb**	**15 07 37.7**	**-0.4**
MWC				*e*Sg	**Sb**	**15 07 45.0**	**-0.6**
MURC	**Murrieta**	**0.58**	**158**	P	**Pn**	**15 07 39.9**	**-1.4**
	baz=343,SNR=978						
MURC				S	**Sn**	**15 07 48.9**	**-1.9**
	baz=343						
PASC	**Pasadena Art C**	**0.61**	**273**	*e*Pg	**Pb**	**15 07 39.5**	**-0.3**
PASC				*e*Sg	**Sb**	**15 07 48.1**	**-0.2**
DECC	**Green Verdugo**	**0.74**	**279**	P	**Pb**	**15 07 41.8**	**-0.2**
	baz=91,SNR=204						
DECC				S	**Sb**	**15 07 51.9**	**-0.2**
	baz=91						
RRX	**Edison Barstow**	**0.82**	**27**	P	**Pg**	**15 07 41.6**	**-1.4**
	baz=210,SNR=165						
RRX				S	**Sg**	**15 07 51.6**	**-2.0**
	baz=210						
FMP	**Fort Macarthur**	**0.82**	**239**	P	**Pn**	**15 07 43.9**	**-0.6**
	baz=54,SNR=44						
FMP				S	**Sn**	**15 07 55.6**	**-1.1**
	baz=54						
EDW2	**Edwards Air Fo**	**0.86**	**329**	P	**Pg**	**15 07 42.4**	**-1.4**
	baz=144,SNR=719						
EDW2				S	**Sg**	**15 07 52.7**	**-2.3**
	baz=144						
PFO	**Pinyon Flats O**	**0.98**	**122**	P	**Pn**	**15 07 46.4**	**-0.5**
	baz=308,SNR=490						
PFO				S	**Sb**	**15 07 59.7**	**+0.6**
	baz=308						
PFO	**Pinyon Flats O**	**0.98**	**122**	*e*Pg	**Pn**	**15 07 46.4**	**-0.5**
PFO				*e*Sg	**Sb**	**15 07 59.9**	**+0.8**
XPFO	**Piæon Flat**	**0.98**	**122**	*e*Pg	**Pn**	**15 07 46.4**	**-0.5**
XPFO				*e*Sg	**Sb**	**15 07 59.5**	**+0.3**
I57US	**PINON FLAT INF**	**0.99**	**123**	Pg	**Pb**	**15 07 46.3**	**0.0**
	baz=313,slow=34,SNR=0.3						
I57US				Lg	Lg	15 07 59.9	
	baz=301,slow=33						
I57US				*i*		15 10 30.0	
	baz=297,slow=323,SNR=0.7						
CIS	**Catalina Islan**	**1.09**	**228**	P	**Pn**	**15 07 48.2**	**-0.1**
	baz=44,SNR=148						
CIS				S	**Sn**	**15 08 04.3**	**+0.9**
	baz=44						
HEC	**Hector,Ludlow**	**1.15**	**53**	P	**Pg**	**15 07 47.8**	**-1.4**
	baz=237,SNR=462						
HEC				S	**Sg**	**15 08 02.2**	**-2.0**
	baz=237						
OSI	**Osito Audit: C**	**1.15**	**294**	P	**Pb**	**15 07 48.4**	**-0.6**
	baz=109,SNR=162						
OSI				S	**Sb**	**15 08 03.5**	**-0.5**
	baz=109						
OSI	**Osito Audit: C**	**1.15**	**294**	*e*Pn	**Pb**	**15 07 48.5**	**-0.5**
OSI				*e*Sn	**Sn**	**15 08 04.8**	**-0.2**
BELC	**Belle Mtn. Jos**	**1.21**	**96**	P	**Pb**	**15 07 50.3**	**+0.2**
	baz=282,SNR=602						
BELC				S	**Sg**	**15 08 06.4**	**+0.1**
	baz=282						
GSC	**Goldstone, Bar**	**1.27**	**25**	P	**Pn**	**15 07 49.4**	**-1.5**
	baz=206,SNR=1000						
GSC				S	**Sb**	**15 08 05.5**	**-2.1**
	baz=206						
GSC	**Goldstone, Bar**	**1.27**	**25**	*e*Pn	**Pn**	**15 07 49.5**	**-1.4**
109C	**Camp Elliot, M**	**1.28**	**167**	P	**Pg**	**15 07 51.4**	**-0.3**
	baz=349,SNR=81						
109C				S	**Sn**	**15 08 09.7**	**+1.6**
	baz=349						
CPE	**Camp Elliot**	**1.28**	**167**	*e*Pn	**Pg**	**15 07 51.4**	**-0.3**
BLG	**Laguna Peak, P**	**1.34**	**269**	P	**Pb**	**15 07 51.1**	**-1.1**
	baz=84,SNR=51						
BLG				S	**Sn**	**15 08 09.6**	**+0.1**
	baz=84						
LRMC	**Laurel Mtn Rad**	**1.35**	**352**	P	**Pn**	**15 07 50.4**	**-1.5**
	baz=171,SNR=460						
LRMC				S	**Sb**	**15 08 07.5**	**-2.2**
	baz=171						
SCI2	**San Clemente I**	**1.48**	**219**	P	**Pg**	**15 07 54.0**	**-1.4**
	baz=36,SNR=96						
ARVC	**Arvin**	**1.50**	**311**	P	**Pn**	**15 07 53.4**	**-0.5**
	baz=128,SNR=66						
ARVC				S	**Sn**	**15 08 13.3**	**-0.2**
	baz=128						
MONP2	**Monument Peak**	**1.52**	**145**	P	**Pg**	**15 07 55.5**	**-0.6**
	baz=328,SNR=313						
MONP2				S	**Sg**	**15 08 16.3**	**+0.5**
	baz=328						
BAR	**Barrett**	**1.60**	**156**	*e*Pn	**Pg**	**15 07 56.5**	**-1.2**
GMRC	**Granite Mounta**	**1.61**	**66**	P	**Pn**	**15 07 54.3**	**-1.3**
	baz=250,SNR=402						
BC3	**Big Chuckawall**	**1.73**	**106**	P	**Pn**	**15 07 57.0**	**-0.2**
	baz=290,SNR=163						
ISA	**Isabella, Lake**	**1.73**	**331**	P	**Pn**	**15 07 56.0**	**-1.2**
	baz=149,SNR=800						
ISA	**Isabella, Lake**	**1.73**	**331**	*e*Pn	**Pn**	**15 07 56.5**	**-0.8**
TUQ	**Turquoise Moun**	**1.80**	**44**	P	**Pn**	**15 07 56.7**	**-1.5**
	baz=226,SNR=543						
SCZ2	**Santa Cruz Isl**	**1.82**	**266**	P	**Pn**	**15 07 57.8**	**-0.5**
	baz=82,SNR=12						
SWSC	**Sam W. Stewart**	**1.82**	**130**	P	**Pn**	**15 07 58.3**	**-0.1**
	baz=314,SNR=68						
IKP	**In-Ko-Pah, Jac**	**1.86**	**143**	P	**Pb**	**15 07 59.8**	**-1.4**
	baz=325,SNR=88						
SBC	**Santa Barbara**	**1.90**	**280**	P	**Pn**	**15 07 59.8**	**+0.4**
	baz=96,SNR=13						
MPMC	**Manual Prospec**	**1.91**	**359**	P	**Pn**	**15 07 58.2**	**-1.5**
	baz=179,SNR=791						
IRM	**Iron Mountain**	**1.91**	**89**	P	**Pn**	**15 07 58.9**	**-0.8**
	baz=273,SNR=203						
CBX	**Cerro Bola**	**1.94**	**160**	P	**Pb**	**15 08 01.9**	**-0.6**
CBX				S	**Sg**	**15 08 27.4**	**-2.1**
SNCC	**San Nicolas Is**	**1.94**	**243**	P	**Pn**	**15 07 59.9**	**-0.1**
	baz=60						
SNCC	**San Nicolas Is**	**1.94**	**243**	*e*Pn	**Pn**	**15 07 59.5**	**-0.5**
SHOC	**Shoshone, Teco**	**2.00**	**29**	P	**Pn**	**15 08 02.5**	**+1.6**
	baz=210,SNR=59						
PKM	**Mcpherson Peak**	**2.09**	**292**	P	**Pn**	**15 08 02.5**	**+0.3**
	baz=108,SNR=37						
DAC	**Darwin (Calif)**	**2.13**	**357**	*e*Pn	**Pn**	**15 08 04.7**	**+1.9**
LDFC	**Landfair**	**2.15**	**64**	*e*Pn	**Pn**	**15 08 04.7**	**+1.8**
VES	**Vestal, Richgr**	**2.16**	**322**	P	**Pn**	**15 08 02.9**	**-0.1**
	baz=140,SNR=156						
SMMC	**Simmler**	**2.40**	**300**	P	**Pn**	**15 08 06.4**	**0.0**
	baz=116,SNR=20						
NEE2	**Need

comp=Z,59nm,19.1s,baz=160,slow=36
YKA Yellowknife Ar 28.43 3 P **P** 15 13 22.1 **+0.6**
0.2nm,0.6s,baz=180,slow=9.4,SNR=8.6
ILAR Eielson Array 35.48 339 P **P** 15 14 24.6 **+1.3**
1.4nm,0.6s,baz=154,slow=8.1,SNR=32
SCHQ Schefferville 40.52 43 LR LR 15 32 32.1
comp=Z,83nm,21.7s,baz=350,slow=37
RES Resolute Bay 42.09 9 P **P** 15 15 19.3 **+0.8**
1.4nm,0.7s,baz=202,slow=9.2,SNR=6.8
FINES FINESS Array B 80.24 17 P **P** 15 19 37.7 **+0.4**
2.1nm,0.8s,baz=347,slow=5.7,SNR=3.3
HHC Hu-ho-hao-te 92.79 325 *e*P **P** 15 20 38.5 **-1.3**
HHC pmax pmax
comp=Z,8.0nm,1.8s
HHC pmax pmax
comp=Z,12nm,8.3s
KURK Kurchatov 94.32 350 P **P** 15 20 45.8 **-0.7**
KURBB Kurchatov Arra 94.43 350 P **P** 15 20 45.7 **-1.2**
comp=Z,0.3nm,0.4s,baz=9.7,slow=6.3,SNR=6.2

*DDA **28** 15:12:17.8, 40.°29N×32.°60E, h7km, Ml2.8*
*ISCJB **28** 15:12:18.7±0.5, 40.°31N±0.°03×32.°60E±0.°03, h5km±5km, Error ellipse: s-maj=4.5km s-min=3.8km az=9.0*
*ISK **28** 15:12:18.6, 40.°28N×32.°58E, h3km, MD2.9/2*
*CSEM **28** 15:12:18.8±0.1, 40.°33N×32.°60E, h5km, ML2.8, Error ellipse: s-maj=3.7km s-min=3.0km az=14.0*
ISC 28 15:12:18.6±0.9, 40.°30N±0.°03×32.°61E±0.°02, h11km±8km, n30, σ0°946/47, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMDR	**Camlidere-ANKA**	**0.22**	**332**	*i* P	**Pg**	**15 12 23.2**	**-0.1**
CMDR				*i* S	**Sg**	**15 12 26.4**	**-0.1**
CMDR	**Camlidere-ANKA**	**0.22**	**332**	P	**Pg**	**15 12 23.2**	**-0.1**
CMDR				S	**Sg**	**15 12 26.4**	**-0.1**
LOD	**Lodumlu**	**0.43**	**164**	PG	**Pg**	**15 12 27.0**	**-0.1**
LOD				SG	**Sb**	**15 12 34.2**	**-0.6**
LOD	**Lodumlu**	**0.43**	**164**	*e*Pg	**Pg**	**15 12 27.0**	**-0.1**
LOD				*e*Sg	**Sb**	**15 12 34.2**	**-0.6**
ANTO	**Ankara**	**0.46**	**162**	PG	**Pb**	**15 12 28.5**	**-0.2**
ANTO	**Ankara**	**0.46**	**162**	*e*Pg	**Pb**	**15 12 28.5**	**-0.2**
ELDT	**Eldivan**	**0.65**	**73**	*i* P	**Pg**	**15 12 31.6**	**+0.3**
ELDT				*i* S	**Sg**	**15 12 41.1**	**+1.2**
ELDT	**Eldivan**	**0.65**	**73**	P	**Pg**	**15 12 31.6**	**+0.3**
ELDT				S	**Sg**	**15 12 41.1**	**+1.2**
BCAM	**Yenicaga**	**0.66**	**321**	*i* P	**Pg**	**15 12 31.1**	**-0.4**
BCAM				*i* S	**Sg**	**15 12 39.9**	**-0.2**
BCAM	**Yenicaga**	**0.66**	**321**	P	**Pg**	**15 12 31.1**	**-0.4**
BCAM				S	**Sg**	**15 12 39.9**	**-0.2**
AFSR	**Afˇar-Bala (A**	**0.93**	**157**	PG	**Pb**	**15 12 36.7**	**0.0**
AFSR	**Afˇar-Bala (A**	**0.93**	**157**	*e*Pg	**Pb**	**15 12 36.7**	**0.0**
AUMIH	**MIHALICIK**	**0.97**	**244**	PG	**Pb**	**15 12 37.6**	**+0.1**
AUMIH				SG	**Sb**	**15 12 50.8**	**+0.5**
AUMIH	**MIHALICIK**	**0.97**	**244**	*i* P	**Pn**	**15 12 38.3**	**0.0**
AUMIH				*i* S	**Sb**	**15 12 50.6**	**+0.3**
AUMIH	**MIHALICIK**	**0.97**	**244**	P	**Pn**	**15 12 38.3**	**0.0**
AUMIH				S	**Sb**	**15 12 50.6**	**+0.3**
MDUB	**Mudurnu**	**1.09**	**279**	PG	**Pb**	**15 12 39.9**	**+0.3**
MDUB				SG	**Sn**	**15 12 55.3**	**+0.2**
MDUB	**Mudurnu**	**1.09**	**279**	*e*Pg	**Pb**	**15 12 39.9**	**+0.3**
MDUB				*e*Sg	**Sn**	**15 12 55.3**	**+0.2**
ILGA	**Ilgaz**	**1.13**	**48**	*i* P	**Pg**	**15 12 39.7**	**-0.6**
ILGA				*i* S	**Sg**	**15 12 54.8**	**-0.2**
ILGA	**Ilgaz**	**1.13**	**48**	P	**Pg**	**15 12 39.7**	**-0.6**
ILGA				S	**Sg**	**15 12 54.8**	**-0.2**
AUSIV	**SIVRIHISAR**	**1.19**	**224**	PN	**Pb**	**15 12 41.4**	**+0.1**
SVRH	**Sivrihisar-ESK**	**1.19**	**225**	PN	**Pb**	**15 12 41.5**	**+0.2**
SVRH	**Sivrihisar-ESK**	**1.19**	**225**	*e*Pn	**Pb**	**15 12 41.5**	**+0.2**
SAHE	**Sakarya_HENDEK**	**1.45**	**293**	*i* P	**Pb**	**15 12 44.5**	**-0.3**
SAHE				*i* S	**Sb**	**15 13 04.5**	**+0.4**
SAHE	**Sakarya_HENDEK**	**1.45**	**293**	P	**Pn**	**15 12 44.5**	**-0.3**
SAHE				S	**Sb**	**15 13 04.4**	**+0.4**
CORM	**Corum**	**1.55**	**94**	PN	**Pb**	**15 12 48.2**	**+0.7**
CORM	**Corum**	**1.55**	**94**	*e*Pn	**Pb**	**15 12 48.2**	**+0.7**
GULT	**Gulveren**	**1.60**	**275**	PN	**Pb**	**15 12 48.2**	**-0.1**
GULT	**Gulveren**	**1.60**	**275**	*e*Pn	**Pb**	**15 12 48.2**	**-0.1**
YOZ	**Yozgat**	**2.19**	**107**	PN	**Pb**	**15 12 57.4**	**-0.9**
YOZ	**Yozgat**	**2.19**	**107**	*e*Pn	**Pb**	**15 12 57.4**	**-0.9**

IDC 28 15:15:56.0±4.7, 48.°98N×129.°45W, h0km, mb3.5/1, mb1 3.8/5, mb1mx3.4/77, mbtmp3.4/5, ML3.4/4, Error ellipse: s-maj=85.3km s-min=17.2km az=73.0, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BBB	**Bella Bella**	**3.32**	**14**	Pn	Pn	15 16 48.9	-0.2
	4.5nm,0.3s,baz=195,slow=12,SNR=202						
BBB				Sn	Sn	15 17 23.8	-5.4
	14nm,0.3s,baz=61,slow=19,SNR=19						
NVAR	**Mina Array Bea**	**13.26**	**139**	Pn	Pn	15 19 07.6	+2.0
	baz=317,slow=38,SNR=4.1						
PDAR	**Pinedale Array**	**15.16**	**107**	Pn	P	15 19 35.1	-1.8
	0.1nm,0.3s,baz=297,slow=8.6,SNR=8.9						
YKA	**Yellowknife Ar**	**15.85**	**26**	Pn	Pn	15 19 35.7	-4.5
	0.1nm,0.3s,baz=213,slow=13,SNR=7.4						
TXAR	**Lajitas Array**	**27.79**	**125**	P	P	15 21 47.0	+0.4
	0.3nm,0.8s,baz=327,slow=7.6,SNR=4.3						

*ISCJB **28** 15:25:02.2±1.5, 0.°3S±0.°1×131.°72E±0.°09, h33km, mb3.2/1, MS3.8/1, Error ellipse: s-maj=19.0km s-min=11.5km az=28.6*
*DJA **28** 15:25:03.9±0.5, 0.°5S×13.°2E±.°, h48km±11km, M3.6/6, MLv3.6/6*
*IDC **28** 15:25:12.5±2.5, 1.°45S×132.°82E, h0km, mb3.4/2, mb1 3.5/3, mb1mx3.2/57, mbtmp3.4/3, ML3.3/1, MS3.8/1, Ms1 3.8/1, ms1mx2.7/30, Error ellipse: s-maj=123.9km s-min=26.7km az=74.0*
ISC 28 15:25:04.1±2.0, 0.°4S±0.°1×131.°74E±0.°08, h35km, n9, σ0°958/8, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FAKI	**Fak Fak**	**2.59**	**169**	P	**Pn**	**15 25 43.2**	**-0.4**
FAKI				S	**Sn**	**15 26 14.2**	**+0.3**
RKPI	**Ransiki, Papua**	**2.69**	**115**	P	**Pn**	**15 25 44.8**	**-0.2**
KMPI	**Kaimana, Papua**	**3.82**	**149**	P	**Pn**	**15 25 59.8**	**-0.7**
MSAI	**Masohi**	**4.08**	**223**	P	**Pn**	**15 26 03.7**	**-0.4**
LBMI	**Labuha**	**4.24**	**266**	P	**Pn**	**15 26 06.0**	**-0.3**
WRA	**Warramunga Arr**	**19.62**	**173**	P	**P**	**15 29 30.3**	**+0.5**
	0.1nm,0.3s,baz=355,slow=11,SNR=7.5						
ASAR	**Alice Springs**	**23.26**	**175**	P	**P**	**15 30 09.3**	**+0.6**
	0.6nm,0.6s,baz=354,slow=8.6,SNR=9.0						
DZM	**Mont Dzumac**	**40.10**	**125**	LR	LR	15 49 20.7	
	comp=Z,138nm,18.4s,baz=194,slow=38						
MKAR	**Makanchi Array**	**63.76**	**324**	P	P	15 35 56.2	+24
	0.3nm,0.4s,baz=154,slow=9.1,SNR=7.4						

*IDC **28** 15:46:48.4±2.1, 37.°42N×142.°31E, h0km, mb3.6/4, mb1 3.7/6, mb1mx3.3/71, mbtmp3.6/6, ML3.1/2, Error ellipse: s-maj=42.5km s-min=25.6km az=73.0*
*ISCJB **28** 15:46:52.0±0.9, 37.°31N±0.°06×141.°97E±0.°08, h24km, mb3.5/4, Error ellipse: s-maj=9.0km s-min=8.7km az=175.5*
*JMA **28** 15:46:53.9±0.2, 37.°37N×141.°88E, h28km±5km, M3.3*
ISC 28 15:46:53.3±1.3, 37.°36N±0.°07×141.°91E±0.°08, h24km, n19, σ0°999/19, mb3.5/4, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**0.82**	**270**	P	**Pb**	**15 47 08.9**	**-0.1**
JFK				S	**Sb**	**15 47 19.1**	**-0.7**
ONAJ	**Iwakimizuishiy**	**0.93**	**254**	P	**Pn**	**15 47 10.1**	**-0.8**
ONAJ				S	**Sb**	**15 47 21.5**	**-1.1**
JMM	**Marumori**	**1.02**	**300**	P	**Pb**	**15 47 12.0**	**-0.3**
JIO	**Ouri**	**1.18**	**338**	P	**Pb**	**15 47 14.2**	**-0.8**
JFT	**Otama**	**1.26**	**277**	P	**Pb**	**15 47 16.2**	**-0.3**
JFT				S	**Sn**	**15 47 31.7**	**0.0**
JOU	**Okura**	**1.40**	**316**	P	**Pb**	**15 47 18.2**	**-0.7**
JOU				S	**Sb**	**15 47 36.0**	**-0.4**
MJAR	**Matsushiro Arr**	**3.08**	**256**	Pn	**Pn**	**15 47 42.3**	**+1.9**
	0.9nm,0.3s,baz=65,slow=7.6,SNR=11						
MJAR				Sn	**Sb**	**15 48 24.6**	**+0.1**
	2.0nm,0.3s,baz=64,slow=26,SNR=7.9						
MAT	**Matsushiro**	**3.08**	**256**	P	**Pn**	**15 47 42.5**	**+2.0**
MAT				eS	**Sb**	**15 48 22.8**	**-1.7**
JHJ	**Hachijo jima 2**	**4.58**	**203**	Pn	**Pn**	**15 48 01.4**	**+0.3**
	5.2nm,0.3s,baz=56,slow=13,SNR=2.7						
SONM	**Songino Array**	**27.93**	**303**	P	**P**	**15 52 42.2**	**+0.4**
	0.3nm,0.4s,baz=98,slow=10,SNR=3.5						
H11N2	**WAKE ISLAND Hy**	**27.98**	**122**	T	T	16 22 10.2	
	baz=315						
H11N1	**WAKE ISLAND Hy**	**27.99**	**122**	T	T	16 22 08.9	
	baz=315						
H11N3	**WAKE ISLAND Hy**	**28.00**	**122**	T	T	16 22 15.6	
	baz=315						
H11S1	**WAKE ISLAND Hy**	**28.71**	**124**	T	T	16 23 07.4	
	baz=316,slow=76,SNR=14						
H11S3	**WAKE ISLAND Hy**	**28.71**	**124**	T	T	16 23 09.1	
	baz=316,slow=76,SNR=12						
H11S2	**WAKE ISLAND Hy**	**28.73**	**124**	T	T	16 23 08.5	
	baz=316,slow=76,SNR=15						
MKAR	**Makanchi Array**	**44.28**	**302**	P	**P**	**15 55 01.8**	**+0.8**
	0.5nm,0.8s,baz=94,slow=9.2,SNR=6.2						
KURBB	**Kurchatov Arra**	**46.11**	**308**	P	**P**	**15 55 15.9**	**+0.4**
	0.3nm,0.4s,baz=81,slow=7.8,SNR=4.3						
WRA	**Warramunga Arr**	**57.44**	**188**	P	**P**	**15 56 39.6**	**-0.6**
	1.0nm,1.2s,baz=6.5,slow=7.2,SNR=6.8						

IDC 28 15:47:47.6±5.4, 2.°50N×90.°26E, h0km, mb3.4/3, mb1 3.5/3, mb1mx3.1/73, mbtmp3.4/3, Error ellipse: s-maj=181.8km s-min=31.2km az=60.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H08S2	**Diego Garcia H**	**20.39**	**240**	T	T	16 13 22.4	
	baz=60,slow=75,SNR=20						
H08S3	**Diego Garcia H**	**20.39**	**240**	T	T	16 13 22.4	
	baz=60,slow=75,SNR=19						
H08S1	**Diego Garcia H**	**20.41**	**240**	T	T	16 13 23.8	
	baz=60,slow=75,SNR=21						
MKAR	**Makanchi Array**	**44.66**	**352**	P	P	15 56 01.5	-0.6
	0.1nm,0.5s,baz=163,slow=8.6,SNR=2.6						
SONM	**Songino Array**	**47.26**	**15**	P	P	15 56 23.2	+0.4
	0.8nm,0.4s,baz=190,slow=9.1,SNR=8.4						
WRA	**Warramunga Arr**	**48.66**	**119**	P	P	15 56 33.7	-0.2
	0.3nm,0.8s,baz=300,slow=8.8,SNR=2.7						

*ATA **28** 16:20:45.2±1.8, 38.°67N×43.°69E, h14km±25km, ML3.4, MW3.9*
*ISK **28** 16:20:46.7, 38.°76N×43.°45E, h5km, ML2.7/4*
*ISCJB **28** 16:20:47.4±0.6, 38.°68N±0.°02×43.°63E±0.°04, h3km±5km, Error ellipse: s-maj=6.2km s-min=3.3km az=28.2*
*CSEM **28** 16:20:47.0±0.2, 38.°70N×43.°60E, h10km, ML2.7, Error ellipse: s-maj=6.4km s-min=3.8km az=117.0*
*DDA **28** 16:20:47.2, 38.°69N×43.°57E, h7km, Ml2.8*
ISC 28 16:20:47.8±0.9, 38.°71N±0.°02×43.°58E±0.°03, h15km±6km, n44, σ1°938/74, 1D, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VANB	**Van**	**0.18**	**233**	PG	**Pg**	**16 20 52.1**	**-0.2**
VANB				SG	**Sg**	**16 20 56.4**	**+1.2**
VANB	**Van**	**0.18**	**233**	*e*Pg	**Pg**	**16 20 52.1**	**-0.2**
VANB				*e*Sg	**Sg**	**16 20 56.4**	**+1.2**
TVAN	**Van**	**0.22**	**217**	*i* P	**Pg**	**16 20 52.1**	**-0.8**
TVAN				*i* S	**Sg**	**16 20 56.2**	**-0.1**
TVAN	**Van**	**0.22**	**217**	P	**Pg**	**16 20 52.1**	**-0.8**
TVAN				S	**Sg**	**16 20 56.2**	**-0.1**
VMUR	**Van-Muradiye**	**0.28**	**359**	*i* P	**Pg**	**16 20 53.4**	**-0.5**
VMUR				*i* S	**Sb**	**16 20 59.3**	**-0.1**
VMUR	**Van-Muradiye**	**0.28**	**359**	P	**Pg**	**16 20 53.4**	**-0.5**
VMUR				S	**Sb**	**16 20 59.3**	**-0.1**
CLDR	**Caldiran**	**0.51**	**31**	PG	**Pg**	**16 20 56.9**	**-1.1**
CLDR				SG	**Sb**	**16 21 05.3**	**-0.7**
CLDR	**Caldiran**	**0.51**	**31**	*i* P	**Pg**	**16 20 56.7**	**-1.3**
CLDR				*i* S	**Sb**	**16 21 06.0**	**0.0**
CLDR	**Caldiran**	**0.51**	**31**	P	**Pg**	**16 20 56.7**	**-1.3**
CLDR	**Caldiran**	**0.51**	**31**	*e*Pg	**Pg**	**16 20 56.9**	**-1.1**
CLDR				*e*Sg	**Sb**	**16 21 05.3**	**-0.7**
CLDR				S	**Sb**	**16 21 06.0**	**0.0**
GEVA	**Gevas**	**0.56**	**226**	*i* P	**Pg**	**16 20 57.5**	**-1.4**
GEVA				*e*S	**Sb**	**16 21 07.6**	**+0.2**
GEVA	**Gevas**	**0.56**	**226**	*i* P	**Pg**	**16 20 57.6**	**-1.4**
GEVA				*i* S	**Sb**	**16 21 06.7**	**-0.7**
GEVA	**Gevas**	**0.56**	**226**	P	**Pg**	**16 20 57.6**	**-1.4**
GEVA				S	**Sb**	**16 21 06.7**	**-0.7**
ADCV	**BITLIS_Adilcev**	**0.67**	**279**	*i* P	**Pg**	**16 21 00.3**	**-0.7**
ADCV				*i* S	**Sg**	**16 21 10.3**	**+0.3**
ADCV	**BITLIS_Adilcev**	**0.67**	**279**	P	**Pg**	**16 21 00.3**	**-0.7**
ADCV				S	**Sg**	**16 21 10.3**	**+0.3**
DYDN	**Diyadin**	**0.84**	**6**	*e*P	**Pg**	**16 21 03.3**	**-0.9**
DYDN				IAML		16 21 17.6	
	comp=Z,64nm,0.3s						
DYDN	**Diyadin**	**0.84**	**6**	*i* P	**Pg**	**16 21 03.6**	**-0.6**
DYDN				*i* S	**Sn**	**16 21 16.8**	**-0.8**
DYDN	**Diyadin**	**0.84**	**6**	P	**Pg**	**16 21 03.6**	**-0.6**
DYDN				S	**Sn**	**16 21 16.8**	**-0.8**
AGRB	**Hanur-Agry**	**0.98**	**333**	PG	**Pg**	**16 21 04.7**	**-2.1**
AGRB	**Hanur-Agry**	**0.98**	**333**	*e*Pg	**Pg**	**16 21 04.7**	**-2.1**
HAKT	**HAKKARI**	**1.15**	**175**	*i* P	**Pg**	**16 21 08.6**	**-1.4**
HAKT				*i* S	**Sn**	**16 21 27.4**	**+2.2**
HAKT	**HAKKARI**	**1.15**	**175**	P	**Pg**	**16 21 08.6**	**-1.4**
HAKT				S	**Sn**	**16 21 27.4**	**+2.2**
GURO	**Guroymak-BITLI**	**1.22**	**263**	PN	**Pn**	**16 21 08.9**	**-1.5**
GURO				SN	**Sb**	**16 21 24.6**	**-1.6**
GURO	**Guroymak-BITLI**	**1.22**	**263**	*e*Pn	**Pn**	**16 21 08.9**	**-1.5**
IGDI	**IGDIR**	**1.23**	**18**	*i* P	**Pn**	**16 21 10.4**	**-0.3**
IGDI				*i* S	**Sn**	**16 21 29.6**	**+2.7**
YOVA	**Hakkari_Y˜...kse**	**1.25**	**153**	*i* P	**Pg**	**16 21 10.7**	**-1.2**
YOVA				*i* S	**Sn**	**16 21 31.8**	**+4.2**
YOVA	**Hakkari_Y˜...kse**	**1.25**	**153**	P	**Pg**	**16 21 10.7**	**-1.2**
EKAR	**Karacoban**	**1.30**	**296**	*e*P	**Pn**	**16 21 10.5**	**-1.2**
EKAR				*e*S	**Sg**	**16 21 33.6**	**+3.8**
EKAR				IAML		16 21 38.0	
	comp=Z,27nm,0.4s						
EKAR	**Karacoban**	**1.30**	**296**	*i* P	**Pn**	**16 21 11.8**	**+0.2**
EKAR				*i* S	**Sg**	**16 21 32.4**	**+2.6**
EKAR	**Karacoban**	**1.30**	**296**	P	**Pn**	**16 21 11.9**	**+0.2**
EKAR				S	**Sg**	**16 21 32.4**	**+2.6**
TASB	**TASBURUN-IGDIR**	**1.38**	**22**	PN	**Pb**	**16 21 13.1**	**-0.2**
TASB	**TASBURUN-IGDIR**	**1.38**	**22**	*e*Pn	**Pb**	**16 21 13.1**	**-0.2**
EATA	**Eleskirt**	**1.43**	**324**	*i* P	**Pn**	**16 21 13.4**	**-0.1**
EATA	**Eleskirt**	**1.43**	**324**	*i* P	**Pn**	**16 21 13.8**	**+0.3**
EATA				*i* S	**Sg**	**16 21 33.9**	**-0.1**
EATA	**Eleskirt**	**1.43**	**324**	P	**Pn**	**16 21 13.8**	**+0.3**
EATA				S	**Sg**	**16 21 33.9**	**-0.1**
SRTM	**Siirt_Merkez**	**1.48**	**242**	*i* P	**Pb**	**16 21 15.2**	**+0.1**
SRTM				*i* S	**Sg**	**16 21 36.2**	**+0.6**
SRTM	**Siirt_Merkez**	**1.48**	**242**	P	**Pb**	**16 21 15.2**	**+0.1**
SRTM				S	**Sg**	**16 21 36.2**	**+0.6**
SIRT	**Sirnak**	**1.50**	**217**	PN	**Pb**	**16 21 14.8**	**-0.6**
SIRT	**Sirnak**	**1.50**	**217**	*e*Pn	**Pb**	**16 21 14.8**	**-0.6**
HOMI	**Horasan**	**1.86**	**316**	*e*P	**Pb**	**16 21 20.6**	**-1.0**
HOMI				*e*S	**Sg**	**16 21 51.8**	**+4.0**
HOMI				IAML		16 21 56.8	
	comp=Z,16nm,0.6s						
EAK	**Akyaka**	**1.98**	**1**	*e*P	**Pg**	**16 21 24.3**	**-1.5**
ERZM	**Erzurum**	**2.09**	**306**	*e*P	**Pb**	**16 21 24.3**	**-1.3**
KOPT	**Kop Dagi**	**2.72**	**300**	*e*P	**Pb**	**16 21 36.1**	**-0.3**
KOPT				IAML		16 21 55.3	
	comp=Z,3.5nm,0.6s						
KELT	**Kelkit**	**3.64**	**295**	*e*P	**Pb**	**16 21 52.9**	**+0.9**

*ISCJB **28** 16:24:53.3±0.2, 24.°19S±0.°02×66.°90W±0.°04, h204km±2km, mb4.1/37, Error ellipse: s-maj=5.6km s-min=3.3km az=179.9*
*NEIC **28** 16:24:53.0±0.5, 24.°15S×66.°71W, h180km±4km, mb4.3/24, Error ellipse: s-maj=7.3km s-min=4.9km az=76.0*
*SJA **28** 16:24:54.0±0.6, 24.°14S×66.°89W, h204km±4km, ML4.2, MW4.1*
*IDC **28** 16:24:54.2±1.7, 24.°08S×66.°64W, h188km±14km, mb3.8/15, mb1 3.9/19, mb1mx3.8/42, mbtmp4.2/19, Error ellipse: s-maj=17.4km s-min=10.4km az=65.0*
ISC 28 16:24:53.8±0.7, 24.°21S±0.°04×66.°94W±0.°05, h189km±6km, n239, σ1°938/264, mb4.2/37, Salta Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SLA	**San Lorenzo**	**1.41**	**112**	*i* P	**Pn**	**16 25 28.2**	**+2.4**
SLA				*i* S	**Sn**	**16 25 53.1**	**+2.4**
SLA				IAML		16 25 56.3	
	comp=Z,763nm,0.7s						
HJA	**Humahuaca**	**1.72**	**55**	*i* P	**Pn**	**16 25 30.6**	**+1.6**
HJA				*i* S	**Sn**	**16 25 57.5**	**+1.2**
FSA	**Cafayete**	**2.09**	**156**	*i* P	**Pn**	**16 25 33.8**	**+1.2**
FSA				*i* S	**Sn**	**16 26 03.5**	**+0.7**
YJA	**Yavi**	**2.41**	**33**	*e*P	**Pn**	**16 25 37.8**	**+1.3**
YJA				*i* S	**Sn**	**16 26 10.8**	**+1.2**
AHML	**Horco Molle**	**2.95**	**151**	*e*P	**Pn**	**16 25 44.0**	**+1.8**
AHML				IAML		16 25 45.0	
	comp=Z,168nm,0.6s						
AHML				*i* S	**Sn**	**16 26 21.6**	**+1.4**
PB14	**IPOC Station P**	**3.18**	**262**	*e*P	**Pn**	**16 25 47.6**	**+2.3**
PB14				*i* S	**Sn**	**16 26 26.3**	**+0.7**
PB10	**IPOC Station P**	**3.38**	**281**	*e*Pn	**Pn**	**16 25 49.5**	**+2.1**
PB10	**IPOC Station P**	**3.38**	**281**	*i* P	**Pn**	**16 25 49.5**	**+2.1**
PB10				eS	**Sn**	**16 26 30.3**	**+0.9**
PB04	**IPOC Station P**	**3.49**	**302**	*e*Pn	**Pn**	**16 25 50.5**	**+1.5**
PB01	**IPOC Station P**	**3.93**	**323**	*e*Pn	**Pn**	**16 25 55.1**	**+0.7**
CYA	**Choya**	**4.34**	**167**	*i* P	**Pn**	**16 26 01.8**	**+2.4**
CYA				IAML		16 26 02.9	
	comp=Z,56nm,0.4s						
CYA				*i* S	**Sn**	**16 26 51.8**	**+0.6**
VCA	**Vinchina**	**4.65**	**194**	*e*P	**Pn**	**16 26 07.0**	**+3.4**
VCA				*i* S	**Sn**	**16 27 01.9**	**+3.4**
VCA				IAML		16 27 08.5	
	comp=Z,51nm,0.3s						
PB11	**IPOC Station P**	**5.09**	**330**	*e*Pn	**Pn**	**16 26 08.7**	**-0.6**
AGUA	**GUANDACOL**	**5.44**	**194**	*e*P	**Pn**	**16 26 15.6**	**+2.0**
AGUA				eS	**Sn**	**16 27 16.7**	**0.0**
MNMC	**Minye Minye**	**5.62**	**333**	*e*Pn	**Pn**	**16 26 16.1**	**-0.1**
LCO	**Las Campanas**	**5.85**	**214**	*e*Pn	**Pn**	**16 26 19.6**	**+0.5**
LCO	**Las Campanas**	**5.85**	**214**	*e*P	**Pn**	**16 26 19.6**	**+0.5**
LCO				*e*S	Sn	16 27 20.6	-5.9
APLL	**PUNTA DE LOS L**	**6.17**	**177**	*e*P	**Pn**	**16 26 23.3**	**+0.1**
APLL				*e*S	**Sn**	**16 27 30.7**	**-3.1**
APLL				IAML		16 27 32.9	
	comp=Z,96nm,0.7s						
AMOG	**MOGNA**	**6.84**	**191**	*e*P	**Pn**	**16 26 32.2**	**+0.3**
AMOG				*i* S	**Sn**	**16 27 46.6**	**-3.0**
RTLL	**Cerro Villicun**	**7.22**	**190**	*i* P	**Pn**	**16 26 38.7**	**+1.8**
RTLL				*e*S	**Sn**	**16 27 56.3**	**-2.3**
RTLL				IAML		16 28 00.1	
	comp=Z,70nm,0.6s						
RTCV	**Cerro Valdivia**	**7.76**	**190**	*e*P	**Pn**	**16 26 43.9**	**+0.1**
RTCV				*e*S	**Sn**	**16 28 06.7**	**-4.5**
RTLS	**Leoncito**	**7.84**	**195**	*e*P	**Pn**	**16 26 46.6**	**+1.4**
RTLS				*e*S	**Sn**	**16 28 11.9**	**-1.7**
RTLS				IAML		16 28 14.1	
	comp=Z,25nm,0.7s						
LPAZ	**La Paz**	**7.96**	**352**	P	**Pn**	**16 26 47.3**	**+0.2**
	comp=Z,4.6nm,0.3s,baz=124,slow=4.8,SNR=128						
LPAZ				S	**Sn**	**16 28 14.7**	**-2.4**
	comp=Z,0.3nm,0.3s,baz=288,slow=20,SNR=3.6						
LPAZ	**La Paz**	**7.96**	**352**	*e*Pn	**Pn**	**16 26 46.5**	**-0.7**
LPAZ				S	**Sn**	**16 28 14.7**	**-2.4**
LPAZ	**La Paz**	**7.96**	**352**	*i* P	**Pn**	**16 26 47.3**	**+0.2**
LPAZ				*e*S	**Sn**	**16 28 14.5**	**-2.6**
ACAN	**Cantantal**	**8.04**	**181**	*e*P	**Pn**	**16 26 47.1**	**-0.5**
ACAN				*e*S	**Sn**	**16 28 11.4**	**-6.6**
AUSP	**Uspallata**	**8.27**	**195**	*e*P	**Pn**	**16 26 52.7**	**+1.9**
AUSP				*e*S	**Sn**	**16 28 19.9**	**-4.0**
ASAL	**Salagasta**	**8.52**	**191**	*e*P	**Pn**	**16 26 54.2**	**+0.4**
ASAL				*e*S	**Sn**	**16 28 24.7**	**-4.7**
ARCO	**CERRO ARCO**	**8.78**	**191**	*e*P	**Pn**	**16 26 57.9**	**+0.6**
ARCO				*e*S	**Sn**	**16 28 31.1**	**-4.6**
ARCO				IAML		16 28 37.1	
	comp=Z,24nm,0.6s						
CPUP	**Villa Florida**	**8.95**	**106**	P	**Pn**	**16 26 57.8**	**-1.8**
	comp=Z,0.2nm,0.3s,baz=305,slow=11,SNR=5.8						
CPUP	**Villa Florida**	**8.95**	**106**	*e*Pn	**Pn**	**16 26 58.1**	**-1.4**
AAGR	**Agrelo**	**9.00**	**190**	*e*P	**Pn**	**16 27 00.6**	**+0.5**
AAGR				*e*S	Sn	16 28 25.4	-15
ROC1	**El Roble**	**9.44**	**201**	*e*Pn	**Pn**	**16 27 05.8**	**-0.3**
ROC1	**El Roble**	**9.44**	**201**	*i* P	**Pn**	**16 27 05.7**	**-0.3**
ROC1				*e*S	Sn	16 28 12.3	-39
SIV	**San Ignacio**	**9.86**	**35**	P	**Pn**	**16 27 09.0**	**-2.5**
	comp=Z,2.0nm,0.3s,baz=228,slow=10,SNR=33						
RFA	**San Rafael**	**10.61**	**187**	*i* P	**Pn**	**16 27 19.7**	**-1.3**
RFA				IAML		16 27 21.5	
	comp=Z,36nm,0.3s					

MIAR	Mount Ida baz=153	63.67	336	P	P	16 35 04.2	-0.7
X39A	Fountain Ranch baz=152	63.84	335	P	P	16 35 05.9	-0.1
TXAR	Lajitas Array comp=Z,1.1nm,0.7s,baz=149,slow=7.2,SNR=11	63.88	324	P	P	16 35 07.5	+1.0
TX31	Lajitas Ar. Si	63.88	324	eP	P	16 35 07.2	+0.7
T46A	Princeton baz=159	64.04	341	P	P	16 35 06.3	-0.9
W40A	Ferguson Farm, baz=153	64.06	336	P	P	16 35 07.5	+0.2
V41A	Mountainview baz=154	64.26	337	P	P	16 35 08.3	-0.5
W39A	Magazine baz=153	64.32	336	P	P	16 35 09.8	+0.7
U42A	Revenden baz=155	64.46	338	P	P	16 35 09.5	-0.5
V40A	Witts Springs baz=154	64.51	337	P	P	16 35 09.9	-0.5
U41A	Viola baz=155	64.68	338	P	P	16 35 10.8	-0.6
WCI	Wyandotte Cave baz=160	64.71	343	P	P	16 35 10.6	-0.9
T43A	Greenville baz=156,SNR=12	64.81	340	P	P	16 35 11.5	-0.7
V39A	Pettigrew baz=153,SNR=6.4	64.84	336	P	P	16 35 12.6	0.0
U40A	Yellville baz=154	65.02	337	P	P	16 35 13.1	-0.5
T42A	Van Buren baz=156	65.02	339	P	P	16 35 12.3	-1.3
S43A	Fulton Ridge, baz=157,SNR=5.3	65.19	340	P	P	16 35 13.4	-1.3
T41A	Mountain View baz=155	65.26	338	P	P	16 35 14.2	-1.0
U39A	Green Forest baz=153,SNR=5.6	65.27	337	P	P	16 35 14.6	-0.6
HHAR	Hobbs comp=Z,7.8nm,0.8s	65.35	336	eP	P	16 35 16.3	+0.6
S42A	Caledonia baz=156,SNR=6.5	65.60	339	P	P	16 35 16.4	-0.9
T40A	Mansfield baz=154	65.61	338	P	P	16 35 16.9	-0.5
S41A	Jillco Farms, baz=155,SNR=9.6	65.75	339	P	P	16 35 17.9	-0.4
T39A	Clever baz=153	65.80	337	P	P	16 35 18.4	-0.2
QSPA	South Pole Qui comp=Z,2.8nm,0.5s,baz=191,slow=5.2,SNR=23	66.00	180	P	P	16 35 21.3	+1.5
CCM	Cathedral Cave baz=156	66.01	339	P	P	16 35 19.3	-0.6
CCM	Cathedral Cave comp=Z,14nm,0.8s	66.01	339	eP	P	16 35 18.8	-1.1
S40A	Lebanon baz=154	66.01	338	P	P	16 35 19.9	-0.1
R42A	Luebbering baz=156	66.07	340	P	P	16 35 19.7	-0.6
T38A	Diamond baz=153,SNR=8.1	66.14	336	P	P	16 35 20.4	-0.4
R41A	Rosebud baz=156,SNR=7.5	66.27	339	P	P	16 35 20.9	-0.7
S39A	Bolivar baz=154,SNR=9.9	66.38	337	P	P	16 35 22.0	-0.3
S38A	Stockton baz=153,SNR=6.4	66.53	337	P	P	16 35 23.3	+0.1
R40A	Maddies Statio baz=155	66.56	338	P	P	16 35 22.6	-0.8
Q42A	Golden Eagle baz=156	66.56	340	P	P	16 35 22.9	-0.5
O47A	Sheridan baz=161	66.57	344	P	P	16 35 22.3	-1.2
MNTX	Cornudas Mount baz=142	66.65	325	P	P	16 35 24.3	+0.2
MNTX	Cornudas Mount comp=Z,4.6nm,1.0s	66.65	325	eP	P	16 35 23.9	-0.3
Q41A	Truxton baz=156	66.82	340	P	P	16 35 24.4	-0.7
R39A	Chumby, Stover baz=154	66.84	338	P	P	16 35 24.6	-0.6
R38A	Fenwick Farm, baz=153	67.03	337	P	P	16 35 25.7	-0.7
MSTX	Muleshoe baz=144	67.14	328	P	P	16 35 27.6	+0.2
P41A	Barry, Barry baz=156	67.42	340	P	P	16 35 28.2	-0.6
Q39A	Willow Grove F baz=154,SNR=6.7	67.48	338	P	P	16 35 28.9	-0.3
P40A	Paris baz=155	67.61	339	P	P	16 35 29.7	-0.2
Q38A	Cooks Store, C baz=154,SNR=5.8	67.62	338	P	P	16 35 30.0	-0.1
P39B	Salisbury baz=154	67.80	339	P	P	16 35 30.5	-0.7
N43A	Stutzman Famil baz=158	68.03	342	P	P	16 35 31.6	-1.0
O40A	La Belle baz=155	68.09	340	P	P	16 35 32.4	-0.6
N42A	Yates City baz=157	68.17	341	P	P	16 35 32.7	-0.8
P38A	Dawn baz=154,SNR=5.3	68.19	338	P	P	16 35 33.0	-0.5
N41A	Harden Midland baz=156	68.31	341	P	P	16 35 33.5	-0.8
O39A	Kirksville baz=155	68.42	339	P	P	16 35 34.6	-0.5
P37A	Lathrop baz=153	68.43	338	P	P	16 35 35.0	-0.1
319A	Douglas comp=Z,5.5nm,0.6s	68.53	322	eP	P	16 35 37.1	+1.1
121A	Cookes Peak, D baz=140	68.58	324	P	P	16 35 37.9	+1.5
N40A	Mertquake, Sal baz=156	68.69	340	P	P	16 35 35.9	-0.8
N39A	Derby Farms, D baz=155	68.97	339	P	P	16 35 38.0	-0.4
L43A	Garden Prairie baz=159	69.06	343	P	P	16 35 38.4	-0.6
M40A	Post Highland baz=159	69.14	340	P	P	16 35 38.6	-0.8
N37A	Lee Faris, Mou baz=153	69.43	338	P	P	16 35 40.6	-0.6
L40A	Anamosa baz=156	69.66	341	P	P	16 35 41.9	-0.7
M38A	Pleasantville baz=154	69.69	339	P	P	16 35 42.2	-0.6
ANMO	Albuquerque baz=142	69.75	326	P	P	16 35 44.6	+1.0
ANMO	Albuquerque comp=Z,2.9nm,0.8s	69.75	326	eP	P	16 35 44.5	+1.0
K41A	Shullsburg baz=157	69.89	342	P	P	16 35 43.4	-0.7
L39A	Vinton baz=156	69.95	340	P	P	16 35 43.2	-1.2
M37A	Trindle Farm, baz=154	69.96	339	P	P	16 35 44.7	+0.2
TUC	Tucson baz=138	70.08	321	P	P	16 35 46.9	+1.4
JFWS	Jewell Farm baz=157	70.16	342	P	P	16 35 45.4	-0.2
K40A	Colesburg baz=156	70.22	341	P	P	16 35 45.5	-0.5
L38A	Oak Wood Farm, baz=155	70.26	340	P	P	16 35 45.1	-1.2
K39A	Oelwein baz=156	70.44	341	P	P	16 35 46.4	-1.0
T25A	Trinidad baz=144	70.49	329	P	P	16 35 49.1	+1.1
T25A	Trinidad comp=Z,13nm,1.4s	70.49	329	eP	P	16 35 49.2	+1.1
L37A	Phoenix Point, baz=154	70.50	339	P	P	16 35 46.5	-1.3
J41A	Loganville baz=158	70.51	342	P	P	16 35 47.1	-0.7
MHTCO	State Highway comp=Z,12nm,1.3s	70.61	329	eP	P	16 35 48.6	-0.2
J40A	Soldiers Grove baz=157	70.74	342	P	P	16 35 48.7	-0.4
J39A	Decorah baz=156	70.97	341	P	P	16 35 49.1	-1.4
K37A	Belmond baz=154	71.04	340	P	P	16 35 50.2	-0.8
K36A	Gilmore City baz=153	71.19	339	P	P	16 35 51.7	-0.2
I39A	Houston baz=156	71.39	341	P	P	16 35 52.5	-0.5
BGNE	Belgrade baz=150	71.41	336	P	P	16 35 53.9	+0.6
SDCO	Great Sand Dun	71.49	329	P	P	16 35 55.5	+1.4
	baz=143,SNR=5.4						
K35A	Storm Lake baz=153	71.53	338	P	P	16 35 53.9	0.0
J36A	Seneca 1, Swea baz=154	71.77	339	P	P	16 35 54.6	-0.7
I38A	Scanlan Farm, baz=156	71.79	341	P	P	16 35 55.0	-0.4
I37A	Lemond, Waseca baz=154	72.09	340	P	P	16 35 57.2	0.0
H37A	Dierke Farm, C baz=155	72.46	341	P	P	16 35 59.7	+0.3
F41A	Three Lakes baz=159	72.47	344	P	P	16 35 58.9	-0.6
KOWA	Kowa comp=Z,1.2nm,0.4s,baz=282,slow=9.3,SNR=5.0	72.48	65	P	P	16 35 59.0	-1.2
J33A	Davis baz=151	72.65	338	P	P	16 36 00.1	-0.4
H36A	Jessenland, He baz=154	72.77	340	P	P	16 36 00.9	-0.3
WUAZ	Wupatki baz=138	72.78	323	P	P	16 36 03.6	+1.8
ECSD	EROS Data Cent baz=152	72.89	338	P	P	16 36 01.8	-0.2
F40A	Park Falls baz=158	72.90	343	P	P	16 36 01.8	-0.2
J32A	Parkston baz=150	73.01	337	P	P	16 36 02.3	-0.3
H35A	Sunnyside Ranc baz=153	73.16	340	P	P	16 36 03.2	-0.3
SMCO	Snowmass comp=Z,2.7nm,0.8s	73.33	329	eP	P	16 36 07.2	+2.0
E40A	Wakefield baz=158	73.33	344	P	P	16 36 04.7	+0.2
F38A	Pierce - Schro baz=156	73.42	342	P	P	16 36 05.2	+0.3
E39A	Mellen baz=157	73.44	343	P	P	16 36 05.4	+0.2
D41A	Chassel baz=159	73.58	345	P	P	16 36 06.7	+0.8
BC3	Big Chuckawall baz=134	73.76	319	P	P	16 36 09.4	+1.9
H33A	Prehn Over Nor baz=152	73.77	338	P	P	16 36 07.7	+0.6
F36A	Milaca baz=155	73.80	341	P	P	16 36 06.9	-0.3
H32A	Carlson Farm, baz=151	73.85	338	P	P	16 36 07.7	+0.1
U15A	North Rim comp=Z,4.4nm,0.9s	73.95	323	eP	P	16 36 11.2	+2.5
E36A	McGregor baz=155	74.32	341	P	P	16 36 10.1	-0.2
KNB	Kanab comp=Z,12nm,1.1s	74.67	323	eP	P	16 36 13.2	+0.5
GMRC	Grande Mounta baz=135	74.68	320	P	P	16 36 14.7	+2.0
O20A	White River Ci baz=141	74.69	328	P	P	16 36 14.6	+1.9
SRU	San Rafael Swe comp=Z,3.4nm,0.7s	75.02	326	eP	P	16 36 15.4	+0.7
HEC	Hector,Ludlow baz=134	75.10	320	P	P	16 36 17.2	+2.1
TUQ	Turquoise Moun baz=134	75.29	320	P	P	16 36 17.9	+1.6
F31A	Hecla baz=150	75.32	338	P	P	16 36 15.4	-0.5
RSSD	Black Hills baz=145	76.02	333	P	P	16 36 20.9	+0.6
RSSD	Black Hills comp=Z,5.3nm,1.0s	76.02	333	eP	P	16 36 20.9	+0.6
B35A	Bob, Littlefor baz=155	76.12	342	P	P	16 36 20.2	-0.2
TPNV	Topopah Spring baz=134	76.53	321	P	P	16 36 25.2	+1.9
TPNV	Topopah Spring comp=Z,6.0nm,1.1s	76.53	321	eP	P	16 36 25.7	+2.4
TOA0	Torodi Ar. Sit	76.59	69	eP	P	16 36 21.8	-2.0
TORD	Torodi Ar. Bea comp=Z,1.4nm,0.4s,baz=260,slow=5.7,SNR=26	76.59	69	P	P	16 36 22.4	-1.4
MPMC	Manual Prospec baz=134	76.63	320	P	P	16 36 23.9	0.0
ISA	Isabella, Lake baz=133	76.95	319	P	P	16 36 27.5	+2.0
A33A	Warroad baz=153	77.12	341	P	P	16 36 26.2	+0.1
R11A	Troy Canyon, C baz=135	77.15	323	P	P	16 36 28.8	+2.1
CWC	Cottonwood Cre baz=133	77.24	320	P	P	16 36 29.0	+1.7
PDAR	Pinedale Array comp=Z,0.8nm,0.7s,baz=130,slow=8.1,SNR=6.3	77.35	329	P	P	16 36 28.8	+1.0
ULM	Lac du Bonnet comp=Z,2.8nm,0.3s,baz=166,slow=7.3,SNR=6.6	78.44	342	P	P	16 36 33.4	+0.1
LOHW	Long Hollow comp=Z,2.3nm,0.9s	78.49	329	eP	P	16 36 34.5	+0.5
NVAR	Mina Array Bea comp=Z,0.9nm,0.8s,baz=156,slow=6.2,SNR=7.0	78.73	321	P	P	16 36 36.8	+1.3
DGMT	Dagmar baz=146	79.67	336	P	P	16 36 41.0	+0.9
HLID	Hailey baz=137	80.29	327	P	P	16 36 45.1	+1.4
HLID	Hailey comp=Z,6.9nm,0.8s	80.29	327	eP	P	16 36 45.0	+1.2
BOZ	Bozeman (W) baz=139	80.48	330	P	P	16 36 45.7	+1.1
BOSA	Boshof comp=Z,0.7nm,0.3s,baz=218,slow=3.6,SNR=6.4	80.59	117	P	P	16 36 45.5	-0.2
MAW	Mawson comp=Z,1.9nm,0.5s,baz=196,slow=8.6,SNR=6.7	81.22	163	P	P	16 36 49.1	+1.0
MOD	Moc Plateau comp=Z,8.9nm,1.3s	82.22	323	eP	P	16 36 54.6	+0.7
J08A	Circle Bar Ran comp=Z,4.9nm,0.8s	82.22	325	eP	P	16 36 55.0	+1.2
M04C	Macdoel baz=131	82.99	322	P	P	16 36 58.9	+1.1
YBH	Yreka Blue Hor comp=Z,1.7nm,0.9s,baz=124,slow=11,SNR=3.5	83.45	321	P	P	16 37 00.8	+0.7
PINE	Pine Mountain comp=Z,5.9nm,0.8s	83.83	324	eP	P	16 37 03.4	+1.2
ESDC	Sonseco Array comp=Z,1.7nm,0.9s,baz=242,slow=4.2,SNR=6.3	86.51	44	P	P	16 37 15.0	-0.4
YKA	Yellowknife Ar comp=Z,1.4nm,0.6s,baz=132,slow=4.5,SNR=39	94.34	340	P	P	16 37 51.1	-0.1
KBZ	Khabaz comp=Z,0.9nm,0.7s,baz=211,slow=5.9,SNR=3.3	120.36	52	PKP	PKPdf	16 43 22.4	0.0
ASAR	Alice Springs comp=Z,1.5nm,0.7s,baz=131,slow=1.9,SNR=24	128.29	205	PKP	PKPdf	16 43 38.6	+0.2
AKTO	Aktyubinsk comp=Z,1.0nm,0.6s,baz=338,slow=5.4,SNR=3.1	130.40	43	PKP	PKPdf	16 43 40.8	-0.7
WRA	Warramunga Arr comp=Z,1.0nm,0.4s,baz=156,slow=1.8,SNR=38	131.47	207	PKP	PKPdf	16 43 44.5	0.0
WRA				SKPbc	SKPbc	16 46 52.1	0.0
PETK	comp=Z,1.3nm,0.8s,baz=157,slow=3.8,SNR=7.0 Petropavlovsk-	135.81	323	PKP	PKPdf	16 43 53.4	+1.8
BVAR	comp=Z,1.7nm,0.7s,baz=76,slow=3.2,SNR=7.0 Borovoye Array	136.93	37	PKP	PKPdf	16 43 54.8	+1.2
KURBB	comp=Z,1.2nm,0.8s,baz=11,slow=1.5,SNR=4.7 Kurchatov Arra	142.51	36	PKP	PKPdf	16 44 04.9	+1.1
KURK	comp=Z,0.3nm,0.3s,baz=147,slow=2.2,SNR=9.6 Kurchatov	142.51	36	PKP	PKPdf	16 44 04.9	+1.1
ZALV	Zalesovo Beam comp=Z,5.2nm,0.7s,baz=286,slow=5.0,SNR=24	143.55	28	PKP	PKPbc	16 44 03.5	+0.1
MKAR	Makanchi Array comp=Z,6.7nm,0.6s,baz=320,slow=2.3,SNR=56	146.65	40	PKPbc	PKPdf	16 44 11.9	+0.8
LEM	Lembang comp=Z,13nm,0.5s,baz=322,slow=19,SNR=6.1	148.70	170	PKPbc	PKPbc	16 44 21.0	+1.3
MJAR	Matsushiro Arr comp=Z,9nm,1.0s,baz=70,slow=2.2,SNR=6.9	155.14	305	PKPab	PKPab	16 44 51.2	+1.1
SONM	Songino Array comp=Z,0.6nm,0.7s,baz=349,slow=0.8,SNR=4.3	155.83	11	PKP	PKPdf	16 44 26.2	+1.0
SONM				PKPab	PKPab	16 44 52.8	0.0
	comp=Z,0.7nm,0.9s,baz=306,slow=3.4,SNR=5.3						

*ISCJB **28** 16:26:00.6±1.5, 37.04N±0.06×142.6E±0.1, h9km, mb3.6/4, MS4.2/1, Error ellipse: s-maj=15.1km s-min=6.4km az=23.7*

*JMA **28** 16:26:01.5±0.3, 37.04N×142.73E, h33km, M3.0*

*IDC **28** 16:26:05.8±1.5, 37.62N×142.02E, h0km, mb3.6/4, mb1 3.6/6, mb1mx3.3/64, mbtmpb3.4/6, ML3.0/2, MS3.3/2, Ms1 3.3/2, ms1mx2.6/60, Error ellipse: s-maj=35.1km s-min=22.1km az=75.0*

ISC 28 16:26:01.2±1.9, 37.22N±0.07×142.6E±0.1, h9km, n21, σ1s05/21, mb3.7/4, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFK	Kawauchi	1.36	277	P	Pg	16 26 27.3	0.0
ONAJ	Iwakimizuishiy	1.42	266	P	Pb	16 26 27.7	-0.2
JMM	Marumori	1.55	295	P	Pg	16 26 30.5	-0.5
JIO	Ouri	1.57	322	P	Pg	16 26 31.3	0.0
JIO				eS	Sg	16 26 53.3	+1.6
JHO	Hitachi	1.71	250	P	Pn	16 26 31.1	-0.1
JHO				S	Sn	16 26 52.8	-0.4
JFT	Otama	1.80	280	P	Pb	16 26 34.4	0.0
JMK	Ichinoseki	2.03	329	P	Pb	16 26 38.1	-0.2
JMK				S	Sg	16 27 05.4	-1.2
JYK	Kaneyama	2.44	315	P	Pb	16 26 44.0	-1.2
JOM	Ohasama	2.47	336	P	Pb	16 26 44.3	-1.4
JAG	Ashikaga	2.62	253	P	Pn	16 26 44.3	+0.6
JRY	Ryogami san	3.18	249	P	Pn	16 26 51.7	+0.2
JOD	Odawara 2	3.42	236	S	Sn	16 27 32.8	-2.6
MJAR	Matsushiro Arr 0.7nm,0.3s,baz=60,slow=9.3,SNR=18	3.56	260	Pn	Pn	16 26 57.9	+1.2
MJAR				Sn	Sn	16 27 38.8	0.0
JYN	Shimob 0.4nm,0.3s,baz=74,slow=29,SNR=4.1	3.67	243	P	Pn	16 26 59.0	+0.8
ASAJ	Asahikawa 0.4nm,0.3s,baz=246,slow=20,SNR=9.5	6.89	0	Pn	Pn	16 27 43.6	+1.2
KSRS	Korea Array comp=Z,28nm,21.3s,baz=337,slow=37	11.66	276	LR	LR	16 33 01.3	
SONM	Songino Array 0.3nm,0.4s,baz=96,slow=10,SNR=2.9	28.45	303	P	P	16 31 56.5	0.0
KURBB	Kurchatov Arra 0.6nm,0.5s,baz=85,slow=8.1,SNR=3.2	46.62	308	P	P	16 34 30.5	+0.9
WRA	Warramunga Arr 0.3nm,0.3s,baz=7.4,slow=7.3,SNR=4.4	57.38	189	P	P	16 35 58.0	+8.1
ASAR	Alice Springs 0.4nm,0.8s,baz=13,slow=9.0,SNR=6.4	61.10	189	P	P	16 36 24.4	+8.7
PPT	Papeete comp=Z,105nm,20.9s,baz=163,slow=33	83.89	117	LR	LR	17 12 54.0	

IDC 28 16:39:49.0±2.1, 8.96N×94.11E, h0km, mb3.5/4, mb1 3.6/4, mb1mx3.2/69, mbtmp3.5/4, Error ellipse: s-maj=100.0km s-min=26.5km az=53.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	Makanchi Array 0.2nm,0.5s,baz=168,slow=7.4,SNR=2.6	39.03	347	P	P	16 47 16.7	-0.8
GEYT	Alibeck 0.9nm,0.4s,baz=101,slow=7.5,SNR=3.9	43.38	317	P	P	16 47 53.5	+0.1
ZALV	Zalesovo Beam 0.9nm,0.6s,baz=166,slow=7.6,SNR=5.2	45.48	352	P	P	16 48 10.3	+0.4
WRA	Warramunga Arr 0.1nm,0.6s,baz=300,slow=10,SNR=2.8	48.92	126	P	P	16 48 37.2	-0.1

IDC 28 16:52:06.8±6.1, 40.56S×43.66E, h0km, mb3.6/2, mb1 3.8/2, mb1mx3.2/52, mbtmpb3.6/2, MS3.5/2, Ms1 3.5/2, ms1mx3.0/36, Error ellipse: s-maj=962.0km s-min=51.4km az=8.0, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LBTB	Lobatse comp=Z,94nm,20.1s,baz=188,slow=30	21.64	310	LR	LR	17 03 06.7	
LSZ	Lusaka comp=Z,117nm,19.8s,baz=196,slow=35	28.57	327	LR	LR	17 08 49.3	
ASAR	Alice Springs 0.2nm,0.7s,baz=216,slow=4.6,SNR=3.7	75.19	108	P	P	17 03 52.1	+0.7
WRA	Warramunga Arr 0.8nm,0.8s,baz=225,slow=4.8,SNR=5.5	77.81	106	P	P	17 04 05.6	-0.7
TXAR	Lajitas Array 0.5nm,0.8s,baz=149,slow=5.3,SNR=5.3	151.13	257	PKPbc	PKPbc	17 12 01.8	-0.2

WEL 28 17:05:23.9±1.7, 37°S±12'×18°0E±1°7, h25km±32km, ML3.7/24, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	Matakaoa Point	1.43	238	P	Pn	17 05 47.6	-0.6
MXZ	Matakaoa Point	1.43	238	S	Sn	17 06 06.8	+0.5
WMGZ	Waiomatatini S	1.51	228	P	Pn	17 05 49.8	+0.4
PKGZ	Pakihiroa	1.77	232	P	Pn	17 05 52.8	-0.1
PUZ	Puketiti	1.78	225	P	Pn	17 05 53.1	+0.1
HAZ	Te Kaha	1.89	240	P	Pn	17 05 54.8	+0.3
TWGZ	Tauwhareparae	2.01	227	P	Pn	17 05 56.5	+0.3
RUGZ	Raukumara Rang	2.07	236	P	Pn	17 05 57.8	+0.7
CNGZ	Carnagh Statio	2.11	217	P	Pn	17 05 58.5	+1.0
MWZ	Matawai	2.38	230	P	Pn	17 06 01.0	-0.3
MWZ	Matawai	2.38	230	P	Pn	17 06 01.0	-0.3
RIGZ	Rimuhau	2.50	220	P	Pn	17 06 02.9	-0.1
URZ	Urewera	2.60	236	P	Pn	17 06 04.3	0.0
URZ	Urewera	2.60	236	P	Pn	17 06 04.3	0.0
PRGZ	Paritu Road	2.61	216	P	Pn	17 06 04.5	0.0
SNGZ	Shannon Statio	2.79	224	P	Pn	17 06 06.4	-0.5
MHGZ	Mahia Peninsul	2.79	213	P	Pn	17 06 07.4	+0.5
OPRZ	Ohinepanea	2.81	248	P	Pn	17 06 07.8	+0.6
RTZ	Ruatahuna	2.89	231	P	Pn	17 06 08.9	+0.5
MUGZ	Murupara	2.94	235	P	Pn	17 06 08.9	-0.2
KARZ	Kaharoa	3.10	246	P	Pn	17 06 12.1	+0.8
HLRZ	Highlands Stat	3.12	242	P	Pn	17 06 12.1	+0.6
MTHZ	Maungataniwha	3.12	229	P	Pn	17 06 11.6	+0.1
ARHZ	Aropaoanui	3.32	222	P	Pn	17 06 13.8	-0.3
MRHZ	Matea Rd	3.38	232	P	Pn	17 06 14.8	-0.3
BKZ	Black Stump Fm	3.53	227	P	Pn	17 06 16.5	-0.7
MKAZ	Moumakai	3.76	264	P	Pn	17 06 20.3	+0.1
MKAZ	Moumakai	3.76	264	S	Sn	17 07 03.0	-0.6
WIAZ	Waiheke Island	3.77	269	P	Pn	17 06 21.1	+0.6
KAHZ	Kahuranaki	3.78	217	P	Pn	17 06 19.1	-1.4
KAHZ	Kahuranaki	3.78	217	S	Sn	17 07 06.1	+1.9
KRHZ	Kereru	3.93	223	P	Pn	17 06 21.6	-1.0
ETAZ	East Tamaki Re	3.94	267	P	Pn	17 06 23.3	+0.6
BHHZ	Black Hill Sta	4.00	227	P	Pn	17 06 23.0	-0.6
RVAZ	Riverhead Bore	4.22	269	P	Pn	17 06 28.3	+1.7
HIZ	Hauiti	4.30	245	P	Pn	17 06 28.8	+1.1
TSZ	Takapari Road	4.44	222	P	Pn	17 06 27.4	-2.3

*NAO **28** 17:11:57.6±2.1, 73.00N×6.05E, ML3.4*

*CSEM **28** 17:11:58.3±0.2, 73.04N×6.29E, h2km, mb4.3/10, Error ellipse: s-maj=7.6km s-min=4.7km az=79.0*

*ISCJB **28** 17:11:58.0±0.3, 72.98N±0.03×6.4E±0.1, h11km, mb4.0/27, MS3.3/12, Error ellipse: s-maj=5.7km s-min=4.3km az=161.6*

*IDC **28** 17:11:58.3±0.6, 72.99N×5.72E, h0km, mb3.6/14, mb1 3.8/21, mb1mx3.6/74, mbtmp3.7/21, ML3.6/7, MS3.2/16, Ms1 3.2/16, ms1mx3.0/67, Error ellipse: s-maj=16.5km s-min=11.2km az=45.0*

*NEIC **28** 17:11:59.5±0.4, 73.03N×6.13E, h10km, mb4.3/10, Error ellipse: s-maj=9.6km s-min=6.4km az=69.0*

*BER **28** 17:12:00.5±3.3, 73.02N×5.90E, h10km, ML2.7, ML3.4(NAO)*

ISC 28 17:11:59.7±0.5, 72.95N±0.05×6.08E±0.06, h11km, n105, σ2s44/107, mb4.0/27, MS3.2/12, Norwegian Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BJO	Bjornoya	4.00	61	eP	Pn	17 12 58.6	-2.1
HSPB	Hornsund (broa	4.75	27	eP	Pn	17 13 08.5	-2.5
HSP	Hornsund	4.76	27	Pn	Pn	17 13 08.7	-2.6
JMIC	Jan Mayen 14nm,0.3s,baz=66,slow=3.6,SNR=6.9	4.94	254	Pn	Pn	17 13 12.2	-1.5
TRO	Tromso	5.30	123	eP	Pn	17 13 19.3	+0.7
TRO				eS	Sn	17 14 16.1	-3.5
TRO	comp=Z,16nm,0.6s			IAML		17 14 20.0	
LOF	Lofoten	5.44	149	eP	Pn	17 13 22.2	+1.7
LOF				eS	Sn	17 14 18.4	-4.6
SPA0	Spitsbergen Ar baz=227,slow=16	5.84	21	Pn	Pn	17 13 23.9	-2.2
SPA0	Spitsbergen Ar	5.84	21	ePn	Pn	17 13 23.6	-2.5
SPA0	Spitsbergen Ar baz=227,slow=16	5.84	21	Pn	Pn	17 13 23.9	-2.2
SPITS	Spitsbergen Ar baz=236,slow=12,SNR=63	5.84	21	Pn	Pn	17 13 23.6	-2.5
SPITS				LR	LR	17 15 19.0	
STEI	comp=Z,110nm,19.3s,baz=215,slow=34 Steigen	5.90	144	eP	Pn	17 13 28.0	+1.2
HAMF	Hammerfest	5.97	104	eP	Pn	17 13 27.0	-0.9
HAMF				eS	Sn	17 14 31.7	-4.4
KBS	Kingsbay	6.18	11	Pn	Pn	17 13 27.8	-2.8
KBS	Kingsbay	6.18	11	ePn	Pn	17 13 26.8	-3.9
KBS	Kingsbay	6.18	11	eP	Pn	17 13 28.8	-1.9
KONS	Konsvik	6.92	156	eP	Pn	17 13 40.6	-0.2
KONS				eS	Sn

STOK	**Stokkvaagen**	**7.07**	**157**	*e*P		**Pn**	**17 13 43.3**	**+0.5**
STOK				*e*S		Sn	17 14 54.1	-8.9
STOK				IAML			17 15 04.4	
	comp=Z,12nm,0.6s							
ARA0	**ARCESS Array S**	**7.12**	**109**	Pn		**Pn**	**17 13 43.7**	**+0.2**
	baz=304,slow=12							
ARA0				Sn		**Sn**	**17 15 00.8**	**-3.4**
	baz=320,slow=22							
ARA0	**ARCESS Array S**	**7.12**	**109**	Pn		**Pn**	**17 13 43.7**	**+0.2**
	baz=304,slow=12							
ARA0				Sn		**Sn**	**17 15 00.8**	**-3.4**
	baz=320,slow=22							
ARCES	**ARCESS Array B**	**7.12**	**109**	Pn		**Pn**	**17 13 44.5**	**+0.9**
	comp=Z,1.4nm,0.3s,baz=319,slow=11,SNR=54							
ARCES				Sn		**Sn**	**17 15 01.1**	**-3.2**
	comp=Z,0.8nm,0.3s,baz=313,slow=20,SNR=3.5							
ARCES	**ARCESS Array B**	**7.12**	**109**	*e*Pn		**Pn**	**17 13 44.4**	**+0.9**
ARCES				*e*Sn		**Sn**	**17 15 01.4**	**-2.8**
ARE0	**ARCESS Array S**	**7.12**	**109**	*e*Pn		**Pn**	**17 13 43.5**	**0.0**
ARE0				*e*Sn		**Sn**	**17 15 01.6**	**-2.7**
ARE0	**ARCESS Array S**	**7.12**	**109**	*e*P		**Pn**	**17 13 44.6**	**+1.0**
MOR8	**Moi Rana**	**7.40**	**153**	*e*P		**Pn**	**17 13 48.6**	**+1.1**
MOR8				*e*S		**Sn**	**17 15 05.0**	**-6.3**
MOR8				IAML			17 15 09.9	
	comp=Z,12nm,0.5s							
KEV	**Kevo**	**7.41**	**105**	*e*Pn		**Pn**	**17 13 46.8**	**-0.7**
KEV				*e*Sn		**Sn**	**17 15 05.6**	**-5.7**
DAG	**Danmarks Havn**	**7.47**	**312**	*i* P		Pn	17 13 43.3	-5.1
DAG				*i* S		Sn	17 14 57.1	-16
SCO	**Scoresbysund**	**9.09**	**268**	*e*Pn		**Pn**	**17 14 08.2**	**-2.4**
SCO				*e*Sn		Sn	17 15 41.4	-11
LVZ	**Lovozero**	**10.74**	**104**	*e*Pn		**Pn**	**17 14 31.1**	**-2.2**
LVZ				*e*Sn		**Sn**	**17 16 25.0**	**-8.2**
NC204	**NORSAR Array S**	**11.86**	**169**	*e*Pn		**Pn**	**17 14 48.3**	**-0.2**
NC204				*e*Sn		Sn	17 16 50.4	-10
NC303	**NORSAR Array S**	**11.94**	**168**	*e*Pn		**Pn**	**17 14 50.9**	**+1.2**
NC303				*e*Sn		Sn	17 16 53.2	-10
NC405	**NORSAR Array S**	**12.08**	**167**	*e*Pn		**Pn**	**17 14 51.6**	**+0.1**
NC405				*e*Sn		**Sn**	**17 16 58.6**	**-7.4**
NBO02	**NORSAR Array S**	**12.09**	**169**	*e*Pn		**Pn**	**17 14 52.8**	**+1.1**
NBO00	**NORSAR Array S**	**12.10**	**169**	*e*Pn		**Pn**	**17 14 52.7**	**+0.9**
NB201	**NORSAR Array S**	**12.11**	**168**	*e*Pn		**Pn**	**17 14 50.8**	**-1.2**
NB2	**NORSAR Subarra**	**12.12**	**168**	Pn		**Pn**	**17 14 52.4**	**+0.3**
	baz=345,slow=14							
NB2	**NORSAR Subarra**	**12.12**	**168**	Pn		**Pn**	**17 14 52.4**	**+0.3**
	baz=345,slow=14							
NOA	**NORSAR Array B**	**12.12**	**168**	Pn		**Pn**	**17 14 53.0**	**+1.0**
	comp=Z,0.4nm,0.3s,baz=3.0,slow=14,SNR=5.1							
NOA				LR		LR	17 19 28.2	
	comp=Z,66nm,18.1s,baz=355,slow=37							
NAO01	**NORSAR Array S**	**12.29**	**169**	*e*Pn		**Pn**	**17 14 54.9**	**+0.5**
NC602	**NORSAR Array S**	**12.44**	**167**	*e*Pn		**Pn**	**17 14 57.0**	**+0.5**
NRA0	**NORESS Array S**	**12.44**	**167**	Pn		**Pn**	**17 14 56.1**	**-0.4**
	baz=354,slow=9.3							
NRA0	**NORESS Array S**	**12.44**	**167**	Pn		**Pn**	**17 14 56.1**	**-0.4**
	baz=354,slow=9.3							
HFS	**Hagfors**	**13.20**	**163**	Pn		**Pn**	**17 15 07.2**	**+0.4**
	baz=346,slow=11							
HFS	**Hagfors**	**13.20**	**163**	Pn		**Pn**	**17 15 07.4**	**+0.6**
	comp=Z,0.5nm,0.3s,baz=354,slow=12,SNR=19							
HFS				Sn		**Sn**	**17 17 26.9**	**-6.4**
	comp=Z,0.1nm,0.3s,baz=0.7,slow=24,SNR=3.5							
HFS				LR		LR	17 19 42.4	
	comp=Z,89nm,20.6s,baz=320,slow=35							
HFS	**Hagfors**	**13.20**	**163**	Pn		**Pn**	**17 15 07.2**	**+0.4**
	baz=346,slow=11							
FIA1	**FINESS Array S**	**13.79**	**136**	*e*Pn		**Pn**	**17 15 14.0**	**-0.7**
FIA0	**FINESS Array S**	**13.79**	**136**	Pn		**Pn**	**17 15 14.7**	**-0.1**
	baz=329,slow=11							
FIA0	**FINESS Array S**	**13.79**	**136**	Pn		**Pn**	**17 15 14.7**	**-0.1**
	baz=329,slow=11							
FINES	**FINESS Array B**	**13.79**	**136**	Pn		**Pn**	**17 15 14.6**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=344,slow=12,SNR=12							
FINES				LR		LR	17 20 14.9	
	comp=Z,113nm,18.9s,baz=328,slow=36							
KLMR	**Klimovskoe**	**17.50**	**116**	*e*Pn		**Pn**	**17 16 03.8**	**+0.5**
KLMR				AMP			17 16 11.2	
	comp=Z,30nm,1.5s							
EKA	**Eskdalemuir Ar**	**18.09**	**197**	P		**P**	**17 16 11.2**	**+0.2**
	baz=14,slow=11,SNR=4.3							
SFJD	**Kangerlussuaq**	**19.57**	**281**	LR		LR	17 23 03.1	
	comp=Z,80nm,18.9s,baz=60,slow=34							
OBN	**Obninsk**	**21.86**	**128**	LR		LR	17 25 07.7	
	comp=Z,77nm,21.0s,baz=268,slow=36							
OBN	**Obninsk**	**21.86**	**128**	*e*P		**P**	**17 16 54.1**	**+2.2**
	comp=Z,8.9nm,0.6s							
CLL	**Collm**	**21.93**	**168**	*e*P		**P**	**17 16 57.0**	**+4.3**
CLL				*e*			17 17 03.0	
CLL	**Collm**	**21.93**	**168**	*e*P		**P**	**17 16 54.3**	**+1.6**
	comp=Z,24nm,2.0s							
BRG	**Berggiesshubel**	**22.42**	**167**	*e*P		P	17 17 06.0	+8.1
	comp=Z,4.7nm,1.1s							
NKC	**Novy Kostel**	**22.97**	**169**	*e*P		**P**	**17 17 06.5**	**+2.7**
NKC				*ex*		x	17 17 11.7	
PRU	**Pruhonice**	**23.34**	**166**	*e*P		**P**	**17 17 12.3**	**+4.7**
MORC	**Moravsky Berou**	**23.80**	**161**	*e*P		**P**	**17 17 13.5**	**+1.4**
	comp=Z,27nm,1.4s							
KHC	**Kasperske Hory**	**24.13**	**168**	*e*P		**P**	**17 17 18.4**	**+3.2**
GEC2	**GERESS Array S**	**24.42**	**168**	*e*P		**P**	**17 17 20.0**	**+2.0**
	comp=Z,4.9nm,1.1s							
GERES	**GERESS Array B**	**24.42**	**168**	P		**P**	**17 17 19.7**	**+1.7**
	comp=Z,0.7nm,0.7s,baz=357,slow=8.1,SNR=5.5							
GERES				LR		LR	17 27 32.2	
	comp=Z,40nm,18.3s,baz=330,slow=38							
GEA0	**GERESS Array S**	**24.43**	**168**	*e*P		**P**	**17 17 20.0**	**+1.9**
AKASG	**Malin Array Be**	**24.50**	**143**	P		**P**	**17 17 19.2**	**+0.6**
	comp=Z,1.1nm,0.5s,baz=349,slow=9.4,SNR=6.4							
KWP	**Kalwaria Pacla**	**24.53**	**153**	*e*P		**P**	**17 17 17.0**	**-1.8**
	comp=Z,109nm,1.2s							
STHS	**Stebnicka Huta**	**24.55**	**156**	*es*P		sP	17 17 25.1	+1.3
LANS	**Liptovska Anna**	**24.61**	**159**	*es*P		sP	17 17 26.1	+1.7
RES	**Resolute Bay**	**25.02**	**322**	LR		LR	17 27 24.3	
	comp=Z,71nm,18.2s,baz=135,slow=37							
CRVS	**Cervenica-Dubn**	**25.09**	**156**	*ep*P		pP	17 17 30.7	+3.5
VYHS	**Vyhne**	**25.20**	**160**	*e*P		**P**	**17 17 27.2**	**+2.3**
BUR08	**Bucovina Ar. S**	**26.82**	**151**	*e*P		**P**	**17 17 41.2**	**+1.6**
BUR04	**Bucovina Ar. S**	**26.85**	**151**	*e*P		**P**	**17 17 40.4**	**+0.5**
FRB	**Frobisher Bay**	**27.05**	**289**	LR		LR	17 27 40.7	
	comp=Z,59nm,18.7s,baz=127,slow=35							
MLR	**Muntele Rosu**	**29.03**	**150**	LR		LR	17 30 00.5	
	comp=Z,23nm,19.0s,baz=1.5,slow=37							
MLR	**Muntele Rosu**	**29.03**	**150**	*e*P		**P**	**17 18 01.5**	**+2.0**
	comp=Z,16nm,1.9s							
TIXI	**Tiksi**	**31.17**	**31**	*e*P		**P**	**17 18 18.1**	**+0.1**
	comp=Z,3.9nm,1.1s							
AKTO	**Aktyubinsk**	**31.69**	**107**	P		**P**	**17 18 23.0**	**+0.3**
	comp=Z,1.4nm,0.6s,baz=324,slow=6.3,SNR=4.6							
AKTO				LR		LR	17 31 51.6	
	comp=Z,53nm,19.9s,baz=352,slow=38							
BVAR	**Borovoye Array**	**32.99**	**92**	P		**P**	**17 18 35.6**	**+1.4**
	comp=Z,0.6nm,0.8s,baz=330,slow=8.3,SNR=4.4							
ABKAR	**Akbulak array**	**33.30**	**105**	*e*P		**P**	**17 18 38.1**	**+1.3**
CUC	**Castrocucco**	**33.38**	**166**	*e*P		**P**	**17 18 39.7**	**+2.1**
	comp=Z,3.7nm,1.4s							
KBZ	**Khabaz**	**33.96**	**129**	P		**P**	**17 18 45.4**	**+2.7**
	comp=Z,0.4nm,0.4s,baz=249,slow=8.6,SNR=2.7							
KBZ				LR		LR	17 33 08.1	
	comp=Z,74nm,18.4s,baz=41,slow=37							
BRTR	**Keskin Array B**	**35.91**	**143**	P		**P**	**17 19 01.8**	**+2.1**
	comp=Z,0.8nm,0.6s,baz=348,slow=6.7,SNR=5.2							
BRTR				LR		LR	17 35 19.9	
	comp=Z,26nm,18.7s,baz=68,slow=39							
INK	**Inuvik**	**36.54**	**336**	LR		LR	17 34 36.2	
	comp=Z,36nm,20.6s,baz=156,slow=37							
KURK	**Kurchatov**	**37.46**	**86**	*e*P		**P**	**17 19 13.5**	**+0.9**
	comp=Z,2.1nm,0.9s							
KURBB	**Kurchatov Arra**	**37.51**	**86**	P		**P**	**17 19 14.4**	**+1.4**
	comp=Z,0.9nm,0.7s,baz=335,slow=7.5,SNR=7.0							
GNI	**Garni**	**37.79**	**129**	LR		LR	17 35 08.9	
	comp=Z,72nm,18.9s,baz=306,slow=37							
YKA	**Yellowknife Ar**	**39.08**	**321**	P		**P**	**17 19 25.2**	**-0.8**
	comp=Z,0.6nm,0.9s,baz=16,slow=8.4,SNR=7.5							
YKA				PcP		**PcP**	**17 21 35.6**	**+0.2**
	comp=Z,0.2nm,0.5s,baz=10,slow=3.3,SNR=8.6							
IL1	**Eielson Array**	**41.35**	**343**	*e*P		**P**	**17 19 45.0**	**+0.1**
ILAR	**Eielson Array**	**41.36**	**343**	P		**P**	**17 19 44.9**	**0.0**
	comp=Z,0.4nm,0.7s,baz=9.9,slow=7.2,SNR=5.7							
MKAR	**Makanchi Array**	**42.05**	**85**	P		**P**	**17 19 51.8**	**+1.0**
	comp=Z,0.4nm,0.9s,baz=339,slow=5.6,SNR=3.5							
GEYT	**Alibeck**	**43.25**	**114**	P		**P**	**17 20 02.7**	**+2.1**
	comp=Z,2.7nm,0.7s,baz=310,slow=7.6,SNR=7.5							
WMQ	**Urumqi**	**46.34**	**82**	P		**P**	**17 20 26.8**	**+1.5**
WMQ				LR		LR		
	comp=N,84nm,19.7s							
WMQ				LR		LR		
	comp=E,100nm,17.9s							
WMQ				LR		LR		
	comp=Z,67nm,23.7s							
GTA	**Gaotai**	**53.90**	**73**	*e*P		**P**	**17 21 24.5**	**+1.8**
GTA				pP		sP	17 21 32.0	+4.5
GTA				sP		pP	17 21 35.5	+9.3
GTA				pmax		pmax		
	comp=Z,2.0nm,1.2s							
IMW	**Indian Meadow**	**55.72**	**309**	*e*P		**P**	**17 21 36.8**	**+0.7**
	comp=Z,5.5nm,1.0s							
HHC	**Hu-ho-hao-te**	**55.75**	**62**	*e*P		**P**	**17 21 35.8**	**-0.3**
HHC				pmax		pmax		
	comp=Z,15nm,1.2s							
HHC				pmax		pmax		
	comp=Z,23nm,6.5s							
FXWY	**Fox Creek**	**55.98**	**309**	*e*P		**P**	**17 21 38.8**	**+0.9**
	comp=Z,2.3nm,1.1s							
PD31	**Pinedale Array**	**56.47**	**307**	*e*P		**P**	**17 21 41.1**	**-0.2**
PDAR	**Pinedale Array**	**56.47**	**307**	P		**P**	**17 21 41.3**	**0.0**
	comp=Z,1.9nm,1.0s,baz=46,slow=6.4,SNR=9.2							
PDAR	**Pinedale Array**	**56.47**	**307**	*e*P		**P**	**17 21 40.7**	**-0.6**
TORD	**Torodi Ar. Bea**	**59.83**	**185**	P		**P**	**17 22 05.5**	**+0.6**
	comp=Z,0.5nm,0.7s,baz=350,slow=7.5,SNR=3.5							
YBH	**Yreka Blue Hor**	**60.31**	**318**	LR		LR	17 47 51.5	
	comp=Z,61nm,19.5s,baz=98,slow=36							
PV09	**Paradox Valley**	**60.42**	**305**	*e*P		**P**	**17 22 09.5**	**+0.5**
TXAR	**Lajitas Array**	**67.75**	**297**	P		**P**	**17 22 56.4**	**-0.7**
	comp=Z,0.2nm,0.6s,baz=72,slow=5.4,SNR=3.5							
ASAR	**Alice Springs**	**123.18**	**60**	PKP		**PKPdf**	**17 30 55.0**	**-0.7**
	comp=Z,0.2nm,0.6s,baz=351,slow=2.3,SNR=7.8							
SNAA	**Sanae**	**144.50**	**185**	PKP		**PKPab**	**17 31 32.5**	**+0.1**
	comp=Z,1.7nm,1.0s,baz=17,slow=8.3,SNR=3.6							

*IDC **28** 17:22:00.1±1.6, 2.7°N×92.7°E, h0km, mb3.2/3, mb1 3.7/6, mb1mx3.3/66, mbtmp3.5/6, ML3.9/3, MS3.1/1, Ms1 3.1/1, ms1mx2.6/25, Error ellipse: s-maj=48.4km s-min=24.2km az=45.0*

*ISCJB **28** 17:22:02.3±1.1, 2.8°N±0.2°×92.7°E±0.1°, h33km, mb3.5/3, MS3.0/1, Error ellipse: s-maj=24.0km s-min=15.0km az=29.3*

ISC 28 17:22:04.4±1.2, 2.8°N±0.2°×92.7°E±0.1°, h35km, n7, σ1s28/6, mb3.3/3, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**6.20**	**90**	Pn		Pn	**Pn**	**17 23 32.4**	**-1.3**
	1.7nm,0.3s,baz=344,slow=6.8,SNR=7.0								
PALK	**Pallekele**	**12.78**	**291**	Pn		**Pn**	**Pn**	**17 25 02.8**	**-0.9**
	1.5nm,0.3s,baz=115,slow=15,SNR=9.5								
PALK				Sn		Sn	Sn	17 27 15.7	-9.1
	1.1nm,0.3s,baz=114,slow=3.9,SNR=9.3								
CMAR	**Chiang Mai Arr**	**16.74**	**21**	Pn		**Pn**	**Pn**	**17 25 56.5**	**+0.1**
	0.1nm,0.3s,baz=215,slow=11,SNR=5.6								
TGY	**Tagaytay City**	**30.05**	**66**	LR		LR	LR	17 41 11.1	
	comp=Z,31nm,18.4s,baz=8.0,slow=38								
MKAR	**Makanchi Array**	**44.78**	**350**	P		**P**	**Pn**	**17 30 15.8**	**+1.1**
	0.3nm,0.7s,baz=150,slow=5.6,SNR=4.0								
WRA	**Warramunga Arr**	**46.67**	**121**	P		**P**	**P**	**17 30 31.0**	**+0.9**
	0.5nm,0.4s,baz=297,slow=8.4,SNR=20								
ASAR	**Alice Springs**	**47.93**	**126**	P		**P**	**Pn**	**17 30 40.6**	**+0.7**
	0.3nm,0.9s,baz=295,slow=7.5,SNR=3.0								

*TIR **28** 17:39:27.6, 41.12°N×20.24°E, h11km, Md2.9/7*
*ATH **28** 17:39:28.0, 41.15°N×20.24°E, h15km±2km, ML2.4/2, Error ellipse: s-maj=3.0km s-min=1.3km az=20.0*
*THE **28** 17:39:28.0, 41.09°N×20.20°E, h7km±1km, ML2.0/4, Error ellipse: s-maj=1.9km s-min=0.6km az=49.0*
*SKO **28** 17:39:28.3, 41.04°N×20.13°E, h4km*
*BEO **28** 17:39:28.2±0.8, 40.96°N×20.11°E, h0km*
*CSEM **28** 17:39:28.8±0.2, 41.07°N×20.20°E, h2km, ML2.4, Error ellipse: s-maj=5.7km s-min=2.9km az=61.0*
*PDG **28** 17:39:29.5±0.2, 41.16°N×20.19°E, h2km, ML2.5/9, Error ellipse: s-maj=0.6km s-min=0.6km az=0.0*

ISC 28 17:39:28.2±1.1, 41.09°N±0.02°×20.20°E±0.02°, h1km±10km, n96, σ1s08/156, 9C-15D, Albania

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.36**	**316**	*e*Pg		**Pg**	**Pg**	**17 39 34.9**	**-0.3**
TIR				*e*Sg		**Sb**	**Sb**	**17 39 41.9**	**-1.8**
TIR	**Tirane**	**0.36**	**316**	P		**Pg**	**Pg**	**17 39 34.8**	**-0.4**
TIR				S		**Sg**	**Sg**	**17 39 40.2**	**+0.3**
TIR				AML		AML	AML	17 39 42.3	
	comp=N,2181μm,0.4s								
TIR				AML		AML	AML	17 39 44.5	
	comp=E,1920μm,0.2s								
TIR	**Tirane**	**0.36**	**316**	P		**Pg**	**Pg**	**17 39 34.9**	**-0.3**
TIR				S		**Sg**	**Sg**	**17 39 40.2**	**+0.3**
TIR	**Tirane**	**0.36**	**316**	*i* Pg		**Pg**	**Pg**	**17 39 35.0**	**-0.3**
TIR				S		**Sg**	**Sg**	**17 39 40.2**	**+0.3**
TIR				*e*Sg		**Sb**	**Sb**	**17 39 41.9**	**-1.8**
TIR	**Tirane**	**0.36**	**316**	*i* PG		**Pg**	**Pg**	**17 39 35.0**	**-0.3**
TIR				*i* SG		**Sg**	**Sg**	**17 39 41.6**	**+1.7**
OHR	**Ohrid**	**0.45**	**87**	↑*i* Pg		**Pg**	**Pg**	**17 39 37.7**	**+0.8**
OHR				*i* Sg		**Sb**	**Sb**	**17 39 45.0**	**-1.2**
PHP	**Peshkopia**	**0.62**	**17**	P		**Pg**	**Pg**	**17 39 40.0**	**-0.2**
PHP				S		**Sg**	**Sg**	**17 39 49.0**	**+0.8**
PHP	**Peshkopia**	**0.62**	**17**	P		**Pg**	**Pg**	**17 39 40.0**	**-0.2**
PHP	**Peshkopia**	**0.62**	**17**	*i* PG		**Pg**	**Pg**	**17 39 40.0**	**-0.2**
PHP				*i* SG		**Sb**	**Sb**	**17 39 50.2**	**-1.0**
KBN	**Korca**	**0.64**	**136**	P		**Pg**	**Pg**	**17 39 40.2**	**-0.3**
KBN				S		**Sg**	**Sg**	**17 39 49.4**	**+0.5**
KBN	**Korca**	**0.64**	**136**	P		**Pg**	**Pg**	**17 39 40.2**	**-0.3**
KBN	**Korca**	**0.64**	**136**	*i* Pg		**Pg**	**Pg**	**17 39 41.2**	**+0.6**
KBN				S		**Sg**	**Sg**	**17 39 49.4**	**+0.5**
KBN				*i* Sg		**Sb**	**Sb**	**17 39 51.5**	**-0.3**
KBN	**Korca**	**0.64**	**136**	*i* PG		**Pg**	**Pg**	**17 39 41.2**	**+0.6**
KBN				*i* SG		**Sb**	**Sb**	**17 39 51.5**	**-0.3**
KRUS	**Krusevo**	**0.84**	**70**	↑*i* Pg		**Pg**	**Pg**	**17 39 44.0**	**-0.2**
KRUS				*i* Sg		**Sb**	**Sb**	**17 39 57.2**	**-0.2**
BIA	**Bitola**	**0.85**	**94**	P		**Pg**	**Pg**	**17 39 44.4**	**-0.1**
BIA	**Bitola**	**0.85**	**94**	P		**Pg**	**Pg**	**17 39 44.4**	**-0.1**
BIA	**Bitola**	**0.85**	**94**	↑*i* Pg		**Pg**	**Pg**	**17 39 44.8**	**+0.2**
BIA				*i* Sg		**Sb**	**Sb**	**17 39 57.4**	**-0.4**
NEST	**Nestorio**	**0.93**	**136**	P		**Pg**	**Pg**	**17 39 45.1**	**-0.9**
NEST	**Nestorio**	**0.93**	**136**	P		**Pg**	**Pg**	**17 39 45.6**	**-0.5**
NEST				S		**Sb**	**Sb**	**17 39 59.3**	**-0.8**
NEST	**Nestorio**	**0.93**	**136**	P		**Pg**	**Pg**	**17 39 45.7**	**-0.4**
NEST				S		**Sb**	**Sb**	**17 39 59.3**	**-0.8**
FNA	**Florina**	**0.94**	**109**	P		**Pg**	**Pg**	**17 39 45.7**	**-0.6**
FNA				S		**Sg**	**Sg**	**17 39 58.2**	**-0.2**
FNA				AML		AML	AML	17 40 02.5	
	comp=N,348μm,0.4s								
FNA				AML		AML	AML	17 40 07.8	
	comp=E,294μm,0.3s								
FNA	**Florina**	**0.94**	**109**	P		**Pg**	**Pg**	**17 39 45.7**	**-0.6**
FNA				S		**Sg**	**Sg**	**17 39 59.0**	**+0.6**
FNA	**Florina**	**0.94**	**109**	P		**Pg**	**Pg**	**17 39 45.8**	**-0.4**
FNA				S		**Sg**	**Sg**	**17 39 58.6**	**+0.2**
PUK	**Puka**	**0.98**	**346**	*i* Pg		**Pg**	**Pg**	**17 39 46.8**	**-0.3**
PUK				*i* Sg		**Sb**	**Sb**	**17 40 02.5**	**+0.9**
PUK	**Puka**	**0.98**	**346**	*i* PG		**Pg**	**Pg**	**17 39 46.8**	**-0.3**
PUK				*i* SG		**Sb**	**Sb**	**17 40 02.5**	**+0.9**
ULC	**Ulcinj**	**1.13**	**321**	↓*i* Pg		**Pg**	**Pg**	**17 39 48.6**	**-1.3**
ULC				*e*Sg		**Sn**	**Sn**	**17 40 06.4**	**-1.1**
ULC	**Ulcinj**	**1.13**	**321**	↓*i* Pg		**Pg**	**Pg**	**17 39 48.6**	**-1.3**
ULC				*e*Sg		**Sn**	**Sn**	**17 40 06.4**	**-1.1**
PENT	**Pentalofos**	**1.14**	**141**	P		**Pn**	**Pn**	**17 39 52.1**	**+0.7**
PENT	**Pentalofos**	**1.14**	**141**	P		**Pg**	**Pg**	**17 39 49.1**	**-1.0**
PENT	**Pentalofos**	**1.14**	**141**	P		**Pg**	**Pg**	**17 39 49.1**	**-1.0**
SRN	**Sarande**	**1.22**	**187**	P		**Pg**	**Pg**	**17 39 51.5**	**0.0**
SRN				S		**Sb**	**Sb**	**17 40 07.6**	**-0.6**
SRN	**Sarande**	**1.22**	**187**	P		**Pg**	**Pg**	**17 39 51.5**	**0.0**
SRN	**Sarande**	**1.22**	**187**	*i* Pg		**Pg**	**Pg**	**17 39 53.7**	**+1.3**
SRN				S		**Sb**	**Sb**	**17 40 07.6**	**-0.6**
SRN	**Sarande**	**1.22**	**187**	*i* PG		**Pn**	**Pn**	**17 39 53.7**	**+1.3**
SRN				*i* SG		**Sn**	**Sn**	**17 40 12.6**	**+3.1**
BCI	**Bajram Curri**	**1.28**	**356**	*i* Pg		**Pg**	**Pg**	**17 39 51.7**	**-1.1**
BCI				*i* Sg		**Sn**	**Sn**	**17 40 11.6**	**+0.5**
BCI	**Bajram Curri**	**1.28**	**356**	*i* PG		**Pg**	**Pg**	**17 39 51.7**	**-1.1**
BCI				*i* SG		**Sn**	**Sn**	**17 40 11.6**	**+0.5**
SKO	**Skopje**	**1.28**	**46**	*e*Pg		**Pn**	**Pn**	**17 39 53.3**	**0.0**
SKO				*e*Sg		**Sn**	**Sn**	**17 40 12.1**	**+1.0**
SKO	**Skopje**	**1.28**	**46**	P		**Pg**	**Pg**	**17 39 52.1**	**-0.7**
SKO	**Skopje**	**1.28**	**46**	P		**Pg**	**Pg**	**17 39 52.1**	**-0.7**
SKO	**Skopje**	**1.28**	**46**	*e*Pg		**Pn**	**Pn**	**17 39 53.3**	**0.0**
SKO				*e*Sg		**Sn**	**Sn**	**17 40 12.1**	**+1.0**
DRME	**Dracevica, Mon**	**1.34**	**326**	↓*i* Pg		**Pn**	**Pn**	**17 39 52.9**	**-1.1**
DRME				*e*Sg		**Sn**	**Sn**	**17 40 12.9**	**+0.4**
DRME	**Dracevica, Mon**	**1.34**	**326**	↓*i* Pg		**Pn**	**Pn**	**17 39 52.9**	**-1.1**
DRME				*e*Sg		**Sn**	**Sn**	**17 40 12.9**	**+0.4**
KEK	**Kerkira**	**1.41**	**193**	P		**Pg**	**Pg**	**17 39 55.4**	**+0.2**
KEK	**Kerkira**	**1.41**	**193**	P		**Pg**	**Pg**	**17 39 55.6**	**+0.4**
KPRO	**Kipourio**	**1.44**	**142**	P		**Pg**	**Pg**	**17 39 56.1**	**+0.3**
KPRO	**Kipourio**	**1.44**	**142**	P		**Pn**	**Pn**	**17 39 53.9**	**-1.6**
KPRO	**Kipourio**	**1.44**	**142**	P		**Pn**	**Pn**	**17 39 53.9**	**-1.6**
PDG	**Podgorica**	**1.52**	**332**	*e*Pn		**Pn**	**Pn**	**17 39 56.3**	**-0.2**
PDG				*e*Sn		**Sg**	**Sg**	**17 40 19.9**	**+3.0**
PDG	**Podgorica**	**1.52**	**332**	*e*Pn		**Pn**	**Pn**	**17 39 56.3**	**-0.2**
PDG				*e*Sg		**Sg**	**Sg**	**17 40 19.8**	**+2.9**
PVY	**Plav**	**1.52**	**353**	↑*i* Pg		**Pn**	**Pn**	**17 39 56.0**	**-0.6**
PVY				*e*Sg		**Sg**	**Sg**	**17 40 18.9**	**+2.0**
PVY	**Plav**	**1.52**	**353**	↑*i* Pg		**Pn**	**Pn**	**17 39 56.0**	**-0.6**
PVY				*e*Sg		**Sg**	**Sg**	**17 40 18.9**	**+2.0**
TTG	**Podgorica**	**1.52**	**332**	↓*i* Pg		**Pn**	**Pn**	**17 39 56.2**	**-0.2**
TTG				*e*Sg		**Sg**	**Sg**	**17 40 19.8**	**+2.9**
BUM	**Brajici-Budva**	**1.56**	**321**	↓*i* Pg		**Pn**	**Pn**	**17 39 57.1**	**0.0**
BUM				*e*Sg		**Sg**	**Sg**	**17 40 20.7**	**+2.4**
BUM	**Brajici-Budva**	**1.56**	**321**	↓*i* Pg		**Pn**	**Pn**	**17 39 57.1**	**0.0**
BUM				*e*Sg		**Sg**	**Sg**	**17 40 20.7**	**+2.4**
IGT	**Igoumenitsa**	**1.56**	**176**	P		**Pg**	**Pg**	**17 39 58.4**	**+0.3**
IGT	**Igoumenitsa**	**1.56**	**176**	P		**Pg**	**Pg**	**17 39 58.3**	**+0.3**
GRG	**Griva**	**1.67**	**94**	P		**Pn**	**Pn**	**17 39 58.8**	**+0.2**
GRG	**Griva**	**1.67**	**94**	P		**Pn**	**Pn**	**17 39 58.7**	**+0.1**
CEME	**Cevo**	**1.75**	**327**	↓*i* Pn		**Pb**	**Pb**	**17 40 00.7**	**-0.4**
CEME				*e*Sn		**Sg**	**Sg**	**17 40 25.9**	**+1.6**
CEME	**Cevo**	**1.75**	**327**	↓*i* Pn		**Pb**	**Pb**	**17 40 00.7**	**-0.4**
CEME				*e*Sn		**Sg**

KASI	Kota Agung	4.60	118	P		Pn		18 01 45.5	+1.3
KLI	Kotabumi	4.67	109	P		Pn		18 01 47.1	+1.9
KLI	Kotabumi	4.67	109	P		Pn		18 01 48.0	+2.8
BLSI	Bandar Lampung	5.21	113	P		Pn		18 01 54.2	+1.6
	334nm,0.9s,8µm2.7nm								
GSI	Gunungsitoli	5.44	328	P		Pn		18 01 55.2	-0.6
	285nm,1.4s,5µm3.1nm								
GSI	Gunungsitoli	5.44	328	eP	n	Pn		18 01 53.5	-2.3
PPBI	Pangkal Pinang	5.83	78	P		Pn		18 02 03.7	+2.5
	0.5nm,0.7s,13nm0.0nm								
TPRI	Tanjung Pinang	5.91	44	P		Pn		18 02 04.4	+2.1
	564nm,0.6s,6µm2.5nm								
MYKOM	Kota Tinggi	6.16	34	eP	n	Pn		18 02 04.3	-1.5
CGJI	Cibinong	6.17	122	P		Pn		18 02 06.9	+1.1
	421nm,0.9s,5µm2.5nm								
PSI	Prapat	6.30	346	Pn		Pn		18 02 05.9	-1.9
	1.7nm,0.3s,baz=166,slow=12,SNR=19								
PSI	Prapat	6.30	346	eP	n	Pn		18 02 05.1	-2.7
PSI	Prapat	6.30	346	eP		Pn		18 02 05.1	-2.7
SBJI	Serang	6.32	116	P		Pn		18 02 09.2	+1.3
	372nm,1.0s,7µm3.2nm								
DBJI	Dramaga	7.06	117	P		Pn		18 02 19.2	+1.1
	402nm,1.4s,7µm2.7nm								
TSI	Tuntungan	7.07	345	P		Pn		18 02 18.8	+0.6
	414nm,1.1s,5µm2.5nm								
SKJI	Sukabumi	7.10	121	P		Pn		18 02 19.8	+1.1
	418nm,0.8s,5µm5.4nm								
TPTI		7.33	334	P		Pn		18 02 21.8	0.0
	188nm,1.2s,2µm1.3nm								
IPM	Ipoh	7.81	4	ePn		Pn		18 02 29.0	+0.6
LEM	Lembang	7.95	116	Pn		Pn		18 02 31.1	+0.6
	16nm,0.3s,baz=185,slow=17,SNR=24								
LEM					LR	LR		18 06 10.5	
	comp=Z,6µm,19.3s,baz=264,slow=42								
JCJI	Jatiwangi	8.41	112	P		Pn		18 02 39.7	+3.0
	268nm,0.6s,5µm1.3nm								
CISI	Cisompet, Garu	8.46	120	P		Pn		18 02 38.1	+0.7
	449nm,0.6s,5µm								
CISI	Cisompet, Garu	8.46	120	ePn		Pn		18 02 35.5	-1.8
CISI				eSn		Sn		18 04 07.0	-4.7
MLSI	Meulaboh, Aceh	8.57	332	P		Pn		18 02 38.5	-0.4
	170nm,1.2s,3µm								
KULM	Kulim	8.60	2	ePn		Pn		18 02 38.6	-0.6
CMJI	Cimerak	9.12	119	P		Pn		18 02 46.5	+0.2
	168nm,1.1s,3µm								
LHMI	Lhok Sumawe	9.21	338	ePn		Pn		18 02 45.7	-2.0
KPJI	Karang Pucung	9.35	115	P		Pn		18 02 50.7	+1.2
	205nm,0.6s,2µm								
COCO	West Island	9.46	202	ePn		Pn		18 02 48.6	-2.5
COCO	West Island	9.46	202	ceP		Pn		18 02 49.4	-1.7
SKLT	Songkhla	10.46	1	P		Pn		18 03 06.2	+1.4
	103nm,1.2s,2µm								
SMRI	Semarang	10.63	111	P		Pn		18 03 08.8	+1.7
	227nm,0.9s,4µm								
SMRI	Semarang	10.63	111	ePn		Pn		18 03 08.2	+1.1
KSM	Kuching	10.99	64	ePn		Pn		18 03 12.6	+0.6
UGM	Wanagama	11.02	115	P		Pn		18 03 13.3	+0.8
	130nm,1.0s								
UGM	Wanagama	11.02	115	ePn		Pn		18 03 12.6	+0.1
PBKI	Pangkalan Bun	11.25	87	P		Pn		18 03 20.9	+5.3
	165nm,1.1s,2µm								
WOJI	Wonogiri, Jawa	11.36	113	P		Pn		18 03 17.9	+0.9
	40nm,0.8s								
STKI	Sintang	11.56	73	P		Pn		18 03 24.2	+4.3
	106nm,1.7s,18µm								
NGJI	Ngawi	11.69	110	P		Pn		18 03 26.3	+4.7
	137nm,1.1s								
PCJI	Pacitan	11.73	115	P		Pn		18 03 24.4	+2.3
	94nm,1.3s								
PWJI	Pagerwojo	12.23	113	P		Pn		18 03 29.4	+0.3
	83nm,1.1s								
GRJI	Gresik	12.52	107	P		Pn		18 03 38.4	+5.5
SBUM	Sibu	13.13	64	ePn		Pn		18 03 43.7	+2.4
GMJI	Gumukmas	13.84	111	P		Pn		18 03 52.9	+1.9
	58nm,1.5s								
JAGI	Jajag, Banyuwa	14.57	111	P		Pn		18 04 02.6	+1.7
	164nm,0.9s								
JAGI	Jajag, Banyuwa	14.57	111	ePn		Pn		18 03 58.1	-2.8
MTKI	Muara Teweh, K	14.66	81	P		Pn		18 04 04.3	+2.1
	134nm,1.0s,5µm								
SRBI	Singaraja	15.44	108	P		Pn		18 04 14.1	+1.5
	69nm,1.2s								
KBKI	Kotabaru	15.72	90	P		P		18 04 18.4	-1.4
	96nm,1.6s,2µm								
CHBT	CHBT	16.12	7	P		P		18 04 24.1	-0.1
	84nm,1.6s,20µm								
BKB	Balikpapan	16.59	83	P		P		18 04 41.8	+12
PBA	Port Blair	16.76	333	eP		Pn		18 04 30.1	+0.7
PBA					IAmb	IAmb		18 04 34.0	
	comp=Z,4µm,5.2s								
PBA	Port Blair	16.76	333	ePn		Pn		18 04 28.5	-0.9
TWSI	Taliwang, Sumb	17.21	109	P		P		18 04 36.7	+0.3
	comp=Z,34nm,0.8s								
SRAK	Srakaew	17.34	5	P		Pn		18 04 37.0	+0.4
	comp=Z,180nm,0.8s,comp=Z,1µm								
NAYO	Nakonayok	17.59	3	P		P		18 04 40.1	-0.3
	comp=Z,44nm,1.1s,comp=Z,2µm								
DGPR	DIGLIPUR	18.04	336	eP		P		18 04 45.4	0.0
DGPR					IAmb	IAmb		18 04 51.2	
	comp=Z,359nm,2.3s								
PLAI	Plampang	18.09	108	P		P		18 04 46.7	+0.7
	comp=Z,192nm,1.4s								
KKM	Kota Kinabalu	18.33	59	ePn		P		18 04 48.3	-0.6
UBPT	Khong Chiam	19.18	15	P		P		18 04 56.2	-1.8
	comp=Z,80nm,1.4s,comp=Z,1µm								
CHAI	Chaiyaphum	19.20	5	P		Pn		18 04 58.8	-0.6
	comp=Z,18nm,1.0s,comp=Z,157nm								
TTSI	Tana Toraja	19.37	90	P		Pn		18 05 02.2	+0.8
	comp=Z,97nm,1.4s,comp=Z,2µm								
PCI	Palu	19.55	83	P		Pn		18 05 04.5	+0.9
	comp=Z,274nm,1.6s,comp=Z,4µm								
PCI	Palu	19.55	83	P		Pn		18 05 03.6	0.0
PCI					pmax	pmax			
	comp=Z,274nm,1.6s								
BNSI	Bone	19.67	94	P		Pn		18 05 05.8	+0.8
	comp=Z,155nm,1.1s,comp=Z,3µm								
MPSI	Mapaga	19.81	80	P		Pn		18 05 06.5	-0.2
	comp=Z,232nm,1.4s,comp=Z,3µm								
PBKT	Sadao Pong	19.81	2	P		P		18 05 04.2	-0.7
	comp=Z,24nm,1.1s,comp=Z,592nm								
PBKT	Sadao Pong	19.81	2	eP		P		18 05 01.1	-3.8
WBSI	Waikabubak, Su	19.84	109	P		Pn		18 05 06.5	-0.6
	comp=Z,223nm,1.1s,comp=Z,2µm								
MYLDM	Lahad Datu	19.95	65	eP		P		18 05 05.8	-0.7
BSSI	Bau Bau, Buton	20.19	99	P		P		18 05 09.8	+0.7
	comp=Z,80nm,1.6s,comp=Z,1µm								
PHIT	Phitsanulok	20.42	360	P		Pn		18 05 13.4	-0.3
	comp=Z,82nm,0.9s,comp=Z,590nm								
SKNT	Sakolnakorn	20.51	10	P		P		18 05 09.5	-3.0
	comp=Z,29nm,1.2s								
WSI	Waingapu	20.71	109	P		Pn		18 05 21.8	+4.6
BASI	Baing, Sumba	21.13	110	P		P		18 05 22.4	+3.1
	comp=Z,498nm,1.5s,comp=Z,5µm								
APSI	Ampana	21.35	84	P		P		18 05 25.3	+3.7
	comp=Z,358nm,1.1s,comp=Z,4µm								
CM01	Chiang Mai Arr	21.69	356	eP		P		18 05 24.2	-1.0
CM01				eS		S		18 09 25.1	+1.5
CM31	Chiang Mai Arr	21.73	356	eP		P		18 05 24.4	-1.2
CM31				eS		S		18 09 26.6	+2.2
CMAR	Chiang Mai Arr	21.73	356	P		P		18 05 24.9	-0.7
	comp=Z,19nm,0.8s,baz=185,slow=8.3,SNR=74								
CMAR				PcP		PcP		18 09 26.9	+1.0
	comp=Z,3.6nm,0.8s,baz=212,slow=3.5,SNR=7.5								
CMAR				ScP		ScP		18 13 02.9	+2.3
	comp=Z,1.6nm,1.0s,baz=216,slow=4.0,SNR=4.6								
CMAR					LR	LR		18 15 31.1	
	comp=Z,3µm,18.1s,baz=186,slow=42								
LAMP	Lampang	21.76	358	P		P		18 05 27.4	+1.5
	comp=Z,26nm,0.9s,comp=Z,234nm								
MRSI	Marisa	21.84	80	P		P		18 05 27.2	+0.3
	comp=Z,72nm,1.6s,comp=Z,930nm								
CMMT	Chiang Mai	22.08	356	P		P		18 05 27.7	-1.7
	comp=Z,38nm,1.4s,comp=Z,904nm								
CHTO	Chiang Mai	22.08	356	P		P		18 05 28.8	-0.6
	comp=Z,168nm,1.4s,comp=Z,4µm								
CHTO	Chiang Mai	22.08	356	eP		P		18 05 27.9	-1.5
	comp=Z,42nm,1.2s								
CHTO					LR	LR			
	comp=Z,4µm,19.0s								
CHTO	Chiang Mai	22.08	356	P		P		18 05 29.1	-0.4
	SNR=13								
CHTO	Chiang Mai	22.08	356	P		P		18 05 29.1	-0.4
	SNR=13								
CHTO	Chiang Mai	22.08	356	eP		P		18 05 27.9	-1.5
CHTO					pmax	pmax			
	comp=Z,42nm,1.2s								
CHTO					MLR	MLR			
	comp=Z,4µm,19.0s								
KDI	Kendari	22.16	92	P		P		18 05 32.5	+2.2
	comp=Z,90nm,1.8s								
PALK	Pallekele	22.34	298	LR		LR		18 13 19.8	
	comp=Z,3µm,20.3s,baz=115,slow=34								
PALK	Pallekele	22.34	298	eP		P		18 05 30.2	-2.0
PALK	Pallekele	22.34	298	eP		P		18 05 30.2	-2.0
LUWI	Luwuk	22.45	85	P		P		18 05 35.6	+2.1
	comp=Z,215nm,1.6s,comp=Z,3µm								
LUWI	Luwuk	22.45	85	eP		P		18 05 32.1	-1.4
	comp=Z,300nm,1.2s								
PAYA	Payao	22.59	359	P		P		18 05 35.1	+0.3
	comp=Z,32nm,1.0s,comp=Z,305nm								
CMAI	Chiengmai2	23.19	357	P		P		18 05 41.1	-0.1
	comp=Z,874nm,1.1s,comp=Z,72µm								
ENPP	El Nido	23.81	52	eP		P		18 05 45.6	-1.5
KMSI	Cibinong	23.87	81	P		P		18 05 49.9	+2.2
	comp=Z,114nm,0.9s,comp=Z,2µm								
BATI	Baumata	24.05	108	P		P		18 05 49.2	-0.1
	comp=Z,34nm,0.6s,baz=297,slow=4.5,SNR=5.8								
QIZ	Qiongzhong	24.11	22	P		P		18 05 50.0	+0.2
QIZ				S		S		18 10 06.0	+0.6
QIZ				sS		pS		18 10 18.3	+1.9
QIZ				LR		LR			
	comp=Z,6µm,11.3s								
QIZ				LR		LR			
	comp=Z,12µm,12.7s								
QIZ				LR		LR			
	comp=Z,4µm,13.9s								
QIZ	Qiongzhong	24.11	22	eP		P		18 05 49.4	-0.4
QIZ				LR		LR			
	comp=Z,2µm,20.0s								
SOEI	Soe	24.52	106	P		P		18 05 55.1	+1.3
	comp=Z,79nm,1.1s								
SOEI	Soe	24.52	106	eP		P		18 05 50.1	-3.7
IPIL	Ipil	24.72	63	eP		P		18 05 55.5	0.0
SANI	Sanana	25.57	88	P		P		18 06 04.1	+0.9
	comp=Z,49nm,1.7s,comp=Z,884nm								
JAP	San Jose, Anti	25.60	57	⇓eP		P		18 06 05.5	+2.0
MBWA	Marble Bar	25.80	135	PFAKE				18 06 20.0	+15
MBWA				LR		LR			
	comp=Z,3µm,21.0s								
MDRS	Chennai	25.84	310	eP		P		18 06 04.9	-0.7
MDRS				IAmb		IAmb		18 06 11.9	
	comp=Z,123nm,0.1s								
SJMP	San Jose	25.89	52	eP		P		18 06 06.8	+0.8
LUBP	Lubang	25.99	49	eP		P		18 06 15.2	+8.3
GUIM	Jordan	26.08	58	eP		P		18 06 08.9	+1.2
TRD	Trivandrum	26.20	297	eP		P		18 06 09.4	+0.5
TGY	Tagaytay City	26.74	49	P		P		18 06 14.4	+0.6
	comp=Z,188nm,0.4s,baz=259,slow=1.4,SNR=11								
TGY				LR		LR		18 18 18.5	
	comp=Z,2µm,18.4s,baz=187,slow=40								
VIS	Vishakhapatnam	26.89	322	eP		P		18 06 13.9	-1.1
VIS				IAmb		IAmb		18 06 17.1	
	comp=Z,66nm,0.2s								
BUKP	Musuan	27.00	65	eP		P		18 06 17.2	+1.0
DAV	Davao City (W)	27.16	68	PFAKE				18 06 30.0	+12
DAV				LR		LR			
	comp=Z,2µm,19.0s								
LBMI	Labuha	27.20	85	P		P		18 06 19.4	+1.5
	comp=Z,151nm,1.1s,comp=Z,2µm								
TNTI	Ternate	27.24	82	eP		P		18 06 16.2	-2.2
	comp=Z,48nm,1.0s								
BOLP	Bolinao	27.50	44	eP		P		18 06 18.8	-1.8
AAI	Ambon	27.72	92	P		P		18 06 24.7	+2.1
	comp=Z,26nm,1.4s								
H08S2	Diego Garcia H	28.11	260	T		T		18 35 40.8	
	baz=82,slow=75								
H08S3	Diego Garcia H	28.12	260	T		T		18 35 39.3	
	baz=82,slow=75,SNR=7896								
DGAR	Diego Garcia	28.13	261	PFAKE				18 06 40.0	+14
DGAR				LR		LR			
	comp=Z,886nm,20.0s								
H08S1	Diego Carcia H	28.13	260	T		T		18 35 42.1	
	baz=82,slow=75								
BALP	Baler	28.26	47	eP		P		18 06 28.1	+0.7
KMI	Kunming	28.41	4	P		P		18 06 29.5	+0.7
KMI				pP		pP		18 06 39.0	+0.2
KMI				sP		sP		18 06 42.5	-0.5
KMI				PP		PnPn		18 07 25.0	+6.3
KMI				S		S		18 11 13.5	-0.4
KMI				pmax		pmax			
	comp=Z,31nm,0.8s								
KMI				pmax		pmax			
	comp=Z,360nm,11.6s								
KMI				LR		LR			
	comp=Z,3µm,16.5s								
KMI				LR		LR			
	comp=Z,3µm,16.0s								
KMI				LR		LR			
	comp=Z,4µm,13.8s								
FITZ	Fitzroy Crossi	28.72	122	P		P		18 06 31.7	+0.3
	baz=29,SNR=9.2								
FITZ	Fitzroy Crossi	28.72	122	eP		P		18 06 30.6	-0.8
	comp=Z,30nm,0.9s								
ABRA	Dolores	28.92	43	eP		P		18 06 33.8	+0.6
MEEK	Meekatharra	28.97	145	P		P		18 06 34.9	+1.3
	baz=29,SNR=3.5								
APYP	Conner	29.43	44	eP		P		18 06 41.0	+3.2
HYB	Hyderabad	29.87	314	eP		P		18 06 42.0	+0.3
SHL	Shillong	29.93	344	eP		P		18 06 42.2	0.0
SHL				IAmb		IAmb		18 06 43.6	
	comp=Z,24nm,0.9s								
SHL				ex		x		18 11 38.0	
SHL	Shillong	29.93	344	eP		P		18 06 42.3	0.0
SHL	Shillong	29.93	344	eP		P		18 06 42.3	0.0
GYA	Guiyang	30.25	11	⇓iP		P		18 06 45.5	+0.4
GYA				pP		pP		18 06 55.8	+0.7
GYA				PP		PnPn		18 07 47.5	+3.8
GYA				PcP		PcP		18 09 46.0	+0.6
GYA				S		S		18 11 43.3	+0.6
GYA				sS		sS		18 11 59.0	-0.2
GYA				SS		ScP		18 13 24.5	-0.8
GYA				ScS		ScS		18 17 20.0	-1.3
GYA				pmax		pmax			
	comp=Z,20nm,0.8s								
GYA				pmax		pmax			
	comp=Z,130nm,5.3s								
GYA				LR		LR			
	comp=Z,720nm,17.6s								
GYA				LR		LR			
	comp=Z,670nm,17.5s								
GYA				LR		LR			
	comp=Z,640nm,17.9s								
KNRA	Kununurra	30.46	116	P		P		18 06 46.3	-0.6
	baz=30,SNR=7.5								
BOK	Bokaro	30.48	333	eP		P		18 06 47.3	+0.3
BOK				IAmb		IAmb		18 06 55.3	
	comp=Z,1µm,3.5s								
FAKI	Fak Fak	31.78	90	P		P		18 06 58.9	+0.3
	comp=Z,36nm,1.1s								
FAKI	Fak Fak	31.78	90	eP		P		18 06 56.8	-1.9
	comp=Z,45nm,1.1s								
MTN	Manton Dam	31.79	109	P		P		18 06 57.9	-0.8
	baz=32,SNR=6.0								
MTN	Manton Dam	31.79	109	eP		P		18 06 57.2	-1.4
GOA	Goa	32.31	306	eP		P		18 07 01.9	-1.2
GOA				IAmb		IAmb		18 07 08.4	
	comp=Z,12nm,0.7s								
ODAN	Odare	32.58	338	eP		P		18 07 06.8	+1.1
TWG	Pinlang	32.92	37	eP		P		18 07 08.6	+0.1
RAMN	Ramite	32.96	337	eP		P		18 07 10.6	+1.6
	comp=Z,46nm,0.7s								
TPUB	Ta-pu	33.03	36	eP		P		18 07 07.7	-1.7
	comp=Z,36nm,1.0s								
QZH	Quanzhou	33.21	31	⇑iP		P		18 07 10.8	-0.2
QZH				PP		PP		18 08 26.3	-0.2
QZH				S		S		18 12 33.5	+4.8
QZH				pmax		pmax			
	comp=Z,300nm,2.5s								
QZH				LR		LR			
	comp=Z,1µm,13.3s								
QZH				LR		LR			
	comp=Z,3µm,14.7s								
QZH				LR		LR			
	comp=Z,3µm,17.5s								
NWAO	Narrogin (SRO)	33.36	154	LR		LR		18 20 12.0	
	comp=Z,3µm,20.3s,baz=208,slow=35								
YULB	Yu-li	33.49	36	eP		P		18 07 11.8	-1.7
SSLB	Suanglung	33.59	36	eP		P		18 07 13.8	-0.5
JIRN	Jiri	33.76	337	eP		P		18 07 17.4	+1.3
	comp=Z,148nm,0.8s								
H01W3	Cape Leeuwin H	33.85	160	T		T		18 42 48.8	
	baz=335,slow=76,SNR=194								
H01W2	Cape Leeuwin H	33.87	160	T		T		18 42 55.5	
	baz=335,slow=76,SNR=220								
H01W1	Cape Leeuwin H	33.87	160	T		T		18 42 52.6	
	baz=335,slow=76,SNR=187								
PKIN	Phulchoki	34.00	336	eP		P		18 07 19.0	+0.9
	comp=Z,24nm,0.8s								
POO	Poona	34.03	311	eP		P		18 07 19.4	+1.2
POO				IAmb		IAmb		18 07 23.1	
LSA	Lhasa	34.05	346	P		P		18 07 19.8	+1.0
LSA				S		S		18 12 42.8	+0.2
LSA				pmax		pmax			
	comp=Z,7.0nm,1.0s								
LSA				LR		LR			
	comp=Z,620nm,24.2s								
LSA				LR		LR			
	comp=Z,1µm,16.2s								
LSA				LR		LR			
	comp=Z,1µm,19.4s								
LSA	Lhasa	34.05	346	eP		P		18 07 19.0	+0.2
	comp=Z,43nm,1.0s								
LSA				LR		LR			
	comp=Z,1µm,19.0s								
LSA	Lhasa	34.05	346	eP		P		18 07 19.0	+0.2
LSA				pmax		pmax			
	comp=Z,43nm,1.0s								
LSA				MLR		MLR			
	comp=Z,1µm,19.0s								
GUN	Gumba	34.10	337	eP		P		18 07 20.1	+1.0
DMN	Daman	34.15	335	eP		P		18 07 21.3	+1.9
	comp=Z,65nm,0.9s								
CD2	Chengdu	34.23	5	P		P		18 07 20.0	+0.2
CD2				pP		pP		18 07 29.0	-0.8
CD2				sP		sP		18 07 33.0	-1.0
CD2				PP		PP		18 08 38.0	+0.2
CD2				S		S		18 12 46.3	+1.9
CD2				sS		sS		18 13 01.8	+0.8
CD2				pmax		pmax			
	comp=Z,60nm,0.5s								
CD2				pmax		pmax			
	comp=Z,300nm,6.4s								
CD2				LR		LR			
	comp=Z,4µm,16.9s								
CD2				LR		LR			
	comp=Z,5µm,16.9s								
CD2				LR		LR			
	comp=Z,5µm,17.9s								
KKN	Kakani	34.24	336	eP		P		18 07 21.3	+1.2
NACB	Ninganchiao	34.26	36	eP		P		18 07 17.1	-3.0
WRKA	Warakurna	34.41	131	P		P		18 07 22.4	+0.9
	baz=34,SNR=10								
YHNB	Yeheng	34.51	35	eP		P		18 07 18.9	-3.5
YHNB				LR		LR			
	comp=Z,1µm,19.0s								
ENH	Enshi	34.55	14	eP		P		18 07 21.2	-1.3
ENH				LR		LR			
	comp=Z,2µm,19.0s								
BHPL	Bhopal	34.67	321	eP		P		18 07 22.9	-0.9
GKN	Gorkha	34.69	335	eP		P		18 07 25.1	+1.1
TATO	Taipei	34.81	35	PFAKE				18 07 40.0	+15
TATO				LR		LR			
	comp=Z,1µm,20.0s								
KOLN	Koldanda	34.94	333	eP		P		18 07 27.9	+1.7
	comp=Z,93nm,0.8s								
YOJ	Yonaguni jima	35.32	37	eP		P		18 07 28.2	-1.0
YOJ	Yonaguni jima	35.32	37	eP		P		18 07 28.2	-1.0
DANN	Dangsing	35.37	334	eP		P		18 07 31.4	+1.4
PYUN	Piuthan	35.50	333	eP		P		18 07 32.0	+1.0
	comp=Z,164nm,1.0s								
WHN	Wuhan	36.25	21	⇓P		P		18 07 38.0	+0.9
WHN				PP		PP		18 09 07.0	+7.0
WHN				S		S		18 13 19.3	+4.0
WHN				pmax		pmax			
	comp=Z,64nm,0.9s								
WHN				LR		LR			
	comp=Z,12µm,14.3s								
WHN				LR		LR			
	comp=Z,5µm,12.5s								
WHN				LR		LR			
	comp=Z,16µm,14.3s								
WRA	Warramunga Arr	36.95	119	P		P		18 07 43.5	+0.1
	comp=Z,12nm,0.9s,baz=306,slow=8.6,SNR=73								
WRA				S		S		18 13 26.2	-0.4
	comp=Z,8.7nm,0.9s,baz=293,slow=16,SNR=14								
WRA				LR		LR		18 25 00.6	
	comp=Z,2µm,20.3s,baz=280,slow=40								
WR1	Warramunga Arr	36.96	119	eP		P		18 07 43.5	+0.1
WR1				eS		S		18 13 26.2	-0.4
WRAB	Tennant Creek	36.96	119	eP		P		18 07 42.4	-1.0
	comp=Z,31nm,0.8s								
WRAB				eS		S		18 13 25.1	-1.6
WRAB				LR		LR			
	comp=Z,2µm,21.0s								
WRAB	Tennant Creek	36.96	119	c iP		P		18 07 43.4	0.0
WRAB				pmax		pmax			
	comp=Z,37nm,1.7s								
WB2	Warramunga Arr	36.97	119	eP		P		18 07 41.4	-2.0
WB2				eS		S		18 13 24.1	-2.7
WB2				eS		S		18 13 24.5	-2.3
XAN	Xi'an	38.05	11	P		P		18 07 51.5	-1.0
XAN				pP		pP		18 08 01.0	-1.6
XAN				sP		sP		18 08 05.0	-1.8
XAN				PP		PP		18 09 18.5	-1.5
XAN				S		S		18 13 42.3	-0.6
XAN				sS		sS		18 13 57.5	-2.1
XAN				SS		SnSn		18 16 20.8	-6.8
XAN				pmax		pmax			
	comp=Z,88nm,0.8s								
XAN				pmax		pmax			
	comp=Z,230nm,5.6s								
XAN				LR		LR			
	comp=Z,3µm,15.2s								
XAN				LR		LR			
	comp=Z,3µm,13.0s								
XAN				LR		LR			
	comp=Z,5µm,14.9s								
AS31	Alice Springs	38.12	125	e

comp=Z,1μm,15.5s
GENI Genyem 39.70 90 P P 18 08 06.7 +0.2
comp=Z,30nm,1.3s
DDI Dehra Dun 39.73 329 eP P 18 08 08.7 +2.1
DDI IAmb IAmb 18 08 09.8
comp=Z,52nm,0.3s
JOW Kunigami 40.31 40 P P 18 08 11.3 -0.1
comp=Z,10nm,0.6s,baz=106,slow=5.0,SNR=4.9
JOW Kunigami 40.31 40 eP P 18 08 10.8 -0.6
SMLA Simla 40.84 329 eP P 18 08 15.2 -0.5
SMLA IAmb IAmb 18 08 18.8
comp=Z,29nm,0.9s
QIS Mount Isa 41.80 117 P P 18 08 23.9 +0.1
baz=42,SNR=11
DHRM DHARAMSHALA 42.17 329 eP P 18 08 26.0 -1.0
DHRM IAmb IAmb 18 08 34.0
comp=Z,290nm,2.2s
TIA Tai'an 42.35 20 P P 18 08 27.8 -0.2
TIA pmax pmax
comp=Z,15nm,1.0s
TIA pmax pmax
comp=Z,290nm,6.5s
TIA LR LR
comp=Z,3μm,13.5s
TIA LR LR
comp=Z,2μm,14.9s
TIA LR LR
comp=Z,5μm,14.2s
TIY Taiyuan 42.36 14 eP P 18 08 27.3 -0.9
TIY pP **pP 18 08 38.3 -0.1**
TIY PP **PP 18 10 11.0 +4.2**
TIY S **S 18 14 46.8 -0.4**
TIY SS **SS 18 17 51.5 -5.6**
TIY pmax pmax
comp=Z,79nm,1.2s
TIY pmax pmax
comp=Z,380nm,4.2s
TIY LR LR
comp=Z,4μm,14.7s
TIY LR LR
comp=Z,2μm,13.2s
TIY LR LR
comp=Z,3μm,14.4s
GTA Gaotai 42.56 359 P P 18 08 29.8 -0.1
GTA pP pP 18 08 38.5 -1.6
GTA sP sP 18 08 41.8 -2.4
GTA PcP **PcP 18 10 23.8 +1.9**
GTA S **S 18 14 48.5 -1.8**
GTA sS sS 18 15 04.8 -2.3
GTA SS **SS 18 17 54.3 -6.8**
GTA ScS **ScS 18 18 28.5 -0.4**
GTA pmax pmax
comp=Z,37nm,1.3s
GTA pmax pmax
comp=Z,460nm,7.0s
GTA LR LR
comp=Z,2μm,14.7s
GTA LR LR
comp=Z,3μm,16.2s
GTA LR LR
comp=Z,2μm,14.3s
COEN Coen 43.48 107 P P 18 08 37.4 -0.1
baz=43
COEN Coen 43.48 107 eP P 18 08 35.2 -2.3
BTO Baotou 44.63 10 eP P 18 08 45.3 -1.1
NIL Nilore 44.87 327 eP P 18 08 47.8 -0.6
NIL LR LR
comp=Z,670nm,22.0s
NIL Nilore 44.87 327 eP P 18 08 47.8 -0.6
NIL MLR MLR
comp=Z,670nm,22.0s
HHC Hu-ho-hao-te 45.16 12 eP P 18 08 52.8 +2.1
HHC pP pP 18 09 02.8 +1.8
HHC sP sP 18 09 06.5 +1.4
HHC PP **PP 18 10 39.5 +2.7**
HHC S **S 18 15 32.8 +4.7**
HHC sS sS 18 15 47.0 +1.9
HHC SS **ScS 18 18 44.8 -0.4**
HHC pmax pmax
comp=Z,75nm,1.2s
HHC pmax pmax
comp=Z,210nm,6.1s
HHC LR LR
comp=Z,3μm,13.5s
HHC LR LR
comp=Z,3μm,14.5s
HHC LR LR
comp=Z,2μm,14.7s
MTSU Mount Surprise 45.40 112 P P 18 08 53.5 +0.6
baz=45,SNR=20
BJT Baijiatuau 45.53 17 eP P 18 08 53.5 +0.1
BJT LR LR
comp=Z,4μm,19.0s
BJT Baijiatuau 45.53 17 eP P 18 08 53.5 +0.1
BJT MLR MLR
comp=Z,4μm,19.0s
BJI Beijing 45.55 17 P P 18 08 55.0 +1.4
BJI S **S 18 15 33.5 +0.1**
BJI pmax pmax
comp=Z,73nm,1.2s
BJI LR LR
comp=Z,9μm,16.5s
BJI LR LR
comp=Z,4μm,16.1s
BJI LR LR
comp=Z,5μm,17.8s
JNU Nakatsue 46.33 36 P P 18 08 59.8 -0.2
comp=Z,85nm,1.0s,baz=192,slow=3.7,SNR=42
JNU LR LR 18 28 27.5
comp=Z,923nm,21.5s,baz=236,slow=36
JNU Nakatsue 46.33 36 eP P 18 08 59.2 -0.8
DL2 Dalian 46.39 23⇑iP P 18 09 00.3 0.0
DL2 S **S 18 15 46.8 +1.2**
DL2 pmax pmax
comp=Z,28nm,0.9s
DL2 pmax pmax
comp=Z,400nm,3.6s
DL2 LR LR
comp=Z,3μm,16.0s
DL2 LR LR
comp=Z,1μm,15.3s
DL2 LR LR
comp=Z,4μm,16.1s
PMG Port Moresby 46.80 100 P P 18 09 03.8 -0.1
comp=Z,15nm,0.8s,baz=289,slow=6.3,SNR=8.0
PMG Port Moresby 46.80 100 eP P 18 09 02.5 -1.4
PMG ePcP **PcP 18 10 36.0 -0.8**
PMG LR LR
comp=Z,771nm,19.0s
PMG Port Moresby 46.80 100c iP P 18 09 02.2 -1.7
PMG pmax pmax
comp=Z,230nm,1.7s
TJN Taejon 46.86 30c iP P 18 09 03.6 -0.4
MANU Manus Island 46.91 90 eP P 18 09 03.1 -1.7
GUMO Guam 47.20 68 PFAKE 18 09 20.0 +13
GUMO LR LR
comp=Z,415nm,21.0s
INCN Inchon 47.38 29 eP P 18 09 05.9 -2.1
INCN LR LR
comp=Z,1μm,20.0s
CTA Charters Tower 47.65 114 P P 18 09 11.1 +0.7
comp=Z,17nm,0.9s,baz=282,slow=12,SNR=20
CTA Charters Tower 47.65 114 P P 18 09 11.3 +0.8
baz=48
CTAO Charters Tower 47.65 114 eP P 18 09 10.5 0.0
comp=Z,657nm,1.7s
CTAO LR LR
comp=Z,2μm,22.0s
CTAO Charters Tower 47.65 114 eP P 18 09 10.5 0.0
CTAO pmax pmax
comp=Z,657nm,1.7s
CTAO MLR MLR
comp=Z,2μm,22.0s
QLP Quilpie 47.85 123 P P 18 09 13.3 +1.3
baz=48,SNR=11
KBL Kabul 47.88 325 eP P 18 09 10.7 -1.5
KBL Kabul 47.88 325 eP P 18 09 10.7 -1.5
STKA Stephens Creek 47.94 131 P P 18 09 13.8 +1.3
comp=Z,14nm,0.9s,baz=299,slow=8.3,SNR=20
STKA LR LR 18 30 58.4
comp=Z,2μm,21.4s,baz=299,slow=38
STKA Stephens Creek 47.94 131 P P 18 09 13.9 +1.4
baz=48,SNR=8.8
STKA Stephens Creek 47.94 131 eP P 18 09 13.4 +0.9
STKA Stephens Creek 47.94 131 eP P 18 09 13.4 +0.9
KS15 Wonju Array Si 47.95 30 eP P 18 09 12.4 -0.1
KSAR Wonju Array Be 47.95 30 P P 18 09 12.6 +0.1
KSAR Wonju Array Be 47.95 30 P P 18 09 12.6 +0.1
KSRS Korea Array 47.98 30 P P 18 09 12.6 -0.1
comp=Z,40nm,1.1s,baz=222,slow=7.9,SNR=78
KSRS LR LR 18 31 34.5
comp=Z,829nm,18.1s,baz=235,slow=39
KS01 Wonju Array Si 47.98 30 eP P 18 09 12.0 -0.7
KS01 ePcP **PcP 18 10 40.7 +0.1**
KSH Kashi 48.24 335 P P 18 09 14.0 -0.8
KSH sP sP 18 09 28.5 -0.8
KSH PP **PP 18 11 06.0 -1.5**
KSH S **S 18 16 10.5 -1.7**
KSH pmax pmax
comp=Z,52nm,1.0s
KSH pmax pmax
comp=Z,600nm,3.6s
KSH LR LR
comp=Z,1μm,15.8s
KSH LR LR
comp=Z,2μm,17.2s
KSH LR LR
comp=Z,3μm,19.3s
WMQ Urumqi 48.34 348 P P 18 09 16.5 +1.0
WMQ pP pP 18 09 25.3 -0.5
WMQ sP sP 18 09 34.0 +4.0
WMQ PP **PP 18 11 12.0 +3.7**
WMQ S **S 18 16 12.3 -1.1**
WMQ ScS **ScS 18 19 06.3 +0.5**
WMQ pmax pmax
comp=Z,160nm,0.9s
WMQ pmax pmax
comp=Z,1μm,4.3s
WMQ LR LR
comp=Z,2μm,19.3s
WMQ LR LR
comp=Z,2μm,23.1s
WMQ LR LR
comp=Z,2μm,19.3s
WSAR Wadi Sarin 48.56 305 LR LR 18 28 13.6
comp=Z,2μm,19.9s,baz=137,slow=34
TARG Taragay, Kyrgy 49.37 338 eP P 18 09 24.9 +1.1
SNY Shenyang 49.66 23⇓P P 18 09 25.5 0.0
SNY PP **PP 18 11 21.8 +1.5**
SNY pmax pmax
comp=Z,23nm,0.9s
SNY LR LR
comp=Z,1μm,14.6s
SNY LR LR
comp=Z,2μm,16.4s
SNY LR LR
comp=Z,3μm,14.9s
SFK Sufi-Kurgan 49.73 333 iP P 18 09 27.7 +1.3
SFK pmax pmax
comp=Z,47nm,1.0s
PRZ Przheval'sk 49.80 339 eP P 18 09 28.4 +1.6
PRZ Przheval'sk 49.80 339 eP P 18 09 28.4 +1.6
NRN Naryn 49.83 336 eP P 18 09 27.6 +0.4
NRN Naryn 49.83 336 eP P 18 09 27.6 +0.4
KDJ Kajisay 49.95 337 eP P 18 09 29.3 +1.3
KDJ Kajisay 49.95 337 P P 18 09 29.3 +1.3
KDJ pmax pmax
comp=Z,122nm,1.3s
SHLS Shalkode 50.02 340⇑iP P 18 09 28.8 +0.4
comp=Z,1μm,1.0s
SHLS iP PP **PP 18 11 24.4 +0.7**
SHLS iS S **S 18 16 38.2 +1.0**
SHLS LR LR 18 33 48.4
comp=Z,306nm,17.3s
PDGK Podgornoye 50.16 340 iP P 18 09 30.5 +1.0
PDGK pmax pmax
comp=Z,128nm,1.1s
UZB Uzynbulak 50.16 340⇑iP P 18 09 30.8 +1.2
comp=Z,565nm,1.2s
UZB iP PP **PP 18 11 26.3 +1.2**
UZB iS S **S 18 16 41.9 +2.7**
UZB LR LR 18 35 41.6
comp=Z,273nm,14.0s
SATY Saty 50.30 339 eP P 18 09 31.9 +1.3
comp=Z,1μm,1.1s
SATY ePP **PP 18 11 27.8 +1.5**
SATY eS S **S 18 16 43.8 +2.7**
SATY LR LR 18 33 59.1
comp=Z,291nm,13.8s
ULHL Ulahol 50.42 337 P P 18 09 34.0 +2.4
SNR=14
KPKS Kokpek 50.56 340 eP P 18 09 33.4 +0.9
comp=Z,725nm,1.2s
KPKS eS S **18 16 46.9 +2.3**
KPKS LR LR 18 35 56.6
comp=Z,339nm,15.7s
KZA Kyzart 50.67 336 P P 18 09 36.8 +3.1
SNR=8.4
MDOK Medeo 50.89 338 iP P 18 09 36.4 +1.4
comp=Z,403nm,1.4s
MDOK iP PP **PP 18 11 33.5 +1.8**
MDOK iS S **S 18 16 52.0 +2.7**
MDOK LR LR 18 34 17.6
comp=Z,388nm,18.1s
CMSA Cobar Meteorol 50.94 129 P P 18 09 37.0 +1.6
baz=51,SNR=25
AAA Alma-Ata 50.98 338 eP P 18 09 36.0 +0.4
AAA eS S **18 16 50.8 +0.5**
AAA pmax pmax
comp=Z,300nm,4.8s
AAA smax smax
comp=E,900nm,8.1s
UCH Uchtor 51.10 335 P P 18 09 38.9 +1.9
SNR=13
TKM2 Tokmak 2 51.24 337 P P 18 09 38.5 +0.8
SNR=34
TKM2 Tokmak 2 51.24 337 iP P 18 09 39.1 +1.4
TKM2 pmax pmax
comp=Z,92nm,1.7s
SONA0 Songino Array 51.25 5 eP P 18 09 38.5 +0.9
SONM Songino Array 51.25 5 P P 18 09 38.5 +0.9
comp=Z,94nm,0.9s,baz=188,slow=8.6,SNR=289
SONA1 Songino Array 51.26 5 eP P 18 09 37.4 -0.3
SONA1 ePcP **PcP 18 10 53.7 +1.2**
KBK Karagaybulak 51.28 336 P P 18 09 39.8 +1.9
SNR=18
ULN Ulaanbaatar 51.34 6 eP P 18 09 38.4 +0.1
comp=Z,87nm,1.0s
ULN LR LR
comp=Z,2μm,20.0s
ULN Ulaanbaatar 51.34 6 P P 18 09 39.4 +1.0
SNR=56
ULN Ulaanbaatar 51.34 6 P P 18 09 39.4 +1.0
SNR=56
ULN Ulaanbaatar 51.34 6c iP P 18 09 39.0 +0.7
ULN pmax pmax
comp=Z,145nm,1.2s
AML Almayashu 51.37 335 P P 18 09 40.8 +1.9
SNR=10
BMNS Besmoynak 51.37 337⇑iP P 18 09 40.3 +1.7
comp=Z,364nm,1.3s
BMNS eS S **18 16 58.9 +3.0**
BMNS LR LR 18 33 39.2
comp=Z,406nm,19.6s
AAK Ala-Archa 51.45 336 P P 18 09 41.1 +1.8
SNR=8.5
AAK Ala-Archa 51.45 336 eP P 18 09 39.1 -0.1
comp=Z,24nm,1.1s
AAK Ala-Archa 51.45 336 P P 18 09 41.7 +2.4
SNR=10
AAK Ala-Archa 51.45 336 P P 18 09 41.7 +2.4
SNR=10
AAK Ala-Archa 51.45 336c iP P 18 09 39.2 -0.1
AAK pmax pmax
comp=Z,36nm,1.8s
FRU1 Bishkek 51.54 336 P P 18 09 40.1 +0.3
FRU1 pmax pmax
comp=Z,78nm,1.3s
FRU Bishkek 51.56 336⇓eP P 18 09 42.0 +2.1
FRU eS S **18 17 00.0 +1.7**
FRU e 18 17 18.0
FRU pmax pmax
comp=Z,100nm,2.0s
INU Inuyama 51.56 38 eP P 18 09 38.5 -1.5
RABL Rabaul 51.63 93 eP P 18 09 39.8 -1.2
CHMS Chumysh 51.65 336 P P 18 09 41.1 +0.6
SNR=16
EKS2 Erkin-Say 51.77 335 P P 18 09 43.8 +2.2
SNR=24
KUU Kurty 51.78 338⇑iP P 18 09 41.7 +0.2
comp=Z,301nm,1.3s
KUU iP PP **PP 18 11 39.9 +0.3**
KUU iS S **18 17 02.9 +1.6**
KUU LR LR 18 36 11.5
comp=Z,95nm,12.2s
USP Ospenovka 51.97 336 P P 18 09 44.2 +1.3
SNR=28
CN2 Changchun 52.06 23 eP P 18 09 43.5 -0.1
CN2 eS S **18 17 07.0 +1.9**
CN2 pmax pmax
comp=Z,110nm,0.8s
CN2 LR LR
comp=Z,2μm,15.0s
CN2 LR LR
comp=Z,2μm,15.0s
CN2 LR LR
comp=Z,2μm,17.0s
MNAS Manas 52.17 334 iP P 18 09 46.1 +1.5
MNAS pmax pmax
comp=Z,71nm,1.6s
ZSN Zaisan 52.41 347⇑iP P 18 09 48.3 +2.1
comp=Z,148nm,0.9s
ZSN iS S **18 17 14.2 +4.3**
MK01 Makanchi Array 52.42 344 eP P 18 09 45.7 -0.6
MK01 ePcP **PcP 18 10 53.3 -3.4**
MK31 Makanchi Array 52.45 344 eP P 18 09 46.4 0.0
MK31 ePcP **PcP 18 10 53.2 -3.6**
MK31 Makanchi Array 52.45 344 iP P 18 09 46.2 -0.2
MK32 Makanchi Array 52.45 344 eP P 18 09 46.7 +0.3
MKAR Makanchi Array 52.45 344 P **P 18 09 46.7 +0.3**
comp=Z,29nm,0.6s,baz=149,slow=7.4,SNR=239
MKAR LR LR 18 37 16.4
comp=Z,534nm,18.3s,baz=160,slow=42
MKAR Makanchi Array 52.45 344 eP P 18 09 46.1 -0.3
MKAR ePcP **PcP 18 10 53.4 -3.4**
MKAR Makanchi Array 52.45 344 eP P 18 09 46.1 -0.3
MKAR e 18 10 53.4
MAKZ Makanchi 52.54 344 eP P 18 09 46.9 -0.2
MAKZ ePcP **PcP 18 10 55.3 -1.9**
MAKZ Makanchi 52.54 344 eP P 18 09 46.9 -0.2
MAKZ e 18 10 55.3
DZA Taraz 53.01 333 eP P 18 09 51.9 +1.2
comp=Z,192nm,1.0s
IUG Iuzhnay 53.03 332⇑iP P 18 09 51.3 +0.4
comp=Z,316nm,1.0s
IUG iP PP **PP 18 11 51.4 +0.4**
MAT Matsushiro 53.07 38 P P 18 09 49.4 -1.8
MAT S **S 18 17 16.2 -3.0**
MAJO Matsushiro 53.07 38 eP P 18 09 50.1 -1.2
MAJO ePcP **PcP 18 10 55.2 -4.2**
MAJO LR LR
comp=Z,732nm,20.0s
MAJO Matsushiro 53.07 38 iP P 18 09 49.5 -1.7
MAJO pmax pmax
comp=Z,31nm,1.2s
MJAR Matsushiro Arr 53.07 38 P P 18 09 49.7 -1.5
comp=Z,14nm,0.9s,baz=218,slow=8.3,SNR=52
MJB9 Matsu-Tunnel 53.07 38 eP P 18 09 50.2 -1.0
EIDS Eidsvold 53.32 119 P P 18 09 53.7 +0.4
baz=53,SNR=4.5
EIDS Eidsvold 53.32 119 eP P 18 09 54.5 +1.2
CHM Chimkent 53.36 332⇑iP P 18 09 54.6 +1.4
comp=Z,256nm,1.3s
MSHR Mys Shultsa 53.52 28c iP P 18 09 54.3 -0.1
KK31 Karatay Array 53.55 333 eP P 18 09 54.4 -0.2
KK31 Karatay Array 53.55 333 eP P 18 09 54.4 -0.2
KKAR Karatay Array 53.55 333 eP P 18 09 53.9 -0.7
KKAR Karatay Array 53.55 333 eP P 18 09 53.9 -0.7
ZAK Zakamensk 53.59 2 eP P 18 09 54.7 -0.2
ZAK pmax pmax
comp=Z,15nm,1.1s
KNGR Kungurtug, Tuv 53.81 358 iP P 18 09 56.7 +0.2
DGZ Jazzator, Alta 54.03 350 iP P 18 09 58.7 +0.5
DGZ pmax pmax
comp=Z,25nm,0.8s
YNG Young 54.13 131 P P 18 10 01.6 +2.5
baz=54
OPO Ambohidratompo 54.18 250 LR LR 18 28 37.9
comp=Z,1μm,20.0s,baz=71,slow=31
ABPO Ambohimpanom 54.22 249 PFAKE 18 10 10.0 +10
ABPO LR LR
comp=Z,531nm,20.0s
VLA Vladivostok 54.28 28c iP P 18 10 00.6 +0.7
VLA pmax pmax
comp=Z,68nm,1.2s
MDJ Mudanjiang 54.42 25 P P 18 09 59.5 -1.4
MDJ pmax pmax
comp=Z,35nm,1.3s
MDJ pmax pmax
comp=Z,360nm,3.7s
MDJ Mudanjiang 54.42 25 eP P 18 10 00.6 -0.3
MDJ LR LR
comp=Z,2μm,19.0s
HVS Khovu-Aksy 54.59 355⇑eP P 18 10 02.1 0.0
HVS pmax pmax
comp=Z,28nm,1.2s
MOY Mondy 54.82 0 eP P 18 10 05.3 +1.5
MOY pmax pmax
comp=Z,54nm,2.6s
TLY Talaya 54.90 2 eP P 18 10 04.5 +0.2
TLY LR LR
comp=Z,778nm,20.0s
TLY Talaya 54.90 2 P P 18 10 05.8 +1.5
SNR=9.8
TLY Talaya 54.90 2 P P 18 10 05.8 +1.5
SNR=9.8
TLY Talaya 54.90 2 eP P 18 10 04.5 +0.2
TLY MLR MLR
comp=Z,778nm,20.0s
CAN Canberra 55.00 132 PFAKE 18 10 20.0 +15
CAN LR LR
comp=Z,3μm,22.0s
HIA Hailar 55.03 15 eP P 18 10 05.5 +0.2
HIA LR LR
comp=Z,2μm,20.0s
HIA Hailar 55.03 15 eP P 18 10 05.5 +0.2
HIA MLR MLR
comp=Z,2μm,20.0s
USRK Ussuriysk Ar. 55.16 27 P P 18 10 06.4 +0.2
comp=Z,82nm,0.7s,baz=222,slow=5.6,SNR=98
USRK LR LR 18 35 57.2
comp=Z,2μm,18.6s,baz=218,slow=39
ARMA Armidale 55.28 125 P P 18 10 10.6 +3.0
baz=55,SNR=5.5
ARMA Armidale 55.28 125 eP P 18 10 09.9 +2.4
IRK Irkutsk 55.49 3 eP P 18 10 10.2 +1.7
IRK pmax pmax
comp=Z,98nm,2.5s
GEYT Alibeck 56.76 320 P P 18 10 18.1 +0.2
comp=Z,14nm,1.0s,baz=142,slow=7.5,SNR=35
GEYT LR LR 18 36 57.8
comp=Z,633nm,21.1s,baz=150,slow=38
GYA0B ALIBECK ARRAY 56.76 320 eP P 18 10 18.2 +0.3
OTUK Ortayu 56.95 338 P P 18 10 18.8 -0.2
OTUK pmax pmax
comp=Z,59nm,1.3s
KURBB Kurchatov Arra 56.97 344 P P 18 10 19.0 0.0
comp=Z,31nm,0.9s,baz=164,slow=7.0,SNR=145
KURK Kurchatov 57.02 344 eP P 18 10 19.0 -0.4
KURK LR LR
comp=Z,3μm,20.0s
KURK Kurchatov 57.02 344 P P 18 10 19.9 +0.5
SNR=35
KURK Kurchatov 57.02 344 P P 18 10 19.9 +0.5
SNR=35
KURK Kurchatov 57.02 344c iP P 18 10 19.5 +0.1
KURK pmax pmax
comp=Z,82nm,1.0s
ZAA0 Zalesovo Array 58.58 349 eP P 18 10 29.7 -0.6
ZALV Zalesovo Beam 58.58 349 P P 18 10 30.1 -0.1
comp=Z,47nm,0.8s,baz=179,slow=5.3,SNR=167
ZALV Zalesovo Beam 58.58 349 eP P 18 10 29.7 -0.6
ZALV ePcP **PcP 18 11 21.0 +0.8**
ZALV Zalesovo Beam 58.58 349 eP P 18 10 29.7 -0.6
ZALV e 18 11 21.0
ZAA1 Zalesovo Array 58.58 349 eP P 18 10 30.1 -0.2
KLR Kul'dur 59.00 23c iP P 18 10 33.0 -0.4
ATD Arta Tunnel 59.13 285 LR LR 18 31 52.7
comp=Z,576nm,20.5s,baz=100,slow=32
HNR Honiara 59.40 99 P P 18 10 36.4 -0.4
comp=Z,89nm,0.9s,baz=188,slow=14,SNR=7.6
HNR Honiara 59.40 99 eP P 18 10 35.2 -1.6
HNR LR LR
comp=Z,594nm,21.0s
HNR Honiara 59.40 99 eP P 18 10 35.2 -1.6
HNR MLR MLR
comp=Z,594nm,21.0s

KRAR	**Krasnoyarsk**	**59.50**	**355**	⇓	*e*P		**P**	**18 10 37.0**	**+0.4**
ERM	**Erimo**	**59.50**	**36**		PFAKE			18 10 50.0	+13
ERM					LR	LR			
	comp=Z,634nm,20.0s								
NVS	**Novosibirsk**	**59.73**	**349**		*e*P		**P**	**18 10 37.7**	**-0.5**
NVS					*e*			18 18 44.7	
NVS					pmax	pmax			
	comp=Z,31nm,1.2s								
NVS					pmax	pmax			
	comp=N,17nm,1.3s								
NVS					pmax	pmax			
	comp=E,15nm,1.3s								
RAYN	**Ar Rayn**	**59.77**	**300**		*e*P		**P**	**18 10 38.6**	**-0.6**
RAYN					LR	LR			
	comp=Z,809nm,21.0s								
RAYN	**Ar Rayn**	**59.77**	**300**		P		**P**	**18 10 38.6**	**-0.6**
RAYN					pmax	pmax			
	comp=Z,9.0nm,1.2s								
ASAJ	**Asahikawa**	**60.50**	**34**		P		**P**	**18 10 43.4**	**-0.4**
	comp=Z,4.8nm,0.4s,baz=246,slow=7.8,SNR=20								
ASAJ	**Asahikawa**	**60.50**	**34**		*e*P		**P**	**18 10 42.9**	**-0.9**
ZEA	**Zeya**	**61.16**	**18**		*e*P		**P**	**18 10 48.5**	**+0.4**
ZEA					*e*S		**S**	**18 19 10.0**	**+4.9**
ZEA					pmax	pmax			
	comp=E,24nm,1.0s								
ZEA					pmax	pmax			
	comp=N,65nm,1.2s								
ZEA					pmax	pmax			
	comp=Z,71nm,1.2s								
ZEA					pmax	pmax			
	comp=Z,200nm,7.0s								
ZEA					smax	smax			
	comp=N,400nm,10.0s								
ZEA					MLR	MLR			
	comp=E,1μm,14.0s								
BVA0	**Borovoye Array**	**61.60**	**340**		P		**P**	**18 10 50.6**	**-0.5**
BVA0					pmax	pmax			
	comp=Z,49nm,1.2s								
BVAR	**Borovoye Array**	**61.60**	**340**		P		**P**	**18 10 50.4**	**-0.6**
	comp=Z,13nm,0.7s,baz=143,slow=9.5,SNR=76								
BVAR					LR	LR		18 41 46.0	
	comp=Z,620nm,18.6s,baz=146,slow=40								
BRVK	**Borovoye**	**61.66**	**340**		*e*P		**P**	**18 10 50.9**	**-0.6**
BRVK					LR	LR			
	comp=Z,407nm,20.0s								
BRVK	**Borovoye**	**61.66**	**340**		P		**P**	**18 10 51.4**	**-0.1**
	SNR=11								
BRVK	**Borovoye**	**61.66**	**340**		P		**P**	**18 10 51.4**	**-0.1**
	SNR=11								
BRVK	**Borovoye**	**61.66**	**340**	*c*	*i*P		**P**	**18 10 50.9**	**-0.6**
BRVK					pmax	pmax			
	comp=Z,40nm,1.7s								
BOD	**Bodaibo**	**61.96**	**8**		*e*P		**P**	**18 10 53.1**	**-0.3**
BOD					pmax	pmax			
	comp=Z,51nm,1.5s								
GRNR	**Gornyy**	**62.11**	**25**		*e*P		**P**	**18 10 54.7**	**+0.2**
GRNR					pmax	pmax			
	comp=Z,50nm,1.0s								
YUK	**Yuzh-Kuril'sk**	**62.30**	**35**		*e*P		**P**	**18 10 53.5**	**-2.4**
YUK					*e*			18 11 31.6	
YUK					*e*PPP		PPP	18 14 38.0	
YUK					S		**S**	**18 19 16.8**	**-3.0**
YUK					SS		**SS**	**18 23 20.1**	**-3.7**
YUK					pmax	pmax			
	comp=Z,128nm,1.7s								
YUK					pmax	pmax			
	comp=N,118nm,0.7s								
YUK					pmax	pmax			
	comp=E,85nm,0.6s								
YUK					MLR	MLR			
	comp=Z,558nm,17.0s								
YUK					MLR	MLR			
	comp=N,509nm,16.0s								
YSS	**Yuzh-Sakhalins**	**62.41**	**31**		*e*P		**P**	**18 10 56.1**	**-0.5**
YSS					LR	LR			
	comp=Z,308nm,21.0s								
YSS	**Yuzh-Sakhalins**	**62.41**	**31**	⇑	*i*P		**P**	**18 10 56.4**	**-0.2**
YSS					*e*			18 11 03.7	
YSS					pmax	pmax			
	comp=Z,60nm,1.2s								
YSS					MLR	MLR			
	comp=Z,800nm,15.0s								
YSS					MLR	MLR			
	comp=E,500nm,11.0s								
AB31	**Akbulak array**	**63.03**	**331**		*i*P		**P**	**18 10 59.9**	**-0.8**
AB31					pmax	pmax			
	comp=Z,57nm,0.9s								
ABKAR	**Akbulak array**	**63.03**	**331**		*e*P		**P**	**18 11 00.1**	**-0.6**
KMBO	**Kilima Mbogo**	**63.15**	**270**		LR		LR	18 32 51.5	
	comp=Z,525nm,21.9s,baz=90,slow=31								
CASY	**Casey**	**63.20**	**175**		PFAKE			18 11 10.0	+8.5
CASY					LR	LR			
	comp=Z,404nm,19.0s								
LKRN	**Lenkeran, Azer**	**63.36**	**317**		P		**P**	**18 11 02.5**	**-0.6**
KUR	**Kuril'sk**	**64.16**	**35**	⇑	*e*P		**P**	**18 11 07.4**	**-0.8**
AKTO	**Aktyubinsk**	**64.75**	**332**		P		**P**	**18 11 11.9**	**-0.1**
	comp=Z,13nm,0.9s,baz=108,slow=9.8,SNR=21								
AKTO					LR		LR	18 43 19.8	
	comp=Z,348nm,19.3s,baz=135,slow=40								
AKTO	**Aktyubinsk**	**64.75**	**332**	*i*	P		**P**	**18 11 11.7**	**-0.3**
AKTO					pmax	pmax			
	comp=Z,30nm,1.2s								
MNGR	**Mingechevir, A**	**65.49**	**318**		P		**P**	**18 11 16.5**	**-0.5**
SEKA	**Sheki**	**65.62**	**318**		P		**P**	**18 11 16.9**	**-1.1**
NKL	**Nikolayevsk**	**65.65**	**25**		*e*P		**P**	**18 11 17.0**	**-0.7**
NKL					pmax	pmax			
	comp=Z,500nm,8.0s								
NKL					pmax	pmax			
	comp=Z,38nm,1.0s								
NAX	**Nakhchivan**	**65.84**	**316**		P		**P**	**18 11 18.7**	**-0.7**
GANJ	**Ganja**	**65.94**	**318**		P		**P**	**18 11 19.3**	**-0.7**
ZKTA	**Zakatala**	**66.21**	**319**		P		**P**	**18 11 21.0**	**-0.7**
MAK	**Makhachkala**	**66.28**	**320**		*e*P		**P**	**18 11 19.2**	**-2.8**
MAK					*e*S		**S**	**18 20 03.3**	**-5.8**
MAK					pmax	pmax			
	comp=Z,7.0nm,0.2s								
DDFL	**Dedoflistskaro**	**66.45**	**318**		P		**P**	**18 11 27.0**	**+3.7**
DZM	**Mont Dzumac**	**66.54**	**112**		P		**P**	**18 11 25.1**	**+0.8**
	comp=Z,10nm,1.0s,baz=285,slow=13,SNR=4.0								
DZM					LR		LR	18 42 31.7	
	comp=Z,1μm,19.5s,baz=285,slow=38								
DZM	**Mont Dzumac**	**66.54**	**112**		*e*S		**S**	**18 20 17.5**	**+4.2**
	comp=Z,676nm,27.4s								
DZM	**Mont Dzumac**	**66.54**	**112**		*e*LR		LR	18 31 30.4	
	comp=Z,1μm,24.1s								
DZM	**Mont Dzumac**	**66.54**	**112**		*e*P		**P**	**18 11 24.6**	**+0.3**
GNI	**Garni**	**66.80**	**316**		P		**P**	**18 11 26.0**	**+0.3**
	comp=Z,14nm,1.3s,baz=204,slow=4.1,SNR=7.8								
GNI	**Garni**	**66.80**	**316**		*e*P		**P**	**18 11 25.5**	**-0.1**
GNI					LR	LR			
	comp=Z,520nm,20.0s								
GNI	**Garni**	**66.80**	**316**		P		**P**	**18 11 28.2**	**+2.5**
	SNR=7.4								
GNI	**Garni**	**66.80**	**316**		P		**P**	**18 11 28.2**	**+2.5**
	SNR=7.4								
GNI	**Garni**	**66.80**	**316**	*c*	*i*P		**P**	**18 11 26.3**	**+0.7**
GNI					pmax	pmax			
	comp=Z,70nm,1.7s								
GROC	**Groznyy**	**67.49**	**320**		*e*P		**P**	**18 11 30.7**	**+1.0**
GROC					*e*			18 11 56.0	
GROC					*e*			18 13 58.1	
GROC					*e*S		**S**	**18 20 24.5**	**+0.8**
GROC					pmax	pmax			
	comp=Z,68nm,1.3s								
TBLG	**Delisi**	**67.50**	**318**		P		**P**	**18 11 32.3**	**+2.4**
TBLG	**Delisi**	**67.50**	**318**		*e*P		**P**	**18 11 29.5**	**-0.4**
TBLG	**Delisi**	**67.50**	**318**		*e*P		**P**	**18 11 29.5**	**-0.4**
DUS	**Dusheti**	**67.69**	**318**		P		**P**	**18 11 33.9**	**+2.7**
DUS	**Dusheti**	**67.69**	**318**		*e*P		**P**	**18 11 33.9**	**+2.7**
SVE	**Sverdlovsk**	**68.09**	**338**	*d*	*e*P		**P**	**18 11 33.2**	**-0.1**
SVE					pmax	pmax			
	comp=Z,55nm,1.1s								
SVE					MLR	MLR			
	comp=Z,1μm,25.0s								
ZEI	**Tsey**	**68.53**	**319**		*e*P		**P**	**18 11 37.5**	**+0.9**
ZEI					pmax	pmax			
	comp=Z,13nm,0.9s								
ARU	**Arti**	**68.62**	**337**		*e*P		**P**	**18 11 36.2**	**-0.3**
ARU					LR	LR			
	comp=Z,904nm,20.0s								
ARU	**Arti**	**68.62**	**337**	*c*	*i*P		**P**	**18 11 36.3**	**-0.3**
ARU								18 11 59.4	
ARU					S		**S**	**18 20 38.3**	**+1.6**
ARU					SS		**SS**	**18 24 56.7**	**-4.9**
ARU					pmax	pmax			
	comp=Z,49nm,1.7s								
ARU					MLR	MLR			
	comp=Z,909nm,21.0s								
ONI	**Oni**	**68.74**	**318**		P		**P**	**18 11 40.1**	**+2.3**
ONI	**Oni**	**68.74**	**318**		*e*P		**P**	**18 11 40.0**	**+2.3**
WAKE	**Wake Island**	**68.84**	**68**		*e*P		**P**	**18 11 36.5**	**-2.2**
YAK	**Yakutsk**	**68.95**	**14**		*e*P		**P**	**18 11 36.9**	**-1.6**
	comp=Z,100nm,0.9s								
YAK					LR	LR			
	comp=Z,2μm,20.0s								
YAK	**Yakutsk**	**68.95**	**14**		*e*P		**P**	**18 11 36.5**	**-2.0**
YAK					*e**PP		**sP**	**18 11 52.2**	**-1.0**
YAK					*e*			18 11 58.2	
YAK					*e*S		**S**	**18 20 37.1**	**-3.3**
YAK					*e**SS		**sS**	**18 20 58.5**	**+0.4**
YAK					*e*			18 21 32.6	
YAK					*e*SS		**SS**	**18 25 03.9**	**-2.6**
YAK					pmax	pmax			
	comp=Z,101nm,1.0s								
YAK					pmax	pmax			
	comp=N,25nm,1.0s								
YAK					pmax	pmax			
	comp=E,24nm,1.3s								
YAK					smax	smax			
	comp=N,76nm,4.0s								
YAK					smax	smax			
	comp=E,17nm,2.1s								
YAK					MLR	MLR			
	comp=Z,3μm,16.0s								
YAK					MLR	MLR			
	comp=E,1μm,18.0s								
YAK					MLR	MLR			
	comp=N,3μm,15.0s								
NCK	**Nalchik**	**69.05**	**319**	⇓	*e*P		**P**	**18 11 40.8**	**+1.2**
NCK					pmax	pmax			
	comp=Z,34nm,1.2s								
MAW	**Mawson**	**69.08**	**194**		LR		LR	18 35 35.3	
	comp=Z,1μm,21.9s,baz=50,slow=30								
MAW	**Mawson**	**69.08**	**194**		*e*P		**P**	**18 11 40.0**	**+0.8**
MAW	**Mawson**	**69.08**	**194**		*e*P		**P**	**18 11 40.0**	**+0.8**
NEY	**Neytrino**	**69.51**	**319**	⇓	*e*P		**P**	**18 11 44.0**	**+1.4**
NEY					pmax	pmax			
	comp=Z,17nm,2.7s								
KBZ	**Khabaz**	**69.61**	**319**		P		**P**	**18 11 43.7**	**+0.8**
	comp=Z,12nm,1.0s,baz=118,slow=5.2,SNR=30								
MBAR	**Mbarara**	**69.68**	**271**		*e*P		**P**	**18 11 43.9**	**-0.4**
MBAR	**Mbarara**	**69.68**	**271**		*e*P		**P**	**18 11 43.9**	**-0.4**
ASF	**Jabal al Asfar**	**69.72**	**306**		P		**P**	**18 11 45.5**	**+1.5**
	comp=Z,6.2nm,1.1s,baz=129,slow=1.8,SNR=7.3								
KIV	**Kislovodsk**	**69.84**	**319**		*e*P		**P**	**18 11 45.5**	**+1.0**
	comp=Z,30nm,1.3s								
KIV					LR	LR			
	comp=Z,336nm,21.0s								
KIV	**Kislovodsk**	**69.84**	**319**		P		**P**	**18 11 45.9**	**+1.4**
	SNR=9.3								
KIV	**Kislovodsk**	**69.84**	**319**		P		**P**	**18 11 45.9**	**+1.4**
	SNR=9.3								
KIV	**Kislovodsk**	**69.84**	**319**		*e*P		**P**	**18 11 44.9**	**+0.4**
KIV					*e*S		**S**	**18 20 53.2**	**+1.3**
KIV					*e*SS		**SS**	**18 25 24.3**	**+3.0**
KIV					pmax	pmax			
	comp=Z,18nm,1.0s								
GOF	**Gofitskoye**	**70.10**	**321**	⇑	*e*P		**P**	**18 11 47.8**	**+1.8**
MMAI	**Mount Meron Ar**	**71.18**	**306**		P		**P**	**18 11 54.9**	**+2.0**
	comp=Z,7.1nm,0.9s,baz=129,slow=6.5,SNR=7.8								
MMAI					LR		LR	18 43 34.0	
	comp=Z,1μm,19.6s,baz=130,slow=36								
DCZ	**Deep Cove**	**71.40**	**137**		*e*P		**P**	**18 11 55.3**	**+1.4**
SOC	**Sochi**	**71.64**	**318**		*e*P		**P**	**18 11 53.6**	**-1.8**
SOC					*e**PP		**pP**	**18 12 02.6**	**-3.6**
SOC					*e*			18 14 38.1	
SOC					*e*S		**S**	**18 21 11.5**	**-1.1**
SOC					pmax	pmax			
	comp=Z,17nm,1.0s								
SOC					MLR	MLR			
	comp=Z,306nm,18.0s								
SKR	**Severo-Kuril's**	**71.76**	**34**	⇓	*e*P		**P**	**18 11 54.6**	**-1.3**
LSZ	**Lusaka**	**71.98**	**255**		*e*P		**P**	**18 11 58.5**	**+0.3**
LSZ					LR	LR			
	comp=Z,648nm,21.0s								
LSZ	**Lusaka**	**71.98**	**255**		*e*P		**P**	**18 11 58.5**	**+0.3**
LSZ					MLR	MLR			
	comp=Z,648nm,21.0s								
MLZ	**Mavora Lakes**	**72.04**	**137**		*e*P		**P**	**18 11 59.4**	**+1.5**
CSS	**Mathiatis**	**73.38**	**308**		*e*P		**P**	**18 12 06.7**	**+0.7**
	comp=Z,9.2nm,1.3s								
CSS					LR	LR			
	comp=Z,174nm,19.0s								
VRH	**Novokhopyorsk**	**73.68**	**326**		*e*P		**P**	**18 12 07.4**	**+0.1**
VRH					pmax	pmax			
	comp=Z,60nm,0.8s								
PEA0B	**Petropavlovsk-**	**73.81**	**32**		*e*P		**P**	**18 12 07.5**	**-0.6**
PETK	**Petropavlovsk-**	**73.81**	**32**		P		**P**	**18 12 08.3**	**+0.3**
	comp=Z,12nm,1.0s,baz=206,slow=0.7,SNR=10								
PETK					LR		LR	18 46 27.5	
	comp=Z,278nm,19.5s,baz=249,slow=37								
PETK	**Petropavlovsk-**	**73.81**	**32**		*e*P		**P**	**18 12 07.2**	**-0.8**
PETK	**Petropavlovsk-**	**73.81**	**32**		*e*P		**P**	**18 12 07.2**	**-0.8**
PEA1	**Petropavlovsk-**	**73.81**	**32**		*e*P		**P**	**18 12 08.3**	**+0.3**
MA2	**Magadan**	**74.09**	**24**		*e*P		**P**	**18 12 09.8**	**+0.2**
	comp=Z,138nm,1.1s								
MA2					LR	LR			
	comp=Z,786nm,20.0s								
MA2	**Magadan**	**74.09**	**24**	⇑	*e*P		**P**	**18 12 09.8**	**+0.2**
MA2					pmax	pmax			
	comp=Z,41nm,1.1s								
PET	**Petropavlovsk**	**74.27**	**32**		*e*P		**P**	**18 12 10.1**	**-0.7**
	comp=Z,31nm,0.9s								
PET					LR	LR			
	comp=Z,528nm,20.0s								
PET	**Petropavlovsk**	**74.27**	**32**	⇑	*i*P		**P**	**18 12 10.8**	**+0.1**
PET					*e*			18 14 57.1	
PET					*e*S		**S**	**18 21 40.6**	**-1.5**
PET					*e*PS		**PnS**	**18 22 15.4**	**-3.9**
PET					*e*PPS		PPS	18 22 26.8	
PET					pmax	pmax			
	comp=Z,42nm,1.0s								
PET					pmax	pmax			
	comp=Z,200nm,11.4s								
PET					MLR	MLR			
	comp=Z,600nm,19.0s								
BR101	**Keskin Array S**	**74.55**	**313**		*e*P		**P**	**18 12 12.6**	**-0.2**
BR131	**Keskin Array S**	**74.55**	**313**		*e*P		**P**	**18 12 12.1**	**-0.7**
BRTR	**Keskin Array B**	**74.55**	**313**		P		**P**	**18 12 12.6**	**-0.2**
	comp=Z,5.7nm,0.8s,baz=124,slow=6.6,SNR=36								
BRTR					LR		LR	18 47 26.9	
	comp=Z,347nm,21.0s,baz=115,slow=38								
ILGA	**Ilgaz**	**74.90**	**314**		*e*P		**P**	**18 12 13.9**	**-1.1**
VORD	**Divnogorie**	**74.95**	**325**		*e*P		**P**	**18 12 14.6**	**-0.1**
VORD					pmax	pmax			
	comp=Z,20nm,0.9s								
VSR	**Storozhevoye**	**75.13**	**325**		*e*P		**P**	**18 12 15.5**	**-0.2**
VSR					pmax	pmax			
	comp=Z,40nm,0.8s								
ANTO	**Ankara**	**75.21**	**313**		*e*P		**P**	**18 12 15.7**	**-0.9**
ANTO					LR	LR			
	comp=Z,456nm,21.0s								
ANTO	**Ankara**	**75.21**	**313**		*e*P		**P**	**18 12 15.7**	**-0.9**
ANTO					MLR	MLR			
	comp=Z,456nm,21.0s								
BR231	**Keskin MP Arra**	**75.22**	**313**		*e*P		**P**	**18 12 16.0**	**-0.7**
BOSA	**Boshof**	**75.38**	**241**		LR		LR	18 42 02.2	
	comp=Z,522nm,18.0s,baz=94,slow=33								
BOSA	**Boshof**	**75.38**	**241**		*e*P		**P**	**18 12 17.6**	**-0.2**
BOSA	**Boshof**	**75.38**	**241**		*e*P		**P**	**18 12 17.6**	**-0.2**
SIM	**Simferopol'**	**75.89**	**318**		P		**P**	**18 12 20.4**	**+0.2**
SIM					*e*S		**S**	**18 21 59.3**	**-1.2**
SIM					pmax	pmax			
	comp=Z,8.0nm,0.8s								
SNZO	**South Karori**	**76.00**	**132**		PFAKE			18 12 30.0	+9.1
SNZO					LR	LR			
	comp=Z,2μm,19.0s								
ISP	**Isparta**	**76.34**	**310**		*e*P		**P**	**18 12 23.2**	**+0.1**
ISP					LR	LR			
	comp=Z,484nm,20.0s								
ISP	**Isparta**	**76.34**	**310**	*d*	*i*P		**P**	**18 12 24.2**	**+1.1**
ISP					pmax	pmax			
	comp=Z,7.0nm,1.3s								
SYO	**Syowa Base**	**76.72**	**199**	⇓	*e*PcP		**PcP**	**18 12 35.0**	**-0.7**
SEY	**Seymchan**	**76.73**	**22**	⇓	*e*P		**P**	**18 12 24.5**	**-0.1**
BKZ	**Black Stump Fm**	**77.09**	**129**		*e*P		**P**	**18 12 27.9**	**+0.6**
TIXI	**Tiksi**	**77.13**	**9**		PFAKE			18 12 40.0	+13
TIXI					LR	LR			
	comp=Z,2μm,19.0s								
TIXI	**Tiksi**	**77.13**	**9**	*c*	*i*P		**P**	**18 12 25.5**	**-1.2**
TIXI					pmax	pmax			
	comp=Z,42nm,1.3s								
MSVF	**Nonsavu**	**77.20**	**107**		PFAKE			18 12 40.0	+12
MSVF					LR	LR			
	comp=Z,595nm,19.0s								
MOS	**Moscow**	**77.87**	**329**		*e*P		**P**	**18 12 31.3**	**+0.1**
MOS					pmax	pmax			
	comp=Z,72nm,1.2s								
MANT	**Manisa**	**78.01**	**310**		*e*P		**P**	**18 12 32.4**	**-0.2**
OBN	**Obninsk**	**78.17**	**328**		*e*P		**P**	**18 12 33.0**	**+0.2**
OBN					LR	LR			
	comp=Z,526nm,22.0s								
OBN	**Obninsk**	**78.17**	**328**	*d*	*i*P		**P**	**18 12 34.2**	**+1.4**
OBN					*e*			18 12 40.9	
OBN					*e*PPP		PPP	18 17 17.6	
OBN					pmax	pmax			
	comp=Z,59nm,1.3s								
OBN					MLR	MLR			
	comp=Z,221nm,21.0s								
KLMR	**Klimovskoe**	**79.23**	**334**		*e*P		**P**	**18 12 38.7**	**+0.2**
KLMR					AMP			18 12 41.7	
	comp=Z,49nm,1.3s								
KLMR					*e*PP		**PP**	**18 15 37.8**	**-0.7**
KLMR					*e*S		**S**	**18 22 37.4**	**+1.4**
KLMR					*e*S		**S**	**18 22 37.4**	**+1.4**
KLMR					LQ	LQ		18 42 44.6	
KLMR					LQ	LQ		18 42 44.6	
KLMR					LR	LR		18 48 54.5	
KLMR	**Klimovskoe**	**79.23**	**334**		*e*P		**P**	**18 12 38.7**	**+0.2**
KLMR					*e*			18 15 37.8	
KLMR					*e*S		**S**	**18 22 37.3**	**+1.3**
KLMR					pmax	pmax			
	comp=Z,49nm,1.3s								
SUR	**Sutherland**	**79.43**	**238**		PFAKE			18 12 50.0	+9.4
SUR					LR	LR			
	comp=Z,1μm,20.0s								
TIRR	**Tirgusor**	**79.62**	**316**	⇑	*i*P		**P**	**18 12 42.4**	**+1.4**
TIRR	**Tirgusor**	**79.62**	**316**		*e*P		**P**	**18 12 41.0**	**0.0**
TIRR	**Tirgusor**	**79.62**	**316**		*e*P		**P**	**18 12 41.0**	**0.0**
TLB	**Topalu**	**79.91**	**316**	⇓	*i*P		**P**	**18 12 43.7**	**+1.1**
TLB	**Topalu**	**79.91**	**316**	⇓	P		**P**	**18 12 43.7**	**+1.1**
SANT	**Santorini**	**79.94**	**308**		PFAKE			18 12 50.0	+7.0
SANT					LR	LR			
	comp=Z,413nm,20.0s								
CFR	**Carcaliu**	**80.00**	**317**	⇑	*i*P		**P**	**18 12 44.1**	**+1.0**
CFR	**Carcaliu**	**80.00**	**317**	⇑	P		**P**	**18 12 44.1**	**+1.0**
KIS	**Kishinev**	**80.03**	**319**		*e*P		**P**	**18 12 44.0**	**+0.8**
KIS	**Kishinev**	**80.03**	**319**		*e*PcP		**PcP**	**18 12 57.0**	**+6.5**
KIS					*e*S		**S**	**18 22 41.0**	**-4.0**
KIS					LRM	MLR		18 57 56.0	
	comp=Z,200nm,18.0s								
KIS	**Kishinev**	**80.03**	**319**		*e*P		**P**	**18 12 44.0**	**+0.8**
KIS					*e*			18 12 57.0	
KIS					*e*S		**S**	**18 22 41.0**	**-4.0**
IDI	**Anoyia**	**80.18**	**306**		P		**P**	**18 12 45.2**	**+0.8**
	comp=Z,9.7nm,1.0s,baz=45,slow=1.4,SNR=4.4								
IDI					LR	LR		18 50 30.0	
	comp=Z,248nm,21.2s,baz=98,slow=37								
IDI	**Anoyia**	**80.18**	**306**	⇓	*i*P		**P**	**18 12 45.5**	**+1.1**
IDI	**Anoyia**	**80.18**	**306**		*e*P		**P**	**18 12 44.0**	**-0.4**
SORM	**Soroca**	**80.64**	**320**	⇓	*i*P		**P**	**18 12 47.3**	**+0.8**
SORM	**Soroca**	**80.64**	**320**	⇓	P		**P**	**18 12 47.3**	**+0.8**
VNDA	**Vanda**	**80.75**	**169**		P		**P**	**18 12 49.2**	**+2.6**
	comp=Z,1.6nm,1.0s,baz=314,slow=5.7,SNR=6.7								
VNDA					LR	LR		18 44 14.4	
	comp=Z,404nm,21.4s,baz=309,slow=32								
VNDA	**Vanda**	**80.75**	**169**		*e*P		**P**	**18 12 46.3**	**-0.3**
VNDA					*e*sP		**PcP**	**18 12 48.7**	**-4.4**
VNDA	**Vanda**	**80.75**	**169**		*e*P		**P**	**18 12 46.3**	**-0.3**
AKASG	**Malin Array Be**	**80.81**	**322**		P		**P**	**18 12 48.1**	**+0.8**
	comp=Z,4.4nm,0.8s,baz=86,slow=5.0,SNR=18								
AKBB	**Malin Array Si**	**80.81**	**322**		*e*P		**P**	**18 12 47.5**	**+0.2**
AKBB	**Malin Array Si**	**80.81**	**322**		*e*P		**P**	**18 12 47.5**	**+0.2**
KIEV	**Kiev**	**80.82**	**322**		*e*P		**P**	**18 12 46.1**	**-1.3**
KIEV					LR	LR			
	comp=Z,581nm,22.0s								
KIEV	**Kiev**	**80.82**	**322**	⇑	*e*P		**P**	**18 12 47.0**	**-0.4**
KIEV					pmax	pmax			
	comp=Z,10.0nm,1.3s								
RAO	**Raoul Island**	**81.09**	**119**		PFAKE			18 13 00.0	+11
RAO					LR	LR			
	comp=Z,793nm,19.0s								
VRI	**Vrincioaia**	**81.13**	**317**	⇓	*i*P		**P**	**18 12 50.9**	**+1.7**
VRI	**Vrincioaia**	**81.13**	**317**	⇓	P		**P**	**18 12 50.9**	**+1.7**
PLOR	**Plostina**	**81.18**	**317**	⇑	*i*P		**P**	**18 12 51.6**	**+2.1**
PLOR	**Plostina**	**81.18**	**317**	⇑	P		**P**	**18 12 51.6**	**+2.1**
TESR	**Tescani**	**81.34**	**318**	⇓	*i*P		**P**	**18 12 51.0**	**+0.7**
TMCR	**Tamitsa**	**81.35**	**337**		*e*P		**P**	**18 12 51.3**	**+1.4**
TMCR					pmax	pmax			
	comp=Z,55nm,1.2s								
MLR	**Muntele Rosu**	**81.57**	**317**		P		**P**	**18 12 52.6**	**+0.9**
	comp=Z,2.7nm,1.0s,baz=30,slow=3.6,SNR=17								
MLR	**Muntele Rosu**	**81.57**	**317**	⇑	*i*P		**P**	**18 12 53.2**	**+1.5**
MLR	**Muntele Rosu**	**81.57**	**317**		*e*P		**P**	**18 12 51.7**	**0.0**
MLR	**Muntele Rosu**	**81.57**	**317**		*e*P		**P**	**18 12 51.7**	**0.0**
PRAR	**RASCA**	**81.83**	**319**	⇓	*i*P		**P**	**18 12 54.8**	**+2.0**
TSUM	**Tsumeb**	**82

comp=Z,454nm,20.7s,baz=105,slow=39
STHS Stebnicka Huta 85.51 320 *e*P **P 18 13 13.5 +1.8**
STHS *e* 18 13 22.4
STHS Stebnicka Huta 85.51 320 *e*P **P 18 13 13.5 +1.8**
STHS *e* 18 13 22.4
STHS pmax pmax
comp=Z,8.0nm,1.0s
PDG Podgorica 85.74 313⇓ *i*P **P 18 13 13.7 +0.8**
NIE Niedzica 86.12 320 *e*P **P 18 13 17.3 +2.6**
NIE Niedzica 86.12 320 *e*P **P 18 13 17.3 +2.6**
PSZ Piszkesteto 86.13 318 *e*P **P 18 13 15.1 +0.2**
PSZ LR LR
comp=Z,294nm,19.0s
PSZ Piszkesteto 86.13 318 *e*P **P 18 13 15.1 +0.2**
PSZ MLR MLR
comp=Z,294nm,19.0s
QSPA South Pole Qui 86.61 180 P **P 18 13 19.7 +2.8**
comp=Z,0.9nm,0.5s,baz=328,slow=2.3,SNR=3.6
QSPA LR LR 18 47 19.1
comp=Z,805nm,18.6s,baz=313,slow=32
QSPA South Pole Qui 86.61 180 PFAKE 18 13 30.0 +13
QSPA LR LR
comp=Z,1µm,20.0s
VYHS Vyhne 86.92 319 *e*P **P 18 13 19.1 +0.5**
VYHS *e* 18 13 28.2
VYHS Vyhne 86.92 319 *e*P **P 18 13 19.1 +0.5**
VYHS *e* 18 13 28.3
VYHS pmax pmax
comp=Z,5.0nm,1.4s
KLNR Kaliningrad 87.06 325⇓ *e*P **P 18 13 19.8 +0.7**
KLNR pmax pmax
comp=Z,45nm,0.8s
TIP Timpagrande 87.19 309 PFAKE 18 13 30.0 +10
TIP LR LR
comp=Z,282nm,21.0s
KEV Kevo 87.44 340 PFAKE 18 13 30.0 +9.3
KEV LR LR
comp=Z,737nm,21.0s
BLY Banja Luka 87.54 315⇑ *i*P **P 18 13 23.5 +1.8**
BLY Banja Luka 87.54 315 *e*P **P 18 13 21.4 -0.2**
OKC Ostrava-Krasne 87.56 320 *e*S **S 18 23 57.1 -3.6**
OKC AMS AMS 19 00 20.0
comp=Z,300nm,21.1s
CEL Celeste 87.76 308 PFAKE 18 13 30.0 +7.0
CEL LR LR
comp=Z,222nm,19.0s
ARA0 ARCESS Array S 87.89 340 *e*P **P 18 13 23.7 +0.9**
ARCES ARCESS Array B 87.89 340 P **P 18 13 23.7 +0.9**
comp=Z,16nm,1.0s,baz=116,slow=5.5,SNR=14
ARCES LR LR 18 57 17.2
comp=Z,755nm,20.0s,baz=100,slow=39
ARCES ARCESS Array B 87.89 340 *e*P **P 18 13 22.3 -0.5**
ARCES ARCESS Array B 87.89 340 *e*P **P 18 13 22.3 -0.5**
MORC Moravsky Berou 87.94 320 *e*P **P 18 13 23.5 -0.1**
MORC Moravsky Berou 87.94 320 *e*P **P 18 13 23.5 -0.1**
CUC Castrocucco 88.00 310 *e*P **P 18 13 23.9 -0.2**
CUC LR LR
comp=Z,267nm,20.0s
WDD Wied Dalam 88.62 306 PFAKE 18 13 40.0 +13
WDD LR LR
comp=Z,290nm,20.0s
DPC Dobruska-Polom 88.80 320 *e*P **P 18 13 29.8 +2.2**
DPC *ex* x 18 13 38.3
DPC *e*S **S 18 24 12.3 -0.3**
DPC AMS AMS 19 01 00.0
comp=Z,400nm,21.4s
DPC Dobruska-Polom 88.80 320 *e*P **P 18 13 29.8 +2.2**
DPC *e* 18 13 38.3
DPC *e* 18 24 12.3
DPC MLR MLR
comp=Z,400nm,21.4s
CONA Conrad Observa 88.82 318 *i* PcP **P 18 13 29.1 +1.3**
comp=Z,4.9nm,1.5s
KSP Ksiaz 88.87 321 *e*P **P 18 13 30.5 +2.6**
KSP Ksiaz 88.87 321 *e*P **P 18 13 30.5 +2.6**
ARSA Arzberg 88.98 317 *e*PcP **P 18 13 29.6 +1.1**
comp=Z,8.7nm,1.1s
UPC Upice 89.01 321 *e*P **P 18 13 31.0 +2.5**
UPC *ex* x 18 13 39.3
UPC *e*S **S 18 24 16.1 +1.6**
UPC AMS AMS 19 02 50.0
comp=Z,400nm,20.2s
UPC Upice 89.01 321 *e*P **P 18 13 31.0 +2.5**
UPC *e* 18 13 39.3
UPC *e* 18 24 16.1
UPC MLR MLR
comp=Z,400nm,20.2s
SOKA Soboth 89.25 317 *e*pP **P 18 13 31.8 +1.9**
comp=Z,13nm,1.3s
OBKA Obir 89.57 316 *i* pP **P 18 13 33.1 +1.7**
comp=Z,8.6nm,1.3s
GOPC GO Pecny, Ondr 89.73 320 *e*S **S 18 24 16.9 -4.4**
GOPC AMS AMS 19 01 40.0
comp=Z,400nm,20.7s
CLTB Caltabellotta 89.81 307 PFAKE 18 13 40.0 +7.3
CLTB LR LR
comp=Z,141nm,20.0s
MOA Molln 89.88 318 *e*pP **P 18 13 34.9 +2.1**
comp=Z,5.7nm,1.3s
PRU Pruhonice 89.90 320 *e*P **P 18 13 32.5 -0.2**
PRU *ex* x 18 13 42.1
PRU *e*S **S 18 24 19.5 -3.2**
PRU AMS AMS 19 03 40.0
comp=Z,300nm,18.7s
PRU Pruhonice 89.90 320 *e*P **P 18 13 32.5 -0.2**
PRU *e* 18 13 42.1
PRU *e* 18 24 19.5
PRU MLR MLR
comp=Z,300nm,18.7s
PVCC Panska Ves 89.93 320 AMS AMS 19 01 50.0
comp=Z,300nm,17.8s
PRA Prague 89.97 320 *e*S **S 18 24 22.3 -1.1**
AQU L'Aquila 90.03 312 PFAKE 18 13 40.0 +6.4
AQU LR LR
comp=Z,272nm,21.0s
GEA0 GERESS Array S 90.34 319 *e*P **P 18 13 35.2 +0.3**
GEC2 GERESS Array S 90.34 319 *e*P **P 18 13 35.4 +0.5**
GEC2 GERESS Array S 90.34 319 *e*P **P 18 13 35.4 +0.5**
GERES GERESS Array B 90.34 319 P **P 18 13 36.0 +1.0**
comp=Z,4.6nm,1.0s,baz=98,slow=4.0,SNR=21
GERES LR LR 18 59 48.8
comp=Z,219nm,18.9s,baz=87,slow=39
GERES GERESS Array B 90.34 319 P **P 18 13 36.0 +1.0**
BRG Berggiesshubel 90.36 321 *e*P **P 18 13 37.2 +2.4**
comp=Z,14nm,1.4s
comp=N,352nm,29.2s
comp=E,353nm,19.5s
comp=Z,524nm,20.2s
BRG Berggiesshubel 90.36 321 *e*P **P 18 13 37.2 +2.4**
BRG pmax pmax
comp=Z,14nm,1.4s
BRG MLR MLR
comp=E,353nm,19.5s
BRG MLR MLR
comp=Z,524nm,20.2s
KBA Koelnbreinsper 90.44 317 *e*pP **P 18 13 37.4 +1.9**
comp=Z,5.1nm,1.2s
KHC Kasperske Hory 90.45 319 *e*P **P 18 13 37.1 +1.8**
KHC *ex* x 18 13 45.6
KHC *e*S **S 18 24 24.0 -4.0**
KHC AMS AMS 19 01 00.0
comp=Z,400nm,23.8s
KHC Kasperske Hory 90.45 319 *e*P **P 18 13 36.3 +1.0**
KHC Kasperske Hory 90.45 319 *e*P **P 18 13 36.3 +1.0**
CLL Collm 90.98 321 *e*P **P 18 13 39.0 +1.3**
comp=Z,8.0nm,1.4s
CLL *e* 18 13 47.0
CLL *e*S **S 18 24 29.0 -3.6**
CLL *e*PS **PS 18 25 45.0 +0.1**
CLL *e* 18 27 18.0
CLL *e*SS **SS 18 30 36.0 -0.4**
CLL *e*SSSS 18 37 30.0
CLL LmV 19 04 00.0
comp=Z,300nm,19.5s
CLL Collm 90.98 321 *e*P **P 18 13 39.0 +1.3**
CLL *e* 18 13 47.0
CLL *e*S **S 18 24 26.0 -6.6**
CLL pmax pmax
comp=Z,8.0nm,1.4s
CLL MLR MLR
comp=Z,300nm,19.5s
SNAA Sanae 90.98 198 P P 18 13 52.1 +15
HFS Hagfors 91.25 330 P **P 18 13 39.6 +0.9**
comp=Z,6.2nm,0.9s,baz=108,slow=4.7,SNR=7.6
HFS LR LR 18 59 52.8
comp=Z,428nm,18.8s,baz=88,slow=39
NKC Novy Kostel 91.26 320 AMS AMS 19 02 30.0
comp=Z,400nm,21.6s
WTTA Wattenberg 91.62 317 *i* PcP **P 18 13 41.9 +0.9**
comp=Z,2.0nm,0.6s
WATA Walderalm 91.66 317 *e*pP **P 18 13 42.5 +1.3**
comp=Z,1.4nm,0.6s
MOTA Moosalm 91.98 317 *e*PcP **P 18 13 43.5 +0.8**
comp=Z,5.5nm,1.0s
SPA0 Spitsbergen Ar 92.04 348 *e*P **P 18 13 43.2 +1.1**
SPITS Spitsbergen Ar 92.04 348 P **P 18 13 42.8 +0.7**
comp=Z,14nm,0.9s,baz=46,slow=4.2,SNR=3.6
SPITS LR LR 19 02 04.8
comp=Z,656nm,19.0s,baz=110,slow=40
RETA Reutte 92.22 317 *i* PcP **P 18 13 43.7 +0.1**
comp=Z,5.4nm,1.1s
VLC Villacollemand 92.34 314 PFAKE 18 14 00.0 +16
VLC LR LR
comp=Z,309nm,20.0s
NB2 NORSAR Subarra 92.53 331 P **P 18 13 45.8 +1.1**
comp=Z,8.5nm,1.1s,baz=94,slow=4.8
NB200 NORSAR Array S 92.53 331 *e*P **P 18 13 46.0 +1.3**
NOA NORSAR Array B 92.53 331 P **P 18 13 46.0 +1.3**
comp=Z,2.7nm,0.9s,baz=93,slow=4.7,SNR=5.4
NOA LR LR 18 58 50.1
comp=Z,137nm,19.4s,baz=80,slow=38
NOA NORSAR Array B 92.53 331 P **P 18 13 46.0 +1.3**
VNA2 Neumayer--Watz 92.60 198 P P 18 13 59.5 +15
baz=75,slow=4.9
KEST Kesra 92.81 305 P **P 18 13 48.2 +1.5**
comp=Z,4.9nm,0.9s,baz=321,slow=6.5,SNR=4.1
VSL Villasalto 92.92 309 PFAKE 18 14 00.0 +13
VSL LR LR
comp=Z,122nm,22.0s
VNA1 Neumayer--Stat 92.96 198 P P 18 14 01.2 +15
KBS Kingsbay 92.98 349 PFAKE 18 14 00.0 +14
KBS LR LR
comp=Z,847nm,19.0s
TUE Stuetta 93.15 316 PFAKE 18 14 00.0 +12
TUE LR LR
comp=Z,267nm,21.0s
VNA3 Neumayer Olymp 93.20 198 P P 18 14 01.6 +14
BFO Black Forest 93.88 318 PFAKE 18 14 00.0 +8.8
BFO LR LR
comp=Z,256nm,20.0s
ECH Echery 94.66 318 PFAKE 18 14 10.0 +15
ECH LR LR
comp=Z,308nm,22.0s
BNI Bardonecchia 95.01 315 PFAKE 18 14 10.0 +13
BNI LR LR
comp=Z,342nm,21.0s
WLF Walferdange 95.31 319 PFAKE 18 14 10.0 +12
WLF LR LR
comp=Z,432nm,20.0s
TAM Tamanrasset 95.80 292 PFAKE 18 14 10.0 +9.2
TAM LR LR
comp=Z,369nm,19.0s
SSB Saint Sauveur 96.51 315 PFAKE 18 14 10.0 +6.6
SSB LR LR
comp=Z,233nm,20.0s
RAR Rarotonga 97.91 112 LR LR 18 58 53.8
comp=Z,277nm,20.8s,baz=256,slow=36
TORD Torodi Ar. Bea 99.25 283 LR LR 18 56 23.1
comp=Z,268nm,20.1s,baz=70,slow=34
IM3 Indian Mountai 99.47 24 *e*P **Pdif 18 14 15.4 -0.8**
TOLK Toolik Lake Re 100.33 20 *e*Pdif **Pdif 18 14 21.2 +1.2**
ESK Eskdalemuir 100.50 326 PFAKE 18 14 30.0 +9.1
ESK LR LR
comp=Z,488nm,20.0s
CAST Castle Rocks 100.78 26 *e*Pdif **Pdif 18 14 23.3 +1.3**
BPAW Bear Paw Mtn. 101.08 25 *e*Pdif **Pdif 18 14 24.2 +0.9**
KDAK Kodiak Island 101.86 32 PFAKE 18 14 40.0 +13
KDAK LR LR
comp=Z,264nm,20.0s
COLA College 102.15 24 PFAKE 18 14 40.0 +12
COLA LR LR
comp=Z,375nm,19.0s
ILAR Eielson Array 102.57 24 PP PP 18 18 35.6 -7.5
comp=Z,1.7nm,1.1s,baz=279,slow=7.5,SNR=8.7
PAB San Pablo 103.52 310 PFAKE 18 14 50.0 +15
PAB LR LR
comp=Z,248nm,19.0s
EGAK Eagle 104.85 23 PFAKE 18 14 50.0 +10
EGAK LR LR
comp=Z,450nm,20.0s
INK Inuvik 105.82 18 PP PP 18 18 57.2 -10
comp=Z,1.5nm,1.0s,baz=83,slow=3.6,SNR=4.0
MTE Manteigas 105.83 311 PFAKE 18 19 10.0
MTE LR LR
comp=Z,272nm,19.0s
TBI Tubuai 107.02 116 *e*LR LR 18 50 14.4
comp=Z,802nm,23.8s
PPT2 Papete2 107.95 110 *e*Sdif Sdif 18 27 00.3 +1.4
comp=Z,390nm,26.5s
PPT2 Papeete2 107.95 110 *e*LR LR 18 50 42.7
comp=Z,544nm,24.8s
WRAK Wrangell Islan 112.59 29 PFAKE 18 19 20.0
WRAK LR LR
comp=Z,515nm,21.0s
SFJD Kangerlussuaq 113.38 348 PFAKE 18 19 20.0
SFJD LR LR
comp=Z,539nm,19.0s
YKA Yellowknife Ar 115.54 17 PKP **PKPdf 18 19 14.5 -0.8**
comp=Z,0.9nm,0.9s,baz=309,slow=2.2,SNR=7.0
YKA PP **PP 18 20 09.9 -7.0**
comp=Z,1.2nm,1.1s,baz=323,slow=7.3,SNR=4.9
TAOE Nuku Hiva Isla 118.42 102 *e*LR LR 18 55 40.7
comp=Z,269nm,23.6s
NLWA Neilton Lookou 121.89 34 PFAKE 18 19 40.0 +12
NLWA LR LR
comp=Z,369nm,20.0s
FCC Fort Churchill 123.60 9 *e*PKPdf **PKPdf 18 19 30.2 -0.7**
FCC Fort Churchill 123.60 9 *e*PKIKP **PKPdf 18 19 30.2 -0.7**
SACV Santiago Islan 123.70 286 PFAKE 18 19 40.0 +7.7
SACV LR LR
comp=Z,274nm,22.0s
HAWA Hanford 124.87 33 PFAKE 18 19 50.0 +16
HAWA LR LR
comp=Z,341nm,19.0s
NEW Newport 124.91 30 PFAKE 18 19 50.0 +16
NEW LR LR
comp=Z,329nm,20.0s
HUMO Hull Mountain 125.10 38 *e*PKPdf **PKPdf 18 19 35.2 +0.9**
J04D Umpqua Nationa 125.27 37 P **PKPdf 18 19 36.5 +1.7**
baz=304
FFC Flin Flon 125.65 16 *e*PKPdf **PKPdf 18 19 35.5 +0.5**
FFC LR LR
comp=Z,628nm,20.0s
FFC Flin Flon 125.65 16 *e*PKIKP **PKPdf 18 19 35.5 +0.5**
FFC MLR MLR
comp=Z,628nm,20.0s
J05D Fort Rock, OR 125.77 37 P **PKPdf 18 19 37.2 +1.4**
baz=305
K05A Summer Lake 126.29 37 *e*PKPdf **PKPdf 18 19 38.0 +1.2**
O03D Paynes Creek 127.08 40 P **PKPdf 18 19 39.0 +0.7**
baz=303
MOD Modoc Plateau 127.12 38 *e*PKPdf **PKPdf 18 19 39.4 +1.0**
J08A Circle Bar Ran 127.34 35 *e*PKPdf **PKPdf 18 19 39.8 +1.1**
MSO Missoula 127.46 29 P **PKPdf 18 19 39.5 +0.7**
baz=315
MSO Missoula 127.46 29 *e*PKPdf **PKPdf 18 19 39.2 +0.4**
WVOR Wild Horse Val 127.81 36 *e*PKPdf **PKPdf 18 19 40.4 +0.8**
WVOR LR LR
comp=Z,339nm,20.0s
WVOR Wild Horse Val 127.81 36 *e*PKIKP **PKPdf 18 19 40.4 +0.8**
WVOR MLR MLR
comp=Z,339nm,20.0s
AFDM Forest Hills D 128.35 41 *e*PKPdf **PKPdf 18 19 40.8 +0.1**
EGMT Eagleton 128.50 26 P **PKPdf 18 19 41.8 +1.1**
baz=320
EGMT Eagleton 128.50 26 PFAKE 18 19 50.0 +9.3
EGMT LR LR
comp=Z,390nm,20.0s
MFID Camas Ranch 128.80 34 *e*PKPdf **PKPdf 18 19 40.1 -1.4**
PAHR Pah Rah Range 128.95 39 *e*PKPdf **PKPdf 18 19 43.0 +1.0**
DLMT Dillon 129.16 30 *e*PKPdf **PKPdf 18 19 43.9 +1.8**
BOZ Bozeman (W) 129.46 29 *e*PKPdf **PKPdf 18 19 43.6 +0.9**
BOZ LR LR
comp=Z,436nm,21.0s
BOZ Bozeman (W) 129.46 29 *e*PKIKP **PKPdf 18 19 43.6 +0.9**
BOZ MLR MLR
comp=Z,436nm,21.0s
HLID Hailey 129.47 33 P **PKPdf 18 19 44.6 +1.8**
baz=312
HLID Hailey 129.47 33 *e*PKPdf **PKPdf 18 19 42.8 -0.1**
HLID LR LR
comp=Z,418nm,19.0s
DGMT Dagmar 130.35 21 PFAKE 18 20 00.0 +16
DGMT LR LR
comp=Z,420nm,20.0s
NV01 Mina Array Sit 130.37 40 *e*PKPpre PKPpre 18 19 39.9
NV01 *e*PKPdf **PKiKP 18 19 46.4 +0.8**
NV01 *e*SKPbc **SKPbc 18 23 07.8 +2.2**
NVAR Mina Array Bea 130.37 40 PKP **PKPdf 18 19 46.9 +2.2**
comp=Z,1.3nm,0.7s,baz=302,slow=1.7,SNR=8.4
NVAR SKPbc **SKPbc 18 23 08.3 +2.7**
comp=Z,1.3nm,0.8s,baz=260,slow=3.9,SNR=5.3
LKWY Lake 130.81 29 PFAKE 18 20 00.0 +15
LKWY LR LR
comp=Z,411nm,20.0s
H17A Grant Village 130.85 29 P **PKPdf 18 19 46.8 +1.2**
baz=317
RLMT Red Lodge 130.93 28 PFAKE 18 20 00.0 +14
RLMT LR LR
comp=Z,675nm,20.0s
LAO LASA Array 131.03 24 PFAKE 18 20 00.0 +14
LAO LR LR
comp=Z,491nm,20.0s
ULM Lac du Bonnet 131.28 14 PKP **PKPdf 18 19 46.0 +0.2**
comp=Z,4.2nm,0.8s,baz=19,slow=3.3,SNR=5.0
ULM Lac du Bonnet 131.28 14 *e*PKPdf **PKPdf 18 19 45.0 -0.8**
ULM Lac du Bonnet 131.28 14 *e*PKIKP **PKPdf 18 19 45.0 -0.8**
REDW Red Top Meadow 131.46 30 *e*PKPdf **PKPdf 18 19 44.6 -2.1**
HVU Hansel Valley 131.56 33 *e*PKPdf **PKPdf 18 19 45.5 -1.3**
HVU Hansel Valley 131.56 33 *e*PKIKP **PKPdf 18 19 45.5 -1.3**
AHID Auburn Hatcher 131.77 31 PFAKE 18 20 00.0 +13
AHID LR LR
comp=Z,485nm,20.0s
BGU Big Grassy Mou 132.00 34 *e*PKPdf **PKPdf 18 19 46.7 -1.0**
R11A Troy Canyon, C 132.14 39 P **PKPdf 18 19 49.0 +1.0**
baz=308
R11A Troy Canyon, C 132.14 39 *e*PKPdf **PKPdf 18 19 47.7 -0.4**
HWUT Hardware Ranch 132.34 33 *e*PKPdf **PKPdf 18 19 47.9 -0.4**
HWUT LR LR
comp=Z,447nm,20.0s
BW06 Boulder Array 132.55 30 PFAKE 18 20 00.0 +11
BW06 LR LR
comp=Z,447nm,21.0s
PD31 Pinedale Array 132.55 30 *e*PKPdf PKPpre 18 19 44.0
PDAR Pinedale Array 132.55 30 PKP **PKPdf 18 19 49.1 +0.3**
comp=Z,0.5nm,0.7s,baz=90,slow=4.4,SNR=5.4
DUG Dugway, Tooele 132.61 35 PFAKE 18 20 00.0 +11
DUG LR LR
comp=Z,465nm,20.0s
AGMN Agassiz Nation 133.10 15 PFAKE 18 20 00.0 +11
AGMN LR LR
comp=Z,500nm,19.0s
GSC Goldstone, Bar 133.13 43 *e*PKPdf **PKPdf 18 19 49.1 -0.8**
GSC Goldstone, Bar 133.13 43 *e*PKIKP **PKPdf 18 19 49.1 -0.8**
RSSD Black Hills 134.02 24 *e*PKPdf **PKPdf 18 19 51.1 -0.4**
RSSD Black Hills 134.02 24 *e*PKIKP **PKPdf 18 19 51.1 -0.4**
MSU Marysvale 134.10 36 *e*PKPdf **PKPdf 18 19 50.1 -1.7**
MSU Marysvale 134.10 36 *e*PKIKP **PKPdf 18 19 50.1 -1.7**
P17A Butcher Ranch, 134.28 34 *e*PKPdf **PKPdf 18 19 52.0 -0.1**
PFO Pinyon Flats O 134.31 44 PFAKE 18 20 00.0 +7.8
PFO LR LR
comp=Z,405nm,21.0s
EYMN Ely 134.41 11 PFAKE 18 20 00.0 +8.2
EYMN LR LR
comp=Z,678nm,20.0s
P18A Preston Nutter 134.44 33 *e*PKPdf **PKPdf 18 19 51.9 -0.7**
U15A North Rim 135.39 38 *e*PKPdf **PKPdf 18 19 53.4 -1.0**
RCBR Riachuelo 135.44 258 PFAKE 18 20 10.0 +15
RCBR LR LR
comp=Z,21µm,22.0s
TRQA Tornquist 135.68 200 PFAKE 18 20 10.0 +15
TRQA LR LR
comp=Z,588nm,19.0s
F36A Milaca 135.95 14 P **PKPdf 18 19 56.3 +1.6**
baz=340
F39A Loretta 136.47 11 P **PKPdf 18 19 57.7 +2.0**
baz=344
WUAZ Wupatki 136.54 39 PFAKE 18 20 10.0 +14
WUAZ LR LR
comp=Z,255nm,21.0s
COWI Conover 136.62 10 PFAKE 18 20 10.0 +14
COWI LR LR
comp=Z,738nm,21.0s
ISCO Idaho Springs 136.74 30 PFAKE 18 20 10.0 +13
ISCO LR LR
comp=Z,413nm,19.0s
ECSD EROS Data Cent 137.06 18 PFAKE 18 20 10.0 +13
ECSD LR LR
comp=Z,770nm,21.0s
MVCO Mesa Verde 137.11 35 PFAKE 18 20 10.0 +13
MVCO LR LR
comp=Z,379nm,20.0s
OGNE Ogallala 137.47 25 PFAKE 18 20 10.0 +12
OGNE LR LR
comp=Z,465nm,20.0s
S22A 4UR Ranch, Cre 137.65 33 *e*PKPdf **PKPdf 18 19 58.1 -0.4**
W18A Petrified Fore 137.81 38 P **PKPdf 18 20 01.0 +2.2**
baz=312
SDCO Great Sand Dun 138.35 31 PFAKE 18 20 10.0 +10
SDCO LR LR
comp=Z,372nm,20.0s
GLMI Grayling 138.47 5 PFAKE 18 20 10.0 +11
GLMI LR LR
comp=Z,633nm,19.0s
LONY Lake Ozonia 138.68 355 PFAKE 18 20 10.0 +10
LONY LR LR
comp=Z,590nm,22.0s
TUC Tucson 138.94 42 PFAKE 18 20 10.0 +9.2
TUC LR LR
comp=Z,433nm,21.0s
JFWS Jewell Farm 139.49 12 PFAKE 18 20 10.0 +8.7
JFWS LR LR
comp=Z,507nm,22.0s
SCIA State Center 139.72 16 PFAKE 18 20 10.0 +8.2
SCIA LR LR
comp=Z,536nm,20.0s
ANMO Albuquerque 139.88 35 P PKPpre 18 19 57.8
baz=316
ANMO Albuquerque 139.88 35 *e*PKPpre PKPpre 18 19 56.0
ANMO LR LR
comp=Z,503nm,20.0s
ANMO Albuquerque 139.88 35⇓ *e*PKIKP PKPpre 18 19 58.0
CBKS Cedar Bluff 140.22 25 PFAKE 18 20 10.0 +7.1
CBKS LR LR
comp=Z,515nm,20.0s
AAM Ann Arbor 141.06 5 PFAKE 18 20 20.0 +16
AAM LR LR
comp=Z,620nm,19.0s
BINY Binghamton 141.20 356 PFAKE 18 20 20.0 +15
BINY LR LR
comp=Z,680nm,21.0s
KSU1 Kansas State U 141.20 21 PFAKE 18 20 20.0 +15
KSU1 LR LR
comp=Z,671nm,20.0s
HDIL Hopedale 141.95 12 PFAKE 18 20 20.0 +14
HDIL LR LR
comp=Z,590nm,21.0s
MNTX Cornudas Mount 142.80 38 P **PKPdf 18 20 06.9 -0.8**
baz=314
MNTX Cornudas Mount 142.80 38 *e*PKPdf **PKPdf 18 20 06.0 -1.7**
MNTX LR LR
comp=Z,533nm,19.0s
R39A Chumby, Stover 143.10 18 P PKPbc 18 20 04.5 -0.3
baz=337
ACSO Alum Creek Sta 143.17 4 P PKPbc 18 20 04.4 -0.5
baz=354
ACSO Alum Creek Sta 143.17 4 PFAKE 18 20 20.0 +12
ACSO LR LR
comp=Z,582nm,20.0s
O56A Blue Knob Stat 143.25 359 P PKPbc 18 20 05.7 +0.5
baz=1.6
R40A Maddies Statio 143.35 17 P PKPbc 18 20 05.0 -0.5
baz=338
S38A Stockton 143.45 19 P PKPab 18 20 04.9 +0.1
baz=336
CPUP Villa Florida 143.47 215 PKP **PKPdf 18 20 07.9 -1.0**
comp=Z,1.6nm,0.8s,baz=74,slow=3.8,SNR=3.5
CPUP Villa Florida 143.47 215 *e*PKPdf PKPbc 18 20 07.5 +1.3
CPUP Villa Florida 143.47 215 *e*PKIKP PKPbc 18 20 07.5 +1.3
S39A Bolivar 143.59 19 P PKPbc 18 20 06.0 -0.2
baz=336
R41A Rosebud 143.59 16 P PKPbc 18 20 06.1 -0.1
baz=340
R42A Luebbering 143.76 15 P PKPbc 18 20 07.2 +0.5
baz=341

CCM	**Cathedral Cave**	**143.86**	**16**	P		PKPbc	18 20 07.5	+0.5
	baz=340							
CCM	**Cathedral Cave**	**143.86**	**16**	*e*PKPdf		PKPbc	18 20 07.0	0.0
CCM	**Cathedral Cave**	**143.86**	**16**	*e*PKIKP		PKPbc	18 20 07.0	0.0
T38A	**Diamond**	**143.86**	**20**	P		PKPbc	18 20 07.4	+0.4
	baz=335							
S40A	**Lebanon**	**143.92**	**18**	P		PKPbc	18 20 07.1	-0.1
	baz=338							
R43A	**Red Bud**	**143.99**	**14**	P		PKPbc	18 20 08.2	+0.9
	baz=342							
WMOK	**Wichita Mounta**	**144.04**	**27**	P		PKPbc	18 20 08.0	+0.3
	baz=326							
WMOK	**Wichita Mounta**	**144.04**	**27**	PFAKE			18 20 20.0	+10
WMOK				LR	LR			
	comp=Z,494nm,21.0s							
Q47A	**Bedord North L**	**144.05**	**9**	P		PKPbc	18 20 07.6	0.0
	baz=348							
S41A	**Jillco Farms,**	**144.16**	**17**	P		PKPbc	18 20 08.0	+0.1
	baz=339							
T39A	**Clever**	**144.18**	**19**	P		PKPbc	18 20 08.0	-0.1
	baz=336							
R44A	**Waltonville**	**144.21**	**13**	P		PKPbc	18 20 07.9	-0.1
	baz=344							
S42A	**Caledonia**	**144.25**	**15**	P		PKPbc	18 20 08.3	+0.1
	baz=341							
TUL1	**Leonard**	**144.31**	**23**	P		PKPbc	18 20 08.5	0.0
	baz=332							
TUL1	**Leonard**	**144.31**	**23**	*e*PKPdf		**PKPab**	**18 20 08.1**	**-0.1**
T40A	**Mansfield**	**144.33**	**18**	P		PKPbc	18 20 09.1	+0.6
	baz=338							
R45A	**Skylar, Fairfi**	**144.34**	**12**	P		PKPbc	18 20 09.0	+0.5
	baz=345							
R46A	**Gibon Southern**	**144.56**	**11**	P		PKPbc	18 20 09.8	+0.6
	baz=346							
S43A	**Fulton Ridge,**	**144.62**	**14**	P		PKPbc	18 20 09.6	+0.2
	baz=342							
R47A	**Wooly Knot Far**	**144.66**	**9**	P		**PKPab**	**18 20 09.3**	**0.0**
	baz=348							
R48A	**Northridge Ran**	**144.66**	**9**	P		**PKPdf**	**18 20 10.2**	**-0.5**
	baz=349							
T41A	**Mountain View**	**144.66**	**17**	P		PKPbc	18 20 09.6	+0.1
	baz=339							
HHAR	**Hobbs**	**144.66**	**20**	*e*PKPdf		**PKPab**	**18 20 09.3**	**-0.1**
SIUC	**Southern Illin**	**144.69**	**13**	*e*PKPdf		PKPbc	18 20 09.8	+0.2
S44A	**Carbondale**	**144.70**	**13**	P		**PKPab**	**18 20 09.4**	**-0.1**
	baz=343							
U39A	**Green Forest**	**144.73**	**20**	P		**PKPab**	**18 20 09.5**	**-0.2**
	baz=336							
WCI	**Wyandotte Cave**	**144.76**	**9**	P		PKPbc	18 20 10.3	+0.5
	baz=348							
WCI	**Wyandotte Cave**	**144.76**	**9**	*e*PKPdf		**PKPab**	**18 20 09.2**	**-0.5**
WCI	**Wyandotte Cave**	**144.76**	**9**	*e*PKIKP		**PKPab**	**18 20 09.2**	**-0.5**
USIN	**University of**	**144.77**	**11**	*e*PKPdf		**PKPab**	**18 20 08.9**	**-0.8**
T42A	**Van Buren**	**144.86**	**16**	P		PKPbc	18 20 10.6	+0.4
	baz=340							
S45A	**Carrier Mills**	**144.87**	**12**	P		**PKPab**	**18 20 09.5**	**-0.6**
	baz=344							
U40A	**Yellville**	**144.96**	**19**	P		**PKPab**	**18 20 10.1**	**-0.4**
	baz=337							
T43A	**Greenville**	**145.03**	**15**	P		**PKPbc**	**18 20 10.6**	**-0.1**
	baz=341							
S46A	**Don Dixon Farm**	**145.03**	**11**	P		**PKPbc**	**18 20 09.7**	**-0.9**
	baz=346							
V39A	**Pettigrew**	**145.16**	**20**	P		**PKPbc**	**18 20 10.7**	**-0.5**
	baz=335							
U41A	**Viola**	**145.26**	**18**	P		**PKPbc**	**18 20 11.3**	**-0.2**
	baz=338							
CBN	**Corbin Frederi**	**145.26**	**357**	PFAKE			18 20 20.0	+8.3
CBN				LR	LR			
	comp=Z,514nm,21.0s							
PBMO	**Poplar Bluff**	**145.28**	**15**	*e*PKPbc		**PKPbc**	**18 20 10.5**	**-1.0**
ABTX	**Abilene, Hawle**	**145.34**	**31**	P		**PKPab**	**18 20 12.1**	**0.0**
	baz=323							
ABTX	**Abilene, Hawle**	**145.34**	**31**	*e*PKPbc		**PKPbc**	**18 20 11.6**	**-0.3**
S48A	**Wiedeman Farm,**	**145.35**	**9**	P		**PKPbc**	**18 20 11.5**	**-0.2**
	baz=349							
IP04	**Greensprings**	**145.41**	**358**	*e*PKPbc		**PKPbc**	**18 20 11.9**	**0.0**
CVRD	**Centerville Ro**	**145.42**	**358**	*e*PKPbc		**PKPbc**	**18 20 11.4**	**-0.5**
U42A	**Revenden**	**145.45**	**17**	P		**PKPbc**	**18 20 11.8**	**-0.3**
	baz=339							
SPRD	**Spring Road, M**	**145.47**	**358**	*e*PKPdf		**PKPbc**	**18 20 11.8**	**-0.3**
V40A	**Witts Springs**	**145.47**	**19**	P		**PKPbc**	**18 20 11.6**	**-0.7**
	baz=336							
V40A	**Witts Springs**	**145.47**	**19**	*e*PKPdf		**PKPbc**	**18 20 11.5**	**-0.7**
IP03	**Louisa**	**145.48**	**358**	*e*PKPdf		**PKPbc**	**18 20 11.4**	**-0.7**
TXAR	**Lajitas Array**	**145.51**	**39**	PKPbc		**PKPab**	**18 20 13.0**	**+0.1**
	comp=Z,37nm,0.7s,baz=307,slow=0.6,SNR=187							
TXAR	**Lajitas Array**	**145.51**	**39**	PKIKP		**PKPab**	**18 20 13.0**	**+0.1**
IP01	**Cuckoo**	**145.53**	**358**	*e*PKPdf		**PKPdf**	**18 20 12.2**	**0.0**
IP06	**Yanceyville**	**145.56**	**358**	*e*PKPdf		**PKPdf**	**18 20 12.2**	**0.0**
IP07	**Quail**	**145.58**	**358**	*e*PKPdf		**PKPbc**	**18 20 12.4**	**0.0**
T46A	**Princeton**	**145.62**	**12**	P		**PKPdf**	**18 20 12.4**	**0.0**
	baz=345							
IP05	**Hopewell Churc**	**145.66**	**357**	*e*PKPdf		**PKPbc**	**18 20 12.7**	**0.0**
W39A	**Magazine**	**145.69**	**21**	P		**PKPab**	**18 20 13.0**	**-0.2**
	baz=334							
W39A	**Magazine**	**145.69**	**21**	*e*PKPdf		**PKPdf**	**18 20 12.4**	**-0.1**
V41A	**Mountainview**	**145.70**	**18**	P		**PKPdf**	**18 20 12.3**	**-0.3**
	baz=337							
HPIG		**145.76**	**44**	*e*PKPdf		**PKPdf**	**18 20 13.2**	**0.0**
T48A	**Bowling Green**	**145.84**	**10**	P		**PKPbc**	**18 20 13.0**	**-0.2**
	baz=348							
URVA	**University of**	**145.90**	**357**	*e*PKPdf		**PKPdf**	**18 20 12.8**	**0.0**
V42A	**Cord**	**145.92**	**17**	P		**PKPdf**	**18 20 13.0**	**+0.1**
	baz=339							
W40A	**Ferguson Farm,**	**145.95**	**20**	P		**PKPbc**	**18 20 13.7**	**+0.1**
	baz=336							
W40A	**Ferguson Farm,**	**145.95**	**20**	*e*PKPdf		**PKPdf**	**18 20 12.9**	**-0.1**
U44B	**Burton Farm, H**	**145.97**	**14**	P		**PKPab**	**18 20 14.3**	**+0.1**
	baz=342							
U45A	**Rockin P Farm,**	**146.10**	**13**	P		**PKPab**	**18 20 14.9**	**+0.2**
	baz=343							
WHAR	**Wooly Hollow**	**146.12**	**19**	*e*PKPdf		**PKPdf**	**18 20 13.7**	**+0.4**
X39A	**Fountain Ranch**	**146.19**	**22**	P		**PKPbc**	**18 20 14.7**	**+0.2**
	baz=333							
W41B	**Gary Mavity, V**	**146.24**	**19**	P		**PKPbc**	**18 20 14.4**	**-0.1**
	baz=337							
W41B	**Gary Mavity, V**	**146.24**	**19**	*e*PKPdf		**PKPbc**	**18 20 14.8**	**+0.3**
BLA	**Blacksburg**	**146.30**	**1**	P		**PKPbc**	**18 20 14.9**	**+0.2**
	baz=358							
BLA	**Blacksburg**	**146.30**	**1**	*e*PKPdf		**PKPbc**	**18 20 15.0**	**+0.2**
BLA				LR	LR			
	comp=Z,415nm,20.0s							
BLA	**Blacksburg**	**146.30**	**1**	*e*PKP2		**PKPbc**	**18 20 15.0**	**+0.2**
BLA				MLR	MLR			
	comp=Z,415nm,20.0s							
U47A	**Clarksville**	**146.32**	**11**	P		**PKPbc**	**18 20 14.7**	**-0.1**
	baz=346							
MIAR	**Mount Ida**	**146.35**	**21**	P		**PKPbc**	**18 20 15.0**	**+0.1**
	baz=334							
MIAR	**Mount Ida**	**146.35**	**21**	*e*PKPdf		**PKPbc**	**18 20 15.0**	**+0.1**
MIAR				LR	LR			
	comp=Z,526nm,21.0s							
MIAR	**Mount Ida**	**146.35**	**21**	*e*PKP2		**PKPbc**	**18 20 15.0**	**+0.1**
MIAR				MLR	MLR			
	comp=Z,526nm,21.0s							
W42A	**Bald Knob**	**146.37**	**18**	P		**PKPbc**	**18 20 15.1**	**+0.1**
	baz=338							
U48A	**Cassie Pea, Po**	**146.39**	**10**	P		**PKPbc**	**18 20 14.4**	**-0.6**
	baz=347							
WVT	**Waverly**	**146.51**	**12**	P		**PKPbc**	**18 20 15.5**	**+0.2**
	baz=345							
WVT	**Waverly**	**146.51**	**12**	*e*PKPdf		**PKPbc**	**18 20 15.7**	**+0.4**
WVT	**Waverly**	**146.51**	**12**	*e*PKP2		**PKPbc**	**18 20 15.7**	**+0.4**
UALR	**University of**	**146.57**	**19**	*e*PKPdf		**PKPbc**	**18 20 15.7**	**+0.1**
X40A	**Basin Creek Fa**	**146.67**	**20**	P		**PKPbc**	**18 20 15.7**	**-0.1**
	baz=336							
X40A	**Basin Creek Fa**	**146.67**	**20**	*e*PKPbc		**PKPab**	**18 20 16.9**	**0.0**
V46A	**Holladay**	**146.77**	**13**	P		**PKPbc**	**18 20 15.7**	**-0.4**
	baz=344							
TZTN	**Tazewell**	**146.78**	**6**	P		**PKPbc**	**18 20 16.5**	**+0.4**
	baz=353							
TZTN	**Tazewell**	**146.78**	**6**	*e*PKPbc		**PKPbc**	**18 20 16.4**	**+0.4**
V47A	**Nunnelly**	**146.87**	**12**	P		**PKPbc**	**18 20 16.1**	**-0.3**
	baz=345							
WHTX	**Lake Whitney,**	**146.93**	**29**	P		**PKPab**	**18 20 17.4**	**-0.6**
	baz=326							
Y40A	**Okolona**	**146.94**	**21**	P		**PKPbc**	**18 20 16.7**	**+0.1**
	baz=334							
JCT	**Junction City**	**146.94**	**33**	P		**PKPbc**	**18 20 16.7**	**-0.1**
	baz=321							
JCT	**Junction City**	**146.94**	**33**	*e*PKPbc		**PKPbc**	**18 20 17.1**	**+0.3**
JCT				LR	LR			
	comp=Z,410nm,20.0s							
JCT	**Junction City**	**146.94**	**33**	*e*PKP2		**PKPbc**	**18 20 17.1**	**+0.3**
JCT				MLR	MLR			
	comp=Z,410nm,20.0s							
V48A	**Smith Brothers**	**147.09**	**11**	P		**PKPbc**	**18 20 16.4**	**-0.6**
	baz=347							
Y41A	**Eaglette Beard**	**147.29**	**20**	P		**PKPbc**	**18 20 17.6**	**0.0**
	baz=336							
W46A	**Michie**	**147.35**	**13**	P		**PKPbc**	**18 20 17.6**	**-0.1**
	baz=344							
W47A	**Westpoint**	**147.41**	**12**	P		**PKPbc**	**18 20 17.7**	**-0.2**
	baz=345							
NCAT	**North Carolina**	**147.44**	**0**	*e*pPKPdf		**PKPbc**	**18 20 17.6**	**-0.4**
PLAL	**Pickwick Lake**	**147.56**	**13**	*e*PKPbc		**PKPbc**	**18 20 18.3**	**0.0**
Y42A	**Garnett, Star**	**147.61**	**19**	P		**PKPbc**	**18 20 18.6**	**+0.1**
	baz=337							
TKL	**Tuckaleechee C**	**147.63**	**6**	*e*PKPbc		**PKPbc**	**18 20 18.1**	**-0.4**
TKL	**Tuckaleechee C**	**147.63**	**6**	*e*PKP2		**PKPbc**	**18 20 18.1**	**-0.4**
W48A	**Pulaski**	**147.65**	**11**	P		**PKPbc**	**18 20 18.7**	**+0.2**
	baz=346							
OXF	**Oxford**	**147.69**	**15**	P		**PKPbc**	**18 20 18.5**	**-0.1**
	baz=342							
OXF	**Oxford**	**147.69**	**15**	*e*PKPbc		**PKPbc**	**18 20 18.6**	**-0.1**
OXF	**Oxford**	**147.69**	**15**	*e*PKP2		**PKPbc**	**18 20 18.6**	**-0.1**
CPCT	**Cooper Cave**	**147.74**	**8**	*e*pPKPdf		**PKPbc**	**18 20 17.6**	**-1.2**
SWET	**Sewanee**	**147.76**	**10**	*e*PKPbc		**PKPbc**	**18 20 18.5**	**-0.4**
X45A	**UM Field Stati**	**147.77**	**15**	P		**PKPbc**	**18 20 19.0**	**+0.1**
	baz=341							
Z41A	**Richland Creek**	**147.79**	**21**	*e*PKPbc		**PKPbc**	**18 20 19.4**	**+0.4**
X46A	**Booneville**	**147.85**	**14**	P		**PKPbc**	**18 20 18.7**	**-0.4**
	baz=343							
435B	**Jarrell**	**147.86**	**30**	*e*PKPbc		**PKPbc**	**18 20 20.4**	**+1.1**
BBSR	**BB Station**	**147.94**	**336**	PFAKE			18 20 30.0	+8.0
BBSR				LR	LR			
	comp=Z,457nm,19.0s							
X47A	**Russelville**	**148.06**	**13**	P		**PKPbc**	**18 20 19.2**	**-0.5**
	baz=344							
CNNC	**Cliffs of the**	**148.24**	**357**	PFAKE			18 20 30.0	+6.9
CNNC				LR	LR			
	comp=Z,491nm,20.0s							
X48A	**Hartselle**	**148.30**	**12**	P		**PKPbc**	**18 20 19.1**	**-1.2**
	baz=346							
KMSC	**Kings Mountain**	**148.34**	**3**	P		**PKPbc**	**18 20 19.3**	**-1.2**
	baz=357							
KMSC	**Kings Mountain**	**148.34**	**3**	*e*PKPbc		**PKPbc**	**18 20 20.2**	**-0.2**
BG3	**Lake Jocassee**	**148.37**	**5**	*e*PKPbc		**PKPbc**	**18 20 20.1**	**-0.5**
X49A	**Woodville**	**148.38**	**11**	P		**PKPbc**	**18 20 19.0**	**-1.6**
	baz=347							
NATX	**Nacogdoches**	**148.39**	**25**	PFAKE			18 20 30.0	+6.2
NATX				LR	LR			
	comp=Z,722nm,19.0s							
Y46A	**Houston**	**148.43**	**15**	P		**PKPbc**	**18 20 19.2**	**-1.5**
	baz=342							
PAULI	**Pauline**	**148.63**	**4**	*e*PKPbc		**PKPbc**	**18 20 21.6**	**+0.4**
Y47A	**UCPARC, Winfie**	**148.65**	**13**	P		**PKPbc**	**18 20 21.4**	**+0.2**
	baz=344							
Y48A	**Jasper**	**148.79**	**12**	P		**PKPbc**	**18 20 21.3**	**-0.3**
	baz=345							
Y49A	**Blount Mountai**	**149.00**	**11**	P		**PKPbc**	**18 20 21.8**	**-0.3**
	baz=347							
Z46A	**Louisville**	**149.06**	**15**	P		**PKPbc**	**18 20 22.3**	**0.0**
	baz=342							
Y50A	**Piedmont**	**149.09**	**10**	P		**PKPbc**	**18 20 22.2**	**-0.2**
	baz=348							
HODGE	**Hodges**	**149.19**	**4**	*e*PKPbc		**PKPbc**	**18 20 22.7**	**+0.1**
JSC	**Jenkinsville**	**149.20**	**3**	*e*PKPbc		**PKPbc**	**18 20 22.6**	**0.0**
JSC	**Jenkinsville**	**149.20**	**3**	*e*PKP2		**PKPbc**	**18 20 22.6**	**0.0**
Z48A	**Northport**	**149.22**	**13**	P		**PKPbc**	**18 20 22.7**	**0.0**
	baz=344							
Z47A	**Carrollton**	**149.27**	**14**	P		**PKPbc**	**18 20 22.6**	**-0.2**
	baz=343							
145A	**Houston Renfro**	**149.33**	**17**	P		**PKPbc**	**18 20 23.4**	**+0.4**
	baz=340							
146A	**Union**	**149.55**	**16**	P		**PKPbc**	**18 20 24.0**	**+0.4**
	baz=341							
Z49A	**Columbiana**	**149.62**	**12**	P		**PKPbc**	**18 20 24.0**	**+0.3**
	baz=346							
244A	**Avery, Jackson**	**149.62**	**19**	P		**PKPbc**	**18 20 24.0**	**+0.2**
	baz=338							
LRAL	**Lakeview Retre**	**149.67**	**12**	P		**PKPbc**	**18 20 23.7**	**-0.1**
	baz=345							
LRAL	**Lakeview Retre**	**149.67**	**12**	*e*pPKPdf		**PKPbc**	**18 20 22.3**	**-1.6**
Z50A	**Ashland**	**149.68**	**11**	P		**PKPbc**	**18 20 23.7**	**-0.2**
	baz=347							
147A	**Livingston**	**149.72**	**15**	P		**PKPbc**	**18 20 24.2**	**+0.2**
	baz=343							
245A	**Little AP, Sta**	**149.88**	**18**	P		**PKPbc**	**18 20 25.6**	**+1.2**
	baz=339							
GOGA	**Godfrey**	**149.88**	**6**	P		**PKPbc**	**18 20 25.0**	**+0.6**
	baz=352							
GOGA	**Godfrey**	**149.88**	**6**	*e*PKPbc		**PKPbc**	**18 20 24.8**	**+0.4**
GOGA				LR	LR			
	comp=Z,523nm,21.0s							
GOGA	**Godfrey**	**149.88**	**6**	*e*PKP2		**PKPbc**	**18 20 24.8**	**+0.4**
GOGA				MLR	MLR			
	comp=Z,523nm,21.0s							
148A	**Greensboro**	**149.92**	**14**	P		**PKPbc**	**18 20 25.2**	**+0.8**
	baz=344							
149A	**Jones**	**150.14**	**12**	P		**PKPbc**	**18 20 25.3**	**+0.3**
	baz=346							
KVTX	**Kingsville**	**150.26**	**34**	PFAKE			18 20 30.0	-1.5
KVTX				LR	LR			
	comp=Z,827nm,19.0s							
150A	**Eclectic**	**150.29**	**11**	P		**PKPbc**	**18 20 25.4**	**0.0**
	baz=347							
NHSC	**New Hope**	**150.40**	**1**	PFAKE			18 20 30.0	-1.9
NHSC				LR	LR			
	comp=Z,607nm,20.0s							
248A	**Dixon Mills**	**150.41**	**14**	P		**PKPbc**	**18 20 25.6**	**-0.1**
	baz=343							
151A	**Opelika**	**150.49**	**10**	P		**PKPbc**	**18 20 26.4**	**+0.5**
	baz=348							
249A	**Camden**	**150.67**	**13**	P		**PKPbc**	**18 20 27.4**	**+1.1**
	baz=344							
154A	**Montrose**	**150.71**	**6**	P		**PKPbc**	**18 20 27.1**	**+0.8**
	baz=353							
155A	**Kite**	**150.77**	**5**	P		**PKPbc**	**18 20 27.4**	**+0.9**
	baz=354							
250A	**Grady**	**150.85**	**12**	P		**PKPbc**	**18 20 27.6**	**+0.9**
	baz=346							
347A	**Saraland**	**150.86**	**16**	P		**PKPbc**	**18 20 28.1**	**+1.4**
	baz=341							
251A	**Midway**	**150.90**	**10**	P		**PKPbc**	**18 20 28.1**	**+1.3**
	baz=348							
252A	**Lumpkin**	**151.11**	**9**	P		**PKPbc**	**18 20 28.4**	**+1.1**
	baz=349							
253A	**Americus**	**151.13**	**8**	P		**PKPbc**	**18 20 28.0**	**+0.7**
	baz=351							
LNIG	**Linares**	**151.27**	**40**	*e*PKPbc		**PKPbc**	**18 20 28.1**	**+0.2**
LNIG				*e*PKPab		**sPKPdf**	**18 20 36.7**	**-0.5**
BRAL	**Brewton**	**151.46**	**13**	PFAKE			18 20 30.0	+1.9
BRAL				LR	LR			
	comp=Z,541nm,20.0s							
351A	**Pinckard**	**151.66**	**11**	P		**PKPbc**	**18 20 29.9**	**+1.3**
	baz=347							
TIGA	**Tifton**	**151.82**	**7**	P		**PKPbc**	**18 20 29.7**	**+0.8**
	baz=352							
TIGA	**Tifton**	**151.82**	**7**	*e*PKPbc		**PKPbc**	**18 20 26.9**	**-2.0**
353A	**Camilla**	**151.82**	**8**	P		**PKPbc**	**18 20 29.7**	**+0.7**
	baz=350							
355A	**Pearson**	**152.00**	**6**	P		**PKPbc**	**18 20 30.4**	**+1.0**
	baz=353							
356A	**Blackshear**	**152.08**	**5**	P		**PKPbc**	**18 20 31.0**	**+1.4**
	baz=355							
452A	**Marianna**	**152.15**	**10**	P		**PKPbc**	**18 20 31.1**	**+1.3**
	baz=348							
453A	**Whigham**	**152.29**	**9**	P		**PKPbc**	**18 20 31.4**	**+1.4**
	baz=350							
454A	**Quitman**	**152.53**	**8**	P		**PKPbc**	**18 20 31.8**	**+1.2**
	baz=351							
455A	**Stateville**	**152.57**	**6**	P		**PKPbc**	**18 20 32.1**	**+1.4**
	baz=352							
555A	**McAlpin**	**153.19**	**7**	P		**PKPbc**	**18 20 33.3**	**+1.2**
	baz=352							
556A	**Lake Butler**	**153.37**	**5**	P		**PKPbc**	**18 20 33.2**	**+0.7**
	baz=354							
FDF	**Fort de France**	**158.60**	**303**	PFAKE			18 20 40.0	+7.8
FDF				LR	LR			
	comp=Z,214nm,19.0s							
SAML	**Samuel**	**159.59**	**233**	PFAKE			18 20 40.0	+6.6
SAML				LR	LR			
	comp=Z,383nm,19.0s							
GRTK	**Grand Turk**	**160.18**	**336**	PFAKE			18 20 40.0	+6.2
GRTK				LR	LR			
	comp=Z,358nm,19.0s							
GRGR	**Grenville**	**160.23**	**297**	PFAKE			18 20 50.0	+16
GRGR				LR	LR			
	comp=Z,376nm,19.0s							
SJG	**San Juan**	**160.30**	**319**	PFAKE			18 20 40.0	+5.9
SJG				LR	LR			
	comp=Z,265nm,20.0s							
SDDR	**Presa de Saban**	**162.49**	**333**	PFAKE			18 20 50.0	+14
SDDR				LR	LR			
	comp=Z,440nm,22.0s							
GTBY	**Guantanamo Bay**	**162.97**	**346**	PFAKE			18 20 50.0	+13
GTBY				LR	LR			
	comp=Z,362nm,20.0s							
NNA	**Nana**	**164.51**	**190**	PFAKE			18 20 50.0	+12
NNA				LR	LR			
	comp=Z,255nm,21.0s							
MTDJ	**Mount Denham**	**165.09**	**352**	PFAKE			18 20 50.0	+11
MTDJ				LR	LR			
	comp=Z,498nm,21.0s							
SDV	**Santo Domingo**	**169.55**	**302**	PFAKE			18 20 50.0	+7.6
SDV				LR	LR			
	comp=Z,601nm,22.0s							
JTS	**JuntasAbangare**	**171.29**	**37**	PFAKE			18 20 50.0	+6.9
JTS				LR	LR			
	comp=Z,484nm,19.0s							
BCIP	**Isla Barro Col**	**174.23**	**3**	PFAKE			18 20 50.0	+5.7
BCIP				LR	LR			
	comp=Z,396nm,21.0s							
OTAV	**Otavalo**	**176.70**	**200**	*e*PKPdf		**PKPdf**	**18 20 42.0**	**-3.6**
OTAV				LR	LR			
	comp=Z,432nm,20.0s							

*SJA **28** 18:24:15.0±0.8, 33°07′S×71°34′W, h64km±4km, ML2.6, MW3.1*
*GUC **28** 18:24:16.2±0.5, 33°15′S×71°18′W, h57km±11km, ML3.2*

ISC 28 18:24:16.3±3.4, 33°20′S±0′.08×71°3′W±0′.2, h56km±12km, **n10**, σ0°55′/16, **1C, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
ROC1	**El Roble**	**0.35**	**50**	*e*P		**Pn**	**18 24 27.0**	**+0.3**
ROC1				*e*S		**Sn**	**18 24 34.6**	**+0.4**
ROCH	**El Roble**	**0.35**	**50**	*e*P		**Pn**	**18 24 26.9**	**+0.2**
ROCH				*e*S		**Sn**	**18 24 34.6**	**+0.3**
ROCH				IAML			18 24 35.2	
	comp=E,3μm,0.7s							
PEL	**Peldehue**	**0.55**	**84**	*e*P		**Pn**	**18 24 27.5**	**-1.0**
PEL				*e*S		**Sn**	**18 24 36.7**	**-0.8**
LMEL	**Las Melosas**	**1.14**	**125**	*e*P		**Pn**	**18 24 36.2**	**0.0**
LMEL				*e*S		**Sn**	**18 24 51.6**	**+0.5**
LMEL				IAML			18 24 52.3	
	comp=N,996nm,0.2s							
AUSP	**Uspallata**	**1.91**	**60**	*e*P		**Pn**	**18 24 46.7**	**0.0**
AUSP				*e*S		**Sn**	**18 25 10.2**	**+0.5**
ARCO	**CERRO ARCO**	**2.05**	**81**	*e*P		**Pn**	**18 24 48.9**	**+0.4**
ARCO				IAML			18 25 19.9	
	comp=Z,27nm,0.8s							
ASAL	**Salagasta**	**2.19**	**75**	*e*P		**Pn**	**18 24 50.5**	**+0.2**
RTLS	**Leoncito**	**2.21**	**51**	*e*P		**Pn**	**18 24 51.0**	**+0.1**
RTLS				*e*S		**Sn**	**18 25 17.8**	**+0.5**
RTLS				IAML			18 25 20.9	
	comp=Z,50nm,0.4s							
AMOG	**MOGNA**	**3.30**	**48**	*e*P		**Pn**	**18 25 04.8**	**-0.8**
AGUA	**GUANDACOL**	**4.43**	**34**	*e*P		**Pn**	**18 25 20.5**	**-0.5**

IDC 28 18:29:24.7±19.0, 25°84′N×45°75′W, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.3/56, mbtmp3.5/3, Error ellipse: s-maj=855.7km s-min=34.7km az=31.0, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
H10N2	**ASCENSION HYDR**	**45.20**	**134**	T		T	19 24 35.9	
	baz=316,slow=75,SNR=4.4							
H10N3	**ASCENSION HYDR**	**45.21**	**134**	T		T	19 24 35.8	
	baz=316,slow=75,SNR=5.5							
H10N1	**ASCENSION HYDR**	**45.22**	**134**	T		T	19 24 37.1	
	baz=316,slow=75,SNR=6.3							
H10S3	**ASCENSION HYDR**	**45.94**	**135**	T		T	19 25 25.7	
	baz=317,slow=74,SNR=3.8							
H10S1	**ASCENSION HYDR**	**45.94**	**135**	T		T	19 25 25.6	
	baz=317,slow=74,SNR=4.0							
H10S2	**ASCENSION HYDR**	**45.95**	**135**	T		T	19 25 25.9	
	baz=317,slow=74,SNR=4.2							
TORD	**Torodi Ar. Bea**	**46.24**	**97**	P		P	18 37 52.0	-0.1
	0.7nm,0.8s,baz=290,slow=8.4,SNR=3.8							
YKA	**Yellowknife Ar**	**57.67**	**329**	P		P	18 39 16.6	+0.1
	0.2nm,0.7s,baz=97,slow=7.3,SNR=5.9							
ILAR	**Eielson Array**	**71.52**	**334**	P		P	18 40 47.0	-0.1
	0.4nm,0.6s,baz=70,slow=5.6,SNR=5.2							

*IDC **28** 18:29:48.9±2.4

*IDC **28** 18:53:16.0±1.1,53˚.77N×133˚.78W,h0km,mb3.5/4, mb1 3.8/12,mb1mx3.5/80,mbtmp3.6/12,ML3.5/8,Error ellipse: s-maj=19.3km s-min=9.9km az=47.0*

*ISCJB **28** 18:53:17.3±0.2,54˚.07N±0˚.03×133˚.74W±0˚.06,h16km, mb3.8/16,Error ellipse: s-maj=6.7km s-min=2.2km az=138.4*

*PGC **28** 18:53:18.1±2.1,53˚.92N×133˚.76W,h20km,ML4.2/5, Mw4.2, 105km west of Masset, Bc Haida Gwaii Region*

*NEIC **28** 18:53:19.9±0.3,54˚.10N×133˚.80W,h10km,mb3.8/35, MW4.2(OTT),Error ellipse: s-maj=10.4km s-min=2.9km az=45.0*

ISC 28 18:53:18.6±0.6,53˚.99N±0˚.04×133˚.67W±0˚.05,h16km, n146,σ2°48/153,mb3.9/16,Queen Charlotte Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DIB	**Dawson Inlet,**	**1.06**	**138**		P	**Pb**		**18 53 37.3**	**-1.3**
DIB					S	**Sb**		**18 53 51.6**	**-0.7**
DIB	**Dawson Inlet,**	**1.06**	**138**		*e*Pn	**Pb**		**18 53 37.4**	**-1.3**
DIB					*e*Sn	**Sb**		**18 53 51.4**	**-0.9**
H02S1	**DAWSON INLET T**	**1.06**	**138**		T	T		18 53 53.6	
CRAG	**Craig**	**1.51**	**12**		*e*Pn	**Pn**		**18 53 43.0**	**-2.0**
CRAG					*e*Sn	**Sn**		**18 54 00.5**	**-3.8**
BNB	**Barry Inlet**	**1.83**	**140**		P	**Pn**		**18 53 47.9**	**-1.5**
BNB					Sn	**Sn**		**18 54 10.9**	**-1.3**
BBB	**Bella Bella**	**3.81**	**116**		Pn	**Pn**		**18 54 14.6**	**-1.9**
	3.3nm,0.3s,baz=288,slow=9.5,SNR=34								
BBB					Sn	**Sn**		**18 54 58.8**	**-2.1**
	45nm,0.3s,baz=82,slow=14,SNR=14								
BBB					Lg	Lg		18 55 15.0	
	38nm,0.3s,baz=29,slow=14,SNR=4.8								
BBB	**Bella Bella**	**3.81**	**116**		P	**Pn**		**18 54 14.9**	**-1.6**
BBB					Sn	**Sn**		**18 54 57.1**	**-3.7**
BESE	**Bessie Mountai**	**4.64**	**352**		Pn	**Pn**		**18 54 27.3**	**-0.8**
BESE	**Bessie Mountai**	**4.64**	**352**		*e*Pn	**Pn**		**18 54 26.6**	**-1.5**
BESE					*e*Sn	**Sn**		**18 54 50.2**	**-8.2**
BESE					*e*Sg	**Sg**		**18 55 41.7**	**-5.9**
DLBC	**Dease Lake**	**4.89**	**23**		Pn	**Pn**		**18 54 34.4**	**+2.8**
	1.0nm,0.3s,baz=232,slow=13,SNR=9.8								
DLBC					Pg	**Pb**		**18 54 46.2**	**+2.3**
	3.7nm,0.3s,baz=192,slow=18,SNR=20								
DLBC					Lg	Lg		18 55 49.9	
	14nm,0.3s,baz=287,slow=24,SNR=9.5								
DLBC	**Dease Lake**	**4.89**	**23**		Pn	**Pn**		**18 54 30.9**	**-0.7**
DLBC					Sg	**Sg**		**18 55 52.9**	**-2.7**
DLBC	**Dease Lake**	**4.89**	**23**		*e*Pn	**Pn**		**18 54 33.0**	**+1.4**
DLBC					*e*Sg	**Sg**		**18 55 50.7**	**-4.9**
PHC	**Port Hardy**	**5.04**	**128**		Pn	**Pn**		**18 54 11.1**	**-2.3**
PHC					Sn	**Sn**		**18 55 27.8**	**-3.5**
SKAG	**Skagway**	**5.56**	**351**		*e*Pn	**Pn**		**18 54 40.0**	**-0.5**
SKAG					*e*Sg	**Sb**		**18 56 06.2**	**+4.8**
PLBC	**Pleasant Camp**	**5.67**	**346**		Pn	**Pn**		**18 54 41.5**	**-0.7**
EDB	**Eliza Dome**	**5.78**	**133**		Sn	**Sn**		**18 55 46.8**	**-2.8**
WOSB	**Woss**	**5.82**	**128**		Pn	**Pn**		**18 54 43.8**	**-0.5**
UBRB	**Upper Baezaeko**	**5.83**	**97**		Pn	**Pn**		**18 54 44.8**	**+0.3**
UBRB					Sg	**Sg**		**18 56 20.2**	**-5.5**
YKU2	**Yakutat**	**6.44**	**332**		*e*Pn	**Pn**		**18 54 53.2**	**+0.6**
CBB	**Campbell River**	**6.48**	**124**		Pn	**Pn**		**18 54 53.6**	**+0.3**
CBB					Sn	**Sn**		**18 56 04.7**	**-2.0**
PNL	**Peninsula**	**6.50**	**333**		Pn	Pn		18 54 48.8	-4.7
WHY	**Whitehorse**	**6.72**	**355**		Pn	**Pn**		**18 54 56.5**	**-0.1**
WHY	**Whitehorse**	**6.72**	**355**		*e*Pn	**Pn**		**18 54 56.6**	**-0.1**
BTB	**Buttle Lake**	**6.79**	**129**		Pn	**Pn**		**18 54 58.6**	**+1.0**
BTB					Sn	**Sn**		**18 56 12.7**	**-2.0**
YUU7	**Dusty Glacier**	**6.99**	**342**		Pn	**Pn**		**18 55 59.0**	**-0.8**
HYT	**Haines Junctio**	**7.16**	**345**		Pn	**Pn**		**18 55 01.8**	**-0.8**
HYT	**Haines Junctio**	**7.16**	**345**		*e*Pn	**Pn**		**18 55 02.1**	**-0.5**
YUK5	**Granite Creek**	**7.50**	**344**		Pn	**Pn**		**18 55 06.7**	**-0.7**
LLLB	**Lillooet**	**7.98**	**110**		Pn	**Pn**		**18 55 15.3**	**+1.5**
LLLB	**Lillooet**	**7.98**	**110**		*e*Pn	**Pn**		**18 55 16.3**	**+2.5**
LLLB					*e*Sg	Sb		18 57 24.7	+14
CTGM	**Chitina Glacie**	**8.11**	**333**		Pn	**Pn**		**18 55 15.6**	**-0.2**
TGL	**Tana Glacier**	**8.39**	**328**		*e*Pn	**Pn**		**18 55 21.0**	**+1.5**
BALM	**Baldy**	**8.46**	**330**		Pn	**Pn**		**18 55 18.1**	**-2.3**
BALM	**Baldy**	**8.46**	**330**		*e*Pn	**Pn**		**18 55 21.6**	**+1.1**
BALM					*e*Sn	**Sn**		**18 56 54.4**	**-1.2**
RAGM	**Ragged Mountai**	**8.75**	**321**		*e*Pn	**Pn**		**18 55 24.9**	**+0.4**
BLBC	**Blue River**	**8.91**	**97**		Pn	**Pn**		**18 55 26.5**	**-0.4**
NLWA	**Neilton Lookou**	**9.07**	**133**		*e*Pn	Pn		18 55 33.8	+5.0
BMRM	**Bremner River**	**9.13**	**324**		*e*Pn	**Pn**		**18 55 29.8**	**+0.1**
EYAK	**Cordova Ski Ar**	**9.26**	**320**		*e*Pn	**Pn**		**18 55 32.1**	**+0.8**
MNB	**Mounoet Dainar**	**9.37**	**95**		Pn	**Pn**		**18 55 33.0**	**-0.1**
DOWB	**Downie Slide**	**9.52**	**99**		Pn	**Pn**		**18 55 34.2**	**-0.7**
DIV	**Divide**	**9.65**	**323**		*e*Pn	**Pn**		**18 55 36.2**	**-0.6**
KLU	**Klutina**	**9.96**	**324**		*e*Pn	**Pn**		**18 55 40.9**	**0.0**
LON	**Longmire**	**10.47**	**129**		*e*Pn	Pn		18 55 54.4	+6.4
DAWY	**Dawson**	**10.52**	**346**		Pn	**Pn**		**18 55 47.3**	**-1.3**
DAWY	**Dawson**	**10.52**	**346**		*e*Pn	**Pn**		**18 55 48.0**	**-0.6**
B08A	**Colville Reser**	**10.61**	**116**		*e*Pn	**Pn**		**18 55 53.8**	**+3.9**
SCM	**Sheep Creek Mo**	**10.68**	**323**		*e*Pn	**Pn**		**18 55 49.7**	**-1.1**
PAX	**Paxson**	**10.90**	**330**		*e*Pn	**Pn**		**18 55 56.3**	**+2.5**
SML	**Sawmill**	**11.03**	**321**		*e*Pn	**Pn**		**18 55 56.8**	**+1.1**
BRLK	**Bradley Lake**	**11.04**	**308**		*e*Pn	**Pn**		**18 55 53.9**	**-1.8**
DOT	**Dot Lake**	**11.06**	**335**		*e*Pn	**Pn**		**18 55 56.0**	**0.0**
RC01	**Rabbit Creek A**	**11.16**	**316**		*e*Pn	**Pn**		**18 55 55.2**	**-2.1**
PMR	**Palmer**	**11.20**	**319**		*e*Pn	**Pn**		**18 55 58.5**	**+0.6**
GHO	**Glory Hole Cre**	**11.23**	**320**		*e*Pn	**Pn**		**18 55 58.9**	**+0.5**
KDAK	**Kodiak Island**	**11.27**	**297**		Pn	**Pn**		**18 55 57.7**	**-1.1**
	2.0nm,0.3s,baz=101,slow=6.2,SNR=18								
KDAK	**Kodiak Island**	**11.27**	**297**		*e*Pn	**Pn**		**18 55 57.5**	**-1.3**
SCRK	**Sand Creek**	**11.32**	**336**		*e*Pn	**Pn**		**18 55 58.8**	**-0.8**
RIDG	**Independ'e Rid**	**11.34**	**334**		*e*Pn	Pn		18 56 03.8	+4.0
HOM	**Homer**	**11.35**	**307**		*e*Pn	**Pn**		**18 55 58.9**	**-1.0**
EGAK	**Eagle**	**11.46**	**344**		*e*Pn	**Pn**		**18 56 02.2**	**+0.8**
OHAK	**Old Harbor**	**11.55**	**294**		*e*Pn	**Pn**		**18 56 01.0**	**-1.6**
DHY	**Denali Highway**	**11.56**	**327**		*e*Pn	**Pn**		**18 56 03.6**	**+0.7**
SUA	**Susitna One**	**11.77**	**316**		*e*Pn	**Pn**		**18 56 05.8**	**0.0**
NEW	**Newport**	**11.86**	**112**		Pn	**Pn**		**18 56 09.9**	**+3.0**
	0.1nm,0.3s,baz=342,slow=19,SNR=2.7								
H04A	**Detroit Lake**	**11.94**	**137**		*e*Pn	Pn		18 56 13.7	+5.7
G06A	**Carlson Farm,**	**12.16**	**131**		*e*Pn	**P**		**18 56 20.0**	**-3.7**
SPU	**Mount Spurr**	**12.18**	**314**		*e*Pn	**Pn**		**18 56 11.2**	**-0.1**
RND	**Reindeer**	**12.27**	**326**		*e*Pn	**Pn**		**18 56 13.8**	**+1.3**
SKT	**Skwentna**	**12.37**	**317**		*e*Pn	**Pn**		**18 56 13.2**	**-0.6**
MCK	**McKinley**	**12.52**	**327**		*e*Pn	**Pn**		**18 56 16.5**	**+0.6**
IL1	**Eielson Array**	**12.70**	**334**		*e*Pn	**Pn**		**18 56 18.8**	**+0.5**
ILAR	**Eielson Array**	**12.70**	**334**		Pn	**Pn**		**18 56 18.0**	**-0.3**
	0.1nm,0.3s,baz=154,slow=12,SNR=17								
ILAR					Lg	Lg		19 00 06.6	
	0.2nm,0.3s,baz=117,slow=26,SNR=4.7								
ILB	**Eielson Array**	**12.70**	**334**		*e*Pn	**Pn**		**18 56 17.7**	**-0.6**
TRF	**Thorofare Moun**	**12.78**	**324**		*e*Pn	**Pn**		**18 56 21.4**	**+1.8**
WRH	**Wood River Hil**	**12.80**	**331**		*e*Pn	**Pn**		**18 56 20.5**	**+0.9**
CCB	**Clear Creek Bu**	**12.85**	**332**		*e*Pn	**Pn**		**18 56 21.4**	**+1.0**
KTH	**Kantishna Hill**	**13.06**	**324**		*e*Pn	**Pn**		**18 56 24.6**	**+1.3**
YKA	**Yellowknife Ar**	**13.11**	**42**		Pn	**Pn**		**18 56 23.0**	**-0.9**
	0.1nm,0.3s,baz=234,slow=12,SNR=14								
YKA					Lg	Lg		19 00 06.5	
	0.0nm,0.3s,baz=236,slow=26,SNR=3.2								
PPLA	**Purkeypile**	**13.13**	**320**		*e*Pn	**Pn**		**18 56 24.3**	**0.0**
YKW3	**Yellowknife Ar**	**13.15**	**42**		Pn	**Pn**		**18 56 25.4**	**+1.0**
MDM	**Murphy Dome**	**13.21**	**332**		*e*Pn	**Pn**		**18 56 26.8**	**+1.5**
CAST	**Castle Rocks**	**13.39**	**322**		*e*Pn	**Pn**		**18 56 28.8**	**+1.1**
BPAW	**Bear Paw Mtn.**	**13.44**	**326**		*e*Pn	**Pn**		**18 56 29.0**	**+0.6**
SVW2	**Sparrevohn**	**13.70**	**310**		*e*Pn	**Pn**		**18 56 30.9**	**-1.1**
MLY	**Manley**	**13.99**	**329**		*e*Pn	**Pn**		**18 56 36.6**	**+0.7**
CHGN	**Chignik**	**14.31**	**289**		*e*Pn	**Pn**		**18 56 41.9**	**+1.6**
INK	**Inuvik**	**14.36**	**0**		Pn	**Pn**		**18 56 42.9**	**+1.9**
	0.1nm,0.3s,baz=172,slow=12,SNR=13								
INK					Lg	Lg		19 00 51.8	
	0.0nm,0.3s,baz=80,slow=28,SNR=6.6								
INK	**Inuvik**	**14.36**	**0**		Pn	**Pn**		**18 56 41.8**	**+0.8**
INK	**Inuvik**	**14.36**	**0**		*e*Pn	**Pn**		**18 56 42.3**	**+1.3**
MSO	**Missoula**	**14.45**	**112**		*e*Pn	**P**		**18 56 47.2**	**-2.0**
MOD	**Modoc Plateau**	**15.02**	**138**		*e*Pn	**P**		**18 57 00.2**	**+4.7**
	19nm,2.0s								
WDC	**Whiskeytown Da**	**15.37**	**146**		*e*Pn	**P**		**18 57 04.2**	**+4.9**
	8.1nm,1.1s								
COLD	**Coldfoot**	**15.47**	**335**		*e*Pn	**P**		**18 56 57.5**	**-2.8**
	13nm,1.8s								
IM3	**Indian Mountai**	**15.56**	**328**		*e*Pn	**Pn**		**18 56 58.1**	**+1.1**
HRY	**Holter Researc**	**15.68**	**109**		*e*Pn	**P**		**18 57 06.5**	**+3.6**
MFID	**Camas Ranch**	**15.79**	**125**		*e*Pn	**P**		**18 57 08.8**	**+4.8**
	2.7nm,0.9s								
LRM	**Limekiln Ridge**	**15.88**	**112**		*e*Pn	**Pn**		**18 57 02.1**	**+0.5**
DLMT	**Dillon**	**16.09**	**114**		*e*Pn	**P**		**18 57 10.0**	**+2.6**
	5.5nm,1.0s								
EGMT	**Eagleton**	**16.15**	**102**		*e*Pn	**P**		**18 57 09.9**	**+1.9**
	41nm,1.1s								
MCMT	**McKenzie Canyo**	**16.31**	**116**		*e*Pn	**P**		**18 57 12.2**	**+2.3**
HLID	**Hailey**	**16.37**	**122**		*e*Pn	**P**		**18 57 13.8**	**+3.2**
	2.5nm,0.9s								
KUKN	**Kugluktuk,NWT**	**16.44**	**25**		Pn	**P**		**18 57 10.8**	**-0.2**
TOLK	**Toolik Lake Re**	**16.47**	**339**		*e*Pn	**P**		**18 57 10.8**	**-0.6**
	6.1nm,1.3s								
BOZ	**Bozeman (W)**	**16.47**	**112**		*e*Pn	**P**		**18 57 18.0**	**+6.4**
	2.4nm,0.9s								
YHH	**Holmes Hill**	**17.41**	**113**		*e*Pn	**P**		**18 57 27.7**	**+5.5**
	4.6nm,1.1s								
GCMT	**Greycliff**	**17.44**	**108**		*e*Pn	**P**		**18 57 28.5**	**+6.2**
GCMT					*e*Sn	Sn		19 00 16.6	-18
H17A	**Grant Village**	**17.81**	**113**		*e*Pn	**P**		**18 57 33.1**	**+6.5**
	17nm,1.7s								
IMW	**Indian Meadow**	**17.95**	**115**		*e*Pn	**P**		**18 57 32.8**	**+4.6**
	4.8nm,1.2s								
RLMT	**Red Lodge**	**18.07**	**109**		*e*Pn	**P**		**18 57 34.6**	**+5.2**
	4.6nm,1.0s								
FXWY	**Fox Creek**	**18.07**	**116**		*e*Pn	**P**		**18 57 33.0**	**+3.5**
	11nm,1.9s								
MOOW	**Moose Ponds**	**18.15**	**115**		*e*Pn	**P**		**18 57 31.6**	**+1.3**
	11nm,1.8s								
TPAW	**Teton Pass**	**18.22**	**116**		*e*Pn	**Pn**		**18 57 31.0**	**+0.1**
	3.5nm,0.8s								
WAKR	**Walker**	**18.30**	**142**		*e*P	**Pn**		**18 57 31.9**	**0.0**
	17nm,1.7s								
LOHW	**Long Hollow**	**18.32**	**115**		*e*P	**P**		**18 57 32.6**	**+0.4**
	5.4nm,1.2s								
KVN	**Kaiserville**	**18.32**	**138**		*e*P	**Pn**		**18 57 36.3**	**+4.1**
KVN					*e*Pn	**sP**		**18 57 39.1**	**+0.4**
FFC	**Flin Flon**	**18.40**	**75**		*e*P	**Pn**		**18 57 33.6**	**+0.8**
	15nm,1.8s								
NV01	**Mina Array Sit**	**18.78**	**140**		*e*P	**Pn**		**18 57 40.6**	**+2.8**
NVAR	**Mina Array Bea**	**18.78**	**140**		P	**P**		**18 57 36.7**	**-0.6**
	baz=327,slow=9.7,SNR=2.6								
PD31	**Pinedale Array**	**19.45**	**115**		*e*P	**Pn**		**18 57 46.0**	**+0.1**
PDAR	**Pinedale Array**	**19.45**	**115**		P	**Pn**		**18 57 45.9**	**0.0**
	0.1nm,0.3s,baz=311,slow=8.2,SNR=2.1								
PDAR	**Pinedale Array**	**19.45**	**115**		*e*P	**Pn**		**18 57 45.7**	**-0.1**
TCUT	**Toone Canyon**	**19.68**	**122**		*e*P	**Pn**		**18 57 49.2**	**+0.7**
	38nm,2.0s								
R11A	**Troy Canyon, C**	**19.95**	**134**		*e*P	**Pn**		**18 57 52.3**	**+0.6**
	6.8nm,1.7s								
PAGB	**Antelope Grade**	**20.52**	**147**		*e*P	Pn		18 58 00.8	+2.6
	52nm,2.0s								
TPNV	**Topopah Spring**	**20.87**	**138**		*e*P	Pn		18 58 01.9	-0.6
	3.8nm,1.0s								
MSU	**Marysvale**	**21.33**	**128**		*e*P	**P**		**18 58 08.8**	**+3.8**
P18A	**Preston Nutter**	**21.39**	**123**		*e*P	**P**		**18 58 09.7**	**+4.1**
	9.1nm,1.4s								
RWWY	**Rawlins**	**21.46**	**114**		*e*P	**P**		**18 58 10.1**	**+3.8**
	6.8nm,0.9s								
Q16A	**Castle Valley**	**21.48**	**125**		*e*P	**P**		**18 58 10.5**	**+3.9**
	8.3nm,1.3s								
CCUT	**Cedar City**	**21.58**	**131**		*e*P	**P**		**18 58 10.5**	**+2.9**
	7.6nm,1.4s								
RSSD	**Black Hills**	**21.63**	**105**		*e*P	**P**		**18 58 11.5**	**+3.3**
	6.9nm,0.8s								
SRU	**San Rafael Swe**	**21.65**	**124**		*e*P	**P**		**18 58 10.1**	**+1.8**
	3.4nm,0.7s								
SHPR	**Sheep Range**	**21.69**	**136**		*e*P	**P**		**18 58 13.7**	**+4.9**
	4.1nm,1.4s								
O20A	**White River Ci**	**22.02**	**119**		*e*P	**P**		**18 58 14.8**	**+2.4**
	5.9nm,0.9s								
LCMT	**Little Creek M**	**22.08**	**132**		*e*P	**P**		**18 58 14.9**	**+2.0**
	3.8nm,1.1s								
GSC	**Goldstone, Bar**	**22.10**	**141**		*e*P	**P**		**18 58 16.8**	**+3.7**
	15nm,1.6s								
ULM	**Lac du Bonnet**	**23.31**	**84**		P	**P**		**18 58 27.5**	**+1.9**
	2.4nm,0.8s,baz=313,slow=8.1,SNR=3.1								
BAR	**Barrett**	**24.51**	**144**		*e*P	**P**		**18 58 39.7**	**+2.6**
	9.2nm,1.2s								
S22A	**4UR Ranch, Cre**	**24.55**	**121**		*e*P	**P**		**18 58 41.2**	**+3.4**
	2.6nm,1.0s								
TXAR	**Lajitas Array**	**32.87**	**126**		P	**P**		**18 59 50.8**	**-1.0**
	0.2nm,0.8s,baz=337,slow=8.9,SNR=2.3								
H11N2	**WAKE ISLAND Hy**	**56.38**	**257**		T	T		20 04 15.2	
	baz=37,slow=76,SNR=1111								
H11N3	**WAKE ISLAND Hy**	**56.38**	**257**		T	T		20 04 15.4	
	baz=37,slow=76,SNR=1163								
H11N1	**WAKE ISLAND Hy**	**56.40**	**257**		T	T		20 04 16.5	
	baz=37,slow=76,SNR=854								
KURBB	**Kurchatov Arra**	**72.31**	**339**		P	**P**		**19 04 43.9**	**+1.0**
	0.6nm,0.7s,baz=23,slow=6.2,SNR=6.1								
MKAR	**Makanchi Array**	**75.05**	**335**		P	**P**		**19 05 00.5**	**+1.4**
	0.7nm,0.8s,baz=53,slow=5.7,SNR=6.6								

*ISCJB **28** 19:06:45.4±0.3,41˚.00S±0˚.05×43˚.46E±0˚.07,h9km, mb4.7/72,MS4.2/18,Error ellipse: s-maj=8.4km s-min=6.9km az=39.8*

*IDC **28** 19:06:45.8±0.5,40˚.87S×43˚.58E,h0km,mb4.1/20, mb1 4.2/21,mb1mx4.1/52,mbtmp4.1/21,ML3.6/1,MS4.2/15, Ms1 4.2/15,ms1mx4.0/50,Error ellipse: s-maj=19.1km s-min=14.0km az=48.0*

*MOS **28** 19:06:46.0±1.0,40˚.95S×43˚.45E,h10km,mb5.2/27,Error ellipse: s-maj=17.1km s-min=8.6km az=93.5*

*GCMT **28** 19:06:48.1±0.4,41˚.03S×43˚.55E,h20km±1km,MW5.0/66, Moment Tensor Solution. s16,c18; s66,c93; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr-4.82±.46; Mθθ3.87±.28; Mϕϕ0.94±.24; Mrθ-0.87±.38; Mϕθ-0.33±.12; Mϕr-0.47±.55; Best double couple: M◎4.46600×10^16^ NP1:ϕ◎90.00000°,δ51.00000°,λ-97.00000°. NP2: ϕ◎281.00000°,δ40.00000°,λ-82.00000°. Principal axes: T 3.9830, Plg5.0000°, Azm185.0000°; N 0.9640, Plg5.0000°, Azm95.0000°; P -4.9480, Plg82.0000°, Azm320.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **28** 19:06:48.1±3.6,41˚.00S×43˚.50E,h17km±21km,mb5.0/46 Error ellipse: s-maj=6.4km s-min=5.6km az=204.0*

ISC 28 19:06:47.1±0.3,40˚.97S±0˚.07×43˚.44E±0˚.07,h9km,n284, σ0°88/285,mb4.9/72,MS4.3/18,4C-5D,Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BOSA	**Boshof**	**19.32**	**304**		P	**Pn**		**19 11 13.7**	**+0.1**
	0.1nm,0.3s,baz=132,slow=11,SNR=6.7								
BOSA					LR	LR		19 17 49.4	
	comp=Z,307nm,18.2s,baz=135,slow=34								
SUR	**Sutherland**	**20.03**	**288**		P	Pn		19 11 22.0	-0.2
	1.4nm,1.3s,baz=128,slow=12,SNR=3.5								
SUR					LR	LR		19 17 31.3	
	comp=Z,24nm,18.8s,baz=124,slow=32								
SUR	**Sutherland**	**20.03**	**288**		*e*P	**P**		**19 11 20.2**	**-0.3**
	174nm,1.9s								
LBTB	**Lobatse**	**21.78**	**311**		P	**P**		**19 11 40.3**	**+1.0**
	4.0nm,0.6s,baz=148,slow=16,SNR=7.2								
LBTB					LR	LR		19 18 36.5	
	comp=Z,516nm,21.8s,baz=144,slow=33								
LBTB	**Lobatse**	**21.78**	**311**		*e*P	**P**		**19 11 39.8**	**+0.5**
	58nm,1.7s								
LBTB	**Lobatse**	**21.78**	**311**		*e*P	**P**		**19 11 39.8**	**+0.5**
LBTB					pmax	pmax			
	comp=Z,58nm,1.7s								
ABPO	**Ambohimpanom**	**22.12**	**10**		*e*P	**P**		**19 11 44.7**	**+1.7**
	comp=Z,108nm,1.7s								
ABPO	**Ambohimpanom**	**22.12**	**10**		*e*P	**P**		**19 11 44.7**	**+1.7**
ABPO					pmax	pmax			
	comp=Z,108nm,1.7s								
RER	**Riviere de l'E**	**22.34**	**32**		*e*P	**P**		**19 11 44.7**	**-0.6**
	comp=Z,515nm,2.0s								
MAW	**Mawson**	**28.73**	**165**		LR	LR		19 22 02.9	
	comp=Z,273nm,19.1s,baz=316,slow=32								
MAW	**Mawson**	**28.73**	**165**		*e*P	**P**		**19 12 44.5**	**+0.2**
	comp=Z,2.4nm,1.2s								
MAW	**Mawson**	**28.73**	**165**		*e*P	**P**		**19 12 44.5**	**+0.2**
MAW					pmax	pmax			
	comp=Z,2.0nm,1.2s								
LSZ	**Lusaka**	**28.82**	**328**		P	**P**		**19 12 45.1**	**-0.7**
	comp=Z,1.6nm,0.5s,baz=158,slow=8.3,SNR=4.7								
LSZ					LR	LR		19 23 12.7	
	comp=Z,672nm,20.0s,baz=158,slow=34								
LSZ	**Lusaka**	**28.82**	**328**		*e*P	**P**		**19 12 45.0**	**-0.8**
LSZ	**Lusaka**	**28.82**	**328**		*e*P	**P**		**19 12 45.0**	**-0.8**
TSUM	**Tsumeb**	**30.96**	**307**		*e*P	**P**		**19 13 04.2**	**-0.5**
	comp=Z,32nm,1.6s								
SNAA	**Sanae**	**38.26**	**202**		P	P		19 14 13.7	+6.5
SNAA	**Sanae**	**38.26**	**202**		P	**P**		**19 14 08.6**	**+1.4**
	comp=Z,0.7nm,0.8s,baz=35,slow=18,SNR=3.2								
SNAA					LR	LR		19 27 34.9	
	comp=Z,407nm,18.1s,baz=92,slow=32								
SNAA	**Sanae**	**38.26**	**202**		*e*P	**P**		**19 14 05.7**	**-1.6**
	comp=Z,16nm,1.5s								
SNAA	**Sanae**	**38.26**	**202**	⇑	*e*P	**P**		**19 14 08.8**	**+1.5**
VNA2	**Neumayer--Watz**	**39.28**	**204**		P	P		19 14 23.4	+7.7
	baz=63,slow=8.5								
KMBO	**Kilima Mbogo**	**40.05**	**350**		LR	LR		19 28 38.0	
	comp=Z,262nm,20.1s,baz=97,slow=33								
KMBO	**Kilima Mbogo**	**40.05**	**350**		*e*P	**P**		**19 14 22.3**	**-0.6**
	comp=Z,25nm,1.9s								
KMBO	**Kilima Mbogo**	**40.05**	**350**		*e*P	**P**		**19 14 22.3**	**-0.6**
KMBO					pmax	pmax			
	comp=Z,25nm,1.9s								
VNA3	**Neumayer Olymp**	**40.09**	**204**		P	**P**		**19 14 21.2**	**-1.3**
QSPA	**South Pole Qui**	**49.24**	**180**		P	**P**		**19 15 37.0**	**+1.4**
	comp=Z,1.9nm,0.9s,baz=248,slow=21,SNR=4.6								
QSPA					LR	LR		19 34 29.1	
	comp=Z,500nm,19.1s,baz=250,slow=34								
QSPA	**South Pole Qui**	**49.24**	**180**		*e*P	**P**		**19 15 34.6**	**-1.0**
	comp=Z,44nm,1.8s								
ATD	**Arta Tunnel**	**52.23**	**359**		LR	LR		19 35 17.5	
	comp=Z,203nm,21.6s,baz=158,slow=33								
H01W2	**Cape Leeuwin H**	**54.70**	**108**		T	T		20 15 39.1	
	baz=241,slow=75,SNR=21								
H01W3	**Cape Leeuwin H**	**54.71**	**108**		T	T		20 15 22.4	
	baz=241,slow=75,SNR=26								
H01W1	**Cape Leeuwin H**	**54.72**	**108**		T	T		20 15 41.2	
	baz=241,slow=75,SNR=28								
VNDA	**Vanda**	**56.01**	**167**		P	**P**		**19 16 25.8**	**+0.4**
	comp=Z,1.1nm,1.1s,baz=255,slow=9.0,SNR=5.2								
VNDA	**Vanda**	**56.01**	**167**		*e*P	**P**		**19 16 25.4**	**0.0**
	comp=Z,33nm,1.9s								
VNDA	**Vanda**	**56.01**	**167**		*e*P	**P**		**19 16 25.4**	**0.0**
VNDA					pmax	pmax			
	comp=Z,33nm,1.9s								
RAYN	**Ar Rayn**	**64.19**	**2**		*e*P	**P**		**19 17 22.6**	**+0.6**
	comp=Z,23nm,1.7s								
RAYN	**Ar Rayn**	**64.19**	**2**		P	**P**		**19 17 22.7**	**+0.6**
RAYN					pmax	pmax			
	comp=Z,23nm,1.7s								
GSI	**Gunungsitoli**	**64.61

CPUP	**Villa Florida**	**80.73**	**243**	P		**P**		**19 19 01.0**	**+0.1**
	comp=Z,2.7nm,0.9s,baz=107,slow=5.3,SNR=4.5								
CPUP	**Villa Florida**	**80.73**	**243**	*e*P		**P**		**19 19 00.2**	**-0.7**
	comp=Z,37nm,1.9s								
CPUP	**Villa Florida**	**80.73**	**243**	*e*P		**P**		**19 19 00.2**	**-0.7**
CPUP				pmax		pmax			
	comp=Z,37nm,1.9s								
GNI	**Garni**	**80.75**	**1**	*e*P		**P**		**19 19 01.7**	**+1.1**
	comp=Z,12nm,1.4s								
GNI	**Garni**	**80.75**	**1**⇓	*e*P		**P**		**19 19 01.5**	**+0.9**
GNI				pmax		pmax			
	comp=Z,42nm,1.8s								
BR101	**Keskin Array S**	**80.81**	**352**	*e*P		**P**		**19 19 00.6**	**-0.3**
BR131	**Keskin Array S**	**80.81**	**352**	*e*P		**P**		**19 18 59.5**	**-1.4**
BRTR	**Keskin Array B**	**80.81**	**352**	P		**P**		**19 19 00.6**	**-0.3**
	comp=Z,0.7nm,0.8s,baz=190,slow=3.8,SNR=4.9								
AGG	**Agios Georgios**	**81.91**	**344**	*e*P		**P**		**19 19 07.1**	**+0.5**
	comp=Z,64nm,1.7s								
AGG	**Agios Georgios**	**81.91**	**344**	*e*P		**P**		**19 19 07.1**	**+0.5**
AGG				pmax		pmax			
	comp=Z,64nm,1.7s								
AKH	**Akhalkalaki**	**82.00**	**0**	*e*P		**P**		**19 19 06.7**	**-0.5**
	comp=Z,9.4nm,1.4s								
AKH	**Akhalkalaki**	**82.00**	**0**	*e*P		**P**		**19 19 06.7**	**-0.5**
AKH				pmax		pmax			
	comp=Z,9.0nm,1.4s								
ILGA	**Ilgaz**	**82.12**	**353**	*e*P		**P**		**19 19 08.4**	**+0.5**
	comp=Z,11nm,0.5s								
MYLDM	**Lahad Datu**	**82.19**	**76**	*e*P		**P**		**19 19 07.5**	**-1.2**
	comp=Z,11nm,1.3s								
TBLG	**Delisi**	**82.33**	**1**	*e*P		**P**		**19 19 08.7**	**0.0**
	comp=Z,15nm,1.2s								
TBLG	**Delisi**	**82.33**	**1**	*e*P		**P**		**19 19 08.7**	**0.0**
TBLG				pmax		pmax			
	comp=Z,15nm,1.2s								
VAE	**Valguarnera**	**82.47**	**337**	LR		LR		19 57 22.6	
	comp=Z,366nm,18.9s,baz=154,slow=37								
KEST	**Kesra**	**82.50**	**333**	*e*P		**P**		**19 19 11.4**	**+1.5**
	comp=Z,21nm,1.5s								
LSA	**Lhasa**	**83.03**	**40**	*e*P		**P**		**19 19 13.6**	**+0.3**
	comp=Z,16nm,1.3s								
LSA	**Lhasa**	**83.03**	**40**	*e*P		**P**		**19 19 13.6**	**+0.3**
LSA				pmax		pmax			
	comp=Z,16nm,1.3s								
ZEI	**Tsey**	**83.38**	**0**	*e*P		**P**		**19 19 12.5**	**-1.9**
ZEI				pmax		pmax			
	comp=Z,8.0nm,1.4s								
TIP	**Timpagrande**	**83.40**	**339**	*e*P		**P**		**19 19 14.2**	**-0.2**
	comp=Z,25nm,2.0s								
MAK	**Makhachkala**	**83.63**	**3**	*e*P		**P**		**19 19 14.1**	**-1.3**
MAK				*e*S		**S**		**19 29 32.6**	**-4.8**
MAK				pmax		pmax			
	comp=Z,9.0nm,0.3s								
MAK				MLR		MLR			
	comp=Z,250nm,19.0s								
GROC	**Groznyy**	**83.81**	**2**	*e*P		**P**		**19 19 16.1**	**-0.3**
GROC				pmax		pmax			
	comp=Z,10.0nm,0.5s								
NEY	**Neytrino**	**83.84**	**359**⇓	*e*P		**P**		**19 19 19.2**	**+2.5**
NEY				pmax		pmax			
	comp=Z,1.0nm,1.0s								
NCK	**Nalchik**	**84.08**	**0**⇑	*e*P		**P**		**19 19 18.0**	**+0.2**
NCK				pmax		pmax			
	comp=Z,7.0nm,0.6s								
KIV	**Kislovodsk**	**84.54**	**359**	*e*P		**P**		**19 19 20.3**	**+0.1**
KIV				pmax		pmax			
	comp=Z,7.0nm,1.1s								
KIV				MLR		MLR			
	comp=Z,137nm,19.0s								
KMI	**Kunming**	**85.72**	**51**	P		**P**		**19 19 29.0**	**+2.3**
KMI				pmax		pmax			
	comp=Z,9.0nm,0.5s								
KMI				pmax		pmax			
	comp=Z,85nm,4.4s								
MLR	**Muntele Rosu**	**87.49**	**348**	*e*P		**P**		**19 19 35.5**	**+0.7**
	comp=Z,21nm,1.6s								
MLR	**Muntele Rosu**	**87.49**	**348**	*e*P		**P**		**19 19 35.5**	**+0.7**
MLR				pmax		pmax			
	comp=Z,21nm,1.6s								
GYA	**Guiyang**	**89.06**	**53**	*e*P		**P**		**19 19 44.8**	**+2.1**
GYA				PP		**PP**		**19 23 17.5**	**+4.5**
GYA				SKS		**SKSac**		**19 30 12.0**	**-0.7**
GYA				pmax		pmax			
	comp=Z,10.0nm,1.0s								
BUR04	**Bucovina Ar. S**	**89.68**	**348**	*e*P		**P**		**19 19 46.2**	**+1.1**
BUR08	**Bucovina Ar. S**	**89.70**	**348**	*e*P		**P**		**19 19 46.2**	**+1.0**
CD2	**Chengdu**	**90.66**	**48**	*e*P		**P**		**19 19 50.5**	**+0.5**
CD2				pmax		pmax			
	comp=Z,10.0nm,0.5s								
CD2				pmax		pmax			
	comp=Z,120nm,5.0s								
ES19	**SONSECA Array**	**91.13**	**325**	*e*P		**P**		**19 19 52.0**	**+0.1**
ESDC	**Sonseca Array**	**91.13**	**325**	P		**P**		**19 19 51.7**	**-0.3**
	comp=Z,1.1nm,0.9s,baz=163,slow=5.7,SNR=6.4								
ESDC				LR		LR		20 01 59.5	
	comp=Z,131nm,20.1s,baz=105,slow=36								
AKASG	**Malin Array Be**	**92.14**	**351**	P		**P**		**19 19 55.8**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=191,slow=4.3,SNR=4.3								
WMQ	**Urumqi**	**93.33**	**30**	P		**P**		**19 20 04.0**	**+2.0**
WMQ				LR		LR			
	comp=Z,960nm,22.5s								
WMQ				LR		LR			
	comp=Z,860nm,24.7s								
WMQ				LR		LR			
	comp=Z,1μm,20.3s								
MK01	**Makanchi Array**	**93.96**	**26**	*e*P		**P**		**19 20 04.2**	**-0.7**
MK32	**Makanchi Array**	**93.98**	**26**	*e*P		**P**		**19 20 04.2**	**-0.7**
MKAR	**Makanchi Array**	**93.98**	**26**	P		**P**		**19 20 04.2**	**-0.7**
	comp=Z,0.5nm,0.6s,baz=197,slow=5.9,SNR=5.6								
LZH	**Lanzhou**	**94.59**	**45**	*e*P		**P**		**19 20 10.5**	**+2.3**
LZH				pP		sP		19 20 14.5	+2.2
LZH				sP		pP		19 20 17.0	+5.8
LZH				pmax		pmax			
	comp=Z,22nm,1.1s								
GTA	**Gaotai**	**95.06**	**40**	*e*P		**P**		**19 20 10.0**	**-0.2**
GTA				pP		sP		19 20 14.8	+0.6
GTA				pmax		pmax			
	comp=Z,3.0nm,1.8s								
OBN	**Obninsk**	**95.89**	**356**	*e*P		**P**		**19 20 14.2**	**+0.9**
OBN				*e*				19 24 06.6	
OBN				pmax		pmax			
	comp=Z,2.0nm,0.8s								
KURBB	**Kurchatov Arra**	**96.25**	**22**	P		**P**		**19 20 14.8**	**-0.3**
	comp=Z,0.6nm,1.1s,baz=192,slow=2.6,SNR=3.2								
KURK	**Kurchatov**	**96.36**	**22**	*e*P		**P**		**19 20 14.8**	**-0.8**
KURK	**Kurchatov**	**96.36**	**22**	*e*P		**P**		**19 20 14.8**	**-0.8**
BVAR	**Borovoye Array**	**96.47**	**16**	P		**P**		**19 20 15.9**	**-0.2**
	comp=Z,0.3nm,0.6s,baz=184,slow=4.0,SNR=2.7								
DGZ	**Jazzator, Alta**	**98.22**	**27**⇑	*e*P		**P**		**19 20 24.3**	**0.0**
DGZ				pmax		pmax			
	comp=Z,2.0nm,2.0s								
NJ2	**Nanjing**	**100.54**	**57**	*e*P		**Pdif**		**19 20 35.8**	**+0.9**
NJ2				pmax		pmax			
	comp=Z,11nm,0.5s								
ZALV	**Zalesovo Beam**	**101.01**	**23**	P		**Pdif**		**19 20 35.9**	**-0.5**
	comp=Z,0.3nm,0.3s,baz=256,slow=3.0,SNR=3.1								
ZAA1	**Zalesovo Array**	**101.01**	**23**	*e*Pdif		**Pdif**		**19 20 35.9**	**-0.5**
HHC	**Hu-ho-hao-te**	**102.21**	**46**	*e*P		**Pdif**		**19 20 44.3**	**+2.1**
HHC				pmax		pmax			
	comp=Z,22nm,1.5s								
HHC				pmax		pmax			
	comp=Z,65nm,8.3s								
MAJO	**Matsushiro**	**115.97**	**63**⇓	*i*PKIKP		**PKPdf**		**19 25 31.0**	**+0.9**
TIXI	**Tiksi**	**126.90**	**23**	*e*PKPdf		**PKPdf**		**19 25 48.7**	**-1.3**
TIXI	**Tiksi**	**126.90**	**23**⇓	*i*PKIKP		**PKPdf**		**19 25 49.3**	**-0.6**
BILL	**Bilibino**	**139.43**	**29**	*i* PKIKP		**PKPdf**		**19 26 15.1**	**+1.5**
BILL				*i*				19 29 12.8	
BILL				pmax		pmax			
	comp=Z,2.0nm,1.0s								
T43A	**Greenville**	**144.17**	**279**	P		**PKPab**		**19 26 20.4**	**-0.3**
	baz=111								
E43A	**Lone Tree Farm**	**144.23**	**296**	P		PKPbc		19 26 21.6	+0.5
	baz=100								
F43A	**Flat Rock, Esc**	**144.25**	**295**	P		PKPbc		19 26 21.8	+0.7
	baz=100								
R43A	**Red Bud**	**144.31**	**281**	P		PKPbc		19 26 21.6	0.0
	baz=110								
T42A	**Van Buren**	**144.75**	**279**	P		**PKPab**		**19 26 22.4**	**-0.6**
	baz=111								
S42A	**Caledonia**	**144.78**	**280**	P		PKPbc		19 26 23.2	+0.1
	baz=110								
E42A	**Champion**	**144.86**	**296**	P		PKPbc		19 26 23.6	+0.4
	baz=99								
W41B	**Gary Mavity, V**	**144.93**	**275**	P		PKPbc		19 26 23.8	+0.1
	baz=113								
W41B	**Gary Mavity, V**	**144.93**	**275**	*e*PKPbc		**PKPab**		**19 26 22.9**	**-0.7**

WHAR	**Wooly Hollow**	**145.01**	**275**	*e*PKPbc		**PKPbc**		**19 26 23.1**	**-0.8**
P42A	**Winchester**	**145.03**	**283**	P		**PKPdf**		**19 26 24.3**	**-0.2**
	baz=108								
V41A	**Mountainview**	**145.09**	**276**	P		**PKPbc**		**19 26 24.0**	**-0.2**
	baz=112								
X40A	**Basin Creek Fa**	**145.10**	**274**	P		**PKPbc**		**19 26 24.1**	**-0.1**
	baz=114								
J42A	**Columbus**	**145.12**	**290**	P		**PKPdf**		**19 26 24.5**	**0.0**
	baz=103								
U41A	**Viola**	**145.13**	**277**	P		**PKPbc**		**19 26 24.2**	**-0.1**
	baz=112								
K42A	**Prairie Point,**	**145.15**	**289**	P		**PKPdf**		**19 26 24.7**	**+0.1**
	baz=104								
L42A	**Oliver, Polo**	**145.20**	**288**	P		**PKPdf**		**19 26 25.1**	**+0.5**
	baz=104								
CCM	**Cathedral Cave**	**145.22**	**280**	P		**PKPdf**		**19 26 24.9**	**+0.1**
	baz=109								
CCM	**Cathedral Cave**	**145.22**	**280**	*e*PKPbc		**PKPbc**		**19 26 24.5**	**0.0**
CCM	**Cathedral Cave**	**145.22**	**280**	*e*PKIKP		**PKPbc**		**19 26 24.5**	**0.0**
T41A	**Mountain View**	**145.26**	**278**	P		**PKPbc**		**19 26 24.8**	**0.0**
	baz=111								
LNIG	**Linares**	**145.28**	**254**	*e*PKPbc		**PKPbc**		**19 26 24.7**	**-0.4**
HKT	**Hockley**	**145.34**	**265**	*e*PKPbc		**PKPab**		**19 26 25.8**	**+0.6**
HKT	**Hockley**	**145.34**	**265**	*e*PKIKP		**PKPab**		**19 26 25.8**	**+0.6**
R41A	**Rosebud**	**145.40**	**281**	P		**PKPab**		**19 26 25.5**	**+0.2**
	baz=109								
D41A	**Chassel**	**145.40**	**297**	P		**PKPab**		**19 26 25.7**	**+0.7**
	baz=98								
S41A	**Jillco Farms,**	**145.43**	**279**	P		**PKPab**		**19 26 25.5**	**+0.1**
	baz=110								
Q41A	**Truxton**	**145.49**	**282**	P		**PKPab**		**19 26 25.7**	**+0.1**
	baz=108								
W40A	**Ferguson Farm,**	**145.56**	**275**	P		**PKPab**		**19 26 26.1**	**+0.2**
	baz=113								
W40A	**Ferguson Farm,**	**145.56**	**275**	*e*PKPdf		**PKPbc**		**19 26 25.7**	**+0.1**
O41A	**Passleys Farm,**	**145.58**	**284**	P		**PKPbc**		**19 26 25.7**	**+0.1**
	baz=107								
E41A	**Kenton**	**145.58**	**295**	P		**PKPab**		**19 26 25.8**	**0.0**
	baz=98								
P41A	**Barry, Barry**	**145.59**	**283**	P		**PKPab**		**19 26 26.0**	**+0.1**
	baz=107								
V40A	**Witts Springs**	**145.60**	**276**	P		**PKPdf**		**19 26 25.7**	**+0.1**
	baz=112								
V40A	**Witts Springs**	**145.60**	**276**	*e*PKPdf		**PKPdf**		**19 26 25.4**	**-0.2**
COWI	**Conover**	**145.65**	**295**	*e*PKPdf		**PKPbc**		**19 26 25.8**	**+0.1**
M41A	**Milan**	**145.67**	**286**	P		**PKPbc**		**19 26 25.8**	**0.0**
	baz=105								
MIAR	**Mount Ida**	**145.69**	**273**	P		**PKPbc**		**19 26 26.2**	**+0.1**
	baz=114								
MIAR	**Mount Ida**	**145.69**	**273**	*e*PKPdf		**PKPdf**		**19 26 25.7**	**-0.1**
MIAR	**Mount Ida**	**145.69**	**273**	*e*PKP2		**PKPdf**		**19 26 25.7**	**-0.1**
J41A	**Loganville**	**145.76**	**290**	P		**PKPab**		**19 26 26.5**	**0.0**
	baz=102								
U40A	**Yellville**	**145.83**	**277**	P		**PKPbc**		**19 26 26.4**	**-0.1**
	baz=111								
T40A	**Mansfield**	**145.86**	**278**	P		**PKPbc**		**19 26 26.5**	**-0.1**
	baz=110								
S40A	**Lebanon**	**146.00**	**279**	P		**PKPbc**		**19 26 26.9**	**-0.1**
	baz=110								
R40A	**Maddies Statio**	**146.06**	**280**	P		**PKPbc**		**19 26 26.9**	**-0.2**
	baz=109								
X39A	**Fountain Ranch**	**146.08**	**273**	P		**PKPab**		**19 26 27.8**	**-0.2**
	baz=114								
W39A	**Magazine**	**146.10**	**274**	*e*PKPdf		**PKPdf**		**19 26 26.6**	**+0.2**
Q40A	**Laux Farm, Aux**	**146.13**	**282**	P		**PKPbc**		**19 26 27.5**	**+0.1**
	baz=108								
V39A	**Pettigrew**	**146.24**	**275**	P		**PKPbc**		**19 26 27.6**	**-0.3**
	baz=112								
P40A	**Paris**	**146.27**	**282**	P		**PKPbc**		**19 26 27.7**	**-0.1**
	baz=107								
H40A	**Chili**	**146.28**	**292**	P		**PKPbc**		**19 26 27.8**	**+0.2**
	baz=100								
F40A	**Park Falls**	**146.30**	**294**	P		**PKPbc**		**19 26 28.0**	**+0.3**
	baz=99								
O40A	**La Belle**	**146.31**	**284**	P		**PKPbc**		**19 26 28.3**	**+0.4**
	baz=106								
U39A	**Green Forest**	**146.31**	**276**	P		**PKPbc**		**19 26 28.2**	**+0.2**
	baz=111								
M40A	**Post Highland**	**146.39**	**286**	P		**PKPbc**		**19 26 28.1**	**+0.1**
	baz=105								
T39A	**Clever**	**146.46**	**278**	P		**PKPbc**		**19 26 28.8**	**+0.3**
	baz=110								
HHAR	**Hobbs**	**146.62**	**276**	*e*PKPdf		**PKPdf**		**19 26 27.6**	**+0.2**
R39A	**Chumby, Stover**	**146.64**	**280**	P		**PKPbc**		**19 26 29.3**	**+0.4**
	baz=109								
S39A	**Bolivar**	**146.65**	**279**	P		**PKPbc**		**19 26 29.0**	**+0.1**
	baz=110								
E39A	**Mellen**	**146.66**	**295**	P		**PKPbc**		**19 26 29.2**	**+0.5**
	baz=98								
P39B	**Salisbury**	**146.78**	**282**	P		**PKPbc**		**19 26 29.5**	**+0.3**
	baz=107								
Q39A	**Willow Grove F**	**146.81**	**281**	P		**PKPbc**		**19 26 29.3**	**-0.1**
	baz=108								
O39A	**Kirksville**	**146.84**	**284**	P		**PKPbc**		**19 26 30.1**	**+0.7**
	baz=106								
F39A	**Loretta**	**146.85**	**294**	P		**PKPbc**		**19 26 29.4**	**+0.2**
	baz=98								
H39A	**Augusta**	**146.91**	**292**	P		**PKPbc**		**19 26 29.7**	**+0.2**
	baz=100								
I39A	**Houston**	**146.93**	**290**	P		**PKPbc**		**19 26 29.6**	**+0.1**
	baz=101								
J39A	**Decorah**	**146.96**	**289**	P		**PKPbc**		**19 26 30.1**	**+0.4**
	baz=102								
S38A	**Stockton**	**147.06**	**278**	P		**PKPdf**		**19 26 28.8**	**+0.8**
	baz=109								
T38A	**Diamond**	**147.15**	**277**	P		**PKPbc**		**19 26 30.4**	**0.0**
	baz=110								
R38A	**Fenwick Farm,**	**147.24**	**279**	P		**PKPbc**		**19 26 30.5**	**-0.1**
	baz=109								
Q38A	**Cooks Store, C**	**147.27**	**281**	P		**PKPbc**		**19 26 30.8**	**+0.2**
	baz=108								
G38A	**Ridgeland**	**147.39**	**293**	P		**PKPbc**		**19 26 31.3**	**+0.5**
	baz=99								
J38A	**Wedel Dairy, R**	**147.51**	**289**	P		**PKPbc**		**19 26 31.3**	**+0.1**
	baz=101								
F38A	**Pierce - Schro**	**147.52**	**294**	P		**PKPbc**		**19 26 31.9**	**+0.8**
	baz=98								
I38A	**Scanlan Farm,**	**147.54**	**290**	P		**PKPbc**		**19 26 31.4**	**+0.1**
	baz=100								
M38A	**Pleasantville**	**147.62**	**285**	P		**PKPbc**		**19 26 31.5**	**0.0**
	baz=104								
TUL1	**Leonard**	**147.88**	**274**	P		**PKPbc**		**19 26 32.6**	**+0.2**
	baz=112								
FCC	**Fort Churchill**	**148.05**	**318**	*e*PKPbc		**PKPbc**		**19 26 31.9**	**-0.1**
FCC	**Fort Churchill**	**148.05**	**318**	*e*PKP2		**PKPbc**		**19 26 31.9**	**-0.1**
K37A	**Belmond**	**148.24**	**288**	P		**PKPbc**		**19 26 33.2**	**+0.1**
	baz=102								
J37A	**Redenius Farm,**	**148.28**	**289**	P		**PKPbc**		**19 26 33.4**	**+0.2**
	baz=101								
I37A	**Lemond, Waseca**	**148.30**	**290**	P		**PKPbc**		**19 26 33.8**	**+0.6**
	baz=100								
JCT	**Junction City**	**148.58**	**262**	*e*PKPbc		**PKPbc**		**19 26 34.0**	**-0.5**
JCT	**Junction City**	**148.58**	**262**	*e*PKP2		**PKPbc**		**19 26 34.0**	**-0.5**
J36A	**Seneca 1, Swea**	**148.85**	**289**	P		**PKPbc**		**19 26 34.9**	**+0.2**
	baz=100								
C35A	**Jirik Farms, M**	**149.12**	**297**	P		**PKPbc**		**19 26 35.7**	**+0.5**
	baz=93								
D35A	**Remer**	**149.13**	**296**	P		**PKPbc**		**19 26 35.5**	**+0.2**
	baz=94								
E35A	**Pequot Lakes**	**149.33**	**295**	P		**PKPbc**		**19 26 35.9**	**+0.1**
	baz=95								
K35A	**Storm Lake**	**149.38**	**287**	P		**PKPbc**		**19 26 36.6**	**+0.6**
	baz=101								
H35A	**Sunnyside Ranc**	**149.42**	**291**	P		**PKPbc**		**19 26 36.4**	**+0.3**
	baz=98								
ABTX	**Abilene, Hawle**	**149.47**	**266**	*e*PKPdf		**PKPdf**		**19 26 31.7**	**-0.4**
ABTX				*e*PKPbc		**sPKPdf**		**19 26 36.0**	**-0.3**
KSU1	**Kansas State U**	**149.54**	**280**	P		**PKPbc**		**19 26 37.2**	**+0.6**
	baz=107								
B34A	**Aery, Baudette**	**149.60**	**299**	P		**PKPbc**		**19 26 36.8**	**+0.4**
	baz=92								
WMOK	**Wichita Mounta**	**149.70**	**270**	P		**PKPbc**		**19 26 37.5**	**+0.3**
	baz=113								
WMOK	**Wichita Mounta**	**149.70**	**270**	*e*PKPdf		**PKPdf**		**19 26 32.4**	**-0.1**
WMOK				*e*PKPbc		**sPKPdf**		**19 26 36.9**	**+0.3**
WMOK	**Wichita Mounta**	**149.70**	**270**	*e*PKHKP		PKPpre		19 26 32.4	
A33A	**Warroad**	**150.10**	**299**	P		**PKPbc**		**19 26 38.1**	**+0.5**
	baz=90								
ULM	**Lac du Bonnet**	**150.39**	**302**	PKPbc		**PKPbc**		**19 26 37.5**	**-0.8**
	comp=Z,11nm,0.8s,baz=76,slow=2.1,SNR=13								
ULM	**Lac du Bonnet**	**150.39**	**302**	*e*PKPbc		**PKPbc**		**19 26 37.7**	**-0.5**
ULM	**Lac du Bonnet**	**150.39**	**302**	*e*PKIKP		**PKPbc**		**19 26 37.7**	**-0.5**
AGMN	**Agassiz Nation**	**150.41**	**298**	P		**PKPbc**		**19 26 39.1**	**+0.7**
	baz=91								
AGMN	**Agassiz Nation**	**150.41**	**298**	*e*PKPbc		**PKPbc**		**19 26 38.0**	**-0.4**
ECSD	**EROS Data Cent**	**150.55**	**289**	P		**PKPbc**		**19 26 39.2**	**+0.3**
	baz=99								
ECSD	**EROS Data Cent**	**150.55**	**289**	*e*PKPbc		**PKPbc**		**19 26 38.7**	**-0.2**
F33A	**5 Mile Ranch,**	**150.57**	**293**	P		**PKPbc**		**19 26 39.4**	**+0.6**
	baz=95								
J33A	**Davis**	**150.74**	**288**	P		**PKPbc**		**19 26 39.5**	**+0.2**
	baz=99								
L33A	**Hoskins**	**150.76**	**286**	P		**PKPbc**		**19 26 40.0**	**+0.6**
	baz=101								
H33A	**Prehn Over Nor**	**150.77**	**291**	P		**PKPbc**		**19 26 39.9**	**+0.6**
	baz=97								
TXAR	**Lajitas Array**	**150.87**	**257**	PKP		**PKPdf**		**19 26 34.8**	**+0.3**
	comp=Z,0.4nm,1.0s,baz=108,slow=8.0,SNR=3.5								
TXAR				PKPbc		**sPKPdf**		**19 26 39.5**	**+0.8**
	comp=Z,3.3nm,0.9s,baz=131,slow=3.8,SNR=24								
TX31	**Lajitas Ar. Si**	**150.88**	**257**	*e*PKPdf		**PKPdf**		**19 26 34.8**	**+0.2**
TX31				*e*PKPbc		**PKPbc**		**19 26 39.9**	**-0.3**
TX31				*e*PKPbc		**PKiKP**		**19 26 40.3**	**-0.5**
TOLK	**Toolik Lake Re**	**151.40**	**10**	P		**PKPbc**		**19 26 41.1**	**+0.9**
	baz=339								
TOLK	**Toolik Lake Re**	**151.40**	**10**	*e*PKPdf		**PKPdf**		**19 26 34.8**	**+0.7**
TOLK				*e*PKPbc		**PKPbc**		**19 26 41.0**	**+0.9**
INK	**Inuvik**	**152.55**	**358**	PKPbc		**PKPbc**		**19 26 41.9**	**-0.8**
	comp=Z,4.6nm,1.0s,baz=274,slow=12,SNR=5.8								
INK	**Inuvik**	**152.55**	**358**	*e*PKPdf		**PKPdf**		**19 26 35.5**	**-0.1**
INK				*e*PKPbc		**PKPbc**		**19 26 41.7**	**-1.0**
INK	**Inuvik**	**152.55**	**358**	*e*PKIKP		**PKPdf**		**19 26 35.6**	**-0.1**
INK				*e*				19 26 41.7	
IM3	**Indian Mountai**	**153.13**	**16**	*e*PKPdf		**PKPdf**		**19 26 35.1**	**-1.5**
IM3				*e*PKPbc		**PKiKP**		**19 26 44.5**	**+0.3**
MNTX	**Cornudas Mount**	**153.35**	**260**	*e*PKPdf		**PKPdf**		**19 26 36.0**	**-2.1**
MNTX				*e*PKPab		**PKPab**		**19 26 56.9**	**-0.8**
YKA	**Yellowknife Ar**	**154.76**	**336**	PKP		**PKPdf**		**19 26 37.6**	**-1.4**
	comp=Z,0.2nm,0.8s,baz=60,slow=1.4,SNR=3.8								
YKA				PKPbc		**PKPbc**		**19 26 47.3**	**-0.3**
	comp=Z,0.5nm,0.7s,baz=37,slow=2.0,SNR=9.1								
BPAW	**Bear Paw Mtn.**	**155.35**	**15**	*e*PKPdf		**PKPdf**		**19 26 40.8**	**+1.0**
BPAW				*e*PKPab		**PKPab**		**19 27 04.3**	**-0.9**
SDCO	**Great Sand Dun**	**155.84**	**273**	*e*PKPdf		**PKPdf**		**19 26 42.0**	**+0.4**
SDCO				*e*PKPab		**PKPab**		**19 27 09.6**	**+1.1**
SCRK	**Sand Creek**	**156.55**	**8**	*e*PKPdf		**PKPdf**		**19 26 40.3**	**-1.3**
SCRK				*e*PKPab		**PKPab**		**19 27 10.4**	**-0.1**
SMCO	**Snowmass**	**157.34**	**275**	*e*PKPab		**PKPab**		**19 27 16.4**	**+1.3**
WUAZ	**Wupatki**	**159.52**	**263**	*e*PKPdf		**PKPdf**		**19 26 44.0**	**-2.2**
WUAZ				*e*PKPab		**PKPab**		**19 27 25.7**	**+1.3**
PDAR	**Pinedale Array**	**159.84**	**284**	PKP		**PKPdf**		**19 26 45.5**	**-0.9**
	comp=Z,0.2nm,0.4s,baz=151,slow=2.1,SNR=3.2								
YHH	**Holmes Hill**	**160.81**	**290**	*e*PKPdf		**PKPdf**		**19 26 47.2**	**-0.2**
REDW	**Red Top Meadow**	**160.82**	**286**	*e*PKPdf		**PKPdf**		**19 26 47.0**	**-0.5**
REDW				*e*PKPab		**PKPab**		**19 27 30.3**	**+0.4**
MTPU	**Mount Pierson**	**160.98**	**269**	*e*PKPdf		**PKPdf**		**19 26 47.7**	**-0.3**
MTPU				*e*PKPab		**PKPab**		**19 27 32.5**	**+1.6**
R11A	**Troy Canyon, C**	**163.64**	**268**	*e*PKPab		**PKPab**		**19 27 43.5**	**+1.2**
NV11	**Mina Array Sit**	**165.61**	**266**	*e*PKPdf		**PKPdf**		**19 26 51.5**	**-0.6**
NV11				*e*PKPab		**PKPab**		**19 27 52.2**	**+1.2**

MEX 28 19:08:59.0±0.5, 15°94N×98°20W, h15km, MD3.6, Off coast of Guerrero

|

$M_0$2.77200×10^{17} NP1:ϕ_s80.00000°, δ61.00000°, λ101.00000°. NP2:ϕ_s237.00000°, δ31.00000°, λ70.00000°. Principal axes: T 2.7220, Plg71.0000°, Azm16.0000°; N 0.0970, Plg10.0000°, Azm254.0000°; P -2.8220, Plg15.0000°, Azm162.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.

*NEIC **28** 19:21:04.0±0.0,5˙42S×152˙35E,h30km,Moment Tensor Solution. s25 Moment tensor: Scale 10^{17}Nm; M_{rr}2.12; $M_{\theta\theta}$-1.76; $M_{\phi\phi}$-0.36; $M_{r\theta}$1.83; $M_{r\phi}$-0.88; $M_{\theta\phi}$0.53; Best double couple: $M_0$2.90000×10^{17} NP1:ϕ_s71.00000°, δ66.00000°, λ95.00000°. NP2:ϕ_s238.00000°, δ25.00000°, λ78.00000°. Principal axes: T 2.8500, Plg68.0000°, Azm351.0000°; N 0.0300, Plg4.0000°, Azm248.0000°; P -2.8900, Plg20.0000°, Azm156.0000°;*

*IDC **28** 19:21:04.9±1.4,5˙41S×152˙10E,h49km±13km,mb4.6/37, mb1 4.6/40,mb1mx4.5/59,mbtmp4.8/40,ML3.9/3,MS4.9/40, Ms1 4.9/40,ms1mx4.9/46 Error ellipse: s-maj=11.3km s-min=8.4km az=97.0*

*DJA **28** 19:21:06.9±0.5,6˙S±3˙×15˙2E±˙,h47km±5km,M5.5/20, mb5.3/20,mB5.9/12,MLv5.9/1,Mw(mB)5.4/12*

ISC 28 19:21:04.4±0.4,5˙34S±0˙03×152˙23E±0˙04,h48km±3km, h48km:pP-P,n795,σ1§62/701,mb5.0/109,MS5.2/224, 25C-6D,New Britain region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.15**	**357**	*e*Pn			**Pn**	**19 21 24.1**	**-0.1**
MANU	**Manus Island**	**5.86**	**304**	*e*Pn			**Pn**	**19 22 31.5**	**+2.7**
PMG	**Port Moresby**	**6.45**	**231**	P			**Pn**	**19 22 36.3**	**-0.6**
	21nm,0.3s,baz=51,slow=11,SNR=67								
PMG	**Port Moresby**	**6.45**	**231**	*e*Pn			**Pn**	**19 22 36.9**	**0.0**
PMG				*e*Sn			**Sn**	**19 23 48.0**	**-1.2**
PMG	**Port Moresby**	**6.45**	**231**	*d* iP			**Pn**	**19 22 35.6**	**-1.3**
PMG				pmax	pmax				
	comp=Z,1μm,0.8s								
HNR	**Honiara**	**8.66**	**118**	P			**Pn**	**19 23 10.2**	**+2.9**
	comp=Z,12nm,0.3s,baz=139,slow=15,SNR=12								
HNR	**Honiara**	**8.66**	**118**	*e*Pn			**Pn**	**19 23 07.3**	**0.0**
HNR	**Honiara**	**8.66**	**118**	*e*P			**Pn**	**19 23 07.3**	**0.0**
JAY	**Jayapura**	**11.83**	**283**	P			**Pn**	**19 23 55.4**	**+4.7**
	comp=Z,922nm,2.2s,comp=Z,31μm								
GENI	**Genyem**	**12.34**	**282**	P			Pn	19 24 02.5	+5.0
	comp=Z,248nm,1.9s,comp=Z,7μm								
COEN	**Coen**	**12.36**	**226**	P			**Pn**	**19 23 59.6**	**+1.7**
	baz=12,SNR=5.0								
COEN	**Coen**	**12.36**	**226**	*e*Pn			**Pn**	**19 23 58.5**	**+0.6**
PATS	**Pohnpei**	**13.54**	**27**	P			**Pn**	**19 24 14.0**	**+0.1**
	baz=14,SNR=3.5								
PATS	**Pohnpei**	**13.54**	**27**	*e*Pn			**Pn**	**19 24 13.3**	**-0.7**
MTSU	**Mount Surprise**	**14.88**	**211**	P			**Pn**	**19 24 32.6**	**+0.6**
	baz=15,SNR=9.0								
CTA	**Charters Tower**	**15.77**	**201**	P			**Pn**	**19 24 44.3**	**+0.9**
	comp=Z,0.7nm,0.3s,baz=25,slow=12,SNR=28								
CTA					LR		LR	19 30 12.2	
	comp=Z,6μm,19.8s,baz=28,slow=35								
CTAO	**Charters Tower**	**15.77**	**201**	*e*Pn			**Pn**	**19 24 44.1**	**+0.7**
CTAO	**Charters Tower**	**15.77**	**201**	*e*P			**Pn**	**19 24 44.1**	**+0.7**
QIS	**Mount Isa**	**19.47**	**218**	P			**P**	**19 25 28.3**	**+0.8**
	baz=20,SNR=44								
EIDS	**Eidsvold**	**19.95**	**183**	P			**P**	**19 25 33.0**	**+0.4**
	baz=20,SNR=25								
EIDS	**Eidsvold**	**19.95**	**183**	*e*P			**P**	**19 25 32.8**	**+0.2**
FAKI	**Fak Fak**	**20.07**	**276**	P			Pn	19 25 36.6	+0.4
	comp=Z,61nm,1.1s,comp=Z,2μm								
FAKI	**Fak Fak**	**20.07**	**276**	*e*P			**P**	**19 25 33.0**	**-1.1**
GUMO	**Guam**	**20.18**	**339**	P			Pn	19 25 37.1	-0.2
	comp=Z,381nm,1.0s,baz=181,slow=9.9,SNR=10								
GUMO					LR		LR	19 33 47.2	
	comp=Z,1μm,18.9s,baz=172,slow=38								
GUMO	**Guam**	**20.18**	**339**	*e*P			**P**	**19 25 36.2**	**+1.1**
GUMO	**Guam**	**20.18**	**339**	*e*P			**P**	**19 25 36.2**	**+1.1**
SAUI	**Saumlaki**	**20.95**	**262**	*e*P			**P**	**19 25 44.5**	**+1.0**
RMQ	**Roma**	**21.29**	**189**	P			**P**	**19 25 47.7**	**+0.6**
	baz=21,SNR=49								
DZM	**Mont Dzumac**	**21.58**	**142**	P			**P**	**19 25 51.2**	**+0.9**
	comp=Z,38nm,0.6s,baz=336,slow=8.7,SNR=41								
DZM					LR		LR	19 33 33.3	
	comp=Z,6μm,19.3s,baz=314,slow=35								
DZM	**Mont Dzumac**	**21.58**	**142**	*e*P			**P**	**19 25 50.8**	**+0.5**
	comp=Z,412nm,1.4s								
DZM				*e*S			**S**	**19 29 48.0**	**+0.9**
	comp=Z,5μm,23.6s								
DZM				*e*LR			LR	19 31 12.6	
	comp=Z,11μm,26.1s								
DZM	**Mont Dzumac**	**21.58**	**142**	*e*P			**P**	**19 25 50.6**	**+0.3**
TARA	**Tarawa**	**21.71**	**73**	*e*P			**P**	**19 25 53.4**	**+1.6**
	comp=Z,26nm,1.2s								
TARA					LR		LR		
	comp=Z,294nm,19.0s								
MTN	**Manton Dam**	**22.11**	**249**	P			**P**	**19 25 56.1**	**+0.1**
	baz=22,SNR=33								
MTN	**Manton Dam**	**22.11**	**249**	*e*P			**P**	**19 25 55.5**	**-0.4**
BNDI	**Bandanaira**	**22.26**	**271**	P			**P**	**19 26 02.7**	**+5.1**
	comp=Z,296nm,1.2s,comp=Z,5μm								
QLP	**Quilpie**	**22.46**	**199**	P			**P**	**19 25 59.7**	**0.0**
	baz=23								
WC3	**Warramunga Arr**	**22.65**	**229**	*e*P			**P**	**19 26 00.6**	**-1.1**
WRAB	**Tennant Creek**	**22.65**	**229**	*e*P			**P**	**19 26 01.1**	**-0.6**
	comp=Z,134nm,1.0s								
WRAB					LR		LR		
	comp=Z,4μm,19.0s								
WRAB	**Tennant Creek**	**22.65**	**229**	*de*P			**P**	**19 26 01.2**	**-0.5**
WRAB				pmax	pmax				
	comp=Z,99nm,1.7s								
WRAB					MLR		MLR		
	comp=Z,5μm,15.0s								
WB2	**Warramunga Arr**	**22.65**	**229**	*e*P			**P**	**19 25 59.9**	**-1.8**
WR1	**Warramunga Arr**	**22.66**	**229**	*e*P			**P**	**19 26 00.7**	**-1.2**
WR1				*e*S			**S**	**19 30 05.2**	**-1.6**
WR1				*e*ScP			**ScP**	**19 33 28.8**	**+1.6**
WR1				*e*				19 35 09.0	
WRA	**Warramunga Arr**	**22.66**	**229**	P			**P**	**19 26 00.7**	**-1.2**
	comp=Z,29nm,0.6s,baz=53,slow=9.9,SNR=147								
WRA					S		**S**	**19 30 05.2**	**-1.6**
	comp=Z,14nm,1.1s,baz=54,slow=19,SNR=9.4								
WRA					ScP		**ScP**	**19 33 28.8**	**+1.5**
	comp=Z,1.9nm,0.9s,baz=51,slow=2.3,SNR=4.7								
WRA					LR		LR	19 35 09.0	
	comp=Z,3μm,20.3s,baz=55,slow=38								
MSAI	**Masohi**	**23.32**	**274**	P			**P**	**19 26 12.5**	**+4.0**
	comp=Z,15nm,1.0s,comp=Z,632nm								
ARMA	**Armidale**	**24.95**	**181**	P			**P**	**19 26 24.6**	**+1.1**
	baz=25,SNR=7.2								
ARMA	**Armidale**	**24.95**	**181**	*e*P			**P**	**19 26 22.5**	**-1.0**
LBMI	**Labuha**	**25.13**	**280**	P			**P**	**19 26 28.2**	**+3.0**
KNRA	**Kununurra**	**25.22**	**244**	P			**P**	**19 26 25.6**	**-0.4**
	baz=25,SNR=45								
AS01	**Alice Springs**	**25.34**	**222**	*e*P			**P**	**19 26 25.7**	**-1.4**
AS31	**Alice Springs**	**25.37**	**222**	*e*P			**P**	**19 26 26.2**	**-1.1**
ASAR	**Alice Springs**	**25.37**	**222**	P			**P**	**19 26 26.5**	**-0.8**
	comp=Z,21nm,0.7s,baz=56,slow=9.1,SNR=70								
ASAR					ScP		**ScP**	**19 33 36.0**	**+1.4**
	comp=Z,1.7nm,0.8s,baz=61,slow=4.4,SNR=4.6								
ASAR					LR		LR	19 38 09.7	
	comp=Z,3μm,18.2s,baz=65,slow=41								
SANI	**Sanana**	**26.39**	**276**	P			**P**	**19 26 40.9**	**+4.3**
CMSA	**Cobar Meteorol**	**26.77**	**192**	P			**P**	**19 26 40.1**	**+0.2**
	baz=27,SNR=20								
FUNA	**Funafuti**	**26.95**	**98**	*e*P			**P**	**19 26 41.1**	**-0.6**
SOEI	**Soe**	**28.05**	**259**	P			**P**	**19 26 55.8**	**+4.1**
SOEI	**Soe**	**28.05**	**259**	*e*P			**P**	**19 26 52.0**	**+0.3**
	comp=Z,497nm,1.6s								
MSVF	**Nonsavu**	**28.09**	**118**	*e*P			**P**	**19 26 52.4**	**+0.5**
MSVF					LR		LR		
	comp=Z,2μm,20.0s								
MSVF	**Nonsavu**	**28.09**	**118**	*e*P			**P**	**19 26 52.4**	**+0.5**
MSVF					MLR		MLR		
	comp=Z,2μm,20.0s								
STKA	**Stephens Creek**	**28.21**	**199**	P			**P**	**19 26 51.5**	**-1.4**
	comp=Z,14nm,0.8s,baz=2.2,slow=9.8,SNR=17								
STKA					LR		LR	19 38 14.3	
	comp=Z,4μm,19.4s,baz=11,slow=37								
STKA	**Stephens Creek**	**28.21**	**199**	P			**P**	**19 26 52.0**	**-0.8**
	baz=28,SNR=3.8								
WAKE	**Wake Island**	**28.29**	**30**	*e*P			**P**	**19 26 55.3**	**+1.7**
WAKE					LR		LR		
	comp=Z,5μm,22.0s								
BATI	**Baumata**	**28.70**	**259**	P			**P**	**19 26 56.4**	**-1.0**
	comp=Z,52nm,0.7s,baz=168,slow=3.8,SNR=14								
BATI					LR		LR	19 40 42.1	
	comp=Z,6μm,21.0s,baz=104,slow=41								
BATI	**Baumata**	**28.70**	**259**	P			**P**	**19 26 59.3**	**+1.9**
KMSI	**Cibinong**	**28.82**	**281**	P			**P**	19 27 03.7	+5.3
FITZ	**Fitzroy Crossi**	**28.90**	**242**	P			**P**	**19 26 58.0**	**-1.1**
	baz=29,SNR=69								
FITZ	**Fitzroy Crossi**	**28.90**	**242**	*e*P			**P**	**19 26 57.3**	**-1.7**
	comp=Z,66nm,0.9s								
DAV	**Davao City (W)**	**29.31**	**295**	LR			LR	19 38 15.4	
	comp=Z,4μm,18.3s,baz=100,slow=35								
LUWI	**Luwuk**	**29.71**	**277**	P			**P**	**19 27 09.8**	**+3.5**
LUWI	**Luwuk**	**29.71**	**277**	*e*P			**P**	**19 27 05.5**	**-0.9**
CNB	**Canberra Magne**	**29.95**	**185**	P			**P**	**19 27 09.5**	**+1.3**
	baz=30								
CAN	**Canberra**	**29.98**	**185**	*e*P			**P**	**19 27 08.4**	**-0.1**
CAN					LR		LR		
	comp=Z,3μm,19.0s								
CAN	**Canberra**	**29.98**	**185**	*e*P			**P**	**19 27 08.4**	**-0.1**
CAN					MLR		MLR		
	comp=Z,3μm,19.0s								
BUKP	**Musuan**	**30.11**	**296**	*e*P			**P**	**19 27 08.8**	**-1.2**
WRKA	**Warakurna**	**30.18**	**227**	P			**P**	**19 27 09.3**	**-1.1**
	baz=30,SNR=87								
HTT	**Hallett**	**30.57**	**202**	P			**P**	**19 27 13.8**	**+0.1**
	baz=31,SNR=8.3								
MRSI	**Marisa**	**30.80**	**280**	P			**P**	**19 27 19.0**	**+3.1**
APSI	**Ampana**	**30.84**	**277**	P			**P**	**19 27 21.1**	**+4.8**
BBOO	**Buckleboo**	**31.22**	**207**	*e*P			**P**	**19 27 18.4**	**-1.0**
	comp=Z,17nm,0.8s								
MSLP	**Maasin**	**31.30**	**299**	*e*P			**P**	**19 27 19.2**	**-1.1**
BSSI	**Bau Bau, Buton**	**31.59**	**267**	P			**P**	**19 27 25.1**	**+2.2**
PAGZ	**Pagadian**	**31.62**	**294**	*e*P			**P**	**19 27 22.8**	**-0.4**
BASI	**Baing, Sumba**	**31.72**	**259**	P			**P**	**19 27 25.5**	**+1.5**
WSI	**Waingapu**	**31.94**	**260**	P			**P**	**19 27 27.3**	**+1.4**
	comp=Z,383nm,0.9s,comp=Z,5μm								
BNSI	**Bone**	**32.02**	**270**	P			**P**	**19 27 29.5**	**+2.8**
IPIL	**Ipil**	**32.33**	**294**	*e*P			**P**	**19 27 28.9**	**-0.5**
TTSI	**Tana Toraja**	**32.40**	**273**	P			P	19 27 35.1	+5.1
PCI	**Palu**	**32.63**	**277**	P			**P**	**19 27 36.5**	**+4.4**
	comp=Z,55nm,1.0s,comp=Z,564nm								
MPSI	**Mapaga**	**32.77**	**279**	P			**P**	**19 27 35.1**	**+1.8**
WBSI	**Waikabubak, Su**	**32.82**	**261**	P			**P**	**19 27 34.7**	**+0.9**
GUIM	**Jordan**	**33.51**	**298**	*e*P			**P**	**19 27 39.4**	**-0.3**
CBIJ	**Chichi jima**	**33.68**	**344**	*e*P			**P**	**19 27 40.0**	**-1.0**
JCJ	**Chichijima**	**33.68**	**344**	LR			LR	19 41 31.4	
	comp=Z,977nm,19.5s,baz=157,slow=36								
FORT	**Forrest**	**34.01**	**219**	*e*P			**P**	**19 27 42.9**	**-1.0**
	comp=Z,578nm,0.7s								
PLAI	**Plampang**	**34.35**	**262**	P			**P**	**19 27 47.4**	**+0.3**
MBWA	**Marble Bar**	**35.21**	**240**	*e*P			**P**	**19 27 52.6**	**-1.8**
	comp=Z,350nm,1.4s								
MBWA					LR		LR		
	comp=Z,2μm,22.0s								
TWSI	**Taliwang, Sumb**	**35.23**	**262**	P			**P**	**19 27 57.0**	**+2.4**
MYLDM	**Lahad Datu**	**35.27**	**287**	*e*P			**P**	**19 27 55.3**	**+0.4**
BOAC	**Boac**	**35.48**	**302**	*e*P			**P**	**19 27 56.0**	**-0.8**
OUZ	**Omahuta**	**35.68**	**149**	*e*P			**P**	**19 27 59.9**	**+1.7**
BUSP	**Coron**	**36.21**	**299**	*e*P			**P**	**19 28 03.3**	**+0.3**
AFI	**Afiamalu**	**36.45**	**106**	P			**P**	**19 28 06.4**	**+1.3**
	comp=Z,33nm,1.0s,baz=299,slow=9.6,SNR=4.8								
AFI					LR		LR	19 39 53.5	
	comp=Z,1μm,21.4s,baz=284,slow=31								
AFI	**Afiamalu**	**36.45**	**106**	*e*P			**P**	**19 28 04.8**	**-0.4**
AFI	**Afiamalu**	**36.45**	**106**	*e*P			**P**	**19 28 04.8**	**-0.4**
ENPP	**El Nido**	**36.55**	**297**	*e*P			**P**	**19 28 05.4**	**-0.5**
TGY	**Tagaytay City**	**36.57**	**302**	P			**P**	**19 28 07.3**	**+1.2**
	comp=Z,74nm,0.4s,baz=276,slow=4.9,SNR=5.4								
TGY					LR		LR	19 40 45.6	
	comp=Z,2μm,21.9s,baz=114,slow=32								
BALP	**Baler**	**36.88**	**305**	*e*P			**P**	**19 28 07.8**	**-0.9**
RAO	**Raoul Island**	**36.91**	**134**	PFAKE				19 28 20.0	+11
RAO					LR		LR		
	comp=Z,2μm,19.0s								
LUBP	**Lubang**	**36.97**	**301**	*e*P			**P**	**19 28 08.1**	**-1.4**
TAU	**Tasmania Unive**	**37.66**	**186**	PFAKE				19 28 30.0	+15
TAU					LR		LR		
	comp=Z,4μm,19.0s								
KKM	**Kota Kinabalu**	**37.69**	**287**	*e*P			**P**	**19 28 14.3**	**-1.5**
KKM					LR		LR		
	comp=Z,2μm,21.0s								
JAGI	**Jajag, Banyuwa**	**37.92**	**263**	P			P	19 28 22.7	+5.2
JAGI	**Jajag, Banyuwa**	**37.92**	**263**	*e*P			**P**	**19 28 14.8**	**-2.7**
APYP	**Conner**	**38.30**	**308**	*e*P			**P**	**19 28 21.1**	**+0.4**
MEEK	**Mekatharra**	**38.42**	**233**	P			**P**	**19 28 20.8**	**-0.9**
	baz=38,SNR=79								
ABRA	**Dolores**	**38.60**	**307**	*e*P			**P**	**19 28 22.1**	**-1.1**
JOW	**Kunigami**	**39.51**	**325**	P			**P**	**19 28 32.4**	**+1.7**
	comp=Z,32nm,0.8s,baz=264,slow=9.5,SNR=7.5								
JOW					LR		LR	19 41 46.1	
	comp=Z,2μm,21.3s,baz=107,slow=31								
JOW	**Kunigami**	**39.51**	**325**	*e*P			**P**	**19 28 32.1**	**+1.5**
URZ	**Urewera**	**39.81**	**149**	P			**P**	**19 28 34.5**	**+1.5**
	comp=Z,7.6nm,0.9s,baz=306,slow=14,SNR=4.0								
URZ					LR		LR	19 42 09.1	
	comp=Z,2μm,20.7s,baz=0.5,slow=32								
URZ	**Urewera**	**39.81**	**149**	*e*P			**P**	**19 28 33.9**	**+0.9**
JHJ	**Hachijo jima 2**	**40.03**	**344**	LR			LR	19 42 19.0	
	comp=Z,1μm,21.4s,baz=190,slow=32								
BKZ	**Black Stump Fm**	**40.20**	**150**	*e*P			**P**	**19 28 36.5**	**+0.2**
SBUM	**Sibu**	**40.71**	**280**	*e*P			**P**	**19 28 38.9**	**-1.9**
SNZO	**South Karori**	**41.07**	**154**	PFAKE				19 29 00.0	+17
SNZO					LR		LR		
	comp=Z,5μm,21.0s								
BFZ	**Birch Farm**	**41.26**	**152**	*e*P			**P**	**19 28 45.4**	**+0.4**
KHZ	**Kahutara**	**41.49**	**156**	*e*P			**P**	**19 28 47.4**	**+0.6**
UGM	**Wanagama**	**41.49**	**264**	*e*P			**P**	**19 28 49.1**	**+1.8**
KLBR	**Kellerberrin**	**41.52**	**227**	P			**P**	**19 28 45.9**	**-1.4**
	baz=42								
YULB	**Yu-li**	**41.56**	**315**	*e*P			**P**	**19 28 47.3**	**-0.5**
	comp=Z,14nm,0.8s								
MORW	**Morawa**	**41.56**	**231**	P			**P**	**19 28 46.8**	**-0.9**
	baz=42,SNR=3.3								
RPZ	**Rata Peaks**	**41.66**	**159**	LR			LR	19 44 11.8	
	comp=Z,962nm,21.9s,baz=328,slow=33								
RPZ	**Rata Peaks**	**41.66**	**159**	*e*P			**P**	**19 28 48.0**	**-0.2**
NACB	**Ngancihiao**	**41.85**	**316**	*e*P			**P**	**19 28 50.5**	**+0.4**
LBZ	**Lake Benmore**	**41.96**	**161**	*e*P			**P**	**19 28 50.9**	**+0.2**
TPUB	**Ta-pu**	**41.98**	**314**	*e*P			**P**	**19 28 51.4**	**+0.2**
WKZ	**Wanaka**	**41.98**	**162**	*e*P			**P**	**19 28 50.2**	**-0.6**
DCZ	**Deep Cove**	**42.03**	**164**	*e*P			**P**	**19 28 51.7**	**+0.5**
SSLB	**Suanglung**	**42.06**	**315**	*e*P			**P**	**19 28 52.9**	**+1.1**
CRLZ	**Canterbury Las**	**42.11**	**158**	*e*P			**P**	**19 28 52.0**	**+0.1**
MLZ	**Mavora Lakes**	**42.21**	**163**	*e*P			**P**	**19 28 53.3**	**+0.6**
MQZ	**McQueen's Vall**	**42.24**	**158**	*e*P			**P**	**19 28 52.8**	**-0.1**
YHNB	**Yeheng**	**42.33**	**316**	*e*P			**P**	**19 28 54.8**	**+0.7**
YHNB					LR		LR		
	comp=Z,3μm,22.0s								
KSM	**Kuching**	**42.41**	**278**	*e*P			**P**	**19 28 54.1**	**-0.7**
	comp=Z,20nm,1.0s								
KSM					LR		LR		
	comp=Z,792nm,21.0s								
TATO	**Taipei**	**42.45**	**317**	*e*P			**P**	**19 28 54.4**	**-0.4**
TATO					LR		LR		
	comp=Z,4μm,20.0s								
PYZ	**Puysegur Point**	**42.56**	**165**	*e*P			**P**	**19 28 54.7**	**-0.7**
NWAO	**Narrogin (SRO)**	**42.60**	**225**	LR			LR	19 47 59.3	
	comp=Z,3μm,18.3s,baz=288,slow=38								
NWAO	**Narrogin (SRO)**	**42.60**	**225**	*e*P			**P**	**19 28 58.4**	**+2.3**
NWAO					LR		LR		
	comp=Z,2μm,20.0s								
NWAO	**Narrogin (SRO)**	**42.60**	**225**	*e*P			**P**	**19 28 58.4**	**+2.3**
NWAO					MLR		MLR		
	comp=Z,2μm,20.0s								
WHZ	**Wether Hill Ro**	**42.64**	**164**	*e*P			**P**	**19 28 55.3**	**-0.9**
ODZ	**Otahua Downs**	**42.70**	**161**	*e*P			**P**	**19 28 57.1**	**+0.5**
INU	**Inuyama**	**42.93**	**342**	*e*P			**P**	**19 28 56.0**	**-2.6**
JNU	**Nakatsue**	**43.28**	**334**	P			**P**	**19 29 01.7**	**+0.1**
	comp=Z,27nm,0.8s,baz=167,slow=3.5,SNR=12								
JNU					LR		LR	19 45 31.4	
	comp=Z,868nm,21.5s,baz=165,slow=34								
JNU	**Nakatsue**	**43.28**	**334**	*e*P			**P**	**19 28 60.0**	**-1.6**
MJAR	**Matsushiro Arr**	**43.68**	**344**	P			**P**	**19 29 05.9**	**+1.1**
	comp=Z,4.0nm,0.9s,baz=170,slow=9.2,SNR=10								
MJAR					PcP		**PcP**	**19 30 51.7**	**+0.5**
	comp=Z,1.3nm,0.5s,baz=170,slow=4.0,SNR=4.5								
MJAR					ScP		**ScP**	**19 34 40.8**	**+1.8**
	comp=Z,0.9nm,0.9s,baz=189,slow=5.3,SNR=4.1								
MJAR					LR		LR	19 45 20.2	
	comp=Z,1μm,21.8s,baz=170,slow=33								
MAJO	**Matsushiro**	**43.69**	**344**	*e*P			**P**	**19 29 04.8**	**+0.1**
MAJO				*e*PcP			**PcP**	**19 30 51.7**	**+0.5**
MAJO				*e*ScP			**ScP**	**19 34 40.8**	**+1.8**
MAJO	**Matsushiro**	**43.69**	**344**	*e*P			**P**	**19 29 04.8**	**+0.1**
MAJO				*e*				19 30 51.7	
MAT	**Matsushiro**	**43.69**	**344**	P			**P**	**19 29 02.3**	**-2.4**
MAT					S		S	19 35 42.0	+11
MJB9	**Matsu-Tunnel**	**43.69**	**344**	*e*P			**P**	**19 29 05.2**	**+0.5**
JOHN	**Johnston Islan**	**43.71**	**59**	*e*P			**P**	**19 29 03.8**	**-1.4**
CISI	**Cisompet, Garu**	**44.17**	**265**	*e*P			**P**	**19 29 06.0**	**-3.1**
	comp=Z,49nm,0.6s								
LEM	**Lembang**	**44.37**	**266**	LR			LR	19 51 24.7	
	comp=Z,625nm,19.9s,baz=73,slow=41								
MIDW	**Midway**	**44.41**	**40**	*e*P			**P**	**19 29 09.7**	**-0.9**
QZH	**Quanzhou**	**44.46**	**314**	⇑iP			**P**	**19 29 11.5**	**+0.4**
QZH					S		**S**	**19 35 44.3**	**+1.4**
QZH					sS		**sS**	**19 36 01.8**	**-2.9**
QZH					pmax	pmax			
	comp=Z,340nm,4.4s								
QZH					LR		LR		
	comp=Z,1μm,17.5s								
QZH					LR		LR		
	comp=Z,2μm,18.0s								
QZH					LR		LR		
	comp=Z,2μm,20.4s								
SSE	**Sheshan**	**46.82**	**323**	P			**P**	**19 29 29.8**	**+0.2**
SSE					pmax	pmax			
	comp=Z,21nm,0.8s								
SSE					pmax	pmax			
	comp=Z,140nm,9.0s								
SSE					LR		LR		
	comp=Z,700nm,19.5s								
SSE					LR		LR		
	comp=Z,490nm,19.5s								
TJN	**Taejon**	**47.59**	**333**	*c* iP			**P**	**19 29 34.7**	**-0.8**
ERM	**Erimo**	**47.85**	**351**	PFAKE				19 29 50.0	+13
ERM					LR		LR		
	comp=Z,1μm,19.0s								
KSRS	**Korea Array**	**48.23**	**334**	P			**P**	**19 29 40.5**	**+0.1**
	comp=Z,7.4nm,0.9s,baz=149,slow=7.9,SNR=19								
KSRS					LR		LR	19 48 44.7	
	comp=Z,729nm,20.4s,baz=173,slow=34								
KS15	**Wonju Array Si**	**48.24**	**334**	*e*P			**P**	**19 29 40.0**	**-0.5**
KSAR	**Wonju Array Be**	**48.24**	**334**	P			**P**	**19 29 40.5**	**+0.1**
KSAR	**Wonju Array Be**	**48.24**	**334**	P			**P**	**19 29 40.6**	**+0.1**
QIZ	**Qiongzhong**	**48.26**	**301**	P			**P**	**19 29 41.0**	**0.0**
QIZ					sP		**sP**	**19 29 58.3**	**-1.5**
QIZ					S		**S**	**19 36 39.3**	**+1.7**
QIZ					pmax	pmax			
	comp=Z,8μm,2.8s								
QIZ					LR		LR		
	comp=Z,2μm,17.2s								
QIZ					LR		LR		
	comp=Z,3μm,22.6s								
QIZ					LR		LR		
	comp=Z,2μm,22.1s								
QIZ	**Qiongzhong**	**48.26**	**301**	PFAKE				19 29 50.0	+9.0
QIZ					LR		LR		
	comp=Z,2μm,22.0s								
KS01	**Wonju Array Si**	**48.26**	**334**	*e*P			**P**	**19 29 39.7**	**-1.0**
INCN	**Inchon**	**48.83**	**333**	*e*P			**P**	**19 29 43.3**	**-1.9**
INCN					LR		LR		
	comp=Z,2μm,22.0s								
MYKOM	**Kota Tinggi**	**48.84**	**277**	*e*P			**P**	**19 29 44.0**	**-1.6**
NJ2	**Nanjing**	**48.91**	**322**	*e*P			**P**	**19 29 46.0**	**+0.2**
NJ2					S		**S**	**19 36 47.3**	**+0.9**
NJ2					sS		**sS**	**19 37 12.0**	**+3.6**
NJ2					pmax	pmax			
	comp=Z,9.0nm,0.6s								
NJ

comp=Z,890nm,18.6s
GYA LR LR
comp=Z,770nm,18.5s
GYA LR LR
comp=Z,840nm,18.9s
KEKH Kekaha 54.32 58 *e*P **P** **19 30 24.1 -2.3**
CN2 Changchun 54.56 336 *e*P **P** **19 30 27.5 -0.3**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 pmax pmax
comp=Z,300nm,6.0s
CN2 LR LR
comp=Z,930nm,16.0s
CN2 LR LR
comp=Z,660nm,16.0s
CN2 LR LR
comp=Z,900nm,18.0s
GSI Gunungsitoli 54.98 275 *e*P **P** **19 30 28.2 -3.2**
COCO West Island 55.09 259 *e*P **P** **19 30 30.1 -2.0**
COCO LR LR
comp=Z,1μm,21.0s
COCO West Island 55.09 259 *ce*P **P** **19 30 34.4 +2.3**
PBKT Sadao Pong 55.16 294 P **P** **19 30 32.0 -0.5**
comp=Z,13nm,1.4s,comp=Z,566nm
PBKT Sadao Pong 55.16 294 *e*P **P** **19 30 29.6 -2.9**
HON Honolulu 55.52 60 *e*P **P** **19 30 32.0 -3.1**
HON Honolulu 55.52 60 *e*P **P** **19 30 32.0 -3.1**
OPA Opana 55.65 59 *e*P **P** **19 30 32.0 -4.0**
OPA Opana 55.65 59 *e*P **P** **19 30 32.1 -4.0**
PHIT Phitsanulok 55.86 295 P **P** **19 30 40.5 +2.9**
comp=Z,13nm,0.8s
BJT Baijiatuan 56.02 327 PFAKE 19 30 50.0 +12
BJT LR LR
comp=Z,2μm,21.0s
NANT Nan 56.14 297 P **P** **19 30 39.9 +0.3**
comp=Z,10nm,0.5s,comp=Z,122nm
SRDT SRDT 56.18 291 P **P** **19 30 39.9 0.0**
comp=Z,45nm,1.1s,comp=Z,2μm
TIY Taiyuan 56.60 323 *e*P **P** **19 30 39.8 -2.9**
TIY pP **pP** **19 30 57.0 +0.9**
TIY SS **SS** **19 42 22.8 +3.0**
TIY LR LR
comp=Z,980nm,16.5s
TIY LR LR
comp=Z,430nm,14.1s
TIY LR LR
comp=Z,2μm,19.3s
XAN Xi'an 56.62 317 P **P** **19 30 41.8 -1.0**
XAN pP pP 19 30 54.5 -1.8
XAN sP sP 19 30 59.8 -2.0
XAN PP **PP** **19 32 51.0 +1.7**
XAN S **S** **19 38 33.3 +1.6**
XAN sS sS 19 38 55.5 +1.3
XAN ScS **ScS** **19 40 23.5 -4.9**
XAN pmax pmax
comp=Z,16nm,1.2s
XAN pmax pmax
comp=Z,270nm,6.2s
XAN LR LR
comp=Z,1μm,21.7s
XAN LR LR
comp=Z,1μm,21.1s
XAN LR LR
comp=Z,2μm,20.3s
KHLH Kahului Airpor 56.72 61 *e*P **P** **19 30 40.7 -2.9**
KHLU Kahalu'u 56.72 63 *e*P **P** **19 30 41.4 -2.4**
HUH Hualalai 56.80 62 *e*P **P** **19 30 42.8 -1.8**
KMI Kunming 56.82 305 P **P** **19 30 45.3 +0.7**
KMI pP pP 19 31 00.3 +2.2
KMI sP sP 19 31 05.8 +2.2
KMI PP **PP** **19 32 49.0 -2.4**
KMI S **S** **19 38 34.0 -1.0**
KMI sS pS 19 38 54.0 +3.4
KMI SS **SS** **19 42 22.0 -1.9**
KMI pmax pmax
comp=Z,19nm,1.1s
KMI pmax pmax
comp=Z,230nm,4.5s
KMI LR LR
comp=Z,600nm,22.8s
KMI LR LR
comp=Z,720nm,20.3s
KMI LR LR
comp=Z,960nm,21.1s
LAMP Lampang 57.00 296 P **P** **19 30 47.0 +1.3**
comp=Z,5.1nm,0.9s,comp=Z,66nm
PAYA Payao 57.07 297 P **P** **19 30 46.8 +0.6**
comp=Z,12nm,1.0s
POHA Pohakuloa 57.10 62 *e*P **P** **19 30 46.6 -0.1**
POHA LR LR
comp=Z,2μm,19.0s
KLR Kul'dur 57.20 344 P **P** **19 30 46.7 +0.1**
comp=Z,1.0nm,0.8s,baz=154,slow=4.9,SNR=15
KLR Kul'dur 57.20 344 *c i*P **P** **19 30 45.8 -0.8**
GRNR Gornyy 57.52 348 *i* P P 19 31 05.8 +17
CM01 Chiang Mai Arr 57.57 296 *e*P **P** **19 30 48.9 -0.8**
CM31 Chiang Mai Arr 57.59 296 *e*P **P** **19 30 49.5 -0.4**
CMAR Chiang Mai Arr 57.59 296 P **P** **19 30 50.3 +0.4**
comp=Z,3.4nm,0.7s,baz=119,slow=4.6,SNR=24
CMAR LR LR 19 55 48.8
comp=Z,513nm,18.7s,baz=124,slow=36
CMMT Chiang Mai 57.70 296 P **P** **19 30 49.8 -0.9**
comp=Z,33nm,1.2s,comp=Z,435nm
CHTO Chiang Mai 57.71 296 P **P** **19 30 50.9 +0.2**
comp=Z,80nm,1.9s,comp=Z,2μm
CHTO Chiang Mai 57.71 296 *e*P **P** **19 30 50.4 -0.3**
comp=Z,34nm,1.5s
CHTO LR LR
comp=Z,533nm,21.0s
CHTO Chiang Mai 57.71 296 *e*P **P** **19 30 50.4 -0.3**
CHTO pmax pmax
comp=Z,34nm,1.5s
CHTO MLR MLR
comp=Z,533nm,21.0s
CMAI Chiengmai2 57.99 297 P **P** **19 30 54.9 +2.0**
comp=Z,286nm,0.8s
PPT Papeete 58.11 107 LR LR 19 50 55.2
comp=Z,501nm,21.6s,baz=272,slow=31
PPT2 Papeete2 58.11 107 *e*S **S** **19 38 54.9 +3.1**
comp=Z,1μm,25.0s
PPT2 *e*LQ LQ 19 45 37.5
comp=Z,1μm,26.2s
PPT2 *e*LR LR 19 48 03.0
comp=Z,896nm,22.2s,baz=279
PET Petropavlovsk 58.40 5 *e*P **P** **19 30 53.9 -1.0**
PET LR LR
comp=Z,982nm,22.0s
PET Petropavlovsk 58.40 5 *e*P **P** **19 30 50.2 -4.7**
PET *e**SP **pP** **19 31 09.1 +0.8**
PET *e*S **S** **19 38 48.0 -6.2**
PET *e*SS **SS** **19 42 45.3 -1.9**
PET pmax pmax
comp=Z,200nm,16.5s
PET pmax pmax
comp=Z,400nm,13.9s
PEA0B Petropavlovsk- 58.41 4 *e*P **P** **19 30 54.2 -0.8**
PETK Petropavlovsk- 58.41 4 P **P** **19 30 55.8 +0.8**
comp=Z,2.9nm,0.6s,baz=157,slow=6.6,SNR=12
PETK PcP **PcP** **19 31 45.5 +0.1**
comp=Z,9.6nm,0.8s,baz=123,slow=5.5,SNR=5.0
PETK LR LR 19 52 08.8
comp=Z,1μm,21.9s,baz=196,slow=32
PETK Petropavlovsk- 58.41 4 *e*P **P** **19 30 55.5 +0.5**
PETK PcP **PcP** **19 31 45.5 +0.1**
PETK Petropavlovsk- 58.41 4 *e*P **P** **19 30 55.5 +0.5**
PETK 19 31 45.5
PEA1 Petropavlovsk- 58.42 4 *e*P **P** **19 30 55.8 +0.8**
PEA1 *e*PcP **PcP** **19 31 45.5 +0.1**
CD2 Chengdu 58.66 311 ⇑P **P** **19 30 56.8 -0.4**
CD2 pP pP 19 31 10.3 -0.4
CD2 sP sP 19 31 16.0 -0.2
CD2 PP **PP** **19 33 07.0 -0.5**
CD2 PcS **PcS** **19 35 48.0 -0.8**
CD2 S **S** **19 38 58.5 0.0**
CD2 SS **SS** **19 42 53.5 +1.2**
CD2 pmax pmax
comp=Z,20nm,0.5s
CD2 pmax pmax
comp=Z,390nm,6.4s
CD2 LR LR
comp=Z,2μm,19.9s
CD2 LR LR
comp=Z,3μm,20.9s
CD2 LR LR
comp=Z,3μm,20.4s

TBI Tubuai 58.86 114 *e*S **S** **19 39 06.0 +4.8**
comp=Z,820nm,27.2s
TBI *e*LQ LQ 19 46 00.0
comp=Z,2μm,35.2s
TBI *e*LR LR 19 48 30.2
comp=Z,2μm,29.8s,baz=281
HHC Hu-ho-hao-te 59.16 325 *e*P **P** **19 31 04.0 +3.4**
HHC pP pP 19 31 16.5 +2.4
HHC sP sP 19 31 22.0 +2.4
HHC PP **PP** **19 33 16.8 +5.0**
HHC S **S** **19 39 06.5 +1.8**
HHC sS sS 19 39 28.0 +0.7
HHC ScS **ScS** **19 40 46.3 -0.5**
HHC SS **SS** **19 43 03.0 +3.1**
HHC pmax pmax
comp=Z,96nm,1.2s
HHC pmax pmax
comp=Z,250nm,6.7s
HHC LR LR
comp=Z,2μm,16.4s
HHC LR LR
comp=Z,2μm,16.6s
HHC LR LR
comp=Z,2μm,16.0s
BTO Baotou 59.90 324 *e*P **P** **19 31 03.3 -2.4**
LZH Lanzhou 61.22 316 *e*P **P** **19 31 15.5 +0.6**
LZH pP pP 19 31 28.5 +0.1
LZH sP sP 19 31 35.8 +1.9
LZH PcP **PcP** **19 31 52.0 -5.2**
LZH PP **PP** **19 33 36.8 +6.6**
LZH *e*S **S** **19 39 31.5 -0.1**
LZH sS sS 19 39 52.0 -2.2
LZH SS **SS** **19 43 36.3 +3.7**
LZH pmax pmax
comp=Z,27nm,1.1s
LZH pmax pmax
comp=Z,140nm,6.1s
LZH LR LR
comp=Z,1μm,16.2s
LZH LR LR
comp=Z,2μm,16.2s
LZH LR LR
comp=Z,2μm,18.9s
HIA Hailar 61.30 336 PFAKE 19 31 30.0 +15
HIA LR LR
comp=Z,794nm,22.0s
ZEA Zeya 62.50 344 *e*P **P** **19 31 21.8 -1.0**
ZEA pmax pmax
comp=Z,32nm,1.8s
MA2 Magadan 64.72 359 P **P** **19 31 37.8 +0.3**
comp=Z,3.8nm,0.5s,baz=143,slow=10,SNR=6.1
MA2 Magadan 64.72 359 *e*P **P** **19 31 36.8 -0.6**
MA2 LR LR
comp=Z,1μm,21.0s
MA2 Magadan 64.72 359 *i* P **P** **19 31 36.3 -1.1**
MA2 pmax pmax
comp=Z,12nm,1.7s
MA2 MLR MLR
comp=Z,905nm,19.5s
GTA Gaotai 65.67 318 ⇑P **P** **19 31 44.5 +0.3**
GTA pP pP 19 31 59.3 +1.5
GTA sP sP 19 32 05.3 +2.0
GTA ScP 19 36 13.8
GTA S **S** **19 40 31.3 +4.5**
GTA sS sS 19 40 51.5 +1.8
GTA pmax pmax
comp=Z,8.0nm,1.7s
GTA pmax pmax
comp=Z,240nm,7.9s
GTA LR LR
comp=Z,670nm,19.0s
GTA LR LR
comp=Z,690nm,17.6s
GTA LR LR
comp=Z,990nm,19.0s
SHL Shillong 66.09 301 *e*P **P** **19 31 45.6 -1.6**
SHL Shillong 66.09 301 *e*P **P** **19 31 45.6 -1.6**
ULN Ulaanbaatar 66.16 329 *e*P **P** **19 31 47.3 +0.1**
ULN LR LR
comp=Z,1μm,21.0s
ULN Ulaanbaatar 66.16 329 *c i*P **P** **19 31 47.4 +0.3**
ULN pmax pmax
comp=Z,21nm,1.7s
ULN MLR MLR
comp=Z,510nm,18.0s
SONA0 Songino Array 66.48 328 *e*P **P** **19 31 49.5 +0.3**
SONM Songino Array 66.48 328 P **P** **19 31 49.5 +0.3**
comp=Z,3.8nm,0.6s,baz=140,slow=7.6,SNR=29
SONM LR LR 19 59 10.6
comp=Z,1μm,21.2s,baz=137,slow=34
SONA1 Songino Array 66.48 328 *e*P **P** **19 31 47.8 -1.5**
TAOE Nuku Hiva Isla 67.12 97 *e*LR LR 19 52 24.2
TAOE Nuku Hiva Isla 67.12 97 *e*P **P** **19 31 52.6 -1.3**
CASY Casey 67.33 197 *e*P **P** **19 31 53.8 -0.3**
CASY LR LR
comp=Z,381nm,19.0s
LSA Lhasa 68.08 305 P **P** **19 32 00.0 -0.1**
LSA pmax pmax
comp=Z,12nm,1.0s
LSA Lhasa 68.08 305 *e*P **P** **19 31 59.8 -0.3**
comp=Z,12nm,0.8s
LSA LR LR
comp=Z,765nm,22.0s
LSA Lhasa 68.08 305 *e*P **P** **19 31 59.8 -0.3**
LSA pmax pmax
comp=Z,12nm,0.8s
LSA MLR MLR
comp=Z,765nm,22.0s
SEY Seymchan 68.08 0 P **P** **19 32 00.1 +1.3**
comp=Z,1.1nm,0.5s,baz=196,slow=8.5,SNR=6.2
SEY Seymchan 68.08 0 ⇓ *i*P **P** **19 31 58.7 -0.1**
UNV Unalaska Valle 68.35 25 *e*P **P** **19 32 00.8 +0.1**
comp=Z,36nm,1.0s
AKUT Akutan 68.86 25 *e*P **P** **19 32 03.4 -0.4**
YAK Yakutsk 69.39 349 P **P** **19 32 07.6 +0.7**
comp=Z,2.6nm,0.5s,baz=108,slow=1.2,SNR=8.3
YAK Yakutsk 69.39 349 *e*P **P** **19 32 06.5 -0.4**
comp=Z,37nm,1.4s
YAK LR LR
comp=Z,580nm,19.0s
YAK Yakutsk 69.39 349 *e*P **P** **19 32 06.2 -0.8**
YAK *e**PP **pP** **19 32 20.3 -0.4**
YAK *e* 19 32 31.9
YAK *e*S **S** **19 41 09.8 -0.4**
YAK *e**SS **pS** **19 41 29.8 +2.8**
YAK *e* 19 41 41.6
YAK *e*SS **SS** **19 45 45.7 +7.4**
YAK pmax pmax
comp=Z,13nm,1.3s
YAK pmax pmax
comp=N,6.0nm,1.4s
YAK pmax pmax
comp=E,2.0nm,1.3s
YAK smax smax
comp=N,45nm,4.2s
YAK smax smax
comp=E,20nm,2.6s
ZAK Zakamensk 69.66 329 *e*P **P** **19 32 08.5 -0.5**
ZAK pmax pmax
comp=Z,17nm,1.4s
BOD Bodaibo 70.09 339 *e*P **P** **19 32 11.1 -0.3**
BOD pmax pmax
comp=Z,12nm,1.7s
TLY Talaya 70.26 330 *e*P **P** **19 32 12.6 0.0**
TLY LR LR
comp=Z,1μm,19.0s
TLY Talaya 70.26 330 *e*P **P** **19 32 12.9 +0.3**
TLY *e*S **S** **19 41 22.6 +1.7**
TLY pmax pmax
comp=Z,10.0nm,0.9s
TLY MLR MLR
comp=Z,1μm,19.0s
IRK Irkutsk 70.30 331 *e*P **P** **19 32 11.2 -1.6**
IRK pmax pmax
comp=Z,36nm,1.9s
ODAN Odare 70.33 301 *e*P **P** **19 32 13.4 -0.4**
comp=Z,59nm,1.0s
FALS False Pass 70.36 25 *e*P **P** **19 32 11.4 -1.6**
RAMN Ramite 71.03 301 *e*P **P** **19 32 17.5 -0.6**
comp=Z,39nm,1.2s
JIRN Jiri 71.58 301 *e*P **P** **19 32 21.0 -0.6**
comp=Z,51nm,1.0s
MOY Mondy 71.58 329 *e*P **P** **19 32 21.3 +0.5**
MOY pmax pmax

comp=Z,41nm,1.7s
GUN Gumba 71.92 301 *e*P **P** **19 32 23.1 -0.4**
comp=Z,53nm,0.6s
SDPT Sand Point 71.95 26 *e*P **P** **19 32 22.2 -0.5**
comp=Z,124nm,1.1s
RKT Rikitea 72.11 112 *e*LR LR 19 54 41.2
comp=Z,2μm,28.5s
PKIN Phulchoki 72.23 301 *e*P **P** **19 32 24.3 -1.1**
comp=Z,34nm,1.2s
VNDA Vanda 72.31 178 P **P** **19 32 24.4 -0.2**
comp=Z,3.3nm,0.8s,baz=336,slow=7.1,SNR=24
VNDA LR LR 20 02 07.5
comp=Z,568nm,19.5s,baz=340,slow=34
VNDA Vanda 72.31 178 *e*P **P** **19 32 24.7 +0.1**
VNDA Vanda 72.31 178 *e*P **P** **19 32 24.7 +0.1**
KKN Kakani 72.39 301 *e*P **P** **19 32 25.6 -0.6**
comp=Z,16nm,0.6s
DMN Daman 72.49 301 *e*P **P** **19 32 26.4 -0.5**
comp=Z,41nm,0.7s
KNGR Kungurtug, Tuv 72.83 327 *i* P **P** **19 32 28.6 +0.4**
GKN Gorkha 73.00 301 *e*P **P** **19 32 29.0 -0.8**
comp=Z,68nm,1.1s
CHGN Chignik 73.46 26 *e*P **P** **19 32 31.5 -0.1**
KOLN Koldanda 73.82 301 *e*P **P** **19 32 34.0 -0.7**
comp=Z,38nm,0.7s
DANN Dangsing 73.83 301 *e*P **P** **19 32 34.3 -0.6**
BILL Bilibino 73.88 5 *c i*P **P** **19 32 32.5 -1.4**
BILL *i* 19 32 48.5
BILL *i* SS SS 19 46 53.1 +6.2
BILL pmax pmax
comp=Z,5.0nm,1.0s
BILL MLR MLR
comp=Z,642nm,19.0s
GAMB Gambell 74.06 16 *e*P **P** **19 32 34.3 -0.6**
comp=Z,50nm,1.3s
PYUN Piuthan 74.43 301 *e*P **P** **19 32 37.2 -1.0**
comp=Z,61nm,0.9s
HVS Khovu-Aksy 75.18 326 ⇑ *i*P **P** **19 32 43.0 +1.1**
HVS pmax pmax
comp=Z,24nm,1.0s
HVS MLR MLR
comp=Z,3μm,19.0s
WMQ Urumqi 75.75 318 P **P** **19 32 45.8 +0.5**
WMQ PcP **PcP** **19 32 53.3 -4.5**
WMQ PP **PP** **19 35 41.3 +5.5**
WMQ S **S** **19 42 20.5 -3.3**
WMQ pmax pmax
comp=Z,27nm,1.5s
WMQ pmax pmax
comp=Z,540nm,5.9s
WMQ LR LR
comp=Z,930nm,22.9s
WMQ LR LR
comp=Z,1μm,21.1s
WMQ LR LR
comp=Z,1μm,21.1s
HYB Hyderabad 76.13 289 *i* P **P** **19 32 48.0 0.0**
HYB *e* 19 32 57.0
OHAK Old Harbor 76.29 27 *e*P **P** **19 32 47.9 0.0**
KDAK Kodiak Island 76.91 27 P **P** **19 32 51.8 +0.4**
comp=Z,37nm,1.1s,baz=236,slow=6.3,SNR=6.7
KDAK Kodiak Island 76.91 27 *e*P **P** **19 32 51.7 +0.3**
KDAK LR LR
comp=Z,476nm,22.0s
KDAK Kodiak Island 76.91 27 *i* P **P** **19 32 52.8 +1.3**
SVW2 Sparrevohn 77.54 23 *e*P **P** **19 32 56.1 +1.1**
KRAR Krasnoyarsk 77.97 330 ⇓ *i*P **P** **19 32 56.5 -0.9**
DGZ Jazzator, Alta 78.17 323 *i* P **P** **19 32 58.6 -0.3**
DGZ pmax pmax
comp=Z,9.0nm,1.7s
DGZ MLR MLR
comp=Z,668nm,18.6s
HOM Homer 78.34 25 *e*P **P** **19 32 59.8 +0.4**
TIXI Tiksi 78.36 353 P **P** **19 32 58.8 -0.5**
comp=Z,2.1nm,0.5s,baz=199,slow=0.4,SNR=6.8
TIXI Tiksi 78.36 353 *e*P **P** **19 32 58.7 -0.5**
TIXI LR LR
comp=Z,547nm,19.0s
TIXI Tiksi 78.36 353 *e*P **P** **19 32 58.7 -0.5**
TIXI MLR MLR
comp=Z,547nm,19.0s
BRLK Bradley Lake 78.72 26 *e*P **P** **19 33 01.7 +0.1**
SPU Mount Spurr 79.00 24 *e*P **P** **19 33 02.9 -0.2**
DGAR Diego Garcia 79.22 263 PFAKE 19 33 20.0 +15
DGAR LR LR
comp=Z,249nm,19.0s
SKT Skwentna 79.64 24 *e*P **P** **19 33 05.8 -0.7**
SUA Susitna One 79.68 24 *e*P **P** **19 33 06.7 -0.2**
PPLA Purkeypile 79.89 23 *e*P **P** **19 33 08.2 +0.2**
RC01 Rabbit Creek A 79.90 25 *e*P **P** **19 33 08.5 +0.5**
CAST Castle Rocks 80.22 22 *e*P **P** **19 33 09.8 +0.1**
MK01 Makanchi Array 80.34 319 *e*P **P** **19 33 10.1 -0.6**
MK31 Makanchi Array 80.36 319 *e*P **P** **19 33 10.3 -0.5**
MK31 Makanchi Array 80.36 319 *i* P **P** **19 33 09.7 -1.1**
MK31 pmax pmax
comp=Z,10.0nm,0.9s
MK32 Makanchi Array 80.36 319 *e*P **P** **19 33 10.5 -0.3**
MKAR Makanchi Array 80.36 319 P **P** **19 33 10.5 -0.3**
comp=Z,6.8nm,0.9s,baz=101,slow=6.8,SNR=33
MKAR LR LR 20 07 02.4
comp=Z,993nm,21.7s,baz=88,slow=34
MKAR Makanchi Array 80.36 319 *e*P **P** **19 33 09.9 -0.9**
MKAR Makanchi Array 80.36 319 *e*P **P** **19 33 09.9 -0.9**
PMR Palmer 80.41 24 *e*P **P** **19 33 10.8 +0.2**
PMR Palmer 80.41 24 *e*P **P** **19 33 10.8 +0.2**
MAKZ Makanchi 80.57 319 *e*P **P** **19 33 10.7 -1.2**
MAKZ Makanchi 80.57 319 *i* P **P** **19 33 11.6 -0.3**
MAKZ pmax pmax
comp=Z,19nm,1.4s
GHO Glory Hole Cre 80.59 24 *e*P **P** **19 33 12.2 +0.4**
KTH Kantishna Hill 80.73 22 *e*P **P** **19 33 11.8 -0.6**
comp=Z,75nm,1.0s
SML Sawmill 80.85 24 *e*P **P** **19 33 13.5 +0.5**
SML Sawmill 80.85 24 *e*P **P** **19 33 13.5 +0.5**
TRF Thorofare Moun 80.92 23 *e*P **P** **19 33 13.5 -0.1**
BPAW Bear Paw Mtn. 81.00 22 *e*P **P** **19 33 13.7 -0.1**
IM3 Indian Mountai 81.08 20 *e*P **P** **19 33 14.8 +0.6**
PDGK Podgornoye 81.24 315 *i* P **P** **19 33 14.7 -1.0**
PDGK pmax pmax
comp=Z,15nm,1.3s
SCM Sheep Creek Mo 81.28 25 *e*P **P** **19 33 15.8 +0.4**
SCM Sheep Creek Mo 81.28 25 *e*P **P** **19 33 15.8 +0.4**
ZAA0 Zalesovo Array 81.29 326 *e*P **P** **19 33 12.6 -2.9**
ZALV Zalesovo Beam 81.29 326 P **P** **19 33 14.2 -1.3**
comp=Z,2.8nm,0.5s,baz=110,slow=5.2,SNR=15
ZALV LR LR 20 08 23.6
comp=Z,907nm,20.8s,baz=71,slow=35
ZALV Zalesovo Beam 81.29 326 *e*P **P** **19 33 13.6 -1.9**
ZALV Zalesovo Beam 81.29 326 *e*P **P** **19 33 13.6 -1.9**
ZAA1 Zalesovo Array 81.29 326 *e*P **P** **19 33 14.2 -1.3**
EYAK Cordova Ski Ar 81.35 26 *e*P **P** **19 33 16.2 +0.6**
RND Reindeer 81.44 23 *e*P **P** **19 33 15.9 -0.3**
RND Reindeer 81.44 23 *e*P **P** **19 33 15.9 -0.3**
MCK McKinley 81.58 23 *e*P **P** **19 33 16.9 0.0**
MCK McKinley 81.58 23 *e*P **P** **19 33 16.9 0.0**
MLY Manley 81.59 21 *e*P **P** **19 33 17.2 +0.2**
DIV Divide 81.60 26 *e*P **P** **19 33 18.1 +1.0**
KLU Klutina 81.71 25 *e*P **P** **19 33 18.6 +1.0**
RAGM Ragged Mountai 81.75 27 *e*P **P** **19 33 19.0 +1.1**
PRZ Przheval'sk 81.78 314 *e*P **P** **19 33 17.8 -0.8**
PRZ Przheval'sk 81.78 314 *e*P **P** **19 33 17.8 -0.8**
DHY Denali Highway 81.86 24 *e*P **P** **19 33 18.4 -0.2**
TARG Taragay, Kyrgy 82.02 313 *e*P **P** **19 33 19.2 -1.0**
BMRM Bremner River 82.04 26 *e*P **P** **19 33 19.8 +0.4**
WRH Wood River Hil 82.27 22 *e*P **P** **19 33 19.9 -0.6**
HARP HAARP 82.45 25 *e*P **P** **19 33 22.1 +0.6**
MDM Murphy Dome 82.47 22 *e*P **P** **19 33 21.2 -0.3**
CCB Clear Creek Bu 82.47 22 *e*P **P** **19 33 20.7 -0.7**
NVS Novosibirsk 82.47 327 *e*P **P** **19 33 19.6 -2.1**
NVS *e*S **S** **19 43 35.9 +1.4**
NVS pmax pmax
comp=Z,31nm,1.7s
NVS pmax pmax
comp=N,20nm,1.9s
NVS pmax pmax
comp=E,20nm,1.6s
NVS smax smax
comp=E,20nm,2.0s
COLA College 82.56 22 *e*P **P** **19 33 21.5 -0.4**
COLA LR LR
comp=Z,966nm,20.0s
COLA College 82.56 22 *e*P **P** **19 33 21.5 -0.4**
COLA MLR MLR
comp=Z,966nm,20.0s

PAX Paxson 82.58 24 *e*P P **19 33 22.1 -0.1**
PAX Paxson 82.58 24 *e*P P **19 33 22.1 -0.1**
HDA Harding Lake 82.67 22 *e*P P **19 33 22.0 -0.6**
TGL Tana Glacier 82.73 27 *e*P P **19 33 23.8 +0.7**
KSH Kashi 82.86 311 P P **19 33 26.3 +2.1**
KSH pP pP 19 33 39.0 +0.7
KSH S S **19 43 41.0 +1.6**
KSH pmax pmax
comp=Z,45nm,1.2s
KSH pmax pmax
comp=Z,790nm,4.6s
KSH LR LR
comp=Z,390nm,9.1s
KSH LR LR
comp=Z,340nm,6.6s
IL1 Eielson Array 82.87 22 *e*P P **19 33 22.6 -1.0**
ILAR Eielson Array 82.87 22 P P **19 33 22.9 -0.7**
comp=Z,25nm,0.7s,baz=250,slow=5.1,SNR=196
ILAR LR LR 20 07 46.5
comp=Z,1μm,19.9s,baz=254,slow=34
ILB Eielson Array 82.87 22 *e*P P **19 33 22.6 -1.0**
COLD Coldfoot 82.95 19 *e*P P **19 33 24.4 +0.5**
BALM Baldy 83.06 26 *e*P P **19 33 25.6 +0.8**
BALM Baldy 83.06 26 *e*P P **19 33 25.6 +0.8**
RIDG Independ'e Rid 83.18 24 *e*P P **19 33 25.2 -0.1**
NRN Naryn 83.27 313 *e*P P **19 33 26.0 -0.6**
NRN Naryn 83.27 313 *e*P P **19 33 26.0 -0.6**
MENT Mentasta 83.28 24 *e*P P **19 33 26.3 +0.5**
DOT Dot Lake 83.45 24 *e*P P **19 33 27.0 +0.4**
SCRK Sand Creek 83.63 23 *e*P P **19 33 27.9 +0.3**
NIL Nilore 83.81 305 *e*P P **19 33 28.3 -0.9**
NIL LR LR
comp=Z,383nm,22.0s
NIL Nilore 83.81 305 *e*P P **19 33 28.3 -0.9**
NIL MLR MLR
comp=Z,383nm,22.0s
KURK Kurchatov 83.84 322 *e*P P **19 33 28.0 -0.9**
KURK LR LR
comp=Z,2μm,22.0s
KURK Kurchatov 83.84 322 *c i*P P **19 33 28.0 -0.9**
KURK pmax pmax
comp=Z,19nm,1.4s
KURBB Kurchatov Arra 83.87 322 P P **19 33 28.3 -0.7**
comp=Z,2.6nm,0.7s,baz=106,slow=3.9,SNR=22
TOLK Toolik Lake Re 83.91 18 P P **19 33 30.2 +1.3**
baz=238
TOLK Toolik Lake Re 83.91 18 *e*P P **19 33 29.8 +0.9**
KZA Kyzart 83.96 313 P P **19 33 31.0 +0.8**
SNR=11
FYU Fort Yukon 84.33 21 *e*P P **19 33 31.5 +0.5**
CHMS Chumysh 84.52 314 P P **19 33 32.7 +0.1**
SNR=13
UCH Uchtor 84.52 313 P P **19 33 33.8 +0.7**
SNR=15
FRU1 Bishkek 84.56 314 P P **19 33 32.8 0.0**
FRU Bishkek 84.58 314 *e*P P **19 33 30.0 -2.9**
FRU pmax pmax
comp=Z,80nm,2.1s
QSPA South Pole Qui 84.62 180 P P **19 33 32.5 -0.2**
comp=Z,6.8nm,0.9s,baz=248,slow=0.3,SNR=13
QSPA South Pole Qui 84.62 180 *e*P P **19 33 32.5 -0.2**
QSPA LR LR
comp=Z,548nm,19.0s
AAK Ala-Archa 84.62 314 P P **19 33 33.7 +0.5**
SNR=9.2
AAK Ala-Archa 84.62 314 *e*P P **19 33 33.3 0.0**
AAK LR LR
comp=Z,1μm,21.0s
AAK Ala-Archa 84.62 314 *c i*P P **19 33 33.3 0.0**
AAK pmax pmax
comp=Z,20nm,1.5s
AAK MLR MLR
comp=Z,1μm,21.0s
USP Ospenovka 84.75 314 P P **19 33 33.8 +0.1**
SNR=14
MAW Mawson 84.85 203 P P **19 33 33.7 0.0**
comp=Z,5.2nm,0.8s,baz=104,slow=6.2,SNR=7.0
MAW LR LR 20 08 38.7
comp=Z,1μm,20.8s,baz=72,slow=34
MAW Mawson 84.85 203 P P **19 33 34.3 +0.6**
baz=85,SNR=4.5
MAW Mawson 84.85 203 *e*P P **19 33 33.6 -0.1**
EGAK Eagle 85.08 23 *e*P P **19 33 35.2 +0.3**
EGAK LR LR
comp=Z,1μm,22.0s
AML Almayashu 85.10 313 P P **19 33 36.6 +0.6**
SNR=20
EKS2 Erkin-Say 85.15 314 P P **19 33 36.2 +0.3**
SNR=11
DAWY Dawson 85.51 24 *e*P P **19 33 37.7 +0.7**
DIB Dawson Inlet, 85.52 36 *e*P P **19 33 38.0 +0.8**
BESE Bessie Mountai 85.73 30 *e*P P **19 33 39.4 +1.1**
CRAG Craig 85.75 33 *e*P P **19 33 40.6 +2.2**
SKAG Skagway 85.76 29 *e*P P **19 33 39.7 +1.4**
MNAS Manas 86.03 313 *i* P P **19 33 39.4 -0.9**
MNAS pmax pmax
comp=Z,80nm,1.7s
WHY Whitehorse 86.34 28 *e*P P **19 33 42.4 +1.1**
WRAK Wrangell Islan 86.42 33 PFAKE **19 33 50.0 +8.4**
WRAK LR LR
comp=Z,1μm,19.0s
OTUK Ortayu 87.25 319 P P **19 33 44.8 -1.1**
OTUK pmax pmax
comp=Z,14nm,1.5s
KBL Kabul 87.40 305 *e*P P **19 33 44.5 -2.7**
KBL Kabul 87.40 305 *e*P P **19 33 44.5 -2.7**
KK31 Karatay Array 87.59 313 *e*P P **19 33 47.7 0.0**
KK31 Karatay Array 87.59 313 *e*P P **19 33 47.7 0.0**
KKAR Karatay Array 87.59 313 *e*P P **19 33 47.7 0.0**
KKAR Karatay Array 87.59 313 *e*P P **19 33 47.7 0.0**
DLBC Dease Lake 88.14 31 *e*P P **19 33 51.5 +1.5**
KMRM Mail Ridge 88.89 50 *e*P P **19 33 54.3 +0.3**
INK Inuvik 89.16 21 P P **19 33 54.4 -0.1**
comp=Z,18nm,1.1s,baz=248,slow=5.1,SNR=35
INK Inuvik 89.16 21 *e*P P **19 33 54.9 +0.4**
INK Inuvik 89.16 21 *e*P P **19 33 54.9 +0.4**
L02D Cave Junction, 89.23 48 P P **19 33 58.3 +2.8**
baz=262
BVAR Borovoye Array 89.33 323 P P **19 33 54.9 -0.8**
comp=Z,5.5nm,0.8s,baz=113,slow=6.5,SNR=13
BVAR LR LR 20 16 33.6
comp=Z,774nm,18.3s,baz=84,slow=37
BRVK Borovoye 89.40 323 *e*P P **19 33 54.6 -1.3**
BRVK LR LR
comp=Z,613nm,19.0s
BRVK Borovoye 89.40 323 *c i*P P **19 33 54.5 -1.5**
BRVK pmax pmax
comp=Z,8.0nm,1.1s
BRVK MLR MLR
comp=Z,993nm,18.0s
I03D Drain, OR 89.63 46 P P **19 33 58.9 +1.7**
baz=262,SNR=5.5
M02C Callahan 89.69 49 P P **19 33 59.8 +2.1**
baz=263,SNR=6.8
N02D Trinity Center 89.75 49 P P **19 34 00.1 +2.1**
baz=263
HUMO Hull Mountain 89.77 47 *e*P P **19 33 59.8 +1.8**
NLWA Neilton Lookou 89.77 43 PFAKE 19 34 10.0 +12
NLWA LR LR
comp=Z,804nm,20.0s
WDC Whiskeytown Da 89.82 49 *e*P P **19 33 59.5 +1.3**
WDC Whiskeytown Da 89.82 49 *e*P P **19 33 59.5 +1.3**
YBH Yreka Blue Hor 89.84 48 P P **19 33 59.6 +1.2**
comp=Z,17nm,1.1s,baz=153,slow=2.3,SNR=15
YBH LR LR 20 06 31.8
comp=Z,1μm,21.9s,baz=282,slow=30
YBH Yreka Blue Hor 89.84 48 *e*P P **19 34 00.1 +1.7**
YBH Yreka Blue Hor 89.84 48 *e*P P **19 34 00.1 +1.7**
E03A Lebam 89.86 43 *e*P P **19 33 59.6 +1.4**
G03D McMinnville, O 89.89 45 P P **19 34 00.3 +1.9**
baz=262
I04A Tendick Farm, 90.31 46 P P **19 34 01.7 +1.2**
baz=263,SNR=5.5
O03D Paynes Creek 90.35 50 P P **19 34 02.0 +1.2**
baz=263
J04D Umpqua Nationa 90.46 47 P P **19 34 03.1 +1.7**
baz=263,SNR=17
M04C Macdoel 90.49 48 P P **19 34 03.2 +1.7**
baz=263,SNR=7.5
ORV Oroville 90.49 50 *e*P P **19 34 01.8 +0.4**
ORV Oroville 90.49 50 *e*P P **19 34 01.8 +0.4**
H04A Detroit Lake 90.58 45 *e*P P **19 34 02.1 +0.3**
K04D Chiloquin, OR 90.65 47 P P **19 34 03.9 +1.7**
baz=264
A04D Lummi Island 90.72 41 P P **19 34 04.1 +2.0**
baz=263
AFDM Forest Hills D 90.83 51 *e*P P **19 34 04.5 +1.5**
D05A Enumclaw 91.01 43 *e*P P **19 34 05.4 +1.8**
B05A Bryant 91.07 42 P P **19 34 05.5 +1.6**
baz=263
J05D Fort Rock, OR 91.10 47 P P **19 34 05.8 +1.5**
baz=264,SNR=30
I05D Terrebonne, OR 91.14 46 P P **19 34 05.8 +1.4**
baz=264,SNR=7.9
CMB Columbia Colle 91.20 52 *e*P P **19 34 06.3 +1.5**
CMB Columbia Colle 91.20 52 *e*P P **19 34 06.3 +1.5**
G05D Wamic, OR 91.26 45 P P **19 34 06.4 +1.5**
baz=264
K05A Summer Lake 91.29 47 *e*P P **19 34 06.6 +1.3**
PINE Pine Mountain 91.37 46 *e*P P **19 34 06.7 +1.0**
MOD Modoc Plateau 91.64 48 *e*P P **19 34 08.2 +1.3**
VCNR Virginia City 91.89 51 *e*P P **19 34 09.8 +1.6**
LTY Liberty 91.91 43 *e*P P **19 34 08.1 +0.2**
WAKR Walker 91.98 52 *e*P P **19 34 08.5 -0.1**
PAHR Pah Rah Range 92.13 51 *e*P P **19 34 09.6 +0.3**
YERR Yerington 92.18 51 *e*P P **19 34 11.0 +1.5**
MDPB Devils Postpil 92.19 53 *e*P P **19 34 11.4 +1.8**
OMMB Old Mammoth Mi 92.25 53 *e*P P **19 34 11.5 +1.4**
CIS Catalina Islan 92.37 57 P P **19 34 12.0 +1.7**
baz=265
I07A Izee 92.43 46 *e*P P **19 34 10.4 -0.1**
ISA Isabella, Lake 92.51 55 P P **19 34 12.5 +1.5**
baz=265
ISA Isabella, Lake 92.51 55 *e*P P **19 34 11.6 +0.7**
ISA Isabella, Lake 92.51 55 *e*P P **19 34 11.6 +0.7**
HAWA Hanford 92.61 44 *e*P P **19 34 12.3 +1.2**
HAWA LR LR
comp=Z,2μm,20.0s
RYN Ryan 92.71 52 *e*P P **19 34 12.9 +1.0**
EDW2 Edwards Air Fo 92.83 55 P P **19 34 14.4 +2.0**
baz=266,SNR=6.4
NV01 Mina Array Sit 92.86 52 *e*P P **19 34 13.8 +1.1**
NVAR Mina Array Bea 92.86 52 P P **19 34 13.8 +1.1**
comp=Z,6.7nm,0.8s,baz=254,slow=6.6,SNR=33
NVAR LR LR 20 09 44.0
comp=Z,1μm,20.2s,baz=90,slow=31
CWC Cottonwood Cre 92.89 54 P P **19 34 14.4 +1.6**
baz=266
B08A Colville Reser 92.91 42 *e*P P **19 34 12.9 +0.5**
G08A Pilot Rock 92.92 45 *e*P P **19 34 13.5 +0.8**
WVOR Wild Horse Val 92.92 48 *e*P P **19 34 14.1 +1.3**
WVOR LR LR
comp=Z,1μm,22.0s
WVOR Wild Horse Val 92.92 48 *e*P P **19 34 14.1 +1.3**
WVOR MLR MLR
comp=Z,1μm,22.0s
SYO Syowa Base 92.97 199 ⇑ *i*P P **19 34 10.6 -1.6**
SYO Syowa Base 92.97 199 ⇑ *e*pP pP 19 34 23.8 -2.7
NV11 Mina Array Sit 92.98 52 *e*P P **19 34 14.6 +1.5**
BFSC Mount Baldy Ra 93.06 56 P P **19 34 15.3 +1.7**
baz=266
KVN Kaiserville 93.07 51 *e*P P **19 34 14.4 +0.9**
KVN Kaiserville 93.07 51 *e*P P **19 34 14.5 +0.9**
J08A Circle Bar Ran 93.12 47 *e*P P **19 34 15.4 +1.8**
LRMC Laurel Mtn Rad 93.14 55 P P **19 34 15.9 +1.9**
baz=266,SNR=12
DAC Darwin (Calif) 93.27 54 *e*P P **19 34 16.1 +1.5**
DAC Darwin (Calif) 93.27 54 *e*P P **19 34 16.1 +1.5**
MPMC Manual Prospec 93.33 54 P P **19 34 16.6 +1.7**
baz=266,SNR=10
GRAC Grapevine Rang 93.50 53 P P **19 34 17.5 +2.1**
baz=266
GSC Goldstone, Bar 93.84 55 P P **19 34 18.8 +1.7**
baz=266,SNR=5.5
GSC Goldstone, Bar 93.84 55 *e*P P **19 34 19.0 +1.9**
GSC Goldstone, Bar 93.84 55 *e*P P **19 34 19.0 +1.9**
FURC Furnace Creek, 93.87 54 P P **19 34 18.9 +1.9**
baz=266
MONP2 Monument Peak 94.00 57 P P **19 34 20.4 +2.3**
baz=266,SNR=6.4
PFO Pinyon Flats O 94.01 57 P P **19 34 19.9 +1.9**
baz=266
PFO Pinyon Flats O 94.01 57 *e*P P **19 34 19.3 +1.3**
PFO LR LR
comp=Z,1μm,20.0s
PFO Pinyon Flats O 94.01 57 *e*P P **19 34 19.3 +1.3**
PFO MLR MLR
comp=Z,1μm,20.0s
XPFO Piæon Flat 94.02 57 *e*P P **19 34 19.1 +1.1**
TPFO Pinon Flats 94.02 57 P P **19 34 20.0 +2.0**
baz=266
BMO Blue Mountains 94.06 45 *e*P P **19 34 18.2 +0.3**
BMO LR LR
comp=Z,2μm,21.0s
BMO Blue Mountains 94.06 45 *e*P P **19 34 18.2 +0.3**
BMO MLR MLR
comp=Z,2μm,21.0s
F10A Beach Ranch, E 94.18 44 *e*P P **19 34 19.2 +0.7**
HEC Hector,Ludlow 94.19 56 P P **19 34 21.5 +2.7**
baz=266
IKP In-Ko-Pah, Jac 94.25 58 P P **19 34 21.5 +2.5**
baz=266
NEW Newport 94.38 42 P P **19 34 20.8 +1.6**
comp=Z,8.9nm,0.9s,baz=63,slow=2.3,SNR=10
NEW Newport 94.38 42 P P **19 34 20.2 +1.0**
baz=267
NEW Newport 94.38 42 *e*P P **19 34 19.8 +0.6**
NEW LR LR
comp=Z,1μm,20.0s
NEW Newport 94.38 42 *e*P P **19 34 19.8 +0.6**
NEW MLR MLR
comp=Z,1μm,20.0s
TPNV Topopah Spring 94.39 53 P P **19 34 21.5 +1.8**
baz=267,SNR=15
TPNV Topopah Spring 94.39 53 *e*P P **19 34 21.1 +1.4**
TPNV Topopah Spring 94.39 53 *e*P P **19 34 21.1 +1.4**
BELC Belle Mtn. Jos 94.42 56 P P **19 34 22.2 +2.3**
baz=267,SNR=7.6
SWSC Sam W. Stewart 94.52 57 P P **19 34 22.4 +2.2**
baz=267
TUQ Turquoise Moun 94.56 55 P P **19 34 22.2 +1.7**
baz=267
GMRC Granite Mounta 94.75 56 P P **19 34 23.6 +2.2**
baz=267,SNR=5.9
BC3 Big Chuckawall 94.85 57 P P **19 34 23.8 +2.0**
baz=267,SNR=8.5
R11A Troy Canyon, C 94.99 52 P P **19 34 24.5 +2.1**
baz=267,SNR=15
R11A Troy Canyon, C 94.99 52 *e*P P **19 34 23.7 +1.3**
MFID Camas Ranch 95.05 47 *e*P P **19 34 23.8 +1.3**
RPN Rapa Nui 95.06 118 LR LR 20 08 59.3
comp=Z,468nm,21.7s,baz=262,slow=30
IRM Iron Mountain 95.14 56 P P **19 34 25.2 +2.2**
baz=267,SNR=14
SHPR Sheep Range 95.24 54 *e*P P **19 34 25.0 +1.4**
GLA Glamis 95.34 57 P P **19 34 26.6 +2.6**
baz=267
ELK Elko 95.37 50 P P **19 34 25.8 +1.6**
comp=Z,2.8nm,1.1s,baz=162,slow=6.4,SNR=9.0
ABKAR Akbulak array 95.50 319 *e*P P **19 34 22.3 -2.0**
HLID Hailey 96.08 47 P P **19 34 29.0 +1.7**
baz=268
HLID Hailey 96.08 47 *e*P P **19 34 28.5 +1.3**
HLID LR LR
comp=Z,820nm,20.0s
YKW3 Yellowknife Ar 96.16 28 *e*P P **19 34 27.6 +0.7**
YKA Yellowknife Ar 96.17 28 P P **19 34 27.7 +0.8**
comp=Z,6.3nm,0.8s,baz=271,slow=4.8,SNR=60
YKA PKKPbc **PKKPdf 19 51 19.3 +2.3**
comp=Z,0.2nm,0.6s,baz=85,slow=2.8,SNR=4.4
YKB5 Yellowknife Ar 96.17 28 *e*P P **19 34 27.2 +0.2**
W13A Hualapai Mount 96.22 55 *e*P P **19 34 29.0 +0.9**
ARU Arti 96.45 326 P P **19 34 29.6 +1.2**
comp=Z,0.6nm,0.3s,baz=90,slow=20,SNR=2.5
ARU Arti 96.45 326 *e*P P **19 34 27.1 -1.2**
ARU LR LR
comp=Z,2μm,21.0s
ARU Arti 96.45 326 P P **19 34 26.7 -1.7**
ARU *PP **pP** 19 34 38.1 -4.5
ARU 19 38 20.7
ARU S **SKSac 19 44 59.8 -1.2**
ARU SP **SP 19 47 03.4 -1.3**
ARU SS **SS 19 52 16.4 -2.6**
ARU MLR MLR
comp=Z,2μm,22.0s
GEYT Alibeck 96.49 307 LR LR 20 20 07.8
comp=Z,617nm,20.8s,baz=75,slow=37
WALA Waterton Lakes 96.53 41 *e*P P **19 34 30.7 +1.6**
CCUT Cedar City 96.72 53 *e*P P **19 34 32.4 +2.0**
AKTO Aktyubinsk 96.77 320 LR LR 20 18 22.7
comp=Z,855nm,20.2s,baz=91,slow=36
LCMT Little Creek M 96.80 53 *e*P P **19 34 32.8 +2.1**
EDM Edmonton 96.89 37 *e*P P **19 34 31.5 +0.9**
EDM Edmonton 96.89 37 *e*P P **19 34 31.5 +0.9**
SZCU Shurtz Canyon 96.94 53 *e*P P **19 34 33.4 +2.0**
214A Organ Pipe Nat 97.00 59 P Pdif 19 34 34.0 +2.4
baz=268
BGU Big Grassy Mou 97.05 50 *e*P Pdif 19 34 32.7 +0.9
KNB Kanab 97.13 53 *e*P Pdif 19 34 34.3 +2.0
KNB Kanab 97.13 53 *e*P Pdif 19 34 34.3 +2.0
DUG Dugway, Tooele 97.20 50 P Pdif 19 34 33.9 +1.4
baz=269
DUG Dugway, Tooele 97.20 50 *e*P Pdif 19 34 32.8 +0.3
DUG LR LR
comp=Z,1μm,22.0s
DUG Dugway, Tooele 97.20 50 *e*P Pdif 19 34 32.8 +0.3
DUG MLR MLR
comp=Z,1μm,22.0s
HVU Hansel Valley 97.25 49 *e*P Pdif 19 34 33.5 +0.8
HVU Hansel Valley 97.25 49 *e*P Pdif 19 34 33.5 +0.8
SPUT South Promonto 97.49 49 *e*P Pdif 19 34 34.6 +0.9
U15A North Rim 97.55 54 *e*P Pdif 19 34 36.4 +2.1
MTPU Mount Pierson 97.66 52 *e*P Pdif 19 34 37.3 +2.5
MSU Marysvale 97.67 52 *e*P Pdif 19 34 36.8 +2.1
MSU Marysvale 97.67 52 *e*P Pdif 19 34 36.8 +2.1
NLU North Lily Min 97.77 51 *e*P Pdif 19 34 36.2 +1.1
BOZ Bozeman (W) 98.08 45 P Pdif 19 34 37.8 +1.5
baz=271
BOZ Bozeman (W) 98.08 45 *e*P Pdif 19 34 36.9 +0.6
BOZ LR LR
comp=Z,1μm,22.0s
BOZ Bozeman (W) 98.08 45 *e*P Pdif 19 34 36.9 +0.6
BOZ MLR MLR
comp=Z,1μm,22.0s
HWUT Hardware Ranch 98.16 49 *e*P Pdif 19 34 37.7 +0.9
HWUT LR LR
comp=Z,759nm,21.0s
WUAZ Wupatki 98.28 55 P Pdif 19 34 39.7 +2.3
baz=269
WUAZ Wupatki 98.28 55 *e*P Pdif 19 34 39.6 +2.2
WUAZ LR LR
comp=Z,744nm,21.0s
YHB Horse Butte 98.40 46 *e*P P **19 34 37.7 -0.1**
TMUT Trail Mountain 98.43 51 *e*P Pdif 19 34 38.9 +0.7
Q16A Castle Valley 98.46 52 *e*P Pdif 19 34 40.2 +2.1
AHID Auburn Hatcher 98.50 48 PFAKE 19 34 50.0 +12
AHID LR LR
comp=Z,1μm,22.0s
FXWY Fox Creek 98.54 47 *e*P P **19 34 38.2 -0.3**
TPAW Teton Pass 98.60 47 *e*P Pdif 19 34 40.0 +1.2
IMW Indian Meadow 98.60 47 *e*P Pdif 19 34 39.9 +1.1
YHH Holmes Hill 98.65 46 *e*P Pdif 19 34 39.9 +0.8
YFT Old Faithful 98.67 46 *e*P Pdif 19 34 41.1 +2.1
REDW Red Top Meadow 98.67 47 *e*P Pdif 19 34 39.8 +0.8
TUC Tucson 98.73 58 PFAKE 19 34 50.0 +11
TUC LR LR
comp=Z,1μm,19.0s
P17A Butcher Ranch, 98.80 51 *e*P Pdif 19 34 41.1 +1.4
H17A Grant Village 98.85 46 P Pdif 19 34 42.3 +2.4
baz=271
H17A Grant Village 98.85 46 *e*P Pdif 19 34 42.4 +2.5
LPIG La Paz 98.96 67 LR LR 20 11 35.1
comp=Z,664nm,21.7s,baz=234,slow=31
SRU San Rafael Swe 98.97 51 *e*P Pdif 19 34 40.6 +0.2
SRU San Rafael Swe 98.97 51 *e*P Pdif 19 34 40.6 +0.2
LKWY Lake 98.97 46 PFAKE 19 34 50.0 +10
LKWY LR LR
comp=Z,1μm,19.0s
EGMT Eagleton 99.31 42 PFAKE 19 34 50.0 +8.4
EGMT LR LR
comp=Z,815nm,20.0s
BW06 Boulder Array 99.63 48 P **Pdif 19 34 43.9 +0.5**
baz=272
BW06 Boulder Array 99.63 48 PFAKE 19 35 00.0 +17
BW06 LR LR
comp=Z,1μm,19.0s
PD31 Pinedale Array 99.63 48 *e*Pdif **Pdif 19 34 43.3 -0.1**
PDAR Pinedale Array 99.63 48 P **Pdif 19 34 43.8 +0.4**
comp=Z,3.4nm,1.0s,baz=238,slow=2.8,SNR=19
PDAR PP **PP 19 38 48.4 +0.6**
comp=Z,0.8nm,1.0s,baz=274,slow=5.8,SNR=4.0
PDAR LR LR 20 18 27.5
comp=Z,994nm,18.1s,baz=280,slow=34
RLMT Red Lodge 99.76 45 PFAKE 19 35 00.0 +16
RLMT LR LR
comp=Z,1μm,20.0s
MVCO Mesa Verde 100.59 53 P **Pdif 19 34 49.6 +1.9**
baz=271
MVCO Mesa Verde 100.59 53 PFAKE 19 35 00.0 +12
MVCO LR LR
comp=Z,951nm,21.0s
RES Resolute Bay 101.07 14 P **Pdif 19 34 48.8 +0.1**
comp=Z,1.5nm,0.8s,baz=275,slow=7.0,SNR=4.6
RES Resolute Bay 101.07 14 *e*Pdif **Pdif 19 34 48.9 +0.2**
RES Resolute Bay 101.07 14 *e*P **Pdif 19 34 48.9 +0.2**
SNAA Sanae 101.42 188 P **PKKPbc 19 50 56.0 -5.7**
LAO LASA Array 101.79 44 PFAKE 19 35 00.0 +7.4
LAO LR LR
comp=Z,1μm,20.0s
K22A Casper 101.87 48 P **Pdif 19 34 53.7 +0.4**
baz=274
S22A 4UR Ranch, Cre 101.90 53 P **Pdif 19 34 54.7 +1.1**
baz=273
ANMO Albuquerque 102.31 56 PFAKE 19 35 10.0 +15
ANMO LR LR
comp=Z,558nm,20.0s
ABPO Ambohimpanom 102.35 249 PFAKE 19 35 10.0 +14
ABPO LR LR
comp=Z,367nm,20.0s
N23A Red Feather La 102.42 49 P **Pdif 19 34 57.7 +1.9**
baz=274
VNA3 Neumayer Olymp 102.63 186 P **PKKPbc 19 50 56.2 -1.9**
VNA2 Neumayer--Watz 102.68 187 P **PKKPbc 19 50 56.2 -1.8**
baz=347,slow=4.7
ISCO Idaho Springs 102.74 51 PFAKE 19 35 10.0 +13
ISCO LR LR
comp=Z,985nm,22.0s
SDCO Great Sand Dun 102.95 53 P **Pdif 19 35 00.3 +2.0**
baz=273
SDCO Great Sand Dun 102.95 53 PFAKE 19 35 10.0 +12
SDCO LR LR
comp=Z,1μm,20.0s
DGMT Dagmar 102.98 42 PFAKE 19 35 10.0 +12
DGMT LR LR
comp=Z,678nm,19.0s
MNTX Cornudas Mount 103.32 59 PFAKE 19 35 10.0 +10
MNTX LR LR
comp=Z,860nm,20.0s
FFC Flin Flon 103.45 35 PFAKE 19 35 10.0 +10
FFC LR LR
comp=Z,603nm,19.0s
RSSD Black Hills 103.56 46 P **Pdif 19 35 01.4 +0.7**
baz=276
RSSD Black Hills 103.56 46 *e*Pdif **Pdif 19 35 00.9 +0.1**
RSSD Black Hills 103.56 46 *e*P **Pdif 19 35 00.9 +0.1**
KBS Kingsbay 103.82 353 PFAKE 19 35 10.0 +9.1
KBS LR LR
comp=Z,628nm,20.0s
TXAR Lajitas Array 104.89 61 PP PP 19 39 28.1 +0.5
comp=Z,0.5nm,0.9s,baz=196,slow=8.8,SNR=4.3
TXAR PKKP **PKKPab 19 51 06.8 -0.9**
comp=Z,0.3nm,0.7s,baz=114,slow=5.6,SNR=4.0
LVZ Lovozero 105.07 340 PFAKE 19 39 30.0
LVZ LR LR
comp=Z,6μm,20.0s
OGNE Ogallala 105.36 49 PFAKE 19 39 30.0
OGNE LR LR
comp=Z,707nm,21.0s
APA Apatity 105.64 340 ⇑ *i*P **Pdif 19 35 19.5 +10**
APA *i* 19 39 36.5
APA pmax pmax
comp=Z,6.0nm,1.2s
KEV Kevo 106.65 343 PFAKE 19 39 40.0
KEV LR LR
comp=Z,600nm,21.0s
GNI Garni 106.78 310 PFAKE 19 39 40.0
GNI LR LR
comp=Z,474nm,20.0s
ARA0 ARCESS Array S 107.22 343 *e*PKiKP **PKiKP 19 39 25.4 +0.5**
ARCES ARCESS Array B 107.22 343 PKiKP **PKiKP 19 39 25.4 +0.5**
comp=Z,1.4nm,0.8s,baz=151,slow=2.1,SNR=3.8
CBKS Cedar Bluff 107.37 51 PFAKE 19 39 40.0
CBKS LR LR
comp=Z,2μm,22.0s
RAYN Ar Rayn 107.44 293 PFAKE 19 39 40.0

RAYN LR LR
comp=Z,303nm,20.0s
KIV Kislovodsk 107.73 314 PFAKE 19 39 40.0
KIV LR LR
comp=Z,588nm,19.0s
JCT Junction City 108.17 60 PFAKE 19 39 40.0
JCT LR LR
comp=Z,1μm,20.0s
AGMN Agassiz Nation 108.48 41 PFAKE 19 39 40.0
AGMN LR LR
comp=Z,957nm,22.0s
WMOK Wichita Mounta 108.62 55 PFAKE 19 39 40.0
WMOK LR LR
comp=Z,701nm,21.0s
OBN Obninsk 108.87 327 PFAKE 19 39 40.0
OBN LR LR
comp=Z,1μm,22.0s
OBN Obninsk 108.87 327 *i* P **Pdif 19 35 23.7 -0.1**
OBN pmax pmax
comp=Z,3.0nm,1.0s
ECSD EROS Data Cent 108.92 46 PFAKE 19 39 40.0
ECSD LR LR
comp=Z,1μm,22.0s
KSU1 Kansas State U 109.74 50 PFAKE 19 39 40.0
KSU1 LR LR
comp=Z,1μm,19.0s
KVTX Kingsville 110.07 63 PFAKE 19 39 40.0
KVTX LR LR
comp=Z,1μm,20.0s
FIA0 FINESS Array S 111.31 335 *e*Pdif **Pdif 19 35 34.9 +0.4**
FIA0 *e*PKiKP **PKiKP 19 39 32.1 -0.6**
FIA0 FINESS Array S 111.31 335 *e*P **Pdif 19 35 34.9 +0.4**
FIA0 *i* 19 39 32.2
FINES FINESS Array B 111.31 335 Pdiff **Pdif 19 35 34.9 +0.4**
comp=Z,1.8nm,0.9s,baz=64,slow=4.4,SNR=6.1
FINES PKiKP **PKiKP 19 39 32.1 -0.6**
comp=Z,2.2nm,0.9s,baz=43,slow=2.7,SNR=4.7
EYMN Ely 111.40 40 PFAKE 19 39 50.0
EYMN LR LR
comp=Z,675nm,21.0s
SCIA State Center 111.74 47 PFAKE 19 39 50.0
SCIA LR LR
comp=Z,1μm,22.0s
NATX Nacogdoches 112.42 58 PFAKE 19 39 50.0
NATX LR LR
comp=Z,715nm,21.0s
VSU Vasula 112.49 332⇑ *i*PKiKP **PKiKP 19 39 35.3 +0.2**
VSU MLR MLR
comp=Z,2μm,21.0s
MIAR Mount Ida 112.90 55 PFAKE 19 39 50.0
MIAR LR LR
comp=Z,936nm,20.0s
COWI Conover 113.48 42 PFAKE 19 39 50.0
COWI LR LR
comp=Z,1μm,21.0s
JFWS Jewell Farm 113.63 45 PFAKE 19 39 50.0
JFWS LR LR
comp=Z,946nm,21.0s
KIEV Kiev 114.61 324 PFAKE 19 39 50.0 +11
KIEV LR LR
comp=Z,982nm,22.0s
KIEV Kiev 114.61 324⇑ *i*PKiKP PKPdf 19 39 40.0 +0.6
KIEV MLR MLR
comp=Z,884nm,21.0s
KMBO Kilima Mbogo 114.74 266 PFAKE 19 39 50.0 +8.9
KMBO LR LR
comp=Z,330nm,20.0s
HDIL Hopedale 114.94 48 PFAKE 19 39 50.0 +10
HDIL LR LR
comp=Z,1μm,19.0s
BR101 Keskin Array S 115.24 312 *e*PKiKP **PKiKP 19 39 40.8 -0.4**
BRTR Keskin Array B 115.24 312 PKP **PKPdf 19 39 40.8 -0.4**
comp=Z,0.4nm,0.7s,baz=354,slow=1.2,SNR=3.9
ANTO Ankara 115.83 312 PFAKE 19 39 50.0 +7.8
ANTO LR LR
comp=Z,223nm,22.0s
SFJD Kangerlussuaq 116.47 10 PFAKE 19 39 50.0 +7.5
SFJD LR LR
comp=Z,495nm,21.0s
CSS Mathiatis 116.61 306 PFAKE 19 40 00.0 +16
CSS LR LR
comp=Z,85nm,22.0s
GLMI Grayling 116.90 42 PFAKE 19 40 00.0 +16
GLMI LR LR
comp=Z,977nm,20.0s
NB2 NORSAR Subarra117.22 340 PKPdf **PKPdf 19 39 46.4 +2.2**
comp=Z,0.8nm,0.6s,baz=39,slow=1.9
NB200 NORSAR Array S 117.22 340 *e*PKPdf **PKPdf 19 39 44.1 -0.1**
NOA NORSAR Array B 117.22 340 PKP **PKPdf 19 39 44.1 -0.1**
comp=Z,1.3nm,0.9s,baz=44,slow=2.1,SNR=2.8
ISP Isparta 118.09 310 PFAKE 19 40 00.0 +13
ISP LR LR
comp=Z,250nm,22.0s
AAM Ann Arbor 118.44 44 PFAKE 19 40 00.0 +13
AAM LR LR
comp=Z,1μm,21.0s
MLR Muntele Rosu 118.70 320 PKP **PKPdf 19 39 47.6 0.0**
comp=Z,0.7nm,1.2s,baz=309,slow=6.1,SNR=4.3
MLR Muntele Rosu 118.70 320⇑ *i*P **PKPdf 19 39 46.8 -0.9**
MLR Muntele Rosu 118.70 320 *e*PKPdf **PKPdf 19 39 47.6 0.0**
MLR *e*PKPdf **PKiKP 19 39 48.1 +0.4**
BOSA Boshof 118.85 233 PKP **PKPdf 19 39 48.2 -0.3**
comp=Z,1.8nm,0.8s,baz=180,slow=5.1,SNR=3.0
BRAL Brewton 118.92 57 PFAKE 19 40 00.0 +12
BRAL LR LR
comp=Z,818nm,21.0s
ARR Arges 119.59 320⇑ *i*P **PKPdf 19 39 50.4 +1.1**
ACSO Alum Creek Sta 119.63 46 PFAKE 19 40 00.0 +11
ACSO LR LR
comp=Z,697nm,19.0s
HOPE Hope Point 120.14 174 PFAKE 19 40 00.0 +10
HOPE LR LR
comp=Z,615nm,19.0s
TKL Tuckaleechee C 120.47 52 PKP **PKPdf 19 39 51.1 -0.1**
comp=Z,2.1nm,0.7s,baz=130,slow=7.9,SNR=3.1
LSZ Lusaka 120.91 249 PFAKE 19 40 00.0 +7.3
LSZ LR LR
comp=Z,407nm,21.0s
OKC Ostrava-Krasne 121.26 327 AMS AMS 20 32 30.0
comp=Z,900nm,21.7s
PSZ Piszkesteto 121.30 324 PFAKE 19 40 00.0 +7.5
PSZ LR LR
comp=Z,582nm,20.0s
GOGA Godfrey 121.34 54 PFAKE 19 40 00.0 +7.1
GOGA LR LR
comp=Z,1μm,21.0s
VTS Vitosha 121.69 318⇓ *i*P **PKPdf 19 39 54.0 +0.5**
VTS Vitosha 121.69 318 *e*PKPdf **PKPdf 19 39 53.4 -0.1**
VTS Vitosha 121.69 318 *e*PKIKP **PKPdf 19 39 53.4 -0.1**
DPC Dobruska-Polom 121.95 328 *e*PKPdf **PKPdf 19 39 54.6 +1.0**
DPC AMS AMS 20 32 30.0
comp=Z,900nm,22.6s
DPC Dobruska-Polom 121.95 328 *e*PKIKP **PKPdf 19 39 54.6 +1.0**
DPC MLR MLR
comp=Z,900nm,22.6s
UPC Upice 122.02 329 AMS AMS 20 32 50.0
comp=Z,1μm,21.9s
SANT Santorini 122.39 310 PFAKE 19 40 10.0 +15
SANT LR LR
comp=Z,327nm,21.0s
BLA Blacksburg 122.55 49 PFAKE 19 40 10.0 +15
BLA LR LR
comp=Z,1μm,20.0s
PVCC Panska Ves 122.75 329 AMS AMS 20 36 00.0
comp=Z,500nm,21.6s
BRG Berggiesshubel 122.85 330 *e*PKIKP **PKPdf 19 39 54.5 -0.8**
BRG S **PS 19 51 33.0 +2.8**
BRG SS SS 19 58 30.0 +17
BRG pmax pmax
comp=Z,31nm,2.0s
BRG MLR MLR
comp=N,749nm,20.7s
BRG MLR MLR
comp=E,683nm,18.6s
BRG MLR MLR
comp=Z,763nm,19.1s
TREC Trest 123.00 328 AMS AMS 20 33 00.0
comp=Z,1μm,20.1s
GOPC GO Pecny, Ondr 123.00 329 AMS AMS 20 35 10.0
comp=Z,700nm,20.3s
CLL Collm 123.05 331 *i* PKPdf **PKPdf 19 39 56.2 +0.6**
comp=Z,14nm,1.5s
CLL *e* 19 40 31.0
CLL *e*PP **PP 19 41 31.0 -3.8**
CLL *e*PPP PPP 19 44 06.0
CLL *e*SKKSac SKKSac 19 48 30.0 -0.2
CLL *e*PS **PS 19 51 28.0 -3.9**
CLL *e*PPS PPS 19 52 52.0
CLL *e* 19 54 12.0
CLL *e*SS SS 19 58 30.0 +15
CLL *e*SSS SSS 20 03 12.0
CLL *e* 20 04 24.0
CLL *e*SSSS 20 06 48.0
CLL Lm MLR 20 35 00.0
comp=Z,600nm,20.5s
CLL Collm 123.05 331 *i* PKIKP **PKPdf 19 39 56.2 +0.6**
CLL pmax pmax
comp=Z,14nm,1.5s
CLL MLR MLR
comp=Z,600nm,20.5s
PRU Pruhonice 123.09 329 *e*PP PP 19 41 37.5 +2.3
PRU *e*SP SP 19 51 30.2 +4.7
PRU AMS AMS 20 35 50.0
comp=Z,600nm,16.6s
SSPA Standing Stone 123.09 44 P **PKPdf 19 39 56.7 +0.7**
baz=294
SSPA Standing Stone 123.09 44 *e*PKPdf **PKPdf 19 39 55.9 -0.2**
DIVS Divibare 123.12 320 *e*PKPdf **PKPdf 19 39 55.5 -0.6**
IDI Anoyia 123.18 309 PKP **PKPdf 19 39 56.4 -0.1**
comp=Z,2.8nm,0.6s,baz=286,slow=15,SNR=4.2
JTS JuntasAbangare 123.20 81 PFAKE 19 40 10.0 +13
JTS LR LR
comp=Z,544nm,21.0s
LONY Lake Ozonia 123.46 39 PFAKE 19 40 10.0 +13
LONY LR LR
comp=Z,799nm,20.0s
CONA Conrad Observa 123.58 326 *e*PKiKP **PKiKP 19 39 57.3 +0.2**
comp=Z,5.1nm,1.3s
FNA Florina 123.69 316 *e*PKPdf **PKPdf 19 39 56.8 -0.5**
FNA Florina 123.69 316 *e*PKIKP **PKPdf 19 39 56.8 -0.5**
BINY Binghamton 123.70 42 PFAKE 19 40 10.0 +13
BINY LR LR
comp=Z,1μm,20.0s
NKC Novy Kostel 124.00 330 AMS AMS 20 33 40.0
comp=Z,900nm,24.4s
NHSC New Hope 124.06 53 PFAKE 19 40 10.0 +12
NHSC LR LR
comp=Z,678nm,20.0s
KHC Kasperske Hory 124.11 328 *e*PKPdf **PKPdf 19 39 57.3 -0.5**
KHC *ex* x 19 41 26.2
KHC *e*SP SP 19 51 37.8 +3.2
KHC AMS AMS 20 33 50.0
comp=Z,900nm,21.9s
KHC Kasperske Hory 124.11 328 *e*PKPdf **PKPdf 19 39 57.0 -0.8**
KHC Kasperske Hory 124.11 328 *e*PKIKP **PKPdf 19 39 57.3 -0.5**
KHC *e*SP SP 19 51 37.8 +3.2
KHC MLR MLR
comp=Z,900nm,21.9s
ARSA Arzberg 124.15 326 *e*PKPdf **PKPdf 19 39 57.5 -0.4**
comp=Z,4.5nm,1.2s
GEC2 GERESS Array S 124.21 328 *e*PKPdf **PKPdf 19 39 57.9 -0.2**
GEC2 GERESS Array S 124.21 328 *e*PKIKP **PKPdf 19 39 57.9 -0.2**
GERES GERESS Array B 124.21 328 PKP **PKPdf 19 39 57.6 -0.5**
comp=Z,1.3nm,0.6s,baz=90,slow=1.3,SNR=8.1
GEA0 GERESS Array S 124.22 328 *e*PKPdf **PKPdf 19 39 57.8 -0.3**
N59A State Game Lan 124.42 43 P **PKPdf 19 39 59.6 +1.0**
baz=296
CBN Corbin Frederi 124.43 47 PFAKE 19 40 10.0 +11
CBN LR LR
comp=Z,709nm,20.0s
TIR Tirane 124.47 318 PFAKE 19 40 10.0 +11
TIR LR LR
comp=Z,779nm,21.0s
MOA Molln 124.50 327 *e*PKPdf **PKPdf 19 39 57.6 -1.0**
comp=Z,4.9nm,1.6s
SOKA Soboth 124.75 325 *e*PKiKP **PKiKP 19 39 60.0 +0.5**
comp=Z,7.8nm,1.3s,SNR=7.8
OBKA Obir 125.12 325 *e*PKiKP **PKiKP 19 40 00.6 +0.3**
comp=Z,1.3nm,0.5s
CNNC Cliffs of the 125.15 50 PFAKE 19 40 10.0 +10
CNNC LR LR
comp=Z,845nm,20.0s
MYKA Terra Mystica 125.56 326 *i* PKiKP **PKiKP 19 40 01.2 +0.1**
comp=Z,1.1nm,0.6s
ABTA Abfaltersbach 126.12 327 *e*PKPdf **PKPdf 19 40 00.7 -1.1**
comp=Z,11nm,1.4s
WTTA Wattenberg 126.28 328 *e*PKiKP **PKiKP 19 40 03.0 +0.3**
comp=Z,17nm,1.4s,SNR=5.4
PKME Peaks-Kenny Pk 126.30 36 PFAKE 19 40 10.0 +8.0
PKME LR LR
comp=Z,1μm,19.0s
EKA Eskdalemuir Ar 126.38 343 PKP **PKPdf 19 40 02.1 +0.2**
comp=Z,1.2nm,0.6s,baz=14,slow=3.3,SNR=4.3
TRQA Tornquist 126.39 147 PFAKE 19 40 10.0 +7.4
TRQA LR LR
comp=Z,406nm,20.0s
ESK Eskdalemuir 126.41 343 PFAKE 19 40 10.0 +8.0
ESK LR LR
comp=Z,686nm,21.0s
LCO Las Campanas 126.44 132 PFAKE 19 40 20.0 +17
LCO LR LR
comp=Z,523nm,19.0s
MOTA Moosalm 126.51 328 *e*PKiKP **PKiKP 19 40 03.4 +0.4**
comp=Z,7.9nm,1.2s
RETA Reutte 126.60 328 *e*PKiKP **PKiKP 19 40 03.5 +0.4**
comp=Z,4.6nm,1.1s
MEM Membach 126.77 334⇑ PKP **PKPdf 19 40 03.0 +0.2**
FETA Feichten 126.91 328 *e*PKiKP **PKPdf 19 40 03.0 -0.4**
comp=Z,8.4nm,1.3s
MATE Matera 126.91 318⇑ *i*P **PKPdf 19 40 03.1 -0.2**
BFO Black Forest 127.28 330 PFAKE 19 40 20.0 +16
BFO LR LR
comp=Z,679nm,20.0s
WLF Walferdange 127.39 333⇑ PKP **PKPdf 19 40 04.5 +0.5**
WLF Walferdange 127.39 333 *e*PKPdf **PKPdf 19 40 04.1 +0.1**
WLF LR LR
comp=Z,1μm,20.0s
WLF Walferdange 127.39 333 *e*PKIKP **PKPdf 19 40 04.1 +0.1**
WLF MLR MLR
comp=Z,1μm,20.0s
TIP Timpagrande 127.58 317⇑ *i*P **PKPdf 19 40 05.0 +0.2**
TIP Timpagrande 127.58 317 *e*PKPdf **PKPdf 19 40 04.7 -0.1**
TIP LR LR
comp=Z,501nm,22.0s
DOU Dourbes 127.76 334⇑ PKP **PKPdf 19 40 04.6 -0.1**
CUC Castrocucco 127.83 318 PFAKE 19 40 20.0 +15
CUC LR LR
comp=Z,218nm,20.0s
ECH Echery 127.93 331 PFAKE 19 40 20.0 +15
ECH LR LR
comp=Z,560nm,20.0s
TUE Stuetta 127.99 328 *e*PKPdf **PKPdf 19 40 05.0 -0.6**
TUE LR LR
comp=Z,1μm,20.0s
AQU L'Aquila 128.14 322 PFAKE 19 40 20.0 +14
AQU LR LR
comp=Z,676nm,22.0s
BCIP Isla Barro Col 128.25 83 PFAKE 19 40 20.0 +13
BCIP LR LR
comp=Z,398nm,19.0s
NNA Nana 128.26 110 PFAKE 19 40 20.0 +13
NNA LR LR
comp=Z,184nm,19.0s
CEL Celeste 128.61 316 PFAKE 19 40 20.0 +13
CEL LR LR
comp=Z,410nm,22.0s
VLC Villacollemand 128.88 325 PFAKE 19 40 20.0 +13
VLC LR LR
comp=Z,890nm,21.0s
TSUM Tsumeb 129.12 240 PFAKE 19 40 20.0 +12
TSUM LR LR
comp=Z,510nm,21.0s
OTAV Otavalo 129.15 94 *e*PKPdf **PKPdf 19 40 08.8 -0.2**
OTAV LR LR
comp=Z,291nm,20.0s
OTAV Otavalo 129.15 94 PKIKP **PKPdf 19 40 10.0 +1.0**
MTDJ Mount Denham 129.80 71 PFAKE 19 40 20.0 +10
MTDJ LR LR
comp=Z,394nm,19.0s
BNI Bardonecchia 130.33 328 PFAKE 19 40 20.0 +10
BNI LR LR
comp=Z,1μm,22.0s
WDD Wied Dalam 130.72 314 PFAKE 19 40 20.0 +9.2
WDD LR LR
comp=Z,222nm,19.0s
CLTB Caltabellotta 130.79 317 PFAKE 19 40 20.0 +9.0
CLTB LR LR
comp=Z,237nm,20.0s
SSB Saint Sauveur 131.27 330 PFAKE 19 40 20.0 +8.4
SSB LR LR
comp=Z,510nm,20.0s
GTBY Guantanamo Bay 131.77 68 PFAKE 19 40 30.0 +17
GTBY LR LR
comp=Z,369nm,20.0s
VSL Villasalto 132.27 321 PFAKE 19 40 30.0 +16
VSL LR LR
comp=Z,323nm,20.0s
PRAC Prado 133.01 90 *e*PKPdf **PKPdf 19 40 16.3 +0.5**
LPAZ La Paz 134.66 119 PKP **PKPdf 19 40 21.5 +2.0**
comp=Z,3.1nm,1.0s,baz=274,slow=2.0,SNR=7.1
LPAZ La Paz 134.66 119 *e*PKPdf **PKPdf 19 40 20.8 +1.3**
LPAZ La Paz 134.66 119 *e*PKIKP **PKPdf 19 40 20.8 +1.3**
RUSC La Rusia 134.91 87 *e*PKPpre PKPpre 19 40 09.0
RUSC *e*PKPdf **PKPdf 19 40 19.9 0.0**
GRTK Grand Turk 135.06 65 PFAKE 19 40 30.0 +11
GRTK LR LR
comp=Z,474nm,20.0s
SDDR Presa de Saban 135.50 68 PFAKE 19 40 30.0 +10
SDDR LR LR
comp=Z,601nm,19.0s
BBSR BB Station 136.29 47 PFAKE 19 40 30.0 +8.7
BBSR LR LR
comp=Z,1μm,21.0s
SDV Santo Domingo 137.34 83 PKP **PKPdf 19 40 25.2 +1.2**
comp=Z,8.5nm,0.9s,baz=306,slow=2.9,SNR=8.9
SDV Santo Domingo 137.34 83 *e*PKPpre PKPpre 19 40 12.7
SDV *e*PKPdf **PKPdf 19 40 24.7 +0.6**
SDV LR LR
comp=Z,312nm,19.0s
ESDC Sonseca Array 139.63 331 PKhKP PKPpre 19 40 21.6
comp=Z,0.3nm,0.6s,baz=27,slow=1.7,SNR=4.5
ESDC PKP **PKiKP 19 40 29.2 -0.5**
comp=Z,0.3nm,0.4s,baz=5.3,slow=2.1,SNR=4.2
PAB San Pablo 139.92 331 PFAKE 19 40 40.0 +12
PAB LR LR
comp=Z,409nm,19.0s
SJG San Juan 140.44 68 PFAKE 19 40 40.0 +11
SJG LR LR
comp=Z,385nm,20.0s
MTE Manteigas 140.64 335 PFAKE 19 40 40.0 +11
MTE LR LR
comp=Z,538nm,20.0s
HUMP Col San Antoni 140.71 68 *e*PKPpre PKPpre 19 40 20.2
HUMP *e*PKPdf **PKiKP 19 40 31.2 -1.2**
SAML Samuel 141.95 112 *e*PKPpre PKPpre 19 40 26.2
SAML *e*PKPdf **PKPdf 19 40 33.0 +0.8**
SAML LR LR
comp=Z,396nm,20.0s
TAM Tamanrasset 143.48 302 *e*PKPdf PKPbc 19 40 32.2 0.0
TAM LR LR
comp=Z,298nm,20.0s
TAM Tamanrasset 143.48 302 *e*PKIKP PKPbc 19 40 32.2 0.0
TAM MLR MLR
comp=Z,298nm,20.0s
ANWB Willy Bob 144.57 67 PFAKE 19 40 50.0 +13
ANWB LR LR
comp=Z,656nm,20.0s
SPB Sao Paulo 145.43 147 PFAKE 19 40 50.0 +12
SPB LR LR
comp=Z,692nm,19.0s
RTC Rabat Centre 145.51 328 PFAKE 19 40 50.0 +12
RTC LR LR
comp=Z,2μm,20.0s
GRGR Grenville 145.86 76 PFAKE 19 40 50.0 +10
GRGR LR LR
comp=Z,699nm,22.0s
FDF Fort de France 145.88 72 PFAKE 19 40 50.0 +10
FDF LR LR
comp=Z,434nm,20.0s
PTGA Pitinga 147.28 100 PKPbc **PKPab 19 40 44.9 -0.8**
comp=Z,17nm,0.8s,baz=221,slow=2.5,SNR=16
TOA0 Torodi Ar. Sit 149.93 287 *e*PKPdf **PKPdf 19 40 43.8 -1.8**
TOA0 *e*PKPdf **PKPdf 19 40 44.1 -1.6**
TOA0 *e*PKPbc **PKPbc 19 40 50.0 -0.5**
TOA0 *e*PKPbc **PKiKP 19 40 50.3 -1.2**
TORD Torodi Ar. Bea 149.93 287 PKP **PKPdf 19 40 45.0 -0.7**
comp=Z,23nm,1.1s,baz=251,slow=4.5,SNR=5.2
TORD PKPbc **PKPbc 19 40 50.4 -0.2**
comp=Z,17nm,0.7s,baz=60,slow=3.3,SNR=84
TOA1 Torodi Ar. Sit 149.93 287 *e*PKPdf **PKPdf 19 40 45.0 -0.7**
TOA1 *e*PKPbc **PKPbc 19 40 50.4 -0.2**
KOWA Kowa 154.92 293 PKPbc **PKPbc 19 41 00.2 -1.6**
comp=Z,2.1nm,0.4s,baz=89,slow=2.1,SNR=6.6
KOWA Kowa 154.92 293 *e*PKPdf **PKPdf 19 40 53.2 +0.2**
KOWA *e*PKPbc **PKPbc 19 41 00.2 -1.6**
KOWA *e*PKPbc **PKiKP 19 41 02.0 +0.2**
KIC Kosan Boka 157.07 274 *e*P PKPdf 19 41 10.6 +15
comp=Z,134nm,1.7s
DBIC Dimbokro 157.17 274 PKPab **PKPab 19 41 27.2 +0.2**
comp=Z,4.6nm,0.8s,baz=94,slow=3.7,SNR=4.5
TIC Toumodi 157.34 274 *e*P PKPdf 19 41 10.1 +14
LIC Lamto 157.35 273 *e*P PKPdf 19 41 06.7 +10
comp=Z,59nm,1.2s
ASCN Ascension 161.22 226 PFAKE 19 41 10.0 +9.2
ASCN LR LR
comp=Z,426nm,19.0s
SACV Santiago Islan 169.59 337 PFAKE 19 41 20.0 +12
SACV LR LR
comp=Z,147nm,21.0s

NIED ***28*** *19:21:00,43˚.60N×147˚.70E,h8km,Mw3.8 Best double couple: M₀5.49000×10¹⁴ NP1:ϕ₅14.00000°,δ29.00000°, λ54.00000°. NP2:ϕ₅233.00000°,δ67.00000°,λ108.00000°.*
IDC ***28*** *19:21:04.6±0.9,43˚.85N×148˚.15E,h0km,mb3.7/12, mb1 3.9/15,mb1mx3.6/80,mbtmp3.7/15,ML2.8/4, Error ellipse: s-maj=24.8km s-min=17.3km az=146.0*
ISCJB ***28*** *19:21:05.3±1.2,43˚.78N±0˚.05×148˚.20E±0˚.05,h17km±9km, mb3.7/14, Error ellipse: s-maj=9.1km s-min=5.0km az=152.8*
SKHL ***28*** *19:21:06.5±0.1,43˚.69N×148˚.26E,h31km±4km,mb4.7/6*
MOS ***28*** *19:21:06.5±1.4,43˚.77N×148˚.26E,h26km,mb4.0/8,Error ellipse: s-maj=9.0km s-min=8.0km az=74.8*
JMA ***28*** *19:21:09.7±0.6,43˚.63N×147˚.68E,h10km,M3.7*
ISC 28 19:21:09.6±3.4, 43°.78N±0°.07×148°.13E±0°.06, h32km±25km, n62,σ1°75/76, mb3.8/14, 4C-6D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res
					Op	ISC	ISC
SHO	**Shikotan**	**0.95**	**276**	*e*P	**Pn**	**19 21 23.5**	**-3.1**
SHO					AMB	AMB	19 21 24.0	
	540nm,0.3s						
SHO				*i* S	**Sn**	**19 21 36.3**	**-2.7**
SHO					A	A	19 21 37.3	
	1μm,0.4s						
SHO					A	A	19 21 37.3	
	3μm,0.4s						
SHO	**Shikotan**	**0.95**	**276**	*d* iPN	**Pn**	**19 21 23.5**	**-3.1**
SHO				*i* S	**Sn**	**19 21 36.3**	**-2.7**
SHO				pmax	pmax		
	comp=N,182nm,0.2s						
SHO				pmax	pmax		
	comp=Z,542nm,0.2s						
SHO				pmax	pmax		
	comp=E,319nm,0.3s						
SHO				smax	smax		
	comp=N,3μm,0.4s						
SHO				smax	smax		
	comp=E,1μm,0.4s						
KUR	**Kuril'sk**	**1.46**	**353**	*i* P	**Pn**	**19 21 31.5**	**-2.2**
KUR					AMB	AMB	19 21 36.4	
	comp=E,230nm,0.3s						
KUR				*i* S	**Sn**	**19 21 50.1**	**-1.6**
KUR					A	A	19 21 54.0	
	comp=E,2μm,0.7s						
KUR					A	A	19 21 54.0	
	comp=E,830nm,0.7s						
KUR	**Kuril'sk**	**1.46**	**353**	*e*PN	**Pn**	**19 21 31.4**	**-2.2**
KUR				*e*S	**Sn**	**19 21 50.2**	**-1.5**
KUR				pmax	pmax		
	comp=Z,117nm,0.3s						
KUR				pmax	pmax		
	comp=N,66nm,0.2s						
KUR				pmax	pmax		
	comp=E,69nm,0.2s						
KUR				smax	smax		
	comp=N,607nm,0.4s						
KUR				smax	smax		
	comp=E,320nm,0.4s						
YUK	**Yuzh-Kuril'sk**	**1.66**	**280**	*e*P	**Pn**	**19 21 34.4**	**-2.0**
YUK					AMB	AMB	19 21 36.0	
	comp=E,230nm,0.3s						
YUK				*e*S	**Sn**	**19 21 55.4**	**-1.2**
YUK					A	A	19 21 56.7	

	comp=E,660nm,0.3s							
YUK					A	A	19 21 56.7	
	comp=E,850nm,0.3s							
YUK	**Yuzh-Kuril'sk**	**1.66**	**280**	*e*PN	**Pn**	**Pn**	**19 21 34.4**	**-2.0**
YUK				*e*S	**Sn**	**Sn**	**19 21 55.4**	**-1.2**
YUK				pmax	pmax			
	comp=E,100nm,0.2s							
YUK				pmax	pmax			
	comp=Z,231nm,0.2s							
YUK				pmax	pmax			
	comp=N,38nm,0.1s							
YUK				smax	smax			
	comp=N,661nm,0.3s							
YUK				smax	smax			
	comp=E,848nm,0.6s							
LAGR	**Lagunnoye**	**1.72**	**280**	*e*P	**Pn**	**Pn**	**19 21 35.1**	**-2.1**
LAGR				AMB	AMB	AMB	19 21 37.3	
	comp=E,48nm,0.1s							
LAGR				*e*S	**Sn**	**Sn**	**19 21 56.6**	**-1.4**
LAGR				A	A	A	19 21 59.3	
	comp=E,760nm,0.5s							
LAGR				A	A	A	19 21 59.3	
	comp=E,650nm,0.5s							
LAGR	**Lagunnoye**	**1.72**	**280**	*e*PN	**Pn**	**Pn**	**19 21 35.1**	**-2.1**
LAGR				S	**Sn**	**Sn**	**19 21 56.6**	**-1.4**
LAGR				pmax	pmax			
	comp=N,49nm,0.1s							
LAGR				pmax	pmax			
	comp=E,49nm,0.1s							
LAGR				pmax	pmax			
	comp=Z,48nm,0.1s							
LAGR				smax	smax			
	comp=N,758nm,0.5s							
LAGR				smax	smax			
	comp=E,652nm,0.4s							
GRPR	**Tuman**	**1.72**	**278**	*e*P	**Pn**	**Pn**	**19 21 35.6**	**-1.6**
GRPR				AMB	AMB	AMB	19 21 36.5	
	comp=E,144nm,0.2s							
GRPR				*e*S	**Sn**	**Sn**	**19 21 57.4**	**-0.7**
GRPR				A	A	A	19 21 59.7	
	comp=E,1µm,0.4s							
GRPR				A	A	A	19 21 59.7	
	comp=E,510nm,0.4s							
GRPR	**Tuman**	**1.72**	**278**	*e*PN	**Pn**	**Pn**	**19 21 35.6**	**-1.6**
GRPR				*e*S	**Sn**	**Sn**	**19 21 57.4**	**-0.7**
GRPR				pmax	pmax			
	comp=N,52nm,0.2s							
GRPR				pmax	pmax			
	comp=Z,144nm,0.2s							
GRPR				pmax	pmax			
	comp=E,26nm,0.1s							
GRPR				smax	smax			
	comp=E,1µm,0.4s							
GRPR				smax	smax			
	comp=N,506nm,0.5s							
NEM2	**Nemuro 2**	**1.79**	**257**	P	**Pn**	**Pn**	**19 21 35.9**	**-2.2**
GLVR	**Golovnino**	**1.90**	**270**	*e*P	**Pn**	**Pn**	**19 21 39.0**	**-0.6**
GLVR				AMB	AMB	AMB	19 21 40.3	
	comp=N,152nm,0.2s							
GLVR				*e*S	**Sn**	**Sn**	**19 22 03.5**	**+1.1**
GLVR				A	A	A	19 22 06.5	
	comp=N,690nm,0.4s							
GLVR				A	A	A	19 22 06.5	
	comp=N,970nm,0.4s							
GLVR	**Golovnino**	**1.90**	**270**	PN	**Pn**	**Pn**	**19 21 39.0**	**-0.6**
GLVR				*e*S	**Sn**	**Sn**	**19 22 03.5**	**+1.1**
GLVR				pmax	pmax			
	comp=Z,152nm,0.2s							
GLVR				pmax	pmax			
	comp=N,91nm,0.3s							
GLVR				pmax	pmax			
	comp=E,91nm,0.3s							
GLVR				smax	smax			
	comp=N,689nm,0.4s							
GLVR				smax	smax			
	comp=E,970nm,0.4s							
JRA	**Rausu**	**2.18**	**275**	P	**Pn**	**Pn**	**19 21 42.2**	**-1.4**
JNK	**Nakash**	**2.48**	**267**	P	**Pn**	**Pn**	**19 21 46.3**	**-1.5**
JNK				*e*S	**Sn**	**Sn**	**19 22 13.1**	**-3.9**
JAK	**Akkeshi**	**2.63**	**254**	P	**Pn**	**Pn**	**19 21 47.8**	**-1.9**
JAK				*e*S	**Sn**	**Sn**	**19 22 16.0**	**-4.4**
JTKR	**Abashiri--Toko**	**3.06**	**275**	P	**Pn**	**Pn**	**19 21 55.1**	**-0.6**
JAR	**Ashorobuto**	**3.21**	**263**	P	**Pn**	**Pn**	**19 21 56.7**	**-1.0**
JMP	**Maruseppu**	**3.46**	**275**	P	**Pn**	**Pn**	**19 22 00.6**	**-0.6**
JCH	**Churui**	**3.68**	**253**	P	**Pn**	**Pn**	**19 22 03.6**	**-0.6**
JCH				*e*S	**Sn**	**Sn**	**19 22 43.8**	**-2.6**
ASAJ	**Asahikawa**	**4.01**	**277**	Pn	**Pn**	**Pn**	**19 22 09.4**	**+0.7**
	comp=E,0.3nm,0.3s,baz=78,slow=19,SNR=5.2							
ERM	**Erimo**	**4.06**	**246**	*d i* PN	**Pn**	**Pn**	**19 22 11.5**	**+2.1**
JNBK	**Urakawa-nobuka**	**4.22**	**251**	P	**Pn**	**Pn**	**19 22 11.9**	**+0.3**
JNBK				*e*S	**Sn**	**Sn**	**19 22 59.5**	**-0.3**
YSS	**Yuzh-Sakhalins**	**4.94**	**312**	*e*P	**Pn**	**Pn**	**19 22 22.2**	**+0.7**
YSS	**Yuzh-Sakhalins**	**4.94**	**312**	*e*PN	**Pn**	**Pn**	**19 22 25.0**	**+3.5**
TYV	**Tymovskoe**	**8.00**	**334**	*e*P	**Pn**	**Pn**	**19 23 04.6**	**+1.2**
SKR	**Severo-Kuril's**	**8.78**	**35**	*e*P	**Pn**	**Pn**	**19 23 13.2**	**-0.9**
SKR	**Severo-Kuril's**	**8.78**	**35**	*e*PN	**Pn**	**Pn**	**19 23 13.2**	**-0.9**
MAJO	**Matsushiro**	**10.48**	**230**	*e*P	**Pn**	**Pn**	**19 23 36.2**	**-1.4**
MAJO	**Matsushiro**	**10.48**	**230‖**	*e*PN	**Pn**	**Pn**	**19 23 40.3**	**+2.7**
MAJO				pmax	pmax			
	comp=Z,4.0nm,1.0s							
MJAR	**Matsushiro Arr**	**10.48**	**230**	Pn	**Pn**	**Pn**	**19 23 36.5**	**-1.1**
	comp=Z,0.1nm,0.3s,baz=17,slow=13,SNR=3.5							
PETK	**Petropavlovsk-**	**11.28**	**31**	Pn	**Pn**	**Pn**	**19 23 46.9**	**-1.5**
	comp=Z,0.2nm,0.3s,baz=196,slow=15,SNR=2.8							
PET	**Petropavlovsk**	**11.58**	**33**	*e*P	**Pn**	**Pn**	**19 23 50.9**	**-1.5**
PET	**Petropavlovsk**	**11.58**	**33‖**	*e*PN	**Pn**	**Pn**	**19 23 51.7**	**-0.7**
KLR	**Kul'dur**	**12.53**	**302‖**	*e*PN	**Pn**	**Pn**	**19 24 07.9**	**+2.5**
TJN	**Taejon**	**17.50**	**252‖**	*e*P	**P**	**P**	**19 25 15.4**	**+3.4**
SEY	**Seymchan**	**19.34**	**6**	P	**P**	**P**	**19 25 30.1**	**-1.9**
	comp=Z,0.1nm,0.3s,baz=65,slow=22,SNR=4.7							
YAK	**Yakutsk**	**21.26**	**336**	*e*P	**P**	**P**	**19 25 53.8**	**+1.1**
YAK	**Yakutsk**	**21.26**	**336‖**	*e*P	**P**	**P**	**19 25 55.7**	**+3.0**
YAK				pmax	pmax			
	comp=Z,3.0nm,0.6s							
ULN	**Ulaanbaatar**	**28.67**	**293‖**	*e*P	P		19 27 08.5	+5.0
ULN				pmax	pmax			
	comp=Z,1.0nm,0.5s							
KNGR	**Kungurtug, Tuv**	**34.49**	**300‖**	*e*P	**P**		19 27 56.4	**+1.9**
ILAR	**Eielson Array**	**41.04**	**36**	P	**P**		19 28 48.4	**-1.1**
	comp=Z,1.1nm,1.1s,baz=275,slow=3,SNR=7.6							
ILAR	**Eielson Array**	**41.04**	**36**	*e*P	**P**		19 28 50.1	**+0.6**
ILAR	**Eielson Array**	**41.04**	**36**	*e*P	**P**		19 28 50.1	**+0.6**
ILAR				pmax	pmax			
	comp=Z,1.0nm,1.0s							
MKAR	**Makanchi Array**	**45.20**	**298**	P	**P**		19 29 23.3	**0.0**
	comp=Z,0.3nm,0.8s,baz=66,slow=8.1,SNR=3.7							
MKAR	**Makanchi Array**	**45.20**	**298**	*e*P	P		19 29 30.5	+7.2
INK	**Inuvik**	**46.02**	**30**	P	**P**		19 29 29.1	**-0.3**
	comp=Z,1.0nm,0.6s,baz=277,slow=4.3,SNR=6.1							
KURK	**Kurchatov**	**46.19**	**304**	P	**P**		19 29 30.6	**+0.3**
KURBB	**Kurchatov Arra**	**46.19**	**304**	P	**P**		19 29 30.6	**-0.4**
	comp=Z,0.2nm,0.4s,baz=74,slow=7.8,SNR=2.7							
YKA	**Yellowknife Ar**	**55.38**	**34**	P	**P**		19 30 39.5	**-0.5**
	comp=Z,0.2nm,0.5s,baz=300,slow=6.8,SNR=5.4							
YKA	**Yellowknife Ar**	**55.38**	**34**	*e*P	**P**		19 30 40.2	**+0.2**
YKA	**Yellowknife Ar**	**55.38**	**34**	*e*P	**P**		19 30 40.2	**+0.2**
WRA	**Warramunga Arr**	**64.66**	**194**	P	**P**		19 31 44.3	**+0.1**
	comp=Z,2.4nm,0.9s,baz=13,slow=7.6,SNR=2.2							
FINES	**FINESS Array B**	**65.17**	**333**	P	**P**		19 31 45.5	**-1.5**
	comp=Z,1.3nm,1.0s,baz=53,slow=9.2,SNR=6.3							
PDAR	**Pinedale Array**	**69.34**	**50**	P	**P**		19 32 13.8	**-0.2**
	comp=Z,0.3nm,0.5s,baz=216,slow=1.8,SNR=4.6							
HFS	**Hagfors**	**69.93**	**338**	P	**P**		19 32 15.6	**-1.5**
	comp=Z,1.2nm,0.8s,baz=350,slow=6.3,SNR=3.0							
KBZ	**Khabaz**	**70.31**	**312**	P	**P**		19 32 19.2	**-0.4**
	comp=Z,0.9nm,0.7s,baz=140,slow=0.4,SNR=3.9							
GERES	**GERESS Array B**	**79.47**	**331**	P	**P**		19 33 13.9	**+1.3**
	comp=Z,0.2nm,0.5s,baz=83,slow=12,SNR=2.5							
GERES	**GERESS Array B**	**79.47**	**331**	P	**P**		19 33 14.0	**+1.3**
TXAR	**Lajitas Array**	**82.04**	**57**	P	**P**		19 33 27.3	**+0.6**
	comp=Z,0.6nm,0.6s,baz=288,slow=3.6,SNR=5.1							
TXAR	**Lajitas Array**	**82.04**	**57**	*e*P	**P**		19 33 26.5	**-0.2**
TXAR	**Lajitas Array**	**82.04**	**57**	*e*P	**P**		19 33 26.5	**-0.2**
TXAR				pmax	pmax			
	comp=Z,1.0nm,0.6s							

MAN 28 19:23:10,7.41N×123.81E,h18km,mb3.9,ML2.6,MS2.1, 1C,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTBH	**Cotabato--PC H**	**0.47**	**113**	*e*P	Pb	19 23 20.0	+0.2
CTBH				*e*S	Sb	19 23 27.0	+0.6
PAGZ	**Pagadian**	**0.61**	**316**	*e*P	Pb	19 23 22.1	0.0
PAGZ				*e*S	Sb	19 23 30.7	+0.4
IPIL	**Ipil**	**1.28**	**287**	*e*P	Pb	19 23 33.6	-0.1
IPIL				*e*S	Sb	19 23 50.7	+0.8
BUKP	**Musuan**	**1.32**	**69**	*e*P	Pn	19 23 33.4	-0.3
BUKP				*e*S	Sb	19 23 51.5	+0.4
MSLP	**Maasin**	**2.90**	**21**	*e*P	Pb	19 23 59.7	-1.5

*ISK **28** 19:25:44.9, 39.37N×38.35E, h11km, ML2.3/4*
*ISCJB **28** 19:25:45.3±0.5, 39.38N±0.02×38.34E±0.03, h2km±5km, Error ellipse: s-maj=4.0km s-min=3.5km az=142.6*
*CSEM **28** 19:25:45.4±0.1, 39.37N×38.34E, h8km, ML2.5, Error ellipse: s-maj=3.4km s-min=2.8km az=130.0*
*DDA **28** 19:25:45.3, 39.37N×38.33E, h7km, Ml2.5*
ISC 28 19:25:45.6±0.9, 39.38N±0.02×38.34E±0.02, h10km±6km, n30, σ0.950/53, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEMA	**Kemaliye**	**0.17**	**132**	*i* P	**Pg**	**19 25 49.1**	**-0.2**
KEMA				*i* S	**Sg**	**19 25 51.8**	**0.0**
KEMA	**Kemaliye**	**0.17**	**132**	P	**Pg**	**19 25 49.1**	**-0.2**
KEMA				S	**Sg**	**19 25 51.8**	**0.0**
ILIC	**ilic-Erzincan**	**0.19**	**68**	PG	**Pg**	**19 25 49.5**	**-0.3**
ILIC				SG	**Sg**	**19 25 52.9**	**+0.3**
ILIC	**ilic-Erzincan**	**0.19**	**68**	*e*Pg	**Pg**	**19 25 49.5**	**-0.3**
ILIC				*e*Sg	**Sg**	**19 25 52.9**	**+0.3**
HEKM	**Malatya_Hekimh**	**0.58**	**211**	*i* P	**Pg**	**19 25 56.7**	**-0.2**
HEKM				*i* S	**Sb**	**19 26 06.1**	**-0.2**
HEKM	**Malatya_Hekimh**	**0.58**	**211**	P	**Pg**	**19 25 56.7**	**-0.2**
HEKM				S	**Sb**	**19 26 06.1**	**-0.2**
CUKAN	**kangal_SIVAS**	**0.68**	**265**	*i* P	**Pg**	**19 25 58.2**	**-0.5**
CUKAN				*i* S	**Sg**	**19 26 08.1**	**+0.5**
CUKAN	**kangal_SIVAS**	**0.68**	**265**	P	**Pg**	**19 25 58.2**	**-0.5**
CUKAN				S	**Sg**	**19 26 08.1**	**+0.5**
SUSE	**Susehri**	**0.83**	**353**	*i* P	**Pg**	**19 26 01.1**	**-0.6**
SUSE				*i* S	**Sb**	**19 26 13.4**	**-0.2**
SUSE	**Susehri**	**0.83**	**353**	P	**Pg**	**19 26 01.1**	**-0.6**
SUSE				S	**Sb**	**19 26 13.4**	**-0.2**
EZC	**Erzincan**	**0.87**	**64**	*e*Pn	**Pn**	**19 26 05.8**	**+1.8**
PTK	**Pertek**	**0.95**	**120**	PG	**Pg**	**19 26 03.4**	**-0.6**
PTK				SG	**Sb**	**19 26 17.1**	**0.0**
PTK	**Pertek**	**0.95**	**120**	*e*Pg	**Pg**	**19 26 03.4**	**-0.6**
ELZG	**Elazig**	**1.02**	**150**	*i* P	**Pg**	**19 26 04.3**	**-0.8**
ELZG				*i* S	**Sb**	**19 26 19.0**	**+0.2**
ELZG	**Elazig**	**1.02**	**150**	P	**Pg**	**19 26 04.3**	**-0.8**
ELZG				S	**Sb**	**19 26 19.0**	**+0.2**
KELT	**Kelkit**	**1.04**	**42**	*i* P	**Pb**	**19 26 05.7**	**-0.2**
KELT				*i* S	**Sn**	**19 26 20.9**	**-0.3**
KELT	**Kelkit**	**1.04**	**42**	P	**Pb**	**19 26 05.7**	**-0.2**
KELT				S	**Sn**	**19 26 20.9**	**-0.3**
DARE	**Darende-Malaty**	**1.05**	**220**	PG	**Pg**	**19 26 05.3**	**-0.4**
DARE				SG	**Sn**	**19 26 20.4**	**-0.7**
DARE	**Darende-Malaty**	**1.05**	**220**	*e*Pg	**Pg**	**19 26 05.3**	**-0.4**
DARE				*e*Sg	**Sn**	**19 26 20.4**	**-0.7**
MALT	**Malatya**	**1.07**	**176**	PG	**Pb**	**19 26 05.8**	**-0.4**
MALT				SG	**Sb**	**19 26 20.5**	**+0.3**
MALT	**Malatya**	**1.07**	**176**	*e*Pg	**Pb**	**19 26 05.8**	**-0.4**
MALT				*e*Sg	**Sb**	**19 26 20.5**	**+0.3**
ERZN	**Erzincan**	**1.09**	**79**	PN	**Pg**	**19 26 05.8**	**-0.8**
AKCD	**Akcadag**	**1.13**	**197**	*i* P	**Pb**	**19 26 07.1**	**-0.2**
AKCD				*i* S	**Sn**	**19 26 23.7**	**+0.5**
AKCD	**Akcadag**	**1.13**	**197**	P	**Pb**	**19 26 07.1**	**-0.2**
AKCD				S	**Sn**	**19 26 23.7**	**+0.5**
SVSK	**Karacayir**	**1.16**	**298**	PN	**Pn**	**19 26 08.0**	**+0.1**
SVSK	**Karacayir**	**1.16**	**298**	*e*Pn	**Pn**	**19 26 08.0**	**+0.1**
CUALT	**Altinyayla-SIV**	**1.23**	**266**	*i* P	**Pb**	**19 26 08.8**	**-0.2**
CUALT				*i* S	**Sn**	**19 26 26.0**	**+0.4**
CUALT	**Altinyayla-SIV**	**1.23**	**266**	P	**Pb**	**19 26 08.8**	**-0.2**
CUALT				S	**Sn**	**19 26 26.0**	**+0.4**
SVRC	**Sivrice-ELAZID**	**1.25**	**143**	PN	**Pb**	**19 26 08.6**	**-0.8**
SVRC	**Sivrice-ELAZID**	**1.25**	**143**	*e*Pn	**Pb**	**19 26 08.6**	**-0.8**

*TIR **28** 19:33:03.0, 41.10N×20.23E, h11km, Md2.8/5*
*CSEM **28** 19:33:03.5±0.2, 41.16N×20.28E, h2km, ML1.8, Error ellipse: s-maj=6.8km s-min=3.6km az=60.0*
*THE **28** 19:33:03.5, 41.17N×20.28E, h0km±2km, ML1.9/4, Error ellipse: s-maj=2.3km s-min=0.7km az=35.0*
*SKO **28** 19:33:03.4, 41.06N×20.13E, h4km*
ATH 28 19:33:03.1, 41.18N×20.22E, h16km±2km, ML1.8/6, 3C, Error ellipse: s-maj=3.7km s-min=1.4km az=28.0, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.32**	**302**	P	Pg	19 33 09.6	-0.2
TIR				S	Sb	19 33 15.8	+0.5
TIR				AML	AML	19 33 17.2	
	comp=N,1251µm,0.4s						
TIR				AML	AML	19 33 18.4	
	comp=E,272µm,0.9s						
TIR	**Tirane**	**0.32**	**302**	P	Pg	19 33 09.8	0.0
TIR				S	Sb	19 33 15.6	+0.3
TIR	**Tirane**	**0.32**	**302**	*i* Pg	Pg	19 33 09.9	+0.1
TIR				S	Sb	19 33 15.2	-0.1
TIR				*i* Sg	Sg	19 33 16.8	+2.4
TIR	**Tirane**	**0.32**	**302**	*i* PG	Pg	19 33 09.9	+0.1
TIR				*i* SG	Sb	19 33 16.8	+1.5
OHR	**Ohrid**	**0.44**	**99**	*i* Pg	Pb	19 33 12.6	0.0
OHR				*i* Sg	Sb	19 33 19.9	+0.9
PHP	**Peshkopia**	**0.53**	**18**	P	Pb	19 33 14.7	+0.6
PHP				S	Sb	19 33 21.6	0.0
PHP	**Peshkopia**	**0.53**	**18**	P	Pb	19 33 14.7	+0.6
PHP				S	Sb	19 33 21.6	0.0
PHP				*i* Sg	Sn	19 33 25.0	+0.2
	baz=14						
PHP	**Peshkopia**	**0.53**	**18**	*i* PG	Pb	19 33 14.9	+0.8
PHP				*i* SG	Sn	19 33 25.0	+0.2
KBN	**Korca**	**0.70**	**142**	P	Pg	19 33 16.0	-0.9
KBN				S	Sg	19 33 26.3	+0.1
KBN	**Korca**	**0.70**	**142**	*i* Pg	Pg	19 33 15.2	-1.7
KBN	**Korca**	**0.70**	**142**	P	Pg	19 33 16.0	-0.9
KBN				*i* Sg	Sg	19 33 26.2	0.0
KBN	**Korca**	**0.70**	**142**	*i* PG	Pg	19 33 15.2	-1.7
KBN				*i* SG	Sg	19 33 26.2	0.0
KRUS	**Krusevo**	**0.80**	**76**	*i* Pg	Pg	19 33 18.9	+0.2
KRUS				*i* Sg	Sn	19 33 32.1	+0.7
BIA	**Bitola**	**0.85**	**100**	*i* Pg	Pg	19 33 19.8	+0.2
BIA				*i* Sg	Sn	19 33 32.3	-0.3
PUK	**Puka**	**0.90**	**344**	*i* Pg	Pn	19 33 21.7	+0.6
PUK				*i* Sg	Sn	19 33 37.8	+4.0
	baz=345						
PUK	**Puka**	**0.90**	**344**	*i* PG	Pn	19 33 21.7	+0.6
PUK				*i* SG	Sn	19 33 37.8	+4.0
FNA	**Florina**	**0.96**	**114**	P	Pb	19 33 19.8	-1.6
FNA				S	Sn	19 33 36.4	+1.0
FNA				AML	AML	19 33 37.4	
	comp=N,178µm,0.4s						
FNA				AML	AML	19 33 37.5	
	comp=E,136µm,0.4s						
FNA	**Florina**	**0.96**	**114**	P	Pb	19 33 20.7	-0.7
FNA				S	Sg	19 33 34.4	0.0
FNA	**Florina**	**0.96**	**114**	P	Pb	19 33 20.7	-0.7
FNA				S	Sg	19 33 34.4	0.0
NEST	**Nestorio**	**0.99**	**140**	P	Pb	19 33 20.2	-1.7
NEST				AML	AML	19 33 41.5	
	comp=E,57µm,0.6s						
NEST				AML	AML	19 33 44.1	
	comp=N,77µm,0.7s						
NEST	**Nestorio**	**0.99**	**140**	P	Pb	19 33 20.7	-1.2
NEST				S	Sg	19 33 35.1	-0.2
NEST	**Nestorio**	**0.99**	**140**	P	Pb	19 33 21.1	-0.8
NEST				S	Sg	19 33 35.1	-0.2
BCI	**Bajram Curri**	**1.19**	**355**	*i* Pg	Pg	19 33 26.6	+0.5
BCI	**Bajram Curri**	**1.19**	**355**	*i* PG	Pg	19 33 26.6	+0.5
PENT	**Pentalofos**	**1.21**	**144**	P	Pn	19 33 24.6	-0.8
PENT				AML	AML	19 33 52.4	
	comp=N,63µm,0.6s						
PENT				AML	AML	19 33 53.0	
	comp=E,59µm,0.5s						
PENT	**Pentalofos**	**1.21**	**144**	P	Pn	19 33 25.2	-0.2
SRN	**Sarande**	**1.31**	**187**	P	Pg	19 33 28.3	0.0
SRN	**Sarande**	**1.31**	**187**	P	Pg	19 33 28.3	0.0
SRN	**Sarande**	**1.31**	**187**	*i* PG	Pg	19 33 28.1	-0.3
KEK	**Kerkira**	**1.50**	**193**	P	Pb	19 33 30.5	0.0
KEK				AML	AML	19 33 52.5	
	comp=E,55µm,0.5s						
KEK				S	Sg	19 33 52.9	+1.4
KEK				AML	AML	19 33 53.4	
	comp=N,59µm,0.8s						
KEK	**Kerkira**	**1.50**	**193**	P	Pb	19 33 30.9	+0.3
KEK				S	Sg	19 33 52.3	+0.8
KEK	**Kerkira**	**1.50**	**193**	P	Pb	19 33 30.9	+0.3
KEK				S	Sg	19 33 52.3	+0.8
KPRO	**Kipourio**	**1.50**	**144**	P	Pg	19 33 32.1	+0.1
KPRO				S	Sg	19 33 52.8	+1.2
KPRO	**Kipourio**	**1.50**	**144**	P	Pg	19 33 31.7	-0.3
KPRO				S	Sg	19 33 52.4	+0.8
SGD	**Sagiada**	**1.56**	**180**	P	Pb	19 33 32.3	+0.6
SGD	**Sagiada**	**1.56**	**180**	P	Pb	19 33 31.9	+0.2
SGD				S	Sg	19 33 53.7	+0.1
SGD	**Sagiada**	**1.56**	**180**	P	Pb	19 33 31.9	+0.2
SGD				S	Sg	19 33 53.7	+0.1
IGT	**Igoumenitsa**	**1.65**	**177**	P	Pb	19 33 32.9	-0.2
IGT				S	Sg	19 33 56.9	+0.7
IGT				AML	AML	19 33 58.0	
	comp=N,34µm,0.6s						
IGT				AML	AML	19 33 58.5	
	comp=E,61µm,0.7s						
IGT	**Igoumenitsa**	**1.65**	**177**	P	Pb	19 33 33.3	+0.2
IGT	**Igoumenitsa**	**1.65**	**177**	P	Pb	19 33 33.3	+0.2
IGT				S	Sg	19 33 56.3	+0.1
SCTE	**Santa Cesarea**	**1.73**	**231**	P	Pg	19 33 36.2	-0.2
SCTE				S	Sb	19 33 56.2	+0.2
SCTE	**Santa Cesarea**	**1.73**	**231**	P	Pg	19 33 35.5	-0.9
SCTE				S	Sb	19 33 57.0	+1.0
STON	**Ston**	**2.53**	**313**	*e*Pn	Pn	19 33 43.7	+0.3
STON				Sn	Sb	19 34 17.2	-1.7
STON	**Ston**	**2.53**	**313**	*e*Pn	Pn	19 33 43.7	+0.3
STON				Sn	Sb	19 34 17.1	-1.8

*BJI **28** 19:45:24.9, 5.51S×152.28E, h58km, mb4.6/27, mB5.1/11, Ms4.8/6, Ms7 4.8/2*
*ISCJB **28** 19:45:25.7±0.2, 5.32S±0.04×152.03E±0.04, h45km, mb4.8/100, MS4.2/5, Error ellipse: s-maj=7.2km s-min=4.3km az=39.7*
*NEIC **28** 19:45:26.2±0.1, 5.30S×152.06E, h35km, mb4.9/78, Error ellipse: s-maj=5.7km s-min=3.3km az=123.0*
*IDC **28** 19:45:28.0±3.7, 5.37S×152.14E, h53km±33km, mb4.1/20, mb1 4.3/22, mb1mx4.1/50, mbtmp4.4/22, ML3.3/2, MS4.1/6, Ms1 4.1/6, ms1mx3.6/46, Error ellipse: s-maj=20.8km s-min=14.8km az=80.0*
ISC 28 19:45:27.1±0.4, 5.34S±0.06×152.16E±0.07, h45km, n151, σ1.902/156, mb4.9/98, MS4.2/5, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.14**	**0**	*e*Pn	**Pn**	**19 45 47.4**	**+0.7**
MANU	**Manus Island**	**5.79**	**304**	*e*Pn	**Pn**	**19 46 54.0**	**+3.4**
PMG	**Port Moresby**	**6.40**	**231**	P	**Pn**	**19 47 00.3**	**+1.4**
	8.3nm,0.3s,baz=37,slow=8.8,SNR=45						
PMG				S	**Sn**	**19 48 11.7**	**+1.0**
	10nm,0.3s,baz=85,slow=18,SNR=4.4						
PMG				LR	LR	19 49 19.6	
	comp=Z,691nm,18.8s,baz=54,slow=36						
PMG	**Port Moresby**	**6.40**	**231**	*e*Pn	**Pn**	**19 46 59.6**	**+0.7**
PMG				*e*Sn	**Sn**	**19 48 08.1**	**-2.7**
PMG				*e*		19 49 19.6	
COEN	**Coen**	**12.32**	**225**	*e*Pn	**Pn**	**19 48 20.5**	**+0.4**
PATS	**Pohnpei**	**13.56**	**27**	*e*Pn	**Pn**	**19 48 36.9**	**-0.2**
CTA	**Charters Tower**	**15.75**	**201**	P	**Pn**	**19 49 06.8**	**+0.8**
	0.4nm,0.3s,baz=31,slow=14,SNR=14						
CTAO	**Charters Tower**	**15.75**	**201**	*e*Pn	**Pn**	**19 49 07.1**	**+1.1**
	19nm,0.9s						
EIDS	**Eidsvold**	**19.95**	**183**	*e*P	**P**	**19 49 55.8**	**+0.3**
	41nm,1.0s						
DZM	**Mont Dzumac**	**21.63**	**142**	P	**P**	**19 50 13.1**	**-0.7**
	21nm,0.9s,baz=337,slow=16,SNR=3.6						
DZM	**Mont Dzumac**	**21.63**	**142**	*e*P	**P**	**19 50 12.5**	**-1.3**
	32nm,1.1s						
WRAB	**Tennant Creek**	**22.60**	**228**	*e*P	**P**	**19 50 23.5**	**-0.7**
	26nm,0.8s						
WB2	**Warramunga Arr**	**22.61**	**228**	*e*P	**P**	**19 50 23.2**	**-1.0**
	31nm,1.0s						
WR1	**Warramunga Arr**	**22.61**	**228**	*e*P	**P**	**19 50 23.1**	**-1.2**
	29nm,0.9s						
WRA	**Warramunga Arr**	**22.61**	**228**	P	**P**	**19 50 23.1**	**-1.3**
	15nm,0.8s,baz=54,slow=9.9,SNR=76						
ARMA	**Armidale**	**24.95**	**181**	*e*P	**P**	**19 50 46.8**	**+0.2**
	79nm,1.8s						
AS01	**Alice Springs**	**25.30**	**222**	*e*P	**P**	**19 50 49.3**	**-0.4**
AS31	**Alice Springs**	**25.33**	**222**	*e*P	**P**	**19 50 49.9**	**-0.1**
	10.0nm,0.8s						
ASAR	**Al

SHL	Shillong	66.03	301	*e*P		P	19 56 09.3	-0.5
	13nm,1.1s							
ULN	Ulaanbaatar	66.11	329	*e*P		P	19 56 09.8	-0.1
	3.0nm,0.9s							
SONA0	Songino Array	66.44	328	*e*P		P	19 56 12.4	+0.4
SONM	Songino Array	66.44	328	P		P	19 56 12.4	+0.4
	2.7nm,1.0s,baz=137,slow=5.8,SNR=9.1							
SONA1	Songino Array	66.44	328	*e*P		P	19 56 11.1	-0.9
NIKH	Nikolski High	66.77	24	*e*P		P	19 56 14.7	+1.0
	132nm,1.2s							
LSA	Lhasa	68.02	305	*e*P		P	19 56 22.4	-0.4
	3.6nm,0.8s							
TLY	Talaya	70.22	330	*e*P		P	19 56 33.9	-1.6
	8.4nm,0.9s							
ODAN	Odare	70.27	301	*e*P		P	19 56 36.3	-0.2
GUN	Gumba	71.85	302	*e*P		P	19 56 46.1	-0.1
	19nm,0.8s							
PKIN	Phulchoki	72.17	301	*e*P		P	19 56 47.3	-0.8
	11nm,1.2s							
VNDA	Vanda	72.32	178	P		P	19 56 47.9	+0.2
	1.1nm,0.9s,baz=320,slow=6.5,SNR=5.6							
VNDA	Vanda	72.32	178	*e*P		P	19 56 48.2	+0.5
	9.1nm,1.7s							
KKN	Kakani	72.33	301	*e*P		P	19 56 48.5	-0.4
	10nm,0.8s							
DMN	Daman	72.43	301	*e*P		P	19 56 49.7	+0.1
	35nm,1.1s							
GKN	Gorkha	72.94	301	*e*P		P	19 56 52.0	-0.5
	21nm,1.0s							
KOLN	Koldanda	73.76	301	*e*P		P	19 56 56.8	-0.6
	10nm,0.7s							
PYUN	Piuthan	74.36	301	*e*P		P	19 57 00.1	-0.8
WMQ	Urumqi	75.70	318	P		P	19 57 08.5	+0.4
OHAK	Old Harbor	76.31	27	*e*P		P	19 57 11.9	+0.8
	103nm,1.7s							
SVW2	Sparrevohn	77.56	23	*e*P		P	19 57 19.5	+1.3
	17nm,1.1s							
HOM	Homer	78.37	26	*e*P		P	19 57 22.9	+0.3
	165nm,1.1s							
BRLK	Bradley Lake	78.75	26	*e*P		P	19 57 24.6	-0.2
	30nm,1.1s							
SPU	Mount Spurr	79.02	24	*e*P		P	19 57 26.4	+0.1
SKT	Skwentna	79.67	24	*e*P		P	19 57 28.9	-0.8
	6.0nm,1.0s							
SUA	Susitna One	79.70	24	*e*P		P	19 57 29.8	-0.3
	12nm,0.7s							
PPLA	Purkeypile	79.91	23	*e*P		P	19 57 30.8	-0.4
	8.7nm,1.1s							
RC01	Rabbit Creek A	79.92	25	*e*P		P	19 57 31.8	+0.7
	44nm,1.3s							
CAST	Castle Rocks	80.24	22	*e*P		P	19 57 32.7	-0.1
	14nm,0.9s							
MK01	Makanchi Array	80.30	319	*e*P		P	19 57 31.8	-1.7
MK31	Makanchi Array	80.31	319	*e*P		P	19 57 33.5	-0.1
MK32	Makanchi Array	80.31	319	*e*P		P	19 57 32.8	-0.8
MKAR	Makanchi Array	80.31	319	P		P	19 57 32.8	-0.8
	1.8nm,0.9s,baz=93,slow=6.7,SNR=12							
MKAR	Makanchi Array	80.31	319	*e*P		P	19 57 33.6	+0.1
	14nm,0.9s							
PMR	Palmer	80.43	24	*e*P		P	19 57 33.3	-0.5
	21nm,1.1s							
MAKZ	Makanchi	80.52	319	*e*P		P	19 57 34.1	-0.6
	3.1nm,0.9s							
GHO	Glory Hole Cre	80.61	24	*e*P		P	19 57 35.5	+0.6
	14nm,1.0s							
KTH	Kantishna Hill	80.75	22	*e*P		P	19 57 35.3	-0.3
	14nm,1.0s							
SML	Sawmill	80.87	24	*e*P		P	19 57 36.9	+0.6
	38nm,1.0s							
TRF	Thorofare Moun	80.94	23	*e*P		P	19 57 36.3	-0.5
	8.8nm,1.0s							
BPAW	Bear Paw Mtn.	81.02	22	*e*P		P	19 57 36.8	-0.2
	8.8nm,1.1s							
IM3	Indian Mountai	81.10	20	*e*P		P	19 57 37.6	+0.3
ZAA0	Zalesovo Array	81.24	327	*e*P		P	19 57 37.2	-1.1
	2.2nm,0.9s							
ZALV	Zalesovo Beam	81.24	327	P		P	19 57 36.6	-1.7
	1.4nm,0.8s,baz=100,slow=4.5,SNR=8.0							
ZALV	Zalesovo Beam	81.24	327	*e*P		P	19 57 37.0	-1.4
ZAA1	Zalesovo Array	81.25	327	*e*P		P	19 57 36.6	-1.7
SCM	Sheep Creek Mo	81.30	25	*e*P		P	19 57 38.6	+0.1
	16nm,0.9s							
EYAK	Cordova Ski Ar	81.37	26	*e*P		P	19 57 39.3	+0.5
	29nm,1.2s							
RND	Reindeer	81.47	23	*e*P		P	19 57 39.3	-0.1
	21nm,1.0s							
MCK	McKinley	81.60	23	*e*P		P	19 57 39.8	-0.3
	40nm,1.0s							
MLY	Manley	81.61	21	*e*P		P	19 57 39.9	-0.2
	23nm,1.2s							
DIV	Divide	81.63	26	*e*P		P	19 57 41.1	+0.7
	31nm,1.2s							
KLU	Klutina	81.73	25	*e*P		P	19 57 41.6	+0.7
	30nm,1.1s							
RAGM	Ragged Mountai	81.77	27	*e*P		P	19 57 41.4	+0.4
	31nm,1.1s							
DHY	Denali Highway	81.88	24	*e*P		P	19 57 41.8	+0.1
BMRM	Bremner River	82.06	26	*e*P		P	19 57 43.6	+1.0
	18nm,1.1s							
WRH	Wood River Hil	82.29	22	*e*P		P	19 57 43.4	-0.2
	17nm,1.1s							
HARP	HAARP	82.47	25	*e*P		P	19 57 44.2	-0.4
	14nm,0.8s							
MDM	Murphy Dome	82.48	22	*e*P		P	19 57 44.0	-0.7
	7.1nm,1.2s							
CCB	Clear Creek Bu	82.49	22	*e*P		P	19 57 43.8	-0.9
	14nm,1.1s							
COLA	College	82.58	22	*e*P		P	19 57 44.6	-0.5
	21nm,1.0s							
PAX	Paxson	82.60	24	*e*P		P	19 57 45.9	+0.4
	4.7nm,0.8s							
TGL	Tana Glacier	82.76	27	*e*P		P	19 57 47.0	+0.7
	19nm,1.0s							
IL1	Eielson Array	82.89	22	*e*P		P	19 57 46.0	-0.8
ILAR	Eielson Array	82.89	22	P		P	19 57 46.0	-0.7
	7.6nm,0.9s,baz=253,slow=5.1,SNR=61							
ILB	Eielson Array	82.89	22	*e*P		P	19 57 46.1	-0.7
COLD	Coldfoot	82.97	19	*e*P		P	19 57 48.2	+1.1
	7.7nm,1.2s							
BALM	Baldy	83.09	26	*e*P		P	19 57 48.5	+0.5
	18nm,1.2s							
RIDG	Independ'e Rid	83.20	24	*e*P		P	19 57 48.7	+0.2
	19nm,1.2s							
MENT	Mentasta	83.30	24	*e*P		P	19 57 49.6	+0.7
	11nm,1.1s							
DOT	Dot Lake	83.47	24	*e*P		P	19 57 50.5	+0.6
	58nm,1.0s							
SCRK	Sand Creek	83.65	23	*e*P		P	19 57 51.4	+0.5
	7.3nm,1.0s							
NIL	Nilore	83.75	305	*e*P		P	19 57 50.7	-1.2
	7.8nm,0.9s							
KURK	Kurchatov	83.80	322	*e*P		P	19 57 50.1	-1.6
	14nm,0.2s							
KURBB	Kurchatov Arra	83.83	322	P		P	19 57 51.6	-0.2
	2.7nm,0.2s,baz=109,slow=4.2,SNR=5.7							
TOLK	Toolik Lake Re	83.92	18	*e*P		P	19 57 52.7	+0.6
	6.3nm,1.0s							
FYU	Fort Yukon	84.34	21	*e*P		P	19 57 55.0	+0.9
	7.6nm,0.9s							
AAK	Ala-Archa	84.57	314	*e*P		P	19 57 55.7	-0.4
	4.2nm,1.0s							
QSPA	South Pole Qui	84.63	180	P		P	19 57 55.8	0.0
	1.8nm,1.0s,baz=343,slow=2.9,SNR=2.9							
EGAK	Eagle	85.10	23	*e*P		P	19 57 58.8	+0.8
	11nm,1.0s							
HYT	Haines Junctio	85.20	28	*e*P		P	19 57 59.4	+0.6
	22nm,1.1s							
DAWY	Dawson	85.53	24	*e*P		P	19 58 01.3	+1.0
BESE	Bessie Mountai	85.76	30	*e*P		P	19 58 03.0	+1.5
	25nm,1.3s							
SKAG	Skagway	85.79	29	*e*P		P	19 58 03.7	+2.2
	97nm,0.4s							
WHY	Whitehorse	86.37	28	*e*P		P	19 58 05.8	+1.2
	12nm,1.1s							
KK31	Karatay Array	87.53	314	*e*P		P	19 58 11.3	+0.8
KKAR	Karatay Array	87.53	314	*e*P		P	19 58 11.3	+0.8
DLBC	Dease Lake	88.17	31	*e*P		P	19 58 15.0	+1.8
	22nm,1.2s							
INK	Inuvik	89.18	21	*e*P		P	19 58 17.6	0.0
	6.9nm,1.0s							
BVAR	Borovoye Array	89.29	323	P		P	19 58 18.4	-0.1
	0.8nm,0.8s,baz=72,slow=4.7,SNR=4.9							
PINE	Pine Mountain	91.42	46	*e*P		P	19 58 29.4	+0.4
	12nm,1.1s							
NV01	Mina Array Sit	92.91	52	*e*P		P	19 58 37.0	+1.0
NVAR	Mina Array Bea	92.91	52	P		P	19 58 37.0	+1.0
	1.8nm,0.8s,baz=256,slow=6.7,SNR=12							
WVOR	Wild Horse Val	92.97	48	*e*P		P	19 58 37.6	+1.6
	6.3nm,1.3s							
KVN	Kaiserville	93.12	51	*e*P		P	19 58 37.7	+0.8
	3.2nm,1.1s							
BMO	Blue Mountains	94.10	45	*e*P		P	19 58 41.9	+0.7
	4.4nm,1.0s							
YKA	Yellowknife Ar	96.19	28	P		P	19 58 50.8	+0.6
	1.1nm,0.9s,baz=273,slow=4.7,SNR=15							
HVU	Hansel Valley	97.30	49	*e*P		Pdif	19 58 56.3	+0.4
	3.2nm,1.1s							
PDAR	Pinedale Array	99.68	48	P		Pdif	19 59 06.8	+0.2
	0.4nm,0.6s,baz=252,slow=3.0,SNR=4.2							
PDAR				LR		LR	20 38 38.7	
	comp=Z,137nm,21.1s,baz=314,slow=32							
TOA0	Torodi Ar. Sit	149.86	287	*e*PKPbc		PKPbc	20 05 12.6	-0.9
TOA0				*e*PKPab		PKPab	20 05 18.9	-0.2
TORD	Torodi Ar. Bea	149.86	287	PKPbc		PKPbc	20 05 13.2	-0.3
	7.0nm,0.9s,baz=69,slow=2.4,SNR=33							
TORD				PKPab		PKPab	20 05 19.1	0.0
	7.3nm,0.8s,baz=52,slow=2.3,SNR=23							
TOA1	Torodi Ar. Sit	149.86	287	*e*PKPbc		PKPbc	20 05 13.2	-0.3
TOA1				*e*PKPab		PKPab	20 05 19.1	0.0

IDC 28 20:10:36.1±3.8, 19.87S×173.63W, h0km, mb3.8/3, mb1 4.1/4, mb1mx3.6/56, mbtmp3.9/4, ML4.0/1, Error ellipse: s-maj=143.2km s-min=28.0km az=136.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	Afiamalu	6.19	17	Pn	Pn	20 12 10.3	+1.4
	3.8nm,0.3s,baz=202,slow=5.8,SNR=11						
AFI				Sn	Sn	20 13 06.7	-14
	31nm,0.3s,baz=62,slow=23,SNR=12						
ASAR	Alice Springs	48.65	256	P	P	20 19 22.9	+0.6
	0.9nm,0.5s,baz=90,slow=8.5,SNR=23						
WRA	Warramunga Ar	48.75	261	P	P	20 19 22.1	-1.0
	0.6nm,0.4s,baz=96,slow=8.8,SNR=28						
ILAR	Eielson Array	86.85	11	P	P	20 23 20.9	-1.2
	0.3nm,0.5s,baz=216,slow=5.9,SNR=4.2						
BRTR	Keskin Array B	149.34	316	PKPbc	PKPbc	20 30 27.8	+0.4
	0.5nm,0.7s,baz=35,slow=5.3,SNR=3.3						

*SJA **28** 20:30:28.6±0.4, 32.75S×71.84W, h2km±13km, ML2.7, MW2.7*
*GUC **28** 20:30:31.3±0.5, 32.47S×71.50W, h22km±5km, ML2.9*
ISC 28 20:30:31.5±3.0, 32.90S±0.07×71.9W±0.1, h11km±13km, n11, σ0°90/17, 2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ROCH	El Roble	0.71	96	*e*P	Pg	20 30 45.1	-0.1
ROCH				*e*S	Sg	20 30 55.3	+0.8
ROCH				IAML		20 30 56.9	
	comp=N,714nm,0.4s						
PEL	Peldehue	1.00	104	*e*P	Pg	20 30 50.0	-0.9
PEL				*e*S	Sg	20 31 04.7	+0.7
FCH	Farellones	1.37	108	*e*P	Pn	20 30 56.3	-0.7
FCH				*e*S	Sn	20 31 15.5	+0.2
FCH				IAML		20 31 16.6	
	comp=E,496nm,0.3s						
LMEL	Las Melosas	1.67	125	*e*P	Pb	20 31 02.2	-0.1
LMEL				*e*S	Sg	20 31 26.3	+1.1
LMEL				IAML		20 31 32.6	
	comp=N,260nm,0.3s						
RTLS	Leoncito	2.42	64	*e*P	Pn	20 31 11.8	+0.4
RTLS				*e*S	Sb	20 31 43.4	-1.9
RTLS				IAML		20 31 44.5	
	comp=Z,24nm,0.6s						
AAGR	Agrelo	2.54	95	*e*P	Pn	20 31 14.1	+1.2
RTCV	Cerro Valdivia	2.98	71	*e*P	Pn	20 31 19.1	+0.2
AROD	Rodeo	3.40	37	*e*P	Pn	20 31 24.6	-0.2
AROD				*e*S	Sn	20 32 06.5	+1.2
AMOG	MOGNA	3.46	56	*e*P	Pn	20 31 25.6	+0.2
AGUA	GUANDACOL	4.46	41	*e*P	Pn	20 31 39.4	+0.2
VCA	Vinchina	5.20	38	*e*P	Pn	20 31 49.8	+0.4
VCA				IAML		20 33 05.7	
	comp=Z,6.7nm,0.4s						

DJA 28 20:32:45.1±0.7, 8°S±4°×10°8E±°, h26km±4km, M3.6/8, MLv3.6/8, Jawa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMJI	Cimerak	0.57	28	P	Pn	20 32 57.6	+0.1
CMJI				S	Sn	20 33 05.9	-0.2
CISI	Cisompet, Garu	0.81	334	P	Pb	20 33 00.8	+0.1
CISI				S	Sn	20 33 12.6	+0.4
KPJI	Karang Pucung	1.21	38	P	Pn	20 33 06.1	-0.2
KPJI				S	Sb	20 33 22.4	-0.1
DBJI	Dramaga	2.23	320	P	Pn	20 33 20.2	-0.3
CGJI	Cibinong	2.98	304	P	Pn	20 33 30.5	-0.2
PWJI	Pagerwojo	3.60	86	P	Pn	20 33 38.6	-0.6

IDC 28 20:38:16.2±8.3, 6.31S×150.21E, h75km±60km, mb3.4/3, mb1 3.6/4, mb1mx3.1/46, mbtmp3.7/4, ML1.4/1, Error ellipse: s-maj=75.5km s-min=53.7km az=112.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	Port Moresby	4.32	224	P	Pn	20 39 18.8	-0.6
	1.4nm,0.3s,baz=300,slow=3.2,SNR=6.6						
PMG				S	Sn	20 40 09.9	+1.4
	2.8nm,0.3s,baz=127,slow=8.1,SNR=6.3						
WRA	Warramunga Arr	20.53	227	P	P	20 42 48.9	+0.2
	2.4nm,0.7s,baz=51,slow=10,SNR=13						
ASAR	Alice Springs	23.32	221	P	P	20 43 17.3	-0.8
	0.6nm,0.7s,baz=54,slow=9.6,SNR=6.0						
STKA	Stephens Creek	26.68	196	P	P	20 43 47.9	-0.5
	2.4nm,0.8s,baz=360,slow=10,SNR=2.9						
TORD	Torodi Ar. Bea	148.26	285	PKPbc	PKPbc	20 57 55.0	+0.1
	0.6nm,0.8s,baz=63,slow=4.3,SNR=3.5						

*ISCJB **28** 20:46:48.4±1.6, 32.64S±0.03×72.03W±0.05, h15km±11km, mb4.0/5, MS3.8/1, Error ellipse: s-maj=7.8km s-min=4.7km az=150.0*
*NEIC **28** 20:46:48.5±1.8, 32.65S×71.83W, h5km±12km, mb4.1/2, ML4.2(GUC), Error ellipse: s-maj=10.0km s-min=4.1km az=88.0*
NEIC Felt [III] at Puchuncavi, Valparaiso, Villa Alemana, Vina del Mar and Zapallar.
*IDC **28** 20:46:48.0±0.9, 32.62S×71.83W, h0km, mb3.8/4, mb1 3.9/8, mb1mx3.8/36, mbtmp3.8/8, ML4.0/4, MS3.8/1, Ms1 3.8/1, ms1mx3.1/34, Error ellipse: s-maj=37.5km s-min=22.6km az=98.0*
*SJA **28** 20:46:49.7±0.9, 32.82S×71.92W, h16km±11km, ML3.9, MW4.1*
*GUC **28** 20:46:51.5±0.6, 32.50S×71.59W, h29km±5km, ML4.2*
ISC 28 20:46:49.5±1.8, 32.58S±0.03×71.83W±0.06, h13km±11km, n53, σ1°14/59, mb4.0/5, 1C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ROC1	El Roble	0.79	120	*e*Pn	Pn	20 47 05.6	-1.1
ROC1				*e*Sn	Sb	20 47 15.8	-0.3
ROC1	El Roble	0.79	120	*e*P	Pn	20 47 05.7	-0.9
ROC1				*e*S	Sb	20 47 16.4	+0.3
ROCH	El Roble	0.79	120	*e*P	Pn	20 47 05.7	-1.0
ROCH				*e*S	Sn	20 47 16.4	-2.0
ROCH				IAML		20 47 17.4	
	comp=N,15μm,0.4s						
PEL	Peldehue	1.11	121	*e*Pn	Pg	20 47 10.9	-0.2
PEL				*e*Sg	Sn	20 47 25.3	-0.9
PEL	Peldehue	1.11	121	*e*P	Pn	20 47 10.6	-0.4
PEL				*e*S	Sn	20 47 25.3	-0.9
ANTU	Antumapu	1.41	135	*e*P	Pb	20 47 15.5	-0.2
ANTU				*e*S	Sb	20 47 33.4	-0.2
ANTU				IAML		20 47 37.4	
	comp=N,6μm,0.7s						
FCH	Farellones	1.49	120	*e*P	Pb	20 47 16.8	-0.5
FCH				*e*S	Sb	20 47 36.1	-0.2
FCH				IAML		20 47 37.2	
	comp=E,10μm,0.3s						
LMEL	Las Melosas	1.86	133	*e*P	Pb	20 47 22.6	-0.9
LMEL				*e*S	Sb	20 47 46.5	-0.2
LMEL				IAML		20 47 51.2	
	comp=N,4μm,0.2s						
AUSP	Uspallata	2.10	81	*e*P	Pb	20 47 28.6	+1.0
AUSP				*e*S	Sg	20 47 58.0	+1.0
RTLS	Leoncito	2.29	71	*e*P	Pb	20 47 31.8	+0.9
RTLS				*e*S	Sg	20 48 03.9	+0.9
RTLS				IAML		20 48 05.1	
	comp=Z,648nm,0.6s						
GO05	HualaæØ	2.42	182	*e*Pn	Pn	20 47 27.6	-1.3
GO04	Tololo Observa	2.56	20	*e*Pn	Pn	20 47 32.3	+1.3
GO04	Tololo Observa	2.56	20	*e*P	Pn	20 47 32.3	+1.3
GO04				*e*S	Sn	20 48 04.0	+1.9
RTCV	Cerro Valdivia	2.88	76	*e*P	Pb	20 47 40.1	-0.7
AROD	Rodeo	3.14	41	*e*P	Pb	20 47 45.4	-0.1
AMOG	MOGNA	3.28	61	*e*P	Pb	20 47 45.7	-2.0
ACDV	Cuesta del Vie	3.34	45	*e*P	Pb	20 47 48.0	-0.7
LCO	Las Campanas	3.69	16	*e*Pn	Pn	20 47 47.5	+0.9
GO03	Copiap	5.16	16	*e*Pn	Pn	20 48 07.5	+0.9
GO06	Curarrehue	6.99	178	*e*Pn	Pn	20 48 29.9	-1.9
GO02	Mina Guanaco	7.65	15	*e*Pn	Pn	20 48 40.5	-0.5
GO02				*e*Sg	Sb	20 50 28.1	-5.3
PLCA	Paso Flores	8.20	173	Pn	Pn	20 48 48.2	-0.1
	comp=Z,2.1nm,0.3s,baz=359,slow=12,SNR=94						
PLCA	Paso Flores	8.20	173	*e*Pn	Pn	20 48 48.3	0.0
PB10	IPOC Station P	9.10	7	*e*Pn	Pn	20 49 00.7	0.0
TRQA	Tornquist	9.72	127	*e*Pn	Pn	20 49 07.6	-1.6
MNMC	Minye Minye	13.54	9	*e*Pn	Pn	20 50 02.7	+1.0
CPUP	Villa Florida	14.08	67	Pn	Pn	20 50 09.7	+1.0
	comp=Z,0.1nm,0.3s,baz=240,slow=16,SNR=2.6						
CPUP	Villa Florida	14.08	67	*e*Pn	Pn	20 50 09.5	+0.8
LPAZ	La Paz	16.57	13	Pn	P	20 50 44.3	-0.5
	comp=Z,0.1nm,0.3s,baz=209,slow=5.8,SNR=4.3						
LPAZ	La Paz	16.57	13	*e*Pn	P	20 50 43.7	-1.1
	comp=Z,4.5nm,1.3s						
SIV	San Ignacio	19.18	33	P	Pn	20 51 15.0	+1.0
	comp=Z,0.2nm,0.3s,baz=224,slow=14,SNR=5.1						
EFI	East Falkland	21.57	156	*e*P	P	20 51 37.9	-0.8
	comp=Z,59nm,1.7s						
SDV	Santo Domingo	41.25	2	LR	LR	21 13 07.5	
	comp=Z,136nm,19.7s,baz=90,slow=38						
VNA3	Neumayer Olymp	50.61	158	P	P	20 55 48.0	+0.3
VNA2	Neumayer--Watz	51.25	158	P	P	20 55 52.9	+0.4
	baz=287,slow=7.8						
SNAA	Sanae	52.83	158	P	P	20 56 04.3	-0.1
QSPA	South Pole Qui	57.65	180	P	P	20 56 40.1	+0.8
	comp=Z,1.7nm,0.7s,baz=340,slow=15						
TXAR	Lajitas Array	68.59	330	P	P	20 57 53.0	+0.8
	comp=Z,0.2nm,0.6s,baz=155,slow=7,SNR=2.6						
KOWA	Kowa	79.89	66	P	P	20 58 58.5	+0.1
	comp=Z,1.1nm,0.6s,baz=207,slow=4.5,SNR=5.2						
TOA1	Torodi Ar. Sit	83.56	70	*e*P	P	20 59 18.1	+0.3
TORD	Torodi Ar. Bea	83.56	70	P	P	20 59 18.1	+0.3
	comp=Z,0.6nm,0.6s,baz=262,slow=2.9,SNR=5.6						
H11S2	WAKE ISLAND Hyl	25.96	270	T	T	23 24 50.7	
	baz=118,slow=75,SNR=87						
H11S1	WAKE ISLAND Hyl	25.97	270	T	T	23 24 51.3	
	baz=118,slow=75,SNR=119						
H11S3	WAKE ISLAND Hyl	25.97	270	T	T	23 24 57.1	
	baz=118,slow=75,SNR=89						
H11N3	WAKE ISLAND Hyl	26.33	272	T	T	23 25 15.1	
	baz=152,slow=74,SNR=19						
H11N2	WAKE ISLAND Hyl	26.35	272	T	T	23 25 19.0	
	baz=122,slow=74,SNR=41						
BVAR	Borovoye Array	146.12	42	PKPbc	PKPab	21 06 29.4	-0.2
	comp=Z,0.6nm,0.6s,baz=318,slow=2.0,SNR=6.8						
KURBB	Kurchatov Arra	151.71	42	PKPbc	PKPbc	21 06 43.6	+0.3
	comp=Z,1.0nm,0.6s,baz=304,slow=2.8,SNR=13						
KURK	Kurchatov	151.71	41	*e*PKPbc	PKPbc	21 06 43.6	+0.3
ZAA1	Zalesovo Array	152.93	31	*e*PKPbc	PKPbc	21 06 46.0	0.0
ZALV	Zalesovo Beam	152.93	31	PKPbc	PKPbc	21 06 46.0	0.0
	comp=Z,1.1nm,0.6s,baz=307,slow=2.3,SNR=6.1						
MK32	Makanchi Array	155.69	47	*e*PKPab	PKPab	21 07 09.4	+0.1
MKAR	Makanchi Array	155.69	47	PKPab	PKPab	21 07 09.4	+0.1
	comp=Z,0.3nm,0.6s,baz=302,slow=3.5,SNR=4.0						

*IDC **28** 20:49:38.8±1.6, 13.59N×91.49W, h0km, mb3.6/4, mb1 4.0/7, mb1mx3.7/44, mbtmp3.6/7, ML3.6/3, Error ellipse: s-maj=26.1km s-min=17.6km az=148.0*
*ISCJB **28** 20:49:39.4±0.9, 13.6N±0.1×91.58W±0.05, h10km, mb3.6/4, Error ellipse: s-maj=16.6km s-min=4.6km az=22.3*
*UCR **28** 20:49:42.8±1.2, 13.88N×91.50W, h24km±15km, ML3.8*
ISC 28 20:49:41.7±1.2, 13.8N±0.1×91.46W±0.07, h10km, n27, σ0°92/29, mb3.8/4, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IXG	Ixpaco	1.07	67	*e*P	Pg	20 50 01.9	-0.3
APG	El Apazote	1.58	38	Pn	Pn	20 50 11.7	+1.7
	59nm,0.3s,baz=208,slow=15,SNR=316						
APG				Lg	Lg	20 50 33.2	
	74nm,0.3s,baz=10,slow=22,SNR=6.8						
APG				LR	LR	20 50 58.1	
	comp=Z,327nm,20.4s,baz=275,slow=46						
SBLS	San Blas	1.79	87	*e*P	Pn	20 50 13.0	+0.1
SNJE	San Jose	1.81	86	*e*P	Pn	20 50 13.2	+0.1
COLS	Colinas	2.11	92	*e*P	Pn	20 50 16.9	-0.3
BOQS	Boqueron	2.12	90	*e*P	Pn	20 50 17.7	+0.3
BOQS				*e*S	Sn	20 50 44.6	+0.7
BOQS				AML	AML	20 50 50.3	
	comp=Z,1μm,0.5s						
MTO3	Montecristo	2.14	72	*e*P	Pn	20 50 18.1	+0.4
MTO3				IAML		20 50 51.9	
	comp=Z,244nm,0.5s						
UEES	San Salvador	2.16	90	*e*P	Pn	20 50 18.2	+0.4
UEES				*e*S	Sn	20 50 45

STKA	**Stephens Creek**	**27.68**	**156**	P		P	21 03 06.2	-1.1
	1.9nm,0.8s,baz=322,slow=13,SNR=3.9							
MKAR	**Makanchi Array**	**67.41**	**327**	P		P	21 08 15.0	+0.2
	0.1nm,0.4s,baz=117,slow=8.9,SNR=4.5							

IDC 28 21:04:06.0±7.9, 7°.62S×127°.99E, h170km±86km, mb2.9/1, mb1 3.5/4, mb1mx2.9/54, mbtmp3.8/4, Error ellipse: s-maj=84.3km s-min=26.5km az=37.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**4.99**	**239**	P	Pn	21 05 20.7	+1.0
	1.5nm,0.3s,baz=120,slow=20,SNR=6.2						
BATI				S	Sn	21 06 17.4	0.0
	3.8nm,0.3s,baz=129,slow=13,SNR=5.1						
WRA	**Warramunga Arr**	**13.70**	**154**	P	Pn	21 07 11.7	-1.8
	0.7nm,0.3s,baz=324,slow=13,SNR=7.8						
WRA				S	Sn	21 09 38.0	-7.8
	1.2nm,0.3s,baz=341,slow=22,SNR=11						
ASAR	**Alice Springs**	**16.93**	**161**	P	Pn	21 07 53.5	+0.5
	0.8nm,0.3s,baz=341,slow=11,SNR=26						
ASAR				S	S	21 10 56.2	-3.8
	0.3nm,0.3s,baz=342,slow=22,SNR=6.5						
MKAR	**Makanchi Array**	**67.67**	**328**	P	P	21 14 44.6	-0.1
	0.2nm,0.4s,baz=116,slow=7.4,SNR=5.0						

MOS ***28*** *21:04:20.4±1.6, 51°.93N×100°.48E, h10km, mb4.2/1, Error ellipse: s-maj=32.9km s-min=20.2km az=172.7*

BYKL 28 21:04:20.1±0.4, 51°.88N×100°.45E, h7km±4km, 2C-4D, Tuva-Buryatia-Mongolia border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MOY	**Mondy**	**0.40**	**122**	⇓*i* P	Pg	21 04 27.6	-0.3
MOY				*e* S	Sg	21 04 33.7	+0.6
MOY				Pmax			
	289nm,0.2s						
MOY				Smax			
	661nm,0.3s						
MOY	**Mondy**	**0.40**	**122**	⇓*i* PG	Pg	21 04 27.6	-0.3
MOY				*e*		21 04 33.7	
MOY				pmax	pmax		
	comp=Z,442nm,0.3s						
MOY				smax	smax		
	comp=N,1μm,1.2s						
ORL	**Orlik**	**0.77**	**329**	⇑*i* Pg	Pg	21 04 33.7	-1.2
ORL				*e* Sg	Sg	21 04 43.9	-1.0
ORL				Pmax			
	comp=N,43nm,0.1s						
ORL				Smax			
	comp=N,309nm,0.1s						
ARS	**Arshan**	**1.22**	**87**	*e* Pg	Pg	21 04 42.4	-1.1
ARS				*e* Pb	Pb	21 04 43.6	0.0
ARS				*e* Sg	Sg	21 04 59.1	-0.3
ARS				*e*		21 05 04.1	
ARS				max			
	comp=N,120nm,0.2s						
ARS				max			
	comp=N,899nm,0.3s						
ARS	**Arshan**	**1.22**	**87**	*e* PG	Pg	21 04 42.1	-1.4
ARS				*e*		21 04 59.7	
ARS				pmax	pmax		
	comp=Z,119nm,0.2s						
ARS				smax	smax		
	comp=E,932nm,0.5s						
TLY	**Talaya**	**1.99**	**94**	*e* Pn	Pn	21 04 53.1	-1.1
TLY				*e* Pg	Pb	21 04 55.3	-1.4
TLY				*e* Sn	Sn	21 05 19.3	-0.1
TLY				*e* Sg	Sb	21 05 22.4	+0.7
TLY				Pmax			
	comp=E,45nm,0.3s						
TLY				Smax			
	comp=E,124nm,0.3s						
TLY	**Talaya**	**1.99**	**94**	⇑*e* PN	Pb	21 04 55.7	-1.0
KNGR	**Kungurtug, Tuv**	**2.24**	**236**	*i* PN	Pn	21 04 58.9	+1.2
KNGR				*e* S	Sb	21 05 28.3	-0.7
ZAK	**Zakamensk**	**2.33**	**129**	*e* Pg	Pb	21 05 01.0	-1.5
ZAK				*e* Sg	Sb	21 05 32.1	+0.6
ZAK				Pmax			
	comp=E,33nm,0.2s						
ZAK				Smax			
	comp=E,104nm,0.7s						
IRK	**Irkutsk**	**2.39**	**80**	*e* Pg	Pb	21 05 02.6	-0.8
IRK				*e* Sg	Sb	21 05 33.2	+0.2
IRK				Pmax			
	comp=E,73nm,0.2s						
IRK				Smax			
	comp=E,537nm,0.3s						
IRK	**Irkutsk**	**2.39**	**80**	*e* PN	Pb	21 05 02.4	-1.0
IRK				*e*		21 05 32.6	
IRK				pmax	pmax		
	comp=Z,62nm,0.2s						
IRK				smax	smax		
	comp=N,536nm,0.4s						
IVK	**Ivanovka**	**2.46**	**90**	⇓*i* Pg	Pb	21 05 03.8	-0.8
IVK				*e* Sg	Sb	21 05 36.1	+1.0
IVK				Pmax			
	comp=N,26nm,0.3s						
IVK				Smax			
	comp=N,83nm,0.8s						
LSTR	**Listvyanka**	**2.72**	**89**	*e* Pg	Pb	21 05 07.8	-1.2
LSTR				*e* Sg	Sb	21 05 43.8	+1.3
LSTR				Pmax			
	comp=N,12nm,0.3s						
LSTR				Smax			
	comp=N,140nm,0.7s						
TRG	**Tyrgan**	**3.73**	**74**	*e* Pn	Pn	21 05 20.6	+2.6
TRG				*e* Pg	Pb	21 05 27.0	+0.8
TRG				*e*		21 06 04.6	
TRG				*e* Sg	Sb	21 06 15.1	+3.6
TRG				Pmax			
	comp=N,19nm,0.3s						
TRG				Smax			
	comp=N,83nm,0.3s						
HVS	**Khovu-Aksy**	**4.28**	**263**	*i* PN	Pb	21 05 34.6	-1.1
TRTB	**Turuntaevo**	**4.45**	**83**	*e* Pn	Pn	21 05 32.9	+5.0
TRTB				*e* Pg	Pb	21 05 39.2	+0.7
TRTB				*e*		21 06 23.2	
TRTB				*e* Sg	Sb	21 06 37.0	+4.8
TRTB				Pmax			
	comp=N,11nm,0.8s						
TRTB				Smax			
	comp=N,32nm,0.5s						
UUDB	**Ulan-Yde**	**4.47**	**87**	*e* Pg	Pb	21 05 40.8	+1.9
UUDB				*e* Sg	Sg	21 06 38.8	-4.7
UUDB				Pmax			
	comp=N,12nm,0.7s						
UUDB				Smax			
	comp=N,40nm,0.9s						
OGRR	**Ongureny**	**4.69**	**65**	*e* Pn	Pn	21 05 32.5	+1.3
OGRR				*e* Pg	Pb	21 05 43.9	+1.4
OGRR				*e*		21 05 46.9	
OGRR				*e*		21 06 26.2	
OGRR				*e* Sg	Sb	21 06 44.7	+5.6
OGRR				max			
	comp=N,10.0nm,0.3s						
OGRR				Smax			
	comp=N,102nm,0.5s						
OGRR	**Ongureny**	**4.69**	**65**	*e* PN	Pb	21 05 44.9	+2.4
OGRR				*e* S	Sn	21 06 24.5	-1.3
OGRR				*e*		21 06 42.8	
OGRR				pmax	pmax		
	comp=Z,10.0nm,0.3s						
OGRR				smax	smax		
	comp=N,110nm,1.0s						
ULN	**Ulaanbaatar**	**5.86**	**131**	*e* Sg	Sg	21 07 22.8	-5.4
SYVR	**Suvo**	**6.06**	**69**	*e* Pn	Pn	21 05 49.9	-0.2
SYVR				*e* Pg	Pb	21 06 09.2	+3.2
SYVR				*e* Sn	Sn	21 06 58.3	-1.4
SYVR				*e* Sg	Sg	21 07 27.1	-7.5
SYVR				Pmax			
	comp=N,2.0nm,0.4s						
SYVR				Smax			
	comp=N,30nm,1.0s						
NIZ	**Nizh Angarsk**	**6.64**	**50**	*e* Pn	Pn	21 05 59.8	+1.7
NIZ				*e* Sn	Sn	21 07 11.8	-2.2
NIZ				*e* Sg	Sg	21 07 45.8	-7.5
NIZ				Smax			
	comp=N,98nm,0.7s						
YLYR	**Ulyunkhan**	**7.08**	**61**	*e* Pn	Pn	21 06 05.8	+1.8
YLYR				*e* Pg	Pb	21 06 27.9	+4.7
YLYR				*e* Sn	Sn	21 07 22.7	-1.9
YLYR				*e* Sg	Sg	21 07 58.1	-8.9
YLYR				Pmax			
	comp=N,2.0nm,0.3s						
YLYR				Smax			
	comp=N,46nm,1.3s						
KPC	**Khapcheranga**	**7.87**	**101**	*e* Pn	Pn	21 06 15.2	+0.3
KPC				*e* Pg	Pb	21 06 41.0	+4.3
KPC				*e* Sg	Sg	21 08 24.0	-8.5
KPC				Pmax			
	comp=N,1.0nm,0.3s						
KPC				Smax			
	comp=N,11nm,1.5s						
UKT	**Uakit**	**8.61**	**60**	*e* Pn	Pn	21 06 26.8	+1.6
UKT				*e* Pg	Pg	21 06 55.7	-9.2
UKT				*e* Sn	Sn	21 07 58.5	-4.0
UKT				*e* Sg	Sg	21 08 46.8	-10
UKT				Pmax			
	comp=N,2.0nm,0.3s						
UKT				Smax			
	comp=N,11nm,1.1s						
TUP	**Tupik**	**11.98**	**70**	*e* Sg		21 10 30.8	
TUP				Smax			
	comp=N,8.0nm,1.4s						
KLR	**Kul'dur**	**19.98**	**85**	⇓*e* P	P	21 08 52.9	+0.1

MEX 28 21:05:22.6±0.9, 17°.82N×101°.36W, h41km±12km, MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ZIIG	**Zihuatanejo**	**0.23**	**205**	*e* P	Pn	21 05 28.5	-1.8
ZIIG				*e* S	Sn	21 05 34.2	-1.5
ARIG	**Puente Sto Nin**	**1.07**	**64**	*e* P	Pn	21 05 39.0	-2.2
ARIG				*e* S	Sn	21 05 52.1	-2.7
CAIG	**El Cayaco**	**1.30**	**126**	*e* P	Pn	21 05 42.2	-2.1
CAIG				*e* S	Sn	21 05 58.1	-2.3
MEIG	**Mezcala**	**1.66**	**86**	*e* P	Pn	21 05 48.5	-0.9
MEIG				*e* S	Sn	21 06 07.8	-1.8
ACP2	**Acapulco**	**1.69**	**123**	*e* P	Pn	21 05 43.0	-6.7
ACP2				*e* S	Sn	21 06 10.4	+0.2
ACX	**Acapulco**	**1.72**	**123**	*e* P	Pn	21 05 49.8	-0.3
ACX				*e* S	Sn	21 06 09.2	-1.6
PLIG	**Platanillo**	**1.86**	**72**	*e* P	Pn	21 05 50.9	-1.2
PLIG				*e* S	Sn	21 06 12.9	-1.5
MMIG	**Aquila**	**1.94**	**284**	*i* P	Pn	21 05 52.1	-1.0
MMIG				*i* S	Sn	21 06 15.5	-0.8
TLIG	**Tlapa**	**2.68**	**95**	*e* P	Pn	21 06 00.4	-3.0
TLIG				*i* S	Sn	21 06 38.1	+3.4

ISCJB ***28*** *21:14:23.0±0.8, 13°.0N±0°.1×143°.6E±0°.1, h150km, mb3.6/6, Error ellipse: s-maj=19.5km s-min=13.0km az=151.3*

IDC ***28*** *21:14:23.4±4.8, 12°.96N×143°.42E, h129km±70km, mb3.3/6, mb1 3.4/6, mb1mx3.1/64, mbtmp3.7/6, MS3.6/1, Ms1 3.6/1, ms1mx2.6/29, Error ellipse: s-maj=101.3km s-min=16.2km az=87.0*

ISC 28 21:14:24.6±1.1, 13°.0N±0°.2×143°.7E±0°.2, h150km, n8, σ0°69/8, mb3.6/6, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**1.31**	**62**	P	**Pn**	**21 14 51.9**	**-0.3**
	21nm,0.3s,baz=244,slow=12,SNR=18						
GUMO				S	**Sn**	**21 15 13.6**	**+0.3**
	23nm,0.3s,baz=43,slow=23,SNR=9.6						
WRA	**Warramunga Arr**	**33.98**	**196**	P	**P**	**21 20 53.7**	**-0.4**
	1.9nm,0.6s,baz=19,slow=9.6,SNR=22						
ASAR	**Alice Springs**	**37.65**	**195**	P	**P**	**21 21 25.7**	**+0.4**
	0.5nm,0.6s,baz=18,slow=12,SNR=11						
LEM	**Lembang**	**40.88**	**243**	LR	LR	21 41 12.6	
	comp=Z,68nm,18.1s,baz=262,slow=40						
MKAR	**Makanchi Array**	**61.14**	**316**	P	**P**	**21 24 22.4**	**-0.7**
	0.2nm,0.5s,baz=86,slow=9.9,SNR=3.5						
ZALV	**Zalesovo Beam**	**61.46**	**325**	P	**P**	**21 24 24.5**	**-0.6**
	0.6nm,0.6s,baz=91,slow=7.6,SNR=2.4						
KURBB	**Kurchatov Arra**	**64.35**	**320**	P	**P**	**21 24 45.1**	**+0.8**
	0.6nm,0.5s,baz=104,slow=6.7,SNR=7.6						
BVAR	**Borovoye Array**	**69.70**	**322**	P	**P**	**21 25 18.7**	**+0.7**
	0.5nm,0.5s,baz=94,slow=5.7,SNR=3.7						

IDC ***28*** *21:25:08.4±2.8, 31°.81N×115°.40W, h0km, mb3.5/3, mb1 3.8/5, mb1mx3.4/59, mbtmp3.5/5, ML4.6/1, MS2.8/2, Ms1 2.8/2, ms1mx2.6/37, Error ellipse: s-maj=58.7km s-min=13.2km az=39.0*

NEIC ***28*** *21:25:09.7±0.0, 32°.21N×115°.30W, h10km, ML4.1(PAS), ML4.2(ECX), After ECX.*

NEIC Felt at Mexicali and Reacomodo. Also felt at Calexico, El Centro, Imperial, Mountain Center, Ramona and San Diego, California.

MEX ***28*** *21:25:09.9±0.3, 32°.33N×115°.10W, h16km±53km, MD4.1*

ECX ***28*** *21:25:09.7±0.6, 32°.21N×115°.30W, h10km, MD4.0, ML4.0*

ISC 28 21:25:07.4±1.2, 32°.19N±0°.03×115°.32W±0°.02, h1km±9km, n87, σ1°75/101, mb3.7/4, 6C-7D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SGL	**Mount Signal**	**0.58**	**323**	⇓*i* P	**Pb**	**21 25 19.8**	**-0.5**
SLX	**San Luis R'>o**	**0.58**	**62**	⇑*e* P	**Pb**	**21 25 19.8**	**-0.7**
EMSC	**East Mesa**	**0.62**	**27**	⇑*e* P	**Pb**	**21 25 20.4**	**-0.7**
DREC	**Desert Rsrch C**	**0.63**	**350**	⇓*e* P	**Pb**	**21 25 20.9**	**-0.2**
WESC	**Westside Schoo**	**0.67**	**329**	⇓*e* P	**Pn**	**21 25 21.7**	**-2.3**
YUH	**Yuha Desert**	**0.69**	**312**	⇑*i* P	**Pb**	**21 25 21.7**	**-0.5**
COA	**Coachella**	**0.69**	**14**	*i* PS	**Pb**	**21 25 21.3**	**-1.0**
ECBX	**El Chinero**	**0.75**	**162**	⇓*e* P	**Pb**	**21 25 22.8**	**-0.4**
ECBX				*e* S	**Sb**	**21 25 33.5**	**-0.4**
ECBX				IAML		21 25 34.5	
	comp=E,12μm,0.2s						
ECBX				*e*		21 25 34.5	
RMX	**La Rumorosa**	**0.77**	**303**	*e* P	**Pb**	**21 25 22.3**	**-1.3**
RMX				*e* P	**Pg**	**21 25 22.4**	**+0.3**
RMX				*e* S	**Sg**	**21 25 31.7**	**-0.3**
RMX				IAML		21 25 33.2	
	comp=E,2μm,0.8s						
RMX				⇑*e*		21 25 34.0	
RMX				IAML		21 25 34.0	
	comp=E,6μm,0.4s						
IKP	**In-Ko-Pah, Jac**	**0.81**	**305**	P	**Pn**	**21 25 24.1**	**-2.0**
	baz=123,SNR=599						
IKP				S	**Sb**	**21 25 34.9**	**-1.0**
	baz=123						
IKP	**In-Ko-Pah, Jac**	**0.81**	**305**	⇓*e* P	**Pn**	**21 25 24.1**	**-2.0**
SWSC	**Sam W. Stewart**	**0.86**	**332**	P	**Pb**	**21 25 23.7**	**-1.4**
	baz=150,SNR=359						
SWSC				S	**Sb**	**21 25 36.0**	**-1.2**
	baz=150						
GLA	**Glamis**	**0.96**	**26**	P	**Pg**	**21 25 25.0**	**-0.8**
	baz=204						
GLA				S	**Sg**	**21 25 36.5**	**-1.7**
	baz=204						
GLA	**Glamis**	**0.96**	**26**	*e* Pg	**Pg**	**21 25 25.1**	**-0.7**
GLA				*e* Sg	**Sg**	**21 25 36.9**	**-1.3**
ZAX	**El Zacaton**	**1.05**	**231**	⇓*e* P	**Pn**	**21 25 28.6**	**-0.8**
SPIG	**San Pedro Mart**	**1.14**	**186**	*e* P	**Pn**	**21 25 30.2**	**-0.7**
SPIG				*e* S	**Sn**	**21 25 46.1**	**-1.1**
SPIG	**San Pedro Mart**	**1.14**	**186**	*e* P	**Pn**	**21 25 30.2**	**-0.7**
SPIG				*e* S	**Sn**	**21 25 46.1**	**-1.1**
SPIG	**San Pedro Mart**	**1.14**	**186**	⇓*e* P	**Pn**	**21 25 30.1**	**-0.7**
SPX	**San Pedro Mart**	**1.14**	**186**	*e* P	**Pn**	**21 25 30.0**	**-0.9**
SPX				*e* S	**Sn**	**21 25 45.7**	**-1.6**
SPX	**San Pedro Mart**	**1.14**	**186**	⇓*e* P	**Pn**	**21 25 30.2**	**-0.6**
CBX	**Cerro Bola**	**1.15**	**277**	*e* P	**Pn**	**21 25 30.0**	**-0.7**
CBX				*i* S	**Sn**	**21 25 45.8**	**-1.3**
CBX	**Cerro Bola**	**1.15**	**277**	*e* P	**Pn**	**21 25 30.0**	**-0.7**
CBX				*i* S	**Sn**	**21 25 45.8**	**-1.3**
CBX	**Cerro Bola**	**1.15**	**277**	⇑*e* P	**Pn**	**21 25 30.0**	**-0.7**
CBX				*e* S	**Sn**	**21 25 45.9**	**-1.2**
CBX				IAML		21 25 47.1	
	comp=E,6μm,0.5s						
MONP2	**Monument Peak**	**1.17**	**307**	P	**Pn**	**21 25 29.5**	**-1.5**
	baz=126,SNR=332						
MONP2				S	**Sn**	**21 25 45.3**	**-2.5**
	baz=126						
TJIG	**Tijuana**	**1.17**	**282**	*e* P	**Pn**	**21 25 30.0**	**-0.9**
TJIG				*e* S	**Sn**	**21 25 45.6**	**-2.0**
ECNX	**Esteban Cantu**	**1.21**	**244**	*e* P	**Pn**	**21 25 31.2**	**-0.3**
ECNX				*e* P	**Pg**	**21 25 30.9**	**+0.3**
BAR	**Barrett**	**1.25**	**294**	*e* Pn	**Pg**	**21 25 31.9**	**+0.6**
BAR				*e* Sn	**Sn**	**21 25 48.1**	**-1.3**
BAR	**Barrett**	**1.25**	**294**	*e* P	**Pg**	**21 25 31.1**	**-0.2**
PBX	**Punta Banda**	**1.27**	**250**	*e* P	**Pg**	**21 25 31.7**	**-0.2**
BC3	**Big Chuckawall**	**1.47**	**356**	P	**Pn**	**21 25 32.7**	**-2.4**
	baz=174,SNR=285						
109C	**Camp Elliot, M**	**1.66**	**295**	P	**Pb**	**21 25 37.1**	**-1.8**
	baz=114,SNR=100						
109C				Sb	**Sg**	**21 26 00.7**	**-0.2**
	baz=114						
Y12C	**Blythe**	**1.70**	**23**	P	**Pn**	**21 25 35.8**	**-2.3**
	baz=202,SNR=152						
XPFO	**Piæon Flat**	**1.71**	**326**	*e* Pn	**Pn**	**21 25 36.6**	**-1.9**
PFO	**Pinyon Flats O**	**1.71**	**326**	P	**Pn**	**21 25 36.4**	**-2.1**
	baz=145,SNR=76						
PFO	**Pinyon Flats O**	**1.71**	**326**	*e* Pn	**Pn**	**21 25 36.6**	**-1.9**
BELC	**Belle Mtn. Jos**	**1.90**	**343**	P	**Pn**	**21 25 39.2**	**-1.9**
	baz=161,SNR=39						
IRM	**Iron Mountain**	**1.97**	**4**	P	**Pn**	**21 25 40.0**	**-2.0**
	baz=183,SNR=85						
MURC	**Murrieta**	**2.12**	**312**	P	**Pn**	**21 25 42.7**	**-1.3**
	baz=131,SNR=49						
214A	**Organ Pipe Nat**	**2.14**	**95**	P	**Pn**	**21 25 42.0**	**-2.3**
	baz=277,SNR=95						
214A	**Organ Pipe Nat**	**2.14**	**95**	*e* Pn	**Pn**	**21 25 42.1**	**-2.2**
LDFC	**Landfair**	**2.89**	**3**	*e* Pn	**Pn**	**21 25 55.6**	**+0.9**
MWC	**Mount Wilson**	**3.07**	**312**	*e* Pn	**Pb**	**21 26 03.4**	**+0.5**
MWC				*e* Sn	**Sg**	**21 26 42.2**	**-3.8**
PASC	**Pasadena Art C**	**3.11**	**310**	*e* Pn	**Pg**	**21 26 05.2**	**-2.0**
GSC	**Goldstone, Bar**	**3.34**	**339**	*e* Pn	**Pb**	**21 26 06.1**	**-1.5**
OSI	**Osito Audit: C**	**3.74**	**311**	*e* Sg	**Sg**	**21 27 08.6**	**+1.1**
TUC	**Tucson**	**3.84**	**87**	*e* Pn	**Pn**	**21 26 05.4**	**-2.3**
SHPR	**Sheep Range**	**4.31**	**2**	*e* Pn	**Pn**	**21 26 15.0**	**+0.8**
ISA	**Isabella, Lake**	**4.35**	**324**	*e* Pg	**Pg**	**21 26 30.3**	**-0.5**
DAC	**Darwin (Calif)**	**4.50**	**336**	*e* Pg	**Pg**	**21 26 31.2**	**-2.4**
WUAZ	**Wupatki**	**4.67**	**44**	*e* Pn	**Pn**	**21 26 19.6**	**+0.4**
TPNV	**Topopah Spring**	**4.81**	**351**	*e* Pn	**Pn**	**21 26 23.6**	**+2.4**
LCMT	**Little Creek M**	**5.11**	**19**	*e* Pn	**Pn**	**21 26 25.6**	**+0.4**
KNB	**Kanab**	**5.24**	**22**	*e* Pn	**Pn**	**21 26 27.5**	**+0.5**
CCUT	**Cedar City**	**5.59**	**16**	*e* Pn	**Pn**	**21 26 34.3**	**+2.5**
PKCU	**Pink Cliffs**	**5.80**	**24**	*e* Pn	Pn	21 26 38.5	+3.7
MDPB	**Devils Postpil**	**6.25**	**331**	*e* Pg	**Pg**	**21 27 09.6**	**+2.4**
MDPB				*e* Sg	**Sg**	**21 28 31.4**	**+3.2**
MTPU	**Mount Pierson**	**6.38**	**23**	*e* Pn	Pn	21 26 48.8	+5.9
121A	**Cookes Peak, D**	**6.38**	**85**	*e* Pn	**Pn**	**21 26 41.8**	**-0.9**
	comp=E,33nm,0.6s						
121A				*e* Sg	**Sg**	**21 28 32.3**	**-0.2**
NV11	**Mina Array Sit**	**6.65**	**340**	*e* Pg	**Pg**	**21 27 18.2**	**+3.4**
NV01	**Mina Array Sit**	**6.69**	**339**	*e* Pg	**Pg**	**21 27 18.1**	**+2.4**
NVAR	**Mina Array Bea**	**6.69**	**339**	Pn	Pn	21 26 52.3	+5.3
	baz=164,slow=14,SNR=2.8						
NVAR				LR	LR	21 28 44.6	
	comp=E,41nm,20.6s,baz=272,slow=31						
NVAR				Lg	Lg	21 28 49.7	
	baz=160,slow=30,SNR=2.1						
MSU	**Marysvale**	**6.81**	**21**	*e* Pn	Pn	21 26 53.2	+4.5
RYN	**Ryan**	**6.94**	**339**	*e* Pg	**Pg**	**21 27 24.3**	**+3.9**
CMB	**Columbia Colle**	**7.16**	**326**	*e* Pg	**Pg**	**21 27 26.9**	**+2.3**
LAZ	**Ladron**	**7.20**	**70**	*e* Pn	**Pn**	**21 26 54.2**	**+0.3**
MVCO	**Mesa Verde**	**7.53**	**46**	*e* Pn	**Pn**	**21 27 00.5**	**+2.0**
BNM	**Barren Site**	**7.54**	**73**	*e* Pn	**Pn**	**21 26 58.8**	**0.0**
LPM	**Los Pinos Moun**	**7.58**	**71**	*e* Pn	**Pn**	**21 26 59.1**	**-0.1**
PV05	**Paradox Valley**	**7.78**	**39**	*e* Pn	Pn	21 27 06.7	+4.8
PV05				*e* Pg	**Pg**	**21 27 35.4**	**-1.1**
ANMO	**Albuquerque**	**7.89**	**67**	*e* Pn	**Pn**	**21 27 04.3**	**+0.8**
PV10	**Paradox Valley**	**8.03**	**38**	*e* Pn	**Pn**	**21 27 08.5**	**+3.1**
PV09	**Paradox Valley**	**8.07**	**37**	*e* Pn	**Pn**	**21 27 08.9**	**+2.8**
PV01	**Paradox Valley**	**8.11**	**41**	*e* Pn	Pn	21 27 11.4	+5.0
PV04	**Paradox Valley**	**8.11**	**38**	*e* Pn	**Pn**	**21 27 08.9**	**+2.4**
PV04				*e* Sg	**Sg**	**21 29 25.6**	**-2.3**
MNTX	**Cornudas Mount**	**8.46**	**91**	*e* Pn	**Pn**	**21 27 10.7**	**-0.4**
SMCO	**Snowmass**	**9.73**	**42**	*e* Pn	**Pn**	**21 27 32.1**	**+3.3**
TX31	**Lajitas Ar. Si**	**10.42**	**103**	*e* Pn	**Pn**	**21 27 40.1**	**+2.1**
TXAR	**Lajitas Array**	**10.42**	**103**	Pn	**Pn**	**21 27 39.9**	**+1.9**
	comp=E,1.1nm,0.3s,baz=288,slow=13,SNR=44						
TXAR				Lg	Lg	21 30 39.2	
	comp=E,0.1nm,0.3s,baz=272,slow=30,SNR=3.1						
TXAR				LR	LR	21 31 53.9	
	comp=E,102nm,21.6s,baz=0.0,slow=39						
ISCO	**Idaho Springs**	**10.93**	**43**	*e* Pn	**Pn**	**21 27 48.6**	**+3.4**
PHWY	**Pilot Hill**	**12.05**	**38**	*e* Sn	**Sn**	**21 30 14.9**	**-0.7**
NEW	**Newport**	**16.12**	**356**	*e* Pn	**P**	**21 29 03.4**	**+4.8**
	comp=E,7.2nm,0.9s						
MIAR	**Mount Ida**	**18.31**	**77**	Pn	**P**	**21 29 22.9**	**0.0**
	comp=E,1.0nm,0.6s						
YKA	**Yellowknife Ar**	**30.33**	**1**	P	P	21 31 24.6	+4.4
	comp=E,0.1nm,0.6s,baz=183,slow=8.6,SNR=4.4						
ILAR	**Eielson Array**	**37.95**	**339**	P	P	21 32 30.2	+4.1
	comp=E,0.4nm,0.7s,baz=148,slow=8.0,SNR=5.9						
FINES	**FINESS Array B**	**81.58**	**18**	P	P	21 37 30.7	+4.2
	comp=E,1.3nm,0.8s,baz=325,slow=7.0,SNR=4.7						
HHC	**Hu-ho-hao-te**	**95.41**	**326**	*e* P	**P**	**21 38 33.3**	**-0.5**
HHC				pmax	pmax		
	comp=Z,8.0nm,1.5s						
HHC				pmax	pmax		
	comp=Z,10.0nm,8.6s						
WMQ	**Urumqi**	**101.49**	**343**	*e* P	**Pdif**	**21 39 03.0**	**+2.0**

IDC ***28*** *21:36:42.5±1.2, 25°.40N×142°.22E, h0km, mb3.6/6, mb1 3.8/6, mb1mx3.3/68, mbtmp3.6/6, MS3.5/1, Ms1 3.5/1, ms1mx2.6/52, Error ellipse: s-maj=47.7km s-min=21.1km az=92.0*

ISCJB ***28*** *21:36:46.1±1.1, 25°.30N±0°.09×142°.1E±0°.3, h38km, mb3.6/6, MS3.5/1, Error ellipse: s-maj=44.5km s-min=12.0km az=5.5*

ISC 28 21:36:47.8±1.3, 25°.4N±0°.1×142°.3E±0°.4, h38km, n8, σ1°25/8, mb3.6/6, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**1.72**	**357**	Pn	**Pn**	**21 37 13.6**	**-1.7**
	41nm,0.3s,baz=114,slow=20,SNR=40						
JCJ				Sn	**Sn**	**21 37 38.0**	**+2.0**
	76nm,0.3s,baz=252,

comp=Z,362nm,18.5s,baz=346,slow=34
STKA Stephens Creek 27.63 237 P **P** **21 50 25.8 +0.6**
1.9nm,0.6s,baz=78,slow=11,SNR=6.5
WRAB Tennant Creek 32.47 263 P **P** **21 51 07.7 -0.4**
0.8nm,0.5s
WRA Warramunga Arr 32.48 263 P **P** **21 51 08.0 -0.3**
1.7nm,0.6s,baz=87,slow=8.4,SNR=27
ASAR Alice Springs 32.79 256 P **P** **21 51 11.3 +0.3**
10nm,0.7s,baz=84,slow=8.8,SNR=116
GUMO Guam 40.06 322 LR LR 22 06 58.8
comp=Z,47nm,18.6s,baz=96,slow=34
MBWA Marble Bar 46.00 259 P **P** **21 53 01.7 +0.5**
8.0nm,0.7s
VNDA Vanda 58.66 182 LR LR 22 16 27.1
comp=Z,132nm,18.2s,baz=95,slow=32
JNU Nakatsue 63.23 325 LR LR 22 19 07.0
comp=Z,41nm,21.0s,baz=24,slow=33
KSRS Korea Array 68.08 326 LR LR 22 21 32.9
comp=Z,16nm,20.9s,baz=90,slow=33
CMAR Chiang Mai Arr 78.03 294 P **P** **21 56 37.8 +1.2**
0.6nm,0.9s,baz=111,slow=2.6,SNR=4.4
SONM Songino Array 86.78 323 P **P** **21 57 21.9 +0.1**
0.8nm,0.7s,baz=125,slow=5.7,SNR=4.9
SNAA Sanae 89.38 183 P **P** **21 57 33.5 -0.4**
VNA3 Neumayer Olymp 89.99 180 P **P** **21 57 36.4 -0.3**
VNA2 Neumayer--Watz 90.28 181 P **P** **21 57 38.0 0.0**
baz=136,slow=2.7

IDC ***28*** *21:48:00.0±7.1, 17°.44S×178°.61W, h518km±79km, mb3.0/6, mb1 3.3/6, mb1mx2.9/46, mbtmp3.9/6, Error ellipse: s-maj=85.0km s-min=29.4km az=153.0*
ISCJB ***28*** *21:48:02.8±1.4, 17°.2S±0°.6×178°.9W±0°.4, h547km, mb3.4/6, Error ellipse: s-maj=88.4km s-min=18.3km az=149.4*
ISC 28 21:48:03.5±1.4, 17°.3S±0°.5×178°.8W±0°.3, h547km, n10, σ0s62/11, mb3.2/6, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.60**	**240**	P		**P**	**P**	**21 54 39.6**	**-0.6**
	1.7nm,0.5s,baz=75,slow=10.0,SNR=7.6								
WRA	**Warramunga Arr**	**44.37**	**259**	P		**P**	**P**	**21 55 26.2**	**+0.3**
	0.5nm,0.5s,baz=93,slow=8.2,SNR=11								
ASAR	**Alice Springs**	**44.60**	**254**	P		**P**	**P**	**21 55 28.5**	**+0.9**
	7.9nm,0.5s,baz=88,slow=8.3,SNR=74								
ASAR				PcP			**PcP**	**21 56 58.5**	**-0.2**
	0.3nm,0.5s,baz=98,slow=4.0,SNR=3.4								
ILAR	**Eielson Array**	**85.35**	**13**	P		**P**	**P**	**21 59 42.2**	**-0.5**
	0.2nm,0.5s,baz=214,slow=5.1,SNR=3.7								
TXAR	**Lajitas Array**	**85.98**	**58**	P		**P**	**P**	**21 59 46.8**	**+0.2**
	0.2nm,0.6s,baz=238,slow=4.4,SNR=3.8								
PDAR	**Pinedale Array**	**87.15**	**44**	P		**P**	**P**	**21 59 52.2**	**+0.2**
	0.1nm,0.3s,baz=216,slow=4.3,SNR=2.7								
MKAR	**Makanchi Array**	**108.41**	**314**	PKiKP		**PKiKP**	**PKiKP**	**22 05 29.0**	**-1.1**
	0.1nm,0.5s,baz=111,slow=2.8,SNR=2.5								
BRTR	**Keskin Array B**	**144.06**	**315**	PKP		**PKPdf**	**PKPdf**	**22 06 38.0**	**+0.6**
	0.4nm,0.6s,baz=92,slow=3.7,SNR=3.7								
MMAI	**Mount Meron Ar**	**145.47**	**304**	PKPbc		**PKPab**	**PKPab**	**22 06 42.8**	**+0.1**
	1.0nm,0.7s,baz=75,slow=7.6,SNR=3.5								
GERES	**GERESS Array B**	**146.89**	**345**	PKPbc		**PKPbc**	**PKPbc**	**22 06 45.1**	**+0.3**
	0.4nm,0.4s,baz=80,slow=1.5,SNR=5.0								

CSEM ***28*** *22:13:58.3±0.4, 41°.14N×20°.29E, h2km, ML2.7, Error ellipse: s-maj=12.1km s-min=6.7km az=58.0*
SKO ***28*** *22:13:58.1, 41°.07N×20°.14E, h4km*
ATH ***28*** *22:13:59.2, 41°.07N×20°.33E, h9km±4km, ML1.6/3, Error ellipse: s-maj=6.8km s-min=2.0km az=151.0*
TIR ***28*** *22:14:04.5, 41°.07N×20°.19E, h11km, Md2.7/5*
ISC 28 22:13:57.9±1.1, 41°.11N±0°.03×20°.26E±0°.05, h10km±12km, n24, σ0s87/38, 2C, Albania

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.38**	**308**	*i* Pg		**Pg**	**Pg**	**22 14 04.5**	**-1.0**
	baz=319								
TIR				*i* Sg		**Sg**	**Sg**	**22 14 11.3**	**+0.8**
	baz=319								
TIR	**Tirane**	**0.38**	**308**	*i* PG		**Pg**	**Pg**	**22 14 04.5**	**-1.0**
TIR				*i* SG		**Sg**	**Sg**	**22 14 11.3**	**+0.8**
OHR	**Ohrid**	**0.41**	**90**	*i* Pg		**Pb**	**Pb**	**22 14 07.5**	**+0.3**
OHR				*i* Sg		**Sb**	**Sb**	**22 14 14.6**	**+1.1**
PHP	**Peshkopia**	**0.59**	**13**	*i* Pg		**Pb**	**Pb**	**22 14 10.3**	**-0.1**
	baz=134								
PHP	**Peshkopia**	**0.59**	**13**	*i* PG		**Pb**	**Pb**	**22 14 10.3**	**0.0**
PHP				*i* SG		**Sn**	**Sn**	**22 14 21.6**	**-0.6**
KBN	**Korca**	**0.63**	**141**	*i* Pg		**Pg**	**Pg**	**22 14 09.7**	**-0.4**
	baz=17								
KBN				*i* Sg		**Sb**	**Sb**	**22 14 19.8**	**-0.1**
	baz=17								
KBN	**Korca**	**0.63**	**141**	*i* PG		**Pg**	**Pg**	**22 14 09.7**	**-0.4**
KBN				*i* SG		**Sb**	**Sb**	**22 14 19.8**	**-0.1**
KRUS	**Krusevo**	**0.79**	**71**	*i* Pg		**Pb**	**Pb**	**22 14 13.7**	**-0.1**
KRUS				*i* Sg		**Sn**	**Sn**	**22 14 26.7**	**-0.4**
FNA	**Florina**	**0.90**	**111**	P		**Pb**	**Pb**	**22 14 15.6**	**-0.1**
FNA				S		**Sb**	**Sb**	**22 14 27.9**	**+0.1**
FNA				AML		AML	AML	22 14 33.7	
	comp=N,102μm,0.4s								
FNA				AML		AML	AML	22 14 40.8	
	comp=E,118μm,0.4s								
FNA	**Florina**	**0.90**	**111**	P		**Pb**	**Pb**	**22 14 15.5**	**-0.2**
FNA				S		**Sb**	**Sb**	**22 14 27.6**	**-0.3**
NEST	**Nestorio**	**0.92**	**139**	P		**Pb**	**Pb**	**22 14 15.9**	**-0.1**
NEST	**Nestorio**	**0.92**	**139**	P		**Pb**	**Pb**	**22 14 15.7**	**-0.3**
PUK	**Puka**	**0.97**	**343**	*i* Pg		**Pg**	**Pg**	**22 14 16.3**	**-0.3**
	baz=348								
PUK	**Puka**	**0.97**	**343**	*i* PG		**Pg**	**Pg**	**22 14 16.3**	**-0.3**
PUK				*i* SG		**Sn**	**Sn**	**22 14 32.6**	**+0.9**
PENT	**Pentalofos**	**1.13**	**144**	P		**Pb**	**Pb**	**22 14 18.2**	**-1.4**
PENT	**Pentalofos**	**1.13**	**144**	P		**Pb**	**Pb**	**22 14 18.8**	**-0.8**
KEK	**Kerkira**	**1.44**	**194**	P		**Pg**	**Pg**	**22 14 25.4**	**-0.2**
KEK				S		**Sg**	**Sg**	**22 14 46.9**	**+2.7**
KEK				AML		AML	AML	22 14 50.5	
	comp=E,30μm,0.6s								
KEK				AML		AML	AML	22 14 55.1	
	comp=N,45μm,0.8s								
KEK	**Kerkira**	**1.44**	**194**	P		**Pg**	**Pg**	**22 14 25.6**	**0.0**
KEK				S		**Sg**	**Sg**	**22 14 46.1**	**+1.8**
SGD	**Sagiada**	**1.50**	**181**	P		**Pg**	**Pg**	**22 14 26.7**	**+0.1**
SGD	**Sagiada**	**1.50**	**181**	P		**Pg**	**Pg**	**22 14 26.7**	**+0.1**
IGT	**Igoumenitsa**	**1.58**	**178**	P		**Pg**	**Pg**	**22 14 28.8**	**+0.6**
IGT				S		**Sg**	**Sg**	**22 14 48.2**	**-0.5**
IGT				AML		AML	AML	22 14 53.7	
	comp=N,28μm,0.6s								
IGT				AML		AML	AML	22 14 55.0	
	comp=E,31μm,0.6s								
IGT	**Igoumenitsa**	**1.58**	**178**	P		**Pg**	**Pg**	**22 14 28.4**	**+0.2**
IGT				S		**Sg**	**Sg**	**22 14 48.7**	**+0.1**
AGG	**Agios Georgios**	**2.62**	**142**	P		**Pb**	**Pb**	**22 14 43.4**	**-1.6**
AGG	**Agios Georgios**	**2.62**	**142**	P		**Pb**	**Pb**	**22 14 43.4**	**-1.6**

MEX 28 22:25:34.2±0.4, 16°.47N×98°.52W, h20km, MD4.0, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.39**	**102**	*e*P		Pb	22 25 41.1	-1.2
PNIG				*e*S		Sb	22 25 46.3	-1.6
TLIG	**Tlapa**	**1.08**	**358**	*e*P		Pb	22 25 51.0	-3.4
TLIG				*e*S		Sb	22 26 03.9	-4.2
VHO	**Vista Hermosa**	**1.81**	**71**	*e*P		Pn	22 26 03.6	-0.9

NIED ***28*** *22:44:00, 39°.10N×142°.40E, h32km, Mw3.3 Best double couple: M0 1.09000×10^14 NP1:φs=333.00000°, δ9.00000°, λ-116.00000°. NP2:φs=179.00000°, δ82.00000°, λ-86.00000°.*
JMA ***28*** *22:44:41.0±0.1, 39°.09N×142°.39E, h33km±1km, M3.6*
JMA Felt I J1.
IDC ***28*** *22:44:45.2±2.6, 39°.07N×142°.30E, h63km±23km, mb3.2/8, mb1 3.4/11, mb1mx3.2/75, mbtmp3.5/11, ML2.7/3, Error ellipse: s-maj=27.1km s-min=16.0km az=106.0*
ISC 28 22:44:40.8±1.9, 39°.05N±0°.04×142°.37E±0°.08, h23km±12km, n27, σ1s29/32, mb3.6/8, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**0.55**	**274**	P		**Pb**	**Pb**	**22 44 52.4**	**+0.6**
OFUJ				S		**Sb**	**Sb**	**22 45 00.1**	**+0.9**
MIYJ	**Miyakonagasawa**	**0.68**	**321**	P		**Pb**	**Pb**	**22 44 53.6**	**-0.4**
MIYJ				S		**Sb**	**Sb**	**22 45 02.5**	**-0.5**
JMK	**Ichinoseki**	**0.90**	**264**	P		**Pb**	**Pb**	**22 44 57.7**	**-0.1**
JMK				S		**Sb**	**Sb**	**22 45 09.7**	**+0.4**
JOM	**Ohasama**	**0.94**	**297**	P		**Pb**	**Pb**	**22 44 58.2**	**-0.2**
JOM				S		**Sb**	**Sb**	**22 45 10.4**	**0.0**
JTH	**Tanohata**	**0.97**	**336**	P		**Pb**	**Pb**	**22 44 57.7**	**-1.3**
JTH				*e*S		**Sb**	**Sb**	**22 45 11.1**	**-0.3**
JIO	**Ouri**	**0.99**	**234**	P		**Pb**	**Pb**	**22 44 58.7**	**-0.6**
JIO				S		**Sb**	**Sb**	**22 45 10.9**	**-1.1**
JKZ	**Kuzumaki**	**1.23**	**320**	P		**Pn**	**Pn**	**22 45 02.5**	**-0.2**
JKZ				*e*S		**Sb**	**Sb**	**22 45 18.0**	**-1.0**
JRG	**Rokugo**	**1.39**	**285**	P		**Pn**	**Pn**	**22 45 05.3**	**+0.5**
JRG				S		**Sn**	**Sn**	**22 45 22.6**	**+0.1**
JANG	**Nango**	**1.48**	**334**	P		**Pn**	**Pn**	**22 45 05.6**	**-0.4**
JANG				S		**Sn**	**Sn**	**22 45 24.4**	**-0.2**
JOU	**Okura**	**1.50**	**243**	P		**Pn**	**Pn**	**22 45 06.7**	**+0.4**
JOU				S		**Sn**	**Sn**	**22 45 26.3**	**+1.2**
MJAR	**Matsushiro Arr**	**4.14**	**234**	P		**Pn**	**Pn**	**22 45 45.3**	**+2.7**
	1.0nm,0.3s,baz=41,slow=11,SNR=30								
MJAR				S		Sn	Sn	22 46 15.8	-14
	0.8nm,0.3s,baz=178,slow=12,SNR=7.3								
ASAJ	**Asahikawa**	**5.07**	**2**	P		**Pn**	**Pn**	**22 45 57.6**	**+2.3**
	0.4nm,0.3s,baz=93,slow=18,SNR=2.6								
ASAJ				S			**Sn**	**22 46 55.5**	**+2.5**
	0.6nm,0.3s,baz=223,slow=19,SNR=2.7								
USRK	**Ussuriysk Ar.**	**9.32**	**307**	P		**Pn**	**Pn**	**22 46 57.6**	**+4.0**
	0.1nm,0.3s,baz=140,slow=43,SNR=3.6								
H11N2	**WAKE ISLAND Hy 28.61**	**125**		T		T	T	23 20 56.5	
	baz=318,slow=75,SNR=64								
H11N1	**WAKE ISLAND Hy 28.62**	**125**		T		T	T	23 21 00.1	
	baz=318,slow=75,SNR=53								
H11N3	**WAKE ISLAND Hy 28.63**	**125**		T		T	T	23 21 01.5	
	baz=318,slow=75,SNR=77								
H11S1	**WAKE ISLAND Hy 29.40**	**127**		T		T	T	23 22 03.0	
	baz=319,slow=76,SNR=10								
H11S3	**WAKE ISLAND Hy 29.40**	**127**		T		T	T	23 22 04.5	
	baz=319,slow=76,SNR=16								
H11S2	**WAKE ISLAND Hy 29.41**	**127**		T		T	T	23 22 03.5	
	baz=319,slow=76,SNR=12								
MKAR	**Makanchi Array**	**43.72**	**300**	P		**P**	**P**	**22 52 43.7**	**-0.3**
	0.5nm,0.9s,baz=84,slow=10,SNR=5.8								
KURBB	**Kurchatov Arra**	**45.38**	**307**	P		**P**	**P**	**22 52 56.3**	**-0.9**
	0.8nm,0.5s,baz=79,slow=8.5,SNR=6.5								
ILAR	**Eielson Array**	**47.39**	**33**	P		**P**	**P**	**22 53 12.8**	**0.0**
	0.3nm,0.6s,baz=268,slow=6.3,SNR=5.8								
BVAR	**Borovoye Array**	**49.80**	**311**	P		**P**	**P**	**22 53 30.9**	**-0.5**
	0.3nm,0.5s,baz=80,slow=8.0,SNR=3.2								
WRA	**Warramunga Arr**	**59.16**	**189**	P		**P**	**P**	**22 54 38.7**	**-1.0**
	0.5nm,1.1s,baz=67,slow=22,SNR=3.0								
ASAR	**Alice Springs**	**62.89**	**189**	P		**P**	**P**	**22 55 05.2**	**+0.1**
	0.4nm,1.0s,baz=3.7,slow=7.1,SNR=3.3								
FINES	**FINESS Array B**	**67.39**	**332**	P		**P**	**P**	**22 55 32.4**	**-1.4**
	0.9nm,0.8s,baz=45,slow=6.1,SNR=3.5								
TXAR	**Lajitas Array**	**88.30**	**53**	P		**P**	**P**	**22 57 31.1**	**+0.4**
	0.2nm,0.6s,baz=330,slow=5.7,SNR=3.5								

ISCJB ***28*** *22:54:44.2±0.9, 21°.0S±0°.2×170°.38E±0°.08, h100km, mb4.0/7, Error ellipse: s-maj=22.6km s-min=11.2km az=179.3*
NEIC ***28*** *22:54:46.5±2.1, 21°.03S×170°.36E, h110km±18km, mb4.2/2, Error ellipse: s-maj=33.5km s-min=13.4km az=197.0*
IDC ***28*** *22:54:47.8±7.6, 21°.23S×170°.31E, h119km±43km, mb3.8/5, mb1 4.0/5, mb1mx3.5/39, mbtmp4.1/5, MS3.4/7, Ms1 3.5/7, ms1mx3.1/41, Error ellipse: s-maj=118.4km s-min=48.9km az=148.0*
ISC 28 22:54:45.6±1.2, 21°.0S±0°.2×170°.4E±0°.1, h100km, n16, σ0s92/10, mb4.1/7, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.83**	**253**	P		**P**	**Pn**	**22 55 43.6**	**+1.0**
	1.3nm,0.3s,baz=115,slow=14,SNR=46								
DZM				S			**Sn**	**22 56 26.6**	**-0.3**
	11nm,0.3s,baz=299,slow=23,SNR=8.6								
RAO	**Raoul Island**	**13.42**	**130**	Pn		Pn	**Pn**	**22 57 52.0**	**0.0**
AFI	**Afiamalu**	**18.40**	**70**	LR		LR	LR	23 04 59.4	
	comp=Z,54nm,19.0s,baz=192,slow=33								
CTA	**Charters Tower**	**22.61**	**268**	P		**P**	**P**	**22 59 37.4**	**-0.9**
	7.9nm,1.0s,baz=89,slow=14,SNR=4.7								
TAU	**Tasmania Unive**	**29.18**	**216**	P		**P**	**P**	**23 00 37.3**	**-0.2**
	7.4nm,1.0s								
WRAB	**Tennant Creek**	**33.74**	**265**	*e*P		**P**	**P**	**23 01 17.8**	**0.0**
	2.1nm,0.7s								
WRA	**Warramunga Arr**	**33.75**	**265**	P		**P**	**P**	**23 01 16.2**	**-1.7**
	0.2nm,0.3s,baz=103,slow=8.9,SNR=4.6								
ASAR	**Alice Springs**	**33.80**	**259**	P		**P**	**P**	**23 01 18.4**	**0.0**
	6.2nm,0.8s,baz=82,slow=8.9,SNR=40								
GUMO	**Guam**	**42.52**	**322**	LR		LR	LR	23 17 56.6	
	comp=Z,45nm,21.9s,baz=105,slow=32								
NWAO	**Narrogin (SRO)**	**48.41**	**244**	LR		LR	LR	23 23 22.9	
	comp=Z,128nm,19.3s,baz=15,slow=36								
VNDA	**Vanda**	**56.76**	**182**	LR		LR	LR	23 25 00.9	
	comp=Z,98nm,18.1s,baz=130,slow=32								
JNU	**Nakatsue**	**65.69**	**324**	LR		LR	LR	23 34 25.7	
	comp=Z,17nm,18.1s,baz=243,slow=36								
KSRS	**Korea Array**	**70.53**	**325**	LR		LR	LR	23 34 26.6	
	comp=Z,13nm,19.5s,baz=170,slow=34								
PETK	**Petropavlovsk-**	**74.58**	**352**	LR		LR	LR	23 33 10.0	
	comp=Z,26nm,20.3s,baz=150,slow=31								
CMAR	**Chiang Mai Arr**	**80.19**	**294**	P		**P**	**P**	**23 06 46.5**	**+1.1**
	0.5nm,0.3s,baz=113,slow=6.8,SNR=3.3								
SONM	**Songino Array**	**89.24**	**323**	P		**P**	**P**	**23 07 30.1**	**-0.3**
	1.6nm,1.0s,baz=139,slow=4.9,SNR=5.6								

ISCJB ***28*** *23:05:04.2±1.1, 7°.22S±0°.10×119°.50E±0°.07, h250km, mb3.2/2, Error ellipse: s-maj=14.1km s-min=9.4km az=19.0*
DJA ***28*** *23:05:07.5±0.9, 7°S±10°×11°9E±°, h242km±8km, M3.5/7, MLv3.5/7*
IDC ***28*** *23:05:07.1±5.5, 7°.34S×119°.65E, h278km±51km, mb2.7/2, mb1 2.9/4, mb1mx2.6/56, mbtmp3.5/4, Error ellipse: s-maj=167.0km s-min=22.1km az=57.0*
ISC 28 23:05:05.3±1.3, 7°.3S±0°.1×119°.46E±0°.08, h250km, n8, σ1s25/12, Flores Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PLAI	**Plampang**	**2.24**	**228**	P		P	**Pn**	**23 05 50.9**	**+0.9**
PLAI				S		S	**S**	**23 06 25.6**	**+0.3**
WBSI	**Waikabubak, Su**	**2.31**	**182**	P		P	**Pn**	**23 05 51.5**	**+0.7**
WBSI				S		S	**S**	**23 06 26.4**	**-0.3**
TWSI	**Taliwang, Sumb**	**2.91**	**241**	P		P	**Pn**	**23 05 58.2**	**+1.3**
BASI	**Baing, Sumba**	**3.09**	**159**	P		P	**Pn**	**23 05 59.8**	**+1.0**
BASI				S		S	**S**	**23 06 41.0**	**-0.2**
BATI	**Baumata**	**5.05**	**125**	P		P	**Pn**	**23 06 24.1**	**+2.3**
	6.9nm,0.3s,baz=311,slow=16,SNR=10								
BATI				S			**S**	**23 07 22.1**	**-0.7**
	5.3nm,0.3s,baz=301,slow=19,SNR=3.1								
WRA	**Warramunga Arr**	**19.13**	**132**	P		**P**	**P**	**23 09 09.2**	**-1.0**
	0.2nm,0.3s,baz=304,slow=12,SNR=7.4								
ASAR	**Alice Springs**	**21.37**	**141**	P		**P**	**P**	**23 09 31.9**	**-1.7**
	0.3nm,0.3s,baz=315,slow=6.8,SNR=11								
MKAR	**Makanchi Array**	**63.18**	**332**	P		**P**	**P**	**23 15 06.4**	**-0.5**
	0.2nm,0.3s,baz=129,slow=5.7,SNR=3.8								

MDD ***28*** *23:15:32.5±5.1, 35°.82N×10°.21W, h50km±148km, mb3.8/2, Error ellipse: s-maj=52.0km s-min=17.8km az=39.0, PRXIMO*
INMG ***28*** *23:15:33.3±0.9, 35°.91N×10°.04W, h10km, ML1.5, Error ellipse: s-maj=5.3km s-min=4.3km az=96.0*
CSEM ***28*** *23:15:34.1±0.3, 36°.01N×9°.97W, h20km, ML1.5, Error ellipse: s-maj=6.0km s-min=5.3km az=92.0*
ISC 28 23:15:33.6±4.1, 36°.0N±0°.1×10°.0W±0°.1, h27km±20km, n57, σ0s77/99, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PFVI	**Vila Bisbo**	**1.51**	**39**	*e*Pn		**Pn**	**Pn**	**23 15 59.4**	**+0.5**
PFVI				*e*Sn		**Sb**	**Sb**	**23 16 19.4**	**-0.3**
PFVI	**Vila Bisbo**	**1.51**	**39**	P		**Pn**	**Pn**	**23 15 59.1**	**+0.3**
	1.7nm,0.1s,SNR=7.9								
PFVI				S			**Sb**	**23 16 19.6**	**-0.1**
	6.4nm,0.2s,SNR=7.9								
PFVI	**Vila Bisbo**	**1.51**	**39**	P		**Pn**	**Pn**	**23 15 59.1**	**+0.3**
	1.7nm,0.1s,SNR=7.9								
PFVI	**Vila Bisbo**	**1.51**	**39**	*e*Pn		**Pn**	**Pn**	**23 15 59.4**	**+0.5**
PFVI				*e*Sn		**Sb**	**Sb**	**23 16 19.4**	**-0.3**
MORF	**Marmelete**	**1.73**	**39**	*e*Pn		**Pn**	**Pn**	**23 16 02.4**	**+0.4**
MORF				*e*Sn		**Sn**	**Sn**	**23 16 24.3**	**+1.1**
	3.2nm,0.1s								
MORF	**Marmelete**	**1.73**	**39**	P		**Pn**	**Pn**	**23 16 02.4**	**+0.4**
MORF				S		**Sn**	**Sn**	**23 16 24.3**	**+1.1**
	3.2nm,0.1s								
PTEO	**Sao Teotonio**	**1.89**	**33**	*e*Pn		**Pn**	**Pn**	**23 16 04.6**	**+0.5**
PTEO				*e*Sn		**Sn**	**Sn**	**23 16 28.1**	**+1.1**
PTEO	**Sao Teotonio**	**1.89**	**33**	P		**Pn**	**Pn**	**23 16 04.6**	**+0.5**
PTEO				S		**Sn**	**Sn**	**23 16 28.1**	**+1.1**
PTEO	**Sao Teotonio**	**1.89**	**33**	P		**Pn**	**Pn**	**23 16 04.6**	**+0.5**
PTEO				S		**Sn**	**Sn**	**23 16 28.1**	**+1.1**
PBDV	**Barranco-do-Ve**	**2.11**	**52**	*e*Sn		**Sn**	**Sn**	**23 16 33.8**	**+1.3**
PBDV	**Barranco-do-Ve**	**2.11**	**52**	S		**Sn**	**Sn**	**23 16 33.8**	**+1.3**
PBDV	**Barranco-do-Ve**	**2.11**	**52**	S		**Sn**	**Sn**	**23 16 33.8**	**+1.3**
PCVE	**Castro Verde**	**2.30**	**43**	*e*Pn		**Pn**	**Pn**	**23 16 10.5**	**+0.8**
PCVE				*e*Sn		**Sn**	**Sn**	**23 16 37.9**	**+0.8**
PCVE	**Castro Verde**	**2.30**	**43**	P		**Pn**	**Pn**	**23 16 10.5**	**+0.8**
PCVE				S		**Sn**	**Sn**	**23 16 37.9**	**+0.8**
PCVE	**Castro Verde**	**2.30**	**43**	P		**Pn**	**Pn**	**23 16 10.5**	**+0.8**
PCVE				S		**Sn**	**Sn**	**23 16 37.9**	**+0.8**
PVAQ	**Vaqueiros**	**2.34**	**52**	*e*Pn		**Pn**	**Pn**	**23 16 10.7**	**+0.4**
PVAQ				*e*Sn		**Sn**	**Sn**	**23 16 38.4**	**+0.2**
PVAQ				A		A	A	23 16 40.6	
	2.2nm,0.1s								
PVAQ	**Vaqueiros**	**2.34**	**52**	P		**Pn**	**Pn**	**23 16 10.7**	**+0.4**
PVAQ				S		**Sn**	**Sn**	**23 16 38.4**	**+0.2**
	2.2nm,0.1s								
PVAQ	**Vaqueiros**	**2.34**	**52**	P		**Pn**	**Pn**	**23 16 10.7**	**+0.4**
PVAQ				S		**Sn**	**Sn**	**23 16 38.4**	**+0.2**
	2.2nm,0.1s								
PNCL	**Nicolau / Gran**	**2.45**	**29**	*e*Sn		**Sn**	**Sn**	**23 16 41.3**	**+0.5**
PNCL				A		A	A	23 16 42.7	
	0.8nm,0.1s								
PNCL	**Nicolau / Gran**	**2.45**	**29**	*e*Sn		**Sn**	**Sn**	**23 16 41.3**	**+0.5**
	0.8nm,0.1s								
EGRO	**El Granado**	**2.57**	**52**	P		**Pn**	**Pn**	**23 16 14.0**	**+0.6**
	0.3nm,0.1s,SNR=7.9								
EGRO				S			**Sn**	**23 16 44.4**	**+0.6**
	1.0nm,0.1s,SNR=7.9								
EGRO	**El Granado**	**2.57**	**52**	P		**Pn**	**Pn**	**23 16 14.0**	**+0.6**
	0.3nm,0.1s,SNR=7.9								
EGRO				S			**Sn**	**23 16 44.4**	**+0.6**
	1.0nm,0.1s,SNR=7.9								
EVO	**Evora**	**3.02**	**31**	*e*Pn		**Pn**	**Pn**	**23 16 19.8**	**+0.2**
EVO				*e*Sn		**Sn**	**Sn**	**23 16 54.6**	**-0.3**
EVO				A		A	A	23 16 55.9	
	1.5nm,0.1s								
EVO	**Evora**	**3.02**	**31**	P		**Pn**	**Pn**	**23 16 19.8**	**+0.2**
EVO				S		**Sn**	**Sn**	**23 16 54.6**	**-0.3**
	1.5nm,0.1s								
EVO	**Evora**	**3.02**	**31**	P		**Pn**	**Pn**	**23 16 19.8**	**+0.2**
EVO				S		**Sn**	**Sn**	**23 16 54.6**	**-0.3**
	1.5nm,0.1s								
PMAFR	**Mafra**	**3.04**	**11**	*e*Pn		**Pn**	**Pn**	**23 16 20.2**	**+0.3**
PMAFR				*e*Sn		**Sn**	**Sn**	**23 16 56.0**	**+0.6**
PMAFR	**Mafra**	**3.04**	**11**	P		**Pn**	**Pn**	**23 16 20.2**	**+0.3**
	0.3nm,0.1s,SNR=7.9								
PMAFR				S			**Sn**	**23 16 55.0**	**-0.4**
	7.6nm,0.3s,SNR=5.6								
PMAFR	**Mafra**	**3.04**	**11**	P		**Pn**	**Pn**	**23 16 20.2**	**+0.3**
	0.3nm,0.1s,SNR=7.9								
PMAFR				S			**Sn**	**23 16 55.0**	**-0.4**
	7.6nm,0.3s,SNR=5.6								
PMAFR				*e*Sn			**Sn**	**23 16 56.0**	**+0.6**
EMIN	**Mina Concepcio**	**3.23**	**55**	P		**Pn**	**Pn**	**23 16 23.0**	**+0.4**
	0.1nm,0.1s,SNR=7.9								
EMIN				S			**Sn**	**23 16 59.7**	**-0.4**
	0.2nm,0.1s,SNR=7.9								
EMIN	**Mina Concepcio**	**3.23**	**55**	P		**Pn**	**Pn**	**23 16 23.0**	**+0.4**
	0.1nm,0.1s,SNR=7.9								
EMIN				S			**Sn**	**23 16 59.7**	**-0.4**
	0.2nm,0

CPBX			⇑*e*			23 24 46.9	
CPBX			⇓*e*			23 24 47.7	
CPBX			IAML			23 24 47.7	
	comp=N,9μm,0.2s						
SGL	**Mount Signal**	**0.56**	**316**	⇓*i*P	**Pn**	**23 24 48.5**	**-0.7**
COA	**Coachella**	**0.62**	**11**	*e*P	**Pn**	**23 24 49.0**	**-1.2**
YUH	**Yuha Desert**	**0.68**	**306**	⇓*i*P	**Pn**	**23 24 50.4**	**-0.5**
YMD	**Yuma Desert**	**0.68**	**63**	⇑*i*P	**Pn**	**23 24 50.7**	**-0.3**
RMX	**La Rumorosa**	**0.77**	**297**	⇑*e*P	**Pb**	**23 24 51.1**	**0.0**
RMX				*e*P	**Pn**	**23 24 51.5**	**-0.8**
RMX				*e*S	**Sg**	**23 25 00.3**	**-0.7**
RMX				*e*S	**Sb**	**23 25 00.7**	**-0.8**
RMX			IAML			23 25 02.5	
	comp=E,872nm,0.2s						
RMX			*e*			23 25 02.5	
RMX			*e*			23 25 02.7	
ECBX	**El Chinero**	**0.80**	**167**	⇓*e*P	**Pb**	**23 24 51.5**	**+0.1**
ECBX				*e*S	**Sb**	**23 25 02.6**	**+0.6**
IKP	**In-Ko-Pah, Jac**	**0.82**	**300**	P	**Pn**	**23 24 52.9**	**0.0**
	baz=124,SNR=53						
IKP				S	**Sb**	**23 25 03.5**	**+0.9**
	baz=124						
IKP	**In-Ko-Pah, Jac**	**0.82**	**300**	⇑*e*P	**Pn**	**23 24 52.9**	**0.0**
IKP				*e*S	**Sb**	**23 25 03.6**	**+0.9**
SWSC	**Sam W. Stewart**	**0.83**	**327**	P	**Pn**	**23 24 52.5**	**-0.4**
	baz=150,SNR=17						
GLA	**Glamis**	**0.88**	**25**	P	**Pn**	**23 24 53.5**	**-0.3**
	baz=204,SNR=71						
ZAX	**El Zacaton**	**1.13**	**230**	*e*P	**Pg**	**23 24 57.4**	**-0.1**
ZAX				*e*S	**Sg**	**23 25 12.3**	**+0.1**
MONP2	**Monument Peak**	**1.17**	**304**	P	**Pg**	**23 24 59.3**	**+0.9**
	baz=126,SNR=25						
MONP2				S	**Sg**	**23 25 14.0**	**+0.4**
	baz=126						
CBX	**Cerro Bola**	**1.18**	**273**	⇑*e*P	**Pg**	**23 24 58.7**	**+0.1**
CBX				*e*S	**Sg**	**23 25 14.7**	**+0.5**
CBX				⇓*e*		23 25 19.0	
CBX			IAML			23 25 19.0	
	comp=N,419nm,0.6s						
SPIG	**San Pedro Mart**	**1.21**	**188**	⇓*e*P	**Pg**	**23 24 59.0**	**-0.2**
SPX	**San Pedro Mart**	**1.21**	**188**	⇓*e*P	**Pg**	**23 24 59.0**	**-0.2**
BAR	**Barrett**	**1.26**	**290**	⇑*e*P	**Pg**	**23 24 59.9**	**-0.2**
ECNX	**Esteban Cantu**	**1.27**	**243**	*e*P	**Pb**	**23 24 59.8**	**+0.2**
PBX	**Punta Banda**	**1.34**	**248**	*e*P	**Pb**	**23 25 00.7**	**+0.1**
BC3	**Big Chuckawall**	**1.41**	**354**	P	**Pb**	**23 25 01.4**	**-0.5**
	baz=174,SNR=20						
SDRC	**San Diego Road**	**1.50**	**289**	*e*P	**Pb**	**23 25 03.4**	**0.0**
109C	**Camp Elliot, M**	**1.68**	**293**	P	**Pb**	**23 25 06.1**	**-0.3**
	baz=114,SNR=15						
109C				S	**Sg**	**23 25 29.0**	**-0.8**
	baz=114						
PFO	**Pinyon Flats O**	**1.69**	**324**	P	**Pn**	**23 25 05.2**	**+0.2**
	baz=145,SNR=12						
PFO				Sb	**Sg**	**23 25 30.7**	**+0.5**
	baz=145						
IRM	**Iron Mountain**	**1.91**	**3**	Pb	**Pb**	**23 25 10.4**	**+0.1**
	baz=183,SNR=16						
214A	**Organ Pipe Nat**	**2.11**	**97**	P	**Pn**	**23 25 10.6**	**0.0**
	baz=277						
MURC	**Murrieta**	**2.11**	**310**	Sb	**Sg**	**23 25 43.2**	**-0.4**
	baz=131						

*KLM **28** 23:39:38.0,4.˚70N×118.˚97E,h18km,mb4.2*
*DJA **28** 23:39:44.2±0.4,5.˚1E×11.˚9E±.˚,h14km±4km,M4.4/7,*
mb4.8/5,mB5.0/5,MLv4.2/7,Mw(mB)4.4/5
*ISCJB **28** 23:39:45.7±1.5,4.˚9N±0.˚2×118.˚6E±0.˚2,h40km,Error ellipse: s-maj=31.4km s-min=9.5km az=138.1*
ISC 28 23:39:48.7±1.8,**4.˚9N**±0.˚1×**118.˚6E**±0.˚2,**h40**km,**n8,**
σ1⚲**71**/10,**Borneo**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKM	**Kota Kinabalu**	**2.65**	**296**		**Pn**	**23 40 27.0**	**-2.1**
KDM	**Kudat**	**2.69**	**319**		**Pn**	**23 40 32.0**	**+2.5**
MPSI	**Mapaga**	**4.69**	**164**	P	**Pn**	**23 40 54.6**	**-2.4**
MPSI				S	**Sn**	**23 41 50.1**	**-0.1**
MRSI	**Marisa**	**5.49**	**143**	P	**Pn**	**23 41 07.3**	**-0.8**
MRSI				S	**Sn**	**23 42 11.3**	**+1.3**
PCI	**Palu**	**5.87**	**168**	P	**Pn**	**23 41 13.7**	**+0.4**
	59nm,0.7s,692nm0.2nm						
APSI	**Ampana**	**6.50**	**152**	P	**Pn**	**23 41 21.6**	**-0.3**
LUWI	**Luwuk**	**7.20**	**145**	P	**Pn**	**23 41 30.8**	**-0.7**
TTSI	**Tana Toraja**	**7.96**	**171**	P	**Pn**	**23 41 43.0**	**+1.0**
	45nm,0.8s						

*NNC **28** 23:48:55.6±8.7,37.˚89N×71.˚70E,h0km,mb3.8,mpv3.4,*
Error ellipse: s-maj=74.2km s-min=51.5km az=159.0
ISC 28 23:48:48.2±3.1,**37.˚4N**±0.˚2×**72.˚0E**±0.˚1,**h10**km,**n12,**
σ2⚲**99**/15,**6C-5D,Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**2.85**	**24**	⇓P	**Pb**	**23 49 40.6**	**+1.2**
	17nm,0.3s						
SFK				⇓S	**Sb**	**23 50 14.4**	**-0.1**
	36nm,0.3s						
AML	**Almayashu**	**4.89**	**15**	P	**Pn**	**23 50 05.8**	**+3.6**
	SNR=25						
UCH	**Uchtor**	**5.19**	**21**	P	**Pn**	**23 50 09.1**	**+2.8**
	SNR=6.6						
KZA	**Kyzart**	**5.29**	**27**	P	**Pn**	**23 50 09.9**	**+2.2**
	SNR=6.4						
AAK	**Ala-Archa**	**5.56**	**19**	⇑P	**Pn**	**23 50 13.6**	**+2.5**
	2.8nm,0.5s						
AAK				⇑S	**Sn**	**23 51 14.8**	**-0.4**
	5.9nm,0.6s						
AAK	**Ala-Archa**	**5.56**	**19**	P	**Pn**	**23 50 14.1**	**+2.9**
	SNR=9.9						
KK31	**Karatay Array**	**5.80**	**349**	⇓P	**Pn**	**23 50 18.0**	**+3.7**
	0.3nm,0.2s,baz=168,slow=10						
KK31				⇓S	**Sn**	**23 51 20.7**	**-0.2**
	6.5nm,0.3s,baz=164,slow=20						
ULHL	**Ulahol**	**5.83**	**33**	P	**Pn**	**23 50 16.4**	**+1.5**
	SNR=6.6						
TKM2	**Tokmak 2**	**6.16**	**25**	⇑P	**Pn**	**23 50 21.2**	**+1.8**
	1.8nm,0.5s						
TKM2				⇑S	**Sn**	**23 51 25.2**	**-4.7**
	0.9nm,0.5s						
MAKZ	**Makanchi**	**11.95**	**35**	⇑Lg	Lg	23 51 50.2	
	0.2nm,0.5s						
AB31	**Akbulak array**	**14.71**	**327**	⇑P	**Pn**	**23 52 13.4**	**-2.9**
	0.8nm,0.6s,baz=139,slow=12,SNR=10						
AKTO	**Aktyubinsk**	**16.42**	**327**	⇓P	**Pn**	**23 52 34.7**	**-4.0**
	1.5nm,0.5s						

*ISK **28** 23:56:21.2,38.˚44N×43.˚01E,h3km,ML3.0/5*
*CSEM **28** 23:56:21.1,38.˚44N×43.˚01E,h3km,ML3.0*
*ATA **28** 23:56:21.1±0.6,38.˚43N×43.˚00E,h9km±9km,ML3.2,*
MW3.1
*ISCJB **28** 23:56:22.0±0.5,38.˚40N±0.˚03×43.˚05E±0.˚04,h10km,Error ellipse: s-maj=5.4km s-min=3.7km az=135.8*
ISC 28 23:56:21.8±0.8,**38.˚44N**±0.˚03×**43.˚03E**±0.˚03,**h10**km,**n39,**
σ1⚲**04**/48,**1D,Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GEVA	**Gevas**	**0.13**	**170**	⇓*i*P	**Pg**	**23 56 24.8**	**-0.2**
GEVA				*e*S	**Sg**	**23 56 27.4**	**+0.2**
GEVA				IAML		23 56 28.8	
	comp=Z,1μm,0.3s						
VANB	**Van**	**0.32**	**62**	PG	**Pg**	**23 56 28.0**	**-0.3**
VANB				SG	**Sg**	**23 56 33.1**	**+0.5**
VANB	**Van**	**0.32**	**62**	*e*Pg	**Pg**	**23 56 28.0**	**-0.3**
VANB				*e*Sg	**Sg**	**23 56 33.1**	**+0.5**
ERCV	**ERCIS-VAN**	**0.63**	**23**	PG	**Pg**	**23 56 33.9**	**-0.1**
ERCV				SG	**Sb**	**23 56 44.0**	**+0.1**
ERCV	**ERCIS-VAN**	**0.63**	**23**	*e*Pg	**Pg**	**23 56 33.9**	**-0.1**
ERCV				*e*Sg	**Sb**	**23 56 44.0**	**+0.1**
GURO	**Guroymak-BITLI**	**0.79**	**278**	PG	**Pb**	**23 56 36.9**	**-0.8**
GURO				SG	**Sb**	**23 56 47.9**	**-0.6**
GURO	**Guroymak-BITLI**	**0.79**	**278**	*e*Pg	**Pb**	**23 56 36.9**	**-0.8**
GURO				*e*Sg	**Sb**	**23 56 47.9**	**-0.6**
TUTA	**Tutak**	**0.97**	**350**	*e*P	**Pb**	**23 56 40.7**	**-0.2**
CLDR	**Caldiran**	**0.99**	**45**	PG	**Pg**	**23 56 39.8**	**-1.0**
CLDR	**Caldiran**	**0.99**	**45**	*e*Pg	**Pg**	**23 56 39.8**	**-1.0**
SIRT	**Sirnak**	**1.05**	**207**	PG	**Pb**	**23 56 42.0**	**-0.1**
SIRT	**Sirnak**	**1.05**	**207**	*e*Pg	**Pb**	**23 56 42.0**	**-0.1**
EKAR	**Karacoban**	**1.11**	**317**	*e*P	**Pb**	**23 56 42.6**	**-0.6**
AGRB	**Hanur-Agry**	**1.13**	**359**	PN	**Pn**	**23 56 43.5**	**-0.4**
AGRB	**Hanur-Agry**	**1.13**	**359**	*e*Pn	**Pn**	**23 56 43.5**	**-0.4**
DYDN	**Diyadin**	**1.21**	**25**	*e*P	**Pn**	**23 56 44.8**	**-0.2**
DYDN				*e*S	**Sn**	**23 57 03.7**	**+2.0**
DYDN			IAML			23 57 04.1	
	comp=Z,14nm,0.4s						
VRTB	**Varto-Mus**	**1.42**	**301**	PN	**Pg**	**23 56 48.4**	**-0.7**
VRTB	**Varto-Mus**	**1.42**	**301**	*e*Pn	**Pg**	**23 56 48.4**	**-0.7**
EATA	**Eleskirt**	**1.48**	**344**	*e*P	**Pg**	**23 56 50.0**	**-0.2**
EATA				*e*S	**Sg**	**23 57 11.4**	**+2.0**
EATA			IAML			23 57 18.1	
	comp=Z,5.5nm,0.5s						
TASB	**TASBURUN-IGDIR**	**1.80**	**31**	PN	**Pb**	**23 56 54.0**	**-1.0**
TASB	**TASBURUN-IGDIR**	**1.80**	**31**	*e*Pn	**Pb**	**23 56 54.0**	**-1.0**
HOMI	**Horasan**	**1.82**	**332**	*e*P	**Pg**	**23 56 55.8**	**-1.0**
HOMI			IAML			23 57 25.0	
	comp=Z,12nm,0.5s						
BNGB	**Bing˜ll**	**1.92**	**287**	PN	**Pb**	**23 56 55.8**	**-1.2**
ERZM	**Erzurum**	**1.95**	**319**	*e*P	**Pg**	**23 56 57.9**	**-1.4**
ECAT	**Cat-ERZURUM**	**1.98**	**307**	*e*P	**Pb**	**23 56 58.0**	**0.0**
DIGO	**Kars**	**1.99**	**8**	*e*P	**Pb**	**23 56 57.7**	**-0.5**
BINT	**Bingol**	**2.04**	**283**	*e*Pn	**Pn**	**23 56 55.8**	**-0.5**
YEDI	**Yedisu-Bingol**	**2.18**	**298**	PN	**Pn**	**23 56 59.0**	**+0.7**
YEDI	**Yedisu-Bingol**	**2.18**	**298**	*e*Pn	**Pn**	**23 56 59.0**	**+0.7**
SENK	**Senkaya-Erzuru**	**2.18**	**346**	PN	**Pb**	**23 56 59.5**	**-2.0**
SENK	**Senkaya-Erzuru**	**2.18**	**346**	*e*Pn	**Pb**	**23 56 59.5**	**-2.0**
MAZI	**Mazidag**	**2.26**	**245**	PN	**Pb**	**23 57 00.8**	**-2.1**
MAZI	**Mazidag**	**2.26**	**245**	*e*Pn	**Pb**	**23 57 00.8**	**-2.1**
KOPT	**Kop Dagi**	**2.52**	**309**	*e*P	**Pg**	**23 57 09.6**	**-0.5**
BAYB	**BAYBURT**	**2.81**	**311**	*e*P	**Pb**	**23 57 13.0**	**+0.8**
PTK	**Pertek**	**2.88**	**280**	PN	**Pn**	**23 57 09.5**	**+1.5**
PTK	**Pertek**	**2.88**	**280**	*e*Pn	**Pn**	**23 57 09.5**	**+1.5**
SVRC	**Sivrice-ELAZID**	**2.92**	**270**	PN	**Pn**	**23 57 10.0**	**+1.5**
SVRC	**Sivrice-ELAZID**	**2.92**	**270**	*e*Pn	**Pn**	**23 57 10.0**	**+1.5**

*NIED **29** 00:03:00,28.˚40N×131.˚90E,h35km,Mw4.1 Best double couple: M0 1.35000×10^15 NP1:φ=116.00000°,δ=43.00000°, λ=122.00000°. NP2:φ=256.00000°,δ=55.00000°,λ=64.00000°.*
*IDC **29** 00:03:24.9±0.7,28.˚28N×131.˚98E,h0km,mb3.7/12, mb1 3.9/18,mb1mx3.7/63,mbtmp3.8/18,ML4.1/5,MS3.0/2, Ms1 3.1/2,ms1mx2.5/55,Error ellipse: s-maj=22.7km s-min=13.9km az=78.0*
*NEIC **29** 00:03:26.3±0.3,28.˚30N×131.˚97E,h10km,mb4.2/7,Error ellipse: s-maj=8.8km s-min=5.5km az=109.0*
*ISCJB **29** 00:03:27.2±0.4,28.˚35N±0.˚03×131.˚91E±0.˚03,h33km, mb3.8/20,MS3.1/1,Error ellipse: s-maj=4.4km s-min=3.3km az=34.4*
*JMA **29** 00:03:27.1±0.3,28.˚38N×131.˚94E,h97km,M4.0*
ISC 29 00:03:29.9±0.6,**28.˚32N**±0.˚04×**131.˚92E**±0.˚06,**h35**km,**n46,**
σ1⚲**75**/60,**mb3.9**/20,**Southeast of Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JZK	**Kikaishima**	**1.71**	**270**	P	**Pn**	**00 03 57.2**	**0.0**
JZK				*e*S	**Sn**	**00 04 19.5**	**+1.6**
JAM	**Amami Oshima**	**2.04**	**273**	P	**Pn**	**00 04 01.0**	**-0.7**
JAM				*e*S	**Sn**	**00 04 26.3**	**+0.4**
JYAK	**Yakushimahirau**	**2.27**	**328**	P	**Pn**	**00 04 03.3**	**-1.6**
JYAK				*e*S	**Sn**	**00 04 29.0**	**-2.6**
JNN	**Nakanoshima**	**2.34**	**311**	P	**Pn**	**00 04 04.4**	**-1.5**
JNN				*e*S	**Sn**	**00 04 32.2**	**-1.2**
JAMN	**Amaminishikomi**	**2.42**	**269**	P	**Pn**	**00 04 05.8**	**-1.1**
JAMN				*e*S	**Sn**	**00 04 34.4**	**-0.9**
JTN	**Tanegashima 3**	**2.46**	**341**	P	**Pn**	**00 04 05.5**	**-2.1**
JTN				*e*S	**Sn**	**00 04 33.0**	**-3.4**
JTAJ	**Takarajima**	**2.52**	**290**	P	**Pn**	**00 04 07.1**	**-1.2**
JTAJ				*e*S	**Sn**	**00 04 35.4**	**-2.5**
JMZ	**Minamidaito 2**	**2.57**	**194**	P	**Pn**	**00 04 07.1**	**-1.9**
JMZ				*e*S	**Sn**	**00 04 36.5**	**-2.5**
JKC	**Kuchinoerabu**	**2.61**	**325**	P	**Pn**	**00 04 08.0**	**-1.5**
JKC				*e*S	**Sn**	**00 04 38.0**	**-2.0**
JTK	**Tokunoshima**	**2.67**	**259**	P	**Pn**	**00 04 09.6**	**-0.9**
JTK				*e*S	**Sn**	**00 04 40.2**	**-1.5**
JOW	**Kunigami**	**3.56**	**246**	Pn	**Pn**	**00 04 21.0**	**-1.6**
	13nm,0.3s,baz=294,slow=24,SNR=45						
JOW				Sn	**Sn**	**00 05 00.8**	**-2.6**
	12nm,0.3s,baz=323,slow=26,SNR=6.0						
JOW	**Kunigami**	**3.56**	**246**	P	**Pn**	**00 04 20.9**	**-1.6**
JOW				*e*S	**Sn**	**00 05 02.0**	**-1.4**
JTZ	**Takazaki**	**3.64**	**349**	P	**Pn**	**00 04 22.1**	**-1.6**
JTZ				*e*S	**Sn**	**00 05 01.1**	**-4.3**
JIH	**Iheya**	**3.73**	**251**	*e*S	**Sn**	**00 05 05.2**	**-2.5**
JSJ	**Shimokoshiki**	**3.85**	**331**	P	**Pn**	**00 04 24.0**	**-2.6**
JSJ				*e*S	**Sn**	**00 05 06.3**	**-4.4**
JNU	**Nakatsue**	**4.87**	**350**	Pn	**Pn**	**00 04 39.1**	**-1.5**
	16nm,0.3s,baz=220,slow=4.3,SNR=85						
JNU				Sn	**Sn**	**00 05 33.2**	**-2.6**
	5.4nm,0.3s,baz=106,slow=24,SNR=6.8						
JHJ	**Hachijo jima 2**	**8.29**	**53**	Pn	**Pn**	**00 05 27.1**	**-0.4**
	43nm,0.3s,baz=55,slow=20,SNR=10.0						
KSAR	**Wonju Array Be**	**9.70**	**341**	Pn	**Pn**	**00 05 45.9**	**-1.1**
KSRS	**Korea Array**	**9.70**	**341**	Pn	**Pn**	**00 05 45.9**	**-1.1**
	0.3nm,0.3s,baz=157,slow=15,SNR=8.0						
KSRS				LR	LR	00 09 45.2	
	comp=Z,54nm,21.0s,baz=179,slow=39						
MAJO	**Matsushiro**	**9.77**	**31**	*e*Pn	**Pn**	**00 05 46.8**	**-1.0**
	10nm,0.4s						
MAT	**Matsushiro**	**9.77**	**31**	P	**Pn**	**00 05 47.0**	**-0.8**
MAT				*e*S	**Sn**	**00 07 38.7**	**+2.4**
MJAR	**Matsushiro Arr**	**9.77**	**31**	Pn	**Pn**	**00 05 47.6**	**-0.2**
	2.7nm,0.3s,baz=202,slow=16,SNR=22						
TATO	**Taipei**	**9.91**	**253**	*e*Pn	**Pn**	**00 05 49.6**	**-0.1**
USRK	**Ussuriysk Ar.**	**15.85**	**0**	Pn	**Pn**	**00 07 10.7**	**+0.5**
	0.1nm,0.3s,baz=163,slow=10,SNR=2.7						
KLR	**Kul'dur**	**20.88**	**360**	P	Pn	00 08 09.5	-2.0
	0.2nm,0.7s,baz=164,slow=8.2,SNR=4.2						
KKM	**Kota Kinabalu**	**26.69**	**217**	P	**P**	**00 09 06.1**	**+0.1**
	2.4nm,0.4s						
SONM	**Songino Array**	**27.77**	**321**	P	**P**	**00 09 15.2**	**-0.3**
	0.2nm,0.4s,baz=116,slow=6.6,SNR=2.9						
CMAR	**Chiang Mai Arr**	**31.73**	**259**	LR	LR	00 24 33.3	
	comp=Z,36nm,18.1s,baz=250,slow=40						
YAK	**Yakutsk**	**33.74**	**358**	P	**P**	**00 10 07.8**	**+0.1**
	2.0nm,0.3s						
KSM	**Kuching**	**33.75**	**221**	P	**P**	**00 10 08.3**	**0.0**
	1.9nm,0.4s						
ZALV	**Zalesovo Beam**	**42.66**	**320**	P	**P**	**00 11 23.8**	**+1.0**
	0.5nm,0.6s,baz=114,slow=8.0,SNR=2.9						
MKAR	**Makanchi Array**	**42.67**	**309**	P	**P**	**00 11 23.7**	**+0.6**
	0.6nm,0.7s,baz=101,slow=8.8,SNR=8.5						
KURK	**Kurchatov**	**45.63**	**315**	P	**P**	**00 11 46.8**	**+0.1**
	0.7nm,0.3s						
KURBB	**Kurchatov Arra**	**45.67**	**314**	P	**P**	**00 11 47.9**	**+0.9**
	1.7nm,0.8s,baz=96,slow=8.9,SNR=7.7						
WRAB	**Tennant Creek**	**48.03**	**177**	P	**P**	**00 12 05.7**	**-0.1**
	1.2nm,0.6s						
WRA	**Warramunga Arr**	**48.04**	**177**	P	**P**	**00 12 05.1**	**-0.7**
	1.3nm,0.5s,baz=354,slow=8.6,SNR=12						
CTA	**Charters Tower**	**50.08**	**162**	P	**P**	**00 12 21.6**	**+0.1**
	4.1nm,1.1s,baz=352,slow=15,SNR=2.8						
BVAR	**Borovoye Array**	**50.95**	**317**	P	**P**	**00 12 29.3**	**+1.5**
	0.8nm,0.7s,baz=74,slow=11,SNR=4.0						
ASAR	**Alice Springs**	**51.72**	**178**	P	**P**	**00 12 33.6**	**-0.2**
	0.7nm,0.6s,baz=10,slow=14,SNR=13						
PMR	**Palmer**	**60.31**	**33**	P	**P**	**00 13 34.6**	**-0.2**
	1.1nm,0.6s						
COLA	**College**	**60.62**	**29**	P	**P**	**00 13 35.9**	**-0.9**
	0.7nm,0.6s						
FINES	**FINESS Array B**	**72.65**	**331**	P	**P**	**00 14 53.0**	**-0.6**
	1.2nm,0.9s,baz=58,slow=5.2,SNR=2.7						
YKA	**Yellowknife Ar**	**75.23**	**26**	P	**P**	**00 15 08.5**	**-0.2**
	0.1nm,0.6s,baz=294,slow=6.1,SNR=3.1						
AKASG	**Malin Array Be**	**76.05**	**320**	P	**P**	**00 15 14.6**	**+1.0**
	0.3nm,0.4s,baz=58,slow=7.7,SNR=2.1						
BRTR	**Keskin Array B**	**78.31**	**309**	P	**P**	**00 15 29.1**	**+2.4**
	0.1nm,0.4s,baz=51,slow=2.8,SNR=2.7						
HFS	**Hagfors**	**78.47**	**333**	P	**P**	**00 15 30.5**	**+3.5**
	0.5nm,0.6s,baz=64,slow=3.4,SNR=2.5						

*NSSP **29** 00:16:20.2,38.˚48N×45.˚55E,h8km,Ms3.7*
*AZER **29** 00:16:20.5±0.4,38.˚55N×45.˚59E,h4km±8km,ml3.2*
*TEH **29** 00:16:21.4,38.˚43N×45.˚57E,h8km,ML3.2*
*CSEM **29** 00:16:23.8±0.7,38.˚52N×45.˚59E,h2km,ML3.1,Error ellipse: s-maj=15.8km s-min=7.4km az=42.0*
*ATA **29** 00:16:29.0±0.3,38.˚56N×45.˚00E,h3km,ML3.9,MW3.7*
ISC 29 00:16:22.2±1.0,**38.˚56N**±0.˚03×**45.˚82E**±0.˚03,**h18**km±4km,
n48,σ1⚲**26**/59,**14C-16D,Iran-Armenia-Azerbaijan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMRD	**Marand**	**0.18**	**329**	*e*Pg	**Pb**	**00 16 27.0**	**+0.3**
IMRD				*e*Sg	**Sg**	**00 16 31.4**	**+1.1**
IMRD				*e*AMB	AMB	00 16 34.0	
	comp=Z,7μm,0.1s						
ISHB	**Shabestar**	**0.32**	**210**	*e*Pg	Pg	00 16 24.7	-4.5
ISHB				*e*AMB	AMB	00 16 25.4	
	comp=Z,96μm,0.0s						
ORD	**Ordubad**	**0.39**	**20**	⇑P	**Pn**	**00 16 32.5**	**-0.6**
ORD				⇓S	**Sn**	**00 16 40.9**	**+0.7**
ITBZ	**Tabriz**	**0.41**	**142**	*e*Pg	**Pg**	**00 16 30.5**	**-0.4**
ITBZ				*e*Sg	**Sg**	**00 16 37.1**	**+0.4**
ITBZ				*e*AMB	AMB	00 16 38.2	
	comp=Z,17μm,0.1s						
NAX	**Nakhchivan**	**0.66**	**338**	⇓P	**Pg**	**00 16 35.7**	**+0.3**
NAX				⇑S	**Sn**	**00 16 45.9**	**-0.9**
SBZ	**Shahbuz**	**0.86**	**346**	⇑P	**Pn**	**00 16 39.6**	**0.0**
SBZ				⇓S	**Sn**	**00 16 53.6**	**+1.8**
IHRS	**Heris**	**0.99**	**104**	*e*Pg	**Pg**	**00 16 42.8**	**+1.3**
IHRS				*e*AMB	AMB	00 17 00.7	
	comp=Z,9μm,0.2s						
GRS	**Goris**	**1.02**	**23**	⇑*i*P	**Pb**	**00 16 41.0**	**-0.5**
GRS				⇑*i*S	**Sg**	**00 16 56.0**	**+0.5**
IBST	**Bostanabad**	**1.21**	**135**	*e*Pg	**Pn**	**00 16 44.2**	**-0.2**
IBST				*e*AMB	AMB	00 17 03.3	
	comp=Z,3μm,0.1s						
HYR	**Heyderabad**	**1.38**	**327**	⇑P	**Pb**	**00 16 47.7**	**+0.1**
CLDR	**Caldiran**	**1.59**	**292**	*e*PG	**Pn**	**00 16 48.7**	**-1.1**
GNI	**Garni**	**1.79**	**333**	⇓*i*P	**Pg**	**00 16 55.8**	**-1.0**
GNI				⇓S	**Sg**	**00 17 21.4**	**+1.3**
GNI	**Garni**	**1.79**	**333**	⇑*i*P	**Sg**	**00 17 21.0**	**+0.9**
GNI	**Garni**	**1.79**	**333**	⇓P	**Pg**	**00 16 55.8**	**-1.0**
GNI				S	**Sg**	**00 17 21.4**	**+1.3**
TASB	**TASBURUN-IGDIR**	**1.88**	**320**	*e*PG	**Pb**	**00 16 55.7**	**-0.3**
VANB	**Van**	**1.91**	**272**	*e*PG	**Pn**	**00 16 53.0**	**-0.9**
DYDN	**Diyadin**	**1.93**	**301**	*e*P	**Pb**	**00 16 56.5**	**-0.5**
LRK	**Lerik**	**1.98**	**87**	⇓P	**Pg**	**00 17 00.9**	**+0.7**
BRDA	**Brd**	**2.00**	**31**	⇓P	**Pg**	**00 16 59.9**	**-0.8**
GANJ	**Ganja**	**2.12**	**10**	⇓P	**Pg**	**00 17 01.6**	**-1.3**
GANJ				⇑S	**Sg**	**00 17 29.5**	**-1.0**
GLBA	**Clilabad**	**2.12**	**70**	⇓P	**Pg**	**00 17 02.9**	**0.0**
GLBA				⇓S	**Sg**	**00 17 33.7**	**+3.2**
GDB	**GEDABAY**	**2.16**	**359**	⇑P	**Pb**	**00 17 02.3**	**+1.4**
GEVA	**Gevas**	**2.18**	**264**	*e*P	**Pn**	**00 16 58.8**	**+1.0**
LKRN	**Lenkeran, Azer**	**2.32**	**85**	⇑P	**Pg**	**00 17 06.7**	**-0.1**
ASTR	**Astara**	**2.33**	**89**	⇑P	**Pg**	**00 17 05.7**	**-1.2**
AGRB	**Hanur-Agry**	**2.42**	**296**	*e*PG	**Pn**	**00 17 02.1**	**+1.0**
TUTA	**Tutak**	**2.49**	**291**	*e*P	**Pb**	**00 17 05.8**	**-0.7**
TUTA				IAML		00 17 39.2	
	comp=Z,28nm,0.5s						
QZX	**Qazax, Azerbai**	**2.52**	**352**	⇓P	**Pb**	**00 17 06.3**	**-0.6**
QZX				⇑S	**Sg**	**00 17 40.4**	**-2.8**
DIGO	**Kars**	**2.65**	**315**	*e*P	**Pb**	**00 17 10.1**	**+0.8**
EAK	**Akyaka**	**2.73**	**322**	*e*P	**Pb**	**00 17 10.8**	**+0.2**
EAK				IAML		00 17 38.8	
	comp=Z,50nm,0.6s						
QBL	**Gabala**	**2.85**	**32**	⇓P	**Pb**	**00 17 13.1**	**+0.6**
SEKA	**Sheki**	**2.85**	**21**	⇓P	**Pb**	**00 17 12.4**	**-0.2**
SIRT	**Sirnak**	**2.87**	**249**	*e*PG	**Pn**	**00 17 06.8**	**-0.4**
IML	**Ismayilli**	**2.88**	**39**	⇑P	**Pb**	**00 17 12.0**	**-1.1**
DDFL	**Dedoflistskaro**	**2.89**	**4**	P	**Pg**	**00 17 20.1**	**+2.4**
EATA	**Eleskirt**	**2.89**	**298**	*e*P	**Pb**	**00 17 13.2**	**-0.2**
EATA				*e*S	**Sn**	**00 17 40.6**	**-1.6**
EATA				IAML		00 17 41.6	
	comp=Z,5.8nm,0.5s						
**DGRG

TWB1	**Santiao Chiao** baz=324	**0.36**	**308**	*e*P	**Pn**	**00 35 17.8**	**-1.8**
TWB1	baz=324			S	**Sb**	**00 35 23.1**	**+0.6**
NTC	**Toucheng** baz=292	**0.43**	**279**	P	**Pb**	**00 35 18.0**	**+0.1**
NTC	baz=292			*e*S	**Sb**	**00 35 24.5**	**-0.2**
TWC	**Suao** baz=263	**0.45**	**247**	*i* P	**Pg**	**00 35 16.6**	**+0.1**
TWC	baz=263			S	**Sg**	**00 35 22.4**	**+0.1**
ILA	**Ilan** baz=269	**0.51**	**268**	*e*P	**Pb**	**00 35 18.8**	**-0.3**
ILA	baz=269			*e*S	**Sb**	**00 35 26.2**	**-0.5**
NWF	**Wu-fen Shan** baz=303	**0.55**	**301**	*e*P	**Pn**	**00 35 21.8**	**-0.5**
NWF	baz=303			*e*S	**Sn**	**00 35 29.9**	**-2.0**
WFSB	**Wu-fen Shan** baz=303	**0.55**	**301**	*e*P	**Pn**	**00 35 21.7**	**-0.5**
WFSB	baz=303			*e*S	**Sn**	**00 35 30.0**	**-1.7**
ENAH	**Nanao** baz=247	**0.56**	**233**	*e*P	**Pg**	**00 35 18.6**	**0.0**
ENAH	baz=247			*e*S	**Sg**	**00 35 25.4**	**-0.5**
TWE	**Neicheng** baz=264	**0.58**	**264**	*i* P	**Pb**	**00 35 19.7**	**-0.7**
TWE	baz=264			S	**Sb**	**00 35 27.9**	**-1.0**
NANB	**Nanao** baz=239	**0.62**	**235**	P	**Pg**	**00 35 19.4**	**-0.3**
NANB	baz=239			*e*S	**Sg**	**00 35 26.5**	**-1.2**
ENA	**Nanau** baz=240	**0.62**	**235**	P	**Pg**	**00 35 19.5**	**-0.3**
ENA	baz=240			*e*S	**Sg**	**00 35 26.7**	**-1.2**
JYNG	**Yonaguni jima**	**0.67**	**120**	P	**Pn**	**00 35 23.5**	**-0.4**
JYNG				*e*S	**Sn**	**00 35 34.4**	**-0.3**
ENTT	**Nioudou** baz=264	**0.69**	**258**	*i* P	**Pg**	**00 35 21.3**	**+0.3**
ENTT	baz=264			S	**Sg**	**00 35 30.2**	**+0.2**
YOJ	**Yonaguni jima** baz=108	**0.72**	**117**	P	**Pn**	**00 35 24.4**	**-0.1**
YOJ	baz=108			*e*S	**Sn**	**00 35 35.6**	**-0.3**
YOJ	**Yonaguni jima**	**0.72**	**117**	P	**Pn**	**00 35 24.4**	**-0.1**
YOJ				S	**Sn**	**00 35 35.3**	**-0.6**
NWLT	**Wulai** baz=277	**0.73**	**269**	P	**Pb**	**00 35 22.6**	**-0.3**
NWLT	baz=277			S	**Sb**	**00 35 32.4**	**-0.7**
YM07	**YM07** baz=309	**0.73**	**302**	P	**Pn**	**00 35 24.2**	**-0.5**
YM07	baz=309			*e*S	**Sn**	**00 35 35.5**	**-0.7**
YM08	**YM08** baz=309	**0.76**	**302**	*e*P	**Pn**	**00 35 25.5**	**+0.4**
YM08	baz=309			*e*S	**Sn**	**00 35 36.6**	**-0.3**
YM11	**YM11** baz=307	**0.76**	**300**	*e*P	**Pn**	**00 35 25.8**	**+0.7**
YM11	baz=307			*e*S	**Sn**	**00 35 36.7**	**-0.3**
TATO	**Taipei** baz=283	**0.76**	**284**	P	**Pn**	**00 35 24.5**	**-0.6**
TATO	baz=283			S	**Sn**	**00 35 34.8**	**-2.1**
TAP	**Taipei** baz=289	**0.77**	**289**	*e*P	**Pn**	**00 35 25.4**	**+0.3**
TAP	baz=289			*e*S	**Sn**	**00 35 35.4**	**-1.6**
YM05	**YM05** baz=306	**0.77**	**299**	*e*P	**Pn**	**00 35 25.8**	**+0.5**
YM05	baz=306			*e*S	**Sn**	**00 35 37.3**	**+0.1**
YM10	**YM10** baz=306	**0.77**	**299**	*e*P	**Pn**	**00 35 25.8**	**+0.6**
YM10	baz=306			*e*S	**Sn**	**00 35 36.2**	**-0.9**
YM04	**YM04** baz=305	**0.79**	**298**	*e*P	**Pn**	**00 35 26.2**	**+0.8**
YM04	baz=305			*e*S	**Sn**	**00 35 37.2**	**-0.3**
TWY	**Chenhua** baz=314	**0.80**	**307**	*e*P	**Pn**	**00 35 27.9**	**+2.3**
TWY	baz=314			*e*S	**Sn**	**00 35 39.1**	**+1.2**
YHNB	**Yeheng** baz=268	**0.85**	**262**	P	**Pg**	**00 35 24.5**	**+0.4**
YHNB	baz=268			*e*S	**Sg**	**00 35 34.3**	**-0.9**
NTST	**Danshui** baz=302	**0.86**	**296**	*e*P	**Pn**	**00 35 27.7**	**+1.3**
NTST	baz=302			*e*S	**Sn**	**00 35 39.7**	**+0.3**
TWS1	**Kuangyinshan** baz=298	**0.86**	**291**	*e*P	**Pn**	**00 35 27.5**	**+1.0**
TWS1	baz=298			*e*S	**Sn**	**00 35 39.9**	**+0.5**
NACB	**Ninganchiao** baz=238	**0.89**	**227**	P	**Pg**	**00 35 24.2**	**-0.7**
NACB	baz=238			*e*S	**Sg**	**00 35 33.8**	**-2.6**
NNSB	**Datong** baz=252	**0.91**	**247**	P	**Pg**	**00 35 25.0**	**-0.3**
NNSB	baz=252			*e*S	**Sg**	**00 35 35.6**	**-1.5**
NNS	**Nan Shan** baz=252	**0.92**	**248**	P	**Pg**	**00 35 25.0**	**-0.3**
NNS	baz=252			*e*S	**Sg**	**00 35 36.1**	**-1.1**
TWD	**Chiawan** baz=232	**0.95**	**223**	*e*P	**Pg**	**00 35 25.6**	**-0.5**
TWD	baz=232			*e*S	**Sg**	**00 35 35.9**	**-2.6**
WLTB	**Daxi** baz=286	**0.96**	**274**	*e*P	**Pn**	**00 35 28.4**	**+0.7**
WLTB	baz=286			*e*S	**Sn**	**00 35 41.3**	**-0.4**
NCU	**National Centr** baz=286	**1.03**	**280**	*e*P	**Pn**	**00 35 30.6**	**+1.8**
NCU	baz=286			*e*S	**Sn**	**00 35 44.9**	**+1.4**
NCUH	**Zhongli** baz=286	**1.03**	**280**	*e*P	**Pn**	**00 35 30.5**	**+1.7**
NCUH	baz=286			*e*S	**Sn**	**00 35 44.7**	**+1.1**
ENLB	**Shoufeng** baz=192	**1.09**	**216**	*e*P	**Pn**	**00 35 30.0**	**+0.4**
ENLB	baz=192			*e*S	**Sn**	**00 35 45.5**	**+0.5**
TWT	**Tachien** baz=247	**1.16**	**243**	*e*P	**Pn**	**00 35 31.5**	**+0.8**
TWT	baz=247			*e*S	**Sg**	**00 35 44.7**	**-0.3**
TDCB	**Techi** baz=247	**1.17**	**243**	*e*P	**Pb**	**00 35 30.6**	**+0.1**
TDCB	baz=247			*e*S	**Sg**	**00 35 44.2**	**-1.2**
LIOB	**Emei** baz=260	**1.18**	**263**	*e*P	**Pn**	**00 35 32.1**	**+1.2**
LIOB	baz=260			*e*S	**Sn**	**00 35 46.4**	**-0.9**
NSTT	**Nanjuang** baz=259	**1.20**	**263**	*e*P	**Pg**	**00 35 31.8**	**+1.1**
NSTT	baz=259			*e*S	**Sn**	**00 35 47.9**	**+0.3**
SBCB	**Hsinchu** baz=295	**1.20**	**270**	*e*P	**Pg**	**00 35 32.8**	**+2.0**
SBCB	baz=295			*e*S	**Sn**	**00 35 49.5**	**+1.8**
HSN	**Hsinchu** baz=290	**1.21**	**271**	*e*P	**Pg**	**00 35 32.7**	**+1.7**
HSN	baz=290			*e*S	**Sn**	**00 35 49.0**	**+1.0**
ESL	**Shilin** baz=225	**1.25**	**219**	*e*P	**Pn**	**00 35 32.1**	**+0.3**
ESL	baz=225			*e*S	**Sb**	**00 35 47.0**	**-1.2**
CHGB	**Renai** baz=238	**1.26**	**235**	*e*P	**Pn**	**00 35 31.7**	**-0.5**
CHGB	baz=238			*e*S	**Sb**	**00 35 47.5**	**-1.2**
OWD	**Renai** baz=242	**1.32**	**231**	*e*P	**Pn**	**00 35 32.7**	**-0.3**
OWD	baz=242			*e*S	**Sb**	**00 35 48.0**	**-2.3**
IRIF	**Iriomote-Funau**	**1.38**	**109**	P	**Pg**	**00 35 34.5**	**+0.3**
IRIF				S	**Sg**	**00 35 53.4**	**+1.4**
NMLH	**Miaoli** baz=258	**1.40**	**260**	*e*P	**Pg**	**00 35 36.3**	**+1.7**
NMLH	baz=258			*e*S	**Sg**	**00 35 54.6**	**+1.8**
TWQ1	**Liyutan** baz=258	**1.46**	**253**	*e*P	**Pg**	**00 35 37.2**	**+1.4**
TWQ1	baz=258			*e*S	**Sb**	**00 35 54.6**	**+0.4**
DPDB	**Guoxing** baz=243	**1.46**	**239**	*e*P	**Pg**	**00 35 36.0**	**+0.2**
DPDB	baz=243			*e*S	**Sn**	**00 35 53.4**	**-0.9**
HGSD	**Ruisui** baz=194	**1.52**	**212**	*e*P	**Pn**	**00 35 35.8**	**+0.2**
HGSD	baz=194			*e*S	**Sn**	**00 35 55.9**	**+0.2**
HATJ	**Hateruma jima**	**1.55**	**118**	P	**Pb**	**00 35 37.4**	**+0.5**
HATJ				S	**Sb**	**00 35 57.6**	**+0.8**
EHY	**Hungye** baz=193	**1.56**	**215**	*e*P	**Pn**	**00 35 36.3**	**+0.2**
EHY	baz=193			*e*S	**Sn**	**00 35 55.1**	**-1.5**
SMLT	**Sun Moon Lake** baz=238	**1.56**	**235**	*e*P	**Pg**	**00 35 38.0**	**+0.2**
SMLT	baz=238			*e*S	**Sn**	**00 35 57.0**	**0.0**
SSLB	**Suanglung** baz=241	**1.58**	**231**	*e*P	**Pb**	**00 35 37.3**	**-0.2**
SSLB	baz=241			*e*S	**Sn**	**00 35 56.7**	**-0.6**
TYC	**Yuchr** baz=240	**1.59**	**237**	*e*P	**Pg**	**00 35 38.3**	**+0.1**
TYC	baz=240			*e*S	**Sn**	**00 35 57.1**	**-0.1**
TCU	**Taichung** baz=253	**1.61**	**247**	*e*P	**Pg**	**00 35 40.4**	**+1.7**
TCU	baz=253			*e*S	**Sb**	**00 35 59.6**	**+1.0**
JKRS	**Kuro-shima**	**1.65**	**109**	P	**Pb**	**00 35 38.9**	**+0.3**
JKRS				S	**Sb**	**00 36 00.2**	**+0.6**
YULB	**Yu-li** baz=211	**1.67**	**214**	*e*P	**Pn**	**00 35 37.2**	**-0.4**
YULB	baz=211			*e*S	**Sn**	**00 35 57.1**	**-2.2**
TWF1	**Yuli** baz=210	**1.70**	**213**	*e*P	**Pn**	**00 35 37.5**	**-0.5**
TWF1	baz=210			*e*S	**Sn**	**00 36 00.4**	**+0.3**
JIJ	**Ishigaki jima**	**1.73**	**104**	P	**Pb**	**00 35 39.4**	**-0.5**
JIJ				S	**Sn**	**00 36 00.9**	**+0.1**
WJS	**Zhushan** baz=240	**1.73**	**237**	P	**Pg**	**00 35 42.0**	**+1.0**
WJS	baz=240			*e*S	**Sg**	**00 36 04.5**	**+1.2**
FULB	**Fuli** baz=190	**1.83**	**210**	*e*P	**Pn**	**00 35 39.3**	**-0.6**
FULB	baz=190			*e*S	**Sn**	**00 36 02.9**	**-0.5**
JISG	**Ishigakijimahi**	**1.84**	**96**	P	**Pb**	**00 35 41.9**	**+0.1**
ALS	**Alishan** baz=210	**1.87**	**227**	*e*P	**Pb**	**00 35 42.5**	**0.0**
ALS	baz=210			*e*S	**Sb**	**00 36 07.4**	**+1.1**
CHKT	**Chengkung** baz=188	**1.89**	**207**	*e*P	**Pn**	**00 35 40.0**	**-0.6**
CHKT	baz=188			*e*S	**Sn**	**00 36 02.4**	**-2.3**
CHN5	**Tsauling** baz=235	**1.90**	**232**	*e*P	**Pb**	**00 35 43.9**	**+0.9**
CHN5	baz=235			*e*S	**Sb**	**00 36 08.9**	**+1.9**
WDLH	**Douliu** baz=260	**1.95**	**236**	*e*P	**Pb**	**00 35 44.2**	**+0.5**
WDLH	baz=260			*e*S	**Sg**	**00 36 10.7**	**+0.2**
CHN4	**Tsaushan** baz=231	**2.12**	**228**	*e*P	**Pb**	**00 35 47.3**	**+0.6**
CHN4	baz=231			*e*S	**Sb**	**00 36 14.5**	**+1.3**
STYT	**Tauyuan** baz=202	**2.15**	**221**	*e*P	**Pb**	**00 35 46.6**	**-0.5**
STYT	baz=202			*e*S	**Sb**	**00 36 13.8**	**-0.3**
JTJ	**Tarama**	**2.19**	**93**	*e*S	**Sb**	**00 36 13.1**	**-2.0**
TWK	**Hsinying** baz=208	**2.25**	**228**	*e*P	**Pb**	**00 35 48.4**	**-0.4**
TWK	baz=208			*e*S	**Sb**	**00 36 17.1**	**+0.2**
CHN1	**Nanshi** baz=206	**2.28**	**226**	*e*P	**Pb**	**00 35 49.1**	**-0.2**
CHN1	baz=206			*e*S	**Sb**	**00 36 18.4**	**+0.6**
SGST	**Jiashian** baz=203	**2.32**	**223**	*e*P	**Pb**	**00 35 49.6**	**-0.3**
SGST	baz=203			*e*S	**Sb**	**00 36 19.6**	**+0.8**
SLGT	**Liugui** baz=201	**2.34**	**221**	*e*P	**Pb**	**00 35 49.4**	**-1.1**
SLGT	baz=201			*e*S	**Sb**	**00 36 19.6**	**-0.1**
MATB	**Ma-tsu** baz=304	**2.53**	**303**	*e*P	**Pb**	**00 35 51.2**	**-2.3**
MATB	baz=304			*e*S	**Sb**	**00 36 22.0**	**-3.0**
MASBT	**Mashibuluo** baz=197	**2.65**	**216**	*e*P	**Pn**	**00 35 53.0**	**+1.9**
MASBT	baz=197			*e*S	**Sn**	**00 36 25.2**	**+1.6**
WDGT	**Dungji** baz=246	**2.86**	**238**	*e*P	**Pn**	**00 35 56.5**	**+2.6**
WDGT	baz=246			*e*S	**Sn**	**00 36 29.7**	**+1.0**

*IDC **29** 00:43:20.6±0.5, 2˙28S×79˙66W, h79km±4km, mb3.9/16, mb1 4.1/22, mb1mx3.9/48, mbtmp4.3/22, MS3.5/18, Ms1 3.5/18, ms1mx3.3/40, Error ellipse: s-maj=16.0km s-min=9.1km az=66.0*

*ISCJB **29** 00:43:22.0±0.6, 2˙34S±0˙03×79˙70W±0˙06, h106km±4km, mb4.4/37, Error ellipse: s-maj=10.0km s-min=4.9km az=169.9*

*NEIC **29** 00:43:21.6±0.5, 2˙32S×79˙66W, h86km±4km, mb4.7/27, ML5.0(IGQ), Error ellipse: s-maj=8.0km s-min=4.7km az=77.0*

NEIC Felt [IV] at Guayaquil, [III] at Samborondon and [II] at Cuenca. Also felt at Ambato, Babahoyo and Loja.

*IGQ **29** 00:43:22.4±0.7, 2˙S×6˙×8˙0W×˙˙, h49km±6km, MLv4.9/5*

ISC 29 00:43:20.3±0.5, 2˙37S±0˙04×79˙82W±0˙06, h79km±4km, h79km:pP-P,n116,σ1$40/129,mb4.5/38, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
AGUAY	**Guayaquil**	**0.34**	**337**	P			**Pn**	**00 43 33.2**	**+0.5**
AGUAY				S			**Sn**	**00 43 42.1**	**+0.3**
RIOE1	**Riobamba**	**1.34**	**63**	P			**Pn**	**00 43 44.8**	**+0.8**
RIOE1				S			**Sn**	**00 44 01.7**	**+0.1**
IGUA	**Igualata**	**1.47**	**54**	P			**Pn**	**00 43 47.2**	**+1.5**
BMAS	**Trigal station**	**1.59**	**57**	P			**Pn**	**00 43 48.5**	**+1.3**
BMAS				S			**Sn**	**00 44 08.3**	**+0.9**
ARRY	**Arrayan**	**1.61**	**58**	P			**Pn**	**00 43 48.7**	**+1.2**
BBIL	**Ulba Tungurahu**	**1.61**	**56**	P			**Pn**	**00 43 49.0**	**+1.5**
BBIL				S			**Sn**	**00 44 10.2**	**+2.3**
BPAT	**Tungurahua Vol**	**1.63**	**58**	P			**Pn**	**00 43 49.3**	**+1.5**
BPAT				S			**Sn**	**00 44 10.2**	**+1.7**
AAM1	**Ambato 1 (Muni**	**1.63**	**47**	P			**Pn**	**00 43 49.6**	**+1.8**
AAM1				S			**Sn**	**00 44 09.3**	**+0.9**
RETU	**Refugio**	**1.65**	**57**	P			**Pn**	**00 43 49.7**	**+1.7**
POND	**Pondoa**	**1.66**	**56**	P			**Pn**	**00 43 49.6**	**+1.6**
POND				S			**Sn**	**00 44 10.7**	**+1.7**
BRUN	**Tungurahua Vol**	**1.69**	**56**	P			**Pn**	**00 43 50.1**	**+1.6**
BRUN				S			**Sn**	**00 44 10.5**	**+0.8**
PISA	**Pisayambo**	**1.94**	**48**	P			**Pn**	**00 43 53.8**	**+1.9**
ILLI	**Illinizas Sur**	**1.97**	**34**	P			**Pn**	**00 43 53.9**	**+1.6**
ILLI				S			**Sn**	**00 44 19.7**	**+3.1**
BNAS	**Cotopaxi Volca**	**2.15**	**39**	P			**Pn**	**00 43 56.7**	**+1.9**
BREF	**Cotopaxi Volca**	**2.18**	**39**	P			**Pn**	**00 43 57.3**	**+2.1**
NAS2	**Nasa**	**2.18**	**38**	P			**Pn**	**00 43 57.5**	**+2.4**
BTAM	**Cotopaxi Volca**	**2.20**	**40**	P			**Pn**	**00 43 57.2**	**+1.7**
ASDO	**Santo Domingo**	**2.20**	**18**	P			**Pn**	**00 43 54.6**	**-0.4**
BVC2	**Cotopaxi Volca**	**2.21**	**40**	P			**Pn**	**00 43 57.4**	**+1.8**
VC1	**Cotopaxi 1**	**2.22**	**40**	P			**Pn**	**00 43 57.9**	**+2.2**
COV1	**Cotopaxi Volc**	**2.25**	**41**	P			**Pn**	**00 43 57.5**	**+1.4**
MAG1	**Magdalena**	**2.28**	**1**	P			**Pn**	**00 43 56.9**	**+0.9**
PINO	**Pino**	**2.51**	**29**	P			**Pn**	**00 44 01.4**	**+1.8**
YANA	**Yana**	**2.56**	**29**	P			**Pn**	**00 44 02.1**	**+1.9**
OTAV	**Otavalo**	**2.93**	**28**	*e*Pn			**Pn**	**00 44 06.6**	**+1.4**
OTAV	**Otavalo**	**2.93**	**28**	P			**Pn**	**00 44 06.5**	**+1.4**
CUIC	**Cuicocha-Domo**	**3.03**	**29**	P			**Pn**	**00 44 08.0**	**+1.6**
CAYA	**Cayambe**	**3.04**	**37**	P			**Pn**	**00 44 08.7**	**+2.0**
COTA	**Cotacachi**	**3.07**	**29**	P			**Pn**	**00 44 09.4**	**+2.3**
IMBA	**Imbabura, San**	**3.09**	**32**	P			**Pn**	**00 44 09.8**	**+2.5**
URCU	**Urcuqui**	**3.20**	**29**	P			**Pn**	**00 44 10.6**	**+1.9**
YAHU	**Yahuarcocha**	**3.23**	**33**	P			**Pn**	**00 44 10.7**	**+1.5**
LITE1	**Lita**	**3.46**	**25**	P			**Pn**	**00 44 12.8**	**+0.6**
TUMC	**Tumaco**	**4.30**	**15**	*e*Pn			**Pn**	**00 44 24.7**	**+1.2**
ATAH	**Atahualpa** 5.4nm,0.3s,baz=16,slow=8.8,SNR=39	**4.95**	**163**	P			**Pn**	**00 44 35.0**	**+2.5**
ATAH	20nm,0.3s,baz=142,slow=16,SNR=5.4			S			**Sn**	**00 45 30.3**	**+1.6**
ATAH	comp=Z,614nm,19.1s,baz=325,slow=43			LR			LR	00 46 53.1	
PRAC	**Prado**	**7.80**	**39**	*e*Pn			**Pn**	**00 45 09.6**	**-1.6**
ROSC	**El Rosal** 1.7nm,0.3s,baz=151,slow=15,SNR=4.6	**9.03**	**38**	P			**Pn**	**00 45 26.6**	**-1.7**
ROSC	comp=Z,559nm,19.1s,baz=223,slow=41			LR			LR	00 49 20.5	
ROSC	**El Rosal**	**9.03**	**38**	*e*Pn			**Pn**	**00 45 27.5**	**-0.8**
HELC	**Santa Helena**	**9.52**	**27**	*e*Pn			**Pn**	**00 45 36.9**	**+1.9**
NNA	**Nana** 179nm,0.7s	**10.00**	**163**	*e*Pn			**Pn**	**00 45 41.5**	**+0.2**
NNA				*e*Sn			**Sn**	**00 47 29.5**	**-2.4**
RUSC	**La Rusia**	**10.61**	**39**	*e*Pn			**Pn**	**00 45 50.7**	**+0.7**
SDV	**Santo Domingo** 1.0nm,0.3s,baz=246,slow=15,SNR=13	**14.45**	**39**	P			**Pn**	**00 46 39.2**	**-2.0**
SAML	**Samuel** 32nm,0.8s	**17.79**	**112**	*e*P			**P**	**00 47 19.7**	**-3.0**
LPAZ	**La Paz** 0.6nm,0.3s,baz=324,slow=10,SNR=43	**17.99**	**141**	P			**P**	**00 47 25.4**	**0.0**
LPAZ	**La Paz** 12nm,0.8s	**17.99**	**141**	*e*P			**Pn**	**00 47 26.8**	**+0.9**
MNMC	**Minye Minye** 17nm,0.8s	**19.44**	**150**	*e*P			**Pn**	**00 47 42.3**	**-0.5**
PCRV	**Puerto La Cruz** 4.4nm,0.3s,baz=290,slow=2.9,SNR=16	**19.59**	**50**	P			**Pn**	**00 47 42.4**	**-2.0**
PTGA	**Pitinga** 1.2nm,0.3s,baz=277,slow=11,SNR=31	**19.91**	**86**	P			**P**	**00 47 44.3**	**-1.6**
PTGA	comp=Z,195nm,18.8s,baz=260,slow=38			LR			LR	00 55 56.3	
PTGA	**Pitinga** 20nm,0.8s	**19.91**	**86**	*e*P			**P**	**00 47 44.6**	**-1.3**
PB11	**IPOC Station P** 38nm,0.8s	**19.94**	**151**	*e*P			**Pn**	**00 47 48.0**	**-0.6**
APG	**El Apazote** comp=Z,118nm,21.6s,baz=129,slow=32	**20.22**	**329**	LR			LR	00 54 12.9	
PB01	**IPOC Station P** 41nm,0.9s	**21.12**	**152**	*e*P			**P**	**00 48 00.9**	**+2.0**
PB04	**IPOC Station P** 64nm,1.2s	**21.96**	**155**	*e*P			**P**	**00 48 09.6**	**+1.6**
PB10	**IPOC Station P** 52nm,1.2s	**22.86**	**158**	*e*P			**P**	**00 48 18.8**	**+1.5**
SIV	**San Ignacio** 8.0nm,0.9s,baz=299,slow=8.8,SNR=30	**22.89**	**127**	P			**P**	**00 48 16.5**	**-1.3**
SIV	comp=Z,171nm,18.7s,baz=350,slow=40			LR			LR	00 58 41.0	
AOPR	**Arecibo Observ** 49nm,0.6s	**24.27**	**31**	*e*P			**P**	**00 48 30.4**	**0.0**
SJG	**San Juan** 26nm,0.8s,baz=247,slow=4.9,SNR=6.9	**24.40**	**33**	P			**P**	**00 48 31.5**	**0.0**
SJG	comp=Z,91nm,20.4s,baz=278,slow=39			LR			LR	00 59 06.4	
HUMP	**Col San Antoni** 118nm,1.6s	**24.59**	**33**	*e*P			**P**	**00 48 33.0**	**-0.3**
CBYP	**Canovanas** 75nm,1.0s	**24.69**	**33**	*e*P			**P**	**00 48 33.4**	**-0.9**
MTP	**Monte Pirata** 213nm,2.0s	**24.72**	**34**	*e*P			**P**	**00 48 34.0**	**-0.4**
SMRT	**St. Maarten**	**26.15**	**38**	*e*PcP			**PcP**	**00 52 15.3**	**+2.2**
ANWB	**Willy Bob** 162nm,0.8s	**26.69**	**41**	*e*P			**P**	**00 48 51.0**	**-1.4**
CPUP	**Villa Florida** 0.7nm,0.4s,baz=346,slow=17,SNR=2.4	**32.16**	**140**	P			**P**	**00 49 40.8**	**+0.1**
RPN	**Rapa Nui** comp=Z,84nm,21.7s,baz=40,slow=29	**37.48**	**226**	LR			LR	01 01 49.3	
TKL	**Tuckaleechee C** comp=Z,67nm,20.1s,baz=215,slow=35	**38.01**	**355**	LR			LR	01 05 22.5	
TXAR	**Lajitas Array** 0.3nm,0.7s,baz=142,slow=8.0,SNR=1.9	**38.92**	**326**	P			**P**	**00 50 40.6**	**+1.8**
TXAR	0.7nm,0.8s,baz=149,slow=10.0,SNR=4.2			pP			**pP**	**00 50 59.4**	**+1.8**
TXAR	1.3nm,0.8s,baz=164,slow=6.4,SNR=7.1			PcP			**PcP**	**00 52 48.9**	**+0.7**
TXAR	1.0nm,0.8s,baz=152,slow=6.0,SNR=4.7			pPcP				00 53 10.2	
TXAR	comp=Z,29nm,18.9s,baz=0.0,slow=35			LR			LR	01 06 05.2	
PLCA	**Paso Flores** 7.6nm,1.1s,baz=360,slow=6.3,SNR=6.0	**39.10**	**169**	P			**P**	**00 50 40.5**	**+0.4**
PLCA	**Paso Flores** 12nm,1.1s	**39.10**	**169**	*e*P			**P**	**00 50 40.6**	**+0.6**
MSTX	**Muleshoe** 5.3nm,0.8s	**42.11**	**331**	*e*P			**P**	**00 51 06.9**	**+1.9**
ANMO	**Albuquerque** 5.7nm,0.9s	**44.74**	**328**	*e*P			**P**	**00 51 28.2**	**+1.9**
CHRN	**Cochrane** 11nm,1.1s	**45.15**	**173**	*e*P			**P**	**00 51 29.6**	**+0.6**
SDCO	**Great Sand Dun** 8.9nm,1.3s	**46.46**	**332**	*e*P			**P**	**00 51 41.5**	**+1.6**
WUAZ	**Wupatki** 8.6nm,0.9s	**47.87**	**325**	*e*P			**P**	**00 51 52.2**	**+1.5**
CCUT	**Cedar City** 3.7nm,1.0s	**50.43**	**325**	*e*P			**P**	**00 52 12.2**	**+1.8**
MSU	**Marysvale**	**50.45**	**327**	*e*P			**P**	**00 52 11.8**	**+1.2**
PDAR	**Pinedale Array** 0.5nm,0.8s,baz=124,slow=7.4,SNR=4.5	**52.33**	**333**	P			**P**	**00 52 24.6**	**+0.2**
PDAR	1.6nm,0.9s,baz=126,slow=9.3,SNR=7.3			pP			**pP**	**00 52 44.0**	**-0.1**
PDAR	comp=Z,25nm,18.1s,baz=134,slow=37			LR			LR	01 15 22.4	
PDAR	**Pinedale Array**	**52.33**	**333**	*e*P			**P**	**00 52 25.3**	**+0.9**
PDAR				pP			**pP**	**00 52 44.0**	**-0.1**
NV01	**Mina Array Sit**	**53.92**	**323**	*e*P			**P**	**00 52 37.6**	**+1.4**
NVAR	**Mina Array Bea** 1.5nm,0.8s,baz=140,slow=6.8,SNR=8.1	**53.92**	**323**	P			**P**	**00 52 37.4**	**+1.2**
NVAR	0.8nm,0.6s,baz=132,slow=7.1,SNR=4.2			pP			**pP**	**00 52 58.0**	**+2.0**
NVAR	comp=Z,40nm,18.6s,baz=270,slow=35			LR			LR	01 14 26.4	
ULM	**Lac du Bonnet** 2.3nm,0.6s,baz=158,slow=9.5,SNR=5.4	**54.20**	**347**	P			**P**	**00 52 36.5**	**-1.2**
ULM	13nm,0.9s,baz=160,slow=7.1,SNR=11			pP			**pP**	**00 52 55.7**	**-1.8**
BMN	**Battle Mountai** 5.0nm,1.1s	**54.59**	**325**	*e*P			**P**	**00 52 42.1**	**+1.1**
ORV	**Oroville**	**56.57**	**322**	*e*pP			pP	00 53 17.0	+2.1
YBH	**Yreka Blue Hor** comp=Z,46nm,18.1s,baz=156,slow=36	**58.62**	**323**	LR			LR	01 18 13.9	
G08A	**Pilot Rock** 6.9nm,0.9s	**58.80**	**329**	*e*P			**P**	**00 53 11.5**	**+0.9**
PINE	**Pine Mountain** 9.6nm,0.9s	**58.88**	**326**	*e*P			**P**	**00 53 12.7**	**+1.3**
EDM	**Edmonton** 8.0nm,1.2s	**62.09**	**338**	*e*P			**P**	**00 53 32.7**	**-0.1**
YKA	**Yellowknife Ar** 0.6nm,0.5s,baz=138,slow=5.7,SNR=15	**69.84**	**344**	P			**P**	**00 54 21.5**	**-0.7**
YKA	2.1nm,0.7s,baz=139,slow=5.8,SNR=16			pP			**PcP**	**00 54 41.8**	**-2.5**
DBIC	**Dimbokro** 2.2nm,0.7s,baz=277,slow=7.9,SNR=3.5	**75.36**	**83**	P			**P**	**00 54 55.3**	**-0.7**
DBIC	comp=Z,26nm,18.2s,baz=182,slow=35			LR			LR	01 27 27.0	
KOWA	**Kowa** 3.3nm,0.9s,baz=276,slow=4.3,SNR=6.4	**76.87**	**75**	P			**P**	**00 55 04.2**	**-0.4**
KOWA	4.5nm,0.7s,baz=255,slow=8.4,SNR=5.3			pP			**pP**	**00 55 25.7**	**+0.3**
KOWA	comp=Z,36nm,20.8s,baz=205,slow=34			LR			LR	01 26 53.0	
INK	**Inuvik** 5.2nm,1.0s	**79.52**	**342**	*e*P			**P**	**00 55 18.2**	**+0.1**
ESDC	**Sonseca Array** 0.3nm,0.6s,baz=251,slow=3.7,SNR=2.4	**80.66**	**49**	P			**P**	**00 55 23.3**	**-1.7**
ESDC	1.7nm,0.9s,baz=264,slow=6.2,SNR=4.7			pP			**pP**	**00 55 45.7**	**-0.4**
VNA3	**Neumayer Olymp**	**81.46**	**162**	P			**P**	**00 55 28.6**	**+0.1**
VNA2	**Neumayer--Watz**	**82.07**	**162**	P			**P**	**00 55 31.9**	**+0.1**

slow=3.8
TORD Torodi Ar. Bea 82.28 76 P **P** **00 55 32.5 -1.5**
0.6nm,0.9s,baz=282,slow=5.7,SNR=8.0
TORD pP **pP** **00 55 54.3 -0.8**
1.0nm,0.8s,baz=279,slow=5.2,SNR=3.2
TORD LR LR 01 32 51.3
comp=Z,42nm,18.1s,baz=190,slow=36
IL1 Eielson Array 82.54 337 *e*P **P** **00 55 33.9 -0.4**
ILAR Eielson Array 82.54 337 P **P** **00 55 34.1 -0.2**
0.9nm,0.9s,baz=142,slow=3.5,SNR=8.2
SNAA Sanae 83.68 162 P **P** **00 55 39.8 -0.4**
SNAA Sanae 83.68 162 P **P** **00 55 39.9 -0.2**
4.8nm,0.9s,baz=294,slow=7.2,SNR=22
SNAA Sanae 83.68 162 *e*P **P** **00 55 40.0 -0.2**
17nm,0.5s
EKA Eskdalemuir Ar 84.37 34 pP pP 00 56 03.9 -1.1
3.4nm,0.9s,baz=264,slow=2.5,SNR=4.3
IM3 Indian Mountai 85.65 337 *e*P **P** **00 55 49.2 -0.9**
TAM Tamanrasset 86.62 67 *e*P **P** **00 55 57.0 +1.1**
3.4nm,1.1s
QSPA South Pole Qui 87.70 180 P **P** **00 56 00.9 +0.7**
6.9nm,0.8s,baz=153,slow=2.8,SNR=19
NOA NORSAR Array B 92.56 29 LR LR 01 37 24.0
comp=Z,9.2nm,20.0s,baz=275,slow=35
VNDA Vanda 93.62 191 P **P** **00 56 28.7 +1.3**
1.1nm,0.8s,baz=124,slow=3.9,SNR=8.3
HFS Hagfors 93.80 30 LR LR 01 39 23.0
comp=Z,12nm,18.9s,baz=298,slow=36
FINES FINESS Array B 99.64 28 LR LR 01 36 29.8
comp=Z,23nm,21.2s,baz=216,slow=32
BVAR Borovoye Array 123.81 21 pPKP pPKPdf 01 02 31.0 -0.5
0.4nm,0.5s,baz=338,slow=3.1,SNR=3.3
ZALV Zalesovo Beam 127.06 11 PKP **PKPdf** **01 02 14.6 -0.8**
0.6nm,0.3s,baz=300,slow=5.8,SNR=2.8
ZALV pPKP **pPKPdf** **01 02 37.3 -0.3**
1.3nm,0.5s,baz=257,slow=4.1,SNR=2.8
KURK Kurchatov 128.49 17 PKP **PKPdf** **01 02 18.5 +0.2**
KURK pPKP **pPKPdf** **01 02 40.2 -0.3**
KURBB Kurchatov Arra 128.55 17 PKP **PKPdf** **01 02 18.5 +0.1**
9.4nm,0.2s,baz=337,slow=2.6,SNR=5.4
KURBB pPKP **pPKPdf** **01 02 40.2 -0.4**
1.0nm,0.3s,baz=323,slow=2.1,SNR=2.3
MKAR Makanchi Array 133.09 17 PKP **PKPdf** **01 02 26.0 -1.1**
0.2nm,0.5s,baz=6.0,slow=1.6,SNR=3.1
MKAR pPKP **pPKPdf** **01 02 48.8 -0.6**
0.5nm,0.5s,baz=294,slow=2.5,SNR=5.2
SONM Songino Array 134.39 354 pPKP pPKPdf 01 02 51.6 -0.3
0.9nm,0.7s,baz=338,slow=3.2,SNR=3.8
ASAR Alice Springs 138.21 230 PKhKP PKPpre 01 02 31.8
0.8nm,0.8s,baz=136,slow=2.5,SNR=6.2
WRA Warramunga Arr 139.81 235 PKhKP PKPpre 01 02 31.9
1.1nm,0.8s,baz=118,slow=2.5,SNR=6.6
WRA PKP **PKPdf** **01 02 38.8 -1.6**
1.0nm,0.8s,baz=130,slow=2.2,SNR=5.1
LZH Lanzhou 146.28 355 *e*PKPbc **PKPbc** **01 02 52.8 +0.1**
LZH pPKP pPKPab 01 03 19.5 +4.3
LZH sPKP 01 03 32.0
LZH LR LR
comp=N,120nm,19.1s
LZH LR LR
comp=E,100nm,19.5s
LZH LR LR
comp=Z,160nm,20.0s

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*JMA **29** 00:53:42.4±0.4, 46.05N×142.25E, h0km, M2.9*
*SKHL **29** 00:53:42.4±0.7, 46.01N×142.00E, h10km, mb3.0/1*
*ISCJB **29** 00:53:44.6±0.7, 46.00N±0.04×142.1E±0.1, h21km, Error ellipse: s-maj=13.9km s-min=4.6km az=14.1*
ISC 29 00:53:44.3±1.1, 46.00N±0.05×142.1E±0.1, h21km, n5, σ0§71/8, 1C, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NEVR	**Nevel'sk**	**0.70**	**345**	*e*Sg	**Sb**	**00 54 06.9**	**-0.2**
NEVR				A	A	00 54 09.0	
	420nm,0.3s						
NEVR				A	A	00 54 09.0	
	250nm,0.3s						
JWK2	**Keihoku**	**0.70**	**193**	P	**Pb**	**00 53 57.7**	**-0.2**
JWK2				*e*S	**Sb**	**00 54 07.9**	**+0.8**
JRR	**Rishiri**	**1.03**	**214**	P	**Pn**	**00 54 03.1**	**-0.5**
JRR				*e*S	**Sn**	**00 54 18.0**	**+0.6**
YSS	**Yuzh-Sakhalins**	**1.05**	**24↑**	*e*Pg	**Pn**	**00 54 03.5**	**-0.3**
YSS				AMB	AMB	00 54 04.8	
	10.0nm,0.7s						
YSS				*e*Sg	**Sn**	**00 54 18.6**	**+0.8**
YSS				A	A	00 54 22.4	
	140nm,0.3s						
YSS				A	A	00 54 22.4	
	100nm,0.3s						
JSE	**Soyaes**	**1.09**	**163**	P	**Pn**	**00 54 03.7**	**-0.7**

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*TEH **29** 00:58:24.1, 36.74N×54.56E, h13km, ML3.4*
*ISCJB **29** 00:58:26.0±0.3, 37.02N±0.03×54.41E±0.03, h30km, Error ellipse: s-maj=4.5km s-min=3.0km az=23.3*
*CSEM **29** 00:58:26.8±0.4, 37.15N×54.49E, h10km, ML3.5, Error ellipse: s-maj=11.7km s-min=5.7km az=9.0*
ISC 29 00:58:27.0±1.0, 36.91N±0.05×54.44E±0.03, h30km, n42, σ1§55/57, 19C-12D, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IGLO	**Ghaloghah**	**0.64**	**231**	*e*Pg	**Pb**	**00 58 36.7**	**-3.1**
IGLO				*e*Sg	**Sb**	**00 58 47.7**	**-0.8**
IGLO				*e*AMB	AMB	00 58 56.0	
	comp=Z,23μm,0.2s						
IMND	**Minoodasht**	**0.85**	**65**	*e*Pg	**Pn**	**00 58 41.6**	**-1.3**
IMND				*e*Sg	**Sn**	**00 58 53.4**	**-0.9**
IMND				*e*AMB	AMB	00 58 56.3	
	comp=Z,13μm,0.1s						
ISHM	**Shahmirzad**	**1.44**	**221**	*e*Pg	**Pn**	**00 58 51.7**	**+0.4**
ISHM				*e*AMB	AMB	00 59 18.6	
	comp=Z,7μm,0.2s						
MRVT	**Maraveh tapeh**	**1.51**	**60**	*e*Pg	**Pn**	**00 58 51.9**	**-0.2**
IALA	**Alasht**	**1.55**	**239**	*e*Pn	**Pn**	**00 58 53.8**	**+1.0**
IALA				*e*AMB	AMB	00 59 21.1	
	comp=Z,12μm,0.1s						
SHRO	**Shahrood**	**1.56**	**125**	*e*Pg	**Pn**	**00 58 50.3**	**-2.5**
IPRN	**Peran**	**1.82**	**249**	*e*Pn	**Pn**	**00 58 58.9**	**+2.5**
IPRN				*e*AMB	AMB	00 59 29.1	
	comp=Z,15μm,0.1s						
IFIR	**Firoozkooh**	**1.86**	**228**	*e*Pn	**Pn**	**00 58 59.0**	**+2.0**
IFIR				*e*AMB	AMB	00 58 60.0	
	comp=Z,9μm,0.1s						
ILAS	**Lasjerd**	**1.94**	**219**	*e*Pn	**Pn**	**00 59 00.7**	**+2.6**
ILAS				*e*AMB	AMB	00 59 29.9	
	comp=E,5μm,0.2s						
IDMV	**Damavand**	**2.36**	**236**	*e*AMB	AMB	00 59 07.8	
	comp=Z,3μm,0.2s						
IDMV				*e*Pn	**Pn**	**00 59 06.7**	**+2.8**
DAMV	**Damavand**	**2.37**	**238**	*e*Pn	**Pn**	**00 59 07.9**	**+3.9**
BJRD	**Bojnurd**	**2.49**	**71**	*e*Pn	**Pn**	**00 59 05.7**	**+0.1**
ISFR	**Sfrayin**	**2.85**	**86**	*e*Pn	**Pn**	**00 59 11.1**	**+0.4**
ISFR				*e*AMB	AMB	00 59 57.1	
	comp=Z,1μm,0.2s						
IVRN	**Varamin**	**2.91**	**230**	*e*Pn	**Pn**	**00 59 13.4**	**+2.0**
IVRN				*e*AMB	AMB	01 00 04.5	
	comp=Z,2μm,0.1s						
IKRD	**Kardeh**	**3.27**	**91**	*e*Pn	**Pb**	**00 59 28.1**	**+3.7**
IKRD				*e*AMB	AMB	00 59 45.5	
	comp=Z,161nm,0.1s						
IEMG	**Emamgholi**	**3.40**	**80**	*e*Pn	**Pn**	**00 59 18.7**	**+0.4**
IEMG				*e*AMB	AMB	01 00 12.0	
	comp=Z,372nm,0.2s						
IGZV	**Ghazvin**	**3.44**	**263**	*e*Pn	**Pn**	**00 59 21.1**	**+2.4**
IGZV				*e*AMB	AMB	00 59 33.7	
	comp=Z,878nm,0.2s						
IPAY	**Payeh**	**3.69**	**96**	*e*Pn	**Pn**	**00 59 22.3**	**+0.1**
IPAY				*e*AMB	AMB	00 59 36.3	
	comp=Z,222nm,0.2s						
TABS	**Tabas**	**3.92**	**145**	*e*Pn	**Pn**	**00 59 25.0**	**-0.2**
QAM	**Ghamsar**	**3.98**	**219**	*e*Pn	**Pn**	**00 59 26.0**	**-0.2**
QAM				*e*AMB	AMB	00 59 46.9	
	comp=Z,351nm,0.1s						
IMOG	**Moghan**	**4.02**	**100**	*e*Pn	**Pn**	**00 59 26.9**	**+0.1**
IMOG				*e*AMB	AMB	01 00 12.1	
	comp=Z,149nm,0.2s						
IZEF	**Zefreh**	**4.36**	**204**	*e*Pn	**Pn**	**00 59 32.0**	**+0.5**
IZEF				*e*AMB	AMB	01 00 42.4	
	comp=Z,134nm,0.1s						
ASTR	**Astara**	**4.77**	**292**	⇓P	**Pn**	**00 59 37.9**	**+1.1**
ASTR				⇑S	**Sn**	**01 00 31.2**	**+0.1**
LKRN	**Lenkeran, Azer**	**4.83**	**294**	⇓P	**Pn**	**00 59 39.2**	**+1.6**
LKRN				⇓S	**Sn**	**01 00 33.5**	**+0.9**
LRK	**Lerik**	**5.14**	**292**	⇓P	**Pn**	**00 59 43.2**	**+1.2**
LRK				⇑S	**Sn**	**01 00 40.5**	**+0.2**
GLBA	**Clilabad**	**5.31**	**298**	⇑P	**Pn**	**00 59 45.3**	**+1.1**
GLBA				⇑S	**Sn**	**01 00 42.4**	**-2.0**
ITEG	**Tejag**	**5.34**	**137**	*e*Pn	**Pn**	**00 59 44.2**	**-0.6**
ITEG				*e*AMB	AMB	00 59 45.4	
	comp=Z,321nm,0.2s						
IBAF	**Bafgh**	**5.38**	**170**	*e*Pn	**Pn**	**00 59 44.7**	**-0.7**
IBAF				*e*AMB	AMB	01 01 28.2	
	comp=Z,78nm,0.2s						
GBS	**Qobustan**	**5.62**	**312**	⇑P	**Pn**	**00 59 48.9**	**+0.3**
ATGJ	**Altiaghaj**	**5.83**	**314**	⇓P	**Pn**	**00 59 52.1**	**+0.6**
ATGJ				⇑S	**Sn**	**01 00 56.1**	**-1.3**
PQL	**Pirkuli**	**5.99**	**312**	⇑P	**Pn**	**00 59 55.4**	**+1.7**
PQL				⇑S	**Sn**	**01 01 01.0**	**-0.3**
KDMR	**Kurdemir**	**6.00**	**307**	⇑P	**Pn**	**00 59 53.8**	**+0.1**
IML	**Ismayilli**	**6.24**	**310**	⇑P	**Pn**	**00 59 57.5**	**+0.5**
IML				⇑S	**Sn**	**01 01 05.4**	**-1.9**
XNQ	**Khinaliq**	**6.50**	**313**	⇑P	**Pn**	**01 00 02.3**	**+1.6**
XNQ				⇓S	**Sn**	**01 01 13.2**	**-0.7**
QBL	**Gabala**	**6.54**	**310**	⇑P	**Pn**	**01 00 02.9**	**+1.7**
QSAR	**Qusar**	**6.65**	**316**	⇓P	**Pn**	**01 00 02.6**	**0.0**
QSAR				⇓S	**Sn**	**01 01 17.2**	**-0.2**
ORD	**Ordubad**	**6.98**	**289**	⇓P	**Pn**	**01 00 08.5**	**+1.3**
ORD				⇑S	**Sn**	**01 01 24.9**	**-0.7**
SEKA	**Sheki**	**7.09**	**310**	⇑P	**Pn**	**01 00 09.1**	**+0.4**
SEKA				⇑S	**Sn**	**01 01 25.7**	**-2.5**
GANJ	**Ganja**	**7.36**	**303**	⇓P	**Pn**	**01 00 13.2**	**+0.8**
GANJ				⇓S	**Sn**	**01 01 33.2**	**-1.7**
SBZ	**Shahbuz**	**7.43**	**292**	⇓P	**Pn**	**01 00 15.4**	**+1.9**
GDB	**GEDABAY**	**7.78**	**302**	⇑P	**Pn**	**01 00 19.8**	**+1.5**
GDB				⇑S	**Sn**	**01 01 45.7**	**+0.3**
HYR	**Heyderabad**	**8.04**	**293**	⇑P	**Pn**	**01 00 22.1**	**+0.3**

IDC 29 01:38:50.5±1.8, 20.44S×168.38E, h0km, mb3.9/4, mb1 4.3/5, mb1mx3.8/41, mbtmp3.9/5, ML3.6/1, MS2.9/2, Ms1 2.9/2, ms1mx2.7/47, Error ellipse: s-maj=86.8km s-min=25.1km az=147.0, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**2.43**	**228**	Pn	Pn	01 39 30.8	-0.8
	15nm,0.3s,baz=94,slow=5.8,SNR=760						
DZM				Sn	Sn	01 39 58.3	-3.7
	46nm,0.3s,baz=334,slow=23,SNR=11						
DZM				LR	LR	01 40 19.9	
	comp=Z,232nm,18.1s,baz=310,slow=37						
AFI	**Afiamalu**	**20.03**	**74**	LR	LR	01 49 29.3	
	comp=Z,39nm,20.7s,baz=239,slow=32						
CTA	**Charters Tower**	**20.76**	**267**	P	Pn	01 43 38.1	+2.6
	5.9nm,0.9s,baz=103,slow=14,SNR=4.3						
WRA	**Warramunga Arr**	**31.92**	**265**	P	P	01 45 17.9	-0.2
	0.5nm,0.9s,baz=93,slow=8.4,SNR=4.2						
ASAR	**Alice Springs**	**32.07**	**258**	P	P	01 45 19.8	+0.4
	2.9nm,0.8s,baz=82,slow=9.2,SNR=28						
CMAR	**Chiang Mai Arr**	**78.26**	**295**	LR	LR	02 26 30.1	
	comp=Z,338nm,19.8s,baz=200,slow=36						
NVAR	**Mina Array Bea**	**90.20**	**49**	P	P	01 51 53.0	-0.4
	0.9nm,0.7s,baz=224,slow=7.6,SNR=7.1						
ILAR	**Eielson Array**	**91.61**	**18**	P	P	01 51 59.3	+0.3
	0.4nm,0.8s,baz=235,slow=6.5,SNR=4.7						

MAN 29 01:52:00, 12.01N×125.82E, h9km, mb4.5, ML3.3, MS3.1, 1C, Samar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BESP	**Borongan**	**0.55**	**223**	*e*P	Pb	01 52 11.7	-0.2
BESP				*e*S	Sn	01 52 24.1	+0.6
PLP	**Palo**	**1.18**	**225↑**	*e*P	Pb	01 52 22.3	-0.2
PLP				*i* S	Sn	01 52 39.9	+1.1
CNP	**Catarman**	**1.24**	**294**	*e*P	Pn	01 52 23.1	-0.4
CNP				*e*S	Sn	01 52 41.5	+1.1

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*ISCJB **29** 01:55:05.0±0.3, 17.02N±0.02×85.16W±0.05, h10km, mb4.1/23, MS3.1/4, Error ellipse: s-maj=6.5km s-min=3.3km az=11.5*
*IDC **29** 01:55:05.7±1.1, 17.09N×85.11W, h0km, mb3.7/8, mb1 4.2/12, mb1mx3.9/48, mbtmp3.9/12, ML3.8/4, MS3.1/10, Ms1 3.1/10, ms1mx2.9/49, Error ellipse: s-maj=27.6km s-min=20.4km az=36.0*
*NEIC **29** 01:55:08.5±1.7, 16.96N×85.21W, h22km±14km, mb4.2/25, Error ellipse: s-maj=6.5km s-min=5.3km az=75.0*
NEIC Felt at Roatan.
*UCR **29** 01:55:23.0±3.4, 15.92N×85.82W, h20km±999km, ML3.7, mb4.2(NEIC)*
ISC 29 01:55:07.2±0.5, 17.02N±0.05×85.25W±0.06, h10km, n140, σ1§70/137, mb4.1/23, MS3.0/4, North of Honduras

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TGUH	**Tegucigalpa,Un**	**3.53**	**214**	*e*Pn	**Pn**	**01 56 01.4**	**-0.7**
TGUH	**Tegucigalpa,Un**	**3.53**	**214**	*e*P	**Pn**	**01 56 01.7**	**-0.4**
RCON	**San Juan de Ri**	**3.62**	**194**	*e*P	**Pn**	**01 56 02.8**	**-0.7**
ESTN	**Estel**	**4.04**	**196**	*e*P	**Pn**	**01 56 06.6**	**-2.6**
MATN	**Matagalpa**	**4.12**	**189**	*e*P	**Pn**	**01 56 10.0**	**-0.2**
CAHU	**Cacacuatique**	**4.31**	**222**	*e*P	**Pn**	**01 56 10.5**	**-2.6**
CNCH	**Conchagua**	**4.48**	**214**	*e*P	**Pn**	**01 56 15.3**	**0.0**
LCND	**La Ca˜–ada**	**4.48**	**215**	*e*P	**Pn**	**01 56 12.7**	**-2.6**
CNGN	**Cerro Negro**	**4.70**	**198**	*e*P	Pn	01 56 14.1	-4.3
CNGN				AML	AML	01 57 24.2	
	comp=N,93nm,0.4s						
MOMN	**Momotombo**	**4.75**	**195**	*e*P	**Pn**	**01 56 15.6**	**-3.4**
ESPN	**Las Esperanzas**	**4.88**	**169**	*e*P	**Pn**	**01 56 21.0**	**+0.3**
COPN	**Copaltepe**	**4.98**	**195**	*e*P	**Pn**	**01 56 22.6**	**+0.5**
UTEC	**San Salvador**	**5.04**	**230**	IAML		01 55 07.1	
	comp=Z,72nm,0.1s						
APG	**El Apazote**	**5.40**	**249**	Pn	**Pn**	**01 56 28.9**	**+0.8**
	comp=Z,1.6nm,0.3s,baz=25,slow=11,SNR=6.9						
APG				Sn	**Sn**	**01 57 23.4**	**-7.1**
	comp=Z,10nm,0.3s,baz=64,slow=21,SNR=7.0						
APG				Lg	Lg	01 57 45.9	
	comp=Z,12nm,0.3s,baz=307,slow=22,SNR=6.5						
APG				LR	LR	01 58 41.8	
	comp=Z,128nm,20.3s,baz=90,slow=39						
CONN	**Concepcion**	**5.43**	**182**	*e*P	**Pn**	**01 56 28.4**	**0.0**
MYIG	**MÖrida**	**5.78**	**313**	*e*Pn	Pn	01 56 30.4	-2.7
CCIG	**Comitan**	**6.64**	**265**	*e*Pn	**Pn**	**01 56 43.5**	**-1.6**
CCIG				*e*Sn	**Sn**	**01 57 57.3**	**-3.7**
CCIG				*e*Sg	**Sb**	**01 58 28.5**	**+5.9**
JTS	**JuntasAbangare**	**6.69**	**178**	Pn	**Pn**	**01 56 46.4**	**+0.7**
	comp=Z,6.7nm,0.3s,baz=44,slow=9.9,SNR=35						
JTS				Sn	**Sn**	**01 57 56.9**	**-5.1**
	comp=Z,2.9nm,0.3s,baz=284,slow=15,SNR=5.2						
JTS				Lg	Lg	01 58 29.0	
	comp=Z,3.8nm,0.3s,baz=240,slow=17,SNR=6.5						
JTS				LR	LR	01 59 07.3	
	comp=Z,86nm,21.9s,baz=26,slow=36						
JTS	**JuntasAbangare**	**6.69**	**178**	*e*Pn	**Pn**	**01 56 45.3**	**-0.4**
	comp=Z,22nm,0.4s						
JTS				*e*Sn	**Sn**	**01 57 58.3**	**-3.7**
JTS				*e*Sg	**Sb**	**01 58 31.5**	**+7.7**
JTS	**JuntasAbangare**	**6.69**	**178**	*e*P	**Pn**	**01 56 46.4**	**+0.7**
CMIG	**Matias Romero**	**9.22**	**272**	Pn	**Pn**	**01 57 18.4**	**-1.9**
	comp=Z,4.9nm,0.3s,baz=59,slow=10,SNR=17						
CMIG				Sn	Sn	01 58 53.7	-10
	comp=Z,2.7nm,0.3s,baz=227,slow=23,SNR=5.6						
CMIG				LR	LR	02 01 02.9	
	comp=Z,218nm,18.9s,baz=86,slow=38						
058A	**Arcadia**	**10.49**	**17**	P	**Pn**	**01 57 36.9**	**-0.7**
	baz=198						
059A	**Moore Haven**	**10.61**	**20**	P	**Pn**	**01 57 38.4**	**-0.9**
	baz=201						
060A	**Indiantown**	**10.95**	**24**	P	**Pn**	**01 57 44.6**	**+0.6**
	baz=205						
857A	**Zephyrhills**	**11.54**	**13**	P	**Pn**	**01 57 51.1**	**-0.9**
	baz=194						
757A	**Oxford**	**12.22**	**13**	P	**Pn**	**01 58 00.9**	**-0.5**
	baz=194						
656A	**Willston**	**12.54**	**11**	P	**Pn**	**01 58 04.3**	**-1.6**
	baz=192						
655A	**Horseshoe Beac**	**12.57**	**8**	P	**Pn**	**01 58 04.9**	**-1.3**
	baz=188						
552A	**Lynn Haven**	**13.06**	**360**	P	**Pn**	**01 58 11.3**	**-1.5**
	baz=180						
553A	**Crawfordville**	**13.13**	**3**	P	**Pn**	**01 58 12.6**	**-1.3**
	baz=183						
556A	**Lake Butler**	**13.19**	**11**	P	**Pn**	**01 58 13.8**	**-0.8**
	baz=192						
555A	**McAlpin**	**13.21**	**9**	P	**Pn**	**01 58 13.8**	**-1.1**
	baz=189						
452A	**Marianna**	**13.77**	**0**	P	**Pn**	**01 58 20.6**	**-1.9**
	baz=180						
455A	**Stateville**	**13.81**	**8**	P	**Pn**	**01 58 22.2**	**-0.9**
	baz=189,SNR=5.6						
456A	**Hilliard**	**13.96**	**12**	P	**Pn**	**01 58 24.8**	**-0.4**
	baz=193						
447A	**Lucedale**	**14.06**	**348**	P	**Pn**	**01 58 25.2**	**-1.4**
	baz=166						
353A	**Camilla**	**14.30**	**4**	P	**Pn**	**01 58 27.6**	**-2.2**
	baz=184						
355A	**Pearson**	**14.43**	**8**	P	**Pn**	**01 58 31.0**	**-0.6**
	baz=189						
356A	**Blackshear**	**14.53**	**11**	P	**Pn**	**01 58 32.6**	**-0.3**
	baz=192						
250A	**Grady**	**14.93**	**357**	P	Pn	01 58 35.2	-3.1
	baz=176						
251A	**Midway**	**15.01**	**359**	P	**Pn**	**01 58 37.8**	**-1.6**
	baz=179						
150A	**Eclectic**	**15.54**	**358**	P	**Pn**	**01 58 46.2**	**-0.3**
	baz=177						
LRAL	**Lakeview Retre**	**16.03**	**355**	P	**Pn**	**01 58 51.3**	**-1.5**
	baz=174						
HKT	**Hockley**	**16.11**	**325**	*e*Pn	**Pn**	**01 58 54.0**	**+0.2**
	comp=Z,22nm,0.8s						
HKT				*e*Sn	Sn	02 01 38.4	-14
Z49A	**Columbiana**	**16.15**	**356**	P	**Pn**	**01 58 51.9**	**-2.4**
	baz=176						
ROSC	**El Rosal**	**16.16**	**137**	LR	LR	02 05 59.4	
	comp=Z,58nm,18.2s,baz=271,slow=41						
Z50A	**Ashland**	**16.18**	**358**	P	**Pn**	**01 58 53.3**	**-1.5**
	baz=178						
Z47A	**Carrollton**	**16.31**	**352**	P	**Pn**	**01 58 56.7**	**+0.3**
	baz=170						
SDV	**Santo Domingo**	**16.37**	**118**	Pn	**Pn**	**01 58 57.3**	**-0.1**
	comp=Z,1.7nm,0.3s,baz=223,slow=2.6,SNR=9.1						
SDV	**Santo Domingo**	**16.37**	**118**	*e*Pn	**Pn**	**01 58 55.8**	**-1.7**
	comp=Z,7.9nm,0.6s						
GOGA	**Godfrey**	**16.40**	**5**	P	**Pn**	**01 58 57.0**	**-0.6**
	baz=186						
GOGA	**Godfrey**	**16.40**	**5**	*e*Pn	**Pn**	**01 58 57.0**	**-0.6**
Y49A	**Blount Mountai**	**16.80**	**357**	P	**Pn**	**01 59 01.9**	**-0.8**
	baz=176						
NATX	**Nacogdoches**	**16.98**	**332**	*e*Pn	**Pn**	**01 59 05.7**	**+0.8**
Y46A	**Houston**	**17.11**	**350**	P	**Pn**	**01 59 07.2**	**+0.7**
	baz=168						
833A	**Chaparral WMA,**	**17.22**	**313**	P	**Pn**	**01 59 07.8**	**-0.2**
	baz=128,SNR=21						
Y45A	**Yeager Farm, C**	**17.22**	**348**	P	**Pn**	**01 59 08.2**	**+0.3**
	baz=166						
X47A	**Russelville**	**17.59**	**353**	P	**Pn**	**01 59 14.3**	**+1.8**
	baz=172						
435B	**Jarrell**	**17.73**	**323**	P	**Pn**	**01 59 15.6**	**+1.4**
	baz=138,SNR=11						
OXF	**Oxford**	**17.82**	**349**	P	**Pn**	**01 59 17.7**	**+2.4**
	baz=167,SNR=5.7						
OXF	**Oxford**	**17.82**	**349**	*e*Pn	**Pn**	**01 59 17.3**	**+2.0**
	comp=Z,18nm,0.8s						
SJG	**San Juan**	**18.24**	**84**	LR	LR	02 05 45.0	
	comp=Z,116nm,19.3s,baz=253,slow=35						
CPCT	**Cooper Cave**	**18.37**	**2**	*e*P	**P**	**01 59 22.1**	**0.0**
KMSC	**Kings Mountain**	**18.39**	**10**	*e*P	**P**	**01 59 23.4**	**+1.1**
	comp=Z,9.2nm,0.8s						
WHTX	**Lake Whitney,**	**18.57**	**326**	P	**Pn**	**01 59 28.3**	**+3.8**
	baz=141,SNR=9.6						
TKL	**Tuckaleechee C**	**18.61**	**4**	P	**P**	**01 59 23.4**	**-1.5**
	comp=Z,0.2nm,0.3s,baz=158,slow=13,SNR=3.7						
TKL				S	Sn	02 02 39.6	-14
	comp=Z,0.4nm,0.3s,baz=90,slow=8.6,SNR=4.2						
TKL				LR	LR	02 06 35.4	
	comp=Z,42nm,19.3s,baz=244,slow=37						
TKL	**Tuckaleechee C**	**18.61**	**4**	*e*P	**P**	**01 59 25.4**	**+0.5**
	comp=Z,1.1nm,1.0s						
TKL				S	Sn	02 02 39.6	-14
V48A	**Smith Brothers**	**18.70**	**356**	P	**P**	**01 59 26.9**	**+1.2**
	baz=175						
JCT	**Junction City**	**18.87**	**318**	P	**Pn**	**01 59 33.3**	**+5.0**
	baz=132						
JCT	**Junction City**	**18.87**	**318**	*e*P	**P**	**01 59 27.4**	**-0.3**
	comp=Z,16nm,0.5s						
JCT				*e*Sn	Sn	02 02 48.6	-11
MIAR	**Mount Ida**	**18.98**	**338**	*e*P	**P**	**01 59 28.3**	**-0.6**
	comp=Z,9.6nm,1.2s						
MIAR				*e*Sn	Sn	02 02 44.1	-18
WVT	**Waverly**	**19.18**	**354**	*e*P	**P**	**01 59 32.6**	**+1.6**
	comp=Z,8.2nm,1.1s						
WVT				*e*Sn	Sn	02 02 50.6	-16
ABTX	**Abilene, Hawle**	**20.27**	**323**	*e*P	**P**	**01 59 43.3**	**+0.4**
	comp=Z,10.0nm,1.1s						
ABTX				*e*S	S	02 03 14.4	-16
T43A	**Greenville**	**20.48**	**348**	P	**P**	**01 59 46.2**	**+1.0**
	baz=166						
T42A	**Van Buren**	**20.59**	**347**	P	**P**	**01 59 47.3**	**+0.9**
	baz=164						
T41A	**Mountain View**	**20.76**	**345**	P	**P**	**01 59 48.7**	**+0.4**
	baz=162						
TXAR	**Lajitas Array**	**20.87**	**309**	P	**P**	**01 59 50.3**	**+0.6**
	comp=Z,3.1nm,0.8s,baz=126,slow=11,SNR=24						
TXAR				S	S	02 03 30.6	-12
	comp=Z,0.5nm,0.4s,baz=119,slow=19,SNR=5.7						
TX31	**Lajitas Ar. Si**	**20.87**	**309**	*e*P	**P**	**01 59 50.4**	**+0.7**
S44A	**Carbondale**	**20.90**	**351**	P	**P**	**01 59 50.7**	**+0.9**
	baz=169						
S43A	**Fulton Ridge,**	**20.91**	**349**	P	**P**	**01 59 50.8**	**+0.9**
	baz=167						
WCI	**Wyandotte Cave**	**21.15**	**358**	P	**P**	**01 59 53.3**	**+0.8**
	baz=177						
WCI	**Wyandotte Cave**	**21.15**	**358**	*e*P	**P**	**01 59 53.0**	**+0.6**
	comp=Z,14nm,0.9s						
R47A	**Wooly Knot Far**	**21.23**

baz=113
HEC Hector,Ludlow 32.92 309 P P 02 01 43.4 +1.4
baz=115
PDAR Pinedale Array 32.98 326 P P 02 01 42.5 -0.1
comp=Z,0.7nm,0.5s,baz=120,slow=9.9,SNR=7.9
HWUT Hardware Ranch 33.33 323 eP P 02 01 45.1 -0.4
comp=Z,1.2nm,0.7s
GSC Goldstone, Bar 33.47 309 P P 02 01 47.2 +0.4
baz=115
REDW Red Top Meadow 34.08 326 eP P 02 01 52.8 +0.7
comp=Z,8.8nm,1.1s
EDW2 Edwards Air Fo 34.19 308 P P 02 01 54.0 +1.0
baz=113
TPAW Teton Pass 34.22 326 eP P 02 01 53.7 +0.3
comp=Z,4.1nm,0.8s
MPMC Manual Prospec 34.29 310 P P 02 01 54.7 +0.7
baz=115
FXWY Fox Creek 34.36 326 eP P 02 01 55.1 +0.5
comp=Z,1.9nm,0.9s
DAC Darwin (Calif) 34.46 310 eP P 02 01 55.0 -0.5
comp=Z,2.7nm,0.8s
IMW Indian Meadow 34.49 326 eP P 02 01 56.3 +0.6
comp=Z,9.8nm,1.5s
RLMT Red Lodge 34.50 329 P P 02 01 56.1 +0.3
baz=137
ISA Isabella, Lake 34.86 309 eP P 02 01 58.9 0.0
comp=Z,11nm,1.4s
NV01 Mina Array Sit 35.92 313 eP P 02 02 08.8 +0.7
NVAR Mina Array Bea 35.92 313 P P 02 02 09.8 +1.7
comp=Z,0.7nm,0.6s,baz=114,slow=8.2,SNR=5.3
NVAR LR LR 02 18 41.7
comp=Z,23nm,20.8s,baz=272,slow=40
BOZ Bozeman (W) 36.01 328 P P 02 02 09.2 +0.6
baz=134
BOZ Bozeman (W) 36.01 328 eP P 02 02 08.7 0.0
comp=Z,2.5nm,0.8s
MCMT McKenzie Canyo 36.13 326 eP P 02 02 10.1 +0.3
EGMT Eagleton 36.87 332 P P 02 02 16.3 +0.4
baz=139
MSO Missoula 38.03 328 P P 02 02 25.8 0.0
baz=132
WVOR Wild Horse Val 38.10 319 eP P 02 02 26.6 +0.1
comp=Z,2.0nm,0.7s
YKA Yellowknife Ar 49.85 343 P P 02 03 59.7 -0.6
comp=Z,0.2nm,0.5s,baz=138,slow=7.9,SNR=6.4
IL1 Eielson Array 62.77 335 eP P 02 05 32.1 -0.4
ILAR Eielson Array 62.77 335 P P 02 05 32.5 -0.1
comp=Z,1.3nm,0.8s,baz=113,slow=4.9,SNR=16
JMIC Jan Mayen 69.71 20 LR LR 02 36 42.2
comp=Z,18nm,18.1s,baz=238,slow=36
ESDC Sonseca Array 72.73 53 P P 02 06 35.8 -0.1
comp=Z,1.3nm,0.8s,baz=280,slow=6.9,SNR=5.4
TORD Torodi Ar. Bea 83.37 78 P P 02 07 34.2 -1.1
comp=Z,0.5nm,1.0s,baz=294,slow=4.6,SNR=3.3
FINES FINESS Array B 84.96 27 P P 02 07 41.4 -1.1
comp=Z,1.4nm,1.0s,baz=289,slow=4.3,SNR=3.6

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*BJI **29** 01:57:47.5, 3.˚18S×136.˚65E, h19km, mb5.2/69, mB5.2/43, Ms4.7/54, Ms7 4.4/50*
*ISCJB **29** 01:57:49.0±0.9, 3.˚10S±0.˚03×136.˚15E±0.˚02, h11km±5km, mb5.2/185, MS4.5/42, Error ellipse: s-maj=4.4km s-min=3.7km az=9.1*
*IDC **29** 01:57:48.7±0.4, 3.˚05S×136.˚11E, h0km, mb5.0/30, mb1 5.1/34, mb1mx4.9/53, mbtmp5.0/34, ML5.2/3, MS4.4/28, Ms1 4.4/28, ms1mx4.2/52, Error ellipse: s-maj=15.3km s-min=9.9km az=69.0*
*MOS **29** 01:57:50.9±0.9, 3.˚02S×136.˚08E, h23km, mb5.4/64, MS4.1/6, Error ellipse: s-maj=8.3km s-min=4.7km az=115.0*
*GCMT **29** 01:57:51.9±0.2, 3.˚02S×136.˚04E, h24km, MW5.2/96, Moment Tensor Solution. s66,c87; s96,c132; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_T-4.83±.18; $M_{\theta\theta}$-0.79±.13; $M_{\phi\phi}$5.62±.13; $M_{r\theta}$-0.62±.23; $M_{\theta\phi}$-1.50±.09; $M_{\phi r}$3.67±.20; Best double couple: $M_0$6.55300×10^{16} NP1:ϕ_s169.00000°,δ62.00000°,λ-88.00000°. NP2: ϕ_s345.00000°,δ28.00000°,λ-94.00000°. Principal axes: T 7.1120, Plg17.0000°, Azm258.0000°; N -1.1170, Plg2.0000°, Azm348.0000°; P -5.9940, Plg73.0000°, Azm84.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **29** 01:57:51.9±2.0, 3.˚06S×136.˚11E, h18km±12km, mb5.2/83 Error ellipse: s-maj=4.6km s-min=3.6km az=47.0*
*DJA **29** 01:57:52.1±0.2, 3.˚5S×13.˚6E±.˚, h10km, M5.1/47, mb5.3/47, mB5.5/28, MLv5.6/8, Mw(mB)5.0/28*
ISC 29 01:57:52.5±0.5, 3.19S±0.03×136.10E±0.03, h25km±3km, h25km:pP-P, n477, σ1§61/526, mb5.2/185, MS4.4/42, 8C-30D, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
KMPI	Kaimana, Papua	2.43	259	P		Pb	01 58 33.7	-1.9
RKPI	Ransiki, Papua	2.54	311	P		Pn	01 58 31.9	-0.4
RKPI				S		Sn	01 59 02.9	+0.4
FAKI	Fak Fak	3.85	274	P		Pn	01 58 50.6	+0.4
FAKI	Fak Fak	3.85	274	ePn		Pn	01 58 50.6	+0.4
GENI	Genyem	4.11	82	P		Pn	01 58 55.2	+1.4
JAY	Jayapura	4.65	82	P		Pn	01 59 02.4	+1.1
JAY	Jayapura	4.65	82	P		Pn	01 59 02.6	+1.3
SIJI	Sorong	5.35	295	Pn		Pn	01 59 10.8	-0.1
	100nm,0.3s,baz=211,slow=22,SNR=119							
SIJI				Sn		Sn	02 00 10.2	-1.6
	188nm,0.3s,baz=295,slow=23,SNR=29							
SIJI				LR		LR	02 01 50.9	
	comp=Z,7μm,19.0s,baz=104,slow=46							
BNDI	Bandanaira	6.32	258	P		Pn	01 59 25.3	+1.1
	688nm,1.0s,8μm							
MSAI	Masohi	7.16	269	P		Pn	01 59 37.2	+1.5
	106nm,0.7s,2μm							
AAI	Ambon	7.90	266	P		Pn	01 59 46.9	+0.9
	295nm,0.7s,3μm							
AAI	Ambon	7.90	266	P		Pn	01 59 47.8	+1.8
AAI				pmax		pmax		
	comp=Z,293nm,0.8s							
LBMI	Labuha	8.96	286	P		Pn	02 00 00.3	-0.1
	comp=Z,405nm,0.9s,comp=Z,4μm							
SANI	Sanana	10.16	276	P		Pn	02 00 15.5	-1.5
MTN	Manton Dam	10.77	207	ePn		Pn	02 00 27.3	+2.0
PMG	Port Moresby	12.60	120	Pn		Pn	02 00 51.0	+0.7
	comp=Z,5.8nm,0.3s,baz=312,slow=9.7,SNR=29							
PMG				Sn		Sn	02 03 09.8	-0.2
	comp=Z,1.4nm,0.3s,baz=204,slow=19,SNR=4.9							
PMG				LR		LR	02 07 36.0	
	comp=Z,4μm,18.3s,baz=322,slow=46							
PMG	Port Moresby	12.60	120	ePn		Pn	02 00 51.7	+1.3
PMG				Sn		Sn	02 03 09.8	-0.2
PMG	Port Moresby	12.60	120	d iP		Pn	02 00 52.3	+1.9
PMG				pmax		pmax		
	comp=Z,576nm,1.2s							
KMSI	Cibinong	12.68	287	P		P	02 01 05.2	+2.8
COEN	Coen	12.78	147	ePn		Pn	02 00 53.8	+1.0
COEN				eSn		Sn	02 03 12.3	-2.0
SOEI	Soe	13.44	240	P		Pn	02 01 03.1	+1.2
	comp=Z,439nm,1.3s,comp=Z,4μm							
SOEI	Soe	13.44	240	ePn		Pn	02 01 02.1	+0.2
SOEI				eSn		Sn	02 03 32.3	+1.7
KDI	Kendari	13.47	266	P		Pn	02 01 03.1	+0.8
	comp=Z,183nm,1.1s,comp=Z,2μm							
LUWI	Luwuk	13.49	279	P		Pn	02 01 01.6	-0.8
	comp=Z,254nm,1.2s,comp=Z,2μm							
LUWI	Luwuk	13.49	279	ePn		Pn	02 01 01.2	-1.2
BATI	Baumata	14.17	240	Pn		Pn	02 01 12.1	+0.3
	comp=Z,13nm,0.3s,baz=18,slow=1.9,SNR=16							
BATI				Sn		Sn	02 03 47.6	-0.8
	comp=Z,4.3nm,0.3s,baz=74,slow=18,SNR=2.5							
MRSI	Marisa	14.61	284	P		Pn	02 01 18.6	+0.8
	comp=Z,44nm,0.7s,comp=Z,2μm							
APSI	Ampana	14.62	279	P		Pn	02 01 17.8	-0.1
	comp=Z,323nm,0.8s,comp=Z,2μm							
BSSI	Bau Bau, Buton	15.83	259	P		P	02 01 36.4	-1.1
	comp=Z,125nm,1.4s,comp=Z,1μm							
BNSI	Bone	16.00	265	P		P	02 01 38.0	-1.4
	comp=Z,79nm,0.8s,comp=Z,993nm							
RABL	Rabaul	16.06	94	ePn		P	02 01 41.9	+1.7
	comp=Z,224nm,1.1s							
TTSI	Tana Toraja	16.25	270	P		P	02 01 43.7	+1.5
PCI	Palu	16.41	278	P		P	02 01 45.2	+1.2
PCI	Palu	16.41	278	P		P	02 01 45.2	+1.2
PCI				pmax		pmax		
	comp=Z,342nm,1.0s							
MPSI	Mapaga	16.57	282	P		P	02 01 44.8	-0.9
	comp=Z,59nm,1.2s,comp=Z,732nm							
WRAB	Tennant Creek	16.73	186	ePn		Pn	02 01 43.4	-1.9
	comp=Z,195nm,0.9s							
WRAB				eSn		Sn	02 04 43.3	-7.2
WRAB	Tennant Creek	16.73	186	eP		Pn	02 01 43.4	-1.9
WRAB				pmax		pmax		
	comp=Z,195nm,0.9s							
WB2	Warramunga Arr	16.73	186	eSn		Sn	02 04 43.6	-7.1
WB2				eSn		Sn	02 04 45.5	-5.2
WRA	Warramunga Arr	16.73	186	Pn		Pn	02 01 43.6	-1.8
	comp=Z,2.2nm,0.3s,baz=5.4,slow=13,SNR=54							
WRA				Sn		Sn	02 04 44.9	-5.9
	comp=Z,6.9nm,0.3s,baz=7.5,slow=22,SNR=10							
WRA				LR		LR	02 08 49.0	
	comp=Z,5μm,18.4s,baz=0.0,slow=39							
WBSI	Waikabubak, Su	17.79	248	P		Pn	02 01 58.3	-0.3
FITZ	Fitzroy Crossi	18.01	214	ePn		Pn	02 02 00.5	-0.8
	comp=Z,105nm,0.8s							
GUMO	Guam	18.81	27	LR		LR	02 09 52.8	
	comp=Z,717nm,19.0s,baz=206,slow=39							
PLAI	Plampang	19.05	252	P		P	02 02 12.8	-0.4
SMKI	Samarinda	19.07	278	P		Pn	02 02 20.0	+5.7
BKB	Balikpapan	19.28	275	P		Pn	02 02 22.9	+6.1
MYLDM	Lahad Datu	19.45	295	eP		Pn	02 02 21.1	+2.3
	comp=Z,46nm,1.0s							
CTA	Charters Tower	19.50	150	P		Pn	02 02 20.1	+0.8
	comp=Z,3.4nm,0.3s,baz=330,slow=12,SNR=37							
CTA				S		Sn	02 05 58.6	+1.0
	comp=Z,0.3nm,0.3s,baz=66,slow=20,SNR=2.8							
CTAO	Charters Tower	19.50	150	eP		Pn	02 02 20.3	+1.0
	comp=Z,98nm,1.0s							
CTAO	Charters Tower	19.50	150	eP		Pn	02 02 20.3	+1.0
CTAO				pmax		pmax		
	comp=Z,98nm,1.0s							
TWSI	Taliwang, Sumb	19.88	253	P		Pn	02 02 23.9	-0.1
	comp=Z,38nm,1.2s,comp=Z,912nm							
KBKI	Kotabaru	19.90	269	P		Pn	02 02 25.8	+1.6
	comp=Z,327nm,1.1s,comp=Z,3μm							
AS01	Alice Springs	20.46	186	eP		Pn	02 02 30.2	-0.5
AS31	Alice Springs	20.46	186	eP		Pn	02 02 30.9	+0.2
	comp=Z,63nm,0.8s							
ASAR	Alice Springs	20.46	186	P		Pn	02 02 31.0	+0.3
	comp=Z,239nm,1.0s,baz=11,slow=11,SNR=505							
ASAR				S		S	02 06 13.8	-2.8
	comp=Z,55nm,1.0s,baz=7.5,slow=28,SNR=5.3							
ASAR				LR		LR	02 11 05.6	
	comp=Z,4μm,18.9s,baz=11,slow=39							
ASAR	Alice Springs	20.46	186	P		Pn	02 02 31.0	+0.3
ASAR				S		S	02 06 13.8	-2.8
ASAR				pmax		pmax		
	comp=Z,242nm,1.0s							
ASAR				smax		smax		
	comp=N,55nm,1.0s							
ASAR				MLR		MLR		
	comp=Z,4μm,18.9s							
MTKI	Muara Teweh, K	21.30	276	P		P	02 02 41.6	+3.9
SRBI	Singaraja	21.34	256	P		P	02 02 41.5	+3.5
	comp=Z,52nm,1.0s,comp=Z,2μm							
IGBI	Denpasar	21.57	254	P		P	02 02 44.8	+4.4
KKM	Kota Kinabalu	21.87	295	eP		P	02 02 43.8	0.0
	comp=Z,40nm,0.9s							
JAGI	Jajag, Banyuwa	22.45	256	P		P	02 02 49.1	-0.8
JAGI	Jajag, Banyuwa	22.45	256	eP		P	02 02 48.5	-1.4
	comp=Z,62nm,0.9s							
BLJI	Banyuglugur	22.85	258	P		P	02 02 55.8	+1.6
	comp=Z,105nm,0.6s							
GMJI	Gumukmas	23.09	256	P		P	02 02 57.1	+0.4
	comp=Z,38nm,1.1s							
GRJI	Gresik	23.81	260	P		P	02 03 06.1	+2.3
	comp=Z,154nm,1.0s,comp=Z,972nm							
MBWA	Marble Bar	23.93	220	eP		P	02 03 06.9	+2.1
PATS	Pohnpei	24.31	66	eP		P	02 03 08.0	-0.4
	comp=Z,79nm,1.0s							
PBKI	Pangkalan Bun	24.40	270	P		P	02 03 13.4	+4.2
TBJI	Tambak Boyo	24.42	261	P		P	02 03 17.3	+7.9
SBUM	Sibu	24.52	283	eP		P	02 03 12.5	+2.2
	comp=Z,18nm,1.1s							
PWJI	Pagerwojo	24.64	258	P		P	02 03 10.8	-0.6
STKI	Sintang	24.82	277	P		P	02 03 15.5	+2.4
	comp=Z,54nm,0.6s,comp=Z,48μm							
NGJI	Ngawi	24.87	259	P		P	02 03 18.8	+5.3
PCJI	Pacitan	25.28	258	P		P	02 03 17.3	+0.1
	comp=Z,103nm,1.1s							
WOJI	Wonogiri, Jawa	25.47	259	P		P	02 03 19.2	+0.3
	comp=Z,60nm,0.9s							
SMRI	Semarang	25.84	260	P		P	02 03 25.4	+3.1
	comp=Z,194nm,1.2s							
SMRI	Semarang	25.84	260	eP		P	02 03 24.7	+2.4
UGM	Wanagama	25.88	258	P		P	02 03 25.4	+2.7
	comp=Z,86nm,1.3s							
UGM	Wanagama	25.88	258	eP		P	02 03 23.4	+0.7
	comp=Z,63nm,0.8s							
KSM	Kuningan	26.19	280	eP		P	02 03 27.1	+1.6
	comp=Z,46nm,0.8s							
EIDS	Eidsvold	26.34	148	eP		P	02 03 28.9	+2.2
	comp=Z,117nm,0.8s							
KPJI	Karang Pucung	27.36	260	P		P	02 03 37.1	+1.1
	comp=Z,85nm,0.7s							
FORT	Forrest	28.47	195	eP		P	02 03 46.9	+1.2
CISI	Cisompet, Garu	28.48	260	P		P	02 03 55.1	+9.0
CISI	Cisompet, Garu	28.48	260	eP		P	02 03 47.1	+1.0
	comp=Z,51nm,0.7s							
LEM	Lembang	28.59	262	P		P	02 03 51.5	+4.2
	comp=Z,20nm,0.6s,baz=288,slow=3.2,SNR=3.7							
LEM				LR		LR	02 16 59.8	
	comp=Z,614nm,21.2s,baz=58,slow=40							
LEM	Lembang	28.59	262	P		P	02 03 51.5	+4.2
LEM				pmax		pmax		
	comp=Z,14nm,0.4s							
LEM				MLR		MLR		
	comp=Z,614nm,21.2s							
STKA	Stephens Creek	29.00	170	P		P	02 03 51.2	+0.8
	comp=Z,4.5nm,0.6s,baz=339,slow=11,SNR=9.5							
STKA				LR		LR	02 16 32.5	
	comp=Z,2μm,18.1s,baz=348,slow=39							
STKA	Stephens Creek	29.00	170	eP		P	02 03 51.9	+1.5
	comp=Z,1.6nm,0.9s							
STKA	Stephens Creek	29.00	170	eP		P	02 03 51.9	+1.5
STKA				pmax		pmax		
	comp=Z,2.0nm,0.9s							
BBOO	Buckleboo	29.46	180	eP		P	02 03 54.6	+0.1
	comp=Z,33nm,1.0s							
JCJ	Chichijima	30.68	11	LR		LR	02 13 34.2	
	comp=Z,825nm,18.9s,baz=104,slow=31							
JOW	Kunigami	30.79	346	LR		LR	02 16 28.7	
	comp=Z,441nm,19.4s,baz=88,slow=36							
ARMA	Armidale	30.81	153	eP		P	02 04 08.3	+1.7
	comp=Z,26nm,0.8s							
MDSI	Maura Dua	31.87	267	P		P	02 04 17.2	+1.1
	comp=Z,24nm,1.2s							
LWLI	Liwa	32.01	266	P		P	02 04 21.9	+4.5
MYKOM	Kota Tinggi	32.61	278	eP		P	02 04 22.7	+0.1
	comp=Z,16nm,0.9s							
QZH	Quanzhou	32.73	330	||eP	P	02 04 22.0	-1.4
QZH				S		S	02 09 37.0	-1.7
QZH				LR		LR		
	comp=Z,220nm,12.3s							
QZH				LR		LR		
	comp=Z,320nm,17.5s							
QZH				LR		LR		
	comp=Z,370nm,15.6s							
NWAO	Narrogin (SRO)	34.45	209	LR		LR	02 20 01.2	
	comp=Z,943nm,18.2s,baz=264,slow=38							
KRJI	Kerinci	34.62	271	P		P	02 04 53.0	+13
DZM	Mont Dzumac	34.92	125	P		P	02 04 42.1	-0.6
	comp=Z,4.7nm,0.7s,baz=155,slow=7.3,SNR=5.0							
DZM	Mont Dzumac	34.92	125	eP		P	02 04 43.1	+0.4
	comp=Z,54nm,1.4s							
DZM	Mont Dzumac	34.92	125	eP		P	02 04 43.0	+0.4
	comp=Z,22nm,1.2s							
BKNI	Bangkinang	35.22	275	P		P	02 04 56.6	+11
UBPT	Khong Chiam	35.44	302	P		P	02 04 46.3	-0.8
	comp=Z,30nm,1.0s							
PDSI	Padang	35.68	273	P		P	02 04 50.0	+0.7
	comp=Z,36nm,0.8s,comp=Z,6μm							
IPM	Ipoh	35.86	282	eP		P	02 04 51.7	+0.9
	comp=Z,8.1nm,0.7s							
JHJ	Hachijo jima 2	36.28	5	LR		LR	02 17 07.5	
	comp=Z,776nm,20.3s,baz=218,slow=32							
KULM	Kulim	36.40	283	eP		P	02 04 55.5	+0.1
	comp=Z,13nm,1.0s							
JNU	Nakatsue	36.45	353	P		P	02 04 53.7	-1.9
	comp=Z,44nm,1.0s,baz=190,slow=4.5,SNR=23							
JNU				LR		LR	02 18 03.8	
	comp=Z,442nm,20.4s,baz=118,slow=34							
JNU	Nakatsue	36.45	353	eP		P	02 04 54.3	-1.2
	comp=Z,26nm,1.1s							
MNSI	Mandailing Nat	36.72	276	P		P	02 05 00.6	+2.5
CHBT	CHBT	37.09	296	P		P	02 05 09.5	+8.3
SKNT	Sakolnakorn	37.51	303	P		P	02 05 03.6	-1.2
	comp=Z,16nm,1.3s							
PSI	Prapat	37.63	279	P		P	02 05 05.0	-1.0
	comp=Z,8.0nm,0.7s,baz=142,slow=3.8,SNR=7.1							
PSI	Prapat	37.63	279	eP		P	02 05 05.7	-0.3
	comp=Z,22nm,1.0s							
PSI	Prapat	37.63	279	eP		P	02 05 05.7	-0.3
PSI				pmax		pmax		
	comp=Z,22nm,1.0s							
TRTT	Trang	37.94	287	P		P	02 05 08.5	+0.1
	comp=Z,34nm,1.0s,comp=Z,411nm							
INU	Inuyama	38.35	1	eP		P	02 05 10.6	-1.0
	comp=Z,12nm,1.1s							
NJ2	Nanjing	38.69	336	eP		P	02 05 14.8	+0.3
NJ2				S		S	02 11 10.3	+0.3
NJ2				pmax		pmax		
	comp=Z,14nm,0.9s							
NJ2				LR		LR		
	comp=Z,520nm,18.4s							
NJ2				LR		LR		
	comp=Z,330nm,19.5s							
NJ2				LR		LR		
	comp=Z,1μm,20.6s							
CHAI	Chaiyaphum	38.70	300	P		P	02 05 14.5	-0.3
	comp=Z,9.9nm,0.8s,comp=Z,76nm							
GSI	Gunungsitoli	38.77	276	P		P	02 05 24.5	+9.1
GSI	Gunungsitoli	38.77	276	eP		P	02 05 15.9	+0.5
	comp=Z,33nm,0.9s							
WHN	Wuhan	39.46	330	||P	P	02 05 21.5	+0.6
WHN				S		S	02 11 18.3	-3.2
WHN				LR		LR		
	comp=Z,500nm,11.0s							
WHN				LR		LR		
	comp=Z,500nm,13.2s							
WHN				LR		LR		
	comp=Z,610nm,23.5s							
MAJO	Matsushiro	39.58	3	eP		P	02 05 19.1	-2.7
	comp=Z,9.4nm,0.8s							
MAJO	Matsushiro	39.58	3	c iP		P	02 05 19.6	-2.3
MAJO				pmax		pmax		
	comp=Z,10.0nm,0.8s							
MAT	Matsushiro	39.58	3	P		P	02 05 18.6	-3.3
MAT				S		S	02 11 23.0	-0.3
MJAR	Matsushiro Arr	39.58	3	P		P	02 05 19.6	-2.3
	comp=Z,6.5nm,0.9s,baz=189,slow=9.5,SNR=17							
MJAR				LR		LR	02 19 21.8	
	comp=Z,536nm,20.2s,baz=175,slow=33							
MJB9	Matsu-Tunnel	39.58	3	eP		P	02 05 20.3	-1.6
	comp=Z,9.8nm,0.8s							
PHET	Kaeng Krachan	39.59	295	P		P	02 05 23.7	+1.4
	comp=Z,10nm,1.0s							
PBKT	Sadao Pong	39.88	301	P		P	02 05 23.9	-0.7
	comp=Z,15nm,0.9s							
TJN	Taejon	40.20	349	⇑ i P		P	02 05 26.0	-1.0
SRDT	SRDT	40.58	296	P		P	02 05 30.7	+0.2
	comp=Z,48nm,1.1s,comp=Z,3μm							
PHIT	Phitsanulok	40.62	301	P		P	02 05 31.4	+0.6
	comp=Z,15nm,1.1s,comp=Z,353nm							
GYA	Guiyang	40.97	318	P		P	02 05 33.8	+0.1
GYA				PP		PnPn	02 07 14.5	+1.6
GYA				S		S	02 11 47.5	+2.9
GYA				SS		SS	02 14 43.0	-4.2
GYA				pmax		pmax		
	comp=Z,20nm,1.0s							
GYA				pmax		pmax		
	comp=Z,120nm,5.9s							
GYA				LR		LR		
	comp=Z,690nm,17.6s							
GYA				LR		LR		
	comp=Z,610nm,18.2s							
GYA				LR		LR		
	comp=Z,640nm,17.9s							
NANT	Nan	41.12	303	P		P	02 05 35.5	+0.6
	comp=Z,6.3nm,1.0s							
KSAR	Wonju Array Be	41.14	350	P		P	02 05 33.6	-1.2
KSAR				PcP		PcP	02 07 33.3	-0.6
KSAR	Wonju Array Be	41.14	350	P		P	02 05 33.6	-1.2
KSAR							02 07 33.3	
KSRS	Korea Array	41.15	350	P		P	02 05 33.6	-1.2
	comp=Z,5.9nm,0.9s,baz=171,slow=10,SNR=32							
KSRS				PcP		PcP	02 07 33.3	-0.6
	comp=Z,3.2nm,1.1s,baz=181,slow=3.7,SNR=5.6							
KSRS				LR		LR	02 24 36.1	
	comp=Z,165nm,18.3s,baz=170,slow=39							
KS01	Wonju Array Si	41.18	350	eP		P	02 05 33.8	-1.3
ENH	Enshi	41.88	325	eP		P	02 05 41.1	+0.1
	comp=Z,6.0nm,0.8s							
LAMP	Lampang	41.89	302	P		P	02 05 41.9	+0.7
	comp=Z,13nm,0.9s							
PAYA	Payao	42.08	304	P		P	02 05 43.0	+0.2
	comp=Z,15nm,0.9s,comp=Z,147nm							
CM01	Chiang Mai Arr	42.41	302	eP		P	02 05 45.9	+0.4
CMAR	Chiang Mai Arr	42.44	302	P		P	02 05 45.9	+0.2
	comp=Z,21nm,0.8s,baz=125,slow=6.8,SNR=91							
CMMT	Chiang Mai	42.60	302	P		P	02 05 46.1	-0.9
	comp=Z,39nm,0.9s							
CHTO	Chiang Mai	42.60	302	P		P	02 05 47.2	+0.2
	comp=Z,172nm,0.9s,comp=Z,2μm							
CHTO	Chiang Mai	42.60	302	eP		P	02 05 47.3	+0.2
	comp=Z,27nm,0.8s							
CHTO	Chiang Mai	42.60	302	P		P	02 05 47.7	+0.6
	SNR=9.4							
CHTO	Chiang Mai	42.60	302	P		P	02 05 47.7	+0.6
	SNR=9.4							
CHTO	Chiang Mai	42.60	302	eP		P	02 05 47.3	+0.2
CHTO				pmax		pmax		
	comp=Z,27nm,0.8s							
KMI	Kunming	42.89	313	P		P	02 05 51.3	+1.7
KMI				pP		pP	02 05 56.0	-1.2
KMI				sP		sP	02 05 58.0	-2.2
KMI				PP		PP	02 07 31.5	+2.1
KMI				S		S	02 12 14.8	+1.5
KMI				pmax		pmax		
	comp=Z,12nm,0.5s							
KMI				pmax		pmax		
	comp=Z,110nm,4.2s							
KMI				LR		LR		
	comp=Z,450nm,20.0s							
KMI				LR		LR		
	comp=Z,560nm,20.5s							
KMI				LR		LR		
	comp=Z,380nm,17.3s							
TIA	Tai'an	43.02	337	P		P	02 05 49.5	-0.7
TIA				S		S	02 12 14.0	-0.4
TIA				pmax		pmax		
	comp=Z,18nm,1.1s							
TIA				LR		LR		
	comp=Z,380nm,18.1s							
TIA				LR		LR		
	comp=Z,140nm,15.2s							
TIA				LR		LR		
	comp=Z,530nm,17.3s							
CMAI	Chiengmai2	43.03	304	P		P	02 05 51.3	+0.6
	comp=Z,116nm,1.2s,comp=Z,7μm				

CD2 LR LR
comp=Z,480nm,13.4s
SNY Shenyang 46.23 347 ⇓P **P 02 06 14.8 -0.9**
SNY pmax pmax
comp=Z,26nm,1.5s
TIY Taiyuan 46.25 334 *e*P **P 02 06 16.0 0.0**
TIY sP **sP 02 06 31.5 +4.9**
TIY S **S 02 13 03.0 +1.7**
TIY sS **sS 02 13 11.0 -2.9**
TIY LR LR
comp=Z,510nm,20.5s
TIY LR LR
comp=Z,300nm,17.1s
TIY LR LR
comp=Z,370nm,19.9s
VLA Vladivostok 46.26 356*d i*P **P 02 06 15.6 -0.2**
VLA pmax pmax
comp=Z,58nm,0.9s
BJT Baijiatuau 46.73 339 *e*P **P 02 06 19.1 -0.5**
comp=Z,37nm,1.2s
BJT Baijiatuau 46.73 339 *e*P **P 02 06 19.1 -0.5**
BJT pmax pmax
comp=Z,37nm,1.2s
BJI Beijing 46.75 339 P **P 02 06 19.5 -0.2**
BJI S **S 02 13 07.3 -0.9**
BJI pmax pmax
comp=Z,71nm,0.9s
BJI LR LR
comp=Z,600nm,18.3s
BJI LR LR
comp=Z,380nm,18.1s
BJI LR LR
comp=Z,610nm,19.9s
USRK Ussuriysk Ar. 47.32 356 P **P 02 06 23.9 -0.3**
comp=Z,23nm,0.8s,baz=177,slow=6.9,SNR=36
USRK LR LR 02 24 16.7
comp=Z,534nm,19.4s,baz=155,slow=34
ASAJ Asahikawa 47.46 6 P **P 02 06 24.9 -0.3**
comp=Z,7.1nm,0.5s,baz=34,slow=9.2,SNR=9.7
CN2 Changchun 47.75 350 *e*P **P 02 06 26.0 -1.5**
CN2 *es*P pP 02 06 31.8 -3.4
CN2 pmax pmax
comp=Z,30nm,0.8s
CN2 LR LR
comp=Z,310nm,18.0s
CN2 LR LR
comp=Z,260nm,18.0s
CN2 LR LR
comp=Z,330nm,20.0s
MDJ Mudanjiang 47.95 354 P **P 02 06 26.5 -2.5**
MDJ sP pP 02 06 34.3 -2.4
MDJ S **S 02 13 25.5 +0.2**
MDJ sS sS 02 13 37.0 -0.9
MDJ ScS **ScS 02 16 16.5 -4.3**
MDJ pmax pmax
comp=Z,83nm,0.9s
MDJ LR LR
comp=Z,290nm,13.5s
MDJ LR LR
comp=Z,250nm,15.1s
MDJ LR LR
comp=Z,460nm,22.3s
MDJ Mudanjiang 47.95 354 *e*P **P 02 06 28.5 -0.6**
comp=Z,72nm,1.1s
HHC Hu-ho-hao-te 49.23 335 *e*P **P 02 06 39.5 +0.4**
HHC PcP **PcP 02 08 00.0 -2.0**
HHC S **S 02 13 41.0 -2.7**
HHC SS **SS 02 17 14.3 -1.2**
HHC pmax pmax
comp=Z,41nm,1.1s
HHC pmax pmax
comp=Z,100nm,6.1s
HHC LR LR
comp=Z,1μm,14.5s
HHC LR LR
comp=Z,1μm,14.9s
HHC LR LR
comp=Z,1μm,15.2s
KUR Kuril'sk 49.34 11 *i*P **P 02 06 40.4 +0.7**
LZH Lanzhou 49.34 325 *e*P **P 02 06 41.3 +1.2**
LZH pP pP 02 06 47.3 -0.5
LZH sP sP 02 06 49.8 -1.0
LZH S **S 02 13 46.3 +0.7**
LZH sS sS 02 13 58.3 +0.1
LZH SS **SS 02 17 16.0 -1.6**
LZH pmax pmax
comp=Z,39nm,0.9s
LZH pmax pmax
comp=Z,150nm,4.6s
LZH LR LR
comp=Z,1μm,14.2s
LZH LR LR
comp=Z,1μm,15.2s
LZH LR LR
comp=Z,1μm,17.9s
BTO Baotou 49.69 334 *e*P **P 02 06 40.5 -2.1**
YSS Yuzh-Sakhalins 50.28 6 *e*P **P 02 06 45.9 -0.9**
comp=Z,43nm,1.0s
YSS Yuzh-Sakhalins 50.28 6⇑*i*P **P 02 06 46.5 -0.3**
YSS *e* 02 06 53.4
YSS pmax pmax
comp=Z,30nm,0.9s
URZ Urewera 51.15 138 *e*P **P 02 06 54.5 +0.9**
comp=Z,26nm,1.1s
BKZ Black Stump Fm 51.25 140 *e*P **P 02 06 55.5 +1.1**
comp=Z,22nm,1.1s
SHL Shillong 51.49 306⇓*i*P **P 02 06 56.0 -0.6**
KLR Kul'dur 52.35 356 P **P 02 07 01.5 -0.8**
comp=Z,3.3nm,1.0s,baz=186,slow=5.4,SNR=82
KLR LR LR 02 27 15.2
comp=Z,62nm,19.7s,slow=34
KLR Kul'dur 52.35 356*d i*P **P 02 07 01.7 -0.6**
AFI Afiamalu 52.52 105 LR LR 02 28 46.6
comp=Z,285nm,19.9s,baz=274,slow=35
GRNR Gornyy 53.75 0 *e*P **P 02 07 12.0 -0.7**
GRNR pmax pmax
comp=Z,96nm,1.3s
GTA Gaotai 53.95 325 ⇓P **P 02 07 15.0 +0.5**
GTA pP sP 02 07 24.5 -0.7
GTA sP pP 02 07 28.3 +6.1
GTA S **S 02 14 49.3 +0.5**
GTA sS sS 02 15 06.0 +4.4
GTA SS **SS 02 18 31.3 +0.8**
GTA pmax pmax
comp=Z,53nm,1.2s
GTA pmax pmax
comp=Z,170nm,7.0s
GTA LR LR
comp=Z,220nm,17.1s
GTA LR LR
comp=Z,210nm,19.0s
GTA LR LR
comp=Z,280nm,16.2s
LSA Lhasa 54.02 311 P **P 02 07 17.0 +1.5**
LSA pmax pmax
comp=Z,39nm,1.1s
LSA Lhasa 54.02 311 *e*P **P 02 07 16.5 +0.9**
comp=Z,22nm,0.8s
LSA Lhasa 54.02 311 *e*P **P 02 07 16.5 +0.9**
LSA pmax pmax
comp=Z,22nm,0.8s
HIA Hailar 54.14 347 *e*P **P 02 07 14.9 -0.7**
comp=Z,15nm,0.7s
HIA Hailar 54.14 347 *e*P **P 02 07 14.9 -0.7**
HIA pmax pmax
comp=Z,15nm,0.7s
ODAN Odare 55.69 306 *e*P **P 02 07 28.1 +0.7**
comp=Z,200nm,0.8s
PALK Pallekele 56.25 281 *e*P **P 02 07 31.6 +0.2**
PALK Pallekele 56.25 281 *e*P **P 02 07 31.6 +0.2**
NKL Nikolayevsk 56.27 3 *e*P **P 02 07 31.0 +0.3**
NKL pmax pmax
comp=Z,86nm,1.0s
SKR Severo-Kuril's 56.35 15⇑*e*P **P 02 07 30.2 -1.2**
RAMN Ramite 56.37 305 *e*P **P 02 07 33.3 +1.0**
comp=Z,222nm,0.8s
ULN Ulaanbaatar 56.85 337 *e*P **P 02 07 35.3 +0.1**
comp=Z,12nm,0.8s
ULN Ulaanbaatar 56.85 337 P **P 02 07 35.6 +0.3**
SNR=17
ULN Ulaanbaatar 56.85 337 P **P 02 07 35.6 +0.3**
SNR=17
ULN Ulaanbaatar 56.85 337*d i*P **P 02 07 35.0 -0.2**
ULN pmax pmax
comp=Z,27nm,1.1s
JIRN Jiri 56.99 306 *e*P **P 02 07 37.6 +0.7**

SONM Songino Array 57.08 337 P **P 02 07 36.3 -0.6**
comp=Z,6.1nm,0.8s,baz=151,slow=8.2,SNR=36
SONM LR LR 02 32 19.7
comp=Z,323nm,19.7s,baz=128,slow=36
SONA1 Songino Array 57.09 337 *e*P **P 02 07 36.0 -0.9**
ZEA Zeya 57.21 354 *e*P **P 02 07 37.0 -0.4**
ZEA pmax pmax
comp=N,65nm,1.0s
ZEA pmax pmax
comp=Z,76nm,1.0s
GUN Gumba 57.34 306 *e*P **P 02 07 40.2 +0.9**
comp=Z,196nm,0.8s
PKIN Phulchoki 57.60 306 *e*P **P 02 07 42.2 +1.1**
comp=Z,74nm,0.6s
KKN Kakani 57.78 306 *e*P **P 02 07 42.9 +0.6**
comp=Z,158nm,0.9s
DMN Daman 57.85 305 *e*P **P 02 07 43.6 +0.8**
comp=Z,180nm,0.9s
CIT Chita 58.24 344 *e*P **P 02 07 45.1 +0.3**
CIT *e* 02 07 59.5
CIT *e* 02 08 29.8
CIT pmax pmax
comp=Z,119nm,1.3s
GKN Gorkha 58.38 306 *e*P **P 02 07 47.3 +0.9**
comp=Z,283nm,1.0s
PEA0B Petropavlovsk- 58.97 15 *e*P **P 02 07 51.2 +1.4**
comp=Z,27nm,0.9s
PETK Petropavlovsk- 58.97 15 P **P 02 07 49.9 +0.1**
comp=Z,9.5nm,0.6s,baz=150,slow=3.3,SNR=23
PETK LR LR 02 29 59.8
comp=Z,182nm,22.0s,baz=202,slow=33
KOLN Koldanda 59.14 305 *e*P **P 02 07 52.8 +1.1**
comp=Z,168nm,0.9s
PET Petropavlovsk 59.14 16 *e*P **P 02 07 51.2 +0.2**
PET *es* **S 02 15 56.3 -0.5**
PET pmax pmax
comp=Z,30nm,1.2s
PET pmax pmax
comp=Z,100nm,14.2s
DANN Dangsing 59.23 306 *e*P **P 02 07 53.8 +1.3**
comp=Z,15nm,0.9s
PYUN Piuthan 59.76 305 *e*P **P 02 07 57.2 +1.1**
comp=Z,638nm,0.9s
ZAK Zakamensk 60.35 336 *e*P **P 02 07 58.1 -1.4**
ZAK pmax pmax
comp=Z,35nm,1.3s
CLNS Chul'man 60.52 353 *e*P **P 02 07 59.5 -1.0**
CLNS pmax pmax
comp=Z,47nm,1.1s
CLNS pmax pmax
comp=N,27nm,1.0s
CLNS pmax pmax
comp=E,16nm,1.2s
TLY Talaya 61.23 338 P **P 02 08 05.1 -0.3**
comp=E,10nm,0.7s,baz=182,slow=3.5,SNR=6.2
TLY LR LR 02 35 06.4
comp=E,174nm,19.7s,baz=146,slow=37
TLY Talaya 61.23 338 P **P 02 08 06.1 +0.7**
SNR=6.3
TLY Talaya 61.23 338 P **P 02 08 06.1 +0.7**
SNR=6.3
TLY Talaya 61.23 338 *e*P **P 02 08 05.1 -0.3**
TLY *es* **S 02 16 30.3 +6.5**
TLY pmax pmax
comp=Z,23nm,1.1s
TLY MLR MLR
comp=Z,127nm,15.0s
IRK Irkutsk 61.45 338 *e*P **P 02 08 05.5 -1.3**
IRK pmax pmax
comp=Z,61nm,2.1s
MOY Mondy 62.26 336 *e*P **P 02 08 12.6 +0.2**
MOY pmax pmax
comp=Z,68nm,1.8s
KNGR Kungurtug, Tuv 62.95 334⇑*e*P **P 02 08 18.0 +0.9**
BOD Bodaibo 63.36 347 *e*P **P 02 08 17.8 -1.7**
BOD pmax pmax
comp=Z,50nm,1.4s
MA2 Magadan 63.64 8 P **P 02 08 20.4 -0.9**
comp=Z,7.1nm,0.6s,baz=175,slow=8.4,SNR=5.0
MA2 LR LR 02 34 13.8
comp=Z,127nm,21.3s,baz=182,slow=34
MA2 Magadan 63.64 8 *e*P **P 02 08 21.0 -0.3**
comp=Z,18nm,1.0s
MA2 Magadan 63.64 8⇑*e*P **P 02 08 21.4 +0.1**
MA2 pmax pmax
comp=Z,53nm,2.1s
WMQ Urumqi 63.79 323 P **P 02 08 23.5 +0.8**
WMQ pP pP 02 08 28.3 -2.3
WMQ S **S 02 16 57.8 +1.4**
WMQ pmax pmax
comp=Z,340nm,1.1s
WMQ pmax pmax
comp=Z,360nm,3.7s
WMQ LR LR
comp=Z,510nm,24.5s
WMQ LR LR
comp=Z,600nm,22.7s
WMQ LR LR
comp=Z,490nm,22.7s
RAR Rarotonga 64.76 112 LR LR 02 37 04.5
comp=Z,75nm,18.1s,baz=282,slow=36
HVS Khovu-Aksy 65.06 332⇓*e*P **P 02 08 31.5 +0.6**
HVS pmax pmax
comp=Z,101nm,1.1s
YAK Yakutsk 65.23 357 LR LR 02 34 58.9
comp=Z,470nm,19.9s,baz=254,slow=34
YAK Yakutsk 65.23 357 *e*P **P 02 08 31.9 +0.3**
comp=Z,154nm,0.9s
YAK Yakutsk 65.23 357*d i*P **P 02 08 31.4 -0.2**
YAK *e**PP **sP 02 08 40.0 -2.5**
YAK *e*PPP PPP 02 12 27.4
YAK *es* **S 02 17 13.6 +0.4**
YAK *e**SS **sS 02 17 26.3 0.0**
YAK pmax pmax
comp=Z,130nm,0.9s
YAK pmax pmax
comp=N,39nm,1.2s
YAK pmax pmax
comp=E,5.0nm,1.0s
YAK smax smax
comp=E,34nm,2.0s
YAK smax smax
comp=N,8.0nm,1.5s
SEY Seymchan 67.09 8 P **P 02 08 43.5 0.0**
comp=N,21nm,1.0s,baz=170,slow=7.9,SNR=34
DGZ Jazzator, Alta 67.29 328 *i* P **P 02 08 45.6 +0.3**
DGZ pmax pmax
comp=Z,34nm,1.1s
ZSN Zaisan 67.44 325⇓*i*P **P 02 08 46.6 +0.4**
comp=Z,82nm,1.1s
ZSN *es* **S 02 17 44.5 +3.7**
MK31 Makanchi Array 68.60 323 *e*P **P 02 08 53.9 +0.4**
MK31 Makanchi Array 68.60 323 *i* P **P 02 08 53.7 +0.2**
MK31 pmax pmax
comp=Z,73nm,0.8s
MKAR Makanchi Array 68.60 323 P **P 02 08 53.8 +0.4**
comp=Z,72nm,0.8s,baz=128,slow=7.9,SNR=374
MKAR PKPPKP **P'P'df** 02 37 07.4 -1.0
comp=Z,0.9nm,0.9s,baz=258,slow=4.7,SNR=6.6
MKAR Makanchi Array 68.60 323 *e*P **P 02 08 53.9 +0.4**
comp=Z,438nm,1.0s
MKAR P'P' 02 37 07.4
MKAR Makanchi Array 68.60 323 *e*P **P 02 08 53.9 +0.4**
MKAR pmax pmax
comp=Z,438nm,1.0s
SHLS Shalkode 68.65 319⇓*i*P **P 02 08 53.2 -0.8**
comp=Z,1μm,0.9s
SHLS *es* **S 02 17 54.6 -0.9**
PDGK Podgornoye 68.71 319 P **P 02 08 54.5 +0.2**
PDGK pmax pmax
comp=Z,76nm,1.2s
KRAR Krasnoyarsk 68.73 336*de*P **P 02 08 54.4 +0.4**
MAKZ Makanchi 68.79 323 *e*P **P 02 08 54.9 +0.2**
comp=Z,90nm,0.8s
MAKZ Makanchi 68.79 323 P **P 02 08 54.9 +0.2**
MAKZ pmax pmax
comp=Z,105nm,0.9s
UZB Uzynbulak 68.93 319⇓*i*P **P 02 08 56.5 +0.7**
comp=Z,764nm,1.0s
UZB *es* **S 02 18 01.2 +2.2**
KPKS Kokpek 69.29 319⇓*i*P **P 02 08 58.6 +0.6**
comp=Z,1μm,1.0s
KPKS *es* **S 02 18 05.5 +2.3**
KPKS *es* **S 02 18 05.7 +2.6**
SATY Saty 69.30 319⇓*i*P **P 02 08 58.9 +0.9**
comp=Z,2μm,1.0s
SATY *es* **S 02 18 05.8 +2.5**
ZHN Zhinishke 69.33 319 *e*P **P 02 08 59.0 +0.8**
comp=Z,348nm,1.1s
ZHN *es* **S 02 18 05.9 +2.2**
KSH Kashi 69.53 314 P **P 02 09 01.0 +1.4**
KSH pP pP 02 09 06.8 -0.7
KSH PcP **PcP 02 09 24.5 +1.9**
KSH S **S 02 18 06.8 +0.6**
KSH pmax pmax
comp=Z,66nm,1.0s
KSH LR LR
comp=Z,340nm,7.0s
KSH LR LR
comp=Z,270nm,8.4s
KSH LR LR
comp=Z,430nm,13.3s
NIL Nilore 69.54 308 *e*P **P 02 08 59.8 +0.2**
NIL Nilore 69.54 308 *e*P **P 02 08 59.8 +0.2**
KDJ Kajisay 69.73 317 *e*P **P 02 09 02.1 +1.4**
comp=Z,32nm,0.9s
KDJ Kajisay 69.73 317 P **P 02 09 02.2 +1.4**
KDJ pmax pmax
comp=Z,33nm,1.0s
MDOK Medeo 70.24 318 *i* P **P 02 09 04.8 +0.9**
comp=Z,331nm,1.1s
MDOK *es* **S 02 18 16.7 +2.3**
MDOK LR LR 02 38 28.0
comp=Z,101nm,17.5s
NRN Naryn 70.26 316 P **P 02 09 04.7 +0.5**
NRN pmax pmax
comp=Z,13nm,0.9s
KUU Kurty 71.02 319⇓*i*P **P 02 09 08.9 +0.5**
comp=Z,297nm,1.4s
KUU *es* **S 02 18 25.2 +2.1**
KZA Kyzart 71.03 317 P **P 02 09 10.2 +1.3**
SNR=46
ZAA0 Zalesovo Array 71.06 331 *e*P **P 02 09 07.7 -0.7**
comp=Z,8.4nm,1.0s
ZALV Zalesovo Beam 71.06 331 P **P 02 09 06.7 -1.7**
comp=Z,4.7nm,0.4s,baz=108,slow=4.8,SNR=21
ZALV Zalesovo Beam 71.06 331 *e*P **P 02 09 07.2 -1.2**
ZALV Zalesovo Beam 71.06 331 *e*P **P 02 09 07.2 -1.2**
TKM2 Tokmak 2 71.12 317 P **P 02 09 09.9 +0.6**
SNR=21
TKM2 Tokmak 2 71.12 317 P **P 02 09 08.6 -0.7**
TKM2 pmax pmax
comp=Z,54nm,1.9s
BMNS Besmoynak 71.14 318⇓*e*P **P 02 09 10.0 +0.6**
comp=Z,300nm,1.0s
BMNS *es* **S 02 18 27.2 +2.2**
KBK Karagaybulak 71.45 317 P **P 02 09 12.1 +0.8**
SNR=6.3
SFK Sufi-Kurgan 71.49 314 P **P 02 09 12.2 +0.6**
SFK pmax pmax
comp=Z,17nm,1.0s
UCH Uchtor 71.59 316 P **P 02 09 13.6 +1.2**
SNR=35
CHMS Chumysh 71.72 317 P **P 02 09 13.1 +0.4**
SNR=5.2
FRU Bishkek 71.75 317 *i* P **P 02 09 13.5 +0.6**
FRU *e* 02 09 22.0
FRU pmax pmax
comp=Z,57nm,1.9s
AAK Ala-Archa 71.76 317 P **P 02 09 13.7 +0.6**
SNR=12
AAK Ala-Archa 71.76 317 *e*P **P 02 09 13.8 +0.7**
comp=Z,22nm,1.1s
AAK Ala-Archa 71.76 317 P **P 02 09 14.1 +1.0**
SNR=10
AAK Ala-Archa 71.76 317 P **P 02 09 14.1 +1.0**
SNR=10
AAK Ala-Archa 71.76 317*d i*P **P 02 09 13.8 +0.7**
AAK pmax pmax
comp=Z,25nm,1.2s
USP Ospenovka 71.99 317 P **P 02 09 14.9 +0.5**
SNR=33
AML Almayashu 72.12 316 P **P 02 09 16.6 +1.0**
SNR=31
EKS2 Erkin-Say 72.26 317 P **P 02 09 17.2 +1.1**
SNR=13
NVS Novosibirsk 72.33 331 *e*P **P 02 09 14.9 -1.1**
NVS pmax pmax
comp=Z,52nm,1.3s
NVS pmax pmax
comp=N,18nm,1.2s
NVS pmax pmax
comp=E,27nm,1.2s
KURK Kurchatov 72.63 326 *e*P **P 02 09 17.4 -0.5**
KURK Kurchatov 72.63 326 P **P 02 09 17.9 0.0**
SNR=21
KURK Kurchatov 72.63 326 P **P 02 09 17.9 0.0**
SNR=21
KURK Kurchatov 72.63 326*d i*P **P 02 09 17.2 -0.7**
KURK pmax pmax
comp=Z,54nm,1.1s
KURBB Kurchatov Arra 72.64 326 P **P 02 09 17.5 -0.5**
comp=Z,27nm,1.0s,baz=118,slow=5.6,SNR=137
BTLS Baital 72.98 319⇓*i*P **P 02 09 20.4 +0.3**
comp=Z,287nm,1.2s
BTLS *es* **S 02 18 47.6 +2.0**
BTLS LR LR 02 40 43.3
comp=Z,85nm,15.0s
MNAS Manas 73.07 316 P **P 02 09 21.1 +0.2**
MNAS pmax pmax
comp=Z,58nm,1.6s
KBL Kabul 73.14 307 *e*P **P 02 09 21.8 +0.2**
comp=Z,13nm,0.7s
KBL Kabul 73.14 307 *e*P **P 02 09 21.8 +0.2**
KBL pmax pmax
comp=Z,13nm,0.7s
PPT Papeete 74.10 107 P **P 02 09 27.6 +0.3**
comp=Z,83nm,1.0s,baz=324,slow=8.4,SNR=5.7
PPT LR LR 02 39 56.7
comp=Z,83nm,19.4s,baz=266,slow=34
PPT2 Papeete2 74.10 107 *e*LR LR 02 32 27.4
comp=Z,162nm,22.8s
BILL Bilibino 74.13 11*d i*P **P 02 09 25.7 -0.7**
BILL *i* 02 09 32.1
BILL *i* 02 09 39.3
BILL *i* 02 12 10.4
BILL pmax pmax
comp=Z,15nm,1.1s
BILL MLR MLR
comp=Z,100nm,18.0s
TBI Tubuai 74.46 113 *e*LR LR 02 32 32.7
comp=Z,183nm,28.2s
KK31 Karatay Array 74.66 316 *e*P **P 02 09 30.6 +0.6**
KK31 Karatay Array 74.66 316 *e*P **P 02 09 30.6 +0.6**
KKAR Karatay Array 74.66 316 *e*P **P 02 09 30.3 +0.3**
comp=Z,9.2nm,0.6s
KKAR Karatay Array 74.66 316 *e*P **P 02 09 30.3 +0.3**
KKAR pmax pmax
comp=Z,9.0nm,0.6s
IUG luzhnay 74.68 315 *e*P **P 02 09 31.1 +0.7**
comp=Z,244nm,1.5s
TIXI Tiksi 74.86 358 P **P 02 09 29.4 -1.1**
baz=192,slow=3.9
TIXI Tiksi 74.86 358 *e*P **P 02 09 28.9 -1.5**
TIXI Tiksi 74.86 358⇓*i*P **P 02 09 29.0 -1.5**
TIXI pmax pmax
comp=Z,29nm,1.7s
OTUK Ortayu 75.29 322 P **P 02 09 33.3 -0.3**
OTUK pmax pmax
comp=Z,78nm,1.2s
VNDA Vanda 75.54 174 P **P 02 09 35.2 +0.8**
comp=Z,13nm,0.8s,baz=322,slow=6.5,SNR=64
VNDA LR LR 02 42 12.7
comp=Z,923nm,19.6s,baz=346,slow=35
VNDA Vanda 75.54 174 *e*P **P 02 09 35.0 +0.5**
comp=Z,13nm,0.8s
BRZS Berezniki 75.75 323 *e*P **P 02 09 36.3 +0.1**
comp=Z,37nm,1.2s
BRZS *es* **S 02 19 18.1 +1.6**
SBA Scott Base 76.35 174 *e*P **P 02 09 41.2 +2.2**
comp=Z,15nm,0.9s
SBA Scott Base 76.35 174 *e*P **P 02 09 41.2 +2.2**
SBA pmax pmax
comp=Z,15nm,0.9s
GAMB Gambell 77.16 21 *e*P **P 02 09 45.4 +1.6**
comp=Z,29nm,1.2s
BVAR Borovoye Array 78.23 326 P **P 02 09 49.7 -0.4**
comp=Z,13nm,0.6s,baz=120,slow=7.8,SNR=118
BRVK Borovoye 78.30 326 *e*P **P 02 09 50.4 0.0**
comp=Z,23nm,0.8s
BRVK Borovoye 78.30 326 P **P 02 09 50.6 +0.2**
SNR=21

BRVK Borovoye 78.30 326 P P 02 09 50.6 +0.2
SNR=21
BRVK Borovoye 78.30 326 *d iP* P 02 09 50.2 -0.2
BRVK pmax pmax
comp=Z,53nm,1.2s
BIDO Bidbid 80.27 294 P P 02 10 03.0 +1.2
SNR=7.5
BIDO Bidbid 80.27 294 P P 02 10 03.0 +1.2
SNR=7.5
MAW Mawson 80.70 202 P P 02 10 04.3 +1.1
comp=Z,13nm,0.9s,baz=42,slow=5.8,SNR=8.1
MAW LR LR 02 44 16.7
comp=Z,324nm,18.0s,baz=62,slow=34
MAW Mawson 80.70 202 *eP* P 02 10 04.8 +1.6
comp=Z,3.7nm,1.0s
MAW Mawson 80.70 202 *eP* P 02 10 04.8 +1.6
MAW pmax pmax
comp=Z,4.0nm,1.0s
UOSS Minazif 82.19 296 *eP* P 02 10 11.8 -0.2
comp=Z,8.5nm,1.0s
OHAK Old Harbor 82.31 31 *eP* P 02 10 12.0 +0.2
comp=Z,45nm,1.0s
SVW2 Sparrevohn 82.48 27 *eP* P 02 10 13.8 +1.1
comp=Z,14nm,0.9s
GEYT Alibeck 82.50 309 P P 02 10 14.1 +0.7
comp=Z,7.1nm,0.8s,baz=128,slow=2.4,SNR=21
GYA0B ALIBECK ARRAY 82.50 309 *eP* P 02 10 14.5 +1.1
comp=Z,12nm,0.8s
KDAK Kodiak Island 82.84 31 P P 02 10 14.2 -0.4
comp=Z,44nm,0.9s,baz=218,slow=2.8,SNR=16
KDAK Kodiak Island 82.84 31 *eP* P 02 10 14.4 -0.2
comp=Z,57nm,1.0s
KDAK Kodiak Island 82.84 31 *i* P P 02 10 14.9 +0.3
TAOE Nuku Hiva Isla 83.35 98 *e*LR LR 02 36 38.3
comp=Z,267nm,24.7s
ABKAR Akbulak array 83.41 320 *eP* P 02 10 16.9 -0.9
comp=Z,11nm,0.7s
SPU Mount Spurr 84.13 28 *eP* P 02 10 21.2 -0.1
PPLA Purkeypile 84.59 26 *eP* P 02 10 23.8 0.0
comp=Z,15nm,0.8s
SVE Sverdlovsk 84.75 328 *deP* P 02 10 24.6 +0.2
SVE pmax pmax
comp=Z,35nm,1.5s
CAST Castle Rocks 84.80 25 *eP* P 02 10 24.5 -0.1
comp=Z,13nm,0.6s
SUA Susitna One 84.82 27 *eP* P 02 10 24.6 -0.3
AKTO Aktyubinsk 84.88 321 P P 02 10 24.2 -1.0
comp=Z,10nm,0.9s,baz=105,slow=6.6,SNR=29
IM3 Indian Mountai 84.94 23 *eP* P 02 10 24.5 -0.7
RC01 Rabbit Creek A 85.18 28 *eP* P 02 10 26.2 -0.3
comp=Z,34nm,0.8s
KTH Kantishna Hill 85.33 25 *eP* P 02 10 26.9 -0.4
comp=Z,31nm,1.0s
BPAW Bear Paw Mtn. 85.46 25 *eP* P 02 10 27.2 -0.7
comp=Z,13nm,1.2s
TRF Thorofare Moun 85.58 26 *eP* P 02 10 28.8 +0.1
comp=Z,11nm,0.8s
PMR Palmer 85.59 28 *eP* P 02 10 27.5 -1.0
comp=Z,11nm,0.6s
PMR Palmer 85.59 28 *eP* P 02 10 27.5 -1.0
PMR pmax pmax
comp=Z,11nm,0.6s
ARU Arti 85.77 327 *eP* P 02 10 28.4 -1.1
comp=Z,13nm,1.0s
ARU Arti 85.77 327 *d iP* P 02 10 27.8 -1.8
ARU S S 02 20 52.5 -8.3
ARU pmax pmax
comp=Z,13nm,1.0s
MLY Manley 85.83 24 *eP* P 02 10 29.8 +0.1
comp=Z,20nm,0.8s
SML Sawmill 86.02 27 *eP* P 02 10 30.8 +0.1
SML Sawmill 86.02 27 *eP* P 02 10 30.8 +0.1
RND Reindeer 86.19 26 *eP* P 02 10 31.1 -0.5
comp=Z,62nm,0.9s
RND Reindeer 86.19 26 *eP* P 02 10 31.1 -0.5
RND pmax pmax
comp=Z,62nm,0.9s
MCK McKinley 86.23 26 *eP* P 02 10 31.4 -0.4
MCK McKinley 86.23 26 *eP* P 02 10 31.4 -0.4
SCM Sheep Creek Mo 86.49 28 *eP* P 02 10 33.4 +0.3
comp=Z,85nm,1.0s
SCM Sheep Creek Mo 86.49 28 *eP* P 02 10 33.4 +0.3
SCM pmax pmax
comp=Z,85nm,1.0s
COLD Coldfoot 86.67 22 *eP* P 02 10 34.0 +0.3
DHY Denali Highway 86.75 26 *eP* P 02 10 34.7 +0.2
comp=Z,73nm,1.0s
QSPA South Pole Qui 86.76 180 LR LR 02 49 18.9
comp=Z,854nm,19.3s,baz=51,slow=36
WRH Wood River Hil 86.78 25 *eP* P 02 10 33.3 -1.1
comp=Z,77nm,1.1s
MDM Murphy Dome 86.84 24 *eP* P 02 10 34.0 -0.7
comp=Z,16nm,1.1s
CCB Clear Creek Bu 86.94 25 *eP* P 02 10 33.9 -1.3
comp=Z,73nm,1.1s
COLA College 86.98 25 *eP* P 02 10 33.5 -1.8
comp=Z,18nm,0.8s
COLA College 86.98 25 *eP* P 02 10 33.5 -1.8
COLA pmax pmax
comp=Z,18nm,0.8s
DIV Divide 87.06 28 *eP* P 02 10 36.5 +0.6
KLU Klutina 87.07 28 *eP* P 02 10 36.3 +0.4
comp=Z,35nm,0.9s
TOLK Toolik Lake Re 87.29 21 P P 02 10 37.3 +0.4
baz=254
TOLK Toolik Lake Re 87.29 21 *eP* P 02 10 37.1 +0.3
comp=Z,17nm,1.1s
ILAR Eielson Array 87.36 25 P P 02 10 35.8 -1.4
comp=Z,22nm,0.9s,baz=269,slow=4.2,SNR=144
ILAR LR LR 02 46 00.5
comp=Z,254nm,21.7s,baz=265,slow=33
ILB Eielson Array 87.36 25 *eP* P 02 10 35.8 -1.4
IL1 Eielson Array 87.36 25 *eP* P 02 10 34.3 -2.9
PAX Paxson 87.58 27 *eP* P 02 10 38.3 -0.1
PAX Paxson 87.58 27 *eP* P 02 10 38.3 -0.1
BMRM Bremner River 87.59 29 *eP* P 02 10 39.0 +0.5
HARP HAARP 87.61 27 *eP* P 02 10 39.2 +0.7
comp=Z,30nm,0.9s
OPO Ambohidratompo 87.96 252 P P 02 10 41.0 -0.3
comp=Z,8.1nm,0.9s,baz=130,slow=8.1,SNR=4.5
DOT Dot Lake 88.33 26 *eP* P 02 10 41.3 -0.6
MENT Mentasta 88.36 27 *eP* P 02 10 42.7 +0.6
comp=Z,22nm,1.0s
FYU Fort Yukon 88.41 23 *eP* P 02 10 42.9 +0.7
SYO Syowa Base 89.38 201 *eP* P 02 10 46.6 -0.1
EGAK Eagle 89.77 25 *eP* P 02 10 48.2 -0.4
comp=Z,19nm,1.0s
DAWY Dawson 90.44 26 *eP* P 02 10 51.7 -0.1
comp=Z,21nm,1.1s
HYT Haines Junctio 91.00 29 *eP* P 02 10 54.6 0.0
comp=Z,19nm,0.9s
MAK Makhachkala 91.12 313 *eP* P 02 10 54.7 -0.6
MAK *eS* **SKSac** 02 21 24.1 -2.0
MAK pmax pmax
comp=Z,11nm,0.4s
SEKA Sheki 91.25 311 P P 02 10 55.0 -1.1
MNGR Mingechevir, A 91.31 311 P P 02 10 55.6 -0.7
ZKTA Zakatala 91.71 311 P P 02 10 57.4 -0.8
RAYN Ar Rayn 91.80 293 *eP* P 02 10 58.8 -0.2
comp=Z,7.3nm,0.9s
RAYN Ar Rayn 91.80 293 P P 02 10 58.8 -0.2
RAYN pmax pmax
comp=Z,7.0nm,1.0s
GANJ Ganja 91.89 310 P P 02 10 58.2 -0.8
SKAG Skagway 92.00 31 *eP* P 02 10 59.9 +0.9
BESE Bessie Mountai 92.20 32 *eP* P 02 11 00.9 +0.8
comp=Z,22nm,1.1s
WHY Whitehorse 92.28 30 *eP* P 02 11 01.1 +0.6
comp=Z,10.0nm,0.9s
DAMY Dhamar 92.44 284 *eP* P 02 11 04.5 +2.1
comp=Z,18nm,1.0s
NAX Nakhchivan 92.46 309 P P 02 11 00.9 -0.9
GNI Garni 93.08 310 *eP* P 02 11 04.7 0.0
GNI Garni 93.08 310 *i* P P 02 11 04.7 0.0
GNI pmax pmax
comp=Z,11nm,0.9s
INK Inuvik 93.09 22 P P 02 11 02.3 -1.6
comp=Z,8.5nm,0.9s,baz=272,slow=3.7,SNR=29
INK Inuvik 93.09 22 *eP* P 02 11 02.8 -1.1
comp=Z,16nm,1.1s
INK Inuvik 93.09 22 *eP* P 02 11 02.8 -1.1
INK pmax pmax
comp=Z,16nm,1.1s
ZEI Tsey 93.76 313 *eP* P 02 11 05.4 -2.5
ZEI pmax pmax
comp=Z,3.0nm,0.9s

NCK Nalchik 94.00 313 *eP* P 02 11 08.7 0.0
NCK pmax pmax
comp=Z,9.0nm,0.6s
KBZ Khabaz 94.50 313 P P 02 11 08.4 -2.5
comp=Z,1.0nm,0.7s,baz=152,slow=6.5,SNR=3.7
KIV Kislovodsk 94.66 314 *eP* P 02 11 10.3 -1.5
KIV pmax pmax
comp=Z,4.0nm,0.9s
VRH Novokhopyorsk 95.22 321 *eP* P 02 11 11.2 -2.8
VRH pmax pmax
comp=Z,10.0nm,1.0s
KLMR Klimovskoe 95.98 331 *eP* P 02 11 14.4 -2.9
KLMR AMP 02 11 16.1
comp=Z,20nm,1.1s
KLMR Klimovskoe 95.98 331 *eP* P 02 11 14.3 -3.0
KLMR pmax pmax
comp=Z,20nm,1.1s
VSR Storozhevoye 96.82 321 *eP* P 02 11 18.4 -2.9
VSR pmax pmax
comp=Z,10.0nm,1.1s
OBN Obninsk 98.06 325 *eP* P 02 11 24.5 -2.3
OBN *e* 02 15 27.2
OBN *eS* S 02 22 38.7 -14
OBN pmax pmax
comp=Z,14nm,1.1s
ARCES ARCESS Array B 100.10 340 P Pdif 02 11 34.0 -1.6
comp=Z,5.2nm,1.0s,baz=60,slow=7.2,SNR=12
YBH Yreka Blue Hor 100.47 48 P Pdif 02 11 37.9 -0.2
comp=Z,3.4nm,1.1s,baz=28,slow=2.3,SNR=3.5
SNAA Sanae 100.70 192 *eP* Pdif 02 11 38.3 -0.1
BRTR Keskin Array B 101.62 310 P Pdif 02 11 41.4 -1.9
comp=Z,0.5nm,0.9s,baz=152,slow=5.5,SNR=4.0
BRTR PP PP 02 15 44.8 -8.9
comp=Z,0.4nm,0.8s,baz=94,slow=11,SNR=3.6
YKA Yellowknife Ar 101.67 27 P Pdif 02 11 41.3 -1.5
comp=Z,1.9nm,0.8s,baz=290,slow=4.6,SNR=25
YKA PP PP 02 15 48.6 -4.4
comp=Z,0.7nm,1.0s,baz=287,slow=7.2,SNR=3.9
FINES FINESS Array B 102.29 332 P Pdif 02 11 43.3 -2.2
comp=Z,2.8nm,0.9s,baz=144,slow=16,SNR=5.0
AKASG Malin Array Be 103.12 321 Pdiff Pdif 02 11 47.0 -2.5
comp=Z,0.6nm,0.4s,baz=65,slow=5.0,SNR=3.9
AKASG Malin Array Be 103.12 321 P Pdif 02 11 47.0 -2.5
AKASG pmax pmax
comp=Z,1.0nm,0.4s
NVAR Mina Array Bea 104.19 51 Pdiff Pdif 02 11 54.7 -0.2
comp=Z,1.1nm,0.8s,baz=266,slow=6.4,SNR=5.8
NVAR PP PP 02 16 18.0 +5.0
comp=Z,2.9nm,1.2s,baz=252,slow=7.4,SNR=5.9
STHS Stebnicka Huta 108.42 321 *e*PDIFF Pdif 02 12 12.8 -0.3
STHS Stebnicka Huta 108.42 321 *eP* Pdif 02 12 12.8 -0.3
CRVS Cervenica-Dubn 108.44 321 *e*PDIFF Pdif 02 12 12.9 -0.3
CRVS Cervenica-Dubn 108.44 321 *eP* Pdif 02 12 12.9 -0.3
GERES GERESS Array B 113.26 323 PKiKP **PKiKP** 02 16 27.6 -0.7
comp=Z,0.4nm,0.5s,baz=72,slow=0.4,SNR=5.1
GERES PP PP 02 17 17.3 -1.1
comp=Z,0.7nm,0.7s,baz=79,slow=6.9,SNR=3.5
MNTX Cornudas Mount 115.81 56 P **PKPdf** 02 16 33.5 -0.2
baz=283
MNTX Cornudas Mount 115.81 56 *e*PKPdf **PKPdf** 02 16 33.2 -0.4
AQU L'Aquila 115.91 316 *e*PKPdf **PKPdf** 02 16 34.3 +0.8
AQU L'Aquila 115.91 316 *e*PKiKP **PKPdf** 02 16 34.3 +0.8
TXAR Lajitas Array 117.78 58 PKP **PKPdf** 02 16 37.2 -0.4
comp=Z,1.3nm,1.0s,baz=336,slow=2.7,SNR=5.4
TXAR PP PP 02 17 54.4 +3.5
comp=Z,0.7nm,1.0s,baz=269,slow=8.8,SNR=5.1
SSB Saint Sauveur 120.45 322 *e*PKPdf **PKPdf** 02 16 42.3 +0.1
SSB Saint Sauveur 120.45 322 *e*PKiKP **PKPdf** 02 16 42.3 +0.1
JCT Junction City 120.74 56 P **PKPdf** 02 16 42.8 -0.4
baz=286
JCT Junction City 120.74 56 *e*PKPdf **PKPdf** 02 16 42.5 -0.7
JCT Junction City 120.74 56 *e*PKiKP **PKPdf** 02 16 42.5 -0.7
H39A Augusta 121.41 38 P **PKPdf** 02 16 42.9 -1.1
baz=301
D41A Chassel 121.73 34 P **PKPdf** 02 16 43.6 -1.0
baz=305
P37A Lathrop 121.77 44 P **PKPdf** 02 16 43.6 -1.2
baz=295
J39A Decorah 121.81 40 P **PKPdf** 02 16 43.3 -1.5
baz=300
P38A Dawn 122.32 44 P **PKPdf** 02 16 44.8 -1.1
baz=296
H41A Junction City 122.43 37 P **PKPdf** 02 16 44.7 -1.3
baz=302
S38A Stockton 122.90 46 P **PKPdf** 02 16 45.8 -1.3
baz=295
R39A Chumby, Stover 123.23 45 P **PKPdf** 02 16 46.3 -1.4
baz=296
S39A Bolivar 123.30 46 P **PKPdf** 02 16 46.6 -1.3
baz=295
T39A Clever 123.53 47 P **PKPdf** 02 16 47.0 -1.3
baz=295
U39A Green Forest 123.72 48 P **PKPdf** 02 16 47.5 -1.3
baz=294
R40A Maddies Statio 123.79 45 P **PKPdf** 02 16 47.4 -1.3
baz=296
S40A Lebanon 123.92 46 P **PKPdf** 02 16 47.5 -1.6
baz=296
W39A Magazine 123.97 49 P **PKPdf** 02 16 47.6 -1.5
baz=293
X39A Fountain Ranch 123.98 50 P **PKPdf** 02 16 49.2 0.0
baz=292
T40A Mansfield 124.10 46 P **PKPdf** 02 16 47.6 -1.8
baz=295
U40A Yellville 124.19 47 P **PKPdf** 02 16 48.2 -1.4
baz=295
Q41A Truxton 124.22 44 P **PKPdf** 02 16 48.9 -0.6
baz=298
MIAR Mount Ida 124.37 50 P **PKPdf** 02 16 49.9 -0.1
baz=293
R41A Rosebud 124.41 45 P **PKPdf** 02 16 49.2 -0.8
baz=297
V40A Witts Springs 124.44 48 P **PKPdf** 02 16 49.1 -1.0
baz=294
S41A Jillco Farms, 124.47 46 P **PKPdf** 02 16 48.9 -1.2
baz=296
CCM Cathedral Cave 124.62 45 P **PKPdf** 02 16 49.4 -0.9
baz=297
T42A Van Buren 125.18 46 P **PKPdf** 02 16 50.6 -0.8
baz=296
X41A Kaden, Bauxite 125.20 49 P **PKPdf** 02 16 51.1 -0.4
baz=294
T43A Greenville 125.73 46 P **PKPdf** 02 16 51.3 -1.2
baz=297
WCI Wyandotte Cave 127.94 42 *e*PKPdf **PKPdf** 02 16 56.5 -0.2
WCI Wyandotte Cave 127.94 42 *e*PKiKP **PKPdf** 02 16 56.5 -0.2
TAM Tamanrasset 128.36 297 *e*PKPdf **PKPdf** 02 16 59.2 +1.1
TAM Tamanrasset 128.36 297 *e*PKiKP **PKPdf** 02 16 59.2 +1.1
W47A Westpoint 128.51 46 P **PKPdf** 02 16 56.6 -1.3
baz=298
ESDC Sonseca Array 128.76 321 PP PP 02 19 03.5 -0.8
comp=Z,1.2nm,0.8s,baz=40,slow=7.2,SNR=6.2
X49A Woodville 129.78 46 P **PKPdf** 02 16 59.5 -0.8
baz=299
PLCA Paso Flores 129.96 154 PKP **PKPdf** 02 17 01.1 +0.5
comp=Z,4.2nm,1.0s,baz=239,slow=4.8,SNR=5.6
Y49A Blount Mountai 130.03 47 P **PKPdf** 02 16 59.2 -1.6
baz=298
TKL Tuckaleechee C 131.01 44 PKP **PKPdf** 02 17 01.5 -1.1
comp=Z,5.2nm,1.0s,baz=147,slow=7.5,SNR=4.3
TORD Torodi Ar. Bea 133.87 285 PKP **PKPdf** 02 17 08.0 -0.6
comp=Z,5.3nm,1.0s,baz=40,slow=1.9,SNR=19
KOWA Kowa 139.10 288 PKhKP PKPpre 02 17 08.0
comp=Z,1.1nm,0.4s,baz=67,slow=2.7,SNR=3.4
KIC Kosan Boka 140.86 276 *e*PKIKP PKPpre 02 17 14.4
comp=Z,140nm,2.1s
DBIC Dimbokro 140.96 277 PKhKP PKPpre 02 17 12.7
comp=Z,4.3nm,0.8s,baz=89,slow=5.9,SNR=7.6
TIC Toumodi 141.12 277 *e*PKIKP PKPpre 02 17 14.7
LIC Lamto 141.15 276 *e*PKiKP PKPpre 02 17 14.9
comp=Z,63nm,1.7s
OTAV Otavalo 145.35 94 *e*PKPdf **PKPbc** 02 17 29.8 -0.1
CPUP Villa Florida 147.90 157 PKPbc **PKPbc** 02 17 36.6 +0.2
comp=Z,32nm,1.0s,baz=218,slow=3.2,SNR=37
LPAZ La Paz 149.21 130 PKP **PKPdf** 02 17 37.4 +0.9
comp=Z,6.3nm,1.1s,baz=132,slow=0.7,SNR=12
LPAZ PKPbc **PKiKP** 02 17 42.1 +0.1
comp=Z,14nm,0.9s,baz=229,slow=3.2,SNR=29
ROSC El Rosal 149.62 86 PKP **PKPdf** 02 17 37.4 +0.4
comp=Z,14nm,0.7s,baz=115,slow=10,SNR=10
ROSC PKPbc **PKPbc** 02 17 41.9 +0.3
comp=Z,14nm,0.7s,baz=123,slow=8.9,SNR=10
SDV Santo Domingo 152.83 77 PKP **PKPdf** 02 17 40.9 -0.7
comp=Z,8.1nm,0.9s,baz=42,slow=4.7,SNR=7.4
SDV PKPbc **pPKPdf** 02 17 48.3 -1.7
comp=Z,19nm,0.8s,baz=245,slow=1.1,SNR=18
SDV PKPab **PKPab** 02 18 00.5 +0.7
comp=Z,25nm,0.8s,baz=284,slow=4.8,SNR=12
SDV Santo Domingo 152.83 77 *e*PKPdf **PKPdf** 02 17 41.2 -0.5
SDV *e*PKPbc **pPKPdf** 02 17 48.4 -1.7
SDV *e*PKPab **PKPab** 02 17 59.7 -0.1
SAML Samuel 157.31 122 *e*PKPdf **PKPdf** 02 17 47.9 +0.3
SAML *e*PKPab **PKPab** 02 18 18.8 +0.2

BJI ***29*** *02:11:08.0, 3.˚77S×136.˚61E, h10km, mb4.7/15, mB5.1/6, Ms4.6/2, Ms7 4.3/2*
IDC ***29*** *02:11:13.1±0.6, 3.˚09S×136.˚09E, h0km, mb4.2/13, mb1 4.4/18, mb1mx4.2/56, mbtmp4.2/18, ML4.3/4, MS3.8/3, Ms1 3.8/3, ms1mx3.2/53, Error ellipse: s-maj=25.9km s-min=13.4km az=82.0*
NEIC ***29*** *02:11:15.5±0.2, 3.˚02S×136.˚07E, h10km, mb4.5/15, Error ellipse: s-maj=7.7km s-min=5.2km az=93.0*
NEIC Felt [II] at Nabire.
ISCJB ***29*** *02:11:17.4±0.2, 3.˚13S±0.˚03×136.˚06E±0.˚03, h33km, mb4.5/34, MS4.4/1, Error ellipse: s-maj=4.4km s-min=3.6km az=16.7*
DJA ***29*** *02:11:19.4±1.0, 3.˚S±4.˚×13.˚6E±.˚, h22km±8km, M4.7/7, mB5.3/2, mb4.8/7, MLv4.7/6, Mw(mB)4.7/2*
ISC 29 02:11:18.5±0.4, 3.˚18S±0.˚04×136.˚05E±0.˚04, h33km, n89, σ1§67/100, mb4.6/34, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMPI	**Kaimana, Papua**	**2.39**	**258**	P	**Pb**	**02 11 59.1**	**-1.9**
KMPI				S	**Sb**	**02 12 28.1**	**-2.1**
RKPI	**Ransiki, Papua**	**2.50**	**311**	P	**Pn**	**02 11 57.9**	**+0.9**
RKPI				S	**Sn**	**02 12 27.9**	**+1.5**
FAKI	**Fak Fak**	**3.81**	**274**	P	**Pn**	**02 12 15.7**	**+0.8**
FAKI				S	**Sn**	**02 13 00.9**	**+2.3**
FAKI	**Fak Fak**	**3.81**	**274**	*e*Pn	**Pn**	**02 12 15.9**	**+1.0**
FAKI				*e*Sn	**Sn**	**02 13 00.9**	**+2.3**
GENI	**Genyem**	**4.15**	**82**	P	**Pn**	**02 12 21.1**	**+1.5**
GENI				S	**Sn**	**02 13 10.0**	**+3.0**
JAY	**Jayapura**	**4.69**	**82**	P	**Pn**	**02 12 28.2**	**+1.1**
JAY				S	**Sn**	**02 13 22.1**	**+1.6**
SIJI	**Sorong**	**5.31**	**296**	Pn	**Pn**	**02 12 35.2**	**-0.4**
	9.6nm,0.3s,baz=122,slow=13,SNR=34						
SIJI				Sn	**Sn**	**02 13 34.7**	**-0.9**
	27nm,0.3s,baz=119,slow=24,SNR=29						
SIJI				LR	LR	02 15 17.7	
	comp=Z,870nm,18.4s,baz=100,slow=46						
MSAI	**Masohi**	**7.12**	**268**	P	**Pn**	**02 13 04.4**	**+4.0**
LBMI	**Labuha**	**8.91**	**286**	P	**Pn**	**02 13 26.3**	**+1.2**
SANI	**Sanana**	**10.12**	**276**	P	**Pn**	**02 13 41.4**	**-0.2**
MTN	**Manton Dam**	**10.77**	**207**	P	**Pn**	**02 13 52.8**	**+2.3**
	baz=11,SNR=24						
MTN	**Manton Dam**	**10.77**	**207**	*e*Pn	**Pn**	**02 13 53.2**	**+2.7**
PMG	**Port Moresby**	**12.65**	**120**	Pn	**Pn**	**02 14 15.7**	**-0.6**
	0.7nm,0.3s,baz=284,slow=12,SNR=6.8						
PMG				Sn	**Sn**	**02 16 34.8**	**-1.3**
	0.7nm,0.3s,baz=232,slow=19,SNR=4.1						
PMG				LR	LR	02 19 25.0	
	comp=Z,318nm,19.4s,baz=340,slow=39						
PMG	**Port Moresby**	**12.65**	**120**	*e*Pn	**Pn**	**02 14 17.6**	**+1.3**
PMG				Sn	**Sn**	**02 16 34.8**	**-1.3**
COEN	**Coen**	**12.81**	**147**	P	**Pn**	**02 14 18.7**	**+0.2**
	baz=13,SNR=27						
COEN	**Coen**	**12.81**	**147**	*e*Pn	**Pn**	**02 14 19.3**	**+0.7**
COEN				*e*Sn	**Sn**	**02 16 35.6**	**-4.5**
SOEI	**Soe**	**13.41**	**240**	*e*Pn	**Pn**	**02 14 26.9**	**+0.2**
	42nm,1.0s						
BATI	**Baumata**	**14.14**	**240**	Pn	**Pn**	**02 14 37.3**	**+0.6**
	2.4nm,0.3s,baz=120,slow=4.9,SNR=3.9						
KNRA	**Kununurra**	**14.35**	**210**	P	**Pn**	**02 14 39.9**	**+0.4**
	baz=14,SNR=15						
WRAB	**Tennant Creek**	**16.74**	**186**	*e*Pn	**P**	**02 15 12.2**	**-0.4**
	19nm,0.8s						
WB2	**Warramunga Arr**	**16.75**	**186**	*e*Pn	**Pn**	**02 15 11.2**	**+0.4**
	17nm,0.7s						
WRA	**Warramunga Arr**	**16.75**	**186**	Pn	**Pn**	**02 15 08.7**	**-2.1**
	1.0nm,0.3s,baz=4.1,slow=13,SNR=22						
WRA				Sn	**Sn**	**02 18 09.9**	**-6.0**
	3.2nm,0.3s,baz=4.7,slow=23,SNR=8.4						
WRA				LR	LR	02 22 05.4	
	comp=Z,507nm,18.8s,baz=15,slow=39						
MTSU	**Mount Surprise**	**16.93**	**152**	P	**Pn**	**02 15 13.8**	**+0.7**
	baz=17,SNR=8.4						
QIS	**Mount Isa**	**17.62**	**169**	P	**P**	**02 15 22.3**	**-0.1**
	baz=18,SNR=6.0						
CTA	**Charters Tower**	**19.53**	**150**	Pn	**P**	**02 15 43.6**	**+0.2**
	0.8nm,0.3s,baz=312,slow=11,SNR=6.7						
AS01	**Alice Springs**	**20.47**	**186**	*e*P	Pn	02 15 55.6	-0.3
AS31	**Alice Springs**	**20.47**	**186**	*e*P	Pn	02 15 56.5	+0.5
	9.9nm,0.7s						
AS31				*e*S	**S**	**02 19 43.0**	**+1.8**
ASAR	**Alice Springs**	**20.48**	**186**	P	Pn	02 15 55.4	-0.6
	20nm,0.7s,baz=12,slow=11,SNR=65						
ASAR				S	**S**	**02 19 38.7**	**-2.6**
	5.1nm,0.8s,baz=16,slow=20,SNR=5.9						
KKM	**Kota Kinabalu**	**21.83**	**295**	*e*P	**P**	**02 16 08.2**	**-0.3**
	4.5nm,0.7s						
WRKA	**Warakurna**	**22.98**	**198**	P	**P**	**02 16 21.9**	**+1.4**
	baz=23,SNR=7.9						
MBWA	**Marble Bar**	**23.91**	**220**	*e*P	**P**	**02 16 30.4**	**+0.8**
QLP	**Quilpie**	**24.56**	**162**	P	**P**	**02 16 36.7**	**+1.2**
	baz=25,SNR=4.3						
EIDS	**Eidsvold**	**26.38**	**148**	P	**P**	**02 16 54.1**	**+2.1**
	baz=26,SNR=5.8						
EIDS	**Eidsvold**	**26.38**	**148**	*e*P	**P**	**02 16 54.3**	**+2.3**
	14nm,0.8s						
FORT	**Forrest**	**28.47**	**195**	*e*P	**P**	**02 17 14.2**	**+3.4**
MDSI	**Maura Dua**	**31.83**	**267**	P	**P**	**02 17 42.9**	**+2.3**
LWLI	**Liwa**	**31.96**	**266**	P	**P**	**02 17 46.0**	**+4.0**
SKNT	**Sakolnakorn**	**37.47**	**303**	P	**P**	**02 18 29.6**	**+0.3**
	26nm,1.4s						
NJ2	**Nanjing**	**38.66**	**336**	*e*P	**P**	**02 18 39.3**	**+0.2**
NJ2				sP	**pP**	**02 18 45.3**	**-3.5**
NJ2				pmax	pmax		
	comp=Z,12nm,0.5s						
MJAR	**Matsushiro Arr**	**39.56**	**3**	P	**P**	**02 18 45.9**	**-0.8**
	0.9nm,0.6s,baz=182,slow=7.9,SNR=5.0						
KSAR	**Wonju Array Be**	**41.12**	**350**	P	**P**	**02 18 58.8**	**-0.7**
KSRS	**Korea Array**	**41.13**	**350**	P	**P**	**02 18 58.8**	**-0.7**
	0.6nm,0.4s,baz=202,slow=9.5,SNR=7.9						
KS01	**Wonju Array Si**	**41.15**	**350**	*e*P	**P**	**02 18 59.4**	**-0.3**
CHTO	**Chiang Mai**	**42.56**	**302**	*e*P	**P**	**02 19 08.7**	**-3.0**
	11nm,0.8s						
CD2	**Chengdu**	**45.79**	**320**	*e*P	**P**	**02 19 37.0**	**-0.4**
USRK	**Ussuriysk Ar.**	**47.30**	**356**	P	**P**	**02 19 48.4**	**-0.6**
	2.0nm,0.6s,baz=200,slow=6.8,SNR=6.2						
CN2	**Changchun**	**47.73**	**350**	*e*P	**P**	**02 19 55.8**	**+3.5**
HHC	**Hu-ho-hao-te**	**49.20**	**335**	*e*P	**P**	**02 20 04.8**	**+1.0**
HHC				pmax	pmax		
	comp=Z,10.0nm,1.1s						
HHC				pmax	pmax		
	comp=Z,21nm,6.4s						
HHC				LR	LR		
	comp=N,160nm,14.8s						
HHC				LR	LR		
	comp=E,320nm,15.0s						
HHC				LR	LR		
	comp=Z,250nm,15.3s						
LZH	**Lanzhou**	**49.31**	**325**	*e*P	**P**	**02 20 06.5**	**+1.7**
LZH				pP	pP	02 20 11.3	-3.4
LZH				sP	sP	02 20 14.0	-4.6
LZH				pmax	pmax		
	comp=Z,19nm,1.1s						
KLR	**Kul'dur**	**52.33**	**356**	P	**P**	**02 20 26.4**	**-0.7**
	0.5nm,0.9s,baz=172,slow=3.3,SNR=13						
GTA	**Gaotai**	**53.91**	**325**	P	**P**	**02 20 40.5**	**+1.4**
GTA				pP	pP	02 20 45.3	-3.8
GTA				sP	sP	02 20 47.5	-5.5
GTA				pmax	pmax		
	comp=Z,8.0nm,1.2s						
ULN	**Ulaanbaatar**	**56.82**	**337**	*e*P	**P**	**02 21 00.4**	**+0.5**
	3.3nm,1.0s						
SONM	**Songino Array**	**57.05**	**337**	P	**P**	**02 21 01.0**	**-0.5**
	0.8nm,0.7s,baz=150,slow=7.3,SNR=4.9						
SONA1	**Songino Array**	**57.06**	**337**	*e*P	**P**	**02 21 01.6**	**0.0**
PETK	**Petropavlovsk-**	**58.96**	**15**	P	**P**	**02 21 14.6**	**-0.1**
	2.1nm,0.6s,baz=178,slow=3.6,SNR=5.5						
WMQ	**Urumqi**	**63.75**	**323**	P	**P**	**02 21 48.3**	**+0.9**
WMQ				pP	pP	02 21 52.0	-5.5
WMQ				pmax	pmax		
	comp=Z,63nm,1.1s						
WMQ				pmax	pmax		
	comp=Z,22nm,3.7s						
YAK	**Yakutsk**	**65.21**	**357**	P	**P**	**02 21 54.1**	**-2.2**
	comp=Z,12nm,0.3s,baz=250,slow=1.6,SNR=4.8						

SEY Seymchan 67.08 8 P **P 02 22 07.3 -1.0**
comp=Z,2.0nm,0.6s,baz=178,slow=4.7,SNR=6.1
ZALV Zalesovo Beam 71.03 331 P **P 02 22 30.9 -2.1**
comp=Z,0.7nm,0.4s,baz=124,slow=4.5,SNR=5.7
ZALV Zalesovo Beam 71.03 331 *eP* **P 02 22 32.1 -0.9**
TIXI Tiksi 74.84 358 P **P 02 22 53.7 -1.6**
comp=Z,1.7nm,0.4s,baz=145,slow=4.6
VNDA Vanda 75.56 174 P **P 02 22 59.3 -0.1**
comp=Z,1.7nm,0.7s,baz=316,slow=6.1,SNR=8.9
VNDA Vanda 75.56 174 *eP* **P 02 23 00.1 +0.7**
comp=Z,0.7nm,0.6s
CAST Castle Rocks 84.80 25 *eP* **P 02 23 50.5 +1.1**
comp=Z,2.7nm,0.7s
IM3 Indian Mountai 84.94 23 *eP* **P 02 23 50.3 +0.2**
MLY Manley 85.84 24 *eP* **P 02 23 55.2 +0.5**
comp=Z,3.2nm,0.8s
RND Reindeer 86.19 26 *eP* **P 02 23 56.6 +0.2**
comp=Z,8.6nm,0.8s
MCK McKinley 86.24 26 *eP* **P 02 23 56.0 -0.6**
COLD Coldfoot 86.67 22 *eP* **P 02 23 59.7 +1.1**
comp=Z,6.1nm,0.9s
DHY Denali Highway 86.76 26 *eP* **P 02 24 00.2 +0.9**
comp=Z,11nm,1.0s
QSPA South Pole Qui 86.77 180 P **P 02 23 59.7 +0.4**
comp=Z,1.8nm,0.7s,baz=320,slow=5.4,SNR=7.6
WRH Wood River Hil 86.78 25 *eP* **P 02 23 58.7 -0.5**
comp=Z,11nm,1.2s
CCB Clear Creek Bu 86.95 25 *eP* **P 02 23 59.3 -0.7**
comp=Z,7.1nm,1.0s
DIV Divide 87.07 28 *eP* **P 02 24 00.9 +0.1**
KLU Klutina 87.07 28 *eP* **P 02 24 02.0 +1.2**
comp=Z,7.9nm,0.8s
IL1 Eielson Array 87.36 25 *eP* **P 02 23 59.6 -2.4**
ILAR Eielson Array 87.36 25 P **P 02 24 01.1 -0.9**
comp=Z,3.7nm,0.8s,baz=267,slow=4.1,SNR=35
ILB Eielson Array 87.36 25 *eP* **P 02 24 01.3 -0.7**
PAX Paxson 87.58 27 *eP* **P 02 24 04.4 +1.2**
comp=Z,5.8nm,1.0s
DOT Dot Lake 88.34 26 *eP* **P 02 24 06.3 -0.4**
FYU Fort Yukon 88.41 23 *eP* **P 02 24 08.0 +1.0**
comp=Z,5.5nm,0.7s
RAYN Ar Rayn 91.76 293 *eP* **P 02 24 23.2 -0.4**
comp=Z,3.5nm,1.1s
YKA Yellowknife Ar 101.67 27 P **Pdif 02 25 06.9 -0.7**
comp=Z,0.3nm,0.7s,baz=293,slow=5.1,SNR=5.2
TORD Torodi Ar. Bea 133.83 285 PKP **PKPdf 02 30 32.8 -0.4**
comp=Z,0.6nm,0.7s,baz=41,slow=2.7,SNR=6.5
OTAV Otavalo 145.39 94 *e*PKPbc **PKPab 02 30 55.6 +0.7**
CPUP Villa Florida 147.93 157 PKPbc **PKPbc 02 31 00.3 -0.9**
comp=Z,3.2nm,0.9s,baz=199,slow=3.5,SNR=5.3
LPAZ La Paz 149.25 130 PKPbc **PKPbc 02 31 05.6 0.0**
comp=Z,2.6nm,0.9s,baz=231,slow=2.4,SNR=4.6
LPAZ La Paz 149.25 130 *e*PKPbc **PKPbc 02 31 07.2 +1.5**
SAML Samuel 157.35 122 *e*PKPab **PKPab 02 31 43.9 +0.3**

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*IDC **29** 02:13:52.7±0.6,2˚.17N×89˚.81E,h0km,mb4.4/36, mb1 4.5/39,mb1mx4.3/77,mbtmp4.4/39,ML4.2/3,MS4.1/19, Ms1 4.1/19,ms1mx3.7/62,Error ellipse: s-maj=15.3km s-min=13.0km az=4.0*
*BJI **29** 02:13:53.8,2˚.30N×89˚.80E,h13km,mb5.0/48,mB4.9/31, Ms4.5/24,Ms7 4.2/21*
*MOS **29** 02:13:53.0±1.1,2˚.22N×89˚.80E,h10km,mb4.9/45, MS4.4/4,Error ellipse: s-maj=7.9km s-min=5.1km az=108.6*
*ISCJB **29** 02:13:53.1±0.2,2˚.18N±0˚.03×89˚.79E±0˚.02,h10km, mb4.7/111,MS4.2/31,Error ellipse: s-maj=5.0km s-min=3.3km az=15.2*
*GCMT **29** 02:13:55.4±0.4,2˚.29N×89˚.70E,h17km±1km,MW4.9/80, Moment Tensor Solution. s14,c15; s80,c100; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.25±.12; $M_{\theta\theta}$-1.37±.10; $M_{\phi\phi}$ 1.12±.10; $M_{r\theta}$0.34±.26; $M_{\theta\phi}$-1.67±.09; $M_{\phi r}$~1.59±.38; Best double couple: M○2.59900×10^{16} NP1:ϕ_s201.00000°,δ77.00000°,λ31.00000°. NP2: ϕ_s103.00000°,δ60.00000°,λ165.00000°. Principal axes: T 2.9050, Plg31.0000°, Azm66.0000°; N -0.6090, Plg56.0000°, Azm221.0000°; P -2.2920, Plg12.0000°, Azm329.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **29** 02:13:55.4±2.5,2˚.22N×89˚.79E,h14km±15km,mb4.7/32 Error ellipse: s-maj=6.2km s-min=4.3km az=209.0*

ISC 29 02:13:55.1±0.3,2˚27N±0˚05×89˚80E±0˚04,h10km,n285, σ1ˢ66/284,mb4.7/115,MS4.3/31,7C-11D,North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
BSI	**Banda Aceh**	**6.35**	**60**	P	**Pn**	**02 15 29.4**	**+0.6**
MLSI	**Meulaboh, Aceh**	**6.88**	**73**	P	**Pn**	**02 15 38.2**	**+2.1**
	804nm,0.8s,6μm						
MLSI				S	**Sn**	**02 16 57.4**	**+2.8**
	804nm,0.8s,6μm						
TPTI		**7.43**	**82**	P	**Pn**	**02 15 44.2**	**+0.5**
LHMI	**Lhok Sumawe**	**7.71**	**67**	P	**Pn**	**02 15 49.7**	**+2.2**
	514nm,0.8s,5μm						
LHMI	**Lhok Sumawe**	**7.71**	**67**	*e*Pn	**Pn**	**02 15 49.3**	**+1.8**
GSI	**Gunungsitoli**	**7.83**	**97**	P	**Pn**	**02 15 50.5**	**+1.4**
GSI	**Gunungsitoli**	**7.83**	**97**	*e*Pn	**Pn**	**02 15 48.4**	**-0.8**
GSI				*e*Sn	**Sn**	**02 17 10.2**	**-7.6**
TSI	**Tuntungan**	**8.84**	**82**	P	Pn	02 16 08.9	+5.9
	200nm,0.8s						
PSI	**Prapat**	**9.13**	**86**	Pn	**Pn**	**02 16 06.4**	**-0.7**
	1.0nm,0.3s,baz=264,slow=9.2,SNR=5.1						
PSI				Sn	**Sn**	**02 17 45.4**	**-4.7**
	0.9nm,0.3s,baz=108,slow=20,SNR=2.7						
PSI	**Prapat**	**9.13**	**86**	*e*Pn	**Pn**	**02 16 07.1**	**0.0**
PSI				Sn	**Sn**	**02 17 45.4**	**-4.7**
PSI	**Prapat**	**9.13**	**86**	*e*P	**Pn**	**02 16 07.1**	**0.0**
PSI						02 17 45.4	
PBA	**Port Blair**	**9.77**	**17**	*e*P	Pn	02 16 17.6	+1.8
MNSI	**Mandailing Nat**	**9.88**	**98**	P	**Pn**	**02 16 18.5**	**+1.2**
	124nm,0.7s,2μm						
PKDT	**Phuket**	**10.17**	**56**	P	**Pn**	**02 16 21.2**	**0.0**
	126nm,1.0s,1μm						
PALK	**Pallekele**	**10.34**	**299**	Pn	**Pn**	**02 16 22.4**	**-1.2**
	2.0nm,0.3s,baz=116,slow=13,SNR=16						
PALK				Sn	Sn	02 18 06.6	-13
	48nm,0.3s,baz=296,slow=4.9,SNR=20						
PALK				LR	LR	02 20 02.1	
	comp=Z,663nm,18.9s,baz=116,slow=36						
PALK	**Pallekele**	**10.34**	**299**	*e*Pn	**Pn**	**02 16 22.4**	**-1.2**
PALK				*e*Sn	Sn	02 18 04.8	-15
PDSI	**Padang**	**11.12**	**106**	P	**Pn**	**02 16 35.0**	**+0.7**
	47nm,0.9s						
KULM	**Kulim**	**11.23**	**74**	*e*Pn	**Pn**	**02 16 36.0**	**+0.1**
KULM				*e*Sn	**Sn**	**02 18 36.8**	**-4.8**
DGPR	**DIGLIPUR**	**11.27**	**16**	*e*P	**Pn**	**02 16 37.1**	**+0.8**
TRTT	**Trang**	**11.29**	**60**	P	**Pn**	**02 16 35.9**	**-0.8**
	41nm,0.9s,443nm						
IPM	**Ipoh**	**11.41**	**79**	*e*Pn	**Pn**	**02 16 38.9**	**+0.5**
IPM				*e*Sn	**Sn**	**02 18 42.4**	**-3.7**
SKLT	**Songkhla**	**11.83**	**65**	P	Pn	02 16 50.4	+6.4
KRJI	**Kerinci**	**12.43**	**110**	P	Pn	02 17 02.3	+10
TRD	**Trivandrum**	**14.21**	**296**	*e*P	**Pn**	**02 17 17.3**	**+0.8**
MDRS	**Chennai**	**14.30**	**319**	*e*P	**Pn**	**02 17 15.8**	**-2.0**
PHET	**Kaeng Krachan**	**14.37**	**42**	P	**Pn**	**02 17 21.0**	**+2.3**
	14nm,0.8s,162nm						
SRDT	**SRDT**	**15.13**	**37**	P	**Pn**	**02 17 29.1**	**+0.1**
	66nm,1.3s						
COCO	**West Island**	**15.97**	**154**	*ce*P	**P**	**02 17 46.3**	**+2.7**
CHBT	**CHBT**	**16.20**	**49**	P	**P**	**02 17 49.7**	**+3.6**
KASI	**Kota Agung**	**16.59**	**118**	P	**P**	**02 17 51.5**	**+1.0**
VIS	**Vishakhapatnam**	**16.62**	**338**	*e*P	**Pn**	**02 17 46.2**	**-2.2**
VIS				*i* x	x	02 20 41.0	
CHAI	**Chaiyaphum**	**18.10**	**41**	P	**P**	**02 18 07.5**	**+0.3**
	32nm,0.8s,228nm						
PHIT	**Phitsanulok**	**18.13**	**34**	P	**P**	**02 18 09.3**	**+1.8**
	108nm,1.0s,777nm						
CGJI	**Cibinong**	**18.15**	**119**	P	**P**	**02 18 11.2**	**+3.4**
BWNR	**Bhubaneshwar**	**18.34**	**348**	*e*P	**P**	**02 18 10.3**	**+0.6**
CM01	**Chiang Mai Arr**	**18.39**	**29**	*e*P	**Pn**	**02 18 11.8**	**+1.4**
CM31	**Chiang Mai Arr**	**18.41**	**29**	*e*P	**Pn**	**02 18 11.7**	**+1.0**
CMAR	**Chiang Mai Arr**	**18.41**	**29**	P	**P**	**02 18 10.3**	**-0.3**
	0.5nm,0.3s,baz=225,slow=12,SNR=65						
HYB	**Hyderabad**	**18.68**	**324**	*i* P	**Pn**	**02 18 14.0**	**+0.1**
HYB				*e*S	**Sn**	**02 21 40.0**	**-3.0**
HYB	**Hyderabad**	**18.68**	**324**	*e*P	**P**	**02 18 13.5**	**0.0**
HYB				IAmb	IAmb	02 18 15.0	
	comp=Z,16nm,0.8s						
CHTO	**Chiang Mai**	**18.72**	**28**	P	**Pn**	**02 18 15.7**	**+1.3**
	comp=Z,169nm,1.0s,comp=Z,3μm						
CHTO	**Chiang Mai**	**18.72**	**28**	*e*P	**Pn**	**02 18 14.8**	**+0.3**
	comp=Z,29nm,0.9s						
CHTO	**Chiang Mai**	**18.72**	**28**	*e*P	**Pn**	**02 18 14.8**	**+0.3**
CHTO				pmax	pmax		
	comp=Z,29nm,0.9s						
CMMT	**Chiang Mai**	**18.72**	**28**	P	**Pn**	**02 18 14.7**	**+0.2**
	comp=Z,38nm,0.9s,comp=Z,658nm						
LAMP	**Lampang**	**18.81**	**30**	P	**Pn**	**02 18 16.5**	**+1.0**
	comp=Z,22nm,0.9s,comp=Z,183nm						
KHON	**Khomkaen**	**18.97**	**42**	P	**Pn**	**02 18 18.6**	**+1.2**
	comp=Z,64nm,0.9s,comp=Z,1μm						
PAYA	**Payao**	**19.64**	**29**	P	**Pn**	**02 18 26.1**	**+0.7**
	comp=Z,22nm,0.9s,comp=Z,1μm						
CMAI	**Chiengmai2**	**19.74**	**27**	P	**Pn**	**02 18 27.8**	**+0.9**
	comp=Z,135nm,1.1s,comp=Z,7μm						
H08S2	**Diego Garcia H**	**19.88**	**240**	T	T	02 38 46.6	
	baz=60,slow=75,SNR=740						
H08S3	**Diego Garcia H**	**19.88**	**240**	T	T	02 38 39.6	
	baz=60,slow=75,SNR=456						
H08S1	**Diego Carcia H**	**19.90**	**240**	T	T	02 38 57.1	
	baz=60,slow=75,SNR=89						
LEM	**Lembang**	**19.95**	**117**	P	**Pn**	**02 18 29.4**	**+0.1**
	comp=Z,5.3nm,0.3s,baz=213,slow=15,SNR=4.9						
UBPT	**Khong Chiam**	**20.14**	**49**	P	**P**	**02 18 30.1**	**+0.5**
	comp=Z,141nm,0.9s						
CISI	**Cisompet, Garu**	**20.45**	**119**	P	Pn	02 18 34.6	-0.6
CISI	**Cisompet, Garu**	**20.45**	**119**	*e*P	Pn	02 18 34.9	-0.3
	comp=Z,70nm,0.8s						
GOA	**Goa**	**20.51**	**311**	*e*P	**P**	**02 18 32.4**	**-1.3**
CMJI	**Cimerak**	**21.11**	**118**	P	**P**	**02 18 46.5**	**+6.4**
KPJI	**Karang Pucung**	**21.34**	**117**	P	**P**	**02 18 44.6**	**+2.0**
NGP	**Nagpur**	**21.49**	**332**	*e*P	**P**	**02 18 44.0**	**-0.2**
AZL	**Aizawl**	**21.53**	**7**	*e*P	**P**	**02 18 46.0**	**+1.4**
BOK	**Bokaro**	**21.73**	**350**	*e*P	**P**	**02 18 48.2**	**+1.5**
STKI	**Sintang**	**21.78**	**95**	P	**P**	**02 18 54.1**	**+6.8**
POO	**Poona**	**22.49**	**317**	*ex*	**P**	**02 18 50.4**	**-4.5**
POO				IAmb	IAmb	02 19 18.6	
	comp=Z,1μm,4.2s						
SMRI	**Semarang**	**22.58**	**114**	*e*P	**P**	**02 18 56.5**	**+0.5**
	comp=Z,88nm,1.0s						
IMP	**Imphal**	**22.79**	**10**	*e*P	**P**	**02 18 58.0**	**-0.1**
SHL	**Shillong**	**23.25**	**5**	*e*P	**P**	**02 19 05.1**	**+2.1**
SHL				IAmb	IAmb	02 19 12.9	
	comp=Z,72nm,1.1s						
WOJI	**Wonogiri, Jawa**	**23.34**	**116**	P	**P**	**02 19 07.0**	**+3.2**
KOHI	**KOHIMA**	**23.68**	**10**	*e*P	**P**	**02 19 07.5**	**+0.3**
GUWA	**GUWAHATI**	**23.86**	**4**	*e*P	**P**	**02 19 09.7**	**+1.0**
BHPL	**Bhopal**	**24.05**	**331**	*e*P	**P**	**02 19 11.1**	**+0.4**
BHPL				IAmb	IAmb	02 19 23.5	
	comp=Z,18nm,1.0s						
MOKO	**MOKOCHONG**	**24.34**	**10**	*e*P	**P**	**02 19 12.8**	**-0.7**
TEZP	**TEZPUR**	**24.38**	**7**	*e*P	**P**	**02 19 14.1**	**+0.5**
ODAN	**Odare**	**24.56**	**355**	*e*P	**P**	**02 19 16.8**	**+1.2**
	comp=Z,75nm,0.8s						
RAMN	**Ramite**	**24.73**	**353**	*e*P	**P**	**02 19 19.1**	**+2.0**
	comp=Z,173nm,0.8s						
GTK	**Tadong**	**24.94**	**357**	*e*P	**P**	**02 19 17.4**	**-1.5**
JIRN	**Jiri**	**25.48**	**353**	*e*P	**P**	**02 19 25.9**	**+1.9**
DMN	**Daman**	**25.60**	**350**	*e*P	**P**	**02 19 26.8**	**+1.9**
	comp=Z,72nm,0.8s						
QIZ	**Qiongzhong**	**25.74**	**48**	P	**P**	**02 19 27.5**	**+1.5**
QIZ				S	**S**	**02 23 58.3**	**+3.1**
QIZ				LR	LR		
	comp=Z,1μm,10.4s						
QIZ				LR	LR		
	comp=Z,1μm,15.3s						
QIZ				LR	LR		
	comp=Z,410nm,12.0s						
QIZ	**Qiongzhong**	**25.74**	**48**	*e*P	**P**	**02 19 26.9**	**+0.8**
	comp=Z,41nm,0.9s						
KKN	**Kakani**	**25.74**	**351**	*e*P	**P**	**02 19 27.9**	**+1.7**
	comp=Z,67nm,0.9s						
GUN	**Gumba**	**25.77**	**352**	*e*P	**P**	**02 19 28.4**	**+1.8**
	comp=Z,122nm,1.0s						
KMI	**Kunming**	**25.92**	**28**	P	**P**	**02 19 30.5**	**+2.6**
KMI				pmax	pmax		
	comp=Z,42nm,0.8s						
KMI				pmax	pmax		
	comp=Z,120nm,5.2s						
KOLN	**Koldanda**	**26.04**	**347**	*e*P	**P**	**02 19 30.9**	**+2.0**
	comp=Z,41nm,0.8s						
GKN	**Gorkha**	**26.06**	**350**	*e*P	**P**	**02 19 30.9**	**+1.8**
	comp=Z,112nm,0.9s						
PYUN	**Piuthan**	**26.50**	**346**	*e*P	**P**	**02 19 35.8**	**+2.7**
	comp=Z,72nm,0.9s						
DANN	**Dangsing**	**26.57**	**348**	*e*P	**P**	**02 19 35.8**	**+2.0**
	comp=Z,8.8nm,1.0s						
KKM	**Kota Kinabalu**	**26.60**	**81**	*e*P	**P**	**02 19 34.1**	**+0.1**
	comp=Z,8.7nm,0.8s						
LSA	**Lhasa**	**27.31**	**3**	P	**P**	**02 19 42.0**	**+1.3**
LSA				pmax	pmax		
	comp=Z,17nm,0.8s						
LSA	**Lhasa**	**27.31**	**3**	*e*P	**P**	**02 19 42.4**	**+1.7**
	comp=Z,17nm,0.7s						
LSA	**Lhasa**	**27.31**	**3**	*e*P	**P**	**02 19 42.4**	**+1.7**
LSA				pmax	pmax		
	comp=Z,17nm,0.7s						
MYLDM	**Lahad Datu**	**28.78**	**83**	*e*P	**P**	**02 19 53.6**	**+0.2**
	comp=Z,10nm,0.9s						
SMLA	**Simla**	**31.09**	**339**	*e*P	**P**	**02 20 14.5**	**+0.9**
SMLA				IAmb	IAmb	02 20 20.2	
	comp=Z,11nm,0.6s						
CD2	**Chengdu**	**31.40**	**23**	P	**P**	**02 20 17.3**	**+0.8**
CD2				S	**S**	**02 25 26.3**	**+2.2**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,160nm,5.4s						
CD2				LR	LR		
	comp=Z,500nm,19.4s						
CD2				LR	LR		
	comp=Z,300nm,14.9s						
CD2				LR	LR		
	comp=Z,360nm,11.5s						
DHRM	**DHARAMSHALA**	**32.42**	**338**	*e*P	**P**	**02 20 26.2**	**+0.5**
DHRM				IAmb	IAmb	02 20 36.0	
	comp=Z,22nm,1.0s						
ENH	**Enshi**	**33.52**	**32**	*e*P	**P**	**02 20 35.0**	**-0.2**
NIL	**Nilore**	**34.85**	**335**	*e*P	**P**	**02 20 47.3**	**+0.7**
NIL	**Nilore**	**34.85**	**335**	*e*P	**P**	**02 20 47.3**	**+0.7**
BATI	**Baumata**	**35.92**	**111**	LR	LR	02 36 54.6	
	comp=Z,280nm,18.4s,baz=290,slow=38						
LZH	**Lanzhou**	**36.07**	**19**	*e*P	**P**	**02 20 57.8**	**+0.6**
LZH				pP	sP	02 21 07.3	+5.7
LZH				pmax	pmax		
	comp=Z,23nm,1.2s						
LZH				pmax	pmax		
	comp=Z,62nm,4.9s						
LZH				LR	LR		
	comp=Z,260nm,13.0s						
LZH				LR	LR		
	comp=Z,200nm,12.2s						
LZH				LR	LR		
	comp=Z,320nm,14.8s						
XAN	**Xi'an**	**36.30**	**27**	P	**P**	**02 20 58.3**	**-0.8**
XAN				sP	sP	02 21 06.0	+2.6
XAN				S	**S**	**02 26 35.8**	**-4.2**
XAN				pmax	pmax		
	comp=Z,34nm,0.9s						
XAN				pmax	pmax		
	comp=Z,84nm,4.1s						
XAN				LR	LR		
	comp=Z,370nm,16.0s						
XAN				LR	LR		
	comp=Z,360nm,16.8s						
XAN				LR	LR		
	comp=Z,270nm,15.7s						
SOEI	**Soe**	**36.34**	**110**	*e*P	**P**	**02 20 60.0**	**+0.2**
	comp=Z,27nm,0.9s						
SANI	**Sanana**	**36.43**	**96**	P	P	02 21 10.7	+10
WHN	**Wuhan**	**36.48**	**37**	⇑P	**P**	**02 21 01.5**	**+0.9**
YULB	**Yu-li**	**37.03**	**53**	*e*P	**P**	**02 21 07.2**	**+1.8**
	comp=Z,26nm,0.8s						
MBWA	**Marble Bar**	**37.42**	**130**	*e*P	**P**	**02 21 09.1**	**+0.4**
GTA	**Gaotai**	**38.08**	**13**	⇑P	**P**	**02 21 15.3**	**+1.1**
GTA				pP	sP	02 21 24.8	+6.3
GTA				sP	pP	02 21 28.5	+11
GTA				S	**S**	**02 27 09.8**	**+2.7**
GTA				pmax	pmax		
	comp=Z,38nm,0.9s						
GTA				pmax	pmax		
	comp=Z,100nm,6.1s						
GTA				LR	LR		
	comp=Z,160nm,18.1s						
GTA				LR	LR		
	comp=Z,240nm,17.6s						
GTA				LR	LR		
	comp=Z,170nm,18.2s						
KSH	**Kashi**	**39.16**	**343**	P	**P**	**02 21 22.8**	**-0.4**
KSH				pP	sP	02 21 27.8	+0.2
KSH				S	**S**	**02 27 21.3**	**-2.0**
KSH				pmax	pmax		
	comp=Z,81nm,1.3s						
KSH				pmax	pmax		
	comp=Z,310nm,5.0s						
KSH				LR	LR		
	comp=Z,380nm,10.1s						
KSH				LR	LR		
	comp=Z,380nm,12.1s						
NJ2	**Nanjing**	**40.31**	**40**	*e*P	**P**	**02 21 35.5**	**+2.7**
NJ2				pmax	pmax		
	comp=Z,16nm,0.6s						
SFK	**Sufi-Kurgan**	**40.38**	**341**	P	**P**	**02 21 35.0**	**+1.4**
SFK				pmax	pmax		
	comp=Z,11nm,0.8s						
NRN	**Naryn**	**40.92**	**344**	P	**P**	**02 21 38.2**	**+0.1**
NRN				pmax	pmax		
	comp=Z,7.0nm,0.9s						
WMQ	**Urumqi**	**41.42**	**358**	P	**P**	**02 21 42.5**	**+0.6**
WMQ				pmax	pmax		
	comp=Z,23nm,1.3s						
WMQ				pmax	pmax		
	comp=Z,220nm,4.5s						
WMQ				LR	LR		
	comp=Z,470nm,21.9s						
WMQ				LR	LR		
	comp=Z,540nm,24.9s						
WMQ				LR	LR		
	comp=Z,490nm,21.9s						
SHLS	**Shalkode**	**41.74**	**349**	*e*P	**P**	**02 21 45.1**	**+0.5**
	comp=Z,99nm,1.1s						
UZB	**Uzynbulak**	**41.82**	**348**	*e*P	**P**	**02 21 46.0**	**+0.7**
	comp=Z,30nm,1.2s						
SATY	**Saty**	**41.87**	**347**	*e*P	**P**	**02 21 46.9**	**+1.3**
	comp=Z,146nm,1.1s						
PDGK	**Podgornoye**	**41.90**	**349**	P	**P**	**02 21 47.4**	**+1.5**
PDGK				pmax	pmax		
	comp=Z,20nm,1.1s						
TIA	**Tai'an**	**42.18**	**34**	P	**P**	**02 21 49.0**	**+0.9**
TIA				pmax	pmax		
	comp=Z,21nm,0.8s						
KPKS	**Kokpek**	**42.20**	**348**	*e*P	**P**	**02 21 49.5**	**+1.2**
	comp=Z,80nm,1.1s						
KPKS				*e*S	**S**	**02 28 11.2**	**+2.7**
MDOK	**Medeo**	**42.28**	**346**	*e*P	**P**	**02 21 50.3**	**+1.3**
	comp=Z,59nm,1.1s						
MDOK				LR	LR	02 38 30.1	
	comp=Z,61nm,15.2s						
TKM2	**Tokmak 2**	**42.42**	**344**	P	**P**	**02 21 51.4**	**+1.2**
TKM2				pmax	pmax		
	comp=Z,18nm,1.3s						
AAK	**Ala-Archa**	**42.46**	**343**	P	**P**	**02 21 52.3**	**+1.7**
	comp=Z,1.6nm,0.8s,baz=112,slow=8.2,SNR=4.2						
AAK	**Ala-Archa**	**42.46**	**343**	*e*P	**P**	**02 21 51.5**	**+0.9**
	comp=Z,2.7nm,0.8s						
AAK	**Ala-Archa**	**42.46**	**343**	⇓*e*P	**P**	**02 21 52.1**	**+1.6**
AAK				pmax	pmax		
	comp=Z,4.0nm,1.3s						
BMNS	**Besmoynak**	**42.57**	**345**	*e*P	**P**	**02 21 51.4**	**-0.1**
	comp=Z,88nm,0.9s						
BMNS				LR	LR	02 39 42.4	
	comp=Z,86nm,12.7s						
MNAS	**Manas**	**42.93**	**341**	P	**P**	**02 21 56.6**	**+2.2**
MNAS				pmax	pmax		
	comp=Z,19nm,2.2s						
KUU	**Kurty**	**43.14**	**346**	*e*P	**P**	**02 21 56.0**	**+0.2**
	comp=Z,30nm,1.0s						
KUU				LR	LR	02 40 52.9	
	comp=Z,51nm,15.9s						
HHC	**Hu-ho-hao-te**	**43.15**	**24**	*e*P	**P**	**02 21 57.0**	**+1.0**
HHC				sP	sP	02 22 04.3	+3.9
HHC				pmax	pmax		
	comp=Z,24nm,1.1s						
HHC				pmax	pmax		
	comp=Z,60nm,6.2s						
HHC				LR	LR		
	comp=Z,260nm,14.6s						
HHC				LR	LR		
	comp=Z,260nm,14.8s						
HHC				LR	LR		
	comp=Z,240nm,14.7s						
H01W3	**Cape Leeuwin H**	**43.44**	**150**	T	T	03 08 27.0	
	baz=324,slow=76,SNR=20						
H01W2	**Cape Leeuwin H**	**43.45**	**150**	T	T	03 08 26.9	
	baz=324,slow=76,SNR=32						
H01W1	**Cape Leeuwin H**	**43.45**	**150**	T	T	03 08 28.6	
	baz=324,slow=76,SNR=20						
IUG	**Iuzhnay**	**43.48**	**339**	*e*P	**P**	**02 22 00.7**	**+1.9**
	comp=Z,72nm,1.3s						
IUG				*e*S	**S**	**02 28 30.5**	**+2.9**
KK31	**Karatay Array**	**44.15**	**340**	*i* P	**P**	**02 22 08.1**	**+4.1**
KK31				pmax	pmax		
	comp=Z,8.0nm,0.8s						
KKAR	**Karatay Array**	**44.15**	**340**	*e*P	**P**	**02 22 04.0**	**0.0**
	comp=Z,11nm,0.9s						
KKAR	**Karatay Array**	**44.15**	**340**	*e*P	**P**	**02 22 04.0**	**0.0**
KKAR				pmax	pmax		
	comp=Z,11nm,0.9s						
MK01	**Makanchi Array**	**44.80**	**353**	*e*P	**P**	**02 22 08.9**	**-0.3**
MK31	**Makanchi Array**	**44.83**	**353**	*e*P	**P**	**02 22 09.5**	**+0.1**
MK31	**Makanchi Array**	**44.83**	**353**	*i* P	**P**	**02 22 08.8**	**-0.6**
MK31				pmax	pmax		
	comp=Z,18nm,0.8s						
MKAR	**Makanchi Array**	**44.83**	**353**	P	**P**	**02 22 09.5**	**+0.1**
	comp=Z,4.9nm,0.8s,baz=170,slow=8.6,SNR=46						
MKAR	**Makanchi Array**	**44.83**	**353**	*e*P	**P**	**02 22 09.5**	**+0.1**
	comp=Z,52nm,0.8s						
MKAR	**Makanchi Array**	**44.83**	**353**	*e*P	**P**	**02 22 09.5**	**+0.1**
MKAR				pmax	pmax		
	comp=Z,52nm,0.8s						
MAKZ	**Makanchi**	**44.88**	**352**	*e*P	**P**	**02 22 09.9**	**+0.1**
	comp=Z,5.8nm,1.0s						
MAKZ	**Makanchi**	**44.88**	**352**	*e*P	**P**	**02 22 09.9**	**+0.1**
MAKZ				pmax	pmax		
	comp=Z,6.0nm,1.0s						
GEYT	**Alibeck**	**45.86**	**325**	P	**P**	**02 22 18.4**	**+0.7**
	comp=Z,2.5nm,0.5s,baz=157,slow=8.0,SNR=8.7						
SONM	**Songino Array**	**47.60**	**15**	P	**P**	**02 22 32.2**	**+0.9**
	comp=Z,35nm,0.8s,baz=194,slow=9.4,SNR=162						
SONA1	**Songino Array**	**47.62**	**15**	*e*P	**P**	**02 22 31.5**	**+0.1**
RAYN	**Ar Rayn**	**47.78**	**300**	*e*

comp=Z,94nm,19.7s,baz=219,slow=37
TLY Talaya 50.59 11 *e*P **P 02 22 54.4 +0.4**
TLY pmax pmax
comp=Z,5.0nm,0.9s
ZALV Zalesovo Beam 51.67 356 P **P 02 23 01.9 -0.1**
comp=Z,6.6nm,0.8s,baz=187,slow=8.5,SNR=18
CN2 Changchun 52.04 32 *e*P **P 02 23 07.0 +2.0**
KMBO Kilima Mbogo 52.65 267 *e*P **P 02 23 10.3 -0.1**
comp=Z,5.0nm,0.9s
KMBO Kilima Mbogo 52.65 267 *e*P **P 02 23 10.3 -0.1**
KMBO pmax pmax
comp=Z,5.0nm,0.9s
NVS Novosibirsk 52.68 355 *e*P **P 02 23 08.7 -0.8**
NVS pmax pmax
comp=Z,16nm,1.0s
NVS pmax pmax
comp=N,9.0nm,0.9s
BVAR Borovoye Array 53.09 345 P **P 02 23 12.2 -0.4**
comp=N,2.3nm,0.6s,baz=141,slow=7.1,SNR=16
BVAR LR LR 02 46 09.7
comp=N,282nm,19.9s,baz=129,slow=36
BRVK Borovoye 53.14 345 *e*P **P 02 23 12.8 -0.2**
comp=N,3.5nm,0.6s
BRVK Borovoye 53.14 345 *e*P **P 02 23 12.8 -0.2**
BRVK pmax pmax
comp=Z,4.0nm,0.6s
AB31 Akbulak array 53.31 336 *i* P **P 02 23 14.6 +0.3**
AB31 pmax pmax
comp=Z,11nm,0.6s
ABKAR Akbulak array 53.31 336 *e*P **P 02 23 14.5 +0.2**
comp=Z,7.1nm,0.5s
HIA Hailar 53.35 24⇓ *i*P **P 02 23 15.8 +1.1**
HIA pmax pmax
comp=Z,18nm,1.1s
INU Inuyama 54.73 47 *e*P **P 02 23 24.5 -0.4**
comp=Z,9.9nm,0.8s
MDJ Mudanjiang 54.84 34 P **P 02 23 23.8 -1.8**
MDJ pP pP 02 23 29.0 +0.2
MDJ sP sP 02 23 30.5 +0.5
MDJ S **S 02 30 59.3 -7.4**
MDJ sS sS 02 31 18.8 +6.8
MDJ pmax pmax
comp=Z,11nm,1.4s
MDJ pmax pmax
comp=Z,79nm,3.7s
MDJ LR LR
comp=Z,150nm,12.7s
MDJ LR LR
comp=Z,270nm,13.7s
MDJ LR LR
comp=Z,190nm,16.7s
AKTO Aktyubinsk 55.01 336 P **P 02 23 26.1 -0.7**
comp=Z,1.3nm,0.6s,baz=129,slow=9.8,SNR=4.4
AKTO Aktyubinsk 55.01 336 P **P 02 23 27.0 +0.3**
GNI Garni 55.51 319 P **P 02 23 30.2 -0.5**
comp=Z,1.5nm,0.5s,baz=39,slow=14,SNR=2.7
GNI Garni 55.51 319 *e*P **P 02 23 30.9 +0.2**
GNI Garni 55.51 319⇓ *e*P **P 02 23 32.3 +1.6**
GNI pmax pmax
comp=Z,26nm,1.7s
GUMO Guam 55.56 75 LR LR 02 47 38.6
comp=Z,47nm,19.7s,baz=115,slow=36
USRK Ussuriysk Ar. 55.95 36 P **P 02 23 32.9 -0.7**
comp=Z,6.5nm,0.9s,baz=251,slow=4.4,SNR=8.0
MAJO Matsushiro 56.12 47 *e*P **P 02 23 34.5 -0.5**
comp=Z,3.2nm,0.5s
MAJO Matsushiro 56.12 47⇓ *e*P **P 02 23 35.2 +0.3**
MAJO pmax pmax
comp=Z,11nm,1.6s
MAT Matsushiro 56.12 47 P **P 02 23 33.9 -1.0**
MJAR Matsushiro Arr 56.12 47 P **P 02 23 34.7 -0.2**
comp=Z,4.6nm,0.9s,baz=236,slow=8.2,SNR=15
MJAR LR LR 02 47 47.4
comp=Z,124nm,21.9s,baz=195,slow=36
TBLG Delisi 56.34 320 *e*P **P 02 23 38.2 +1.8**
comp=Z,15nm,1.1s
TBLG Delisi 56.34 320 *e*P **P 02 23 38.2 +1.8**
TBLG pmax pmax
comp=Z,15nm,1.1s
ZEI Tsey 57.42 321 *e*P **P 02 23 45.2 +0.9**
ZEI pmax pmax
comp=Z,2.0nm,0.5s
ASF Jabal al Asfar 57.87 307 P **P 02 23 47.6 0.0**
comp=Z,2.8nm,0.8s,baz=149,slow=5.9,SNR=7.4
NEY Neytrino 58.40 321⇑ *e*P **P 02 23 51.8 +0.6**
NEY pmax pmax
comp=Z,1.0nm,0.8s
KBZ Khabaz 58.53 322 P **P 02 23 52.4 +0.5**
comp=Z,3.2nm,0.9s,baz=136,slow=6.0,SNR=12
BOD Bodaibo 58.60 15 *e*P **P 02 23 51.5 -0.6**
BOD *e* 02 24 00.2
BOD pmax pmax
comp=Z,20nm,0.9s
KIV Kislovodsk 58.78 322 *e*P **P 02 23 55.0 +1.3**
comp=Z,11nm,0.9s
KIV Kislovodsk 58.78 322 *e*P **P 02 23 54.4 +0.7**
KIV pmax pmax
comp=Z,15nm,1.1s
KLR Kul'dur 58.88 31 P **P 02 23 54.1 0.0**
comp=Z,1.2nm,0.9s,baz=272,slow=7.0,SNR=29
KLR LR LR 02 51 42.0
comp=Z,12nm,18.1s,baz=170,slow=38
SVE Sverdlovsk 59.17 342 *e*P P 02 24 04.5 +8.5
MMAI Mount Meron Ar 59.33 307 LR LR 02 50 19.0
comp=Z,169nm,18.3s,baz=305,slow=37
ARU Arti 59.52 340 *e*P **P 02 23 58.0 -0.4**
comp=Z,4.5nm,1.0s
ARU Arti 59.52 340 *d i*P **P 02 23 58.7 +0.3**
ARU 02 24 44.1
ARU S **S 02 32 10.7 +2.7**
ARU SS **SS 02 35 57.1 -6.2**
ARU pmax pmax
comp=Z,5.0nm,1.0s
STKA Stephens Creek 59.66 129 P **P 02 23 58.4 -1.5**
comp=Z,5.7nm,0.8s,baz=336,slow=8.3,SNR=7.0
ZEA Zeya 59.81 25 *e*P **P 02 24 00.5 0.0**
ZEA pmax pmax
comp=Z,13nm,0.8s
GRNR Gornyy 62.21 31 *i*P **P 02 24 16.0 -0.9**
BRTR Keskin Array B 62.99 314 P **P 02 24 21.9 -0.5**
comp=Z,2.2nm,0.6s,baz=141,slow=5.8,SNR=22
BRTR Keskin Array B 62.99 314 P **P 02 24 22.0 -0.5**
BR131 Keskin Array S 62.99 314 *e*P **P 02 24 22.1 -0.5**
VRH Novokhopyorsk 63.22 328 *e*P **P 02 24 23.0 -0.6**
VRH pmax pmax
comp=Z,7.0nm,0.9s
LSZ Lusaka 63.38 252 *e*P **P 02 24 25.8 +0.4**
comp=Z,2.3nm,0.8s
LSZ Lusaka 63.38 252 *e*P **P 02 24 25.8 +0.4**
LSZ pmax pmax
comp=Z,2.0nm,0.8s
ANTO Ankara 63.65 314 *e*P **P 02 24 27.6 +0.8**
comp=Z,6.4nm,0.9s
ANTO Ankara 63.65 314 *e*P **P 02 24 27.6 +0.8**
ANTO pmax pmax
comp=Z,6.0nm,0.9s
YSS Yuzh-Sakhalins 63.83 38⇓ *e*P **P 02 24 29.6 +1.9**
YSS pmax pmax
comp=Z,13nm,0.9s
VORD Divnogorie 64.39 327 *e*P **P 02 24 30.2 -1.1**
VORD pmax pmax
comp=Z,5.0nm,0.8s
VSR Storozhevoye 64.59 327 *e*P **P 02 24 31.2 -1.4**
VSR pmax pmax
comp=Z,3.0nm,0.7s
LPSR Galich'ya Gora 65.43 329 *e*P **P 02 24 37.8 -0.3**
LPSR pmax pmax
comp=Z,10.0nm,0.8s
YAK Yakutsk 66.66 19 *e*P **P 02 24 43.8 -2.0**
YAK pmax pmax
comp=Z,28nm,0.9s
YAK pmax pmax
comp=N,4.0nm,1.1s
YAK pmax pmax
comp=E,7.0nm,1.2s
LBTB Lobatse 67.79 242 P **P 02 24 52.4 -1.5**
comp=E,1.9nm,0.6s,baz=63,slow=3.3,SNR=6.3
IDI Anoyia 68.33 307 P **P 02 24 56.8 -0.3**
comp=E,4.9nm,0.7s,baz=108,slow=9.4,SNR=6.6
IDI LR LR 02 56 41.1
comp=E,44nm,20.9s,baz=85,slow=38
BOSA Boshof 68.97 238 P **P 02 24 59.1 -2.1**
comp=E,2.1nm,0.8s,baz=32,slow=1.4,SNR=4.9
KLMR Klimovskoe 69.71 336 *e*P **P 02 25 03.9 -1.0**
KLMR AMP 02 25 16.3
comp=Z,17nm,1.0s
KLMR Klimovskoe 69.71 336 *e*P **P 02 25 03.8 -1.1**
KLMR pmax pmax
comp=Z,17nm,1.0s
VRI Vrincioaia 69.86 318 P **P 02 25 07.5 +1.3**
VRI pmax pmax
comp=Z,98nm,1.1s
AKASG Malin Array Be 69.97 324 P **P 02 25 05.2 -1.6**
comp=Z,0.6nm,0.5s,baz=95,slow=5.1,SNR=3.3
AKASG LR LR 02 57 39.4
comp=Z,82nm,21.7s,baz=80,slow=38
KIEV Kiev 69.98 324⇓ *e*P **P 02 25 06.8 0.0**
KIEV pmax pmax
comp=Z,2.0nm,0.7s
MLR Muntele Rosu 70.27 318 P **P 02 25 09.2 +0.3**
comp=Z,2.3nm,0.7s,baz=90,slow=12,SNR=22
MLR Muntele Rosu 70.27 318 *e*P **P 02 25 09.7 +0.8**
comp=Z,14nm,1.0s
MLR Muntele Rosu 70.27 318 *e*P **P 02 25 09.7 +0.8**
MLR pmax pmax
comp=Z,14nm,1.0s
VTS Vitosha 71.36 314 *e*P **P 02 25 15.2 -0.4**
comp=Z,3.0nm,0.7s
VTS Vitosha 71.36 314 *e*P **P 02 25 15.2 -0.4**
VTS pmax pmax
comp=Z,3.0nm,0.7s
BUR08 Bucovina Ar. S 71.41 320 *e*P **P 02 25 16.8 +1.0**
TMCR Tamitsa 72.16 339 *e*P P 02 25 28.8 +9.0
DRGR 72.79 319 P **P 02 25 25.6 +1.6**
DRGR pmax pmax
comp=Z,10.0nm,1.9s
TIXI Tiksi 73.56 12 P **P 02 25 26.5 -1.4**
comp=Z,24nm,0.8s,baz=226,slow=2.8,SNR=26
TIXI Tiksi 73.56 12 *e*P **P 02 25 26.4 -1.5**
TIXI Tiksi 73.56 12 *e*P **P 02 25 26.4 -1.5**
MA2 Magadan 73.70 28 P **P 02 25 27.5 -1.5**
comp=Z,9.7nm,0.8s,baz=189,slow=11,SNR=6.5
MA2 Magadan 73.70 28 *e*P **P 02 25 28.6 -0.5**
comp=Z,7.8nm,0.8s
MA2 Magadan 73.70 28 *e*P **P 02 25 28.4 -0.6**
MA2 pmax pmax
comp=Z,8.0nm,0.8s
DIVS Divibare 74.00 315 *e*P **P 02 25 32.0 +0.8**
comp=Z,3.4nm,1.0s
STHS Stebnicka Huta 74.44 321 *e*P **P 02 25 31.0 -2.6**
STHS Stebnicka Huta 74.44 321 *e*P **P 02 25 31.0 -2.6**
STHS pmax pmax
comp=Z,4.0nm,1.1s
PETK Petropavlovsk- 75.05 35 LR LR 03 02 31.4
comp=Z,55nm,18.5s,baz=248,slow=39
FINES FINESS Array B 75.70 334 P **P 02 25 39.8 -0.7**
comp=Z,2.7nm,0.8s,baz=100,slow=4.5,SNR=20
FINES LR LR 03 01 32.6
comp=Z,162nm,19.4s,baz=68,slow=38
VYHS Vyhne 75.75 320 *e*P **P 02 25 41.5 +0.3**
VYHS Vyhne 75.75 320 *e*P **P 02 25 41.5 +0.3**
SEY Seymchan 75.79 25 P **P 02 25 38.9 -2.1**
comp=Z,1.6nm,0.8s,baz=99,slow=1.2,SNR=3.9
SEY Seymchan 75.79 25⇓ *e*P **P 02 25 40.3 -0.7**
DPC Dobruska-Polom 77.75 321 *e*P **P 02 25 53.2 +0.7**
DPC *e*PCP **PcP 02 26 02.6 +0.1**
DPC Dobruska-Polom 77.75 321 *e*P **P 02 25 53.2 +0.7**
DPC *e* 02 26 02.6
DZM Mont Dzumac 78.49 113 LR LR 03 04 45.3
comp=Z,108nm,18.0s,baz=9.5,slow=39
PRU Pruhonice 78.81 320 *e*P **P 02 25 59.3 +1.0**
PRU *e*PCP **PcP 02 26 09.0 +2.0**
PRU AMS AMS 03 12 00.0
comp=Z,200nm,18.4s
PRU Pruhonice 78.81 320 *e*P **P 02 25 59.3 +1.0**
PRU *e* 02 26 09.0
PRU MLR MLR
comp=Z,200nm,18.4s
ARCES ARCESS Array B 79.09 341 P **P 02 25 59.1 -0.3**
comp=Z,5.6nm,0.8s,baz=107,slow=5.8,SNR=12
GERES GERESS Array B 79.16 319 P **P 02 26 00.4 +0.1**
comp=Z,5.5nm,0.9s,baz=104,slow=4.3,SNR=21
KHC Kasperske Hory 79.28 320 *e*P **P 02 26 00.2 -0.8**
KHC *e*pP **sP 02 26 06.7 +1.2**
KHC AMS AMS 03 12 10.0
comp=Z,200nm,21.4s
KHC Kasperske Hory 79.28 320 *e*P **P 02 26 00.2 -0.8**
KHC *e* 02 26 06.7
KHC MLR MLR
comp=Z,200nm,21.4s
CLL Collm 79.99 322 *e*P **P 02 26 05.0 +0.3**
HFS Hagfors 81.14 331 P **P 02 26 10.4 -0.2**
comp=Z,1.5nm,0.5s,baz=116,slow=6.8,SNR=9.9
HFS LR LR 03 04 29.2
comp=Z,313nm,19.9s,baz=69,slow=37
NOA NORSAR Array B 82.50 331 P **P 02 26 17.6 -0.3**
comp=Z,1.4nm,0.9s,baz=97,slow=6.0,SNR=2.8
NOA LR LR 03 05 02.1
comp=Z,122nm,21.3s,baz=75,slow=37
BFO Black Forest 82.64 318 *e*P **P 02 26 18.4 -0.5**
comp=Z,4.6nm,0.8s
BFO Black Forest 82.64 318 *e*P **P 02 26 18.4 -0.5**
BFO pmax pmax
comp=Z,5.0nm,0.8s
BILL Bilibino 82.86 22 *i* P **P 02 26 17.8 -1.7**
BILL *i* 02 26 26.7
BILL *i* 02 29 26.3
BILL pmax pmax
comp=Z,2.0nm,1.0s
BILL MLR MLR
comp=Z,104nm,18.0s
BNI Bardonecchia 83.54 315 *e*P **P 02 26 23.4 -0.3**
comp=Z,17nm,1.2s
BNI Bardonecchia 83.54 315 *e*P **P 02 26 23.4 -0.3**
BNI pmax pmax
comp=Z,17nm,1.2s
TAM Tamanrasset 83.86 293 *e*P **P 02 26 26.7 +0.8**
comp=Z,2.2nm,0.8s
TAM Tamanrasset 83.86 293 *e*P **P 02 26 26.7 +0.8**
TAM pmax pmax
comp=Z,2.0nm,0.8s
SPITS Spitsbergen Ar 84.42 349 LR LR 03 08 20.9
comp=Z,184nm,19.4s,baz=20,slow=39
TORD Torodi Ar. Bea 87.65 283 P **P 02 26 44.5 -0.1**
comp=Z,0.2nm,0.4s,baz=94,slow=5.3,SNR=9.6
VNDA Vanda 88.36 168 P **P 02 26 46.4 -0.4**
comp=Z,1.4nm,1.0s,baz=300,slow=6.3,SNR=4.8
VNDA LR LR 03 01 24.8
comp=Z,173nm,18.4s,baz=322,slow=32
EKA Eskdalemuir Ar 89.84 325 P **P 02 26 54.3 +0.1**
comp=Z,2.3nm,1.0s,baz=89,slow=6.0,SNR=3.1
EKA LR LR 03 10 33.0
comp=Z,148nm,20.8s,baz=30,slow=38
KOWA Kowa 93.14 285 P **P 02 27 09.6 -0.7**
comp=Z,1.7nm,0.7s,baz=46,slow=1.4,SNR=4.0
BORG Borgarnes 96.83 336 LR LR 03 11 34.7
comp=Z,82nm,21.1s,baz=23,slow=36
NVAR Mina Array Bea 131.91 30 PKP **PKPdf 02 33 09.7 +0.1**
comp=Z,0.4nm,0.5s,baz=318,slow=1.2,SNR=3.5
MNTX Cornudas Mount 143.27 22 *e*PKPdf **PKPdf 02 33 31.9 +1.4**
LRAL Lakeview Retre 144.76 355 *e*PKPdf **PKPdf 02 33 32.4 -0.5**
NATX Nacogdoches 145.89 7 *e*PKPbc **PKPab 02 33 36.0 +0.1**
TXAR Lajitas Array 146.03 21 PKPbc **PKPdf 02 33 35.3 -0.1**
comp=Z,3.5nm,0.8s,baz=286,slow=1.9,SNR=24
JCT Junction City 146.17 15 *e*PKPbc **PKPbc 02 33 36.0 -0.4**
JCT Junction City 146.17 15 *e*PKP2 **PKPbc 02 33 36.0 -0.4**
SAML Samuel 152.32 255 *e*PKPbc **PKPbc 02 33 51.4 -1.1**
SAML *e*PKPab **PKPab 02 34 02.5 +0.1**
SAML Samuel 152.32 255 *e*PKIKP **PKPbc 02 33 51.4 -1.1**

*ISCJB **29** 02:17:16.0±0.8,2.°1N±0.°2×127.°8E±0.°2,h134km,mb4.0/6, Error ellipse: s-maj=34.3km s-min=9.8km az=137.7*
*IDC **29** 02:17:21.1±3.8,2.°17N×128.°23E,h170km±40km,mb3.7/6, mb1 3.9/7,mb1mx3.3/63,mbtmp4.1/7,Error ellipse: s-maj=92.2km s-min=16.6km az=68.0*
ISC 29 02:17:17.4±0.9,2.°1N±0.°2×127.°8E±0.°3,h134km,n14, σ0s85/11,mb3.9/6,Northern Moluca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**4.55**	**130**	P	**Pn**	**02 18 25.0**	**+0.4**
	4.3nm,0.3s,baz=326,slow=17,SNR=5.9						
SIJI				S	**Sn**	**02 19 16.8**	**0.0**
	1.0nm,0.3s,baz=339,slow=22,SNR=1.9						
WRA	**Warramunga Arr**	**22.79**	**164**	P	**P**	**02 22 09.2**	**+0.4**
	2.7nm,0.4s,baz=344,slow=10,SNR=22						
WRA				PcP	**PcP**	**02 25 54.9**	**-1.1**
	0.5nm,0.8s,baz=355,slow=2.1,SNR=2.5						
ASAR	**Alice Springs**	**26.25**	**167**	P	**P**	**02 22 40.9**	**+0.6**
	1.1nm,0.5s,baz=349,slow=7.5,SNR=4.4						
ASAR				PcP	**PcP**	**02 26 02.6**	**-1.0**
	0.7nm,0.5s,baz=354,slow=2.0,SNR=5.2						
STKA	**Stephens Creek**	**36.20**	**160**	P	**P**	**02 24 07.1**	**-0.3**
	2.5nm,0.4s,baz=346,slow=10,SNR=11						
H11S3	**WAKE ISLAND Hy**	**41.50**	**64**	T	T	03 08 18.2	
	baz=252						
H11S2	**WAKE ISLAND Hy**	**41.51**	**64**	T	T	03 08 18.7	
	baz=252						
H11S1	**WAKE ISLAND Hy**	**41.51**	**64**	T	T	03 08 15.6	
	baz=252						
H11N1	**WAKE ISLAND Hy**	**42.08**	**63**	T	T	03 09 01.0	
	baz=250,slow=74						
H11N2	**WAKE ISLAND Hy**	**42.09**	**63**	T	T	03 09 01.9	
	baz=250						
H11N3	**WAKE ISLAND Hy**	**42.10**	**63**	T	T	03 09 02.4	
	baz=250,slow=74						
MKAR	**Makanchi Array**	**59.52**	**325**	P	**P**	**02 27 08.2**	**+1.5**
	0.5nm,0.5s,baz=116,slow=8.3,SNR=8.6						
KURBB	**Kurchatov Arra**	**63.70**	**327**	P	**P**	**02 27 34.7**	**+0.2**
	0.7nm,0.6s,baz=128,slow=6.3,SNR=4.6						
ARCES	**ARCESS Array B**	**92.37**	**340**	P	**P**	**02 30 11.7**	**-0.8**
	8.1nm,1.2s,baz=90,slow=5.4,SNR=2.4						
TORD	**Torodi Ar. Bea**	**124.41**	**287**	PKP	**PKPdf**	**02 36 01.8**	**+0.1**
	0.2nm,0.3s,baz=77,slow=1.7,SNR=13						

*ISK **29** 02:21:29.8,39.°91N×41.°53E,h5km,ML2.0/3*
*ATA **29** 02:21:29.2±1.6,39.°89N×41.°53E,h0km±8km,ML2.2, MW2.7*
*ISCJB **29** 02:21:30.2±0.7,39.°89N±0.°05×41.°56E±0.°05,h5km±7km, Error ellipse: s-maj=8.9km s-min=5.9km az=166.5*
*CSEM **29** 02:21:30.4±0.2,39.°91N×41.°52E,h10km,ML2.2,Error ellipse: s-maj=4.7km s-min=4.2km az=153.0*
*DDA **29** 02:21:30.9,39.°93N×41.°57E,h7km,Ml2.2*
ISC 29 02:21:30.1±1.4,39.°91N±0.°03×41.°52E±0.°02,h3km±12km, n26,σ0s49/35,1C,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ERZM	**Erzurum**	**0.12**	**266**⇑	*i*P	**Pg**	**02 21 32.0**	**-0.5**
HOMI	**Horasan**	**0.33**	**66**	*e*P	**Pg**	**02 21 36.6**	**+0.2**
HOMI				IAML		02 21 48.6	
	comp=Z,31nm,0.6s						
HOMI	**Horasan**	**0.33**	**66**	*i* P	**Pg**	**02 21 36.7**	**+0.3**
ECAT	**Cat-ERZURUM**	**0.52**	**234**	*e*P	**Pg**	**02 21 40.4**	**+0.3**
ECAT				IAML		02 21 53.9	
	comp=Z,10nm,0.4s						
ECAT	**Cat-ERZURUM**	**0.52**	**234**	*i* P	**Pg**	**02 21 40.2**	**+0.1**
ECAT	**Cat-ERZURUM**	**0.52**	**234**	P	**Pg**	**02 21 40.2**	**+0.1**
EKAR	**Karacoban**	**0.78**	**147**	*e*P	**Pg**	**02 21 45.6**	**+0.5**
EKAR	**Karacoban**	**0.78**	**147**	*i* P	**Pb**	**02 21 46.3**	**-0.2**
EKAR				*i* S	**Sn**	**02 22 01.6**	**+1.1**
EKAR	**Karacoban**	**0.78**	**147**	P	**Pb**	**02 21 46.3**	**-0.2**
KOPT	**Kop Dagi**	**0.79**	**278**	*e*P	**Pg**	**02 21 46.3**	**+1.0**
KOPT				*e*S	**Sn**	**02 22 00.1**	**-0.8**
KOPT				IAML		02 22 02.5	
	comp=Z,11nm,0.4s						
KOPT	**Kop Dagi**	**0.79**	**278**	*i* P	**Pb**	**02 21 46.9**	**+0.2**
KOPT				*i* S	**Sn**	**02 22 00.1**	**-0.8**
KOPT	**Kop Dagi**	**0.79**	**278**	P	**Pb**	**02 21 46.9**	**+0.2**
YEDI	**Yedisu-Bingol**	**0.89**	**238**	PG	**Pg**	**02 21 47.1**	**-0.1**
YEDI				SG	**Sb**	**02 22 00.7**	**+0.1**
YEDI	**Yedisu-Bingol**	**0.89**	**238**	*e*Pg	**Pg**	**02 21 47.1**	**-0.1**
YEDI				*e*Sg	**Sb**	**02 22 00.7**	**+0.1**
SENK	**Senkaya-Erzuru**	**0.91**	**44**	PG	**Pb**	**02 21 48.2**	**-0.4**
SENK	**Senkaya-Erzuru**	**0.91**	**44**	*e*Pg	**Pb**	**02 21 48.2**	**-0.4**
BAYB	**BAYBURT**	**1.03**	**290**	*e*P	**Pg**	**02 21 50.5**	**+0.6**
BAYB				*e*S	**Sn**	**02 22 06.4**	**-0.2**
BAYB	**BAYBURT**	**1.03**	**290**	*i* P	**Pg**	**02 21 50.4**	**+0.6**
BAYB				*i* S	**Sn**	**02 22 06.4**	**-0.2**
BAYB	**BAYBURT**	**1.03**	**290**	P	**Pg**	**02 21 50.4**	**+0.6**
DBAD	**Bademkaya**	**1.11**	**7**	*i* P	**Pg**	**02 21 51.6**	**+0.2**
DBAD	**Bademkaya**	**1.11**	**7**	P	**Pg**	**02 21 51.7**	**+0.2**
BAYT	**Ayd¯–ntepe-Bay**	**1.16**	**295**	PN	**Pg**	**02 21 52.8**	**+0.4**
BAYT				SN	**Sb**	**02 22 08.9**	**+0.5**
BAYT	**Ayd¯–ntepe-Bay**	**1.16**	**295**	*e*Pn	**Pg**	**02 21 52.8**	**+0.4**
BAYT				*e*Sn	**Sb**	**02 22 08.9**	**+0.5**
GURO	**Guroymak-BITLI**	**1.42**	**163**	PN	**Pn**	**02 21 56.5**	**-0.4**
GURO	**Guroymak-BITLI**	**1.42**	**163**	*e*Pn	**Pn**	**02 21 56.5**	**-0.4**
KELT	**Kelkit**	**1.75**	**278**	*e*P	**Pb**	**02 22 02.9**	**-0.2**

*CSEM **29** 02:23:26.7,43.°39N×12.°55E,h10km,MD1.4/5*
ROM 29 02:23:26.7±0.3,43.°39N×12.°55E,h10km±3km,Md1.4/5, Mi0.5/4,Error ellipse: s-maj=1.3km s-min=0.8km az=110.0,Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATVO	**AVT- Monte Val**	**0.10**	**264**	Pg	Pg	02 23 29.7	+0.3
ATVO				Sg	Sg	02 23 31.5	+0.3
	13nm,0.3s						
ATVO	**AVT- Monte Val**	**0.10**	**264**	Pg	Pg	02 23 29.7	+0.3
ATVO				Sg	Sg	02 23 31.5	+0.3
	13nm,0.3s						
ATPC	**Poggio Castell**	**0.11**	**324**	Pg	Pg	02 23 30.0	+0.5
ATPC				Sg	Sg	02 23 32.4	+1.0
	31nm,1.4s						
ATPC	**Poggio Castell**	**0.11**	**324**	Pg	Pg	02 23 30.0	+0.5
ATPC				Sg	Sg	02 23 32.4	+1.0
	31nm,1.4s						
MURB	**Monte Urbino**	**0.13**	**187**	Pg	Pg	02 23 30.4	+0.6
MURB				Sg	Sg	02 23 33.0	+1.0
	34nm,0.2s						
MURB	**Monte Urbino**	**0.13**	**187**	Pg	Pg	02 23 30.4	+0.6
MURB				Sg	Sg	02 23 33.0	+1.0
	34nm,0.2s						
PIEI	**Pieia**	**0.14**	**357**	Pg	Pg	02 23 30.5	+0.5
PIEI				Sg	Sg	02 23 33.3	+1.0
PIEI	**Pieia**	**0.14**	**357**	Pg	Pg	02 23 30.5	+0.5
PIEI				Sg	Sg	02 23 33.3	+1.0
FRON	**Frontone**	**0.18**	**46**	Pg	Pg	02 23 31.2	+0.6
FRON				Sg	Sg	02 23 34.4	+1.1
	5.0nm,0.2s						
FRON	**Frontone**	**0.18**	**46**	Pg	Pg	02 23 31.2	+0.6
FRON				Sg	Sg	02 23 34.4	+1.1
	5.0nm,0.2s						

*IDC **29** 02:48:24.0±0.8,32.°42N×105.°21E,h0km,mb3.8/11, mb1 3.9/13,mb1mx3.6/70,mbtmp3.7/13,ML3.1/2,Error ellipse: s-maj=35.4km s-min=16.8km az=50.0*
*BJI **29** 02:48:27.6,32.°49N×105.°10E,h23km,ML3.9/13,Ms3.6/1, Ms7 3.4/1*
*NEIC **29** 02:48:31.2±0.6,32.°64N×104.°99E,h35km,mb4.3/1, ML3.9(BJI),Error ellipse: s-maj=10.7km s-min=10.2km az=48.0*
ISC 29 02:48:25.9±0.6,32.°52N±0.°05×105.°38E±0.°05,h11km,n26, σ1s36/35,mb4.0/12,Sichuan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CD2	**Chengdu**	**2.12**	**221**	Pg	**Pn**	**02 49 02.0**	**+0.7**
CD2				Sg	**Sn**	**02 49 26.0**	**-1.6**
CD2				smax	smax		
	comp=N,7μm,0.6s						
CD2				smax	smax		
	comp=E,3μm,0.4s						
CD2	**Chengdu**	**2.12**	**221**	Pg	**Pn**	**02 49 02.0**	**+0.7**
CD2				Sg	**Sn**	**02 49 26.0**	**-1.6**
XAN	**Xi'an**	**3.33**	**62**	Pn	**Pb**	**02 49 23.0**	**-2.0**
XAN				Pg	**Pg**	**02 49 30.5**	**+0.7**
XAN				Sn	**Sb**	**02 50 03.8**	**-1.8**
XAN				Sg	**Sg**	**02 50 13.5**	**+0.5**
XAN				smax	smax		
	comp=N,310nm,0.5s						
XAN				smax	smax		
	comp=E,330nm,0.7s						
XAN				LR	LR		
	comp=N,220nm,5.2s						
XAN				LR	LR		
	comp=E,430nm,4.3s						
XAN				LR	LR		
	comp=Z,300nm,5.1s						
XAN	**Xi'an**	**3.33**	**62**	Pn	**Pb**	**02 49 23.0**	**-2.0**
XAN				Pg	**Pg**	**02 49 30.5**	**+0.7**
XAN				Sn	**Sb**	**02 50 03.8**	**-1.8**
XAN				Sg	**Sg**	**02 50 13.5**	**+0.5**
ENH	**Enshi**	**4.17**	**121**	*e*Pn	**Pb**	**02 49 38.8**	**-0.5**
ENH				*e*Sn	**Sb**	**02 50 30.5**	**+0.8**
GTA	**Gaotai**	**8.22**	**328**	*e*P	**Pn**	**02 50 27.8**	**+2.6**
GTA				pP	pP	02 50 31.0	

GTA sP sP 02 50 33.8
GTA Gaotai 8.22 328 *e*P **Pn 02 50 27.8 +2.6**
SONM Songino Array 15.31 3 Pn **Pn 02 52 03.8 +1.8**
0.1nm,0.3s,baz=187,slow=11,SNR=2.3
ULN Ulaanbaatar 15.38 4 *e*Pn **Pn 02 52 04.5 +1.6**
WMQ Urumqi 17.86 314 *e*P **Pn 02 52 31.3 -3.1**
KSAR Wonju Array Be 19.07 69 P **Pn 02 52 50.0 +0.9**
KSRS Korea Array 19.10 69 P **Pn 02 52 50.0 +0.6**
0.1nm,0.3s,baz=253,slow=10,SNR=2.4
MKAR Makanchi Array 22.67 316 P **P 02 53 27.6 +0.4**
1.7nm,0.7s,baz=120,slow=12,SNR=14
KURBB Kurchatov Area 26.80 320 P **P 02 54 05.8 -0.1**
1.1nm,0.8s,baz=130,slow=8.6,SNR=8.3
KURK Kurchatov 26.80 321 *e*P **P 02 54 06.4 +0.5**
4.8nm,0.5s
GNI Garni 48.61 297 *e*P **P 02 57 08.6 -1.2**
ARCES ARCESS Array B 56.42 335 P **P 02 58 06.5 -0.5**
2.0nm,0.8s,baz=82,slow=7.4,SNR=3.4
BRTR Keskin Array B 56.99 299 P **P 02 58 10.8 -0.9**
0.8nm,0.6s,baz=110,slow=7.8,SNR=7.9
FINES FINESS Array B 57.00 326 P **P 02 58 11.2 0.0**
1.3nm,0.7s,baz=100,slow=9.1,SNR=14
WRA Warramunga Arr 59.07 148 P **P 02 58 25.9 -0.3**
1.0nm,0.7s,baz=340,slow=7.4,SNR=6.6
ASAR Alice Springs 62.16 150 P **P 02 58 47.2 -0.1**
0.3nm,0.3s,baz=330,slow=6.5,SNR=7.4
HFS Hagfors 63.20 326 P **P 02 58 53.4 -0.4**
1.0nm,0.4s,baz=84,slow=5.9,SNR=16
NB2 NORSAR Subarra 64.05 327 P **P 02 58 58.7 -0.8**
comp=Z,0.9nm,0.5s,baz=70,slow=6.5
NOA NORSAR Array B 64.05 327 P **P 02 58 58.7 -0.8**
comp=Z,0.9nm,0.5s,baz=77,slow=7.8,SNR=4.7
GERES GERESS Array B 67.33 314 P **P 02 59 21.1 +0.2**
comp=Z,0.2nm,0.5s,baz=40,slow=3.2,SNR=2.4
YKA Yellowknife Ar 80.02 18 P **P 03 00 35.8 +0.8**
comp=Z,0.4nm,0.6s,baz=328,slow=4.9,SNR=11

BJI ***29*** *03:00:37.3, 1°.33N×93°.71E, h10km, mb5.1/65, mB5.1/43, Ms4.8/62, Ms7 4.5/54*
IDC ***29*** *03:00:41.6±0.5, 1°.90N×93°.75E, h0km, mb4.8/40, mb1 4.8/42, mb1mx4.7/68, mbtmp4.8/42, ML5.2/3, MS4.2/47, Ms1 4.2/47, ms1mx4.1/68, Error ellipse: s-maj=12.7km s-min=11.9km az=152.0*
GCMT ***29*** *03:00:43.2±0.2, 1°.89N×93°.83E, h37km±1km, MW5.3/112, Moment Tensor Solution. s69,c102; s112,c173; Duration: 1ᵗ0 Moment tensor: Scale 10¹⁷Nm; Mrr-0.10±.02; Mθθ-0.53±.02; Mϕϕ0.62±.02; Mrθ-0.42±.03; Mrϕ-0.67±.02; Mθϕ-0.10±.03; Best double couple: M=0.97900×10¹⁷ NP1=ϕ₁113.00000°, δ77.00000°, λ-159.00000°. NP2=ϕ₂18.00000°, δ69.00000°, λ-14.00000°. Principal axes: T 0.9350, Plg5.0000°, Azm244.0000°; N 0.0890, Plg65.0000°, Azm143.0000°; P -1.0240, Plg25.0000°, Azm336.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***29*** *03:00:43.2±0.1, 1°.91N×93°.73E, h10km, mb4.9/64 Error ellipse: s-maj=4.5km s-min=2.9km az=202.0*
ISCJB ***29*** *03:00:44.3±0.7, 1°.89N±0°.02×93°.77E±0°.02, h29km±5km, mb5.0/178, MS4.3/67, Error ellipse: s-maj=3.8km s-min=3.2km az=24.6*
MOS ***29*** *03:00:45.1±0.9, 1°.94N×93°.74E, h33km, mb5.4/65, MS4.2/12, Error ellipse: s-maj=6.9km s-min=3.7km az=115.0*
DJA ***29*** *03:00:46.1±0.4, 2°.1N±2°×9°.4E±°, h23km±4km, M5.5/25, mb5.5/25, mB5.8/20, MLv5.9/14, Mw(mB)5.3/20*
ISC 29 03:00:46.2±0.8, 1°.92N±0°.03×93°.76E±0°.04, h29km±5km, n662, σ1ᵗ43/680, mb5.0/182, MS4.3/67, 25C-33D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MLSI	**Meulaboh, Aceh**	**3.52**	**49**	P	**Pn**	**03 01 39.1**	**+0.1**
MLSI				S	**Sn**	**03 02 17.2**	**-2.5**
TPTI		**3.67**	**69**	P	**Pn**	**03 01 41.0**	**0.0**
TPTI				S	**Sn**	**03 02 21.3**	**-2.0**
GSI	**Gunungsitoli**	**3.86**	**99**	P	**Pn**	**03 01 43.9**	**+0.2**
GSI				S	**Sn**	**03 02 24.0**	**-4.1**
GSI	**Gunungsitoli**	**3.86**	**99**	*e*Pn	**Pn**	**03 01 44.2**	**+0.6**
GSI				*e*Sn	**Sn**	**03 02 23.1**	**-5.0**
BSI	**Banda Aceh**	**3.87**	**23**	P	**Pn**	**03 01 43.3**	**-0.5**
BSI				S	**Sn**	**03 02 25.1**	**-3.2**
KCSI	**Kotacane, Aceh**	**4.31**	**68**	P	**Pn**	**03 01 51.6**	**+1.7**
KCSI				S	**Sn**	**03 02 38.8**	**-0.4**
LHMI	**Lhok Sumawe**	**4.57**	**44**	P	**Pn**	**03 01 54.8**	**+1.3**
LHMI				S	**Sn**	**03 02 44.9**	**-0.7**
LHMI	**Lhok Sumawe**	**4.57**	**44**	*e*Pn	**Pn**	**03 01 54.8**	**+1.3**
LHMI				*e*Sn	**Sn**	**03 02 41.6**	**-4.1**
PBSI	**Pulau Batu**	**4.93**	**113**	P	**Pn**	**03 01 58.8**	**+0.5**
PBSI				S	**Sn**	**03 02 49.1**	**-5.3**
TSI	**Tuntungan**	**5.05**	**72**	P	**Pn**	**03 02 01.7**	**+1.7**
PSI	**Prapat**	**5.23**	**80**	Pn	**Pn**	**03 02 02.6**	**-0.1**
	78nm,0.3s,baz=269,slow=7.5,SNR=110						
PSI				Sn	**Sn**	**03 02 58.0**	**-4.1**
	39nm,0.3s,baz=341,slow=18,SNR=3.4						
PSI				LR	LR	03 03 31.6	
	comp=Z,1μm,18.2s,baz=233,slow=32						
PSI	**Prapat**	**5.23**	**80**	*e*Pn	**Pn**	**03 02 03.0**	**+0.4**
PSI				*e*Sn	Sn	03 02 50.8	-11
PSI				Sn	**Sn**	**03 02 58.0**	**-4.1**
PSI	**Prapat**	**5.23**	**80**	*e*P	**Pn**	**03 02 03.0**	**+0.4**
PSI						03 02 58.0	
MNSI	**Mandailing Nat**	**5.93**	**101**	P	**Pn**	**03 02 12.9**	**+0.9**
	1μm,0.5s,44μm26nm						
MNSI				S	**Sn**	**03 03 14.1**	**-4.9**
	1μm,0.5s,44μm26nm						
SISI	**Saibi**	**6.23**	**121**	P	**Pn**	**03 02 16.1**	**-0.1**
	487nm,0.9s,7μm5.7nm						
SISI				S	**Sn**	**03 03 19.7**	**-6.8**
	487nm,0.9s,7μm5.7nm						
PPI	**Padang Panjang**	**7.04**	**110**	P	**Pn**	**03 02 28.9**	**+1.5**
PDSI	**Padang**	**7.27**	**113**	P	**Pn**	**03 02 31.5**	**+1.0**
	235nm,0.5s,10μm3.6nm						
BKNI	**Bangkinang**	**7.45**	**102**	P	**Pn**	**03 02 34.1**	**+1.1**
BKNI	**Bangkinang**	**7.45**	**102**	*e*Pn	**Pn**	**03 02 33.1**	**+0.1**
PKDT	**Phuket**	**7.48**	**37**	P	**Pn**	**03 02 32.2**	**-1.2**
	196nm,1.1s,4μm1.0nm						
KULM	**Kulim**	**7.65**	**64**	*e*Pn	**Pn**	**03 02 35.9**	**+0.2**
KULM				*e*Sn	**Sn**	**03 03 58.6**	**-2.8**
IPM	**Ipoh**	**7.69**	**71**	*e*Pn	**Pn**	**03 02 36.1**	**-0.2**
IPM				*e*Sn	**Sn**	**03 03 57.8**	**-4.7**
PPSI	**Pulau Pagai**	**7.79**	**127**	P	**Pn**	**03 02 37.3**	**-0.4**
	1μm,1.0s,9μm3.6nm						
SDSI	**Sungai Dareh**	**8.18**	**110**	P	**Pn**	**03 02 44.6**	**+1.7**
TRTT	**Trang**	**8.33**	**45**	P	**Pn**	**03 02 44.0**	**-1.1**
	119nm,1.4s,2μm0.6nm						
SKLT	**Songkhla**	**8.60**	**52**	P	**Pn**	**03 02 47.9**	**-0.9**
	544nm,1.3s,5μm2.0nm						
KRJI	**Kerinci**	**8.67**	**117**	P	**Pn**	**03 02 50.9**	**+1.0**
	2μm,1.1s,27μm						
PBA	**Port Blair**	**9.72**	**354**	*e*P	Pn	03 03 02.1	-2.0
MASI	**Maura Aman, Be**	**9.86**	**121**	P	**Pn**	**03 03 06.7**	**+0.6**
	635nm,0.4s,14μm						
MYKOM	**Kota Tinggi**	**10.09**	**91**	*e*Pn	**Pn**	**03 03 08.8**	**-0.4**
TPRI	**Tanjung Pinang**	**10.81**	**95**	P	**Pn**	**03 03 21.8**	**+2.7**
MNAI	**Manna**	**11.11**	**124**	P	**Pn**	**03 03 22.7**	**-0.5**
	686nm,0.5s,13μm						
MNAI	**Manna**	**11.11**	**124**	*e*Pn	**Pn**	**03 03 23.1**	**-0.1**
MNAI				*e*Sn	Sn	03 05 17.3	-9.2
DGPR	**DIGLIPUR**	**11.21**	**356**	*e*P	**Pn**	**03 03 23.1**	**-1.5**
MDSI	**Maura Dua**	**12.20**	**121**	P	**Pn**	**03 03 37.9**	**-0.3**
	120nm,0.8s,1μm						
MDSI				S	Sn	03 05 43.8	-10
	120nm,0.8s,1μm						
LWLI	**Liwa**	**12.38**	**124**	P	**Pn**	**03 03 42.0**	**+1.2**
	297nm,0.6s						
KLI	**Kotabumi**	**12.97**	**121**	P	**P**	**03 04 02.6**	**+3.7**
KASI	**Kota Agung**	**13.03**	**125**	P	**Pn**	**03 03 48.4**	**-1.0**
	163nm,0.8s,2μm						
CHBT	**CHBT**	**13.71**	**38**	P	**Pn**	**03 04 00.5**	**+1.8**
	251nm,1.0s,94μm						
PALK	**Pallekele**	**14.05**	**293**	Pn	**Pn**	**03 04 02.6**	**-0.9**
	6.3nm,0.3s,baz=115,slow=12,SNR=16						
PALK				Sn	Sn	03 06 27.7	-11
	29nm,0.3s,baz=116,slow=5.1,SNR=12						
PALK	**Pallekele**	**14.05**	**293**	*e*Pn	**Pn**	**03 04 03.0**	**-0.5**
PALK				*e*Sn	Sn	03 06 26.8	-12
PALK	**Pallekele**	**14.05**	**293**	P	**Pn**	**03 04 03.4**	**-0.1**
PALK	**Pallekele**	**14.05**	**293**	*e*P	**Pn**	**03 04 03.0**	**-0.5**
COCO	**West Island**	**14.35**	**168**	*e*Pn	**Pn**	**03 04 09.3**	**+1.9**
COCO	**West Island**	**14.35**	**168**	*e*P	**Pn**	**03 04 09.3**	**+1.9**
NAYO	**Nakonayok**	**14.40**	**31**	P	**Pn**	**03 04 09.6**	**+1.4**
	119nm,1.3s,1μm						
CGJI	**Cibinong**	**14.62**	**126**	P	**Pn**	**03 04 10.3**	**-0.9**
CHAI	**Chaiyaphum**	**16.09**	**30**	P	**P**	**03 04 32.6**	**-0.9**
	38nm,1.0s,345nm						
PBKT	**Sadao Pong**	**16.20**	**26**	P	**Pn**	**03 04 32.0**	**+0.2**
	101nm,1.1s,1μm						
LEM	**Lembang**	**16.34**	**122**	Pn	**P**	**03 04 35.6**	**-0.9**
	5.3nm,0.3s,baz=53,slow=4.0,SNR=12						
PHIT	**Phitsanulok**	**16.52**	**23**	P	**P**	**03 04 37.4**	**-0.9**
	75nm,1.1s,616nm						
KSM	**Kuching**	**16.55**	**91**	*e*Pn	**Pn**	**03 04 37.0**	**+0.7**
	22nm,1.1s						
CISI	**Cisompet, Garu**	**16.89**	**124**	P	**P**	**03 04 44.2**	**+1.7**
CISI	**Cisompet, Garu**	**16.89**	**124**	*e*Pn	**P**	**03 04 42.8**	**+0.3**
	43nm,0.4s						
CM01	**Chiang Mai Arr**	**17.17**	**17**	*e*Pn	**Pn**	**03 04 41.8**	**-2.3**
CM31	**Chiang Mai Arr**	**17.20**	**17**	*e*Pn	**P**	**03 04 45.2**	**-0.6**
CMAR	**Chiang Mai Arr**	**17.20**	**17**	P	**Pn**	**03 04 44.2**	**-0.3**
	3.8nm,0.3s,baz=211,slow=12,SNR=96						
CMAR				LR	LR	03 12 27.7	
	comp=Z,786nm,18.0s,baz=200,slow=41						
MDRS	**Chennai**	**17.37**	**310**	*e*P	**Pn**	**03 04 46.8**	**+0.3**
LAMP	**Lampang**	**17.48**	**19**	P	**P**	**03 04 48.8**	**-0.1**
	35nm,1.0s,259nm						
CHTO	**Chiang Mai**	**17.54**	**17**	P	**Pn**	**03 04 48.3**	**-0.4**
	551nm,1.1s,7μm						
CHTO	**Chiang Mai**	**17.54**	**17**	*e*Pn	**Pn**	**03 04 48.1**	**-0.6**
	93nm,0.9s						
CHTO	**Chiang Mai**	**17.54**	**17**	P	**Pn**	**03 04 48.6**	**-0.1**
	SNR=40						
CHTO	**Chiang Mai**	**17.54**	**17**	Pn	**Pn**	**03 04 48.6**	**-0.1**
	SNR=40						
CHTO	**Chiang Mai**	**17.54**	**17**	*e*P	**Pn**	**03 04 48.1**	**-0.6**
CHTO				pmax	pmax		
	comp=Z,93nm,0.9s						
CMMT	**Chiang Mai**	**17.54**	**17**	P	**Pn**	**03 04 47.2**	**-1.5**
	comp=Z,125nm,1.1s,comp=Z,2μm						
UBPT	**Khng Chiam**	**17.60**	**40**	P	**Pn**	**03 04 49.4**	**0.0**
	comp=Z,139nm,2.3s						
KPJI	**Karang Pucung**	**17.71**	**121**	P	**Pn**	**03 04 48.0**	**-2.8**
	comp=Z,66nm,1.6s						
STKI	**Sintang**	**17.81**	**96**	P	**P**	**03 04 54.8**	**+2.2**
TRD	**Trivandrum**	**17.96**	**292**	*e*P	**P**	**03 04 54.7**	**+0.5**
SKNT	**Sakolnakorn**	**18.02**	**33**	P	**Pn**	**03 04 53.9**	**-0.8**
	comp=Z,57nm,1.4s						
PAYA	**Payao**	**18.34**	**19**	P	**Pn**	**03 04 59.2**	**+0.7**
	comp=Z,30nm,1.0s,comp=Z,264nm						
SBUM	**Sibu**	**18.45**	**88**	*e*P	**Pn**	**03 05 00.4**	**+0.4**
	comp=Z,23nm,1.0s						
CMAI	**Chiengmai2**	**18.63**	**16**	P	**Pn**	**03 05 02.4**	**+0.2**
	comp=Z,563nm,1.2s,comp=Z,7μm						
VIS	**Vishakhapatnam**	**18.75**	**328**	*e*P	**Pn**	**03 05 03.5**	**0.0**
VIS				*i* x	x	03 08 21.9	
SMRI	**Semarang**	**18.88**	**118**	*e*P	**P**	**03 05 02.7**	**-1.7**
WOJI	**Wonogiri, Jawa**	**19.68**	**120**	P	**Pn**	**03 05 20.2**	**+5.5**
BWNR	**Bhubaneshwar**	**19.85**	**338**	*e*P	**P**	**03 05 15.4**	**+0.6**
NGJI	**Ngawi**	**19.93**	**118**	P	Pn	03 05 28.2	+11
PCJI	**Pacitan**	**20.07**	**120**	P	Pn	03 05 33.1	+14
PWJI	**Pagerwojo**	**20.53**	**119**	P	Pn	03 05 34.2	+9.5
BELO	**BELONIA**	**21.32**	**354**	*e*P	**P**	**03 05 31.1**	**+0.3**
HYB	**Hyderabad**	**21.46**	**317**	*i* P	**P**	**03 05 33.0**	**+0.6**
HYB				eS	**S**	**03 09 22.0**	**-7.2**
HYB	**Hyderabad**	**21.46**	**317**	*e*P	**P**	**03 05 32.3**	**-0.1**
HYB				IAmb	IAmb	03 05 34.1	
	comp=Z,42nm,0.8s						
AGT	**Agartala**	**21.97**	**354**	*e*P	**P**	**03 05 38.5**	**+0.7**
KKM	**Kota Kinabalu**	**22.77**	**79**	*e*P	**P**	**03 05 46.9**	**+0.3**
	comp=Z,68nm,1.0s						
IMP	**Imphal**	**22.78**	**0**	*e*P	**P**	**03 05 46.8**	**+0.3**
JAGI	**Jajag, Banyuwa**	**22.80**	**117**	*e*P	**P**	**03 05 46.5**	**-0.3**
	comp=Z,9.8nm,0.8s						
BOK	**Bokaro**	**23.04**	**341**	*e*P	**P**	**03 05 50.1**	**+0.9**
QIZ	**Qiongzhong**	**23.18**	**42**	P	**P**	**03 05 50.5**	**-0.1**
QIZ				S	**S**	**03 10 02.8**	**+2.2**
QIZ				sS	**pS**	**03 10 09.0**	**-0.9**
QIZ				LR	LR		
	comp=Z,1μm,14.7s						
H08S2	**Diego Garcia H**	**23.25**	**246**	T	T	03 31 25.1	
	baz=64,slow=75,SNR=18						
H08S3	**Diego Garcia H**	**23.25**	**246**	T	T	03 31 22.9	
	baz=64,slow=75,SNR=14						
H08S1	**Diego Garcia H**	**23.26**	**246**	T	T	03 31 22.9	
	baz=64,slow=75,SNR=28						
SHL	**Shillong**	**23.58**	**356**	*e*P	**P**	**03 05 54.0**	**-0.7**
SHL				*i* x	x	03 10 10.0	
SHL	**Shillong**	**23.58**	**356**	P	**P**	**03 05 53.9**	**-0.8**
SHL				pmax	pmax		
	comp=Z,492nm,1.4s						
KOHI	**KOHIMA**	**23.66**	**1**	*e*P	**P**	**03 05 55.9**	**+0.4**
TURI	**Tura**	**23.72**	**352**	*e*P	**P**	**03 05 54.9**	**-1.0**
NGP	**Nagpur**	**23.89**	**324**	*e*P	**P**	**03 05 58.1**	**+0.5**
GUWA	**GUWAHATI**	**24.21**	**355**	*e*P	**P**	**03 06 01.6**	**+1.1**
MOKO	**MOKOCHONG**	**24.27**	**2**	*e*P	**P**	**03 06 01.6**	**+0.5**
TEZP	**TEZPUR**	**24.57**	**358**	*e*P	**P**	**03 06 04.0**	**+0.3**
KMI	**Kunming**	**24.64**	**20**	P	**P**	**03 06 06.5**	**+1.9**
KMI				pP	pP	03 06 10.8	-2.4
KMI				sP	sP	03 06 12.3	-4.5
KMI				PP	**PnPn**	**03 06 42.0**	**+5.1**
KMI				S	**S**	**03 10 26.0**	**+1.5**
KMI				sS	pS	03 10 33.5	-0.6
KMI				pmax	pmax		
	comp=Z,210nm,1.0s						
KMI				pmax	pmax		
	comp=Z,540nm,4.1s						
KMI				LR	LR		
	comp=Z,990nm,19.0s						
KMI				LR	LR		
	comp=Z,2μm,18.6s						
KMI				LR	LR		
	comp=Z,860nm,21.6s						
JORH	**JORHAT**	**24.68**	**1**	*e*P	**P**	**03 06 06.1**	**+1.4**
MYLDM	**Lahad Datu**	**24.90**	**82**	*e*P	**P**	**03 06 07.9**	**+1.0**
	comp=Z,37nm,1.0s						
LKP	**Lekhapani**	**25.35**	**4**	*e*P	**P**	**03 06 10.4**	**-0.3**
ODAN	**Odare**	**25.54**	**347**	*e*P	**P**	**03 06 14.0**	**+1.2**
	comp=Z,354nm,1.0s						
POO	**Poona**	**25.56**	**312**	⇑ *i* P	**P**	**03 06 11.0**	**-1.8**
	comp=Z,50nm,1.0s						
GTK	**Tadong**	**25.73**	**349**	*e*P	**P**	**03 06 16.2**	**+1.8**
RAMN	**Ramite**	**25.82**	**345**	*e*P	**P**	**03 06 17.0**	**+1.7**
	comp=Z,337nm,0.7s						
MPSI	**Mapaga**	**26.18**	**93**	P	**P**	**03 06 21.8**	**+3.3**
BHPL	**Bhopal**	**26.46**	**325**	*e*P	**P**	**03 06 22.1**	**+1.1**
JIRN	**Jiri**	**26.60**	**345**	*e*P	**P**	**03 06 23.7**	**+1.2**
PKIN	**Phulchoki**	**26.74**	**343**	*e*P	**P**	**03 06 24.9**	**+1.2**
	comp=Z,52nm,0.7s						
DMN	**Daman**	**26.85**	**343**	*e*P	**P**	**03 06 25.6**	**+0.9**
	comp=Z,80nm,0.8s						
GUN	**Gumba**	**26.92**	**344**	*e*P	**P**	**03 06 26.5**	**+1.1**
	comp=Z,274nm,0.9s						
KKN	**Kakani**	**26.97**	**343**	*e*P	**P**	**03 06 26.5**	**+0.8**
	comp=Z,196nm,1.0s						
GKN	**Gorkha**	**27.36**	**342**	*e*P	**P**	**03 06 30.2**	**+1.1**
	comp=Z,299nm,0.8s						
GYA	**Guiyang**	**27.37**	**26**	⇑ *i* P	**P**	**03 06 30.3**	**+1.1**
GYA				PP	**PnPn**	**03 07 18.8**	**+4.8**
GYA				PcP	**PcP**	**03 09 50.3**	**+2.3**
GYA				S	**S**	**03 11 09.0**	**+1.5**
GYA				ScP	**ScP**	**03 13 28.0**	**+1.4**
GYA				pmax	pmax		
	comp=Z,20nm,0.8s						
GYA				pmax	pmax		
	comp=Z,130nm,5.5s						
GYA				LR	LR		
	comp=Z,490nm,17.8s						
GYA				LR	LR		
	comp=Z,410nm,18.0s						
KOLN	**Koldanda**	**27.48**	**340**	*e*P	**P**	**03 06 31.3**	**+1.0**
	comp=Z,207nm,0.9s						
LSA	**Lhasa**	**27.74**	**355**	P	**P**	**03 06 34.8**	**+2.0**
LSA				pmax	pmax		
	comp=Z,21nm,0.7s						
LSA	**Lhasa**	**27.74**	**355**	*e*P	**P**	**03 06 34.4**	**+1.6**
LSA	**Lhasa**	**27.74**	**355**	P	**P**	**03 06 35.1**	**+2.3**
LSA	**Lhasa**	**27.74**	**355**	*e*P	**P**	**03 06 34.4**	**+1.6**
DANN	**Dangsing**	**27.96**	**341**	*e*P	**P**	**03 06 35.9**	**+1.2**
	comp=Z,17nm,1.0s						
PYUN	**Piuthan**	**27.99**	**339**	*e*P	**P**	**03 06 35.7**	**+0.9**
	comp=Z,257nm,1.2s						
LUWI	**Luwuk**	**29.16**	**96**	*e*P	**P**	**03 06 44.2**	**-0.9**
	comp=Z,15nm,0.6s						
TGY	**Tagaytay City**	**29.46**	**64**	LR	LR	03 19 55.2	
	comp=Z,409nm,18.6s,baz=16,slow=39						
CD2	**Chengdu**	**30.35**	**17**	P	**P**	**03 06 56.3**	**+0.8**
CD2				pP	pP	03 06 59.3	-4.8
CD2				S	**S**	**03 11 58.5**	**+4.3**
CD2				pmax	pmax		
	comp=Z,60nm,0.7s						
CD2				pmax	pmax		
	comp=Z,160nm,5.2s						
CD2				LR	LR		
	comp=Z,1μm,16.4s						
CD2				LR	LR		
	comp=Z,2μm,18.9s						
CD2				LR	LR		
	comp=Z,910nm,16.9s						
ENH	**Enshi**	**31.90**	**26**	*e*P	**P**	**03 07 09.5**	**+0.3**
	comp=Z,44nm,0.9s						
DAV	**Davao City (W)**	**32.12**	**80**	LR	LR	03 20 48.8	
	comp=Z,317nm,22.0s,baz=299,slow=38						
SOEI	**Soe**	**32.52**	**111**	*e*P	**P**	**03 07 13.1**	**-1.9**
	comp=Z,31nm,0.9s						
SMLA	**Simla**	**33.02**	**333**	*e*P	**P**	**03 07 16.0**	**-2.9**
QZH	**Quanzhou**	**33.14**	**44**	*e*P	**P**	**03 07 22.3**	**+2.2**
QZH				S	**S**	**03 12 38.5**	**+0.7**
QZH				LR	LR		
	comp=Z,830nm,17.1s						
QZH				LR	LR		
	comp=Z,1μm,19.0s						
QZH				LR	LR		
	comp=Z,480nm,13.7s						
MBWA	**Marble Bar**	**34.24**	**133**	*e*P	**P**	**03 07 29.5**	**-0.2**
DHRM	**DHARAMSHALA**	**34.36**	**333**	*e*P	**P**	**03 07 30.3**	**-0.6**
DHRM				IAmb	IAmb	03 07 32.0	
WHN	**Wuhan**	**34.51**	**32**	⇑P	**P**	**03 07 33.5**	**+1.6**
WHN				S	**S**	**03 12 59.0**	**+0.1**
WHN				LR	LR		
	comp=Z,2μm,14.2s						
XAN	**Xi'an**	**34.96**	**22**	P	**P**	**03 07 36.0**	**+0.2**
XAN				pP	pP	03 07 40.3	-4.2
XAN				sP	sP	03 07 43.0	-5.1
XAN				PP	**PnPn**	**03 08 52.3**	**-0.9**
XAN				S	**S**	**03 13 01.8**	**-4.0**
XAN				SS	**SnSn**	**03 15 29.3**	**+7.0**
XAN				pmax	pmax		
	comp=Z,46nm,0.8s						
XAN				LR	LR		
	comp=Z,1μm,21.1s						
XAN				LR	LR		
	comp=Z,2μm,21.1s						
XAN				LR	LR		
	comp=Z,1μm,16.8s						
LZH	**Lanzhou**	**35.26**	**14**	*e*P	**P**	**03 07 39.3**	**+0.8**
LZH				pP	pP	03 07 44.0	-3.2
LZH				sP	sP	03 07 46.8	-4.0
LZH				PP	**PP**	**03 09 01.5**	**+2.6**
LZH				S	**S**	**03 13 06.8**	**-3.8**
LZH				pmax	pmax		
	comp=Z,35nm,1.0s						
LZH				pmax	pmax		
	comp=Z,150nm,4.6s						
LZH				LR	LR		
	comp=Z,1μm,12.7s						
LZH				LR	LR		
	comp=Z,1μm,14.7s						
LZH				LR	LR		
	comp=Z,1μm,15.7s						
NIL	**Nilore**	**36.94**	**331**	*e*P	**P**	**03 07 52.3**	**-0.6**
NIL	**Nilore**	**36.94**	**331**	*e*P	**P**	**03 07 52.3**	**-0.6**
MEEK	**Meekatharra**	**37.17**	**141**	P	**P**	**03 07 56.2**	**+1.4**
	baz=37,SNR=8.9						
GTA	**Gaotai**	**37.72**	**8**	P	**P**	**03 08 00.0**	**+0.5**
GTA				pP	sP	03 08 10.8	-0.9
GTA				sP	pP	03 08 14.8	+6.6
GTA				S	**S**	**03 13 48.5**	**+0.4**
GTA				sS	sS	03 14 03.8	+1.3
GTA				pmax	pmax		
	comp=Z,49nm,1.0s						
GTA				pmax	pmax		
	comp=Z,150nm,4.7s						
GTA				LR	LR		
	comp=Z,250nm,17.2s						
GTA				LR	LR		
	comp=Z,390nm,18.4s						
NJ2	**Nanjing**	**38.17**	**36**	*e*P	**P**	**03 08 03.5**	**+0.3**
NJ2				sP	**pP**	**03 08 07.3**	**-4.6**
NJ2				S	**S**	**03 13 56.0**	**+1.2**
NJ2				pmax	pmax		
	comp=Z,20nm,0.6s						
NJ2				LR	LR		
	comp=Z,1μm,17.9s						
NJ2				LR	LR		
	comp=Z,2μm,17.4s						
NJ2				LR	LR		
	comp=Z,760nm,20.6s						
TIY	**Taiyuan**	**39.54**	**24**	*e*P	**P**	**03 08 18.3**	**+3.6**
TIY				pmax	pmax		
	comp=Z,26nm,0.5s						
TIY				pmax	pmax		
	comp=Z,100nm,4.5s						
TIY				LR	LR		
	comp=Z,650nm,13.8s						
TIY				LR	LR		
	comp=Z,1μm,15.2s						
TIY				LR	LR		
	comp=Z,1μm,17.1s						
KBL	**Kabul**	**39.80**	**327**	*e*P	**P**	**03 08 17.7**	**+0.6**
	comp=Z,16nm,0.7s						
KBL	**Kabul**	**39.80**	**327**	*e*P	**P**	**03 08 17.7**	**+0.6**
KBL				pmax	pmax		
	comp=Z,16nm,0.7s						
WSAR	**Wadi Sarin**	**40.10**	**305**	P	**P**	**03 08 20.4**	**+0.9**
	comp=Z,6.2nm,0.7s,baz=154,slow=8.3,SNR=9.0						
TIA	**Tai'an**	**40.40**	**30**	P	**P**	**03 08 22.8**	**+1.1**
TIA				S	**S**	**03 14 28.0**	**-0.2**
TIA				pmax	pmax		
	comp=Z,9.0nm,1.6s						
TIA				LR	LR		
	comp=Z,640nm,21.6s						
TIA				LR	LR		
	comp=Z,900nm,20.0s						
TIA				LR	LR	

WMQ pmax pmax
comp=Z,100nm,1.3s
WMQ pmax pmax
comp=Z,570nm,3.7s
WMQ LR LR
comp=Z,650nm,24.9s
WMQ LR LR
comp=Z,890nm,35.5s
WMQ LR LR
comp=Z,800nm,26.7s
SOHO SOHO 42.22 305 P P 03 08 38.6 +1.7
NRN Naryn 42.47 340 P P 03 08 39.5 +0.4
NRN pmax pmax
comp=Z,15nm,0.7s
PRZ Przheval'sk 42.66 343 P P 03 08 42.0 +1.5
PRZ pmax pmax
comp=Z,102nm,1.1s
KDJ Kajisay 42.71 342 *e*P **P 03 08 42.1 +1.2**
comp=Z,59nm,0.9s
KDJ Kajisay 42.71 342 *e*P **P 03 08 42.1 +1.2**
KDJ pmax pmax
comp=Z,59nm,0.9s
HATD Hatta, Dubai 42.85 305 P P 03 08 43.3 +1.2
WRKA Warakurna 42.88 131 P P 03 08 44.7 +2.4
baz=43,SNR=7.6
BJT Baijiatuau 43.04 25 *e*P **P 03 08 44.1 +0.8**
BJT Baijiatuau 43.04 25 *e*P **P 03 08 44.1 +0.8**
MSFE Esma-Masafi 43.06 306 P P 03 08 45.1 +1.3
ULHL Ulahol 43.11 341 P P 03 08 45.5 +1.4
SNR=8.6
KZA Kyzart 43.30 340 P P 03 08 46.5 +0.6
SNR=25
UCH Uchtor 43.69 339 P P 03 08 49.7 +0.6
SNR=45
AML Almayashu 43.90 338 P P 03 08 51.3 +0.6
SNR=43
KBK Karagaybulak 43.91 340 P P 03 08 52.5 +1.9
SNR=20
TKM2 Tokmak 2 43.93 341 P P 03 08 51.6 +0.9
SNR=5.7
AAK Ala-Archa 44.05 340 P P 03 08 52.6 +0.9
comp=Z,9.1nm,0.5s,baz=141,slow=7.1,SNR=26
AAK LR LR 03 28 02.4
comp=Z,377nm,20.1s,baz=151,slow=37
AAK Ala-Archa 44.05 340 P P 03 08 53.2 +1.5
SNR=18
AAK Ala-Archa 44.05 340 *e*P **P 03 08 53.2 +1.5**
comp=Z,15nm,0.6s
AAK Ala-Archa 44.05 340 P P 03 08 53.4 +1.8
SNR=15
AAK Ala-Archa 44.05 340 P P 03 08 53.4 +1.8
SNR=15
AAK Ala-Archa 44.05 340 *i* P **P 03 08 52.8 +1.1**
SNR=6.2
AAK Ala-Archa 44.05 340 *i* P **P 03 08 52.1 +0.4**
AAK pmax pmax
comp=Z,16nm,0.7s
FRU Bishkek 44.18 340 *e*P **P 03 08 53.5 +1.0**
FRU pmax pmax
comp=Z,72nm,2.0s
EKS2 Erkin-Say 44.33 339 P P 03 08 54.8 +1.0
SNR=22
USP Ospenovka 44.61 340 P P 03 08 56.6 +0.6
SNR=10.0
DL2 Dalian 44.75 31 P P 03 08 58.0 +0.9
DL2 S S **03 15 33.8 +1.6**
DL2 pmax pmax
comp=Z,41nm,0.9s
DL2 pmax pmax
comp=Z,200nm,5.9s
DL2 LR LR
comp=Z,630nm,20.8s
DL2 LR LR
comp=Z,780nm,23.0s
DL2 LR LR
comp=Z,440nm,20.0s
WRA Warramunga Arr 45.35 121 P P 03 09 01.8 -0.4
comp=Z,3.9nm,0.9s,baz=298,slow=8.8,SNR=12
WRA LR LR 03 28 38.9
comp=Z,173nm,20.2s,baz=115,slow=37
WRAB Tennant Creek 45.35 121 *e*P **P 03 09 02.0 -0.2**
WRAB Tennant Creek 45.35 121 *e*P **P 03 09 02.0 -0.2**
WB2 Warramunga Arr 45.36 121 *e*P **P 03 09 01.9 -0.3**
comp=Z,8.7nm,1.0s
MK01 Makanchi Array 45.77 349 *e*P **P 03 09 04.9 -0.2**
MK31 Makanchi Array 45.80 349 *e*P **P 03 09 05.8 +0.5**
MK31 Makanchi Array 45.80 349 *e*P **P 03 09 05.8 +0.5**
MKAR Makanchi Array 45.80 349 P P 03 09 05.2 -0.1
comp=Z,48nm,0.7s,baz=166,slow=8.5,SNR=412
MKAR LR LR 03 31 16.5
comp=Z,269nm,19.2s,baz=171,slow=40
MKAR Makanchi Array 45.80 349 *e*P **P 03 09 05.8 +0.5**
comp=Z,305nm,0.8s
MKAR Makanchi Array 45.80 349 *e*P **P 03 09 05.8 +0.5**
MAKZ Makanchi 45.87 349 *e*P **P 03 09 06.3 +0.4**
comp=Z,39nm,0.9s
MAKZ Makanchi 45.87 349 *e*P **P 03 09 06.3 +0.4**
MAKZ pmax pmax
comp=Z,39nm,0.9s
KK31 Karatay Array 45.95 336 *e*P **P 03 09 06.7 +0.1**
KK31 Karatay Array 45.95 336 *e*P **P 03 09 07.0 +0.4**
KK31 pmax pmax
comp=Z,42nm,0.8s
KKAR Karatay Array 45.95 336 *e*P **P 03 09 06.7 +0.1**
comp=Z,20nm,0.6s
KKAR Karatay Array 45.95 336 *e*P **P 03 09 06.7 +0.1**
KKAR pmax pmax
comp=Z,20nm,0.6s
FORT Forrest 46.08 138 *e*P **P 03 09 08.2 +0.5**
TJN Taejon 46.26 38 *ce*P **P 03 09 09.9 +0.9**
ASAR Alice Springs 46.59 126 P P **03 09 11.6 -0.4**
comp=Z,1.2nm,0.5s,baz=297,slow=7.9,SNR=24
ASAR LR LR 03 32 02.8
comp=Z,158nm,18.0s,baz=292,slow=40
JNU Nakatsue 46.62 44 LR LR 03 31 55.9
comp=Z,451nm,18.3s,baz=210,slow=40
AS01 Alice Springs 46.63 126 *e*P **P 03 09 11.2 -1.0**
SONM Songino Array 47.03 12 P P **03 09 15.2 +0.1**
comp=Z,18nm,0.7s,baz=193,slow=9.2,SNR=102
SONM PcP **PcP 03 10 47.2 +0.2**
comp=Z,3.2nm,0.7s,baz=194,slow=5.4,SNR=3.8
SONM LR LR 03 31 40.7
comp=Z,379nm,20.7s,baz=186,slow=40
SONA1 Songino Array 47.04 12 *e*P **P 03 09 15.0 -0.2**
ULN Ulaanbaatar 47.19 12 *e*P **P 03 09 16.2 -0.2**
comp=Z,13nm,1.0s
ULN Ulaanbaatar 47.19 12 P P **03 09 17.2 +0.8**
SNR=14
ULN Ulaanbaatar 47.19 12 P P **03 09 17.2 +0.8**
SNR=14
ULN Ulaanbaatar 47.19 12 *d* iP **P 03 09 16.6 +0.2**
ULN pmax pmax
comp=Z,34nm,1.7s
KS15 Wonju Array Si 47.26 37 *e*P **P 03 09 17.6 +0.7**
KSAR Wonju Array Be 47.26 37 P P **03 09 16.9 0.0**
KSAR Wonju Array Be 47.26 37 P P **03 09 16.9 0.0**
KS01 Wonju Array Si 47.29 37 *e*P **P 03 09 17.0 -0.1**
KSRS Korea Array 47.29 37 P P **03 09 16.9 -0.3**
comp=Z,4.7nm,0.9s,baz=232,slow=8.6,SNR=26
KSRS LR LR 03 29 14.3
comp=Z,353nm,21.3s,baz=237,slow=36
DGZ Jazzator, Alta 47.91 354 *i* P **P 03 09 22.9 +1.0**
DGZ pmax pmax
comp=Z,10.0nm,0.7s
GEYT Alibeck 48.50 322 P P 03 09 27.1 +0.6
comp=Z,64nm,0.6s,baz=148,slow=8.7,SNR=128
GEYT LR LR 03 30 44.5
comp=Z,358nm,20.9s,baz=65,slow=37
GYA0B ALIBECK ARRAY 48.50 322 *e*P **P 03 09 27.4 +0.9**
comp=Z,84nm,0.6s
KNGR Kungurtug, Tuv 48.61 3 *e*P **P 03 09 29.5 +2.2**
ZAK Zakamensk 48.96 8 *e*P **P 03 09 29.8 -0.1**
ZAK pmax pmax
comp=Z,15nm,1.6s
HVS Khovu-Aksy 49.04 360 *d* iP **P 03 09 32.1 +1.6**
HVS pmax pmax
comp=Z,101nm,1.1s
MOY Mondy 49.94 6 *e*P **P 03 09 38.8 +1.4**
OPO Ambohidratompo 50.12 244 P P **03 09 40.8 +1.4**
comp=Z,13nm,0.7s,baz=46,slow=4.9,SNR=12
OPO LR LR 03 29 10.8
comp=Z,181nm,18.0s,baz=26,slow=34
QIS Mount Isa 50.15 119 P P **03 09 40.8 +1.3**
baz=50,SNR=4.8
KURBB Kurchatov Arra 50.21 347 P P **03 09 39.5 +0.2**
comp=Z,27nm,0.7s,baz=171,slow=6.7,SNR=201

ABPO Ambohimpanom 50.23 243 *e*P **P 03 09 41.7 +1.5**
comp=Z,22nm,0.8s
TLY Talaya 50.28 8 *e*P **P 03 09 40.9 +1.0**
comp=Z,18nm,1.1s
TLY Talaya 50.28 8 P P **03 09 41.4 +1.6**
SNR=8.8
TLY Talaya 50.28 8 P P **03 09 41.4 +1.6**
SNR=8.8
TLY Talaya 50.28 8 *e*P **P 03 09 41.4 +1.6**
TLY pmax pmax
comp=Z,19nm,1.1s
TLY MLR MLR
comp=Z,339nm,17.0s
KURK Kurchatov 50.28 348 *e*P **P 03 09 40.3 +0.4**
KURK Kurchatov 50.28 348 P P **03 09 40.5 +0.7**
SNR=32
KURK Kurchatov 50.28 348 P P **03 09 40.5 +0.7**
SNR=32
KURK Kurchatov 50.28 348 *d* iP **P 03 09 40.1 +0.3**
KURK pmax pmax
comp=Z,106nm,1.7s
CN2 Changchun 50.30 30 *e*P **P 03 09 42.8 +2.6**
IRK Irkutsk 50.91 8 *e*P **P 03 09 44.9 +0.3**
IRK pmax pmax
comp=Z,43nm,2.3s
RAYN Ar Rayn 51.39 299 *e*P **P 03 09 48.6 -0.2**
comp=Z,4.1nm,0.8s
RAYN Ar Rayn 51.39 299 *e*P **P 03 09 48.6 -0.2**
RAYN pmax pmax
comp=Z,4.0nm,0.8s
GUMO Guam 51.84 74 LR LR 03 31 08.1
comp=Z,144nm,21.2s,baz=282,slow=35
INU Inuyama 52.11 45 *e*P **P 03 09 53.7 -0.2**
comp=Z,11nm,0.8s
HIA Hailar 52.14 21 *de*P **P 03 09 54.8 +0.9**
HIA pmax pmax
comp=Z,41nm,1.3s
ZAA0 Zalesovo Array 52.38 353 *e*P **P 03 09 55.9 +0.4**
comp=Z,2.0nm,0.6s
ZALV Zalesovo Beam 52.38 353 P P **03 09 55.9 +0.3**
comp=Z,24nm,0.5s,baz=187,slow=7.8,SNR=88
ZALV LR LR 03 34 09.9
comp=Z,273nm,21.1s,baz=70,slow=38
ZALV Zalesovo Beam 52.38 353 *e*P **P 03 09 55.0 -0.5**
ZALV Zalesovo Beam 52.38 353 *e*P **P 03 09 55.0 -0.5**
BBOO Buckleboo 52.80 135 *e*P **P 03 09 58.6 -0.4**
comp=Z,12nm,0.9s
JHJ Hachijo jima 2 53.09 49 LR LR 03 33 18.1
comp=Z,143nm,20.6s,baz=79,slow=37
NVS Novosibirsk 53.45 352 *e*P **P 03 10 02.9 -0.5**
NVS pmax pmax
comp=Z,37nm,1.3s
NVS pmax pmax
comp=N,33nm,1.5s
MAJO Matsushiro 53.53 45 *e*P **P 03 10 03.2 -1.2**
comp=N,2.4nm,0.8s
MAJO Matsushiro 53.53 45 *e*P **P 03 10 03.2 -1.2**
MAJO pmax pmax
comp=Z,2.0nm,0.8s
MAT Matsushiro 53.53 45 P P **03 10 02.1 -2.3**
MAT *e*S **S 03 17 35.4 -0.4**
MJB9 Matsu-Tunnel 53.53 45 *e*P **P 03 10 04.1 -0.3**
comp=Z,3.9nm,1.1s
MJAR Matsushiro Arr 53.54 45 P P **03 10 04.7 +0.3**
comp=Z,2.2nm,0.9s,baz=234,slow=7.8,SNR=5.3
MJAR LR LR 03 34 22.0
comp=Z,339nm,20.0s,baz=255,slow=38
KRAR Krasnoyarsk 53.93 359 *e*P **P 03 10 08.3 +1.4**
USRK Ussuriysk Ar. 54.00 33 P P **03 10 08.0 +0.4**
comp=Z,3.3nm,0.5s,baz=220,slow=4.7,SNR=12
USRK LR LR 03 34 00.0
comp=Z,250nm,19.4s,baz=216,slow=37
PMG Port Moresby 54.37 103 *e*P **P 03 10 10.4 -0.5**
comp=Z,9.4nm,0.9s
PMG Port Moresby 54.37 103 *e*P **P 03 10 10.2 -0.6**
PMG pmax pmax
comp=Z,25nm,0.8s
BVA0 Borovoye Array 54.50 343 P P **03 10 10.0 -1.1**
BVA0 pmax pmax
comp=Z,45nm,1.0s
BVAR Borovoye Array 54.50 343 P P **03 10 10.3 -0.8**
comp=Z,19nm,0.7s,baz=147,slow=8.4,SNR=80
BVAR LR LR 03 34 32.7
comp=Z,365nm,19.8s,baz=163,slow=37
BRVK Borovoye 54.56 343 *e*P **P 03 10 10.8 -0.7**
comp=Z,21nm,0.8s
BRVK Borovoye 54.56 343 P P **03 10 11.8 +0.2**
SNR=8.6
BRVK Borovoye 54.56 343 P P **03 10 11.8 +0.2**
SNR=8.6
BRVK Borovoye 54.56 343 *d* iP **P 03 10 10.6 -1.0**
BRVK pmax pmax
comp=Z,27nm,1.0s
LKRN Lenkeran, Azer 54.98 318 P P **03 10 15.1 +0.2**
AB31 Akbulak array 55.30 334 *i* P **P 03 10 16.3 -0.7**
AB31 pmax pmax
comp=Z,42nm,1.0s
ABKAR Akbulak array 55.30 334 *e*P **P 03 10 16.3 -0.8**
comp=Z,22nm,0.8s
CTA Charters Tower 55.91 116 P P 03 10 26.8 +4.9
comp=Z,7.0nm,1.1s,baz=235,slow=12,SNR=2.2
CTAO Charters Tower 55.91 116 *e*P **P 03 10 22.7 +0.8**
CTAO Charters Tower 55.91 116 *e*P **P 03 10 22.7 +0.8**
STKA Stephens Creek 56.41 131 P P 03 10 31.8 +6.5
comp=Z,6.3nm,0.9s,baz=327,slow=7.8,SNR=8.7
STKA LR LR 03 36 07.9
comp=Z,306nm,18.3s,baz=267,slow=38
STKA Stephens Creek 56.41 131 P P **03 10 25.1 -0.2**
baz=57,SNR=5.1
KMBO Kilima Mbogo 56.58 267 P P **03 10 27.6 +0.5**
comp=Z,0.9nm,0.3s,baz=66,slow=10,SNR=4.5
KMBO Kilima Mbogo 56.58 267 *e*P **P 03 10 27.3 +0.2**
comp=Z,2.9nm,0.8s
AKTO Aktyubinsk 57.02 334 P P **03 10 28.6 -0.7**
comp=Z,9.0nm,0.9s,baz=98,slow=5.8,SNR=20
AKTO LR LR 03 35 37.2
comp=Z,174nm,20.6s,baz=148,slow=37
AKT Akhty 57.09 320 *e*P **P 03 10 30.0 -0.1**
AKT *e* 03 11 24.6
AKT *e* 03 12 39.2
AKT pmax pmax
comp=Z,44nm,1.4s
MNGR Mingechevir, A 57.15 319 P P **03 10 30.5 +0.2**
KLR Kul'dur 57.22 29 P P **03 10 31.6 +0.9**
comp=Z,1.6nm,0.9s,baz=239,slow=6.8,SNR=34
KLR LR LR 03 36 17.3
comp=Z,38nm,19.8s,baz=228,slow=37
KLR Kul'dur 57.22 29 *d* iP **P 03 10 31.2 +0.5**
SEKA Sheki 57.29 319 P P **03 10 31.1 -0.4**
NAX Nakhchivan 57.44 317 P P **03 10 32.6 0.0**
GANJ Ganja 57.59 318 P P **03 10 33.6 +0.1**
ZKTA Zakatala 57.88 320 P P **03 10 35.7 +0.1**
BOD Bodaibo 58.00 13 *e*P **P 03 10 35.9 -0.1**
BOD pmax pmax
comp=Z,39nm,1.3s
MAK Makhachkala 58.00 321 *e*P **P 03 10 32.0 -4.3**
MAK *e* 03 12 43.0
MAK *e*S **S 03 18 30.2 -4.8**
MAK *e*SS **SS 03 22 18.3 -8.2**
MAK pmax pmax
comp=Z,19nm,0.3s
MAK MLR MLR
comp=Z,164nm,17.0s
GNI Garni 58.41 317 P P **03 10 40.4 +0.9**
comp=Z,18nm,0.9s,baz=341,slow=9.3,SNR=23
GNI Garni 58.41 317 *e*P **P 03 10 40.6 +1.2**
comp=Z,24nm,0.9s
GNI Garni 58.41 317 P P **03 10 41.1 +1.6**
SNR=14
GNI Garni 58.41 317 P P **03 10 41.1 +1.6**
SNR=14
GNI Garni 58.41 317 *i* P **P 03 10 39.7 +0.2**
SNR=6.2
GNI Garni 58.41 317 *d* iP **P 03 10 40.0 +0.5**
GNI pmax pmax
comp=Z,133nm,1.2s
ZEA Zeya 58.54 23 *e*P **P 03 10 40.3 +0.5**
ZEA *e*S **S 03 18 42.0 +0.4**
ZEA pmax pmax
comp=Z,29nm,1.0s
ZEA smax smax
comp=E,200nm,8.0s
DGRG David-gareji 58.61 319 P P **03 10 40.6 0.0**
DGRG David-gareji 58.61 319 *e*P **P 03 10 40.6 0.0**
BTNK Botanikuri 59.10 319 P P **03 10 44.7 +0.7**
TBLG Delisi 59.16 319 P P **03 10 45.1 +0.7**

TBLG Delisi 59.16 319 *e*P **P 03 10 45.4 +0.9**
comp=E,49nm,1.0s
TBLG Delisi 59.16 319 *e*P **P 03 10 45.4 +0.9**
TBLG pmax pmax
comp=Z,49nm,1.0s
GROC Groznyy 59.20 321 *e*P **P 03 10 42.7 -1.9**
GROC *e* 03 11 31.0
GROC *e* 03 12 56.3
GROC pmax pmax
comp=Z,65nm,1.2s
CMSA Cobar Meteorol 59.41 129 P P **03 10 46.5 +0.2**
baz=60,SNR=6.0
RMQ Roma 60.07 122 P P **03 10 49.0 -2.0**
baz=60,SNR=4.9
ASAJ Asahikawa 60.20 39 P P **03 10 53.0 +1.4**
comp=Z,9.3nm,1.0s,baz=28,slow=17,SNR=3.2
ZEI Tsey 60.21 320 *e*P **P 03 10 50.9 -1.0**
ZEI pmax pmax
comp=Z,18nm,0.6s
ONI Oni 60.41 319 P P **03 10 54.0 +0.9**
ONI Oni 60.41 319 *e*P **P 03 10 53.9 +0.9**
GRNR Gornyy 60.50 30 *e*P **P 03 10 53.5 0.0**
GRNR pmax pmax
comp=Z,42nm,1.0s
CRZF Crozet Islands 60.63 212 *e*P **P 03 10 53.8 -0.6**
comp=Z,76nm,0.7s
NCK Nalchik 60.74 320⇑ *i* P **P 03 10 56.4 +1.1**
NCK pmax pmax
comp=Z,33nm,0.8s
SVE Sverdlovsk 60.79 340 *e*P **P 03 10 54.3 -1.0**
SVE pmax pmax
comp=Z,59nm,1.1s
NEY Neytrino 61.19 320⇑ *i* P **P 03 10 59.7 +1.2**
NEY pmax pmax
comp=Z,4.0nm,0.8s
ARU Arti 61.22 339 LR LR 03 40 22.6
comp=Z,125nm,19.1s,baz=197,slow=39
ARU Arti 61.22 339 *e*P **P 03 10 56.9 -1.3**
comp=Z,28nm,1.0s
ARU Arti 61.22 339 *d* iP **P 03 10 56.7 -1.5**
ARU 03 11 35.2
ARU S **S 03 19 17.2 +1.1**
ARU pmax pmax
comp=Z,55nm,1.7s
ARU MLR MLR
comp=Z,279nm,21.0s
KBZ Khabaz 61.30 320 P P **03 10 59.3 +0.3**
comp=Z,20nm,0.8s,baz=116,slow=6.7,SNR=66
KIV Kislovodsk 61.54 320 *e*P **P 03 11 00.8 0.0**
KIV Kislovodsk 61.54 320 P P **03 11 01.1 +0.3**
SNR=18
KIV Kislovodsk 61.54 320 P P **03 11 01.1 +0.3**
SNR=18
KIV Kislovodsk 61.54 320 *i* P **P 03 11 01.0 +0.3**
SNR=11
KIV Kislovodsk 61.54 320 *e*P **P 03 11 00.6 -0.2**
KIV pmax pmax
comp=Z,47nm,1.0s
KIV MLR MLR
comp=Z,90nm,17.0s
YSS Yuzh-Sakhalins 61.74 36⇑ *e*P **P 03 11 03.1 +1.2**
YSS *e* 03 11 10.2
YSS *e* 03 11 17.8
YSS pmax pmax
comp=Z,20nm,1.0s
GOF Gofitskoye 61.84 322⇑ *e*P **P 03 11 02.9 +0.3**
GOF pmax pmax
comp=Z,26nm,0.6s
MMAI Mount Meron Ar 62.70 306 P P **03 11 09.8 +1.0**
comp=Z,3.8nm,0.6s,baz=99,slow=8.0,SNR=9.0
MMAI LR LR 03 38 46.2
comp=Z,160nm,21.6s,baz=140,slow=36
SOC Sochi 63.30 319 *e*P **P 03 11 11.6 -0.8**
SOC *e* 03 13 26.5
SOC *e*PPP PPP 03 14 59.2
SOC *e*S **S 03 19 40.5 -2.2**
SOC pmax pmax
comp=Z,34nm,0.9s
CAN Canberra 63.46 131 *e*P **P 03 11 13.5 -0.3**
CAN Canberra 63.46 131 *e*P **P 03 11 13.5 -0.3**
CSS Mathiatis 64.91 308 *e*P **P 03 11 24.2 +1.0**
comp=Z,4.4nm,1.0s
VRH Novokhopyorsk 65.63 327 *e*P **P 03 11 25.9 -1.6**
VRH pmax pmax
comp=Z,30nm,0.6s
YAK Yakutsk 65.74 18 P P **03 11 26.0 -1.9**
comp=Z,48nm,0.7s,baz=317,slow=1.6,SNR=19
YAK LR LR 03 40 44.5
comp=Z,615nm,21.5s,baz=255,slow=36
YAK Yakutsk 65.74 18 *e*P **P 03 11 27.2 -0.8**
YAK Yakutsk 65.74 18 *i* P **P 03 11 27.7 -0.3**
YAK pmax pmax
comp=Z,105nm,0.9s
BR131 Keskin Array S 66.10 313 *e*P **P 03 11 30.5 -0.4**
BRTR Keskin Array B 66.10 313 P P **03 11 30.4 -0.6**
comp=Z,4.8nm,0.6s,baz=130,slow=6.7,SNR=44
BRTR LR LR 03 42 26.0
comp=Z,116nm,19.5s,baz=110,slow=38
ANTO Ankara 66.76 313⇑ *i* P **P 03 11 34.5 -0.6**
ANTO Ankara 66.76 313 *e*P **P 03 11 33.8 -1.3**
comp=Z,13nm,0.6s
VORD Divnogorie 66.85 326 *e*P **P 03 11 33.4 -1.9**
VORD pmax pmax
comp=Z,10.0nm,0.6s
HNR Honiara 66.88 101 LR LR 03 44 49.0
comp=Z,53nm,18.3s,baz=101,slow=40
LSZ Lusaka 67.03 253 P P **03 11 37.2 -0.2**
comp=Z,5.9nm,0.7s,baz=78,slow=4.6,SNR=18
LSZ Lusaka 67.03 253 *e*P **P 03 11 37.7 +0.3**
comp=Z,10nm,0.9s
VSR Storozhevoye 67.04 326 *e*P **P 03 11 34.6 -1.9**
VSR pmax pmax
comp=Z,60nm,1.2s
SIM Simferopol' 67.53 318 *e*P **P 03 11 40.5 +0.7**
SIM *e*S **S 03 20 34.0 -0.6**
SIM *e*SS **SS 03 25 00.0 +4.5**
SIM pmax pmax
comp=Z,20nm,1.0s
LPSR Galich'ya Gora 67.82 327 *e*P **P 03 11 40.6 -0.8**
LPSR pmax pmax
comp=Z,30nm,0.8s
ISP Isparta 67.87 310⇑ *i* P **P 03 11 42.5 +0.2**
ISP Isparta 67.87 310 *e*P **P 03 11 42.4 +0.2**
comp=Z,8.7nm,1.0s
ISP Isparta 67.87 310 *de*P **P 03 11 41.1 -1.1**
ISP pmax pmax
comp=Z,9.0nm,1.0s
KARP Karpathos 69.94 307 *e*P **P 03 11 55.9 +0.9**
comp=Z,28nm,1.0s
MOS Moscow 69.97 330 *e*P **P 03 11 52.1 -2.7**
MOS pmax pmax
comp=Z,98nm,1.2s
OBN Obninsk 70.22 329 LR LR 03 45 35.0
comp=Z,140nm,20.9s,baz=98,slow=38
OBN Obninsk 70.22 329 *e*P **P 03 11 56.2 -0.1**
comp=Z,38nm,1.0s
OBN Obninsk 70.22 329 *ce*P **P 03 11 55.9 -0.4**
OBN *e* 03 14 31.6
OBN *e*S **S 03 21 10.3 +4.4**
OBN pmax pmax
comp=Z,44nm,1.2s
OBN MLR MLR
comp=Z,164nm,21.0s
LBTB Lobatse 71.14 243 *e*P **P 03 12 02.7 0.0**
comp=Z,31nm,0.8s
TLCR 71.16 317⇑ *i* P **P 03 12 02.5 +0.3**
TLCR 71.16 317 P **P 03 12 02.5 +0.3**
LAST Lasithi 71.21 306 P **P 03 12 02.8 -0.1**
LAST Lasithi 71.21 306 P **P 03 12 02.8 -0.1**
TIRR Tirgusor 71.23 317⇓ *i* P **P 03 12 02.8 +0.1**
TIRR Tirgusor 71.23 317 *e*P **P 03 12 02.0 -0.7**
comp=Z,19nm,1.1s
TIRR Tirgusor 71.23 317 P **P 03 12 02.0 -0.7**
TIRR pmax pmax
comp=Z,19nm,1.1s
PRK Paraskevi 71.45 311 P **P 03 12 03.0 -1.1**
PRK Paraskevi 71.45 311 P **P 03 12 03.0 -1.1**
TLB Topalu 71.52 317⇑ *i* P **P 03 12 04.4 0.0**
CFR Carcaliu 71.62 317⇑ *i* P **P 03 12 04.5 -0.5**
KLMR Klimovskoe 71.64 335 *e*P **P 03 12 02.1 -2.8**
KLMR AMP 03 12 05.1
comp=Z,44nm,1.5s
KLMR *e*PP **PP 03 14 40.3 -3.7**
KLMR Klimovskoe 71.64 335 *e*P **P 03 12 02.0 -2.8**
KLMR *e* 03 14 40.2

KLMR pmax pmax
comp=Z,44nm,1.5s
IDI Anoyia 71.70 307 P **P 03 12 06.1 +0.2**
comp=Z,22nm,0.5s,baz=86,slow=10,SNR=65
IDI Anoyia 71.70 307⇑ *iP* **P 03 12 06.2 +0.3**
IDI Anoyia 71.70 307 *eP* **P 03 12 05.9 +0.1**
SIVA Sivas 71.72 306 P **P 03 12 06.3 +0.5**
SIVA Sivas 71.72 306 P **P 03 12 06.3 +0.5**
LEOM Leova 71.92 319⇓ *iP* **P 03 12 07.0 +0.2**
LEOM Leova 71.92 319 P **P 03 12 07.0 +0.2**
BOSA Boshof 72.17 239 P **P 03 12 08.0 -0.8**
comp=Z,9.2nm,0.7s,baz=83,slow=4.8,SNR=26
BOSA LR LR 03 39 31.9
comp=Z,259nm,19.6s,baz=64,slow=32
BOSA Boshof 72.17 239 *eP* **P 03 12 09.3 +0.4**
comp=Z,3.6nm,0.7s
MA2 Magadan 72.20 27 P **P 03 12 08.1 -0.1**
comp=Z,2.8nm,0.5s,baz=233,slow=7.7,SNR=5.4
MA2 Magadan 72.20 27 *eP* **P 03 12 08.5 +0.2**
comp=Z,11nm,0.9s
MA2 Magadan 72.20 27 *i P* **P 03 12 08.3 +0.1**
MA2 pmax pmax
comp=Z,21nm,1.3s
VAM Vamos 72.28 307 P **P 03 12 09.7 +0.5**
VAM Vamos 72.28 307 P **P 03 12 09.7 +0.5**
SORM Soroca 72.34 320⇓ *iP* **P 03 12 08.6 -0.7**
SORM Soroca 72.34 320 P **P 03 12 08.5 -0.7**
IMMV Iera Moni Meta 72.47 307 P **P 03 12 09.7 -0.6**
AKASG Malin Array Be 72.60 323 P **P 03 12 08.5 -2.3**
comp=Z,4.0nm,0.7s,baz=88,slow=5.0,SNR=26
AKASG LR LR 03 48 31.9
comp=Z,98nm,18.9s,baz=95,slow=40
AKASG Malin Array Be 72.60 323 P **P 03 12 08.5 -2.3**
AKASG pmax pmax
comp=Z,6.0nm,0.7s
AKASG MLR MLR
comp=Z,98nm,18.9s
AKBB Malin Array Si 72.60 323 *eP* **P 03 12 09.9 -0.8**
comp=Z,12nm,1.0s
KIEV Kiev 72.61 323 *eP* **P 03 12 09.7 -1.1**
comp=Z,8.5nm,0.8s
KIEV Kiev 72.61 323 P **P 03 12 09.8 -1.1**
KIEV Kiev 72.61 323*d iP* **P 03 12 10.0 -0.8**
KIEV pmax pmax
comp=Z,15nm,1.2s
AK11 Malin Array Si 72.63 323 *eP* **P 03 12 10.3 -0.6**
MAW Mawson 72.67 192 P **P 03 12 10.7 -0.1**
comp=Z,3.6nm,0.7s,baz=288,slow=6.4,SNR=5.5
MAW LR LR 03 37 44.8
comp=Z,150nm,18.7s,baz=58,slow=31
VRI Vrincioaia 72.76 318⇓ *iP* **P 03 12 12.3 +0.4**
VRI Vrincioaia 72.76 318 P **P 03 12 12.2 +0.4**
PLOR Plostina 72.81 318⇓ *iP* **P 03 12 12.9 +0.7**
PLOR Plostina 72.81 318 P **P 03 12 12.8 +0.6**
TESR Tescani 72.99 318⇓ *iP* **P 03 12 12.6 -0.6**
PETK Petropavlovsk- 73.07 34 LR LR 03 47 14.7
comp=Z,162nm,18.6s,baz=247,slow=38
TIXI Tiksi 73.11 11 P **P 03 12 12.6 -0.8**
comp=Z,27nm,0.7s,baz=225,slow=2.7,SNR=60
TIXI Tiksi 73.11 11 *eP* **P 03 12 12.3 -1.0**
TIXI Tiksi 73.11 11 *i P* **P 03 12 12.7 -0.7**
TIXI pmax pmax
comp=Z,83nm,1.7s
MLR Muntele Rosu 73.19 317 P **P 03 12 14.9 +0.3**
comp=Z,5.2nm,0.9s,baz=135,slow=1.4,SNR=35
MLR LR LR 03 49 19.0
comp=Z,30nm,18.2s,baz=98,slow=40
MLR Muntele Rosu 73.19 317⇓ *iP* **P 03 12 15.0 +0.4**
MLR Muntele Rosu 73.19 317 *eP* **P 03 12 15.0 +0.4**
comp=Z,29nm,1.0s
KRND KRANIDI 73.47 308 P **P 03 12 13.1 -3.1**
PRAR RASCA 73.50 319⇑ *iP* **P 03 12 16.1 -0.1**
PET Petropavlovsk 73.58 35 *eP* **P 03 12 16.1 -0.4**
PET *eS* **S 03 21 44.1 -0.6**
PET pmax pmax
comp=Z,20nm,1.1s
TMCR Tamitsa 73.94 338 *eP* **P 03 12 17.8 -0.6**
DYR Agios Nikonas 74.01 308 P **P 03 12 19.1 -0.3**
ARR Arges 74.06 317⇑ *iP* **P 03 12 19.1 -0.5**
VLX Vlachokerasia 74.08 308 P P 03 12 14.8 -5.1
VLX Vlachokerasia 74.08 308 P P 03 12 14.8 -5.1
BURAR Bucovina Array 74.22 319⇓ *iP* **P 03 12 21.3 +0.7**
BURAR Bucovina Array 74.22 319 P **P 03 12 21.2 +0.7**
BUR04 Bucovina Ar. S 74.23 319 *eP* **P 03 12 20.9 +0.3**
BUR08 Bucovina Ar. S 74.24 319 *eP* **P 03 12 20.9 +0.3**
KLV Kalavryta, Ach 74.37 309 P **P 03 12 17.9 -3.7**
KLV Kalavryta, Ach 74.37 309 P **P 03 12 17.9 -3.7**
ITM Ithomi 74.40 308 P **P 03 12 19.8 -1.9**
ITM Ithomi 74.40 308 P **P 03 12 19.8 -1.9**
VTS Vitosha 74.44 314⇑ *iP* **P 03 12 20.7 -1.3**
VTS Vitosha 74.44 314 *eP* **P 03 12 20.4 -1.6**
comp=Z,5.2nm,0.6s
VTS Vitosha 74.44 314 P **P 03 12 20.3 -1.7**
SEY Seymchan 74.47 24⇑ *iP* **P 03 12 21.7 +0.2**
LIT Litokhoron 74.48 311 *eP* **P 03 12 21.3 -0.8**
comp=Z,9.3nm,0.6s
TRIZ Trizonia 74.49 309 P **P 03 12 20.4 -1.7**
PYL PYLOS 74.50 308 P **P 03 12 21.3 -1.0**
PYL PYLOS 74.50 308 P **P 03 12 21.3 -1.0**
AMT Artemida-Makis 74.63 308 P **P 03 12 22.6 -0.4**
ANX Ano Chora 74.64 309 P **P 03 12 22.2 -1.0**
DZM Mont Dzumac 74.72 113 LR LR 03 49 50.3
comp=Z,118nm,18.5s,baz=235,slow=40
CJR Cluj-Napoca 75.07 318⇑ *iP* **P 03 12 26.0 +0.5**
CJR Cluj-Napoca 75.07 318 P **P 03 12 26.0 +0.5**
NACGM Naroch 75.35 327 *e* **P 03 12 27.0 +0.2**
IDID Didziasalis 75.50 327 *eP* **P 03 12 27.5 -0.1**
IDID IAmb IAmb 03 12 28.8
comp=Z,13nm,1.0s
LVV L'vov 75.54 321 *eP* **P 03 12 28.4 +0.4**
VLS Valsamata 75.61 309 P **P 03 12 27.7 -1.0**
VLS Valsamata 75.61 309 P **P 03 12 27.7 -1.0**
NEST Nestorio 75.62 311 P **P 03 12 24.8 -4.0**
LKD2 Lefkada island 75.65 309 P **P 03 12 27.8 -1.1**
LKD2 Lefkada island 75.65 309 P **P 03 12 27.8 -1.1**
DRGR 75.69 318⇓ *iP* **P 03 12 29.0 0.0**
DRGR 75.69 318 P **P 03 12 28.9 0.0**
IIGN Ignalina 75.79 327 *eP* **P 03 12 29.2 -0.1**
IIGN IAmb IAmb 03 12 31.6
comp=Z,16nm,1.0s
IZAR Zarasai 75.90 327 *eP* **P 03 12 29.8 -0.1**
IZAR IAmb IAmb 03 12 30.8
comp=Z,6.1nm,0.5s
TRPA Tarpa 76.10 319⇓ *iP* **P 03 12 31.6 +0.4**
TRPA Tarpa 76.10 319⇓ *eP* **P 03 12 31.3 +0.1**
BZS Buzias 76.18 317 P **P 03 12 32.8 +1.1**
SIRR Siria 76.28 317⇓ *iP* **P 03 12 32.5 +0.2**
SRN Sarande 76.33 311 P **P 03 12 31.7 -1.0**
SRN Sarande 76.33 311 P **P 03 12 31.7 -1.0**
KWP Kalwaria Pacla 76.33 321 *eP* **P 03 12 32.7 +0.2**
KWP Kalwaria Pacla 76.33 321 *eP* **P 03 12 31.7 -0.8**
comp=Z,134nm,0.6s
KWP Kalwaria Pacla 76.33 321 *eP* **P 03 12 32.7 +0.2**
UZH Uzhgorod 76.37 320⇓ *iP* **P 03 12 33.3 +0.6**
UZH *e* 03 12 45.3
VSU Vasula 76.50 330*d iP* **P 03 12 32.8 -0.4**
VSU pmax pmax
comp=Z,80nm,1.0s
TIR Tirane 76.66 312 *eP* **P 03 12 33.0 -1.6**
comp=Z,4.1nm,0.6s
TIR Tirane 76.66 312 *eP* **P 03 12 33.0 -1.6**
TIR pmax pmax
comp=Z,4.0nm,0.6s
CRVS Cervenica-Dubn 76.96 320 *eP* **P 03 12 36.6 +0.5**
CRVS Cervenica-Dubn 76.96 320 *eP* **P 03 12 36.6 +0.5**
CRVS pmax pmax
comp=Z,11nm,1.1s
LVZ Lovozero 77.00 341⇓ *eP* **P 03 12 35.9 0.0**
LVZ pmax pmax
comp=Z,85nm,2.0s
DIVS Divibare 77.03 315 *eP* **P 03 12 36.5 -0.2**
comp=Z,6.1nm,1.1s
SUW Suwalki 77.11 325 *eP* **P 03 12 36.5 -0.3**
SUW Suwalki 77.11 325 *eP* **P 03 12 35.8 -1.0**
comp=Z,93nm,1.0s
SUW Suwalki 77.11 325 *eP* **P 03 12 36.5 -0.3**
STHS Stebnicka Huta 77.21 320 *eP* **P 03 12 39.3 +1.8**
STHS Stebnicka Huta 77.21 320 *eP* **P 03 12 39.3 +1.8**
STHS pmax pmax
comp=Z,13nm,0.7s
PDG Podgorica 77.29 313⇓ *iP* **P 03 12 37.1 -0.9**
TTG Podgorica 77.29 313 *eP* **P 03 12 37.1 -0.9**
comp=Z,9.6nm,1.0s
TTG Podgorica 77.29 313 *eP* **P 03 12 37.1 -0.9**
TTG pmax pmax
comp=Z,10.0nm,1.0s
TSUM Tsumeb 77.59 250 *eP* **P 03 12 41.3 +0.9**
comp=Z,10nm,1.1s
FIA1 FINESS Array S 77.78 333 *eP* **P 03 12 39.8 -0.6**
FINES FINESS Array B 77.78 333 P **P 03 12 39.8 -0.7**
comp=Z,4.7nm,0.5s,baz=100,slow=5.6,SNR=58
FINES LR LR 03 48 46.0
comp=Z,200nm,20.5s,baz=117,slow=37
PSZ Piszkesteto 77.79 319⇑ *eP* **P 03 12 41.8 +0.9**
PSZ Piszkesteto 77.79 319 *eP* **P 03 12 41.3 +0.5**
comp=Z,11nm,1.1s
PSZ Piszkesteto 77.79 319 *eP* **P 03 12 41.3 +0.5**
PSZ pmax pmax
comp=Z,11nm,1.1s
NIE Niedzica 77.82 320 *eP* **P 03 12 41.7 +0.8**
NIE Niedzica 77.82 320 *eP* **P 03 12 41.7 +0.8**
BEL Belsk 78.01 323 *eP* **P 03 12 42.9 +1.0**
BEL Belsk 78.01 323 *eP* **P 03 12 42.9 +1.0**
OJC Ojcow 78.29 321 *eP* **P 03 12 43.9 +0.4**
OJC Ojcow 78.29 321 *eP* **P 03 12 43.7 +0.2**
comp=Z,20nm,1.0s
OJC Ojcow 78.29 321 *eP* **P 03 12 43.9 +0.4**
MORH M¨‡r¡gy, Hung 78.33 317⇓ *eP* **P 03 12 42.6 -1.2**
VYHS Vyhne 78.59 319 *eP* **P 03 12 45.3 +0.1**
VYHS Vyhne 78.59 319 *eP* **P 03 12 45.3 +0.1**
VYHS pmax pmax
comp=Z,16nm,1.3s
TIP Timpagrande 78.71 309 *eP* **P 03 12 46.5 +0.4**
comp=Z,5.5nm,1.1s
CSKK Cs˙‡kako 78.78 318⇑ *eP* **P 03 12 47.1 +0.8**
KLNR Kaliningrad 78.94 325*deP* **P 03 12 46.5 -0.4**
KLNR pmax pmax
comp=Z,76nm,0.7s
BLY Banja Luka 79.12 315⇓ *iP* **P 03 12 48.1 0.0**
BLY Banja Luka 79.12 315 *eP* **P 03 12 48.2 0.0**
comp=Z,5.8nm,0.7s
OKC Ostrava-Krasne 79.27 320 *eP* **P 03 12 49.1 +0.2**
OKC Ostrava-Krasne 79.27 320 *eP* **P 03 12 49.1 +0.2**
CUC Castrocucco 79.53 310 *eP* **P 03 12 50.2 -0.3**
comp=Z,2.3nm,0.8s
MODS Modra-Piesok 79.59 319 *eP* **P 03 12 50.7 0.0**
MODS Modra-Piesok 79.59 319 *eP* **P 03 12 50.7 0.0**
MODS pmax pmax
comp=Z,54nm,1.3s
SYO Syowa Base 79.64 197⇓ *eX* **P 03 12 48.0 -2.4**
MORC Moravsky Berou 79.65 320⇓ *iP* **P 03 12 51.4 +0.4**
MORC Moravsky Berou 79.65 320 *eP* **P 03 12 51.3 +0.4**
comp=Z,5.5nm,1.0s
MORC Moravsky Berou 79.65 320 *eP* **P 03 12 51.3 +0.3**
MORC pmax pmax
comp=Z,5.0nm,1.0s
SOP Sopron 79.97 318⇑ *eP* **P 03 12 53.3 +0.6**
SOP Sopron 79.97 318 P **P 03 12 54.0 +1.3**
KRLC Kraliky 80.18 320 *eP* **P 03 12 54.2 +0.3**
KRLC Kraliky 80.18 320 *eP* **P 03 12 54.2 +0.3**
VRAC Vranov 80.18 320 LR LR 03 52 49.4
comp=Z,66nm,19.4s,baz=94,slow=39
GKP Gorka Klasztor 80.41 324 *eP* **P 03 12 54.8 -0.1**
GKP Gorka Klasztor 80.41 324 *eP* **P 03 12 54.8 -0.1**
CONA Conrad Observa 80.47 318 *i P* **P 03 12 56.0 +0.5**
comp=Z,5.9nm,1.2s
DPC Dobruska-Polom 80.51 321 *eP* **P 03 12 56.4 +0.7**
DPC *ex* x 03 13 06.9
DPC *ex* x 03 13 16.4
DPC Dobruska-Polom 80.51 321 *eP* **P 03 12 56.4 +0.7**
DPC *e* 03 13 06.9
KSP Ksiaz 80.60 321 *eP* **P 03 12 56.9 +0.8**
KSP Ksiaz 80.60 321 *eP* **P 03 12 56.9 +0.8**
ARSA Arzberg 80.61 317 *i P* **P 03 12 57.5 +1.3**
comp=Z,22nm,1.2s,SNR=11
ARCES ARCESS Array B 80.71 341 P **P 03 12 55.7 -0.6**
comp=Z,4.7nm,0.6s,baz=82,slow=5.7,SNR=26
UPC Upice 80.73 321 *eP* **P 03 12 57.2 +0.4**
UPC AMS AMS 03 53 20.0
comp=Z,100nm,20.0s
UPC Upice 80.73 321 *eP* **P 03 12 57.2 +0.4**
UPC MLR MLR
comp=Z,100nm,20.0s
PERS Pernice 80.81 317 *i P* **P 03 12 57.3 0.0**
SOKA Soboth 80.87 317 *i P* **P 03 12 58.7 +1.0**
comp=Z,28nm,1.3s,SNR=11
OBKA Obir 81.18 317 *i P* **P 03 13 00.2 +0.8**
comp=Z,18nm,1.4s,SNR=8.6
GOPC GO Pecny, Ondr 81.43 320 *eP* **P 03 13 01.1 +0.6**
GOPC GO Pecny, Ondr 81.43 320 *eP* **P 03 13 01.1 +0.6**
JAVS Javornik 81.45 316 *eP* **P 03 12 59.8 -1.0**
MOA Molln 81.53 318 *i P* **P 03 13 01.5 +0.4**
comp=Z,11nm,1.4s
AQU L'Aquila 81.58 312 *eP* **P 03 13 02.5 +0.9**
comp=Z,18nm,0.9s
AQU L'Aquila 81.58 312 *eP* **P 03 13 02.5 +0.9**
AQU pmax pmax
comp=Z,18nm,0.9s
PRU Pruhonice 81.60 320 *eP* **P 03 13 01.4 0.0**
PRU *ex* x 03 13 21.9
PRU Pruhonice 81.60 320 *eP* **P 03 13 01.4 0.0**
PVCC Panska Ves 81.65 321 *eP* **P 03 13 02.2 +0.6**
PVCC Panska Ves 81.65 321 *eP* **P 03 13 02.2 +0.6**
CADS Cadrg 81.71 316 *i P* **P 03 13 02.1 0.0**
BILL Bilibino 81.73 21 *i P* **P 03 13 01.2 -0.5**
BILL *i* 03 13 08.7
BILL *i* 03 13 16.2
BILL *i S* **S 03 23 05.0 -7.4**
BILL pmax pmax
comp=Z,4.0nm,1.5s
BILL MLR MLR
comp=Z,657nm,17.0s
MYKA Terra Mystica 81.82 317 P **P 03 13 03.4 +0.7**
comp=Z,17nm,1.6s,SNR=5.4
GEA0 GERESS Array S 82.01 319 *eP* **P 03 13 03.6 -0.1**
GEC2 GERESS Array S 82.01 319 *eP* **P 03 13 04.2 +0.5**
comp=Z,22nm,0.9s
GEC2 GERESS Array S 82.01 319 *eP* **P 03 13 04.2 +0.5**
GEC2 pmax pmax
comp=Z,22nm,0.9s
GERES GERESS Array B 82.01 319 P **P 03 13 04.0 +0.3**
comp=Z,9.8nm,0.7s,baz=98,slow=5.5,SNR=37
GERES LR LR 03 53 06.5
comp=Z,56nm,21.4s,baz=101,slow=38
KBA Koelnbreinsper 82.06 317 *i P* **P 03 13 03.7 -0.5**
comp=Z,5.2nm,0.8s
BRG Berggiesshubel 82.08 321 *eP* **P 03 13 04.6 +0.7**
comp=Z,24nm,1.4s
BRG *e* 03 13 24.0
comp=Z,7.7nm,1.1s
comp=N,165nm,27.3s
comp=E,117nm,15.4s
comp=Z,197nm,22.8s
BRG Berggiesshubel 82.08 321 *eP* **P 03 13 04.6 +0.7**
BRG pmax pmax
comp=Z,24nm,1.4s
BRG MLR MLR
comp=N,165nm,26.3s
BRG MLR MLR
comp=E,117nm,15.4s
BRG MLR MLR
comp=Z,197nm,22.8s
KHC Kasperske Hory 82.12 319 *eP* **P 03 13 04.3 +0.1**
KHC *ex* x 03 13 30.0
KHC AMS AMS 03 53 10.0
comp=Z,100nm,16.9s
KHC Kasperske Hory 82.12 319 *eP* **P 03 13 04.3 +0.1**
KHC MLR MLR
comp=Z,100nm,16.9s
ABTA Abfaltersbach 82.60 317 *i P* **P 03 13 07.0 +0.1**
comp=Z,9.2nm,1.2s
CLL Collm 82.72 321⇓ *iP* **P 03 13 07.4 +0.2**
comp=Z,10.0nm,1.1s
CLL *i* PcP **PcP 03 13 12.9 +0.8**
CLL *e*(PP) 03 16 21.0
CLL Collm 82.72 321 *eP* **P 03 13 07.4 +0.2**
comp=Z,9.5nm,1.1s
CLL Collm 82.72 321 *eP* **P 03 13 07.4 +0.2**
CLL pmax pmax
comp=Z,10.0nm,1.1s
NKC Novy Kostel 82.96 320 *eP* **P 03 13 09.3 +0.7**
NKC Novy Kostel 82.96 320 *eP* **P 03 13 09.3 +0.7**
WTTA Wattenberg 83.24 317 *i P* **P 03 13 09.9 -0.4**
comp=Z,7.6nm,0.7s
WATA Walderalm 83.29 317 *i P* **P 03 13 09.6 -0.9**
comp=Z,2.5nm,0.5s
HFS Hagfors 83.39 330 P **P 03 13 09.3 -1.2**
comp=Z,5.8nm,0.6s,baz=120,slow=5.5,SNR=56
HFS LR LR 03 54 20.9
comp=Z,148nm,18.6s,baz=97,slow=39
MOTA Moosalm 83.61 317 *i P* **P 03 13 11.6 -0.6**
comp=Z,12nm,0.9s,SNR=12
GRFO Grafenberg 83.71 320 *eP* **P 03 13 13.0 +0.6**
comp=Z,9.6nm,0.9s
GRFO Grafenberg 83.71 320 *eP* **P 03 13 13.0 +0.6**
GRFO pmax pmax
comp=Z,10.0nm,0.9s
FETA Feichten 83.84 317 *i P* **P 03 13 13.8 +0.4**
comp=Z,10nm,1.1s
RETA Reutte 83.85 317 *i P* **P 03 13 13.0 -0.3**
comp=Z,9.2nm,0.7s,SNR=5.6
FUORN Ofenpass-Fuorn 84.14 316 *eP* **P 03 13 15.4 +0.5**
comp=Z,8.8nm,0.8s
KEST Kesra 84.34 306 P **P 03 13 17.1 +1.1**
comp=Z,5.8nm,0.6s,baz=23,slow=2.2,SNR=9.3
DAVA Damuels 84.44 317 *i P* **P 03 13 17.1 +0.7**
comp=Z,20nm,1.1s,SNR=5.4
NB2 NORSAR Subarra 84.71 331 P **P 03 13 16.5 -0.8**
comp=Z,19nm,1.1s,baz=91,slow=5.3
NB2 NORSAR Subarra 84.71 331 P **P 03 13 16.5 -0.8**
baz=91,slow=5.3
NB2 NORSAR Subarra 84.71 331 P **P 03 13 16.1 -1.2**
NB2 pmax pmax
comp=Z,10.0nm,1.1s
NOA NORSAR Array B 84.71 331 P **P 03 13 16.4 -0.8**
comp=Z,6.4nm,0.9s,baz=96,slow=5.2,SNR=12
NOA LR LR 03 53 12.2
comp=Z,93nm,19.7s,baz=95,slow=37
TUE Stuetta 84.76 316 *eP* **P 03 13 18.7 +0.7**
comp=Z,9.0nm,1.1s
KONO Kongsberg 85.39 330⇑ *eP* **P 03 13 20.9 +0.3**
KONO pmax pmax
comp=Z,27nm,1.4s
SPITS Spitsbergen Ar 85.55 348 P **P 03 13 20.1 -1.0**
comp=Z,8.0nm,0.7s,baz=132,slow=4.1,SNR=8.1
SPITS LR LR 03 56 05.2
comp=Z,227nm,21.8s,baz=155,slow=39
BNI Bardonecchia 86.58 315 *eP* **P 03 13 26.5 -0.6**
comp=Z,3.3nm,0.8s
BNI Bardonecchia 86.58 315 *eP* **P 03 13 26.5 -0.6**
BNI pmax pmax
comp=Z,3.0nm,0.8s
VNDA Vanda 87.21 168 LR LR 03 48 21.3
comp=Z,280nm,18.7s,baz=296,slow=33
TAM Tamanrasset 87.64 293 *eP* **P 03 13 34.3 +1.6**
comp=Z,4.6nm,0.9s
SSB Saint Sauveur 88.10 315 *eP* **P 03 13 34.1 -0.2**
comp=Z,4.2nm,0.6s
SSB Saint Sauveur 88.10 315 *eP* **P 03 13 34.1 -0.2**
SSB pmax pmax
comp=Z,4.0nm,0.6s
NVL N'lazarevskaya 89.14 199 *eP* **P 03 13 39.2 +0.7**
NVL pmax pmax
comp=Z,16nm,0.7s
TORD Torodi_r, Bea 91.58 283 P **P 03 13 50.8 -0.3**
comp=Z,2.3nm,1.1s,baz=79,slow=3.4,SNR=8.9
QSPA South Pole Qui 91.86 180 P **P 03 13 51.7 +0.3**
comp=Z,2.5nm,1.1s,baz=303,slow=4.1,SNR=5.7
JMIC Jan Mayen 92.18 341 LR LR 03 58 23.2
comp=Z,50nm,19.8s,baz=71,slow=38
EKA Eskdalemuir Ar 92.38 325 P **P 03 13 53.4 -0.5**
comp=Z,1.2nm,0.5s,baz=94,slow=5.2,SNR=7.5
EKA LR LR 03 58 26.8
comp=Z,82nm,21.7s,baz=65,slow=38
SNAA Sanae 93.89 198 LR LR 03 52 13.4
comp=Z,107nm,18.1s,baz=74,slow=33
ESDC Sonseca Array 94.73 310 P **P 03 14 05.4 +0.2**
comp=Z,0.3nm,0.6s,baz=263,slow=30,SNR=3.8
AFI Afiamalu 94.79 104 LR LR 03 59 20.2
comp=Z,80nm,18.5s,baz=270,slow=37
TOLK Toolik Lake Re 97.66 19 P Pdif 03 14 18.0 0.0
baz=296
DBIC Dimbokro 98.33 277 LR LR 03 57 40.8
comp=Z,87nm,19.2s,baz=68,slow=35
EGMT Eagleton 126.19 19 P **PKPdf 03 19 46.4 +0.2**
baz=330
HLID Hailey 128.14 26 P **PKPdf 03 19 51.1 +0.9**
baz=323
LAO LASA Array 128.50 17 P **PKPdf 03 19 51.3 +0.7**
baz=334
A33A Warroad 128.73 8 P **PKPdf 03 19 50.7 -0.1**
baz=348
NVAR Mina Array Bea 130.14 33 PKP **PKPdf 03 19 54.9 +0.7**
comp=Z,0.3nm,0.5s,baz=336,slow=3.3,SNR=4.4
PDAR Pinedale Array 130.79 23 PKP **PKPdf 03 19 55.5 +0.2**
comp=Z,0.1nm,0.4s,baz=345,slow=3.5,SNR=3.7
R11A Troy Canyon, C 131.64 31 P **PKPdf 03 19 57.3 +0.3**
baz=319
ECSD EROS Data Cent 133.61 10 P **PKPdf 03 20 00.3 0.0**
baz=346
MNTX Cornudas Mount 141.94 27 *e*PKPpre PKPpre 03 20 10.8
KMSC Kings Mountain 142.84 353 P **PKPdf 03 20 14.2 -3.3**
baz=8.2
X39A Fountain Ranch 143.01 11 P **PKPdf 03 20 14.3 -3.5**
baz=347
MIAR Mount Ida 143.08 10 P PKPbc 03 20 14.5 -0.2
baz=348
X47A Russelville 143.72 2 P PKPab 03 20 15.3 -0.5
baz=357
X48A Hartselle 143.81 1 P PKPab 03 20 16.0 -0.1
baz=359
Y41A Eaglette Beard 143.89 9 P PKPbc 03 20 17.3 +0.3
baz=349
Y46A Houston 144.30 4 P **PKPab 03 20 17.8 -0.1**
baz=356
Y47A UCPARC, Winfie 144.34 2 P **PKPab 03 20 17.5 -0.5**
baz=357
Y48A Jasper 144.35 1 P **PKPab 03 20 17.5 -0.6**
baz=358
Z40A Long Farm, Mag 144.36 10 P PKPbc 03 20 18.4 -0.1
baz=348,SNR=5.1
Y49A Blount Mountai 144.41 0 P **PKPab 03 20 18.2 -0.2**
baz=360
Z41A Richland Creek 144.47 9 P **PKPab 03 20 18.6 0.0**
baz=349
Z42A Norrel Spur, H 144.58 8 P **PKPab 03 20 18.8 -0.2**
baz=350,SNR=5.8
TXAR Lajitas Array 144.73 27 PKP **PKPab 03 20 19.8 0.0**
comp=Z,4.8nm,0.5s,baz=46,slow=1.5,SNR=86
GOGA Godfrey 144.76 356 P **PKPab 03 20 19.6 -0.1**
baz=4.8
Z44A Pea Ridge, Bel 144.77 6 P PKPbc 03 20 20.3 +0.5
baz=353
Z48A Northport 144.87 2 P **PKPab 03 20 18.9 -1.2**
baz=358,SNR=6.1
140A Cam and Jess, 144.93 11 P PKPbc 03 20 20.5 +0.2
baz=347
Z46A Louisville 144.98 4 P PKPbc 03 20 20.7 +0.2
baz=355
Z50A Ashland 145.01 360 P **PKPab 03 20 20.1 -0.5**
baz=0.6
Z47A Carrollton 145.03 3 P **PKPab 03 20 20.0 -0.6**
baz=357,SNR=9.5
Z49A Columbiana 145.07 0 P **PKPbc 03 20 20.2 -0.6**
baz=360,SNR=10.0
141A Papa Simpson, 145.09 10 P **PKPdf 03 20 21.2 -0.2**
baz=348
143A Socs Landing, 145.22 8 P **PKPab 03 20 21.3 0.0**
baz=351
LRAL Lakeview Retre 145.22 1 P **PKPbc 03 20 20.3 -1.0**
baz=359,SNR=7.3
LRAL Lakeview Retre 145.22 1 *e*PKPbc **PKPbc 03 20 19.8 -1.5**
JCT Junction City 145.28 21 P **PKPbc 03 20 20.9 -0.7**
baz=336
JCT Junction City 145.28 21 *e*PKPbc **PKPbc 03 20 20.6 -1.0**
JCT Junction City 145.28 21 *e*PKIKP **PKPbc 03 20 20.6 -1.0**
144A Alexander Plac 145.41 6 P **PKPab 03 20 22.1 0.0**
baz=353
155A Kite 145.46 354 P **PKPbc 03 20 21.9 -0.2**
baz=6.7,SNR=6.1
145A Houston Renfro 145.49 5 P **PKPdf 03 20 22.2 +0.1**
baz=354
154A Montrose 145.53 355 P **PKPdf 03 20 22.1 -0.1**
baz=5.6,SNR=5.7
146A Union 145.53 4 P **PKPbc 03 20 22.3 0.0**
baz=355,SNR=23
147A Livingston 145.54 3 P **PKPdf 03 20 22.0 -0.2**
baz=356,SNR=5.1
153A Fort Valley 145.54 356 P **PKPdf 03 20 22.2 0.0**
baz=4.3
NATX Nacogdoches 145.56 13 P **PKPbc 03 20 22.5 +0.1**
baz=345
NATX Nacogdoches 145.56 13 *e*PKPbc **PKPab 03 20 22.9 +0.3**
148A Greensboro 145.60 2 P **PKPdf 03 20 21.8 -0.5**
baz=358,SNR=7.5
241A Mo Tay, Goldon 145.65 10 P **PKPab 03 20 22.8 -0.1**
baz=348

150A	**Eclectic**	**145.66**	**360**	P		**PKPdf**	03 20 22.1	-0.3
	baz=0.4,SNR=9.7							
149A	**Jones**	**145.66**	**1**	P		**PKPdf**	03 20 22.2	-0.2
	baz=359,SNR=8.0							
151A	**Opelika**	**145.73**	**359**	P		**PKPdf**	03 20 22.4	-0.1
	baz=1.7,SNR=11							
242A	**Grayson**	**145.74**	**9**	P		**PKPbc**	03 20 22.9	-0.1
	baz=350							
244A	**Avery, Jackson**	**145.96**	**7**	P		**PKPab**	03 20 24.0	-0.1
	baz=352,SNR=6.2							
245A	**Little AP, Sta**	**146.06**	**6**	P		**PKPbc**	03 20 23.8	-0.1
	baz=354							
247A	**Quitman**	**146.14**	**4**	P		**PKPbc**	03 20 24.4	+0.2
	baz=356							
248A	**Dixon Mills**	**146.14**	**2**	P		**PKPab**	03 20 24.5	-0.3
	baz=357,SNR=7.5							
253A	**Americus**	**146.14**	**357**	P		**PKPbc**	03 20 24.4	+0.2
	baz=3.8							
251A	**Midway**	**146.16**	**359**	P		**PKPbc**	03 20 24.1	-0.1
	baz=1.5,SNR=14							
254A	**Abbeville**	**146.20**	**355**	P		**PKPbc**	03 20 24.3	-0.1
	baz=5.3,SNR=9.3							
252A	**Lumpkin**	**146.24**	**358**	P		**PKPbc**	03 20 24.2	-0.2
	baz=2.8,SNR=11							
249A	**Camden**	**146.28**	**1**	P		**PKPbc**	03 20 24.5	0.0
	baz=358,SNR=11							
341A	**Kurthwood**	**146.28**	**11**	P		**PKPbc**	03 20 24.6	0.0
	baz=348							
250A	**Grady**	**146.29**	**0**	P		**PKPbc**	03 20 24.3	-0.3
	SNR=7.0							
342A	**Flagon Creek P**	**146.39**	**9**	P		**PKPbc**	03 20 24.9	0.0
	baz=349							
344A	**Westbrook Farm**	**146.54**	**7**	P		**PKPab**	03 20 25.9	-0.4
	baz=352							
TIGA	**Tifton**	**146.73**	**356**	P		**PKPbc**	03 20 26.3	+0.3
	baz=4.9							
TIGA	**Tifton**	**146.73**	**356**	*e*PKPbc		**PKPbc**	03 20 26.0	+0.1
346A	**Big Creek Wild**	**146.73**	**5**	P		**PKPbc**	03 20 26.1	+0.1
	baz=354							
345A	**Thompson Farm,**	**146.76**	**6**	P		**PKPbc**	03 20 26.0	0.0
	baz=353							
352A	**Blakely**	**146.76**	**358**	P		**PKPbc**	03 20 26.0	0.0
	baz=2.4,SNR=5.4							
347A	**Saraland**	**146.79**	**4**	P		**PKPbc**	03 20 26.2	+0.1
	baz=356							
353A	**Camilla**	**146.86**	**357**	P		**PKPbc**	03 20 26.1	-0.2
	baz=3.7							
349A	**Repton**	**146.90**	**1**	P		**PKPbc**	03 20 26.9	+0.5
	baz=358,SNR=5.5							
351A	**Pinckard**	**146.98**	**359**	P		**PKPbc**	03 20 26.5	-0.1
	baz=1.2							
BRAL	**Brewton**	**147.08**	**1**	P		**PKPbc**	03 20 27.3	+0.4
	baz=359							
BRAL	**Brewton**	**147.08**	**1**	*e*PKPbc		**PKPbc**	03 20 27.4	+0.4
453A	**Whigham**	**147.35**	**357**	P		**PKPbc**	03 20 27.9	+0.2
	baz=3.6							
455A	**Stateville**	**147.37**	**355**	P		**PKPbc**	03 20 27.8	+0.1
	baz=6.0							
833A	**Chaparral WMA,**	**147.38**	**22**	P		**PKPbc**	03 20 27.4	-0.5
	baz=335							
555A	**McAlpin**	**147.98**	**355**	P		**PKPbc**	03 20 28.9	-0.5
	baz=6.2							
556A	**Lake Butler**	**148.04**	**354**	P		**PKPbc**	03 20 29.4	-0.3
	baz=7.3							
SAML	**Samuel**	**156.02**	**252**	*e*PKPab		**PKPab**	03 21 05.9	-0.2
SAML	**Samuel**	**156.02**	**252**	*e*PKP2		**PKPab**	03 21 05.9	-0.2

NNC 29 03:02:05.6±3.0, 37°01'N×69°49'E, h0km, mb3.8, mpv3.4, 7C-7D, Error ellipse: s-maj=28.1km s-min=21.0km az=95.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**4.35**	**45**	⇓Pn	Pn	03 03 13.6	+0.4
	2.7nm,0.4s						
SFK				⇑Pg	Pb	03 03 24.8	+1.7
	6.5nm,0.5s						
SFK				⇓Lg	Lg	03 04 25.5	
	13nm,0.6s						
MNAS	**Manas**	**5.95**	**22**	⇑Pn	Pn	03 03 35.0	0.0
	0.8nm,0.3s						
MNAS				⇑Sn	Sn	03 04 44.0	+0.1
	4.0nm,0.6s						
MNAS				⇑Lg	Lg	03 05 11.3	
	11nm,1.2s						
KK31	**Karatay Array**	**6.14**	**7**	⇓Pn	Pn	03 03 38.1	+0.6
	0.8nm,0.3s,baz=202,slow=15,SNR=28						
KK31				⇑Sn	Sn	03 04 50.3	+1.9
	1.9nm,0.6s,baz=201,slow=27,SNR=5.1						
KK31				⇑Lg	Lg	03 05 25.1	
	3.3nm,0.6s,baz=186,slow=29,SNR=4.8						
AAK	**Ala-Archa**	**6.81**	**33**	⇓Pn	Pn	03 03 46.4	-0.6
	4.4nm,1.0s						
AAK				⇓Sn	Sn	03 05 07.3	+2.0
	1.9nm,0.8s						
AAK				⇓Lg	Lg	03 05 39.8	
	6.1nm,1.2s						
TKM2	**Tokmak 2**	**7.54**	**37**	⇓Pn	Pn	03 03 56.4	-0.6
	1.8nm,0.8s						
TKM2				⇑Lg	Lg	03 06 02.5	
	1.5nm,0.8s						

*KRSC **29** 03:09:01.9±0.8, 52°.91N×159°.60E, h96km±6km, ML4.0*
*ISCJB **29** 03:09:02.7±0.4, 52°.92N±0°.03×159°.56E±0°.07, h101km±3km, mb3.6/11, Error ellipse: s-maj=8.8km s-min=3.3km az=35.5*
*MOS **29** 03:09:02.3±0.6, 52°.85N×159°.67E, h94km, mb4.0/4, Error ellipse: s-maj=12.0km s-min=4.6km az=80.0*
*IDC **29** 03:09:03.6±1.5, 53°.10N×159°.33E, h99km±11km, mb3.4/11, mb1 3.6/11,mb1mx3.2/76,mbtmp3.8/11, Error ellipse: s-maj=27.4km s-min=13.9km az=122.0*

ISC 29 03:09:03.0±0.7, 52°92N±0°.04×159°60E±0°.04, h95km±5km, n101, σ1§04/142, mb3.4/11, 2C-1D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NLC	**Nalytchevo**	**0.29**	**329**	*e*P	**Pn**	03 09 17.4	+0.4
NLC				*e*S	**Sn**	03 09 27.8	+0.4
NLC	**Nalytchevo**	**0.29**	**329**	PN	**Pn**	03 09 17.4	+0.4
NLC				S	**Sn**	03 09 27.8	+0.4
SPN	**Mys Shipunski**	**0.31**	**56**	*e*P	**Pn**	03 09 17.5	+0.4
SPN				*e*S	**Sn**	03 09 27.7	+0.1
SPN	**Mys Shipunski**	**0.31**	**56**	PN	**Pn**	03 09 17.5	+0.4
SPN				S	**Sn**	03 09 27.7	+0.1
DALK	**Dalny**	**0.52**	**282**	*e*P	**Pn**	03 09 18.5	+0.1
DALK				*e*S	**Sn**	03 09 29.5	-0.5
DALK	**Dalny**	**0.52**	**282**	PN	**Pn**	03 09 18.5	+0.1
DALK				S	**Sn**	03 09 29.5	-0.5
UGLR	**Uglovaya**	**0.55**	**302**	*i* P	**Pn**	03 09 19.5	+0.7
UGLR				*e*S	**Sn**	03 09 31.7	+1.1
UGLR	**Uglovaya**	**0.55**	**302**	PN	**Pn**	03 09 19.5	+0.7
UGLR				S	**Sn**	03 09 31.7	+1.1
SDLR	**Sedlovina**	**0.56**	**310**	*i* P	**Pn**	03 09 19.3	+0.4
SDLR				*e*S	**Sn**	03 09 31.2	+0.4
SDLR	**Sedlovina**	**0.56**	**310**	PN	**Pn**	03 09 19.3	+0.4
SDLR				S	**Sn**	03 09 31.2	+0.4
PET	**Petropavlovsk**	**0.58**	**280**	*e*P	**Pn**	03 09 19.1	+0.2
PET				*e*S	**Sn**	03 09 30.4	-0.4
PET	**Petropavlovsk**	**0.58**	**280**	⇑*i*PN	**Pn**	03 09 19.1	+0.2
PET				*i* S	**Sn**	03 09 30.4	-0.4
PET				pmax	pmax		
	comp=Z,148nm,0.5s						
PET				smax	smax		
	comp=E,1μm,0.3s						
SMAR	**Somma**	**0.59**	**306**	*e*P	**Pn**	03 09 19.7	+0.4
SMAR				*e*S	**Sn**	03 09 32.3	+0.9
SMAR	**Somma**	**0.59**	**306**	PN	**Pn**	03 09 19.7	+0.4
SMAR				S	**Sn**	03 09 32.3	+0.9
AVH	**Avacha**	**0.62**	**304**	*e*P	**Pn**	03 09 20.1	+0.7
AVH				*e*S	**Sn**	03 09 33.0	+1.4
AVH	**Avacha**	**0.62**	**304**	PN	**Pn**	03 09 20.1	+0.7
AVH				S	**Sn**	03 09 33.0	+1.4
KRER	**Koryakskii**	**0.64**	**307**	*i* P	**Pn**	03 09 20.3	+0.6
KRER				*e*S	**Sn**	03 09 32.6	+0.5
KRER	**Koryakskii**	**0.64**	**307**	PN	**Pn**	03 09 20.3	+0.6
KRER				S	**Sn**	03 09 32.6	+0.5
KOK	**Koryaka**	**0.69**	**303**	*e*P	**Pn**	03 09 20.9	+0.9
KOK				*e*S	**Sn**	03 09 32.6	-0.1
KOK	**Koryaka**	**0.69**	**303**	PN	**Pn**	03 09 20.9	+0.9
KOK				S	**Sn**	03 09 32.6	-0.1
KRX	**Arik**	**0.72**	**308**	*e*P	**Pn**	03 09 20.6	+0.3
KRX				*e*S	**Sn**	03 09 33.2	-0.1
KRX	**Arik**	**0.72**	**308**	PN	**Pn**	03 09 20.6	+0.3
KRX				S	**Sn**	03 09 33.2	-0.1
RUS	**Russkaya**	**0.82**	**234**	*e*P	**Pn**	03 09 21.3	+0.1
RUS				*e*S	**Sn**	03 09 34.4	-0.4
RUS	**Russkaya**	**0.82**	**234**	PN	**Pn**	03 09 21.3	+0.1
RUS				S	**Sn**	03 09 34.4	-0.4
KRMR	**Karymshinskiy**	**0.89**	**265**	*e*P	**Pn**	03 09 21.7	-0.2
KRMR				*e*S	**Sn**	03 09 36.1	0.0
KRMR	**Karymshinskiy**	**0.89**	**265**	PN	**Pn**	03 09 21.7	-0.2
KRMR				S	**Sn**	03 09 36.1	0.0
MTVR	**Mutnovka**	**0.97**	**243**	*e*P	**Pn**	03 09 23.5	+0.6
MTVR				*e*S	**Sn**	03 09 38.3	+0.5
MTVR	**Mutnovka**	**0.97**	**243**	PN	**Pn**	03 09 23.5	+0.6
MTVR				S	**Sn**	03 09 38.3	+0.5
PETK	**Petropavlovsk-**	**1.16**	**280**	P	**Pn**	03 09 24.8	-0.2
	comp=E,39nm,0.3s,baz=99,slow=14,SNR=928						
PETK				S	**Sn**	03 09 39.2	-2.3
	comp=E,38nm,0.3s,baz=93,slow=19,SNR=20						
GNL	**Ganaly**	**1.26**	**309**	*e*P	**Pn**	03 09 25.9	-0.3
GNL				*e*S	**Sn**	03 09 42.8	-0.9
GNL	**Ganaly**	**1.26**	**309**	PN	**Pn**	03 09 25.9	-0.3
GNL				S	**Sn**	03 09 42.8	-0.9
KDTR	**Khodutka, Kamc**	**1.45**	**220**	*e*P	**Pn**	03 09 28.7	+0.3
KDTR				*e*S	**Sn**	03 09 47.1	-0.5
APC	**Apacha**	**1.48**	**271**	*e*P	**Pn**	03 09 29.0	+0.3
APC				*e*S	**Sn**	03 09 48.3	+0.2
APC	**Apacha**	**1.48**	**271**	PN	**Pn**	03 09 29.0	+0.3
APC				S	**Sn**	03 09 48.3	+0.2
MIPR	**Malaya Ipel'ka**	**1.85**	**251**	*i* P	**Pn**	03 09 34.6	+1.2
MIPR				*e*S	**Sn**	03 09 57.8	+1.2
MIPR	**Malaya Ipel'ka**	**1.85**	**251**	PN	**Pn**	03 09 34.6	+1.2
MIPR				S	**Sn**	03 09 57.8	+1.2
MKZ	**Mys Kozlova**	**2.07**	**37**	*e*P	**Pn**	03 09 36.7	+0.5
MKZ	**Mys Kozlova**	**2.07**	**37**	PN	**Pn**	03 09 36.7	+0.5
KZV	**Kizimen**	**2.23**	**10**	*e*P	**Pn**	03 09 39.4	+0.8
KZV				*e*S	**Sn**	03 10 06.4	+0.7
KZV	**Kizimen**	**2.23**	**10**	PN	**Pn**	03 09 39.4	+0.8
KZV				S	**Sn**	03 10 06.4	+0.7
PAU	**Pauzhetka**	**2.25**	**231**	*e*P	**Pn**	03 09 40.0	+1.3
PAU				*e*S	**Sn**	03 10 07.4	+1.5
PAU	**Pauzhetka**	**2.25**	**231**	PN	**Pn**	03 09 40.0	+1.3
PAU				S	**Sn**	03 10 07.4	+1.5
TUMD	**Tumrok D**	**2.33**	**11**	*e*P	**Pn**	03 09 40.4	+0.6
TUMD				*e*S	**Sn**	03 10 08.2	+0.3
TUMR	**Tumrok**	**2.39**	**8**	*e*P	**Pn**	03 09 41.9	+1.3
TUMR				*e*S	**Sn**	03 10 11.0	+1.7
TUMR	**Tumrok**	**2.39**	**8**	PN	**Pn**	03 09 41.9	+1.3
TUMR				S	**Sn**	03 10 11.0	+1.7
KMNR	**Kamenistaya**	**2.86**	**7**	*i* P	**Pn**	03 09 48.5	+1.6
KMNR	**Kamenistaya**	**2.86**	**7**	PN	**Pn**	03 09 48.5	+1.6
BZMR	**Bezymyannaya**	**3.06**	**9**	*e*P	**Pn**	03 09 51.2	+1.6
BZMR	**Bezymyannaya**	**3.06**	**9**	PN	**Pn**	03 09 51.2	+1.6
KIRR	**Kirishev**	**3.07**	**8**	*e*P	**Pn**	03 09 50.8	+1.2
KIRR	**Kirishev**	**3.07**	**8**	PN	**Pn**	03 09 50.8	+1.2
KPT	**Kopyto**	**3.07**	**7**	*e*P	**Pn**	03 09 50.8	+1.2
KPT	**Kopyto**	**3.07**	**7**	PN	**Pn**	03 09 50.8	+1.2
BZGR	**Bezymyannyi-Gr**	**3.09**	**12**	*e*P	**Pn**	03 09 51.5	+1.6
BZGR	**Bezymyannyi-Gr**	**3.09**	**12**	PN	**Pn**	03 09 51.5	+1.6
BZWR	**Bezymyannyi-We**	**3.09**	**9**	*e*P	**Pn**	03 09 51.7	+1.7
BZWR	**Bezymyannyi-We**	**3.09**	**9**	PN	**Pn**	03 09 51.7	+1.7
SKR	**Severo-Kuril's**	**3.12**	**225**	*e*S	**Sn**	03 10 26.5	0.0
SKR	**Severo-Kuril's**	**3.12**	**225**	⇓*e*PN	**Pn**	03 09 51.9	+1.8
KOZ	**Kozyrevsk**	**3.15**	**3**	*e*P	**Pn**	03 09 51.9	+1.3
KOZ	**Kozyrevsk**	**3.15**	**3**	PN	**Pn**	03 09 51.9	+1.3
ZLN	**Zelenaya**	**3.18**	**12**	*e*P	**Pn**	03 09 52.8	+1.7
ZLN	**Zelenaya**	**3.18**	**12**	PN	**Pn**	03 09 52.8	+1.7
LGNR	**Loginova**	**3.23**	**11**	*e*P	**Pn**	03 09 53.7	+1.7
LGNR	**Loginova**	**3.23**	**11**	PN	**Pn**	03 09 53.7	+1.7
CIRR	**Tsirk**	**3.27**	**11**	*e*P	**Pn**	03 09 54.3	+2.0
CIRR	**Tsirk**	**3.27**	**11**	PN	**Pn**	03 09 54.3	+2.0
KRSR	**Krestovskiy**	**3.35**	**9**	*e*P	**Pn**	03 09 54.4	+1.0
KRSR	**Krestovskiy**	**3.35**	**9**	PN	**Pn**	03 09 54.4	+1.0
BDR	**Baidarnaya**	**3.77**	**14**	*e*P	**Pn**	03 10 01.2	+2.2
BDR	**Baidarnaya**	**3.77**	**14**	PN	**Pn**	03 10 01.2	+2.2
KBTR	**Krutoberegovo**	**3.79**	**28**	*i* P	**Pn**	03 10 00.0	+0.8
KBTR				*e*S	**Sn**	03 10 40.7	-2.0
KBTR	**Krutoberegovo**	**3.79**	**28**	PN	**Pn**	03 10 00.0	+0.8
KBTR				S	**Sn**	03 10 40.7	-2.0
SMKR	**Semkarok**	**3.82**	**16**	*e*P	**Pn**	03 10 00.8	+1.1
SMKR	**Semkarok**	**3.82**	**16**	PN	**Pn**	03 10 00.8	+1.1
SRKR	**Sorokina**	**3.85**	**13**	*e*P	**Pn**	03 10 01.6	+1.5
SRKR	**Sorokina**	**3.85**	**13**	PN	**Pn**	03 10 01.6	+1.5
BKI	**Bering**	**4.40**	**56**	*e*P	**Pn**	03 10 07.7	+0.3
BKI	**Bering**	**4.40**	**56**	PN	**Pn**	03 10 07.7	+0.3
KUR	**Kuril'sk**	**10.87**	**230**	⇑*e*PN	**Pn**	03 11 35.2	-0.3
MJA0	**Matsu Arr-Jizo**	**22.19**	**231**	*e*P	**P**	03 13 51.9	+0.6
MJA0				pmax	pmax		
	comp=Z,6.0nm,0.7s						
MAT	**Matsushiro**	**22.21**	**231**	P	**P**	03 13 51.7	+0.2
MJAR	**Matsushiro Arr**	**22.21**	**231**	P	**P**	03 13 52.0	+0.5
	comp=Z,6.0nm,0.7s,baz=15,slow=10,SNR=21						
MJAR	**Matsushiro Arr**	**22.21**	**231**	P	**P**	03 13 52.0	+0.5
MJAR				pmax	pmax		
	comp=Z,6.0nm,0.7s						
KSRS	**Korea Array**	**26.87**	**248**	P	**P**	03 14 35.6	+1.0
	comp=Z,0.2nm,0.3s,baz=55,slow=11,SNR=4.1						
ILAR	**Eielson Array**	**29.15**	**45**	P	**P**	03 14 54.8	+0.1
	comp=Z,0.5nm,0.8s,baz=267,slow=7.0,SNR=8.1						
ILAR	**Eielson Array**	**29.15**	**45**	*e*P	**P**	03 14 55.6	+1.0
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
H11N2	**WAKE ISLAND Hy**	**33.61**	**168**	T	T	03 51 35.7	
	baz=352,slow=76,SNR=28						
H11N3	**WAKE ISLAND Hy**	**33.62**	**167**	T	T	03 51 33.0	
	baz=352,slow=76,SNR=20						
H11N1	**WAKE ISLAND Hy**	**33.63**	**168**	T	T	03 51 32.8	
	baz=352,slow=76,SNR=13						
INK	**Inuvik**	**34.19**	**37**	P	**P**	03 15 37.9	-0.8
	comp=Z,1.3nm,1.0s,baz=281,slow=3.8,SNR=3.6						
YKA	**Yellowknife Ar**	**43.49**	**42**	P	**P**	03 16 57.0	+0.7
	comp=Z,0.3nm,0.7s,baz=348,slow=4.4,SNR=3.6						
YKA	**Yellowknife Ar**	**43.49**	**42**	P	**P**	03 16 57.0	+0.7
SPITS	**Spitsbergen Ar**	**47.25**	**350**	P	**P**	03 17 24.2	-1.7
	comp=Z,5.6nm,0.9s,baz=24,slow=10,SNR=13						
SPITS	**Spitsbergen Ar**	**47.25**	**350**	P	**P**	03 17 24.2	-1.7
SPITS				pmax	pmax		
	comp=Z,23nm,1.2s						
ARCES	**ARCESS Array B**	**53.35**	**342**	*e*P	P	03 18 19.3	+7.4
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
FINES	**FINESS Array B**	**60.16**	**336**	P	**P**	03 18 58.5	-1.5
	comp=Z,2.3nm,1.0s,baz=343,slow=6.0,SNR=3.7						
NOA	**NORSAR Array B**	**63.62**	**343**	P	**P**	03 19 22.3	-1.1
	comp=Z,0.2nm,0.4s,baz=13,slow=5.2,SNR=3.0						
HFS	**Hagfors**	**64.02**	**342**	P	**P**	03 19 24.2	-1.7
	comp=Z,1.6nm,0.9s,baz=26,slow=6.9,SNR=5.2						
WRA	**Warramunga Arr**	**75.80**	**204**	P	**P**	03 20 38.2	-0.2
	comp=Z,0.2nm,0.4s,baz=23,slow=6.3,SNR=4.4						
ASAR	**Alice Springs**	**79.48**	**204**	P	**P**	03 20 59.5	+0.7
	comp=Z,0.3nm,0.6s,baz=21,slow=5.9,SNR=3.5						

*IDC **29** 03:10:18.6±1.3, 11°.54S×73°.19W, h0km, mb4.0/5, mb1 4.1/9, mb1mx3.8/44, mbtmp3.9/9, ML3.7/4, Error ellipse: s-maj=49.7km s-min=16.4km az=37.0*
*ISCJB **29** 03:10:21.4±0.6, 11°.55S±0°.09×73°.23W±0°.05, h33km, mb4.0/9, Error ellipse: s-maj=12.8km s-min=7.0km az=6.6*
*NEIC **29** 03:10:23.4±0.8, 11°.62S×73°.28W, h37km±8km, mb4.0/4, Error ellipse: s-maj=13.8km s-min=7.7km az=204.0*

ISC 29 03:10:23.0±0.7, 11°69S±0°.10×73°18W±0°.06, h35km, n20, σ1§57/23, mb3.9/9, Central Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**3.59**	**265**	*e*Pn	**Pn**	03 11 15.1	-1.2
NNA				*e*Sn	**Sn**	03 11 57.9	+0.3
LPAZ	**La Paz**	**6.70**	**134**	Pn	**Pn**	03 12 02.5	+2.9
	0.3nm,0.3s,baz=248,slow=4.7,SNR=7.6						
LPAZ				Lg	Lg	03 13 54.3	
	2.4nm,0.3s,baz=188,slow=18,SNR=6.1						
ATAH	**Atahualpa**	**6.85**	**311**	Pn	**Pn**	03 12 00.2	-1.1
	2.7nm,0.3s,baz=156,slow=4.7,SNR=15						
ATAH				Sn	**Sn**	03 13 22.1	+3.7
	1.1nm,0.3s,baz=17,slow=20,SNR=2.3						
SAML	**Samuel**	**10.21**	**75**	*e*Pn	**Pn**	03 12 50.4	+3.3
	10nm,0.6s						
SAML				*e*Sn	**Sn**	03 14 38.3	-2.1
SIV	**San Ignacio**	**12.51**	**111**	Pn	**Pn**	03 13 19.5	+0.8
	0.3nm,0.3s,baz=310,slow=8.9,SNR=6.0						
SIV				Lg	Lg	03 16 58.4	
	1.2nm,0.3s,baz=234,slow=14,SNR=5.0						
OTAV	**Otavalo**	**12.95**	**336**	*e*Pn	**Pn**	03 13 23.7	-1.4
PTGA	**Pitinga**	**17.05**	**51**	Pn	**Pn**	03 14 17.6	-1.2
	0.8nm,0.3s,baz=228,slow=17,SNR=7.4						
TXAR	**Lajitas Array**	**50.29**	**325**	P	**P**	03 19 16.7	+0.4
	0.5nm,0.5s,baz=152,slow=8.4,SNR=9.9						
MNTX	**Cornudas Mount**	**53.04**	**325**	*e*P	**P**	03 19 36.1	-0.7
	0.4nm,0.4s						
ANMO	**Albuquerque**	**56.09**	**327**	*e*P	**P**	03 19 58.9	-0.2
	0.7nm,0.7s						
SDCO	**Great Sand Dun**	**57.76**	**330**	*e*P	**P**	03 20 11.1	+0.1
	3.0nm,1.2s						
DUG	**Dugway, Tooele**	**63.36**	**327**	*e*P	**P**	03 20 48.1	-0.9
	1.1nm,0.6s						
ULM	**Lac du Bonnet**	**64.80**	**344**	P	**P**	03 20 57.6	-0.4
	1.7nm,0.5s,baz=171,slow=4.6,SNR=5.5						
TORD	**Torodi Ar. Bea**	**78.26**	**74**	P	**P**	03 22 20.8	+0.9
	0.7nm,0.5s,baz=244,slow=4.1,SNR=24						
YKA	**Yellowknife Ar**	**80.63**	**342**	P	**P**	03 22 32.4	+0.7
	0.8nm,0.9s,baz=138,slow=5.6,SNR=12						
INK	**Inuvik**	**90.38**	**341**	P	**P**	03 23 20.4	+0.2
	1.2nm,0.9s,baz=138,slow=4.6,SNR=4.3						
WRA	**Warramunga Arr**	**138.50**	**221**	PKP	**PKPdf**	03 29 45.4	-0.5
	0.7nm,0.9s,baz=129,slow=2.4,SNR=4.2						
SONM	**Songino Array**	**143.97**	**0**	PKP	**PKPdf**	03 29 53.8	-1.3
	0.3nm,0.5s,baz=9.5,slow=4.4,SNR=2.7						
KSRS	**Korea Array**	**148.12**	**327**	PKPbc	**PKPbc**	03 30 05.3	-0.1
	0.9nm,0.7s,baz=13,slow=2.4,SNR=6.9						
KSAR	**Wonju Array Be**	**148.15**	**327**	PKPbc	**PKPbc**	03 30 05.3	-0.2

*SJA **29** 03:10:20.8±0.6, 35°.03S×70°.80W, h9km±14km, ML3.3, MW3.4*
*GUC **29** 03:10:27.3±0.7, 34°.63S×70°.29W, h20km±5km, ML3.6*

ISC 29 03:10:27.2±1.4, 34°62S±0°.04×70°46W±0°.05, h5km±13km, n18, σ1§74/27, 8C, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LMEL	**Las Melosas**	**0.80**	**15**	⇑*i*P	**Pg**	03 11 41.9	-0.7
LMEL				*i* S	**Sg**	03 10 52.9	0.0
LMEL				IAML		03 10 54.8	
	comp=N,4μm,0.2s						
ANTU	**Antumapu**	**1.06**	**352**	⇑*i*P	**Pb**	03 10 47.3	-0.7
ANTU				*i* S	**Sg**	03 11 02.0	+0.8
GO05	**HualaæØ**	**1.27**	**252**	⇑*i*P	**Pn**	03 10 51.7	0.0
GO05				*i* S	**Sg**	03 11 10.1	+1.9
GO05				IAML		03 11 11.1	
	comp=N,3μm,0.3s						
FCH	**Farellones**	**1.29**	**6**	⇑*i*P	**Pn**	03 10 51.1	-1.1
FCH				*i* S	**Sn**	03 11 08.6	-1.4
FCH				IAML		03 11 12.0	
	comp=E,2μm,0.2s						
PEL	**Peldehue**	**1.48**	**353**	⇑*i*P	**Pn**	03 10 53.8	-0.8
PEL				*i* S	**Sb**	03 11 13.7	-0.7
PEL				IAML		03 11 16.2	
	comp=E,1μm,0.3s						
RFA	**San Rafael**	**1.65**	**96**	*e*P	**Pn**	03 10 56.0	-0.8
ROC1	**El Roble**	**1.70**	**344**	*e*P	**Pn**	03 10 58.0	+0.2
ROCH	**El Roble**	**1.71**	**344**	⇑*i*P	**Pn**	03 10 58.0	+0.3
ROCH				*i* S	**Sb**	03 11 21.0	0.0
ROCH				IAML		03 11 25.4	
	comp=E,1μm,0.5s						
ARCO	**CERRO ARCO**	**2.18**	**36**	*e*P	**Pb**	03 11 06.3	-0.9
ARCO				IAML		03 11 16.3	
	comp=Z,94nm,0.4s						
CCHI	**Chillan**	**2.38**	**213**	⇑*i*P	**Pb**	03 11 09.7	-0.9
CCHI				*i* S	**Sb**	03 11 40.2	0.0
ASAL	**Salagasta**	**2.43**	**34**	*e*P	**Pb**	03 11 10.5	-1.0
ASAL				*e*S	**Sg**	03 11 47.1	+1.7
COCH	**Cobquecura**	**2.43**	**231**	⇑*i*P	**Pn**	03 11 08.8	+1.3
COCH				*i* S	**Sb**	03 11 41.0	-0.7
COCH

SONM				Lg	Lg	03 18 03.8	
	comp=E,1.9nm,0.3s,baz=301,slow=25,SNR=14						
ULN	**Ulaanbaatar**	**8.05**	**114**	*e*Pn	**Pn**	**03 15 58.4**	**-0.3**
ULN				*e*Lg	Lg	03 18 12.7	
ULN	**Ulaanbaatar**	**8.05**	**114**	*e*P	**Pn**	**03 15 58.4**	**-0.3**
NVS	**Novosibirsk**	**8.34**	**297**	*e*Sg	Sb	03 18 13.4	+8.3
MKAR	**Makanchi Array**	**10.27**	**247**	Pn	**Pn**	**03 16 28.4**	**-0.6**
	comp=E,0.1nm,0.3s,baz=50,slow=14,SNR=4.0						
MKAR				Lg	Lg	03 19 24.6	
	comp=E,0.6nm,0.3s,baz=58,slow=32,SNR=3.9						
KURK	**Kurchatov**	**11.01**	**272**	Pn	**Pn**	**03 16 39.4**	**+0.3**
KURK				Lg	Lg	03 19 44.4	
KURK	**Kurchatov**	**11.01**	**272**	P	**Pn**	**03 16 39.4**	**+0.3**
KURBB	**Kurchatov Arra**	**11.09**	**271**	Pn	**Pn**	**03 16 39.4**	**-0.7**
	comp=E,0.0nm,0.3s,baz=77,slow=16,SNR=3.5						
KURBB				Lg	Lg	03 19 44.4	
	comp=E,0.1nm,0.3s,baz=78,slow=30,SNR=7.1						
HIA	**Hailar**	**15.23**	**90**	*i* P	**P**	**03 17 39.6**	**-2.0**
HIA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
BRVK	**Borovoye**	**15.80**	**285**	*e*P	**Pn**	**03 17 40.9**	**-3.1**
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ARU	**Arti**	**22.34**	**297**	*e*P	**P**	**03 18 58.7**	**-0.6**
	comp=Z,2.2nm,0.5s						
ARU	**Arti**	**22.34**	**297**	*c i* P	**P**	**03 18 58.8**	**-0.5**
ARU						03 19 18.1	
ARU				S	**S**	**03 23 06.2**	**+1.6**
ARU				SS	**SnSn**	**03 23 31.9**	**0.0**
ARU				pmax	pmax		
	comp=Z,4.0nm,0.8s						
KLR	**Kul'dur**	**22.69**	**82**	*i* P	**P**	**03 19 05.0**	**+1.9**
ABKAR	**Akbulak array**	**23.00**	**278**	*e*P	**P**	**03 19 06.5**	**+0.2**
	comp=Z,0.4nm,0.5s						
AKTO	**Aktyubinsk**	**23.79**	**282**	P	**P**	**03 19 13.0**	**-1.3**
	comp=Z,1.3nm,0.5s,baz=91,slow=10.0,SNR=5.8						
AKTO	**Aktyubinsk**	**23.79**	**282**	P	**P**	**03 19 13.0**	**-1.3**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.5s						
TIXI	**Tiksi**	**24.76**	**24**	P	**P**	**03 19 23.6**	**+0.7**
	comp=Z,2.0nm,0.3s,baz=253,slow=2.9,SNR=8.5						
TIXI	**Tiksi**	**24.76**	**24**	*e*P	**P**	**03 19 23.1**	**+0.2**
	comp=Z,3.3nm,0.6s						
TIXI	**Tiksi**	**24.76**	**24**	*i* P	**P**	**03 19 23.1**	**+0.2**
TIXI				pmax	pmax		
	comp=Z,4.0nm,0.8s						
GNI	**Garni**	**36.81**	**272**	*i* P	**P**	**03 21 09.9**	**+0.2**
GNI				pmax	pmax		
	comp=Z,5.0nm,0.9s						
FINES	**FINESS Array B**	**37.95**	**313**	P	**P**	**03 21 17.8**	**-1.2**
	comp=Z,0.9nm,0.7s,baz=74,slow=6.8,SNR=4.4						
HFS	**Hagfors**	**44.05**	**314**	P	**P**	**03 22 08.2**	**-0.9**
	comp=Z,1.0nm,0.7s,baz=66,slow=10,SNR=2.8						
NOA	**NORSAR Array B**	**44.71**	**316**	P	**P**	**03 22 13.1**	**-1.4**
	comp=Z,0.8nm,0.8s,baz=62,slow=7.8,SNR=3.2						
STHS	**Stebnicka Huta**	**45.66**	**298**	*e*P	**P**	**03 22 23.7**	**+1.5**
STHS				*es*P	**sP**	**03 22 27.9**	**+1.4**
STHS	**Stebnicka Huta**	**45.66**	**298**	*e*P	**P**	**03 22 23.7**	**+1.5**
STHS				*e*		03 22 27.9	
CLL	**Collm**	**48.99**	**304**	*e*P	**P**	**03 22 47.0**	**-1.0**
CLL	**Collm**	**48.99**	**304**	*e*P	**P**	**03 22 47.0**	**-1.0**
TORD	**Torodi Ar. Bea**	**82.51**	**282**	P	**P**	**03 26 23.3**	**-1.3**
	comp=Z,0.4nm,0.9s,baz=10,slow=4.8,SNR=4.1						

*ISCJB **29** 03:38:55.7±0.6, 72.°99N±0.°05×6.°3E±0.°2, h11km, mb3.3/11, Error ellipse: s-maj=10.2km s-min=6.4km az=165.8*
*IDC **29** 03:38:55.9±0.9, 72.°92N×5.°63E, h0km, mb3.3/10, mb1 3.5/15, mb1mx3.4/70, mbtmp3.4/15, ML3.1/5, MS3.1/1, Ms1 3.1/1, ms1mx2.4/52, Error ellipse: s-maj=22.1km s-min=13.5km az=56.0*
*NAO **29** 03:38:56.4±2.1, 72.°93N×6.°25E, ML2.9*
*BER **29** 03:38:59.5±3.9, 73.°01N×5.°99E, h15km±40km, ML2.4, ML2.9(NAO)*
ISC 29 03:38:57.2±0.6, 72.°91N±0.°06×6.°12E±0.°07, h11km, n38, σ2s25/47, mb3.5/11, Norwegian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BJO	**Bjornoya**	**4.01**	**60**	*e*P	**Pn**	**03 39 56.8**	**-1.7**
LOF	**Lofoten**	**5.40**	**149**	*e*Pn	**Pn**	**03 40 19.4**	**+1.9**
LOF				*e*S	**Sn**	**03 41 15.8**	**-3.9**
LOF				IAML		03 41 17.5	
	comp=Z,12nm,0.5s						
SPA0	**Spitsbergen Ar**	**5.87**	**21**	Pn	**Pn**	**03 40 23.0**	**-1.0**
	baz=224,slow=16						
SPA0	**Spitsbergen Ar**	**5.87**	**21**	Pn	**Pn**	**03 40 23.0**	**-1.0**
	baz=224,slow=16						
SPITS	**Spitsbergen Ar**	**5.87**	**21**	Pn	**Pn**	**03 40 23.0**	**-1.0**
	baz=212,slow=16,SNR=36						
SPITS				LR	LR	03 42 17.0	
	comp=Z,154nm,18.7s,baz=225,slow=34						
HAMF	**Hammerfest**	**5.95**	**104**	*e*P	**Pn**	**03 40 25.2**	**+0.2**
KBS	**Kingsbay**	**6.21**	**10**	Pn	**Pn**	**03 40 28.2**	**-0.3**
KBS	**Kingsbay**	**6.21**	**10**	Pn	**Pn**	**03 40 28.2**	**-0.3**
KONS	**Konsvik**	**6.88**	**156**	*e*P	**Pn**	**03 40 38.7**	**+0.9**
KONS				*e*S	**Sn**	**03 41 50.1**	**-5.8**
KONS				IAML		03 41 59.0	
	comp=Z,5.8nm,0.6s						
STOK	**Stokkvaagen**	**7.03**	**157**	*e*P	**Pn**	**03 40 42.6**	**+2.8**
STOK				*e*S	**Sn**	**03 41 54.3**	**-5.3**
STOK				IAML		03 42 01.8	
	comp=Z,6.7nm,0.7s						
ARA0	**ARCESS Array S**	**7.09**	**109**	Pn	**Pn**	**03 40 41.7**	**+1.0**
	baz=306,slow=11						
ARA0				Sn	**Sn**	**03 41 57.8**	**-3.4**
	baz=298,slow=22						
ARA0	**ARCESS Array S**	**7.09**	**109**	Pn	**Pn**	**03 40 41.7**	**+1.0**
	baz=306,slow=11						
ARA0				Sn	**Sn**	**03 41 57.8**	**-3.4**
	baz=298,slow=22						
ARCES	**ARCESS Array B**	**7.09**	**109**	Pn	**Pn**	**03 40 41.4**	**+0.7**
	comp=Z,0.4nm,0.3s,baz=319,slow=11,SNR=20						
ARCES				Sn	**Sn**	**03 41 59.5**	**-1.7**
	comp=Z,0.4nm,0.3s,baz=313,slow=20,SNR=3.5						
ARE0	**ARCESS Array S**	**7.09**	**109**	*e*P	**Pn**	**03 40 42.4**	**+1.7**
ARE0				*e*S	**Sn**	**03 41 56.5**	**-4.7**
ARE0				IAML		03 42 02.9	
	comp=Z,2.4nm,0.6s						
MOR8	**Moi Rana**	**7.36**	**153**	*e*P	**Pn**	**03 40 46.1**	**+1.6**
MOR8				*e*S	**Sn**	**03 42 03.0**	**-4.9**
MOR8				IAML		03 42 08.0	
	comp=Z,6.0nm,0.7s						
SCO	**Scoresbysund**	**9.10**	**268**	*i* P	**Pn**	**03 41 06.6**	**-1.6**
SCO				*i* S	**Pn**	**03 41 08.1**	**-0.1**
NB2	**NORSAR Subarra**	**12.08**	**168**	Pn	**Pn**	**03 41 51.4**	**+2.3**
	baz=342,slow=12						
NB2	**NORSAR Subarra**	**12.08**	**168**	Pn	**Pn**	**03 41 51.4**	**+2.3**
	baz=342,slow=12						
NOA	**NORSAR Array B**	**12.08**	**168**	Pn	**Pn**	**03 41 51.0**	**+1.9**
	comp=Z,0.2nm,0.3s,baz=340,slow=11,SNR=3.8						
NRA0	**NORESS Array S**	**12.41**	**168**	Pn	**Pn**	**03 41 54.1**	**+0.6**
	baz=12,slow=8.6						
NRA0	**NORESS Array S**	**12.41**	**168**	Pn	**Pn**	**03 41 54.1**	**+0.6**
	baz=12,slow=8.6						
HFS	**Hagfors**	**13.17**	**163**	Pn	**Pn**	**03 42 04.8**	**+1.1**
	baz=344,slow=16						
HFS	**Hagfors**	**13.17**	**163**	Pn	**Pn**	**03 42 04.8**	**+1.1**
	comp=Z,0.2nm,0.3s,baz=348,slow=12,SNR=9.2						
HFS	**Hagfors**	**13.17**	**163**	Pn	**Pn**	**03 42 04.8**	**+1.1**
	baz=344,slow=16						
FIA0	**FINESS Array S**	**13.76**	**136**	Pn	**Pn**	**03 42 11.1**	**-0.8**
	baz=344,slow=14						
FIA0	**FINESS Array S**	**13.76**	**136**	Pn	**Pn**	**03 42 11.1**	**-0.8**
	baz=344,slow=14						
FINES	**FINESS Array B**	**13.76**	**136**	Pn	**Pn**	**03 42 11.9**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=343,slow=12,SNR=7.0						
BRG	**Berggiesshubel**	**22.38**	**167**	*e*P	P	03 44 04.8	+10
	comp=Z,2.6nm,0.9s						
GERES	**GERESS Array B**	**24.39**	**168**	P	**P**	**03 44 17.3**	**+2.2**
	comp=Z,0.5nm,0.8s,baz=0.0,slow=9.1,SNR=1.8						
AKASG	**Malin Array Be**	**24.47**	**143**	P	**P**	**03 44 17.6**	**+1.9**
	comp=Z,0.6nm,0.5s,baz=355,slow=9.8,SNR=4.0						
BRTR	**Keskin Array B**	**35.87**	**143**	P	**P**	**03 45 58.4**	**+1.6**
	comp=Z,0.4nm,0.6s,baz=354,slow=5.5,SNR=3.0						
ZALV	**Zalesovo Beam**	**36.41**	**78**	P	**P**	**03 46 02.1**	**+1.0**
	comp=Z,0.4nm,0.5s,baz=325,slow=8.9,SNR=2.7						
KURBB	**Kurchatov Arra**	**37.50**	**86**	P	**P**	**03 46 12.7**	**+2.3**
	comp=Z,0.4nm,0.7s,baz=327,slow=7.9,SNR=4.7						
YKA	**Yellowknife Ar**	**39.11**	**321**	P	**P**	**03 46 23.1**	**-0.7**
	comp=Z,0.2nm,0.7s,baz=15,slow=8.7,SNR=3.1						
YKA				PcP	**PcP**	**03 48 33.0**	**0.0**
	comp=Z,0.1nm,0.7s,baz=27,slow=2.8,SNR=4.0						
ILAR	**Eielson Array**	**41.39**	**343**	P	**P**	**03 46 42.3**	**-0.4**
	comp=Z,0.2nm,0.7s,baz=12,slow=9.2,SNR=3.1						
MKAR	**Makanchi Array**	**42.04**	**85**	P	**P**	**03 46 50.6**	**+2.4**
	comp=Z,0.1nm,0.4s,baz=337,slow=7.0,SNR=2.8						
GEYT	**Alibeck**	**43.22**	**115**	P	**P**	**03 46 59.3**	**+1.3**
	comp=Z,0.7nm,0.4s,baz=311,slow=7.5,SNR=2.2						
PDAR	**Pinedale Array**	**56.50**	**307**	P	**P**	**03 48 37.8**	**-1.2**
	comp=Z,0.4nm,0.8s,baz=30,slow=5.6,SNR=3.2						

*IDC **29** 03:52:24.1±0.4, 1.°91N×92.°42E, h0km, mb4.5/41, mb1 4.6/45, mb1mx4.4/73, mbtmp4.5/45, ML4.8/4, MS4.2/44, Ms1 4.2/44, ms1mx4.0/65, Error ellipse: s-maj=12.3km s-min=10.4km az=37.0*
*ISCJB **29** 03:52:25.8±0.9, 1.°92N±0.°02×92.°43E±0.°02, h22km±6km, mb4.9/135, MS4.3/64, Error ellipse: s-maj=4.6km s-min=3.5km az=135.6*
*GCMT **29** 03:52:25.6±0.2, 1.°93N×92.°49E, h39km±1km, MW5.1/107, Moment Tensor Solution. s43,c53; s107,c145; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr-0.61±.22; Mθθ-3.01±.16; Mϕϕ3.62±.16; Mrθ3.14±.20; Mrϕ-2.96±.13; Mθϕ-1.81±.20; Best double couple: Mo5.73500×10^16^ NP1:ϕ297.00000°, δ87.00000°, λ-140.00000°. NP2: ϕ204.00000°, δ50.00000°, λ-4.00000°. Principal axes: T 6.0370, Plg25.0000°, Azm63.0000°; N -0.6030, Plg50.0000°, Azm300.0000°; P -5.4330, Plg29.0000°, Azm168.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **29** 03:52:25.6±0.1, 1.°90N×92.°38E, h10km, mb4.8/38 Error ellipse: s-maj=4.3km s-min=3.0km az=204.0*
*BJI **29** 03:52:25.3, 1.°90N×92.°40E, h11km, mb5.1/58, mB5.0/41, Ms4.6/53, Ms7 4.4/51*
*DJA **29** 03:52:26.6±0.3, 2.°N±3.°×9.°2E±.°, h10km, M5.4/36, mb5.4/36, mB5.8/30, MLv6.0/12, Mw(mB)5.3/30*
*MOS **29** 03:52:27.6±0.9, 1.°96N×92.°44E, h36km, mb5.2/53, MS4.2/27, Error ellipse: s-maj=8.2km s-min=5.1km az=107.0*
ISC 29 03:52:28.8±0.5, 1.°90N±0.°04×92.°40E±0.°04, h31km±3km, h32km:pP-P,n451, σ1s89/446, mb5.0/142, MS4.4/64, 20C-28D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSI	**Banda Aceh**	**4.59**	**39**	P	**Pn**	**03 53 36.2**	**0.0**
BSI				S	**Sn**	**03 54 24.1**	**-4.4**
MLSI	**Meulaboh, Aceh**	**4.64**	**59**	P	**Pn**	**03 53 37.1**	**+0.4**
MLSI				S	**Sn**	**03 54 27.0**	**-2.6**
TPTI		**4.96**	**74**	P	**Pn**	**03 53 41.1**	**-0.1**
	2μm,0.6s,37μm7.9nm						
TPTI				S	**Sn**	**03 54 31.8**	**-5.8**
	2μm,0.6s,37μm7.9nm						
GSI	**Gunungsitoli**	**5.21**	**96**	P	**Pn**	**03 53 44.8**	**+0.2**
	895nm,0.7s,20μm7.4nm						
GSI				S	**Sn**	**03 54 37.7**	**-6.0**
	895nm,0.7s,20μm7.4nm						
GSI	**Gunungsitoli**	**5.21**	**96**	*e*Pn	**Pn**	**03 53 44.9**	**+0.2**
GSI				*e*Sn	**Sn**	**03 54 38.3**	**-5.4**
KCSI	**Kotacane, Aceh**	**5.60**	**73**	P	**Pn**	**03 53 51.4**	**+1.4**
KCSI				S	**Sn**	**03 54 50.9**	**-2.5**
LHMI	**Lhok Sumawe**	**5.62**	**54**	P	**Pn**	**03 53 51.8**	**+1.6**
	3μm,0.8s,23μm9.3nm						
LHMI	**Lhok Sumawe**	**5.62**	**54**	*e*Pn	**Pn**	**03 53 51.8**	**+1.6**
PBSI	**Pulau Batu**	**6.19**	**108**	P	**Pn**	**03 53 58.5**	**+0.4**
	2μm,0.7s,17μm6.3nm						
PBSI				S	**Sn**	**03 55 02.0**	**-5.9**
	2μm,0.7s,17μm6.3nm						
TSI	**Tuntungan**	**6.36**	**75**	P	**Pn**	**03 54 01.7**	**+1.3**
	3μm,0.8s,25μm8.0nm						
PSI	**Prapat**	**6.58**	**82**	Pn	**Pn**	**03 54 03.9**	**+0.3**
	24nm,0.3s,baz=262,slow=8.5,SNR=89						
PSI				Sn	**Sn**	**03 55 12.6**	**-5.1**
	39nm,0.3s,baz=0.6,slow=14,SNR=4.9						
PSI				LR	LR	03 55 54.7	
	comp=Z,356nm,18.1s,baz=240,slow=32						
MNSI	**Mandailing Nat**	**7.26**	**99**	P	**Pn**	**03 54 13.1**	**+0.3**
MNSI				S	**Sn**	**03 55 27.1**	**-7.2**
SISI	**Saibi**	**7.42**	**116**	P	**Pn**	**03 54 15.6**	**+0.6**
	216nm,1.0s,2μm2.1nm						
SISI				S	**Sn**	**03 55 31.3**	**-6.8**
	216nm,1.0s,2μm2.1nm						
PDSI	**Padang**	**8.53**	**109**	P	**Pn**	**03 54 31.1**	**+0.8**
	106nm,0.5s,3μm1.5nm						
BKNI	**Bangkinang**	**8.78**	**100**	P	**Pn**	**03 54 34.7**	**+1.0**
	226nm,1.0s,18μm3.1nm						
KULM	**Kulim**	**8.90**	**68**	*e*Pn	**Pn**	**03 54 34.5**	**-0.7**
KULM				*e*Sn	**Sn**	**03 56 07.0**	**-7.5**
PPSI	**Pulau Pagai**	**8.91**	**121**	P	**Pn**	**03 54 35.4**	**0.0**
PPSI				S	**Sn**	**03 56 08.1**	**-6.7**
IPM	**Ipoh**	**8.99**	**73**	*e*Pn	**Pn**	**03 54 36.0**	**-0.5**
IPM				*e*Sn	**Sn**	**03 56 09.4**	**-7.3**
TRTT	**Trang**	**9.36**	**51**	P	**Pn**	**03 54 40.0**	**-1.5**
	266nm,1.3s,3μm1.2nm						
PBA	**Port Blair**	**9.70**	**2**	*e*P	Pn	03 54 45.2	-1.0
SKLT	**Songkhla**	**9.72**	**57**	P	**Pn**	**03 54 45.6**	**-1.0**
	352nm,0.7s,6μm						
KRJI	**Kerinci**	**9.89**	**114**	P	**Pn**	**03 54 50.3**	**+1.3**
	728nm,0.6s,8μm						
MASI	**Maura Aman, Be**	**11.04**	**117**	P	**Pn**	**03 55 04.8**	**+0.1**
	249nm,0.7s,3μm						
DGPR	**DIGLIPUR**	**11.22**	**3**	*e*P	**Pn**	**03 55 06.2**	**-0.8**
MYKOM	**Kota Tinggi**	**11.45**	**90**	*e*Pn	**Pn**	**03 55 10.0**	**-0.2**
TPRI	**Tanjung Pinang**	**12.16**	**94**	P	**Pn**	**03 55 21.7**	**+1.7**
MNAI	**Manna**	**12.25**	**121**	P	**Pn**	**03 55 21.1**	**-0.1**
	206nm,1.1s						
MNAI	**Manna**	**12.25**	**121**	*e*Pn	**Pn**	**03 55 20.5**	**-0.7**
PALK	**Pallekele**	**12.82**	**295**	Pn	**Pn**	**03 55 28.4**	**-0.6**
	5.0nm,0.3s,baz=116,slow=13,SNR=25						
PALK				Sn	Sn	03 57 40.3	-10
	13nm,0.3s,baz=296,slow=1.7,SNR=9.3						
PALK				LR	LR	04 00 02.3	
	comp=Z,303nm,18.7s,baz=116,slow=36						
PALK	**Pallekele**	**12.82**	**295**	*e*Pn	**Pn**	**03 55 27.8**	**-1.2**
PALK				*e*Sn	Sn	03 57 38.3	-12
PHET	**Kaeng Krachan**	**13.07**	**33**	P	**Pn**	**03 55 33.3**	**+0.8**
	37nm,0.9s,314nm						
MDSI	**Maumdua**	**13.37**	**118**	P	**Pn**	**03 55 36.4**	**-0.1**
	27nm,0.7s						
LWLI	**Liwa**	**13.53**	**121**	P	**Pn**	**03 55 40.1**	**+1.4**
	88nm,0.7s,8μm						
SRDT	**SRDT**	**14.04**	**28**	P	**Pn**	**03 55 44.8**	**-0.9**
	71nm,1.1s,4μm						
KASI	**Kota Agung**	**14.16**	**121**	P	**Pn**	**03 55 47.0**	**-0.3**
	64nm,0.8s						
CHBT	**CHBT**	**14.60**	**42**	P	**Pn**	**03 55 54.2**	**+1.0**
	352nm,0.5s,22μm						
NAYO	**Nakonayok**	**15.16**	**35**	P	**Pn**	**03 56 00.6**	**-0.2**
	90nm,1.1s,1μm						
CGJI	**Cibinong**	**15.74**	**123**	P	**Pn**	**03 56 07.4**	**-0.9**
	194nm,1.0s,3μm						
MDRS	**Chennai**	**16.36**	**313**	*e*P	**Pn**	**03 56 16.5**	**+0.2**
CHAI	**Chaiyaphum**	**16.82**	**34**	P	**Pn**	**03 56 21.7**	**-0.4**
	60nm,0.9s,487nm						
PBKT	**Sadao Pong**	**16.84**	**30**	P	**Pn**	**03 56 20.8**	**-1.6**
	102nm,1.4s,1μm						
PHIT	**Phitsanulok**	**17.12**	**27**	P	**Pn**	**03 56 25.6**	**-0.2**
	67nm,1.0s,550nm						
LEM	**Lembang**	**17.49**	**120**	P	**Pn**	**03 56 30.8**	**+0.1**
	1.8nm,0.3s,baz=223,slow=1.1,SNR=9.8						
LEM				LR	LR	04 02 49.4	
	comp=Z,459nm,18.7s,baz=30,slow=36						
CM01	**Chiang Mai Arr**	**17.63**	**21**	*e*Pn	**Pn**	**03 56 30.1**	**-2.1**
CM31	**Chiang Mai Arr**	**17.66**	**21**	*e*Pn	**Pn**	**03 56 32.4**	**-0.2**
CMAR	**Chiang Mai Arr**	**17.66**	**21**	P	**Pn**	**03 56 31.8**	**-0.8**
	1.3nm,0.3s,baz=215,slow=13,SNR=94						
CMAR				LR	LR	04 04 15.2	
	comp=Z,617nm,20.2s,baz=218,slow=40						
KSM	**Kuching**	**17.91**	**91**	*e*Pn	**P**	**03 56 36.5**	**+0.4**
	69nm,0.9s						
LAMP	**Lampang**	**17.98**	**23**	P	**Pn**	**03 56 36.6**	**+0.1**
	22nm,1.0s,203nm						
CHTO	**Chiang Mai**	**17.99**	**20**	P	**Pn**	**03 56 35.7**	**-0.9**
	246nm,1.4s,4μm						
CHTO	**Chiang Mai**	**17.99**	**20**	*e*Pn	**Pn**	**03 56 35.4**	**-1.2**
	54nm,1.0s						
CHTO				*e*Sn	**Sn**	**03 59 54.7**	**-1.8**
CMMT	**Chiang Mai**	**17.99**	**20**	P	**Pn**	**03 56 34.6**	**-2.1**
	56nm,1.4s,1μm						
CISI	**Cisompet, Garu**	**18.02**	**122**	P	**P**	**03 56 38.4**	**+1.0**
	44nm,1.3s						
VIS	**Vishakhapatnam**	**18.07**	**331**	*i* P	**Pn**	**03 56 36.8**	**-0.7**
VIS				IAmb	IAmb	03 56 38.1	
	comp=Z,65nm,0.7s						
VIS				*i* x	x	03 59 49.6	
UBPT	**Khong Chiam**	**18.52**	**43**	P	**P**	**03 56 42.2**	**-0.6**
	comp=Z,173nm,1.7s						
SKNT	**Sakolnakorn**	**18.82**	**37**	P	**P**	**03 56 44.4**	**-1.7**
	comp=Z,62nm,1.0s						
PAYA	**Payao**	**18.83**	**22**	P	**Pn**	**03 56 47.0**	**+0.1**
	comp=Z,26nm,0.9s,comp=Z,208nm						
KPJI	**Karang Pucung**	**18.88**	**119**	P	**Pn**	**03 56 49.8**	**+2.4**
	comp=Z,40nm,1.0s						
CMAI	**Chiengmai2**	**19.06**	**19**	P	**P**	**03 56 46.7**	**-2.2**
	comp=Z,333nm,1.2s,comp=Z,15μm						
STKI	**Sintang**	**19.16**	**95**	P	**Pn**	**03 56 52.4**	**+1.5**
	comp=Z,40nm,0.5s,comp=Z,12μm						
BWNR	**Bhubaneshwar**	**19.38**	**341**	*e*P	**P**	**03 56 52.0**	**-0.1**
SBUM	**Sibu**	**19.82**	**88**	*e*P	**Pn**	**03 56 57.9**	**-0.8**
	comp=Z,88nm,0.9s						
SAIH	**SAIHA**	**20.47**	**2**	*e*P	**P**	**03 57 04.5**	**+0.3**
HYB	**Hyderabad**	**20.56**	**319**	*i* P	**P**	**03 57 06.0**	**+0.9**
	comp=Z,125nm,1.4s						
HYB				*e*S	Sn	04 00 58.0	-0.7
HYB	**Hyderabad**	**20.56**	**319**	*e*P	**P**	**03 57 05.1**	**0.0**
HYB				IAmb	IAmb	03 57 08.9	
	comp=Z,120nm,1.7s						
WOJI	**Wonogiri, Jawa**	**20.86**	**118**	P	Pn	03 57 12.6	+1.7
	comp=Z,22nm,1.7s						
BELO	**BELONIA**	**21.24**	**358**	*e*P	**P**	**03 57 12.6**	**+0.2**
AZL	**Aizawl**	**21.71**	**1**	*e*P	**P**	**03 57 18.1**	**+0.6**
H08S2	**Diego Garcia H**	**22.00**	**244**	T	T	04 19 11.0	
	baz=61,slow=75,SNR=66						
H08S3	**Diego Garcia H**	**22.01**	**244**	T	T	04 19 08.8	
	baz=61,slow=75,SNR=72						
H08S1	**Diego Garcia A**	**22.02**	**244**	T	T	04 19 09.9	
	baz=61,slow=75,SNR=66						
BOK	**Bokaro**	**22.66**	**344**	*e*P	**P**	**03 57 27.7**	**+0.1**
BOK				IAmb	IAmb	03 57 37.3	
	comp=Z,55nm,0.9s						
GOA	**Goa**	**22.76**	**307**	*e*P	**P**	**03 57 28.8**	**+0.1**
GOA				IAmb	IAmb	03 57 40.5	
	comp=Z,41nm,1.0s						
IMP	**Imphal**	**22.85**	**4**	*e*P	**P**	**03 57 28.5**	**-1.1**
NGP	**Nagpur**	**23.14**	**327**	*e*P	**P**	**03 57 32.5**	**-0.1**
NGP				*ex*	x	04 01 57.9	
SHL	**Shillong**	**23.53**	**359**	*e*P	**P**	**03 57 35.3**	**-1.3**
SHL				IAmb	IAmb	03 57 55.3	
	comp=Z,30nm,0.8s						
KOHI	**KOHIMA**	**23.74**	**4**	*e*P	**P**	**03 57 38.2**	**-0.3**
DHUB	**DHUBRI**	**24.09**	**355**	*e*P	**P**	**03 57 41.7**	**+0.1**
KKM	**Kota Kinabalu**	**24.11**	**79**	*e*P	**P**	**03 57 42.9**	**+0.8**
	comp=Z,35nm,0.8s						
QIZ	**Qiongzhong**	**24.12**	**44**	P	**P**	**03 57 43.5**	**+1.5**
QIZ				S	**S**	**04 02 02.5**	**+4.5**
QIZ				sS	**pS**	**04 02 07.5**	**-0.5**
QIZ				LR	LR		
	comp=Z,3μm,17.6s						
QIZ				LR	LR		
	comp=Z,2μm,20.1s						
QIZ				LR	LR		
	comp=Z,850nm,14.7s						
GUWA	**GUWAHATI**	**24.16**	**358**	*e*P	**P**	**03 57 42.9**	**+0.6**
MOKO	**MOKOCHONG**	**24.36**	**5**	*e*P	**P**	**03 57 44.4**	**+0.1**
POO	**Poona**	**24.57**	**313**	*e*P	**P**	**03 57 46.1**	**-0.1**
TEZP	**TEZPUR**	**24.58**	**1**	*e*P	**P**	**03 57 44.9**	**-1.1**
BKB	**Balikpapan**	**24.70**	**97**	P	**P**	**03 57 51.4**	**+4.1**
	comp=Z,114nm,1.1s,comp=Z,2μm						
KMI	**Kunming**	**25.15**	**23**	P	**P**	**03 57 53.5**	**+1.9**
KMI				pmax	pmax		
	comp=Z,110nm,1.1s						
KMI				pmax	pmax		
	comp=Z,240nm,4.2s						
ODAN	**Odare**	**25.28**	**349**	*e*P	**P**	**03 57 54.0**	**+1.3**
	comp=Z,205nm,0.9s						
RAMN	**Ramite**	**25.52**	**348**	*e*P	**P**	**03 57 56.4**	**+1.5**
	comp=Z,485nm,1.3s						
GTK	**Tadong**	**25.54**	**352**	*e*P	**P**	**03 57 55.3**	**+0.4**
BHPL	**Bhopal**	**25.71**	**327**	*e*P	**P**	**03 57 57.8**	**+1.4**
MYLDM	**Lahad Datu**	**26.25**	**82**	*e*P	**P**	**03 58 02.8**	**+1.4**
	comp=Z,62nm,1.0s						
JIRN	**Jiri**	**26.29**	**347**	*e*P	**P**	**03 58 03.3**	**+1.2**
PKIN	**Phulchoki**	**26.40**	**346**	*e*P	**P**	**03 58 04.6**	**+1.7**
DMN	**Daman**	**26.50**	**345**	*e*P	**P**	**03 58 05.0**

XAN LR LR
comp=Z,650nm,17.3s
LZH Lanzhou 35.63 16 *e*P **P** **03 59 23.8 -0.3**
LZH pP pP 03 59 26.5 -6.8
LZH sP sP 03 59 29.3 -7.8
LZH PP **PP** **04 00 50.0 +4.6**
LZH S **S** **04 05 00.8 +2.3**
LZH sS pS 04 05 10.8 +1.8
LZH pmax pmax
comp=Z,940nm,20.6s
comp=Z,29nm,1.2s
LZH pmax pmax
comp=Z,160nm,4.4s
LZH LR LR
comp=Z,770nm,12.1s
LZH LR LR
comp=Z,850nm,12.7s
LZH LR LR
comp=Z,930nm,15.0s
NIL Nilore 36.32 332 *e*P **P** **03 59 30.5 +0.7**
GTA Gaotai 37.94 9 ⇑P **P** **03 59 44.3 +0.7**
GTA pP pP 03 59 53.5 +0.6
GTA sP sP 03 59 57.8 +1.1
GTA S **S** **04 05 33.5 -0.1**
GTA sS sS 04 05 48.5 -0.4
GTA SS **SnSn** **04 08 15.5 -1.4**
GTA pmax pmax
comp=Z,27nm,0.9s
GTA pmax pmax
comp=Z,100nm,5.2s
GTA LR LR
comp=Z,380nm,20.0s
GTA LR LR
comp=Z,310nm,19.0s
GTA LR LR
comp=Z,320nm,18.1s
MEEK Meekatharra 38.01 140 P **P** **03 59 45.4 +1.1**
baz=37,SNR=8.9
NJ2 Nanjing 38.99 37 *e*P **P** **03 59 53.0 +0.6**
NJ2 sP **pP** **03 59 58.5 -3.2**
NJ2 S **S** **04 05 52.8 +3.4**
NJ2 pmax pmax
comp=Z,23nm,0.8s
NJ2 LR LR
comp=Z,600nm,14.1s
NJ2 LR LR
comp=Z,820nm,14.6s
NJ2 LR LR
comp=Z,1μm,16.3s
WSAR Wadi Sarin 39.00 306 P **P** **03 59 52.6 0.0**
comp=Z,1.7nm,0.6s,baz=59,slow=5.9,SNR=2.8
WSAR LR LR 04 13 28.8
comp=Z,234nm,20.6s,baz=137,slow=32
TIY Taiyuan 40.12 25 *e*P **P** **04 00 00.5 -1.3**
TIY PP **PnPn** **04 01 39.5 +1.4**
TIY S **S** **04 06 04.8 -1.5**
TIY sS **sS** **04 06 25.5 +3.9**
TIY pmax pmax
comp=Z,160nm,4.8s
TIY LR LR
comp=Z,360nm,13.9s
TIY LR LR
comp=Z,630nm,16.1s
TIY LR LR
comp=Z,880nm,20.7s
KSH Kashi 40.32 340 P P 04 00 10.8 +7.3
KSH pP sP 04 00 15.5 -1.1
KSH PP **PnPn** **04 01 39.5 -1.0**
KSH S S 04 06 19.5 +10
KSH SS **SS** **04 09 03.0 -5.8**
KSH pmax pmax
comp=Z,46nm,0.8s
KSH pmax pmax
comp=Z,360nm,2.8s
KSH LR LR
comp=N,370nm,6.7s
KSH LR LR
comp=E,380nm,8.1s
TIA Tai'an 41.10 31 P **P** **04 00 10.3 +0.4**
TIA S S 04 06 30.8 +10
TIA pmax pmax
comp=E,17nm,0.9s
TIA pmax pmax
comp=E,67nm,4.6s
TIA LR LR
comp=E,460nm,16.1s
TIA LR LR
comp=E,380nm,16.2s
TIA LR LR
comp=E,670nm,16.7s
SFK Sufi-Kurgan 41.64 338 P **P** **04 00 14.4 -0.1**
SFK pmax pmax
comp=Z,56nm,0.6s
NWAO Narrogin (SRO) 41.84 148 LR LR 04 15 31.0
comp=Z,444nm,19.0s,baz=210,slow=33
H01W3 Cape Leeuwin H 41.89 153 T T 04 46 11.0
baz=327
H01W2 Cape Leeuwin H 41.90 153 T T 04 46 01.9
baz=327
H01W1 Cape Leeuwin H 41.90 153 T T 04 45 55.8
baz=327
WMQ Urumqi 41.95 355 P **P** **04 00 17.5 +0.7**
WMQ pP pP 04 00 26.0 -0.1
WMQ sP sP 04 00 32.0 +2.1
WMQ PP **PnPn** **04 01 57.0 -2.5**
WMQ S **S** **04 06 33.0 -0.4**
WMQ SS **SS** **04 09 32.5 -8.5**
WMQ pmax pmax
comp=Z,40nm,1.5s
WMQ pmax pmax
comp=Z,280nm,3.7s
WMQ LR LR
comp=Z,670nm,24.3s
WMQ LR LR
comp=Z,840nm,28.7s
WMQ LR LR
comp=Z,530nm,33.1s
NRN Naryn 42.04 342 P **P** **04 00 17.0 -0.9**
NRN pmax pmax
comp=Z,2.0nm,1.0s
JOW Kunigami 42.40 51 P **P** **04 00 20.4 -0.3**
comp=Z,24nm,0.8s,baz=323,slow=5.1,SNR=4.7
JOW LR LR 04 17 53.7
comp=Z,284nm,21.1s,baz=116,slow=36
HHC Hu-ho-hao-te 42.47 22 *e*P **P** **04 00 22.0 +0.9**
HHC pP pP 04 00 27.8 -2.7
HHC sP sP 04 00 30.0 -4.3
HHC PcP **PcP** **04 02 16.3 +2.6**
HHC S **S** **04 06 42.5 +1.3**
HHC SS **SS** **04 09 47.5 -3.9**
HHC pmax pmax
comp=Z,40nm,1.0s
HHC pmax pmax
comp=Z,89nm,5.8s
HHC LR LR
comp=Z,330nm,13.3s
HHC LR LR
comp=Z,220nm,13.8s
HHC LR LR
comp=Z,460nm,14.0s
DZET Dzherino 42.58 332 P P 04 00 30.1 +8.0
DZET pmax pmax
comp=Z,23nm,0.7s
ULHL Ulahol 42.70 342 P P 04 00 37.9 +15
SNR=5.4
PDGK Podgornoye 42.83 346 P **P** **04 00 24.4 +0.4**
PDGK pmax pmax
comp=Z,89nm,1.2s
KZA Kyzart 42.86 341 P **P** **04 00 29.2 +4.6**
SNR=5.6
UCH Uchtor 43.24 341 P **P** **04 00 28.4 +0.6**
SNR=7.5
AML Almayashu 43.43 340 P **P** **04 00 30.3 +1.0**
SNR=9.1
KBK Karagaybulak 43.48 341 P **P** **04 00 30.6 +1.2**
SNR=5.2
TKM2 Tokmak 2 43.52 342 P **P** **04 00 30.3 +0.6**
SNR=5.9
AAK Ala-Archa 43.61 341 P **P** **04 00 31.1 +0.7**
comp=Z,0.8nm,0.4s,baz=170,slow=6.3,SNR=5.4
AAK Ala-Archa 43.61 341 P P 04 00 45.5 +15
SNR=5.4
AAK Ala-Archa 43.61 341 *e*P **P** **04 00 31.4 +1.0**
comp=Z,5.0nm,0.9s
AAK Ala-Archa 43.61 341 P **P** **04 00 31.3 +0.9**
SNR=16
AAK Ala-Archa 43.61 341⇑ *e*P **P** **04 00 30.8 +0.4**
AAK pmax pmax
comp=Z,5.0nm,1.3s
BJT Baijiatuau 43.65 27 *e*P **P** **04 00 31.4 +0.8**
FRU Bishkek 43.75 341 *e*P P 04 00 40.0 +8.7
FRU pmax pmax
comp=Z,75nm,2.0s
EKS2 Erkin-Say 43.87 340 P P 04 00 42.2 +10
SNR=9.3
WRKA Warakurna 43.90 130 P **P** **04 00 33.0 +0.2**
baz=43,SNR=6.1
MNAS Manas 44.16 339 P **P** **04 00 36.7 +1.9**
MNAS pmax pmax
comp=Z,43nm,0.9s
USP Ospenovka 44.17 341 P **P** **04 00 35.4 +0.6**
SNR=5.2
KK31 Karatay Array 45.44 337 *e*P **P** **04 00 45.0 +0.2**
KK31 Karatay Array 45.44 337 *i* P **P** **04 00 45.0 +0.2**
KK31 pmax pmax
comp=Z,46nm,0.7s
KKAR Karatay Array 45.44 337 *e*P **P** **04 00 45.0 +0.2**
DL2 Dalian 45.48 32 P **P** **04 00 44.5 -0.7**
DL2 *e*S **S** **04 07 28.3 +3.3**
DL2 sS **sS** **04 07 43.5 +3.1**
DL2 pmax pmax
comp=Z,53nm,1.1s
DL2 LR LR
comp=Z,340nm,15.9s
DL2 LR LR
comp=Z,440nm,18.5s
DL2 LR LR
comp=Z,480nm,19.8s
MK01 Makanchi Array 45.55 350 *e*P **P** **04 00 44.9 -0.8**
MK31 Makanchi Array 45.58 350 *e*P **P** **04 00 46.1 +0.3**
MK31 Makanchi Array 45.58 350 *i* P **P** **04 00 45.9 0.0**
MK31 pmax pmax
comp=Z,39nm,0.8s
MKAR Makanchi Array 45.58 350 P **P** **04 00 45.6 -0.3**
comp=Z,6.5nm,0.9s,baz=166,slow=8.7,SNR=53
MKAR LR LR 04 23 15.8
comp=Z,228nm,18.4s,baz=166,slow=41
MKAR Makanchi Array 45.58 350 *e*P **P** **04 00 46.1 +0.3**
comp=Z,75nm,0.8s
MAKZ Makanchi 45.64 350 *e*P **P** **04 00 46.7 +0.3**
comp=Z,8.2nm,1.1s
WRA Warramunga Arr 46.51 120 P **P** **04 00 53.1 -0.6**
comp=Z,21nm,0.7s,baz=298,slow=8.6,SNR=125
WRAB Tennant Creek 46.52 120 *e*P **P** **04 00 52.9 -0.8**
WRAB Tennant Creek 46.52 120⇓ *i*P **P** **04 00 53.3 -0.4**
WRAB pmax pmax
comp=Z,32nm,1.0s
WB2 Warramunga Arr 46.52 120 *e*P **P** **04 00 53.7 0.0**
comp=Z,25nm,0.8s
WC3 Warramunga Arr 46.55 120 P **P** **04 00 53.6 -0.3**
baz=45
FORT Forrest 46.99 137 *e*P **P** **04 00 56.5 -0.7**
TJN Taejon 47.12 39*c i*P **P** **04 00 58.0 -0.1**
SONM Songino Array 47.33 13 P **P** **04 01 00.5 +0.7**
comp=Z,27nm,0.8s,baz=194,slow=9.2,SNR=118
SONM LR LR 04 22 29.2
comp=Z,453nm,21.9s,baz=198,slow=38
ULN Ulaanbaatar 47.51 13 *e*P **P** **04 01 00.6 -0.6**
comp=Z,11nm,0.9s
ULN Ulaanbaatar 47.51 13 P **P** **04 01 01.1 -0.1**
SNR=12
ULN Ulaanbaatar 47.51 13 P **P** **04 01 01.1 -0.1**
SNR=12
ULN Ulaanbaatar 47.51 13*c i*P **P** **04 01 01.2 0.0**
ULN pmax pmax
comp=Z,29nm,1.7s
JNU Nakatsue 47.59 45 P **P** **04 01 01.6 -0.3**
comp=Z,12nm,0.9s,baz=272,slow=2.0,SNR=9.3
JNU LR LR 04 23 46.0
comp=Z,445nm,18.0s,baz=280,slow=40
JNU Nakatsue 47.59 45 *e*P **P** **04 01 02.1 +0.3**
comp=Z,18nm,1.0s
GEYT Alibeck 47.69 323 P **P** **04 01 03.2 +0.6**
comp=Z,2.1nm,0.7s,baz=154,slow=8.0,SNR=3.3
GEYT LR LR 04 22 01.0
comp=Z,234nm,21.8s,baz=180,slow=37
GYA0B ALIBECK ARRAY 47.69 323 *e*P **P** **04 01 03.6 +1.0**
comp=Z,6.3nm,0.8s
AS31 Alice Springs 47.69 125 *e*P **P** **04 01 02.7 -0.1**
comp=Z,1.9nm,1.0s
ASAR Alice Springs 47.69 125 P **P** **04 01 02.3 -0.6**
comp=Z,2.2nm,0.5s,baz=297,slow=7.8,SNR=24
ASAR LR LR 04 23 32.5
comp=Z,129nm,18.2s,baz=304,slow=39
AS01 Alice Springs 47.73 125 *e*P **P** **04 01 02.5 -0.7**
DGZ Jazzator, Alta 47.81 356⇓ *i*P **P** **04 01 03.7 +0.2**
DGZ pmax pmax
comp=Z,11nm,1.9s
KS15 Wonju Array Si 48.11 38 *e*P **P** **04 01 06.7 +0.9**
KSAR Wonju Array Be 48.11 38 P **P** **04 01 06.0 +0.2**
KS01 Wonju Array Si 48.14 38 *e*P **P** **04 01 05.2 -0.8**
KSRS Korea Array 48.14 38 P **P** **04 01 06.0 0.0**
comp=Z,14nm,0.9s,baz=226,slow=8.6,SNR=64
KSRS LR LR 04 23 58.9
comp=Z,499nm,18.4s,baz=228,slow=39
KNGR Kungurtug, Tuv 48.72 4⇓ *i*P **P** **04 01 12.2 +1.8**
OPO Ambohidratompo 48.89 243 P **P** **04 01 13.5 +1.2**
comp=Z,4.2nm,0.9s,baz=98,slow=14,SNR=2.4
OPO LR LR 04 18 50.3
comp=Z,329nm,18.7s,baz=18,slow=32
HVS Khovu-Aksy 49.07 1⇑ *i*P **P** **04 01 13.9 +0.8**
HVS pmax pmax
comp=Z,45nm,0.9s
ZAK Zakamensk 49.18 9 *e*P **P** **04 01 13.6 -0.4**
ZAK pmax pmax
comp=Z,8.0nm,1.1s
OTUK Ortayu 49.30 342 P **P** **04 01 15.1 +0.3**
OTUK pmax pmax
comp=Z,81nm,0.7s
KURBB Kurchatov Arra 49.95 348 P **P** **04 01 19.6 -0.1**
comp=Z,5.5nm,0.8s,baz=172,slow=7.4,SNR=40
KURK Kurchatov 50.02 349 *e*P **P** **04 01 19.8 -0.4**
KURK Kurchatov 50.02 349 P **P** **04 01 20.4 +0.2**
SNR=20
KURK Kurchatov 50.02 349 P **P** **04 01 20.4 +0.2**
SNR=20
KURK Kurchatov 50.02 349*c i*P **P** **04 01 19.7 -0.5**
KURK pmax pmax
comp=Z,15nm,1.2s
MOY Mondy 50.12 7 *e*P **P** **04 01 22.0 +0.9**
RAYN Ar Rayn 50.21 299 *e*P **P** **04 01 21.7 -0.5**
comp=Z,16nm,1.3s
TLY Talaya 50.50 9 P **P** **04 01 24.5 +0.7**
comp=Z,6.3nm,0.8s,baz=201,slow=6.4,SNR=10.0
TLY Talaya 50.50 9 *e*P **P** **04 01 24.0 +0.2**
comp=Z,8.7nm,1.0s
TLY Talaya 50.50 9 P **P** **04 01 25.8 +1.9**
SNR=6.0
TLY Talaya 50.50 9 P **P** **04 01 25.8 +1.9**
SNR=6.0
TLY Talaya 50.50 9 *e*P **P** **04 01 24.7 +0.9**
TLY pmax pmax
comp=Z,12nm,1.2s
TLY MLR MLR
comp=Z,288nm,20.0s
CN2 Changchun 51.00 31 *e*P **P** **04 01 31.3 +3.6**
ZAA0 Zalesovo Array 52.25 354 *e*P **P** **04 01 36.8 -0.1**
comp=Z,20nm,1.0s
ZALV Zalesovo Beam 52.25 354 P **P** **04 01 36.9 0.0**
comp=Z,19nm,0.8s,baz=186,slow=7.6,SNR=50
ZALV LR LR 04 25 01.1
comp=Z,282nm,21.6s,baz=72,slow=38
ZALV Zalesovo Beam 52.25 354 *e*P **P** **04 01 36.6 -0.3**
HIA Hailar 52.67 22 *e*P **P** **04 01 40.4 +0.2**
comp=Z,11nm,0.3s
INU Inuyama 53.09 46 *e*P **P** **04 01 43.2 -0.3**
comp=Z,31nm,0.8s
GUMO Guam 53.15 75 LR LR 04 23 21.8
comp=Z,191nm,21.5s,baz=220,slow=35
NVS Novosibirsk 53.30 353 *e*P **P** **04 01 44.2 -0.4**
NVS pmax pmax
comp=Z,37nm,1.3s
NVS pmax pmax
comp=N,20nm,1.4s
NVS pmax pmax
comp=E,13nm,1.4s
KRAR Krasnoyarsk 53.95 0⇓ *i*P **P** **04 01 50.6 +1.3**
VLA Vladivostok 54.04 35*ce*P **P** **04 01 50.9 +0.7**
VLA pmax pmax
comp=Z,39nm,0.9s
BVA0 Borovoye Array 54.13 344 P **P** **04 01 49.4 -1.3**
BVA0 pmax pmax
comp=Z,29nm,1.1s
BVAR Borovoye Array 54.13 344 P **P** **04 01 50.0 -0.8**
comp=Z,4.7nm,0.8s,baz=142,slow=7.5,SNR=26
BVAR LR LR 04 25 15.7
comp=Z,462nm,21.4s,baz=168,slow=36
BVAR Borovoye Array 54.13 344 P **P** **04 01 50.0 -0.8**
BVAR pmax pmax
comp=Z,5.0nm,0.8s
BVAR MLR MLR
comp=Z,463nm,21.4s
JHJ Hachijo jima 2 54.14 50 LR LR 04 23 58.9
comp=Z,115nm,21.7s,baz=252,slow=35
BRVK Borovoye 54.19 344 *e*P **P** **04 01 50.5 -0.6**
comp=Z,4.3nm,0.6s
BRVK Borovoye 54.19 344 P P 04 02 03.3 +12
SNR=6.2
BRVK Borovoye 54.19 344⇓ *e*P **P** **04 01 50.4 -0.8**
BRVK pmax pmax
comp=Z,3.0nm,0.8s
MJB9 Matsu-Tunnel 54.51 45 *e*P **P** **04 01 53.9 +0.1**
comp=Z,11nm,1.0s
MAJO Matsushiro 54.51 45 *e*P **P** **04 01 53.7 -0.1**
comp=Z,11nm,1.0s
MAJO Matsushiro 54.51 45*c i*P **P** **04 01 53.1 -0.7**
MAJO pmax pmax
comp=Z,24nm,1.8s
MAT Matsushiro 54.51 45 P **P** **04 01 52.9 -0.9**
MAT *e*S **S** **04 09 35.8 +4.7**
MJAR Matsushiro Arr 54.51 45 P **P** **04 01 53.4 -0.5**
comp=Z,7.0nm,0.8s,baz=231,slow=7.3,SNR=28
MJAR LR LR 04 27 22.6
comp=Z,332nm,18.7s,baz=230,slow=38
AB31 Akbulak array 54.73 334 *i* P **P** **04 01 54.4 -0.8**
AB31 pmax pmax
comp=Z,35nm,0.9s
ABKAR Akbulak array 54.73 334 *e*P **P** **04 01 55.0 -0.1**
comp=Z,28nm,0.9s
USRK Ussuriysk Ar. 54.77 34 P **P** **04 01 55.4 -0.2**
comp=Z,5.0nm,0.8s,baz=211,slow=2.2,SNR=11
USRK LR LR 04 27 25.9
comp=Z,390nm,18.1s,baz=215,slow=38
KMBO Kilima Mbogo 55.22 267 LR LR 04 22 09.1
comp=Z,261nm,20.1s,baz=92,slow=32
KMBO Kilima Mbogo 55.22 267 *e*P **P** **04 01 59.3 -0.3**
comp=Z,13nm,1.4s
MNGR Mingechevir, A 56.27 320 P **P** **04 02 06.2 -0.2**
SEKA Sheki 56.43 320 P **P** **04 02 06.9 -0.7**
AKTO Aktyubinsk 56.44 334 P **P** **04 02 07.4 0.0**
comp=Z,1.2nm,0.7s,baz=118,slow=11,SNR=4.5
AKTO LR LR 04 27 13.7
comp=Z,193nm,20.5s,baz=145,slow=37
NAX Nakhchivan 56.53 317 P **P** **04 02 08.0 -0.4**
GANJ Ganja 56.71 319 P **P** **04 02 09.3 -0.3**
ZKTA Zakatala 57.02 320 P **P** **04 02 11.5 -0.3**
MAK Makhachkala 57.17 322 *e*P **P** **04 02 10.0 -2.7**
MAK *e* 04 04 22.6
MAK *e*S **S** **04 10 03.1 -3.1**
MAK *e*SS **SS** **04 13 51.4 -4.2**
MAK pmax pmax
comp=Z,21nm,0.4s
MAK MLR MLR
comp=Z,115nm,16.0s
STKA Stephens Creek 57.43 130 P **P** **04 02 14.9 +0.1**
comp=Z,6.9nm,0.7s,baz=304,slow=7.4,SNR=15
STKA LR LR 04 26 31.9
comp=Z,134nm,19.4s,baz=273,slow=36
STKA Stephens Creek 57.43 130 P **P** **04 02 15.1 +0.3**
baz=56,SNR=10
GNI Garni 57.51 318 P **P** **04 02 15.7 +0.3**
comp=Z,2.6nm,0.5s,baz=254,slow=3.4,SNR=3.5
GNI Garni 57.51 318 *e*P **P** **04 02 15.3 -0.1**
GNI Garni 57.51 318 P P 04 02 25.9 +10
SNR=11
GNI Garni 57.51 318*de*P **P** **04 02 17.1 +1.7**
GNI pmax pmax
comp=Z,10.0nm,0.8s
KLR Kul'dur 57.89 29 P **P** **04 02 18.1 +0.4**
comp=Z,2.4nm,0.9s,baz=242,slow=6.9,SNR=60
KLR Kul'dur 57.89 29*c i*P **P** **04 02 18.0 +0.3**
TEY Ternei 57.91 36 *e*P **P** **04 02 15.0 -2.9**
TEY pmax pmax
comp=Z,34nm,1.0s
BOD Bodaibo 58.32 13 *e*P **P** **04 02 20.4 -0.2**
BOD pmax pmax
comp=Z,35nm,1.4s
GROC Groznyy 58.36 321 *e*P **P** **04 02 21.2 +0.1**
GROC *e* 04 03 10.9
GROC *e* 04 04 31.0
GROC pmax pmax
comp=Z,38nm,0.7s
ZEA Zeya 59.09 23 *e*P **P** **04 02 26.1 +0.1**
ZEA pmax pmax
comp=N,24nm,1.0s
ZEA pmax pmax
comp=Z,27nm,0.9s
ZEA MLR MLR
comp=Z,400nm,15.0s
ZEA MLR MLR
comp=E,200nm,12.0s
ZEA MLR MLR
comp=N,200nm,14.0s
ZEI Tsey 59.35 320 *e*P **P** **04 02 29.7 +1.4**
ZEI pmax pmax
comp=Z,12nm,0.8s
NCK Nalchik 59.89 321⇓ *e*P **P** **04 02 33.7 +1.9**
NCK pmax pmax
comp=Z,8.0nm,0.3s
NEY Neytrino 60.33 320⇓ *e*P **P** **04 02 37.1 +2.1**
NEY pmax pmax
comp=Z,1.0nm,0.8s
SVE Sverdlovsk 60.35 341 *e*P P 04 02 48.4 +14
SVE pmax pmax
comp=Z,65nm,1.3s
KBZ Khabaz 60.45 321 P **P** **04 02 35.7 +0.2**
comp=Z,1.7nm,0.8s,baz=154,slow=8.4,SNR=6.7
KBZ LR LR 04 32 20.1
comp=Z,72nm,18.3s,baz=86,slow=40
CMSA Cobar Meteorol 60.47 128 P **P** **04 02 36.1 +0.2**
baz=59,SNR=28
KVAR Kislovodsk Arr 60.68 321 P **P** **04 02 38.6 +1.3**
comp=Z,1.3nm,0.4s,baz=319,slow=2.2,SNR=4.1
KIV Kislovodsk 60.69 321 *e*P **P** **04 02 37.5 +0.2**
KIV Kislovodsk 60.69 321 P P 04 02 45.6 +8.2
SNR=11
KIV Kislovodsk 60.69 321 *e*P **P** **04 02 36.6 -0.7**
KIV pmax pmax
comp=Z,17nm,1.1s
KIV MLR MLR
comp=Z,75nm,17.0s
ARU Arti 60.75 339 P **P** **04 02 36.6 -0.8**
comp=Z,1.6nm,0.3s,baz=130,slow=7.9,SNR=6.0
ARU Arti 60.75 339 *e*P **P** **04 02 36.1 -1.3**
comp=Z,18nm,0.9s
ARU Arti 60.75 339*d i*P **P** **04 02 36.3 -1.1**
ARU 04 03 15.9
ARU 04 04 48.0
ARU S **S** **04 10 53.8 +1.6**
ARU SS **SS** **04 14 49.0 -2.4**
ARU pmax pmax
comp=Z,14nm,1.7s
ARU MLR MLR
comp=Z,359nm,19.0s
ASAJ Asahikawa 61.08 39 P **P** **04 02 39.9 +0.1**
comp=Z,9.2nm,0.8s,baz=310,slow=7.9,SNR=6.4
GRNR Gornyy 61.20 30 *e*P **P** **04 02 40.2 -0.3**
GRNR pmax pmax
comp=Z,42nm,1.0s
RMQ Roma 61.21 122 P **P** **04 02 42.3 +1.2**
baz=60,SNR=5.5
MMAI Mount Meron Ar 61.62 307 LR LR 04 29 48.7
comp=Z,138nm,20.2s,baz=170,slow=36
SOC Sochi 62.42 319 *e*P P 04 02 42.3 -6.6
SOC *e* 04 05 03.1
SOC *e*PPP PPP 04 06 36.4
SOC *e*S **S** **04 11 06.5 -7.4**
SOC pmax pmax
comp=Z,17nm,0.9s
YSS Yuzh-Sakhalins 62.56 36⇓ *e*P **P** **04 02 50.2 +0.5**
YSS *e* 04 03 05.4
YSS pmax pmax
comp=Z,20nm,1.6s
YSS MLR MLR
comp=Z,300nm,16.0s
CSS Mathiatis 63.85 308 *e*P **P** **04 02 59.1 +0.5**

	comp=Z,1.2nm,1.0s							
CAN	**Canberra**	**64.47**	**131**	*e*P		**P**	**04 03 02.7**	**0.0**
NKL	**Nikolayevsk**	**64.73**	**30**	*e*P		**P**	**04 03 04.0**	**+0.1**
NKL					pmax	pmax		
	comp=Z,40nm,1.0s							
VRH	**Novokhopyorsk**	**64.91**	**327**	*e*P		P	04 03 13.8	+8.7
VRH					pmax	pmax		
	comp=Z,10.0nm,0.7s							
BR131	**Keskin Array S**	**65.12**	**313**	*e*P		**P**	**04 03 07.1**	**+0.1**
BRTR	**Keskin Array B**	**65.12**	**313**	P		P	**04 03 07.0**	**+0.1**
	comp=Z,1.0nm,0.7s,baz=132,slow=7.6,SNR=9.6							
BRTR					LR	LR	04 32 29.7	
	comp=Z,92nm,19.9s,baz=119,slow=37							
LSZ	**Lusaka**	**65.73**	**252**	*e*P		**P**	**04 03 11.3**	**0.0**
	comp=Z,21nm,1.1s							
ANTO	**Ankara**	**65.78**	**313**	*i*P		P	04 03 26.4	+15
ANTO	**Ankara**	**65.78**	**313**	*e*P		**P**	**04 03 10.4**	**-0.7**
VORD	**Divnogorie**	**66.11**	**326**	*e*P		P	04 03 20.7	+7.8
VORD				*e**PP		sP	04 03 26.4	0.0
VORD					pmax	pmax		
	comp=Z,8.0nm,0.6s							
YAK	**Yakutsk**	**66.17**	**18**	*e*P		**P**	**04 03 12.1**	**-1.0**
YAK	**Yakutsk**	**66.17**	**18**	*c i*P		**P**	**04 03 12.5**	**-0.6**
YAK				*e**PP		**pP**	**04 03 23.3**	**+0.5**
YAK				*e*S		**S**	**04 11 56.4**	**-3.2**
YAK				*e**SS		**sS**	**04 12 15.0**	**-0.7**
YAK				*e*			04 13 03.8	
YAK					pmax	pmax		
	comp=Z,76nm,0.9s							
YAK					pmax	pmax		
	comp=N,17nm,1.1s							
YAK					pmax	pmax		
	comp=E,23nm,1.1s							
YAK					smax	smax		
	comp=N,12nm,1.3s							
YAK					MLR	MLR		
	comp=Z,490nm,20.0s							
YAK					MLR	MLR		
	comp=N,571nm,20.0s							
YAK					MLR	MLR		
	comp=E,234nm,17.0s							
VSR	**Storozhevoye**	**66.30**	**327**	*e*P		P	04 03 21.3	+7.2
VSR				*e**PP		sP	04 03 27.4	-0.2
VSR					pmax	pmax		
	comp=Z,8.0nm,0.5s							
ISP	**Isparta**	**66.85**	**311**	*e*P		**P**	**04 03 19.6**	**+1.6**
ISP					pmax	pmax		
	comp=Z,5.0nm,1.2s							
LPSR	**Galich'ya Gora**	**67.11**	**328**	*e*P		P	04 03 26.8	+7.6
LPSR				*e**PP		sP	04 03 32.7	0.0
LPSR					pmax	pmax		
	comp=Z,10.0nm,0.6s							
MOS	**Moscow**	**69.32**	**330**	*e*P		P	04 03 40.6	+7.6
MOS					pmax	pmax		
	comp=Z,86nm,0.9s							
OBN	**Obninsk**	**69.54**	**330**	P		**P**	**04 03 33.8**	**-0.7**
	comp=Z,5.9nm,0.4s,baz=94,slow=9.6,SNR=3.8							
OBN	**Obninsk**	**69.54**	**330**	*e*P		**P**	**04 03 34.1**	**-0.3**
OBN				*e*			04 03 54.2	
OBN				*e*			04 06 09.7	
OBN				*e*S		**S**	**04 12 46.3**	**+6.2**
OBN					pmax	pmax		
	comp=Z,24nm,1.7s							
OBN					MLR	MLR		
	comp=Z,181nm,18.0s							
LBTB	**Lobatse**	**69.92**	**243**	*e*P		**P**	**04 03 37.2**	**-0.3**
TIRR	**Tirgusor**	**70.31**	**317**	*i*P		P	04 03 54.4	+15
TLB	**Topalu**	**70.60**	**317**	*i*P		P	04 03 55.9	+15
IDI	**Anoyia**	**70.62**	**307**	P		**P**	**04 03 41.4**	**-0.2**
	comp=Z,2.1nm,0.7s,baz=86,slow=15,SNR=3.1							
CFR	**Carcaliu**	**70.72**	**318**	*i*P		P	04 03 57.2	+15
BOSA	**Boshof**	**71.00**	**239**	P		**P**	**04 03 44.4**	**+0.3**
	comp=Z,6.1nm,1.0s,baz=69,slow=7.1,SNR=6.6							
BOSA					LR	LR	04 33 04.3	
	comp=Z,205nm,18.4s,baz=59,slow=34							
BOSA	**Boshof**	**71.00**	**239**	*e*P		**P**	**04 03 44.2**	**+0.2**
	comp=Z,8.2nm,1.0s							
KLMR	**Klimovskoe**	**71.09**	**336**	*e*P		**P**	**04 03 42.1**	**-1.8**
KLMR					AMP		04 03 58.7	
	comp=Z,32nm,1.3s							
KLMR	**Klimovskoe**	**71.09**	**336**	*e*P		**P**	**04 03 42.0**	**-1.8**
KLMR					pmax	pmax		
	comp=Z,32nm,1.3s							
SORM	**Soroca**	**71.49**	**321**	*i*P		P	04 04 01.0	+15
AKASG	**Malin Array Be**	**71.81**	**323**	P		**P**	**04 03 49.7**	**+1.4**
	comp=Z,0.4nm,0.5s,baz=90,slow=4.6,SNR=2.7							
AKASG					LR	LR	04 37 59.8	
	comp=Z,110nm,21.4s,baz=65,slow=38							
KIEV	**Kiev**	**71.81**	**323**	*e*P		**P**	**04 03 47.4**	**-0.9**
KIEV					pmax	pmax		
	comp=Z,3.0nm,1.2s							
VRI	**Vrincioaia**	**71.86**	**318**	*i*P		P	04 04 04.4	+16
PLOR	**Plostina**	**71.91**	**318**	*i*P		P	04 04 03.3	+14
TESR	**Tescani**	**72.10**	**319**	*i*P		P	04 04 05.1	+15
MLR	**Muntele Rosu**	**72.28**	**317**	P		**P**	**04 03 52.4**	**+1.0**
	comp=Z,0.6nm,0.9s,baz=215,slow=1.2,SNR=6.3							
MLR					LR	LR	04 39 38.1	
	comp=Z,29nm,19.2s,baz=88,slow=39							
MLR	**Muntele Rosu**	**72.28**	**317**	*i*P		P	04 04 07.3	+16
MLR	**Muntele Rosu**	**72.28**	**317**	*e*P		**P**	**04 03 52.5**	**+1.0**
	comp=Z,7.4nm,0.9s							
MAW	**Mawson**	**72.37**	**191**	P		**P**	**04 03 52.8**	**+1.6**
	comp=Z,9.3nm,0.9s,baz=19,slow=8.9,SNR=5.9							
MAW					LR	LR	04 30 15.0	
	comp=Z,266nm,18.8s,baz=54,slow=31							
MAW	**Mawson**	**72.37**	**191**	*e*P		**P**	**04 03 52.9**	**+1.6**
	comp=Z,4.9nm,1.1s							
MA2	**Magadan**	**72.83**	**27**	*e*P		**P**	**04 03 54.4**	**+0.1**
	comp=Z,15nm,0.9s							
MA2	**Magadan**	**72.83**	**27**	*i*P		**P**	**04 03 53.7**	**-0.6**
MA2					pmax	pmax		
	comp=Z,34nm,1.6s							
ARR	**Arges**	**73.14**	**317**	*i*P		P	04 04 11.6	+15
BURAR	**Bucovina Array**	**73.35**	**319**	*i*P		P	04 04 13.6	+16
BUR04	**Bucovina Ar. S**	**73.36**	**319**	*e*P		**P**	**04 03 58.7**	**+1.0**
BUR08	**Bucovina Ar. S**	**73.37**	**319**	*e*P		**P**	**04 03 58.9**	**+1.0**
TIXI	**Tiksi**	**73.39**	**11**	*e*P		**P**	**04 03 56.2**	**-1.1**
TIXI	**Tiksi**	**73.39**	**11**	*c i*P		**P**	**04 03 56.2**	**-1.1**
TIXI					pmax	pmax		
	comp=Z,69nm,1.7s							
VTS	**Vitosha**	**73.47**	**314**	*e*P		**P**	**04 03 58.3**	**-0.3**
	comp=Z,5.1nm,0.8s							
VTS	**Vitosha**	**73.47**	**314**	P		**P**	**04 03 58.3**	**-0.3**
VTS					pmax	pmax		
	comp=Z,5.0nm,0.8s							
PETK	**Petropavlovsk-**	**73.86**	**35**	LR		LR	04 40 03.7	
	comp=Z,176nm,18.6s,baz=244,slow=39							
CJR	**Cluj-Napoca**	**74.18**	**318**	*i*P		P	04 04 18.1	+16
LVV	**L'vov**	**74.71**	**321**	*e*P		P	04 04 15.3	+10
IDID	**Didziasalis**	**74.78**	**327**	*e*P		P	04 04 15.4	+10
IDID					IAmb	IAmb	04 04 22.0	
	comp=Z,12nm,1.0s							
DRGR		**74.79**	**318**	*i*P		P	04 04 21.4	+15
SEY	**Seymchan**	**75.05**	**24**	*de*P		**P**	**04 04 06.9**	**-0.3**
IIGN	**Ignalina**	**75.07**	**327**	*e*P		P	04 04 17.1	+10
IIGN					IAmb	IAmb	04 04 23.6	
	comp=Z,11nm,0.8s							
TRPA	**Tarpa**	**75.23**	**319**	*i*P		P	04 04 24.4	+16
BZS	**Buzias**	**75.26**	**317**	*i*P		P	04 04 23.5	+15
VSU	**Vasula**	**75.85**	**330**	*i*P		**P**	**04 04 11.8**	**0.0**
VSU					pmax	pmax		
	comp=Z,37nm,1.5s							
DZM	**Mont Dzumac**	**75.97**	**113**	LR		LR	04 41 44.5	
	comp=Z,132nm,18.1s,baz=208,slow=39							
PDG	**Podgorica**	**76.31**	**313**	*i*P		P	04 04 29.6	+15
STHS	**Stebnicka Huta**	**76.36**	**321**	*e*PCP		**PcP**	**04 04 24.4**	**-2.4**
STHS				*e*			04 04 30.5	
STHS	**Stebnicka Huta**	**76.36**	**321**	*e*P		**PcP**	**04 04 24.4**	**-2.4**
STHS				*e*			04 04 30.5	
FIA1	**FINESS Array S**	**77.19**	**333**	*e*P		**P**	**04 04 19.3**	**0.0**
	comp=Z,8.5nm,0.9s							
FINES	**FINESS Array B**	**77.19**	**333**	P		**P**	**04 04 19.1**	**-0.2**
	comp=Z,4.6nm,0.8s,baz=74,slow=5.5,SNR=14							
FINES					LR	LR	04 40 12.7	
	comp=Z,266nm,20.7s,baz=111,slow=37							
TIP	**Timpagrande**	**77.68**	**310**	*i*P		P	04 04 38.4	+16
TIP	**Timpagrande**	**77.68**	**310**	*e*P		**P**	**04 04 22.6**	**-0.1**
	comp=Z,13nm,1.3s							
VYHS	**Vyhne**	**77.72**	**319**	*e*PCP		**PcP**	**04 04 32.0**	**-0.6**
VYHS				*e*			04 04 37.8	
VYHS	**Vyhne**	**77.72**	**319**	*e*P		**PcP**	**04 04 32.0**	**-0.6**
VYHS				*e*			04 04 37.8	
KLNR	**Kaliningrad**	**78.19**	**326**	*i*P		**P**	**04 04 26.3**	**+1.2**
KLNR					pmax	pmax		
	comp=Z,33nm,0.6s							
CUC	**Castrocucco**	**78.51**	**310**	*e*P		**P**	**04 04 26.4**	**-0.8**
	comp=Z,4.9nm,0.9s							
MODS	**Modra-Piesok**	**78.72**	**319**	*e*PCP		**PcP**	**04 04 37.0**	**0.0**
MODS				*e*			04 04 43.0	
MODS	**Modra-Piesok**	**78.72**	**319**	*e*P		**PcP**	**04 04 37.0**	**0.0**
MODS				*e*			04 04 43.0	
MORC	**Moravsky Berou**	**78.79**	**320**	*e*P		**P**	**04 04 28.6**	**-0.1**
	comp=Z,20nm,1.1s							
SYO	**Syowa Base**	**79.22**	**197**	*i*P		P	**04 04 30.0**	**-0.4**
SYO	**Syowa Base**	**79.22**	**197**	*e*PcP		**PcP**	**04 04 38.4**	**-0.3**
CONA	**Conrad Observa**	**79.58**	**318**	*i* PcP		**PcP**	**04 04 43.0**	**+2.2**
	comp=Z,8.2nm,1.4s							
BOJS	**Bojanci**	**79.64**	**316**	*i* P		**PcP**	**04 04 42.6**	**+1.5**
DPC	**Dobruska-Polom**	**79.67**	**321**	*e*P		**P**	**04 04 34.7**	**+1.3**
DPC				*e*PCP		**PcP**	**04 04 42.2**	**+1.1**
DPC				*ex*		x	04 04 49.5	
DPC	**Dobruska-Polom**	**79.67**	**321**	*e*P		**P**	**04 04 34.7**	**+1.3**
DPC				*e*			04 04 42.2	
DPC				*e*			04 04 49.5	
ARSA	**Arzberg**	**79.70**	**318**	*i* P		**P**	**04 04 34.8**	**+1.2**
	comp=Z,9.0nm,2.0s							
ARSA				*i* PcP		**PcP**	**04 04 40.2**	**-1.1**
	comp=Z,11nm,1.0s							
UPC	**Upice**	**79.89**	**321**	*e*PCP		**PcP**	**04 04 44.8**	**+2.8**
UPC				*ex*		x	04 04 50.6	
UPC	**Upice**	**79.89**	**321**	*e*P		**PcP**	**04 04 44.8**	**+2.8**
UPC				*e*			04 04 50.6	
PDKS	**Podkum**	**79.89**	**316**	*i* P		**PcP**	**04 04 44.1**	**+1.9**
SOKA	**Soboth**	**79.95**	**317**	*i* PcP		**PcP**	**04 04 45.5**	**+3.0**
	comp=Z,20nm,1.4s							
OBKA	**Obir**	**80.26**	**317**	*i* PcP		**PcP**	**04 04 43.8**	**-0.1**
	comp=Z,8.5nm,1.1s							
ARCES	**ARCESS Array B**	**80.28**	**341**	P		**P**	**04 04 36.2**	**-0.1**
	comp=Z,6.4nm,0.8s,baz=99,slow=7.5,SNR=7.8							
AQU	**L'Aquila**	**80.59**	**312**	*e*P		**P**	**04 04 37.7**	**-0.8**
	comp=Z,14nm,0.8s							
GORS	**Gorjuse**	**80.62**	**317**	*i* P		P	04 04 46.4	+7.7
MOA	**Molln**	**80.63**	**318**	*e*pP		**P**	**04 04 42.2**	**+3.5**
	comp=Z,3.9nm,1.6s							
PRU	**Pruhonice**	**80.74**	**320**	*e*PCP		**PcP**	**04 04 46.3**	**+0.5**
PRU				*ex*		x	04 04 49.4	
PRU				*ex*		x	04 04 54.8	
PRU	**Pruhonice**	**80.74**	**320**	*e*P		**PcP**	**04 04 46.3**	**+0.5**
PRU				*e*			04 04 54.8	
MYKA	**Terra Mystica**	**80.90**	**317**	PcP		**PcP**	**04 04 50.6**	**+4.0**
	comp=Z,1.5nm,0.4s							
GEA0	**GERESS Array S**	**81.13**	**319**	*e*P		**P**	**04 04 41.8**	**+0.5**
GEC2	**GERESS Array S**	**81.13**	**319**	*e*P		**P**	**04 04 42.4**	**+1.0**
	comp=Z,3.0nm,0.9s							
GERES	**GERESS Array B**	**81.13**	**319**	P		**P**	**04 04 41.9**	**+0.5**
	comp=Z,1.9nm,0.8s,baz=91,slow=6.7,SNR=9.7							
GERES					LR	LR	04 43 56.8	
	comp=Z,47nm,20.5s,baz=76,slow=38							
KBA	**Koelnbreinsper**	**81.16**	**317**	*i* pP		**P**	**04 04 46.0**	**+4.4**
	comp=Z,13nm,1.5s							
BRG	**Berggiesshubel**	**81.24**	**321**	*e*P		P	04 04 51.1	+9.3
	comp=Z,10nm,1.5s							
BRG				*e*			04 04 57.0	
	comp=Z,10nm,1.1s							
BRG				*e*			04 05 03.0	
	comp=Z,16nm,1.6s							
BRG				*e*			04 42 55.2	
	comp=Z,4.9nm,1.1s							
	comp=N,145nm,10.7s							
	comp=E,110nm,15.1s							
	comp=Z,190nm,20.4s							
BRG	**Berggiesshubel**	**81.24**	**321**	*e*P		P	04 04 51.1	+9.3
BRG				*e*			04 05 03.0	
BRG					pmax	pmax		
	comp=Z,11nm,1.5s							
BRG					MLR	MLR		
	comp=N,145nm,10.7s							
BRG					MLR	MLR		
	comp=E,110nm,15.1s							
BRG					MLR	MLR		
	comp=Z,190nm,20.4s							
KHC	**Kasperske Hory**	**81.25**	**319**	*e*PCP		**PcP**	**04 04 49.9**	**+1.8**
KHC				*ex*		x	04 04 57.4	
KHC	**Kasperske Hory**	**81.25**	**319**	*e*P		**PcP**	**04 04 49.9**	**+1.8**
KHC				*e*			04 04 57.4	
CLL	**Collm**	**81.89**	**321**	*e*(sP)		**pP**	**04 04 54.0**	**-1.1**
	comp=Z,6.0nm,1.0s							
CLL				*i*			04 05 00.0	
	comp=Z,7.0nm,0.9s							
CLL				*i*			04 05 08.3	
CLL				LmV			04 51 00.0	
	comp=Z,100nm,22.0s							
CLL	**Collm**	**81.89**	**321**	*e*P		**pP**	**04 04 54.0**	**-1.1**
CLL				*i*			04 05 00.0	
CLL					pmax	pmax		
	comp=Z,6.0nm,1.0s							
BILL	**Bilibino**	**82.24**	**21**	*i* P		**P**	**04 04 44.9**	**-1.8**
BILL				*i*			04 04 56.9	
BILL					pmax	pmax		
	comp=Z,3.0nm,1.1s							
BILL					MLR	MLR		
	comp=Z,499nm,18.0s							
WTTA	**Wattenberg**	**82.33**	**317**	*i* PcP		**PcP**	**04 04 57.5**	**+4.5**
	comp=Z,7.0nm,1.0s							
MOTA	**Moosalm**	**82.70**	**317**	*i* P		**P**	**04 04 50.0**	**+0.2**
	comp=Z,4.3nm,1.0s							
MOTA				*i* PcP		**pP**	**04 04 59.1**	**-0.6**
	comp=Z,10.0nm,0.8s							
HFS	**Hagfors**	**82.73**	**330**	P		**P**	**04 04 48.9**	**-0.5**
	comp=Z,1.0nm,0.4s,baz=124,slow=7.2,SNR=11							
HFS					LR	LR	04 44 49.5	
	comp=Z,122nm,20.9s,baz=80,slow=38							
FETA	**Feichten**	**82.93**	**317**	*i* PcP		**PcP**	**04 05 01.0**	**+5.4**
	comp=Z,7.3nm,1.0s							
RETA	**Reutte**	**82.94**	**317**	*i* PcP		**PcP**	**04 05 00.8**	**+5.3**
	comp=Z,13nm,1.2s							
KEST	**Kesra**	**83.25**	**306**	P		**P**	**04 04 53.9**	**+1.2**
	comp=Z,5.2nm,1.1s,baz=333,slow=2.3,SNR=2.8							
DAVA	**Damuels**	**83.53**	**317**	*i* P		**P**	**04 04 54.5**	**+0.5**
	comp=Z,10nm,1.1s							
NB2	**NORSAR Subarra**	**84.07**	**331**	P		**P**	**04 04 55.4**	**-0.9**
	comp=Z,9.3nm,0.9s,baz=92,slow=5.3							
NOA	**NORSAR Array B**	**84.07**	**331**	P		**P**	**04 04 55.3**	**-0.9**
	comp=Z,1.2nm,0.9s,baz=99,slow=4.8,SNR=3.3							
NOA					LR	LR	04 44 22.3	
	comp=Z,112nm,19.3s,baz=120,slow=37							
SPITS	**Spitsbergen Ar**	**85.30**	**348**	P		**P**	**04 05 01.1**	**-1.1**
	comp=Z,16nm,1.0s,baz=64,slow=3.4,SNR=3.7							
SPITS					LR	LR	04 46 54.3	
	comp=Z,237nm,21.8s,baz=235,slow=38							
TAM	**Tamanrasset**	**86.39**	**293**	*e*P		**P**	**04 05 10.2**	**+1.3**
	comp=Z,6.0nm,0.9s							
VNDA	**Vanda**	**87.47**	**168**	P		**P**	**04 05 12.4**	**-0.4**
	comp=Z,2.3nm,1.1s,baz=284,slow=6.4,SNR=6.8							
VNDA					LR	LR	04 38 21.0	
	comp=Z,207nm,20.1s,baz=292,slow=32							
VNDA	**Vanda**	**87.47**	**168**	*e*P		**P**	**04 05 13.1**	**+0.3**
	comp=Z,2.5nm,1.1s							
NVL	**N'lazarevskaya**	**88.67**	**199**	*e*P		**P**	**04 05 19.2**	**+0.6**
NVL					pmax	pmax		
	comp=Z,18nm,0.9s							
TORD	**Torodi Ar. Bea**	**90.26**	**283**	P		**P**	**04 05 27.4**	**+0.2**
	comp=Z,1.1nm,1.2s,baz=238,slow=8.5,SNR=3.8							
EKA	**Eskdalemuir Ar**	**91.62**	**325**	LR		LR	04 50 33.7	
	comp=Z,76nm,20.5s,baz=15,slow=38							
QSPA	**South Pole Qui**	**91.84**	**180**	P		**P**	**04 05 33.8**	**+0.2**
	comp=Z,8.6nm,1.1s,baz=280,slow=19,SNR=11							
QSPA					LR	LR	04 40 34.2	
	comp=Z,307nm,19.2s,baz=245,slow=32							
QSPA	**South Pole Qui**	**91.84**	**180**	*e*P		**P**	**04 05 34.2**	**+0.6**
SNAA	**Sanae**	**93.45**	**198**	LR		LR	04 42 17.8	
	comp=Z,161nm,18.9s,baz=113,slow=32							
BORG	**Borgarnes**	**98.21**	**337**	LR		LR	04 51 12.8	
	comp=Z,138nm,20.8s,baz=34,slow=36							
NVAR	**Mina Array Bea**	**130.89**	**32**	PKP		**PKPdf**	**04 11 36.9**	**-1.0**
	comp=Z,0.1nm,0.3s,baz=240,slow=2.4,SNR=3.7							
PDAR	**Pinedale Array**	**131.32**	**22**	PKP		**PKPdf**	**04 11 37.4**	**-1.2**
	comp=Z,0.2nm,0.5s,baz=336,slow=2.0,SNR=3.2							
MNTX	**Cornudas Mount**	**142.56**	**25**	*e*PKPdf		**PKPdf**	**04 11 58.5**	**-0.9**
X39A	**Fountain Ranch**	**143.27**	**9**	P		PKPab	04 11 55.9	-0.4
	baz=349							
X47A	**Russelville**	**143.77**	**0**	P		PKPab	04 11 57.4	-0.8
	baz=360							
X48A	**Hartselle**	**143.84**	**359**	P		PKPbc	04 11 59.8	+0.6
	baz=1.0							
Y48A	**Jasper**	**144.37**	**359**	P		**PKPab**	**04 11 58.8**	**-1.7**
	baz=0.8							
Y47A	**UCPARC, Winfie**	**144.39**	**0**	P		**PKPab**	**04 11 59.8**	**-0.7**
	baz=360							
Y46A	**Houston**	**144.39**	**2**	P		PKPbc	04 12 00.8	0.0
	baz=358							
Z40A	**Long Farm, Mag**	**144.60**	**8**	P		PKPbc	04 12 01.6	0.0
	baz=350,SNR=5.6							
Z41A	**Richland Creek**	**144.69**	**8**	P		**PKPdf**	**04 12 02.6**	**-0.4**
	baz=351							
Z42A	**Norrel Spur, H**	**144.77**	**6**	P		**PKPab**	**04 12 01.1**	**-0.8**
	baz=352							
Z44A	**Pea Ridge, Bel**	**144.91**	**4**	P		**PKPab**	**04 12 02.2**	**-0.3**
	baz=355							
Z50A	**Ashland**	**145.00**	**358**	P		**PKPab**	**04 12 02.5**	**-0.4**
	baz=2.9							
WHTX	**Lake Whitney,**	**145.02**	**15**	P		**PKPab**	**04 12 02.5**	**-0.5**
	baz=343							
Z49A	**Columbiana**	**145.08**	**358**	P		**PKPbc**	**04 12 02.4**	**-0.7**
	baz=1.9,SNR=5.6							
Z47A	**Carrollton**	**145.09**	**1**	P		**PKPbc**	**04 12 02.3**	**-0.8**
	baz=359,SNR=6.0							
140A	**Cam and Jess,**	**145.18**	**9**	P		**PKPbc**	**04 12 03.4**	**-0.1**
	baz=350							
LRAL	**Lakeview Retre**	**145.25**	**359**	*e*PKPbc		**PKPbc**	**04 12 02.4**	**-1.2**
155A	**Kite**	**145.32**	**352**	P		**PKPbc**	**04 12 03.6**	**-0.3**
	baz=9.0							
TXAR	**Lajitas Array**	**145.34**	**25**	PKPbc		**PKPbc**	**04 12 04.2**	**0.0**
	comp=Z,11nm,0.9s,baz=285,slow=2.3,SNR=56							
143A	**Socs Landing,**	**145.40**	**6**	P		**PKPbc**	**04 12 03.9**	**-0.2**
	baz=353							
154A	**Montrose**	**145.41**	**353**	P		**PKPbc**	**04 12 03.2**	**-1.0**
	baz=7.9							
142A	**Monroe**	**145.49**	**6**	P		**PKPbc**	**04 12 04.4**	**0.0**
	baz=352							
144A	**Alexander Plac**	**145.55**	**4**	P		**PKPab**	**04 12 04.8**	**0.0**
	baz=355,SNR=5.2							
147A	**Livingston**	**145.61**	**1**	P		**PKPdf**	**04 12 04.1**	**-0.5**
	baz=359							
145A	**Houston Renfro**	**145.61**	**3**	P		**PKPbc**	**04 12 04.9**	**+0.1**
	baz=356							
146A	**Union**	**145.62**	**2**	P		**PKPbc**	**04 12 04.9**	**0.0**
	baz=358,SNR=15							
148A	**Greensboro**	**145.64**	**360**	P		**PKPdf**	**04 12 04.0**	**-0.7**
	baz=0.1,SNR=5.2							
150A	**Eclectic**	**145.65**	**358**	P		**PKPdf**	**04 12 04.3**	**-0.4**
	baz=2.8,SNR=6.0							
149A	**Jones**	**145.68**	**359**	P		**PKPdf**	**04 12 04.1**	**-0.7**
	baz=1.5							
151A	**Opelika**	**145.69**	**357**	P		**PKPdf**	**04 12 04.6**	**-0.2**
	baz=4.0,SNR=15							
JCT	**Junction City**	**145.76**	**19**	*e*PKPbc		**PKPdf**	**04 12 04.9**	**-0.1**
NATX	**Nacogdoches**	**145.86**	**11**	*e*PKPbc		**PKPab**	**04 12 06.3**	**+0.3**
241A	**Mo Tay, Goldon**	**145.89**	**8**	P		**PKPab**	**04 12 06.1**	**0.0**
	baz=351							
253A	**Americus**	**146.06**	**355**	P		**PKPbc**	**04 12 06.0**	**-0.2**
	baz=6.2							
254A	**Abbeville**	**146.09**	**353**	P		**PKPbc**	**04 12 06.3**	**0.0**
	baz=7.7,SNR=5.3							
244A	**Avery, Jackson**	**146.12**	**5**	P		**PKPab**	**04 12 06.8**	**-0.1**
	baz=354							
251A	**Midway**	**146.13**	**357**	P		**PKPbc**	**04 12 06.3**	**-0.2**
	baz=4.0,SNR=12							
435B	**Jarrell**	**146.13**	**16**	P		**PKPdf**	**04 12 06.0**	**+0.4**
	baz=342							
252A	**Lumpkin**	**146.18**	**356**	P		**PKPbc**	**04 12 06.3**	**-0.2**
	baz=5.2,SNR=10							
248A	**Dixon Mills**	**146.19**	**0**	P		**PKPbc**	**04 12 06.6**	**0.0**
	baz=360							
247A	**Quitman**	**146.22**	**2**	P		**PKPbc**	**04 12 07.0**	**+0.3**
	baz=358							
250A	**Grady**	**146.28**	**358**	P		**PKPbc**	**04 12 06.6**	**-0.3**
	baz=2.4							
249A	**Camden**	**146.31**	**359**	P		**PKPbc**	**04 12 06.8**	**-0.2**
	baz=0.9,SNR=7.8							
342A	**Flagon Creek P**	**146.60**	**7**	P		**PKPbc**	**04 12 07.5**	**-0.3**
	baz=352							
355A	**Pearson**	**146.63**	**353**	P		**PKPbc**	**04 12 07.4**	**-0.6**
	baz=8.6							
344A	**Westbrook Farm**	**146.70**	**5**	P		**PKPbc**	**04 12 07.9**	**-0.2**
	baz=354							
352A	**Blakely**	**146.71**	**356**	P		**PKPbc**	**04 12 07.5**	**-0.6**
	baz=4.9							
353A	**Camilla**	**146.78**	**355**	P		**PKPbc**	**04 12 08.1**	**-0.2**
	baz=6.2							
347A	**Saraland**	**146.87**	**1**	P		**PKPbc**	**04 12 08.8**	**+0.2**
	baz=358							
349A	**Repton**	**146.93**	**359**	P		**PKPab**	**04 12 09.7**	**-0.4**
	baz=0.8							
351A	**Pinckard**	**146.95**	**357**	P		**PKPab**	**04 12 09.7**	**-0.5**
	baz=3.7							
555A	**McAlpin**	**147.85**	**352**	P		**PKPbc**	**04 12 11.7**	**+0.3**
	ba

s-min=11.1km az=9.2

IDC ***29*** *04:31:20.1±1.4,33°.96N×38°.13W,h0km,mb3.9/23, mb1 4.0/23,mb1mx3.8/83,mbtmp3.9/23,MS3.6/12, Ms1 3.6/12,ms1mx3.3/66,Error ellipse: s-maj=38.9km s-min=17.1km az=5.0*

CSEM ***29*** *04:31:21.7±0.3,34°.02N×38°.12W,h10km,mb4.1/5,Error ellipse: s-maj=17.7km s-min=7.9km az=8.0*

NEIC ***29*** *04:31:21.6±0.7,33°.97N×38°.11W,h10km,mb4.1/4,Error ellipse: s-maj=18.4km s-min=8.0km az=189.0*

ISC 29 04:31:21.6±1.1,34°.0N±0°.2×38°.1W±0°.1,h10km,n44,
σ0s74/30,mb4.0/27,MS3.6/12,Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBTS	**Babate**	**27.38**	**129**	LR	LR	04 46 03.9	
	comp=Z,173nm,21.1s,baz=350,slow=32						
KOWA	**Kowa**	**36.39**	**114**	LR	LR	04 51 41.8	
	comp=Z,129nm,18.1s,baz=26,slow=34						
TKL	**Tuckaleechee C**	**37.27**	**286**	LR	LR	04 52 21.2	
	comp=Z,161nm,20.4s,baz=142,slow=34						
TAM	**Tamanrasset**	**39.71**	**95**	*eP*	**P**	**04 38 54.9**	**+0.4**
	3.3nm,1.0s						
GERES	**GERESS Array B**	**40.82**	**53**	P	**P**	**04 39 04.5**	**+1.2**
	0.5nm,0.6s,baz=243,slow=6.5,SNR=2.5						
DBIC	**Dimbokro**	**41.01**	**124**	LR	LR	04 53 46.6	
	comp=Z,91nm,19.6s,baz=12,slow=33						
NB2	**NORSAR Subarra**	**41.47**	**34**	P	**P**	**04 39 09.6**	**+1.2**
	comp=Z,3.3nm,1.0s,baz=256,slow=9.3						
NOA	**NORSAR Array B**	**41.47**	**34**	P	**P**	**04 39 08.8**	**+0.3**
	comp=Z,0.7nm,0.8s,baz=268,slow=7.5,SNR=2.8						
TORD	**Torodi Ar. Bea**	**41.61**	**110**	P	**P**	**04 39 10.1**	**+0.1**
	comp=Z,1.0nm,1.0s,baz=299,slow=6.7,SNR=4.1						
TORD				LR	LR	04 54 46.1	
	comp=Z,157nm,20.0s,baz=315,slow=34						
VAE	**Valguarnera**	**42.34**	**70**	P	**P**	**04 39 17.2**	**+1.4**
	comp=Z,2.8nm,0.4s,baz=290,slow=18,SNR=2.0						
HFS	**Hagfors**	**42.40**	**36**	P	**P**	**04 39 15.1**	**-0.8**
	comp=Z,1.9nm,1.0s,baz=241,slow=11,SNR=2.2						
CUC	**Castrocucco**	**42.96**	**66**	*eP*	**P**	**04 39 19.6**	**-1.3**
	comp=Z,7.6nm,1.4s						
FCC	**Fort Churchill**	**44.20**	**322**	*eP*	**P**	**04 39 30.4**	**-0.1**
	comp=Z,2.8nm,0.9s						
H10N2	**ASCENSION HYDR**	**47.21**	**147**	T	T	05 30 02.0	
	baz=332,slow=75,SNR=22						
H10N3	**ASCENSION HYDR**	**47.21**	**147**	T	T	05 30 06.9	
	baz=332,slow=75,SNR=20						
H10N1	**ASCENSION HYDR**	**47.23**	**147**	T	T	05 30 03.5	
	baz=332,slow=75,SNR=22						
H10S1	**ASCENSION HYDR**	**48.12**	**148**	T	T	05 31 11.3	
	baz=333,slow=75,SNR=20						
H10S3	**ASCENSION HYDR**	**48.13**	**148**	T	T	05 31 11.4	
	baz=333,slow=75,SNR=21						
H10S2	**ASCENSION HYDR**	**48.14**	**148**	T	T	05 31 11.8	
	baz=333,slow=75,SNR=18						
FINES	**FINESS Array B**	**48.59**	**35**	P	**P**	**04 40 04.4**	**-0.6**
	comp=Z,1.3nm,0.8s,baz=230,slow=11,SNR=4.2						
JTS	**JuntasAbangare**	**48.83**	**252**	LR	LR	05 00 14.9	
	comp=Z,56nm,18.6s,baz=101,slow=36						
RES	**Resolute Bay**	**48.94**	**343**	P	**P**	**04 40 07.8**	**+0.3**
	comp=Z,1.6nm,1.1s,baz=115,slow=8.8,SNR=3.6						
MLR	**Muntele Rosu**	**49.39**	**56**	P	**P**	**04 40 10.7**	**-0.8**
	comp=Z,0.8nm,1.1s,baz=259,slow=12,SNR=2.8						
KIEV	**Kiev**	**50.74**	**49**	*eP*	**P**	**04 40 20.9**	**-0.6**
	comp=Z,2.6nm,0.9s						
AKASG	**Malin Array Be**	**50.75**	**49**	P	**P**	**04 40 21.0**	**-0.6**
	comp=Z,0.2nm,0.3s,baz=274,slow=7.0,SNR=2.8						
AKASG				LR	LR	04 59 50.6	
	comp=Z,37nm,19.1s,baz=95,slow=34						
IDI	**Anoyia**	**51.07**	**70**	LR	LR	04 59 45.5	
	comp=Z,24nm,20.9s,baz=256,slow=33						
CMIG	**Matias Romero**	**53.27**	**267**	LR	LR	05 03 03.5	
	comp=Z,56nm,18.0s,baz=36,slow=36						
YKA	**Yellowknife Ar**	**54.37**	**326**	P	**P**	**04 40 48.0**	**-0.2**
	comp=Z,0.6nm,0.8s,baz=84,slow=7.5,SNR=5.3						
OBN	**Obninsk**	**54.47**	**43**	LR	LR	05 02 12.5	
	comp=Z,71nm,20.1s,baz=266,slow=34						
TXAR	**Lajitas Array**	**55.16**	**284**	P	**P**	**04 40 55.1**	**+0.5**
	comp=Z,0.3nm,0.6s,baz=25,slow=7.0,SNR=3.1						
PDAR	**Pinedale Array**	**55.19**	**302**	P	**P**	**04 40 54.6**	**-0.2**
	comp=Z,1.1nm,0.9s,baz=72,slow=9.5,SNR=3.9						
BRTR	**Keskin Array B**	**56.32**	**62**	P	**P**	**04 41 01.5**	**-1.3**
	comp=Z,0.7nm,0.9s,baz=289,slow=4.4,SNR=3.3						
BRTR				LR	LR	05 03 58.0	
	comp=Z,22nm,18.2s,baz=276,slow=35						
INK	**Inuvik**	**60.86**	**335**	P	**P**	**04 41 34.0**	**+0.3**
	comp=Z,1.3nm,0.8s,baz=85,slow=12,SNR=3.6						
KBZ	**Khabaz**	**61.51**	**55**	P	**P**	**04 41 38.9**	**+0.4**
	comp=Z,1.8nm,0.7s,baz=296,slow=6.7,SNR=6.4						
NVAR	**Mina Array Bea**	**62.91**	**300**	P	**P**	**04 41 47.4**	**-1.0**
	comp=Z,0.4nm,0.8s,baz=78,slow=5.6,SNR=2.6						
NVAR				LR	LR	05 09 27.5	
	comp=Z,83nm,18.7s,baz=271,slow=36						
ARU	**Arti**	**65.89**	**37**	P	**P**	**04 42 07.3**	**0.0**
	comp=Z,1.2nm,0.3s,baz=238,slow=5.5,SNR=3.6						
AKTO	**Aktyubinsk**	**68.25**	**43**	P	**P**	**04 42 22.6**	**+0.2**
	comp=Z,2.7nm,0.8s,baz=293,slow=5.9,SNR=10						
BVAR	**Borovoye Array**	**73.52**	**37**	P	**P**	**04 42 53.9**	**-0.5**
	comp=Z,0.5nm,0.4s,baz=270,slow=4.4,SNR=5.4						
TIXI	**Tiksi**	**74.29**	**4**	P	**P**	**04 42 59.1**	**+0.5**
	comp=Z,1.7nm,0.3s,baz=2,slow=4.0,SNR=6.8						
KURK	**Kurchatov**	**78.97**	**35**	P	**P**	**04 43 25.9**	**+0.5**
KURBB	**Kurchatov Arra**	**78.98**	**35**	P	**P**	**04 43 25.9**	**+0.4**
	comp=Z,0.8nm,0.7s,baz=316,slow=5.1,SNR=9.0						
ZALV	**Zalesovo Beam**	**79.56**	**30**	P	**P**	**04 43 29.2**	**+0.7**
	comp=Z,0.4nm,0.3s,baz=310,slow=5.4,SNR=2.5						
MKAR	**Makanchi Array**	**83.41**	**37**	P	**P**	**04 43 49.3**	**+0.1**
	comp=Z,1.2nm,1.0s,baz=316,slow=3.3,SNR=8.2						
ASAR	**Alice Springs**	**167.60**	**36**	PKPab	**PKPab**	**04 52 33.5**	**-0.8**
	comp=Z,0.4nm,0.8s,baz=315,slow=4.6,SNR=3.7						

IDC ***29*** *04:31:55.7±1.1,5°.27S×152°.20E,h0km,mb4.0/9, mb1 4.2/10,mb1mx3.8/57,mbtmp4.0/10,ML2.1/1,Error ellipse: s-maj=47.9km s-min=19.0km az=125.0*

ISCJB ***29*** *04:32:00.8±0.8,5°.3S±0°.2×152°.0E±0°.2,h45km,mb4.0/10, Error ellipse: s-maj=38.2km s-min=8.5km az=40.8*

NEIC ***29*** *04:32:03.1±2.4,5°.36S×152°.12E,h56km±21km,mb4.3/2, Error ellipse: s-maj=30.7km s-min=14.6km az=126.0*

ISC 29 04:32:02.3±1.0,5°.3S±0°.2×152°.1E±0°.2,h45km,n16,
σ0s72/18,mb4.0/10,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.38**	**230**	Pn	**Pn**	**04 33 34.5**	**+0.8**
	2.3nm,0.3s,baz=32,slow=11,SNR=8.2						
PMG				Sn	**Sn**	**04 34 44.8**	**-0.5**
	23nm,0.3s,baz=101,slow=10,SNR=12						
WRAB	**Tennant Creek**	**22.58**	**228**	*eP*	**P**	**04 36 58.3**	**-0.8**
WRA	**Warramunga Arr**	**22.59**	**228**	P	**P**	**04 36 58.4**	**-0.8**
	1.6nm,0.5s,baz=54,slow=9.9,SNR=20						
WRA				PcP	**PcP**	**04 40 51.7**	**+0.4**
	0.5nm,0.8s,baz=45,slow=2.7,SNR=3.3						
ASAR	**Alice Springs**	**25.31**	**222**	P	**P**	**04 37 25.1**	**+0.2**
	2.0nm,0.6s,baz=52,slow=9.2,SNR=23						
SONM	**Songino Array**	**66.40**	**328**	P	**P**	**04 42 47.9**	**+1.1**
	0.8nm,0.6s,baz=164,slow=7.2,SNR=4.1						
SEY	**Seymchan**	**68.06**	**0**	P	**P**	**04 42 55.6**	**-1.2**
	0.6nm,0.3s,baz=134,slow=5.0,SNR=4.2						
MKAR	**Makanchi Array**	**80.27**	**319**	P	**P**	**04 44 08.7**	**+0.3**
	0.7nm,0.8s,baz=104,slow=4.0,SNR=4.2						
MCK	**McKinley**	**81.60**	**23**	*eP*	**P**	**04 44 14.8**	**-0.4**
COLA	**College**	**82.58**	**22**	*eP*	**P**	**04 44 19.6**	**-0.6**
	3.5nm,0.7s						
ILAR	**Eielson Array**	**82.89**	**22**	P	**P**	**04 44 21.4**	**-0.4**
	2.4nm,0.7s,baz=247,slow=5.6,SNR=31						
AAK	**Ala-Archa**	**84.53**	**314**	P	**P**	**04 44 30.9**	**0.0**
	0.9nm,0.5s,baz=175,slow=18,SNR=3.9						
AAK	**Ala-Archa**	**84.53**	**314**	*eP*	**P**	**04 44 30.2**	**-0.7**
	1.1nm,0.6s						
NVAR	**Mina Array Bea**	**92.94**	**52**	P	**P**	**04 45 11.2**	**-0.1**
	0.4nm,0.7s,baz=249,slow=7.5,SNR=3.3						
YKA	**Yellowknife Ar**	**96.20**	**28**	P	**P**	**04 45 26.4**	**+1.1**
	0.4nm,0.8s,baz=269,slow=4.8,SNR=6.2						
TORD	**Torodi Ar. Bea**	**149.81**	**287**	PKPbc	**PKPbc**	**04 51 48.5**	**0.0**
	1.4nm,0.8s,baz=88,slow=2.6,SNR=13						
KOWA	**Kowa**	**154.81**	**293**	PKPbc	**PKPbc**	**04 51 59.2**	**-0.6**
	1.1nm,0.8s,baz=148,slow=2.1,SNR=3.5						

IDC ***29*** *04:34:40.2±3.4,50°.47N×130°.08W,h0km,mb3.6/1, mb1 3.4/6,mb1mx3.2/84,mbtmp3.2/6,ML3.2/5,Error ellipse: s-maj=46.4km s-min=20.1km az=53.0*

ISCJB ***29*** *04:34:42.7±2.3,50°.7N±0°.2×129°.8W±0°.3,h10km,mb3.7/1, Error ellipse: s-maj=35.2km s-min=15.2km az=138.9*

ISC 29 04:34:45.6±2.6,50°.8N±0°.2×129°.6W±0°.2,h10km,n6,
σ1s28/6,Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBB	**Bella Bella**	**1.66**	**34**	Pn	**Pn**	**04 35 14.9**	**+0.2**
	7.7nm,0.3s,baz=226,slow=15,SNR=78						
DLBC	**Dease Lake**	**7.64**	**358**	Pn	**Pn**	**04 36 37.8**	**+0.9**
	0.2nm,0.3s,baz=183,slow=13,SNR=5.8						
YKA	**Yellowknife Ar**	**14.27**	**29**	Pn	**Pn**	**04 38 07.2**	**-0.2**
	0.0nm,0.3s,baz=218,slow=12,SNR=5.8						
PDAR	**Pinedale Array**	**15.88**	**113**	Pn	**Pn**	**04 38 28.7**	**-0.6**
	0.0nm,0.3s,baz=309,slow=9.2,SNR=2.6						
ILAR	**Eielson Array**	**16.66**	**334**	Pn	**Pn**	**04 38 37.7**	**-1.1**
	0.1nm,0.3s,baz=142,slow=10,SNR=3.3						
ULM	**Lac du Bonnet**	**21.35**	**78**	P	**P**	**04 39 34.2**	**+1.6**
	1.8nm,0.6s,baz=275,slow=9.8,SNR=6.2						

ISCJB ***29*** *04:35:03.6±0.4,50°.66N±0°.04×129°.64W±0°.08,h10km, mb3.9/14,MS3.4/1,Error ellipse: s-maj=8.3km s-min=4.3km az=150.1*

IDC ***29*** *04:35:03.5±0.8,50°.56N×129°.68W,h0km,mb3.9/7, mb1 4.0/15,mb1mx3.7/87,mbtmp3.8/15,ML3.4/8,MS3.4/3, Ms1 3.4/3,ms1mx2.9/65,Error ellipse: s-maj=16.5km s-min=10.2km az=60.0*

NEIC ***29*** *04:35:08.7±0.5,50°.68N×129°.60W,h35km,mb4.0/11, Error ellipse: s-maj=11.3km s-min=5.3km az=52.0*

ISC 29 04:35:05.2±0.7,50°.66N±0°.07×129°.57W±0°.08,h10km,n51,
σ1s44/45,mb3.9/14,Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBB	**Bella Bella**	**1.77**	**30**	Pn	**Pn**	**04 35 35.7**	**-0.3**
	16nm,0.3s,baz=231,slow=14,SNR=16						
BBB				Sn	**Sn**	**04 35 56.9**	**-1.7**
	32nm,0.3s,baz=252,slow=17,SNR=7.0						
PGC	**Sidney**	**4.45**	**115**	*ePn*	**Pn**	**04 36 12.1**	**-0.7**
DLBC	**Dease Lake**	**7.80**	**358**	Pn	**Pn**	**04 36 58.5**	**-0.2**
	0.6nm,0.3s,baz=190,slow=14,SNR=11						
DLBC				Sn	**Sn**	**04 38 29.2**	**+2.3**
	0.8nm,0.3s,baz=216,slow=9.7,SNR=4.7						
DLBC				LR	LR	04 39 51.9	
	comp=Z,321nm,20.7s,baz=272,slow=36						
NEW	**Newport**	**8.46**	**102**	Pn	**Pn**	**04 37 07.0**	**-0.7**
	0.2nm,0.3s,baz=270,slow=13,SNR=2.6						
HUMO	**Hull Mountain**	**9.25**	**148**	*ePn*	**Pn**	**04 37 18.3**	**-0.3**
	246nm,1.9s						
YBH	**Yreka Blue Hor**	**10.11**	**149**	Pn	**Pn**	**04 37 30.5**	**0.0**
	0.1nm,0.3s,baz=326,slow=1.5,SNR=6.5						
YBH				LR	LR	04 40 52.3	
	comp=Z,220nm,20.0s,baz=328,slow=35						
WVOR	**Wild Horse Val**	**11.14**	**133**	*ePn*	**Pn**	**04 37 46.7**	**+2.1**
	4.6nm,1.1s						
MCMT	**McKenzie Canyo**	**12.66**	**111**	*ePn*	**Pn**	**04 38 05.7**	**+0.2**
	0.9nm,0.8s						
PAHR	**Pah Rah Range**	**13.08**	**143**	*ePn*	**Pn**	**04 38 14.3**	**+3.1**
EGMT	**Eagleton**	**13.18**	**94**	*ePn*	**Pn**	**04 38 15.8**	**+3.4**
H17A	**Grant Village**	**14.26**	**109**	*ePn*	**Pn**	**04 38 29.8**	**+2.4**
	3.1nm,0.8s						
YKA	**Yellowknife Ar**	**14.39**	**29**	Pn	**Pn**	**04 38 27.4**	**-1.3**
	0.1nm,0.3s,baz=218,slow=12,SNR=13						
NVAR	**Mina Array Bea**	**14.61**	**143**	Pn	**Pn**	**04 38 34.2**	**+2.1**
	baz=318,slow=12,SNR=6.0						
DUG	**Dugway, Tooele**	**15.71**	**125**	*ePn*	**Pn**	**04 38 48.8**	**+2.2**
	3.8nm,0.9s						
PDAR	**Pinedale Array**	**15.80**	**112**	Pn	**Pn**	**04 38 50.0**	**+2.2**
	0.1nm,0.3s,baz=311,slow=11,SNR=18						
LAO	**LASA Array**	**15.90**	**95**	*ePn*	**Pn**	**04 38 50.9**	**+1.9**
	5.6nm,0.9s						
DGMT	**Dagmar**	**16.58**	**88**	*ePn*	**P**	**04 38 60.0**	**-0.2**
	13nm,1.0s						
MCK	**McKinley**	**16.68**	**329**	*ePn*	**Pn**	**04 38 59.7**	**+0.9**
ILAR	**Eielson Array**	**16.80**	**334**	Pn	**P**	**04 39 02.7**	**+0.2**
	0.1nm,0.3s,baz=146,slow=11,SNR=15						
COLA	**College**	**17.16**	**333**	*ePn*	**Pn**	**04 39 04.7**	**-0.1**
FFC	**Flin Flon**	**17.16**	**66**	*ePn*	**P**	**04 39 07.2**	**+0.8**
	4.8nm,0.9s						
MSU	**Marysvale**	**17.30**	**128**	*ePn*	**P**	**04 39 10.0**	**+1.6**
K22A	**Casper**	**17.68**	**108**	*ePn*	**Pn**	**04 39 12.1**	**+0.5**
	11nm,1.1s						
INK	**Inuvik**	**17.81**	**355**	P	**Pn**	**04 39 11.8**	**-0.9**
	0.0nm,0.3s,baz=179,slow=16,SNR=4.8						
PV01	**Paradox Valley**	**19.46**	**122**	*eP*	**P**	**04 39 32.1**	**-0.1**
COLD	**Coldfoot**	**19.55**	**336**	*eP*	**P**	**04 39 33.1**	**+0.4**
	9.6nm,1.1s						
WUAZ	**Wupatki**	**20.06**	**132**	*eP*	**P**	**04 39 38.7**	**0.0**
	4.5nm,0.9s						
MVCO	**Mesa Verde**	**20.18**	**124**	*eP*	Pn	04 39 42.4	+0.4
	11nm,1.3s						
ULM	**Lac du Bonnet**	**21.35**	**78**	P	**P**	**04 39 52.2**	**-0.2**
	5.0nm,1.0s,baz=295,slow=11,SNR=3.3						
SDCO	**Great Sand Dun**	**21.43**	**118**	*eP*	**P**	**04 39 53.6**	**-0.1**
	4.0nm,1.1s						
FCC	**Fort Churchill**	**21.81**	**54**	*eP*	**P**	**04 39 57.3**	**+0.1**
	5.4nm,0.9s						
TUC	**Tucson**	**23.00**	**136**	*eP*	**P**	**04 40 09.0**	**-1.1**
	6.8nm,1.1s						
ECSD	**EROS Data Cent**	**23.30**	**94**	*eP*	**P**	**04 40 13.7**	**+0.7**
	6.5nm,1.0s						
AMTX	**Amarillo**	**25.63**	**117**	*eP*	**P**	**04 40 34.7**	**-0.2**
	6.0nm,0.9s						
MNTX	**Cornudas Mount**	**26.08**	**127**	*eP*	**P**	**04 40 37.5**	**-1.3**
	3.0nm,1.2s						
TXAR	**Lajitas Array**	**28.86**	**128**	P	**P**	**04 41 03.6**	**-0.3**
	0.6nm,0.8s,baz=323,slow=7.9,SNR=4.3						
PETK	**Petropavlovsk-**	**43.17**	**303**	P	**P**	**04 43 05.4**	**-0.4**
	1.8nm,0.7s,baz=76,slow=12,SNR=2.8						
ASAJ	**Asahikawa**	**56.47**	**300**	P	**P**	**04 44 45.4**	**-1.7**
	4.7nm,0.8s,baz=119,slow=13,SNR=3.3						
H11N2	**WAKE ISLAND Hy**	**58.26**	**263**	T	T	05 47 29.2	
	baz=42,slow=75,SNR=306						
H11N3	**WAKE ISLAND Hy**	**58.26**	**263**	T	T	05 47 31.7	
	baz=42,slow=75,SNR=258						
H11N1	**WAKE ISLAND Hy**	**58.28**	**263**	T	T	05 47 30.4	
	baz=42,slow=75,SNR=220						
KLR	**Kul'dur**	**58.70**	**311**	P	**P**	**04 45 01.9**	**-0.7**
	0.0nm,0.4s,baz=172,slow=1.6,SNR=3.6						
H11S1	**WAKE ISLAND Hy**	**59.29**	**262**	T	T	05 48 49.3	
	baz=40,slow=74,SNR=11						
H11S2	**WAKE ISLAND Hy**	**59.30**	**262**	T	T	05 48 50.4	
	baz=40,slow=74,SNR=9.4						
H11S3	**WAKE ISLAND Hy**	**59.31**	**262**	T	T	05 48 48.9	
	baz=40,slow=74,SNR=9.7						
OTAV	**Otavalo**	**66.25**	**122**	*eP*	**P**	**04 45 52.3**	**-1.8**
	3.8nm,1.2s						
KSRS	**Korea Array**	**69.06**	**304**	LR	LR	05 16 24.7	
	comp=Z,22nm,18.7s,baz=296,slow=36						
ZALV	**Zalesovo Beam**	**71.84**	**339**	P	**P**	**04 46 28.7**	**+1.0**
	0.6nm,0.4s,baz=20,slow=4.6,SNR=2.6						
KURK	**Kurchatov**	**76.18**	**342**	P	**P**	**04 46 55.7**	**+2.5**
KURBB	**Kurchatov Arra**	**76.29**	**342**	P	**P**	**04 46 55.7**	**+1.9**
	0.4nm,0.7s,baz=21,slow=5.6,SNR=2.2						
MKAR	**Makanchi Array**	**79.10**	**338**	P	**P**	**04 47 10.5**	**+0.9**
	0.4nm,0.7s,baz=42,slow=4.5,SNR=5.3						

IDC ***29*** *04:39:30.9±0.8,14°.75N×95°.22W,h0km,mb4.1/15, mb1 4.4/19,mb1mx4.3/44,mbtmp4.2/19,ML4.2/4,MS3.4/8, Ms1 3.4/8,ms1mx3.1/51,Error ellipse: s-maj=27.3km s-min=13.5km az=54.0*

NEIC ***29*** *04:39:33.8±0.0,14°.85N×95°.08W,h20km,mb4.4/73, MD4.5(MEX),After MEX.*

MEX ***29*** *04:39:33.8±0.7,14°.85N×95°.08W,h20km±21km,MD4.5*

ISC 29 04:39:35.4±3.1,14°.89N±0°.07×95°.03W±0°.04,h25km±22km,
n403,σ1s65/412,mb4.4/80,MS3.6/6,Off coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**1.36**	**310**	*eP*	Pn	04 39 54.5	-4.3
HUIG				*eS*	**Sn**	**04 40 10.1**	**-5.9**
HUIG	**Huatulco**	**1.36**	**310**	*eP*	Pn	04 39 54.5	-4.3
HUIG				*eS*	**Sn**	**04 40 10.1**	**-5.9**
PCIG		**1.92**	**65**	*eP*	**Pn**	**04 40 03.9**	**-2.6**
PCIG				*eS*	**Sn**	**04 40 27.1**	**-2.8**
PCIG		**1.92**	**65**	*eP*	**Pn**	**04 40 03.9**	**-2.6**
PCIG				*eS*	**Sn**	**04 40 27.1**	**-2.8**
CMIG	**Matias Romero**	**2.19**	**4**	Pn	**Pn**	**04 40 08.7**	**-1.6**
	50nm,0.3s,baz=176,slow=14,SNR=510						
CMIG				Sn	**Sn**	**04 40 34.5**	**-2.0**
	114nm,0.3s,baz=167,slow=23,SNR=12						
CMIG				LR	LR	04 40 55.6	
	comp=Z,504nm,18.8s,baz=158,slow=36						
TGIG		**2.62**	**44**	*eP*	**Pn**	**04 40 15.3**	**-0.9**
TGIG				*eS*	**Sn**	**04 40 45.3**	**-1.9**
TGIG		**2.62**	**44**	*eP*	**Pn**	**04 40 15.3**	**-0.9**
TGIG				*eS*	**Sn**	**04 40 45.3**	**-1.9**
VHO	**Vista Hermosa**	**2.72**	**323**	*eP*	**Pn**	**04 40 16.6**	**-1.1**
VHO				*eS*	**Sn**	**04 40 46.6**	**-3.2**
VHO	**Vista Hermosa**	**2.72**	**323**	*eP*	**Pn**	**04 40 16.6**	**-1.1**
VHO				*eS*	**Sn**	**04 40 46.6**	**-3.2**
CCIG	**Comitan**	**3.11**	**63**	*eP*	**Pn**	**04 40 22.6**	**-0.4**
CCIG	**Comitan**	**3.11**	**63**	*ePn*	**Pn**	**04 40 22.8**	**-0.3**
CCIG				*eSn*	Sn	04 40 51.5	-8.0
TLIG	**Tlapa**	**4.31**	**308**	*ePn*	**Pn**	**04 40 40.6**	**+1.0**
TLIG				*eSn*	**Sn**	**04 41 24.5**	**-4.7**
APG	**El Apazote**	**4.41**	**88**	Pn	**Pn**	**04 40 40.5**	**-0.5**
	31nm,0.3s,baz=203,slow=14,SNR=96						
APG				Sn	**Sn**	**04 41 32.1**	**+0.5**
	31nm,0.3s,baz=337,slow=19,SNR=8.7						
APG				LR	LR	04 41 40.8	
	comp=Z,150nm,20.9s,baz=300,slow=28						
TGUH	**Tegucigalpa,Un**	**7.55**	**95**	*ePn*	**Pn**	**04 41 21.8**	**-2.2**
JTS	**JuntasAbangare**	**10.84**	**114**	Pn	**Pn**	**04 42 09.0**	**-0.2**
	1.5nm,0.3s,baz=5.9,slow=17,SNR=12						
JTS				Sn	**Sn**	**04 44 03.7**	**-6.1**
	0.2nm,0.3s,baz=3.6,slow=19,SNR=1.8						
JTS	**JuntasAbangare**	**10.84**	**114**	*ePn*	**Pn**	**04 42 09.2**	**+0.1**
	16nm,0.8s						
JTS				Sn	**Sn**	**04 44 03.7**	**-6.1**
833A	**Chaparral WMA,**	**13.96**	**344**	P	**Pn**	**04 42 53.5**	**+1.7**
	baz=163,SNR=7.6						
435B	**Jarrell**	**15.99**	**352**	P	**Pn**	**04 43 19.6**	**+0.9**
	baz=171,SNR=8.2						
JCT	**Junction City**	**16.12**	**345**	P	**Pn**	**04 43 20.6**	**+0.1**
	baz=163						
JCT	**Junction City**	**16.12**	**345**	*ePn*	**Pn**	**04 43 20.4**	**0.0**
	15nm,0.6s						
TXAR	**Lajitas Array**	**16.44**	**332**	Pn	**Pn**	**04 43 25.8**	**+1.3**
	0.1nm,0.3s,baz=153,slow=14,SNR=33						
TX31	**Lajitas Ar. Si**	**16.44**	**332**	*ePn*	**Pn**	**04 43 26.0**	**+1.5**
341A	**Kurthwood**	**16.45**	**6**	P	**Pn**	**04 43 25.2**	**+0.6**
	baz=186						
NATX	**Nacogdoches**	**16.79**	**1**	P	**Pn**	**04 43 28.0**	**-0.9**
	baz=181						
241A	**Mo Tay, Goldon**	**17.16**	**6**	P	**Pn**	**04 43 34.9**	**+1.4**
	baz=187,SNR=8.5						
WHTX	**Lake Whitney,**	**17.16**	**353**	P	**Pn**	**04 43 34.7**	**+1.1**
	baz=172,SNR=5.6						
WHTX	**Lake Whitney,**	**17.16**	**353**	*eP*	**Pn**	**04 43 32.5**	**-1.1**
	20nm,0.4s						
140A	**Cam and Jess,**	**17.72**	**4**	P	**Pn**	**04 43 40.5**	**+0.1**
	baz=185						
349A	**Repton**	**17.88**	**22**	P	**Pn**	**04 43 41.9**	**-0.5**
	baz=205						
ABTX	**Abilene, Hawle**	**18.14**	**347**	P	**Pn**	**04 43 45.3**	**-0.5**
	baz=166,SNR=9.8						
ABTX	**Abilene, Hawle**	**18.14**	**347**	*ePn*	**Pn**	**04 43 44.6**	**-1.2**
	42nm,1.1s						
Z40A	**Long Farm, Mag**	**18.34**	**4**	P	**P**	**04 43 47.5**	**-0.5**
	baz=185						
248A	**Dixon Mills**	**18.37**	**20**	P	**P**	**04 43 47.5**	**-0.8**
	baz=203,SNR=5.6						
Z41A	**Richland Creek**	**18.39**	**6**	P	**P**	**04 43 47.9**	**-0.7**
	baz=187						
148A	**Greensboro**	**18.93**	**20**	P	**P**	**04 43 54.3**	**-0.2**
	baz=203,SNR=5.7						
556A	**Lake Butler**	**19.00**	**36**	P	**P**	**04 43 54.6**	**-0.7**
	baz=220						
Z45A	**Winona**	**19.02**	**14**	P	**P**	**04 43 54.4**	**-1.1**
	baz=196						
Z46A	**Louisville**	**19.04**	**16**	P	**P**	**04 43 54.7**	**-0.9**
	baz=198						
Y40A	**Okolona**	**19.10**	**4**	P	**P**	**04 43 55.4**	**-0

HELC	Santa Helena 65nm,0.8s	21.01	112	eP	P	P	04 44 20.2	+2.5
W46A	Michie baz=198	21.02	15	P	P	P	04 44 15.1	-2.1
X49A	Woodville baz=204	21.05	20	P	P	P	04 44 15.7	-1.9
121A	Cookes Peak, D baz=144	21.05	329	P	P	P	04 44 19.5	+1.6
121A	Cookes Peak, D 19nm,1.2s	21.05	329	eP	P	P	04 44 19.9	+2.1
V42A	Cord baz=190,SNR=12	21.08	8	P	P	P	04 44 16.0	-1.9
GOGA	Godfrey baz=212	21.21	28	P	P	P	04 44 17.6	-1.7
GOGA	Godfrey 5.5nm,0.8s	21.21	28	eP	P	P	04 44 17.4	-1.8
HHAR	Hobbs 24nm,0.7s	21.32	2	eP	P	P	04 44 19.5	-1.0
W47A	Westpoint baz=200	21.34	17	P	P	P	04 44 18.5	-2.2
W48A	Pulaski baz=202	21.43	18	P	P	P	04 44 19.7	-2.0
U39A	Green Forest baz=184,SNR=10	21.44	3	P	P	P	04 44 21.2	-0.6
U40A	Yellville baz=186,SNR=25	21.46	5	P	P	P	04 44 21.2	-0.8
U41A	Viola baz=188,SNR=28	21.54	7	P	P	P	04 44 21.7	-1.2
U42A	Revenden baz=190,SNR=17	21.64	8	P	P	P	04 44 22.2	-1.6
V46A	Holladay baz=198,SNR=9.9	21.72	15	P	P	P	04 44 21.9	-2.9
U43A	Rector baz=192	21.78	10	P	P	P	04 44 23.5	-1.9
SWET	Sewanee 3.2nm,0.7s	21.82	20	eP	P	P	04 44 23.1	-2.8
V47A	Nunnelly baz=200,SNR=5.3	21.90	17	P	P	P	04 44 24.1	-2.6
OTAV	Otavalo 5.2nm,1.1s	21.92	130	eP	P	P	04 44 27.9	+0.3
LPM	Los Pinos Moun 0.3nm,0.8s	21.99	334	eP	P	P	04 44 30.8	+2.9
V48A	Smith Brothers baz=202	22.02	18	P	P	P	04 44 25.6	-2.4
T38A	Diamond baz=182,SNR=26	22.06	2	P	P	P	04 44 27.2	-1.2
U45A	Rockin P Farm, baz=196	22.09	14	P	P	P	04 44 26.0	-2.6
T39A	Clever baz=184,SNR=22	22.09	4	P	P	P	04 44 28.8	0.0
WVT	Waverly baz=199	22.11	16	P	P	P	04 44 27.2	-1.7
WVT	Waverly 15nm,0.7s	22.11	16	eP	P	P	04 44 27.2	-1.7
PBMO	Poplar Bluff 11nm,0.8s	22.18	10	eP	P	P	04 44 28.9	-0.7
T41A	Mountain View baz=188,SNR=14	22.25	7	P	P	P	04 44 30.7	+0.2
T40A	Mansfield baz=186,SNR=29	22.28	5	P	P	P	04 44 31.2	+0.5
LAZ	Ladron 4.5nm,1.2s	22.29	333	eP	P	P	04 44 33.7	+2.6
T42A	Van Buren baz=190,SNR=7.8	22.32	8	P	P	P	04 44 30.8	-0.4
ANMO	Albuquerque baz=150	22.46	335	P	P	P	04 44 34.9	+1.9
ANMO	Albuquerque 6.1nm,1.0s	22.46	335	eP	P	P	04 44 34.8	+1.9
T43A	Greenville baz=192,SNR=10	22.50	10	P	P	P	04 44 31.2	-1.9
TUC	Tucson 3.3nm,1.0s	22.51	323	eP	P	P	04 44 34.6	+1.2
CPCT	Cooper Cave	22.54	23	eP	P	P	04 44 30.5	-3.0
U47A	Clarksville baz=200	22.54	16	P	P	P	04 44 31.1	-2.5
T44A	Benton baz=194	22.62	11	P	P	P	04 44 32.4	-2.0
S38A	Stockton baz=183,SNR=10	22.67	2	P	P	P	04 44 34.6	-0.3
ROSC	El Rosal 18nm,0.9s,baz=3.9,slow=3.2,SNR=16	22.69	114	P	P	P	04 44 37.8	+2.0
ROSC	El Rosal 25nm,1.0s	22.69	114	eP	P	P	04 44 39.6	+3.9
S40A	Lebanon baz=186,SNR=26	22.72	5	P	P	P	04 44 34.7	-0.8
PRAC	Prado 22nm,0.7s	22.74	117	eP	P	P	04 44 40.1	+4.2
S39A	Bolivar baz=184,SNR=27	22.76	3	P	P	P	04 44 35.3	-0.5
BG3	Lake Jocassee 14nm,0.8s	22.78	26	eP	P	P	04 44 34.5	-1.6
S41A	Jillco Farms, baz=188,SNR=16	22.79	7	P	P	P	04 44 35.9	-0.3
U48A	Cassie Pea, Po baz=202,SNR=6.6	22.82	18	P	P	P	04 44 35.2	-1.3
T46A	Princeton baz=198,SNR=12	22.95	15	P	P	P	04 44 36.3	-1.6
TKL	Tuckaleechee C 5.3nm,0.5s,baz=186,slow=11,SNR=17	23.01	24	P	P	P	04 44 35.7	-2.7
TKL	Tuckaleechee C 14nm,1.0s	23.01	24	eP	P	P	04 44 36.2	-2.3
S43A	Fulton Ridge, baz=192	23.01	10	P	P	P	04 44 36.4	-2.1
S42A	Caledonia baz=191,SNR=13	23.09	9	P	P	P	04 44 37.4	-1.9
T47A	Sharon Grove baz=200	23.11	16	P	P	P	04 44 37.9	-1.6
R38A	Fenwick Farm, baz=183,SNR=14	23.22	2	P	P	P	04 44 39.3	-1.3
S44A	Carbondale baz=194	23.28	12	P	P	P	04 44 39.4	-1.8
SIUC	Southern Illin 10nm,0.6s	23.31	12	eP	P	P	04 44 42.7	+1.3
CCM	Cathedral Cave baz=189	23.31	8	P	P	P	04 44 39.9	-1.6
CCM	Cathedral Cave 19nm,0.9s	23.31	8	eP	P	P	04 44 39.8	-1.6
RUSC	La Rusia 10nm,1.0s	23.34	110	eP	P	P	04 44 43.5	+1.0
R39A	Chumby, Stover baz=185,SNR=33	23.39	4	P	P	P	04 44 41.8	-0.5
S45A	Carrier Mills baz=196	23.40	13	P	P	P	04 44 40.0	-2.3
T48A	Bowling Green baz=201	23.42	18	P	P	P	04 44 40.1	-2.5
R40A	Maddies Statio baz=187,SNR=31	23.43	5	P	P	P	04 44 41.7	-1.0
214A	Organ Pipe Nat baz=132	23.49	319	P	P	P	04 44 44.6	+1.2
R41A	Rosebud baz=189,SNR=11	23.53	7	P	P	P	04 44 42.5	-1.2
R42A	Luebbering baz=190,SNR=19	23.59	8	P	P	P	04 44 43.1	-1.1
KMSC	Kings Mountain baz=215,SNR=11	23.62	29	P	P	P	04 44 42.3	-2.2
KMSC	Kings Mountain 23nm,1.0s	23.62	29	eP	P	P	04 44 42.5	-2.0
T25A	Trinidad baz=157,SNR=6.1	23.68	341	P	P	P	04 44 47.3	+1.9
R43A	Red Bud baz=192,SNR=8.0	23.72	10	P	P	P	04 44 44.8	-0.7
MHTCO	State Highway 9.9nm,1.1s	23.76	341	eP	P	P	04 44 48.5	+2.4
R44A	Waltonville baz=194,SNR=5.3	23.85	12	P	P	P	04 44 44.1	-2.6
TZTN	Tazewell baz=208	23.87	23	P	P	P	04 44 44.7	-2.2
TZTN	Tazewell 15nm,0.9s	23.87	23	eP	P	P	04 44 44.5	-2.5
Q38A	Cooks Store, C baz=184,SNR=23	24.01	3	P	P	P	04 44 47.4	-0.8
S48A	Wiedeman Farm, baz=202	24.03	18	P	P	P	04 44 46.1	-2.3
R45A	Skylar, Fairfi baz=196	24.06	13	P	P	P	04 44 48.0	-0.7
Q39A	Willow Grove F baz=185,SNR=18	24.13	4	P	P	P	04 44 48.4	-0.8
Q40A	Laux Farm, Aux baz=187,SNR=7.6	24.15	6	P	P	P	04 44 48.5	-1.0
KSU1	Kansas State U baz=176	24.15	357	P	P	P	04 44 48.8	-0.8
KSU1	Kansas State U 21nm,1.0s	24.15	357	eP	P	P	04 44 48.7	-0.8
R46A	Gibon Southern baz=198	24.16	15	P	P	P	04 44 48.6	-0.9
CBKS	Cedar Bluff baz=169	24.19	351	P	P	P	04 44 50.0	+0.1
CBKS	Cedar Bluff 20nm,0.9s	24.19	351	eP	P	P	04 44 50.4	+0.4
Q41A	Truxton baz=189,SNR=16	24.20	7	P	P	P	04 44 49.1	-0.9
Q42A	Golden Eagle baz=191,SNR=8.7	24.25	9	P	P	P	04 44 48.8	-1.6
SDD	Santo Domingo 150nm,1.0s	24.31	78	eP	P	P	04 44 52.4	+1.2
Q43A	New Douglas baz=193,SNR=7.9	24.41	10	P	P	P	04 44 50.2	-1.7
R47A	Wooly Knot Far baz=200,SNR=9.2	24.49	16	P	P	P	04 44 50.6	-2.0
WCI	Wyandotte Cave baz=201	24.49	17	P	P	P	04 44 50.8	-1.8
WCI	Wyandotte Cave	24.49	17	eP	P	P	04 44 51.0	-1.6
Q44A	Meyer Farm, Va baz=194,SNR=5.7	24.50	11	P	P	P	04 44 50.7	-1.9
OLIL	Olney 14nm,0.2s	24.52	13	eP	P	P	04 44 51.3	-1.6
P39B	Salisbury baz=185,SNR=21	24.58	4	P	P	P	04 44 52.6	-0.8
SDCO	Great Sand Dun baz=155	24.58	340	P	P	P	04 44 54.5	+0.7
SDCO	Great Sand Dun 1.7nm,0.8s	24.58	340	eP	P	P	04 44 55.1	+1.3
SDV	Santo Domingo 3.2nm,0.5s,baz=301,slow=7.1,SNR=4.4	24.59	101	P	P	P	04 44 50.3	-3.7
SDV	Santo Domingo 5.0nm,0.8s	24.59	101	eP	P	P	04 44 52.0	-2.0
P37A	Lathrop baz=182,SNR=7.2	24.61	1	P	P	P	04 44 52.9	-0.8
P38A	Dawn baz=184,SNR=9.5	24.67	3	P	P	P	04 44 53.4	-0.9
P40A	Paris baz=187,SNR=16	24.68	6	P	P	P	04 44 53.1	-1.3
R48A	Northridge Ran baz=202	24.77	17	P	P	P	04 44 53.4	-1.8
P41A	Barry, Barry baz=189,SNR=16	24.93	7	P	P	P	04 44 55.6	-1.0
P42A	Winchester baz=191,SNR=18	24.94	9	P	P	P	04 44 55.5	-1.1
P44A	Sand Creek, Wi baz=195	25.12	12	P	P	P	04 44 57.2	-1.1
Q47A	Bedord North L baz=200,SNR=5.9	25.12	16	P	P	P	04 44 56.6	-1.7
P43A	Skaggs, Pawnee baz=193	25.12	10	P	P	P	04 44 56.8	-1.5
NCAT	North Carolina 8.1nm,0.7s	25.12	30	eP	P	P	04 44 56.8	-1.6
O38A	Galt baz=184	25.17	3	P	P	P	04 44 57.9	-0.8
O37A	Wolven Farm, M baz=182	25.19	2	P	P	P	04 44 58.0	-0.9
WUAZ	Wupatki baz=141	25.24	327	P	P	P	04 45 00.4	+0.8
WUAZ	Wupatki 8.6nm,0.9s	25.24	327	eP	P	P	04 45 03.2	+3.6
MVCO	Mesa Verde baz=148	25.25	334	P	P	P	04 45 01.2	+1.4
MVCO	Mesa Verde 4.7nm,0.9s	25.25	334	eP	P	P	04 45 01.8	+2.0
O40A	La Belle baz=187,SNR=7.9	25.28	6	P	P	P	04 44 58.7	-1.1
BLO	Bloomington	25.32	16	eP	P	P	04 44 59.0	-1.1
O39A	Kirsville baz=186,SNR=8.0	25.36	4	P	P	P	04 44 59.6	-0.9
P45A	Graceland, Par baz=197	25.36	13	P	P	P	04 44 59.1	-1.4
O41A	Passleys Farm, baz=189,SNR=9.8	25.39	7	P	P	P	04 44 59.5	-1.2
GLA	Glamis 6.5nm,0.8s	25.49	319	eP	P	P	04 45 03.0	+1.2
P46A	Rosedale baz=198,SNR=14	25.57	14	P	P	P	04 45 01.0	-1.3
O42A	Bath baz=191	25.57	9	P	P	P	04 45 00.8	-1.6
P47A	Martinsville baz=200	25.68	16	P	P	P	04 45 01.4	-2.0
BLA	Blacksburg baz=214	25.74	28	P	P	P	04 45 01.8	-2.2
BLA	Blacksburg 10nm,0.8s	25.74	28	eP	P	P	04 45 01.4	-2.7
N37A	Lee Faris, Mou baz=182	25.78	1	P	P	P	04 45 03.8	-0.5
O43A	Sugar Creek Fa baz=193	25.79	10	P	P	P	04 45 02.8	-1.5
N38A	Joes South For baz=184,SNR=29	25.85	3	P	P	P	04 45 04.6	-0.3
VWCC	Virginia Weste	25.97	28	eP	P	P	04 45 03.2	-2.9
N41A	Harden Midland baz=189	25.97	7	P	P	P	04 45 05.5	-0.6
N39A	Derby Farms, D baz=186,SNR=10	25.98	4	P	P	P	04 45 05.6	-0.5
HDIL	Hopedale baz=193	26.05	10	P	P	P	04 45 06.1	-0.6
HDIL	Hopedale	26.05	10	eP	P	P	04 45 05.9	-0.8
O45A	Potomac baz=196	26.05	13	P	P	P	04 45 05.7	-1.0
N40A	Mertquake, Sal baz=188,SNR=11	26.07	6	P	P	P	04 45 06.2	-0.7
PV01	Paradox Valley	26.07	335	eP	P	P	04 45 08.7	+1.5
N42A	Yates City baz=191,SNR=8.7	26.20	9	P	P	P	04 45 07.1	-1.0
BC3	Big Chuckawall baz=131	26.28	319	P	P	P	04 45 10.0	+0.9
SFIN	Lafayette baz=198	26.32	14	P	P	P	04 45 07.4	-1.7
O47A	Sheridan baz=200	26.41	15	P	P	P	04 45 08.2	-1.7
IRM	Iron Mountain baz=132	26.42	320	P	P	P	04 45 11.1	+0.9
M37A	Trindle Farm, baz=182,SNR=16	26.43	2	P	P	P	04 45 10.0	-0.1
N43A	Stutzman Famil baz=193	26.45	10	P	P	P	04 45 09.8	-0.5
M36A	Felix, Anita baz=181,SNR=10	26.46	0	P	P	P	04 45 10.3	-0.2
M38A	Pleasantville baz=184,SNR=16	26.48	3	P	P	P	04 45 09.6	-0.9
N44A	Piper City baz=195	26.50	12	P	P	P	04 45 09.0	-1.8
BGNE	Belgrade baz=173	26.56	355	P	P	P	04 45 13.5	+2.2
M40A	Post Highland baz=188,SNR=27	26.59	6	P	P	P	04 45 10.2	-1.4
M39A	Webster baz=186,SNR=12	26.60	5	P	P	P	04 45 10.5	-1.3
M41A	Milan baz=190,SNR=20	26.67	8	P	P	P	04 45 11.3	-1.0
SCIA	State Center baz=184	26.96	3	P	P	P	04 45 14.7	-0.2
SCIA	State Center 44nm,0.7s	26.96	3	eP	P	P	04 45 14.8	-0.2
M43A	Waltham Townsh baz=193,SNR=5.8	26.97	10	P	P	P	04 45 14.3	-0.6
L36A	Harm Buss Farm baz=181	27.11	1	P	P	P	04 45 16.3	-0.1
GMRC	Granite Mounta baz=132	27.15	321	P	P	P	04 45 17.7	+0.8
L37A	Phoenix Point, baz=183	27.16	2	P	P	P	04 45 16.5	-0.2
L38A	Oak Wood Farm, baz=184,SNR=6.2	27.21	3	P	P	P	04 45 16.0	-1.1
L39A	Vinton baz=186	27.26	5	P	P	P	04 45 16.1	-1.5
L40A	Anamosa baz=188,SNR=8.3	27.27	6	P	P	P	04 45 16.5	-1.2
ACSO	Alum Creek Sta baz=206	27.35	20	P	P	P	04 45 16.2	-2.3
L41A	Preston baz=190,SNR=8.4	27.37	7	P	P	P	04 45 17.4	-1.1
L42A	Oliver, Polo baz=191,SNR=9.4	27.41	9	P	P	P	04 45 17.7	-1.3
MTPU	Mount Pierson 2.3nm,0.9s	27.61	330	eP	P	P	04 45 23.4	+2.2
K36A	Gilmore City baz=181,SNR=8.7	27.65	1	P	P	P	04 45 20.4	-0.7
K38A	Parkersburg baz=185,SNR=5.8	27.72	4	P	P	P	04 45 20.7	-1.1
K35A	Storm Lake baz=180	27.73	360	P	P	P	04 45 21.4	-0.5
K37A	Belmond baz=183,SNR=9.3	27.80	2	P	P	P	04 45 21.5	-1.0
K39A	Oelwein baz=187,SNR=7.4	27.84	5	P	P	P	04 45 21.4	-1.4
K40A	Colesburg baz=188,SNR=14	27.91	6	P	P	P	04 45 22.4	-1.0
K41A	Shullsburg baz=190,SNR=19	27.91	7	P	P	P	04 45 22.5	-1.0
K42A	Prairie Point, baz=192,SNR=6.3	28.21	9	P	P	P	04 45 25.3	-0.9
JFWS	Jewell Farm baz=190	28.22	7	P	P	P	04 45 25.1	-1.2
JFWS	Jewell Farm	28.22	7	eP	P	P	04 45 25.6	-0.7
J36A	Seneca 1, Swea baz=182,SNR=11	28.34	1	P	P	P	04 45 26.6	-0.7
J37A	Redenius Farm, baz=183	28.35	2	P	P	P	04 45 26.4	-0.9
J39A	Decorah baz=187	28.49	5	P	P	P	04 45 28.0	-0.6
J40A	Soldiers Grove baz=189,SNR=5.3	28.64	7	P	P	P	04 45 28.6	-1.4
J41A	Loganville baz=190,SNR=9.0	28.70	8	P	P	P	04 45 29.4	-1.1
ECSD	EROS Data Cent baz=177	28.77	358	P	P	P	04 45 30.6	-0.5
ECSD	EROS Data Cent 3.6nm,0.8s	28.77	358	eP	P	P	04 45 31.3	+0.1
J42A	Columbus baz=192,SNR=5.2	28.77	9	P	P	P	04 45 29.9	-1.2
J43A	Natural Harves baz=193	28.95	10	P	P	P	04 45 31.3	-1.4
I39A	Houston baz=187,SNR=14	29.02	5	P	P	P	04 45 32.3	-1.0
I37A	Lemond, Waseca baz=183	29.06	2	P	P	P	04 45 32.8	-0.9
N54A	Moraine State baz=211,SNR=5.5	29.08	24	P	P	P	04 45 32.2	-1.8
I38A	Scanlan Farm, baz=185	29.14	4	P	P	P	04 45 33.3	-1.1
I40A	Norwalk baz=189,SNR=5.8	29.14	7	P	P	P	04 45 33.5	-0.9
I42A	Draeger Farm, baz=192	29.37	9	P	P	P	04 45 35.3	-1.1
I41A	Arkdale baz=190,SNR=7.7	29.40	8	P	P	P	04 45 35.6	-1.0
I43A	Langenfeld Bro baz=194	29.48	10	P	P	P	04 45 36.6	-0.9
R11A	Troy Canyon, C baz=137	29.59	326	P	P	P	04 45 40.1	+1.5
H36A	Jessenland, He baz=182	29.60	2	P	P	P	04 45 38.4	0.0
ALLY	Alegheny Colle 15nm,0.7s	29.61	23	eP	P	P	04 45 36.5	-2.2
H37A	Dierker Farm, C baz=184	29.64	3	P	P	P	04 45 39.5	+0.6
M54A	Oil Creek Stat baz=211	29.67	24	P	P	P	04 45 37.4	-1.8
SSPA	Standing Stone baz=215	29.68	27	P	P	P	04 45 38.3	-0.9
H35A	Sunnyside Ranc baz=180	29.71	0	P	P	P	04 45 39.1	-0.3
TCUT	Toone Canyon 16nm,1.1s	29.75	335	eP	P	P	04 45 42.2	+2.0
H39A	Augusta baz=187,SNR=29	29.86	5	P	P	P	04 45 40.1	-0.6
H40A	Chili baz=189,SNR=6.3	29.89	7	P	P	P	04 45 40.2	-0.9
H41A	Junction City baz=190	29.97	8	P	P	P	04 45 40.4	-1.3
PCRV	Puerto La Cruz comp=Z,139nm,19.6s,baz=302,slow=39	30.02	95	LR	LR		04 59 03.1	
H42A	Shiocton baz=193	30.03	9	P	P	P	04 45 41.1	-1.1
ERPA	Erie baz=210	30.07	23	P	P	P	04 45 41.3	-1.4
ERPA	Erie 18nm,0.9s	30.07	23	eP	P	P	04 45 40.9	-1.8
G33A	Ortonville baz=177	30.23	358	P	P	P	04 45 43.4	-0.6
G34A	Benson baz=179	30.25	359	P	P	P	04 45 44.0	-0.2
SPMN	Marine on St. baz=184,SNR=12	30.29	3	P	P	P	04 45 43.7	-0.9
SPMN	Marine on St. 13nm,0.6s	30.29	3	eP	P	P	04 45 44.0	-0.6
G38A	Ridgeland baz=186,SNR=10	30.30	4	P	P	P	04 45 43.6	-1.1
PDAR	Pinedale Array 0.2nm,0.5s,baz=150,slow=6.3,SNR=3.8	30.46	339	P	P	P	04 45 46.9	+0.5
G39A	Holcomb baz=187,SNR=9.7	30.47	5	P	P	P	04 45 45.2	-1.0
G40A	Rib Lake baz=189,SNR=5.1	30.55	7	P	P	P	04 45 45.6	-1.2
G41A	Antigo baz=191	30.62	8	P	P	P	04 45 46.1	-1.4
G42A	Mountain baz=193,SNR=8.8	30.76	9	P	P	P	04 45 47.4	-1.3
F37A	Hinrichs Farm, baz=185	30.80	3	P	P	P	04 45 48.3	-0.8
N59A	State Game Lan baz=218	30.87	29	P	P	P	04 45 47.7	-2.0
F35A	Swanville baz=181	30.87	1	P	P	P	04 45 49.0	-0.7
HVU	Hansel Valley 3.2nm,0.8s	30.88	334	eP	P	P	04 45 51.7	+1.7
F36A	Milaca baz=183	30.90	2	P	P	P	04 45 48.9	-1.0
G43A	Wallace baz=194,SNR=6.0	30.90	10	P	P	P	04 45 48.3	-1.5
F38A	Pierce - Schro baz=186,SNR=9.5	31.08	4	P	P	P	04 45 50.6	-0.9
NV11	Mina Array Sit 0.3nm,1.1s	31.09	323	eP	P	P	04 45 54.0	+2.1
GLMI	Grayling baz=200	31.11	14	P	P	P	04 45 49.8	-2.0
GLMI	Grayling 35nm,0.8s	31.11	14	eP	P	P	04 45 49.8	-2.0
F39A	Loretta baz=188,SNR=9.1	31.12	6	P	P	P	04 45 50.8	-1.0
F41A	Three Lakes baz=191	31.15	8	P	P	P	04 45 50.7	-1.5
NV01	Mina Array Sit	31.17	323	eP	P	P	04 45 54.3	+1.6
NVAR	Mina Array Bea 2.3nm,0.8s,baz=148,slow=9.2,SNR=16	31.17	323	P	P	P	04 45 53.8	+1.1
NVAR	0.5nm,0.6s,baz=148,slow=2.8,SNR=4.5			PcP	PcP	PcP	04 48 47.2	-0.2
F40A	Park Falls baz=189,SNR=12	31.20	7	P	P	P	04 45 51.5	-1.1
F42A	Maple Grove Fa baz=193	31.31	9	P	P	P	04 45 52.3	-1.3
ACTO	Acton baz=209	31.35	21	P	P	P	04 45 52.4	-1.5
MMNY	Mt. Morris Dam 13nm,1.0s	31.41	25	eP	P	P	04 45 51.7	-2.8
REDW	Red Top Meadow 2.6nm,0.8s	31.44	338	eP	P	P	04 45 56.0	+1.0
SNOW	Snow King Moun 5.7nm,0.8s	31.49	338	eP	P	P	04 45 57.1	+1.6
COWI	Conover	31.50	8	eP	P	P	04 45 54.2	-1.1
F43A	Flat Rock, Esc baz=195,SNR=6.9	31.54	11	P	P	P	04 45 53.9	-1.7
E36A	McGregor baz=183,SNR=5.7	31.56	2	P	P	P	04 45 55.2	-0.5
LOHW	Long Hollow 2.7nm,0.9s	31.57	338	eP	P	P	04 45 57.4	+1.3
E35A	Pequot Lakes baz=181,SNR=5.8	31.57	1	P	P	P	04 45 55.9	+0.1
TPAW	Teton Pass 4.1nm,1.1s	31.59	338	eP	P	P	04 45 58.9	+2.5
E39A	Mellen baz=188	31.61	6	P	P	P	04 45 55.2	-1.0
F45A	CMU Biological baz=198	31.72	13	P	P	P	04 45 55.2	-2.0
MOOW	Moose Ponds 2.6nm,1.0s	31.74	338	eP	P	P	04 45 59.1	+1.5
E40A	Wakefield baz=190,SNR=17	31.75	7	P	P	P	04 45 56.4	-1.0
E38A	The Farm, Brul baz=186,SNR=6.0	31.75	5	P	P	P	04 45 56.5	-0.9
F44A	Big Bay de Noc baz=196	31.82	11	P	P	P	04 45 56.7	-1.2
PAL	Palisades baz=221	31.84	31	P	P	P	04 45 57.0	-1.2
E41A	Kenton baz=191,SNR=7.3	31.88	8	P	P	P	04 45 57.5	-1.0
F46A	Macinaw City C baz=199	31.97	14	P	P	P	04 45 58.6	-0.8
E42A	Champion baz=193	32.00	9	P	P	P	04 45 57.7	-1.9
E43A	Lone Tree Farm baz=195	32.10	10	P	P	P	04 45 58.7	-1.8
D35A	Remer baz=192	32.10	1	P	P	P	04 46 00.1	-0.4
D36A	Goodland baz=184	32.22	2	P	P	P	04 46 00.7	-0.9
D37A	Cotton	32.24	3	P	P	P	04 46 00.8	-0.9

baz=185,SNR=6.4
D41A **Chassel** 32.52 8 P P 04 46 02.6 -1.6
baz=192
SADO **Sadowa** 32.68 21 eP P 04 46 03.3 -2.4
C35A **Jirik Farms, M** 32.72 1 P P 04 46 05.3 -0.7
baz=182
C36A **Pine Crest Far** 32.82 3 P P 04 46 06.2 -0.6
baz=184
C37A **Embarrass** 32.82 4 P P 04 46 05.4 -1.4
baz=185
C38A **Sawbill Land.** 32.87 5 P P 04 46 05.5 -1.8
baz=187
C31A **Landman Farms,** 32.88 357 P P 04 46 07.4 +0.1
baz=175
HLID **Hailey** 33.03 334 P P 04 46 09.3 +0.4
baz=144
C39A **Grand Marais** 33.08 6 P P 04 46 07.6 -1.4
baz=189
EYMN **Ely** 33.09 4 P P 04 46 07.8 -1.3
baz=186
BUKO **Buck Lake** 33.19 20 P P 04 46 08.2 -1.9
baz=208
C40A **Isle Royale Na** 33.28 7 P P 04 46 09.4 -1.4
baz=190
AGMN **Agassiz Nation** 33.31 359 P P 04 46 11.3 +0.2
baz=179
AGMN **Agassiz Nation** 33.31 359 eP P 04 46 10.8 -0.3
9.8nm,0.9s
BANO **Bancroft** 33.34 22 P P 04 46 09.3 -2.1
baz=211
B35A **Bob, Littlefor** 33.39 2 P P 04 46 11.4 -0.4
baz=182
B32A **Ashes, Strandq** 33.43 358 P P 04 46 12.3 +0.2
baz=177
MCMT **McKenzie Canyo** 33.44 337 eP P 04 46 14.4 +1.9
B34A **Aery, Baudette** 33.50 0 P P 04 46 12.3 -0.3
baz=181
B31A **Greenbush Farm** 33.50 357 P P 04 46 12.5 -0.3
baz=176
PLVO **Plevna** 33.67 23 eP P 04 46 12.4 -1.8
10.0nm,0.9s
DLMT **Dillon** 33.80 338 eP P 04 46 17.5 +1.9
5.9nm,1.0s
A33A **Warroad** 33.95 360 P P 04 46 16.2 -0.4
baz=180
WVOR **Wild Horse Val** 34.15 328 eP P 04 46 19.3 +0.7
6.7nm,1.1s
LONY **Lake Ozonia** 34.33 26 P P 04 46 17.7 -2.4
baz=217
LONY **Lake Ozonia** 34.33 26 eP P 04 46 18.6 -1.5
6.5nm,0.8s
J08A **Circle Bar Ran** 34.75 329 eP P 04 46 25.1 +1.4
2.1nm,0.6s
ULM **Lac du Bonnet** 35.27 359 P P 04 46 27.4 -0.6
2.9nm,0.8s,baz=171,slow=7.0,SNR=6.0
ULM **Lac du Bonnet** 35.27 359 eP P 04 46 27.7 -0.3
2.5nm,0.7s
F10A **Beach Ranch, E** 36.16 333 eP P 04 46 36.5 +0.6
3.3nm,0.8s
SAML **Samuel** 39.47 125 eP P 04 47 07.6 +3.6
11nm,0.9s
FFC **Flin Flon** 40.11 354 eP P 04 47 11.5 +2.6
5.4nm,1.0s
LPAZ **La Paz** 40.81 138 P P 04 47 14.2 -1.6
1.2nm,0.8s,baz=336,slow=8.7,SNR=5.8
FCC **Fort Churchill** 43.80 1 eP P 04 47 38.3 -0.6
6.0nm,0.9s
SCHQ **Schefferville** 45.46 23 eP P 04 47 49.4 -3.0
19nm,1.0s
YKA **Yellowknife Ar** 49.52 348 P P 04 48 23.5 -0.2
1.2nm,0.8s,baz=153,slow=7.4,SNR=14
YKA PcP PcP 04 49 44.2 -1.1
0.2nm,0.8s,baz=157,slow=3.4,SNR=4.5
YKW3 **Yellowknife Ar** 49.59 348 eP P 04 48 26.8 +2.7
3.1nm,0.9s
INK **Inuvik** 58.77 344 P P 04 49 30.9 -0.1
3.4nm,0.6s,baz=130,slow=6.1,SNR=34
INK **Inuvik** 58.77 344 eP P 04 49 31.0 -0.1
3.6nm,0.7s
RES **Resolute Bay** 59.79 0 P P 04 49 37.3 -0.6
0.5nm,0.6s,baz=193,slow=11,SNR=2.9
RES **Resolute Bay** 59.79 0 eP P 04 49 41.2 +3.2
1.6nm,0.7s
PLCA **Paso Flores** 59.82 159 P P 04 49 37.3 -1.4
5.5nm,0.8s,baz=360,slow=7.3,SNR=11
IL1 **Eielson Array** 60.88 337 eP P 04 49 45.1 -0.5
ILAR **Eielson Array** 60.88 337 P P 04 49 45.3 -0.3
1.9nm,0.9s,baz=132,slow=4.8,SNR=12
COLA **College** 61.29 337 eP P 04 49 48.1 -0.2
2.3nm,0.6s
EKA **Eskdalemuir Ar** 78.95 36 P P 04 51 38.2 +1.4
10nm,0.8s,baz=282,slow=5.5,SNR=21
ESDC **Sonseca Array** 81.45 51 P P 04 51 52.1 +1.4
1.6nm,0.8s,baz=291,slow=5.4,SNR=7.4
ES19 **SONSECA Array** 81.50 51 eP P 04 51 52.0 +1.1
NB2 **NORSAR Subarra** 84.75 28 P P 04 52 11.3 +4.0
comp=Z,7.3nm,0.8s,baz=291,slow=5.3
NOA **NORSAR Array B** 84.75 28 P P 04 52 11.5 +4.2
comp=Z,5.8nm,0.7s,baz=291,slow=5.2,SNR=25
NOA LR LR 05 28 31.7
comp=Z,23nm,21.9s,baz=290,slow=35
ARCES **ARCESS Array B** 86.19 18 P P 04 52 18.9 +4.6
comp=Z,4.7nm,0.9s,baz=302,slow=7.0,SNR=5.7
HFS **Hagfors** 86.22 28 P P 04 52 18.8 +4.2
comp=Z,3.4nm,0.7s,baz=259,slow=1.5,SNR=7.0
HFS LR LR 05 29 13.9
comp=Z,26nm,21.7s,baz=318,slow=34
KOWA **Kowa** 87.30 76 P P 04 52 22.7 +2.0
comp=Z,4.2nm,0.9s,baz=302,slow=7.1,SNR=5.4
KOWA LR LR 05 28 45.2
comp=Z,24nm,19.5s,baz=27,slow=34
GERES **GERESS Array B** 90.76 39 P P 04 52 37.9 +1.4
comp=Z,0.6nm,0.6s,baz=347,slow=5.5,SNR=4.8
GERES LR LR 05 35 02.7
comp=Z,19nm,18.9s,baz=274,slow=37
FINES **FINESS Array B** 90.92 24 P P 04 52 40.6 +3.8
comp=Z,1.7nm,0.9s,baz=343,slow=2.0,SNR=6.0
TORD **Torodi Ar. Bea** 93.01 76 P P 04 52 46.7 -0.7
comp=Z,0.3nm,0.7s,baz=278,slow=5.2,SNR=2.4
TORD LR LR 05 34 18.9
comp=Z,21nm,19.6s,baz=295,slow=35
WRA **Warramunga Arr** 132.76 257 PKP PKPdf 04 58 47.5 -1.6
comp=Z,1.1nm,0.8s,baz=90,slow=2.7,SNR=8.9
ASAR **Alice Springs** 133.19 251 PKP PKPdf 04 58 48.2 -1.6
comp=Z,0.5nm,0.8s,baz=95,slow=1.6,SNR=5.4
CMAR **Chiang Mai Arr** 144.11 337 PKP PKPab 04 59 06.9 -0.5
comp=Z,1.3nm,0.5s,baz=342,slow=4.0,SNR=7.3

*IDC **29** 04:45:38.4±5.6,36°.85N×71°.72E,h109km±51km, mb3.4/4, mb1 3.3/10,mb1mx3.0/82,mbtmp3.7/10,MS3.4/3, Ms1 3.4/3,ms1mx2.6/54, Error ellipse: s-maj=54.9km s-min=38.6km az=122.0*
*ISCJB **29** 04:45:41.9±1.2,37°.30N±0°.09×71°.31E±0°.08,h106km, mb3.6/4,Error ellipse: s-maj=13.2km s-min=8.3km az=152.9*
*NNC **29** 04:45:42.5±1.8,37°.39N×71°.08E,h167km±14km,mb2.5, mpv3.5,Error ellipse: s-maj=15.9km s-min=6.7km az=163.0*

ISC 29 04:45:40.9±1.6,37°.2N±0°.1×71°.27E±0°.08,h106km,n26, σ1s52/31,mb3.8/4,8C-8D,Afghanistan-Tajikistan border region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
DZET **Dzherino** 2.53 311 ⇓P Pn 04 46 21.7 +1.0
6.4nm,0.4s
DZET ⇓S Sn 04 46 52.8 +1.7
166nm,0.6s
SFK **Sufi-Kurgan** 3.34 31 ⇓P Pn 04 46 32.8 +1.3
3.4nm,0.4s
SFK ⇑S Sn 04 47 14.4 +3.8
23nm,0.3s
AML **Almayashu** 5.30 20 P Pn 04 46 59.0 +0.9
SNR=19
MNAS **Manas** 5.40 10 ⇓P Pn 04 47 00.2 +1.0
1.8nm,0.4s
MNAS ⇓S Sn 04 47 59.8 -0.3
4.7nm,0.5s
UCH **Uchtor** 5.64 25 P Pn 04 47 03.7 +1.0
SNR=5.1
EKS2 **Erkin-Say** 5.82 19 P Pn 04 47 06.0 +1.2
SNR=5.4
KK31 **Karatay Array** 5.96 355 ⇑P Pn 04 47 07.7 +1.1
2.6nm,0.3s,baz=180,slow=12,SNR=82
KK31 ⇑S Sn 04 48 11.8 -1.7
3.9nm,0.6s,baz=180,slow=22,SNR=10
AAK **Ala-Archa** 6.00 23 P Pn 04 47 08.3 +1.0
2.6nm,0.3s,baz=160,slow=5.8,SNR=20
AAK S Sn 04 48 14.3 -0.4
1.3nm,0.3s,baz=145,slow=23,SNR=9.1
AAK **Ala-Archa** 6.00 23 ⇑P Pn 04 47 07.8 +0.5
4.0nm,0.4s
AAK ⇑S Sn 04 48 14.8 0.0
3.0nm,0.5s
AAK **Ala-Archa** 6.00 23 P Pn 04 47 08.3 +1.0
SNR=6.1
TKM2 **Tokmak 2** 6.64 29 ⇓P Pn 04 47 15.6 -0.4
3.0nm,0.5s
TKM2 ⇑S Sn 04 48 29.1 -1.2
0.5nm,0.5s
TKM2 **Tokmak 2** 6.64 29 P Pn 04 47 16.2 +0.2
SNR=8.1
MKAR **Makanchi Array** 12.63 37 P Pn 04 48 35.4 -1.2
0.0nm,0.3s,baz=230,slow=13,SNR=2.0
KURBB **Kurchatov Arra** 14.43 19 P Pn 04 49 00.2 +0.4
0.1nm,0.3s,baz=203,slow=12,SNR=5.4
AB31 **Akbulak array** 14.61 329 ⇑P Pn 04 48 59.2 -3.0
0.4nm,0.6s,baz=168,slow=11,SNR=8.3
AB31 ⇓S Sn 04 51 34.3 -9.0
1.3nm,0.6s,baz=153,slow=22,SNR=10
BVAR **Borovoye Array** 15.87 358 P P 04 49 20.0 +0.4
0.2nm,0.3s,baz=171,slow=13,SNR=4.3
AKTO **Aktyubinsk** 16.32 329 P P 04 49 27.0 +2.4
0.5nm,0.3s,baz=127,slow=13,SNR=7.5
AKTO **Aktyubinsk** 16.32 329 ⇑P Pn 04 49 21.1 -2.5
1.5nm,0.5s
AKTO ⇓S Sn 04 52 14.2 -10
0.8nm,0.7s
ZALV **Zalesovo Beam** 19.22 25 P P 04 49 55.0 -1.4
0.4nm,0.3s,baz=228,slow=11,SNR=4.7
ARU **Arti** 21.08 340 LR LR 04 58 42.1
comp=Z,25nm,20.0s,baz=134,slow=36
ARCES **ARCESS Array B** 40.61 337 P P 04 53 10.9 +1.1
2.8nm,0.9s,baz=118,slow=8.9,SNR=3.3
ARCES LR LR 05 10 42.3
comp=Z,78nm,19.0s,baz=86,slow=37
HFS **Hagfors** 42.68 321 P P 04 53 28.1 +1.3
1.2nm,0.5s,baz=96,slow=8.3,SNR=7.1
NB2 **NORSAR Subarra** 43.98 323 P P 04 53 38.1 +0.8
comp=Z,0.5nm,0.5s,baz=93,slow=7.9
NOA **NORSAR Array B** 43.98 323 P P 04 53 38.2 +1.0
comp=Z,0.6nm,0.7s,baz=94,slow=8.5,SNR=3.9
LEM **Lembang** 55.40 134 LR LR 05 20 45.7
comp=Z,89nm,18.1s,baz=168,slow=38
TORD **Torodi Ar. Bea** 65.95 268 P P 04 56 14.5 -1.5
comp=Z,0.2nm,0.7s,baz=46,slow=5.9,SNR=2.3

IDC 29 04:58:42.8±0.8,85°.21N×91°.89E,h0km,mb3.7/9, mb1 4.0/10,mb1mx3.5/81,mbtmp3.8/10,ML3.5/1, MS2.9/1,Ms1 2.9/1,ms1mx2.4/70,Error ellipse: s-maj=26.9km s-min=16.7km az=119.0,North of Severnaya Zemlya

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
SPITS **Spitsbergen Ar** 11.66 279 Pn Pn 05 01 28.0 -2.0
baz=29,slow=16,SNR=5.3
SPITS Sn Sn 05 03 32.3 -8.3
baz=44,slow=18,SNR=2.8
TIXI **Tiksi** 14.89 132 LR LR 05 07 52.3
comp=Z,43nm,18.1s,baz=40,slow=37
SEY **Seymchan** 25.17 111 P P 05 04 09.2 0.0
4.5nm,1.0s,baz=17,slow=20,SNR=2.6
INK **Inuvik** 25.44 38 P P 05 04 10.8 -0.7
4.5nm,1.2s,baz=351,slow=10,SNR=7.7
FINES **FINESS Array B** 27.07 254 P P 05 04 26.9 +0.6
2.1nm,0.9s,baz=74,slow=5.9,SNR=3.0
ILAR **Eielson Array** 28.16 51 P P 05 04 37.5 +1.4
0.5nm,1.0s,baz=339,slow=6.6,SNR=4.8
YKA **Yellowknife Ar** 32.05 23 P P 05 05 10.0 -0.5
0.8nm,1.0s,baz=355,slow=8.4,SNR=9.5
YKA PcP PcP 05 07 59.7 0.0
0.6nm,1.1s,baz=1.4,slow=3.4,SNR=5.4
BVAR **Borovoye Array** 32.71 204 P P 05 05 17.4 +1.0
0.3nm,0.5s,baz=17,slow=5.3,SNR=5.2
SONM **Songino Array** 37.70 164 P P 05 05 57.8 -1.7
0.7nm,0.9s,baz=345,slow=5.1,SNR=4.3
MKAR **Makanchi Array** 38.65 191 P P 05 06 07.4 +0.1
1.1nm,1.0s,baz=3.9,slow=5.3,SNR=5.8
TXAR **Lajitas Array** 65.49 15 P P 05 09 27.3 0.0
0.4nm,0.7s,baz=48,slow=2.0,SNR=4.4

*NEIC **29** 05:07:48.0±0.0,10°.75S×76°.21W,h10km, mb4.3/8, ML4.4(ARE), After ARE.*
NEIC Felt [IV] at Cerro de Pasco and [II] at Yanahuanca.
*ISCJB **29** 05:07:52.8±0.5,10°.76S±0°.05×76°.10W±0°.07,h33km, mb4.0/10,Error ellipse: s-maj=10.3km s-min=6.8km az=13.1*
*IDC **29** 05:07:59.2±2.8,10°.63S×76°.07W,h72km±25km,mb3.4/7, mb1 3.6/11,mb1mx3.5/49,mbtmp3.8/11,MS3.1/1, Ms1 3.1/1,ms1mx2.7/23,Error ellipse: s-maj=32.7km s-min=16.7km az=55.0*

ISC 29 05:07:54.6±0.6,10°.87S±0°.06×76°.03W±0°.09,h35km,n28, σ1s76/28,mb3.8/10,Central Peru

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
NNA **Nana** 1.36 215 ePn Pn 05 08 15.5 -1.8
NNA eSn Sn 05 08 34.6 +0.4
ATAH **Atahualpa** 4.38 328 P Pn 05 09 00.5 +1.4
7.3nm,0.3s,baz=172,slow=3.9,SNR=28
ATAH S Sn 05 09 54.0 +4.9
1.9nm,0.3s,baz=106,slow=15,SNR=2.6
ATAH LR LR 05 10 53.3
comp=Z,291nm,22.0s,baz=151,slow=42
LPAZ **La Paz** 9.38 126 P Pn 05 10 15.2 +7.2
0.2nm,0.3s,baz=332,slow=11,SNR=7.6
LPAZ **La Paz** 9.38 126 ePn Pn 05 10 16.5 +8.5
OTAV **Otavalo** 11.29 348 ePn Pn 05 10 33.9 -0.1
SAML **Samuel** 12.80 83 ePn Pn 05 10 53.3 -1.0
TUMC **Tumaco** 12.89 348 ePn Pn 05 10 51.8 -3.7
SIV **San Ignacio** 15.42 111 P Pn 05 11 31.0 +1.3
0.5nm,0.3s,baz=329,slow=12,SNR=9.9
ROSC **El Rosal** 15.70 6 P Pn 05 11 32.7 -1.0
0.2nm,0.3s,baz=143,slow=20,SNR=1.6
RUSC **La Rusia** 16.91 10 ePn Pn 05 11 46.9 -2.2
4.1nm,0.9s
HELC **Santa Helena** 16.95 2 ePn Pn 05 11 49.7 +0.1
13nm,1.1s
PTGA **Pitinga** 18.88 59 P Pn 05 12 12.6 -0.3
0.6nm,0.3s,baz=238,slow=18,SNR=7.5
PTGA **Pitinga** 18.88 59 eP Pn 05 12 12.8 -0.1
17nm,1.4s
SDV **Santo Domingo** 20.35 16 P P 05 12 28.4 +0.1
2.3nm,0.4s,baz=178,slow=12,SNR=4.9
SDV **Santo Domingo** 20.35 16 eP P 05 12 28.2 -0.1
5.2nm,0.8s
CPUP **Villa Florida** 23.42 134 P P 05 13 03.1 +2.4
1.3nm,0.7s,baz=328,slow=8.3,SNR=3.6
TX31 **Lajitas Ar. Si** 48.04 327 eP P 05 16 31.3 +0.5
MIAR **Mount Ida** 48.13 340 eP P 05 16 31.2 -0.1
5.2nm,0.9s
HHAR **Hobbs** 49.84 341 eP P 05 16 42.3 -2.1
5.7nm,1.0s
PDAR **Pinedale Array** 61.56 332 P P 05 18 07.7 -1.0
0.4nm,0.5s,baz=116,slow=9.2,SNR=4.4
NVAR **Mina Array Bea** 62.94 324 P P 05 18 18.9 +0.9
0.6nm,0.7s,baz=144,slow=6.6,SNR=4.4
MFID **Camas Ranch** 65.06 329 eP P 05 18 31.3 -0.4
5.5nm,1.0s
ORV **Oroville** 65.56 323 eP P 05 18 33.6 -1.2
7.4nm,1.2s
MSO **Missoula** 66.67 333 eP P 05 18 41.5 -0.5
SNAA **Sanae** 74.48 162 P P 05 19 31.3 +2.1
0.6nm,0.6s,baz=242,slow=6.9,SNR=7.5
YKA **Yellowknife Ar** 79.01 343 P P 05 19 52.7 -2.0
0.4nm,0.9s,baz=135,slow=6.2,SNR=4.3
TORD **Torodi Ar. Bea** 80.73 75 P P 05 20 06.0 +0.9
0.8nm,0.9s,baz=279,slow=5.5,SNR=3.0
KSRS **Korea Array** 145.88 325 PKPbc PKPdf 05 27 28.5 -1.7
1.4nm,1.0s,baz=39,slow=3.8,SNR=6.3

*NEIC **29** 05:12:17.2±0.0,50°.37N×130°.23W,h10km,mb3.8/39, Mw4.1(OTT),MW4.1(OTT),After OTT.*
*PGC **29** 05:12:17.2±3.8,50°.37N×130°.23W,h10km,mb3.8, ML3.5/36,MLSn3.5/35,Mw4.1/35,202km west of Pt. Hardy, Bc Vancouver Island, Canada Region*
*IDC **29** 05:12:19.1±1.3,50°.51N×129°.93W,h0km,mb3.6/3, mb1 3.9/12,mb1mx3.6/79,mbtmp3.7/12,ML3.4/8,MS3.4/17, Ms1 3.4/17,ms1mx3.1/67,Error ellipse: s-maj=20.6km s-min=10.3km az=71.0*

ISC 29 05:12:23.7±3.0,50°.65N±0°.05×129°.77W±0°.06, h25km±25km,n221,σ1s58/202,mb4.0/13,MS3.4/11, Vancouver Island region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PACB **Port Alice, BC** 1.47 97 Pn Pn 05 12 44.5 -4.0
PACB Sn Sn 05 13 03.4 -3.4
PHC **Port Hardy** 1.49 87 Pn Pn 05 12 47.2 -1.6
PHC Sn Sn 05 13 06.8 -0.6
BBB **Bella Bella** 1.86 33 Pn Pn 05 12 53.0 -0.8
19nm,0.3s,baz=228,slow=14,SNR=69
BBB Sn Sn 05 13 18.0 +1.5
51nm,0.3s,baz=196,slow=9.9,SNR=8.1
BBB LR LR 05 13 48.8
comp=Z,653nm,19.7s,baz=234,slow=44
BBB **Bella Bella** 1.86 33 Pn Pn 05 12 52.8 -1.1
EDB **Eliza Dome** 1.86 113 Pn Pn 05 12 49.8 -4.2
TLCB **Telegraph Cove** 1.87 92 Pn Pn 05 12 51.3 -2.8
TLCB Sn Sn 05 13 16.4 -0.4
WOSB **Woss** 2.10 102 Pn Pn 05 12 55.0 -2.4
BNB **Barry Inlet** 2.30 328 Pn Pn 05 12 54.3 -5.7
BNB Sn Sn 05 13 22.7 -4.8
NCRB **Newcastle Ridg** 2.38 94 Pn Pn 05 12 59.6 -1.6
ETB **Estevan Point** 2.44 120 Pn Pn 05 12 57.2 -4.6
GDR **Gold River** 2.55 108 Pn Pn 05 13 00.2 -3.2
SPLB **Strathcona Par** 2.74 104 Pn Pn 05 13 02.8 -3.3
CBB **Campbell River** 2.88 101 Pn Pn 05 13 06.1 -1.9
CBB Sn Sn 05 13 41.2 -0.7
TOFB **Tofino** 2.91 119 Pn Pn 05 13 04.4 -3.9
TOFB Sn Sn 05 13 36.3 -6.1
BTB **Buttle Lake** 2.98 112 Pn Pn 05 13 06.1 -3.4
BTB Sn Sn 05 13 41.1 -3.4
MWAB **Mount Washingt** 3.01 106 Pn Pn 05 13 06.6 -3.2
MWAB Sn Sn 05 13 43.1 -1.9
DIB **Dawson Inlet,** 3.06 328 Pn Pn 05 13 05.3 -5.1
DIB **Dawson Inlet,** 3.06 328 ePn Pn 05 13 08.5 -1.9
DIB eSn Sn 05 13 43.5 -2.8
OZB **Mount Ozzard** 3.24 120 Pn Pn 05 13 09.6 -3.4
OZB Sn Sn 05 13 47.1 -3.7
B927 **Port Alberni** 3.50 112 Pn Pn 05 13 13.6 -2.9
B928 **Bamfield** 3.51 119 Pn Pn 05 13 13.6 -3.0
TXB **Texada** 3.56 103 Pn Pn 05 13 14.8 -2.4
MGB **Mount Grey** 3.67 115 Pn Pn 05 13 16.8 -2.2
GHNB **Nanoose** 3.81 108 Pn Pn 05 13 18.0 -2.7
SHB **Sechelt** 3.93 103 Pn Pn 05 13 20.4 -2.1
YOUB **Youbou, Lake C** 3.97 114 Pn Pn 05 13 20.5 -2.5
NLLB **Nanaimo Lost L** 3.99 109 Pn Pn 05 13 20.2 -3.0
PFB **Port Renfrew** 4.04 119 Pn Pn 05 13 21.0 -3.0
B926 **Mesachie Lake** 4.08 114 Pn Pn 05 13 23.7 -0.8
OCP **Olym-Cheeka Pk** 4.09 123 Pn Pn 05 13 22.3 -2.4
UBRB **Upper Baezaeko** 4.18 55 Pn Pn 05 13 27.2 +1.2
UBRB Sn Sn 05 14 18.8 +4.4
BPB **Bare Point** 4.29 111 Pn Pn 05 13 26.4 -0.9
LZB **Mount Lazard** 4.37 116 Pn Pn 05 13 26.9 -1.6
GOBB **Galiano Island** 4.39 110 Pn Pn 05 13 26.9 -1.9
WSLR **Whistler** 4.41 94 Pn Pn 05 13 28.7 -0.4
OFR **Olym-F Res Ctr** 4.44 126 Pn Pn 05 13 27.6 -1.8
B010 **North Saanich** 4.56 114 Pn Pn 05 13 29.6 -1.5
B009 **North Saanich** 4.56 114 Pn Pn 05 13 29.7 -1.3
B009 Sn Sn 05 14 19.6 -3.6
PA02 **PA02 Ocean** 4.56 114 Pn Pn 05 13 28.8 -2.3
PGC **Sidney** 4.56 114 Pn Pn 05 13 29.7 -1.4
PGC **Sidney** 4.56 114 ePn Pn 05 13 29.6 -1.4
B011 **North Saanich** 4.56 114 Pn Pn 05 13 29.1 -2.0
PA01 **PA01 North** 4.56 113 Pn Pn 05 13 29.1 -1.9
PA01 Sn Sn 05 14 21.5 -1.8
PA12 **PA12 Sannich** 4.56 114 Pn Pn 05 13 28.2 -2.9
PA04 **PA04 Cage** 4.56 113 Pn Pn 05 13 28.6 -2.5
SNB **Saturna Island** 4.67 111 Pn Pn 05 13 31.8 -0.8
VGZ **Gonzales** 4.75 116 Pn Pn 05 13 32.3 -1.4
OSD **Olympics--Snow** 4.88 123 Pn Pn 05 13 34.0 -1.6
MCW **Mount Constitu** 4.91 111 Pn Pn 05 13 35.1 -0.9
LLLB **Lillooet** 5.02 87 Pn Pn 05 13 36.9 -0.5
LLLB **Lillooet** 5.02 87 ePn Pn 05 13 37.7 +0.3
NLWA **Neilton Lookou** 5.06 128 ePn Pn 05 13 36.7 -1.4
BLN **Blyn Mountain** 5.17 118 Pn Pn 05 13 37.5 -1.9
VDB **Vedder Mountai** 5.22 105 Pn Pn 05 13 39.2 -0.8
CRAG **Craig** 5.24 339 ePn Pn 05 13 36.9 -3.4
WISH **Wishkah** 5.30 129 Pn Pn 05 13 39.4 -1.8
HDW **Hoodsport** 5.33 122 Pn Pn 05 13 39.5 -2.2
MBW **Mount Baker** 5.43 107 Pn Pn 05 13 43.0 -0.2
HOPB **Hope** 5.53 100 Pn Pn 05 13 45.0 +0.7
JCW **Jim Creek** 5.67 113 Pn Pn 05 13 45.6 -0.7
JCW Sn Sn 05 14 49.1 -1.5
B06A **Marblemount** 5.79 108 Pn Pn 05 13 47.7 -0.3
B06A **Marblemount** 5.79 108 ePn Pn 05 13 47.6 -0.3
B06A eSn Sn 05 13 48.3 +0.3
E03A **Lebam** 5.81 133 ePn Pn 05 13 46.7 -1.5
D05A **Enumclaw** 6.18 121 Pn Pn 05 13 52.7 -0.6
D05A **Enumclaw** 6.18 121 ePn Pn 05 13 53.5 +0.2
D05A eSn Sn 05 15 04.9 +1.7
F03A **Seaside** 6.28 136 ePn Pn 05 13 53.8 -0.8
FMW **Mount Fremont** 6.51 122 Pn Pn 05 13 57.5 -0.5
LON **Longmire** 6.55 123 Pn Pn 05 13 57.5 -0.9
LON **Longmire** 6.55 123 ePn Pn 05 13 58.0 -0.5
LON eSn Sn 05 15 13.2 +0.8
PNT **Penticton** 6.68 98 Pn Pn 05 14 00.2 +0.1
LTY **Liberty** 6.88 116 Pn Pn 05 14 01.9 -1.2
LTY **Liberty** 6.88 116 ePn Pn 05 14 03.1 +0.1
DOWB **Downie Slide** 7.14 79 P Pn 05 14 11.0 +4.5
B08A **Colville Reser** 7.17 105 Pn Pn 05 14 05.6 -1.3
B08A **Colville Reser** 7.17 105 ePn Pn 05 14 06.8 -0.2
DLBC **Dease Lake** 7.81 359 Pn Pn 05 14 16.1 +0.4
0.6nm,0.3s,baz=193,slow=14,SNR=21
DLBC Sn Sn 05 15 44.2 +1.0
0.3nm,0.3s,baz=183,slow=18,SNR=3.2
DLBC LR LR 05 17 09.8
comp=Z,234nm,19.9s,baz=260,slow=37
DLBC **Dease Lake** 7.81 359 P Pn 05 14 15.9 +0.2
DLBC **Dease Lake** 7.81 359 ePn Pn 05 14 15.3 -0.4
DLBC eSn Sn 05 15 41.1 -2.1
H04A **Detroit Lake** 7.86 136 ePn Pn 05 14 16.8 +0.4
D08A **Wollman Farm,** 8.00 112 ePn Pn 05 14 17.0 -1.3
C09A **Chrisman Ranch** 8.04 106 P Pn 05 14 18.4 -0.5
C09A **Chrisman Ranch** 8.04 106 ePn Pn 05 14 18.3 -0.6
C09A eSn Sn 05 15 49.2 +0.2
G06A **Carlson Farm,** 8.17 128 ePn Pn 05 14 21.2 +0.5
NEW **Newport** 8.57 101 Pn Pn 05 14 25.8 -0.4
0.3nm,0.3s,baz=308,slow=14,SNR=3.2
NEW LR LR 05 18 03.3
comp=Z,221nm,19.7s,baz=292,slow=40
FNBB **Fort Nelson** 9.13 23 P Pn 05 14 32.9 -0.9
F10A **Beach Ranch, E** 9.57 114 ePn Pn 05 14 39.2 -0.7
YBH **Yreka Blue Hor** 10.16 149 Pn Pn 05 14 46.1 -1.9
0.1nm,0.3s,baz=344,slow=18,SNR=6.6
YBH **Yreka Blue Hor** 10.16 149 ePn Pn 05 14 49.6 +1.6
BMO **Blue Mountains** 10.19 120 ePn Pn 05 14 49.3 +0.9
WALA **Waterton Lakes** 10.36 93 ePn Pn 05 14 51.8 +1.1
WHY **Whitehorse** 10.44 346 P Pn 05 14 51.4 -0.4
WHY **Whitehorse** 10.44 346 ePn Pn 05 14 55.0 +3.2
JTMT **Jette** 10.54 100 ePn Pn 05 14 51.6 -1.6
J08A **Circle Bar Ran** 10.60 129 ePn Pn 05 14 55.9 +1.9
MOD **Modoc Plateau** 10.92 140 ePn Pn 05 15 00.2 +1.8
MSO **Missoula** 11.12 104 ePn Pn 05 15 00.8 -0.3
WVOR **Wild Horse Val** 11.22 133 ePn Pn 05 15 03.7 +1.2
HRY **Holter Researc** 12.48 101 ePn Pn 05 15 20.6 +0.8
ORV **Oroville** 12.52 149 ePn Pn 05 15 20.7 +0.5
HLID **Hailey** 12.62 118 ePn Pn 05 15 22.5 +0.9
BEKR **Beckworth** 12.64 145 ePn Pn 05 15 23.9 +2.0
DLMT **Dillon** 12.64 108 ePn Pn 05 15 21.5 -0.5
MCMT **McKenzie Canyo** 12.78 111 ePn Pn 05 15 23.1 -0.8
BOZ **Bozeman (W)** 13.12 106 ePn Pn 05 15 28.4 0.0
PAHR **Pah Rah Range** 13.15 142 ePn Pn 05 15 33.8 +4.9
EGMT **Eagleton** 13.31 94 ePn Pn 05 15 34.9 +4.0
VCNR **Virginia City** 13.40 144 ePn Pn 05 15 34.2 +1.8
MCCM **Marconi Confer** 13.42 156 ePn Pn 05 15 34.9 +2.4
BMN **Battle Mountai** 13.46 135 ePn Pn 05 15 34.6 +1.5
QLMT **Earthquake Lak** 13.63 108 ePn Pn 05 15 34.9 -0.6
YHB **Horse Butte** 13.81 108 ePn Pn 05 15 37.8 -0.2
YMR **Madison River** 13.99 108 ePn Pn 05 15 40.4 0.0
YHH **Holmes Hill** 14.00 107 ePn Pn 05 15 40.9 +0.3
YHH eSn Sn 05 18 24.8 +10
GCMT **Greycliff** 14.24 102 ePn Pn 05 15 45.9 +2.2
GCMT eSn Sn 05 18 20.8 0.0
YPP **Pitchstone Pla** 14.30 109 ePn Pn 05 15 44.5 -0.3
H17A **Grant Village** 14.38 108 ePn Pn 05 15 47.2 +1.5
2.6nm,0.8s

IMW	Indian Meadow	14.43	111	*e*Pn	Pn	05 15 46.7	+0.2	
MENT	Mentasta	14.45	334	*e*Pn	Pn	05 15 47.1	+0.7	
YKA	Yellowknife Ar	14.46	29	Pn	Pn	05 15 45.0	-1.5	
	0.1nm,0.3s,baz=218,slow=12,SNR=27							
YKW3	Yellowknife Ar	14.51	29	P	Pn	05 15 45.4	-1.8	
YKW3	Yellowknife Ar	14.51	29	*e*Pn	Pn	05 15 47.4	+0.2	
FXWY	Fox Creek	14.53	112	*e*Pn	Pn	05 15 47.9	+0.1	
MOOW	Moose Ponds	14.63	111	*e*Pn	Pn	05 15 49.7	+0.5	
TPAW	Teton Pass	14.66	112	*e*Pn	Pn	05 15 49.7	+0.1	
NV01	Mina Array Sit	14.67	142	*e*Pn	Pn	05 15 51.0	+1.3	
NVAR	Mina Array Bea	14.67	142	Pn	Pn	05 15 48.9	-0.8	
	baz=312,slow=9.4,SNR=2.7							
NVAR				LR	LR	05 21 15.2		
	comp=Z,78nm,18.5s,baz=90,slow=36							
HVU	Hansel Valley	14.70	121	*e*Pn	Pn	05 15 50.7	+0.6	
SNOW	Snow King Moun	14.79	112	*e*Pn	Pn	05 15 51.4	0.0	
REDW	Red Top Meadow	14.79	112	*e*Pn	P	05 15 59.4	+2.3	
LOHW	Long Hollow	14.79	111	*e*Pn	Pn	05 15 52.1	+0.7	
RLMT	Red Lodge	14.80	104	*e*Pn	Pn	05 15 53.3	+1.8	
KDAK	Kodiak Island	15.09	307	LR	LR	05 20 09.6		
	comp=Z,194nm,19.7s,baz=90,slow=31							
SAO	San Andreas Ge	15.11	154	*e*Pn	Pn	05 15 56.3	+0.9	
	23nm,1.1s							
BGU	Big Grassy Mou	15.16	123	*e*Pn	Pn	05 15 57.1	+0.9	
	8.8nm,1.5s							
OHAK	Old Harbor	15.29	305	*e*Pn	Pn	05 15 58.6	+1.0	
	96nm,1.9s							
EGAK	Eagle	15.38	341	*e*Pn	Pn	05 16 00.5	+1.8	
	4.5nm,1.1s							
HWUT	Hardware Ranch	15.49	119	*e*Pn	Pn	05 16 01.8	+1.3	
	4.1nm,1.1s							
DUG	Dugway, Tooele	15.80	125	*e*Pn	Pn	05 16 04.8	+0.3	
	4.3nm,0.9s							
PMPB	Monarch Peak	15.81	152	*e*Pn	Pn	05 16 05.9	+1.4	
	40nm,1.1s							
BW06	Boulder Array	15.91	112	*e*Pn	Pn	05 16 06.5	+0.5	
	4.5nm,1.0s							
PD31	Pinedale Array	15.91	112	*e*Pn	Pn	05 16 06.3	+0.3	
PDAR	Pinedale Array	15.91	112	Pn	Pn	05 16 07.5	+1.4	
	0.1nm,0.3s,baz=309,slow=9.6,SNR=21							
PDAR	Pinedale Array	15.91	112	*e*Pn	Pn	05 16 07.1	+1.1	
LAO	LASA Array	16.03	95	*e*Pn	P	05 16 15.2	+4.6	
	7.5nm,0.9s							
JLU	Jordanelle	16.24	121	*e*Pn	Pn	05 16 11.2	+0.9	
	4.4nm,1.1s							
LDBN	Lake De Bois	16.31	7	P	Pn	05 16 13.2	+2.5	
NLU	North Lily Min	16.36	124	*e*Pn	P	05 16 16.6	+2.1	
	4.9nm,0.9s							
MPU	Maple Canyon	16.55	123	*e*Pn	Pn	05 16 13.6	-0.6	
	3.6nm,1.1s							
DGMT	Dagmar	16.71	88	*e*Pn	Pn	05 16 15.7	-0.3	
	6.2nm,0.6s							
IL1	Eielson Array	16.76	334	*e*Pn	Pn	05 16 16.4	-0.1	
ILAR	Eielson Array	16.76	334	Pn	Pn	05 16 17.0	+0.5	
	baz=147,slow=11,SNR=14							
ILAR				LR	LR	05 22 16.2		
	comp=Z,77nm,18.7s,baz=144,slow=36							
ILB	Eielson Array	16.76	334	*e*Pn	Pn	05 16 15.5	-1.0	
TPNV	Topopah Spring	16.77	140	*e*Pn	Pn	05 16 18.2	+1.3	
	14nm,1.4s							
ISA	Isabella, Lake	17.06	147	*e*Pn	Pn	05 16 21.1	+0.6	
	16nm,1.6s							
WHFN	White Fish Lak	17.15	37	P	Pn	05 16 20.2	-1.2	
DHRN	Dharma Camp	17.23	14	P	Pn	05 16 22.2	-0.1	
FFC	Flin Flon	17.28	66	*e*Pn	P	05 16 26.4	+2.0	
	5.0nm,0.9s							
HPLN	Hepburn Lake,	17.38	20	P	Pn	05 16 23.4	-0.9	
MSU	Marysvale	17.39	127	*e*Pn	P	05 16 29.7	+3.9	
P17A	Butcher Ranch,	17.42	123	*e*Pn	Pn	05 16 25.5	+0.4	
	2.8nm,0.9s							
BPAW	Bear Paw Mtn.	17.55	328	*e*P	P	05 16 30.4	+3.1	
	2.1nm,1.4s							
P18A	Preston Nutter	17.58	121	*e*Pn	Pn	05 16 28.1	+0.9	
	3.7nm,0.6s							
MTPU	Mount Pierson	17.74	129	*e*Pn	P	05 16 31.9	+1.9	
	3.0nm,1.2s							
K22A	Casper	17.80	108	*e*P	Pn	05 16 29.9	+0.2	
	6.7nm,1.0s							
SRU	San Rafael Swe	17.80	123	*e*Pn	Pn	05 16 28.8	-0.9	
	2.2nm,0.8s							
INK	Inuvik	17.81	355	P	Pn	05 16 29.3	-0.2	
	0.0nm,0.3s,baz=180,slow=11,SNR=3.3							
INK	Inuvik	17.81	355	*e*Pn	Pn	05 16 29.8	+0.3	
INK	Inuvik	17.81	355	*e*Pn	P	05 16 33.5	+3.5	
	4.1nm,1.1s							
LCMT	Little Creek M	18.05	133	*e*Pn	Pn	05 16 33.0	+0.2	
	2.7nm,0.9s							
KNB	Kanab	18.24	132	*e*Pn	P	05 16 36.3	+1.0	
	12nm,1.5s							
KUKN	Kugluktuk,NWT	18.70	17	P	P	05 16 40.7	+0.9	
PV09	Paradox Valley	18.99	122	*e*P	P	05 16 44.6	+1.0	
PV10	Paradox Valley	19.13	122	*e*P	P	05 16 46.0	+0.9	
PHWY	Pilot Hill	19.23	110	*e*P	P	05 16 46.2	-0.1	
	5.2nm,0.8s							
PV05	Paradox Valley	19.31	123	*e*P	P	05 16 47.2	+0.1	
COLD	Coldfoot	19.51	336	P	P	05 16 50.3	+1.5	
COLD	Coldfoot	19.51	336	*e*Pn	Pn	05 16 51.2	+1.0	
	15nm,1.5s							
PV01	Paradox Valley	19.56	122	*e*P	P	05 16 49.7	-0.1	
IM3	Indian Mountai	19.66	330	*e*P	P	05 16 52.4	+1.9	
SMCO	Snowmass	19.71	117	*e*P	P	05 16 52.0	+0.4	
	4.5nm,0.9s							
ISCO	Idaho Springs	20.08	113	*e*P	Pn	05 16 58.8	+1.3	
	2.6nm,0.9s							
MVCO	Mesa Verde	20.28	123	*e*P	P	05 16 58.2	+0.7	
	5.3nm,0.9s							
GLA	Glamis	20.74	142	*e*P	P	05 17 03.6	+1.2	
	4.6nm,0.8s							
ULM	Lac du Bonnet	21.48	78	P	P	05 17 09.9	-0.3	
	1.6nm,0.6s,baz=285,slow=12,SNR=5.0							
ULM				LR	LR	05 25 24.3		
	comp=Z,82nm,18.5s,baz=359,slow=36							
ULM	Lac du Bonnet	21.48	78	P	P	05 17 10.0	-0.2	
ULM	Lac du Bonnet	21.48	78	*e*P	P	05 17 09.6	-0.6	
	39nm,1.9s							
OGNE	Ogallala	21.52	106	*e*P	P	05 17 11.2	+0.4	
	19nm,1.1s							
SDCO	Great Sand Dun	21.54	117	*e*P	P	05 17 11.5	+0.3	
	9.2nm,1.5s							
FCC	Fort Churchill	21.93	54	P	P	05 17 15.5	+0.6	
FCC	Fort Churchill	21.93	54	*e*P	P	05 17 13.4	-1.4	
	5.8nm,0.9s							
AGMN	Agassiz Nation	22.05	83	*e*P	P	05 17 21.5	+5.2	
	4.9nm,0.8s							
EPLO	Experimental L	22.97	78	P	P	05 17 25.5	-0.6	
TUC	Tucson	23.07	135	*e*P	P	05 17 28.2	+0.9	
	5.9nm,1.2s							
LAZ	Ladron	23.13	126	*e*P	P	05 17 29.1	+1.0	
LENM	Lemitar	23.40	126	*e*P	P	05 17 31.3	+0.5	
ECSD	EROS Data Cent	23.42	94	*e*P	P	05 17 33.3	+2.6	
	16nm,1.6s							
BNM	Barren Site	23.59	125	*e*P	P	05 17 32.7	+0.1	
AMTX	Amarillo	25.73	117	*e*P	P	05 17 52.1	0.0	
	5.6nm,0.9s							
MNTX	Cornudas Mount	26.17	127	*e*P	P	05 17 55.5	-0.5	
	2.5nm,0.9s							
WMOK	Wichita Mounta	27.51	113	*e*P	P	05 18 08.1	0.0	
	3.2nm,0.8s							
TX31	Lajitas Ar. Si	28.94	127	*e*P	P	05 18 19.8	-1.1	
TXAR	Lajitas Array	28.94	127	P	P	05 18 19.4	-1.6	
	0.8nm,0.8s,baz=316,slow=5.2,SNR=5.5							
LPIG	La Paz	30.49	143	LR	LR	05 31 07.9		
	comp=Z,80nm,19.1s,baz=318,slow=37							
TKL	Tuckaleechee C	36.12	97	LR	LR	05 34 32.2		
	comp=Z,122nm,18.3s,baz=341,slow=37							
SFJD	Kangerlussuaq	40.87	36	LR	LR	05 37 20.7		
	comp=Z,51nm,19.2s,baz=296,slow=37							
PETK	Petropavlovsk-	43.08	303	LR	LR	05 35 06.1		
	comp=Z,42nm,21.1s,baz=74,slow=32							
SPITS	Spitsbergen Ar	49.79	9	LR	LR	05 43 17.0		
	comp=Z,32nm,18.7s,baz=10.0,slow=37							
H11N2	WAKE ISLAND Hy	58.13	262	T	T	06 24 55.1		
	baz=42,slow=75,SNR=182							
H11N3	WAKE ISLAND Hy	58.14	262	T	T	06 24 57.1		
	baz=42,slow=75,SNR=223							
H11N1	WAKE ISLAND Hy	58.15	262	T	T	06 24 56.3		
	baz=42,slow=75,SNR=167							
H11S1	WAKE ISLAND Hy	59.17	262	T	T	06 26 18.2		
	baz=53							
H11S2	WAKE ISLAND Hy	59.18	262	T	T	06 26 16.0		
	baz=53							
H11S3	WAKE ISLAND Hy	59.18	262	T	T	06 26 13.9		
	baz=53							
NOA	NORSAR Array B	64.35	20	LR	LR	05 50 24.0		
	comp=Z,27nm,19.4s,baz=305,slow=35							
HFS	Hagfors	65.69	19	LR	LR	05 51 56.9		
	comp=Z,50nm,18.1s,baz=349,slow=36							
FINES	FINESS Array B	66.60	12	LR	LR	05 53 24.1		
	comp=Z,25nm,18.7s,baz=352,slow=37							
HHC	Hu-ho-hao-te	74.29	316	*e*P	P	05 23 57.8	-0.9	
HHC				pmax	pmax			
	comp=Z,10.0nm,1.3s							
HHC				pmax	pmax			
	comp=Z,12nm,7.8s							
MKAR	Makanchi Array	79.07	338	P	P	05 24 25.7	+0.1	
	comp=Z,0.5nm,0.7s,baz=42,slow=5.6,SNR=5.8							
AKTO	Aktyubinsk	79.08	355	LR	LR	06 03 22.4		
	comp=Z,17nm,18.1s,baz=358,slow=39							
WMQ	Urumqi	80.43	333	*e*P	P	05 24 33.8	+0.8	
MLR	Muntele Rosu	81.96	17	LR	LR	06 01 43.8		
	comp=Z,9.7nm,19.2s,baz=354,slow=36							

MAN 29 05:15:18,9.63N×126.46E,h3km,mb4.4,ML3.3,MS3.1, 3D,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SCPH	Surigao	0.96	279	⇓*i*P		Pb		05 15 37.4	0.0
SCPH				*i* S		Sg		05 15 49.4	+0.4
BUTP	Butuan	1.05	231	*e*P		Pb		05 15 38.6	-0.2
BUTP				*e*S		Sg		05 15 51.8	-0.1
BIPH	Bislig	1.44	184	⇓*i*P		Pn		05 15 44.4	-0.6
BIPH				*i* S		Sn		05 16 05.0	+0.6
MSLP	Maasin	1.65	288	*e*P		Pb		05 15 49.0	-0.1
MSLP				*e*S		Sb		05 16 10.1	-0.2
PLP	Palo	2.11	317	⇓*e*P		Pb		05 15 55.9	-0.9
PLP				*i* S		Sb		05 16 23.6	+0.2
BUKP	Musuan	2.22	218	*e*P		Pn		05 15 56.1	+0.3
BUKP				*e*S		Sb		05 16 25.6	-1.1
LLP	Lapu-Lapu	2.54	286	*e*P		Pn		05 16 00.3	+0.1
LLP				*i* S		Sn		05 16 33.3	+1.6
TBP	Tagbilaran	2.56	272	*e*P		Pn		05 16 01.4	+1.1
TBP				*i* S		Sn		05 16 33.7	+1.6

*PGC **29** 05:18:47.9±2.1,50.43N×130.24W,h10km,MLSn3.2/29, Mw3.8/29,Mw3.8/29,201km west of Pt. Hardy, Bc Vancouver Island, Canada Region*
*ISCJB **29** 05:18:51.1±0.7,50.49N±0.05×129.61W±0.07,h10km, mb3.2/2,Error ellipse: s-maj=8.3km s-min=4.2km az=43.1*
*IDC **29** 05:18:51.5±1.5,50.61N×129.74W,h0km,mb3.4/2, mb1 3.5/7,mb1mx3.4/70,mbtmp3.3/7,ML3.1/4,Error ellipse: s-maj=22.1km s-min=13.4km az=74.0*
ISC 29 05:18:50.2±1.1,50.48N±0.06×129.88W±0.07,h10km,n59, σ1s72/79,Vancouver Island region.

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PACB	Port Alice, BC	1.52	91	Pn		Pn	Pn	05 19 15.2	-2.3
PACB				Sn		Sn	Sn	05 19 35.0	-2.3
PHC	Port Hardy	1.57	81	Pn		Pn	Pn	05 19 17.2	-0.9
PHC				Sn		Sn	Sb	05 19 38.4	-0.9
EDB	Eliza Dome	1.87	108	Pn		Pn	Pn	05 19 20.2	-2.0
EDB				Sn		Sn	Sn	05 19 43.3	-2.6
TLCB	Telegraph Cove	1.94	87	Pn		Pn	Pn	05 19 21.7	-1.5
TLCB				Sn		Sn	Sn	05 19 46.7	-0.9
BBB	Bella Bella	2.04	32	Pn		Pn	Pn	05 19 23.5	-1.0
	12nm,0.3s,baz=236,slow=7.8,SNR=50								
BBB				Sn			Sn	05 19 47.7	-2.2
	28nm,0.3s,baz=245,slow=14,SNR=7.2								
BBB	Bella Bella	2.04	32	Pn		Pn	Pn	05 19 23.4	-1.1
WOSB	Woss	2.14	97	Pn		Pn	Pn	05 19 25.5	-0.5
BNB	Barry Inlet	2.41	332	Pn		Pn	Pn	05 19 24.9	-4.8
ETB	Estevan Point	2.42	116	Pn		Pn	Pn	05 19 28.8	-1.0
NCRB	Newcastle Ridg	2.44	90	Pn		Pn	Pn	05 19 30.3	+0.1
GDR	Gold River	2.57	104	Pn		Pn	Pn	05 19 30.9	-0.9
GDR				Sn		Sn	Sn	05 20 00.4	-2.7
SPLB	Strathcona Par	2.78	101	Pn		Pn	Pn	05 19 33.0	-1.7
TOFB	Tofino	2.89	116	Sn		Sn	Sn	05 20 06.8	-4.2
CBB	Campbell River	2.93	97	Pn		Pn	Pn	05 19 36.5	-0.2
CBB				Sn		Sn	Sn	05 20 11.2	-0.8
BTB	Buttle Lake	2.99	108	Pn		Pn	Pn	05 19 36.8	-0.9
BTB				Sn		Sn	Sn	05 20 12.7	-1.0
MWAB	Mount Washingt	3.04	102	Pn		Pn	Pn	05 19 37.1	-1.2
DIB	Dawson Inlet,	3.17	330	Pn		Pn	Pn	05 19 35.3	-4.7
OZB	Mount Ozzard	3.23	116	Sn		Sn	Sn	05 20 17.0	-2.3
B927	Port Alberni	3.51	109	Pn		Pn	Pn	05 19 44.9	+0.2
B927				Sn		Sn	Sn	05 20 24.4	-1.8
TXB	Texada	3.59	100	Pn		Pn	Pn	05 19 45.6	-0.3
MGB	Mount Grey	3.67	112	Pn		Pn	Pn	05 19 46.5	-0.7
MGB				Sn		Sn	Sn	05 20 27.9	-2.7
SHB	Sechelt	3.97	101	Pn		Pn	Pn	05 19 51.0	-0.1
SHB				Sn		Sn	Sn	05 20 37.2	-0.6
YOUB	Youbou, Lake C	3.97	111	Pn		Pn	Pn	05 19 51.1	-0.1
YOUB				Sn		Sn	Sn	05 20 37.4	-0.4
NLLB	Nanaimo Lost L	4.01	106	Pn		Pn	Pn	05 19 50.1	-1.5
NLLB				Sn		Sn	Sn	05 20 36.6	-2.0
PFB	Port Renfrew	4.02	116	Pn		Pn	Pn	05 19 51.6	-0.2
OCP	Olym-Cheeka Pk	4.07	120	Pn		Pn	Pn	05 19 52.2	-0.2
B926	Mesachie Lake	4.08	112	Pn		Pn	Pn	05 19 53.8	+1.2
B926				Sn		Sn	Sn	05 20 38.5	-2.0
BPCB	Bare Point	4.30	109	Pn		Pn	Pn	05 19 57.0	+1.5
UBRB	Upper Baezaeko	4.34	54	Pn		Pn	Pn	05 19 57.8	+1.5
LZB	Mount Lazard	4.36	113	Pn		Pn	Pn	05 19 56.8	+0.3
LZB				Sn		Sn	Sn	05 20 41.4	-1.0
GOBB	Galiano Island	4.41	108	Pn		Pn	Pn	05 19 58.4	+1.3
GOBB				Sn		Sn	Sn	05 20 47.6	-0.8
B010	North Saanich	4.56	111	Pn		Pn	Pn	05 20 00.1	+0.9
B010				Sn		Sn	Sn	05 20 50.3	-2.0
B009	North Saanich	4.56	111	Pn		Pn	Pn	05 20 00.3	+1.1
PGC	Sidney	4.56	111	Pn		Pn	Pn	05 20 00.2	+1.0
PGC				Sn		Sn	Sn	05 20 50.4	-1.9
B011	North Saanich	4.57	111	Pn		Pn	Pn	05 20 00.3	+1.1
B011				Sn		Sn	Sn	05 20 49.8	-2.5
SNB	Saturna Island	4.68	109	Pn		Pn	Pn	05 20 02.5	+1.7
SNB				Sn		Sn	Sn	05 20 55.6	+0.5
VGZ	Gonzales	4.75	113	Pn		Pn	Pn	05 20 03.0	+1.3
VGZ				Sn		Sn	Sn	05 20 54.6	-2.1
MCW	Mount Constitu	4.92	109	Pn		Pn	Pn	05 20 05.5	+1.2
LLLB	Lillooet	5.10	85	Pn		Pn	Pn	05 20 08.1	+1.5
VDB	Vedder Mountai	5.25	103	Pn		Pn	Pn	05 20 10.0	+1.4
HDW	Hoodsport	5.30	120	Pn		Pn	Pn	05 20 11.0	+0.6
MBW	Mount Baker	5.45	105	Pn		Pn	Pn	05 20 13.5	+1.9
JCW	Jim Creek	5.67	111	Pn		Pn	Pn	05 20 16.1	+1.5
JCW				Sn		Sn	Sn	05 21 19.5	-0.2
B06A	Marblemount	5.81	106	Pn		Pn	Pn	05 20 17.4	+1.2
FMW	Mount Fremont	6.49	120	Pn		Pn	Pn	05 20 27.4	+1.6
LTY	Liberty	6.87	114	Pn		Pn	Pn	05 20 33.1	+2.1
B08A	Colville Reser	7.20	103	Pn		Pn	Pn	05 20 36.7	+1.2
DLBC	Dease Lake	7.98	359	Pn		Pn	Pn	05 20 46.8	+0.7
	0.3nm,0.3s,baz=198,slow=14,SNR=8.3								
DLBC				Sn			Sn	05 22 14.2	-2.2
	0.2nm,0.3s,baz=197,slow=17,SNR=2.6								
DLBC	Dease Lake	7.98	359	P		Pn	Pn	05 20 46.5	+0.4
C09A	Chrisman Ranch	8.07	105	P		Pn	Pn	05 20 48.8	+1.5
NVAR	Mina Array Bea	14.58	141	Pn		P	P	05 22 22.1	-1.1
	baz=298,slow=10,SNR=2.4								
YKA	Yellowknife Ar	14.65	29	Pn		Pn	Pn	05 22 15.5	-1.7
	0.1nm,0.3s,baz=218,slow=12,SNR=7.4								
PDAR	Pinedale Array	15.91	111	Pn		P	P	05 22 38.0	0.0
	baz=312,slow=12,SNR=5.6								
ILAR	Eielson Array	16.89	334	Pn		P	P	05 22 49.4	+1.0
	0.1nm,0.3s,baz=145,slow=9.9,SNR=3.9								
ULM	Lac du Bonnet	21.59	77	P		P	P	05 23 42.2	+2.4
	1.0nm,0.5s,baz=286,slow=9.5,SNR=4.8								
H11N2	WAKE ISLAND Hy	58.04	262	T		T	T	06 31 22.0	
	baz=42,slow=75,SNR=33								
H11N3	WAKE ISLAND Hy	58.04	262	T		T	T	06 31 22.1	
	baz=42,slow=75,SNR=25								
H11N1	WAKE ISLAND Hy	58.06	262	T		T	T	06 31 23.3	
	baz=42,slow=75,SNR=25								
MKAR	Makanchi Array	79.20	338	P		P	P	05 30 57.8	+2.7
	0.1nm,0.4s,baz=28,slow=6.5,SNR=3.7								

*IDC **29** 05:24:24.6±1.0,3.03S×136.31E,h0km,mb3.9/7, mb1 4.2/9,mb1mx3.8/48,mbtmp4.0/9,ML4.0/2,Error ellipse: s-maj=41.1km s-min=20.7km az=73.0*
*ISCJB **29** 05:24:28.5±0.8,3.2S±0.1×136.0E±0.1,h34km,mb3.7/6, Error ellipse: s-maj=20.2km s-min=10.0km az=138.0*
ISC 29 05:24:29.8±1.0,3.29S±0.09×136.0E±0.1,h34km,n9, σ1s72/11,mb3.8/6,Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SIJI	Sorong	5.32	297	Pn		Pn	Pn	05 25 47.6	+0.7
	6.1nm,0.3s,baz=94,slow=1.3,SNR=23								
SIJI				Sn		Sn	Sn	05 26 46.0	-1.1
	11nm,0.3s,baz=50,slow=18,SNR=24								
WRA	Warramunga Arr	16.63	186	Pn		Pn	Pn	05 28 20.9	+0.4
	0.5nm,0.3s,baz=7.7,slow=13,SNR=12								
WRA				Sn		Sn	Sn	05 31 20.8	-3.4
	0.6nm,0.3s,baz=4.9,slow=23,SNR=11								
ASAR	Alice Springs	20.36	186	P		Pn	Pn	05 29 07.4	+1.6
	6.2nm,0.7s,baz=12,slow=11,SNR=50								
ASAR				S		S	S	05 32 52.2	+2.1
	1.1nm,0.7s,baz=2.2,slow=28,SNR=4.2								
CMAR	Chiang Mai Arr	42.42	302	P		P	P	05 32 22.6	+1.0
	0.4nm,0.4s,baz=110,slow=7.8,SNR=4.2								
MKAR	Makanchi Array	68.63	324	P		P	P	05 35 30.1	+0.5
	1.2nm,0.6s,baz=112,slow=8.4,SNR=16								
KURBB	Kurchatov Arra	72.67	326	P		P	P	05 35 52.9	-1.2
	0.3nm,0.6s,baz=116,slow=5.1,SNR=5.3								
VNDA	Vanda	75.46	174	P		P	P	05 36 11.2	+1.2
	0.6nm,0.7s,baz=328,slow=5.6,SNR=5.2								
BVAR	Borovoye Array	78.26	326	P		P	P	05 36 26.0	-0.2
	0.7nm,0.5s,baz=106,slow=7.8,SNR=4.3								
ILAR	Eielson Array	87.48	25	P		P	P	05 37 12.5	-1.2
	0.6nm,0.6s,baz=261,slow=4.1,SNR=10								

*ISN **29** 05:37:28.5±1.2,32.55N×46.90E,h0km±5km,ML3.3*
*ISCJB **29** 05:37:31.5±0.5,32.54N±0.05×46.94E±0.05,h20km,Error ellipse: s-maj=7.0km s-min=5.6km az=143.2*
*CSEM **29** 05:37:31.0±0.2,32.48N×47.01E,h10km,ML3.3,Error ellipse: s-maj=7.3km s-min=5.7km az=177.0*
*TEH **29** 05:37:31.1,32.57N×46.91E,h4km,ML3.3*
ISC 29 05:37:32.3±1.2,32.55N±0.05×46.94E±0.06,h20km,n18, σ0s75/21,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
IKFM	Kafar-mosalman	1.23	38	*e*Pg		Pn	Pn	05 37 53.4	-1.0
IKFM				*e*AMB		AMB	AMB	05 38 17.5	
	comp=Z,99nm,0.3s								
SHGR	Shooshtar-Gavs	1.64	105	*e*Pg		Pn	Pn	05 38 00.6	+0.6
NSR	Nassriya	1.68	204	*e*Pn		Pn	Pn	05 38 00.0	-0.6
	SNR=4.0								
NSR				*e*Sn		Sb	Sb	05 38 23.0	-0.3
	SNR=4.0								
IKOM	Komasi	1.69	16	*e*Pn		Pn	Pn	05 38 01.0	+0.2
IKOM				*e*AMB		AMB	AMB	05 38 29.8	
	comp=Z,6μm,0.2s								
IGHG	Ghaleghazi	1.80	350	*e*Pn		Pn	Pn	05 38 02.9	+0.4
IGHG				*e*AMB		AMB	AMB	05 38 36.6	
	comp=Z,6μm,0.3s								
IVIS	Veis	1.97	358	*e*AMB		AMB	AMB	05 38 39.0	
	comp=N,4μm,0.2s								
IVIS				*e*Pn		Pn	Pn	05 38 04.6	-0.1
ILIN	Lien	2.36	0	*e*Pn		Pn	Pn	05 38 10.7	+0.5
ILIN				*e*AMB		AMB	AMB	05 38 54.5	
	comp=Z,1μm,0.2s								
SNGE	Sanandaj	2.56	7	*e*Pn		Pn	Pn	05 38 14.3	+1.5
SNGE				*e*Sg		Sg	Sb	05 38 47.2	-1.5
KHMZ	Khomeyn	2.79	64	*e*Pn		Pn	Pn	05 38 16.0	-0.1
HAGD	Aghdareh	2.91	38	*e*Pn		Pn	Pn	05 38 17.8	0.0
HAGD				*e*AMB		AMB	AMB	05 38 56.0	
	comp=Z,99nm,0.1s								
HKZM	Kohzaman	3.26	30	*e*Pn		Pn	Pn	05 38 23.1	+0.6
HKZM				*e*AMB		AMB	AMB	05 39 03.6	
	comp=Z,99nm,0.3s								
IRAZ	Razeghan	3.77	40	*e*Pn		Pn	Pn	05 38 30.8	+1.2
IRAZ				*e*AMB		AMB	AMB	05 38 46.6	
	comp=Z,681nm,0.3s								
IKLH	Kolahrood	3.97	78	*e*Pn

YOUB				Sn	**Sn**	**05 40 34.2**	**-2.0**		
SHB	**Sechelt**	**4.12**	**99**	Pn	**Pn**	**05 39 48.0**	**-0.3**		
SHB				Sn	**Sn**	**05 40 34.5**	**-2.2**		
PFB	**Port Renfrew**	**4.15**	**114**	Pn	**Pn**	**05 39 48.2**	**-0.3**		
PFB				Sn	**Sn**	**05 40 33.1**	**-4.0**		
NLLB	**Nanaimo Lost L**	**4.16**	**104**	Pn	**Pn**	**05 39 48.7**	**0.0**		
NLLB				Sn	**Sn**	**05 40 34.3**	**-3.0**		
BPCB	**Bare Point**	**4.44**	**107**	Sn	**Sn**	**05 40 43.3**	**-0.9**		
LZB	**Mount Lazard**	**4.49**	**111**	Pn	**Pn**	**05 39 54.1**	**+0.7**		
LZB				Sn	**Sn**	**05 40 43.1**	**-2.6**		
UBRB	**Upper Baezaeko**	**4.52**	**54**	Pn	**Pn**	**05 39 54.7**	**+0.9**		
UBRB				Sn	**Sn**	**05 40 47.4**	**+1.0**		
GOBB	**Galiano Island**	**4.55**	**106**	Pn	**Pn**	**05 39 54.9**	**+0.9**		
GOBB				Sn	**Sn**	**05 40 46.4**	**-0.5**		
WSLR	**Whistler**	**4.64**	**91**	Pn	**Pn**	**05 39 57.0**	**+1.6**		
B009	**North Saanich**	**4.70**	**109**	Pn	**Pn**	**05 39 57.2**	**+1.0**		
B009				Sn	**Sn**	**05 40 45.8**	**-4.9**		
B010	**North Saanich**	**4.70**	**109**	Pn	**Pn**	**05 39 57.3**	**+1.1**		
B010				Sn	**Sn**	**05 40 46.3**	**-4.4**		
PA02	**PA02 Ocean**	**4.70**	**109**	Sn	**Sn**	**05 40 49.2**	**-1.5**		
PGC	**Sidney**	**4.70**	**109**	Pn	**Pn**	**05 39 57.2**	**+1.1**		
PGC				Sn	**Sn**	**05 40 47.6**	**-3.1**		
B011	**North Saanich**	**4.70**	**109**	Pn	**Pn**	**05 39 56.6**	**+0.5**		
B011				Sn	**Sn**	**05 40 46.6**	**-4.1**		
SNB	**Saturna Island**	**4.82**	**107**	Pn	**Pn**	**05 39 58.9**	**+1.1**		
SNB				Sn	**Sn**	**05 40 51.8**	**-1.9**		
VGZ	**Gonzales**	**4.88**	**112**	Sn	**Sn**	**05 40 51.5**	**-3.5**		
MCW	**Mount Constitu**	**5.06**	**107**	Pn	**Pn**	**05 40 02.4**	**+1.2**		
LLLB	**Lillooet**	**5.28**	**85**	Pn	**Pn**	**05 40 04.2**	**+0.1**		
BLN	**Blyn Mountain**	**5.28**	**114**	Pn	**Pn**	**05 40 05.2**	**+1.1**		
VDB	**Vedder Mountai**	**5.40**	**102**	Pn	**Pn**	**05 40 07.0**	**+1.2**		
MBW	**Mount Baker**	**5.60**	**104**	Pn	**Pn**	**05 40 10.3**	**+1.6**		
MBW				Sn	**Sn**	**05 41 11.6**	**-1.6**		
JCW	**Jim Creek**	**5.81**	**109**	Pn	**Pn**	**05 40 13.1**	**+1.6**		
JCW				Sn	**Sn**	**05 41 16.7**	**-1.4**		
B06A	**Marblemount**	**5.95**	**105**	Pn	**Pn**	**05 40 15.0**	**+1.7**		
FMW	**Mount Fremont**	**6.60**	**119**	Pn	**Pn**	**05 40 24.4**	**+2.0**		
LTY	**Liberty**	**7.00**	**113**	Pn	**Pn**	**05 40 30.5**	**+2.7**		
B08A	**Colville Reser**	**7.35**	**102**	Pn	**Pn**	**05 40 34.0**	**+1.4**		
DLBC	**Dease Lake**	**8.04**	**0**	Pn	**Pn**	**05 40 42.5**	**+0.4**		
	0.2nm,0.3s,baz=221,slow=11,SNR=5.2								
DLBC				Sn	**Sn**	**05 42 12.7**	**-0.4**		
	0.2nm,0.3s,baz=336,slow=20,SNR=3.3								
DLBC	**Dease Lake**	**8.04**	**0**	P	**Pn**	**05 40 43.6**	**+1.5**		
YKA	**Yellowknife Ar**	**14.79**	**29**	Pn	**Pn**	**05 42 12.3**	**-1.9**		
	0.0nm,0.3s,baz=217,slow=12,SNR=6.6								
YKW1	**Yellowknife Ar**	**14.82**	**29**	P	**P**	**05 42 20.9**	**+0.4**		
YKW3	**Yellowknife Ar**	**14.84**	**29**	P	**P**	**05 42 21.4**	**+0.8**		
PDAR	**Pinedale Array**	**16.05**	**111**	Pn	**P**	**05 42 34.1**	**-0.5**		
	0.1nm,0.3s,baz=299,slow=13,SNR=4.0								
ILAR	**Eielson Array**	**16.87**	**335**	Pn	**P**	**05 42 45.8**	**+2.5**		
	0.0nm,0.3s,baz=137,slow=11,SNR=2.7								
TXAR	**Lajitas Array**	**28.99**	**127**	P	**P**	**05 44 49.0**	**+3.8**		
	0.4nm,0.8s,baz=339,slow=2.3,SNR=3.8								
H11N2	**WAKE ISLAND Hy**	**57.87**	**262**	T	T	06 51 09.7			
	baz=42								
H11N3	**WAKE ISLAND Hy**	**57.87**	**262**	T	T	06 51 14.2			
	baz=42								
H11N1	**WAKE ISLAND Hy**	**57.88**	**262**	T	T	06 51 12.1			
	baz=42								
H11S1	**WAKE ISLAND Hy**	**58.89**	**261**	T	T	06 52 28.1			
	baz=48								
H11S2	**WAKE ISLAND Hy**	**58.90**	**261**	T	T	06 52 26.0			
	baz=48								
H11S3	**WAKE ISLAND Hy**	**58.91**	**261**	T	T	06 52 29.8			
	baz=48								

IDC 29 05:45:38.3±2.4, 3°09S×136°07E, h0km, mb3.5/2, mb1 3.7/4, mb1mx3.4/45, mbtmp3.5/4, ML3.3/2, Error ellipse: s-maj=58.2km s-min=26.4km az=64.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**5.29**	**295**	Pn	Pn	05 46 60.0	+1.3
	1.5nm,0.3s,baz=90,slow=20,SNR=16						
SIJI					Sn	05 47 59.2	-1.0
	2.5nm,0.3s,baz=73,slow=20,SNR=12						
WRA	**Warramunga Arr**	**16.83**	**186**	Pn	Pn	05 49 33.5	-2.1
	0.1nm,0.3s,baz=7.1,slow=13,SNR=5.4						
WRA					Sn	05 52 32.4	-11
	0.2nm,0.3s,baz=3.1,slow=23,SNR=6.2						
ASAR	**Alice Springs**	**20.56**	**186**	P	P	05 50 19.6	+0.8
	1.8nm,0.7s,baz=12,slow=11,SNR=16						
ASAR				S	S	05 54 04.8	-4.9
	0.3nm,0.5s,baz=2.3,slow=28,SNR=3.4						
MKAR	**Makanchi Array**	**68.50**	**323**	P	P	05 56 42.4	-0.2
	0.4nm,0.7s,baz=118,slow=7.0,SNR=4.7						

*TIR **29** 05:54:02.2, 41.11N×20.23E, h2km, Md2.9/7*
*SKO **29** 05:54:03.2, 41.10N×20.16E, h6km, M2.1, ML2.6*
*CSEM **29** 05:54:03.6±0.2, 41.06N×20.17E, h2km, ML2.1, Error ellipse: s-maj=5.2km s-min=2.8km az=59.0*
*PDG **29** 05:54:03.6±0.3, 41.14N×20.21E, h4km, ML2.7/9, Error ellipse: s-maj=0.6km s-min=0.7km az=0.0*
*BEO **29** 05:54:03.3±0.8, 40.97N×20.15E, h0km*
THE 29 05:54:03.2, 41.11N×20.19E, h0km, 2km, ML2.1/6, 15C-7D, Error ellipse: s-maj=2.3km s-min=0.7km az=90.0, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.34**	**314**	*e*Pg	Pg	05 54 10.1	+0.3
TIR				*e*Sg	Sb	05 54 16.2	-1.9
TIR	**Tirane**	**0.34**	**314**	P	Pg	05 54 09.3	-0.5
TIR				S	Sg	05 54 15.3	+1.1
TIR	**Tirane**	**0.34**	**314**	P	Pg	05 54 09.3	-0.5
TIR	**Tirane**	**0.34**	**314**	*e*Pg	Pg	05 54 10.1	+0.3
TIR				S	Sg	05 54 15.3	+1.1
TIR				*e*Sg	Sb	05 54 16.2	-1.9
TIR	**Tirane**	**0.34**	**314**	*i* PG	Pg	05 54 09.4	-0.4
TIR				*i* SG	Sb	05 54 16.2	-1.9
OHR	**Ohrid**	**0.46**	**90**	⇑*i*Pg	Pg	05 54 11.7	-0.3
OHR				*i* Sg	Sg	05 54 19.4	+1.5
OHR				*e*Lg	Lg	05 54 19.6	
	comp=N,279nm,0.4s						
OHR				*e*Lg	Lg	05 54 19.7	
	comp=E,301nm,0.5s						
PHP	**Peshkopia**	**0.60**	**18**	P	Pg	05 54 14.6	-0.1
PHP				S	Sg	05 54 23.5	+1.0
PHP	**Peshkopia**	**0.60**	**18**	P	Pg	05 54 14.6	-0.1
PHP				S	Sg	05 54 23.5	+1.0
PHP				*i* Sg	Sb	05 54 24.7	-1.0
PHP	**Peshkopia**	**0.60**	**18**	*i* PG	Pg	05 54 14.4	-0.4
PHP				*i* SG	Sb	05 54 24.7	-1.0
KBN	**Korca**	**0.66**	**137**	P	Pg	05 54 14.7	-1.2
KBN				S	Sg	05 54 26.0	+1.5
KBN	**Korca**	**0.66**	**137**	P	Pg	05 54 14.7	-1.2
KBN	**Korca**	**0.66**	**137**	*i* Pg	Pg	05 54 15.7	-0.2
KBN				S	Sg	05 54 26.0	+1.5
KBN	**Korca**	**0.66**	**137**	*i* PG	Pg	05 54 15.7	-0.2
KBN				*i* SG	Sb	05 54 26.1	-1.4
KRUS	**Krusevo**	**0.84**	**72**	⇑*i*Pg	Pg	05 54 18.5	-0.7
KRUS				*i* Sg	Sg	05 54 30.9	+0.9
KRUS				*e*Lg	Lg	05 54 31.5	
	comp=N,37nm,0.5s						
KRUS				*e*Lg	Lg	05 54 31.6	
	comp=E,28nm,0.3s						
BIA	**Bitola**	**0.86**	**96**	P	Pg	05 54 20.0	+0.3
BIA				S	Sb	05 54 32.0	-1.1
BIA	**Bitola**	**0.86**	**96**	P	Pg	05 54 20.0	+0.3
BIA				S	Sb	05 54 32.0	-1.1
BIA	**Bitola**	**0.86**	**96**	⇑*i*Pg	Pg	05 54 19.0	-0.7
BIA				*i* Sg	Sg	05 54 31.9	+1.1
BIA				*e*Lg	Lg	05 54 32.1	
	comp=N,52nm,0.4s						
BIA				*e*Lg	Lg	05 54 32.2	
	comp=E,39nm,0.4s						
NEST	**Nestorio**	**0.95**	**137**	P	Pg	05 54 20.4	-1.1
NEST				S	Sg	05 54 34.4	+0.6
NEST	**Nestorio**	**0.95**	**137**	P	Pg	05 54 20.4	-1.1
NEST				S	Sg	05 54 34.4	+0.6
FNA	**Florina**	**0.95**	**110**	P	Pg	05 54 20.4	-1.1
FNA				S	Sb	05 54 35.7	-0.1
FNA	**Florina**	**0.95**	**110**	P	Pg	05 54 20.4	-1.1
FNA				S	Sb	05 54 35.7	-0.1
PUK	**Puka**	**0.96**	**346**	*i* Pg	Pg	05 54 21.1	-0.4
PUK				*i* Sg	Sb	05 54 37.1	+1.2
PUK	**Puka**	**0.96**	**346**	*i* PG	Pg	05 54 21.1	-0.4
PUK				*i* SG	Sb	05 54 37.1	+1.1
ULC	**Ulcinj**	**1.11**	**320**	*e*Pg	Pg	05 54 23.2	-1.3
ULC				*e*Sg	Sn	05 54 41.4	-0.6
ULC	**Ulcinj**	**1.11**	**320**	*e*Pg	Pg	05 54 23.2	-1.3
ULC				*e*Sg	Sn	05 54 41.4	-0.6
PENT	**Pentalofos**	**1.16**	**142**	P	Pb	05 54 25.9	-0.3
PENT				S	Sb	05 54 42.3	+0.4
PENT	**Pentalofos**	**1.16**	**142**	P	Pb	05 54 25.9	-0.3
PENT				S	Sb	05 54 42.3	+0.4
SRN	**Sarande**	**1.24**	**187**	P	Pg	05 54 26.6	-0.4
SRN	**Sarande**	**1.24**	**187**	P	Pg	05 54 26.6	-0.4
SRN	**Sarande**	**1.24**	**187**	*i* Pg	Pn	05 54 27.9	+0.2
SRN				*i* Sg	Sn	05 54 46.7	+1.6
SRN	**Sarande**	**1.24**	**187**	*i* PG	Pn	05 54 27.9	+0.2
SRN				*i* SG	Sn	05 54 46.7	+1.6
BCI	**Bajram Curri**	**1.26**	**356**	*i* Pg	Pn	05 54 28.7	+0.7
BCI				*i* Sg	Sn	05 54 46.3	+0.7
BCI	**Bajram Curri**	**1.26**	**356**	*i* PG	Pn	05 54 28.7	+0.7
BCI				*i* SG	Sn	05 54 46.3	+0.7
SKO	**Skopje**	**1.27**	**47**	*e*Pg	Pg	05 54 27.2	-0.3
SKO				*e*Sg	Sn	05 54 46.7	+0.8
SKO	**Skopje**	**1.27**	**47**	P	Pb	05 54 27.8	-0.2
SKO	**Skopje**	**1.27**	**47**	*e*Pg	Pg	05 54 27.2	-0.3
SKO	**Skopje**	**1.27**	**47**	P	Pb	05 54 27.8	-0.2
SKO				*e*Sg	Sn	05 54 46.7	+0.8
DRME	**Dracevica, Mon**	**1.31**	**325**	⇑*i*Pg	Pg	05 54 27.2	-1.2
DRME				*e*Sg	Sn	05 54 48.7	+1.7
DRME	**Dracevica, Mon**	**1.31**	**325**	⇑*i*Pg	Pg	05 54 27.2	-1.2
DRME				*e*Sg	Sn	05 54 48.7	+1.7
KEK	**Kerkira**	**1.43**	**192**	P	Pn	05 54 29.9	-0.5
KEK				S	Sn	05 54 49.9	0.0
KEK	**Kerkira**	**1.43**	**192**	P	Pn	05 54 29.9	-0.5
KEK				S	Sn	05 54 49.9	0.0
KZN	**Kozani**	**1.44**	**123**	P	Pn	05 54 30.6	0.0
KZN	**Kozani**	**1.44**	**123**	P	Pn	05 54 30.6	0.0
PVY	**Plav**	**1.49**	**353**	⇓*i*Pg	Pn	05 54 30.3	-1.0
PVY				*e*Sg	Sn	05 54 53.8	+2.2
PVY	**Plav**	**1.49**	**353**	⇓*i*Pg	Pn	05 54 30.3	-1.0
PVY				*e*Sg	Sn	05 54 53.8	+2.2
PDG	**Podgorica**	**1.49**	**332**	*e*Pg	Pn	05 54 30.9	-0.3
PDG				*e*Sg	Sn	05 54 54.8	+3.4
PDG	**Podgorica**	**1.49**	**332**	P	Pn	05 54 30.7	-0.5
PDG				S	Sg	05 54 51.1	0.0
PDG	**Podgorica**	**1.49**	**332**	P	Pn	05 54 30.7	-0.5
PDG				S	Sg	05 54 51.1	0.0
PDG				*e*Sg	Sn	05 54 54.3	+2.9
TTG	**Podgorica**	**1.49**	**332**	⇓*i*Pg	Pn	05 54 30.7	-0.5
TTG				*e*Sg	Sn	05 54 54.3	+2.9
SGD	**Sagiada**	**1.50**	**179**	P	Pn	05 54 31.0	-0.3
SGD	**Sagiada**	**1.50**	**179**	P	Pn	05 54 31.0	-0.3
BUM	**Brajici-Budva**	**1.54**	**321**	⇓*i*Pg	Pn	05 54 31.9	0.0
BUM				*e*Sg	Sn	05 54 55.7	+3.1
BUM	**Brajici-Budva**	**1.54**	**321**	⇓*i*Pg	Pn	05 54 31.9	0.0
BUM				*e*Sg	Sn	05 54 55.7	+3.1
JAN	**Janina**	**1.54**	**161**	P	Pn	05 54 30.8	-1.1
JAN	**Janina**	**1.54**	**161**	P	Pn	05 54 30.8	-1.1
CEME	**Cevo**	**1.72**	**327**	⇑*i*Pn	Pb	05 54 35.1	-0.6
CEME				*e*Sn	Sg	05 55 00.7	+2.2
CEME	**Cevo**	**1.72**	**327**	⇑*i*Pn	Pb	05 54 35.1	-0.6
CEME				*e*Sn	Sg	05 55 00.7	+2.2
BEY	**Berane**	**1.77**	**353**	⇑*i*Pn	Pn	05 54 35.7	+0.5
BEY				*e*Sn	Sg	05 55 01.2	+1.1
IVA	**Berane**	**1.77**	**353**	⇑*i*Pn	Pn	05 54 35.7	+0.5
IVA				*e*Sn	Sg	05 55 01.2	+1.1
KOME	**Kolasin**	**1.81**	**344**	⇑*i*Pn	Pb	05 54 36.6	-0.6
KOME				*e*Sn	Sg	05 55 02.6	+1.3
KOME	**Kolasin**	**1.81**	**344**	⇑*i*Pn	Pb	05 54 36.6	-0.6
KOME				*e*Sn	Sg	05 55 02.6	+1.3
HCY	**Herceg Novi**	**1.84**	**317**	⇑*i*Pn	Pn	05 54 36.6	+0.5
HCY				*e*Sn	Sg	05 55 03.1	+0.7
HCY	**Herceg Novi**	**1.84**	**317**	⇑*i*Pn	Pn	05 54 36.6	+0.5
HCY				*e*Sn	Sg	05 55 03.1	+0.7
NKME	**Niksic**	**1.90**	**331**	*e*Pn	Pn	05 54 37.3	+0.5
NKME				*e*Sn	Sg	05 55 04.2	+0.1
NKME	**Niksic**	**1.90**	**331**	*e*Pn	Pn	05 54 37.3	+0.5
NKME				*e*Sn	Sg	05 55 04.2	+0.1
NKY	**Niksic**	**1.92**	**333**	⇑*i*Pn	Pn	05 54 37.5	+0.3
NKY				*e*Sn	Sg	05 55 04.8	-0.1
NKY	**Niksic**	**1.92**	**333**	⇑*i*Pn	Pn	05 54 37.5	+0.3
NKY				*e*Sn	Sg	05 55 04.8	-0.1
KNT	**Kendrikon**	**2.04**	**88**	P	Pn	05 54 38.8	0.0
KNT	**Kendrikon**	**2.04**	**88**	P	Pn	05 54 38.8	0.0
SJES	**Sjenica**	**2.15**	**356**	*e*Pn	Pb	05 54 42.7	-0.4
SJES				*e*Sn	Sg	05 55 12.0	-0.4
SJES	**Sjenica**	**2.15**	**356**	*e*Pn	Pb	05 54 42.7	-0.4
SJES				*e*Sn	Sg	05 55 12.0	-0.4
BRY	**Bratogost**	**2.17**	**326**	*e*Pn	Pn	05 54 41.4	+0.7
BRY				*e*Sn	Sb	05 55 11.0	0.0
BRY	**Bratogost**	**2.17**	**326**	*e*Pn	Pn	05 54 41.4	+0.7
BRY				*e*Sn	Sb	05 55 11.0	0.0
SELS	**Selova**	**2.21**	**18**	*e*Pn	Pb	05 54 43.9	-0.2
UPM	**Unac-Piva**	**2.30**	**336**	⇓*i*Pn	Pn	05 54 43.3	+0.8
UPM				*e*Sn	Sb	05 55 14.2	-0.4
UPM	**Unac-Piva**	**2.30**	**336**	⇓*i*Pn	Pn	05 54 43.3	+0.8
UPM				*e*Sn	Sb	05 55 14.2	-0.4
IVAS	**Ivanjica**	**2.46**	**359**	*e*Pn	Pb	05 54 47.7	-0.7
IVAS				*e*Sn	Sb	05 55 19.6	+0.4
IVAS	**Ivanjica**	**2.46**	**359**	*e*Pn	Pb	05 54 47.7	-0.7
IVAS				*e*Sn	Sb	05 55 19.6	+0.4
STON	**Ston**	**2.56**	**314**	*e*Pn	Pn	05 54 44.8	-1.1
STON				Sn	Sn	05 55 16.7	-0.9
STON	**Ston**	**2.56**	**314**	*e*Pn	Pn	05 54 44.7	-1.2
STON				Sn	Sn	05 55 16.7	-0.9
BBLS	**Lazići**	**2.81**	**348**	*e*Pn	Pn	05 54 51.6	+2.1
BBLS				*e*Sn	Sb	05 55 26.8	-2.5
BBLS	**Lazići**	**2.81**	**348**	*e*Pn	Pn	05 54 51.6	+2.1
BBLS				*e*Sn	Sb	05 55 26.8	-2.5
ZAPS	**Zavoj**	**2.82**	**39**	*e*Pn	Pb	05 54 52.2	-2.2
ZAPS				*e*Sn	Sb	05 55 27.3	-2.2
ZAPS	**Zavoj**	**2.82**	**39**	*e*Pn	Pb	05 54 52.2	-2.2
ZAPS				*e*Sn	Sb	05 55 27.3	-2.2
DIVS	**Divibare**	**2.99**	**357**	*e*Pn	Pn	05 54 53.6	+1.7
DIVS				*e*Sn	Sb	05 55 32.2	-2.2
DIVS	**Divibare**	**2.99**	**357**	*e*Pn	Pn	05 54 53.6	+1.7
DIVS				*e*Sn	Sb	05 55 32.2	-2.2
ZAGS	**Zajecar**	**3.09**	**29**	*e*Pn	Pn	05 54 55.0	+1.8
ZAGS	**Zajecar**	**3.09**	**29**	*e*Pn	Pn	05 54 55.0	+1.8

NNC 29 05:58:04.4±1.5, 37.00N×69.83E, h0km, mb3.5, mpv3.1, 5C-7D, Error ellipse: s-maj=12.3km s-min=11.3km az=17.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**1.97**	**337**	⇑Pn	Pn	05 58 39.3	+0.1
	10nm,0.5s						
DZET				⇑Lg	Lg	05 59 07.3	
	85nm,0.5s						
MNAS	**Manas**	**5.86**	**20**	⇓Pn	Pn	05 59 32.5	-0.1
	0.5nm,0.3s						
MNAS				⇑Sn	Sn	06 00 42.5	+2.0
	1.6nm,0.6s						
MNAS				⇓Lg	Lg	06 01 11.6	
	1.9nm,0.5s						
KK31	**Karatay Array**	**6.12**	**5**	⇓Pn	Pn	05 59 35.8	-0.3
	0.4nm,0.3s,baz=188,slow=11,SNR=19						
KK31				⇓Sn	Sn	06 00 46.4	-0.4
	0.8nm,0.5s,baz=197,slow=15,SNR=4.6						
KK31				⇑Lg	Lg	06 01 22.7	
	1.0nm,0.4s,baz=194,slow=27,SNR=4.0						
AAK	**Ala-Archa**	**6.68**	**31**	⇑Pn	Pn	05 59 43.9	0.0
	0.7nm,0.4s						
AAK				⇓Lg	Lg	06 01 34.5	
	0.6nm,0.4s						
TKM2	**Tokmak 2**	**7.39**	**35**	⇓Pn	Pn	05 59 54.0	+0.2
	1.9nm,0.9s						
TKM2				⇓Lg	Lg	06 01 59.5	
	1.2nm,0.9s						

*ISCJB **29** 06:22:23.8±0.3, 20.32S×0.03×69.19W×0.07, h119km±3km, mb3.8/10, Error ellipse: s-maj=11.3km s-min=4.7km az=176.9*
*GUC **29** 06:22:25.3±0.5, 20.31S×69.16W, h102km±3km, ML4.2*
*NEIC **29** 06:22:25.0±0.0, 20.31S×69.16W, h102km, mb4.0/5, ML4.2(GUC), After GUC.*
*IDC **29** 06:22:26.4±2.4, 20.22S×68.85W, h122km±21km, mb3.6/9, mb1 3.8/12, mb1mx3.5/40, mbtmp4.0/12, Error ellipse: s-maj=23.3km s-min=15.7km az=74.0*
ISC 29 06:22:24.7±0.6, 20.31S±0.04×69.15W±0.07, h110km±5km, n52, σ1°31/59, mb4.0/10, 8C-1D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB08	**IPOC Station P**	**0.17**	**0**	⇓*i*P	Pn	**06 22 40.5**	**0.0**
PB08				*i* S	Sn	**06 22 52.0**	**-0.4**
PB08				IAML		06 22 52.5	
	comp=N,18μm,0.3s						
PB11	**IPOC Station P**	**0.72**	**319**	*e*Pn	Pn	**06 22 43.2**	**-0.3**
PB11				*e*Sn	Sn	**06 22 57.3**	**-0.3**
PB11	**IPOC Station P**	**0.72**	**319**	⇑*i*P	Pn	**06 22 43.4**	**-0.1**
PB11				*i* S	Sn	**06 22 57.4**	**-0.2**
PB11				IAML		06 22 58.3	
	comp=E,23μm,0.1s						
PB01	**IPOC Station P**	**0.79**	**203**	*e*Pn	Pn	**06 22 44.5**	**+0.5**
PB01				*e*Sn	Sn	**06 22 59.2**	**+0.7**
PB01	**IPOC Station P**	**0.79**	**203**	⇑*i*P	Pn	**06 22 44.3**	**+0.4**
PB01				*i* S	Sn	**06 22 58.7**	**+0.2**
PB01				IAML		06 23 00.0	
	comp=N,16μm,0.2s						
PSGC	**Pisagua**	**1.16**	**308**	⇑*i*P	Pn	**06 22 47.3**	**-0.4**
PSGC				*i* S	Sn	**06 23 04.8**	**-0.3**
PSGC				IAML		06 23 07.4	
	comp=N,3μm,1.0s						
PB02	**IPOC Station P**	**1.22**	**215**	⇑*i*P	Pn	**06 22 48.8**	**+0.5**
PB02				*i* S	Sn	**06 23 06.5**	**+0.2**
PB02				IAML		06 23 08.0	
	comp=N,9μm,0.3s						
MNMC	**Minye Minye**	**1.25**	**340**	*e*Pn	Pn	**06 22 49.0**	**+0.1**
MNMC				*e*Sn	Sn	**06 23 08.1**	**+0.9**
MNMC	**Minye Minye**	**1.25**	**340**	⇑*i*P	Pn	**06 22 49.1**	**+0.2**
MNMC				*i* S	Sn	**06 23 07.5**	**+0.3**
MNMC				IAML		06 23 09.0	
	comp=N,11μm,0.4s						
PB09	**IPOC Station P**	**1.48**	**183**	⇑*i*P	Pn	**06 22 52.3**	**+0.8**
PB09				*i* S	Sn	**06 23 13.1**	**+1.4**
PB09				IAML		06 23 13.9	
	comp=N,3μm,0.5s						
PB07	**IPOC Station P**	**1.56**	**206**	⇑*i*P	Pn	**06 22 52.6**	**+0.1**
PB07				*i* S	Sn	**06 23 13.8**	**+0.2**
PB07				IAML		06 23 16.6	
	comp=E,3μm,0.2s						
PB12	**IPOC Station P**	**2.02**	**327**	⇑*i*P	Pn	**06 22 57.4**	**-0.7**
PB12				*i* S	Sn	**06 23 22.3**	**-1.2**
PB12				IAML		06 23 25.8	
	comp=E,971nm,0.4s						
PB04	**IPOC Station P**	**2.21**	**205**	*e*Pn	Pn	**06 23 01.0**	**+0.4**
PB04				*e*Sn	Sn	**06 23 25.1**	**-2.9**
PB10	**IPOC Station P**	**3.44**	**202**	*e*Pn	Pn	**06 23 15.8**	**-0.8**
LPAZ	**La Paz**	**4.12**	**14**	P	Pn	**06 23 28.1**	**+1.9**
	comp=E,13nm,0.3s,baz=204,slow=5.6,SNR=548						
LPAZ	**La Paz**	**4.12**	**14**	*e*Pn	Pn	**06 23 27.8**	**+1.6**
LCO	**Las Campanas**	**8.77**	**189**	*e*Pn	Pn	**06 24 24.6**	**-4.3**
SIV	**San Ignacio**	**8.80**	**62**	P	Pn	**06 24 26.0**	**-3.1**
	comp=E,2.5nm,0.3s,baz=264,slow=10,SNR=78						
CPUP	**Villa Florida**	**12.40**	**121**	P	Pn	**06 25 15.8**	**-1.6**
	comp=E,0.3nm,0.3s,baz=299,slow=12,SNR=10						
CPUP	**Villa Florida**	**12.40**	**121**	*e*Pn	Pn	**06 25 20.4**	**+3.0**
SAML	**Samuel**	**12.69**	**28**	*e*Pn	Pn	**06 25 22.6**	**+1.4**
ROC1	**El Roble**	**12.72**	**187**	*e*Pn	Pn	**06 25 21.1**	**-0.7**
TRQA	**Tornquist**	**18.75**	**162**	*e*P	P	**06 26 35.4**	**+0.5**
	comp=E,13nm,1.0s						
TRQA				*e*pP	pP	**06 26 56.4**	**+1.2**
PLCA	**Paso Flores**	**20.39**	**183**	P	P	**06 26 53.7**	**+0.9**
	comp=E,3.4nm,0.9s,baz=39,slow=12,SNR=8.2						
PLCA	**Paso Flores**	**20.39**	**183**	*e*P	P	**06 26 53.5**	**+0.7**
	comp=E,6.8nm,1.0s						
SPB	**Sao Paulo**	**20.41**	**103**	*e*P	P	**06 26 54.5**	**+1.4**
	comp=E,187nm,2.0s						
PTGA	**Pitinga**	**21.44**	**26**	P	P	**06 27 01.7**	**-2.5**
	comp=E,2.3nm,0.3s,baz=202,slow=18,SNR=9.5						
PTGA	**Pitinga**	**21.44**	**26**	*e*P	P

PEL	Peldehue	23.30	90	*e*P		P	06 57 07.7	+1.9
	60nm,1.5s							
AUSP	Uspallata	24.62	89	*i* P		P	06 57 20.9	+2.4
LCO	Las Campanas	24.71	81	*e*P		P	06 57 20.9	+1.6
	77nm,1.1s							
ARCO	CERRO ARCO	24.80	91	*i* P		P	06 57 22.6	+2.6
AAGR	Agrelo	24.82	91	*i* P		P	06 57 22.8	+2.7
RTLS	Leoncito	24.82	88	*i* P		P	06 57 21.9	+1.5
ASAL	Salagasta	24.95	90	*i* P		P	06 57 23.6	+2.4
AVIZ	Vizcacheras	24.97	92	*i* P		P	06 57 25.7	+4.3
AROD	Rodeo	25.24	84	*i* P		P	06 57 25.7	+1.5
RTCV	Cerro Valdivia	25.41	89	*i* P		P	06 57 26.9	+1.5
ACDV	Cuesta del Vie	25.53	85	*i* P		P	06 57 27.9	+1.4
RTLL	Cerro Villicun	25.64	88	*i* P		P	06 57 28.5	+1.1
AMOG	MOGNA	25.76	87	*i* P		P	06 57 29.7	+1.2
AGUA	GUANDACOL	26.29	84	*i* P		P	06 57 35.5	+2.1
ACAN	Cantantal	26.38	90	*i* P		P	06 57 35.7	+1.6
VCA	Vinchina	26.82	82	*i* P		P	06 57 40.9	+2.6
PB10	IPOC Station P	27.52	70	*e*P		P	06 57 46.5	+2.1
	99nm,1.5s							
APLL	PUNTA DE LOS L	27.53	87	*i* P		P	06 57 45.9	+1.3
CYA	Choya	28.87	84	*i* P		P	06 57 57.7	+1.2
TRQA	Tornquist	29.27	105	*e*P		P	06 58 01.4	+1.4
	11nm,0.9s							
PB01	IPOC Station P	29.76	67	*e*P		P	06 58 06.3	+1.8
	50nm,1.6s							
PB11	IPOC Station P	30.42	65	*e*P		P	06 58 11.9	+1.4
	30nm,1.2s							
MNMC	Minye Minye	30.86	64	*e*P		P	06 58 15.6	+1.1
	39nm,1.0s							
EFI	East Falkland	32.59	131	*e*P		P	06 58 30.8	+1.8
	45nm,1.3s							
LPAZ	La Paz	33.77	62	P		P	06 58 42.5	+2.1
	37nm,1.2s,baz=227,slow=7.1,SNR=22							
LPAZ				LR		LR	07 09 12.7	
	comp=Z,653nm,21.1s,baz=222,slow=30							
LPAZ	La Paz	33.77	62	*e*P		P	06 58 41.4	+1.0
	53nm,1.3s							
RKT	Rikitea	33.85	283	*e*LQ		LQ	07 06 05.9	
	3µm,30.2s							
RKT				*e*LR		LR	07 07 25.0	
	727nm,27.5s							
ATAH	Atahualpa	34.55	38	LR		LR	07 09 25.5	
	comp=Z,2µm,20.5s,baz=295,slow=30							
CPUP	Villa Florida	36.58	86	P		P	06 59 04.1	+0.3
	5.0nm,0.9s,baz=250,slow=6.7,SNR=11							
CPUP				LR		LR	07 13 01.3	
	comp=Z,279nm,19.6s,baz=250,slow=34							
CPUP	Villa Florida	36.58	86	*e*P		P	06 59 04.2	+0.5
	11nm,1.0s							
OTAV	Otavalo	41.03	32	*e*P		P	06 59 41.8	+0.2
	11nm,1.1s							
SAML	Samuel	42.31	59	*e*P		P	06 59 51.5	-0.2
	21nm,1.1s							
TBI	Tubuai	45.32	272	*e*S		S	07 06 59.3	+3.1
	82nm,27.0s							
TBI				*e*LQ		LQ	07 10 53.4	
	800nm,24.2s							
TBI				*e*LR		LR	07 12 32.4	
	492nm,31.8s							
HOPE	Hope Point	45.74	134	*e*P		P	07 00 21.3	+2.5
	32nm,1.0s							
TAOE	Nuku Hiva Isla	46.42	296	*e*S		S	07 07 13.5	+1.2
	301nm,24.6s							
TAOE				*e*LR		LR	07 13 17.3	
	589nm,26.1s							
ROSC	El Rosal	46.95	34	LR		LR	07 17 02.3	
	comp=Z,592nm,19.7s,baz=220,slow=32							
HDC	Heredia	48.14	20	*e*P		P	07 00 38.4	+0.3
	66nm,0.3s							
JTS	JuntasAbangare	48.19	18	LR		LR	07 15 49.4	
	comp=Z,1µm,20.9s,baz=260,slow=30							
PPT2	Papeete2	48.37	279	*e*S		S	07 07 43.6	+3.6
	439nm,26.8s							
PPT2				*e*LQ		LQ	07 12 14.6	
	484nm,22.2s							
PPT2				*e*LR		LR	07 14 00.6	
	290nm,25.0s							
PTGA	Pitinga	50.49	54	*e*P		P	07 00 54.5	-1.6
	20nm,1.4s							
SDV	Santo Domingo	52.22	36	P		P	07 01 06.1	-3.0
	2.4nm,0.6s,baz=190,slow=7.0,SNR=4.1							
SDV				LR		LR	07 22 11.2	
	comp=Z,771nm,18.5s,baz=163,slow=35							
RAR	Rarotonga	54.69	268	LR		LR	07 19 16.3	
	comp=Z,110nm,19.3s,baz=126,slow=30							
VNA3	Neumayer Olymp	55.79	157	P		P	07 01 33.1	-1.2
PCRV	Puerto La Cruz	56.37	42	P		P	07 01 38.6	-0.5
	13nm,0.8s,baz=225,slow=8.2,SNR=3.8							
PCRV				LR		LR	07 24 09.2	
	comp=Z,1µm,18.9s,baz=217,slow=34							
VNA2	Neumayer--Watz	56.58	157	P		P	07 01 39.4	-0.6
	baz=257,slow=6.6							
VNDA	Vanda	56.80	195	P		P	07 01 37.5	-3.9
	2.1nm,1.2s,baz=93,slow=7.7,SNR=2.8							
VNDA				LR		LR	07 20 10.1	
	comp=Z,298nm,21.4s,baz=100,slow=30							
SNAA	Sanae	57.78	158	P		P	07 01 46.9	-1.6
SNAA	Sanae	57.78	158	P		P	07 01 46.7	-1.7
	2.8nm,1.1s,baz=230,slow=7.7,SNR=4.4							
SNAA				LR		LR	07 23 28.6	
	comp=Z,595nm,18.6s,baz=274,slow=33							
TX31	Lajitas Ar. Si	65.50	355	*e*P		P	07 02 43.8	+2.9
TXAR	Lajitas Array	65.50	355	P		P	07 02 39.4	-1.5
	0.6nm,0.8s,baz=170,slow=7.0,SNR=2.7							
JCT	Junction City	66.48	359	*e*P		P	07 02 46.6	-0.6
	6.7nm,0.8s							
AFI	Afiamalu	68.24	268	LR		LR	07 24 23.8	
	comp=Z,160nm,19.6s,baz=132,slow=29							
TUC	Tucson	69.22	349	*e*P		P	07 03 03.5	-1.0
	17nm,1.8s							
HHAR	Hobbs	72.41	4	*e*P		P	07 03 28.8	+5.1
	23nm,1.9s							
BG3	Lake Jocassee	72.51	14	*e*P		P	07 03 27.6	+3.3
	28nm,1.6s							
TKL	Tuckaleechee C	73.00	13	LR		LR	07 31 38.7	
	comp=Z,246nm,19.5s,baz=189,slow=33							
MVCO	Mesa Verde	73.74	352	*e*P		P	07 03 30.2	-1.6
	5.7nm,0.9s							
CCM	Cathedral Cave	74.37	6	*e*P		P	07 03 34.1	-1.1
	11nm,0.9s							
PV01	Paradox Valley	74.66	352	*e*P		P	07 03 36.2	-1.0
CCUT	Cedar City	74.75	348	*e*P		P	07 03 36.9	-0.9
	5.2nm,1.0s							
MAW	Mawson	75.44	173	LR		LR	07 35 17.3	
	comp=Z,303nm,19.5s,baz=222,slow=34							
SMCO	Snowmass	75.53	353	*e*P		P	07 03 42.1	-0.3
	4.9nm,0.9s							
Q16A	Castle Valley	75.76	350	*e*P		P	07 03 41.9	-1.6
	6.9nm,1.0s							
TMUT	Trail Mountain	76.14	350	*e*P		P	07 03 44.5	-1.3
	26nm,1.1s							
NVAR	Mina Array Bea	76.56	344	P		P	07 03 46.6	-1.4
	2.0nm,0.7s,baz=183,slow=7.1,SNR=12							
ACSO	Alum Creek Sta	77.59	12	*e*P		P	07 03 56.1	+2.6
	12nm,0.9s							
HWUT	Hardware Ranch	78.46	350	*e*P		P	07 04 01.8	+3.3
	3.7nm,1.0s							
BW06	Boulder Array	79.35	352	*e*P		P	07 04 01.4	-2.1
	7.1nm,0.9s							
PDAR	Pinedale Array	79.35	352	P		P	07 04 01.5	-2.0
	2.3nm,0.8s,baz=156,slow=5.9,SNR=21							
PDAR				LR		LR	07 33 35.9	
	comp=Z,195nm,18.8s,baz=168,slow=32							
AAM	Ann Arbor	79.49	11	*e*P		P	07 03 60.0	-4.0
	26nm,1.1s							
ECSD	EROS Data Cent	79.73	2	*e*P		P	07 04 05.9	+0.6
	5.7nm,0.8s							
SNOW	Snow King Moun	80.18	351	*e*P		P	07 04 09.2	+1.2
	12nm,1.4s							
RSSD	Black Hills	80.23	356	*e*P		P	07 04 06.0	-2.3
	6.1nm,1.0s							
MOOW	Moose Ponds	80.46	351	*e*P		P	07 04 10.8	+1.4
	2.7nm,0.8s							
YBH	Yreka Blue Hor	80.73	342	LR		LR	07 32 05.4	
	comp=Z,127nm,20.0s,baz=164,slow=30							
HLID	Hailey	80.79	349	*e*P		P	07 04 10.1	-1.1
	5.8nm,0.8s							
DZM	Mont Dzumac	80.87	249	LR		LR	07 31 37.2	
	comp=Z,214nm,20.9s,baz=114,slow=30							
DZM	Mont Dzumac	80.87	249	*e*S		S	07 14 30.3	+10
	152nm,24.9s							
DZM	Mont Dzumac	80.87	249	*e*LR		LR	07 29 19.4	
	769nm,29.6s							
YPP	Pitchstone Pla	80.98	351	*e*P		P	07 04 16.0	+3.7
	3.2nm,1.0s							
SPMN	Marine on St.	81.38	4	*e*P		P	07 04 13.1	-1.0
	14nm,0.9s							
YMR	Madison River	81.39	351	*e*P		P	07 04 11.3	-3.1
	8.5nm,0.4s							
YHH	Holmes Hill	81.49	351	*e*P		P	07 04 14.5	-0.6
	5.4nm,1.1s							
RLMT	Red Lodge	81.64	353	*e*P		P	07 04 14.3	-1.4
	6.4nm,0.8s							
MCMT	McKenzie Canyo	81.80	350	*e*P		P	07 04 16.0	-0.6
PINE	Pine Mountain	82.26	344	*e*P		P	07 04 22.9	+3.9
	4.8nm,0.8s							
BOZ	Bozeman (W)	82.39	351	*e*P		P	07 04 18.3	-1.2
	5.1nm,1.0s							
AGMN	Agassiz Nation	84.31	2	*e*P		P	07 04 28.1	-1.1
	10nm,1.2s							
EGMT	Eagleton	84.56	353	*e*P		P	07 04 29.6	-1.0
	5.5nm,0.9s							
ULM	Lac du Bonnet	86.27	2	LR		LR	07 37 20.4	
	comp=Z,94nm,18.4s,baz=242,slow=32							
BBTS	Babate	92.50	74	LR		LR	07 42 22.8	
	comp=Z,207nm,21.8s,baz=243,slow=33							
HNR	Honiara	93.39	256	LR		LR	07 38 45.2	
	comp=Z,145nm,21.7s,baz=152,slow=30							
SCHQ	Schefferville	94.89	18	LR		LR	07 44 26.4	
	comp=Z,319nm,19.2s,baz=239,slow=33							
BOSA	Boshof	96.69	133	P		P	07 05 26.4	-2.1
	0.5nm,0.4s,baz=194,slow=5.1,SNR=3.7							
BOSA				LR		LR	07 40 04.8	
	comp=Z,129nm,21.9s,baz=212,slow=30							
DBIC	Dimbokro	97.09	87	LR		LR	07 46 11.3	
	comp=Z,126nm,21.2s,baz=212,slow=33							
YKA	Yellowknife Ar	99.32	353	P		Pdif	07 05 37.4	-1.7
	0.1nm,0.5s,baz=172,slow=5.2,SNR=3.4							
TORD	Torodi Ar. Bea	106.07	85	PP		PP	07 10 32.9	-1.3
	0.9nm,0.9s,baz=236,slow=7.5,SNR=3.7							
KLR	Kul'dur	141.42	306	PKP		PKPdf	07 11 24.1	-4.1
	0.1nm,0.7s,baz=324,slow=1.6,SNR=4.9							
BRTR	Keskin Array B	142.74	70	PKhKP		PKPpre	07 11 26.0	
	0.8nm,0.7s,baz=188,slow=4.5,SNR=4.5							
BRTR				PP		PP	07 14 34.1	-6.2
	0.3nm,0.3s,baz=349,slow=2.9,SNR=3.8							
KSRS	Korea Array	142.90	286	PKP		PKPdf	07 11 29.4	-1.8
	0.8nm,0.7s,baz=131,slow=2.0,SNR=5.8							
KSAR	Wonju Array Be	142.93	286	PKP		PKPdf	07 11 29.4	-1.9
KLMR	Klimovskoe	144.08	34	*e*PKPdf		PKPdf	07 11 34.5	+2.0
KLMR				AMP			07 11 38.9	
	comp=Z,16nm,1.5s							
CN2	Changchun	145.65	296	*e*PKPbc		PKPab	07 11 37.5	+1.0
RAYN	Ar Rayn	146.73	103	*e*PKPdf		PKPdf	07 11 36.5	-1.9
NJ2	Nanjing	148.68	273	*e*PKPbc		PKPbc	07 11 45.0	0.0
KBZ	Khabaz	149.98	64	PKPbc		PKPbc	07 11 46.7	-1.1
	comp=Z,1.8nm,0.8s,baz=306,slow=5.0,SNR=3.7							
HHC	Hu-ho-hao-te	155.90	290	*e*PKP		PKPdf	07 11 58.3	+6.5
GYA	Guiyang	156.18	253	*e*PKP		PKPdf	07 11 55.8	+3.1
GYA				PKPab		sPKPab	07 12 28.0	+1.2
GYA				PKS		PKSdf	07 15 29.5	+2.7
GYA				PP		PP	07 16 06.5	+8.3
GYA				AMB		AMB		
	comp=Z,120nm,8.2s							
CMAR	Chiang Mai Arr	156.27	226	PKPab		PKPab	07 12 15.5	-5.3
	comp=Z,2.6nm,1.0s,baz=167,slow=4.2,SNR=4.7							
KURK	Kurchatov	165.52	7	PKPab		PKPab	07 12 58.6	-1.5
KURBB	Kurchatov Arra	165.60	7	PKPab		PKPab	07 12 58.6	-1.9
	comp=Z,0.2nm,0.8s,baz=338,slow=4.1,SNR=2.6							
MKAR	Makanchi Array	169.53	356	PKPab		PKPab	07 13 15.5	-2.5
	comp=Z,0.3nm,0.6s,baz=24,slow=3.9,SNR=2.0							
WMQ	Urumqi	171.03	328	PKP		PKPdf	07 12 10.3	+4.5

IGQ 29 06:53:18.7±2.0, 4°S±15″×8°1W±1″7, h78km±120km, mB4.8/4, mb4.8/4, MLv4.9/7, Mw(mB)4.1/4, Near coast of northern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BMAS	Trigal station	3.48	48	P	Pn	06 54 09.4	-1.6
ARRY	Arrayan	3.50	49	P	Pn	06 54 09.7	-1.5
BBIL	Ulba Tungurahu	3.51	48	P	Pn	06 54 13.1	+1.8
BPAT	Tungurahua Vol	3.52	49	P	Pn	06 54 10.4	-1.2
RETU	Refugio	3.54	48	P	Pn	06 54 11.4	-0.5
POND	Pondoa	3.56	48	P	Pn	06 54 10.6	-1.4
BRUN	Tungurahua Vol	3.59	48	P	Pn	06 54 11.4	-1.0
PISA	Pisayambo	3.86	44	P	Pn	06 54 16.4	+0.2
ILLI	Illinizas Sur	3.90	37	P	Pn	06 54 15.9	-0.8
MAG1	Magdalena	3.96	19	P	Pn	06 54 17.2	0.0
BNAS	Cotopaxi Volca	4.08	40	P	Pn	06 54 19.3	+0.1
BREF	Cotopaxi Volca	4.11	40	P	Pn	06 54 20.1	+0.3
NAS2	Nasa	4.11	39	P	Pn	06 54 18.9	-0.8
BTAM	Cotopaxi Volca	4.13	40	P	Pn	06 54 19.8	-0.2
BVC2	Cotopaxi Volca	4.14	40	P	Pn	06 54 19.3	-0.7
COV1	Cotopaxi Volc	4.18	41	P	Pn	06 54 20.2	-0.5
YANA	Yana	4.47	34	P	Pn	06 54 24.0	-0.5
OTAV	Otavalo	4.83	33	P	Pn	06 54 28.2	-1.2
CUIC	Cuicocha-Domo	4.93	33	P	Pn	06 54 30.4	-0.4
IMBA	Imbabura, San	5.00	35	P	Pn	06 54 32.5	+0.8
URCU	Urcuqui	5.10	34	P	Pn	06 54 33.0	-0.1
YAHU	Yahuarcocha	5.15	36	P	Pn	06 54 33.8	+0.1
LITE1	Lita	5.35	31	P	Pn	06 54 33.8	-2.4
LITE1				S	Sn	06 55 36.8	+0.2

UCR 29 07:03:32.2±1.3, 10°.24N×86°.36W, h0km±133km, MD4.3, ML3.5
ISCJB 29 07:03:33.3±0.7, 10°.28N±0°.06×86°.32W±0°.04, h10km, mb3.7/9, Error ellipse: s-maj=10.1km s-min=4.7km az=25.4
IDC 29 07:03:35.3±0.7, 11°.29N×85°.42W, h0km, mb3.7/8, mb1 4.0/10, mb1mx3.8/51, mbtmp3.7/10, ML3.2/2, Error ellipse: s-maj=47.9km s-min=12.6km az=63.0
ISC 29 07:03:33.6±0.8, 10°.32N±0°.07×86°.33W±0°.05, h10km, n47, σ1§62/50, mb3.8/9, 18C-2D, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NY14	Universidad de	0.85	67	*i* P	Pn	07 03 50.9	-0.8
GBS3	Finca Las Im¯¡	0.98	62	*i* P	Pb	07 03 52.3	-0.4
CRZ1	La Cruz	1.02	42	*i* P	Pn	07 03 53.5	-0.5
BUEV	Buena Vista	1.03	62	*i* P	Pg	07 03 53.0	-0.5
GB1A	Borinquen Arri	1.04	61	*i* P	Pg	07 03 53.3	-0.4
LIM1	Limonal	1.13	70	*i* P	Pb	07 03 54.5	-0.8
BUAI	Buenos Aires	1.13	60	*i* P	Pb	07 03 54.9	-0.5
GUAB	Guayabo de Bag	1.15	70	*i* P	Pb	07 03 54.8	-0.9
COLC	Colonia	1.18	72	*i* P	Pn	07 03 55.0	-1.1
MESS	Mesas	1.20	69	*i* P	Pn	07 03 55.5	-1.1
CUI	Cuipilapa	1.20	73	*i* P	Pn	07 03 55.6	-0.9
HORNC	Hornillas	1.20	71	*i* P	Pn	07 03 55.5	-1.1
ACAL	Aguas Claras	1.31	76	*i* P	Pn	07 03 57.4	-0.7
AMAS	Alto Masis	1.35	77	*i* P	Pn	07 03 57.8	-0.9
JTS	JuntasAbangare	1.36	91	Pg	Pn	07 03 57.5	-1.2
	32nm,0.3s,baz=342,slow=7.4,SNR=173						
JTS				Lg	Lg	07 04 18.3	
	88nm,0.3s,baz=66,slow=15,SNR=9.6						
JTS	JuntasAbangare	1.36	91	*i* P	Pn	07 03 57.6	-1.1
JTS				*e*S	Sg	07 04 23.9	+6.5
PTEN	Parque Tenorio	1.38	73	*i* P	Pn	07 03 58.5	-0.5
CONN	Concepcion	1.42	29	*e*P	Pn	07 03 59.6	0.0
MGAN	Managua	1.82	3	*e*P	Pb	07 04 05.8	-1.3
SRA1	San Ram¯±n	1.84	97	*e*P	Pn	07 04 04.7	-0.7
CGA2	Cerro Gallo 2	1.86	99	*i e*P	Pn	07 04 05.4	-0.3
COPN	Copaltepe	1.87	352	*e*P	Pb	07 04 06.6	-1.4
COPN				AML	AML	07 04 31.6	
	comp=Z,496nm,0.3s						
MOMN	Momotombo	2.09	354	*e*P	Pn	07 04 09.5	+0.7
CNGN	Cerro Negro	2.20	351	*e*P	Pn	07 04 10.1	-0.2
HDC	Heredia	2.21	98	*i e*P	Pn	07 04 10.8	+0.3
LCR2	La Lucha 2	2.36	104	*i e*P	Pn	07 04 12.0	-0.7
VTR0	Volcan Turrial	2.55	96	*e*P	Pb	07 04 17.7	-2.1
CVTR	Volcan Turrial	2.55	96	*e*P	Pn	07 04 15.8	+0.3
URSC	Urasca	2.56	101	*e*P	Pn	07 04 16.1	+0.7
TRT1	Tortuguero	2.60	84	*e*P	Pn	07 04 15.1	-0.7
MATN	Matagalpa	2.63	9	*e*P	Pn	07 04 16.9	+0.6
BUS	Buena Vista	2.65	106	*i e*P	Pn	07 04 16.8	0.0
DRK0	Durika	3.22	109	*e*P	Pn	07 04 24.5	+0.1
APG	El Apazote	6.16	320	Pn	Pn	07 05 07.3	+2.3
	comp=Z,0.5nm,0.3s,baz=217,slow=20,SNR=4.5						
CMIG	Matias Romero	10.69	310	Pn	Pn	07 06 10.8	+3.9
	comp=Z,0.2nm,0.3s,baz=110,slow=12,SNR=4.7						
TXAR	Lajitas Array	24.91	322	P	P	07 08 59.4	+2.3
	comp=Z,2.1nm,0.6s,baz=138,slow=9.7,SNR=24						
TXAR				PcP	PcP	07 12 35.0	+2.2
	comp=Z,0.5nm,0.8s,baz=144,slow=4.7,SNR=5.3						
H06E1	SOCORRO T-PHAS	25.22	292	T	T	07 35 19.6	
TKL	Tuckaleechee C	25.34	5	P	P	07 09 00.7	-0.1
	comp=Z,1.8nm,0.6s,baz=174,slow=9.2,SNR=5.0						
PDAR	Pinedale Array	38.16	332	P	P	07 10 53.9	+0.3
	comp=Z,0.4nm,0.7s,baz=120,slow=8.7,SNR=3.6						
PDAR				PcP	PcP	07 13 09.8	+1.5
	comp=Z,0.2nm,0.4s,baz=162,slow=4.4,SNR=3.1						
NVAR	Mina Array Bea	40.03	320	P	P	07 11 11.9	+2.7
	comp=Z,1.8nm,0.8s,baz=143,slow=7.6,SNR=16						
NVAR				PcP	PcP	07 13 16.9	+2.6
	comp=Z,0.7nm,0.7s,baz=127,slow=4.6,SNR=6.8						
ULM	Lac du Bonnet	40.59	351	P	P	07 11 10.8	-2.6
	comp=Z,0.7nm,0.5s,baz=97,slow=1.2,SNR=3.3						
PLCA	Paso Flores	52.84	165	P	P	07 12 57.5	+7.9
	comp=Z,1.0nm,0.7s,baz=330,slow=5.2,SNR=4.2						
YKA	Yellowknife Ar	55.95	345	P	P	07 13 10.5	-1.3
	comp=Z,0.3nm,0.7s,baz=139,slow=7.1,SNR=8.5						
YKA				PcP	PcP	07 14 10.4	+0.1
	comp=Z,0.1nm,0.7s,baz=146,slow=3.5,SNR=4.4						
RES	Resolute Bay	64.53	357	P	P	07 14 07.5	-2.8
	comp=Z,0.8nm,0.7s,baz=174,slow=6.8,SNR=7.3						
ILAR	Eielson Array	68.40	336	P	P	07 14 34.6	-0.8
	comp=Z,0.5nm,0.9s,baz=105,slow=4.6,SNR=4.6						
KSRS	Korea Array	122.65	328	PKP	PKPdf	07 22 31.7	+1.6
	comp=Z,0.5nm,0.5s,baz=9.1,slow=1.1,SNR=5.0						
CMAR	Chiang Mai Arr	150.94	350	PKP	PKPdf	07 23 21.2	-0.8
	comp=Z,0.8nm,0.3s,baz=341,slow=4.2,SNR=3.2						
CMAR				PKPbc	pPKPbc	07 23 28.5	-2.6
	comp=Z,1.0nm,0.5s,baz=341,slow=3.2,SNR=5.7						

NIED 29 07:08:00,23°.70N×122°.10E,h5km,Mw4.1 Best double couple: M0 1.60000×10^15 NP1:φ82.00000°,δ19.00000°, λ-81.00000°. NP2:φ252.00000°,δ71.00000°, λ-93.00000°.
IDC 29 07:08:23.9±2.8,24°.07N×122°.19E,h0km,mb3.8/7, mb1 4.0/9,mb1mx3.6/73,mbtmp4.0/9,ML3.7/2,MS4.3/2, Ms1 4.3/2,ms1mx2.9/70, Error ellipse: s-maj=62.4km s-min=23.8km az=177.0
NEIC 29 07:08:24.2±0.8,23°.72N×122°.11E,h14km±5km,mb4.2/2, Error ellipse: s-maj=9.0km s-min=5.4km az=151.0
ISCJB 29 07:08:24.4±0.5,23°.69N±0°.01×122°.14E±0°.01,h10km±3km, mb3.8/9,MS4.4/2,Error ellipse: s-maj=2.4km s-min=1.8km az=147.3
TAP 29 07:08:25.4,23°.73N×122°.03E,h9km,ML4.0,D
JMA 29 07:08:26.2±0.2,23°.66N×122°.11E,h42km,M3.5
ISC 29 07:08:25.4±1.0,23°.70N±0°.02×122°.10E±0°.02,h25km±8km, n122,σ0§94/181,mb3.9/9,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENLB	Shoufeng	0.50	295	P	Pb	07 08 35.5	-0.1
	baz=294						
ENLB				S	Sb	07 08 42.9	+0.5
	baz=294						
HWA	Hwalien	0.53	302	*e*P	Pb	07 08 36.0	0.0
	baz=302						
HWA				*e*S	Sb	07 08 43.5	+0.1
	baz=302						
TWD	Chiawan	0.59	310	P	Pb	07 08 36.9	-0.3
	baz=312						
TWD				*e*S	Sb	07 08 44.6	-0.6
	baz=312						
EGFH	Guangfu	0.61	268	*e*P	Pb	07 08 37.5	0.0
	baz=264						
EGFH				*e*S	Sb	07 08 46.2	+0.4
	baz=264						
ESL	Shilin	0.62	281	P	Pb	07 08 37.1	-0.5
	baz=278						
ESL				*e*S	Sb	07 08 45.3	-0.6
	baz=278						
HGSD	Ruisui	0.65	252	*e*P	Pb	07 08 37.6	-0.5
	baz=247						
HGSD				*e*S	Sb	07 08 45.9	-0.8
	baz=247						
NACB	Ninganchiao	0.66	316	P	Pb	07 08 37.8	-0.6
	baz=317						
NACB				*e*S	Sb	07 08 46.9	-0.2
	baz=317						
NACB	Ninganchiao	0.66	316	*e*Pg	Pb	07 08 37.7	-0.6
EHY	Hungye	0.73	255	P	Pb	07 08 39.3	-0.2
	baz=251						
EHY				S	Sb	07 08 49.6	+0.4
	baz=251						
YULB	Yu-li	0.79	248	P	Pb	07 08 40.4	-0.1
	baz=243						
YULB				*e*S	Sb	07 08 51.8	+0.9
	baz=243						
YULB	Yu-li	0.79	248	*e*Pg	Pb	07 08 40.5	0.0
ENAH	Nanao	0.79	341	P	Pn	07 08 41.0	0.0
	baz=344						
ENAH				*e*S	Sn	07 08 51.7	-0.3
	baz=344						
NANB	Nanao	0.79	337	P	Pb	07 08 40.5	-0.1
	baz=339						
NANB				S	Sn

TYC				*e*S		**Sn**	07 09 00.4	-0.5	
	baz=279								
EGS		**1.15 353**	*e*P			**Pb**	07 08 46.6	0.0	
	baz=355								
YHNB	**Yeheng**	**1.17 326**	P			**Pn**	07 08 46.8	+0.5	
	baz=327								
YHNB				*e*S		**Sn**	07 09 01.1	-0.3	
	baz=327								
YHNB	**Yeheng**	**1.17 326**	*e*Pg			**Pn**	07 08 46.3	+0.1	
NTC	**Toucheng**	**1.18 348**	*e*P			**Pn**	07 08 46.7	+0.4	
	baz=350								
NSK	**Sanguang**	**1.18 326**	*e*P			**Pn**	07 08 45.7	-0.8	
	baz=327								
NSK				*e*S		**Sn**	07 09 00.8	-1.0	
	baz=327								
ALS	**Alishan**	**1.20 261**	P			**Pn**	07 08 47.4	+0.6	
	baz=259								
ALS				*e*S		**Sb**	07 09 03.4	+0.6	
	baz=259								
NWLT	**Wulai**	**1.20 333**	P			**Pn**	07 08 47.1	+0.5	
	baz=335								
NWLT				*e*S		**Sn**	07 09 02.1	-0.1	
	baz=335								
WJS	**Zhushan**	**1.26 276**	*e*P			**Pb**	07 08 48.6	+0.1	
	baz=274								
WJS				*e*S		**Sb**	07 09 06.3	+2.1	
	baz=274								
TWGBT	**Beinan**	**1.28 227**	*e*P			**Pn**	07 08 48.4	+0.7	
	baz=224								
TWG	**Pinlang**	**1.28 227**	*e*P			**Pn**	07 08 47.1	-0.7	
	baz=224								
TWG	**Pinlang**	**1.28 227**	*e*Pn			**Pn**	07 08 46.7	-1.1	
CHN5	**Tsauling**	**1.30 266**	*e*P			**Pb**	07 08 49.5	+0.3	
	baz=264								
CHN5				*e*S		**Sn**	07 09 05.3	+0.5	
	baz=264								
WNT	**Mingjian**	**1.30 278**	*e*P			**Pb**	07 08 49.4	+0.2	
	baz=276								
TWB1	**Santiao Chiao**	**1.31 356**	*e*P			**Pn**	07 08 48.5	+0.4	
	baz=358								
STYT	**Tauyuan**	**1.34 247**	P			**Pn**	07 08 49.2	+0.7	
	baz=244								
STYT				*e*S		**Sb**	07 09 07.7	+1.1	
	baz=244								
TWA	**Mucha**	**1.36 340**	P			**Pb**	07 08 50.3	+0.1	
	baz=342								
TWA				*e*S		**Sb**	07 09 08.2	+1.0	
	baz=342								
LIOB	**Emei**	**1.36 314**	P			**Pb**	07 08 50.1	-0.2	
	baz=314								
LIOB				*e*S		**Sb**	07 09 08.0	+0.7	
	baz=314								
NSTT	**Nanjuang**	**1.36 313**	P			**Pb**	07 08 50.4	+0.1	
	baz=313								
NSTT				*e*S		**Sb**	07 09 07.8	+0.4	
	baz=313								
TWQ1	**Liyutan**	**1.37 298**	*e*P			**Pb**	07 08 50.7	+0.3	
	baz=298								
TWQ1				*e*S		**Sb**	07 09 09.1	+1.6	
	baz=298								
TCU	**Taichung**	**1.37 289**	*e*P			**Pb**	07 08 51.6	+1.2	
	baz=288								
TCU				*e*S		**Sb**	07 09 10.0	+2.4	
	baz=288								
WLTB	**Daxi**	**1.38 326**	P			**Pb**	07 08 50.8	+0.2	
	baz=327								
WLTB				*e*S		**Sb**	07 09 08.6	+0.7	
	baz=327								
TATO	**Taipei**	**1.39 337**	*e*Pg			**Pn**	07 08 50.0	+0.8	
NWF	**Wu-fen Shan**	**1.40 348**	*e*P			**Pb**	07 08 50.6	-0.3	
	baz=350								
NWF				*e*S		**Sb**	07 09 08.8	+0.5	
	baz=350								
WFSB	**Wu-fen Shan**	**1.40 348**	P			**Pb**	07 08 50.7	-0.1	
	baz=350								
WFSB				S		**Sb**	07 09 10.0	+1.7	
	baz=350								
TPUB	**Ta-pu**	**1.40 254**	P			**Pb**	07 08 51.0	+0.1	
	baz=251								
TPUB				*e*S		**Sb**	07 09 09.2	+0.9	
	baz=251								
TPUB	**Ta-pu**	**1.40 254**	*e*Pn			**Pb**	07 08 51.0	+0.1	
WGK	**Gukeng**	**1.41 270**	*e*S			**Sb**	07 09 08.8	+0.4	
	baz=268								
CHN4	**Tsaushan**	**1.42 256**	*e*P			**Pb**	07 08 52.5	+1.3	
	baz=254								
WDLH	**Douliu**	**1.43 270**	*e*P			**Pn**	07 08 50.5	+0.8	
	baz=268								
WDLH				*e*S		**Sn**	07 09 08.5	+0.9	
	baz=268								
WTP	**Ta-pu**	**1.43 252**	P			**Pb**	07 08 51.2	-0.3	
	baz=249								
WTP				*e*S		**Sb**	07 09 11.3	+2.0	
	baz=249								
NMLH	**Miaoli**	**1.46 305**	*e*P			**Pb**	07 08 51.8	-0.1	
	baz=305								
NMLH				*e*S		**Sb**	07 09 11.4	+1.5	
	baz=305								
WCHH	**Zhanghua**	**1.46 285**	*e*P			**Pb**	07 08 52.1	+0.3	
	baz=284								
WCHH				*e*S		**Sn**	07 09 09.3	+1.0	
	baz=284								
SBCB	**Hsinchu**	**1.49 317**	*e*P			**Pb**	07 08 52.5	+0.2	
	baz=317								
SBCB				*e*S		**Sb**	07 09 12.1	+1.3	
	baz=317								
CHN2	**Minshiung**	**1.50 264**	*e*P			**Pb**	07 08 53.3	+0.8	
	baz=262								
CHN2				*e*S		**Sb**	07 09 12.7	+1.7	
	baz=262								
SLGT	**Liugui**	**1.50 243**	*e*P			**Pn**	07 08 51.8	+1.0	
	baz=240								
SLGT				*e*S		**Sb**	07 09 11.2	-0.1	
	baz=240								
HSN	**Hsinchu**	**1.50 317**	*e*P			**Pb**	07 08 52.8	+0.1	
	baz=319								
HSN				*e*S		**Sb**	07 09 12.6	+1.3	
	baz=319								
NCUH	**Zhongli**	**1.51 327**	*e*P			**Pn**	07 08 51.8	+0.9	
	baz=327								
NCU	**National Centr**	**1.51 327**	P			**Pb**	07 08 52.5	-0.3	
	baz=328								
NCU				*e*S		**Sb**	07 09 11.6	0.0	
	baz=328								
SGST	**Jiashian**	**1.52 247**	*e*P			**Pn**	07 08 52.2	+1.2	
	baz=244								
SGST				*e*S		**Sb**	07 09 12.7	+1.0	
	baz=244								
CHN1	**Nanshi**	**1.53 251**	*e*P			**Pb**	07 08 52.9	-0.2	
	baz=248								
CHN1				*e*S		**Sb**	07 09 14.1	+2.1	
	baz=248								
TWS1	**Kuangyinshan**	**1.53 336**	P			**Pb**	07 08 53.2	+0.2	
	baz=337								
TWS1				*e*S		**Sb**	07 09 12.3	+0.3	
	baz=337								
YM10	**YM10**	**1.53 342**	*e*P			**Pb**	07 08 52.4	-0.7	
	baz=343								
TWK	**Hsinying**	**1.54 254**	P			**Pb**	07 08 52.9	-0.3	
	baz=251								
TWK				*e*S		**Sb**	07 09 12.9	+0.6	
	baz=251								
YM04	**YM04**	**1.54 341**	*e*P			**Pb**	07 08 52.5	-0.7	
	baz=342								
YM04				*e*S		**Sb**	07 09 12.6	+0.3	
	baz=342								
CHY	**Chiayi**	**1.54 263**	*e*P			**Pb**	07 08 53.6	+0.3	
	baz=261								
YM03	**YM03**	**1.56 341**	*e*P			**Pn**	07 08 52.8	+1.2	
	baz=342								
HATJ	**Hateruma jima**	**1.61 77**	P			**Pn**	07 08 53.1	+1.0	
HATJ				S		**Sn**	07 09 12.4	+0.3	
IRIF	**Iriomote-Funau**	**1.62 67**	P			**Pn**	07 08 53.6	+1.2	
IRIF				*e*S		**Sn**	07 09 13.2	+0.7	
TWY	**Chenhua**	**1.64 344**	*e*S			**Sb**	07 09 15.3	+0.2	
	baz=345								
SSD	**Sandimen**	**1.65 235**	P			**Pb**	07 08 54.8	-0.2	
	baz=232								
WTCT	**Ta-ch'eng**	**1.67 276**	*e*S			**Sb**	07 09 17.5	+1.4	
	baz=274								
MASBT	**Mashibuluo**	**1.73 232**	P			**Pb**	07 08 56.3	-0.1	
	baz=229								
MASBT				*e*S		**Sb**	07 09 17.9	+0.2	
	baz=229								
TWM1	**Shoushan**	**1.77 241**	*e*P			**Pb**	07 08 57.4	+0.3	
	baz=238								
JKRS	**Kuro-shima**	**1.83 73**	P			**Pn**	07 08 56.8	+1.5	
JKRS				*e*S		**Sn**	07 09 18.3	+0.6	
SCZT	**Fangliau**	**1.89 226**	*e*P			**Pb**	07 08 59.1	-0.2	
	baz=223								
SCZT				*e*S		**Sb**	07 09 21.9	-0.6	
	baz=223								
JIJ	**Ishigaki jima**	**1.99 70**	P			**Pn**	07 08 58.1	+0.7	
JIJ				S		**Sn**	07 09 22.2	+0.7	
TWP	**Hsiaoliuchiu**	**2.09 230**	*e*P			**Pb**	07 09 02.9	+0.3	
	baz=228								
HEN	**Hengchun**	**2.10 217**	*e*S			**Sn**	07 09 26.9	+2.6	
	baz=214								
TSEB	**Hengchuen, Pin**	**2.10 212**	*e*S			**Sn**	07 09 26.0	+1.7	
	baz=210								
TWKBT	**Hengchun**	**2.11 214**	*e*P			**Pb**	07 09 01.8	-1.2	
	baz=212								
JISG	**Ishigakijimahi**	**2.21 66**	P			**Pn**	07 09 00.9	+0.4	
JISG				*e*S		**Sn**	07 09 26.3	-0.7	
JTJ	**Tarama**	**2.56 68**	*e*S			**Sn**	07 09 36.3	+0.7	
JIRB	**Irabujima**	**3.03 68**	P			**Pn**	07 09 13.7	+2.0	
JOW	**Kunigami**	**6.41 60**	Pn			**Pn**	07 09 57.6	-0.6	
	1.8nm,0.3s,baz=286,slow=26,SNR=5.5								
JOW				Sn		**Sn**	07 11 07.9	-2.7	
	1.1nm,0.3s,baz=246,slow=10.0,SNR=2.1								
KSAR	**Wonju Array Be**	**14.57 19**	Pn			**P**	07 11 53.5	-2.7	
KSRS	**Korea Array**	**14.60 19**	Pn			**Pn**	07 11 53.5	+3.2	
	0.3nm,0.3s,baz=196,slow=11,SNR=15								
KSRS				LR		LR	07 18 19.9		
	comp=Z,26nm,18.3s,baz=203,slow=42								
JHJ	**Hachijo jima 2**	**18.15 55**	P			**Pn**	07 12 33.7	-2.1	
	5.5nm,0.3s,baz=237,slow=17,SNR=2.1								
CBIJ	**Chichi jima**	**18.46 75**	*e*P			**P**	07 12 38.8	-0.5	
	48nm,1.1s								
USRK	**Ussuriysk Ar.**	**22.00 19**	P			**P**	07 13 14.6	-3.0	
	1.6nm,0.6s,baz=185,slow=8.7,SNR=4.2								
KSM	**Kuching**	**24.87 209**	*e*P			**P**	07 13 42.0	-4.2	
	18nm,0.8s								
SONM	**Songino Array**	**27.14 336**	P			**P**	07 14 06.6	-0.1	
	1.3nm,0.6s,baz=152,slow=9.5,SNR=5.3								
MKAR	**Makanchi Array**	**39.27 316**	P			**P**	07 15 53.1	+1.1	
	0.5nm,0.6s,baz=108,slow=9.4,SNR=4.6								
ZALV	**Zalesovo Beam**	**41.10 327**	P			**P**	07 16 07.0	0.0	
	1.7nm,0.6s,baz=113,slow=7.8,SNR=5.1								
H11N1	**WAKE ISLAND Hy**	**41.68 87**	T			T	08 00 34.1		
	baz=265,slow=74,SNR=22								
H11N2	**WAKE ISLAND Hy**	**41.68 87**	T			T	08 00 34.7		
	baz=265,slow=74,SNR=16								
H11N3	**WAKE ISLAND Hy**	**41.70 87**	T			T	08 00 35.4		
	baz=265,slow=74,SNR=21								
KURK	**Kurchatov**	**43.00 320**	P			**P**	07 16 23.2	+0.7	
KURBB	**Kurchatov Arra**	**43.02 320**	P			**P**	07 16 23.2	+0.5	
	0.3nm,0.5s,baz=110,slow=8.2,SNR=5.2								
ABKAR	**Akbulak array**	**54.38 315**	*e*P			**P**	07 17 50.5	+0.4	
	1.1nm,0.9s								
ILAR	**Eielson Array**	**69.26 27**	LR			LR	07 52 22.8		
	comp=Z,153nm,18.2s,baz=132,slow=38								
FINES	**FINESS Array B**	**72.28 330**	P			**P**	07 19 48.4	0.0	
	1.4nm,0.9s,baz=55,slow=15,SNR=3.3								
YKA	**Yellowknife Ar**	**83.09 23**	P			**P**	07 20 49.9	+1.3	
	0.8nm,0.6s,baz=311,slow=5.1,SNR=26								
VAE	**Valguuarera**	**88.82 311**	LR			LR	08 06 39.2		
	comp=Z,170nm,18.7s,baz=308,slow=39								
SDV	**Santo Domingo**	**145.31 22**	PKP			**PKPdf**	07 28 02.8	+0.7	
	5.0nm,0.8s,baz=75,slow=0.5,SNR=6.0								

MAN ***29*** *07:09:26,9.31N×126.66E,h5km,mb5.0,ML3.9,MS3.9*
NEIC ***29*** *07:09:28.6±1.4,9.27N×126.56E,h39km±13km,mb4.6/8, Error ellipse: s-maj=8.9km s-min=5.9km az=77.0*
IDC ***29*** *07:09:34.6±1.5,9.26N×126.61E,h96km±14km,mb3.9/37, mb1 4.0/39,mb1mx3.9/66,mbtmp4.3/39,MS3.8/11, Ms1 3.8/11,ms1mx3.4/60,Error ellipse: s-maj=13.7km s-min=8.8km az=78.0*
ISC 29 07:09:23.4±1.6,9°33N±0°03×126°61E±0°06,h2km±10km, n79,σ1°57/83,mb4.3/47,MS3.7/10,3C-3D,Mindanao

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
BUTP	**Butuan**	**1.04**	**250**	*e*P		**Pn**	**07 09 47.0**	**+2.0**
BUTP				*e*S		**Sn**	**07 10 04.3**	**+4.3**
BIPH	**Bislig**	**1.17**	**192**	↓*e*P		**Pn**	**07 09 48.1**	**+1.4**
BIPH				*e*S		**Sn**	**07 10 02.3**	**-0.9**
SCPH	**Surigao**	**1.19**	**292**	↑*i*P		**Pn**	**07 09 49.8**	**+2.8**
SCPH				*i* S		**Sn**	**07 10 07.7**	**+3.9**
MSLP	**Maasin**	**1.90**	**295**	*e*P		**Pg**	**07 10 01.3**	**+1.5**
MSLP				*e*S		Sg	07 10 36.3	+12
BUKP	**Musuan**	**2.10**	**227**	*e*P		**Pg**	**07 10 04.0**	**+0.2**
BUKP				*e*S		**Sg**	**07 10 34.5**	**+3.4**
PLP	**Palo**	**2.42**	**319**	↑*e*P		**Pb**	**07 10 07.6**	**-0.1**
PLP				*i* S		**Sg**	**07 10 40.5**	**-0.9**
DAV	**Davao City (W)**	**2.47**	**204**	P		**Pg**	**07 10 13.4**	**+2.6**
	95nm,0.3s,baz=52,slow=3.8,SNR=7.0							
DAV				S		**Sg**	**07 10 42.1**	**-0.7**
	98nm,0.3s,baz=59,slow=14,SNR=4.5							
DAV				LR		LR	07 11 23.5	
	comp=Z,3μm,21.0s,baz=36,slow=45							
DAV	**Davao City (W)**	**2.47**	**204**	*e*Pn		**Pn**	**07 10 04.8**	**+0.1**
DAV				S		**Sg**	**07 10 42.1**	**-0.7**
BESP	**Borongan**	**2.53**	**333**	*e*P		**Pn**	**07 10 06.9**	**+1.5**
BESP				*e*S		Sg	07 10 54.7	+10
TBP	**Tagbilaran**	**2.73**	**278**	*e*P		**Pg**	**07 10 12.9**	**-2.8**
TBP				*i* S		**Sg**	**07 10 47.6**	**-3.6**
LLP	**Lapu-Lapu**	**2.78**	**291**	↓*e*P		**Pb**	**07 10 13.7**	**-0.1**
LLP				*e*S		**Sg**	**07 10 52.2**	**-0.6**
SNPH	**Sibulan**	**3.33**	**270**	↑*e*P		**Pb**	**07 10 21.9**	**-1.3**
JAP	**San Jose, Anti**	**4.80**	**287**	↓*e*P		**Pb**	**07 10 44.2**	**-4.1**
GUMO	**Guam**	**18.39**	**75**	LR		LR	07 21 00.8	
	comp=Z,226nm,19.5s,baz=267,slow=37							
BATI	**Baumata**	**19.63**	**189**	P		**P**	**07 13 53.5**	**+0.1**
	1.5nm,0.3s,baz=345,slow=20,SNR=1.8							
CBIJ	**Chichi jima**	**23.00**	**38**	P		**P**	**07 14 31.2**	**+1.6**
JCJ	**Chichijima**	**23.00**	**38**	P		**P**	**07 14 31.2**	**+1.6**
	48nm,0.6s,baz=235,slow=19,SNR=3.5							
JNU	**Nakatsue**	**24.00**	**9**	P		**P**	**07 14 40.2**	**+0.7**
	6.7nm,1.0s,baz=156,slow=16,SNR=2.5							
JNU				LR		LR	07 23 31.6	
	comp=Z,94nm,21.1s,baz=122,slow=35							
CHAI	**Chaiyaphum**	**24.88**	**288**	P		**P**	**07 14 50.3**	**+2.5**
	3.6nm,0.7s							
IPM	**Ipoh**	**25.84**	**261**	*e*P		**P**	**07 14 55.4**	**-1.1**
	18nm,1.0s							
FITZ	**Fitzroy Crossi**	**27.27**	**182**	*e*P		**P**	**07 15 08.8**	**-0.5**
	11nm,0.9s							
PMG	**Port Moresby**	**27.66**	**132**	P		**P**	**07 15 13.8**	**+0.9**
	2.5nm,0.3s,baz=354,slow=11,SNR=4.2							
KSAR	**Wonju Array Be**	**28.01**	**2**	P		**P**	**07 15 17.7**	**+2.0**
KSRS	**Korea Array**	**28.02**	**2**	P		**P**	**07 15 17.7**	**+1.9**
	0.8nm,0.6s,baz=169,slow=7.0,SNR=4.2							
KSRS				LR		LR	07 28 32.2	
	comp=Z,177nm,19.1s,baz=180,slow=40							
PSI	**Prapat**	**28.27**	**258**	P		**P**	**07 15 20.2**	**+1.7**
	4.5nm,0.5s,baz=39,slow=4.7,SNR=4.4							
CMAR	**Chiang Mai Arr**	**28.31**	**292**	P		**P**	**07 15 21.1**	**+2.4**
	1.1nm,0.3s,baz=94,slow=8.4,SNR=5.2							
CMAR				LR		LR	07 27 17.2	
	comp=Z,254nm,18.0s,baz=154,slow=38							
WRAB	**Tennant Creek**	**30.07**	**165**	*e*P		**P**	**07 15 33.3**	**-1.0**
	7.6nm,1.0s							
WRA	**Warramunga Arr**	**30.07**	**165**	P		**P**	**07 15 33.3**	**-1.0**
	1.8nm,0.5s,baz=347,slow=9.1,SNR=18							
ASAR	**Alice Springs**	**33.57**	**168**	P		**P**	**07 16 04.4**	**-0.6**
	1.2nm,0.5s,baz=354,slow=6.8,SNR=19							
ASAR				PcP		**PcP**	**07 18 43.3**	**-2.5**
	0.4nm,0.5s,baz=337,slow=2.7,SNR=4.2							
USRK	**Ussuriysk Ar.**	**35.05**	**7**	P		**P**	**07 16 19.7**	**+2.1**
	1.8nm,0.7s,baz=161,slow=9.2,SNR=2.9							
CTA	**Charters Tower**	**35.06**	**147**	P		**P**	**07 16 17.0**	**-0.9**
	1.1nm,0.5s,baz=270,slow=3.0,SNR=2.1							
H11S3	**WAKE ISLAND Hy**	**39.88**	**72**	T		T	08 00 04.4	
	baz=262,slow=70,SNR=16							
H11S1	**WAKE ISLAND Hy**	**39.89**	**72**	T		T	07 59 57.4	
	baz=262,slow=70,SNR=14							
H11S2	**WAKE ISLAND Hy**	**39.89**	**72**	T		T	07 59 59.2	
	baz=262,slow=70,SNR=22							
KLR	**Kul'dur**	**40.00**	**5**	P		**P**	**07 17 00.6**	**+1.1**
	0.1nm,0.6s,baz=152,slow=5.7,SNR=6.3							
KLR				LR		LR	07 33 50.3	
	comp=Z,10nm,20.5s,baz=246,slow=36							
ODAN	**Odare**	**40.93**	**300**	*e*P		**P**	**07 17 07.6**	**-0.3**
	26nm,0.6s							
RAMN	**Ramite**	**41.63**	**300**	*e*P		**P**	**07 17 13.7**	**+0.1**
	21nm,0.6s							
SONM	**Songino Array**	**42.01**	**340**	P		**P**	**07 17 16.3**	**0.0**
	1.1nm,0.6s,baz=158,slow=9.0,SNR=4.5							
JIRN	**Jiri**	**42.19**	**301**	*e*P		**P**	**07 17 18.1**	**-0.2**
GUN	**Gumba**	**42.53**	**301**	*e*P		**P**	**07 17 20.9**	**-0.2**
	18nm,0.6s							
PKIN	**Phulchoki**	**42.84**	**301**	*e*P		**P**	**07 17 23.4**	**-0.1**
	15nm,0.6s							
NWAO	**Narrogin (SRO)**	**42.97**	**192**	P		**P**	**07 17 23.7**	**-0.3**
	4.8nm,0.4s,baz=281,slow=8.2,SNR=9.5							
STKA	**Stephens Creek**	**43.41**	**161**	P		**P**	**07 17 28.4**	**+0.7**
	1.5nm,0.5s,baz=340,slow=8.1,SNR=5.5							
KOLN	**Koldanda**	**44.42**	**300**	*e*P		**P**	**07 17 35.9**	**-0.3**
	21nm,0.7s							
DANN	**Dangsing**	**44.45**	**301**	*e*P		**P**	**07 17 35.7**	**-0.8**
	19nm,0.5s							
PYUN	**Piuthan**	**45.03**	**301**	*e*P		**P**	**07 17 40.7**	**-0.4**
	34nm,0.8s							
PETK	**Petropavlovsk-**	**50.35**	**24**	P		**P**	**07 18 22.8**	**+1.1**
	1.4nm,0.8s,baz=197,slow=4.6,SNR=5.6							
YAK	**Yakutsk**	**52.65**	**2**	LR		LR	07 44 26.8	
	comp=Z,64nm,18.3s,baz=152,slow=40							
MKAR	**Makanchi Array**	**52.97**	**323**	P		**P**	**07 18 41.2**	**-0.2**
	2.6nm,0.5s,baz=124,slow=7.9,SNR=34							
NIL	**Nilore**	**54.53**	**305**	*e*P		**P**	**07 18 52.7**	**-0.5**
	30nm,0.6s							
ZALV	**Zalesovo Beam**	**55.60**	**331**	P		**P**	**07 18 59.2**	**-1.3**
	1.1nm,0.4s,baz=98,slow=7.4,SNR=4.0							
AAK	**Ala-Archa**	**56.22**	**316**	P		**P**	**07 19 04.3**	**-1.1**
	1.4nm,0.6s,baz=99,slow=6.3,SNR=5.1							
AAK				LR		LR	07 45 52.6	
	comp=Z,144nm,18.8s,baz=72,slow=39							
SEY	**Seymchan**	**56.64**	**14**	P		**P**	**07 19 06.8**	**-0.9**
	0.9nm,0.7s,baz=240,slow=18,SNR=2.2							
KURK	**Kurchatov**	**57.02**	**326**	P		**P**	**07 19 10.3**	**-0.3**
	2.4nm,0.9s							
KURBB	**Kurchatov Arra**	**57.03**	**326**	P		**P**	**07 19 10.3**	**-0.3**
	3.1nm,0.6s,baz=124,slow=7.0,SNR=28							
KKAR	**Karatay Array**	**59.14**	**315**	*e*P		**P**	**07 19 25.3**	**-0.4**
	2.4nm,0.6s							
TIXI	**Tiksi**	**62.28**	**1**	P		**P**	**07 19 46.7**	**+0.2**
	2.5nm,0.3s,baz=231,slow=1.2,SNR=5.7							
TIXI				LR		LR	07 46 38.5	
	comp=Z,84nm,21.5s,baz=198,slow=36							
BVAR	**Borovoye Array**	**62.62**	**326**	P		**P**	**07 19 49.3**	**+0.1**
	2.9nm,0.6s,baz=126,slow=7.7,SNR=15							
BVAR				LR		LR	07 46 38.6	
	comp=Z,61nm,20.2s,baz=64,slow=36							
NRIK	**Noril'sk**	**65.00**	**346**	P		**P**	**07 20 05.2**	**+0.7**
	5.5nm,0.3s,baz=150,slow=20							
AFI	**Afiamalu**	**65.35**	**110**	LR		LR	07 43 25.3	
	comp=Z,54nm,21.6s,baz=283,slow=31							
WSAR	**Wadi Sarin**	**66.19**	**291**	P		**P**	**07 20 12.5**	**-0.7**
	3.1nm,0.7s,baz=90,slow=5.1,SNR=3.5							
GEYT	**Alibeck**	**67.37**	**307**	P		**P**	**07 20 20.6**	**+0.2**
	1.0nm,0.5s,baz=124,slow=7.8,SNR=3.2							
GEYT				LR		LR	07 54 43.2	
	comp=Z,110nm,18.7s,baz=135,slow=40							
ABKAR	**Akbulak array**	**67.80**	**319**	*e*P		**P**	**07 20 22.3**	**-0.5**
	1.8nm,0.7s							
AKTO	**Aktyubinsk**	**69.25**	**320**	P		**P**	**07 20 31.9**	**-0.1**
	1.2nm,0.6s,baz=81,slow=13,SNR=3.5							
RAYN	**Ar Rayn**	**78.23**	**292**	*e*P		**P**	**07 21 24.4**	**-0.8**
	4.9nm,0.6s							
KBZ	**Khabaz**	**79.08**	**313**	P		**P**	**07 21 27.9**	**-1.6**
	0.6nm,0.4s,baz=76,slow=8.3,SNR=2.7							
ILAR	**Eielson Array**	**80.13**	**26**	P		**P**	**07 21 34.5**	**-0.3**
	0.4nm,0.5s,baz=236,slow=4.6,SNR=10							
SPITS	**Spitsbergen Ar**	**84.99**	**349**	P		**P**	**07 22 00.3**	**+0.3**
	6.4nm,0.8s,baz=66,slow=4.9,SNR=8.2							
ARCES	**ARCESS Array B**	**85.18**	**340**	P		**P**	**07 22 01.2**	**+0.2**
	3.9nm,0.7s,baz=84,slow=6.0,SNR=17							
MMAI	**Mount Meron Ar**	**85.99**	**303**	P		**P**	**07 22 06.6**	**+0.7**
	0.5nm,0.2s,baz=50,slow=4.5,SNR=2.7							
BRTR	**Keskin Array B**	**86.38**	**309**	P		**P**	**07 22 07.9**	**+0.2**
	0.5nm,0.7s,baz=101,slow=7.5,SNR=3.3							
FINES	**FINESS Array B**	**86.87**	**332**	P		**P**	**07 22 08.9**	**-0.5**
	1.4nm,0.5s,baz=58,slow=5.1,SNR=18							
AKASG	**Malin Array Be**	**87.49**	**321**	P		**P**	**07 22 10.3**	**-2.4**
	0.3nm,0.3s,baz=65,slow=5.4,SNR=2.5							
VNDA	**Vanda**	**88.97**	**173**	P		**P**	**07 22 18.9**	**-0.1**
	0.9nm,0.9s,baz=333,slow=6.6,SNR=4.2							
RES	**Resolute Bay**	**92.35**	**10**	P		**P**	**07 22 35.8**	**+0.8**
	1.1nm,0.6s,baz=258,slow=4.8,SNR=6.7							
HFS	**Hagfors**	**93.03**	**333**	P		**P**	**07 22 38

baz=184,SNR=9.0
WHTX **Lake Whitney,** 15.75 4 *e*Pn Pn 07 20 46.3 +0.1
146nm,1.5s
341A **Kurthwood** 15.84 17 P P 07 20 50.0 -1.1
baz=199,SNR=6.3
NATX **Nacogdoches** 15.89 12 P P 07 20 51.4 -0.2
baz=194
NATX **Nacogdoches** 15.89 12 *e*Pn Pn 07 20 47.2 -0.8
64nm,1.0s
342A **Flagon Creek P** 16.14 20 P Pn 07 20 50.8 -0.4
baz=202
ABTX **Abilene, Hawle** 16.37 357 P P 07 20 58.0 +0.9
baz=177,SNR=15
ABTX **Abilene, Hawle** 16.37 357 Pn Pn 07 20 52.9 -1.3
66nm,1.1s
241A **Mo Tay, Goldon** 16.56 17 P P 07 20 58.7 -0.3
baz=199,SNR=6.6
MNTX **Cornudas Mount** 16.62 339 P Pn 07 20 58.0 +0.6
baz=157
MNTX **Cornudas Mount** 16.62 339 *e*Pn Pn 07 20 58.1 +0.7
14nm,1.1s
GDL2 **Guadalupe Moun** 16.77 343 *e*Pn P 07 21 01.4 -0.1
344A **Westbrook Farm** 16.78 24 P Pn 07 20 57.9 -1.4
baz=207,SNR=8.0
SRIG **Santa Rosalia** 16.82 313 *e*Pn P 07 21 02.8 +0.9
12nm,1.1s
345A **Thompson Farm,** 16.93 26 P Pn 07 20 60.0 -1.3
baz=209
140A **Cam and Jess,** 16.98 15 P P 07 21 03.6 -0.1
baz=196,SNR=8.6
HSIG 17.10 320 *e*Pn Pn 07 21 05.2 +1.8
141A **Papa Simpson,** 17.11 16 P P 07 21 05.1 -0.1
baz=199
346A **Big Creek Wild** 17.24 27 P Pn 07 21 03.9 -1.2
baz=210
244A **Avery, Jackson** 17.32 23 P Pn 07 21 04.3 -1.9
baz=206,SNR=7.0
VBMS **Vicksburg** 17.54 23 P Pn 07 21 07.5 -1.3
baz=206
VBMS **Vicksburg** 17.54 23 *e*Pn Pn 07 21 07.2 -1.7
45nm,1.1s
Z40A **Long Farm, Mag** 17.61 14 P Pn 07 21 10.5 +0.8
baz=196
245A **Little AP, Sta** 17.62 25 P Pn 07 21 08.0 -1.8
baz=208
143A **Socs Landing,** 17.66 20 P Pn 07 21 09.5 -0.9
baz=203
Z41A **Richland Creek** 17.76 16 P P 07 21 12.4 +0.1
baz=198,SNR=7.3
449A **Pace** 17.82 34 P P 07 21 13.4 +0.4
baz=218
348A **Jackson** 17.99 31 P Pn 07 21 13.1 -1.4
baz=215
MSTX **Muleshoe** 18.09 349 P Pn 07 21 15.2 -0.6
baz=167,SNR=15
MSTX **Muleshoe** 18.09 349 *e*P Pn 07 21 14.7 -1.0
28nm,1.0s
WLAR **White Oak Lake** 18.09 15 *e*Pn Pn 07 21 14.8 -0.8
37nm,1.0s
145A **Houston Renfro** 18.11 24 P Pn 07 21 14.4 -1.5
baz=207
Z43A **Armstrong Fami** 18.18 20 P Pn 07 21 15.6 -1.1
baz=203
247A **Quitman** 18.19 28 P Pn 07 21 15.9 -1.0
baz=212
BRAL **Brewton** 18.23 33 P Pn 07 21 17.3 -0.1
baz=217
BRAL **Brewton** 18.23 33 *e*Pn Pn 07 21 15.8 -1.6
60nm,1.0s
121A **Cookes Peak, D** 18.27 334 P P 07 21 19.3 +1.1
baz=151,SNR=7.3
121A **Cookes Peak, D** 18.27 334 *e*P P 07 21 19.6 +1.4
67nm,1.5s
349A **Repton** 18.30 33 P Pn 07 21 16.9 -1.4
baz=217,SNR=8.7
Y40A **Okolona** 18.36 14 P Pn 07 21 18.7 -0.2
baz=196,SNR=9.7
Y41A **Eaglette Beard** 18.40 16 P P 07 21 18.8 -0.6
baz=198
WMOK **Wichita Mounta** 18.45 359 P P 07 21 19.6 -0.4
baz=180
WMOK **Wichita Mounta** 18.45 359 *e*Pn P 07 21 19.4 -0.7
7.2nm,0.9s
146A **Union** 18.49 26 P P 07 21 18.5 -2.0
baz=210,SNR=6.6
Y42A **Garnett, Star** 18.59 18 P P 07 21 20.9 -0.5
baz=201
248A **Dixon Mills** 18.63 30 P P 07 21 21.9 0.0
baz=214,SNR=17
X39A **Fountain Ranch** 18.66 12 P P 07 21 21.2 -1.1
baz=193,SNR=6.7
CCAR **Cane Creek** 18.67 18 *e*P P 07 21 21.9 -0.5
39nm,1.1s
MIAR **Mount Ida** 18.80 13 P P 07 21 23.5 -0.3
baz=195
MIAR **Mount Ida** 18.80 13 *e*P P 07 21 23.4 -0.5
19nm,1.0s
AMTX **Amarillo** 18.80 352 P P 07 21 23.8 -0.1
baz=171
AMTX **Amarillo** 18.80 352 *e*P P 07 21 23.9 -0.1
25nm,1.0s
350A **Dozier** 18.81 34 P P 07 21 22.4 -1.5
baz=219
249A **Camden** 18.84 32 P P 07 21 22.6 -1.6
baz=216,SNR=7.0
147A **Livingston** 18.87 28 P P 07 21 23.0 -1.5
baz=212
Z45A **Winona** 18.88 24 P P 07 21 24.0 -0.7
baz=207
X40A **Basin Creek Fa** 18.92 15 P P 07 21 25.2 +0.1
baz=197
Y43A **Makayla and Ka** 18.93 20 P P 07 21 24.7 -0.4
baz=203
X41A **Kaden, Bauxite** 19.01 16 P P 07 21 26.2 +0.1
baz=198,SNR=6.5
Z46A **Louisville** 19.02 26 P P 07 21 25.6 -0.6
baz=209
148A **Greensboro** 19.17 29 P P 07 21 27.4 -0.4
baz=214,SNR=14
Y44A **Strider, Charl** 19.22 22 P P 07 21 28.6 +0.2
baz=205
250A **Grady** 19.28 33 P P 07 21 28.9 -0.2
baz=218
BNM **Barren Site** 19.28 339 *e*P P 07 21 29.6 +0.3
UALR **University of** 19.32 16 *e*P P 07 21 28.8 -0.7
22nm,1.0s
Y45A **Yeager Farm, C** 19.38 23 P P 07 21 29.5 -0.6
baz=207,SNR=10.0
W39A **Magazine** 19.39 12 P Pn 07 21 31.5 +0.1
baz=194,SNR=11
Z47A **Carrollton** 19.40 27 P P 07 21 30.5 +0.1
baz=211,SNR=6.8
LPM **Los Pinos Moun** 19.43 340 *e*P Pn 07 21 33.4 +1.3
TUC **Tucson** 19.49 328 P Pn 07 21 33.7 +1.0
baz=143
TUC **Tucson** 19.49 328 *e*P Pn 07 21 33.5 +0.8
8.4nm,1.0s
X43A **Marvell** 19.50 19 P P 07 21 31.7 +0.3
baz=202
149A **Jones** 19.50 31 P P 07 21 31.2 -0.3
baz=216,SNR=18
W40A **Ferguson Farm,** 19.54 14 P P 07 21 31.9 0.0
baz=196,SNR=8.5
352A **Blakely** 19.64 37 P P 07 21 32.1 -0.9
baz=222
Y46A **Houston** 19.66 25 P P 07 21 32.6 -0.6
baz=208,SNR=25
LAZ **Ladron** 19.68 339 *e*P Pn 07 21 36.7 +1.5
W41B **Gary Mavity, V** 19.72 16 P P 07 21 34.5 +0.7
baz=198,SNR=12
LRAL **Lakeview Retre** 19.76 30 P P 07 21 34.4 +0.1
baz=214
LRAL **Lakeview Retre** 19.76 30 *e*P P 07 21 34.4 +0.1
27nm,1.0s
LRAL *e*Sn S 07 25 15.0 -1.4
TUL1 **Leonard** 19.78 7 P P 07 21 34.0 -0.5
baz=188,SNR=14
TUL1 **Leonard** 19.78 7 *e*P P 07 21 33.8 -0.7
22nm,0.7s
Z48A **Northport** 19.78 28 P P 07 21 34.2 -0.3
baz=212,SNR=33
757A **Oxford** 19.79 47 P P 07 21 33.6 -1.1
baz=233
WHAR **Wooly Hollow** 19.82 15 *e*P P 07 21 34.8 -0.1
38nm,1.0s
251A **Midway** 19.83 35 P P 07 21 34.7 -0.4
baz=220
150A **Eclectic** 19.90 33 P P 07 21 35.9 +0.1
baz=217,SNR=12
X45A **UM Field Stati** 19.93 23 P P 07 21 36.3 +0.2
baz=206,SNR=16
ANMO **Albuquerque** 19.95 341 P P 07 21 38.0 +1.4
baz=158
ANMO **Albuquerque** 19.95 341 *e*P P 07 21 38.0 +1.4
6.8nm,0.9s
OXF **Oxford** 20.00 23 P P 07 21 37.0 +0.1
baz=206
OXF **Oxford** 20.00 23 *e*P P 07 21 36.7 -0.2
95nm,1.1s
V39A **Pettigrew** 20.04 12 P P 07 21 36.9 -0.5
baz=194,SNR=18
Y47A **UCPARC, Winfie** 20.09 27 P P 07 21 37.5 -0.5
baz=211,SNR=15
Z49A **Columbiana** 20.11 31 P P 07 21 38.2 +0.1
baz=215,SNR=22
252A **Lumpkin** 20.13 36 P P 07 21 38.8 +0.5
baz=221,SNR=7.6
V40A **Witts Springs** 20.18 14 P P 07 21 38.8 -0.2
baz=196,SNR=24
151A **Opelika** 20.20 34 P P 07 21 39.0 -0.2
baz=219,SNR=14
455A **Stateville** 20.28 42 P P 07 21 38.9 -1.0
baz=227
657A **Interlachen** 20.32 46 P P 07 21 39.3 -1.1
baz=232
V41A **Mountainview** 20.32 15 P P 07 21 40.0 -0.4
baz=198,SNR=16
214A **Organ Pipe Nat** 20.33 323 P P 07 21 42.5 +1.9
baz=138,SNR=6.8
214A **Organ Pipe Nat** 20.33 323 *e*P P 07 21 42.6 +2.0
166nm,1.7s
X46A **Booneville** 20.36 24 P P 07 21 40.4 -0.3
baz=208,SNR=21
TIGA **Tifton** 20.40 39 P P 07 21 41.3 -0.1
baz=225
TIGA **Tifton** 20.40 39 *e*P P 07 21 37.6 -3.7
24nm,0.7s
Y48A **Jasper** 20.41 28 P P 07 21 40.8 -0.5
baz=213,SNR=29
HHAR **Hobbs** 20.41 11 *e*P P 07 21 40.4 -1.1
22nm,1.0s
Z50A **Ashland** 20.46 32 P P 07 21 42.0 0.0
baz=216,SNR=12
HBAR **Harrisburg** 20.52 19 *e*P P 07 21 41.2 -1.4
V42A **Cord** 20.54 17 P P 07 21 42.1 -0.7
baz=200,SNR=6.7
U39A **Green Forest** 20.60 12 P P 07 21 42.8 -0.6
baz=194,SNR=28
X47A **Russelville** 20.62 26 P P 07 21 42.8 -0.8
baz=210,SNR=16
W45A **Hickory Valley** 20.66 22 P P 07 21 44.3 +0.3
baz=206
557A **Orange Park** 20.67 45 P P 07 21 43.5 -0.8
baz=231,SNR=5.9
U40A **Yellville** 20.70 13 P P 07 21 44.3 -0.3
baz=196,SNR=42
Y49A **Blount Mountai** 20.71 30 P P 07 21 44.0 -0.7
baz=214,SNR=17
U41A **Viola** 20.91 15 P P 07 21 46.5 -0.3
baz=198,SNR=8.4
X48A **Hartselle** 20.91 28 P P 07 21 46.0 -0.8
baz=212,SNR=20
PLAL **Pickwick Lake** 20.93 25 *e*P P 07 21 45.9 -1.1
55nm,1.1s
254A **Abbeville** 20.94 39 P P 07 21 47.1 -0.1
baz=225
W46A **Michie** 20.94 24 P P 07 21 46.9 -0.2
baz=208,SNR=14
Y50A **Piedmont** 21.07 31 P P 07 21 48.5 0.0
baz=216
T38A **Diamond** 21.09 10 P P 07 21 48.6 -0.2
baz=191,SNR=10
U42A **Revenden** 21.10 17 P P 07 21 48.4 -0.4
baz=200,SNR=28
GNAR **Gosnell** 21.10 20 *e*P P 07 21 49.5 +0.6
2µm,1.2s
T39A **Clever** 21.24 12 P P 07 21 49.5 -0.8
baz=194,SNR=6.4
V45A **Humboldt** 21.26 22 P P 07 21 49.7 -0.8
baz=206,SNR=6.5
HALT **Halls** 21.28 21 *e*P P 07 21 50.4 -0.3
X49A **Woodville** 21.29 29 P P 07 21 50.3 -0.6
baz=214,SNR=20
W18A **Petrified Fore** 21.32 334 P P 07 21 53.4 +2.0
baz=150
U43A **Rector** 21.36 18 P P 07 21 53.2 +1.7
baz=202,SNR=11
W47A **Westpoint** 21.36 25 P P 07 21 50.5 -1.1
baz=210,SNR=35
T25A **Trinidad** 21.48 347 P P 07 21 54.9 +1.8
baz=165,SNR=26
154A **Montrose** 21.52 38 P P 07 21 52.4 -1.0
baz=224,SNR=7.3
MHTCO **State Highway** 21.53 347 *e*P P 07 21 54.6 +0.9
6.8nm,0.9s
T40A **Mansfield** 21.54 13 P P 07 21 53.0 -0.6
baz=196,SNR=41
W48A **Pulaski** 21.54 27 P P 07 21 52.6 -0.9
baz=212,SNR=37
T41A **Mountain View** 21.61 15 P P 07 21 53.9 -0.5
baz=198,SNR=21
V46A **Holladay** 21.63 24 P P 07 21 53.7 -0.8
baz=208,SNR=63
U44B **Burton Farm, H** 21.66 21 P P 07 21 55.6 +0.7
baz=204,SNR=13
PBMO **Poplar Bluff** 21.73 18 *e*P P 07 21 54.9 -0.6
76nm,0.9s
S38A **Stockton** 21.73 10 P P 07 21 55.1 -0.5
baz=192,SNR=10.0
T42A **Van Buren** 21.77 16 P P 07 21 55.5 -0.5
baz=200,SNR=17
PARMO **Parma** 21.83 19 *e*P P 07 21 57.0 +0.4
UTMT **University of** 21.84 21 *e*P P 07 21 58.8 +2.1
202nm,1.1s
U45A **Rockin P Farm,** 21.88 22 P P 07 21 58.1 +0.9
baz=206,SNR=15
V47A **Nunnelly** 21.89 25 P P 07 21 56.5 -0.8
baz=209,SNR=26
GOGA **Godfrey** 21.90 36 P P 07 21 56.5 -0.9
baz=222
GOGA **Godfrey** 21.90 36 *e*P P 07 21 56.4 -0.9
18nm,1.0s
S39A **Bolivar** 21.90 11 P P 07 21 56.6 -0.7
baz=194,SNR=22
155A **Kite** 21.91 39 P P 07 21 56.9 -0.7
baz=225,SNR=6.4
S40A **Lebanon** 21.97 13 P P 07 21 57.5 -0.7
baz=196,SNR=24
WVT **Waverly** 22.03 24 P P 07 21 57.6 -1.2
baz=208
WVT **Waverly** 22.03 24 *e*P P 07 21 57.7 -1.1
73nm,0.9s
T43A **Greenville** 22.05 18 P P 07 21 57.8 -1.3
baz=201,SNR=25
SWET **Sewanee** 22.05 29 *e*P P 07 21 57.8 -1.4
33nm,0.8s
U46A **Springville** 22.10 23 P P 07 21 59.8 +0.2
baz=207,SNR=18
V48A **Smith Brothers** 22.10 26 P P 07 21 58.5 -1.1
baz=211,SNR=22
S41A **Jillco Farms,** 22.14 15 P P 07 21 59.3 -0.7
baz=198,SNR=42
T44A **Benton** 22.27 19 P P 07 22 01.0 -0.4
baz=203
R38A **Fenwick Farm,** 22.28 10 P P 07 21 59.8 -1.7
baz=192,SNR=5.6
GLA **Glamis** 22.30 322 P P 07 22 03.8 +2.0
baz=136,SNR=6.8
GLA **Glamis** 22.30 322 *e*P P 07 22 03.8 +2.0
28nm,1.1s
SDCO **Great Sand Dun** 22.31 345 P P 07 22 02.9 +0.8
baz=163
SDCO **Great Sand Dun** 22.31 345 *e*P P 07 22 03.1 +1.0
6.2nm,1.0s
WUAZ **Wupatki** 22.37 332 P P 07 22 05.2 +2.5
baz=147
WUAZ **Wupatki** 22.37 332 *e*P P 07 22 04.8 +2.0
33nm,0.9s
U47A **Clarksville** 22.51 24 P P 07 22 02.7 -1.3
baz=209,SNR=32
CBKS **Cedar Bluff** 22.54 358 P P 07 22 05.4 +1.0
baz=177
CBKS **Cedar Bluff** 22.54 358 *e*P P 07 22 04.4 0.0
23nm,1.0s
S42A **Caledonia** 22.55 16 P P 07 22 03.7 -0.7
baz=200,SNR=30
R39A **Chumby, Stover** 22.55 11 P P 07 22 03.4 -1.0
baz=194,SNR=19
S43A **Fulton Ridge,** 22.57 18 P P 07 22 03.5 -1.1
baz=202
GTBY **Guantanamo Bay** 22.61 77 *e*P P 07 22 06.2 +1.1
44nm,1.0s
Y12C **Blythe** 22.62 323 P P 07 22 07.2 +2.0
baz=137
S22A **4UR Ranch, Cre** 22.66 343 P P 07 22 07.3 +1.5
baz=160,SNR=13
R40A **Maddies Statio** 22.69 13 P P 07 22 05.8 0.0
baz=196,SNR=52
MVCO **Mesa Verde** 22.69 339 P P 07 22 07.1 +1.0
baz=155
MVCO **Mesa Verde** 22.69 339 *e*P P 07 22 07.4 +1.3
44nm,1.1s
CCM **Cathedral Cave** 22.70 15 P P 07 22 05.2 -0.8
baz=198
CCM **Cathedral Cave** 22.70 15 *e*P P 07 22 04.7 -1.3
36nm,1.1s
T46A **Princeton** 22.81 22 P P 07 22 07.5 +0.4
baz=207,SNR=24
PDMCI **Parker Dam,Lak** 22.81 325 P P 07 22 09.4 +2.2
baz=139,SNR=8.5
Q37A **Longview Farm,** 22.87 8 P P 07 22 07.7 0.0
baz=190
KSU1 **Kansas State U** 22.87 4 P P 07 22 06.6 -1.2
baz=185
KSU1 **Kansas State U** 22.87 4 *e*P P 07 22 07.6 -0.2
10nm,0.8s
U48A **Cassie Pea, Po** 22.88 26 P P 07 22 07.3 -0.5
baz=211,SNR=36
R41A **Rosebud** 22.90 15 P P 07 22 08.1 +0.1
baz=198,SNR=17
CPCT **Cooper Cave** 22.91 31 *e*P P 07 22 07.5 -0.8
S44A **Carbondale** 22.93 19 P P 07 22 08.1 -0.2
baz=203,SNR=11
SIUC **Southern Illin** 22.96 19 *e*P P 07 22 08.9 +0.2
84nm,1.0s
KSCO **Kaye Shedlock'** 22.99 352 P P 07 22 09.4 +0.2
baz=170,SNR=12
KSCO **Kaye Shedlock'** 22.99 352 *e*P P 07 22 09.9 +0.8
104nm,1.4s
R42A **Luebbering** 23.03 16 P P 07 22 09.3 -0.1
baz=199,SNR=9.4
Q38A **Cooks Store, C** 23.08 10 P P 07 22 08.9 -1.0
baz=192,SNR=6.0
BC3 **Big Chuckawall** 23.09 322 P P 07 22 11.5 +1.3
baz=135,SNR=7.5
S45A **Carrier Mills** 23.14 21 P P 07 22 10.3 -0.2
baz=205,SNR=17
HODGE **Hodges** 23.18 36 *e*P P 07 22 10.8 -0.2
5.0nm,1.1s
R43A **Red Bud** 23.26 17 P P 07 22 11.7 -0.1
baz=201,SNR=20
IRM **Iron Mountain** 23.27 323 P P 07 22 13.9 +1.9
baz=137,SNR=14
Q39A **Willow Grove F** 23.27 11 P P 07 22 10.9 -1.0
baz=194,SNR=12
BG3 **Lake Jocassee** 23.37 34 *e*P P 07 22 12.2 -0.8
26nm,1.0s
Q24A **Divide** 23.39 347 P P 07 22 15.0 +1.6
baz=164,SNR=7.5
Q40A **Laux Farm, Aux** 23.41 13 P P 07 22 12.4 -0.8
baz=196,SNR=8.6
S46A **Don Dixon Farm** 23.45 22 P P 07 22 12.6 -1.0
baz=207
TKL **Tuckaleechee C** 23.45 32 P P 07 22 13.9 +0.2
9.6nm,1.0s,baz=215,slow=11,SNR=7.3
TKL S Sn 07 26 39.4 -6.7
5.0nm,1.1s,baz=306,slow=18,SNR=2.8
TKL **Tuckaleechee C** 23.45 32 *e*P P 07 22 13.1 -0.5
15nm,1.0s
TKL S Sn 07 26 39.4 -6.7
T48A **Bowling Green** 23.45 25 P P 07 22 12.2 -1.4
baz=210,SNR=36
R44A **Waltonville** 23.49 19 P P 07 22 14.2 +0.1
baz=203,SNR=17
SLM **Saint Louis** 23.51 17 *e*P P 07 22 14.4 +0.1
35nm,0.8s
RGRS **Roger Stewart** 23.52 42 *e*P P 07 22 15.5 +1.2
278nm,0.7s
PV01 **Paradox Valley** 23.55 340 *e*P P 07 22 16.4 +1.5
Q41A **Truxton** 23.56 14 P P 07 22 14.6 -0.1
baz=198,SNR=24
P37A **Lathrop** 23.59 8 P P 07 22 14.1 -0.8
baz=190,SNR=7.9
NHSC **New Hope** 23.66 41 P P 07 22 16.7 +1.0
baz=228
NHSC **New Hope** 23.66 41 *e*P P 07 22 16.3 +0.6
130nm,1.1s
BELC **Belle Mtn. Jos** 23.66 322 P P 07 22 17.7 +1.8
baz=135,SNR=5.2
XPFO **Piæon Flat** 23.67 320 *e*P P 07 22 17.7 +1.7
3.0nm,1.1s
PFO **Pinyon Flats O** 23.67 320 P P 07 22 17.8 +1.8
baz=133
PFO **Pinyon Flats O** 23.67 320 *e*P P 07 22 17.9 +1.9
2.9nm,1.1s
PV05 **Paradox Valley** 23.68 339 *e*P P 07 22 17.7 +1.6
Q42A **Golden Eagle** 23.69 16 P P 07 22 16.4 +0.4
baz=199,SNR=13
USIN **University of** 23.71 22 *e*P P 07 22 16.1 -0.1
104nm,0.9s
P38A **Dawn** 23.74 10 P P 07 22 16.0 -0.5
baz=192,SNR=11
P39B **Salisbury** 23.75 11 P P 07 22 16.5 0.0
baz=194,SNR=15
JSC **Jenkinsville** 23.79 38 *e*P P 07 22 15.9 -1.1
13nm,1.0s
R45A **Skylar, Fairfi** 23.79 20 P P 07 22 16.9 0.0
baz=205,SNR=11
PV04 **Paradox Valley** 23.90 340 *e*P P 07 22 19.4 +1.2
LDFC **Landfair** 23.92 325 *e*P P 07 22 21.8 +3.4
16nm,1.1s
PV10 **Paradox Valley** 23.93 339 *e*P P 07 22 19.2 +0.6
P40A **Paris** 23.93 13 P P 07 22 18.1 -0.1
baz=196,SNR=31
R46A **Gibson Southern** 23.99 22 P P 07 22 18.4 -0.4
baz=207,SNR=7.9
GMRC **Granite Mounta** 24.02 324 P P 07 22 21.1 +1.8
baz=137
SMCO **Snowmass** 24.04 344 *e*P P 07 22 21.9 +2.1
20nm,1.1s
S48A **Wiedeman Farm,** 24.06 25 P P 07 22 19.4 -0.1
baz=210,SNR=7.7
PV09 **Paradox Valley** 24.07 339 *e*P P 07 22 21.3 +1.4
Q44A **Meyer Farm, Va** 24.11 18 P P 07 22 19.3 -0.7
baz=203,SNR=12
O37A **Wolven Farm, M** 24.18 8 P P 07 22 20.2 -0.4
baz=190,SNR=5.5
O38A **Galt** 24.24 10 P P 07 22 20.9 -0.3
baz=192,SNR=12
OLIL **Olney** 24.25 20 *e*P P 07 22 21.4 +0.1
61nm,1.1s
TZTN **Tazewell** 24.26 31 P P 07 22 20.8 -0.6
baz=217
TZTN **Tazewell** 24.26 31 *e*P P 07 22 21.8 +0.4
23nm,1.1s
KNB **Kanab** 24.27 331 *e*P P 07 22 24.0 +2.3
13nm,1.0s
P41A **Barry, Barry** 24.28 14 P P 07 22 21.1 -0.4
baz=198
ISCO **Idaho Springs** 24.29 347 P P 07 22 23.0 +0.9
baz=164
ISCO **Idaho Springs** 24.29 347 *e*P P 07 22 23.4 +1.4
24nm,1.1s
KMSC **Kings Mountain** 24.36 36 P P 07 22 22.2 -0.1
baz=223,SNR=7.7
KMSC **Kings Mountain** 24.36 36 *e*P P 07 22 22.6 +0.3
60nm,1.5s
P42A **Winchester** 24.38 16 P P 07 22 22.3 -0.1
baz=199,SNR=20
R47A **Wooly Knot Far** 24.42 23 P P 07 22 22.7 -0.1
baz=209,SNR=40
HEC **Hector,Ludlow** 24.44 323 P P 07 22 25.1 +1.9
baz=136
WCI **Wyandotte Cave** 24.46 24 P P 07 22 23.1 0.0
baz=209
WCI **Wyandotte Cave** 24.46 24 *e*P P 07 22 23.7 +0.6
43nm,1.0s
LCMT **Little Creek M** 24.46 331 *e*P P 07 22 25.5 +2.1
6.3nm,1.0s
O39A **Kirksville** 24.53 11 P P 07 22 23.7 -0.1
baz=194,SNR=17
O40A **La Belle** 24.53 12 P P 07 22 23.4 -0.3
baz=196,SNR=18
TUQ **Turquoise Moun** 24.64 324 P P 07 22 26.8 +1.8

	baz=137,SNR=15								
P43A	Skaggs, Pawnee baz=201	24.65	17	P	P	07 22 24.8	0.0		
N36A	Muff Farm, Cla baz=188	24.72	7	P	P	07 22 25.3	-0.2		
O41A	Passleys Farm, baz=198,SNR=8.3	24.75	14	P	P	07 22 25.7	0.0		
P44A	Sand Creek, Wi baz=203	24.75	19	P	P	07 22 26.1	+0.3		
N37A	Lee Faris, Mou baz=190	24.75	8	P	P	07 22 25.4	-0.5		
R48A	Northridge Ran baz=210,SNR=7.7	24.77	24	P	P	07 22 25.9	-0.1		
OGNE	Ogallala baz=172	24.83	354	P	P	07 22 27.6	+1.0		
OGNE	Ogallala 110nm,1.1s	24.83	354	eP	P	07 22 27.8	+1.2		
MTPU	Mount Pierson 24nm,1.1s	24.84	334	eP	P	07 22 29.0	+2.0		
SZCU	Shurtz Canyon 7.2nm,1.2s	24.86	332	eP	P	07 22 29.9	+2.8		
N38A	Joes South For baz=192,SNR=14	24.93	10	P	P	07 22 27.3	-0.1		
CCUT	Cedar City 4.1nm,1.0s	24.95	331	eP	P	07 22 30.6	+2.7		
SHPR	Sheep Range 8.1nm,1.1s	25.02	327	eP	P	07 22 30.6	+2.2		
O42A	Bath baz=200	25.02	16	P	P	07 22 27.9	-0.2		
Q47A	Bedord North L baz=208,SNR=14	25.02	23	P	P	07 22 27.8	-0.4		
GSC	Goldstone, Bar baz=135	25.04	323	P	P	07 22 31.4	+2.8		
GSC	Goldstone, Bar 5.8nm,1.1s	25.04	323	eP	P	07 22 32.2	+3.6		
P45A	Graceland, Par baz=205,SNR=6.6	25.09	20	P	P	07 22 28.6	-0.2		
SRU	San Rafael Swe 24nm,1.1s	25.10	338	eP	P	07 22 30.9	+1.6		
BGNE	Belgrade baz=181	25.11	1	P	P	07 22 29.5	+0.4		
BGNE	Belgrade 21nm,0.8s	25.11	1	eP	P	07 22 29.7	+0.6		
N39A	Derby Farms, D baz=194,SNR=17	25.14	11	P	P	07 22 29.2	-0.1		
SHOC	Shoshone, Teco baz=137	25.17	325	P	P	07 22 32.0	+2.4		
Q16A	Castle Valley 20nm,1.0s	25.18	336	eP	P	07 22 31.9	+2.0		
BLO	Bloomington 41nm,0.8s	25.20	22	eP	P	07 22 30.3	+0.5		
MSU	Marysvale	25.23	334	eP	P	07 22 33.0	+2.6		
O20A	White River Ci baz=158,SNR=23	25.28	342	P	P	07 22 32.7	+1.9		
O20A	White River Ci 48nm,1.3s	25.28	342	eP	P	07 22 32.3	+1.5		
N41A	Harden Midland baz=197,SNR=7.6	25.32	14	P	P	07 22 30.6	-0.3		
N40A	Mertquake, Sal baz=196	25.32	12	P	P	07 22 30.6	-0.3		
P46A	Rosedale baz=206,SNR=9.7	25.35	21	P	P	07 22 31.4	+0.2		
M36A	Felix, Anita baz=188	25.37	7	P	P	07 22 31.0	-0.4		
M37A	Trindle Farm, baz=190,SNR=8.6	25.41	8	P	P	07 22 31.9	+0.2		
N23A	Red Feather La baz=164,SNR=14	25.41	347	P	P	07 22 33.4	+1.3		
OTAV	Otavalo	25.41	127	eP	P	07 22 41.4	+8.8		
O44A	Mansfield baz=203	25.43	18	P	P	07 22 31.8	-0.1		
P18A	Preston Nutter 27nm,1.1s	25.46	339	eP	P	07 22 34.2	+1.6		
P17A	Butcher Ranch, 8.9nm,1.0s	25.50	338	eP	P	07 22 34.6	+1.8		
TMUT	Trail Mountain 9.2nm,0.9s	25.52	337	eP	P	07 22 35.2	+2.1		
M38A	Pleasantville baz=192,SNR=18	25.55	9	P	P	07 22 32.7	-0.3		
HDIL	Hopedale baz=201	25.56	17	P	P	07 22 33.4	+0.3		
HDIL	Hopedale 49nm,1.0s	25.56	17	eP	P	07 22 33.5	+0.3		
P47A	Martinsville baz=208,SNR=10	25.56	22	P	P	07 22 32.9	-0.2		
N42A	Yates City baz=199,SNR=7.1	25.63	15	P	P	07 22 33.6	-0.1		
LRMC	Laurel Mtn Rad baz=134	25.68	322	P	P	07 22 36.3	+1.9		
PHWY	Pilot Hill 20nm,1.1s	25.70	348	eP	P	07 22 36.4	+1.6		
O45A	Potomac baz=204,SNR=15	25.75	19	P	P	07 22 34.9	+0.1		
M39A	Webster baz=194,SNR=14	25.78	11	P	P	07 22 34.9	-0.2		
M40A	Post Highland baz=196,SNR=14	25.84	12	P	P	07 22 35.4	-0.3		
NCAT	North Carolina 47nm,1.1s	25.92	37	eP	P	07 22 36.7	+0.2		
TPNV	Topopah Spring baz=139	25.93	326	P	P	07 22 39.3	+2.6		
TPNV	Topopah Spring 8.6nm,1.0s	25.93	326	eP	P	07 22 39.3	+2.6		
N43A	Stutzman Famil baz=201,SNR=7.9	25.95	16	P	P	07 22 37.0	+0.3		
MPMC	Manual Prospec baz=135	25.97	323	P	P	07 22 38.6	+1.4		
M41A	Milan baz=198,SNR=12	26.02	14	P	P	07 22 37.1	-0.2		
SCIA	State Center baz=192	26.02	9	P	P	07 22 37.4	+0.1		
SCIA	State Center 69nm,0.8s	26.02	9	eP	P	07 22 37.9	+0.6		
SFIN	Lafayette baz=206,SNR=9.2	26.07	20	P	P	07 22 37.7	0.0		
SFIN	Lafayette 24nm,0.9s	26.07	20	eP	P	07 22 38.0	+0.3		
N44A	Piper City baz=203	26.12	18	P	P	07 22 37.9	-0.2		
ARVC	Arvin baz=132	26.14	320	P	P	07 22 41.7	+3.3		
L37A	Phoenix Point, baz=190,SNR=6.3	26.16	8	P	P	07 22 38.3	-0.2		
DAC	Darwin (Calif) 5.5nm,1.1s	26.18	323	eP	P	07 22 41.1	+2.0		
O47A	Sheridan baz=208,SNR=11	26.26	22	P	P	07 22 38.9	-0.5		
ISA	Isabella, Lake baz=133	26.28	321	P	P	07 22 42.0	+2.2		
ISA	Isabella, Lake 6.3nm,1.1s	26.28	321	eP	P	07 22 42.3	+2.5		
M42A	Sheffield baz=199,SNR=8.2	26.29	15	P	P	07 22 39.6	0.0		
L38A	Oak Wood Farm, baz=192,SNR=12	26.29	9	P	P	07 22 40.5	+0.8		
MPU	Maple Canyon 9.3nm,1.1s	26.31	337	eP	P	07 22 41.9	+1.8		
N45A	Kentland baz=204	26.36	19	P	P	07 22 40.8	+0.5		
BLA	Blacksburg baz=222	26.38	34	P	P	07 22 40.6	-0.1		
BLA	Blacksburg 39nm,1.1s	26.38	34	eP	P	07 22 41.0	+0.3		
NLU	North Lily Min 13nm,1.1s	26.42	336	eP	P	07 22 43.5	+2.3		
L39A	Vinton baz=194,SNR=8.0	26.44	11	P	P	07 22 40.7	-0.3		
RWWY	Rawlins 6.6nm,1.1s	26.46	345	eP	P	07 22 44.4	+2.8		
M43A	Waltham Townsh baz=201	26.48	16	P	P	07 22 41.4	0.0		
CNNC	Cliffs of the baz=229	26.48	40	P	P	07 22 42.0	+0.5		
CNNC	Cliffs of the 38nm,1.1s	26.48	40	eP	P	07 22 42.6	+1.1		
L40A	Anamosa baz=196,SNR=6.9	26.53	12	P	P	07 22 41.7	-0.2		
GRAC	Grapevine Rang baz=137	26.57	325	P	P	07 22 44.5	+2.1		
K36A	Gilmore City baz=189	26.58	7	P	P	07 22 42.4	0.0		
K35A	Storm Lake baz=187	26.58	6	P	P	07 22 42.4	+0.1		
R11A	Troy Canyon, C baz=142,SNR=5.3	26.65	329	P	P	07 22 44.9	+1.7		
N46A	Monticello baz=206	26.65	20	P	P	07 22 43.0	0.0		
M44A	Midewin, Midew	26.69	18	P	P	07 22 43.4	+0.1		
	baz=203								
L41A	Preston baz=197,SNR=11	26.70	13	P	P	07 22 43.0	-0.4		
VES	Vestal, Richgr baz=132	26.77	321	P	P	07 22 45.0	+0.9		
K37A	Belmond baz=190,SNR=11	26.80	8	P	P	07 22 43.7	-0.7		
K38A	Parkersburg baz=192	26.82	10	P	P	07 22 43.7	-0.7		
L42A	Oliver, Polo baz=199,SNR=15	26.83	15	P	P	07 22 44.2	-0.4		
DUG	Dugway, Tooele baz=149	26.92	335	P	P	07 22 47.4	+1.8		
DUG	Dugway, Tooele 9.3nm,1.0s	26.92	335	eP	P	07 22 47.7	+2.1		
M45A	Boilermakers S baz=204	26.93	19	P	P	07 22 45.9	+0.4		
SMMC	Simmler baz=130	26.99	319	P	P	07 22 47.8	+1.6		
J31A	Geddes baz=180	27.00	360	P	P	07 22 46.7	+0.6		
RUSC	La Rusia 2.5nm,1.0s	27.00	109	eP	P	07 22 51.5	+4.5		
K39A	Oelwein baz=194,SNR=9.2	27.02	11	P	P	07 22 45.5	-0.9		
J33A	Davis baz=184	27.06	3	P	P	07 22 46.9	+0.3		
J32A	Parkston baz=182,SNR=5.3	27.08	1	P	P	07 22 47.2	+0.3		
K40A	Colesburg baz=196,SNR=8.6	27.16	12	P	P	07 22 46.8	-0.8		
RCTC	Rector, Farmer baz=133	27.17	321	P	P	07 22 50.2	+2.5		
TCUT	Toone Canyon 18nm,1.1s	27.19	338	eP	P	07 22 50.6	+2.5		
K22A	Casper baz=163	27.22	347	P	P	07 22 49.0	+0.7		
K22A	Casper 12nm,1.0s	27.22	347	eP	P	07 22 49.8	+1.5		
L43A	Garden Prairie baz=201	27.23	16	P	P	07 22 47.7	-0.5		
M46A	Old House Fiel baz=206	27.24	20	P	P	07 22 47.9	-0.4		
K41A	Shullsburg baz=198,SNR=8.1	27.25	13	P	P	07 22 47.8	-0.5		
J36A	Seneca 1, Swea baz=189,SNR=8.7	27.27	7	P	P	07 22 48.0	-0.6		
J37A	Redenius Farm, baz=190	27.35	8	P	P	07 22 48.9	-0.4		
ECSD	EROS Data Cent baz=184	27.49	3	P	P	07 22 50.9	+0.4		
ECSD	EROS Data Cent 9.8nm,1.1s	27.49	3	eP	P	07 22 50.9	+0.4		
ACSO	Alum Creek Sta baz=214	27.51	26	P	P	07 22 50.4	-0.3		
ACSO	Alum Creek Sta 16nm,0.8s	27.51	26	eP	P	07 22 50.9	+0.2		
J38A	Wedel Dairy, R baz=193	27.52	10	P	P	07 22 50.9	+0.1		
JFWS	Jewell Farm baz=197	27.55	13	P	P	07 22 50.7	-0.4		
JFWS	Jewell Farm 22nm,0.9s	27.55	13	eP	P	07 22 51.8	+0.7		
BGU	Big Grassy Mou 5.8nm,1.1s	27.63	336	eP	P	07 22 54.2	+2.2		
K42A	Prairie Point, baz=199	27.64	15	P	P	07 22 51.7	-0.1		
J39A	Decorah baz=194	27.67	11	P	P	07 22 52.0	-0.1		
HWUT	Hardware Ranch 4.6nm,0.9s	27.68	339	eP	P	07 22 54.4	+1.9		
SPUT	South Pomonto 9.1nm,1.2s	27.74	337	eP	P	07 22 55.1	+2.1		
K43A	Burlington baz=201	27.83	16	P	P	07 22 53.3	-0.2		
J40A	Soldiers Grove baz=196	27.91	12	P	P	07 22 53.2	-1.1		
MDPB	Devils Postpil 7.1nm,1.1s	27.98	324	eP	P	07 22 58.0	+2.7		
I36A	Fitzsimmons Fa baz=189	27.99	7	P	P	07 22 54.7	-0.3		
J41A	Loganville baz=198,SNR=9.0	28.04	13	P	P	07 22 55.3	-0.1		
NV11	Mina Array Sit 0.4nm,1.1s	28.04	326	eP	P	07 22 57.8	+2.1		
I37A	Lemond, Waseca baz=191	28.06	8	P	P	07 22 55.6	0.0		
BW06	Boulder Array baz=158	28.09	343	P	P	07 22 57.5	+1.3		
BW06	Boulder Array 9.2nm,1.1s	28.09	343	eP	P	07 22 57.6	+1.4		
PD31	Pinedale Array	28.09	343	eP	P	07 22 57.6	+1.4		
PDAR	Pinedale Array 3.5nm,1.0s,baz=134,slow=8.5,SNR=26	28.09	343	P	P	07 22 57.5	+1.3		
PDAR	Pinedale Array	28.09	343	eP	P	07 22 56.4	+0.3		
NV01	Mina Array Sit	28.12	326	eP	P	07 22 58.4	+1.9		
NVAR	Mina Array Bea 4.0nm,0.9s,baz=150,slow=9.0,SNR=26	28.12	326	P	P	07 22 59.0	+2.5		
J42A	Columbus baz=199	28.20	15	P	P	07 22 56.4	-0.5		
I39A	Houston baz=194	28.20	11	P	P	07 22 56.7	-0.2		
SDV	Santo Domingo 5.0nm,0.8s,baz=295,slow=4.8,SNR=9.0	28.20	102	P	P	07 22 58.5	+1.1		
SDV				LR	LR	07 35 36.3			
SDV	comp=Z,172nm,18.1s,baz=22,slow=40 Santo Domingo 5.8nm,0.8s	28.20	102	eP	P	07 22 59.2	+1.8		
RSSD	Black Hills baz=169	28.21	352	P	P	07 22 58.2	+1.1		
RSSD	Black Hills 6.1nm,1.0s	28.21	352	eP	P	07 22 59.1	+1.9		
H32A	Carlson Farm, baz=182	28.22	2	P	P	07 22 57.3	+0.2		
I38A	Scanlan Farm, baz=193,SNR=6.8	28.25	10	P	P	07 22 56.6	-0.7		
HVU	Hansel Valley 9.9nm,1.1s	28.27	337	eP	P	07 22 59.8	+2.1		
RYN	Ryan 6.0nm,1.2s	28.38	326	eP	P	07 23 01.5	+2.8		
H33A	Prehn Over Nor baz=184	28.43	3	P	P	07 22 58.7	-0.2		
J43A	Natural Harves baz=201	28.43	16	P	P	07 22 56.6	-2.4		
H36A	Jessenland, He baz=189,SNR=5.2	28.55	7	P	P	07 22 59.8	-0.2		
I41A	Arkdale baz=198	28.73	13	P	P	07 23 01.4	-0.2		
I42A	Draeger Farm, baz=199	28.79	15	P	P	07 23 01.7	-0.4		
H38A	Maiden Rock baz=193	28.87	9	P	P	07 23 02.6	-0.3		
G33A	Ortonville baz=184	28.95	3	P	P	07 23 03.6	0.0		
I43A	Langenfeld Bro baz=201	28.98	16	P	P	07 23 03.0	-0.8		
AAM	Ann Arbor baz=210	28.99	23	P	P	07 23 02.9	-1.0		
REDW	Red Top Meadow 6.1nm,1.0s	29.02	341	eP	P	07 23 06.3	+1.9		
H39A	Augusta baz=194	29.04	11	P	P	07 23 04.5	+0.1		
SNOW	Snow King Moun 20nm,1.1s	29.08	342	eP	P	07 23 07.0	+2.0		
H40A	Chili baz=196,SNR=5.3	29.16	12	P	P	07 23 04.9	-0.4		
TPAW	Teton Pass 11nm,1.1s	29.16	341	eP	P	07 23 07.6	+1.8		
LOHW	Long Hollow 9.1nm,1.1s	29.17	342	eP	P	07 23 07.2	+1.4		
H41A	Junction City baz=198	29.31	13	P	P	07 23 06.5	-0.2		
FXWY	Fox Creek 3.8nm,1.0s	29.32	341	eP	P	07 23 08.9	+1.8		
SPMN	Marine on St. baz=191	29.33	8	P	P	07 23 06.6	-0.3		
SPMN	Marine on St. 10nm,0.9s	29.33	8	eP	P	07 23 06.5	-0.5		
MOOW	Moose Ponds 4.1nm,1.0s	29.34	342	eP	P	07 23 08.9	+1.6		
G38A	Ridgeland baz=193	29.42	10	P	P	07 23 07.8	+0.1		
N54A	Moraine State baz=218	29.45	29	P	P	07 23 08.0	0.0		
IMW	Indian Meadow 4.3nm,1.0s	29.53	342	eP	P	07 23 10.4	+1.4		
G39A	Holcombe baz=194	29.65	11	P	P	07 23 09.4	-0.3		
G40A	Rib Lake baz=196,SNR=5.1	29.82	12	P	P	07 23 10.8	-0.4		
F37A	Hinrichs Farm, baz=192	29.85	8	P	P	07 23 11.0	-0.4		
G41A	Antigo baz=198	29.98	13	P	P	07 23 12.5	-0.2		
M54A	Oil Creek Stat baz=218	30.03	29	P	P	07 23 13.1	-0.1		
G42A	Mountain baz=200	30.18	14	P	P	07 23 14.3	-0.1		
F38A	Pierce - Schro baz=193	30.19	9	P	P	07 23 14.5	+0.1		
RLMT	Red Lodge baz=160	30.20	345	P	P	07 23 16.5	+1.6		
RLMT	Red Lodge 6.6nm,1.0s	30.20	345	eP	P	07 23 16.6	+1.8		
SSPA	Standing Stone baz=222	30.23	32	P	P	07 23 14.8	-0.2		
YMR	Madison River 7.1nm,1.1s	30.24	342	eP	P	07 23 18.4	+3.2		
BEKR	Beckworth 3.4nm,0.9s	30.26	325	eP	P	07 23 18.1	+2.6		
YHH	Holmes Hill 4.2nm,1.2s	30.32	343	eP	P	07 23 18.2	+2.2		
E34A	Wadena baz=186	30.35	5	P	P	07 23 16.4	+0.5		
G43A	Wallace baz=201	30.37	15	P	P	07 23 15.7	-0.4		
HLID	Hailey baz=149	30.41	337	P	P	07 23 18.4	+1.6		
HLID	Hailey 2.7nm,1.0s	30.41	337	eP	P	07 23 18.7	+2.0		
F40A	Park Falls baz=196,SNR=8.9	30.46	12	P	P	07 23 16.7	-0.1		
E35A	Pequot Lakes baz=188	30.46	6	P	P	07 23 16.9	0.0		
F41A	Three Lakes baz=198	30.49	13	P	P	07 23 17.2	0.0		
E36A	McGregor baz=190	30.54	7	P	P	07 23 17.6	0.0		
F42A	Maple Grove Fa baz=200	30.73	14	P	P	07 23 18.8	-0.5		
E39A	Mellen baz=195	30.82	11	P	P	07 23 19.9	-0.2		
COWI	Conover 16nm,1.1s	30.83	13	eP	P	07 23 20.4	+0.2		
MFID	Camas Ranch 6.1nm,1.1s	30.84	335	eP	P	07 23 22.5	+2.0		
MCMT	McKenzie Canyo	30.97	340	eP	P	07 23 24.4	+2.8		
E40A	Wakefield baz=196,SNR=5.4	31.00	12	P	P	07 23 21.7	0.0		
D35A	Remer baz=188	31.01	6	P	P	07 23 21.2	-0.5		
F43A	Flat Rock, Esc baz=202,SNR=5.8	31.04	16	P	P	07 23 21.5	-0.5		
LAO	LASA Array baz=166	31.05	350	P	P	07 23 22.4	+0.2		
D36A	Goodland baz=190	31.20	7	P	P	07 23 22.8	-0.7		
E41A	Kenton baz=198	31.21	13	P	P	07 23 23.0	-0.6		
BOZ	Bozeman (W) baz=156	31.28	342	P	P	07 23 26.1	+1.7		
BOZ	Bozeman (W)	31.28	342	eP	P	07 23 26.5	+2.2		
D37A	Cotton baz=191	31.28	8	P	P	07 23 23.5	-0.6		
WVOR	Wild Horse Val 4.9nm,1.1s	31.29	331	eP	P	07 23 26.3	+2.0		
F45A	CMU Biological baz=204	31.36	18	P	P	07 23 24.4	-0.4		
DLMT	Dillon 10.0nm,0.9s	31.36	341	eP	P	07 23 27.3	+2.3		
F44A	Big Bay de Noc baz=203,SNR=8.5	31.37	16	P	P	07 23 24.4	-0.5		
E42A	Champion baz=200	31.42	14	P	P	07 23 25.1	-0.2		
C31A	Landman Farms, baz=182	31.50	1	P	P	07 23 26.3	+0.3		
N59A	State Game Lan baz=225	31.55	34	P	P	07 23 26.5	-0.1		
MDND	Maddock baz=178,SNR=5.4	31.56	359	P	P	07 23 27.2	+0.6		
MDND	Maddock 112nm,1.2s	31.56	359	eP	P	07 23 27.6	+1.0		
E43A	Lone Tree Farm baz=202,SNR=6.7	31.59	15	P	P	07 23 26.6	-0.3		
C35A	Jirik Farms, M baz=188	31.63	6	P	P	07 23 26.9	-0.3		
F46A	Macinaw City C baz=206,SNR=6.2	31.67	19	P	P	07 23 27.8	+0.2		
LRM	Limekiln Ridge	31.73	341	eP	P	07 23 30.2	+1.8		
MMNY	Mt. Morris Dam 22nm,1.1s	31.80	30	eP	P	07 23 29.5	+0.8		
C36A	Pine Crest Far baz=190	31.82	7	P	P	07 23 29.1	+0.2		
D41A	Chassel baz=198,SNR=6.4	31.87	13	P	P	07 23 29.2	-0.1		
J08A	Circle Bar Ran 16nm,1.1s	31.93	332	eP	P	07 23 31.8	+1.7		
B33A	Robert and Kas baz=185	32.07	4	P	P	07 23 31.1	+0.1		
E45A	Wooded Hills, baz=205	32.07	18	P	P	07 23 30.5	-0.6		
AGMN	Agassiz Nation baz=185	32.08	3	P	P	07 23 31.0	-0.1		
AGMN	Agassiz Nation 20nm,0.8s	32.08	3	eP	P	07 23 31.3	+0.1		
B31A	Greenbush Farm baz=182	32.14	1	P	P	07 23 31.9	+0.3		
B32A	Ashes, Strandq baz=184,SNR=9.4	32.14	3	P	P	07 23 31.8	+0.1		
B35A	Bob, Littlefor baz=189,SNR=5.3	32.31	6	P	P	07 23 32.7	-0.4		
B34A	Aery, Baudette baz=187	32.35	5	P	P	07 23 33.3	-0.2		
HRY	Holter Researc	32.35	343	eP	P	07 23 35.6	+2.0		
BINY	Binghamton baz=223	32.35	32	P	P	07 23 32.4	-1.2		
DGMT	Dagmar baz=170	32.50	353	P	P	07 23 35.7	+0.8		
DGMT	Dagmar	32.50	353	eP	P	07 23 36.5	+1.6		
C40A	Isle Royale Na baz=197	32.56	12	P	P	07 23 34.9	-0.4		
A32A	Rocking H Ranc baz=184	32.67	3	P	P	07 23 36.0	-0.2		
A33A	Warroad baz=186,SNR=6.5	32.74	4	P	P	07 23 37.1	+0.2		
EGMT	Eagleton baz=160	33.04	346	P	P	07 23 40.3	+0.7		
EGMT	Eagleton 7.2nm,1.1s	33.04	346	eP	P	07 23 41.3	+1.7		
MSO	Missoula baz=153	33.09	341	P	P	07 23 41.3	+1.1		
MSO	Missoula 4.4nm,1.0s	33.09	341	eP	P	07 23 41.4	+1.1		
BUKO	Buck Lake baz=215	33.29	25	P	P	07 23 41.2	-0.6		
F10A	Beach Ranch, E 9.7nm,0.9s	33.52	336	eP	P	07 23 45.5	+1.5		
G08A	Pilot Rock 8.1nm,1.0s	33.67	334	eP	P	07 23 46.8	+1.5		
ULM	Lac du Bonnet 9.2nm,1.1s,baz=184,slow=11,SNR=7.5	34.02	3	P	P	07 23 47.5	-0.6		
ULM	Lac du Bonnet 8.0nm,1.0s	34.02	3	eP	P	07 23 47.4	-0.7		
H04A	Detroit Lake 6.9nm,0.9s	34.67	330	eP	P	07 23 55.4	+1.5		
NEW	Newport 1.3nm,0.5s,baz=96,slow=17,SNR=3.1	35.41	338	P	P	07 24 00.7	+0.5		
LTY	Liberty 5.0nm,1.1s	35.96	334	eP	P	07 24 06.8	+1.9		
B05A	Bryant baz=141	37.34	334	P	P	07 24 16.9	+0.3		
A04D	Lummi Island baz=141,SNR=5.0	37.95	334	P	P	07 24 22.8	+1.1		
FFC	Flin Flon 11nm,1.1s	38.53	357	eP	P	07 24 27.3	+0.8		
EDM	Edmonton 34nm,1.1s	38.72	346	eP	P	07 24 28.9	+0.7		
LLLB	Lillooet 4.4nm,0.9s	39.10	336	eP	P	07 24 33.8	+2.3		
PTGA	Pitinga 2.1nm,0.5s,baz=287,slow=19,SNR=4.0	41.65	110	P	P	07 24 52.2	-0.8		
FCC	Fort Churchill 8.6nm,1.0s	42.62	3	eP	P	07 25 00.7	+0.5		
RPN	Rapa Nui comp=Z,85nm,19.6s,baz=344,slow=31	44.32	194	LR	LR	07 39 41.2			
SCHQ	Schefferville	45.66	25	P	P	07 25 23.9	-0.8		

15nm,0.8s,baz=152,slow=7.6,SNR=4.3
SCHQ Schefferville 45.66 25 *e*P **P 07 25 25.3 +0.6**
16nm,0.8s
YKA Yellowknife Ar 47.59 350 P **P 07 25 39.4 -0.3**
2.7nm,1.1s,baz=158,slow=7.4,SNR=20
YKW3 Yellowknife Ar 47.66 350 *e*P **P 07 25 40.2 0.0**
4.7nm,1.1s
TAOE Nuku Hiva Isla 48.10 242 *e*LR LR 07 39 05.9
167nm,25.6s
TAOE Nuku Hiva Isla 48.10 242 *e*T T 08 16 56.6
32nm,0.2s
DLBC Dease Lake 48.16 338 *e*P **P 07 25 47.3 +3.0**
7.4nm,1.1s
SIV San Ignacio 48.92 129 P **P 07 25 49.5 -1.2**
0.9nm,0.7s,baz=44,slow=20,SNR=3.6
HYT Haines Junctio 52.55 337 *e*P **P 07 26 20.2 +2.6**
1.6nm,0.9s
RKT Rikitea 52.87 223 *e*T T 08 22 53.0
19nm,0.3s
EGAK Eagle 56.38 340 *e*P **P 07 26 46.4 +1.2**
4.7nm,0.8s
INK Inuvik 56.61 345 *e*P **P 07 26 47.5 +0.7**
7.7nm,1.0s
DOT Dot Lake 56.71 338 *e*P **P 07 26 49.6 +2.0**
77nm,1.6s
PMOR Pomariorio Ree 57.73 240 *e*T T 08 28 59.6
5.0nm,0.2s
CPUP Villa Florida 58.27 136 P **P 07 26 59.8 +0.7**
2.0nm,0.9s,baz=278,slow=4.8,SNR=2.3
IL1 Eielson Array 58.37 338 *e*P **P 07 26 59.9 +0.7**
ILAR Eielson Array 58.37 338 P **P 07 27 00.3 +1.1**
4.5nm,1.1s,baz=145,slow=4.8,SNR=28
ILB Eielson Array 58.37 338 *e*P **P 07 27 00.2 +1.0**
RES Resolute Bay 58.52 1 *e*P **P 07 27 00.2 +0.1**
2.7nm,1.0s
TRF Thorofare Moun 58.98 336 *e*P **P 07 27 04.9 +1.1**
57nm,1.5s
PPT Papeete 60.43 238 LR LR 07 46 21.9
comp=Z,77nm,21.7s,baz=27,slow=29
PPT2 Papeete2 60.44 238 *e*LR LR 07 44 50.0
96nm,24.0s
TOLK Toolik Lake Re 61.34 341 P **P 07 27 20.5 +0.9**
baz=122,SNR=6.7
PLCA Paso Flores 62.34 156 P **P 07 27 26.2 -0.5**
1.7nm,0.9s,baz=264,slow=4.6,SNR=3.1
TBI Tubuai 63.40 233 *e*T T 08 36 04.7
21nm,0.2s
SPITS Spitsbergen Ar 79.17 11 LR LR 08 05 35.6
comp=Z,260nm,20.8s,baz=105,slow=37
ESDC Sonseca Array 83.29 51 P **P 07 29 29.7 -1.6**
0.3nm,0.6s,baz=293,slow=7.1,SNR=3.2
TIXI Tiksi 86.72 346 *e*P **P 07 29 47.4 -0.3**
1.4nm,0.8s

IDC ***29*** *07:24:27.4±3.4, 16°.45N×98°.34W, h0km, mb3.4/3, mb1 3.7/5, mb1mx3.5/46, mbtmp3.4/5, ML3.1/2, MS3.2/1, Ms1 3.2/1, ms1mx2.6/27, Error ellipse: s-maj=69.7km s-min=16.9km az=12.0*

ISCJB ***29*** *07:24:29.9±0.7, 16°.56N±0°.06×98°.49W±0°.05, h28km, mb3.5/3, MS3.0/1, Error ellipse: s-maj=9.8km s-min=5.3km az=22.9*

NEIC ***29*** *07:24:32.2±0.0, 16°.52N×98°.50W, h19km, MD4.0(MEX), After MEX.*

MEX ***29*** *07:24:32.2±0.4, 16°.52N×98°.50W, h19km±33km, MD4.0*

ISC 29 07:24:30.7±0.9, 16°.57N±0°.06×98°.45W±0°.04, h28km, n15, σ1s99/25, mb3.4/3, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.35**	**119**	*e*P		**P**	**Pb**	**07 24 38.8**	**0.0**
PNIG				*i* S			**Sb**	**07 24 44.3**	**+0.1**
PNIG	**Pinotepa**	**0.35**	**119**	*e*P		**P**	**Pb**	**07 24 38.8**	**0.0**
PNIG				*i* S			**Sb**	**07 24 44.3**	**+0.1**
TLIG	**Tlapa**	**1.00**	**353**	*e*P		**P**	**Pn**	**07 24 48.5**	**-0.5**
TLIG				*e*S			**Sb**	**07 25 01.1**	**-1.3**
TLIG	**Tlapa**	**1.00**	**353**	*e*P		**P**	**Pn**	**07 24 48.5**	**-0.5**
TLIG				*e*S			**Sb**	**07 25 01.1**	**-1.3**
VHO	**Vista Hermosa**	**1.72**	**73**	*e*P		**P**	**Pn**	**07 24 59.0**	**+0.1**
VHO				*e*S			**Sb**	**07 25 20.6**	**-2.4**
VHO	**Vista Hermosa**	**1.72**	**73**	*e*P		**P**	**Pn**	**07 24 59.0**	**+0.1**
VHO				*e*S			**Sb**	**07 25 20.6**	**-2.4**
CAIG	**El Cayaco**	**1.81**	**286**	*e*P		**P**	**Pn**	**07 24 59.1**	**-0.8**
CAIG				*e*S			**Sn**	**07 25 19.7**	**-2.3**
CAIG	**El Cayaco**	**1.81**	**286**	*e*P		**P**	**Pn**	**07 24 59.1**	**-0.8**
CAIG				*e*S			**Sn**	**07 25 19.7**	**-2.3**
CMIG	**Matias Romero**	**3.45**	**81**	Pn		**P**	**Pn**	**07 25 23.0**	**+0.4**
	3.4nm,0.3s,baz=264,slow=9.3,SNR=17								
CMIG				Pg			**Pb**	**07 25 34.7**	**+3.6**
	12nm,0.3s,baz=258,slow=14,SNR=25								
CMIG				Sn			**Sn**	**07 26 01.2**	**-1.4**
	13nm,0.3s,baz=253,slow=19,SNR=6.6								
CMIG				Lg		Lg		07 26 14.6	
	24nm,0.3s,baz=225,slow=20,SNR=9.1								
MOIG	**Morelia**	**4.05**	**320**	*e*Pn		**Pb**		**07 25 42.1**	**+0.7**
APG	**El Apazote**	**7.84**	**100**	Pn		**Pn**		**07 26 20.7**	**-2.5**
	0.1nm,0.3s,baz=252,slow=20,SNR=1.9								
APG				Sn			**Sn**	**07 27 45.9**	**-5.2**
	0.3nm,0.3s,baz=305,slow=13,SNR=3.6								
APG				Lg		Lg		07 28 32.3	
	0.7nm,0.3s,baz=90,slow=17,SNR=3.2								
PFO	**Pinyon Flats O**	**23.48**	**320**	LR		LR		07 39 39.7	
	comp=Z,58nm,21.3s,baz=138,slow=39								
PDAR	**Pinedale Array**	**27.79**	**342**	P		**P**		**07 30 19.8**	**+2.2**
	0.6nm,0.9s,baz=124,slow=11,SNR=3.8								
YKA	**Yellowknife Ar**	**47.26**	**350**	P		**P**		**07 33 02.6**	**+1.4**
	0.8nm,0.8s,baz=157,slow=6.9,SNR=5.1								
ILAR	**Eielson Array**	**58.08**	**338**	P		**P**		**07 34 23.3**	**+2.0**
	0.4nm,1.0s,baz=129,slow=7.1,SNR=3.4								

IDC ***29*** *07:32:36.8±1.2, 9°.51N×126°.56E, h0km, mb3.5/5, mb1 3.6/5, mb1mx3.3/66, mbtmp3.4/5, Error ellipse: s-maj=86.3km s-min=23.8km az=70.0*

MAN ***29*** *07:32:38, 9°.43N×126°.83E, h21km, mb4.6, ML3.5, MS3.4*

ISCJB ***29*** *07:32:40.6±0.9, 9°.50N±0°.08×126°.78E±0°.07, h43km, mb3.4/5, Error ellipse: s-maj=11.7km s-min=9.2km az=157.3*

ISC 29 07:32:42.7±1.1, 9°.46N±0°.09×126°.7E±0°.1, h43km, n8, σ1s53/11, mb3.5/5, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BUTP	**Butuan**	**1.17**	**245**	*e*P		**P**	**Pn**	**07 33 00.4**	**-2.1**
BUTP				*e*S			**Sn**	**07 33 17.7**	**+0.4**
SCPH	**Surigao**	**1.23**	**285**	*e*P		**P**	**Pn**	**07 33 03.0**	**-0.4**
SCPH				*e*S			**Sn**	**07 33 20.4**	**+1.5**
BUKP	**Musuan**	**2.25**	**226**	*e*P		**P**	**Pn**	**07 33 16.3**	**-1.2**
BUKP				*e*S			**Sn**	**07 33 46.6**	**+2.4**
WRA	**Warramunga Arr**	**30.17**	**166**	P		**P**		**07 38 49.9**	**+0.9**
	0.3nm,0.6s,baz=347,slow=9.5,SNR=2.7								
ASAR	**Alice Springs**	**33.67**	**168**	P		**P**		**07 39 19.9**	**+0.2**
	0.2nm,0.7s,baz=353,slow=6.9,SNR=6.3								
MKAR	**Makanchi Array**	**52.92**	**323**	P		**P**		**07 41 54.6**	**0.0**
	0.3nm,0.5s,baz=126,slow=7.5,SNR=4.6								
KURBB	**Kurchatov Arra**	**56.97**	**326**	P		**P**		**07 42 22.1**	**-1.7**
	0.2nm,0.3s,baz=129,slow=7.1,SNR=2.8								
YKA	**Yellowknife Ar**	**94.32**	**24**	P		**P**		**07 45 58.2**	**+0.8**
	0.2nm,0.6s,baz=300,slow=5.3,SNR=4.1								

NIED ***29*** *07:35:00, 37°.00N×141°.40E, h5km, Mw4.2 Best double couple: M0 1.91000×10^15 NP1:ϕs=23.00000°, δ42.00000°, λ-67.00000°. NP2:ϕs=174.00000°, δ52.00000°, λ-109.00000°.*

ISCJB ***29*** *07:35:01.8±1.0, 37°.04N±0°.03×141°.50E±0°.05, h15km±6km, mb3.9/28, Error ellipse: s-maj=7.2km s-min=3.8km az=23.0*

IDC ***29*** *07:35:01.5±0.6, 37°.04N×141°.21E, h0km, mb3.9/24, mb1 4.1/28, mb1mx4.0/74, mbtmp4.0/28, ML3.7/2, MS3.2/3, Ms1 3.2/3, ms1mx2.7/71, Error ellipse: s-maj=16.1km s-min=13.0km az=97.0*

NEIC ***29*** *07:35:02.8±0.3, 37°.01N×141°.35E, h10km, mb4.4/4, Error ellipse: s-maj=8.4km s-min=5.8km az=112.0*

NEIC Recorded [1 JMA] in Fukushima.

JMA ***29*** *07:35:03.6±0.1, 37°.06N×141°.38E, h28km±1km, M4.2*

JMA Felt I J1.

ISC 29 07:35:02.6±1.7, 37°.05N±0°.04×141°.35E±0°.05, h9km±10km, n60, σ0s91/66, mb4.0/28, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.45**	**277**	P		**P**	**Pb**	**07 35 13.1**	**+0.3**
ONAJ				S			**Sb**	**07 35 19.7**	**+0.1**
JFK	**Kawauchi**	**0.50**	**310**	P		**P**	**Pb**	**07 35 13.6**	**0.0**
JFK				S			**Sb**	**07 35 20.6**	**-0.4**
JHO	**Hitachi**	**0.77**	**235**	P		**P**	**Pb**	**07 35 18.0**	**-0.1**
JHO				S			**Sb**	**07 35 28.8**	**+0.1**
JMM	**Marumori**	**0.93**	**332**	P		**P**	**Pg**	**07 35 20.5**	**0.0**
JMM				S			**Sg**	**07 35 33.0**	**+0.4**
JFT	**Otama**	**0.94**	**300**	P		**P**	**Pb**	**07 35 21.5**	**+0.4**
JFT				S			**Sb**	**07 35 34.3**	**+0.7**
JSB	**Shiboa**	**1.15**	**266**	P		**P**	**Pn**	**07 35 25.3**	**+0.3**
JSB				S			**Sn**	**07 35 41.1**	**+0.2**
JFY	**Yanaizu**	**1.36**	**286**	P		**P**	**Pn**	**07 35 27.8**	**-0.1**
JFY				S			**Sn**	**07 35 46.0**	**-0.1**
JIO	**Ouri**	**1.40**	**360**	P		**P**	**Pn**	**07 35 27.1**	**-1.4**
JIO				S			**Sn**	**07 35 45.1**	**-2.0**
JOU	**Okura**	**1.42**	**338**	P		**P**	**Pn**	**07 35 28.6**	**-0.2**
JOU				S			**Sn**	**07 35 46.7**	**-1.0**
MJAR	**Matsushiro Arr**	**2.57**	**260**	Pn		**Pn**		**07 35 45.8**	**+1.2**
	12nm,0.3s,baz=90,slow=15,SNR=144								
MJAR				Sn			**Sb**	**07 36 20.0**	**-0.8**
	23nm,0.3s,baz=72,slow=16,SNR=6.2								
MAJO	**Matsushiro**	**2.57**	**260**	*e*Pn		**Pn**		**07 35 45.8**	**+1.2**
MAT	**Matsushiro**	**2.57**	**260**	P		**Pn**		**07 35 46.1**	**+1.5**
MAT				S			**Sb**	**07 36 18.9**	**-1.9**
JHJ2	**Mitsune**	**4.12**	**198**	*e*Pn		**Pn**		**07 36 04.9**	**-1.0**
JHJ2				*e*Sn			**Sn**	**07 36 54.5**	**+0.3**
JHJ	**Hachijo jima 2**	**4.12**	**199**	Pn		**Pn**		**07 36 06.2**	**+0.3**
	11nm,0.3s,baz=86,slow=19,SNR=3.8								
JHJ				Sn			**Sn**	**07 36 54.5**	**+0.3**
	18nm,0.3s,baz=37,slow=19,SNR=2.3								
JHJ				LR		LR		07 37 43.4	
	comp=Z,174nm,18.5s,baz=54,slow=40								
ERM	**Erimo**	**5.15**	**15**	*e*Pn		**Pn**		**07 36 19.8**	**-0.2**
ERM				*e*Sn			**Sn**	**07 37 18.8**	**-0.7**
ASAJ	**Asahikawa**	**7.12**	**7**	Pn		**Pn**		**07 36 46.5**	**-0.6**
	1.2nm,0.3s,baz=207,slow=13,SNR=11								
ASAJ				Sn			**Sn**	**07 38 08.5**	**+0.4**
	0.5nm,0.3s,baz=163,slow=19,SNR=2.1								
JNU	**Nakatsue**	**9.43**	**249**	LR		LR		07 41 25.7	
	comp=Z,175nm,18.5s,baz=103,slow=41								
CBIJ	**Chichi jima**	**9.95**	**176**	Pn		**Pn**		**07 37 23.7**	**-2.1**
JCJ	**Chichijima**	**9.95**	**176**	Pn		**Pn**		**07 37 23.7**	**-2.1**
	7.9nm,0.3s,baz=274,slow=23,SNR=7.3								
YSS	**Yuzh-Sakhalins**	**9.95**	**6**	*e*Pn		**Pn**		**07 37 27.0**	**+1.2**
USRK	**Ussuriysk Ar.**	**10.08**	**318**	Pn		**Pn**		**07 37 27.4**	**-0.1**
	0.1nm,0.3s,baz=142,slow=44,SNR=2.6								
KSRS	**Korea Array**	**10.71**	**276**	Pn		Pn		07 37 42.5	+6.2
	0.2nm,0.3s,baz=88,slow=14,SNR=11								
KSRS				LR		LR		07 41 13.6	
	comp=Z,200nm,21.1s,baz=78,slow=35								
KSAR	**Wonju Array Be**	**10.74**	**276**	Pn		Pn		07 37 42.5	+5.8
BJT	**Baijiatuan**	**19.91**	**286**	*e*P		**P**		**07 39 34.4**	**-0.1**
	6.6nm,0.4s								
MA2	**Magadan**	**23.35**	**12**	P		**P**		**07 40 12.5**	**+1.3**
	3.4nm,0.7s,baz=180,slow=10,SNR=2.5								
YAK	**Yakutsk**	**26.05**	**347**	*e*P		**P**		**07 40 37.2**	**+1.2**
	13nm,0.8s								
SEY	**Seymchan**	**26.79**	**11**	P		**P**		**07 40 44.0**	**+1.3**
	0.7nm,0.3s,baz=194,slow=6.3,SNR=5.8								
SONM	**Songino Array**	**27.74**	**304**	P		**P**		**07 40 52.1**	**+0.6**
	1.3nm,0.7s,baz=98,slow=10,SNR=3.3								
H11N2	**WAKE ISLAND Hy**	**28.20**	**121**	T		T		08 10 22.2	
	baz=314,slow=75,SNR=1540								
H11N1	**WAKE ISLAND Hy**	**28.20**	**121**	T		T		08 10 25.2	
	baz=314,slow=75,SNR=1238								
H11N3	**WAKE ISLAND Hy**	**28.21**	**121**	T		T		08 10 26.7	
	baz=314,slow=75,SNR=1445								
H11S1	**WAKE ISLAND Hy**	**28.91**	**123**	T		T		08 11 14.8	
	baz=316,slow=76,SNR=407								
H11S3	**WAKE ISLAND Hy**	**28.91**	**123**	T		T		08 11 21.4	
	baz=316,slow=76,SNR=422								
H11S2	**WAKE ISLAND Hy**	**28.92**	**123**	T		T		08 11 15.9	
	baz=316,slow=76,SNR=223								
ZALV	**Zalesovo Beam**	**41.87**	**312**	P		**P**		**07 42 52.9**	**0.0**
	1.7nm,0.8s,baz=100,slow=6.5,SNR=5.3								
MKAR	**Makanchi Array**	**44.07**	**302**	P		**P**		**07 43 10.9**	**0.0**
	1.3nm,0.7s,baz=82,slow=9.4,SNR=12								
KURK	**Kurchatov**	**45.88**	**308**	P		**P**		**07 43 25.6**	**+0.3**
	2.2nm,0.9s								
KURBB	**Kurchatov Arra**	**45.95**	**308**	P		**P**		**07 43 25.6**	**-0.3**
	1.8nm,0.6s,baz=81,slow=8.4,SNR=16								
KDAK	**Kodiak Island**	**47.12**	**42**	P		**P**		**07 43 34.9**	**0.0**
	7.7nm,0.9s,baz=31,slow=1.5,SNR=5.9								
ILAR	**Eielson Array**	**49.51**	**32**	P		**P**		**07 43 54.2**	**+1.0**
	2.8nm,0.7s,baz=274,slow=6.6,SNR=12								
BVAR	**Borovoye Array**	**50.53**	**312**	P		**P**		**07 44 00.8**	**-0.4**
	0.4nm,0.5s,baz=79,slow=7.6,SNR=3.2								
INK	**Inuvik**	**54.40**	**27**	P		**P**		**07 44 30.9**	**+1.4**
	1.2nm,0.7s,baz=292,slow=5.6,SNR=6.6								
WRAB	**Tennant Creek**	**57.06**	**188**	*e*P		**P**		**07 44 49.4**	**+0.3**
	2.5nm,0.6s								
WRA	**Warramunga Arr**	**57.07**	**188**	P		**P**		**07 44 49.1**	**-0.1**
	1.9nm,0.8s,baz=5.6,slow=7.2,SNR=13								
ABKAR	**Akbulak array**	**57.89**	**310**	*e*P		**P**		**07 44 54.6**	**-0.2**
	1.4nm,0.5s								
ASAR	**Alice Springs**	**60.80**	**188**	P		**P**		**07 45 15.6**	**+0.4**
	0.5nm,0.8s,baz=16,slow=12,SNR=7.7								
YKA	**Yellowknife Ar**	**63.82**	**30**	P		**P**		**07 45 35.5**	**+0.6**
	0.2nm,0.7s,baz=299,slow=5.9,SNR=4.5								
ARCES	**ARCESS Array B**	**63.97**	**339**	P		**P**		**07 45 34.9**	**-1.0**
	1.8nm,0.8s,baz=70,slow=7.9,SNR=6.0								
FINES	**FINESS Array B**	**68.78**	**332**	P		**P**		**07 46 06.2**	**-0.5**
	2.8nm,1.8s,baz=79,slow=9.9,SNR=4.0								
KBZ	**Khabaz**	**70.86**	**311**	P		**P**		**07 46 19.8**	**-0.1**
	0.5nm,0.4s,baz=102,slow=13,SNR=3.0								
HFS	**Hagfors**	**74.06**	**336**	P		**P**		**07 46 38.8**	**+0.2**
	1.4nm,0.8s,baz=69,slow=7.9,SNR=4.5								
NB2	**NORSAR Subarra**	**74.15**	**337**	P		**P**		**07 46 39.2**	**-0.1**
	comp=Z,3.0nm,0.9s,baz=39,slow=6.2								
NOA	**NORSAR Array B**	**74.15**	**337**	P		**P**		**07 46 38.7**	**-0.6**
	comp=Z,1.0nm,0.8s,baz=39,slow=5.8,SNR=2.9								
AKASG	**Malin Array Be**	**74.26**	**322**	P		**P**		**07 46 38.4**	**-1.6**
	comp=Z,0.7nm,0.3s,baz=42,slow=5.3,SNR=6.0								
NVAR	**Mina Array Bea**	**75.02**	**53**	P		**P**		**07 46 46.4**	**+1.5**
	comp=Z,0.3nm,0.7s,baz=298,slow=8.1,SNR=3.1								
PDAR	**Pinedale Array**	**77.69**	**45**	P		**P**		**07 47 00.9**	**+0.9**
	comp=Z,0.3nm,0.5s,baz=249,slow=1.7,SNR=3.6								
BRTR	**Keskin Array B**	**78.81**	**312**	P		**P**		**07 47 06.0**	**-0.1**
	comp=Z,0.4nm,0.7s,baz=8.1,slow=2.0,SNR=2.9								
GERES	**GERESS Array B**	**82.67**	**328**	P		**P**		**07 47 24.8**	**-1.8**
	comp=Z,0.6nm,0.5s,baz=29,slow=3.0,SNR=3.4								
TXAR	**Lajitas Array**	**90.15**	**52**	P		**P**		**07 48 04.5**	**+0.8**
	comp=Z,0.6nm,0.8s,baz=307,slow=4.6,SNR=6.2								
LPAZ	**La Paz**	**146.73**	**59**	PKPbc		**PKPbc**		**07 54 45.6**	**-0.6**
	comp=Z,1.3nm,0.7s,baz=9.8,slow=4.0,SNR=10								

MEX 29 07:59:45.3±0.5, 16°.06N×98°.30W, h3km, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.37**	**27**	*e*P		**P**	Pg	07 59 51.9	-0.6
PNIG				*i* S			Sg	07 59 57.6	+0.3
TLIG	**Tlapa**	**1.51**	**350**	*e*P		**P**	Pn	08 00 09.8	-3.7
TLIG				*e*S			Sn	08 00 28.4	-5.4
VHO	**Vista Hermosa**	**1.81**	**56**	*e*P		**P**	Pn	08 00 14.4	-3.2
VHO				*e*S			Sn	08 00 37.2	-4.0

ISCJB ***29*** *08:09:01.4±0.6, 2°.68N±0°.02×94°.46E±0°.02, h6km±3km, mb5.3/257, MS5.7/268, Error ellipse: s-maj=3.5km s-min=2.3km az=28.1*

IDC ***29*** *08:09:02.1±0.3, 2°.74N×94°.54E, h0km, mb5.0/59, mb1 5.0/63, mb1mx5.0/75, mbtmp5.0/63, ML4.4/4, MS5.5/66, Ms1 5.5/66, ms1mx5.5/77, Error ellipse: s-maj=10.1km s-min=8.5km az=37.0*

BJI ***29*** *08:09:03.3, 2°.70N×94°.52E, h18km, mb5.4/85, mB5.9/71, Ms6.2/95, Ms7 6.0/90*

MOS ***29*** *08:09:04.4±1.3, 2°.76N×94°.50E, h24km, mb5.6/95, MS5.7/50, Error ellipse: s-maj=6.1km s-min=3.3km az=117.2*

GCMT ***29*** *08:09:04.3±0.1, 2°.60N×94°.27E, h12km, MW5.7/140, Moment Tensor Solution. s118,c213; s140,c417; Duration: 187 Moment tensor: Scale 10^17Nm; Mrr3.98±.03; Mθθ-2.40±.03; Mϕϕ-1.58±.04; Mrθ0.10±.09; Mθϕ2.25±.03; Mϕr-1.94±.10; Best double couple: M0 4.56800×10^17 NP1:ϕs147.00000°, δ57.00000°, λ111.00000°. NP2:ϕs293.00000°, δ39.00000°, λ62.00000°. Principal axes: T 4.6420, Plg70.0000°, Azm105.0000°; N -0.1480, Plg17.0000°, Azm316.0000°; P -4.4940, Plg9.0000°, Azm223.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

NEIC ***29*** *08:09:04.3±1.8, 2°.70N×94°.51E, h14km±11km, mb5.4/99, MS5.9/151, MW5.7 Error ellipse: s-maj=5.1km s-min=3.4km az=218.0*

NEIC ***29*** *08:09:05.0±0.0, 2°.61N×94°.36E, h11km, Moment Tensor Solution. s21 Moment tensor: Scale 1017Nm; Mrr2.56; Mθθ-1.76; Mϕϕ-0.81; Mrθ2.46; Mθϕ1.26; Mϕr-3.76; Best double couple: M0 5.20000×10^17 NP1:ϕs143.00000°, δ76.00000°, λ99.00000°. NP2:ϕs289.00000°, δ17.00000°, λ57.00000°. Principal axes: T 5.3000, Plg58.0000°, Azm66.0000°; N -0.2300, Plg9.0000°, Azm321.0000°; P -5.0700, Plg30.0000°, Azm225.0000°;*

DJA ***29*** *08:09:05.0±0.2, 3°N±2°×9°5E±°, h10km, M5.6/77, mb5.3/77, mB6.0/60, MLv5.8/16, Mw(mB)5.6/60, Mwp5.8/12*

ISC 29 08:09:06.1±0.3, 2°.69N±0°.03×94°.47E±0°.03, h22km±2km, h22km:pP-P, n1508, σ1s92/1479, mb5.3/262, MS5.8/271, 63C-28D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MLSI	**Meulaboh, Aceh**	**2.48**	**51**	P		**P**	**Pn**	**08 09 44.3**	**-0.9**
TPTI		**2.76**	**78**	P		**P**	**Pn**	**08 09 47.7**	**-1.3**
BSI	**Banda Aceh**	**2.91**	**16**	P		**P**	**Pn**	**08 09 49.2**	**-1.9**
GSI	**Gunungsitoli**	**3.39**	**114**	P		**P**	**Pn**	**08 09 55.4**	**-2.3**
GSI	**Gunungsitoli**	**3.39**	**114**	*e*Pn		**P**	**Pn**	**08 09 55.6**	**-2.1**
GSI				*e*Sn			**Sn**	**08 10 33.5**	**-3.8**
KCSI	**Kotacane, Aceh**	**3.40**	**76**	P		**P**	**Pn**	**08 09 58.3**	**+0.5**
LHMI	**Lhok Sumawe**	**3.53**	**44**	P		**P**	**Pn**	**08 10 00.3**	**+0.7**
LHMI	**Lhok Sumawe**	**3.53**	**44**	*e*Pn		**P**	**Pn**	**08 09 59.0**	**-0.6**
TSI	**Tuntungan**	**4.16**	**79**	P		**P**	**Pn**	**08 10 09.0**	**+0.7**
PSI	**Prapat**	**4.45**	**88**	Pn		**Pn**	**Pn**	**08 10 11.3**	**-1.0**
	9.3nm,0.3s,baz=267,slow=9.2,SNR=59								
PSI				Sn			**Sn**	**08 11 06.4**	**+2.8**
	17nm,0.3s,baz=270,slow=9.1,SNR=5.0								
PSI				LR		LR		08 11 22.9	
	comp=Z,25μm,20.6s,baz=266,slow=32								
PBSI	**Pulau Batu**	**4.68**	**126**	P		**Pn**	**Pn**	**08 10 13.9**	**-1.5**
MNSI	**Mandailing Nat**	**5.44**	**110**	P		**Pn**	**Pn**	**08 10 24.4**	**-1.5**
SISI	**Saibi**	**6.10**	**131**	P		**Pn**	**Pn**	**08 10 33.3**	**-1.7**
KULM	**Kulim**	**6.68**	**67**	*e*Pn		**Pn**	**Pn**	**08 10 41.8**	**-1.2**
PPI	**Padang Panjang**	**6.70**	**118**	P		**Pn**	**Pn**	**08 10 42.7**	**-0.5**
IPM	**Ipoh**	**6.78**	**75**	*e*Pn		**Pn**	**Pn**	**08 10 42.7**	**-1.6**
BKNI	**Bangkinang**	**6.97**	**110**	P		**Pn**	**Pn**	**08 10 47.2**	**+0.3**
	1μm,0.9s,9μm4.6nm								
BKNI	**Bangkinang**	**6.97**	**110**	*e*Pn		**Pn**	**Pn**	**08 10 45.7**	**-1.3**
PDSI	**Padang**	**6.97**	**121**	P		**Pn**	**Pn**	**08 10 45.3**	**-1.7**
TRTT	**Trang**	**7.29**	**45**	P		**Pn**	**Pn**	**08 10 49.7**	**-1.6**
	69nm,1.4s,3μm0.6nm								
SKLT	**Songkhla**	**7.57**	**54**	P		**Pn**	**Pn**	**08 10 53.8**	**-1.4**
	523nm,1.0s,9μm1.9nm								
PPSI	**Pulau Pagai**	**7.74**	**134**	P		**Pn**	**Pn**	**08 10 56.1**	**-1.4**
	545nm,0.8s,9μm4.4nm								
SDSI	**Sungai Dareh**	**7.83**	**117**	P		**Pn**	**Pn**	**08 10 58.2**	**-0.5**
	0.4nm,0.6s,7.2nm0.0nm								
RGRI	**Rengat**	**8.42**	**111**	P		**Pn**	**Pn**	**08 11 06.9**	**+0.1**
	326nm,0.9s,40μm								
KRJI	**Kerinci**	**8.45**	**124**	P		**Pn**	**Pn**	**08 11 06.5**	**-0.8**
PBA	**Port Blair**	**9.07**	**349**	*e*P		Pn	Pn	08 11 13.8	-2.0
MYKOM	**Kota Tinggi**	**9.41**	**95**	*e*Pn		**Pn**	**Pn**	**08 11 19.0**	**-1.5**
MASI	**Maura Aman, Be**	**9.69**	**127**	P		**Pn**	**Pn**	**08 11 23.5**	**-0.8**
TPRI	**Tanjung Pinang**	**10.20**	**100**	P		**Pn**	**Pn**	**08 11 32.5**	**+1.2**
DGPR	**DIGLIPUR**	**10.53**	**352**	*e*P		**Pn**	**Pn**	**08 11 32.7**	**-3.2**
DSRI	**Dabo**	**10.58**	**107**	P		**Pn**	**Pn**	**08 11 36.7**	**+0.2**
	107nm,0.7s,5μm								
MNAI	**Manna**	**10.99**	**130**	P		**Pn**	**Pn**	**08 11 44.3**	**+2.1**
	1μm,0.9s,12μm								
MNAI	**Manna**	**10.99**	**130**	*e*Pn		**Pn**	**Pn**	**08 11 41.0**	**-1.1**
PHET	**Kaeng Krachan**	**11.37**	**26**	P		**Pn**	**Pn**	**08 11 47.9**	**+0.7**
	19nm,1.2s,246nm								
MDSI	**Maura Dua**	**12.03**	**126**	P		**Pn**	**Pn**	**08 11 54.1**	**-2.3**
	156nm,1.0s,3μm								
LWLI	**Liwa**	**12.26**	**129**	P

comp=Z,193nm,1.0s
CHLP Challavanipeta 18.74 328 *e*P **P** **08 13 23.2 -0.4**
UGM Wanagama 19.16 123 P **P** **08 13 27.4 -0.9**
comp=Z,119nm,1.5s
PVM Polavaram 19.20 320 *e*P **P** **08 13 29.0 +0.4**
ADKI Addanki 19.36 313 *e*P **Pn** **08 13 31.9 +0.4**
BWNR Bhubaneshwar 19.44 335 *e*P **P** **08 13 31.5 +0.3**
WOJI Wonogiri, Jawa 19.46 123 P **P** **08 13 30.4 -1.1**
comp=Z,51nm,1.2s,comp=Z,3µm
NGJI Ngawi 19.68 121 P **P** **08 13 32.5 -1.4**
comp=Z,213nm,1.3s,comp=Z,6µm
TBJI Tambak Boyo 19.75 119 P **P** **08 13 33.9 -0.7**
comp=Z,172nm,1.4s,comp=Z,5µm
PCJI Pacitan 19.86 123 P **Pn** **08 13 38.4 +0.9**
RCLA Racherla 19.87 311 *e*P **Pn** **08 13 38.5 +0.9**
BWJI Bawean 20.04 115 P Pn 08 13 39.0 -0.7
comp=Z,180nm,1.2s,comp=Z,3µm
PWJI Pagerwojo 20.30 122 P **P** **08 13 40.6 0.0**
comp=Z,49nm,0.9s,comp=Z,2µm
NJS Nagarjunasagar 20.31 314 *e*P **P** **08 13 40.9 +0.2**
SRLM Srisailam 20.32 312 *e*P **P** **08 13 41.1 +0.2**
MTKI Muara Teweh, K 20.73 100 P Pn 08 13 47.9 +0.1
comp=Z,286nm,1.4s,comp=Z,11µmcomp=Z,20µm
URV Uravakonda 20.89 307 *e*P **P** **08 13 48.0 +0.8**
HYB Hyderabad 21.41 314 *i* P **P** **08 13 53.0 +0.3**
comp=Z,243nm,1.2s
HYB *e*S **S** **08 17 48.0 -1.6**
HYB Hyderabad 21.41 314 *e*P **P** **08 13 52.9 +0.1**
HYBB Hyderabad (bro 21.42 314 *e*P **P** **08 13 53.1 +0.3**
GMJI Gumukmas 21.83 120 P P 08 14 08.4 +11
RPR Rampur 21.89 318 *e*P **P** **08 13 57.0 -0.7**
KKM Kota Kinabalu 21.93 81 *e*P **P** **08 13 57.9 -0.5**
comp=Z,267nm,1.1s
KKM LR LR
comp=Z,12µm,19.0s
QIZ Qiongzhong 22.14 42 P **P** **08 14 00.3 -0.1**
QIZ *e*S **S** **08 18 04.5 +1.0**
QIZ LR LR
comp=Z,81µm,13.2s
QIZ LR LR
comp=Z,160µm,15.2s
QIZ LR LR
comp=Z,51µm,16.2s
QIZ Qiongzhong 22.14 42 *e*P **P** **08 13 59.3 -1.1**
comp=Z,462nm,1.7s
QIZ *e*S Sn 08 18 11.6 -3.4
QIZ LR LR
comp=Z,47µm,19.0s
KBKI Kotabaru 22.48 105 P **P** **08 14 03.9 -0.3**
comp=Z,108nm,1.5s,comp=Z,4µm
JAGI Jajag, Banyuwa 22.54 120 P **P** **08 14 10.9 +6.1**
JAGI Jajag, Banyuwa 22.54 120 *e*P **P** **08 14 02.3 -2.5**
comp=Z,67nm,1.0s
BOK Bokaro 22.57 339 *e*P **P** **08 14 04.4 -0.7**
SRSP Sriramsagar 22.58 317 *e*P **P** **08 14 04.8 -0.4**
BKB Balikpapan 22.76 100 P **P** **08 14 05.2 -1.9**
comp=Z,362nm,1.7s,comp=Z,10µm
SHL Shillong 22.88 354 *e*P **P** **08 14 05.5 -3.0**
SHL Shillong 22.88 354 P **P** **08 14 05.3 -3.2**
SHL pmax pmax
comp=Z,357nm,1.1s
KLRI Killari 23.26 312 *e*P **P** **08 14 12.7 +0.4**
SRBI Singaraja 23.29 118 P **P** **08 14 11.3 -1.3**
comp=Z,126nm,1.2s,comp=Z,3µm
SGKI Sangatta, Kali 23.34 98 P **P** **08 14 13.6 +0.4**
comp=Z,333nm,1.2s,comp=Z,6µmcomp=Z,15µm
KMI Kunming 23.69 19 P **P** **08 14 17.3 +0.7**
KMI pP pP 08 14 23.5 +0.4
KMI sP sP 08 14 26.0 +0.1
KMI PP **PnPn** **08 14 51.0 +6.6**
KMI S **S** **08 18 27.8 -2.8**
KMI sS pS 08 18 39.8 +1.7
KMI SS **SnSn** **08 19 17.5 +8.4**
KMI pmax pmax
comp=Z,130nm,1.4s
KMI pmax pmax
comp=Z,6µm,10.5s
KMI LR LR
comp=Z,38µm,14.1s
KMI LR LR
comp=Z,40µm,12.3s
KMI LR LR
comp=Z,36µm,12.2s
NGP Nagpur 23.71 322 *e*P **P** **08 14 16.1 -0.6**
NGP *ex* x 08 18 36.9
GOA Goa 24.00 303 *e*P **P** **08 14 20.6 +1.2**
MYLDM Lahad Datu 24.09 83 *e*P **P** **08 14 20.6 +0.2**
comp=Z,346nm,1.0s
DGAR Diego Garcia 24.16 245 PFAKE 08 14 30.0 +9.1
DGAR LR LR
comp=Z,11µm,20.0s
H08S2 Diego Garcia H 24.21 245 T T 08 39 24.0
baz=65,slow=75,SNR=5358
H08S3 Diego Garcia H 24.21 245 T T 08 39 24.8
baz=65,slow=75,SNR=7772
H08S1 Diego Carcia H 24.23 245 T T 08 39 28.9
baz=65,slow=75,SNR=6999
ODAN Odare 24.98 345 *e*P **P** **08 14 29.2 +0.7**
comp=Z,682nm,1.4s
TWSI Taliwang, Sumb 25.06 117 P **P** **08 14 30.8 +1.7**
H08N1 Diego Carcia H 25.08 249 T T 08 40 44.1
baz=338,slow=27,SNR=38
H08N2 Diego Garcia H 25.09 249 T T 08 40 43.0
baz=338,slow=27,SNR=30
H08N3 Diego Garcia H 25.10 249 T T 08 40 44.1
baz=338,slow=27,SNR=30
RAMN Ramite 25.28 343 *e*P **P** **08 14 31.7 +0.5**
comp=Z,440nm,1.2s
MPSI Mapaga 25.52 95 P **P** **08 14 32.8 -0.5**
comp=Z,89nm,1.3s,comp=Z,3µm
PCI Palu 25.61 98 P **P** **08 14 34.2 +0.1**
comp=Z,314nm,1.2s,comp=Z,5µm
PCI Palu 25.61 98 P **P** **08 14 36.2 +2.1**
PCI pmax pmax
comp=Z,314nm,1.2s
POO Poona 25.61 309 *e*P **P** **08 14 35.5 +1.3**
POO IAmb IAmb 08 14 40.2
comp=Z,96nm,1.2s
PLAI Plampang 25.89 116 P P 08 14 45.2 +8.5
TTSI Tana Toraja 25.97 102 P **P** **08 14 32.9 -4.5**
comp=Z,133nm,1.7s,comp=Z,4µm
JIRN Jiri 26.07 343 *e*P **P** **08 14 38.4 -0.1**
PKIN Phulchoki 26.23 342 *e*P **P** **08 14 40.3 +0.4**
comp=Z,214nm,1.2s
BHPL Bhopal 26.27 322 *e*P **P** **08 14 39.5 -0.6**
BHPL IAmb IAmb 08 14 44.2
comp=Z,164nm,1.4s
DMN Daman 26.35 341 *e*P **P** **08 14 41.2 +0.2**
comp=Z,127nm,0.9s
GYA Guiyang 26.37 25⇑ *i*P **P** **08 14 41.5 +0.5**
GYA pP pP 08 14 49.0 +1.3
GYA PP **PnPn** **08 15 26.3 +5.3**
GYA PcP **PcP** **08 18 08.5 +1.8**
GYA S **S** **08 19 17.5 +4.2**
GYA SS **SnSn** **08 20 22.5 +7.8**
GYA ScP **ScP** **08 21 45.5 0.0**
GYA pmax pmax
comp=Z,110nm,1.2s
GYA pmax pmax
comp=Z,3µm,10.8s
GYA LR LR
comp=Z,36µm,18.6s
GYA LR LR
comp=Z,45µm,14.6s
GYA LR LR
comp=Z,56µm,17.3s
GUN Gumba 26.39 343 *e*P **P** **08 14 41.4 -0.1**
comp=Z,393nm,0.9s
KKN Kakani 26.46 341 *e*P **P** **08 14 42.1 +0.1**
comp=Z,305nm,1.3s
BNSI Bone 26.56 105 P **P** **08 14 46.5 +3.7**
comp=Z,82nm,1.6s,comp=Z,3µm
GKN Gorkha 26.87 340 *e*P **P** **08 14 45.4 -0.2**
comp=Z,352nm,1.1s
KOLN Koldanda 27.02 338 *e*P **P** **08 14 46.9 -0.1**
comp=Z,122nm,0.9s
LSA Lhasa 27.05 354 P **P** **08 14 48.5 +0.9**
LSA S **S** **08 19 26.8 +2.2**
LSA pmax pmax
comp=Z,58nm,1.2s
LSA LR LR
comp=Z,8µm,13.2s
LSA LR LR
comp=Z,2µm,11.9s
LSA LR LR
comp=Z,26µm,13.2s

LSA Lhasa 27.05 354 *e*P **P** **08 14 48.4 +0.9**
comp=Z,304nm,0.9s
LSA *e*S **S** **08 19 34.0 +9.4**
LSA LR LR
comp=Z,14µm,22.0s
LSA Lhasa 27.05 354 P **P** **08 14 48.8 +1.3**
LSA Lhasa 27.05 354 *e*P **P** **08 14 48.4 +0.9**
LSA pmax pmax
comp=Z,304nm,0.9s
LSA MLR MLR
comp=Z,14µm,22.0s
GZH Guangzhou 27.30 40 P **P** **08 14 55.5 +6.2**
GZH S S 08 19 42.8 +15
GZH SS **SS** **08 21 09.0 -14**
GZH pmax pmax
comp=Z,3µm,6.8s
APSI Ampana 27.40 97 P **P** **08 14 53.5 +3.2**
BSSI Bau Bau, Buton 27.42 109 P **P** **08 14 51.8 +1.3**
DANN Dangsing 27.49 339 *e*P **P** **08 14 51.1 -0.2**
comp=Z,374nm,1.3s
MRSI Marisa 27.54 94 P **P** **08 14 52.9 +1.3**
comp=Z,37nm,1.3s,comp=Z,2µmcomp=Z,8µm
PYUN Piuthan 27.55 338 *e*P **P** **08 14 51.4 -0.3**
comp=Z,157nm,1.0s
TGY Tagaytay City 28.49 65 LR LR 08 26 41.0
comp=Z,10µm,19.8s,baz=234,slow=37
LUWI Luwuk 28.53 97 P P 08 15 12.6 +12
LUWI Luwuk 28.53 97 *e*P **P** **08 14 59.8 -0.7**
comp=Z,164nm,1.1s
CD2 Chengdu 29.41 16⇑ P **P** **08 15 08.5 +0.4**
CD2 pP pP 08 15 14.5 -0.3
CD2 sP sP 08 15 17.3 -0.2
CD2 S **S** **08 20 03.5 +2.5**
CD2 sS sS 08 20 13.5 +1.5
CD2 pmax pmax
comp=Z,60nm,0.6s
CD2 pmax pmax
comp=Z,3µm,6.0s
CD2 LR LR
comp=Z,31µm,10.7s
CD2 LR LR
comp=Z,53µm,12.9s
CD2 LR LR
comp=Z,34µm,14.5s
ENH Enshi 30.90 26 *e*P **P** **08 15 19.1 -2.2**
comp=Z,55nm,0.8s
ENH *e*PP **PP** **08 16 33.2 +1.9**
ENH *e*PcP **PcP** **08 18 15.8 -2.0**
ENH LR LR
comp=Z,47µm,21.0s
DAV Davao City (W) 31.29 81 LR LR 08 29 16.5
comp=Z,11µm,20.2s,baz=225,slow=39
DAV Davao City (W) 31.29 81⇑ *i*P **P** **08 15 24.9 +0.1**
DAV Davao City (W) 31.29 81 P **P** **08 15 28.3 +3.4**
SNR=6.8
DAV Davao City (W) 31.29 81 P **P** **08 15 28.3 +3.4**
SNR=6.8
BHJ Bhuj 31.55 312 *e*P **P** **08 15 26.9 -0.2**
BHJ IAmb IAmb 08 15 31.3
comp=Z,570nm,3.1s
DDI Dehra Dun 31.58 332 *e*P **P** **08 15 26.6 -0.7**
BATI Baumata 31.76 114 LR LR 08 30 40.2
comp=Z,18µm,18.9s,baz=279,slow=41
SANI Sanna 31.86 98 P P 08 15 36.0 +6.2
QZH Quanzhou 32.09 44⇑ *i*P **P** **08 15 33.3 +1.5**
QZH S **S** **08 20 46.0 +3.0**
QZH pmax pmax
comp=Z,59nm,1.2s
QZH pmax pmax
comp=Z,3µm,9.5s
QZH LR LR
comp=Z,15µm,13.7s
QZH LR LR
comp=Z,34µm,17.5s
QZH LR LR
comp=Z,32µm,17.5s
SOEI Soe 32.15 113 P P 08 15 37.6 +5.0
SOEI Soe 32.15 113 *e*P **P** **08 15 31.0 -1.5**
comp=Z,56nm,1.0s
TPUB Ta-pu 32.58 49 *e*P **P** **08 15 35.6 -0.5**
comp=Z,20nm,1.0s
TWG Pinlang 32.64 50 *e*P **P** **08 15 35.6 -1.0**
comp=Z,158nm,1.1s
SMLA Simla 32.67 332 *e*P **P** **08 15 36.8 +0.1**
TNTI Ternate 32.93 93 *e*P **P** **08 15 36.9 -2.4**
comp=Z,70nm,0.3s
SSLB Suanglung 33.10 48 *e*P **P** **08 15 38.7 -2.0**
comp=Z,28nm,1.1s
YULB Yu-li 33.13 49 *e*P **P** **08 15 43.8 +2.8**
comp=Z,20nm,0.9s
LBMI Labuha 33.18 95 P **P** **08 15 42.6 +1.1**
WHN Wuhan 33.49 32 P **P** **08 15 44.3 +0.4**
WHN S **S** **08 21 08.5 +3.9**
WHN LR LR
comp=Z,66µm,16.3s
WHN LR LR
comp=Z,79µm,13.1s
WHN LR LR
comp=Z,108µm,13.5s
NACB Ninganchiao 33.80 48 *e*P **P** **08 15 44.3 -2.5**
comp=Z,29nm,0.9s
XAN Xi'an 33.98 22 P **P** **08 15 46.5 -1.7**
XAN pP pP 08 15 53.8 -1.1
XAN sP sP 08 15 57.3 -0.4
XAN PP **PP** **08 17 04.0 -1.4**
XAN S **S** **08 21 13.5 +1.2**
XAN sS sS 08 21 26.0 +2.7
XAN pmax pmax
comp=Z,56nm,1.2s
XAN pmax pmax
comp=Z,2µm,6.8s
XAN LR LR
comp=Z,30µm,15.7s
XAN LR LR
comp=Z,30µm,13.0s
XAN LR LR
comp=Z,29µm,17.4s
DHRM DHARAMSHALA 34.01 332 *e*P **P** **08 15 45.9 -2.8**
DHRM IAmb IAmb 08 15 51.0
comp=Z,127nm,1.4s
TATO Taipei 34.19 47 PFAKE 08 16 00.0 +10
TATO LR LR
comp=Z,22µm,19.0s
MBWA Marble Bar 34.26 135 *e*P **P** **08 15 49.0 -1.7**
comp=Z,26nm,1.0s
MBWA LR LR
comp=Z,9µm,19.0s
LZH Lanzhou 34.35 14⇑ P **P** **08 15 50.5 -1.0**
LZH pP pP 08 15 58.5 +0.3
LZH sP sP 08 16 01.5 +0.5
LZH PP **PP** **08 17 11.5 +1.9**
LZH S **S** **08 21 13.8 -4.3**
LZH sS pS 08 21 27.3 +1.4
LZH SS **SnSn** **08 23 31.3 +2.7**
LZH pmax pmax
comp=Z,45nm,1.1s
LZH pmax pmax
comp=Z,220nm,5.7s
LZH LR LR
comp=Z,12µm,12.1s
LZH LR LR
comp=Z,11µm,12.7s
LZH LR LR
comp=Z,14µm,12.8s
NIL Nilore 36.64 330 *e*P **P** **08 16 09.2 -1.9**
comp=Z,94nm,1.1s
NIL LR LR
comp=Z,6µm,20.0s
NIL Nilore 36.64 330 *e*P **P** **08 16 09.2 -1.9**
NIL pmax pmax
comp=Z,94nm,1.1s
NIL MLR MLR
comp=Z,6µm,20.0s
GTA Gaotai 36.87 7⇑ P **P** **08 16 12.8 -0.3**
GTA pP pP 08 16 20.8 +0.9
GTA sP sP 08 16 24.3 +1.7
GTA PP **PnPn** **08 17 41.0 +3.5**
GTA PcP **PcP** **08 18 36.8 +2.1**
GTA S **S** **08 21 54.3 -2.5**
GTA sS sS 08 22 08.0 +0.2
GTA ScP **ScP** **08 22 20.8 +0.3**
GTA PcS **PcS** **08 22 22.8 0.0**
GTA SS **SnSn** **08 24 22.5 -7.2**
GTA ScS **ScS** **08 26 29.3 +1.7**
GTA pmax pmax

comp=Z,49nm,1.4s
GTA pmax pmax
comp=Z,2µm,6.6s
GTA LR LR
comp=Z,10µm,15.2s
GTA LR LR
comp=Z,9µm,15.7s
GTA LR LR
comp=Z,13µm,11.9s
SIJI Sorong 36.95 95 LR LR 08 32 43.7
comp=Z,4µm,21.4s,baz=274,slow=38
FITZ Fitzroy Crossi 37.00 125 P **P** **08 16 14.0 -0.3**
baz=37,SNR=6.7
FITZ Fitzroy Crossi 37.00 125 *e*P **P** **08 16 14.1 -0.3**
comp=Z,23nm,1.1s
NJ2 Nanjing 37.14 35 *e*P **P** **08 16 15.8 +0.5**
NJ2 sP **sP** **08 16 24.3 -0.5**
NJ2 PP **PnPn** **08 17 44.8 +4.2**
NJ2 S **S** **08 22 01.8 +1.2**
NJ2 sS **sS** **08 22 10.3 -1.4**
NJ2 pmax pmax
comp=Z,130nm,1.4s
NJ2 pmax pmax
comp=Z,3µm,8.7s
NJ2 LR LR
comp=Z,32µm,14.1s
NJ2 LR LR
comp=Z,42µm,15.7s
NJ2 LR LR
comp=Z,32µm,13.6s
MEEK Meekatharra 37.33 143 P **P** **08 16 17.0 -0.1**
baz=38,SNR=12
SSE Sheshan 37.87 39 P **P** **08 16 21.8 +0.2**
SSE S **S** **08 22 06.3 -5.6**
SSE pmax pmax
comp=Z,25nm,1.1s
SSE pmax pmax
comp=Z,1µm,10.6s
SSE LR LR
comp=Z,10µm,15.5s
SSE LR LR
comp=Z,1µm,15.2s
FAKI Fak Fak 38.17 98 P **P** **08 16 24.6 +0.3**
comp=Z,111nm,1.3s
FAKI Fak Fak 38.17 98 *e*P **P** **08 16 23.1 -1.2**
comp=Z,84nm,1.0s
KNRA Kununurra 38.51 119 P **P** **08 16 26.3 -0.9**
baz=39,SNR=4.7
TIY Taiyuan 38.56 23 *e*P **P** **08 16 28.5 +1.1**
TIY sP **sP** **08 16 39.8 +3.0**
TIY PP **PnPn** **08 17 59.8 +1.9**
TIY S **S** **08 22 24.3 +2.0**
TIY pmax pmax
comp=Z,30nm,0.5s
TIY pmax pmax
comp=Z,2µm,7.2s
TIY LR LR
comp=Z,31µm,14.0s
TIY LR LR
comp=Z,20µm,14.8s
TIY LR LR
comp=Z,43µm,17.2s
TIA Tai'an 39.38 29 P **P** **08 16 34.8 +0.6**
TIA pP **sP** **08 16 44.3 +0.6**
TIA sP **pP** **08 16 45.3 +4.3**
TIA S **S** **08 22 40.0 +5.4**
TIA pmax pmax
comp=Z,39nm,1.3s
TIA pmax pmax
comp=Z,2µm,11.2s
TIA LR LR
comp=Z,16µm,15.2s
TIA LR LR
comp=Z,20µm,13.7s
TIA LR LR
comp=Z,27µm,15.5s
KBL Kabul 39.56 326 P **P** **08 16 35.6 -0.3**
KBL pmax pmax
comp=Z,16nm,1.0s
PALU Palau 40.10 82 P **P** **08 16 40.6 +0.1**
baz=40,SNR=8.5
MUN Mundaring 40.18 151 P **P** **08 16 43.7 +2.9**
baz=40,SNR=3.8
WSAR Wadi Sarin 40.26 304 P **P** **08 16 42.5 +0.7**
comp=Z,24nm,1.2s,baz=152,slow=10,SNR=8.4
BTO Baotou 40.28 18 *e*P **P** **08 16 40.3 -1.4**
JOW Kunigami 40.30 50 P **P** **08 16 40.6 -1.4**
comp=Z,18nm,0.8s,baz=260,slow=9.4,SNR=2.2
JOW LR LR 08 32 53.9
comp=Z,10µm,21.4s,baz=248,slow=36
KSH Kashi 40.33 338 P **P** **08 16 40.3 -1.9**
KSH sP pP 08 16 50.0 +1.0
KSH PP **PnPn** **08 18 19.5 +0.4**
KSH S **S** **08 22 45.0 -4.0**
KSH pmax pmax
comp=Z,180nm,1.4s
KSH pmax pmax
comp=Z,2µm,6.1s
KSH LR LR
comp=Z,5µm,9.9s
KSH LR LR
comp=Z,9µm,11.6s
KSH LR LR
comp=Z,9µm,12.5s
SMDO Samad 40.67 303 P P 08 16 52.0 +6.7
SNR=7.0
BIDO Bidbid 40.80 304 P **P** **08 16 49.0 +2.8**
SNR=26
BIDO Bidbid 40.80 304 P **P** **08 16 49.0 +2.8**
SNR=26
HHC Hu-ho-hao-te 41.00 20 *e*P **P** **08 16 48.5 +0.8**
HHC pP sP 08 16 57.0 -0.2
HHC PP **PnPn** **08 18 28.5 +1.6**
HHC S **S** **08 23 02.3 +3.4**
HHC pmax pmax
comp=Z,86nm,1.0s
HHC pmax pmax
comp=Z,210nm,5.7s
HHC LR LR
comp=Z,4µm,14.7s
HHC LR LR
comp=Z,2µm,13.4s
HHC LR LR
comp=Z,2µm,14.1s
WMQ Urumqi 41.40 353 P **P** **08 16 51.8 +0.9**
WMQ PP **PnPn** **08 18 29.3 -2.1**
WMQ S **S** **08 23 07.5 +2.9**
WMQ SS **SS** **08 26 03.3 -5.8**
WMQ pmax pmax
comp=Z,67nm,1.9s
WMQ pmax pmax
comp=Z,4µm,4.9s
WMQ LR LR
comp=Z,9µm,22.9s
WMQ LR LR
comp=Z,16µm,24.3s
WMQ LR LR
comp=Z,7µm,28.5s
NWAO Narrogin (SRO) 41.45 151 P **P** **08 16 50.4 -1.0**
comp=Z,6.4nm,0.8s,baz=265,slow=12,SNR=2.4
NWAO LR LR 08 33 02.6
comp=Z,5µm,20.0s,baz=206,slow=35
HOQ Hoqain 41.51 303 P P 08 16 60.0 +8.0
SNR=12
TARG Taragay, Kyrgy 41.65 341 *e*P **P** **08 16 53.0 -0.4**
comp=Z,88nm,1.1s
H01W3 Cape Leeuwin H 41.69 155 T T 09 01 12.6
baz=328
H01W2 Cape Leeuwin H 41.70 155 T T 09 01 12.6
baz=328,slow=74
H01W1 Cape Leeuwin H 41.70 155 T T 09 01 14.8
baz=328,slow=74
SFK Sufi-Kurgan 41.74 336 P **P** **08 16 53.2 -0.7**
SFK pmax pmax
comp=Z,79nm,1.3s
NRN Naryn 42.00 339 P **P** **08 16 55.8 -0.3**
BJT Baijiatuau 42.04 25 *e*P **P** **08 16 55.8 -0.3**
comp=Z,159nm,1.4s
BJT LR LR
comp=Z,18µm,19.0s
BJT Baijiatuau 42.04 25 *e*P **P** **08 16 55.8 -0.3**
BJT pmax pmax
comp=Z,159nm,1.4s
BJT MLR MLR
comp=Z,18µm,19.0s
BJI Beijing 42.07 25 P **P** **08 16 57.0 +0.7**
BJI PP **PP** **08 18 38.8 +4.9**

BJI S **S** **08 23 18.8 +4.4**
BJI pmax pmax
comp=Z,62nm,1.4s
BJI pmax pmax
comp=Z,3µm,13.2s
BJI LR LR
comp=Z,2µm,17.1s
BJI LR LR
comp=Z,2µm,13.7s
BJI LR LR
comp=Z,6µm,20.6s
KDJ Kajisay 42.22 341 *e*P **P** **08 16 57.3 -0.4**
comp=Z,98nm,1.0s
KDJ Kajisay 42.22 341 P **P** **08 16 57.3 -0.4**
SOHO SOHO 42.38 304 *i* P **P** **08 16 59.8 +0.7**
SNR=15
SHLS Shalkode 42.46 344 *e*P **P** **08 16 58.4 -1.2**
comp=Z,1µm,1.2s
SHLS *e*PP **PP** **08 18 36.5 -1.8**
SHLS *e*S **S** **08 23 18.3 -2.1**
SHLS LR LR 08 40 06.6
comp=Z,2µm,15.0s
UZB Uzynbulak 42.57 343⇑ *e*P **P** **08 16 59.8 -0.7**
comp=Z,744nm,1.3s
UZB *e*S **S** **08 23 21.2 -1.0**
UZB *e*SS **SS** **08 26 32.2 -0.3**
PDGK Podgornoye 42.61 344 P **P** **08 17 00.3 -0.5**
PDGK pmax pmax
comp=Z,110nm,1.4s
ULHL Ulahol 42.64 340 P **P** **08 17 01.6 +0.4**
SNR=23
SATY Saty 42.67 343 *e*P **P** **08 17 00.7 -0.7**
comp=Z,2µm,1.2s
SATY *e*S **S** **08 23 22.7 -0.9**
ZHN Zhinishke 42.76 343⇑ *i*P **P** **08 17 02.5 +0.4**
comp=Z,518nm,1.4s
ZHN *e*S **S** **08 23 25.0 0.0**
KZA Kyzart 42.84 339 P **P** **08 17 02.4 -0.7**
SNR=50
DZET Dzherino 42.89 330 P **P** **08 17 00.7 -2.5**
DZET pmax pmax
comp=Z,55nm,1.5s
KPKS Kokpek 42.96 343 *e*P **P** **08 17 03.0 -0.7**
comp=Z,891nm,1.4s
KPKS *e*S **S** **08 23 26.8 -1.0**
UOSS Minazif 42.99 304 *e*P **P** **08 17 05.4 +1.3**
comp=Z,32nm,1.1s
UOSS Minazif 42.99 304 *i* P **P** **08 17 05.0 +0.9**
SNR=12
HATD Hatta, Dubai 43.00 304 P P 08 17 09.1 +5.0
SNR=16
HATD Hatta, Dubai 43.00 304 P P 08 17 09.1 +5.0
SNR=16
HATD Hatta, Dubai 43.00 304 *i* P **P** **08 17 04.8 +0.7**
SNR=24
ALNE Al Ain 43.00 303 *i* P **P** **08 17 05.4 +1.2**
SNR=22
MDH Madha 43.06 305 *i* P **P** **08 17 05.2 +0.5**
SNR=7.9
MDOK Medeo 43.19 341 *i* P **P** **08 17 04.8 -0.8**
comp=Z,1µm,1.2s
MDOK *i* PP **PP** **08 18 45.7 -0.4**
MDOK *i* S **S** **08 23 30.3 -0.9**
MDOK *e*SS **SS** **08 26 44.2 -0.4**
MDOK LR LR 08 40 10.6
comp=Z,3µm,15.9s
MSFE Esma-Masafi 43.20 305 *i* P **P** **08 17 07.1 +1.3**
SNR=9.6
UCH Uchtor 43.24 338 P **P** **08 17 06.9 +0.6**
SNR=76
AAA Alma-Ata 43.27 341 *e*PP PP 08 18 45.5 -1.5
AAA LR LR 08 40 09.8
comp=Z,2µm,13.7s
AAA Alma-Ata 43.27 341 *e*P **P** **08 17 07.7 +1.6**
AAA *e*S **S** **08 23 35.3 +3.0**
AAA pmax pmax
comp=Z,1µm,5.2s
AAA smax smax
comp=E,8µm,10.7s
BANOM Banah 43.33 306 *i* P **P** **08 17 07.3 +0.5**
SNR=6.1
KBK Karagaybulak 43.45 339 P **P** **08 17 08.9 +1.2**
SNR=21
NAZ Nazwa, Dubai 43.45 304 P **P** **08 17 12.0 +4.2**
SNR=12
NAZ Nazwa, Dubai 43.45 304 P **P** **08 17 12.0 +4.2**
SNR=12
NAZ Nazwa, Dubai 43.45 304 *i* P **P** **08 17 09.2 +1.4**
SNR=15
TKM2 Tokmak 2 43.45 340 P **P** **08 17 06.7 -1.1**
SNR=80
AML Almayashu 43.46 337 P **P** **08 17 07.5 -0.6**
SNR=74
SHME Shamm 43.51 306 *i* P **P** **08 17 09.9 +1.5**
SNR=8.4
BMNS Besmoynak 43.59 340 *e*P **P** **08 17 08.1 -0.8**
comp=E,1µm,1.1s
BMNS *e*PP **PP** **08 18 49.9 -0.6**
BMNS *e*S **S** **08 23 36.1 -1.0**
AAK Ala-Archa 43.60 339 P **P** **08 17 08.0 -0.9**
comp=E,46nm,1.2s,baz=159,slow=6.5,SNR=38
AAK Ala-Archa 43.60 339 P **P** **08 17 10.0 +1.1**
SNR=33
AAK Ala-Archa 43.60 339 *e*P **P** **08 17 09.1 +0.2**
comp=E,69nm,1.1s
AAK LR LR
comp=Z,9µm,20.0s
AAK Ala-Archa 43.60 339 P **P** **08 17 10.4 +1.5**
SNR=48
AAK Ala-Archa 43.60 339 P **P** **08 17 10.4 +1.5**
SNR=48
AAK Ala-Archa 43.60 339 *i* P **P** **08 17 08.2 -0.7**
SNR=43
AAK Ala-Archa 43.60 339 *de*P **P** **08 17 08.8 -0.1**
AAK pmax pmax
comp=Z,92nm,1.5s
FRU Bishkek 43.72 339 *e*P **P** **08 17 10.5 +0.8**
FRU *e* 08 18 57.0
FRU *e*S **S** **08 23 41.0 +2.2**
FRU *e* 08 27 05.0
FRU pmax pmax
comp=Z,163nm,3.2s
DL2 Dalian 43.73 31⇑ *i*P **P** **08 17 10.8 +1.0**
DL2 PP **PcP** **08 18 57.3 +0.8**
DL2 S **S** **08 23 42.3 +3.4**
DL2 pmax pmax
comp=Z,130nm,1.5s
DL2 pmax pmax
comp=Z,2µm,4.6s
DL2 LR LR
comp=Z,14µm,16.4s
DL2 LR LR
comp=Z,7µm,12.5s
DL2 LR LR
comp=Z,15µm,18.0s
CHMS Chumysh 43.82 339 P **P** **08 17 11.6 +1.1**
SNR=13
AJN Ajban 43.84 303 *i* P **P** **08 17 12.2 +1.2**
SNR=17
EKS2 Erkin-Say 43.88 338 P **P** **08 17 11.8 +0.7**
SNR=9.2
KUU Kurty 44.07 341⇑ *e*P **P** **08 17 11.0 -1.5**
comp=Z,479nm,1.2s
KUU *e*S **S** **08 23 42.1 -1.7**
KUU *e*SS **SS** **08 27 00.8 -0.8**
KUU LR LR 08 40 26.6
comp=Z,1µm,13.5s
USP Ospenovka 44.14 339 P **P** **08 17 13.6 +0.5**
SNR=54
MNAS Manas 44.23 337 P **P** **08 17 13.9 0.0**
MNAS pmax pmax
comp=Z,44nm,1.5s
RER Riviere de l'E 44.71 236 PFAKE 08 17 30.0 +12
RER LR LR
comp=Z,11µm,21.0s
IUG Iuzhnay 44.97 334 *e*P **P** **08 17 19.9 0.0**
comp=Z,461nm,1.1s
IUG *e*S **S** **08 23 57.1 -0.1**
IUG *i*SS **SS** **08 27 19.4 +0.1**
IUG LR LR 08 40 33.8
comp=Z,3µm,16.3s
WRA Warramunga Arr 45.13 122 P **P** **08 17 19.5 -1.8**
comp=Z,10nm,0.8s,baz=298,slow=8.9,SNR=52
WRA LR LR 08 38 39.1
comp=Z,6µm,19.4s,baz=290,slow=39
WRAB Tennant Creek 45.13 122 *e*P **P** **08 17 20.7 -0.6**
comp=Z,46nm,1.1s
WRAB LR LR
comp=Z,6µm,19.0s
WRAB Tennant Creek 45.13 122 *ce*P **P** **08 17 20.7 -0.6**
WRAB pmax pmax
comp=Z,97nm,2.5s
WB2 Warramunga Arr 45.14 122 *e*P **P** **08 17 19.7 -1.7**
comp=Z,45nm,1.1s
MK01 Makanchi Array 45.17 348 *e*P **P** **08 17 19.6 -1.6**
MKAR Makanchi Array 45.19 348 P **P** **08 17 20.4 -1.1**
comp=Z,63nm,0.9s,baz=159,slow=7.3,SNR=104
TJN Taejon 45.22 38*c* *i*P **P** **08 17 21.1 -0.6**
MAKZ Makanchi 45.27 348 *e*P **P** **08 17 21.0 -1.0**
comp=Z,49nm,0.8s
MAKZ Makanchi 45.27 348 *e*P **P** **08 17 21.0 -1.0**
MAKZ pmax pmax
comp=Z,49nm,0.8s
ZSN Zaisan 45.36 351 *e*P **P** **08 17 22.4 -0.3**
comp=Z,186nm,1.3s
ZSN *e*PP **PP** **08 19 09.2 +0.1**
ZSN *e*S **S** **08 24 02.5 +0.1**
INCN Inchon 45.50 36 *e*P **P** **08 17 22.5 -1.5**
comp=Z,34nm,1.0s
INCN LR LR
comp=Z,15µm,20.0s
INCN Inchon 45.50 36 P **P** **08 17 23.9 -0.1**
SNR=13
INCN Inchon 45.50 36 P **P** **08 17 23.9 -0.1**
SNR=13
KK31 Karatay Array 45.55 335 *e*P **P** **08 17 24.2 -0.1**
KK31 Karatay Array 45.55 335 *i* P **P** **08 17 22.8 -1.5**
KK31 pmax pmax
comp=Z,56nm,1.1s
KKAR Karatay Array 45.55 335 *e*P **P** **08 17 24.2 0.0**
KKAR Karatay Array 45.55 335 *e*P **P** **08 17 24.3 0.0**
JNU Nakatsue 45.57 44 P **P** **08 17 24.1 -0.6**
comp=Z,77nm,1.3s,baz=115,slow=14,SNR=8.9
JNU LR LR 08 39 03.1
comp=Z,21µm,18.6s,baz=244,slow=40
JNU Nakatsue 45.57 44 *e*P **P** **08 17 24.3 -0.3**
comp=Z,35nm,1.0s
GENI Genyem 45.98 96 P **P** **08 17 30.3 +2.2**
comp=Z,56nm,1.1s
SONM Songino Array 46.14 11 P **P** **08 17 28.7 -0.3**
comp=Z,23nm,0.8s,baz=192,slow=7.2,SNR=27
SONM PcP **PcP** **08 19 06.5 +1.6**
comp=Z,6.1nm,0.9s,baz=199,slow=3.1,SNR=2.9
SONM LR LR 08 38 44.6
comp=Z,7µm,19.6s,baz=190,slow=39
SONA1 Songino Array 46.15 11 *e*P **P** **08 17 28.1 -1.1**
FORT Forrest 46.17 139 *e*P **P** **08 17 30.7 +1.4**
comp=Z,868nm,0.9s
KS15 Wonju Array Si 46.22 37 *e*P **P** **08 17 29.8 +0.1**
KSAR Wonju Array Be 46.22 37 P **P** **08 17 28.4 -1.2**
KSAR PcP **PcP** **08 19 07.2 +2.0**
KSAR Wonju Array Be 46.22 37 P **P** **08 17 28.4 -1.2**
KSAR 08 19 07.2
KS01 Wonju Array Si 46.25 37 *e*P **P** **08 17 28.4 -1.4**
KSRS Korea Array 46.25 37 P **P** **08 17 28.4 -1.5**
comp=Z,48nm,1.1s,baz=233,slow=7.2,SNR=58
KSRS PcP **PcP** **08 19 07.2 +1.9**
comp=Z,3.0nm,0.7s,baz=239,slow=2.2,SNR=3.7
KSRS LR LR 08 39 31.0
comp=Z,12µm,18.1s,baz=240,slow=40
ULN Ulaanbaatar 46.30 12 *e*P **P** **08 17 28.9 -1.4**
comp=Z,32nm,1.1s
ULN LR LR
comp=Z,12µm,20.0s
ULN Ulaanbaatar 46.30 12 P **P** **08 17 29.4 -0.9**
SNR=25
ULN Ulaanbaatar 46.30 12 P **P** **08 17 29.4 -0.9**
SNR=25
ULN Ulaanbaatar 46.30 12*ce*P **P** **08 17 29.7 -0.6**
ULN pmax pmax
comp=Z,46nm,1.2s
AS31 Alice Springs 46.46 127 *e*P **P** **08 17 30.1 -1.7**
comp=Z,3.2nm,0.9s
ASAR Alice Springs 46.46 127 P **P** **08 17 30.1 -1.7**
comp=Z,4.7nm,0.5s,baz=296,slow=7.0,SNR=23
ASAR PcP **PcP** **08 19 06.0 -0.4**
comp=Z,5.9nm,0.9s,baz=308,slow=5.4,SNR=5.8
ASAR LR LR 08 39 53.8
comp=Z,4µm,18.8s,baz=304,slow=40
AS01 Alice Springs 46.50 127 *e*P **P** **08 17 29.7 -2.4**
SNY Shenyang 46.90 30⇑ P **P** **08 17 34.5 -0.4**
SNY PP **PP** **08 19 23.3 -2.2**
SNY S **S** **08 24 29.5 +4.8**
SNY pmax pmax
comp=Z,100nm,1.5s
SNY pmax pmax
comp=Z,3µm,12.0s
SNY LR LR
comp=Z,12µm,15.7s
SNY LR LR
comp=Z,16µm,15.2s
SNY LR LR
comp=Z,28µm,19.8s
DGZ Jazzator, Alta 47.22 354 *i* P **P** **08 17 37.1 -0.4**
DGZ pmax pmax
comp=Z,9.0nm,1.0s
ZAK Zakamensk 48.11 8 *e*P **P** **08 17 43.1 -1.2**
ZAK pmax pmax
comp=Z,55nm,1.5s
HVS Khovu-Aksy 48.28 359 *i* P **P** **08 17 45.7 +0.1**
HVS pmax pmax
comp=Z,179nm,1.6s
GEYT Alibeck 48.34 321 P **P** **08 17 44.9 -1.4**
comp=Z,19nm,0.9s,baz=140,slow=7.2,SNR=36
GYA0B ALIBECK ARRAY 48.34 321 *e*P **P** **08 17 46.4 +0.1**
comp=Z,43nm,1.1s
SEM Semipalatinsk 49.05 348 *e*P **P** **08 17 51.5 -0.2**
comp=Z,776nm,1.3s
SEM *e*S **S** **08 24 55.1 -0.3**
MOY Mondy 49.12 5 *e*P **P** **08 17 52.4 +0.4**
MOY pmax pmax
comp=Z,10.0nm,1.8s
CN2 Changchun 49.29 29 *e*P **P** **08 17 53.0 -0.3**
CN2 *e*pP sP 08 18 02.0 -0.9
CN2 *e*PP **PP** **08 19 47.5 +0.1**
CN2 *e*S **S** **08 24 57.3 -1.1**
CN2 *e*SS **SS** **08 28 25.0 -5.2**
CN2 pmax pmax
comp=Z,40nm,1.2s
CN2 pmax pmax
comp=Z,2µm,10.0s
CN2 LR LR
comp=Z,13µm,16.0s
CN2 LR LR
comp=Z,9µm,16.0s
CN2 LR LR
comp=Z,16µm,17.0s
TLY Talaya 49.43 8 P **P** **08 17 54.4 +0.1**
comp=Z,26nm,1.1s,baz=196,slow=7.4,SNR=34
TLY LR LR 08 41 37.8
comp=Z,8µm,18.6s,baz=169,slow=40
TLY Talaya 49.43 8 *e*P **P** **08 17 55.4 +1.1**
comp=Z,30nm,1.0s
TLY Talaya 49.43 8 P **P** **08 17 55.2 +0.9**
SNR=24
TLY Talaya 49.43 8 P **P** **08 17 55.2 +0.9**
SNR=24
TLY Talaya 49.43 8 *e*P **P** **08 17 54.6 +0.3**
TLY *e* 08 19 52.1
TLY *e*PPP PPP 08 20 37.9
TLY *e*S **S** **08 24 56.5 -3.7**
TLY *e* 08 27 45.6
TLY pmax pmax
comp=Z,82nm,1.6s
TLY MLR MLR
comp=Z,10µm,15.0s
KURBB Kurchatov Arra 49.63 347 P **P** **08 17 54.8 -1.0**
comp=Z,56nm,1.1s,baz=169,slow=6.8,SNR=94
KURK Kurchatov 49.70 347 *e*P **P** **08 17 55.5 -0.8**
comp=Z,82nm,1.1s
KURK LR LR
comp=Z,14µm,21.0s
KURK Kurchatov 49.70 347 P **P** **08 17 55.3 -1.0**
SNR=67
KURK Kurchatov 49.70 347 P **P** **08 17 55.3 -1.0**
SNR=67
KURK Kurchatov 49.70 347*ce*P **P** **08 17 55.1 -1.2**
KURK pmax pmax
comp=Z,172nm,1.6s
QIS Mount Isa 49.90 120 P **P** **08 17 58.3 -0.1**
baz=50,SNR=13
BRZS Berezniki 50.63 342 *e*P **P** **08 18 04.5 +1.1**
comp=Z,49nm,1.2s
BRZS *i*S **S** **08 25 18.1 +1.1**
DAMY Dhamar 50.78 287 *e*P **P** **08 18 06.6 +1.1**
comp=Z,71nm,1.1s
GUMO Guam 50.94 75 LR LR 08 39 12.5
comp=Z,6µm,20.9s,baz=245,slow=36
COEN Coen 51.03 110 P **P** **08 18 06.8 -0.2**
baz=51,SNR=5.7
COEN Coen 51.03 110 *e*P **P** **08 18 06.4 -0.6**
comp=Z,39nm,1.0s
INU Inuyama 51.06 45 *e*P **P** **08 18 06.5 -0.5**
comp=Z,33nm,1.1s
OPO Ambohidratompo 51.10 244 P **P** **08 18 08.9 +1.3**
comp=Z,13nm,1.0s,baz=61,slow=5.7,SNR=3.3
OPO LR LR 08 36 34.8
comp=Z,6µm,18.4s,baz=66,slow=32
HIA Hailar 51.18 21 *e*P **P** **08 18 07.0 -0.6**
comp=Z,130nm,1.3s
HIA LR LR
comp=Z,42µm,19.0s
HIA Hailar 51.18 21 *i* P **P** **08 18 07.3 -0.3**
HIA pmax pmax
comp=Z,95nm,1.1s
ABPO Ambohimpanom 51.21 243 PFAKE 08 18 20.0 +11
ABPO LR LR
comp=Z,1µm,19.0s
MSHR Mys Shultsa 51.46 34 *i* P **P** **08 18 08.1 -1.7**
RAYN Ar Rayn 51.66 298 *e*P **P** **08 18 11.0 -0.7**
comp=Z,34nm,1.0s
RAYN LR LR
comp=Z,8µm,20.0s
RAYN Ar Rayn 51.66 298 P **P** **08 18 11.0 -0.7**
CIT Chita 51.69 15 *e*P **P** **08 18 10.9 -0.5**
CIT *e* 08 18 20.4
CIT *e* 08 19 26.4
CIT pmax pmax
comp=Z,276nm,1.4s
ZAA0 Zalesovo Array 51.71 353 *e*P **P** **08 18 10.4 -1.0**
comp=Z,55nm,0.8s
ZALV Zalesovo Beam 51.71 353 P **P** **08 18 10.1 -1.3**
comp=Z,39nm,0.6s,baz=178,slow=6.2,SNR=42
ZALV LR LR 08 42 55.1
comp=Z,5µm,18.3s,baz=180,slow=39
ZALV Zalesovo Beam 51.71 353 *e*P **P** **08 18 09.9 -1.5**
ZALV Zalesovo Beam 51.71 353 *e*P **P** **08 18 09.9 -1.5**
ATD Arta Tunnel 51.90 282 P **P** **08 18 14.7 +1.1**
comp=Z,11nm,0.3s,baz=149,slow=19,SNR=6.9
ATD LR LR 08 36 25.3
comp=Z,2µm,20.4s,baz=91,slow=32
ATD Arta Tunnel 51.90 282 *e*P **P** **08 18 15.3 +1.6**
comp=Z,48nm,1.1s
MDJ Mudanjiang 51.97 31 P **P** **08 18 11.8 -1.7**
MDJ sP sP 08 18 22.0 -1.2
MDJ ScP **ScP** **08 23 18.3 -3.4**
MDJ S **S** **08 25 40.5 +4.9**
MDJ pmax pmax
comp=Z,61nm,1.3s
MDJ pmax pmax
comp=Z,2µm,7.2s
MDJ LR LR
comp=Z,15µm,15.1s
MDJ LR LR
comp=Z,17µm,17.5s
MDJ LR LR
comp=Z,28µm,14.3s
MDJ Mudanjiang 51.97 31 *e*P **P** **08 18 14.4 +0.9**
comp=Z,129nm,1.4s
MDJ LR LR
comp=Z,12µm,19.0s
JHJ Hachijo jima 2 52.06 49 P **P** **08 18 14.1 -0.3**
comp=Z,176nm,0.9s,baz=168,slow=20,SNR=3.5
JHJ LR LR 08 39 49.6
comp=Z,3µm,21.3s,baz=254,slow=36
VLA Vladivostok 52.22 34 *i* P **P** **08 18 15.0 -0.4**
VLA pmax pmax
comp=Z,169nm,1.1s
MAJO Matsushiro 52.49 45 *e*P **P** **08 18 18.0 +0.4**
comp=Z,20nm,1.1s
MAJO LR LR
comp=Z,14µm,19.0s
MAJO Matsushiro 52.49 45*ce*P **P** **08 18 18.4 +0.8**
MAJO pmax pmax
comp=Z,44nm,1.7s
MAT Matsushiro 52.49 45 P **P** **08 18 15.7 -1.9**
MAT S **S** **08 25 42.4 -0.7**
MJB9 Matsu-Tunnel 52.49 45 *e*P **P** **08 18 18.1 +0.4**
comp=Z,20nm,1.1s
MJAR Matsushiro Arr 52.49 45 P **P** **08 18 17.0 -0.7**
comp=Z,18nm,1.3s,baz=232,slow=7.0,SNR=13
MJAR PcP **PcP** **08 19 29.0 +0.9**
comp=Z,13nm,1.2s,baz=247,slow=4.7,SNR=5.8
MJAR LR LR 08 43 26.3
comp=Z,13µm,18.1s,baz=240,slow=39
NVS Novosibirsk 52.79 352 *e*P **P** **08 18 19.0 -0.5**
NVS *e*S **S** **08 25 45.2 -1.3**
NVS pmax pmax
comp=Z,86nm,1.2s
NVS pmax pmax
comp=N,60nm,1.4s
NVS pmax pmax
comp=E,47nm,1.4s
NVS smax smax
comp=E,43nm,2.0s
USRK Ussuriysk Ar. 52.97 33 P **P** **08 18 21.0 0.0**
comp=E,60nm,1.2s,baz=243,slow=6.2,SNR=41
USRK LR LR 08 43 26.6
comp=E,18µm,18.2s,baz=212,slow=39
MANU Manus Island 53.09 95 *e*P **P** **08 18 23.3 +0.9**
comp=E,45nm,1.0s
KRAR Krasnoyarsk 53.18 359 *i* P **P** **08 18 23.5 +1.2**
MTSU Mount Surprise 53.26 115 P **P** **08 18 24.0 +0.4**
baz=53,SNR=9.7
PMG Port Moresby 53.85 104 P **P** **08 18 26.7 -1.3**
comp=E,18nm,0.8s,baz=286,slow=18,SNR=10
PMG LR LR 08 44 39.1
comp=E,4µm,19.5s,baz=274,slow=40
PMG Port Moresby 53.85 104 *e*P **P** **08 18 27.9 -0.1**
comp=E,44nm,0.9s
PMG Port Moresby 53.85 104 *i* P **P** **08 18 26.8 -1.2**
PMG pmax pmax
comp=Z,189nm,1.1s
BVA0 Borovoye Array 53.99 342 *i* P **P** **08 18 25.5 -2.8**
BVA0 pmax pmax
comp=Z,63nm,1.2s
BVAR Borovoye Array 53.99 342 P **P** **08 18 26.9 -1.4**
comp=Z,91nm,1.3s,baz=108,slow=4.8,SNR=61
BVAR LR LR 08 43 28.2
comp=Z,3µm,21.1s,baz=148,slow=38
BRVK Borovoye 54.05 342 *e*P **P** **08 18 28.3 -0.5**
comp=Z,68nm,1.1s
BRVK LR LR
comp=Z,2µm,19.0s
BRVK Borovoye 54.05 342 P **P** **08 18 27.5 -1.3**
SNR=36
BRVK Borovoye 54.05 342 P **P** **08 18 27.5 -1.3**
SNR=36
BRVK Borovoye 54.05 342*ce*P **P** **08 18 28.2 -0.5**
BRVK pmax pmax
comp=Z,217nm,1.2s
ANKE Ethiopia-Afar 54.80 280 *i* P **P** **08 18 36.5 +1.1**
ANKE *e*N 08 26 12.5
ANKE Ethiopia-Afar 54.80 280 *i* P **P** **08 18 36.5 +1.1**
ANKE *e*N 08 26 12.5
AB31 Akbulak array 54.94 333 *i* P **P** **08 18 33.4 -1.9**
AB31 pmax pmax
comp=Z,37nm,1.1s
ABKAR Akbulak array 54.94 333 *e*P **P** **08 18 33.4 -2.0**
comp=Z,199nm,0.9s
DESE Dese 55.00 282 *e*P **P** **08 18 39.7 +2.9**
DESE *i*S S 08 26 27.7 +9.3
DESE Dese 55.00 282 *e*P **P** **08 18 39.7 +2.9**
DESE *i*S S 08 26 27.7 +9.3
HTT Hallett 55.20 135 P **P** **08 18 38.8 +1.3**
baz=55,SNR=3.5
CTA Charters Tower 55.60 116 P **P** **08 18 39.1 -1.5**
comp=Z,18nm,1.0s,baz=287,slow=9.2,SNR=11
CTA LR LR 08 46 08.2
comp=Z,6µm,18.6s,baz=284,slow=40
CTAO Charters Tower 55.60 116 *e*P **P** **08 18 40.8 +0.2**
comp=Z,56nm,1.1s
CTAO LR LR
comp=Z,10µm,19.0s
CTAO Charters Tower 55.60 116 *e*P **P** **08 18 40.8 +0.2**
CTAO pmax pmax
comp=Z,56nm,1.1s
CTAO MLR MLR
comp=Z,10µm,19.0s

AAE	**Adis Abeba**	**55.72**	**279**	*e*P	P	08 18 48.9	+7.0
AAE				*i* S	**S**	**08 26 35.8**	**+7.8**
AAE	**Adis Abeba**	**55.72**	**279**	*e*P	P	08 18 29.9	-12
AAE				*i* S	**S**	**08 26 27.8**	**-0.2**
AAE	**Adis Abeba**	**55.72**	**279**	*e*P	P	08 18 48.9	+7.0
AAE				*i* S	**S**	**08 26 35.8**	**+7.8**
AAE	**Adis Abeba**	**55.72**	**279**	*e*P	P	08 18 29.9	-12
AAE				*i* S	**S**	**08 26 27.8**	**-0.2**
AAE	**Adis Abeba**	**55.72**	**279**	*e*P	P	08 18 29.9	-12
AAE				*i* S	**S**	**08 26 27.8**	**-0.2**
PAF	**Port-aux-Franc**	**55.92**	**199**	PFAKE		08 18 50.0	+7.7
PAF				LR	LR		
	comp=Z,11μm,20.0s						
TEY	**Ternei**	**56.07**	**35**	*e*P	P	**08 18 42.4**	**-1.1**
TEY				pmax	pmax		
	comp=Z,2μm,7.0s						
TEY				MLR	MLR		
	comp=E,7μm,15.0s						
TEY				MLR	MLR		
	comp=N,5μm,14.0s						
TEY				MLR	MLR		
	comp=Z,6μm,14.0s						
QLP	**Quilpie**	**56.14**	**125**	P	P	**08 18 45.0**	**+0.6**
	baz=56,SNR=7.7						
KLR	**Kul'dur**	**56.20**	**29**	P	P	**08 18 43.3**	**-1.1**
	comp=Z,7.5nm,1.2s,baz=244,slow=6.8,SNR=57						
KLR	**Kul'dur**	**56.20**	**29**	*de*P	P	**08 18 43.9**	**-0.5**
STKA	**Stephens Creek**	**56.37**	**132**	P	P	**08 18 44.2**	**-1.7**
	comp=Z,10nm,0.7s,baz=309,slow=6.8,SNR=12						
STKA				LR	LR	08 44 05.5	
	comp=Z,4μm,20.3s,baz=296,slow=37						
STKA	**Stephens Creek**	**56.37**	**132**	P	P	**08 18 44.3**	**-1.6**
	baz=56,SNR=10						
STKA	**Stephens Creek**	**56.37**	**132**	*e*P	P	**08 18 44.4**	**-1.5**
	comp=Z,6.6nm,1.1s						
STKA	**Stephens Creek**	**56.37**	**132**	*e*P	P	**08 18 44.4**	**-1.5**
STKA				pmax	pmax		
	comp=Z,7.0nm,1.1s						
AKTO	**Aktyubinsk**	**56.66**	**333**	P	P	**08 18 46.4**	**-1.3**
	comp=Z,24nm,1.1s,baz=129,slow=7.4,SNR=24						
AKT	**Akhty**	**56.97**	**319**	*e*P	P	**08 18 49.8**	**-0.4**
AKT				*e*		08 20 56.0	
AKT				pmax	pmax		
	comp=Z,77nm,1.5s						
BOD	**Bodaibo**	**57.10**	**12**	*e*P	P	**08 18 48.9**	**-1.7**
BOD				pmax	pmax		
	comp=Z,171nm,1.3s						
KMBO	**Kilima Mbogo**	**57.33**	**267**	P	P	**08 18 54.8**	**+1.5**
	comp=Z,9.7nm,0.9s,baz=82,slow=11,SNR=14						
KMBO				LR	LR	08 40 23.1	
	comp=Z,9μm,19.4s,baz=85,slow=33						
KMBO	**Kilima Mbogo**	**57.33**	**267**	*e*P	P	**08 18 54.9**	**+1.5**
	comp=Z,20nm,1.1s						
KMBO	**Kilima Mbogo**	**57.33**	**267**	P	P	**08 18 58.1**	**+4.7**
	SNR=12						
KMBO	**Kilima Mbogo**	**57.33**	**267**	P	P	**08 18 58.1**	**+4.7**
	SNR=12						
KMBO	**Kilima Mbogo**	**57.33**	**267**	*i* P	P	**08 18 51.6**	**-1.7**
	SNR=6.5						
KMBO	**Kilima Mbogo**	**57.33**	**267**	*e*P	P	**08 18 54.9**	**+1.5**
KMBO				pmax	pmax		
	comp=Z,20nm,1.1s						
ZEA	**Zeya**	**57.56**	**22**	*e*P	P	**08 18 53.2**	**-0.7**
ZEA				*e*		08 21 04.0	
ZEA				*e*S	**S**	**08 26 56.0**	**+5.5**
ZEA				*e*PS	**PnS**	**08 27 12.0**	**+9.0**
ZEA				*e*SS	**SS**	**08 30 46.0**	**+5.3**
ZEA				pmax	pmax		
	comp=N,86nm,1.2s						
ZEA				pmax	pmax		
	comp=E,72nm,1.2s						
ZEA				pmax	pmax		
	comp=Z,160nm,1.2s						
ZEA				pmax	pmax		
	comp=Z,2μm,11.0s						
ZEA				pmax	pmax		
	comp=Z,1μm,12.0s						
ZEA				pmax	pmax		
	comp=N,500nm,13.0s						
ZEA				pmax	pmax		
	comp=E,400nm,13.0s						
ZEA				smax	smax		
	comp=N,2μm,10.0s						
ZEA				MLR	MLR		
	comp=N,18μm,14.0s						
ZEA				MLR	MLR		
	comp=Z,22μm,14.0s						
ZEA				MLR	MLR		
	comp=E,9μm,15.0s						
MAK	**Makhachkala**	**57.86**	**321**	*e*P	P	**08 18 53.3**	**-2.9**
MAK				*e*		08 21 03.9	
MAK				*e*PPP	PPP	08 22 31.4	
MAK				*e*S	**S**	**08 26 51.5**	**-3.2**
MAK				*e*SS	**SS**	**08 30 42.2**	**-3.6**
MAK				pmax	pmax		
	comp=Z,30nm,0.3s						
GNI	**Garni**	**58.34**	**317**	P	P	**08 19 00.8**	**+0.9**
	comp=Z,48nm,1.1s,baz=166,slow=8.1,SNR=16						
GNI				LR	LR	08 45 26.9	
	comp=Z,3μm,20.7s,baz=108,slow=37						
GNI	**Garni**	**58.34**	**317**	*e*P	P	**08 19 00.8**	**+0.9**
	comp=Z,34nm,1.0s						
GNI	**Garni**	**58.34**	**317**	P	P	**08 18 59.8**	**-0.1**
	SNR=18						
GNI	**Garni**	**58.34**	**317**	P	P	**08 18 59.8**	**-0.1**
	SNR=18						
GNI	**Garni**	**58.34**	**317**	*i* P	P	**08 18 59.4**	**-0.5**
	SNR=15						
GNI	**Garni**	**58.34**	**317**	*ce*P	P	**08 18 59.5**	**-0.5**
GNI				pmax	pmax		
	comp=Z,260nm,1.3s						
CLDR	**Caldiran**	**58.48**	**315**	*e*P	P	**08 18 57.6**	**-3.4**
ERM	**Erimo**	**58.50**	**41**	PFAKE		08 19 10.0	+9.3
ERM				LR	LR		
	comp=Z,9μm,20.0s						
TBLG	**Delisi**	**59.06**	**318**	*e*P	P	**08 19 05.2**	**+0.5**
	comp=Z,50nm,1.1s						
TBLG	**Delisi**	**59.06**	**318**	*e*P	P	**08 19 05.2**	**+0.5**
TBLG				pmax	pmax		
	comp=Z,50nm,1.1s						
GROC	**Groznyy**	**59.06**	**320**	*e*P	P	**08 19 02.4**	**-2.2**
GROC				*e*		08 19 49.8	
GROC				*e*		08 21 12.5	
GROC				pmax	pmax		
	comp=Z,104nm,1.3s						
ASAJ	**Asahikawa**	**59.16**	**39**	P	P	**08 19 04.2**	**-1.1**
	comp=Z,12nm,0.9s,baz=315,slow=7.1,SNR=4.3						
ASAJ				LR	LR	08 45 43.7	
	comp=Z,41nm,18.9s,baz=256,slow=37						
ASAJ	**Asahikawa**	**59.16**	**39**	*e*P	P	**08 19 04.7**	**-0.7**
	comp=Z,21nm,0.9s						
CLNS	**Chul'man**	**59.18**	**19**	*e*P	P	**08 19 05.6**	**+0.4**
CLNS				*e**PP	**sP**	**08 19 15.3**	**+0.4**
CLNS				*e*		08 19 54.8	
CLNS				*e*		08 21 13.2	
CLNS				*e*PPP	PPP	08 22 40.7	
CLNS				*e*S	**S**	**08 27 11.4**	**-0.2**
CLNS				*e*		08 28 49.5	
CLNS				*e*SS	**SS**	**08 31 11.2**	**+5.0**
CLNS				pmax	pmax		
	comp=Z,113nm,1.4s						
CLNS				pmax	pmax		
	comp=E,43nm,1.2s						
CLNS				pmax	pmax		
	comp=N,59nm,1.3s						
CLNS				pmax	pmax		
	comp=Z,11nm,1.6s						
CLNS				pmax	pmax		
	comp=E,9.0nm,1.5s						
CLNS				pmax	pmax		
	comp=N,14nm,1.2s						
CLNS				smax	smax		
	comp=N,2μm,12.6s						
CLNS				smax	smax		
	comp=E,1μm,13.8s						
CLNS				MLR	MLR		
	comp=Z,27μm,17.0s						
CLNS				MLR	MLR		
	comp=E,22μm,16.0s						
CLNS				MLR	MLR		
	comp=N,11μm,16.0s						
AGRB	**Hanur-Agry**	**59.31**	**315**	*e*P	P	**08 19 06.4**	**-0.3**
CMSA	**Cobar Meteorol**	**59.34**	**129**	P	P	**08 19 05.7**	**-1.0**
	baz=60,SNR=34						
GRNR	**Gornyy**	**59.49**	**30**	*e*P	P	**08 19 07.5**	**+0.1**
GRNR				pmax	pmax		
	comp=Z,160nm,1.5s						
GURO	**Guroymak-BITLI**	**59.58**	**314**	*e*P	P	**08 19 06.1**	**-2.4**
BGD	**Bogdanovka**	**59.62**	**317**	*e*P	P	08 18 59.3	-9.5
KARS	**Kars**	**59.70**	**316**	*e*P	P	**08 19 07.8**	**-1.5**
AKH	**Akhalkalaki**	**59.75**	**317**	*e*P	P	**08 19 10.3**	**+0.6**
AKH	**Akhalkalaki**	**59.75**	**317**	*i*P	P	**08 19 10.0**	**+0.3**
AKH	**Akhalkalaki**	**59.75**	**317**	*e*P	P	**08 19 10.6**	**+0.9**
	comp=Z,27nm,1.2s						
AKH	**Akhalkalaki**	**59.75**	**317**	*e*P	P	**08 19 10.6**	**+0.9**
AKH				pmax	pmax		
	comp=Z,27nm,1.2s						
RMQ	**Roma**	**59.87**	**123**	P	P	**08 19 11.8**	**+1.2**
	baz=60,SNR=8.9						
MAZI	**Mazidag**	**60.32**	**312**	*e*P	P	**08 19 12.1**	**-1.5**
SVE	**Sverdlovsk**	**60.33**	**339**	*e*P	P	**08 19 11.4**	**-1.7**
SVE				*e*S	**S**	**08 27 25.6**	**-0.7**
SVE				*e*		08 28 53.8	
SVE				pmax	pmax		
	comp=Z,190nm,1.4s						
SVE				MLR	MLR		
	comp=Z,5μm,21.0s						
NCK	**Nalchik**	**60.62**	**320**	*ce*P	P	**08 19 16.1**	**+0.7**
YSS	**Yuzh-Sakhalins**	**60.70**	**36**	*e*P	P	**08 19 17.1**	**+1.2**
	comp=Z,51nm,1.0s						
YSS				LR	LR		
	comp=Z,6μm,20.0s						
YSS	**Yuzh-Sakhalins**	**60.70**	**36**	*ce*P	P	**08 19 15.8**	**0.0**
YSS				*e**SP	**sP**	**08 19 26.3**	**+0.8**
YSS				*e*		08 19 27.8	
YSS				*e*		08 19 57.8	
YSS				*e*		08 21 30.4	
YSS				*e*S	**S**	**08 27 31.9**	**+0.5**
YSS				*e*PS	**PnS**	**08 27 53.7**	**+7.3**
YSS				*e*		08 29 06.0	
YSS				*e*SSS	SSS	08 34 09.0	
YSS				pmax	pmax		
	comp=Z,60nm,1.5s						
YSS				pmax	pmax		
	comp=Z,1μm,6.3s						
YSS				smax	smax		
	comp=N,2μm,8.9s						
YSS				smax	smax		
	comp=E,1μm,12.3s						
YSS				MLR	MLR		
	comp=N,9μm,16.0s						
YSS				MLR	MLR		
	comp=E,9μm,16.0s						
BNGB	**Bing˜¶**	**60.72**	**314**	*e*P	P	**08 19 13.0**	**-3.3**
ARU	**Arti**	**60.78**	**338**	LR	LR	08 48 56.8	
	comp=E,4μm,19.2s,baz=130,slow=39						
ARU	**Arti**	**60.78**	**338**	*e*P	P	**08 19 14.6**	**-1.6**
	comp=E,40nm,1.1s						
ARU				*e*S	**S**	**08 27 36.4**	**+4.3**
ARU	**Arti**	**60.78**	**338**	*c i*P	P	**08 19 15.0**	**-1.2**
ARU						08 19 55.5	
ARU						08 21 25.6	
ARU				*e*S	**S**	**08 27 30.9**	**-1.1**
ARU						08 29 01.8	
ARU				SS	**SS**	**08 31 25.8**	**-5.4**
ARU				pmax	pmax		
	comp=Z,102nm,1.2s						
YEDI	**Yedisu-Bingol**	**60.99**	**314**	*e*P	P	**08 19 14.5**	**-3.7**
BCA	**Borcka**	**61.04**	**317**	*e*P	P	08 19 07.2	-11
NEY	**Neytrino**	**61.08**	**319**	*ce*P	P	**08 19 19.7**	**+1.0**
KBZ	**Khabaz**	**61.17**	**320**	P	P	**08 19 18.4**	**-0.7**
	comp=Z,21nm,1.1s,baz=92,slow=5.8,SNR=29						
KBZ				PcP	**PcP**	**08 20 02.2**	**+0.5**
	comp=Z,14nm,1.1s,baz=266,slow=4.0,SNR=3.5						
YUK	**Yuzh-Kuril'sk**	**61.19**	**40**	*e*P	P	08 19 13.3	-5.9
YUK				*e*S	**S**	**08 27 32.5**	**-5.2**
YUK				MLR	MLR		
	comp=Z,10μm,17.0s						
YUK				MLR	MLR		
	comp=E,1μm,16.0s						
YUK				MLR	MLR		
	comp=N,1μm,15.0s						
ASF	**Jabal al Asfar**	**61.39**	**305**	P	P	**08 19 20.7**	**-0.2**
	comp=N,8.4nm,0.9s,baz=11,slow=1.3,SNR=11						
ASF				LR	LR	08 46 29.1	
	comp=N,3μm,20.4s,baz=58,slow=37						
KIV	**Kislovodsk**	**61.41**	**320**	*e*P	P	**08 19 20.4**	**-0.5**
	comp=N,54nm,1.1s						
KIV				LR	LR		
	comp=Z,2μm,20.0s						
KIV	**Kislovodsk**	**61.41**	**320**	P	P	**08 19 20.5**	**-0.3**
	SNR=24						
KIV	**Kislovodsk**	**61.41**	**320**	P	P	**08 19 20.5**	**-0.3**
	SNR=24						
KIV	**Kislovodsk**	**61.41**	**320**	*i* P	P	**08 19 19.7**	**-1.1**
	SNR=14						
KIV	**Kislovodsk**	**61.41**	**320**	*e*P	P	**08 19 20.1**	**-0.8**
KIV				*e*		08 21 35.3	
KIV				*e*S	**S**	**08 27 40.0**	**-0.8**
KIV				*e*SS	**SS**	**08 31 42.0**	**+0.2**
KIV				pmax	pmax		
	comp=Z,57nm,1.0s						
KIV				pmax	pmax		
	comp=Z,230nm,4.4s						
EIDS	**Eidsvold**	**61.48**	**121**	P	P	**08 19 22.3**	**+0.8**
	baz=62,SNR=4.3						
EIDS	**Eidsvold**	**61.48**	**121**	*e*P	P	**08 19 22.3**	**+0.8**
	comp=Z,26nm,1.1s						
CHOM	**Cayeli-Rize**	**61.49**	**316**	*e*P	P	**08 19 19.9**	**-1.4**
SVRC	**Sivrice-ELAZID**	**61.49**	**313**	*e*P	P	08 19 14.9	-6.7
URFA	**Urfa**	**61.52**	**312**	*e*P	P	**08 19 17.1**	**-4.6**
PTK	**Pertek**	**61.62**	**313**	*e*P	P	**08 19 21.7**	**-0.8**
ERZN	**Erzincan**	**61.64**	**314**	*e*P	P	**08 19 22.2**	**-0.3**
BAYT	**Ayd˜–ntepe-Bay**	**61.65**	**315**	*e*P	P	**08 19 20.8**	**-1.8**
GOF	**Gofitskoye**	**61.69**	**321**	*i*P	P	**08 19 20.9**	**-1.7**
GOF				pmax	pmax		
	comp=Z,60nm,1.5s						
EIL	**Elat**	**62.36**	**302**	LR	LR	08 47 19.7	
	comp=Z,6μm,18.0s,baz=110,slow=37						
HRFI	**Mount Harif**	**62.38**	**303**	*e*P	P	08 19 22.5	-5.0
GAZ	**Gaziantep**	**62.64**	**311**	*e*P	P	**08 19 28.3**	**-0.9**
MMLI	**Mount Malkishu**	**62.66**	**305**	*e*P	P	**08 19 30.1**	**+0.7**
TYV	**Tymovskoe**	**62.73**	**32**	*e*P	P	**08 19 29.1**	**-0.3**
TYV				pmax	pmax		
	comp=Z,1μm,7.3s						
TYV				pmax	pmax		
	comp=Z,32nm,1.6s						
TYV				MLR	MLR		
	comp=N,7μm,16.0s						
MMAI	**Mount Meron Ar**	**62.83**	**306**	P	P	**08 19 31.0**	**+0.4**
	comp=N,14nm,0.9s,baz=94,slow=8.4,SNR=15						
MMAI				LR	LR	08 46 32.3	
	comp=N,3μm,21.8s,baz=85,slow=36						
ESPY	**Espiye-Giresun**	**62.84**	**315**	*e*P	P	**08 19 28.1**	**-2.3**
DARE	**Darende-Malaty**	**62.90**	**312**	*e*P	P	**08 19 26.2**	**-4.8**
KMRS	**Kahramanmaras**	**62.99**	**311**	*e*P	P	**08 19 30.0**	**-1.5**
KUR	**Kuril'sk**	**63.01**	**40**	*c i*P	P	**08 19 33.2**	**+1.8**
KUR				*e**PP	**sP**	**08 19 41.9**	**+0.8**
KUR				*i*		08 20 09.2	
KUR				*i*		08 21 50.8	
KUR				*e*PPP	PPP	08 23 17.5	
KUR				*i* S	**S**	**08 28 08.6**	**+8.0**
KUR				pmax	pmax		
	comp=Z,1μm,3.7s						
KUR				MLR	MLR		
	comp=N,8μm,16.0s						
KUR				MLR	MLR		
	comp=E,6μm,16.0s						
KUR				MLR	MLR		
	comp=Z,8μm,16.0s						
NKL	**Nikolayevsk**	**63.03**	**29**	*i* P	P	**08 19 33.0**	**+1.7**
NKL				*i* S	**S**	**08 28 05.0**	**+4.5**
NKL				*e*		08 32 13.0	
NKL				pmax	pmax		
	comp=Z,70nm,1.2s						
NKL				pmax	pmax		
	comp=N,500nm,11.0s						
NKL				pmax	pmax		
	comp=E,1μm,11.0s						
NKL				pmax	pmax		
	comp=Z,2μm,11.0s						
NKL				smax	smax		
	comp=N,2μm,12.0s						
NKL				smax	smax		
	comp=E,2μm,12.0s						
SOC	**Sochi**	**63.20**	**318**	*c i*P	P	**08 19 32.0**	**-0.7**
SOC				*e*		08 21 46.4	
SOC				*e*S	**S**	**08 28 02.3**	**-0.8**
SOC				*e*		08 29 24.3	
SOC				*e*SS	**SS**	**08 32 03.0**	**-6.6**
SOC				pmax	pmax		
	comp=Z,61nm,1.1s						
SOC				pmax	pmax		
	comp=Z,489nm,3.3s						
SOC				MLR	MLR		
	comp=Z,1μm,16.0s						
CAN	**Canberra**	**63.43**	**132**	*e*P	P	**08 19 35.6**	**+1.2**
	comp=Z,33nm,1.1s						
CAN				LR	LR		
	comp=Z,6μm,19.0s						
CAN	**Canberra**	**63.43**	**132**	*e*P	P	**08 19 35.7**	**+1.2**
CAN				pmax	pmax		
	comp=Z,33nm,1.1s						
CAN				MLR	MLR		
	comp=Z,6μm,19.0s						
ARMA	**Armidale**	**63.61**	**126**	P	P	**08 19 37.3**	**+1.5**
	baz=64,SNR=6.9						
ARMA	**Armidale**	**63.61**	**126**	*e*P	P	**08 19 37.9**	**+2.1**
	comp=Z,62nm,1.1s						
PATS	**Pohnpei**	**63.72**	**84**	P	P	**08 19 36.5**	**-0.1**
	baz=64,SNR=11						
PATS	**Pohnpei**	**63.72**	**84**	*e*P	P	**08 19 37.4**	**+0.8**
	comp=Z,96nm,1.1s						
KOZT	**Kozan**	**63.79**	**311**	*e*P	P	**08 19 35.7**	**-1.1**
BNN	**Bunyan**	**64.20**	**312**	*e*P	P	**08 19 37.9**	**-1.7**
KARA	**Karaisali**	**64.31**	**310**	*e*P	P	**08 19 38.2**	**-2.0**
KVT	**Kavak**	**64.79**	**315**	*e*P	P	**08 19 42.5**	**-0.8**
YAK	**Yakutsk**	**64.79**	**17**	P	P	**08 19 41.3**	**-1.5**
	comp=Z,48nm,0.6s,baz=308,slow=2.6,SNR=28						
YAK				LR	LR	08 50 39.1	
	comp=Z,20μm,18.9s,baz=256,slow=39						
YAK	**Yakutsk**	**64.79**	**17**	*e*P	P	**08 19 41.7**	**-1.1**
	comp=Z,118nm,0.9s						
YAK	**Yakutsk**	**64.79**	**17**	*d i*P	P	**08 19 42.6**	**-0.2**
YAK				*e**PP	**pP**	**08 19 47.9**	**-2.0**
YAK				*e*		08 22 05.4	
YAK				*e*PPP	PPP	08 23 48.4	
YAK				*e*S	**S**	**08 28 20.9**	**-1.3**
YAK				*e**SS	sS	08 28 41.8	+7.9
YAK				pmax	pmax		
	comp=Z,149nm,1.1s						
YAK				pmax	pmax		
	comp=N,64nm,1.3s						
YAK				pmax	pmax		
	comp=E,95nm,1.3s						
YAK				pmax	pmax		
	comp=Z,106nm,2.4s						
YAK				pmax	pmax		
	comp=N,24nm,1.4s						
YAK				pmax	pmax		
	comp=E,42nm,2.1s						
YAK				smax	smax		
	comp=E,469nm,5.9s						
YAK				smax	smax		
	comp=N,2μm,7.6s						
YAK				MLR	MLR		
	comp=Z,20μm,15.0s						
YAK				MLR	MLR		
	comp=E,14μm,16.0s						
YAK				MLR	MLR		
	comp=N,13μm,18.0s						
CSS	**Mathiatis**	**65.00**	**307**	*e*P	P	**08 19 43.9**	**-0.9**
CSS	**Mathiatis**	**65.00**	**307**	*e*P	P	**08 19 44.1**	**-0.6**
	comp=N,11nm,1.1s						
CSS				LR	LR		
	comp=Z,753nm,20.0s						
CSS	**Mathiatis**	**65.00**	**307**	P	P	**08 19 43.6**	**-1.2**
AKKU	**Akkuyu-Mersin**	**65.15**	**309**	*e*P	P	**08 19 44.6**	**-1.1**
ANN	**Anapa**	**65.19**	**319**	*e*P	P	**08 19 43.5**	**-2.2**
ANN				*e*		08 22 13.8	
ANN				*e*S	**S**	**08 28 23.9**	**-3.8**
ANN				*e*SS	**SS**	**08 32 45.2**	**+4.7**
ANN				pmax	pmax		
	comp=Z,46nm,1.3s						
TEVE	**Tevekalti-Mers**	**65.31**	**309**	*e*P	P	**08 19 46.4**	**-0.4**
VRH	**Novokhopyorsk**	**65.38**	**327**	*e*P	P	**08 19 45.0**	**-1.8**
VRH				*e*S	**S**	**08 28 25.5**	**-4.3**
VRH				pmax	pmax		
	comp=Z,50nm,1.3s						
VRH				smax	smax		
	comp=N,1μm,11.3s						
CORM	**Corum**	**65.52**	**313**	*e*P	P	08 19 43.0	-5.1
DIKM	**Dikmen**	**65.54**	**315**	*e*P	P	**08 19 44.3**	**-3.8**
TAU	**Tasmania Unive**	**65.69**	**140**	PFAKE		08 20 00.0	+11
TAU				LR	LR		
	comp=Z,4μm,19.0s						
BR131	**Keskin Array S**	**66.10**	**313**	*e*P	P	**08 19 50.1**	**-1.8**
BR131	**Keskin Array S**	**66.10**	**313**	P	P	**08 19 51.3**	**-0.6**
	SNR=27						
BRTR	**Keskin Array B**	**66.10**	**313**	P	P	**08 19 50.1**	**-1.8**
	comp=Z,12nm,1.0s,baz=130,slow=5.8,SNR=44						
BRTR				LR	LR	08 48 42.2	
	comp=Z,2μm,21.6s,baz=96,slow=36						
HNR	**Honiara**	**66.33**	**101**	LR	LR	08 51 07.6	
	comp=Z,1μm,19.8s,baz=267,slow=38						
CANT	**Cankiri**	**66.38**	**313**	*e*P	P	**08 19 51.4**	**-2.2**
AFSR	**Af˜ar-Bala (A**	**66.44**	**312**	*e*P	P	**08 19 51.3**	**-2.8**
ILGA	**Ilgaz**	**66.45**	**314**	*e*P	P	**08 19 54.7**	**+0.5**
	comp=Z,62nm,1.2s						
BZK	**Bozkurt**	**66.53**	**315**	*e*P	P	**08 19 50.8**	**-3.6**
VORD	**Divnogorie**	**66.62**	**326**	*e*P	P	**08 19 51.1**	**-3.7**
VORD				pmax	pmax		
	comp=Z,9.0nm,0.4s						
NRIK	**Noril'sk**	**66.70**	**357**	P	P	**08 19 54.6**	**-0.4**
	comp=Z,9.6nm,0.3s,baz=151,slow=0.0						
NRIK				LR	LR	08 49 58.2	
	comp=Z,2μm,21.5s,baz=60,slow=37						
ANTO	**Ankara**	**66.77**	**312**	*e*P	P	**08 19 52.1**	**-4.0**
ANTO	**Ankara**	**66.77**	**312**	*i*P	P	**08 19 55.8**	**-0.4**
ANTO	**Ankara**	**66.77**	**312**	*e*P	P	**08 19 55.7**	**-0.4**
	comp=Z,62nm,1.1s						
ANTO				LR	LR		
	comp=Z,2μm,20.0s						
ANTO	**Ankara**	**66.77**	**312**	P	P	**08 19 56.0**	**-0.1**
	SNR=13						
ANTO	**Ankara**	**66.77**	**312**	P	P	**08 19 56.0**	**-0.1**
	SNR=13						
ANTO	**Ankara**	**66.77**	**312**	*e*P	P	**08 19 55.7**	**-0.4**
ANTO				pmax	pmax		
	comp=Z,62nm,1.1s						
ANTO				MLR	MLR		
	comp=Z,2μm,20.0s						
VSR	**Storozhevoye**	**66.81**	**326**	*e*P	P	**08 19 53.2**	**-2.8**
VSR				*e*S	**S**	**08 28 39.8**	**-7.4**
VSR				pmax	pmax		
	comp=Z,30nm,1.3s						
VSR				smax	smax		
	comp=N,680nm,10.0s						
VSR				MLR	MLR		
	comp=Z,4μm,17.0s						
SIM	**Simferopol'**	**67.44**	**318**	*d i*P	P	**08 20 00.0**	**-0.2**
SIM				*e*S	**S**	**08 28 54.0**	**-1.1**
SIM				*e*		08 30 00.0	
SIM				pmax	pmax		
	comp=Z,47nm,1.2s						
LPSR	**Galich'ya Gora**	**67.57**	**327**	*e*P	P	**08 19 58.9**	**-1.9**
LPSR				*e*S	**S**	**08 28 51.2**	**-5.1**
LPSR				pmax	pmax		
	comp=Z,50nm,1.5s						
LPSR				smax	smax		
	comp=N,600nm,9.1s						
ANTB	**Antalya**	**67.60**	**309**	*e*P	P	**08 20 00.6**	**-0.7**
BCK	**Bucak**	**67.78**	**309**	*e*P	P	**08 20 00.6**	**-2.0**
ISP	**Isparta**	**67.92**	**310**	*e*P	P	**08 19 59.6**	**-3.9**
ISP	**Isparta**	**67.92**	**310**	*i*P	P	**08 20 03.8**	**+0.3**
ISP	**Isparta**	**67.92**	**310**	*e*P	P	**08 20 02.8**	**-0.7**
	comp=N,42nm,1.1s						
ISP				LR	LR		
	comp=Z,4μm,19.0s						
ISP	**Isparta**	**67.92**	**310**	P	P	**08 20 02.9**	**-0.6**
ISP	**Isparta**	**67.92**	**310**	*ce*P	P	**08 20 03.3**	**-0.2**
ISP				pmax	pmax		
	comp=Z,57nm,1.2s						
LSZ	**Lusaka**	**67.94**	**252**	*e*P	P	**08 20 05.0**	**+1.0**
	comp=Z,18nm,1.1s						
LSZ				LR	LR		
	comp=Z,7μm,19.0s						
LSZ	**Lusaka**	**67.94**	**252**	*e*P	P	**08 20 05.0**	**+1.0**
LSZ				pmax	pmax		
	comp=Z,18nm,1.1s						
LSZ				MLR	MLR		
	comp=Z,7μm,19.0s						
ELL	**Elmali**	**68.14**	**309**	*e*P	P	**08 20 02.6**	**-2.3**
KSL	**Kastellorizon**	**68.26**	**308**	P	P	**08 20 03.

GULT	Gulveren	68.60 313	*e*P	P	08 20 04.4	-3.3	GADA	Gvkgeada	71.97 311	P	P	08 20 27.7	-0.5	ARR	Arges	73.99 316⇑	*i*P	P	08 20 40.1	-0.1
FETY	Fethiye	68.76 308	*e*P	P	08 20 04.6	-4.1	GADA	Gvkgeada	71.97 311	P	P	08 20 27.7	-0.5	SOH	Sokhos	74.00 312	P	P	08 20 39.2	-1.1
FETY	Fethiye	68.76 308	P	P	08 20 07.0	-1.7	ALN	Alexandroupoli	72.01 312	*e*P	P	08 20 26.9	-1.5	SOH	Sokhos	74.00 312	P	P	08 20 39.2	-1.1
FETY	Fethiye	68.76 308	P	P	08 20 07.0	-1.7	ALN	Alexandroupoli	72.01 312	P	P	08 20 28.5	+0.1	SOH	Sokhos	74.00 312	P	P	08 20 39.2	-1.1
SPNC	Sapanca-Adapaz	68.82 313	*e*P	P	08 20 06.7	-2.2	ALN	Alexandroupoli	72.01 312	P	P	08 20 28.5	+0.1	DYR	Agios Nikonas	74.11 307	P	P	08 20 41.4	+0.4
AUBOZ	BOZOYUK	68.82 312	*e*P	P	08 20 06.5	-2.6	ALN	Alexandroupoli	72.01 312	P	P	08 20 30.5	+2.1	BURAR	Bucovina Array	74.12 319⇓	*i*P	P	08 20 41.0	+0.1
CAVI	Cavuskoy	69.04 312	*e*P	P	08 20 08.4	-1.9	ALN			pmax	pmax			BURAR	Bucovina Array	74.12 319	P	P	08 20 41.0	+0.1
MIR	Mirnyy	69.09 181	*e*P	P	08 20 06.0	-4.0		comp=Z,36nm,1.3s						BUR04	Bucovina Ar. S	74.12 319	*e*P	P	08 20 39.4	-1.6
MIR			*e*PS	SKSac	08 30 06.0	-2.2	PETK	Petropavlovsk-	72.03 34	P	P	08 20 27.6	-0.7	BUR08	Bucovina Ar. S	74.14 319	*e*P	P	08 20 39.9	-1.1
MIR			pmax	pmax				comp=Z,3.5nm,1.0s,baz=326,slow=7.2,SNR=3.9						HORT	Hortiatis	74.15 311	*e*P	P	08 20 39.1	-2.1
	comp=Z,2μm,7.0s						PETK			LR	LR	08 54 49.5		HORT	Hortiatis	74.15 311	P	P	08 20 38.6	-2.6
MIR			pmax	pmax				comp=Z,6μm,19.0s,baz=235,slow=38						HORT	Hortiatis	74.15 311	P	P	08 20 38.6	-2.6
	comp=Z,54nm,1.5s						PETK	Petropavlovsk-	72.03 34	*e*P	P	08 20 30.4	+2.1	VLX	Vlachokerasia	74.17 308	P	P	08 20 38.0	-3.4
ADVT	Abdulvahap	69.17 312	*e*P	P	08 20 09.9	-1.2	PETK	Petropavlovsk-	72.03 34	*e*P	P	08 20 30.4	+2.1	VLX	Vlachokerasia	74.17 308	P	P	08 20 38.0	-3.4
HRT	Hereke	69.33 313	*e*P	P	08 20 08.5	-3.6	LBTB	Lobatse	72.12 243	*e*P	P	08 20 29.7	+0.2	AXAR	Agios Charalam	74.17 309	P	P	08 20 41.1	-0.2
YLV	Yalova	69.48 312	*e*P	P	08 20 10.8	-2.3	LBTB	Lobatse	72.12 243	*e*P	P	08 20 29.7	+0.2	AXAR	Agios Charalam	74.17 309	P	P	08 20 41.1	-0.2
GEMT	Gemlik	69.58 312	*e*P	P	08 20 12.2	-1.4	SORM	Soroca	72.22 320⇓	*i*P	P	08 20 28.5	-1.0	DSF	Desfina	74.22 309	P	P	08 20 39.3	-2.3
MANT	Manisa	69.59 310	*e*P	P	08 20 14.2	+0.2	SORM	Soroca	72.22 320	P	P	08 20 28.5	-1.0	DSF	Desfina	74.22 309	P	P	08 20 39.3	-2.3
	comp=Z,133nm,1.1s						TIXI	Tiksi	72.22 11	P	P	08 20 27.7	-1.4	GUR	Goura	74.28 309	P	P	08 20 39.8	-2.3
MOS	Moscow	69.67 330	*e*P	P	08 20 11.9	-2.0		comp=Z,82nm,1.0s,baz=202,slow=3.6,SNR=79						GUR	Goura	74.28 309	P	P	08 20 39.8	-2.3
MOS			*e*		08 20 22.1		TIXI			LR	LR	08 52 57.3		DZM	Mont Dzumac	74.37 114	P	P	08 20 41.8	-1.1
MOS			*e*S	S	08 29 17.1	-4.1		comp=Z,4μm,20.4s,baz=226,slow=36							comp=Z,34nm,1.2s,baz=328,slow=9.5,SNR=7.2					
MOS			*e*		08 30 10.5		TIXI	Tiksi	72.22 11	*e*P	P	08 20 27.0	-2.1	DZM			LR	LR	08 56 03.0	
MOS			pmax	pmax				comp=Z,122nm,1.1s							comp=Z,2μm,18.6s,baz=282,slow=38					
	comp=Z,166nm,1.4s						TIXI	Tiksi	72.22 11	*c i*P	P	08 20 28.0	-1.1	DZM	Mont Dzumac	74.37 114	*e*P	P	08 20 43.1	+0.2
MOS			MLR	MLR			TIXI			pmax	pmax				comp=Z,115nm,1.4s					
	comp=Z,4μm,19.0s							comp=Z,167nm,1.2s						DZM			*e*S	S	08 30 17.8	+1.2
BUY	Buyukada	69.74 313	*e*P	P	08 20 09.3	-5.3	TIXI			MLR	MLR				comp=Z,3μm,27.6s					
CASY	Casey	69.77 173	PFAKE		08 20 30.0	+16		comp=Z,11μm,17.0s						DZM	Mont Dzumac	74.37 114	*e*LR	LR	08 43 28.3	
CASY			LR	LR			WAKE	Wake Island	72.30 71	PFAKE		08 20 40.0	+9.5		comp=Z,3μm,21.4s					
	comp=Z,1μm,19.0s						WAKE			LR	LR			DZM	Mont Dzumac	74.37 114	*e*P	P	08 20 43.8	+0.9
ISK	Istanbul-Kandi	69.83 313	*e*P	P	08 20 12.4	-2.8		comp=Z,2μm,19.0s							comp=Z,35nm,1.1s					
ARMT	Armutlu	69.86 312	*e*P	P	08 20 12.2	-3.2	VAM	Vamos	72.41 306	P	P	08 20 31.2	+0.3	MICGM	Minsk	74.38 326⇑	*e*P	P	08 20 40.0	-2.1
OBN	Obninsk	69.94 329	*e*P	P	08 20 14.7	-0.8	VAM	Vamos	72.41 306	P	P	08 20 31.2	+0.3	MICGM			PM		08 20 41.0	
	comp=Z,64nm,1.1s						VAM	Vamos	72.41 306	P	P	08 20 31.2	+0.3		comp=Z,0.1nm,1.0s					
OBN			LR	LR			AKASG	Malin Array Be	72.43 323	P	P	08 20 28.4	-2.2	MICGM			*e*PcP	PcP	08 21 02.0	+5.3
	comp=Z,3μm,19.0s							comp=Z,9.1nm,1.1s,baz=87,slow=4.9,SNR=34						MICGM			*e*PP	PP	08 23 32.0	+3.6
OBN	Obninsk	69.94 329⇓	*e*P	P	08 20 14.5	-1.0	AKASG			LR	LR	08 57 20.5		MICGM			*e*PPP	PPP	08 25 10.0	
OBN			*e*		08 20 38.1			comp=Z,2μm,18.1s,baz=85,slow=40						MICGM			*e*PsP		08 26 36.0	
OBN			*e*PPP	PPP	08 24 27.1		AKBB	Malin Array Si	72.43 323	*e*P	P	08 20 29.4	-1.3	MICGM			*e*S	SKiKP	08 30 10.0	+2.1
OBN			*i* S	S	08 29 16.7	-7.6		comp=Z,22nm,1.1s						MICGM			*e*ScS	S	08 30 20.0	+4.7
OBN			*e*SS	SS	08 33 52.4	-1.2	AKBB	Malin Array Si	72.43 323	P	P	08 20 29.4	-1.3	MICGM			*e*PS	PnS	08 30 54.0	+3.3
OBN			MLR	MLR				comp=Z,22nm,1.1s						MICGM			*e*SS	SS	08 33 36.0	-86
	comp=Z,2μm,21.0s						KIEV	Kiev	72.44 323	*e*P	P	08 20 28.2	-2.5	MICGM			*e*SSS	SSS	08 36 26.0	
AYDB	Zeytinkoy-Aydi	69.98 309	*e*P	P	08 20 09.1	-7.2		comp=Z,16nm,1.1s						MICGM			*e*LQ	LQ	08 48 34.0	
KARP	Karpathos	70.05 307	*e*P	P	08 20 16.2	-0.5	KIEV			LR	LR			MICGM			*e*LR	LR	08 50 24.0	
KARP	Karpathos	70.05 307	*e*P	P	08 20 17.4	+0.7		comp=Z,3μm,21.0s						MICGM			LRM	MLR	08 56 28.0	
	comp=Z,39nm,1.0s						KIEV	Kiev	72.44 323	*i* P	P	08 20 30.5	-0.2		comp=E,5.1nm,18.0s					
KARP	Karpathos	70.05 307	P	P	08 20 16.4	-0.3		SNR=9.1						MICGM			LRM	MLR	08 56 52.0	
KCTX	Karacabey (Bur	70.16 312	*e*P	P	08 20 16.1	-1.1	KIEV	Kiev	72.44 323	*ce*P	P	08 20 29.3	-1.4		comp=Z,4.2nm,18.0s					
BODT	Bodrum	70.24 308	*e*P	P	08 20 14.5	-3.3	KIEV			pmax	pmax			MICGM			LRM	MLR	08 57 12.0	
BODT	Bodrum	70.24 308	P	P	08 20 14.2	-3.6		comp=Z,28nm,1.2s							comp=N,6.2nm,18.0s					
BODT	Bodrum	70.24 308	P	P	08 20 14.2	-3.6	RDO	Rodhopi	72.44 312	P	P	08 20 29.7	-1.3	MNK	Minsk	74.38 326⇑	*e*P	P	08 20 40.0	-2.1
SKR	Severo-Kuril's	70.26 36	*e*P	P	08 20 17.5	-0.1	RDO	Rodhopi	72.44 312	P	P	08 20 29.7	-1.3	MNK			*e*		08 21 02.0	
SKR			*e*		08 20 28.8		AK11	Malin Array Si	72.45 323	*e*P	P	08 20 29.5	-1.4	MNK			*e*		08 23 32.0	
SKR			*e*S	S	08 29 30.7	+2.5	MHLO	Agia Marina, M	72.46 308	P	P	08 20 30.2	-1.0	MNK			*e*PPP	PPP	08 25 10.0	
SKR			pmax	pmax			SERI	Serifos	72.48 308	P	P	08 20 30.4	-0.9	MNK			*e*S	SKiKP	08 30 10.0	+2.1
	comp=Z,2μm,4.1s						PET	Petropavlovsk	72.55 35	*e*P	P	08 20 32.2	+0.8	MNK			*e*PS	PnS	08 30 54.0	+3.3
SKR			pmax	pmax				comp=Z,48nm,1.1s						MNK			pmax	pmax		
	comp=Z,120nm,1.3s						PET			LR	LR				comp=Z,120nm,1.0s					
SKR			smax	smax				comp=Z,7μm,20.0s						KKB	Krupnik	74.39 313	P	P	08 20 40.8	-1.7
	comp=N,2μm,10.3s						PET	Petropavlovsk	72.55 35	*e*P	P	08 20 28.4	-2.9	KNT	Kendrikon	74.40 312	*e*P	P	08 20 40.5	-2.1
SKR			smax	smax			PET			*e*S	S	08 29 51.5	-3.1	KNT	Kendrikon	74.40 312	P	P	08 20 40.8	-1.8
	comp=E,4μm,9.0s						PET			pmax	pmax			KNT	Kendrikon	74.40 312	P	P	08 20 40.8	-1.8
SKR			MLR	MLR				comp=Z,42nm,1.0s						KNT	Kendrikon	74.40 312	P	P	08 20 40.8	-1.8
	comp=Z,7μm,18.0s						PET			pmax	pmax			VTS	Vitosha	74.44 313⇓	*i*P	P	08 20 42.5	-0.4
CTKS	Kestanelik-??a	70.28 313	*e*P	P	08 20 16.9	-1.0		comp=Z,1μm,14.3s						VTS	Vitosha	74.44 313	*e*P	P	08 20 41.9	-1.0
BALB	Balikesir	70.37 311	*e*P	P	08 20 16.2	-2.3	PET			pmax	pmax				comp=Z,33nm,1.1s					
GCAM	G?zelcaml?	70.43 309	*e*P	P	08 20 16.0	-2.9		comp=Z,2μm,15.0s						VTS	Vitosha	74.44 313	P	P	08 20 41.6	-1.3
CTYL	Yalikoy Yolu	70.50 313	*e*P	P	08 20 17.6	-1.6	PET			MLR	MLR			VTS	Vitosha	74.44 313	P	P	08 20 41.3	-1.6
EDC	Edincik	70.54 312	*e*P	P	08 20 18.5	-1.1		comp=Z,10μm,17.0s						VTS	Vitosha	74.44 313	*e*P	P	08 20 41.9	-1.0
BLCB	Balcova	70.73 310	*e*P	P	08 20 17.9	-2.8	IMMV	Iera Moni Meta	72.59 306	P	P	08 20 32.3	+0.3	VTS			pmax	pmax		
ZKR	Zakros	70.73 306	P	P	08 20 21.8	+1.0	SZH	Strazhica	72.62 315	P	P	08 20 30.6	-1.4		comp=Z,33nm,1.1s					
ZKR	Zakros	70.73 306	P	P	08 20 21.8	+1.0	ISR	Istrita	72.62 317⇑	*i*P	P	08 20 31.0	-1.1	KLV	Kalavryta, Ach	74.45 309	P	P	08 20 41.6	-1.4
SMG	Samos	70.74 309	P	P	08 20 19.5	-1.4	KDZ	Kurdzhali	72.64 313	*e*P	P	08 20 31.1	-1.1	KLV	Kalavryta, Ach	74.45 309	P	P	08 20 41.6	-1.4
SMG	Samos	70.74 309	P	P	08 20 19.5	-1.4	KDZ	Kurdzhali	72.64 313	P	P	08 20 32.1	-0.1	AGG	Agios Georgios	74.47 310	*e*P	P	08 20 42.7	-0.3
TLCR		71.09 317⇑	*i*P	P	08 20 22.9	+0.2	VRI	Vrincioaia	72.68 317	*e*P	P	08 20 26.8	-5.6		comp=Z,47nm,1.2s					
PSN	Preselentsi	71.13 315	*e*P	P	08 20 19.1	-3.9	VRI	Vrincioaia	72.68 317⇑	*i*P	P	08 20 31.5	-0.9	AGG	Agios Georgios	74.47 310	P	P	08 20 42.3	-0.7
TIRR	Tirgusor	71.17 316⇓	*i*P	P	08 20 23.1	-0.2	VRI	Vrincioaia	72.68 317	P	P	08 20 32.1	-0.3	AGG	Agios Georgios	74.47 310	*e*P	P	08 20 42.7	-0.3
TIRR	Tirgusor	71.17 316	*e*P	P	08 20 21.7	-1.5	PLOR	Plostina	72.73 317⇓	*i*P	P	08 20 32.0	-0.7	AGG			pmax	pmax		
	comp=Z,41nm,1.1s						PLOR	Plostina	72.73 317	P	P	08 20 31.9	-0.7		comp=Z,47nm,1.2s					
TIRR	Tirgusor	71.17 316	*e*P	P	08 20 21.7	-1.5	TESR	Tescani	72.90 318⇓	*i*P	P	08 20 32.5	-1.1	ITM	Ithomi	74.50 308	P	P	08 20 42.5	-0.7
TIRR			pmax	pmax			SECR		72.93 316⇓	*i*P	P	08 20 34.8	+0.9	ITM	Ithomi	74.50 308	P	P	08 20 42.5	-0.7
	comp=Z,41nm,1.1s						PTL	Penteli	73.12 309	P	P	08 20 31.6	-3.5	KALE	Kalithea	74.51 309	P	P	08 20 39.1	-4.3
MA2	Magadan	71.20 27	P	P	08 20 22.6	-0.6	PTL	Penteli	73.12 309	P	P	08 20 31.6	-3.5	KALE	Kalithea	74.51 309	P	P	08 20 39.1	-4.3
	comp=Z,23nm,0.8s,baz=241,slow=7.4,SNR=17						MLR	Muntele Rosu	73.12 317	P	P	08 20 34.1	-1.0	LIT	Litokhoron	74.52 311	*e*P	P	08 20 42.2	-1.1
MA2			LR	LR	08 54 57.3			comp=Z,20nm,1.2s,baz=31,slow=2.7,SNR=35							comp=Z,33nm,1.1s					
	comp=Z,9μm,18.9s,baz=238,slow=39						MLR			LR	LR	08 58 51.6		LIT	Litokhoron	74.52 311	P	P	08 20 41.1	-2.2
MA2	Magadan	71.20 27	*e*P	P	08 20 22.4	-0.8		comp=Z,453nm,18.0s,baz=80,slow=41						LIT	Litokhoron	74.52 311	*e*P	P	08 20 42.2	-1.1
	comp=Z,42nm,1.1s						MLR	Muntele Rosu	73.12 317⇓	*i*P	P	08 20 34.4	-0.7	LIT			pmax	pmax		
NPS	Neapolis	71.24 306	P	P	08 20 24.4	+0.5	MLR	Muntele Rosu	73.12 317	*e*P	P	08 20 33.9	-1.3		comp=Z,33nm,1.1s					
NPS	Neapolis	71.24 306	P	P	08 20 24.4	+0.5		comp=Z,33nm,1.1s						TRIZ	Trizonia	74.56 309	P	P	08 20 41.2	-2.3
NPS	Neapolis	71.24 306	P	P	08 20 24.4	+0.5	MLR	Muntele Rosu	73.12 317	*e*P	P	08 20 33.9	-1.3	PYL	PYLOS	74.60 307	P	P	08 20 42.3	-1.5
KLMR	Klimovskoe	71.25 335	*e*P	P	08 20 21.1	-2.4	MLR			pmax	pmax			PYL	PYLOS	74.60 307	P	P	08 20 42.3	-1.5
KLMR			AMP		08 20 26.0			comp=Z,33nm,1.1s						LAKA	Lakka	74.61 309	P	P	08 20 41.9	-2.0
	comp=Z,138nm,1.4s						VLY	Voula,Athens	73.14 309	P	P	08 20 34.4	-0.8	LAKA	Lakka	74.61 309	P	P	08 20 41.9	-2.0
KLMR			*e*PcP	PcP	08 20 41.5	-1.7	VLY	Voula,Athens	73.14 309	P	P	08 20 34.4	-0.8	VAY	Valandovo	74.67 312	P	P	08 20 41.9	-2.2
KLMR			*e*PP	PP	08 22 59.1	-2.4	RZN	Rozhen	73.16 313	P	P	08 20 34.8	-0.7	VAY	Valandovo	74.67 312	P	P	08 20 41.9	-2.2
KLMR			*e*S	S	08 29 36.6	-2.9	ATHU	Athens Univers	73.16 309	P	P	08 20 34.6	-0.8	VAY	Valandovo	74.67 312⇑	*e*P	P	08 20 42.4	-1.8
KLMR			*e*S	S	08 29 36.6	-2.9	ATHU	Athens Univers	73.16 309	P	P	08 20 34.6	-0.8	VAY	Valandovo	74.67 312	P	P	08 20 41.9	-2.2
KLMR			LQ	LQ	08 45 48.3		KAVA	Kavala	73.17 312	P	P	08 20 35.3	0.0	EFP	Efpalio	74.70 309	P	P	08 20 43.5	-0.8
KLMR			LQ	LQ	08 45 48.3		KAVA	Kavala	73.17 312	P	P	08 20 35.3	0.0	ANX	Ano Chora	74.71 309	P	P	08 20 41.6	-3.0
KLMR			LR	LR	08 52 46.4		BOSA	Boshof	73.18 239	P	P	08 20 35.6	-0.1	GRG	Griva	74.73 312	P	P	08 20 43.2	-1.3
KLMR	Klimovskoe	71.25 335	*e*P	P	08 20 21.0	-2.4		comp=Z,17nm,1.2s,baz=76,slow=6.0,SNR=7.9						GRG	Griva	74.73 312	P	P	08 20 43.2	-1.3
KLMR			*e*		08 20 41.5		BOSA			LR	LR	08 49 02.1		GRG	Griva	74.73 312	P	P	08 20 43.2	-1.3
KLMR			*e*		08 22 59.1			comp=Z,5μm,20.2s,baz=68,slow=33						THL	Klokotos Trika	74.80 310	P	P	08 20 45.1	+0.2
KLMR			*e*S	S	08 29 36.5	-2.9	BOSA	Boshof	73.18 239	*e*P	P	08 20 35.3	-0.5	RLS	Riolos of Patr	74.99 309	P	P	08 20 45.2	-0.8
KLMR			pmax	pmax				comp=Z,19nm,1.1s						RLS	Riolos of Patr	74.99 309	P	P	08 20 45.2	-0.8
	comp=Z,138nm,1.4s						BOSA	Boshof	73.18 239	*e*P	P	08 20 35.3	-0.5	CJR	Cluj-Napoca	74.99 318⇑	*i*P	P	08 20 46.1	+0.2
LAST	Lasithi	71.33 306	P	P	08 20 23.0	-1.6	BOSA			pmax	pmax			PVO	Paravola	75.02 309	P	P	08 20 46.2	0.0
LAST	Lasithi	71.33 306	P	P	08 20 23.0	-1.6		comp=Z,19nm,1.1s						KZN	Kozani	75.10 311	P	P	08 20 45.5	-1.2
TLB	Topalu	71.46 316⇑	*i*P	P	08 20 24.4	-0.6	ANKY	Antikythira Is	73.20 307	P	P	08 20 35.3	-0.3	KZN	Kozani	75.10 311	P	P	08 20 45.5	-1.2
CHOS	Chios island	71.48 310	*e*P	P	08 20 26.0	+0.6	ANKY	Antikythira Is	73.20 307	P	P	08 20 35.3	-0.3	KZN	Kozani	75.10 311	P	P	08 20 45.5	-1.2
CHOS	Chios island	71.48 310	P	P	08 20 26.3	+0.9	PLD	Plovdiv	73.25 313	*e*P	P	08 20 37.9	+2.1	NACGM	Naroch	75.11 326	*e*P	P	08 20 45.0	-1.3
CHOS	Chios island	71.48 310	P	P	08 20 26.3	+0.9	PLD	Plovdiv	73.25 313	P	P	08 20 35.8	0.0	NACGM			*e*P	pP	08 20 46.0	-7.5
PRK	Paraskevi	71.50 311	P	P	08 20 25.8	+0.5	OUR	Ouranopolis	73.44 311	P	P	08 20 35.2	-1.7	NACGM			*e*PP	PP	08 23 32.0	-2.5
PRK	Paraskevi	71.50 311	P	P	08 20 25.8	+0.5	OUR	Ouranopolis	73.44 311	P	P	08 20 35.2	-1.7	NACGM			*e*PPP	PPP	08 25 18.0	
PRK	Paraskevi	71.50 311	P	P	08 20 25.8	+0.5	OUR	Ouranopolis	73.44 311	P	P	08 20 35.2	-1.7	NACGM			*e*S	S	08 30 20.0	-3.4
CFR	Carcaliu	71.55 317⇑	*i*P	P	08 20 24.5	-1.0	KYTH	Kithira	73.47 307	P	P	08 20 35.9	-1.3	NACGM			*e*SS	SS	08 35 28.0	+15
CFR	Carcaliu	71.55 317	P	P	08 20 25.0	-0.5	KYTH	Kithira	73.47 307	P	P	08 20 35.9	-1.3	NACGM			*e*SSS	SSS	08 38 26.0	
CFR			pmax	pmax			SEY	Seymchan	73.49 24	P	P	08 20 35.1	-1.6	NACGM			*e*LQ	LQ	08 53 34.0	
	comp=Z,28nm,1.5s							comp=Z,42nm,1.3s,baz=263,slow=7.7,SNR=28						NACGM			*e*LR	LR	09 01 02.0	
PRD	Provadia	71.56 315	P	P	08 20 24.8	-0.8	SEY			LR	LR	08 55 47.1		NACGM			LRM	MLR	09 06 16.0	
HARR	Harsova	71.56 316⇑	*i*P	P	08 20 26.1	+0.4		comp=Z,6μm,18.2s,baz=233,slow=38							comp=Z,7.3nm,16.0s					
HARR	Harsova	71.56 316	P	P	08 20 26.0	+0.4	SEY	Seymchan	73.49 24	*i* P	P	08 20 36.9	+0.2	IDID	Didziasalis	75.25 327	*e*P	P	08 20 46.5	-0.6
SANT	Santorini	71.56 307⇓	*i*P	P	08 20 24.8	-1.1	TMCR	Tamitsa	73.51 338	*e*P	P	08 20 34.2	-2.6	IDID			lAmb	lAmb	08 20 50.6	
SANT	Santorini	71.56 307	*e*P	P	08 20 26.2	+0.4	TMCR			pmax	pmax				comp=Z,33nm,1.1s					
	comp=Z,60nm,1.0s							comp=Z,85nm,1.1s						BMR	Baia Mare	75.26 319⇑	*i*P	P	08 20 48.5	+1.1
SANT			LR	LR			DID	Didima	73.52 308	P	P	08 20 34.5	-3.0	PDO	Prodromos	75.29 309	P	P	08 20 45.5	-2.2
	comp=Z,3μm,21.0s						DID	Didima	73.52 308	P	P	08 20 34.5	-3.0	DEV	Deva	75.29 317⇑	*i*P	P	08 20 47.4	-0.2
SANT	Santorini	71.56 307	P	P	08 20 23.9	-2.0	MAW	Mawson	73.56 192	P	P	08 20 37.7	+0.7	DEV	Deva	75.29 317	P	P	08 20 49.6	+2.0
EZN	Ezine	71.58 311	*e*P	P	08 20 23.0	-2.8		comp=Z,5.9nm,0.9s,baz=354,slow=9.2,SNR=3.3						DEV			pmax	pmax		
EZN	Ezine	71.58 311	P	P	08 20 25.9	+0.1	MAW			PP	PP	08 23 19.3	-1.9		comp=Z,80nm,1.1s					
EZN	Ezine	71.58 311	P	P	08 20 25.9	+0.1		comp=Z,4.5nm,0.9s,baz=42,slow=14,SNR=3.0						KPRO	Kipourio	75.35 311	P	P	08 20 46.7	-1.5
EZN	Ezine	71.58 311	P	P	08 20 25.9	+0.1	MAW			LR	LR	08 45 54.6		LVV	L'vov	75.40 321	*e*P	P	08 20 48.3	+0.2
GELI	Tayfur-Gelibol	71.59 312	*e*P	P	08 20 29.0	+3.1		comp=Z,3μm,21.6s,baz=26,slow=30						LVV			*e*		08 23 33.6	
KIS	Kishinev	71.59 319⇑	*i*P	P	08 20 24.0	-1.8	MAW	Mawson	73.56 192	P	P	08 20 39.0	+2.0	LVV			*e*PPP	PPP	08 25 30.7	
	comp=Z,900nm,4.0s							baz=74,SNR=5.1						LVV			*e*S	SKiKP	08 30 17.8	+8.2
KIS	Kishinev	71.59 319	*i* PcP	PcP	08 20 36.0	-9.0	KRND	KRANIDI	73.56 308	P	P	08 20 35.9	-1.8	LVV			*e*PS	PnS	08 30 55.7	-8.5
KIS	Kishinev	71.59 319	*e*PP	PP	08 23 04.0	-0.8	PAIG	Paliouri	73.59 311	P	P	08 20 39.0	+1.2	LVV			MLR	MLR		
KIS	Kishinev	71.59 319	*i* PPP	PPP	08 25 10.0		PAIG	Paliouri	73.59 311	P	P	08 20 39.0	+1.2		comp=N,870nm,18.0s					
KIS	Kishinev	71.59 319	*c i*P	P	08 20 24.0	-1.8	PAIG	Paliouri	73.59 311	P	P	08 20 39.0	+1.2	LVV			MLR	MLR		
KIS			*i*		08 20 36.0		DOPR	Dopca	73.61 317⇑	*i*P	P	08 20 37.7	-0.2		comp=E,750nm,18.0s					
KIS			*e*		08 23 04.0		VLI	Veliai	73.62 307	P	P	08 20 37.2	-0.9	LVV			MLR	MLR		
KIS			*i* S	S	08 29 39.0	-4.9	VLI	Veliai	73.62 307	P	P	08 20 37.2	-0.9		comp=Z,930nm,18.0s					
KIS			*i* PS	PnS	08 30 30.0	+16	MTUR	Matau	73.67 316⇑	*i*P	P	08 20 38.6	+0.3	DSL	Palaion Diasel	75.43 310	P	P	08 20 48.4	-0.2
KIS			pmax	pmax			NVR	Nevrokopi	73.72 312	P	P	08 20 36.9	-1.7	DSL	Palaion Diasel	75.43 310	P	P	08 20 48.4	-0.2
	comp=Z,900nm,4.0s						NVR	Nevrokopi	73.72 312	P	P	08 20 36.9	-1.7	FNA	Florina	75.47 311	*e*P	P	08 20 42.9	-5.9
KIS			smax	smax			PGB	Panagyurishte	73.73 314	P	P	08 20 47.6	+8.9	FNA	Florina	75.47 311	P	P	08 20 47.7	-1.1
	comp=N,5μm,10.0s						LTK	Loutraki	73.81 309	P	P	08 20 34.5	-4.7	FNA	Florina	75.47 311	P	P	08 20 47.7	-1.1
SIGR	SIGRI	71.80 310	P	P	08 20 28.8	+1.6	LTK	Loutraki	73.81 309	P	P	08 20 34.5	-4.7	FNA	Florina	75.47 311	P	P	08 20 47.7	-1.1
SIGR	SIGRI	71.80 310	P	P	08 20 28.8	+1.6	PLG	Polygyros	73.85 311	P	P	08 20 38.9	-0.5	KFL	Anninata	75.52 309	P	P	08 20 49.0	-0.1
LEOM	Leova	71.82 318⇑	*i*P	P	08 20 26.7	-0.4	PLG	Polygyros	73.85 311	P	P	08 20 38.9	-0.5	IIGN	Ignalina	75.54 327	*e*P	P	08 20 48.2	-0.6
LEOM	Leova	71.82 318	P	P	08 20 26.6	-0.5	PLG	Polygyros	73.85 311	P	P	08 20 38.9	-0.5	IIGN			lAmb	lAmb	08 20 52.4	
IDI	Anoyia	71.83 306	P	P	08 20 26.5	-1.0	XOR	Xorichti	73.86 310	P	P	08 20 40.2	+0.7		comp=Z,31nm,1.1s					
	comp=N,20nm,0.9s,baz=97,slow=8.1,SNR=7.0						XOR	Xorichti	73.86 310	P	P	08 20 40.2	+0.7	DRGR		75.60 318⇑	*i*P	P	08 20 49.3	-0.2
IDI			LR	LR	08 55 28.4		MMB	Musomiste	73.

KRUS Krusevo 75.66 312⇑ *i*P P **P** 08 20 52.3 +2.4
LKD2 Lefkada island 75.72 309 P P **P** 08 20 48.8 -1.5
LKD2 Lefkada island 75.72 309 P P **P** 08 20 48.8 -1.5
FSK Fiskardo 75.75 309 P P P 08 20 44.8 -5.6
OHR Ohrid 75.95 312⇑ *i*P P **P** 08 20 50.3 -1.3
TRPA Tarpa 75.99 319⇓ *i*P P **P** 08 20 51.8 +0.3
TRPA Tarpa 75.99 319⇓ *e*P P **P** 08 20 50.9 -0.6
BZS Buzias 76.12 316⇓ *i*P P **P** 08 20 52.2 -0.2
KWP Kalwaria Pacla 76.19 321 *e*P P **P** 08 20 53.1 +0.4
KWP Kalwaria Pacla 76.19 321 *e*P P **P** 08 20 53.1 +0.4
VSU Vasula 76.20 330 *i* P P **P** 08 20 51.2 -1.3
VSU pmax pmax
comp=Z,192nm,1.2s
SIRR Siria 76.21 317⇓ *i*P P **P** 08 20 52.8 -0.1
UZH Uzhgorod 76.25 319⇓ *i*P P **P** 08 20 53.3 +0.3
UZH *e* 08 21 04.5
UZH *i* S **S** **08 30 36.5 +0.2**
UZH *e*SS **SS** **08 35 33.9 +3.6**
KEK Kerkira 76.51 310 P P **P** 08 20 54.2 -0.5
KEK Kerkira 76.51 310 P P **P** 08 20 54.2 -0.5
LVZ Lovozero 76.52 340 PFAKE 08 21 10.0 +16
LVZ LR LR
comp=Z,6μm,19.0s
LVZ Lovozero 76.52 340 *i* P P **P** 08 20 54.2 0.0
LVZ pmax pmax
comp=Z,27nm,1.1s
TIR Tirane 76.69 312 PFAKE 08 21 10.0 +14
TIR LR LR
comp=Z,3μm,22.0s
APA Apatity 76.79 340⇑ *i*P P **P** 08 20 53.4 -2.3
APA *i* 08 21 05.0
APA *i* 08 23 52.0
APA *i* S **S** **08 30 38.0 -3.6**
APA *i* 08 31 12.0
APA pmax pmax
comp=Z,16nm,1.2s
CRVS Cervenica-Dubn 76.84 320 *e*P P **P** 08 20 58.1 +1.7
CRVS *e*S **S** **08 30 41.2 -1.7**
CRVS Cervenica-Dubn 76.84 320 *e*P P **P** 08 20 58.2 +1.8
CRVS pmax pmax
comp=Z,72nm,1.4s
SUW Suwalki 76.90 325 *e*P P **P** 08 20 55.5 -1.1
SUW Suwalki 76.90 325 *e*P P **P** 08 20 55.5 -1.1
DIVS Divibare 77.01 315 *e*P P **P** 08 20 56.7 -0.8
comp=Z,20nm,1.1s
STHS Stebnicka Huta 77.08 320 *e*P P **P** 08 20 58.4 +0.6
STHS *es*P **pP** **08 21 05.2 +0.2**
STHS Stebnicka Huta 77.08 320 *e*P P **P** 08 20 58.4 +0.6
STHS *e* 08 21 05.2
STHS pmax pmax
comp=Z,34nm,1.1s
PDG Podgorica 77.29 313⇓ *i*P P **P** 08 20 57.6 -1.4
PDG Podgorica 77.29 313 P P **P** 08 20 56.8 -2.2
TTG Podgorica 77.29 313 *e*P P **P** 08 20 57.7 -1.4
comp=Z,32nm,1.1s
TTG Podgorica 77.29 313 *e*P P **P** 08 20 57.7 -1.3
TTG pmax pmax
comp=Z,32nm,1.1s
FIA1 FINESS Array S 77.43 333 *e*P P **P** 08 20 58.2 -1.2
FINES FINESS Array B 77.43 333 P P **P** 08 20 57.4 -2.0
comp=Z,8.5nm,0.7s,baz=64,slow=4.4,SNR=22
FINES LR LR 08 58 19.6
comp=Z,4μm,21.3s,baz=114,slow=38
FINES FINESS Array B 77.43 333 *e*P P **P** 08 20 57.2 -2.2
NIE Niedzica 77.69 320 *e*P P **P** 08 21 00.2 -1.0
NIE *e*S **S** **08 30 51.6 -0.5**
NIE Niedzica 77.69 320 *e*P P **P** 08 21 00.2 -1.0
NIE *e*S **S** **08 30 51.6 -0.5**
PSZ Piszkesteto 77.69 318⇓ *i*P P **P** 08 21 01.2 -0.1
PSZ Piszkesteto 77.69 318⇓ *e*P P **P** 08 21 01.2 -0.1
PSZ Piszkesteto 77.69 318 *e*P P **P** 08 21 00.9 -0.4
comp=Z,20nm,1.0s
PSZ LR LR
comp=Z,1μm,19.0s
PSZ Piszkesteto 77.69 318 *e*P P **P** 08 21 00.9 -0.4
PSZ pmax pmax
comp=Z,21nm,1.0s
PSZ MLR MLR
comp=Z,1μm,19.0s
SUR Sutherland 77.70 236 PFAKE 08 21 10.0 +8.2
SUR LR LR
comp=Z,10μm,19.0s
MSF Maaselka 77.71 338 P P **P** 08 21 01.0 +0.1
MSF pmax pmax
comp=Z,62nm,1.4s
BEL Belsk 77.84 322 *e*P P **P** 08 21 01.6 -0.3
BEL Belsk 77.84 322 *e*P P **P** 08 21 01.6 -0.3
OJC Ojcow 78.15 321 *e*P P **P** 08 21 02.7 -1.0
comp=Z,26nm,1.0s
OJC Ojcow 78.15 321 *e*P P **P** 08 21 02.7 -1.0
OJC pmax pmax
comp=Z,26nm,1.0s
LANS Liptovska Anna 78.18 320 *e*P P **P** 08 21 03.9 0.0
LANS Liptovska Anna 78.18 320 *e*P P **P** 08 21 03.9 0.0
MORH M¯‡r¨gy, Hung 78.27 317⇓ *e*P P **P** 08 21 03.9 -0.5
TARA Tarawa 78.40 89 PFAKE 08 21 20.0 +14
TARA LR LR
comp=Z,214nm,19.0s
VYHS Vyhne 78.49 319 *e*P P **P** 08 21 04.9 -0.7
VYHS *e* 08 21 17.8
VYHS *e*S **S** **08 30 59.5 -1.2**
VYHS Vyhne 78.49 319 *e*P P **P** 08 21 04.9 -0.7
VYHS *e* 08 21 17.8
VYHS *e*S **S** **08 30 59.5 -1.2**
VYHS pmax pmax
comp=Z,47nm,1.5s
TSUM Tsumeb 78.53 250 *e*P P **P** 08 21 07.6 +1.1
comp=Z,11nm,1.1s
TSUM LR LR
comp=Z,4μm,19.0s
OUL Oulu 78.65 336 P P **P** 08 21 06.4 +0.3
KLNR Kaliningrad 78.73 325 *i* P P **P** 08 21 06.3 -0.4
KLNR pmax pmax
comp=Z,155nm,1.0s
TIP Timpagrande 78.78 309⇑ *i*P P **P** 08 21 07.2 -0.3
TIP Timpagrande 78.78 309 *e*P P **P** 08 21 07.0 -0.6
comp=Z,16nm,1.1s
TIP LR LR
comp=Z,1μm,21.0s
TIP Timpagrande 78.78 309 P P **P** 08 21 06.9 -0.6
MATE Matera 78.97 311⇓ *i*P P **P** 08 21 08.5 +0.1
BLY Banja Luka 79.09 315⇑ *i*P P **P** 08 21 09.4 +0.4
BLY Banja Luka 79.09 315 *e*P P **P** 08 21 08.5 -0.4
comp=Z,29nm,1.1s
ORI Oriolo Calabro 79.11 310 P P **P** 08 21 10.1 +0.9
OKC Ostrava-Krasne 79.14 320 *e*P P **P** 08 21 09.4 +0.3
OKC *ex* x 08 21 19.8
OKC AMS AMS 09 15 40.0
comp=Z,2μm,13.6s
OKC Ostrava-Krasne 79.14 320 *e*P P **P** 08 21 09.4 +0.3
OKC *e* 08 21 19.8
OKC MLR MLR
comp=Z,2μm,13.6s
CEL Celeste 79.37 308 PFAKE 08 21 20.0 +9.3
CEL LR LR
comp=Z,1μm,19.0s
VAF Ylistaro 79.42 334 P P **P** 08 21 10.6 +0.3
VAF pmax pmax
comp=Z,54nm,1.9s
MODS Modra-Piesok 79.50 319 *e*P P **P** 08 21 09.5 -1.6
MODS *e*PCP **sP** **08 21 20.8 -0.2**
MODS *e*S **S** **08 31 09.7 -1.7**
MODS Modra-Piesok 79.50 319 *e*P P **P** 08 21 09.6 -1.6
MODS *e* 08 21 20.8
MODS *e*S **S** **08 31 09.7 -1.7**
MODS pmax pmax
comp=Z,126nm,1.4s
MORC Moravsky Berou 79.52 320⇓ *i*P P **P** 08 21 11.6 +0.3
MORC Moravsky Berou 79.52 320 *e*P P **P** 08 21 10.7 -0.6
comp=Z,28nm,0.9s
MORC Moravsky Berou 79.52 320 *e*P P **P** 08 21 10.7 -0.6
MORC pmax pmax
comp=Z,28nm,0.9s
BEHE Becsehely 79.59 317⇓ *e*P P **P** 08 21 12.0 +0.4
CUC Castrocucco 79.59 310 *e*P P **P** 08 21 11.1 -0.8
comp=Z,11nm,1.0s
CUC LR LR
comp=Z,866nm,20.0s
ZST Bratislava 79.59 318 *e*P P **P** 08 21 11.6 0.0
ZST Bratislava 79.59 318 *e*S S **S** 08 31 12.0 -0.3
ZST Bratislava 79.59 318 *e*P P **P** 08 21 11.6 0.0
ZST pmax pmax
comp=Z,110nm,1.4s

KEV Kevo 79.81 341 PFAKE 08 21 20.0 +7.7
KEV LR LR
comp=Z,5μm,19.0s
SOP Sopron 79.88 318 P P **P** 08 21 14.3 +1.1
SOP pmax pmax
comp=Z,29nm,1.6s
KOGS Kog 79.94 317 *e*P P **P** 08 21 12.9 -0.6
KRLC Kraliky 80.05 320 *e*P P **P** 08 21 15.0 +0.9
KRLC *ex* x 08 21 25.5
KRLC Kraliky 80.05 320 *e*P P **P** 08 21 15.0 +0.9
KRLC *e* 08 21 25.5
ZAG Zagreb 80.05 316 P P **P** 08 21 17.5 +3.3
GKP Gorka Klasztor 80.22 324 *e*P P **P** 08 21 17.0 +2.1
GKP *e*S **S** **08 31 16.5 -2.3**
GKP Gorka Klasztor 80.22 324 *e*P P **P** 08 21 17.0 +2.1
GKP *e*S **S** **08 31 16.5 -2.3**
ARCES ARCESS Array B 80.23 341 P P **P** 08 21 13.6 -1.1
comp=Z,26nm,1.0s,baz=119,slow=7.1,SNR=15
ARCES PKP2bc 08 47 46.2
comp=Z,3.6nm,0.8s,baz=7.5,slow=10,SNR=5.3
ARCES LR LR 09 00 34.7
comp=Z,4μm,20.2s,baz=110,slow=39
ARCES ARCESS Array B 80.23 341 *e*P P **P** 08 21 14.6 -0.1
ARCES ⇑*e* 08 47 46.2
ARCES ARCESS Array B 80.23 341 *e*P P **P** 08 21 14.6 -0.1
ARE0 ARCESS Array S 80.23 341 *e*P P **P** 08 21 15.8 +1.2
WDD Wied Dalam 80.28 306 PFAKE 08 21 30.0 +14
WDD LR LR
comp=Z,2μm,19.0s
DPC Dobruska-Polom 80.38 321 *e*P P **P** 08 21 15.8 -0.1
DPC *ex* x 08 21 26.2
DPC *e*S **S** **08 31 22.1 +1.4**
DPC AMS AMS 09 10 30.0
comp=Z,2μm,16.2s
DPC Dobruska-Polom 80.38 321 *e*P P **P** 08 21 15.8 -0.1
DPC *e* 08 21 26.2
DPC *e*S **S** **08 31 22.1 +1.4**
DPC MLR MLR
comp=Z,2μm,16.2s
CONA Conrad Observa 80.38 318 *i* P P **P** 08 21 14.3 -1.7
comp=Z,16nm,1.2s
KSP Ksiaz 80.46 321 *e*P P **P** 08 21 16.6 +0.3
KSP *e*S **S** **08 31 21.2 -0.3**
KSP Ksiaz 80.46 321 *e*P P **P** 08 21 16.6 +0.3
KSP *e*S **S** **08 31 21.2 -0.3**
VAE Valguarnera 80.48 307 P P **P** 08 21 17.9 +1.1
comp=Z,10.0nm,0.6s,baz=23,slow=7.7,SNR=3.8
VAE LR LR 09 01 59.3
comp=Z,618nm,18.8s,baz=172,slow=39
ARSA Arzberg 80.53 317 *i* P P **P** 08 21 15.3 -1.4
comp=Z,60nm,1.3s,SNR=30
BOJS Bojanci 80.53 316 *e*P P **P** 08 21 14.4 -2.4
BOJS *i* 08 22 25.0
SYO Syowa Base 80.58 197⇑ *i*P P **P** 08 21 16.0 -0.5
SYO Syowa Base 80.58 197⇑ *i*pP P **P** 08 21 20.0 +3.5
UPC Upice 80.59 321 *e*P P **P** 08 21 17.3 +0.3
UPC *e*S **S** **08 31 23.5 +0.6**
UPC AMS AMS 09 10 40.0
comp=Z,2μm,16.1s
UPC Upice 80.59 321 *e*P P **P** 08 21 17.3 +0.3
UPC *e*S **S** **08 31 23.5 +0.6**
UPC MLR MLR
comp=Z,2μm,16.1s
BILL Bilibino 80.76 21*c* *i*P P **P** 08 21 16.8 -0.7
BILL *i* 08 21 24.4
BILL *i* 08 24 24.8
BILL *i*S **S** **08 31 17.2 -6.8**
BILL pmax pmax
comp=Z,21nm,1.3s
BILL MLR MLR
comp=Z,24μm,16.0s
TREC Trest 80.78 319 AMS AMS 09 15 00.0
comp=Z,2μm,15.9s
SOKA Soboth 80.80 317 *i* P P **P** 08 21 18.5 +0.1
comp=Z,79nm,1.3s,SNR=30
LJU Ljubljana 81.09 316 *e*P P **P** 08 21 19.4 -0.3
LJU *e*S **S** **08 31 26.2 -2.1**
OBKA Obir 81.12 317 *i* P P **P** 08 21 19.4 -0.6
comp=Z,49nm,1.4s,SNR=21
GOPC GO Pecny, Ondr 81.31 320 *e*P P **P** 08 21 21.6 +0.8
GOPC *ex* x 08 21 32.5
GOPC *e*S **S** **08 31 31.5 +1.1**
GOPC AMS AMS 09 09 30.0
comp=Z,2μm,16.2s
GOPC GO Pecny, Ondr 81.31 320 *e*P P **P** 08 21 21.6 +0.8
GOPC *e* 08 21 32.5
GOPC *e*S **S** **08 31 31.5 +1.1**
GOPC MLR MLR
comp=Z,2μm,16.2s
CLTB Caltabellotta 81.44 307 PFAKE 08 21 30.0 +8.1
CLTB LR LR
comp=Z,573nm,20.0s
MOA Molln 81.44 318 *i* P P **P** 08 21 21.2 -0.4
comp=Z,28nm,1.2s,SNR=8.8
PRU Pruhonice 81.47 320 *e*P P **P** 08 21 21.7 0.0
PRU *e*S **S** **08 31 33.2 +1.2**
PRU AMS AMS 09 09 40.0
comp=Z,2μm,15.6s
PRU Pruhonice 81.47 320 *e*P P **P** 08 21 21.7 0.0
PRU *e*S **S** **08 31 33.2 +1.2**
PRU MLR MLR
comp=Z,2μm,15.6s
PVCC Panska Ves 81.51 321 *e*P P **P** 08 21 22.5 +0.6
PVCC AMS AMS 09 13 30.0
comp=Z,2μm,15.2s
PVCC Panska Ves 81.51 321 *e*P P **P** 08 21 22.5 +0.6
PVCC MLR MLR
comp=Z,2μm,15.2s
PRA Prague 81.55 320 *e*P P **P** 08 21 23.3 +1.2
PRA *e*S **S** **08 31 33.5 +0.7**
PRA AMS AMS 09 15 20.0
comp=Z,2μm,15.1s
PRA Prague 81.55 320 *e*P P **P** 08 21 23.3 +1.2
PRA *e*S **S** **08 31 33.5 +0.7**
PRA MLR MLR
comp=Z,2μm,15.1s
AQU L'Aquila 81.59 312 *e*P P **P** 08 21 22.5 -0.1
comp=Z,59nm,1.1s
AQU LR LR
comp=Z,2μm,21.0s
AQU L'Aquila 81.59 312 *e*P P **P** 08 21 22.5 -0.1
AQU pmax pmax
comp=Z,59nm,1.1s
AQU MLR MLR
comp=Z,2μm,21.0s
CADS Cadrg 81.65 316 *i* P P **P** 08 21 21.8 -1.0
CADS *e*S **S** **08 31 31.8 -2.4**
CADS *e* 08 34 29.7
MYKA Terra Mystica 81.75 317 *i* P P **P** 08 21 23.0 -0.4
comp=Z,50nm,1.5s,SNR=14
BSD Bornholm Skovb 81.83 325 *i* P P **P** 08 21 24.3 +0.9
comp=Z,3μm,16.0s
BSD Bornholm Skovb 81.83 325 *i* P P **P** 08 21 24.3 +0.9
BSD MLR MLR
comp=Z,3μm,16.0s
GEA0 GERESS Array S 81.91 319 *e*P P **P** 08 21 22.4 -1.8
GEC2 GERESS Array S 81.91 319 *e*P P **P** 08 21 23.4 -0.8
GEC2 GERESS Array S 81.91 319 *e*P P **P** 08 21 23.4 -0.8
GERES GERESS Array B 81.91 319 P P **P** 08 21 23.8 -0.3
comp=Z,13nm,0.9s,baz=95,slow=5.6,SNR=33
GERES LR LR 09 04 29.7
comp=Z,922nm,18.3s,baz=80,slow=41
BRG Berggiesshubel 81.94 321 *i* P P **P** 08 21 23.9 -0.2
comp=Z,66nm,1.7s
BRG *i* 08 21 36.2
comp=Z,50nm,1.5s
BRG PP PP 08 24 10.0 -22
BRG S **S** **08 31 38.0 +1.1**
comp=N,908nm,18.5s
comp=E,2μm,18.4s
comp=Z,3μm,15.0s
BRG Berggiesshubel 81.94 321 *i* P P **P** 08 21 23.9 -0.2
BRG *i* 08 21 36.2
BRG S **S** **08 31 38.0 +1.1**
BRG pmax pmax
comp=Z,66nm,1.7s
BRG MLR MLR
comp=N,908nm,18.5s
BRG MLR MLR
comp=E,2μm,18.4s
BRG MLR MLR
comp=Z,3μm,15.0s
KBA Koelnbreinsper 81.99 317 *i* P P **P** 08 21 24.0 -0.8
comp=Z,20nm,1.3s,SNR=7.5

KHC Kasperske Hory 82.01 319 *e*P P **P** 08 21 23.5 -1.1
KHC *ex* x 08 21 32.2
KHC *e*S **S** **08 31 36.6 -1.2**
KHC AMS AMS 09 03 20.0
comp=Z,2μm,16.7s
KHC Kasperske Hory 82.01 319 *e*P P **P** 08 21 23.9 -0.7
KHC Kasperske Hory 82.01 319 *e*P P **P** 08 21 23.5 -1.1
KHC *e* 08 21 32.2
KHC *e*S **S** **08 31 36.6 -1.2**
KHC MLR MLR
comp=Z,2μm,16.7s
WET Wettzell 82.47 319 P P **P** 08 21 26.5 -0.5
WET pmax pmax
comp=Z,25nm,1.4s
TRO Tromso 82.48 340 P P **P** 08 21 27.8 +1.3
ABTA Abfaltersbach 82.54 317 *i* P P **P** 08 21 26.8 -0.7
comp=Z,21nm,1.2s,SNR=9.1
CLL Collm 82.57 321 *i* P P **P** 08 21 26.8 -0.6
comp=Z,52nm,1.7s
CLL *e* 08 21 37.0
CLL *e* 08 22 25.0
CLL *e*PP **PP** **08 24 36.0 -0.9**
CLL *e*PPPP 08 27 48.0
CLL *e*S **S** **08 31 41.0 -2.3**
CLL *e*PPS PPS 08 32 42.0
CLL *e* 08 33 17.0
CLL *e*SS **SS** **08 37 00.0 -5.0**
CLL *e* 08 39 24.0
CLL *e*SSS SSS 08 40 36.0
CLL *e*SSSS 08 43 18.0
CLL LmH 09 04 00.0
comp=N,2μm,18.1s
CLL LmH 09 04 00.0
comp=E,2μm,21.4s
CLL LmH 09 04 00.0
comp=Z,2μm,20.5s
CLL Collm 82.57 321 *e*P P **P** 08 21 26.9 -0.5
CLL Collm 82.57 321 *i* P P **P** 08 21 26.8 -0.6
CLL *e* 08 21 37.0
CLL *e*S **S** **08 31 41.0 -2.3**
CLL pmax pmax
comp=Z,52nm,1.7s
CLL MLR MLR
comp=Z,2μm,20.5s
NKC Novy Kostel 82.84 320 *e*P P **P** 08 21 29.7 +0.8
NKC *e*S **S** **08 31 47.5 +1.4**
NKC AMS AMS 09 12 00.0
comp=Z,2μm,15.5s
NKC Novy Kostel 82.84 320 *e*P P **P** 08 21 29.7 +0.8
NKC *e*S **S** **08 31 47.5 +1.4**
NKC MLR MLR
comp=Z,2μm,15.5s
HFS Hagfors 83.08 330 P P **P** 08 21 29.0 -0.8
comp=Z,49nm,1.2s,baz=118,slow=5.7,SNR=20
HFS LR LR 09 01 10.8
comp=Z,3μm,20.2s,baz=90,slow=38
WTTA Wattenberg 83.17 317 *i* P P **P** 08 21 30.5 -0.4
comp=Z,24nm,1.0s
WATA Walderalm 83.21 317 *i* P P **P** 08 21 30.2 -0.8
comp=Z,37nm,1.2s
COP Copenhagen 83.30 326 *i* P P **P** 08 21 34.1 +3.1
comp=Z,2μm,14.0s
COP Copenhagen 83.30 326 *i* P P **P** 08 21 34.1 +3.1
COP MLR MLR
comp=Z,2μm,14.0s
MOX Moxa 83.40 321 P P **P** 08 21 30.6 -1.1
MOX pmax pmax
comp=Z,17nm,1.5s
MOTA Moosalm 83.54 317 *i* P P **P** 08 21 31.8 -0.9
comp=Z,23nm,1.1s,SNR=11
GRF Grafenberg Arr 83.59 320 P P **P** 08 21 32.9 +0.1
GRFO Grafenberg 83.59 320 *e*P P **P** 08 21 33.6 +0.9
GRFO Grafenberg 83.59 320 *e*P P **P** 08 21 33.6 +0.9
FETA Feichten 83.77 317 *i* P P **P** 08 21 34.0 0.0
comp=Z,36nm,1.3s,SNR=11
RETA Reutte 83.77 317 *i* P P **P** 08 21 33.7 -0.1
comp=Z,32nm,1.2s,SNR=10
VLC Villacollemand 83.89 314 PFAKE 08 21 50.0 +16
VLC LR LR
comp=Z,2μm,19.0s
FUORN Ofenpass-Fuorn 84.08 316 *e*P P **P** 08 21 36.2 +0.6
DAVA Damuels 84.36 317 *i* P P **P** 08 21 37.3 +0.3
comp=Z,40nm,1.4s,SNR=8.8
NB2 NORSAR Subarra 84.39 331 P P **P** 08 21 33.4 -3.2
comp=Z,29nm,1.1s,baz=94,slow=5.3
NB2 NORSAR Subarra 84.39 331 P P **P** 08 21 33.4 -3.2
baz=94,slow=5.3
NB2 NORSAR Subarra 84.39 331 P P **P** 08 21 38.0 +1.4
NB2 pmax pmax
comp=Z,27nm,1.2s
NOA NORSAR Array B 84.39 331 P P **P** 08 21 35.3 -1.3
comp=Z,9.4nm,1.0s,baz=97,slow=5.5,SNR=9.5
SNZO South Karori 84.43 132 PFAKE 08 21 50.0 +13
SNZO LR LR
comp=Z,5μm,19.0s
KEST Kesra 84.48 305 P P **P** 08 21 37.5 -0.2
comp=Z,20nm,1.1s,baz=89,slow=6.2,SNR=6.4
KEST LR LR 09 04 30.7
comp=Z,1μm,18.9s,baz=46,slow=39
KEST Kesra 84.48 305 *e*P P **P** 08 21 38.5 +0.8
VSL Villasalto 84.52 309 PFAKE 08 21 50.0 +12
VSL LR LR
comp=Z,918nm,19.0s
MSVF Nonsavu 84.70 108 PFAKE 08 21 50.0 +11
MSVF LR LR
comp=Z,3μm,19.0s
TUE Stuetta 84.70 316 *e*P P **P** 08 21 38.2 -0.5
TUE LR LR
comp=Z,2μm,20.0s
HSPB Hornsund (broa 84.91 347 *e*P P **P** 08 21 40.4 +1.5
HSPB *e* 08 25 04.0
HSPB *e*S **S** **08 32 06.5 +0.6**
HSPB MLR MLR
comp=Z,5μm,22.0s
SPA0 Spitsbergen Ar 84.95 348 *e*P P **P** 08 21 40.0 +0.8
SPITS Spitsbergen Ar 84.95 348 P P **P** 08 21 38.0 -1.1
comp=Z,14nm,0.7s,baz=95,slow=3.2,SNR=18
SPITS LR LR 09 06 03.0
comp=Z,4μm,19.9s,baz=40,slow=40
KONO Kongsberg 85.10 329 *e*P P **P** 08 21 40.3 +0.1
KONO Kongsberg 85.10 329*c* *e*P P **P** 08 21 39.7 -0.4
KONO pmax pmax
comp=Z,69nm,1.2s
MUD Monsted U'grnd 85.17 326 *i* P P **P** 08 21 45.1 +4.6
MUD Monsted U'grnd 85.17 326 *i* P P **P** 08 21 45.1 +4.6
FUNA Funafuti 85.18 99 PFAKE 08 21 50.0 +8.5
FUNA LR LR
comp=Z,7nm,20.0s
SLE Schleitheim 85.32 318 P P **P** 08 21 41.4 -0.2
BFO Black Forest 85.44 318 *e*P P **P** 08 21 42.0 -0.2
BFO LR LR
comp=Z,1μm,19.0s
BFO Black Forest 85.44 318 *i* P P **P** 08 21 43.3 +1.1
BKZ Black Stump Fm 85.50 129 *e*P P **P** 08 21 41.6 -1.1
URZ Urewera 85.87 128 LR LR 09 00 39.3
comp=Z,2μm,20.8s,baz=320,slow=36
URZ Urewera 85.87 128 *e*P P **P** 08 21 42.4 -2.1
KBS Kingsbay 85.94 349 PFAKE 08 21 50.0 +6.0
KBS LR LR
comp=Z,5μm,20.0s
SENIN Lac Senin/Sane 86.12 316 *e*P P **P** 08 21 46.0 +0.2
BUG Bochum--Univer 86.17 321 P P **P** 08 21 48.0 +2.4
ECH Echery 86.22 318 *e*P P **P** 08 21 47.8 +1.8
ECH LR LR
comp=Z,2μm,20.0s
ECH Echery 86.22 318 *e*P P **P** 08 21 47.8 +1.8
ECH MLR MLR
comp=Z,2μm,20.0s
BNI Bardonecchia 86.55 315 *e*P P **P** 08 21 50.1 +2.2
BNI LR LR
comp=Z,2μm,19.0s
BNI Bardonecchia 86.55 315 *e*P P **P** 08 21 50.1 +2.2
BNI MLR MLR
comp=Z,2μm,19.0s
WLF Walferdange 86.88 319 ⇑P P **P** 08 21 51.9 +2.7
WLF Walferdange 86.88 319 PFAKE 08 22 00.0 +11
WLF LR LR
comp=Z,2μm,20.0s
MIDW Midway 87.12 62 PFAKE 08 22 00.0 +9.2
MIDW LR LR
comp=Z,3μm,19.0s
VNDA Vanda 87.82 168 P P **P** 08 21 53.5 +0.4
comp=Z,2.4nm,1.0s,baz=301,slow=7.6,SNR=5.5
VNDA LR LR 08 57 07.4
comp=Z,4μm,18.6s,baz=292,slow=33

VNDA **Vanda** 87.82 168 *e*P **P** 08 21 54.2 +1.1
VNDA **Vanda** 87.82 168 *e*P **P** 08 21 54.3 +1.1
TAM **Tamanrasset** 88.00 293 *e*P **P** 08 21 56.8 +1.4
TAM LR LR
comp=Z,2µm,19.0s
TAM **Tamanrasset** 88.00 293 *e*P **P** 08 21 56.8 +1.4
TAM MLR MLR
comp=Z,2µm,19.0s
SSB **Saint Sauveur** 88.06 315 PFAKE 08 22 10.0 +15
SSB LR LR
comp=Z,1µm,20.0s
SBA **Scott Base** 88.92 168 *e*P **P** 08 21 57.8 -0.5
comp=Z,4.0nm,1.4s
SBA LR LR
comp=Z,3µm,20.0s
SBA **Scott Base** 88.92 168 *e*P **P** 08 21 57.8 -0.5
SBA pmax pmax
comp=Z,4.0nm,1.4s
SBA MLR MLR
comp=Z,3µm,20.0s
RAO **Raoul Island** 89.21 119 PFAKE 08 22 10.0 +9.3
RAO LR LR
comp=Z,4µm,19.0s
GAMB **Gambell** 89.31 26 *e*P **P** 08 22 01.2 +0.8
NVL **N'lazarevskaya** 90.09 199 *e*P **P** 08 22 02.3 -1.6
NVL *e* 08 25 38.5
NVL pmax pmax
comp=Z,46nm,1.1s
TORD **Torodi Ar. Bea** 92.10 283 P **P** 08 22 14.1 -0.4
comp=Z,6.5nm,1.2s,baz=87,slow=2.6,SNR=16
TORD PP PP 08 26 03.5 +8.8
comp=Z,1.4nm,0.9s,baz=60,slow=5.5,SNR=4.0
TORD LR LR 09 02 39.2
comp=Z,3µm,18.7s,baz=55,slow=35
EKA **Eskdalemuir Ar** 92.15 325 P **P** 08 22 13.2 -0.7
comp=Z,7.0nm,1.0s,baz=86,slow=3.2,SNR=4.6
EKA LR LR 09 09 24.7
comp=Z,1µm,18.2s,baz=55,slow=39
ESK **Eskdalemuir** 92.18 325 PFAKE 08 22 20.0 +6.0
ESK LR LR
comp=Z,3µm,19.0s
DAG **Danmarks Havn** 92.58 348 *i* P **P** 08 22 16.1 +0.7
comp=Z,3µm,20.0s
DAG **Danmarks Havn** 92.58 348 *i* P **P** 08 22 16.1 +0.7
DAG MLR MLR
comp=Z,3µm,20.0s
QSPA **South Pole Qui** 92.62 180 P **P** 08 22 15.7 -0.3
comp=Z,1.4nm,0.9s,baz=35,slow=1.5,SNR=2.5
QSPA LR LR 09 00 20.5
comp=Z,8µm,18.8s,baz=305,slow=33
AFI **Afiamalu** 94.28 104 LR LR 09 08 36.0
comp=Z,810nm,18.4s,baz=273,slow=38
ES19 **SONSECA Array** 94.74 310 *e*P **P** 08 22 26.2 0.0
ESDC **Sonseca Array** 94.79 310 P **P** 08 22 26.6 +0.2
comp=Z,2.3nm,0.9s,baz=68,slow=4.3,SNR=9.2
ESDC LR LR 09 10 01.3
comp=Z,413nm,18.6s,baz=35,slow=39
SNAA **Sanae** 94.84 198 P **P** 08 22 26.1 +0.1
SNAA **Sanae** 94.84 198 P **P** 08 22 26.0 +0.1
comp=Z,1.2nm,0.7s,baz=194,slow=4.2,SNR=2.8
SNAA LR LR 08 59 34.5
comp=Z,3µm,19.1s,baz=96,slow=32
SNAA **Sanae** 94.84 198 *i* P **P** 08 22 25.4 -0.6
JOHN **Johnston Islan** 94.97 73 PFAKE 08 22 40.0 +12
JOHN LR LR
comp=Z,181nm,19.0s
PAB **San Pablo** 95.10 310 PFAKE 08 22 40.0 +12
PAB LR LR
comp=Z,1µm,20.0s
SCO **Scoresbysund** 96.06 342 *i* P P 08 22 37.6 +6.1
comp=Z,2µm,16.0s
SCO **Scoresbysund** 96.06 342 *i* P P 08 22 37.6 +6.1
SCO MLR MLR
comp=Z,2µm,16.0s
IM3 **Indian Mountai** 96.27 22 *e*P **P** 08 22 32.3 -0.3
VNA2 **Neumayer--Watz** 96.40 199 P **P** 08 22 31.6 -1.5
PBRG **Braganca** 96.56 312 *e*P **P** 08 22 31.6 -2.9
TOLK **Toolik Lake Re** 96.71 19 P **P** 08 22 35.0 +0.4
baz=295
TOLK **Toolik Lake Re** 96.71 19 *e*P **P** 08 22 35.5 +0.9
VNA1 **Neumayer--Stat** 96.74 199 P **P** 08 22 33.6 -0.9
MVO **Moncorvo** 96.88 312 *e*P **P** 08 22 40.2 +4.2
MVO **Moncorvo** 96.88 312 *e*S **S** 08 33 57.7 +0.4
MVO *e*SS **SS** 08 40 39.8 +6.8
SVW2 **Sparrevohn** 97.17 27 *e*P Pdif 08 22 38.0 +1.2
PBAR **Barrancos** 97.38 309 *e*S **S** 08 33 58.1 -3.5
PBAR *e*SS **SS** 08 40 39.3 -0.7
PBAR **Barrancos** 97.38 309 *e*LR LR 08 57 01.3
MTE **Manteigas** 97.40 311 *e*P Pdif 08 22 42.5 +4.1
MTE **Manteigas** 97.40 311 *e*S **S** 08 34 03.4 +1.6
MTE *e*SS **SS** 08 40 40.7 +0.4
MTE **Manteigas** 97.40 311 PFAKE 08 22 50.0 +12
MTE LR LR
comp=Z,1µm,20.0s
POLO **Lamas de Olo** 97.42 312 *e*P Pdif 08 22 42.0 +3.5
POLO **Lamas de Olo** 97.42 312 *e*S **S** 08 34 04.3 +2.3
PMRV **Marv??o** 97.45 310 *e*P Pdif 08 22 43.2 +4.6
PMRV **Marv??o** 97.45 310 *e*SS SS 08 40 45.2 +4.3
KOWA **Kowa** 97.54 285 LR LR 09 05 54.4
comp=Z,4µm,18.8s,baz=82,slow=35
PGAV **Gavieira, Arco** 97.66 313 *e*P Pdif 08 22 44.5 +4.9
PGAV **Gavieira, Arco** 97.66 313 *e*PP PP 08 26 45.1 +7.9
PESTR **Estremoz** 97.69 310 *e*P Pdif 08 22 41.6 +1.9
PESTR **Estremoz** 97.69 310 *e*S **S** 08 34 05.9 +1.6
PESTR *e*SS **SS** 08 40 48.2 +3.8
RTC **Rabat Centre** 97.88 305 PFAKE 08 22 50.0 +9.4
RTC LR LR
comp=Z,5µm,20.0s
CAST **Castle Rocks** 97.89 25 *e*P Pdif 08 22 40.8 +0.8
PVAQ **Vaqueiros** 98.04 308 *e*P Pdif 08 22 46.8 +5.6
PVAQ **Vaqueiros** 98.04 308 *e*PP PP 08 26 53.3 +13
PVAQ *e*S **S** 08 34 11.8 +4.6
PVAQ *e*SS **SS** 08 40 53.1 +3.8
BPAW **Bear Paw Mtn.** 98.07 24 *e*P Pdif 08 22 41.4 +0.6
PMTG **Montargil** 98.15 310 *e*P Pdif 08 22 45.8 +4.1
PMTG **Montargil** 98.15 310 *e*S **S** 08 34 09.3 +1.3
PMTG *e*SS **SS** 08 40 56.3 +5.6
PCAS **Casmilo, Conde** 98.18 311 *e*P Pdif 08 22 44.9 +3.1
PCAS **Casmilo, Conde** 98.18 311 *e*S **S** 08 34 08.5 +0.2
PCAS *e*SS **SS** 08 40 55.0 +3.9
PBDV **Barranco-do-Ve** 98.23 308 *e*P Pdif 08 22 44.3 +2.2
PBDV **Barranco-do-Ve** 98.23 308 *e*S **S** 08 34 10.6 +1.7
PBDV *e*SS **SS** 08 40 59.8 +7.7
BORG **Borgarnes** 98.30 337 LR LR 09 09 59.8
comp=Z,1µm,20.6s,baz=56,slow=37
PNCL **Nicolau / Gran** 98.55 309 *e*P Pdif 08 22 49.9 +6.4
PNCL **Nicolau / Gran** 98.55 309 *e*S **S** 08 34 15.7 +4.2
PNCL *e*SS **SS** 08 41 00.1 +3.7
MORF **Marmelete** 98.79 308 *e*S **S** 08 34 18.3 +4.6
MORF *e*SS **SS** 08 41 03.0 +3.1
MDM **Murphy Dome** 98.79 23 *e*P Pdif 08 22 45.0 +1.0
DBIC **Dimbokro** 98.94 277 LR LR 09 03 23.4
comp=Z,2µm,21.9s,baz=70,slow=33
PFVI **Vila Bisbo** 98.95 308 *e*P Pdif 08 22 50.9 +5.6
PFVI **Vila Bisbo** 98.95 308 *e*S **S** 08 34 17.8 +2.8
PFVI *e*SS **SS** 08 41 05.6 +3.4
COLA **College** 98.97 23 PFAKE 08 23 00.0 +15
COLA LR LR
comp=Z,3µm,21.0s
COLA **College** 98.97 23 *i* P Pdif 08 22 45.7 +1.0
COLA pmax pmax
comp=Z,1.0nm,1.0s
PMAFR **Mafra** 98.98 310 *e*P Pdif 08 22 48.9 +3.5
PMAFR **Mafra** 98.98 310 *e*S **S** 08 34 19.8 +4.7
PMAFR *e*SS **SS** 08 41 06.3 +3.9
MCK **McKinley** 99.05 24 *e*P **Pdif** 08 22 45.8 +0.7
MCK **McKinley** 99.05 24 *e*P **Pdif** 08 22 45.8 +0.7
FYU **Fort Yukon** 99.14 20 *e*P **Pdif** 08 22 48.6 +3.1
SUMG **Summit** 99.24 347 *i* P **Pdif** 08 22 51.9 +5.6
SUMG **Summit** 99.24 347 *i* P **Pdif** 08 22 51.9 +5.6
ILAR **Eielson Array** 99.39 22 P **Pdif** 08 22 46.6 0.0
comp=Z,0.5nm,0.9s,baz=289,slow=8.0,SNR=4.6
ILAR PP PP 08 26 40.7 -8.8
comp=Z,1.4nm,1.0s,baz=308,slow=6.9,SNR=4.7
ILAR LR LR 09 10 47.2
comp=Z,3µm,21.3s,baz=309,slow=37
KDAK **Kodiak Island** 99.75 30 PFAKE 08 23 00.0 +12
KDAK LR LR
comp=Z,3µm,20.0s
SHEL **Horse Pasture** 100.56 254 PFAKE 08 23 00.0 +7.1
SHEL LR LR
comp=Z,2µm,21.0s
KULLO **Kullorsuaq** 100.98 353 *i* P **Pdif** 08 22 58.8 +5.3
comp=Z,5µm,21.0s
KULLO **Kullorsuaq** 100.98 353 *i* P **Pdif** 08 22 58.8 +5.3
KULLO MLR MLR
comp=Z,5µm,21.0s
EGAK **Eagle** 101.51 21 PFAKE 08 23 10.0 +14
EGAK LR LR
comp=Z,6µm,19.0s
INK **Inuvik** 101.85 16 P **Pdif** 08 22 55.5 -2.0
comp=Z,4.2nm,1.2s,baz=298,slow=3.4,SNR=4.3
INK PP **PP** 08 27 07.6 -0.3
comp=Z,9.4nm,1.4s,baz=314,slow=6.6,SNR=4.3
RES **Resolute Bay** 102.53 3 P **Pdif** 08 22 59.6 -0.7
comp=Z,5.2nm,1.0s,baz=0.0,slow=12,SNR=3.1
RES PP **PP** 08 27 12.9 0.0
comp=Z,4.7nm,1.1s,baz=33,slow=5.2,SNR=5.1
RES **Resolute Bay** 102.53 3 *e*Pdif **Pdif** 08 23 00.7 +0.3
comp=Z,12nm,1.3s
RES PP **PP** 08 27 12.9 0.0
RES **Resolute Bay** 102.53 3 *e*P **Pdif** 08 23 00.7 +0.3
RES 08 27 13.0
RES pmax pmax
comp=Z,12nm,1.3s
ILULI **Ilulissat** 104.52 348 *i* P **Pdif** 08 23 13.1 +3.8
comp=Z,3µm,16.0s
ILULI **Ilulissat** 104.52 348 *i* P **Pdif** 08 23 13.1 +3.8
ILULI MLR MLR
comp=Z,3µm,16.0s
SFJD **Kangerlussuaq** 106.21 346 *i* P **Pdif** 08 23 23.3 +6.4
comp=Z,3µm,23.0s
SFJD **Kangerlussuaq** 106.21 346 PFAKE 08 27 40.0
SFJD LR LR
comp=Z,2µm,20.0s
SFJD **Kangerlussuaq** 106.21 346 *i* P **Pdif** 08 23 23.3 +6.4
SFJD MLR MLR
comp=Z,3µm,23.0s
PMOZ **Porto Moniz, M** 106.59 305 *e*P **Pdif** 08 23 16.1 -3.4
PMOZ **Porto Moniz, M** 106.59 305 *e*PP PP 08 27 55.2 +11
POHA **Pohakuloa** 107.82 68 PFAKE 08 27 40.0
POHA LR LR
comp=Z,2µm,19.0s
XMAS **Kiritimati** 107.95 87 PFAKE 08 27 40.0
XMAS LR LR
comp=Z,3.0nm,21.0s
ASCN **Ascension** 109.02 263 PFAKE 08 27 50.0
ASCN LR LR
comp=Z,2µm,21.0s
DLBC **Dease Lake** 109.58 23 PP PP 08 28 02.2 -3.1
comp=Z,2.9nm,1.1s,baz=293,slow=7.7,SNR=2.6
WRAK **Wrangell Islan** 109.94 26 PFAKE 08 27 50.0
WRAK LR LR
comp=Z,4µm,20.0s
YKA **Yellowknife Ar** 111.35 14 Pdiff **Pdif** 08 23 41.7 +1.9
comp=Z,0.2nm,1.0s,baz=339,slow=3.8,SNR=3.8
YKA PP **PP** 08 28 11.0 -6.8
comp=Z,1.0nm,0.8s,baz=333,slow=7.0,SNR=7.2
YKA PKKPbc **PKKPbc** 08 38 33.5 -2.5
comp=Z,0.5nm,1.1s,baz=147,slow=3.2,SNR=4.4
CMLA **Cha da Macela** 111.56 312 PFAKE 08 27 50.0
CMLA LR LR
comp=Z,2µm,19.0s
HOPE **Hope Point** 114.94 209 PFAKE 08 28 00.0 +15
HOPE LR LR
comp=Z,3µm,22.0s
TBI **Tubuai** 114.95 114 *e*PP **PP** 08 28 42.2 -2.9
comp=Z,203nm,27.5s
TBI *e*SP SP 08 38 21.0 -1.0
comp=Z,368nm,25.0s
TBI **Tubuai** 114.95 114 *e*LQ LQ 08 57 33.8
comp=Z,1µm,37.2s
TBI *e*LR LR 09 02 29.0
comp=Z,2µm,22.8s
PPT2 **Papeete2** 115.53 108 *e*PP PP 08 28 49.0 -0.5
comp=Z,195nm,24.2s
PPT2 *e*Sdif Sdif 08 36 35.0 +0.9
comp=Z,337nm,24.0s
PPT2 **Papeete2** 115.53 108 *e*PS PS 08 38 29.3 -1.3
comp=Z,788nm,23.2s
PPT2 **Papeete2** 115.53 108 *e*LR LR 09 02 47.2
comp=Z,2µm,25.8s
PMSA **Palmer Station** 116.13 190 PFAKE 08 28 00.0 +13
PMSA LR LR
comp=Z,5µm,19.0s
SACV **Santiago Islan** 116.26 288 PFAKE 08 28 00.0 +11
SACV LR LR
comp=Z,655nm,20.0s
EDM **Edmonton** 119.60 19 *e*PKPdf **PKPdf** 08 27 54.3 -0.1
EDM **Edmonton** 119.60 19 *e*PKIKP **PKPdf** 08 27 54.3 -0.1
NLWA **Neilton Lookou** 119.88 29 PFAKE 08 28 10.0 +15
NLWA LR LR
comp=Z,3µm,19.0s
B05A **Bryant** 120.09 27 P **PKPdf** 08 27 56.0 +0.6
baz=317
SCHQ **Schefferville** 120.63 348 PP PP 08 29 24.9 +2.1
comp=Z,19nm,1.1s,baz=29,slow=9.3,SNR=4.8
FFC **Flin Flon** 121.18 11 *e*PKPdf **PKPdf** 08 27 56.0 -1.3
FFC LR LR
comp=Z,4µm,19.0s
FFC **Flin Flon** 121.18 11 *e*PKIKP **PKPdf** 08 27 56.0 -1.3
FFC MLR MLR
comp=Z,4µm,19.0s
NEW **Newport** 122.27 24 PFAKE 08 28 10.0 +10
NEW LR LR
comp=Z,4µm,19.0s
HAWA **Hanford** 122.65 27 PFAKE 08 28 10.0 +10
HAWA LR LR
comp=Z,2µm,21.0s
HUMO **Hull Mountain** 123.66 33 *e*PKPdf **PKPdf** 08 28 02.5 +0.1
J04D **Umpqua Nationa** 123.67 32 P **PKPdf** 08 28 02.4 -0.3
baz=314
J05D **Fort Rock, OR** 124.09 31 P **PKPdf** 08 28 03.2 -0.2
baz=315
MSO **Missoula** 124.71 23 P **PKPdf** 08 28 04.4 0.0
baz=325
BMO **Blue Mountains** 124.84 27 PFAKE 08 28 20.0 +15
BMO LR LR
comp=Z,2µm,21.0s
N02D **Trinity Center** 124.90 34 P **PKPdf** 08 28 06.1 +1.2
baz=313
EGMT **Eagleton** 125.24 20 P **PKPdf** 08 28 04.8 -0.6
baz=330
EGMT **Eagleton** 125.24 20 *e*PKPdf **PKPdf** 08 28 04.8 -0.6
EGMT LR LR
comp=Z,5µm,21.0s
TAOE **Nuku Hiva Isla** 125.36 99 *e*PP PP 08 29 52.9 -4.2
comp=Z,222nm,25.9s
TAOE **Nuku Hiva Isla** 125.36 99 *e*LR LR 09 07 17.0
comp=Z,2µm,22.8s
MOD **Modoc Plateau** 125.56 32 *e*PKPdf **PKPdf** 08 28 06.4 +0.2
O03D **Paynes Creek** 125.87 34 P **PKPdf** 08 28 05.6 -1.2
baz=313
WVOR **Wild Horse Val** 126.02 30 *e*PKPdf **PKPdf** 08 28 06.2 -0.9
WVOR LR LR
comp=Z,2µm,21.0s
WVOR **Wild Horse Val** 126.02 30 *e*PKIKP **PKPdf** 08 28 06.2 -0.9
WVOR MLR MLR
comp=Z,2µm,21.0s
EFI **East Falkland** 126.04 201 PFAKE 08 28 20.0 +13
EFI LR LR
comp=Z,3µm,22.0s
DGMT **Dagmar** 126.52 15 P **PKPdf** 08 28 08.1 +0.3
baz=337
DGMT **Dagmar** 126.52 15 PFAKE 08 28 20.0 +12
DGMT LR LR
comp=Z,4µm,20.0s
ULM **Lac du Bonnet** 126.52 8 PKP **PKPdf** 08 28 07.3 -0.3
comp=Z,5.6nm,0.7s,baz=344,slow=2.9,SNR=7.1
ULM PP **PP** 08 30 02.6 +0.2
comp=Z,3.2nm,0.9s,baz=4.9,slow=6.7,SNR=3.4
MFID **Camas Ranch** 126.62 27 *e*PKPdf **PKPdf** 08 28 08.1 -0.2
BOZ **Bozeman (W)** 126.63 23 P **PKPdf** 08 28 08.1 -0.2
baz=327
BOZ **Bozeman (W)** 126.63 23 *e*PKPdf **PKPdf** 08 28 08.0 -0.2
BOZ LR LR
comp=Z,5µm,19.0s
BOZ **Bozeman (W)** 126.63 23 *e*PKIKP **PKPdf** 08 28 08.0 -0.2
BOZ MLR MLR
comp=Z,5µm,19.0s
MCMT **McKenzie Canyo** 126.78 24 *e*PKPdf **PKPdf** 08 28 08.4 -0.3
HLID **Hailey** 127.14 26 P **PKPdf** 08 28 09.1 -0.2
baz=323,SNR=8.0
HLID **Hailey** 127.14 26 *e*PKPdf **PKPdf** 08 28 07.7 -1.6
HLID LR LR
comp=Z,4µm,21.0s
QLMT **Earthquake Lak** 127.35 23 *e*PKPdf **PKPdf** 08 28 09.2 -0.4
LAO **LASA Array** 127.55 18 P **PKPdf** 08 28 09.8 0.0
baz=334
LAO **LASA Array** 127.55 18 *e*PKPdf **PKPdf** 08 28 07.6 -2.2
LAO LR LR
comp=Z,4µm,20.0s
YMR **Madison River** 127.66 23 *e*PKPdf **PKPdf** 08 28 10.5 +0.2
A32A **Rocking H Ranc** 127.73 9 P **PKPdf** 08 28 10.2 +0.2
baz=346
A33A **Warroad** 127.87 8 P **PKPdf** 08 28 09.8 -0.5
baz=348
YFT **Old Faithful** 127.90 23 *e*PKPdf **PKPdf** 08 28 12.2 +1.5
YFT *e*PP **PP** 08 30 14.6 +2.5
RLMT **Red Lodge** 127.91 21 P **PKPdf** 08 28 09.8 -1.0
baz=329
RLMT **Red Lodge** 127.91 21 PFAKE 08 28 20.0 +9.2
RLMT LR LR
comp=Z,4µm,20.0s
LKWY **Lake** 127.97 22 PFAKE 08 28 20.0 +9.1
LKWY LR LR
comp=Z,3µm,20.0s
RKT **Rikitea** 128.03 117 *e*LR LR 09 08 31.0
comp=Z,1µm,25.0s
H17A **Grant Village** 128.04 23 *e*PKPdf **PKPdf** 08 28 11.8 +0.7
BMN **Battle Mountai** 128.22 31 *e*PKPdf **PKPdf** 08 28 11.3 -0.1
BMN **Battle Mountai** 128.22 31 *e*PKIKP **PKPdf** 08 28 11.3 -0.1
B32A **Ashes, Strandq** 128.23 9 P **PKPdf** 08 28 10.3 -0.6
baz=346
B34A **Aery, Baudette** 128.42 8 P **PKPdf** 08 28 11.0 -0.3
baz=348
AGMN **Agassiz Nation** 128.43 9 P **PKPdf** 08 28 11.2 -0.1
baz=347
AGMN **Agassiz Nation** 128.43 9 PFAKE 08 28 20.0 +8.7
AGMN LR LR
comp=Z,5µm,19.0s
C31A **Landman Farms,** 128.60 11 P **PKPdf** 08 28 10.9 -0.8
baz=344
B35A **Bob, Littlefor** 128.66 7 P **PKPdf** 08 28 11.5 -0.3
baz=350
NVAR **Mina Array Bea** 129.11 33 PKP **PKPdf** 08 28 13.8 +0.6
comp=Z,2.7nm,0.9s,baz=278,slow=2.7,SNR=16
AHID **Auburn Hatcher** 129.20 24 PFAKE 08 28 20.0 +6.7
AHID LR LR
comp=Z,6µm,20.0s
C35A **Jirik Farms, M** 129.28 7 P **PKPdf** 08 28 12.8 -0.2
baz=349
HVU **Hansel Valley** 129.29 26 *e*PKPdf **PKPdf** 08 28 12.6 -0.8
HVU **Hansel Valley** 129.29 26 *e*PKIKP **PKPdf** 08 28 12.6 -0.8
EYMN **Ely** 129.31 5 P **PKPdf** 08 28 13.0 -0.1
baz=352
EYMN **Ely** 129.31 5 PFAKE 08 28 20.0 +6.9
EYMN LR LR
comp=Z,3µm,19.0s
C40A **Isle Royale Na** 129.51 3 P **PKPdf** 08 28 13.4 0.0
baz=355
BW06 **Boulder Array** 129.81 23 P **PKPdf** 08 28 14.3 -0.2
baz=328
BW06 **Boulder Array** 129.81 23 *e*PKPdf **PKPdf** 08 28 13.9 -0.6
BW06 LR LR
comp=Z,4µm,20.0s
PDAR **Pinedale Array** 129.82 23 PKP **PKPdf** 08 28 12.7 -1.8
comp=Z,14nm,1.3s,baz=349,slow=1.5,SNR=19
PDAR PP **PP** 08 30 24.5 -0.2
comp=Z,1.0nm,0.9s,baz=348,slow=1.3,SNR=2.6
D35A **Remer** 129.88 8 P **PKPdf** 08 28 13.9 -0.2
baz=349
HWUT **Hardware Ranch** 129.96 25 PFAKE 08 28 30.0 +15
HWUT LR LR
comp=Z,3µm,19.0s
PKME **Peaks-Kenny Pk** 130.12 345 PFAKE 08 28 30.0 +15
PKME LR LR
comp=Z,3µm,20.0s
E35A **Pequot Lakes** 130.34 8 P **PKPdf** 08 28 14.3 -0.7
baz=348
D41A **Chassel** 130.39 3 P **PKPdf** 08 28 15.0 -0.1
baz=356
RCBR **Riachuelo** 130.43 265 PFAKE 08 28 30.0 +14
RCBR LR LR
comp=Z,35µm,20.0s
E36A **McGregor** 130.53 7 P **PKPdf** 08 28 15.4 0.0
baz=350
RSSD **Black Hills** 130.53 18 P **PKPdf** 08 28 14.8 -0.9
baz=335
RSSD **Black Hills** 130.53 18 *e*PKPdf **PKPdf** 08 28 14.3 -1.5
RSSD **Black Hills** 130.53 18 *e*PKIKP **PKPdf** 08 28 14.3 -1.5
DUG **Dugway, Tooele** 130.55 28 P **PKPdf** 08 28 16.3 +0.5
baz=323
DUG **Dugway, Tooele** 130.55 28 *e*PKPdf **PKPdf** 08 28 16.6 +0.8
DUG *e*SKPbc **SKPab** 08 31 37.6 -0.6
DUG LR LR
comp=Z,2µm,21.0s
DUG **Dugway, Tooele** 130.55 28 *e*PKIKP **PKPdf** 08 28 16.6 +0.8
DUG MLR MLR
comp=Z,2µm,21.0s
R11A **Troy Canyon, C** 130.62 31 P **PKPdf** 08 28 15.8 -0.3
baz=319
R11A **Troy Canyon, C** 130.62 31 *e*PKPdf **PKPdf** 08 28 15.7 -0.3
R11A *e*PP **PP** 08 30 27.7 -2.4
R11A *e*SKPbc **SKPab** 08 31 38.7 0.0
E38A **The Farm, Brul** 130.63 5 P **PKPdf** 08 28 15.8 +0.3
baz=352
E40A **Wakefield** 130.93 4 P **PKPdf** 08 28 16.1 0.0
baz=354
E39A **Mellen** 130.94 5 P **PKPdf** 08 28 16.3 +0.1
baz=353
E41A **Kenton** 130.96 3 P **PKPdf** 08 28 15.8 -0.4
baz=355
ALFO **Alfred** 130.97 350 P **PKPdf** 08 28 16.1 -0.1
baz=14
F35A **Swanville** 131.00 8 P **PKPdf** 08 28 16.1 -0.2
baz=348
K22A **Casper** 131.04 21 P **PKPdf** 08 28 15.9 -0.8
baz=332
NLU **North Lily Min** 131.08 27 *e*PKPdf **PKPdf** 08 28 17.2 +0.2
NLU *e*PP **PP** 08 30 29.1 -3.9
NLU *e*SKPbc **SKPab** 08 31 40.5 -0.1
E43A **Lone Tree Farm** 131.13 1 P **PKPdf** 08 28 16.1 -0.4
baz=358
F36A **Milaca** 131.14 7 P **PKPdf** 08 28 16.1 -0.5
baz=349
E45A **Wooded Hills,** 131.16 360 P **PKPdf** 08 28 16.5 -0.1
baz=0.4
F38A **Pierce - Schro** 131.24 6 P **PKPdf** 08 28 16.8 0.0
baz=352
MPMC **Manual Prospec** 131.25 35 P **PKPdf** 08 28 16.3 -1.0
baz=315
COWI **Conover** 131.32 3 PFAKE 08 28 30.0 +13
COWI LR LR
comp=Z,3µm,19.0s
F39A **Loretta** 131.37 5 P **PKPdf** 08 28 17.0 0.0
baz=353
F37A **Hinrichs Farm,** 131.39 7 P **PKPdf** 08 28 17.3 +0.2
baz=350
F40A **Park Falls** 131.43 4 P **PKPdf** 08 28 16.6 -0.5
baz=354
F44A **Big Bay de Noc** 131.54 1 P **PKPdf** 08 28 17.0 -0.3
baz=359
F43A **Flat Rock, Esc** 131.67 2 P **PKPdf** 08 28 18.1 +0.5
baz=358
F41A **Three Lakes** 131.68 3 P **PKPdf** 08 28 17.7 +0.1
baz=355
F46A **Macinaw City C** 131.74 359 P **PKPdf** 08 28 18.2 +0.5
baz=1.0
F45A **CMU Biological** 131.84 360 P **PKPdf** 08 28 18.1 +0.2
baz=360
LONY **Lake Ozonia** 131.90 350 PFAKE 08 28 30.0 +12
LONY LR LR
comp=Z,3µm,20.0s
G38A **Ridgeland** 132.02 6 P **PKPdf** 08 28 18.1 -0.2
baz=352
BANO **Bancroft** 132.02 353 P **PKPdf** 08 28 18.2 -0.1
baz=10
G40A **Rib Lake** 132.07 4 P **PKPdf** 08 28 19.1 +0.8
baz=354
H35A **Sunnyside Ranc** 132.10 9 P **PKPdf** 08 28 18.4 0.0
baz=347
GSC **Goldstone, Bar** 132.18 35 P **PKPdf** 08 28 19.6 +0.6
baz=316
MSU **Marysvale** 132.18 28 *e*PKPdf **PKPdf** 08 28 21.2 +2.1
MSU *e*PP **PP** 08 30 40.2 +0.1
MSU **Marysvale** 132.18 28 *e*PKIKP **PKPdf** 08 28 21.2 +2.1
MSU *e* 08 30 40.2
G42A **Mountain** 132.21 3 P **PKPdf** 08 28 19.0 +0.4
baz=356
G43A **Wallace** 132.23 2 P **PKPdf** 08 28 19.3 +0.7
baz=357
H36A **Jessenland, He** 132.35 8 P **PKPdf** 08 28 20.4 +1.5
baz=349
I33A **Coleman** 132.39 11 P **PKPdf** 08 28 19.6 +0.6
baz=345

H37A	**Dierke Farm, C**	**132.48**	**7**	P		**PKPdf**	**08 28 20.0**	**+0.8**
	baz=350							
H39A	**Augusta**	**132.56**	**6**	P		**PKPdf**	**08 28 19.8**	**+0.5**
	baz=352							
O20A	**White River Ci**	**132.57**	**24**	P		**PKPdf**	**08 28 20.6**	**+0.9**
	baz=328							
O20A	**White River Ci**	**132.57**	**24**	*e*PKPdf		**PKPdf**	**08 28 19.9**	**+0.1**
GLMI	**Grayling**	**132.69**	**359**	PFAKE			08 28 30.0	+10
GLMI				LR	LR			
	comp=Z,3μm,21.0s							
H40A	**Chili**	**132.70**	**5**	P		**PKPdf**	**08 28 20.3**	**+0.7**
	baz=353							
ECSD	**EROS Data Cent**	**132.72**	**11**	P		**PKPdf**	**08 28 20.1**	**+0.4**
	baz=345							
ECSD	**EROS Data Cent**	**132.72**	**11**	*e*PKPdf		**PKPdf**	**08 28 19.9**	**+0.2**
ECSD				*e*SKPbc		**SKPab**	**08 31 47.1**	**-0.1**
ECSD				LR	LR			
	comp=Z,3μm,19.0s							
J32A	**Parkston**	**132.82**	**12**	P		**PKPdf**	**08 28 20.4**	**+0.6**
	baz=343							
I37A	**Lemond, Waseca**	**132.97**	**8**	P		**PKPdf**	**08 28 21.1**	**+1.0**
	baz=349							
GMRC	**Granite Mounta**	**133.21**	**35**	P		**PKPdf**	**08 28 22.0**	**+1.0**
	baz=317							
I39A	**Houston**	**133.36**	**6**	P		**PKPdf**	**08 28 20.2**	**-0.6**
	baz=352							
I40A	**Norwalk**	**133.41**	**5**	P		**PKPdf**	**08 28 20.6**	**-0.3**
	baz=353							
PFO	**Pinyon Flats O**	**133.58**	**36**	PFAKE			08 28 30.0	+8.3
PFO				LR	LR			
	comp=Z,2μm,20.0s							
ISCO	**Idaho Springs**	**133.87**	**22**	*e*PKPdf		**PKPdf**	**08 28 21.0**	**-1.3**
ISCO				*e*PP		**PP**	**08 30 51.8**	**+1.0**
ISCO				*e*SKPbc		**SKPbc**	**08 31 50.9**	**+0.7**
ISCO				LR	LR			
	comp=Z,3μm,22.0s							
ISCO	**Idaho Springs**	**133.87**	**22**	*e*PKIKP		**PKPdf**	**08 28 21.0**	**-1.3**
ISCO				*e*			08 30 51.8	
ISCO				MLR	MLR			
	comp=Z,3μm,22.0s							
OGNE	**Ogallala**	**134.03**	**17**	PFAKE			08 28 30.0	+7.7
OGNE				LR	LR			
	comp=Z,3μm,19.0s							
JFWS	**Jewell Farm**	**134.41**	**5**	PFAKE			08 28 30.0	+7.2
JFWS				LR	LR			
	comp=Z,4μm,21.0s							
BINY	**Binghamton**	**134.49**	**350**	PFAKE			08 28 30.0	+7.0
BINY				LR	LR			
	comp=Z,4μm,19.0s							
BGNE	**Belgrade**	**134.63**	**13**	*e*PKPdf		**PKPdf**	**08 28 23.3**	**0.0**
BGNE				*e*PP		**PP**	**08 30 49.9**	**-5.2**
MVCO	**Mesa Verde**	**134.93**	**26**	*e*PKPdf		**PKPdf**	**08 28 24.5**	**+0.2**
MVCO				LR	LR			
	comp=Z,3μm,19.0s							
WUAZ	**Wupatki**	**134.94**	**30**	*e*PKPdf		**PKPdf**	**08 28 24.6**	**+0.3**
WUAZ				*e*PP		**PP**	**08 31 00.0**	**+2.2**
WUAZ				*e*SKPbc		**SKPab**	**08 31 55.9**	**-1.4**
WUAZ				LR	LR			
	comp=Z,2μm,20.0s							
SCIA	**State Center**	**135.07**	**8**	PFAKE			08 28 40.0	+16
SCIA				LR	LR			
	comp=Z,4μm,20.0s							
AAM	**Ann Arbor**	**135.19**	**358**	PFAKE			08 28 40.0	+16
AAM				LR	LR			
	comp=Z,5μm,20.0s							
SDCO	**Great Sand Dun**	**135.71**	**23**	PFAKE			08 28 40.0	+14
SDCO				LR	LR			
	comp=Z,5μm,19.0s							
M41A	**Milan**	**135.91**	**5**	P		**PKPdf**	**08 28 25.2**	**-0.5**
	baz=353							
N54A	**Moraine State**	**136.26**	**354**	P		**PKPdf**	**08 28 26.2**	**-0.2**
	baz=7.9							
CBKS	**Cedar Bluff**	**136.67**	**16**	PFAKE			08 28 40.0	+13
CBKS				LR	LR			
	comp=Z,4μm,19.0s							
HDIL	**Hopedale**	**136.83**	**4**	PFAKE			08 28 40.0	+13
HDIL				LR	LR			
	comp=Z,3μm,20.0s							
O40A	**La Belle**	**137.00**	**7**	P		**PKPdf**	**08 28 27.7**	**0.0**
	baz=351							
O41A	**Passleys Farm,**	**137.12**	**6**	P		**PKPdf**	**08 28 27.8**	**-0.2**
	baz=352							
P37A	**Lathrop**	**137.16**	**10**	P		**PKPdf**	**08 28 28.0**	**-0.1**
	baz=347							
KSU1	**Kansas State U**	**137.18**	**13**	P		**PKPdf**	**08 28 28.1**	**0.0**
	baz=344							
KSU1	**Kansas State U**	**137.18**	**13**	PFAKE			08 28 40.0	+12
KSU1				LR	LR			
	comp=Z,3μm,19.0s							
ACSO	**Alum Creek Sta**	**137.22**	**357**	P		**PKPdf**	**08 28 27.7**	**-0.5**
	baz=3.7							
ACSO	**Alum Creek Sta**	**137.22**	**357**	*e*PKPdf		**PKPdf**	**08 28 27.9**	**-0.2**
ACSO				LR	LR			
	comp=Z,6μm,21.0s							
P40A	**Paris**	**137.56**	**7**	P		**PKPdf**	**08 28 28.8**	**0.0**
	baz=350							
P42A	**Winchester**	**137.70**	**6**	P		**PKPdf**	**08 28 29.3**	**+0.2**
	baz=353							
SPB	**Sao Paulo**	**137.71**	**237**	PFAKE			08 28 40.0	+11
SPB				LR	LR			
	comp=Z,4μm,21.0s							
P43A	**Skaggs, Pawnee**	**137.72**	**5**	P		**PKPdf**	**08 28 29.9**	**+0.9**
	baz=354							
ANMO	**Albuquerque**	**137.72**	**26**	P		**PKPdf**	**08 28 29.9**	**+0.4**
	baz=328							
ANMO	**Albuquerque**	**137.72**	**26**	*e*PKPdf		**PKPdf**	**08 28 30.1**	**+0.6**
ANMO				LR	LR			
	comp=Z,2μm,20.0s							
ANMO	**Albuquerque**	**137.72**	**26**	*e*PKIKP		**PKPdf**	**08 28 30.1**	**+0.6**
ANMO				MLR	MLR			
	comp=Z,2μm,20.0s							
TUC	**Tucson**	**137.75**	**33**	P		**PKPdf**	**08 28 30.1**	**+0.7**
	baz=321							
TUC	**Tucson**	**137.75**	**33**	*e*PKPdf		**PKPdf**	**08 28 29.4**	**-0.1**
TUC				*e*PP		**PP**	**08 31 16.7**	**+1.3**
TUC				*e*SKPbc		**SKiKP**	**08 32 05.3**	**-1.2**
TUC				LR	LR			
	comp=Z,3μm,19.0s							
TUC	**Tucson**	**137.75**	**33**	*e*PKIKP		**PKPdf**	**08 28 29.4**	**-0.1**
TUC				*e*			08 31 16.7	
TUC				MLR	MLR			
	comp=Z,3μm,19.0s							
LAZ	**Ladron**	**137.88**	**27**	*e*PKPdf		**PKPdf**	**08 28 31.7**	**+1.9**
Q38A	**Cooks Store, C**	**137.89**	**9**	P		**PKPdf**	**08 28 29.9**	**+0.5**
	baz=348							
Q39A	**Willow Grove F**	**137.91**	**9**	P		**PKPdf**	**08 28 30.2**	**+0.8**
	baz=349							
P45A	**Graceland, Par**	**137.94**	**3**	P		**PKPdf**	**08 28 29.8**	**+0.3**
	baz=357							
Q40A	**Laux Farm, Aux**	**138.09**	**8**	P		**PKPdf**	**08 28 29.0**	**-0.8**
	baz=350							
LPM	**Los Pinos Moun**	**138.18**	**27**	*e*PKPdf		**PKPdf**	**08 28 31.2**	**+0.9**
Q41A	**Truxton**	**138.23**	**7**	P		**PKPdf**	**08 28 30.2**	**+0.1**
	baz=351							
Q42A	**Golden Eagle**	**138.35**	**6**	P		**PKPdf**	**08 28 30.2**	**0.0**
	baz=352							
R39A	**Chumby, Stover**	**138.62**	**9**	P		PKPpre	08 28 23.3	
	baz=349							
CBN	**Corbin Frederi**	**138.62**	**350**	PFAKE			08 28 40.0	+9.3
CBN				LR	LR			
	comp=Z,2μm,20.0s							
TRQA	**Tornquist**	**138.72**	**209**	PFAKE			08 28 40.0	+9.0
TRQA				LR	LR			
	comp=Z,3μm,20.0s							
TRQA	**Tornquist**	**138.72**	**209**	*e*PKIKP		**PKPdf**	**08 28 32.5**	**+1.5**
R40A	**Maddies Statio**	**138.75**	**8**	P		PKPpre	08 28 24.7	
	baz=350							
S38A	**Stockton**	**139.14**	**10**	P		PKPpre	08 28 25.6	
	baz=347							
S39A	**Bolivar**	**139.18**	**9**	P		PKPpre	08 28 24.2	
	baz=348							
R47A	**Wooly Knot Far**	**139.21**	**1**	P		PKPpre	08 28 24.3	
	baz=358							
S40A	**Lebanon**	**139.40**	**9**	P		PKPpre	08 28 23.5	
	baz=349							
S41A	**Jillco Farms,**	**139.51**	**8**	P		PKPpre	08 28 25.1	
	baz=350							
SIUC	**Southern Illin**	**139.66**	**5**	*e*PKPdf		**PKPdf**	**08 28 31.3**	**-1.3**
S43A	**Fulton Ridge,**	**139.72**	**6**	P		PKPpre	08 28 27.4	
	baz=353							
S45A	**Carrier Mills**	**139.74**	**4**	P		PKPpre	08 28 28.8	
	baz=355							
PLCA	**Paso Flores**	**139.78**	**198**	PKhKP		PKPpre	08 28 28.7	
	comp=Z,1.7nm,0.9s,baz=242,slow=3.4,SNR=3.3							
T39A	**Clever**	**139.82**	**10**	P		PKPpre	08 28 27.1	
	baz=348							
BBSR	**BB Station**	**139.93**	**332**	PFAKE			08 28 40.0	+6.7
BBSR				LR	LR			
	comp=Z,2μm,22.0s							
BLA	**Blacksburg**	**140.02**	**354**	PFAKE			08 28 40.0	+6.6
BLA				LR	LR			
	comp=Z,3μm,19.0s							
T41A	**Mountain View**	**140.05**	**8**	P		PKPpre	08 28 26.6	
	baz=350							
MSTX	**Muleshoe**	**140.08**	**23**	P		PKPpre	08 28 27.2	
	baz=333							
MSTX	**Muleshoe**	**140.08**	**23**	*e*PKPdf		PKPpre	08 28 27.6	
MSTX				*e*PP		**PP**	**08 31 30.0**	**+0.5**
T42A	**Van Buren**	**140.15**	**7**	P		PKPpre	08 28 27.3	
	baz=351							
T43A	**Greenville**	**140.18**	**6**	P		PKPpre	08 28 29.9	
	baz=352							
T44A	**Benton**	**140.25**	**5**	P		PKPpre	08 28 30.0	
	baz=354							
T46A	**Princeton**	**140.41**	**3**	P		PKPpre	08 28 25.9	
	baz=356							
TUL1	**Leonard**	**140.42**	**13**	P		PKPpre	08 28 28.1	
	baz=344							
TUL1	**Leonard**	**140.42**	**13**	*e*PKPdf		PKPpre	08 28 29.7	
U39A	**Green Forest**	**140.43**	**10**	P		PKPpre	08 28 29.7	
	baz=348							
U40A	**Yellville**	**140.56**	**9**	P		PKPpre	08 28 29.5	
	baz=348							
PARMO	**Parma**	**140.65**	**5**	*e*PKPdf		**PKPdf**	**08 28 34.0**	**-0.5**
PARMO				*e*PP		**PP**	**08 31 31.8**	**-0.7**
U41A	**Viola**	**140.71**	**8**	P		PKPpre	08 28 28.1	
	baz=350							
WMOK	**Wichita Mounta**	**140.74**	**17**	P		PKPpre	08 28 28.5	
	baz=339							
WMOK	**Wichita Mounta**	**140.74**	**17**	*e*PKPdf		PKPpre	08 28 29.1	
WMOK				LR	LR			
	comp=Z,3μm,19.0s							
WMOK	**Wichita Mounta**	**140.74**	**17**	*e*PKIKP		PKPpre	08 28 29.1	
WMOK				MLR	MLR			
	comp=Z,3μm,19.0s							
U42A	**Revenden**	**140.80**	**7**	P		PKPpre	08 28 27.9	
	baz=351							
V39A	**Pettigrew**	**140.93**	**10**	P		PKPpre	08 28 29.5	
	baz=347							
MNTX	**Cornudas Mount**	**140.94**	**27**	P		PKPpre	08 28 29.8	
	baz=328							
MNTX	**Cornudas Mount**	**140.94**	**27**	*e*PKPdf		PKPpre	08 28 30.2	
MNTX				*e*SKPbc		**SKiKP**	**08 32 13.7**	**+0.7**
MNTX				LR	LR			
	comp=Z,3μm,19.0s							
U47A	**Clarksville**	**141.04**	**2**	P		PKPpre	08 28 31.4	
	baz=357							
V40A	**Witts Springs**	**141.10**	**9**	P		PKPpre	08 28 29.9	
	baz=348							
V41A	**Mountainview**	**141.23**	**9**	P		PKPpre	08 28 29.3	
	baz=349							
V42A	**Cord**	**141.31**	**8**	P		PKPpre	08 28 31.4	
	baz=351							
WVT	**Waverly**	**141.32**	**3**	P		PKPpre	08 28 31.4	
	baz=356							
W39A	**Magazine**	**141.53**	**11**	P		PKPpre	08 28 30.8	
	baz=347							
CNNC	**Cliffs of the**	**141.60**	**350**	PFAKE			08 28 50.0	+14
CNNC				LR	LR			
	comp=Z,3μm,19.0s							
W40A	**Ferguson Farm,**	**141.66**	**10**	P		PKPpre	08 28 33.7	
	baz=348							
W41B	**Gary Mavity, V**	**141.81**	**9**	P		PKPpre	08 28 32.9	
	baz=349							
X39A	**Fountain Ranch**	**142.13**	**12**	P		PKPpre	08 28 33.0	
	baz=346							
KMSC	**Kings Mountain**	**142.16**	**354**	*e*PKPdf		**PKPdf**	**08 28 36.4**	**-0.9**
UALR	**University of**	**142.19**	**9**	*e*PKPdf		PKPpre	08 28 33.9	
MIAR	**Mount Ida**	**142.20**	**11**	P		PKPpre	08 28 34.0	
	baz=347,SNR=13							
MIAR	**Mount Ida**	**142.20**	**11**	*e*PKPdf		PKPpre	08 28 33.1	
MIAR				LR	LR			
	comp=Z,2μm,19.0s							
MIAR	**Mount Ida**	**142.20**	**11**	*e*PKIKP		PKPpre	08 28 33.1	
MIAR				MLR	MLR			
	comp=Z,2μm,19.0s							
W45A	**Hickory Valley**	**142.20**	**5**	P		PKPpre	08 28 33.6	
	baz=354							
W47A	**Westpoint**	**142.21**	**3**	P		PKPpre	08 28 33.0	
	baz=357							
W46A	**Michie**	**142.28**	**4**	P		PKPpre	08 28 33.3	
	baz=355							
ABTX	**Abilene, Hawle**	**142.42**	**20**	P		PKPpre	08 28 34.4	
	baz=336							
ABTX	**Abilene, Hawle**	**142.42**	**20**	*e*PKPdf		PKPpre	08 28 33.7	
X43A	**Mavell**	**142.65**	**7**	P		PKPpre	08 28 35.6	
	baz=351							
X44A	**Crenshaw**	**142.75**	**6**	P		PKPpre	08 28 35.1	
	baz=352							
Y40A	**Okolona**	**142.77**	**11**	P		PKPpre	08 28 34.2	
	baz=347							
OXF	**Oxford**	**142.82**	**5**	P		PKPpre	08 28 35.6	
	baz=354							
X46A	**Booneville**	**142.84**	**4**	P		PKPpre	08 28 35.3	
	baz=355							
X49A	**Woodville**	**142.99**	**1**	P		**PKPdf**	**08 28 36.7**	**-2.1**
	baz=359							
X48A	**Hartselle**	**143.03**	**2**	P		PKPbc	08 28 35.5	-0.1
	baz=357							
Y42A	**Garnett, Star**	**143.19**	**9**	P		PKPbc	08 28 36.3	+0.3
	baz=350							
Y43A	**Makayla and Ka**	**143.24**	**8**	P		PKPbc	08 28 36.8	+0.7
	baz=351							
Y45A	**Yeager Farm, C**	**143.44**	**6**	P		**PKPdf**	**08 28 38.1**	**-1.4**
	baz=353							
Z40A	**Long Farm, Mag**	**143.48**	**11**	P		PKPbc	08 28 38.1	+1.3
	baz=347							
Y46A	**Houston**	**143.49**	**5**	P		PKPbc	08 28 37.5	+0.7
	baz=354							
Y47A	**UCPARC, Winfie**	**143.54**	**3**	P		PKPbc	08 28 36.7	-0.2
	baz=356							
Y48A	**Jasper**	**143.56**	**2**	P		PKPbc	08 28 38.0	+1.0
	baz=357							
Z41A	**Richland Creek**	**143.59**	**10**	P		PKPbc	08 28 38.3	+1.1
	baz=348,SNR=7.3							
Y50A	**Piedmont**	**143.62**	**0**	P		PKPbc	08 28 38.1	+0.9
	baz=360							
Y49A	**Blount Mountai**	**143.64**	**1**	P		**PKPdf**	**08 28 38.7**	**-1.3**
	baz=358							
WHTX	**Lake Whitney,**	**143.70**	**17**	P		PKPab	08 28 37.1	+0.3
	baz=340							
WHTX	**Lake Whitney,**	**143.70**	**17**	*e*PKPdf		PKPab	08 28 37.0	+0.3
WHTX				*e*PP		**PP**	**08 31 53.5**	**+2.3**
Z42A	**Norrel Spur, H**	**143.72**	**9**	P		PKPbc	08 28 38.2	+0.7
	baz=349,SNR=8.1							
TXAR	**Lajitas Array**	**143.72**	**27**	PKP		PKPbc	08 28 37.7	-0.1
	comp=Z,2.8nm,0.5s,baz=264,slow=1.3,SNR=31							
Z43A	**Armstrong Fami**	**143.89**	**8**	P		PKPbc	08 28 39.1	+1.1
	baz=350							
Z45A	**Winona**	**143.92**	**6**	P		PKPbc	08 28 39.0	+0.9
	baz=353							
Z44A	**Pea Ridge, Bel**	**143.93**	**7**	P		**PKPdf**	**08 28 39.4**	**-1.1**
	baz=352,SNR=7.9							
NHSC	**New Hope**	**144.04**	**352**	P		PKPbc	08 28 39.2	+0.8
	baz=9.0							
NHSC	**New Hope**	**144.04**	**352**	PFAKE			08 28 50.0	+9.4
NHSC				LR	LR			
	comp=Z,3μm,19.0s							
GOGA	**Godfrey**	**144.04**	**357**	P		**PKPdf**	**08 28 39.8**	**-0.8**
	baz=3.4							
GOGA	**Godfrey**	**144.04**	**357**	*e*PKPdf		PKPbc	08 28 39.3	+0.9
GOGA				*e*PP		**PP**	**08 31 53.7**	**+0.8**
GOGA				LR	LR			
	comp=Z,4μm,19.0s							
GOGA	**Godfrey**	**144.04**	**357**	*e*PKIKP		PKPbc	08 28 39.3	+0.8
GOGA				*e*			08 31 53.7	
GOGA				MLR	MLR			
	comp=Z,4μm,19.0s							
140A	**Cam and Jess,**	**144.05**	**12**	P		PKPbc	08 28 39.1	+0.6
	baz=346							
Z48A	**Northport**	**144.08**	**3**	P		PKPbc	08 28 38.8	+0.2
	baz=356							
CPUP	**Villa Florida**	**144.16**	**226**	PKP		**PKPab**	**08 28 37.9**	**-0.7**
	comp=Z,13nm,0.7s,baz=111,slow=3.4,SNR=16							
Z46A	**Louisville**	**144.17**	**5**	P		**PKPdf**	**08 28 39.9**	**-0.9**
	baz=354							
141A	**Papa Simpson,**	**144.21**	**11**	P		PKPbc	08 28 39.5	+0.5
	baz=347,SNR=9.4							
Z47A	**Carrollton**	**144.23**	**4**	P		PKPbc	08 28 39.3	+0.2
	baz=356							
Z50A	**Ashland**	**144.25**	**1**	P		PKPbc	08 28 39.8	+0.7
	baz=359							
Z49A	**Columbiana**	**144.30**	**1**	P		PKPbc	08 28 39.8	+0.5
	baz=358,SNR=11							
JCT	**Junction City**	**144.31**	**21**	P		PKPbc	08 28 39.6	+0.1
	baz=335							
JCT	**Junction City**	**144.31**	**21**	*e*PKPdf		**PKPab**	**08 28 39.3**	**+0.1**
JCT				*e*PP		**PP**	**08 31 52.9**	**-2.1**
JCT				LR	LR			
	comp=Z,4μm,20.0s							
JCT	**Junction City**	**144.31**	**21**	*e*PKIKP		**PKPab**	**08 28 39.3**	**+0.1**
JCT				*e*			08 31 52.9	
JCT				MLR	MLR			
	comp=Z,4μm,20.0s							
143A	**Socs Landing,**	**144.36**	**9**	P		PKPbc	08 28 39.3	-0.2
	baz=350,SNR=19							
142A	**Monroe**	**144.43**	**9**	P		PKPbc	08 28 39.9	+0.1
	baz=349							
LRAL	**Lakeview Retre**	**144.44**	**2**	P		PKPbc	08 28 39.7	0.0
	baz=357,SNR=9.7							
LRAL	**Lakeview Retre**	**144.44**	**2**	*e*PKPdf		PKPbc	08 28 39.7	0.0
144A	**Alexander Plac**	**144.57**	**7**	P		PKPbc	08 28 40.8	+0.7
	baz=352,SNR=12							
240A	**Hunter Patters**	**144.59**	**12**	P		PKPbc	08 28 40.5	+0.2
	baz=346							
145A	**Houston Renfro**	**144.65**	**6**	P		**PKPdf**	**08 28 41.5**	**-0.2**
	baz=352,SNR=13							
NATX	**Nacogdoches**	**144.66**	**14**	P		PKPbc	08 28 40.4	0.0
	baz=344							
NATX	**Nacogdoches**	**144.66**	**14**	*e*PKPdf		**PKPdf**	**08 28 41.1**	**-0.6**
NATX				LR	LR			
	comp=Z,3μm,19.0s							
146A	**Union**	**144.71**	**5**	P		PKPbc	08 28 40.6	0.0
	baz=354,SNR=41							
147A	**Livingston**	**144.74**	**4**	P		**PKPab**	**08 28 40.2**	**-0.3**
	baz=355,SNR=16							
155A	**Kite**	**144.76**	**356**	P		**PKPab**	**08 28 39.8**	**-0.8**
	baz=5.2,SNR=8.4							
241A	**Mo Tay, Goldon**	**144.77**	**11**	P		PKPbc	08 28 40.9	+0.1
	baz=347,SNR=12							
435B	**Jarrell**	**144.78**	**18**	P		**PKPab**	**08 28 40.6**	**-0.3**
	baz=339							
148A	**Greensboro**	**144.80**	**3**	P		**PKPab**	**08 28 40.6**	**-0.2**
	baz=356,SNR=9.1							
154A	**Montrose**	**144.82**	**356**	P		**PKPab**	**08 28 40.4**	**-0.4**
	baz=4.1,SNR=8.5							
153A	**Fort Valley**	**144.82**	**358**	P		**PKPab**	**08 28 40.6**	**-0.3**
	baz=2.9							
242A	**Grayson**	**144.87**	**10**	P		**PKPab**	**08 28 40.9**	**-0.2**
	baz=348,SNR=25							
149A	**Jones**	**144.89**	**2**	P		**PKPab**	**08 28 40.9**	**-0.2**
	baz=358,SNR=26							
150A	**Eclectic**	**144.90**	**1**	P		**PKPab**	**08 28 40.1**	**-1.0**
	baz=359,SNR=26							
VBMS	**Vicksburg**	**144.96**	**7**	P		**PKPab**	**08 28 41.2**	**-0.2**
	baz=351,SNR=20							
151A	**Opelika**	**144.98**	**360**	P		**PKPab**	**08 28 40.8**	**-0.7**
	baz=0.3,SNR=38							
244A	**Avery, Jackson**	**145.12**	**8**	P		**PKPbc**	**08 28 41.5**	**-0.5**
	baz=351,SNR=43							
243A	**Waterproof**	**145.16**	**9**	P		**PKPdf**	**08 28 42.5**	**-0.1**
	baz=350							
245A	**Little AP, Sta**	**145.22**	**7**	P		**PKPdf**	**08 28 42.6**	**-0.1**
	baz=352,SNR=26							
257A	**Skidaway Islan**	**145.26**	**353**	P		**PKPbc**	**08 28 41.6**	**-0.8**
	baz=7.8							
246A	**Jackson Lee, B**	**145.32**	**5**	P		**PKPbc**	**08 28 42.4**	**-0.2**
	baz=354							
247A	**Quitman**	**145.33**	**5**	P		**PKPbc**	**08 28 41.7**	**-0.9**
	baz=355,SNR=28							
248A	**Dixon Mills**	**145.34**	**3**	P		**PKPbc**	**08 28 42.0**	**-0.7**
	baz=356,SNR=41							
256A	**Glennville**	**145.35**	**355**	P		**PKPbc**	**08 28 42.4**	**-0.3**
	baz=6.3							
341A	**Kurthwood**	**145.39**	**12**	P		**PKPbc**	**08 28 42.8**	**-0.1**
	baz=346,SNR=20							
251A	**Midway**	**145.41**	**360**	P		**PKPbc**	**08 28 41.6**	**-1.3**
	baz=0.1,SNR=94							
253A	**Americus**	**145.42**	**358**	P		**PKPbc**	**08 28 42.3**	**-0.6**
	baz=2.4,SNR=36							
GO05	**HualaæØ**	**145.45**	**200**	*i* P		**PKPab**	**08 28 43.8**	**+0.6**
AVIZ	**Vizcacheras**	**145.49**	**206**	*i* P		**PKPab**	**08 28 44.5**	**+1.1**
254A	**Abbeville**	**145.49**	**357**	P		**PKPbc**	**08 28 42.1**	**-1.0**
	baz=3.9,SNR=32							
249A	**Camden**	**145.49**	**2**	P		**PKPbc**	**08 28 42.2**	**-1.0**
	baz=357,SNR=28							
252A	**Lumpkin**	**145.50**	**359**	P		**PKPbc**	**08 28 42.1**	**-1.1**
	baz=1.3,SNR=84							
342A	**Flagon Creek P**	**145.51**	**10**	P		**PKPdf**	**08 28 42.9**	**-0.3**
	baz=348,SNR=20							
250A	**Grady**	**145.52**	**1**	P		**PKPdf**	**08 28 42.0**	**-1.3**
	baz=359,SNR=33							
344A	**Westbrook Farm**	**145.69**	**8**	P		**PKPab**	**08 28 44.3**	**+0.2**
	baz=351,SNR=31							
343A	**Vidalia**	**145.72**	**9**	P		**PKPab**	**08 28 44.9**	**+0.7**
	baz=349							
357A	**Townsend**	**145.86**	**354**	P		**PKPbc**	**08 28 44.0**	**-0.3**
	baz=7.1							
ACAN	**Cantantal**	**145.89**	**208**	*i* P		**PKPab**	**08 28 46.1**	**+1.2**
346A	**Big Creek Wild**	**145.91**	**6**	P		**PKPab**	**08 28 45.2**	**+0.3**
	baz=353,SNR=10							
345A	**Thompson Farm,**	**145.92**	**7**	P		**PKPab**	**08 28 45.3**	**+0.3**
	baz=352,SNR=16							
AAGR	**Agrelo**	**145.95**	**206**	*i* P		**PKPab**	**08 28 45.6**	**+0.4**
441A	**DeRidder**	**145.96**	**12**	P		**PKPab**	**08 28 45.7**	**+0.6**
	baz=346							
347A	**Saraland**	**145.98**	**5**	P		**PKPab**	**08 28 45.0**	**-0.2**
	baz=355,SNR=44							
TIGA	**Tifton**	**146.01**	**357**	P		**PKPbc**	**08 28 45.0**	**+0.2**
	baz=3.4,SNR=30							
TIGA	**Tifton**	**146.01**	**357**	*e*PKPbc		**PKPbc**	**08 28 44.7**	**-0.1**
348A	**Jackson**	**146.01**	**4**	P		**PKPab**	**08 28 45.0**	**-0.2**
	baz=356,SNR=12							
352A	**Blakely**	**146.02**	**359**	P		**PKPbc**	**08 28 44.6**	**-0.2**
	baz=1.0,SNR

451A	**Vernon**	**146.88**	**0**	P		**PKPbc**	**08 28 47.6**	**+0.2**
	baz=360,SNR=13							
AUSP	**Uspallata**	**146.93**	**206**	*i* P		**PKPbc**	**08 28 48.1**	**+0.2**
ROC1	**El Roble**	**146.94**	**203**	*i* P		**PKPbc**	**08 28 47.4**	**-0.4**
544A	**White Castle**	**146.94**	**9**	P		**PKPab**	**08 28 48.4**	**-0.5**
	baz=350							
APLL	**PUNTA DE LOS L**	**147.09**	**211**	*i* P		**PKPbc**	**08 28 47.4**	**-0.8**
ZON	**Zonda**	**147.19**	**207**	*i* P		**PKPbc**	**08 28 47.8**	**-0.6**
RTLS	**Leoncito**	**147.25**	**206**	*i* P		**PKPbc**	**08 28 48.2**	**-0.7**
557A	**Orange Park**	**147.28**	**354**	P		**PKPbc**	**08 28 47.8**	**-0.7**
	baz=6.9							
555A	**McAlpin**	**147.28**	**356**	P		**PKPbc**	**08 28 48.5**	**0.0**
	baz=4.6							
553A	**Crawfordville**	**147.29**	**358**	P		**PKPbc**	**08 28 48.3**	**-0.2**
	baz=1.9							
556A	**Lake Butler**	**147.36**	**355**	P		**PKPbc**	**08 28 48.7**	**0.0**
	baz=5.7							
552A	**Lynn Haven**	**147.36**	**360**	P		**PKPbc**	**08 28 48.5**	**-0.3**
	baz=0.4,SNR=13							
554A	**Perry**	**147.37**	**357**	P		**PKPbc**	**08 28 48.7**	**0.0**
	baz=3.3							
AMOG	**MOGNA**	**147.62**	**208**	*i* P		**PKPbc**	**08 28 48.7**	**-0.9**
KVTX	**Kingsville**	**147.66**	**21**	PFAKE			08 29 00.0	+8.2
KVTX				LR	LR			
	comp=Z,3μm,19.0s							
657A	**Interlachen**	**147.72**	**354**	P		**PKPbc**	**08 28 48.4**	**-1.3**
	baz=6.8							
658A	**Bunnell**	**147.81**	**353**	P		**PKPbc**	**08 28 49.3**	**-0.7**
	baz=7.9							
655A	**Horseshoe Beac**	**147.91**	**356**	P		**PKPbc**	**08 28 50.0**	**-0.2**
	baz=4.2							
656A	**Willston**	**148.00**	**355**	P		**PKPbc**	**08 28 50.8**	**+0.3**
	baz=5.5							
CYA	**Choya**	**148.23**	**214**	*i* P		**PKPbc**	**08 28 50.5**	**-0.7**
758A	**Lake Helen**	**148.26**	**353**	P		**PKPbc**	**08 28 51.0**	**-0.3**
	baz=8.1							
757A	**Oxford**	**148.38**	**354**	P		**PKPbc**	**08 28 50.9**	**-0.6**
	baz=6.5							
ACDV	**Cuesta del Vie**	**148.55**	**208**	*i* P		**PKPdf**	**08 28 50.1**	**+1.5**
AROD	**Rodeo**	**148.72**	**207**	*i* P		**PKPbc**	**08 28 51.3**	**-1.5**
AGUA	**GUANDACOL**	**148.82**	**210**	*i* P		**PKPbc**	**08 28 51.8**	**-1.1**
857A	**Zephyrhills**	**149.06**	**354**	P		**PKPbc**	**08 28 52.4**	**-0.9**
	baz=6.3							
ANWB	**Willy Bob**	**149.06**	**312**	PFAKE			08 29 00.0	+2.3
ANWB				LR	LR			
	comp=Z,1μm,20.0s							
859A	**Kempfer Cattle**	**149.11**	**352**	P		**PKPbc**	**08 28 52.4**	**-1.1**
	baz=8.9							
DWPF	**Disney Wildern**	**149.13**	**353**	P		**PKPbc**	**08 28 52.2**	**-1.2**
	baz=7.9							
AHML	**Horco Molle**	**149.20**	**217**	*i* P		**PKPdf**	**08 28 50.6**	**+1.0**
VCA	**Vinchina**	**149.29**	**211**	*i* P		**PKPbc**	**08 28 54.4**	**+0.3**
959A	**Okeechobee**	**149.63**	**352**	P		**PKPbc**	**08 28 53.2**	**-1.6**
	baz=9.1							
957A	**Wimauma**	**149.65**	**354**	P		**PKPbc**	**08 28 53.6**	**-1.2**
	baz=6.4							
958A	**Wauchula**	**149.68**	**353**	P		**PKPbc**	**08 28 53.8**	**-1.1**
	baz=7.4							
ZAIG	**Zacatecas**	**149.72**	**32**	*e*PKPdf		**PKPdf**	**08 28 48.4**	**-2.4**
ZAIG				*e*PKPab		**pPKPdf**	**08 28 58.4**	**+0.1**
BBGH	**Gun Hill**	**149.81**	**302**	PFAKE			08 29 00.0	-0.9
BBGH				LR	LR			
	comp=Z,4μm,20.0s							
FSA	**Cafayete**	**150.08**	**217**	*i* P		**PKPbc**	**08 28 55.3**	**-0.9**
058A	**Arcadia**	**150.21**	**353**	P		**PKPbc**	**08 28 55.8**	**-0.4**
	baz=7.4							
059A	**Moore Haven**	**150.22**	**352**	P		**PKPbc**	**08 28 55.7**	**-0.5**
	baz=8.7							
LCO	**Las Campanas**	**150.26**	**207**	*e*PKPdf		**PKPdf**	**08 28 51.5**	**0.0**
LCO				LR	LR			
	comp=Z,3μm,21.0s							
FDF	**Fort de France**	**150.29**	**306**	PFAKE			08 29 00.0	-2.9
FDF				LR	LR			
	comp=Z,1μm,20.0s							
SLA	**San Lorenzo**	**150.80**	**220**	*i* P		**PKPbc**	**08 28 58.3**	**+0.4**
SJG	**San Juan**	**151.86**	**318**	PFAKE			08 29 00.0	-0.3
SJG				LR	LR			
	comp=Z,2μm,20.0s							
GRGR	**Grenville**	**152.08**	**302**	PFAKE			08 29 00.0	-0.9
GRGR				LR	LR			
	comp=Z,1μm,20.0s							
GRTK	**Grand Turk**	**152.13**	**330**	PFAKE			08 29 00.0	-0.8
GRTK				LR	LR			
	comp=Z,2μm,21.0s							
SDDR	**Presa de Saban**	**154.31**	**328**	PFAKE			08 29 10.0	+4.3
SDDR				LR	LR			
	comp=Z,2μm,20.0s							
PTGA	**Pitinga**	**154.38**	**274**	PFAKE			08 29 10.0	+4.0
PTGA				LR	LR			
	comp=Z,15μm,22.0s							
GTBY	**Guantanamo Bay**	**155.31**	**336**	PFAKE			08 29 10.0	+11
GTBY				LR	LR			
	comp=Z,2μm,20.0s							
TLIG	**Tlapa**	**156.12**	**32**	*e*PKPdf		**PKPdf**	**08 29 01.7**	**+1.7**
TLIG				*e*PKPab		**PKPab**	**08 29 27.7**	**+0.3**
SAML	**Samuel**	**156.93**	**253**	*e*PKPdf		**PKPdf**	**08 28 59.7**	**-1.3**
SAML				LR	LR			
	comp=Z,3μm,19.0s							
TEIG	**Tepich**	**157.07**	**7**	PFAKE			08 29 10.0	+9.0
TEIG				LR	LR			
	comp=Z,7.0nm,21.0s							
MTDJ	**Mount Denham**	**157.78**	**340**	PFAKE			08 29 10.0	+7.9
MTDJ				LR	LR			
	comp=Z,2μm,19.0s							
LPAZ	**La Paz**	**158.19**	**231**	PKP		**PKPdf**	**08 29 03.1**	**-0.2**
	comp=Z,6.3nm,1.1s,baz=44,slow=8.4,SNR=12							
LPAZ				PKPab		**PKPab**	**08 29 36.5**	**-0.5**
	comp=Z,6.3nm,0.9s,baz=109,slow=4.1,SNR=4.6							
SDV	**Santo Domingo**	**161.22**	**308**	PKP		**PKPdf**	**08 29 05.2**	**-1.1**
	comp=Z,2.9nm,0.8s,baz=90,slow=4.0,SNR=4.4							
SDV				PKPab		**PKPab**	**08 29 48.8**	**-1.0**
	comp=Z,10nm,1.1s,baz=56,slow=7.3,SNR=4.4							
SDV	**Santo Domingo**	**161.22**	**308**	*e*PKPdf		**PKPdf**	**08 29 04.9**	**-1.4**
SDV				PKPab		**PKPab**	**08 29 48.8**	**-1.0**
SDV				LR	LR			
	comp=Z,4μm,19.0s							
APG	**El Apazote**	**161.75**	**15**	PKP		**PKPdf**	**08 29 06.2**	**-0.7**
	comp=Z,3.0nm,0.3s,baz=59,slow=19,SNR=8.4							
APG				PKPab		**PKPab**	**08 29 50.4**	**-1.5**
	comp=Z,47nm,1.3s,baz=333,slow=9.0,SNR=8.0							
ROSC	**El Rosal**	**166.54**	**304**	PKP		**PKPdf**	**08 29 11.0**	**-0.5**
	comp=Z,13nm,1.1s,baz=337,slow=7.6,SNR=8.5							
ROSC				PKPab		**PKPab**	**08 30 14.5**	**+1.1**
	comp=Z,5.4nm,0.9s,baz=12,slow=3.1,SNR=2.7							
BCIP	**Isla Barro Col**	**166.93**	**334**	PFAKE			08 29 20.0	+8.8
BCIP				LR	LR			
	comp=Z,3μm,22.0s							
JTS	**JuntasAbangare**	**167.09**	**357**	PFAKE			08 29 20.0	+8.6
JTS				LR	LR			
	comp=Z,3μm,22.0s							
OTAV	**Otavalo**	**172.35**	**292**	*e*PKPdf		**PKPdf**	**08 29 12.2**	**-2.9**
OTAV				LR	LR			
	comp=Z,4μm,20.0s							

*IDC **29** 08:12:51.7±1.4,35°37'N×140°12'E,h0km,mb3.5/2, mb1 3.8/3,mb1mx3.4/74,mbtmp3.6/3,ML3.4/1,MS4.0/2, Ms1 4.0/2,ms1mx3.2/71,Error ellipse: s-maj=27.1km s-min=17.5km az=96.0*

*ISCJB **29** 08:12:53.2±0.7,35°52N±0.03×140°14E±0.06,h13km±7km, mb3.6/2,Error ellipse: s-maj=8.8km s-min=5.6km az=173.2*

*JMA **29** 08:12:53.4,35°54N×140°10E,h8km±2km,M3.4*

JMA Felt III J1.

ISC 29 08:12:53.3±1.0,35°51N±0'03×140°08E±0'04,h14km±7km, n22,σ1°22/21,1C-6D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCN	**Nagara**	**0.14**	**134**	⇓P	**Pg**	**08 12 56.7**	**-0.2**
KTR	**Katsuura**	**0.41**	**152**	⇓P	**Pg**	**08 13 01.8**	**+0.3**
KTR				*e*S	**Sg**	**08 13 07.5**	**+0.4**
BSO4	**Boso 4**	**0.56**	**158**	⇓P	**Pg**	**08 13 04.9**	**+0.6**
JYT	**Yasato**	**0.72**	**7**	⇓P	**Pg**	**08 13 06.4**	**-0.9**
JYT				*e*S	**Sg**	**08 13 15.5**	**-1.3**
JHU	**Hanno**	**0.73**	**298**	P	**Pg**	**08 13 07.4**	**-0.2**
JHU				*e*S	**Sg**	**08 13 17.4**	**+0.2**
BSO3	**Boso 3**	**0.79**	**154**	⇓P	**Pg**	**08 13 08.7**	**+0.1**
JOD2	**Odawara 2**	**0.85**	**253**	⇑P	**Pg**	**08 13 09.9**	**+0.1**
JIM2	**Oshima 3**	**0.96**	**214**	P	**Pg**	**08 13 10.7**	**-1.1**
JIM2				*e*S	**Sg**	**08 13 24.1**	**-0.2**
JAG	**Ashikaga**	**1.04**	**331**	⇓P	**Pg**	**08 13 12.4**	**-1.0**
MJAR	**Matsushiro Arr**	**1.83**	**305**	Pn	**Pn**	**08 13 25.2**	**+0.8**
	9.4nm,0.3s,baz=124,slow=35,SNR=54						
MJAR				Sn	**Sb**	**08 13 50.9**	**+1.5**
	12nm,0.3s,baz=122,slow=20,SNR=10						
MAT	**Matsushiro**	**1.83**	**305**	P	**Pn**	**08 13 25.5**	**+1.1**
MAT				S	**Sb**	**08 13 50.5**	**+1.0**
JHJ	**Hachijo jima 2**	**2.40**	**186**	Pn	**Pn**	**08 13 31.8**	**-0.4**
	25nm,0.3s,baz=88,slow=21,SNR=15						
JHJ				Sn	**Sn**	**08 13 58.9**	**-2.5**
	40nm,0.3s,baz=31,slow=23,SNR=10						
JNU	**Nakatsue**	**7.98**	**255**	LR	LR	08 18 06.2	
	comp=Z,1μm,18.9s,baz=84,slow=39						
USRK	**Ussuriysk Ar.**	**10.67**	**327**	LR	LR	08 19 03.9	
	comp=Z,873nm,20.9s,baz=82,slow=34						
H11N2	**WAKE ISLAND Hy**	**28.36**	**117**	T	T	08 48 05.6	
	baz=309,slow=75,SNR=16						
H11N1	**WAKE ISLAND Hy**	**28.37**	**117**	T	T	08 48 10.5	
	baz=309,slow=75,SNR=21						
H11N3	**WAKE ISLAND Hy**	**28.38**	**117**	T	T	08 48 05.0	
	baz=309,slow=75,SNR=21						
H11S1	**WAKE ISLAND Hy**	**29.01**	**119**	T	T	08 48 53.2	
	baz=311,slow=75,SNR=12						
H11S3	**WAKE ISLAND Hy**	**29.01**	**119**	T	T	08 48 50.2	
	baz=311,slow=75,SNR=9.9						
H11S2	**WAKE ISLAND Hy**	**29.02**	**119**	T	T	08 48 53.5	
	baz=311,slow=75,SNR=6.4						
ILAR	**Eielson Array**	**51.35**	**32**	P	**P**	**08 21 59.2**	**+2.3**
	0.2nm,0.7s,baz=282,slow=5.4,SNR=2.9						
WRA	**Warramunga Arr**	**55.42**	**187**	P	**P**	**08 22 25.5**	**-1.8**
	1.4nm,0.8s,baz=5.4,slow=7.4,SNR=5.8						

IDC 29 08:15:15.7±3.3,53°50N×87°57E,h0km,mb1 3.1/2, mb1mx3.0/77,mbtmp3.1/2,ML2.7/2,Error ellipse: s-maj=33.2km s-min=16.3km az=56.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.70**	**287**	*i*		08 27 10.0	
	baz=106,slow=352,SNR=1.5						
ZALV	**Zalesovo Beam**	**1.70**	**287**	Pg	Pn	08 15 45.8	-0.8
	3.5nm,0.3s,baz=102,slow=14,SNR=23						
ZALV				Lg	Lg	08 16 09.5	
	0.7nm,0.3s,baz=105,slow=28,SNR=3.8						
KURBB	**Kurchatov Arra**	**6.27**	**246**	Pn	Pn	08 16 50.3	+0.9
	0.1nm,0.3s,baz=62,slow=14,SNR=11						
MKAR	**Makanchi Array**	**7.52**	**209**	Pn	Pn	08 17 07.5	+1.0
	0.2nm,0.3s,baz=27,slow=12,SNR=7.2						

*CSEM **29** 08:18:41.5,38°17N×21°71E,h28km,ML1.1/7*

ATH 29 08:18:41.5,38°17N×21°71E,h28km±3km,ML1.1/7,Error ellipse: s-maj=3.6km s-min=1.2km az=281.0,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRO	**Drossia**	**0.22**	**179**	P	Pb	08 18 47.9	+0.2
DRO				S	Sb	08 18 52.3	+0.3
DRO				AML	AML	08 18 52.6	
	comp=N,124μm,0.3s						
DRO				AML	AML	08 18 52.7	
	comp=E,218μm,0.2s						
DRO	**Drossia**	**0.22**	**179**	P	Pb	08 18 47.9	+0.2
DRO				S	Sb	08 18 52.3	+0.3
RLS	**Riolos of Patr**	**0.22**	**238**	P	Pb	08 18 47.9	+0.2
RLS				S	Sb	08 18 52.4	+0.5
RLS				AML	AML	08 18 52.9	
	comp=N,346μm,0.2s						
RLS				AML	AML	08 18 52.9	
	comp=E,309μm,0.3s						
RLS	**Riolos of Patr**	**0.22**	**238**	P	Pb	08 18 47.9	+0.2
RLS				S	Sb	08 18 52.4	+0.5
LAKA	**Lakka**	**0.23**	**73**	P	Pb	08 18 47.5	-0.3
LAKA				S	Sb	08 18 51.1	-1.0
LAKA				AML	AML	08 18 52.2	
	comp=N,47μm,0.1s						
LAKA				AML	AML	08 18 52.3	
	comp=E,47μm,0.1s						
LAKA	**Lakka**	**0.23**	**73**	P	Pb	08 18 47.7	-0.1
LAKA				S	Sb	08 18 51.8	-0.3
EFP	**Efpalio**	**0.30**	**32**	P	Pb	08 18 49.1	+0.4
EFP				S	Sb	08 18 53.5	-0.1
EFP				AML	AML	08 18 55.7	
	comp=N,54μm,0.2s						
EFP				AML	AML	08 18 55.7	
	comp=E,65μm,0.2s						
EFP	**Efpalio**	**0.30**	**32**	P	Pb	08 18 48.9	+0.2
EFP				S	Sb	08 18 53.8	+0.2
TRIZ	**Trizonia**	**0.35**	**56**	P	Pb	08 18 49.7	+0.3
TRIZ				S	Sn	08 18 56.5	-0.2
TRIZ	**Trizonia**	**0.35**	**56**	P	Pb	08 18 49.6	+0.2
TRIZ				S	Sn	08 18 56.0	-0.8
KLV	**Kalavryta, Ach**	**0.37**	**110**	P	Pb	08 18 50.0	+0.1
KLV				S	Sb	08 18 56.4	+0.8
KLV				AML	AML	08 18 57.5	
	comp=N,20μm,0.2s						
KLV				AML	AML	08 18 57.7	
	comp=E,19μm,0.1s						
KLV	**Kalavryta, Ach**	**0.37**	**110**	P	Pb	08 18 50.0	+0.1
KLV				S	Sb	08 18 56.3	+0.7
KALE	**Kalithea**	**0.41**	**57**	P	Pb	08 18 50.5	+0.1
KALE				S	Sb	08 18 57.2	+0.8
KALE				AML	AML	08 18 57.9	
	comp=E,65μm,0.3s						
KALE				AML	AML	08 18 58.6	
	comp=N,83μm,0.2s						
KALE	**Kalithea**	**0.41**	**57**	P	Pb	08 18 50.5	+0.1
KALE				S	Sb	08 18 57.1	+0.7
GUR	**Goura**	**0.56**	**115**	P	Pb	08 18 52.3	-0.6
GUR				AML	AML	08 19 02.9	
	comp=E,82μm,0.3s						
GUR				S	Sn	08 19 03.2	+1.1
GUR				AML	AML	08 19 04.0	
	comp=N,98μm,0.3s						
GUR	**Goura**	**0.56**	**115**	P	Pb	08 18 52.6	-0.2
GUR				S	Sn	08 19 02.3	+0.2

*IDC **29** 08:27:38.3±1.3,5°32S×152°21E,h0km,mb3.9/6, mb1 4.2/7,mb1mx3.8/56,mbtmp3.9/7,ML2.3/1,Error ellipse: s-maj=75.2km s-min=20.4km az=130.0*

*ISCJB **29** 08:27:43.6±1.0,5°4S±0'3×152°0E±0'3,h45km,mb3.8/6, Error ellipse: s-maj=59.9km s-min=10.3km az=44.4*

ISC 29 08:27:44.8±1.2,5°4S±0'3×152°1E±0'3,h45km,n8,σ0°59/9, mb3.9/6,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.35**	**231**	Pn	**Pn**	**08 29 16.8**	**+0.8**
	3.7nm,0.3s,baz=47,slow=8.5,SNR=16						
PMG				Sn	**Sn**	**08 30 26.6**	**-0.6**
	7.7nm,0.3s,baz=51,slow=19,SNR=5.8						
WRA	**Warramunga Arr**	**22.57**	**229**	P	**P**	**08 32 40.8**	**-0.7**
	2.1nm,0.8s,baz=52,slow=10.0,SNR=19						
ASAR	**Alice Springs**	**25.28**	**222**	P	**P**	**08 33 07.1**	**-0.1**
	3.1nm,0.8s,baz=56,slow=9.2,SNR=31						
MKAR	**Makanchi Array**	**80.32**	**319**	P	**P**	**08 39 51.6**	**+0.3**
	0.4nm,0.8s,baz=114,slow=8.1,SNR=3.8						
ILAR	**Eielson Array**	**82.94**	**22**	P	**P**	**08 40 04.2**	**-0.6**
	2.1nm,0.7s,baz=246,slow=5.4,SNR=31						
NVAR	**Mina Array Bea**	**92.96**	**52**	P	**P**	**08 40 54.2**	**+0.3**
	0.4nm,0.6s,baz=254,slow=4.6,SNR=4.3						
YKA	**Yellowknife Ar**	**96.24**	**28**	P	**P**	**08 41 08.0**	**0.0**
	0.3nm,0.8s,baz=274,slow=5.0,SNR=7.8						
TORD	**Torodi Ar. Bea**	**149.85**	**287**	PKPbc	**PKPbc**	**08 47 31.1**	**0.0**
	0.6nm,0.6s,baz=77,slow=2.3,SNR=5.3						

NNC 29 08:45:40.1±1.7,37°10N×68°26E,h3km±11km,mb3.7, mpv3.3,8C-4D,Error ellipse: s-maj=19.3km s-min=10.2km az=96.0,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**1.76**	**15**	⇑P	Pn	08 46 11.7	0.0
	111nm,0.6s						
DZET				⇑S	Sb	08 46 35.3	-0.5
	245nm,0.4s						
SFK	**Sufi-Kurgan**	**5.04**	**53**	⇑Pn	Pn	08 46 57.5	+0.7
	0.3nm,0.4s						
SFK				⇓Lg	Lg	08 48 20.6	
	2.9nm,0.5s						
KK31	**Karatay Array**	**6.24**	**15**	⇑Pg	Pb	08 47 34.2	+4.8
	1.2nm,0.5s,baz=195,slow=17,SNR=4.9						
KK31				⇓Lg	Lg	08 48 55.0	
	2.3nm,0.4s,baz=196,slow=28,SNR=6.8						
MNAS	**Manas**	**6.30**	**30**	⇑Pn	Pn	08 47 12.5	-1.6
	0.9nm,0.6s						
MNAS				⇑Lg	Lg	08 48 59.8	
	6.2nm,0.8s						
AAK	**Ala-Archa**	**7.32**	**39**	⇓Pn	Pn	08 47 28.3	+0.2
	1.3nm,0.5s						
AAK				⇑Lg	Lg	08 49 34.3	
	1.9nm,0.7s						
TKM2	**Tokmak 2**	**8.09**	**42**	⇓Pn	Pn	08 47 37.4	-1.3
	1.7nm,0.6s						
TKM2				⇑Lg	Lg	08 49 58.8	
	1.7nm,0.9s						

*ISK **29** 08:48:39.3,39°14N×29°19E,h9km,ML2.5/7*

*ISCJB **29** 08:48:40.1±0.4,39°14N±0°03×29°16E±0°03,h5km±5km, Error ellipse: s-maj=5.0km s-min=3.3km az=142.6*

*CSEM **29** 08:48:40.1±0.1,39°15N×29°17E,h8km,ML2.5,Error ellipse: s-maj=2.9km s-min=2.0km az=134.0*

*DDA **29** 08:48:40.3,39°14N×29°15E,h7km,Ml2.5*

ISC 29 08:48:40.3±0.9,39°15N±0°02×29°17E±0°02,h10km±6km, n40,σ0°45/59,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIMA	**Simav-Kutahya**	**0.16**	**245**	PG	**Pg**	**08 48 44.1**	**+0.2**
SIMA				SG	**Sg**	**08 48 46.3**	**-0.1**
SIMA	**Simav-Kutahya**	**0.16**	**245**	*i* Pg	**Pg**	**08 48 44.1**	**+0.2**
SIMA				*i* Sg	**Sg**	**08 48 46.3**	**-0.1**
GDZ	**Gediz**	**0.25**	**104**	*i* P	**Pg**	**08 48 45.0**	**-0.6**
GDZ				*i* S	**Sg**	**08 48 49.7**	**+0.6**
GDZ	**Gediz**	**0.25**	**104**	P	**Pg**	**08 48 45.0**	**-0.6**
GDZ				S	**Sg**	**08 48 49.7**	**+0.6**
DEMI	**Demirci**	**0.36**	**253**	*i* P	**Pg**	**08 48 47.8**	**+0.2**
DEMI				*i* S	**Sg**	**08 48 52.4**	**-0.1**
DEMI	**Demirci**	**0.36**	**253**	P	**Pg**	**08 48 47.8**	**+0.2**
DEMI				S	**Sg**	**08 48 52.4**	**-0.1**
TVSB	**Tavsanli**	**0.38**	**37**	PG	**Pg**	**08 48 47.5**	**-0.4**
TVSB				SG	**Sg**	**08 48 52.6**	**-0.3**
TVSB	**Tavsanli**	**0.38**	**37**	*i* Pg	**Pg**	**08 48 47.5**	**-0.4**
TVSB				*e*Sg	**Sg**	**08 48 52.6**	**-0.3**
DURS	**Dursunbey**	**0.70**	**310**	*i* P	**Pb**	**08 48 54.3**	**-0.3**
DURS	**Dursunbey**	**0.70**	**310**	P	**Pb**	**08 48 54.3**	**-0.3**
KUTH	**Kutahya**	**0.71**	**69**	PG	**Pg**	**08 48 53.3**	**-0.8**
KUTH	**Kutahya**	**0.71**	**69**	*e*Pg	**Pg**	**08 48 53.3**	**-0.8**
KULA	**Kula-Manisa**	**0.75**	**212**	PG	**Pg**	**08 48 54.2**	**-0.5**
KULA				SG	**Sg**	**08 49 04.4**	**-0.1**
KULA	**Kula-Manisa**	**0.75**	**212**	*e*Pg	**Pg**	**08 48 54.2**	**-0.5**
KULA				*e*Sg	**Sg**	**08 49 04.4**	**-0.1**
MANT	**Manisa**	**0.81**	**216**	*i* P	**Pg**	**08 48 55.8**	**-0.2**
MANT				*i* S	**Sg**	**08 49 06.0**	**-0.6**
MANT	**Manisa**	**0.81**	**216**	P	**Pg**	**08 48 55.8**	**-0.2**
MANT				S	**Sg**	**08 49 06.0**	**-0.6**
KHAL	**Karahalli**	**0.82**	**162**	*i* P	**Pb**	**08 48 56.7**	**0.0**
KHAL				*i* S	**Sb**	**08 49 07.4**	**-0.3**
KHAL	**Karahalli**	**0.82**	**162**	P	**Pb**	**08 48 56.7**	**0.0**
KHAL				S	**Sb**	**08 49 07.4**	**-0.3**
ORLT	**Orhaneli**	**0.92**	**347**	PG	**Pg**	**08 48 57.3**	**-0.8**
ORLT	**Orhaneli**	**0.92**	**347**	*e*Pg	**Pg**	**08 48 57.3**	**-0.8**
AKHS	**Akhisar**	**1.09**	**256**	*i* P	**Pg**	**08 49 00.6**	**-0.6**
AKHS				*i* S	**Sb**	**08 49 15.5**	**+0.1**
AKHS	**Akhisar**	**1.09**	**256**	P	**Pg**	**08 49 00.6**	**-0.6**
AKHS				S	**Sb**	**08 49 15.5**	**+0.1**
BALB	**Balikesir**	**1.11**	**297**	PN	**Pg**	**08 49 01.4**	**-0.3**
BALB	**Balikesir**	**1.11**	**297**	*e*Pn	**Pg**	**08 49 01.4**	**-0.3**
IGD	**Bursa**	**1.11**	**1**	*i* P	**Pn**	**08 49 02.4**	**+0.5**
IGD				*i* S	**Sn**	**08 49 17.4**	**+0.1**
STEP	**BALIKESIR_Sava**	**1.15**	**282**	*i* P	**Pn**	**08 49 02.9**	**+0.5**
STEP	**BALIKESIR_Sava**	**1.15**	**282**	P	**Pn**	**08 49 02.9**	**+0.5**
CAVI	**Cavuskoy**	**1.18**	**26**	PN	**Pb**	**08 49 02.8**	**+0.1**
CAVI	**Cavuskoy**	**1.18**	**26**	*e*Pn	**Pb**	**08 49 02.8**	**+0.1**
BORA	**Eskisehir**	**1.24**	**53**	PN	**Pn**	**08 49 03.4**	**-0.3**
BORA	**Eskisehir**	**1.24**	**53**	*i* P	**Pg**	**08 49 04.5**	**+0.4**
BORA				*i* S	**Sn**	**08 49 21.7**	**+1.3**
BORA	**Eskisehir**	**1.24**	**53**	P	**Pg**	**08 49 04.5**	**+0.4**
BORA				S	**Sn**	**08 49 21.7**	**+1.3**
MDNY	**Mudanya-Bursa**	**1.24**	**350**	PN	**Pn**	**08 49 03.7**	**+0.1**
MDNY	**Mudanya-Bursa**	**1.24**	**350**	*e*Pn	**Pn**	**08 49 03.7**	**+0.1**
YLV	**Yalova**	**1.43**	**6**	PN	**Pn**	**08 49 06.2**	**-0.1**
YLV	**Yalova**	**1.43**	**6**	*e*Pn	**Pn**	**08 49 06.2**	**-0.1**
ARMT	**Armutlu**	**1.43**	**351**	PN	**Pn**	**08 49 06.3**	**-0.1**
ARMT	**Armutlu**	**1.43**	**351**	*e*Pn	**Pn**	**08 49 06.3**	**-0.1**
AYDB	**Zeytinkoy-Aydi**	**1.56**	**220**	PN	**Pn**	**08 49 08.0**	**-0.2**
AYDB	**Zeytinkoy-Aydi**	**1.56**	**220**	*e*Pn	**Pn**	**08 49 08.0**	**-0.2**

IDC 29 08:48:41.8±3.1,5°59S×152°46E,h0km,mb3.9/2, mb1 4.1/3,mb1mx3.5/56,mbtmp4.0/3,ML2.1/1,Error ellipse: s-maj=126.9km s-min=42.3km az=126.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.48**	**234**	Pn	Pn	08 50 19.3	+0.7
	2.3nm,0.3s,baz=50,slow=11,SNR=6.8						
PMG				Sn	Sn	08 51 30.1	-3.2
	1.3nm,0.3s

0.9nm,0.3s,baz=98,slow=4.6,SNR=5.3
PDAR **Pinedale Array** **89.81** **44** P **P** **09 05 38.7 +0.5**
0.1nm,0.5s,baz=209,slow=9.2,SNR=2.1
BVAR **Borovoye Array** **118.97** **320** PKP **PKPdf** **09 11 23.3 +0.2**
1.1nm,0.3s,baz=114,slow=0.7,SNR=7.8
FINES **FINESS Array B** **136.01** **343** PKP **PKPdf** **09 11 54.9 -0.3**
1.2nm,0.8s,baz=46,slow=5.5,SNR=3.8
AKASG **Malin Array Be** **143.06** **330** PKP **PKPdf** **09 12 06.4 -1.9**
2.9nm,0.4s,baz=42,slow=4.1,SNR=15
BRTR **Keskin Array B** **146.60** **311** PKPbc **PKPbc** **09 12 18.0 +0.3**
0.8nm,0.5s,baz=150,slow=4.6,SNR=6.4
MMAI **Mount Meron Ar** **147.40** **299** PKPbc **PKPbc** **09 12 21.1 +1.2**
1.4nm,0.4s,baz=88,slow=4.8,SNR=3.2
GERES **GERESS Array B** **150.44** **343** PKPbc **PKPbc** **09 12 26.8 +0.1**
0.5nm,0.4s,baz=330,slow=7.7,SNR=3.7

IDC 29 08:59:04.9±2.3, 4°62N×126°21E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.2/66, mbtmp3.3/3, Error ellipse: s-maj=198.4km s-min=25.9km az=65.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**25.68**	**162**	P	P	09 04 37.0	+0.2
	0.3nm,0.4s,baz=341,slow=10,SNR=5.3						
ASAR	**Alice Springs**	**29.10**	**165**	P	P	09 05 07.3	-0.2
	0.3nm,0.5s,baz=346,slow=7.9,SNR=6.8						
MKAR	**Makanchi Array**	**56.53**	**325**	P	P	09 08 49.1	-0.1
	0.1nm,0.3s,baz=122,slow=7.0,SNR=2.8						

*IDC **29** 09:01:43.0±0.6, 24°17S×175°90W, h0km, mb4.1/16, mb1 4.3/17, mb1mx4.2/49, mbtmp4.1/17, ML3.6/1, Error ellipse: s-maj=20.9km s-min=18.3km az=143.0*
*NEIC **29** 09:01:46.5±0.4, 24°50S×175°66W, h35km, mb4.4/14, Error ellipse: s-maj=11.3km s-min=8.0km az=132.0*

ISC 29 09:01:43.2±0.5, 24°77S±0°07×175°37W±0°08, h27km, n54, σ1s82/47, mb4.3/26, South of Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**9.31**	**318**	*e*Pn	**Pn**	**09 03 55.1**	**-0.6**
AFI	**Afiamalu**	**11.32**	**18**	Pn	Pn	09 04 15.4	-8.0
	3.2nm,0.3s,baz=214,slow=3.4,SNR=7.1						
AFI				Sn	Sn	09 06 07.8	-21
	0.9nm,0.3s,baz=315,slow=19,SNR=2.8						
RAR	**Rarotonga**	**14.79**	**79**	Pn	**Pn**	**09 05 07.4**	**-3.2**
	1.9nm,0.3s,baz=297,slow=4.5,SNR=4.0						
RAR	**Rarotonga**	**14.79**	**79**	*e*Pn	**Pn**	**09 05 08.0**	**-2.6**
URZ	**Urewera**	**14.89**	**204**	Pn	**P**	**09 05 18.5**	**+1.2**
	0.3nm,0.3s,baz=142,slow=19,SNR=2.9						
URZ				Sn	**Sn**	**09 07 54.0**	**-1.9**
	0.3nm,0.3s,baz=198,slow=20,SNR=6.4						
URZ	**Urewera**	**14.89**	**204**	*e*Pn	**P**	**09 05 17.1**	**-0.2**
	22nm,1.5s						
URZ				Sn	**Sn**	**09 07 54.0**	**-1.9**
DZM	**Mont Dzumac**	**16.91**	**275**	*e*Pn	**P**	**09 05 37.2**	**-2.7**
	23nm,1.1s						
BFZ	**Birch Farm**	**17.35**	**202**	*e*Pn	P	09 05 49.2	+4.6
	41nm,1.2s						
THZ	**Tophouse**	**19.55**	**207**	*e*P	**Pn**	**09 06 13.3**	**+3.1**
	18nm,1.1s						
KHZ	**Kahutara**	**19.85**	**205**	*e*P	**Pn**	**09 06 14.3**	**+0.7**
	20nm,0.9s						
CTA	**Charters Tower**	**35.70**	**270**	P	**P**	**09 08 38.9**	**-0.7**
	2.9nm,0.5s,baz=95,slow=9.5,SNR=5.6						
CTAO	**Charters Tower**	**35.70**	**270**	*e*P	**P**	**09 08 39.7**	**+0.1**
	9.8nm,1.0s						
STKA	**Stephens Creek**	**38.35**	**249**	P	**P**	**09 09 03.5**	**+1.5**
	1.6nm,0.9s,baz=95,slow=13,SNR=2.9						
PMG	**Port Moresby**	**38.78**	**287**	P	**P**	**09 09 04.0**	**-1.8**
	21nm,0.9s,baz=105,slow=6.0,SNR=12						
PMG	**Port Moresby**	**38.78**	**287**	*e*P	**P**	**09 09 04.5**	**-1.3**
	25nm,0.9s						
AS01	**Alice Springs**	**46.02**	**260**	*e*P	**P**	**09 10 05.2**	**+0.6**
AS31	**Alice Springs**	**46.06**	**260**	*e*P	**P**	**09 10 05.7**	**+0.7**
	2.6nm,1.5s						
ASAR	**Alice Springs**	**46.06**	**260**	P	**P**	**09 10 05.2**	**+0.2**
	3.3nm,0.9s,baz=98,slow=8.1,SNR=27						
WB2	**Warramunga Arr**	**46.54**	**265**	*e*P	**P**	**09 10 08.0**	**-0.8**
	5.3nm,0.9s						
WRAB	**Tennant Creek**	**46.55**	**265**	*e*P	**P**	**09 10 07.8**	**-1.1**
	8.6nm,1.3s						
WRA	**Warramunga Arr**	**46.55**	**265**	P	**P**	**09 10 07.9**	**-1.0**
	3.0nm,0.8s,baz=98,slow=8.3,SNR=18						
SDHHI	**Sand Hill**	**48.05**	**26**	*e*P	**P**	**09 10 20.7**	**+0.2**
	358nm,1.4s						
VNDA	**Vanda**	**53.91**	**186**	P	P	09 11 13.3	+10
	1.4nm,1.1s,baz=4.5,slow=7.1,SNR=3.7						
QSPA	**South Pole Qui**	**65.32**	**180**	P	P	09 12 30.8	+8.0
	1.9nm,0.9s,baz=288,slow=16,SNR=3.9						
MJAR	**Matsushiro Arr**	**75.07**	**323**	P	**P**	**09 13 21.7**	**-0.8**
	0.7nm,0.6s,baz=167,slow=6.6,SNR=4.4						
MJB9	**Matsu-Tunnel**	**75.07**	**323**	*e*P	**P**	**09 13 23.4**	**+0.7**
	6.9nm,1.0s						
DAC	**Darwin (Calif)**	**81.59**	**44**	*e*P	**P**	**09 13 59.9**	**+1.0**
	2.8nm,0.8s						
KSRS	**Korea Array**	**81.67**	**318**	P	**P**	**09 14 00.2**	**+1.2**
	1.2nm,0.9s,baz=138,slow=5.6,SNR=5.2						
KSAR	**Wonju Array Be**	**81.69**	**318**	P	**P**	**09 14 00.2**	**+1.1**
KS01	**Wonju Array Si**	**81.70**	**318**	*e*P	**P**	**09 13 59.5**	**+0.3**
NV01	**Mina Array Sit**	**82.52**	**42**	*e*P	**P**	**09 14 04.0**	**+0.2**
NVAR	**Mina Array Bea**	**82.52**	**42**	P	**P**	**09 14 06.6**	**+2.9**
	1.2nm,0.8s,baz=224,slow=7.9,SNR=6.7						
SNAA	**Sanae**	**83.68**	**178**	P	**P**	**09 14 09.5**	**+0.4**
SNAA	**Sanae**	**83.68**	**178**	P	P	09 14 16.3	+7.2
	1.9nm,0.9s,baz=170,slow=6.2,SNR=4.5						
VNA3	**Neumayer Olymp**	**83.73**	**175**	P	**P**	**09 14 09.2**	**-0.1**
USRK	**Ussuriysk Ar.**	**83.84**	**325**	P	**P**	**09 14 12.0**	**+1.9**
	6.5nm,0.9s,baz=121,slow=2.8,SNR=12						
VNA2	**Neumayer--Watz**	**84.19**	**176**	P	**P**	**09 14 12.1**	**+0.4**
	baz=195,slow=2.6						
NJ2	**Nanjing**	**84.45**	**309**	*e*P	**P**	**09 14 14.5**	**+1.0**
NJ2				pmax	pmax		
	comp=Z,19nm,0.9s						
LCMT	**Little Creek M**	**84.81**	**45**	*e*P	P	09 14 18.7	+3.3
	comp=Z,2.1nm,0.8s						
UNM	**Universidad Na**	**86.11**	**67**	*e*P	**P**	**09 14 20.9**	**-1.6**
	comp=Z,16nm,0.4s						
TXAR	**Lajitas Array**	**87.36**	**56**	P	P	09 14 31.9	+3.7
	comp=Z,0.3nm,0.8s,baz=224,slow=7.6,SNR=3.1						
MCMT	**McKenzie Canyo**	**89.67**	**39**	*e*P	**P**	**09 14 40.6**	**+1.7**
PDAR	**Pinedale Array**	**90.44**	**42**	P	**P**	**09 14 44.9**	**+2.3**
	comp=Z,0.5nm,0.9s,baz=264,slow=3.6,SNR=3.2						
ILAR	**Eielson Array**	**91.95**	**12**	P	**P**	**09 14 50.5**	**+1.8**
	comp=Z,0.5nm,1.0s,baz=262,slow=5.2,SNR=3.4						
CMAR	**Chiang Mai Arr**	**93.80**	**288**	P	P	09 15 00.8	+2.5
	comp=Z,2.9nm,0.8s,baz=135,slow=3.2,SNR=13						
CHTO	**Chiang Mai**	**93.94**	**289**	*e*P	P	09 15 02.6	+3.6
	comp=Z,6.6nm,1.0s						
HFS	**Hagfors**	**144.10**	**352**	PKP	**PKPdf**	**09 21 19.0**	**+3.2**
	comp=Z,1.9nm,0.8s,baz=74,slow=11,SNR=2.1						
AKASG	**Malin Array Be**	**147.91**	**330**	PKPbc	**PKPab**	**09 21 27.3**	**-0.9**
	comp=Z,1.3nm,0.6s,baz=39,slow=4.0,SNR=6.3						
BRTR	**Keskin Array B**	**151.44**	**309**	PKPbc	**PKPab**	**09 21 37.1**	**-6.2**
	comp=Z,1.3nm,0.8s,baz=132,slow=1.8,SNR=7.1						
BUR04	**Bucovina Ar. S**	**151.96**	**330**	*e*PKPbc	**PKPbc**	**09 21 36.5**	**+0.8**
STHS	**Stebnicka Huta**	**152.18**	**336**	*e*PKP	**PKPbc**	**09 21 36.6**	**+0.5**
STHS				e		09 21 45.6	
CLL	**Collm**	**152.73**	**348**	*e*PKPbc	**PKPbc**	**09 21 40.0**	**+2.8**
KHC	**Kasperske Hory**	**154.69**	**346**	*e*PKPbc	**PKPbc**	**09 21 41.9**	**+0.2**
TOA0	**Torodi Ar. Sit**	**168.11**	**166**	*e*PKPdf	**PKPdf**	**09 21 48.9**	**+0.8**

*ISK **29** 09:03:06.8, 37°28N×31°97E, h4km, ML2.9/2*
*ISCJB **29** 09:03:08.4±0.5, 37°32N±0°04×31°96E±0°04, h15km, Error ellipse: s-maj=5.3km s-min=4.8km az=154.8*
*CSEM **29** 09:03:08.0±0.2, 37°29N×31°94E, h10km, MD2.4, Error ellipse: s-maj=4.4km s-min=3.9km az=179.0*
*DDA **29** 09:03:09.3, 37°35N×31°87E, h7km, Md2.4*

ISC 29 09:03:08.6±0.9, 37°27N±0°03×31°95E±0°04, h15km, n27, σ0s84/33, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEPZ	**Antalya-Kepez**	**0.46**	**217**	*i* P	**Pg**	**09 03 16.9**	**-0.9**
KEPZ				*i* S	**Sb**	**09 03 26.7**	**+1.6**
KEPZ	**Antalya-Kepez**	**0.46**	**217**	P	**Pg**	**09 03 16.9**	**-0.9**
KEPZ				S	**Sb**	**09 03 26.7**	**+1.6**
SUTC	**Sutluce-Ispart**	**0.78**	**285**	PG	**Pg**	**09 03 22.9**	**-1.0**
SUTC				SG	**Sb**	**09 03 34.4**	**-0.1**
SUTC	**Sutluce-Ispart**	**0.78**	**285**	*i* Pg	**Pg**	**09 03 22.9**	**-1.0**
SUTC				*e*Sg	**Sb**	**09 03 34.4**	**-0.1**
LADK	**Ladik-KONYA**	**0.98**	**19**	PG	**Pb**	**09 03 26.0**	**-1.4**
LADK				SG	**Sb**	**09 03 40.4**	**+0.1**
LADK	**Ladik-KONYA**	**0.98**	**19**	*e*Pg	**Pb**	**09 03 26.0**	**-1.4**
LADK				*e*Sg	**Sb**	**09 03 40.4**	**+0.1**
BCK	**Bucak**	**1.10**	**280**	PN	**Pb**	**09 03 28.6**	**-0.8**
BCK	**Bucak**	**1.10**	**280**	*e*Pn	**Pb**	**09 03 28.6**	**-0.8**
BAGO	**Egridir - ISPA**	**1.17**	**308**	*i* P	**Pb**	**09 03 30.5**	**-0.1**
KDHN	**Kadinhani**	**1.25**	**6**	*i* P	**Pn**	**09 03 31.8**	**+0.1**
KDHN	**Kadinhani**	**1.25**	**6**	P	**Pn**	**09 03 31.8**	**+0.1**
ISP	**Isparta**	**1.26**	**296**	PN	**Pb**	**09 03 31.8**	**-0.3**
ISP	**Isparta**	**1.26**	**296**	*e*Pn	**Pb**	**09 03 31.8**	**-0.3**
KORT	**Korkueli**	**1.30**	**259**	PN	**Pb**	**09 03 32.7**	**-0.2**
KORT	**Korkueli**	**1.30**	**259**	*e*Pn	**Pb**	**09 03 32.7**	**-0.2**
TEVE	**Tevekalti-Mers**	**1.46**	**124**	PN	**Pn**	**09 03 34.7**	**+0.2**
TEVE	**Tevekalti-Mers**	**1.46**	**124**	*e*Pn	**Pn**	**09 03 34.7**	**+0.2**
TEKE	**Tekeli-Mersin**	**1.47**	**140**	PN	**Pn**	**09 03 34.4**	**-0.1**
TEKE	**Tekeli-Mersin**	**1.47**	**140**	*e*Pn	**Pn**	**09 03 34.4**	**-0.1**
KIZT	**Kizilcal**	**1.61**	**358**	*e*Pn	**Pg**	**09 03 41.5**	**+2.0**
AKKU	**Akkuyu-Mersin**	**1.70**	**130**	PN	**Pn**	**09 03 38.5**	**+0.8**
AKKU	**Akkuyu-Mersin**	**1.70**	**130**	*e*Pn	**Pn**	**09 03 38.5**	**+0.8**
KIZK	**Mersin**	**1.93**	**114**	PN	**Pn**	**09 03 41.5**	**+0.6**
AKAS	**Kas**	**2.15**	**242**	PN	**Pn**	**09 03 44.8**	**+0.8**
AKAS	**Kas**	**2.15**	**242**	*e*Pn	**Pn**	**09 03 44.8**	**+0.8**
KARA	**Karaisali**	**2.48**	**89**	PN	**Pn**	**09 03 48.8**	**+0.4**
KARA	**Karaisali**	**2.48**	**89**	*e*Pn	**Pn**	**09 03 48.8**	**+0.4**

IDC 29 09:14:47.9±3.6, 3°09S×135°88E, h0km, mb3.3/2, mb1 3.5/3, mb1mx3.2/47, mbtmp3.3/3, ML3.1/1, MS3.8/1, Ms1 3.8/1, ms1mx3.0/22, Error ellipse: s-maj=157.3km s-min=31.5km az=80.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**16.82**	**185**	Pn	Pn	09 18 43.2	-1.7
	0.1nm,0.3s,baz=4.1,slow=13,SNR=4.7						
WRA				Sn	Sn	09 21 41.0	-12
	0.1nm,0.3s,baz=2.0,slow=23,SNR=4.1						
ASAR	**Alice Springs**	**20.54**	**185**	P	P	09 19 28.9	+0.8
	0.6nm,0.6s,baz=13,slow=11,SNR=12						
TGY	**Tegaytay City**	**22.31**	**319**	LR	LR	09 30 48.3	
	comp=Z,243nm,18.3s,baz=44,slow=42						
MKAR	**Makanchi Array**	**68.39**	**324**	P	P	09 25 51.4	0.0
	0.3nm,0.5s,baz=110,slow=6.9,SNR=3.8						

*IDC **29** 09:15:15.7±1.8, 25°40N×141°95E, h0km, mb3.6/5, mb1 3.8/5, mb1mx3.4/62, mbtmp3.6/5, Error ellipse: s-maj=58.3km s-min=21.3km az=94.0*
*ISCJB **29** 09:15:18.8±1.5, 25°3N±0°1×141°9E±0°3, h33km, mb3.6/5, Error ellipse: s-maj=44.5km s-min=11.9km az=14.7*

ISC 29 09:15:20.3±1.7, 25°4N±0°1×142°1E±0°4, h35km, n6, σ1s20/7, mb3.7/5, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**1.73**	**2**	Pn	**Pn**	**09 15 46.8**	**-1.2**
	16nm,0.3s,baz=253,slow=23,SNR=33						
JCJ				Sn	**Sn**	**09 16 10.6**	**+1.8**
	38nm,0.3s,baz=278,slow=23,SNR=14						
WRA	**Warramunga Arr**	**45.66**	**190**	P	**P**	**09 23 38.5**	**+0.7**
	0.3nm,0.3s,baz=7.7,slow=8.7,SNR=7.4						
MKAR	**Makanchi Array**	**51.53**	**311**	P	**P**	**09 24 23.0**	**+0.2**
	0.1nm,0.4s,baz=85,slow=8.6,SNR=3.3						
KURBB	**Kurchatov Arra**	**54.21**	**315**	P	**P**	**09 24 42.3**	**-0.1**
	0.3nm,0.4s,baz=89,slow=8.2,SNR=4.2						
BVAR	**Borovoye Array**	**59.28**	**318**	P	**P**	**09 25 18.4**	**+0.1**
	0.7nm,0.5s,baz=90,slow=7.6,SNR=4.4						
FINES	**FINESS Array B**	**79.47**	**334**	P	**P**	**09 27 22.2**	**-0.7**
	1.6nm,0.9s,baz=79,slow=7.2,SNR=3.8						

*ISCJB **29** 09:24:25.1±0.2, 5°52S±0°04×148°38E±0°06, h163km, mb4.2/54, Error ellipse: s-maj=8.4km s-min=4.3km az=26.3*
*IDC **29** 09:24:28.8±1.2, 5°66S×148°42E, h192km±11km, mb3.8/17, mb1 3.8/19, mb1mx3.7/49, mbtmp4.2/19, Error ellipse: s-maj=16.6km s-min=7.5km az=102.0*
*NEIC **29** 09:24:29.6±0.6, 5°62S×148°42E, h197km±6km, mb4.3/49, Error ellipse: s-maj=7.1km s-min=4.3km az=115.0*

ISC 29 09:24:25.9±0.4, 5°63S±0°06×148°34E±0°08, h163km, n95, σ1s14/99, mb4.2/54, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.93**	**197**	P	Pn	09 25 30.0	+4.3
	12nm,0.3s,baz=18,slow=8.8,SNR=36						
PMG				S	**Sn**	**09 26 16.4**	**+4.1**
	16nm,0.3s,baz=343,slow=13,SNR=7.8						
RABL	**Rabaul**	**4.07**	**70**	*e*Pn	**Pn**	**09 25 29.7**	**+2.2**
RABL				*e*Sn	**Sn**	**09 26 16.0**	**+0.5**
COEN	**Coen**	**9.72**	**211**	*e*Pn	Pn	09 26 47.3	+5.2
MTN	**Manton Dam**	**18.43**	**246**	*e*P	**Pn**	**09 28 31.2**	**+0.1**
	28nm,0.4s						
WRAB	**Tennant Creek**	**19.68**	**222**	*e*P	**Pn**	**09 28 44.9**	**-1.0**
	9.9nm,0.4s						
WB2	**Warramunga Arr**	**19.69**	**222**	*e*P	**Pn**	**09 28 45.0**	**-0.9**
	11nm,0.4s						
WR1	**Warramunga Arr**	**19.70**	**222**	*e*P	**Pn**	**09 28 44.8**	**-1.2**
	13nm,1.0s						
WR1				*e*S	**S**	**09 32 15.4**	**-0.8**
WRA	**Warramunga Arr**	**19.70**	**222**	P	**Pn**	**09 28 44.8**	**-1.2**
	1.0nm,0.3s,baz=44,slow=10.0,SNR=64						
WRA				S	**S**	**09 32 15.4**	**-0.8**
	0.3nm,0.3s,baz=42,slow=20,SNR=8.3						
EIDS	**Eidsvold**	**19.81**	**173**	*e*P	**Pn**	**09 28 45.5**	**-1.8**
	12nm,1.1s						
AS01	**Alice Springs**	**22.66**	**216**	*e*P	**P**	**09 29 15.1**	**+1.5**
AS31	**Alice Springs**	**22.69**	**216**	*e*P	**P**	**09 29 15.6**	**+1.7**
	1.2nm,0.6s						
ASAR	**Alice Springs**	**22.69**	**216**	P	**P**	**09 29 15.6**	**+1.7**
	3.2nm,0.5s,baz=54,slow=8.4,SNR=103						
ASAR				S	**S**	**09 33 11.0**	**+1.0**
	3.6nm,0.8s,baz=27,slow=22,SNR=6.4						
DZM	**Mont Dzumac**	**23.96**	**135**	P	**P**	**09 29 25.1**	**-0.4**
	5.4nm,0.9s,baz=103,slow=14,SNR=4.6						
DZM	**Mont Dzumac**	**23.96**	**135**	*e*P	**P**	**09 29 26.0**	**+0.5**
	14nm,1.2s						
FITZ	**Fitzroy Crossi**	**25.40**	**239**	*e*P	**P**	**09 29 39.4**	**+1.0**
	4.7nm,1.0s						
STKA	**Stephens Creek**	**26.87**	**193**	P	**P**	**09 29 51.7**	**+0.1**
	0.6nm,0.4s,baz=6.3,slow=9.3,SNR=5.5						
STKA	**Stephens Creek**	**26.87**	**193**	*e*P	**P**	**09 29 52.1**	**+0.5**
	2.1nm,1.4s						
JOW	**Kunigami**	**37.66**	**330**	P	**P**	**09 31 26.7**	**+1.2**
	11nm,0.4s,baz=177,slow=17,SNR=4.0						
JOW	**Kunigami**	**37.66**	**330**	*e*P	**P**	**09 31 27.0**	**+1.5**
	38nm,1.0s						
JNU	**Nakatsue**	**41.95**	**338**	P	**P**	**09 32 01.7**	**+0.9**
	6.2nm,0.5s,baz=160,slow=12,SNR=16						
JNU	**Nakatsue**	**41.95**	**338**	*e*P	**P**	**09 32 01.8**	**+0.9**
	9.4nm,0.9s						
MJAR	**Matsushiro Arr**	**43.01**	**348**	P	**P**	**09 32 10.2**	**+0.9**
	1.1nm,0.6s,baz=170,slow=8.2,SNR=6.1						
MAJO	**Matsushiro**	**43.01**	**348**	*e*P	**P**	**09 32 10.2**	**+0.9**
MJB9	**Matsu-Tunnel**	**43.01**	**348**	*e*P	**P**	**09 32 11.1**	**+1.8**
	3.1nm,0.9s						
MLZ	**Mavora Lakes**	**43.17**	**160**	*e*P	**P**	**09 32 12.0**	**+1.4**
	32nm,1.3s						
CRLZ	**Canterbury Las**	**43.43**	**154**	*e*P	**P**	**09 32 11.9**	**-0.7**
	127nm,1.3s						
KSRS	**Korea Array**	**46.90**	**338**	P	**P**	**09 32 41.1**	**+1.2**
	2.9nm,0.6s,baz=154,slow=8.4,SNR=20						
KS15	**Wonju Array Si**	**46.90**	**338**	*e*P	**P**	**09 32 41.1**	**+1.2**
KSAR	**Wonju Array Be**	**46.90**	**338**	P	**P**	**09 32 41.1**	**+1.2**
KS01	**Wonju Array Si**	**46.93**	**338**	*e*P	**P**	**09 32 40.5**	**+0.3**
USRK	**Ussuriysk Ar.**	**51.74**	**345**	P	**P**	**09 33 17.3**	**+0.7**
	3.0nm,0.7s,baz=166,slow=8.0,SNR=11						
PEA0B	**Petropavlovsk-**	**59.05**	**7**	*e*P	**P**	**09 34 10.0**	**+1.3**
	26nm,1.4s						
PETK	**Petropavlovsk-**	**59.05**	**7**	P	**P**	**09 34 09.3**	**+0.7**
	3.9nm,0.6s,baz=143,slow=4.8,SNR=8.5						
PETK	**Petropavlovsk-**	**59.05**	**7**	*e*P	**P**	**09 34 09.6**	**+1.0**
PEA1	**Petropavlovsk-**	**59.05**	**7**	*e*P	**P**	**09 34 09.3**	**+0.6**
CASY	**Casey**	**65.97**	**196**	*e*P	**P**	**09 34 54.2**	**-0.1**
	12nm,1.3s						
VNDA	**Vanda**	**72.21**	**177**	P	**P**	**09 35 32.5**	**-0.1**
	0.9nm,0.6s,baz=335,slow=6.2,SNR=13						
VNDA	**Vanda**	**72.21**	**177**	*e*P	**P**	**09 35 33.1**	**+0.5**
	4.4nm,1.5s						
CHGN	**Chignik**	**75.46**	**27**	*e*PcP	PcP	09 36 12.1	+8.0
MK01	**Makanchi Array**	**78.05**	**320**	*e*P	**P**	**09 36 05.7**	**-0.9**
MK31	**Makanchi Array**	**78.06**	**320**	*e*P	**P**	**09 36 06.1**	**-0.6**
MK32	**Makanchi Array**	**78.06**	**320**	*e*P	**P**	**09 36 05.7**	**-1.0**
MKAR	**Makanchi Array**	**78.06**	**320**	P	**P**	**09 36 05.7**	**-1.0**
	0.7nm,0.5s,baz=96,slow=7.2,SNR=9.2						
MKAR	**Makanchi Array**	**78.06**	**320**	*e*P	**P**	**09 36 06.1**	**-0.6**
	5.2nm,0.8s						
ZALV	**Zalesovo Beam**	**79.41**	**327**	P	**P**	**09 36 12.2**	**-1.6**
	1.2nm,0.4s,baz=122,slow=6.8,SNR=5.0						
ZALV	**Zalesovo Beam**	**79.41**	**327**	*e*P	**P**	**09 36 12.5**	**-1.3**
ZAA1	**Zalesovo Array**	**79.41**	**327**	*e*P	**P**	**09 36 12.2**	**-1.6**
SUA	**Susitna One**	**81.55**	**25**	*e*P	**P**	**09 36 25.1**	**-0.2**
	19nm,1.4s						
PPLA	**Purkeypile**	**81.67**	**24**	*e*P	**P**	**09 36 25.9**	**0.0**
	16nm,1.5s						
KURK	**Kurchatov**	**81.71**	**323**	*e*P	**P**	**09 36 25.0**	**-1.1**
KURBB	**Kurchatov Arra**	**81.74**	**323**	P	**P**	**09 36 25.0**	**-1.2**
	0.4nm,0.5s,baz=95,slow=4.9,SNR=4.3						
RC01	**Rabbit Creek A**	**81.81**	**26**	*e*P	**P**	**09 36 26.6**	**+0.1**
	31nm,1.4s						
CAST	**Castle Rocks**	**81.97**	**23**	*e*P	**P**	**09 36 26.9**	**-0.4**
	2.8nm,0.6s						
GHO	**Glory Hole Cre**	**82.47**	**25**	*e*P	**P**	**09 36 29.2**	**-0.8**
	16nm,1.4s						
KTH	**Kantishna Hill**	**82.49**	**23**	*e*P	**P**	**09 36 29.3**	**-0.7**
	3.5nm,0.9s						
IM3	**Indian Mountai**	**82.67**	**20**	*e*P	**P**	**09 36 30.1**	**-0.7**
TRF	**Thorofare Moun**	**82.69**	**23**	*e*P	**P**	**09 36 30.1**	**-1.1**
	7.3nm,1.4s						
BPAW	**Bear Paw Mtn.**	**82.73**	**23**	*e*P	**P**	**09 36 30.9**	**-0.3**
	6.3nm,1.5s						
SML	**Sawmill**	**82.73**	**25**	*e*P	**P**	**09 36 31.2**	**-0.2**
	7.2nm,1.1s						
MAW	**Mawson**	**83.10**	**203**	P	**P**	**09 36 32.4**	**-0.6**
	2.4nm,0.7s,baz=122,slow=18,SNR=2.9						
SCM	**Sheep Creek Mo**	**83.18**	**26**	*e*P	**P**	**09 36 33.7**	**+0.1**
	8.6nm,1.0s						
RND	**Reindeer**	**83.24**	**24**	*e*P	**P**	**09 36 33.1**	**-0.8**
	4.9nm,0.6s						
MLY	**Manley**	**83.27**	**22**	*e*P	**P**	**09 36 33.7**	**-0.3**
	3.0nm,0.7s						
MCK	**McKinley**	**83.36**	**23**	*e*P	**P**	**09 36 33.9**	**-0.5**
	6.4nm,1.1s						
KLU	**Klutina**	**83.64**	**26**	*e*P	**P**	**09 36 36.5**	**+0.5**
	7.2nm,1.1s						
DHY	**Denali Highway**	**83.69**	**24**	*e*P	**P**	**09 36 37.0**	**+0.6**
	2.9nm,0.8s						
BMRM	**Bremner River**	**84.02**	**27**	*e*P	**P**	**09 36 38.4**	**+0.5**
	27nm,1.5s						
WRH	**Wood River Hil**	**84.02**	**23**	*e*P	**P**	**09 36 36.7**	**-1.0**
	7.5nm,1.4s						
CCB	**Clear Creek Bu**	**84.21**	**23**	*e*P	**P**	**09 36 37.6**	**-1.1**
	2.8nm,0.6s						
QSPA	**South Pole Qui**	**84.34**	**180**	P	**P**	**09 36 38.9**	**-0.7**
	2.0nm,0.6s,baz=27,slow=4.1,SNR=13						
QSPA	**South Pole Qui**	**84.34**	**180**	*e*P	**P**	**09 36 39.2**	**-0.4**
	3.2nm,1.4s						
PAX	**Paxson**	**84.44**	**25**	*e*P	**P**	**09 36 40.3**	**+0.3**
	3.8nm,1.2s						
HDA	**Harding Lake**	**84.44**	**23**	*e*P	**P**	**09 36 38.8**	**-1.1**
	9.4nm,1.3s						
COLD	**Coldfoot**	**84.53**	**20**	*e*P	**P**	**09 36 41.1**	**+0.8**
	1.4nm,0.6s						
IL1	**Eielson Array**	**84.62**	**23**	*e*P	**P**	**09 36 39.5**	**-1.3**
ILAR	**Eielson Array**	**84.62**	**23**	P	**P**	**09 36 39.1**	**-1.6**
	3.2nm,0.6s,baz=251,slow=4.9,SNR=67						
ILB	**Eielson Array**	**84.62**	**23**	*e*P	**P**	**09 36 39.1**	**-1.6**
RIDG	**Independ'e Rid**	**85.01**	**24**	*e*P	**P**	**09 36 42.6**	**-0.2**
	7.4nm,1.4s						
MENT	**M

*IDC **29** 09:34:14.8±1.2, 1°.21N×91°.53E, h0km, mb3.8/8, mb1 4.0/10, mb1mx3.6/72, mbtmp3.8/10, ML4.2/2, Error ellipse: s-maj=50.2km s-min=15.8km az=52.0*
*NEIC **29** 09:34:15.8±0.5, 1°.20N×91°.44E, h10km, mb4.6/3, Error ellipse: s-maj=11.6km s-min=7.4km az=41.0*

ISC 29 09:34:16.3±0.7, 1°.3N±0°.1×91°.62E±0°.07, h10km, n32, σ1§83/31, mb3.9/11, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
GSI	**Gunungsitoli**	**5.95**	**90**	*e*Pn		**Pn**	**09 35 46.7**	**+2.2**
GSI				*e*Sn		**Sn**	**09 36 51.4**	**-1.4**
PSI	**Prapat**	**7.44**	**78**	Sn		**Sn**	**09 37 25.1**	**-4.7**
	1.6nm,0.3s,baz=330,slow=16,SNR=3.0							
PSI	**Prapat**	**7.44**	**78**	*e*Pn		**Pn**	**09 36 06.9**	**+1.7**
PSI				*e*Sn		**Sn**	**09 37 26.0**	**-3.8**
KULM	**Kulim**	**9.84**	**66**	*e*Pn		**Pn**	**09 36 40.2**	**+2.3**
IPM	**Ipoh**	**9.90**	**71**	*e*Pn		**Pn**	**09 36 41.8**	**+2.9**
PBA	**Port Blair**	**10.33**	**6**	*e*Pn		Pn	09 36 45.1	+0.5
PALK	**Pallekele**	**12.39**	**299**	Pn		**Pn**	**09 37 10.0**	**-2.8**
	1.8nm,0.3s,baz=114,slow=12,SNR=8.0							
PALK				Sn		Sn	09 39 15.5	-16
	4.5nm,0.3s,baz=116,slow=19,SNR=7.9							
CMAR	**Chiang Mai Arr**	**18.48**	**22**	P		**P**	**09 38 32.9**	**+0.3**
	0.3nm,0.3s,baz=218,slow=11,SNR=4.6							
H08S2	**Diego Garcia H**	**21.06**	**245**	T		T	10 00 46.8	
	baz=61,slow=75,SNR=12							
H08S3	**Diego Garcia H**	**21.06**	**245**	T		T	10 01 01.3	
	baz=61,slow=75,SNR=9.0							
H08S1	**Diego Garcia H**	**21.07**	**245**	T		T	10 01 01.9	
	baz=61,slow=75,SNR=8.7							
MK32	**Makanchi Array**	**46.02**	**351**	*e*P		**P**	**09 42 41.8**	**+1.8**
MKAR	**Makanchi Array**	**46.02**	**351**	P		**P**	**09 42 41.8**	**+1.8**
	0.2nm,0.4s,baz=162,slow=9.2,SNR=4.3							
WR1	**Warramunga Arr**	**46.90**	**119**	*e*P		**P**	**09 42 47.5**	**+0.2**
WRA	**Warramunga Arr**	**46.90**	**119**	P		**P**	**09 42 47.5**	**+0.2**
	2.3nm,0.6s,baz=296,slow=8.7,SNR=36							
WB2	**Warramunga Arr**	**46.91**	**119**	*e*P		**P**	**09 42 47.3**	**-0.1**
GEYT	**Alibeck**	**47.69**	**324**	P		**P**	**09 42 54.7**	**+1.5**
	0.7nm,0.5s,baz=172,slow=4.1,SNR=2.7							
ASAR	**Alice Springs**	**48.01**	**124**	P		**P**	**09 42 56.0**	**0.0**
	0.5nm,0.5s,baz=301,slow=7.7,SNR=11							
ASAR				PcP		**PcP**	**09 44 23.6**	**-0.5**
	0.4nm,0.7s,baz=314,slow=3.5,SNR=4.7							
AS31	**Alice Springs**	**48.01**	**124**	*e*P		**P**	**09 42 56.0**	**0.0**
	1.5nm,1.3s							
KURBB	**Kurchatov Arra**	**50.37**	**349**	P		**P**	**09 43 12.3**	**-1.2**
	0.2nm,0.5s,baz=164,slow=4.7,SNR=3.4							
KURK	**Kurchatov**	**50.44**	**349**	*e*P		**P**	**09 43 12.3**	**-1.7**
ZALV	**Zalesovo Beam**	**52.75**	**355**	P		**P**	**09 43 32.9**	**+1.6**
	0.7nm,0.4s,baz=168,slow=7.4,SNR=2.9							
ZAA1	**Zalesovo Array**	**52.76**	**355**	*e*P		**P**	**09 43 32.9**	**+1.6**
CTA	**Charters Tower**	**57.58**	**115**	P		**P**	**09 44 07.6**	**+0.7**
	3.0nm,0.6s,baz=278,slow=15,SNR=5.4							
CTAO	**Charters Tower**	**57.58**	**115**	*e*P		**P**	**09 44 07.2**	**+0.4**
	12nm,1.4s							
STKA	**Stephens Creek**	**57.66**	**130**	P		**P**	**09 44 07.5**	**+0.3**
	0.9nm,0.7s,baz=295,slow=9.0,SNR=3.8							
EIDS	**Eidsvold**	**63.27**	**119**	*e*P		**P**	**09 44 46.8**	**+1.2**
	10nm,1.4s							
LBZ	**Lake Benmore**	**82.75**	**135**	*e*P		**P**	**09 46 38.9**	**-1.8**
	91nm,1.5s							
HWUT	**Hardware Ranch**	**132.38**	**24**	*e*PKPdf		**PKPdf**	**09 53 32.5**	**+0.9**
WLAR	**White Oak Lake**	**144.89**	**7**	*e*PKPbc		**PKPab**	**09 53 52.8**	**-0.5**
TX31	**Lajitas Ar. Si**	**146.19**	**24**	*e*PKPdf		**PKPdf**	**09 53 57.0**	**+0.2**
TXAR	**Lajitas Array**	**146.19**	**24**	PKPbc		**PKPdf**	**09 53 56.8**	**0.0**
	0.6nm,0.5s,baz=20,slow=2.2,SNR=14							

*MOS **29** 09:36:57.4±0.9, 47°.84N×154°.96E, h24km, mb4.0/6, Error ellipse: s-maj=17.2km s-min=4.5km az=70.9*
*ISCJB **29** 09:36:59.1±0.5, 48°.02N±0°.06×154°.71E±0°.10, h33km, mb3.7/12, Error ellipse: s-maj=12.5km s-min=3.2km az=42.7*
*KRSC **29** 09:37:00.4±1.9, 48°.06N×155°.86E, h21km±33km, ML4.6*
*SKHL **29** 09:37:01.6±0.8, 47°.99N×154°.85E, h68km±9km, mb4.8/5*
*IDC **29** 09:37:05.1±2.9, 48°.23N×154°.39E, h74km±26km, mb3.4/12, mb1 3.7/15, mb1mx3.4/76, mbtmp3.8/15, Error ellipse: s-maj=27.0km s-min=12.8km az=145.0*

ISC 29 09:37:00.2±0.7, 48°.00N±0°.09×154°.77E±0°.09, h33km, n79, σ1§77/87, mb3.7/12, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SKR	**Severo-Kuril's**	**2.83**	**18**	*e*P		**Pn**	**09 37 43.9**	**+0.8**
SKR				AMB		AMB	09 37 46.7	
	240nm,0.5s							
SKR				*e*S		**Sn**	**09 38 15.9**	**-0.1**
SKR				A		A	09 38 25.1	
	400nm,0.4s							
SKR				A		A	09 38 25.1	
	600nm,0.4s							
SKR	**Severo-Kuril's**	**2.83**	**18**	*e*P		**Pn**	**09 37 43.2**	**+0.1**
SKR				*e*S		**Sn**	**09 38 14.1**	**-1.9**
SKR	**Severo-Kuril's**	**2.83**	**18**	*e*PN		**Pn**	**09 37 43.9**	**+0.8**
SKR				*e*S		**Sn**	**09 38 16.6**	**+0.6**
SKR				pmax		pmax		
	comp=Z,298nm,0.7s							
SKR				smax		smax		
	comp=N,439nm,0.7s							
SKR				smax		smax		
	comp=E,560nm,0.9s							
PAU	**Pauzhetka**	**3.72**	**20**	*e*P		**Pn**	**09 37 56.6**	**+1.3**
PAU				AMB		AMB	09 37 58.3	
	comp=E,105nm,0.9s							
PAU				*e*S		**Sn**	**09 38 38.2**	**+0.3**
PAU				A		A	09 38 42.3	
	comp=E,400nm,0.4s							
PAU	**Pauzhetka**	**3.72**	**20**	*e*P		**Pn**	**09 37 57.7**	**+2.4**
PAU				*e*S		**Sn**	**09 38 39.7**	**+1.8**
PAU	**Pauzhetka**	**3.72**	**20**	PN		**Pn**	**09 37 57.7**	**+2.4**
KDTR	**Khodutka, Kamc**	**4.38**	**28**	*e*P		**Pn**	**09 38 04.4**	**+0.1**
KDTR				*e*S		**Sn**	**09 38 51.9**	**-2.2**
MIPR	**Malaya Ipel'ka**	**4.47**	**16**	*e*P		**Pn**	**09 38 07.2**	**+1.5**
MIPR	**Malaya Ipel'ka**	**4.47**	**16**	PN		**Pn**	**09 38 07.2**	**+1.5**
ASAK	**Asacha**	**4.83**	**23**	*e*P		**Pn**	**09 38 12.0**	**+1.4**
ASAK	**Asacha**	**4.83**	**23**	PN		**Pn**	**09 38 12.0**	**+1.4**
MTVR	**Mutnovka**	**5.00**	**25**	*e*P		**Pn**	**09 38 14.4**	**+1.4**
MTVR				*e*S		**Sn**	**09 39 09.4**	**-0.2**
MTVR	**Mutnovka**	**5.00**	**25**	PN		**Pn**	**09 38 14.4**	**+1.4**
RUS	**Russkaya**	**5.05**	**27**	*e*P		**Pn**	**09 38 13.4**	**-0.2**
RUS	**Russkaya**	**5.05**	**27**	PN		**Pn**	**09 38 13.4**	**-0.2**
KRMR	**Karymshinskiy**	**5.29**	**23**	*e*P		**Pn**	**09 38 18.9**	**+2.0**
KRMR				*e*S		**Sn**	**09 39 16.6**	**-0.1**
KRMR	**Karymshinskiy**	**5.29**	**23**	PN		**Pn**	**09 38 18.9**	**+2.0**
PETK	**Petropavlovsk-**	**5.45**	**19**	P		**Pn**	**09 38 21.1**	**+2.1**
	comp=E,4.1nm,0.3s,baz=171,slow=11,SNR=56							
PETK				S		Sb	09 39 32.1	-7.3
	baz=241,slow=14,SNR=2.0							
KUR	**Kuril'sk**	**5.50**	**242**	*e*P		**Pn**	**09 38 22.5**	**+2.8**
KUR				AMB		AMB	09 38 28.0	
	comp=E,61nm,0.4s							
KUR				*e*S		**Sn**	**09 39 22.5**	**+0.8**
KUR				A		A	09 39 31.6	
	comp=E,156nm,0.7s							
KUR				A		A	09 39 31.6	
	comp=E,107nm,0.7s							
KUR	**Kuril'sk**	**5.50**	**242**	*e*PN		**Pn**	**09 38 23.7**	**+4.0**
KUR				pmax		pmax		
	comp=Z,61nm,0.4s							
KUR				pmax		pmax		
	comp=E,25nm,0.1s							
KUR				pmax		pmax		
	comp=N,40nm,0.3s							
PET	**Petropavlovsk**	**5.61**	**25**	*e*P		**Pn**	**09 38 22.5**	**+1.3**
PET				AMB		AMB	09 38 23.3	
	comp=N,13nm,0.9s							
PET				*e*S		**Sn**	**09 39 24.1**	**-0.4**
PET				A		A	09 39 38.6	
	comp=N,61nm,0.5s							
PET	**Petropavlovsk**	**5.61**	**25**	*e*P		**Pn**	**09 38 23.0**	**+1.8**
PET	**Petropavlovsk**	**5.61**	**25**	*e*PN		**Pn**	**09 38 23.1**	**+1.8**
PET				pmax		pmax		
	comp=Z,33nm,0.5s							
DALK	**Dalny**	**5.64**	**25**	*e*P		**Pn**	**09 38 22.5**	**+0.8**
DALK				*e*S		**Sn**	**09 39 24.0**	**-1.3**
DALK	**Dalny**	**5.64**	**25**	PN		**Pn**	**09 38 22.5**	**+0.8**
UGLR	**Uglovaya**	**5.82**	**25**	*e*P		**Pn**	**09 38 25.9**	**+1.6**
UGLR	**Uglovaya**	**5.82**	**25**	PN		**Pn**	**09 38 25.9**	**+1.6**
KOK	**Koryaka**	**5.84**	**23**	*e*P		**Pn**	**09 38 27.6**	**+3.0**
KOK	**Koryaka**	**5.84**	**23**	PN		**Pn**	**09 38 27.6**	**+3.0**
AVH	**Avacha**	**5.85**	**24**	*e*P		**Pn**	**09 38 26.5**	**+1.9**
AVH	**Avacha**	**5.85**	**24**	PN		**Pn**	**09 38 26.5**	**+1.9**
SMAR	**Somma**	**5.86**	**24**	*e*P		**Pn**	**09 38 27.5**	**+2.5**
SMAR	**Somma**	**5.86**	**24**	PN		**Pn**	**09 38 27.5**	**+2.5**
KRER	**Koryakskii**	**5.89**	**24**	*e*P		**Pn**	**09 38 27.0**	**+1.8**
KRER	**Koryakskii**	**5.89**	**24**	PN		**Pn**	**09 38 27.0**	**+1.8**
SDLR	**Sedlovina**	**5.90**	**25**	*e*P		**Pn**	**09 38 26.6**	**+1.2**
SDLR	**Sedlovina**	**5.90**	**25**	PN		**Pn**	**09 38 26.6**	**+1.2**
KRX	**Arik**	**5.91**	**23**	*e*P		**Pn**	**09 38 28.4**	**+2.9**
KRX	**Arik**	**5.91**	**23**	PN		**Pn**	**09 38 28.4**	**+2.9**
GNL	**Ganaly**	**6.05**	**18**	*e*P		**Pn**	**09 38 29.5**	**+2.1**
GNL	**Ganaly**	**6.05**	**18**	PN		**Pn**	**09 38 29.5**	**+2.1**
SPN	**Mys Shipunski**	**6.11**	**31**	*e*P		**Pn**	**09 38 28.9**	**+0.8**
SPN				*e*S		**Sn**	**09 39 33.1**	**-3.6**
SPN	**Mys Shipunski**	**6.11**	**31**	PN		**Pn**	**09 38 28.9**	**+0.8**
SHO	**Shikotan**	**6.90**	**236**	*e*P		**Pn**	**09 38 39.8**	**+0.8**
SHO				AMB		AMB	09 38 49.4	
	comp=Z,23nm,0.4s							
SHO				*e*S		**Sn**	**09 39 53.0**	**-3.3**
SHO	**Shikotan**	**6.90**	**236**	*e*PN		**Pn**	**09 38 39.8**	**+0.8**
SHO				pmax		pmax		
	comp=E,18nm,0.4s							
SHO				pmax		pmax		
	comp=Z,23nm,0.4s							
SHO				pmax		pmax		
	comp=N,12nm,0.2s							
YUK	**Yuzh-Kuril'sk**	**7.36**	**241**	*e*P		**Pn**	**09 38 47.4**	**+2.2**
YUK				AMB		AMB	09 38 51.4	
	comp=N,83nm,0.5s							
YUK				*e*S		**Sn**	**09 40 06.7**	**-0.8**
YUK	**Yuzh-Kuril'sk**	**7.36**	**241**	PN		**Pn**	**09 38 47.4**	**+2.2**
YUK				pmax		pmax		
	comp=N,72nm,0.4s							
YUK				pmax		pmax		
	comp=Z,83nm,0.4s							
YUK				pmax		pmax		
	comp=E,39nm,0.5s							
KZV	**Kizimen**	**7.91**	**24**	*e*P		**Pn**	**09 38 55.1**	**+2.1**
KZV	**Kizimen**	**7.91**	**24**	PN		**Pn**	**09 38 55.1**	**+2.1**
TUMD	**Tumrok D**	**8.02**	**24**	*e*P		**Pn**	**09 38 54.0**	**-0.4**
TUMR	**Tumrok**	**8.03**	**23**	*e*P		**Pn**	**09 38 56.2**	**+1.7**
TUMR	**Tumrok**	**8.03**	**23**	PN		**Pn**	**09 38 56.2**	**+1.7**
TYV	**Tymovskoe**	**8.40**	**294**	*e*P		**Pn**	**09 39 02.4**	**+2.9**
ASAJ	**Asahikawa**	**9.31**	**250**	P		**Pn**	**09 39 14.6**	**+2.6**
	comp=E,3.6nm,0.3s,baz=80,slow=17,SNR=32							
KBTR	**Krutoberegovo**	**9.59**	**28**	*e*P		**Pn**	**09 39 16.0**	**+0.1**
KBTR	**Krutoberegovo**	**9.59**	**28**	PN		**Pn**	**09 39 16.0**	**+0.1**
KLR	**Kul'dur**	**15.26**	**283**	P		**Pn**	**09 40 34.0**	**+0.9**
	comp=E,0.0nm,0.3s,baz=54,slow=14,SNR=3.7							
USRK	**Ussuriysk Ar.**	**16.23**	**265**	P		**Pn**	**09 40 46.6**	**+1.0**
	comp=E,0.5nm,0.3s,baz=73,slow=14,SNR=13							
MJAR	**Matsushiro Arr**	**16.73**	**233**	P		**Pn**	**09 40 50.5**	**-1.5**
	baz=28,slow=12,SNR=6.6							
KSRS	**Korea Array**	**22.25**	**252**	P		**P**	**09 41 53.6**	**-0.6**
	comp=E,3.4nm,0.8s,baz=44,slow=10,SNR=16							
H11N2	**WAKE ISLAND Hy**	**29.86**	**157**	T		T	10 14 47.2	
	baz=345,slow=76,SNR=141							
H11N1	**WAKE ISLAND Hy**	**29.88**	**157**	T		T	10 14 47.2	
	baz=345,slow=76,SNR=330							
H11N3	**WAKE ISLAND Hy**	**29.88**	**157**	T		T	10 14 49.0	
	baz=345,slow=76,SNR=181							
H11S1	**WAKE ISLAND Hy**	**30.98**	**158**	T		T	10 16 10.4	
	baz=345,slow=76,SNR=1161							
H11S3	**WAKE ISLAND Hy**	**30.99**	**158**	T		T	10 16 11.8	
	baz=345,slow=76,SNR=1037							
H11S2	**WAKE ISLAND Hy**	**31.00**	**158**	T		T	10 16 09.4	
	baz=345,slow=76,SNR=711							
ILAR	**Eielson Array**	**34.87**	**40**	P		**P**	**09 43 48.5**	**+0.5**
	comp=E,0.4nm,0.7s,baz=261,slow=8.1,SNR=7.1							
ILAR	**Eielson Array**	**34.87**	**40**	P		**P**	**09 43 48.5**	**+0.5**
ILAR				pmax		pmax		
	comp=Z,1.0nm,1.0s							
INK	**Inuvik**	**39.99**	**33**	P		**P**	**09 44 31.8**	**+0.6**
	comp=Z,1.0nm,0.7s,baz=316,slow=8.1,SNR=6.8							
MKAR	**Makanchi Array**	**47.37**	**297**	P		**P**	**09 45 29.6**	**-1.3**
	comp=Z,0.2nm,0.5s,baz=67,slow=7.7,SNR=3.8							
KURK	**Kurchatov**	**47.61**	**303**	P		**P**	**09 45 30.5**	**-2.2**
KURBB	**Kurchatov Arra**	**47.71**	**303**	P		**P**	**09 45 30.5**	**-2.9**
	comp=Z,0.3nm,0.4s,baz=72,slow=8.3,SNR=2.5							
YKA	**Yellowknife Ar**	**49.25**	**38**	P		**P**	**09 45 45.9**	**+0.8**
	comp=Z,0.7nm,0.8s,baz=297,slow=7.6,SNR=11							
RES	**Resolute Bay**	**49.29**	**19**	P		**P**	**09 45 44.2**	**-1.1**
	comp=Z,0.6nm,0.3s,baz=305,slow=2.9,SNR=15							
CMAR	**Chiang Mai Arr**	**53.75**	**257**	P		**P**	**09 46 18.9**	**-0.5**
	comp=Z,0.7nm,0.3s,baz=21,slow=7.7,SNR=4.6							
NVAR	**Mina Array Bea**	**60.87**	**64**	P		**P**	**09 47 11.0**	**+1.4**
	comp=Z,0.3nm,0.6s,baz=299,slow=7.9,SNR=3.8							
FINES	**FINESS Array B**	**63.38**	**335**	P		**P**	**09 47 23.4**	**-2.4**
	comp=Z,1.5nm,0.9s,baz=62,slow=9.6,SNR=3.5							
WRA	**Warramunga Arr**	**70.07**	**200**	P		**P**	**09 48 09.6**	**+0.8**
	comp=Z,0.4nm,0.7s,baz=16,slow=6.1,SNR=4.0							
TXAR	**Lajitas Array**	**75.91**	**62**	P		**P**	**09 48 44.5**	**+0.8**
	comp=Z,0.4nm,0.8s,baz=294,slow=4.5,SNR=4.7							

*ISCJB **29** 09:51:19.3±0.7, 37°.61N±0°.05×41°.69E±0°.04, h2km±8km, Error ellipse: s-maj=8.2km s-min=5.2km az=168.8*
*ISK **29** 09:51:19.1, 37°.64N×41°.69E, h13km, ML2.8/3*
*CSEM **29** 09:51:19.8±0.3, 37°.62N×41°.71E, h8km, ML2.5, Error ellipse: s-maj=8.4km s-min=4.7km az=173.0*
*DDA **29** 09:51:21.9, 37°.82N×41°.68E, h8km, Ml2.5*

ISC 29 09:51:19.7±1.2, 37°.64N±0°.04×41°.69E±0°.03, h5km±12km, n25, σ0§69/34, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SRTM	**Siirt_Merkez**	**0.40**	**27**	*i* P		**Pg**	**09 51 27.5**	**0.0**
SRTM	**Siirt_Merkez**	**0.40**	**27**	P		**Pg**	**09 51 27.5**	**0.0**
BTMN	**Batman**	**0.42**	**308**	*i* P		**Pg**	**09 51 28.3**	**+0.4**
BTMN	**Batman**	**0.42**	**308**	P		**Pg**	**09 51 28.3**	**+0.4**
SIRT	**Sirnak**	**0.61**	**102**	PG		**Pg**	**09 51 31.3**	**-0.2**
SIRT				SG		**Sg**	**09 51 40.3**	**+0.9**
SIRT	**Sirnak**	**0.61**	**102**	*e*Pg		**Pg**	**09 51 31.3**	**-0.2**
SIRT				*e*Sg		**Sg**	**09 51 40.3**	**+0.9**
MARD	**Mardin**	**0.79**	**246**	*i* P		**Pg**	**09 51 34.9**	**0.0**
MARD				*i* S		**Sn**	**09 51 51.6**	**+1.7**
GURO	**Guroymak-BITLI**	**0.95**	**16**	PG		**Pb**	**09 51 38.4**	**-0.4**
GURO				SG		**Sb**	**09 51 51.2**	**-0.6**
GURO	**Guroymak-BITLI**	**0.95**	**16**	*e*Pg		**Pb**	**09 51 38.4**	**-0.4**
GURO				*e*Sg		**Sb**	**09 51 51.2**	**-0.6**
MAZI	**Mazidag**	**1.00**	**260**	PG		**Pg**	**09 51 39.1**	**+0.1**
MAZI				SG		**Sb**	**09 51 53.3**	**+0.1**
MAZI	**Mazidag**	**1.00**	**260**	*e*Pg		**Pg**	**09 51 39.1**	**+0.1**
MAZI				*e*Sg		**Sb**	**09 51 53.3**	**+0.1**
GEVA	**Gevas**	**1.27**	**58**	*i* P		**Pg**	**09 51 44.5**	**+0.3**
GEVA	**Gevas**	**1.27**	**58**	P		**Pg**	**09 51 44.5**	**+0.3**
HANI	**Diyarbakir_Han**	**1.28**	**308**	*i* P		**Pg**	**09 51 44.4**	**+0.1**
HANI				*i* S		**Sn**	**09 52 03.1**	**+1.2**
HANI	**Diyarbakir_Han**	**1.28**	**308**	P		**Pg**	**09 51 44.4**	**+0.1**
HANI				S		**Sn**	**09 52 03.1**	**+1.2**
SVRC	**Sivrice-ELAZID**	**2.02**	**292**	PN		**Pn**	**09 51 54.4**	**-0.2**
SVRC	**Sivrice-ELAZID**	**2.02**	**292**	*e*Pn		**Pn**	**09 51 54.4**	**-0.2**
PTK	**Pertek**	**2.20**	**305**	PN		**Pn**	**09 51 56.7**	**-0.4**
PTK	**Pertek**	**2.20**	**305**	*e*Pn		**Pn**	**09 51 56.7**	**-0.4**
URFA	**Urfa**	**2.29**	**266**	PN		**Pn**	**09 51 57.4**	**-0.8**
URFA	**Urfa**	**2.29**	**266**	*e*Pn		**Pn**	**09 51 57.4**	**-0.8**
ELZG	**Elazig**	**2.30**	**293**	*i* P		**Pb**	**09 52 00.7**	**-1.1**
ELZG	**Elazig**	**2.30**	**293**	P		**Pb**	**09 52 00.7**	**-1.1**
MALT	**Malatya**	**2.67**	**286**	PN		**Pn**	**09 52 02.6**	**-0.8**
MALT	**Malatya**	**2.67**	**286**	*e*Pn		**Pn**	**09 52 02.6**	**-0.8**

*NEIC **29** 10:05:14.4±0.0, 38°.58S×177°.86E, h25km, ML3.8(WEL), After WEL.*
NEIC Felt in Hawke's Bay.

WEL 29 10:05:13.8±0.4, 39°S±2°×177°E±°, h18km±4km, ML4.2/16, 1C-1D, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
RIGZ	**Rimuhau**	**0.15**	**204**	P		Pg	10 05 18.8	+0.6
RIGZ	**Rimuhau**	**0.15**	**204**	S		Sg	10 05 23.5	+2.5
CNGZ	**Carnagh Statio**	**0.30**	**73**	P*		Pb	10 05 21.7	+1.1
CNGZ	**Carnagh Statio**	**0.30**	**73**	P		Pb	10 05 21.7	+1.1
RAGZ	**Rawiri**	**0.34**	**283**	P*		Pb	10 05 21.7	+0.3
RAGZ	**Rawiri**	**0.34**	**283**	P		Pb	10 05 21.7	+0.3
RAGZ	**Rawiri**	**0.34**	**283**	S		Sb	10 05 28.1	+1.5
MWZ	**Matawai**	**0.34**	**314**	⇓P*		Pb	10 05 21.5	+0.1
MWZ	**Matawai**	**0.34**	**314**	P		Pb	10 05 21.5	+0.1
MWZ	**Matawai**	**0.34**	**314**	S		Sb	10 05 27.7	+1.2
PRGZ	**Paritu Road**	**0.35**	**174**	P*		Pb	10 05 22.2	+0.6
PRGZ	**Paritu Road**	**0.35**	**174**	P		Pb	10 05 22.2	+0.6
TWGZ	**Tauwhareparae**	**0.41**	**16**	P*		Pb	10 05 23.2	+0.6
TWGZ	**Tauwhareparae**	**0.41**	**16**	P		Pb	10 05 23.3	+0.7
TWGZ	**Tauwhareparae**	**0.41**	**16**	S		Sn	10 05 31.8	-0.3
SNGZ	**Shannon Statio**	**0.44**	**242**	P*		Pb	10 05 23.7	+0.6
SNGZ	**Shannon Statio**	**0.44**	**242**	P		Pb	10 05 23.8	+0.6
SNGZ	**Shannon Statio**	**0.44**	**242**	S		Sn	10 05 32.1	-0.8
KNZ	**Kokohu**	**0.47**	**196**	P*		Pb	10 05 23.9	+0.4
KNZ	**Kokohu**	**0.47**	**196**	P		Pb	10 05 23.9	+0.4
KNZ	**Kokohu**	**0.47**	**196**	S		Sn	10 05 32.9	-0.5
MHGZ	**Mahia Peninsul**	**0.58**	**175**	P*		Pg	10 05 25.7	+0.3
MHGZ	**Mahia Peninsul**	**0.58**	**175**	P		Pg	10 05 25.7	+0.3
PUZ	**Puketiti**	**0.60**	**33**	P*		Pg	10 05 25.8	+0.1
PUZ				S*		Sn	10 05 37.1	+0.5
PUZ	**Puketiti**	**0.60**	**33**	P		Pg	10 05 26.0	+0.3
PUZ	**Puketiti**	**0.60**	**33**	S		Sn	10 05 36.7	0.0
RUGZ	**Raukumara Rang**	**0.62**	**348**	P		Pg	10 05 26.3	+0.2
RUGZ	**Raukumara Rang**	**0.62**	**348**	S		Sn	10 05 35.9	-1.4
URZ	**Urewera**	**0.65**	**298**	⇑P*		Pg	10 05 26.9	+0.1
URZ				S*		Sg	10 05 36.5	+1.1
URZ	**Urewera**	**0.65**	**298**	P		Pg	10 05 26.9	+0.2
URZ	**Urewera**	**0.65**	**298**	S		Sn	10 05 36.8	-1.1
RTZ	**Ruatahuna**	**0.67**	**266**	P		Pg	10 05 27.5	+0.4
RTZ	**Ruatahuna**	**0.67**	**266**	S		Sn	10 05 38.4	-0.2
RAHZ	**Arahi**	**0.68**	**240**	P		Pn	10 05 28.0	-0.5
RAHZ	**Arahi**	**0.68**	**240**	P		Pn	10 05 28.0	-0.5
WHHZ	**Waihua**	**0.69**	**223**	P		Pg	10 05 27.9	+0.4
PKGZ	**Pakihiroa**	**0.71**	**15**	P		Pg	10 05 28.3	+0.5
PKGZ	**Pakihiroa**	**0.71**	**15**	S		Sn	10 05 39.8	+0.4
HAZ	**Te Kaha**	**0.82**	**357**	P		Pb	10 05 29.4	-0.1
HAZ	**Te Kaha**	**0.82**	**357**	P		Pb	10 05 29.4	0.0
MTHZ	**Maungataniwha**	**0.83**	**250**	P		Pg	10 05 30.1	+0.1
MUGZ	**Murupara**	**0.84**	**276**	P		Pg	10 05 30.4	+0.1
WMGZ	**Waiomatatini S**	**0.88**	**31**	Pn		Pb	10 05 30.3	-0.2
WMGZ				Sn		Sn	10 05 44.5	+1.0
WMGZ	**Waiomatatini S**	**0.88**	**31**	P		Pb	10 05 30.4	-0.1
ARHZ	**Aropaoanui**	**0.95**	**223**	Pn		Pb	10 05 31.5	-0.3
ARHZ	**Aropaoanui**	**0.95**	**223**	P		Pb	10 05 31.5	-0.3
NMHZ	**Naumai**	**0.96**	**237**	Pn		Pb	10 05 32.0	0.0
NMHZ	**Naumai**	**0.96**	**237**	P		Pn	10 05 32.3	-0.1
NMHZ	**Naumai**	**0.96**	**237**	P		Pg	10 05 33.0	+0.4
EDRZ	**Edgecumbe**	**0.98**	**298**	Pn		Pg	10 05 33.0	+0.1
EDRZ	**Edgecumbe**	**0.98**	**298**	P		Pg	10 05 33.1	+0.1
WHRZ	**Whale Island**	**0.99**	**316**	P		Pg	10 05 33.4	+0.3
RRRZ	**Republican Roa**	**1.07**	**282**	Pn		Pb	10 05 33.7	-0.1
RRRZ	**Republican Roa**	**1.07**	**282**	P		Pb	10 05 33.9	0.0
MXZ	**Matakaoa Point**	**1.07**	**20**	Pn		Pb	10 05 33.1	-0.8
MXZ	**Matakaoa Point**	**1.

Plg0.0000°, Azm0.0000°; P Plg30.0000°, Azm95.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.

NEIC Felt [V] at Narita and [III] at Ayase, Kawasaki, Tokyo, Yokohama and Yokosuka. Felt in many parts of southeastern Honshu. Recorded [5L JMA] in Chiba.

GCMT ***29*** *10:28:51.9±0.1,35°.62N×140°.71E, h48km, MW5.8/146, Moment Tensor Solution. s133,c277; s146,c378; Duration: 29 Moment tensor: Scale 10^17 Nm; Mrr5.09±.06; Mθθ0.26±.05; Mϕϕ-5.35±.05; Mrθ-0.51±.05; Mrϕ-0.41±.04; Mθϕ4.20±.06; Best double couple: M=6.73300×10^17 NP1:ϕs357.00000°,δ65.00000°, λ84.00000°. NP2:ϕs192.00000°,δ26.00000°,λ103.00000°. Principal axes: T 6.6290, Plg70.0000°, Azm254.0000°; N 0.2060, Plg6.0000°, Azm360.0000°; P -6.8370, Plg19.0000°, Azm92.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

ISCJB ***29*** *10:28:51.4±0.2,35°.59N±0°.01×140°.40E±0°.01, h53km±2km, mb5.7/606, MS5.3/308 Error ellipse: s-maj=2.5km s-min=1.9km az=154.3*

JMA ***29*** *10:28:51.5±0.1,35°.72N×140°.60E, h48km± 1km, M5.8 Broadband fault plane solution: P waves. NP1: ϕs358.00000°,δ72.00000°,λ87.00000°. NP2: ϕs189.00000°,δ18.00000°,λ100.00000°. Principal axes: T Plg63.0000°, Azm263.0000°; N Plg3.0000°, Azm359.0000°; P Plg27.0000°, Azm91.0000°;*

IDC ***29*** *10:28:53.0± 1.2,35°.64N×140°.40E, h56km± 10km, mb5.2/61, mb1 5.3/64, mb1mx5.2/71, mbtmp5.5/64, MS5.1/68, Ms1 5.1/68, ms1mx5.1/73 Error ellipse: s-maj=9.2km s-min=6.0km az=88.0*

ISC 29 10:28:51.5±0.3, 35°.69N±0°.02×140°.57E±0°.03, h45km±2km, h45km:pP-P, n1993, σ1°67/2060, mb5.7/618, MS5.3/319, 122C-62D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
CHOJ	**Chosi**	**0.23**	**86**	P		**Pn**	**10 28 59.7**	**+0.1**
CHOJ				*e*S		**Sn**	**10 29 05.9**	**+0.7**
JCN	**Nagara**	**0.41**	**229**	⇓P		**Pn**	**10 29 02.6**	**+1.3**
I30JP	**ISUMI INFRASON**	**0.43**	**209**	P		**Pn**	**10 29 02.7**	**+1.0**
	baz=58,slow=12,SNR=17							
I30JP				S		**Sn**	**10 29 11.9**	**+3.1**
	baz=62,slow=211							
I30JP				*i*			10 31 20.0	
	baz=19,slow=316,SNR=0.4							
JYT	**Yasato**	**0.62**	**330**	⇓P		**Pn**	**10 29 04.1**	**+0.1**
JYT				S		**Sn**	**10 29 13.6**	**+0.6**
TOK	**Tokyo**	**0.66**	**270**	⇓P		**Pn**	**10 29 06.3**	**+1.8**
BSO4	**Boso 4**	**0.72**	**196**	⇓P		**Pn**	**10 29 05.9**	**+0.6**
BSO3	**Boso 3**	**0.89**	**183**	⇓P		**Pn**	**10 29 07.5**	**+0.2**
JHO	**Hitachi**	**0.92**	**360**	⇑P		**Pn**	**10 29 08.0**	**-0.1**
BSO1	**Boso 1**	**1.08**	**162**	P		**Pn**	**10 29 10.2**	**+0.4**
JAG	**Ashikaga**	**1.17**	**309**	⇓P		**Pn**	**10 29 11.6**	**+0.2**
JOD2	**Odawara 2**	**1.28**	**251**	⇓P		**Pn**	**10 29 13.7**	**+0.7**
JIM2	**Oshima 3**	**1.35**	**224**	⇓P		**Pn**	**10 29 13.4**	**-0.5**
JSB	**Shiboa**	**1.38**	**338**	⇓P		**Pn**	**10 29 14.9**	**+0.5**
JRY	**Ryogami san**	**1.40**	**284**	⇓P		**Pn**	**10 29 15.8**	**+1.2**
ONAJ	**Iwakimizuishiy**	**1.42**	**7**	⇑P		**Pn**	**10 29 15.1**	**+0.2**
JKT	**Katashina**	**1.52**	**316**	⇓P		**Pn**	**10 29 17.0**	**+0.7**
JFT	**Otama**	**1.84**	**354**	⇓P		**Pn**	**10 29 21.7**	**+1.1**
JHK	**Hiroka**	**2.00**	**322**	⇓P		**Pn**	**10 29 24.4**	**+1.6**
SHZ3	**Shizuoka 3**	**2.03**	**253**	⇓P		**Pn**	**10 29 24.8**	**+1.5**
MJAR	**Matsushiro Arr**	**2.10**	**295**	P		**Pn**	**10 29 24.6**	**+0.4**
	595nm,0.3s,baz=103,slow=9.6,SNR=2160							
MJAR				LR		LR	10 30 26.2	
	comp=Z,121μm,19.7s,baz=115,slow=48							
MAJO	**Matsushiro**	**2.10**	**295**	*e*Pn		**Pn**	**10 29 26.2**	**+2.0**
MAJO	**Matsushiro**	**2.10**	**295**	*de*P		**Pn**	**10 29 25.2**	**+1.0**
MAJO				pmax		pmax		
	comp=Z,6μm,0.7s							
MAT	**Matsushiro**	**2.10**	**295**	P		**Pn**	**10 29 26.0**	**+1.8**
MAT				*e*S		**Sn**	**10 29 54.9**	**+5.8**
MJB9	**Matsu-Tunnel**	**2.10**	**295**	*e*Pn		**Pn**	**10 29 26.6**	**+2.4**
JNG	**Nsakai**	**2.13**	**290**	⇓P		**Pn**	**10 29 26.5**	**+1.8**
JMM	**Marumori**	**2.18**	**5**	P		**Pn**	**10 29 26.0**	**+0.7**
JNY	**Yasuok**	**2.24**	**262**	⇓P		**Pn**	**10 29 28.2**	**+2.1**
JJN	**Nakama**	**2.40**	**307**	⇓P		**Pn**	**10 29 30.6**	**+2.3**
JYZW	**Yoshizawa**	**2.42**	**254**	P		**Pn**	**10 29 30.2**	**+1.6**
JGF	**Kuroka**	**2.62**	**269**	⇓P		**Pn**	**10 29 33.8**	**+2.4**
JHJ	**Hachijo jima 2**	**2.65**	**195**	P		**Pn**	**10 29 31.4**	**-0.3**
	comp=Z,915nm,0.3s,baz=325,slow=18,SNR=163							
JHJ				S		**Sn**	**10 30 03.3**	**+0.8**
	comp=Z,2μm,0.3s,baz=267,slow=22,SNR=11							
JHJ				LR		LR	10 30 50.1	
	comp=Z,34μm,20.8s,baz=344,slow=46							
JHJ2	**Mitsune**	**2.65**	**194**	*e*Pn		**Pn**	**10 29 31.2**	**-0.4**
JGN	**Niukaw**	**2.70**	**282**	⇓P		**Pn**	**10 29 34.9**	**+2.5**
JAO	**Obara**	**2.74**	**262**	⇓P		**Pn**	**10 29 34.9**	**+1.9**
INU	**Inuyama**	**2.92**	**264**	*e*Pn		**Pn**	**10 29 38.1**	**+2.6**
JAW	**Awa shima**	**2.96**	**339**	⇓P		**Pn**	**10 29 37.5**	**+1.6**
JSD	**Sado**	**2.99**	**322**	⇓P		**Pn**	**10 29 37.7**	**+1.3**
JYK	**Kaneyama**	**3.23**	**357**	⇑P		**Pn**	**10 29 41.4**	**+1.8**
JYW	**Yuwa**	**3.86**	**356**	P		**Pn**	**10 29 50.6**	**+2.4**
ERM	**Erimo**	**6.63**	**17**	*e*Pn		**Pn**	**10 30 25.1**	**-1.3**
ERM				*e*Sn		**Sn**	**10 31 41.8**	**+1.3**
ERM	**Erimo**	**6.63**	**17**	*ce*P		**Pn**	**10 30 25.0**	**-1.3**
ERM				pmax		pmax		
	comp=Z,289nm,1.0s							
JNU	**Nakatsue**	**8.41**	**255**	P		**Pn**	**10 30 52.1**	**+1.3**
	comp=Z,4.7nm,0.3s,baz=60,slow=7.7,SNR=48							
JNU				LR		LR	10 34 31.1	
	comp=Z,86μm,18.7s,baz=77,slow=41							
JNU	**Nakatsue**	**8.41**	**255**	*e*Pn		**Pn**	**10 30 54.0**	**+3.2**
ASAJ	**Asahikawa**	**8.56**	**10**	P		**Pn**	**10 30 50.2**	**-2.6**
	comp=Z,14nm,0.3s,baz=216,slow=14,SNR=80							
ASAJ				S		**Sn**	**10 32 23.1**	**-4.8**
	comp=Z,14nm,0.3s,baz=14,slow=26,SNR=4.0							
ASAJ				LR		LR	10 34 59.4	
	comp=Z,41nm,19.5s,baz=184,slow=42							
ASAJ	**Asahikawa**	**8.56**	**10**	*e*Pn		**Pn**	**10 30 51.0**	**-1.7**
ASAJ				S		**Sn**	**10 32 23.1**	**-4.8**
CBIJ	**Chichi jima**	**8.68**	**170**	*e*Pn		**Pn**	**10 30 51.3**	**-3.1**
CBIJ				S		Sn	10 32 21.0	-10
JCJ	**Chichijima**	**8.68**	**170**	P		**Pn**	**10 30 51.3**	**-3.2**
	comp=Z,278nm,0.3s,baz=315,slow=6.3,SNR=105							
JCJ				S		Sn	10 32 21.0	-10
	comp=Z,71nm,0.3s,baz=107,slow=20,SNR=3.3							
GLVR	**Golovnino**	**8.89**	**24**	*e*P		**Pn**	**10 30 54.7**	**-2.6**
GLVR				pmax		pmax		
	comp=Z,689nm,0.4s							
GLVR				pmax		pmax		
	comp=E,208nm,0.3s							
GLVR				pmax		pmax		
	comp=N,212nm,0.6s							
GRPR	**Tuman**	**9.20**	**24**	*e*P		**Pn**	**10 30 58.7**	**-2.9**
GRPR				pmax		pmax		
	comp=Z,329nm,0.4s							
GRPR				pmax		pmax		
	comp=N,183nm,0.5s							
GRPR				pmax		pmax		
	comp=E,196nm,0.2s							
LAGR	**Lagunnoye**	**9.27**	**24**	*e*P		**Pn**	**10 31 00.4**	**-2.0**
LAGR				pmax		pmax		
	comp=Z,1μm,0.5s							
LAGR				pmax		pmax		
	comp=N,616nm,0.4s							
LAGR				pmax		pmax		
	comp=E,557nm,0.4s							
YUK	**Yuzh-Kuril'sk**	**9.27**	**24**	*e*P		**Pn**	**10 31 00.4**	**-2.1**
YUK				pmax		pmax		
	comp=E,142nm,0.3s							
YUK				pmax		pmax		
	comp=Z,624nm,0.3s							
YUK				pmax		pmax		
	comp=N,202nm,0.5s							
YUK				MLR		MLR		
	comp=Z,846nm,19.0s							
SHO	**Shikotan**	**9.48**	**29**	P		**Pn**	**10 31 02.1**	**-3.2**
SHO				pmax		pmax		
	comp=E,143nm,0.4s							
SHO				pmax		pmax		
	comp=Z,167nm,0.4s							
SHO				pmax		pmax		
	comp=N,55nm,0.3s							
TEY	**Ternei**	**9.81**	**343**	*e*P		**Pn**	**10 31 10.0**	**+0.1**
TEY				*e*S		Sn	10 33 08.0	+9.3
TEY				pmax		pmax		
	comp=Z,2μm,8.0s							
TEY				pmax		pmax		
	comp=E,43nm,1.0s							
TEY				pmax		pmax		
	comp=Z,77nm,1.0s							
TEY				smax		smax		
	comp=E,6μm,14.0s							
TEY				smax		smax		
	comp=Z,4μm,14.0s							
TEY				MLR		MLR		
	comp=E,5μm,12.0s							
TEY				MLR		MLR		
	comp=N,4μm,9.0s							
TEY				MLR		MLR		
	comp=Z,9μm,9.0s							
VLA	**Vladivostok**	**10.01**	**320**	*c i*P		**Pn**	**10 31 15.5**	**+2.9**
MSHR	**Mys Shultsa**	**10.04**	**316**	*c i*P		**Pn**	**10 31 15.5**	**+2.5**
KSRS	**Korea Array**	**10.33**	**284**	P		**Pn**	**10 31 20.6**	**+3.7**
	comp=Z,4.3nm,0.3s,baz=99,slow=14,SNR=310							
KSRS				LR		LR	10 35 23.6	
	comp=Z,32μm,19.3s,baz=108,slow=38							
KS01	**Wonju Array Si**	**10.35**	**284**	*e*Pn		**Pn**	**10 31 20.9**	**+3.5**
KS15	**Wonju Array Si**	**10.36**	**283**	*e*Pn		**Pn**	**10 31 21.7**	**+4.4**
KSAR	**Wonju Array Be**	**10.36**	**283**	P		**Pn**	**10 31 20.6**	**+3.3**
KSAR	**Wonju Array Be**	**10.36**	**283**	P		**Pn**	**10 31 20.7**	**+3.3**
TJN	**Taejon**	**10.72**	**278**	*c i*P		**Pn**	**10 31 26.4**	**+4.0**
USRK	**Ussuriysk Ar.**	**10.75**	**325**	P		**Pn**	**10 31 25.1**	**+2.4**
	comp=Z,2.0nm,0.3s,baz=134,slow=12,SNR=73							
USRK				LR		LR	10 35 17.3	
	comp=Z,16μm,20.1s,baz=133,slow=36							
KUR	**Kuril'sk**	**11.03**	**28**	*d i*P		**Pn**	**10 31 25.0**	**-1.5**
KUR				pmax		pmax		
	comp=Z,391nm,0.6s							
KUR				pmax		pmax		
	comp=N,79nm,0.8s							
KUR				pmax		pmax		
	comp=E,125nm,0.5s							
KUR				pmax		pmax		
	comp=Z,1μm,1.8s							
INCN	**Inchon**	**11.35**	**283**	*e*Pn		**Pn**	**10 31 32.4**	**+1.3**
INCN	**Inchon**	**11.35**	**283**	P		Pn	10 31 37.1	+6.1
	SNR=29							
INCN	**Inchon**	**11.35**	**283**	Pn		Pn	10 31 37.1	+6.1
	SNR=29							
YSS	**Yuzh-Sakhalins**	**11.37**	**8**	*e*Pn		**Pn**	**10 31 29.5**	**-1.7**
YSS	**Yuzh-Sakhalins**	**11.37**	**8**	⇑*e*P		**Pn**	**10 31 29.9**	**-1.3**
YSS				pmax		pmax		
	comp=Z,60nm,0.8s							
YSS				pmax		pmax		
	comp=N,60nm,1.0s							
YSS				MLR		MLR		
	comp=Z,4μm,15.0s							
YSS				MLR		MLR		
	comp=E,10μm,15.0s							
MDJ	**Mudanjiang**	**12.24**	**320**	P		**Pn**	**10 31 42.5**	**-0.6**
MDJ				pP		P	10 31 50.3	-4.1
MDJ				sP			10 32 00.0	
MDJ				S		**Sn**	**10 34 05.3**	**+7.2**
MDJ				sS		S	10 34 15.0	-10
MDJ				pmax		pmax		
	comp=E,27nm,1.8s							
MDJ				pmax		pmax		
	comp=E,2μm,7.6s							
MDJ				LR		LR		
	comp=E,14μm,17.5s							
MDJ				LR		LR		
	comp=E,10μm,16.9s							
MDJ				LR		LR		
	comp=E,17μm,18.3s							
MDJ	**Mudanjiang**	**12.24**	**320**	*e*Pn		**Pn**	**10 31 46.6**	**+3.5**
JOW	**Kunigami**	**13.72**	**233**	P		**P**	**10 32 07.7**	**-3.2**
	comp=E,4.7nm,0.3s,baz=42,slow=9.4,SNR=11							
JOW				LR		LR	10 36 59.6	
	comp=E,16μm,22.0s,baz=56,slow=36							
JOW	**Kunigami**	**13.72**	**233**	*e*Pn		**Pn**	**10 32 05.3**	**+1.9**
CN2	**Changchun**	**14.16**	**309**	⇑P		**Pn**	**10 32 09.3**	**0.0**
CN2				*es*P		P	10 32 24.5	+8.7
CN2				pmax		pmax		
	comp=E,190nm,1.2s							
CN2				pmax		pmax		
	comp=E,2μm,5.0s							
CN2				LR		LR		
	comp=E,8μm,16.0s							
CN2				LR		LR		
	comp=E,13μm,16.0s							
CN2				LR		LR		
	comp=E,11μm,20.0s							
SNY	**Shenyang**	**14.60**	**300**	⇑P		**Pn**	**10 32 16.3**	**+1.2**
SNY				S		**Sn**	**10 35 02.3**	**+6.7**
SNY				pmax		pmax		
	comp=E,130nm,1.3s							
SNY				pmax		pmax		
	comp=E,2μm,3.7s							
SNY				LR		LR		
	comp=E,4μm,12.8s							
SNY				LR		LR		
	comp=E,11μm,19.1s							
SNY				LR		LR		
	comp=E,20μm,27.0s							
KLR	**Kul'dur**	**15.00**	**337**	P		**Pn**	**10 32 18.1**	**-2.3**
	comp=E,0.3nm,0.3s,baz=134,slow=12,SNR=24							
KLR				LR		LR	10 37 52.3	
	comp=E,1μm,21.0s,baz=152,slow=36							
KLR	**Kul'dur**	**15.00**	**337**	*ce*P		**Pn**	**10 32 19.0**	**-1.4**
TYV	**Tymovskoe**	**15.24**	**5**	*e*P		**Pn**	**10 32 22.5**	**-1.0**
TYV				pmax		pmax		
	comp=Z,400nm,4.3s							
TYV				pmax		pmax		
	comp=Z,75nm,1.0s							
TYV				MLR		MLR		
	comp=Z,6μm,16.0s							
GRNR	**Gornyy**	**15.37**	**350**	*e*P		**Pn**	**10 32 21.9**	**-3.3**
GRNR				pmax		pmax		
	comp=Z,52nm,1.0s							
DL2	**Dalian**	**15.42**	**288**	⇑*i*P		**P**	**10 32 28.3**	**-1.4**
DL2				pmax		pmax		
	comp=Z,700nm,1.3s							
DL2				pmax		pmax		
	comp=Z,6μm,3.8s							
DL2				LR		LR		
	comp=Z,6μm,18.4s							
DL2				LR		LR		
	comp=Z,15μm,21.5s							
DL2				LR		LR		
	comp=Z,23μm,23.0s							
SSE	**Sheshan**	**16.82**	**260**	P		**Pn**	**10 32 43.3**	**-0.4**
SSE				S		**Sn**	**10 35 53.0**	**+3.4**
SSE				pmax		pmax		
	comp=Z,86nm,1.1s							
SSE				pmax		pmax		
	comp=Z,3μm,10.8s							
SSE				LR		LR		
	comp=Z,6μm,13.6s							
SSE				LR		LR		
	comp=Z,9μm,15.7s							
NKL	**Nikolayevsk**	**17.46**	**0**	*e*P		**Pn**	**10 32 47.0**	**-4.5**
NKL				pmax		pmax		
	comp=N,30nm,1.0s							
NKL				pmax		pmax		
	comp=Z,56nm,1.0s							
NKL				pmax		pmax		
	comp=N,500nm,9.0s							
NKL				pmax		pmax		
	comp=Z,600nm,9.0s							
NKL				MLR		MLR		
	comp=N,4μm,15.0s							
NKL				MLR		MLR		
	comp=E,2μm,15.0s							
NKL				MLR		MLR		
	comp=Z,6μm,15.0s							
JISG	**Ishigakijimahi**	**17.87**	**236**	P		**Pn**	**10 32 54.9**	**-1.8**
OKH	**Okha**	**17.94**	**5**	⇓*i*P		**P**	**10 33 00.9**	**+3.5**
OKH				*i* S		**Sn**	**10 36 07.3**	**-8.9**
OKH				pmax		pmax		
	comp=Z,600nm,7.4s							
OKH				smax		smax		
	comp=E,2μm,11.4s							
OKH				MLR		MLR		
	comp=Z,5μm,18.7s							
JIJ	**Ishigaki jima**	**18.13**	**236**	P		**P**	**10 32 57.8**	**-2.1**
NJ2	**Nanjing**	**18.39**	**265**	*e*P		**P**	**10 33 01.5**	**-1.2**
NJ2				pP		**pP**	**10 33 09.3**	**-4.0**
NJ2				sP		**sP**	**10 33 17.3**	**-1.8**
NJ2				S		**S**	**10 36 31.5**	**+1.1**
NJ2				pmax		pmax		
	comp=Z,63nm,0.7s							
NJ2				pmax		pmax		
	comp=Z,4μm,5.2s							
NJ2				LR		LR		
	comp=Z,14μm,19.0s							
NJ2				LR		LR		
	comp=Z,16μm,17.3s							
NJ2				LR		LR		
	comp=Z,19μm,20.6s							
IRIF	**Iriomote-Funau**	**18.43**	**237**	P		**P**	**10 33 01.7**	**-1.4**
SKR	**Severo-Kuril's**	**18.73**	**32**	*e*P		**P**	**10 33 05.6**	**-0.6**
SKR				*e*S		**Sn**	**10 36 33.4**	**-2.0**
SKR				pmax		pmax		
	comp=Z,2μm,3.9s							
SKR				pmax		pmax		
	comp=Z,800nm,4.1s							
SKR				pmax		pmax		
	comp=Z,327nm,1.1s							
SKR				MLR		MLR		
	comp=Z,4μm,15.0s							
SKR				MLR		MLR		
	comp=Z,4μm,16.0s							
YOJ	**Yonaguni jima**	**18.84**	**238**	*e*P		**P**	**10 33 05.8**	**-1.8**
	comp=Z,202nm,0.9s							
YOJ	**Yonaguni jima**	**18.84**	**238**	*e*P		**P**	**10 33 05.8**	**-1.8**
YOJ				pmax		pmax		
	comp=Z,202nm,0.9s							
TIA	**Tai'an**	**18.99**	**278**	P		**P**	**10 33 08.0**	**-1.2**
TIA				pmax		pmax		
	comp=Z,160nm,0.9s							
TIA				pmax		pmax		
	comp=Z,3μm,6.1s							
TIA				LR		LR		
	comp=Z,9μm,15.7s							
TIA				LR		LR		
	comp=Z,8μm,19.2s							
TIA				LR		LR		
	comp=Z,14μm,18.7s							
TATO	**Taipei**	**19.60**	**242**	*e*P		**P**	**10 33 15.8**	**-0.1**
	comp=Z,291nm,1.1s							
BJI	**Beijing**	**19.73**	**290**	P		**P**	**10 33 14.8**	**-2.4**
BJI				S		**S**	**10 36 52.0**	**-5.1**
BJI				pmax		pmax		
	comp=Z,190nm,2.5s							
BJI				LR		LR		
	comp=Z,9μm,21.9s							
BJI				LR		LR		
	comp=Z,1μm,23.3s							
BJT	**Baijiatuan**	**19.73**	**290**	*e*P		**P**	**10 33 16.8**	**-0.5**
	comp=Z,489nm,1.2s							
BJT	**Baijiatuan**	**19.73**	**290**	*e*P		**P**	**10 33 16.8**	**-0.5**
BJT				pmax		pmax		
	comp=Z,489nm,1.2s							
NACB	**Ninganchiao**	**20.02**	**240**	*e*P		**P**	**10 33 18.5**	**-2.0**
	comp=Z,257nm,1.4s							
ZEA	**Zeya**	**20.32**	**337**	*e*P		**P**	**10 33 20.7**	**-2.8**
ZEA				*e*			10 33 43.0	
ZEA				*e*S		**S**	**10 36 58.5**	**-10**
ZEA				*e*SS		**SnSn**	**10 37 42.0**	**+13**
ZEA				pmax		pmax		
	comp=E,73nm,0.8s							
ZEA				pmax		pmax		
	comp=N,220nm,1.2s							
ZEA				pmax		pmax		
	comp=Z,360nm,1.2s							
ZEA				pmax		pmax		
	comp=N,500nm,3.0s							
ZEA				pmax		pmax		
	comp=E,200nm,3.0s							
ZEA				pmax		pmax		
	comp=Z,1μm,3.0s							
ZEA				pmax		pmax		
	comp=Z,1μm,10.0s							
ZEA				pmax		pmax		
	comp=N,700nm,8.0s							
ZEA				smax		smax		
	comp=E,5μm,11.0s							
ZEA				MLR		MLR		
	comp=E,2μm,12.0s							
ZEA				MLR		MLR		
	comp=Z,6μm,12.0s							
ZEA				MLR		MLR		
	comp=N,6μm,15.0s							
HIA	**Hailar**	**20.41**	**318**	*e*P		**P**	**10 33 23.3**	**-1.3**
	comp=N,129nm,1.2s							
HIA				LR		LR		
	comp=Z,8μm,21.0s							
HIA	**Hailar**	**20.41**	**318**	*c i*P		**P**	**10 33 21.4**	**-3.2**
HIA				pmax		pmax		
	comp=Z,150nm,1.3s							
SSLB	**Suanglung**	**20.71**	**240**	*e*P		**P**	**10 33 26.8**	**-1.3**
	comp=Z,214nm,1.1s							
SSLB				LR		LR		
	comp=Z,6μm,20.0s							
YULB	**Yu-li**	**20.73**	**239**	*e*P		**P**	**10 33 26.4**	**-1.8**
	comp=Z,172nm,1.2s							
YULB				LR		LR		
	comp=Z,6μm,19.0s							
PEA0B	**Petropavlovsk-**	**21.19**	**29**	*e*P		**P**	**10 33 34.8**	**+1.8**
	comp=Z,396nm,1.4s							
PEA0B				LR		LR		
	comp=Z,7μm,22.0s							
PETK	**Petropavlovsk-**	**21.19**	**29**	P		**P**	**10 33 34.5**	**+1.6**
	comp=Z,107nm,1.0s,baz=212,slow=5.3,SNR=64							
PETK				PcP		**PcP**	**10 37 38.0**	**+1.1**
	comp=Z,16nm,0.9s,baz=107,slow=5.1,SNR=5.0							
PETK				LR		LR	10 42 40.9	
	comp=Z,2μm,19.2s,baz=220,slow=39							
TPUB	**Ta-pu**	**21.25**	**240**	*e*P		**P**	**10 33 31.5**	**-2.4**
	comp=Z,190nm,0.8s							
TPUB				LR		LR		
	comp=Z,8μm,21.0s							
TWG	**Pinlang**	**21.26**	**238**	*e*P		**P**	**10 33 31.9**	**-2.0**
	comp=Z,2μm,1.2s							
TWG				LR		LR		
	comp=Z,11μm,19.0s							
PET	**Petropavlovsk**	**21.52**	**31**	*e*P		**P**	**10 33 38.6**	**+2.2**
	comp=Z,483nm,1.4s							
PET				LR		LR		
	comp=Z,9μm,22.0s							
PET	**Petropavlovsk**	**21.52**	**31**	*d i*P		**P**	**10 33 37.3**	**+0.9**
PET				*e*S		**S**	**10 37 29.6**	**-2.7**
PET				pmax		pmax		
	comp=Z,2μm,7.6s							
PET				pmax		pmax		
	comp=Z,165nm,1.3s							
PET				pmax		pmax		
	comp=Z,900nm,7.4s							
PET				MLR		MLR		
	comp=Z,9μm,21.0s							
QZH	**Quanzhou**	**21.74**	**247**	⇑*i*P		**P**	**10 33 35.5**	**-3.6**
QZH				PP		**PnPn**	**10 33 58.5**	**-2.8**
QZH				S		**S**	**10 37 27.8**	**-9.4**
QZH				SS		**SnSn**	**10 38 04.3**	**+0.4**
QZH				pmax		pmax		
	comp=Z,160nm,1.0s							
QZH				pmax		pmax		
	comp=Z,2μm,5.0s							
QZH				LR		LR		
	comp=Z,6μm,18.5s							
QZH				LR		LR		
	comp=Z,10μm,17.1s							
QZH				LR		LR		
	comp=Z,14μm,18.9s							
GUMO	**Guam**	**22.34**	**169**	P		**P**	**10 33 45.3**	**-0.2**
	comp=Z,369nm,1.0s,baz=130,slow=2.9,SNR=10							
GUMO				LR		LR	10 39 46.2	
	comp=Z,2μm,21.2s,baz=16,slow=29							
GUMO	**Guam**	**22.34**	**169**	*e*P		**P**	**10 33 45.7**	**+0.2**
	comp=Z,1μm,1.0s							
GUMO	**Guam**	**22.34**	**169**	*e*P		**P**	**10 33 45.7**	**+0.2**
GUMO				pmax		pmax		
	comp=Z,1μm,1.0s							
WHN	**Wuhan**	**22.53**	**264**	⇓P		**P**	**10 33 46.5**	**-1.0**
WHN				S		**S**	**10 37 47.0**	**-4.5**
WHN				LR		LR		
	comp=Z,12μm,14.1s							
WHN				LR		LR		
	comp=Z,26μm,13.1s							
WHN				LR		LR		
	comp=Z,39μm,20.0s							
TIY	**Taiyuan**	**22.62**	**283**	*e*P		**P**	**10 33 48.0**	**-0.5**
TIY				pP		**sP**	**10 34 02.8**	**-2.3**
TIY				PP		**PnPn**	**10 34 21.5**	**+8.2**
TIY				S		**S**	**10 37 47.8**	**-5.5**
TIY				sS		Sn	10 38

comp=Z,1µm,8.1s
TIY LR LR
comp=Z,4µm,10.4s
TIY LR LR
comp=Z,7µm,13.5s
TIY LR LR
comp=Z,12µm,19.1s
HHC Hu-ho-hao-te 23.30 292 *e*P **P** **10 33 52.5 -2.9**
HHC pP pP 10 34 02.5 -4.1
HHC sP sP 10 34 09.3 -2.9
HHC S **S** **10 37 57.5 -7.1**
HHC sS sS 10 38 21.0 -3.4
HHC pmax pmax
comp=Z,140nm,0.8s
HHC pmax pmax
comp=Z,420nm,4.0s
HHC LR LR
comp=Z,30µm,12.8s
HHC LR LR
comp=Z,20µm,12.9s
HHC LR LR
comp=Z,27µm,14.2s
CLNS Chul'man 23.66 338 *e*P **P** **10 33 57.4 -1.2**
CLNS *e**PP **pP** **10 34 09.9 -0.3**
CLNS *e*S **S** **10 38 06.8 -3.2**
CLNS *e*SS **SnSn** **10 38 54.3 +3.9**
CLNS pmax pmax
comp=Z,206nm,1.2s
CLNS pmax pmax
comp=N,154nm,1.4s
CLNS pmax pmax
comp=E,60nm,1.1s
CLNS smax smax
comp=N,2µm,10.4s
CLNS smax smax
comp=E,3µm,10.7s
CLNS MLR MLR
comp=N,3µm,14.0s
CLNS MLR MLR
comp=Z,3µm,15.0s
CLNS MLR MLR
comp=E,1µm,13.0s
BTO Baotou 24.46 291 *e*P **P** **10 34 02.0 -4.2**
MA2 Magadan 24.81 12 P **P** **10 34 09.2 +0.2**
comp=E,94nm,0.6s,baz=197,slow=8.2,SNR=60
MA2 LR LR 10 44 29.8
comp=E,4µm,19.7s,baz=196,slow=38
MA2 Magadan 24.81 12 *e*P **P** **10 34 10.3 +1.2**
comp=E,127nm,0.8s
MA2 Magadan 24.81 12 *i*P **P** **10 34 09.5 +0.5**
MA2 pmax pmax
comp=Z,157nm,1.1s
CIT Chita 25.21 319 *e*P **P** **10 34 12.6 -0.2**
CIT *e* 10 34 28.4
CIT *e* 10 34 57.4
CIT pmax pmax
comp=Z,201nm,1.7s
XAN Xi'an 25.97 276 P **P** **10 34 18.3 -1.6**
XAN pP pP 10 34 28.3 -3.5
XAN sP sP 10 34 34.5 -2.7
XAN PP **PnPn** **10 35 03.5 +4.4**
XAN S **S** **10 38 47.5 +0.2**
XAN sS sS 10 39 07.5 +0.1
XAN pmax pmax
comp=Z,340nm,0.9s
XAN pmax pmax
comp=Z,2µm,4.7s
XAN LR LR
comp=Z,9µm,19.0s
XAN LR LR
comp=Z,9µm,20.6s
XAN LR LR
comp=Z,11µm,22.8s
ENH Enshi 26.57 267 *e*P **P** **10 34 24.6 -0.7**
comp=Z,583nm,0.8s
ENH LR LR
comp=Z,13µm,20.0s
GZH Guangzhou 26.75 249 P **P** **10 34 21.8 -5.1**
GZH sP **pP** **10 34 38.3 -0.5**
GZH S **S** **10 38 58.5 -1.1**
GZH sS **sS** **10 39 18.3 -1.4**
GZH pmax pmax
comp=Z,2µm,6.2s
YAK Yakutsk 27.24 349 P **P** **10 34 30.7 -0.3**
comp=Z,74nm,0.6s,baz=170,slow=0.7,SNR=46
YAK LR LR 10 45 29.9
comp=Z,7µm,21.5s,baz=124,slow=37
YAK Yakutsk 27.24 349 *e*P **P** **10 34 30.8 -0.1**
comp=Z,246nm,0.9s
YAK Yakutsk 27.24 349 *e*P **P** **10 34 30.5 -0.5**
YAK *e**PP **pP** **10 34 38.9 -4.0**
YAK *e* 10 35 14.2
YAK *e* 10 37 46.0
YAK *e*S **S** **10 39 06.3 -0.4**
YAK *e*SS **SnSn** **10 40 25.7 +7.9**
YAK pmax pmax
comp=Z,248nm,1.1s
YAK pmax pmax
comp=N,180nm,1.3s
YAK pmax pmax
comp=E,58nm,1.0s
YAK pmax pmax
comp=Z,211nm,1.6s
YAK pmax pmax
comp=N,176nm,1.6s
YAK pmax pmax
comp=E,176nm,1.8s
YAK smax smax
comp=N,2µm,3.7s
YAK smax smax
comp=E,612nm,2.7s
YAK MLR MLR
comp=Z,5µm,16.0s
YAK MLR MLR
comp=N,8µm,18.0s
YAK MLR MLR
comp=E,2µm,12.0s
ULN Ulaanbaatar 27.58 307 *e*P **P** **10 34 34.1 -0.3**
comp=E,130nm,1.1s
ULN LR LR
comp=Z,8µm,21.0s
ULN Ulaanbaatar 27.58 307 P **P** **10 34 33.6 -0.8**
SNR=89
ULN Ulaanbaatar 27.58 307 P **P** **10 34 33.6 -0.8**
SNR=90
ULN Ulaanbaatar 27.58 307*ce*P **P** **10 34 33.5 -0.8**
ULN pmax pmax
comp=Z,225nm,1.7s
TGY Tagaytay City 27.81 224 P **P** **10 34 34.3 -2.2**
comp=Z,96nm,0.3s,baz=52,slow=6.9,SNR=6.7
TGY LR LR 10 46 14.9
comp=Z,556nm,18.4s,baz=35,slow=38
SONA1 Songino Array 28.00 306 *e*P **P** **10 34 37.4 -0.7**
SONM Songino Array 28.00 306 P **P** **10 34 37.4 -0.7**
comp=Z,30nm,0.6s,baz=111,slow=9.6,SNR=35
SONM PcP **PcP** **10 37 52.9 +0.7**
comp=Z,12nm,1.0s,baz=182,slow=4.5,SNR=3.8
SONM ScP **ScP** **10 41 28.6 -0.6**
comp=Z,8.7nm,1.0s,baz=113,slow=3.4,SNR=9.7
SONM LR LR 10 46 08.1
comp=Z,8µm,19.1s,baz=106,slow=37
H11N2 WAKE ISLAND Hy 28.09 117 T T 11 03 47.0
baz=309,slow=75,SNR=62
H11N1 WAKE ISLAND Hy 28.09 118 T T 11 04 06.1
baz=309,slow=75,SNR=92
H11N3 WAKE ISLAND Hy 28.10 117 T T 11 03 56.8
baz=309,slow=75,SNR=77
WAKE Wake Island 28.20 119 PFAKE 10 34 50.0 +10
WAKE LR LR
comp=Z,7µm,20.0s
SEY Seymchan 28.24 11 P **P** **10 34 40.7 +0.8**
comp=Z,33nm,1.0s,baz=209,slow=8.1,SNR=64
SEY Seymchan 28.24 11*c i*P **P** **10 34 40.9 +1.0**
BOD Bodaibo 28.33 330⇓ *i*P **P** **10 34 39.9 -0.8**
BOD pmax pmax
comp=Z,110nm,1.1s
H11S1 WAKE ISLAND Hy 28.74 120 T T 11 04 48.4
baz=312,slow=75,SNR=378
H11S3 WAKE ISLAND Hy 28.74 120 T T 11 04 39.0
baz=312,slow=75,SNR=256
H11S2 WAKE ISLAND Hy 28.76 120 T T 11 04 41.8
baz=312,slow=75,SNR=187
SMY Shemya 29.10 44 PFAKE 10 35 00.0 +12
SMY LR LR
comp=Z,4µm,22.0s
LZH Lanzhou 29.65 282⇑P **P** **10 34 52.0 -0.9**
LZH pP pP 10 35 02.8 -2.1
LZH sP sP 10 35 08.3 -2.0
LZH S **S** **10 39 44.0 -1.5**
LZH sS sS 10 40 08.0 +2.4
LZH SS **SnSn** **10 41 16.3 -0.9**
LZH pmax pmax
comp=Z,380nm,1.6s
LZH pmax pmax
comp=Z,2µm,5.7s
LZH LR LR
comp=Z,12µm,12.5s
LZH LR LR
comp=Z,14µm,12.4s
LZH LR LR
comp=Z,16µm,13.1s
GYA Guiyang 30.34 262⇑ *i*P **P** **10 34 57.0 -2.1**
GYA pP pP 10 35 12.5 +1.4
GYA PP **PnPn** **10 36 00.8 +2.3**
GYA PcP **PcP** **10 38 01.5 +3.1**
GYA S **S** **10 39 57.0 +0.5**
GYA sS sS 10 40 15.0 -1.6
GYA SS **ScP** **10 41 36.5 -0.5**
GYA ScS **ScS** **10 45 33.3 0.0**
GYA pmax pmax
comp=Z,380nm,1.0s
GYA pmax pmax
comp=Z,870nm,12.4s
GYA LR LR
comp=Z,6µm,21.7s
GYA LR LR
comp=Z,5µm,21.7s
GYA LR LR
comp=Z,7µm,23.2s
IRK Irkutsk 30.52 314 *e*P **P** **10 35 00.0 -0.3**
IRK pmax pmax
comp=Z,89nm,1.7s
ZAK Zakamensk 30.60 310 *e*P **P** **10 34 59.7 -1.4**
ZAK *e* 10 37 57.7
ZAK pmax pmax
comp=Z,26nm,0.9s
TLY Talaya 30.72 313 P **P** **10 35 02.2 +0.1**
comp=Z,23nm,0.8s,baz=41,slow=20,SNR=3.6
TLY LR LR 10 47 52.4
comp=Z,5µm,19.0s,baz=106,slow=37
TLY Talaya 30.72 313 *e*P **P** **10 35 02.1 +0.1**
comp=Z,56nm,1.2s
TLY Talaya 30.72 313 P **P** **10 35 02.5 +0.4**
SNR=17
TLY Talaya 30.72 313 P **P** **10 35 02.5 +0.4**
SNR=17
TLY Talaya 30.72 313*c i*P **P** **10 35 00.5 -1.6**
TLY *e* 10 36 17.0
TLY *e* 10 38 04.8
TLY *e*S **S** **10 40 03.7 +1.9**
TLY *e*SS **ScP** **10 41 36.8 -0.9**
TLY pmax pmax
comp=Z,50nm,1.0s
TLY MLR MLR
comp=Z,5µm,17.0s
CD2 Chengdu 31.02 272⇑ P **P** **10 35 03.3 -1.6**
CD2 pP pP 10 35 15.3 -1.6
CD2 sP sP 10 35 21.0 -1.3
CD2 PP **PnPn** **10 36 08.3 +1.1**
CD2 S **S** **10 40 05.3 -1.5**
CD2 sS sS 10 40 25.0 -2.0
CD2 pmax pmax
comp=Z,400nm,0.5s
CD2 pmax pmax
comp=Z,930nm,5.2s
CD2 LR LR
comp=Z,18µm,16.9s
CD2 LR LR
comp=Z,26µm,21.9s
CD2 LR LR
comp=Z,26µm,21.4s
DAV Davao City (W) 31.63 209 LR LR 10 46 07.3
comp=Z,4µm,21.4s,baz=58,slow=33
DAV Davao City (W) 31.63 209 *e*P **P** **10 35 08.8 -1.5**
comp=Z,202nm,0.4s
QIZ Qiongzhong 31.77 247 *e*P **P** **10 35 11.8 +0.3**
comp=Z,60nm,1.1s
QIZ LR LR
comp=Z,9µm,22.0s
MOY Mondy 32.31 312 *e*P **P** **10 35 15.4 -0.8**
MOY pmax pmax
comp=Z,64nm,2.5s
GTA Gaotai 32.34 289⇑ P **P** **10 35 16.0 -0.5**
GTA pP pP 10 35 27.5 -1.1
GTA sP sP 10 35 33.0 -0.9
GTA PP **PnPn** **10 36 25.5 +1.4**
GTA PcP **PcP** **10 38 05.5 +2.0**
GTA S **S** **10 40 28.8 +1.4**
GTA sS sS 10 40 49.0 +1.4
GTA PcS **PcS** **10 41 48.5 -0.1**
GTA SS **SnSn** **10 42 29.8 +7.5**
GTA ScS **ScS** **10 45 41.5 -1.3**
GTA pmax pmax
comp=Z,110nm,0.8s
GTA pmax pmax
comp=Z,1µm,6.1s
GTA LR LR
comp=Z,4µm,19.0s
GTA LR LR
comp=Z,6µm,20.9s
GTA LR LR
comp=Z,6µm,20.0s
PATS Pohnpei 33.01 146 *e*P **P** **10 35 19.7 -2.7**
comp=Z,586nm,1.8s
PATS LR LR
comp=Z,5µm,22.0s
KMI Kunming 34.10 263 P **P** **10 35 31.0 -1.2**
KMI pP pP 10 35 43.0 -1.3
KMI sP sP 10 35 46.8 -2.8
KMI PP **PnPn** **10 36 46.5 -0.2**
KMI S **S** **10 40 51.5 -3.7**
KMI sS sS 10 41 10.3 -5.2
KMI pmax pmax
comp=Z,220nm,1.3s
KMI pmax pmax
comp=Z,1µm,4.4s
KMI LR LR
comp=Z,4µm,14.8s
KMI LR LR
comp=Z,6µm,14.2s
KMI LR LR
comp=Z,9µm,24.1s
BILL Bilibino 35.51 16*c i*P **P** **10 35 43.6 +0.1**
BILL *i* 10 35 53.4
BILL *i* 10 38 08.4
BILL *i*S **S** **10 41 09.6 -5.9**
BILL *i*SS **SnSn** **10 43 35.4 -2.8**
BILL pmax pmax
comp=Z,58nm,1.0s
BILL MLR MLR
comp=Z,7µm,23.0s
ATKA Atka Island 35.84 48 *e*P **P** **10 35 46.6 +0.1**
comp=Z,378nm,1.8s
ATKA *e*PcP **PcP** **10 38 14.6 +1.5**
ATKA LR LR
comp=Z,5µm,20.0s
MIDW Midway 36.24 90 PFAKE 10 36 00.0 +10
MIDW LR LR
comp=Z,7µm,22.0s
MYLDM Lahad Datu 36.54 219 *e*P **P** **10 35 51.8 -1.0**
comp=Z,193nm,1.1s
MYLDM LR LR
comp=Z,6µm,20.0s
TIXI Tiksi 36.55 354 P **P** **10 35 52.1 -0.2**
comp=Z,41nm,0.9s,baz=142,slow=7.5,SNR=63
TIXI PcP **PcP** **10 38 13.5 -1.4**
comp=Z,26nm,1.0s,baz=184,slow=3.0,SNR=3.4
TIXI LR LR 10 52 48.0
comp=Z,4µm,18.2s,baz=162,slow=39
TIXI Tiksi 36.55 354 *e*P **P** **10 35 52.1 -0.2**
comp=Z,66nm,1.0s
TIXI PcP **PcP** **10 38 13.4 -1.4**
TIXI Tiksi 36.55 354*ce*P **P** **10 35 52.2 -0.2**
TIXI pmax pmax
comp=Z,51nm,1.0s
TIXI MLR MLR
comp=Z,2µm,21.0s
HVS Khovu-Aksy 36.71 310*d i*P **P** **10 35 55.0 +0.8**
HVS pmax pmax
comp=Z,80nm,0.9s
TNTI Ternate 36.85 202 *e*P **P** **10 35 53.8 -1.7**
comp=Z,195nm,1.2s
TNTI LR LR
comp=Z,2µm,20.0s
KKM Kota Kinabalu 37.03 223 *e*P **P** **10 35 55.2 -2.0**
comp=Z,102nm,1.2s
KKM LR LR
comp=Z,3µm,21.0s
UBPT Khong Chiam 37.36 246 P **P** **10 35 58.1 -1.8**
comp=Z,127nm,1.0s
SIJI Sorong 37.39 195 PcP **PcP** **10 38 18.1 -0.3**
comp=Z,22nm,0.9s,baz=86,slow=2.2,SNR=4.3
SIJI LR LR 10 49 35.3
comp=Z,4µm,21.1s,baz=14,slow=33
SKNT Sakolnakorn 37.44 250 P **P** **10 35 59.0 -1.6**
comp=Z,88nm,1.1s,comp=Z,2µm
RKPI Ransiki, Papua 37.49 191 P **P** **10 35 59.4 -1.5**
comp=Z,377nm,1.1s,comp=Z,6µm
KRAR Krasnoyarsk 37.98 318*d i*P **P** **10 36 06.1 +1.4**
JAY Jayapura 38.00 180 P **P** **10 36 05.4 +0.1**
comp=Z,1µm,1.1s,comp=Z,10µm
JAY Jayapura 38.00 180 P **P** **10 36 06.3 +1.0**
JAY pmax pmax
comp=Z,1µm,1.1s
MANU Manus Island 38.07 169 *e*P **P** **10 36 04.5 -1.3**
comp=Z,192nm,1.7s
GENI Genyem 38.08 181 P **P** **10 36 06.6 +0.7**
comp=Z,622nm,1.0s,comp=Z,7µm
KMSI Cibinong 38.20 208 P **P** **10 36 05.2 -1.7**
comp=Z,374nm,0.8s,comp=Z,5µm
KHON Khomkaen 38.71 250 P **P** **10 36 11.3 +0.1**
comp=Z,72nm,1.0s,comp=Z,635nm
MRSI Marisa 39.09 210 P **P** **10 36 12.8 -1.6**
comp=Z,180nm,1.4s,comp=Z,2µm
NIKH Nikolski High 39.18 48 PFAKE 10 36 30.0 +15
NIKH LR LR
comp=Z,5µm,21.0s
FAKI Fak Fak 39.19 193 P **P** **10 36 14.1 -1.1**
comp=Z,210nm,0.8s,comp=Z,3µm
FAKI Fak Fak 39.19 193 *e*P **P** **10 36 14.2 -1.1**
comp=Z,386nm,1.2s
FAKI LR LR
comp=Z,3µm,20.0s
PAYA Payao 39.28 257 P **P** **10 36 16.7 +0.6**
comp=Z,21nm,1.0s,comp=Z,589nm
CHAI Chaiyaphum 39.61 250 P **P** **10 36 17.6 -1.2**
comp=Z,80nm,1.0s,comp=Z,614nm
CMAI Chiengmai2 39.63 258 P **P** **10 36 19.4 +0.3**
comp=Z,718nm,1.3s
LAMP Lampang 39.93 256 P **P** **10 36 21.2 -0.2**
comp=Z,39nm,1.5s,comp=Z,335nm
SANI Sanana 39.94 203 P **P** **10 36 18.8 -2.7**
comp=Z,291nm,1.2s,comp=Z,3µm
PBKT Sadao Pong 39.99 252 P **P** **10 36 19.8 -2.2**
comp=Z,255nm,1.1s,comp=Z,2µm
PHIT Phitsanulok 40.07 253 P **P** **10 36 22.1 -0.4**
comp=Z,59nm,1.2s,comp=Z,510nm
MPSI Mapaga 40.09 213 P **P** **10 36 21.2 -1.5**
comp=Z,30nm,1.1s,comp=Z,956nm
LUWI Luwuk 40.14 208 P **P** **10 36 22.5 -0.6**
comp=Z,184nm,0.9s
LUWI Luwuk 40.14 208 *e*P **P** **10 36 21.1 -2.1**
comp=Z,142nm,0.9s
LUWI LR LR
comp=Z,1µm,18.0s
GAMB Gambell 40.22 31 PFAKE 10 36 40.0 +17
GAMB LR LR
comp=Z,2µm,22.0s
CMMT Chiang Mai 40.31 257 P **P** **10 36 23.0 -1.6**
comp=Z,80nm,1.4s,comp=Z,1µm
CHTO Chiang Mai 40.31 257 P **P** **10 36 24.1 -0.6**
comp=Z,352nm,1.4s,comp=Z,6µm
CHTO Chiang Mai 40.31 257 *e*P **P** **10 36 24.0 -0.6**
comp=Z,108nm,1.2s
CHTO LR LR
comp=Z,7µm,22.0s
CHTO Chiang Mai 40.31 257 P **P** **10 36 23.7 -0.9**
SNR=42
CHTO Chiang Mai 40.31 257 P **P** **10 36 23.7 -0.9**
SNR=42
CHTO Chiang Mai 40.31 257 *e*P **P** **10 36 24.0 -0.6**
CHTO pmax pmax
comp=Z,108nm,1.2s
CHTO MLR MLR
comp=Z,7µm,22.0s
MSAI Masohi 40.33 198 P **P** **10 36 25.0 +0.3**
comp=Z,74nm,1.3s,comp=Z,1µm
APSI Ampana 40.47 210 P **P** **10 36 25.2 -0.6**
comp=Z,385nm,1.2s,comp=Z,3µm
CM31 Chiang Mai Arr 40.51 256 *e*P **P** **10 36 26.1 -0.1**
CMAR Chiang Mai Arr 40.51 256 P **P** **10 36 25.6 -0.6**
comp=Z,17nm,0.8s,baz=44,slow=7.8,SNR=49
CMAR PcP **PcP** **10 38 29.0 +0.9**
comp=Z,16nm,0.9s,baz=12,slow=2.0,SNR=8.0
CMAR LR LR 10 54 54.6
comp=Z,7µm,18.6s,baz=68,slow=39
CM01 Chiang Mai Arr 40.52 256 *e*P **P** **10 36 25.7 -0.6**
DGZ Jazzator, Alta 40.65 307 *i*P **P** **10 36 28.1 +0.9**
DGZ pmax pmax
comp=Z,269nm,1.2s
UNV Unalaska Valle 40.65 47 PFAKE 10 36 40.0 +13
UNV LR LR
comp=Z,3µm,22.0s
AAI Ambon 40.85 199 P **P** **10 36 28.4 -0.6**
comp=Z,542nm,0.8s,comp=Z,4µm
WMQ Urumqi 40.86 298 P **P** **10 36 29.5 +0.6**
WMQ pP pP 10 36 41.3 +0.1
WMQ S **S** **10 42 38.3 +1.2**
WMQ SS **SS** **10 45 41.0 +1.7**
WMQ pmax pmax
comp=Z,770nm,1.9s
WMQ pmax pmax
comp=Z,2µm,3.8s
WMQ LR LR
comp=Z,10µm,26.9s
WMQ LR LR
comp=Z,9µm,25.3s
WMQ LR LR
comp=Z,9µm,25.3s
NAYO Nakonayok 41.08 249 P **P** **10 36 30.7 -0.3**
comp=Z,70nm,1.0s,comp=Z,1µm
AKUT Akutan 41.11 46 PFAKE 10 36 40.0 +9.3
AKUT LR LR
comp=Z,2µm,20.0s
RABL Rabaul 41.13 162 *e*P **P** **10 36 30.9 -0.4**
comp=Z,158nm,1.5s
PCI Palu 41.23 212 P **P** **10 36 30.5 -1.6**
comp=Z,216nm,1.2s,comp=Z,2µm
BNDI Bandanaira 41.23 196 P **P** **10 36 31.9 -0.2**
comp=Z,1µm,1.1s,comp=Z,10µm
CHBT CHBT 41.31 246 P **P** **10 36 33.7 +0.9**
comp=Z,216nm,0.7s
LSA Lhasa 41.67 276 P **P** **10 36 37.8 +1.6**
LSA pmax pmax
comp=Z,110nm,0.8s
LSA LR LR
comp=Z,1µm,19.6s
LSA LR LR
comp=Z,2µm,24.1s
LSA LR LR
comp=Z,6µm,24.1s
LSA Lhasa 41.67 276 *e*P **P** **10 36 37.8 +1.6**
LSA LR LR
comp=Z,6µm,21.0s
LSA Lhasa 41.67 276 *i*P **P** **10 36 36.8 +0.5**
SNR=54
LSA Lhasa 41.67 276 *e*P **P** **10 36 37.8 +1.6**
LSA MLR MLR
comp=Z,6µm,21.0s
SGKI Sangatta, Kali 41.91 216 P P 10 36 30.6 -7.2
SMKI Samarinda 42.03 216 P **P** **10 36 38.4 -0.3**
comp=Z,113nm,1.2s,comp=Z,11µm
SBUM Sibu 42.23 225 *e*P **P** **10 36 37.9 -2.5**
comp=Z,57nm,1.0s
SBUM LR LR
comp=Z,2µm,20.0s
ZAA0 Zalesovo Array 42.33 313 *e*P **P** **10 36 40.6 -0.2**
comp=Z,168nm,1.0s
ZAA0 LR LR
comp=Z,2µm,21.0s
ZALV Zalesovo Beam 42.33 313 P **P** **10 36 40.5 -0.3**
comp=Z,108nm,0.9s,baz=93,slow=6.5,SNR=173
ZALV PcP **PcP** **10 38 32.0 -1.5**
comp=Z,29nm,1.0s,baz=116,slow=2.8,SNR=2.8
ZALV LR LR 10 54 09.0
comp=Z,2µm,20.7s,baz=82,slow=36
ZALV Zalesovo Beam 42.33 313 *e*P **P** **10 36 39.8 -1.0**
ZALV PcP **PcP** **10 38 32.0 -1.5**

ZALV	**Zalesovo Beam**	**42.33**	**313**	*e*P		**P**	**10 36 39.8**	**-1.0**
ZALV							10 38 32.1	
ZSN	**Zaisan**	**42.45**	**304**⇑	*i*P		**P**	**10 36 42.9**	**+1.0**
	comp=Z,895nm,1.6s							
SHL	**Shillong**	**42.72**	**270**⇑	*i*P		**P**	**10 36 43.0**	**-1.5**
SHL				*ex*		x	10 43 10.0	
SRDT	**SRDT**	**42.75**	**251**	P		**P**	**10 36 43.4**	**-1.1**
	comp=Z,120nm,1.5s,comp=Z,3µm							
KDI	**Kendari**	**42.88**	**207**	P		**P**	**10 36 44.9**	**-0.7**
	comp=Z,56nm,0.9s,comp=Z,1µm							
BKB	**Balikpapan**	**42.89**	**216**	P		**P**	**10 36 44.6**	**-1.1**
	comp=Z,231nm,1.2s,comp=Z,4µm							
TTSI	**Tana Toraja**	**43.15**	**211**	P		**P**	**10 36 47.6**	**-0.2**
	comp=Z,14nm,1.0s							
NVS	**Novosibirsk**	**43.29**	**315**	*i* P		**P**	**10 36 49.0**	**+0.5**
NVS				*i* PPP		PPP	10 38 36.5	
NVS				*e*S		**S**	**10 43 12.7**	**+0.2**
NVS				*e*SS		**ScS**	**10 46 39.3**	**-4.9**
NVS				pmax		pmax		
	comp=Z,240nm,1.8s							
NVS				pmax		pmax		
	comp=N,86nm,1.7s							
NVS				pmax		pmax		
	comp=E,202nm,1.4s							
NVS				smax		smax		
	comp=N,30nm,1.9s							
NVS				smax		smax		
	comp=E,52nm,1.9s							
MTKI	**Muara Teweh, K**	**43.61**	**219**	P		**P**	**10 36 50.9**	**-0.6**
KSM	**Kuching**	**44.13**	**226**	*e*P		**P**	**10 36 54.0**	**-1.8**
	comp=E,153nm,1.3s							
KSM				LR		LR		
	comp=Z,2µm,21.0s							
NRIK	**Noril'sk**	**44.21**	**336**	P		**P**	**10 36 56.1**	**+0.4**
	comp=Z,50nm,0.9s,baz=331,slow=19							
SDPT	**Sand Point**	**44.23**	**45**	PFAKE			10 37 10.0	+14
SDPT				LR		LR		
	comp=Z,2µm,20.0s							
BNSI	**Bone**	**44.26**	**210**	P		**P**	**10 36 55.9**	**-0.8**
	comp=Z,157nm,1.1s,comp=Z,2µm							
MK01	**Makanchi Array**	**44.27**	**303**	*e*P		**P**	**10 36 56.5**	**0.0**
MK31	**Makanchi Array**	**44.27**	**303**	*e*P		**P**	**10 36 56.7**	**+0.2**
MK31	**Makanchi Array**	**44.27**	**303**	*i* P		**P**	**10 36 55.9**	**-0.7**
MK31				pmax		pmax		
	comp=Z,276nm,1.2s							
MKAR	**Makanchi Array**	**44.27**	**303**	P		**P**	**10 36 56.7**	**+0.2**
	comp=Z,69nm,0.8s,baz=92,slow=9.2,SNR=418							
MKAR				LR		LR	10 56 02.6	
	comp=Z,6µm,19.4s,baz=86,slow=37							
MKAR	**Makanchi Array**	**44.27**	**303**	*e*P		**P**	**10 36 56.6**	**+0.1**
	comp=Z,780nm,1.0s							
MKAR	**Makanchi Array**	**44.27**	**303**	*e*P		**P**	**10 36 56.6**	**+0.1**
MKAR				pmax		pmax		
	comp=Z,780nm,1.0s							
SAUI	**Saumlaki**	**44.31**	**193**	P		**P**	**10 36 57.6**	**+0.6**
	comp=Z,975nm,1.3s,comp=Z,11µm							
SAUI	**Saumlaki**	**44.31**	**193**	*e*P		**P**	**10 36 56.6**	**-0.5**
	comp=Z,1µm,1.2s							
MAKZ	**Makanchi**	**44.48**	**303**	*e*P		**P**	**10 36 58.4**	**+0.2**
	comp=Z,255nm,1.3s							
MAKZ				LR		LR		
	comp=Z,7µm,21.0s							
MAKZ	**Makanchi**	**44.48**	**303**	*e*P		**P**	**10 36 58.4**	**+0.2**
MAKZ				pmax		pmax		
	comp=Z,255nm,1.3s							
MAKZ				MLR		MLR		
	comp=Z,7µm,21.0s							
STKI	**Sintang**	**44.60**	**224**	P		**P**	**10 36 58.7**	**-0.8**
	comp=Z,184nm,1.0s,comp=Z,18µm							
KBKI	**Kotabaru**	**45.02**	**216**	P		**P**	**10 37 05.6**	**+2.9**
	comp=Z,55nm,1.0s,comp=Z,2µm							
SEM	**Semipalatinsk**	**45.23**	**308**⇑	*i*P		**P**	**10 37 04.0**	**-0.4**
	comp=Z,2µm,1.1s							
SEM				LR		LR	10 55 35.1	
	comp=Z,3µm,17.7s							
PMG	**Port Moresby**	**45.28**	**171**	P		**P**	**10 37 05.1**	**+0.4**
	comp=Z,44nm,1.0s,baz=1.6,slow=5.7,SNR=17							
PMG	**Port Moresby**	**45.28**	**171**	*e*P		**P**	**10 37 05.1**	**+0.4**
	comp=Z,87nm,1.0s							
PMG				LR		LR		
	comp=Z,1µm,20.0s							
PMG	**Port Moresby**	**45.28**	**171***c*	*i*P		**P**	**10 37 04.8**	**+0.1**
PMG				pmax		pmax		
	comp=Z,389nm,1.3s							
CHGN	**Chignik**	**45.40**	**43**	PFAKE			10 37 20.0	+15
CHGN				LR		LR		
	comp=Z,3µm,21.0s							
TARA	**Tarawa**	**45.48**	**131**	PFAKE			10 37 20.0	+14
TARA				LR		LR		
	comp=Z,4µm,21.0s							
BSSI	**Bau Bau, Buton**	**45.70**	**208**	P		P	10 37 17.8	+10
ODAN	**Odare**	**45.83**	**274**	*e*P		**P**	**10 37 09.7**	**+0.3**
	comp=Z,321nm,1.1s							
KURK	**Kurchatov**	**46.24**	**309**	*e*P		**P**	**10 37 11.9**	**-0.1**
	comp=Z,415nm,1.0s							
KURK				LR		LR		
	comp=Z,4µm,18.0s							
KURK	**Kurchatov**	**46.24**	**309**	P		**P**	**10 37 12.1**	**+0.1**
	SNR=239							
KURK	**Kurchatov**	**46.24**	**309**	P		**P**	**10 37 12.1**	**+0.1**
	SNR=239							
KURK	**Kurchatov**	**46.24**	**309***ce*	P		**P**	**10 37 11.6**	**-0.4**
KURK				pmax		pmax		
	comp=Z,450nm,1.0s							
SKLT	**Songkhla**	**46.27**	**242**	P		**P**	**10 37 11.7**	**-1.0**
	comp=Z,94nm,0.9s,comp=Z,1µm							
KURBB	**Kurchatov Arra**	**46.31**	**309**	P		**P**	**10 37 12.3**	**-0.2**
	comp=Z,201nm,0.8s,baz=84,slow=8.3,SNR=390							
RAMN	**Ramite**	**46.43**	**275**	*e*P		**P**	**10 37 13.9**	**-0.3**
	comp=Z,788nm,1.0s							
JIRN	**Jiri**	**46.47**	**276**	*e*P		**P**	**10 37 14.8**	**+0.2**
TRTT	**Trang**	**46.49**	**243**	P		**P**	**10 37 13.5**	**-0.9**
	comp=Z,30nm,1.0s,comp=Z,453nm							
GUN	**Gumba**	**46.62**	**276**	*e*P		**P**	**10 37 15.8**	**0.0**
	comp=Z,681nm,1.1s							
PDGK	**Podgornoye**	**46.82**	**299**	P		**P**	**10 37 16.1**	**-0.8**
PDGK				pmax		pmax		
	comp=Z,381nm,1.2s							
SHLS	**Shalkode**	**46.87**	**299**⇑	*i*P		**P**	**10 37 15.1**	**-2.2**
	comp=Z,2µm,1.1s							
SHLS				*e*S		**S**	**10 44 02.2**	**-2.7**
SVW2	**Sparrevohn**	**47.00**	**37**	*e*P		**P**	**10 37 20.0**	**+2.1**
	comp=Z,66nm,1.1s							
PKIN	**Phulchoki**	**47.15**	**276**	*e*P		**P**	**10 37 20.1**	**+0.3**
	comp=Z,297nm,0.8s							
KKN	**Kakani**	**47.16**	**277**	*e*P		**P**	**10 37 20.4**	**+0.6**
	comp=Z,546nm,1.1s							
UZB	**Uzynbulak**	**47.19**	**299**	*i* P		**P**	**10 37 19.8**	**0.0**
	comp=Z,1µm,1.1s							
UZB				*e*S		**S**	**10 44 10.9**	**+1.5**
KPKS	**Kokpek**	**47.36**	**299**⇑	*i*P		**P**	**10 37 21.2**	**+0.2**
	comp=Z,1µm,0.9s							
KPKS				*e*S		**S**	**10 44 13.6**	**+1.8**
KPKS				LR		LR	10 57 36.0	
	comp=Z,3µm,19.3s							
DMN	**Daman**	**47.37**	**276**	*e*P		**P**	**10 37 21.3**	**-0.2**
	comp=Z,481nm,1.3s							
KULM	**Kulim**	**47.56**	**240**	*e*P		**P**	**10 37 21.5**	**-1.2**
	comp=Z,108nm,1.4s							
KULM				LR		LR		
	comp=Z,3µm,18.0s							
GKN	**Gorkha**	**47.59**	**277**	*e*P		**P**	**10 37 23.0**	**-0.1**
	comp=Z,1µm,1.0s							
ZHN	**Zhinishke**	**47.60**	**299**⇑	*i*P		**P**	**10 37 23.1**	**+0.1**
	comp=Z,612nm,1.0s							
SATY	**Saty**	**47.65**	**299**⇑	*i*P		**P**	**10 37 23.6**	**+0.3**
	comp=Z,1µm,1.2s							
SATY				*e*S		**S**	**10 44 18.0**	**+2.1**
SOEI	**Soe**	**47.75**	**202**	P		**P**	**10 37 23.0**	**-1.3**
SOEI	**Soe**	**47.75**	**202**	*e*P		**P**	**10 37 23.1**	**-1.1**
	comp=Z,811nm,1.0s							
SOEI				LR		LR		
	comp=Z,3µm,22.0s							
IPM	**Ipoh**	**47.87**	**239**	*e*P		**P**	**10 37 23.0**	**-2.2**
	comp=Z,187nm,1.5s							
IPM				LR		LR		
	comp=Z,3µm,18.0s							
MYKOM	**Kota Tinggi**	**47.92**	**234**	*e*P		**P**	**10 37 25.1**	**-0.4**
	comp=Z,80nm,1.4s							
JOHN	**Johnston Islan**	**48.04**	**100**	PFAKE			10 37 40.0	+14
JOHN				LR		LR		
	comp=Z,421nm,21.0s							
TPRI	**Tanjung Pinang**	**48.14**	**232**	P		**P**	**10 37 27.3**	**+0.1**
IM3	**Indian Mountai**	**48.15**	**30**	*e*P		**P**	**10 37 28.5**	**+1.8**
IM3				*e*PcP		**PcP**	**10 38 55.7**	**+2.2**
DANN	**Dangsing**	**48.16**	**278**	*e*P		**P**	**10 37 27.9**	**+0.2**
	comp=Z,949nm,0.8s							
OHAK	**Old Harbor**	**48.20**	**42**	*e*P		**P**	**10 37 28.9**	**+1.7**
	comp=Z,50nm,0.9s							
OHAK				*e*PcP		**PcP**	**10 38 56.0**	**+2.2**
OHAK				LR		LR		
	comp=Z,4µm,21.0s							
DGPR	**DIGLIPUR**	**48.26**	**255**	*e*P		**P**	**10 37 27.4**	**-0.8**
BATI	**Baumata**	**48.36**	**203**	P		**P**	**10 37 27.4**	**-1.5**
	comp=Z,428nm,0.9s,baz=76,slow=1.1,SNR=32							
BATI				LR		LR	10 55 22.6	
	comp=Z,2µm,21.8s,baz=34,slow=33							
BATI	**Baumata**	**48.36**	**203**	P		**P**	**10 37 28.3**	**-0.6**
BOK	**Bokaro**	**48.39**	**271**	*e*P		**P**	**10 37 28.3**	**-0.9**
BOK				IAmb		IAmb	10 37 32.6	
	comp=Z,65nm,0.8s							
TARG	**Taragay, Kyrgy**	**48.40**	**297**	*e*P		**P**	**10 37 30.4**	**+1.0**
	comp=Z,337nm,1.2s							
TARG				LR		LR		
	comp=Z,3µm,20.0s							
HNR	**Honiara**	**48.46**	**154**	P		**P**	**10 37 30.4**	**+0.8**
	comp=Z,106nm,1.0s,baz=164,slow=18,SNR=2.0							
HNR				LR		LR	10 56 42.1	
	comp=Z,1µm,21.9s,baz=324,slow=34							
KOLN	**Koldanda**	**48.52**	**277**	*e*P		**P**	**10 37 30.3**	**-0.1**
	comp=Z,364nm,1.1s							
KDAK	**Kodiak Island**	**48.55**	**41**	P		**P**	**10 37 31.2**	**+1.4**
	comp=Z,46nm,0.9s,baz=280,slow=4.6,SNR=15							
KDAK	**Kodiak Island**	**48.55**	**41**	*e*P		**P**	**10 37 31.5**	**+1.6**
	comp=Z,89nm,0.9s							
KDAK				LR		LR		
	comp=Z,4µm,22.0s							
KDAK	**Kodiak Island**	**48.55**	**41**	*i* P		**P**	**10 37 30.9**	**+1.0**
MDOK	**Medeo**	**48.59**	**299**	*i* P		**P**	**10 37 31.3**	**+0.6**
	comp=Z,2µm,1.0s							
MDOK				*e*S		**S**	**10 44 31.4**	**+2.1**
MDOK				LR		LR	10 57 40.0	
	comp=Z,2µm,19.4s							
PPLA	**Purkeypile**	**48.66**	**34**	*e*P		**P**	**10 37 33.8**	**+2.9**
	comp=Z,216nm,1.6s							
PPLA				LR		LR		
	comp=Z,1µm,19.0s							
AAA	**Alma-Ata**	**48.68**	**299**	*e*P		**P**	**10 37 32.4**	**+1.2**
	comp=Z,944nm,1.1s							
AAA				LR		LR	10 57 53.7	
	comp=Z,1µm,18.4s							
AAA	**Alma-Ata**	**48.68**	**299**	*e*P		**P**	**10 37 32.4**	**+1.2**
AAA				*e*S		**S**	**10 44 38.8**	**+8.5**
AAA				pmax		pmax		
	comp=Z,1µm,2.7s							
SPU	**Mount Spurr**	**48.71**	**37**	*e*P		**P**	**10 37 33.4**	**+2.2**
CAST	**Castle Rocks**	**48.72**	**34**	*e*P		**P**	**10 37 33.5**	**+2.3**
	comp=Z,203nm,1.9s							
CAST				LR		LR		
	comp=Z,1µm,21.0s							
KDJ	**Kajisay**	**48.75**	**298**	*e*P		**P**	**10 37 32.3**	**+0.4**
	comp=Z,162nm,1.2s							
KDJ				LR		LR		
	comp=Z,3µm,22.0s							
KDJ	**Kajisay**	**48.75**	**298**	P		**P**	**10 37 32.3**	**+0.4**
PYUN	**Piuhan**	**48.88**	**278**	*e*P		**P**	**10 37 33.2**	**+0.1**
	comp=Z,373nm,0.5s							
KUU	**Kurty**	**48.92**	**300**⇑	*e*P		**P**	**10 37 32.9**	**-0.1**
	comp=Z,815nm,1.2s							
KUU				*e*S		**S**	**10 44 34.9**	**+1.3**
KUU				LR		LR	10 58 32.3	
	comp=Z,660nm,13.8s							
MTN	**Manton Dam**	**49.09**	**192**	*e*P		**P**	**10 37 33.7**	**-0.7**
	comp=Z,708nm,1.1s							
MTN				LR		LR		
	comp=Z,1µm,21.0s							
DSRI	**Dabo**	**49.17**	**231**	P		**P**	**10 37 35.4**	**+0.2**
	comp=Z,70nm,1.0s,comp=Z,5µm							
BPAW	**Bear Paw Mtn.**	**49.22**	**33**	*e*P		**P**	**10 37 37.3**	**+2.3**
	comp=Z,167nm,1.8s							
BPAW				LR		LR		
	comp=Z,2µm,22.0s							
PLAI	**Plampang**	**49.22**	**210**	P		**P**	**10 37 33.6**	**-1.9**
KTH	**Kantishna Hill**	**49.24**	**33**	*e*P		**P**	**10 37 37.8**	**+2.6**
	comp=Z,108nm,1.2s							
KTH				LR		LR		
	comp=Z,1µm,22.0s							
PBA	**Port Blair**	**49.31**	**253**	*e*P		P	10 37 34.9	-1.4
PBA				IAmb		IAmb	10 37 37.2	
	comp=Z,66nm,0.8s							
WBSI	**Waikabubak, Su**	**49.32**	**208**	P		P	10 37 42.4	+6.1
BRLK	**Bradley Lake**	**49.33**	**38**	*e*P		**P**	**10 37 38.2**	**+2.3**
	comp=Z,53nm,1.0s							
BRLK				LR		LR		
	comp=Z,2µm,21.0s							
SUA	**Susitna One**	**49.34**	**36**	*e*P		**P**	**10 37 37.7**	**+1.6**
	comp=Z,63nm,1.0s							
MLY	**Manley**	**49.35**	**31**	*e*P		**P**	**10 37 37.9**	**+1.9**
	comp=Z,119nm,1.3s							
MLY				*e*PcP		**PcP**	**10 39 00.5**	**+2.5**
MLY				LR		LR		
	comp=Z,1µm,21.0s							
ULHL	**Ulahol**	**49.40**	**298**	P		**P**	**10 37 38.6**	**+1.7**
	SNR=6.8							
BASI	**Baing, Sumba**	**49.41**	**206**	P		P	10 37 41.8	+4.9
	comp=Z,222nm,1.2s,comp=Z,3µm							
COEN	**Coen**	**49.44**	**177**	*e*P		**P**	**10 37 37.7**	**+0.6**
	comp=Z,202nm,1.0s							
COEN				LR		LR		
	comp=Z,2µm,21.0s							
TWSI	**Taliwang, Sumb**	**49.52**	**211**	P		**P**	**10 37 36.2**	**-1.5**
	comp=Z,142nm,1.0s,comp=Z,1µm							
TRF	**Thorofare Moun**	**49.52**	**34**	*e*P		**P**	**10 37 39.8**	**+2.3**
	comp=Z,38nm,1.1s							
TRF				LR		LR		
	comp=Z,2µm,20.0s							
COLD	**Coldfoot**	**49.66**	**29**	*e*P		**P**	**10 37 40.6**	**+2.4**
	comp=Z,120nm,1.8s							
SRBI	**Singaraja**	**49.67**	**214**	P		**P**	**10 37 39.2**	**+0.3**
	comp=Z,88nm,1.1s,comp=Z,1µm							
TKM2	**Tokmak 2**	**49.68**	**299**	P		**P**	**10 37 40.0**	**+0.9**
	SNR=45							
TKM2	**Tokmak 2**	**49.68**	**299**	P		**P**	**10 37 39.5**	**+0.4**
TKM2				pmax		pmax		
	comp=Z,412nm,1.5s							
NRN	**Naryn**	**49.78**	**297**	P		**P**	**10 37 40.3**	**+0.3**
RC01	**Rabbit Creek A**	**49.84**	**37**	*e*P		**P**	**10 37 41.0**	**+1.2**
	comp=Z,75nm,1.0s							
RC01				LR		LR		
	comp=Z,3µm,22.0s							
GRJI	**Gresik**	**49.95**	**218**	P		**P**	**10 37 41.0**	**0.0**
	comp=Z,196nm,0.7s,comp=Z,1µm							
TOLK	**Toolik Lake Re**	**49.98**	**27**	P		**P**	**10 37 42.5**	**+1.8**
	baz=267							
TOLK	**Toolik Lake Re**	**49.98**	**27**	*e*P		**P**	**10 37 42.1**	**+1.4**
	comp=Z,64nm,1.0s							
TOLK				LR		LR		
	comp=Z,2µm,21.0s							
PMR	**Palmer**	**50.11**	**36**	*e*P		**P**	**10 37 43.3**	**+1.6**
PMR				*e*PcP		**PcP**	**10 39 02.5**	**+1.9**
PMR	**Palmer**	**50.11**	**36**	*e*P		**P**	**10 37 43.3**	**+1.6**
PMR				*e*			10 39 02.5	
BRZS	**Berezniki**	**50.11**	**309**	*e*P		**P**	**10 37 42.0**	**0.0**
	comp=Z,272nm,0.9s							
MCK	**McKinley**	**50.13**	**33**	*e*P		**P**	**10 37 43.5**	**+1.6**
	comp=Z,66nm,1.0s							
MCK				LR		LR		
	comp=Z,2µm,21.0s							
MCK	**McKinley**	**50.13**	**33**	*e*P		**P**	**10 37 43.5**	**+1.6**
MCK				pmax		pmax		
	comp=Z,66nm,1.0s							
MCK				MLR		MLR		
	comp=Z,2µm,21.0s							
KZA	**Kyzart**	**50.15**	**298**	P		**P**	**10 37 44.2**	**+1.4**
	SNR=73							
RND	**Reindeer**	**50.17**	**34**	*e*P		**P**	**10 37 43.9**	**+1.6**
	comp=Z,52nm,1.0s							
RND				LR		LR		
	comp=Z,2µm,19.0s							
RND	**Reindeer**	**50.17**	**34**	*e*P		**P**	**10 37 43.9**	**+1.6**
RND				pmax		pmax		
	comp=Z,52nm,1.0s							
RND				MLR		MLR		
	comp=Z,2µm,19.0s							
DNP	**Denpasar**	**50.19**	**213**	P		**P**	**10 37 44.6**	**+1.8**
	comp=Z,286nm,0.6s							
KBK	**Karagaybulak**	**50.21**	**299**	P		**P**	**10 37 43.7**	**+0.7**
	SNR=44							
LHMI	**Lhok Sumawe**	**50.25**	**243**	PFAKE			10 37 50.0	+6.6
LHMI				LR		LR		
	comp=Z,3µm,20.0s							
CHMS	**Chumysh**	**50.26**	**299**	P		**P**	**10 37 43.6**	**+0.4**
	SNR=21							
IGBI	**Denpasar**	**50.34**	**213**	P		**P**	**10 37 45.4**	**+1.4**
	comp=Z,288nm,1.2s							
KSH	**Kashi**	**50.34**	**295**	P		**P**	**10 37 47.8**	**+3.8**
KSH				pP		sP	10 37 59.5	-2.4
KSH				S		**S**	**10 44 55.5**	**+1.6**
KSH				pmax		pmax		
	comp=Z,240nm,1.3s							
KSH				pmax		pmax		
	comp=Z,3µm,5.4s							
KSH				LR		LR		
	comp=Z,2µm,11.6s							
KSH				LR		LR		
	comp=Z,1µm,9.9s							
KSH				LR		LR		
	comp=Z,3µm,15.9s							
USP	**Ospenovka**	**50.37**	**300**	P		**P**	**10 37 44.4**	**+0.3**
	SNR=39							
FRU1	**Bishkek**	**50.40**	**299**	P		**P**	**10 37 44.8**	**+0.5**
FRU	**Bishkek**	**50.40**	**299**⇑	*i*P		**P**	**10 37 45.0**	**+0.7**
FRU				*e*			10 37 58.5	
FRU				*i*			10 38 03.5	
FRU				*e*S		**S**	**10 44 56.0**	**+1.6**
FRU				*e*			10 45 04.0	
FRU				pmax		pmax		
	comp=Z,310nm,1.9s							
MDM	**Murphy Dome**	**50.41**	**32**	*e*P		**P**	**10 37 46.0**	**+1.9**
	comp=Z,143nm,1.0s							
MDM				LR		LR		
	comp=Z,2µm,22.0s							
SML	**Sawmill**	**50.48**	**36**	*e*P		**P**	**10 37 46.7**	**+2.1**
	comp=Z,91nm,0.9s							
SML				LR		LR		
	comp=Z,1µm,20.0s							
SML	**Sawmill**	**50.48**	**36**	*e*P		**P**	**10 37 46.7**	**+2.1**
SML				pmax		pmax		
	comp=Z,91nm,0.9s							
SML				MLR		MLR		
	comp=Z,1µm,20.0s							
WRH	**Wood River Hil**	**50.48**	**32**	*e*P		**P**	**10 37 46.3**	**+1.8**
WRH				*e*PcP		**PcP**	**10 39 03.4**	**+1.4**
WRH				LR		LR		
	comp=Z,2µm,22.0s							
JAGI	**Jajag, Banyuwa**	**50.49**	**215**	P		**P**	**10 37 43.7**	**-1.4**
	comp=Z,67nm,0.9s,comp=Z,1µm							
JAGI	**Jajag, Banyuwa**	**50.49**	**215**	*e*P		**P**	**10 37 41.9**	**-3.3**
	comp=Z,77nm,1.0s							
PSI	**Prapat**	**50.52**	**239**	P		**P**	**10 37 44.3**	**-1.2**
	comp=Z,68nm,1.1s,baz=41,slow=6.4,SNR=18							
PSI				LR		LR	11 01 40.6	
	comp=Z,2µm,18.1s,baz=25,slow=39							
PSI	**Prapat**	**50.52**	**239**	*e*P		**P**	**10 37 44.4**	**-1.2**
	comp=Z,55nm,0.9s							
PSI	**Prapat**	**50.52**	**239**	*e*P		**P**	**10 37 44.4**	**-1.2**
PSI				pmax		pmax		
	comp=Z,55nm,0.9s							
AAK	**Ala-Archa**	**50.54**	**299**	LR		LR	11 00 23.6	
	comp=Z,7µm,20.6s,baz=62,slow=38							
AAK	**Ala-Archa**	**50.54**	**299**	P		**P**	**10 37 45.9**	**+0.3**
	SNR=41							
AAK	**Ala-Archa**	**50.54**	**299**	*e*P		**P**	**10 37 45.8**	**+0.3**
	comp=Z,52nm,0.8s							
AAK	**Ala-Archa**	**50.54**	**299**	P		**P**	**10 37 46.4**	**+0.9**
	SNR=43							
AAK	**Ala-Archa**	**50.54**	**299**	P		**P**	**10 37 46.4**	**+0.9**
	SNR=43							
AAK	**Ala-Archa**	**50.54**	**299**	*i* P		**P**	**10 37 45.8**	**+0.3**
	SNR=52							
AAK	**Ala-Archa**	**50.54**	**299***ce*	P		**P**	**10 37 45.6**	**+0.1**
AAK				pmax		pmax		
	comp=Z,72nm,1.2s							
COLA	**College**	**50.58**	**32**	*e*P		**P**	**10 37 47.1**	**+1.9**
	comp=Z,57nm,0.8s							
COLA				LR		LR		
	comp=Z,2µm,22.0s							
COLA	**College**	**50.58**	**32**	*e*P		**P**	**10 37 47.1**	**+1.9**
COLA				pmax		pmax		
	comp=Z,57nm,0.8s							
COLA				MLR		MLR		
	comp=Z,2µm,22.0s							
CCB	**Clear Creek Bu**	**50.60**	**32**	*e*P		**P**	**10 37 47.2**	**+1.8**
CCB				*e*PcP		**PcP**	**10 39 03.2**	**+0.8**
CCB				LR		LR		
	comp=Z,2µm,21.0s							
UCH	**Uchtor**	**50.64**	**299**	P		**P**	**10 37 47.4**	**+0.8**
	SNR=54							
GMJI	**Gumukmas**	**50.65**	**216**	P		**P**	**10 37 44.8**	**-1.5**
	comp=Z,75nm,1.0s							
OTUK	**Ortayu**	**50.67**	**307**	P		**P**	**10 37 46.2**	**-0.1**
OTUK				pmax		pmax		
	comp=Z,315nm,1.1s							
NGJI	**Ngawi**	**50.84**	**218**	P		**P**	**10 37 48.0**	**+0.2**
	comp=Z,125nm,1.0s							
DHY	**Denali Highway**	**50.85**	**34**	*e*P		**P**	**10 37 48.4**	**+0.9**
DHY				*e*PcP		**PcP**	**10 39 06.6**	**+3.0**
DHY				LR		LR		
	comp=Z,2µm,22.0s							
BKNI	**Bangkinang**	**50.87**	**235**	P		**P**	**10 37 48.3**	**+0.3**
	comp=Z,317nm,1.0s,comp=Z,3µm							
BKNI	**Bangkinang**	**50.87**	**235**	*e*P		**P**	**10 37 47.8**	**-0.3**
	comp=Z,447nm,1.2s							
BKNI				LR		LR		
	comp=Z,2µm,18.0s							
SCM	**Sheep Creek Mo**	**50.95**	**36**	*e*P		**P**	**10 37 50.2**	**+2.0**
	comp=Z,82nm,0.9s							
SCM				LR		LR		
	comp=Z,2µm,22.0s							
SCM	**Sheep Creek Mo**	**50.95**	**36**	*e*P		**P**	**10 37 50.2**	**+2.0**
SCM				pmax		pmax		
	comp=Z,82nm,0.9s							
SCM				MLR		MLR		
	comp=Z,2µm,22.0s							
PMBI	**Palembang**	**50.96**	**229**	P		**P**	**10 37 52.6**	**+3.9**
	comp=Z,298nm,0.9s							
HDA	**Harding Lake**	**50.98**	**32**	*e*P		**P**	**10 37 49.2**	**+0.9**
	comp=Z,98nm,1.2s							
HDA				LR		LR		
	comp=Z,3µm,22.0s							
BVA0	**Borovoye Array**	**50.98**	**313**	P		**P**	**10 37 48.0**	**-0.5**
BVA0				pmax		pmax		
	comp=Z,186nm,1.3s							
BVAR	**Borovoye Array**	**50.98**	**313**	P		**P**	**10 37 48.5**	**0.0**
	comp=Z,140nm,1.1s,baz=51,slow=7.9,SNR=152							
BV

comp=Z,1μm,21.0s
KLU Klutina 51.65 36 *e*P **P 10 37 54.6 +1.1**
comp=Z,73nm,1.1s
KLU LR LR
comp=Z,2μm,20.0s
PCJI Pacitan 51.70 218 P **P 10 37 53.8 -0.3**
comp=Z,106nm,0.9s
PAX Paxson 51.73 34 *e*P **P 10 37 55.7 +1.7**
comp=Z,38nm,1.0s
PAX LR LR
comp=Z,72μm,19.0s
PAX Paxson 51.73 34 *e*P **P 10 37 55.7 +1.7**
PAX pmax pmax
comp=Z,38nm,1.0s
PAX MLR MLR
comp=Z,72μm,19.0s
DIV Divide 51.76 36 *e*P **P 10 37 56.3 +2.1**
comp=Z,96nm,1.0s
DIV LR LR
comp=Z,2μm,20.0s
UGM Wanagama 51.79 219 P **P 10 37 53.4 -1.5**
comp=Z,346nm,1.0s,comp=Z,7μm
UGM Wanagama 51.79 219 *e*P **P 10 37 53.6 -1.3**
comp=Z,775nm,1.3s
UGM LR LR
comp=Z,2μm,22.0s
EYAK Cordova Ski Ar 51.83 37 *e*P **P 10 37 56.7 +2.0**
comp=Z,84nm,0.9s
EYAK LR LR
comp=Z,4μm,21.0s
HARP HAARP 51.92 35 *e*P **P 10 37 58.4 +3.0**
comp=Z,97nm,0.7s
HARP LR LR
comp=Z,2μm,22.0s
DDI Dehra Dun 51.93 283 *e*P **P 10 37 54.0 -2.0**
RIDG Independ'e Rid 51.95 33 *e*P **P 10 37 56.9 +1.4**
comp=Z,85nm,1.1s
RIDG LR LR
comp=Z,2μm,22.0s
MNAS Manas 51.99 299 P **P 10 37 56.7 +0.3**
MNAS pmax pmax
comp=Z,128nm,1.2s
SFK Sufi-Kurgan 52.01 296 P **P 10 37 57.1 +0.5**
SFK pmax pmax
comp=Z,173nm,1.4s
KPJI Karang Pucung 52.14 221 P **P 10 37 55.9 -1.5**
comp=Z,208nm,1.0s,comp=Z,3μm
PDSI Padang 52.17 235 P **P 10 37 58.4 +0.6**
comp=Z,20nm,0.9s
DOT Dot Lake 52.30 33 *e*P **P 10 37 59.3 +1.1**
comp=Z,93nm,0.8s
DOT LR LR
comp=Z,6μm,21.0s
SCRK Sand Creek 52.30 33 *e*P **P 10 37 59.0 +0.7**
comp=Z,71nm,1.0s
SCRK LR LR
comp=Z,2μm,22.0s
SMLA Simla 52.32 284 *e*P **P 10 37 58.2 -0.5**
SMLA IAmb IAmb 10 38 01.6
BMRM Bremner River 52.34 36 *e*P **P 10 38 01.1 +2.6**
comp=Z,117nm,0.9s
BMRM LR LR
comp=Z,4μm,22.0s
RAGM Ragged Mountai 52.38 37 PFAKE 10 38 10.0 +11
RAGM LR LR
comp=Z,2μm,20.0s
KRJI Kerinci 52.40 233 P P 10 38 06.5 +6.9
LEM Lembang 52.43 223 P **P 10 37 58.6 -1.2**
comp=Z,250nm,0.9s,baz=61,slow=5.7,SNR=45
LEM LR LR 11 01 40.2
comp=Z,978nm,19.8s,baz=15,slow=38
KLI Kotabumi 52.43 227 P **P 10 37 59.4 -0.3**
comp=Z,278nm,1.1s
CHLP Challavanipeta 52.45 267 *e*P **P 10 38 00.0 +0.2**
MENT Mentasta 52.53 34 *e*P **P 10 38 02.5 +2.6**
comp=Z,64nm,1.0s
MENT LR LR
comp=Z,2μm,20.0s
GSI Gunungsitoli 52.53 239 P **P 10 37 59.8 -0.6**
comp=Z,365nm,0.9s,comp=Z,6μm
GSI Gunungsitoli 52.53 239 *e*P **P 10 37 59.5 -1.0**
comp=Z,339nm,1.0s
GSI LR LR
comp=Z,3μm,20.0s
MDSI Maura Dua 52.54 228 P **P 10 37 58.8 -1.7**
comp=Z,258nm,1.3s,comp=Z,3μm
DHRM DHARAMSHALA 52.57 286 *e*P **P 10 37 59.5 -1.4**
BLSI Bandar Lampung 52.61 226 P **P 10 38 00.3 -0.7**
SBJI Serang 52.70 225 P **P 10 38 03.3 +1.7**
comp=Z,115nm,0.8s,comp=Z,7μm
MASI Maura Aman, Be 52.70 231 P **P 10 38 01.3 -0.4**
comp=Z,440nm,1.1s,comp=Z,4μm
CISI Cisompet, Garu 52.93 222 P **P 10 38 02.4 -1.0**
comp=Z,48nm,1.0s
CISI Cisompet, Garu 52.93 222 *e*P **P 10 38 01.5 -1.9**
comp=Z,50nm,0.8s
CISI LR LR
comp=Z,2μm,22.0s
LWLI Liwa 53.03 228 P **P 10 38 05.4 +1.1**
comp=Z,160nm,0.6s
KASI Kota Agung 53.17 227 P **P 10 38 03.2 -1.9**
comp=Z,110nm,1.0s,comp=Z,2μm
KK31 Karatay Array 53.22 301 *e*P **P 10 38 05.3 0.0**
KK31 Karatay Array 53.22 301 *i*P **P 10 38 03.6 -1.7**
KK31 pmax pmax
comp=Z,112nm,1.1s
KKAR Karatay Array 53.22 301 *e*P **P 10 38 05.3 +0.1**
KKAR Karatay Array 53.22 301 *e*P **P 10 38 05.4 +0.1**
CGJI Cibinong 53.35 225 P **P 10 38 05.7 -0.7**
comp=Z,69nm,1.5s
BALM Baldy 53.42 36 *e*P **P 10 38 08.2 +1.6**
comp=Z,50nm,1.0s
BALM Baldy 53.42 36 *e*P **P 10 38 08.2 +1.6**
BALM pmax pmax
comp=Z,50nm,1.0s
EGAK Eagle 53.44 31 *e*P **P 10 38 07.7 +1.2**
comp=Z,42nm,0.9s
EGAK LR LR
comp=Z,2μm,22.0s
VIS Vishakhapatnam 53.45 266 *e*P **P 10 38 06.9 -0.3**
IUG Iuzhnay 53.85 300⇑ *i*P **P 10 38 10.7 +0.7**
comp=Z,2μm,1.8s
IUG *e*S **S 10 45 44.3 +2.5**
PPSI Pulau Pagai 53.85 234 P **P 10 38 12.0 +1.9**
comp=Z,211nm,0.9s
DAWY Dawson 54.30 32 *e*P **P 10 38 14.8 +1.9**
comp=Z,23nm,0.8s
NIL Nilore 54.40 289 PFAKE 10 38 30.0 +16
NIL LR LR
comp=Z,2μm,21.0s
KIP Kipapa 54.98 87 *e*P **P 10 38 20.3 +2.0**
comp=Z,108nm,1.0s
KIP Kipapa 54.98 87 *e*P **P 10 38 20.3 +2.0**
KIP pmax pmax
comp=Z,108nm,1.0s
PVM Polavaram 55.08 267 *e*P **P 10 38 18.8 -0.3**
NGP Nagpur 55.21 272 *e*P **P 10 38 19.3 -0.7**
NGP *ex* x 10 38 32.8
BHPL Bhopal 55.52 275 *e*P **P 10 38 20.0 -2.3**
BHPL IAmb IAmb 10 38 23.0
comp=Z,95nm,1.3s
WRAB Tennant Creek 55.63 187 *e*P **P 10 38 22.2 -0.7**
comp=Z,240nm,0.9s
WRAB LR LR
comp=Z,3μm,22.0s
WRAB Tennant Creek 55.63 187*c e*P **P 10 38 21.7 -1.2**
WRAB pmax pmax
comp=Z,430nm,1.7s
WB2 Warramunga Arr 55.64 187 *e*P **P 10 38 21.9 -1.1**
comp=Z,222nm,0.9s
WRA Warramunga Arr 55.64 187 P **P 10 38 21.7 -1.2**
comp=Z,180nm,1.0s,baz=3.8,slow=7.5,SNR=267
WRA S **S 10 46 02.0 -3.7**
comp=Z,10nm,1.2s,baz=11,slow=14,SNR=8.6
WRA LR LR 10 59 40.8
comp=Z,1μm,21.1s,baz=5.0,slow=33
WRA PKP2bc 11 08 25.1
comp=Z,1.4nm,1.0s,baz=179,slow=2.2,SNR=5.1
WRA Warramunga Arr 55.64 187 P **P 10 38 21.7 -1.2**
WRA S **S 10 46 02.1 -3.7**
WRA pmax pmax
comp=Z,182nm,1.0s
WRA smax smax
comp=N,10.0nm,1.2s
SVE Sverdlovsk 55.71 319*d i*P **P 10 38 23.6 +0.5**
SVE *e*S **S 10 46 06.4 +0.3**
SVE *e* 10 48 05.6
SVE pmax pmax
comp=Z,256nm,1.5s
SVE MLR MLR
comp=E,3μm,16.0s
SVE MLR MLR
comp=Z,3μm,15.0s
SVE MLR MLR
comp=N,2μm,17.0s
CTA Charters Tower 55.73 174 P **P 10 38 23.7 +0.1**
comp=N,21nm,0.9s,baz=356,slow=9.3,SNR=14
CTA LR LR 11 01 39.2
comp=N,428nm,21.8s,baz=351,slow=35
CTAO Charters Tower 55.73 174 *e*P **P 10 38 23.6 +0.1**
comp=N,190nm,2.0s
CTAO LR LR
comp=Z,1μm,19.0s
CTAO Charters Tower 55.73 174 *e*P **P 10 38 23.6 0.0**
CTAO pmax pmax
comp=Z,190nm,2.0s
CTAO MLR MLR
comp=Z,1μm,19.0s
HYT Haines Junctio 55.78 36 *e*P **P 10 38 24.4 +0.7**
comp=Z,198nm,1.6s
DZET Dzherino 55.83 296 P **P 10 38 23.5 -0.9**
DZET pmax pmax
comp=Z,159nm,0.9s
INK Inuvik 55.89 27 P **P 10 38 25.0 +0.8**
comp=Z,29nm,0.8s,baz=279,slow=7.6,SNR=115
INK Inuvik 55.89 27 *e*P **P 10 38 25.2 +1.0**
comp=Z,37nm,0.8s
INK Inuvik 55.89 27 *e*P **P 10 38 25.2 +1.0**
INK pmax pmax
comp=Z,37nm,0.8s
RPR Rampur 56.15 270 *e*P **P 10 38 25.9 -0.9**
SRSP Sriramsagar 56.89 270 *e*P **P 10 38 31.4 -0.6**
ARU Arti 56.92 319 *e*P **P 10 38 31.8 +0.1**
comp=Z,320nm,1.0s
ARU LR LR
comp=Z,3μm,19.0s
ARU Arti 56.92 319*c i*P **P 10 38 31.6 -0.1**
ARU 10 39 28.4
ARU 10 40 35.0
ARU *e*S **S 10 46 23.2 +1.0**
ARU 10 48 11.7
ARU SS **SS 10 50 04.0 -6.4**
ARU pmax pmax
comp=Z,328nm,1.0s
ARU MLR MLR
comp=Z,3μm,16.0s
WHY Whitehorse 57.07 36 *e*P **P 10 38 35.4 +2.5**
comp=Z,69nm,1.1s
WHY *e*PcP **PcP 10 39 30.1 +2.8**
FUNA Funafuti 57.08 133 PFAKE 10 38 50.0 +17
FUNA LR LR
comp=Z,7μm,19.0s
ADKI Addanki 57.17 266 *e*P **P 10 38 34.1 +0.1**
SKAG Skagway 57.17 37 *e*P **P 10 38 34.4 +0.9**
comp=Z,56nm,1.1s
KBL Kabul 57.27 291 *e*P **P 10 38 34.1 -0.7**
comp=Z,58nm,0.9s
KBL Kabul 57.27 291 *e*P **P 10 38 34.1 -0.7**
KBL pmax pmax
comp=Z,58nm,0.9s
NJS Nagarjunasagar 57.33 267 *e*P **P 10 38 34.7 -0.5**
HYB Hyderabad 57.49 269 *i*P **P 10 38 36.0 -0.4**
comp=Z,390nm,1.0s
HYB *e*S **S 10 46 32.0 +1.2**
HYB Hyderabad 57.49 269 *e*P **P 10 38 34.8 -1.5**
HYBB Hyderabad (bro 57.49 269 *e*P **P 10 38 35.6 -0.8**
BESE Bessie Mountai 57.65 38 *e*P **P 10 38 38.0 +1.1**
comp=Z,63nm,1.3s
POHA Pohakuloa 57.82 88 PFAKE 10 38 50.0 +11
POHA LR LR
comp=Z,2μm,19.0s
MLOA Mauna Loa Obse 57.90 88 *e*P **P 10 38 40.7 +1.1**
comp=Z,540nm,1.7s
SRLM Srisailam 57.91 267 *e*P **P 10 38 38.6 -0.7**
HMH Humu'ula Sheep 57.94 88 *e*P **P 10 38 42.2 +2.4**
comp=Z,190nm,1.3s
MLH Mauna Loa 58.07 88 *e*P **P 10 38 42.2 +1.6**
comp=Z,509nm,1.7s
MLH Mauna Loa 58.07 88 *e*P **P 10 38 42.2 +1.6**
MLH pmax pmax
comp=Z,509nm,1.7s
AIN Ainahou 58.08 88 *e*P **P 10 38 41.1 +0.5**
comp=Z,501nm,1.5s
RCLA Racherla 58.20 267 *e*P **P 10 38 40.9 -0.4**
AB31 Akbulak array 58.29 311 *i*P **P 10 38 40.7 -0.8**
AB31 pmax pmax
comp=Z,88nm,1.0s
ABKAR Akbulak array 58.29 311 *e*P **P 10 38 41.5 +0.1**
comp=Z,500nm,0.8s
MDRS Chennai 58.45 263 *e*P **P 10 38 42.9 -0.1**
SKHT Srikalahasti 58.52 264 *e*P **P 10 38 43.4 -0.1**
KLRI Killari 58.75 271 *e*P **P 10 38 44.3 -0.9**
AKTO Aktyubinsk 59.07 312 P **P 10 38 46.1 -0.8**
comp=Z,47nm,0.9s,baz=79,slow=10,SNR=57
AKTO LR LR 11 05 28.8
comp=Z,3μm,18.4s,baz=76,slow=37
AS01 Alice Springs 59.36 187 *e*P **P 10 38 48.6 -0.5**
AS31 Alice Springs 59.37 187 *e*P **P 10 38 48.5 -0.7**
comp=Z,23nm,0.8s
ASAR Alice Springs 59.37 187 P **P 10 38 48.9 -0.3**
comp=Z,70nm,0.9s,baz=8.5,slow=6.0,SNR=277
ASAR S **S 10 46 54.6 -0.1**
comp=Z,8.7nm,1.1s,baz=13,slow=22,SNR=11
ASAR LR LR 11 03 59.4
comp=Z,1μm,21.9s,baz=16,slow=36
ASAR PKPPKP **P'P'df 11 08 10.6 -3.3**
comp=Z,0.8nm,0.9s,baz=144,slow=3.4,SNR=4.0
ASAR PKP2bc 11 08 29.0
comp=Z,2.4nm,0.8s,baz=183,slow=3.1,SNR=5.8
WRAK Wrangell Islan 59.61 40 PFAKE 10 39 10.0 +20
WRAK LR LR
comp=Z,2μm,22.0s
URV Uravakonda 59.85 267 *e*P **P 10 38 52.0 -0.7**
MBWA Marble Bar 59.89 203 *e*P **P 10 38 52.3 -0.4**
comp=Z,448nm,1.4s
MBWA LR LR
comp=Z,1μm,22.0s
MBWA Marble Bar 59.89 203 P **P 10 38 52.9 +0.2**
SNR=21
MBWA Marble Bar 59.89 203 P **P 10 38 52.9 +0.2**
SNR=21
DLBC Dease Lake 60.10 37 P **P 10 38 56.6 +2.7**
comp=Z,17nm,0.9s,baz=295,slow=7.5,SNR=25
DLBC Dease Lake 60.10 37 *e*P **P 10 38 56.7 +2.7**
comp=Z,31nm,0.9s
DIB Dawson Inlet, 60.66 44 *e*P **P 10 38 59.0 +1.4**
comp=Z,88nm,1.4s
POO Poona 60.75 273 *e*P **P 10 38 58.2 -0.7**
POO IAmb IAmb 10 39 01.0
PALK Pallekele 61.42 258 LR LR 11 06 19.2
comp=Z,3μm,21.8s,baz=116,slow=37
PALK Pallekele 61.42 258 *e*P **P 10 39 04.0 +0.5**
comp=Z,321nm,1.6s
PALK Pallekele 61.42 258 P **P 10 39 05.0 +1.5**
SNR=10
PALK Pallekele 61.42 258 P **P 10 39 05.0 +1.5**
SNR=10
PALK Pallekele 61.42 258 *i*P **P 10 39 03.9 +0.5**
SNR=10
PALK Pallekele 61.42 258 *i*P **P 10 39 05.3 +1.8**
EIDS Eidsvold 61.53 169 *e*P **P 10 39 04.3 +0.5**
comp=Z,201nm,1.5s
SPA0 Spitsbergen Ar 61.71 349 *e*P **P 10 39 05.8 +1.3**
SPITS Spitsbergen Ar 61.71 349 P **P 10 39 05.8 +1.3**
comp=Z,40nm,0.8s,baz=72,slow=6.5,SNR=40
SPITS LR LR 11 08 55.6
comp=Z,1μm,19.3s,baz=30,slow=39
BHJ Bhuj 61.79 279 *e*P **P 10 39 04.8 -1.0**
KBS Kingsbay 61.86 350 *e*P **P 10 39 06.9 +1.4**
comp=Z,158nm,1.0s
KBS LR LR
comp=Z,1μm,19.0s
KBS Kingsbay 61.86 350 *e*P **P 10 39 06.9 +1.4**
KBS pmax pmax
comp=Z,158nm,1.0s
KBS MLR MLR
comp=Z,1μm,19.0s
GOA Goa 62.35 270 *e*P **P 10 39 09.7 0.0**
DZM Mont Dzumac 62.45 153 P **P 10 39 12.1 +1.9**
comp=Z,100nm,1.1s,baz=39,slow=10,SNR=23
DZM LR LR 11 06 19.7
comp=Z,1μm,20.0s,baz=331,slow=36
DZM Mont Dzumac 62.45 153 *e*P **P 10 39 12.2 +2.0**
comp=Z,333nm,1.2s
DZM *e*S **S 10 47 37.5 +3.3**
comp=Z,5μm,33.0s
DZM *e*LQ LQ 10 55 03.2
comp=Z,6μm,37.6s
DZM *e*LR LR 10 57 43.8
comp=Z,5μm,25.4s
DZM Mont Dzumac 62.45 153 *e*P **P 10 39 12.2 +2.0**
comp=Z,164nm,1.2s
HSPB Hornsund (broa 62.62 348 *e*P **P 10 39 11.8 +1.3**
HSPB *e*S **pP 10 39 27.7 +4.2**
COCO West Island 63.05 229 *e*P **P 10 39 14.3 +0.1**
comp=Z,361nm,1.3s
COCO LR LR
comp=Z,1μm,20.0s
COCO West Island 63.05 229 *i*P **P 10 39 15.7 +1.5**
LVZ Lovozero 63.06 336 *e*P **P 10 39 14.1 +0.4**
comp=Z,128nm,1.3s
LVZ LR LR
comp=Z,4μm,19.0s
LVZ Lovozero 63.06 336 *e*P **P 10 39 15.0 +1.3**
LVZ pmax pmax
comp=Z,60nm,1.1s
TMCR Tamitsa 63.60 331 *e*P **P 10 39 17.6 +0.4**
TMCR pmax pmax
comp=Z,66nm,0.6s
APA Apatity 63.63 336⇓ *i*P **P 10 39 17.1 -0.3**
APA *i* 10 39 39.0
APA *i* 10 41 40.0
APA *i*S **S 10 47 47.0 -0.8**
APA pmax pmax
comp=Z,58nm,0.8s
TRD Trivandrum 63.69 261 *e*P **P 10 39 16.7 -1.9**
GEYT Alibeck 63.90 299 P **P 10 39 19.7 0.0**
comp=Z,96nm,1.2s,baz=29,slow=3.4,SNR=54
GEYT LR LR 11 09 42.7
comp=Z,3μm,18.9s,baz=75,slow=38
GYA0B ALIBECK ARRAY 63.90 299 *e*P **P 10 39 20.1 +0.4**
comp=Z,140nm,1.4s
MSVF Nonsavu 63.90 140 *e*P **P 10 39 20.4 +0.6**
comp=Z,82nm,1.2s
MSVF LR LR
comp=Z,2μm,19.0s
MSVF Nonsavu 63.90 140*c i*P **P 10 39 22.4 +2.5**
MSVF pmax pmax
comp=Z,34nm,1.2s
RES Resolute Bay 64.07 14 *e*P **P 10 39 20.6 +0.5**
comp=Z,81nm,0.9s
RES Resolute Bay 64.07 14 *e*P **P 10 39 20.6 +0.5**
RES pmax pmax
comp=Z,81nm,0.9s
KEV Kevo 64.46 339 *e*P **P 10 39 24.1 +1.3**
comp=Z,146nm,1.2s
KEV LR LR
comp=Z,2μm,20.0s
KEV Kevo 64.46 339 *e*P **P 10 39 24.1 +1.3**
KEV pmax pmax
comp=Z,147nm,1.2s
KEV MLR MLR
comp=Z,2μm,20.0s
KLMR Klimovskoe 64.53 328 *e*P **P 10 39 20.8 -2.6**
KLMR AMP 10 39 26.0
comp=Z,191nm,1.5s
KLMR *e*PP **PP 10 41 40.8 -4.4**
KLMR LQ LQ 11 02 10.9
KLMR LQ LQ 11 02 10.9
KLMR LR LR 11 05 20.7
KLMR Klimovskoe 64.53 328 *e*P **P 10 39 20.7 -2.6**
KLMR pmax pmax
comp=Z,191nm,1.5s
ARCES ARCESS Array B 65.02 339 P **P 10 39 26.7 +0.2**
comp=Z,54nm,0.9s,baz=60,slow=7.2,SNR=37
ARCES LR LR 11 10 53.0
comp=Z,3μm,21.4s,baz=55,slow=39
ARCES ARCESS Array B 65.02 339 *e*P **P 10 39 26.8 +0.4**
ARCES ARCESS Array B 65.02 339 *e*P **P 10 39 26.8 +0.4**
ARE0 ARCESS Array S 65.02 339 *e*P **P 10 39 26.1 -0.3**
comp=Z,82nm,0.9s
YKW3 Yellowknife Ar 65.27 30 *e*P **P 10 39 29.1 +0.9**
comp=Z,26nm,1.0s
YKA Yellowknife Ar 65.31 30 P **P 10 39 28.7 +0.3**
comp=Z,15nm,0.8s,baz=299,slow=6.5,SNR=183
YKA LR LR 11 07 32.4
comp=Z,71nm,21.7s,baz=290,slow=36
YKA PKP2bc 11 08 10.0
comp=Z,3.3nm,1.0s,baz=127,slow=2.5,SNR=11
TULEG Thule 66.52 7 *e*P **P 10 39 35.9 0.0**
comp=Z,98nm,1.1s
ARMA Armidale 66.57 170 *e*P **P 10 39 36.9 0.0**
comp=Z,85nm,1.1s
AFI Afiamalu 66.81 129 LR LR 11 03 59.1
comp=Z,2μm,20.9s,baz=316,slow=32
AFI Afiamalu 66.81 129 PFAKE 10 39 50.0 +11
AFI LR LR
comp=Z,43μm,21.0s
DAG Danmarks Havn 67.05 355⇑ *i*P **P 10 39 39.3 -0.1**
comp=Z,69nm,1.1s
DAG *i* 10 39 53.7
DAG Danmarks Havn 67.05 355⇑ *i*P **P 10 39 39.3 -0.1**
DAG *i* 10 39 53.7
DAG pmax pmax
comp=Z,69nm,1.1s
FORT Forrest 67.16 192 *e*P **P 10 39 40.4 -0.1**
comp=Z,3μm,0.7s
STKA Stephens Creek 67.22 179 P **P 10 39 41.0 +0.1**
comp=Z,42nm,0.9s,baz=346,slow=6.6,SNR=65
STKA PKP2bc 11 08 08.4
comp=Z,1.9nm,1.0s,baz=120,slow=20,SNR=2.3
STKA LR LR 11 09 42.8
comp=Z,1μm,20.5s,baz=356,slow=36
STKA Stephens Creek 67.22 179 *e*P **P 10 39 40.9 0.0**
comp=Z,17nm,1.1s
STKA ⇑*e* 11 08 08.4
STKA Stephens Creek 67.22 179 *e*P **P 10 39 40.9 0.0**
STKA pmax pmax
comp=Z,17nm,1.1s
LLLB Lillooet 67.69 43 *e*P **P 10 39 45.1 +1.1**
comp=Z,29nm,1.0s
PGC Sidney 67.76 45 *e*P **P 10 39 46.1 +1.8**
comp=Z,39nm,1.0s
MOS Moscow 67.92 324α *i*P **P 10 39 44.4 -0.8**
MOS *e* 10 42 19.9
MOS *i*S **S 10 48 38.4 -2.0**
MOS *e* 10 49 06.9
MOS *e* 10 49 36.7
MOS pmax pmax
comp=Z,263nm,1.4s
MOS pmax pmax
comp=Z,645nm,2.0s
MOS MLR MLR
comp=Z,4μm,16.0s
VRH Novokhopyorsk 68.12 318 *e*P **P 10 39 45.9 -0.6**
VRH *e*S **S 10 48 39.8 -3.1**
VRH pmax pmax
comp=Z,180nm,1.3s
VRH pmax pmax
comp=Z,290nm,1.3s
VRH smax smax
comp=N,640nm,6.3s
VRH MLR MLR
comp=Z,2μm,15.0s
NLWA Neilton Lookou 68.12 47 *e*P **P 10 39 49.6 +2.9**
comp=Z,80nm,1.0s
NLWA LR LR
comp=Z,1μm,22.0s
A04D Lummi Island 68.16 45 P **P 10 39 48.8 +2.1**
baz=300,SNR=12
BBOO Buckleboo 68.27 184 *e*P **P 10 39 47.9 +0.4**
comp=Z,142nm,1.2s
E03A Lebam 68.72 47 *e*P **P 10 39 53.2 +2.9**
comp=Z,74nm,1.0s
B05A Bryant 68.73 45 P **P 10 39 52.6 +2.2**
baz=300,SNR=8.9
MAK Makhachkala 68.75 308 *e*P **P 10 39 49.5 -1.1**
MAK *e* 10 42 22.3
MAK *e*PPP PPP 10 44 04.5
MAK *e*S **S 10 48 47.4 -3.3**
MAK *e*SS **SS 10 53 15.4 0.0**
MAK pmax pmax
comp=Z,203nm,1.3s
MAK MLR MLR
comp=Z,3μm,17.0s
OBN Obninsk 68.77 323 *e*P **P 10 39 50.5 0.0**
comp=Z,152nm,1.1s
OBN LR LR
comp=Z,2μm,20.0s

OBN	**Obninsk**	**68.77**	**323**	*c*	*i*	P	**P**	**10 39 50.2**	**-0.2**
OBN					*i*			10 40 12.8	
OBN					*i*	S	**S**	**10 48 50.7**	**+0.3**
OBN					*e*	SS	**SS**	**10 53 12.5**	**-2.5**
OBN						pmax	pmax		
	comp=Z,78nm,1.0s								
OBN						MLR	MLR		
	comp=Z,3µm,15.0s								
LPSR	**Galich'ya Gora**	**68.90**	**320**		*e*	P	**P**	**10 39 51.2**	**-0.1**
LPSR					*e*	S	**S**	**10 48 49.3**	**-2.8**
LPSR						pmax	pmax		
	comp=Z,160nm,0.9s								
LPSR						pmax	pmax		
	comp=Z,290nm,1.3s								
LPSR						smax	smax		
	comp=E,140nm,1.7s								
LPSR						MLR	MLR		
	comp=Z,6µm,18.0s								
STEI	**Steigen**	**68.91**	**341**		*e*	P	**P**	**10 39 51.3**	**+0.2**
LHI	**Lord Howe Isla**	**69.07**	**163**		*e*	P	**P**	**10 39 53.4**	**+0.9**
	comp=Z,213nm,1.1s								
LOF	**Lofoten**	**69.22**	**341**		*e*	P	**P**	**10 39 53.0**	**-0.1**
VORR	**Voronezh**	**69.23**	**319**		*e*	P	**P**	**10 39 52.0**	**-1.4**
VORR						pmax	pmax		
	comp=Z,350nm,1.2s								
AKT	**Akhty**	**69.34**	**307**	⇑	*i*	P	**P**	**10 39 54.3**	**-0.1**
AKT					*e*			10 40 16.3	
AKT						pmax	pmax		
	comp=Z,182nm,1.0s								
D05A	**Enumclaw**	**69.34**	**46**		*e*	P	**P**	**10 39 56.8**	**+2.6**
	comp=Z,70nm,1.0s								
KULLO	**Kullorsuaq**	**69.38**	**5**		*i*	P	**P**	**10 39 55.2**	**+1.3**
	comp=Z,147nm,1.0s								
KULLO	**Kullorsuaq**	**69.38**	**5**		*i*	P	**P**	**10 39 55.2**	**+1.3**
KULLO						pmax	pmax		
	comp=Z,150nm,1.0s								
VSR	**Storozhevoye**	**69.50**	**319**		*e*	P	**P**	**10 39 54.5**	**-0.6**
VSR					*e*	S	**S**	**10 48 56.9**	**-2.3**
VSR						pmax	pmax		
	comp=Z,240nm,1.3s								
VSR						smax	smax		
	comp=N,510nm,6.8s								
VSR						MLR	MLR		
	comp=Z,2µm,13.0s								
VORD	**Divnogorie**	**69.56**	**319**		*e*	P	**P**	**10 39 55.2**	**-0.3**
VORD						pmax	pmax		
	comp=Z,100nm,1.0s								
G03D	**McMinnville, O**	**69.57**	**49**			P	**P**	**10 39 57.8**	**+2.2**
	baz=300								
LON	**Longmire**	**69.67**	**47**		*e*	P	**P**	**10 39 58.1**	**+1.8**
	comp=Z,17nm,1.0s								
LON	**Longmire**	**69.67**	**47**		*e*	P	**P**	**10 39 58.1**	**+1.8**
LON						pmax	pmax		
	comp=Z,17nm,1.0s								
FINES	**FINESS Array B**	**69.69**	**332**			P	**P**	**10 39 55.9**	**-0.2**
	comp=Z,55nm,0.8s,baz=63,slow=4.7,SNR=164								
FINES						LR	LR	11 12 34.8	
	comp=Z,2µm,18.5s,baz=48,slow=38								
GROC	**Groznyy**	**69.72**	**309**		*e*	P	**P**	**10 39 57.6**	**+1.0**
GROC					*e*			10 40 18.1	
GROC					*e*			10 42 30.8	
GROC					*e*	S	**S**	**10 49 01.1**	**-1.0**
GROC						pmax	pmax		
	comp=Z,175nm,1.4s								
COR	**Corvallis**	**69.86**	**49**		*e*	P	**P**	**10 39 58.7**	**+1.2**
	comp=Z,96nm,1.1s								
COR	**Corvallis**	**69.86**	**49**		*e*	P	**P**	**10 39 58.7**	**+1.2**
COR						pmax	pmax		
	comp=Z,96nm,1.1s								
LTY	**Liberty**	**70.07**	**46**		*e*	P	**P**	**10 40 00.6**	**+1.8**
	comp=Z,71nm,1.4s								
KEBM	**Edson Butte**	**70.09**	**51**		*e*	P	**P**	**10 40 00.0**	**+1.1**
	comp=Z,99nm,0.9s								
B08A	**Colville Reser**	**70.27**	**44**		*e*	P	**P**	**10 40 01.8**	**+1.8**
	comp=Z,38nm,1.0s								
I03D	**Drain, OR**	**70.29**	**50**			P	**P**	**10 40 02.7**	**+2.6**
	baz=301,SNR=10								
MOR8	**Moi Rana**	**70.39**	**340**		*e*	P	**P**	**10 39 59.3**	**-1.0**
GOF	**Gofitskoye**	**70.48**	**312**	⇑	*e*	P	**P**	**10 40 00.9**	**-0.4**
GOF						pmax	pmax		
	comp=Z,314nm,1.5s								
H04A	**Detroit Lake**	**70.50**	**49**		*e*	P	**P**	**10 40 03.5**	**+2.1**
	comp=Z,49nm,1.0s								
KONS	**Konsvik**	**70.52**	**340**		*e*	P	**P**	**10 40 01.6**	**+0.6**
WSAR	**Wadi Sarin**	**70.56**	**285**			P	**P**	**10 40 02.1**	**-0.1**
	comp=Z,47nm,0.9s,baz=92,slow=9.2,SNR=31								
WSAR						LR	LR	11 13 40.2	
	comp=Z,1µm,21.4s,baz=81,slow=38								
WBK	**Wadi Bani Khal**	**70.62**	**284**			P	**P**	**10 40 05.0**	**+2.5**
	SNR=9.6								
WBK	**Wadi Bani Khal**	**70.62**	**284**			P	**P**	**10 40 05.0**	**+2.5**
	SNR=9.6								
STOK	**Stokkvaagen**	**70.67**	**340**		*e*	P	**P**	**10 40 01.0**	**-1.0**
G05D	**Wamic, OR**	**70.74**	**48**			P	**P**	**10 40 05.4**	**+2.5**
	baz=302,SNR=6.4								
BIDO	**Bidbid**	**70.81**	**286**			P	**P**	**10 40 05.0**	**+1.4**
	SNR=42								
BIDO	**Bidbid**	**70.81**	**286**			P	**P**	**10 40 05.0**	**+1.4**
	SNR=42								
I04A	**Tendick Farm,**	**70.82**	**50**			P	**P**	**10 40 05.5**	**+2.0**
	baz=301,SNR=16								
EDM	**Edmonton**	**70.82**	**38**		*e*	P	**P**	**10 40 05.2**	**+2.0**
	comp=Z,78nm,1.1s								
EDM	**Edmonton**	**70.82**	**38**		*e*	P	**P**	**10 40 05.2**	**+2.0**
EDM						pmax	pmax		
	comp=Z,78nm,1.1s								
L02D	**Cave Junction,**	**70.92**	**52**			P	**P**	**10 40 06.6**	**+2.6**
	baz=301,SNR=7.8								
E07A	**Sunnyside**	**70.92**	**46**		*e*	P	**P**	**10 40 06.5**	**+2.5**
	comp=Z,39nm,0.8s								
NCK	**Nalchik**	**70.95**	**310**	⇑	*e*	P	**P**	**10 40 04.6**	**+0.4**
NCK						pmax	pmax		
	comp=Z,161nm,1.4s								
BANOM	**Banah**	**71.00**	**289**			P	**P**	**10 40 06.7**	**+1.9**
	SNR=26								
BANOM	**Banah**	**71.00**	**289**			P	**P**	**10 40 06.7**	**+1.9**
	SNR=26								
BANOM	**Banah**	**71.00**	**289**		*i*	P	**P**	**10 40 05.7**	**+0.9**
	SNR=48								
SHME	**Shamm**	**71.05**	**289**		*i*	P	**P**	**10 40 05.4**	**+0.3**
	SNR=38								
CAN	**Canberra**	**71.08**	**173**		*e*	P	**P**	**10 40 06.1**	**+1.3**
	comp=Z,148nm,1.2s								
CAN						LR	LR		
	comp=Z,2µm,20.0s								
CAN	**Canberra**	**71.08**	**173**		*e*	P	**P**	**10 40 06.1**	**+1.3**
CAN						pmax	pmax		
	comp=Z,149nm,1.2s								
CAN						MLR	MLR		
	comp=Z,2µm,20.0s								
HUMO	**Hull Mountain**	**71.09**	**51**		*e*	P	**P**	**10 40 07.3**	**+2.3**
	comp=Z,101nm,2.0s								
SMDO	**Samad**	**71.11**	**285**			P	**P**	**10 40 09.2**	**+3.6**
	SNR=11								
SMDO	**Samad**	**71.11**	**285**			P	**P**	**10 40 09.2**	**+3.6**
	SNR=11								
TBLG	**Delisi**	**71.14**	**308**		*e*	P	**P**	**10 40 05.7**	**+0.3**
TBLG	**Delisi**	**71.14**	**308**		*e*	P	**P**	**10 40 05.7**	**+0.3**
G06A	**Carlson Farm,**	**71.15**	**48**		*e*	P	**P**	**10 40 07.5**	**+2.1**
	comp=Z,100nm,1.5s								
C09A	**Chrisman Ranch**	**71.17**	**44**		*e*	P	**P**	**10 40 07.3**	**+1.9**
	comp=Z,44nm,0.8s								
HAWA	**Hanford**	**71.19**	**46**		*e*	P	**P**	**10 40 07.4**	**+1.9**
	comp=Z,32nm,0.9s								
HAWA						LR	LR		
	comp=Z,1µm,22.0s								
D08A	**Wollman Farm,**	**71.19**	**45**		*e*	P	**P**	**10 40 07.5**	**+1.9**
	comp=Z,56nm,0.9s								
I05D	**Terrebonne, OR**	**71.19**	**49**			P	**P**	**10 40 07.8**	**+2.1**
	baz=302,SNR=8.5								
F07A	**Phinny Hill Vi**	**71.22**	**47**		*e*	P	**P**	**10 40 08.8**	**+3.1**
	comp=Z,57nm,1.0s								
KBZ	**Khabaz**	**71.26**	**311**			P	**P**	**10 40 06.4**	**+0.4**
	comp=Z,103nm,0.9s,baz=59,slow=3.5,SNR=178								
KBZ						LR	LR	11 15 11.7	
	comp=Z,2µm,19.8s,baz=62,slow=39								
VSU	**Vasula**	**71.27**	**329**		*c*	*i* P	**P**	**10 40 05.7**	**0.0**
VSU						pmax	pmax		
	comp=Z,252nm,1.0s								
KIV	**Kislovodsk**	**71.27**	**311**		*e*	P	**P**	**10 40 06.9**	**+0.7**
	comp=Z,453nm,1.2s								
KIV						LR	LR		
	comp=Z,2µm,19.0s								
KIV	**Kislovodsk**	**71.27**	**311**			P	**P**	**10 40 06.9**	**+0.7**
	SNR=130								
KIV	**Kislovodsk**	**71.27**	**311**			P	**P**	**10 40 06.9**	**+0.7**
	SNR=130								
KIV	**Kislovodsk**	**71.27**	**311**		*i*	P	**P**	**10 40 07.0**	**+0.7**
	SNR=74								
KIV	**Kislovodsk**	**71.27**	**311**		*e*	P	**P**	**10 40 06.3**	**+0.1**
KIV					*e*			10 40 24.3	
KIV					*e*	S	**S**	**10 49 21.4**	**+1.0**
KIV					*e*	SS	**SS**	**10 53 57.6**	**+3.2**
KIV						pmax	pmax		
	comp=Z,341nm,1.1s								
KIV						MLR	MLR		
	comp=Z,2µm,18.0s								
J04D	**Umpqua Nationa**	**71.30**	**50**			P	**P**	**10 40 08.5**	**+2.0**
	baz=302,SNR=15								
MDH	**Madha**	**71.32**	**288**		*i*	P	**P**	**10 40 06.4**	**-0.2**
	SNR=6.9								
MSFE	**Esma-Masafi**	**71.39**	**288**		*i*	P	**P**	**10 40 07.6**	**+0.4**
	SNR=27								
E08A	**Dider Farm, El**	**71.42**	**46**		*e*	P	**P**	**10 40 08.6**	**+1.7**
	comp=Z,41nm,0.9s								
HOQ	**Hoqain**	**71.42**	**286**			P	**P**	**10 40 10.0**	**+2.7**
	SNR=8.6								
HOQ	**Hoqain**	**71.42**	**286**			P	**P**	**10 40 10.0**	**+2.7**
	SNR=8.6								
JMDO	**Jabal Madar**	**71.43**	**285**			P	**P**	10 40 13.0	+5.6
	SNR=7.9								
JMDO	**Jabal Madar**	**71.43**	**285**			P	**P**	10 40 13.0	+5.6
	SNR=7.9								
KHMM	**Horse Mountain**	**71.50**	**53**		*e*	P	**P**	**10 40 09.3**	**+1.6**
	comp=Z,79nm,1.1s								
NEW	**Newport**	**71.57**	**43**			P	**P**	**10 40 09.8**	**+1.9**
	baz=303,SNR=24								
NEW	**Newport**	**71.57**	**43**		*e*	P	**P**	**10 40 09.7**	**+1.8**
	comp=Z,38nm,1.0s								
NEW						LR	LR		
	comp=Z,1µm,22.0s								
NEW	**Newport**	**71.57**	**43**		*e*	P	**P**	**10 40 09.7**	**+1.8**
NEW						pmax	pmax		
	comp=Z,38nm,1.0s								
NEW						MLR	MLR		
	comp=Z,1µm,22.0s								
UOSS	**Minazif**	**71.57**	**288**		*e*	P	**P**	**10 40 08.4**	**+0.2**
	comp=Z,120nm,1.1s								
UOSS	**Minazif**	**71.57**	**288**		*i*	P	**P**	**10 40 08.1**	**-0.1**
	SNR=30								
NEY	**Neytrino**	**71.62**	**310**		*c*	*e* P	**P**	**10 40 09.1**	**+0.7**
NEY						pmax	pmax		
	comp=Z,12nm,0.9s								
NWAO	**Narrogin (SRO)**	**71.67**	**201**			P	**P**	**10 40 08.5**	**+0.1**
	comp=Z,61nm,0.9s,baz=260,slow=7.5,SNR=22								
NWAO						LR	LR	11 11 11.2	
	comp=Z,481nm,20.4s,baz=256,slow=36								
NWAO	**Narrogin (SRO)**	**71.67**	**201**		*e*	P	**P**	**10 40 08.5**	**+0.1**
	comp=Z,384nm,1.6s								
NWAO	**Narrogin (SRO)**	**71.67**	**201**			P	**P**	**10 40 09.2**	**+0.8**
	SNR=5.5								
NWAO	**Narrogin (SRO)**	**71.67**	**201**			P	**P**	**10 40 09.2**	**+0.8**
	SNR=5.5								
HATD	**Hatta, Dubai**	**71.69**	**288**			P	**P**	**10 40 10.0**	**+1.0**
	SNR=44								
HATD	**Hatta, Dubai**	**71.69**	**288**			P	**P**	**10 40 10.0**	**+1.0**
	SNR=44								
HATD	**Hatta, Dubai**	**71.69**	**288**		*i*	P	**P**	**10 40 10.0**	**+1.0**
	SNR=45								
UMQ	**Umm Al-Quwin**	**71.69**	**289**		*i*	P	**P**	**10 40 10.4**	**+1.6**
	SNR=6.4								
YBH	**Yreka Blue Hor**	**71.70**	**52**			P	**P**	**10 40 11.2**	**+2.4**
	comp=Z,24nm,1.0s,baz=293,slow=5.7,SNR=25								
YBH						LR	LR	11 04 13.0	
	comp=Z,418nm,20.3s,baz=292,slow=30								
YBH	**Yreka Blue Hor**	**71.70**	**52**		*e*	P	**P**	**10 40 11.3**	**+2.4**
	comp=Z,34nm,1.0s								
YBH	**Yreka Blue Hor**	**71.70**	**52**		*e*	P	**P**	**10 40 11.3**	**+2.4**
YBH						pmax	pmax		
	comp=Z,34nm,1.0s								
PINE	**Pine Mountain**	**71.73**	**49**		*e*	P	**P**	**10 40 11.3**	**+2.2**
	comp=Z,66nm,0.9s								
SOHO	**SOHO**	**71.74**	**287**		*i*	P	**P**	**10 40 09.2**	**+0.1**
	SNR=20								
M02C	**Callahan**	**71.79**	**52**			P	**P**	**10 40 11.5**	**+2.1**
	baz=302,SNR=12								
J05D	**Fort Rock, OR**	**71.81**	**50**			P	**P**	**10 40 12.0**	**+2.4**
	baz=302,SNR=20								
K04D	**Chiloquin, OR**	**71.84**	**50**			P	**P**	**10 40 11.1**	**+1.4**
	baz=302,SNR=7.1								
E09A	**Wood Farm, Sta**	**71.94**	**45**		*e*	P	**P**	**10 40 12.3**	**+2.3**
	comp=Z,61nm,0.9s								
BSY	**Bisya**	**71.94**	**285**			P	**P**	**10 40 14.0**	**+3.5**
	SNR=20								
BSY	**Bisya**	**71.94**	**285**			P	**P**	**10 40 14.0**	**+3.5**
	SNR=20								
GNI	**Garni**	**71.97**	**307**			P	**P**	**10 40 11.4**	**+0.9**
	comp=Z,93nm,1.1s,baz=270,slow=2.0,SNR=42								
GNI						LR	LR	11 14 26.7	
	comp=Z,3µm,19.4s,baz=56,slow=38								
GNI	**Garni**	**71.97**	**307**		*e*	P	**P**	**10 40 11.5**	**+0.9**
	comp=Z,207nm,1.2s								
GNI	**Garni**	**71.97**	**307**			P	**P**	**10 40 11.9**	**+1.3**
	SNR=61								
GNI	**Garni**	**71.97**	**307**			P	**P**	**10 40 11.9**	**+1.3**
	SNR=61								
GNI	**Garni**	**71.97**	**307**		*i*	P	**P**	**10 40 11.8**	**+1.2**
	SNR=37								
GNI	**Garni**	**71.97**	**307**		*e*	P	**P**	**10 40 11.5**	**+0.9**
GNI						pmax	pmax		
	comp=Z,207nm,1.2s								
NAZ	**Nazwa, Dubai**	**71.97**	**288**			P	**P**	**10 40 12.0**	**+1.4**
	SNR=21								
NAZ	**Nazwa, Dubai**	**71.97**	**288**			P	**P**	**10 40 12.0**	**+1.4**
	SNR=21								
NAZ	**Nazwa, Dubai**	**71.97**	**288**		*i*	P	**P**	**10 40 12.0**	**+1.4**
	SNR=9.3								
SUMG	**Summit**	**72.03**	**360**		*i*	P	**P**	**10 40 12.0**	**+1.4**
SUMG					*e*			10 40 25.9	
SUMG	**Summit**	**72.03**	**360**		*e*	P	**P**	**10 40 11.5**	**+0.9**
	comp=Z,118nm,1.3s								
SUMG	**Summit**	**72.03**	**360**		*i*	P	**P**	**10 40 12.0**	**+1.4**
SUMG					*e*			10 40 25.9	
N02D	**Trinity Center**	**72.11**	**52**			P	**P**	**10 40 13.4**	**+2.2**
	baz=302,SNR=12								
AKH	**Akhalkalaki**	**72.11**	**308**		*e*	P	**P**	**10 40 12.9**	**+1.5**
AKH	**Akhalkalaki**	**72.11**	**308**	⇑	*i*	P	**P**	**10 40 12.4**	**+1.0**
AKH	**Akhalkalaki**	**72.11**	**308**		*e*	P	**P**	**10 40 12.2**	**+0.8**
	comp=Z,125nm,1.1s								
AKH	**Akhalkalaki**	**72.11**	**308**		*e*	P	**P**	**10 40 12.2**	**+0.8**
AKH						pmax	pmax		
	comp=Z,125nm,1.1s								
BGD	**Bogdanovka**	**72.12**	**308**		*e*	P	**P**	**10 40 13.3**	**+1.8**
ARQ	**Araqi**	**72.16**	**286**			P	**P**	**10 40 14.1**	**+2.3**
	SNR=10								
ARQ	**Araqi**	**72.16**	**286**			P	**P**	**10 40 14.1**	**+2.3**
	SNR=10								
M04C	**Macdoel**	**72.23**	**51**			P	**P**	**10 40 14.1**	**+2.0**
	baz=302,SNR=18								
K05A	**Summer Lake**	**72.32**	**50**		*e*	P	**P**	**10 40 15.3**	**+2.6**
	comp=Z,81nm,1.0s								
ALNE	**Al Ain**	**72.39**	**287**		*i*	P	**P**	**10 40 13.3**	**+0.1**
	SNR=11								
WDC	**Whiskeytown Da**	**72.42**	**52**		*e*	P	**P**	**10 40 14.9**	**+1.9**
	comp=Z,41nm,1.0s								
WDC	**Whiskeytown Da**	**72.42**	**52**		*e*	P	**P**	**10 40 14.9**	**+1.9**
WDC						pmax	pmax		
	comp=Z,41nm,1.0s								
I07A	**Izee**	**72.45**	**48**		*e*	P	**P**	**10 40 15.5**	**+2.2**
	comp=Z,24nm,1.3s								
AJN	**Ajban**	**72.72**	**288**		*i*	P	**P**	**10 40 15.4**	**+0.4**
	SNR=17								
F10A	**Beach Ranch, E**	**72.77**	**46**		*e*	P	**P**	**10 40 16.8**	**+1.6**
	comp=Z,28nm,0.9s								
KARS	**Kars**	**72.79**	**308**		*e*	P	**P**	**10 40 15.8**	**+0.4**
WALA	**Waterton Lakes**	**72.89**	**42**		*e*	P	**P**	**10 40 17.5**	**+1.7**
	comp=Z,40nm,1.0s								
CLDR	**Caldiran**	**73.04**	**306**		*e*	P	**P**	**10 40 16.4**	**-0.6**
O03D	**Paynes Creek**	**73.05**	**52**			P	**P**	**10 40 18.4**	**+1.5**
	baz=303,SNR=12								
MOD	**Modoc Plateau**	**73.14**	**50**		*e*	P	**P**	**10 40 19.7**	**+2.2**
	comp=Z,24nm,0.9s								
IZAR	**Zarasai**	**73.18**	**327**		*e*	P	**P**	**10 40 17.4**	**+0.2**
IZAR						IAmb	IAmb	10 40 19.9	
	comp=Z,44nm,1.0s								
MICGM	**Minsk**	**73.22**	**326**	⇓	*e*	P	**P**	**10 40 16.0**	**-1.5**
MICGM						PM		10 40 17.0	
	comp=Z,0.4nm,1.0s								
MICGM					*e*	PcP	**pP**	**10 40 32.0**	**+1.3**
MICGM					*e*	PP	**PP**	**10 43 04.0**	**+3.6**
MICGM					*e*	PPP	PPP	10 44 36.0	
MICGM					*e*	S	**S**	**10 49 40.0**	**-2.1**
MICGM					*e*	PS	**PnS**	**10 50 08.0**	**-10**
MICGM					*e*	LQ	LQ	11 06 08.0	
MICGM					*e*	LR	LR	11 10 08.0	
MICGM						LRM	MLR	11 16 18.0	
	comp=E,3.7nm,14.0s								
MICGM						LRM	MLR	11 16 28.0	
	comp=Z,3.3nm,16.0s								
MNK	**Minsk**	**73.22**	**326**	⇓	*e*	P	**P**	**10 40 16.0**	**-1.5**
MNK					*e*			10 40 32.0	
MNK					*e*			10 43 04.0	
MNK					*e*	S	**S**	**10 49 40.0**	**-2.1**
MNK					*e*	PS	**PnS**	**10 50 08.0**	**-10**
MNK						pmax	pmax		
	comp=Z,420nm,1.0s								
MNK						MLR	MLR		
	comp=E,4µm,14.0s								
MNK						MLR	MLR		
	comp=Z,3µm,16.0s								
IDID	**Didziasalis**	**73.23**	**327**		*e*	P	**P**	**10 40 17.8**	**+0.2**
IDID						IAmb	IAmb	10 40 20.2	
	comp=Z,38nm,1.0s								
BCA	**Borcka**	**73.28**	**309**		*e*	P	**P**	**10 40 18.3**	**+0.2**
SOC	**Sochi**	**73.29**	**312**		*c*	*i* P	**P**	**10 40 17.7**	**-0.4**
SOC						*e**PP	**pP**	**10 40 27.7**	**-3.6**
SOC						*e**SP	**PcP**	**10 40 32.5**	**-1.8**
SOC					*e*			10 42 56.3	
SOC					*e*	S	**S**	**10 49 42.8**	**-0.4**
SOC					*e*	SS	**SS**	**10 54 23.0**	**-1.9**
SOC						pmax	pmax		
	comp=Z,149nm,1.4s								
SOC						MLR	MLR		
	comp=Z,2µm,18.0s								
BMO	**Blue Mountains**	**73.34**	**47**		*e*	P	**P**	**10 40 20.6**	**+2.0**
	comp=Z,32nm,1.0s								
BMO						LR	LR		
	comp=Z,1µm,22.0s								
BMO	**Blue Mountains**	**73.34**	**47**		*e*	P	**P**	**10 40 20.6**	**+2.0**
BMO						pmax	pmax		
	comp=Z,32nm,1.0s								
BMO						MLR	MLR		
	comp=Z,1µm,22.0s								
SCO	**Scoresbysund**	**73.38**	**354**	⇑	*i*	P	**P**	**10 40 19.3**	**+1.2**
	comp=Z,57nm,1.1s								
SCO					*i*			10 40 33.5	
SCO	**Scoresbysund**	**73.38**	**354**		*e*	P	**P**	**10 40 18.9**	**+0.8**
	comp=Z,59nm,1.1s								
SCO	**Scoresbysund**	**73.38**	**354**	⇑	*i*	P	**P**	**10 40 19.3**	**+1.2**
SCO					*i*			10 40 33.5	
SCO						pmax	pmax		
	comp=Z,57nm,1.1s								
AGRB	**Hanur-Agry**	**73.41**	**307**		*e*	P	**P**	**10 40 20.0**	**+0.8**
JTMT	**Jette**	**73.44**	**43**		*e*	P	**P**	**10 40 21.3**	**+2.2**
	comp=Z,95nm,0.9s								
IIGN	**Ignalina**	**73.44**	**327**		*e*	P	**P**	**10 40 18.9**	**+0.2**
IIGN						IAmb	IAmb	10 40 21.6	
	comp=Z,64nm,1.2s								
J08A	**Circle Bar Ran**	**73.47**	**48**		*e*	P	**P**	**10 40 21.6**	**+2.3**
	comp=Z,46nm,1.1s								
NACGM	**Naroch**	**73.47**	**327**		*e*	P	**P**	**10 40 19.0**	**0.0**
NACGM					*e*	P	**P**	**10 40 19.0**	**0.0**
NACGM						PM		10 40 21.0	
	comp=Z,0.4nm,1.0s								
NACGM					*e*	PcP	**sP**	**10 40 36.0**	**-1.3**
NACGM					*e*	PsP		10 46 06.0	
NACGM					*e*	S	**S**	**10 49 44.0**	**-0.9**
NACGM					*e*	PS	**PnS**	**10 50 07.0**	**-15**
NACGM					*e*	SS	**SS**	**10 54 26.0**	**-1.1**
NACGM					*e*	LQ	LQ	11 05 12.0	
NACGM					*e*	LR	LR	11 10 14.0	
NACGM						LRM	MLR	11 17 09.0	
	comp=Z,3.5nm,13.0s								
ORV	**Oroville**	**73.64**	**53**		*e*	P	**P**	**10 40 21.9**	**+1.7**
	comp=Z,25nm,1.0s								
ORV	**Oroville**	**73.64**	**53**		*e*	P	**P**	**10 40 22.0**	**+1.7**
ORV						pmax	pmax		
	comp=Z,25nm,1.0s								
WVOR	**Wild Horse Val**	**73.88**	**49**		*e*	P	**P**	**10 40 23.3**	**+1.5**
	comp=Z,77nm,1.5s								
WVOR						LR	LR		
	comp=Z,1µm,22.0s								
WVOR	**Wild Horse Val**	**73.88**	**49**		*e*	P	**P**	**10 40 23.3**	**+1.5**
WVOR						pmax	pmax		
	comp=Z,77nm,1.5s								
WVOR						MLR	MLR		
	comp=Z,1µm,22.0s								
ANN	**Anapa**	**73.97**	**314**		*c*	*i* P	**P**	**10 40 21.6**	**-0.5**
ANN						*e**PP	**pP**	**10 40 35.7**	**+0.4**
ANN					*e*			10 43 08.2	
ANN					*e*	S	**S**	**10 49 48.8**	**-2.1**
ANN						pmax	pmax		
	comp=Z,213nm,1.3s								
CHOM	**Cayeli-Rize**	**74.01**	**309**		*e*	P	**P**	**10 40 22.6**	**+0.2**
MSO	**Missoula**	**74.16**	**43**			P	**P**	**10 40 24.8**	**+1.6**
	baz=306,SNR=37								
MSO	**Missoula**	**74.16**	**43**		*e*	P	**P**	**10 40 24.5**	**+1.2**
	comp=Z,37nm,1.0s								
BEKR	**Beckworth**	**74.21**	**52**		*e*	P	**P**	**10 40 24.8**	**+1.0**
	comp=Z,45nm,0.9s								
AFDM	**Forest Hills D**	**74.32**	**53**		*e*	P	**P**	**10 40 25.5**	**+1.2**
	comp=Z,20nm,1.0s								
GURO	**Guroymak-BITLI**	**74.59**	**306**		*e*	P	**P**	**10 40 26.8**	**+0.8**
RDG13	**Poverty Ridge**	**74.64**	**55**		*e*	P	**P**	**10 40 28.1**	**+1.9**
	comp=Z,156nm,1.8s								
**KT

BNGB **Bing¶ll** 75.23 307 *e*P P 10 40 30.6 +0.9
comp=Z,39nm,1.1s
NBO02 **NORSAR Array S** 75.27 337 *e*P P 10 40 29.7 +0.4
NC602 **NORSAR Array S** 75.29 337 *e*P P 10 40 29.4 -0.1
NC602 **NORSAR Array S** 75.29 337 *e*P P 10 40 29.2 -0.2
NBO00 **NORSAR Array S** 75.31 337 *e*P P 10 40 29.4 -0.2
ESPY **Espiye-Giresun** 75.39 310 *e*P P 10 40 29.7 -0.7
HRY **Holter Researc** 75.40 43 *e*P P 10 40 33.1 +2.6
NAO01 **NORSAR Array S** 75.41 337 *e*P P 10 40 30.1 -0.1
YERR **Yerington** 75.42 52 *e*P P 10 40 33.1 +2.2
comp=Z,46nm,1.0s
KELT **Kelkit** 75.49 309 *i*P P 10 40 31.2 -0.1
RAO **Raoul Island** 75.50 143 PFAKE 10 40 40.0 +9.1
RAO LR LR
comp=Z,1μm,19.0s
FCC **Fort Churchill** 75.50 26 *e*P P 10 40 31.6 +0.9
comp=Z,103nm,1.1s
FCC **Fort Churchill** 75.50 26 *e*P P 10 40 31.6 +0.9
FCC pmax pmax
comp=Z,103nm,1.1s
ERZN **Erzincan** 75.51 308 *e*P P 10 40 31.2 -0.1
AKN **Aaknes** 75.55 339 *e*P P 10 40 32.3 +1.4
WAKR **Walker** 75.56 53 *e*P P 10 40 32.8 +1.1
comp=Z,28nm,1.0s
LRM **Limekiln Ridge** 75.58 44 *e*P P 10 40 33.5 +1.8
SUW **Suwalki** 75.65 327 *e*P P 10 40 32.3 +0.7
SUW **Suwalki** 75.65 327 *e*P P 10 40 32.4 +0.8
comp=Z,126nm,1.0s
SUW **Suwalki** 75.65 327 *e*P P 10 40 32.4 +0.8
SUW pmax pmax
comp=Z,126nm,1.0s
GRSN **GIRESUNGRSN** 75.67 310 *i*P P 10 40 30.8 -1.2
SHAO **Shalim** 75.71 282 P P 10 40 32.8 +0.2
EGMT **Eagleton** 75.73 41 P P 10 40 33.9 +1.6
baz=308,SNR=93
EGMT **Eagleton** 75.73 41 *e*P P 10 40 33.9 +1.6
comp=Z,122nm,1.0s
EGMT LR LR
comp=Z,1μm,22.0s
HANI **Diyarbakir_Han** 75.73 307 *i*P P 10 40 33.7 +1.2
DLMT **Dillon** 75.78 44 *e*P P 10 40 34.6 +1.9
comp=Z,89nm,0.9s
HLID **Hailey** 75.78 46 P P 10 40 34.4 +1.6
baz=306,SNR=41
HLID **Hailey** 75.78 46 *e*P P 10 40 34.5 +1.6
comp=Z,18nm,0.9s
HLID LR LR
comp=Z,1μm,22.0s
SIM **Simferopol'** 75.81 315 *c i*P P 10 40 33.1 +0.4
SIM *e* 10 40 43.0
SIM *e* 10 43 20.0
SIM *e*S S 10 50 10.0 -1.4
SIM pmax pmax
comp=Z,88nm,0.7s
SIM pmax pmax
comp=Z,230nm,14.4s
SIM MLR MLR
comp=Z,1μm,16.5s
BMN **Battle Mountai** 75.89 50 *e*P P 10 40 35.8 +2.4
comp=Z,46nm,1.1s
BMN **Battle Mountai** 75.89 50 *e*P P 10 40 35.8 +2.4
BMN pmax pmax
comp=Z,46nm,1.1s
MCMT **McKenzie Canyo** 75.95 45 *e*P P 10 40 35.8 +2.0
RYN **Ryan** 76.08 52 *e*P P 10 40 36.6 +1.9
comp=Z,35nm,1.0s
PTK **Pertek** 76.11 308 *e*P P 10 40 35.9 +1.1
KVN **Kaiserville** 76.12 52 *e*P P 10 40 36.9 +2.1
comp=Z,56nm,1.1s
KVN **Kaiserville** 76.12 52 *e*P P 10 40 36.9 +2.1
KVN pmax pmax
comp=Z,56nm,1.1s
SUSE **Susehri** 76.12 310 *i*P P 10 40 34.1 -0.6
OSL **Oslo** 76.16 337 *e*P P 10 40 35.1 +0.7
BOZ **Bozeman (W)** 76.18 44 P P 10 40 36.8 +1.8
baz=307,SNR=102
BOZ **Bozeman (W)** 76.18 44 *e*P P 10 40 36.9 +1.8
comp=Z,51nm,0.9s
BOZ LR LR
comp=Z,501nm,20.0s
BOZ **Bozeman (W)** 76.18 44 *e*P P 10 40 36.9 +1.9
BOZ pmax pmax
comp=Z,51nm,0.9s
BOZ MLR MLR
comp=Z,501nm,20.0s
MAZI **Mazidag** 76.24 306 *e*P P 10 40 36.2 +0.7
MDPB **Devils Postpil** 76.29 54 *e*P P 10 40 37.6 +1.7
comp=Z,18nm,0.9s
ILIC **ilic-Erzincan** 76.32 309 *e*P P 10 40 37.1 +1.2
NV01 **Mina Array Sit** 76.34 52 *e*P P 10 40 38.4 +2.2
NVAR **Mina Array Bea** 76.34 52 P P 10 40 38.1 +1.9
comp=Z,35nm,0.9s,baz=283,slow=5.1,SNR=127
NVAR LR LR 11 10 00.4
comp=Z,976nm,20.6s,baz=86,slow=32
NV11 **Mina Array Sit** 76.43 52 *e*P P 10 40 38.3 +1.7
comp=Z,2.4nm,1.2s
MLAC **Mammoth, Mammo** 76.45 53 P P 10 40 39.4 +2.6
baz=305,SNR=11
SVRC **Sivrice-ELAZID** 76.46 308 *e*P P 10 40 38.2 +1.4
KEMA **Kemaliye** 76.47 309 *i*P P 10 40 37.9 +1.2
KLNR **Kaliningrad** 76.53 329 *c i*P P 10 40 36.7 +0.1
KLNR pmax pmax
comp=Z,164nm,1.1s
RSDY **Resadiye-TOKAT** 76.56 310 *e*P P 10 40 34.9 -2.2
FOO **Floro** 76.56 340 *e*P P 10 40 37.0 +0.4
PAGB **Antelope Grade** 76.58 56 *e*P P 10 40 39.7 +2.4
comp=Z,87nm,1.2s
HYA **Hoyanger** 76.59 339 *e*P P 10 40 37.8 +1.0
ELZG **Elazig** 76.60 308 *i*P P 10 40 39.2 +1.6
SAMS **Samsun-Alacam** 76.70 311 *i*P P 10 40 38.0 +0.2
STRU **Stroemstad** 76.70 336 *e*P P 10 40 37.5 0.0
ERBA **Erbaa** 76.75 311 *i*P P 10 40 39.8 +1.7
KONO **Kongsberg** 76.75 337 *e*P P 10 40 38.2 +0.5
comp=Z,70nm,1.1s
KONO **Kongsberg** 76.75 337 *e*P P 10 40 38.0 +0.3
KONO **Kongsberg** 76.75 337 *ce*P P 10 40 37.6 -0.1
KONO pmax pmax
comp=Z,66nm,1.1s
QLMT **Earthquake Lak** 76.75 44 *e*P P 10 40 40.6 +2.3
SNOP **Sinop** 76.90 312 *e*P P 10 40 39.5 +0.5
DGAR **Diego Garcia** 76.91 251 PFAKE 10 40 50.0 +11
DGAR LR LR
comp=Z,902nm,19.0s
RCTC **Rector, Farmer** 76.93 55 P P 10 40 41.4 +2.2
baz=305
YHB **Horse Butte** 76.94 44 *e*P P 10 40 41.4 +2.0
comp=Z,50nm,0.9s
KVT **Kavak** 76.95 311 *e*P P 10 40 40.5 +1.2
SMMC **Simmler** 76.99 56 P P 10 40 42.1 +2.5
baz=305
SORM **Soroca** 77.00 320 ⇓ *i*P P 10 40 39.3 0.0
SORM **Soroca** 77.00 320 P P 10 40 39.3 0.0
HEKM **Malatya_Hekimh** 77.04 309 *i*P P 10 40 41.8 +1.7
SVSK **Karacayir** 77.04 310 *e*P P 10 40 41.1 +1.4
MALT **Malatya** 77.07 308 *e*P P 10 40 41.7 +1.6
SUE **Sulen** 77.08 340 *e*P P 10 40 40.1 +0.5
DIKM **Dikmen** 77.09 312 *e*P P 10 40 40.6 +0.6
CUKAN **kangal_SIVAS** 77.10 309 *i*P P 10 40 41.3 +1.0
YHH **Holmes Hill** 77.11 44 *e*P P 10 40 42.0 +1.6
comp=Z,26nm,1.0s
YMR **Madison River** 77.12 44 *e*P P 10 40 43.2 +2.8
comp=Z,41nm,1.0s
GCMT **Greycliff** 77.15 42 *e*P P 10 40 43.0 +2.5
TIN **Tinemaha, Big** 77.17 54 P P 10 40 42.0 +1.3
baz=305
SFJD **Kangerlussuaq** 77.28 4 P P 10 40 40.5 -0.1
comp=Z,37nm,1.0s,baz=0.5,slow=2.9,SNR=14
SFJD LR LR 11 17 01.5
comp=Z,619nm,21.6s,baz=348,slow=37
SFJD **Kangerlussuaq** 77.28 4 *i*P P 10 40 41.9 +1.3
comp=Z,37nm,1.0s
SFJD **Kangerlussuaq** 77.28 4 *e*P P 10 40 41.6 +1.0
comp=Z,44nm,0.9s
SFJD **Kangerlussuaq** 77.28 4 *i*P P 10 40 41.9 +1.3
SFJD pmax pmax
comp=Z,37nm,1.0s
VES **Vestal, Richgr** 77.30 55 P P 10 40 41.9 +0.6
baz=305,SNR=10
URFA **Urfa** 77.31 307 *e*P P 10 40 40.7 -0.8
YFT **Old Faithful** 77.32 44 *e*P P 10 40 45.1 +3.5
comp=Z,65nm,1.0s
PKM **Mcpherson Peak** 77.35 56 P P 10 40 43.8 +2.0
baz=305
SANL **SANLIURFA_Merk** 77.36 307 *i*P P 10 40 43.1 +1.4
ASK **Askoy** 77.43 339 *e*P P 10 40 42.1 +0.6

BOYT **Boyabat** 77.44 312 *i*P P 10 40 42.7 +0.7
YPP **Pitchstone Pla** 77.45 44 *e*P P 10 40 45.1 +2.7
comp=Z,79nm,1.6s
ODD1 **Odda** 77.47 338 *e*P P 10 40 42.9 +1.0
BER **Bergen** 77.47 339 *e*P P 10 40 42.6 +0.9
KIS **Kishinev** 77.47 319 ⇑ *i*P P 10 40 41.0 -1.0
comp=Z,200nm,1.4s
KIS **Kishinev** 77.47 319 *e*PcP PcP 10 40 58.0 +5.7
KIS *e*S S 10 50 24.0 -5.5
KIS *e*ScS SKSac 10 50 48.0 -3.5
KIS **Kishinev** 77.47 319 *e*PS 10 51 22.0
KIS *e*SS SS 10 55 30.0 +1.9
KIS *e*LR LR 11 10 30.0
comp=Z,5μm,16.0s
KIS **Kishinev** 77.47 319 *α i*P P 10 40 41.0 -1.0
KIS *e* 10 40 58.0
KIS *e* 10 43 40.0
KIS *e* 10 45 30.0
KIS *e*S S 10 50 24.0 -5.5
KIS *e* 10 50 48.0
KIS *e*PS PnS 10 51 22.0 +8.5
KIS *e*SS SS 10 55 30.0 +1.9
KIS pmax pmax
comp=Z,200nm,1.4s
KIS pmax pmax
comp=Z,900nm,7.0s
KIS MLR MLR
comp=N,2μm,16.0s
KIS MLR MLR
comp=Z,5μm,16.0s
LKWY **Lake** 77.50 44 PFAKE 10 41 00.0 +17
LKWY LR LR
comp=Z,2μm,22.0s
H17A **Grant Village** 77.50 44 P P 10 40 46.1 +3.5
baz=308,SNR=112
H17A **Grant Village** 77.50 44 *e*P P 10 40 46.2 +3.5
comp=Z,85nm,0.9s
DARE **Darende-Malaty** 77.52 309 *e*P P 10 40 44.3 +1.7
IMW **Indian Meadow** 77.60 45 *e*P P 10 40 45.7 +2.5
comp=Z,38nm,0.9s
CWC **Cottonwood Cre** 77.62 54 P P 10 40 45.2 +1.9
baz=305
BZK **Bozkurt** 77.66 313 *e*P P 10 40 43.3 +0.1
FXWY **Fox Creek** 77.71 45 *e*P P 10 40 46.0 +2.3
comp=Z,45nm,1.1s
GRAC **Grapevine Rang** 77.77 53 P P 10 40 46.2 +2.2
baz=306,SNR=14
SURC **SANLIURFA_SURC** 77.77 307 *i*P P 10 40 44.7 +0.7
RLMT **Red Lodge** 77.79 43 P P 10 40 46.0 +1.8
baz=309,SNR=50
RLMT **Red Lodge** 77.79 43 *e*P P 10 40 46.0 +1.8
comp=Z,48nm,1.1s
RLMT LR LR
comp=Z,1μm,19.0s
MOOW **Moose Ponds** 77.80 45 *e*P P 10 40 46.4 +2.1
comp=Z,23nm,1.0s
ISA **Isabella, Lake** 77.81 55 P P 10 40 45.5 +1.2
baz=305,SNR=6.1
ISA **Isabella, Lake** 77.81 55 *e*P P 10 40 45.1 +0.8
comp=Z,16nm,1.1s
ISA **Isabella, Lake** 77.81 55 *e*P P 10 40 45.1 +0.8
ISA pmax pmax
comp=Z,16nm,1.1s
HVU **Hansel Valley** 77.82 47 *e*P P 10 40 46.7 +2.4
comp=Z,46nm,1.0s
HVU **Hansel Valley** 77.82 47 *e*P P 10 40 46.7 +2.4
HVU pmax pmax
comp=Z,47nm,1.0s
TPAW **Teton Pass** 77.84 45 *e*P P 10 40 46.9 +2.3
comp=Z,34nm,0.9s
ARVC **Arvin** 77.88 55 P P 10 40 45.5 +0.9
baz=305
ELBS **KAHRAMANMARAS** 77.89 309 *i*P P 10 40 46.2 +1.5
BLSS **Blasjo** 77.91 338 *e*P P 10 40 45.1 +0.8
LOHW **Long Hollow** 77.97 45 *e*P P 10 40 47.6 +2.4
comp=Z,16nm,0.9s
SNOW **Snow King Moun** 77.97 45 *e*P P 10 40 47.9 +2.6
comp=Z,24nm,0.8s
REDW **Red Top Meadow** 77.98 45 *e*P P 10 40 47.5 +2.2
comp=Z,58nm,1.4s
IAS **Iasi** 78.01 320 ⇓ *i*P P 10 40 45.7 +0.7
DAC **Darwin (Calif)** 78.04 54 *e*P P 10 40 47.4 +1.7
comp=Z,30nm,1.3s
DAC **Darwin (Calif)** 78.04 54 *e*P P 10 40 47.4 +1.7
DAC pmax pmax
comp=Z,30nm,1.3s
LVV **L'vov** 78.06 324 *e*P P 10 40 47.4 +2.1
LVV *e* 10 43 46.4
LVV *e*PPP PPP 10 45 39.1
LVV *e*S S 10 50 38.7 +2.9
LVV *e*PS PnS 10 51 29.8 +9.0
LVV MLR MLR
comp=N,800nm,18.0s
LVV MLR MLR
comp=Z,1μm,18.0s
LEOM **Leova** 78.11 319 ⇓ *i*P P 10 40 45.8 +0.2
LEOM **Leova** 78.11 319 P P 10 40 45.8 +0.2
R11A **Troy Canyon, C** 78.13 51 P P 10 40 47.8 +1.7
baz=306,SNR=59
R11A **Troy Canyon, C** 78.13 51 *e*P P 10 40 48.0 +1.9
comp=Z,37nm,1.1s
BGU **Big Grassy Mou** 78.18 48 *e*P P 10 40 48.7 +2.4
comp=Z,38nm,1.3s
HOMB **Homborsund** 78.18 336 *e*P P 10 40 43.6 -2.1
BEL **Belsk** 78.20 327 *e*P P 10 40 46.5 +0.5
BEL **Belsk** 78.20 327 *e*P P 10 40 46.5 +0.5
AHID **Auburn Hatcher** 78.20 46 *e*P P 10 40 48.9 +2.4
comp=Z,22nm,0.9s
AHID LR LR
comp=Z,1μm,20.0s
MPMC **Manual Prospec** 78.23 54 P P 10 40 48.1 +1.3
baz=306,SNR=15
OSI **Osito Audit: C** 78.25 56 P P 10 40 48.0 +1.3
baz=305
SPUT **South Promonto** 78.30 47 *e*P P 10 40 49.3 +2.4
comp=Z,29nm,1.0s
BSD **Bornholm Skovb** 78.30 332 ⇑ *i*P P 10 40 46.8 +0.3
comp=Z,191nm,1.2s
comp=Z,2μm,19.0s
BSD **Bornholm Skovb** 78.30 332 ⇑ *i*P P 10 40 46.8 +0.3
BSD pmax pmax
comp=Z,190nm,1.2s
BSD MLR MLR
comp=Z,2μm,19.0s
DGMT **Dagmar** 78.31 38 P P 10 40 48.4 +1.6
baz=311,SNR=22
DGMT **Dagmar** 78.31 38 *e*P P 10 40 48.0 +1.2
comp=Z,87nm,1.1s
DGMT LR LR
comp=Z,1μm,22.0s
CORM **Corum** 78.35 311 *e*P P 10 40 47.4 +0.2
ILGA **Ilgaz** 78.38 312 *i*P P 10 40 48.9 +1.4
ILGA **Ilgaz** 78.38 312 *e*P P 10 40 48.8 +1.2
comp=Z,128nm,1.0s
BNN **Bunyan** 78.39 310 *e*P P 10 40 47.4 -0.1
FURC **Furnace Creek,** 78.41 53 P P 10 40 49.3 +1.9
baz=306,SNR=27
LAO **LASA Array** 78.44 40 P P 10 40 49.3 +1.8
baz=310,SNR=30
LAO **LASA Array** 78.44 40 *e*P P 10 40 49.3 +1.8
comp=Z,76nm,1.0s
LAO LR LR
comp=Z,1μm,21.0s
KMY **Karmoy** 78.45 338 *e*P P 10 40 48.2 +1.0
TAU **Tasmania Unive** 78.47 175 *e*P P 10 40 48.7 +1.4
comp=Z,196nm,1.7s
TAU LR LR
comp=Z,3μm,19.0s
TAU **Tasmania Unive** 78.47 175 *e*P P 10 40 48.7 +1.4
TAU pmax pmax
comp=Z,196nm,1.7s
TAU MLR MLR
comp=Z,3μm,19.0s
GAZ **Gaziantep** 78.51 308 *e*P P 10 40 49.5 +1.4
KMRS **Kahramanmaras** 78.52 308 *e*P P 10 40 48.9 +0.8
TPNV **Topopah Spring** 78.52 53 P P 10 40 49.9 +1.6
baz=306,SNR=41
TPNV **Topopah Spring** 78.52 53 *e*P P 10 40 50.0 +1.6
comp=Z,39nm,0.9s
TPNV **Topopah Spring** 78.52 53 *e*P P 10 40 50.0 +1.7
TPNV pmax pmax
comp=Z,39nm,0.9s
STAV **Stavanger** 78.53 338 *e*P P 10 40 48.1 +0.4
SNART **Snartemo** 78.55 337 *e*P P 10 40 48.4 +0.6
EDW2 **Edwards Air Fo** 78.58 55 P P 10 40 50.3 +1.8
baz=306,SNR=8.7

PRAR **RASCA** 78.59 321 ⇑ *i*P P 10 40 49.0 +0.7
TLCR 78.62 318 ⇑ *i*P P 10 40 48.8 +0.3
HWUT **Hardware Ranch** 78.64 47 *e*P P 10 40 51.0 +2.1
comp=Z,58nm,1.0s
HWUT LR LR
comp=Z,872nm,22.0s
CANT **Cankiri** 78.71 312 *e*P P 10 40 49.8 +0.7
GKP **Gorka Klasztor** 78.72 329 *e*P P 10 40 49.6 +0.8
GKP **Gorka Klasztor** 78.72 329 *e*P P 10 40 49.6 +0.8
DUG **Dugway, Tooele** 78.75 48 P P 10 40 50.8 +1.4
baz=308,SNR=51
DUG **Dugway, Tooele** 78.75 48 *e*P P 10 40 51.7 +2.2
comp=Z,54nm,1.1s
DUG LR LR
comp=Z,784nm,20.0s
DUG **Dugway, Tooele** 78.75 48 *e*P P 10 40 51.7 +2.2
DUG pmax pmax
comp=Z,54nm,1.1s
DUG MLR MLR
comp=Z,784nm,20.0s
COP **Copenhagen** 78.82 333 *i*P P 10 40 50.3 +1.0
comp=Z,135nm,1.1s
COP **Copenhagen** 78.82 333 *i*P P 10 40 50.3 +1.0
COP pmax pmax
comp=Z,140nm,1.1s
KWP **Kalwaria Pacla** 78.82 324 *e*P P 10 40 50.3 +0.8
KWP **Kalwaria Pacla** 78.82 324 *e*P P 10 40 50.4 +0.9
comp=Z,3μm,1.1s
KWP **Kalwaria Pacla** 78.82 324 *e*P P 10 40 50.4 +0.9
ANDN **Andirin** 78.83 308 *i*P P 10 40 50.7 +0.8
KUZU **Kuzuini** 78.84 307 *i*P P 10 40 51.6 +1.7
CDAG **Cicekdag** 78.84 311 *i*P P 10 40 50.9 +1.0
BORG **Borgarnes** 78.89 352 P P 10 40 51.8 +2.3
comp=Z,81nm,1.0s,baz=15,slow=3.6,SNR=15
BORG LR LR 11 17 10.2
comp=Z,367nm,19.8s,baz=16,slow=37
BORG **Borgarnes** 78.89 352 *e*P P 10 40 51.4 +1.8
comp=Z,107nm,1.0s
BORG **Borgarnes** 78.89 352 *e*P P 10 40 51.4 +1.8
BORG pmax pmax
comp=Z,107nm,1.0s
MWC **Mount Wilson** 78.92 56 *e*P P 10 40 51.7 +1.2
comp=Z,142nm,1.8s
MWC **Mount Wilson** 78.92 56 *e*P P 10 40 51.7 +1.2
MWC pmax pmax
comp=Z,142nm,1.8s
TESR **Tescani** 78.93 320 ⇑ *i*P P 10 40 50.1 0.0
BUR08 **Bucovina Ar. S** 78.93 321 *e*P P 10 40 50.7 +0.4
BUR04 **Bucovina Ar. S** 78.94 321 *e*P P 10 40 50.6 +0.3
BURAR **Bucovina Array** 78.94 321 ⇓ *i*P P 10 40 50.9 +0.6
BURAR **Bucovina Array** 78.94 321 P P 10 40 50.9 +0.6
CFR **Carcaliu** 79.00 318 ⇑ *i*P P 10 40 50.7 +0.2
CFR **Carcaliu** 79.00 318 P P 10 40 50.6 +0.1
ANGG **Ammassalik, Gr** 79.01 359 *e*P P 10 40 51.0 +0.9
comp=Z,32nm,1.0s
TCUT **Toone Canyon** 79.03 47 *e*P P 10 40 53.0 +1.9
comp=Z,76nm,1.1s
CTU **Camp Tracy** 79.09 48 *e*P P 10 40 52.3 +0.9
comp=Z,31nm,1.1s
BW06 **Boulder Array** 79.09 45 P P 10 40 52.9 +1.5
baz=309,SNR=25
BW06 **Boulder Array** 79.09 45 *e*P P 10 40 52.6 +1.2
comp=Z,22nm,0.9s
BW06 LR LR
comp=Z,2μm,22.0s
PD31 **Pinedale Array** 79.09 45 *e*P P 10 40 52.6 +1.2
PDAR **Pinedale Array** 79.09 45 P P 10 40 52.8 +1.4
comp=Z,19nm,0.8s,baz=267,slow=2.0,SNR=136
PDAR PKKPbc **PKKPbc** 10 59 41.9 -0.1
comp=Z,0.6nm,0.8s,baz=157,slow=2.7,SNR=4.6
PDAR LR LR 11 11 07.0
comp=Z,954nm,21.8s,baz=322,slow=32
SHOC **Shoshone, Teco** 79.12 54 P P 10 40 52.7 +1.3
baz=306
GSC **Goldstone, Bar** 79.13 54 P P 10 40 53.0 +1.5
baz=306,SNR=6.2
GSC **Goldstone, Bar** 79.13 54 *e*P P 10 40 53.1 +1.5
comp=Z,75nm,1.5s
GSC **Goldstone, Bar** 79.13 54 *e*P P 10 40 53.1 +1.6
GSC pmax pmax
comp=Z,75nm,1.5s
PETR **Petresti** 79.13 319 ⇓ *i*P P 10 40 53.1 +1.9
YAHY **KAYSERI_Yahyal** 79.15 309 *i*P P 10 40 52.7 +1.1
BFSC **Mount Baldy Ra** 79.18 56 P P 10 40 52.7 +0.8
baz=306
KOZT **Kozan** 79.22 308 *e*P P 10 40 52.9 +1.0
BR131 **Keskin Array S** 79.23 311 *e*P P 10 40 52.4 +0.3
BRTR **Keskin Array B** 79.23 311 P P 10 40 53.0 +0.9
comp=Z,40nm,0.9s,baz=97,slow=3.5,SNR=125
BRTR LR LR 11 20 22.8
comp=Z,667nm,19.4s,baz=56,slow=39
BRTR **Keskin Array B** 79.23 311 P P 10 40 53.0 +0.9
BRTR **Keskin Array B** 79.23 311 P P 10 40 53.0 +0.9
BRTR pmax pmax
comp=Z,43nm,0.9s
BRTR MLR MLR
comp=Z,667nm,19.4s
RRX **Edison Barstow** 79.25 55 P P 10 40 54.2 +2.0
baz=306
VRI **Vrincioaia** 79.31 319 ⇑ *i*P P 10 40 53.1 +0.9
VRI **Vrincioaia** 79.31 319 P P 10 40 53.1 +0.9
TIRR **Tirgusor** 79.31 318 ⇑ *i*P P 10 40 52.6 +0.3
TIRR **Tirgusor** 79.31 318 *e*P P 10 40 52.5 +0.3
comp=Z,63nm,1.2s
TIRR **Tirgusor** 79.31 318 *e*P P 10 40 52.5 +0.3
TIRR pmax pmax
comp=Z,63nm,1.2s
JLU **Jordanelle** 79.33 47 *e*P P 10 40 55.1 +2.4
comp=Z,27nm,1.0s
NLU **North Lily Min** 79.34 48 *e*P P 10 40 55.1 +2.3
comp=Z,40nm,1.1s
PLOR **Plostina** 79.36 319 ⇑ *i*P P 10 40 53.5 +0.9
PLOR **Plostina** 79.36 319 P P 10 40 53.5 +0.9
MUD **Monsted U'grnd** 79.39 335 *i*P P 10 40 53.4 +1.0
comp=Z,93nm,1.1s
comp=Z,3μm,21.0s
MUD **Monsted U'grnd** 79.39 335 *e*P P 10 40 53.4 +1.0
MUD **Monsted U'grnd** 79.39 335 *i*P P 10 40 53.4 +1.0
MUD pmax pmax
comp=Z,93nm,1.1s
MUD MLR MLR
comp=Z,2μm,21.0s
TLB **Topalu** 79.43 318 ⇑ *i*P P 10 40 53.5 +0.6
TLB **Topalu** 79.43 318 P P 10 40 53.4 +0.6
SHPR **Sheep Range** 79.49 53 *e*P P 10 40 56.0 +2.3
comp=Z,29nm,1.0s
MPU **Maple Canyon** 79.58 48 *e*P P 10 40 55.6 +1.5
comp=Z,42nm,1.2s
TUQ **Turquoise Moun** 79.63 54 P P 10 40 55.5 +1.2
baz=307,SNR=22
ANTO **Ankara** 79.66 312 *e*P P 10 40 55.2 +0.8
ANTO **Ankara** 79.66 312 ⇑ *i*P P 10 40 55.0 +0.6
ANTO **Ankara** 79.66 312 *e*P P 10 40 55.0 +0.6
comp=Z,95nm,1.0s
ANTO LR LR
comp=Z,815nm,20.0s
ANTO **Ankara** 79.66 312 P P 10 40 55.2 +0.8
SNR=27
ANTO **Ankara** 79.66 312 P P 10 40 55.2 +0.8
SNR=27
ANTO **Ankara** 79.66 312 *e*P P 10 40 55.0 +0.6
ANTO pmax pmax
comp=Z,95nm,1.0s
ANTO MLR MLR
comp=Z,815nm,20.0s
BBRC **Big Bear Solar** 79.66 55 P P 10 40 55.5 +0.8
baz=306
STHS **Stebnicka Huta** 79.67 325 *e*P P 10 40 55.0 +0.9
STHS **Stebnicka Huta** 79.67 325 *e*P P 10 40 55.0 +0.9
STHS pmax pmax
comp=Z,54nm,1.1s
BR231 **Keskin MP Arra** 79.69 312 *e*P P 10 40 55.3 +0.7
GULA **Gulagac** 79.70 310 *e*P P 10 40 54.5 -0.2
UZH **Uzhgorod** 79.70 324 *e*P P 10 40 52.9 -1.4
UZH *e* 10 41 01.9
UZH *e* 10 41 09.1
UZH *e*S S 10 50 48.0 -5.3
HEC **Hector,Ludlow** 79.72 55 P P 10 40 56.3 +1.5
baz=306,SNR=7.5
ARCR **ARCALIA** 79.73 321 ⇓ *i*P P 10 40 56.3 +1.8
YURE **YUREGIR** 79.73 308 *e*P P 10 40 55.6 +0.8
YURE **YUREGIR** 79.73 308 *i*P P 10 40 57.1 +2.4
AFSR **Af˙ar-Bala (A** 79.75 311 *e*P P 10 40 52.4 -2.5
BMR **Baia Mare** 79.77 322 ⇓ *i*P P 10 40 56.0 +1.3
OJC **Ojcow** 79.77 326 *e*P P 10 40 55.2 +0.5

OJC eS S 10 50 53.0 -1.0
OJC Ojcow 79.77 326 eP P 10 40 55.1 +0.4
comp=Z,162nm,1.1s
OJC Ojcow 79.77 326 eP P 10 40 55.2 +0.5
OJC eS S 10 50 53.0 -1.0
PGOR Pogoanele 79.80 319⇓iP P 10 40 56.1 +1.2
AKSY AKŠARAY - Alti 79.81 310 iP P 10 40 55.5 +0.3
KARA Karaisali 79.84 309 eP P 10 40 55.8 +0.5
MURC Murrieta 79.86 56 P P 10 40 56.7 +1.2
baz=306
ICOR Ion Corvin 79.87 318⇑iP P 10 40 56.6 +1.3
ISR Istrita 79.90 319⇓iP P 10 40 56.8 +1.3
YAYL Yayladag 79.90 307 eP P 10 40 56.0 +0.2
YAYL Yayladag 79.90 307 iP P 10 40 56.6 +0.8
CRVS Cervenica-Dubn 79.92 324 eP P 10 40 56.2 +0.7
CRVS Cervenica-Dubn 79.92 324 eP P 10 40 56.2 +0.7
CRVS pmax pmax
comp=Z,71nm,1.3s
TRPA Tarpa 79.93 323⇑iP P 10 40 56.7 +1.2
TRPA Tarpa 79.93 323⇓eP P 10 40 57.5 +2.0
RAR Rarotonga 79.93 125 LR LR 11 10 19.2
comp=Z,2µm,20.3s,baz=312,slow=31
RAR Rarotonga 79.93 125 PFAKE 10 41 10.0 +14
RAR LR LR
comp=Z,31µm,21.0s
PSN Preselentsi 79.94 317 eP P 10 40 56.0 +0.3
DOPR Dopca 79.95 320⇓iP P 10 40 57.6 +1.9
MLR Muntele Rosu 79.97 320 P P 10 40 56.3 +0.4
comp=Z,5.6nm,1.1s,baz=124,slow=18,SNR=28
MLR LR LR 11 19 08.2
comp=Z,890nm,19.9s,baz=50,slow=38
MLR Muntele Rosu 79.97 320⇑iP P 10 40 56.6 +0.6
MLR Muntele Rosu 79.97 320 eP P 10 40 57.0 +1.0
comp=Z,78nm,1.4s
MLR Muntele Rosu 79.97 320 eP P 10 40 57.0 +1.0
MLR pmax pmax
comp=Z,78nm,1.4s
GULE Gulek 80.00 309 iP P 10 40 57.5 +1.1
CCUT Cedar City 80.01 51 eP P 10 40 58.5 +2.0
comp=Z,24nm,1.1s
KKUL Konya-Kulu 80.01 311 iP P 10 40 57.2 +0.9
KRTS Karatas 80.05 308 eP P 10 40 56.6 +0.2
NIE Niedzica 80.11 325 eP P 10 40 57.5 +1.0
NIE Niedzica 80.11 325 eP P 10 40 57.5 +1.0
SZCU Shurtz Canyon 80.16 51 eP P 10 40 59.3 +2.0
comp=Z,105nm,1.9s
MSU Marysvale 80.17 49 eP P 10 40 60.0 +2.7
GMRC Granite Mounta 80.19 54 P P 10 40 58.9 +1.5
baz=307,SNR=16
SECR 80.20 319⇓iP P 10 40 58.3 +1.2
MDUB Mudurnu 80.24 313 eP P 10 40 56.6 -0.9
TMUT Trail Mountain 80.28 48 eP P 10 41 00.1 +2.1
comp=Z,30nm,1.1s
SULR 80.34 319⇓iP P 10 40 59.3 +1.5
109C Camp Elliot, M 80.34 56 P P 10 40 59.0 +0.9
baz=306
CPE Camp Elliot 80.34 56 eP P 10 41 00.5 +2.5
comp=Z,172nm,1.8s
PFO Pinyon Flats O 80.35 56 P P 10 40 59.6 +1.4
baz=307,SNR=19
PFO Pinyon Flats O 80.35 56 eP P 10 40 59.9 +1.6
comp=Z,176nm,1.9s
PFO LR LR
comp=Z,4µm,22.0s
PFO Pinyon Flats O 80.35 56 eP P 10 40 59.9 +1.6
PFO pmax pmax
comp=Z,176nm,1.9s
PFO MLR MLR
comp=Z,4µm,22.0s
HIZ Hauiti 80.36 153 eP P 10 40 59.5 +1.8
comp=Z,161nm,1.2s
XPFO Pæon Flat 80.36 56 eP P 10 40 59.9 +1.6
comp=Z,187nm,1.9s
CJR Cluj-Napoca 80.37 322⇑iP P 10 40 59.3 +1.2
CJR Cluj-Napoca 80.37 322 P P 10 40 59.2 +1.2
LDFC Landfair 80.38 54 eP P 10 41 00.1 +1.8
comp=Z,61nm,1.1s
BELC Belle Mtn. Jos 80.43 55 P P 10 40 59.8 +1.1
baz=307,SNR=12
AUMIH MIHALICIK 80.45 312 iP P 10 40 59.6 +0.9
MTPU Mount Pierson 80.45 50 eP P 10 41 01.8 +2.7
comp=Z,35nm,1.0s
P17A Butcher Ranch, 80.45 48 eP P 10 41 01.0 +2.2
comp=Z,75nm,1.3s
VOIR 80.48 320⇓iP P 10 40 59.6 +0.9
Q16A Castle Valley 80.53 49 eP P 10 41 01.3 +2.1
comp=Z,65nm,1.3s
RAYN Ar Rayn 80.53 292 eP P 10 40 59.3 0.0
comp=Z,253nm,1.3s
RAYN LR LR
comp=Z,1µm,20.0s
P18A Preston Nutter 80.65 48 eP P 10 41 01.9 +1.9
comp=Z,34nm,0.9s
GULT Gulveren 80.67 313 eP P 10 40 59.6 -0.2
KNB Kanab 80.68 51 eP P 10 41 02.4 +2.4
comp=Z,128nm,1.4s
KNB Kanab 80.68 51 eP P 10 41 02.4 +2.4
KNB pmax pmax
comp=Z,128nm,1.4s
LANS Liptovska Anna 80.68 325 eP P 10 41 00.5 +0.9
LANS Liptovska Anna 80.68 325 eP P 10 41 00.5 +0.9
PRD Provadia 80.68 317 iP P 10 41 00.2 +0.5
ARR Arges 80.74 320⇓iP P 10 41 01.7 +1.6
DRGR 80.76 322⇓iP P 10 41 00.6 +0.5
BAR Barrett 80.76 56 eP P 10 41 02.2 +1.8
comp=Z,60nm,1.3s
OKC Ostrava-Krasne 80.80 326 eP P 10 41 00.9 +0.7
OKC AMS AMS 11 20 40.0
comp=Z,3µm,15.7s
OKC Ostrava-Krasne 80.80 326 eP P 10 41 00.9 +0.7
OKC MLR MLR
comp=Z,3µm,15.7s
MONP2 Monument Peak 80.81 56 P P 10 41 01.4 +0.6
baz=307,SNR=9.6
SRU San Rafael Swe 80.81 48 eP P 10 41 02.8 +2.1
comp=Z,35nm,0.8s
SRU San Rafael Swe 80.81 48 eP P 10 41 02.8 +2.1
SRU pmax pmax
comp=Z,35nm,0.8s
KSP Ksiaz 80.88 328 eP P 10 41 01.1 +0.5
KSP eS S 10 51 08.5 +2.9
KSP Ksiaz 80.88 328 eP P 10 41 01.1 +0.5
KSP eS S 10 51 08.5 +2.9
K22A Casper 80.89 43 P P 10 41 01.6 +0.5
baz=311,SNR=21
K22A Casper 80.89 43 eP P 10 41 02.2 +1.2
comp=Z,40nm,1.0s
KIZK Mersin 80.90 308 eP P 10 41 00.9 -0.1
KIZK Mersin 80.90 308 iP P 10 41 00.8 -0.1
IRM Iron Mountain 80.91 54 P P 10 41 02.7 +1.6
baz=307,SNR=16
HRT Hereke 80.92 314 eP P 10 41 01.2 +0.1
LADK Ladik-KONYA 80.95 311 eP P 10 41 00.6 -0.8
URZ Urewera 80.98 152 LR LR 11 13 23.7
comp=Z,1µm,21.6s,baz=356,slow=33
MDND Maddock 80.99 36 P P 10 41 02.7 +1.4
baz=314,SNR=6.6
MDND Maddock 80.99 36 eP P 10 41 03.2 +1.9
comp=Z,146nm,1.1s
ULM Lac du Bonnet 81.00 33 P P 10 41 01.4 +0.2
comp=Z,30nm,0.8s,baz=307,slow=6.2,SNR=56
ULM LR LR 11 16 21.4
comp=Z,631nm,21.9s,baz=326,slow=35
ULM Lac du Bonnet 81.00 33 eP P 10 41 02.2 +1.0
comp=Z,48nm,1.0s
ULM Lac du Bonnet 81.00 33 eP P 10 41 02.2 +1.0
ULM pmax pmax
comp=Z,48nm,1.0s
BC3 Big Chuckawall 81.00 55 P P 10 41 03.1 +1.4
baz=307,SNR=15
BORA Eskisehir 81.06 313 eP P 10 41 01.7 -0.2
MORC Moravsky Berou 81.11 327⇑iP P 10 41 02.8 +0.9
MORC Moravsky Berou 81.11 327 eP P 10 41 02.5 +0.6
comp=Z,392nm,1.2s
MORC Moravsky Berou 81.11 327 eP P 10 41 02.5 +0.6
MORC pmax pmax
comp=Z,392nm,1.2s
ISK Istanbul-Kandi 81.12 315 eP P 10 41 00.9 -1.2
RWWY Rawlins 81.12 45 eP P 10 41 03.9 +1.5
comp=Z,39nm,0.9s
ADVT Abdulvahap 81.13 314 eP P 10 41 02.3 +0.2
IKP In-Ko-Pah, Jac 81.16 56 P P 10 41 04.1 +1.6
baz=307,SNR=14
W13A Hualapai Mount 81.16 53 eP P 10 41 04.6 +1.9
comp=Z,15nm,1.0s

SWSC Sam W. Stewart 81.19 56 P P 10 41 04.1 +1.5
baz=307,SNR=16
BGKT Bogazkoy 81.21 315 eP P 10 40 58.8 -3.7
CAVI Cavuskoy 81.22 314 eP P 10 41 02.7 +0.1
BUY Buyukada 81.22 314 eP P 10 41 02.5 -0.1
DPC Dobruska-Polom 81.23 328 eP P 10 41 03.2 +0.7
DPC ePP PP 10 44 05.4 -2.3
DPC eS S 10 51 08.8 -0.6
DPC AMS AMS 11 20 40.0
comp=Z,3µm,19.6s
DPC Dobruska-Polom 81.23 328 eP P 10 41 03.2 +0.7
DPC e 10 44 05.4
DPC eS S 10 51 08.8 -0.6
DPC MLR MLR
comp=Z,3µm,19.6s
UPC Upice 81.25 328 eP P 10 41 03.4 +0.8
UPC eS S 10 51 07.5 -2.0
UPC eSS SS 10 56 26.0 +1.6
UPC AMS AMS 11 21 30.0
comp=Z,3µm,14.2s
UPC Upice 81.25 328 eP P 10 41 03.4 +0.8
UPC eS S 10 51 07.5 -2.0
UPC eSS SS 10 56 26.0 +1.6
UPC MLR MLR
comp=Z,3µm,14.2s
YLV Yalova 81.26 314 eP P 10 41 02.5 -0.4
RSSD Black Hills 81.28 41 P P 10 41 04.0 +0.8
baz=312
RSSD Black Hills 81.28 41 eP P 10 41 04.0 +0.8
comp=Z,45nm,1.3s
RSSD Black Hills 81.28 41 eP P 10 41 04.0 +0.8
RSSD pmax pmax
comp=Z,45nm,1.3s
AUBOZ BOZOYUK 81.29 313 eP P 10 41 02.4 -0.7
CTYL Yalikoy Yolu 81.30 315 eP P 10 41 03.1 +0.1
CTKS Kestanelik-??a 81.33 315 eP P 10 40 58.9 -4.2
PSZ Piszkesteto 81.35 324⇑iP P 10 41 04.4 +1.1
PSZ Piszkesteto 81.35 324⇓eP P 10 41 05.2 +1.9
PSZ Piszkesteto 81.35 324 eP P 10 41 03.8 +0.5
comp=Z,124nm,1.1s
PSZ LR LR
comp=Z,2µm,21.0s
PSZ Piszkesteto 81.35 324 eP P 10 41 03.8 +0.5
PSZ pmax pmax
comp=Z,124nm,1.1s
PSZ MLR MLR
comp=Z,2µm,21.0s
U15A North Rim 81.38 51 eP P 10 41 05.8 +1.9
comp=Z,40nm,1.0s
VYHS Vyhne 81.44 325 eP P 10 41 04.0 +0.3
VYHS e 10 41 14.0
VYHS ePP PP 10 44 07.4 -2.0
VYHS eS S 10 51 13.5 +2.0
VYHS Vyhne 81.44 325 eP P 10 41 04.0 +0.3
VYHS e 10 41 14.0
VYHS e 10 44 07.4
VYHS eS S 10 51 13.5 +2.0
VYHS pmax pmax
comp=Z,49nm,1.2s
SZH Strazhica 81.45 318 iP P 10 41 03.6 -0.2
GEMT Gemlik 81.45 314 eP P 10 41 03.1 -0.7
GULN MERSIN_Gulnar 81.46 309 iP P 10 41 04.1 +0.2
AKKU Akkuyu-Mersin 81.47 309 eP P 10 41 03.7 -0.3
PDMCI Parker Dam,Lak 81.48 54 P P 10 41 05.5 +1.4
baz=308,SNR=20
ZIMR 81.50 318⇑iP P 10 41 04.7 +0.7
SLVT Silivri 81.51 315 eP P 10 41 04.5 +0.4
B31A Greenbush Farm 81.51 35 P P 10 41 04.3 +0.3
baz=316,SNR=22
O20A White River Ci 81.53 46 P P 10 41 06.1 +1.6
baz=310,SNR=24
O20A White River Ci 81.53 46 eP P 10 41 05.9 +1.4
comp=Z,36nm,0.9s
BKZ Black Stump Fm 81.54 153 eP P 10 41 04.3 +0.3
comp=Z,121nm,1.5s
ARMT Armutlu 81.56 314 eP P 10 41 04.3 -0.1
Y12C Blythe 81.56 54 P P 10 41 06.2 +1.7
baz=308,SNR=15
Y12C Blythe 81.56 54 eP P 10 41 06.5 +1.9
comp=Z,41nm,1.0s
JMB Yambol 81.62 317 iP P 10 41 05.0 +0.3
KUTH Kutahya 81.62 313 eP P 10 41 04.9 0.0
SIRR Siria 81.65 322⇑iP P 10 41 05.0 +0.2
A32A Rocking H Ranc 81.69 34 P P 10 41 05.3 +0.3
baz=316,SNR=20
ASF Jabal al Asfar 81.69 304 P P 10 41 06.2 +0.8
comp=Z,42nm,0.9s,baz=18,slow=2.0,SNR=37
ASF LR LR 11 20 34.3
comp=Z,972nm,21.1s,baz=30,slow=38
TEKE Tekeli-Mersin 81.76 309 eP P 10 41 05.5 0.0
GLA Glamis 81.78 55 P P 10 41 07.2 +1.4
baz=307,SNR=18
GLA Glamis 81.78 55 eP P 10 41 07.6 +1.8
comp=Z,35nm,0.9s
GLA Glamis 81.78 55 eP P 10 41 07.6 +1.8
GLA pmax pmax
comp=Z,35nm,0.9s
CRLT Corlu 81.84 315 eP P 10 41 06.5 +0.6
PVCC Panska Ves 81.86 329 eP P 10 41 06.8 +1.0
PVCC AMS AMS 11 20 10.0
comp=Z,2µm,18.5s
PVCC Panska Ves 81.86 329 eP P 10 41 06.8 +1.0
PVCC MLR MLR
comp=Z,2µm,18.5s
BRG Berggiesshubel 81.86 329 iP P 10 41 05.9 +0.1
comp=Z,64nm,1.1s
BRG i PP PP 10 44 13.1 +0.3
comp=Z,30nm,1.2s
BRG S S 10 51 18.0 +2.3
comp=N,2µm,14.6s
comp=E,921nm,18.0s
comp=Z,2µm,15.1s
BRG Berggiesshubel 81.86 329 iP P 10 41 05.9 +0.1
BRG i 10 44 13.1
BRG S S 10 51 18.0 +2.3
BRG pmax pmax
comp=Z,64nm,1.1s
BRG pmax pmax
comp=Z,30nm,1.2s
BRG MLR MLR
comp=N,2µm,14.6s
BRG MLR MLR
comp=E,921nm,18.0s
BRG MLR MLR
comp=Z,2µm,15.1s
VRAC Vranov 81.88 327⇑iP P 10 41 06.6 +0.7
CLL Collm 81.92 330⇑iP P 10 41 05.9 -0.2
comp=Z,139nm,1.0s
CLL i pP pP 10 41 17.7 -1.7
CLL eS sP 10 41 22.0 -2.5
CLL ePP PP 10 44 14.0 +0.8
comp=Z,38nm,1.1s
CLL eS S 10 51 17.0 +0.7
CLL eeS sS 10 51 40.0 +1.4
CLL ePS PnS 10 52 06.0 -2.9
CLL eSS SS 10 56 36.0 +1.8
CLL e 10 57 36.0
CLL eSSS SSS 11 00 00.0
CLL e 11 01 54.0
CLL eSSSS 11 02 54.0
CLL Lm MLR 11 20 00.0
comp=N,2µm,20.3s
CLL Lm MLR 11 20 00.0
comp=E,2µm,18.2s
CLL Lm MLR 11 20 00.0
comp=Z,2µm,19.0s
CLL Collm 81.92 330 eP P 10 41 06.2 +0.2
comp=Z,104nm,0.9s
CLL Collm 81.92 330⇑iP P 10 41 05.9 -0.2
CLL i *PP pP 10 41 17.7 -1.7
CLL eS S 10 51 17.0 +0.7
CLL pmax pmax
comp=Z,139nm,1.0s
CLL MLR MLR
comp=Z,2µm,19.0s
C31A Landman Farms, 81.92 35 P P 10 41 06.3 +0.2
baz=316,SNR=14
TVSB Tavsanli 81.92 313 eP P 10 41 05.5 -1.0
RSC Scourie 82.03 343⇑eP P 10 41 07.7 +1.2
PV09 Paradox Valley 82.04 48 eP P 10 41 09.6 +2.2
B32A Ashes, Strandq 82.05 34 P P 10 41 07.1 +0.3
baz=316,SNR=37
KCTX Karacabey (Bur 82.05 314 eP P 10 41 06.9 -0.1
BUD Budapest 82.08 324⇓eP P 10 41 08.8 +1.8
BUD Budapest 82.08 324 P P 10 41 08.9 +1.9

SMOL Smolenice 82.08 326 P P 10 41 09.0 +2.0
BZS Buzias 82.12 322⇓iP P 10 41 07.1 -0.2
BZS Buzias 82.12 322 P P 10 41 07.1 -0.2
A33A Warroad 82.17 33 P P 10 41 07.5 +0.1
baz=317,SNR=24
PV10 Paradox Valley 82.17 48 eP P 10 41 10.4 +2.4
MMAI Mount Meron Ar 82.19 305 P P 10 41 08.3 +0.4
comp=Z,38nm,0.9s,baz=28,slow=6.5,SNR=40
MMAI LR LR 11 20 56.8
comp=Z,3µm,21.5s,baz=45,slow=38
GOPC GO Pecny, Ondr 82.22 328 eP P 10 41 08.5 +0.8
GOPC epP pP 10 41 20.9 -0.2
GOPC eSS SS 10 56 40.0 +1.2
GOPC AMS AMS 11 20 40.0
comp=Z,2µm,16.4s
GOPC GO Pecny, Ondr 82.22 328 eP P 10 41 08.5 +0.8
GOPC e 10 41 20.9
GOPC eSS SS 10 56 40.0 +1.2
GOPC MLR MLR
comp=Z,2µm,16.4s
KEPZ Antalya-Kepez 82.23 310 iP P 10 41 07.9 -0.2
PV04 Paradox Valley 82.24 48 eP P 10 41 10.2 +1.9
MODS Modra-Piesok 82.25 326 eP P 10 41 07.0 -0.9
MODS ePCP PcP 10 41 14.0 +0.9
MODS ePPP PP 10 44 14.6 -1.5
MODS eS S 10 51 17.3 -2.5
MODS eL L 11 20 49.1
MODS Modra-Piesok 82.25 326 eP P 10 41 07.0 -0.9
MODS e 10 44 14.6
MODS eS S 10 51 17.3 -2.5
MODS pmax pmax
comp=Z,90nm,1.2s
MODS MLR MLR
comp=Z,3µm,20.7s
PRA Prague 82.25 328 eS S 10 51 20.6 +0.8
PRA AMS AMS 11 22 00.0
comp=Z,3µm,14.8s
PRU Pruhonice 82.27 328 eP P 10 41 08.7 +0.7
PRU eS S 10 51 17.8 -2.1
PRU eSS SS 10 56 40.9 +1.4
PRU AMS AMS 11 22 00.0
comp=Z,2µm,13.5s
PRU Pruhonice 82.27 328 eP P 10 41 08.7 +0.7
PRU eS S 10 51 17.8 -2.1
PRU eSS SS 10 56 40.9 +1.4
PRU MLR MLR
comp=Z,2µm,13.5s
EDC Edincik 82.28 315 eP P 10 41 08.1 -0.1
ISP Isparta 82.32 311 eP P 10 41 08.6 0.0
ISP Isparta 82.32 311 eP P 10 41 08.3 -0.3
comp=Z,109nm,1.6s
ISP LR LR
comp=Z,1µm,20.0s
ISP Isparta 82.32 311 ceP P 10 41 07.9 -0.7
ISP pmax pmax
comp=Z,64nm,1.5s
PV05 Paradox Valley 82.33 48 eP P 10 41 11.1 +2.3
CSS Mathiatis 82.35 308 eP P 10 41 08.7 0.0
CSS Mathiatis 82.35 308 eP P 10 41 08.6 -0.1
comp=Z,16nm,0.9s
CSS LR LR
comp=Z,406nm,22.0s
N23A Red Feather La 82.36 45 P P 10 41 10.5 +1.5
baz=311,SNR=40
N23A Red Feather La 82.36 45 eP P 10 41 10.3 +1.3
comp=Z,135nm,1.4s
PHWY Pilot Hill 82.37 44 eP P 10 41 10.6 +1.6
comp=Z,63nm,1.5s
AGMN Agassiz Nation 82.43 34 P P 10 41 08.9 +0.1
baz=317,SNR=19
AGMN Agassiz Nation 82.43 34 eP P 10 41 09.2 +0.4
comp=Z,23nm,0.8s
AGMN LR LR
comp=Z,2µm,22.0s
SIMA Simav-Kutahya 82.44 313 P P 10 41 09.1 -0.1
Y14A Wickenburg 82.45 54 eP P 10 41 11.0 +1.7
comp=Z,139nm,1.8s
ZST Bratislava 82.46 326 eP P 10 41 08.7 -0.3
ZST Bratislava 82.46 326 eP P 10 41 08.7 -0.3
ZST pmax pmax
comp=Z,69nm,1.4s
D31A Mcclaflin, Tow 82.46 36 P P 10 41 09.7 +0.7
baz=316
C32A Crookston 82.46 35 P P 10 41 09.6 +0.6
baz=317
BCK Bucak 82.51 311 eP P 10 41 08.5 -1.1
CSKK Cs˙ákako 82.52 325⇓eP P 10 41 10.8 +1.5
MMLI Mount Malkishu 82.52 305 eP P 10 41 10.7 +1.0
WUAZ Wupatki 82.52 51 P P 10 41 11.6 +1.9
baz=309,SNR=39
WUAZ Wupatki 82.52 51 eP P 10 41 12.0 +2.2
comp=Z,51nm,1.0s
WUAZ LR LR
comp=Z,1µm,22.0s
LEF Lefka 82.54 308 eP P 10 41 15.0 +5.4
B33A Robert and Kas 82.57 34 P P 10 41 09.7 +0.1
baz=317,SNR=6.7
KRBG Karabiga-Canak 82.58 315 eP P 10 41 11.8 +2.1
DRUM Mains of Drumt 82.60 341⇑eP P 10 41 10.4 +0.9
DRUM IAmb IAmb 10 41 10.9
comp=Z,38nm,0.9s
DRUM IAMs_20 IAMs_20 11 15 58.1
comp=Z,2µm,26.6s
PV01 Paradox Valley 82.61 48 eP P 10 41 12.3 +2.0
RRR Rubha Reidh 82.62 343⇑eP P 10 41 10.1 +0.5
113A Mohawk Valley, 82.66 55 eP P 10 41 12.1 +1.8
comp=Z,30nm,1.0s
BALB Balikesir 82.73 314 eP P 10 41 11.0 +0.5
E31A Nome 82.73 36 P P 10 41 11.0 +0.5
baz=316,SNR=31
D32A Dogwood Acres, 82.73 36 P P 10 41 10.4 0.0
baz=316
RRH Rhenigidale 82.78 343⇑eP P 10 41 10.8 +0.4
SNZO South Karori 82.78 155 PFAKE 10 41 20.0 +10
SNZO LR LR
comp=Z,2µm,22.0s
KDZ Kurdzhali 82.81 317 eP P 10 41 11.8 +0.9
KDZ Kurdzhali 82.81 317 iP P 10 41 11.9 +1.0
KAC Achnashellach 82.81 342⇑eP P 10 41 11.1 +0.5
ANTB Antalya 82.83 311 eP P 10 41 09.6 -1.5
B34A Aery, Baudette 82.84 33 P P 10 41 10.6 -0.3
baz=318,SNR=12
ERIK Erikli-Kesan 82.84 316 eP P 10 41 13.2 +2.1
C33A Trail 82.86 34 P P 10 41 10.7 -0.4
baz=317,SNR=15
PGB Panagyurishte 82.89 318 iP P 10 41 11.7 +0.3
SMCO Snowmass 82.89 46 eP P 10 41 13.8 +1.9
comp=Z,33nm,1.0s
PLD Plovdiv 82.90 318 eP P 10 41 12.5 +1.1
PLD Plovdiv 82.90 318 P P 10 41 13.2 +1.8
KORT Korkueli 82.95 311 eP P 10 41 10.7 -1.2
ALN Alexandroupoli 82.96 316 eP P 10 41 11.9 +0.2
NKC Novy Kostel 82.97 329 eP P 10 41 12.2 +0.6
NKC eS S 10 51 24.7 -2.4
NKC AMS AMS 11 21 40.0
comp=Z,2µm,17.7s
NKC Novy Kostel 82.97 329 eP P 10 41 12.2 +0.6
NKC eS S 10 51 24.7 -2.4
NKC MLR MLR
comp=Z,2µm,17.7s
MOX Moxa 82.99 330 P P 10 41 11.9 +0.2
KULA Kula-Manisa 83.00 313 eP P 10 41 12.3 +0.2
GELI Tayfur-Gelibol 83.05 315 eP P 10 41 13.5 +1.3
KPL Plockton 83.05 342 eP P 10 41 11.8 0.0
KPL IAmb IAmb 10 41 14.2
comp=Z,144nm,1.0s
KPL IAMs_20 IAMs_20 11 14 53.1
comp=Z,2µm,25.2s
F31A Hecla 83.05 37 P P 10 41 13.2 +1.0
baz=316,SNR=30
MANT Manisa 83.08 313 eP P 10 41 12.6 -0.1
comp=Z,460nm,1.4s
SOP Sopron 83.08 326⇓eP P 10 41 14.2 +2.0
SOP Sopron 83.08 326 P P 10 41 13.8 +1.6
E32A Braaten, Kindr 83.10 36 P P 10 41 13.2 +0.8
baz=316
KSB Sheil Bridge 83.10 342 eP P 10 41 12.2 +0.1
X16A Lo Mia Camp, P 83.17 52 eP P 10 41 15.5 +2.3
comp=Z,61nm,1.4s
MORH M˙ár˙igy, Hung 83.17 324⇓eP P 10 41 13.7 +1.0
RZN Rozhen 83.17 317 iP P 10 41 13.6 +0.6
CONA Conrad Observa 83.22 326 iP P 10 41 14.0 +0.9
comp=Z,116nm,1.5s,SNR=47
CONA i PP PP 10 44 25.3 +1.2

comp=Z,26nm,1.3s
MVCO Mesa Verde 83.25 49 P **P 10 41 15.0 +1.4**
baz=310,SNR=31
MVCO Mesa Verde 83.25 49 *e*P **P 10 41 15.0 +1.4**
comp=Z,61nm,1.1s
MVCO LR LR
comp=Z,757nm,22.0s
ISCO Idaho Springs 83.28 45 P **P 10 41 15.5 +1.8**
baz=312,SNR=16
ISCO Idaho Springs 83.28 45 *e*P **P 10 41 15.6 +1.8**
comp=Z,38nm,1.1s
ISCO LR LR
comp=Z,708nm,20.0s
ISCO Idaho Springs 83.28 45 *e*P **P 10 41 15.6 +1.8**
ISCO pmax pmax
comp=Z,38nm,1.1s
ISCO MLR MLR
comp=Z,708nm,20.0s
D33A AnnSam, Waubun 83.28 35 P **P 10 41 14.2 +0.9**
baz=317
KHC Kasperske Hory 83.33 328 *e*P **P 10 41 13.6 +0.1**
KHC *e*PP **PP 10 44 24.5 -0.4**
KHC *e*S **S 10 51 30.4 -0.5**
KHC AMS AMS 11 22 10.0
comp=Z,3μm,16.3s
KHC Kasperske Hory 83.33 328 *e*P **P 10 41 13.9 +0.4**
comp=Z,46nm,1.3s
KHC Kasperske Hory 83.33 328 *e*P **P 10 41 13.9 +0.4**
KHC pmax pmax
comp=Z,46nm,1.3s
C34A RKJ Ranch, Bem 83.34 34 P **P 10 41 14.4 +0.9**
baz=318
B35A Bob, Littlefor 83.34 33 P **P 10 41 14.1 +0.5**
baz=318,SNR=20
VTS Vitosha 83.38 319⇑ *i*P **P 10 41 15.1 +1.0**
VTS Vitosha 83.38 319 *e*P **P 10 41 14.5 +0.4**
comp=Z,155nm,1.2s
VTS Vitosha 83.38 319 *i* P **P 10 41 14.6 +0.5**
VTS Vitosha 83.38 319 *e*P **P 10 41 14.5 +0.4**
VTS pmax pmax
comp=Z,155nm,1.2s
ELL Elmali 83.38 311 *e*P **P 10 41 13.9 -0.2**
GEC2 GERESS Array S 83.49 328 *e*P **P 10 41 14.7 +0.3**
comp=Z,63nm,1.2s
GEC2 GERESS Array S 83.49 328 *e*P **P 10 41 14.7 +0.3**
GEC2 pmax pmax
comp=Z,63nm,1.2s
GERES GERESS Array B 83.49 328 P **P 10 41 14.3 -0.1**
comp=Z,22nm,1.0s,baz=41,slow=4.3,SNR=36
GERES PP **PP 10 44 25.1 -1.2**
comp=Z,4.6nm,1.0s,baz=32,slow=9.3,SNR=3.9
GERES PKKPbc **PKKPbc 10 59 32.9 +0.7**
comp=Z,0.5nm,0.4s,baz=235,slow=4.7,SNR=3.7
GERES LR LR 11 22 26.7
comp=Z,2μm,18.4s,baz=51,slow=38
GEA0 GERESS Array S 83.50 328 *e*P **P 10 41 14.2 -0.2**
EZN Ezine 83.51 315 *e*P **P 10 41 12.9 -1.6**
G31A Conde 83.53 37 P **P 10 41 15.9 +1.4**
baz=316,SNR=9.3
F32A Veblen 83.59 36 P **P 10 41 15.4 +0.5**
baz=316,SNR=8.5
WET Wettzell 83.62 328 P **P 10 41 15.1 +0.1**
D34A Park Rapids 83.62 35 P **P 10 41 15.0 -0.1**
baz=318,SNR=7.0
E33A Westby DABS, E 83.67 35 P **P 10 41 16.2 +0.9**
baz=317,SNR=10
DKL Dikili 83.67 314 *e*P **P 10 41 15.2 -0.2**
SUSD Miller 83.71 38 P **P 10 41 16.5 +1.0**
baz=315,SNR=10
C35A Jirik Farms, M 83.72 34 P **P 10 41 16.0 +0.5**
baz=318,SNR=25
EAB Aberfoyle 83.73 341⇑ *e*P **P 10 41 15.8 +0.4**
MMB Musomiste 83.78 318 *i* P **P 10 41 16.4 +0.4**
214A Organ Pipe Nat 83.80 55 P **P 10 41 17.5 +1.2**
baz=308,SNR=16
214A Organ Pipe Nat 83.80 55 *e*P **P 10 41 18.2 +1.9**
comp=Z,183nm,1.1s
WTSB Winterswijk 83.81 333 *e*P **P 10 41 15.5 -0.3**
comp=Z,63nm,1.0s
W18A Petrified Fore 83.81 51 P **P 10 41 18.0 +1.5**
baz=310
W18A Petrified Fore 83.81 51 *e*P **P 10 41 18.7 +2.2**
comp=Z,32nm,1.0s
AYDB Zeytinkoy-Aydi 83.83 313 *e*P **P 10 41 16.9 +0.5**
G32A Webster 83.85 37 P **P 10 41 17.3 +1.0**
baz=316,SNR=7.8
BEHE Becsehely 83.87 325⇓ *e*P **P 10 41 17.7 +1.4**
ARSA Arzberg 83.88 326 *i* P **P 10 41 16.8 +0.5**
comp=Z,73nm,1.6s,SNR=35
ARSA *i* PP **PP 10 44 32.8 +3.4**
comp=Z,19nm,1.6s
GRF Grafenberg Arr 83.89 330 P **P 10 41 16.4 0.0**
GRFO Grafenberg 83.89 330 *e*P **P 10 41 16.6 +0.2**
comp=Z,163nm,1.1s
GRFO Grafenberg 83.89 330 *e*P **P 10 41 16.6 +0.2**
GRFO pmax pmax
comp=Z,163nm,1.1s
AKAS Kas 83.90 311 *e*P **P 10 41 15.1 -1.7**
S22A 4UR Ranch, Cre 83.91 47 P **P 10 41 18.9 +1.8**
baz=311,SNR=85
S22A 4UR Ranch, Cre 83.91 47 *e*P **P 10 41 19.0 +1.9**
comp=Z,64nm,1.0s
H31A Wolsey 83.92 38 P **P 10 41 17.3 +0.7**
baz=316,SNR=9.3
KKB Krupnik 83.94 318 *i* P **P 10 41 17.4 +0.6**
FETY Fethiye 83.96 311 *e*P **P 10 41 15.9 -1.1**
MOA Molln 84.00 327 *i* P **P 10 41 17.8 +0.9**
comp=Z,60nm,1.2s,SNR=36
DIVS Divibare 84.01 321 *e*P **P 10 41 17.4 +0.2**
comp=Z,102nm,1.1s
F33A 5 Mile Ranch, 84.02 36 P **P 10 41 17.6 +0.6**
baz=317,SNR=60
BLCB Balcova 84.05 314 *e*P **P 10 41 15.5 -1.8**
X18A Snowflake 84.05 51 *e*P **P 10 41 19.5 +1.8**
comp=Z,47nm,1.2s
E34A Wadena 84.06 35 P **P 10 41 17.9 +0.7**
baz=318,SNR=7.2
Q24A Divide 84.10 46 P **P 10 41 19.0 +1.0**
baz=312,SNR=9.3
Q24A Divide 84.10 46 *e*P **P 10 41 19.7 +1.7**
comp=Z,32nm,1.0s
D35A Remer 84.15 34 P **P 10 41 17.9 +0.2**
baz=318,SNR=10
KZIT Kziot 84.15 304 *e*P **P 10 41 19.2 +1.2**
EKA Eskdalemuir Ar 84.17 340 P **P 10 41 17.9 +0.3**
comp=Z,3.8nm,0.5s,baz=38,slow=5.4,SNR=11
EKA LR LR 11 22 42.7
comp=Z,1μm,19.2s,baz=10.0,slow=38
EKA Eskdalemuir Ar 84.17 340 P **P 10 41 17.9 +0.3**
EKA pmax pmax
comp=Z,4.0nm,0.5s
EKA MLR MLR
comp=Z,1μm,19.2s
SRS Serrai 84.18 317 P **P 10 41 18.0 0.0**
C36A Pine Crest Far 84.19 33 P **P 10 41 18.4 +0.5**
baz=319,SNR=10
ESK Eskdalemuir 84.19 340 PFAKE 10 41 30.0 +12
ESK LR LR
comp=Z,2μm,21.0s
ESK Eskdalemuir 84.19 340 *e*P **P 10 41 16.6 -1.1**
ESK IAMs_20 IAMs_20 11 16 31.7
comp=Z,2μm,25.8s
I31A Royce, Wessing 84.22 38 P **P 10 41 18.2 +0.1**
baz=316
HRFI Mount Harif 84.25 303 *e*P **P 10 41 18.7 +0.1**
EDMD Edmundbyers 84.27 339 IAMs_20 IAMs_20 11 21 21.9
comp=Z,3μm,26.0s
PMOR Pomariorio Ree 84.27 113 *e*T T 12 13 45.8
comp=Z,29nm,0.2s
MLSB Milas 84.33 312 *e*P **P 10 41 19.8 +1.0**
URLA Izmir 84.33 314 *e*P **P 10 41 17.7 -1.1**
E35A Pequot Lakes 84.38 35 P **P 10 41 19.5 +0.6**
baz=318
GCAM G?zelcaml? 84.39 313 *e*P **P 10 41 19.7 +0.7**
G33A Ortonville 84.42 37 P **P 10 41 19.9 +0.8**
baz=317,SNR=32
H32A Carlson Farm, 84.43 38 P **P 10 41 19.7 +0.5**
baz=316,SNR=20
GROS Grobnik 84.47 325 *i* P **P 10 41 19.1 -0.3**
D36A Goodland 84.48 34 P **P 10 41 19.5 +0.1**
baz=319
C37A Embarrass 84.50 33 P **P 10 41 19.1 -0.4**
baz=320,SNR=14
OGNE Ogallala 84.52 43 P **P 10 41 20.5 +0.6**
baz=314,SNR=15
OGNE Ogallala 84.52 43 *e*P **P 10 41 21.0 +1.1**
comp=Z,59nm,0.9s
OGNE LR LR
comp=Z,1μm,20.0s
SOKA Soboth 84.53 326 *i* P **P 10 41 20.0 +0.3**
comp=Z,174nm,1.4s,SNR=54
SOKA *i* PP **PP 10 44 39.2 +4.4**
comp=Z,20nm,1.1s
KNT Kendrikon 84.53 318 *e*P **P 10 41 20.3 +0.5**
F34A Alexandria 84.54 36 P **P 10 41 20.3 +0.6**
baz=318,SNR=17
VAY Valandovo 84.60 318⇑ *i*P **P 10 41 20.2 +0.2**
VAY Valandovo 84.60 318 P **P 10 41 20.7 +0.6**
CHOS Chios island 84.62 314 *e*P **P 10 41 16.4 -4.0**
EYMN Ely 84.63 32 P **P 10 41 20.7 +0.5**
baz=320,SNR=11
EYMN Ely 84.63 32 *e*P **P 10 41 20.8 +0.7**
comp=Z,49nm,1.0s
EYMN LR LR
comp=Z,1μm,22.0s
J31A Geddes 84.64 39 P **P 10 41 21.0 +0.7**
baz=316
H33A Prehn Over Nor 84.64 37 P **P 10 41 20.8 +0.5**
baz=317,SNR=88
PPT Papeete 84.65 116 LR LR 11 11 57.2
comp=Z,2μm,21.1s,baz=302,slow=30
PPT2 Papeete2 84.66 116 *e*S **S 10 51 43.8 -1.2**
comp=Z,344nm,24.5s
PPT2 Papeete2 84.66 116 *e*LR LR 11 08 00.9
comp=Z,10μm,30.0s,baz=311
PPT2 Papeete2 84.66 116 *e*T T 12 14 15.5
comp=Z,10.0nm,0.3s
SDCO Great Sand Dun 84.70 47 P **P 10 41 22.4 +1.4**
baz=312,SNR=77
SDCO Great Sand Dun 84.70 47 *e*P **P 10 41 23.1 +2.1**
comp=Z,63nm,1.2s
SDCO LR LR
comp=Z,759nm,20.0s
PAE Paea 84.70 116 *e*T T 12 14 18.3
comp=Z,2.0nm,0.3s
BBO1 Bothel 84.72 340⇑ *e*P **P 10 41 20.8 +0.4**
SKO Skopje 84.75 319⇑ *i*P **P 10 41 21.8 +0.9**
I32A Karley and Nic 84.75 38 P **P 10 41 21.0 +0.2**
baz=316,SNR=12
BODT Bodrum 84.76 312 *e*P **P 10 41 21.5 +0.5**
G34A Benson 84.77 36 P **P 10 41 21.8 +1.0**
baz=317,SNR=41
HORT Hortiatis 84.81 317 *e*P **P 10 41 20.6 -0.7**
TIAR Tiarei 84.81 116 *e*T T 12 14 26.0
comp=Z,4.1nm,0.2s
F35A Swanville 84.82 35 P **P 10 41 21.7 +0.6**
baz=318,SNR=9.1
D37A Cotton 84.83 33 P **P 10 41 21.4 +0.3**
baz=319,SNR=6.9
PLE Pljevlja 84.86 321⇑ *i*P **P 10 41 21.5 0.0**
OBKA Obir 84.88 326 *i* P **P 10 41 20.8 -0.7**
comp=Z,22nm,1.0s,SNR=10
OBKA *i* PP **PP 10 44 34.6 -3.0**
comp=Z,27nm,1.4s
C38A Sawbill Land. 84.91 32 P **P 10 41 21.7 +0.2**
baz=320,SNR=14
TUC Tucson 84.92 54 P **P 10 41 23.4 +1.4**
baz=309
TUC Tucson 84.92 54 *e*P **P 10 41 24.0 +2.0**
comp=Z,29nm,1.0s
TUC LR LR
comp=Z,3μm,21.0s
TUC Tucson 84.92 54 *e*P **P 10 41 24.0 +2.0**
TUC pmax pmax
comp=Z,29nm,1.0s
TUC MLR MLR
comp=Z,3μm,21.0s
IVA Berane 84.93 321⇑ *i*P **P 10 41 21.4 -0.5**
E36A McGregor 84.93 34 P **P 10 41 21.9 +0.2**
baz=319,SNR=14
BLY Banja Luka 84.94 323⇑ *i*P **P 10 41 22.3 +0.6**
BLY Banja Luka 84.94 323 *e*P **P 10 41 21.8 +0.1**
comp=Z,87nm,1.2s
KBA Koelnbreinsper 84.99 327 *i* P **P 10 41 22.2 0.0**
comp=Z,49nm,1.3s,SNR=20
KBA *i* PP **PP 10 44 41.5 +2.9**
comp=Z,52nm,1.4s
KBA Koelnbreinsper 84.99 327 P **P 10 41 23.0 +0.8**
J32A Parkston 85.03 39 P **P 10 41 22.2 -0.1**
baz=316,SNR=24
I33A Coleman 85.07 38 P **P 10 41 23.4 +1.0**
baz=317
PVY Plav 85.09 320⇑ *i*P **P 10 41 22.7 0.0**
HGN Heimansgroeve 85.10 333 *e*P **P 10 41 22.2 -0.2**
comp=Z,168nm,1.4s
HGN Heimansgroeve 85.10 333 *e*SKS **S 10 51 47.3 -1.1**
OZLJ Ozalj 85.12 325 P **P 10 41 22.5 -0.1**
H34A Spellman Lake, 85.12 37 P **P 10 41 22.9 +0.2**
baz=317,SNR=7.9
KOME Kolasin 85.14 321⇑ *i*P **P 10 41 23.0 +0.1**
BEBN Eben Emael 85.17 333⇑ P **P 10 41 23.2 +0.5**
CLGH Cloghs, Cushen 85.18 342 *e*P **P 10 41 22.9 +0.2**
CLGH IAmb IAmb 10 41 24.9
comp=Z,147nm,1.0s
CLGH IAMs_20 IAMs_20 11 15 41.0
comp=Z,2μm,29.9s
MYKA Tenc Mystica 85.19 326 *i* P **P 10 41 22.5 -0.6**
comp=Z,2.6nm,0.4s,SNR=17
MYKA *i* PP **PP 10 44 42.9 +2.7**
comp=Z,29nm,1.3s
MEM Membach 85.20 333⇑ P **P 10 41 22.6 -0.4**
comp=Z,62nm,1.2s
MEM Membach 85.20 333 P **P 10 41 23.3 +0.4**
UPM Unac-Piva 85.20 321⇓ *i*P **P 10 41 22.7 -0.6**
LJU Ljubljana 85.23 326 *e*P **P 10 41 22.7 -0.5**
LJU *i* PP **PP 10 44 43.7 +3.3**
E37A Wrenshall 85.28 34 P **P 10 41 23.8 +0.4**
baz=320
BOJS Bojanci 85.30 325 *e*P **P 10 41 23.3 -0.2**
BOJS *e*SKSac **SKSac 10 51 40.3 -4.5**
BOJS *e* 10 51 47.3
F36A Milaca 85.30 35 P **P 10 41 23.4 -0.2**
baz=319
C39A Grand Marais 85.32 32 P **P 10 41 24.1 +0.5**
baz=321
G35A Watkins 85.33 36 P **P 10 41 24.5 +0.8**
baz=318,SNR=21
ECSD EROS Data Cent 85.39 38 P **P 10 41 24.6 +0.5**
baz=317,SNR=56
ECSD EROS Data Cent 85.39 38 *e*P **P 10 41 24.6 +0.5**
comp=Z,43nm,0.9s
ECSD LR LR
comp=Z,1μm,22.0s
NKY Niksic 85.44 321⇓ *i*P **P 10 41 24.1 -0.3**
STU Stuttgart 85.44 330 *e*P **P 10 41 24.2 +0.1**
comp=Z,135nm,1.0s
STU Stuttgart 85.44 330 *e*P **P 10 41 24.3 +0.1**
STU pmax pmax
comp=Z,135nm,1.0s
LBWR Ladybower, Pea 85.44 338 IAMs_20 IAMs_20 11 21 48.7
comp=Z,2μm,18.1s
CADS Cadrg 85.46 326 *e*P **P 10 41 23.0 -1.4**
CADS *i* PP **PP 10 44 44.5 +2.2**
BIA Bitola 85.48 319⇑ *e*P **P 10 41 26.4 +1.8**
LIT Litokhoron 85.49 317 *e*P **P 10 41 24.4 -0.2**
comp=Z,110nm,0.9s
LIT Litokhoron 85.49 317 *e*P **P 10 41 24.4 -0.2**
LIT pmax pmax
comp=Z,110nm,0.9s
NKME Niksic 85.49 321⇑ *i*P **P 10 41 24.3 -0.3**
J33A Davis 85.52 38 P **P 10 41 25.0 +0.4**
baz=317
KSCO Kaye Shedlock' 85.52 44 P **P 10 41 25.7 +0.8**
baz=313,SNR=26
KSCO Kaye Shedlock' 85.52 44 *e*P **P 10 41 26.2 +1.3**
comp=Z,137nm,1.3s
I34A Hadley 85.54 37 P **P 10 41 25.5 +0.7**
baz=317,SNR=9.4
H35A Sunnyside Ranc 85.56 36 P **P 10 41 25.7 +0.9**
baz=318,SNR=84
WATA Walderalm 85.56 328 *i* PcP **P 10 41 25.4 +0.4**
comp=Z,2.7nm,0.4s
PDG Podgorica 85.58 321⇓ *i*P **P 10 41 25.3 +0.4**
TTG Podgorica 85.58 321⇑ *i*P **P 10 41 24.8 -0.1**
TTG Podgorica 85.58 321 *e*P **P 10 41 25.0 +0.1**
comp=Z,194nm,1.1s
TTG Podgorica 85.58 321 *e*P **P 10 41 25.0 +0.1**
TTG pmax pmax
comp=Z,194nm,1.1s
MHTCO State Highway 85.59 47 *e*P **P 10 41 27.1 +1.6**
comp=Z,113nm,1.2s
WTTA Wattenberg 85.59 328 *i* PcP **P 10 41 25.9 +0.7**
comp=Z,20nm,1.1s,SNR=7.6
BRY Bratogost 85.60 321⇑ *i*P **P 10 41 24.6 -0.7**
ABTA Abfaltersbach 85.61 327 *i* P **P 10 41 24.0 -1.2**
comp=Z,41nm,1.2s,SNR=21
ABTA *i* PP **PP 10 44 47.1 +3.6**
comp=Z,21nm,1.3s
BCLA Clavier 85.62 333⇓ P **P 10 41 25.8 +0.8**
comp=Z,55nm,1.4s
FNA Florina 85.62 318 P **P 10 41 25.8 +0.5**
E38A The Farm, Brul 85.63 33 P **P 10 41 25.9 +0.8**
baz=320,SNR=23
UCC Uccle 85.65 334 *e*P **P 10 41 26.1 +1.0**
comp=Z,41nm,0.8s
UCC Uccle 85.65 334 *e*P **P 10 41 26.1 +1.0**
UCC pmax pmax
comp=Z,41nm,0.8s
C40A Isle Royale Na 85.66 31 P **P 10 41 25.8 +0.5**
baz=322,SNR=7.3
CEME Cevo 85.67 321⇑ *i*P **P 10 41 25.0 -0.5**
G36A St. Michael 85.67 35 P **P 10 41 26.1 +0.8**
baz=319,SNR=7.6
OHR Ohrid 85.70 319⇑ *i*P **P 10 41 25.2 -0.5**
OHR Ohrid 85.70 319 P **P 10 41 27.0 +1.3**
T25A Trinidad 85.75 47 P **P 10 41 27.4 +1.2**
baz=312,SNR=52
T25A Trinidad 85.75 47 *e*P **P 10 41 27.9 +1.7**
comp=Z,86nm,0.9s
MOTA Moosalm 85.76 328 *i* PcP **P 10 41 26.5 +0.5**
comp=Z,30nm,1.0s,SNR=12
DRME Dracevica, Mon 85.79 320⇑ *i*P **P 10 41 26.0 0.0**
RETA Reute 85.80 329 *i* P **P 10 41 26.2 +0.1**
comp=Z,91nm,1.4s,SNR=23
APE Apeiranthos 85.82 313⇑ *i*P **P 10 41 25.8 -0.6**
APE Apeiranthos 85.82 313 P **P 10 41 25.7 -0.6**
F37A Hinrichs Farm, 85.82 34 P **P 10 41 26.6 +0.5**
baz=319,SNR=6.6
LANF Langenberg 85.83 331 P **P 10 41 26.1 0.0**
TRI Trieste 85.84 326 *e*P **P 10 41 25.8 -0.4**
comp=Z,69nm,1.1s
TRI Trieste 85.84 326 *e*P **P 10 41 25.8 -0.4**
TRI pmax pmax
comp=Z,69nm,1.1s
KARP Karpathos 85.85 311 *e*P **P 10 41 27.7 +1.2**
KARP Karpathos 85.85 311 *e*P **P 10 41 27.3 +0.8**
comp=Z,51nm,1.1s
BUM Brajici-Budva 85.86 321⇑ *i*P **P 10 41 27.0 +0.6**
LAZ Ladron 85.91 50 *e*P **P 10 41 29.6 +2.5**
SNF Seneffe 85.91 334⇑ P **P 10 41 26.9 +0.4**
comp=Z,97nm,1.2s
ULC Ulcinj 85.92 320⇑ *i*P **P 10 41 26.2 -0.5**
WLF Walferdange 85.92 332⇑ P **P 10 41 27.8 +1.3**
comp=Z,95nm,1.8s
WLF Walferdange 85.92 332 *e*P **P 10 41 27.6 +1.1**
comp=Z,203nm,1.5s
WLF LR LR
comp=Z,2μm,21.0s
WLF Walferdange 85.92 332 *e*P **P 10 41 27.6 +1.1**
WLF pmax pmax
comp=Z,203nm,1.5s
WLF MLR MLR
comp=Z,2μm,21.0s
HCY Herceg Novi 85.95 321⇑ *i*P **P 10 41 26.2 -0.6**
ANMO Albuquerque 85.97 49 P **P 10 41 28.8 +1.4**
baz=312
ANMO Albuquerque 85.97 49 *e*P **P 10 41 29.3 +2.0**
comp=Z,42nm,1.0s
ANMO LR LR
comp=Z,1μm,22.0s
ANMO Albuquerque 85.97 49 *e*P **P 10 41 29.3 +2.0**
ANMO pmax pmax
comp=Z,42nm,1.0s
ANMO MLR MLR
comp=Z,1μm,22.0s
F38A Pierce - Schro 85.98 34 P **P 10 41 27.9 +1.0**
baz=320,SNR=41
K33A Hardington 86.02 39 P **P 10 41 27.5 +0.3**
baz=317,SNR=14
TIR Tirane 86.03 320 *e*P **P 10 41 28.0 +0.8**
comp=Z,104nm,1.4s
TIR LR LR
comp=Z,5μm,20.0s
TIR Tirane 86.03 320 *e*P **P 10 41 28.0 +0.8**
TIR pmax pmax
comp=Z,104nm,1.4s
TIR MLR MLR
comp=Z,5μm,20.0s
J34A George 86.05 38 P **P 10 41 27.6 +0.3**
baz=317,SNR=6.5
STON Ston 86.05 322 P **P 10 41 25.3 -2.0**
GIVF Givet 86.05 333 *e*P **P 10 41 26.9 -0.3**
GIVF pmax pmax
comp=Z,92nm,1.4s
H36A Jessenland, He 86.08 36 P **P 10 41 28.6 +1.2**
baz=319,SNR=36
I35A Creekview Farm 86.11 37 P **P 10 41 27.9 +0.3**
baz=318,SNR=7.5
SPMN Marine on St. 86.12 35 P **P 10 41 27.9 +0.3**
baz=319,SNR=14
SPMN Marine on St. 86.12 35 *e*P **P 10 41 28.8 +1.3**
comp=Z,35nm,1.0s
BFO Black Forest 86.14 330 *e*P **P 10 41 28.2 +0.6**
comp=Z,131nm,1.1s
BFO LR LR
comp=Z,1μm,19.0s
BFO Black Forest 86.14 330 *i* P **P 10 41 27.9 +0.2**
DOU Dourbes 86.14 333⇑ P **P 10 41 28.2 +0.6**
comp=Z,31nm,1.5s
FETA Feichten 86.17 328 *i* PcP **P 10 41 28.8 +0.7**
comp=Z,37nm,1.1s,SNR=13
FETA *i* PP **PP 10 44 51.8 +3.5**
comp=Z,17nm,1.1s
NVLJ Novalja 86.18 324 P **P 10 41 27.1 -0.8**
L33A Hoskins 86.20 39 P **P 10 41 28.2 +0.2**
baz=316,SNR=13
E39A Mellen 86.25 33 P **P 10 41 28.6 +0.3**
baz=321,SNR=17
Y22D IRIS PASSCAL I 86.26 50 P **P 10 41 29.6 +0.9**
baz=311
Y22D IRIS PASSCAL I 86.26 50 *e*P **P 10 41 30.4 +1.7**
comp=Z,162nm,1.7s
LPM Los Pinos Moun 86.28 50 *e*P **P 10 41 30.8 +2.0**
BGNE Belgrade 86.28 40 P **P 10 41 28.6 +0.1**
baz=316,SNR=16
BGNE Belgrade 86.28 40 *e*P **P 10 41 29.3 +0.8**
comp=Z,202nm,1.1s
BAIF Baives 86.31 334 *e*P **P 10 41 28.2 -0.2**
BAIF pmax pmax
comp=Z,98nm,1.3s
AGG Agios Georgios 86.32 317 *e*P **P 10 41 28.3 -0.5**
AGG Agios Georgios 86.32 317 *e*P **P 10 41 27.9 -0.9**
comp=Z,49nm,0.9s
AGG Agios Georgios 86.32 317 *e*P **P 10 41 27.9 -0.9**
AGG pmax pmax
comp=Z,49nm,0.9s
FOEL Foel Wylfa 86.32 339⇑ *e*P **P 10 41 28.4 0.0**
FOEL IAmb IAmb 10 41 29.6
comp=Z,185nm,1.0s
FOEL IAMs_20 IAMs_20 11 18 08.4
comp=Z,3μm,25.1s
DAVA Damuels 86.33 329 *i* PcP **P 10 41 29.2 +0.4**
SNR=17
SANT Santorini 86.33 313 PFAKE 10 41 40.0 +11
SANT LR LR
comp=Z,1μm,21.0s
J35A Milford 86.36 37 P **P 10 41 28.8 0.0**
baz=318,SNR=5.5
BNM Barren Site 86.39 50 *e*P **P 10 41 32.0 +2.5**
F39A Loretta 86.45 33 P **P 10 41 29.8 +0.6**
baz=320,SNR=14
I36A Fitzsimmons Fa 86.45 36 P **P 10 41 29.6 +0.4**
baz=318,SNR=8.7
E40A Wakefield 86.48 32 P **P 10 41 30.2 +0.8**
baz=321,SNR=26
CDF Champ du Feu 86.49 331 *e*P **P 10 41 29.3 -0.2**
CDF pmax pmax
comp=Z,121nm,1.1s
319A Douglas 86.50 54 *e*P **P 10 41 31.9 +2.0**
comp=Z,46nm,1.2s
TAOE Nuku Hiva Isla 86.51 103 *e*S **S 10 52 00.9 -2.5**
comp=Z,544nm,29.8s
TAOE Nuku Hiva Isla 86.51 103 *e*LR LR 11 08 47.4
comp=Z,7μm,25.0s,baz=312
SLE Schleitheim 86.52 330 P **P 10 41 30.3 +0.7**
DAMY Dhamar 86.54 285 *e*P **P 10 41 32.5 +1.9**
comp=Z,168nm,1.4s
H37A Dierke Farm, C 86.55 35 P **P 10 41 30.4 +0.6**
baz=319,SNR=22
D41A Chassel 86.57 31 P **P 10 41 30.6 +0.8**

baz=322,SNR=10
G38A Ridgeland 86.59 34 P P 10 41 30.5 +0.6
baz=320,SNR=11
FUORN Ofenpass-Fuorn 86.69 328 eP P 10 41 30.7 0.0
comp=Z,144nm,1.3s
ECH Echery 86.70 331 eP P 10 41 31.0 +0.6
comp=Z,59nm,0.9s
ECH LR LR
comp=Z,1µm,19.0s
ECH Echery 86.70 331 eP P 10 41 31.0 +0.6
ECH pmax pmax
comp=Z,59nm,0.9s
ECH MLR MLR
comp=Z,1µm,19.0s
121A Cookes Peak, D 86.72 52 P P 10 41 31.7 +0.7
baz=311,SNR=12
121A Cookes Peak, D 86.72 52 eP P 10 41 33.0 +2.0
comp=Z,204nm,1.9s
SSW Stow on the Wo 86.72 338 eP P 10 41 30.5 +0.1
I37A Lemond, Waseca 86.75 36 P P 10 41 31.4 +0.7
baz=319,SNR=37
H38A Maiden Rock 86.78 35 P P 10 41 31.7 +0.8
baz=320,SNR=12
F40A Park Falls 86.80 33 P P 10 41 31.3 +0.4
baz=321,SNR=15
J36A Seneca 1, Swea 86.81 37 P P 10 41 31.7 +0.6
baz=318,SNR=37
SCHQ Schefferville 86.81 15 P P 10 41 31.4 +0.5
comp=Z,37nm,0.8s,baz=339,slow=4.8,SNR=27
SCHQ LR LR 11 22 04.7
comp=Z,1µm,21.4s,baz=334,slow=37
SCHQ Schefferville 86.81 15 eP P 10 41 32.1 +1.3
comp=Z,48nm,0.9s
G39A Holcombe 86.82 34 P P 10 41 31.6 +0.6
baz=320,SNR=12
K35A Storm Lake 86.82 38 P P 10 41 31.7 +0.6
baz=318,SNR=5.8
E41A Kenton 86.87 32 P P 10 41 31.9 +0.7
baz=322,SNR=27
HSIG 86.89 56 eP P 10 41 33.9 +2.3
STRD Stroud 86.99 338 eP P 10 41 31.9 +0.2
STRD IAmb IAmb 10 41 33.6
comp=Z,296nm,1.0s
STRD IAMs_20 IAMs_20 11 20 32.9
comp=Z,3µm,27.0s
MOF Molkenrain 87.00 331 P P 10 41 32.2 +0.2
MCH1 Michaelchurch 87.05 338 eP P 10 41 31.3 -0.7
MCH1 IAmb IAmb 10 41 33.8
comp=Z,100nm,0.9s
MCH1 IAMs_20 IAMs_20 11 18 59.6
comp=Z,3µm,25.5s
COWI Conover 87.08 32 eP P 10 41 33.5 +1.1
comp=Z,51nm,1.3s
COWI LR LR
comp=Z,2µm,22.0s
WOL Wolverton 87.10 337 eP P 10 41 32.0 -0.3
WOL IAmb IAmb 10 41 33.8
comp=Z,240nm,1.2s
MONM Monmouth 87.13 338 IAMs_20 IAMs_20 11 19 16.8
comp=Z,3µm,25.6s
HINF Hinteralfeld 87.14 331 eP P 10 41 32.0 -0.6
HINF pmax pmax
comp=Z,38nm,1.1s
TUE Stuetta 87.19 329 eP P 10 41 33.4 +0.3
comp=Z,85nm,1.5s
TUE LR LR
comp=Z,2µm,19.0s
J37A Redenius Farm, 87.20 36 P P 10 41 33.5 +0.6
baz=319,SNR=13
H39A Augusta 87.23 34 P P 10 41 33.7 +0.6
baz=320,SNR=24
I38A Scanlan Farm, 87.23 35 P P 10 41 33.7 +0.6
baz=320,SNR=37
G40A Rib Lake 87.27 33 P P 10 41 33.8 +0.5
baz=321,SNR=24
K36A Gilmore City 87.27 37 P P 10 41 33.8 +0.5
baz=318,SNR=13
CBKS Cedar Bluff 87.27 43 P P 10 41 34.1 +0.6
baz=315,SNR=5.8
CBKS Cedar Bluff 87.27 43 eP P 10 41 34.8 +1.4
comp=Z,76nm,0.9s
CBKS LR LR
comp=Z,932nm,22.0s
CBKS Cedar Bluff 87.27 43 eP P 10 41 34.8 +1.4
CBKS pmax pmax
comp=Z,76nm,0.9s
CBKS MLR MLR
comp=Z,932nm,22.0s
HGH Gray Hill 87.30 338 eP P 10 41 33.0 -0.2
E42A Champion 87.35 31 P P 10 41 34.1 +0.5
baz=323,SNR=18
F41A Three Lakes 87.38 32 P P 10 41 34.3 +0.5
baz=322,SNR=27
IDI Anoyia 87.40 312 P P 10 41 33.5 -0.6
comp=Z,30nm,0.9s,baz=30,slow=10,SNR=4.9
IDI LR LR 11 25 59.5
comp=Z,341nm,18.1s,baz=54,slow=39
IDI Anoyia 87.40 312 eP P 10 41 33.5 -0.6
comp=Z,36nm,1.0s
L36A Harm Buss Farm 87.56 38 P P 10 41 35.5 +0.8
baz=318,SNR=13
K37A Belmond 87.57 37 P P 10 41 35.4 +0.7
baz=319,SNR=30
H40A Chili 87.68 34 P P 10 41 35.8 +0.6
baz=321,SNR=26
J38A Wedel Dairy, R 87.71 36 P P 10 41 36.2 +0.8
baz=320,SNR=11
I39A Houston 87.75 35 P P 10 41 36.2 +0.6
baz=320,SNR=23
G41A Antigo 87.76 33 P P 10 41 36.3 +0.7
baz=322,SNR=12
E43A Lone Tree Farm 87.78 31 P P 10 41 36.3 +0.7
baz=323,SNR=22
F42A Maple Grove Fa 87.78 32 P P 10 41 36.4 +0.7
baz=322,SNR=7.1
M36A Felix, Anita 87.97 38 P P 10 41 37.2 +0.5
baz=318,SNR=9.9
L37A Phoenix Point, 88.00 37 P P 10 41 37.3 +0.6
baz=319,SNR=6.6
H41A Junction City 88.02 33 P P 10 41 37.5 +0.6
baz=321,SNR=9.3
H41A Junction City 88.02 33 eP P 10 41 37.7 +0.9
comp=Z,58nm,1.1s
E44A Grand Marais A 88.02 30 P P 10 41 37.9 +1.1
baz=324,SNR=8.0
EPT El Paso 88.03 52 eP P 10 41 38.6 +1.3
comp=Z,87nm,2.0s
J39A Decorah 88.06 35 P P 10 41 37.8 +0.7
baz=320,SNR=33
G42A Mountain 88.07 32 P P 10 41 37.9 +0.9
baz=322,SNR=22
G42A Mountain 88.07 32 eP P 10 41 37.9 +0.9
comp=Z,54nm,0.9s
K38A Parkersburg 88.08 36 P P 10 41 37.7 +0.6
baz=319,SNR=5.0
SENIN Lac Senin/Sane 88.14 330 eP P 10 41 38.2 +0.6
comp=Z,130nm,2.0s
F43A Flat Rock, Esc 88.14 31 P P 10 41 38.0 +0.7
baz=323,SNR=26
I40A Norwalk 88.14 34 P P 10 41 38.1 +0.6
baz=321,SNR=10
MATE Matera 88.18 321 iP P 10 41 37.4 -0.2
F44A Big Bay de Noc 88.34 31 P P 10 41 39.0 +0.7
baz=324,SNR=34
I41A Arkdale 88.35 34 P P 10 41 39.3 +0.9
baz=321,SNR=12
N36A Muff Farm, Cla 88.37 39 P P 10 41 39.3 +0.7
baz=318,SNR=7.7
L38A Oak Wood Farm, 88.37 37 P P 10 41 39.2 +0.6
baz=319,SNR=8.0
G43A Wallace 88.38 32 P P 10 41 39.2 +0.8
baz=323,SNR=21
G43A Wallace 88.38 32 eP P 10 41 39.5 +1.0
comp=Z,87nm,1.0s
M37A Trindle Farm, 88.39 38 P P 10 41 39.2 +0.6
baz=319,SNR=7.3
SCIA State Center 88.42 37 P P 10 41 39.8 +1.0
baz=319,SNR=8.2
SCIA State Center 88.42 37 eP P 10 41 40.2 +1.4
comp=Z,102nm,1.1s
SCIA LR LR
comp=Z,1µm,21.0s
CABF La Chapelle 88.43 331 eP P 10 41 38.4 -0.4
CABF pmax pmax
comp=Z,52nm,1.5s
TBI Tubuai 88.43 120 eS S 10 52 19.4 -1.8
comp=Z,436nm,30.2s
TBI Tubuai 88.43 120 eLR LR 11 09 23.4
comp=Z,5µm,27.0s,baz=310
TBI Tubuai 88.43 120 eT T 12 18 57.5
comp=Z,18nm,0.3s
K39A Oelwein 88.46 36 P P 10 41 38.8 -0.1
baz=320,SNR=20
J40A Soldiers Grove 88.47 35 P P 10 41 39.6 +0.6
baz=321,SNR=12
E45A Wooded Hills, 88.54 30 P P 10 41 39.8 +0.5
baz=324
AQU L'Aquila 88.55 324 eP P 10 41 40.1 +0.7
comp=Z,110nm,1.0s
AQU LR LR
comp=Z,5µm,19.0s
AQU L'Aquila 88.55 324 eP P 10 41 40.1 +0.7
AQU pmax pmax
comp=Z,110nm,1.0s
AQU MLR MLR
comp=Z,5µm,19.0s
VLC Villacollemand 88.56 327 PFAKE 10 41 50.0 +11
VLC LR LR
comp=Z,2µm,19.0s
H42A Shiocton 88.60 33 P P 10 41 40.3 +0.8
baz=322,SNR=6.7
H42A Shiocton 88.60 33 eP P 10 41 40.6 +1.0
comp=Z,414nm,0.5s
KSU1 Kansas State U 88.77 41 P P 10 41 40.7 +0.2
baz=317,SNR=31
KSU1 Kansas State U 88.77 41 eP P 10 41 41.0 +0.5
comp=Z,80nm,0.9s
KSU1 LR LR
comp=Z,1µm,22.0s
N37A Lee Faris, Mou 88.79 38 P P 10 41 41.2 +0.7
baz=318,SNR=23
MNTX Cornudas Mount 88.80 51 P P 10 41 41.4 +0.6
baz=312,SNR=17
MNTX Cornudas Mount 88.80 51 eP P 10 41 41.9 +1.1
comp=Z,15nm,1.1s
MNTX LR LR
comp=Z,1µm,22.0s
M38A Pleasantville 88.80 37 P P 10 41 41.2 +0.7
baz=319,SNR=24
K40A Colesburg 88.82 35 P P 10 41 40.8 +0.2
baz=320,SNR=21
J41A Loganville 88.83 34 P P 10 41 41.3 +0.6
baz=321,SNR=18
L39A Vinton 88.85 36 P P 10 41 41.4 +0.7
baz=320,SNR=18
MSTX Muleshoe 88.88 48 P P 10 41 42.0 +0.7
baz=314,SNR=9.6
MSTX Muleshoe 88.88 48 eP P 10 41 42.5 +1.2
comp=Z,24nm,1.3s
AMTX Amarillo 88.91 47 P P 10 41 42.4 +1.0
baz=314
AMTX Amarillo 88.91 47 eP P 10 41 42.8 +1.5
comp=Z,75nm,0.9s
I42A Draeger Farm, 88.92 33 P P 10 41 41.7 +0.6
baz=322,SNR=16
I42A Draeger Farm, 88.92 33 eP P 10 41 42.1 +1.0
comp=Z,41nm,0.8s
F45A CMU Biological 88.94 30 P P 10 41 41.8 +0.7
baz=324,SNR=24
H43A Windswept, Lux 88.96 32 P P 10 41 42.0 +0.7
baz=323,SNR=13
H43A Windswept, Lux 88.96 32 eP P 10 41 42.5 +1.3
comp=Z,70nm,1.0s
LPL La Plagne 89.05 330 eP P 10 41 41.7 -0.3
LPL pmax pmax
comp=Z,49nm,1.2s
LPG La Plagne 89.06 330 eP P 10 41 41.9 -0.2
LPG pmax pmax
comp=Z,39nm,1.1s
SSF Saint Saulge 89.06 332 eP P 10 41 41.7 0.0
SSF pmax pmax
comp=Z,58nm,1.3s
JFWS Jewell Farm 89.07 35 P P 10 41 42.3 +0.5
baz=321,SNR=8.7
JFWS Jewell Farm 89.07 35 eP P 10 41 42.5 +0.7
comp=Z,37nm,1.0s
JFWS LR LR
comp=Z,2µm,22.0s
JFWS Jewell Farm 89.07 35 eP P 10 41 42.5 +0.7
JFWS pmax pmax
comp=Z,37nm,1.0s
JFWS MLR MLR
comp=Z,2µm,22.0s
GDL2 Guadalupe Moun 89.10 50 eP P 10 41 44.4 +2.1
CUC Castrocucco 89.13 321 eP P 10 41 41.9 -0.3
comp=Z,18nm,1.3s
CUC LR LR
comp=Z,1µm,21.0s
F46A Macinaw City C 89.18 30 P P 10 41 42.9 +0.7
baz=325,SNR=8.0
TIP Timpagrande 89.24 320 ⇓iP P 10 41 41.9 -0.9
TIP Timpagrande 89.24 320 eP P 10 41 42.7 -0.1
comp=Z,41nm,1.3s
TIP LR LR
comp=Z,2µm,20.0s
N38A Joes South For 89.25 38 P P 10 41 43.4 +0.7
baz=319,SNR=17
M39A Webster 89.26 37 P P 10 41 43.3 +0.6
baz=320,SNR=11
I43A Langenfeld Bro 89.26 33 P P 10 41 43.3 +0.6
baz=322,SNR=5.1
O37A Wolven Farm, M 89.26 39 P P 10 41 43.5 +0.8
baz=319,SNR=5.8
L40A Anamosa 89.27 36 P P 10 41 43.5 +0.7
baz=320,SNR=20
J42A Columbus 89.27 34 P P 10 41 43.4 +0.6
baz=322,SNR=9.5
K41A Shullsburg 89.28 35 P P 10 41 43.4 +0.6
baz=321,SNR=11
AVF Avril sur Loir 89.34 332 eP P 10 41 43.1 +0.1
AVF pmax pmax
comp=Z,109nm,1.2s
BNI Bardonecchia 89.45 329 eP P 10 41 44.4 +0.7
comp=Z,39nm,1.2s
BNI LR LR
comp=Z,2µm,19.0s
BNI Bardonecchia 89.45 329 eP P 10 41 44.4 +0.7
BNI pmax pmax
comp=Z,39nm,1.2s
BNI MLR MLR
comp=Z,2µm,19.0s
GRR Gorron 89.50 335 eP P 10 41 43.8 +0.1
GRR pmax pmax
comp=Z,139nm,1.4s
ATD Arta Tunnel 89.54 284 P P 10 41 44.6 +0.1
comp=Z,11nm,0.8s,baz=240,slow=20,SNR=8.5
ATD LR LR 11 24 26.4
comp=Z,832nm,21.6s,baz=60,slow=37
ATD Arta Tunnel 89.54 284 eP P 10 41 44.9 +0.3
comp=Z,54nm,1.2s
J43A Natural Harves 89.54 33 P P 10 41 44.6 +0.6
baz=322,SNR=13
N39A Derby Farms, D 89.55 37 P P 10 41 44.9 +0.8
baz=320,SNR=21
K42A Prairie Point, 89.59 34 P P 10 41 44.8 +0.6
baz=322,SNR=7.1
P37A Lathrop 89.59 39 P P 10 41 44.9 +0.6
baz=318,SNR=11
L41A Preston 89.60 35 P P 10 41 45.0 +0.7
baz=321,SNR=12
M40A Post Highland 89.63 36 P P 10 41 45.4 +1.0
baz=320,SNR=15
O38A Galt 89.64 38 P P 10 41 45.3 +0.7
baz=319,SNR=7.7
ORIF Oris-en-Rattie 89.89 330 eP P 10 41 45.4 -0.3
ORIF pmax pmax
comp=Z,71nm,1.6s
P38A Dawn 89.98 39 P P 10 41 46.7 +0.6
baz=319,SNR=12
N40A Mertquake, Sal 90.00 37 P P 10 41 47.0 +0.8
baz=320,SNR=12
O39A Kirksville 90.00 38 P P 10 41 46.9 +0.6
baz=320,SNR=5.6
GLMI Grayling 90.01 30 P P 10 41 47.0 +0.8
baz=325,SNR=12
GLMI Grayling 90.01 30 eP P 10 41 47.4 +1.2
comp=Z,255nm,1.0s
GLMI LR LR
comp=Z,969nm,20.0s
L42A Oliver, Polo 90.05 35 P P 10 41 47.0 +0.6
baz=322,SNR=6.2
Q37A Longview Farm, 90.07 40 P P 10 41 47.1 +0.5
baz=318
SBF Sospel 90.09 328 eP P 10 41 45.7 -1.0
SBF pmax pmax
comp=Z,79nm,1.0s
K43A Burlington 90.11 34 P P 10 41 47.3 +0.6
baz=322
M41A Milan 90.12 36 P P 10 41 47.5 +0.7
baz=321,SNR=12
SSB Saint Sauveur 90.14 331 eP P 10 41 47.3 +0.5
comp=Z,23nm,1.1s
SSB LR LR
comp=Z,1µm,20.0s
SSB Saint Sauveur 90.14 331 eP P 10 41 47.3 +0.5
SSB pmax pmax
comp=Z,23nm,1.1s
SSB MLR MLR
comp=Z,1µm,20.0s
L43A Garden Prairie 90.33 34 P P 10 41 48.4 +0.7
baz=322,SNR=5.8
CEL Celeste 90.37 320 eP P 10 41 47.9 -0.2
comp=Z,58nm,1.1s
CEL LR LR
comp=Z,3µm,19.0s
VIVF Saint-Julien-l 90.43 330 eP P 10 41 48.0 -0.2
VIVF pmax pmax
comp=Z,45nm,1.1s
M42A Sheffield 90.43 35 P P 10 41 48.8 +0.6
baz=321
Q38A Cooks Store, C 90.44 39 P P 10 41 48.9 +0.6
baz=319,SNR=17
O40A La Belle 90.44 37 P P 10 41 49.2 +0.9
baz=320,SNR=16
LPIG La Paz 90.45 60 LR LR 11 13 56.2
comp=Z,608nm,21.4s,baz=282,slow=30
P39B Salisbury 90.48 38 P P 10 41 49.4 +0.9
baz=319,SNR=12
N41A Harden Midland 90.49 36 P P 10 41 49.4 +0.9
baz=321
FRF La Foret Royal 90.67 328 eP P 10 41 48.5 -0.8
FRF pmax pmax
comp=Z,79nm,1.2s
Q39A Willow Grove F 90.70 39 P P 10 41 50.5 +1.0
baz=319,SNR=16
WMOK Wichita Mounta 90.70 45 P P 10 41 50.5 +0.9
baz=316,SNR=27
WMOK Wichita Mounta 90.70 45 eP P 10 41 51.2 +1.6
comp=Z,51nm,1.1s
WMOK LR LR
comp=Z,820nm,20.0s
WMOK Wichita Mounta 90.70 45 eP P 10 41 51.3 +1.6
WMOK pmax pmax
comp=Z,51nm,1.1s
WMOK MLR MLR
comp=Z,820nm,20.0s
L44A Lake County Fo 90.72 34 P P 10 41 50.6 +1.1
baz=323
N42A Yates City 90.79 36 P P 10 41 50.2 +0.3
baz=321
P40A Paris 90.80 38 P P 10 41 50.5 +0.6
baz=320,SNR=19
M43A Waltham Townsh 90.82 35 P P 10 41 50.4 +0.3
baz=322,SNR=13
R38A Fenwick Farm, 90.87 40 P P 10 41 50.9 +0.6
baz=319,SNR=6.7
O41A Passleys Farm, 90.93 37 P P 10 41 51.3 +0.7
baz=321,SNR=13
N43A Stutzman Famil 91.11 35 P P 10 41 52.4 +1.1
baz=322,SNR=5.6
P41A Barry, Barry 91.18 37 P P 10 41 52.7 +1.0
baz=320,SNR=17
Q40A Laux Farm, Aux 91.20 38 P P 10 41 52.4 +0.6
baz=320,SNR=15
R39A Chumby, Stover 91.22 39 P P 10 41 52.3 +0.4
baz=319,SNR=30
O42A Bath 91.26 36 P P 10 41 52.5 +0.4
baz=321
S38A Stockton 91.28 40 P P 10 41 52.8 +0.6
baz=319,SNR=14
M44A Midewin, Midew 91.28 34 P P 10 41 52.7 +0.6
baz=323
RJF Les Rejaudoux 91.29 332 eP P 10 41 52.4 +0.3
RJF pmax pmax
comp=Z,97nm,1.1s
HDIL Hopedale 91.35 36 P P 10 41 52.9 +0.4
baz=322
HDIL Hopedale 91.35 36 eP P 10 41 53.8 +1.3
comp=Z,43nm,0.8s
HDIL LR LR
comp=Z,1µm,22.0s
CAF Calviac 91.40 332 eP P 10 41 53.3 +0.6
CAF pmax pmax
comp=Z,95nm,1.2s
TX31 Lajitas Ar. Si 91.48 52 eP P 10 41 55.0 +1.5
TXAR Lajitas Array 91.48 52 P P 10 41 54.7 +1.2
comp=Z,18nm,0.9s,baz=298,slow=3.1,SNR=111
TXAR PKKPbc PKKPbc 10 59 15.0 +2.4
comp=Z,0.7nm,0.9s,baz=146,slow=5.5,SNR=7.5
TXAR LR LR 11 17 50.6
comp=Z,1µm,20.9s,baz=0.0,slow=32
T38A Diamond 91.52 41 P P 10 41 53.9 +0.5
baz=318,SNR=33
TUL1 Leonard 91.54 43 P P 10 41 53.9 +0.4
baz=318,SNR=23
TUL1 Leonard 91.54 43 eP P 10 41 54.5 +1.0
comp=Z,92nm,1.3s
S39A Bolivar 91.54 40 P P 10 41 53.6 +0.1
baz=319,SNR=23
O43A Sugar Creek Fa 91.56 36 P P 10 41 53.9 +0.5
baz=322
P42A Winchester 91.60 37 P P 10 41 54.7 +1.0
baz=321,SNR=14
R40A Maddies Statio 91.63 39 P P 10 41 54.3 +0.5
baz=320,SNR=18
Q41A Truxton 91.65 38 P P 10 41 54.6 +0.7
baz=320,SNR=12
ABTX Abilene, Hawle 91.70 47 P P 10 41 55.6 +1.3
baz=315,SNR=26
ABTX Abilene, Hawle 91.70 47 eP P 10 41 55.7 +1.4
comp=Z,105nm,1.1s
N44A Piper City 91.71 35 P P 10 41 54.9 +0.8
baz=322
VAE Valguarnera 91.73 320 LR LR 11 27 09.3
comp=Z,2µm,18.3s,baz=37,slow=38
HPIG 91.78 55 eP P 10 41 56.5 +1.4
comp=Z,25nm,1.1s
N45A Kentland 91.96 34 P P 10 41 56.1 +0.9
baz=323
P43A Skaggs, Pawnee 91.96 36 P P 10 41 56.1 +0.8
baz=322,SNR=6.4
T39A Clever 92.02 40 P P 10 41 56.3 +0.6
baz=319,SNR=17
Q42A Golden Eagle 92.03 37 P P 10 41 56.2 +0.6
baz=321,SNR=6.4
M46A Old House Fiel 92.03 33 P P 10 41 56.2 +0.6
baz=324
S40A Lebanon 92.04 39 P P 10 41 56.4 +0.6
baz=320,SNR=20
O44A Mansfield 92.06 35 P P 10 41 56.5 +0.7
baz=322
R41A Rosebud 92.08 38 P P 10 41 56.3 +0.4
baz=320,SNR=17
SADO Sadowa 92.20 27 eP P 10 41 57.9 +1.5
comp=Z,48nm,1.4s
HHAR Hobbs 92.27 41 eP P 10 41 57.7 +0.8
comp=Z,26nm,0.9s
N46A Monticello 92.27 34 P P 10 41 57.5 +0.7
baz=323
CLTB Caltabellotta 92.28 321 PFAKE 10 42 10.0 +13
CLTB LR LR
comp=Z,1µm,20.0s
O45A Potomac 92.33 35 P P 10 41 58.0 +0.9
baz=323,SNR=7.9
CCM Cathedral Cave 92.33 38 P P 10 41 57.6 +0.5
baz=320
CCM Cathedral Cave 92.33 38 eP P 10 41 57.9 +0.8
comp=Z,36nm,1.0s
CCM Cathedral Cave 92.33 38 eP P 10 41 57.9 +0.8
CCM pmax pmax
comp=Z,36nm,1.0s
T40A Mansfield 92.37 40 P P 10 41 57.8 +0.5
baz=320,SNR=12
R42A Luebbering 92.39 38 P P 10 41 57.8 +0.5
baz=321
SLM Saint Louis 92.39 37 eP P 10 41 58.3 +1.0
comp=Z,26nm,0.8s
SLM Saint Louis 92.39 37 eP P 10 41 58.3 +1.0
SLM pmax pmax
comp=Z,26nm,0.8s
Q43A New Douglas 92.42 37 P P 10 41 58.1 +0.6
baz=321
BANO Bancroft 92.43 26 P P 10 41 58.3 +0.9
baz=330

S41A	**Jillco Farms,**	**92.44**	**39**	P		**P**		**10 41 58.1 +0.5**
	baz=320,SNR=8.0							
U39A	**Green Forest**	**92.44**	**41**	P		**P**		**10 41 58.3 +0.7**
	baz=319,SNR=41							
AAM	**Ann Arbor**	**92.48**	**31**	P		**P**		**10 41 58.2 +0.6**
	baz=326							
AAM	**Ann Arbor**	**92.48**	**31**	*e*P		**P**		**10 41 59.9 +2.3**
	comp=Z,33nm,1.1s							
AAM				LR		LR		
	comp=Z,1µm,22.0s							
AAM	**Ann Arbor**	**92.48**	**31**	*e*P		**P**		**10 41 59.9 +2.3**
AAM				pmax		pmax		
	comp=Z,33nm,1.1s							
AAM				MLR		MLR		
	comp=Z,1µm,22.0s							
SFIN	**Lafayette**	**92.52**	**34**	P		**P**		**10 41 58.7 +0.8**
	baz=323,SNR=6.6							
SFIN	**Lafayette**	**92.52**	**34**	*e*P		**P**		**10 41 59.3 +1.4**
	comp=Z,42nm,1.0s							
P44A	**Sand Creek, Wi**	**92.53**	**36**	P		**P**		**10 41 58.6 +0.6**
	baz=322,SNR=11							
TRQ	**Mont Tremblant**	**92.54**	**24**	*e*P		**P**		**10 41 58.9 +0.9**
MTLF	**Montolieu**	**92.67**	**331**	*e*P		**P**		**10 41 58.9 +0.3**
MTLF				pmax		pmax		
	comp=Z,58nm,1.1s							
VSL	**Villasalto**	**92.69**	**324**	PFAKE				10 42 10.0 +11
VSL				LR		LR		
	comp=Z,2µm,20.0s							
PLVO	**Plevna**	**92.72**	**26**	*e*P		**P**		**10 41 59.6 +0.9**
	comp=Z,27nm,1.1s							
V39A	**Pettigrew**	**92.76**	**41**	P		**P**		**10 41 59.8 +0.6**
	baz=319,SNR=26							
Q44A	**Meyer Farm, Va**	**92.78**	**36**	P		**P**		**10 41 59.9 +0.7**
	baz=322							
S42A	**Caledonia**	**92.78**	**38**	P		**P**		**10 41 59.7 +0.5**
	baz=321,SNR=18							
U40A	**Yellville**	**92.79**	**40**	P		**P**		**10 41 59.7 +0.5**
	baz=319,SNR=45							
R43A	**Red Bud**	**92.82**	**37**	P		**P**		**10 42 00.0 +0.7**
	baz=321,SNR=6.3							
ACTO	**Acton**	**92.84**	**28**	P		**P**		**10 41 59.9 +0.6**
	baz=328							
T41A	**Mountain View**	**92.84**	**39**	P		**P**		**10 41 59.9 +0.4**
	baz=320,SNR=16							
P45A	**Graceland, Par**	**92.89**	**35**	P		**P**		**10 42 00.2 +0.6**
	baz=323							
WDD	**Wied Dalam**	**92.91**	**319**	PFAKE				10 42 10.0 +10
WDD				LR		LR		
	comp=Z,1µm,19.0s							
ALFO	**Alfred**	**92.95**	**24**	P		**P**		**10 42 00.2 +0.4**
	baz=332							
O47A	**Sheridan**	**93.06**	**34**	P		**P**		**10 42 00.8 +0.4**
	baz=324							
P46A	**Rosedale**	**93.08**	**35**	P		**P**		**10 42 01.0 +0.5**
	baz=323,SNR=8.7							
JCT	**Junction City**	**93.11**	**49**	P		**P**		**10 42 01.7 +0.8**
	baz=315,SNR=18							
JCT	**Junction City**	**93.11**	**49**	*e*P		**P**		**10 42 01.7 +0.8**
	comp=Z,35nm,0.9s							
JCT				LR		LR		
	comp=Z,1µm,21.0s							
JCT	**Junction City**	**93.11**	**49**	*e*P		**P**		**10 42 01.7 +0.8**
JCT				pmax		pmax		
	comp=Z,35nm,0.9s							
JCT				MLR		MLR		
	comp=Z,1µm,21.0s							
W39A	**Magazine**	**93.17**	**42**	P		**P**		**10 42 01.7 +0.7**
	baz=319,SNR=9.7							
T42A	**Van Buren**	**93.20**	**39**	P		**P**		**10 42 01.8 +0.7**
	baz=320,SNR=18							
V40A	**Witts Springs**	**93.23**	**41**	P		**P**		**10 42 01.8 +0.5**
	baz=319,SNR=6.8							
H06N1	**SOCORRO T-PHAS**	**93.28**	**64**	T		T		12 25 44.7
	SNR=15							
U41A	**Viola**	**93.29**	**40**	P		**P**		**10 42 02.0 +0.5**
	baz=320,SNR=7.9							
S43A	**Fulton Ridge,**	**93.30**	**38**	P		**P**		**10 42 01.9 +0.4**
	baz=321							
OLIL	**Olney**	**93.36**	**36**	*e*P		**P**		**10 42 03.0 +1.2**
	comp=Z,53nm,1.1s							
H06E1	**SOCORRO T-PHAS**	**93.38**	**64**	T		T		12 25 54.2
	SNR=10							
WHTX	**Lake Whitney,**	**93.44**	**46**	P		**P**		**10 42 03.8 +1.5**
	baz=316,SNR=13							
WHTX	**Lake Whitney,**	**93.44**	**46**	*e*P		**P**		**10 42 03.0 +0.7**
	comp=Z,94nm,1.0s							
Q46A	**CEJHS Indians,**	**93.48**	**35**	P		**P**		**10 42 03.0 +0.7**
	baz=323							
X39A	**Fountain Ranch**	**93.50**	**42**	P		**P**		**10 42 03.2 +0.7**
	baz=318,SNR=24							
W40A	**Ferguson Farm,**	**93.56**	**41**	P		**P**		**10 42 03.4 +0.7**
	baz=319,SNR=12							
W40A	**Ferguson Farm,**	**93.56**	**41**	*e*P		**P**		**10 42 04.2 +1.5**
	comp=Z,42nm,1.1s							
T43A	**Greenville**	**93.57**	**38**	P		**P**		**10 42 03.3 +0.5**
	baz=321,SNR=7.6							
V41A	**Mountainview**	**93.59**	**40**	P		**P**		**10 42 03.5 +0.5**
	baz=320,SNR=15							
S44A	**Carbondale**	**93.61**	**37**	P		**P**		**10 42 03.5 +0.6**
	baz=322,SNR=5.7							
SIUC	**Southern Illin**	**93.61**	**37**	*e*P		**P**		**10 42 04.2 +1.2**
	comp=Z,27nm,0.9s							
P47A	**Martinsville**	**93.61**	**34**	P		**P**		**10 42 03.6 +0.6**
	baz=324,SNR=8.1							
R45A	**Skylar, Fairfi**	**93.61**	**36**	P		**P**		**10 42 04.1 +1.2**
	baz=322							
U42A	**Revenden**	**93.64**	**39**	P		**P**		**10 42 03.9 +0.7**
	baz=320							
EPF	**Esparros**	**93.67**	**332**	*e*P		**P**		**10 42 02.9 -0.3**
EPF				pmax		pmax		
	comp=Z,51nm,1.5s							
PBMO	**Poplar Bluff**	**93.73**	**39**	*e*P		**P**		**10 42 04.2 +0.7**
	comp=Z,41nm,1.2s							
BLO	**Bloomington**	**93.75**	**35**	*e*P		**P**		**10 42 04.5 +0.9**
	comp=Z,31nm,1.2s							
BLO	**Bloomington**	**93.75**	**35**	*e*P		**P**		**10 42 04.5 +0.9**
BLO				pmax		pmax		
	comp=Z,31nm,1.2s							
MIAR	**Mount Ida**	**93.77**	**42**	P		**P**		**10 42 04.5 +0.7**
	baz=319,SNR=30							
MIAR	**Mount Ida**	**93.77**	**42**	*e*P		**P**		**10 42 05.4 +1.6**
	comp=Z,59nm,1.1s							
MIAR				LR		LR		
	comp=Z,926nm,20.0s							
MIAR	**Mount Ida**	**93.77**	**42**	*e*P		**P**		**10 42 05.4 +1.6**
MIAR				pmax		pmax		
	comp=Z,59nm,1.1s							
MIAR				MLR		MLR		
	comp=Z,926nm,20.0s							
WHAR	**Wooly Hollow**	**93.90**	**41**	*e*P		**P**		**10 42 05.0 +0.7**
	comp=Z,59nm,1.3s							
LONY	**Lake Ozonia**	**93.94**	**24**	P		**P**		**10 42 05.2 +0.8**
	baz=332							
LONY	**Lake Ozonia**	**93.94**	**24**	*e*P		**P**		**10 42 05.3 +1.0**
	comp=Z,11nm,1.0s							
LONY				LR		LR		
	comp=Z,1µm,21.0s							
S45A	**Carrier Mills**	**93.95**	**37**	P		**P**		**10 42 05.4 +0.9**
	baz=322,SNR=5.4							
V42A	**Cord**	**93.98**	**40**	P		**P**		**10 42 05.1 +0.4**
	baz=320							
Q47A	**Bedord North L**	**93.98**	**35**	P		**P**		**10 42 05.3 +0.7**
	baz=324,SNR=8.5							
W41B	**Gary Mavity, V**	**94.01**	**41**	P		**P**		**10 42 05.6 +0.8**
	baz=320,SNR=5.7							
U43A	**Rector**	**94.06**	**39**	P		**P**		**10 42 05.6 +0.6**
	baz=321							
ETSF	**Etsaut**	**94.12**	**332**	*e*P		**P**		**10 42 05.8 +0.5**
ETSF				pmax		pmax		
	comp=Z,31nm,1.2s							
ERPA	**Erie**	**94.13**	**29**	P		**P**		**10 42 05.9 +0.6**
	baz=328							
ERPA	**Erie**	**94.13**	**29**	*e*P		**P**		**10 42 06.3 +1.0**
	comp=Z,37nm,1.1s							
PARMO	**Parma**	**94.16**	**38**	*e*P		**P**		**10 42 06.9 +1.4**
	comp=Z,46nm,0.9s							
USIN	**University of**	**94.17**	**36**	*e*P		**P**		**10 42 07.2 +1.7**
	comp=Z,22nm,1.0s							
X40A	**Basin Creek Fa**	**94.21**	**42**	P		**P**		**10 42 06.3 +0.5**
	baz=319,SNR=10							
435B	**Jarrell**	**94.23**	**47**	P		**P**		**10 42 06.7 +0.7**
	baz=316,SNR=5.0							
UALR	**University of**	**94.26**	**41**	*e*P		**P**		**10 42 07.3 +1.3**
	comp=Z,34nm,1.4s							
U44A	**Portageville**	**94.32**	**38**	P		**P**		**10 42 06.9 +0.7**
	baz=321							
Y40A	**Okolona**	**94.33**	**42**	P		**P**		**10 42 07.1 +0.7**
	baz=319							
S46A	**Don Dixon Farm**	**94.37**	**36**	P		**P**		**10 42 07.2 +0.8**
	baz=323							
X41A	**Kaden, Bauxite**	**94.38**	**41**	P		P		**10 42 07.4 +0.8**
	baz=319							
MMNY	**Mt. Morris Dam**	**94.41**	**27**	*e*P		**P**		**10 42 07.0 +0.4**
	comp=Z,23nm,0.9s							
V43A	**Jonesboro**	**94.44**	**39**	P		**P**		**10 42 07.7 +0.9**
	baz=321							
R47A	**Wooly Knot Far**	**94.45**	**35**	P		**P**		**10 42 07.5 +0.7**
	baz=324,SNR=10							
ALLY	**Alegheny Colle**	**94.47**	**29**	*e*P		**P**		**10 42 07.6 +0.7**
	comp=Z,23nm,0.9s							
ACSO	**Alum Creek Sta**	**94.47**	**32**	P		**P**		**10 42 07.6 +0.7**
	baz=326,SNR=16							
ACSO	**Alum Creek Sta**	**94.47**	**32**	*e*P		**P**		**10 42 07.9 +1.0**
	comp=Z,37nm,1.0s							
ACSO				LR		LR		
	comp=Z,1µm,21.0s							
HBAR	**Harrisburg**	**94.56**	**40**	*e*P		**P**		**10 42 09.1 +1.8**
WCI	**Wyandotte Cave**	**94.61**	**35**	P		**P**		**10 42 08.3 +0.7**
	baz=324							
WCI	**Wyandotte Cave**	**94.61**	**35**	*e*P		**P**		**10 42 08.8 +1.2**
	comp=Z,24nm,0.9s							
WCI	**Wyandotte Cave**	**94.61**	**35**	*e*P		**P**		**10 42 08.8 +1.2**
WCI				pmax		pmax		
	comp=Z,24nm,0.9s							
U44B	**Burton Farm, H**	**94.62**	**38**	P		**P**		**10 42 08.3 +0.7**
	baz=322							
NCB	**Newcomb**	**94.64**	**24**	*e*P		**P**		**10 42 08.6 +1.0**
	comp=Z,16nm,1.0s							
WLAR	**White Oak Lake**	**94.66**	**42**	*e*P		**P**		**10 42 09.0 +1.1**
	comp=Z,38nm,1.0s							
R48A	**Northridge Ran**	**94.67**	**35**	P		**P**		**10 42 08.5 +0.7**
	baz=324							
GLAT	**Glass**	**94.70**	**38**	*e*P		**P**		**10 42 09.5 +1.5**
M54A	**Oil Creek Stat**	**94.78**	**29**	P		**P**		**10 42 09.0 +0.7**
	baz=328							
M54A	**Oil Creek Stat**	**94.78**	**29**	*e*P		**P**		**10 42 09.0 +0.7**
	comp=Z,18nm,0.8s							
T46A	**Princeton**	**94.79**	**37**	P		**P**		**10 42 09.2 +0.8**
	baz=322,SNR=11							
Y41A	**Eaglette Beard**	**94.79**	**42**	P		**P**		**10 42 09.0 +0.6**
	baz=319,SNR=6.8							
Z40A	**Long Farm, Mag**	**94.83**	**43**	P		**P**		**10 42 09.3 +0.6**
	baz=319,SNR=6.0							
833A	**Chaparral WMA,**	**94.88**	**50**	P		**P**		**10 42 10.0 +1.0**
	baz=315,SNR=11							
U45A	**Rockin P Farm,**	**94.91**	**38**	P		**P**		**10 42 09.7 +0.7**
	baz=322							
PKME	**Peaks-Kenny Pk**	**95.01**	**21**	P		**P**		**10 42 10.6 +1.4**
	baz=336,SNR=5.8							
PKME	**Peaks-Kenny Pk**	**95.01**	**21**	*e*P		**P**		**10 42 11.1 +1.9**
	comp=Z,49nm,1.2s							
PKME				LR		LR		
	comp=Z,1µm,21.0s							
N54A	**Moraine State**	**95.11**	**30**	P		**P**		**10 42 10.1 +0.3**
	baz=328,SNR=7.9							
N54A	**Moraine State**	**95.11**	**30**	*e*P		**P**		**10 42 10.5 +0.7**
	comp=Z,21nm,0.8s							
LBNH	**Lisbon**	**95.14**	**23**	P		**P**		**10 42 11.2 +1.3**
	baz=334							
S48A	**Wiedeman Farm,**	**95.18**	**35**	P		**P**		**10 42 10.9 +0.7**
	baz=324,SNR=9.0							
CCAR	**Cane Creek**	**95.22**	**41**	*e*P		**P**		**10 42 11.4 +1.0**
	comp=Z,41nm,1.0s							
NATX	**Nanogodoches**	**95.23**	**45**	*e*P		**P**		**10 42 12.0 +1.5**
	comp=Z,26nm,1.2s							
NATX				LR		LR		
	comp=Z,1µm,22.0s							
X43A	**Marvell**	**95.23**	**40**	P		**P**		**10 42 11.5 +1.1**
	baz=320							
Y42A	**Garnett, Star**	**95.27**	**41**	P		**P**		**10 42 11.5 +0.8**
	baz=320,SNR=5.3							
ACCN	**Adirondack Com**	**95.34**	**24**	*e*P		**P**		**10 42 11.8 +1.0**
	comp=Z,19nm,1.1s							
T48A	**Bowling Green**	**95.46**	**36**	P		**P**		**10 42 11.3 -0.1**
	baz=324,SNR=6.1							
WVT	**Waverly**	**95.54**	**37**	P		**P**		**10 42 12.4 +0.6**
	baz=322							
WVT	**Waverly**	**95.54**	**37**	*e*P		**P**		**10 42 12.9 +1.1**
	comp=Z,13nm,1.0s							
WVT	**Waverly**	**95.54**	**37**	*e*P		**P**		**10 42 12.9 +1.1**
WVT				pmax		pmax		
	comp=Z,13nm,1.0s							
U47A	**Clarksville**	**95.56**	**37**	P		**P**		**10 42 12.8 +0.9**
	baz=323							
BINY	**Binghamton**	**95.58**	**26**	P		**P**		**10 42 12.9 +1.0**
	baz=331							
BINY	**Binghamton**	**95.58**	**26**	*e*P		**P**		**10 42 13.3 +1.4**
	comp=Z,85nm,1.9s							
BINY				LR		LR		
	comp=Z,2µm,20.0s							
Z42A	**Normel Spur, H**	**95.61**	**42**	P		**P**		**10 42 13.1 +0.9**
	baz=320,SNR=7.3							
W45A	**Hickory Valley**	**95.62**	**39**	P		**P**		**10 42 12.9 +0.7**
	baz=322							
V46A	**Holladay**	**95.66**	**38**	P		**P**		**10 42 12.9 +0.6**
	baz=322							
KEST	**Kesra**	**95.67**	**322**	P		**P**		**10 42 12.4 -0.1**
	comp=Z,10nm,1.1s,baz=243,slow=6.3,SNR=5.5							
KEST				LR		LR		11 30 23.0
	comp=Z,1µm,18.6s,baz=350,slow=39							
KEST	**Kesra**	**95.67**	**322**	*e*P		**P**		**10 42 13.5 +1.0**
	comp=Z,52nm,1.6s							
U48A	**Cassie Pea, Po**	**95.87**	**36**	P		**P**		**10 42 13.7 +0.4**
	baz=323							
V47A	**Nunnelly**	**95.93**	**37**	P		**P**		**10 42 14.1 +0.5**
	baz=323,SNR=6.6							
OXF	**Oxford**	**96.01**	**39**	P		**P**		**10 42 14.4 +0.4**
	baz=321							
OXF	**Oxford**	**96.01**	**39**	*e*P		**P**		**10 42 13.9 -0.1**
	comp=Z,40nm,1.4s							
OXF	**Oxford**	**96.01**	**39**	*e*P		**P**		**10 42 13.9 -0.1**
OXF				pmax		pmax		
	comp=Z,40nm,1.4s							
X45A	**UM Field Stati**	**96.09**	**40**	P		**P**		**10 42 15.4 +1.1**
	baz=321							
SSPA	**Standing Stone**	**96.22**	**28**	P		**P**		**10 42 15.3 +0.5**
	baz=330							
SSPA	**Standing Stone**	**96.22**	**28**	*e*P		**P**		**10 42 15.7 +0.9**
	comp=Z,23nm,1.3s							
O56A	**Blue Knob Stat**	**96.27**	**29**	P		**P**		**10 42 16.0 +0.9**
	baz=329,SNR=5.4							
O56A	**Blue Knob Stat**	**96.27**	**29**	*e*P		**P**		**10 42 15.1 0.0**
	comp=Z,13nm,0.8s							
MCWV	**Mont Chateau**	**96.27**	**30**	P		**P**		**10 42 16.6 +1.5**
	baz=328,SNR=5.1							
MCWV	**Mont Chateau**	**96.27**	**30**	*e*P		**P**		**10 42 15.4 +0.3**
	comp=Z,31nm,1.1s							
V48A	**Smith Brothers**	**96.35**	**37**	P		**P**		**10 42 15.8 +0.2**
	baz=323							
W47A	**Westpoint**	**96.35**	**38**	P		**P**		**10 42 16.0 +0.5**
	baz=323							
KVTX	**Kingsville**	**96.36**	**50**	PFAKE				10 42 30.0 +14
KVTX				LR		LR		
	comp=Z,1µm,19.0s							
341A	**Kurthwood**	**96.40**	**44**	P		**P**		**10 42 16.1 +0.3**
	baz=319							
Z44A	**Pea Ridge, Bel**	**96.43**	**41**	P		**P**		**10 42 16.9 +1.0**
	baz=321							
Y45A	**Yeager Farm, C**	**96.44**	**40**	P		**P**		**10 42 17.0 +1.0**
	baz=321							
ZAIG	**Zacatecas**	**96.66**	**56**	*e*P		**P**		**10 42 18.3 +0.8**
Z45A	**Winona**	**96.75**	**40**	P		**P**		**10 42 18.4 +1.1**
	baz=321							
W48A	**Pulaski**	**96.77**	**37**	P		**P**		**10 42 17.8 +0.4**
	baz=323,SNR=5.3							
N59A	**State Game Lan**	**96.78**	**27**	P		**P**		**10 42 18.6 +1.2**
	baz=331,SNR=5.3							
N59A	**State Game Lan**	**96.78**	**27**	*e*P		**P**		**10 42 17.8 +0.4**
	comp=Z,18nm,1.0s							
Y46A	**Houston**	**96.78**	**40**	P		**P**		**10 42 18.5 +0.9**
	baz=322							
X47A	**Russelville**	**96.80**	**38**	P		**P**		**10 42 18.1 +0.5**
	baz=322							
SWET	**Sewanee**	**97.20**	**37**	*e*P		Pdif		10 42 20.2 +0.7
	comp=Z,26nm,1.2s							
145A	**Houston Renfro**	**97.21**	**41**	P		Pdif		10 42 20.6 +1.1
	baz=321							
244A	**Avery, Jackson**	**97.24**	**42**	P		Pdif		10 42 20.1 +0.4
	baz=320,SNR=5.2							
LNIG	**Linares**	**97.24**	**52**	*e*P		Pdif		10 42 20.7 +0.9
	comp=Z,37nm,1.6s							
TZTN	**Tazewell**	**97.25**	**34**	P		Pdif		10 42 20.5 +0.7
	baz=325,SNR=5.5							
TZTN	**Tazewell**	**97.25**	**34**	*e*P		Pdif		10 42 20.3 +0.6
	comp=Z,32nm,1.3s							
X48A	**Hartselle**	**97.26**	**38**	P		Pdif		10 42 20.2 +0.5
	baz=323							
PBRG	**Braganca**	**97.27**	**336**	*e*P		Pdif		10 42 19.8 +0.1
X49A	**Woodville**	**97.57**	**37**	P		Pdif		10 42 21.4 +0.3
	baz=323							
PGAV	**Gavieira, Arco**	**97.62**	**337**	*e*LQ		LQ		11 09 34.6
PGAV				*e*LR		LR		11 15 18.3
	comp=Z,1µm,20.0s							
344A	**Westbrook Farm**	**97.66**	**42**	P		Pdif		10 42 21.6 0.0
	baz=320							
CPCT	**Cooper Cave**	**97.69**	**36**	*e*P		Pdif		10 42 22.2 +0.6
PCAB	**Cabril**	**97.77**	**337**	*e*PcP		**PcP**		**10 42 22.9 +0.9**
PCAB	**Cabril**	**97.77**	**337**	*e*PP		PP		10 46 20.1 +0.8
TKL	**Tuckaleechee C**	**97.87**	**35**	P		Pdif		10 42 22.9 +0.4
	comp=Z,14nm,1.0s,baz=118,slow=2.0,SNR=11							
TKL				LR		LR		11 26 06.8
	comp=Z,572nm,21.6s,baz=330,slow=35							
TKL	**Tuckaleechee C**	**97.87**	**35**	*e*P		Pdif		10 42 23.1 +0.7
	comp=Z,16nm,1.0s							
TKL	**Tuckaleechee C**	**97.87**	**35**	*e*P		Pdif		10 42 23.2 +0.7
TKL				pmax		pmax		
	comp=Z,16nm,1.0s							
MVO	**Moncorvo**	**97.94**	**336**	*e*P		Pdif		10 42 23.2 +0.5
MVO	**Moncorvo**	**97.94**	**336**	*e*LQ		LQ		11 11 58.1
MVO				*e*LR		LR		11 16 31.3
	comp=Z,1µm,20.0s							
POLO	**Lamas de Olo**	**98.00**	**337**	*e*P		Pdif		10 42 23.5 +0.5
PVRL	**Vila Real**	**98.07**	**336**	*e*P		Pdif		10 42 24.2 +0.9
BLA	**Blacksburg**	**98.09**	**32**	P		Pdif		10 42 24.2 +0.7
	baz=328							
BLA	**Blacksburg**	**98.09**	**32**	*e*P		Pdif		10 42 23.5 +0.1
	comp=Z,16nm,1.0s							
BLA				LR		LR		
	comp=Z,1µm,22.0s							
BLA	**Blacksburg**	**98.09**	**32**	*e*P		Pdif		10 42 23.5 0.0
BLA				pmax		pmax		
	comp=Z,16nm,1.0s							
BLA				MLR		MLR		
	comp=Z,1µm,22.0s							
ES19	**SONSECA Array**	**98.14**	**333**	*e*P		**P**		**10 42 23.4 -0.2**
ESDC	**Sonseca Array**	**98.19**	**333**	P		**P**		**10 42 23.5 -0.3**
	comp=Z,3.5nm,0.9s,baz=15,slow=5.1,SNR=14							
ESDC				PP		**PP**		**10 46 18.7 -3.9**
	comp=Z,2.6nm,0.8s,baz=22,slow=7.6,SNR=6.3							
ESDC				LR		LR		11 32 19.6
	comp=Z,1µm,18.7s,baz=20,slow=39							
Y50A	**Piedmont**	**98.36**	**37**	P		Pdif		10 42 25.0 +0.3
	baz=324							
PAB	**San Pablo**	**98.44**	**333**	*e*P		Pdif		10 42 25.7 +0.7
	comp=Z,44nm,1.8s							
PAB				LR		LR		
	comp=Z,1µm,20.0s							
PAB	**San Pablo**	**98.44**	**333**	*e*P		Pdif		10 42 25.7 +0.7
PAB				pmax		pmax		
	comp=Z,44nm,1.8s							
PAB				MLR		MLR		
	comp=Z,1µm,20.0s							
CBN	**Corbin Frederi**	**98.51**	**29**	PFAKE				10 42 40.0 +15
CBN				LR		LR		
	comp=Z,1µm,22.0s							
PVIS	**Viseu**	**98.63**	**336**	*e*P		Pdif		10 42 26.8 +1.0
PVIS	**Viseu**	**98.63**	**336**	*e*PP		PP		10 46 27.8 +1.9
Z50A	**Ashland**	**98.78**	**38**	P		Pdif		10 42 26.9 +0.3
	baz=324							
MTE	**Manteigas**	**98.80**	**336**	*e*LQ		LQ		11 12 06.3
MTE				*e*LR		LR		11 16 40.3
	comp=Z,1µm,20.0s							
MTE	**Manteigas**	**98.80**	**336**	PFAKE				10 42 40.0 +13
MTE				LR		LR		
	comp=Z,1µm,21.0s							
BG3	**Lake Jocassee**	**98.81**	**35**	*e*P		Pdif		10 42 27.9 +1.2
	comp=Z,12nm,0.8s							
149A	**Jones**	**98.86**	**39**	P		Pdif		10 42 28.4 +1.5
	baz=323							
RKT	**Rikitea**	**98.88**	**112**	*e*SP		SP		10 55 18.3 -1.5
	comp=Z,862nm,36.5s							
RKT	**Rikitea**	**98.88**	**112**	*e*LR		LR		11 14 41.2
	comp=Z,5µm,27.8s,baz=306							
347A	**Saraland**	**98.89**	**41**	P		Pdif		10 42 28.6 +1.6
	baz=322							
KMSC	**Kings Mountain**	**99.42**	**34**	*e*P		**Pdif**		**10 42 29.9 +0.6**
	comp=Z,16nm,1.2s							
PMRV	**Marv??o**	**99.62**	**335**	*e*P		**Pdif**		**10 42 31.3 +1.1**
PMRV	**Marv??o**	**99.62**	**335**	*e*PP		PP		10 46 37.7 +4.3
PMRV	**Marv??o**	**99.62**	**335**	*e*LR		LR		11 16 26.9
	comp=Z,1µm,20.0s							
GOGA	**Godfrey**	**99.86**	**36**	PFAKE				10 42 40.0 +8.7
GOGA				LR		LR		
	comp=Z,1µm,22.0s							
BRAL	**Brewton**	**99.86**	**40**	PFAKE				10 42 40.0 +8.7
BRAL				LR		LR		
	comp=Z,698nm,20.0s							
EVO	**Evora**	**100.64**	**335**	*e*P		**Pdif**		**10 42 35.2 +0.5**
EVO	**Evora**	**100.64**	**335**	*e*PP		PP		10 46 43.8 +2.7
CNNC	**Cliffs of the**	**100.84**	**31**	PFAKE				10 42 50.0 +14
CNNC				LR		LR		
	comp=Z,1µm,22.0s							
PNCL	**Nicolau / Gran**	**101.19**	**336**	*e*P		**Pdif**		**10 42 37.7 +0.6**
KMBO	**Kilima Mbogo**	**101.47**	**277**	P		**Pdif**		**10 42 39.5 +0.4**
	comp=Z,0.9nm,0.3s,baz=66,slow=20,SNR=2.9							
KMBO				PP		PP		10 46 41.1 -8.2
	comp=Z,1.4nm,0.6s,baz=58,slow=7.4,SNR=4.0							
KMBO	**Kilima Mbogo**	**101.47**	**277**	P		**Pdif**		**10 42 39.5 +0.4**
KMBO				PP		PP		10 46 41.1 -8.2
KMBO				LR		LR		
	comp=Z,1µm,21.0s							
PVAQ	**Vaqueiros**	**101.55**	**335**	*e*LR		LR		11 17 49.3
	comp=Z,1µm,20.0s							
NHSC	**New Hope**	**101.65**	**34**	PFAKE				10 42 50.0 +11
NHSC				LR		LR		
	comp=Z,2µm,21.0s							
**AB

SJG	**San Juan**	**120.80**	**30**	PFAKE		10 47 50.0	+11
SJG				LR	LR		
	comp=Z,708nm,21.0s						
BCIP	**Isla Barro Col**	**121.34**	**49**	PFAKE		10 47 50.0	+10
BCIP				LR	LR		
	comp=Z,550nm,20.0s						
ANWB	**Willy Bob**	**122.86**	**26**	PFAKE		10 48 00.0	+17
ANWB				LR	LR		
	comp=Z,928nm,22.0s						
LBTB	**Lobatse**	**123.79 262**		*e*PKPdf	**PKPdf**	**10 47 45.3**	**+0.6**
LBTB	**Lobatse**	**123.79 262**		*e*PKIKP	**PKPdf**	**10 47 45.3**	**+0.6**
BBTS	**Babate**	**125.43 332**		PKP	**PKPdf**	**10 47 48.5**	**+0.5**
	comp=Z,24nm,0.6s,baz=311,slow=3.7,SNR=3.9						
QSPA	**South Pole Qui**	**125.43 180**		PKP	**PKPdf**	**10 47 46.1**	**-0.4**
	comp=Z,47nm,0.9s,baz=316,slow=2.0,SNR=66						
QSPA	**South Pole Qui**	**125.43 180**		*e*PKPdf	**PKPdf**	**10 47 46.7**	**+0.2**
QSPA				LR	LR		
	comp=Z,1μm,19.0s						
BOSA	**Boshof**	**125.65 258**		PKP	**PKPdf**	**10 47 47.9**	**-0.4**
	comp=Z,11nm,0.9s,baz=71,slow=2.0,SNR=14						
BOSA	**Boshof**	**125.65 258**		*e*PKPdf	**PKPdf**	**10 47 48.3**	**0.0**
BOSA	**Boshof**	**125.65 258**		*e*PKIKP	**PKPdf**	**10 47 48.3**	**0.0**
FDF	**Fort de France**	**125.80**	**26**	PFAKE		10 48 00.0	+11
FDF				LR	LR		
	comp=Z,1μm,22.0s						
SYO	**Syowa Base**	**126.70 206**⇑		*e*Pdiff	**Pdif**	**10 44 30.5**	**+0.9**
SYO	**Syowa Base**	**126.70 206**⇑		*e*PKPdf	**PKPdf**	**10 47 47.6**	**-1.2**
DBIC	**Dimbokro**	**126.79 315**		PKP	**PKPdf**	**10 47 50.4**	**-0.4**
	comp=Z,19nm,1.0s,baz=83,slow=2.9,SNR=13						
DBIC				PP	**PP**	**10 49 42.4**	**-4.9**
	comp=Z,14nm,1.0s,baz=23,slow=5.6,SNR=4.2						
DBIC	**Dimbokro**	**126.79 315**		*e*PKPdf	**PKPdf**	**10 47 50.9**	**+0.2**
DBIC				PP	**PP**	**10 49 42.4**	**-4.9**
DBIC	**Dimbokro**	**126.79 315**		*e*PKIKP	**PKPdf**	**10 47 50.9**	**+0.2**
SDV	**Santo Domingo**	**126.79**	**40**	PKP	**PKPdf**	**10 47 50.9**	**-0.1**
	comp=Z,45nm,0.9s,baz=60,slow=1.8,SNR=45						
SDV	**Santo Domingo**	**126.79**	**40**	*e*PKPdf	**PKPdf**	**10 47 51.4**	**+0.5**
SDV				LR	LR		
	comp=Z,505nm,20.0s						
TIC	**Toumodi**	**126.90 315**		*e*PKIKP	**PKPdf**	**10 47 51.1**	**+0.1**
KIC	**Kosan Boka**	**126.97 315**		*e*PKIKP	**PKPdf**	**10 47 51.2**	**+0.1**
	comp=Z,77nm,1.1s						
LIC	**Lamto**	**127.25 315**		*e*PKIKP	**PKPdf**	**10 47 51.5**	**-0.1**
	comp=Z,98nm,1.2s						
TSUM	**Tsumeb**	**127.50 272**		*e*PKPdf	**PKPdf**	**10 47 52.9**	**+0.9**
TSUM				LR	LR		
	comp=Z,905nm,20.0s						
RUSC	**La Rusia**	**127.94**	**44**	*e*PKPdf	**PKPdf**	**10 47 54.1**	**+0.6**
GRGR	**Grenville**	**128.00**	**28**	PFAKE		10 48 10.0	+17
GRGR				LR	LR		
	comp=Z,734nm,21.0s						
ROSC	**El Rosal**	**128.07**	**46**	PKP	**PKPdf**	**10 47 54.9**	**+1.2**
	comp=Z,10nm,0.7s,baz=192,slow=1.2,SNR=13						
ROSC	**El Rosal**	**128.07**	**46**	*e*PKPdf	**PKPdf**	**10 47 55.4**	**+1.7**
PCRV	**Puerto La Cruz**	**128.54**	**32**	PKP	**PKPdf**	**10 47 53.4**	**-0.7**
	comp=Z,14nm,0.8s,baz=297,slow=6.8,SNR=4.5						
PRAC	**Prado**	**128.63**	**48**	*e*PKPdf	**PKPdf**	**10 47 55.3**	**+1.0**
OTAV	**Otavalo**	**129.05**	**54**	*e*PKPdf	**PKPdf**	**10 47 56.5**	**+0.9**
OTAV				LR	LR		
	comp=Z,862nm,20.0s						
OTAV	**Otavalo**	**129.05**	**54**	PKIKP	**PKPdf**	**10 47 56.5**	**+0.9**
SUR	**Sutherland**	**130.65 256**		PFAKE		10 48 10.0	+12
SUR				LR	LR		
	comp=Z,2μm,19.0s						
NVL	**N'lazarevskaya**	**135.79 202**⇑		*i*PKHKP	PKPpre	10 47 52.1	
NVL				*i*		10 48 07.2	
NVL				MLR	MLR		
	comp=Z,572nm,18.0s						
SNAA	**Sanae**	**139.27 197**		PKP	PKPpre	10 48 01.7	
SNAA	**Sanae**	**139.27 197**		PKhKP	PKPpre	10 48 01.9	
	comp=Z,14nm,1.1s,baz=97,slow=5.0,SNR=19						
SNAA				PP	**PP**	**10 51 01.2**	**-5.6**
	comp=Z,4.8nm,1.0s,baz=323,slow=5.1,SNR=3.5						
PTGA	**Pitinga**	**140.32**	**33**	*e*PKPpre	PKPpre	10 48 08.2	
VNA2	**Neumayer--Watz**	**140.84 196**		PKP	PKPpre	10 48 08.0	
	baz=99,slow=2.5						
VNA3	**Neumayer Olymp**	**141.09 195**		PKP	PKPpre	10 48 09.9	
VNA1	**Neumayer--Stat**	**141.24 196**		PKP	PKPpre	10 48 10.2	
ASCN	**Ascension**	**144.10 314**		PFAKE		10 48 30.0	+7.2
ASCN				LR	LR		
	comp=Z,969nm,19.0s						
SHEL	**Horse Pasture**	**144.13 294**		*e*PKPdf	PKPbc	10 48 21.8	+0.9
SHEL	**Horse Pasture**	**144.13 294**		*e*PKIKP	**PKPdf**	**10 48 21.8**	**-1.0**
SAML	**Samuel**	**145.68**	**45**	*e*PKPdf	**PKPbc**	**10 48 25.7**	**-0.1**
SAML				LR	LR		
	comp=Z,635nm,22.0s						
LPAZ	**La Paz**	**147.95**	**60**	PKPbc	**PKPbc**	**10 48 32.0**	**-1.0**
	comp=Z,56nm,0.8s,baz=349,slow=3.8,SNR=60						
LPAZ	**La Paz**	**147.95**	**60**	*e*PKPdf	**PKPbc**	**10 48 31.5**	**-1.6**
LPAZ				*e*PKPbc	**PKiKP**	**10 48 34.5**	**-0.5**
MNMC	**Minye Minye**	**148.72**	**66**	*e*PKPdf	**PKPbc**	**10 48 33.0**	**-1.5**
MNMC				*e*PKPbc	**PKiKP**	**10 48 36.6**	**+0.6**
PB11	**IPOC Station P**	**149.05**	**67**	*e*PKPdf	**PKPbc**	**10 48 33.5**	**-1.7**
PB01	**IPOC Station P**	**149.94**	**69**	*e*PKPdf	**PKPdf**	**10 48 31.5**	**-0.9**
PB01				*e*PKPbc	**PKPbc**	**10 48 36.7**	**-0.6**
RCBR	**Riachuelo**	**150.11 353**		*e*PKPbc	**PKPbc**	**10 48 37.9**	**0.0**
RCBR				LR	LR		
	comp=Z,19μm,21.0s						
PB04	**IPOC Station P**	**150.15**	**72**	*e*PKPbc	**PKPbc**	**10 48 38.5**	**+0.5**
CHRN	**Cochrane**	**152.80 125**		*e*PKPbc	**PKPbc**	**10 48 44.0**	**+1.0**
LCO	**Las Campanas**	**152.83**	**85**	*e*PKPdf	**PKPdf**	**10 48 38.4**	**+1.6**
LCO				*e*PKPbc	**PKPbc**	**10 48 45.4**	**+1.4**
LCO				LR	LR		
	comp=Z,671nm,19.0s						
LCO	**Las Campanas**	**152.83**	**85**	*i* P	**PKPbc**	**10 48 45.5**	**+1.4**
GO05	**HualaæØ**	**153.54**	**98**	*e*PKPbc	**PKPbc**	**10 48 46.0**	**+0.8**
YJA	**Yavi**	**153.59**	**66**	*i* P	**PKPdf**	**10 48 40.7**	**+2.4**
ROC1	**El Roble**	**153.83**	**93**	*e*PKPdf	**PKPdf**	**10 48 38.7**	**+0.6**
ROC1				*e*PKPbc	**PKiKP**	**10 48 46.7**	**+0.5**
PEL	**Peldehue**	**154.14**	**93**	*e*PKPdf	**PKPdf**	**10 48 39.1**	**+0.8**
PEL				*e*PKPbc	**PKiKP**	**10 48 47.6**	**+1.0**
PEL	**Peldehue**	**154.14**	**93**	*e*PKIKP	**PKPdf**	**10 48 39.1**	**+0.8**
AROD	**Rodeo**	**154.24**	**86**	*i* P	**PKPdf**	**10 48 40.6**	**+1.7**
ACDV	**Cuesta del Vie**	**154.53**	**86**	*i* P	**PKPdf**	**10 48 40.9**	**+1.8**
VCA	**Vinchina**	**154.74**	**82**	*i* P	**PKPdf**	**10 48 41.3**	**+1.9**
AGUA	**GUANDACOL**	**154.80**	**84**	*i* P	**PKPdf**	**10 48 41.1**	**+1.7**
RTLS	**Leoncito**	**154.91**	**90**	*i* P	**PKPdf**	**10 48 40.9**	**+1.2**
AUSP	**Uspallata**	**154.96**	**91**	*i* P	**PKPdf**	**10 48 41.1**	**+1.3**
PLCA	**Paso Flores**	**155.10**	**111**	PKP	**PKPdf**	**10 48 40.0**	**+0.5**
	comp=Z,6.2nm,1.1s,baz=283,slow=5.0,SNR=5.8						
PLCA				PKPbc	PKPbc	10 48 49.7	
	comp=Z,4.9nm,0.9s,baz=265,slow=2.5,SNR=7.7						
PLCA	**Paso Flores**	**155.10 111**		*e*PKPdf	**PKPdf**	**10 48 40.6**	**+1.1**
PLCA				*e*PKPbc	PKPbc	10 48 48.5	
PLCA	**Paso Flores**	**155.10 111**		*e*PKIKP	**PKPdf**	**10 48 40.6**	**+1.1**
AMOG	**MOGNA**	**155.30**	**87**	*i* P	**PKPdf**	**10 48 41.1**	**+1.1**
ASAL	**Salagasta**	**155.50**	**91**	*i* P	**PKPdf**	**10 48 41.2**	**+0.9**
RTCV	**Cerro Valdivia**	**155.54**	**89**	*i* P	**PKPdf**	**10 48 41.0**	**+0.7**
AAGR	**Agrelo**	**155.64**	**92**	*i* P	**PKPdf**	**10 48 41.5**	**+1.1**
CYA	**Choya**	**156.55**	**79**	*i* P	**PKPdf**	**10 48 42.8**	**+1.1**
APLL	**PUNTA DE LOS L**	**156.71**	**85**	*i* P	**PKPdf**	**10 48 41.9**	**0.0**
ACAN	**Cantantal**	**156.76**	**90**	*i* P	**PKPdf**	**10 48 42.4**	**+0.5**
EFI	**East Falkland**	**159.19 146**		PFAKE		10 49 00.0	+16
EFI				LR	LR		
	comp=Z,1μm,21.0s						
HOPE	**Hope Point**	**161.29 185**		PFAKE		10 49 00.0	+14
HOPE				LR	LR		
	comp=Z,638nm,19.0s						
TRQA	**Tornquist**	**161.81 104**		*e*PKPdf	**PKPdf**	**10 48 47.7**	**+0.2**
TRQA				*e*PKPab	**PKPab**	**10 49 35.2**	**+1.9**
TRQA				LR	LR		
	comp=Z,3μm,21.0s						
CPUP	**Villa Florida**	**162.06**	**64**	PKP	**PKPdf**	**10 48 46.7**	**-1.4**
	comp=Z,6.0nm,1.0s,baz=44,slow=4.1,SNR=6.4						
SPB	**Sao Paulo**	**166.09**	**32**	PFAKE		10 49 00.0	+8.2
SPB				LR	LR		
	comp=Z,2μm,21.0s						

*IDC **29** 10:39:39.1±0.8, 19.°63N × 121.°54E, h0km, mb3.8/14, mb1 4.0/16, mb1mx3.8/73, mbtmp3.8/16, ML3.6/2, Error ellipse: s-maj=21.1km s-min=16.2km az=84.0*
*ISCJB **29** 10:39:44.3±0.4, 19.°69N±0.°05 × 121.°51E±0.°08, h52km, mb3.9/21, Error ellipse: s-maj=10.8km s-min=6.6km az=5.2*
*NEIC **29** 10:39:44.5±0.9, 19.°65N × 121.°54E, h37km±8km, mb4.4/9, Error ellipse: s-maj=8.3km s-min=6.1km az=98.0*

ISC 29 10:39:46.1±0.7, 19.°69N±0.°09 × 121.°5E±0.°1, h52km, n43, σ0s 91/41, mb3.9/21, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPUB	**Ta-pu**	**3.69**	**347**	*e*Pn	**Pn**	**10 40 39.3**	**-1.2**
YULB	**Yu-li**	**3.69**	**357**	*e*Pn	**Pn**	**10 40 38.6**	**-1.9**
SSLB	**Suanglung**	**4.11**	**353**	*e*Pn	**Pn**	**10 40 45.8**	**-0.6**
NACB	**Ninganchiao**	**4.46**	**1**	*e*Pn	**Pn**	**10 40 50.3**	**-0.8**
JNU	**Nakatsue**	**15.76**	**30**	Pn	**Pn**	**10 43 25.2**	**+0.5**
	0.1nm,0.3s,baz=28,slow=17,SNR=2.2						
KS15	**Wonju Array Si**	**18.53**	**16**	*e*P	**P**	**10 43 58.5**	**+0.2**
KS15				*e*pP	**pP**	**10 44 09.2**	**-0.8**
KSAR	**Wonju Array Be**	**18.53**	**16**	P	**P**	**10 43 58.2**	**0.0**
KSRS	**Korea Array**	**18.55**	**16**	P	**P**	**10 43 58.2**	**-0.2**
	0.4nm,0.3s,baz=198,slow=11,SNR=20						
SBUM	**Sibu**	**19.41**	**209**	*e*P	**P**	**10 44 07.7**	**-0.3**
	15nm,1.1s						
INU	**Inuyama**	**20.73**	**38**	*e*P	**P**	**10 44 20.0**	**-2.3**
	15nm,1.1s						
CMAR	**Chiang Mai Arr**	**21.39**	**270**	P	**P**	**10 44 29.9**	**+0.4**
	0.5nm,0.3s,baz=76,slow=9.6,SNR=4.0						
MAJO	**Matsushiro**	**22.26**	**38**	*e*P	**P**	**10 44 40.0**	**+1.3**
MJAR	**Matsushiro Arr**	**22.26**	**38**	P	**P**	**10 44 40.0**	**+1.3**
	0.7nm,0.7s,baz=223,slow=6.8,SNR=3.7						
USRK	**Ussuriysk Ar.**	**25.95**	**17**	P	**P**	**10 45 14.7**	**+1.1**
	0.8nm,0.6s,baz=120,slow=11,SNR=3.2						
PSI	**Prapat**	**27.74**	**236**	*e*P	**P**	**10 45 29.9**	**-0.2**
	8.1nm,1.1s						
ASAJ	**Asahikawa**	**30.04**	**31**	P	**P**	**10 45 49.7**	**-0.4**
	4.1nm,0.8s,baz=343,slow=19,SNR=2.1						
ASAJ	**Asahikawa**	**30.04**	**31**	*e*P	**P**	**10 45 49.3**	**-0.7**
	11nm,1.2s						
KLR	**Kul'dur**	**30.59**	**13**	P	**P**	**10 45 55.4**	**+0.6**
	0.1nm,0.5s,baz=323,slow=15,SNR=2.3						
SONA0	**Songino Array**	**30.65**	**340**	*e*P	**P**	**10 45 55.2**	**-0.4**
SONM	**Songino Array**	**30.65**	**340**	P	**P**	**10 45 55.2**	**-0.4**
	1.1nm,0.8s,baz=155,slow=14,SNR=2.9						
WR1	**Warramunga Arr**	**41.34**	**162**	*e*P	**P**	**10 47 26.1**	**-1.0**
	19nm,1.3s						
WRA	**Warramunga Arr**	**41.34**	**162**	P	**P**	**10 47 26.1**	**-1.0**
	1.8nm,0.5s,baz=344,slow=9.3,SNR=8.8						
WB2	**Warramunga Arr**	**41.35**	**162**	*e*P	**P**	**10 47 27.3**	**+0.2**
	22nm,1.4s						
MK01	**Makanchi Array**	**41.84**	**319**	*e*P	**P**	**10 47 31.1**	**+0.2**
MK32	**Makanchi Array**	**41.86**	**319**	*e*P	**P**	**10 47 31.3**	**+0.2**
MKAR	**Makanchi Array**	**41.86**	**319**	P	**P**	**10 47 31.3**	**+0.2**
	1.6nm,0.8s,baz=113,slow=8.4,SNR=5.3						
H11N1	**WAKE ISLAND Hy**	**42.60**	**82**	T	T	11 33 20.2	
	baz=278,slow=74,SNR=17						
H11N2	**WAKE ISLAND Hy**	**42.60**	**82**	T	T	11 33 23.9	
	baz=278,slow=74,SNR=12						
H11N3	**WAKE ISLAND Hy**	**42.62**	**82**	T	T	11 33 20.6	
	baz=278,slow=74,SNR=12						
ZALV	**Zalesovo Beam**	**44.22**	**330**	P	**P**	**10 47 51.7**	**+1.8**
	0.6nm,0.5s,baz=100,slow=8.1,SNR=2.0						
ZAA1	**Zalesovo Array**	**44.22**	**330**	*e*P	**P**	**10 47 51.7**	**+1.7**
AS31	**Alice Springs**	**44.75**	**164**	*e*P	**P**	**10 47 54.5**	**0.0**
	3.3nm,1.4s						
ASAR	**Alice Springs**	**44.75**	**164**	P	**P**	**10 47 54.5**	**-0.1**
	1.5nm,0.7s,baz=342,slow=6.8,SNR=11						
KURK	**Kurchatov**	**45.79**	**323**	*e*P	**P**	**10 48 02.4**	**-0.1**
KURBB	**Kurchatov Arra**	**45.80**	**323**	P	**P**	**10 48 02.4**	**-0.2**
	1.7nm,0.7s,baz=122,slow=7.5,SNR=5.9						
BVAR	**Borovoye Array**	**51.39**	**323**	P	**P**	**10 48 45.4**	**-0.1**
	0.5nm,0.5s,baz=98,slow=9.2,SNR=2.9						
CAST	**Castle Rocks**	**70.98**	**28**	*e*P	**P**	**10 50 59.8**	**+1.8**
	2.7nm,0.9s						
GHO	**Glory Hole Cre**	**72.64**	**30**	*e*P	**P**	**10 51 08.6**	**+0.5**
	20nm,1.5s						
ILAR	**Eielson Array**	**73.05**	**27**	P	**P**	**10 51 09.8**	**-0.5**
	0.2nm,0.7s,baz=286,slow=6.5,SNR=3.0						
FIA0	**FINESS Array S**	**75.48**	**330**	*e*P	**P**	**10 51 24.5**	**+0.1**
FINES	**FINESS Array B**	**75.48**	**330**	P	**P**	**10 51 24.5**	**+0.1**
	1.5nm,0.8s,baz=113,slow=6.7,SNR=2.8						
YKA	**Yellowknife Ar**	**86.97**	**23**	P	**P**	**10 52 25.5**	**+0.2**
	0.4nm,0.7s,baz=310,slow=4.7,SNR=8.9						
SDV	**Santo Domingo**	**149.18**	**24**	PKPbc	**PKPbc**	**10 59 30.7**	**+0.7**
	3.4nm,0.8s,baz=254,slow=2.9,SNR=4.4						

*CSEM **29** 10:40:29.6, 38.°17N × 21.°72E, h28km, ML1.7/1*
ATH 29 10:40:29.6, 38.°17N × 21.°72E, h28km±3km, ML1.7/11, Error ellipse: s-maj=3.1km s-min=1.0km az=148.0, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRO	**Drossia**	**0.21**	**181**	P	Pb	10 40 35.8	0.0
DRO				S	Sb	10 40 40.0	+0.1
DRO				AML	AML	10 40 40.5	
	comp=E,668μm,0.3s						
DRO				AML	AML	10 40 40.6	
	comp=N,908μm,0.3s						
DRO	**Drossia**	**0.21**	**181**	P	Pb	10 40 35.8	0.0
DRO				S	Sb	10 40 40.2	+0.2
LAKA	**Lakka**	**0.22**	**70**	P	Pb	10 40 35.6	-0.3
LAKA				S	Sb	10 40 39.4	-0.8
LAKA				AML	AML	10 40 40.2	
	comp=E,167μm,0.1s						
LAKA				AML	AML	10 40 40.8	
	comp=N,81μm,0.1s						
LAKA	**Lakka**	**0.22**	**70**	P	Pb	10 40 35.8	-0.1
LAKA				S	Sb	10 40 40.0	-0.2
RLS	**Riolos of Patr**	**0.22**	**242**	P	Pb	10 40 35.5	-0.4
RLS				S	Sb	10 40 39.8	-0.4
RLS				AML	AML	10 40 40.4	
	comp=N,799μm,0.2s						
RLS				AML	AML	10 40 40.6	
	comp=E,364μm,0.2s						
RLS	**Riolos of Patr**	**0.22**	**242**	P	Pb	10 40 35.8	-0.1
RLS				S	Sb	10 40 40.2	+0.1
EFP	**Efpalio**	**0.30**	**30**	P	Pb	10 40 37.0	+0.1
EFP				S	Sb	10 40 41.9	0.0
EFP				AML	AML	10 40 42.4	
	comp=E,289μm,0.4s						
EFP				AML	AML	10 40 42.7	
	comp=N,191μm,0.3s						
EFP	**Efpalio**	**0.30**	**30**	P	Pb	10 40 37.0	0.0
EFP				S	Sb	10 40 42.1	+0.2
TRIZ	**Trizonia**	**0.35**	**54**	P	Pb	10 40 37.9	+0.3
TRIZ				S	Sn	10 40 44.3	-0.5
TRIZ	**Trizonia**	**0.35**	**54**	P	Pb	10 40 37.8	+0.2
TRIZ				S	Sn	10 40 43.9	-0.9
KLV	**Kalavryta, Ach**	**0.36**	**109**	P	Pb	10 40 38.4	+0.5
KLV				S	Sb	10 40 44.3	+0.8
KLV				AML	AML	10 40 44.8	
	comp=E,128μm,0.2s						
KLV				AML	AML	10 40 45.9	
	comp=N,95μm,0.2s						
KLV	**Kalavryta, Ach**	**0.36**	**109**	P	Pb	10 40 38.2	+0.3
KLV				S	Sb	10 40 44.2	+0.7
KALE	**Kalithea**	**0.40**	**56**	P	Pb	10 40 38.8	+0.2
KALE				AML	AML	10 40 45.9	
	comp=E,209μm,0.4s						
KALE				AML	AML	10 40 45.9	
	comp=N,305μm,0.5s						
KALE				S	Sn	10 40 46.2	-0.2
KALE	**Kalithea**	**0.40**	**56**	P	Pb	10 40 38.7	+0.2
KALE				S	Sn	10 40 45.7	-0.7
ANX	**Ano Chora**	**0.46**	**21**	P	Pb	10 40 39.7	+0.3
ANX				S	Sn	10 40 47.4	-0.4
ANX				AML	AML	10 40 47.7	
	comp=E,224μm,0.6s						
ANX				AML	AML	10 40 48.0	
	comp=N,198μm,0.5s						
ANX	**Ano Chora**	**0.46**	**21**	P	Pb	10 40 39.6	+0.2
ANX				S	Sn	10 40 47.0	-0.8
PVO	**Paravola**	**0.47**	**342**	P	Pb	10 40 39.4	-0.2
PVO	**Paravola**	**0.47**	**342**	P	Pb	10 40 39.6	0.0
GUR	**Goura**	**0.55**	**115**	P	Pb	10 40 41.2	+0.4
GUR				AML	AML	10 40 50.7	
	comp=E,488μm,0.3s						
GUR				S	Sn	10 40 52.0	+2.1
GUR				AML	AML	10 40 52.1	
	comp=N,615μm,0.3s						
GUR	**Goura**	**0.55**	**115**	P	Pb	10 40 41.0	+0.2
GUR				S	Sn	10 40 50.6	+0.7
PDO	**Prodromos**	**0.60**	**316**	P	Pn	10 40 42.1	-0.2
PDO				S	Sn	10 40 53.4	+2.2
PDO				AML	AML	10 40 53.5	
	comp=E,204μm,0.2s						
PDO				AML	AML	10 40 53.9	
	comp=N,351μm,0.3s						
PDO	**Prodromos**	**0.60**	**316**	P	Pb	10 40 42.0	+0.3
PDO				S	Sn	10 40 52.1	+0.9
DSF	**Desfina**	**0.69**	**69**	P	Pb	10 40 41.0	-2.0
DSF				S	Sn	10 40 52.9	-0.4
DSF				AML	AML	10 40 54.7	
	comp=N,62μm,0.3s						
DSF				AML	AML	10 40 55.7	
	comp=E,41μm,0.3s						
DSF	**Desfina**	**0.69**	**69**	P	Pb	10 40 42.2	-0.9
DSF				S	Sn	10 40 53.1	-0.2
KFL	**Anninata**	**0.73**	**266**	P	Pn	10 40 44.5	+0.4
KFL				AML	AML	10 40 59.4	
	comp=N,128μm,0.2s						
KFL				S	Sn	10 40 59.5	+5.1
KFL				AML	AML	10 41 01.6	
	comp=E,158μm,0.3s						
KFL	**Anninata**	**0.73**	**266**	P	Pn	10 40 44.4	+0.2
KFL				S	Sn	10 40 57.2	+2.8

*IDC **29** 10:40:32.4±1.4, 2.°25N × 123.°29E, h0km, mb4.0/5, mb1 4.1/5, mb1mx3.6/66, mbtmp4.0/5, Error ellipse: s-maj=207.4km s-min=20.8km az=62.0*
*ISCJB **29** 10:40:35.8±0.8, 2.°01N±0.°06 × 122.°6E±0.°1, h33km, mb3.8/5, Error ellipse: s-maj=15.9km s-min=8.3km az=11.6*
*DJA **29** 10:40:38.2±0.8, 2.°N±4 × 12.°2E±.°, h10km, M4.2/7, mb4.5/3, MLv4.1/7*

ISC 29 10:40:37.6±1.0, 2.°06N±0.°08 × 122.°64E±0.°08, h35km, n13, σ2s 16/16, mb3.9/5, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRSI	**Marisa**	**1.72**	**204**	P	**Pn**	**10 41 02.5**	**-2.5**
MRSI				S	**Sn**	**10 41 22.2**	**-3.6**
LUWI	**Luwuk**	**3.08**	**178**	P	**Pn**	**10 41 24.0**	**+0.2**
LUWI				S	**Sn**	**10 42 02.5**	**+3.0**
APSI	**Ampana**	**3.11**	**199**	P	**Pn**	**10 41 25.8**	**+1.6**
APSI				S	**Sn**	**10 42 00.4**	**+0.2**
MPSI	**Mapaga**	**3.23**	**238**	P	**Pn**	**10 41 23.2**	**-2.6**
PCI	**Palu**	**4.06**	**224**	P	**Pn**	**10 41 35.5**	**-1.8**
LBMI	**Labuha**	**5.55**	**119**	P	**Pn**	**10 41 54.6**	**-3.2**
TTSI	**Tana Toraja**	**5.80**	**209**	P	**Pn**	**10 42 00.2**	**-1.0**
	40nm,0.8s						
BNSI	**Bone**	**6.90**	**202**	P	**Pn**	**10 42 16.9**	**+0.6**
WRA	**Warramunga Arr**	**24.70**	**153**	P	**P**	**10 45 54.6**	**-1.0**
	2.6nm,0.9s,baz=333,slow=10,SNR=10						
ASAR	**Alice Springs**	**27.82**	**157**	P	**P**	**10 46 23.0**	**-0.9**
	0.6nm,0.7s,baz=331,slow=7.4,SNR=3.3						
MKAR	**Makanchi Array**	**56.69**	**328**	P	**P**	**10 50 19.1**	**+1.4**
	0.9nm,0.8s,baz=132,slow=8.8,SNR=4.1						
KURBB	**Kurchatov Arra**	**61.01**	**330**	P	**P**	**10 50 49.2**	**+1.7**
	0.3nm,0.2s,baz=134,slow=6.5,SNR=4.2						
AKTO	**Aktyubinsk**	**72.46**	**323**	P	**P**	**10 52 01.8**	**+1.2**
	1.4nm,0.7s,baz=158,slow=8.5,SNR=4.5						

*SOME **29** 10:41:21.9, 44.°63N × 82.°18E, h15km*
*NNC **29** 10:41:24.2±1.1, 44.°69N × 82.°07E, h0km, mb3.2, mpv2.8, Error ellipse: s-maj=16.7km s-min=2.6km az=117.0*

ISC 29 10:41:21.1±2.0, 44.°70N±0.°07 × 82.°1E±0.°1, h2km±14km, n10, σ0s 66/20, 2C-4D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DJR	**Jarkent**	**1.71**	**259**	*e*P	**Pg**	**10 41 53.9**	**0.0**
	14nm,0.2s						
DJR				*e*S	**Sg**	**10 42 17.0**	**+0.9**
	11nm,0.3s						
KTMS	**Ketmen**	**1.79**	**226**	*e*P	**Pg**	**10 41 55.4**	**0.0**
	13nm,0.2s						
KTMS				*e*S	**Sg**	**10 42 19.1**	**+0.6**
	19nm,0.4s						
MK31	**Makanchi Array**	**2.10**	**3**	⇓Pn	**Pg**	**10 42 01.1**	**-0.3**
	3.5nm,0.4s,baz=183,slow=13,SNR=244						
MK31				⇓Sn	**Sg**	**10 42 29.0**	**+0.4**
	2.9nm,0.3s,baz=184,slow=28,SNR=24						
MAKZ	**Makanchi**	**2.12**	**357**	⇑Pn	**Pb**	**10 42 00.5**	**+0.3**
	2.5nm,0.5s						
MAKZ				⇓Sn	**Sg**	**10 42 28.7**	**-0.3**
	5.9nm,0.4s						
PDGK	**Podgornoye**	**2.34**	**235**	⇑Pn	**Pb**	**10 42 03.6**	**-0.5**
	3.9nm,0.6s						
PDGK				⇓Sn	**Sb**	**10 42 33.9**	**+0.4**
	13nm,0.6s						
SHLS	**Shalkode**	**2

JOD2	Odawara 2	3.08	314	P	Pn	10 48 32.9	-1.6
JOD2				*e*S	Sn	10 49 08.4	-1.7
JYN	Shimob	3.57	312	P	Pn	10 48 40.8	-0.5
JRY	Ryogami san	3.73	321	P	Pn	10 48 42.2	-1.2
JRY				S	Sn	10 49 25.2	-0.9
MJAR	Matsushiro Arr	4.49	320	Pn	Pn	10 48 53.0	-0.9
	2.7nm,0.3s,baz=132,slow=37,SNR=42						
MJAR				Sn	Sn	10 49 44.0	-0.9
	3.8nm,0.3s,baz=268,slow=16,SNR=13						
MAT	Matsushiro	4.49	320	P	Pn	10 48 53.5	-0.4
MAT				S	Sn	10 49 44.3	-0.6
JCJ	Chichijima	6.04	177	Pn	Pn	10 49 13.9	-1.3
	6.0nm,0.3s,baz=294,slow=19,SNR=8.6						
JCJ				Sn	Sn	10 50 16.7	-6.3
	5.9nm,0.3s,baz=102,slow=19,SNR=3.0						
ASAJ	Asahikawa	10.97	3	Pn	Pn	10 50 20.9	-1.8
	0.4nm,0.3s,baz=241,slow=19,SNR=3.8						
ASAJ				Sn	Sn	10 52 12.6	-12
	0.3nm,0.3s,baz=311,slow=19,SNR=2.9						
KSRS	Korea Array	12.12	295	Pn	Pn	10 50 42.4	+4.0
	0.1nm,0.3s,baz=105,slow=14,SNR=3.3						
KLR	Kul'dur	17.73	338	P	P	10 51 51.0	-1.5
	0.0nm,0.3s,baz=139,slow=3.2,SNR=5.1						
SONM	Songino Array	30.36	309	P	P	10 53 57.1	+0.7
	1.1nm,0.8s,baz=111,slow=7.9,SNR=3.2						
MKAR	Makanchi Array	46.53	305	P	P	10 56 12.2	+0.4
	0.4nm,0.5s,baz=84,slow=10,SNR=7.1						
KURBB	Kurchatov Arra	48.71	311	P	P	10 56 28.6	0.0
	0.9nm,0.7s,baz=84,slow=7.4,SNR=8.1						
ILAR	Eielson Array	52.64	31	P	P	10 56 60.0	+1.9
	0.2nm,0.7s,baz=40,slow=40,SNR=2.7						
WRA	Warramunga Arr	53.27	189	P	P	10 57 03.1	-0.1
	0.5nm,0.4s,baz=6.1,slow=7.7,SNR=8.3						
BVAR	Borovoye Array	53.47	315	P	P	10 57 04.6	+0.2
	0.2nm,0.3s,baz=129,slow=2.1,SNR=3.3						
ASAR	Alice Springs	56.99	189	P	P	10 57 32.5	+2.5
	0.3nm,0.8s,baz=4.4,slow=6.9,SNR=3.3						
YKA	Yellowknife Ar	67.02	29	P	P	10 58 38.4	+1.5
	0.2nm,0.9s,baz=310,slow=6.4,SNR=3.1						
FINES	FINESS Array B	72.40	333	P	P	10 59 10.2	+0.2
	1.5nm,0.9s,baz=63,slow=4.7,SNR=3.3						

IDC 29 10:51:02.9±1.9, 2.°43N×124.°04E, h0km, mb3.3/3, mb1 3.6/3, mb1mx3.2/59, mbtmp3.4/3, MS4.2/1, Ms1 4.2/1, ms1mx3.4/31, Error ellipse: s-maj=219.3km s-min=26.1km az=63.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	24.42	156	P	P	10 56 22.8	-0.6
	0.4nm,0.4s,baz=334,slow=10,SNR=6.2						
ASAR	Alice Springs	27.66	160	P	P	10 56 53.6	+0.9
	0.4nm,0.7s,baz=341,slow=6.3,SNR=3.8						
CTA	Charters Tower	31.24	137	LR	LR	11 12 38.1	
	comp=Z,383nm,18.3s,baz=330,slow=42						
MKAR	Makanchi Array	57.13	327	P	P	11 00 51.2	-0.2
	0.2nm,0.5s,baz=144,slow=6.5,SNR=3.4						

IDC 29 10:54:44.3±1.3, 19.°62N×121.°50E, h0km, mb3.2/4, mb1 3.3/5, mb1mx3.1/67, mbtmp3.2/5, ML3.5/1, Error ellipse: s-maj=66.6km s-min=22.1km az=68.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	Korea Array	18.63	16	P	P	10 59 03.3	-0.1
	0.2nm,0.3s,baz=199,slow=11,SNR=4.1						
WRA	Warramunga Arr	41.28	162	P	P	11 02 31.5	-0.1
	0.1nm,0.6s,baz=344,slow=8.8,SNR=4.2						
MKAR	Makanchi Array	41.90	319	P	P	11 02 37.2	+0.7
	0.1nm,0.5s,baz=122,slow=7.0,SNR=3.1						
ASAR	Alice Springs	44.70	164	P	P	11 02 59.1	-0.1
	0.4nm,0.8s,baz=340,slow=8.1,SNR=4.6						
KURBB	Kurchatov Arra	45.84	323	P	P	11 03 06.5	-1.5
	0.2nm,0.3s,baz=117,slow=8.5,SNR=2.8						

IDC 29 10:57:55.8±3.1, 61.°91N×149.°25W, h0km, mb3.4/1, mb1 3.6/4, mb1mx3.2/79, mbtmp3.3/4, ML3.1/3, Error ellipse: s-maj=46.8km s-min=18.8km az=85.0
NEIC 29 10:57:57.1±0.0, 62.°08N×149.°99W, h7km, ML3.3(AEIC), After AEIC.
NEIC Felt at Wasilla.

ISC 29 10:57:56.2±1.2, 62.°09N±0.°03×149.°90W±0.°02, h20km±6km, n89, σ1°§18/103, Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GHO	Glory Hole Cre	0.56	124	P	Pn	10 58 09.6	+0.4
GHO				S	Sn	10 58 19.1	+1.2
PMR	Palmer	0.62	144	P	Pn	10 58 09.7	-0.1
PMR				S	Sn	10 58 19.3	+0.2
SUA	Susitna One	0.74	213	P	Pg	10 58 11.5	+0.6
SUA				S	Sg	10 58 22.5	+1.7
SKT	Skwentna	0.78	263	P	Pg	10 58 11.5	0.0
SKT				S	Sg	10 58 22.5	+0.7
SML	Sawmill	0.79	110	P	Pn	10 58 12.5	+0.2
SML				S	Sn	10 58 25.4	+1.9
KNK	Knik Glacier	0.96	134	P	Pn	10 58 14.6	0.0
KNK				S	Sn	10 58 29.3	+1.6
RC01	Rabbit Creek A	1.00	176	P	Pb	10 58 14.5	-0.4
STLK	Strandline Lak	1.09	238	P	Pn	10 58 15.8	-0.7
SCM	Sheep Creek Mo	1.24	101	P	Pg	10 58 19.1	-1.1
SCM				S	Sn	10 58 36.8	+2.1
PPLA	Purkeypile	1.34	308	P	Pn	10 58 19.9	0.0
SPCP	Crater Peak Br	1.36	234	P	Pn	10 58 19.7	-0.4
SPCP				S	Sn	10 58 36.4	-1.2
SPU	Mount Spurr	1.37	230	*e*Pn	Pn	10 58 20.6	+0.2
SPU				*e*S	Sn	10 58 38.5	+0.6
TRF	Thorofare Moun	1.38	353	P	Pn	10 58 21.1	+0.6
RND	Reindeer	1.41	19	P	Pn	10 58 21.6	+0.8
CKL	Chakachamna La	1.47	234	P	Pn	10 58 21.2	-0.4
SPWE	Spurr West	1.51	238	P	Pn	10 58 22.6	+0.4
DHY	Denali Highway	1.53	49	P	Pn	10 58 23.3	+0.7
DHY				S	Sg	10 58 45.1	-0.7
KTH	Kantishna Hill	1.54	343	P	Pn	10 58 23.5	+0.8
KTH				S	Sn	10 58 42.8	+0.6
SLKM	Skilak Lake	1.59	186	P	Pn	10 58 22.8	-0.5
CAST	Castle Rocks	1.67	324	P	Pn	10 58 24.5	+0.1
MCK	McKinley	1.71	15	P	Pn	10 58 26.5	+1.6
JPK	Jack Peak	1.89	122	P	Pn	10 58 27.9	+0.5
VLZ	Valdez	1.96	118	P	Pn	10 58 28.3	+0.1
VMT	TAPS TI Valdez	1.97	119	P	Pb	10 58 29.5	-1.8
KLU	Klutina	1.98	106	P	Pn	10 58 29.0	+0.3
DFR	Drift River	2.02	223	P	Pn	10 58 29.7	+0.5
RDJH	Redoubt Jeurge	2.05	224	P	Pn	10 58 30.3	+0.6
BPAW	Bear Paw Mtn.	2.08	347	P	Pn	10 58 30.2	+0.2
PS11	TAPS Pump St11	2.08	88	P	Pb	10 58 31.9	-1.4
NCT	North Crescent	2.12	225	P	Pn	10 58 30.8	+0.2
RSO	Redoubt South	2.14	221	*e*Pn	Pn	10 58 32.2	+1.2
RDWB	Redoubt West	2.14	223	P	Pn	10 58 31.1	+0.2
DIV	Divide	2.19	114	P	Pn	10 58 31.6	0.0
PAX	Paxson	2.24	65	P	Pn	10 58 33.9	+1.7
HARP	HAARP	2.24	80	P	Pb	10 58 34.0	-2.0
PS10	TAPS Pump St10	2.32	53	P	Pn	10 58 35.8	+2.5
BRLK	Bradley Lake	2.38	192	P	Pn	10 58 35.9	+1.8
EYAK	Cordova Ski Ar	2.53	126	P	Pn	10 58 36.8	+0.7
WRH	Wood River Hil	2.53	18	P	Pn	10 58 36.8	+0.7
HOM	Homer	2.58	200	*e*Pn	Pn	10 58 40.3	+3.4
HDA	Harding Lake	2.69	28	P	Pn	10 58 39.5	+1.2
CCB	Clear Creek Bu	2.74	19	P	Pn	10 58 39.5	+0.6
BMRM	Bremner River	2.77	112	P	Pn	10 58 40.5	+0.9
PS08	TAPS Pump Stn8	2.83	28	P	Pn	10 58 41.1	+0.9
RIDG	Independ'e Rid	2.85	52	P	Pn	10 58 43.0	+2.5
SVW2	Sparrevohn	2.89	252	P	Pn	10 58 40.6	-0.6
COLA	College	2.94	17	P	Pn	10 58 42.6	+0.8
TT01	Tatalina	2.96	289	P	Pn	10 58 41.2	-0.8
MDM	Murphy Dome	2.98	14	P	Pn	10 58 43.1	+0.8
MLY	Manley	2.98	353	P	Pn	10 58 42.6	+0.3
MENT	Mentasta	2.99	71	P	Pn	10 58 44.6	+2.1
ILAR	Eielson Array	3.01	25	Pn	Pn	10 58 43.4	+0.6
	5.4nm,0.3s,baz=204,slow=14,SNR=256						
ILAR				Sn	Sn	10 59 18.8	+0.5
	11nm,0.3s,baz=214,slow=24,SNR=21						
ILB	Eielson Array	3.01	25	P	Pn	10 58 43.5	+0.6
IL1	Eielson Array	3.02	25	*e*Pn	Pn	10 58 43.1	+0.3
RAGM	Ragged Mountai	3.05	122	*e*Pn	Pn	10 58 43.3	0.0
DOT	Dot Lake	3.10	57	P	Pn	10 58 45.7	+1.7
GLM	Gilmore Dome	3.12	20	P	Pn	10 58 45.5	+1.2
VRDI	Verde Repeater	3.19	103	P	Pn	10 58 46.5	+1.1
SCRK	Sand Creek	3.29	52	P	Pn	10 58 47.7	+0.9
MCARA	McCarthy VSAT	3.35	99	P	Pn	10 58 48.1	+0.7
CRQM	Cirque	3.51	109	*e*Pn	Pn	10 58 51.8	+2.0
KHIT	Khitrov Hills	3.61	114	P	Pn	10 58 51.9	+0.8
TGL	Tana Glacier	3.65	108	*e*Pn	Pn	10 58 52.0	+0.4
BALM	Baldy	3.76	103	P	Pn	10 58 53.3	+0.1
PS06	TAPS Pump Stn6	3.78	1	P	Pn	10 58 54.5	+1.2
KIAG	Kiagna River	3.80	105	P	Pn	10 58 53.5	-0.2
BCA3	Beaver Creek A	3.88	72	P	Pn	10 58 55.7	+1.0
PRP	Porcupine Dome	3.95	27	P	Pn	10 58 56.8	+1.0
BARN	Barnard Glacie	4.07	101	P	Pn	10 58 58.5	+1.0
BAGL	Bagley Icefiel	4.09	110	P	Pn	10 58 58.2	+0.6
GCSA	Galena City Sc	4.12	313	P	Pn	10 58 58.3	+0.4
CTGM	Chitina Glacie	4.25	102	P	Pn	10 59 00.5	+0.6
IM3	Indian Mountai	4.26	338	P	Pn	10 59 00.1	+0.2
KAHC	Katmai Hardscr	4.28	219	P	Pn	10 59 00.8	+0.5
KDAK	Kodiak Island	4.53	199	*e*Pn	Pn	10 59 02.9	-0.7
EGAK	Eagle	4.76	52	P	Pn	10 59 08.7	+1.9
FYU	Fort Yukon	4.93	22	*e*Pn	Pn	10 59 11.0	+2.0
COLD	Coldfoot	5.16	359	P	Pn	10 59 13.3	+1.0
OHAK	Old Harbor	5.17	201	*e*Pn	Pn	10 59 10.5	-1.9
BM3	Burnt Mountain	5.81	21	P	Pn	10 59 22.1	+0.9
HYT	Haines Junctio	6.08	97	*e*Pn	Pn	10 59 24.7	-0.3
TOLK	Toolik Lake Re	6.58	1	P	Pn	10 59 33.4	+1.6
WHY	Whitehorse	7.35	95	*e*Pn	Pn	10 59 42.5	0.0
INK	Inuvik	9.26	41	Pn	Pn	11 00 10.1	+1.7
	0.1nm,0.3s,baz=233,slow=18,SNR=19						
INK				Sn	Sn	11 01 52.3	+0.5
	0.5nm,0.3s,baz=232,slow=17,SNR=8.5						
INK	Inuvik	9.26	41	*e*Pn	Pn	11 00 10.1	+1.7
INK				*e*Sn	Sn	11 01 55.2	+3.4
GAMB	Gambell	10.07	289	*e*Pn	Pn	11 00 19.8	+0.3
DLBC	Dease Lake	10.51	101	*e*Pn	Pn	11 00 27.2	+1.5
YKA	Yellowknife Ar	16.30	73	Pn	Pn	11 01 41.8	-1.8
	0.1nm,0.3s,baz=287,slow=9.8,SNR=7.8						
NVAR	Mina Array Bea	30.57	126	P	P	11 04 07.5	-1.1
	0.4nm,0.8s,baz=312,slow=9.5,SNR=3.6						

WBNET 29 11:09:06.9, 50.°21N×12.°44E, h11km, MI0.3, 7C-13D, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NKC	Novy Kostel	0.02	7	↓↓P	Pg	11 09 08.7	-0.2
NKC				S	Sg	11 09 10.0	-0.3
NKC	Novy Kostel	0.02	7	↓↓P	Pg	11 09 09.3	+0.3
NKC				S	Sg	11 09 10.6	+0.2
KVC	Kvetna	0.05	99	↓↓P	Pg	11 09 08.8	-0.3
KVC				S	Sg	11 09 10.1	-0.5
KVC	Kvetna	0.05	99	S	Sg	11 09 10.6	0.0
VAC	Vackov	0.05	298	↓↓P	Pg	11 09 08.9	-0.2
VAC				S	Sg	11 09 10.3	-0.3
VAC	Vackov	0.05	298	↓↓P	Pg	11 09 09.4	+0.4
VAC				S	Sg	11 09 10.9	+0.2
LBCW	Luby	0.06	339	↓↓P	Pg	11 09 09.0	-0.1
LBCW				S	Sg	11 09 10.6	-0.2
LBCW	Luby	0.06	339	↓↓P	Pg	11 09 09.6	+0.4
LBCW				S	Sg	11 09 11.2	+0.3
STCW	Studenec	0.07	46	↓↓P	Pg	11 09 09.0	-0.2
STCW				S	Sg	11 09 10.5	-0.5
STCW	Studenec	0.07	46	↓↓P	Pg	11 09 09.6	+0.3
STCW				S	Sg	11 09 11.0	0.0
SKC	Skalna	0.07	231	↑↑P	Pg	11 09 09.1	-0.2
SKC				S	Sg	11 09 10.6	-0.3
SKC	Skalna	0.07	231	↑↑P	Pg	11 09 09.6	+0.3
SKC				S	Sg	11 09 11.1	+0.2
KACW	Kace¯ov	0.08	146	↑↑P	Pg	11 09 09.3	-0.2
KACW				S	Sg	11 09 11.0	-0.3
KACW	Kace¯ov	0.08	146	S	Sg	11 09 11.5	+0.3
POCW	Po¯¡tky	0.11	354	↓↓P	Pg	11 09 09.7	-0.1
POCW				S	Sg	11 09 11.7	-0.2
POCW	Po¯¡tky	0.11	354	↓↓P	Pg	11 09 10.2	+0.4
POCW				S	Sg	11 09 12.2	+0.4
KRCW	Kraslice	0.13	25	↓↓P	Pg	11 09 09.9	-0.2
KRCW				S	Sg	11 09 12.0	-0.4
KRCW	Kraslice	0.13	25	↓↓P	Pg	11 09 10.4	+0.3
KRCW				S	Sg	11 09 12.5	+0.1
KOCW	Kopaniny	0.14	291	↑↑P	Pg	11 09 10.2	-0.1
KOCW				S	Sg	11 09 12.4	-0.3
KOCW	Kopaniny	0.14	291	↑↑P	Pg	11 09 10.7	+0.4
KOCW				S	Sg	11 09 12.9	+0.2
ZHC	Zelena Hora	0.17	211	↑↑P	Pg	11 09 10.5	-0.1
ZHC				S	Sg	11 09 12.9	-0.3
ZHC	Zelena Hora	0.17	211	↑↑P	Pg	11 09 11.0	+0.4
ZHC				S	Sg	11 09 13.4	+0.2

ISCJB 29 11:12:38.1±0.7, 12.°65N±0.°08×144.°5E±0.°1, h30km, mb3.8/16, MS3.6/1, Error ellipse: s-maj=20.1km s-min=9.2km az=22.0
IDC 29 11:12:42.0±1.4, 12.°74N×144.°66E, h49km±11km, mb3.6/15, mb1 3.8/15, mb1mx3.6/65, mbtmp3.9/15, MS3.7/1, Ms1 3.7/1, ms1mx3.1/42, Error ellipse: s-maj=22.9km s-min=14.8km az=100.0

ISC 29 11:12:39.7±0.8, 12.°68N±0.°09×144.°7E±0.°2, h30km, n24, σ0§92/21, mb4.0/16, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	Guam	0.93	12	P	Pb	11 12 57.3	0.0
	247nm,0.3s,baz=169,slow=10,SNR=250						
GUMO				S	Sb	11 13 10.7	+1.5
	509nm,0.3s,baz=156,slow=19,SNR=26						
H11N1	WAKE ISLAND Hy	22.44	69	T	T	11 41 01.0	
	baz=256,slow=75,SNR=13						
H11N2	WAKE ISLAND Hy	22.45	69	T	T	11 41 17.1	
	baz=256,slow=75,SNR=8.6						
H11N3	WAKE ISLAND Hy	22.46	69	T	T	11 41 04.1	
	baz=256,slow=75,SNR=14						
JNU	Nakatsue	23.94	330	P	P	11 17 50.6	-0.8
	5.3nm,0.9s,baz=18,slow=3.2,SNR=3.1						
MJAR	Matsushiro Arr	24.46	347	P	P	11 17 54.7	-1.4
	4.1nm,0.9s,baz=171,slow=9.4,SNR=8.9						
HNR	Honiara	26.70	145	LR	LR	11 28 00.6	
	comp=Z,163nm,21.0s,baz=308,slow=34						
KSRS	Korea Array	28.86	332	P	P	11 18 36.6	+1.0
	0.7nm,0.8s,baz=146,slow=8.8,SNR=4.5						
WRA	Warramunga Arr	33.97	198	P	P	11 19 21.3	+0.5
	0.5nm,0.4s,baz=21,slow=9.6,SNR=11						
ASAR	Alice Springs	37.62	196	P	P	11 19 52.8	+0.7
	0.4nm,0.8s,baz=20,slow=10,SNR=7.3						
KLR	Kul'dur	37.96	348	P	P	11 19 54.4	-0.4
	0.1nm,0.7s,baz=149,slow=5.9,SNR=4.0						
CMAR	Chiang Mai Arr	44.33	283	P	P	11 20 48.2	+0.6
	1.1nm,0.6s,baz=86,slow=6.1,SNR=5.6						
SEY	Seymchan	50.48	5	P	P	11 21 35.0	+0.4
	0.9nm,0.3s,baz=201,slow=6.5,SNR=5.4						
MKAR	Makanchi Array	62.01	316	P	P	11 22 56.8	-0.5
	0.3nm,0.5s,baz=81,slow=7.9,SNR=4.3						
KURBB	Kurchatov Arra	65.19	320	P	P	11 23 17.6	-0.6
	0.7nm,0.5s,baz=104,slow=7.0,SNR=4.8						
ILAR	Eielson Array	69.47	25	P	P	11 23 43.5	-1.5
	0.9nm,0.7s,baz=250,slow=5.8,SNR=9.7						
BVAR	Borovoye Array	70.52	322	P	P	11 23 51.2	-0.4
	0.8nm,0.4s,baz=118,slow=7.8,SNR=4.9						
INK	Inuvik	75.28	22	P	P	11 24 19.3	-0.2
	1.2nm,0.8s,baz=283,slow=4.5,SNR=5.7						
YKA	Yellowknife Ar	83.75	27	P	P	11 25 05.8	0.0
	0.4nm,0.6s,baz=286,slow=4.8,SNR=12						
NVAR	Mina Array Bea	87.64	51	P	P	11 25 26.2	+0.3
	0.9nm,0.8s,baz=258,slow=5.6,SNR=6.3						
FINES	FINESS Array B	91.90	335	P	P	11 25 43.8	-1.2
	0.4nm,0.4s,baz=56,slow=4.8,SNR=7.6						
TORD	Torodi Ar. Bea	135.21	304	PKP	PKPdf	11 31 59.2	+1.8
	0.5nm,0.6s,baz=20,slow=2.1,SNR=4.7						
DBIC	Dimbokro	144.13	301	PKP	PKPab	11 32 10.7	-0.6
	2.7nm,0.5s,baz=22,slow=3.1,SNR=4.6						
LPAZ	La Paz	148.06	100	PKPbc	PKPbc	11 32 24.1	0.0
	1.2nm,0.8s,baz=270,slow=2.0,SNR=3.8						

ISCJB 29 11:18:06.7±0.7, 17.°9S±0.°2×178.°0W±0.°1, h590km, mb3.7/12, Error ellipse: s-maj=25.5km s-min=11.8km az=149.0
IDC 29 11:18:07.6±1.8, 17.°96S×177.°91W, h590km±21km, mb3.2/12, mb1 3.5/14, mb1mx3.3/49, mbtmp4.2/14, Error ellipse: s-maj=21.9km s-min=12.8km az=143.0

ISC 29 11:18:07.5±0.7, 18.°0S±0.°2×177.°9W±0.°1, h590km, n17, σ0§40/19, mb3.8/12, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	7.14	57	P	P	11 19 58.3	-0.3
	5.7nm,0.3s,baz=186,slow=10,SNR=6.1						
DZM	Mont Dzumac	15.26	252	P	P	11 21 18.3	-0.2
	0.6nm,0.3s,baz=105,slow=20,SNR=6.9						
CTA	Charters Tower	33.90	261	P	P	11 24 03.0	0.0
	3.4nm,0.3s,baz=85,slow=11,SNR=13						
STKA	Stephens Creek	39.02	241	P	P	11 24 45.2	+0.4
	4.6nm,0.5s,baz=94,slow=10,SNR=14						
WRA	Warramunga Arr	45.09	260	P	P	11 25 32.1	-0.4
	3.4nm,0.4s,baz=95,slow=6.9,SNR=141						
WRA				PcP	PcP	11 27 00.2	-0.1
	0.4nm,0.3s,baz=91,slow=3.7,SNR=5.5						
ASAR	Alice Springs	45.23	254	P	P	11 25 33.7	+0.1
	7.3nm,0.4s,baz=90,slow=7.8,SNR=151						
ASAR				PcP	PcP	11 27 00.5	-0.4
	1.0nm,0.5s,baz=101,slow=4.2,SNR=7.7						
MJAR	Matsushiro Arr	68.22	323	P	P	11 28 10.7	+0.4
	1.4nm,0.5s,baz=164,slow=6.4,SNR=9.6						
QSPA	South Pole Qui	72.10	180	P	P	11 28 32.9	0.0
	2.3nm,0.8s,baz=66,slow=6.9,SNR=8.7						
PETK	Petropavlovsk-	73.84	345	P	P	11 28 42.5	-0.2
	2.5nm,0.8s,baz=165,slow=6.0,SNR=4.8						
KSRS	Korea Array	75.05	318	P	P	11 28 50.6	+0.8
	0.4nm,0.5s,baz=120,slow=5.4,SNR=2.6						
NVAR	Mina Array Bea	79.13	44	P	P	11 29 12.8	+0.6
	0.3nm,0.6s,baz=246,slow=6.8,SNR=2.8						
TXAR	Lajitas Array	85.62	57	P	P	11 29 45.5	+0.4
	0.5nm,1.0s,baz=234,slow=3.0,SNR=2.7						
ILAR	Eielson Array	85.83	13	P	P	11 29 44.6	-0.4
	0.4nm,0.4s,baz=219,slow=4.6,SNR=5.4						
YKA	Yellowknife Ar	94.17	25	P	P	11 30 23.7	0.0
	0.1nm,0.5s,baz=242,slow=4.5,SNR=5.2						
BRTR	Keskin Array B	145.15	315	PKPbc	PKPdf	11 36 38.5	-0.5
	1.2nm,0.6s,baz=79,slow=2.0,SNR=7.0						
MMAI	Mount Meron Ar	146.56	303	PKPbc	PKPbc	11 36 43.8	-0.3
	0.8nm,0.3s,baz=40,slow=5.6,SNR=3.3						
GERES	GERESS Array B	147.77	346	PKPbc	PKPbc	11 36 46.6	-0.3
	0.9nm,0.5s,baz=9.9,slow=2.3,SNR=5.6						

IDC 29 11:27:27.4±1.5, 3.°02N×92.°47E, h0km, mb3.7/5, mb1 3.8/7, mb1mx3.5/68, mbtmp3.8/7, ML3.8/2, Error ellipse: s-maj=53.2km s-min=19.6km az=42.0
ISCJB 29 11:27:29.9±1.0, 3.°1N±0.°2×92.°5E±0.°1, h33km, mb3.7/5, Error ellipse: s-maj=31.0km s-min=11.6km az=23.0

ISC 29 11:27:32.1±1.2, 3.°1N±0.°3×92.°5E±0.°1, h35km, n7, σ1§07/8, mb3.7/5, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	Prapat	6.40	92	P	Pn	11 29 04.2	+0.1
	1.3nm,0.3s,baz=289,slow=16,SNR=2.3						
PSI				Sn	Sn	11 30 14.6	-1.5
	0.2nm,0.3s,baz=162,slow=20,SNR=1.9						
PALK	Pallekele	12.49	290	Pn	Pn	11 30 26.2	-1.3
	0.7nm,0.3s,baz=118,slow=11,SNR=6.0						
PALK				Sn	Sn	11 32 33.9	-12
	0.8nm,0.3s,baz=117,slow=11,SNR=4.1						
MKAR	Makanchi Array	44.47	350	P	P	11 35 40.0	+0.1
	0.8nm,0.7s,baz=170,slow=8.0,SNR=9.5						
GEYT	Alibeck	46.85	322	P	P	11 35 59.6	+0.7
	1.3nm,0.6s,baz=142,slow=7.3,SNR=2.9						
WRA	Warramunga Arr	46.99	121	P	P	11 36 00.8	+0.6
	0.6nm,0.7s,baz=296,slow=8.7,SNR=5.8						
ASAR	Alice Springs	48.25	126	P	P	11 36 10.5	+0.4
	0.1nm,0.3s,baz=299,slow=7.7,SNR=5.1						
ZALV	Zalesovo Beam	51.13	354	P	P	11 36 32.1	+0.8
	0.7nm,0.5s,baz=190,slow=5.9,SNR=3.0						

BJI 29 11:29:49.0, 84.°00N×0.°40W, h10km, mb4.7/34, mB5.0/21, Ms4.7/7, Ms7 4.4/7
IDC 29 11:29:50.3±0.4, 84.°09N×1.°10W, h0km, mb4.1/32, mb1 4.3/34, mb1mx4.1/72, mbtmp4.1/34, ML3.4/2, MS4.3/46, Ms1 4.3/46, ms1mx4.1/76, Error ellipse: s-maj=12.6km s-min=9.3km az=39.0
MOS 29 11:29:51.3±1.2, 84.°08N×0.°71W, h10km, mb4.7/57, MS4.1/24, Error ellipse: s-maj=56.7km s-min=5.5km az=92.4
ISCJB 29 11:29:51.4±0.1, 84.°05N±0.°03×0.°2W±0.°2, h10km, mb4.5/141, MS4.3/57, Error ellipse: s-maj=4.4km s-min=2.8km az=42.5
CSEM 29 11:29:51.3±0.1, 84.°01N×0.°45W, h2km, mb4.7/99, Error ellipse: s-maj=5.5km s-min=3.2km az=47.0
*NEIC 29 11:29:53.0±0.1, 83.°97N×0.°29W, h10km,

comp=Z,2µm,19.1s,baz=30,slow=38
RES Resolute Bay 16.94 294 *e*Pn **Pn 11 33 44.0 -5.3**
comp=Z,10nm,0.8s
RES Resolute Bay 16.94 294 *e*P **Pn 11 33 44.0 -5.3**
RES pmax pmax
comp=Z,10.0nm,0.8s
LVZ Lovozero 17.60 133 *e*Pn **P 11 34 02.5 +3.8**
comp=Z,94nm,1.3s
LVZ Lovozero 17.60 133 *ce*P **P 11 34 02.1 +3.4**
LVZ pmax pmax
comp=Z,50nm,1.0s
APA Apatity 17.83 135 ⇓*i*P **Pn 11 33 57.5 -2.9**
APA *i* 11 37 14.0
APA pmax pmax
comp=Z,17nm,1.0s
APA MLR MLR
comp=Z,2µm,14.0s
SFJD Kangerlussuaq 19.69 243 P **P 11 34 18.9 -2.6**
comp=Z,0.7nm,0.3s,baz=14,slow=13,SNR=4.4
SFJD LR LR 11 42 13.9
comp=Z,629nm,19.7s,baz=16,slow=38
SFJD Kangerlussuaq 19.69 243 *e*P **P 11 34 19.3 -2.2**
comp=Z,14nm,0.8s
SFJD Kangerlussuaq 19.69 243 *e*P **P 11 34 19.3 -2.2**
SFJD pmax pmax
comp=Z,14nm,0.8s
TMCR Tamitsa 21.55 131 *e*P **P 11 34 43.3 +1.7**
TMCR *e*S Sn 11 38 46.7 -1.6
TMCR pmax pmax
comp=Z,26nm,0.5s
VAF Ylistaro 21.63 150 P **P 11 34 47.5 +5.1**
VAF pmax pmax
comp=Z,37nm,1.0s
TIXI Tiksi 22.88 39 P **P 11 34 54.6 -1.1**
comp=Z,1.8nm,0.3s,baz=23,slow=11,SNR=8.5
TIXI LR LR 11 43 26.0
comp=Z,248nm,18.5s,baz=314,slow=36
TIXI Tiksi 22.88 39 *e*P **P 11 34 55.2 -0.5**
comp=Z,5.5nm,1.1s
TIXI Tiksi 22.88 39 *ce*P **P 11 34 54.0 -1.7**
TIXI pmax pmax
comp=Z,3.0nm,1.2s
NC204 NORSAR Array S 22.91 165 *e*P **P 11 34 57.6 +1.4**
NC303 NORSAR Array S 22.98 165 *e*P **P 11 34 58.5 +1.6**
NC405 NORSAR Array S 23.10 164 *e*P **P 11 34 59.3 +1.1**
NBO02 NORSAR Array S 23.14 165 *e*P **P 11 35 00.8 +2.2**
NB201 NORSAR Array S 23.15 165 *e*P **P 11 34 59.8 +1.1**
NBO00 NORSAR Array S 23.16 165 *e*P **P 11 35 00.6 +1.8**
NB2 NORSAR Subarra 23.16 165 P **P 11 34 58.9 0.0**
baz=350,slow=9.3
NB2 NORSAR Subarra 23.16 165 P **P 11 35 00.2 +1.4**
comp=Z,13nm,1.1s,baz=356,slow=11
NB2 NORSAR Subarra 23.16 165 P **P 11 34 58.9 0.0**
baz=350,slow=9.3
NOA NORSAR Array B 23.16 165 P **P 11 34 58.5 -0.3**
comp=Z,3.5nm,0.8s,baz=356,slow=9.0,SNR=14
NOA LR LR 11 42 41.3
comp=Z,478nm,21.3s,baz=5.0,slow=33
FIA1 FINESS Array S 23.41 147 *e*P **P 11 35 01.6 +0.3**
FIA0 FINESS Array S 23.41 147 P **P 11 35 03.4 +2.1**
baz=348,slow=14
FIA0 FINESS Array S 23.41 147 P **P 11 35 03.4 +2.1**
baz=348,slow=14
FINES FINESS Array B 23.41 147 P **P 11 35 01.0 -0.3**
comp=Z,3.1nm,0.9s,baz=14,slow=9.8,SNR=7.1
FINES LR LR 11 43 50.5
comp=Z,814nm,20.6s,baz=23,slow=36
FINES FINESS Array B 23.41 147 P **P 11 35 01.0 -0.3**
FINES pmax pmax
comp=Z,3.0nm,0.9s
FINES MLR MLR
comp=Z,814nm,20.7s
NC602 NORSAR Array S 23.48 164 *e*P **P 11 35 02.8 +0.9**
NRA0 NORESS Array S 23.48 164 P **P 11 35 01.0 -0.9**
baz=7.7,slow=16
NRA0 NORESS Array S 23.48 164 P **P 11 35 01.0 -0.9**
baz=7.7,slow=16
HFS Hagfors 24.14 162 P **P 11 35 09.9 +1.5**
baz=346,slow=8.6
HFS Hagfors 24.14 162 P **P 11 35 08.0 -0.4**
comp=Z,2.7nm,0.9s,baz=36,slow=7.6,SNR=3.7
HFS LR LR 11 42 52.3
comp=Z,906nm,21.6s,baz=12,slow=32
HFS Hagfors 24.14 162 P **P 11 35 09.9 +1.5**
baz=346,slow=8.6
HFS Hagfors 24.14 162 P **P 11 35 08.0 -0.4**
HFS pmax pmax
comp=Z,3.0nm,0.9s
HFS MLR MLR
comp=Z,906nm,21.7s
KONO Kongsberg 24.51 167 *i*P **P 11 35 17.5 +5.8**
KONO pmax pmax
comp=Z,9.0nm,1.0s
FRB Frobisher Bay 24.67 260 P **P 11 35 12.3 -0.8**
comp=Z,7.2nm,0.7s,baz=6.2,slow=9.6,SNR=12
FRB LR LR 11 44 54.9
comp=Z,839nm,18.3s,baz=4.5,slow=37
KLMR Klimovskoe 24.94 131 *e*P **P 11 35 14.3 -1.3**
KLMR AMP 11 35 24.5
comp=Z,25nm,1.0s
KLMR *e*PcP **PcP 11 38 50.7 +0.4**
KLMR LQ LQ 11 43 01.4
KLMR LQ LQ 11 43 01.4
KLMR LR LR 11 43 42.2
KLMR Klimovskoe 24.94 131 *e*P **P 11 35 14.2 -1.3**
KLMR *e* 11 38 50.7
KLMR pmax pmax
comp=Z,25nm,1.0s
INK Inuvik 26.34 322 P **P 11 35 25.1 -3.0**
comp=Z,9.9nm,1.1s,baz=13,slow=12,SNR=12
INK LR LR 11 48 45.4
comp=Z,522nm,18.7s,baz=16,slow=43
INK Inuvik 26.34 322 *e*P **P 11 35 26.6 -1.5**
comp=Z,27nm,1.4s
INK Inuvik 26.34 322 *e*P **P 11 35 26.6 -1.5**
INK pmax pmax
comp=Z,27nm,1.4s
TOLK Toolik Lake Re 26.91 335 *e*P **P 11 35 33.1 -0.2**
comp=Z,11nm,1.1s
BILL Bilibino 28.11 10 *i*P **P 11 35 42.5 -1.6**
BILL pmax pmax
comp=Z,2.0nm,1.1s
BILL MLR MLR
comp=Z,503nm,19.0s
COLD Coldfoot 28.34 335 *e*P **P 11 35 45.6 -0.6**
comp=Z,9.1nm,1.3s
FYU Fort Yukon 28.76 331 *e*P **P 11 35 50.1 +0.3**
comp=Z,34nm,1.4s
OBN Obninsk 30.41 136⇑*e*P P 11 36 09.6 +5.1
OBN *e* 11 37 07.4
OBN *e*S **S 11 41 08.6 +3.9**
OBN pmax pmax
comp=Z,11nm,1.2s
OBN MLR MLR
comp=Z,604nm,17.0s
MDM Murphy Dome 30.52 333 *e*P **P 11 36 06.0 +0.6**
comp=Z,14nm,1.3s
YKW3 Yellowknife Ar 30.53 303 *e*P **P 11 36 06.2 +0.7**
comp=Z,6.6nm,1.2s
MLY Manley 30.56 335 *e*P **P 11 36 06.6 +0.7**
comp=Z,8.4nm,1.5s
COLA College 30.58 333 *e*P **P 11 36 07.1 +1.2**
comp=Z,20nm,0.3s
COLA College 30.58 333 *e*P **P 11 36 07.1 +1.2**
COLA pmax pmax
comp=Z,20nm,0.3s
YKA Yellowknife Ar 30.60 303 P **P 11 36 03.9 -2.2**
comp=Z,1.6nm,0.9s,baz=5.8,slow=8.5,SNR=20
YKA PcP **PcP 11 39 03.8 -0.2**
comp=Z,0.7nm,0.8s,baz=2.1,slow=2.6,SNR=10
IL1 Eielson Array 30.64 332 *e*P **P 11 36 06.1 -0.4**
ILAR Eielson Array 30.64 332 P **P 11 36 05.0 -1.4**
comp=Z,3.1nm,1.0s,baz=2.4,slow=7.2,SNR=19
ILAR LR LR 11 47 40.8
comp=Z,435nm,21.6s,baz=0.5,slow=35
ILB Eielson Array 30.64 332 *e*P **P 11 36 07.0 +0.6**
CCB Clear Creek Bu 30.81 333 *e*P **P 11 36 08.0 0.0**
comp=Z,9.7nm,1.3s
DAWY Dawson 30.92 325 *e*P **P 11 36 10.0 +0.9**
comp=Z,5.3nm,0.9s
WRH Wood River Hil 31.00 333 *e*P **P 11 36 10.0 +0.4**
comp=Z,18nm,1.4s
HDA Harding Lake 31.00 332 *e*P **P 11 36 10.8 +1.1**
comp=Z,10nm,1.3s
ARU Arti 31.05 112 *d i*P **P 11 36 13.1 +3.0**
ARU 11 37 11.4
ARU 11 39 02.5
ARU S **S 11 41 22.3 +7.6**
ARU SS **SnSn 11 42 59.5 +4.6**
ARU pmax pmax
comp=Z,7.0nm,1.2s
ARU MLR MLR
comp=Z,1µm,19.0s
BPAW Bear Paw Mtn. 31.50 335 *e*P **P 11 36 14.4 +0.3**
comp=Z,16nm,1.6s
DOT Dot Lake 31.61 329 *e*P **P 11 36 15.3 +0.2**
comp=Z,26nm,1.2s
CAST Castle Rocks 32.23 336 *e*P **P 11 36 22.2 +1.7**
comp=Z,20nm,2.0s
FCC Fort Churchill 32.26 283 *e*P **P 11 36 22.1 +1.4**
comp=Z,13nm,1.6s
FCC Fort Churchill 32.26 283 *e*P **P 11 36 22.1 +1.4**
FCC pmax pmax
comp=Z,13nm,1.6s
MENT Mentasta 32.30 329 *e*P **P 11 36 22.8 +1.7**
comp=Z,11nm,1.2s
PAX Paxson 32.36 330 *e*P **P 11 36 22.4 +0.7**
comp=Z,7.1nm,1.2s
PAX Paxson 32.36 330 *e*P **P 11 36 22.4 +0.7**
PAX pmax pmax
comp=Z,7.0nm,1.2s
YAK Yakutsk 32.44 42 LR LR 11 49 58.6
comp=Z,359nm,19.2s,baz=271,slow=37
CLL Collm 32.96 164 *e*P **P 11 36 29.0 +2.1**
comp=Z,6.0nm,0.9s
CLL *es*P **sP 11 36 35.0 +3.8**
CLL *e* 11 36 41.0
comp=Z,12nm,1.3s
CLL Lm MLR 11 49 00.0
comp=Z,500nm,21.5s
CLL Collm 32.96 164 *e*P **P 11 36 28.8 +1.9**
comp=Z,10nm,1.1s
CLL Collm 32.96 164 *e*P **P 11 36 29.0 +2.1**
CLL *e* 11 36 35.0
CLL pmax pmax
comp=Z,6.0nm,0.9s
CLL MLR MLR
comp=Z,500nm,21.5s
SCHQ Schefferville 33.24 254 LR LR 11 50 15.2
comp=Z,308nm,18.4s,baz=40,slow=37
BRG Berggiesshubel 33.42 163 *e*P **P 11 36 33.1 +2.1**
comp=Z,3.7nm,1.0s
BRG Berggiesshubel 33.42 163 *e*P **P 11 36 33.1 +2.1**
BRG pmax pmax
comp=Z,4.0nm,1.0s
MOX Moxa 33.58 165 P **P 11 36 35.0 +2.6**
MOX pmax pmax
comp=Z,11nm,1.1s
UPC Upice 33.86 160 AMS AMS 11 48 40.0
comp=Z,600nm,24.4s
NKC Novy Kostel 34.02 164 *e*P **P 11 36 38.3 +2.1**
NKC *ep*P **sP 11 36 43.0 +2.5**
NKC Novy Kostel 34.02 164 *e*P **P 11 36 38.3 +2.1**
NKC *e* 11 36 43.0
DPC Dobruska-Polom 34.02 160 *e*P **P 11 36 37.3 +1.0**
DPC AMS AMS 11 49 00.0
comp=Z,400nm,15.5s
DPC Dobruska-Polom 34.02 160 *e*P **P 11 36 37.3 +1.0**
DPC MLR MLR
comp=Z,400nm,15.5s
HYT Haines Junctio 34.03 323 *e*P **P 11 36 35.9 -0.5**
comp=Z,17nm,1.2s
OJC Ojcow 34.29 156 *e*P **P 11 36 39.9 +1.3**
comp=Z,11nm,0.8s
OJC Ojcow 34.29 156 *e*P **P 11 36 39.9 +1.3**
OJC pmax pmax
comp=Z,11nm,0.8s
AKASG Malin Array Be 34.31 145 P **P 11 36 38.5 -0.1**
comp=Z,0.7nm,0.5s,baz=352,slow=8.7,SNR=6.1
AKASG LR LR 11 50 51.5
comp=Z,832nm,18.2s,baz=350,slow=37
KIEV Kiev 34.31 145 *i* P P 11 36 44.8 +6.1
KIEV pmax pmax
comp=Z,3.0nm,1.1s
PRU Pruhonice 34.32 162 AMS AMS 11 49 10.0
comp=Z,500nm,12.4s
GOPC GÖ Pecny, Ondr 34.41 162 AMS AMS 11 48 50.0
comp=Z,400nm,15.9s
OKC Ostrava-Krasne 34.61 158 AMS AMS 11 51 30.0
comp=Z,700nm,19.9s
MORC Moravsky Berou 34.64 159 *e*P **P 11 36 42.1 +0.5**
comp=Z,48nm,1.3s
MORC Moravsky Berou 34.64 159 *e*P **P 11 36 42.1 +0.5**
MORC pmax pmax
comp=Z,49nm,1.3s
TREC Trest 35.05 161 AMS AMS 11 49 20.0
comp=Z,500nm,22.6s
VRAC Vranov 35.08 160 ⇓*i*P **P 11 36 48.1 +2.7**
VRAC Vranov 35.08 160 ⇓P **P 11 36 48.1 +2.7**
KHC Kasperske Hory 35.15 163 *e*P **P 11 36 46.5 +0.5**
KHC *ep*P **sP 11 36 50.7 +0.4**
KHC AMS AMS 11 48 50.0
comp=Z,400nm,14.7s
KHC Kasperske Hory 35.15 163 *e*P **P 11 36 46.5 +0.5**
KHC *e* 11 36 50.7
KHC MLR MLR
comp=Z,400nm,14.7s
STHS Stebnicka Huta 35.16 154 *e*P **P 11 36 48.5 +2.4**
STHS *es*P **sP 11 36 54.8 +4.4**
STHS Stebnicka Huta 35.16 154 *e*P **P 11 36 48.5 +2.4**
STHS *e* 11 36 54.8
STHS pmax pmax
comp=Z,9.0nm,0.9s
NVS Novosibirsk 35.20 87⇑*i*P **P 11 36 46.5 +0.2**
NVS pmax pmax
comp=Z,12nm,1.1s
NVS pmax pmax
comp=N,9.0nm,1.2s
NVS pmax pmax
comp=E,2.0nm,1.2s
BOD Bodaibo 35.35 57 *e*P P 11 36 42.6 -5.0
BOD pmax pmax
comp=Z,9.0nm,1.5s
STU Stuttgart 35.39 168 P **P 11 36 51.7 +3.6**
STU pmax pmax
comp=Z,20nm,1.0s
GEC2 GERESS Array S 35.44 163 *e*P **P 11 36 47.3 -1.3**
comp=Z,14nm,1.4s
GEC2 GERESS Array S 35.44 163 *e*P **P 11 36 47.3 -1.3**
GEC2 pmax pmax
comp=Z,14nm,1.4s
GERES GERESS Array B 35.44 163 P **P 11 36 50.6 +2.0**
comp=Z,1.5nm,0.7s,baz=29,slow=8.2,SNR=5.8
GERES LR LR 11 49 58.7
comp=Z,354nm,21.8s,baz=48,slow=34
GEA0 GERESS Array S 35.45 163 *e*P **P 11 36 47.2 -1.5**
BRVK Borovoye 35.57 101 *ce*P **P 11 36 51.1 +1.5**
BRVK pmax pmax
comp=Z,9.0nm,1.7s
BVAR Borovoye Array 35.62 100 P **P 11 36 49.4 -0.6**
comp=Z,2.2nm,0.9s,baz=350,slow=7.3,SNR=13
BVAR LR LR 11 54 30.7
comp=Z,422nm,18.6s,baz=1.0,slow=42
BFO Black Forest 35.82 169 *i* P **P 11 36 55.2 +3.4**
DLBC Dease Lake 35.88 316 *e*P **P 11 36 52.7 +0.5**
comp=Z,14nm,1.4s
DLBC *e*S **S 11 42 34.9 +5.3**
VYHS Vyhne 35.98 157 *e*P **P 11 36 53.3 +0.2**
VYHS Vyhne 35.98 157 *e*P **P 11 36 53.3 +0.2**
VYHS pmax pmax
comp=Z,4.0nm,1.2s
MODS Modra-Piesok 36.03 159 *e*P **P 11 36 54.4 +0.8**
MODS Modra-Piesok 36.03 159 *e*P **P 11 36 54.4 +0.8**
MODS pmax pmax
comp=Z,16nm,1.1s
MA2 Magadan 36.11 24 LR LR 11 51 17.4
comp=Z,158nm,21.1s,baz=332,slow=36
MA2 Magadan 36.11 24 *i* P **P 11 36 53.0 -1.1**
MA2 pmax pmax
comp=Z,6.0nm,1.1s
ZAA0 Zalesovo Array 36.24 86 *e*P **P 11 36 55.2 -0.1**
comp=Z,6.4nm,0.9s
ZALV Zalesovo Beam 36.24 86 P **P 11 36 54.2 -1.1**
comp=Z,4.8nm,0.8s,baz=350,slow=7.8,SNR=15
ZALV PcP **PcP 11 39 20.0 0.0**
comp=Z,0.4nm,0.3s,baz=343,slow=4.5,SNR=3.2
ZALV LR LR 11 54 37.8
comp=Z,635nm,19.9s,baz=258,slow=41
ZALV Zalesovo Beam 36.24 86 *e*P **P 11 36 55.0 -0.3**
ZALV PcP **PcP 11 39 20.0 0.0**
ZALV Zalesovo Beam 36.24 86 *e*P **P 11 36 55.0 -0.3**
ZALV 11 39 20.0
CONA Conrad Observa 36.43 161 *i* pP **P 11 36 58.3 +1.3**
comp=Z,9.0nm,1.0s
MOA Molln 36.45 163 *i* pP pP 11 36 60.0 -0.3
comp=Z,5.2nm,1.2s
PSZ Piszkesteto 36.60 156 *e*P **P 11 37 00.9 +2.4**
comp=Z,14nm,1.2s
PSZ Piszkesteto 36.60 156 *e*P **P 11 37 00.9 +2.4**
PSZ pmax pmax
comp=Z,14nm,1.2s
AKTO Aktyubinsk 36.92 114 P **P 11 37 00.3 -0.8**
comp=Z,1.9nm,0.9s,baz=41,slow=9.3,SNR=5.0
AKTO LR LR 11 54 23.9
comp=Z,1µm,19.4s,baz=359,slow=40
BUR08 Bucovina Ar. S 37.12 150 *e*P **P 11 37 04.0 +1.0**
BUR04 Bucovina Ar. S 37.15 150 *e*P **P 11 37 04.8 +1.6**
BURAR Bucovina Array 37.16 150⇑*i*P **P 11 37 05.5 +2.2**
BURAR Bucovina Array 37.16 150⇑P **P 11 37 05.5 +2.2**
TUE Stuetta 37.70 168 *e*P **P 11 37 10.3 +2.3**
comp=Z,7.8nm,1.0s
DRGR 37.85 153⇑*i*P **P 11 37 11.4 +2.3**
DRGR 37.85 153⇑P **P 11 37 11.4 +2.3**
KDAK Kodiak Island 37.89 335 LR LR 11 51 42.3
comp=Z,434nm,21.6s,baz=20,slow=35
ABKAR Akbulak array 38.27 112 *e*P **P 11 37 13.0 +0.4**
comp=Z,39nm,1.4s
KURK Kurchatov 38.77 93 *e*P **P 11 37 16.9 +0.2**
comp=Z,10nm,1.0s
KURK Kurchatov 38.77 93 P **P 11 37 16.9 +0.2**
KURK pmax pmax
comp=Z,5.0nm,0.8s
KURBB Kurchatov Arra 38.85 93 P **P 11 37 16.9 -0.5**
comp=Z,5.3nm,0.8s,baz=352,slow=7.8,SNR=22
BZS Buzias 38.97 155⇓*i*P **P 11 37 20.2 +1.8**
BZS Buzias 38.97 155 ⇓P **P 11 37 20.2 +1.8**
PLOR Plostina 38.99 149⇑*i*P **P 11 37 21.7 +3.0**
PLOR Plostina 38.99 149⇑P **P 11 37 21.7 +3.0**
MLR Muntele Rosu 39.31 150 P **P 11 37 23.1 +1.6**
comp=Z,0.5nm,0.6s,baz=27,slow=11,SNR=5.5
MLR LR LR 11 54 16.2
comp=Z,220nm,18.5s,baz=7.0,slow=37
MLR Muntele Rosu 39.31 150⇑*i*P **P 11 37 25.4 +3.9**
EDM Edmonton 39.64 299 *e*P **P 11 37 24.2 +0.2**
comp=Z,14nm,1.1s
EDM Edmonton 39.64 299 *e*P **P 11 37 24.2 +0.2**
EDM pmax pmax
comp=Z,14nm,1.1s
BLY Banja Luka 39.65 160⇓*i*P **P 11 37 25.8 +1.7**
BLY Banja Luka 39.65 160 *e*P **P 11 37 26.2 +2.1**
comp=Z,26nm,1.5s
CFR Carcaliu 39.75 147⇑*i*P **P 11 37 26.8 +1.9**
CFR Carcaliu 39.75 147⇑P **P 11 37 26.8 +1.9**
HVS Khovu-Aksy 39.96 78 *i* P **P 11 37 27.0 +0.3**
HVS pmax pmax
comp=Z,24nm,0.9s
MOY Mondy 40.18 71 *e*P **P 11 37 28.4 -0.2**
MOY pmax pmax
comp=Z,17nm,1.1s
TLB Topalu 40.33 148⇑*i*P **P 11 37 31.5 +1.8**
TLB Topalu 40.33 148⇑P **P 11 37 31.5 +1.8**
DIVS Divibare 40.41 156 *e*P **P 11 37 31.9 +1.3**
comp=Z,6.7nm,1.0s
TLY Talaya 40.43 68 LR LR 11 54 59.3
comp=Z,417nm,20.5s,baz=352,slow=37
TLY Talaya 40.43 68 *e*P **P 11 37 30.0 -0.6**
comp=Z,8.8nm,0.9s
TLY Talaya 40.43 68 *e*P **P 11 37 30.0 -0.6**
TLY pmax pmax
comp=Z,9.0nm,0.9s
TIRR Tirgusor 40.48 147⇓*i*P **P 11 37 32.7 +1.7**
TIRR Tirgusor 40.48 147 *e*P **P 11 37 32.6 +1.7**
comp=Z,6.4nm,1.0s
TIRR Tirgusor 40.48 147 *e*P **P 11 37 32.6 +1.7**
TIRR pmax pmax
comp=Z,6.0nm,1.0s
ZEA Zeya 40.50 46 *e*P **P 11 37 30.0 -1.1**
ZEA pmax pmax
comp=Z,25nm,1.2s
OTUK Ortayu 40.54 100 P **P 11 37 33.6 +2.1**
OTUK pmax pmax
comp=Z,3.0nm,1.1s
ULM Lac du Bonnet 40.84 282 P **P 11 37 33.2 -0.7**
comp=Z,3.3nm,1.0s,baz=356,slow=8.4,SNR=3.5
ULM LR LR 11 54 43.7
comp=Z,1µm,18.5s,baz=21,slow=37
ULM Lac du Bonnet 40.84 282 *e*P **P 11 37 34.9 +1.0**
comp=Z,8.7nm,1.4s
ULM Lac du Bonnet 40.84 282 *e*P **P 11 37 34.9 +1.0**
ULM pmax pmax
comp=Z,9.0nm,1.4s
ZAK Zakamensk 41.68 69 *e*P **P 11 37 39.6 -1.4**
ZAK pmax pmax
comp=Z,4.0nm,1.4s
KIV Kislovodsk 41.97 132 *e*P **P 11 37 47.4 +4.0**
KIV pmax pmax
comp=Z,5.0nm,1.0s
KIV MLR MLR
comp=Z,260nm,16.0s
KVAR Kislovodsk Arr 41.97 132 LR LR 11 55 42.3
comp=Z,364nm,19.6s,slow=37
PDG Podgorica 42.05 157⇑*i*P **P 11 37 44.1 +0.2**
TTG Podgorica 42.05 157 *e*P **P 11 37 45.1 +1.2**
comp=Z,7.6nm,0.8s
TTG Podgorica 42.05 157 *e*P **P 11 37 45.1 +1.2**
TTG pmax pmax
comp=Z,8.0nm,0.8s
KBZ Khabaz 42.21 131 P **P 11 37 47.0 +1.8**
comp=Z,5.8nm,0.9s,baz=316,slow=4.9,SNR=16
KBZ LR LR 11 55 51.1
comp=Z,371nm,18.7s,baz=334,slow=37
KBZ Khabaz 42.21 131 P **P 11 37 47.0 +1.8**
KBZ pmax pmax
comp=Z,6.0nm,0.9s
KBZ MLR MLR
comp=Z,371nm,18.7s
AGMN Agassiz Nation 42.76 281 *e*P **P 11 37 50.1 +0.4**
comp=Z,14nm,1.4s
PETK Petropavlovsk- 42.85 19 LR LR 11 56 42.8
comp=Z,172nm,18.6s,baz=328,slow=38
MAKZ Makanchi 42.99 90 *e*P **P 11 37 50.9 -0.6**
comp=Z,15nm,1.0s
MAKZ Makanchi 42.99 90 *e*P **P 11 37 50.9 -0.6**
MAKZ pmax pmax
comp=Z,15nm,1.0s
MK31 Makanchi Array 43.04 90 *e*P **P 11 37 51.3 -0.6**
MK31 Makanchi Array 43.04 90 *e*P **P 11 37 51.3 -0.6**
MKAR Makanchi Array 43.04 90 P **P 11 37 50.8 -1.1**
comp=Z,3.5nm,1.0s,baz=352,slow=7.3,SNR=20
MKAR LR LR 11 58 08.2
comp=Z,234nm,20.8s,baz=338,slow=39
MKAR Makanchi Array 43.04 90 *e*P **P 11 37 51.3 -0.6**
comp=Z,14nm,0.8s
MKAR Makanchi Array 43.04 90 *e*P **P 11 37 51.3 -0.6**
MKAR pmax pmax
comp=Z,14nm,0.8s
MK01 Makanchi Array 43.06 90 *e*P **P 11 37 51.1 -1.0**
MATE Matera 43.73 160⇑*i*P **P 11 37 59.5 +2.0**
FNA Florina 43.78 155 P **P 11 37 58.4 +0.4**
FNA pmax pmax
comp=Z,22nm,0.9s
WALA Waterton Lakes 43.81 299 *e*P **P 11 37 58.3 0.0**
comp=Z,10nm,1.0s
PLVO Plevna 43.99 262 *e*P **P 11 38 01.1 +1.6**
comp=Z,41nm,1.8s
ES19 SONSECA Array 44.36 183 *e*P **P 11 38 03.9 +1.2**
ESDC Sonseca Array 44.39 183 P **P 11 38 03.2 +0.3**
comp=Z,1.3nm,0.8s,baz=357,slow=8.2,SNR=8.7
SONA1 Songino Array 44.50 66 *e*P **P 11 38 02.9 -0.9**
SONM Songino Array 44.51 66 P **P 11 38 02.4 -1.5**
comp=Z,13nm,1.1s,baz=338,slow=7.1,SNR=17
SONM LR LR 11 57 35.7
comp=Z,212nm,18.2s,baz=330,slow=38
PAB San Pablo 44.52 184 *e*P **P 11 38 04.9 +0.9**
comp=Z,22nm,1.6s
PAB San Pablo 44.52 184 *e*P **P 11 38 04.9 +0.9**
PAB pmax pmax
comp=Z,22nm,1.6s
ULN Ulaanbaatar 44.55 66 *e*P **P 11 38 03.8 -0.4**
comp=Z,19nm,1.0s
ULN Ulaanbaatar 44.55 66 *ce*P **P 11 38 03.8 -0.4**
ULN pmax pmax
comp=Z,27nm,1.2s
HNH Hanover 44.80 257 *e*P **P 11 38 08.7 +2.6**
comp=Z,54nm,1.6s
JTMT Jette 45.15 299 *e*P **P 11 38 09.3 +0.3**
comp=Z,5.6nm,0.9s
TIP Timpagrande 45.20 160⇑*i*P **P 11 38 11.1 +1.7**

TIP	**Timpagrande**	**45.20**	**160**	*e*P		**P**	**11 38 11.0**	**+1.6**
	comp=Z,9.8nm,1.0s							
KLR	**Kul'dur**	**45.31**	**43**	LR		LR	11 56 25.3	
	comp=Z,14nm,20.3s,baz=344,slow=35							
LAO	**LASA Array**	**45.42**	**291**	*e*P		**P**	**11 38 11.8**	**+0.7**
	comp=Z,9.2nm,1.0s							
KK31	**Karatay Array**	**45.44**	**103**	*e*P		**P**	**11 38 11.5**	**+0.3**
KK31	**Karatay Array**	**45.44**	**103**	*e*P		**P**	**11 38 11.5**	**+0.3**
KKAR	**Karatay Array**	**45.44**	**103**	*e*P		**P**	**11 38 11.5**	**+0.3**
KKAR	**Karatay Array**	**45.44**	**103**	*e*P		**P**	**11 38 11.5**	**+0.3**
BR131	**Keskin Array S**	**45.52**	**142**	*e*P		**P**	**11 38 12.2**	**+0.2**
BRTR	**Keskin Array B**	**45.52**	**142**	P		**P**	**11 38 13.2**	**+1.1**
	comp=Z,3.8nm,1.0s,baz=2.2,slow=6.9,SNR=16							
BRTR				LR		LR	11 58 49.0	
	comp=Z,307nm,20.6s,baz=346,slow=38							
GNI	**Garni**	**45.92**	**130**	LR		LR	11 58 21.6	
	comp=Z,372nm,20.3s,baz=349,slow=37							
HRY	**Holter Researc**	**45.94**	**296**	*e*P		**P**	**11 38 14.7**	**-0.6**
MSO	**Missoula**	**46.03**	**298**	*e*P		**P**	**11 38 16.3**	**+0.4**
	comp=Z,12nm,1.3s							
FRU	**Bishkek**	**46.13**	**99**	*e*P		**P**	**11 38 18.5**	**+1.8**
FRU				pmax	pmax			
	comp=Z,18nm,1.6s							
FRU1	**Bishkek**	**46.16**	**99**	P		**P**	**11 38 18.9**	**+1.9**
FRU1				pmax	pmax			
	comp=Z,20nm,1.0s							
AAK	**Ala-Archa**	**46.31**	**99**	P		**P**	**11 38 18.4**	**+0.1**
	comp=Z,6.2nm,1.0s,baz=15,slow=7.9,SNR=13							
AAK	**Ala-Archa**	**46.31**	**99**	*e*P		**P**	**11 38 19.1**	**+0.8**
	comp=Z,9.5nm,1.0s							
AAK	**Ala-Archa**	**46.31**	**99**	*e*P		**P**	**11 38 19.1**	**+0.8**
AAK				pmax	pmax			
	comp=Z,9.0nm,1.0s							
MANT	**Manisa**	**46.43**	**148**	*e*P		**P**	**11 38 20.9**	**+1.6**
	comp=Z,25nm,0.8s							
WMQ	**Urumqi**	**46.55**	**85**	P		**P**	**11 38 20.8**	**+0.8**
WMQ				pP		sP	11 38 25.5	+1.1
WMQ				sP		pP	11 38 28.5	+5.3
WMQ				pmax	pmax			
	comp=Z,18nm,1.5s							
WMQ				pmax	pmax			
	comp=Z,290nm,6.5s							
WMQ				LR		LR		
	comp=Z,940nm,22.9s							
WMQ				LR		LR		
	comp=Z,590nm,24.7s							
WMQ				LR		LR		
	comp=Z,1μm,21.3s							
GCMT	**Greycliff**	**46.65**	**294**	*e*P		**P**	**11 38 21.8**	**+1.0**
VAE	**Valguarnera**	**46.81**	**163**	LR		LR	11 58 46.0	
	comp=Z,292nm,18.6s,baz=10,slow=37							
LON	**Longmire**	**46.82**	**306**	*e*P		**P**	**11 38 22.7**	**+0.6**
	comp=Z,14nm,1.6s							
LON	**Longmire**	**46.82**	**306**	*e*P		**P**	**11 38 22.7**	**+0.6**
LON				pmax	pmax			
	comp=Z,14nm,1.6s							
BOZ	**Bozeman (W)**	**47.03**	**296**	*e*P		**P**	**11 38 24.3**	**+0.5**
	comp=Z,5.0nm,1.0s							
BOZ	**Bozeman (W)**	**47.03**	**296**	*e*P		**P**	**11 38 24.3**	**+0.5**
BOZ				pmax	pmax			
	comp=Z,5.0nm,1.0s							
ECSD	**EROS Data Cent**	**47.36**	**281**	*e*P		**P**	**11 38 26.8**	**+0.6**
	comp=Z,7.9nm,1.0s							
RSSD	**Black Hills**	**47.74**	**289**	*e*P		**P**	**11 38 30.8**	**+1.3**
	comp=Z,3.9nm,0.8s							
RSSD	**Black Hills**	**47.74**	**289**	*e*P		**P**	**11 38 30.8**	**+1.3**
RSSD				pmax	pmax			
	comp=Z,4.0nm,0.8s							
M54A	**Oil Creek Stat**	**47.75**	**264**	*e*P		**P**	**11 38 29.9**	**+0.5**
	comp=Z,36nm,1.8s							
YHH	**Holmes Hill**	**47.75**	**295**	*e*P		**P**	**11 38 29.8**	**+0.2**
	comp=Z,1.8nm,0.9s							
YHB	**Horse Butte**	**47.82**	**295**	*e*P		**P**	**11 38 30.3**	**+0.1**
	comp=Z,8.0nm,1.3s							
MCMT	**McKenzie Canyo**	**47.91**	**297**	*e*P		**P**	**11 38 31.4**	**+0.6**
H17A	**Grant Village**	**48.12**	**295**	*e*P		**P**	**11 38 32.3**	**-0.2**
	comp=Z,18nm,2.0s							
YPP	**Pitchstone Pla**	**48.26**	**295**	*e*P		**P**	**11 38 35.7**	**+2.1**
	comp=Z,7.8nm,1.5s							
BMO	**Blue Mountains**	**48.30**	**301**	*e*P		**P**	**11 38 35.4**	**+1.7**
	comp=Z,6.7nm,1.1s							
BMO	**Blue Mountains**	**48.30**	**301**	*e*P		**P**	**11 38 35.4**	**+1.7**
BMO				pmax	pmax			
	comp=Z,7.0nm,1.1s							
KEST	**Kesra**	**48.42**	**169**	LR		LR	12 00 52.6	
	comp=Z,224nm,18.4s,baz=312,slow=38							
IMW	**Indian Meadow**	**48.65**	**295**	*e*P		**P**	**11 38 37.6**	**+1.1**
	comp=Z,3.2nm,0.9s							
MOOW	**Moose Ponds**	**48.77**	**295**	*e*P		**P**	**11 38 38.1**	**+0.6**
	comp=Z,1.3nm,2.0s							
FXWY	**Fox Creek**	**48.91**	**295**	*e*P		**P**	**11 38 39.2**	**+0.7**
	comp=Z,19nm,2.0s							
HLID	**Hailey**	**49.31**	**298**	*e*P		**P**	**11 38 41.5**	**0.0**
	comp=Z,3.0nm,1.0s							
GEYT	**Alibeck**	**49.31**	**116**	P		**P**	**11 38 41.6**	**+0.2**
	comp=Z,5.4nm,0.8s,baz=312,slow=7.6,SNR=13							
GEYT				LR		LR	12 04 52.9	
	comp=Z,547nm,18.1s,baz=30,slow=43							
IDI	**Anoyia**	**49.42**	**152**	LR		LR	12 00 28.7	
	comp=Z,334nm,20.7s,baz=330,slow=37							
KSH	**Kashi**	**49.56**	**98**	P		**P**	**11 38 47.8**	**+4.4**
PDAR	**Pinedale Array**	**49.63**	**294**	P		**P**	**11 38 43.0**	**-1.0**
	comp=Z,1.1nm,0.9s,baz=20,slow=4.7,SNR=7.5							
PDAR				LR		LR	12 00 11.5	
	comp=Z,1μm,19.2s,baz=9.5,slow=37							
PDAR	**Pinedale Array**	**49.63**	**294**	*e*P		**P**	**11 38 42.5**	**-1.5**
CN2	**Changchun**	**50.23**	**49**	*e*P		**P**	**11 38 48.0**	**-0.2**
USRK	**Ussuriysk Ar.**	**50.34**	**43**	P		**P**	**11 38 46.5**	**-2.6**
	comp=Z,3.8nm,0.9s,baz=15,slow=7.9,SNR=5.5							
HWUT	**Hardware Ranch**	**50.98**	**295**	*e*P		**P**	**11 38 54.3**	**+0.1**
	comp=Z,6.5nm,1.1s							
YBH	**Yreka Blue Hor**	**51.88**	**306**	LR		LR	12 02 58.5	
	comp=Z,399nm,18.5s,baz=5.0,slow=38							
HHC	**Hu-ho-hao-te**	**51.93**	**63**	*e*P		**P**	**11 39 01.8**	**+0.6**
BLA	**Blacksburg**	**52.09**	**264**	*e*P		**P**	**11 39 03.5**	**+1.1**
	comp=Z,24nm,1.4s							
BLA	**Blacksburg**	**52.09**	**264**	*e*P		**P**	**11 39 03.5**	**+1.1**
BLA				pmax	pmax			
	comp=Z,24nm,1.4s							
GTA	**Gaotai**	**52.19**	**74**	P		**P**	**11 39 03.3**	**+0.1**
GTA				pP		pP	11 39 07.8	+1.5
GTA				sP		sP	11 39 10.5	+2.9
GTA				S		**S**	**11 46 28.8**	**+1.4**
GTA				pmax	pmax			
	comp=Z,11nm,1.0s							
GTA				pmax	pmax			
	comp=Z,98nm,4.2s							
GTA				LR		LR		
	comp=Z,280nm,16.6s							
GTA				LR		LR		
	comp=Z,280nm,16.2s							
GTA				LR		LR		
	comp=Z,400nm,17.1s							
MMAI	**Mount Meron Ar**	**52.31**	**141**	P		**P**	**11 39 03.7**	**-0.3**
	comp=Z,1.2nm,0.3s,baz=352,slow=8.7,SNR=6.6							
MMAI				LR		LR	12 04 25.2	
	comp=Z,181nm,18.1s,baz=215,slow=40							
SMCO	**Snowmass**	**52.93**	**290**	*e*P		**P**	**11 39 09.7**	**+0.7**
	comp=Z,8.8nm,1.4s							
P17A	**Butcher Ranch,**	**53.01**	**294**	*e*P		**P**	**11 39 09.8**	**+0.4**
	comp=Z,1.1nm,1.6s							
TMUT	**Trail Mountain**	**53.23**	**295**	*e*P		**P**	**11 39 12.9**	**+1.8**
	comp=Z,6.6nm,1.1s							
Q16A	**Castle Valley**	**53.60**	**294**	*e*P		**P**	**11 39 14.7**	**+0.9**
	comp=Z,7.9nm,1.1s							
TKL	**Tuckaleechee C**	**53.98**	**267**	LR		LR	12 01 39.9	
	comp=Z,524nm,21.4s,baz=14,slow=35							
PV01	**Paradox Valley**	**54.12**	**292**	*e*P		**P**	**11 39 18.1**	**+0.6**
S22A	**4UR Ranch, Cre**	**54.33**	**290**	*e*P		**P**	**11 39 20.4**	**+1.2**
	comp=Z,6.9nm,1.4s							
MTPU	**Mount Pierson**	**54.57**	**295**	*e*P		**P**	**11 39 22.2**	**+1.2**
	comp=Z,9.3nm,1.5s							
NV01	**Mina Array Sit**	**54.76**	**301**	*e*P		**P**	**11 39 22.4**	**+0.2**
NVAR	**Mina Array Bea**	**54.76**	**301**	P		**P**	**11 39 21.1**	**-1.0**
	comp=Z,0.7nm,0.8s,baz=3.8,slow=4.5,SNR=5.6							
NVAR				LR		LR	12 03 34.9	
	comp=Z,340nm,18.4s,baz=274,slow=37							
MVCO	**Mesa Verde**	**55.03**	**292**	*e*P		**P**	**11 39 26.1**	**+1.9**
	comp=Z,9.8nm,1.3s							
NIL	**Nilore**	**55.08**	**102**	*e*P		**P**	**11 39 25.7**	**+1.4**
	comp=Z,10nm,1.0s							
NIL	**Nilore**	**55.08**	**102**	*e*P		**P**	**11 39 25.7**	**+1.4**
NIL				pmax	pmax			
	comp=Z,11nm,1.0s							
LCMT	**Little Creek M**	**55.69**	**296**	*e*P		**P**	**11 39 30.1**	**+1.3**
	comp=Z,2.2nm,1.0s							
LZH	**Lanzhou**	**55.89**	**71**	*e*P		**P**	**11 39 31.3**	**+1.0**
LZH				pP		sP	11 39 35.8	+1.1
LZH				sP		pP	11 39 38.5	+5.0
LZH				pmax	pmax			
	comp=Z,22nm,0.6s							
LZH				pmax	pmax			
	comp=Z,94nm,4.9s							
MIAR	**Mount Ida**	**56.12**	**277**	*e*P		**P**	**11 39 31.9**	**+0.1**
	comp=Z,7.7nm,1.1s							
MIAR	**Mount Ida**	**56.12**	**277**	*e*P		**P**	**11 39 31.9**	**+0.1**
MIAR				pmax	pmax			
	comp=Z,8.0nm,1.1s							
SHPR	**Sheep Range**	**56.38**	**298**	*e*P		**P**	**11 39 35.4**	**+1.7**
	comp=Z,8.3nm,1.6s							
KSRS	**Korea Array**	**56.73**	**48**	P		**P**	**11 39 34.0**	**-2.0**
	comp=Z,2.7nm,1.0s,baz=353,slow=6.8,SNR=12							
KSRS				LR		LR	12 04 50.1	
	comp=Z,75nm,19.1s,baz=65,slow=37							
KSAR	**Wonju Array Be**	**56.74**	**48**	P		**P**	**11 39 34.0**	**-2.1**
KSAR	**Wonju Array Be**	**56.74**	**48**	P		**P**	**11 39 34.0**	**-2.1**
WLAR	**White Oak Lake**	**56.92**	**276**	*e*P		**P**	**11 39 39.3**	**+1.9**
	comp=Z,25nm,1.1s							
ANMO	**Albuquerque**	**57.07**	**289**	*e*P		**P**	**11 39 39.3**	**+0.6**
	comp=Z,12nm,1.9s							
ANMO	**Albuquerque**	**57.07**	**289**	*e*P		**P**	**11 39 39.3**	**+0.6**
ANMO				pmax	pmax			
	comp=Z,12nm,1.9s							
Y22D	**IRIS PASSCAL I**	**57.98**	**290**	*e*P		**P**	**11 39 46.0**	**+0.9**
	comp=Z,20nm,0.6s							
MJAR	**Matsushiro Arr**	**58.39**	**38**	P		**P**	**11 39 44.7**	**-3.0**
	comp=Z,2.8nm,1.0s,baz=348,slow=7.4,SNR=9.7							
XAN	**Xi'an**	**58.42**	**66**	P		**P**	**11 39 48.8**	**+0.7**
XAN				pP		sP	11 39 55.5	+3.0
XAN				pmax	pmax			
	comp=Z,81nm,1.0s							
TUC	**Tucson**	**60.11**	**293**	*e*P		**P**	**11 40 00.5**	**+0.7**
	comp=Z,5.2nm,1.1s							
TUC	**Tucson**	**60.11**	**293**	*e*P		**P**	**11 40 00.5**	**+0.7**
TUC				pmax	pmax			
	comp=Z,5.0nm,1.1s							
JCT	**Junction City**	**60.80**	**282**	*e*P		**P**	**11 40 06.3**	**+1.8**
	comp=Z,14nm,1.2s							
JCT	**Junction City**	**60.80**	**282**	*e*P		**P**	**11 40 06.3**	**+1.8**
JCT				pmax	pmax			
	comp=Z,14nm,1.2s							
NJ2	**Nanjing**	**61.33**	**57**	*e*P		**P**	**11 40 09.0**	**+1.1**
NJ2				pmax	pmax			
	comp=Z,15nm,1.0s							
DANN	**Dangsing**	**61.43**	**92**	*e*P		**P**	**11 40 08.1**	**-1.0**
	comp=Z,119nm,1.0s							
PYUN	**Piuthan**	**61.60**	**93**	*e*P		**P**	**11 40 08.3**	**-1.8**
	comp=Z,98nm,1.1s							
GKN	**Gorkha**	**61.87**	**91**	*e*P		**P**	**11 40 10.3**	**-1.6**
	comp=Z,88nm,1.0s							
KOLN	**Koldanda**	**61.99**	**92**	*e*P		**P**	**11 40 10.7**	**-2.0**
	comp=Z,25nm,1.0s							
GUN	**Gumba**	**62.09**	**90**	*e*P		**P**	**11 40 12.5**	**-1.1**
	comp=Z,80nm,1.0s							
KKN	**Kakani**	**62.15**	**90**	*e*P		**P**	**11 40 12.6**	**-1.2**
	comp=Z,87nm,1.0s							
DMN	**Daman**	**62.31**	**91**	*e*P		**P**	**11 40 13.3**	**-1.7**
	comp=Z,54nm,1.1s							
TX31	**Lajitas Ar. Si**	**62.34**	**286**	*e*P		**P**	**11 40 14.7**	**-0.2**
TXAR	**Lajitas Array**	**62.34**	**286**	P		**P**	**11 40 13.1**	**-1.8**
	comp=Z,0.8nm,0.8s,baz=32,slow=3.6,SNR=6.8							
TXAR				LR		LR	12 08 12.8	
	comp=Z,903nm,18.3s,baz=0.0,slow=37							
PKIN	**Phulchoki**	**62.37**	**90**	*e*P		**P**	**11 40 14.2**	**-1.2**
JIRN	**Jiri**	**62.38**	**90**	*e*P		**P**	**11 40 14.7**	**-0.8**
	comp=Z,96nm,1.0s							
RAMN	**Ramite**	**63.12**	**89**	*e*P		**P**	**11 40 19.2**	**-1.2**
	comp=Z,71nm,1.0s							
ODAN	**Odare**	**63.30**	**88**	*e*P		**P**	**11 40 19.1**	**-2.4**
	comp=Z,38nm,0.8s							
WSAR	**Wadi Sarin**	**63.91**	**118**	LR		LR	12 13 33.0	
	comp=Z,207nm,19.8s,baz=3.5,slow=41							
LPIG	**La Paz**	**68.19**	**292**	LR		LR	12 12 07.0	
	comp=Z,575nm,18.7s,baz=20,slow=37							
TOA0	**Torodi Ar. Sit**	**70.81**	**177**	*e*P		**P**	**11 41 09.0**	**-0.1**
TORD	**Torodi Ar. Bea**	**70.81**	**177**	P		**P**	**11 41 08.3**	**-0.7**
	comp=Z,2.8nm,1.1s,baz=354,slow=4.8,SNR=10							
CM31	**Chiang Mai Arr**	**72.83**	**78**	*e*P		**P**	**11 41 20.6**	**-0.6**
CMAR	**Chiang Mai Arr**	**72.83**	**78**	P		**P**	**11 41 19.1**	**-2.0**
	comp=Z,11nm,1.0s,baz=346,slow=7.2,SNR=36							
CMAR				LR		LR	12 15 13.7	
	comp=Z,184nm,20.1s,baz=358,slow=37							
CM01	**Chiang Mai Arr**	**72.87**	**78**	*e*P		**P**	**11 41 19.7**	**-1.6**
SDV	**Santo Domingo**	**79.08**	**251**	LR		LR	12 15 03.8	
	comp=Z,209nm,21.9s,baz=143,slow=34							
JTS	**JuntasAbangare**	**79.16**	**265**	LR		LR	12 16 26.6	
	comp=Z,158nm,21.6s,baz=50,slow=35							
AS01	**Alice Springs**	**117.79**	**47**	*e*PKPdf		**PKPdf**	**11 48 38.5**	**+0.1**
VNDA	**Vanda**	**173.07**	**32**	*e*PKPdf		**PKPdf**	**11 50 03.0**	**+3.4**
VNDA	**Vanda**	**173.07**	**32**	*e*PKIKP		**PKPdf**	**11 50 03.0**	**+3.4**

*ISCJB **29** 11:32:43.9±1.1,5.1°S±0.7°×151.7°E±0.7°, h70km, mb3.7/5, Error ellipse: s-maj=136.5km s-min=10.7km az=43.5*
*IDC **29** 11:32:44.7±5.5, 5.2°S×151.8°E, h67km±49km, mb3.6/5, mb1 3.9/6, mb1mx3.3/55, mbtmp3.9/6, ML2.1/1, Error ellipse: s-maj=122.0km s-min=28.8km az=131.0*
ISC 29 11:32:45.1±1.3, 5.2°S±0.6°×151.8°E±0.7, h70km, n7, σ0.6°67/8, mb3.7/5, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PMG	**Port Moresby**	**6.22**	**227**	P		**Pn**	**11 34 14.1**	**-0.3**
	2.5nm,0.3s,baz=56,slow=11,SNR=9.9							
PMG				S		**Sn**	**11 35 25.1**	**+0.9**
	6.4nm,0.3s,baz=64,slow=18,SNR=7.3							
WRA	**Warramunga Arr**	**22.44**	**228**	P		**P**	**11 37 37.8**	**-0.7**
	1.2nm,0.6s,baz=54,slow=10.0,SNR=13							
ASAR	**Alice Springs**	**25.20**	**221**	P		**P**	**11 38 04.0**	**-0.5**
	1.1nm,0.5s,baz=57,slow=9.1,SNR=34							
ILAR	**Eielson Array**	**82.87**	**22**	P		**P**	**11 45 01.4**	**-0.4**
	1.7nm,0.7s,baz=247,slow=5.3,SNR=18							
NVAR	**Mina Array Bea**	**93.11**	**52**	P		**P**	**11 45 52.3**	**+0.3**
	0.4nm,0.7s,baz=248,slow=6.5,SNR=4.0							
YKA	**Yellowknife Ar**	**96.21**	**28**	P		**P**	**11 46 05.8**	**+0.5**
	0.2nm,0.8s,baz=276,slow=4.8,SNR=7.1							
TORD	**Torodi Ar. Bea**	**149.43**	**287**	PKPbc		**PKPbc**	**11 52 27.5**	**+0.1**
	1.0nm,0.8s,baz=92,slow=2.4,SNR=6.2							

*ISCJB **29** 11:33:06.6±0.3, 84.06°N±0.05°×1.6°W±0.5, h10km, mb4.0/31, Error ellipse: s-maj=7.6km s-min=6.3km az=151.5*
*IDC **29** 11:33:06.4±0.6, 84.11°N×1.76°W, h0km, mb3.8/21, mb1 3.9/24, mb1mx3.7/75, mbtmp3.8/24, ML3.3/3, Error ellipse: s-maj=16.0km s-min=11.7km az=34.0*
*NEIC **29** 11:33:08.4±0.3, 84.00°N×1.30°W, h10km, mb4.4/15, Error ellipse: s-maj=7.3km s-min=5.5km az=59.0*
*IEPN **29** 11:33:11.0, 84.05°N×6.85°E, h20km, station ZFI2 has station magnitude of 3.00*
ISC 29 11:33:08.2±0.5, 84.03°N±0.06°×1.20°W±0.07, h10km, n71, σ1.8°32/73, mb4.0/31, North of Svalbard

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KBS	**Kingsbay**	**5.46**	**153**	*e*Pn		**Pn**	**11 34 27.0**	**-2.5**
KBS				*e*Sn		**Sn**	**11 35 32.1**	**-0.2**
KBS	**Kingsbay**	**5.46**	**153**	Pn		**Pn**	**11 34 27.3**	**-2.2**
KBS				Sn		Sn	11 35 23.5	-8.8
KBS	**Kingsbay**	**5.46**	**153**	*i* P		**Pn**	**11 34 27.0**	**-2.5**
KBS				*i* S		Sn	11 35 23.3	-9.0
SPA0	**Spitsbergen Ar**	**6.43**	**146**	*e*Pn		**Pn**	**11 34 41.3**	**-1.5**
SPA0	**Spitsbergen Ar**	**6.43**	**146**	Pn		**Pn**	**11 34 38.8**	**-3.9**
	baz=339,slow=16							
SPA0	**Spitsbergen Ar**	**6.43**	**146**	*i* P		**Pn**	**11 34 40.3**	**-2.4**
SPA0				*i* S		Sn	11 35 47.5	-8.5
SPITS	**Spitsbergen Ar**	**6.43**	**146**	Pn		**Pn**	**11 34 39.6**	**-3.2**
	baz=349,slow=13,SNR=4.3							
SPITS				Sn		Sn	11 35 47.4	-8.6
	baz=357,slow=22,SNR=1.8							
ZFI2	**Zemlya Franca-**	**6.96**	**91**	*i* P		**Pn**	**11 34 46.8**	**-3.1**
ZFI2				*i* S		Sn	11 35 53.0	-16
	5.9nm,1.3s							
SCO	**Scoresbysund**	**14.17**	**209**	*e*Pn		**Pn**	**11 36 29.8**	**+1.2**
ARA0	**ARCESS Array S**	**15.45**	**144**	*e*Pn		**Pn**	**11 36 44.5**	**-1.3**
ARA0	**ARCESS Array S**	**15.45**	**144**	P		**Pn**	**11 36 45.2**	**-0.6**
	baz=5.2,slow=10							
ARCES	**ARCESS Array B**	**15.45**	**144**	Pn		**Pn**	**11 36 44.5**	**-1.3**
	0.1nm,0.3s,baz=356,slow=11,SNR=3.1							
LVZ	**Lovozero**	**17.70**	**133**	*e*Pn		**Pn**	**11 37 14.0**	**-0.4**
	43nm,1.2s							
SFJD	**Kangerlussuaq**	**19.74**	**242**	P		**P**	**11 37 36.1**	**-1.4**
	0.3nm,0.3s,baz=7.4,slow=6.5,SNR=2.3							
SFJD	**Kangerlussuaq**	**19.74**	**242**	*e*P		**P**	**11 37 36.4**	**-1.2**
	21nm,1.3s							
TIXI	**Tiksi**	**22.79**	**39**	P		**P**	**11 38 08.9**	**-1.5**
	0.6nm,0.2s,baz=12,slow=9.7,SNR=4.2							
NBO02	**NORSAR Array S**	**23.27**	**165**	*e*P		**P**	**11 38 16.1**	**+0.7**
NB201	**NORSAR Array S**	**23.28**	**165**	*e*P		**P**	**11 38 16.1**	**+0.5**
NB2	**NORSAR Subarra**	**23.29**	**165**	P		**P**	**11 38 15.9**	**+0.4**
NB200	**NORSAR Array S**	**23.29**	**165**	*e*P		**P**	**11 38 16.0**	**+0.4**
NOA	**NORSAR Array B**	**23.29**	**165**	P		**P**	**11 38 16.0**	**+0.4**
	1.2nm,0.8s,baz=354,slow=9.4,SNR=3.4							
FIA0	**FINESS Array S**	**23.52**	**147**	*e*P		**P**	**11 38 18.6**	**+0.7**
FINES	**FINESS Array B**	**23.52**	**147**	P		**P**	**11 38 18.6**	**+0.7**
	3.4nm,1.0s,baz=356,slow=8.4,SNR=3.4							
INK	**Inuvik**	**26.23**	**322**	P		**P**	**11 38 41.5**	**-1.2**
	3.4nm,1.0s,baz=16,slow=14,SNR=5.9							
INK	**Inuvik**	**26.23**	**322**	*e*P		**P**	**11 38 42.5**	**-0.2**
	8.5nm,1.3s							
YKA	**Yellowknife Ar**	**30.52**	**303**	P		**P**	**11 39 19.9**	**-1.0**
	0.2nm,0.8s,baz=6.0,slow=8.3,SNR=3.8							
YKA				PcP		**PcP**	**11 42 19.6**	**+0.3**
	0.2nm,0.7s,baz=8.9,slow=2.0,SNR=5.0							
IL1	**Eielson Array**	**30.52**	**332**	*e*P		**P**	**11 39 22.7**	**+1.7**
ILAR	**Eielson Array**	**30.52**	**332**	P		**P**	**11 39 19.7**	**-1.3**
	0.2nm,0.7s,baz=7.3,slow=7.6,SNR=2.8							
ILB	**Eielson Array**	**30.52**	**332**	*e*P		**P**	**11 39 20.7**	**-0.3**
DAWY	**Dawson**	**30.81**	**325**	*e*P		**P**	**11 39 24.3**	**+0.7**
	1.9nm,0.8s							
BVAR	**Borovoye Array**	**35.65**	**101**	P		**P**	**11 40 06.5**	**+0.7**
	0.4nm,0.4s,baz=5.4,slow=7.7,SNR=5.0							
ZAA1	**Zalesovo Array**	**36.24**	**86**	*e*P		**P**	**11 40 11.4**	**+0.5**
ZALV	**Zalesovo Beam**	**36.25**	**86**	P		**P**	**11 40 11.4**	**+0.5**
	1.2nm,0.5s,baz=9.8,slow=9.6,SNR=4.3							
ZALV	**Zalesovo Beam**	**36.25**	**86**	*e*P		**P**	**11 40 11.8**	**+0.9**
BUR04	**Bucovina Ar. S**	**37.27**	**150**	*e*P		**P**	**11 40 20.9**	**+1.2**
KURK	**Kurchatov**	**38.79**	**93**	*e*P		**P**	**11 40 32.5**	**+0.1**
	3.2nm,0.9s							
KURBB	**Kurchatov Arra**	**38.87**	**93**	P		**P**	**11 40 33.3**	**+0.2**
	0.8nm,0.2s,baz=352,slow=8.1,SNR=10							
BLY	**Banja Luka**	**39.77**	**159**	*e*P		**P**	**11 40 42.0**	**+1.3**
	7.1nm,1.2s							
TLY	**Talaya**	**40.40**	**68**	*e*P		**P**	**11 40 46.8**	**+0.9**
	12nm,1.5s							
KBZ	**Khabaz**	**42.31**	**131**	P		**P**	**11 41 02.7**	**+1.2**
	2.0nm,0.8s,baz=293,slow=5.7,SNR=4.3							
MAKZ	**Makanchi**	**43.00**	**90**	*e*P		**P**	**11 41 08.2**	**+1.0**
	16nm,1.4s							
MK31	**Makanchi Array**	**43.05**	**90**	*e*P		**P**	**11 41 08.2**	**+0.6**
MK32	**Makanchi Array**	**43.05**	**90**	*e*P		**P**	**11 41 07.1**	**-0.5**
MKAR	**Makanchi Array**	**43.05**	**90**	P		**P**	**11 41 07.1**	**-0.5**
	0.8nm,0.7s,baz=352,slow=7.4,SNR=4.6							
MKAR	**Makanchi Array**	**43.05**	**90**	*e*P		**P**	**11 41 08.2**	**+0.6**
	9.7nm,0.8s							
MK01	**Makanchi Array**	**43.08**	**90**	*e*P		**P**	**11 41 08.4**	**+0.6**
FNA	**Florina**	**43.90**	**155**	*e*P		**P**	**11 41 14.9**	**+0.3**
	7.4nm,1.0s							
SONA1	**Songino Array**	**44.46**	**66**	*e*P		**P**	**11 41 19.8**	**+0.7**
SONA0	**Songino Array**	**44.47**	**66**	*e*P		**P**	**11 41 19.1**	**0.0**
SONM	**Songino Array**	**44.47**	**66**	P		**P**	**11 41 19.1**	**0.0**
	4.4nm,0.9s,baz=340,slow=7.4,SNR=9.6							
ULN	**Ulaanbaatar**	**44.51**	**66**	*e*P		**P**	**11 41 20.0**	**+0.6**
	14nm,1.1s							
KLR	**Kul'dur**	**45.23**	**43**	P		**P**	**11 41 24.6**	**-

AS31	Alice Springs	50.05	123	eP	P	11 43 44.5	-0.6
	0.8nm,0.6s						
ASAR	Alice Springs	50.05	123	P	P	11 43 44.5	-0.6
	0.7nm,0.6s,baz=297,slow=7.6,SNR=14						
ZALV	Zalesovo Beam	52.24	357	P	P	11 44 00.2	-0.9
	0.9nm,0.4s,baz=186,slow=7.7,SNR=5.0						
ZALV	Zalesovo Beam	52.24	357	eP	P	11 44 01.2	+0.2
ZAA1	Zalesovo Array	52.25	357	eP	P	11 44 00.2	-0.9
STKA	Stephens Creek	59.59	129	P	P	11 44 54.2	0.0
	2.4nm,0.9s,baz=276,slow=10,SNR=3.2						
STKA	Stephens Creek	59.59	129	eP	P	11 44 54.2	0.0
	1.2nm,1.1s						
CTA	Charters Tower	59.74	114	P	P	11 44 55.2	-0.1
	1.5nm,0.6s,baz=259,slow=5.2,SNR=2.6						
BR101	Keskin Array S	63.12	314	eP	P	11 45 17.5	-0.6
BRTR	Keskin Array B	63.12	314	P	P	11 45 17.5	-0.6
	1.1nm,0.7s,baz=127,slow=8.1,SNR=6.9						
MLR	Muntele Rosu	70.44	318	eP	P	11 46 05.9	+1.2
	6.8nm,0.8s						
TIXI	Tiksi	74.22	12	P	P	11 46 25.7	-0.9
	0.9nm,0.3s,baz=205,slow=1.9,SNR=4.3						
FIA0	FINESS Array S	76.06	334	eP	P	11 46 35.7	-1.6
FINES	FINESS Array B	76.06	334	P	P	11 46 35.7	-1.6
	0.9nm,0.8s,baz=84,slow=5.7,SNR=2.3						
GEA0	GERESS Array S	79.35	319	eP	P	11 46 56.4	+0.3
GEC2	GERESS Array S	79.35	319	eP	P	11 46 56.4	+0.2
	5.3nm,1.2s						
GERES	GERESS Array B	79.35	319	P	P	11 46 56.4	+0.2
	0.9nm,0.8s,baz=132,slow=5.6,SNR=4.7						
TORD	Torodi Ar. Bea	87.40	283	P	P	11 47 39.0	+0.9
	0.3nm,0.5s,baz=100,slow=4.7,SNR=3.5						
TOA1	Torodi Ar. Sit	87.40	283	eP	P	11 47 39.0	+0.9
KOWA	Kowa	92.90	285	LR	LR	12 28 07.4	
	comp=Z,312nm,20.9s,baz=206,slow=34						
TXAR	Lajitas Array	146.72	21	PKPbc	PKPab	11 54 33.5	-0.5
	1.3nm,0.9s,baz=169,slow=1.3,SNR=6.1						

IDC 29 11:39:32.5±1.4, 0.65N×125.98E, h0km, mb3.9/5, mb1 4.1/5, mb1mx3.5/66, mbtmp4.0/5, Error ellipse: s-maj=160.9km s-min=19.4km az=65.0, Northern Moluca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	22.05	159	P	P	11 44 28.4	-0.7
	2.3nm,0.5s,baz=338,slow=10,SNR=21						
ASAR	Alice Springs	25.37	163	P	P	11 45 02.0	+0.4
	1.0nm,0.7s,baz=340,slow=7.5,SNR=10						
STKA	Stephens Creek	35.57	157	P	P	11 46 31.9	+0.1
	2.3nm,0.9s,baz=337,slow=7.7,SNR=3.5						
MKAR	Makanchi Array	59.67	327	P	P	11 49 38.4	-0.4
	0.4nm,0.5s,baz=125,slow=7.3,SNR=5.6						
KURBB	Kurchatov Arra	63.93	329	P	P	11 50 07.6	+0.2
	0.8nm,0.2s,baz=133,slow=6.5,SNR=3.1						

ISCJB 29 11:39:35.3±0.6,27.10N±0.07×140.2E±0.1, h350km, mb3.4/12, Error ellipse: s-maj=16.9km s-min=8.6km az=166.9

IDC 29 11:39:39.2±1.0,27.31N×140.06E, h371km±10km, mb3.2/11, mb1 3.3/15, mb1mx3.1/75, mbtmp3.9/15, Error ellipse: s-maj=22.0km s-min=10.3km az=87.0

ISC 29 11:39:37.5±0.8, 27.22N±0.09×140.2E±0.1, h350km, n17, σ1§81/20, mb3.5/12, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	Chichijima	1.82	93	P	Pn	11 40 31.5	+4.0
	6.1nm,0.3s,baz=229,slow=9.3,SNR=18						
JCJ				S	S	11 41 04.1	-3.6
	12nm,0.3s,baz=278,slow=19,SNR=5.4						
JHJ	Hachijo jima 2	5.89	357	P	Pn	11 41 09.2	+2.3
	11nm,0.3s,baz=98,slow=18,SNR=4.4						
JHJ				S	S	11 42 19.7	+0.3
	9.7nm,0.3s,baz=53,slow=20,SNR=2.7						
MJAR	Matsushiro Arr	9.44	350	P	Pn	11 41 49.5	+0.9
	0.3nm,0.3s,baz=151,slow=5.1,SNR=4.1						
MJAR				S	S	11 43 34.8	-1.2
	0.2nm,0.3s,baz=287,slow=37,SNR=3.9						
KSRS	Korea Array	14.51	318	P	P	11 42 47.7	+1.2
	0.1nm,0.3s,baz=136,slow=11,SNR=3.7						
USRK	Ussuriysk Ar.	18.18	341	P	P	11 43 27.1	+1.0
	0.2nm,0.3s,baz=168,slow=11,SNR=6.3						
KLR	Kul'dur	22.91	346	P	P	11 44 11.8	+0.1
	0.2nm,0.7s,baz=136,slow=7.2,SNR=8.0						
SEY	Seymchan	36.61	9	P	P	11 46 11.7	+0.5
	0.6nm,0.3s,baz=192,slow=16,SNR=3.5						
WRA	Warramunga Arr	47.22	187	P	P	11 47 37.1	+0.5
	2.0nm,0.4s,baz=4.9,slow=7.7,SNR=36						
ASAR	Alice Springs	50.95	187	P	P	11 48 04.8	+0.3
	0.5nm,0.5s,baz=360,slow=5.0,SNR=14						
BVAR	Borovoye Array	56.72	317	P	P	11 48 44.0	-1.6
	0.6nm,0.5s,baz=99,slow=7.4,SNR=3.2						
ILAR	Eielson Array	58.47	29	P	P	11 48 55.9	-1.6
	0.6nm,0.8s,baz=283,slow=6.4,SNR=6.7						
INK	Inuvik	63.67	24	P	P	11 49 31.6	-0.3
	0.4nm,0.3s,baz=282,slow=5.5,SNR=4.9						
YKA	Yellowknife Ar	72.89	28	P	P	11 50 28.2	-0.5
	0.8nm,0.4s,baz=297,slow=6.1,SNR=26						
FINES	FINESS Array B	77.03	333	P	P	11 50 51.3	-0.9
	1.3nm,0.5s,baz=66,slow=4.9,SNR=15						
NVAR	Mina Array Bea	81.86	51	P	P	11 51 19.3	+0.5
	0.6nm,0.7s,baz=291,slow=5.9,SNR=7.5						
HFS	Hagfors	82.58	336	P	P	11 51 19.5	-2.3
	0.4nm,0.4s,baz=56,slow=3.6,SNR=3.6						
NOA	NORSAR Array B	82.81	338	P	P	11 51 21.0	-2.0
	2.4nm,1.1s,baz=46,slow=5.2,SNR=3.4						

IDC 29 11:56:54.9±3.0, 15.53N×98.62W, h0km, mb3.7/5, mb1 3.9/8, mb1mx3.7/45, mbtmp3.6/8, ML3.4/2, Error ellipse: s-maj=58.2km s-min=17.0km az=8.0

MEX 29 11:57:02.5±0.5, 16.14N×98.61W, h2km±6km, MD4.3

NEIC 29 11:57:02.5±0.0, 16.14N×98.61W, h2km, mb4.1/3, MD4.3(MEX), After MEX.

ISC 29 11:57:04.1±1.4, 16.3N±0.1×98.40W±0.06, h17km, n84, σ1§31/91, mb3.7/8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.30	62	eP	Pb	11 57 12.1	+1.0
PNIG				eS	Sn	11 57 20.3	+0.4
PNIG	Pinotepa	0.30	62	eP	Pb	11 57 12.1	+1.0
PNIG				eS	Sn	11 57 20.3	+0.4
TLIG	Tlapa	1.31	353	eP	Pn	11 57 25.7	-2.2
TLIG				i S	Sn	11 57 43.4	-1.8
TLIG	Tlapa	1.31	353	eP	Pn	11 57 25.7	-2.2
TLIG				i S	Sn	11 57 43.4	-1.8
VHO	Vista Hermosa	1.79	63	eP	Pn	11 57 34.5	-0.1
VHO				eS	Sn	11 57 58.7	+1.6
VHO	Vista Hermosa	1.79	63	eP	Pn	11 57 34.5	-0.1
VHO				eS	Sn	11 57 58.7	+1.6
CMIG	Matias Romero	3.47	76	Pn	Pn	11 57 56.8	-0.6
	5.3nm,0.3s,baz=243,slow=14,SNR=49						
CMIG				Sn	Sn	11 58 40.8	+2.6
	4.8nm,0.3s,baz=249,slow=22,SNR=9.6						
CMIG				Lg	Lg	11 58 59.2	
	22nm,0.3s,baz=23,slow=5.7,SNR=4.1						
MOIG	Morelia	4.32	323	ePn	Pn	11 58 13.6	+4.2
MOIG				eSg	Sb	11 59 14.0	+2.2
APG	El Apazote	7.75	98	Pn	Pn	11 58 51.1	-5.3
	0.2nm,0.3s,baz=120,slow=22,SNR=1.7						
APG				Sn	Sn	12 00 23.2	-0.7
	0.6nm,0.3s,baz=20,slow=16,SNR=2.6						
APG				Lg	Lg	12 01 05.2	
	0.5nm,0.3s,baz=300,slow=10.0,SNR=3.9						
H06E1	SOCORRO T-PHASE	12.21	284	T	T	12 12 03.6	
	SNR=37						
TXAR	Lajitas Array	13.89	341	Pn	Pn	12 00 24.1	+3.7
	baz=164,slow=13,SNR=1.6						
W39A	Magazine	19.32	11	P	Pn	12 01 29.9	+0.3
	baz=194						
W40A	Ferguson Farm,	19.46	13	P	Pn	12 01 31.3	+0.1
	baz=196						
Y46A	Houston	19.55	24	P	P	12 01 30.5	-0.5
	baz=209						
LRAL	Lakeview Retre	19.64	30	P	P	12 01 32.2	+0.2
	baz=215						
Z48A	Northport	19.66	28	P	P	12 01 32.4	+0.1
	baz=213						
V39A	Pettigrew	19.96	11	P	P	12 01 35.3	-0.4
	baz=194						
ANMO	Albuquerque	19.97	340	P	P	12 01 36.2	+0.4
	baz=158						
Z49A	Columbiana	19.99	30	P	P	12 01 35.8	-0.1
	baz=216						
Y48A	Jasper	20.29	28	P	P	12 01 38.5	-0.6
	baz=213						
V42A	Cord	20.46	16	P	P	12 01 41.8	+0.9
	baz=200						
X47A	Russelville	20.51	26	P	P	12 01 40.9	-0.6
	baz=210						
U39A	Green Forest	20.52	11	P	P	12 01 40.2	-1.5
	baz=194						
U40A	Yellville	20.62	13	P	P	12 01 41.0	-1.7
	baz=196						
X48A	Hartselle	20.80	27	P	P	12 01 43.7	-0.9
	baz=212						
U42A	Revenden	21.01	16	P	P	12 01 45.3	-1.6
	baz=200						
457A	Yulee	21.02	44	P	P	12 01 45.6	-1.4
	baz=231						
X49A	Woodville	21.17	29	P	P	12 01 46.4	-2.3
	baz=214						
W47A	Westpoint	21.25	25	P	P	12 01 48.6	-0.9
	baz=210						
W48A	Pulaski	21.43	26	P	P	12 01 50.1	-1.3
	baz=212						
T40A	Mansfield	21.46	13	P	P	12 01 50.9	-0.9
	baz=196						
T25A	Trinidad	21.48	347	P	P	12 01 53.0	+0.8
	baz=165						
V46A	Holladay	21.52	23	P	P	12 01 51.3	-1.2
	baz=208,SNR=8.0						
GOGA	Godfrey	21.76	36	P	P	12 01 54.8	-0.2
	baz=222						
V47A	Nunnelly	21.78	24	P	P	12 01 55.8	+0.6
	baz=210,SNR=6.1						
S39A	Bolivar	21.82	11	P	P	12 01 56.3	+0.7
	baz=194						
WVT	Waverly	21.92	23	P	P	12 01 57.5	+0.8
	baz=208						
SWET	Sewanee	21.94	28	eP	P	12 01 55.8	-1.1
	13nm,1.6s						
T43A	Greenville	21.96	18	P	P	12 01 56.4	-0.7
	baz=202						
V48A	Smith Brothers	21.99	26	P	P	12 01 56.8	-0.6
	baz=211						
S41A	Jillco Farms,	22.05	14	P	P	12 01 57.7	-0.4
	baz=198						
SDCO	Great Sand Dun	22.31	345	P	P	12 02 00.7	-0.5
	baz=162						
SDCO	Great Sand Dun	22.31	345	eP	P	12 02 01.7	+0.5
	4.2nm,1.2s						
U47A	Clarksville	22.41	24	P	P	12 02 01.9	0.0
	baz=209,SNR=5.2						
WUAZ	Wupatki	22.42	331	P	P	12 02 03.2	+1.0
	baz=146,SNR=8.2						
WUAZ	Wupatki	22.42	331	eP	P	12 02 03.0	+0.8
	8.0nm,0.9s						
S42A	Caledonia	22.46	16	P	P	12 02 02.6	+0.1
	baz=200						
S43A	Fulton Ridge,	22.48	18	P	P	12 02 02.6	0.0
	baz=202						
R39A	Chumby, Stover	22.48	11	P	P	12 02 01.9	-0.8
	baz=194						
R40A	Maddies Statio	22.61	13	P	P	12 02 04.1	0.0
	baz=196,SNR=7.3						
S22A	4UR Ranch, Cre	22.67	342	P	P	12 02 04.6	-0.5
	baz=159						
T46A	Princeton	22.71	22	P	P	12 02 04.7	-0.4
	baz=207						
MVCO	Mesa Verde	22.71	339	P	P	12 02 04.8	-0.6
	baz=155						
U48A	Cassie Pea, Po	22.77	25	P	P	12 02 04.9	-0.9
	baz=211						
R41A	Rosebud	22.82	14	P	P	12 02 06.6	+0.3
	baz=198						
S44A	Carbondale	22.84	19	P	P	12 02 05.9	-0.6
	baz=204						
R43A	Red Bud	23.17	17	P	P	12 02 09.8	-0.1
	baz=201						
Q39A	Willow Grove F	23.20	11	P	P	12 02 09.4	-0.8
	baz=194						
T48A	Bowling Green	23.34	25	P	P	12 02 11.1	-0.5
	baz=210,SNR=5.1						
Q41A	Truxton	23.48	14	P	P	12 02 11.4	-1.5
	baz=198						
Q42A	Golden Eagle	23.61	15	P	P	12 02 14.0	-0.3
	baz=200						
P39B	Salisbury	23.67	11	P	P	12 02 13.6	-1.2
	baz=194						
P38A	Dawn	23.67	9	P	P	12 02 13.7	-1.2
	baz=192						
P40A	Paris	23.85	12	P	P	12 02 15.9	-0.7
	baz=196,SNR=5.4						
P41A	Barry, Barry	24.20	14	P	P	12 02 18.0	-1.9
	baz=198						
P42A	Winchester	24.29	15	P	P	12 02 19.9	-0.8
	baz=199						
ISCO	Idaho Springs	24.29	346	P	P	12 02 20.4	-0.7
	baz=164,SNR=5.0						
R47A	Wooly Knot Far	24.32	23	P	P	12 02 19.8	-1.1
	baz=209						
WCI	Wyandotte Cave	24.35	24	P	P	12 02 19.9	-1.3
	baz=210						
O40A	La Belle	24.45	12	P	P	12 02 21.1	-1.0
	baz=196						
N38A	Joes South For	24.86	9	P	P	12 02 25.1	-0.8
	baz=192						
Q47A	Bedord North L	24.92	23	P	P	12 02 26.0	-0.4
	baz=208						
N39A	Derby Farms, D	25.07	11	P	P	12 02 26.8	-0.9
	baz=194						
M38A	Pleasantville	25.48	9	P	P	12 02 28.8	-2.6
	baz=192						
O45A	Potomac	25.65	19	P	P	12 02 32.4	-0.6
	baz=204						
TPNV	Topopah Spring	25.98	326	P	P	12 02 38.0	+1.7
	baz=138						
L38A	Oak Wood Farm,	26.22	9	P	P	12 02 37.6	-0.6
	baz=192						
K37A	Belmond	26.74	8	P	P	12 02 41.6	-1.2
	baz=191						
PDAR	Pinedale Array	28.10	342	P	P	12 02 53.2	-2.1
	0.8nm,0.9s,baz=138,slow=9.5,SNR=4.9						
NVAR	Mina Array Bea	28.18	326	P	P	12 02 54.7	-1.4
	0.9nm,0.8s,baz=141,slow=10,SNR=6.7						
F40A	Park Falls	30.38	11	P	P	12 03 14.0	-1.2
	baz=196						
YKA	Yellowknife Ar	47.58	350	P	P	12 05 36.9	-1.7
	0.4nm,0.7s,baz=159,slow=7.4,SNR=8.7						
INK	Inuvik	56.62	345	P	P	12 06 43.5	-2.3
	1.1nm,0.7s,baz=119,slow=6.3,SNR=5.7						
ILAR	Eielson Array	58.39	338	P	P	12 06 55.8	-2.6
	0.6nm,0.8s,baz=134,slow=4.6,SNR=5.9						

THR 29 11:58:37.4±0.5, 28.57N×57.41E, h17km±5km, ML4.2

MOS 29 11:58:38.5±1.1, 28.69N×57.37E, h104km, mb4.3/37, Error ellipse: s-maj=8.2km s-min=4.7km az=110.7

ISCJB 29 11:58:39.6±0.3, 28.75N±0.02×57.31E±0.03, h109km±3km, mb4.2/85, Error ellipse: s-maj=4.3km s-min=3.2km az=13.1

IDC 29 11:58:39.4±0.8, 28.67N×57.46E, h102km±7km, mb3.8/26, mb1 3.9/34, mb1mx3.8/72, mbtmp4.1/34, MS3.3/1, Ms1 3.3/1, ms1mx2.6/70, Error ellipse: s-maj=10.8km s-min=9.6km az=73.0

CSEM 29 11:58:40.3±0.1, 28.78N×57.44E, h101km, mb4.3/44, Error ellipse: s-maj=4.8km s-min=3.1km az=96.0

DSN 29 11:58:41.8±1.1, 28.37N×57.86E, h15km, ML4.7/7, Error ellipse: s-maj=35.2km s-min=7.4km az=126.0

NEIC 29 11:58:42.1±0.0, 28.81N×57.42E, h90km, mb4.4/47, ML4.2(THR), MN3.9(TEH), After TEH.

TEH 29 11:58:42.1, 28.81N×57.42E, h90km, ML4.0

OMAN 29 11:58:44.7±0.1, 28.41N×57.67E, h30km, Error ellipse: s-maj=21.0km s-min=4.9km az=296.0

ISC 29 11:58:40.0±0.5, 28.75N±0.03×57.34E±0.04, h101km±5km, h101km:pP-P, n300, σ1§18/326, mb4.3/85, 20C-12D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NGRK	Negar Kerman	1.04	329	eAMB	AMB	11 59 19.9	
	comp=Z,99nm,0.2s						
NGRK				ePn	Pn	11 59 02.5	+1.2
CHMN	Cheshme madani	1.12	9	eSg	Sn	11 59 17.4	-1.5
CHMN				ePn	Pn	11 59 02.0	-0.2
CHMN				eAMB	AMB	11 59 18.5	
	comp=Z,99nm,0.1s						
NIAN	Nian	1.27	201	eAMB	AMB	11 59 26.3	
	comp=Z,42μm,0.1s						
NIAN				ePn	Pn	11 59 05.6	+2.0
KRBR	Kerman	1.33	338	Pn	Pn	11 59 05.0	+0.4
KRBR	Kerman	1.33	338	Pn	Pn	11 59 05.0	+0.4
KRBR	Kerman	1.33	338	ePg	Pn	11 59 05.4	+0.8
KRBR				AML	AML	11 59 27.4	
	comp=N,3μm,0.3s						
KRBR				AML	AML	11 59 28.1	
	comp=E,3μm,0.3s						
TVBK	TV Kerman	1.33	338	eAMB	AMB	11 59 29.1	
	comp=Z,99nm,0.1s						
TVBK				ePn	Pn	11 59 05.9	+1.2
BNDS	Bandar-Abbas	1.70	218	Pn	Pn	11 59 06.0	-3.0
BNDS				Sg	Sn	11 59 28.0	-3.0
BNDS	Bandar-Abbas	1.70	218	Pn	Pn	11 59 06.0	-3.0
BNDS				Sg	Sn	11 59 28.0	-3.0
BNDS	Bandar-Abbas	1.70	218	ePg	Pn	11 59 06.7	-2.3
BNDS				eSg	Sn	11 59 28.5	-2.5
KHGB	Koh Gabri	1.79	335	ePn	Pn	11 59 10.8	+0.7
KHGB				eAMB	AMB	11 59 38.8	
	comp=Z,99nm,0.3s						
KHGB	Koh Gabri	1.79	335	ePn	Pn	11 59 10.8	+0.7
KHSK	Kohestak	2.00	187	ePn	Pn	11 59 15.0	+2.3
KHSK				eAMB	AMB	11 59 48.6	
	comp=Z,33μm,0.1s						
KHSK	Kohestak	2.00	187	ePn	Pn	11 59 15.0	+2.3
SHME	Shamm	2.90	202	P	Pn	11 59 25.8	+1.3
	SNR=34						
SHME				S	Sn	11 59 59.3	+0.6
SHME	Shamm	2.90	202	eP	Pn	11 59 25.6	+1.1
	SNR=50						
SHME				S	Sn	11 59 59.0	+0.4
BANOM	Banah	2.96	198	P	Pn	11 59 26.7	+1.3
	SNR=93						
BANOM				S	Sn	12 00 01.4	+1.1
BANOM	Banah	2.96	198	P	Pn	11 59 26.6	+1.2
	SNR=93						
BANOM				S	Sn	12 00 01.4	+1.1
BANOM	Banah	2.96	198	eP	Pn	11 59 26.6	+1.2
	SNR=93						
BANOM				S	Sn	12 00 01.3	+0.9
ZHSF	Zahedan	3.12	73	Pn	Pn	11 59 28.0	+0.4
ZHSF	Zahedan	3.12	73	Pn	Pn	11 59 28.0	+0.4
ZHSF	Zahedan	3.12	73	ePn	Pn	11 59 28.2	+0.6
IBAF	Bafgh	3.22	332	eAMB	AMB	12 00 32.6	
	comp=Z,4μm,0.3s						
IMEH	Mehriz	3.54	319	eAMB	AMB	12 00 08.5	
	comp=Z,3μm,0.4s						
MSFE	Esma-Masafi	3.54	198	P	Pn	11 59 34.8	+1.7
	SNR=8.9						
MSFE				S	Sn	12 00 14.7	+0.6
MSFE	Esma-Masafi	3.54	198	i P	Pn	11 59 34.6	+1.5
	SNR=8.9						
MSFE				S	Sn	12 00 14.8	+0.7
MDH	Madha	3.56	195	i P	Pn	11 59 33.1	-0.3
	SNR=8.5						
GHIR	Ghir-Karzin	3.86	264	Pn	Pn	11 59 38.0	+0.5
GHIR	Ghir-Karzin	3.86	264	ePn	Pn	11 59 38.8	+1.3
GHIR	Ghir-Karzin	3.86	264	ePn	Pn	11 59 38.8	+1.3
UOSS	Minazif	3.92	195	ePn	Pn	11 59 39.2	+1.0
UOSS				eSn	Sn	12 00 22.7	-0.7
UOSS	Minazif	3.92	195	P	Pn	11 59 39.7	+1.4
UOSS				S	Sn	12 00 21.6	-1.7
UOSS	Minazif	3.92	195	ePn	Pn	11 59 39.2	+1.0
UOSS				S	Sn	12 00 21.6	-1.7
UOSS				eSn	Sn	12 00 22.7	-0.7
UOSS	Minazif	3.92	195	i P	Pn	11 59 39.0	+0.7
	SNR=13						
IKOO	Kooshah	3.93	21	eAMB	AMB	12 00 14.3	
	comp=Z,1μm,0.1s						
NAZ	Nazwa, Dubai	4.04	202	P	Pn	11 59 41.7	+2.0
	SNR=18						
NAZ				S	Sn	12 00 26.7	+0.7
NAZ	Nazwa, Dubai	4.04	202	P	Pn	11 59 41.6	+1.9
	SNR=18						
NAZ				S	Sn	12 00 26.7	+0.7
NAZ	Nazwa, Dubai	4.04	202	i P	Pn	11 59 41.6	+1.9
	SNR=18						
HATD	Hatta, Dubai	4.06	196	P	Pn	11 59 42.0	+2.0
HATD				S	Sn	12 00 27.3	+0.7
HATD	Hatta, Dubai	4.06	196	P	Pn	11 59 40.6	+0.6
	SNR=15						
HATD				S	Sn	12 00 27.3	+0.7
HATD	Hatta, Dubai	4.06	196	i P	Pn	11 59 40.6	+0.6
	SNR=15						
CHBR	Chabahar	4.21	138	ePn	Pn	11 59 40.3	-1.8
CHBR	Chabahar	4.21	138	ePn	Pn	11 59 40.3	-1.8
CHBR				AML	AML	12 00 28.0	
	comp=N,327nm,0.3s						
CHBR				AML	AML	12 00 29.2	
	comp=E,270nm,0.3s						
ICHK	Chekchek	4.30	325	eAMB	AMB	12 01 03.2	
	comp=Z,1μm,0.3s						
IDAH	Dahanechah	4.53	28	ePn	Pn	11 59 47.1	+0.4
IDAH				eAMB	AMB	12 00 43.6	
	comp=Z,667nm,0.5s						
IDAH	Dahanechah	4.53	28	Pn	Pn	11 59 47.0	+0.4
IDAH	Dahanechah	4.53	28	Pn	Pn	11 59 47.0	+0.4
SOHO	SOHO	4.66	189	P	Pn	11 59 48.1	0.0
	SNR=7.7						
SOHO	SOHO	4.66	189	i P	Pn	11 59 46.7	-1.4
	SNR=5.6						
ALNE	Al Ain	4.89	197	P	Pn	11 59 53.7	+2.4
	SNR=9.0						
ALNE				S	Sn	12 00 47.3	+0.6
ALNE	Al Ain	4.89	197	P	Pn	11 59 52.7	+1.3
IRAM	Ramesheh	5.26	307	eAMB	AMB	12 00 58.1	
	comp=Z,2μm,0.1s						
WSAR	Wadi Sarin	5.61	168	P	Pn	12 00 00.3	-0.7
	comp=Z,12nm,0.3s,baz=354,slow=9.3,SNR=91						
WSAR				S	Sn	12 00 59.5	-4.8
	comp=Z,51nm,0.3s,baz=193,slow=18,SNR=20						
WSAR	Wadi Sarin	5.61	168	P	Pn	12 00 00.4	-0.7
SMDO	Samad	5.71	173	P	Pn	12 00 04.0	+1.5
	SNR=6.2						
SMDO	Samad	5.71	173	P	Pn	12 00 04.0	+1.5
	SNR=6.2						
IGAR	Gharneh	5.84	310	eAMB	AMB	12 01 19.2	
	comp=Z,623nm,0.1s						
IZEF	Zefreh	5.97	315	eAMB	AMB	12 01 00.6	
	comp=Z,271nm,0.2s						
BSY	Bisya	5.98	181	P	Pn	12 00 08.1	+2.0
BSYO	Bisya	6.00	181	P	Pn	12 00 08.1	+1.8
IKLH	Kolahrood	6.72	314	eAMB	AMB	12 02 42.4	
	comp=Z,292nm,0.3s						
IPIR	Pirpir	6.80	307	eAMB	AMB	12 01 45.9	
	comp=Z,767nm,0.2s						
SLWS		7.16	238	P	Pn	12 00 22.0	-0.2
SLWS				S	Sn	12 01 40.5	-1.5
BTHS		7.47	233	P	Pn	12 00 26.0	-0.4
BTHS				S	Sn	12 01 46.9	-2.6
BOQS		7.64	250	P	Pn	12 00 28.1	-0.6
BOQSS				S	Sn	12 01 51.1	-2.6
MHTO	MHTO	7.75	176	P	Pn	12 00 31.4	+1.2
GEYT	Alibeck	9.18	4	P	Pn	12 00

	comp=Z,6.0nm,0.7s								
SFK	**Sufi-Kurgan**	**17.41**	**46**	P		**Pn**	**12 02 36.7**	**0.0**	
SFK				pmax		pmax			
	comp=Z,6.0nm,0.7s								
KK31	**Karatay Array**	**17.82**	**33**	*eP*		**Pn**	**12 02 41.6**	**+0.1**	
KK31	**Karatay Array**	**17.82**	**33**	*eP*		**Pn**	**12 02 41.6**	**+0.1**	
KK31	**Karatay Array**	**17.82**	**33**	*eP*		**Pn**	**12 02 41.6**	**+0.1**	
KKAR	**Karatay Array**	**17.82**	**33**	*eP*		**Pn**	**12 02 41.6**	**+0.1**	
	comp=Z,1.0nm,0.6s								
KKAR	**Karatay Array**	**17.82**	**33**	*eP*		**Pn**	**12 02 41.6**	**+0.1**	
	comp=Z,1.0nm,0.6s								
KKAR	**Karatay Array**	**17.82**	**33**	*eP*		**Pn**	**12 02 41.6**	**+0.1**	
KKAR				pmax		pmax			
	comp=Z,1.0nm,0.6s								
ASF	**Jabal al Asfar**	**17.95**	**286**	P		**Pn**	**12 02 44.0**	**+0.8**	
	comp=Z,1.5nm,0.3s,baz=50,slow=6.7,SNR=9.6								
ASF	**Jabal al Asfar**	**17.95**	**286**	P		**Pn**	**12 02 44.0**	**+0.8**	
ASF				pmax		pmax			
	comp=Z,2.0nm,0.3s								
MNAS	**Manas**	**18.39**	**38**	P		**Pn**	**12 02 49.9**	**+1.4**	
MNAS				pmax		pmax			
	comp=Z,3.0nm,1.0s								
NCK	**Nalchik**	**18.39**	**327**	*eP*		**Pn**	**12 02 50.0**	**+1.7**	
NCK	**Nalchik**	**18.39**	**327**	*ceP*		**Pn**	**12 02 50.0**	**+1.7**	
DAMY	**Dhamar**	**18.52**	**223**	*eP*		**P**	**12 02 49.9**	**+0.9**	
	comp=Z,24nm,0.9s								
NEY	**Neytrino**	**18.64**	**325**	*ceP*		**Pn**	**12 02 53.5**	**+2.0**	
NEY				pmax		pmax			
	comp=Z,2.0nm,0.8s								
KBZ	**Khabaz**	**18.91**	**326**	P		**Pn**	**12 02 54.8**	**+0.4**	
	comp=Z,0.3nm,0.3s,baz=142,slow=7.9,SNR=9.7								
KVAR	**Kislovodsk Arr**	**19.17**	**326**	P		**Pn**	**12 02 57.4**	**-0.3**	
	baz=126,slow=8.7,SNR=9.2								
KVAR				LR		LR	12 11 01.9		
	comp=Z,88nm,20.4s,baz=286,slow=38								
KIV	**Kislovodsk**	**19.18**	**326**	*eP*		**Pn**	**12 02 57.9**	**+0.3**	
	comp=Z,18nm,0.8s								
KIV	**Kislovodsk**	**19.18**	**326**	*eP*		**Pn**	**12 02 57.9**	**+0.3**	
	comp=Z,18nm,0.8s								
KIV	**Kislovodsk**	**19.18**	**326**	*eP*		**Pn**	**12 02 58.0**	**+0.3**	
KIV				pmax		pmax			
	comp=Z,23nm,1.0s								
MMAI	**Mount Meron Ar**	**19.30**	**288**	P		**Pn**	**12 02 59.7**	**+0.5**	
	comp=Z,2.9nm,0.3s,baz=102,slow=12,SNR=4.0								
AAK	**Ala-Archa**	**19.60**	**40**	P		**P**	**12 03 00.9**	**+0.6**	
	comp=Z,0.1nm,0.3s,baz=209,slow=12,SNR=4.4								
AAK	**Ala-Archa**	**19.60**	**40**	*ceP*		**Pn**	**12 03 02.7**	**0.0**	
AAK				pmax		pmax			
	comp=Z,5.0nm,0.8s								
GOF	**Gofitskoye**	**19.84**	**329**	*eP*		**P**	**12 03 03.7**	**+0.9**	
GOF	**Gofitskoye**	**19.84**	**329**	*ieP*		**P**	**12 03 03.7**	**+0.9**	
ABKAR	**Akbulak array**	**20.57**	**5**	*eP*		**P**	**12 03 10.6**	**0.0**	
	comp=Z,13nm,0.8s								
ABKAR	**Akbulak array**	**20.57**	**5**	*eP*		**P**	**12 03 10.6**	**0.0**	
	comp=Z,13nm,0.8s								
KDJ	**Kajisay**	**20.90**	**45**	*eP*		**P**	**12 03 14.1**	**-0.3**	
	comp=Z,3.4nm,0.8s								
KDJ	**Kajisay**	**20.90**	**45**	*eP*		**P**	**12 03 14.1**	**-0.3**	
	comp=Z,3.4nm,0.8s								
KDJ	**Kajisay**	**20.90**	**45**	P		**P**	**12 03 14.1**	**-0.3**	
KDJ				pmax		pmax			
	comp=Z,4.0nm,0.9s								
CSS	**Mathiatis**	**21.29**	**293**	*eP*		**P**	**12 03 20.2**	**+1.7**	
	comp=Z,3.9nm,0.7s								
CSS	**Mathiatis**	**21.29**	**293**	*eP*		**P**	**12 03 20.2**	**+1.7**	
	comp=Z,3.9nm,0.7s								
AKTK	**Aktyubinsk**	**21.66**	**1**	P		**P**	**12 03 22.0**	**-0.3**	
	comp=Z,12nm,0.9s								
AKTO	**Aktyubinsk**	**21.66**	**1**	P		**P**	**12 03 22.0**	**-0.3**	
	comp=Z,12nm,0.9s,baz=178,slow=9.8,SNR=22								
AKTO	**Aktyubinsk**	**21.66**	**1**	P		**P**	**12 03 22.0**	**-0.3**	
AKTO	**Aktyubinsk**	**21.66**	**1**	P		**P**	**12 03 22.0**	**-0.3**	
AKTO				pmax		pmax			
	comp=Z,12nm,0.9s								
BRTR	**Keskin Array B**	**22.38**	**305**	P		**P**	**12 03 30.1**	**0.0**	
	comp=Z,9.3nm,1.0s,baz=125,slow=11,SNR=33								
BR131	**Keskin Array S**	**22.38**	**305**	*eP*		**P**	**12 03 30.3**	**+0.2**	
BR131	**Keskin Array S**	**22.38**	**305**	*eP*		**P**	**12 03 30.3**	**+0.2**	
ANN	**Anapa**	**22.51**	**321**	*eP*		**P**	**12 03 32.7**	**+1.5**	
	comp=Z,14nm,1.2s								
ANN	**Anapa**	**22.51**	**321**	*ceP*		**P**	**12 03 32.7**	**+1.5**	
ANN				pmax		pmax			
	comp=Z,14nm,1.2s								
PYUN	**Piuthan**	**22.56**	**85**	*eP*		**P**	**12 03 32.7**	**+0.6**	
	comp=Z,15nm,0.7s								
OTUK	**Ortayu**	**22.65**	**27**	P		**P**	**12 03 34.4**	**+1.7**	
	comp=Z,4.0nm,0.9s								
OTUK	**Ortayu**	**22.65**	**27**	P		**P**	**12 03 34.4**	**+1.7**	
OTUK				pmax		pmax			
	comp=Z,4.0nm,0.9s								
BR231	**Keskin MP Arra**	**23.04**	**305**	*eP*		**P**	**12 03 38.8**	**+2.1**	
BR231	**Keskin MP Arra**	**23.04**	**305**	*eP*		**P**	**12 03 38.8**	**+2.1**	
DANN	**Dangsing**	**23.20**	**85**	*eP*		**P**	**12 03 39.2**	**+0.7**	
	comp=Z,34nm,0.8s								
ISP	**Isparta**	**24.11**	**299**	⇑*iP*		**P**	**12 03 47.6**	**+1.1**	
ISP	**Isparta**	**24.11**	**299**	*eP*		**P**	**12 03 47.5**	**+1.1**	
	comp=Z,6.1nm,0.8s								
ISP	**Isparta**	**24.11**	**299**	*eP*		**P**	**12 03 47.5**	**+1.1**	
	comp=Z,6.1nm,0.8s								
ISP	**Isparta**	**24.11**	**299**	*ceP*		**P**	**12 03 47.9**	**+1.4**	
ISP				pmax		pmax			
	comp=Z,21nm,1.2s								
DMN	**Daman**	**24.48**	**86**	*eP*		**P**	**12 03 50.2**	**+0.1**	
	comp=Z,9.1nm,0.6s								
KKN	**Kakani**	**24.61**	**85**	*eP*		**P**	**12 03 51.3**	**+0.1**	
	comp=Z,17nm,0.6s								
PKIN	**Phulchoki**	**24.74**	**86**	*eP*		**P**	**12 03 52.5**	**0.0**	
	comp=Z,13nm,0.5s								
GUN	**Gumba**	**25.11**	**85**	*eP*		**P**	**12 03 56.2**	**+0.2**	
	comp=Z,23nm,0.9s								
VRH	**Novokhopyorsk**	**25.31**	**337**	*eP*		**P**	**12 03 58.4**	**+1.3**	
	comp=Z,20nm,0.5s								
VRH	**Novokhopyorsk**	**25.31**	**337**	*eP*		**P**	**12 03 58.4**	**+1.3**	
VRH				pmax		pmax			
	comp=Z,20nm,0.5s								
JIRN	**Jiri**	**25.42**	**85**	*eP*		**P**	**12 03 58.8**	**0.0**	
RAMN	**Ramite**	**25.91**	**87**	*eP*		**P**	**12 04 02.5**	**-0.5**	
VORD	**Divnogorie**	**26.02**	**333**	*eP*		**P**	**12 04 02.9**	**-0.6**	
	comp=Z,8.0nm,0.5s								
VORD	**Divnogorie**	**26.02**	**333**	*eP*		**P**	**12 04 02.9**	**-0.6**	
VORD				pmax		pmax			
	comp=Z,8.0nm,0.5s								
BVAR	**Borovoye Array**	**26.09**	**18**	P		**P**	**12 04 04.1**	**0.0**	
	comp=Z,4.5nm,0.8s,baz=201,slow=7.7,SNR=22								
BVAR				PcP		**PcP**	**12 07 28.6**	**-0.5**	
	comp=Z,0.5nm,0.3s,baz=186,slow=3.7,SNR=6.3								
BRVK	**Borovoye**	**26.10**	**18**	*eP*		**P**	**12 04 04.5**	**+0.3**	
	comp=Z,4.9nm,1.0s								
BRVK	**Borovoye**	**26.10**	**18**	*ceP*		**P**	**12 04 05.1**	**+0.9**	
BRVK				pmax		pmax			
	comp=Z,11nm,1.2s								
VSR	**Storozhevoye**	**26.27**	**334**	*eP*		**P**	**12 04 05.2**	**-0.5**	
	comp=Z,10.0nm,0.5s								
VSR	**Storozhevoye**	**26.27**	**334**	*eP*		**P**	**12 04 05.2**	**-0.5**	
VSR				pmax		pmax			
	comp=Z,10.0nm,0.5s								
KARP	**Karpathos**	**26.37**	**293**	*eP*		**P**	**12 04 08.9**	**+2.0**	
KARP	**Karpathos**	**26.37**	**293**	*eP*		**P**	**12 04 08.9**	**+2.0**	
MK01	**Makanchi Array**	**26.52**	**41**	*eP*		**P**	**12 04 09.5**	**+1.4**	
MK01	**Makanchi Array**	**26.52**	**41**	*eP*		**P**	**12 04 09.5**	**+1.4**	
MKAR	**Makanchi Array**	**26.53**	**40**	P		**P**	**12 04 07.8**	**-0.4**	
	comp=Z,0.5nm,0.6s,baz=224,slow=6.8,SNR=4.8								
MKAR				pP		**pP**	**12 04 31.4**	**+0.9**	
	comp=Z,0.7nm,0.9s,baz=235,slow=13,SNR=2.7								
MKAR				PcP		**PcP**	**12 07 29.0**	**-1.3**	
	comp=Z,0.3nm,0.4s,baz=204,slow=3.2,SNR=4.0								
KURBB	**Kurchatov Arra**	**27.08**	**30**	P		**P**	**12 04 13.2**	**+0.2**	
	comp=Z,0.7nm,0.3s,baz=226,slow=8.7,SNR=4.8								
KURBB				pP		**pP**	**12 04 33.6**	**-1.7**	
	comp=Z,0.6nm,0.3s,baz=226,slow=9.8,SNR=1.4								
KURBB				PcP		**PcP**	**12 07 30.8**	**-0.6**	
	comp=Z,0.6nm,0.2s,baz=264,slow=3.5,SNR=2.9								
KURK	**Kurchatov**	**27.18**	**30**	P		**P**	**12 04 13.2**	**-0.7**	
KURK				pP		**pP**	**12 04 33.6**	**-2.7**	
KURK				PcP		**PcP**	**12 07 30.8**	**-0.9**	
KURK	**Kurchatov**	**27.18**	**30**	P		**P**	**12 04 13.2**	**-0.7**	
	comp=Z,1.0nm,0.2s								
KURK	**Kurchatov**	**27.18**	**30**	P		**P**	**12 04 13.2**	**-0.7**	
KURK				*PP		**pP**	**12 04 33.6**	**-2.7**	
KURK							12 07 30.8		
KURK				pmax		pmax			
	comp=Z,1.0nm,0.2s								
SANT	**Santorini**	**27.83**	**294**	*eP*		**P**	**12 04 21.0**	**+1.0**	
SANT	**Santorini**	**27.83**	**294**	*eP*		**P**	**12 04 21.0**	**+1.0**	
IDI	**Anoyia**	**28.19**	**292**	P		**P**	**12 04 25.0**	**+1.8**	
	comp=Z,5.5nm,0.5s,baz=51,slow=14,SNR=7.1								
IDI	**Anoyia**	**28.19**	**292**	*eP*		**P**	**12 04 25.0**	**+1.8**	
	comp=Z,6.8nm,0.8s								
IDI	**Anoyia**	**28.19**	**292**	*eP*		**P**	**12 04 25.0**	**+1.8**	
	comp=Z,6.8nm,0.8s								
WMQ	**Urumqi**	**28.52**	**50**	P		**P**	**12 04 28.0**	**+1.9**	
ISR	**Istrita**	**29.31**	**312**	⇑*iP*		**P**	**12 04 34.0**	**+1.0**	
ISR	**Istrita**	**29.31**	**312**	⇑*iP*		**P**	**12 04 34.0**	**+1.0**	
ISR	**Istrita**	**29.31**	**312**	P		**P**	**12 04 34.0**	**+1.0**	
VRI	**Vrincioaia**	**29.50**	**314**	⇑*iP*		**P**	**12 04 34.8**	**+0.2**	
VRI	**Vrincioaia**	**29.50**	**314**	⇑*iP*		**P**	**12 04 34.8**	**+0.2**	
VRI	**Vrincioaia**	**29.50**	**314**	⇑P		**P**	**12 04 34.8**	**+0.2**	
SORM	**Soroca**	**29.57**	**319**	⇑*iP*		**P**	**12 04 33.8**	**-1.3**	
SORM	**Soroca**	**29.57**	**319**	⇑*iP*		**P**	**12 04 33.8**	**-1.3**	
SORM	**Soroca**	**29.57**	**319**	P		**P**	**12 04 33.8**	**-1.3**	
TESR	**Tescani**	**29.82**	**315**	⇑*iP*		**P**	**12 04 36.5**	**-1.0**	
TESR	**Tescani**	**29.82**	**315**	⇑*iP*		**P**	**12 04 36.5**	**-1.0**	
MLR	**Muntele Rosu**	**29.85**	**313**	P		**P**	**12 04 39.5**	**+1.7**	
	comp=Z,0.8nm,0.8s,baz=306,slow=2.4,SNR=3.7								
MLR	**Muntele Rosu**	**29.85**	**313**	⇓*iP*		**P**	**12 04 39.7**	**+1.9**	
MLR	**Muntele Rosu**	**29.85**	**313**	⇓*iP*		**P**	**12 04 39.7**	**+1.9**	
MLR	**Muntele Rosu**	**29.85**	**313**	⇓P		**P**	**12 04 39.7**	**+1.9**	
OBN	**Obninsk**	**30.30**	**336**	⇓*eP*		**P**	**12 04 42.8**	**+1.3**	
OBN				*ePP		**pP**	**12 05 07.9**	**+3.8**	
OBN				*e*			12 05 53.0		
OBN				pmax		pmax			
	comp=Z,5.0nm,0.9s								
AKASG	**Malin Array Be**	**30.48**	**324**	P		**P**	**12 04 42.4**	**-0.8**	
	comp=Z,1.2nm,0.4s,baz=130,slow=8.4,SNR=12								
AKBB	**Malin Array Si**	**30.48**	**324**	*eP*		**P**	**12 04 42.4**	**-0.8**	
	comp=Z,7.2nm,0.8s								
AKBB	**Malin Array Si**	**30.48**	**324**	*eP*		**P**	**12 04 42.4**	**-0.8**	
AKBB				pmax		pmax			
	comp=Z,7.0nm,0.8s								
KIEV	**Kiev**	**30.49**	**324**	*eP*		**P**	**12 04 42.5**	**-0.8**	
	comp=Z,2.6nm,0.8s								
KIEV	**Kiev**	**30.49**	**324**	*ceP*		**P**	**12 04 42.4**	**-0.8**	
KIEV				pmax		pmax			
	comp=Z,6.0nm,0.7s								
AK11	**Malin Array Si**	**30.50**	**324**	*eP*		**P**	**12 04 43.2**	**-0.1**	
VTS	**Vitosha**	**30.75**	**306**	*eP*		**P**	**12 04 46.9**	**+1.0**	
	comp=Z,1.8nm,0.7s								
VTS	**Vitosha**	**30.75**	**306**	*eP*		**P**	**12 04 46.9**	**+1.0**	
VTS				pmax		pmax			
	comp=Z,2.0nm,0.7s								
BURAR	**Bucovina Array**	**31.18**	**316**	⇓*iP*		**P**	**12 04 49.8**	**+0.2**	
BURAR	**Bucovina Array**	**31.18**	**316**	⇓*iP*		**P**	**12 04 49.8**	**+0.2**	
BURAR	**Bucovina Array**	**31.18**	**316**	⇓P		**P**	**12 04 49.8**	**+0.2**	
BUR04	**Bucovina Ar. S**	**31.21**	**316**	*eP*		**P**	**12 04 49.5**	**-0.1**	
BUR08	**Bucovina Ar. S**	**31.21**	**316**	*eP*		**P**	**12 04 49.7**	**-0.1**	
FNA	**Florina**	**31.68**	**302**	P		**P**	**12 04 53.3**	**-0.6**	
FNA				pmax		pmax			
	comp=Z,5.0nm,1.0s								
ZALV	**Zalesovo Beam**	**32.17**	**31**	P		**P**	**12 04 57.9**	**-0.1**	
	comp=Z,1.0nm,0.3s,baz=244,slow=9.4,SNR=7.2								
ZALV				PcP		**PcP**	**12 07 41.8**	**-2.6**	
	comp=Z,1.1nm,0.6s,baz=255,slow=5.5,SNR=3.0								
DRGR		**32.42**	**313**	⇓*iP*		**P**	**12 05 00.6**	**+0.2**	
DRGR		**32.42**	**313**	⇓*iP*		**P**	**12 05 00.6**	**+0.2**	
DRGR		**32.42**	**313**	⇓P		**P**	**12 05 00.6**	**+0.2**	
KLMR	**Klimovskoe**	**34.26**	**345**	*eP*		**P**	**12 05 14.4**	**-1.6**	
KLMR				AMP			12 05 16.5		
	comp=Z,16nm,1.2s								
KLMR	**Klimovskoe**	**34.26**	**345**	*eP*		**P**	**12 05 14.4**	**-1.6**	
KLMR				pmax		pmax			
	comp=Z,16nm,1.2s								
TIP	**Timpagrande**	**34.97**	**298**	*eP*		**P**	**12 05 23.2**	**+0.5**	
	comp=Z,5.1nm,0.8s								
VYHS	**Vyhne**	**35.47**	**314**	*eP*		**P**	**12 05 26.5**	**-0.2**	
	comp=Z,3.0nm,0.7s								
VYHS	**Vyhne**	**35.47**	**314**	*eP*		**P**	**12 05 26.5**	**-0.2**	
VYHS	**Vyhne**	**35.47**	**314**	*eP*		**P**	**12 05 26.5**	**-0.2**	
VYHS				pmax		pmax			
	comp=Z,3.0nm,0.7s								
CUC	**Castrocucco**	**35.77**	**299**	*eP*		**P**	**12 05 30.0**	**+0.6**	
	comp=Z,2.1nm,0.9s								
SOP	**Sopron**	**36.68**	**312**	P		**P**	**12 05 38.5**	**+1.6**	
SOP				pmax		pmax			
	comp=Z,14nm,1.1s								
MORC	**Moravsky Berou**	**36.71**	**316**	⇓*iP*		**P**	**12 05 36.9**	**-0.3**	
MORC	**Moravsky Berou**	**36.71**	**316**	⇓*iP*		**P**	**12 05 36.9**	**-0.3**	
MORC	**Moravsky Berou**	**36.71**	**316**	P		**P**	**12 05 36.9**	**-0.3**	
ARSA	**Arzberg**	**37.24**	**311**	P		**P**	**12 05 41.8**	**0.0**	
	comp=Z,3.8nm,0.7s								
ARSA	**Arzberg**	**37.24**	**311**	*iP*		**P**	**12 05 41.8**	**0.0**	
	comp=Z,3.8nm,0.7s								
DPC	**Dobruska-Polom**	**37.64**	**316**	*eP*		**P**	**12 05 44.5**	**-0.6**	
DPC	**Dobruska-Polom**	**37.64**	**316**	P		**P**	**12 05 44.5**	**-0.6**	
DPC	**Dobruska-Polom**	**37.64**	**316**	*eP*		**P**	**12 05 44.5**	**-0.6**	
MOA	**Molln**	**38.21**	**312**	P		**P**	**12 05 49.8**	**-0.1**	
	comp=Z,4.7nm,0.6s,SNR=6.0								
MOA	**Molln**	**38.21**	**312**	*iP*		**P**	**12 05 49.8**	**-0.1**	
	comp=Z,4.7nm,0.6s,SNR=6.0								
FIA1	**FINESS Array S**	**38.71**	**337**	*eP*		**P**	**12 05 53.7**	**-0.2**	
	comp=Z,4.7nm,0.9s								
FINES	**FINESS Array B**	**38.71**	**336**	P		**P**	**12 05 53.2**	**-0.6**	
	comp=Z,2.2nm,0.6s,baz=133,slow=10,SNR=14								
GEA0	**GERESS Array S**	**38.83**	**313**	*eP*		**P**	**12 05 54.3**	**-0.8**	
GEC2	**GERESS Array S**	**38.83**	**313**	*eP*		**P**	**12 05 54.8**	**-0.4**	
	comp=Z,5.6nm,0.8s								
GEC2	**GERESS Array S**	**38.83**	**313**	*eP*		**P**	**12 05 54.8**	**-0.4**	
GEC2				pmax		pmax			
	comp=Z,6.0nm,0.8s								
GERES	**GERESS Array B**	**38.83**	**313**	P		**P**	**12 05 54.8**	**-0.4**	
	comp=Z,2.9nm,0.7s,baz=106,slow=9.8,SNR=13								
KHC	**Kasperske Hory**	**38.98**	**314**	*eP*		**P**	**12 05 55.7**	**-0.7**	
KHC	**Kasperske Hory**	**38.98**	**314**	*eP*		**P**	**12 05 56.0**	**-0.4**	
	comp=Z,0.6nm,0.7s								
KHC	**Kasperske Hory**	**38.98**	**314**	*eP*		**P**	**12 05 56.0**	**-0.4**	
KHC				pmax		pmax			
	comp=Z,1.0nm,0.7s								
LZH	**Lanzhou**	**39.63**	**67**	*eP*		**P**	**12 06 03.0**	**+0.9**	
LZH				pP		pP	12 06 26.0	+0.7	
LZH				sP		sP	12 06 38.5	+1.6	
LZH				pmax		pmax			
	comp=Z,29nm,1.1s								
CLL	**Collm**	**39.94**	**317**	*eP*		**P**	**12 06 04.0**	**-0.2**	
CLL	**Collm**	**39.94**	**317**	*eP*		**P**	**12 06 04.0**	**-0.2**	
MOTA	**Moosalm**	**40.19**	**310**	*iP*		**P**	**12 06 04.9**	**-1.7**	
	comp=Z,2.9nm,0.5s								
FETA	**Feichten**	**40.39**	**310**	*iP*		**P**	**12 06 07.9**	**-0.3**	
	comp=Z,5.4nm,0.6s,SNR=7.5								
RETA	**Reutte**	**40.45**	**311**	*iP*		**P**	**12 06 07.5**	**-1.1**	
	comp=Z,4.3nm,0.6s,SNR=4.8								
KMI	**Kunming**	**40.45**	**84**	P		**P**	**12 06 09.8**	**+0.7**	
KMI				pmax		pmax			
	comp=Z,14nm,0.5s								
KMI				pmax		pmax			
	comp=Z,66nm,4.3s								
FUORN	**Ofenpass-Fuorn**	**40.64**	**309**	*eP*		**P**	**12 06 11.1**	**+0.7**	
	comp=Z,4.4nm,0.8s								
TUE	**Stuetta**	**41.24**	**309**	*eP*		**P**	**12 06 15.5**	**+0.2**	
	comp=Z,3.8nm,0.7s								
LVZ	**Lovozero**	**41.45**	**347**	*eP*		**P**	**12 06 16.8**	**+0.3**	
LVZ	**Lovozero**	**41.45**	**347**	*eP*		**P**	**12 06 16.8**	**+0.3**	
SENIN	**Lac Senin/Sane**	**42.63**	**308**	*eP*		**P**	**12 06 25.9**	**-0.7**	
	comp=Z,16nm,1.4s								
HFS	**Hagfors**	**42.92**	**330**	P		**P**	**12 06 28.2**	**-0.3**	
	comp=Z,2.3nm,0.4s,baz=128,slow=9.6,SNR=30								
BNI	**Bardonecchia**	**42.94**	**306**	*eP*		**P**	**12 06 28.4**	**-0.6**	
	comp=Z,20nm,1.5s								
BNI	**Bardonecchia**	**42.94**	**306**	*eP*		**P**	**12 06 28.4**	**-0.6**	
BNI				pmax		pmax			
	comp=Z,20nm,1.5s								
NB2	**NORSAR Subarra**	**44.42**	**330**	P		**P**	**12 06 39.5**	**-1.0**	
	comp=Z,1.4nm,0.6s,baz=116,slow=7.9								
NOA	**NORSAR Array B**	**44.42**	**330**	P		**P**	**12 06 39.8**	**-0.7**	
	comp=Z,1.2nm,0.6s,baz=115,slow=7.8,SNR=6.3								
SSB	**Saint Sauveur**	**44.46**	**307**	*eP*		**P**	**12 06 40.0**	**-1.1**	
	comp=Z,11nm,1.3s								
SSB	**Saint Sauveur**	**44.46**	**307**	*eP*		**P**	**12 06 40.0**	**-1.1**	
SSB				pmax		pmax			
	comp=Z,11nm,1.3s								
KEV	**Kevo**	**44.57**	**345**	*eP*		**P**	**12 06 41.7**	**+0.2**	
KEV	**Kevo**	**44.57**	**345**	*eP*		**P**	**12 06 41.7**	**+0.2**	
ARCES	**ARCESS Array B**	**44.74**	**345**	P		**P**	**12 06 42.7**	**-0.2**	
	comp=Z,4.1nm,0.7s,baz=134,slow=6.4,SNR=17								
ARCES	**ARCESS Array B**	**44.74**	**345**	*eP*		**P**	**12 06 43.1**	**+0.2**	
ARE0	**ARCESS Array S**	**44.74**	**345**	*eP*		**P**	**12 06 43.2**	**+0.3**	
	comp=Z,18nm,1.1s								
HHC	**Hu-ho-hao-te**	**45.48**	**60**	*eP*		**P**	**12 06 50.5**	**+1.2**	
HHC				pmax		pmax			
	comp=Z,16nm,1.1s								
HHC				pmax		pmax			
	comp=Z,32nm,6.3s								
BOD	**Bodaibo**	**48.51**	**37**	*eP*		**P**	**12 07 09.0**	**-3.5**	
BOD				pmax		pmax			
	comp=Z,4.0nm,1.4s								
EKA	**Eskdalemuir Ar**	**50.23**	**320**	P		**P**	**12 07 24.4**	**-1.1**	
	comp=Z,0.3nm,0.4s,baz=98,slow=8.0,SNR=3.6								
ESDC	**Sonseca Array**	**50.97**	**299**	P		**P**	**12 07 30.9**	**-0.6**	
	comp=Z,1.0nm,0.8s,baz=77,slow=7.8,SNR=5.7								
NJ2	**Nanjing**	**53.78**	**70**	*eP*		**P**	**12 07 44.3**	**+1.2**	
NJ2				pmax		pmax			
	comp=Z,12nm,0.8s								
SPITS	**Spitsbergen Ar**	**52.77**	**350**	P		**P**	**12 07 43.9**	**-0.3**	
	comp=Z,3.0nm,0.7s,baz=122,slow=7.0,SNR=5.9								
TOA0	**Torodi Ar. Sit**	**53.78**	**265**	*eP*		**P**	**12 07 53.3**	**+0.8**	
	comp=Z,4.9nm,1.3s								
TORD	**Torodi Ar. Bea**	**53.78**	**265**	P		**P**	**12 07 52.8**	**+0.3**	
	comp=Z,1.0nm,0.5s,baz=62,slow=7.0,SNR=15								
TORD				pP		**pP**	**12 08 16.8**	**-0.1**	
	comp=Z,3.5nm,0.8s,baz=59,slow=7.2,SNR=7.9								
CN2	**Changchun**	**55.45**	**55**	*eP*		**P**	**12 08 06.0**	**+1.8**	
TIXI	**Tiksi**	**57.18**	**21**	P		**P**	**12 08 15.3**	**-0.6**	
	comp=Z,2.4nm,0.4s,baz=292,slow=3.0,SNR=9.1								
TIXI	**Tiksi**	**57.18**	**21**	*eP*		**P**	**12 08 16.5**	**+0.5**	
	comp=Z,0.5nm,0.6s								
TIXI	**Tiksi**	**57.18**	**21**	*ceP*		**P**	**12 08 16.4**	**+0.5**	
TIXI				pmax		pmax			
	comp=Z,2.0nm,0.7s								
KSAR	**Wonju Array Be**	**58.50**	**62**	P		**P**	**12 08 24.4**	**-1.4**	
KSAR	**Wonju Array Be**	**58.50**	**62**	P		**P**	**12 08 24.4**	**-1.4**	
KSAR	**Wonju Array Be**	**58.50**	**62**	P		**P**	**12 08 24.4**	**-1.4**	
KSRS	**Korea Array**	**58.53**	**62**	P		**P**	**12 08 24.4**	**-1.6**	
	comp=Z,0.9nm,0.5s,baz=277,slow=7.2,SNR=9.2								
LBTB	**Lobatse**	**61.56**	**213**	*eP*		**P**	**12 08 48.7**	**+1.9**	
	comp=Z,4.2nm,1.4s								
LBTB	**Lobatse**	**61.56**	**213**	*eP*		**P**	**12 08 48.7**	**+1.9**	
LBTB				pmax		pmax			
	comp=Z,4.0nm,1.4s								
BOSA	**Boshof**	**64.78**	**211**	P		**P**	**12 09 08.5**	**+0.4**	
	comp=Z,1.2nm,0.6s,baz=52,slow=4.6,SNR=4.0								
BOSA	**Boshof**	**64.78**	**211**	*eP*		**P**	**12 09 08.9**	**+0.9**	
	comp=Z,8.1nm,1.4s								

NIED ***29*** *12:16:00,36˚.90N×141˚.10E,h47km,Mw4.7 Best double couple: M₀1.09000×10¹⁶ NP1:φ=229.00000°,δ=20.00000°, λ=57.00000°. NP2:φ=84.00000°,δ=73.00000°,λ=101.00000°.*
ISCJB ***29*** *12:16:52.7±0.3,36˚.88N±0˚.02×141˚.06E±0˚.03,h54km±2km, mb4.6/221,MS3.8/23,Error ellipse: s-maj=4.2km s-min=3.1km az=147.3*
JMA ***29*** *12:16:52.4±0.1,36˚.86N×141˚.15E,h48km±1km,M4.5*
JMA Felt III J1.
BJI ***29*** *12:16:52.0,36˚.92N×141˚.11E,h58km,mb4.6/31,mB4.7/19, Ms4.0/16,Ms7 3.8/15*
MOS ***29*** *12:16:53.5±0.8,37˚.19N×140˚.99E,h50km,mb4.8/80,Error ellipse: s-maj=6.7km s-min=4.6km az=94.0*
NEIC ***29*** *12:16:54.6±0.4,36˚.91N×141˚.02E,h57km±3km,mb4.6/162, Error ellipse: s-maj=3.8km s-min=2.6km az=137.0*
NEIC Felt at Iwaki. Recorded [3 JMA] in Fukushima.
IDC ***29*** *12:16:54.6±1.6,36˚.88N×141˚.07E,h64km±14km,mb4.1/34, mb1 4.2/40,mb1mx4.1/74,mbtmp4.4/40,MS3.7/28, Ms1 3.7/28,ms1mx3.5/73,Error ellipse: s-maj=11.7km s-min=9.8km az=122.0*
ISC 29 12:16:52.9±0.5, 36˚.88N±0˚.03×141˚.19E±0˚.04, h49km±4km, h49km:pP-P,n544,σf≤31/560, mb4.6/222, MS3.9/23, 16C-9D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res	ISC
ONAJ	**Iwakimizuishiy**	**0.39**	**306**	P			**Pn**	**12 17 01.8**	**-1.0**	
ONAJ				S			**Sn**	**12 17 08.3**	**-1.6**	
JFK	**Kawauchi**	**0.55**	**333**	P			**Pn**	**12 17 03.9**	**-0.8**	
JFK				S			**Sn**	**12 17 11.9**	**-1.3**	
JHO	**Hitachi**	**0.56**	**242**	P			**Pn**	**12 17 03.6**	**-1.3**	
JHO				S			**Sn**	**12 17 11.8**	**-1.6**	
JFT	**Otama**	**0.94**	**314**	P			**Pn**	**12 17 10.0**	**+0.3**	
JFT				S			**Sn**	**12 17 22.2**	**+0.1**	
JSB	**Shiboa**	**1.02**	**276**	P			**Pn**	**12 17 10.8**	**-0.1**	
JSB				S			**Sn**	**12 17 24.0**	**-0.2**	
JMM	**Marumori**	**1.04**	**342**	P			**Pn**	**12 17 10.4**	**-0.7**	
JMM				S			**Sn**	**12 17 23.6**	**-0.9**	
JFY	**Yanaizu**	**1.30**	**294**	P			**Pn**	**12 17 14.4**	**-0.3**	
MJAR	**Matsushiro Arr**	**2.42**	**263**	P			**Pn**	**12 17 30.5**	**+0.5**	
	82nm,0.3s,baz=90,slow=15,SNR=388									
MJAR				S			**Sn**	**12 17 58.2**	**-0.2**	
	83nm,0.3s,baz=259,slow=40,SNR=7.4									
MJAR				LR			LR	12 18 29.2		
	comp=Z,1μm,20.6s,baz=85,slow=41									
MAJO	**Matsushiro**	**2.42**	**263**	*e*	P		**Pn**	**12 17 30.9**	**+0.9**	
MAJO	**Matsushiro**	**2.42**	**263**	*c i*	P		**Pn**	**12 17 30.8**	**+0.8**	
MAT	**Matsushiro**	**2.42**	**263**		P		**Pn**	**12 17 30.8**	**+0.8**	
MAT					S		**Sn**	**12 17 58.8**	**+0.4**	
MJB9	**Matsu-Tunnel**	**2.42**	**263**	*e*	Pn		**Pn**	**12 17 30.9**	**+0.9**	
INU	**Inuyama**	**3.71**	**247**	*e*	Pn		**Pn**	**12 17 49.9**	**+2.2**	
JHJ2	**Mitsune**	**3.92**	**197**	*e*	Pn		**Pn**	**12 17 50.4**	**-0.1**	
JHJ	**Hachijo jima 2**	**3.92**	**198**	P			**Pn**	**12 17 50.0**	**-0.5**	
	281nm,0.3s,baz=325,slow=16,SNR=104									
JHJ				S			**Sn**	**12 18 33.5**	**-1.8**	
	146nm,0.3s,baz=217,slow=20,SNR=3.8									
JHJ				LR			LR	12 18 56.6		
	comp=Z,276nm,19.3s,baz=43,slow=31									
ERM	**Erimo**	**5.35**	**16**	*e*	Pn		**Pn**	**12 18 09.7**	**-0.5**	
ERM				*e*	Sn		**Sn**	**12 19 11.1**	**+0.6**	
ERM	**Erimo**	**5.35**	**16**	*i*	P		**Pn**	**12 18 10.4**	**+0.2**	
ASAJ	**Asahikawa**	**7.31**	**8**	P			**Pn**	**12 18 35.9**	**-1.1**	
	14nm,0.3s,baz=212,slow=11,SNR=95									
ASAJ				S			**Sn**	**12 19 57.1**	**-1.5**	
	1.4nm,0.3s,baz=307,slow=20,SNR=2.8									
YUK	**Yuzh-Kuril'sk**	**7.99**	**25**	*e*	P		**Pn**	**12 18 44.6**	**-1.7**	
YUK				*e*	S		**Sn**	**12 20 09.4**	**-5.8**	
YUK					pmax	pmax				
	comp=Z,167nm,0.4s									
YUK					pmax	pmax				
	comp=N,35nm,0.1s									
YUK					pmax	pmax				
	comp=E,54nm,0.1s									
SHO	**Shikotan**	**8.20**	**30**	*e*	P		**Pn**	**12 18 45.8**	**-3.4**	
SHO				*i*	S		Sn	12 20 11.3	-9.2	
SHO					pmax	pmax				
	comp=Z,32nm,0.3s									
SHO					pmax	pmax				
	comp=N,9.0nm,0.2s									
SHO					pmax	pmax				
	comp=E,23nm,0.2s									
TEY	**Ternei**	**8.86**	**338**	*e*	P		**Pn**	**12 18 59.0**	**+0.8**	
JNU	**Nakatsue**	**9.25**	**249**		P		**Pn**	**12 19 05.3**	**+1.6**	
	comp=E,0.7nm,0.3s,baz=55,slow=4.6,SNR=9.7									
JNU					LR		LR	12 22 48.9		
	comp=E,316nm,21.9s,baz=112,slow=39									
JNU	**Nakatsue**	**9.25**	**249**	*e*	Pn		**Pn**	**12 19 05.5**	**+1.8**	
KUR	**Kuril'sk**	**9.75**	**29**	*e*	P		**Pn**	**12 19 09.5**	**-0.9**	
KUR				*i*	S		**Sn**	**12 20 52.9**	**-5.5**	
KUR					pmax	pmax				
	comp=N,13nm,0.4s									
KUR					pmax	pmax				
	comp=E,21nm,0.4s									
KUR					pmax	pmax				
	comp=Z,47nm,0.4s									
CBIJ	**Chichi jima**	**9.79**	**175**	*e*	Pn		**Pn**	**12 19 07.5**	**-3.5**	
CBIJ					S		Sn	12 20 47.8	-12	
JCJ	**Chichijima**	**9.79**	**175**	P			**Pn**	**12 19 07.3**	**-3.7**	
	comp=Z,72nm,0.3s,baz=66,slow=4.0,SNR=70									
JCJ					S		Sn	12 20 47.8	-12	
	comp=Z,18nm,0.3s,baz=253,slow=19,SNR=4.8									
USRK	**Ussuriysk Ar.**	**10.12**	**319**	P			**Pn**	**12 19 17.8**	**+2.3**	
	comp=Z,2.7nm,0.3s,baz=131,slow=14,SNR=42									
USRK					LR		LR	12 22 54.3		
	comp=Z,622nm,19.9s,baz=126,slow=36									
YSS	**Yuzh-Sakhalins**	**10.14**	**6**	*e*	Pn		**Pn**	**12 19 15.0**	**-0.7**	
YSS	**Yuzh-Sakhalins**	**10.14**	**6**	*e*	P		**Pn**	**12 19 15.5**	**-0.2**	
YSS					pmax	pmax				
	comp=Z,20nm,0.8s									
YSS					MLR	MLR				
	comp=Z,430nm,14.0s									
KSRS	**Korea Array**	**10.61**	**277**	P			**Pn**	**12 19 23.9**	**+1.8**	
	comp=Z,0.3nm,0.3s,baz=90,slow=14,SNR=6.7									
KSRS					LR		LR	12 23 22.2		
	comp=Z,275nm,19.3s,baz=56,slow=37									
KS01	**Wonju Array Si**	**10.63**	**277**	*e*	Pn		**Pn**	**12 19 24.4**	**+1.9**	
KSAR	**Wonju Array Be**	**10.64**	**277**		P		**Pn**	**12 19 23.9**	**+1.4**	
KSAR	**Wonju Array Be**	**10.64**	**277**		P		**Pn**	**12 19 23.9**	**+1.4**	
MDJ	**Mudanjiang**	**11.70**	**315**		P		**Pn**	**12 19 37.5**	**+0.4**	
MDJ					sP			12 19 55.5		
MDJ					S		**Sn**	**12 21 47.3**	**+1.1**	
MDJ					ScP		**ScP**	**12 28 50.0**	**-2.2**	
MDJ					PcS		**PcS**	**12 28 59.3**	**+1.9**	
MDJ					pmax	pmax				
	comp=Z,6.0nm,1.4s									
MDJ					pmax	pmax				
	comp=Z,200nm,9.6s									
MDJ					LR	LR				
	comp=Z,370nm,17.7s									
MDJ					LR	LR				
	comp=Z,290nm,18.9s									
MDJ					LR	LR				
	comp=Z,640nm,19.5s									
CN2	**Changchun**	**13.85**	**305**	*e*	P		**Pn**	**12 20 08.0**	**+1.6**	
KLR	**Kul'dur**	**14.13**	**334**		P		**Pn**	**12 20 09.6**	**-0.5**	
	comp=Z,0.0nm,0.3s,baz=149,slow=11,SNR=5.1									
KLR					LR		LR	12 25 31.2		
	comp=Z,37nm,19.0s,baz=148,slow=37									
KLR	**Kul'dur**	**14.13**	**334**	*e*	P		**Pn**	**12 20 12.4**	**+2.3**	
GRNR	**Gornyy**	**14.30**	**348**	*i*	P		**Pn**	**12 20 09.3**	**-3.2**	
JOW	**Kunigami**	**14.84**	**231**		LR		LR	12 26 02.0		
	comp=Z,236nm,18.6s,baz=318,slow=37									
NJ2	**Nanjing**	**19.02**	**262**	*e*	P		**Pn**	**12 21 12.0**	**+0.1**	
NJ2					pmax	pmax				
	comp=Z,12nm,1.0s									
TIA	**Tai'an**	**19.34**	**275**		P		**Pn**	**12 21 18.5**	**+2.9**	
ZEA	**Zeya**	**19.44**	**335**	*e*	P		**Pn**	**12 21 16.1**	**-0.6**	
ZEA					pmax	pmax				
	comp=Z,29nm,0.5s									
ZEA					MLR	MLR				
	comp=N,300nm,15.0s									
ZEA					MLR	MLR				
	comp=E,200nm,15.0s									
ZEA					MLR	MLR				
	comp=Z,300nm,15.0s									
HIA	**Hailar**	**19.89**	**315**	*i*	P		**Pn**	**12 21 23.1**	**+1.1**	
HIA					pmax	pmax				
	comp=Z,4.0nm,0.9s									
PEA0B	**Petropavlovsk-**	**19.91**	**30**	*e*	P		**Pn**	**12 21 22.0**	**-0.3**	
	comp=Z,17nm,1.1s									
PETK	**Petropavlovsk-**	**19.91**	**30**		P		**P**	**12 21 21.0**	**+0.7**	
	comp=Z,0.4nm,0.3s,baz=216,slow=6.9,SNR=9.1									
PETK					LR		LR	12 28 34.0		
	comp=Z,254nm,21.3s,baz=229,slow=35									
PETK	**Petropavlovsk-**	**19.91**	**30**	*e*	P		**P**	**12 21 20.8**	**+0.5**	
PETK	**Petropavlovsk-**	**19.91**	**30**	*e*	P		**P**	**12 21 20.8**	**+0.5**	
NACB	**Ninganchiao**	**21.05**	**239**	*e*	P		**P**	**12 21 33.4**	**+0.6**	
	comp=Z,20nm,1.0s									
YULB	**Yu-li**	**21.77**	**237**	*e*	P		**P**	**12 21 39.1**	**-1.4**	
	comp=Z,30nm,1.3s									
TPUB	**Ta-pu**	**22.29**	**238**	*e*	P		**P**	**12 21 45.8**	**-0.4**	
	comp=Z,24nm,1.2s									
HHC	**Hu-ho-hao-te**	**23.35**	**289**	*e*	P		**P**	**12 21 57.3**	**+0.2**	
HHC					S		**S**	**12 26 00.0**	**-6.3**	
HHC					pmax	pmax				
	comp=Z,25nm,0.9s									
HHC					pmax	pmax				
	comp=Z,52nm,4.0s									
HHC					LR	LR				
	comp=Z,1μm,11.1s									
HHC					LR	LR				
	comp=Z,1μm,11.1s									
HHC					LR	LR				
	comp=Z,1μm,14.8s									
GUMO	**Guam**	**23.42**	**171**		LR		LR	12 29 20.2		
	comp=Z,70nm,21.8s,baz=1.0,slow=32									
MA2	**Magadan**	**23.55**	**12**		P		**P**	**12 21 57.9**	**-0.7**	
	comp=Z,15nm,0.7s,baz=196,slow=10.0,SNR=9.9									
MA2					LR		LR	12 30 52.3		
	comp=Z,184nm,21.5s,baz=188,slow=36									
MA2	**Magadan**	**23.55**	**12**	*e*	P		**P**	**12 21 59.3**	**+0.8**	
	comp=Z,18nm,0.8s									
MA2	**Magadan**	**23.55**	**12**	*i*	P		**P**	**12 21 57.9**	**-0.7**	
MA2					pmax	pmax				
	comp=Z,12nm,0.9s									
YAK	**Yakutsk**	**26.18**	**348**		P		**P**	**12 22 21.7**	**-0.8**	
	comp=Z,18nm,0.4s,baz=336,slow=6.0,SNR=19									
YAK					LR		LR	12 33 04.1		
	comp=Z,302nm,18.6s,baz=104,slow=37									
YAK	**Yakutsk**	**26.18**	**348**	*e*	P		**P**	**12 22 23.2**	**+0.7**	
	comp=Z,48nm,0.8s									
YAK	**Yakutsk**	**26.18**	**348**	*c i*	P		**P**	**12 22 21.5**	**-1.0**	
YAK				*e*	*PP		**pP**	**12 22 34.5**	**-0.6**	
YAK				*e*				12 23 02.1		
YAK				*e*	S		**S**	**12 26 48.6**	**-2.2**	
YAK				*e*	SS		**SnSn**	**12 27 56.9**	**+3.7**	
YAK					pmax	pmax				
	comp=Z,50nm,1.0s									
YAK					pmax	pmax				
	comp=N,14nm,1.1s									
YAK					pmax	pmax				
	comp=E,5.0nm,1.2s									
YAK					pmax	pmax				
	comp=Z,19nm,0.9s									
YAK					pmax	pmax				
	comp=N,7.0nm,0.7s									
YAK					pmax	pmax				
	comp=E,5.0nm,1.0s									
YAK					smax	smax				
	comp=E,43nm,2.5s									
YAK					smax	smax				
	comp=N,54nm,3.0s									
YAK					MLR	MLR				
	comp=Z,161nm,18.0s									
YAK					MLR	MLR				
	comp=N,155nm,20.0s									
YAK					MLR	MLR				
	comp=E,63nm,17.0s									
XAN	**Xi'an**	**26.37**	**274**		P		**P**	**12 22 24.0**	**-0.6**	
XAN					pmax	pmax				
	comp=E,6.0nm,0.8s									
XAN					pmax	pmax				
	comp=E,63nm,6.5s									
SEY	**Seymchan**	**26.98**	**11**		P		**P**	**12 22 29.8**	**+0.1**	
	comp=E,15nm,0.8s,baz=195,slow=6.3,SNR=35									
SEY	**Seymchan**	**26.98**	**11**	*i*	P		**P**	**12 22 30.4**	**+0.7**	
ULN	**Ulaanbaatar**	**27.30**	**305**	*e*	P		**P**	**12 22 33.2**	**+0.3**	
	comp=E,4.6nm,0.9s									
ULN	**Ulaanbaatar**	**27.30**	**305**	*c e*	P		**P**	**12 22 32.6**	**-0.3**	
ULN					pmax	pmax				
	comp=Z,10.0nm,1.7s									
BOD	**Bodaibo**	**27.57**	**328**	*e*	P		**P**	**12 22 33.8**	**-1.2**	
BOD					pmax	pmax				
	comp=Z,8.0nm,1.3s									
SONA1	**Songino Array**	**27.72**	**304**	*e*	P		**P**	**12 22 37.2**	**+0.5**	
SONM	**Songino Array**	**27.73**	**304**		P		**P**	**12 22 35.4**	**-1.4**	
	comp=Z,3.8nm,0.6s,baz=112,slow=9.4,SNR=8.2									
SONM					LR		LR	12 34 02.1		
	comp=Z,132nm,18.5s,baz=71,slow=37									
H11N2	**WAKE ISLAND Hy**	**28.22**	**120**		T		T	12 52 17.5		
	baz=313,slow=75,SNR=184									
H11N1	**WAKE ISLAND Hy**	**28.23**	**120**		T		T	12 52 15.9		
	baz=313,slow=75,SNR=188									
H11N3	**WAKE ISLAND Hy**	**28.24**	**120**		T		T	12 52 18.0		
	baz=313,slow=75,SNR=178									
WAKE	**Wake Island**	**28.36**	**121**	*e*	P		**P**	**12 22 42.5**	**+0.1**	
	comp=Z,309nm,1.3s									
H11S1	**WAKE ISLAND Hy**	**28.93**	**122**		T		T	12 53 10.5		
	baz=315,slow=76,SNR=134									
H11S3	**WAKE ISLAND Hy**	**28.93**	**122**		T		T	12 53 11.0		
	baz=315,slow=76,SNR=198									
H11S2	**WAKE ISLAND Hy**	**28.94**	**122**		T		T	12 53 11.8		
	baz=315,slow=76,SNR=129									
LZH	**Lanzhou**	**29.92**	**280**	*e*	P		**P**	**12 22 58.3**	**+1.9**	
LZH					pP		pP	12 23 12.3	+3.3	
LZH					sP		sP	12 23 20.5	+5.7	
LZH					pmax	pmax				
	comp=Z,31nm,1.3s									
LZH					pmax	pmax				
	comp=Z,120nm,4.5s									
ZAK	**Zakamensk**	**30.23**	**309**	*e*	P		**P**	**12 22 57.1**	**-1.8**	
ZAK					pmax	pmax				
	comp=Z,2.0nm,1.3s									
CD2	**Chengdu**	**31.49**	**270**	*e*	P		**P**	**12 23 09.5**	**-0.7**	
CD2					pmax	pmax				
	comp=Z,10.0nm,0.5s									
DAV	**Davao City (W)**	**32.91**	**209**		LR		LR	12 35 42.1		
	comp=Z,78nm,20.8s,baz=5.0,slow=34									
BILL	**Bilibino**	**34.23**	**16**	*i*	P		**P**	**12 23 32.5**	**-1.1**	
BILL				*i*				12 23 42.4		
BILL				*i*				12 24 50.5		
BILL				*i*				12 26 09.4		
BILL					pmax	pmax				
	comp=Z,4.0nm,1.1s									
BILL					MLR	MLR				
	comp=Z,174nm,23.0s									
KMI	**Kunming**	**34.76**	**261**		P		**P**	**12 23 39.5**	**+0.6**	
KMI					pmax	pmax				
	comp=Z,19nm,0.5s									
KMI					pmax	pmax				
	comp=Z,82nm,5.4s									
TIXI	**Tiksi**	**35.42**	**353**		P		**P**	**12 23 43.1**	**-0.7**	
	comp=Z,4.6nm,0.6s,baz=141,slow=6.9,SNR=18									
TIXI	**Tiksi**	**35.42**	**353**	*e*	P		**P**	**12 23 43.3**	**-0.5**	
	comp=Z,9.3nm,1.1s									
TIXI	**Tiksi**	**35.42**	**353**	*e*	P		**P**	**12 23 43.3**	**-0.5**	
TIXI					pmax	pmax				
	comp=Z,9.0nm,1.1s									
UBPT	**Khong Chiam**	**38.30**	**245**		P		**P**	**12 24 09.0**	**+0.1**	
	comp=Z,18nm,1.0s									
SKNT	**Sakolnakorn**	**38.32**	**249**		P		**P**	**12 24 08.4**	**-0.7**	
	comp=Z,6.7nm,1.1s									
SIJI	**Sorong**	**38.67**	**196**		P		**P**	**12 24 11.8**	**-0.1**	
	comp=Z,7.0nm,0.7s,baz=33,slow=12,SNR=4.0									
DGZ	**Jazzator, Alta**	**40.34**	**306**	*i*	P		**P**	**12 24 26.4**	**+0.7**	
DGZ					pmax	pmax				
	comp=Z,17nm,0.7s									
FAKI	**Fak Fak**	**40.46**	**194**	*e*	P		**P**	**12 24 27.2**	**+0.3**	
	comp=Z,58nm,1.5s									
CHAI	**Chaiyaphum**	**40.48**	**250**		P		**P**	**12 24 26.8**	**-0.3**	
	comp=Z,8.3nm,0.9s,comp=Z,66nm									
WMQ	**Urumqi**	**40.75**	**297**		P		**P**	**12 24 29.8**	**+0.7**	
WMQ					pP		sP	12 24 46.5	-1.3	
WMQ					pmax	pmax				
	comp=Z,39nm,0.9s									
WMQ					pmax	pmax				
	comp=Z,25nm,3.7s									
WMQ					LR	LR				
	comp=Z,360nm,22.5s									
WMQ					LR	LR				
	comp=Z,130nm,27.1s									
WMQ					LR	LR				
	comp=Z,240nm,24.1s									
PBKT	**Sadao Pong**	**40.84**	**251**		P		**P**	**12 24 29.1**	**-0.9**	
	comp=Z,14nm,1.1s									
PHIT	**Phitsanulok**	**40.89**	**252**		P		**P**	12 24 35.9	+5.5	
	comp=Z,5.0nm,1.1s									
CMAR	**Chiang Mai Arr**	**41.28**	**255**		P		**P**	**12 24 33.8**	**+0.1**	
	comp=Z,2.1nm,0.8s,baz=45,slow=5.8,SNR=14									
CMAR					LR		LR	12 44 07.3		
	comp=Z,111nm,18.0s,baz=225,slow=40									
CM01	**Chiang Mai Arr**	**41.29**	**255**	*e*	P		**P**	**12 24 33.8**	**+0.1**	
ZAA0	**Zalesovo Array**	**41.89**	**313**	*e*	P		**P**	**12 24 37.9**	**-0.3**	
	comp=Z,10nm,0.9s									
ZALV	**Zalesovo Beam**	**41.89**	**313**		P		**P**	**12 24 37.8**	**-0.4**	
	comp=Z,8.2nm,0.8s,baz=90,slow=6.5,SNR=25									
ZALV					PcP		**PcP**	**12 26 31.3**	**-1.7**	
	comp=Z,1.5nm,0.4s,baz=106,slow=3.7,SNR=3.9									
ZALV					LR		LR	12 42 00.9		
	comp=Z,68nm,19.8s,baz=70,slow=36									
ZALV	**Zalesovo Beam**	**41.89**	**313**	*e*	P		**P**	**12 24 37.2**	**-1.0**	
ZALV					PcP		**PcP**	**12 26 31.3**	**-1.7**	
NAYO	**Nakonayok**	**41.98**	**248**		P		**P**	**12 24 42.1**	**+2.7**	
	comp=Z,8.4nm,1.0s,comp=Z,849nm									
NVS	**Novosibirsk**	**42.82**	**314**	*i*	P		**P**	**12 24 45.2**	**-0.5**	
NVS					pmax	pmax				
	comp=Z,13nm,1.4s									
NVS					pmax	pmax				
	comp=E,12nm,1.3s									
MK01	**Makanchi Array**	**44.05**	**302**	*e*	P		**P**	**12 24 56.0**	**+0.1**	
MK31	**Makanchi Array**	**44.05**	**302**	*e*	P		**P**	**12 24 55.7**	**-0.1**	
MK31	**Makanchi Array**	**44.05**	**302**	*e*	P		**P**	**12 24 55.7**	**-0.1**	
MKAR	**Makanchi Array**	**44.05**	**302**		P		**P**	**12 24 55.6**	**-0.2**	
	comp=E,3.5nm,0.6s,baz=90,slow=9.8,SNR=21									
MKAR					PcP		**PcP**	**12 26 40.0**	**-0.5**	
	comp=E,1.4nm,0.8s,baz=82,slow=5.2,SNR=2.2									
MKAR					LR		LR	12 44 32.0		
	comp=E,63nm,18.4s,baz=48,slow=38									
MKAR	**Makanchi Array**	**44.05**	**302**	*e*	P		**P**	**12 24 55.7**	**-0.1**	
	comp=E,26nm,0.6s									
MKAR					PcP		**PcP**	**12 26 40.0**	**-0.5**	
MKAR	**Makanchi Array**	**44.05**	**302**	*e*	P		**P**	**12 24 55.7**	**-0.1**	
MKAR								12 26 40.0		
MKAR					pmax	pmax				
	comp=Z,26nm,0.6s									
MAKZ	**Makanchi**	**44.26**	**302**	*e*	P		**P**	**12 24 57.6**	**+0.1**	
	comp=Z,2.9nm,0.8s									
MAKZ	**Makanchi**	**44.26**	**302**	*e*	P		**P**	**12 24 57.6**	**+0.1**	
MAKZ					pmax	pmax				
	comp=Z,3.0nm,0.8s									
KSM	**Kuching**	**45.31**	**226**	*e*	P		**P**	**12 25 08.8**	**+2.6**	
	comp=Z,6.0nm,0.9s									
SVW2	**Sparrevohn**	**45.76**	**37**	*e*	P		**P**	**12 25 11.5**	**+2.3**	
	comp=Z,12nm,1.2s									
KURK	**Kurchatov**	**45.89**	**308**	*e*	P		**P**	**12 25 10.2**	**-0.1**	
	comp=Z,16nm,0.8s									
KURK	**Kurchatov**	**45.89**	**308**	*c e*	P		**P**	**12 25 09.4**	**-0.9**	
KURK					pmax	pmax				
	comp=Z,20nm,0.9s									
KURBB	**Kurchatov Arra**	**45.96**	**308**		P		**P**	**12 25 10.1**	**-0.7**	
	comp=Z,12nm,0.7s,baz=84,slow=8.2,SNR=75									
PMG	**Port Moresby**	**46.38**	**172**		LR		LR	12 48 24.3		
	comp=Z,26nm,18.0s,baz=348,slow=41									
PDGK	**Podgornoye**	**46.69**	**298**		P		**P**	**12 25 16.5**	**-0.4**	
PDGK					pmax	pmax				
	comp=Z,5.0nm,0.6s									
RAMN	**Ramite**	**46.84**	**274**	*e*	P		**P**	**12 25 18.4**	**0.0**	
	comp=Z,77nm,0.9s									
JIRN	**Jiri**	**46.85**	**275**	*e*	P		**P**	**12 25 18.8**	**+0.1**	
	comp=Z,71nm,1.1s									
IM3	**Indian Mountai**	**46.88**	**31**	*e*	P		**P**	**12 25 19.1**	**+1.2**	
IM3				*e*	pP		**pP**	**12 25 32.2**	**+1.2**	
GUN	**Gumba**	**46.99**	**276**	*e*	P		**P**	**12 25 19.7**	**0.0**	
	comp=Z,20nm,0.4s									
PPLA	**Purkeypile**	**47.40**	**35**	*e*	P		**P**	**12 25 24.0**	**+1.8**	
	comp=Z,26nm,1.4s									
CAST	**Castle Rocks**	**47.46**	**34**	*e*	P		**P**	**12 25 24.2**	**+1.7**	
	comp=Z,5.2nm,1.0s									
PKIN	**Phulchoki**	**47.52**	**276**	*e*	P		**P**	**12 25 23.3**	**-0.5**	
	comp=Z,8.0nm,0.5s									
KKN	**Kakani**	**47.52**	**276**	*e*	P		**P**	**12 25 23.7**	**0.0**	
	comp=Z,28nm,0.9s									
DMN	**Daman**	**47.74**	**276**	*e*	P		**P**	**12 25 25.3**	**-0.1**	
	comp=Z,7.8nm,0.5s									
GKN	**Gorkha**	**47.94**	**276**	*e*	P		**P**	**12 25 26.8**	**-0.1**	
	comp=Z,66nm,1.0s									
BPAW	**Bear Paw Mtn.**	**47.95**	**33**	*e*	P		**P**	**12 25 27.9**	**+1.6**	
	comp=Z,4.3nm,1.2s									
MLY	**Manley**	**48.08**	**32**	*e*	P		**P**	**12 25 29.0**	**+1.7**	
	comp=Z,4.9nm,0.8s									
SUA	**Susitna One**	**48.09**	**37**	*e*	P		**P**	**12 25 28.1**	**+0.6**	
	comp=Z,8.7nm,1.0s									
BRLK	**Bradley Lake**	**48.10**	**39**	*e*	P		**P**	**12 25 29.6**	**+2.1**	
	comp=Z,36nm,1.3s									
TRF	**Thorofare Moun**	**48.26**	**34**	*e*	P		**P**	**12 25 29.4**	**+0.6**	
	comp=Z,5.2nm,1.0s						

BVAR **Borovoye Array** 50.55 312 P P 12 25 45.7 -0.5
comp=Z,2.7nm,0.7s,baz=74,slow=7.7,SNR=12
BVAR PcP PcP 12 27 03.4 0.0
comp=Z,3.3nm,0.8s,baz=90,slow=1.4,SNR=5.3
COEN Coen 50.59 178 *e*P P 12 25 47.8 +0.9
comp=Z,19nm,1.0s
BRVK Borovoye 50.60 312 *cc*P P 12 25 46.8 +0.2
BRVK pmax pmax
comp=Z,13nm,1.0s
HARP HAARP 50.66 35 *e*P P 12 25 49.0 +2.0
comp=Z,22nm,1.2s
RIDG Independ'e Rid 50.68 34 *e*P P 12 25 48.1 +1.0
comp=Z,15nm,1.5s
DOT Dot Lake 51.03 34 *e*P P 12 25 50.5 +0.7
comp=Z,12nm,0.9s
SCRK Sand Creek 51.04 33 *e*P P 12 25 50.8 +0.9
comp=Z,15nm,1.3s
BMRM Bremner River 51.09 37 *e*P P 12 25 52.8 +2.5
comp=Z,21nm,1.2s
MENT Mentasta 51.27 35 *e*P P 12 25 53.4 +1.9
comp=Z,11nm,1.3s
SFK Sufi-Kurgan 51.94 296 P P 12 25 57.1 -0.1
SFK pmax pmax
comp=Z,4.0nm,0.4s
EGAK Eagle 52.17 32 *e*P P 12 25 59.1 +0.9
comp=Z,4.7nm,1.1s
BALM Baldy 52.17 37 *e*P P 12 25 59.8 +1.4
comp=Z,23nm,1.4s
BALM Baldy 52.17 37 *e*P P 12 25 59.8 +1.4
BALM pmax pmax
comp=Z,23nm,1.4s
DAWY Dawson 53.03 33 *e*P P 12 26 05.7 +1.1
comp=Z,2.2nm,0.9s
KK31 Karatay Array 53.05 300 *e*P P 12 26 04.9 -0.2
KK31 Karatay Array 53.05 300 *e*P P 12 26 04.9 -0.2
KKAR Karatay Array 53.05 300 *e*P P 12 26 04.9 -0.2
KKAR Karatay Array 53.05 300 *e*P P 12 26 04.9 -0.2
NIL Nilore 54.49 288 *e*P P 12 26 16.3 +0.5
comp=Z,13nm,0.8s
NIL Nilore 54.49 288 *e*P P 12 26 16.3 +0.5
NIL pmax pmax
comp=Z,13nm,0.8s
INK Inuvik 54.61 27 P P 12 26 17.1 +1.1
comp=Z,4.7nm,0.6s,baz=275,slow=6.7,SNR=47
INK LR LR 12 52 20.3
comp=Z,96nm,19.3s,baz=162,slow=39
INK Inuvik 54.61 27 *e*P P 12 26 17.0 +1.1
comp=Z,5.8nm,0.7s
SVE Sverdlovsk 55.15 319 *e*P P 12 26 20.1 0.0
SVE pmax pmax
comp=Z,18nm,0.9s
DZET Dzherino 55.75 296 P P 12 26 24.7 -0.2
DZET pmax pmax
comp=Z,16nm,0.6s
WHY Whitehorse 55.82 36 *e*P P 12 26 26.9 +1.9
comp=Z,9.9nm,1.1s
ARU Arti 56.36 319 *e*P P 12 26 28.4 -0.4
comp=Z,16nm,0.8s
ARU Arti 56.36 319 *cc*P P 12 26 28.0 -0.8
ARU *PP pP 12 26 42.1 -0.1
ARU 12 27 22.1
ARU S S 12 34 14.7 -0.8
ARU pmax pmax
comp=Z,14nm,0.7s
FITZ Fitzroy Crossi 56.61 198 *e*P P 12 26 31.3 +0.4
CTAO Charters Tower 56.86 174 *e*P P 12 26 32.6 0.0
comp=Z,16nm,1.3s
CTAO Charters Tower 56.86 174 *e*P P 12 26 32.6 0.0
CTAO pmax pmax
comp=Z,16nm,1.3s
WRAB Tennant Creek 56.87 188 *e*P P 12 26 32.0 -0.7
comp=Z,30nm,1.5s
WRAB Tennant Creek 56.87 188 *i* P P 12 26 32.5 -0.2
WRAB pmax pmax
comp=Z,4.0nm,1.1s
WB2 Warramunga Arr 56.88 188 *e*P P 12 26 32.3 -0.5
comp=Z,32nm,1.5s
WRA Warramunga Arr 56.88 188 P P 12 26 32.0 -0.8
comp=Z,2.3nm,0.5s,baz=5.4,slow=7.4,SNR=30
KKH Kailua Kona 56.95 89 *e*P P 12 26 36.2 +2.7
KKH Kailua Kona 56.95 89 *e*P P 12 26 36.2 +2.7
ABKAR Akbulak array 57.90 310 *e*P P 12 26 39.1 -0.7
comp=Z,47nm,0.5s
DLBC Dease Lake 58.86 38 *e*P P 12 26 49.0 +2.6
comp=Z,8.4nm,1.1s
AS01 Alice Springs 60.60 188 *e*P P 12 26 58.9 +0.3
AS31 Alice Springs 60.61 188 *e*P P 12 26 58.7 0.0
comp=Z,1.4nm,0.8s
ASAR Alice Springs 60.61 188 P P 12 26 58.4 -0.3
comp=Z,0.7nm,0.4s,baz=4.4,slow=7.6,SNR=12
SPITS Spitsbergen Ar 60.64 349 P P 12 26 58.6 +0.3
comp=Z,2.5nm,0.8s,baz=3.9,slow=11,SNR=2.9
SPITS LR LR 12 54 13.1
comp=Z,91nm,21.4s,baz=10.0,slow=37
EIDS Eidsvold 62.61 170 *e*P P 12 27 12.7 +0.6
comp=Z,16nm,1.0s
RES Resolute Bay 62.80 14 *e*P P 12 27 12.8 0.0
comp=Z,4.5nm,0.7s
RES Resolute Bay 62.80 14 *e*P P 12 27 12.8 0.0
RES pmax pmax
comp=Z,4.0nm,0.7s
GEYT Alibeck 63.75 299 P P 12 27 19.6 -0.1
comp=Z,4.9nm,0.9s,baz=29,slow=3.4,SNR=9.7
YKW3 Yellowknife Ar 63.99 30 *e*P P 12 27 21.8 +0.9
comp=Z,4.7nm,1.3s
YKA Yellowknife Ar 64.03 30 P P 12 27 21.3 +0.2
comp=Z,1.4nm,0.6s,baz=302,slow=6.5,SNR=42
ARCES ARCESS Array B 64.08 339 P P 12 27 21.2 -0.1
comp=Z,3.6nm,0.8s,baz=50,slow=11,SNR=4.8
ARCES ARCESS Array B 64.08 339 *e*P P 12 27 21.1 -0.3
ARCES ARCESS Array B 64.08 339 *e*P P 12 27 21.1 -0.3
TULEG Thule 65.28 7 *e*P P 12 27 28.6 -0.5
comp=Z,4.8nm,0.7s
NLWA Neilton Lookou 66.95 47 *e*P P 12 27 42.7 +2.4
comp=Z,17nm,1.2s
B05A Bryant 67.55 46 P P 12 27 45.3 +1.3
baz=301
OBN Obninsk 68.11 323 *e*P P 12 27 44.0 -3.4
OBN *e* 12 30 16.5
OBN pmax pmax
comp=Z,15nm,0.9s
STKA Stephens Creek 68.40 180 P P 12 27 49.4 0.0
comp=Z,1.2nm,0.7s,baz=352,slow=13,SNR=3.2
STKA Stephens Creek 68.40 180 *e*P P 12 27 49.8 +0.5
comp=Z,2.0nm,0.9s
STKA Stephens Creek 68.40 180 *e*P P 12 27 49.8 +0.5
STKA pmax pmax
comp=Z,2.0nm,0.9s
FORT Forrest 68.42 192 *e*P P 12 27 49.8 +0.3
comp=Z,230nm,0.8s
FIA1 FINESS Array S 68.87 332 *e*P P 12 27 51.7 -0.3
comp=Z,19nm,1.4s
FINES FINESS Array B 68.87 332 P P 12 27 51.6 -0.4
comp=Z,4.8nm,0.7s,baz=55,slow=7.2,SNR=17
FINES LR LR 13 00 25.0
comp=Z,191nm,20.7s,baz=216,slow=38
LTY Liberty 68.89 46 *e*P P 12 27 54.0 +1.4
comp=Z,2.9nm,0.8s
I05D Terrebonne, OR 70.04 49 P P 12 28 01.2 +1.5
baz=302
J04D Umpqua Nationa 70.15 50 P P 12 28 02.0 +1.4
baz=302
PINE Pine Mountain 70.58 50 *e*P P 12 28 05.1 +2.0
comp=Z,12nm,0.8s
YBH Yreka Blue Hor 70.58 52 P P 12 28 04.6 +1.5
comp=Z,2.6nm,0.8s,baz=284,slow=8.3,SNR=6.6
YBH Yreka Blue Hor 70.58 52 *e*P P 12 28 05.2 +2.1
comp=Z,3.5nm,0.8s
YBH Yreka Blue Hor 70.58 52 *e*P P 12 28 05.2 +2.1
YBH pmax pmax
comp=Z,4.0nm,0.8s
J05D Fort Rock, OR 70.67 50 P P 12 28 05.1 +1.5
baz=303
ZEI Tsey 70.76 309 *e*P P 12 28 01.9 -2.4
ZEI pmax pmax
comp=Z,4.0nm,0.9s
KBZ Khabaz 70.87 311 P P 12 28 04.5 -0.1
comp=Z,3.7nm,0.8s,baz=26,slow=2.8,SNR=16
KIV Kislovodsk 70.87 311 *e*P P 12 28 05.5 +0.7
KIV pmax pmax
comp=Z,10.0nm,1.0s
N02D Trinity Center 70.99 53 P P 12 28 07.3 +1.8
baz=303
M04C Macdoel 71.10 52 P P 12 28 07.5 +1.2
baz=303
K05A Summer Lake 71.18 50 *e*P P 12 28 09.0 +2.2
comp=Z,21nm,1.4s

WDC Whiskeytown Da 71.31 53 *e*P P 12 28 09.1 +1.7
comp=Z,6.8nm,1.0s
WDC Whiskeytown Da 71.31 53 *e*P P 12 28 09.1 +1.7
WDC pmax pmax
comp=Z,7.0nm,1.0s
GNI Garni 71.66 307 LR LR 13 00 00.2
comp=Z,123nm,21.6s,baz=214,slow=36
BMO Blue Mountains 72.17 47 *e*P P 12 28 14.2 +1.6
comp=Z,6.8nm,1.1s
BMO Blue Mountains 72.17 47 *e*P P 12 28 14.2 +1.6
BMO pmax pmax
comp=Z,7.0nm,1.1s
SCO Scoresbysund 72.25 354 *e*P P 12 28 13.8 +1.3
comp=Z,6.6nm,1.4s
SCO Scoresbysund 72.25 354 *e*P P 12 28 13.8 +1.3
SCO pmax pmax
comp=Z,7.0nm,1.4s
J08A Circle Bar Ran 72.31 49 *e*P P 12 28 15.4 +1.9
comp=Z,10nm,1.4s
ORV Oroville 72.54 54 *e*P P 12 28 15.9 +1.1
comp=Z,3.0nm,0.6s
ORV Oroville 72.54 54 *e*P P 12 28 15.9 +1.1
ORV pmax pmax
comp=Z,3.0nm,0.6s
MSO Missoula 72.96 44 P P 12 28 17.9 +0.6
baz=306
MSO Missoula 72.96 44 *e*P P 12 28 18.7 +1.5
comp=Z,2.6nm,0.8s
MFID Camas Ranch 73.86 48 *e*P P 12 28 24.4 +1.7
comp=Z,3.7nm,0.8s
FFC Flin Flon 73.93 33 *e*P P 12 28 22.8 +0.1
comp=Z,6.0nm,1.0s
FFC Flin Flon 73.93 33 *e*P P 12 28 22.8 +0.1
FFC pmax pmax
comp=Z,6.0nm,1.0s
CMB Columbia Colle 74.11 54 *e*P P 12 28 25.7 +1.6
comp=Z,17nm,1.4s
CMB Columbia Colle 74.11 54 *e*P P 12 28 25.7 +1.6
CMB pmax pmax
comp=Z,17nm,1.4s
HFS Hagfors 74.16 336 P P 12 28 24.0 +0.1
comp=Z,1.8nm,0.6s,baz=3.6,slow=4.6,SNR=5.6
HRY Holter Researc 74.19 43 *e*P P 12 28 26.1 +1.6
FCC Fort Churchill 74.22 26 *e*P P 12 28 24.5 +0.2
comp=Z,4.9nm,0.8s
FCC Fort Churchill 74.22 26 *e*P P 12 28 24.5 +0.2
FCC pmax pmax
comp=Z,5.0nm,0.8s
NB2 NORSAR Subarra 74.26 337 P P 12 28 24.1 -0.5
comp=Z,2.0nm,0.7s,baz=38,slow=6.2
NB2 NORSAR Subarra 74.26 337 P P 12 28 24.1 -0.5
NB2 pmax pmax
comp=Z,2.0nm,0.7s
NOA NORSAR Array B 74.26 337 P P 12 28 24.1 -0.5
comp=Z,3.8nm,0.8s,baz=39,slow=5.8,SNR=13
NOA LR LR 13 04 13.7
comp=Z,162nm,20.5s,baz=50,slow=38
YERR Yerington 74.31 53 *e*P P 12 28 26.9 +1.4
comp=Z,6.2nm,0.9s
AKASG Malin Array Be 74.31 322 P P 12 28 24.2 -0.8
comp=Z,2.2nm,0.4s,baz=46,slow=6.1,SNR=26
AKASG LR LR 13 03 55.6
comp=Z,85nm,19.1s,baz=75,slow=38
AKASG Malin Array Be 74.31 322 P P 12 28 24.2 -0.8
AKASG pmax pmax
comp=Z,3.0nm,0.4s
AKASG MLR MLR
comp=Z,85nm,19.1s
AKBB Malin Array Si 74.31 322 *e*P P 12 28 24.2 -0.7
comp=Z,6.9nm,0.6s
AKBB Malin Array Si 74.31 322 *e*P P 12 28 24.2 -0.7
AKBB pmax pmax
comp=Z,7.0nm,0.6s
KIEV Kiev 74.32 322 *e*P P 12 28 24.2 -0.8
comp=Z,6.7nm,0.7s
KIEV Kiev 74.32 322 *cc*P P 12 28 24.4 -0.6
KIEV pmax pmax
comp=Z,3.0nm,0.6s
AK11 Malin Array Si 74.35 322 *e*P P 12 28 25.6 +0.4
LRM Limekiln Ridge 74.38 44 *e*P P 12 28 27.5 +1.6
EGMT Eagleton 74.51 41 P P 12 28 27.1 +0.9
baz=308
EGMT Eagleton 74.51 41 *e*P P 12 28 27.2 +0.9
comp=Z,9.6nm,1.0s
DLMT Dillon 74.58 45 *e*P P 12 28 28.5 +1.7
comp=Z,10.0nm,0.8s
HLID Hailey 74.61 47 P P 12 28 28.2 +1.1
baz=307
HLID Hailey 74.61 47 *e*P P 12 28 28.8 +1.7
comp=Z,3.0nm,1.1s
BMN Battle Mountai 74.75 51 *e*P P 12 28 30.0 +2.1
comp=Z,4.3nm,0.7s
BMN Battle Mountai 74.75 51 *e*P P 12 28 30.0 +2.1
BMN pmax pmax
comp=Z,4.0nm,0.7s
RYN Ryan 74.97 53 *e*P P 12 28 30.9 +1.6
comp=Z,3.3nm,0.8s
BOZ Bozeman (W) 74.98 44 P P 12 28 30.2 +1.0
baz=308
BOZ Bozeman (W) 74.98 44 *e*P P 12 28 30.3 +1.1
comp=Z,7.1nm,0.8s
BOZ Bozeman (W) 74.98 44 *e*P P 12 28 30.3 +1.1
BOZ pmax pmax
comp=Z,7.0nm,0.8s
KVN Kaiserville 75.00 52 *e*P P 12 28 31.2 +1.8
comp=Z,6.0nm,0.8s
KVN Kaiserville 75.00 52 *e*P P 12 28 31.2 +1.8
KVN pmax pmax
comp=Z,6.0nm,0.8s
NV01 Mina Array Sit 75.23 53 *e*P P 12 28 32.4 +1.6
NVAR Mina Array Bea 75.23 53 P P 12 28 32.3 +1.5
comp=Z,3.8nm,0.6s,baz=293,slow=5.4,SNR=45
NV11 Mina Array Sit 75.32 53 *e*P P 12 28 32.8 +1.5
comp=Z,0.3nm,0.8s
PAGB Antelope Grade 75.51 56 *e*P P 12 28 34.1 +1.9
comp=Z,13nm,1.1s
YHB Horse Butte 75.74 44 *e*P P 12 28 35.2 +1.5
comp=Z,6.9nm,0.8s
YHH Holmes Hill 75.91 44 *e*P P 12 28 36.1 +1.4
comp=Z,4.6nm,1.2s
YMR Madison River 75.92 44 *e*P P 12 28 36.6 +1.9
comp=Z,5.0nm,0.7s
SFJD Kangerlussuaq 76.06 5 LR LR 13 02 49.0
comp=Z,85nm,21.9s,baz=176,slow=36
VES Vestal, Richgr 76.22 56 P P 12 28 37.0 +0.8
baz=306
YPP Pitchstone Pla 76.26 45 *e*P P 12 28 39.5 +2.8
comp=Z,2.2nm,0.7s
H17A Grant Village 76.31 44 P P 12 28 39.6 +2.6
baz=309
H17A Grant Village 76.31 44 *e*P P 12 28 39.3 +2.4
comp=Z,10.0nm,0.9s
IMW Indian Meadow 76.41 45 *e*P P 12 28 39.9 +2.3
comp=Z,2.2nm,0.8s
FXWY Fox Creek 76.52 45 *e*P P 12 28 39.8 +1.7
comp=Z,6.7nm,1.1s
CWC Cottonwood Cre 76.53 55 P P 12 28 39.0 +0.8
baz=306
RLMT Red Lodge 76.58 43 P P 12 28 39.7 +1.3
baz=309
RLMT Red Lodge 76.58 43 *e*P P 12 28 39.8 +1.3
comp=Z,2.6nm,0.6s
MOOW Moose Ponds 76.61 45 *e*P P 12 28 40.4 +1.8
comp=Z,3.3nm,0.9s
HVU Hansel Valley 76.65 48 *e*P P 12 28 40.0 +1.3
comp=Z,4.8nm,0.8s
HVU Hansel Valley 76.65 48 *e*P P 12 28 40.0 +1.3
HVU pmax pmax
comp=Z,5.0nm,0.8s
TPAW Teton Pass 76.66 45 *e*P P 12 28 41.0 +2.1
comp=Z,4.7nm,0.7s
GRAC Grapevine Rang 76.67 54 P P 12 28 40.3 +1.5
baz=306,SNR=6.2
ISA Isabella, Lake 76.72 55 P P 12 28 39.5 +0.4
baz=306
LOHW Long Hollow 76.78 45 *e*P P 12 28 41.2 +1.6
comp=Z,4.9nm,1.3s
SNOW Snow King Moun 76.78 45 *e*P P 12 28 41.7 +2.1
comp=Z,3.8nm,0.7s
REDW Red Top Meadow 76.79 45 *e*P P 12 28 41.4 +1.8
comp=Z,6.5nm,1.1s
ARVC Arvin 76.80 56 P P 12 28 40.6 +1.1
baz=306
DAC Darwin (Calif) 76.94 54 *e*P P 12 28 41.9 +1.4
comp=Z,7.9nm,1.4s
DAC Darwin (Calif) 76.94 54 *e*P P 12 28 41.9 +1.4
DAC pmax pmax
comp=Z,8.0nm,1.4s
R11A Troy Canyon, C 77.00 52 P P 12 28 41.9 +1.0
baz=307,SNR=11
R11A Troy Canyon, C 77.00 52 *e*P P 12 28 42.1 +1.3
comp=Z,4.0nm,0.8s
BGU Big Grassy Mou 77.02 48 *e*P P 12 28 42.4 +1.6
comp=Z,2.6nm,0.7s
MPMC Manual Prospec 77.14 55 P P 12 28 42.6 +1.0
baz=306
LAO LASA Array 77.21 41 P P 12 28 43.0 +1.3
baz=311
LAO LASA Array 77.21 41 *e*P P 12 28 43.2 +1.5
comp=Z,7.8nm,0.9s
FURC Furnace Creek, 77.30 54 P P 12 28 43.2 +0.9
baz=307
TPNV Topopah Spring 77.41 53 P P 12 28 44.3 +1.1
baz=307,SNR=8.1
TPNV Topopah Spring 77.41 53 *e*P P 12 28 44.5 +1.3
comp=Z,5.8nm,0.7s
TPNV Topopah Spring 77.41 53 *e*P P 12 28 44.5 +1.3
TPNV pmax pmax
comp=Z,6.0nm,0.7s
HWUT Hardware Ranch 77.47 47 *e*P P 12 28 44.8 +1.4
comp=Z,5.9nm,1.1s
EDW2 Edwards Air Fo 77.50 56 P P 12 28 44.6 +1.1
baz=306
DUG Dugway, Tooele 77.59 49 P P 12 28 45.4 +1.3
baz=306
DUG Dugway, Tooele 77.59 49 *e*P P 12 28 45.8 +1.7
comp=Z,19nm,1.4s
DUG Dugway, Tooele 77.59 49 *e*P P 12 28 45.8 +1.7
DUG pmax pmax
comp=Z,19nm,1.4s
TCUT Toone Canyon 77.86 48 *e*P P 12 28 47.5 +1.8
comp=Z,7.9nm,0.6s
BW06 Boulder Array 77.90 45 P P 12 28 46.1 +0.2
baz=310
BW06 Boulder Array 77.90 45 *e*P P 12 28 46.0 +0.2
comp=Z,3.8nm,0.7s
PD31 Pinedale Array 77.90 45 *e*P P 12 28 46.5 +0.7
PDAR Pinedale Array 77.90 45 P P 12 28 46.5 +0.7
comp=Z,2.8nm,0.6s,baz=268,slow=1.9,SNR=36
NLU North Lily Min 78.19 49 *e*P P 12 28 49.1 +1.6
comp=Z,4.7nm,1.1s
BUR08 Bucovina Ar. S 78.31 322 *e*P P 12 28 47.9 0.0
BUR04 Bucovina Ar. S 78.32 322 *e*P P 12 28 47.8 -0.1
BURAR Bucovina Array 78.32 322 ⇓*i*P P 12 28 48.2 +0.3
BURAR Bucovina Array 78.32 322 ⇓P P 12 28 48.2 +0.3
SHPR Sheep Range 78.38 53 *e*P P 12 28 50.5 +2.0
comp=Z,3.2nm,0.8s
MPU Maple Canyon 78.42 49 *e*P P 12 28 50.5 +1.8
comp=Z,18nm,1.4s
TUQ Turquoise Moun 78.53 54 P P 12 28 50.5 +1.1
baz=307
VRI Vrincioaia 78.73 320 ⇑*i*P P 12 28 50.7 +0.6
VRI Vrincioaia 78.73 320 ⇑P P 12 28 50.7 +0.6
MURC Murrieta 78.79 56 P P 12 28 51.6 +0.9
baz=307
TCRU Three Creeks R 78.79 50 *e*P P 12 28 53.0 +2.1
comp=Z,4.5nm,0.9s
BRTR Keskin Array B 78.82 311 P P 12 28 50.3 -0.5
comp=Z,1.4nm,0.7s,baz=83,slow=4.9,SNR=6.1
CCUT Cedar City 78.88 51 *e*P P 12 28 52.7 +1.4
comp=Z,9.5nm,1.4s
TLB Topalu 78.89 318 ⇓*i*P P 12 28 50.8 -0.1
TLB Topalu 78.89 318 ⇓P P 12 28 50.8 -0.1
STHS Stebnicka Huta 78.98 325 *e*P P 12 28 52.0 +0.6
STHS Stebnicka Huta 78.98 325 *e*P P 12 28 52.0 +0.6
STHS pmax pmax
comp=Z,3.0nm,1.0s
MSU Marysvale 79.02 50 *e*P P 12 28 54.3 +2.2
MSU Marysvale 79.02 50 *e*P P 12 28 54.3 +2.2
GMRC Granite Mounta 79.09 55 P P 12 28 53.1 +0.7
baz=308
TMUT Trail Mountain 79.12 49 *e*P P 12 28 54.4 +1.7
comp=Z,3.8nm,1.0s
TRPA Tarpa 79.28 323 ⇓*i*P P 12 28 53.7 +0.7
LCMT Little Creek M 79.29 52 *e*P P 12 28 55.1 +1.7
comp=Z,5.5nm,1.0s
P17A Butcher Ranch, 79.29 48 *e*P P 12 28 55.3 +1.8
comp=Z,9.1nm,0.7s
MTPU Mount Pierson 79.31 50 *e*P P 12 28 55.9 +2.0
comp=Z,5.2nm,0.7s
Q16A Castle Valley 79.38 49 *e*P P 12 28 55.9 +1.9
comp=Z,3.2nm,0.8s
P18A Preston Nutter 79.49 48 *e*P P 12 28 56.4 +1.7
comp=Z,4.7nm,0.7s
KNB Kanab 79.55 51 *e*P P 12 28 56.5 +1.6
comp=Z,8.7nm,1.2s
KNB Kanab 79.55 51 *e*P P 12 28 56.5 +1.6
KNB pmax pmax
comp=Z,9.0nm,1.2s
SRU San Rafael Swe 79.65 49 *e*P P 12 28 56.9 +1.4
comp=Z,12nm,0.6s
SRU San Rafael Swe 79.65 49 *e*P P 12 28 56.9 +1.4
SRU pmax pmax
comp=Z,12nm,0.6s
K22A Casper 79.69 44 P P 12 28 56.0 +0.4
baz=311
BAR Barrett 79.69 57 *e*P P 12 28 57.3 +1.7
comp=Z,17nm,1.5s
ULM Lac du Bonnet 79.73 33 P P 12 28 54.9 -0.6
comp=Z,2.5nm,0.7s,baz=314,slow=7.5,SNR=5.9
ULM Lac du Bonnet 79.73 33 *e*P P 12 28 55.5 +0.1
comp=Z,4.4nm,1.0s
ULM Lac du Bonnet 79.73 33 *e*P P 12 28 55.5 +0.1
ULM pmax pmax
comp=Z,4.0nm,1.0s
IRM Iron Mountain 79.81 55 P P 12 28 57.2 +1.0
baz=308
BC3 Big Chuckawall 79.92 56 P P 12 28 57.6 +0.7
baz=308
RSSD Black Hills 80.06 42 P P 12 28 57.9 +0.3
baz=313
RSSD Black Hills 80.06 42 *e*P P 12 28 58.1 +0.4
comp=Z,3.5nm,0.6s
RSSD Black Hills 80.06 42 *e*P P 12 28 58.1 +0.4
RSSD pmax pmax
comp=Z,4.0nm,0.6s
IKP In-Ko-Pah, Jac 80.09 57 P P 12 28 59.4 +1.6
baz=308
DRGR 80.13 322 ⇑*i*P P 12 28 57.9 +0.1
DRGR 80.13 322 ⇑P P 12 28 57.9 +0.1
RAR Rarotonga 80.21 126 LR LR 13 02 19.2
comp=Z,46nm,18.6s,baz=211,slow=34
U15A North Rim 80.25 52 *e*P P 12 29 00.6 +1.7
comp=Z,4.9nm,0.7s
B31A Greenbush Farm 80.25 35 P P 12 28 58.5 +0.2
baz=316
O20A White River Ci 80.35 47 P P 12 28 59.7 +0.4
baz=311
PDMCI Parker Dam,Lak 80.38 54 P P 12 29 00.5 +1.3
baz=308
Y12C Blythe 80.47 55 P P 12 29 00.9 +1.1
baz=308
DPC Dobruska-Polom 80.50 328 *e*P P 12 28 59.6 0.0
DPC *e*pP pP 12 29 14.9 +1.2
DPC Dobruska-Polom 80.50 328 *e*P P 12 28 59.6 0.0
DPC *e* 12 29 14.9
RAYN Ar Rayn 80.55 292 *e*P P 12 29 00.1 -0.2
comp=Z,3.6nm,0.8s
C31A Landman Farms, 80.67 36 P P 12 29 00.9 +0.4
baz=316
GLA Glamis 80.70 56 P P 12 29 02.1 +1.1
baz=308
VYHS Vyhne 80.75 325 *e*P P 12 28 59.9 -1.1
VYHS Vyhne 80.75 325 *e*P P 12 28 59.9 -1.1
VYHS pmax pmax
comp=Z,3.0nm,1.0s
B32A Ashes, Strandq 80.79 35 P P 12 29 01.3 +0.1
baz=317
PV09 Paradox Valley 80.88 48 *e*P P 12 29 03.9 +1.7
A33A Warroad 80.91 34 P P 12 29 01.8 0.0
baz=318
PV10 Paradox Valley 81.01 48 *e*P P 12 29 04.8 +1.9
PV04 Paradox Valley 81.08 48 *e*P P 12 29 04.6 +1.5
BRG Berggiesshubel 81.10 329 *e*P P 12 29 01.3 -1.4
comp=Z,4.7nm,0.9s
BRG Berggiesshubel 81.10 329 *e*P P 12 29 01.3 -1.4
CLL Collm 81.14 330 *i* P P 12 29 02.3 -0.7
comp=Z,8.0nm,1.0s
CLL *e* 12 29 14.0
CLL *i* pP pP 12 29 17.7 +0.6
CLL LmV 13 12 00.0
comp=Z,100nm,19.7s
CLL Collm 81.14 330 *i* P P 12 29 02.3 -0.7

CLL *i* *PP **pP** 12 29 17.7 +0.6
CLL pmax pmax
comp=Z,8.0nm,1.0s
AGMN Agassiz Nation 81.17 35 P **P** 12 29 02.5 -0.7
baz=317
PV05 Paradox Valley 81.17 49 *e*P **P** 12 29 05.5 +1.8
N23A Red Feather La 81.17 45 P **P** 12 29 04.8 +1.1
baz=312
N23A Red Feather La 81.17 45 *e*P **P** 12 29 05.1 +1.4
comp=Z,7.6nm,1.0s
Y14A Wickenburg 81.35 54 *e*P **P** 12 29 06.0 +1.5
comp=Z,4.3nm,0.9s
WUAZ Wupatki 81.40 52 P **P** 12 29 06.2 +1.3
baz=310,SNR=5.6
WUAZ Wupatki 81.40 52 *e*P **P** 12 29 06.7 +1.8
comp=Z,5.2nm,0.8s
PV01 Paradox Valley 81.45 48 *e*P **P** 12 29 06.7 +1.5
GOPC GO Pecny, Ondr 81.48 328 *e*P **P** 12 29 05.2 +0.4
GOPC GO Pecny, Ondr 81.48 328 *e*P **P** 12 29 05.2 +0.4
PRU Pruhonice 81.52 328 *e*P **P** 12 29 05.2 +0.2
PRU Pruhonice 81.52 328 *e*P **P** 12 29 05.2 +0.2
MODS Modra-Piesok 81.55 326 *e*P **P** 12 29 04.8 -0.4
MODS Modra-Piesok 81.55 326 *e*P **P** 12 29 04.8 -0.4
MODS pmax pmax
comp=Z,4.0nm,0.6s
SMCO Snowmass 81.71 47 *e*P **P** 12 29 07.9 +1.2
comp=Z,4.3nm,1.0s
MMAI Mount Meron Ar 81.91 305 P **P** 12 29 07.6 +0.1
comp=Z,0.5nm,0.3s,baz=67,slow=8.0,SNR=4.7
X16A Lo Mia Camp, P 82.05 53 *e*P **P** 12 29 10.2 +1.9
comp=Z,4.7nm,1.0s
B35A Bob, Littlefor 82.08 33 P **P** 12 29 07.9 -0.1
baz=319
ISCO Idaho Springs 82.09 46 P **P** 12 29 10.0 +1.4
baz=312,SNR=5.8
ISCO Idaho Springs 82.09 46 *e*P **P** 12 29 10.2 +1.6
comp=Z,3.0nm,0.8s
ISCO Idaho Springs 82.09 46 *e*P **P** 12 29 10.2 +1.6
ISCO pmax pmax
comp=Z,3.0nm,0.8s
MVCO Mesa Verde 82.09 49 P **P** 12 29 09.7 +1.1
baz=311,SNR=5.5
MVCO Mesa Verde 82.09 49 *e*P **P** 12 29 10.0 +1.4
comp=Z,4.8nm,0.7s
C35A Jirik Farms, M 82.46 34 P **P** 12 29 09.8 -0.2
baz=319
KHC Kasperske Hory 82.58 328 *e*P **P** 12 29 10.8 +0.1
KHC *e*pP **pP** 12 29 26.9 +2.1
KHC Kasperske Hory 82.58 328 *e*P **P** 12 29 11.0 +0.3
comp=Z,3.3nm,1.2s
KHC Kasperske Hory 82.58 328 *e*P **P** 12 29 11.0 +0.3
KHC pmax pmax
comp=Z,3.0nm,1.2s
S22A 4UR Ranch, Cre 82.74 48 P **P** 12 29 13.6 +1.5
baz=312,SNR=8.5
S22A 4UR Ranch, Cre 82.74 48 *e*P **P** 12 29 13.8 +1.7
comp=Z,5.3nm,1.0s
GEC2 GERESS Array S 82.75 328 *e*P **P** 12 29 11.3 -0.3
comp=Z,3.7nm,1.1s
GEC2 GERESS Array S 82.75 328 *e*P **P** 12 29 11.3 -0.3
GEC2 pmax pmax
comp=Z,4.0nm,1.1s
GERES GERESS Array B 82.75 328 P **P** 12 29 11.0 -0.6
comp=Z,1.7nm,0.6s,baz=50,slow=7.1,SNR=6.5
GEA0 GERESS Array S 82.76 328 *e*P **P** 12 29 11.9 +0.3
F33A 5 Mile Ranch, 82.77 36 P **P** 12 29 11.8 +0.2
baz=317
VTS Vitosha 82.81 319 ⇓ *i*P **P** 12 29 12.6 +0.5
VTS Vitosha 82.81 319 *e*P **P** 12 29 12.7 +0.6
comp=Z,2.6nm,0.6s
VTS Vitosha 82.81 319 *e*P **P** 12 29 12.7 +0.6
VTS pmax pmax
comp=Z,3.0nm,0.6s
C36A Pine Crest Far 82.92 33 P **P** 12 29 12.1 -0.3
baz=319
G33A Ortonville 83.17 37 P **P** 12 29 13.9 +0.1
baz=317
EKA Eskdalemuir Ar 83.22 340 LR LR 13 09 46.3
comp=Z,69nm,18.9s,baz=315,slow=38
C37A Embarrass 83.23 33 P **P** 12 29 13.4 -0.6
baz=320
EYMN Ely 83.37 33 P **P** 12 29 14.8 +0.1
baz=320
EYMN Ely 83.37 33 *e*P **P** 12 29 14.8 +0.1
comp=Z,6.7nm,1.0s
H33A Prehn Over Nor 83.39 37 P **P** 12 29 15.2 +0.2
baz=317
SDCO Great Sand Dun 83.53 47 P **P** 12 29 17.3 +1.2
baz=312,SNR=7.0
SDCO Great Sand Dun 83.53 47 *e*P **P** 12 29 17.2 +1.2
comp=Z,3.8nm,0.9s
C38A Sawbill Land. 83.64 33 P **P** 12 29 15.9 -0.2
baz=320
E36A McGregor 83.67 34 P **P** 12 29 16.2 -0.1
baz=319
TUC Tucson 83.82 54 P **P** 12 29 18.4 +1.0
baz=310
ECSD EROS Data Cent 84.15 38 P **P** 12 29 18.7 -0.1
baz=317,SNR=5.4
ECSD EROS Data Cent 84.15 38 *e*P **P** 12 29 18.9 +0.1
comp=Z,3.4nm,0.7s
H35A Sunnyside Ranc 84.31 36 P **P** 12 29 19.8 +0.2
baz=318,SNR=7.6
E38A The Farm, Brul 84.37 33 P **P** 12 29 19.9 0.0
baz=320
MHTCO State Highway 84.42 47 *e*P **P** 12 29 22.6 +2.0
comp=Z,5.9nm,0.9s
T25A Trinidad 84.58 47 P **P** 12 29 22.5 +1.2
baz=313,SNR=9.3
T25A Trinidad 84.58 47 *e*P **P** 12 29 22.5 +1.2
comp=Z,10nm,0.8s
F38A Pierce - Schro 84.72 34 P **P** 12 29 22.1 +0.5
baz=320,SNR=5.5
ANMO Albuquerque 84.83 50 P **P** 12 29 23.9 +1.2
baz=312
ANMO Albuquerque 84.83 50 *e*P **P** 12 29 24.3 +1.7
comp=Z,5.8nm,1.1s
ANMO Albuquerque 84.83 50 *ce*P **P** 12 29 23.8 +1.2
ANMO pmax pmax
comp=Z,5.0nm,1.0s
LIT Litokhoron 84.95 318 *e*P **P** 12 29 22.6 -0.3
comp=Z,11nm,0.8s
LIT Litokhoron 84.95 318 *e*P **P** 12 29 22.6 -0.3
LIT pmax pmax
comp=Z,11nm,0.8s
PDG Podgorica 84.97 321 ⇓ *i*P **P** 12 29 22.8 -0.2
TTG Podgorica 84.97 321 *e*P **P** 12 29 22.7 -0.2
comp=Z,7.1nm,0.7s
TTG Podgorica 84.97 321 *e*P **P** 12 29 22.7 -0.2
TTG pmax pmax
comp=Z,7.0nm,0.7s
E39A Mellen 84.98 33 P **P** 12 29 22.9 0.0
baz=321
F39A Loretta 85.18 34 P **P** 12 29 24.0 +0.1
baz=321
E40A Wakefield 85.22 33 P **P** 12 29 24.6 +0.4
baz=322,SNR=5.6
BNM Barren Site 85.25 50 *e*P **P** 12 29 26.6 +1.8
D41A Chassel 85.30 32 P **P** 12 29 24.9 +0.4
baz=322
BFO Black Forest 85.35 331 *e*P **P** 12 29 24.7 -0.1
comp=Z,8.2nm,0.9s
BFO Black Forest 85.35 331 *i* P **P** 12 29 25.0 +0.2
F40A Park Falls 85.53 33 P **P** 12 29 25.5 -0.2
baz=321
J36A Seneca 1, Swea 85.56 37 P **P** 12 29 26.5 +0.6
baz=319
121A Cookes Peak, D 85.60 52 P **P** 12 29 27.9 +1.4
baz=312
E41A Kenton 85.61 32 P **P** 12 29 26.0 -0.1
baz=322
FUORN Ofenpass-Fuorn 85.94 329 *e*P **P** 12 29 28.5 +0.5
comp=Z,4.7nm,0.7s
J37A Redenius Farm, 85.96 37 P **P** 12 29 27.9 +0.1
baz=319
H39A Augusta 85.97 35 P **P** 12 29 27.8 -0.1
baz=321
G40A Rib Lake 86.00 34 P **P** 12 29 28.1 0.0
baz=321
F41A Three Lakes 86.11 33 P **P** 12 29 28.3 -0.3
baz=322
K37A Belmond 86.32 37 P **P** 12 29 29.7 0.0
baz=319
H40A Chili 86.42 34 P **P** 12 29 29.6 -0.5
baz=321
I39A Houston 86.50 35 P **P** 12 29 30.1 -0.4
baz=320
E43A Lone Tree Farm 86.50 31 P **P** 12 29 30.2 -0.2
baz=323
H41A Junction City 86.75 34 P **P** 12 29 32.1 +0.4
baz=322
G42A Mountain 86.80 33 P **P** 12 29 31.7 -0.2
baz=322
G42A Mountain 86.80 33 *e*P **P** 12 29 32.9 +1.0
comp=Z,4.6nm,0.9s
J39A Decorah 86.81 36 P **P** 12 29 31.6 -0.4
baz=320
I40A Norwalk 86.88 35 P **P** 12 29 32.1 -0.3
baz=321
IDI Anoyia 86.96 313 *e*P **P** 12 29 33.2 +0.2
comp=Z,15nm,1.1s
G43A Wallace 87.11 32 P **P** 12 29 33.7 +0.3
baz=323
N36A Muff Farm, Cla 87.13 39 P **P** 12 29 34.1 +0.4
baz=318
KSU1 Kansas State U 87.55 41 P **P** 12 29 35.9 +0.2
baz=318
J41A Loganville 87.57 35 P **P** 12 29 35.7 0.0
baz=322
MATE Matera 87.58 321 ⇓ *i*P **P** 12 29 35.0 -0.7
I42A Draeger Farm, 87.65 34 P **P** 12 29 36.4 +0.4
baz=322
I42A Draeger Farm, 87.65 34 *e*P **P** 12 29 36.8 +0.7
comp=Z,14nm,1.3s
MNTX Cornudas Mount 87.67 52 P **P** 12 29 37.2 +0.8
baz=313
MNTX Cornudas Mount 87.67 52 *e*P **P** 12 29 37.0 +0.6
comp=Z,3.0nm,1.4s
AMTX Amarillo 87.73 47 P **P** 12 29 36.9 +0.1
baz=315
AMTX Amarillo 87.73 47 *e*P **P** 12 29 38.1 +1.3
comp=Z,5.3nm,0.7s
JFWS Jewell Farm 87.81 35 P **P** 12 29 37.0 +0.1
baz=321
M39A Webster 88.01 37 P **P** 12 29 36.7 -1.1
baz=320
K41A Shullsburg 88.03 35 P **P** 12 29 37.5 -0.3
baz=321
N39A Derby Farms, D 88.31 38 P **P** 12 29 39.5 +0.2
baz=320
P38A Dawn 88.75 39 P **P** 12 29 41.2 -0.1
baz=319
Q39A Willow Grove F 89.47 39 P **P** 12 29 44.5 -0.3
baz=320
WMOK Wichita Mounta 89.52 45 P **P** 12 29 45.0 -0.1
baz=316
P40A Paris 89.56 38 P **P** 12 29 45.0 -0.2
baz=320
R39A Chumby, Stover 89.99 40 P **P** 12 29 47.3 +0.1
baz=320
T38A Diamond 90.30 41 P **P** 12 29 48.2 -0.5
baz=319
S39A Bolivar 90.31 40 P **P** 12 29 48.5 -0.3
baz=320
TUL1 Leonard 90.33 43 P **P** 12 29 49.1 +0.3
baz=318
TUL1 Leonard 90.33 43 *e*P **P** 12 29 49.8 +1.0
comp=Z,6.6nm,0.6s
TX31 Lajitas Ar. Si 90.36 52 *e*P **P** 12 29 50.4 +1.2
TXAR Lajitas Array 90.36 52 P **P** 12 29 50.0 +0.8
comp=Z,2.3nm,0.7s,baz=302,slow=3.0,SNR=23
TXAR Lajitas Array 90.36 52 P **P** 12 29 50.0 +0.8
TXAR pmax pmax
comp=Z,2.0nm,0.7s
HHAR Hobbs 91.05 42 *e*P **P** 12 29 52.5 +0.3
comp=Z,4.0nm,1.0s
U39A Green Forest 91.22 41 P **P** 12 29 52.7 -0.3
baz=319
V39A Pettigrew 91.54 42 P **P** 12 29 54.6 +0.1
baz=319
U40A Yellville 91.57 41 P **P** 12 29 54.4 -0.2
baz=320
T41A Mountain View 91.61 40 P **P** 12 29 54.4 -0.3
baz=320
T42A Van Buren 91.96 39 P **P** 12 29 56.0 -0.3
baz=321
X39A Fountain Ranch 92.29 43 P **P** 12 29 58.5 +0.6
baz=319
W40A Ferguson Farm, 92.34 42 P **P** 12 29 58.0 -0.2
baz=320
V41A Mountainview 92.37 41 P **P** 12 29 58.0 -0.3
baz=320
MIAR Mount Ida 92.56 42 P **P** 12 29 59.5 +0.3
baz=319
MIAR Mount Ida 92.56 42 *e*P **P** 12 30 00.4 +1.2
comp=Z,4.6nm,0.8s
MIAR Mount Ida 92.56 42 *e*P **P** 12 30 00.4 +1.2
MIAR pmax pmax
comp=Z,5.0nm,0.8s
ESDC Sonseca Array 97.35 334 P **P** 12 30 20.8 -0.3
comp=Z,0.1nm,0.3s,baz=28,slow=6.2,SNR=3.4
TORD Torodi Ar. Bea 117.31 315 PKP **PKPdf** 12 35 31.5 -2.0
comp=Z,0.4nm,0.6s,baz=22,slow=1.1,SNR=3.0
KOWA Kowa 119.29 321 PKP **PKPdf** 12 35 36.6 -0.7
comp=Z,1.8nm,0.7s,baz=325,slow=0.1,SNR=4.7
KOWA Kowa 119.29 321 *e*PKPdf **PKPdf** 12 35 37.2 0.0
SNAA Sanae 140.55 197 PKP **PKPdf** 12 36 10.1 -5.7
VNA2 Neumayer--Watz 142.12 196 PKP **PKPdf** 12 36 15.1 -3.4
baz=97,slow=2.7
VNA3 Neumayer Olymp 142.37 195 PKP **PKPdf** 12 36 13.2 -5.8
SAML Samuel 144.49 45 *e*PKPdf **PKPdf** 12 36 25.1 +0.7
LPAZ La Paz 146.93 60 PKPbc **PKPbc** 12 36 31.5 +0.3
comp=Z,6.8nm,0.6s,baz=339,slow=2.2,SNR=30
MNMC Minye Minye 147.77 65 *e*PKPbc **PKPbc** 12 36 34.2 +1.2
PB11 IPOC Station P 148.13 66 *e*PKPbc **PKPbc** 12 36 34.6 +0.8
LCO Las Campanas 152.21 83 *e*PKPbc **PKPbc** 12 36 44.2 +0.6

*ISCJB **29** 12:17:26.1±0.5,25.06S±0.04×179.87E±0.09, h507km, mb3.9/10, Error ellipse: s-maj=10.5km s-min=5.7km az=171.6*

*IDC **29** 12:17:26.1±1.3,24.97S×179.91E, h500km±13km, mb3.5/11, mb1 3.7/14, mb1mx3.5/48, mbtmp4.5/14, Error ellipse: s-maj=15.9km s-min=13.8km az=42.0*

*WEL **29** 12:17:30.2±1.1,26.5S×17.9W×2.9, h555km±16km*

ISC 29 12:17:27.4±0.7,25.18S±0.07×179.80E±0.10, h507km, n66, σ1§88/66, mb4.1/10, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RIZ	**Raoul Island**	**4.53**	**154**	P	**P**	**12 18 51.9**	**+1.3**
RAO	**Raoul Island**	**4.54**	**154**	P	**P**	**12 18 50.6**	**0.0**
	64nm,0.3s,baz=215,slow=3.1,SNR=4.6						
GLKZ	**Green Lake**	**4.54**	**154**	P	**P**	**12 18 50.7**	**+0.1**
GLKZ	**Green Lake**	**4.54**	**154**	S	**S**	**12 19 58.0**	**-0.7**
OUZ	**Omahuta**	**11.35**	**207**	P	**P**	**12 20 01.4**	**+2.5**
WCZ	**Waipu Caves**	**11.70**	**202**	P	**P**	**12 20 06.6**	**+3.9**
KUZ	**Kuaotunu**	**12.04**	**196**	P	**P**	**12 20 08.4**	**+2.2**
MXZ	**Matakaoa Point**	**12.41**	**186**	P	**P**	**12 20 08.8**	**-1.2**
MXZ	**Matakaoa Point**	**12.41**	**186**	S	**S**	**12 22 25.7**	**+1.5**
MKAZ	**Moumakai**	**12.53**	**197**	P	**P**	**12 20 13.5**	**+2.2**
KBAZ	**Karaka Road Bo**	**12.59**	**198**	P	**P**	**12 20 14.8**	**+2.7**
DZM	**Mont Dzumac**	**12.62**	**281**	P	**P**	**12 20 13.7**	**+1.0**
	6nm,0.3s,baz=95,slow=22,SNR=5.4						
HAZ	**Te Kaha**	**12.65**	**187**	P	**P**	**12 20 14.2**	**+1.6**
HAZ	**Te Kaha**	**12.65**	**187**	S	**S**	**12 22 24.5**	**-4.3**
WMGZ	**Waiomatatini S**	**12.65**	**185**	P	**P**	**12 20 11.7**	**-1.0**
WMGZ	**Waiomatatini S**	**12.65**	**185**	S	**S**	**12 22 24.5**	**-4.3**
PKGZ	**Pakihiroa**	**12.75**	**186**	S	**S**	**12 22 30.1**	**-0.8**
PKGZ	**Pakihiroa**	**12.75**	**186**	P	**P**	**12 20 13.8**	**+0.1**
TOZ	**Tahuroa Road**	**13.03**	**195**	P	**P**	**12 20 19.4**	**+2.7**
TWGZ	**Tauwhareparae**	**13.05**	**186**	S	**S**	**12 22 39.1**	**+2.5**
TWGZ	**Tauwhareparae**	**13.05**	**186**	P	**P**	**12 20 16.5**	**-0.3**
URZ	**Urewera**	**13.23**	**189**	P	**P**	**12 20 17.2**	**-1.6**
	2.5nm,0.3s,baz=268,slow=3.2,SNR=13						
URZ				S	**S**	**12 22 38.0**	**-2.0**
	0.6nm,0.3s,baz=87,slow=19,SNR=4.2						
URZ	**Urewera**	**13.23**	**189**	P	**P**	**12 20 18.0**	**-0.8**
URZ	**Urewera**	**13.23**	**189**	S	**S**	**12 22 37.9**	**-2.2**
MWZ	**Matawai**	**13.25**	**188**	P	**P**	**12 20 20.6**	**+1.6**
MWZ	**Matawai**	**13.25**	**188**	S	**S**	**12 22 41.1**	**+0.6**
ALRZ	**Allen Road**	**13.66**	**192**	P	**P**	**12 20 20.7**	**-2.6**
SNGZ	**Shannon Statio**	**13.72**	**188**	P	P	12 20 28.8	+4.9
SNGZ	**Shannon Statio**	**13.72**	**188**	S	**S**	**12 22 50.8**	**+1.3**
AFI	**Afiamalu**	**13.73**	**37**	P	P	12 20 19.6	-4.9
	2.2nm,0.3s,baz=262,slow=6.3,SNR=3.5						
AFI				S	S	12 22 34.2	-16
	1.6nm,0.3s,baz=258,slow=20,SNR=3.6						
KNZ	**Kokohu**	**13.91**	**187**	P	**P**	**12 20 27.1**	**+1.2**
KNZ	**Kokohu**	**13.91**	**187**	S	**S**	**12 22 54.2**	**+1.0**
HIZ	**Hauiti**	**13.93**	**196**	P	P	12 20 32.7	+6.5
ARHZ	**Aropaoanui**	**14.24**	**189**	S	**S**	**12 22 56.3**	**-3.1**
ARHZ	**Aropaoanui**	**14.24**	**189**	P	**P**	**12 20 32.0**	**+2.7**
VRZ	**Vera Road**	**14.54**	**196**	P	**P**	**12 20 33.6**	**+1.2**
BHHZ	**Black Hill Sta**	**14.61**	**192**	P	**P**	**12 20 32.0**	**-1.2**
BHHZ	**Black Hill Sta**	**14.61**	**192**	S	**S**	**12 23 02.8**	**-3.7**
KRHZ	**Kereru**	**14.70**	**190**	P	**P**	**12 20 33.4**	**-0.9**
KRHZ	**Kereru**	**14.70**	**190**	S	**S**	**12 23 03.6**	**-4.8**
TSZ	**Takapari Road**	**15.18**	**191**	P	**P**	**12 20 38.9**	**-0.4**
TSZ	**Takapari Road**	**15.18**	**191**	S	**S**	**12 23 14.8**	**-2.6**
RPZ	**Rata Peaks**	**19.82**	**199**	P	**P**	**12 21 24.3**	**+0.4**
	12nm,0.5s,baz=82,slow=2.0,SNR=9.7						
CTA	**Charters Tower**	**31.32**	**272**	P	**P**	**12 23 06.4**	**+0.5**
	7.1nm,0.3s,baz=97,slow=10.0,SNR=65						
STKA	**Stephens Creek**	**34.09**	**250**	P	**P**	**12 23 29.9**	**+0.6**
	2.3nm,0.3s,baz=86,slow=8.4,SNR=18						
PMG	**Port Moresby**	**34.76**	**291**	P	**P**	**12 23 35.4**	**+0.4**
	9.7nm,0.8s,baz=160,slow=4.4,SNR=5.3						
ASAR	**Alice Springs**	**41.66**	**262**	P	**P**	**12 24 31.1**	**-0.2**
	1.9nm,0.3s,baz=95,slow=7.4,SNR=156						
ASAR				ScP	**ScP**	**12 29 18.3**	**+0.1**
	0.5nm,0.7s,baz=100,slow=4.8,SNR=3.1						
ASAR				S	**S**	**12 30 10.6**	**-0.5**
	0.7nm,0.9s,baz=99,slow=17,SNR=4.1						
WRA	**Warramunga Arr**	**42.15**	**268**	P	**P**	**12 24 34.5**	**-0.7**
	3.6nm,0.3s,baz=99,slow=6.8,SNR=319						
WRA				ScP	**ScP**	**12 29 20.6**	**+0.4**
	1.1nm,0.6s,baz=103,slow=3.5,SNR=6.2						
WRA				S	**S**	**12 30 13.8**	**-4.4**
	0.8nm,0.8s,baz=97,slow=14,SNR=3.3						
VNDA	**Vanda**	**53.09**	**185**	P	**P**	**12 25 58.0**	**+1.5**
	0.6nm,0.6s,baz=14,slow=6.0,SNR=6.0						
QSPA	**South Pole Qui**	**64.91**	**180**	P	**P**	**12 27 17.4**	**+1.2**
	8.3nm,1.0s,baz=34,slow=5.2,SNR=14						
MJAR	**Matsushiro Arr**	**72.85**	**326**	P	**P**	**12 28 03.3**	**-1.0**
	0.5nm,0.5s,baz=164,slow=6.9,SNR=4.9						
SNAA	**Sanae**	**83.39**	**179**	P	**P**	**12 29 00.3**	**-0.3**
SNAA	**Sanae**	**83.39**	**179**	P	**P**	**12 29 00.3**	**-0.3**
	0.8nm,0.5s,baz=180,slow=5.1,SNR=9.0						
VNA3	**Neumayer Olymp**	**83.61**	**177**	P	**P**	**12 29 01.6**	**0.0**
VNA2	**Neumayer--Watz**	**84.02**	**178**	P	**P**	**12 29 03.9**	**+0.2**
	baz=184,slow=4.0						
TXAR	**Lajitas Array**	**91.26**	**58**	P	**P**	**12 29 38.6**	**0.0**
	0.9nm,0.7s,baz=218,slow=5.9,SNR=13						
BVAR	**Borovoye Array**	**121.27**	**318**	PKP	**PKPdf**	**12 35 20.8**	**-1.4**
	0.4nm,0.4s,baz=10,slow=1.6,SNR=3.2						
SPITS	**Spitsbergen Ar**	**126.38**	**356**	PKP	**PKPdf**	**12 35 30.4**	**-1.0**
	6.1nm,1.0s,baz=14,slow=8.0,SNR=3.0						
ARCES	**ARCESS Array B**	**133.10**	**348**	PKP	**PKPdf**	**12 35 43.2**	**-1.1**
	10nm,1.2s,baz=347,slow=2.8,SNR=4.9						
FINES	**FINESS Array B**	**139.59**	**341**	PKhKP	PKPpre	12 35 46.7	
	2.0nm,0.9s,baz=72,slow=6.2,SNR=4.8						
FINES				PKP	**PKPdf**	**12 35 56.1**	**-0.3**
	0.9nm,0.8s,baz=111,slow=4.3,SNR=5.3						
FINES				SKPbc	**SKPbc**	**12 38 44.0**	**-0.1**
	1.0nm,0.7s,baz=33,slow=3.3,SNR=6.2						
NB2	**NORSAR Subarra**	**143.31**	**351**	PKP	PKPab	12 35 59.3	-1.9
	comp=Z,1.1nm,0.8s,baz=15,slow=3.2						
NOA	**NORSAR Array B**	**143.31**	**351**	PKP	PKPab	12 35 59.6	-1.5
	comp=Z,0.7nm,0.8s,baz=16,slow=4.9,SNR=5.2						
HFS	**Hagfors**	**143.76**	**348**	PKP	PKPab	12 36 01.0	-1.8
	comp=Z,2.9nm,0.4s,baz=52,slow=4.1,SNR=28						
AKASG	**Malin Array Be**	**145.94**	**326**	PKPbc	**PKPdf**	**12 36 07.8**	**-0.1**
	comp=Z,0.4nm,0.3s,baz=43,slow=3.8,SNR=5.2						
BRTR	**Keskin Array B**	**148.18**	**305**	PKPbc	**PKPdf**	**12 36 13.3**	**+1.0**
	comp=Z,0.5nm,0.6s,baz=34,slow=5.4,SNR=3.3						
TORD	**Torodi Ar. Bea**	**167.89**	**189**	PKPab	**PKPab**	**12 37 46.3**	**-0.2**
	comp=Z,1.1nm,0.9s,baz=178,slow=4.3,SNR=3.6						

IDC 29 12:35:49.5±1.2,3.12S×126.91E, h0km, mb3.4/3, mb1 3.8/5, mb1mx3.5/59, mbtmp3.6/5, ML3.6/2, Error ellipse: s-maj=43.1km s-min=22.8km az=64.0, Buru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**4.90**	**63**	Pn	Pn	12 37 04.7	+0.3
	2.8nm,0.3s,baz=224,slow=14,SNR=9.5						
SIJI				Sn	Sn	12 38 00.1	-1.8
	1.0nm,0.3s,baz=24,slow=20,SNR=4.4						
WRA	**Warramunga Arr**	**18.23**	**157**	P	Pn	12 40 04.2	+0.1
	0.2nm,0.3s,baz=336,slow=12,SNR=14						
ASAR	**Alice Springs**	**21.52**	**162**	P	P	12 40 39.6	-0.7
	1.2nm,0.6s,baz=342,slow=11,SNR=23						
MKAR	**Makanchi Array**	**63.31**	**327**	P	P	12 46 20.2	-0.2
	0.3nm,0.7s,baz=132,slow=6.2,SNR=3.4						
KURBB	**Kurchatov Arra**	**67.62**	**329**	P	P	12 46 48.4	+0.4
	0.3nm,0.5s,baz=121,slow=6.6,SNR=3.6						

*IDC **29** 12:42:06.0±1.5,2.11N×90.22E, h0km, mb3.6/6, mb1 3.7/8, mb1mx3.5/71, mbtmp3.6/8, ML3.8/2, MS3.2/2, Ms1 3.2/2, ms1mx2.7/57, Error ellipse: s-maj=50.9km s-min=20.6km az=54.0*

ISC 29 12:42:12.5±1.5,2.3N±0.2×90.7E±0.1, h35km, n16, σ1§24/10, mb3.7/6, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**8.26**	**86**	Pn	**Pn**	**12 44 09.2**	**-0.9**
	0.5nm,0.3s,baz=210,slow=20,SNR=2.8						
PSI				Sn	**Sn**	**12 45 42.0**	**-0.3**
	1.2nm,0.3s,baz=178,slow=16,SNR=3.8						
PSI				LR	LR	12 47 43.8	
	comp=Z,206nm,18.1s,baz=336,slow=39						
PALK	**Pallekele**	**11.09**	**297**	Pn	Pn	12 44 41.9	-6.9
	0.6nm,0.3s,baz=115,slow=7.0,SNR=5.2						
PALK				Sn	Sn	12 46 35.7	-16
	1.3nm,0.3s,baz=296,slow=5.5,SNR=4.2						
PALK				LR	LR	12 48 15.0	
	comp=Z,93nm,19.6s,baz=296,slow=34						
CMAR	**Chiang Mai Arr**	**17.99**	**26**	P	**P**	**12 46 21.4**	**+1.1**
	0.1nm,0.3s,baz=217,slow=12,SNR=4.7						
H08S2	**Diego Garcia H**	**20.65**	**241**	T	T	13 07 59.7	
	baz=61,slow=75,SNR=61						
H08S3	**Diego Garcia H**	**20.65**	**241**	T	T	13 07 58.5	
	baz=61,slow=75,SNR=59						
H08S1	**Diego Garcia H**	**20.67**	**241**	T	T	13 07 58.5	
	baz=61,slow=75,SNR=68						
H01W3	**Cape Leeuwin H**	**43.04**	**151**	T	T	13 36 14.5	
	baz=325,slow=76,SNR=7.7						
H01W2	**Cape Leeuwin H**	**43.05**	**151**	T	T	13 36 16.2	
	baz=325,slow=76,SNR=11						
H01W1	**Cape Leeuwin H**	**43.06**	**151**	T	T	13 36 14.4	
	baz=325,slow=76,SNR=111						
MKAR	**Makanchi Array**	**44.92**	**352**	P	**P**	**12 50 23.3**	**-0.6**
	0.7nm,0.7s,baz=173,slow=9.4,SNR=6.0						
SONM	**Songino Array**	**47.36**	**14**	P	**P**	**12 50 44.8**	**+1.6**
	1.9nm,0.9s,baz=212,slow=5.1,SNR=4.6						
WRA	**Warramunga Arr**	**48.21**	**119**	P	**P**	**12 50 50.6**	**+0.5**
	1.1nm,0.9s,baz=296,slow=8.8,SNR=6.4						
KURBB	**Kurchatov Arra**	**49.24**	**350**	P	**P**	**12 50 56.9**	**-0.6**
	0.7nm,0.7s,baz=172,slow=7.6,SNR=7.5						
ASAR	**Alice Springs**	**49.34**	**124**	P	**P**	**12 50 59.2**	**+0.4**
	0.2nm,0.8s,baz=297,slow=7.4,SNR=2.9						
BVAR	**Borovoye Array**	**53.28**	**345**	P	**P**	**12 51 25.8**	**-2.0**
	0.4nm,0.6s,baz=142,slow=7.3,SNR=2.7						
TXAR	**Lajitas Array**	**145.68**	**23**	PKPbc	**PKPab**	**13 01 49.8**	**+1.0**
	0.6nm,0.8s,baz=336,slow=4.0,SNR=5.3						

*BJI **29** 12:46:52.6,23.70S×177.60W, h225km, mb4.6/8, mB5.2/3*

*IDC **29** 12:46:52.7±1.9,23.51S×177.56W, h208km±16km, mb3.9/18, mb1 4.1/19, mb1mx3.9/50, mbtmp4.5/19, MS3.9/1, Ms1 3.9/1, ms1mx2.8/44, Error ellipse: s-maj=13.6km s-min=9.8km az=115.0*

*ISCJB **29** 12:46:53.5±0.2,23.57S±0.04×177.71W±0.06, h223km, mb4.4/68, Error ellipse: s-maj=8.3km s-min=4.9km az=15.2*

*NEIC **29** 12:46:56.7±0.9,23.69S×177.58W, h247km±8km, mb4.6/56, Error ellipse: s-maj=7.9km s-min=5.7km az=107.0*

ISC 29 12:46:54.3±0.3,23.52S±0.05×177.48W±0.08, h223km, n182, σ1§29/192, mb4.5/69, 13C-6D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**5.72**	**184**	S	**S**	**12 49 23.3**	**-1.7**
	102nm,0.3s,baz=75,slow=20,SNR=4.7						
RAO	**Raoul Island**	**5.72**	**184**	*e*Pn	**Pn**	**12 48 19.4**	**+1.1**
RAO				*e*S	**S**	**12 49 25.2**	**+0.2**
MSVF	**Nonsavu**	**7.12**	**323**	*e*Pn	Pn	12 48 41.5	+5.0
AFI	**Afiamalu**	**10.98**	**

OUZ	**Omahuta**	**14.01**	**212**	*e*Pn	**P**	**12 50 07.1**	**+2.4**
DZM	**Mont Dzumac**	**14.90**	**272**	P	P	12 50 19.1	+4.2
	2.0nm,0.3s,baz=84,slow=16,SNR=15							
DZM	**Mont Dzumac**	**14.90**	**272**	*e*Pn	**P**	**12 50 18.6**	**+3.7**
URZ	**Urewera**	**15.40**	**196**	P	**P**	**12 50 15.2**	**-4.9**
	17nm,0.3s,baz=276,slow=2.2,SNR=69							
URZ				S	S	12 52 55.7	-15	
	3.6nm,0.3s,baz=107,slow=16,SNR=14							
URZ	**Urewera**	**15.40**	**196**	*e*Pn	**P**	**12 50 17.6**	**-2.5**
	63nm,1.1s							
URZ				S	S	12 52 55.7	-15	
HIZ	**Hauiti**	**16.31**	**202**	*e*P	**Pn**	**12 50 31.7**	**+0.4**
	79nm,1.1s							
BKZ	**Black Stump Fm**	**16.41**	**197**	*e*P	**P**	**12 50 29.4**	**-2.0**
BFZ	**Birch Farm**	**17.91**	**196**	*e*P	**P**	**12 50 41.7**	**-5.8**
	71nm,0.8s							
SNZO	**South Karori**	**18.91**	**198**	*e*P	**P**	**12 50 54.9**	**-3.4**
	71nm,1.1s							
THZ	**Tophouse**	**19.88**	**202**	*e*P	**P**	**12 51 05.6**	**-3.3**
	32nm,1.2s							
KHZ	**Kahutara**	**20.27**	**200**	*e*P	**P**	**12 51 10.6**	**-2.2**
	35nm,1.1s							
LTZ	**Lake Taylor**	**21.00**	**201**	*e*P	**P**	**12 51 19.5**	**-1.2**
	36nm,1.1s							
KNTN	**Kanton**	**21.37**	**16**	*e*P	**P**	**12 51 25.2**	**+0.6**
	75nm,0.9s							
OXZ	**Oxford**	**21.57**	**201**	*e*P	**P**	**12 51 26.5**	**+0.2**
	60nm,1.2s							
RPZ	**Rata Peaks**	**22.25**	**202**	P	**P**	**12 51 30.9**	**-1.9**
	10nm,0.3s,baz=207,slow=4.1,SNR=16							
RPZ				S	**S**	**12 55 22.8**	**+2.0**
	12nm,1.0s,baz=153,slow=14,SNR=2.3							
RPZ				LR	LR	13 01 01.2		
	comp=Z,322nm,19.2s,baz=206,slow=38							
RPZ	**Rata Peaks**	**22.25**	**202**	*e*P	**P**	**12 51 31.2**	**-1.6**
	27nm,0.9s							
RPZ				S	**S**	**12 55 22.8**	**+2.0**
FOZ	**Fox Glacier**	**22.54**	**205**	*e*P	**P**	**12 51 33.5**	**-1.9**
	80nm,1.0s							
LBZ	**Lake Benmore**	**23.14**	**203**	*e*P	**P**	**12 51 38.5**	**-2.3**
	24nm,1.1s							
ODZ	**Otahua Downs**	**23.55**	**201**	*e*P	**P**	**12 51 43.7**	**-0.8**
	25nm,1.2s							
WKZ	**Wanaka**	**23.95**	**204**	*e*P	**P**	**12 51 46.9**	**-1.3**
	39nm,1.1s							
MLZ	**Mavora Lakes**	**24.74**	**205**	*e*P	**P**	**12 51 54.5**	**-0.9**
	43nm,1.0s							
WHZ	**Wether Hill Ro**	**25.25**	**204**	*e*P	**P**	**12 51 59.2**	**-0.7**
	19nm,1.1s							
ARMA	**Armidale**	**28.32**	**249**	*e*P	**P**	**12 52 28.8**	**+1.2**
	7.2nm,0.8s							
EIDS	**Eidsvold**	**28.65**	**260**	*e*P	**P**	**12 52 31.1**	**+0.6**
	9.1nm,0.9s							
CTA	**Charters Tower**	**33.79**	**269**	P	**P**	**12 53 15.4**	**-0.1**
	9.3nm,0.3s,baz=99,slow=11,SNR=28							
CTAO	**Charters Tower**	**33.79**	**269**	*e*P	**P**	**12 53 15.6**	**+0.1**
	17nm,0.8s							
PMG	**Port Moresby**	**36.58**	**287**	P	**P**	**12 53 39.1**	**-0.2**
	80nm,0.8s,baz=86,slow=5.7,SNR=47							
PMG	**Port Moresby**	**36.58**	**287**	*e*P	**P**	**12 53 39.4**	**+0.1**
	70nm,0.8s							
STKA	**Stephens Creek**	**37.01**	**248**	P	**P**	**12 53 41.2**	**-1.6**
	3.9nm,0.3s,baz=86,slow=10.0,SNR=10							
STKA	**Stephens Creek**	**37.01**	**248**	*e*P	**P**	**12 53 42.8**	**+0.1**
	1.2nm,0.5s							
COEN	**Coen**	**38.35**	**277**	*e*P	**P**	**12 53 54.8**	**+0.6**
	14nm,0.8s							
BBOO	**Buckleboo**	**41.72**	**247**	*e*P	**P**	**12 54 19.5**	**-2.1**
	12nm,0.9s							
AS01	**Alice Springs**	**44.34**	**260**	*e*P	**P**	**12 54 41.7**	**-1.1**
AS31	**Alice Springs**	**44.38**	**260**	*e*P	**P**	**12 54 42.3**	**-0.8**
	2.3nm,0.8s							
ASAR	**Alice Springs**	**44.38**	**260**	P	**P**	**12 54 41.9**	**-1.2**
	7.5nm,0.8s,baz=90,slow=7.1,SNR=87							
ASAR				PcP	**PcP**	**12 56 22.5**	**-0.4**
	3.7nm,0.6s,baz=106,slow=4.0,SNR=15							
ASAR				ScP	**ScP**	**12 59 53.5**	**-0.1**
	0.8nm,1.1s,baz=108,slow=4.3,SNR=4.4							
WB2	**Warramunga Arr**	**44.73**	**265**	*e*P	**P**	**12 54 44.2**	**-1.7**
	8.7nm,0.6s							
WRAB	**Tennant Creek**	**44.73**	**265**	*e*P	**P**	**12 54 44.4**	**-1.5**
	6.5nm,0.6s							
WRA	**Warramunga Arr**	**44.74**	**265**	P	**P**	**12 54 44.4**	**-1.5**
	2.5nm,0.4s,baz=89,slow=6.0,SNR=152							
WRA				PcP	**PcP**	**12 56 23.6**	**-0.6**
	5.6nm,0.9s,baz=98,slow=3.4,SNR=12							
WRA				ScP	**ScP**	**12 59 54.7**	**-0.5**
	0.5nm,0.7s,baz=98,slow=3.8,SNR=5.7							
FORT	**Forrest**	**48.61**	**249**	*e*P	**P**	**12 55 13.9**	**-1.8**
	327nm,0.7s							
MTN	**Manton Dam**	**49.74**	**273**	*e*P	**P**	**12 55 23.3**	**-1.2**
	6.5nm,0.9s							
FITZ	**Fitzroy Crossi**	**53.17**	**264**	*e*P	**P**	**12 55 49.4**	**-0.4**
	10nm,0.8s							
SBA	**Scott Base**	**54.90**	**184**	*e*P	**P**	**12 56 04.2**	**+2.8**
	8.1nm,1.0s							
VNDA	**Vanda**	**54.96**	**185**	P	**P**	**12 56 02.5**	**+0.7**
	1.9nm,1.0s,baz=356,slow=9.9,SNR=6.3							
VNDA	**Vanda**	**54.96**	**185**	*e*P	**P**	**12 56 03.9**	**+2.1**
	0.9nm,0.9s							
SOEI	**Soe**	**57.12**	**274**	*e*P	**P**	**12 56 18.5**	**+0.2**
	36nm,0.8s							
BATI	**Baumata**	**57.51**	**273**	P	**P**	**12 56 20.4**	**-0.5**
	29nm,0.6s,baz=162,slow=4.9,SNR=9.4							
MBWA	**Marble Bar**	**57.72**	**259**	*e*P	**P**	**12 56 20.5**	**-1.7**
	12nm,0.8s							
CASY	**Casey**	**61.46**	**206**	*e*P	**P**	**12 56 46.9**	**-0.1**
	18nm,0.9s							
QSPA	**South Pole Qui**	**66.56**	**180**	P	**P**	**12 57 21.2**	**+0.9**
	6.9nm,0.8s,baz=40,slow=2.3,SNR=18							
QSPA	**South Pole Qui**	**66.56**	**180**	*e*P	**P**	**12 57 21.4**	**+1.1**
	14nm,1.1s							
KKM	**Kota Kinabalu**	**71.02**	**286**	*e*P	**P**	**12 57 47.9**	**-0.7**
	6.3nm,1.0s							
MJAR	**Matsushiro Arr**	**72.93**	**324**	P	**P**	**12 57 58.4**	**-0.9**
	1.2nm,0.9s,baz=160,slow=6.2,SNR=4.0							
KSM	**Kuching**	**74.33**	**279**	*e*P	**P**	**12 58 07.3**	**-0.7**
	7.1nm,0.8s							
ATKA	**Atka Island**	**75.45**	**2**	*e*P	**P**	**12 58 13.2**	**-0.2**
	49nm,1.0s							
TPUB	**Ta-pu**	**76.03**	**303**	*e*P	**P**	**12 58 15.6**	**-1.8**
	11nm,0.9s							
NIKH	**Nikolski High**	**76.54**	**5**	*e*P	**P**	**12 58 20.0**	**+0.4**
	72nm,1.0s							
UNV	**Unalaska Valle**	**77.63**	**7**	*e*P	**P**	**12 58 25.9**	**+0.3**
	19nm,1.1s							
MAW	**Mawson**	**78.90**	**200**	P	**P**	**12 58 32.4**	**-0.1**
	5.6nm,0.9s,baz=132,slow=13,SNR=3.7							
PETK	**Petropavlovsk-**	**79.31**	**345**	P	**P**	**12 58 35.0**	**+0.2**
	1.6nm,0.7s,baz=142,slow=4.0,SNR=8.0							
NJ2	**Nanjing**	**82.18**	**310**	*e*P	**P**	**12 58 50.5**	**0.0**
NJ2				pmax	pmax			
	comp=Z,8.0nm,0.6s							
NVAR	**Mina Array Bea**	**82.89**	**43**	P	**P**	**12 58 55.8**	**+1.4**
	0.3nm,0.5s,baz=222,slow=7.6,SNR=4.0							
IPM	**Ipoh**	**84.00**	**277**	*e*P	**P**	**12 58 59.6**	**-0.7**
	8.8nm,0.8s							
CN2	**Changchun**	**84.98**	**322**	*e*P	**P**	**12 59 05.5**	**+1.1**
SNAA	**Sanae**	**84.99**	**178**	P	**P**	**12 59 03.7**	**-0.5**
SNAA	**Sanae**	**84.99**	**178**	P	**P**	**12 59 03.8**	**-0.5**
	2.9nm,0.9s,baz=195,slow=3.6,SNR=11							
SNAA	**Sanae**	**84.99**	**178**	*e*P	**P**	**12 59 04.0**	**-0.3**
	5.5nm,1.1s							
VNA3	**Neumayer Olymp**	**85.11**	**176**	P	**P**	**12 59 04.5**	**-0.3**
VNA2	**Neumayer--Watz**	**85.55**	**177**	P	**P**	**12 59 06.9**	**-0.1**
	baz=185,slow=4.2							
SVW2	**Sparrevohn**	**86.17**	**10**	*e*P	**P**	**12 59 10.3**	**+0.4**
	5.8nm,1.2s							
PLCA	**Paso Flores**	**86.85**	**133**	*e*P	**P**	**12 59 15.1**	**+1.1**
	0.3nm,0.6s							
SUA	**Susitna One**	**87.39**	**12**	*e*P	**P**	**12 59 16.6**	**+0.7**
	5.0nm,0.7s							
TMUT	**Trail Mountain**	**87.92**	**45**	*e*P	**P**	**12 59 21.3**	**+2.1**
	3.2nm,1.1s							
MNTX	**Cornudas Mount**	**88.11**	**54**	*e*P	**P**	**12 59 21.8**	**+1.9**
	0.9nm,0.8s							
TXAR	**Lajitas Array**	**88.28**	**57**	P	**P**	**12 59 22.9**	**+2.0**
	0.2nm,0.6s,baz=231,slow=5.7,SNR=4.3							
BMRM	**Bremner River**	**88.31**	**15**	*e*P	**P**	**12 59 21.1**	**+0.9**
	6.5nm,0.7s							
SCM	**Sheep Creek Mo**	**88.44**	**14**	*e*P	**P**	**12 59 21.8**	**+1.0**
	9.1nm,1.1s							
GYA	**Guiyang**	**88.56**	**300**	*e*P	**P**	**12 59 23.0**	**+0.7**
GYA				pP	pP	13 00 15.5	-1.3
GYA				sP	sP	13 00 37.5	-2.6
GYA				PP	**PP**	**13 02 55.8**	**+1.5**
GYA				SKS	**SKSac**	**13 09 29.0**	**-1.3**
GYA				S	**S**	**13 09 48.5**	**-1.1**
GYA				pmax	pmax			
	comp=Z,10.0nm,1.0s							
BALM	**Baldy**	**88.93**	**16**	*e*P	**P**	**12 59 24.4**	**+1.3**
	6.5nm,0.8s							
CAST	**Castle Rocks**	**88.94**	**11**	*e*P	**P**	**12 59 22.5**	**-0.5**
	5.8nm,1.0s							
TRF	**Thorofare Moun**	**89.29**	**12**	*e*P	**P**	**12 59 24.8**	**-0.1**
	6.6nm,0.9s							
SEY	**Seymchan**	**89.42**	**347**	P	**P**	**12 59 25.3**	**+0.1**
	4.4nm,0.7s,baz=147,slow=4.4,SNR=16							
RND	**Reindeer**	**89.53**	**12**	*e*P	**P**	**12 59 26.3**	**+0.4**
	8.2nm,1.1s							
WRH	**Wood River Hil**	**90.64**	**12**	*e*P	**P**	**12 59 31.0**	**+0.1**
	4.2nm,1.1s							
MLY	**Manley**	**90.65**	**11**	*e*P	**P**	**12 59 30.9**	**-0.1**
	2.5nm,1.2s							
WHY	**Whitehorse**	**90.72**	**19**	*e*P	**P**	**12 59 32.7**	**+1.2**
	3.2nm,0.9s							
DOT	**Dot Lake**	**90.76**	**14**	*e*P	**P**	**12 59 32.5**	**+1.0**
	3.9nm,0.8s							
PDAR	**Pinedale Array**	**90.83**	**43**	P	**P**	**12 59 33.3**	**+0.7**
	0.7nm,0.9s,baz=197,slow=4.6,SNR=3.7							
CCB	**Clear Creek Bu**	**90.85**	**12**	*e*P	**P**	**12 59 32.0**	**+0.2**
	4.4nm,1.1s							
IM3	**Indian Mountai**	**91.04**	**9**	*e*P	**P**	**12 59 33.6**	**+0.9**
ILAR	**Eielson Array**	**91.14**	**13**	P	**P**	**12 59 33.0**	**-0.2**
	0.8nm,0.9s,baz=220,slow=5.8,SNR=6.9							
CM01	**Chiang Mai Arr**	**91.55**	**289**	*e*P	**P**	**12 59 36.6**	**+0.4**
CMAR	**Chiang Mai Arr**	**91.58**	**289**	P	**P**	**12 59 37.3**	**+1.0**
	1.7nm,0.7s,baz=138,slow=3.5,SNR=11							
CHTO	**Chiang Mai**	**91.72**	**290**	*e*P	**P**	**12 59 37.7**	**+0.7**
	4.6nm,0.7s							
HHC	**Hu-ho-hao-te**	**91.80**	**314**	*e*P	**P**	**12 59 39.3**	**+2.3**
HHC				pmax	pmax			
	comp=Z,10.0nm,1.4s							
YKA	**Yellowknife Ar**	**99.04**	**25**	PKiKP	**PKiKP**	**13 04 38.0**	**-0.3**
	0.1nm,0.6s,baz=216,slow=1.6,SNR=5.1							
WMQ	**Urumqi**	**109.26**	**310**	Pdif	**Pdif**	**13 00 55.8**	**+0.6**
ZALV	**Zalesovo Beam**	**113.13**	**320**	PKiKP	**PKiKP**	**13 05 03.7**	**-1.0**
	0.7nm,0.6s,baz=171,slow=2.8,SNR=3.2							
MKAR	**Makanchi Array**	**113.61**	**312**	PKiKP	**PKiKP**	**13 05 04.5**	**-1.4**
	0.7nm,0.7s,baz=230,slow=1.7,SNR=7.7							
KURK	**Kurchatov**	**116.53**	**316**	PKP	**PKPdf**	**13 05 10.2**	**-1.2**
KURBB	**Kurchatov Arra**	**116.57**	**316**	PKP	**PKPdf**	**13 05 10.2**	**-1.3**
	0.8nm,0.7s,baz=97,slow=1.7,SNR=6.9							
HRV	**Adam Dziewonsk**	**116.96**	**53**	*e*PKPdf	**PKPdf**	**13 05 12.2**	**-0.3**
BVAR	**Borovoye Array**	**121.68**	**319**	PKP	**PKPdf**	**13 05 19.9**	**-1.3**
	1.2nm,0.8s,baz=107,slow=1.5,SNR=7.2							
BOSA	**Boshof**	**123.73**	**204**	PKP	**PKPdf**	**13 05 25.6**	**-0.6**
	1.7nm,0.8s,baz=158,slow=0.8,SNR=4.4							
BOSA	**Boshof**	**123.73**	**204**	*e*PKPdf	**PKPdf**	**13 05 26.2**	**0.0**
SPITS	**Spitsbergen Ar**	**124.90**	**357**	PKP	**PKPdf**	**13 05 26.3**	**-0.5**
	4.5nm,0.7s,baz=302,slow=8.3,SNR=5.8							
AKTO	**Aktyubinsk**	**129.62**	**317**	PKP	**PKPdf**	**13 05 35.7**	**-0.8**
	1.1nm,0.6s,baz=90,slow=7.7,SNR=4.6							
ARCES	**ARCESS Array B**	**131.97**	**349**	PKP	**PKPdf**	**13 05 39.0**	**-1.4**
	2.6nm,0.8s,baz=27,slow=1.4,SNR=9.5							
ARCES	**ARCESS Array B**	**131.97**	**349**	*e*PKPdf	**PKPdf**	**13 05 39.9**	**-0.5**
FIA1	**FINESS Array S**	**138.79**	**343**	*e*PKPdf	**PKPdf**	**13 05 55.0**	**+1.8**
FINES	**FINESS Array B**	**138.80**	**343**	PKhKP	PKPpre	13 05 43.2		
	1.8nm,0.8s,baz=4.6,slow=3.5,SNR=4.0							
FINES				PKP	**PKiKP**	**13 05 54.8**	**-0.7**
	2.2nm,0.5s,baz=96,slow=3.4,SNR=13							
NC303	**NORSAR Array S**	**141.83**	**353**	*e*PKPpre	PKPpre	13 05 53.3		
NB2	**NORSAR Subarra**	**142.03**	**353**	PKP	PKPpre	13 05 54.7		
	comp=Z,1.8nm,0.7s,baz=25,slow=3.2							
NOA	**NORSAR Array B**	**142.03**	**353**	PKhKP	PKPpre	13 05 54.3		
	comp=Z,1.9nm,0.7s,baz=22,slow=3.8,SNR=8.7							
NBO02	**NORSAR Array S**	**142.06**	**353**	*e*PKPpre	PKPpre	13 05 56.1		
NBO00	**NORSAR Array S**	**142.08**	**353**	*e*PKPpre	PKPpre	13 05 56.3		
NAO01	**NORSAR Array S**	**142.25**	**353**	*e*PKPpre	PKPpre	13 05 56.0		
HFS	**Hagfors**	**142.59**	**351**	PKhKP	PKPpre	13 05 55.8		
	comp=Z,4.2nm,0.4s,baz=73,slow=4.8,SNR=30							
SUW	**Suwalki**	**145.82**	**338**	*e*PKP	**PKPab**	**13 06 07.5**	**-0.3**
SUW	**Suwalki**	**145.82**	**338**	*e*PKPdf	**PKPbc**	**13 06 06.9**	**0.0**
AKASG	**Malin Array Be**	**145.87**	**329**	PKPbc	**PKPdf**	**13 06 06.2**	**0.0**
	comp=Z,22nm,0.7s,baz=42,slow=4.2,SNR=63							
AKBB	**Malin Array Si**	**145.87**	**329**	*e*PKPdf	**PKPdf**	**13 06 06.2**	**+0.1**
KIEV	**Kiev**	**145.88**	**329**	*e*PKPdf	**PKPdf**	**13 06 06.2**	**+0.1**
AK11	**Malin Array Si**	**145.91**	**329**	*e*PKPdf	**PKPdf**	**13 06 06.3**	**+0.1**
EKA	**Esdalemuir Ar**	**147.95**	**6**	PKPbc	**PKPbc**	**13 06 11.9**	**-0.9**
	comp=Z,1.4nm,0.5s,baz=351,slow=2.3,SNR=6.4							
SORM	**Soroca**	**148.01**	**327**	↑*i*P	**PKPbc**	**13 06 12.9**	**-0.3**
BEL	**Belsk**	**148.44**	**338**	*e*PKP	**PKPbc**	**13 06 14.0**	**-0.2**
ASF	**Jabal al Asfar**	**148.52**	**294**	PKPbc	**PKPbc**	**13 06 15.4**	**+0.2**
	comp=Z,11nm,0.8s,baz=96,slow=2.2,SNR=17							
ILGA	**Ilgaz**	**148.59**	**311**	*e*PKPbc	**PKPbc**	**13 06 15.3**	**0.0**
BR131	**Keskin Array S**	**149.17**	**309**	*e*PKPbc	**PKPbc**	**13 06 15.9**	**-0.8**
BRTR	**Keskin Array B**	**149.17**	**309**	PKPbc	**PKPbc**	**13 06 15.8**	**-0.8**
	comp=Z,4.0nm,0.7s,baz=140,slow=4.1,SNR=25							
KWP	**Kalwaria Pacla**	**149.51**	**334**	*e*PKPbc	**PKPbc**	**13 06 17.0**	**0.0**
MMAI	**Mount Meron Ar**	**149.64**	**296**	PKPbc	**PKPbc**	**13 06 18.3**	**+0.3**
	comp=Z,12nm,0.6s,baz=81,slow=4.5,SNR=25							
ANTO	**Ankara**	**149.71**	**310**	↑*i*P	**PKPbc**	**13 06 18.1**	**+0.2**
ANTO	**Ankara**	**149.71**	**310**	*e*PKPbc	**PKPbc**	**13 06 17.9**	**-0.1**
BR231	**Keskin MP Arra**	**149.74**	**310**	*e*PKPbc	**PKPbc**	**13 06 18.1**	**0.0**
BUR08	**Bucovina Ar. S**	**149.89**	**329**	*e*PKPbc	**PKPbc**	**13 06 18.9**	**+0.8**
BUR04	**Bucovina Ar. S**	**149.91**	**329**	*e*PKPbc	**PKPbc**	**13 06 18.7**	**+0.5**
BURAR	**Bucovina Array**	**149.91**	**329**	↓*i*P	**PKPbc**	**13 06 19.4**	**+1.3**
CFR	**Carcaliu**	**150.00**	**322**	↓*i*P	**PKPbc**	**13 06 18.2**	**-0.1**
OJC	**Ojcow**	**150.13**	**337**	*e*PKP	**PKPbc**	**13 06 19.0**	**+0.5**
STHS	**Stebnicka Huta**	**150.26**	**335**	*e*PKP	**PKPbc**	**13 06 18.9**	**+0.1**
TIRR	**Tirgusor**	**150.27**	**321**	↑*i*P	**PKPbc**	**13 06 18.9**	**0.0**
VRI	**Vrincioaia**	**150.33**	**325**	↓*i*P	**PKPbc**	**13 06 18.8**	**-0.3**
PLOR	**Plostina**	**150.38**	**325**	↑*i*P	**PKPbc**	**13 06 18.0**	**-1.3**
TLB	**Topalu**	**150.41**	**321**	↑*i*P	**PKPbc**	**13 06 19.3**	**0.0**
CRVS	**Cervenica-Dubn**	**150.59**	**334**	*e*PKP	**PKPbc**	**13 06 19.6**	**0.0**
NIE	**Niedzica**	**150.62**	**336**	*e*PKP	**PKPbc**	**13 06 20.2**	**+0.5**
KSP	**Ksiaz**	**150.71**	**342**	*e*PKP	**PKPbc**	**13 06 20.2**	**+0.4**
CSS	**Mathiatis**	**150.92**	**300**	*e*PKPbc	**PKPbc**	**13 06 20.0**	**-0.9**
MLR	**Muntele Rosu**	**150.99**	**325**	PKPbc	**PKPbc**	**13 06 19.7**	**-1.1**
	comp=Z,1.3nm,1.0s,baz=80,slow=6.1,SNR=5.6							
MLR	**Muntele Rosu**	**150.99**	**325**	*e*PKPbc	**PKPbc**	**13 06 20.3**	**-0.5**
OKC	**Ostrava-Krasne**	**151.02**	**339**	↑*e*PKP	**PKPbc**	**13 06 20.5**	**0.0**
UPC	**Upice**	**151.09**	**342**	↑*e*PKP	**PKPbc**	**13 06 20.7**	**0.0**
UPC				*e*PKPAB	**PKPab**	**13 06 29.7**	**+0.5**
CLL	**Collm**	**151.10**	**346**	↓*i*PKPbc	**PKPbc**	**13 06 20.5**	**-0.2**
	comp=Z,16nm,0.9s							
CLL				↑*i*PKPab	**PKPab**	**13 06 29.1**	**-0.1**
	comp=Z,9.0nm,0.7s							
CLL				*e*pPKPab	**pPKPab**	**13 07 29.0**	**+4.5**
CLL	**Collm**	**151.10**	**346**	*e*PKPbc	**PKPbc**	**13 06 20.7**	**0.0**
DPC	**Dobruska-Polom**	**151.14**	**342**	↑*e*PKP	**PKPbc**	**13 06 21.1**	**+0.2**
DPC				*e*PKPAB	**PKPab**	**13 06 30.2**	**+0.8**
LANS	**Liptovska Anna**	**151.15**	**337**	*e*PKP	**PKPbc**	**13 06 22.5**	**+1.6**
MORC	**Moravsky Berou**	**151.27**	**340**	↓*i*P	**PKPbc**	**13 06 21.1**	**-0.1**
BRG	**Berggiesshubel**	**151.29**	**345**	*i* PKP	**PKPbc**	**13 06 21.1**	**-0.1**
	comp=Z,9.9nm,0.7s							
BRG				*i*		13 06 27.6		
	comp=Z,5.9nm,0.8s							
PVCC	**Panska Ves**	**151.46**	**344**	↑*e*PKP	**PKPbc**	**13 06 22.0**	**+0.5**
DRGR		**151.68**	**330**	↑*i*P	**PKPbc**	**13 06 22.0**	**-0.3**
ARR	**Arges**	**151.76**	**326**	↓*i*P	**PKPbc**	**13 06 23.2**	**+0.7**
VYHS	**Vyhne**	**151.92**	**337**	*e*PKP	**PKPbc**	**13 06 22.8**	**+0.1**
VYHS				*e*		13 06 33.2		
PRU	**Pruhonice**	**151.96**	**343**	↑*e*PKP	**PKPbc**	**13 06 22.5**	**-0.2**
PRU				*e*PKPAB	**PKPab**	**13 06 33.2**	**+0.4**
ISP	**Isparta**	**152.15**	**307**	*e*PKPbc	**PKPbc**	**13 06 22.1**	**-1.6**
NKC	**Novy Kostel**	**152.24**	**346**	*e*PKPAB	**PKPab**	**13 06 33.8**	**-0.2**
MODS	**Modra-Piesok**	**152.57**	**338**	*e*PKP	**PKPab**	**13 06 35.2**	**-0.3**
KHC	**Kasperske Hory**	**153.00**	**344**	↑*e*PKP	**PKPbc**	**13 06 25.0**	**-0.1**
KHC				*e*PKPAB	**PKPab**	**13 06 37.8**	**+0.5**
GERES	**GERESS Array B**	**153.23**	**343**	PKPbc	**PKPbc**	**13 06 25.1**	**-0.5**
	comp=Z,0.8nm,0.6s,baz=324,slow=4.8,SNR=4.1							
GERES				PKPab	**PKPab**	**13 06 38.4**	**0.0**
	comp=Z,1.1nm,0.7s,baz=40,slow=9.4,SNR=3.8							
CONA	**Conrad Observa**	**153.43**	**340**	*i* PKPab	**PKPab**	**13 06 40.1**	**+0.9**
	comp=Z,4.7nm,0.8s							
RETA	**Reutte**	**155.20**	**347**	*i* PKPab	**PKPab**	**13 06 47.0**	**+0.3**
	comp=Z,4.6nm,0.6s							
MOTA	**Moosalm**	**155.26**	**346**	*i* PKPab	**PKPab**	**13 06 47.3**	**+0.2**
	comp=Z,3.2nm,0.5s							
FUORN	**Ofenpass-Fuorn**	**156.13**	**347**	*e*PKPab	**PKPab**	**13 06 51.7**	**+0.7**
SENIN	**Lac Senin/Sane**	**156.89**	**352**	*e*PKPab	**PKPab**	**13 06 54.6**	**+0.4**
BNI	**Bardonecchia**	**158.26**	**352**	*e*PKPab	**PKPab**	**13 07 01.1**	**+1.0**
TOA0	**Torodi Ar. Sit**	**169.65**	**175**	*e*PKPdf	**PKPdf**	**13 06 34.7**	**-1.1**
TOA0				*e*PKPab	**PKPab**	**13 07 50.5**	**-0.1**
TORD	**Torodi Ar. Bea**	**169.65**	**175**	PKP	**PKPdf**	**13 06 34.4**	**-1.4**
	comp=Z,2.2nm,0.9s,baz=323,slow=0.5,SNR=12							
TORD				PKPab	**PKPab**	**13 07 50.4**	**-0.2**
	comp=Z,2.0nm,1.0s,baz=187,slow=3.4,SNR=5.8							

*TIR **29** 12:50:10.6,41.°14N×19.°99E,h25km, Md2.7/5*

*CSEM **29** 12:50:12.3±0.4,41.°15N×19.°87E,h10km,ML2.1, Error ellipse: s-maj=10.6km s-min=7.2km az=87.0*

ATH 29 12:50:11.2,41.°25N×19.°84E,h29km±4km,ML2.1/3, Error ellipse: s-maj=8.6km s-min=1.7km az=346.0, Albania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TIR	**Tirane**	**0.10**	**12**	P	Pb	12 50 16.6	+0.1
TIR				S	Sb	12 50 20.5	+0.4
TIR				AML	AML	12 50 20.8	
	comp=N,2949μm,0.3s						
TIR				AML	AML	12 50 22.4	
	comp=E,2070μm,0.2s						
TIR	**Tirane**	**0.10**	**12**	P	Pb	12 50 16.6	+0.1
TIR				S	Sb	12 50 20.4	+0.3
TIR	**Tirane**	**0.10**	**12**	*i* PG	Pb	12 50 16.6	+0.1
TIR				*i* SG	Sb	12 50 20.7	+0.6
PHP	**Peshkopia**	**0.63**	**46**	*i* Sg	Sn	12 50 33.5	+0.1
	baz=31						
PHP	**Peshkopia**	**0.63**	**46**	*i* PG	Pb	12 50 23.4	-0.5
PHP				*i* SG	Sn	12 50 33.5	+0.1
OHR	**Ohrid**	**0.74**	**100**	*e*Pg	Pb	12 50 25.1	-0.5
OHR				*e*Sg	Sb	12 50 34.0	-1.4
PUK	**Puka**	**0.80**	**3**	*i* PG	Pn	12 50 24.2	-2.4
PUK				*i* SG	Sb	12 50 35.6	-1.5
BCI	**Bajram Curri**	**1.13**	**9**	*i* Pg	Pb	12 50 36.5	+4.3
	baz=2.0						
BCI	**Bajram Curri**	**1.13**	**9**	*i* PG	Pb	12 50 36.5	+4.2
NEST	**Nestorio**	**1.24**	**132**	P	Pb	12 50 35.5	+1.4
NEST	**Nestorio**	**1.24**	**132**	P	Pb	12 50 34.9	+0.9
FNA	**Florina**	**1.25**	**111**	P	Pn	12 50 32.8	0.0

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.17**	**44**	*i* P	Pg	13 13 26.6	-0.4
PNIG				*e*S	Sg	13 13 29.3	-0.4
TLIG	**Tlapa**	**1.32**	**347**	*e*P	Pn	13 13 44.2	-3.4
TLIG				*e*S	Sb	13 14 00.1	-4.8
VHO	**Vista Hermosa**	**1.66**	**61**	*e*P	Pn	13 13 48.9	-3.3
VHO				*e*S	Sn	13 14 08.6	-5.1

IDC ***29*** *13:14:19.5±0.9, 19°.64N×121°.50E, h0km, mb3.5/8, mb1 3.8/9, mb1mx3.5/63, mbtmp3.6/9, ML3.6/1, Error ellipse: s-maj=28.3km s-min=18.0km az=73.0*

ISCJB ***29*** *13:14:24.6±0.7, 19°.7N±0°.1×121°.5E±0°.1, h52km, mb3.5/8, Error ellipse: s-maj=19.3km s-min=14.6km az=175.9*

ISC 29 13:14:26.2±1.0, 19°.7N±0°.1×121°.5E±0°.2, h52km, n15, σ0$76/9, mb3.5/8, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**18.60**	**16**	P	**P**	**13 18 38.8**	**-0.3**
	0.2nm,0.3s,baz=195,slow=11,SNR=14						
CMAR	**Chiang Mai Arr**	**21.33**	**271**	P	**P**	**13 19 09.6**	**+0.5**
	0.3nm,0.3s,baz=89,slow=7.3,SNR=2.8						
MJAR	**Matsushiro Arr**	**22.32**	**38**	P	**P**	**13 19 20.1**	**+0.6**
	1.0nm,0.9s,baz=220,slow=11,SNR=4.1						
SONM	**Songino Array**	**30.66**	**340**	P	**P**	**13 20 34.6**	**-1.2**
	0.6nm,0.5s,baz=163,slow=10,SNR=3.8						
WRA	**Warramunga Arr**	**41.33**	**162**	P	**P**	**13 22 06.4**	**-0.7**
	0.8nm,0.6s,baz=342,slow=9.1,SNR=8.4						
MKAR	**Makanchi Array**	**41.85**	**319**	P	**P**	**13 22 11.5**	**+0.3**
	0.6nm,0.6s,baz=114,slow=9.2,SNR=8.0						
H11S3	**WAKE ISLAND Hy**	**42.65**	**84**	T	T	14 08 06.1	
	baz=278,slow=74,SNR=5.4						
H11S1	**WAKE ISLAND Hy**	**42.66**	**84**	T	T	14 08 02.4	
	baz=278,slow=74,SNR=5.8						
H11N1	**WAKE ISLAND Hy**	**42.66**	**82**	T	T	14 07 58.0	
	baz=277,slow=75,SNR=11						
H11N2	**WAKE ISLAND Hy**	**42.66**	**82**	T	T	14 08 04.7	
	baz=277,slow=75,SNR=11						
H11S2	**WAKE ISLAND Hy**	**42.66**	**84**	T	T	14 08 05.4	
	baz=278,slow=74,SNR=3.5						
H11N3	**WAKE ISLAND Hy**	**42.67**	**82**	T	T	14 08 03.0	
	baz=277,slow=75,SNR=10						
ASAR	**Alice Springs**	**44.74**	**164**	P	**P**	**13 22 34.6**	**0.0**
	0.6nm,0.6s,baz=341,slow=6.6,SNR=16						
KURBB	**Kurchatov Arra**	**45.79**	**323**	P	**P**	**13 22 43.0**	**+0.3**
	0.9nm,0.8s,baz=121,slow=7.4,SNR=6.7						
YKA	**Yellowknife Ar**	**87.01**	**23**	P	**P**	**13 27 06.5**	**+0.7**
	0.2nm,0.7s,baz=309,slow=4.7,SNR=7.9						

JMA 29 13:18:59.3, 36°.98N×138°.60E, h9km±1km, M0.5, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JJN	**Nakamae**	**0.37**	**289**	P	Pg	13 19 07.0	+0.4
MAT	**Matsushiro**	**0.54**	**216**	P	Pg	13 19 09.5	-0.2
MAT				*e*S	Sg	13 19 16.9	+0.1
MAT	**Matsushiro**	**0.54**	**216**	P	Pg	13 19 09.6	-0.1
MAT				S	Sg	13 19 16.9	+0.1

MEX 29 13:20:26.2±0.3, 14°.82N×93°.11W, h14km±45km, MD3.5, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.89**	**353**	*e*P	Pb	13 20 40.4	-3.0
PCIG				*e*S	Sb	13 20 51.2	-3.9
CCIG	**Comitan**	**1.73**	**33**	*e*P	Pn	13 20 52.3	-3.8
TGIG		**1.95**	**360**	*e*P	Pn	13 20 55.8	-3.1

ISCJB ***29*** *13:34:42.7±0.8, 36°.79N±0°.06×5°.31E±0°.09, h19km, Error ellipse: s-maj=12.7km s-min=6.4km az=141.9*

CSEM ***29*** *13:34:42.9±0.3, 36°.73N×5°.30E, h10km, mb3.8, Error ellipse: s-maj=9.6km s-min=5.7km az=46.0*

CRAAG ***29*** *13:34:42.6, 36°.54N×5°.13E, Ml3.0*

MDD ***29*** *13:34:43.5±0.7, 36°.71N×5°.28E, h0km, mb3.8/1, Error ellipse: s-maj=10.3km s-min=6.3km az=34.0, PRXIMO*

ISC 29 13:34:43.1±1.0, 36°.72N±0°.06×5°.35E±0°.07, h19km, n20, σ0$89/26, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DFRA	**Djebel Bou Aff**	**0.46**	**112**	P	**Pg**	**13 34 53.0**	**+0.4**
DFRA	**Djebel Bou Aff**	**0.46**	**112**	P	**Pg**	**13 34 53.0**	**+0.4**
DFRA	**Djebel Bou Aff**	**0.46**	**112**	P	**Pg**	**13 34 53.0**	**+0.4**
SET	**Setif**	**0.52**	**175**	P	**Pb**	**13 34 53.0**	**-0.6**
SET	**Setif**	**0.52**	**175**	P	**Pb**	**13 34 53.0**	**-0.6**
SET	**Setif**	**0.52**	**175**	P	**Pb**	**13 34 53.0**	**-0.6**
AKET	**Djebel Ketaf**	**1.36**	**241**	P	**Pn**	**13 35 07.6**	**+0.4**
AKET	**Djebel Ketaf**	**1.36**	**241**	P	**Pn**	**13 35 07.6**	**+0.4**
AKET	**Djebel Ketaf**	**1.36**	**241**	P	**Pn**	**13 35 07.6**	**+0.4**
EMHD	**Djebel Mahouad**	**2.00**	**256**	P	**Pn**	**13 35 16.9**	**+0.9**
EMHD	**Djebel Mahouad**	**2.00**	**256**	P	**Pn**	**13 35 16.9**	**+0.9**
EMHD	**Djebel Mahouad**	**2.00**	**256**	P	**Pn**	**13 35 16.9**	**+0.9**
ETOS	**Mallorca**	**3.64**	**328**	P	**Pn**	**13 35 38.7**	**+0.3**
	SNR=7.9						
ETOS				S	**Sn**	**13 36 19.9**	**-1.0**
	SNR=7.9						
ETOS	**Mallorca**	**3.64**	**328**	P	**Pn**	**13 35 38.7**	**+0.3**
	SNR=7.9						
ETOS				S	**Sn**	**13 36 19.9**	**-1.0**
	SNR=7.9						
EIBI	**Ibiza**	**3.92**	**307**	P	**Pn**	**13 35 43.2**	**+1.0**
	11nm,1.2s,SNR=7.9						
EIBI				S	**Sn**	**13 36 27.8**	**+0.2**
	28nm,0.8s,SNR=7.9						
EIBI	**Ibiza**	**3.92**	**307**	P	**Pn**	**13 35 43.2**	**+1.0**
	11nm,1.2s,SNR=7.9						
EIBI				S	**Sn**	**13 36 27.8**	**+0.2**
	28nm,0.8s,SNR=7.9						
EPOB	**Poblet**	**5.70**	**326**	P	**Pn**	**13 36 07.2**	**+0.5**
	SNR=7.9						
EPOB	**Poblet**	**5.70**	**326**	P	**Pn**	**13 36 07.2**	**+0.5**
	SNR=7.9						
ETOB	**Tobarra**	**5.79**	**291**	P	**Pn**	**13 36 09.6**	**+1.5**
	SNR=7.9						
ETOB				S	**Sn**	**13 37 12.6**	**-1.5**
	SNR=7.9						
ETOB	**Tobarra**	**5.79**	**291**	P	**Pn**	**13 36 09.6**	**+1.5**
	SNR=7.9						
ETOB				S	**Sn**	**13 37 12.6**	**-1.5**
	SNR=7.9						

ISK ***29*** *13:37:52.7, 38°.59N×44°.24E, h5km, ML3.0/4*

CSEM ***29*** *13:37:53.6±0.3, 38°.58N×44°.29E, h2km, ML3.0, Error ellipse: s-maj=6.7km s-min=4.5km az=89.0*

DDA ***29*** *13:37:53.6, 38.62N×44.30E, h7km, Ml2.3*

NSSP ***29*** *13:37:53.2, 39°.48N×44°.33E, h6km, Ms3.0*

TEH ***29*** *13:37:56.4, 38°.47N×44°.31E, h5km, ML2.6*

ISC 29 13:37:53.9±1.3, 38°.58N±0°.03×44°.29E±0°.03, h6km±12km, n25, σ0$62/33, Turkey-Iran border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLDR	**Caldiran**	**0.63**	**333**	PG	**Pg**	**13 38 05.4**	**-0.7**
CLDR				SG	**Sg**	**13 38 14.9**	**+0.6**
CLDR	**Caldiran**	**0.63**	**333**	*i* P	**Pg**	**13 38 05.3**	**-0.7**
CLDR				*i* S	**Sb**	**13 38 15.8**	**-0.8**
CLDR	**Caldiran**	**0.63**	**333**	*e*Pg	**Pg**	**13 38 05.4**	**-0.7**
CLDR				*e*Sg	**Sg**	**13 38 14.9**	**+0.6**
CLDR				S	**Sb**	**13 38 15.8**	**-0.8**
VMUR	**Van-Muradiye**	**0.69**	**306**	*i* P	**Pg**	**13 38 06.9**	**-0.3**
VMUR	**Van-Muradiye**	**0.69**	**306**	P	**Pg**	**13 38 06.9**	**-0.3**
TVAN	**Van**	**0.69**	**266**	*i* P	**Pg**	**13 38 07.2**	**-0.1**
TVAN	**Van**	**0.69**	**266**	P	**Pg**	**13 38 07.2**	**-0.1**
VANB	**Van**	**0.71**	**271**	PG	**Pg**	**13 38 06.6**	**-0.9**
VANB				SG	**Sg**	**13 38 16.9**	**+0.2**
VANB	**Van**	**0.71**	**271**	*e*Pg	**Pg**	**13 38 06.6**	**-0.9**
VANB				*e*Sg	**Sg**	**13 38 16.9**	**+0.2**
YOVA	**Hakkari_Y˙...kse**	**0.99**	**180**	*i* P	**Pb**	**13 38 13.4**	**-0.2**
YOVA	**Hakkari_Y˙...kse**	**0.99**	**180**	P	**Pb**	**13 38 13.4**	**-0.2**
GEVA	**Gevas**	**1.00**	**255**	*i* P	**Pg**	**13 38 13.0**	**-0.2**
GEVA				*i* S	**Sb**	**13 38 27.9**	**+0.6**
GEVA	**Gevas**	**1.00**	**255**	P	**Pg**	**13 38 13.0**	**-0.2**
GEVA				S	**Sb**	**13 38 27.9**	**+0.6**
ISHB	**Shabestar**	**1.08**	**106**	*e*Pg	**Pg**	**13 38 14.5**	**-0.2**
ISHB				*e*AMB	AMB	13 38 33.3	
	comp=Z,2μm,0.1s						
IMRD	**Marand**	**1.11**	**83**	*e*Pg	**Pn**	**13 38 15.6**	**-0.5**
IMRD				*e*Sg	**Sn**	**13 38 31.7**	**-0.2**
IMRD				*e*AMB	AMB	13 38 33.6	
	comp=Z,4μm,0.1s						
TASB	**TASBURUN-IGDIR**	**1.40**	**358**	PN	**Pg**	**13 38 20.6**	**-0.1**
TASB	**TASBURUN-IGDIR**	**1.40**	**358**	*e*Pn	**Pg**	**13 38 20.6**	**-0.1**
GNI	**Garni**	**1.60**	**12**	P	**Pg**	**13 38 26.6**	**+2.0**
GURO	**Guroymak-BITLI**	**1.77**	**270**	PN	**Pn**	**13 38 25.7**	**+0.6**
GURO	**Guroymak-BITLI**	**1.77**	**270**	*e*Pn	**Pn**	**13 38 25.7**	**+0.6**
SIRT	**Sirnak**	**1.82**	**234**	PN	**Pn**	**13 38 25.7**	**0.0**
SIRT	**Sirnak**	**1.82**	**234**	*e*Pn	**Pn**	**13 38 25.7**	**0.0**
SRTM	**Siirt_Merkez**	**1.96**	**253**	*i* P	**Pg**	**13 38 31.4**	**+0.1**
SRTM	**Siirt_Merkez**	**1.96**	**253**	P	**Pg**	**13 38 31.5**	**+0.1**
IHRS	**Heris**	**2.18**	**96**	*e*AMB	AMB	13 39 08.5	
	comp=Z,261nm,0.2s						

NIED ***29*** *13:51:00, 37°.10N×141°.40E, h5km, Mw3.5 Best double couple: M◎2.09000×10^14 NP1:φs29.00000°, δ49.00000°, λ-50.00000°. NP2:φs157.00000°, δ55.00000°, λ-126.00000°.*

ISCJB ***29*** *13:51:54.4±1.6, 37°.08N±0°.06×141°.58E±0°.07, h2km±8km, mb3.4/4, Error ellipse: s-maj=11.3km s-min=8.7km az=156.2*

IDC ***29*** *13:51:56.3±1.3, 37°.08N×141°.42E, h0km, mb3.4/4, mb1 3.4/6, mb1mx3.3/66, mbtmp3.3/6, ML2.8/2, Error ellipse: s-maj=29.6km s-min=23.1km az=132.0*

JMA ***29*** *13:51:58.3±0.1, 37°.08N×141°.36E, h26km±1km, M3.6*

ISC 29 13:51:57.6±4.0, 37°.16N±0°.07×141°.42E±0°.08, h11km±25km, n17, σ1$64/17, mb3.4/4, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.48**	**296**	P	**Pb**	**13 52 08.0**	**-0.1**
JFK				S	**Sb**	**13 52 15.0**	**-0.2**
ONAJ	**Iwakimizuishiy**	**0.50**	**264**	P	**Pb**	**13 52 07.5**	**-1.0**
ONAJ				S	**Sb**	**13 52 14.3**	**-1.5**
JMM	**Marumori**	**0.86**	**325**	P	**Pb**	**13 52 14.9**	**+0.3**
JMM				S	**Sb**	**13 52 27.3**	**+1.1**
JFT	**Otama**	**0.94**	**293**	P	**Pb**	**13 52 15.9**	**+0.1**
MJAR	**Matsushiro Arr**	**2.65**	**257**	Pn	**Pn**	**13 52 39.9**	**-0.4**
	1.4nm,0.3s,baz=88,slow=15,SNR=24						
MJAR				Sn	**Sn**	**13 53 14.4**	**+2.0**
	2.8nm,0.3s,baz=185,slow=29,SNR=5.3						
MAT	**Matsushiro**	**2.65**	**258**	P	**Pn**	**13 52 40.0**	**-0.3**
MAT				S	**Sb**	**13 53 16.6**	**-1.0**
ASAJ	**Asahikawa**	**7.01**	**7**	Pn	**Pn**	**13 53 40.7**	**+0.6**
	0.2nm,0.3s,baz=207,slow=14,SNR=2.8						
ASAJ				Sn	**Sn**	**13 54 55.0**	**-4.8**
	0.2nm,0.3s,baz=73,slow=20,SNR=1.9						
H11N2	**WAKE ISLAND Hy**	**28.21**	**121**	T	T	14 27 18.6	
	baz=314,slow=76,SNR=65						
H11N1	**WAKE ISLAND Hy**	**28.21**	**121**	T	T	14 27 19.2	
	baz=314,slow=76,SNR=43						
H11N3	**WAKE ISLAND Hy**	**28.23**	**121**	T	T	14 27 19.9	
	baz=314,slow=76,SNR=59						
H11S1	**WAKE ISLAND Hy**	**28.92**	**123**	T	T	14 28 10.1	
	baz=316,slow=76,SNR=22						
H11S3	**WAKE ISLAND Hy**	**28.92**	**123**	T	T	14 28 10.1	
	baz=316,slow=76,SNR=16						
H11S2	**WAKE ISLAND Hy**	**28.94**	**123**	T	T	14 28 12.9	
	baz=316,slow=76,SNR=13						
MKAR	**Makanchi Array**	**44.06**	**302**	P	**P**	**14 00 05.9**	**+0.5**
	0.5nm,0.7s,baz=89,slow=7.9,SNR=4.3						
KURBB	**Kurchatov Arra**	**45.93**	**308**	P	**P**	**14 00 20.9**	**+0.7**
	0.3nm,0.4s,baz=81,slow=9.0,SNR=4.2						
ILAR	**Eielson Array**	**49.38**	**32**	P	**P**	**14 00 48.0**	**+1.2**
	0.3nm,0.9s,baz=280,slow=5.4,SNR=3.8						
WRA	**Warramunga Arr**	**57.19**	**188**	P	**P**	**14 01 44.4**	**-0.2**
	0.3nm,0.7s,baz=5.1,slow=7.4,SNR=3.6						

IDC ***29*** *14:02:14.0±1.8, 7°.54S×155°.38E, h0km, mb3.5/5, mb1 3.7/6, mb1mx3.5/47, mbtmp3.5/6, ML1.6/1, Error ellipse: s-maj=73.2km s-min=24.0km az=135.0*

ISC 29 14:02:19.6±1.6, 7°.3S±0°.4×155°.1E±0°.2, h29km, n6, σ2$00/7, mb3.5/5, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**8.13**	**255**	Pn	**Pn**	**14 04 18.5**	**+2.8**
	0.4nm,0.3s,baz=38,slow=17,SNR=2.8						
PMG				Sn	**Sn**	**14 05 44.2**	**-2.5**
	0.0nm,0.3s,baz=280,slow=18,SNR=1.8						
WRA	**Warramunga Arr**	**23.71**	**236**	P	**P**	**14 07 28.2**	**-1.2**
	0.5nm,0.8s,baz=62,slow=9.9,SNR=2.7						
ASAR	**Alice Springs**	**26.03**	**229**	P	**P**	**14 07 50.1**	**-0.4**
	0.6nm,1.1s,baz=66,slow=8.5,SNR=3.1						
ILAR	**Eielson Array**	**83.65**	**21**	P	**P**	**14 14 44.6**	**-0.5**
	0.3nm,0.9s,baz=246,slow=5.4,SNR=4.8						
MKAR	**Makanchi Array**	**83.74**	**319**	P	**P**	**14 14 46.0**	**0.0**
	0.3nm,0.8s,baz=91,slow=7.2,SNR=3.2						
YKA	**Yellowknife Ar**	**96.59**	**28**	P	**P**	**14 15 46.3**	**-0.1**
	0.2nm,0.7s,baz=271,slow=4.2,SNR=3.8						

IDC 29 14:24:06.6±5.8, 5°.71S×148°.91E, h75km±57km, mb3.6/3, mb1 3.9/4, mb1mx3.2/47, mbtmp4.0/4, ML2.1/1, MS2.9/3, Ms1 2.9/3, ms1mx2.7/33, Error ellipse: s-maj=111.6km s-min=40.1km az=111.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.06**	**205**	P	Pn	14 25 06.5	+0.1
	9.4nm,0.3s,baz=42,slow=5.2,SNR=28						
PMG				S	Sn	14 26 01.7	+8.9
	16nm,0.3s,baz=56,slow=20,SNR=15						
PMG				LR	LR	14 26 54.0	
	comp=Z,119nm,19.0s,baz=65,slow=41						
GUMO	**Guam**	**19.58**	**348**	LR	LR	14 34 16.9	
	comp=Z,27nm,20.8s,baz=196,slow=31						
WRA	**Warramunga Arr**	**20.02**	**224**	P	P	14 28 34.5	+1.0
	11nm,0.7s,baz=50,slow=11,SNR=52						
ASAR	**Alice Springs**	**22.97**	**217**	P	P	14 29 04.6	-0.4
	1.9nm,0.7s,baz=50,slow=9.1,SNR=36						
JNU	**Nakatsue**	**42.24**	**337**	LR	LR	14 45 45.6	
	comp=Z,24nm,20.7s,baz=117,slow=31						
MKAR	**Makanchi Array**	**78.48**	**320**	P	P	14 35 59.5	-0.2
	0.4nm,0.7s,baz=126,slow=7.3,SNR=4.3						

MAN 29 14:33:51, 10°.08N×123°.19E, h1km, mb4.5, ML3.3, MS3.1, 1C-2D, Cebu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNPH	**Sibulan**	**0.73**	**176**	↓*e*P	Pb	14 34 05.9	-0.7
SNPH				*e*S	Sg	14 34 15.8	+1.2
TBP	**Tagbilaran**	**0.77**	**120**	*e*P	Pg	14 34 05.9	+0.1
LLP	**Lapu-Lapu**	**0.80**	**73**	↓*e*P	Pg	14 34 06.9	+0.5
LLP				*e*S	Sg	14 34 17.7	+0.8
JAP	**San Jose, Anti**	**1.39**	**299**	↑*e*P	Pb	14 34 21.4	+3.6
MSLP	**Maasin**	**1.65**	**88**	*e*P	Pn	14 34 21.4	+0.3
MSLP				*e*S	Sg	14 34 44.8	+0.8
OCLP	**Ormoc**	**1.70**	**55**	*e*P	Pn	14 34 22.4	+0.6
OCLP				*e*S	Sg	14 34 46.3	+0.6

DJA 29 14:35:43.9±0.2, 3°.5±1°.1×122°.2E±°, h10km, M3.6/12, MLv3.6/12, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDI	**Kendari**	**1.45**	**152**	P	Pn	14 36 10.4	+0.2
KDI				S	Sb	14 36 30.0	+0.5
APSI	**Ampana**	**1.77**	**351**	P	Pn	14 36 13.6	-1.0
APSI				S	Sb	14 36 38.7	-0.1
LUWI	**Luwuk**	**1.82**	**27**	P	Pn	14 36 14.4	-0.9
LUWI				S	Sb	14 36 39.7	-0.5
TTSI	**Tana Toraja**	**2.15**	**260**	P	Pn	14 36 18.8	-1.0
TTSI				S	Sn	14 36 48.0	+1.4
BNSI	**Bone**	**2.51**	**227**	P	Pn	14 36 23.9	-0.9
BNSI				S	Sn	14 36 57.0	+1.5
PCI	**Palu**	**2.74**	**310**	P	Pn	14 36 27.7	-0.2
PCI				S	Sn	14 37 03.2	+2.1
MRSI	**Marisa**	**3.13**	**0**	P	Pn	14 36 31.8	-1.5
BKSI	**Bulukumba**	**3.20**	**214**	P	Pn	14 36 34.1	-0.2
MPSI	**Mapaga**	**3.62**	**326**	P	Pn	14 36 39.9	-0.1
MPSI				S	Sn	14 37 23.7	+0.8
BSSI	**Bau Bau, Buton**	**3.74**	**203**	P	Pn	14 36 41.4	-0.3
BSSI				S	Sn	14 37 26.9	+1.0
KMSI	**Cibinong**	**3.81**	**32**	P	Pn	14 36 42.6	-0.1

MEX 29 14:40:18.3±0.4, 16°.29N×98°.30W, h2km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.19**	**59**	*e*P	Pg	14 40 21.9	-0.1
PNIG				*i* S	Sg	14 40 24.7	+0.1
TLIG	**Tlapa**	**1.29**	**349**	*e*P	Pg	14 40 39.5	-3.6
TLIG				*e*S	Sg	14 40 56.7	-3.1
VHO	**Vista Hermosa**	**1.69**	**62**	*e*P	Pn	14 40 45.6	-3.5
VHO				*e*S	Sn	14 41 07.0	-4.4

NIED ***29*** *15:02:00, 39°.70N×142°.30E, h11km, Mw5.4 Best double couple: M◎1.45000×10^17 NP1:φs251.00000°, δ20.00000°, λ-85.00000°. NP2:φs65.00000°, δ70.00000°, λ-92.00000°.*

BJI ***29*** *15:02:15.5, 39°.77N×142°.26E, h11km, mb5.3/68, mB5.3/54, Ms5.5/90, Ms7 5.2/87*

GCMT ***29*** *15:02:18.4±0.1, 39°.81N×142°.17E, h13km, MW5.4/135, Moment Tensor Solution. s100,c172; s135,c278; Duration: 1s2 Moment tensor: Scale 10^17Nm; Mrr-0.99±.02; Mθθ0.99±.01; Mφφ0.00±.01; Mrθ-1.13±.06; Mrφ0.64±.01; Mθφ-0.13±.04; Best double couple: M◎1.62700×10^17 NP1:φs79.00000°, δ68.00000°, λ-75.00000°. NP2:φs224.00000°, δ26.00000°, λ-123.00000°. Principal axes: T 1.7360, Plg22.0000°, Azm158.0000°; N -0.2190, Plg14.0000°, Azm254.0000°; P -1.5170, Plg64.0000°, Azm13.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

MOS ***29*** *15:02:18.7±1.0, 39°.84N×142°.16E, h22km, mb5.9/184, MS5.3/100 Error ellipse: s-maj=5.7km s-min=3.5km az=96.5*

NEIC ***29*** *15:02:18.4±0.1, 39°.75N×142°.04E, h10km, mb5.8/295, MS5.1/297, MW5.6, Error ellipse: s-maj=2.3km s-min=1.7km az=150.0, Moment Tensor Solution. s69 Moment tensor: Scale 10^17Nm; Mrr-1.46; Mθθ1.05; Mφφ0.40; Mre-2.81; Mθφ0.83; Mφr-1.17; Best double couple: M◎3.40000×10^17 NP1:φs66.00000°, δ77.00000°, λ-85.00000°. NP2:φs223.00000°, δ14.00000°, λ-112.00000°. Principal axes: T 3.4700, Plg32.0000°, Azm152.0000°; N -0.1000, Plg5.0000°, Azm245.0000°; P -3.3600, Plg58.0000°, Azm344.0000°;*

NEIC Felt [III] at Misawa. Also felt at Akita, Furukawa, Miyako and Morioka. Recorded [4 JMA] in Iwate.

JMA ***29*** *15:02:18.4, 39°.74N×142°.26E, h23km±1km, M5.6 Broadband fault plane solution: P waves. NP1: φs254.00000°, δ78.00000°, λ66.00000°. NP2: φs139.00000°, δ27.00000°, λ152.00000°. Principal axes: T Plg51.0000°, Azm137.0000°; N Plg23.0000°, Azm259.0000°; P Plg29.0000°, Azm3.0000°;*

JMA Felt IV J1.

ISCJB ***29*** *15:02:19.7±0.3, 39°.78N±0°.01×142°.12E±0°.01, h25km±2km, mb5.7/560, MS5.2/407 Error ellipse: s-maj=2.3km s-min=1.7km az=152.7*

IDC ***29*** *15:02:20.6±1.4, 39°.76N×142°.13E, h23km±8km, mb5.2/59, mb1 5.3/64, mb1mx5.2/74, mbtmp5.3/64, ML4.7/4, MS5.0/67, Ms1 5.0/67, ms1mx4.9/80, Error ellipse: s-maj=8.2km s-min=6.4km az=101.0*

ISC 29 15:02:20.1±0.4, 39°.75N±0°.02×142°.18E±0°.03, h21km±2km, h21km:pP-P, n2130, σ1$40/2143, mb5.8/589, MS5.1/411, 38C-138D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**0.31**	**308**	⇑P	**Pb**	**15 02 26.2**	**-0.7**
JTH				*e*S	**Sb**	**15 02 31.6**	**+0.1**
MIYJ	**Miyakonagasawa**	**0.33**	**238**	⇓P	**Pb**	**15 02 26.4**	**-0.8**
MIYJ				*e*S	**Sb**	**15 02 31.7**	**-0.3**
JKZ	**Kuzumaki**	**0.69**	**290**	⇑P	**Pb**	**15 02 32.6**	**-1.0**
JKZ				*e*S	**Sb**	**15 02 42.8**	**0.0**
JOM	**Ohasama**	**0.74**	**248**	⇓P	**Pb**	**15 02 33.3**	**-0.9**
JOM				*e*S	**Sb**	**15 02 43.6**	**-0.3**
OFUJ	**Ofunato**	**0.78**	**211**	⇓P	**Pb**	**15 02 33.1**	**-1.8**
OFUJ				*e*S	**Sb**	**15 02 44.0**	**-1.0**
JANG	**Nango**	**0.81**	**321**	⇓P	**Pb**	**15 02 33.6**	**-1.8**
JANG				*e*S	**Sb**	**15 02 44.8**	**-1.0**
JMK	**Ichinoseki**	**1.09**	**223**	⇓P	**Pb**	**15 02 38.6**	**-1.5**
JMK				*e*S	**Sb**	**15 02 54.2**	**+0.2**
JRG	**Rokugo**	**1.25**	**254**	⇓P	**Pb**	**15 02 42.2**	**-0.1**
JRG				*e*S	**Sb**	**15 03 00.4**	**+1.9**
JAH	**Hinai**	**1.27**	**291**	⇓P	**Pb**	**15 02 42.0**	**-0.6**
JAH				*e*S	**Sb**	**15 02 59.7**	**+0.7**
JIO	**Ouri**	**1.45**	**207**	P	**Pn**	**15 02 43.3**	**-1.7**
JSI2	**Shiura 2**	**1.88**	**315**	⇓P	**Pn**	**15 02 50.6**	**-0.4**
ERM	**Erimo**	**2.38**	**18**	*e*Pn	**Pn**	**15 02 57.8**	**-0.1**
ERM	**Erimo**	**2.38**	**18**	*ce*P	**Pn**	**15 02 57.0**	**-0.9**
ERM				pmax	pmax		
	comp=Z,2μm,1.2s						
JNS	**Sasagawa**	**2.95**	**230**	P	**Pn**	**15 03 08.0**	**+2.2**
JAG	**Ashikaga**	**3.96**	**214**	P	**Pn**	**15 03 20.4**	**+0.8**
ASAJ	**Asahikawa**	**4.37**	**4**	Pn	**Pn**	**15 03 25.3**	**0.0**
	comp=Z,59nm,0.3s,baz=212,slow=11,SNR=264						
ASAJ				Sn	**Sn**	**15 04 16.6**	**+0.9**
	comp=Z,57nm,0.3s,baz=303,slow=32,SNR=6.6						
ASAJ	**Asahikawa**	**4.37**	**4**	*e*Pn	**Pn**	**15 03 26.1**	**+0.8**
ASAJ				Sn	**Sn**	**15 04 16.6**	**+0.9**
MAJO	**Matsushiro**	**4.48**	**226**	*e*Pn	**Pn**	**15 03 29.7**	**+2.9**
MAJO	**Matsushiro**	**4.48**	**226**	*c i*P	**Pn**	**15 03 28.8**	**+2.0**
MAT	**Matsushiro**	**4.48**	**226**	P	**Pn**	**15 03 28.5**	**+1.7**
MAT				*e*S	**Sb**	**15 04 25.2**	**-6.3**
MJAR	**Matsushiro Arr**	**4.48**	**226**	Pn	**Pn**	**15 03 28.7**	**+

TEY MLR MLR
comp=E,20µm,12.0s
TEY MLR MLR
comp=N,30µm,14.0s
TEY MLR MLR
comp=Z,25µm,15.0s
JHJ Hachijo jima 2 6.89 197 Pn **Pn 15 03 59.8 -0.2**
comp=Z,39nm,0.3s,baz=340,slow=22,SNR=21
JHJ Sn **Sn 15 05 17.0 -0.7**
comp=Z,122nm,0.3s,baz=298,slow=23,SNR=3.3
JHJ LR LR 15 06 53.7
comp=Z,13µm,20.8s,baz=39,slow=40
JHJ2 Mitsune 6.89 197 *e*Pn **Pn 15 03 59.5 -0.4**
KUR Kuril'sk 6.90 36*d i*P **Pn 15 03 58.6 -1.4**
KUR *i* S **Sn 15 05 14.6 -3.3**
KUR pmax pmax
comp=Z,1µm,0.5s
KUR pmax pmax
comp=E,281nm,0.3s
KUR pmax pmax
comp=N,176nm,0.7s
KUR pmax pmax
comp=Z,4µm,1.1s
KUR smax smax
comp=E,1µm,0.7s
KUR smax smax
comp=N,489nm,0.5s
KUR smax smax
comp=N,11µm,2.3s
KUR smax smax
comp=E,5µm,2.4s
KUR MLR MLR
comp=N,25µm,13.0s
KUR MLR MLR
comp=Z,14µm,13.0s
YSS Yuzh-Sakhalins 7.21 3 *e*Pn **Pn 15 04 04.8 +0.6**
YSS Yuzh-Sakhalins 7.21 3*ke*P **Pn 15 04 04.8 +0.6**
YSS *eS* **Sn 15 05 25.8 +0.3**
YSS pmax pmax
comp=Z,480nm,0.9s
YSS pmax pmax
comp=N,350nm,1.0s
YSS pmax pmax
comp=E,290nm,1.0s
YSS pmax pmax
comp=Z,2µm,4.0s
YSS pmax pmax
comp=N,2µm,3.8s
YSS smax smax
comp=E,3µm,3.4s
YSS smax smax
comp=N,620nm,1.0s
YSS smax smax
comp=E,260nm,0.9s
YSS MLR MLR
comp=Z,16µm,12.0s
YSS MLR MLR
comp=N,18µm,13.0s
VLA Vladivostok 8.43 297*c i*P **Pn 15 04 25.2 +4.2**
VLA pmax pmax
comp=Z,259nm,1.8s
MSHR Mys Shultsa 8.78 292*d i*P **Pn 15 04 27.5 +1.7**
USRK Ussuriysk Ar. 8.79 304 Pn **Pn 15 04 27.6 +1.7**
comp=Z,5.6nm,0.3s,baz=114,slow=15,SNR=69
USRK LR LR 15 07 37.7
comp=Z,21µm,18.6s,baz=114,slow=36
I45RU USSURIYSK INFR 8.80 304 *i*
baz=110,slow=328,SNR=1.8 15 46 10.0
MDJ Mudanjiang 10.53 302 P **Pn 15 04 51.0 +1.3**
MDJ S **Sn 15 06 47.5 +0.5**
MDJ ScS **ScS 15 17 58.8 -0.5**
MDJ pmax pmax
comp=Z,120nm,1.4s
MDJ LR LR
comp=Z,28µm,12.5s
MDJ LR LR
comp=Z,32µm,14.3s
MDJ LR LR
comp=Z,38µm,15.5s
MDJ Mudanjiang 10.53 302 *e*Pn **Pn 15 04 53.9 +4.2**
TYV Tymovskoe 11.12 2 *e*P **Pn 15 04 57.3 -0.5**
TYV pmax pmax
comp=Z,500nm,3.3s
TYV pmax pmax
comp=Z,83nm,0.7s
TYV MLR MLR
comp=Z,18µm,15.0s
JNU Nakatsue 11.25 237 Pn **Pn 15 05 03.0 +3.4**
comp=Z,2.6nm,0.3s,baz=349,slow=1.1,SNR=14
JNU LR LR 15 09 24.4
comp=Z,4µm,21.3s,baz=4.5,slow=38
JNU Nakatsue 11.25 237 *e*Pn **Pn 15 05 03.3 +3.7**
KSRS Korea Array 11.39 263 Pn **Pn 15 05 05.6 +4.1**
comp=Z,4.1nm,0.3s,baz=73,slow=14,SNR=52
KSRS Sn Sn 15 07 17.4 +9.3
comp=Z,1.5nm,0.3s,baz=72,slow=24,SNR=4.9
KSRS LR LR 15 09 20.9
comp=Z,4µm,18.7s,baz=73,slow=37
KSRS PcP **PcP 15 10 55.5 +1.2**
baz=148,slow=1.8,SNR=4.6
KS01 Wonju Array Si 11.41 263 *e*Pn **Pn 15 05 05.5 +3.8**
KS15 Wonju Array Si 11.42 263 *e*Pn **Pn 15 05 06.2 +4.2**
KSAR Wonju Array Be 11.42 263 Pn **Pn 15 05 05.6 +3.6**
KSAR Sn **Sn 15 07 17.4 +8.5**
KSAR PcP **PcP 15 10 55.5 +1.2**
KSAR Wonju Array Be 11.42 263 P **Pn 15 05 05.6 +3.6**
KSAR 15 07 17.5
GRNR Gornyy 11.74 342⇑ *i*P **Pn 15 05 05.6 -0.6**
GRNR pmax pmax
comp=E,84nm,1.0s
GRNR pmax pmax
comp=Z,100nm,1.0s
KLR Kul'dur 12.04 325 Pn **Pn 15 05 09.7 -0.7**
comp=Z,0.1nm,0.3s,baz=134,slow=12,SNR=71
KLR LR LR 15 09 42.7
comp=Z,1µm,19.6s,baz=140,slow=37
KLR Kul'dur 12.04 325*d i*P **Pn 15 05 09.2 -1.2**
TJN Taejon 12.15 259*d i*P **Pn 15 05 16.3 +4.3**
INCN Inchon 12.37 264 *e*Pn **Pn 15 05 18.3 +3.4**
INCN Inchon 12.37 264 Pn **P 15 05 24.4 -2.5**
SNR=7.4
CBIJ Chichi jima 12.62 180 *e*Pn **Pn 15 05 15.9 -2.5**
CBIJ Sn **Sn 15 07 30.4 -8.0**
JCJ Chichijima 12.62 180 Pn **Pn 15 05 16.0 -2.4**
comp=Z,17nm,0.3s,baz=273,slow=19,SNR=30
JCJ Sn **Sn 15 07 30.4 -8.0**
CN2 Changchun 13.13 293 *e*P **Pn 15 05 26.0 +0.8**
CN2 *es*P P 15 05 33.3 -2.0
CN2 *eS* **Sn 15 07 51.5 +1.0**
CN2 pmax pmax
comp=Z,50nm,1.2s
CN2 pmax pmax
comp=Z,3µm,8.0s
CN2 LR LR
comp=Z,13µm,12.0s
CN2 LR LR
comp=Z,10µm,12.0s
CN2 LR LR
comp=Z,10µm,13.0s
NKL Nikolayevsk 13.44 356 *i* P **Pn 15 05 28.0 -1.5**
NKL *eS* **Sn 15 08 01.0 +2.9**
NKL pmax pmax
comp=N,86nm,1.0s
NKL pmax pmax
comp=Z,130nm,1.0s
NKL pmax pmax
comp=N,2µm,8.0s
NKL pmax pmax
comp=Z,2µm,8.0s
NKL smax smax
comp=E,2µm,10.0s
NKL MLR MLR
comp=N,8µm,14.0s
NKL MLR MLR
comp=E,8µm,14.0s
NKL MLR MLR
comp=Z,13µm,14.0s
OKH Okha 13.81 2⇓ *i*P **Pn 15 05 33.1 -1.4**
OKH *i* S **Sn 15 08 15.3 +8.1**
OKH pmax pmax
comp=Z,1µm,13.3s
OKH smax smax
comp=E,900nm,11.0s
OKH MLR MLR
comp=Z,12µm,17.0s
SNY Shenyang 14.25 284⇓ P **Pn 15 05 42.3 +1.8**
SNY S **Sn 15 08 19.0 +1.1**
SNY pmax pmax
comp=Z,3µm,10.4s
SNY LR LR
comp=Z,5µm,12.0s
SNY LR LR
comp=Z,10µm,15.5s
SNY LR LR
comp=Z,14µm,16.5s
SKR Severo-Kuril's 14.67 37 *e*P **Pn 15 05 44.1 -2.1**
SKR *eS* **Sn 15 08 24.1 -3.9**
SKR pmax pmax
comp=Z,200nm,5.7s
SKR pmax pmax
comp=Z,700nm,3.6s
SKR pmax pmax
comp=Z,315nm,1.0s
SKR MLR MLR
comp=Z,6µm,17.0s
DL2 Dalian 15.93 274 P **Pn 15 06 02.8 -0.1**
DL2 S **Sn 15 09 04.0 +5.2**
DL2 pmax pmax
comp=Z,93nm,0.9s
DL2 pmax pmax
comp=Z,2µm,9.9s
DL2 LR LR
comp=Z,5µm,12.4s
DL2 LR LR
comp=Z,5µm,15.4s
DL2 LR LR
comp=Z,7µm,16.0s
PEA0B Petropavlovsk- 17.06 33 *e*Pn **Pn 15 06 11.2 -6.1**
comp=Z,208nm,1.1s
PETK Petropavlovsk- 17.06 33 P **Pn 15 06 11.8 -5.5**
comp=Z,0.9nm,0.3s,baz=208,slow=8.6,SNR=25
PETK LR LR 15 13 21.4
comp=Z,8µm,18.3s,baz=223,slow=39
PETK Petropavlovsk- 17.06 33 *e*Pn **Pn 15 06 12.2 -5.0**
PETK Petropavlovsk- 17.06 33 *e*P **Pn 15 06 12.2 -5.0**
ZEA Zeya 17.28 329 *e*P **Pn 15 06 16.5 -3.4**
ZEA pmax pmax
comp=N,190nm,1.0s
ZEA pmax pmax
comp=E,110nm,1.0s
ZEA pmax pmax
comp=Z,230nm,1.0s
ZEA pmax pmax
comp=N,2µm,13.0s
ZEA pmax pmax
comp=E,1µm,13.0s
ZEA pmax pmax
comp=Z,2µm,13.0s
ZEA MLR MLR
comp=Z,16µm,14.0s
ZEA MLR MLR
comp=E,10µm,13.0s
JOW Kunigami 17.32 226 P **Pn 15 06 18.9 -1.7**
comp=E,2.4nm,0.3s,baz=29,slow=2.4,SNR=9.3
JOW LR LR 15 13 05.0
comp=E,6µm,21.5s,baz=98,slow=37
JOW Kunigami 17.32 226 *e*Pn **Pn 15 06 18.2 -2.4**
comp=E,131nm,1.0s
PET Petropavlovsk 17.42 35 *e*Pn **Pn 15 06 17.9 -3.7**
comp=E,258nm,1.1s
PET Petropavlovsk 17.42 35⇑ *i*P **P 15 06 23.3 +0.5**
PET *eS* **Sn 15 09 37.6 +2.9**
PET pmax pmax
comp=Z,1µm,3.8s
PET pmax pmax
comp=Z,600nm,6.2s
PET pmax pmax
comp=Z,251nm,1.1s
PET MLR MLR
comp=Z,6µm,15.0s
PET MLR MLR
comp=Z,7µm,15.0s
HIA Hailar 18.56 308 *e*P **P 15 06 32.4 -3.0**
comp=Z,36nm,0.7s
HIA Hailar 18.56 308 *e*P **P 15 06 32.4 -3.0**
HIA pmax pmax
comp=Z,36nm,0.7s
SSE Sheshan 19.13 250 P **Pn 15 06 44.3 +1.6**
SSE pmax pmax
comp=Z,37nm,1.0s
SSE LR LR
comp=Z,3µm,15.7s
SSE LR LR
comp=Z,3µm,14.1s
BJI Beijing 19.94 279 P **P 15 06 48.8 -1.8**
BJI S S 15 10 23.0 -11
BJI LR LR
comp=Z,4µm,18.6s
BJI LR LR
comp=Z,2µm,14.8s
BJI LR LR
comp=Z,6µm,15.7s
BJT Baijiatuau 19.95 279 *e*P **P 15 06 48.6 -2.1**
BJT pmax pmax
comp=Z,68nm,0.9s
BJT Baijiatuau 19.95 279 *e*P **P 15 06 48.6 -2.1**
BJT pmax pmax
comp=Z,68nm,0.9s
TIA Tai'an 20.04 268 P **P 15 06 50.5 -1.3**
TIA sP **pP 15 06 57.5 -0.1**
TIA PP **PnPn 15 07 09.5 +1.5**
TIA S **S 15 10 28.5 -7.6**
TIA pmax pmax
comp=Z,59nm,1.2s
TIA pmax pmax
comp=Z,490nm,3.0s
TIA LR LR
comp=Z,7µm,10.9s
TIA LR LR
comp=Z,6µm,16.1s
TIA LR LR
comp=Z,8µm,15.3s
NJ2 Nanjing 20.36 255 *e*P **P 15 06 54.0 -1.2**
NJ2 PP **PnPn 15 07 13.0 +0.7**
NJ2 S **S 15 10 41.3 -1.1**
NJ2 sS Sn 15 10 48.3 +2.2
NJ2 pmax pmax
comp=Z,31nm,0.6s
NJ2 pmax pmax
comp=Z,300nm,3.5s
NJ2 LR LR
comp=Z,8µm,14.1s
NJ2 LR LR
comp=Z,5µm,16.3s
NJ2 LR LR
comp=Z,6µm,15.7s
CLNS Chul'man 20.50 332 *e*P **P 15 06 55.7 -0.9**
CLNS *e**PP **sP 15 07 05.2 +0.1**
CLNS *e* 15 07 12.2
CLNS *eS* **S 15 10 43.0 -2.0**
CLNS *e* 15 11 06.7
CLNS *eSS* **SnSn 15 11 10.8 +6.9**
CLNS pmax pmax
comp=Z,179nm,0.9s
CLNS pmax pmax
comp=N,223nm,1.3s
CLNS pmax pmax
comp=E,124nm,0.9s
CLNS pmax pmax
comp=Z,226nm,1.5s
CLNS pmax pmax
comp=N,143nm,1.3s
CLNS pmax pmax
comp=E,127nm,1.3s
CLNS smax smax
comp=E,531nm,10.9s
CLNS smax smax
comp=N,385nm,8.8s
CLNS MLR MLR
comp=Z,9µm,13.0s
CLNS MLR MLR
comp=N,5µm,11.0s
CLNS MLR MLR
comp=E,6µm,13.0s
MA2 Magadan 20.58 12 P **P 15 06 55.9 -1.5**
comp=E,192nm,0.7s,baz=198,slow=9.2,SNR=112
MA2 S **S 15 10 45.5 -0.8**
comp=E,4.5nm,0.7s,baz=316,slow=22,SNR=2.0
MA2 LR LR 15 15 24.2
comp=E,4µm,19.3s,baz=197,slow=38
MA2 Magadan 20.58 12 *e*P **P 15 06 55.8 -1.5**
comp=E,237nm,0.8s
MA2 S **S 15 10 45.5 -0.8**
MA2 Magadan 20.58 12 *e*P **P 15 06 56.7 -0.6**
MA2 pmax pmax
comp=Z,185nm,0.9s
YOJ Yonaguni jima 22.20 232 PFAKE 15 07 30.0 +15
YOJ LR LR
comp=Z,3µm,19.0s
TATO Taipei 22.78 236 PFAKE 15 07 30.0 +8.7
TATO LR LR
comp=Z,4µm,21.0s
YHNB Yeheng 23.07 236 *e*P **P 15 07 23.6 -0.8**
comp=Z,24nm,0.6s
CIT Chita 23.23 311 *e*P **P 15 07 23.0 -2.8**
CIT *e* 15 07 32.1
CIT *e* 15 07 52.6
CIT *e* 15 11 34.8
CIT pmax pmax
comp=Z,535nm,1.6s
TIY Taiyuan 23.25 275 *e*P **P 15 07 24.3 -1.8**
TIY PP **PnPn 15 07 53.5 +1.6**
TIY S **S 15 11 31.0 -6.2**
TIY sS **pS 15 11 44.0 +0.2**
TIY SS **SnSn 15 12 21.3 +10**
TIY LR LR
comp=Z,3µm,12.7s
TIY LR LR
comp=Z,3µm,10.8s
TIY LR LR
comp=Z,3µm,12.4s
NACB Ninganchiao 23.29 234 PFAKE 15 07 40.0 +14
NACB LR LR
comp=Z,4µm,19.0s
HHC Hu-ho-hao-te 23.32 283 *e*P **P 15 07 25.8 -1.1**
HHC pP pP 15 07 30.8 -2.0
HHC PP **PnPn 15 07 55.5 +2.6**
HHC S **S 15 11 30.5 -7.9**
HHC sS pS 15 11 42.5 -2.5
HHC pmax pmax
comp=E,84nm,1.0s
HHC pmax pmax
comp=Z,320nm,4.1s
HHC LR LR
comp=Z,3µm,11.7s
HHC LR LR
comp=Z,8µm,12.6s
HHC LR LR
comp=Z,7µm,12.3s
YAK Yakutsk 23.58 345 P **P 15 07 25.9 -3.1**
comp=Z,786nm,0.7s,baz=25,slow=2.1,SNR=133
YAK S **S 15 11 38.4 -3.5**
comp=Z,25nm,0.7s,baz=349,slow=23,SNR=8.0
YAK LR LR 15 16 12.6
comp=Z,2µm,21.0s,baz=196,slow=35
YAK Yakutsk 23.58 345 *e*P **P 15 07 26.3 -2.7**
comp=Z,898nm,0.7s
YAK S **S 15 11 38.4 -3.5**
YAK Yakutsk 23.58 345*d i*P **P 15 07 26.1 -2.9**
YAK *e**PP **pP 15 07 35.0 -0.1**
YAK *e* 15 07 54.1
YAK *e*PPP PPP 15 08 08.1
YAK *eS* **S 15 11 36.6 -5.3**
YAK *e*SSS SSS 15 12 38.3
YAK *e* 15 18 34.4
YAK pmax pmax
comp=Z,843nm,0.9s
YAK pmax pmax
comp=E,76nm,0.6s
YAK pmax pmax
comp=N,317nm,1.0s
YAK pmax pmax
comp=Z,309nm,1.0s
YAK pmax pmax
comp=N,256nm,1.0s
YAK pmax pmax
comp=E,173nm,1.0s
YAK smax smax
comp=E,2µm,2.9s
YAK smax smax
comp=N,2µm,2.5s
YAK MLR MLR
comp=Z,13µm,14.0s
YAK MLR MLR
comp=N,13µm,14.0s
YAK MLR MLR
comp=E,4µm,17.0s
SSLB Suanglung 23.97 235 *e*P **P 15 07 31.0 -2.2**
comp=E,68nm,1.3s
SSLB LR LR
comp=Z,3µm,19.0s
SEY Seymchan 24.01 11 P **P 15 07 31.7 -1.4**
comp=Z,530nm,1.1s,baz=198,slow=8.0,SNR=186
SEY S **S 15 11 49.4 +0.6**
comp=Z,9.5nm,1.1s,baz=339,slow=16,SNR=4.4
SEY Seymchan 24.01 11*de*P **P 15 07 32.4 -0.8**
YULB Yu-li 24.04 233 *e*P **P 15 07 32.2 -1.6**
comp=Z,70nm,1.3s
YULB LR LR
comp=Z,2µm,20.0s
WHN Wuhan 24.46 257⇑ P **P 15 07 37.5 -0.1**
WHN S **S 15 11 49.3 -7.3**
WHN LR LR
comp=Z,27µm,14.7s
WHN LR LR
comp=Z,21µm,15.3s
WHN LR LR
comp=Z,9µm,14.2s
BTO Baotou 24.52 282 *e*P **P 15 07 35.0 -3.2**
TPUB Ta-pu 24.53 234 *e*P **P 15 07 36.8 -1.5**
comp=Z,72nm,1.0s
TPUB LR LR
comp=Z,4µm,19.0s
TWG Pinlang 24.61 233 *e*P **P 15 07 37.6 -1.4**
comp=Z,347nm,0.9s
TWG LR LR
comp=Z,5µm,19.0s
QZH Quanzhou 24.70 240⇑ *i*P **P 15 07 40.5 +0.7**
QZH S **S 15 11 57.3 -3.2**
QZH LR LR
comp=Z,3µm,14.2s
QZH LR LR
comp=Z,3µm,14.1s
QZH LR LR
comp=Z,4µm,13.9s
SMY Shemya 25.37 49 P **P 15 07 44.7 -0.9**
comp=Z,386nm,1.4s
SMY Shemya 25.37 49 P **P 15 07 44.7 -0.9**
SMY pmax pmax
comp=Z,386nm,1.4s
BOD Bodaibo 25.62 324⇓ *i*P **P 15 07 47.1 -0.7**
BOD pmax pmax
comp=Z,182nm,1.3s
GUMO Guam 26.17 174 P **P 15 07 54.8 +1.8**
comp=Z,34nm,0.5s,baz=3.3,slow=8.0,SNR=3.7
GUMO LR LR 15 17 25.4
comp=Z,3µm,21.8s,baz=33,slow=35
GUMO Guam 26.17 174 *e*P **P 15 07 53.9 +0.8**
comp=Z,346nm,1.4s
GUMO Guam 26.17 174 *e*P **P 15 07 53.9 +0.8**
GUMO pmax pmax
comp=Z,346nm,1.4s
ULN Ulaanbaatar 26.43 300 *e*P **P 15 07 53.3 -2.2**
comp=Z,148nm,1.8s
ULN LR LR
comp=Z,10µm,18.0s
ULN Ulaanbaatar 26.43 300 P **P 15 07 55.5 0.0**
SNR=29
ULN Ulaanbaatar 26.43 300 P **P 15 07 55.5 0.0**
SNR=29
ULN Ulaanbaatar 26.43 300*de*P **P 15 07 54.6 -0.9**
ULN pmax pmax
comp=Z,47nm,1.2s
SONA1 Songino Array 26.87 299 *e*P **P 15 07 58.3 -1.1**
SONM Songino Array 26.87 299 P **P 15 07 58.5 -0.9**
comp=Z,15nm,0.7s,baz=101,slow=8.7,SNR=67
SONM LR LR 15 19 01.5
comp=Z,6µm,20.2s,baz=96,slow=37
XAN Xi'an 27.10 268 P **P 15 08 01.3 -0.2**
XAN pP pP 15 08 05.0 -2.8
XAN sP sP 15 08 07.8 -2.5
XAN pmax pmax
comp=Z,23nm,0.9s
XAN pmax pmax
comp=Z,450nm,12.7s
XAN LR LR
comp=Z,3µm,14.1s
XAN LR LR
comp=Z,6µm,13.6s
XAN LR LR

comp=Z,5μm,13.6s
ENH Enshi 28.27 261 *e*P **P 15 08 10.6 -1.4**
comp=Z,76nm,0.8s
ENH LR LR
comp=Z,3μm,19.0s
IRK Irkutsk 28.80 308 *e*P **P 15 08 15.7 -0.8**
IRK *e*S **S 15 13 02.3 -2.7**
IRK pmax pmax
comp=Z,161nm,2.7s
TLY Talaya 29.09 307 P **P 15 08 19.4 +0.3**
comp=Z,18nm,0.8s,baz=109,slow=7.4,SNR=35
TLY PcP **PcP 15 11 28.5 +1.9**
comp=Z,6.2nm,0.8s,baz=235,slow=2.9,SNR=3.8
TLY LR LR 15 20 24.7
comp=Z,5μm,19.8s,baz=102,slow=37
TLY Talaya 29.09 307 *e*P **P 15 08 18.8 -0.2**
comp=Z,32nm,0.9s
TLY PcP **PcP 15 11 28.5 +1.9**
TLY Talaya 29.09 307 P **P 15 08 19.8 +0.7**
SNR=37
TLY Talaya 29.09 307 P **P 15 08 19.8 +0.7**
SNR=37
TLY Talaya 29.09 307*c i*P **P 15 08 18.0 -1.1**
TLY *e* 15 09 19.7
TLY *e*PPP PPP 15 09 28.0
TLY *e*S **S 15 13 08.7 -0.9**
TLY pmax pmax
comp=Z,87nm,1.6s
TLY MLR MLR
comp=Z,6μm,15.0s
H11N2 WAKE ISLAND Hy 29.14 126 T T 15 38 45.6
baz=319,slow=76
ZAK Zakamensk 29.15 304 *e*P **P 15 08 19.8 +0.1**
ZAK pmax pmax
comp=Z,51nm,1.5s
H11N1 WAKE ISLAND Hy 29.15 126 T T 15 38 46.4
baz=319,slow=76
H11N3 WAKE ISLAND Hy 29.16 126 T T 15 38 53.3
baz=319,slow=76
WAKE Wake Island 29.32 127 PFAKE 15 08 30.0 +8.7
WAKE LR LR
comp=Z,4μm,21.0s
GZH Guangzhou 29.51 244 *e*P P 15 08 15.8 -7.2
H11S1 WAKE ISLAND Hy 29.94 128 T T 15 39 51.1
baz=320,slow=76,SNR=2811
H11S3 WAKE ISLAND Hy 29.94 128 T T 15 39 51.1
baz=320,slow=76,SNR=2347
H11S2 WAKE ISLAND Hy 29.96 128 T T 15 39 55.5
baz=320,slow=76,SNR=2257
LZH Lanzhou 30.31 275 ⇑P **P 15 08 30.5 +0.3**
LZH pP pP 15 08 35.3 -1.1
LZH sP sP 15 08 38.8 -0.2
LZH PP **PnPn 15 09 30.0 +1.7**
LZH S **S 15 13 27.0 -2.3**
LZH sS sS 15 13 39.5 -0.1
LZH SS **ScP 15 15 09.0 -2.3**
LZH pmax pmax
comp=Z,56nm,1.0s
LZH pmax pmax
comp=Z,330nm,5.0s
LZH LR LR
comp=Z,10μm,10.5s
LZH LR LR
comp=Z,12μm,11.4s
LZH LR LR
comp=Z,11μm,11.7s
MOY Mondy 30.72 307 *e*P **P 15 08 34.4 +0.8**
MOY pmax pmax
comp=Z,183nm,2.9s
BILL Bilibino 31.26 17*d i*P **P 15 08 36.8 -1.2**
BILL *i* S **S 15 13 46.5 +3.4**
BILL *i* SS **SnSn 15 15 30.1 +4.0**
BILL pmax pmax
comp=Z,172nm,1.3s
BILL MLR MLR
comp=Z,3μm,18.0s
TGY Tagaytay City 31.64 222 P P 15 08 46.9 +5.0
comp=Z,72nm,0.3s,baz=204,slow=3.7,SNR=3.4
ATKA Atka Island 32.28 53 *e*P **P 15 08 45.8 -1.3**
comp=Z,188nm,1.0s
ATKA LR LR
comp=Z,1μm,18.0s
GYA Guiyang 32.35 257⇓*i*P **P 15 08 47.5 -0.7**
GYA PP **PnPn 15 09 55.0 +0.1**
GYA PcP **PcP 15 11 37.5 +1.8**
GYA S **S 15 13 58.5 -2.8**
GYA ScP **ScP 15 15 19.3 +1.1**
GYA SS **SnSn 15 15 54.0 +0.1**
GYA ScS **ScS 15 19 17.5 -0.1**
GYA pmax pmax
comp=Z,50nm,0.8s
GYA pmax pmax
comp=Z,270nm,6.8s
GYA LR LR
comp=Z,4μm,15.5s
GYA LR LR
comp=Z,4μm,14.2s
GYA LR LR
comp=Z,6μm,16.3s
CD2 Chengdu 32.36 266 ⇓P **P 15 08 47.8 -0.4**
CD2 pP pP 15 08 54.0 -0.5
CD2 sP sP 15 08 56.5 -0.5
CD2 PP **PP 15 09 59.5 -1.8**
CD2 S **S 15 13 58.0 -3.2**
CD2 pmax pmax
comp=Z,30nm,0.5s
CD2 pmax pmax
comp=Z,390nm,7.6s
CD2 LR LR
comp=Z,10μm,12.1s
CD2 LR LR
comp=Z,6μm,14.5s
CD2 LR LR
comp=Z,9μm,14.1s
GTA Gaotai 32.43 283 P **P 15 08 47.8 -1.0**
GTA pP pP 15 08 52.3 -2.8
GTA sP sP 15 08 55.0 -2.7
GTA PP **PP 15 10 00.0 -2.1**
GTA PcP **PcP 15 11 36.8 +1.0**
GTA S **S 15 14 03.0 +0.6**
GTA sS pS 15 14 10.0 +0.6
GTA PcS **PcS 15 15 21.8 +0.9**
GTA SS **SnSn 15 15 59.5 +3.9**
GTA ScS **ScS 15 19 16.8 -0.9**
GTA pmax pmax
comp=Z,19nm,1.4s
GTA pmax pmax
comp=Z,260nm,6.6s
GTA LR LR
comp=Z,7μm,18.1s
GTA LR LR
comp=Z,9μm,16.8s
GTA LR LR
comp=Z,9μm,18.1s
TIXI Tiksi 32.68 352 P **P 15 08 49.1 -1.3**
comp=Z,37nm,0.7s,baz=148,slow=7.8,SNR=292
TIXI Tiksi 32.68 352 *e*P **P 15 08 49.4 -0.9**
comp=Z,48nm,0.8s
TIXI LR LR
comp=Z,5μm,18.0s
TIXI Tiksi 32.68 352*ce*P **P 15 08 49.6 -0.8**
TIXI pmax pmax
comp=Z,47nm,1.0s
TIXI MLR MLR
comp=Z,5μm,16.0s
QIZ Qiongzhong 34.65 243 P **P 15 09 07.0 -1.1**
QIZ S **S 15 14 36.5 -0.2**
QIZ sS **pS 15 14 43.8 -0.4**
QIZ LR LR
comp=Z,2μm,14.2s
QIZ LR LR
comp=Z,3μm,14.2s
QIZ LR LR
comp=Z,3μm,13.7s
QIZ Qiongzhong 34.65 243 PFAKE 15 09 20.0 +12
QIZ LR LR
comp=Z,3μm,21.0s
HVS Khovu-Aksy 35.26 305*c i*P **P 15 09 13.8 +0.6**
HVS pmax pmax
comp=Z,71nm,0.8s
DAV Davao City (W) 35.79 209 LR LR 15 23 46.6
comp=Z,2μm,20.6s,baz=47,slow=36
DAV Davao City (W) 35.79 209 PFAKE 15 09 30.0 +12
DAV LR LR
comp=Z,2μm,20.0s
KRAR Krasnoyarsk 35.98 314 *e*P **P 15 09 19.3 +0.2**

KMI Kunming 36.04 258 P **P 15 09 19.8 -0.5**
KMI pP pP 15 09 22.5 -4.1
KMI sP sP 15 09 24.0 -5.2
KMI PP **PnPn 15 10 41.0 -0.3**
KMI S **S 15 14 54.3 -4.1**
KMI SS **SnSn 15 17 17.5 -5.9**
KMI pmax pmax
comp=Z,51nm,1.2s
KMI pmax pmax
comp=Z,510nm,4.1s
KMI LR LR
comp=Z,4μm,15.5s
KMI LR LR
comp=Z,3μm,16.9s
KMI LR LR
comp=Z,3μm,15.8s
GAMB Gambell 36.10 33 *e*P **P 15 09 21.7 +1.7**
comp=Z,69nm,1.3s
GAMB LR LR
comp=Z,2μm,22.0s
UNV Unalaska Valle 37.01 50 PFAKE 15 09 40.0 +12
UNV LR LR
comp=Z,1μm,18.0s
SGSI Sangihe 38.94 207 P **P 15 09 46.9 +2.3**
DGZ Jazzator, Alta 39.35 303 *i* P **P 15 09 48.8 +0.8**
DGZ pmax pmax
comp=Z,86nm,0.9s
SKNT Sakolnakorn 40.13 247 P **P 15 09 54.6 0.0**
comp=Z,16nm,1.8s
LKP Lekhapani 40.14 267 *e*P **P 15 09 53.8 -0.8**
LKP IAmb IAmb 15 09 58.5
comp=Z,143nm,0.9s
WMQ Urumqi 40.22 294 P **P 15 09 55.8 +0.7**
WMQ pP pP 15 10 00.5 -1.0
WMQ PP **PnPn 15 11 31.3 0.0**
WMQ S **S 15 16 02.3 +1.3**
WMQ pmax pmax
comp=Z,96nm,1.1s
WMQ pmax pmax
comp=Z,2μm,3.6s
WMQ LR LR
comp=Z,4μm,15.3s
WMQ LR LR
comp=Z,2μm,24.3s
WMQ LR LR
comp=Z,2μm,22.9s
UBPT Khong Chiam 40.25 243 P **P 15 09 55.8 +0.3**
comp=Z,29nm,1.1s
MYLDM Lahad Datu 40.51 218 *e*P **P 15 09 58.7 +1.0**
comp=Z,78nm,1.1s
MYLDM LR LR
comp=Z,3μm,18.0s
ZAA0 Zalesovo Array 40.58 310 *e*P **P 15 09 57.2 -0.7**
comp=Z,72nm,0.6s
ZAA0 LR LR
comp=Z,7μm,18.0s
ZALV Zalesovo Beam 40.58 310 P **P 15 09 57.2 -0.7**
comp=Z,62nm,0.5s,baz=90,slow=7.8,SNR=272
ZALV PcP **PcP 15 11 59.8 0.0**
comp=Z,13nm,0.7s,baz=97,slow=3.0,SNR=4.5
ZALV ScP **ScP 15 15 50.9 +3.0**
comp=Z,2.3nm,0.8s,baz=83,slow=4.5,SNR=3.6
ZALV LR LR 15 27 26.7
comp=Z,6μm,18.5s,baz=80,slow=37
ZALV Zalesovo Beam 40.58 310 P **P 15 09 57.2 -0.7**
ZALV 15 11 59.8
ZALV pmax pmax
comp=Z,63nm,0.5s
ZALV MLR MLR
comp=Z,6μm,18.5s
KKM Kota Kinabalu 40.89 222 *e*P **P 15 10 00.8 -0.2**
comp=Z,58nm,1.3s
KKM LR LR
comp=Z,1μm,19.0s
NRIK Noril'sk 41.08 334 P **P 15 10 01.4 -0.5**
comp=Z,5.2nm,0.3s
TNTI Ternate 41.08 203 *e*P **P 15 10 02.2 -0.2**
comp=Z,107nm,1.3s
TNTI LR LR
comp=Z,1μm,19.0s
ZSN Zaisan 41.38 300⇓*i*P **P 15 10 05.5 +0.9**
comp=Z,278nm,1.6s
ZSN LR LR 15 27 28.0
comp=Z,984nm,14.3s
NVS Novosibirsk 41.45 312⇓*i*P **P 15 10 05.4 +0.4**
NVS *e* 15 12 04.4
NVS *i* S **S 15 16 18.8 -0.1**
NVS pmax pmax
comp=Z,104nm,1.7s
NVS pmax pmax
comp=N,29nm,1.8s
NVS pmax pmax
comp=E,83nm,1.8s
NVS smax smax
comp=N,13nm,2.1s
NVS smax smax
comp=E,70nm,1.9s
PAYA Payao 41.57 253 P **P 15 10 08.7 +2.2**
comp=E,10nm,0.8s,comp=E,117nm
ZIRO ZIRO 41.58 268 *e*P **P 15 10 07.1 +0.4**
ZIRO IAmb IAmb 15 10 08.9
comp=Z,119nm,0.9s
CHGN Chignik 41.63 46 PFAKE 15 10 20.0 +14
CHGN LR LR
comp=Z,1μm,19.0s
JORH JORHAT 41.67 267 *e*P **P 15 10 07.0 -0.1**
JORH IAmb IAmb 15 10 10.7
comp=Z,201nm,0.7s
MOKO MOKOCHONG 41.68 266 *e*P **P 15 10 07.8 +0.4**
MOKO IAmb IAmb 15 10 11.1
comp=Z,284nm,0.8s
CMAI Chiengmai2 41.83 255 P **P 15 10 12.0 +3.2**
comp=Z,2μm,0.7s,comp=Z,176μm
MANU Manus Island 41.86 172 PFAKE 15 10 20.0 +11
MANU LR LR
comp=Z,2μm,20.0s
JAY Jayapura 42.08 182 P **P 15 10 12.0 +1.4**
JAY Jayapura 42.08 182 P **P 15 10 12.0 +1.4**
JAY pmax pmax
comp=Z,472nm,1.2s
GENI Genyem 42.18 183 P **P 15 10 13.1 +1.8**
LAMP Lampang 42.27 253 P **P 15 10 13.3 +1.1**
comp=Z,12nm,1.0s,comp=Z,107nm
KOHI KOHIMA 42.30 266 *e*P **P 15 10 09.3 -3.3**
KOHI IAmb IAmb 15 10 15.2
comp=Z,228nm,1.1s
LBMI Labuha 42.38 202 P **P 15 10 14.7 +1.7**
KMSI Cibinong 42.38 208 P **P 15 10 14.2 +1.2**
PHIT Phitsanulok 42.54 250 P **P 15 10 16.4 +2.0**
comp=Z,24nm,0.9s,comp=Z,212nm
PBKT Sadao Pong 42.55 249 P **P 15 10 14.0 -0.4**
comp=Z,23nm,1.3s,comp=Z,511nm
CMMT Chiang Mai 42.59 253 P **P 15 10 14.2 -0.6**
comp=Z,35nm,1.2s,comp=Z,580nm
CHTO Chiang Mai 42.59 253 P **P 15 10 15.3 +0.5**
comp=Z,154nm,1.3s,comp=Z,3μm
CHTO Chiang Mai 42.59 253 *e*P **P 15 10 14.7 -0.1**
comp=Z,24nm,0.9s
CHTO LR LR
comp=Z,1μm,20.0s
CHTO Chiang Mai 42.59 253 P **P 15 10 15.8 +1.0**
SNR=14
CHTO Chiang Mai 42.59 253 P **P 15 10 15.8 +1.0**
SNR=14
CHTO Chiang Mai 42.59 253 *e*P **P 15 10 14.7 -0.1**
CHTO pmax pmax
comp=Z,24nm,0.9s
CHTO MLR MLR
comp=Z,1μm,20.0s
LSA Lhasa 42.62 273 P **P 15 10 16.8 +1.3**
LSA S **S 15 16 34.0 -3.8**
LSA pmax pmax
comp=Z,37nm,0.9s
LSA LR LR
comp=Z,560nm,13.6s
LSA LR LR
comp=Z,1μm,19.4s
LSA LR LR
comp=Z,3μm,17.5s
LSA Lhasa 42.62 273 *e*P **P 15 10 16.6 +1.0**
comp=Z,38nm,0.8s
LSA LR LR
comp=Z,3μm,18.0s
LSA Lhasa 42.62 273 P **P 15 10 16.4 +0.9**
LSA Lhasa 42.62 273 *e*P **P 15 10 16.6 +1.0**
LSA pmax pmax
comp=Z,38nm,0.8s
LSA MLR MLR
comp=Z,3μm,18.0s
CM31 Chiang Mai Arr 42.81 253 *e*P **P 15 10 16.8 +0.2**
CMAR Chiang Mai Arr 42.81 253 P **P 15 10 16.9 +0.3**
comp=Z,4.8nm,0.6s,baz=42,slow=6.3,SNR=31
CMAR PcP **PcP 15 12 08.7 +1.0**
comp=Z,6.3nm,0.9s,baz=12,slow=2.6,SNR=6.4
CMAR ScP **ScP 15 15 58.9 +1.4**
comp=Z,1.4nm,0.7s,baz=27,slow=3.5,SNR=6.5
CMAR LR LR 15 31 09.2
comp=Z,787nm,18.0s,baz=52,slow=40
CM01 Chiang Mai Arr 42.83 253 *e*P **P 15 10 16.7 0.0**
TEZP TEZPUR 42.85 268 *e*P **P 15 10 16.6 -0.3**
IMP Imphal 42.90 265 *e*P **P 15 10 16.1 -1.2**
SVW2 Sparrevohn 43.02 39 *e*P **P 15 10 19.1 +1.4**
comp=Z,167nm,1.0s
SVW2 LR LR
comp=Z,1μm,20.0s
MRSI Marisa 43.23 210 P **P 15 10 20.9 +1.0**
MK01 Makanchi Array 43.24 300 *e*P **P 15 10 19.1 -0.7**
MK31 Makanchi Array 43.24 300 *e*P **P 15 10 19.0 -0.8**
MK31 Makanchi Array 43.24 300 *e*P **P 15 10 19.0 -0.8**
MKAR Makanchi Array 43.24 300 P **P 15 10 19.0 -0.8**
comp=Z,94nm,0.7s,baz=78,slow=11,SNR=442
MKAR PcP **PcP 15 12 09.2 +0.4**
comp=Z,10nm,0.8s,baz=76,slow=6.1,SNR=2.6
MKAR S **S 15 16 44.5 -1.1**
comp=Z,5.2nm,1.1s,baz=94,slow=18,SNR=3.8
MKAR LR LR 15 29 08.3
comp=Z,5μm,18.1s,baz=74,slow=37
MKAR Makanchi Array 43.24 300 *e*P **P 15 10 19.2 -0.6**
comp=Z,625nm,0.6s
MKAR PcP **PcP 15 12 09.2 +0.4**
MKAR S **S 15 16 44.5 -1.1**
MKAR Makanchi Array 43.24 300 *e*P **P 15 10 19.2 -0.6**
MKAR 15 12 09.2
MKAR S **S 15 16 44.6 -1.1**
MKAR pmax pmax
comp=Z,625nm,0.6s
FAKI Fak Fak 43.43 195 P **P 15 10 22.5 +1.0**
FAKI Fak Fak 43.43 195 *e*P **P 15 10 20.4 -1.1**
comp=Z,416nm,1.7s
FAKI LR LR
comp=Z,2μm,22.0s
MAKZ Makanchi 43.45 300 *e*P **P 15 10 20.8 -0.7**
comp=Z,68nm,0.7s
MAKZ LR LR
comp=Z,5μm,19.0s
MAKZ Makanchi 43.45 300 *e*P **P 15 10 20.8 -0.7**
MAKZ pmax pmax
comp=Z,68nm,0.7s
MAKZ MLR MLR
comp=Z,5μm,19.0s
NAYO Nakonayok 43.80 246 P **P 15 10 25.5 +0.9**
comp=Z,26nm,1.0s,comp=Z,5μm
SEM Semipalatinsk 43.81 305⇓*i*P **P 15 10 24.2 -0.4**
comp=Z,1μm,1.1s
SEM LR LR 15 28 47.5
comp=Z,3μm,15.8s
KMPI Kaimana, Papua 43.90 192 P **P 15 10 26.6 +1.3**
GUWA GUWAHATI 43.92 268 *e*P **P 15 10 25.4 -0.1**
GUWA IAmb IAmb 15 10 27.4
comp=Z,66nm,0.5s
IM3 Indian Mountai 44.02 32 *e*P **P 15 10 26.1 +0.3**
SHL Shillong 44.09 267 *i* P **P 15 10 25.0 -2.1**
SHL IAmb IAmb 15 10 29.5
comp=Z,354nm,2.5s
SHL *e*S **S 15 16 59.0 +0.1**
SHL Shillong 44.09 267 P **P 15 10 26.7 -0.4**
SHL pmax pmax
comp=Z,48nm,0.9s
SANI Sanana 44.17 204 P **P 15 10 27.5 0.0**
CHBT CHBT 44.18 244 P P 15 10 32.9 +5.3
comp=Z,179nm,0.7s,comp=Z,40μm
MPSI Mapaga 44.19 213 P **P 15 10 28.8 +1.2**
LUWI Luwuk 44.31 208 P **P 15 10 29.4 +0.8**
LUWI Luwuk 44.31 208 *e*P **P 15 10 27.4 -1.2**
comp=Z,117nm,1.2s
OHAK Old Harbor 44.38 45 *e*P **P 15 10 28.3 -0.4**
comp=Z,77nm,1.0s
OHAK LR LR
comp=Z,1μm,20.0s
RSO Redoubt South 44.42 40 *e*P **P 15 10 27.6 -1.7**
AZL Aizawl 44.45 264 *e*P **P 15 10 30.1 +0.2**
MSAI Masohi 44.58 199 P **P 15 10 32.7 +1.9**
PPLA Purkeypile 44.61 36 *e*P **P 15 10 31.5 +0.7**
comp=Z,562nm,1.6s
PPLA LR LR
comp=Z,1μm,19.0s
APSI Ampana 44.62 210 P **P 15 10 32.3 +1.2**
CAST Castle Rocks 44.66 36 *e*P **P 15 10 31.9 +1.0**
comp=Z,120nm,0.8s
CAST LR LR
comp=Z,1μm,18.0s
RABL Rabaul 44.68 166 *e*P **P 15 10 30.9 -0.7**
comp=Z,50nm,0.9s
RABL LR LR
comp=Z,1μm,22.0s
KDAK Kodiak Island 44.70 44 P **P 15 10 30.6 -0.7**
comp=Z,162nm,0.9s,baz=290,slow=3.5,SNR=31
KDAK PP **PP 15 12 14.8 -0.8**
comp=Z,16nm,0.8s,baz=314,slow=20,SNR=2.0
KDAK Kodiak Island 44.70 44 *e*P **P 15 10 31.1 -0.2**
comp=Z,206nm,0.9s
KDAK PP **PP 15 12 14.8 -0.8**
KDAK LR LR
comp=Z,1μm,20.0s
KDAK Kodiak Island 44.70 44*ce*P **P 15 10 31.3 0.0**
SPU Mount Spurr 44.73 39 *e*P **P 15 10 32.4 +0.9**
KURK Kurchatov 44.78 306 *e*P **P 15 10 31.4 -0.6**
comp=Z,221nm,0.8s
KURK S **S 15 17 08.2 +0.4**
KURK LR LR
comp=Z,3μm,18.0s
KURK Kurchatov 44.78 306 P **P 15 10 32.4 +0.4**
SNR=138
KURK Kurchatov 44.78 306 P **P 15 10 32.4 +0.4**
SNR=138
KURK Kurchatov 44.78 306*de*P **P 15 10 31.1 -0.9**
KURK pmax pmax
comp=Z,188nm,0.9s
KURBB Kurchatov Arra 44.85 306 P **P 15 10 31.9 -0.7**
comp=Z,140nm,0.8s,baz=82,slow=8.6,SNR=658
KURBB S **S 15 17 08.2 -0.7**
comp=Z,0.8nm,0.8s,baz=79,slow=17,SNR=3.8
NLAI Namlea 44.97 202 P **P 15 10 35.7 +1.8**
HOM Homer 45.02 41 *e*P **P 15 10 34.6 +0.7**
comp=Z,263nm,0.9s
AAI Ambon 45.10 200 P **P 15 10 36.6 +1.7**
BPAW Bear Paw Mtn. 45.14 35 *e*P **P 15 10 35.4 +0.6**
comp=Z,138nm,1.3s
BPAW LR LR
comp=Z,1μm,18.0s
KTH Kantishna Hill 45.18 35 *e*P **P 15 10 36.1 +1.0**
comp=Z,282nm,1.0s
KTH LR LR
comp=Z,800nm,20.0s
MLY Manley 45.24 33 *e*P **P 15 10 36.4 +0.8**
comp=Z,125nm,0.9s
MLY LR LR
comp=Z,1μm,19.0s
TURI Tura 45.30 268 *e*P **P 15 10 36.4 -0.1**
TURI IAmb IAmb 15 10 39.8
comp=Z,51nm,0.8s
DHUB DHUBRI 45.31 269 *e*P **P 15 10 35.4 -1.2**
PCI Palu 45.33 212 P **P 15 10 36.9 +0.1**
comp=Z,123nm,1.0s,comp=Z,1μm
PCI Palu 45.33 212 P **P 15 10 37.6 +0.8**
PCI pmax pmax
comp=Z,123nm,1.0s
SUA Susitna One 45.34 38 *e*P **P 15 10 36.5 0.0**
comp=Z,198nm,0.8s
SUA LR LR
comp=Z,1μm,21.0s
SRDT SRDT 45.35 248 P **P 15 10 38.2 +1.3**
comp=Z,29nm,2.2s,comp=Z,5μm
BRLK Bradley Lake 45.40 41 *e*P **P 15 10 36.9 0.0**
comp=Z,104nm,0.8s
BRLK LR LR
comp=Z,1μm,20.0s
TRF Thorofare Moun 45.46 36 *e*P **P 15 10 37.9 +0.4**
comp=Z,98nm,1.0s
BNDI Bandanaira 45.48 197 P **P 15 10 41.5 +3.6**
COLD Coldfoot 45.50 30 *e*P **P 15 10 38.1 +0.5**
comp=Z,152nm,1.2s

COLD LR LR
comp=Z,1µm,20.0s
GTK Tadong 45.73 271 *e*P **P 15 10 40.1 +0.1**
GTK IAmb IAmb 15 10 41.4
comp=Z,40nm,1.3s
TOLK Toolik Lake Re 45.79 28 P **P 15 10 41.1 +1.2**
baz=268
TOLK Toolik Lake Re 45.79 28 *e*P **P 15 10 40.5 +0.6**
comp=Z,130nm,0.9s
TOLK LR LR
comp=Z,2µm,18.0s
RC01 Rabbit Creek A 45.85 39 *e*P **P 15 10 40.6 +0.2**
comp=Z,184nm,0.8s
RC01 LR LR
comp=Z,1µm,20.0s
SBUM Sibu 46.02 224 *e*P **P 15 10 42.6 +0.3**
comp=Z,20nm,1.1s
SBUM LR LR
comp=Z,1µm,20.0s
MCK McKinley 46.06 35 *e*P **P 15 10 42.3 +0.3**
comp=Z,142nm,0.9s
MCK LR LR
comp=Z,2µm,18.0s
MCK McKinley 46.06 35 *e*P **P 15 10 42.3 +0.3**
MCK pmax pmax
comp=Z,142nm,0.9s
MCK MLR MLR
comp=Z,2µm,18.0s
SMKI Samarinda 46.06 216 P **P 15 10 45.1 +2.6**
PDGK Podgornoye 46.09 296 P **P 15 10 41.8 -0.9**
PDGK pmax pmax
comp=Z,78nm,0.9s
PMR Palmer 46.10 38 *e*P **P 15 10 42.3 -0.1**
comp=Z,134nm,1.0s
PMR LR LR
comp=Z,1µm,22.0s
PMR Palmer 46.10 38 *e*P **P 15 10 42.3 -0.1**
PMR pmax pmax
comp=Z,134nm,1.0s
PMR MLR MLR
comp=Z,1µm,22.0s
RND Reindeer 46.11 36 *e*P **P 15 10 42.6 +0.1**
comp=Z,180nm,1.0s
RND LR LR
comp=Z,1µm,20.0s
RND Reindeer 46.11 36 *e*P **P 15 10 42.6 +0.1**
RND pmax pmax
comp=Z,180nm,1.0s
RND MLR MLR
comp=Z,1µm,20.0s
SHLS Shalkode 46.16 296 ⇓*i*P **P 15 10 41.2 -2.0**
comp=Z,994nm,0.8s
SHLS *e*S **S 15 17 23.6 -4.7**
SHLS LR LR 15 30 18.1
comp=Z,3µm,15.7s
MDM Murphy Dome 46.31 33 *e*P **P 15 10 44.6 +0.6**
comp=Z,324nm,1.3s
MDM LR LR
comp=Z,1µm,18.0s
WRH Wood River Hil 46.39 34 *e*P **P 15 10 45.0 +0.4**
comp=Z,56nm,0.9s
WRH LR LR
comp=Z,1µm,19.0s
SML Sawmill 46.47 38 *e*P **P 15 10 45.3 0.0**
comp=Z,881nm,1.8s
SML LR LR
comp=Z,1µm,21.0s
SML Sawmill 46.47 38 *e*P **P 15 10 45.3 0.0**
SML pmax pmax
comp=Z,881nm,1.8s
SML MLR MLR
comp=Z,1µm,21.0s
UZB Uzynbulak 46.47 296 ⇓*i*P **P 15 10 45.9 +0.2**
comp=Z,452nm,0.8s
UZB *i*S **S 15 17 32.5 -0.3**
UZB LR LR 15 30 52.8
comp=Z,863nm,12.4s
COLA College 46.48 34 *e*P **P 15 10 46.2 +1.0**
comp=Z,105nm,0.8s
COLA LR LR
comp=Z,1µm,18.0s
COLA College 46.48 34 *e*P **P 15 10 46.2 +1.0**
COLA pmax pmax
comp=Z,105nm,0.8s
COLA MLR MLR
comp=Z,1µm,18.0s
CCB Clear Creek Bu 46.51 34 *e*P **P 15 10 45.7 +0.2**
comp=Z,143nm,1.4s
CCB LR LR
comp=Z,2µm,18.0s
KPKS Kokpek 46.60 296 *e*P **P 15 10 47.1 +0.5**
comp=Z,836nm,1.0s
KPKS LR LR 15 31 07.7
comp=Z,3µm,15.0s
DHY Denali Highway 46.80 36 *e*P **P 15 10 48.2 +0.2**
comp=Z,116nm,0.9s
DHY LR LR
comp=Z,800nm,21.0s
ZHN Zhinishke 46.87 296 ⇓*i*P **P 15 10 49.3 +0.5**
comp=Z,393nm,0.8s
ZHN LR LR 15 31 21.1
comp=Z,1µm,16.3s
HDA Harding Lake 46.89 34 *e*P **P 15 10 48.5 -0.1**
comp=Z,136nm,0.9s
HDA LR LR
comp=Z,900nm,18.0s
IL1 Eielson Array 46.89 34 *e*P **P 15 10 48.5 0.0**
ILAR Eielson Array 46.89 34 P **P 15 10 48.4 -0.1**
comp=Z,86nm,0.7s,baz=267,slow=6.0,SNR=754
ILAR LR LR 15 33 57.7
comp=Z,966nm,18.1s,baz=286,slow=40
ILAR Eielson Array 46.89 34 P **P 15 10 48.4 -0.1**
ILAR pmax pmax
comp=Z,106nm,0.8s
ILAR MLR MLR
comp=Z,966nm,18.1s
ILB Eielson Array 46.89 34 *e*P **P 15 10 48.4 -0.1**
ODAN Odare 46.90 271 *e*P **P 15 10 49.9 +0.5**
comp=Z,136nm,0.9s
BKB Balikpapan 46.92 216 P **P 15 10 50.0 +0.7**
SATY Saty 46.92 296 ⇓*i*P **P 15 10 49.8 +0.6**
comp=Z,729nm,0.8s
SATY *e*S **S 15 17 39.2 0.0**
SATY LR LR 15 31 01.4
comp=Z,2µm,13.1s
SCM Sheep Creek Mo 46.94 38 *e*P **P 15 10 49.2 +0.1**
comp=Z,192nm,0.9s
SCM LR LR
comp=Z,1µm,20.0s
SCM Sheep Creek Mo 46.94 38 *e*P **P 15 10 49.2 +0.1**
SCM pmax pmax
comp=Z,192nm,0.9s
SCM MLR MLR
comp=Z,1µm,20.0s
KDI Kendari 47.07 207 P **P 15 10 51.8 +1.4**
comp=Z,43nm,1.1s,comp=Z,1µm
TTSI Tana Toraja 47.28 211 P **P 15 10 53.9 +1.8**
TARA Tarawa 47.36 136 *e*P **P 15 10 51.8 -0.9**
comp=Z,589nm,1.6s
TARA LR LR
comp=Z,4µm,19.0s
JIRN Jiri 47.42 273 *e*P **P 15 10 54.4 +0.8**
comp=Z,203nm,0.7s
RAMN Ramite 47.46 272 *e*P **P 15 10 54.2 +0.4**
comp=Z,339nm,0.9s
FYU Fort Yukon 47.47 31 *e*P **P 15 10 54.4 +1.4**
comp=Z,989nm,1.8s
FYU LR LR
comp=Z,2µm,18.0s
GUN Gumba 47.54 274 *e*P **P 15 10 54.6 +0.1**
comp=Z,225nm,0.7s
MTKI Muara Teweh, K 47.57 218 P **P 15 10 55.0 +0.6**
KLU Klutina 47.65 38 *e*P **P 15 10 55.4 +0.9**
comp=Z,192nm,1.0s
KLU LR LR
comp=Z,1µm,21.0s
PAX Paxson 47.67 36 *e*P **P 15 10 55.0 +0.3**
comp=Z,66nm,1.2s
PAX LR LR
comp=Z,800nm,19.0s
PAX Paxson 47.67 36 *e*P **P 15 10 55.1 +0.3**
PAX pmax pmax
comp=Z,66nm,1.2s
PAX MLR MLR
comp=Z,800nm,19.0s
DIV Divide 47.76 39 *e*P **P 15 10 56.0 +0.6**
comp=Z,242nm,1.0s
DIV LR LR
comp=Z,2µm,18.0s
TARG Taragay, Kyrgy 47.79 294 *e*P **P 15 10 57.0 +0.7**
comp=Z,66nm,0.7s
TARG LR LR
comp=Z,2µm,19.0s
MDOK Medeo 47.83 296 *i*P **P 15 10 57.0 +0.7**
comp=Z,517nm,1.3s
MDOK *e*S **S 15 17 52.2 +0.1**
MDOK LR LR 15 31 08.5
comp=Z,2µm,16.9s
EYAK Cordova Ski Ar 47.86 39 *e*P **P 15 10 57.0 +0.9**
comp=Z,168nm,0.8s
EYAK LR LR
comp=Z,2µm,18.0s
RIDG Independ'e Rid 47.87 35 *e*P **P 15 10 56.3 0.0**
comp=Z,74nm,0.8s
RIDG LR LR
comp=Z,900nm,18.0s
KSM Kuching 47.87 225 *e*P **P 15 10 57.6 +0.9**
comp=Z,93nm,1.4s
KSM LR LR
comp=Z,500nm,18.0s
HARP HAARP 47.89 37 *e*P **P 15 10 57.6 +1.3**
comp=Z,246nm,0.9s
AAA Alma-Ata 47.91 297 *e*P **P 15 10 58.0 +1.1**
comp=Z,297nm,1.1s
AAA LR LR 15 31 36.9
comp=Z,1µm,16.6s
AAA Alma-Ata 47.91 297 *e*P **P 15 10 57.2 +0.4**
AAA *e*S **S 15 17 53.5 +0.4**
AAA pmax pmax
comp=Z,500nm,4.5s
AAA smax smax
comp=E,300nm,4.9s
AAA MLR MLR
comp=Z,3µm,16.0s
MMPI Merauke 48.00 182 P **P 15 11 01.1 +3.5**
KKN Kakani 48.06 274 *e*P **P 15 10 58.5 +0.1**
comp=Z,136nm,0.6s
PKIN Phulchoki 48.07 273 *e*P **P 15 10 58.6 +0.1**
comp=Z,59nm,0.7s
KUU Kurty 48.08 298 ⇓*i*P **P 15 10 58.0 -0.1**
comp=Z,580nm,0.9s
KUU *e*S **S 15 17 54.9 -0.5**
KUU LR LR 15 31 46.3
comp=Z,818nm,14.2s
KDJ Kajisay 48.09 295 *e*P **P 15 10 58.4 +0.1**
comp=Z,44nm,1.0s
KDJ LR LR
comp=Z,4µm,20.0s
SCRK Sand Creek 48.22 35 *e*P **P 15 10 58.6 -0.4**
comp=Z,182nm,0.8s
SCRK LR LR
comp=Z,1µm,20.0s
DOT Dot Lake 48.23 35 *e*P **P 15 10 58.7 -0.2**
comp=Z,501nm,1.5s
DMN Daman 48.28 274 *e*P **P 15 11 00.1 0.0**
comp=Z,70nm,0.8s
BMRM Bremner River 48.35 39 *e*P **P 15 11 00.6 +0.6**
comp=Z,178nm,0.9s
BMRM LR LR
comp=Z,2µm,21.0s
BNSI Bone 48.41 210 P **P 15 11 01.4 +0.6**
RAGM Ragged Mountai 48.41 39 *e*P **P 15 11 01.4 +1.0**
comp=Z,442nm,1.6s
STKI Sintang 48.42 223 P **P 15 11 02.6 +1.6**
GKN Gorkha 48.45 274 *e*P **P 15 11 01.6 +0.3**
comp=Z,140nm,0.8s
MENT Mentasta 48.47 36 *e*P **P 15 11 01.9 +1.0**
comp=Z,142nm,0.9s
MENT LR LR
comp=Z,1µm,18.0s
BRZS Berezniki 48.65 306 *e*P **P 15 11 02.5 +0.1**
comp=Z,102nm,1.1s
BRZS *e*S **S 15 18 02.5 -0.8**
BMNS Besmoynak 48.80 297 ⇓*i*P **P 15 11 04.7 +0.9**
comp=Z,1µm,0.9s
TKM2 Tokmak 2 48.91 297 P **P 15 11 05.5 +0.8**
SNR=76
TKM2 Tokmak 2 48.91 297 P **P 15 11 05.3 +0.5**
TKM2 pmax pmax
comp=Z,133nm,1.0s
DANN Dangsing 48.95 275 *e*P **P 15 11 06.0 +0.7**
comp=Z,257nm,0.6s
KBKI Kotabaru 49.06 215 P **P 15 11 06.5 +0.7**
PMG Port Moresby 49.12 173 P **P 15 11 06.3 0.0**
comp=Z,12nm,0.9s,baz=3.0,slow=10.0,SNR=4.7
PMG LR LR 15 29 39.6
comp=Z,579nm,21.9s,baz=338,slow=33
PMG Port Moresby 49.12 173 *e*P **P 15 11 06.6 +0.3**
comp=Z,30nm,0.9s
PMG Port Moresby 49.12 173 *e*P **P 15 11 06.6 +0.3**
PMG pmax pmax
comp=Z,30nm,0.9s
BVA0 Borovoye Array 49.23 311 P **P 15 11 06.6 -0.1**
BVA0 pmax pmax
comp=Z,62nm,1.3s
BVAR Borovoye Array 49.23 311 P **P 15 11 06.4 -0.3**
comp=Z,16nm,0.8s,baz=71,slow=8.8,SNR=90
BVAR PcP **PcP 15 12 30.3 +0.7**
comp=Z,13nm,0.7s,baz=72,slow=4.7,SNR=3.5
BVAR S **S 15 18 10.6 -0.7**
comp=Z,0.4nm,0.5s,baz=231,slow=42,SNR=6.6
BVAR LR LR 15 32 45.0
comp=Z,3µm,18.6s,baz=74,slow=37
BRVK Borovoye 49.28 311 *e*P **P 15 11 07.0 -0.1**
comp=Z,54nm,1.1s
BRVK LR LR
comp=Z,2µm,18.0s
BRVK Borovoye 49.28 311 P **P 15 11 07.5 +0.4**
SNR=39
BRVK Borovoye 49.28 311 P **P 15 11 07.5 +0.4**
SNR=39
BRVK Borovoye 49.28 311 *e*P **P 15 11 07.0 -0.1**
BRVK pmax pmax
comp=Z,54nm,1.1s
BRVK MLR MLR
comp=Z,2µm,18.0s
EGAK Eagle 49.33 33 *e*P **P 15 11 07.2 -0.2**
comp=Z,84nm,0.9s
EGAK LR LR
comp=Z,1µm,18.0s
SKLT Songkhla 49.35 240 P **P 15 11 11.4 +3.3**
comp=Z,80nm,1.4s,comp=Z,733nm
KOLN Koldanda 49.36 275 *e*P **P 15 11 08.5 +0.1**
comp=Z,83nm,0.7s
BALM Baldy 49.42 38 *e*P **P 15 11 08.9 +0.6**
comp=Z,126nm,0.8s
BALM LR LR
comp=Z,1µm,21.0s
BALM Baldy 49.42 38 *e*P **P 15 11 08.9 +0.6**
BALM pmax pmax
comp=Z,126nm,0.8s
BALM MLR MLR
comp=Z,1µm,21.0s
KZA Kyzart 49.45 296 P **P 15 11 10.7 +1.6**
SNR=25
KBK Karagaybulak 49.45 296 P **P 15 11 09.6 +0.8**
SNR=60
CHMS Chumysh 49.47 297 P **P 15 11 09.2 +0.5**
SNR=22
TRTT Trang 49.49 242 P P 15 11 17.5 +8.3
comp=Z,14nm,1.5s
USP Ospenovka 49.55 297 P **P 15 11 09.8 +0.4**
SNR=46
FRU Bishkek 49.62 297 ⇓*i*P **P 15 11 10.5 +0.6**
FRU pmax pmax
comp=Z,175nm,1.8s
BOK Bokaro 49.65 269 *e*P **P 15 11 10.9 +0.5**
PYUN Piuthan 49.66 275 *e*P **P 15 11 11.3 +0.6**
comp=Z,355nm,1.0s
AAK Ala-Archa 49.77 297 P **P 15 11 11.4 +0.2**
SNR=39
AAK Ala-Archa 49.77 297 *e*P **P 15 11 11.2 -0.1**
comp=Z,31nm,0.9s
AAK LR LR
comp=Z,2µm,18.0s
AAK Ala-Archa 49.77 297 P **P 15 11 12.0 +0.7**
SNR=29
AAK Ala-Archa 49.77 297 P **P 15 11 12.0 +0.7**
SNR=29
AAK Ala-Archa 49.77 297 *i*P **P 15 11 11.4 +0.2**
SNR=47
AAK Ala-Archa 49.77 297 *d i*P **P 15 11 11.6 +0.3**
AAK pmax pmax
comp=Z,39nm,1.0s
BSSI Bau Bau, Buton 49.86 209 P **P 15 11 13.3 +1.3**
KSH Kashi 49.89 292 P **P 15 11 16.3 +4.1**
KSH sP sP 15 11 23.0 +1.8
KSH PP **PP 15 13 11.8 +5.0**
KSH S **S 15 18 29.0 +7.8**
KSH pmax pmax
comp=Z,370nm,2.0s
KSH pmax pmax
comp=Z,1µm,3.9s
KSH LR LR
comp=Z,3µm,10.9s
KSH LR LR
comp=Z,3µm,12.2s
KSH LR LR
comp=Z,4µm,13.6s
UCH Uchtor 49.91 296 P **P 15 11 13.0 +0.4**
SNR=24
DAWY Dawson 50.21 34 *e*P **P 15 11 14.6 +0.4**
comp=Z,19nm,0.8s
DAWY LR LR
comp=Z,1µm,19.0s
EKS2 Erkin-Say 50.26 297 P **P 15 11 15.5 +0.6**
SNR=52
AML Almayashu 50.51 296 P **P 15 11 18.0 +0.9**
SNR=78
DGPR DIGLIPUR 50.62 253 *e*P **P 15 11 16.6 -1.1**
DGPR IAmb IAmb 15 11 20.9
comp=Z,373nm,1.9s
PBKI Pangkalan Bun 50.68 221 P **P 15 11 18.8 +0.6**
KULM Kulim 50.73 239 *e*P **P 15 11 18.8 +0.2**
comp=Z,29nm,0.9s
KULM LR LR
comp=Z,1µm,18.0s
IPM Ipoh 51.09 237 *e*P **P 15 11 21.1 -0.2**
comp=Z,51nm,1.2s
IPM LR LR
comp=Z,1µm,19.0s
MYKOM Kota Tinggi 51.37 233 *e*P **P 15 11 22.9 -0.5**
comp=Z,17nm,0.9s
HNR Honiara 51.63 157 LR LR 15 31 40.1
comp=Z,3µm,21.8s,baz=324,slow=34
HNR Honiara 51.63 157 PFAKE 15 11 40.0 +15
HNR LR LR
comp=Z,3µm,21.0s
TPRI Tanjung Pinang 51.65 231 P **P 15 11 27.5 +2.0**
BWNR Bhubaneshwar 51.66 265 *e*P **P 15 11 25.2 -0.3**
INK Inuvik 51.70 28 P **P 15 11 26.0 +0.8**
comp=Z,170nm,0.9s,baz=288,slow=7.9,SNR=514
INK S **S 15 18 47.6 +2.4**
comp=Z,1.9nm,1.0s,baz=19,slow=31,SNR=3.5
INK Inuvik 51.70 28 *e*P **P 15 11 25.6 +0.4**
comp=Z,192nm,0.9s
INK S **S 15 18 47.6 +2.4**
INK LR LR
comp=Z,2µm,19.0s
INK Inuvik 51.70 28 *e*P **P 15 11 25.6 +0.4**
INK S **S 15 18 47.7 +2.4**
INK pmax pmax
comp=Z,192nm,0.9s
INK MLR MLR
comp=Z,2µm,19.0s
HYT Haines Junctio 51.77 38 *e*P **P 15 11 27.1 +1.1**
comp=Z,426nm,1.0s
HYT LR LR
comp=Z,1µm,22.0s
DZA Taraz 51.84 298 *e*P **P 15 11 27.6 +0.9**
comp=Z,2µm,0.8s
EDFI Ende, Flores 51.86 206 P **P 15 11 27.6 +0.5**
SOEI Soe 51.98 203 P **P 15 11 28.4 +0.4**
SOEI Soe 51.98 203 *e*P **P 15 11 27.7 -0.3**
comp=Z,242nm,1.1s
SOEI LR LR
comp=Z,700nm,18.0s
KK31 Karatay Array 52.32 299 *e*P **P 15 11 29.8 -0.4**
KK31 Karatay Array 52.32 299 *e*P **P 15 11 29.8 -0.4**
KKAR Karatay Array 52.32 299 *e*P **P 15 11 29.9 -0.4**
KKAR Karatay Array 52.32 299 *e*P **P 15 11 29.9 -0.4**
DDI Dehra Dun 52.35 281 *e*P **P 15 11 30.4 -0.3**
DDI IAmb IAmb 15 11 34.2
comp=Z,37nm,0.3s
BATI Baumata 52.59 203 P **P 15 11 32.9 +0.4**
comp=Z,31nm,0.6s,baz=9.0,slow=1.6,SNR=6.1
BATI LR LR 15 33 35.0
comp=Z,380nm,20.9s,baz=21,slow=36
BATI Baumata 52.59 203 P **P 15 11 34.9 +2.5**
SMLA Simla 52.63 282 *e*P **P 15 11 32.7 +0.1**
SMLA IAmb IAmb 15 11 34.0
comp=Z,2µm,2.7s
DSRI Dabo 52.74 230 P **P 15 11 36.0 +2.5**
DHRM DHARAMSHALA 52.76 284 *e*P **P 15 11 32.9 -1.0**
DHRM IAmb IAmb 15 11 36.4
comp=Z,182nm,1.4s
TPI Tanjungpandan 52.84 225 P **P 15 11 36.1 +1.8**
comp=Z,5.4nm,0.7s,comp=Z,618nm
IUG Iuzhnay 53.02 298 ⇓*i*P **P 15 11 36.2 +0.7**
comp=Z,902nm,1.6s
IUG *e*S **S 15 19 04.1 -0.2**
IUG LR LR 15 34 50.6
comp=Z,775nm,13.1s
WHY Whitehorse 53.06 38 *e*P **P 15 11 36.9 +1.3**
comp=Z,113nm,1.0s
WHY LR LR
comp=Z,900nm,20.0s
PPBI Pangkal Pinang 53.20 227 P **P 15 11 38.3 +1.4**
SKAG Skagway 53.20 39 *e*P **P 15 11 38.2 +1.8**
comp=Z,81nm,1.1s
SKAG LR LR
comp=Z,1µm,18.0s
CHM Chimkent 53.24 298 *e*P **P 15 11 37.9 +0.8**
comp=Z,1µm,0.8s
CHM LR LR 15 34 53.8
comp=Z,1µm,15.9s
MTN Manton Dam 53.32 193 *e*P **P 15 11 37.5 -0.3**
comp=Z,85nm,1.1s
PLAI Plampang 53.36 211 P **P 15 11 39.3 +1.2**
TSI Tuntungan 53.43 239 P **P 15 11 39.1 +0.4**
COEN Coen 53.44 179 *e*P **P 15 11 38.6 0.0**
comp=Z,57nm,1.1s
COEN LR LR
comp=Z,1µm,21.0s
WBSI Waikabubak, Su 53.49 208 P **P 15 11 40.8 +1.7**
SVE Sverdlovsk 53.53 317 *c i*P **P 15 11 39.8 +0.9**
SVE *e* 15 13 40.3
SVE *e*S **S 15 19 16.6 +6.0**
SVE pmax pmax
comp=Z,244nm,1.2s
SVE MLR MLR
comp=E,8µm,15.0s
SVE MLR MLR
comp=Z,10µm,15.0s
BASI Baing, Sumba 53.61 207 P **P 15 11 41.2 +1.3**
TWSI Taliwang, Sumb 53.64 212 P **P 15 11 39.4 -0.7**
BESE Bessie Mountai 53.70 40 *e*P **P 15 11 41.2 +0.9**
comp=Z,135nm,1.2s
BESE LR LR
comp=Z,1µm,18.0s
PSI Prapat 53.72 238 P **P 15 11 41.2 +0.3**
comp=Z,21nm,0.9s,baz=80,slow=4.4,SNR=8.3
PSI LR LR 15 36 14.3
comp=Z,922nm,18.1s,baz=34,slow=38
PSI Prapat 53.72 238 *e*P **P 15 11 40.7 -0.3**
comp=Z,30nm,1.0s
PSI Prapat 53.72 238 *e*P **P 15 11 40.7 -0.3**
PSI pmax pmax
comp=Z,30nm,1.0s
SRBI Singaraja 53.74 214 P **P 15 11 42.6 +1.7**
GRJI Gresik 53.94 217 P **P 15 11 44.7 +2.4**
KCSI Kotacane, Aceh 53.94 240 P **P 15 11 44.4 +1.9**
CHLP Challavanipeta 54.04 265 *e*P **P 15 11 42.6 -0.5**
TBJI Tambak Boyo 54.15 218 P **P 15 11 46.5 +2.6**
BLJI Banyuglugur 54.15 216 P **P 15 11 46.2 +2.3**
BKNI Bangkinang 54.25 234 P **P 15 11 46.2 +1.5**
BKNI Bangkinang 54.25 234 PFAKE 15 12 00.0 +15
BKNI LR LR
comp=Z,900nm,19.0s
MLSI Meulaboh, Aceh 54.32 242 P **P 15 11 46.4 +1.2**
NIL Nilore 54.37 287 *e*P **P 15 11 46.3 +0.8**
comp=Z,108nm,0.8s
NIL LR LR
comp=Z,900nm,20.0s
NIL Nilore 54.37 287 *e*P **P 15 11 46.3 +0.8**
NIL pmax pmax
comp=Z,108nm,0.8s
NIL MLR MLR
comp=Z,900nm,20.0s
GMJI Gumukmas 54.69 216 P **P 15 11 49.5 +1.7**

ARU Arti 54.75 317 LR LR 15 37 39.1
comp=Z,8μm,18.3s,baz=66,slow=39
ARU Arti 54.75 317 *eP* **P 15 11 47.4 -0.3**
comp=Z,653nm,1.7s
ARU Arti 54.75 317*c iP* **P 15 11 47.6 -0.2**
ARU 15 12 48.5
ARU 15 13 47.2
ARU PPP PPP 15 15 00.9
ARU *eS* **S 15 19 26.9 -0.1**
ARU 15 21 36.3
ARU SS **SS 15 23 03.6 -5.9**
ARU pmax pmax
comp=Z,265nm,1.2s
ARU MLR MLR
comp=Z,9μm,17.0s
NGJI Ngawi 54.81 218 P **P 15 11 50.6 +1.9**
MNSI Mandailing Nat 54.81 236 P **P 15 11 50.8 +2.0**
SDSI Sungai Dareh 54.99 233 P **P 15 11 52.4 +2.3**
SMRI Semarang 55.03 220 P **P 15 11 51.7 +1.4**
VIS Vishakhapatnam 55.06 264 *eP* **P 15 11 50.2 -0.4**
VIS IAmb IAmb 15 11 52.5
comp=Z,28nm,0.5s
WOJI Wonogiri, Jawa 55.48 219 P **P 15 11 55.5 +2.0**
PDSI Padang 55.58 234 P **P 15 11 55.7 +1.4**
JCJI Jatiwangi 55.65 222 P **P 15 11 57.6 +2.9**
CRAG Craig 55.66 43 *eP* **P 15 11 56.1 +1.8**
comp=Z,143nm,1.2s
PCJI Pacitan 55.67 218 P **P 15 11 56.6 +1.7**
WRAK Wrangell Islan 55.71 42 *eP* **P 15 11 56.4 +1.7**
comp=Z,41nm,1.1s
WRAK LR LR
comp=Z,1μm,22.0s
GSI Gunungsitoli 55.73 238 P **P 15 11 56.8 +1.4**
GSI Gunungsitoli 55.73 238 *eP* **P 15 11 55.9 +0.5**
comp=Z,79nm,1.0s
UGM Wanagama 55.74 219 P **P 15 11 57.4 +2.0**
KRJI Kerinci 55.88 232 P **P 15 11 59.0 +2.4**
KPJI Karang Pucung 56.03 221 P **P 15 11 57.2 -0.2**
DLBC Dease Lake 56.13 39 P **P 15 11 59.6 +1.8**
comp=Z,48nm,1.0s,baz=293,slow=8.6,SNR=46
DLBC Dease Lake 56.13 39 *eP* **P 15 11 60.0 +2.2**
comp=Z,111nm,1.1s
DLBC LR LR
comp=Z,800nm,21.0s
KLI Kotabumi 56.13 227 P **P 15 11 59.0 +0.8**
MDSI Maura Dua 56.21 228 P **P 15 11 59.1 +0.3**
TNG Tangerang 56.24 224 P **P 15 12 01.0 +2.1**
TNG P **P 15 12 01.1 +2.1**
MASI Maura Aman, Be 56.25 230 P **P 15 11 59.7 +0.6**
LEM Lembang 56.27 223 P **P 15 12 00.3 +0.9**
comp=Z,79nm,1.0s,baz=47,slow=10.0,SNR=10.0
LEM LR LR 15 35 53.1
comp=Z,495nm,21.5s,baz=8.0,slow=36
LEM Lembang 56.27 223 P **P 15 11 59.5 +0.1**
NGP Nagpur 56.38 271 *eP* **P 15 11 58.8 -1.2**
SBJI Serang 56.47 225 P **P 15 12 03.7 +3.1**
BHPL Bhopal 56.47 274 *eP* **P 15 11 59.6 -1.2**
BHPL IAmb IAmb 15 12 00.1
comp=Z,23nm,0.7s
DBJI Dramaga 56.50 224 P **P 15 12 02.3 +1.4**
PVM Polavaram 56.64 265 *eP* **P 15 12 02.0 +0.1**
CMJI Cimerak 56.66 221 P **P 15 12 03.1 +1.2**
AB31 Akbulak array 56.67 309 *i* P **P 15 12 01.4 -0.3**
AB31 pmax pmax
comp=Z,35nm,0.6s
ABKAR Akbulak array 56.67 309 *eP* **P 15 12 01.4 -0.4**
comp=Z,543nm,0.8s
ABKAR LR LR
comp=Z,501nm,21.0s
SISI Saibi 56.76 235 P **P 15 12 04.6 +1.9**
MNAI Manna 56.81 229 P **P 15 12 04.8 +1.7**
DIB Dawson Inlet, 56.88 46 *eP* **P 15 12 03.6 +0.5**
comp=Z,86nm,1.1s
KBL Kabul 57.04 290 *eP* **P 15 12 03.9 -0.9**
comp=Z,78nm,0.8s
KBL LR LR
comp=Z,1μm,19.0s
KBL Kabul 57.04 290 *eP* **P 15 12 03.9 -0.9**
KBL pmax pmax
comp=Z,78nm,0.8s
KBL MLR MLR
comp=Z,1μm,19.0s
PPSI Pulau Pagai 57.30 233 P **P 15 12 08.3 +1.8**
AKTO Aktyubinsk 57.33 311 P **P 15 12 06.2 -0.2**
comp=Z,46nm,0.7s,baz=74,slow=8.0,SNR=71
AKTO LR LR 15 38 00.4
comp=Z,3μm,18.2s,baz=62,slow=37
RPR Rampur 57.49 268 *eP* **P 15 12 07.9 -0.1**
SPA0 Spitsbergen Ar 57.98 349 *eP* **P 15 12 10.9 +0.4**
SPITS Spitsbergen Ar 57.98 349 P **P 15 12 11.0 +0.4**
comp=Z,29nm,0.8s,baz=90,slow=10,SNR=14
SPITS PP **PP 15 14 16.5 -2.2**
comp=Z,54nm,1.1s,baz=52,slow=19,SNR=4.9
SPITS LR LR 15 40 26.9
comp=Z,960nm,18.6s,baz=25,slow=39
KBS Kingsbay 58.09 350 *eP* **P 15 12 12.7 +1.4**
comp=Z,164nm,1.0s
KBS Kingsbay 58.09 350 *eP* **P 15 12 11.0 -0.2**
KBS Kingsbay 58.09 350 *eP* **P 15 12 12.7 +1.4**
KBS pmax pmax
comp=Z,164nm,1.0s
SRSP Sriramsagar 58.19 269 *eP* **P 15 12 12.6 -0.3**
ADKI Addanki 58.75 265 *eP* **P 15 12 17.1 +0.4**
NJS Nagarjunasagar 58.84 266 *eP* **P 15 12 16.5 -0.8**
HYB Hyderabad 58.91 267 *i* P **P 15 12 18.0 +0.1**
comp=Z,50nm,1.0s
HYB *eS* **S 15 20 20.0 -3.0**
HYB Hyderabad 58.91 267 *eP* **P 15 12 16.8 -1.1**
HYB IAmb IAmb 15 12 18.8
comp=Z,693nm,3.0s
HYBB Hyderabad (bro 58.91 267 *eP* **P 15 12 17.5 -0.4**
HSPB Hornsund (broa 58.92 348 *eP* **P 15 12 18.2 +1.1**
HSPB Hornsund (broa 58.92 348 *eP* **P 15 12 18.4 +1.3**
SRLM Srisailam 59.43 266 *eP* **P 15 12 19.9 -1.6**
FITZ Fitzroy Crossi 59.58 198 *eP* **P 15 12 22.3 0.0**
comp=Z,69nm,1.3s
CTA Charters Tower 59.65 176 P **P 15 12 22.1 -0.6**
comp=Z,6.1nm,0.7s,baz=351,slow=6.8,SNR=9.9
CTA LR LR 15 36 28.7
comp=Z,514nm,21.6s,baz=340,slow=34
CTAO Charters Tower 59.65 176 *eP* **P 15 12 22.5 -0.2**
comp=Z,30nm,1.3s
CTAO Charters Tower 59.65 176 *eP* **P 15 12 22.5 -0.2**
CTAO pmax pmax
comp=Z,30nm,1.3s
BBB Bella Bella 59.72 45 P **P 15 12 23.8 +0.9**
comp=Z,43nm,1.1s,baz=288,slow=7.9,SNR=5.3
BBB Bella Bella 59.72 45 *eP* **P 15 12 23.3 +0.4**
comp=Z,141nm,1.4s
RCLA Racherla 59.76 265 *eP* **P 15 12 23.5 -0.3**
WRAB Tennant Creek 59.82 189 *eP* **P 15 12 22.5 -1.4**
comp=Z,69nm,1.0s
WRAB Tennant Creek 59.82 189*ceP* **P 15 12 23.6 -0.3**
WRAB pmax pmax
comp=Z,85nm,1.1s
RES Resolute Bay 59.83 15 *eP* **P 15 12 23.4 0.0**
comp=Z,141nm,0.9s
RES LR LR
comp=Z,1μm,19.0s
RES Resolute Bay 59.83 15 *eP* **P 15 12 23.4 0.0**
RES pmax pmax
comp=Z,141nm,0.9s
RES MLR MLR
comp=Z,1μm,19.0s
WR7 Warramunga Arr 59.83 188 PFAKE 15 12 40.0 +16
WR7 LR LR
comp=Z,1μm,22.0s
WR6 Warramunga Arr 59.83 188 PFAKE 15 12 40.0 +16
WR6 LR LR
comp=Z,1μm,22.0s
WB2 Warramunga Arr 59.83 189 *eP* **P 15 12 22.6 -1.4**
comp=Z,58nm,0.8s
WR4 Warramunga Arr 59.83 188 PFAKE 15 12 40.0 +16
WR4 LR LR
comp=Z,1μm,22.0s
WRA Warramunga Arr 59.83 189 P **P 15 12 22.8 -1.2**
comp=Z,54nm,0.9s,baz=7.0,slow=7.0,SNR=395
WRA S **S 15 20 32.0 -2.5**
comp=Z,6.0nm,1.1s,baz=7.5,slow=12,SNR=12
WRA LR LR 15 38 46.3
comp=Z,345nm,20.6s,baz=10.0,slow=36
WRA PKP2bc 15 42 01.4
comp=Z,3.2nm,0.9s,baz=192,slow=1.9,SNR=12
LVZ Lovozero 59.89 335 *eP* **P 15 12 23.2 -0.7**
comp=Z,89nm,1.1s
LVZ Lovozero 59.89 335 *eP* **P 15 12 24.6 +0.6**
LVZ pmax pmax
comp=Z,178nm,2.5s
KLRI Killari 60.03 269 *eP* **P 15 12 25.0 -0.7**
SKHT Srikalahasti 60.23 263 *eP* **P 15 12 27.4 +0.4**
MDRS Chennai 60.23 262 *eP* **P 15 12 28.4 +1.4**
MDRS IAmb IAmb 15 12 34.3
comp=Z,211nm,1.8s
APA Apatity 60.47 335↓ *iP* **P 15 12 26.9 -1.0**
APA *eS* **S 15 20 37.0 -4.7**
APA pmax pmax
comp=Z,55nm,0.9s
TMCR Tamitsa 60.66 331 *eP* **P 15 12 28.9 -0.3**
TMCR pmax pmax
comp=Z,217nm,0.9s
KEV Kevo 61.12 339 *eP* **P 15 12 33.1 +0.9**
comp=Z,99nm,0.9s
KEV Kevo 61.12 339 *eP* **P 15 12 33.1 +0.9**
KEV pmax pmax
comp=Z,99nm,0.9s
YKW3 Yellowknife Ar 61.13 31 *eP* **P 15 12 32.8 +0.4**
comp=Z,102nm,1.2s
YKA Yellowknife Ar 61.17 31 P **P 15 12 32.2 -0.4**
comp=Z,36nm,0.8s,baz=302,slow=6.4,SNR=530
YKA PKPPKP P'P'df 15 41 46.9 -8.4
comp=Z,0.3nm,0.8s,baz=129,slow=2.4,SNR=4.6
URV Uravakonda 61.37 266 *eP* **P 15 12 36.0 +1.2**
HAMF Hammerfest 61.46 341 *eP* **P 15 12 33.9 -0.7**
ARCES ARCESS Array B 61.67 339 P **P 15 12 36.1 +0.1**
comp=Z,36nm,0.9s,baz=58,slow=9.3,SNR=32
ARCES LR LR 15 43 20.3
comp=Z,1μm,18.7s,baz=42,slow=40
ARCES ARCESS Array B 61.67 339 *eP* **P 15 12 36.4 +0.3**
ARCES ARCESS Array B 61.67 339 *eP* **P 15 12 36.4 +0.3**
ARE0 ARCESS Array S 61.67 339 *eP* **P 15 12 36.3 +0.2**
comp=Z,91nm,1.1s
KLMR Klimovskoe 61.79 327 *eP* **P 15 12 35.4 -1.5**
KLMR AMP 15 12 39.1
comp=Z,424nm,1.4s
KLMR *e*PP **PP 15 14 51.3 -1.2**
KLMR *e*SS **SS 15 24 57.9 -1.9**
KLMR *e*SS **SS 15 24 57.9 -1.9**
KLMR LQ LQ 15 35 05.7
KLMR LQ LQ 15 35 05.7
KLMR LR LR 15 39 10.8
KLMR AMP 15 42 48.7
comp=Z,3μm,15.6s
KLMR Klimovskoe 61.79 327 *eP* **P 15 12 35.4 -1.5**
KLMR *e* 15 14 51.3
KLMR *e*SS SS 15 24 57.8 -2.0
KLMR pmax pmax
comp=Z,424nm,1.4s
KLMR MLR MLR
comp=Z,3μm,16.0s
POO Poona 61.88 271 *eP* **P 15 12 38.3 0.0**
TULEG Thule 62.33 8 *eP* **P 15 12 40.0 -0.3**
comp=Z,168nm,0.7s
TULEG LR LR
comp=Z,2μm,19.0s
BHJ Bhuj 62.42 278 *eP* **P 15 12 42.5 +0.8**
GEYT Alibeck 63.07 298 P **P 15 12 45.9 0.0**
comp=Z,29nm,0.7s,baz=27,slow=3.6,SNR=96
GEYT LR LR 15 42 08.4
comp=Z,887nm,18.5s,baz=60,slow=38
GYA0B ALIBECK ARRAY 63.07 298 *eP* **P 15 12 46.0 0.0**
comp=Z,56nm,0.8s
GYA0B LR LR
comp=Z,1μm,18.0s
DAG Danmarks Havn 63.12 355↓ *iP* **P 15 12 45.7 +0.1**
comp=Z,90nm,0.9s
DAG Danmarks Havn 63.12 355↓ *iP* **P 15 12 45.7 +0.1**
DAG pmax pmax
comp=Z,90nm,0.9s
TRO Tromso 63.35 341 *eP* **P 15 12 47.2 +0.1**
AS01 Alice Springs 63.55 188 *eP* **P 15 12 48.3 -0.7**
AS31 Alice Springs 63.56 188 *eP* **P 15 12 48.4 -0.7**
comp=Z,91nm,0.9s
PALK Pallekele 63.56 257 PFAKE 15 13 00.0 +11
PALK LR LR
comp=Z,700nm,18.0s
ASAR Alice Springs 63.56 188 P **P 15 12 48.1 -1.0**
comp=Z,18nm,0.7s,baz=4.9,slow=4.7,SNR=205
ASAR LR LR 15 40 37.8
comp=Z,790nm,21.8s,baz=10.0,slow=36
ASAR PKPPKP P'P'df 15 41 46.1 +8.4
comp=Z,2.0nm,1.1s,baz=156,slow=1.9,SNR=4.8
ASAR PKP2bc 15 41 51.5
comp=Z,2.1nm,0.9s,baz=186,slow=2.8,SNR=8.5
GOA Goa 63.69 269 *eP* **P 15 12 50.8 +0.6**
GOA IAmb IAmb 15 12 51.6
comp=Z,71nm,1.3s
LLLB Lillooet 63.89 45 *eP* **P 15 12 51.7 +0.5**
comp=Z,109nm,1.4s
LLLB LR LR
comp=Z,700nm,19.0s
PGC Sidney 64.04 47 *eP* **P 15 12 52.6 +0.5**
comp=Z,128nm,1.7s
MBWA Marble Bar 64.12 203 *eP* **P 15 12 52.4 -0.3**
comp=Z,49nm,0.9s
MBWA Marble Bar 64.12 203 P **P 15 12 53.6 +0.8**
SNR=6.1
MBWA Marble Bar 64.12 203 P **P 15 12 53.6 +0.8**
SNR=6.1
A04D Lummi Island 64.42 47 P **P 15 12 55.6 +1.0**
baz=302,SNR=10.0
NLWA Neilton Lookou 64.45 49 *eP* **P 15 12 56.3 +1.4**
comp=Z,136nm,1.4s
B05A Bryant 65.01 47 P **P 15 12 59.7 +1.2**
baz=302,SNR=11
E03A Lebam 65.08 49 *eP* **P 15 13 00.7 +1.8**
comp=Z,129nm,1.1s
KULLO Kullorsuaq 65.22 6↓ *iP* **P 15 12 59.3 -0.1**
comp=Z,109nm,0.9s
KULLO Kullorsuaq 65.22 6↓ *iP* **P 15 12 59.3 -0.1**
KULLO pmax pmax
comp=Z,110nm,0.9s
EIDS Eidsvold 65.31 171 *eP* **P 15 13 00.8 +0.3**
comp=Z,30nm,0.8s
MOS Moscow 65.44 323κ *iP* **P 15 13 00.5 -0.6**
MOS *e* 15 13 11.8
MOS *e* 15 13 29.1
MOS *e* 15 15 22.6
MOS *eS* **S 15 21 41.2 -3.0**
MOS pmax pmax
comp=Z,800nm,1.8s
MOS pmax pmax
comp=Z,382nm,1.3s
MOS MLR MLR
comp=E,4μm,14.0s
MOS MLR MLR
comp=Z,6μm,14.0s
STEI Steigen 65.51 341 *eP* **P 15 13 01.1 -0.2**
DZM Mont Dzumac 65.54 155 P **P 15 13 03.6 +1.4**
comp=Z,116nm,1.2s,baz=359,slow=7.8,SNR=18
DZM LR LR 15 39 03.9
comp=Z,2μm,22.0s,baz=322,slow=34
DZM Mont Dzumac 65.54 155 *eP* **P 15 13 04.1 +1.9**
comp=Z,378nm,1.4s
DZM *eS* **S 15 21 54.1 +7.8**
comp=Z,2μm,28.6s
DZM Mont Dzumac 65.54 155 *e*LR LR 15 33 02.8
comp=Z,4μm,22.7s
DZM Mont Dzumac 65.54 155 *eP* **P 15 13 03.6 +1.4**
comp=Z,229nm,1.4s
D05A Enumclaw 65.65 48 *eP* **P 15 13 03.6 +1.1**
comp=Z,142nm,1.3s
F04D Rainier, OR 65.65 50 P **P 15 13 04.1 +1.5**
baz=303
LOF Lofoten 65.78 341 *eP* **P 15 13 03.3 +0.2**
C06D Leavenworth 65.87 47 P **P 15 13 05.1 +1.0**
baz=303
G03D McMinnville, O 65.97 50 P **P 15 13 06.2 +1.5**
baz=303
VRH Novokhopyorsk 65.98 317 *eP* **P 15 13 04.5 -0.1**
VRH pmax pmax
comp=Z,120nm,0.8s
VRH MLR MLR
comp=Z,5μm,16.0s
LON Longmire 65.99 48 *eP* **P 15 13 05.8 +0.9**
comp=Z,29nm,1.0s
LON LR LR
comp=Z,600nm,18.0s
LON Longmire 65.99 48 *eP* **P 15 13 05.8 +0.9**
LON pmax pmax
comp=Z,29nm,1.0s
LON MLR MLR
comp=Z,600nm,18.0s
PUL Pulkovo 66.17 329*deP* **P 15 13 06.0 +0.3**
PUL pmax pmax
comp=Z,388nm,1.3s
MSVF Nonsavu 66.26 142 *eP* **P 15 13 07.3 +0.5**
comp=Z,85nm,1.4s
MSVF Nonsavu 66.26 142 *eP* **P 15 13 07.4 +0.5**
MSVF pmax pmax
comp=Z,85nm,1.4s
COR Corvallis 66.29 51 *eP* **P 15 13 08.6 +1.9**
comp=Z,117nm,1.1s
COR Corvallis 66.29 51 *eP* **P 15 13 08.6 +1.9**
COR pmax pmax
comp=Z,117nm,1.1s
OBN Obninsk 66.29 323 *eP* **P 15 13 06.4 -0.1**
comp=Z,673nm,1.6s
OBN LR LR
comp=Z,1μm,19.0s
OBN Obninsk 66.29 323*d iP* **P 15 13 06.6 +0.1**
OBN *e* 15 13 34.7
OBN *e* 15 15 33.1
OBN pmax pmax
comp=Z,412nm,1.5s
OBN MLR MLR
comp=Z,5μm,15.0s
LTY Liberty 66.36 48 *eP* **P 15 13 07.6 +0.3**
comp=Z,106nm,1.5s
LTY LR LR
comp=Z,400nm,19.0s
B08A Colville Reser 66.50 46 *eP* **P 15 13 08.8 +0.6**
comp=Z,112nm,1.4s
B08A LR LR
comp=Z,400nm,19.0s
KEBM Edson Butte 66.59 53 *eP* **P 15 13 10.2 +1.4**
comp=Z,204nm,1.3s
LPSR Galich'ya Gora 66.61 320 *eP* **P 15 13 08.9 +0.2**
LPSR pmax pmax
comp=Z,180nm,0.8s
LPSR MLR MLR
comp=Z,3μm,11.0s
FIA1 FINESS Array S 66.70 332 *eP* **P 15 13 08.9 -0.1**
FINES FINESS Array B 66.70 332 P **P 15 13 08.2 -0.9**
comp=Z,84nm,0.8s,baz=52,slow=7.5,SNR=162
FINES LR LR 15 44 12.5
comp=Z,4μm,20.8s,baz=44,slow=38
I03D Drain, OR 66.74 52 P **P 15 13 11.7 +2.0**
baz=303,SNR=14
EDM Edmonton 66.86 39 *eP* **P 15 13 10.9 +0.6**
comp=Z,176nm,1.3s
EDM LR LR
comp=Z,800nm,19.0s
EDM Edmonton 66.86 39 *eP* **P 15 13 10.9 +0.6**
EDM pmax pmax
comp=Z,176nm,1.3s
EDM MLR MLR
comp=Z,800nm,19.0s
H04A Detroit Lake 66.90 51 *eP* **P 15 13 11.3 +0.6**
comp=Z,98nm,1.1s
VORR Voronezh 67.01 319 *eP* **P 15 13 09.0 -2.2**
VORR pmax pmax
comp=Z,300nm,1.2s
VORR pmax pmax
comp=Z,350nm,1.2s
MOR8 Moi Rana 67.03 340 *eP* **P 15 13 09.9 -1.3**
G05D Wamic, OR 67.10 50 P **P 15 13 13.5 +1.5**
baz=304,SNR=9.0
E07A Sunnyside 67.22 48 *eP* **P 15 13 13.8 +1.1**
comp=Z,154nm,1.5s
I04A Tendick Farm, 67.26 51 P **P 15 13 14.3 +1.3**
baz=304,SNR=20
MAK Makhachkala 67.27 308 *eP* **P 15 13 12.6 -0.4**
MAK *e* 15 15 40.1
MAK *eS* **S 15 22 06.4 -0.5**
MAK pmax pmax
comp=Z,131nm,1.4s
MAK MLR MLR
comp=Z,2μm,14.0s
STOK Stokkvaagen 67.28 340 *eP* **P 15 13 13.7 +1.0**
VSR Storozhevoye 67.30 318 *eP* **P 15 13 12.5 -0.5**
VSR pmax pmax
comp=Z,300nm,1.7s
VSR MLR MLR
comp=Z,7μm,17.0s
VORD Divnogorie 67.38 318 *eP* **P 15 13 12.8 -0.7**
VORD pmax pmax
comp=Z,120nm,1.3s
VORD MLR MLR
comp=Z,740nm,8.0s
C09A Chrisman Ranch 67.41 46 *eP* **P 15 13 14.6 +0.7**
comp=Z,140nm,1.4s
C09A LR LR
comp=Z,500nm,18.0s
L02D Cave Junction, 67.44 53 P **P 15 13 15.9 +1.7**
baz=304,SNR=6.1
D08A Wollman Farm, 67.47 47 *eP* **P 15 13 14.9 +0.7**
comp=Z,91nm,1.4s
HAWA Hanford 67.49 48 *eP* **P 15 13 14.8 +0.3**
comp=Z,86nm,1.4s
G06A Carlson Farm, 67.51 49 *eP* **P 15 13 15.2 +0.6**
comp=Z,214nm,1.9s
F07A Phinny Hill Vi 67.55 48 *eP* **P 15 13 15.8 +1.1**
comp=Z,74nm,0.9s
JMIC Jan Mayen 67.58 350 LR LR 15 43 12.9
comp=Z,452nm,19.0s,baz=57,slow=36
HUMO Hull Mountain 67.58 53 *eP* **P 15 13 16.0 +0.9**
comp=Z,30nm,1.3s
I05D Terrebonne, OR 67.59 50 P **P 15 13 16.6 +1.4**
baz=304,SNR=14
E08A Dider Farm, El 67.71 48 *eP* **P 15 13 16.3 +0.5**
comp=Z,40nm,0.9s
J04D Umpqua Nationa 67.75 52 P **P 15 13 17.8 +1.5**
baz=304,SNR=18
NEW Newport 67.78 45 P **P 15 13 16.8 +0.6**
comp=Z,33nm,1.0s,baz=308,slow=5.3,SNR=39
NEW Newport 67.78 45 P **P 15 13 17.1 +0.8**
baz=305,SNR=28
NEW Newport 67.78 45 *eP* **P 15 13 16.6 +0.4**
comp=Z,116nm,1.4s
NEW Newport 67.78 45 *eP* **P 15 13 16.6 +0.4**
NEW pmax pmax
comp=Z,116nm,1.4s
AKT Akhty 67.96 306↓ *iP* **P 15 13 17.7 +0.1**
AKT *e* 15 13 44.4
AKT *e* 15 15 49.0
AKT pmax pmax
comp=Z,89nm,0.8s
SUMG Summit 67.97 0↓ *iP* **P 15 13 18.6 +1.1**
comp=Z,124nm,0.8s
SUMG Summit 67.97 0 *eP* **P 15 13 18.0 +0.5**
comp=Z,143nm,0.9s
SUMG Summit 67.97 0 *eP* **P 15 13 18.0 +0.5**
SUMG pmax pmax
comp=Z,143nm,0.9s
KHMM Horse Mountain 68.07 55 *eP* **P 15 13 18.7 +0.4**
comp=Z,170nm,1.7s
PINE Pine Mountain 68.14 51 *eP* **P 15 13 20.0 +1.2**
comp=Z,117nm,0.9s
GROC Groznyy 68.17 308 *eP* **P 15 13 17.0 -1.7**
GROC *e* 15 13 43.5
GROC pmax pmax
comp=Z,49nm,0.7s
E09A Wood Farm, Sta 68.21 47 *eP* **P 15 13 20.0 +1.0**
comp=Z,119nm,1.2s
YBH Yreka Blue Hor 68.22 53 P **P 15 13 18.6 -0.6**
comp=Z,17nm,0.9s,baz=314,slow=1.2,SNR=21
YBH LR LR 15 42 10.0
comp=Z,163nm,18.7s,baz=318,slow=35
YBH Yreka Blue Hor 68.22 53 *eP* **P 15 13 20.2 +1.0**
comp=Z,116nm,1.6s
YBH Yreka Blue Hor 68.22 53 P **P 15 13 18.6 -0.6**
YBH pmax pmax
comp=Z,16nm,0.9s
J05D Fort Rock, OR 68.25 51 P **P 15 13 21.1 +1.7**
baz=305,SNR=35
K04D Chiloquin, OR 68.31 52 P **P 15 13 21.1 +1.3**
baz=305
M02C Callahan 68.33 54 P **P 15 13 21.4 +1.5**
baz=304,SNR=9.4
VSU Vasula 68.42 329*deP* **P 15 13 20.4 +0.4**
VSU pmax pmax
comp=Z,745nm,1.2s
AFI Afiamalu 68.44 131 LR LR 15 38 31.9
comp=Z,1μm,19.5s,baz=338,slow=32
N02D Trinity Center 68.66 54 P **P 15 13 23.3 +1.4**
baz=305,SNR=9.2
M04C Macdoel 68.73 53 P **P 15 13 23.8 +1.3**
baz=305,SNR=24

GOF **Gofitskoye** 68.74 311 ⇓ *i* P P 15 13 23.1 +0.8
GOF *e*S **S** 15 22 25.4 +1.0
GOF pmax pmax
comp=Z,246nm,0.6s
K05A Summer Lake 68.77 52 *e*P **P** 15 13 24.0 +1.2
comp=Z,110nm,0.9s
I07A Izee 68.83 50 *e*P **P** 15 13 23.9 +1.0
comp=Z,26nm,1.2s
WDC Whiskeytown Da 68.98 54 *e*P **P** 15 13 24.8 +1.0
comp=Z,85nm,1.5s
WDC Whiskeytown Da 68.98 54 *e*P **P** 15 13 24.8 +1.0
WDC pmax pmax
comp=Z,85nm,1.5s
WALA Waterton Lakes 69.03 43 *e*P **P** 15 13 25.1 +0.9
comp=Z,114nm,1.3s
WALA LR LR
comp=Z,800nm,18.0s
F10A Beach Ranch, E 69.05 47 *e*P **P** 15 13 25.2 +1.0
comp=Z,21nm,0.9s
NCK Nalchik 69.32 310 *d* *i*P **P** 15 13 26.6 +0.7
NCK pmax pmax
comp=Z,133nm,1.2s
SCO Scoresbysund 69.47 354 *i* P **P** 15 13 26.6 +0.3
comp=Z,108nm,1.4s
SCO Scoresbysund 69.47 354 *e*P **P** 15 13 27.1 +0.7
comp=Z,95nm,1.3s
SCO LR LR
comp=Z,1µm,18.0s
SCO Scoresbysund 69.47 354 *i* P **P** 15 13 26.6 +0.3
SCO pmax pmax
comp=Z,110nm,1.4s
ZEI Tsey 69.55 309 *e*P **P** 15 13 23.4 -4.2
ZEI pmax pmax
comp=Z,54nm,0.8s
KVAR Kislovodsk Arr 69.59 311 LR LR 15 48 54.6
comp=Z,2µm,18.3s,baz=40,slow=40
KIV Kislovodsk 69.59 311 *e*P **P** 15 13 28.5 +0.8
comp=Z,290nm,0.9s
KIV LR LR
comp=Z,3µm,19.0s
KIV Kislovodsk 69.59 311 P **P** 15 13 28.9 +1.3
SNR=115
KIV Kislovodsk 69.59 311 P **P** 15 13 28.9 +1.3
SNR=115
KIV Kislovodsk 69.59 311 *i* P **P** 15 13 28.0 +0.3
SNR=38
KIV Kislovodsk 69.59 311 *e*P **P** 15 13 27.7 0.0
KIV *e* 15 16 02.3
KIV *e*S **S** 15 22 33.8 -0.9
KIV *e*SS **SS** 15 27 02.9 +1.0
KIV pmax pmax
comp=Z,142nm,3.2s
KIV pmax pmax
comp=Z,336nm,1.0s
KIV MLR MLR
comp=Z,3µm,17.0s
KBZ Khabaz 69.60 310 P **P** 15 13 27.9 +0.4
comp=Z,66nm,0.8s,baz=63,slow=5.3,SNR=191
KBZ LR LR 15 49 13.2
comp=Z,2µm,19.0s,baz=18,slow=40
MOD Modoc Plateau 69.61 52 *e*P **P** 15 13 28.6 +0.8
comp=Z,140nm,1.8s
O03D Paynes Creek 69.61 54 P **P** 15 13 28.5 +0.7
baz=305,SNR=17
JTMT Jette 69.62 44 *e*P **P** 15 13 28.8 +0.9
comp=Z,106nm,1.1s
JTMT LR LR
comp=Z,900nm,18.0s
TBLG Delisi 69.66 308 *e*P **P** 15 13 28.5 +0.5
TBLG Delisi 69.66 308 *e*P **P** 15 13 28.7 +0.6
comp=Z,423nm,1.9s
TBLG Delisi 69.66 308 *e*P **P** 15 13 28.7 +0.6
TBLG pmax pmax
comp=Z,423nm,1.9s
BMO Blue Mountains 69.66 48 *e*P **P** 15 13 29.0 +0.9
comp=Z,34nm,1.0s
BMO LR LR
comp=Z,400nm,20.0s
BMO Blue Mountains 69.66 48 *e*P **P** 15 13 29.0 +0.9
BMO pmax pmax
comp=Z,34nm,1.0s
BMO MLR MLR
comp=Z,400nm,20.0s
GDXM Geysers 69.83 56 *e*P **P** 15 13 29.9 +0.7
comp=Z,45nm,1.3s
J08A Circle Bar Ran 69.86 50 *e*P **P** 15 13 30.7 +1.4
comp=Z,76nm,1.1s
NEY Neytrino 69.98 310 *d* *i*P **P** 15 13 31.0 +0.8
NEY pmax pmax
comp=Z,12nm,0.8s
ORV Oroville 70.22 55 *e*P **P** 15 13 31.8 +0.3
comp=Z,142nm,1.8s
ORV Oroville 70.22 55 *e*P **P** 15 13 31.8 +0.3
ORV pmax pmax
comp=Z,142nm,1.8s
WVOR Wild Horse Val 70.30 51 *e*P **P** 15 13 32.7 +0.6
comp=Z,91nm,1.4s
WVOR Wild Horse Val 70.30 51 *e*P **P** 15 13 32.7 +0.6
WVOR pmax pmax
comp=Z,91nm,1.4s
ARMA Armidale 70.36 171 *e*P **P** 15 13 33.1 +0.7
comp=Z,94nm,1.3s
MSO Missoula 70.36 45 P **P** 15 13 33.1 +0.7
baz=308,SNR=41
MSO Missoula 70.36 45 *e*P **P** 15 13 33.0 +0.7
comp=Z,92nm,1.4s
TBLU Trondheim 70.43 339 *e*P **P** 15 13 30.7 -1.7
IZAR Zarasai 70.45 327 *e*P **P** 15 13 33.4 +0.9
IZAR lAmb lAmb 15 13 35.2
comp=Z,50nm,0.8s
IDID Didziasalis 70.53 327 *e*P **P** 15 13 34.0 +0.9
IDID lAmb lAmb 15 13 35.9
comp=Z,69nm,0.8s
GNI Garni 70.58 306 P **P** 15 13 34.5 +0.6
comp=Z,44nm,1.0s,baz=116,slow=1.7,SNR=38
GNI LR LR 15 47 29.1
comp=Z,2µm,18.8s,baz=65,slow=38
GNI Garni 70.58 306 *e*P **P** 15 13 34.8 +1.0
comp=Z,95nm,1.1s
GNI Garni 70.58 306 P **P** 15 13 35.5 +1.6
SNR=38
GNI Garni 70.58 306 P **P** 15 13 35.5 +1.6
SNR=38
GNI Garni 70.58 306 *i* P **P** 15 13 34.9 +1.0
SNR=21
GNI Garni 70.58 306 *de*P **P** 15 13 34.4 +0.6
GNI pmax pmax
comp=Z,397nm,1.5s
MICGM Minsk 70.59 326 ⇑ *e*P **P** 15 13 35.0 +1.5
MICGM PM 15 13 36.0
comp=Z,0.6nm,1.0s
MICGM *e*LR LR 15 43 24.0
MICGM LRM MLR 15 47 12.0
comp=Z,8.9nm,14.0s
MICGM LRM MLR 15 47 12.0
comp=N,5.8nm,14.0s
MICGM LRM MLR 15 47 12.0
comp=E,5.0nm,14.0s
MICGM LRM MLR 15 47 14.0
comp=Z,8.3nm,14.0s
MNK Minsk 70.59 326 ⇑ *e*P **P** 15 13 35.0 +1.5
MNK pmax pmax
comp=Z,550nm,1.0s
MNK MLR MLR
comp=N,6µm,14.0s
MNK MLR MLR
comp=E,5µm,14.0s
MNK MLR MLR
comp=Z,9µm,14.0s
MNK MLR MLR
comp=Z,8µm,14.0s
AKH Akhalkalaki 70.60 308 *e*P **P** 15 13 36.2 +2.2
AKH Akhalkalaki 70.60 308 ⇑ *i*P **P** 15 13 35.8 +1.8
AKH Akhalkalaki 70.60 308 *e*P **P** 15 13 34.9 +0.9
comp=Z,52nm,1.1s
AKH LR LR
comp=Z,900nm,19.0s
AKH Akhalkalaki 70.60 308 *e*P **P** 15 13 34.9 +0.9
AKH pmax pmax
comp=Z,52nm,1.1s
AKH MLR MLR
comp=Z,900nm,19.0s
IIGN Ignalina 70.73 327 *e*P **P** 15 13 35.2 +0.9
IIGN lAmb lAmb 15 13 37.2
comp=Z,94nm,0.8s
BEKR Beckworth 70.76 54 *e*P **P** 15 13 35.5 +0.5
comp=Z,101nm,1.3s

WSAR Wadi Sarin 70.76 285 P **P** 15 13 35.1 0.0
comp=Z,111nm,1.0s,baz=69,slow=7.2,SNR=9.7
WSAR LR LR 15 48 36.4
comp=Z,862nm,19.5s,baz=88,slow=39
NACGM Naroch 70.79 326 *e*P **P** 15 13 35.0 +0.3
NACGM PM 15 13 36.0
comp=Z,0.8nm,1.0s
NACGM *e*LQ LQ 15 40 22.0
NACGM *e*LR LR 15 45 34.0
NACGM LRM MLR 15 48 05.0
comp=Z,8.5nm,14.0s
ILULI Ilulissat 70.91 5 *i* P **P** 15 13 35.5 +0.3
comp=Z,126nm,1.0s
ILULI Ilulissat 70.91 5 *e*P **P** 15 13 35.4 +0.3
comp=Z,135nm,1.0s
ILULI LR LR
comp=Z,2µm,22.0s
ILULI Ilulissat 70.91 5 *i* P **P** 15 13 35.5 +0.3
ILULI pmax pmax
comp=Z,130nm,1.0s
AFDM Forest Hills D 70.91 55 *e*P **P** 15 13 36.4 +0.6
comp=Z,50nm,1.4s
BANOM Banah 70.92 288 P **P** 15 13 36.9 +0.8
SNR=10
BANOM Banah 70.92 288 P **P** 15 13 36.9 +0.8
SNR=10
BANOM Banah 70.92 288 *i* P **P** 15 13 36.4 +0.3
SNR=23
SHME Shamn 70.97 288 *i* P **P** 15 13 36.3 -0.1
SNR=35
BIDO Bidbid 70.97 285 P **P** 15 13 38.0 +1.7
SNR=14
BIDO Bidbid 70.97 285 P **P** 15 13 38.0 +1.7
SNR=14
FFC Flin Flon 71.10 33 *e*P **P** 15 13 36.7 +0.1
comp=Z,110nm,1.0s
FFC LR LR
comp=Z,800nm,18.0s
FFC Flin Flon 71.10 33 *e*P **P** 15 13 36.7 +0.1
FFC pmax pmax
comp=Z,110nm,1.0s
FFC MLR MLR
comp=Z,800nm,18.0s
DIGO Kars 71.27 307 *i* P **P** 15 13 38.5 +0.3
STKA Stephens Creek 71.27 181 P **P** 15 13 37.6 -0.1
comp=Z,17nm,1.0s,baz=353,slow=7.8,SNR=19
STKA LR LR 15 49 51.1
comp=Z,287nm,19.0s,baz=13,slow=40
STKA Stephens Creek 71.27 181 *e*P **P** 15 13 37.6 -0.1
comp=Z,7.6nm,1.4s
MDH Madha 71.29 288 *i* P **P** 15 13 37.9 -0.3
SNR=5.8
RDG13 Poverty Ridge 71.31 57 *e*P **P** 15 13 38.9 +0.6
comp=Z,180nm,1.6s
FCC Fort Churchill 71.31 27 *e*P **P** 15 13 37.6 -0.1
comp=Z,138nm,1.1s
FCC LR LR
comp=Z,800nm,19.0s
FCC Fort Churchill 71.31 27 *e*P **P** 15 13 37.6 -0.1
FCC pmax pmax
comp=Z,138nm,1.1s
FCC MLR MLR
comp=Z,800nm,19.0s
MSFE Esma-Masafi 71.36 288 *i* P **P** 15 13 39.2 +0.6
SNR=14
MFID Camas Ranch 71.37 49 *e*P **P** 15 13 39.2 +0.7
comp=Z,102nm,1.6s
MFID LR LR
comp=Z,600nm,18.0s
FORT Forrest 71.39 193 *e*P **P** 15 13 38.6 +0.2
comp=Z,917nm,0.9s
PAHR Pah Rah Range 71.46 54 *e*P **P** 15 13 39.9 +0.6
comp=Z,92nm,1.3s
VCNR Virginia City 71.53 54 *e*P **P** 15 13 40.8 +1.0
comp=Z,183nm,2.0s
SOC Sochi 71.54 312 *d* *i*P **P** 15 13 39.5 +0.1
SOC *e**PP **sP** 15 13 47.7 -0.9
SOC *e**SP **pP** 15 13 51.9 +5.8
SOC *e* 15 16 13.1
SOC *e*PPP PPP 15 17 55.5
SOC *e*S **S** 15 22 56.1 -1.1
SOC *e*SSS SSS 15 30 39.6
SOC pmax pmax
comp=Z,70nm,0.7s
SOC MLR MLR
comp=Z,1µm,15.0s
UOSS Minazif 71.56 287 *e*P **P** 15 13 39.9 0.0
comp=Z,52nm,0.9s
UOSS LR LR
comp=Z,600nm,19.0s
UOSS Minazif 71.56 287 *i* P **P** 15 13 39.6 -0.3
SNR=26
HRY Holter Researc 71.58 44 *e*P **P** 15 13 40.8 +1.0
CLDR Caldiran 71.68 306 *e*P **P** 15 13 40.5 -0.2
HATD Hatta, Dubai 71.69 287 P **P** 15 13 42.0 +1.3
SNR=24
HATD Hatta, Dubai 71.69 287 P **P** 15 13 42.0 +1.3
SNR=24
HATD Hatta, Dubai 71.69 287 *i* P **P** 15 13 41.0 +0.4
SNR=23
NC405 NORSAR Array S 71.71 337 *e*P **P** 15 13 39.2 -0.9
BCA Borcka 71.71 309 *e*P **P** 15 13 40.5 -0.1
MOL Molde 71.72 340 *e*P **P** 15 13 40.3 +0.1
NC303 NORSAR Array S 71.72 337 *e*P **P** 15 13 40.1 -0.1
DOMB Dombas 71.73 339 *e*P **P** 15 13 40.6 +0.2
SOHO SOHO 71.79 286 *i* P **P** 15 13 40.9 -0.4
SNR=32
LRM Limekiln Ridge 71.80 45 *e*P **P** 15 13 41.9 +0.7
CMB Columbia Colle 71.82 56 *e*P **P** 15 13 42.4 +1.1
comp=Z,128nm,1.6s
CMB Columbia Colle 71.82 56 *e*P **P** 15 13 42.4 +1.1
CMB pmax pmax
comp=Z,128nm,1.6s
EGMT Eagleton 71.85 42 P **P** 15 13 41.9 +0.6
baz=310,SNR=63
EGMT Eagleton 71.85 42 *e*P **P** 15 13 41.7 +0.4
comp=Z,145nm,1.1s
EGMT LR LR
comp=Z,700nm,20.0s
NC204 NORSAR Array S 71.86 338 *e*P **P** 15 13 41.4 +0.2
HFS Hagfors 71.86 336 P **P** 15 13 40.6 -0.5
comp=Z,74nm,0.9s,baz=45,slow=4.8,SNR=85
HFS LR LR 15 48 21.7
comp=Z,3µm,18.4s,baz=30,slow=38
NB201 NORSAR Array S 71.89 337 *e*P **P** 15 13 40.4 -0.9
NB2 NORSAR Subarra 71.92 337 P **P** 15 13 41.5 0.0
comp=Z,136nm,0.9s,baz=38,slow=6.2
NB2 NORSAR Subarra 71.92 337 P **P** 15 13 41.5 0.0
baz=38,slow=6.2
NB2 NORSAR Subarra 71.92 337 P **P** 15 13 41.3 -0.2
NB2 pmax pmax
comp=Z,111nm,0.9s
NOA NORSAR Array B 71.92 337 P **P** 15 13 41.1 -0.3
comp=Z,83nm,0.9s,baz=38,slow=6.0,SNR=153
NOA PP **PP** 15 16 16.7 -3.9
comp=Z,3.8nm,0.7s,baz=34,slow=8.0,SNR=3.8
NOA LR LR 15 50 22.5
comp=Z,3µm,18.2s,baz=35,slow=40
DBAD Bademkaya 71.93 308 *i* P **P** 15 13 43.1 +1.1
NAZ Nazwa, Dubai 71.94 288 P **P** 15 13 43.1 +0.9
SNR=8.7
NAZ Nazwa, Dubai 71.94 288 P **P** 15 13 43.1 +0.9
SNR=8.7
NAZ Nazwa, Dubai 71.94 288 *i* P **P** 15 13 42.2 0.0
SNR=7.0
DDEM Demirkent 71.97 308 *i* P **P** 15 13 43.5 +1.2
YERR Yerington 71.98 54 *e*P **P** 15 13 43.2 +0.8
comp=Z,202nm,1.6s
AGRB Hanur-Agry 72.00 307 *e*P **P** 15 13 43.7 +1.2
DLMT Dillon 72.00 46 *e*P **P** 15 13 43.1 +0.7
comp=Z,98nm,1.2s
NBO02 NORSAR Array S 72.02 337 *e*P **P** 15 13 42.0 -0.1
NBO00 NORSAR Array S 72.06 337 *e*P **P** 15 13 42.2 0.0
NC602 NORSAR Array S 72.06 337 *e*P **P** 15 13 41.9 -0.3
ANN Anapa 72.09 314 *e*P **P** 15 13 39.6 -3.1
ANN *e* 15 16 21.4
ANN *e*S **S** 15 23 02.2 -1.2
ANN pmax pmax
comp=Z,172nm,1.5s
ANN MLR MLR
comp=Z,3µm,13.0s
HLID Hailey 72.10 48 P **P** 15 13 44.1 +1.0
baz=308,SNR=32
HLID Hailey 72.10 48 *e*P **P** 15 13 43.7 +0.7
comp=Z,27nm,1.1s
BSY Bisya 72.11 285 P P 15 13 49.0 +5.7
SNR=8.8
EATA Eleskirt 72.14 307 *i* P **P** 15 13 45.3 +1.7
WAKR Walker 72.14 55 *e*P **P** 15 13 44.1 +0.7
comp=Z,23nm,0.9s
NAO01 NORSAR Array S 72.17 337 *e*P **P** 15 13 42.8 -0.2
AKN Aaknes 72.19 340 *e*P **P** 15 13 43.7 +0.7
MCMT McKenzie Canyo 72.20 46 *e*P **P** 15 13 43.6 -0.1
BMN Battle Mountai 72.35 52 *e*P **P** 15 13 45.3 +0.7
comp=Z,76nm,1.3s
BMN Battle Mountai 72.35 52 *e*P **P** 15 13 45.3 +0.7
BMN pmax pmax
comp=Z,76nm,1.3s
BOZ Bozeman (W) 72.39 45 P **P** 15 13 45.7 +1.0
baz=309,SNR=73
BOZ Bozeman (W) 72.39 45 *e*P **P** 15 13 45.5 +0.8
comp=Z,151nm,1.5s
BOZ LR LR
comp=Z,800nm,18.0s
BOZ Bozeman (W) 72.39 45 *e*P **P** 15 13 45.5 +0.8
BOZ pmax pmax
comp=Z,151nm,1.5s
BOZ MLR MLR
comp=Z,800nm,18.0s
ALNE Al Ain 72.42 287 *i* P **P** 15 13 45.3 +0.3
SNR=11
BBOO Buckleboo 72.42 185 *e*P **P** 15 13 45.2 +0.6
comp=Z,71nm,1.3s
CHOM Cayeli-Rize 72.44 309 *e*P **P** 15 13 45.5 +0.6
AKASG Malin Array Be 72.52 322 P **P** 15 13 44.5 -0.7
comp=Z,31nm,0.6s,baz=44,slow=6.6,SNR=208
AKASG PP **PP** 15 16 23.9 -2.0
comp=Z,3.3nm,0.7s,baz=37,slow=8.9,SNR=4.1
AKASG LR LR 15 48 38.3
comp=Z,2µm,18.8s,baz=30,slow=38
AKBB Malin Array Si 72.52 322 *e*P **P** 15 13 45.2 0.0
comp=Z,306nm,1.5s
AKBB LR LR
comp=Z,2µm,21.0s
AKBB Malin Array Si 72.52 322 *e*P **P** 15 13 45.2 0.0
AKBB pmax pmax
comp=Z,306nm,1.5s
AKBB MLR MLR
comp=Z,2µm,21.0s
KIEV Kiev 72.53 322 *e*P **P** 15 13 45.1 -0.2
comp=Z,248nm,1.4s
KIEV LR LR
comp=Z,2µm,22.0s
KIEV Kiev 72.53 322 *i* P **P** 15 13 45.3 +0.1
SNR=88
KIEV Kiev 72.53 322 *d* *i*P **P** 15 13 44.8 -0.4
KIEV pmax pmax
comp=Z,213nm,1.5s
AK11 Malin Array Si 72.56 322 *e*P **P** 15 13 45.0 -0.4
RYN Ryan 72.64 54 *e*P **P** 15 13 46.7 +0.4
comp=Z,123nm,1.7s
RYN LR LR
comp=Z,400nm,18.0s
EKAR Karacoban 72.77 307 *i* P **P** 15 13 48.5 +1.3
ERZM Erzurum 72.80 308 *i* P **P** 15 13 48.1 +0.7
MDPB Devils Postpil 72.89 55 *e*P **P** 15 13 48.5 +0.5
comp=Z,22nm,0.9s
NV01 Mina Array Sit 72.89 54 *e*P **P** 15 13 49.0 +1.0
NVAR Mina Array Bea 72.89 54 P **P** 15 13 49.1 +1.2
comp=Z,20nm,0.8s,baz=288,slow=5.8,SNR=157
NVAR LR LR 15 45 55.7
comp=Z,142nm,18.3s,baz=86,slow=36
SUW Suwalki 72.93 327 *e*P **P** 15 13 47.6 0.0
SUW Suwalki 72.93 327 *e*P **P** 15 13 47.5 0.0
comp=Z,335nm,1.3s
SUW LR LR
comp=Z,4µm,19.0s
SUW Suwalki 72.93 327 ⇓ *e*P **P** 15 13 47.6 0.0
OSL Oslo 72.94 337 *e*P **P** 15 13 48.5 +1.0
QLMT Earthquake Lak 72.98 46 *e*P **P** 15 13 49.0 +0.6
NV11 Mina Array Sit 72.99 54 *e*P **P** 15 13 49.3 +0.9
comp=Z,8.2nm,1.6s
MLAC Mammoth, Mammo 73.04 55 P **P** 15 13 50.3 +1.4
baz=307,SNR=10
SFJD Kangerlussuaq 73.13 5 P **P** 15 13 48.7 +0.3
comp=Z,95nm,0.9s,baz=355,slow=6.1,SNR=31
SFJD LR LR 15 46 36.7
comp=Z,2µm,21.7s,baz=344,slow=36
SFJD Kangerlussuaq 73.13 5 ⇓ *i*P **P** 15 13 48.9 +0.4
comp=Z,114nm,1.0s
SFJD Kangerlussuaq 73.13 5 *e*P **P** 15 13 49.0 +0.4
comp=Z,133nm,0.9s
SFJD Kangerlussuaq 73.13 5 ⇓ *i*P **P** 15 13 48.9 +0.4
SFJD pmax pmax
comp=Z,110nm,1.0s
YHB Horse Butte 73.16 46 *e*P **P** 15 13 50.4 +1.0
comp=Z,170nm,1.7s
YHB LR LR
comp=Z,500nm,21.0s
FOO Floro 73.19 340 *e*P **P** 15 13 48.8 -0.1
BAYT Ayd¯-ntepe-Bay 73.24 309 *e*P **P** 15 13 50.9 +1.0
HYA Hoyanger 73.25 339 *e*P **P** 15 13 49.9 +0.6
BAYB BAYBURT 73.26 309 *i* P **P** 15 13 51.2 +1.2
PAGB Antelope Grade 73.28 57 *e*P **P** 15 13 51.4 +1.4
comp=Z,82nm,1.1s
GCMT Greycliff 73.32 44 *e*P **P** 15 13 51.5 +1.3
YHH Holmes Hill 73.33 45 *e*P **P** 15 13 51.5 +1.1
comp=Z,76nm,1.5s
YHH LR LR
comp=Z,700nm,20.0s
YMR Madison River 73.34 45 *e*P **P** 15 13 51.8 +1.3
comp=Z,179nm,1.8s
YMR LR LR
comp=Z,600nm,20.0s
ELK Elko 73.35 51 LR LR 15 39 59.5
comp=Z,292nm,21.7s,baz=28,slow=31
KONO Kongsberg 73.52 337 *e*P **P** 15 13 51.2 +0.3
comp=Z,54nm,0.9s
KONO LR LR
comp=Z,3µm,18.0s
KONO Kongsberg 73.52 337 *de*P **P** 15 13 51.1 +0.2
KONO pmax pmax
comp=Z,67nm,1.0s
YFT Old Faithful 73.55 46 *e*P **P** 15 13 54.0 +2.3
comp=Z,70nm,1.3s
YFT LR LR
comp=Z,1µm,19.0s
YEDI Yedisu-Bingol 73.59 308 *e*P **P** 15 13 51.9 0.0
SRTM Siirt_Merkez 73.62 306 *i* P **P** 15 13 52.9 +0.8
YPP Pitchstone Pla 73.68 46 *e*P **P** 15 13 53.9 +1.3
comp=Z,77nm,1.5s
YPP LR LR
comp=Z,900nm,19.0s
SMMC Simmler 73.70 58 P **P** 15 13 53.7 +1.2
baz=307
KLNR Kaliningrad 73.71 329 *d* *i*P **P** 15 13 51.8 -0.3
KLNR pmax pmax
comp=Z,389nm,1.4s
LKWY Lake 73.72 45 PFAKE 15 14 10.0 +17
LKWY LR LR
comp=Z,600nm,22.0s
SUE Sulen 73.72 340 *e*P **P** 15 13 52.8 +0.8
H17A Grant Village 73.73 45 P **P** 15 13 55.5 +2.7
baz=310,SNR=53
H17A Grant Village 73.73 45 *e*P **P** 15 13 55.1 +2.4
comp=Z,123nm,1.3s
H17A LR LR
comp=Z,1µm,21.0s
ESPY Espiye-Giresun 73.76 310 *e*P **P** 15 13 52.3 -0.4
TIN Tinemaha, Big 73.78 55 P **P** 15 13 54.2 +1.2
baz=308
BNGB Bing¨ll 73.78 307 *e*P **P** 15 13 53.9 +0.9
SIM Simferopol' 73.82 315 *d* *i*P **P** 15 13 53.5 +0.5
SIM *e* 15 14 09.0
SIM *e*S **S** 15 23 24.0 +0.8
SIM *e*SS **SS** 15 28 10.0 +3.8
SIM pmax pmax
comp=Z,66nm,1.1s
IMW Indian Meadow 73.85 46 *e*P **P** 15 13 55.1 +1.6
comp=Z,106nm,1.5s
KELT Kelkit 73.93 309 *i* P **P** 15 13 55.2 +1.3
FXWY Fox Creek 73.96 46 *e*P **P** 15 13 55.5 +1.3
comp=Z,33nm,1.0s
RLMT Red Lodge 73.97 44 P **P** 15 13 55.4 +1.2
baz=311,SNR=43
RLMT Red Lodge 73.97 44 *e*P **P** 15 13 54.8 +0.7
comp=Z,145nm,1.6s
VES Vestal, Richgr 73.97 57 P **P** 15 13 54.3 +0.3
baz=308,SNR=11
GRSN GIRESUNGRSN 74.03 310 *i* P **P** 15 13 53.6 -0.7
MOOW Moose Ponds 74.05 46 *e*P **P** 15 13 55.7 +1.1
comp=Z,133nm,1.7s

PKM	Mcpherson Peak	74.08	58	P		P	15 13 56.1	+1.2
	baz=308,SNR=7.0							
ASK	Askoy	74.09	339	*e*P		P	15 13 55.4	+1.1
TPAW	Teton Pass	74.10	46	*e*P		P	15 13 56.4	+1.4
	comp=Z,37nm,1.0s							
BER	Bergen	74.13	339	*e*P		P	15 13 55.4	+0.9
HVU	Hansel Valley	74.15	49	*e*P		P	15 13 56.4	+1.2
	comp=Z,30nm,0.9s							
HVU	Hansel Valley	74.15	49	*e*P		P	15 13 56.4	+1.2
HVU				pmax		pmax		
	comp=Z,30nm,0.9s							
ODD1	Odda	74.17	338	*e*P		P	15 13 55.5	+0.7
LOHW	Long Hollow	74.22	46	*e*P		P	15 13 56.7	+1.1
	comp=Z,130nm,1.9s							
SNOW	Snow King Moun	74.23	46	*e*P		P	15 13 57.1	+1.4
	comp=Z,30nm,1.0s							
REDW	Red Top Meadow	74.24	46	*e*P		P	15 13 57.2	+1.4
	comp=Z,117nm,1.7s							
CWC	Cottonwood Cre	74.25	56	P		P	15 13 56.5	+0.7
	baz=308							
HANI	Diyarbakir_Han	74.31	307	*i* P		P	15 13 57.4	+1.3
DGMT	Dagmar	74.35	39	P		P	15 13 56.4	+0.3
	baz=313,SNR=25							
DGMT	Dagmar	74.35	39	*e*P		P	15 13 56.2	+0.1
	comp=Z,185nm,1.3s							
DGMT				LR		LR		
	comp=Z,1μm,18.0s							
GRAC	Grapevine Rang	74.36	55	P		P	15 13 57.8	+1.4
	baz=308,SNR=36							
SBC	Santa Barbara	74.41	58	P		P	15 13 57.2	+0.6
	baz=308							
ISA	Isabella, Lake	74.47	57	P		P	15 13 57.1	+0.1
	baz=308,SNR=14							
ISA	Isabella, Lake	74.47	57	*e*P		P	15 13 57.2	+0.1
	comp=Z,39nm,1.4s							
ISA	Isabella, Lake	74.47	57	*e*P		P	15 13 57.2	+0.1
ISA				pmax		pmax		
	comp=Z,39nm,1.4s							
AHID	Auburn Hatcher	74.48	47	*e*P		P	15 13 57.6	+0.5
	comp=Z,77nm,1.6s							
AHID				LR		LR		
	comp=Z,600nm,19.0s							
SUSE	Susehri	74.52	310	*i* P		P	15 13 56.7	-0.6
LAO	LASA Array	74.54	42	P		P	15 13 58.4	+1.1
	baz=312,SNR=33							
LAO	LASA Array	74.54	42	*e*P		P	15 13 57.9	+0.7
	comp=Z,224nm,1.4s							
LAO				LR		LR		
	comp=Z,800nm,19.0s							
BGU	Big Grassy Mou	74.55	49	*e*P		P	15 13 58.1	+0.6
	comp=Z,22nm,1.1s							
ARVC	Arvin	74.57	57	P		P	15 13 58.3	+0.7
	baz=308							
BLS5	Blasjo	74.62	338	*e*P		P	15 13 58.4	+1.0
PTK	Pertek	74.63	308	*e*P		P	15 13 59.3	+1.2
R11A	Troy Canyon, C	74.63	53	P		P	15 13 59.2	+1.1
	baz=309,SNR=72							
R11A	Troy Canyon, C	74.63	53	*e*P		P	15 13 59.0	+0.9
	comp=Z,112nm,1.5s							
SPUT	South Promonto	74.64	49	*e*P		P	15 13 59.1	+1.0
	comp=Z,38nm,1.1s							
SPUT				LR		LR		
	comp=Z,500nm,20.0s							
DAC	Darwin (Calif)	74.66	56	*e*P		P	15 13 58.9	+0.6
	comp=Z,86nm,1.6s							
DAC				LR		LR		
	comp=Z,400nm,19.0s							
DAC	Darwin (Calif)	74.66	56	*e*P		P	15 13 58.9	+0.6
DAC				pmax		pmax		
	comp=Z,86nm,1.6s							
DAC				MLR		MLR		
	comp=Z,400nm,19.0s							
SORM	Soroca	74.68	321	⇓*i* P		P	15 13 58.2	+0.3
SORM	Soroca	74.68	321	P		P	15 13 58.2	+0.3
REFA	Refahiye_ERZ¯	74.69	309	*i* P		P	15 13 58.9	+0.6
MPMC	Manual Prospec	74.86	56	P		P	15 14 00.5	+1.0
	baz=308,SNR=33							
OSI	Osito Audit: C	74.95	57	P		P	15 14 00.9	+1.0
	baz=308							
OSI	Osito Audit: C	74.95	57	*e*P		P	15 14 00.5	+0.7
	comp=Z,50nm,1.1s							
HWUT	Hardware Ranch	74.96	48	*e*P		P	15 14 00.9	+1.0
	comp=Z,89nm,1.3s							
HWUT				LR		LR		
	comp=Z,400nm,18.0s							
CAN	Canberra	74.97	174	*e*P		P	15 13 59.8	+0.3
	comp=Z,43nm,1.4s							
CAN	Canberra	74.97	174	*e*P		P	15 13 59.8	+0.3
CAN				pmax		pmax		
	comp=Z,43nm,1.4s							
ANGG	Ammassalik, Gr	74.97	360	*e*P		P	15 13 59.1	-0.1
	comp=Z,50nm,1.0s							
ANGG				LR		LR		
	comp=Z,2μm,19.0s							
FURC	Furnace Creek,	75.00	55	P		P	15 14 01.4	+1.4
	baz=309,SNR=25							
SVRC	Sivrice-ELAZID	75.00	308	*e*P		P	15 14 01.9	+1.7
BORG	Borgarnes	75.03	353	P		P	15 14 01.1	+1.5
	comp=Z,73nm,0.9s,baz=15,slow=4.2,SNR=26							
BORG				LR		LR	15 48 39.1	
	comp=Z,315nm,18.7s,baz=14,slow=37							
BORG	Borgarnes	75.03	353	*e*P		P	15 14 00.9	+1.3
	comp=Z,84nm,0.9s							
BORG	Borgarnes	75.03	353	*e*P		P	15 14 00.9	+1.3
BORG				pmax		pmax		
	comp=Z,84nm,0.9s							
BLG	Laguna Peak, P	75.04	58	P		P	15 14 01.5	+1.2
	baz=308							
TPNV	Topopah Spring	75.09	54	P		P	15 14 01.8	+1.0
	baz=309,SNR=50							
TPNV	Topopah Spring	75.09	54	*e*P		P	15 14 01.2	+0.5
	comp=Z,306nm,2.0s							
TPNV				LR		LR		
	comp=Z,400nm,20.0s							
TPNV	Topopah Spring	75.09	54	*e*P		P	15 14 01.2	+0.5
TPNV				pmax		pmax		
	comp=Z,307nm,2.0s							
TPNV				MLR		MLR		
	comp=Z,400nm,20.0s							
LRMC	Laurel Mtn Rad	75.09	56	P		P	15 14 01.0	+0.3
	baz=308,SNR=9.0							
SNOP	Sinop	75.11	312	*e*P		P	15 14 00.8	+0.3
ELZG	Elazig	75.12	308	*i* P		P	15 14 02.5	+1.6
DUG	Dugway, Tooele	75.14	50	P		P	15 14 02.3	+1.4
	baz=310,SNR=57							
DUG	Dugway, Tooele	75.14	50	*e*P		P	15 14 01.8	+0.9
	comp=Z,124nm,1.5s							
DUG	Dugway, Tooele	75.14	50	*e*P		P	15 14 01.8	+0.9
DUG				pmax		pmax		
	comp=Z,124nm,1.5s							
KIS	Kishinev	75.22	319	*e*P		P	15 14 00.0	-1.1
	comp=Z,400nm,2.0s							
KIS	Kishinev	75.22	319	*i* PcP		P	15 14 06.0	+4.9
KIS	Kishinev	75.22	319	*e*PP		PP	15 16 55.0	+6.0
KVT	Kavak	75.23	311	*e*P		P	15 14 02.4	+1.1
STAV	Stavanger	75.25	338	*e*P		P	15 14 00.9	0.0
EDW2	Edwards Air Fo	75.26	57	P		P	15 14 02.5	+0.9
	baz=308,SNR=24							
SNART	Snartemo	75.30	337	*e*P		P	15 14 01.6	+0.3
DIKM	Dikmen	75.31	312	*e*P		P	15 14 02.4	+0.7
BSD	Bornholm Skovb	75.34	332	⇓*i* P		P	15 14 01.6	0.0
	comp=Z,172nm,1.1s							
BSD	Bornholm Skovb	75.34	332	⇓*i* P		P	15 14 01.6	0.0
BSD				pmax		pmax		
	comp=Z,170nm,1.1s							
BW06	Boulder Array	75.34	46	P		P	15 14 02.8	+0.6
	baz=311,SNR=27							
BW06	Boulder Array	75.34	46	*e*P		P	15 14 02.4	+0.2
	comp=Z,25nm,0.8s							
BW06				LR		LR		
	comp=Z,600nm,19.0s							
PD31	Pinedale Array	75.35	46	*e*P		P	15 14 02.4	+0.2
PDAR	Pinedale Array	75.35	46	P		P	15 14 02.3	+0.1
	comp=Z,16nm,0.7s,baz=264,slow=2.5,SNR=166							
PDAR	Pinedale Array	75.35	46	*e*P		P	15 14 02.4	+0.2
TCUT	Toone Canyon	75.36	49	*e*P		P	15 14 03.3	+0.9
	comp=Z,313nm,1.8s							
TCUT				LR		LR		
	comp=Z,800nm,20.0s							
SVSK	Karacayir	75.42	310	*e*P		P	15 14 02.8	+0.5
DECC	Green Verdugo	75.43	58	P		P	15 14 03.4	+0.9
	baz=308							
CTU	Camp Tracy	75.44	49	*e*P		P	15 14 03.6	+0.9
	comp=Z,39nm,1.2s							
CTU				LR		LR		
	comp=Z,400nm,20.0s							
HEKM	Malatya_Hekimh	75.50	309	*i* P		P	15 14 04.6	+1.5
BEL	Belsk	75.50	327	*e*P		P	15 14 03.8	+1.2
BEL	Belsk	75.50	327	⇓*e*P		P	15 14 03.8	+1.2
LVV	L'vov	75.54	324	*e*P		P	15 14 04.6	+1.7
PASC	Pasadena Art C	75.58	58	*e*P		P	15 14 02.4	-1.0
	comp=Z,65nm,1.4s							
MALT	Malatya	75.58	308	*e*P		P	15 14 04.3	+0.9
MWC	Mount Wilson	75.63	57	*e*P		P	15 14 04.3	+0.4
	comp=Z,100nm,1.4s							
MWC	Mount Wilson	75.63	57	*e*P		P	15 14 04.3	+0.4
MWC				pmax		pmax		
	comp=Z,100nm,1.4s							
JLU	Jordanelle	75.67	49	*e*P		P	15 14 04.4	+0.3
	comp=Z,52nm,1.3s							
JLU				LR		LR		
	comp=Z,200nm,22.0s							
IAS	Iasi	75.71	320	⇓*i* P		P	15 14 04.9	+1.0
NLU	North Lily Min	75.72	50	*e*P		P	15 14 05.3	+0.9
	comp=Z,27nm,0.9s							
SHOC	Shoshone, Teco	75.73	55	P		P	15 14 05.3	+1.0
	baz=309							
GSC	Goldstone, Bar	75.76	56	P		P	15 14 05.5	+1.0
	baz=309,SNR=21							
GSC	Goldstone, Bar	75.76	56	*e*P		P	15 14 05.1	+0.6
	comp=Z,88nm,1.6s							
GSC	Goldstone, Bar	75.76	56	*e*P		P	15 14 05.1	+0.6
GSC				pmax		pmax		
	comp=Z,88nm,1.6s							
COP	Copenhagen	75.77	333	*i* P		P	15 14 06.7	+2.7
	comp=Z,100nm,0.8s							
COP	Copenhagen	75.77	333	*i* P		P	15 14 06.7	+2.7
COP				pmax		pmax		
	comp=Z,100nm,0.8s							
BZK	Bozkurt	75.83	313	*e*P		P	15 14 05.2	+0.6
LEOM	Leova	75.87	319	⇑*i* P		P	15 14 05.7	+0.9
LEOM	Leova	75.87	319	P		P	15 14 05.7	+0.9
BFSC	Mount Baldy Ra	75.88	57	P		P	15 14 05.7	+0.5
	baz=309,SNR=8.9							
GKP	Gorka Klasztor	75.88	329	*e*P		P	15 14 05.3	+0.6
GKP	Gorka Klasztor	75.88	329	⇓*e*P		P	15 14 05.3	+0.6
URFA	Urfa	75.89	307	*e*P		P	15 14 05.6	+0.4
AKCD	Akcadag	75.90	308	*i* P		P	15 14 07.5	+2.2
RRX	Edison Barstow	75.91	56	P		P	15 14 06.4	+1.1
	baz=309							
NWAO	Narrogin (SRO)	75.92	201	P		P	15 14 05.5	+0.5
	comp=Z,9.0nm,0.9s,baz=267,slow=5.0,SNR=4.4							
MPU	Maple Canyon	75.94	49	*e*P		P	15 14 06.2	+0.6
	comp=Z,114nm,1.5s							
DARE	Darende-Malaty	75.99	309	*e*P		P	15 14 06.9	+1.1
SHPR	Sheep Range	76.05	54	*e*P		P	15 14 07.1	+0.9
	comp=Z,185nm,1.8s							
TUQ	Turquoise Moun	76.24	55	P		P	15 14 08.5	+1.2
	baz=309,SNR=48							
MUD	Monsted U'grnd	76.24	335	⇓*i* P		P	15 14 07.2	+0.5
	comp=Z,91nm,1.1s							
MUD	Monsted U'grnd	76.24	335	⇓*i* P		P	15 14 07.2	+0.5
MUD				pmax		pmax		
	comp=Z,91nm,1.1s							
PRAR	RASCA	76.25	321	⇓*i* P		P	15 14 07.8	+0.8
KWP	Kalwaria Pacla	76.28	324	*e*P		P	15 14 08.1	+1.0
KWP	Kalwaria Pacla	76.28	324	*e*P		P	15 14 08.4	+1.3
	comp=Z,4μm,1.4s							
KWP				LR		LR		
	comp=Z,19μm,19.0s							
KWP	Kalwaria Pacla	76.28	324	⇓*e*P		P	15 14 08.1	+1.0
BBRC	Big Bear Solar	76.34	57	P		P	15 14 08.2	+0.2
	baz=309							
RGN	Rugen	76.36	332	PFAKE			15 14 20.0	+13
RGN				LR		LR		
	comp=Z,4μm,20.0s							
HEC	Hector,Ludlow	76.36	56	P		P	15 14 08.8	+0.9
	baz=309,SNR=24							
SURC	SANLIURFA_SURC	76.38	307	*i* P		P	15 14 08.9	+1.0
COAL	Corum-Alaca	76.38	311	*i* P		P	15 14 09.3	+1.4
TLCR		76.46	318	⇓*i* P		P	15 14 08.9	+0.7
CCUT	Cedar City	76.49	52	*e*P		P	15 14 09.8	+1.0
	comp=Z,105nm,1.5s							
BUR08	Bucovina Ar. S	76.54	322	*e*P		P	15 14 09.2	+0.4
BUR04	Bucovina Ar. S	76.56	322	*e*P		P	15 14 09.2	+0.4
BURAR	Bucovina Array	76.56	322	⇑*i* P		P	15 14 10.1	+1.3
BURAR	Bucovina Array	76.56	322	P		P	15 14 10.1	+1.3
MURC	Murrieta	76.58	57	P		P	15 14 09.6	+0.5
	baz=309,SNR=6.8							
ILGA	Ilgaz	76.58	312	*i* P		P	15 14 10.9	+1.7
ILGA	Ilgaz	76.58	312	*e*P		P	15 14 10.1	+0.8
	comp=Z,467nm,1.8s							
ILGA				LR		LR		
	comp=Z,900nm,21.0s							
MSU	Marysvale	76.59	51	*e*P		P	15 14 10.8	+1.5
MSU	Marysvale	76.59	51	*e*P		P	15 14 10.9	+1.5
CORM	Corum	76.63	311	*e*P		P	15 14 09.1	-0.3
SZCU	Shurtz Canyon	76.63	52	*e*P		P	15 14 10.4	+0.8
	comp=Z,46nm,1.3s							
TESR	Tescani	76.64	320	⇑*i* P		P	15 14 09.3	+0.1
TMUT	Trail Mountain	76.66	50	*e*P		P	15 14 10.7	+0.9
	comp=Z,48nm,1.3s							
TMUT				LR		LR		
	comp=Z,398nm,22.0s							
BNN	Bunyan	76.78	310	*e*P		P	15 14 09.6	-0.7
CFR	Carcaliu	76.82	318	⇑*i* P		P	15 14 11.0	+0.8
GMRC	Granite Mounta	76.82	56	P		P	15 14 11.6	+1.0
	baz=310,SNR=24							
P17A	Butcher Ranch,	76.82	49	*e*P		P	15 14 07.0	-3.5
	comp=Z,193nm,1.5s							
MTPU	Mount Pierson	76.89	51	*e*P		P	15 14 12.7	+1.4
	comp=Z,201nm,1.8s							
PETR	Petresti	76.90	319	⇓*i* P		P	15 14 12.7	+2.1
LCMT	Little Creek M	76.91	53	*e*P		P	15 14 12.2	+1.2
	comp=Z,64nm,1.1s							
ULM	Lac du Bonnet	76.91	34	P		P	15 14 10.6	-0.1
	comp=Z,37nm,0.9s,baz=321,slow=6.2,SNR=40							
ULM				LR		LR	15 51 15.1	
	comp=Z,633nm,18.4s,baz=322,slow=38							
ULM	Lac du Bonnet	76.91	34	*e*P		P	15 14 10.2	-0.4
	comp=Z,69nm,1.0s							
ULM	Lac du Bonnet	76.91	34	*e*P		P	15 14 10.3	-0.4
ULM				pmax		pmax		
	comp=Z,69nm,1.0s							
Q16A	Castle Valley	76.93	50	*e*P		P	15 14 12.3	+1.1
	comp=Z,85nm,1.4s							
LDFC	Landfair	76.98	55	*e*P		P	15 14 12.5	+1.0
	comp=Z,126nm,1.2s							
MDND	Maddock	76.98	38	P		P	15 14 11.7	+0.6
	baz=316,SNR=5.6							
MDND	Maddock	76.98	38	*e*P		P	15 14 10.9	-0.2
	comp=Z,217nm,1.1s							
MDND				LR		LR		
	comp=Z,900nm,18.0s							
P18A	Preston Nutter	77.01	49	*e*P		P	15 14 12.6	+0.8
	comp=Z,61nm,1.1s							
KMRS	Kahramanmaras	77.02	308	*e*P		P	15 14 12.3	+0.7
PFO	Pinyon Flats O	77.05	57	P		P	15 14 12.5	+0.6
	baz=309,SNR=9.8							
PFO	Pinyon Flats O	77.05	57	*e*P		P	15 14 12.3	+0.4
	comp=Z,112nm,1.7s							
PFO	Pinyon Flats O	77.05	57	*e*P		P	15 14 12.3	+0.4
PFO				pmax		pmax		
	comp=Z,112nm,1.7s							
XPFO	Piæon Flat	77.05	57	*e*P		P	15 14 12.4	+0.5
	comp=Z,119nm,1.7s							
GAZ	Gaziantep	77.05	308	*e*P		P	15 14 12.4	+0.6
VRI	Vrincioaia	77.05	320	⇑*i* P		P	15 14 12.8	+1.3
VRI	Vrincioaia	77.05	320	P		P	15 14 12.8	+1.3
109C	Camp Elliot, M	77.08	58	P		P	15 14 12.4	+0.5
	baz=309							
CPE	Camp Elliot	77.08	58	*e*P		P	15 14 12.6	+0.7
	comp=Z,62nm,1.4s							
STHS	Stebnicka Huta	77.09	325	*e*P		P	15 14 12.6	+0.9
STHS	Stebnicka Huta	77.09	325	*e*P		P	15 14 12.6	+0.9
STHS				pmax		pmax		
	comp=Z,74nm,1.3s							
K22A	Casper	77.09	45	P		P	15 14 12.4	+0.4
	baz=313,SNR=18							
K22A	Casper	77.09	45	*e*P		P	15 14 12.4	+0.4
	comp=Z,119nm,1.3s							
K22A				LR		LR		
	comp=Z,399nm,20.0s							
BELC	Belle Mtn. Jos	77.10	57	P		P	15 14 12.5	+0.4
	baz=310,SNR=11							
PLOR	Plostina	77.10	320	⇓*i* P		P	15 14 13.2	+1.4
PLOR	Plostina	77.10	320	P		P	15 14 13.1	+1.3
ELDT	Eldivan	77.12	312	*i* P		P	15 14 13.1	+0.9
OJC	Ojcow	77.12	326	*e*P		P	15 14 12.7	+0.9
OJC	Ojcow	77.12	326	*e*P		P	15 14 12.5	+0.7
	comp=Z,274nm,1.3s							
OJC	Ojcow	77.12	326	*e*P		P	15 14 12.5	+0.7
OJC				pmax		pmax		
	comp=Z,274nm,1.3s							
CDAG	Cicekdag	77.15	311	*i* P		P	15 14 13.4	+1.1
KNB	Kanab	77.17	52	*e*P		P	15 14 13.8	+1.2
	comp=Z,214nm,1.6s							
KNB	Kanab	77.17	52	*e*P		P	15 14 13.8	+1.2
KNB				pmax		pmax		
	comp=Z,214nm,1.6s							
TIRR	Tirgusor	77.17	318	⇓*i* P		P	15 14 13.1	+0.9
TIRR	Tirgusor	77.17	318	*e*P		P	15 14 12.5	+0.3
	comp=Z,148nm,1.7s							
TIRR				LR		LR		
	comp=Z,5μm,18.0s							
TIRR	Tirgusor	77.17	318	*e*P		P	15 14 12.5	+0.3
TIRR				pmax		pmax		
	comp=Z,148nm,1.7s							
TIRR				MLR		MLR		
	comp=Z,5μm,18.0s							
SRU	San Rafael Swe	77.18	50	*e*P		P	15 14 13.4	+0.8
	comp=Z,63nm,1.0s							
SRU	San Rafael Swe	77.18	50	*e*P		P	15 14 13.4	+0.8
SRU				pmax		pmax		
	comp=Z,63nm,1.0s							
UZH	Uzhgorod	77.19	324	*e*P		P	15 14 09.9	-2.3
UZH				*e*			15 14 19.9	
UZH				*e*			15 14 25.7	
UZH				*e*S		S	15 23 54.3	-6.0
UZH				*e*SS		SS	15 28 58.5	+1.5
UZH				MLR		MLR		
	comp=Z,2μm,14.0s							
PKCU	Pink Cliffs	77.20	52	*e*P		P	15 14 14.2	+1.3
	comp=Z,60nm,1.3s							
GRER		77.27	319	⇑*i* P		P	15 14 14.8	+2.1
TLB	Topalu	77.27	318	⇓*i* P		P	15 14 13.6	+0.9
ANDN	Andirin	77.31	308	*i* P		P	15 14 15.1	+1.8
EFOR	EFORIE	77.32	317	⇓*i* P		P	15 14 14.7	+1.7
BMR	Baia Mare	77.33	323	⇓*i* P		P	15 14 14.8	+1.8
ARCR	ARCALIA	77.35	322	⇓*i* P		P	15 14 14.7	+1.5
RWWY	Rawlins	77.36	46	*e*P		P	15 14 14.2	+0.5
	comp=Z,92nm,1.2s							
CRVS	Cervenica-Dubn	77.37	324	*e*P		P	15 14 14.2	+0.9
CRVS				*e*L		L	15 51 38.5	
CRVS	Cervenica-Dubn	77.37	324	*e*P		P	15 14 14.2	+0.9
CRVS				pmax		pmax		
	comp=Z,77nm,1.4s							
RSSD	Black Hills	77.41	42	P		P	15 14 14.3	+0.5
	baz=314							
RSSD	Black Hills	77.41	42	*e*P		P	15 14 14.0	+0.1
	comp=Z,329nm,2.0s							
RSSD				LR		LR		
	comp=Z,500nm,20.0s							
RSSD	Black Hills	77.41	42	*e*P		P	15 14 14.0	+0.1
RSSD				pmax		pmax		
	comp=Z,329nm,2.0s							
RSSD				MLR		MLR		
	comp=Z,500nm,20.0s							
TRPA	Tarpa	77.44	323	⇓*i* P		P	15 14 15.0	+1.3
TRPA	Tarpa	77.44	323	⇓*e*P		P	15 14 14.9	+1.3
B31A	Greenbush Farm	77.47	36	P		P	15 14 14.0	+0.2
	baz=317,SNR=11							
BAR	Barrett	77.49	58	*e*P		P	15 14 14.9	+0.7
	comp=Z,90nm,1.8s							
NIE	Niedzica	77.50	325	*e*P		P	15 14 15.3	+1.3
NIE	Niedzica	77.50	325	⇓*e*P		P	15 14 15.3	+1.3
BR131	Keskin Array S	77.50	312	*e*P		P	15 14 14.7	+0.3
BRTR	Keskin Array B	77.50	312	P		P	15 14 14.8	+0.5
	comp=Z,18nm,1.0s,baz=89,slow=3.8,SNR=60							
BRTR				PP		PP	15 17 09.8	+1.2
	comp=Z,3.9nm,0.8s,baz=68,slow=6.2,SNR=4.6							
BRTR				LR		LR	15 53 37.0	
	comp=Z,1μm,18.1s,baz=38,slow=40							
MONP2	Monument Peak	77.52	58	P		P	15 14 15.0	+0.4
	baz=310,SNR=5.1							
IRM	Iron Mountain	77.55	56	P		P	15 14 15.6	+1.1
	baz=310,SNR=22							
YAHY	KAYSERI_Yahyal	77.56	309	*i* P		P	15 14 15.9	+1.2
PGOR	Pogoanele	77.59	319	⇑*i* P		P	15 14 16.5	+2.0
AMRR	Amara	77.62	318	⇑*i* P		P	15 14 16.3	+1.6
A32A	Rocking H Ranc	77.63	35	P		P	15 14 14.5	-0.2
	baz=318,SNR=14							
DOPR	Dopca	77.64	320	⇓*i* P		P	15 14 16.6	+1.8
BC3	Big Chuckawall	77.67	57	P		P	15 14 15.9	+0.5
	baz=310,SNR=16							
ISR	Istrita	77.67	319	⇑*i* P		P	15 14 16.8	+1.8
BCAM	Yenicaga	77.67	313	*i* P		P	15 14 16.7	+1.5
KOZT	Kozan	77.69	309	*e*P		P	15 14 16.0	+0.7
MLR	Muntele Rosu	77.70	320	P		P	15 14 15.8	+0.4
	comp=Z,7.4nm,0.9s,baz=22,slow=4.3,SNR=43							
MLR				LR		LR	15 52 06.2	
	comp=Z,669nm,18.4s,baz=47,slow=38							
MLR	Muntele Rosu	77.70	320	⇓*i* P		P	15 14 16.4	+1.1
MLR	Muntele Rosu	77.70	320	*e*P		P	15 14 15.7	+0.4
	comp=Z,106nm,1.3s							
MLR	Muntele Rosu	77.70	320	*e*P		P	15 14 15.7	+0.4
MLR				pmax		pmax		
	comp=Z,106nm,1.3s							
ICOR	Ion Corvin	77.72	318	⇑*i* P		P	15 14 17.0	+1.7
W13A	Hualapai Mount	77.74	55	*e*P		P	15 14 16.4	+0.6
	comp=Z,93nm,1.7s							
O20A	White River Ci	77.83	48	P		P	15 14 16.8	+0.6
	baz=312,SNR=27							
O20A	White River Ci	77.83	48	*e*P		P	15 14 16.5	+0.3
	comp=Z,77nm,1.3s							
U15A	North Rim	77.87	53	*e*P		P	15 14 17.4	+0.7
	comp=Z,129nm,1.3s							
IKP	In-Ko-Pah, Jac	77.88	58	P		P	15 14 17.2	+0.7
	baz=310,SNR=7.9							
C31A	Landman Farms,	77.89	37	P		P	15 14 16.3	+0.1
	baz=317,SNR=5.2							
SWSC	Sam W. Stewart	77.89	57	P

PV09 Paradox Valley 78.40 49 eP P 15 14 20.4 +0.8
MORC Moravsky Berou 78.41 327⇓iP P 15 14 20.5 +1.4
MORC Moravsky Berou 78.41 327 eP P 15 14 19.5 +0.4
comp=Z,826nm,1.4s
MORC LR LR
comp=Z,12µm,19.0s
MORC Moravsky Berou 78.41 327 eP P 15 14 19.5 +0.4
MORC pmax pmax
comp=Z,826nm,1.4s
MORC MLR MLR
comp=Z,12µm,19.0s
C32A Crookston 78.42 36 P P 15 14 19.0 -0.1
baz=318
ARR Arges 78.44 320⇓iP P 15 14 21.5 +2.1
D31A Mcclaflin, Tow 78.44 37 P P 15 14 19.3 0.0
baz=317
GLA Glamis 78.45 57 P P 15 14 20.7 +1.1
baz=310,SNR=7.6
GLA Glamis 78.45 57 eP P 15 14 20.3 +0.7
comp=Z,175nm,1.8s
GLA Glamis 78.45 57 eP P 15 14 20.3 +0.7
GLA pmax pmax
comp=Z,175nm,1.8s
YAYL Yayladag 78.46 307 eP P 15 14 20.1 +0.4
DPC Dobruska-Polom 78.48 328⇓iP P 15 14 20.7 +1.3
DPC AMS AMS 15 51 20.0
comp=Z,3µm,17.9s
DPC Dobruska-Polom 78.48 328⇓iP P 15 14 20.7 +1.3
DPC MLR MLR
comp=Z,3µm,17.9s
UPC Upice 78.48 328⇓iP P 15 14 20.5 +1.1
UPC epP pP 15 14 24.8 -1.4
UPC AMS AMS 15 51 30.0
comp=Z,4µm,17.1s
UPC Upice 78.48 328⇓iP P 15 14 20.5 +1.1
UPC e 15 14 24.8
UPC MLR MLR
comp=Z,4µm,17.1s
B33A Robert and Kas 78.51 35 P P 15 14 19.2 -0.4
baz=318,SNR=6.0
PV10 Paradox Valley 78.54 49 eP P 15 14 21.5 +1.2
KRTS Karatas 78.56 308 eP P 15 14 21.3 +1.3
PRD Provadia 78.57 317 iP P 15 14 20.7 +0.7
PHWY Pilot Hill 78.59 45 eP P 15 14 20.9 +0.3
comp=Z,98nm,1.5s
PHWY LR LR
comp=Z,500nm,18.0s
N23A Red Feather La 78.60 46 P P 15 14 21.9 +1.3
baz=313,SNR=50
N23A Red Feather La 78.60 46 eP P 15 14 21.4 +0.8
comp=Z,134nm,1.3s
N23A LR LR
comp=Z,500nm,19.0s
AUMIH MIHALICIK 78.64 313 eP P 15 14 20.6 -0.1
PV05 Paradox Valley 78.70 50 eP P 15 14 22.1 +1.0
D32A Dogwood Acres, 78.71 37 P P 15 14 20.4 -0.3
baz=318
E31A Nome 78.72 38 P P 15 14 21.1 +0.3
baz=317,SNR=22
KERG Konya-Eregli 78.75 309 iP P 15 14 21.6 +0.3
B34A Aery, Baudette 78.76 35 P P 15 14 20.7 -0.3
baz=319,SNR=9.6
PSZ Piszkesteto 78.80 325⇓iP P 15 14 22.8 +1.5
PSZ Piszkesteto 78.80 325⇓eP P 15 14 22.4 +1.1
PSZ Piszkesteto 78.80 325 eP P 15 14 22.0 +0.7
comp=Z,212nm,1.4s
PSZ LR LR
comp=Z,3µm,18.0s
PSZ Piszkesteto 78.80 325 eP P 15 14 22.0 +0.7
PSZ pmax pmax
comp=Z,212nm,1.4s
PSZ MLR MLR
comp=Z,3µm,18.0s
GULT Gulveren 78.80 314 eP P 15 14 21.3 -0.2
LOT Lotru 78.81 321⇑iP P 15 14 22.2 +0.8
C33A Trail 78.81 36 P P 15 14 20.9 -0.4
baz=318,SNR=18
VYHS Vyhne 78.83 325 eP P 15 14 22.2 +0.8
VYHS Vyhne 78.83 325 eP P 15 14 22.2 +0.8
VYHS pmax pmax
comp=Z,54nm,1.3s
DEV Deva 78.91 322⇓iP P 15 14 23.5 +1.6
DEV Deva 78.91 322 P P 15 14 23.4 +1.6
PV01 Paradox Valley 78.98 49 eP P 15 14 23.1 +0.5
BRG Berggiesshubel 79.02 330 iP P 15 14 22.9 +0.5
comp=Z,74nm,1.1s
BRG i 15 14 28.2
comp=Z,40nm,1.1s
BRG PP PP 15 17 24.0 +3.3
BRG SS SS 15 29 42.0 +18
comp=N,3µm,15.7s
comp=E,2µm,15.5s
comp=Z,4µm,15.7s
BRG Berggiesshubel 79.02 330 iP P 15 14 22.9 +0.5
BRG i 15 14 28.2
BRG 15 17 24.0
BRG pmax pmax
comp=Z,10.0nm,1.1s
BRG MLR MLR
comp=E,3µm,15.5s
BRG MLR MLR
comp=Z,2µm,15.7s
WUAZ Wupatki 79.03 53 P P 15 14 24.2 +1.3
baz=311,SNR=61
WUAZ Wupatki 79.03 53 eP P 15 14 23.6 +0.7
comp=Z,86nm,1.1s
CLL Collm 79.04 330⇓iP P 15 14 22.7 +0.3
comp=Z,116nm,1.0s
CLL iSP pP 15 14 27.7 -1.5
CLL ePP PP 15 17 24.0 +3.1
CLL ePPP PPP 15 19 06.0
CLL eS S 15 24 22.0 +1.8
CLL ePS PnS 15 25 00.0 -3.5
CLL eSS SS 15 29 24.0 -0.7
CLL e 15 30 00.0
CLL eSSS SSS 15 32 54.0
CLL eSSSS 15 35 18.0
CLL Lmax 15 52 00.0
CLL Collm 79.04 330 eP P 15 14 22.4 0.0
comp=Z,139nm,1.2s
CLL LR LR
comp=Z,2µm,18.0s
CLL Collm 79.04 330⇓iP P 15 14 22.7 +0.3
CLL i 15 14 27.7
CLL eS S 15 24 22.0 +1.8
CLL pmax pmax
comp=Z,116nm,1.0s
IVI Ivigtut 79.04 5 eP P 15 14 22.7 +0.5
comp=Z,86nm,0.9s
Y14A Wickenburg 79.05 55 eP P 15 14 23.6 +0.8
comp=Z,69nm,1.3s
PVCC Panska Ves 79.05 329⇓eP P 15 14 23.7 +1.2
PVCC AMS AMS 15 52 10.0
comp=Z,4µm,16.7s
PVCC Panska Ves 79.05 329 eP P 15 14 23.7 +1.2
PVCC MLR MLR
comp=Z,4µm,16.7s
F31A Hecla 79.06 38 P P 15 14 22.8 +0.1
baz=317,SNR=10
E32A Braaten, Kindr 79.08 37 P P 15 14 22.8 +0.1
baz=318
VRAC Vranov 79.17 327 LR LR 15 50 20.8
comp=Z,100nm,21.0s,baz=43,slow=36
VRAC Vranov 79.17 327⇓iP P 15 14 24.2 +1.0
SIRR Siria 79.22 323⇓iP P 15 14 24.5 +1.0
ESKT Eskisehir 79.24 313 iP P 15 14 23.8 -0.1
D33A AnnSam, Waubun 79.24 36 P P 15 14 23.4 -0.2
baz=318
NRS Narsarsuaq 79.25 4 iP P 15 14 23.3 -0.1
comp=Z,41nm,1.1s
NRS Narsarsuaq 79.25 4 PFAKE 15 14 30.0 +6.6
NRS LR LR
comp=Z,2µm,20.0s
NRS Narsarsuaq 79.25 4 iP P 15 14 23.3 -0.1
NRS pmax pmax
comp=Z,41nm,1.1s
B35A Bob, Littlefor 79.26 34 P P 15 14 23.6 -0.1
baz=320,SNR=30
C34A RKJ Ranch, Bem 79.28 35 P P 15 14 23.5 -0.3
baz=319
SZH Strazhica 79.28 318 iP P 15 14 24.3 +0.4
113A Mohawk Valley, 79.32 56 eP P 15 14 24.6 +0.3
comp=Z,105nm,1.7s
KIZK Mersin 79.36 309 eP P 15 14 24.4 -0.1
KIZK Mersin 79.36 309 iP P 15 14 24.9 +0.4

SMOL Smolenice 79.43 326 eP P 15 14 26.3 +1.7
SMOL Smolenice 79.43 326 eP P 15 14 26.3 +1.7
GOPC GO Pecny, Ondr 79.44 329⇓eP P 15 14 25.7 +1.0
GOPC AMS AMS 15 54 40.0
comp=Z,4µm,15.7s
GOPC GO Pecny, Ondr 79.44 329 eP P 15 14 25.7 +1.0
GOPC MLR MLR
comp=Z,4µm,15.7s
PRA Prague 79.46 329⇓eP P 15 14 25.9 +1.2
PRA AMS AMS 15 52 10.0
comp=Z,4µm,15.4s
PRA Prague 79.46 329 eP P 15 14 25.9 +1.2
PRA MLR MLR
comp=Z,4µm,15.4s
PRU Pruhonice 79.48 329⇓iP P 15 14 25.7 +0.8
PRU epP pP 15 14 30.9 -0.8
PRU eS S 15 24 34.6 +10
PRU AMS AMS 15 52 10.0
comp=Z,3µm,16.6s
PRU Pruhonice 79.48 329⇓iP P 15 14 25.7 +0.8
PRU e 15 14 30.9
PRU eS S 15 24 34.6 +10
PRU MLR MLR
comp=Z,3µm,16.6s
BUD Budapest 79.51 325⇓eP P 15 14 25.7 +0.6
JMB Yambol 79.52 317 iP P 15 14 25.6 +0.4
ISCO Idaho Springs 79.54 46 P P 15 14 26.9 +1.1
baz=314,SNR=42
ISCO Idaho Springs 79.54 46 eP P 15 14 26.7 +0.9
comp=Z,134nm,1.7s
ISCO Idaho Springs 79.54 46 eP P 15 14 26.7 +0.9
ISCO pmax pmax
comp=Z,134nm,1.7s
G31A Conde 79.55 39 P P 15 14 25.7 +0.4
baz=317,SNR=10
D34A Park Rapids 79.58 36 P P 15 14 25.2 -0.3
baz=319,SNR=8.5
SRO Srobarova 79.58 325 eP P 15 14 26.7 +1.3
SRO Srobarova 79.58 325 eP P 15 14 26.7 +1.3
F32A Veblen 79.59 38 P P 15 14 25.5 -0.1
baz=318
MODS Modra-Piesok 79.60 326 eP P 15 14 26.0 +0.4
MODS eL L 15 51 04.5
MODS Modra-Piesok 79.60 326 eP P 15 14 26.0 +0.4
MODS pmax pmax
comp=Z,146nm,1.4s
MVCO Mesa Verde 79.64 50 P P 15 14 27.4 +1.1
baz=312,SNR=33
MVCO Mesa Verde 79.64 50 eP P 15 14 26.9 +0.6
comp=Z,216nm,1.8s
MVCO LR LR
comp=Z,500nm,19.0s
TREC Trest 79.64 328⇓AMS AMS 15 51 40.0
comp=Z,3µm,18.1s
E33A Westby DABS, E 79.64 37 P P 15 14 26.0 +0.1
baz=318,SNR=15
SRE Strehaia 79.65 321⇑iP P 15 14 26.9 +1.0
SRE Strehaia 79.65 321 P P 15 14 26.8 +0.9
C35A Jirik Farms, M 79.65 35 P P 15 14 25.3 -0.5
baz=320,SNR=17
X16A Lo Mia Camp, P 79.71 54 eP P 15 14 27.9 +1.3
comp=Z,141nm,1.7s
BZS Buzias 79.72 322⇓iP P 15 14 27.0 +0.8
BOLV Bolvadin 79.73 312 iP P 15 14 27.4 +0.8
SUSD Miller 79.76 40 P P 15 14 26.8 +0.3
baz=317,SNR=11
ZST Bratislava 79.81 326 eP P 15 14 26.9 +0.2
ZST Bratislava 79.81 326 eP P 15 14 26.9 +0.2
ZST pmax pmax
comp=Z,111nm,1.5s
G32A Webster 79.87 38 P P 15 14 27.5 +0.4
baz=318,SNR=5.6
HERR Herculane 79.87 321⇓iP P 15 14 27.8 +0.7
GULN MERSIN_Gulnar 79.92 309 iP P 15 14 27.7 +0.2
AKKU Akkuyu-Mersin 79.93 309 eP P 15 14 27.4 -0.2
CSKK Cs˙‡kako 79.94 325⇓eP P 15 14 28.2 +0.8
H31A Wolsey 79.96 39 P P 15 14 27.7 +0.1
baz=317
F33A 5 Mile Ranch, 80.00 37 P P 15 14 28.0 +0.2
baz=318,SNR=31
E34A Wadena 80.02 36 P P 15 14 27.8 -0.1
baz=319,SNR=6.4
OUZ Omahuta 80.04 154 eP P 15 14 28.6 +0.8
comp=Z,80nm,1.5s
D35A Remer 80.09 35 P P 15 14 27.8 -0.5
baz=320,SNR=8.2
C36A Pine Crest Far 80.11 34 P P 15 14 28.1 -0.3
baz=320,SNR=26
NKC Novy Kostel 80.11 330⇓eP P 15 14 29.0 +0.7
NKC AMS AMS 15 53 20.0
comp=Z,3µm,16.5s
NKC Novy Kostel 80.11 330 eP P 15 14 29.0 +0.7
NKC MLR MLR
comp=Z,3µm,16.5s
RAYN Ar Rayn 80.18 292 eP P 15 14 28.9 -0.3
comp=Z,32nm,1.0s
RAYN LR LR
comp=Z,800nm,18.0s
TEKE Tekeli-Mersin 80.20 309 eP P 15 14 27.9 -1.1
S22A 4UR Ranch, Cre 80.25 49 P P 15 14 31.1 +1.4
baz=313,SNR=47
S22A 4UR Ranch, Cre 80.25 49 eP P 15 14 30.7 +1.0
comp=Z,89nm,1.4s
I31A Royce, Wessing 80.26 40 P P 15 14 29.4 +0.1
baz=317
W18A Petrified Fore 80.30 52 P P 15 14 31.1 +1.3
baz=312
W18A Petrified Fore 80.30 52 eP P 15 14 31.1 +1.3
comp=Z,22nm,1.0s
BAGO Egridir - ISPA 80.32 312 iP P 15 14 31.4 +1.6
E35A Pequot Lakes 80.33 36 P P 15 14 29.1 -0.5
baz=319,SNR=8.4
Q24A Divide 80.37 47 P P 15 14 31.2 +0.9
baz=314,SNR=16
D36A Goodland 80.41 35 P P 15 14 29.4 -0.5
baz=320,SNR=12
C37A Embarrass 80.41 34 P P 15 14 29.7 -0.3
baz=321,SNR=23
G33A Ortonville 80.42 38 P P 15 14 30.4 +0.4
baz=318,SNR=36
SOP Sopron 80.44 326⇓eP P 15 14 31.3 +1.2
SOP Sopron 80.44 326 eP P 15 14 31.4 +1.3
H32A Carlson Farm, 80.45 39 P P 15 14 30.1 -0.2
baz=318,SNR=16
214A Organ Pipe Nat 80.46 56 P P 15 14 31.5 +1.0
baz=311,SNR=12
214A Organ Pipe Nat 80.46 56 eP P 15 14 31.4 +0.8
comp=Z,264nm,1.4s
ASF Jabal al Asfar 80.49 304 P P 15 14 31.0 +0.2
comp=Z,7.6nm,1.0s,baz=342,slow=1.7,SNR=24
ASF LR LR 15 53 26.8
comp=Z,689nm,19.8s,baz=5.5,slow=38
F34A Alexandria 80.52 37 P P 15 14 30.5 -0.1
baz=319,SNR=17
EYMN Ely 80.53 33 P P 15 14 30.6 -0.1
baz=321,SNR=33
EYMN Ely 80.53 33 eP P 15 14 30.5 -0.1
comp=Z,130nm,1.3s
EYMN LR LR
comp=Z,600nm,19.0s
KHC Kasperske Hory 80.54 329⇓iP P 15 14 31.5 +0.8
KHC epP pP 15 14 36.5 -1.0
KHC eS S 15 24 43.4 +7.2
KHC AMS AMS 15 53 00.0
comp=Z,4µm,17.9s
KHC Kasperske Hory 80.54 329 eP P 15 14 31.2 +0.5
comp=Z,61nm,1.3s
KHC LR LR
comp=Z,2µm,18.0s
KHC Kasperske Hory 80.54 329 eP P 15 14 31.2 +0.5
KHC pmax pmax
comp=Z,61nm,1.3s
KHC MLR MLR
comp=Z,2µm,18.0s
SUTC Sutluce-Ispart 80.55 311 eP P 15 14 30.6 -0.4
CONA Conrad Observa 80.55 327 ipP P 15 14 32.1 +1.3
comp=Z,22nm,1.1s,SNR=60
X18A Snowflake 80.56 53 eP P 15 14 31.9 +0.7
comp=Z,146nm,1.8s
ISP Isparta 80.58 312⇓iP P 15 14 31.5 +0.3
ISP Isparta 80.58 312 eP P 15 14 30.8 -0.4
comp=Z,14nm,0.8s
ISP LR LR
comp=Z,900nm,19.0s
ISP Isparta 80.58 312 P P 15 14 30.3 -0.9
ISP Isparta 80.58 312 diP P 15 14 30.6 -0.6

ISP pmax pmax
comp=Z,31nm,1.5s
KEPZ Antalya-Kepez 80.58 310 iP P 15 14 30.8 -0.4
MORH M˜‡r¡gy, Hung 80.64 324⇓eP P 15 14 31.3 +0.1
H33A Prehn Over Nor 80.65 38 P P 15 14 31.7 +0.4
baz=318,SNR=47
OGNE Ogallala 80.69 44 P P 15 14 32.3 +0.6
baz=316,SNR=24
OGNE Ogallala 80.69 44 eP P 15 14 32.1 +0.3
comp=Z,192nm,1.0s
OGNE LR LR
comp=Z,600nm,19.0s
J31A Geddes 80.70 40 P P 15 14 31.8 +0.2
baz=317,SNR=5.6
PGB Panagyurishte 80.70 319 iP P 15 14 32.0 +0.3
KDZ Kurdzhali 80.71 317 iP P 15 14 32.9 +1.2
GEC2 GERESS Array S 80.72 328 eP P 15 14 31.8 +0.1
comp=Z,60nm,1.3s
GEC2 LR LR
comp=Z,3µm,19.0s
GEC2 GERESS Array S 80.72 328 eP P 15 14 31.8 +0.1
GEC2 pmax pmax
comp=Z,60nm,1.3s
GEC2 MLR MLR
comp=Z,3µm,19.0s
GERES GERESS Array B 80.72 328 P P 15 14 31.9 +0.2
comp=Z,16nm,1.0s,baz=36,slow=5.0,SNR=44
GERES PP PP 15 17 29.6 -5.4
comp=Z,4.8nm,0.8s,baz=34,slow=8.1,SNR=4.7
GERES LR LR 15 53 14.0
comp=Z,3µm,19.5s,baz=28,slow=38
GEA0 GERESS Array S 80.73 328 eP P 15 14 31.7 -0.1
WTSB Winterswijk 80.74 334 eP P 15 14 32.4 +0.8
comp=Z,113nm,1.1s
D37A Cotton 80.75 34 P P 15 14 31.2 -0.5
baz=321,SNR=9.4
G34A Benson 80.76 37 P P 15 14 32.2 +0.3
baz=319,SNR=13
EKA Eskdalemuir Ar 80.77 341 P P 15 14 31.6 -0.1
comp=Z,16nm,0.6s,baz=31,slow=5.4,SNR=24
EKA PP PP 15 17 35.7 +0.7
comp=Z,7.1nm,0.8s,baz=33,slow=11,SNR=6.5
EKA LR LR 15 54 59.2
comp=Z,1µm,18.4s,baz=5.0,slow=39
F35A Swanville 80.78 36 P P 15 14 31.9 -0.1
baz=319,SNR=13
I32A Karley and Nic 80.79 39 P P 15 14 32.2 +0.1
baz=318
ESK Eskdalemuir 80.80 341 eP P 15 14 32.7 +0.8
comp=Z,47nm,0.9s
ESK LR LR
comp=Z,2µm,19.0s
ESK Eskdalemuir 80.80 341 eP P 15 14 32.7 +0.8
ESK pmax pmax
comp=Z,47nm,0.9s
ESK MLR MLR
comp=Z,2µm,19.0s
C38A Sawbill Land, 80.81 33 P P 15 14 31.9 -0.2
baz=321,SNR=32
WET Wettzell 80.81 329 P P 15 14 33.1 +1.0
CSS Mathiatis 80.87 308 eP P 15 14 32.5 -0.2
comp=Z,9.5nm,0.8s
CSS LR LR
comp=Z,200nm,20.0s
CSS Mathiatis 80.87 308 P P 15 14 31.6 -1.1
E36A McGregor 80.87 35 P P 15 14 32.4 -0.1
baz=320,SNR=28
MMAI Mount Meron Ar 80.89 305 P P 15 14 33.2 +0.3
comp=Z,32nm,1.1s,baz=46,slow=4.8,SNR=27
MMAI LR LR 15 54 18.6
comp=Z,2µm,18.6s,baz=50,slow=39
ALN Alexandroupoli 80.91 316 P P 15 14 32.7 0.0
ALN Alexandroupoli 80.91 316 P P 15 14 32.7 0.0
ALN Alexandroupoli 80.91 316 P P 15 14 32.7 0.0
ENEZ Enez 80.97 316 P P 15 14 32.8 -0.2
RDO Rodhopi 81.00 317 P P 15 14 32.7 -0.5
RDO Rodhopi 81.00 317 P P 15 14 32.7 -0.5
SDCO Great Sand Dun 81.02 48 P P 15 14 34.8 +1.0
baz=314,SNR=40
SDCO Great Sand Dun 81.02 48 eP P 15 14 34.4 +0.6
comp=Z,73nm,1.5s
SDCO LR LR
comp=Z,300nm,20.0s
GRF Grafenberg Arr 81.02 330 P P 15 14 34.5 +1.3
GRFO Grafenberg 81.02 330 eP P 15 14 34.0 +0.8
comp=Z,243nm,1.3s
GRFO LR LR
comp=Z,1µm,19.0s
GRFO Grafenberg 81.02 330 eP P 15 14 34.0 +0.8
GRFO pmax pmax
comp=Z,243nm,1.3s
GRFO MLR MLR
comp=Z,1µm,19.0s
RZN Rozhen 81.04 318 iP P 15 14 34.2 +0.5
J32A Parkston 81.08 40 P P 15 14 33.6 -0.1
baz=318,SNR=14
I33A Coleman 81.10 39 P P 15 14 34.1 +0.3
baz=318,SNR=16
H34A Spellman Lake, 81.12 38 P P 15 14 34.1 +0.2
baz=319
VTS Vitosha 81.16 319⇓iP P 15 14 35.1 +0.8
VTS Vitosha 81.16 319 eP P 15 14 34.6 +0.4
comp=Z,56nm,0.8s
VTS LR LR
comp=Z,2µm,20.0s
VTS Vitosha 81.16 319 iP P 15 14 34.6 +0.4
VTS Vitosha 81.16 319 P P 15 14 34.2 -0.1
VTS Vitosha 81.16 319 eP P 15 14 34.7 +0.4
VTS pmax pmax
comp=Z,56nm,0.8s
VTS MLR MLR
comp=Z,2µm,20.0s
C39A Grand Marais 81.21 33 P P 15 14 33.8 -0.4
baz=322,SNR=12
ARSA Arzberg 81.22 326 ipP P 15 14 35.2 +0.9
comp=Z,14nm,0.8s,SNR=31
MANT Manisa 81.24 313 eP P 15 14 35.0 +0.2
comp=Z,456nm,1.7s
MANT LR LR
comp=Z,5µm,19.0s
KORT Korkueli 81.25 311 eP P 15 14 34.3 -0.5
F36A Milaca 81.26 36 P P 15 14 34.1 -0.4
baz=320,SNR=9.8
MOA Molln 81.28 327 ipP P 15 14 35.3 +0.7
SNR=20
BEHE Becsehely 81.28 325⇓eP P 15 14 35.0 +0.4
RAR Rarotonga 81.28 127 LR LR 15 44 55.0
comp=Z,1µm,19.7s,baz=315,slow=31
G35A Watkins 81.31 37 P P 15 14 35.1 +0.3
baz=320
ECSD EROS Data Cent 81.42 39 P P 15 14 35.7 +0.2
baz=318,SNR=55
ECSD EROS Data Cent 81.42 39 eP P 15 14 35.5 +0.1
comp=Z,228nm,1.8s
ECSD LR LR
comp=Z,800nm,18.0s
TUC Tucson 81.52 55 P P 15 14 37.2 +0.9
baz=312
TUC Tucson 81.52 55 eP P 15 14 37.0 +0.8
comp=Z,75nm,1.5s
TUC Tucson 81.52 55 eP P 15 14 37.0 +0.8
TUC pmax pmax
comp=Z,75nm,1.5s
KOGS Kog 81.53 326 iP P 15 14 35.8 -0.1
C40A Isle Royale Na 81.53 32 P P 15 14 35.5 -0.4
baz=323,SNR=8.5
H35A Sunnyside Ranc 81.54 37 P P 15 14 36.6 +0.6
baz=319,SNR=42
E38A The Farm, Brul 81.55 34 P P 15 14 35.8 -0.3
baz=321,SNR=26
I34A Hadley 81.55 38 P P 15 14 36.5 +0.3
baz=319,SNR=11
J33A Davis 81.56 39 P P 15 14 36.2 +0.1
baz=318,SNR=12
DIVS Divibare 81.62 322 eP P 15 14 36.7 +0.1
comp=Z,105nm,1.4s
DIVS LR LR
comp=Z,1µm,19.0s
MMB Musomiste 81.62 318 iP P 15 14 37.3 +0.7
G36A St. Michael 81.63 36 P P 15 14 36.3 -0.2
baz=320
KAVA Kavala 81.65 317 P P 15 14 37.1 +0.4
KAVA Kavala 81.65 317 P P 15 14 37.1 +0.4
NVR Nevrokopi 81.73 318 P P 15 14 36.8 -0.4
NVR Nevrokopi 81.73 318 P P 15 14 36.8 -0.4
KSCO Kaye Shedlock' 81.74 45 P P 15 14 38.0 +0.6
baz=315,SNR=5.6

KSCO **Kaye Shedlock'** 81.74 45 *e*P P 15 14 37.9 +0.6
comp=Z,197nm,1.4s
KSCO LR LR
comp=Z,600nm,20.0s
KKB **Krupnik** 81.75 319 *i* P P 15 14 37.9 +0.7
F37A **Hinrichs Farm,** 81.76 35 P P 15 14 36.8 -0.4
baz=321
PERS **Pernice** 81.87 326 *i* P P 15 14 38.3 +0.5
SOKA **Soboth** 81.88 326 *i* pP P 15 14 38.8 +0.9
comp=Z,60nm,1.0s,SNR=66
MHTCO **State Highway** 81.91 48 *e*P P 15 14 39.7 +1.3
comp=Z,261nm,1.7s
F38A **Pierce - Schro** 81.91 35 P P 15 14 38.2 +0.3
baz=321,SNR=49
SRS **Serrai** 82.04 318 P P 15 14 38.5 -0.2
SRS **Serrai** 82.04 318 P P 15 14 38.5 -0.2
SRS **Serrai** 82.04 318 P P 15 14 38.5 -0.2
HGN **Heimansgroeve** 82.05 334 *e*P P 15 14 39.1 +0.6
comp=Z,188nm,1.6s
H36A **Jesserland, He** 82.05 37 P P 15 14 39.4 +0.7
baz=320,SNR=12
T25A **Trinidad** 82.06 48 P P 15 14 40.3 +1.1
baz=315,SNR=47
T25A **Trinidad** 82.06 48 *e*P P 15 14 40.0 +0.8
comp=Z,61nm,0.9s
SPMN **Marine on St.** 82.07 36 P P 15 14 38.6 -0.2
baz=321,SNR=9.1
SPMN **Marine on St.** 82.07 36 *e*P P 15 14 38.9 0.0
comp=Z,136nm,1.7s
SPMN LR LR
comp=Z,900nm,18.0s
K33A **Hardington** 82.07 40 P P 15 14 39.2 +0.3
baz=318,SNR=6.9
J34A **George** 82.07 39 P P 15 14 38.7 -0.2
baz=319,SNR=11
LIA **Limnos Island** 82.09 316 P P 15 14 38.1 -0.9
LIA **Limnos Island** 82.09 316 P P 15 14 38.1 -0.9
I35A **Creekview Farm** 82.11 38 P P 15 14 39.1 +0.1
baz=319,SNR=18
E39A **Mellen** 82.16 34 P P 15 14 38.9 -0.3
baz=322,SNR=32
OBKA **Obir** 82.21 326 *i* pP P 15 14 40.0 +0.4
comp=Z,25nm,0.8s,SNR=20
FETY **Fethiye** 82.23 312 P P 15 14 38.1 -1.8
FETY **Fethiye** 82.23 312 P P 15 14 38.1 -1.8
L33A **Hoskins** 82.26 40 P P 15 14 39.8 -0.1
baz=318,SNR=5.5
KBA **Koelnbreinsper** 82.27 328 *i* pP P 15 14 40.4 +0.4
comp=Z,33nm,0.8s,SNR=48
KBA **Koelnbreinsper** 82.27 328 P P 15 14 40.5 +0.4
LAZ **Ladron** 82.35 51 *e*P P 15 14 41.6 +0.9
KNT **Kendrikon** 82.36 318 P P 15 14 40.1 -0.3
KNT **Kendrikon** 82.36 318 P P 15 14 40.1 -0.3
KNT **Kendrikon** 82.36 318 P P 15 14 40.1 -0.3
F39A **Loretta** 82.37 34 P P 15 14 40.3 -0.1
baz=322,SNR=32
J35A **Milford** 82.37 38 P P 15 14 40.6 +0.1
baz=319,SNR=5.1
SOH **Sokhos** 82.38 318 P P 15 14 39.7 -0.9
SOH **Sokhos** 82.38 318 P P 15 14 39.7 -0.9
SOH **Sokhos** 82.38 318 P P 15 14 39.7 -0.9
BGNE **Belgrade** 82.38 41 P P 15 14 40.7 +0.1
baz=318,SNR=21
BGNE **Belgrade** 82.38 41 *e*P P 15 14 40.9 +0.3
comp=Z,196nm,0.9s
BGNE LR LR
comp=Z,700nm,20.0s
ANMO **Albuquerque** 82.39 51 P P 15 14 42.2 +1.2
baz=314
ANMO **Albuquerque** 82.39 51 *e*P P 15 14 42.1 +1.1
comp=Z,73nm,1.2s
ANMO LR LR
comp=Z,400nm,20.0s
ANMO **Albuquerque** 82.39 51 *de*P P 15 14 41.8 +0.9
ANMO pmax pmax
comp=Z,70nm,1.2s
E40A **Wakefield** 82.39 33 P P 15 14 41.0 +0.5
baz=322,SNR=64
OUR **Ouranopolis** 82.41 317 P P 15 14 37.7 -2.9
OUR **Ouranopolis** 82.41 317 P P 15 14 37.7 -2.9
OUR **Ouranopolis** 82.41 317 P P 15 14 37.7 -2.9
VAY **Valandovo** 82.41 319 P P 15 14 40.4 -0.3
VAY **Valandovo** 82.41 319 P P 15 14 40.4 -0.3
VAY **Valandovo** 82.41 319 ǁ *i*P P 15 14 40.6 -0.1
VAY **Valandovo** 82.41 319 P P 15 14 40.4 -0.3
BLY **Banja Luka** 82.43 324 ⇑ *i*P P 15 14 41.9 +1.2
BLY **Banja Luka** 82.43 324 *e*P P 15 14 40.8 +0.1
comp=Z,103nm,1.6s
BLY LR LR
comp=Z,1μm,20.0s
I36A **Fitzsimmons Fa** 82.44 37 P P 15 14 41.0 +0.2
baz=320,SNR=11
D41A **Chassel** 82.46 32 P P 15 14 41.1 +0.3
baz=323,SNR=22
PLE **Pljevlja** 82.48 322 *e*P P 15 14 40.6 -0.6
MYKA **Terra Mystica** 82.50 327 *i* pP P 15 14 41.2 0.0
comp=Z,25nm,1.0s,SNR=22
SKO **Skopje** 82.50 320 P P 15 14 41.7 +0.6
SKO **Skopje** 82.50 320 P P 15 14 41.7 +0.6
SKO **Skopje** 82.50 320 ǁ *i*P P 15 14 42.2 +1.1
SKO **Skopje** 82.50 320 P P 15 14 41.7 +0.6
H37A **Dierke Farm, C** 82.51 36 P P 15 14 41.5 +0.4
baz=321,SNR=10
OZLJ **Ozalj** 82.52 325 P P 15 14 38.3 -2.8
G38A **Ridgeland** 82.54 35 P P 15 14 40.9 -0.4
baz=321,SNR=10
STU **Stuttgart** 82.54 331 *e*P P 15 14 41.6 +0.4
comp=Z,82nm,0.9s
STU LR LR
comp=Z,1μm,18.0s
STU **Stuttgart** 82.54 331 *e*P P 15 14 41.6 +0.4
STU pmax pmax
comp=Z,82nm,0.9s
STU MLR MLR
comp=Z,1μm,18.0s
UCC **Uccle** 82.55 335 PFAKE 15 14 50.0 +8.8
UCC LR LR
comp=Z,4μm,18.0s
SCHQ **Schefferville** 82.56 16 P P 15 14 41.5 +0.3
comp=Z,32nm,1.0s,baz=348,slow=6.6,SNR=13
SCHQ LR LR 15 55 33.8
comp=Z,360nm,18.1s,baz=324,slow=39
SCHQ **Schefferville** 82.56 16 *e*P P 15 14 41.4 +0.1
comp=Z,59nm,1.1s
IVA **Berane** 82.59 321 *e*P P 15 14 41.3 -0.4
LJU **Ljubljana** 82.59 326 *i* P P 15 14 41.5 0.0
LJU *e* 15 17 38.0
LJU *e*PP PP 15 17 56.7 +6.4
LJU *e* 15 19 46.2
PLG **Polygyros** 82.66 318 P P 15 14 41.0 -1.0
PLG **Polygyros** 82.66 318 P P 15 14 41.0 -1.0
PLG **Polygyros** 82.66 318 P P 15 14 41.0 -1.0
HORT **Hortiatis** 82.67 318 P P 15 14 41.0 -1.2
HORT **Hortiatis** 82.67 318 P P 15 14 41.0 -1.2
CHOS **Chios island** 82.70 315 P P 15 14 42.1 -0.2
CHOS **Chios island** 82.70 315 P P 15 14 42.1 -0.2
BOJS **Bojanci** 82.70 325 *i* P P 15 14 41.7 -0.4
F40A **Park Falls** 82.71 34 P P 15 14 42.0 -0.2
baz=322,SNR=22
Y22D **IRIS PASSCAL I** 82.71 51 P P 15 14 44.2 +1.6
baz=314
Y22E **IRIS PASSCAL I** 82.71 51 P P 15 14 44.0 +1.5
baz=314
THE **Thessaloniki** 82.72 318 P P 15 14 40.8 -1.5
THE **Thessaloniki** 82.72 318 P P 15 14 40.8 -1.5
THE **Thessaloniki** 82.72 318 P P 15 14 40.8 -1.5
LPM **Los Pinos Moun** 82.72 51 *e*P P 15 14 43.2 +0.5
I37A **Lemond, Waseca** 82.73 37 P P 15 14 42.9 +0.6
baz=320,SNR=35
H38A **Maiden Rock** 82.73 36 P P 15 14 42.2 -0.1
baz=321,SNR=8.9
G39A **Holcombe** 82.75 35 P P 15 14 42.0 -0.4
baz=322,SNR=12
PVY **Plav** 82.76 321 ǁ *i*P P 15 14 42.9 +0.2
E41A **Kenton** 82.77 33 P P 15 14 42.5 +0.1
baz=323,SNR=22
GRG **Griva** 82.77 318 P P 15 14 42.1 -0.5
GRG **Griva** 82.77 318 P P 15 14 42.1 -0.5
GRG **Griva** 82.77 318 P P 15 14 42.1 -0.5
CADS **Cadrg** 82.78 327 *i* P P 15 14 41.7 -0.9
KOME **Kolasin** 82.79 321 ǁ *i*P P 15 14 43.2 +0.5
UPM **Unac-Piva** 82.81 322 ǁ *i*P P 15 14 42.9 -0.1
J36A **Seneca 1, Swea** 82.81 38 P P 15 14 42.8 +0.1
baz=320,SNR=15
WTTA **Wattenberg** 82.82 329 *e*pP P 15 14 43.7 +0.8
comp=Z,13nm,0.7s,SNR=15
BNM **Barren Site** 82.83 51 *e*P P 15 14 44.2 +0.9
K35A **Storm Lake** 82.85 39 P P 15 14 42.7 -0.3
baz=319,SNR=14
PAIG **Paliouri** 82.86 317 P P 15 14 41.7 -1.3
PAIG **Paliouri** 82.86 317 P P 15 14 41.7 -1.3
PAIG **Paliouri** 82.86 317 P P 15 14 41.7 -1.3
ABTA **Abfaltersbach** 82.88 328 *i* P P 15 14 42.9 -0.2
comp=Z,9.7nm,0.9s,SNR=28
BCI **Bajram Curri** 82.88 321 *i* P P 15 14 41.9 -1.3
WLF **Walferdange** 82.90 333 *e*P P 15 14 43.6 +0.6
comp=Z,210nm,2.0s
WLF LR LR
comp=Z,2μm,19.0s
WLF **Walferdange** 82.90 333 *e*P P 15 14 43.6 +0.6
WLF pmax pmax
comp=Z,210nm,2.0s
WLF MLR MLR
comp=Z,2μm,19.0s
BODT **Bodrum** 82.94 313 P P 15 14 41.1 -2.4
BODT **Bodrum** 82.94 313 P P 15 14 41.1 -2.4
MOTA **Moosalm** 82.97 329 *i* pP P 15 14 44.7 +1.1
comp=Z,23nm,0.9s,SNR=50
COWI **Conover** 82.98 33 *e*P P 15 14 43.3 -0.3
comp=Z,63nm,1.4s
COWI LR LR
comp=Z,700nm,19.0s
RETA **Reute** 82.98 329 *i* pP P 15 14 44.3 +0.7
comp=Z,37nm,0.9s,SNR=48
GIVF **Givet** 82.99 334 *e*P P 15 14 43.2 -0.3
GIVF pmax pmax
comp=Z,70nm,1.4s
KRUS **Krusevo** 83.05 319 *i* P P 15 14 43.6 -0.5
NKY **Niksic** 83.06 322 *e*P P 15 14 44.2 0.0
ARG **Arkhangelos** 83.08 312 P P 15 14 44.4 +0.2
ARG **Arkhangelos** 83.08 312 P P 15 14 44.4 +0.2
ARG **Arkhangelos** 83.08 312 P P 15 14 44.4 +0.2
319A **Douglas** 83.09 55 *e*P P 15 14 45.1 +0.5
comp=Z,75nm,1.1s
NKME **Niksic** 83.12 322 *e*P P 15 14 44.1 -0.3
H39A **Augusta** 83.17 35 P P 15 14 44.6 0.0
baz=322,SNR=12
TRI **Trieste** 83.18 326 *e*P P 15 14 44.0 -0.6
comp=Z,64nm,1.0s
TRI LR LR
comp=Z,2μm,20.0s
TRI **Trieste** 83.18 326 *e*P P 15 14 44.0 -0.6
TRI pmax pmax
comp=Z,64nm,1.0s
TRI MLR MLR
comp=Z,2μm,20.0s
G40A **Rib Lake** 83.19 34 P P 15 14 44.6 -0.1
baz=322,SNR=31
J37A **Redenius Farm,** 83.20 37 P P 15 14 44.9 +0.2
baz=320,SNR=23
I38A **Scanlan Farm,** 83.20 36 P P 15 14 44.6 -0.1
baz=321,SNR=13
PHP **Peshkopia** 83.21 320 P P 15 14 44.0 -0.9
PHP **Peshkopia** 83.21 320 P P 15 14 44.0 -0.9
PHP **Peshkopia** 83.21 320 *i* P P 15 14 46.1 +1.2
PHP **Peshkopia** 83.21 320 P P 15 14 44.0 -0.9
PUK **Puka** 83.21 321 *i* P P 15 14 45.7 +0.8
BRY **Bratogost** 83.21 322 ǁ *i*P P 15 14 44.8 -0.2
BFO **Black Forest** 83.23 331 *e*P P 15 14 45.3 +0.5
comp=Z,97nm,1.2s
BFO LR LR
comp=Z,2μm,19.0s
BFO **Black Forest** 83.23 331 *i* P P 15 14 45.5 +0.7
PDG **Podgorica** 83.23 321 ⇑ *i*P P 15 14 45.7 +0.8
PDG **Podgorica** 83.23 321 P P 15 14 43.9 -1.0
TTG **Podgorica** 83.23 321 ǁ *i*P P 15 14 45.0 +0.1
TTG **Podgorica** 83.23 321 *e*P P 15 14 44.7 -0.2
comp=Z,112nm,1.0s
TTG LR LR
comp=Z,2μm,20.0s
TTG **Podgorica** 83.23 321 *e*P P 15 14 44.7 -0.2
TTG pmax pmax
comp=Z,112nm,1.0s
TTG MLR MLR
comp=Z,2μm,20.0s
E42A **Champion** 83.23 32 P P 15 14 44.8 0.0
baz=324,SNR=23
BAIF **Baives** 83.23 334 *e*P P 15 14 45.7 +1.0
BAIF pmax pmax
comp=Z,42nm,1.2s
121A **Cookes Peak, D** 83.24 53 P P 15 14 46.8 +1.4
baz=313,SNR=20
121A **Cookes Peak, D** 83.24 53 *e*P P 15 14 46.7 +1.4
comp=Z,100nm,1.4s
F41A **Three Lakes** 83.28 33 P P 15 14 45.4 +0.2
baz=323,SNR=42
K36A **Gilmore City** 83.28 38 P P 15 14 45.3 +0.1
baz=320,SNR=18
CEME **Cevo** 83.30 322 ǁ *i*P P 15 14 45.1 -0.3
LIT **Litokhoron** 83.35 318 *e*P P 15 14 45.3 -0.3
comp=Z,89nm,1.2s
LIT LR LR
comp=Z,2μm,18.0s
LIT **Litokhoron** 83.35 318 P P 15 14 44.9 -0.7
LIT **Litokhoron** 83.35 318 *e*P P 15 14 45.3 -0.3
LIT pmax pmax
comp=Z,89nm,1.2s
LIT MLR MLR
comp=Z,2μm,18.0s
FETA **Feichten** 83.38 329 *i* pP P 15 14 46.2 +0.4
comp=Z,19nm,1.0s,SNR=26
FNA **Florina** 83.42 319 P P 15 14 46.1 +0.1
DRME **Dracevica, Mon** 83.45 321 ǁ *i*P P 15 14 46.3 +0.3
CBKS **Cedar Bluff** 83.45 44 P P 15 14 45.9 -0.2
baz=317,SNR=14
CBKS **Cedar Bluff** 83.45 44 *e*P P 15 14 45.8 -0.4
comp=Z,122nm,1.3s
CBKS **Cedar Bluff** 83.45 44 *e*P P 15 14 45.8 -0.4
CBKS pmax pmax
comp=Z,122nm,1.3s
OHR **Ohrid** 83.46 320 ǁ *i*P P 15 14 46.3 +0.1
DAVA **Damuels** 83.50 330 *i* pP P 15 14 46.8 +0.4
comp=Z,1.3nm,0.2s,SNR=20
BUM **Brajici-Budva** 83.50 321 ǁ *i*P P 15 14 46.3 -0.1
XOR **Xorichti** 83.53 317 P P 15 14 45.4 -1.1
XOR **Xorichti** 83.53 317 P P 15 14 45.4 -1.1
NEO **Neokhori** 83.56 317 P P 15 14 45.0 -1.7
NEO **Neokhori** 83.56 317 P P 15 14 45.0 -1.7
KZN **Kozani** 83.57 318 P P 15 14 45.8 -1.0
KZN **Kozani** 83.57 318 P P 15 14 45.8 -1.0
KZN **Kozani** 83.57 318 P P 15 14 45.8 -1.0
K37A **Belmond** 83.57 38 P P 15 14 46.8 +0.1
baz=320,SNR=54
HCY **Herceg Novi** 83.58 322 ǁ *i*P P 15 14 46.3 -0.4
ULC **Ulcinj** 83.59 321 ǁ *i*P P 15 14 47.1 +0.3
L36A **Harm Buss Farm** 83.59 39 P P 15 14 47.0 +0.2
baz=320,SNR=15
HSIG 83.60 57 *e*P P 15 14 47.3 +0.2
NVLJ **Novalja** 83.61 325 P P 15 14 45.4 -1.4
H40A **Chili** 83.61 35 P P 15 14 47.0 +0.1
baz=322,SNR=25
FYTO **Fytoko, Volos** 83.63 317 P P 15 14 46.2 -0.8
FYTO **Fytoko, Volos** 83.63 317 P P 15 14 46.2 -0.8
STON **Ston** 83.63 322 P P 15 14 44.1 -2.8
SLE **Schleitheim** 83.64 331 P P 15 14 47.4 +0.5
E43A **Lone Tree Farm** 83.65 32 P P 15 14 46.8 -0.2
baz=324,SNR=25
F42A **Maple Grove Fa** 83.68 33 P P 15 14 47.3 +0.2
baz=324
J38A **Wedel Dairy, R** 83.69 37 P P 15 14 47.3 0.0
baz=321,SNR=18
I39A **Houston** 83.71 36 P P 15 14 47.0 -0.4
baz=322,SNR=22
TIR **Tirane** 83.75 320 ǁ *i*P P 15 14 48.4 +0.8
TIR **Tirane** 83.75 320 *e*P P 15 14 47.6 0.0
comp=Z,197nm,1.5s
TIR LR LR
comp=Z,2μm,19.0s
TIR **Tirane** 83.75 320 P P 15 14 47.6 0.0
TIR **Tirane** 83.75 320 *i* P P 15 14 49.9 +2.3
TIR **Tirane** 83.75 320 *e*P P 15 14 47.6 0.0
TIR pmax pmax
comp=Z,197nm,1.5s
TIR MLR MLR
comp=Z,2μm,19.0s
ECH **Echery** 83.76 332 *e*P P 15 14 47.9 +0.4
comp=Z,63nm,1.1s
ECH LR LR
comp=Z,2μm,20.0s
ECH **Echery** 83.76 332 *e*P P 15 14 47.9 +0.4
ECH pmax pmax
comp=Z,63nm,1.1s
ECH MLR MLR
comp=Z,2μm,20.0s
EREA **Eretria** 83.83 316 P P 15 14 43.5 -4.6
KBN **Korca** 83.83 319 P P 15 14 47.4 -0.7
KBN **Korca** 83.83 319 P P 15 14 47.4 -0.7
KBN **Korca** 83.83 319 P P 15 14 47.4 -0.7
NEST **Nestorio** 83.86 319 P P 15 14 47.1 -1.2
SMIA **Simia** 83.88 317 P P 15 14 48.0 -0.3
E44A **Grand Marais A** 83.88 31 P P 15 14 48.4 +0.2
baz=325,SNR=10
FUORN **Ofenpass-Fuorn** 83.89 329 *e*P P 15 14 49.1 +0.6
comp=Z,308nm,1.4s
FUORN LR LR
comp=Z,3μm,18.0s
APE **Apeiranthos** 83.93 314 P P 15 14 46.5 -2.2
APE **Apeiranthos** 83.93 314 P P 15 14 46.5 -2.2
APE **Apeiranthos** 83.93 314 P P 15 14 46.5 -2.2
H41A **Junction City** 83.94 34 P P 15 14 48.4 -0.1
baz=323,SNR=15
H41A **Junction City** 83.94 34 *e*P P 15 14 48.6 +0.1
comp=Z,67nm,1.1s
H41A LR LR
comp=Z,600nm,19.0s
G42A **Mountain** 83.97 33 P P 15 14 48.6 0.0
baz=323,SNR=19
G42A **Mountain** 83.97 33 *e*P P 15 14 48.6 0.0
comp=Z,65nm,1.1s
G42A LR LR
comp=Z,1μm,18.0s
PENT **Pentalofos** 83.98 319 P P 15 14 47.6 -1.3
URZ **Urewera** 83.98 153 PFAKE 15 15 00.0 +12
URZ LR LR
comp=Z,1μm,20.0s
THL **Klokotos Trika** 84.00 318 P P 15 14 46.9 -2.0
L37A **Phoenix Point,** 84.01 38 P P 15 14 49.1 +0.2
baz=320,SNR=26
M36A **Felix, Anita** 84.02 39 P P 15 14 49.3 +0.3
baz=320,SNR=5.6
F43A **Flat Rock, Esc** 84.02 32 P P 15 14 48.9 +0.1
baz=324,SNR=14
J39A **Decorah** 84.03 36 P P 15 14 48.5 -0.5
baz=321,SNR=30
K38A **Parkersburg** 84.07 37 P P 15 14 49.1 -0.2
baz=321,SNR=5.9
I40A **Norwalk** 84.09 35 P P 15 14 49.3 0.0
baz=322,SNR=12
KARP **Karpathos** 84.10 312 P P 15 14 48.7 -0.9
KARP LR LR
comp=Z,300nm,19.0s
KARP **Karpathos** 84.10 312 P P 15 14 48.7 -0.9
LKR **Lokris** 84.16 317 P P 15 14 48.3 -1.4
LKR **Lokris** 84.16 317 P P 15 14 48.3 -1.4
HINF **Hinteralfeld** 84.20 332 *e*P P 15 14 49.4 -0.5
HINF pmax pmax
comp=Z,72nm,1.6s
F44A **Big Bay de Noc** 84.21 32 P P 15 14 50.0 +0.1
baz=325,SNR=38
HAU **Haudompre** 84.23 332 P P 15 14 49.7 -0.3
HAU pmax pmax
comp=Z,19nm,0.8s
AGG **Agios Georgios** 84.23 317 *e*P P 15 14 49.2 -0.9
comp=Z,327nm,1.8s
AGG LR LR
comp=Z,6μm,18.0s
AGG **Agios Georgios** 84.23 317 P P 15 14 47.2 -3.0
AGG **Agios Georgios** 84.23 317 *e*P P 15 14 49.3 -0.9
AGG pmax pmax
comp=Z,327nm,1.8s
AGG MLR MLR
comp=Z,6μm,18.0s
G43A **Wallace** 84.27 33 P P 15 14 50.2 +0.1
baz=324,SNR=20
G43A **Wallace** 84.27 33 *e*P P 15 14 50.2 +0.1
comp=Z,210nm,1.6s
G43A LR LR
comp=Z,800nm,18.0s
I41A **Arkdale** 84.29 35 P P 15 14 50.3 0.0
baz=322,SNR=8.5
TUE **Stuetta** 84.37 329 *e*P P 15 14 51.0 0.0
comp=Z,177nm,1.5s
TUE LR LR
comp=Z,2μm,18.0s
L38A **Oak Wood Farm,** 84.38 38 P P 15 14 51.0 +0.2
baz=321,SNR=14
E45A **Wooded Hills,** 84.39 31 P P 15 14 50.7 -0.1
baz=325,SNR=7.5
M37A **Trindle Farm,** 84.42 39 P P 15 14 51.8 +0.8
baz=320,SNR=11
J40A **Soldiers Grove** 84.42 36 P P 15 14 50.7 -0.3
baz=322,SNR=12
N36A **Muff Farm, Cla** 84.42 40 P P 15 14 51.5 +0.5
baz=320,SNR=9.2
SCIA **State Center** 84.43 38 P P 15 14 51.8 +0.7
baz=321,SNR=7.8
SCIA **State Center** 84.43 38 *e*P P 15 14 51.4 +0.3
comp=Z,151nm,1.0s
SCIA LR LR
comp=Z,900nm,20.0s
K39A **Oelwein** 84.44 37 P P 15 14 50.7 -0.4
baz=321,SNR=20
SANT **Santorini** 84.48 314 *e*P P 15 14 51.0 -0.5
comp=Z,97nm,1.1s
SANT LR LR
comp=Z,900nm,19.0s
H42A **Shiocton** 84.51 34 P P 15 14 51.5 +0.1
baz=323
H42A **Shiocton** 84.51 34 *e*P P 15 14 51.8 +0.3
comp=Z,82nm,1.1s
H42A LR LR
comp=Z,800nm,20.0s
EPT **El Paso** 84.55 53 *e*P P 15 14 52.5 +0.6
comp=Z,89nm,1.5s
BKZ **Black Stump Fm** 84.58 154 PFAKE 15 15 00.0 +8.4
BKZ LR LR
comp=Z,2μm,21.0s
DSF **Desfina** 84.58 317 P P 15 14 50.1 -1.9
DSF **Desfina** 84.58 317 P P 15 14 50.1 -1.9
EVR **Evrytania** 84.58 317 P P 15 14 50.7 -1.3
EVR **Evrytania** 84.58 317 P P 15 14 50.7 -1.3
PMOR **Pomariorio Ree** 84.73 114 *e*T T 16 48 00.5
comp=Z,115nm,0.2s
ANX **Ano Chora** 84.77 317 P P 15 14 50.2 -2.7
J41A **Loganville** 84.77 35 P P 15 14 52.7 -0.1
baz=322,SNR=21
K40A **Colesburg** 84.79 36 P P 15 14 52.7 -0.1
baz=322,SNR=33
SRN **Sarande** 84.79 319 P P 15 14 52.0 -0.9
SRN **Sarande** 84.79 319 P P 15 14 52.0 -0.9
SRN **Sarande** 84.79 319 *i* P P 15 14 54.2 +1.4
KALE **Kalithea** 84.80 317 P P 15 14 50.1 -3.0
KALE **Kalithea** 84.80 317 P P 15 14 50.1 -3.0
F45A **CMU Biological** 84.81 31 P P 15 14 52.9 0.0
baz=325,SNR=13
M38A **Pleasantville** 84.82 38 P P 15 14 53.6 +0.5
baz=321,SNR=32
SERG **Sergoula** 84.83 317 P P 15 14 51.8 -1.4
N37A **Lee Faris, Mou** 84.83 39 P P 15 14 53.9 +0.7
baz=320,SNR=27
L39A **Vinton** 84.84 37 P P 15 14 53.3 +0.2
baz=321,SNR=38
I42A **Draeger Farm,** 84.84 34 P P 15 14 53.2 +0.2
baz=323,SNR=21
I42A **Draeger Farm,** 84.84 34 *e*P P 15 14 52.8 -0.3
comp=Z,80nm,0.9s
I42A LR LR
comp=Z,700nm,20.0s
TRIZ **Trizonia** 84.86 317 P P 15 14 51.2 -2.0
H43A **Windswept, Lux** 84.87 33 P P 15 14 53.5 +0.3
baz=324,SNR=21
H43A **Windswept, Lux** 84.87 33 *e*P P 15 14 53.3 +0.1
comp=Z,104nm,0.9s
H43A LR LR
comp=Z,800nm,18.0s
DID **Didima** 84.87 316 P P 15 14 50.0 -3.4
DID **Didima** 84.87 316 P P 15 14 50.0 -3.4
SGD **Sagiada** 84.87 319 P P 15 14 51.9 -1.4
KSU1 **Kansas State U** 84.88 42 P P 15 14 53.2 -0.2
baz=319,SNR=14
KSU1 **Kansas State U** 84.88 42 *e*P P 15 14 53.0 -0.4
comp=Z,54nm,0.9s
KSU1 LR LR
comp=Z,700nm,22.0s
EFP **Efpalio** 84.90 317 P P 15 14 52.9 -0.6
ZKR **Zakros** 84.95 312 P P 15 14 53.7 -0.1

ZKR	Zakros	84.95	312	P		P		15 14 53.7	-0.1	
PVO	Paravola	84.95	317	P		P		15 14 52.3	-1.5	
LAKA	Lakka	85.00	317	P		P		15 14 52.6	-1.4	
LAKA	Lakka	85.00	317	P		P		15 14 52.6	-1.4	
KRND	KRANIDI	85.01	316	P		P		15 14 51.4	-2.6	
KEK	Kerkira	85.02	319	P		P		15 14 53.6	-0.5	
KEK	Kerkira	85.02	319	P		P		15 14 53.6	-0.5	
JFWS	Jewell Farm	85.02	36	P		P		15 14 53.8	-0.2	
	baz=322,SNR=10.0									
JFWS	Jewell Farm	85.02	36	*e*P		P		15 14 53.5	-0.6	
	comp=Z,49nm,1.0s									
JFWS				LR		LR				
	comp=Z,600nm,20.0s									
JFWS	Jewell Farm	85.02	36	*e*P		P		15 14 53.5	-0.6	
JFWS				pmax		pmax				
	comp=Z,49nm,1.0s									
JFWS				MLR		MLR				
	comp=Z,600nm,20.0s									
GUR	Goura	85.03	316	P		P		15 14 51.5	-2.8	
GUR	Goura	85.03	316	P		P		15 14 51.5	-2.8	
F46A	Macinaw City C	85.04	31	P		P		15 14 54.1	+0.1	
	baz=326,SNR=12									
KLV	Kalavryta, Ach	85.05	317	P		P		15 14 53.0	-1.4	
KLV	Kalavryta, Ach	85.05	317	P		P		15 14 53.0	-1.4	
PDO	Prodromos	85.15	318	P		P		15 14 53.2	-1.5	
I43A	Langenfeld Bro	85.18	34	P		P		15 14 54.9	+0.1	
	baz=324,SNR=9.7									
NPS	Neapolis	85.19	313	P		P		15 14 52.9	-2.1	
NPS	Neapolis	85.19	313	P		P		15 14 52.9	-2.1	
NPS	Neapolis	85.19	313	P		P		15 14 52.9	-2.1	
J42A	Columbus	85.20	35	P		P		15 14 54.9	0.0	
	baz=323,SNR=17									
AMTX	Amarillo	85.22	48	P		P		15 14 56.3	+1.0	
	baz=316									
AMTX	Amarillo	85.22	48	*e*P		P		15 14 56.0	+0.8	
	comp=Z,55nm,1.0s									
K41A	Shullsburg	85.24	36	P		P		15 14 55.1	0.0	
	baz=322,SNR=25									
MSTX	Muleshoe	85.24	49	P		P		15 14 56.0	+0.6	
	baz=316,SNR=26									
MSTX	Muleshoe	85.24	49	*e*P		P		15 14 55.3	-0.1	
	comp=Z,63nm,1.0s									
L40A	Anamosa	85.25	37	P		P		15 14 54.9	-0.2	
	baz=322,SNR=20									
SENIN	Lac Senin/Sane	85.25	331	*e*P		P		15 14 55.7	+0.3	
	comp=Z,123nm,1.5s									
SENIN				LR		LR				
	comp=Z,2µm,22.0s									
M39A	Webster	85.26	38	P		P		15 14 55.5	+0.3	
	baz=321,SNR=37									
CPRX	Cap Rock	85.26	50	*e*P		P		15 14 56.5	+0.9	
	comp=Z,5.2nm,0.8s									
LKD2	Lefkada island	85.28	318	P		P		15 14 54.1	-1.3	
LKD2	Lefkada island	85.28	318	P		P		15 14 54.1	-1.3	
N38A	Joes South For	85.28	39	P		P		15 14 55.7	+0.4	
	baz=321,SNR=7.0									
MNTX	Cornudas Mount	85.28	52	P		P		15 14 56.4	+0.8	
	baz=315,SNR=46									
MNTX	Cornudas Mount	85.28	52	*e*P		P		15 14 56.2	+0.6	
	comp=Z,92nm,1.5s									
O37A	Wolven Farm, M	85.32	40	P		P		15 14 56.2	+0.6	
	baz=320,SNR=16									
PPT	Papeete	85.32	117	LR		LR		15 45 52.8		
	comp=Z,1µm,21.5s,baz=304,slow=31									
LAST	Lasithi	85.34	313	P		P		15 14 54.4	-1.4	
LAST	Lasithi	85.34	313	P		P		15 14 54.4	-1.4	
PPT2	Papeete2	85.34	117	*e*S		S		15 25 15.7	-10	
	comp=Z,483nm,25.0s									
PPT2	Papeete2	85.34	117	*e*LQ		LQ		15 37 49.0		
	comp=Z,2µm,27.8s									
PPT2				*e*LR		LR		15 41 42.3		
	comp=Z,3µm,22.5s,baz=313									
PPT2	Papeete2	85.34	117	*e*T		T		16 48 46.1		
	comp=Z,59nm,0.3s									
DRO	Drossia	85.35	317	P		P		15 14 55.2	-0.6	
PAE	Paea	85.39	117	*e*T		T		16 48 48.9		
	comp=Z,7.1nm,0.3s									
RLS	Riolos of Patr	85.40	317	P		P		15 14 55.0	-1.0	
RLS	Riolos of Patr	85.40	317	P		P		15 14 55.0	-1.0	
VLX	Vlachokerasia	85.43	316	P		P		15 14 54.1	-2.2	
VLX	Vlachokerasia	85.43	316	P		P		15 14 54.1	-2.2	
J43A	Natural Harves	85.46	34	P		P		15 14 56.1	-0.1	
	baz=324,SNR=21									
TIAR	Tiarei	85.47	117	*e*T		T		16 48 55.5		
	comp=Z,14nm,0.3s									
CABF	La Chapelle	85.50	331	*e*P		P		15 14 56.4	-0.1	
CABF				pmax		pmax				
	comp=Z,139nm,1.6s									
K42A	Prairie Point,	85.53	35	P		P		15 14 56.3	-0.3	
	baz=323,SNR=14									
N39A	Derby Farms, D	85.57	38	P		P		15 14 57.2	+0.4	
	baz=321,SNR=26									
L41A	Preston	85.57	36	P		P		15 14 56.6	-0.2	
	baz=322,SNR=17									
FSK	Fiskardo	85.57	318	P		P		15 14 55.5	-1.3	
IDI	Anoyia	85.58	313	P		P		15 14 56.3	-0.7	
	comp=Z,12nm,0.4s,baz=40,slow=12,SNR=19									
IDI				S		S		15 25 22.7	-5.2	
	comp=Z,5.3nm,0.9s,baz=112,slow=1.0,SNR=2.5									
IDI				LR		LR		15 57 58.3		
	comp=Z,790nm,18.1s,baz=22,slow=39									
IDI	Anoyia	85.58	313	*e*P		P		15 14 56.5	-0.6	
	comp=Z,134nm,1.6s									
IDI				S		S		15 25 22.7	-5.2	
VLI	Veliai	85.61	315	P		P		15 14 53.7	-3.4	
VLI	Veliai	85.61	315	P		P		15 14 53.7	-3.4	
M40A	Post Highland	85.63	37	P		P		15 14 57.3	+0.2	
	baz=322,SNR=27									
P37A	Lathrop	85.66	40	P		P		15 14 57.4	+0.2	
	baz=320,SNR=20									
AMT	Artemida-Makis	85.67	317	P		P		15 14 56.6	-0.8	
O38A	Galt	85.68	39	P		P		15 14 57.8	+0.4	
	baz=320									
TVO	Taravao	85.69	117	*e*T		T		16 49 11.9		
	comp=Z,2.9nm,0.3s									
KFL	Anninata	85.72	318	P		P		15 14 55.8	-1.8	
VLS	Valsamata	85.77	318	P		P		15 14 56.6	-1.3	
VLS	Valsamata	85.77	318	P		P		15 14 56.6	-1.3	
VLS	Valsamata	85.77	318	P		P		15 14 56.6	-1.3	
SIVA	Sivas	85.82	313	P		P		15 14 57.3	-0.8	
SIVA	Sivas	85.82	313	P		P		15 14 57.3	-0.8	
MATE	Matera	85.82	322	*i*P		P		15 14 58.4	+0.4	
VLC	Villacollemand	85.85	327	PFAKE				15 15 10.0	+12	
VLC				LR		LR				
	comp=Z,3µm,19.0s									
FLN	La Foliniere	85.87	336	*e*P		P		15 14 58.0	-0.1	
VAM	Vamos	85.88	314	P		P		15 14 56.9	-1.5	
VAM	Vamos	85.88	314	P		P		15 14 56.9	-1.5	
VAM	Vamos	85.88	314	P		P		15 14 56.9	-1.5	
GLMI	Grayling	85.88	31	P		P		15 14 58.8	+0.5	
	baz=326,SNR=7.7									
GLMI	Grayling	85.88	31	*e*P		P		15 14 58.8	+0.5	
	comp=Z,167nm,0.9s									
GLMI				LR		LR				
	comp=Z,900nm,19.0s									
KYTH	Kithira	85.89	315	P		P		15 14 56.6	-1.9	
KYTH	Kithira	85.89	315	P		P		15 14 56.6	-1.9	
DYR	Agios Nikonas	85.90	316	P		P		15 14 56.6	-2.0	
IMMV	Iera Moni Meta	85.96	314	P		P		15 14 56.8	-2.0	
N40A	Mertquake, Sal	86.00	38	P		P		15 14 59.4	+0.5	
	baz=322,SNR=22									
L42A	Oliver, Polo	86.01	36	P		P		15 14 58.6	-0.3	
	baz=323,SNR=8.4									
AQU	L'Aquila	86.01	325	*e*P		P		15 14 59.3	+0.3	
	comp=Z,90nm,1.3s									
AQU				LR		LR				
	comp=Z,2µm,21.0s									
AQU	L'Aquila	86.01	325	*e*P		P		15 14 59.3	+0.3	
AQU				pmax		pmax				
	comp=Z,90nm,1.3s									
AQU				MLR		MLR				
	comp=Z,2µm,21.0s									
O39A	Kirksville	86.03	39	P		P		15 14 59.4	+0.3	
	baz=321,SNR=8.5									
P38A	Dawn	86.04	40	P		P		15 14 59.6	+0.5	
	baz=320,SNR=15									
ANKY	Antikythira Is	86.04	315	P		P		15 14 56.2	-3.0	
ANKY	Antikythira Is	86.04	315	P		P		15 14 56.2	-3.0	
K43A	Burlington	86.04	35	P		P		15 14 59.0	-0.1	
	baz=324,SNR=5.4									
M41A	Milan	86.10	37	P		P		15 14 59.5	0.0	
	baz=322,SNR=16									
PYL	PYLOS	86.12	316	P		P		15 14 57.9	-1.7	
PYL	PYLOS	86.12	316	P		P		15 14 57.9	-1.7	
Q37A	Longview Farm,	86.15	41	P		P		15 14 59.5	-0.2	
	baz=320,SNR=6.2									
LPL	La Plagne	86.18	330	*e*P		P		15 15 00.1	+0.1	
LPL				pmax		pmax				
	comp=Z,56nm,1.0s									
LPG	La Plagne	86.19	330	*e*P		P		15 15 00.3	+0.2	
LPG				pmax		pmax				
	comp=Z,74nm,1.2s									
TAOE	Nuku Hiva Isla	86.26	105	*e*S		S		15 25 16.8	-18	
	comp=Z,125nm,27.7s									
TAOE	Nuku Hiva Isla	86.26	105	*e*LR		LR		15 41 55.9		
	comp=Z,1µm,21.2s,baz=319									
TAOE	Nuku Hiva Isla	86.26	105	*e*T		T		16 49 56.6		
	comp=Z,80nm,0.2s									
L43A	Garden Prairie	86.28	35	P		P		15 15 00.1	-0.2	
	baz=323									
GRR	Gorron	86.32	336	*e*P		P		15 15 00.5	+0.1	
GRR				pmax		pmax				
	comp=Z,240nm,1.6s									
AVF	Avril sur Loir	86.33	333	*e*P		P		15 14 59.4	-1.0	
AVF				pmax		pmax				
	comp=Z,123nm,1.0s									
GVD	Gavdhos	86.36	313	P		P		15 15 00.3	-0.5	
GVD	Gavdhos	86.36	313	P		P		15 15 00.3	-0.5	
M42A	Sheffield	86.40	36	P		P		15 15 00.7	-0.2	
	baz=323									
O40A	La Belle	86.46	38	P		P		15 15 01.5	+0.3	
	baz=322,SNR=32									
N41A	Harden Midland	86.48	37	P		P		15 15 01.6	+0.3	
	baz=326,SNR=6.2									
Q38A	Cooks Store, C	86.50	40	P		P		15 15 01.5	0.0	
	baz=320,SNR=25									
P39B	Salisbury	86.52	39	P		P		15 15 01.8	+0.2	
	baz=321,SNR=12									
KHZ	Kahutara	86.59	157	PFAKE				15 15 10.0	+8.6	
KHZ				LR		LR				
	comp=Z,3µm,21.0s									
BNI	Bardonecchia	86.59	330	*e*P		P		15 15 02.5	+0.6	
	comp=Z,19nm,0.9s									
BNI				LR		LR				
	comp=Z,2µm,20.0s									
BNI	Bardonecchia	86.59	330	*e*P		P		15 15 02.5	+0.6	
BNI				pmax		pmax				
	comp=Z,19nm,0.9s									
BNI				MLR		MLR				
	comp=Z,2µm,20.0s									
L44A	Lake County Fo	86.65	35	P		P		15 15 02.2	+0.1	
	baz=324									
DAMY	Dhamar	86.67	286	PFAKE				15 15 10.0	+7.0	
DAMY				LR		LR				
	comp=Z,800nm,19.0s									
BGF	Bois d'Agland	86.71	333	*e*P		P		15 15 02.4	+0.1	
BGF				pmax		pmax				
	comp=Z,118nm,1.6s									
Q39A	Willow Grove F	86.76	40	P		P		15 15 03.2	+0.5	
	baz=321,SNR=48									
CUC	Castrocucco	86.76	322	*e*P		P		15 15 01.4	-1.3	
	comp=Z,13nm,1.2s									
CUC				LR		LR				
	comp=Z,800nm,20.0s									
N42A	Yates City	86.77	37	P		P		15 15 02.8	+0.1	
	baz=323,SNR=6.0									
M43A	Waltham Townsh	86.78	36	P		P		15 15 02.9	+0.1	
	baz=323,SNR=14									
P40A	Paris	86.83	39	P		P		15 15 03.5	+0.4	
	baz=321,SNR=51									
O41A	Passleys Farm,	86.94	38	P		P		15 15 03.7	+0.2	
	baz=322,SNR=8.2									
TIP	Timpagrande	86.94	321	*i*P		P		15 15 04.1	+0.4	
TIP	Timpagrande	86.94	321	*e*P		P		15 15 03.5	-0.1	
	comp=Z,104nm,1.7s									
TIP				LR		LR				
	comp=Z,2µm,18.0s									
TIP	Timpagrande	86.94	321	P		P		15 15 01.3	-2.4	
R38A	Fenwick Farm,	86.95	41	P		P		15 15 03.1	-0.6	
	baz=320,SNR=25									
WMOK	Wichita Mounta	86.96	46	P		P		15 15 04.1	+0.3	
	baz=318,SNR=28									
WMOK	Wichita Mounta	86.96	46	*e*P		P		15 15 03.3	-0.5	
	comp=Z,77nm,1.5s									
WMOK				LR		LR				
	comp=Z,700nm,20.0s									
WMOK	Wichita Mounta	86.96	46	*e*P		P		15 15 03.3	-0.5	
WMOK				pmax		pmax				
	comp=Z,77nm,1.5s									
WMOK				MLR		MLR				
	comp=Z,700nm,20.0s									
ORIF	Oris-en-Rattie	87.01	331	*e*P		P		15 15 05.1	+1.2	
ORIF				pmax		pmax				
	comp=Z,34nm,1.2s									
N43A	Stutzman Famil	87.08	36	P		P		15 15 04.4	+0.2	
	baz=323,SNR=16									
TCF	Toulx Ste Croi	87.16	333	*e*P		P		15 15 06.1	+1.5	
TCF				pmax		pmax				
	comp=Z,113nm,1.4s									
P41A	Barry, Barry	87.20	38	P		P		15 15 05.3	+0.5	
	baz=322,SNR=24									
SSB	Saint Sauveur	87.20	332	*e*P		P		15 15 05.1	+0.3	
	comp=Z,41nm,1.3s									
SSB				LR		LR				
	comp=Z,2µm,19.0s									
SSB	Saint Sauveur	87.20	332	*e*P		P		15 15 05.1	+0.3	
SSB				pmax		pmax				
	comp=Z,41nm,1.3s									
SSB				MLR		MLR				
	comp=Z,2µm,19.0s									
M44A	Midewin, Midew	87.23	35	P		P		15 15 05.1	+0.2	
	baz=324,SNR=6.7									
Q40A	Laux Farm, Aux	87.24	39	P		P		15 15 05.4	+0.4	
	baz=321,SNR=20									
O42A	Bath	87.25	37	P		P		15 15 05.3	+0.3	
	baz=323									
R39A	Chumby, Stover	87.29	40	P		P		15 15 05.3	0.0	
	baz=321,SNR=40									
SBF	Sospel	87.29	329	*e*P		P		15 15 04.9	-0.4	
SBF				pmax		pmax				
	comp=Z,34nm,1.0s									
LPIG	La Paz	87.33	61	LR		LR		15 50 59.5		
	comp=Z,173nm,18.6s,baz=353,slow=33									
HDIL	Hopedale	87.33	37	P		P		15 15 05.5	+0.1	
	baz=323,SNR=20									
HDIL	Hopedale	87.33	37	*e*P		P		15 15 05.8	+0.3	
	comp=Z,132nm,1.0s									
HDIL				LR		LR				
	comp=Z,700nm,20.0s									
BUKO	Buck Lake	87.35	28	P		P		15 15 05.4	0.0	
	baz=329,SNR=7.6									
S38A	Stockton	87.38	41	P		P		15 15 05.3	-0.5	
	baz=320,SNR=23									
VIVF	Saint-Julien-l	87.51	331	*e*P		P		15 15 07.7	+1.4	
VIVF				pmax		pmax				
	comp=Z,79nm,1.4s									
O43A	Sugar Creek Fa	87.53	37	P		P		15 15 06.8	+0.4	
	baz=323,SNR=11									
M45A	Boilermakers S	87.58	35	P		P		15 15 06.7	+0.1	
	baz=324									
P42A	Winchester	87.61	38	P		P		15 15 07.2	+0.4	
	baz=322,SNR=34									
BRCO	Bruce Peninsul	87.61	30	P		P		15 15 07.0	+0.3	
	baz=328									
S39A	Bolivar	87.63	41	P		P		15 15 06.6	-0.4	
	baz=321,SNR=43									
T38A	Diamond	87.64	42	P		P		15 15 07.1	+0.1	
	baz=320,SNR=57									
N44A	Piper City	87.67	36	P		P		15 15 07.3	+0.3	
	baz=324,SNR=7.3									
Q41A	Truxton	87.68	39	P		P		15 15 07.7	+0.5	
	baz=322,SNR=35									
R40A	Maddies Statio	87.69	40	P		P		15 15 07.4	+0.2	
	baz=321,SNR=44									
TUL1	Leonard	87.71	44	P		P		15 15 07.8	+0.4	
	baz=319,SNR=11									
TUL1	Leonard	87.71	44	*e*P		P		15 15 07.8	+0.4	
	comp=Z,196nm,1.8s									
TUL1				LR		LR				
	comp=Z,800nm,18.0s									
N45A	Kentland	87.90	35	P		P		15 15 08.7	+0.5	
	baz=324,SNR=11									
P43A	Skaggs, Pawnee	87.95	37	P		P		15 15 08.7	+0.2	
	baz=323,SNR=9.2									
M46A	Old House Fiel	87.96	34	P		P		15 15 08.7	+0.3	
	baz=325									
TX31	Lajitas Ar. Si	88.00	53	*e*P		P		15 15 09.4	+0.5	
TXAR	Lajitas Array	88.00	53	P		P		15 15 09.6	+0.6	
	comp=Z,8.6nm,0.8s,baz=294,slow=3.3,SNR=60									
SADO	Sadowa	88.02	28	*e*P		P		15 15 08.4	-0.2	
	comp=Z,70nm,1.5s									
SADO				LR		LR				
	comp=Z,800nm,18.0s									
ABTX	Abilene, Hawle	88.02	48	P		P		15 15 09.1	+0.2	
	baz=317,SNR=19									
ABTX	Abilene, Hawle	88.02	48	*e*P		P		15 15 09.3	+0.3	
	comp=Z,90nm,1.4s									
O44A	Mansfield	88.03	36	P		P		15 15 09.0	+0.2	
	baz=324,SNR=6.7									
Q42A	Golden Eagle	88.05	38	P		P		15 15 09.4	+0.5	
	baz=322,SNR=18									
CEL	Celeste	88.08	321	PFAKE				15 15 20.0	+11	
CEL				LR		LR				
	comp=Z,2µm,20.0s									
S40A	Lebanon	88.11	40	P		P		15 15 09.1	-0.1	
	baz=321,SNR=32									
T39A	Clever	88.11	41	P		P		15 15 09.3	0.0	
	baz=321,SNR=7.9									
R41A	Rosebud	88.12	39	P		P		15 15 09.5	+0.2	
	baz=322,SNR=37									
N46A	Monticello	88.21	35	P		P		15 15 09.7	+0.1	
	baz=325									
BANO	Bancroft	88.23	27	P		P		15 15 09.7	0.0	
	baz=330,SNR=14									
RJF	Les Rejaudoux	88.26	333	*e*P		P		15 15 10.3	+0.5	
RJF				pmax		pmax				
	comp=Z,145nm,1.6s									
O45A	Potomac	88.29	36	P		P		15 15 10.7	+0.7	
	baz=324,SNR=24									
TRQ	Mont Tremblant	88.31	25	*e*P		P		15 15 09.8	-0.3	
AAM	Ann Arbor	88.36	32	P		P		15 15 10.9	+0.6	
	baz=327,SNR=5.7									
AAM	Ann Arbor	88.36	32	*e*P		P		15 15 10.6	+0.3	
	comp=Z,86nm,1.1s									
AAM				LR		LR				
	comp=Z,900nm,19.0s									
AAM	Ann Arbor	88.36	32	*e*P		P		15 15 10.6	+0.3	
AAM				pmax		pmax				
	comp=Z,86nm,1.1s									
AAM				MLR		MLR				
	comp=Z,900nm,19.0s									
CCM	Cathedral Cave	88.38	39	P		P		15 15 10.7	+0.2	
	baz=322									
CCM	Cathedral Cave	88.38	39	*e*P		P		15 15 10.6	+0.1	
	comp=Z,119nm,1.0s									
CCM				LR		LR				
	comp=Z,800nm,19.0s									
CCM	Cathedral Cave	88.38	39	*e*P		P		15 15 10.6	+0.1	
CCM				pmax		pmax				
	comp=Z,119nm,1.0s									
CCM				MLR		MLR				
	comp=Z,800nm,19.0s									
CAF	Calviac	88.39	333	*e*P		P		15 15 10.0	-0.5	
CAF				pmax		pmax				
	comp=Z,93nm,1.5s									
HHAR	Hobbs	88.40	42	*e*P		P		15 15 10.4	-0.2	
	comp=Z,43nm,1.1s									
SLM	Saint Louis	88.41	38	*e*P		P		15 15 11.0	+0.4	
	comp=Z,124nm,0.9s									
SLM				LR		LR				
	comp=Z,700nm,20.0s									
SLM	Saint Louis	88.41	38	*e*P		P		15 15 11.0	+0.4	
SLM				pmax		pmax				
	comp=Z,124nm,0.9s									
SLM				MLR		MLR				
	comp=Z,700nm,20.0s									
R42A	Luebbering	88.42	39	P		P		15 15 11.1	+0.4	
	baz=322,SNR=23									
Q43A	New Douglas	88.42	38	P		P		15 15 11.1	+0.4	
	baz=323									
HPIG		88.43	56	*e*P		P		15 15 11.6	+0.4	
	comp=Z,131nm,2.0s									
T40A	Mansfield	88.45	41	P		P		15 15 10.7	-0.2	
	baz=321,SNR=36									
SFIN	Lafayette	88.47	35	P		P		15 15 11.2	+0.3	
	baz=324,SNR=5.3									
SFIN	Lafayette	88.47	35	*e*P		P		15 15 11.3	+0.4	
	comp=Z,88nm,1.0s									
SFIN				LR		LR				
	comp=Z,700nm,18.0s									
S41A	Jillco Farms,	88.50	40	P		P		15 15 11.1	0.0	
	baz=322,SNR=30									
P44A	Sand Creek, Wi	88.51	37	P		P		15 15 11.6	+0.5	
	baz=324,SNR=20									
PLVO	Plevna	88.52	27	*e*P		P		15 15 11.0	0.0	
	comp=Z,63nm,1.3s									
U39A	Green Forest	88.56	42	P		P		15 15 11.5	+0.1	
	baz=321,SNR=62									
ACTO	Acton	88.67	29	P		P		15 15 12.1	+0.3	
	baz=329									
ALFO	Alfred	88.73	25	P		P		15 15 12.0	0.0	
	baz=332,SNR=17									
Q44A	Meyer Farm, Va	88.77	37	P		P		15 15 12.7	+0.4	
	baz=323,SNR=18									
S42A	Caledonia	88.82	39	P		P		15 15 12.9	+0.3	
	baz=322,SNR=58									
R43A	Red Bud	88.84	38	P		P		15 15 12.9	+0.3	
	baz=323,SNR=19									
P45A	Graceland, Par	88.86	36	P		P		15 15 13.1	+0.4	
	baz=324,SNR=11									
V39A	Pettigrew	88.89	42	P		P		15 15 12.9	-0.1	
	baz=321,SNR=42									
U40A	Yellville	88.90	41	P		P		15 15 13.2	+0.2	
	baz=321,SNR=80									
T41A	Mountain View	88.91	40	P		P		15 15 13.1	0.0	
	baz=322,SNR=42									
O47A	Sheridan	88.99	35	P		P		15 15 13.3	-0.1	
	baz=325,SNR=13									
P46A	Rosedale	89.03	36	P		P		15 15 14.1	+0.6	
	baz=324,SNR=19									
T42A	Van Buren	89.26	40	P		P		15 15 14.8	+0.2	
	baz=322,SNR=42									
R44A	Waltonville	89.27	38	P		P		15 15 15.0	+0.3	
	baz=323,SNR=13									
W39A	Magazine	89.31	43	P		P		15 15 15.1	+0.1	
	baz=320,SNR=15									
S43A	Fulton Ridge,	89.33	39	P		P		15 15 15.3	+0.3	
	baz=323,SNR=18									
OLIL	Olney	89.34	37	*e*P		P		15 15 16.0	+1.0	
	comp=Z,105

BLO MLR MLR
comp=Z,800nm,21.0s
U42A Revenden 89.72 40 P **P** 15 15 16.8 0.0
baz=322,SNR=7.7
LONY Lake Ozonia 89.73 25 P **P** 15 15 16.4 -0.3
baz=333,SNR=6.9
LONY Lake Ozonia 89.73 25 *e*P **P** 15 15 16.5 -0.3
comp=Z,62nm,1.4s
LONY LR LR
comp=Z,1µm,18.0s
WHTX Lake Whitney, 89.73 47 P **P** 15 15 17.6 +0.6
baz=318
WHTX Lake Whitney, 89.73 47 *e*P **P** 15 15 17.1 +0.1
comp=Z,144nm,1.7s
WHTX LR LR
comp=Z,600nm,20.0s
ATD Arta Tunnel 89.77 285 P **P** 15 15 18.3 +0.9
comp=Z,15nm,0.9s,baz=40,slow=5.2,SNR=5.8
ATD LR LR 15 58 28.0
comp=Z,321nm,21.3s,baz=30,slow=38
PBMO Poplar Bluff 89.78 40 *e*P **P** 15 15 17.1 0.0
comp=Z,120nm,1.1s
PBMO LR LR
comp=Z,800nm,19.0s
PQI Presque Isle 89.83 20 *e*P **P** 15 15 17.2 +0.1
comp=Z,44nm,1.1s
FRNY Flat Rock 89.86 25 PFAKE 15 15 30.0 +13
FRNY LR LR
comp=Z,900nm,20.0s
CLTB Caltabellotta 89.91 322 PFAKE 15 15 30.0 +12
CLTB LR LR
comp=Z,2µm,18.0s
MIAR Mount Ida 89.92 43 P **P** 15 15 18.4 +0.6
baz=321,SNR=33
MIAR Mount Ida 89.92 43 *e*P **P** 15 15 17.8 0.0
comp=Z,156nm,1.6s
MIAR LR LR
comp=Z,500nm,18.0s
MIAR Mount Ida 89.92 43 *e*P **P** 15 15 17.8 0.0
MIAR pmax pmax
comp=Z,156nm,1.6s
MIAR MLR MLR
comp=Z,500nm,18.0s
Q47A Bedord North L 89.94 36 P **P** 15 15 18.5 +0.7
baz=325,SNR=32
S45A Carrier Mills 89.96 38 P **P** 15 15 18.5 +0.6
baz=324,SNR=12
ERPA Erie 89.97 30 P **P** 15 15 18.7 +0.8
baz=329,SNR=13
ERPA Erie 89.97 30 *e*P **P** 15 15 18.3 +0.4
comp=Z,126nm,1.0s
ERPA LR LR
comp=Z,700nm,18.0s
WHAR Wooly Hollow 90.01 42 *e*P **P** 15 15 18.5 +0.3
comp=Z,140nm,1.2s
WHAR LR LR
comp=Z,500nm,19.0s
R46A Gibon Southern 90.03 37 P **P** 15 15 18.8 +0.6
baz=324,SNR=11
V42A Cord 90.07 41 P **P** 15 15 18.3 -0.2
baz=322,SNR=14
VSL Villasalto 90.11 325 PFAKE 15 15 30.0 +11
VSL LR LR
comp=Z,1µm,19.0s
U43A Rector 90.12 40 P **P** 15 15 19.1 +0.5
baz=322
W41B Gary Mavity, V 90.12 42 P **P** 15 15 18.8 +0.1
baz=321,SNR=13
USIN University of 90.16 37 *e*P **P** 15 15 19.3 +0.5
comp=Z,62nm,1.2s
MMNY Mt. Morris Dam 90.23 28 *e*P **P** 15 15 19.1 0.0
comp=Z,156nm,1.3s
ALLY Alegheny Colle 90.31 30 *e*P **P** 15 15 20.3 +0.7
comp=Z,141nm,1.0s
X40A Basin Creek Fa 90.35 43 P **P** 15 15 20.1 +0.3
baz=321,SNR=24
S46A Don Dixon Farm 90.36 37 P **P** 15 15 20.0 +0.2
baz=324
U44A Portageville 90.36 39 P **P** 15 15 20.4 +0.6
baz=323
ACSO Alum Creek Sta 90.37 33 P **P** 15 15 20.3 +0.5
baz=327,SNR=17
ACSO Alum Creek Sta 90.37 33 *e*P **P** 15 15 20.3 +0.5
comp=Z,91nm,0.9s
UALR University of 90.39 42 *e*P **P** 15 15 20.4 +0.4
comp=Z,52nm,1.4s
R47A Wooly Knot Far 90.42 36 P **P** 15 15 20.4 +0.4
baz=325,SNR=16
W42A Bald Knob 90.42 41 P **P** 15 15 20.3 +0.2
baz=322
NCB Newcomb 90.42 25 *e*P **P** 15 15 20.4 +0.4
comp=Z,85nm,1.5s
NCB LR LR
comp=Z,900nm,18.0s
PVMO Portageville 90.43 39 PFAKE 15 15 30.0 +10
PVMO LR LR
comp=Z,1µm,20.0s
T45A Paducah 90.46 38 P **P** 15 15 20.7 +0.5
baz=324
Y40A Okolona 90.49 43 P **P** 15 15 20.8 +0.3
baz=321
V43A Jonesboro 90.51 40 P **P** 15 15 21.2 +0.7
baz=322
X41A Kaden, Bauxite 90.51 42 P **P** 15 15 21.0 +0.5
baz=321
435B Jarrell 90.56 48 P **P** 15 15 21.2 +0.3
baz=318
VT1 Waterbury 90.58 24 *e*P **P** 15 15 21.6 +0.9
comp=Z,73nm,1.3s
WCI Wyandotte Cave 90.58 36 P **P** 15 15 21.2 +0.5
baz=325
WCI Wyandotte Cave 90.58 36 *e*P **P** 15 15 21.3 +0.5
comp=Z,55nm,0.9s
WCI LR LR
comp=Z,800nm,21.0s
WCI Wyandotte Cave 90.58 36 *e*P **P** 15 15 21.3 +0.5
WCI pmax pmax
comp=Z,55nm,0.9s
WCI MLR MLR
comp=Z,800nm,21.0s
M54A Oil Creek Stat 90.62 30 P **P** 15 15 21.6 +0.6
baz=329,SNR=26
M54A Oil Creek Stat 90.62 30 *e*P **P** 15 15 21.5 +0.6
comp=Z,88nm,1.0s
M54A LR LR
comp=Z,800nm,19.0s
GNAR Gosnell 90.63 40 PFAKE 15 15 30.0 +9.0
GNAR LR LR
comp=Z,800nm,18.0s
R48A Northridge Ran 90.63 36 P **P** 15 15 21.5 +0.5
baz=325,SNR=9.8
HBAR Harrisburg 90.63 41 *e*P **P** 15 15 21.7 +0.7
HBAR LR LR
comp=Z,700nm,19.0s
WDD Wied Dalam 90.66 320 PFAKE 15 15 30.0 +8.8
WDD LR LR
comp=Z,1µm,20.0s
U44B Burton Farm, H 90.66 39 P **P** 15 15 21.8 +0.6
baz=323
GLAT Glass 90.74 39 *e*P **P** 15 15 22.7 +1.1
GLAT LR LR
comp=Z,800nm,20.0s
PKME Peaks-Kenny Pk 90.77 22 P **P** 15 15 22.2 +0.7
baz=336
PKME Peaks-Kenny Pk 90.77 22 *e*P **P** 15 15 21.9 +0.4
comp=Z,50nm,1.2s
T46A Princeton 90.80 38 P **P** 15 15 22.6 +0.8
baz=324,SNR=31
V44A Blytheville 90.80 40 P **P** 15 15 23.3 +1.5
baz=323
WLAR White Oak Lake 90.83 43 *e*P **P** 15 15 22.6 +0.6
comp=Z,136nm,1.5s
UTMT University of 90.89 39 *e*P **P** 15 15 23.2 +0.9
LBNH Lisbon 90.92 24 P **P** 15 15 23.1 +0.8
baz=335
LBNH Lisbon 90.92 24 *e*P **P** 15 15 23.1 +0.8
comp=Z,112nm,1.7s
LBNH LR LR
comp=Z,1µm,20.0s
LBNH Lisbon 90.92 24 *e*P **P** 15 15 23.1 +0.8
LBNH pmax pmax
comp=Z,112nm,1.7s
LBNH MLR MLR
comp=Z,1µm,20.0s
U45A Rockin P Farm, 90.94 39 P **P** 15 15 22.9 +0.4
baz=323
Y41A Eaglette Beard 90.94 43 P **P** 15 15 23.1 +0.6
baz=321

N54A Moraine State 90.96 31 P **P** 15 15 23.1 +0.5
baz=329,SNR=22
N54A Moraine State 90.96 31 *e*P **P** 15 15 23.4 +0.8
comp=Z,100nm,1.1s
N54A LR LR
comp=Z,600nm,20.0s
W43A Forest City 90.98 41 P **P** 15 15 23.2 +0.5
baz=322
Z40A Long Farm, Mag 91.00 44 P **P** 15 15 23.7 +0.9
baz=321,SNR=11
HALT Halls 91.00 39 PFAKE 15 15 30.0 +7.2
HALT LR LR
comp=Z,800nm,19.0s
ETSF Etsaut 91.08 334 *e*P **P** 15 15 23.2 0.0
ACCN Adirondack Com 91.13 25 *e*P **P** 15 15 23.7 +0.5
comp=Z,89nm,1.4s
ACCN LR LR
comp=Z,1µm,20.0s
S48A Wiedeman Farm, 91.15 36 P **P** 15 15 23.7 +0.2
baz=325,SNR=22
U46A Springville 91.21 38 P **P** 15 15 24.1 +0.4
baz=324
T47A Sharon Grove 91.21 37 P **P** 15 15 24.3 +0.5
baz=324,SNR=18
HNH Hanover 91.29 24 *e*P **P** 15 15 24.9 +0.9
comp=Z,51nm,1.2s
WVL Waterville 91.31 22 *e*P **P** 15 15 24.7 +0.7
comp=Z,108nm,1.5s
833A Chaparral WMA, 91.31 51 P **P** 15 15 25.1 +0.8
baz=318
Z41A Richland Creek 91.32 43 P **P** 15 15 24.9 +0.6
baz=321
V45A Humboldt 91.33 39 P **P** 15 15 24.4 +0.1
baz=323
X43A Marvell 91.33 41 P **P** 15 15 25.2 +0.8
baz=322
MET Memphis--Engin 91.34 40 PFAKE 15 15 40.0 +16
MET LR LR
comp=Z,700nm,18.0s
140A Cam and Jess, 91.38 44 P **P** 15 15 25.7 +1.0
baz=321
BINY Binghamton 91.38 27 P **P** 15 15 24.9 +0.4
baz=332,SNR=9.0
BINY Binghamton 91.38 27 *e*P **P** 15 15 24.4 -0.1
comp=Z,64nm,1.1s
BINY LR LR
comp=Z,800nm,18.0s
Y42A Garnett, Star 91.40 42 P **P** 15 15 25.5 +0.8
baz=322,SNR=7.9
T48A Bowling Green 91.44 37 P **P** 15 15 25.1 +0.3
baz=325,SNR=13
NATX Nacogdoches 91.47 46 P **P** 15 15 25.6 +0.6
baz=320
NATX Nacogdoches 91.47 46 PFAKE 15 15 40.0 +15
NATX LR LR
comp=Z,700nm,19.0s
WVT Waverly 91.56 38 P **P** 15 15 25.9 +0.5
baz=324
WVT Waverly 91.56 38 *e*P **P** 15 15 25.3 -0.1
comp=Z,37nm,1.1s
WVT LR LR
comp=Z,700nm,18.0s
WVT Waverly 91.56 38 *e*P **P** 15 15 25.3 -0.1
WVT pmax pmax
comp=Z,37nm,1.1s
WVT MLR MLR
comp=Z,700nm,18.0s
U47A Clarksville 91.57 38 P **P** 15 15 26.1 +0.7
baz=324,SNR=12
W45A Hickory Valley 91.68 40 P **P** 15 15 26.2 +0.2
baz=323
V46A Holladay 91.69 39 P **P** 15 15 26.1 +0.1
baz=324,SNR=17
TRY Troy 91.71 26 *e*P **P** 15 15 26.0 +0.1
comp=Z,72nm,1.3s
X44A Crenshaw 91.72 41 P **P** 15 15 26.5 +0.4
baz=323
240A Hunter Patters 91.74 45 P **P** 15 15 26.9 +0.6
baz=320
Z42A Norrel Spur, H 91.76 43 P **P** 15 15 27.1 +0.8
baz=322,SNR=7.6
141A Papa Simpson, 91.77 44 P **P** 15 15 27.2 +0.8
baz=321
Y43A Mayla and Ka 91.79 42 P **P** 15 15 27.4 +1.0
baz=322
U48A Cassie Pea, Po 91.86 37 P **P** 15 15 27.1 +0.3
baz=325,SNR=11
V47A Nunnelly 91.95 38 P **P** 15 15 27.4 +0.2
baz=324,SNR=20
SSPA Standing Stone 92.05 29 P **P** 15 15 27.9 +0.3
baz=330
SSPA Standing Stone 92.05 29 *e*P **P** 15 15 28.0 +0.4
comp=Z,70nm,1.3s
SSPA LR LR
comp=Z,900nm,18.0s
OXF Oxford 92.08 40 P **P** 15 15 28.1 +0.2
baz=323,SNR=16
OXF Oxford 92.08 40 *e*P **P** 15 15 28.0 +0.2
comp=Z,164nm,1.4s
OXF LR LR
comp=Z,600nm,21.0s
OXF Oxford 92.08 40 *e*P **P** 15 15 28.0 +0.2
OXF pmax pmax
comp=Z,164nm,1.4s
OXF MLR MLR
comp=Z,600nm,21.0s
W46A Michie 92.09 39 P **P** 15 15 27.8 -0.1
baz=324
O56A Blue Knob Stat 92.11 30 P **P** 15 15 28.2 +0.3
baz=330,SNR=8.2
O56A Blue Knob Stat 92.11 30 *e*P **P** 15 15 28.1 +0.2
comp=Z,110nm,1.6s
O56A LR LR
comp=Z,1µm,19.0s
Y44A Strider, Charl 92.11 41 P **P** 15 15 28.4 +0.5
baz=322
MCWV Mont Chateau 92.14 31 P **P** 15 15 28.9 +0.9
baz=329
MCWV Mont Chateau 92.14 31 *e*P **P** 15 15 28.4 +0.4
comp=Z,94nm,1.6s
MCWV LR LR
comp=Z,800nm,19.0s
X45A UM Field Stati 92.16 40 P **P** 15 15 28.3 +0.1
baz=323,SNR=8.6
HKT Hockley 92.18 47 PFAKE 15 15 40.0 +12
HKT LR LR
comp=Z,800nm,18.0s
V48A Smith Brothers 92.36 38 P **P** 15 15 28.8 -0.2
baz=325,SNR=12
PLAL Pickwick Lake 92.36 39 *e*P **P** 15 15 28.7 -0.5
comp=Z,76nm,1.8s
PLAL LR LR
comp=Z,700nm,18.0s
W47A Westpoint 92.38 39 P **P** 15 15 29.3 +0.1
baz=324,SNR=17
X46A Booneville 92.46 40 P **P** 15 15 29.7 +0.2
baz=324
143A Socs Landing, 92.49 43 P **P** 15 15 30.4 +0.7
baz=322
Y45A Yeager Farm, C 92.53 41 P **P** 15 15 30.7 +0.8
baz=323,SNR=13
N59A State Game Lan 92.59 28 P **P** 15 15 30.7 +0.6
baz=332,SNR=13
N59A State Game Lan 92.59 28 *e*P **P** 15 15 30.5 +0.4
comp=Z,112nm,1.4s
N59A LR LR
comp=Z,900nm,21.0s
242A Grayson 92.59 44 P **P** 15 15 31.0 +0.8
baz=321
HRV Adam Dziewonsk 92.60 24 P **P** 15 15 31.3 +1.2
baz=335
HRV Adam Dziewonsk 92.60 24 *e*P **P** 15 15 30.7 +0.6
comp=Z,57nm,1.3s
HRV Adam Dziewonsk 92.60 24 *e*P **P** 15 15 30.7 +0.6
HRV pmax pmax
comp=Z,57nm,1.3s
341A Kurthwood 92.61 45 P **P** 15 15 31.0 +0.7
baz=321
WES Weston 92.78 24 *e*P **P** 15 15 31.4 +0.5
comp=Z,100nm,1.5s
WES Weston 92.78 24 *e*P **P** 15 15 31.4 +0.5
WES pmax pmax
comp=Z,100nm,1.5s
W48A Pulaski 92.79 38 P **P** 15 15 31.3 +0.2
baz=324,SNR=19
X47A Russelville 92.84 39 P **P** 15 15 30.9 -0.5
baz=324,SNR=9.6
PAGS Pennsylvania G 92.84 29 PFAKE 15 15 40.0 +8.8
PAGS LR LR
comp=Z,1µm,18.0s
Z45A Winona 92.85 41 P **P** 15 15 31.8 +0.4
baz=323
ODNJ Ogdensburg 92.86 27 *e*P **P** 15 15 31.5 +0.2
comp=Z,89nm,1.9s
ODNJ LR LR
comp=Z,1µm,18.0s
Y46A Houston 92.86 40 P **P** 15 15 31.6 +0.2
baz=323,SNR=10
LUPA Lehigh Univers 93.01 28 PFAKE 15 15 40.0 +8.0
LUPA LR LR
comp=Z,100nm,22.0s
441A DeRidder 93.05 45 P **P** 15 15 32.8 +0.5
baz=321
144A Alexander Plac 93.06 42 P **P** 15 15 33.0 +0.6
baz=322
PAL Palisades 93.17 27 P **P** 15 15 33.0 +0.4
baz=333
PAL Palisades 93.17 27 *e*P **P** 15 15 33.1 +0.4
comp=Z,148nm,1.9s
PAL LR LR
comp=Z,800nm,20.0s
PAL Palisades 93.17 27 *e*P **P** 15 15 33.1 +0.4
PAL pmax pmax
comp=Z,148nm,1.9s
PAL MLR MLR
comp=Z,800nm,20.0s
TZTN Tazewell 93.20 35 P **P** 15 15 33.2 +0.2
baz=327,SNR=11
TZTN Tazewell 93.20 35 *e*P **P** 15 15 33.5 +0.5
comp=Z,44nm,1.2s
TZTN LR LR
comp=Z,800nm,19.0s
SWET Sewanee 93.20 38 *e*P **P** 15 15 32.5 -0.6
comp=Z,20nm,1.4s
SWET LR LR
comp=Z,800nm,18.0s
KEST Kesra 93.22 323 P **P** 15 15 32.3 -0.9
comp=Z,6.8nm,1.1s,baz=258,slow=7.5,SNR=3.0
KEST PP **PP** 15 19 17.6 +1.7
comp=Z,9.4nm,1.1s,baz=269,slow=7.5,SNR=3.8
KEST LR LR 16 03 28.2
comp=Z,2µm,19.4s,baz=352,slow=39
BRNJ Basking Ridge 93.22 27 PFAKE 15 15 40.0 +7.0
BRNJ LR LR
comp=Z,1µm,18.0s
X48A Hartselle 93.29 39 P **P** 15 15 32.9 -0.5
baz=324,SNR=8.7
145A Houston Renfro 93.33 42 P **P** 15 15 34.5 +0.9
baz=323
CPNY Central Park 93.34 27 PFAKE 15 15 40.0 +6.5
CPNY LR LR
comp=Z,2µm,22.0s
Y47A UCPARC, Winfie 93.34 40 P **P** 15 15 33.3 -0.3
baz=324,SNR=6.8
ZAIG Zacatecas 93.35 57 *e*P **P** 15 15 34.9 +0.7
Z46A Louisville 93.37 41 P **P** 15 15 34.7 +1.0
baz=323,SNR=6.6
244A Avery, Jackson 93.38 43 P **P** 15 15 34.9 +1.0
baz=322
SDMD Soldier's Deli 93.52 29 PFAKE 15 15 50.0 +16
SDMD LR LR
comp=Z,500nm,19.0s
PSUB Penn St. - Bra 93.58 28 PFAKE 15 15 50.0 +15
PSUB LR LR
comp=Z,1µm,22.0s
X49A Woodville 93.59 38 P **P** 15 15 34.9 +0.1
baz=325,SNR=20
CPCT Cooper Cave 93.67 37 *e*P **P** 15 15 34.9 -0.2
CPCT LR LR
comp=Z,600nm,18.0s
Y48A Jasper 93.67 39 P **P** 15 15 34.6 -0.5
baz=324,SNR=8.2
LNIG Linares 93.78 53 *e*P **P** 15 15 35.5 -0.3
comp=Z,56nm,1.8s
Z47A Carrollton 93.80 40 P **P** 15 15 35.7 -0.1
baz=324,SNR=6.1
344A Westbrook Farm 93.82 43 P **P** 15 15 36.8 +0.9
baz=322
TKL Tuckaleechee C 93.83 36 P **P** 15 15 35.9 0.0
comp=Z,16nm,0.9s,baz=159,slow=2.7,SNR=18
TKL LR LR 15 58 58.3
comp=Z,720nm,21.2s,baz=340,slow=36
TKL Tuckaleechee C 93.83 36 *e*P **P** 15 15 35.9 0.0
comp=Z,33nm,1.1s
Z48A Northport 93.91 40 P **P** 15 15 35.8 -0.4
baz=324
BLA Blacksburg 93.99 33 P **P** 15 15 36.4 -0.2
baz=329,SNR=6.9
BLA Blacksburg 93.99 33 *e*P **P** 15 15 36.7 +0.1
comp=Z,37nm,1.0s
BLA LR LR
comp=Z,700nm,19.0s
BLA Blacksburg 93.99 33 *e*P **P** 15 15 36.7 +0.1
BLA pmax pmax
comp=Z,37nm,1.0s
BLA MLR MLR
comp=Z,700nm,19.0s
Y49A Blount Mountai 94.08 39 P **P** 15 15 37.0 -0.1
baz=325,SNR=8.3
147A Livingston 94.12 41 P **P** 15 15 37.4 +0.2
baz=324,SNR=5.1
IP04 Greensprings 94.18 31 *e*P **P** 15 15 37.7 +0.3
comp=Z,26nm,1.2s
IP03 Louisa 94.27 31 *e*P **P** 15 15 38.3 +0.4
comp=Z,22nm,1.2s
CVRD Centerville Ro 94.31 31 *e*P **P** 15 15 37.8 -0.2
comp=Z,34nm,1.1s
SPRD Spring Road, M 94.32 31 *e*P **P** 15 15 38.3 +0.2
comp=Z,21nm,1.3s
PGAV Gavieira, Arco 94.35 338 *e*P P 15 15 43.3 +5.0
PGAV Gavieira, Arco 94.35 338 *e*PP PP 15 19 28.7 +4.2
PGAV Gavieira, Arco 94.35 338 *e*LR LR 15 47 53.6
comp=Z,749nm,16.0s
CBN Corbin Frederi 94.36 30 PFAKE 15 15 50.0 +12
CBN LR LR
comp=Z,700nm,20.0s
Y50A Piedmont 94.38 38 P **P** 15 15 38.1 -0.3
baz=325,SNR=12
LRAL Lakeview Retre 94.46 40 P **P** 15 15 38.5 -0.3
baz=324,SNR=7.3
LRAL Lakeview Retre 94.46 40 *e*P **P** 15 15 38.7 -0.1
comp=Z,11nm,0.9s
LRAL LR LR
comp=Z,600nm,20.0s
148A Greensboro 94.49 40 P **P** 15 15 39.4 +0.4
baz=324
Z49A Columbiana 94.56 39 P **P** 15 15 39.2 -0.1
baz=325,SNR=8.5
FURI Furi 94.59 285 PFAKE 15 15 50.0 +10
FURI LR LR
comp=Z,700nm,20.0s
JSRW J. Sargeant Re 94.61 31 *e*P **P** 15 15 38.6 -0.7
MVO Moncorvo 94.73 337 *e*P **P** 15 15 42.7 +2.7
MVO Moncorvo 94.73 337 *e*PP PP 15 19 30.8 +3.4
MVO *e*SKS **SKSac** 15 26 15.0 +0.6
MVO Moncorvo 94.73 337 *e*LR LR 15 48 12.1
comp=Z,1µm,20.0s
POLO Lamas de Olo 94.76 338 *e*P P 15 15 47.3 +7.1
POLO Lamas de Olo 94.76 338 *e*PP PP 15 19 34.5 +6.8
POLO *e*SKS **SKSac** 15 26 16.2 +1.6
BG3 Lake Jocassee 94.77 36 *e*P **P** 15 15 40.8 +0.6
comp=Z,32nm,1.1s
BG3 LR LR
comp=Z,1µm,18.0s
Z50A Ashland 94.81 39 P **P** 15 15 40.3 -0.1
baz=325,SNR=37
URVA University of 94.85 31 *e*P **P** 15 15 40.6 +0.1
248A Dixon Mills 94.85 41 P **P** 15 15 41.0 +0.4
baz=324
149A Jones 94.92 40 P **P** 15 15 41.0 +0.1
baz=324,SNR=18
ES19 SONSECA Array 95.07 334 *e*P **P** 15 15 41.4 -0.1
ESDC Sonseca Array 95.11 334 P **P** 15 15 41.6 -0.2
comp=Z,2.1nm,0.6s,baz=15,slow=4.3,SNR=19
ESDC PP **PP** 15 19 31.5 +1.1
comp=Z,4.7nm,1.0s,baz=27,slow=7.6,SNR=6.2
ESDC LR LR 16 03 59.9
comp=Z,2µm,18.1s,baz=25,slow=39
ESLA Sonseca Array 95.11 334 PFAKE 15 15 50.0 +8.2
ESLA LR LR
comp=Z,2µm,18.0s
NCAT North Carolina 95.22 33 *e*P **P** 15 15 41.8 -0.5
comp=Z,26nm,1.2s
NCAT LR LR
comp=Z,800nm,19.0s

249A	**Camden**	**95.26**	**40**	P	**P**	**15 15 42.9**	**+0.5**
	baz=324,SNR=8.4							
150A	**Eclectic**	**95.29**	**39**	P	**P**	**15 15 42.4**	**-0.1**
	baz=325,SNR=12							
KMSC	**Kings Mountain**	**95.35**	**35**	P	**P**	**15 15 43.0**	**+0.1**
	baz=328							
KMSC	**Kings Mountain**	**95.35**	**35**	*e*P	**P**	**15 15 42.4**	**-0.5**
	comp=Z,28nm,1.1s							
KMSC				LR	LR			
	comp=Z,800nm,18.0s							
PAB	**San Pablo**	**95.36**	**335**	PFAKE		15 15 50.0	+7.1	
PAB				LR	LR			
	comp=Z,2μm,18.0s							
PAULI	**Pauline**	**95.41**	**35**	*e*P	**P**	**15 15 43.1**	**-0.1**
	comp=Z,13nm,1.0s							
PAULI				LR	LR			
	comp=Z,500nm,19.0s							
MTE	**Manteigas**	**95.58**	**337**	*e*P	**P**	**15 15 46.3**	**+2.4**
MTE	**Manteigas**	**95.58**	**337**	*e*PP	PP	15 19 36.0	+2.0
MTE				*e*SKS	**SKSac**	**15 26 23.2**	**+4.2**
MTE				*e*SS	**SS**	**15 33 28.3**	**+1.9**
MTE	**Manteigas**	**95.58**	**337**	*e*LR	LR	15 48 00.2		
	comp=Z,2μm,16.0s							
MTE	**Manteigas**	**95.58**	**337**	PFAKE		15 16 00.0	+16	
MTE				LR	LR			
	comp=Z,2μm,18.0s							
250A	**Grady**	**95.68**	**40**	P	**P**	**15 15 44.6**	**+0.2**
	baz=325,SNR=9.4							
151A	**Opelika**	**95.69**	**39**	P	**P**	**15 15 43.9**	**-0.6**
	baz=325							
HODGE	**Hodges**	**95.71**	**36**	*e*P	**P**	**15 15 44.6**	**+0.1**
	comp=Z,12nm,1.1s							
GOGA	**Godfrey**	**95.84**	**37**	P	**P**	**15 15 45.4**	**+0.2**
	baz=327,SNR=7.2							
GOGA	**Godfrey**	**95.84**	**37**	*e*P	**P**	**15 15 45.2**	**+0.2**
	comp=Z,14nm,1.0s							
GOGA				LR	LR			
	comp=Z,800nm,18.0s							
GOGA	**Godfrey**	**95.84**	**37**	*e*P	**P**	**15 15 45.3**	**+0.2**
GOGA				pmax	pmax			
	comp=Z,14nm,1.0s							
GOGA				MLR	MLR			
	comp=Z,800nm,18.0s							
CART	**Cartagena**	**95.94**	**331**	PFAKE		15 16 00.0	+15	
CART				LR	LR			
	comp=Z,1μm,20.0s							
251A	**Midway**	**96.00**	**39**	P	**P**	**15 15 46.0**	**+0.1**
	baz=325,SNR=6.4							
JSC	**Jenkinsville**	**96.11**	**35**	*e*P	**P**	**15 15 46.6**	**+0.3**
	comp=Z,18nm,1.3s							
JSC				LR	LR			
	comp=Z,1μm,18.0s							
JSC	**Jenkinsville**	**96.11**	**35**	*e*P	**P**	**15 15 46.6**	**+0.3**
JSC				pmax	pmax			
	comp=Z,19nm,1.3s							
JSC				MLR	MLR			
	comp=Z,1μm,18.0s							
PCAS	**Casmilo, Conde**	**96.18**	**338**	*e*P	**P**	**15 15 49.1**	**+2.5**
PCAS	**Casmilo, Conde**	**96.18**	**338**	*e*PP	PP	15 19 42.5	+3.9
252A	**Lumpkin**	**96.41**	**39**	P	**P**	**15 15 47.9**	**+0.2**
	baz=326							
PMRV	**Marv??o**	**96.43**	**337**	*e*PP	PP	15 19 44.2	+3.7	
PMRV	**Marv??o**	**96.43**	**337**	*e*LR	LR	15 48 49.6		
	comp=Z,1μm,18.0s							
351A	**Pinckard**	**96.58**	**40**	P	**P**	**15 15 48.7**	**+0.2**
	baz=325							
CNNC	**Cliffs of the**	**96.72**	**32**	PFAKE		15 16 00.0	+11	
CNNC				LR	LR			
	comp=Z,700nm,20.0s							
352A	**Blakely**	**96.74**	**39**	P	**P**	**15 15 49.4**	**+0.1**
	baz=326							
155A	**Kite**	**96.96**	**37**	P	**P**	**15 15 50.9**	**+0.7**
	baz=327,SNR=6.6							
PESTR	**Estremoz**	**97.01**	**337**	*e*P	P	15 15 58.7	+8.4	
PESTR	**Estremoz**	**97.01**	**337**	*e*PP	PP	15 19 50.1	+5.1	
PESTR				*e*SKS	**SKSac**	**15 26 28.4**	**+2.0**	
PESTR	**Estremoz**	**97.01**	**337**	PFAKE		15 16 00.0	+10	
PESTR				LR	LR			
	comp=Z,800nm,19.0s							
451A	**Vernon**	**97.04**	**40**	P	Pdif	15 15 50.8	+0.1	
	baz=325							
254A	**Abbeville**	**97.14**	**38**	P	Pdif	15 15 51.2	+0.1	
	baz=327,SNR=7.2							
353A	**Camilla**	**97.19**	**39**	P	Pdif	15 15 51.6	+0.3	
	baz=326,SNR=5.2							
TIGA	**Tifton**	**97.42**	**38**	P	Pdif	15 15 53.2	+0.8	
	baz=326							
TIGA	**Tifton**	**97.42**	**38**	*e*P	Pdif	15 15 52.5	+0.2	
	comp=Z,32nm,1.0s							
TIGA				LR	LR			
	comp=Z,800nm,18.0s							
PMAFR	**Mafra**	**97.43**	**338**	*e*P	Pdif	15 15 56.9	+4.6	
PMAFR	**Mafra**	**97.43**	**338**	*e*PP	PP	15 19 51.4	+3.2	
NHSC	**New Hope**	**97.58**	**35**	PFAKE		15 16 00.0	+7.0	
NHSC				LR	LR			
	comp=Z,700nm,20.0s							
PNCL	**Nicolau / Gran**	**97.99**	**337**	*e*P	Pdif	15 15 55.2	+0.5	
PNCL	**Nicolau / Gran**	**97.99**	**337**	*e*PP	PP	15 19 54.6	+2.1	
PVAQ	**Vaqueiros**	**98.39**	**336**	*e*P	Pdif	15 15 59.2	+2.6	
PVAQ	**Vaqueiros**	**98.39**	**336**	*e*PP	PP	15 19 57.9	+2.3	
PVAQ	**Vaqueiros**	**98.39**	**336**	*e*LR	LR	15 49 56.7		
	comp=Z,3μm,20.0s							
PBDV	**Barranco-do-Ve**	**98.60**	**336**	*e*P	Pdif	15 16 02.8	+5.2	
PBDV	**Barranco-do-Ve**	**98.60**	**336**	*e*PP	PP	15 19 59.5	+2.2	
SFS	**San Fernando**	**98.76**	**335**	PFAKE		15 16 10.0	+12	
SFS				LR	LR			
	comp=Z,2μm,20.0s							
MORF	**Marmelete**	**98.77**	**337**	*e*PP	PP	15 20 08.5	+10	
PFVI	**Vila Bisbo**	**98.98**	**337**	*e*P	Pdif	15 16 06.6	+7.4	
PFVI	**Vila Bisbo**	**98.98**	**337**	*e*PP	PP	15 20 03.5	+3.4	
PFVI	**Vila Bisbo**	**98.98**	**337**	PFAKE		15 16 10.0	+11	
PFVI				LR	LR			
	comp=Z,1μm,18.0s							
RKT	**Rikitea**	**99.22**	**112**	*e*LR	LR	15 47 56.0		
	comp=Z,1μm,22.2s							
DWPF	**Disney Wildern**	**101.22**	**38**	PFAKE		15 16 20.0	+11	
DWPF				LR	LR			
	comp=Z,900nm,18.0s							
RTC	**Rabat Centre**	**101.24**	**334**	PFAKE		15 16 20.0	+11	
RTC				LR	LR			
	comp=Z,4μm,20.0s							
KMBO	**Kilima Mbogo**	**102.18**	**279**	P	**Pdif**	**15 16 14.5**	**+0.4**	
	comp=Z,2.4nm,0.7s,baz=23,slow=7.6,SNR=6.0							
KMBO	**Kilima Mbogo**	**102.18**	**279**	P	**Pdif**	**15 16 14.5**	**+0.4**	
KMBO				LR	LR			
	comp=Z,500nm,20.0s							
BBSR	**BB Station**	**104.04**	**23**	PFAKE		15 16 30.0	+8.2	
BBSR				LR	LR			
	comp=Z,1μm,21.0s							
TAM	**Tamanrasset**	**105.79**	**319**	PFAKE		15 20 50.0		
TAM				LR	LR			
	comp=Z,700nm,21.0s							
MBAR	**Mbarara**	**106.77**	**284**	PFAKE		15 21 00.0		
MBAR				LR	LR			
	comp=Z,500nm,18.0s							
SDDR	**Presa de Saban**	**113.74**	**35**	PFAKE		15 21 10.0		
SDDR				LR	LR			
	comp=Z,800nm,20.0s							
JTS	**JuntasAbangare**	**113.77**	**52**	Pdiff	**Pdif**	**15 17 04.2**	**-1.2**	
	comp=Z,3.3nm,0.8s,baz=288,slow=20,SNR=3.0							
TOC1	**Torodi Ar. Sit**	**115.79**	**316**	PFAKE		15 21 10.0	+8.5	
TOC1				LR	LR			
	comp=Z,1μm,18.0s							
TOC2	**Torodi Ar. Sit**	**115.79**	**316**	PFAKE		15 21 10.0	+8.5	
TOC2				LR	LR			
	comp=Z,900nm,19.0s							
TOB2	**Torodi Ar. Sit**	**115.80**	**316**	PFAKE		15 21 10.0	+8.5	
TOB2				LR	LR			
	comp=Z,900nm,18.0s							
TOC3	**Torodi Ar. Sit**	**115.81**	**316**	PFAKE		15 21 10.0	+8.4	
TOC3				LR	LR			
	comp=Z,1μm,18.0s							
TOC7	**Torodi Ar. Sit**	**115.81**	**317**	PFAKE		15 21 10.0	+8.4	
TOC7				LR	LR			
	comp=Z,900nm,18.0s							
TOA1	**Torodi Ar. Sit**	**115.81**	**316**	PFAKE		15 21 10.0	+8.4	
TOA1				LR	LR			
	comp=Z,900nm,18.0s							
TOA2	**Torodi Ar. Sit**	**115.81**	**316**	PFAKE		15 21 10.0	+8.4	
TOA2				LR	LR			
	comp=Z,1μm,18.0s							
TOA0	**Torodi Ar. Sit**	**115.81**	**316**	*e*PKPdf	**PKPdf**	**15 21 00.8**	**-0.8**	
TOA0				LR	LR			
	comp=Z,1μm,18.0s							
TORD	**Torodi Ar. Bea**	**115.81**	**316**	PKP	**PKPdf**	**15 20 59.7**	**-1.8**	
	comp=Z,1.8nm,0.9s,baz=14,slow=2.2,SNR=6.1							
TORD				PP	**PP**	**15 21 59.3**	**-4.8**	
	comp=Z,27nm,1.2s,baz=23,slow=6.6,SNR=11							
TORD				PKKPab	**PKKPab**	**15 31 46.0**	**+5.9**	
	comp=Z,0.5nm,0.8s,baz=209,slow=4.3,SNR=3.6							
TOB5	**Torodi Ar. Sit**	**115.81**	**317**	PFAKE		15 21 10.0	+8.4	
TOB5				LR	LR			
	comp=Z,1μm,18.0s							
TOB3	**Torodi Ar. Sit**	**115.81**	**316**	PFAKE		15 21 10.0	+8.4	
TOB3				LR	LR			
	comp=Z,1μm,18.0s							
TOA3	**Torodi Ar. Sit**	**115.82**	**316**	PFAKE		15 21 10.0	+8.4	
TOA3				LR	LR			
	comp=Z,1μm,22.0s							
TOB4	**Torodi Ar. Sit**	**115.83**	**316**	PFAKE		15 21 10.0	+8.4	
TOB4				LR	LR			
	comp=Z,900nm,18.0s							
TOC6	**Torodi Ar. Sit**	**115.83**	**317**	PFAKE		15 21 10.0	+8.4	
TOC6				LR	LR			
	comp=Z,900nm,18.0s							
TOC4	**Torodi Ar. Sit**	**115.83**	**316**	PFAKE		15 21 10.0	+8.4	
TOC4				LR	LR			
	comp=Z,1μm,18.0s							
TOC5	**Torodi Ar. Sit**	**115.84**	**316**	PFAKE		15 21 10.0	+8.4	
TOC5				LR	LR			
	comp=Z,900nm,20.0s							
MPR	**Mayaguez**	**116.17**	**31**	PFAKE		15 21 10.0	+7.8	
MPR				LR	LR			
	comp=Z,300nm,20.0s							
AOPR	**Arecibo Observ**	**116.20**	**31**	PFAKE		15 21 10.0	+7.7	
AOPR				LR	LR			
	comp=Z,2μm,22.0s							
SJG	**San Juan**	**116.66**	**30**	PFAKE		15 21 10.0	+6.9	
SJG				LR	LR			
	comp=Z,400nm,20.0s							
KOWA	**Kowa**	**117.52**	**323**	PKP	**PKPdf**	**15 21 04.6**	**-0.3**	
	comp=Z,4.5nm,0.9s,baz=106,slow=0.9,SNR=7.0							
KOWA				PP	**PP**	**15 22 12.9**	**-3.0**	
	comp=Z,14nm,0.8s,baz=34,slow=5.1,SNR=11							
KOWA	**Kowa**	**117.52**	**323**	*e*PKPdf	**PKPdf**	**15 21 04.1**	**-0.8**	
KOWA				PP	**PP**	**15 22 12.9**	**-3.0**	
VNDA	**Vanda**	**117.63**	**175**	PKIKP	**PKPdf**	**15 21 03.0**	**-0.1**	
	comp=Z,0.9nm,0.9s,baz=296,slow=1.4,SNR=4.6							
VNDA	**Vanda**	**117.63**	**175**	PKIKP	**PKPdf**	**15 21 03.0**	**-0.1**	
LSZ	**Lusaka**	**117.99**	**273**	PFAKE		15 21 20.0	+14	
LSZ				LR	LR			
	comp=Z,400nm,19.0s							
SKI	**Saint Kitts**	**118.64**	**27**	PFAKE		15 21 20.0	+13	
SKI				LR	LR			
	comp=Z,1μm,18.0s							
MAW	**Mawson**	**122.24**	**206**	PKP	**PKPdf**	**15 21 11.6**	**-0.6**	
	comp=Z,2.9nm,0.8s,baz=214,slow=1.9,SNR=2.9							
HELC	**Santa Helena**	**122.56**	**46**	PFAKE		15 21 30.0	+15	
HELC				LR	LR			
	comp=Z,700nm,19.0s							
SDV	**Santo Domingo**	**122.86**	**40**	PKP	**PKPdf**	**15 21 15.1**	**-0.3**	
	comp=Z,15nm,0.8s,baz=194,slow=2.4,SNR=16							
SDV	**Santo Domingo**	**122.86**	**40**	*e*PKPdf	**PKPdf**	**15 21 15.1**	**-0.3**	
SDV				LR	LR			
	comp=Z,500nm,20.0s							
RUSC	**La Rusia**	**124.14**	**44**	*e*PKPdf	**PKPdf**	**15 21 17.4**	**-0.8**	
ROSC	**El Rosal**	**124.34**	**46**	PKP	**PKPdf**	**15 21 19.7**	**+1.2**	
	comp=Z,5.2nm,0.3s,baz=53,slow=18,SNR=4.8							
PCRV	**Puerto La Cruz**	**124.44**	**33**	PKP	**PKPdf**	**15 21 17.1**	**-1.1**	
	comp=Z,11nm,0.9s,baz=159,slow=3.8,SNR=2.9							
DBIC	**Dimbokro**	**124.68**	**319**	PKP	**PKPdf**	**15 21 18.3**	**-0.3**	
	comp=Z,5.7nm,0.8s,baz=186,slow=13,SNR=5.5							
DBIC				PP	**PP**	**15 23 03.0**	**-1.9**	
	comp=Z,7.2nm,0.9s,baz=359,slow=5.9,SNR=4.9							
TIC	**Toumodi**	**124.79**	**319**	*e*PKP2	**PKPdf**	**15 21 17.3**	**-1.6**	
KIC	**Kosan Boka**	**124.89**	**319**	*e*PKP2	**PKPdf**	**15 21 18.4**	**-0.7**	
	comp=Z,32nm,1.2s							
PRAC	**Prado**	**124.95**	**47**	PFAKE		15 21 30.0	+11	
PRAC				LR	LR			
	comp=Z,400nm,19.0s							
LIC	**Lamto**	**125.15**	**319**	*e*PKP2	**PKPdf**	**15 21 18.8**	**-0.8**	
	comp=Z,102nm,2.0s							
LBTB	**Lobatse**	**125.51**	**265**	*e*PKPdf	**PKPdf**	**15 21 20.2**	**+0.2**	
LBTB	**Lobatse**	**125.51**	**265**	*e*PKIKP	**PKPdf**	**15 21 20.2**	**+0.2**	
BOSA	**Boshof**	**127.61**	**262**	PKP	**PKPdf**	**15 21 24.1**	**+0.1**	
	comp=Z,2.3nm,1.0s,baz=71,slow=5.0,SNR=2.5							
QSPA	**South Pole Qui**	**129.49**	**180**	PKP	**PKPdf**	**15 21 26.7**	**+0.5**	
	comp=Z,1.5nm,0.5s,baz=306,slow=2.2,SNR=14							
QSPA	**South Pole Qui**	**129.49**	**180**	*e*PKPdf	**PKPdf**	**15 21 27.1**	**+0.9**	
SYO	**Syowa Base**	**130.89**	**208**	↑/PKiKP	**PKiKP**	**15 21 34.0**	**+4.4**	
PTGA	**Pitinga**	**136.23**	**33**	*e*PKPdf	**PKPdf**	**15 21 40.7**	**+0.2**	
NVL	**N'lazarevskaya**	**140.02**	**203**	*e*PKHKP	PKPpre	15 21 38.6		
NVL				pmax	pmax			
	comp=Z,8.0nm,0.8s							
SAML	**Samuel**	**141.88**	**43**	*e*PKPpre	PKPpre	15 21 45.2		
SNAA	**Sanae**	**143.52**	**198**	PKP	PKPpre	15 21 48.9		
SNAA	**Sanae**	**143.52**	**198**	PKhKP	PKPpre	15 21 48.6		
	comp=Z,15nm,0.8s,baz=186,slow=4.3,SNR=29							
SNAA	**Sanae**	**143.52**	**198**	*e*PKPpre	PKPpre	15 21 48.1		
LPAZ	**La Paz**	**144.76**	**57**	PKP	PKPbc	15 21 55.8	+0.4	
	comp=Z,13nm,0.9s,baz=0.0,slow=3.5,SNR=39							
LPAZ	**La Paz**	**144.76**	**57**	*e*PKPdf	PKPbc	15 21 55.5	+0.1	
LPAZ	**La Paz**	**144.76**	**57**	*i* P	**PKPab**	**15 21 55.1**	**-0.3**	
VNA2	**Neumayer--Watz**	**145.09**	**197**	PKP	**PKPbc**	**15 21 53.6**	**-0.6**	
	baz=111,slow=2.1							
VNA3	**Neumayer Olymp**	**145.34**	**196**	PKP	**PKPbc**	**15 21 54.2**	**-0.9**	
VNA1	**Neumayer--Stat**	**145.49**	**197**	PKP	**PKPbc**	**15 21 55.4**	**0.0**	
MNMC	**Minye Minye**	**145.81**	**62**	*e*PKPdf	**PKPab**	**15 21 59.1**	**+0.3**	
RCBR	**Riachuelo**	**146.18**	**357**	PKPbc	**PKPab**	**15 22 00.1**	**+0.1**	
	comp=Z,62nm,1.0s,baz=359,slow=3.8,SNR=7.1							
RCBR	**Riachuelo**	**146.18**	**357**	*e*PKPdf	**PKPab**	**15 21 59.7**	**-0.2**	
RCBR				LR	LR			
	comp=Z,14μm,19.0s							
PB11	**IPOC Station P**	**146.19**	**63**	*e*PKPdf	**PKPab**	**15 21 59.9**	**-0.2**	
PB01	**IPOC Station P**	**147.17**	**65**	*e*PKPbc	**PKPbc**	**15 22 01.9**	**-0.2**	
YJA	**Yavi**	**150.66**	**62**	*i* P	**PKPdf**	**15 22 08.3**	**+2.4**	
LCO	**Las Campanas**	**150.97**	**79**	*e*PKPbc	**PKPbc**	**15 22 11.7**	**0.0**	
LCO	**Las Campanas**	**150.97**	**79**	*i* P	**PKPbc**	**15 22 12.1**	**+0.4**	
AROD	**Rodeo**	**152.47**	**80**	*i* P	**PKPbc**	**15 22 16.5**	**+1.3**	
ROC1	**El Roble**	**152.53**	**86**	*e*PKPbc	**PKPbc**	**15 22 14.3**	**-0.9**	
ROC1	**El Roble**	**152.53**	**86**	*i* P	**PKPbc**	**15 22 14.1**	**-1.0**	
GO05	**HualaæØ**	**152.59**	**91**	*e*PKPbc	**PKPbc**	**15 22 15.0**	**+0.1**	
VCA	**Vinchina**	**152.71**	**76**	*i* P	**PKPbc**	**15 22 14.6**	**-0.9**	
ACDV	**Cuesta del Vie**	**152.74**	**79**	*i* P	**PKPdf**	**15 22 11.3**	**+2.8**	
PEL	**Peldehue**	**152.86**	**86**	*e*PKPbc	**PKPbc**	**15 22 14.7**	**-0.9**	
PEL	**Peldehue**	**152.86**	**86**	*e*PKIKP	**PKPbc**	**15 22 14.7**	**-0.9**	
FSA	**Cafayete**	**152.86**	**68**	*i* P	**PKPdf**	**15 22 09.4**	**+0.6**	
AGUA	**GUANDACOL**	**152.88**	**77**	*i* P	**PKPdf**	**15 22 10.1**	**+1.5**	
AMOG	**MOGNA**	**153.58**	**80**	*i* P	**PKPdf**	**15 22 09.5**	**-0.1**	
AHML	**Horco Molle**	**153.73**	**80**	*i* P	**PKPdf**	**15 22 10.4**	**+0.5**	
RTLL	**Cerro Villicun**	**153.78**	**81**	*i* P	**PKPdf**	**15 22 07.0**	**-2.8**	
RTCV	**Cerro Valdivia**	**153.97**	**82**	*i* P	**PKPdf**	**15 22 10.8**	**+0.7**	
ASAL	**Salagasta**	**154.05**	**84**	*i* P	**PKPdf**	**15 22 10.9**	**+0.7**	
AAGR	**Agrelo**	**154.26**	**85**	*i* P	**PKPdf**	**15 22 12.4**	**+1.9**	
CYA	**Choya**	**154.33**	**73**	*i* P	**PKPdf**	**15 22 11.2**	**+0.5**	
APLL	**PUNTA DE LOS L**	**154.81**	**77**	*i* P	**PKPdf**	**15 22 10.8**	**-0.5**	
PLCA	**Paso Flores**	**155.07**	**103**	PKPbc	PKPbc	15 22 21.1		
	comp=Z,6.9nm,0.9s,baz=278,slow=5.2,SNR=5.3							
PLCA	**Paso Flores**	**155.07**	**103**	*e*PKPdf	**PKPdf**	**15 22 11.6**	**+0.2**	
PLCA				PKPbc	PKPbc	15 22 21.1		
PLCA	**Paso Flores**	**155.07**	**103**	*e*PKIKP	**PKPdf**	**15 22 11.6**	**+0.2**	
PLCA						15 22 21.2		
ACAN	**Cantantal**	**155.18**	**82**	*i* P	**PKPdf**	**15 22 13.8**	**+2.1**	
CPUP	**Villa Florida**	**158.93**	**56**	PKPab	**PKPab**	**15 22 52.1**	**-0.7**	
	comp=Z,4.6nm,0.8s,baz=291,slow=4.3,SNR=8.9							

ISK ***29*** *15:11:15.6,39°.12N×29°.18E,h5km,ML2.1/2*
ISCJB ***29*** *15:11:16.0±0.5,39°.10N±0°.03×29°.18E±0°.04,h8km±5km, Error ellipse: s-maj=6.3km s-min=4.3km az=146.6*
CSEM ***29*** *15:11:16.0±0.1,39°.12N×29°.19E,h5km,ML2.1,Error ellipse: s-maj=2.1km s-min=1.4km az=124.0*
DDA ***29*** *15:11:16.0,39°.08N×29°.17E,h7km,Ml2.2*

ISC 29 15:11:16.3±1.0,39°.12N±0°.03×29°.18E±0°.02,h8km±9km, n23,σ0°34/35,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIMA	**Simav-Kutahya**	**0.15**	**256**	PG	**Pg**	**15 11 19.7**	**+0.1**
SIMA				SG	**Sg**	**15 11 21.8**	**-0.2**
SIMA	**Simav-Kutahya**	**0.15**	**256**	*e*Pg	**Pg**	**15 11 19.7**	**+0.1**
SIMA				*e*Sg	**Sg**	**15 11 21.8**	**-0.2**
GDZ	**Gediz**	**0.24**	**97**	*i* P	**Pg**	**15 11 21.0**	**-0.2**
GDZ				*i* S	**Sg**	**15 11 24.9**	**+0.4**
GDZ	**Gediz**	**0.24**	**97**	P	**Pg**	**15 11 21.0**	**-0.2**
GDZ				S	**Sg**	**15 11 24.9**	**+0.4**
DEMI	**Demirci**	**0.37**	**258**	*i* P	**Pg**	**15 11 23.4**	**-0.1**
DEMI				*i* S	**Sg**	**15 11 28.5**	**+0.1**
DEMI	**Demirci**	**0.37**	**258**	P	**Pg**	**15 11 23.4**	**-0.1**
DEMI				S	**Sg**	**15 11 28.5**	**+0.1**
TVSB	**Tavsanli**	**0.40**	**34**	PG	**Pg**	**15 11 23.8**	**-0.3**
TVSB				SG	**Sg**	**15 11 29.2**	**-0.2**
TVSB	**Tavsanli**	**0.40**	**34**	*e*Pg	**Pg**	**15 11 23.8**	**-0.3**
TVSB				*e*Sg	**Sg**	**15 11 29.2**	**-0.2**
KULA	**Kula-Manisa**	**0.73**	**214**	PG	**Pg**	**15 11 29.9**	**-0.4**
KULA	**Kula-Manisa**	**0.73**	**214**	*e*Pg	**Pg**	**15 11 29.9**	**-0.4**
KHAL	**Karahalli**	**0.79**	**162**	*i* P	**Pg**	**15 11 31.5**	**0.0**
KHAL				*i* S	**Sg**	**15 11 41.5**	**-0.3**
KHAL	**Karahalli**	**0.79**	**162**	P	**Pg**	**15 11 31.5**	**0.0**
KHAL				S	**Sg**	**15 11 41.5**	**-0.3**
MANT	**Manisa**	**0.79**	**218**	*i* P	**Pg**	**15 11 31.7**	**+0.1**
MANT				*i* S	**Sg**	**15 11 41.1**	**-0.8**
MANT	**Manisa**	**0.79**	**218**	P	**Pg**	**15 11 31.7**	**+0.1**
MANT				S	**Sg**	**15 11 41.1**	**-0.8**
CAVI	**Cavuskoy**	**1.20**	**25**	PN	**Pg**	**15 11 38.9**	**-0.4**
CAVI	**Cavuskoy**	**1.20**	**25**	*e*Pn	**Pg**	**15 11 38.9**	**-0.4**
BORA	**Eskisehir**	**1.25**	**52**	PN	**Pg**	**15 11 39.9**	**-0.3**
KCTX	**Karacabey (Bur**	**1.31**	**331**	PN	**Pg**	**15 11 41.3**	**-0.1**
KCTX	**Karacabey (Bur**	**1.31**	**331**	*e*Pn	**Pg**	**15 11 41.3**	**-0.1**
YLV	**Yalova**	**1.45**	**6**	PN	**Pn**	**15 11 43.2**	**+0.3**
YLV	**Yalova**	**1.45**	**6**	*e*Pn	**Pn**	**15 11 43.2**	**+0.3**
ARMT	**Armutlu**	**1.46**	**351**	PN	**Pn**	**15 11 43.4**	**+0.4**
ARMT	**Armutlu**	**1.46**	**351**	*e*Pn	**Pn**	**15 11 43.4**	**+0.4**

IDC ***29*** *15:18:48.5±8.6,37°.47N×12°.84E,h0km,mb3.7/2, mb1 3.7/3,mb1mx3.2/66,mbtmp3.6/3,ML4.0/1,Error ellipse: s-maj=151.8km s-min=81.3km az=53.0*
CSEM ***29*** *15:19:38.3,39°.57N×15°.30E,h293km,ML2.5/3 Error ellipse: s-maj=28.9km s-min=11.5km az=119.0*
ROM ***29*** *15:19:38.3±0.6,39°.57N×15°.30E,h293km±12km,Ml2.5/3, Error ellipse: s-maj=28.6km s-min=11.5km az=119.0*
ISCJB ***29*** *15:19:39.0±1.0,39°.5N±0°.1×15°.5E±0°.3,h300km,mb3.2/2, Error ellipse: s-maj=28.2km s-min=13.3km az=11.8*

ISC 29 15:19:39.2±1.4,39°.5N±0°.1×15°.5E±0°.2,h300km,n23, σ1ş07/29,Southern Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SALB	**San Lorenzo Be**	**0.81**	**59**	Pg	**Pn**	**15 20 18.3**	**-0.5**
	13nm,0.3s						
SALB	**San Lorenzo Be**	**0.81**	**59**	Pg	**Pn**	**15 20 18.3**	**-0.5**
	13nm,0.3s						
JOPP	**Joppolo**	**0.92**	**158**	Pg	**Pn**	**15 20 19.0**	**-0.3**
JOPP				Sg	**S**	**15 20 49.0**	**-2.3**
JOPP	**Joppolo**	**0.92**	**158**	Pg	**Pn**	**15 20 19.0**	**-0.3**
JOPP				Sg	**S**	**15 20 49.0**	**-2.3**
SERS	**Sersale**	**1.06**	**114**	Pg	**Pn**	**15 20 20.3**	**+0.3**
SERS				Sg	**S**	**15 20 51.9**	**-0.5**
SERS	**Sersale**	**1.06**	**114**	Pg	**Pn**	**15 20 20.3**	**+0.3**
SERS				Sg	**S**	**15 20 51.9**	**-0.5**
TIP	**Timpagrande**	**1.06**	**105**	Pg	**Pn**	**15 20 20.2**	**+0.3**
TIP				Sg	**S**	**15 20 50.0**	**-2.3**
TIP	**Timpagrande**	**1.06**	**105**	Pg	**Pn**	**15 20 20.2**	**+0.3**
TIP				Sg	**S**	**15 20 50.0**	**-2.3**
PIPA	**Pietrapaola**	**1.06**	**88**	Pg	**Pn**	**15 20 20.2**	**+0.4**
	27nm,0.2s						
PIPA	**Pietrapaola**	**1.06**	**88**	Pg	**Pn**	**15 20 20.2**	**+0.4**
	27nm,0.2s						
MSRU	**Castanea**	**1.20**	**178**	Pg	**Pn**	**15 20 21.6**	**+0.9**
MSRU	**Castanea**	**1.20**	**178**	Pg	**Pn**	**15 20 21.6**	**+0.9**
LADO	**San Nicola del**	**1.20**	**98**	Pg	**Pn**	**15 20 20.8**	**+0.2**
	7.0nm,0.3s						
**L

AKTO	**Aktyubinsk**	**59.22**	**312**	P		**P**	**15 29 55.5**	**-0.7**
	0.7nm,0.5s,baz=166,slow=6.3,SNR=2.8							
ASAR	**Alice Springs**	**59.45**	**187**	P		**P**	**15 29 58.8**	**+0.8**
	0.1nm,0.4s,baz=16,slow=11,SNR=6.8							
YKA	**Yellowknife Ar**	**65.15**	**30**	P		**P**	**15 30 37.2**	**+1.5**
	0.1nm,0.5s,baz=305,slow=7.0,SNR=3.2							
FINES	**FINESS Array B**	**69.76**	**332**	P		**P**	**15 31 04.5**	**-0.3**
	1.5nm,0.9s,baz=113,slow=5.0,SNR=5.2							
HFS	**Hagfors**	**75.09**	**336**	P		**P**	**15 31 36.7**	**+0.1**
	1.7nm,0.9s,baz=182,slow=34,SNR=2.9							
NOA	**NORSAR Array B**	**75.21**	**337**	P		**P**	**15 31 37.5**	**+0.2**
	0.3nm,0.4s,baz=53,slow=2.1,SNR=2.8							

GUC 29 15:30:57.9±0.8, 21°01S×68°57W, h142km±6km, ML3.6, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
PB01	**IPOC Station P**	**0.86**	**268**	*eP*		Pn	15 31 21.1	+0.2
PB01				*i* S		Sn	15 31 39.0	+0.7
PB01				IAML			15 31 42.7	
	comp=N,959nm,0.2s							
PB09	**IPOC Station P**	**1.00**	**219**	*eP*		Pn	15 31 22.7	+0.5
PB09				*i* S		Sn	15 31 41.7	+1.0
PB09				IAML			15 31 42.7	
	comp=N,1μm,1.2s							
PB08	**IPOC Station P**	**1.02**	**328**	*eP*		Pn	15 31 23.4	+0.8
PB08				*i* S		Sn	15 31 42.5	+1.2
PB08				IAML			15 31 43.6	
	comp=E,1μm,0.4s							
PB02	**IPOC Station P**	**1.28**	**256**	*eP*		Pn	15 31 25.4	+0.7
PB02				*i* S		Sn	15 31 46.4	+1.3
PB07	**IPOC Station P**	**1.42**	**240**	*eP*		Pn	15 31 26.8	+0.6
PB07				*i* S		Sn	15 31 49.1	+1.3
PB07				IAML			15 31 50.0	
	comp=E,2μm,0.3s							
PB11	**IPOC Station P**	**1.61**	**320**	*eP*		Pn	15 31 28.9	+0.6
PB11				*i* S		Sn	15 31 52.6	+1.2
PB06	**IPOC Station P**	**1.93**	**209**	*eP*		Pn	15 31 32.0	+0.1
PB06				*i* S		Sn	15 31 58.0	0.0
PB06				IAML			15 31 59.2	
	comp=E,721nm,0.4s							
PSGC	**Pisagua**	**2.02**	**314**	*eP*		Pn	15 31 33.2	+0.2
PSGC				*i* S		Sn	15 32 00.9	+1.0
PSGC				IAML			15 32 03.1	
	comp=N,288nm,0.3s							
MNMC	**Minye Minye**	**2.10**	**333**	*eP*		Pn	15 31 35.2	+1.1
MNMC				*i* S		Sn	15 32 03.6	+1.7

HEL 29 15:32:55.8±0.7, 67.69N×33.96E, h0km, ML1.8, Explosion
IDC 29 15:32:57.7±2.7, 67.67N×33.65E, h0km, mb1 3.2/3, mb1mx2.9/70, mbtmp3.1/3, ML2.3/3, Error ellipse: s-maj=30.2km s-min=10.4km az=72.0
ISC 29 15:32:53.8±2.5, 67.76N±0.06×34.1E±0.1, h0km, n11, σ1§84/18, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
VRF	**Varrio**	**1.69**	**272**	PG		**Pn**	**15 33 25.4**	**+0.8**
	baz=82							
VRF				MSG			15 33 45.6	
	comp=Z,7.3nm,0.2s							
VRF				SN		**Sg**	**15 33 48.6**	**+0.4**
KU6	**Riekki**	**2.40**	**225**	PN		**Pn**	**15 33 34.8**	**+0.6**
	baz=47							
KU6				MSG			15 34 04.5	
	comp=Z,3.1nm,0.2s							
KU6				SG		**Sn**	**15 34 06.8**	**+2.6**
MSF	**Maaselka**	**2.72**	**229**	PN		**Pn**	**15 33 40.1**	**+1.4**
	baz=48							
MSF				SG		**Sb**	**15 34 16.8**	**-0.3**
SGF	**Sodankyl**	**2.90**	**267**	PG		**Pb**	**15 33 46.5**	**+0.2**
ARCES	**ARCESS Array B**	**3.60**	**304**	Pn		**Pn**	**15 33 52.4**	**+1.6**
	comp=Z,0.4nm,0.3s,baz=121,slow=14,SNR=15							
ARCES				Pg		**Pg**	**15 34 01.3**	**-1.4**
	comp=Z,0.7nm,0.3s,baz=113,slow=14,SNR=11							
ARCES				Sn		**Sn**	**15 34 34.6**	**+0.7**
	comp=Z,0.8nm,0.3s,baz=117,slow=28,SNR=8.9							
ARCES				Lg		Lg	15 34 48.6	
	comp=Z,2.6nm,0.3s,baz=115,slow=28,SNR=12							
ARE0	**ARCESS Array S**	**3.60**	**304**	PN		**Pn**	**15 33 52.3**	**+1.5**
	baz=117							
ARE0				SN		**Sn**	**15 34 36.5**	**+2.6**
HEF	**Hetta**	**3.95**	**284**	PN		**Pn**	**15 33 57.4**	**+1.7**
HEF				SN		**Sn**	**15 34 45.1**	**+2.5**
LANU	**Lannavaara**	**4.57**	**279**	PN		**Pn**	**15 34 02.3**	**-1.8**
KALU	**Kalix**	**4.64**	**251**	SN		**Sn**	**15 34 59.5**	**0.0**
FINES	**FINESS Array B**	**7.21**	**212**	Pn		**Pn**	**15 34 40.9**	**+0.7**
	comp=Z,0.0nm,0.3s,baz=37,slow=13,SNR=2.4							
FINES				Lg		Lg	15 36 37.7	
	comp=Z,0.2nm,0.3s,baz=37,slow=27,SNR=5.9							
NOA	**NORSAR Array B**	**11.89**	**246**	Pn		**Pn**	**15 35 40.7**	**-3.8**
	comp=Z,0.1nm,0.3s,baz=30,slow=12,SNR=2.3							

DJA 29 15:39:09.7±0.3, 4°S±2°×12°9E±°, h10km, M3.9/9, MLv3.9/9
ISCJB 29 15:39:11.2±0.5, 4.18S±0.04×128.63E±0.04, h33km, mb3.8/6, Error ellipse: s-maj=6.2km s-min=4.1km az=39.9
IDC 29 15:39:16.0±4.1, 4.10S×128.83E, h58km±39km, mb3.6/7, mb1 3.7/8, mb1mx3.3/55, mbtmp3.9/8, ML3.7/1, Error ellipse: s-maj=35.3km s-min=20.6km az=86.0
ISC 29 15:39:13.2±0.7, 4.15S±0.05×128.63E±0.04, h35km, n18, σ1§53/28, mb3.9/6, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
AAI	**Ambon**	**0.63**	**317**	P		**Pn**	**15 39 23.3**	**-2.4**
AAI				S		**Sn**	**15 39 31.8**	**-2.8**
MSAI	**Masohi**	**0.86**	**21**	P		**Pn**	**15 39 25.9**	**-2.9**
MSAI				S		**Sn**	**15 39 39.2**	**-0.9**
BNDI	**Bandanaira**	**1.33**	**106**	P		**Pn**	**15 39 33.5**	**-1.7**
BNDI				S		**Sn**	**15 39 52.5**	**+0.8**
NLAI	**Namlea**	**1.77**	**301**	P		**Pn**	**15 39 39.8**	**-1.6**
NLAI				S		**Sn**	**15 40 04.6**	**+1.9**
SANI	**Sanana**	**3.36**	**308**	P		**Pn**	**15 40 02.3**	**-1.0**
SANI				S		**Sn**	**15 40 43.8**	**+1.8**
LBMI	**Labuha**	**3.67**	**342**	P		**Pn**	**15 40 07.5**	**0.0**
LBMI				S		**Sn**	**15 40 51.2**	**+1.6**
FAKI	**Fak Fak**	**3.82**	**71**	P		**Pn**	**15 40 09.4**	**-0.1**
FAKI				S		**Sn**	**15 40 54.8**	**+1.5**
SIJI	**Sorong**	**4.20**	**39**	P		**Pn**	**15 40 14.2**	**-0.6**
	5.3nm,0.3s,baz=52,slow=19,SNR=112							
SIJI				S		**Sn**	**15 41 02.0**	**-0.5**
	7.1nm,0.3s,baz=112,slow=23,SNR=8.4							
SAUI	**Saumlaki**	**4.64**	**145**	P		**Pn**	**15 40 19.3**	**-1.6**
SAUI				S		**Sn**	**15 41 14.1**	**+0.6**
WRA	**Warramunga Arr**	**16.65**	**161**	P		**Pn**	**15 43 01.5**	**-2.5**
	0.3nm,0.3s,baz=345,slow=13,SNR=12							
ASAR	**Alice Springs**	**20.06**	**166**	P		**P**	**15 43 44.9**	**+1.3**
	5.1nm,0.6s,baz=349,slow=11,SNR=65							
ASAR				PcP		**PcP**	**15 47 57.9**	**-0.7**
	0.5nm,0.6s,baz=7.5,slow=1.8,SNR=6.3							
CMAR	**Chiang Mai Arr**	**36.88**	**308**	P		**P**	**15 46 20.8**	**+2.0**
	0.6nm,0.7s,baz=136,slow=7.3,SNR=8.1							
MKAR	**Makanchi Array**	**65.11**	**327**	P		**P**	**15 49 51.0**	**+0.5**
	0.8nm,0.5s,baz=120,slow=7.4,SNR=12							
ZALV	**Zalesovo Beam**	**68.44**	**334**	P		**P**	**15 50 11.1**	**-0.4**
	0.4nm,0.3s,baz=132,slow=4.2,SNR=3.7							
KURBB	**Kurchatov Arra**	**69.39**	**329**	P		**P**	**15 50 17.8**	**+0.4**
	1.0nm,0.6s,baz=129,slow=5.5,SNR=12							
BVAR	**Borovoye Array**	**74.94**	**328**	P		**P**	**15 50 51.4**	**+0.8**
	0.6nm,0.8s,baz=102,slow=6.1,SNR=3.6							
TIXI	**Tiksi**	**75.66**	**0**	P		**P**	**15 50 54.5**	**+0.1**
	0.7nm,0.5s,baz=193,slow=3.1,SNR=5.8							
TORD	**Torodi Ar. Bea**	**126.87**	**283**	PKP		**PKPdf**	**15 58 14.7**	**+0.3**
	0.2nm,0.5s,baz=154,slow=0.9,SNR=3.6							

NIED 29 15:45:00, 25.50N×143.20E, h5km, Mw4.6 Best double couple: M0 1.01000×10^16 NP1:ϕs177.00000°, δ21.00000°, λ77.00000°. NP2:ϕs11.00000°, δ70.00000°, λ95.00000°.
JMA 29 15:45:01.7±0.1, 25.49N×143.19E, h2km±2km, M4.7
BJI 29 15:45:03.6, 25.25N×143.10E, h47km, mb4.8/49, mB5.0/27, Ms4.5/19, MS7 4.3/20
ISCJB 29 15:45:06.8±0.7, 25.56N±0.02×142.67E±0.03, h34km±5km, mb4.9/250, Error ellipse: s-maj=4.5km s-min=3.5km az=34.6
MOS 29 15:45:08.4±1.0, 25.56N×142.64E, h49km, mb5.1/101, Error ellipse: s-maj=7.1km s-min=4.0km az=107.4
IDC 29 15:45:08.3±3.0, 25.52N×142.67E, h33km±22km, mb4.5/54, mb1 4.5/60, mb1mx4.4/77, mbtmp4.6/60, ML3.7/6, MS3.8/10, Ms1 3.8/10, ms1mx3.4/64, Error ellipse: s-maj=11.6km s-min=7.6km az=94.0
NEIC 29 15:45:09.1±0.5, 25.53N×142.65E, h44km±4km, mb4.9/157, Error ellipse: s-maj=3.2km s-min=2.4km az=133.0
ISC 29 15:45:09.9±0.6, 25.55N±0.04×142.67E±0.05, h49km±4km, n538, σ1§22/564, mb4.9/255, 31C-15D, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
JHHJ	**Haha-jima-NKT**	**1.16**	**338**	P		**Pn**	**15 45 28.9**	**-0.9**
JHHJ				S		**Sn**	**15 45 48.6**	**+4.0**
CBIJ	**Chichi jima**	**1.60**	**344**	P		**Pn**	**15 45 34.8**	**-1.0**
CBIJ				S		**Sn**	**15 45 58.7**	**+3.5**
CBIJ	**Chichi jima**	**1.60**	**344**	*e*Pn		**Pn**	**15 45 35.1**	**-0.7**
CBIJ				Sn		**Sn**	**15 45 59.8**	**+4.5**
JCJ	**Chichijima**	**1.60**	**344**	Pn		**Pn**	**15 45 35.1**	**-0.6**
	585nm,0.3s,baz=156,slow=4.4,SNR=884							
JCJ				Sn		**Sn**	**15 45 59.8**	**+4.5**
JHJ2	**Mitsune**	**7.93**	**342**	*e*Pn		**Pn**	**15 47 02.1**	**-0.5**
JHJ	**Hachijo jima 2**	**7.95**	**342**	Pn		**Pn**	**15 47 02.4**	**-0.5**
	5.4nm,0.3s,baz=39,slow=22,SNR=3.5							
JHJ				Sn		**Sn**	**15 48 36.4**	**+5.0**
	11nm,0.3s,baz=273,slow=23,SNR=2.7							
BSO3	**Boso 3**	**9.41**	**349**	P		**Pn**	**15 47 22.7**	**+0.2**
BSO4	**Boso 4**	**9.62**	**348**	P		**Pn**	**15 47 26.2**	**+0.6**
BSO4				S		**Sn**	**15 49 17.2**	**+5.0**
JNY	**Yasuok**	**10.62**	**338**	P		**Pn**	**15 47 39.3**	**-0.1**
JHU	**Hanno**	**10.67**	**345**	P		**Pn**	**15 47 36.9**	**-3.2**
JAO	**Obara**	**10.75**	**336**	P		**Pn**	**15 47 41.4**	**+0.2**
JYT	**Yasato**	**10.85**	**349**	P		**Pn**	**15 47 41.3**	**-1.2**
INU	**Inuyama**	**10.91**	**335**	*e*Pn		**Pn**	**15 47 43.0**	**-0.4**
JAG	**Ashikaga**	**11.18**	**347**	*e*S		**Pn**	**15 47 44.7**	**-2.4**
MJAR	**Matsushiro Arr**	**11.60**	**342**	Pn		**Pn**	**15 47 52.0**	**-0.9**
	1.0nm,0.3s,baz=153,slow=13,SNR=14							
MJAR				Sn		**Sn**	**15 50 03.3**	**+2.4**
	0.2nm,0.3s,baz=203,slow=5.5,SNR=3.4							
MAJO	**Matsushiro**	**11.60**	**342**	*e*Pn		**Pn**	**15 47 52.3**	**-0.6**
MAJO	**Matsushiro**	**11.60**	**342**	*ce*P		**Pn**	**15 47 53.1**	**+0.3**
MAJO				pmax		pmax		
	comp=Z,5.0nm,0.7s							
MAT	**Matsushiro**	**11.60**	**342**	P		**Pn**	**15 47 51.2**	**-1.6**
MAT				S		**Sn**	**15 50 03.3**	**+2.3**
MJB9	**Matsu-Tunnel**	**11.61**	**342**	*e*Pn		**Pn**	**15 47 52.3**	**-0.6**
GUMO	**Guam**	**12.08**	**170**	LR		LR	15 51 33.1	
	comp=Z,357nm,21.2s,baz=20,slow=32							
JNU	**Nakatsue**	**12.75**	**309**	Pn		**Pn**	**15 48 08.5**	**0.0**
	comp=Z,0.2nm,0.3s,baz=208,slow=19,SNR=2.7							
JNU				LR		LR	15 52 21.9	
	comp=Z,401nm,18.5s,baz=118,slow=34							
JNU	**Nakatsue**	**12.75**	**309**	*e*Pn		**Pn**	**15 48 07.8**	**-0.7**
JOW	**Kunigami**	**12.99**	**279**	Pn		**Pn**	**15 48 09.6**	**-2.3**
	comp=Z,1.1nm,0.3s,baz=53,slow=3.5,SNR=2.6							
JOW				LR		LR	15 52 25.9	
	comp=Z,252nm,21.1s,baz=98,slow=34							
JOW	**Kunigami**	**12.99**	**279**	*e*Pn		Pn	15 48 06.8	-5.0
ERM	**Erimo**	**16.43**	**1**	*e*Pn		**Pn**	**15 48 53.2**	**-3.8**
	comp=Z,36nm,1.0s							
ERM	**Erimo**	**16.43**	**1**	*ce*P		**P**	**15 48 58.8**	**-0.3**
ERM				pmax		pmax		
	comp=Z,69nm,1.7s							
KSRS	**Korea Array**	**17.26**	**317**	P		**Pn**	**15 49 07.1**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=128,slow=12,SNR=16							
KSRS				LR		LR	15 55 05.6	
	comp=Z,596nm,18.6s,baz=124,slow=34							
KS15	**Wonju Array Si**	**17.28**	**317**	*e*Pn		**Pn**	**15 49 06.5**	**-1.2**
KSAR	**Wonju Array Be**	**17.28**	**317**	P		**Pn**	**15 49 07.1**	**-0.6**
KSAR	**Wonju Array Be**	**17.28**	**317**	P		**Pn**	**15 49 07.1**	**-0.6**
KS01	**Wonju Array Si**	**17.30**	**317**	*e*Pn		**Pn**	**15 49 06.3**	**-1.5**
ASAJ	**Asahikawa**	**18.52**	**360**	P		**Pn**	**15 49 22.8**	**-0.1**
	comp=Z,0.4nm,0.3s,baz=211,slow=13,SNR=5.4							
ASAJ	**Asahikawa**	**18.52**	**360**	*e*P		**Pn**	**15 49 22.7**	**-0.1**
	comp=Z,12nm,0.8s							
SHO	**Shikotan**	**18.59**	**9**	*e*P		**Pn**	**15 49 23.3**	**-0.3**
SHO				*e*S		Sn	15 52 36.5	-14
SHO				pmax		pmax		
	comp=Z,16nm,0.9s							
NACB	**Ninganchiao**	**19.17**	**270**	*e*P		**P**	**15 49 29.8**	**+0.3**
	comp=Z,23nm,0.9s							
YULB	**Yu-li**	**19.57**	**268**	*e*P		**P**	**15 49 34.5**	**+0.6**
	comp=Z,24nm,0.8s							
VLA	**Vladivostok**	**19.63**	**336**	*i* P		**Pn**	**15 49 35.3**	**-0.7**
VLA				pmax		pmax		
	comp=Z,40nm,1.7s							
TWG	**Pinlang**	**19.89**	**267**	*e*P		**P**	**15 49 32.3**	**-5.0**
	comp=Z,250nm,1.4s							
TEY	**Ternei**	**20.05**	**347**	*e*P		**P**	**15 49 38.0**	**-0.8**
USRK	**Ussuriysk Ar.**	**20.53**	**338**	P		**P**	**15 49 44.7**	**+0.6**
	comp=Z,7.3nm,0.7s,baz=157,slow=12,SNR=23							
YSS	**Yuzh-Sakhalins**	**21.36**	**0**	*e*P		**P**	**15 49 54.1**	**+1.1**
YSS				*e*			15 50 22.0	
YSS				pmax		pmax		
	comp=Z,10.0nm,0.9s							
MDJ	**Mudanjiang**	**21.77**	**334**	P		**P**	**15 49 56.5**	**-0.9**
MDJ				pP		pP	15 50 08.0	-0.9
MDJ				sP		sP	15 50 13.0	-2.0
MDJ				S		**S**	**15 53 49.8**	**-5.7**
MDJ				sS		sS	15 54 12.3	-1.7
MDJ				pmax		pmax		
	comp=Z,11nm,1.0s							
MDJ				pmax		pmax		
	comp=Z,500nm,12.7s							
MDJ				LR		LR		
	comp=Z,490nm,14.3s							
MDJ				LR		LR		
	comp=Z,520nm,14.3s							
MDJ				LR		LR		
	comp=Z,790nm,15.9s							
MDJ	**Mudanjiang**	**21.77**	**334**	*e*P		**P**	**15 49 55.9**	**-1.5**
	comp=Z,18nm,0.9s							
CN2	**Changchun**	**22.98**	**327**	*e*P		**P**	**15 50 10.8**	**+0.5**
H11N2	**WAKE ISLAND Hy**	**23.08**	**100**	T		T	16 13 48.0	
	baz=290,slow=74,SNR=14							
H11N1	**WAKE ISLAND Hy**	**23.08**	**100**	T		T	16 13 48.1	
	baz=290,slow=74,SNR=16							
H11N3	**WAKE ISLAND Hy**	**23.10**	**100**	T		T	16 13 47.2	
	baz=290,slow=74,SNR=14							
H11S3	**WAKE ISLAND Hy**	**23.32**	**103**	T		T	16 14 01.6	
	baz=292,slow=75,SNR=13							
H11S1	**WAKE ISLAND Hy**	**23.33**	**103**	T		T	16 14 04.8	
	baz=292,slow=75,SNR=11							
H11S2	**WAKE ISLAND Hy**	**23.34**	**103**	T		T	16 14 05.6	
	baz=292,slow=75,SNR=14							
TGY	**Tagaytay City**	**23.36**	**245**	P		**P**	**15 50 15.5**	**+1.2**
	comp=Z,88nm,0.4s,baz=142,slow=3.6,SNR=3.1							
TIA	**Tai'an**	**24.30**	**302**	P		**P**	**15 50 21.8**	**-1.0**
TIA				pmax		pmax		
	comp=Z,14nm,0.8s							
DAV	**Davao City (W)**	**24.58**	**225**	LR		LR	15 59 21.1	
	comp=Z,91nm,20.3s,baz=322,slow=35							
KLR	**Kul'dur**	**25.13**	**343**	P		**P**	**15 50 31.1**	**+1.0**
	comp=Z,2.6nm,0.7s,baz=150,slow=7.8,SNR=100							
KLR				PcP		**PcP**	**15 54 05.1**	**+1.8**
	comp=Z,0.1nm,0.6s,baz=85,slow=3.8,SNR=3.5							
KLR	**Kul'dur**	**25.13**	**343**	*ce*P		**P**	**15 50 31.0**	**+0.8**
GRNR	**Gornyy**	**25.63**	**351**	*e*P		**P**	**15 50 35.7**	**+0.9**
GRNR				*i*			15 54 05.2	
GRNR				pmax		pmax		
	comp=Z,40nm,1.0s							
NKL	**Nikolayevsk**	**27.60**	**357**	*e*P		**P**	**15 50 52.0**	**-0.4**
SIJI	**Sorong**	**28.49**	**204**	P		**P**	**15 51 00.5**	**-0.2**
	comp=Z,4.8nm,0.8s,baz=348,slow=18,SNR=3.9							
ENH	**Enshi**	**29.64**	**287**	*e*P		**P**	**15 51 09.5**	**-1.4**
PETK	**Petropavlovsk-**	**29.75**	**18**	P		**P**	**15 51 12.4**	**+0.9**
	comp=Z,3.1nm,0.8s,baz=198,slow=4.0,SNR=3.7							
HHC	**Hu-ho-hao-te**	**29.98**	**308**	*e*P		**P**	**15 51 14.8**	**+0.9**
HHC				S		**S**	**15 56 15.0**	**+6.6**
HHC				pmax		pmax		
	comp=Z,45nm,0.9s							
HHC				pmax		pmax		
	comp=Z,190nm,4.7s							
HHC				LR		LR		
	comp=Z,1μm,11.8s							
HHC				LR		LR		
	comp=Z,1μm,12.7s							
HHC				LR		LR		
	comp=Z,1μm,12.1s							
XAN	**Xi'an**	**30.38**	**294**	P		**P**	**15 51 17.0**	**-0.4**
XAN				pP		pP	15 51 28.0	-2.1
XAN				sP		sP	15 51 34.0	-1.9
XAN				S		**S**	**15 56 11.3**	**-3.4**
XAN				pmax		pmax		
	comp=Z,16nm,0.8s							
XAN				LR		LR		
	comp=Z,310nm,11.1s							
XAN				LR		LR		
	comp=Z,320nm,13.0s							
XAN				LR		LR		
	comp=Z,290nm,14.4s							
ZEA	**Zeya**	**30.42**	**342**	*e*P		**P**	**15 51 18.1**	**+0.7**
ZEA				pmax		pmax		
	comp=N,34nm,0.6s							
ZEA				pmax		pmax		
	comp=Z,38nm,0.8s							
KMSI	**Cibinong**	**30.69**	**219**	P		**P**	**15 51 23.2**	**+3.0**
MYLDM	**Lahad Datu**	**30.76**	**233**	*e*P		**P**	**15 51 20.7**	**-0.2**
	comp=Z,13nm,1.0s							
MSAI	**Masohi**	**31.67**	**207**	P		**P**	**15 51 30.6**	**+1.8**
SANI	**Sanana**	**31.84**	**213**	P		**P**	**15 51 31.8**	**+1.5**
MRSI	**Marisa**	**31.97**	**222**	P		**P**	**15 51 32.8**	**+1.4**
GYA	**Guiyang**	**32.31**	**280**	*i* P		**P**	**15 51 35.5**	**+0.9**
GYA				pP		pP	15 51 46.5	-0.8
GYA				PP		**PnPn**	**15 52 43.0**	**+0.7**
GYA				PcP		**PcP**	**15 54 22.8**	**+1.0**
GYA				S		**S**	**15 56 44.3**	**-0.9**
GYA				sS		sS	15 57 04.8	-1.8
GYA				ScS		**ScS**	**16 01 59.5**	**-1.5**
GYA				pmax		pmax		
	comp=Z,20nm,0.7s							
GYA				pmax		pmax		
	comp=Z,120nm,6.2s							
GYA				LR		LR		
	comp=Z,520nm,17.9s							
GYA				LR		LR		
	comp=Z,470nm,18.0s							
GYA				LR		LR		
	comp=Z,480nm,18.2s							
APSI	**Ampana**	**33.25**	**221**	P		**P**	**15 51 45.3**	**+2.7**
MPSI	**Mapaga**	**33.34**	**225**	P		**P**	**15 51 46.3**	**+2.8**
MMPI	**Merauke**	**33.89**	**184**	P		**P**	**15 51 47.6**	**-0.5**
MA2	**Magadan**	**34.47**	**7**	P		**P**	**15 51 52.2**	**-0.6**
	comp=Z,2.9nm,0.6s,baz=184,slow=7.0,SNR=4.3							
MA2	**Magadan**	**34.47**	**7**	*i* P		**P**	**15 51 52.6**	**-0.2**
MA2				pmax		pmax		
	comp=Z,5.0nm,1.0s							
CD2	**Chengdu**	**34.58**	**288**	*e*P		**P**	**15 51 52.8**	**-1.4**
CD2				pmax		pmax		
	comp=Z,10.0nm,0.5s							
LZH	**Lanzhou**	**34.76**	**297**	*e*P		**P**	**15 51 56.3**	**+0.5**
LZH				pP		pP	15 52 06.0	-2.6
LZH				sP		sP	15 52 14.0	-0.4
LZH				pmax		pmax		
	comp=Z,42nm,1.0s							
LZH				pmax		pmax		
	comp=Z,120nm,4.5s							
LZH				LR		LR		
	comp=Z,360nm,12.4s							
LZH				LR		LR		
	comp=Z,500nm,13.5s							
LZH				LR		LR		
	comp=Z,690nm,13.0s							
PMG	**Port Moresby**	**35.02**	**172**	P		**P**	**15 51 56.6**	**-1.3**
	comp=Z,10nm,0.7s,baz=289,slow=3.0,SNR=6.5							
PMG	**Port Moresby**	**35.02**	**172**	*e*P		**P**	**15 51 57.1**	**-0.9**
	comp=Z,23nm,0.8s							
PMG	**Port Moresby**	**35.02**	**172**	*i* P		**P**	**15 51 56.9**	**-1.1**
PMG				pmax		pmax		
	comp=Z,103nm,1.3s							
SAUI	**Saumlaki**	**35.12**	**200**	P		**P**	**15 51 58.1**	**-0.7**
KDI	**Kendari**	**35.20**	**216**	P		**P**	**15 52 00.4**	**+0.9**
	comp=Z,51nm,1.0s							
ULN	**Ulaanbaatar**	**35.75**	**318**	*e*P		**P**	**15 52 04.4**	**+0.2**
	comp=Z,6.0nm,0.9s							
ULN	**Ulaanbaatar**	**35.75**	**318**	P		**P**	**15 52 03.6**	**-0.6**
	SNR=5.7							
ULN	**Ulaanbaatar**	**35.75**	**318**	P		**P**	**15 52 03.6**	**-0.6**
	SNR=5.7							
ULN	**Ulaanbaatar**	**35.75**	**318**	*ce*P		**P**	**15 52 03.6**	**-0.6**
ULN				pmax		pmax		
	comp=Z,14nm,1.7s							
KMI	**Kunming**	**36.00**	**278**	P		**P**	**15 52 07.0**	**+0.3**
KMI				pmax		pmax		
	comp=Z,18nm,1.0s							
KMI				pmax		pmax		
	comp=Z,240nm,10.1s							
KMI				LR		LR		
	comp=Z,220nm,13.9s							
KMI				LR		LR		
	comp=Z,310nm,15.1s							
KMI				LR		LR		
	comp=Z,260nm,17.0s							
TTSI	**Tana Toraja**	**36.04**	**221**	P		**P**	**15 52 08.9**	**+2.2**
SONA1	**Songino Array**	**36.13**	**317**	*e*P		**P**	**15 52 06.5**	**-1.0**
SONM	**Songino Array**	**36.13**	**317**	P		**P**	**15 52 06.4**	**-1.1**
	comp=Z,2.9nm,0.5s,baz=126,slow=8.5,SNR=12							
SONM				PcP		**PcP**	**15 54 33.4**	**+1.0**
	comp=Z,1.3nm,0.5s,baz=161,slow=2.9,SNR=4.7							
SONM				LR		LR	16 06 07.0	
	comp=Z,161nm,18.9s,baz=75,slow=35							
BKB	**Balikpapan**	**36.50**	**227**	P		**P**	**15 52 10.8**	**+0.1**
BNSI	**Bone**	**36.96**	**220**	P		**P**	**15 52 16.3**	**+1.7**
SBUM	**Sibu**	**37.23**	**237**	*e*P		**P**	**15 52 17.0**	**0.0**
	comp=Z,5.4nm,0.8s							
YAK	**Yakutsk**	**37.51**	**350**	P		**P**	**15 52 18.6**	**-0.1

comp=Z,17nm,1.1s,comp=Z,187nm
NAYO Nakonayok 40.29 262 P **P** 15 52 47.1 +4.5
comp=Z,39nm,1.0s
CMMT Chiang Mai 40.90 270 P P 15 52 55.8 +8.2
CHTO Chiang Mai 40.90 270 P P 15 52 57.9 +10
CHTO Chiang Mai 40.90 270 *e*P **P** 15 52 46.9 -0.7
comp=Z,6.1nm,0.9s
CHTO Chiang Mai 40.90 270 *e*P **P** 15 52 46.9 -0.7
CHTO pmax pmax
comp=Z,6.0nm,0.9s
CM01 Chiang Mai Arr 41.01 269 *e*P **P** 15 52 48.5 0.0
CM01 *e*PcP **PcP** 15 54 47.1 -0.9
CM31 Chiang Mai Arr 41.01 269 *e*P **P** 15 52 49.1 +0.6
CMAR Chiang Mai Arr 41.01 269 P **P** 15 52 49.5 +1.0
comp=Z,2.8nm,0.6s,baz=62,slow=7.9,SNR=26
CMAR PcP **PcP** 15 54 48.9 +0.9
comp=Z,1.3nm,0.8s,baz=140,slow=0.6,SNR=6.3
CMAR LR LR 16 09 29.6
comp=Z,58nm,19.1s,baz=100,slow=36
WSI Waingapu 41.23 215 P **P** 15 52 52.4 +2.1
BASI Baing, Sumba 41.56 214 P **P** 15 52 52.7 -0.3
WBSI Waikabubak, Su 41.68 216 P **P** 15 52 55.7 +1.7
PLAI Plampang 41.89 219 P **P** 15 52 55.7 0.0
TWSI Taliwang, Sumb 42.33 220 P **P** 15 52 59.5 +0.2
BILL Bilibino 44.86 12*c i*P **P** 15 53 19.6 +0.6
BILL *i* 15 53 29.9
BILL *i* 15 53 41.1
BILL pmax pmax
comp=Z,21nm,1.2s
HVS Khovu-Aksy 45.03 318 *i* P **P** 15 53 20.4 -0.3
HVS pmax pmax
comp=Z,7.0nm,0.9s
CTA Charters Tower 45.50 175 P **P** 15 53 24.6 0.0
comp=Z,7.0nm,0.5s,baz=358,slow=9.0,SNR=14
LSA Lhasa 45.53 287 *e*P **P** 15 53 26.4 +1.0
comp=Z,4.6nm,0.4s
LSA Lhasa 45.53 287 *e*P **P** 15 53 26.5 +1.0
LSA pmax pmax
comp=Z,5.0nm,0.4s
SHL Shillong 45.58 282 P **P** 15 53 25.4 -0.2
SHL pmax pmax
comp=Z,46nm,0.8s
WRAB Tennant Creek 45.93 191 *e*P **P** 15 53 27.2 -0.8
comp=Z,22nm,0.6s
WRAB Tennant Creek 45.93 191*ce*P **P** 15 53 27.6 -0.4
WRAB pmax pmax
comp=Z,65nm,1.7s
WB2 Warramunga Arr 45.94 191 *e*P **P** 15 53 27.4 -0.7
comp=Z,26nm,0.8s
WRA Warramunga Arr 45.94 191 P **P** 15 53 27.4 -0.7
comp=Z,15nm,0.5s,baz=10,slow=8.7,SNR=181
FITZ Fitzroy Crossi 46.44 203 *e*P **P** 15 53 32.0 0.0
comp=Z,25nm,0.8s
TIXI Tiksi 46.78 354 P **P** 15 53 34.1 0.0
comp=Z,2.1nm,0.4s,baz=130,slow=5.7,SNR=5.6
TIXI Tiksi 46.78 354 *e*P **P** 15 53 34.0 -0.1
comp=Z,6.3nm,0.8s
TIXI Tiksi 46.78 354 *e*P **P** 15 53 33.4 -0.7
TIXI pmax pmax
comp=Z,3.0nm,0.9s
LEM Lembang 46.87 231 P **P** 15 53 36.3 +0.6
comp=Z,16nm,0.6s,baz=54,slow=14,SNR=6.8
PSI Prapat 47.73 249 P **P** 15 53 43.4 +1.0
comp=Z,10nm,0.7s,baz=88,slow=7.9,SNR=6.0
PSI PcP **PcP** 15 55 11.4 +0.3
comp=Z,7.9nm,0.7s,baz=113,slow=3.8,SNR=3.1
PSI Prapat 47.73 249 *e*P **P** 15 53 42.2 -0.2
comp=Z,14nm,0.8s
PSI PcP **PcP** 15 55 11.4 +0.3
WMQ Urumqi 47.84 307 P **P** 15 53 43.0 +0.1
WMQ pP pP 15 53 51.5 -4.6
WMQ sP sP 15 53 58.5 -3.3
WMQ pmax pmax
comp=Z,21nm,1.5s
WMQ pmax pmax
comp=Z,27nm,8.1s
DGZ Jazzator, Alta 48.65 315 *i* P **P** 15 53 49.7 +0.6
DGZ pmax pmax
comp=Z,6.0nm,0.6s
ODAN Odare 49.28 284 *e*P **P** 15 53 54.8 +0.4
comp=Z,49nm,0.6s
AS01 Alice Springs 49.65 191 *e*P **P** 15 53 55.6 -1.2
AS31 Alice Springs 49.66 191 *e*P **P** 15 53 55.9 -0.9
comp=Z,3.4nm,0.5s
ASAR Alice Springs 49.66 191 P **P** 15 53 56.1 -0.8
comp=Z,3.9nm,0.5s,baz=16,slow=14,SNR=60
RAMN Ramite 49.95 285 *e*P **P** 15 53 59.7 +0.2
comp=Z,33nm,0.7s
JIRN Jiri 50.17 286 *e*P **P** 15 54 02.1 +0.8
comp=Z,137nm,0.7s
GUN Gumba 50.39 286 *e*P **P** 15 54 03.0 +0.1
comp=Z,44nm,0.6s
PKIN Phulchoki 50.87 286 *e*P **P** 15 54 06.5 0.0
comp=Z,14nm,0.6s
KKN Kakani 50.93 286 *e*P **P** 15 54 07.1 +0.2
comp=Z,25nm,0.7s
ZAA0 Zalesovo Array 50.94 320 *e*P **P** 15 54 05.6 -0.6
ZAA0 *e*PcP **PcP** 15 55 21.3 -0.7
ZALV Zalesovo Beam 50.94 320 P **P** 15 54 05.5 -0.8
comp=Z,1.9nm,0.4s,baz=105,slow=8.0,SNR=9.5
ZALV PcP **PcP** 15 55 22.1 +0.1
comp=Z,7.8nm,0.8s,baz=111,slow=4.0,SNR=12
ZALV LR LR 16 15 56.8
comp=Z,234nm,19.2s,baz=246,slow=36
ZALV Zalesovo Beam 50.94 320 *e*P **P** 15 54 05.1 -1.1
ZALV *e*PcP **PcP** 15 55 21.2 -0.8
ZALV Zalesovo Beam 50.94 320 *e*P **P** 15 54 05.1 -1.1
ZALV *e* 15 55 21.2
DMN Daman 51.12 286 *e*P **P** 15 54 08.7 +0.4
comp=Z,22nm,0.7s
GKN Gorkha 51.45 286 *e*P **P** 15 54 10.9 +0.2
comp=Z,14nm,0.5s
MBWA Marble Bar 51.50 208 *e*P **P** 15 54 10.0 -0.8
comp=Z,69nm,1.9s
MK01 Makanchi Array 51.79 311 *e*P **P** 15 54 11.3 -1.5
MK31 Makanchi Array 51.80 311 *e*P **P** 15 54 11.7 -1.2
MK31 Makanchi Array 51.80 311 *e*P **P** 15 54 11.7 -1.2
MKAR Makanchi Array 51.80 311 P **P** 15 54 12.4 -0.5
comp=Z,3.2nm,0.5s,baz=86,slow=9.9,SNR=44
MKAR PcP **PcP** 15 55 26.0 +0.6
comp=Z,2.8nm,0.8s,baz=77,slow=6.4,SNR=4.8
MKAR Makanchi Array 51.80 311 *e*P **P** 15 54 11.7 -1.1
comp=Z,28nm,0.5s
MKAR PcP **PcP** 15 55 26.0 +0.6
NVS Novosibirsk 52.00 321 *e*P **P** 15 54 14.2 0.0
NVS pmax pmax
comp=E,11nm,2.0s
NVS pmax pmax
comp=Z,21nm,2.0s
MAKZ Makanchi 52.01 311 *e*P **P** 15 54 14.0 -0.4
comp=Z,5.4nm,0.8s
MAKZ Makanchi 52.01 311 *e*P **P** 15 54 14.0 -0.4
MAKZ pmax pmax
comp=Z,5.0nm,0.8s
DANN Dangsing 52.14 287 *e*P **P** 15 54 17.0 +1.0
KOLN Koldanda 52.39 286 *e*P **P** 15 54 18.0 +0.2
comp=Z,30nm,0.7s
DZM Mont Dzumac 52.66 152 P **P** 15 54 19.1 -0.3
comp=Z,6.3nm,1.0s,baz=177,slow=22,SNR=3.2
PYUN Piuthan 52.85 287 *e*P **P** 15 54 21.7 +0.5
PDGK Podgornoye 53.79 306 P **P** 15 54 27.5 -0.3
PDGK pmax pmax
comp=Z,11nm,0.9s
NRIK Noril'sk 54.24 339 P **P** 15 54 29.7 -0.7
comp=Z,7.0nm,0.5s
SVW2 Sparrevohn 54.36 32 *e*P **P** 15 54 32.0 +0.5
comp=Z,21nm,1.3s
KURK Kurchatov 54.38 315 *e*P **P** 15 54 30.8 -0.9
comp=Z,38nm,1.3s
KURK Kurchatov 54.38 315 P **P** 15 54 31.9 +0.2
SNR=12
KURK Kurchatov 54.38 315 P **P** 15 54 31.9 +0.2
SNR=12
KURK Kurchatov 54.38 315*ce*P **P** 15 54 31.5 -0.2
KURK pmax pmax
comp=Z,17nm,0.7s
KURBB Kurchatov Arra 54.43 315 P **P** 15 54 31.7 -0.4
comp=Z,22nm,0.7s,baz=92,slow=7.6,SNR=197
PRZ Przheval'sk 54.64 305 P **P** 15 54 34.0 0.0
PRZ pmax pmax
comp=Z,19nm,0.8s
TARG Taragay, Kyrgy 55.13 304 *e*P **P** 15 54 37.6 -0.3
comp=Z,11nm,1.0s
KDAK Kodiak Island 55.34 36 P **P** 15 54 38.5 0.0
comp=Z,10nm,0.6s,baz=263,slow=7.1,SNR=8.8
KDAK Kodiak Island 55.34 36 *i* P **P** 15 54 39.3 +0.8

IM3 Indian Mountai 56.23 26 *e*P **P** 15 54 45.4 +0.6
PPLA Purkeypile 56.27 30 *e*P **P** 15 54 45.5 +0.2
comp=Z,34nm,1.4s
CAST Castle Rocks 56.41 29 *e*P **P** 15 54 46.8 +0.7
comp=Z,16nm,1.1s
NRN Naryn 56.51 304 P **P** 15 54 47.0 -0.6
NRN pmax pmax
comp=Z,7.0nm,1.0s
KSH Kashi 56.75 302 P **P** 15 54 52.5 +3.4
KSH pmax pmax
comp=Z,18nm,0.9s
KTH Kantishna Hill 56.95 29 *e*P **P** 15 54 50.3 +0.2
comp=Z,11nm,1.1s
KZA Kyzart 57.00 305 P P 15 54 56.6 +5.5
SNR=6.8
BPAW Bear Paw Mtn. 57.01 29 *e*P **P** 15 54 50.8 +0.4
comp=Z,33nm,1.7s
STKA Stephens Creek 57.12 181 P **P** 15 54 51.1 -0.3
comp=Z,6.4nm,0.9s,baz=345,slow=9.6,SNR=11
STKA Stephens Creek 57.12 181 *e*P **P** 15 54 50.4 -1.0
comp=Z,7.1nm,1.7s
STKA Stephens Creek 57.12 181 *e*P **P** 15 54 50.4 -1.0
STKA pmax pmax
comp=Z,7.0nm,1.7s
KBK Karagaybulak 57.16 306 P **P** 15 54 51.8 -0.3
SNR=9.7
TRF Thorofare Moun 57.21 29 *e*P **P** 15 54 52.0 0.0
comp=Z,28nm,1.3s
MLY Manley 57.27 28 *e*P **P** 15 54 52.9 +0.7
comp=Z,28nm,1.8s
AAK Ala-Archa 57.50 306 P **P** 15 54 54.6 +0.2
SNR=5.8
AAK Ala-Archa 57.50 306 *e*P **P** 15 54 54.1 -0.3
comp=Z,3.1nm,0.6s
AAK Ala-Archa 57.50 306 *i* P **P** 15 54 54.5 +0.2
SNR=6.3
AAK Ala-Archa 57.50 306*ce*P **P** 15 54 54.8 +0.4
AAK pmax pmax
comp=Z,8.0nm,0.8s
PMR Palmer 57.51 32 *e*P **P** 15 54 52.1 -1.8
comp=Z,15nm,0.9s
PMR Palmer 57.51 32 *e*P **P** 15 54 52.1 -1.8
PMR pmax pmax
comp=Z,15nm,0.9s
UCH Uchtor 57.53 305 P **P** 15 54 55.8 +0.9
SNR=9.2
FORT Forrest 57.73 195 *e*P **P** 15 54 55.5 -0.2
comp=Z,830nm,0.6s
RND Reindeer 57.84 30 *e*P **P** 15 54 55.9 -0.5
comp=Z,16nm,1.2s
RND Reindeer 57.84 30 *e*P **P** 15 54 55.9 -0.5
RND pmax pmax
comp=Z,17nm,1.2s
MCK McKinley 57.85 29 *e*P **P** 15 54 56.0 -0.3
comp=Z,28nm,1.3s
MCK McKinley 57.85 29 *e*P **P** 15 54 56.0 -0.3
MCK pmax pmax
comp=Z,28nm,1.3s
COLD Coldfoot 57.87 25 *e*P **P** 15 54 57.2 +0.8
comp=Z,11nm,1.0s
SML Sawmill 57.91 32 *e*P **P** 15 54 56.6 -0.2
comp=Z,28nm,1.0s
SML Sawmill 57.91 32 *e*P **P** 15 54 56.6 -0.2
SML pmax pmax
comp=Z,28nm,1.0s
EKS2 Erkin-Say 58.02 306 P **P** 15 54 56.8 -1.2
SNR=5.5
AML Almayashu 58.15 305 P **P** 15 55 00.0 +0.8
SNR=10
MDM Murphy Dome 58.31 28 *e*P **P** 15 54 59.9 +0.3
comp=Z,33nm,1.7s
TOLK Toolik Lake Re 58.37 23 *e*P **P** 15 55 00.6 +0.7
comp=Z,10nm,1.0s
SCM Sheep Creek Mo 58.39 32 *e*P **P** 15 55 00.4 +0.2
comp=Z,43nm,1.0s
SCM Sheep Creek Mo 58.39 32 *e*P **P** 15 55 00.4 +0.2
SCM pmax pmax
comp=Z,43nm,1.0s
CCB Clear Creek Bu 58.45 28 *e*P **P** 15 55 00.5 +0.1
comp=Z,5.8nm,1.1s
COLA College 58.46 28ñ *e*P **P** 15 55 01.0 +0.5
COLA pmax pmax
comp=Z,10.0nm,2.5s
OTUK Ortayu 58.52 312 P **P** 15 55 01.3 +0.1
OTUK pmax pmax
comp=Z,13nm,0.7s
SFK Sufi-Kurgan 58.57 303 P **P** 15 55 02.7 +0.7
SFK pmax pmax
comp=Z,8.0nm,0.7s
HDA Harding Lake 58.79 29 *e*P **P** 15 55 02.3 -0.5
comp=Z,47nm,1.9s
IL1 Eielson Array 58.86 28 *e*P **P** 15 55 02.2 -1.1
ILAR Eielson Array 58.86 28 P **P** 15 55 02.6 -0.7
comp=Z,5.5nm,0.9s,baz=258,slow=5.5,SNR=55
ILB Eielson Array 58.86 28 *e*P **P** 15 55 02.9 -0.4
KLU Klutina 59.03 32 *e*P **P** 15 55 04.6 -0.1
comp=Z,84nm,2.0s
BVAR Borovoye Array 59.47 318 P **P** 15 55 07.9 +0.2
comp=Z,19nm,0.5s,baz=90,slow=7.3,SNR=146
BRVK Borovoye 59.54 318 *e*P **P** 15 55 07.8 -0.3
comp=Z,17nm,0.7s
BRVK Borovoye 59.54 318 P **P** 15 55 07.7 -0.5
SNR=13
BRVK Borovoye 59.54 318*ce*P **P** 15 55 08.2 0.0
BRVK pmax pmax
comp=Z,61nm,1.0s
RIDG Independ'e Rid 59.66 29 *e*P **P** 15 55 08.2 -0.7
comp=Z,48nm,1.8s
FYU Fort Yukon 59.72 26 *e*P **P** 15 55 10.1 +0.9
comp=Z,17nm,1.0s
HYB Hyderabad 59.73 276 *i* P **P** 15 55 10.5 +0.4
NIL Nilore 59.90 295 *e*P **P** 15 55 11.2 +0.1
comp=Z,67nm,1.5s
NIL Nilore 59.90 295 *e*P **P** 15 55 11.2 +0.1
NIL pmax pmax
comp=Z,67nm,1.5s
DOT Dot Lake 60.00 30 *e*P **P** 15 55 11.0 -0.2
comp=Z,103nm,1.8s
SCRK Sand Creek 60.05 29 *e*P **P** 15 55 11.5 -0.2
comp=Z,64nm,1.9s
MENT Mentasta 60.13 30 *e*P **P** 15 55 12.7 +0.5
comp=Z,33nm,1.8s
KK31 Karatay Array 60.34 307 *e*P **P** 15 55 13.5 -0.5
KK31 Karatay Array 60.34 307 *i* P **P** 15 55 13.3 -0.6
KK31 pmax pmax
comp=Z,5.0nm,0.6s
KKAR Karatay Array 60.34 307 *e*P **P** 15 55 13.4 -0.5
KKAR Karatay Array 60.34 307 *e*P **P** 15 55 13.4 -0.5
PALK Palikeke 61.63 264 P **P** 15 55 24.9 +1.7
NWAO Narrogin (SRO) 63.00 204 P **P** 15 55 31.9 +0.2
comp=Z,14nm,1.0s,baz=253,slow=8.7,SNR=3.0
KBL Kabul 63.11 297 *e*P **P** 15 55 32.3 -0.6
comp=Z,19nm,1.0s
KBL Kabul 63.11 297 *e*P **P** 15 55 32.3 -0.6
KBL pmax pmax
comp=Z,19nm,1.0s
INK Inuvik 64.25 24 *e*P **P** 15 55 39.5 0.0
comp=Z,10nm,1.0s
INK Inuvik 64.25 24 *e*P **P** 15 55 39.6 0.0
INK pmax pmax
comp=Z,10.0nm,1.0s
SVE Sverdlovsk 64.71 323ñ *i*P **P** 15 55 43.6 +0.8
SVE pmax pmax
comp=Z,22nm,0.9s
ARU Arti 65.91 323 *e*P **P** 15 55 50.2 -0.3
comp=Z,31nm,0.9s
ARU Arti 65.91 323*c i*P **P** 15 55 50.2 -0.3
ARU 15 58 15.6
ARU PPP PPP 15 59 50.9
ARU S **S** **16 04 36.4 +2.4**
ARU SS **SS** **16 08 46.3 -2.8**
ARU pmax pmax
comp=Z,23nm,1.0s
AB31 Akbulak array 66.48 315 P **P** 15 55 54.0 -0.4
AB31 pmax pmax
comp=Z,8.0nm,0.6s
ABKAR Akbulak array 66.48 315 *e*P **P** 15 55 53.8 -0.5
comp=Z,93nm,0.6s
AKTO Aktyubinsk 67.44 316 P **P** 15 55 59.7 -0.8
comp=Z,5.5nm,0.7s,baz=88,slow=6.0,SNR=20
GEYT Lilbeck 70.71 303 P **P** 15 56 19.8 -1.2
comp=Z,3.7nm,0.9s,baz=48,slow=2.4,SNR=9.4
GYA0B ALIBECK ARRAY 70.71 303 *e*P **P** 15 56 21.2 +0.2
comp=Z,6.5nm,0.8s
URZ Urewera 71.22 152 P **P** 15 56 22.3 -1.4
comp=Z,14nm,1.0s,baz=304,slow=14,SNR=2.9
SPITS Spitsbergen Ar 71.97 350 P **P** 15 56 29.3 +1.4

comp=Z,2.3nm,0.6s,baz=80,slow=6.0,SNR=6.6
RAR Rarotonga 72.67 124 LR LR 16 22 46.3
comp=Z,75nm,19.0s,baz=288,slow=31
YKW3 Yellowknife Ar 73.26 28 *e*P **P** 15 56 35.4 -0.3
comp=Z,42nm,1.9s
YKA Yellowknife Ar 73.29 28 P **P** 15 56 35.9 +0.1
comp=Z,3.9nm,0.7s,baz=292,slow=5.9,SNR=75
YKA Yellowknife Ar 73.29 28 P **P** 15 56 36.0 +0.1
RES Resolute Bay 73.45 14 P **P** 15 56 37.2 +0.5
comp=Z,3.3nm,1.0s,baz=330,slow=5.3,SNR=7.3
RES Resolute Bay 73.45 14 *e*P **P** 15 56 36.7 0.0
comp=Z,11nm,1.3s
RES Resolute Bay 73.45 14 *e*P **P** 15 56 36.7 0.0
RES pmax pmax
comp=Z,11nm,1.3s
PGC Sidney 73.71 44 *e*P **P** 15 56 39.1 +0.5
LLLB Lillooet 73.98 41 *e*P **P** 15 56 40.0 -0.3
comp=Z,8.1nm,0.9s
KLMR Klimovskoe 74.13 330 *e*P **P** 15 56 39.4 -1.4
KLMR AMP 15 56 43.8
comp=Z,21nm,1.2s
KLMR Klimovskoe 74.13 330 *e*P **P** 15 56 39.3 -1.5
KLMR pmax pmax
comp=Z,21nm,1.2s
ARCES ARCESS Array B 75.14 341 P **P** 15 56 47.0 +0.4
comp=Z,7.5nm,0.8s,baz=61,slow=6.0,SNR=11
ARCES ARCESS Array B 75.14 341 P **P** 15 56 47.0 +0.4
ARCES pmax pmax
comp=Z,8.0nm,0.8s
WSAR Wadi Sarin 75.25 289 P **P** 15 56 48.5 +0.5
comp=Z,6.9nm,0.8s,baz=115,slow=5.4,SNR=9.7
LON Longmire 75.42 45 *e*P **P** 15 56 48.2 -0.5
comp=Z,6.7nm,0.9s
LON Longmire 75.42 45 *e*P **P** 15 56 48.2 -0.5
LON pmax pmax
comp=Z,7.0nm,0.9s
H04A Detroit Lake 75.95 47 *e*P **P** 15 56 52.0 +0.3
comp=Z,12nm,0.9s
SHME Shamm 76.32 292 P **P** 15 56 55.1 +1.0
TULEG Thule 76.32 7 *e*P **P** 15 56 53.7 +0.6
comp=Z,8.8nm,0.9s
B08A Colville Reser 76.36 43 *e*P **P** 15 56 54.2 +0.2
comp=Z,12nm,1.0s
JOF Joensuu 76.65 334 P **P** 15 56 56.7 +1.4
JOF pmax pmax
comp=Z,28nm,1.4s
UOSS Minazif 76.67 291 *e*P **P** 15 56 55.5 -0.6
comp=Z,6.3nm,0.8s
UOSS Minazif 76.67 291 P **P** 15 56 55.8 -0.3
SOHO SOHO 76.70 291 *i* P **P** 15 56 56.7 +0.4
SNR=22
YBH Yreka Blue Hor 76.70 50 P **P** 15 56 57.3 +1.2
comp=Z,8.3nm,0.9s,baz=65,slow=9.0,SNR=12
YBH Yreka Blue Hor 76.70 50 *e*P **P** 15 56 56.7 +0.6
comp=Z,14nm,1.1s
HATD Hatta, Dubai 76.78 291 P **P** 15 56 57.6 +0.8
VRH Novokhopyorsk 76.97 321 *e*P **P** 15 56 56.3 -1.0
VRH pmax pmax
comp=Z,8.0nm,0.4s
ARQ Araqi 77.01 290 pP P 15 57 08.0 +10
SNR=5.5
PINE Pine Mountain 77.11 48 *e*P **P** 15 56 59.2 +0.7
comp=Z,27nm,1.2s
C09A Chrisman Ranch 77.23 43 *e*P **P** 15 56 59.2 +0.3
comp=Z,9.1nm,0.9s
K05A Summer Lake 77.56 49 *e*P **P** 15 57 01.4 +0.3
comp=Z,22nm,1.0s
NEW Newport 77.75 42 P **P** 15 57 02.5 +0.7
comp=Z,9.1nm,0.9s,baz=290,slow=7.4,SNR=8.1
NEW Newport 77.75 42 *e*P **P** 15 57 02.0 +0.2
comp=Z,11nm,0.9s
EDM Edmonton 77.79 37 *e*P **P** 15 57 02.0 +0.1
comp=Z,64nm,1.7s
EDM Edmonton 77.79 37 *e*P **P** 15 57 02.0 +0.1
EDM pmax pmax
comp=Z,64nm,1.7s
E09A Wood Farm, Sta 77.84 44 *e*P **P** 15 57 02.3 +0.1
comp=Z,8.6nm,0.8s
LPSR Galich'ya Gora 77.93 323 *e*P **P** 15 57 02.3 -0.3
LPSR pmax pmax
comp=Z,10.0nm,1.0s
OBN Obninsk 78.04 326ñ *e*P **P** 15 57 04.5 +1.3
OBN *e* 15 57 14.4
OBN *e* 15 59 59.6
OBN *e*S **S** **16 06 49.2 -4.0**
OBN *e*SS **SS** **16 11 51.9 -2.6**
OBN pmax pmax
comp=Z,8.0nm,1.0s
OBN MLR MLR
comp=Z,312nm,16.0s
MOD Modoc Plateau 78.29 49 *e*P **P** 15 57 05.3 +0.2
comp=Z,7.2nm,1.0s
ORV Oroville 78.40 52 *e*P **P** 15 57 04.9 -0.6
comp=Z,12nm,1.1s
ORV Oroville 78.40 52 *e*P **P** 15 57 04.9 -0.6
ORV pmax pmax
comp=Z,13nm,1.1s
VSR Storozhevoye 78.41 321 *e*P **P** 15 57 05.0 -0.3
VSR pmax pmax
comp=Z,20nm,1.3s
VORD Divnogorie 78.45 321 *e*P **P** 15 57 04.7 -0.8
VORD pmax pmax
comp=Z,7.0nm,1.0s
PPT Papeete 78.61 116 LR LR 16 29 28.8
comp=Z,39nm,18.7s,baz=2.5,slow=34
J08A Circle Bar Ran 78.93 47 *e*P **P** 15 57 08.4 -0.1
comp=Z,36nm,1.8s
AFDM Forest Hills D 79.02 52 *e*P **P** 15 57 08.8 -0.2
comp=Z,17nm,1.5s
NCK Nalchik 79.02 313 *e*P **P** 15 57 08.5 -0.4
NCK pmax pmax
comp=Z,6.0nm,1.0s
BMO Blue Mountains 79.07 46 *e*P **P** 15 57 09.1 -0.1
comp=Z,12nm,1.2s
BMO Blue Mountains 79.07 46 *e*P **P** 15 57 09.1 -0.1
BMO pmax pmax
comp=Z,12nm,1.2s
ZEI Tsey 79.11 312 *e*P **P** 15 57 08.9 -0.7
ZEI pmax pmax
comp=Z,8.0nm,0.6s
WVOR Wild Horse Val 79.20 48 *e*P **P** 15 57 09.7 -0.3
comp=Z,13nm,1.3s
WVOR Wild Horse Val 79.20 48 *e*P **P** 15 57 09.7 -0.3
WVOR pmax pmax
comp=Z,13nm,1.3s
WALA Waterton Lakes 79.33 41 *e*P **P** 15 57 11.2 +0.6
comp=Z,20nm,1.3s
KBZ Khabaz 79.38 313 P **P** 15 57 11.9 +1.2
comp=Z,21nm,0.8s,baz=89,slow=3.7,SNR=70
KIV Kislovodsk 79.42 314 *e*P **P** 15 57 12.3 +1.1
comp=Z,12nm,0.8s
KIV Kislovodsk 79.42 314 P **P** 15 57 12.2 +1.1
SNR=8.0
KIV Kislovodsk 79.42 314 P **P** 15 57 12.2 +1.1
SNR=8.0
KIV Kislovodsk 79.42 314 *e*P **P** 15 57 12.8 +1.7
KIV pmax pmax
comp=Z,23nm,1.0s
FIA1 FINESS Array S 79.52 334 *e*P **P** 15 57 11.1 -0.1
FINES FINESS Array B 79.52 334 P **P** 15 57 11.5 +0.3
comp=Z,12nm,0.7s,baz=61,slow=5.1,SNR=73
GNI Garni 79.63 309 P **P** 15 57 13.8 +1.3
comp=Z,5.5nm,0.7s,baz=203,slow=3.1,SNR=7.9
GNI Garni 79.63 309 *e*P **P** 15 57 10.2 -2.2
comp=Z,15nm,1.0s
GNI Garni 79.63 309 P **P** 15 57 13.7 +1.3
SNR=5.6
GNI Garni 79.63 309 P **P** 15 57 13.7 +1.3
SNR=5.6
GNI Garni 79.63 309 P **P** 15 57 13.4 +0.9
GNI Garni 79.63 309*de*P **P** 15 57 14.0 +1.5
GNI pmax pmax
comp=Z,50nm,1.2s
JTMT Jette 79.69 42 *e*P **P** 15 57 12.7 +0.1
comp=Z,34nm,1.5s
NEY Neytrino 79.70 313*ce*P **P** 15 57 14.5 +1.7
NEY pmax pmax
comp=Z,2.0nm,0.8s
CMB Columbia Colle 79.81 53 *e*P **P** 15 57 13.2 -0.1
comp=Z,9.8nm,0.8s
CMB Columbia Colle 79.81 53 *e*P **P** 15 57 13.2 -0.1
CMB pmax pmax
comp=Z,10.0nm,0.8s
PAHR Pah Rah Range 79.83 51 *e*P **P** 15 57 13.6 0.0
comp=Z,10nm,1.1s
VAF Ylistaro 79.86 336 P **P** 15 57 13.7 +0.7
YERR Yerington 80.23 52 *e*P **P** 15 57 16.1 +0.4

comp=Z,27nm,1.5s
WAKR Walker 80.29 52 *e*P P 15 57 16.6 +0.5
comp=Z,19nm,1.6s
MSO Missoula 80.31 43 *e*P P 15 57 15.9 0.0
comp=Z,17nm,1.8s
MFID Camas Ranch 80.65 46 *e*P P 15 57 17.9 +0.1
comp=Z,9.1nm,1.0s
RYN Ryan 80.89 52 *e*P P 15 57 19.0 -0.2
comp=Z,6.0nm,0.9s
VSU Vasula 80.95 331 *i* P P 15 57 19.6 +0.7
VSU pmax pmax
comp=Z,58nm,1.0s
NV01 Mina Array Sit 81.13 52 *e*P P 15 57 20.6 0.0
NVAR Mina Array Bea 81.13 52 P P 15 57 21.0 +0.4
comp=Z,4.5nm,0.8s,baz=287,slow=4.3,SNR=22
HLID Hailey 81.50 46 *e*P P 15 57 22.0 -0.4
comp=Z,17nm,1.8s
HRY Holter Researc 81.65 42 *e*P P 15 57 22.5 -0.6
LRM Limekiln Ridge 81.70 43 *e*P P 15 57 22.9 -0.7
MCMT McKenzie Canyo 81.92 44 *e*P P 15 57 24.5 -0.2
EGMT Eagleton 82.25 40 *e*P P 15 57 25.8 -0.4
comp=Z,12nm,1.3s
BOZ Bozeman (W) 82.31 43 *e*P P 15 57 27.1 +0.5
comp=Z,3.0nm,0.8s
BOZ Bozeman (W) 82.31 43 *e*P P 15 57 27.1 +0.5
BOZ pmax pmax
comp=Z,3.0nm,0.8s
ANN Anapa 82.40 316 *e*P P 15 57 27.0 +0.1
ANN *e**PP pP 15 57 38.4 -2.7
ANN pmax pmax
comp=Z,47nm,1.6s
DAC Darwin (Calif) 82.57 53 *e*P P 15 57 27.9 -0.2
comp=Z,9.1nm,1.3s
DAC Darwin (Calif) 82.57 53 *e*P P 15 57 28.0 -0.2
DAC pmax pmax
comp=Z,9.0nm,1.3s
QLMT Earthquake Lak 82.80 44 *e*P P 15 57 29.4 +0.2
FFC Flin Flon 82.82 32 *e*P P 15 57 29.1 +0.2
comp=Z,20nm,1.1s
FFC Flin Flon 82.82 32 *e*P P 15 57 29.1 +0.2
FFC pmax pmax
comp=Z,20nm,1.1s
YHB Horse Butte 82.99 44 *e*P P 15 57 30.6 +0.3
comp=Z,12nm,1.0s
R11A Troy Canyon, C 83.08 51 *e*P P 15 57 30.9 +0.1
comp=Z,7.1nm,1.1s
YMR Madison River 83.17 44 *e*P P 15 57 31.6 +0.4
comp=Z,8.4nm,0.8s
YHH Holmes Hill 83.18 43 *e*P P 15 57 31.2 -0.2
comp=Z,4.2nm,1.0s
TPNV Topopah Spring 83.24 52 *e*P P 15 57 31.9 +0.3
comp=Z,7.7nm,1.0s
TPNV Topopah Spring 83.24 52 *e*P P 15 57 31.9 +0.3
TPNV pmax pmax
comp=Z,8.0nm,1.0s
HVU Hansel Valley 83.40 47 *e*P P 15 57 30.8 -1.6
comp=Z,13nm,1.5s
HVU Hansel Valley 83.40 47 *e*P P 15 57 30.8 -1.6
HVU pmax pmax
comp=Z,13nm,1.5s
H17A Grant Village 83.55 44 *e*P P 15 57 32.6 -0.6
comp=Z,12nm,1.2s
IMW Indian Meadow 83.56 44 *e*P P 15 57 32.9 -0.4
comp=Z,6.8nm,0.9s
GSC Goldstone, Bar 83.58 54 *e*P P 15 57 33.4 +0.1
comp=Z,22nm,1.6s
GSC Goldstone, Bar 83.58 54 *e*P P 15 57 33.4 +0.1
GSC pmax pmax
comp=Z,22nm,1.6s
FXWY Fox Creek 83.63 45 *e*P P 15 57 34.4 +0.8
comp=Z,6.8nm,1.2s
TPAW Teton Pass 83.75 45 *e*P P 15 57 34.9 +0.7
comp=Z,3.4nm,0.8s
MOOW Moose Ponds 83.76 44 *e*P P 15 57 34.9 +0.7
comp=Z,3.0nm,0.8s
FCC Fort Churchill 83.80 26 *e*P P 15 57 34.4 +0.6
comp=Z,27nm,1.8s
FCC Fort Churchill 83.80 26 *e*P P 15 57 34.4 +0.6
FCC pmax pmax
comp=Z,27nm,1.8s
REDW Red Top Meadow 83.88 45 *e*P P 15 57 34.6 -0.3
comp=Z,14nm,1.6s
RLMT Red Lodge 83.99 43 *e*P P 15 57 35.9 +0.5
comp=Z,43nm,1.6s
AKASG Malin Array Be 84.12 324 P P 15 57 35.3 -0.3
comp=Z,8.0nm,0.7s,baz=51,slow=5.3,SNR=35
AKBB Malin Array Si 84.12 324 *e*P P 15 57 35.0 -0.6
comp=Z,13nm,0.8s
AKBB Malin Array Si 84.12 324 *e*P P 15 57 35.0 -0.6
AKBB pmax pmax
comp=Z,13nm,0.8s
DUG Dugway, Tooele 84.13 48 *e*P P 15 57 35.6 -0.5
comp=Z,14nm,1.3s
DUG Dugway, Tooele 84.13 48 *e*P P 15 57 35.6 -0.5
DUG pmax pmax
comp=Z,14nm,1.3s
KIEV Kiev 84.13 324 *e*P P 15 57 34.9 -0.7
comp=Z,12nm,0.7s
KIEV Kiev 84.13 324 *i* P P 15 57 34.6 -1.0
SNR=11
KIEV Kiev 84.13 324 *ce*P P 15 57 35.6 0.0
KIEV pmax pmax
comp=Z,13nm,0.7s
AK11 Malin Array Si 84.16 324 *e*P P 15 57 35.1 -0.7
SHPR Sheep Range 84.22 52 *e*P P 15 57 36.1 -0.6
comp=Z,6.3nm,1.2s
HWUT Hardware Ranch 84.28 46 *e*P P 15 57 37.2 +0.3
comp=Z,19nm,1.4s
SIM Simferopol' 84.38 317 *e*P P 15 57 38.2 +1.1
SIM pmax pmax
comp=Z,11nm,0.7s
CTU Camp Tracy 84.60 47 *e*P P 15 57 37.8 -0.7
comp=Z,18nm,1.5s
NLU North Lily Min 84.74 48 *e*P P 15 57 39.1 -0.2
comp=Z,15nm,1.5s
JLU Jordanelle 84.84 47 *e*P P 15 57 39.5 -0.3
comp=Z,10nm,1.1s
NC405 NORSAR Array S 84.98 338 *e*P P 15 57 38.6 -1.2
LAO LASA Array 85.00 40 *e*P P 15 57 40.8 +0.6
comp=Z,25nm,1.3s
BW06 Boulder Array 85.00 45 *e*P P 15 57 38.3 -2.2
PD31 Pinedale Array 85.00 45 *e*P P 15 57 40.5 -0.1
PDAR Pinedale Array 85.00 45 P P 15 57 40.5 -0.1
comp=Z,3.3nm,1.0s,baz=304,slow=2.7,SNR=11
PDAR Pinedale Array 85.00 45 *e*P P 15 57 39.9 -0.7
CCUT Cedar City 85.01 51 *e*P P 15 57 40.4 -0.3
comp=Z,14nm,1.7s
MPU Maple Canyon 85.01 48 *e*P P 15 57 40.4 -0.2
comp=Z,18nm,1.7s
HFS Hagfors 85.01 337 P P 15 57 39.8 -0.1
comp=Z,7.2nm,0.5s,baz=90,slow=4.4,SNR=46
NC303 NORSAR Array S 85.01 339 *e*P P 15 57 39.6 -0.3
NB201 NORSAR Array S 85.17 339 *e*P P 15 57 39.1 -1.6
NC204 NORSAR Array S 85.17 339 *e*P P 15 57 40.6 -0.2
DGMT Dagmar 85.18 38 *e*P P 15 57 39.3 -1.8
comp=Z,13nm,0.9s
SUW Suwalki 85.19 329 *e*P P 15 57 40.6 -0.3
comp=Z,51nm,1.0s
SUW Suwalki 85.19 329 *e*P P 15 57 40.6 -0.3
SUW pmax pmax
comp=Z,51nm,1.0s
NB2 NORSAR Subarra 85.20 339 P P 15 57 40.5 -0.4
comp=Z,7.6nm,0.7s,baz=44,slow=5.1
NB2 NORSAR Subarra 85.20 339 P P 15 57 40.5 -0.4
NB2 pmax pmax
comp=Z,5.0nm,0.6s
NOA NORSAR Array B 85.20 339 P P 15 57 40.6 -0.3
comp=Z,5.5nm,0.6s,baz=45,slow=4.9,SNR=26
NB002 NORSAR Array S 85.31 339 *e*P P 15 57 41.2 -0.2
LCMT Little Creek M 85.35 51 *e*P P 15 57 42.5 +0.3
comp=Z,6.8nm,1.0s
MSU Marysvale 85.37 49 *e*P P 15 57 42.7 +0.2
MSU Marysvale 85.37 49 *e*P P 15 57 42.7 +0.2
MTPU Mount Pierson 85.59 50 *e*P P 15 57 44.1 +0.3
comp=Z,6.8nm,1.1s
KNB Kanab 85.64 51 *e*P P 15 57 44.2 +0.4
comp=Z,12nm,1.0s
KNB Kanab 85.64 51 *e*P P 15 57 44.2 +0.4
KNB pmax pmax
comp=Z,12nm,1.0s
TMUT Trail Mountain 85.64 48 *e*P P 15 57 42.9 -1.0
comp=Z,16nm,1.8s
W13A Hualapai Mount 85.80 53 *e*P P 15 57 44.1 -0.6
comp=Z,5.4nm,1.3s
Q16A Castle Valley 85.86 49 *e*P P 15 57 44.9 0.0
comp=Z,11nm,1.0s
P17A Butcher Ranch, 85.87 48 *e*P P 15 57 44.7 -0.2
comp=Z,9.4nm,1.1s
P18A Preston Nutter 86.13 48 *e*P P 15 57 46.1 -0.2
comp=Z,4.7nm,0.6s
RAYN Ar Rayn 86.17 294 *e*P P 15 57 46.5 0.0
comp=Z,8.8nm,0.7s
RAYN Ar Rayn 86.17 294 P P 15 57 46.5 0.0
RAYN pmax pmax
comp=Z,9.0nm,0.8s
SRU San Rafael Swe 86.20 48 *e*P P 15 57 45.6 -0.9
comp=Z,30nm,1.7s
SRU San Rafael Swe 86.20 48 *e*P P 15 57 45.6 -0.9
SRU pmax pmax
comp=Z,30nm,1.7s
U15A North Rim 86.30 51 *e*P P 15 57 47.3 +0.1
comp=Z,6.5nm,1.0s
Y14A Wickenburg 86.99 54 *e*P P 15 57 50.0 -0.3
comp=Z,10nm,1.0s
O20A White River Ci 87.19 46 *e*P P 15 57 51.3 -0.1
comp=Z,8.2nm,1.0s
SFJD Kangerlussuaq 87.20 5 P P 15 57 51.1 +0.6
comp=Z,7.4nm,0.9s,baz=77,slow=22,SNR=2.4
BR131 Keskin Array S 87.37 313 *e*P P 15 57 51.6 -0.5
BRTR Keskin Array B 87.37 313 P P 15 57 52.0 -0.2
comp=Z,2.7nm,0.8s,baz=93,slow=4.3,SNR=13
BRTR Keskin Array B 87.37 313 P P 15 57 52.0 -0.2
BRTR pmax pmax
comp=Z,3.0nm,0.8s
WUAZ Wupatki 87.39 52 *e*P P 15 57 51.9 -0.5
comp=Z,8.6nm,1.1s
TLCR 87.42 320 ⇑*i*P P 15 57 52.4 +0.3
TLCR 87.42 320 ⇑P P 15 57 52.4 +0.3
PV09 Paradox Valley 87.44 48 *e*P P 15 57 52.3 -0.4
PV10 Paradox Valley 87.57 48 *e*P P 15 57 53.7 +0.4
FRB Frobisher Bay 87.67 13 P P 15 57 53.5 +0.6
comp=Z,5.2nm,1.0s,baz=320,slow=7.6,SNR=3.1
RSSD Black Hills 87.69 41 *e*P P 15 57 53.5 -0.2
comp=Z,15nm,1.5s
RSSD Black Hills 87.69 41 *e*P P 15 57 53.5 -0.2
RSSD pmax pmax
comp=Z,15nm,1.5s
CFR Carcaliu 87.83 320 ⇓*i*P P 15 57 54.2 +0.2
CFR Carcaliu 87.83 320 ⇓P P 15 57 54.2 +0.2
X16A Lo Mia Camp, P 87.89 53 *e*P P 15 57 54.7 -0.1
comp=Z,10nm,1.4s
TESR Tescani 87.91 322 ⇑*i*P P 15 57 53.7 -0.7
PV01 Paradox Valley 88.01 48 *e*P P 15 57 54.4 -1.0
BUR08 Bucovina Ar. S 88.04 323 *e*P P 15 57 54.7 -0.4
BURAR Bucovina Array 88.05 323 ⇓*i*P P 15 57 55.6 +0.4
BURAR Bucovina Array 88.05 323 ⇓P P 15 57 55.6 +0.4
BUR04 Bucovina Ar. S 88.05 323 *e*P P 15 57 54.9 -0.3
TIRR Tirgusor 88.07 319 ⇑*i*P P 15 57 55.6 +0.4
TIRR Tirgusor 88.07 319 ⇑P P 15 57 55.6 +0.4
TLB Topalu 88.22 319 ⇓*i*P P 15 57 56.2 +0.3
TLB Topalu 88.22 319 ⇓P P 15 57 56.2 +0.3
VRI Vrincioaia 88.24 321 ⇑*i*P P 15 57 57.3 +1.3
VRI Vrincioaia 88.24 321 ⇑P P 15 57 57.4 +1.4
N23A Red Feather La 88.28 45 *e*P P 15 57 56.5 -0.1
comp=Z,13nm,1.3s
ULM Lac du Bonnet 88.49 33 P P 15 57 57.7 +0.6
comp=Z,4.7nm,1.0s,baz=318,slow=6.0,SNR=4.3
ULM Lac du Bonnet 88.49 33 *e*P P 15 57 57.4 +0.3
comp=Z,6.1nm,0.9s
MVCO Mesa Verde 88.54 49 *e*P P 15 57 57.5 -0.4
comp=Z,11nm,1.4s
MLR Muntele Rosu 88.90 321 P P 15 57 59.4 +0.1
comp=Z,0.3nm,0.6s,baz=132,slow=3.0,SNR=4.5
MLR Muntele Rosu 88.90 321 ⇓*i*P P 15 57 59.4 +0.1
ASF Jabal al Asfar 88.91 305 P P 15 57 59.1 -0.4
comp=Z,0.9nm,0.5s,baz=220,slow=3.2,SNR=3.4
STHS Stebnicka Huta 89.01 326 *e*P P 15 57 55.7 -3.9
STHS Stebnicka Huta 89.01 326 *e*P P 15 57 55.7 -3.9
STHS pmax pmax
comp=Z,3.0nm,0.8s
ISCO Idaho Springs 89.08 46 *e*P P 15 58 00.4 -0.1
comp=Z,3.5nm,1.1s
ISCO Idaho Springs 89.08 46 *e*P P 15 58 00.4 -0.1
ISCO pmax pmax
comp=Z,4.0nm,1.1s
TRPA Tarpa 89.16 325 ⇓*i*P P 15 58 00.9 +0.7
MMAI Mount Meron Ar 89.58 307 P P 15 58 03.9 +1.2
comp=Z,1.5nm,0.5s,baz=315,slow=57,SNR=4.7
ARR Arges 89.72 322 ⇑*i*P P 15 58 04.3 +1.3
AGMN Agassiz Nation 89.75 35 *e*P P 15 58 02.5 -0.5
comp=Z,10nm,1.1s
DRGR 89.90 323 ⇑*i*P P 15 58 03.9 0.0
DRGR 89.90 323 ⇑P P 15 58 03.9 0.0
SDCO Great Sand Dun 90.27 47 *e*P P 15 58 05.2 -0.9
comp=Z,3.9nm,1.3s
MORC Moravsky Berou 90.59 328 ⇓*i*P P 15 58 07.3 +0.3
MORC Moravsky Berou 90.59 328 ⇓P P 15 58 07.3 +0.3
PSZ Piszkesteto 90.66 326 ⇑*i*P P 15 58 08.3 +0.9
PSZ Piszkesteto 90.66 326 *e*P P 15 58 07.5 +0.1
comp=Z,10nm,1.1s
PSZ Piszkesteto 90.66 326 ⇑P P 15 58 08.3 +0.9
DPC Dobruska-Polom 90.78 329 *e*P P 15 58 08.1 +0.2
DPC *ex* x 15 58 15.8
DPC Dobruska-Polom 90.78 329 *e*P P 15 58 08.1 +0.2
UPC Upice 90.82 329 *e*P P 15 58 07.9 -0.1
UPC *ex* x 15 58 15.3
UPC Upice 90.82 329 *e*P P 15 58 07.9 -0.1
VYHS Vyhne 90.82 326 *e*P P 15 58 08.1 +0.1
VYHS Vyhne 90.82 326 *e*P P 15 58 08.1 +0.1
VYHS pmax pmax
comp=Z,41nm,2.4s
ANMO Albuquerque 91.13 50 *e*P P 15 58 09.5 -0.5
comp=Z,5.4nm,1.0s
ANMO Albuquerque 91.13 50 *ce*P P 15 58 11.1 +1.1
ANMO pmax pmax
comp=Z,7.0nm,1.1s
VRAC Vranov 91.37 328 ⇑*i*P P 15 58 11.1 +0.5
VRAC Vranov 91.37 328 ⇑P P 15 58 11.1 +0.5
BRG Berggiesshubel 91.50 330 *e*P P 15 58 10.6 -0.5
comp=Z,4.7nm,1.2s
BRG Berggiesshubel 91.50 330 *e*P P 15 58 10.6 -0.5
BRG pmax pmax
comp=Z,5.0nm,1.2s
CLL Collm 91.61 331 *e*P P 15 58 11.0 -0.6
comp=Z,8.0nm,1.1s
CLL *e*PP PP 16 01 50.0 +0.5
CLL Collm 91.61 331 *e*P P 15 58 11.0 -0.6
CLL pmax pmax
comp=Z,8.0nm,1.1s
MODS Modra-Piesok 91.67 327 *e*P P 15 58 10.5 -1.5
MODS Modra-Piesok 91.67 327 *e*P P 15 58 10.5 -1.5
MODS pmax pmax
comp=Z,95nm,2.8s
PRU Pruhonice 91.86 329 *e*P P 15 58 12.8 0.0
PRU Pruhonice 91.86 329 *e*P P 15 58 12.8 0.0
EYMN Ely 92.18 33 *e*P P 15 58 13.8 -0.5
comp=Z,12nm,1.3s
VTS Vitosha 92.23 320 ⇓*i*P P 15 58 16.4 +1.5
VTS Vitosha 92.23 320 ⇓P P 15 58 16.4 +1.5
ECSD EROS Data Cent 92.23 39 *e*P P 15 58 14.4 -0.3
comp=Z,5.4nm,0.8s
CONA Conrad Observa 92.67 327 *i* PcP P 15 58 17.1 +0.4
comp=Z,8.7nm,1.5s
KHC Kasperske Hory 92.91 329 *e*P P 15 58 17.7 0.0
KHC Kasperske Hory 92.91 329 *e*P P 15 58 17.4 -0.4
comp=Z,1.6nm,1.1s
KHC Kasperske Hory 92.91 329 *e*P P 15 58 17.7 0.0
GEC2 GERESS Array S 93.05 329 *e*P P 15 58 17.6 -0.9
comp=Z,5.2nm,1.1s
GEC2 GERESS Array S 93.05 329 *e*P P 15 58 17.6 -0.9
GEC2 pmax pmax
comp=Z,5.0nm,1.1s
GERES GERESS Array B 93.05 329 P P 15 58 18.1 -0.3
comp=Z,1.4nm,0.7s,baz=34,slow=5.0,SNR=9.0
GEA0 GERESS Array S 93.06 329 *e*P P 15 58 17.4 -1.0
DIVS Divibare 93.09 323 *e*P P 15 58 17.4 -1.3
comp=Z,6.3nm,1.4s
ARSA Arzberg 93.30 327 *i* PcP P 15 58 19.8 +0.3
comp=Z,5.5nm,1.0s
CBKS Cedar Bluff 93.39 44 *e*P P 15 58 19.1 -1.1
comp=Z,8.4nm,0.8s
CBKS Cedar Bluff 93.39 44 *e*P P 15 58 19.1 -1.1
CBKS pmax pmax
comp=Z,8.0nm,0.8s
MNTX Cornudas Mount 93.64 52 *e*P P 15 58 20.6 -0.9
comp=Z,4.7nm,1.1s
SOKA Soboth 93.94 327 *i* PcP P 15 58 22.5 -0.1
comp=Z,10nm,1.6s
LIT Litokhoron 94.19 318 *e*P P 15 58 22.4 -1.4
comp=Z,24nm,1.6s
LIT Litokhoron 94.19 318 *e*P P 15 58 22.4 -1.4
LIT pmax pmax
comp=Z,24nm,1.6s
OBKA Obir 94.30 327 *i* PcP P 15 58 24.2 0.0
comp=Z,3.1nm,0.8s
AMTX Amarillo 94.43 48 *e*P P 15 58 24.5 -0.6
comp=Z,21nm,1.4s
KBA Koelnbreinsper 94.48 328 *i* P P 15 58 21.4 -3.8
comp=Z,3.0nm,1.0s
ABTA Abfaltersbach 95.11 328 *i* PcP P 15 58 27.1 -0.9
comp=Z,5.5nm,1.0s
KSU1 Kansas State U 95.14 42 *e*P P 15 58 27.5 -0.6
comp=Z,8.1nm,0.8s
TX31 Lajitas Ar. Si 96.17 54 *e*P P 15 58 33.0 -0.2
TXAR Lajitas Array 96.17 54 P P 15 58 33.8 +0.7
comp=Z,2.8nm,1.0s,baz=302,slow=2.4,SNR=12
FUORN Ofenpass-Fuorn 96.26 329 *e*P P 15 58 33.0 -0.4
comp=Z,37nm,1.8s
ESDC Sonseca Array 108.03 333 PP PP 16 03 55.4 +1.0
comp=Z,1.5nm,1.0s,baz=40,slow=7.8,SNR=4.7
TORD Torodi Ar. Bea 125.92 311 PKP **PKPdf** 16 04 06.8 -0.5
comp=Z,0.7nm,0.8s,baz=130,slow=0.9,SNR=5.7
KOWA Kowa 128.64 317 PKP **PKPdf** 16 04 13.8 +1.3
comp=Z,1.7nm,0.5s,baz=79,slow=1.4,SNR=6.0
SDV Santo Domingo 132.86 48 PKP **PKPdf** 16 04 21.1 +0.3
comp=Z,2.9nm,0.6s,baz=284,slow=4.1,SNR=4.5
PTGA Pitinga 147.05 45 *e*PKPdf **PKPdf** 16 04 44.8 -1.3
PTGA *e*PKPdf **PKPbc** 16 04 48.5 +0.3
PLCA Paso Flores 148.55 127 PKPbc **PKPbc** 16 04 52.0 +0.4
comp=Z,3.3nm,0.6s,baz=223,slow=1.9,SNR=9.5
PLCA Paso Flores 148.55 127 *e*PKPbc **PKPbc** 16 04 51.7 +0.1
PLCA Paso Flores 148.55 127 *e*PKP2 **PKPbc** 16 04 51.7 +0.1
ROC1 El Roble 149.79 112 *e*PKPdf **PKPdf** 16 04 51.7 +1.3
ROC1 *e*PKPbc **PKiKP** 16 04 56.4 +0.3
LPAZ La Paz 149.85 78 PKP **PKPdf** 16 04 52.4 +1.1
comp=Z,5.2nm,0.6s,baz=327,slow=1.7,SNR=15
LPAZ PKPbc **PKiKP** 16 04 56.9 -0.2
comp=Z,5.2nm,0.6s,baz=356,slow=3.3,SNR=18
LPAZ La Paz 149.85 78 *e*PKPdf **PKPdf** 16 04 52.8 +1.4
LPAZ *e*PKPbc **PKPbc** 16 04 56.6 +0.5
PEL Peldehue 150.05 112 *e*PKPbc **PKPbc** 16 04 55.3 -0.2
PEL Peldehue 150.05 112 *e*PKiKP **PKPbc** 16 04 55.3 -0.2
LCO Las Campanas 150.20 104 *e*PKPbc **PKPbc** 16 04 56.7 +0.4
LCO Las Campanas 150.20 104 PKiKP **PKPbc** 16 04 56.7 +0.4
SAML Samuel 150.39 61 *e*PKPbc **PKPbc** 16 04 57.0 +0.2

ISCJB ***29*** *15:50:36.3±0.7,25°.37N±0°.08×142°.7E±0°.2,h40km, mb3.8/14, Error ellipse: s-maj=24.9km s-min=9.9km az=169.2*
IDC ***29*** *15:50:39.1±2.9,25°.53N×142°.66E,h44km±25km, mb3.6/13, mb1 3.8/13,mb1mx3.5/68,mbtmp3.9/13, Error ellipse: s-maj=26.4km s-min=17.0km az=83.0*
ISC 29 15:50:38.3±0.8, 25°.4N±0°.1×142°.8E±0°.2, h40km, n17, σ1 9 11/18, mb3.9/14, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
JCJ	**Chichijima**	**1.76**	**343**	P		**Pn**	**15 51 05.0**	**-1.3**
	74nm,0.3s,baz=253,slow=23,SNR=36							
JCJ				S		**Sn**	**15 51 28.6**	**+1.2**
	146nm,0.3s,baz=280,slow=23,SNR=10							
MJAR	**Matsushiro Arr**	**11.76**	**342**	P		**Pn**	**15 53 25.9**	**+2.4**
	0.3nm,0.3s,baz=160,slow=11,SNR=5.5							
KLR	**Kul'dur**	**25.29**	**343**	P		**P**	**15 56 00.8**	**0.0**
	0.3nm,0.8s,baz=201,slow=5.1,SNR=5.2							
WRA	**Warramunga Arr**	**45.82**	**191**	P		**P**	**15 58 57.0**	**+0.5**
	1.1nm,0.4s,baz=8.9,slow=8.6,SNR=18							
ASAR	**Alice Springs**	**49.53**	**191**	P		**P**	**15 59 26.8**	**+1.5**
	0.3nm,0.6s,baz=18,slow=9.0,SNR=4.2							
ZALV	**Zalesovo Beam**	**51.11**	**320**	P		**P**	**15 59 36.9**	**+0.1**
	0.5nm,0.3s,baz=107,slow=6.4,SNR=2.8							
MKAR	**Makanchi Array**	**51.96**	**311**	P		**P**	**15 59 41.9**	**-1.4**
	0.5nm,0.8s,baz=85,slow=10,SNR=4.7							
KURBB	**Kurchatov Arra**	**54.60**	**315**	P		**P**	**16 00 01.5**	**-1.1**
	1.9nm,0.5s,baz=92,slow=7.9,SNR=14							
ILAR	**Eielson Array**	**58.94**	**28**	P		**P**	**16 00 32.5**	**-0.7**
	0.6nm,0.8s,baz=245,slow=6.6,SNR=5.2							
BVAR	**Borovoye Array**	**59.64**	**318**	P		**P**	**16 00 37.0**	**-1.2**
	1.6nm,0.5s,baz=92,slow=7.1,SNR=15							
YKA	**Yellowknife Ar**	**73.37**	**28**	P		**P**	**16 02 05.4**	**-0.3**
	0.3nm,0.7s,baz=290,slow=6.1,SNR=4.8							
KBZ	**Khabaz**	**79.54**	**313**	P		**P**	**16 02 40.6**	**-0.4**
	1.7nm,0.8s,baz=20,slow=3.4,SNR=5.6							
FINES	**FINESS Array B**	**79.69**	**334**	P		**P**	**16 02 41.1**	**-0.3**
	1.1nm,0.6s,baz=86,slow=4.4,SNR=9.8							
NVAR	**Mina Array Bea**	**81.15**	**52**	P		**P**	**16 02 50.4**	**+0.3**
	0.5nm,0.8s,baz=269,slow=8.7,SNR=3.6							
AKASG	**Malin Array Be**	**84.28**	**324**	P		**P**	**16 03 05.4**	**-0.4**
	0.5nm,0.4s,baz=52,slow=5.5,SNR=4.0							
NOA	**NORSAR Array B**	**85.36**	**339**	P		**P**	**16 03 10.6**	**-0.6**
	0.4nm,0.5s,baz=45,slow=4.8,SNR=3.3							
LPAZ	**La Paz**	**149.79**	**79**	PKPbc		**PKPbc**	**16 10 26.4**	**+0.9**
	1.3nm,0.9s,baz=273,slow=3.4,SNR=3.3							

MEX 29 16:04:44.5±0.5, 16°.21N×98°.17W, h8km±7km, MD4.0, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
PNIG	**Pinotepa**	**0.18**	**14**	*e*P		Pg	16 04 48.0	-0.3
PNIG				*i* S		Sg	16 04 50.7	-0.2
TLIG	**Tlapa**	**1.40**	**344**	*e*P		Pn	16 05 06.4	-4.0
TLIG				*i* S		Sb	16 05 24.0	-4.9
VHO	**Vista Hermosa**	**1.62**	**58**	*e*P		Pn	16 05 09.8	-3.8
VHO				*e*S		Sn	16 05 29.6	-5.2

ISCJB ***29*** *16:23:34.1±0.7,5°.4S±0°.1×152°.1E±0°.1, h45km, mb3.8/8, MS3.6/3, Error ellipse: s-maj=23.0km s-min=9.9km az=138.2*
IDC ***29*** *16:23:36.9±4.9,5°.41S×152°.08E, h60km±44km, mb3.7/8, mb1 3.9/9, mb1mx3.5/52, mbtmp4.0/9, ML2.2/1, MS3.6/3, Ms1 3.6/3, ms1mx2.9/41, Error ellipse: s-maj=29.4km s-min=25.2km az=155.0*
ISC 29 16:23:35.5±0.8, 5°.4S±0°.1×152°.1E±0°.1, h45km, n12, σ0 9 91/11, mb3.7/8, MS3.3/3, New Britain region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
PMG	**Port Moresby**	**6.37**	**231**	P		**Pn**	**16 25 07.8**	**+1.0**
	3.6nm,0.3s,baz=70,slow=5.4,SNR=11							
PMG				S		**Sn**	**16 26 18.6**	**+0.3**
	3.9nm,0.3s,baz=306,slow=22,SNR=3.8							
DZM	**Mont Dzumac**	**21.62**	**142**	P		**P**	**16 28 21.9**	**-0.2**
	2.5nm,0.6s,baz=269,slow=10,SNR=3.2							
DZM				LR		LR	16 36 14.6	
	comp=Z,101nm,18.2s,baz=68,slow=35							
WRA	**Warramunga Arr**	**22.58**	**229**	P		**P**	**16 28 31.7**	**-0.7**
	1.7nm,0.6s,baz=52,slow=9.7,SNR=6.1							
ASAR	**Alice Springs**	**25.29**	**222**	P		**P**	**16 28 56.8**	**-1.2**
	1.4nm,0.6s,baz=57,slow=8.9,SNR=30							
STKA	**Stephens Creek**	**28.16**	**199**	P		**P**	**16 29 23.4**	**-0.3**
	1.4nm,0.8s,baz=30,slow=8.1,SNR=2.6							
JHJ	**Hachijo jima 2**	**40.03**	**344**	LR		LR	16 45 35.8	
	comp=Z,24nm,18.9s,baz=338,slow=33							
MKAR	**Makanchi Array**	**80.32**	**319**	P		**P**	**16 35 41.5**	**-0.4**
	0.7nm,0.9s,baz=103,slow=3.9,SNR=5.4							
ILAR	**Eielson Array**	**82.93**	**22**	P		**P**	**16 35 54.4**	**-0.9**
	2.0nm,0.7s,baz=247,slow=5.4,SNR=21							
QSPA	**South Pole Qui**	**84.60**	**180**	LR		LR	17 13 13.7	
	comp=Z,161nm,18.0s,baz=246,slow=35							
NVAR	**Mina Array Bea**	**92.95**	**52**	P		**P**	**16 36 45.7**	**+1.2**
	0.5nm,0.7s,baz=263,slow=6.6,SNR=4.2							
YKA	**Yellowknife Ar**	**96.23**	**28**	P		**P**	**16 36 59.5**	**+0.9**
	0.4nm,0.9s,baz=271,slow=5.5,SNR=5.1							
TORD	**Torodi Ar. Bea**	**149.85**	**287**	PKPbc		**PKPbc**	**16 43 21.3**	**-0.6**
	1.4nm,0.8s,baz=57,slow=2.2,SNR=7.8							

MOS ***29*** *16:29:53.1±1.2,84°.12N×2°.50W,h10km,mb4.6/47, Error ellipse: s-maj=52.7km s-min=5.4km az=91.4*
BJI ***29*** *16:29:53.5,84°.00N×0°.20E, h6km, mb4.8/39, mB4.9/20, Ms4.6/7, Ms7 4.2/7*
IDC ***29*** *16:29:54.8±0.4,84°.12N×0°.20W, h0km, mb4.1/33, mb1 4.2/35, mb1mx4.1/69, mbtmp4.1/35, ML3.6/2, MS3.7/34, Ms1 3.7/34, ms1mx3.6/71, Error ellipse: s-maj=12.3km s-min=9.1km az=44.0*
ISCJB ***29*** *16:29:55.5±0.2,84°.11N±0°.03×0°.4E±0°.3, h16km, mb4.5/118, MS3.7/34, Error ellipse: s-maj=4.6km s-min=3.4km az=42.7*
CSEM ***29*** *16:29:55.6±0.1,84°.04N×0°.19E, h10km, mb4.6/58, Error ellipse: s-maj=5.9km s-min=3.7km az=43.0*
NEIC ***29*** *16:29:56.2±0.2,84°.01N×0°.18E, h10km, mb4.6/55, Error*

ellipse: s-maj=5.1km s-min=3.3km az=221.0
*IEPN **29** 16:29:58.0,84°22'N×8°29'E,h20^{km},station ZFl2 has station magnitude of 3.80*
ISC 29 16:29:56.4±0.3,**83°96'N**±0°05×**0°24'W**±0°05,**h16**^{km},**n271**, σ1ᵎ**83**/266,**mb4.5**/124,**MS3.7**/34,**17C-11D**,**North of Svalbard**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBS	**Kingsbay**	**5.36**	**154**	*e*Pn	**Pn**	**16 31 14.0**	**-1.6**
KBS	**Kingsbay**	**5.36**	**154**	*e*P	**Pn**	**16 31 14.0**	**-1.6**
KBS	**Kingsbay**	**5.36**	**154**	Pn	**Pn**	**16 31 14.1**	**-1.4**
KBS				Sn	**Sn**	**16 32 10.9**	**-5.9**
KBS	**Kingsbay**	**5.36**	**154**	*i* P	**Pn**	**16 31 13.9**	**-1.6**
KBS				*i* S	**Sn**	**16 32 10.8**	**-6.0**
KBS	**Kingsbay**	**5.36**	**154**	*e*P	**Pn**	**16 31 14.0**	**-1.6**
SPA0	**Spitsbergen Ar**	**6.32**	**148**	*e*Pn	**Pn**	**16 31 27.0**	**-1.7**
SPA0	**Spitsbergen Ar**	**6.32**	**148**	Pn	**Pn**	**16 31 27.1**	**-1.7**
	baz=341,slow=18						
SPA0				Sn	**Sn**	**16 32 34.7**	**-5.7**
	baz=350,slow=22						
SPA0	**Spitsbergen Ar**	**6.32**	**148**	*i* P	**Pn**	**16 31 27.1**	**-1.6**
SPA0				*i* S	**Sn**	**16 32 34.7**	**-5.7**
SPITS	**Spitsbergen Ar**	**6.32**	**148**	Pn	**Pn**	**16 31 27.0**	**-1.7**
	baz=357,slow=14,SNR=28						
SPITS				Sn	**Sn**	**16 32 35.0**	**-5.4**
	baz=349,slow=17,SNR=2.2						
SPITS				LR	LR	16 33 46.2	
	comp=Z,679nm,20.1s,baz=340,slow=36						
SPITS	**Spitsbergen Ar**	**6.32**	**148**	P	**Pn**	**16 31 27.0**	**-1.7**
SPITS				MLR	MLR		
	comp=Z,679nm,20.1s						
ZFI2	**Zemlya Franca-**	**6.85**	**91**	*i* P	**Pn**	**16 31 33.9**	**-2.1**
ZFI2				*i* S	Sn	16 32 39.0	-14
	comp=Z,43nm,1.0s						
DAG	**Danmarks Havn**	**7.79**	**212**	*i* P	**Pn**	**16 31 48.1**	**-0.7**
DAG	**Danmarks Havn**	**7.79**	**212**	*i* P	**Pn**	**16 31 48.1**	**-0.7**
TULEG	**Thule**	**12.64**	**275**	*e*Pn	Pn	16 32 49.2	-6.0
SUMG	**Summit**	**13.29**	**234**	*i* P	**Pn**	**16 33 04.1**	**-0.2**
	comp=Z,7.6nm,0.7s						
SUMG	**Summit**	**13.29**	**234**	*e*Pn	**Pn**	**16 33 03.2**	**-1.1**
SUMG	**Summit**	**13.29**	**234**	*i* P	**Pn**	**16 33 04.1**	**-0.2**
SUMG				pmax	pmax		
	comp=Z,8.0nm,0.7s						
SCO	**Scoresbysund**	**14.16**	**211**	*i* P	**Pn**	**16 33 15.3**	**-0.7**
	comp=Z,44nm,1.5s						
SCO	**Scoresbysund**	**14.16**	**211**	*e*Pn	**Pn**	**16 33 15.1**	**-0.8**
SCO	**Scoresbysund**	**14.16**	**211**	*i* P	**Pn**	**16 33 15.3**	**-0.7**
SCO				pmax	pmax		
	comp=Z,44nm,1.5s						
KEV	**Kevo**	**15.21**	**143**	*e*Pn	**Pn**	**16 33 29.4**	**-0.7**
	comp=Z,144nm,1.8s						
KEV	**Kevo**	**15.21**	**143**	*e*P	**Pn**	**16 33 29.4**	**-0.7**
KEV				pmax	pmax		
	comp=Z,144nm,1.8s						
ARA0	**ARCESS Array S**	**15.34**	**145**	P	**Pn**	**16 33 31.9**	**+0.1**
	baz=352,slow=14						
ARCES	**ARCESS Array B**	**15.34**	**145**	Pn	**Pn**	**16 33 31.0**	**-0.8**
	comp=Z,0.2nm,0.3s,baz=358,slow=9.3,SNR=5.8						
ARCES				LR	LR	16 39 42.9	
	comp=Z,376nm,20.3s,baz=356,slow=38						
ARCES	**ARCESS Array B**	**15.34**	**145**	*e*Pn	**Pn**	**16 33 31.3**	**-0.5**
ARCES	**ARCESS Array B**	**15.34**	**145**	*e*P	**Pn**	**16 33 31.3**	**-0.5**
ARE0	**ARCESS Array S**	**15.34**	**145**	*e*Pn	**Pn**	**16 33 31.6**	**-0.2**
	comp=Z,84nm,1.5s						
RES	**Resolute Bay**	**16.99**	**295**	Pn	**Pn**	**16 33 47.2**	**-5.8**
	comp=Z,0.1nm,0.3s,baz=23,slow=11,SNR=7.1						
RES				LR	LR	16 40 49.6	
	comp=Z,512nm,18.2s,baz=21,slow=39						
RES	**Resolute Bay**	**16.99**	**295**	*e*Pn	**Pn**	**16 33 47.0**	**-5.9**
	comp=Z,10nm,1.0s						
LVZ	**Lovozero**	**17.58**	**134**	*e*Pn	**Pn**	**16 33 55.2**	**-5.1**
	comp=Z,223nm,1.8s						
LVZ	**Lovozero**	**17.58**	**134**	*i* P	**P**	**16 34 02.9**	**+1.6**
LVZ				pmax	pmax		
	comp=Z,54nm,1.5s						
OUL	**Oulu**	**19.78**	**147**	P	**Pn**	**16 34 28.7**	**+1.8**
SFJD	**Kangerlussuaq**	**19.80**	**243**	P	**P**	**16 34 21.6**	**-3.9**
	comp=Z,0.3nm,0.3s,baz=43,slow=19,SNR=2.5						
SFJD				LR	LR	16 42 18.2	
	comp=Z,137nm,19.6s,baz=5.0,slow=37						
BORG	**Borgarnes**	**19.84**	**207**	LR	LR	16 40 59.0	
	comp=Z,44nm,21.1s,baz=10,slow=33						
TMCR	**Tamitsa**	**21.52**	**132**	*e*P	**P**	**16 34 47.2**	**+3.0**
TMCR				*e*S	Sn	16 38 48.8	-1.5
TMCR				pmax	pmax		
	comp=Z,50nm,0.9s						
VAF	**Ylistaro**	**21.64**	**151**	P	**P**	**16 34 51.3**	**+5.9**
VAF				pmax	pmax		
	comp=Z,28nm,1.9s						
TIXI	**Tiksi**	**22.77**	**39**	P	**P**	**16 34 56.7**	**-0.8**
	comp=Z,2.5nm,1.1s,baz=12,slow=6.8,SNR=8.0						
TIXI				LR	LR	16 42 31.1	
	comp=Z,81nm,21.5s,baz=315,slow=33						
TIXI	**Tiksi**	**22.77**	**39**	*e*P	**P**	**16 34 56.3**	**-1.3**
	comp=Z,5.5nm,1.1s						
TIXI	**Tiksi**	**22.77**	**39**	*ce*P	**P**	**16 34 54.9**	**-2.6**
TIXI				pmax	pmax		
	comp=Z,4.0nm,1.1s						
NC204	**NORSAR Array S**	**22.95**	**166**	*e*P	**P**	**16 34 58.8**	**-0.7**
NC303	**NORSAR Array S**	**23.01**	**166**	*e*P	**P**	**16 34 59.6**	**-0.5**
NC405	**NORSAR Array S**	**23.14**	**165**	*e*P	**P**	**16 35 02.1**	**+0.7**
NBO02	**NORSAR Array S**	**23.18**	**166**	*e*P	**P**	**16 35 03.5**	**+1.6**
NB201	**NORSAR Array S**	**23.19**	**166**	*e*P	**P**	**16 35 02.7**	**+0.8**
NB2	**NORSAR Subarra**	**23.20**	**166**	P	**P**	**16 35 02.8**	**+0.8**
	comp=Z,20nm,1.2s,baz=356,slow=11						
NB2	**NORSAR Subarra**	**23.20**	**166**	P	**P**	**16 35 01.3**	**-0.7**
	baz=350,slow=10						
NOA	**NORSAR Array B**	**23.20**	**166**	P	**P**	**16 35 03.3**	**+1.3**
	comp=Z,5.7nm,1.1s,baz=355,slow=11,SNR=5.9						
NOA				LR	LR	16 42 22.9	
	comp=Z,121nm,21.8s,baz=350,slow=32						
FIA0	**FINESS Array S**	**23.41**	**148**	P	**P**	**16 35 06.3**	**+2.2**
	baz=21,slow=12						
FINES	**FINESS Array B**	**23.41**	**148**	P	**P**	**16 35 06.0**	**+1.9**
	comp=Z,2.6nm,0.9s,baz=24,slow=15,SNR=4.8						
FINES				LR	LR	16 44 30.2	
	comp=Z,138nm,18.1s,baz=6.0,slow=37						
NRA0	**NORESS Array S**	**23.51**	**165**	P	**P**	**16 35 05.7**	**+0.6**
HFS	**Hagfors**	**24.18**	**163**	P	**P**	**16 35 14.2**	**+2.7**
	comp=Z,1.2nm,0.8s,baz=18,slow=6.2,SNR=2.3						
HFS				LR	LR	16 43 27.1	
	comp=Z,179nm,19.8s,baz=354,slow=33						
FRB	**Frobisher Bay**	**24.77**	**261**	P	**P**	**16 35 19.1**	**+2.4**
	comp=Z,2.5nm,0.6s,baz=20,slow=10,SNR=8.0						
FRB				LR	LR	16 44 50.1	
	comp=Z,172nm,18.8s,baz=5.0,slow=36						
KLMR	**Klimovskoe**	**24.92**	**132**	*e*P	**P**	**16 35 17.7**	**-0.4**
KLMR				AMP		16 35 27.3	
	comp=Z,33nm,1.1s						
KLMR	**Klimovskoe**	**24.92**	**132**	*e*P	**P**	**16 35 17.6**	**-0.5**
KLMR				pmax	pmax		
	comp=Z,33nm,1.1s						
INK	**Inuvik**	**26.35**	**322**	P	**P**	**16 35 30.2**	**-0.8**
	comp=Z,10nm,1.2s,baz=30,slow=11,SNR=9.5						
INK				LR	LR	16 48 21.1	
	comp=Z,90nm,19.0s,baz=7.0,slow=42						
INK	**Inuvik**	**26.35**	**322**	*e*P	**P**	**16 35 30.2**	**-0.8**
	comp=Z,18nm,1.4s						
BILL	**Bilibino**	**28.04**	**11**	*i* P	**P**	**16 35 44.7**	**-1.5**
BILL				*i*		16 35 49.6	
BILL				*i*		16 36 28.8	
BILL				*i*		16 39 00.0	
BILL				pmax	pmax		
	comp=Z,2.0nm,1.0s						
BILL				MLR	MLR		
	comp=Z,100nm,16.0s						
COLD	**Coldfoot**	**28.33**	**336**	*e*P	**P**	**16 35 48.5**	**-0.3**
	comp=Z,9.9nm,1.6s						
FYU	**Fort Yukon**	**28.75**	**332**	*e*P	**P**	**16 35 53.0**	**+0.4**
	comp=Z,48nm,1.6s						
OBN	**Obninsk**	**30.39**	**137**	⇑*e*P	P	16 36 12.4	+5.3
OBN				*e*		16 37 16.7	
OBN				pmax	pmax		
	comp=Z,5.0nm,1.0s						
OBN				MLR	MLR		
	comp=Z,138nm,18.0s						
MDM	**Murphy Dome**	**30.50**	**334**	*e*P	**P**	**16 36 07.7**	**-0.5**
	comp=Z,74nm,1.2s						
COLA	**College**	**30.57**	**333**	*i* P	**P**	**16 36 06.7**	**-1.9**
COLA				pmax	pmax		
	comp=Z,4.0nm,1.1s						
ILAR	**Eielson Array**	**30.62**	**332**	P	**P**	**16 36 09.4**	**+0.3**
	comp=Z,2.1nm,0.8s,baz=3.8,slow=8.4,SNR=14						
ILAR				LR	LR	16 47 33.3	
	comp=Z,128nm,21.1s,baz=20,slow=35						
YKA	**Yellowknife Ar**	**30.64**	**304**	P	**P**	**16 36 08.3**	**-0.9**
	comp=Z,1.3nm,0.9s,baz=6.3,slow=8.5,SNR=23						
YKA				PcP	**PcP**	**16 39 06.4**	**-0.4**
	comp=Z,0.5nm,0.8s,baz=6.7,slow=2.9,SNR=6.7						
SVE	**Sverdlovsk**	**30.80**	**110**	*e*P	**P**	**16 36 11.9**	**+1.1**
YAK	**Yakutsk**	**32.34**	**43**	⇑*e*P	**P**	**16 36 21.8**	**-2.4**
YAK				pmax	pmax		
	comp=Z,19nm,1.7s						
CLL	**Collm**	**32.99**	**165**	*e*P	**P**		
CLL				*e*(sP)	**sP**	**16 36 31.0**	**+1.0**
CLL				*e*SSS	SSS	**16 36 38.0**	**+1.1**
CLL				Lm	MLR	16 44 06.0	
	comp=Z,100nm,19.3s					16 48 00.0	
CLL	**Collm**	**32.99**	**165**	*e*P	**P**	**16 36 31.0**	**+1.0**
SCHQ	**Schefferville**	**33.34**	**255**	LR	LR	16 48 43.1	
	comp=Z,164nm,19.3s,baz=23,slow=34						
BRG	**Berggiesshubel**	**33.45**	**164**	*e*P	**P**	**16 36 35.5**	**+1.4**
	comp=Z,25nm,2.0s						
BRG	**Berggiesshubel**	**33.45**	**164**	*e*P	**P**	**16 36 35.5**	**+1.4**
BRG				pmax	pmax		
	comp=Z,4.0nm,2.0s						
AKASG	**Malin Array Be**	**34.30**	**146**	P	**P**	**16 36 43.0**	**+1.6**
	comp=Z,1.2nm,0.8s,baz=347,slow=8.8,SNR=5.2						
AKASG				LR	LR	16 50 55.2	
	comp=Z,181nm,18.2s,baz=10.0,slow=37						
OJC	**Ojcow**	**34.31**	**157**	*e*P	**P**	**16 36 41.9**	**+0.3**
	comp=Z,18nm,1.2s						
OJC	**Ojcow**	**34.31**	**157**	*e*P	**P**	**16 36 41.9**	**+0.3**
OJC				pmax	pmax		
	comp=Z,18nm,1.2s						
MORC	**Moravsky Berou**	**34.67**	**160**	⇑*i*P	**P**	**16 36 47.1**	**+2.4**
MORC	**Moravsky Berou**	**34.67**	**160**	*e*P	**P**	**16 36 45.2**	**+0.5**
	comp=Z,46nm,1.3s						
MORC	**Moravsky Berou**	**34.67**	**160**	⇑P	**P**	**16 36 47.1**	**+2.4**
NVS	**Novosibirsk**	**35.10**	**88**	*e*P	**P**	**16 36 47.0**	**-1.3**
NIE	**Niedzica**	**35.13**	**157**	P	**P**	**16 36 52.0**	**+3.3**
NIE				pmax	pmax		
	comp=Z,5.0nm,2.2s						
STHS	**Stebnicka Huta**	**35.18**	**155**	*e*P	**P**	**16 36 51.8**	**+2.7**
STHS	**Stebnicka Huta**	**35.18**	**155**	*e*P	**P**	**16 36 51.8**	**+2.7**
STHS				pmax	pmax		
	comp=Z,7.0nm,1.1s						
BOD	**Bodaibo**	**35.24**	**58**	*e*P	**P**	**16 36 45.7**	**-3.8**
BOD				pmax	pmax		
	comp=Z,11nm,1.6s						
LANS	**Liptovska Anna**	**35.37**	**158**	*e*P	**P**	**16 36 52.1**	**+1.4**
LANS	**Liptovska Anna**	**35.37**	**158**	*e*P	**P**	**16 36 52.1**	**+1.4**
GERES	**GERESS Array B**	**35.47**	**164**	P	**P**	**16 36 54.4**	**+2.7**
	comp=Z,3.1nm,1.1s,baz=12,slow=6.8,SNR=11						
GERES				LR	LR	16 51 13.9	
	comp=Z,64nm,19.1s,baz=98,slow=36						
GEA0	**GERESS Array S**	**35.48**	**164**	*e*P	**P**	**16 36 53.0**	**+1.3**
BRVK	**Borovoye**	**35.50**	**101**	*e*P	**P**	**16 36 51.3**	**-0.4**
	comp=Z,8.8nm,1.4s						
BRVK	**Borovoye**	**35.50**	**101**	*ce*P	**P**	**16 36 54.0**	**+2.3**
BRVK				pmax	pmax		
	comp=Z,12nm,1.7s						
BVAR	**Borovoye Array**	**35.54**	**101**	P	**P**	**16 36 53.8**	**+1.6**
	comp=Z,1.8nm,0.8s,baz=332,slow=8.4,SNR=13						
BVAR				LR	LR	16 54 33.2	
	comp=Z,125nm,19.6s,baz=344,slow=42						
BFO	**Black Forest**	**35.86**	**170**	*i* P	**P**	**16 36 58.5**	**+3.6**
VYHS	**Vyhne**	**36.00**	**158**	*e*P	**P**	**16 36 58.3**	**+2.2**
VYHS	**Vyhne**	**36.00**	**158**	*e*P	**P**	**16 36 58.3**	**+2.2**
VYHS				pmax	pmax		
	comp=Z,8.0nm,1.4s						
MODS	**Modra-Piesok**	**36.06**	**160**	*e*P	**P**	**16 36 58.4**	**+1.8**
MODS	**Modra-Piesok**	**36.06**	**160**	*e*P	**P**	**16 36 58.4**	**+1.8**
MODS				pmax	pmax		
	comp=Z,15nm,1.3s						
ZAA0	**Zalesovo Array**	**36.15**	**87**	*e*P	**P**	**16 36 57.1**	**-0.2**
	comp=Z,4.9nm,0.8s						
ZALV	**Zalesovo Beam**	**36.15**	**87**	P	**P**	**16 36 58.2**	**+0.9**
	comp=Z,3.8nm,0.7s,baz=344,slow=7.9,SNR=17						
ZALV				LR	LR	16 54 39.5	
	comp=Z,162nm,19.3s,baz=64,slow=41						
ZALV	**Zalesovo Beam**	**36.15**	**87**	*e*P	**P**	**16 36 57.6**	**+0.3**
CONA	**Conrad Observa**	**36.46**	**162**	*i* pP	pP	16 37 02.7	-2.4
	comp=Z,6.2nm,1.0s						
MOA	**Molin**	**36.48**	**164**	*i* pP	**P**	**16 37 02.7**	**+2.5**
	comp=Z,9.3nm,1.5s						
PSZ	**Piszkesteto**	**36.62**	**157**	*e*P	**P**	**16 37 03.4**	**+2.0**
	comp=Z,10.0nm,1.2s						
PSZ	**Piszkesteto**	**36.62**	**157**	*e*P	**P**	**16 37 03.4**	**+2.0**
PSZ				pmax	pmax		
	comp=Z,10.0nm,1.2s						
AKTO	**Aktyubinsk**	**36.86**	**115**	P	**P**	**16 37 04.8**	**+1.4**
	comp=Z,1.3nm,0.6s,baz=359,slow=9.4,SNR=3.4						
AKTO				LR	LR	16 54 26.1	
	comp=Z,333nm,19.6s,baz=5.7,slow=40						
ARSA	**Arzberg**	**37.12**	**162**	*i* pP	**P**	**16 37 08.5**	**+2.8**
	comp=Z,4.3nm,1.1s						
BUR08	**Bucovina Ar. S**	**37.13**	**151**	*e*P	**P**	**16 37 07.4**	**+1.5**
BUR04	**Bucovina Ar. S**	**37.16**	**151**	*e*P	**P**	**16 37 07.2**	**+1.1**
BURAR	**Bucovina Array**	**37.16**	**151**	⇑*i*P	**P**	**16 37 08.8**	**+2.6**
BURAR	**Bucovina Array**	**37.16**	**151**	⇑P	**P**	**16 37 08.8**	**+2.6**
SOKA	**Soboth**	**37.68**	**163**	*i* pP	**P**	**16 37 13.6**	**+3.1**
	comp=Z,9.3nm,1.2s						
MYKA	**Terra Mystica**	**37.69**	**164**	*i* pP	**P**	**16 37 13.5**	**+2.9**
	comp=Z,2.1nm,0.7s						
OBKA	**Obir**	**37.83**	**163**	*i* pP	**P**	**16 37 14.9**	**+3.1**
	comp=Z,17nm,1.2s						
DRGR		**37.86**	**154**	⇓*i*P	**P**	**16 37 15.0**	**+3.0**
DRGR		**37.86**	**154**	⇓P	**P**	**16 37 15.0**	**+3.0**
ABKAR	**Akbulak array**	**38.21**	**113**	*e*P	**P**	**16 37 15.4**	**+0.5**
	comp=Z,12nm,0.8s						
KURK	**Kurchatov**	**38.69**	**94**	*e*P	**P**	**16 37 19.3**	**+0.5**
	comp=Z,10nm,1.2s						
KURK	**Kurchatov**	**38.69**	**94**	*ce*P	**P**	**16 37 20.1**	**+1.3**
KURK				pmax	pmax		
	comp=Z,97nm,1.7s						
KURBB	**Kurchatov Arra**	**38.77**	**94**	P	**P**	**16 37 20.6**	**+1.1**
	comp=Z,6.0nm,1.0s,baz=353,slow=7.8,SNR=22						
BZS	**Buzias**	**38.99**	**155**	⇓*i*P	**P**	**16 37 24.0**	**+2.6**
BZS	**Buzias**	**38.99**	**155**	⇓P	**P**	**16 37 24.0**	**+2.6**
MLR	**Muntele Rosu**	**39.32**	**151**	P	**P**	**16 37 26.1**	**+1.7**
	comp=Z,0.2nm,0.4s,baz=155,slow=7.7,SNR=2.6						
MLR				LR	LR	16 54 01.0	
	comp=Z,67nm,20.1s,baz=4.5,slow=37						
CHGN	**Chignik**	**39.58**	**341**	*e*P	**P**	**16 37 25.4**	**-0.8**
	comp=Z,100nm,1.0s						
EDM	**Edmonton**	**39.69**	**300**	*e*P	**P**	**16 37 28.2**	**+1.0**
	comp=Z,4.4nm,0.3s						
EDM	**Edmonton**	**39.69**	**300**	*e*P	**P**	**16 37 28.2**	**+1.0**
EDM				pmax	pmax		
	comp=Z,4.0nm,0.3s						
CFR	**Carcaliu**	**39.75**	**148**	⇓*i*P	**P**	**16 37 28.7**	**+1.0**
CFR	**Carcaliu**	**39.75**	**148**	⇓P	**P**	**16 37 28.7**	**+1.0**
HERR	**Herculane**	**39.76**	**155**	⇑*i*P	**P**	**16 37 30.5**	**+2.7**
HVS	**Khovu-Aksy**	**39.86**	**79**	*i* P	**P**	**16 37 30.9**	**+2.2**
HVS				pmax	pmax		
	comp=Z,21nm,1.0s						
MOY	**Mondy**	**40.08**	**72**	*e*P	**P**	**16 37 31.8**	**+1.2**
MOY				pmax	pmax		
	comp=Z,20nm,1.5s						
TLY	**Talaya**	**40.33**	**69**	*e*P	**P**	**16 37 32.3**	**-0.2**
	comp=Z,8.6nm,1.0s						
TLY	**Talaya**	**40.33**	**69**	*e*P	**P**	**16 37 33.1**	**+0.6**
TLY				pmax	pmax		
	comp=Z,10.0nm,1.0s						
TLB	**Topalu**	**40.34**	**148**	⇓*i*P	**P**	**16 37 34.2**	**+1.6**
TLB	**Topalu**	**40.34**	**148**	⇓P	**P**	**16 37 34.2**	**+1.6**
ZEA	**Zeya**	**40.39**	**47**	*e*P	**P**	**16 37 33.9**	**+0.9**
ZEA				pmax	pmax		
	comp=Z,20nm,1.0s						
DIVS	**Divibare**	**40.43**	**157**	*e*P	**P**	**16 37 35.0**	**+1.4**
	comp=Z,5.7nm,1.1s						
OTUK	**Ortayu**	**40.47**	**101**	P	**P**	**16 37 35.1**	**+1.4**
OTUK				pmax	pmax		
	comp=Z,4.0nm,1.5s						
TIRR	**Tirgusor**	**40.48**	**148**	⇑*i*P	**P**	**16 37 35.7**	**+1.9**
TIRR	**Tirgusor**	**40.48**	**148**	*e*P	**P**	**16 37 35.0**	**+1.2**
	comp=Z,9.9nm,1.2s						
TIRR	**Tirgusor**	**40.48**	**148**	⇑P	**P**	**16 37 35.7**	**+1.9**
DGZ	**Jazzator, Alta**	**40.62**	**85**	*i* P	**P**	**16 37 36.4**	**+1.3**
DGZ				pmax	pmax		
	comp=Z,3.0nm,1.2s						
ULM	**Lac du Bonnet**	**40.91**	**283**	P	**P**	**16 37 37.8**	**+0.4**
	comp=Z,2.6nm,0.7s,baz=352,slow=4.8,SNR=2.8						
ULM				LR	LR	16 54 38.3	
	comp=Z,298nm,18.9s,baz=7.0,slow=36						
ZAK	**Zakamensk**	**41.58**	**70**	*e*P	**P**	**16 37 43.5**	**+0.6**
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.2s						
KIV	**Kislovodsk**	**41.95**	**133**	*e*P	P	16 37 51.5	+5.5
KIV				pmax	pmax		
	comp=Z,7.0nm,1.1s						
KIV				MLR	MLR		
	comp=Z,87nm,16.0s						
TTG	**Podgorica**	**42.07**	**158**	*e*P	**P**	**16 37 47.7**	**+0.8**
	comp=Z,7.4nm,0.9s						
TTG	**Podgorica**	**42.07**	**158**	*e*P	**P**	**16 37 47.7**	**+0.8**
TTG				pmax	pmax		
	comp=Z,7.0nm,0.9s						
KBZ	**Khabaz**	**42.19**	**132**	P	**P**	**16 37 49.9**	**+2.1**
	comp=Z,3.7nm,0.9s,baz=342,slow=5.5,SNR=11						
KBZ				LR	LR	16 55 55.4	
	comp=Z,78nm,19.5s,baz=26,slow=37						
NCK	**Nalchik**	**42.47**	**132**	*i* P	**P**	**16 37 52.9**	**+2.7**
NCK				pmax	pmax		
	comp=Z,5.0nm,0.9s						
NEY	**Neytrino**	**42.65**	**133**	*ce*P	**P**	**16 37 56.1**	**+4.3**
NEY				pmax	pmax		
	comp=Z,1.0nm,0.9s						
PETK	**Petropavlovsk-**	**42.76**	**19**	LR	LR	16 55 08.3	
	comp=Z,41nm,19.1s,baz=5.1,slow=36						
AGMN	**Agassiz Nation**	**42.84**	**282**	*e*P	**P**	**16 37 54.5**	**+1.4**
	comp=Z,13nm,1.3s						
MAKZ	**Makanchi**	**42.90**	**91**	*e*P	**P**	**16 37 54.0**	**+0.3**
	comp=Z,11nm,0.9s						
MAKZ	**Makanchi**	**42.90**	**91**	*e*P	**P**	**16 37 54.0**	**+0.3**
MAKZ				pmax	pmax		
	comp=Z,11nm,0.9s						
MK31	**Makanchi Array**	**42.95**	**91**	*e*P	**P**	**16 37 54.5**	**+0.5**
MK31	**Makanchi Array**	**42.95**	**91**	*e*P	**P**	**16 37 54.5**	**+0.5**
MKAR	**Makanchi Array**	**42.95**	**91**	P	**P**	**16 37 55.0**	**+0.9**
	comp=Z,2.4nm,0.8s,baz=358,slow=8.5,SNR=20						
MKAR				LR	LR	16 57 22.7	
	comp=Z,74nm,19.4s,baz=347,slow=38						
MKAR	**Makanchi Array**	**42.95**	**91**	*e*P	**P**	**16 37 54.5**	**+0.5**
	comp=Z,17nm,0.8s						
MKAR	**Makanchi Array**	**42.95**	**91**	P	**P**	**16 37 55.0**	**+0.9**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
MKAR				MLR	MLR		
	comp=Z,74nm,19.5s						
MK01	**Makanchi Array**	**42.97**	**91**	*e*P	**P**	**16 37 54.7**	**+0.5**
ZEI	**Tsey**	**43.20**	**132**	*e*P	**P**	**16 37 57.5**	**+1.2**
ZEI				pmax	pmax		
	comp=Z,7.0nm,1.1s						
WALA	**Waterton Lakes**	**43.86**	**300**	*e*P	**P**	**16 38 02.5**	**+1.0**
	comp=Z,16nm,1.3s						
GRNR	**Gornyy**	**44.01**	**39**	*i* P	**P**	**16 38 02.8**	**+0.3**
COWI	**Conover**	**44.31**	**275**	*e*P	**P**	**16 38 06.6**	**+1.6**
	comp=Z,6.1nm,0.4s						
SONA1	**Songino Array**	**44.40**	**67**	*e*P	**P**	**16 38 06.2**	**+0.5**
SONM	**Songino Array**	**44.41**	**67**	P	**P**	**16 38 07.4**	**+1.5**
	comp=Z,8.5nm,0.9s,baz=336,slow=7.6,SNR=24						
SONM	**Songino Array**	**44.41**	**67**	P	**P**	**16 38 07.4**	**+1.5**
SONM				pmax	pmax		
	comp=Z,8.0nm,0.9s						
ULN	**Ulaanbaatar**	**44.44**	**67**	*e*P	**P**	**16 38 07.0**	**+0.8**
	comp=Z,23nm,1.0s						
ULN	**Ulaanbaatar**	**44.44**	**67**	*de*P	**P**	**16 38 07.3**	**+1.1**
ULN				pmax	pmax		
	comp=Z,31nm,1.2s						
ESDC	**Sonseca Array**	**44.45**	**184**	P	**P**	**16 38 07.6**	**+1.3**
	comp=Z,0.1nm,0.3s,baz=350,slow=8.1,SNR=4.3						
EGMT	**Eagleton**	**44.50**	**295**	*e*P	**P**	**16 38 08.0**	**+1.4**
AKT	**Akhty**	**44.81**	**128**	⇑*i*P	**P**	**16 38 11.0**	**+1.8**
AKT				*e*		16 39 49.3	
AKT				*e*		16 39 59.3	
AKT				pmax	pmax		
	comp=Z,11nm,1.1s						
NEW	**Newport**	**44.94**	**302**	*e*P	**P**	**16 38 10.4**	**+0.3**
	comp=Z,7.7nm,1.1s						
NEW	**Newport**	**44.94**	**302**	*e*P	**P**	**16 38 10.4**	**+0.3**
NEW				pmax	pmax		
	comp=Z,8.0nm,1.1s						
B08A	**Colville Reser**	**45.04**	**305**	*e*P	**P**	**16 38 12.0**	**+1.1**
	comp=Z,8.8nm,1.3s						
JTMT	**Jette**	**45.20**	**300**	*e*P	**P**	**16 38 12.9**	**+0.7**
	comp=Z,6.9nm,1.1s						
KLR	**Kul'dur**	**45.21**	**43**	*de*P	**P**	**16 38 11.1**	**-1.0**
TIP	**Timpagrande**	**45.22**	**161**	*e*P	**P**	**16 38 13.9**	**+1.5**
	comp=Z,28nm,1.

MMAI					LR	LR	17 02 21.1		
	comp=Z,75nm,20.1s,baz=105,slow=37								
ASF	**Jabal al Asfar**	**53.24**	**140**	P	**P**	**16 39 15.6**	**+1.9**		
	comp=Z,2.7nm,0.7s,baz=272,slow=3.4,SNR=8.5								
Q16A	**Castle Valley**	**53.66**	**295**	*eP*	**P**	**16 39 17.6**	**+0.7**		
	comp=Z,12nm,1.2s								
KBL	**Kabul**	**53.69**	**107**	*eP*	**P**	**16 39 17.0**	**-0.2**		
	comp=Z,8.9nm,0.8s								
KBL	**Kabul**	**53.69**	**107**	*eP*	**P**	**16 39 17.0**	**-0.2**		
KBL				pmax	pmax				
	comp=Z,9.0nm,0.8s								
PV01	**Paradox Valley**	**54.18**	**293**	*eP*	**P**	**16 39 21.7**	**+0.9**		
R11A	**Troy Canyon, C**	**54.64**	**299**	*eP*	**P**	**16 39 24.6**	**+0.6**		
	comp=Z,9.9nm,2.0s								
NVAR	**Mina Array Bea**	**54.80**	**302**	P	**P**	**16 39 27.2**	**+2.0**		
	comp=Z,0.7nm,0.9s,baz=15,slow=7.7,SNR=3.6								
NIL	**Nilore**	**55.00**	**103**	*eP*	**P**	**16 39 26.2**	**-0.3**		
	comp=Z,7.7nm,1.0s								
NIL	**Nilore**	**55.00**	**103**	*eP*	**P**	**16 39 26.2**	**-0.3**		
NIL				pmax	pmax				
	comp=Z,8.0nm,1.0s								
MVCO	**Mesa Verde**	**55.09**	**292**	*eP*	**P**	**16 39 28.7**	**+1.3**		
	comp=Z,16nm,1.4s								
KNB	**Kanab**	**55.70**	**297**	*eP*	**P**	**16 39 33.4**	**+1.7**		
	comp=Z,16nm,1.7s								
KNB	**Kanab**	**55.70**	**297**	*eP*	**P**	**16 39 33.4**	**+1.7**		
KNB				pmax	pmax				
	comp=Z,17nm,1.7s								
LCMT	**Little Creek M**	**55.74**	**297**	*eP*	**P**	**16 39 33.5**	**+1.5**		
	comp=Z,3.8nm,1.1s								
LZH	**Lanzhou**	**55.79**	**72**	*eP*	**P**	**16 39 33.8**	**+1.5**		
LZH				pP	pP	16 39 36.5	-0.9		
LZH				sP	sP	16 39 38.5	-0.9		
LZH				pmax	pmax				
	comp=Z,20nm,1.0s								
WMOK	**Wichita Mounta**	**56.56**	**283**	*eP*	**P**	**16 39 38.9**	**+1.3**		
	comp=Z,6.3nm,1.4s								
WMOK	**Wichita Mounta**	**56.56**	**283**	*eP*	**P**	**16 39 38.9**	**+1.3**		
WMOK				pmax	pmax				
	comp=Z,6.0nm,1.4s								
KS01	**Wonju Array Si**	**56.60**	**49**	*eP*	**P**	**16 39 37.1**	**-0.8**		
KSRS	**Korea Array**	**56.63**	**49**	P	**P**	**16 39 37.7**	**-0.3**		
	comp=Z,4.1nm,1.0s,baz=355,slow=6.8,SNR=13								
KSAR	**Wonju Array Be**	**56.63**	**49**	P	**P**	**16 39 37.7**	**-0.4**		
KSAR	**Wonju Array Be**	**56.63**	**49**	P	**P**	**16 39 37.7**	**-0.4**		
WLAR	**White Oak Lake**	**57.01**	**277**	*eP*	**P**	**16 39 42.6**	**+1.8**		
	comp=Z,28nm,1.3s								
MAJO	**Matsushiro**	**58.28**	**39**	*ceP*	**P**	**16 39 48.2**	**-1.6**		
MAJO				pmax	pmax				
	comp=Z,10.0nm,1.7s								
MAT	**Matsushiro**	**58.28**	**39**	P	**P**	**16 39 48.5**	**-1.3**		
MJAR	**Matsushiro Arr**	**58.28**	**39**	P	**P**	**16 39 49.0**	**-0.8**		
	comp=Z,5.4nm,1.1s,baz=352,slow=7.4,SNR=15								
MJAR	**Matsushiro Arr**	**58.28**	**39**	P	**P**	**16 39 49.0**	**-0.8**		
MJAR				pmax	pmax				
	comp=Z,5.0nm,1.1s								
LSA	**Lhasa**	**60.79**	**85**	*eP*	**P**	**16 40 08.7**	**+1.0**		
	comp=Z,7.8nm,0.9s								
LSA	**Lhasa**	**60.79**	**85**	*eP*	**P**	**16 40 08.7**	**+1.0**		
LSA				pmax	pmax				
	comp=Z,8.0nm,0.9s								
NJ2	**Nanjing**	**61.22**	**58**	*eP*	**P**	**16 40 10.5**	**+0.5**		
NJ2				pmax	pmax				
	comp=Z,14nm,0.5s								
DANN	**Dangsing**	**61.35**	**93**	*eP*	**P**	**16 40 12.0**	**+0.7**		
	comp=Z,118nm,1.0s								
PYUN	**Piuthan**	**61.51**	**94**	*eP*	**P**	**16 40 12.9**	**+0.6**		
	comp=Z,112nm,1.1s								
GKN	**Gorkha**	**61.78**	**92**	*eP*	**P**	**16 40 14.6**	**+0.5**		
	comp=Z,107nm,1.0s								
KOLN	**Koldanda**	**61.90**	**93**	*eP*	**P**	**16 40 15.3**	**+0.4**		
	comp=Z,34nm,1.1s								
GUN	**Gumba**	**62.01**	**91**	*eP*	**P**	**16 40 16.4**	**+0.6**		
	comp=Z,64nm,0.9s								
KKN	**Kakani**	**62.06**	**91**	*eP*	**P**	**16 40 16.7**	**+0.7**		
	comp=Z,84nm,1.0s								
ENH	**Enshi**	**62.10**	**67**	*eP*	**P**	**16 40 16.3**	**+0.2**		
DMN	**Daman**	**62.22**	**91**	*eP*	**P**	**16 40 17.7**	**+0.6**		
	comp=Z,70nm,1.2s								
PKIN	**Phulchoki**	**62.28**	**91**	*eP*	**P**	**16 40 18.0**	**+0.4**		
	comp=Z,44nm,1.0s								
JIRN	**Jiri**	**62.29**	**90**	*eP*	**P**	**16 40 18.2**	**+0.5**		
	comp=Z,122nm,1.2s								
TXAR	**Lajitas Array**	**62.41**	**287**	P	**P**	**16 40 19.1**	**+0.9**		
	comp=Z,0.9nm,0.9s,baz=3.1,slow=6.6,SNR=7.0								
TXAR				LR	LR	17 07 57.6			
	comp=Z,248nm,18.8s,baz=0.0,slow=37								
RAYN	**Ar Rayn**	**62.45**	**132**	*eP*	**P**	**16 40 19.1**	**+0.6**		
	comp=Z,5.7nm,1.1s								
RAMN	**Ramite**	**63.03**	**90**	*eP*	**P**	**16 40 22.8**	**+0.3**		
	comp=Z,47nm,1.0s								
ODAN	**Odare**	**63.20**	**89**	*eP*	**P**	**16 40 24.4**	**+0.7**		
	comp=Z,74nm,1.0s								
LPIG	**La Paz**	**68.25**	**292**	LR	LR	17 12 00.6			
	comp=Z,139nm,18.8s,baz=22,slow=37								
KOWA	**Kowa**	**69.53**	**184**	P	**P**	**16 41 04.7**	**+0.7**		
	comp=Z,2.5nm,0.9s,baz=325,slow=2.7,SNR=4.1								
TORD	**Torodi Ar. Bea**	**70.86**	**178**	P	**P**	**16 41 12.6**	**+0.5**		
	comp=Z,8.8nm,1.1s,baz=350,slow=6.8,SNR=9.5								
CMAI	**Chiengmai2**	**71.28**	**79**	P	**P**	**16 41 15.3**	**+0.5**		
	comp=Z,1μm,1.7s								
PAYA	**Payao**	**71.93**	**78**	P	**P**	**16 41 18.5**	**-0.1**		
	comp=Z,5.4nm,0.9s								
CHTO	**Chiang Mai**	**72.38**	**79**	P	**P**	**16 41 20.5**	**-0.7**		
	comp=Z,60nm,1.1s								
CHTO	**Chiang Mai**	**72.38**	**79**	*eP*	**P**	**16 41 19.8**	**-1.4**		
	comp=Z,11nm,0.9s								
CHTO	**Chiang Mai**	**72.38**	**79**	*eP*	**P**	**16 41 19.8**	**-1.4**		
CHTO				pmax	pmax				
	comp=Z,11nm,0.9s								
CMMT	**Chiang Mai**	**72.38**	**79**	P	**P**	**16 41 19.4**	**-1.9**		
	comp=Z,13nm,1.0s								
CM31	**Chiang Mai Arr**	**72.73**	**79**	*eP*	**P**	**16 41 22.4**	**-1.0**		
CMAR	**Chiang Mai Arr**	**72.73**	**79**	P	**P**	**16 41 23.0**	**-0.3**		
	comp=Z,13nm,0.9s,baz=347,slow=7.1,SNR=93								
CMAR				LR	LR	17 15 52.9			
	comp=Z,55nm,21.0s,baz=262,slow=38								
CM01	**Chiang Mai Arr**	**72.77**	**79**	*eP*	**P**	**16 41 22.9**	**-0.7**		
CMIG	**Matias Romero**	**73.61**	**276**	LR	LR	17 17 08.4			
	comp=Z,59nm,18.2s,baz=7.5,slow=38								
PHIT	**Phitsanulok**	**74.14**	**78**	P	**P**	**16 41 31.9**	**+0.3**		
	comp=Z,13nm,1.0s								
SKNT	**Sakolnakorn**	**74.71**	**74**	P	**P**	**16 41 34.5**	**-0.5**		
	comp=Z,9.5nm,1.1s								
PBKT	**Sadao Pong**	**74.81**	**77**	P	**P**	**16 41 34.4**	**-1.1**		
	comp=Z,12nm,1.2s								
UBPT	**Khong Chiam**	**76.54**	**73**	P	**P**	**16 41 45.1**	**-0.3**		
	comp=Z,21nm,1.0s								
SRDT	**SRDT**	**76.81**	**79**	P	**P**	**16 41 46.7**	**-0.2**		
ASAR	**Alice Springs**	**117.68**	**48**	PKP	**PKPdf**	**16 48 40.8**	**-0.1**		
	comp=Z,0.4nm,0.8s,baz=354,slow=3.2,SNR=4.1								

*IDC **29** 16:40:28.5±5.1, 13°.12N×120°.44E, h82km±94km, mb3.0/3, mb1 3.3/3, mb1mx2.8/61, mbtmp3.3/3, MS3.3/1, Ms1 3.3/1, ms1mx2.6/14, Error ellipse: s-maj=110.4km s-min=26.4km az=31.0*
*ISCJB **29** 16:40:29.6±0.7, 13°.72N±0°.04×120°.67E±0°.07, h133km±5km, mb3.1/3, Error ellipse: s-maj=11.0km s-min=6.9km az=15.0*
*MAN **29** 16:40:30, 13°.74N×120°.61E, h114km, mb4.5, ML3.4, MS3.2*

ISC 29 16:40:30.1±1.0, 13°.73N±0°.05×120°.66E±0°.07, h130km±8km, n15, σ0°95/21, mb3.1/3, 2C-1D, Mindoro

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LUBP	**Lubang**	**0.40**	**270**	*eP*	**Pn**	**16 40 48.2**	**-0.5**
LUBP				*eS*	**Sn**	**16 41 01.3**	**-1.3**
TGY	**Tagaytay City**	**0.46**	**37**	P	**Pn**	**16 40 49.4**	**+0.3**
	172nm,0.3s,baz=231,slow=2.2,SNR=12						
TGY				S	**Sn**	**16 41 04.1**	**+0.7**
	539nm,0.3s,baz=166,slow=23,SNR=34						
TGY	**Tagaytay City**	**0.46**	**37**	*ieP*	**Pn**	**16 40 49.4**	**+0.3**
TGY				*i* S	**Sn**	**16 41 04.2**	**+0.7**
LQP	**Lukban**	**0.94**	**66**	*ieP*	Pn	16 40 40.4	-12
BOAC	**Boac**	**1.19**	**103**	*eP*	**Pn**	**16 40 55.5**	**+0.6**
SJMP	**San Jose**	**1.34**	**160**	*eP*	**Pn**	**16 40 57.3**	**+0.8**
SJMP				*eS*	**Sn**	**16 41 16.3**	**-0.3**
GQP	**Guinayangan**	**1.75**	**84**	*ieP*	**Pn**	**16 41 02.1**	**+1.0**
BUSP	**Coron**	**1.77**	**195**	*eP*	**Pn**	**16 41 01.5**	**+0.1**
BUSP				*eS*	**Sn**	**16 41 24.9**	**-0.4**
OTRP	**Odiongan**	**1.90**	**136**	*eP*	**Pn**	**16 41 03.0**	**0.0**
OTRP				*eS*	**Sn**	**16 41 27.6**	**-0.5**
BALP	**Baler**	**2.19**	**24**	*eP*	**Pn**	**16 41 06.5**	**0.0**
BALP				*eS*	**Sn**	**16 41 34.1**	**-0.2**
ENPP	**El Nido**	**2.78**	**206**	*eP*	**Pn**	**16 41 14.8**	**+0.8**
ENPP				*eS*	**Sn**	**16 41 49.4**	**+1.6**
CMAR	**Chiang Mai Arr**	**21.38**	**286**	P	**P**	**16 45 09.1**	**+1.6**
	2.1nm,0.8s,baz=95,slow=7.9,SNR=21						
USRK	**Ussuriysk Ar.**	**31.88**	**16**	LR	LR	17 00 22.5	
	comp=Z,54nm,19.1s,baz=301,slow=37						
WRA	**Warramunga Arr**	**36.07**	**158**	P	**P**	**16 47 17.6**	**-1.8**
	0.1nm,0.6s,baz=334,slow=10,SNR=5.6						
ASAR	**Alice Springs**	**39.36**	**161**	P	**P**	**16 47 46.3**	**-0.8**
	0.3nm,0.7s,baz=346,slow=12,SNR=5.1						

*IDC **29** 16:44:47.5±0.8, 5°.43S×152°.20E, h0km, mb4.0/10, mb1 4.2/11, mb1mx3.9/47, mbtmp4.0/11, ML2.5/1, MS3.3/4, Ms1 3.3/4, ms1mx2.9/48, Error ellipse: s-maj=26.2km s-min=18.0km az=111.0*
*ISCJB **29** 16:44:52.1±0.6, 5°.50S±0°.08×152°.22E±0°.09, h45km, mb3.9/11, MS3.5/2, Error ellipse: s-maj=15.8km s-min=8.7km az=39.1*
*NEIC **29** 16:44:54.1±2.3, 5°.49S×152°.13E, h48km±21km, mb4.3/3, Error ellipse: s-maj=14.8km s-min=12.8km az=65.0*

ISC 29 16:44:53.7±0.7, 5°.5S±0°.1×152°.2E±0°.1, h45km, n21, σ1°08/21, mb3.9/11, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**6.38**	**232**	Pn	**Pn**	**16 46 25.0**	**-0.3**
	7.0nm,0.3s,baz=54,slow=5.6,SNR=28						
PMG				Sn	**Sn**	**16 47 38.8**	**+1.8**
	7.6nm,0.3s,baz=30,slow=16,SNR=5.8						
PMG				LR	LR	16 48 13.3	
	comp=Z,110nm,18.0s,baz=10.0,slow=32						
PMG	**Port Moresby**	**6.38**	**232**	*e*Pn	**Pn**	**16 46 24.4**	**-0.9**
	25nm,0.5s						
PMG				Sn	**Sn**	**16 47 38.8**	**+1.8**
HNR	**Honiara**	**8.61**	**118**	LR	LR	16 50 01.0	
	comp=Z,147nm,18.4s,baz=18,slow=36						
CTAO	**Charters Tower**	**15.67**	**201**	*eP*	**P**	**16 48 35.2**	**+0.2**
	55nm,0.9s						
EIDS	**Eidsvold**	**19.84**	**183**	*eP*	**P**	**16 49 20.3**	**-0.7**
	12nm,1.0s						
DZM	**Mont Dzumac**	**21.50**	**142**	P	**P**	**16 49 39.9**	**+0.9**
	3.7nm,0.6s,baz=313,slow=18,SNR=5.2						
DZM				LR	LR	16 57 47.4	
	comp=Z,101nm,18.1s,baz=355,slow=36						
WRAB	**Tennant Creek**	**22.58**	**229**	*eP*	**P**	**16 49 49.6**	**-0.9**
	4.1nm,0.4s						
WRA	**Warramunga Arr**	**22.59**	**229**	P	**P**	**16 49 49.5**	**-1.3**
	4.5nm,0.7s,baz=54,slow=10.0,SNR=50						
ASAR	**Alice Springs**	**25.29**	**222**	P	**P**	**16 50 15.5**	**-0.7**
	6.7nm,0.7s,baz=57,slow=8.9,SNR=62						
STKA	**Stephens Creek**	**28.12**	**199**	P	**P**	**16 50 40.6**	**-1.0**
	2.5nm,0.8s,baz=350,slow=13,SNR=5.2						
CMAR	**Chiang Mai Arr**	**57.64**	**296**	P	**P**	**16 54 40.0**	**+0.1**
	0.3nm,0.6s,baz=130,slow=5.9,SNR=4.8						
VNDA	**Vanda**	**72.21**	**178**	P	**P**	**16 56 13.8**	**+0.3**
	0.7nm,0.7s,baz=332,slow=6.1,SNR=4.8						
MKAR	**Makanchi Array**	**80.44**	**319**	P	**P**	**16 57 00.9**	**+0.1**
	0.6nm,0.8s,baz=90,slow=4.9,SNR=6.0						
COLA	**College**	**82.66**	**22**	*eP*	**P**	**16 57 12.0**	**-0.1**
ILAR	**Eielson Array**	**82.97**	**22**	P	**P**	**16 57 13.2**	**-0.5**
	1.7nm,0.7s,baz=251,slow=5.5,SNR=18						
DOT	**Dot Lake**	**83.55**	**24**	*eP*	**P**	**16 57 17.2**	**+0.4**
KURK	**Kurchatov**	**83.93**	**322**	*eP*	**P**	**16 57 17.2**	**-1.8**
BVAR	**Borovoye Array**	**89.42**	**323**	P	**P**	**16 57 47.5**	**+1.8**
	0.3nm,0.5s,baz=128,slow=4.2,SNR=2.9						
NEW	**Newport**	**94.45**	**42**	LR	LR	17 35 30.5	
	comp=Z,29nm,18.3s,baz=130,slow=32						
YKA	**Yellowknife Ar**	**96.26**	**28**	P	**P**	**16 58 18.3**	**+1.3**
	0.4nm,0.8s,baz=275,slow=5.3,SNR=7.1						
TORD	**Torodi Ar. Bea**	**149.96**	**287**	PKPbc	**PKPbc**	**17 04 40.1**	**-0.2**
	0.4nm,0.6s,baz=48,slow=3.0,SNR=3.5						

*ATA **29** 16:52:34.6±0.6, 38°.92N×43°.58E, h13km±6km, ML3.4, MW3.6*
*CSEM **29** 16:52:35.9±0.2, 38°.96N×43°.57E, h8km, ML3.1, Error ellipse: s-maj=6.2km s-min=4.4km az=111.0*
*DDA **29** 16:52:35.7, 38°.95N×43°.55E, h11km, Ml3.1*
*ISK **29** 16:52:35.1, 38°.94N×43°.59E, h8km, ML3.1/8*
*ISCJB **29** 16:52:36.3±0.4, 38°.95N±0°.02×43°.57E±0°.04, h7km±3km, Error ellipse: s-maj=5.1km s-min=3.6km az=27.2*

ISC 29 16:52:35.6±0.8, 38°.94N±0°.02×43°.58E±0°.02, h9km±5km, n60, σ0°75/79, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VMUR	**Van-Muradiye**	**0.05**	**354**	*i* P	**Pg**	**16 52 37.5**	**-0.2**
VMUR				*i* S	**Sg**	**16 52 39.8**	**+0.6**
VMUR	**Van-Muradiye**	**0.05**	**354**	P	**Pg**	**16 52 37.5**	**-0.2**
VMUR				S	**Sg**	**16 52 39.8**	**+0.6**
ERCV	**ERCIS-VAN**	**0.20**	**292**	PG	**Pg**	**16 52 39.5**	**-0.4**
ERCV				SG	**Sg**	**16 52 43.5**	**+0.7**
ERCV	**ERCIS-VAN**	**0.20**	**292**	*e*Pg	**Pg**	**16 52 39.5**	**-0.4**
ERCV				*e*Sg	**Sg**	**16 52 43.5**	**+0.7**
CLDR	**Caldiran**	**0.33**	**53**	PG	**Pg**	**16 52 41.9**	**-0.4**
CLDR	**Caldiran**	**0.33**	**53**	*i* P	**Pg**	**16 52 41.8**	**-0.4**
CLDR				*i* S	**Sb**	**16 52 48.5**	**-0.9**
CLDR	**Caldiran**	**0.33**	**53**	*e*Pg	**Pg**	**16 52 41.9**	**-0.4**
CLDR				S	**Sb**	**16 52 48.5**	**-0.9**
VANB	**Van**	**0.38**	**203**	PG	**Pb**	**16 52 44.5**	**-0.1**
VANB				SG	**Sb**	**16 52 51.2**	**+0.6**
VANB	**Van**	**0.38**	**203**	*e*Pg	**Pb**	**16 52 44.5**	**-0.1**
VANB				*e*Sg	**Sb**	**16 52 51.2**	**+0.6**
TVAN	**Van**	**0.43**	**198**	*i* P	**Pg**	**16 52 44.3**	**+0.1**
TVAN				*i* S	**Sb**	**16 52 52.2**	**-0.1**
TVAN	**Van**	**0.43**	**198**	P	**Pg**	**16 52 44.3**	**+0.1**
TVAN				S	**Sb**	**16 52 52.2**	**-0.1**
DYDN	**Diyadin**	**0.61**	**8**	*e*P	**Pb**	**16 52 47.9**	**-0.6**
DYDN				*e*S	**Sb**	**16 52 57.3**	**0.0**
DYDN				IAML		16 53 00.3	
	comp=Z,125nm,0.4s						
DYDN	**Diyadin**	**0.61**	**8**	*i* P	**Pg**	**16 52 47.8**	**+0.4**
DYDN				*i* S	**Sb**	**16 52 56.7**	**-0.6**
DYDN	**Diyadin**	**0.61**	**8**	P	**Pg**	**16 52 47.8**	**+0.4**
DYDN				S	**Sb**	**16 52 56.7**	**-0.6**
ADCV	**BITLIS_Adilcev**	**0.68**	**259**	*i* P	**Pg**	**16 52 48.5**	**-0.3**
ADCV				*i* S	**Sg**	**16 52 58.4**	**+0.7**
ADCV	**BITLIS_Adilcev**	**0.68**	**259**	P	**Pg**	**16 52 48.5**	**-0.3**
ADCV				S	**Sg**	**16 52 58.4**	**+0.7**
GEVA	**Gevas**	**0.75**	**213**	*e*P	**Pg**	**16 52 49.1**	**-1.0**
GEVA				IAML		16 53 10.9	
	comp=Z,92nm,0.6s						
GEVA	**Gevas**	**0.75**	**213**	*i* P	**Pg**	**16 52 49.4**	**-0.7**
GEVA	**Gevas**	**0.75**	**213**	P	**Pg**	**16 52 49.4**	**-0.7**
AGRB	**Hanur-Agry**	**0.78**	**324**	PG	**Pg**	**16 52 50.4**	**-0.3**
AGRB				SG	**Sb**	**16 53 01.9**	**-0.3**
AGRB	**Hanur-Agry**	**0.78**	**324**	*e*Pg	**Pg**	**16 52 50.4**	**-0.3**
AGRB				*e*Sg	**Sb**	**16 53 01.9**	**-0.3**
IGDI	**IGDIR**	**1.00**	**23**	*i* P	**Pg**	**16 52 54.9**	**-0.1**
TASB	**TASBURUN-IGDIR**	**1.16**	**26**	PN	**Pn**	**16 52 57.9**	**-0.2**
TASB	**TASBURUN-IGDIR**	**1.16**	**26**	*e*Pn	**Pn**	**16 52 57.9**	**-0.2**
EKAR	**Karacoban**	**1.22**	**285**	*e*P	**Pb**	**16 52 58.0**	**-1.0**
EKAR				*e*S	**Sn**	**16 53 17.1**	**+1.3**
EKAR				IAML		16 53 29.3	
	comp=Z,47nm,0.6s						
EKAR	**Karacoban**	**1.22**	**285**	*i* P	**Pb**	**16 52 58.7**	**-0.3**
EKAR	**Karacoban**	**1.22**	**285**	P	**Pb**	**16 52 58.7**	**-0.3**
GURO	**Guroymak-BITLI**	**1.27**	**253**	PN	**Pn**	**16 52 58.1**	**-1.6**
GURO	**Guroymak-BITLI**	**1.27**	**253**	*e*Pn	**Pn**	**16 52 58.1**	**-1.6**
YOVA	**Hakkari_Y`…kse**	**1.47**	**157**	*i* P	**Pg**	**16 53 03.8**	**+0.1**
YOVA	**Hakkari_Y`…kse**	**1.47**	**157**	P	**Pg**	**16 53 03.8**	**+0.1**
DIGO	**Kars**	**1.48**	**354**	*e*P	**Pb**	**16 53 03.5**	**0.0**
DIGO				IAML		16 53 34.7	
	comp=Z,12nm,0.4s						
DIGO	**Kars**	**1.48**	**354**	*i* P	**Pn**	**16 53 02.7**	**0.0**
DIGO	**Kars**	**1.48**	**354**	P	**Pn**	**16 53 02.7**	**0.0**
SRTM	**Siirt_Merkez**	**1.61**	**234**	*i* P	**Pb**	**16 53 05.8**	**+0.2**
SRTM	**Siirt_Merkez**	**1.61**	**234**	P	**Pb**	**16 53 05.8**	**+0.2**
VRTB	**Varto-Mus**	**1.67**	**278**	PN	**Pb**	**16 53 05.8**	**-0.8**
VRTB	**Varto-Mus**	**1.67**	**278**	*i* P	**Pg**	**16 53 07.6**	**0.0**
VRTB	**Varto-Mus**	**1.67**	**278**	*e*Pn	**Pb**	**16 53 05.8**	**-0.8**
VRTB	**Varto-Mus**	**1.67**	**278**	P	**Pg**	**16 53 07.6**	**0.0**
HOMI	**Horasan**	**1.70**	**311**	*e*P	**Pb**	**16 53 07.2**	**0.0**
HOMI				*e*S	**Sg**	**16 53 32.4**	**+2.1**
HOMI				IAML		16 53 38.9	
	comp=Z,22nm,0.5s						
EAK	**Akyaka**	**1.74**	**1**	*e*P	**Pg**	**16 53 09.1**	**+0.1**
EAK				IAML		16 53 47.3	
	comp=Z,16nm,0.5s						
SENK	**Senkaya-Erzuru**	**1.87**	**330**	PN	**Pn**	**16 53 08.7**	**+0.6**
SENK	**Senkaya-Erzuru**	**1.87**	**330**	*e*Pn	**Pn**	**16 53 08.7**	**+0.6**
ERZM	**Erzurum**	**1.96**	**300**	*e*P	**Pb**	**16 53 11.2**	**-0.5**
ERZM	**Erzurum**	**1.96**	**300**	*i* P	**Pb**	**16 53 10.4**	**-1.4**
ERZM	**Erzurum**	**1.96**	**300**	P	**Pb**	**16 53 10.4**	**-1.4**
BTMN	**Batman**	**2.10**	**241**	*i* P	**Pb**	**16 53 13.3**	**-0.5**
BTMN				*i* S	**Sg**	**16 53 42.0**	**-0.9**
BTMN	**Batman**	**2.10**	**241**	P	**Pb**	**16 53 13.3**	**-0.5**
ECAT	**Cat-ERZURUM**	**2.13**	**289**	*e*P	**Pb**	**16 53 13.7**	**-0.8**
BNGB	**Bing ¶ll**	**2.26**	**272**	PN	**Pn**	**16 53 14.2**	**+0.9**
YEDI	**Yedisu-Bingol**	**2.41**	**283**	PN	**Pn**	**16 53 15.8**	**+0.4**
YEDI	**Yedisu-Bingol**	**2.41**	**283**	*e*Pn	**Pn**	**16 53 15.8**	**+0.4**
BINT	**Bingol**	**2.41**	**269**	*e*Pn	**Pn**	**16 53 14.2**	**-1.2**
KOPT	**Kop Dagi**	**2.62**	**295**	*e*P	**Pb**	**16 53 21.8**	**-1.0**
KOPT	**Kop Dagi**	**2.62**	**295**	*i* P	**Pb**	**16 53 23.9**	**+1.1**
DGRG	**David-gareji**	**2.86**	**28**	*e*PN12		16 53 27.2	
MAZI	**Mazidag**	**2.88**	**240**	PN	**Pn**	**16 53 22.3**	**+0.5**
MAZI	**Mazidag**	**2.88**	**240**	*e*Pn	**Pn**	**16 53 22.3**	**+0.5**
BAYB	**BAYBURT**	**2.88**	**298**	*e*P	**Pb**	**16 53 24.9**	**-2.4**

IDC 29 17:05:40.2±6.3, 5°.30S×146°.51E, h125km±70km, mb3.0/3, mb1 3.2/5, mb1mx2.8/48, mbtmp3.4/5, Error ellipse: s-maj=65.8km s-min=31.4km az=133.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.13**	**171**	P	Pn	17 06 43.0	+1.4
	0.6nm,0.3s,baz=307,slow=15,SNR=5.3						
PMG				S	Sn	17 07 28.9	-0.3
	3.5nm,0.3s,baz=261,slow=21,SNR=13						
WRA	**Warramunga Arr**	**18.76**	**218**	P	P	17 09 50.1	+0.4
	0.3nm,0.3s,baz=38,slow=12,SNR=61						
ASAR	**Alice Springs**	**21.93**	**212**	P	P	17 10 24.4	+0.5
	0.3nm,0.3s,baz=47,slow=8.5,SNR=17						
MKAR	**Makanchi Array**	**76.65**	**321**	P	P	17 17 16.6	-0.8
	0.1nm,0.4s,baz=119,slow=8.2,SNR=2.9						
ILAR	**Eielson Array**	**85.03**	**23**	P	P	17 18 02.3	+0.8
	0.3nm,0.6s,baz=235,slow=5.0,SNR=5.5						

JMA 29 17:26:33.7±0.1, 39°.75N×142°.24E, h22km±1km, M3.5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTH	**Tanohata**	**0.35**	**303**	P	Pb	17 26 41.1	-0.1
JTH				*e*S	Sb	17 26 46.2	-0.1
MIYJ	**Miyakonagasawa**	**0.37**	**242**	P	Pb	17 26 41.4	-0.1
MIYJ				*e*S	Sb	17 26 46.7	-0.1
JKZ	**Kuzumaki**	**0.74**	**289**	P	Pb	17 26 47.7	-0.2
JKZ				*e*S	Sb	17 26 56.9	-0.7
JOM	**Ohasama**	**0.78**	**250**	P	Pb	17 26 48.4	-0.2
JOM				*e*S	Sb	17 26 58.6	-0.2
OFUJ	**Ofunato**	**0.80**	**214**	*e*S	Sb	17 26 58.5	-0.8
JANG	**Nango**	**0.83**	**318**	*e*S	Sb	17 26 59.2	-1.1
JMK	**Ichinoseki**	**1.12**	**225**	*e*S	Sb	17 27 07.8	-0.8

*NIED **29** 17:28:00, 40°.00N×143°.70E, h11km, Mw4.7 Best double couple: M0 1.20000×10^16 NP1:φs166.0000°, δ41.0000°, λ42.00000°. NP2:φs42.00000°, δ64.00000°, λ123.00000°.*
*IDC **29** 17:28:41.1±0.5, 39°.90N×143°.74E, h0km, mb4.2/31, mb1 4.3/36

YUK pmax pmax
comp=E,183nm,0.2s
YUK pmax pmax
comp=Z,438nm,0.2s
YUK smax smax
comp=E,826nm,0.5s
YUK smax smax
comp=N,381nm,0.4s
SHO Shikotan 4.50 30 *e*P **Pn 17 29 48.2 -3.6**
SHO *e*S **Sn 17 30 37.1 -6.0**
SHO pmax pmax
comp=Z,48nm,0.4s
SHO pmax pmax
comp=N,22nm,0.2s
SHO smax smax
comp=E,378nm,0.4s
SHO smax smax
comp=N,97nm,0.2s
MAJO Matsushiro 5.54 233 *e*Pn **Pn 17 30 05.5 -0.7**
MAJO *e*Sn **Sn 17 31 05.9 -3.0**
MAJO Matsushiro 5.54 233 *c i*P **Pn 17 30 05.0 -1.2**
MAT Matsushiro 5.54 233 P **Pn 17 30 05.2 -1.0**
MAT *e*S **Sn 17 31 09.5 +0.6**
MJAR Matsushiro Arr 5.54 233 Pn **Pn 17 30 05.3 -0.9**
comp=N,3.9nm,0.3s,baz=42,slow=11,SNR=81
MJAR LR LR 17 32 31.8
comp=N,903nm,19.9s,baz=10.0,slow=42
MJB9 Matsu-Tunnel 5.54 233 *e*Pn **Pn 17 30 05.5 -0.7**
KUR Kuril'sk 6.05 29 *c i*P **Pn 17 30 12.1 -1.0**
KUR *e*S **Sn 17 31 17.4 -3.9**
KUR pmax pmax
comp=E,59nm,0.4s
KUR pmax pmax
comp=Z,88nm,0.4s
KUR pmax pmax
comp=N,19nm,0.2s
KUR smax smax
comp=E,127nm,0.4s
KUR smax smax
comp=N,30nm,0.3s
YSS Yuzh-Sakhalins 6.98 355⇑ *e*P **Pn 17 30 27.0 +1.2**
YSS *e*S **Sn 17 31 44.2 +0.2**
YSS pmax pmax
comp=Z,10.0nm,1.0s
YSS MLR MLR
comp=E,2μm,14.0s
YSS MLR MLR
comp=Z,1μm,14.0s
INU Inuyama 7.06 231 *e*Pn **Pn 17 30 22.4 -4.5**
TEY Ternei 7.27 316 *e*P **Pn 17 30 30.2 +0.4**
TEY pmax pmax
comp=Z,15nm,0.7s
TEY MLR MLR
comp=N,2μm,14.0s
TEY MLR MLR
comp=E,1μm,14.0s
TEY MLR MLR
comp=Z,3μm,13.0s
JHJ Hachijo jima 2 7.57 206 Pn **Pn 17 30 31.3 -2.7**
comp=Z,22nm,0.3s,baz=359,slow=20,SNR=8.3
JHJ Sn Sn 17 31 49.2 -9.4
comp=Z,19nm,0.3s,baz=78,slow=20,SNR=7.6
JHJ LR LR 17 33 33.0
comp=Z,439nm,21.8s,baz=70,slow=39
USRK Ussuriysk Ar. 9.67 299 Pn **Pn 17 31 04.5 +1.8**
comp=Z,0.8nm,0.3s,baz=98,slow=14,SNR=31
MSHR Mys Shultsa 9.79 289 *i*P **Pn 17 31 03.8 -0.6**
MDJ Mudanjiang 11.42 298 P **Pn 17 31 27.0 +0.3**
MDJ S **Sn 17 33 31.0 -2.2**
MDJ pmax pmax
comp=Z,17nm,1.1s
MDJ pmax pmax
comp=Z,330nm,6.0s
MDJ LR LR
comp=Z,790nm,12.1s
MDJ LR LR
comp=Z,2μm,13.9s
MDJ LR LR
comp=Z,2μm,14.3s
GRNR Gornyy 11.91 337 *e*P **Pn 17 31 33.8 +0.4**
GRNR pmax pmax
comp=Z,80nm,1.5s
JNU Nakatsue 12.39 240 LR LR 17 36 42.0
comp=Z,1μm,18.6s,baz=115,slow=39
JNU Nakatsue 12.39 240 *e*Pn Pn 17 31 34.8 -5.2
KLR Kul'dur 12.54 321 Pn **Pn 17 31 42.2 +0.3**
comp=Z,0.0nm,0.3s,baz=130,slow=13,SNR=14
KLR LR LR 17 37 03.4
comp=Z,79nm,18.3s,baz=132,slow=40
KLR Kul'dur 12.54 321 *c i*P **Pn 17 31 40.2 -1.8**
KSRS Korea Array 12.59 263 Pn **Pn 17 31 43.0 +0.3**
comp=Z,0.3nm,0.3s,baz=80,slow=14,SNR=13
KSRS LR LR 17 36 05.6
comp=Z,557nm,18.2s,baz=65,slow=35
KS01 Wonju Array Si 12.61 263 *e*Pn **Pn 17 31 38.8 -4.2**
KSAR Wonju Array Be 12.63 263 Pn **Pn 17 31 43.0 -0.2**
KSAR Wonju Array Be 12.63 263 P **Pn 17 31 43.0 -0.2**
CBIJ Chichi jima 12.94 186 Pn Pn 17 31 41.4 -6.1
JCJ Chichijima 12.94 186 Pn Pn 17 31 41.4 -6.1
comp=Z,4.6nm,0.3s,baz=95,slow=23,SNR=5.5
NKL Nikolayevsk 13.31 352 *e*P **Pn 17 31 51.0 -1.4**
NKL MLR MLR
comp=Z,2μm,16.0s
CN2 Changchun 14.12 292 *e*P **Pn 17 32 04.0 +0.5**
PETK Petropavlovsk- 16.21 31 LR LR 17 38 27.3
comp=Z,238nm,19.0s,baz=218,slow=36
ZEA Zeya 17.69 326 *e*P **Pn 17 32 46.5 -3.2**
ZEA pmax pmax
comp=E,29nm,1.2s
ZEA pmax pmax
comp=N,46nm,1.4s
ZEA pmax pmax
comp=Z,46nm,1.4s
ZEA MLR MLR
comp=N,600nm,14.0s
ZEA MLR MLR
comp=E,1μm,14.0s
ZEA MLR MLR
comp=Z,2μm,14.0s
MA2 Magadan 20.09 10 P **P 17 33 16.5 0.0**
comp=Z,8.9nm,0.6s,baz=200,slow=9.6,SNR=13
MA2 LR LR 17 41 53.4
comp=Z,391nm,19.2s,baz=192,slow=39
MA2 Magadan 20.09 10⇑ *e*P **P 17 33 17.1 +0.6**
MA2 pmax pmax
comp=Z,9.0nm,1.0s
CLNS Chul'man 20.85 330 *e*P **P 17 33 24.8 0.0**
CLNS pmax pmax
comp=N,16nm,1.1s
CLNS pmax pmax
comp=Z,32nm,1.3s
CLNS pmax pmax
comp=E,11nm,1.1s
TIA Tai'an 21.23 268 P **P 17 33 26.8 -2.3**
TIA pmax pmax
comp=E,8.0nm,1.0s
SEY Seymchan 23.54 10 P **P 17 33 53.2 +0.2**
comp=E,13nm,0.8s,baz=195,slow=7.1,SNR=25
SEY Seymchan 23.54 10 *c e*P **P 17 33 52.5 -0.5**
YAK Yakutsk 23.65 343 P **P 17 33 53.1 -1.0**
comp=E,13nm,0.5s,baz=187,slow=4.1,SNR=16
YAK LR LR 17 44 19.7
comp=E,357nm,18.4s,baz=65,slow=40
YAK Yakutsk 23.65 343 *e*P **P 17 33 52.6 -1.5**
comp=E,27nm,0.8s
YAK Yakutsk 23.65 343 *d i*P **P 17 33 54.3 +0.3**
YAK *e* 17 34 21.9
YAK *e*PPP PPP 17 34 29.3
YAK *e*SS Sn 17 38 48.6 +20
YAK *e*SSS SSS 17 39 03.1
YAK pmax pmax
comp=Z,25nm,0.9s
YAK pmax pmax
comp=N,7.0nm,1.0s
YAK pmax pmax
comp=Z,14nm,0.7s
YAK pmax pmax
comp=N,24nm,1.4s
YAK pmax pmax
comp=E,13nm,1.5s
YAK MLR MLR
comp=Z,441nm,18.0s
YAK MLR MLR
comp=E,208nm,17.0s
YAK MLR MLR
comp=N,599nm,18.0s

CIT Chita 23.96 310 *e*P **P 17 33 56.0 -1.2**
CIT *e* 17 34 03.4
CIT *e* 17 34 11.0
CIT *e* 17 34 22.8
CIT *e* 17 34 44.8
CIT pmax pmax
comp=Z,45nm,2.0s
TIY Taiyuan 24.40 275 *e*P **P 17 34 02.8 +1.3**
TIY S **S 17 38 16.0 -3.2**
TIY sS **sS 17 38 35.3 +1.4**
TIY pmax pmax
comp=Z,98nm,4.7s
TIY LR LR
comp=Z,410nm,14.1s
TIY LR LR
comp=Z,150nm,11.1s
TIY LR LR
comp=Z,200nm,11.3s
HHC Hu-ho-hao-te 24.42 282 *e*P **P 17 34 00.0 -1.6**
HHC S **S 17 38 11.5 -8.0**
HHC SS **SnSn 17 39 04.5 +0.1**
HHC pmax pmax
comp=Z,21nm,0.9s
HHC pmax pmax
comp=Z,48nm,4.1s
HHC LR LR
comp=Z,700nm,15.6s
HHC LR LR
comp=Z,510nm,16.3s
HHC LR LR
comp=Z,610nm,15.9s
WHN Wuhan 25.67 258⇑ P **P 17 34 13.3 +0.4**
WHN S **S 17 38 42.5 +3.2**
WHN LR LR
comp=Z,4μm,18.0s
WHN LR LR
comp=Z,2μm,17.7s
WHN LR LR
comp=Z,1μm,17.3s
QZH Quanzhou 25.86 242 P **P 17 34 17.8 +3.2**
QZH S **S 17 38 42.5 +0.1**
QZH LR LR
comp=Z,500nm,18.0s
QZH LR LR
comp=Z,450nm,19.9s
QZH LR LR
comp=Z,340nm,13.0s
BOD Bodaibo 26.11 323 *e*P **P 17 34 15.3 -1.3**
BOD pmax pmax
comp=Z,10.0nm,1.5s
GUMO Guam 26.34 177 LR LR 17 45 08.3
comp=Z,120nm,18.9s,baz=5.5,slow=38
ULN Ulaanbaatar 27.34 299 *e*P **P 17 34 28.3 +0.3**
comp=Z,14nm,1.2s
ULN Ulaanbaatar 27.34 299 *c e*P **P 17 34 26.6 -1.4**
ULN pmax pmax
comp=Z,15nm,1.2s
SONA1 Songino Array 27.77 299 *e*P **P 17 34 30.6 -1.3**
SONM Songino Array 27.78 299 P **P 17 34 32.5 +0.6**
comp=Z,4.0nm,0.7s,baz=92,slow=9.1,SNR=19
SONM LR LR 17 45 44.9
comp=Z,122nm,18.1s,baz=94,slow=37
XAN Xi'an 28.29 269 P **P 17 34 36.3 -0.2**
XAN pP pP 17 34 44.5 -1.0
XAN pmax pmax
comp=Z,11nm,1.3s
XAN pmax pmax
comp=Z,100nm,6.2s
H11N2 WAKE ISLAND Hy 28.36 129 T T 18 03 05.9
baz=319,slow=75,SNR=58
H11N1 WAKE ISLAND Hy 28.37 129 T T 18 03 06.6
baz=319,slow=75,SNR=56
H11N3 WAKE ISLAND Hy 28.37 129 T T 18 03 04.3
baz=319,slow=75,SNR=50
H11S1 WAKE ISLAND Hy 29.19 131 T T 18 04 03.2
baz=320,slow=76,SNR=6.8
H11S3 WAKE ISLAND Hy 29.19 131 T T 18 04 15.0
baz=320,slow=76,SNR=4.8
H11S2 WAKE ISLAND Hy 29.20 131 T T 18 04 07.2
baz=320,slow=76,SNR=7.1
IRK Irkutsk 29.57 308 *e*P **P 17 34 50.1 +2.4**
IRK pmax pmax
comp=Z,22nm,2.3s
TLY Talaya 29.88 306 P **P 17 34 52.0 +1.6**
comp=Z,1.7nm,0.6s,baz=144,slow=5.6,SNR=5.4
TLY Talaya 29.88 306 *e*P **P 17 34 51.3 +0.9**
comp=Z,4.9nm,1.2s
TLY Talaya 29.88 306 *e*P **P 17 34 48.5 -1.9**
TLY pmax pmax
comp=Z,5.0nm,1.3s
TLY MLR MLR
comp=Z,446nm,14.0s
ZAK Zakamensk 29.98 304 *e*P **P 17 34 48.5 -2.9**
ZAK pmax pmax
comp=Z,6.0nm,1.3s
BILL Bilibino 30.67 16 *i*P **P 17 34 57.0 -0.1**
BILL *i* 17 37 55.4
BILL *i* SS SS 17 41 37.2 -31
BILL pmax pmax
comp=Z,4.0nm,1.0s
BILL MLR MLR
comp=Z,200nm,15.0s
LZH Lanzhou 31.46 276 *e*P **P 17 35 05.8 +1.1**
LZH pP pP 17 35 13.8 +0.1
LZH sP sP 17 35 17.8 +0.3
LZH pmax pmax
comp=Z,36nm,1.0s
LZH pmax pmax
comp=Z,96nm,4.2s
TIXI Tiksi 32.59 351 P **P 17 35 14.1 +0.1**
comp=Z,0.5nm,0.3s,baz=139,slow=5.1,SNR=7.2
TIXI Tiksi 32.59 351 *i*P **P 17 35 13.8 -0.1**
TIXI pmax pmax
comp=Z,1.0nm,1.1s
GTA Gaotai 33.52 283⇑ P **P 17 35 23.3 +0.6**
GTA pP pP 17 35 31.8 +0.1
GTA sP sP 17 35 35.3 -0.2
GTA S **S 17 40 39.5 -3.2**
GTA sS sS 17 40 55.8 -1.9
GTA SS **SnSn 17 42 44.0 -2.3**
GTA pmax pmax
comp=Z,15nm,1.3s
GTA pmax pmax
comp=Z,100nm,5.2s
GTA LR LR
comp=Z,270nm,15.7s
GTA LR LR
comp=Z,390nm,16.2s
GTA LR LR
comp=Z,470nm,15.4s
QIZ Qiongzhong 35.82 244 P **P 17 35 42.8 +0.3**
QIZ sP **sP 17 35 55.3 -0.1**
QIZ S **S 17 41 18.8 +0.6**
QIZ LR LR
comp=Z,160nm,20.1s
QIZ LR LR
comp=Z,200nm,18.6s
QIZ LR LR
comp=Z,360nm,13.2s
DAV Davao City (W) 36.61 211 LR LR 17 48 09.4
comp=Z,174nm,21.8s,baz=27,slow=32
DGZ Jazzator, Alta 40.20 303 *i*P **P 17 36 20.2 +0.9**
DGZ pmax pmax
comp=Z,7.0nm,1.2s
WMQ Urumqi 41.19 294 P **P 17 36 29.0 +1.5**
WMQ pP sP 17 36 37.8 -2.6
WMQ sP pP 17 36 42.8 +6.1
WMQ pmax pmax
comp=Z,28nm,1.1s
WMQ pmax pmax
comp=Z,290nm,4.3s
WMQ LR LR
comp=Z,310nm,16.3s
WMQ LR LR
comp=Z,280nm,16.3s
WMQ LR LR
comp=Z,260nm,16.3s
SKNT Sakolnakorn 41.32 248 P **P 17 36 28.8 +0.1**
comp=Z,5.9nm,2.0s
ZAA0 Zalesovo Array 41.32 310 *e*P **P 17 36 28.8 +0.5**
comp=Z,6.2nm,0.6s
ZALV Zalesovo Beam 41.32 310 P **P 17 36 28.9 +0.6**
comp=Z,2.5nm,0.5s,baz=76,slow=6.3,SNR=14
ZALV PcP **PcP 17 38 27.4 +1.2**
comp=Z,2.7nm,0.8s,baz=94,slow=2.8,SNR=4.0
ZALV LR LR 17 54 28.7
comp=Z,208nm,18.8s,baz=74,slow=37
ZALV Zalesovo Beam 41.32 310 *e*P **P 17 36 28.1 -0.2**
MYLDM Lahad Datu 41.45 220 *e*P **P 17 36 31.6 +1.8**
comp=Z,26nm,1.2s
IM3 Indian Mountai 43.18 32 *e*P **P 17 36 43.1 -0.2**
CHAI Chaiyaphum 43.45 249 P **P 17 36 47.1 +1.0**
comp=Z,2.7nm,1.1s
CMMT Chiang Mai 43.80 255 P **P 17 36 51.0 +2.1**
comp=Z,5.5nm,0.6s
CHTO Chiang Mai 43.80 255 P **P 17 36 52.1 +3.2**
comp=Z,24nm,0.7s
CMAR Chiang Mai Arr 44.02 254 P **P 17 36 50.3 -0.3**
comp=Z,1.3nm,1.0s,baz=46,slow=7.3,SNR=7.1
CMAR LR LR 17 56 06.6
comp=Z,69nm,19.9s,baz=80,slow=37
CM01 Chiang Mai Arr 44.03 254 *e*P **P 17 36 50.0 -0.8**
MK01 Makanchi Array 44.13 300 *e*P **P 17 36 48.7 -2.6**
MK31 Makanchi Array 44.13 300 *e*P **P 17 36 50.7 -0.6**
MK31 Makanchi Array 44.13 300 *e*P **P 17 36 50.7 -0.6**
MKAR Makanchi Array 44.13 300 P **P 17 36 51.5 +0.2**
comp=Z,1.6nm,0.8s,baz=76,slow=11,SNR=12
MKAR LR LR 17 54 37.0
comp=Z,102nm,21.1s,baz=42,slow=35
KURK Kurchatov 45.58 306 *e*P **P 17 37 02.6 0.0**
comp=Z,14nm,1.1s
KURK Kurchatov 45.58 306 *e*P **P 17 37 02.6 0.0**
KURK pmax pmax
comp=Z,14nm,1.1s
KURBB Kurchatov Arra 45.66 306 P **P 17 37 03.0 -0.2**
comp=Z,3.0nm,0.5s,baz=78,slow=8.4,SNR=33
ILAR Eielson Array 46.02 34 P **P 17 37 06.2 +0.2**
comp=Z,1.3nm,0.8s,baz=263,slow=6.6,SNR=17
TAPN Taplejung 47.58 273 *e*P **P 17 37 19.1 +0.1**
comp=Z,1μm,0.6s
ODAN Odare 48.07 272 *e*P **P 17 37 23.3 +0.6**
comp=Z,22nm,0.7s
JIRN Jiri 48.59 274 *e*P **P 17 37 26.4 -0.5**
comp=Z,24nm,0.6s
RAMN Ramite 48.63 273 *e*P **P 17 37 27.1 0.0**
comp=Z,49nm,0.9s
GUN Gumba 48.70 274 *e*P **P 17 37 27.9 +0.2**
comp=Z,19nm,0.5s
KKN Kakani 49.22 274 *e*P **P 17 37 31.6 +0.1**
comp=Z,14nm,0.6s
PKIN Phulchoki 49.23 274 *e*P **P 17 37 31.7 0.0**
comp=Z,19nm,1.0s
DMN Daman 49.44 274 *e*P **P 17 37 33.5 +0.2**
comp=Z,54nm,1.5s
GKN Gorkha 49.60 275 *e*P **P 17 37 34.8 +0.4**
comp=Z,34nm,1.1s
BVAR Borovoye Array 49.95 311 P **P 17 37 37.0 +0.5**
comp=Z,0.9nm,0.4s,baz=75,slow=8.2,SNR=11
BVAR LR LR 17 58 24.3
comp=Z,79nm,19.3s,baz=62,slow=36
BVAR Borovoye Array 49.95 311 P **P 17 37 37.0 +0.5**
BVAR pmax pmax
comp=Z,1.0nm,0.4s
BVAR MLR MLR
comp=Z,79nm,19.3s
BRVK Borovoye 50.00 311 *e*P **P 17 37 36.0 -0.9**
comp=Z,3.4nm,1.0s
BRVK Borovoye 50.00 311 *e*P **P 17 37 36.0 -0.9**
BRVK pmax pmax
comp=Z,3.0nm,1.0s
DANN Dangsing 50.10 276 *e*P **P 17 37 38.5 +0.1**
comp=Z,36nm,0.5s
KOLN Koldanda 50.51 275 *e*P **P 17 37 41.8 +0.4**
comp=Z,45nm,1.5s
AAK Ala-Archa 50.71 297 LR LR 17 59 07.4
comp=Z,123nm,19.4s,baz=48,slow=36
AAK Ala-Archa 50.71 297 *i*P **P 17 37 42.5 -0.1**
AAK pmax pmax
comp=Z,6.0nm,1.3s
PYUN Piuthan 50.81 276 *e*P **P 17 37 44.6 +0.9**
comp=Z,47nm,1.1s
KSH Kashi 50.88 293 P **P 17 37 48.5 +4.5**
INK Inuvik 50.92 28 P **P 17 37 44.1 +0.5**
comp=Z,1.9nm,0.8s,baz=306,slow=7.1,SNR=13
INK Inuvik 50.92 28 *e*P **P 17 37 44.0 +0.4**
INK Inuvik 50.92 28 *e*P **P 17 37 44.0 +0.4**
HNR Honiara 51.44 159 LR LR 17 59 38.3
comp=Z,52nm,19.2s,baz=286,slow=36
MNAS Manas 52.13 297 P **P 17 37 54.3 +1.1**
MNAS pmax pmax
comp=Z,9.0nm,0.9s
SFK Sufi-Kurgan 52.42 294 P **P 17 37 56.5 +0.9**
SFK pmax pmax
comp=Z,8.0nm,0.9s
KK31 Karatay Array 53.23 299 *e*P **P 17 38 01.0 -0.3**
KK31 Karatay Array 53.23 299 *e*P **P 17 38 01.0 -0.3**
KKAR Karatay Array 53.23 299 *e*P **P 17 38 01.0 -0.3**
KKAR Karatay Array 53.23 299 *e*P **P 17 38 01.0 -0.3**
SVE Sverdlovsk 54.14 318 *e*P **P 17 38 08.5 +0.9**
SVE pmax pmax
comp=Z,21nm,1.6s
SVE MLR MLR
comp=Z,926nm,14.0s
ARU Arti 55.35 318 LR LR 18 04 38.1
comp=Z,304nm,19.0s,baz=68,slow=39
ARU Arti 55.35 318 *e*P **P 17 38 16.9 +0.5**
comp=Z,12nm,1.2s
ARU Arti 55.35 318 *d i*P **P 17 38 17.3 +0.9**
ARU 17 39 13.1
ARU 17 40 17.5
ARU S **S 17 46 02.1 +3.7**
ARU SS **SS 17 49 42.5 0.0**
ARU pmax pmax
comp=Z,12nm,1.2s
ARU MLR MLR
comp=Z,803nm,16.0s
ABKAR Akbulak array 57.43 309 *e*P **P 17 38 30.2 -1.1**
SPITS Spitsbergen Ar 57.96 349 LR LR 18 07 24.3
comp=Z,175nm,18.0s,baz=20,slow=40
AKTO Aktyubinsk 58.05 311 P **P 17 38 36.0 +0.4**
comp=Z,3.5nm,0.8s,baz=46,slow=9.2,SNR=8.0
AKTO LR LR 18 04 35.9
comp=Z,38nm,19.5s,baz=63,slow=37
RES Resolute Bay 59.27 15 P **P 17 38 43.7 -0.1**
comp=Z,2.9nm,0.8s,baz=318,slow=7.7,SNR=13
WRA Warramunga Arr 60.28 190 P **P 17 38 49.6 -1.7**
comp=Z,3.4nm,0.5s,baz=8.4,slow=7.0,SNR=105
YKA Yellowknife Ar 60.33 32 P **P 17 38 52.2 +1.0**
comp=Z,0.6nm,0.6s,baz=303,slow=6.3,SNR=15
ARCES ARCESS Array B 61.85 339 LR LR 18 11 30.1
comp=Z,167nm,18.1s,baz=26,slow=42
KLMR Klimovskoe 62.21 328 *e*P **P 17 39 02.6 -1.4**
KLMR AMP 17 39 05.5
comp=Z,15nm,1.2s
KLMR LQ LQ 18 03 01.4
KLMR LQ LQ 18 03 01.4
KLMR Klimovskoe 62.21 328 *e*P **P 17 39 02.5 -1.4**
KLMR pmax pmax
comp=Z,15nm,1.2s
GEYT Alibeck 63.98 299 P **P 17 39 16.9 +0.7**
comp=Z,3.6nm,1.0s,baz=29,slow=3.7,SNR=9.0
GEYT LR LR 18 07 29.7
comp=Z,90nm,18.6s,baz=325,slow=36
AS01 Alice Springs 63.99 190 *e*P **P 17 39 15.8 -0.4**
ASAR Alice Springs 64.00 190 P **P 17 39 15.7 -0.6**
comp=Z,1.4nm,0.9s,baz=12,slow=12,SNR=26
OBN Obninsk 66.80 323⇓ *e*P **P 17 39 34.4 +0.4**
OBN *e* 17 42 06.1
OBN pmax pmax
comp=Z,5.0nm,1.1s
OBN MLR MLR
comp=Z,418nm,16.0s
FINES FINESS Array B 67.02 332 P **P 17 39 35.8 +0.4**
comp=Z,5.9nm,0.9s,baz=90,slow=5.7,SNR=14
FINES LR LR 18 12 15.1
comp=Z,289nm,18.5s,baz=37,slow=39
YBH Yreka Blue Hor 67.12 54 LR LR 18 06 39.0
comp=Z,19nm,18.9s,baz=304,slow=34
AFI Afiamalu 67.73 133 LR LR 18 12 08.7
comp=Z,29nm,18.2s,baz=167,slow=39
GOF Gofitskoye 69.46 312⇑ *e*P **P 17 39 52.3 +1.4**
ZEI Tsey 70.30 310 *e*P **P 17 39 55.8 -0.6**
ZEI pmax pmax
comp=Z,7.0nm,1.3s
KIV Kislovodsk 70.32 311 *e*P **P 17 39 55.2 -1.1**
KIV Kislovodsk 70.32 311 *e*P **P 17 39 57.3 +1.0**
KIV pmax pmax
comp=Z,24nm,1.1s
KBZ Khabaz 70.33 311 P **P 17 39 57.5 +1.2**
comp=Z,6.9nm,1.0s,baz=14,slow=2.3,SNR=14
BOZ Bozeman (W) 71.36 46 *e*P **P 17 40 04.0 +1.3**
comp=Z,3.4nm,0.7s

BOZ	**Bozeman (W)**	**71.36**	**46**	*e*P		**P**	**17 40 04.1**	**+1.3**
BOZ				pmax		pmax		
	comp=Z,3.0nm,0.7s							
GNI	**Garni**	**71.37**	**307**	P		**P**	**17 40 04.3**	**+1.4**
	comp=Z,2.4nm,0.5s,baz=187,slow=9.3,SNR=4.5							
GNI				LR		LR	18 14 13.6	
	comp=E,69nm,20.1s,baz=42,slow=38							
STKA	**Stephens Creek**	**71.55**	**182**	P		**P**	**17 40 02.3**	**-1.3**
	comp=Z,1.0nm,0.6s,baz=317,slow=8.9,SNR=3.4							
NVAR	**Mina Array Bea**	**71.78**	**55**	P		**P**	**17 40 07.6**	**+2.1**
	comp=Z,1.1nm,0.7s,baz=302,slow=6.3,SNR=10							
HFS	**Hagfors**	**72.11**	**336**	P		**P**	**17 40 07.7**	**+1.0**
	comp=Z,3.5nm,0.7s,baz=35,slow=5.4,SNR=12							
HFS				LR		LR	18 15 23.7	
	comp=Z,152nm,18.2s,baz=34,slow=39							
NB2	**NORSAR Subarra**	**72.13**	**338**	P		**P**	**17 40 06.8**	**-0.1**
	comp=Z,1.6nm,0.6s,baz=36,slow=6.2							
NB2	**NORSAR Subarra**	**72.13**	**338**	P		**P**	**17 40 07.0**	**+0.1**
NB2				pmax		pmax		
	comp=Z,1.0nm,0.6s							
NOA	**NORSAR Array B**	**72.13**	**338**	P		**P**	**17 40 08.2**	**+1.2**
	comp=Z,3.3nm,0.8s,baz=36,slow=6.0,SNR=8.6							
NOA				LR		LR	18 16 12.8	
	comp=Z,110nm,18.2s,baz=15,slow=40							
SFJD	**Kangerlussuaq**	**72.76**	**6**	LR		LR	18 14 35.9	
	comp=Z,113nm,19.3s,baz=348,slow=38							
AKASG	**Malin Array Be**	**73.04**	**323**	P		**P**	**17 40 12.6**	**+0.2**
	comp=Z,1.5nm,0.5s,baz=44,slow=7.1,SNR=12							
AKASG				LR		LR	18 14 22.7	
	comp=Z,95nm,18.9s,baz=40,slow=38							
KIEV	**Kiev**	**73.05**	**323**	*i* P		**P**	**17 40 11.0**	**-1.5**
KIEV				pmax		pmax		
	comp=Z,4.0nm,1.0s							
PDAR	**Pinedale Array**	**74.31**	**47**	P		**P**	**17 40 21.6**	**+1.2**
	comp=Z,0.9nm,0.6s,baz=253,slow=2.2,SNR=10.0							
BURAR	**Bucovina Array**	**77.08**	**322**	⇓*i* P		**P**	**17 40 37.1**	**+1.1**
BURAR	**Bucovina Array**	**77.08**	**322**	⇓P		**P**	**17 40 37.1**	**+1.1**
STHS	**Stebnicka Huta**	**77.55**	**326**	*e*P		**P**	**17 40 39.6**	**+1.2**
STHS	**Stebnicka Huta**	**77.55**	**326**	*e*P		**P**	**17 40 39.6**	**+1.2**
TIRR	**Tirgusor**	**77.77**	**319**	⇑*i* P		**P**	**17 40 40.9**	**+1.2**
TIRR	**Tirgusor**	**77.77**	**319**	⇑P		**P**	**17 40 40.9**	**+1.2**
TLB	**Topalu**	**77.86**	**319**	⇓*i* P		**P**	**17 40 42.1**	**+1.9**
TLB	**Topalu**	**77.86**	**319**	⇓P		**P**	**17 40 42.1**	**+1.9**
TRPA	**Tarpa**	**77.93**	**324**	⇓*i* P		**P**	**17 40 42.8**	**+2.3**
BRTR	**Keskin Array B**	**78.21**	**312**	P		**P**	**17 40 43.5**	**+1.0**
	comp=Z,1.0nm,0.9s,baz=64,slow=5.6,SNR=6.3							
BRTR				LR		LR	18 22 23.2	
	comp=Z,81nm,18.3s,baz=12,slow=41							
MLR	**Muntele Rosu**	**78.26**	**321**	LR		LR	18 18 37.4	
	comp=Z,28nm,20.2s,baz=22,slow=38							
MORC	**Moravsky Berou**	**78.83**	**328**	⇑*i* P		**P**	**17 40 47.8**	**+2.2**
MORC	**Moravsky Berou**	**78.83**	**328**	⇑P		**P**	**17 40 47.8**	**+2.2**
DPC	**Dobruska-Polom**	**78.88**	**329**	*e*P		**P**	**17 40 47.9**	**+2.1**
DPC	**Dobruska-Polom**	**78.88**	**329**	*e*P		**P**	**17 40 47.9**	**+2.1**
ARR	**Arges**	**78.99**	**321**	⇑*i* P		**P**	**17 40 49.0**	**+2.5**
VYHS	**Vyhne**	**79.28**	**326**	*e*P		**P**	**17 40 49.0**	**+1.0**
VYHS	**Vyhne**	**79.28**	**326**	*e*P		**P**	**17 40 49.1**	**+1.0**
BRG	**Berggiesshubel**	**79.39**	**330**	*e*P		**P**	**17 40 49.1**	**+0.6**
	comp=Z,2.8nm,0.9s							
BRG	**Berggiesshubel**	**79.39**	**330**	*e*P		**P**	**17 40 49.1**	**+0.6**
BRG				pmax		pmax		
	comp=Z,3.0nm,0.9s							
CLL	**Collm**	**79.39**	**331**	*i* P		**P**	**17 40 49.6**	**+1.1**
CLL				*e*(pP)		**PcP**	**17 40 57.0**	**+0.4**
CLL				LmH			18 14 00.0	
	comp=N,200nm,20.1s							
CLL				LmH			18 14 00.0	
	comp=E,300nm,20.6s							
CLL				LmV			18 19 00.0	
	comp=Z,200nm,19.8s							
CLL	**Collm**	**79.39**	**331**	*i* P		**P**	**17 40 49.6**	**+1.1**
CLL				*e*			17 40 57.0	
VRAC	**Vranov**	**79.59**	**328**	⇓*i* P		**P**	**17 40 51.7**	**+2.0**
VRAC	**Vranov**	**79.59**	**328**	⇓P		**P**	**17 40 51.7**	**+2.0**
PRU	**Pruhonice**	**79.87**	**329**	*e*P		**P**	**17 40 53.4**	**+2.2**
PRU	**Pruhonice**	**79.87**	**329**	*e*P		**P**	**17 40 53.4**	**+2.2**
RAR	**Rarotonga**	**80.50**	**128**	LR		LR	18 09 36.8	
	comp=Z,78nm,19.9s,baz=278,slow=30							
KHC	**Kasperske Hory**	**80.93**	**329**	*e*P		**P**	**17 40 58.7**	**+1.8**
KHC	**Kasperske Hory**	**80.93**	**329**	*e*P		**P**	**17 40 58.7**	**+1.8**
GERES	**GERESS Array B**	**81.11**	**329**	P		**P**	**17 40 58.2**	**+0.2**
	comp=Z,0.8nm,0.8s,baz=38,slow=5.0,SNR=5.7							
GERES				LR		LR	18 20 52.0	
	comp=Z,165nm,18.1s,baz=30,slow=38							
MMAI	**Mount Meron Ar**	**81.69**	**306**	LR		LR	18 20 54.9	
	comp=Z,87nm,19.6s,baz=60,slow=38							
SOKA	**Soboth**	**82.31**	**327**	*i* PcP		**P**	**17 41 05.4**	**+1.1**
	comp=Z,3.2nm,0.7s							
WATA	**Walderalm**	**83.17**	**329**	*i* PcP		**P**	**17 41 11.5**	**+2.7**
	comp=Z,1.0nm,0.5s							
ABTA	**Abfaltersbach**	**83.28**	**329**	*i* PcP		**P**	**17 41 10.2**	**+0.8**
	comp=Z,4.5nm,1.3s							
MOTA	**Moosalm**	**83.35**	**330**	PcP		**P**	**17 41 11.7**	**+2.0**
	comp=Z,5.5nm,1.2s							
PDG	**Podgorica**	**83.76**	**322**	⇑*i* P		**P**	**17 41 11.4**	**-0.4**
PMOR	**Pomariorio Ree**	**83.77**	**115**	*e*T		T	19 12 27.4	
	comp=Z,2.5nm,0.2s							
PPT	**Papeete**	**84.40**	**118**	LR		LR	18 12 37.5	
	comp=Z,96nm,20.0s,baz=319,slow=31							
PPT2	**Papeete2**	**84.41**	**118**	*e*LR		LR	18 07 37.6	
	comp=Z,141nm,22.8s							
TAOE	**Nuku Hiva Isla**	**85.19**	**106**	*e*LR		LR	18 07 49.7	
	comp=Z,131nm,21.8s							
LPIG	**La Paz**	**86.17**	**62**	LR		LR	18 15 51.7	
	comp=Z,36nm,18.7s,baz=250,slow=33							
TXAR	**Lajitas Array**	**86.89**	**54**	P		**P**	**17 41 28.8**	**+1.0**
	comp=Z,0.9nm,0.8s,baz=293,slow=3.8,SNR=11							
ATD	**Arta Tunnel**	**90.84**	**286**	LR		LR	18 26 11.7	
	comp=Z,24nm,18.5s,baz=20,slow=38							
TKL	**Tuckaleechee C**	**92.92**	**37**	LR		LR	18 25 13.0	
	comp=Z,44nm,20.2s,baz=340,slow=36							
KEST	**Kesra**	**93.71**	**324**	LR		LR	18 29 50.5	
	comp=Z,177nm,18.3s,baz=286,slow=39							
ESDC	**Sonseca Array**	**95.38**	**336**	LR		LR	18 31 35.5	
	comp=Z,109nm,18.0s,baz=10.0,slow=40							
SNAA	**Sanae**	**144.12**	**197**	PKP		**PKPab**	**17 48 14.8**	**-0.1**
	comp=Z,1.5nm,0.9s,baz=216,slow=6.5,SNR=9.6							

*ISCJB **29** 17:40:10.1±0.7,35°.71N±0°.05×140°.7E±0°.1, h61km±5km, mb3.4/6, Error ellipse: s-maj=14.5km s-min=6.5km az=160.1*
*IDC **29** 17:40:10.2±4.2, 35°.72N×140°.85E, h46km±31km, mb3.2/6, mb1 3.4/9, mb1mx3.2/69, mbtmp3.6/9, ML3.7/3, Error ellipse: s-maj=55.5km s-min=14.0km az=72.0*
*JMA **29** 17:40:11.6±0.1, 35°.71N×140°.60E, h46km±1km, M2.8*
ISC 29 17:40:11.0±1.1, 35°.70N±0°.06×140°.70E±0°.08, h49km±10km, n25, σ0ˢ73/21, mb3.5/6, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
CHOJ	**Chosi**	**0.13**	**90**	P		**Pn**	**17 40 19.5**	**+0.6**
JCN	**Nagara**	**0.50**	**235**	P		**Pn**	**17 40 22.5**	**+0.3**
JYT	**Yasato**	**0.67**	**322**	P		**Pn**	**17 40 24.0**	**-0.3**
JYT				S		**Sn**	**17 40 33.2**	**-0.7**
BSO4	**Boso 4**	**0.77**	**203**	P		**Pn**	**17 40 26.1**	**+0.5**
JHO	**Hitachi**	**0.91**	**353**	P		**Pn**	**17 40 28.0**	**+0.4**
BSO3	**Boso 3**	**0.91**	**190**	P		**Pn**	**17 40 27.6**	**+0.3**
BSO1	**Boso 1**	**1.07**	**168**	P		**Pn**	**17 40 29.8**	**+0.6**
JAG	**Ashikaga**	**1.24**	**306**	P		**Pn**	**17 40 31.8**	**-0.2**
MJAR	**Matsushiro Arr**	**2.19**	**293**	P		**Pn**	**17 40 45.9**	**+1.0**
	5.9nm,0.3s,baz=100,slow=14,SNR=85							
MAT	**Matsushiro**	**2.19**	**293**	P		**Pn**	**17 40 45.9**	**+1.0**
MAT				*e*S		**Sn**	**17 41 10.6**	**-0.2**
JHJ	**Hachijo jima 2**	**2.69**	**197**	P		**Pn**	**17 40 51.5**	**-0.3**
	18nm,0.3s,baz=326,slow=20,SNR=12							
JHJ				S		**Sn**	**17 41 23.9**	**+0.8**
	33nm,0.3s,baz=119,slow=23,SNR=5.7							
JCJ	**Chichijima**	**8.67**	**171**	P		**Pn**	**17 42 12.3**	**-1.6**
	3.8nm,0.3s,baz=2.8,slow=22,SNR=4.6							
KSRS	**Korea Array**	**10.43**	**283**	P		Pn	17 42 42.8	+5.1
	0.1nm,0.3s,baz=98,slow=14,SNR=3.3							
H11N2	**WAKE ISLAND Hy**	**28.00**	**118**	T		T	18 15 12.7	
	baz=310							
H11N1	**WAKE ISLAND Hy**	**28.01**	**118**	T		T	18 15 15.3	
	baz=310							
H11N3	**WAKE ISLAND Hy**	**28.02**	**118**	T		T	18 15 08.5	
	baz=310							
SONM	**Songino Array**	**28.08**	**306**	P		**P**	**17 45 57.4**	**-0.6**
	0.4nm,0.5s,baz=108,slow=9.3,SNR=2.1							
H11S1	**WAKE ISLAND Hy**	**28.66**	**120**	T		T	18 15 53.0	
	baz=312,slow=75,SNR=10.0							
H11S3	**WAKE ISLAND Hy**	**28.66**	**120**	T		T	18 16 00.7	
	baz=312,slow=75,SNR=7.4							
H11S2	**WAKE ISLAND Hy**	**28.67**	**120**	T		T	18 16 04.8	
	baz=312,slow=75,SNR=5.0							
MKAR	**Makanchi Array**	**44.35**	**303**	P		**P**	**17 48 17.1**	**+0.8**
	0.3nm,0.5s,baz=83,slow=9.6,SNR=4.9							
KURBB	**Kurchatov Arra**	**46.38**	**309**	P		**P**	**17 48 32.2**	**0.0**
	0.4nm,0.5s,baz=82,slow=7.9,SNR=5.1							
BVAR	**Borovoye Array**	**51.05**	**313**	P		**P**	**17 49 07.6**	**-0.5**
	0.2nm,0.4s,baz=81,slow=8.9,SNR=2.1							
WRA	**Warramunga Arr**	**55.67**	**187**	P		**P**	**17 49 41.7**	**-0.5**
	0.4nm,0.8s,baz=4.4,slow=7.6,SNR=8.7							
ASAR	**Alice Springs**	**59.40**	**187**	P		**P**	**17 50 08.9**	**+0.5**
	0.2nm,0.6s,baz=16,slow=10,SNR=6.1							

*MOS **29** 17:51:03.4±1.2, 43°.24N×147°.24E, h44km, mb4.2/4, Error ellipse: s-maj=16.4km s-min=9.9km az=113.5*
*JMA **29** 17:51:03.9±0.3, 43°.26N×147°.20E, h33km±4km, M3.5*
*ISCJB **29** 17:51:04.1±0.9, 43°.29N±0°.05×147°.23E±0°.08, h45km±8km, mb3.5/8, Error ellipse: s-maj=10.3km s-min=6.5km az=35.3*
*SKHL **29** 17:51:04.9±0.3, 43°.29N×147°.23E, h39km±6km, mb4.7/6*
*IDC **29** 17:51:07.1±3.3, 43°.29N×147°.15E, h53km±29km, mb3.2/8, mb1 3.4/11, mb1mx3.1/70, mbtmp3.5/11, ML3.6/4, Error ellipse: s-maj=31.8km s-min=16.6km az=92.0*
ISC 29 17:51:04.5±1.6, 43°.31N±0°.06×147°.19E±0°.06, h30km±10km, n45, σ0ˢ92/55, mb3.5/8, 1C-1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
SHO	**Shikotan**	**0.62**	**335**	*i* P		**Pb**	**17 51 16.6**	**-0.3**
SHO				AMB		AMB	17 51 17.1	
	680nm,0.2s							
SHO				*e*S		**Sb**	**17 51 25.4**	**+0.1**
SHO				A		A	17 51 26.6	
	3μm,0.2s							
SHO				A		A	17 51 26.6	
	5μm,0.2s							
SHO	**Shikotan**	**0.62**	**335**	*c* iPN		**Pb**	**17 51 16.6**	**-0.3**
SHO				*e*S		**Sb**	**17 51 25.4**	**+0.1**
SHO				pmax		pmax		
	comp=E,153nm,0.2s							
SHO				pmax		pmax		
	comp=Z,676nm,0.2s							
SHO				pmax		pmax		
	comp=N,166nm,0.1s							
SHO				smax		smax		
	comp=N,3μm,0.2s							
SHO				smax		smax		
	comp=E,5μm,0.4s							
NEM2	**Nemuro 2**	**1.06**	**274**	P		**Pn**	**17 51 22.8**	**-0.4**
NEM2				*e*S		**Sn**	**17 51 36.9**	**0.0**
YUK	**Yuzh-Kuril'sk**	**1.21**	**307**	*e*P		**Pn**	**17 51 25.3**	**0.0**
YUK				AMB		AMB	17 51 26.1	
	comp=E,250nm,0.3s							
YUK				*e*S		**Sn**	**17 51 40.4**	**-0.2**
YUK				A		A	17 51 43.6	
	comp=E,970nm,0.3s							
YUK				A		A	17 51 43.6	
	comp=E,2μm,0.3s							
YUK	**Yuzh-Kuril'sk**	**1.21**	**307**	*e*PN		**Pn**	**17 51 25.3**	**0.0**
YUK				*e*S		**Sn**	**17 51 40.4**	**-0.2**
YUK				pmax		pmax		
	comp=Z,248nm,0.3s							
YUK				smax		smax		
	comp=N,2μm,0.3s							
YUK				smax		smax		
	comp=E,968nm,0.3s							
GRPR	**Tuman**	**1.23**	**304**	*e*P		**Pn**	**17 51 25.8**	**+0.1**
GRPR				AMB		AMB	17 51 26.3	
	comp=E,180nm,0.2s							
GRPR				*e*S		**Sn**	**17 51 41.6**	**+0.3**
GRPR				A		A	17 51 42.7	
	comp=E,2μm,0.3s							
GRPR				A		A	17 51 42.7	
	comp=E,2μm,0.3s							
GRPR	**Tuman**	**1.23**	**304**	*e*PN		**Pn**	**17 51 25.8**	**+0.1**
GRPR				*e*S		**Sn**	**17 51 41.6**	**+0.3**
GRPR				pmax		pmax		
	comp=Z,176nm,0.2s							
GRPR				smax		smax		
	comp=N,2μm,0.3s							
GRPR				smax		smax		
	comp=E,2μm,0.3s							
LAGR	**Lagunnoye**	**1.26**	**307**	*e*P		**Pn**	**17 51 26.4**	**+0.3**
LAGR				AMB		AMB	17 51 29.4	
	comp=E,210nm,0.2s							
LAGR				*e*S		**Sn**	**17 51 42.6**	**+0.6**
LAGR				A		A	17 51 46.2	
	comp=E,2μm,0.3s							
LAGR				A		A	17 51 46.2	
	comp=E,2μm,0.3s							
LAGR	**Lagunnoye**	**1.26**	**307**	*e*PN		**Pn**	**17 51 26.4**	**+0.3**
LAGR				*e*S		**Sn**	**17 51 42.6**	**+0.6**
LAGR				pmax		pmax		
	comp=Z,209nm,0.2s							
LAGR				pmax		pmax		
	comp=E,81nm,0.1s							
LAGR				smax		smax		
	comp=N,2μm,0.2s							
LAGR				smax		smax		
	comp=E,2μm,0.4s							
GLVR	**Golovnino**	**1.29**	**290**	*e*P		**Pn**	**17 51 26.3**	**-0.1**
GLVR				AMB		AMB	17 51 29.3	
	comp=E,111nm,0.2s							
GLVR				*i* S		**Sn**	**17 51 42.6**	**0.0**
GLVR				A		A	17 51 43.2	
	comp=E,1μm,0.3s							
GLVR				A		A	17 51 43.2	
	comp=E,350nm,0.3s							
GLVR	**Golovnino**	**1.29**	**290**	*e*PN		**Pn**	**17 51 26.3**	**-0.1**
GLVR				*i* S		**Sn**	**17 51 42.6**	**0.0**
GLVR				pmax		pmax		
	comp=N,22nm,0.1s							
GLVR				pmax		pmax		
	comp=Z,111nm,0.1s							
GLVR				smax		smax		
	comp=N,1μm,0.3s							
GLVR				smax		smax		
	comp=E,345nm,0.2s							
JRA	**Rausu**	**1.63**	**293**	P		**Pn**	**17 51 31.6**	**+0.5**
JNK	**Nakash**	**1.82**	**280**	P		**Pn**	**17 51 33.8**	**+0.1**
JNK				*e*S		**Sn**	**17 51 55.9**	**+0.1**
JAK	**Akkeshi**	**1.85**	**261**	P		**Pn**	**17 51 34.1**	**0.0**
KUR	**Kuril'sk**	**1.98**	**14**	*e*P		**Pn**	**17 51 36.2**	**+0.2**
KUR				AMB		AMB	17 51 38.7	
	comp=E,126nm,0.2s							
KUR				*i* S		**Sn**	**17 51 59.2**	**-0.6**
KUR				A		A	17 52 05.7	
	comp=E,175nm,0.2s							
KUR				A		A	17 52 05.7	
	comp=E,107nm,0.2s							
KUR	**Kuril'sk**	**1.98**	**14**	*d* iPN		**Pn**	**17 51 36.9**	**+0.9**
KUR				*i* S		**Sn**	**17 52 01.1**	**+1.3**
KUR				pmax		pmax		
	comp=Z,135nm,0.3s							
KUR				pmax		pmax		
	comp=N,37nm,0.1s							
KUR				pmax		pmax		
	comp=E,45nm,0.1s							
KUR				smax		smax		
	comp=N,90nm,0.2s							
KUR				smax		smax		
	comp=E,119nm,0.4s							
JTKR	**Abashiri--Toko**	**2.47**	**287**	P		**Pn**	**17 51 44.2**	**+1.5**
JOB	**Onbets**	**2.49**	**262**	P		**Pn**	**17 51 43.9**	**+1.0**
JAR	**Ashorobuto**	**2.50**	**271**	P		**Pn**	**17 51 43.8**	**+0.8**
JAR				*e*S		**Sn**	**17 52 14.6**	**+2.1**
JMP	**Maruseppu**	**2.87**	**285**	P		**Pn**	**17 51 49.7**	**+1.6**
JCH	**Churui**	**2.89**	**257**	P		**Pn**	**17 51 49.5**	**+1.0**
HRK	**Horoka**	**2.96**	**274**	*e*P		**Pn**	**17 51 51.3**	**+1.8**
JFR	**Furan**	**3.36**	**269**	P		**Pn**	**17 51 56.4**	**+1.4**
JNBK	**Urakawa-nobuka**	**3.42**	**254**	P		**Pn**	**17 51 56.4**	**+0.6**
ASAJ	**Asahikawa**	**3.43**	**285**	P		**Pn**	**17 51 59.0**	**+3.2**
	comp=E,3.4nm,0.3s,baz=146,slow=13,SNR=29							
ASAJ				S		**Sb**	**17 52 44.6**	**-1.0**
	comp=E,0.6nm,0.3s,baz=222,slow=32,SNR=4.2							
MJAR	**Matsushiro Arr**	**9.65**	**229**	P		**Pn**	**17 53 21.1**	**-0.2**
	comp=E,0.2nm,0.3s,baz=25,slow=14,SNR=7.9							
JHJ	**Hachijo jima 2**	**11.72**	**212**	P		**Pn**	**17 53 50.7**	**+1.1**
	comp=E,12nm,0.3s,baz=51,slow=19,SNR=3.9							
SEY	**Seymchan**	**19.89**	**7**	P		**Pn**	**17 55 34.4**	**-0.5**
	comp=E,0.1nm,0.3s,baz=198,slow=6.4,SNR=4.1							
H11N2	**WAKE ISLAND Hy**	**28.75**	**139**	T		T	18 27 43.8	
	baz=330,slow=75,SNR=34							
H11N1	**WAKE ISLAND Hy**	**28.76**	**139**	T		T	18 27 49.4	
	baz=330,slow=75,SNR=29							
H11N3	**WAKE ISLAND Hy**	**28.77**	**139**	T		T	18 27 51.4	
	baz=330,slow=75,SNR=16							
H11S1	**WAKE ISLAND Hy**	**29.71**	**140**	T		T	18 28 59.4	
	baz=331,slow=76,SNR=61							
H11S3	**WAKE ISLAND Hy**	**29.71**	**140**	T		T	18 28 57.6	
	baz=331,slow=76,SNR=44							
H11S2	**WAKE ISLAND Hy**	**29.73**	**140**	T		T	18 29 07.4	
	baz=331,slow=76,SNR=48							
MKAR	**Makanchi Array**	**44.81**	**298**	P		**P**	**17 59 15.7**	**+0.2**
	comp=E,0.1nm,0.5s,baz=75,slow=11,SNR=3.3							
YKA	**Yellowknife Ar**	**56.15**	**34**	P		**P**	**18 00 40.3**	**-0.5**
	comp=E,0.1nm,0.5s,baz=308,slow=7.5,SNR=4.2							
AKTO	**Aktyubinsk**	**57.85**	**311**	P		**P**	**18 00 51.0**	**-2.0**
	comp=E,1.1nm,0.5s,baz=68,slow=18,SNR=3.4							
WRA	**Warramunga Arr**	**64.04**	**193**	P		**P**	**18 01 34.5**	**-0.8**
	comp=E,0.3nm,0.9s,baz=14,slow=6.9,SNR=2.9							
FINES	**FINESS Array B**	**65.28**	**333**	P		**P**	**18 01 42.9**	**-0.1**
	comp=E,0.8nm,0.7s,baz=38,slow=7.0,SNR=4.3							
FINES	**FINESS Array B**	**65.28**	**333**	P		**P**	**18 01 42.9**	**-0.1**
FINES				pmax		pmax		
	comp=Z,2.0nm,1.1s							
ASAR	**Alice Springs**	**67.75**	**193**	P		**P**	**18 01 60.0**	**+0.8**
	comp=Z,0.2nm,0.8s,baz=9.8,slow=6.0,SNR=2.9							
ASAR	**Alice Springs**	**67.75**	**193**	P		**P**	**18 02 00.0**	**+0.8**
NOA	**NORSAR Array B**	**70.02**	**339**	P		**P**	**18 02 14.1**	**+1.1**
	comp=Z,0.4nm,0.8s,baz=17,slow=7.4,SNR=2.3							
NOA	**NORSAR Array B**	**70.02**	**339**	P		**P**	**18 02 14.1**	**+1.1**
NOA				pmax		pmax		
	comp=Z,1.0nm,0.9s							
HFS	**Hagfors**	**70.11**	**337**	P		**P**	**18 02 13.2**	**-0.2**
	comp=Z,1.2nm,0.7s,baz=54,slow=7.3,SNR=4.0							

*CSEM **29** 17:55:45.6±0.4, 38°.61N×57°.07E, h2km, mb3.5, Error ellipse: s-maj=9.3km s-min=7.1km az=81.0*
*NNC **29** 17:55:45.7±3.7, 38°.48N×56°.96E, h0km, mb3.5, mpv3.8, Error ellipse: s-maj=54.3km s-min=15.7km az=41.0*
*TEH **29** 17:55:51.9, 38°.36N×57°.18E, h10km, ML3.1*
ISC 29 17:55:47.7±1.8, 38°.54N±0°.06×57°.12E±0°.03, h2km±12km, n21, σ1ˢ67/27, 2C-4D, Iran-Turkmenistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
BJRD	**Bojnurd**	**0.87**	**165**	*e*Pg		**Pg**	**17 56 02.8**	**-1.5**
BJRD				*e*Sg		**Sg**	**17 56 13.9**	**-1.6**
GYA0B	**ALIBECK ARRAY**	**0.99**	**127**	P		**Pg**	**17 56 05.7**	**-1.0**
	37nm,0.5s							
GYA0B				S		**Sg**	**17 56 19.8**	**+0.2**
	177nm,0.5s							
ASHT	**Ashkhabad**	**1.16**	**120**	⇑P		**Pg**	**17 56 10.5**	**+0.6**
	52nm,0.4s							
ASHT				⇓S		**Sn**	**17 56 27.0**	**-0.4**
	124nm,0.3s							
ASHT	**Ashkhabad**	**1.16**	**120**	P		**Pg**	**17 56 10.5**	**+0.6**
	52nm,0.4s							
ASHT				S		**Sn**	**17 56 27.0**	**-0.4**
	124nm,0.3s							
MRVT	**Maraveh tapeh**	**1.20**	**223**	*e*Pg		**Pg**	**17 56 09.6**	**-1.0**
MRVT				*e*Sg		**Sg**	**17 56 25.3**	**-0.8**
ISFR	**Sfrayin**	**1.64**	**154**	*e*Pn		**Pn**	**17 56 18.2**	**+0.4**
ISFR				*e*AMB		AMB	17 56 21.4	
	comp=Z,3μm,0.1s							
ISFR				*e*Sg		**Sb**	**17 56 38.3**	**-1.7**
IEMG	**Emamgholi**	**1.65**	**132**	*e*Pn		**Pn**	**17 56 17.3**	**-0.7**
IEMG				*e*AMB		AMB	17 56 45.6	
	comp=Z,3μm,0.2s							
IMND	**Minoodasht**	**1.86**	**227**	*e*Pn		**Pn**	**17 56 23.5**	**+2.9**
IMND				*e*Sg		**Sb**	**17 56 47.7**	**+1.5**
IMND				*e*AMB		AMB	17 56 55.0	
	comp=Z,1μm,0.3s							
IKRD	**Kardeh**	**2.08**	**147**	*e*Pn		**Pg**	**17 56 31.4**	**+3.9**
IKRD				*e*AMB		AMB	17 57 13.6	
	comp=Z,1μm,0.1s							
IAKL	**Akhelmad**	**2.33**	**146**	*e*Pn		**Pn**	**17 56 29.0**	**+1.7**
IAKL				*e*AMB		AMB	17 56 33.0	
	comp=Z,855nm,0.2s							
IPAY	**Payeh**	**2.56**	**144**	*e*Pn		**Pn**	**17 56 31.7**	**+1.2**
IPAY				*e*AMB		AMB	17 57 10.4	
	comp=Z,526nm,0.2s							
SHRO	**Shahrood**	**2.69**	**200**	*e*Pn		**Pn**	**17 56 31.7**	**-0.5**
IMOG	**Moghan**	**3.00**	**143**	*e*Pn		**Pn**	**17 56 38.1**	**+1.5**
IMOG				*e*AMB		AMB	17 56 46.5	
	comp=Z,346nm,0.2s							
IMYA	**Miami**	**3.23**	**132**	*e*Pn		**Pn**	**17 56 40.0**	**+0.4**
IMYA				*e*AMB		AMB	17 57 50.2	
	comp=Z,326nm,0.2s							

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMRD	**Marand**	**0.76**	**88**	*e*Pg	**Pg**	**18 31 18.2**	**-0.2**
IMRD				*e*AMB	AMB	18 31 18.8	
	comp=Z,12μm,0.1s						
IMRD				*e*Sg	**Sb**	**18 31 30.0**	**+0.4**
CLDR	**Caldiran**	**0.78**	**305**	PG	**Pg**	**18 31 17.3**	**-1.5**
CLDR				SG	**Sg**	**18 31 28.0**	**-1.0**
CLDR	**Caldiran**	**0.78**	**305**	*i* P	**Pg**	**18 31 16.8**	**-2.0**
CLDR				*i* S	**Sb**	**18 31 29.5**	**-0.7**
CLDR	**Caldiran**	**0.78**	**305**	P	**Pg**	**18 31 16.8**	**-2.0**
CLDR	**Caldiran**	**0.78**	**305**	*e*Pg	**Pg**	**18 31 17.3**	**-1.5**
CLDR				*e*Sg	**Sg**	**18 31 28.0**	**-1.0**
CLDR				S	**Sb**	**18 31 29.5**	**-0.7**
ISHB	**Shabestar**	**0.81**	**120**	*e*Pg	**Pg**	**18 31 18.8**	**-0.5**
ISHB				*e*Sg	**Sg**	**18 31 29.8**	**0.0**
ISHB				*e*AMB	AMB	18 31 35.0	
	comp=Z,4μm,0.2s						
VMUR	**Van-Muradiye**	**0.95**	**288**	*i* P	**Pg**	**18 31 21.1**	**-1.0**
VMUR				*i* S	**Sn**	**18 31 37.0**	**-0.1**
VMUR	**Van-Muradiye**	**0.95**	**288**	P	**Pg**	**18 31 21.1**	**-1.0**
TVAN	**Van**	**1.05**	**261**	*i* P	**Pg**	**18 31 23.6**	**-0.4**
TVAN				*i* S	**Sn**	**18 31 41.6**	**+2.0**
TVAN	**Van**	**1.05**	**261**	P	**Pg**	**18 31 23.6**	**-0.4**
VANB	**Van**	**1.06**	**265**	PG	**Pg**	**18 31 23.5**	**-0.6**
VANB				SG	**Sb**	**18 31 38.3**	**+0.2**
VANB	**Van**	**1.06**	**265**	*e*Pg	**Pg**	**18 31 23.5**	**-0.6**
VANB				*e*Sg	**Sb**	**18 31 38.3**	**+0.2**
YOVA	**Hakkari_Y˙...kse**	**1.16**	**198**	*i* P	**Pb**	**18 31 25.1**	**-0.9**
YOVA				*i* S	**Sn**	**18 31 44.9**	**+2.7**
YOVA	**Hakkari_Y˙...kse**	**1.16**	**198**	P	**Pb**	**18 31 25.1**	**-0.9**
YOVA				S	**Sn**	**18 31 44.9**	**+2.7**
DYDN	**Diyadin**	**1.17**	**316**	*e*P	**Pb**	**18 31 25.1**	**-1.1**
DYDN				*e*S	**Sn**	**18 31 46.3**	**+3.7**
DYDN				IAML		18 31 50.0	
	comp=Z,18nm,0.5s						
DYDN	**Diyadin**	**1.17**	**316**	*i* P	**Pn**	**18 31 26.6**	**+0.2**
DYDN	**Diyadin**	**1.17**	**316**	P	**Pn**	**18 31 26.6**	**+0.2**
ITBZ	**Tabriz**	**1.20**	**112**	*e*Pg	**Pb**	**18 31 25.7**	**-1.0**
ITBZ				*e*AMB	AMB	18 31 27.1	
	comp=Z,1μm,0.1s						
ITBZ				*e*Sg	**Sn**	**18 31 43.1**	**-0.1**
TASB	**TASBURUN-IGDIR**	**1.34**	**344**	PN	**Pg**	**18 31 29.4**	**-0.1**
TASB	**TASBURUN-IGDIR**	**1.34**	**344**	*e*Pn	**Pg**	**18 31 29.4**	**-0.1**
GEVA	**Gevas**	**1.37**	**254**	*e*P	**Pn**	**18 31 27.3**	**-1.7**
GEVA				*e*S	**Sg**	**18 31 48.0**	**+0.2**
GEVA				IAML		18 31 52.1	
	comp=Z,36nm,0.4s						
GEVA	**Gevas**	**1.37**	**254**	*i* P	**Pn**	**18 31 27.8**	**-1.2**
GEVA				*i* S	**Sg**	**18 31 49.9**	**+2.1**
GEVA	**Gevas**	**1.37**	**254**	P	**Pn**	**18 31 27.8**	**-1.2**
GEVA				S	**Sg**	**18 31 49.9**	**+2.1**
ADCV	**BITLIS_Adilcev**	**1.57**	**275**	*i* P	**Pb**	**18 31 33.2**	**+0.1**
ADCV				*i* S	**Sg**	**18 31 57.0**	**+2.7**
ADCV	**BITLIS_Adilcev**	**1.57**	**275**	P	**Pb**	**18 31 33.2**	**+0.1**
AGRB	**Hanur-Agry**	**1.61**	**304**	PN	**Pb**	**18 31 33.4**	**-0.3**
AGRB	**Hanur-Agry**	**1.61**	**304**	*e*Pn	**Pb**	**18 31 33.4**	**-0.3**
IHRS	**Heris**	**1.85**	**101**	*e*Pn	**Pb**	**18 31 37.5**	**-0.2**
IHRS				*e*AMB	AMB	18 31 38.9	
	comp=Z,1μm,0.1s						
IBST	**Bostanabad**	**1.97**	**120**	*e*AMB	AMB	18 31 40.6	
	comp=Z,219nm,0.1s						
DIGO	**Kars**	**2.01**	**329**	*e*P	**Pb**	**18 31 41.0**	**+0.5**
DIGO				IAML		18 31 51.0	
	comp=Z,2.6nm,0.4s						
EATA	**Eleskirt**	**2.09**	**304**	*e*P	**Pb**	**18 31 41.0**	**-1.0**
EATA	**Eleskirt**	**2.09**	**304**	*i* P	**Pb**	**18 31 42.1**	**+0.1**
EATA	**Eleskirt**	**2.09**	**304**	P	**Pb**	**18 31 42.1**	**+0.1**
EKAR	**Karacoban**	**2.15**	**286**	*e*P	**Pb**	**18 31 42.9**	**-0.1**
EKAR				IAML		18 32 21.2	
	comp=Z,3.4nm,0.4s						
SIRT	**Sirnak**	**2.17**	**237**	PN	**Pb**	**18 31 42.2**	**-0.9**
SIRT	**Sirnak**	**2.17**	**237**	*e*Pn	**Pb**	**18 31 42.2**	**-0.9**
SRTM	**Siirt_Merkez**	**2.32**	**253**	*i* P	**Pb**	**18 31 44.5**	**-1.2**
SRTM	**Siirt_Merkez**	**2.32**	**253**	P	**Pb**	**18 31 44.5**	**-1.2**

*ISN **29** 19:03:36.2±0.9,32˚.36N×46˚.92E, h0km±3km, ML3.8*
*ISCJB **29** 19:03:37.7±0.3,32˚.45N±0˚.02×46˚.98E±0˚.03, h10km, mb3.8/16, MS2.7/4, Error ellipse: s-maj=3.5km s-min=3.4km az=150.9*
*IDC **29** 19:03:37.1±1.0,32˚.45N×47˚.20E, h0km, mb3.9/16, mb1 3.8/25, mb1mx3.7/72, mbtmp3.8/25, ML3.5/8, MS2.8/7, Ms1 2.8/7, ms1mx2.5/63, Error ellipse: s-maj=21.3km s-min=12.8km az=178.0*
*CSEM **29** 19:03:38.4±0.2,32˚.42N×46˚.96E, h2km, ML3.8, Error ellipse: s-maj=5.1km s-min=4.3km az=20.0*
*SGS **29** 19:03:39.5,32˚.77N×47˚.09E, h7km*
*TEH **29** 19:03:39.1,32˚.43N×46˚.91E, h5km, ML3.8*
*THR **29** 19:03:41.3±1.1,32˚.63N×47˚.10E, h18km±14km, ML3.7*

ISC 29 19:03:38.8±0.5,**32˚.46N**±0˚.03×**46˚.96E**±0˚.04,**h10km**,**n76,** σ1§**62**/85,**mb3.9**/16,**MS2.7**/4,**Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKFM	**Kafar-mosalman**	**1.30**	**35**	*e*AMB	AMB	19 04 04.9	
	comp=Z,99nm,0.2s						
IKFM				*e*Pg	**Pn**	**19 04 01.7**	**-1.3**
IKFM				*e*Sg	**Sn**	**19 04 22.0**	**+1.6**
SHGR	**Shooshtar-Gavs**	**1.60**	**102**	*e*Pn	**Pb**	**19 04 08.8**	**+0.4**
SHGR				*e*Sg	**Sb**	**19 04 30.4**	**+1.8**
SHGR	**Shooshtar-Gavs**	**1.60**	**102**	*e*Pg	**Pb**	**19 04 09.0**	**+0.6**
SHGR				*e*Sg	**Sb**	**19 04 30.4**	**+1.8**
SHGR				AML	AML	19 04 32.2	
	comp=E,1μm,0.4s						
SHGR				AML	AML	19 04 46.1	
	comp=N,964nm,0.5s						
NSR	**Nassriya**	**1.60**	**206**	*e*Pn	**Pn**	**19 04 06.0**	**-1.2**
	SNR=4.0						
NSR				*e*Sn	**Sn**	**19 04 27.0**	**-1.0**
	SNR=4.0						
IKOM	**Komasi**	**1.77**	**15**	*e*Pn	**Pn**	**19 04 11.1**	**+1.4**
IKOM				*e*AMB	AMB	19 04 14.8	
	comp=Z,19μm,0.1s						
IKOM				*e*Sg	**Sb**	**19 04 35.7**	**+1.8**
IKOM	**Komasi**	**1.77**	**15**	*e*Pn	**Pn**	**19 04 11.1**	**+1.4**
IKOM				*e*Sg	**Sb**	**19 04 35.7**	**+1.8**
IVIS	**Veis**	**2.06**	**357**	*e*Pn	**Pn**	**19 04 15.0**	**+1.3**
IVIS				*e*Sg	**Sb**	**19 04 43.8**	**+1.5**
IVIS				*e*AMB	AMB	19 04 48.3	
	comp=Z,8μm,0.2s						
IVIS	**Veis**	**2.06**	**357**	*e*Pn	**Pn**	**19 04 15.0**	**+1.3**
IVIS				*e*Sg	**Sb**	**19 04 43.8**	**+1.5**
BHD	**Baghdad**	**2.32**	**291**	*e*Pn	**Pn**	**19 04 17.0**	**-0.1**
	SNR=4.0						
BHD				*e*Sn	**Sb**	**19 04 48.0**	**-1.5**
	SNR=4.0						
ILIN	**Lien**	**2.45**	**360**	*e*Pn	**Pn**	**19 04 20.8**	**+1.6**
ILIN				*e*AMB	AMB	19 04 59.1	
	comp=Z,5μm,0.3s						
ILIN	**Lien**	**2.45**	**360**	*e*Pn	**Pn**	**19 04 20.8**	**+1.6**
SNGE	**Sanandaj**	**2.65**	**7**	*e*Pn	**Pn**	**19 04 23.3**	**+1.5**
SNGE	**Sanandaj**	**2.65**	**7**	*e*Pn	**Pn**	**19 04 23.3**	**+1.5**
SNGE				AML	AML	19 05 05.8	
	comp=E,236nm,0.5s						
KHMZ	**Khomeyn**	**2.82**	**62**	*e*Pn	**Pn**	**19 04 25.0**	**+0.8**
KHMZ	**Khomeyn**	**2.82**	**62**	*e*Pn	**Pn**	**19 04 25.0**	**+0.8**
HAGD	**Aghdareh**	**2.98**	**37**	*e*Pn	**Pn**	**19 04 27.3**	**+0.9**
HAGD	**Aghdareh**	**2.98**	**37**	*e*Pn	**Pn**	**19 04 27.3**	**+0.9**
ASAO	**Ashtian**	**3.30**	**50**	*e*Pn	**Pn**	**19 04 31.5**	**+0.7**
ASAO	**Ashtian**	**3.30**	**50**	*e*Pn	**Pn**	**19 04 31.5**	**+0.7**
ASAO				*e*Sg	**Sb**	**19 05 18.2**	**+0.2**
HKZM	**Kohzaman**	**3.33**	**28**	*e*Pn	**Pn**	**19 04 32.9**	**+1.7**
HKZM				*e*AMB	AMB	19 05 21.2	
	comp=Z,99nm,0.3s						
HKZM	**Kohzaman**	**3.33**	**28**	*e*Pn	**Pn**	**19 04 32.9**	**+1.7**
QAM	**Ghamsar**	**3.98**	**70**	*e*Pn	**Pn**	**19 04 41.3**	**+1.2**
QAM				*e*AMB	AMB	19 04 43.1	
	comp=Z,2μm,0.1s						
IKLH	**Kolahrood**	**3.98**	**76**	*e*Pn	**Pn**	**19 04 41.1**	**+1.0**
IKLH				*e*AMB	AMB	19 04 57.2	
	comp=Z,1μm,0.2s						
IKLH	**Kolahrood**	**3.98**	**76**	*e*Pn	**Pn**	**19 04 41.1**	**+1.0**
GHVR	**GHOM**	**4.14**	**60**	*e*Pn	**Pn**	**19 04 42.6**	**+0.3**
GHVR	**GHOM**	**4.14**	**60**	*e*Pn	**Pn**	**19 04 42.6**	**+0.3**
IGAR	**Gharneh**	**4.29**	**89**	*e*AMB	AMB	19 05 37.3	
	comp=Z,800nm,0.1s						
KFJS		**4.34**	**169**	P	**Pn**	**19 04 48.2**	**+3.3**
KFJS				S	**Sn**	**19 05 39.3**	**+3.7**
ZNJK	**Zanjan**	**4.44**	**18**	*e*Pn	**Pn**	**19 04 47.8**	**+1.4**
ZNJK	**Zanjan**	**4.44**	**18**	*e*Pn	**Pn**	**19 04 47.8**	**+1.4**
IZEF	**Zefreh**	**4.55**	**83**	*e*Pn	**Pn**	**19 04 48.4**	**+0.4**
IZEF				*e*AMB	AMB	19 05 05.7	
	comp=Z,476nm,0.2s						
IZEF	**Zefreh**	**4.55**	**83**	*e*Pn	**Pn**	**19 04 48.4**	**+0.4**
IRAM	**Ramesheh**	**4.64**	**97**	*e*Pn	**Pn**	**19 04 49.5**	**+0.2**
IRAM				*e*AMB	AMB	19 06 24.9	
	comp=Z,558nm,0.4s						
IRAM	**Ramesheh**	**4.64**	**97**	*e*Pn	**Pn**	**19 04 49.5**	**+0.2**
IKAZ	**Kazeroun**	**4.96**	**121**	*e*Pn	**Pn**	**19 04 54.7**	**+1.0**
IKAZ				*e*AMB	AMB	19 05 55.9	
	comp=Z,2μm,0.2s						
IKAZ	**Kazeroun**	**4.96**	**121**	*e*Pn	**Pn**	**19 04 54.7**	**+1.0**
DAMV	**Damavand**	**5.22**	**51**	*e*Pn	**Pn**	**19 04 57.8**	**+0.5**
DAMV	**Damavand**	**5.22**	**51**	*e*Pn	**Pn**	**19 04 57.8**	**+0.5**
RTB	**Rutbah**	**5.64**	**278**	*e*Pn	**Pn**	**19 05 03.0**	**+0.2**
	SNR=4.0						
RTB				*e*Sn	**Sn**	**19 06 07.0**	**-0.6**
	SNR=4.0						
ISRV	**Sarvestan**	**6.11**	**119**	*e*Pn	**Pn**	**19 05 10.0**	**+0.5**
ISRV				*e*AMB	AMB	19 06 35.0	
	comp=Z,395nm,0.3s						
ISRV	**Sarvestan**	**6.11**	**119**	*e*Pn	**Pn**	**19 05 10.0**	**+0.5**
BOQSS		**6.90**	**162**	P	**Pn**	**19 05 22.7**	**+2.7**
BOQSS				S	**Sn**	**19 06 38.9**	**+0.3**
GNI	**Garni**	**7.88**	**347**	Pn	**Pn**	**19 05 37.7**	**+4.0**
	comp=Z,0.5nm,0.3s,baz=302,slow=19,SNR=2.2						
ASF	**Jabal al Asfar**	**8.53**	**271**	*e*Pn	**Pn**	**19 05 44.1**	**+1.7**
	comp=Z,0.8nm,0.3s,baz=18,slow=6.4,SNR=3.7						
ASF				Lg	Lg	19 08 18.1	
	comp=Z,0.7nm,0.3s,baz=155,slow=18,SNR=4.4						
MMAI	**Mount Meron Ar**	**9.75**	**276**	Pn	**Pn**	**19 06 00.7**	**+1.4**
	comp=Z,0.4nm,0.3s,baz=90,slow=18,SNR=2.2						
MMAI				Lg	Lg	19 08 56.8	
	comp=Z,0.8nm,0.3s,baz=104,slow=28,SNR=4.1						
GEYT	**Alibeck**	**10.63**	**56**	Pn	**Pn**	**19 06 09.1**	**-2.2**
	comp=Z,0.1nm,0.3s,baz=261,slow=15,SNR=4.3						
GEYT				Lg	Lg	19 09 18.7	
	comp=Z,0.2nm,0.3s,baz=222,slow=19,SNR=2.7						
GEYT				LR	LR	19 11 19.9	
	comp=Z,23nm,19.7s,baz=95,slow=44						
EIL	**Elat**	**10.67**	**258**	Pn	**Pn**	**19 06 14.8**	**+3.0**
	comp=Z,0.9nm,0.3s,baz=121,slow=5.7,SNR=7.6						
BRTR	**Keskin Array B**	**12.98**	**308**	Pn	**Pn**	19 06 49.6	+6.2
	comp=Z,0.1nm,0.3s,baz=332,slow=42,SNR=2.7						
WSAR	**Wadi Sarin**	**13.80**	**129**	Pn	**Pn**	**19 06 50.8**	**-3.9**
	comp=Z,0.4nm,0.3s,baz=327,slow=11,SNR=7.2						
WSAR				Sn	Sn	19 09 19.8	-8.3
	comp=Z,0.3nm,0.3s,baz=66,slow=10,SNR=3.9						
WSAR				LR	LR	19 13 39.4	
	comp=Z,69nm,20.3s,baz=236,slow=44						
IDI	**Anoyia**	**18.54**	**285**	P	**Pn**	**19 07 58.7**	**+2.8**
	comp=Z,0.5nm,0.3s,baz=38,slow=7.6,SNR=5.8						
AKTO	**Aktyubinsk**	**19.74**	**21**	P	**P**	**19 08 06.6**	**-2.1**
	comp=Z,0.3nm,0.3s,baz=196,slow=14,SNR=5.0						
AKTO				LR	LR	19 16 33.2	
	comp=Z,25nm,21.7s,baz=186,slow=39						
MLR	**Muntele Rosu**	**20.81**	**315**	P	Pn	19 08 25.4	+2.5
	comp=Z,0.3nm,0.7s,baz=162,slow=20,SNR=1.9						
AKASG	**Malin Array Be**	**22.44**	**330**	P	**P**	**19 08 39.4**	**+1.6**
	comp=Z,0.6nm,0.5s,baz=132,slow=10,SNR=4.6						
OBN	**Obninsk**	**23.81**	**345**	LR	LR	19 18 12.6	
	comp=Z,10nm,21.7s,baz=88,slow=37						
AAK	**Ala-Archa**	**23.98**	**57**	P	**P**	**19 08 51.0**	**-2.7**
	comp=Z,0.7nm,0.3s,baz=266,slow=8.3,SNR=3.3						
AAK				LR	LR	19 20 10.0	
	comp=Z,14nm,19.1s,baz=202,slow=42						
ARU	**Arti**	**25.29**	**15**	P	**P**	**19 09 04.1**	**-1.1**
	comp=Z,1.5nm,0.4s,baz=208,slow=3.7,SNR=4.7						
BVAR	**Borovoye Array**	**26.59**	**32**	P	**P**	**19 09 16.2**	**-0.9**
	comp=Z,2.7nm,0.6s,baz=221,slow=8.9,SNR=18						
KURBB	**Kurchatov Arra**	**29.48**	**43**	P	**P**	**19 09 42.5**	**-0.3**
	comp=Z,1.0nm,0.6s,baz=248,slow=9.3,SNR=4.8						
MKAR	**Makanchi Array**	**30.46**	**52**	P	**P**	**19 09 50.3**	**-1.4**
	comp=Z,1.1nm,0.4s,baz=243,slow=7.4,SNR=5.4						
DANN	**Dangsing**	**31.90**	**88**	*e*P	**P**	**19 10 05.1**	**+0.2**
	comp=Z,9.2nm,0.5s						
KOLN	**Koldanda**	**31.93**	**89**	*e*P	**P**	**19 10 09.1**	**+4.0**
	comp=Z,7.2nm,0.5s						
FINES	**FINESS Array B**	**32.01**	**341**	P	**P**	**19 10 04.3**	**-0.8**
	comp=Z,0.8nm,0.5s,baz=136,slow=9.4,SNR=8.3						
GKN	**Gorkha**	**32.74**	**88**	*e*P	**P**	**19 10 11.6**	**-0.5**
	comp=Z,9.6nm,0.4s						
DMN	**Daman**	**33.25**	**88**	*e*P	**P**	**19 10 16.9**	**+0.2**
	comp=Z,6.0nm,0.7s						
KKN	**Kakani**	**33.35**	**88**	*e*P	**P**	**19 10 16.6**	**-0.9**
	comp=Z,11nm,0.6s						
PKIN	**Phulchoki**	**33.51**	**88**	*e*P	**P**	**19 10 18.4**	**-0.5**
	comp=Z,3.9nm,0.4s						
GUN	**Gumba**	**33.82**	**87**	*e*P	**P**	**19 10 18.1**	**-3.6**
	comp=Z,18nm,0.8s						
ZALV	**Zalesovo Beam**	**34.37**	**40**	P	**P**	**19 10 23.9**	**-1.9**
	comp=Z,0.7nm,0.3s,baz=218,slow=7.0,SNR=5.2						
ZALV				LR	LR	19 27 52.8	
	comp=Z,20nm,19.4s,baz=70,slow=42						
HFS	**Hagfors**	**35.30**	**332**	P	**P**	**19 10 34.1**	**+0.5**
	comp=Z,1.1nm,0.4s,baz=139,slow=11,SNR=11						
NOA	**NORSAR Array B**	**36.82**	**332**	P	**P**	**19 10 48.1**	**+1.3**
	comp=Z,0.4nm,0.7s,baz=120,slow=9.0,SNR=2.7						
ARCES	**ARCESS Array B**	**39.04**	**348**	P	**P**	**19 11 05.2**	**-0.2**
	comp=Z,1.8nm,0.8s,baz=162,slow=9.2,SNR=3.9						
TORD	**Torodi Ar. Bea**	**45.55**	**256**	P	**P**	**19 11 59.6**	**+0.6**
	comp=Z,0.5nm,0.3s,baz=67,slow=7.8,SNR=9.6						
SONM	**Songino Array**	**46.81**	**53**	P	**P**	**19 12 07.3**	**-1.6**
	comp=Z,0.3nm,0.6s,baz=265,slow=11,SNR=2.7						
SPITS	**Spitsbergen Ar**	**47.73**	**352**	P	**P**	**19 12 15.0**	**-0.4**
	comp=Z,4.2nm,0.9s,baz=134,slow=6.2,SNR=9.8						
CMAR	**Chiang Mai Arr**	**48.52**	**94**	P	**P**	**19 12 21.7**	**-0.6**
	comp=Z,0.6nm,0.4s,baz=262,slow=6.3,SNR=3.8						
KSRS	**Korea Array**	**64.59**	**60**	P	**P**	**19 14 14.8**	**-1.6**
	comp=Z,0.5nm,0.6s,baz=287,slow=7.5,SNR=3.5						
KSRS				LR	LR	19 46 36.4	
	comp=Z,16nm,19.2s,baz=220,slow=40						

*ISN **29** 19:08:55.5±1.3,32˚.45N×47˚.04E, h0km±5km, ML3.1*
*ISCJB **29** 19:08:57.5±0.5,32˚.53N±0˚.04×47˚.01E±0˚.05, h10km, Error ellipse: s-maj=7.2km s-min=4.6km az=38.3*
*CSEM **29** 19:08:57.2±0.3,32˚.46N×47˚.10E, h2km, ML3.1, Error ellipse: s-maj=8.9km s-min=7.1km az=154.0*
*TEH **29** 19:08:58.6,32˚.49N×47˚.02E, h5km, ML3.1*

ISC 29 19:08:57.6±1.0,**32˚.46N**±0˚.04×**47˚.03E**±0˚.05,**h10km**,**n14,** σ1§**29**/19,**Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKFM	**Kafar-mosalman**	**1.26**	**33**	*e*Pg	**Pn**	**19 09 19.7**	**-1.6**
IKFM				*e*Sg	**Sg**	**19 09 37.4**	**-0.8**
IKFM				*e*AMB	AMB	19 09 40.3	
	comp=Z,99nm,0.2s						
SHGR	**Shooshtar-Gavs**	**1.54**	**103**	*e*P	**Pb**	**19 09 25.1**	**-1.1**
NSR	**Nassriya**	**1.64**	**208**	*e*Pn	**Pb**	**19 09 27.0**	**-0.8**
	SNR=4.0						
NSR				Sn	**Sg**	**19 09 49.0**	**-1.2**
	SNR=4.0						
IKOM	**Komasi**	**1.75**	**13**	*e*Pn	**Pb**	**19 09 29.0**	**-1.0**
IKOM				*e*Sg	**Sg**	**19 09 52.8**	**-1.2**
IKOM				*e*AMB	AMB	19 09 59.0	
	comp=Z,4μm,0.2s						
IVIS	**Veis**	**2.06**	**356**	*e*Pn	**Pb**	**19 09 33.3**	**-1.9**
IVIS				*e*AMB	AMB	19 10 06.0	
	comp=Z,2μm,0.2s						
ILIN	**Lien**	**2.45**	**359**	*e*Pn	**Pn**	**19 09 39.1**	**+1.2**
ILIN				*e*AMB	AMB	19 10 17.1	
	comp=Z,825nm,0.2s						
SNGE	**Sanandaj**	**2.64**	**6**	*e*Pn	**Pn**	**19 09 41.0**	**+0.6**
SNGE				*e*Sg	**Sb**	**19 10 19.2**	**+1.6**
KHMZ	**Khomeyn**	**2.77**	**62**	*e*Pn	**Pn**	**19 09 42.8**	**+0.6**
KHMZ				*e*Sg	**Sb**	**19 10 22.8**	**+1.4**
ASAO	**Ashtian**	**3.25**	**49**	*e*Pn	**Pn**	**19 09 49.5**	**+0.6**
HKZM	**Kohzaman**	**3.30**	**28**	*e*AMB	AMB	19 10 38.9	
	comp=Z,99nm,0.2s						
IKLH	**Kolahrood**	**3.92**	**76**	*e*Pn	**Pn**	**19 09 59.2**	**+1.1**
QAM	**Ghamsar**	**3.92**	**70**	*e*Pn	**Pn**	**19 09 59.7**	**+1.7**
QAM				*e*AMB	AMB	19 10 58.3	
	comp=Z,270nm,0.2s						
IZEF	**Zefreh**	**4.49**	**83**	*e*AMB	AMB	19 10 36.1	
	comp=Z,78nm,0.3s						
IZEF				*e*Pn	**Pn**	**19 10 06.8**	**+0.9**
RTB	**Rutbah**	**5.69**	**278**	*e*Pn	**Pn**	**19 10 23.0**	**+0.7**
	SNR=4.0						
RTB				Sn	**Sn**	**19 11 29.0**	**+1.3**
	SNR=4.0						

*IDC **29** 19:11:22.1±1.2, 11˚.25N×124˚.10E, h0km, mb3.6/8, mb1 3.7/8, mb1mx3.4/65, mbtmp3.6/8, MS2.7/1, Ms1 2.7/1, ms1mx2.2/57, Error ellipse: s-maj=72.9km s-min=19.4km az=65.0*
*MAN **29** 19:11:22, 11˚.48N×124˚.30E, h8km, mb4.7, ML3.6, MS3.5*

ISC 29 19:11:21.7±2.2,**11˚.47N**±0˚.06×**124˚.34E**±0˚.05,**h1**km±16km, **n16,** σ1§**04**/20,**mb3.6**/8,**2C-4D, Leyte**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLP	**Palo**	**0.69**	**116**	*e*P	**Pb**	**19 11 36.6**	**0.0**
PLP				*i* S	**Sg**	**19 11 43.1**	**-0.9**
MMPH	**Masbate**	**1.13**	**322**	*e*P	**Pb**	**19 11 43.6**	**-0.4**
MMPH				*i* S	**Sn**	**19 12 00.3**	**-0.5**
LLP	**Lapu-Lapu**	**1.20**	**198**	*e*P	**Pn**	**19 11 44.7**	**-1.0**
LLP				*e*S	**Sg**	**19 12 01.4**	**+1.0**
RCP	**Roxas**	**1.57**	**273**	*e*P	**Pn**	**19 11 51.0**	**+0.3**
RCP				*e*S	**Sb**	**19 12 10.3**	**-1.6**
TBP	**Tagbilaran**	**1.83**	**195**	*e*P	**Pn**	**19 11 54.5**	**+0.2**
TBP				*i* S	**Sg**	**19 12 21.7**	**+1.1**
SNPH	**Sibulan**	**2.38**	**207**	*e*P	**Pn**	**19 12 02.3**	**+0.4**
JAP	**San Jose, Anti**	**2.46**	**253**	*e*P	**Pb**	**19 12 06.2**	**-0.6**
GUMO	**Guam**	**20.15**	**82**	LR	LR	19 22 14.5	
	comp=Z,21nm,21.1s,baz=210,slow=32						
CMAR	**Chiang Mai Arr**	**25.48**	**289**	P	**P**	**19 16 50.7**	**-1.0**
	0.2nm,0.7s,baz=85,slow=11,SNR=3.0						
WRA	**Warramunga Arr**	**32.73**	**162**	P	**P**	**19 17 54.5**	**-1.7**
	0.5nm,0.9s,baz=343,slow=10.0,SNR=3.0						
ASAR	**Alice Springs**	**36.15**	**165**	P	**P**	**19 18 25.9**	**+0.1**
	0.7nm,0.7s,baz=344,slow=7.2,SNR=6.1						
SONM	**Songino Array**	**39.26**	**341**	P	**P**	**19 18 53.2**	**+1.2**
	0.4nm,0.9s,baz=151,slow=9.2,SNR=2.3						
MKAR	**Makanchi Array**	**49.93**	**323**	P	**P**	**19 20 18.2**	**+1.0**
	2.3nm,0.7s,baz=115,slow=7.1,SNR=19						
ZALV	**Zalesovo Beam**	**52.68**	**332**	P	**P**	**19 20 38.8**	**+1.3**
	0.7nm,0.6s,baz=118,slow=8.8,SNR=3.7						
KURBB	**Kurchatov Arra**	**54.02**	**326**	P	**P**	**19 20 48.2**	**+0.7**
	2.4nm,0.8s,baz=126,slow=7.0,SNR=15						
BVAR	**Borovoye Array**	**59.61**	**326**	P	**P**	**19 21 28.3**	**+1.1**
	0.2nm,0.4s,baz=124,slow=7.7,SNR=3.0						

*NIED **29** 19:20:00, 39˚.80N×142˚.30E, h11km, Mw3.4 Best double couple: M0 1.66000×10^14 NP1:φs186.00000°, δ57.00000°, λ-159.00000°. NP2:φs84.00000°, δ72.00000°, λ-35.00000°.*
*ISCJB **29** 19:20:57.9±1.3,39˚.76N±0˚.03×142˚.33E±0˚.09, h20km±8km, mb3.5/11, Error ellipse: s-maj=12.3km s-min=5.3km az=9.2*
*JMA **29** 19:20:58.8±0.1,39˚.76N×142˚.27E, h22km±1km, M3.5*
*IDC **29** 19:21:02.9±2.1,39˚.72N×142˚.23E, h48km±19km, mb3.3/11, mb1 3.4/14, mb1mx3.2/66, mbtmp3.5/14, ML3.2/2, Error ellipse: s-maj=22.4km s-min=13.5km az=106.0*

ISC 29 19:20:56.8±2.2,**39.75N**±0˚.04×**142˚.35E**±0˚.07,**h1**km±13km, **n28,** σ1§**39**/31,**mb3.6**/11,**Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**0.42**	**296**	P	**Pb**	**19 21 06.5**	**-0.5**
JTH				*e*S	**Sb**	**19 21 12.0**	**-1.8**
MIYJ	**Miyakonagasawa**	**0.45**	**247**	P	**Pb**	**19 21 07.0**	**-0.4**
MIYJ				S	**Sb**	**19 21 12.4**	**-2.2**
JKZ	**Kuzumaki**	**0.82**

USRK	**Ussuriysk Ar.**	**10.86**	**324**	Pn	**Pn**	**19 28 29.4**	**+0.1**
	0.1nm,0.3s,baz=137,slow=18,SNR=2.6						
H11N2	**WAKE ISLAND Hy**	**27.92**	**118**	T	T	19 59 58.6	
	baz=313						
H11N1	**WAKE ISLAND Hy**	**27.93**	**118**	T	T	20 00 01.4	
	baz=313						
H11N3	**WAKE ISLAND Hy**	**27.94**	**118**	T	T	20 00 02.8	
	baz=313						
H11S1	**WAKE ISLAND Hy**	**28.58**	**120**	T	T	20 00 53.9	
	baz=316						
H11S3	**WAKE ISLAND Hy**	**28.58**	**120**	T	T	20 00 53.6	
	baz=316						
H11S2	**WAKE ISLAND Hy**	**28.60**	**120**	T	T	20 00 54.9	
	baz=316						
CMAR	**Chiang Mai Arr**	**40.69**	**256**	P	**P**	**19 33 35.3**	**+2.4**
	0.3nm,0.5s,baz=50,slow=8.6,SNR=3.6						
ZALV	**Zalesovo Beam**	**42.47**	**313**	P	**P**	**19 33 46.2**	**-0.9**
	0.4nm,0.5s,baz=116,slow=6.6,SNR=2.6						
MKAR	**Makanchi Array**	**44.43**	**303**	P	**P**	**19 34 01.2**	**-1.8**
	0.4nm,0.6s,baz=88,slow=9.5,SNR=6.2						
KURBB	**Kurchatov Arra**	**46.45**	**309**	P	**P**	**19 34 18.0**	**-0.9**
	2.1nm,1.0s,baz=85,slow=8.1,SNR=9.0						
BVAR	**Borovoye Array**	**51.12**	**313**	P	**P**	**19 34 54.1**	**-0.6**
	0.4nm,0.6s,baz=85,slow=9.0,SNR=2.8						
WRA	**Warramunga Arr**	**55.66**	**187**	P	**P**	**19 35 27.4**	**-0.9**
	0.3nm,0.4s,baz=1.3,slow=7.5,SNR=14						
ASAR	**Alice Springs**	**59.39**	**187**	P	**P**	**19 35 54.5**	**0.0**
	0.2nm,0.4s,baz=19,slow=10.0,SNR=4.3						

*ISN **29** 19:28:47.0±1.2,32.°47N×47.°14E,h15km±12km,ML2.8*
*CSEM **29** 19:28:47.7±0.6,32.°48N×46.°94E,h2km,ML2.8,Error ellipse: s-maj=21.2km s-min=16.3km az=176.0*

TEH 29 19:28:49.9,32.°47N×47.°06E,h5km,ML2.8,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IKFM	**Kafar-mosalman**	**1.25**	**32**	*e*Pg	Pg	19 29 11.3	-2.5
IKFM				*e*AMB	AMB	19 29 15.6	
	comp=Z,99nm,0.1s						
SHGR	**Shooshtar-Gavs**	**1.51**	**103**	*e*Pn	Pn	19 29 16.9	-0.8
NSR	**Nassriya**	**1.65**	**209**	*e*Pn	Pn	19 29 17.0	-2.5
	SNR=4.0						
NSR				*e*Sn	Sn	19 29 39.0	-2.1
	SNR=4.0						
IKOM	**Komasi**	**1.75**	**12**	*e*Pn	Pn	19 29 20.5	-0.5
IKOM				*e*Sg	Sb	19 29 44.9	+0.1
IKOM				*e*AMB	AMB	19 29 46.4	
	comp=Z,2μm,0.3s						
IVIS	**Veis**	**2.06**	**355**	*e*Pn	Pn	19 29 25.6	+0.2
IVIS				*e*AMB	AMB	19 29 57.1	
	comp=Z,770nm,0.4s						
ILIN	**Lien**	**2.45**	**358**	*e*Pn	Pn	19 29 30.0	-0.8
ILIN				*e*AMB	AMB	19 30 08.6	
	comp=Z,306nm,0.2s						
SNGE	**Sanandaj**	**2.63**	**5**	*e*Pn	Pn	19 29 32.7	-0.6
KHMZ	**Khomeyn**	**2.74**	**62**	*e*Pn	Pn	19 29 34.2	-0.6
KHMZ				*e*Sg	Sb	19 30 14.7	+1.1
IKLH	**Kolahrood**	**3.89**	**76**	*e*Pn	Pn	19 29 50.7	+0.1
IKLH				*e*AMB	AMB	19 30 04.8	
	comp=Z,141nm,0.2s						
IZEF	**Zefreh**	**4.46**	**83**	*e*Pn	Pn	19 29 58.1	-0.3
IZEF				*e*AMB	AMB	19 30 11.8	
	comp=Z,64nm,0.2s						
IRAM	**Ramesheh**	**4.56**	**97**	*e*Pn	Pn	19 29 58.6	-1.2
IRAM				*e*AMB	AMB	19 31 02.0	
	comp=Z,58nm,0.2s						
RTB	**Rutbah**	**5.72**	**277**	*e*Pn	Pn	19 30 14.0	-1.6
	SNR=4.0						
RTB				*e*Sn	Sn	19 31 19.0	-2.6
	SNR=4.0						

*ISCJB **29** 19:29:54.9±0.5,43.°37N±0.°02×13.°24E±0.°03,h8km±5km, Error ellipse: s-maj=4.4km s-min=3.9km az=153.2*
*ROM **29** 19:29:54.6±0.1,43.°38N×13.°21E,h7km,Md2.5/23, Ml2.0/21,Error ellipse: s-maj=1.1km s-min=0.9km az=67.0*
*CSEM **29** 19:29:55.0±0.1,43.°36N×13.°24E,h5km,ML2.7/13,Error ellipse: s-maj=2.6km s-min=2.1km az=59.0*

ISC 29 19:29:53.7±1.0,43.°34N±0.°02×13.°34E±0.°02,h5km±11km, n47,σ0.°62/77,Central Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CING	**Cingoli**	**0.11**	**292**	Pg	**Pg**	**19 29 56.4**	**+0.4**
CING				Sg	**Sg**	**19 29 57.2**	**-0.3**
	2μm,0.1s						
CING	**Cingoli**	**0.11**	**292**	Pg	**Pg**	**19 29 56.4**	**+0.4**
CING				Sg	**Sg**	**19 29 57.2**	**-0.3**
	2μm,0.1s						
AOI	**Ancona**	**0.29**	**42**	Pg	**Pb**	**19 30 02.4**	**+0.9**
AOI	**Ancona**	**0.29**	**42**	Pg	**Pb**	**19 30 02.4**	**+0.9**
AOI				Sg	**Sb**	**19 30 08.2**	**+1.6**
	129nm,0.4s						
SNTG	**Esanatoglia**	**0.30**	**255**	Pg	**Pg**	**19 29 59.9**	**+0.4**
SNTG				Sg	**Sg**	**19 30 03.8**	**+0.3**
	388nm,0.3s						
SNTG	**Esanatoglia**	**0.30**	**255**	Pg	**Pg**	**19 29 59.9**	**+0.4**
SNTG				Sg	**Sg**	**19 30 03.8**	**+0.3**
	388nm,0.3s						
ARVD	**Arcevia**	**0.33**	**300**	Pg	**Pg**	**19 29 59.8**	**-0.3**
ARVD				Sg	**Sg**	**19 30 03.8**	**-0.7**
	171nm,0.1s						
ARVD	**Arcevia**	**0.33**	**300**	Pg	**Pg**	**19 29 59.8**	**-0.3**
ARVD				Sg	**Sg**	**19 30 03.8**	**-0.7**
	171nm,0.1s						
SSFR	**Montelago di S**	**0.42**	**284**	Pg	**Pg**	**19 30 01.5**	**-0.3**
	221nm,0.3s						
SSFR	**Montelago di S**	**0.42**	**284**	Pg	**Pg**	**19 30 01.5**	**-0.3**
	221nm,0.3s						
CESI	**CESI - Serrava**	**0.46**	**224**	Pg	**Pb**	**19 30 03.6**	**-0.7**
CESI				Sg	**Sb**	**19 30 10.9**	**-0.5**
	25nm,0.2s						
CESI	**CESI - Serrava**	**0.46**	**224**	Pg	**Pb**	**19 30 03.6**	**-0.7**
CESI				Sg	**Sb**	**19 30 10.9**	**-0.5**
	25nm,0.2s						
FRON	**Frontone**	**0.48**	**293**	Pg	**Pg**	**19 30 02.6**	**-0.4**
FRON				Sg	**Sg**	**19 30 09.1**	**-0.1**
	79nm,0.4s						
FRON	**Frontone**	**0.48**	**293**	Pg	**Pg**	**19 30 02.6**	**-0.4**
FRON				Sg	**Sg**	**19 30 09.1**	**-0.1**
	79nm,0.4s						
MPAG	**Monte Paganucc**	**0.51**	**305**	Pg	**Pg**	**19 30 03.1**	**-0.5**
MPAG				Sg	**Sg**	**19 30 09.8**	**-0.5**
	51nm,0.2s						
MPAG	**Monte Paganucc**	**0.51**	**305**	Pg	**Pg**	**19 30 03.1**	**-0.5**
MPAG				Sg	**Sg**	**19 30 09.8**	**-0.5**
	51nm,0.2s						
GUMA	**Gualdo di Mace**	**0.52**	**122**	Pg	**Pg**	**19 30 02.2**	**-1.4**
GUMA				Sg	**Sg**	**19 30 08.1**	**-2.2**
	587nm,0.4s						
NRCA	**Norcia**	**0.53**	**198**	Pg	**Pb**	**19 30 05.4**	**-0.1**
NRCA				Sg	**Sb**	**19 30 14.4**	**+0.9**
	84nm,0.1s						
NRCA	**Norcia**	**0.53**	**198**	Pg	**Pb**	**19 30 05.4**	**-0.1**
NRCA				Sg	**Sb**	**19 30 14.4**	**+0.9**
	84nm,0.1s						
ATCC	**AVT- Casa Cast**	**0.53**	**254**	Pg	**Pg**	**19 30 04.1**	**+0.2**
ATCC				Sg	**Sg**	**19 30 11.6**	**+0.8**
	131nm,0.3s						
ATCC	**AVT- Casa Cast**	**0.53**	**254**	Pg	**Pg**	**19 30 04.1**	**+0.2**
ATCC				Sg	**Sg**	**19 30 11.6**	**+0.8**
	131nm,0.3s						
FSSB	**Fossombrone**	**0.54**	**312**	Pg	**Pg**	**19 30 03.9**	**-0.2**
FSSB				Sg	**Sg**	**19 30 11.2**	**0.0**
	229nm,0.3s						
FSSB	**Fossombrone**	**0.54**	**312**	Pg	**Pg**	**19 30 03.9**	**-0.2**
FSSB				Sg	**Sg**	**19 30 11.2**	**0.0**
	229nm,0.3s						
MURB	**Monte Urbino**	**0.60**	**263**	Pg	**Pg**	**19 30 05.2**	**0.0**
MURB				Sg	**Sg**	**19 30 13.8**	**+0.9**
	290nm,0.2s						
MURB	**Monte Urbino**	**0.60**	**263**	Pg	**Pg**	**19 30 05.2**	**0.0**
MURB				Sg	**Sg**	**19 30 13.8**	**+0.9**
	290nm,0.2s						
PIEI	**Pieia**	**0.62**	**289**	Pg	**Pg**	**19 30 04.8**	**-0.8**
PIEI				Sg	**Sg**	**19 30 13.1**	**-0.5**
	46nm,0.1s						
PIEI	**Pieia**	**0.62**	**289**	Pg	**Pg**	**19 30 04.8**	**-0.8**
PIEI				Sg	**Sg**	**19 30 13.1**	**-0.5**
	46nm,0.1s						
ATPC	**Poggio Castell**	**0.66**	**283**	Pg	**Pg**	**19 30 05.9**	**-0.4**
ATPC				Sg	**Sg**	**19 30 15.3**	**+0.4**
	79nm,0.2s						
ATPC	**Poggio Castell**	**0.66**	**283**	Pg	**Pg**	**19 30 05.9**	**-0.4**
ATPC				Sg	**Sg**	**19 30 15.3**	**+0.4**
	79nm,0.2s						
ATVO	**AVT- Monte Val**	**0.68**	**274**	Pg	**Pg**	**19 30 06.2**	**-0.6**
ATVO				Sg	**Sg**	**19 30 15.3**	**-0.3**
	60nm,0.3s						
ATVO	**AVT- Monte Val**	**0.68**	**274**	Pg	**Pg**	**19 30 06.2**	**-0.6**
ATVO				Sg	**Sg**	**19 30 15.3**	**-0.3**
	60nm,0.3s						
SMA1	**SAN MARTINO**	**0.70**	**180**	Pg	**Pb**	**19 30 09.1**	**+0.5**
	105nm,0.3s						
SMA1	**SAN MARTINO**	**0.70**	**180**	Pg	**Pb**	**19 30 09.1**	**+0.5**
	105nm,0.3s						
PESA	**Pesaro**	**0.70**	**329**	Pg	**Pb**	**19 30 07.7**	**-0.8**
PESA	**Pesaro**	**0.70**	**329**	Pg	**Pb**	**19 30 07.7**	**-0.8**
LNSS	**Leonessa**	**0.76**	**197**	Pg	**Pb**	**19 30 09.6**	**0.0**
	38nm,0.4s						
LNSS	**Leonessa**	**0.76**	**197**	Pg	**Pb**	**19 30 09.6**	**0.0**
	38nm,0.4s						
CAMP	**Campotosto**	**0.80**	**176**	Pg	**Pb**	**19 30 10.7**	**+0.5**
	50nm,0.4s						
CAMP	**Campotosto**	**0.80**	**176**	Pg	**Pb**	**19 30 10.7**	**+0.5**
	50nm,0.4s						
BADI	**Badiali**	**0.81**	**283**	Pg	**Pg**	**19 30 08.8**	**-0.5**
	36nm,0.2s						
BADI	**Badiali**	**0.81**	**283**	Pg	**Pg**	**19 30 08.8**	**-0.5**
	36nm,0.2s						
ATMC	**Monte Cedrone**	**0.84**	**278**	Pg	**Pg**	**19 30 09.6**	**-0.2**
	23nm,0.4s						
ATMC	**Monte Cedrone**	**0.84**	**278**	Pg	**Pg**	**19 30 09.6**	**-0.2**
	23nm,0.4s						
PARC	**Parchiule**	**0.86**	**292**	Pg	**Pg**	**19 30 09.5**	**-0.7**
	15nm,0.4s						
PARC	**Parchiule**	**0.86**	**292**	Pg	**Pg**	**19 30 09.5**	**-0.7**
	15nm,0.4s						
NVLJ	**Novalja**	**1.66**	**42**	*e*Pn	**Pg**	**19 30 25.4**	**-0.1**
NVLJ				Sn	**Sg**	**19 30 47.0**	**+0.1**
NVLJ	**Novalja**	**1.66**	**42**	*e*Pn	**Pg**	**19 30 25.3**	**-0.1**
NVLJ				Sn	**Sg**	**19 30 47.0**	**+0.1**

*NIED **29** 19:40:00,39.°90N×143.°60E,h17km,Mw3.6 Best double couple: M0 3.30000×10^14 NP1:φs198.00000°,δ35.00000°, λ86.00000°. NP2:φs24.00000°,δ55.00000°,λ93.00000°.*
*IDC **29** 19:40:43.5±1.5,39.°82N×143.°86E,h0km,mb3.6/9, mb1 3.6/12,mb1mx3.4/71,mbtmp3.6/12,ML2.8/3,MS2.7/1, Ms1 2.7/1,ms1mx2.1/60,Error ellipse: s-maj=35.4km s-min=21.2km az=91.0*
*JMA **29** 19:40:46.5±0.2,39.°89N×143.°58E,h16km,M3.6*

ISC 29 19:40:44.9±3.7,39.°87N±0.°05×143.°62E±0.°07,h4km±23km, n28,σ1.°35/37,mb3.5/9,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JTH	**Tanohata**	**1.35**	**273**	P	**Pn**	**19 41 10.2**	**-0.3**
MIYJ	**Miyakonagasawa**	**1.42**	**259**	P	**Pn**	**19 41 11.6**	**+0.2**
MIYJ				*e*S	**Sb**	**19 41 30.1**	**-0.2**
JANG	**Nango**	**1.69**	**288**	P	**Pn**	**19 41 15.1**	**0.0**
JOM	**Ohasama**	**1.84**	**258**	P	**Pb**	**19 41 18.2**	**-0.8**
JOM				*e*S	**Sb**	**19 41 41.5**	**-0.9**
JMK	**Ichinoseki**	**2.08**	**244**	P	**Pn**	**19 41 20.8**	**+0.4**
JMK				*e*S	**Sn**	**19 41 46.1**	**-0.5**
JTM	**Tenmabayashi**	**2.15**	**296**	P	**Pn**	**19 41 22.6**	**+1.1**
JTM				*e*S	**Sn**	**19 41 48.2**	**-0.4**
JAH	**Hinai**	**2.31**	**279**	P	**Pn**	**19 41 25.0**	**+1.3**
JAH				S	**Sn**	**19 41 52.9**	**+0.4**
JRG	**Rokugo**	**2.35**	**259**	P	**Pn**	**19 41 25.7**	**+1.4**
JRG				*e*S	**Sb**	**19 41 54.6**	**-2.6**
JOT	**Ohata**	**2.47**	**308**	*e*S	**Sn**	**19 41 56.7**	**+0.3**
JNBK	**Urakawa-nobuka**	**2.49**	**345**	P	**Pn**	**19 41 28.1**	**+1.9**
JNBK				*e*S	**Sb**	**19 41 58.8**	**-2.4**
JYK	**Kaneyama**	**2.70**	**250**	P	**Pn**	**19 41 30.2**	**+1.2**
JCH	**Churui**	**2.75**	**356**	S	**Sn**	**19 42 02.2**	**-1.0**
JAK	**Akkeshi**	**3.23**	**14**	S	**Sn**	**19 42 13.8**	**-1.2**
JAR	**Ashorobuto**	**3.42**	**2**	P	**Pn**	**19 41 39.1**	**+0.2**
JAR				S	**Sn**	**19 42 17.1**	**-2.8**
ASAJ	**Asahikawa**	**4.31**	**350**	Pn	**Pn**	**19 41 52.5**	**+1.4**
	0.6nm,0.3s,baz=204,slow=19,SNR=8.7						
ASAJ				Sn	**Sn**	**19 42 42.9**	**+1.1**
	1.1nm,0.3s,baz=108,slow=20,SNR=3.2						
MJAR	**Matsushiro Arr**	**5.41**	**234**	Pn	**Pn**	**19 42 07.9**	**+1.7**
	0.7nm,0.3s,baz=44,slow=11,SNR=26						
MAT	**Matsushiro**	**5.41**	**234**	P	**Pn**	**19 42 07.8**	**+1.6**
MAT				*e*S	**Sn**	**19 43 08.4**	**-0.5**
USRK	**Ussuriysk Ar.**	**9.67**	**300**	Pn	**Pn**	**19 43 07.9**	**+3.2**
	0.1nm,0.3s,baz=106,slow=15,SNR=2.7						
JNU	**Nakatsue**	**12.26**	**241**	LR	LR	19 49 08.0	
	comp=Z,37nm,20.5s,baz=118,slow=41						
SEY	**Seymchan**	**23.69**	**10**	P	**P**	**19 45 58.1**	**+0.8**
	1.7nm,0.8s,baz=136,slow=2.2,SNR=4.1						
SONM	**Songino Array**	**27.78**	**299**	P	**P**	**19 46 36.0**	**+1.2**
	0.5nm,0.6s,baz=93,slow=8.7,SNR=5.0						
ZALV	**Zalesovo Beam**	**41.35**	**310**	P	**P**	**19 48 32.6**	**+1.1**
	0.4nm,0.4s,baz=96,slow=5.8,SNR=2.6						
MKAR	**Makanchi Array**	**44.14**	**300**	P	**P**	**19 48 54.2**	**-0.1**
	1.1nm,0.8s,baz=79,slow=8.6,SNR=5.5						
KURBB	**Kurchatov Arra**	**45.68**	**306**	P	**P**	**19 49 07.1**	**+0.6**
	1.1nm,0.8s,baz=79,slow=8.6,SNR=5.5						
BVAR	**Borovoye Array**	**49.98**	**311**	P	**P**	**19 49 40.4**	**+0.5**
	0.2nm,0.5s,baz=47,slow=6.9,SNR=3.1						
WRA	**Warramunga Arr**	**60.13**	**190**	P	**P**	**19 50 52.7**	**-0.7**
	0.8nm,1.1s,baz=8.9,slow=7.0,SNR=6.2						
FINES	**FINESS Array B**	**67.11**	**332**	P	**P**	**19 51 39.0**	**-0.1**
	0.6nm,0.7s,baz=62,slow=9.6,SNR=2.9						
GERES	**GERESS Array B**	**81.19**	**329**	P	**P**	**19 53 01.3**	**-0.3**
	0.1nm,0.4s,baz=31,slow=5.0,SNR=2.1						

IDC 29 19:41:39.2±4.0,19.°00S×167.°73E,h0km,mb3.5/2, mb1 3.7/3,mb1mx3.4/46,mbtmp3.4/3,ML2.7/1,Error ellipse: s-maj=76.7km s-min=38.3km az=92.0,Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**3.28**	**201**	Pn	Pn	19 42 30.1	-1.9
	0.8nm,0.3s,baz=88,slow=14,SNR=27						
DZM				Sn	Sn	19 43 13.5	+1.7
	3.2nm,0.3s,baz=306,slow=22,SNR=9.1						
WRA	**Warramunga Arr**	**31.46**	**263**	P	P	19 48 02.7	-0.1
	0.2nm,0.4s,baz=89,slow=8.5,SNR=8.3						
ASAR	**Alice Springs**	**31.80**	**256**	P	P	19 48 06.2	+0.4
	0.7nm,0.6s,baz=82,slow=8.7,SNR=11						
BRTR	**Keskin Array B**	**135.54**	**308**	PKP	PKPdf	20 01 02.1	+0.2
	0.3nm,0.5s,baz=60,slow=2.8,SNR=4.3						

IDC 29 19:52:36.1±3.6,4.°06S×130.°47E,h0km,mb3.2/1, mb1 3.3/3,mb1mx3.1/49,mbtmp3.2/3,ML2.9/2,Error ellipse: s-maj=278.6km s-min=29.1km az=71.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**16.23**	**167**	Pn	Pn	19 56 27.0	+1.3
	0.0nm,0.3s,baz=348,slow=12,SNR=3.1						
ASAR	**Alice Springs**	**19.77**	**171**	P	P	19 57 07.4	-0.6
	0.1nm,0.3s,baz=348,slow=11,SNR=9.2						
MKAR	**Makanchi Array**	**66.05**	**326**	P	P	20 03 24.9	0.0
	0.2nm,0.5s,baz=117,slow=8.3,SNR=2.8						

*DDA **29** 20:05:12.9,38.°65N×26.°63E,h7km,Ml2.5*
*ISCJB **29** 20:05:13.2±0.6,38.°66N±0.°02×26.°66E±0.°06,h7km±7km, Error ellipse: s-maj=8.4km s-min=3.7km az=170.9*
*ATH **29** 20:05:13.4,38.°64N×26.°61E,h26km±9km,ML1.7/2,Error ellipse: s-maj=9.9km s-min=1.0km az=259.0*
*CSEM **29** 20:05:13.1±0.3,38.°66N×26.°68E,h5km,ML1.7,Error ellipse: s-maj=6.5km s-min=3.3km az=80.0*

ISC 29 20:05:13.0±1.1,38.°66N±0.°02×26.°66E±0.°04,h10km±12km, n16,σ0.°47/29,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URLA	**Izmir**	**0.31**	**189**	*i* P	**Pg**	**20 05 18.6**	**-0.6**
URLA				*i* S	**Sg**	**20 05 24.1**	**+0.8**
URLA	**Izmir**	**0.31**	**189**	P	**Pg**	**20 05 18.6**	**-0.6**
URLA				S	**Sg**	**20 05 24.1**	**+0.8**
ZEY	**˜zmir**	**0.44**	**196**	*i* P	**Pg**	**20 05 21.6**	**-0.1**
ZEY				*i* S	**Sb**	**20 05 28.8**	**-0.7**
CHOS	**Chios island**	**0.55**	**240**	P	**Pb**	**20 05 24.1**	**-0.7**
CHOS				S	**Sg**	**20 05 31.2**	**+0.3**
CHOS				AML	AML	20 05 36.7	
	comp=E,242μm,0.2s						
CHOS				AML	AML	20 05 37.4	
	comp=N,157μm,0.2s						
CHOS	**Chios island**	**0.55**	**240**	P	**Pg**	**20 05 23.9**	**+0.2**
CHOS				S	**Sg**	**20 05 31.3**	**+0.3**
DGB	**˜zmir**	**0.64**	**164**	*i* P	**Pg**	**20 05 24.9**	**-0.4**
DGB				*i* S	**Sg**	**20 05 33.9**	**+0.2**
AYVA	**Ayvalik**	**0.65**	**2**	*i* P	**Pg**	**20 05 25.1**	**-0.4**
AYVA				*i* S	**Sb**	**20 05 36.0**	**+0.6**
AYVA	**Ayvalik**	**0.65**	**2**	P	**Pg**	**20 05 25.1**	**-0.4**
PRK	**Paraskevi**	**0.66**	**333**	P	**Pb**	**20 05 26.3**	**-0.2**
PRK				S	**Sb**	**20 05 36.4**	**+0.7**
PRK				AML	AML	20 05 37.0	
	comp=E,109μm,0.5s						
PRK				AML	AML	20 05 39.8	
	comp=N,178μm,0.6s						
PRK	**Paraskevi**	**0.66**	**333**	P	**Pb**	**20 05 26.4**	**-0.2**
PRK				S	**Sb**	**20 05 36.2**	**+0.4**
SIGR	**SIGRI**	**0.83**	**311**	P	**Pg**	**20 05 29.0**	**-0.1**
SIGR				S	**Sb**	**20 05 40.7**	**-0.2**
SIGR	**SIGRI**	**0.83**	**311**	P	**Pb**	**20 05 29.2**	**-0.4**
SIGR				S	**Sb**	**20 05 40.8**	**0.0**
PSRA	**Psara**	**0.87**	**262**	P	**Pb**	**20 05 29.9**	**-0.3**
PSRA	**Psara**	**0.87**	**262**	P	**Pb**	**20 05 29.7**	**0.0**
SMG	**Samos**	**0.96**	**172**	P	**Pb**	**20 05 31.9**	**+0.1**
SMG				S	**Sb**	**20 05 44.9**	**+0.3**
SMG	**Samos**	**0.96**	**172**	P	**Pb**	**20 05 31.9**	**+0.1**
SMG				S	**Sb**	**20 05 45.1**	**+0.5**

*IDC **29** 20:07:11.9±0.6,2.°63S×68.°16E,h0km,mb4.0/26, mb1 4.1/27,mb1mx4.0/75,mbtmp4.0/27,ML3.8/1,MS4.1/52, Ms1 4.1/52,ms1mx4.0/65,Error ellipse: s-maj=15.7km s-min=15.4km az=78.0*
*ISCJB **29** 20:07:13.0±0.5,2.°49S±0.°08×67.°90E±0.°06,h11km, mb4.2/43,MS4.1/52,Error ellipse: s-maj=11.9km s-min=8.7km az=157.2*
*NEIC **29** 20:07:13.6±0.5,2.°60S×68.°08E,h10km,mb4.4/3,Error ellipse: s-maj=13.4km s-min=10.7km az=144.0*
*GCMT **29** 20:07:13.6±0.2,2.°76S×68.°00E,h12km,MW5.0/112, Moment Tensor Solution. s46,c57; s112,c175; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr~3.57±.07; Mθθ 1.85±.07; Mφφ 1.71±.07; Mrθ 1.41±.21; Mrφ~1.60±.06; Mθφ~0.41±.23; Best double couple: M0 3.76900×10^16 NP1:φs304.00000°,δ56.00000°,λ-101.00000°. NP2: φs143.00000°,δ35.00000°,λ-75.00000°. Principal axes: T 3.6220, Plg10.0000°, Azm42.0000°; N 0.2820, Plg9.0000°, Azm310.0000°; P -3.9150, Plg76.0000°, Azm181.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*BJI **29** 20:07:13.0,2.°60S×68.°00E,h10km,mb4.4/10,mB4.9/9, Ms4.5/4,Ms7 4.4/4*

ISC 29 20:07:14.2±0.6,2.°6S±0.°1×67.°97E±0.°09,h11km,n100, σ1.°53/62,mb4.3/44,MS4.1/52,Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H08N2	**Diego Garcia H**	**4.79**	**141**	T	T	20 13 27.2	
	baz=320,slow=75,SNR=1829						
H08N3	**Diego Garcia H**	**4.80**	**141**	T	T	20 13 22.1	
	baz=320,slow=75,SNR=2116						
H08N1	**Diego Garcia H**	**4.82**	**141**	T	T	20 13 20.3	
	baz=320,slow=75,SNR=1932						
PALK	**Pallekele**	**16.04**	**52**	Pn	**Pn**	**20 10 59.2**	**-0.7**
	0.4nm,0.3s,baz=116,slow=17,SNR=3.3						
PALK				LR	LR	20 15 49.4	
	comp=Z,2μm,20.4s,baz=296,slow=32						
HYB	**Hyderabad**	**22.44**	**27**	*i* P	**P**	**20 12 16.0**	**+2.5**
OPO	**Ambohidratompo**	**25.83**	**231**	LR	LR	20 20 46.9	
	comp=Z,2μm,18.6s,baz=48,slow=31						
WSAR	**Wadi Sarin**	**27.23**	**341**	LR	LR	20 21 51.0	
	comp=Z,344nm,19.0s,baz=172,slow=32						
ATD	**Arta Tunnel**	**28.64**	**300**	LR	LR	20 22 12.5	
	comp=Z,203nm,21.6s,baz=116,slow=31						
KMBO	**Kilima Mbogo**	**30.73**	**272**	LR	LR	20 23 14.4	
	comp=Z,331nm,21.9s,baz=94,slow=31						
PSI	**Prapat**	**31.40**	**80**	LR	LR	20 24 07.5	
	comp=Z,1μm,21.1s,baz=252,slow=32						
RAYN	**Ar Rayn**	**33.94**	**321**	P	**P**	**20 13 54.6**	**-3.2**
	7.1nm,1.4s						
NIL	**Nilore**	**36.38**	**7**	P	**P**	**20 14 15.5**	**-3.2**
CMAR	**Chiang Mai Arr**	**36.97**	**54**	P	**P**	**20 14 25.3**	**+1.4**
	3.2nm,1.0s,baz=246,slow=10.0,SNR=19						
CMAR				LR	LR	20 27 40.2	
	comp=Z,376nm,21.9s,baz=244,slow=33						
CHTO	**Chiang Mai**	**37.15**	**54**	P	**P**	**20 14 28.4**	**+2.9**
	44nm,1.6s						
CHTO	**Chiang Mai**	**37.15**	**54**	P	P	20 14 20.4	-5.0
	7.9nm,1.1s						
CMMT	**Chiang Mai**	**37.16**	**54**	P	**P**	**20 14 27.3**	**+1.8**
	9.8nm,1.6s						
PHIT	**Phitsanulok**	**37.56**	**57**	P	**P**	**20 14 32.2**	**+3.3**
	6.2nm,0.9s						
PBKT	**Sadao Pong**	**37.74**	**59**	P	**P**	**20 14 33.3**	**+2.9**
	8.3nm,1.1s						
PAYA	**Payao**	**38.18**	**54**	P	P	20 14 40.3	+6.1
	10μm,1.1s,579μm						
CHAI	**Chaiyaphum**	**38.32**	**60**	P	**P**	**20 14 38.3**	**+3.0**
	4.6nm,0.8s,46nm						
LSA	**Lhasa**	**39.01**	**33**	*e*P	**P**	**

TGY	Tagaytay City	55.04	71	LR	LR	20 38 39.9		
	comp=Z,154nm,20.8s,baz=270,slow=34							
NWAO	Narrogin (SRO)	55.08	129	LR	LR	20 37 13.9		
	comp=Z,93nm,18.4s,baz=185,slow=33							
BVAR	Borovoye Array	55.44	2	P	P	20 16 49.1	+0.4	
	1.4nm,0.9s,baz=129,slow=2.1,SNR=9.4							
BVAR				LR	LR	20 40 45.5		
	comp=Z,144nm,20.8s,baz=182,slow=36							
BATI	Baumata	55.80	101	LR	LR	20 39 42.6		
	comp=Z,199nm,20.5s,baz=272,slow=35							
ZALV	Zalesovo Beam	58.05	12	P	P	20 17 06.4	-0.8	
	1.5nm,0.6s,baz=225,slow=6.1,SNR=7.6							
ZALV				LR	LR	20 42 23.3		
	comp=Z,191nm,19.2s,baz=250,slow=36							
SONM	Songino Array	60.38	29	P	P	20 17 24.1	+0.5	
	5.4nm,1.1s,baz=220,slow=7.2,SNR=17							
SONM				LR	LR	20 43 19.0		
	comp=Z,810nm,20.8s,baz=223,slow=36							
AKASG	Malin Array Be	62.55	333	P	P	20 17 37.0	-1.1	
	0.4nm,0.4s,baz=122,slow=6.0,SNR=6.2							
MAW	Mawson	65.00	182	LR	LR	20 38 51.5		
	comp=Z,361nm,21.8s,baz=56,slow=29							
JOW	Kunigami	65.03	59	LR	LR	20 47 53.6		
	comp=Z,134nm,18.0s,baz=278,slow=38							
CRVS	Cervenica-Dubn	65.16	328	eP	PP	20 20 18.9	+0.1	
STHS	Stebnicka Huta	65.58	329	eP	P	20 17 58.4	+0.3	
VYHS	Vyhne	66.33	327	eP	P	20 18 02.3	-0.6	
LANS	Liptovska Anna	66.36	328	eP	P	20 18 04.9	+1.7	
WRA	Warramunga Arr	66.93	110	P	P	20 18 05.6	-1.8	
	1.5nm,0.6s,baz=292,slow=5.8,SNR=18							
ASAR	Alice Springs	66.96	115	P	P	20 18 05.3	-2.2	
	1.2nm,0.9s,baz=284,slow=6.1,SNR=8.3							
ASAR				LR	LR	20 42 52.0		
	comp=Z,95nm,21.8s,baz=291,slow=32							
KLMR	Klimovskoe	66.98	345	eP	P	20 18 08.4	+1.6	
KLMR				AMP		20 18 10.6		
	comp=Z,29nm,1.5s							
TORD	Torodi Ar. Bea	67.58	285	P	P	20 18 13.3	+1.8	
	comp=Z,0.8nm,1.1s,baz=90,slow=4.3,SNR=2.6							
TORD				LR	LR	20 45 52.9		
	comp=Z,146nm,21.5s,baz=100,slow=34							
CONA	Conrad Observa	67.69	325	iP	P	20 18 11.2	-0.6	
	comp=Z,7.7nm,1.6s							
KSAR	Wonju Array Be	68.19	48	P	P	20 18 14.5	-0.4	
KSRS	Korea Array	68.22	48	P	P	20 18 14.5	-0.6	
	comp=Z,0.5nm,0.7s,baz=233,slow=3.6,SNR=4.4							
KSRS				LR	LR	20 49 18.6		
	comp=Z,216nm,19.2s,baz=244,slow=37							
MOA	Molln	68.57	324	iP	P	20 18 22.8	+5.6	
	comp=Z,6.1nm,1.1s							
JNU	Nakatsue	69.05	53	LR	LR	20 50 22.9		
	comp=Z,138nm,18.3s,baz=297,slow=38							
ABTA	Abfaltersbach	69.08	323	iP	P	20 18 20.2	-0.2	
	comp=Z,4.6nm,1.1s							
GERES	GERESS Array B	69.40	325	LR	LR	20 48 12.5		
	comp=Z,39nm,21.7s,baz=105,slow=35							
KHC	Kasperske Hory	69.61	325	eP	P	20 18 21.0	-2.6	
MOTA	Mooosalm	70.21	323	iP	P	20 18 26.5	-1.0	
	comp=Z,6.7nm,1.1s							
FETA	Feichten	70.29	322	iP	P	20 18 27.2	-0.8	
	comp=Z,3.4nm,0.9s							
DAVA	Damuels	70.93	322	P	P	20 18 33.8	+2.0	
	comp=Z,6.6nm,0.8s							
CLL	Collm	71.02	327	eP	P	20 18 34.0	+1.9	
FINES	FINESS Array B	71.45	340	LR	LR	20 50 57.0		
	comp=Z,68nm,21.7s,baz=123,slow=37							
KOWA	Kowa	73.26	286	LR	LR	20 49 48.6		
	comp=Z,156nm,21.1s,baz=105,slow=35							
DBIC	Dimbokro	73.27	278	LR	LR	20 48 57.5		
	comp=Z,71nm,21.8s,baz=82,slow=34							
USRK	Ussuriysk Ar.	73.52	42	LR	LR	20 54 12.3		
	comp=Z,92nm,19.4s,baz=231,slow=38							
STKA	Stephens Creek	74.75	122	LR	LR	20 49 05.0		
	comp=Z,96nm,19.5s,baz=221,slow=34							
KLR	Kul'dur	75.19	37	P	P	20 18 55.1	-1.8	
	comp=Z,0.2nm,0.9s,baz=226,slow=3.2,SNR=5.4							
KLR				LR	LR	20 54 15.3		
	comp=Z,23nm,19.1s,baz=214,slow=38							
HFS	Hagfors	75.33	335	P	P	20 18 57.0	-0.4	
	comp=Z,2.7nm,0.8s,baz=142,slow=7.3,SNR=6.4							
MJAR	Matsushiro Arr	75.79	51	P	P	20 18 59.7	-0.9	
	comp=Z,0.5nm,0.8s,baz=159,slow=16,SNR=4.2							
MJAR				LR	LR	20 53 45.5		
	comp=Z,124nm,18.8s,baz=275,slow=37							
JHJ	Hachijo jima 2	76.27	55	LR	LR	20 54 28.8		
	comp=Z,60nm,18.2s,baz=272,slow=37							
NOA	NORSAR Array B	76.85	335	LR	LR	20 55 32.2		
	comp=Z,35nm,18.2s,baz=110,slow=38							
ARCES	ARCESS Array B	77.45	346	P	P	20 19 09.0	-0.3	
	comp=Z,1.9nm,0.8s,baz=125,slow=5.6,SNR=2.8							
ARCES				LR	LR	20 54 16.5		
	comp=Z,99nm,21.5s,baz=124,slow=36							
ESDC	Sonseca Array	77.84	311	P	P	20 19 12.1	-0.1	
	comp=Z,2.5nm,0.8s,baz=88,slow=5.0,SNR=11							
GUMO	Guam	77.91		LR	LR	20 50 10.1		
	comp=Z,46nm,21.8s,baz=282,slow=33							
PMG	Port Moresby	78.92	99	LR	LR	20 55 19.2		
	comp=Z,58nm,19.2s,baz=270,slow=37							
YAK	Yakutsk	79.41	25	LR	LR	20 55 17.5		
	comp=Z,360nm,21.5s,baz=270,slow=36							
SNAA	Sanae	81.59	198	P	P	20 19 31.5	-0.4	
SNAA	Sanae	81.59	198	P	P	20 19 31.5	-0.4	
	comp=Z,0.8nm,0.8s,baz=18,slow=3.2,SNR=5.4							
SNAA				LR	LR	20 47 07.9		
	comp=Z,218nm,21.7s,baz=88,slow=29							
VNA2	Neumayer--Watz	82.81	199	P	P	20 19 38.2	0.0	
	baz=50,slow=4.9							
TIXI	Tiksi	83.60	16	P	P	20 19 41.3	-0.9	
	comp=Z,2.8nm,0.8s,baz=251,slow=0.9,SNR=16							
TIXI				LR	LR	20 58 16.1		
	comp=Z,213nm,18.9s,baz=237,slow=37							
TIXI	Tiksi	83.60	16	P	P	20 19 41.3	-0.9	
	comp=Z,0.6nm,1.3s							
VNA3	Neumayer Olymp	83.60	199	P	P	20 19 43.5	+1.2	
SPITS	Spitsbergen Ar	85.17	351	LR	LR	21 00 51.2		
	comp=Z,68nm,19.8s,baz=305,slow=38							
BBTS	Babate	85.33	285	LR	LR	20 59 11.8		
	comp=Z,103nm,19.0s,baz=90,slow=36							
QSPA	South Pole Qui	87.42	180	LR	LR	20 53 11.7		
	comp=Z,244nm,20.4s,baz=290,slow=32							
VNDA	Vanda	88.34	167	LR	LR	20 55 39.0		
	comp=Z,160nm,18.3s,baz=258,slow=33							
MA2	Magadan	88.55	30	LR	LR	21 01 13.1		
	comp=Z,304nm,19.1s,baz=284,slow=37							
HNR	Honiara	91.53	99	LR	LR	21 04 55.2		
	comp=Z,68nm,18.1s,baz=218,slow=38							
PETK	Petropavlovsk-	91.88	37	LR	LR	21 04 29.0		
	comp=Z,92nm,19.0s,baz=271,slow=37							
DZM	Mont Dzumac	96.88	112	LR	LR	21 04 14.2		
	comp=Z,82nm,18.9s,baz=240,slow=35							
YKA	Yellowknife Ar	120.19	1	PKP	PKPdf	20 26 03.0	-2.1	
	comp=Z,0.4nm,0.8s,baz=358,slow=2.0,SNR=5.6							
PDAR	Pinedale Array	139.93	357	PKP	PKPdf	20 26 42.0	-1.3	
	comp=Z,0.5nm,0.6s,baz=64,slow=2.1,SNR=2.2							
NVAR	Mina Array Bea	143.86	8	PKP	PKPdf	20 26 51.1	+0.6	
	comp=Z,0.2nm,0.6s,baz=270,slow=2.7,SNR=2.8							
TXAR	Lajitas Array	152.23	344	PKPbc	PKPbc	20 27 10.3	-0.6	
	comp=Z,0.8nm,0.6s,baz=102,slow=1.4,SNR=8.9							

*IDC **29** 20:27:12.4±1.1, 4.°66S×102.°49E, h0km, mb3.9/14, mb1 4.0/14, mb1mx3.8/60, mbtmp3.9/14, Error ellipse: s-maj=43.3km s-min=14.2km az=49.0*
*ISCJB **29** 20:27:20.4±0.8, 4.°67S±0.°08×102.°71E±0.°07, h76km±5km, mb3.9/14, Error ellipse: s-maj=17.1km s-min=5.1km az=40.4*
*DJA **29** 20:27:21.9±0.3, 5°S±2°×10°3E±°, h34km±4km, M3.9/10, MLv3.9/10*

ISC 29 20:27:21.0±1.1, 4.°66S±0.°09×102.°72E±0.°07, h63km±9km, n29, σ1°09/33, mb4.0/14, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MNAI	Manna	0.38	38	P		Pn	20 27 30.9	-1.1
MNAI				S		Sn	20 27 40.2	+0.1
LWLI	Liwa	1.38	105	P		Pn	20 27 45.2	+1.0
LWLI				S		Sn	20 28 02.2	+0.5
MDSI	Maura Dua	1.46	83	P		Pn	20 27 46.0	+0.8
MDSI				S		Sn	20 28 04.0	+0.5
MASI	Maura Aman, Be	1.58	342	P		Pn	20 27 48.1	+1.2
MASI				S		Sn	20 28 08.3	+1.8
KASI	Kota Agung	1.96	116	P		Pn	20 27 52.5	+0.5
KASI				S		Sn	20 28 16.0	+0.4
KLI	Kotabumi	2.14	95	P		Pn	20 27 55.9	+1.6
KLI				S		Sn	20 28 21.6	+1.8
BLSI	Bandar Lampung	2.61	106	P		Pn	20 28 01.0	+0.2
PMBI	Palembang	2.67	50	P		Pn	20 28 02.3	+0.6
KRJI	Kerinci	2.84	334	P		Pn	20 28 05.5	+1.4
KRJI				S		Sn	20 28 38.8	+1.5
PPSI	Pulau Pagai	3.30	305	P		Pn	20 28 11.5	+1.3
CGJI	Cibinong	3.54	123	P		Pn	20 28 13.9	+0.5
BATI	Baumata	21.48	106	P		P	20 32 04.9	+0.3
	16nm,1.0s,baz=290,slow=10,SNR=3.0							
CMAR	Chiang Mai Arr	23.27	351	P		P	20 32 22.1	-1.2
	0.6nm,0.7s,baz=183,slow=8.4,SNR=7.1							
H08S2	Diego Garcia H	30.19	263	T		T	21 05 33.7	
	baz=86							
H08S3	Diego Garcia H	30.20	263	T		T	21 05 22.0	
	baz=86							
H08S1	Diego Garcia H	30.21	263	T		T	21 05 34.1	
	baz=86							
WRA	Warramunga Arr	34.32	119	P		P	20 34 01.9	+0.1
	0.5nm,0.7s,baz=293,slow=10,SNR=20							
ASAR	Alice Springs	35.50	125	P		P	20 34 13.3	+1.3
	0.3nm,0.3s,baz=295,slow=7.7,SNR=9.7							
STKA	Stephens Creek	45.36	131	P		P	20 35 34.7	+1.4
	1.6nm,0.6s,baz=301,slow=8.7,SNR=6.4							
SONM	Songino Array	52.37	3	P		P	20 36 27.3	+0.5
	2.1nm,0.6s,baz=186,slow=9.0,SNR=14							
MKAR	Makanchi Array	54.33	343	P		P	20 36 40.5	-0.6
	1.2nm,0.4s,baz=155,slow=9.2,SNR=18							
USRK	Ussuriysk Ar.	55.30	25	P		P	20 36 47.7	-0.4
	1.6nm,0.7s,baz=220,slow=7.6,SNR=4.2							
KURBB	Kurchatov Arra	58.88	342	P		P	20 37 12.5	-0.7
	0.9nm,0.7s,baz=159,slow=6.9,SNR=6.1							
GEYT	Alibeck	59.22	320	P		P	20 37 13.5	-2.4
	0.6nm,0.5s,baz=128,slow=8.5,SNR=2.4							
ZALV	Zalesovo Beam	60.30	348	P		P	20 37 22.2	-0.7
	2.5nm,0.5s,baz=173,slow=5.3,SNR=14							
BVAR	Borovoye Array	63.62	339	P		P	20 37 44.3	-0.9
	0.7nm,0.3s,baz=120,slow=6.8,SNR=6.8							
BRTR	Keskin Array B	77.11	312	P		P	20 39 08.1	0.0
	0.5nm,0.8s,baz=93,slow=6.2,SNR=4.0							
FINES	FINESS Array B	87.72	332	P		P	20 40 01.9	-0.7
	0.7nm,0.7s,baz=119,slow=7.0,SNR=4.9							
TXAR	Lajitas Array	144.98	43	PKPbc		PKPdf	20 46 51.5	-0.5
	0.6nm,0.6s,baz=236,slow=1.3,SNR=9.1							

JMA 29 20:33:15.9±0.1, 38.°45N×142.°22E, h28km±2km, M3.8, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JIO	Ouri	0.68	271	P		Pb	20 33 29.0	-0.3
JIO				S		Sb	20 33 37.9	-0.5
OFUJ	Ofunato	0.76	326	P		Pb	20 33 30.3	-0.3
OFUJ				eS		Sb	20 33 40.2	-0.4
JMK	Ichinoseki	0.93	303	P		Pn	20 33 33.0	-0.1
JMK				S		Sb	20 33 45.0	-0.4
JOU	Okura	1.23	267	P		Pn	20 33 37.8	+0.6
JOU				eS		Sn	20 33 53.3	+0.5
JOM	Ohasama	1.25	325	P		Pn	20 33 37.9	+0.4
JOM				eS		Sn	20 33 53.9	+0.4
JMM	Marumori	1.27	243	P		Pn	20 33 37.1	-0.6
JMM				S		Sn	20 33 52.8	-1.0
JFK	Kawauchi	1.52	225	P		Pn	20 33 40.2	-1.0
JFK				eS		Sn	20 33 57.5	-2.6
JYK	Kaneyama	1.53	288	P		Pn	20 33 42.1	+0.8
JRG	Rokugo	1.56	308	P		Pn	20 33 42.8	+1.1

*ISCJB **29** 20:48:13.8±0.2, 60.°13N±0.°02×152.°66W±0.°05, h116km±2km, mb3.7/8, Error ellipse: s-maj=4.8km s-min=3.3km az=38.7*
*IDC **29** 20:48:13.5±1.8, 60.°13N×152.°97W, h88km±24km, mb3.4/8, mb1 3.5/12, mb1mx3.2/80, mbtmp3.7/12, Error ellipse: s-maj=19.7km s-min=14.5km az=140.0*
*NEIC **29** 20:48:16.2±0.0, 60.°12N×152.°67W, h102km, ML3.3(AEIC), After AEIC.*

ISC 29 20:48:15.1±0.7, 60.°13N±0.°03×152.°67W±0.°04, h108km±5km, n90, σ0°86/103, mb3.8/8, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
IVE	Iliamna Volcan	0.21	237	P		Pn	20 48 30.2	-0.2
IVE				S		Sn	20 48 41.9	0.0
ILW	Iliamna West	0.24	253	P		Pn	20 48 30.4	-0.3
RDWB	Redoubt West	0.37	347	P		Pn	20 48 30.8	-0.3
RDWB				S		Sn	20 48 42.6	-0.6
NCT	North Crescent	0.45	344	P		Pn	20 48 31.4	-0.1
DFR	Drift River	0.46	359	P		Pn	20 48 31.4	-0.2
DFR				S		Sn	20 48 43.6	-0.4
RDJH	Redoubt Jeurge	0.47	352	P		Pn	20 48 31.4	-0.3
RDJH				S		Sn	20 48 43.8	-0.3
HOM	Homer	0.70	132	P		Pn	20 48 33.3	+0.1
HOM				S		Sn	20 48 47.3	+0.4
AUNW	Augustine NWes	0.86	209	P		Pn	20 48 34.8	+0.1
AUW	Augustine West	0.86	208	P		Pn	20 48 34.8	+0.1
AUI	Augustine Isla	0.88	206	P		Pn	20 48 34.8	-0.1
AUI				S		Sn	20 48 49.7	-0.2
BRLK	Bradley Lake	0.97	111	P		Pn	20 48 35.9	0.0
BRLK				S		Sn	20 48 51.9	+0.4
CKL	Chakachamna La	1.08	9	P		Pn	20 48 37.3	+0.2
SPWE	Spurr West	1.15	3	P		Pn	20 48 38.4	+0.6
SPCP	Crater Peak Br	1.17	12	P		Pn	20 48 38.5	+0.4
SPCP				S		Sn	20 48 55.7	+0.2
SLKM	Skilak Lake	1.28	72	P		Pn	20 48 38.9	-0.3
CDD	Cape Douglas	1.30	203	P		Pn	20 48 39.0	-0.4
STLK	Strandline Lak	1.43	16	P		Pn	20 48 41.4	+0.4
FONW	Fourpeaked Sta	1.45	207	P		Pn	20 48 40.9	-0.3
SUA	Susitna One	1.64	34	P		Pn	20 48 44.1	+0.6
SUA				S		Sn	20 49 05.8	+0.6
SVW2	Sparrevohn	1.73	305	P		Pn	20 48 44.0	-0.6
RC01	Rabbit Creek A	1.74	55	P		Pn	20 48 44.7	0.0
RC01				S		Sn	20 49 06.9	-0.3
KAHC	Katmai Hardscr	1.91	220	P		Pn	20 48 46.6	-0.2
SKT	Skwentna	1.94	16	P		Pn	20 48 47.2	+0.1
KARR	Katmai Rainbow	1.94	213	P		Pn	20 48 47.4	+0.2
PMR	Palmer	2.27	48	P		Pn	20 48 51.0	-0.4
KABU	Katmai Buttres	2.30	217	P		Pn	20 48 52.1	+0.3
KDAK	Kodiak Island	2.35	179	P		Pn	20 48 51.1	-1.4
	12nm,0.3s,baz=359,slow=12,SNR=209							
KDAK				S		Sn	20 49 19.0	-2.2
	16nm,0.3s,baz=246,slow=22,SNR=21							
ANCK	Angle Creek	2.42	218	P		Pn	20 48 53.5	+0.1
KNK	Knik Glacier	2.44	56	P		Pn	20 48 52.9	-0.7
GHO	Glory Hole Cre	2.46	46	P		Pn	20 48 53.5	-0.5
CAHL	Cahill	2.49	214	P		Pn	20 48 54.7	+0.4
CNTC	Contact Creek	2.50	223	P		Pn	20 48 54.5	+0.1
KJL	Kejulik	2.56	217	P		Pn	20 48 56.0	+0.6
SML	Sawmill	2.70	50	P		Pn	20 48 56.5	-0.6
PPLA	Purkeypile	2.79	5	P		Pn	20 48 58.9	+0.6
OHAK	Old Harbor	2.93	187	P		Pn	20 48 58.8	-1.3
SCM	Sheep Creek Mo	3.12	54	P		Pn	20 49 02.0	-0.6
JPK	Jack Peak	3.14	70	P		Pn	20 49 01.7	-1.2
HUR	Hurricane	3.21	26	P		Pn	20 49 04.2	+0.5
TTD1	Tatalina	3.21	332	P		Pn	20 49 03.5	-0.3
MID	Middleton Isla	3.28	100	P		Pn	20 49 04.2	-0.4
VLZ	Valdez	3.28	69	P		Pn	20 49 05.5	+0.8
CAST	Castle Rocks	3.31	5	P		Pn	20 49 05.5	+0.4
EYAK	Cordova Ski Ar	3.47	80	P		Pn	20 49 07.3	+0.1
TRF	Thorofare Moun	3.52	18	P		Pn	20 49 08.0	-0.1
KTH	Kantishna Hill	3.53	13	P		Pn	20 49 08.5	+0.4
DIV	Divide	3.54	71	P		Pn	20 49 07.4	-0.8
KLU	Klutina	3.58	65	P		Pn	20 49 07.8	-0.9
RND	Reindeer	3.75	27	P		Pn	20 49 11.7	+0.6
DHY	Denali Highway	3.89	38	P		Pn	20 49 12.9	-0.1
PS12	TAPS Pump St12	3.93	67	P		Pn	20 49 12.9	-0.5
GOAT	Goat Mountain	3.97	80	P		Pn	20 49 12.6	-1.4
RAGM	Ragged Mountai	3.99	83	P		Pn	20 49 14.1	-0.2
MCK	McKinley	4.02	24	P		Pn	20 49 14.7	+0.1
BPAW	Bear Paw Mtn.	4.06	11	P		Pn	20 49 15.3	+0.1
BMRM	Bremner River	4.07	75	P		Pn	20 49 14.1	-1.3
HARP	HAARP	4.29	55	P		Pn	20 49 17.9	-0.3
PAX	Paxson	4.47	47	P		Pn	20 49 20.3	-0.4
WRH	Wood River Hil	4.85	24	P		Pn	20 49 25.6	-0.1
MLY	Manley	5.00	9	P		Pn	20 49 27.1	-0.7
CCB	Clear Creek Bu	5.07	24	P		Pn	20 49 28.5	-0.1
PTPK	Patty Peak	5.13	74	P		Pn	20 49 29.0	-0.8
KIAG	Kiagna River	5.16	77	P		Pn	20 49 29.4	-0.7
BALM	Baldy	5.17	75	P		Pn	20 49 30.5	+0.3
RIDG	Independ'e Rid	5.17	42	P		Pn	20 49 30.3	+0.1
VNHG	Veniaminof 1	5.21	224	P		Pn	20 49 31.2	+0.4
MDM	Murphy Dome	5.26	21	P		Pn	20 49 31.5	+0.2
BAGL	Bagley Icefiel	5.28	81	P		Pn	20 49 31.7	+0.3
ILAR	Eielson Array	5.38	27	P		Pn	20 49 32.5	-0.3
	0.8nm,0.3s,baz=217,slow=13,SNR=11							
ILAR				S		Sn	20 50 28.6	-4.8
	1.0nm,0.3s,baz=231,slow=15,SNR=4.8							
ILB	Eielson Array	5.38	27	P		Pn	20 49 32.5	-0.3
BARN	Barnard Glacie	5.51	75	P		Pn	20 49 34.7	-0.2
SCRK	Sand Creek	5.62	43	P		Pn	20 49 36.1	-0.1
RKAV	Rock Avalanche	5.65	83	P		Pn	20 49 36.9	+0.2
CTGM	Chitina Glacie	5.66	77	P		Pn	20 49 37.3	+0.5
LOGN	Logan Glacier	5.81	78	P		Pn	20 49 39.2	+0.2
IM3	Indian Mountai	5.90	356	P		Pn	20 49 40.2	+0.3
PRP	Porcupine Dome	6.32	28	P		Pn	20 49 45.3	-0.5
INK	Inuvik	11.64	37	S		Sn	20 53 02.0	-3.1
	0.1nm,0.3s,baz=139,slow=20,SNR=4.0							
DLBC	Dease Lake	11.69	88	P		Pn	20 51 00.3	+2.0
	0.9nm,0.3s,baz=275,slow=6.8,SNR=14							
DLBC				S		Sn	20 53 08.0	+1.3
	0.3nm,0.3s,baz=121,slow=26,SNR=5.7							
YKA	Yellowknife Ar	18.25	66	P		P	20 52 20.4	+0.7
	0.1nm,0.3s,baz=276,slow=9.8,SNR=21							
PETK	Petropavlovsk-	27.61	278	P		P	20 53 51.8	-0.1
	0.6nm,0.3s,baz=70,slow=13,SNR=3.9							
PDAR	Pinedale Array	31.27	104	P		P	20 54 27.1	+2.5
	0.2nm,0.4s,baz=321,slow=8.0,SNR=2.3							
KSRS	Korea Array	53.31	283	P		P	20 57 22.4	-0.2
	0.8nm,0.6s,baz=38,slow=6.5,SNR=4.7							
KSAR	Wonju Array Be	53.34	283	P		P	20 57 22.4	-0.4
SONM	Songino Array	54.85	306	P		P	20 57 34.2	+0.4
	1.7nm,0.7s,baz=39,slow=5.9,SNR=10							
ZALV	Zalesovo Beam	57.37	324	P		P	20 57 50.9	-0.6
	0.8nm,0.5s,baz=46,slow=8.4,SNR=2.8							
FINES	FINESS Array B	58.75	1	P		P	20 58 01.2	+0.2
	1.6nm,0.9s,baz=350,slow=9.4,SNR=2.3							
KURK	Kurchatov	62.01	326	P		P	20 58 23.0	-0.3
KURBB	Kurchatov Arra	62.12	326	P		P	20 58 23.0	-1.1
	0.3nm,0.5s,baz=35,slow=5.9,SNR=4.4							
MKAR	Makanchi Array	64.43	321	P		P	20 58 38.6	-0.8
	0.3nm,0.6s,baz=32,slow=6.0,SNR=2.8							

*HEL **29** 21:08:56.5±0.3, 67.°74N×33.°76E, h0km, ML0.9, Explosion*
*CSEM **29** 21:08:57.4±0.6, 67.°77N×33.°52E, h2km, ML0.9, Error ellipse: s-maj=13.0km s-min=5.8km az=81.0, Mining explosion.*
*NAO **29** 21:08:59.1±3.0, 67.°61N×33.°23E, ML2.6*

ISC 29 21:08:57.3±2.3, 67.°56N±0.°04×33.°3E±0.°1, h0km, n16, σ0°98/31, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
VRF	Varrio	1.44	279	eP		Pb	21 09 24.8	-0.1
VRF				eS		Sn	21 09 44.8	+0.6
VRF	Varrio	1.44	279	eP		Pb	21 09 24.8	-0.1
VRF				eS		Sn	21 09 44.8	+0.6
VRF				MSG			21 09 59.4	
	comp=Z,0.7nm,0.1s							
KU6	Riekki	2.06	223	eP		Pb	21 09 35.2	-0.4
KU6				eS		Sg	21 10 04.3	+0.8
KU6	Riekki	2.06	223	eP		Pb	21 09 35.2	-0.4
KU6				eS		Sg	21 10 04.3	+0.8
KU6				MSG			21 10 20.4	
	comp=Z,0.4nm,0.1s							
MSF	Maaselka	2.38	228	eP		Pb	21 09 40.4	-0.6
MSF				eS		Sb	21 10 11.5	+0.6
MSF	Maaselka	2.38	228	eP		Pb	21 09 40.4	-0.6
MSF				eS		Sb	21 10 11.5	+0.6
SGF	Sodankyl	2.62	270	eP		Pn	21 09 42.1	+1.2
SGF				eS		Sb	21 10 16.2	-1.6
SGF	Sodankyl	2.62	270	eP		Pn	21 09 42.1	+1.2
SGF				eS		Sb	21 10 16.2	-1.6
ARA0	ARCESS Array S	3.49	308	Pn		Pn	21 09 52.6	-0.2
	baz=122,slow=16							
ARA0				Pg		Pb	21 10 01.3	+1.3
	baz=114,slow=16							
ARA0				Sn		Sn	21 10 34.0	-0.8
	baz=122,slow=28							
ARA0				Lg		Lg	21 10

WVZ	**Waitaha Valley**	**2.08**	**48**	P	**Pn**	**21 14 37.3**	**0.0**		
SYZ	**Scrubby Hill**	**2.09**	**170**	Pn	**Pn**	**21 14 38.0**	**+0.7**		
SYZ	**Scrubby Hill**	**2.09**	**170**	P	**Pn**	**21 14 38.2**	**+0.9**		
PYZ	**Puysegur Point**	**2.17**	**218**	Pn	**Pb**	**21 14 40.7**	**-0.8**		
PYZ	**Puysegur Point**	**2.17**	**218**	P	**Pb**	**21 14 40.5**	**-1.0**		
APZ	**The Paps**	**2.39**	**191**	Pn	**Pn**	**21 14 42.2**	**+0.6**		
APZ	**The Paps**	**2.39**	**191**	P	**Pn**	**21 14 41.8**	**+0.2**		
OXZ	**Oxford**	**2.72**	**66**	Pn	**Pn**	**21 14 45.8**	**-0.3**		
OXZ	**Oxford**	**2.72**	**66**	P	**Pn**	**21 14 45.7**	**-0.3**		
EYCZ	**Eyrewell**	**2.90**	**70**	P	**Pn**	**21 14 48.5**	**+0.1**		
EYCZ	**Eyrewell**	**2.90**	**70**	P	**Pn**	**21 14 49.1**	**+0.7**		
MQZ	**McQueen's Vall**	**3.00**	**76**	Pn	**Pn**	**21 14 49.7**	**-0.2**		
MQZ	**McQueen's Vall**	**3.00**	**76**	P	**Pn**	**21 14 49.9**	**-0.1**		
AKCZ	**Akaroa Harbour**	**3.14**	**80**	P	**Pn**	**21 14 51.9**	**0.0**		
LTZ	**Lake Taylor**	**3.15**	**59**	Pn	**Pn**	**21 14 51.5**	**-0.4**		
LTZ	**Lake Taylor**	**3.15**	**59**	P	**Pn**	**21 14 51.7**	**-0.2**		
LTZ	**Lake Taylor**	**3.15**	**59**	P	**Pn**	**21 14 51.7**	**-0.2**		
OKCZ	**Okains Bay**	**3.28**	**78**	P	**Pn**	**21 14 53.9**	**+0.1**		
OKCZ	**Okains Bay**	**3.28**	**78**	P	**Pn**	**21 14 54.0**	**+0.1**		
DSZ	**Denniston Nort**	**3.59**	**41**	Pn	**Pn**	**21 14 57.9**	**-0.2**		
KHZ	**Kahutara**	**4.13**	**62**	P	**Pn**	**21 15 04.9**	**-0.5**		
THZ	**Tophouse**	**4.15**	**51**	Pn	**Pn**	**21 15 05.6**	**-0.1**		
QRZ	**Quartz Range**	**4.65**	**40**	Pn	**Pn**	**21 15 12.6**	**0.0**		
NNZ	**Nelson**	**4.78**	**49**	Pn	**Pn**	**21 15 15.4**	**+1.0**		
TUWZ	**Tuamarina**	**4.95**	**54**	Pn	**Pn**	**21 15 19.7**	**+3.0**		
TCW	**Tory Channel**	**5.29**	**54**	Pn	**Pn**	**21 15 23.7**	**+2.4**		
KHEZ	**Kahui Hut**	**6.56**	**40**	Pn	**Pn**	**21 15 39.9**	**+1.0**		
PREZ	**Palmer Road**	**6.59**	**41**	Pn	**Pn**	**21 15 40.5**	**+1.2**		
WAZ	**Wanganui**	**6.68**	**47**	Pn	**Pn**	**21 15 42.4**	**+1.9**		
VRZ	**Vera Road**	**7.04**	**43**	Pn	**Pn**	**21 15 46.9**	**+1.4**		
ASAR	**Alice Springs**	**35.10**	**295**	P	**P**	**21 20 59.4**	**+3.5**		
	0.3nm,0.6s,baz=134,slow=7.9,SNR=4.2								
WRA	**Warramunga Arr**	**37.52**	**300**	P	**P**	**21 21 16.9**	**+0.2**		
	0.5nm,0.6s,baz=136,slow=8.0,SNR=7.3								
BRTR	**Keskin Array B**	**146.59**	**278**	PKPbc	**PKPdf**	**21 33 41.7**	**-0.8**		
	0.3nm,0.7s,baz=98,slow=4.1,SNR=2.5								
TORD	**Torodi Ar. Bea**	**146.83**	**204**	PKPbc	**PKPab**	**21 33 46.1**	**-0.3**		
	1.6nm,0.8s,baz=162,slow=2.5,SNR=8.3								

MAN 29 21:35:33.8±3.43N×122.18E,h33km,mb3.9,ML2.7,MS2.2,
1C,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IPIL	**Ipil**	**0.74**	**148**	*e*P	Pb	21 35 47.9	+0.3
IPIL				*e*S	Sb	21 35 57.5	-0.1
PAGZ	**Pagadian**	**1.32**	**116**	*e*P	Pn	21 35 56.0	+0.8
PAGZ				*e*S	Sn	21 36 12.3	+0.6
SNPH	**Sibulan**	**1.39**	**49**[1]	*e*P	Pn	21 35 56.7	+0.5
GUIM	**Jordan**	**2.23**	**11**	*e*P	Pn	21 36 08.5	+0.9
GUIM				*e*S	Sn	21 36 33.5	-0.4
ENPP	**El Nido**	**3.87**	**316**	*e*P	Pn	21 36 31.9	+1.6
ENPP				*e*S	Sn	21 37 12.1	-2.5

IDC 29 21:41:35.5±1.9,14.82S×174.04W,h0km,mb3.7/7,
mb1 4.1/7,mb1mx3.7/52,mbtmp3.7/7,MS3.1/2,Ms1 3.2/2,
ms1mx2.8/43,Error ellipse: s-maj=122.6km
s-min=22.0km az=150.0,Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.37**	**68**	Pn	Pn	21 42 09.1	-6.7
	13nm,0.3s,baz=3.4,slow=3.5,SNR=9.1						
AFI				Sn	Sn	21 42 31.8	-14
	38nm,0.3s,baz=22,slow=20,SNR=14						
RAR	**Rarotonga**	**14.98**	**117**	LR	LR	21 48 51.5	
	comp=Z,51nm,21.4s,baz=316,slow=29						
WRA	**Warramunga Arr**	**49.38**	**256**	P	P	21 50 27.2	-0.2
	0.4nm,0.6s,baz=91,slow=6.7,SNR=9.8						
ASAR	**Alice Springs**	**49.70**	**251**	P	P	21 50 29.5	-0.3
	4.2nm,0.6s,baz=85,slow=8.5,SNR=37						
VNDA	**Vanda**	**63.89**	**186**	LR	LR	22 16 40.7	
	comp=Z,25nm,19.4s,baz=263,slow=33						
NVAR	**Mina Array Bea**	**74.31**	**42**	P	P	21 53 16.1	+0.8
	1.2nm,0.8s,baz=228,slow=11,SNR=11						
TXAR	**Lajitas Array**	**80.81**	**56**	P	P	21 53 51.5	-0.1
	0.2nm,0.6s,baz=252,slow=7.7,SNR=3.4						
ILAR	**Eielson Array**	**82.00**	**11**	P	P	21 53 56.1	-0.9
	0.3nm,0.8s,baz=230,slow=7.0,SNR=3.8						
PDAR	**Pinedale Array**	**82.25**	**42**	P	P	21 53 58.4	-0.8
	0.3nm,0.6s,baz=226,slow=3.6,SNR=4.3						
YKA	**Yellowknife Ar**	**89.81**	**24**	P	P	21 54 35.7	0.0
	0.2nm,0.9s,baz=254,slow=4.6,SNR=3.7						
BRTR	**Keskin Array B**	**145.32**	**321**	PKPbc	PKPdf	22 01 16.4	+0.5
	0.2nm,0.5s,baz=75,slow=1.6,SNR=2.4						

IDC 29 21:53:27.8±6.1,27.06N×87.83E,h0km,mb3.8/7,
mb1 3.9/7,mb1mx3.4/80,mbtmp3.9/7,MS2.9/3,Ms1 2.9/3,
ms1mx2.4/69,Error ellipse: s-maj=108.8km s-min=49.8km
az=173.0

ISCJB 29 21:53:41.9±0.7,28.26N±0.05×88.28E±0.06,h35km,
mb3.8/6,MS2.9/3,Error ellipse: s-maj=9.5km s-min=5.3km
az=142.0

NDI 29 21:53:42.8±2.6,28.02N×87.95E,h35km,ML3.6

ISC 29 21:53:41.5±1.0,28.15N±0.07×88.09E±0.08,h35km,n21,
σ2s08/29,mb3.8/6,MS3.0/3,Xizang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GTK	**Tadong**	**0.94**	**151**	*e*P	**Pn**	**21 54 00.6**	**+2.2**
GTK				*e*S	**Sn**	**21 54 13.1**	**+2.5**
GTK				IAML		21 54 14.8	
	comp=E,3μm,0.2s						
GTK				IAML		21 54 14.8	
	comp=N,2μm,0.1s						
DHUB	**DHUBRI**	**2.71**	**141**	*e*P	**Pn**	**21 54 25.0**	**+2.3**
DHUB				*e*S	**Sn**	**21 54 54.1**	**-0.1**
DHUB				IAML		21 54 57.1	
	comp=N,491nm,0.1s						
DHUB				IAML		21 54 57.6	
	comp=E,626nm,0.1s						
TURI	**Tura**	**3.27**	**142**	*e*P	**Pn**	**21 54 30.7**	**+0.4**
TURI				*e*S	**Sn**	**21 55 04.3**	**-3.7**
TURI				IAML		21 55 07.8	
	comp=N,648nm,0.2s						
TURI				IAML		21 55 08.9	
	comp=E,718nm,0.2s						
GUWA	**GUWAHATI**	**3.75**	**120**	*e*P	**Pn**	**21 54 39.0**	**+2.1**
GUWA				*e*S	**Sn**	**21 55 19.9**	**0.0**
GUWA				IAML		21 55 24.9	
	comp=N,163nm,0.2s						
GUWA				IAML		21 55 24.9	
	comp=E,192nm,0.3s						
SHL	**Shillong**	**4.25**	**126**	*e*P	**Pn**	**21 54 44.9**	**+0.9**
SHL				*e*PN		21 54 45.0	
SHL				*e*S	**Sn**	**21 55 30.8**	**-1.7**
SHL				*e*SN		21 55 32.0	
SHL				IAML		21 55 34.9	
	comp=E,105nm,0.2s						
TEZP	**TEZPUR**	**4.45**	**109**	*e*P	**Pn**	**21 54 47.5**	**+0.9**
TEZP				*e*S	**Sn**	**21 55 37.8**	**+0.6**
TEZP				IAML		21 55 40.1	
	comp=E,293nm,0.1s						
TEZP				IAML		21 55 40.2	
	comp=N,200nm,0.1s						
ZIRO	**ZIRO**	**5.14**	**96**	*e*P	**Pn**	**21 54 58.9**	**+2.7**
ZIRO				*e*S	**Sn**	**21 55 56.1**	**+1.8**
ZIRO				IAML		21 55 58.9	
	comp=N,318nm,0.2s						
ZIRO				IAML		21 56 00.8	
	comp=E,140nm,0.2s						
KOHI	**KOHIMA**	**5.89**	**113**	*e*P	**Pn**	**21 55 07.7**	**+1.2**
KOHI				*e*S	**Sn**	**21 56 10.5**	**-2.3**
KOHI				IAML		21 56 13.9	
	comp=E,100nm,0.5s						
KOHI				IAML		21 56 14.2	
	comp=N,86nm,0.3s						
MOKO	**MOKOCHONG**	**6.00**	**106**	*e*P	**Pn**	**21 55 09.5**	**+1.5**
MOKO				*e*S	**Sn**	**21 56 13.1**	**-2.5**
MOKO				IAML		21 56 19.6	
	comp=N,55nm,0.2s						
MOKO				IAML		21 56 20.4	
	comp=E,62nm,0.3s						
IMP	**Imphal**	**6.20**	**121**	*e*P	**Pn**	**21 55 12.9**	**+2.3**
IMP				*e*S	**Sn**	**21 56 16.0**	**-4.4**
IMP				IAML		21 56 28.2	
	comp=N,19nm,0.4s						
IMP				IAML		21 56 28.2	
	comp=E,20nm,0.5s						
LKP	**Lekhapani**	**6.92**	**95**	*e*P	**Pn**	**21 55 21.7**	**+1.3**
LKP				*e*S	**Sn**	**21 56 36.0**	**-2.0**
LKP				IAML		21 56 39.5	
	comp=E,57nm,0.1s						
LKP				IAML		21 56 40.6	
	comp=N,43nm,0.2s						
MKAR	**Makanchi Array**	**19.17**	**348**	P	**P**	**21 58 04.1**	**+2.2**
	comp=N,0.6nm,0.4s,baz=169,slow=9.3,SNR=16						
KURBB	**Kurchatov Arra**	**23.59**	**345**	P	**P**	**21 58 49.5**	**+0.6**
	comp=N,2.0nm,0.6s,baz=163,slow=8.9,SNR=17						
SONM	**Songino Array**	**24.27**	**31**	P	**P**	**21 58 56.4**	**+0.9**
	comp=N,1.1nm,0.5s,baz=218,slow=10,SNR=8.8						
ZALV	**Zalesovo Beam**	**25.89**	**356**	P	**P**	**21 59 10.2**	**+0.2**
	comp=N,0.8nm,0.3s,baz=181,slow=9.1,SNR=4.6						
BVAR	**Borovoye Array**	**28.10**	**337**	P	**P**	**21 59 29.5**	**-0.4**
	comp=N,0.4nm,0.5s,baz=138,slow=8.5,SNR=3.2						
AKTO	**Aktyubinsk**	**31.85**	**323**	LR	LR	22 15 40.8	
	comp=N,48nm,21.0s,baz=17,slow=41						
GNI	**Garni**	**37.48**	**300**	LR	LR	22 17 38.4	
	comp=N,22nm,19.2s,baz=354,slow=38						
KLR	**Kul'dur**	**39.36**	**46**	LR	LR	22 21 19.0	
	comp=N,5.5nm,18.3s,baz=78,slow=42						
FINES	**FINESS Array B**	**52.36**	**328**	P	**P**	**22 02 47.0**	**-2.7**
	comp=N,2.7nm,1.1s,baz=98,slow=7.9,SNR=7.4						
ARCES	**ARCESS Array B**	**54.39**	**337**	P	**P**	**22 03 02.8**	**-1.8**
	comp=N,2.4nm,0.8s,baz=97,slow=7.4,SNR=3.0						

NEIC 29 22:00:01.1±0.0,51.70N×171.58W,h26km,mb4.4/89,
ML4.4(AEIC),After AEIC.

MOS 29 22:00:01.0±1.0,52.25N×171.84W,h33km,mb4.7/47,
Error ellipse: s-maj=8.7km s-min=5.6km az=81.9

ISCJB 29 22:00:04.4±0.4,52.26N±0.04×171.79W±0.03,h64km±3km,
mb4.5/123,Error ellipse: s-maj=7.4km s-min=2.6km
az=166.2

IDC 29 22:00:04.3±1.6,52.13N×171.74W,h55km±12km,mb4.1/38,
mb1 4.2/41,mb1mx4.0/84,mbtmp4.3/41,MS3.4/23,
Ms1 3.4/23,ms1mx3.1/78,Error ellipse: s-maj=14.2km
s-min=8.6km az=167.0

BJI 29 22:00:06.3,52.95N×172.53W,h50km,mb4.7/31,
mB4.9/17,Ms4.7/6,Ms7 4.4/5

ISC 29 22:00:04.5±0.8,52.15N±0.07×171.74W±0.03,h55km±5km,
n332,σ1s20/348,mb4.5/123,MS3.5/24,8C,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KOFP	**Korovin Flat P**	**1.46**	**276**	*e*Pn	**Pn**	**22 00 28.9**	**+0.5**
ATKA	**Atka Island**	**1.51**	**273**	*e*Pn	**Pn**	**22 00 28.9**	**-0.2**
ATKA				*e*Sn	**Sn**	**22 00 49.2**	**+1.4**
KOKL	**Mount Kliuchef**	**1.52**	**278**	*e*Pn	**Pn**	**22 00 30.0**	**+0.6**
KOWE	**Korovin West**	**1.56**	**279**	*e*Pn	**Pn**	**22 00 30.9**	**+1.1**
NIKH	**Nikolski High**	**1.95**	**64**	*e*Pn	**Pn**	**22 00 34.7**	**-0.4**
NIKH				*e*Sn	**Sn**	**22 01 01.4**	**+3.1**
OKAK	**Okmok**	**2.50**	**54**	*e*Pn	**Pn**	**22 00 42.0**	**-0.7**
OKWE	**Okmok W'ng Wal**	**2.50**	**57**	P	**Pn**	**22 00 43.7**	**+0.9**
OKWE				S	**Sn**	**22 01 14.8**	**+2.7**
OKTU	**Okmok Mt. Tuli**	**2.57**	**60**	*e*Pn	**Pn**	**22 00 44.0**	**+0.4**
GSTD	**Great Sitkin T**	**2.72**	**270**	*e*Pn	**Pn**	**22 00 46.2**	**+0.5**
GSTD				*e*Sn	**Sn**	**22 01 19.6**	**+2.2**
ETKA	**Kagalaska Isla**	**2.90**	**266**	*e*Pn	**Pn**	**22 00 47.9**	**-0.2**
ADAG	**Mount Adagdak**	**3.00**	**269**	*e*Pn	**Pn**	**22 00 50.5**	**+1.0**
KIRH	**Kanaga Island**	**3.32**	**268**	*e*Pn	**Pn**	**22 00 54.3**	**+0.4**
KINC	**Kanaga Island**	**3.33**	**268**	*e*Pn	**Pn**	**22 00 54.5**	**+0.5**
KIKV	**Kanaga Island**	**3.37**	**268**	*e*Pn	**Pn**	**22 00 54.4**	**-0.1**
MGOD	**Makushin Gods**	**3.37**	**59**	*e*Pn	**Pn**	**22 00 55.7**	**+1.1**
MCIR	**Makushin Cirqu**	**3.44**	**56**	*e*Pn	**Pn**	**22 00 56.4**	**+0.9**
UNV	**Unalaska Valle**	**3.59**	**60**	*e*Pn	**Pn**	**22 00 59.2**	**+1.7**
UNV				*e*Sn	**Sn**	**22 01 41.1**	**+2.4**
TAPA	**Tanaga Point A**	**3.77**	**267**	*e*Pn	**Pn**	**22 01 00.8**	**+0.7**
AKRB	**Akutan Reef Bi**	**3.95**	**58**	*e*Pn	**Pn**	**22 01 03.6**	**+1.1**
AHB	**Akutan Harbor**	**4.08**	**59**	P	**Pn**	**22 01 05.0**	**+0.7**
AKUT	**Akutan**	**4.11**	**59**	*e*Pn	**Pn**	**22 01 06.8**	**+2.2**
AKUT				*e*Sn	Sn	22 02 04.2	+13
GALAA	**Gareloi Lava P**	**4.37**	**268**	*e*Pn	**Pn**	**22 01 09.1**	**+0.9**
SPIA	**Saint Paul Isl**	**5.11**	**9**	*e*Pn	**Pn**	**22 01 21.3**	**+2.9**
ISLZ	**Isanotski Laza**	**5.45**	**59**	P	**Pn**	**22 01 24.1**	**+1.0**
FALS	**False Pass**	**5.66**	**58**	*e*Pn	**Pn**	**22 01 27.0**	**+1.1**
SDPT	**Sand Point**	**7.41**	**60**	*e*Pn	**Pn**	**22 01 51.6**	**+1.8**
SDPT				*e*Sn	Sn	22 03 22.9	+11
CHGN	**Chignik**	**8.84**	**57**	*e*Pn	**Pn**	**22 02 09.8**	**+0.4**
CHGN				*e*Sn	**Sn**	**22 03 49.3**	**+1.9**
OHAK	**Old Harbor**	**11.81**	**57**	*e*Pn	**Pn**	**22 02 47.5**	**-2.4**
KDAK	**Kodiak Island**	**12.35**	**55**	P	**Pn**	**22 02 56.2**	**-1.0**
	0.7nm,0.3s,baz=268,slow=6.3,SNR=13						
KDAK				S	**Sn**	**22 05 13.6**	**+0.5**
	baz=306,slow=19,SNR=2.3						
KDAK				LR	LR	22 08 19.8	
	comp=Z,217nm,21.6s,baz=258,slow=40						
KDAK	**Kodiak Island**	**12.35**	**55**	*e*Pn	**Pn**	**22 02 54.9**	**-2.3**
KDAK				*e*Sn	**Sn**	**22 05 13.6**	**+0.5**
KDAK	**Kodiak Island**	**12.35**	**55**	*e*P	**Pn**	**22 02 56.6**	**-0.7**
SVW2	**Sparrevohn**	**12.60**	**38**	*e*Pn	**Pn**	**22 03 01.0**	**+1.0**
BRLK	**Bradley Lake**	**13.90**	**49**	*e*Pn	**Pn**	**22 03 16.8**	**-1.6**
SPU	**Mount Spurr**	**14.05**	**42**	*e*Pn	**P**	**22 03 24.8**	**-1.9**
SKT	**Skwentna**	**14.69**	**40**	*e*Pn	**P**	**22 03 31.1**	**-2.6**
SUA	**Susitna One**	**14.74**	**43**	*e*Pn	**Pn**	**22 03 27.9**	**-1.7**
PPLA	**Purkeypile**	**14.97**	**36**	*e*Pn	**Pn**	**22 03 33.3**	**+0.8**
RC01	**Rabbit Creek A**	**14.99**	**45**	*e*Pn	**Pn**	**22 03 31.2**	**-1.4**
CAST	**Castle Rocks**	**15.32**	**35**	*e*Pn	**P**	**22 03 40.7**	**0.0**
	7.6nm,0.6s						
PMR	**Palmer**	**15.48**	**44**	*e*Pn	**Pn**	**22 03 39.4**	**+0.5**
	10nm,1.1s						
PMR	**Palmer**	**15.48**	**44**	*e*P	**Pn**	**22 03 39.4**	**+0.5**
PMR				pmax	pmax		
	comp=Z,11nm,1.1s						
GHO	**Glory Hole Cre**	**15.65**	**43**	*e*Pn	**Pn**	**22 03 41.6**	**+0.3**
	comp=Z,37nm,1.4s						
KTH	**Kantishna Hill**	**15.82**	**36**	*e*Pn	**Pn**	**22 03 43.6**	**+0.3**
	comp=Z,33nm,1.4s						
SML	**Sawmill**	**15.92**	**43**	*e*Pn	**Pn**	**22 03 44.6**	**0.0**
	comp=Z,8.0nm,0.8s						
SML	**Sawmill**	**15.92**	**43**	*e*P	**Pn**	**22 03 44.6**	**0.0**
SML				pmax	pmax		
	comp=Z,8.0nm,0.8s						
TRF	**Thorofare Moun**	**15.99**	**37**	*e*Pn	**P**	**22 03 47.7**	**-0.6**
	comp=Z,19nm,1.2s						
BPAW	**Bear Paw Mtn.**	**16.13**	**34**	*e*Pn	**P**	**22 03 50.3**	**+0.6**
	comp=Z,9.3nm,0.9s						
SCM	**Sheep Creek Mo**	**16.36**	**44**	*e*Pn	**Pn**	**22 03 48.1**	**-2.1**
	comp=Z,15nm,0.7s						
SCM	**Sheep Creek Mo**	**16.36**	**44**	*e*P	**Pn**	**22 03 48.1**	**-2.1**
SCM				pmax	pmax		
	comp=Z,15nm,0.7s						
RND	**Reindeer**	**16.50**	**38**	*e*Pn	**Pn**	**22 03 49.8**	**-2.2**
	comp=Z,11nm,1.0s						
RND	**Reindeer**	**16.50**	**38**	*e*P	**Pn**	**22 03 49.8**	**-2.2**
RND				pmax	pmax		
	comp=Z,11nm,1.0s						
IM3	**Indian Mountai**	**16.57**	**26**	*e*Pn	**Pn**	**22 03 52.5**	**-0.2**
EYAK	**Cordova Ski Ar**	**16.58**	**49**	*e*Pn	**Pn**	**22 03 53.0**	**+0.1**
	comp=Z,57nm,1.5s						
MCK	**McKinley**	**16.65**	**37**	*e*Pn	**P**	**22 03 54.2**	**-1.2**
	comp=Z,14nm,1.0s						
MCK	**McKinley**	**16.65**	**37**	*e*P	**P**	**22 03 54.2**	**-1.2**
MCK				pmax	pmax		
	comp=Z,14nm,1.0s						
WRH	**Wood River Hil**	**17.37**	**36**	*e*Pn	**Pn**	**22 04 02.1**	**-0.6**
	comp=Z,21nm,1.3s						
HARP	**HAARP**	**17.52**	**44**	*e*Pn	**P**	**22 04 04.4**	**-0.7**
	comp=Z,35nm,1.3s						
CCB	**Clear Creek Bu**	**17.57**	**35**	*e*Pn	**Pn**	**22 04 00.9**	**-4.2**
	comp=Z,8.8nm,1.1s						
MDM	**Murphy Dome**	**17.60**	**34**	*e*Pn	**Pn**	**22 04 04.4**	**-1.1**
	comp=Z,8.9nm,0.8s						
PAX	**Paxson**	**17.63**	**42**	*e*Pn	**Pn**	**22 04 03.9**	**-2.1**
	comp=Z,8.2nm,1.3s						
PAX	**Paxson**	**17.63**	**42**	*e*P	**Pn**	**22 04 03.9**	**-2.1**
PAX				pmax	pmax		
	comp=Z,8.0nm,1.3s						
COLA	**College**	**17.68**	**35**	*e*P	**P**	**22 04 05.9**	**-0.8**
IL1	**Eielson Array**	**17.97**	**36**	*e*P	**P**	**22 04 09.6**	**-0.3**
ILAR	**Eielson Array**	**17.97**	**36**	P	**Pn**	**22 04 08.6**	**-1.4**
	comp=Z,0.3nm,0.3s,baz=234,slow=10,SNR=19						
ILAR				S	**S**	**22 07 32.5**	**-0.4**
	comp=Z,0.0nm,0.3s,baz=236,slow=16,SNR=2.8						
ILAR				LR	LR	22 11 47.9	
	comp=Z,129nm,19.4s,baz=237,slow=39						
ILB	**Eielson Array**	**17.97**	**36**	*e*P	**P**	**22 04 10.3**	**+0.3**
RIDG	**Independ'e Rid**	**18.23**	**40**	*e*P	**Pn**	**22 04 13.1**	**-0.1**
	comp=Z,12nm,1.1s						
DOT	**Dot Lake**	**18.50**	**41**	*e*Pn	**Pn**	**22 04 16.1**	**-0.4**
	comp=Z,23nm,1.0s						
PEA1	**Petropavlovsk-**	**18.51**	**285**	*e*P	**Pn**	**22 04 16.6**	**0.0**
PETK	**Petropavlovsk-**	**18.51**	**285**	P	**Pn**	**22 04 16.6**	**0.0**
	comp=Z,0.6nm,0.3s,baz=85,slow=14,SNR=4.9						
BILL	**Bilibino**	**19.15**	**335**	*c i*P	**Pn**	**22 04 24.8**	**+0.6**
BILL				pmax	pmax		
	comp=Z,32nm,1.2s						
BILL				MLR	MLR		
	comp=Z,107nm,16.0s						
DAWY	**Dawson**	**20.57**	**42**	*e*P	**P**	**22 04 36.8**	**-1.6**
	comp=Z,9.3nm,1.3s						
HYT	**Haines Junctio**	**20.58**	**52**	*e*P	**P**	**22 04 38.2**	**-0.3**
	comp=Z,31nm,1.0s						
SKAG	**Skagway**	**21.50**	**56**	*e*P	**P**	**22 04 49.5**	**+1.2**
	comp=Z,27nm,0.9s						
SEY	**Seymchan**	**21.76**	**314**	P	**P**	**22 04 52.0**	**+1.0**
	comp=Z,2.3nm,0.6s,baz=111,slow=10,SNR=9.3						
SEY	**Seymchan**	**21.76**	**314**	*e*P	**P**	**22 04 51.1**	**+0.1**
MA2	**Magadan**	**22.06**	**304**	LR	LR	22 12 50.2	
	comp=Z,85nm,20.9s,baz=98,slow=35						
DLBC	**Dease Lake**	**24.25**	**58**	P	**P**	**22 05 17.4**	**+1.4**
	comp=Z,16nm,0.8s,baz=275,slow=9.5,SNR=20						
DLBC				LR	LR	22 13 37.9	
	comp=Z,69nm,20.0s,baz=124,slow=34						
DLBC	**Dease Lake**	**24.25**	**58**	*e*P	**P**	**22 05 18.3**	**+2.3**
	comp=Z,28nm,1.0s						
INK	**Inuvik**	**24.34**	**34**	P	**P**	**22 05 16.3**	**-0.3**
	comp=Z,5.9nm,0.5s,baz=246,slow=8.2,SNR=67						
INK				PcP	**PcP**	**22 08 54.2**	**-0.3**
	comp=Z,1.8nm,0.8s,baz=250,slow=0.5,SNR=5.0						
INK				LR	LR	22 15 56.5	
	comp=Z,130nm,19.1s,baz=227,slow=39						
INK	**Inuvik**	**24.34**	**34**	*e*P	**P**	**22 05 16.2**	**-0.3**
	comp=Z,23nm,1.3s						
INK				*e*PcP	**PcP**	**22 08 54.2**	**-0.3**
INK	**Inuvik**	**24.34**	**34**	*e*P	**P**	**22 05 16.3**	**-0.3**
INK				*e*		22 08 54.2	
INK				pmax	pmax		
	comp=Z,23nm,1.3s						
LLLB	**Lillooet**	**30.67**	**73**	*e*P	P	22 06 19.7	+6.2
	comp=Z,5.6nm,0.9s						
YKW3	**Yellowknife Ar**	**31.47**	**48**	*e*P	**P**	**22 06 20.1**	**-0.2**
	comp=Z,6.1nm,1.1s						
YKA	**Yellowknife Ar**	**31.48**	**48**	P	**P**	**22 06 20.0**	**-0.4**
	comp=Z,1.6nm,0.5s,baz=273,slow=7.9,SNR=44						
YKA				PcP	**PcP**	**22 09 13.0**	**+0.9**
	comp=Z,0.7nm,0.7s,baz=286,slow=2.7,SNR=7.6						
YKA				ScP	**ScP**	**22 12 47.6**	**-2.6**
	comp=Z,0.2nm,0.6s,baz=288,slow=3.0,SNR=2.9						
YKA				LR	LR	22 21 11.8	
	comp=Z,23nm,18.8s,baz=264,slow=40						
YKA	**Yellowknife Ar**	**31.48**	**48**	P	**P**	**22 06 20.0**	**-0.4**
ERM	**Erimo**	**31.86**	**270**	*e*P	**P**	**22 06 23.7**	**-0.3**
	comp=Z,25nm,1.3s						
ERM	**Erimo**	**31.86**	**270**	*e*P	**P**	**22 06 23.7**	**-0.3**
ERM				pmax	pmax		
	comp=Z,25nm,1.3s						
TIXI	**Tiksi**	**32.17**	**329**	P	**P**	**22 06 26.3**	**-0.2**
	comp=Z,0.5nm,0.2s,baz=72,slow=6.7,SNR=3.2						
TIXI				PcP	**PcP**	**22 09 13.8**	**+0.1**
	comp=Z,2.8nm,0.8s,baz=53,slow=1.9,SNR=7.3						
TIXI	**Tiksi**	**32.17**	**329**	*e*P	**P**	**22 06 26.1**	**-0.3**
TIXI				pmax	pmax		
	comp=Z,1.0nm,1.1s						
YAK	**Yakutsk**	**32.22**	**311**	LR	LR	22 19 09.4	
	comp=Z,78nm,21.8s,baz=91,slow=36						
B08A	**Colville Reser**	**33.12**	**75**	*e*P	**P**	**22 06 36.1**	**+1.1**
	comp=Z,6.0nm,0.8s						
D08A	**Wollman Farm,**	**33.97**	**77**	*e*P	**P**	**22 06 41.8**	**-0.5**
	comp=Z,5.2nm,0.8s						
NEW	**Newport**	**34.48**	**74**	P	**P**	**22 06 46.2**	**-0.5**
	comp=Z,3.0nm,0.5s,baz=270,slow=1.0,

PD31 **Pinedale Array** 41.88 77 *e*P P 22 07 49.9 +0.6
PDAR **Pinedale Array** 41.88 77 P P 22 07 49.5 +0.3
comp=Z,5.5nm,0.8s,baz=299,slow=4.2,SNR=20
PDAR **Pinedale Array** 41.88 77 *e*P P 22 07 49.2 -0.1
JLU **Jordanelle** 42.00 81 *e*P P 22 07 55.0 +4.6
comp=Z,4.9nm,1.2s
GSC **Goldstone, Bar** 42.04 91 *e*P P 22 07 51.6 +1.0
comp=Z,8.6nm,1.0s
GSC **Goldstone, Bar** 42.04 91 *e*P P 22 07 51.6 +1.0
GSC pmax pmax
comp=Z,9.0nm,1.0s
TMUT **Trail Mountain** 42.95 83 *e*P P 22 07 58.2 +0.1
comp=Z,4.3nm,0.8s
Q16A **Castle Valley** 43.20 83 *e*P P 22 08 01.4 +1.4
comp=Z,3.3nm,0.8s
SRU **San Rafael Swe** 43.48 82 *e*P P 22 08 03.8 +1.6
comp=Z,6.1nm,0.9s
SRU **San Rafael Swe** 43.48 82 *e*P P 22 08 03.8 +1.6
SRU pmax pmax
comp=Z,6.0nm,0.9s
RWWY **Rawlins** 43.92 77 *e*P P 22 08 09.8 +3.9
comp=Z,5.4nm,0.9s
KSRS **Korea Array** 43.98 275 P P 22 08 05.5 -0.4
comp=Z,0.7nm,0.6s,baz=49,slow=15,SNR=3.7
KSRS LR LR 22 26 14.2
comp=Z,10.0nm,20.3s,baz=210,slow=36
KS15 **Wonju Array Si** 44.01 275 *e*P P 22 08 05.5 -0.7
KSAR **Wonju Array Be** 44.01 275 P P 22 08 05.5 -0.7
KSAR **Wonju Array Be** 44.01 275 P P 22 08 05.6 -0.7
O20A **White River Ci** 44.24 80 *e*P P 22 08 08.4 +0.1
comp=Z,11nm,0.9s
RSSD **Black Hills** 44.38 72 *e*P P 22 08 09.9 +0.5
comp=Z,2.6nm,0.8s
RSSD **Black Hills** 44.38 72 *e*P P 22 08 09.9 +0.5
RSSD pmax pmax
comp=Z,3.0nm,0.8s
PV09 **Paradox Valley** 44.71 82 *e*P P 22 08 16.1 +3.9
JNU **Nakatsue** 45.00 268 P P 22 08 14.4 +0.2
comp=Z,7.1nm,0.7s,baz=355,slow=12,SNR=3.4
JNU **Nakatsue** 45.00 268 *e*P P 22 08 14.4 +0.2
comp=Z,35nm,1.4s
WUAZ **Wupatki** 45.25 87 *e*P P 22 08 17.5 +1.1
PV01 **Paradox Valley** 45.28 82 *e*P P 22 08 17.1 +0.4
ULM **Lac du Bonnet** 45.54 61 P P 22 08 17.8 -0.4
comp=Z,4.0nm,0.7s,baz=311,slow=7.0,SNR=5.5
AGMN **Agassiz Nation** 46.63 63 *e*P P 22 08 26.9 -0.1
comp=Z,5.9nm,0.8s
TUC **Tucson** 47.76 90 *e*P P 22 08 38.0 +2.0
comp=Z,3.2nm,1.0s
TUC **Tucson** 47.76 90 *e*P P 22 08 38.0 +2.0
TUC pmax pmax
comp=Z,3.0nm,1.0s
MHTCO **State Highway** 48.29 80 *e*P P 22 08 45.3 +5.1
comp=Z,13nm,1.1s
ANMO **Albuquerque** 48.64 84 *i*P P 22 08 43.8 +0.9
ANMO pmax pmax
comp=Z,2.0nm,1.0s
ECSD **EROS Data Cent** 48.91 68 *e*P P 22 08 43.7 -0.9
comp=Z,4.1nm,0.6s
TLY **Talaya** 49.28 305 LR LR 22 32 11.7
comp=Z,30nm,18.4s,baz=268,slow=39
TLY **Talaya** 49.28 305 *e*P P 22 08 45.3 -2.1
TLY pmax pmax
comp=Z,4.0nm,1.1s
ULN **Ulaanbaatar** 49.78 299*c e*P P 22 08 52.1 +0.7
ULN pmax pmax
comp=Z,5.0nm,1.7s
SPA0 **Spitsbergen Ar** 49.84 358 *e*P P 22 08 50.3 -1.0
SPA0 *e*PcP PcP 22 10 10.2 -0.8
SPITS **Spitsbergen Ar** 49.84 358 P P 22 08 50.3 -1.0
comp=Z,15nm,1.1s,baz=19,slow=7.9,SNR=6.7
SPITS PcP PcP 22 10 10.2 -0.8
comp=Z,10.0nm,1.0s,baz=3.4,slow=3.4,SNR=3.4
SPITS LR LR 22 29 10.1
comp=Z,52nm,21.7s,baz=350,slow=35
FRB **Frobisher Bay** 49.99 34 P P 22 08 51.9 -0.7
comp=Z,6.5nm,0.6s,baz=306,slow=8.2,SNR=19
SONA1 **Songino Array** 50.14 300 *e*P P 22 08 54.8 +0.7
SONA0 **Songino Array** 50.15 300 *e*P P 22 08 53.6 -0.6
SONA0 *e*ScP ScP 22 14 04.1 +0.5
SONM **Songino Array** 50.15 300 P P 22 08 53.6 -0.6
comp=Z,1.0nm,0.7s,baz=49,slow=7.1,SNR=7.9
SONM ScP ScP 22 14 04.1 +0.5
comp=Z,1.4nm,0.8s,baz=47,slow=3.9,SNR=10
DAG **Danmarks Havn** 50.22 8 *i*P P 22 08 53.6 -0.5
comp=Z,4.3nm,0.6s
DAG **Danmarks Havn** 50.22 8 *i*P P 22 08 53.6 -0.5
DAG pmax pmax
comp=Z,4.0nm,0.6s
SUMG **Summit** 51.41 16 *i*P P 22 09 04.0 +0.4
SUMG **Summit** 51.41 16 *i*P P 22 09 04.0 +0.4
HHC **Hu-ho-hao-te** 51.63 290 *e*P P 22 09 03.3 -2.0
HHC pmax pmax
comp=Z,17nm,1.2s
HHC pmax pmax
comp=Z,51nm,6.8s
NJ2 **Nanjing** 53.13 276 *e*P P 22 09 17.8 +1.4
NJ2 pmax pmax
comp=Z,10.0nm,1.0s
SFJD **Kangerlussuaq** 53.20 25 P P 22 09 16.4 0.0
comp=Z,8.2nm,0.9s,baz=135,slow=7.1,SNR=3.1
SFJD LR LR 22 34 55.2
comp=Z,48nm,18.7s,baz=319,slow=39
SFJD **Kangerlussuaq** 53.20 25 *i*P P 22 09 16.4 0.0
WMOK **Wichita Mounta** 53.45 79 *e*P P 22 09 22.4 +3.6
comp=Z,4.7nm,0.8s
WMOK **Wichita Mounta** 53.45 79 *e*P P 22 09 22.4 +3.6
WMOK pmax pmax
comp=Z,5.0nm,0.8s
TX31 **Lajitas Ar. Si** 54.21 87 *e*P P 22 09 24.5 0.0
TXAR **Lajitas Array** 54.21 87 P P 22 09 24.3 -0.2
comp=Z,1.9nm,0.7s,baz=299,slow=5.2,SNR=18
TXAR ScP ScP 22 14 21.4 -0.1
comp=Z,0.6nm,0.8s,baz=285,slow=3.9,SNR=6.5
SCO **Scoresbysund** 55.75 12 *i*P P 22 09 34.1 -0.7
comp=Z,2.7nm,0.6s
SCO **Scoresbysund** 55.75 12 *e*P P 22 09 34.0 -0.8
comp=Z,2.6nm,0.8s
SCO **Scoresbysund** 55.75 12 *i*P P 22 09 34.1 -0.7
SCO pmax pmax
comp=Z,3.0nm,0.6s
SCHQ **Schefferville** 56.59 42 P P 22 09 41.1 0.0
comp=Z,6.6nm,0.7s,baz=10.0,slow=3.6,SNR=3.7
SCHQ **Schefferville** 56.59 42 *e*P P 22 09 41.1 0.0
comp=Z,7.9nm,0.9s
ZAA1 **Zalesovo Array** 56.59 316 *e*P P 22 09 41.3 +0.2
ZAA1 *e*PcP PcP 22 10 37.4 +0.5
ZAA1 *e*ScP ScP 22 14 32.1 +0.8
ZALV **Zalesovo Beam** 56.59 316 P P 22 09 41.3 +0.2
comp=Z,1.0nm,0.6s,baz=30,slow=6.8,SNR=5.9
ZALV PcP PcP 22 10 37.4 +0.5
comp=Z,3.5nm,0.7s,baz=31,slow=3.9,SNR=13
ZALV ScP ScP 22 14 32.1 +0.8
comp=Z,1.3nm,0.7s,baz=26,slow=5.8,SNR=5.2
ZALV LR LR 22 38 11.0
comp=Z,36nm,18.2s,baz=265,slow=40
ZALV **Zalesovo Beam** 56.59 316 *e*P P 22 09 42.8 +1.7
ZALV *e*PcP PcP 22 10 37.1 +0.2
ZALV **Zalesovo Beam** 56.59 316 *e*P P 22 09 42.8 +1.7
ZALV *e* 22 10 37.1
MIAR **Mount Ida** 56.71 75 *e*P P 22 09 42.6 +0.4
comp=Z,6.2nm,0.9s
MIAR **Mount Ida** 56.71 75 *e*P P 22 09 42.6 +0.4
MIAR pmax pmax
comp=Z,6.0nm,0.9s
XAN **Xi'an** 57.76 285 P P 22 09 49.8 +0.1
XAN pmax pmax
comp=Z,6.0nm,0.9s
XAN pmax pmax
comp=Z,34nm,4.5s
ARA0 **ARCESS Array S** 57.97 353 *e*P P 22 09 50.6 0.0
ARA0 *e*PcP PcP 22 10 42.1 0.0
ARCES **ARCESS Array B** 57.97 353 P P 22 09 50.6 0.0
comp=Z,3.0nm,0.8s,baz=10,slow=7.4,SNR=7.6
ARCES PcP PcP 22 10 42.1 0.0
comp=Z,1.6nm,0.6s,baz=328,slow=4.3,SNR=3.6
DGZ **Jazzator, Alta** 58.41 312 *i*P P 22 09 54.7 +0.5
DGZ pmax pmax
comp=Z,2.0nm,0.8s
GTA **Gaotai** 59.27 296 *e*P P 22 10 00.5 +0.3
GTA pP pP 22 10 16.0 +0.8
GTA sP sP 22 10 22.5 +1.0
GTA pmax pmax
comp=Z,4.0nm,1.0s
LZH **Lanzhou** 59.31 290 *e*P P 22 10 01.5 +0.9
LZH pP pP 22 10 14.3 -1.3
LZH sP sP 22 10 20.3 -1.5
LZH pmax pmax
comp=Z,18nm,1.2s
ALLY **Alegheny Colle** 59.43 60 *e*P P 22 10 01.4 +0.2
comp=Z,16nm,0.8s
PLAL **Pickwick Lake** 59.65 71 *e*P P 22 10 02.1 -0.6
comp=Z,7.1nm,1.2s
KURK **Kurchatov** 61.55 317 *e*P P 22 10 16.5 +1.0
comp=Z,0.5nm,0.8s
KURK *e*PcP PcP 22 10 57.2 +0.5
KURK *e*ScP ScP 22 14 54.1 +0.7
KURK **Kurchatov** 61.55 317 *ce*P P 22 10 15.9 +0.4
KURK pmax pmax
comp=Z,6.0nm,0.6s
KURBB **Kurchatov Arra** 61.66 317 P P 22 10 16.5 +0.3
comp=Z,6.3nm,0.8s,baz=43,slow=7.1,SNR=36
KURBB PcP PcP 22 10 57.2 0.0
comp=Z,1.5nm,0.6s,baz=33,slow=5.8,SNR=4.8
KURBB ScP ScP 22 14 54.1 +0.2
comp=Z,1.3nm,0.9s,baz=43,slow=4.3,SNR=6.0
BLA **Blacksburg** 62.42 64 *e*P P 22 10 21.9 +0.3
comp=Z,8.1nm,0.9s
BLA **Blacksburg** 62.42 64 *e*P P 22 10 21.9 +0.3
BLA pmax pmax
comp=Z,8.0nm,0.9s
WMQ **Urumqi** 62.51 307 P P 22 10 22.5 +0.4
WMQ pP pP 22 10 38.5 +1.4
WMQ pmax pmax
comp=Z,19nm,1.1s
WMQ pmax pmax
comp=Z,200nm,4.3s
WMQ LR LR
comp=Z,90nm,26.5s
WMQ LR LR
comp=Z,89nm,23.7s
MK32 **Makanchi Array** 62.88 312 *e*P P 22 10 24.0 -0.5
MKAR **Makanchi Array** 62.88 312 P P 22 10 24.0 -0.5
comp=Z,1.9nm,0.7s,baz=45,slow=5.8,SNR=16
MKAR **Makanchi Array** 62.88 312 P P 22 10 24.0 -0.5
MK01 **Makanchi Array** 62.90 312 *e*P P 22 10 24.1 -0.5
BVAR **Borovoye Array** 63.02 323 P P 22 10 25.7 +0.4
comp=Z,9.7nm,0.6s,baz=50,slow=7.0,SNR=72
BVAR PcP PcP 22 11 02.9 +0.2
comp=Z,3.3nm,0.6s,baz=46,slow=4.3,SNR=6.8
BVAR LR LR 22 40 18.4
comp=Z,43nm,19.6s,baz=304,slow=38
BRVK **Borovoye** 63.03 323 *e*P P 22 10 26.1 +0.9
comp=Z,6.2nm,0.7s
BRVK **Borovoye** 63.03 323 *ce*P P 22 10 26.2 +0.9
BRVK pmax pmax
comp=Z,10.0nm,1.2s
CD2 **Chengdu** 63.04 286 *e*P P 22 10 25.0 -0.8
ARU **Arti** 64.14 332 *e*P P 22 10 33.0 +0.5
comp=Z,6.8nm,0.7s
ARU **Arti** 64.14 332 *c i*P P 22 10 32.7 +0.2
ARU *PP pP 22 10 44.9 -2.7
ARU 22 11 06.8
ARU 22 12 51.3
ARU S S 22 19 06.2 +1.3
ARU SS SS 22 23 13.1 -0.6
ARU pmax pmax
comp=Z,8.0nm,0.8s
FIA0 **FINESS Array S** 65.87 351 *e*P P 22 10 42.3 -1.3
FIA0 **FINESS Array S** 65.87 351 *e*P P 22 10 42.3 -1.3
FINES **FINESS Array B** 65.87 351 P P 22 10 42.3 -1.3
comp=Z,1.3nm,0.6s,baz=23,slow=6.0,SNR=8.3
FINES LR LR 22 42 45.0
comp=Z,30nm,19.4s,baz=4.5,slow=39
OTUK **Ortayu** 66.06 319 P P 22 10 44.7 -0.5
OTUK pmax pmax
comp=Z,7.0nm,0.8s
PDGK **Podgornoye** 66.81 311 P P 22 10 49.9 -0.3
PDGK pmax pmax
comp=Z,8.0nm,1.1s
NB2 **NORSAR Subarra** 67.14 358 P P 22 10 50.9 -0.9
comp=Z,1.3nm,0.7s,baz=1.5,slow=6.5
NB200 **NORSAR Array S** 67.14 358 *e*P P 22 10 51.2 -0.6
NOA **NORSAR Array B** 67.14 358 P P 22 10 51.2 -0.6
comp=Z,1.8nm,0.7s,baz=1.0,slow=6.3,SNR=8.1
NOA LR LR 22 40 36.9
comp=Z,15nm,20.4s,baz=330,slow=36
HFS **Hagfors** 67.98 357 P P 22 10 55.9 -1.2
comp=Z,3.8nm,0.7s,baz=34,slow=5.4,SNR=17
HFS LR LR 22 39 56.8
comp=Z,20nm,21.9s,baz=352,slow=35
TARG **Taragay, Kyrgy** 68.83 311 *e*P P 22 11 04.3 +1.0
comp=Z,4.4nm,0.6s
USP **Ospenovka** 69.11 314 P P 22 11 05.4 +0.9
SNR=11
CHMS **Chumysh** 69.21 314 P P 22 11 05.8 +0.6
SNR=5.8
KBK **Karagaybulak** 69.40 314 P P 22 11 07.0 +0.5
SNR=11
AKTO **Aktyubinsk** 69.45 329 P P 22 11 06.3 -0.1
comp=Z,9.5nm,0.7s,baz=40,slow=8.0,SNR=34
AKTO LR LR 22 43 15.6
comp=Z,27nm,21.8s,baz=19,slow=37
AAK **Ala-Archa** 69.61 314 P P 22 11 08.4 +0.6
SNR=11
AAK **Ala-Archa** 69.61 314 *e*P P 22 11 08.4 +0.6
comp=Z,10nm,0.7s
AAK **Ala-Archa** 69.61 314 *c i*P P 22 11 08.2 +0.4
AAK pmax pmax
comp=Z,10.0nm,0.7s
KZA **Kyzart** 69.72 313 P P 22 11 09.7 +0.9
SNR=5.3
ABKAR **Akbulak array** 69.84 327 *e*P P 22 11 08.8 0.0
comp=Z,24nm,0.6s
NRN **Naryn** 69.90 312 *e*P P 22 11 10.7 +0.9
comp=Z,6.0nm,0.8s
NRN **Naryn** 69.90 312 *e*P P 22 11 10.7 +0.9
NRN pmax pmax
comp=Z,6.0nm,0.8s
EKS2 **Erkin-Say** 69.91 314 P P 22 11 10.5 +0.9
SNR=8.7
PMOR **Pomariorio Ree** 70.00 155 *e*T T 23 27 36.4
comp=Z,2.3nm,0.2s
AML **Almayashu** 70.38 314 P P 22 11 13.9 +1.1
SNR=5.1
OBN **Obninsk** 70.55 343 ⇑*e*P P 22 11 12.8 -0.2
OBN *e* 22 13 52.9
OBN *e*S S 22 20 22.7 +0.8
OBN pmax pmax
comp=Z,3.0nm,0.8s
OBN MLR MLR
comp=Z,39nm,16.0s
MNAS **Manas** 70.61 315 P P 22 11 13.6 -0.3
MNAS pmax pmax
comp=Z,7.0nm,0.6s
KK31 **Karatay Array** 70.97 317 *e*P P 22 11 15.9 +0.1
KK31 **Karatay Array** 70.97 317 *e*P P 22 11 16.0 +0.1
KKAR **Karatay Array** 70.97 317 *e*P P 22 11 15.9 +0.1
KKAR **Karatay Array** 70.97 317 *e*P P 22 11 15.9 +0.1
LSA **Lhasa** 71.22 294 *e*P P 22 11 19.8 +1.6
comp=Z,9.1nm,0.8s
LSA **Lhasa** 71.22 294 *e*P P 22 11 19.8 +1.6
LSA pmax pmax
comp=Z,9.0nm,0.8s
KSH **Kashi** 71.43 311 P P 22 11 22.5 +3.6
KSH pmax pmax
comp=Z,27nm,0.6s
PPT2 **Papeete2** 72.08 158 *e*LR LR 22 32 53.2
comp=Z,62nm,24.0s
PPT2 **Papeete2** 72.08 158 *e*T T 23 30 10.8
comp=Z,1.8nm,0.3s
TIAR **Tiarei** 72.10 158 *e*T T 23 30 12.7
comp=Z,2.8nm,0.3s
SFK **Sufi-Kurgan** 72.17 313 P P 22 11 19.2 -4.2
SFK pmax pmax
comp=Z,6.0nm,1.1s
SHL **Shillong** 73.96 291 *e*P P 22 11 34.0 -0.2
comp=Z,7.4nm,0.7s
SHL **Shillong** 73.96 291 *e*P P 22 11 34.0 -0.2
SHL pmax pmax
comp=Z,7.0nm,0.7s
CHTO **Chiang Mai** 74.96 281 *e*P P 22 11 40.1 +0.3
comp=Z,5.5nm,1.3s
CHTO **Chiang Mai** 74.96 281 *e*P P 22 11 40.1 +0.3
CHTO pmax pmax
comp=Z,6.0nm,1.3s
CM31 **Chiang Mai Arr** 75.24 281 *e*P P 22 11 42.3 +0.9
CMAR **Chiang Mai Arr** 75.24 281 P P 22 11 42.1 +0.8
comp=Z,5.0nm,0.8s,baz=26,slow=6.7,SNR=43
CM01 **Chiang Mai Arr** 75.25 281 *e*P P 22 11 42.1 +0.6
GUN **Gumba** 75.53 297 *e*P P 22 11 43.6 +0.2
comp=Z,27nm,0.6s
JIRN **Jiri** 75.56 296 *e*P P 22 11 44.0 +0.4
comp=Z,49nm,0.7s
RAMN **Ramite** 75.88 296 *e*P P 22 11 45.4 +0.1
comp=Z,42nm,0.8s
KKN **Kakani** 75.95 297 *e*P P 22 11 45.9 +0.3
comp=Z,14nm,0.6s
AKASG **Malin Array Be** 76.00 346 P P 22 11 43.6 -1.6
comp=Z,1.2nm,0.5s,baz=15,slow=5.9,SNR=4.0
AKASG LR LR 22 46 52.0
comp=Z,38nm,21.6s,baz=60,slow=37
AKBB **Malin Array Si** 76.00 346 *e*P P 22 11 43.6 -1.6
comp=Z,7.1nm,1.4s
AKBB **Malin Array Si** 76.00 346 *e*P P 22 11 43.6 -1.6
AKBB pmax pmax
comp=Z,7.0nm,1.4s
PKIN **Phulchoki** 76.06 297 *e*P P 22 11 46.1 -0.2
comp=Z,9.5nm,0.7s
GKN **Gorkha** 76.14 298 *e*P P 22 11 46.6 0.0
comp=Z,27nm,0.7s
DMN **Daman** 76.19 297 *e*P P 22 11 47.2 +0.1
comp=Z,12nm,0.8s
DANN **Dangsing** 76.34 299 *e*P P 22 11 48.2 +0.3
comp=Z,51nm,0.7s
PYUN **Piuthan** 76.96 299 *e*P P 22 11 51.3 0.0
comp=Z,37nm,0.9s
BRG **Berggiesshubel** 77.24 356 *e*P P 22 11 52.1 -0.1
comp=Z,2.4nm,0.7s
BRG **Berggiesshubel** 77.24 356 *e*P P 22 11 52.1 -0.1
BRG pmax pmax
comp=Z,8.0nm,0.7s
NIL **Nilore** 77.46 309 *e*P P 22 11 54.6 +0.8
comp=Z,17nm,0.7s
NIL **Nilore** 77.46 309 *e*P P 22 11 54.6 +0.8
NIL pmax pmax
comp=Z,17nm,0.7s
UPC **Upice** 77.51 355 *e*P P 22 11 53.1 -0.7
UPC **Upice** 77.51 355 *e*P P 22 11 53.1 -0.7
DPC **Dobruska-Polom** 77.65 355 *e*P P 22 11 53.6 -1.0
DPC *e*pP PcP 22 12 03.3 -1.3
DPC **Dobruska-Polom** 77.65 355 *e*P P 22 11 53.6 -1.0
DPC *e* 22 12 03.3
TBI **Tubuai** 77.66 159 *e*T T 23 37 09.0
comp=Z,6.4nm,0.2s
STHS **Stebnicka Huta** 78.21 351 *e*P P 22 11 57.2 -0.5
STHS **Stebnicka Huta** 78.21 351 *e*P P 22 11 57.2 -0.5
KBL **Kabul** 78.68 313 *e*P P 22 11 59.8 -1.0
comp=Z,8.6nm,0.7s
KBL **Kabul** 78.68 313 *e*P P 22 11 59.8 -1.0
KBL pmax pmax
comp=Z,9.0nm,0.7s
TREC **Trest** 78.75 355 *e*P P 22 12 00.5 -0.2
TREC **Trest** 78.75 355 *e*P P 22 12 00.5 -0.2
KHC **Kasperske Hory** 79.00 356 *e*P P 22 12 02.3 +0.3
KHC *e*pP PcP 22 12 13.0 +2.5
KHC **Kasperske Hory** 79.00 356 *e*P P 22 12 02.3 +0.3
KHC *e* 22 12 13.0
GEC2 **GERESS Array S** 79.28 356 *e*P P 22 12 02.9 -0.8
comp=Z,1.9nm,1.0s
GEC2 **GERESS Array S** 79.28 356 *e*P P 22 12 02.9 -0.8
GEC2 pmax pmax
comp=Z,2.0nm,1.0s
GERES **GERESS Array B** 79.28 356 P P 22 12 02.9 -0.8
comp=Z,0.8nm,0.6s,baz=6.4,slow=5.1,SNR=7.8
KIV **Kislovodsk** 79.76 335 *e*P P 22 12 07.8 +1.4
KIV pmax pmax
comp=Z,3.0nm,1.0s
KIV MLR MLR
comp=Z,23nm,18.0s
KBZ **Khabaz** 79.92 335 P P 22 12 07.5 +0.4
comp=Z,1.8nm,0.8s,baz=116,slow=0.7,SNR=7.1
GEYT **Allbeck** 80.33 322 LR LR 22 52 01.7
comp=Z,33nm,18.2s,baz=210,slow=39
ZEI **Tsey** 80.53 334 *e*P P 22 12 09.6 -1.1
ZEI pmax pmax
comp=Z,4.0nm,0.7s
KBA **Koelnbreinsper** 81.06 356 *i*P P 22 12 14.0 +0.6
comp=Z,5.4nm,0.8s
KBA **Koelnbreinsper** 81.06 356 P P 22 12 13.7 +0.3
KBA pmax pmax
comp=Z,8.0nm,0.8s
MLR **Muntele Rosu** 81.55 348 P P 22 12 16.2 +0.2
comp=Z,0.1nm,0.4s,baz=7.8,slow=4.9
MLR LR LR 22 51 52.7
comp=Z,9.5nm,20.4s,baz=24,slow=38
TIRR **Tirgusor** 82.21 346 *e*P P 22 12 18.8 -0.5
comp=Z,1.5nm,0.7s
TIRR **Tirgusor** 82.21 346 *e*P P 22 12 18.8 -0.5
TIRR pmax pmax
comp=Z,2.0nm,0.7s
GNI **Garni** 82.76 333 LR LR 22 57 10.1
comp=Z,17nm,18.5s,baz=3.0,slow=41
WR1 **Warramunga Arr** 85.74 230 *e*P P 22 12 36.1 -1.3
comp=Z,13nm,1.4s
WRA **Warramunga Arr** 85.74 230 P P 22 12 36.1 -1.3
comp=Z,0.8nm,0.5s,baz=35,slow=6.1,SNR=14
BR101 **Keskin Array S** 85.87 341 *e*P P 22 12 38.1 -0.1
BRTR **Keskin Array B** 85.87 341 P P 22 12 38.1 -0.1
comp=Z,0.8nm,0.6s,baz=27,slow=2.8,SNR=6.1
BRTR LR LR 22 54 41.4
comp=Z,24nm,21.9s,baz=28,slow=38
FNA **Florina** 86.74 350 *e*P P 22 12 42.4 0.0
comp=Z,2.5nm,0.7s
FNA **Florina** 86.74 350 *e*P P 22 12 42.4 0.0
FNA pmax pmax
comp=Z,3.0nm,0.7s
PSI **Prapat** 87.40 271 P P 22 12 46.7 +0.8
comp=Z,4.4nm,0.5s,baz=206,slow=7.5,SNR=4.5
PSI **Prapat** 87.40 271 *e*P P 22 12 46.7 +0.8
comp=Z,9.7nm,0.8s
PSI **Prapat** 87.40 271 *e*P P 22 12 46.7 +0.8
PSI pmax pmax
comp=Z,10.0nm,0.8s
ES19 **SONSECA Array** 87.92 9 *e*P P 22 12 47.7 -0.3
ESDC **Sonseca Array** 87.94 9 P P 22 12 47.6 -0.5
comp=Z,0.4nm,0.5s,baz=263,slow=22,SNR=4.8
AS01 **Alice Springs** 89.12 228 *e*P P 22 12 53.2 -0.4
AS31 **Alice Springs** 89.15 228 *e*P P 22 12 53.7 0.0
comp=Z,2.6nm,0.6s
ASAR **Alice Springs** 89.15 228 P P 22 12 53.5 -0.3
comp=Z,10nm,0.8s,baz=28,slow=4.9,SNR=78
IDI **Anoyia** 91.72 346 LR LR 22 58 34.9
comp=Z,19nm,20.5s,baz=88,slow=38
MMAI **Mount Meron Ar** 91.92 337 P P 22 13 07.0 +0.1
comp=Z,1.3nm,0.8s,baz=4.8,slow=4.9,SNR=4.2
RPN **Rapa Nui** 95.90 127 P P 22 13 23.5 -1.3
comp=Z,33nm,0.5s,baz=90,slow=7.1,SNR=3.2
RAYN **Ar Rayn** 97.91 326 *e*P P 22 13 33.7 -0.6
comp=Z,2.6nm,0.8s
TOA1 **Torodi Ar. Sit** 114.72 7 *e*PKiKP PKiKP 22 18 37.9 -0.9
TORD **Torodi Ar. Bea** 114.73 7 PKP PKPdf 22 18 37.9 -0.9
comp=Z,2.2nm,0.5s,baz=3.4,slow=2.0,SNR=2.7
MAW **Mawson** 149.79 218 PKPbc PKPdf 22 19 43.5 +1.7
comp=Z,4.6nm,0.9s,baz=46,slow=18,SNR=2.8
BOSA **Boshof** 153.29 325 PKPbc PKPbc 22 19 56.4 +0.3
comp=Z,1.9nm,0.5s,baz=2.8,slow=3.0,SNR=9.4

IDC ***29*** *22:17:51.4±2.5, 37.°17N×73.°10E, h0km, mb3.3/3, mb1 3.4/9, mb1mx3.2/74, mbtmp3.4/9, ML3.0/6, MS3.0/1, Ms1 3.0/1, ms1mx2.2/45, Error ellipse: s-maj=40.7km s-min=26.4km az=170.0*
ISCJB ***29*** *22:17:52.3±1.2, 37.°33N±0.°09×72.°8E±0.°1, h10km, mb3.1/3, MS3.0/1, Error ellipse: s-maj=15.3km s-min=11.2km az=39.9*
NNC ***29*** *22:17:59.1±2.2, 37.°73N×72.°82E, h0km, mb3.8, mpv3.4, Error ellipse: s-maj=23.8km s-min=18.0km az=87.0*
ISC 29 22:17:53.8±1.6, 37.3N±0.1×72.8E±0.1, h10km, n15, σ1§67/17, mb3.1/3, 7C-4D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**2.80**	**11**	⇑Pn	**Pn**	**22 18 38.7**	**-0.1**
	18nm,0.4s						
SFK				⇓Lg	Lg	22 19 15.3	
	55nm,0.5s						
MNAS	**Manas**	**5.22**	**357**	⇑Pn	**Pn**	**22 19 12.3**	**+0.2**
	5.9nm,0.7s						
MNAS				⇑Lg	Lg	22 20 30.2	
	16nm,1.1s						
AAK	**Ala-Archa**	**5.52**	**13**	Pn	**Pn**	**22 19 18.4**	**+2.3**
	0.2nm,0.3s,baz=180,slow=7.1,SNR=5.0						
AAK				Sn	**Sn**	**22 20 20.3**	**+0.6**
	0.4nm,0.3s,baz=180,slow=20,SNR=3.5						
AAK	**Ala-Archa**	**5.52**	**13**	⇑Pn	**Pn**	**22 19 18.2**	**+2.0**

	5.2nm,0.8s							
AAK					⇑Lg	Lg	22 20 36.7	
	10nm,0.9s							
TKM2	**Tokmak 2**	**6.04**	**20**	⇑Pn	**Pn**	**22 19 24.1**	**+0.8**
	1.8nm,0.7s							
TKM2					⇓Pg	**Pb**	**22 19 41.3**	**+2.1**
	5.6nm,1.0s							
TKM2					⇑Lg	Lg	22 20 53.2	
	7.9nm,1.0s							
KK31	**Karatay Array**	**6.10**	**344**	⇓Pn	**Pn**	**22 19 23.5**	**-0.5**
	1.1nm,0.3s,baz=147,slow=11,SNR=64							
KK31					⇓Sg	**Sn**	**22 20 31.4**	**-2.3**
	14nm,0.8s,baz=156,slow=24,SNR=7.8							
GEYT	**Alibeck**	**11.69**	**278**	Pn	**Pn**	**22 20 41.6**	**+0.9**
	0.1nm,0.3s,baz=100,slow=7.5,SNR=2.6							
KURBB	**Kurchatov Arra**	**13.97**	**15**	Pn	**Pn**	**22 21 09.8**	**-1.9**
	0.0nm,0.3s,baz=205,slow=10,SNR=2.9							
BVAR	**Borovoye Array**	**15.85**	**355**	Pn	**Pn**	**22 21 35.5**	**-1.4**
	0.1nm,0.3s,baz=157,slow=7.8,SNR=2.4							
AKTO	**Aktyubinsk**	**16.91**	**326**	Pn	**Pn**	**22 21 50.5**	**+0.1**
	0.1nm,0.3s,baz=120,slow=14,SNR=2.6							
ZALV	**Zalesovo Beam**	**18.63**	**23**	P	**Pn**	**22 22 08.4**	**-3.2**
	0.2nm,0.3s,baz=218,slow=10,SNR=9.9							
SONM	**Songino Array**	**26.70**	**56**	P	**P**	**22 23 32.0**	**-1.2**
	0.1nm,0.4s,baz=242,slow=9.3,SNR=2.2							
KSRS	**Korea Array**	**43.25**	**72**	LR	LR	22 44 37.2		
	comp=Z,17nm,19.8s,baz=255,slow=37							
HFS	**Hagfors**	**43.38**	**321**	P	**P**	**22 25 56.3**	**+0.2**
	0.3nm,0.3s,baz=104,slow=8.5,SNR=3.1							
YKA	**Yellowknife Ar**	**80.41**	**3**	P	**P**	**22 30 04.8**	**-0.3**
	0.1nm,0.5s,baz=351,slow=5.4,SNR=4.8							

ISN ***29*** *22:20:12.7±1.4, 32.44N×47.11E, h15km, ML2.7*

TEH 29 22:20:12.2, 32.48N×47.01E, h10km, ML2.7, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
IKFM	**Kafar-mosalman**	**1.26**	**34**	*e*Pg		Pn	22 20 33.3	-2.5
IKFM				*e*AMB		AMB	22 20 35.8	
	comp=Z,99nm,0.1s							
IKFM				*e*Sg		Sb	22 20 51.7	-0.6
IKOM	**Komasi**	**1.74**	**14**	*e*Pn		Pn	22 20 42.3	-0.4
IKOM				*e*AMB		AMB	22 20 45.9	
	comp=Z,966nm,0.1s							
IKOM				*e*Sg		Sb	22 21 06.7	+0.3
IVIS	**Veis**	**2.04**	**356**	*e*Pn		Pn	22 20 46.7	-0.1
IVIS				*e*Sg		Sb	22 21 15.8	+0.8
IVIS				*e*AMB		AMB	22 21 19.3	
	comp=Z,372nm,0.2s							
ILIN	**Lien**	**2.43**	**359**	*e*Pn		Pn	22 20 52.4	+0.2
ILIN				*e*AMB		AMB	22 20 57.3	
	comp=Z,231nm,0.1s							
QAM	**Ghamsar**	**3.93**	**70**	*e*Pn		Pn	22 21 12.7	-0.1
QAM				*e*AMB		AMB	22 21 15.0	
	comp=Z,130nm,0.1s							
IKLH	**Kolahrood**	**3.94**	**77**	*e*Pn		Pn	22 21 12.6	-0.3
IKLH				*e*AMB		AMB	22 21 14.6	
	comp=Z,70nm,0.1s							
IZEF	**Zefreh**	**4.51**	**83**	*e*Pn		Pn	22 21 19.6	-1.2
IZEF				*e*AMB		AMB	22 21 22.0	
	comp=Z,33nm,0.1s							

MAN 29 22:25:02, 11.25N×125.84E, h3km, mb4.4, ML3.2, MS3.0, 1C-1D, Samar

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
BESP	**Borongan**	**0.53**	**311**	*e*P		Pb	22 25 13.3	-0.6
BESP				*e*S		Sb	22 25 22.0	+0.1
PLP	**Palo**	**0.85**	**264**	⇓*e*P		Pg	22 25 18.5	+0.2
PLP				*e*S		Sg	22 25 28.9	-0.4
MSLP	**Maasin**	**1.47**	**221**	*e*P		Pb	22 25 29.9	-0.2
MSLP				*e*S		Sg	22 25 50.4	+1.0
CNP	**Catarman**	**1.70**	**317**	*e*P		Pn	22 25 31.3	-1.3
CNP				*e*S		Sb	22 25 55.9	+0.1
LLP	**Lapu-Lapu**	**2.06**	**243**	*e*P		Pg	22 25 42.1	+0.5
LLP				*e*S		Sb	22 26 05.2	-1.0
RCP	**Roxas**	**3.05**	**276**	⇑*e*P		Pn	22 25 52.9	+1.7

SKO ***29*** *22:26:44.2, 40.97N×20.51E, h29km, M1.1, ML1.3*
TIR ***29*** *22:26:47.0, 41.01N×20.73E, h7km, Md2.6/5*

CSEM 29 22:26:47.0, 41.01N×20.73E, h7km, ML2.6, 1C, Albania

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
OHR	**Ohrid**	**0.11**	**27**	⇑*i*Pg		Pg	22 26 51.3	+1.8
OHR				*i* Sg		Sg	22 26 54.2	+3.0
OHR				*e*Lg		Lg	22 26 55.1	
	comp=N,75nm,0.3s							
OHR				*e*Lg		Lg	22 26 55.7	
	comp=E,78nm,0.6s							
KBN	**Korca**	**0.39**	**174**	*i* Pg		Pg	22 26 54.8	+0.2
KBN				*i* Sg		Sb	22 27 01.5	-1.0
KBN	**Korca**	**0.39**	**174**	*i* PG		Pg	22 26 54.8	+0.1
KBN				*i* SG		Sb	22 27 01.5	-1.0
BIA	**Bitola**	**0.45**	**89**	*i* Pg		Pb	22 26 57.1	-0.1
BIA				*i* Sg		Sb	22 27 05.9	+1.7
KRUS	**Krusevo**	**0.53**	**47**	*i* Pg		Pb	22 26 58.3	-0.4
KRUS				*i* Sg		Sb	22 27 07.8	+1.2
PHP	**Peshkopia**	**0.71**	**342**	*i* Pg		Pg	22 27 00.2	-0.4
PHP				*i* Sg		Sn	22 27 14.4	-0.3
PHP	**Peshkopia**	**0.71**	**342**	*i* PG		Pg	22 27 00.2	-0.4
PHP				*i* SG		Sn	22 27 14.4	-0.3
PUK	**Puka**	**1.21**	**329**	*i* Pn		Pb	22 27 10.3	+0.1
PUK				*i* Sn		Sn	22 27 30.7	+3.6
PUK	**Puka**	**1.21**	**329**	*i* PN		Pb	22 27 10.3	+0.1
PUK				*i* SN		Sn	22 27 30.7	+3.6
SRN	**Sarande**	**1.26**	**207**	*i* Pn		Pg	22 27 13.4	+2.2
SRN	**Sarande**	**1.26**	**207**	*i* PN		Pg	22 27 13.3	+2.2

IDC ***29*** *22:35:51.0±0.6, 30.58S×177.30W, h0km, mb4.7/12, mb1 4.8/12, mb1mx4.5/40, mbtmp4.6/12, MS4.0/28, Ms1 4.0/28, ms1mx3.9/48, Error ellipse: s-maj=20.4km s-min=18.4km az=78.0*

NEIC ***29*** *22:35:54.8±2.4, 30.59S×177.47W, h18km±3km, mb4.8/37, Error ellipse: s-maj=19.1km s-min=12.7km az=93.0*

GCMT ***29*** *22:35:54.8±0.5, 30.63S×177.15W, h24km±1km, MW4.9/57, Moment Tensor Solution. s28,c32; s57,c74; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr3.06±.23; Mθθ-0.81±.14; Mφφ-2.25±.13; Mrθ0.49±.24; Mrφ-0.82±.08; Mθφ0.47±.15; Best double couple: Mo2.91800×10^16 NP1:φs29.00000°, δ51.00000°, λ95.00000°. NP2: φs201.00000°, δ39.00000°, λ84.00000°. Principal axes: T 3.1460, Plg83.0000°, Azm327.0000°; N -0.4580, Plg4.0000°, Azm205.0000°; P -2.6890, Plg6.0000°, Azm115.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISCJB ***29*** *22:35:55.9±0.3, 30.68S±0.04×177.48W±0.06, h33km, mb4.8/46, MS4.1/28 Error ellipse: s-maj=7.4km s-min=5.1km az=31.3*

BJI ***29*** *22:35:58.2, 29.845×176.79W, h49km, mb5.1/18, mB5.3/10, Ms4.7/3, Ms7 4.5/3*

ISC 29 22:35:56.7±0.4, 30.63S±0.04×177.41W±0.08, h33km, n200, σ1965/199, mb4.9/46, MS4.1/28, 15C-5D, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
RAO	**Raoul Island**	**1.44**	**342**	Pn		**Pn**	**22 36 18.4**	**-2.1**
	1μm,0.3s,baz=159,slow=2.3,SNR=68							
RAO				Sn		**Sn**	**22 36 37.8**	**-0.6**
	868nm,0.3s,baz=311,slow=23,SNR=17							
RAO	**Raoul Island**	**1.44**	**342**	*e*Pn		**Pn**	**22 36 18.4**	**-2.1**
RAO				*e*Pn		**Pb**	**22 36 18.9**	**-4.1**
RAO				*e*Sn		**Sn**	**22 36 37.8**	**-0.6**
RAO				*e*Sn		**Sb**	**22 36 40.4**	**-0.7**
OUZ	**Omahuta**	**8.83**	**236**	*e*Pn		**Pn**	**22 38 05.1**	**+3.1**
URZ	**Urewera**	**8.85**	**209**	Pn		**Pn**	**22 37 57.8**	**-4.4**
	1.0nm,0.3s,baz=262,slow=2.0,SNR=4.2							
URZ				Sn		**Sn**	**22 39 38.0**	**-2.8**
	3.4nm,0.3s,baz=152,slow=20,SNR=12							
URZ	**Urewera**	**8.85**	**209**	*e*Pn		**Pn**	**22 37 57.8**	**-4.4**
URZ				*e*Pn			22 37 58.6	-3.7
URZ				*e*Sn		**Sn**	**22 39 38.0**	**-2.8**
URZ				*e*Sn			22 39 39.6	-1.1
BKZ	**Black Stump Fm**	**9.87**	**209**	*e*Pn		**Pn**	**22 38 18.2**	**+1.9**
MSVF	**Nonsavu**	**13.49**	**341**	*e*Pn		**Pn**	**22 39 07.2**	**+1.3**
THZ	**Tophouse**	**13.57**	**212**	*e*Pn		**Pn**	**22 39 09.1**	**+2.2**
KHZ	**Kahutara**	**13.82**	**209**	*e*Pn		Pn	22 39 03.7	-6.4
KHZ				*e*Sn		Sn	22 41 25.8	-17
OXZ	**Oxford**	**15.20**	**211**	*e*Pn		**Pn**	**22 39 28.2**	**-0.7**
	15nm,0.8s							
RPZ	**Rata Peaks**	**15.95**	**212**	Pn		**Pn**	**22 39 33.2**	**-5.4**
	0.9nm,0.3s,baz=61,slow=18,SNR=2.9							
RPZ				Sn		Sn	22 42 19.8	-14
	0.4nm,0.3s,baz=332,slow=19,SNR=2.8							
DZM	**Mont Dzumac**	**16.78**	**297**	Pn		**P**	**22 39 51.6**	**+0.3**
	0.4nm,0.3s,baz=120,slow=13,SNR=11							
DZM				LR		LR	22 45 08.1	
	comp=Z,1μm,18.4s,baz=98,slow=33							
DZM	**Mont Dzumac**	**16.78**	**297**	*e*P		**P**	**22 39 53.1**	**+1.8**
	169nm,1.4s							
DZM				*e*LR		LR	22 43 56.0	
	1μm,24.9s							
DZM	**Mont Dzumac**	**16.78**	**297**	*e*Pn		**P**	**22 39 54.2**	**+2.9**
	118nm,1.5s							
ODZ	**Otahua Downs**	**17.18**	**210**	*e*Pn		**Pn**	**22 39 51.5**	**-2.5**
	57nm,1.3s							
WKZ	**Wanaka**	**17.74**	**213**	*e*Pn		**P**	**22 40 01.6**	**-0.1**
	129nm,1.5s							
RAR	**Rarotonga**	**18.41**	**64**	LR		LR	22 46 49.0	
	comp=Z,160nm,18.6s,baz=261,slow=36							
WHZ	**Wether Hill Ro**	**19.04**	**213**	*e*P		**P**	**22 40 13.0**	**-2.9**
	44nm,1.1s							
TBI	**Tubuai**	**25.90**	**81**	*e*LR		LR	22 47 30.0	
	400nm,30.5s							
TBI	**Tubuai**	**25.90**	**81**	*e*T		T	23 07 50.9	
	4.1nm,0.3s							
ARMA	**Armidale**	**26.63**	**262**	*e*P		**P**	**22 41 34.9**	**+2.4**
	19nm,1.2s							
EIDS	**Eidsvold**	**28.25**	**273**	P		**P**	**22 41 48.4**	**+1.4**
	baz=32,SNR=4.7							
EIDS	**Eidsvold**	**28.25**	**273**	*e*P		**P**	**22 41 47.3**	**+0.4**
	24nm,1.0s							
PAE	**Paea**	**28.40**	**69**	*e*T		T	23 11 02.4	
	1.3nm,0.3s							
PPT2	**Papeete2**	**28.44**	**69**	*e*LQ		LQ	22 47 17.5	
	251nm,23.2s							
PPT2				*e*LR		LR	22 48 48.6	
	391nm,30.5s							
PPT	**Papeete**	**28.45**	**69**	LR		LR	22 52 27.6	
	comp=Z,127nm,18.9s,baz=219,slow=35							
YNG	**Young**	**29.00**	**254**	P		**P**	**22 41 57.6**	**+4.1**
	baz=32							
HNR	**Honiara**	**29.84**	**310**	LR		LR	22 52 14.5	
	comp=Z,192nm,19.0s,baz=175,slow=33							
RMQ	**Roma**	**29.93**	**269**	P		**P**	**22 42 04.8**	**+2.9**
	baz=33							
TOO	**Toolangi**	**31.34**	**247**	P		**P**	**22 42 15.7**	**+1.5**
	baz=35							
CMSA	**Cobar Meteorol**	**31.52**	**259**	P		**P**	**22 42 17.7**	**+1.9**
	baz=35,SNR=9.7							
QLP	**Quilpie**	**33.80**	**267**	P		**P**	**22 42 37.1**	**+1.3**
	baz=37							
CTA	**Charters Tower**	**34.34**	**279**	P		**P**	**22 42 41.8**	**+1.2**
	12nm,0.8s,baz=100,slow=3.0,SNR=12							
CTAO	**Charters Tower**	**34.34**	**279**	*e*P		**P**	**22 42 42.0**	**+1.4**
	21nm,1.0s							
STKA	**Stephens Creek**	**34.92**	**257**	P		**P**	**22 42 47.2**	**+1.8**
	46nm,1.0s,baz=91,slow=9.7,SNR=48							
STKA				LR		LR	22 56 10.9	
	comp=Z,492nm,18.1s,baz=54,slow=35							
STKA	**Stephens Creek**	**34.92**	**257**	P		**P**	**22 42 47.1**	**+1.6**
	baz=38,SNR=22							
STKA	**Stephens Creek**	**34.92**	**257**	*e*P		**P**	**22 42 46.4**	**+0.9**
	11nm,0.8s							
HTT	**Hallett**	**36.92**	**254**	P		**P**	**22 43 03.6**	**+0.9**
	baz=40,SNR=5.9							
BBOO	**Buckleboo**	**39.39**	**254**	P		**P**	**22 43 23.5**	**0.0**
	baz=43,SNR=5.9							
QIS	**Mount Isa**	**39.84**	**274**	P		**P**	**22 43 28.4**	**+1.1**
	baz=43,SNR=3.5							
TAOE	**Nuku Hiva Isla**	**40.94**	**66**	*e*LR		LR	22 54 33.4	
	175nm,29.5s							
AS01	**Alice Springs**	**43.56**	**267**	*e*P		**P**	**22 43 57.7**	**-0.1**
AS31	**Alice Springs**	**43.60**	**267**	*e*P		**P**	**22 43 58.1**	**+0.1**
	2.9nm,0.8s							
AS31				*e*PP		**PcP**	**22 45 44.3**	**-1.0**
AS31				*e*ScP		**ScP**	**22 49 36.7**	**+2.3**
ASAR	**Alice Springs**	**43.60**	**267**	P		**P**	**22 43 57.6**	**-0.4**
	4.7nm,0.8s,baz=107,slow=7.6,SNR=34							
ASAR				PcP		**PcP**	**22 45 44.3**	**-1.0**
	2.4nm,0.8s,baz=134,slow=3.2,SNR=4.9							
ASAR				ScP		**ScP**	**22 49 36.7**	**+2.3**
	1.6nm,0.9s,baz=112,slow=4.7,SNR=6.8							
ASAR				LR		LR	23 01 56.0	
	comp=Z,615nm,18.1s,baz=112,slow=36							
WB2	**Warramunga Arr**	**44.60**	**272**	*e*P		**P**	**22 44 05.3**	**-0.8**
	38nm,0.8s							
WB2				*e*S		**S**	**22 50 42.7**	**+2.6**
WRAB	**Tennant Creek**	**44.61**	**272**	*e*P		**P**	**22 44 06.2**	**0.0**
	34nm,0.9s							
WR1	**Warramunga Arr**	**44.61**	**272**	*e*P		**P**	**22 44 05.0**	**-1.1**
	40nm,0.8s							
WR1				*e*PcP		**PcP**	**22 45 47.7**	**-1.0**
WR1				*e*ScP		**ScP**	**22 49 41.5**	**+3.0**
WRA	**Warramunga Arr**	**44.61**	**272**	P		**P**	**22 44 05.0**	**-1.1**
	32nm,0.9s,baz=111,slow=7.9,SNR=118							
WRA				PcP		**PcP**	**22 45 47.7**	**-1.0**
	2.8nm,0.9s,baz=112,slow=4.5,SNR=3.9							
WRA				ScP		**ScP**	**22 49 41.5**	**+3.0**
	1.1nm,0.8s,baz=120,slow=4.0,SNR=5.3							
WRKA	**Warakurna**	**47.95**	**263**	P		**P**	**22 44 31.1**	**-1.3**
	baz=51,SNR=9.9							
CASY	**Casey**	**55.17**	**208**	*e*P		**P**	**22 45 25.9**	**+0.2**
	34nm,0.9s							
GUMO	**Guam**	**57.00**	**315**	LR		LR	23 07 19.9	
	comp=Z,84nm,19.8s,baz=116,slow=33							
BATI	**Baumata**	**58.18**	**277**	LR		LR	23 11 32.0	
	comp=Z,595nm,18.3s,baz=120,slow=37							
RPN	**Tapa Nui**	**58.89**	**105**	LR		LR	23 07 11.3	
	comp=Z,101nm,18.7s,baz=149,slow=32							
QSPA	**South Pole Qui**	**59.48**	**180**	LR		LR	23 09 20.4	
	comp=Z,195nm,19.1s,baz=52,slow=34							
QSPA	**South Pole Qui**	**59.48**	**180**	*e*P		**P**	**22 45 57.7**	**+1.4**
	26nm,1.0s							
LEM	**Lembang**	**73.63**	**272**	LR		LR	23 21 49.9	
	comp=Z,178nm,18.8s,baz=150,slow=37							
SYO	**Syowa Base**	**77.00**	**193**	*e*P		**P**	**22 47 44.9**	**-0.9**
SYO	**Syowa Base**	**77.00**	**193**	eX		**P**	**22 47 48.4**	**+2.6**
SNAA	**Sanae**	**77.91**	**178**	P		**P**	**22 47 50.0**	**-0.9**
SNAA	**Sanae**	**77.91**	**178**	P		**P**	**22 47 49.9**	**-1.1**
	3.2nm,1.0s,baz=186,slow=4.0,SNR=6.6							
SNAA				LR		LR	23 21 05.6	
	comp=Z,45nm,19.1s,baz=269,slow=35							
SNAA	**Sanae**	**77.91**	**178**	*e*P		**P**	**22 47 51.2**	**+0.3**
	21nm,1.1s							
VNA3	**Neumayer Olymp**	**78.04**	**176**	P		**P**	**22 47 49.9**	**-1.7**
VNA2	**Neumayer--Watz**	**78.48**	**177**	P		**P**	**22 47 51.8**	**-2.2**
	baz=174,slow=4.0							
VNA1	**Neumayer--Stat**	**78.71**	**176**	P		**P**	**22 47 52.3**	**-2.9**
MJAR	**Matsushiro Arr**	**78.72**	**325**	P		**P**	**22 47 53.8**	**-1.9**
	4.6nm,1.0s,baz=170,slow=5.9,SNR=12							
MJAR				LR		LR	23 17 13.4	
	comp=Z,33nm,21.5s,baz=120,slow=32							
MAJO	**Matsushiro**	**78.72**	**325**	*e*P		**P**	**22 47 53.8**	**-1.9**
MAT	**Matsushiro**	**78.72**	**325**	P		**P**	**22 47 53.5**	**-2.2**
JNU	**Nakatsue**	**80.07**	**318**	LR		LR	23 17 44.4	
	comp=Z,35nm,20.7s,baz=118,slow=31							
PLCA	**Paso Flores**	**81.98**	**133**	LR		LR	23 22 31.2	
	comp=Z,77nm,18.1s,baz=240,slow=34							
ASAJ	**Asahikawa**	**82.88**	**332**	*e*P		**P**	**22 48 19.0**	**+1.3**
	22nm,1.5s							
LPIG	**La Paz**	**84.23**	**58**	LR		LR	23 21 42.9	
	comp=Z,112nm,18.1s,baz=191,slow=33							
KSRS	**Korea Array**	**84.85**	**319**	P		**P**	**22 48 27.4**	**-0.5**
	3.8nm,1.0s,baz=146,slow=5.9,SNR=10							
KSRS				LR		LR	23 24 32.8	
	comp=Z,26nm,19.7s,baz=157,slow=34							
KS15	**Wonju Array Si**	**84.86**	**319**	*e*P		**P**	**22 48 27.4**	**-0.6**
KS01	**Wonju Array Si**	**84.88**	**319**	*e*P		**P**	**22 48 27.5**	**-0.6**
PSI	**Prapat**	**85.96**	**276**	LR		LR	23 27 14.4	
	comp=Z,144nm,20.3s,baz=153,slow=36							
ISA	**Isabella, Lake**	**86.11**	**44**	*e*P		**P**	**22 48 35.9**	**+1.5**
	9.3nm,1.3s							
PETK	**Petropavlovsk-**	**86.16**	**345**	P		**P**	**22 48 34.0**	**-0.2**
	6.1nm,0.9s,baz=96,slow=6.5,SNR=5.0							
PETK				LR		LR	23 24 24.4	
	comp=Z,54nm,18.8s,baz=151,slow=34							
PEA1	**Petropavlovsk-**	**86.17**	**345**	*e*P		**P**	**22 48 34.0**	**-0.2**
CMB	**Columbia Colle**	**86.60**	**42**	*e*P		**P**	**22 48 37.1**	**+0.4**
	9.4nm,1.4s							
NJ2	**Nanjing**	**86.78**	**310**	*e*P		**P**	**22 48 39.5**	**+1.9**
NJ2				pmax	pmax			
GSC	**Goldstone, Bar**	**86.88**	**46**	*e*P		**P**	**22 48 39.1**	**+0.9**
	6.8nm,1.1s							
WAKR	**Walker**	**87.46**	**42**	*e*P		**P**	**22 48 43.1**	**+2.0**
	15nm,1.5s							
USRK	**Ussuriysk Ar.**	**87.63**	**326**	P		**P**	**22 48 41.2**	**-0.2**
	7.4nm,0.9s,baz=159,slow=4.5,SNR=11							
USRK				LR		LR	23 24 39.3	
	comp=Z,44nm,19.3s,baz=153,slow=33							
LDFC	**Landfair**	**87.79**	**47**	*e*P		**P**	**22 48 44.6**	**+2.0**
	21nm,1.3s							
YBH	**Yreka Blue Hor**	**87.90**	**38**	LR		LR	23 24 04.7	
	comp=Z,81nm,18.3s,baz=234,slow=33							
NV01	**Mina Array Sit**	**88.07**	**42**	*e*P		**P**	**22 48 43.9**	**-0.1**
NVAR	**Mina Array Bea**	**88.07**	**42**	P		**P**	**22 48 44.0**	**0.0**
	1.8nm,0.8s,baz=218,slow=7.4,SNR=14							
NV11	**Mina Array Sit**	**88.15**	**42**	*e*P		**P**	**22 48 44.8**	**+0.4**
	0.5nm,1.3s							
TPNV	**Topopah Spring**	**88.30**	**45**	*e*P		**P**	**22 48 46.5**	**+1.4**
	6.1nm,1.3s							
PAHR	**Pah Rah Range**	**88.31**	**41**	*e*P		**P**	**22 48 45.7**	**+0.7**
	6.6nm,1.2s							
KVN	**Kaiserville**	**88.60**	**42**	*e*P		**P**	**22 48 47.2**	**+0.7**
	3.6nm,1.1s							
KVN				*e*S		**S**	**22 59 36.1**	**+5.4**
SHPR	**Sheep Range**	**88.68**	**46**	*e*P		**P**	**22 48 48.6**	**+1.8**
	8.2nm,1.3s							
TUC	**Tucson**	**88.86**	**51**	*e*P		**P**	**22 48 49.8**	**+2.1**
	3.0nm,1.0s							
LCMT	**Little Creek M**	**90.19**	**46**	*e*P		**P**	**22 48 55.6**	**+1.7**
	3.8nm,1.1s							
WUAZ	**Wupatki**	**90.44**	**48**	*e*P		**P**	**22 48 56.5**	**+1.3**
	8.8nm,1.2s							
KNB	**Kanab**	**90.45**	**46**	*e*P		**P**	**22 48 57.0**	**+1.8**
	8.3nm,1.2s							
TIA	**Tai'an**	**90.50**	**313**	P		**P**	**22 48 55.8**	**+0.6**
TIA				pmax	pmax			
	comp=Z,18nm,1.2s							
MTPU	**Mount Pierson**	**91.49**	**46**	*e*P		**P**	**22 49 01.9**	**+1.7**
	5.2nm,1.1s							
TX31	**Lajitas Ar. Si**	**92.09**	**57**	*e*P		**P**	**22 49 03.9**	**+1.0**
TXAR	**Lajitas Array**	**92.09**	**57**	P		**P**	**22 49 03.4**	**+0.5**
	1.1nm,1.1s,baz=226,slow=6.8,SNR=5.5							
TXAR				LR		LR	23 25 19.2	
	comp=Z,72nm,18.0s,baz=0.0,slow=32							
GYA	**Guiyang**	**92.11**	**300**	*e*P		**P**	**22 49 04.3**	**+1.3**
GYA				pP		sP	22 49 19.8	+2.4
GYA				PP		**PP**	**22 52 47.0**	**+3.4**
GYA				SKS		**SKSac**	**22 59 32.3**	**-1.7**
GYA				S		**S**	**23 00 01.5**	**-1.8**
GYA				pmax	pmax			
	comp=Z,10.0nm,1.0s							
ENH	**Enshi**	**92.15**	**304**	*e*P		**P**	**22 49 03.8**	**+0.7**
	17nm,1.1s							
MFID	**Camas Ranch**	**92.77**	**40**	*e*P		**P**	**22 49 06.0**	**+0.3**
	4.8nm,1.0s							
BBB	**Bella Bella**	**93.06**	**28**	LR		LR	23 25 31.8	
	comp=Z,74nm,18.3s,baz=272,slow=32							
HVU	**Hansel Valley**	**93.46**	**43**	*e*P		**P**	**22 49 09.8**	**+0.8**
	5.7nm,1.3s							
HLID	**Hailey**	**93.65**	**40**	*e*P		**P**	**22 49 10.5**	**+0.7**
	4.4nm,1.4s							
CM31	**Chiang Mai Arr**	**93.95**	**289**	*e*P		**P**	**22 49 11.9**	**+0.4**
CMAR	**Chiang Mai Arr**	**93.95**	**289**	P		**P**	**22 49 11.9**	**+0.4**
	1.0nm,0.3s,baz=159,slow=4.2,SNR=5.1							
KMI	**Kunming**	**94.38**	**297**	P		**P**	**22 49 15.0**	**+1.3**
KMI				pmax	pmax			
	comp=Z,6.0nm,0.5s							
KMI				pmax	pmax			
	comp=Z,61nm,4.5s							
APG	**El Apazote**	**94.94**	**76**	LR		LR	23 25 43.1	
	comp=Z,76nm,18.3s,baz=171,slow=32							
NEW	**Newport**	**95.26**	**36**	LR		LR	23 24 32.4	
	comp=Z,108nm,20.7s,baz=213,slow=31							
HHC	**Hu-ho-hao-te**	**96.76**	**314**	*e*P		**P**	**22 49 25.8**	**+1.8**
HHC				S		**S**	**23 00 39.8**	**-3.6**
HHC				pmax	pmax			
	comp=Z,29nm,1.5s							
HHC				pmax	pmax			
	comp=Z,55nm,8.6s							
HHC				LR		LR		
	comp=N,73nm,17.6s							
HHC				LR		LR		
	comp=E,110nm,17.8s							
HHC				LR		LR		
	comp=Z,100nm,17.6s							
JTS	**JuntasAbangare**	**97.26**	**82**	LR		LR	23 26 13.8	
	comp=Z,53nm,18.2s,baz=315,slow=31							
LPAZ	**La Paz**	**97.59**	**114**	LR		LR	23 25 24.5	
	comp=Z,29nm,19.7s,baz=204,slow=30							
LZH	**Lanzhou**	**99.

TIRR	**Tirgusor**	**155.43 311**	⇑*iP*	**PKPab**	**22 56 12.2**	**-0.1**
TIRR	**Tirgusor**	**155.43 311**	*e*PKPab	**PKPab**	**22 56 12.2**	**-0.1**
TESR	**Tescani**	**155.54 317**	⇑*iP*	**PKPab**	**22 56 09.4**	**-3.3**
TLB	**Topalu**	**155.62 312**	⇓*iP*	**PKPab**	**22 56 13.0**	**-0.1**
KWP	**Kalwaria Pacla**	**155.71 327**	*e*PKP	**PKPab**	**22 56 12.9**	**-0.4**
KWP	**Kalwaria Pacla**	**155.71 327**	*e*PKPab	**PKPab**	**22 56 12.9**	**-0.4**
BURAR	**Bucovina Array**	**155.73 321**	⇑*iP*	**PKPab**	**22 56 13.7**	**+0.1**
VRI	**Vrincioaia**	**155.82 316**	⇑*iP*	**PKPab**	**22 56 15.2**	**+1.2**
PLOR	**Plostina**	**155.88 316**	⇑*iP*	**PKPab**	**22 56 14.5**	**+0.3**
MLR	**Muntele Rosu**	**156.49 316**	⇑*iP*	**PKPab**	**22 56 17.7**	**+0.7**
STHS	**Stebnicka Huta**	**156.53 328**	*e*PKP	**PKPab**	**22 56 15.8**	**-1.0**
SULR		**156.70 314**	⇑*iP*	**PKPab**	**22 56 16.9**	**-0.8**
CRVS	**Cervenica-Dubn**	**156.80 327**	*e*PKP	**PKPab**	**22 56 17.8**	**-0.2**
TRPA	**Tarpa**	**156.81 325**	⇓*iP*	**PKPab**	**22 56 17.7**	**-0.3**
NIE	**Niedzica**	**156.95 330**	*e*PKP	**PKPdf**	**22 55 54.9**	**+6.4**
ARR	**Arges**	**157.34 317**	⇓*iP*	**PKPab**	**22 56 20.9**	**+0.4**
HUMR	**Humele**	**157.57 314**	⇓*iP*	**PKPab**	**22 56 21.2**	**-0.3**
DRGR		**157.59 322**	⇑*iP*	**PKPab**	**22 56 21.4**	**-0.2**
DPC	**Dobruska-Polom**	**157.77 336**	*e*PKPAB	**PKPab**	**22 56 22.3**	**+0.1**
CLL	**Collm**	**157.94 342**	*e*PKPab	**PKPab**	**22 56 22.0**	**-0.8**
PSZ	**Piszkesteto**	**158.23 327**	*e*PKPab	**PKPab**	**22 56 24.3**	**0.0**
VYHS	**Vyhne**	**158.28 330**	*e*PKP	**PKPab**	**22 56 24.4**	**0.0**
TREC	**Trest**	**158.95 336**	*e*PKPAB	**PKPab**	**22 56 27.3**	**0.0**
VTS	**Vitosha**	**159.65 312**	⇑*iP*	**PKPab**	**22 56 31.3**	**+0.5**
VTS	**Vitosha**	**159.65 312**	*e*PKPab	**PKPab**	**22 56 30.9**	**+0.2**
KHC	**Kasperske Hory**	**159.73 339**	*e*PKPAB	**PKPab**	**22 56 31.5**	**+0.8**
KHC			*ex*	x	22 56 41.7	
GEC2	**GERESS Array S**	**159.94 338**	*e*PKPdf	**PKPdf**	**22 55 52.0**	**-0.2**
GEC2			*e*PKPab	**PKPab**	**22 56 30.7**	**-1.0**
GERES	**GERESS Array B**	**159.94 338**	PKP	**PKPdf**	**22 55 52.0**	**-0.2**
	comp=Z,0.1nm,0.2s,baz=349,slow=8.0,SNR=2.9					
GERES			PKPab	**PKPab**	**22 56 30.7**	**-1.0**
	comp=Z,1.3nm,1.0s,baz=70,slow=4.4,SNR=7.1					
GEA0	**GERESS Array S**	**159.95 338**	*e*PKPab	**PKPab**	**22 56 31.8**	**+0.1**
CONA	**Conrad Observa**	**159.95 333**	*i* PKPab	**PKPab**	**22 56 32.0**	**+0.2**
	comp=Z,5.6nm,1.2s					
DIVS	**Divibare**	**160.76 319**	*e*PKPab	**PKPab**	**22 56 35.3**	**-0.2**
LIT	**Litokhoron**	**161.25 306**	*e*PKPab	**PKPab**	**22 56 36.6**	**-1.1**
ABTA	**Abfaltersbach**	**162.17 337**	*i* PKPab	**PKPab**	**22 56 41.2**	**-0.2**
	comp=Z,5.1nm,1.2s					
PDG	**Podgorica**	**162.20 316**	⇑*iP*	**PKPab**	**22 56 41.7**	**0.0**
TTG	**Podgorica**	**162.20 316**	*e*PKPab	**PKPab**	**22 56 41.4**	**-0.3**
TIR	**Tirane**	**162.43 312**	⇑*iP*	**PKPab**	**22 56 42.0**	**-0.8**
TOA0	**Torodi Ar. Sit**	**162.58 177**	*e*PKPab	**PKPab**	**22 56 43.6**	**-0.2**
TORD	**Torodi Ar. Bea**	**162.58 177**	PKP	**PKPdf**	**22 55 54.3**	**-1.6**
	comp=Z,1.2nm,1.2s,baz=258,slow=7.2,SNR=3.4					
TORD			PKPab	**PKPab**	**22 56 43.5**	**-0.3**
	comp=Z,0.8nm,0.5s,baz=177,slow=2.6,SNR=13					
TOA1	**Torodi Ar. Sit**	**162.59 177**	*e*PKPdf	**PKPdf**	**22 55 54.3**	**-1.6**
TOA1			*e*PKPab	**PKPab**	**22 56 43.5**	**-0.3**
MATE	**Matera**	**164.80 315**	⇓*iP*	**PKPab**	**22 56 52.4**	**-0.7**
TIP	**Timpagrande**	**165.59 310**	*e*PKPab	**PKPab**	**22 56 56.8**	**0.0**
CUC	**Castrocucco**	**165.74 314**	*e*PKPab	**PKPab**	**22 56 56.0**	**-1.4**

*SOME **29** 22:51:42.9, 42°.68N×83°.67E, h5km*
*NNC **29** 22:51:45.8±2.4, 42°.71N×83°.54E, h0km, mb3.6, mpv3.2, Error ellipse: s-maj=21.2km s-min=9.8km az=138.0*
ISC 29 22:51:45.2±2.4, 42.77N±0.09×83.57E±0.09, h10km, n16, σ2.9s60/24, 7C-7D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KTMS	**Ketmen**	**2.45**	**287**	*e*P	**Pg**	**22 52 31.2**	**-0.9**
	19nm,0.2s						
KTMS				*e*S	**Sg**	**22 53 06.2**	**+2.4**
	252nm,0.5s						
SHLS	**Shalkode**	**3.04**	**279**	*e*P	**Pb**	**22 52 36.1**	**-3.3**
	11nm,0.3s						
SHLS				*e*S	**Sb**	**22 53 14.9**	**-1.7**
	289nm,0.5s						
PDGK	**Podgornoye**	**3.04**	**282**	⇓Pg	**Pb**	**22 52 39.5**	**+0.1**
	4.9nm,0.6s						
PDGK				⇓Lg	Lg	22 53 21.9	
	76nm,0.6s						
DJR	**Jarkent**	**3.16**	**301**	*e*P	**Pg**	**22 52 43.3**	**-2.4**
	16nm,0.2s						
DJR				*e*S	**Sg**	**22 53 26.8**	**+0.2**
	62nm,0.4s						
UZB	**Uzynbulak**	**3.36**	**278**	*e*P	**Pb**	**22 52 44.7**	**-0.2**
	4.0nm,0.4s						
UZB				*e*S	**Sb**	**22 53 29.7**	**+3.9**
	59nm,0.4s						
KPKS	**Kokpek**	**3.64**	**283**	*e*P	**Pb**	**22 52 48.7**	**-1.0**
	6.2nm,0.2s						
KPKS				*e*S	**Sb**	**22 53 36.5**	**+2.5**
	97nm,0.4s						
SATY	**Saty**	**3.80**	**276**	*e*P	**Pg**	**22 52 55.6**	**-2.4**
	12nm,0.5s						
SATY				*e*S	**Sg**	**22 53 48.0**	**+0.8**
	77nm,0.5s						
KAPS	**Kapalarasan**	**3.94**	**311**	*e*P	**Pb**	**22 52 56.5**	**+1.7**
	3.8nm,0.4s						
KAPS				*e*S	**Sg**	**22 53 49.2**	**-2.4**
	42nm,0.6s						
MK31	**Makanchi Array**	**4.12**	**348**	⇓Pn	**Pn**	**22 52 50.8**	**+2.6**
	0.3nm,0.3s,baz=169,slow=14,SNR=189						
MK31				⇑Pg	**Pg**	**22 53 00.9**	**-3.3**
	2.7nm,0.3s,baz=156,slow=16,SNR=44						
MK31				Lg	Lg	22 54 01.4	
	34nm,0.7s,baz=178,slow=28,SNR=8.0						
MAKZ	**Makanchi**	**4.19**	**345**	⇓Pg	**Pg**	**22 53 02.1**	**-3.4**
	5.4nm,0.6s						
MAKZ				⇑Lg	Lg	22 54 00.7	
	19nm,0.7s						
ARXS	**Arharly**	**4.42**	**291**	*e*P	**Pb**	**22 53 04.3**	**+1.4**
	2.9nm,0.3s						
ARXS				*e*S	**Sg**	**22 54 03.4**	**-3.6**
	65nm,0.5s						
MDOK	**Medeo**	**4.80**	**277**	Pg	**Pg**	**22 53 13.1**	**-4.0**
	3.0nm,0.6s						
MDOK				Lg	Lg	22 54 19.7	
	26nm,0.7s						
TKM2	**Tokmak 2**	**5.86**	**274**	⇑Pn	**Pn**	**22 53 14.6**	**+2.3**
	1.0nm,0.7s						
TKM2				⇑Lg	Lg	22 54 52.7	
	7.9nm,0.6s						
AAK	**Ala-Archa**	**6.69**	**272**	⇓Pg	**Pg**	**22 53 50.6**	**-2.6**
	2.6nm,0.8s						
AAK				⇓Lg	Lg	22 55 18.9	
	11nm,1.1s						
KURBB	**Kurchatov Arra**	**8.58**	**338**	⇑Pn	Pn	22 53 53.7	+4.3
	0.8nm,0.5s						
KURBB				⇑Lg	Lg	22 56 23.3	
	9.8nm,0.6s						
KURK	**Kurchatov**	**8.64**	**339**	⇑Pn	**Pn**	**22 53 52.9**	**+2.7**
	1.7nm,0.9s						
KURK				⇓Lg	Lg	22 56 18.6	
	11nm,0.8s						

*CSEM **29** 22:54:20.1, 38°.46N×22°.44E, h9km, ML1.3/1*
ATH 29 22:54:20.1, 38°.46N×22°.44E, h9km±4km, ML1.3/1, Error ellipse: s-maj=4.5km s-min=0.9km az=56.0, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DLFA	**Delphi**	**0.05**	**65**	P	Pg	22 54 22.1	0.0
DLFA				S	Sg	22 54 23.4	-0.1
DLFA	**Delphi**	**0.05**	**65**	P	Pg	22 54 22.0	-0.1
DLFA				S	Sg	22 54 23.4	0.0
DSF	**Desfina**	**0.08**	**125**	P	Pg	22 54 22.4	0.0
DSF				S	Sg	22 54 23.9	-0.2
DSF				AML	AML	22 54 24.1	
	comp=E,280μm,0.1s						
DSF				AML	AML	22 54 24.2	
	comp=N,1309μm,0.2s						
DSF	**Desfina**	**0.08**	**125**	P	Pg	22 54 22.4	0.0
DSF				S	Sg	22 54 24.0	-0.1
KALE	**Kalithea**	**0.25**	**254**	P	Pg	22 54 25.5	+0.4
KALE				S	Sg	22 54 28.9	+0.4
KALE	**Kalithea**	**0.25**	**254**	P	Pg	22 54 25.3	+0.1
KALE				S	Sg	22 54 28.9	+0.4
TRIZ	**Trizonia**	**0.30**	**252**	P	Pg	22 54 26.1	-0.1
TRIZ				S	Sg	22 54 30.8	+0.6
TRIZ	**Trizonia**	**0.30**	**252**	P	Pg	22 54 26.2	0.0
TRIZ				S	Sg	22 54 30.7	+0.4
SERG	**Sergoula**	**0.31**	**262**	P	Pg	22 54 26.1	-0.2
SERG				S	Sg	22 54 30.4	0.0
SERG	**Sergoula**	**0.31**	**262**	P	Pg	22 54 26.1	-0.1
SERG				S	Sg	22 54 30.5	+0.2
EFP	**Efpalio**	**0.42**	**266**	P	Pg	22 54 28.2	-0.2
EFP	**Efpalio**	**0.42**	**266**	P	Pg	22 54 28.3	-0.1

*ISN **29** 22:58:47.8±1.3, 32°.49N×47°.06E, h15km, ML2.8*
TEH 29 22:58:47.4, 32°.44N×47°.02E, h5km, ML2.8, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IKFM	**Kafar-mosalman**	**1.29**	**32**	*e*AMB	AMB	22 59 12.4	
	comp=Z,99nm,0.2s						
IKFM				*e*Pg	Pn	22 59 09.7	-2.4
IKOM	**Komasi**	**1.78**	**13**	*e*Pn	Pn	22 59 18.8	-0.2
IKOM				*e*AMB	AMB	22 59 19.7	
	comp=Z,1μm,0.2s						
IKOM				*e*Sg	Sb	22 59 43.1	-0.3
IVIS	**Veis**	**2.09**	**356**	*e*Pn	Pn	22 59 22.9	-0.3
ILIN	**Lien**	**2.48**	**359**	*e*Pn	Pn	22 59 28.8	+0.1
IKLH	**Kolahrood**	**3.94**	**76**	*e*Pn	Pn	22 59 47.6	-1.1
IKLH				*e*AMB	AMB	22 59 51.0	
	comp=Z,74nm,0.1s						
QAM	**Ghamsar**	**3.94**	**69**	*e*Pn	Pn	22 59 48.7	0.0
QAM				*e*AMB	AMB	22 59 51.4	
	comp=Z,104nm,0.1s						
IZEF	**Zefreh**	**4.50**	**83**	*e*Pn	Pn	22 59 56.2	-0.3

IDC 29 22:59:59.5±6.6, 5.59S×147.43E, h194km±76km, mb2.8/1, mb1 3.0/3, mb1mx2.7/52, mbtmp3.4/3, Error ellipse: s-maj=146.5km s-min=49.0km az=122.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.80**	**184**	P	Pn	23 01 00.3	+1.7
	3.6nm,0.3s,baz=16,slow=15,SNR=8.2						
PMG				S	Sn	23 01 44.4	-0.5
	1.6nm,0.3s,baz=37,slow=20,SNR=4.0						
WRA	**Warramunga Arr**	**19.12**	**221**	P	P	23 04 07.5	-0.4
	0.2nm,0.3s,baz=40,slow=11,SNR=13						
ASAR	**Alice Springs**	**22.20**	**215**	P	P	23 04 41.5	+1.3
	0.9nm,0.8s,baz=46,slow=8.6,SNR=6.5						
TORD	**Torodi Ar. Bea**	**145.41**	**285**	PKPbc	PKPdf	23 19 14.0	-1.4
	0.3nm,0.6s,baz=58,slow=3.7,SNR=7.0						

*ISN **29** 23:02:45.7±1.4, 32°.47N×47°.14E, h15km, ML2.5*
TEH 29 23:02:46.3, 32°.50N×47°.03E, h10km, ML2.5, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IKFM	**Kafar-mosalman**	**1.23**	**34**	*e*Sg	Sb	23 03 25.2	-0.3
IKFM				*e*Pg	Pn	23 03 07.5	-2.0
IKFM				*e*AMB	AMB	23 03 26.7	
	comp=Z,99nm,0.2s						
IKOM	**Komasi**	**1.72**	**13**	*e*Pn	Pn	23 03 16.3	-0.1
IKOM				*e*AMB	AMB	23 03 16.9	
	comp=Z,781nm,0.2s						
IKOM				*e*Sg	Sb	23 03 40.2	+0.4
IVIS	**Veis**	**2.03**	**356**	*e*Pn	Pn	23 03 21.1	+0.5
IVIS				*e*Sg	Sb	23 03 49.1	+0.5
IVIS				*e*AMB	AMB	23 03 52.7	
	comp=Z,360nm,0.3s						
ILIN	**Lien**	**2.41**	**359**	*e*Pn	Pn	23 03 26.1	0.0
ILIN				*e*AMB	AMB	23 03 29.8	
	comp=Z,131nm,0.1s						
QAM	**Ghamsar**	**3.91**	**70**	*e*Pn	Pn	23 03 46.0	-0.6
QAM				*e*AMB	AMB	23 03 48.7	
	comp=Z,89nm,0.1s						
IKLH	**Kolahrood**	**3.91**	**77**	*e*Pn	Pn	23 03 46.3	-0.4
IKLH				*e*AMB	AMB	23 03 48.3	
	comp=Z,56nm,0.1s						

*ATH **29** 23:03:17.0, 35°.51N×27°.88E, h19km±5km, ML1.7/1, Error ellipse: s-maj=9.0km s-min=1.5km az=331.0*
*CSEM **29** 23:03:18.9±0.6, 35°.55N×27°.84E, h20km, ML1.7, Error ellipse: s-maj=21.3km s-min=8.8km az=153.0*
*DDA **29** 23:03:58.4, 35°.18N×27°.82E, h45km, Ml2.7*
ISC 29 23:03:16.8±1.6, 35°.48N±0°.06×27°.91E±0°.04, h5km±12km, n20, σ0.9s94/30, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KARP	**Karpathos**	**0.61**	**277**	P	**Pg**	**23 03 27.8**	**-0.8**
KARP				S	**Sb**	**23 03 38.0**	**-1.0**
KARP	**Karpathos**	**0.61**	**277**	P	**Pg**	**23 03 28.1**	**-0.5**
KARP				S	**Sg**	**23 03 37.4**	**+0.9**
ARG	**Arkhangelos**	**0.76**	**13**	P	**Pg**	**23 03 31.3**	**-0.1**
ARG				S	**Sg**	**23 03 40.6**	**-0.6**
ARG				AML	AML	23 03 47.2	
	comp=E,126μm,0.3s						
ARG				AML	AML	23 03 48.5	
	comp=N,121μm,0.3s						
ARG	**Arkhangelos**	**0.76**	**13**	P	**Pg**	**23 03 31.2**	**-0.1**
ARG				S	**Sg**	**23 03 41.0**	**-0.2**
FETY	**Fethiye**	**1.50**	**39**	P	**Pn**	**23 03 45.2**	**+0.8**
TURN	**Turunc**	**1.50**	**22**	*i* P	**Pn**	**23 03 41.9**	**-2.5**
TURN				*i* S	**Sn**	**23 04 03.8**	**-0.6**
TURN	**Turunc**	**1.50**	**22**	P	**Pn**	**23 03 41.9**	**-2.5**
TURN				S	**Sn**	**23 04 03.8**	**-0.6**
KSL	**Kastellorizon**	**1.52**	**63**	P	**Pb**	**23 03 45.8**	**+0.3**
AKAS	**Kas**	**1.57**	**61**	*i* P	**Pn**	**23 03 44.9**	**-0.6**
AKAS				*i* S	**Sb**	**23 04 07.7**	**+1.0**
AKAS	**Kas**	**1.57**	**61**	P	**Pn**	**23 03 44.9**	**-0.6**
AKAS				S	**Sb**	**23 04 07.7**	**+1.0**
BDRM	**Kayabasi**	**1.63**	**347**	*i* P	**Pn**	**23 03 46.5**	**+0.3**
BDRM				*i* S	**Sg**	**23 04 09.6**	**+0.5**
BDRM	**Kayabasi**	**1.63**	**347**	P	**Pn**	**23 03 46.5**	**+0.3**
BDRM				S	**Sg**	**23 04 09.6**	**+0.5**
NPS	**Neapolis**	**1.89**	**264**	P	**Pn**	**23 03 50.2**	**+0.5**
NPS	**Neapolis**	**1.89**	**264**	P	**Pn**	**23 03 50.2**	**+0.5**
LAST	**Lasithi**	**2.01**	**262**	P	**Pn**	**23 03 51.5**	**0.0**
LAST	**Lasithi**	**2.01**	**262**	P	**Pn**	**23 03 51.7**	**+0.2**
TAVA	**DENIZLI_Tavas**	**2.14**	**22**	*i* P	**Pn**	**23 03 53.8**	**+0.5**
TAVA	**DENIZLI_Tavas**	**2.14**	**22**	P	**Pn**	**23 03 53.8**	**+0.5**
AYDN	**Tasoluk**	**2.18**	**359**	*i* P	**Pn**	**23 03 54.8**	**+1.0**
AYDN	**Tasoluk**	**2.18**	**359**	P	**Pn**	**23 03 54.8**	**+1.0**

IDC 29 23:19:51.0±0.9, 2.14N×99.68E, h135km±40km, mb3.1/3, mb1 3.3/3, mb1mx2.8/63, mbtmp3.5/3, Error ellipse: s-maj=226.0km s-min=22.1km az=55.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**1.00**	**311**	P	Pn	23 20 14.4	-0.1
	6.3nm,0.3s,baz=108,slow=9.6,SNR=17						
PSI				S	Sn	23 20 31.8	-0.6
	2.5nm,0.3s,baz=144,slow=17,SNR=10.0						
WRA	**Warramunga Arr**	**40.48**	**124**	P	P	23 27 17.0	+0.2
	0.4nm,0.3s,baz=303,slow=9.0,SNR=8.5						
ASAR	**Alice Springs**	**42.03**	**130**	P	P	23 27 28.8	-0.7
	0.3nm,0.5s,baz=299,slow=7.2,SNR=4.6						
MKAR	**Makanchi Array**	**46.98**	**344**	P	P	23 28 08.4	-0.1
	0.4nm,0.4s,baz=146,slow=8.9,SNR=7.8						

*ATH **29** 23:40:50.6, 35°.40N×27°.95E, h14km±4km, ML1.9/2, Error ellipse: s-maj=5.4km s-min=1.4km az=343.0*
*ISK **29** 23:40:50.3, 35°.39N×27°.89E, h10km, MD3.0/2*
*CSEM **29** 23:40:51.7±0.4, 35°.46N×27°.91E, h10km, MD3.0, Error ellipse: s-maj=10.0km s-min=4.4km az=157.0*
*DDA **29** 23:41:08.2, 35°.11N×27°.80E, h35km, Ml2.7*
ISC 29 23:40:50.2±1.4, 35°.46N±0°.05×27°.95E±0°.03, h5km±13km, n31, σ0.9s67/45, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KARP	**Karpathos**	**0.65**	**278**	*e*Pg	**Pg**	**23 41 02.7**	**0.0**
KARP				SG	**Sg**	**23 41 11.6**	**+0.4**
KARP	**Karpathos**	**0.65**	**278**	P	**Pg**	**23 41 02.8**	**0.0**
KARP				AML	AML	23 41 13.2	
	comp=N,242μm,0.2s						
KARP				S	**Sb**	**23 41 13.3**	**-0.1**
KARP				AML	AML	23 41 15.1	
	comp=E,321μm,0.2s						
KARP	**Karpathos**	**0.65**	**278**	*e*Pg	**Pg**	**23 41 02.7**	**0.0**
KARP	**Karpathos**	**0.65**	**278**	P	**Pg**	**23 41 03.1**	**+0.4**
KARP				*e*Sg	**Sg**	**23 41 11.6**	**+0.4**
KARP				S	**Sb**	**23 41 13.0**	**-0.5**
ARG	**Arkhangelos**	**0.77**	**11**	P	**Pb**	**23 41 06.7**	**+0.6**
ARG				S	**Sb**	**23 41 17.5**	**+0.6**
ARG				AML	AML	23 41 24.0	
	comp=E,178μm,0.2s						
ARG				AML	AML	23 41 24.1	
	comp=N,104μm,0.3s						
ARG	**Arkhangelos**	**0.77**	**11**	P	**Pb**	**23 41 06.5**	**+0.4**
ARG				S	**Sb**	**23 41 17.7**	**+0.8**
ZKR	**Zakros**	**1.46**	**257**	P	**Pg**	**23 41 18.2**	**+0.1**
ZKR	**Zakros**	**1.46**	**257**	P	**Pb**	**23 41 18.0**	**+0.1**
FETY	**Fethiye**	**1.49**	**38**	PN	**Pg**	**23 41 18.9**	**+0.1**
FETY	**Fethiye**	**1.49**	**38**	*e*Pn	**Pg**	**23 41 18.9**	**+0.1**
KSL	**Kastellorizon**	**1.50**	**62**	P	**Pg**	**23 41 19.3**	**+0.4**
TURN	**Turunc**	**1.51**	**20**	PN	**Pn**	**23 41 16.8**	**-1.1**
TURN	**Turunc**	**1.51**	**20**	*i* P	**Pb**	**23 41 18.3**	**-0.4**
TURN				*i* S	**Sg**	**23 41 38.3**	**-0.4**
TURN	**Turunc**	**1.51**	**20**	*e*Pn	**Pn**	**23 41 16.8**	**-1.1**
TURN	**Turunc**	**1.51**	**20**	P	**Pb**	**23 41 18.3**	**-0.4**
TURN				S	**Sg**	**23 41 38.3**	**-0.4**
AKAS	**Kas**	**1.55**	**60**	PN	**Pg**	**23 41 19.7**	**-0.3**
AKAS				SN	**Sg**	**23 41 40.8**	**+0.7**
AKAS	**Kas**	**1.55**	**60**	*e*Pn	**Pg**	**23 41 19.7**	**-0.3**
AKAS				*e*Sn	**Sg**	**23 41 40.8**	**+0.7**
BDRM	**Kayabasi**	**1.66**	**346**	*i* P	**Pb**	**23 41 20.7**	**-0.5**
BDRM				*i* S	**Sg**	**23 41 43.6**	**+0.2**
BDRM	**Kayabasi**	**1.66**	**346**	P	**Pb**	**23 41 20.7**	**-0.5**
BDRM				S	**Sg**	**23 41 43.6**	**+0.2**
BODT	**Bodrum**	**1.68**	**342**	PN	**Pb**	**23 41 21.3**	**-0.4**
BODT	**Bodrum**	**1.68**	**342**	*e*Pn	**Pb**	**23 41 21.3**	**-0.4**
LAST	**Lasithi**	**2.04**	**262**	P	**Pb**	**23 41 26.8**	**-1.1**
LAST	**Lasithi**	**2.04**	**262**	P	**Pb**	**23 41 26.8**	**-1.1**
TAVA	**DENIZLI_Tavas**	**2.15**	**21**	*i* P	**Pb**	**23 41 29.0**	**-0.7**
TAVA	**DENIZLI_Tavas**	**2.15**	**21**	P	**Pb**	**23 41 29.0**	**-0.7**
AYDN	**Tasoluk**	**2.20**	**359**	*i* P	**Pb**	**23 41 29.3**	**-1.2**
AYDN				*i* S	**Sg**	**23 42 00.2**	**-0.7**
AYDN	**Tasoluk**	**2.20**	**359**	P	**Pb**	**23 41 29.3**	**-1.2**
AYDN				S	**Sg**	**23 42 00.2**	**-0.7**
AYDB	**Zeytinkoy-Aydi**	**2.48**	**359**	PN	**Pn**	**23 41 32.6**	**+1.1**
AYDB	**Zeytinkoy-Aydi**	**2.48**	**359**	*e*Pn	**Pn**	**23 41 32.6**	**+1.1**
APE	**Apeiranthos**	**2.53**	**310**	PN	**Pn**	**23 41 32.8**	**+0.8**
APE	**Apeiranthos**	**2.53**	**310**	*e*Pn	**Pn**	**23 41 32.8**	**+0.8**

IGQ 29 23:42:31.0±0.6, 2°S±6°×8°0W±°, h26km±5km, MLv4.2/5, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AGUAY	**Guayaquil**	**0.23**	**278**	P	Pb	23 42 37.5	+0.4
AGUAY				S	Sb	23 42 44.6	+3.3
AQUE	**Quevedo**	**1.06**	**13**	P	Pn	23 42 48.7	-1.5
AQUE				S	Sn	23 43 03.8	-0.4
RIOE1	**Riobamba**	**1.15**	**73**	P	Pn	23 42 49.7	-2.0
RIOE1				S	Sn	23 43 05.7	-1.2
IGUA	**Igualata**	**1.24**	**61**	P	Pn	23 42 53.2	0.0
BMAS	**Trigal station**	**1.38**	**65**	P	Pn	23 42 53.7	-1.2
BBIL	**Ulba Tungurahu**	**1.39**	**63**	P	Pn	23 42 54.4	-0.7
ARRY	**Arrayan**	**1.40**	**66**	P	Pn	23 42 53.7	-1.5
BPAT	**Tungurahua Vol**	**1.42**	**66**	P	Pn	23 42 54.4	-1.2
BPAT				S	Sn	23 43 13.7	0.0
RETU	**Refugio**	**1.43**	**64**	P	Pn	23 42 55.0	-0.7
POND	**Pondoa**	**1.44**	**63**	P	Pn	23 42 54.8	-0.9
BRUN	**Tungurahua Vol**	**1.47**	**63**	P	Pn	23 42 55.9	-0.4
BRUN				S	Sn	23 43 14.9	+0.1
PISA	**Pisayambo**	**1.69**	**53**	P	Pn	23 42 58.9	-0.5
ILLI	**Illinizas Sur**	**1.69**	**36**	P	Pn	23 42 58.1	-1.2
BNAS	**Cotopaxi Volca**	**1.88**	**42**	P	Pn	23 43 02.0	0.0
BREF	**Cotopaxi Volca**	**1.91**	**42**	P	Pn	23 43 02.4	-0.1
NAS2	**Nasa**	**1.91**	**41**	P	Pn	23 43 03.1	+0.7
ASDO	**Santo Domingo**	**1.91**	**18**	P	Pn	23 42 59.4	-2.6
ASDO				S	Sn	23 43 22.7	-2.6
BTAM	**Cotopaxi Volca**	**1.93**	**44**	P	Pn	23 43 02.6	-0.2
BVC2	**Cotopaxi Volca**	**1.94**	**43**	P	Pn	23 43 02.7	-0.1
VC1	**Cotopaxi 1**	**1.95**	**43**	P	Pn	23 43 03.1	+0.1
COV1	**Cotopaxi Volc**	**1.98**	**44**	P	Pn	23 43 02.6	-0.9
MAG1	**Magdalena**	**2.00**	**359**	P	Pn	23 43 01.0	-2.2
PINO	**Pino**	**2.22**	**30**	P	Pn	23 43 05.8	-0.9
YANA	**Yana**	**2.27**	**31**	P	Pn	23 43 06.5	-0.8
OTAV	**Otavalo**	**2.64**	**29**	P	Pn	23 43 11.7	-0.7
CUIC	**Cuicocha-Domo**	**2.74**	**30**	P	Pn	23 43 12.8	-0.9
CUIC				S	Sn	23 43 49.0	+2.8
IMBA	**Imbabura, San**	**2.80**	**33**	P	Pn	23 43 15.1	+0.5
URCU	**Urcuqui**	**2.91**	**30**	P	Pn	23 43 16.4	+0.3
YAHU	**Yahuarcocha**	**2.95**	**34**	P	Pn	23 43 16.1	-0.4
LITE1	**Lita**	**3.17

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMPS	**Porto Santo**	**3.35**	**275**	*eP*	**Pn**	**00 02 55.5**	**+2.5**
PMPS	**Porto Santo**	**3.35**	**275**	P	**Pn**	**00 02 55.5**	**+2.5**
PMPS	**Porto Santo**	**3.35**	**275**	*eP*	**Pn**	**00 02 55.5**	**+2.5**
PMAR	**Madeira**	**3.84**	**270**	*eP*	**Pn**	**00 03 02.4**	**+2.5**
PMAR				*eS*	**Sn**	**00 03 41.9**	**-3.3**
PMAR	**Madeira**	**3.84**	**270**	P	**Pn**	**00 03 02.4**	**+2.5**
PMAR				S	**Sn**	**00 03 41.9**	**-3.3**
PMAR	**Madeira**	**3.84**	**270**	*eP*	**Pn**	**00 03 02.4**	**+2.5**
PMAR				S	**Sn**	**00 03 41.9**	**-3.3**
CFUE	**Fuerteventura**	**4.39**	**198**	P	**Pn**	**00 03 09.6**	**+2.2**
	1.1nm,0.1s,SNR=7.9						
CFUE				S	**Sn**	**00 03 55.2**	**-3.3**
	6.4nm,0.2s,SNR=7.9						
CFTV	**Fuerteventura**	**4.65**	**199**	P	**Pn**	**00 03 12.4**	**+1.5**
	1.1nm,0.2s,SNR=7.9						
CFTV				S	**Sn**	**00 04 01.5**	**-3.5**
	0.6nm,0.2s,SNR=7.9						
PFVI	**Vila Bisbo**	**5.18**	**33**	*e*Pn	**Pn**	**00 03 21.6**	**+3.4**
PFVI				*e*Sn	**Sn**	**00 04 14.9**	**-3.1**
PFVI	**Vila Bisbo**	**5.18**	**33**	P	**Pn**	**00 03 20.3**	**+2.2**
	7.6nm,0.7s,SNR=7.9						
PFVI				S	**Sn**	**00 04 15.5**	**-2.4**
	3.2nm,0.2s,SNR=7.9						
PFVI	**Vila Bisbo**	**5.18**	**33**	P	**Pn**	**00 03 20.3**	**+2.2**
	7.6nm,0.7s,SNR=7.9						
PFVI	**Vila Bisbo**	**5.18**	**33**	*e*Pn	**Pn**	**00 03 21.6**	**+3.4**
PFVI				*e*Sn	**Sn**	**00 04 14.9**	**-3.1**
PFVI				S	**Sn**	**00 04 15.5**	**-2.4**
	3.2nm,0.2s,SNR=7.9						
MORF	**Marmelete**	**5.40**	**33**	*e*Pn	**Pn**	**00 03 24.3**	**+3.0**
MORF				*e*Sn	Sn	00 04 20.1	-3.4
MORF				A	A	00 04 24.2	
	4.7nm,0.3s						
MORF	**Marmelete**	**5.40**	**33**	P	**Pn**	**00 03 24.3**	**+3.0**
MORF				S	Sn	00 04 20.1	-3.4
	4.7nm,0.3s						
MORF	**Marmelete**	**5.40**	**33**	P	**Pn**	**00 03 24.3**	**+3.0**
MORF				S	Sn	00 04 20.1	-3.4
	4.7nm,0.3s						
EOSO	**Osorio**	**5.49**	**211**	P	**Pn**	**00 03 24.1**	**+1.6**
	7.0nm,2.2s,SNR=7.9						
PTEO	**Sao Teotonio**	**5.56**	**31**	*e*Sn	Sn	00 04 23.9	-3.6
PTEO	**Sao Teotonio**	**5.56**	**31**	S	Sn	00 04 23.9	-3.6
PTEO	**Sao Teotonio**	**5.56**	**31**	S	Sn	00 04 23.9	-3.6
PBDV	**Barranco-do-Ve**	**5.71**	**38**	*e*Pn	**Pn**	**00 03 27.8**	**+2.4**
PBDV				*e*Sn	**Sn**	**00 04 28.3**	**-2.7**
PBDV				A	A	00 04 34.6	
	3.5nm,0.7s						
PBDV	**Barranco-do-Ve**	**5.71**	**38**	P	**Pn**	**00 03 27.8**	**+2.4**
PBDV				S	**Sn**	**00 04 28.3**	**-2.7**
	3.5nm,0.7s						
PBDV	**Barranco-do-Ve**	**5.71**	**38**	P	**Pn**	**00 03 27.8**	**+2.4**
PBDV				S	**Sn**	**00 04 28.3**	**-2.7**
	3.5nm,0.7s						
PVAQ	**Vaqueiros**	**5.94**	**39**	*e*Pn	**Pn**	**00 03 30.7**	**+2.1**
PVAQ				*e*Sn	Sn	00 04 33.1	-3.6
PVAQ				A	A	00 04 35.3	
	3.1nm,0.8s						
PVAQ	**Vaqueiros**	**5.94**	**39**	P	**Pn**	**00 03 30.7**	**+2.1**
PVAQ				S	Sn	00 04 33.1	-3.6
	3.1nm,0.8s						
PVAQ	**Vaqueiros**	**5.94**	**39**	P	**Pn**	**00 03 30.7**	**+2.1**
PVAQ				S	Sn	00 04 33.1	-3.6
	3.1nm,0.8s						
PCVE	**Castro Verde**	**5.95**	**35**	*e*Pn	**Pn**	**00 03 31.7**	**+2.9**
PCVE				*e*Sn	**Sn**	**00 04 33.9**	**-3.1**
PCVE	**Castro Verde**	**5.95**	**35**	P	**Pn**	**00 03 31.7**	**+2.9**
PCVE				S	**Sn**	**00 04 33.9**	**-3.1**
PCVE	**Castro Verde**	**5.95**	**35**	P	**Pn**	**00 03 31.7**	**+2.9**
PCVE				S	**Sn**	**00 04 33.9**	**-3.1**
PNCL	**Nicolau / Gran**	**6.12**	**30**	*e*Pn	**Pn**	**00 03 34.3**	**+3.2**
PNCL				*e*Sn	Sn	00 04 36.9	-4.4
PNCL				A	A	00 04 40.6	
	2.9nm,0.4s						
PNCL	**Nicolau / Gran**	**6.12**	**30**	*e*Pn	**Pn**	**00 03 34.3**	**+3.2**
PNCL				*e*Sn	Sn	00 04 36.9	-4.4
	2.9nm,0.4s						
EGRO	**El Granado**	**6.16**	**39**	P	**Pn**	**00 03 33.7**	**+2.1**
	0.7nm,0.2s,SNR=7.9						
EGRO				S	Sn	00 04 38.7	-3.5
	0.6nm,0.1s,SNR=7.9						
EGRO	**El Granado**	**6.16**	**39**	P	**Pn**	**00 03 33.7**	**+2.1**
	0.7nm,0.2s,SNR=7.9						
EGRO				S	Sn	00 04 38.7	-3.4
	0.6nm,0.1s,SNR=7.9						
PBEJ	**Beja**	**6.35**	**34**	*e*Sn	Sn	00 04 43.3	-3.5
PBEJ	**Beja**	**6.35**	**34**	S	Sn	00 04 43.3	-3.5
PBEJ	**Beja**	**6.35**	**34**	S	Sn	00 04 43.3	-3.5
PMAFR	**Mafra**	**6.60**	**21**	*e*Sn	Sn	00 04 45.9	-7.1
PMAFR				A	A	00 04 51.1	
	7.3nm,0.6s						
PMAFR	**Mafra**	**6.60**	**21**	P	**Pn**	**00 03 40.2**	**+2.5**
	1.1nm,0.1s,SNR=7.9						
PMAFR				S	Sn	00 04 48.0	-5.0
	6.6nm,0.3s,SNR=7.9						
PMAFR	**Mafra**	**6.60**	**21**	*e*Sn	Sn	00 04 45.9	-7.1
	7.3nm,0.6s						
PMAFR				S	Sn	00 04 48.0	-5.0
	6.6nm,0.3s,SNR=7.9						
ESPR	**Espera**	**6.69**	**51**	P	**Pn**	**00 03 41.6**	**+2.7**
	2.0nm,1.5s,SNR=7.9						
ESPR				S	Sn	00 04 51.6	-3.6
	0.9nm,0.2s,SNR=7.9						
ESPR	**Espera**	**6.69**	**51**	P	**Pn**	**00 03 41.6**	**+2.7**
	2.0nm,1.5s,SNR=7.9						
EMIN	**Mina Concepcio**	**6.77**	**42**	P	**Pn**	**00 03 41.9**	**+1.9**
	0.3nm,0.1s,SNR=7.9						
EMIN				S	Sn	00 04 52.4	-4.8
	0.4nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**6.77**	**42**	P	**Pn**	**00 03 41.9**	**+1.9**
	0.3nm,0.1s,SNR=7.9						
PBAR	**Barrancos**	**6.87**	**38**	*e*Pn	**Pn**	**00 03 43.5**	**+2.1**
PBAR				*e*Sn	**Sn**	**00 04 56.6**	**-3.1**
PBAR				A	A	00 04 57.4	
	2.6nm,0.7s						
PBAR	**Barrancos**	**6.87**	**38**	P	**Pn**	**00 03 43.5**	**+2.1**
PBAR				S	**Sn**	**00 04 56.6**	**-3.1**
	2.6nm,0.7s						
PBAR	**Barrancos**	**6.87**	**38**	P	**Pn**	**00 03 43.5**	**+2.1**
PBAR				S	**Sn**	**00 04 56.6**	**-3.1**
	2.6nm,0.7s						
ALMR	**Almeirim**	**7.01**	**25**	*e*Sn	Sn	00 04 58.6	-4.6
ALMR	**Almeirim**	**7.01**	**25**	S	Sn	00 04 58.6	-4.6
ALMR	**Almeirim**	**7.01**	**25**	S	Sn	00 04 58.6	-4.6
PMTG	**Montargil**	**7.07**	**27**	*e*Pn	**Pn**	**00 03 47.0**	**+2.9**
PMTG				*e*Sn	Sn	00 05 00.4	-4.1
PMTG				A	A	00 05 01.5	
	1.1nm,0.3s						
PMTG	**Montargil**	**7.07**	**27**	*e*Pn	**Pn**	**00 03 47.0**	**+2.9**
PMTG				*e*Sn	Sn	00 05 00.4	-4.1
	1.1nm,0.3s						
PESTR	**Estremoz**	**7.16**	**31**	*e*Sn	Sn	00 05 02.2	-4.6
PESTR	**Estremoz**	**7.16**	**31**	*e*Sn	Sn	00 05 02.2	-4.6
EMIJ	**Mijas**	**7.27**	**57**	P	**Pn**	**00 03 49.4**	**+2.4**
	0.2nm,0.1s,SNR=7.9						
EMIJ				S	Sn	00 05 05.6	-4.0
	11nm,2.7s,SNR=7.9						
EMIJ	**Mijas**	**7.27**	**57**	P	**Pn**	**00 03 49.4**	**+2.4**
	0.2nm,0.1s,SNR=7.9						
EBAD	**Badajoz**	**7.33**	**35**	P	**Pn**	**00 03 49.8**	**+2.0**
	0.4nm,0.1s,SNR=7.9						
EBAD				S	Sn	00 05 06.3	-4.8
	0.3nm,0.1s,SNR=7.9						
EBAD	**Badajoz**	**7.33**	**35**	P	**Pn**	**00 03 49.8**	**+2.0**
	0.4nm,0.1s,SNR=7.9						
EBAD				S	Sn	00 05 06.3	-4.7
	0.3nm,0.1s,SNR=7.9						
PTOM	**Tomar**	**7.49**	**24**	*e*Sn	Sn	00 05 10.9	-3.9
PTOM	**Tomar**	**7.49**	**24**	S	Sn	00 05 10.9	-3.9
PTOM	**Tomar**	**7.49**	**24**	S	Sn	00 05 10.9	-3.9
ECAB	**El Cabril**	**7.71**	**45**	P	**Pn**	**00 03 54.9**	**+2.0**
	0.1nm,0.1s,SNR=7.9						
ECAB				S	Sn	00 05 15.4	-4.9
	0.2nm,0.3s,SNR=7.9						
ECAB	**El Cabril**	**7.71**	**45**	P	**Pn**	**00 03 54.9**	**+2.0**
	0.1nm,0.1s,SNR=7.9						
PMRV	**Marv??o**	**7.71**	**30**	*e*Pn	**Pn**	**00 03 55.5**	**+2.5**
PMRV				*e*Sn	Sn	00 05 15.4	-5.0
PMRV				A	A	00 05 18.6	
	1.1nm,0.3s						
PMRV	**Marv??o**	**7.71**	**30**	P	**Pn**	**00 03 55.5**	**+2.5**
PMRV				S	Sn	00 05 15.4	-5.0
	1.1nm,0.3s						
ELGU	**Los Guajares,**	**8.23**	**58**	P	**Pn**	**00 04 01.9**	**+1.8**
	0.2nm,0.1s,SNR=7.9						
ELGU				S	Sn	00 05 28.2	-5.0
	0.6nm,0.2s,SNR=7.9						
ELGU	**Los Guajares,**	**8.23**	**58**	P	**Pn**	**00 04 01.9**	**+1.8**
	0.2nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**8.28**	**48**	P	**Pn**	**00 04 02.8**	**+2.0**
	0.4nm,0.1s,SNR=7.9						
EADA				S	Sn	00 05 29.0	-5.5
	0.4nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**8.28**	**48**	P	**Pn**	**00 04 02.8**	**+2.0**
	0.4nm,0.1s,SNR=7.9						
EQUE	**Quentar**	**8.52**	**57**	P	**Pn**	**00 04 06.2**	**+2.1**
	0.1nm,0.1s,SNR=7.9						
EQUE	**Quentar**	**8.52**	**57**	P	**Pn**	**00 04 06.2**	**+2.1**
	0.1nm,0.1s,SNR=7.9						
EQES	**Quesada**	**9.06**	**54**	P	**Pn**	**00 04 14.4**	**+2.8**
	0.1nm,0.1s,SNR=7.9						
EQES				S	Sn	00 05 47.4	-6.4
	0.2nm,0.1s,SNR=7.9						
EQES	**Quesada**	**9.06**	**54**	P	**Pn**	**00 04 14.4**	**+2.8**
	0.1nm,0.1s,SNR=7.9						
PAB	**San Pablo**	**9.31**	**42**	P	**Pn**	**00 04 17.0**	**+2.0**
	0.1nm,0.2s,SNR=7.9						
PAB				S	Sn	00 05 53.3	-6.6
	0.2nm,0.3s,SNR=7.9						
PAB	**San Pablo**	**9.31**	**42**	P	**Pn**	**00 04 17.0**	**+2.0**
	0.1nm,0.2s,SNR=7.9						
MVO	**Moncorvo**	**9.34**	**26**	P	**Pn**	**00 04 17.2**	**+1.8**
	0.2nm,0.6s,SNR=7.9						
MVO				S	Sn	00 05 54.2	-6.3
	8.2nm,2.2s,SNR=7.9						
MVO	**Moncorvo**	**9.34**	**26**	P	**Pn**	**00 04 17.2**	**+1.8**
	0.2nm,0.6s,SNR=7.9						
MVO				S	Sn	00 05 54.2	-6.4
	8.2nm,2.2s,SNR=7.9						
ESDC	**Sonseca Array**	**9.62**	**42**	P	**Pn**	**00 04 21.3**	**+2.1**
	0.9nm,0.2s,baz=235,slow=13,SNR=4.0						
ESDC	**Sonseca Array**	**9.62**	**42**	P	**Pn**	**00 04 21.3**	**+2.1**
	0.9nm,0.2s,baz=235,slow=13,SNR=4.0						
ETOB	**Tobarra**	**10.52**	**54**	P	**Pn**	**00 04 34.0**	**+2.4**
	0.2nm,0.1s,SNR=6.6						
ETOB				S	Sn	00 06 22.2	-7.3
	0.8nm,0.4s,SNR=5.9						
ETOB	**Tobarra**	**10.52**	**54**	P	**Pn**	**00 04 34.0**	**+2.4**
	0.2nm,0.1s,SNR=6.6						

NIED ***30*** *00:20:00,37˚.00N×141˚.50E,h5km,Mw4.1 Best double couple: M₀1.70000×10¹⁵ NP1:φs220.00000°,δ40.00000°, λ-74.00000°. NP2:φs20.00000°,δ52.00000°, λ-103.00000°.*

IDC ***30*** *00:20:31.5±0.6,37˚.04N×141˚.23E,h0km,mb4.0/24, mb1 4.1/30,mb1mx4.0/72,mbtmp4.0/30,ML3.8/3,MS3.3/13, Ms1 3.3/13,ms1mx2.9/69,Error ellipse: s-maj=14.8km s-min=13.2km az=110.0*

ISCJB ***30*** *00:20:32.9±0.9,37˚.08N±0˚.03×141˚.45E±0˚.05,h21km±5km, mb4.2/48,MS3.4/12,Error ellipse: s-maj=6.7km s-min=4.4km az=30.8*

JMA ***30*** *00:20:33.5±0.1,37˚.06N×141˚.40E,h23km±1km,M4.3*

JMA Felt II J1.

BJI ***30*** *00:20:33.5,37˚.18N×141˚.58E,h32km,mb4.4/18,mB4.8/11, Ms3.8/4,Ms7 3.5/3*

MOS ***30*** *00:20:34.4±1.2,37˚.11N×141˚.39E,h31km,mb4.6/16,Error ellipse: s-maj=9.6km s-min=6.5km az=108.6*

NEIC ***30*** *00:20:36.5±1.8,37˚.07N×141˚.36E,h32km±13km,mb4.6/12, Error ellipse: s-maj=7.9km s-min=6.1km az=113.0*

NEIC Recorded [2 JMA] in Fukushima.

ISC 30 00:20:33.1±1.0,37˚.10N±0˚.04×141˚.45E±0˚.04,h12km±5km, n140,σ1s29/138,mb4.3/48,MS3.4/12,6C-2D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.52**	**270**	P	**Pg**	**00 20 43.3**	**-0.1**
ONAJ				*e*S	**Sg**	**00 20 50.0**	**-0.3**
JFK	**Kawauchi**	**0.53**	**300**	P	**Pg**	**00 20 43.5**	**-0.1**
JFK				*e*S	**Sb**	**00 20 50.6**	**-1.5**
JHO	**Hitachi**	**0.86**	**236**	*e*S	**Sg**	**00 20 59.1**	**-2.0**
JMM	**Marumori**	**0.92**	**326**	P	**Pg**	**00 20 50.5**	**-0.5**
JMM				*e*S	**Sb**	**00 21 02.9**	**-0.5**
JFT	**Otama**	**0.98**	**295**	P	**Pg**	**00 20 51.5**	**-0.6**
JFT				S	**Sb**	**00 21 04.3**	**-0.7**
JIO	**Ouri**	**1.35**	**357**	*e*S	**Sb**	**00 21 15.1**	**-0.5**
JFY	**Yanaizu**	**1.43**	**283**	*e*S	**Sn**	**00 21 16.6**	**-1.0**
MJAR	**Matsushiro Arr**	**2.66**	**259**	Pn	**Pn**	**00 21 14.6**	**-1.3**
	30nm,0.3s,baz=138,slow=7.0,SNR=216						
MJAR				Sn	**Sb**	**00 21 50.9**	**-2.5**
	33nm,0.3s,baz=122,slow=8.8,SNR=6.6						
MAJO	**Matsushiro**	**2.66**	**259**	*e*Pn	**Pn**	**00 21 16.0**	**+0.1**
MAJO	**Matsushiro**	**2.66**	**259**	*d* P	**Pn**	**00 21 16.2**	**+0.3**
MAT	**Matsushiro**	**2.66**	**259**	P	**Pn**	**00 21 16.2**	**+0.3**
MAT				S	**Sn**	**00 21 48.7**	**+0.6**
MJB9	**Matsu-Tunnel**	**2.67**	**259**	*e*Pn	**Pn**	**00 21 16.4**	**+0.4**
INU	**Inuyama**	**3.99**	**245**	*e*Pn	**Pn**	**00 21 35.0**	**+0.8**
JHJ2	**Mitsune**	**4.20**	**199**	*e*Pn	**Pn**	**00 21 39.1**	**+2.1**
JHJ	**Hachijo jima 2**	**4.20**	**199**	Pn	**Pn**	**00 21 36.5**	**-0.6**
	25nm,0.3s,baz=268,slow=2.5,SNR=1.8						
JHJ				Sn	**Sn**	**00 22 24.7**	**-1.4**
	29nm,0.3s,baz=251,slow=22,SNR=1.7						
ERM	**Erimo**	**5.08**	**15**	*e*Pn	**Pn**	**00 21 49.5**	**+0.4**
ERM	**Erimo**	**5.08**	**15**	*ce*P	**Pn**	**00 21 49.3**	**+0.2**
ERM				pmax	pmax		
	comp=Z,30nm,1.2s						
ASAJ	**Asahikawa**	**7.06**	**7**	Pn	**Pn**	**00 22 16.7**	**+0.5**
	comp=Z,1.2nm,0.3s,baz=9.5,slow=32,SNR=2.9						
SHO	**Shikotan**	**7.90**	**30**	P	**Pn**	**00 22 24.2**	**-3.6**
SHO				*e*S	**Sn**	**00 23 52.8**	**-4.3**
SHO				pmax	pmax		
	comp=E,7.0nm,0.4s						
SHO				pmax	pmax		
	comp=Z,10.0nm,0.4s						
SHO				pmax	pmax		
	comp=N,8.0nm,0.2s						
TEY	**Ternei**	**8.73**	**337**	*e*P	Pn	00 22 47.0	+7.9
CBIJ	**Chichi jima**	**10.00**	**176**	Pn	**Pn**	**00 22 54.1**	**-2.5**
JCJ	**Chichijima**	**10.00**	**176**	Pn	**Pn**	**00 22 54.1**	**-2.5**
	comp=N,10nm,0.3s,baz=111,slow=20,SNR=2.3						
JCJ				LR	LR	00 27 07.4	
	comp=N,94nm,19.9s,baz=80,slow=40						
USRK	**Ussuriysk Ar.**	**10.09**	**318**	Pn	**Pn**	**00 22 57.9**	**+0.1**
	comp=N,0.1nm,0.3s,baz=132,slow=38,SNR=1.1						
USRK				LR	LR	00 26 33.3	
	comp=N,166nm,19.2s,baz=150,slow=36						
KSRS	**Korea Array**	**10.79**	**276**	Pn	**Pn**	**00 23 10.5**	**+3.1**
	comp=N,0.3nm,0.3s,baz=89,slow=14,SNR=13						
KSRS				LR	LR	00 26 53.5	
	comp=N,114nm,19.7s,baz=84,slow=36						
KSAR	**Wonju Array Be**	**10.82**	**276**	Pn	**Pn**	**00 23 10.5**	**+2.7**
KSAR	**Wonju Array Be**	**10.82**	**276**	P	**Pn**	**00 23 10.5**	**+2.7**
KLR	**Kul'dur**	**14.02**	**333**	Pn	**P**	**00 23 55.9**	**-3.6**
	comp=N,0.0nm,0.3s,baz=155,slow=19,SNR=2.5						
KLR	**Kul'dur**	**14.02**	**333**	*i* P	**Pn**	**00 23 54.9**	**+3.4**
NJ2	**Nanjing**	**19.26**	**262**	*eP*	**P**	**00 24 58.0**	**+0.5**
NJ2				pmax	pmax		
	comp=N,10.0nm,0.5s						
ZEA	**Zeya**	**19.33**	**334**	*eP*	Pn	00 25 08.8	+10
PETK	**Petropavlovsk-**	**19.61**	**30**	P	**Pn**	**00 25 03.9**	**+1.3**
	comp=N,0.1nm,0.3s,baz=196,slow=9.8,SNR=3.3						
MA2	**Magadan**	**23.28**	**12**	*eP*	**P**	**00 25 42.0**	**+1.6**
MA2				pmax	pmax		
	comp=Z,10.0nm,1.0s						
HHC	**Hu-ho-hao-te**	**23.48**	**288**	*eP*	**P**	**00 25 43.3**	**+0.5**
HHC				pmax	pmax		
	comp=Z,31nm,0.8s						
HHC				pmax	pmax		
	comp=Z,56nm,4.4s						
YAK	**Yakutsk**	**26.01**	**347**	*i* P	**P**	**00 26 06.7**	**+1.1**
YAK				pmax	pmax		
	comp=Z,8.0nm,0.9s						
XAN	**Xi'an**	**26.57**	**273**	P	P	00 26 02.3	-8.8
XAN				pmax	pmax		
	comp=Z,4.0nm,0.4s						
XAN				pmax	pmax		
	comp=Z,30nm,4.9s						
SEY	**Seymchan**	**26.72**	**11**	P	**P**	**00 26 13.5**	**+1.5**
	comp=Z,2.0nm,0.8s,baz=17,slow=20,SNR=4.6						
SEY	**Seymchan**	**26.72**	**11**	*ce*P	**P**	**00 26 11.1**	**-1.0**
ULN	**Ulaanbaatar**	**27.34**	**304**	*eP*	**P**	**00 26 18.3**	**+0.3**
	comp=Z,3.2nm,1.0s						
ULN	**Ulaanbaatar**	**27.34**	**304**	*ce*P	**P**	**00 26 18.8**	**+0.7**
ULN				pmax	pmax		
	comp=Z,5.0nm,1.7s						
BOD	**Bodaibo**	**27.49**	**328**	*eP*	**P**	**00 26 17.9**	**-1.1**
BOD				pmax	pmax		
	comp=Z,4.0nm,1.4s						
SONA1	**Songino Array**	**27.77**	**304**	*eP*	**P**	**00 26 22.1**	**+0.2**
SONM	**Songino Array**	**27.77**	**304**	P	**P**	**00 26 20.5**	**-1.4**
	comp=Z,1.7nm,0.8s,baz=107,slow=9.0,SNR=12						
SONM				LR	LR	00 36 24.3	
	comp=Z,46nm,21.5s,baz=91,slow=34						
H11N2	**WAKE ISLAND Hy**	**28.16**	**121**	T	T	00 55 52.5	
	baz=314,slow=75,SNR=1762						
H11N1	**WAKE ISLAND Hy**	**28.16**	**121**	T	T	00 55 55.4	
	baz=314,slow=75,SNR=1238						
H11N3	**WAKE ISLAND Hy**	**28.18**	**121**	T	T	00 55 55.6	
	baz=314,slow=75,SNR=1426						
H11S1	**WAKE ISLAND Hy**	**28.87**	**123**	T	T	00 56 42.5	
	baz=315,slow=76,SNR=466						
H11S3	**WAKE ISLAND Hy**	**28.87**	**123**	T	T	00 56 47.6	
	baz=315,slow=76,SNR=366						
H11S2	**WAKE ISLAND Hy**	**28.89**	**123**	T	T	00 56 50.1	
	baz=315,slow=76,SNR=246						
TLY	**Talaya**	**30.31**	**311**	*i* P	**P**	**00 26 44.2**	**0.0**
TLY				pmax	pmax		
	comp=Z,2.0nm,0.9s						
CD2	**Chengdu**	**31.70**	**270**	*eP*	**P**	**00 26 56.0**	**-0.8**
GTA	**Gaotai**	**32.57**	**287**	*eP*	**P**	**00 27 06.3**	**+1.9**
GTA				pP	sP	00 27 17.0	+7.4
GTA				sP	pP	00 27 20.5	+12
GTA				pmax	pmax		
	comp=Z,6.0nm,0.7s						
BILL	**Bilibino**	**33.95**	**16**	*i* P	**P**	**00 27 15.7**	**-0.3**
BILL				*i*		00 27 21.8	
BILL				*i*		00 28 28.3	
BILL				*i*		00 29 52.3	
BILL				pmax	pmax		
	comp=Z,1.0nm,1.0s						
BILL				MLR	MLR		
	comp=Z,34nm,14.0s						
TIXI	**Tiksi**	**35.22**	**353**	*eP*	**P**	**00 27 24.8**	**-2.1**
TIXI				pmax	pmax		
	comp=Z,6.0nm,3.4s						
MYLDM	**Lahad Datu**	**38.08**	**219**	*eP*	**P**	**00 27 53.2**	**+1.3**
	comp=Z,30nm,1.4s						
DGZ	**Jazzator, Alta**	**40.38**	**306**	*i* P	**P**	**00 28 11.6**	**+0.7**
DGZ				pmax	pmax		
	comp=Z,5.0nm,0.8s						
WMQ	**Urumqi**	**40.84**	**297**	P	**P**	**00 28 15.3**	**+0.6**
WMQ				pP	sP	00 28 26.5	+6.6
WMQ				pmax	pmax		
	comp=Z,15nm,0.9s						
WMQ				pmax	pmax		
	comp=Z,93nm,4.7s						
WMQ				LR	LR		
	comp=Z,150nm,24.7s						
WMQ				LR	LR		
	comp=Z,82nm,23.1s						
ZAA0	**Zalesovo Array**	**41.89**	**312**	*eP*	**P**	**00 28 23.0**	**-0.1**
	comp=Z,5.1nm,0.8s						
ZALV	**Zalesovo Beam**	**41.89**	**312**	P	**P**	**00 28 23.0**	**-0.1**
	comp=Z,3.7nm,0.8s,baz=95,slow=7.4,SNR=18						
ZALV				PcP	**PcP**	**00 30 17.6**	**-0.9**
	comp=Z,0.5nm,0.4s,baz=90,slow=5.8,SNR=3.8						
ZALV				LR	LR	00 46 43.5	
	comp=Z,32nm,19.2s,baz=68,slow=38						
ZALV	**Zalesovo Beam**	**41.89**	**312**	*eP*	**P**	**00 28 22.4**	**-0.7**
ZALV				PcP	**PcP**	**00 30 17.6**	**-0.9**
NVS	**Novosibirsk**	**42.81**	**314**	*eP*	**P**	**00 28 30.4**	**-0.2**
MK01	**Makanchi Array**	**44.10**	**302**	*eP*	**P**	**00 28 41.1**	**-0.1**
MK31	**Makanchi Array**	**44.11**	**302**	*eP*	**P**	**00 28 41.2**	**0.0**
MK31	**Makanchi Array**	**44.11**	**302**	*eP*	**P**	**00 28 41.2**	**0.0**
MKAR	**Makanchi Array**	**44.11**	**302**	P	**P**	**00 28 40.4**	**-0.8**
	comp=Z,2.5nm,0.7s,baz=87,slow=1.0,SNR=20						
MKAR				LR	LR	00 46 58.5	
	comp=Z,38nm,20.0s,baz=52,slow=36						
MKAR	**Makanchi Array**	**44.11**	**302**	*eP*	**P**	**00 28 41.2**	**0.0**
	comp=Z,19nm,0.6s						
MKAR	**Makanchi Array**	**44.11**	**302**	*eP*	**P**	**00 28 41.2**	**0.0**
MKAR				pmax	pmax		
	comp=Z,19nm,0.6s						
MAKZ	**Makanchi**	**44.32**	**302**	*eP*	**P**	**00 28 42.5**	**-0.4**
	comp=Z,5.8nm,1.1s						
MAKZ	**Makanchi**	**44.32**	**302**	*eP*	**P**	**00 28 42.5**	**-0.4**
MAKZ				pmax	pmax		
	comp=Z,6.0nm,1.1s						
KURK	**Kurchatov**	**45.91**	**308**	*eP*	**P**	**00 28 55.3**	**-0.1**
	comp=Z,8.2nm,1.0s						
KURK	**Kurchatov**	**45.91**	**308**	*ce*P	**P**	**00 28 55.7**	**+0.2**
KURK				pmax	pmax		
	comp=Z,8.0nm,1.0s						
KURBB	**Kurchatov Arra**	**45.98**	**308**	P	**P**	**00 28 55.2**	**-0.8**
	comp=Z,2.5nm,0.5s,baz=84,slow=8.3,SNR=22						
ODAN	**Odare**	**46.44**	**274**	*eP*	**P**	**00 29 00

FINES FINESS Array B 68.77 332 P **P 00 31 36.8 +0.2**
comp=Z,4.4nm,0.7s,baz=45,slow=5.7,SNR=10
KIV Kislovodsk 70.88 311 *eP* **P 00 31 51.1 +1.0**
comp=Z,12nm,1.1s
KIV Kislovodsk 70.88 311 *eP* **P 00 31 50.7 +0.6**
KIV pmax pmax
comp=Z,11nm,1.1s
GNI Garni 71.69 307 LR LR 01 06 52.5
comp=Z,11nm,21.3s,baz=81,slow=39
HFS Hagfors 74.04 336 P **P 00 32 08.6 +0.2**
comp=Z,2.7nm,0.9s,baz=60,slow=6.8,SNR=4.2
NB2 NORSAR Subarra 74.13 337 P **P 00 32 08.5 -0.6**
comp=Z,5.3nm,1.1s,baz=38,slow=6.2
NOA NORSAR Array B 74.13 337 P **P 00 32 08.4 -0.7**
comp=Z,2.2nm,1.0s,baz=39,slow=5.8,SNR=3.8
NOA LR LR 01 07 14.6
comp=Z,24nm,20.9s,baz=75,slow=38
AKASG Malin Array Be 74.26 322 P **P 00 32 09.7 -0.3**
comp=Z,0.8nm,0.3s,baz=47,slow=5.8,SNR=10.0
AKASG LR LR 01 05 05.3
comp=Z,26nm,20.7s,baz=185,slow=36
NVAR Mina Array Bea 74.92 53 P **P 00 32 15.4 +1.1**
comp=Z,0.4nm,0.8s,baz=316,slow=3.8,SNR=2.6
PDAR Pinedale Array 77.60 45 P **P 00 32 30.5 +1.0**
comp=Z,0.2nm,0.7s,baz=256,slow=2.5,SNR=2.3
BUR08 Bucovina Ar. S 78.26 322 *eP* **P 00 32 33.3 +0.3**
BUR04 Bucovina Ar. S 78.28 322 *eP* **P 00 32 33.3 +0.4**
BRTR Keskin Array B 78.83 312 P **P 00 32 36.5 +0.3**
comp=Z,0.6nm,0.7s,baz=66,slow=3.0,SNR=5.2
STHS Stebnicka Huta 78.92 325 *eP* **P 00 32 35.3 -1.1**
STHS Stebnicka Huta 78.92 325 *eP* **P 00 32 35.3 -1.1**
MLR Muntele Rosu 79.35 320 LR LR 01 11 10.3
comp=Z,11nm,19.1s,baz=38,slow=38
DPC Dobruska-Polom 80.42 328 *eP* P 00 32 50.1 +5.6
DPC *es*P PcP 00 33 00.9 +9.3
DPC Dobruska-Polom 80.42 328 *eP* P 00 32 50.1 +5.6
DPC *e* 00 33 00.9
KRLC Kraliky 80.42 327 *eP* **P 00 32 40.6 -4.0**
KRLC Kraliky 80.42 327 *eP* **P 00 32 40.6 -4.0**
RAYN Ar Rayn 80.66 292 *eP* **P 00 32 46.0 -0.3**
comp=Z,3.0nm,1.1s
RAYN Ar Rayn 80.66 292 P **P 00 32 46.0 -0.3**
RAYN pmax pmax
comp=Z,3.0nm,1.1s
BRG Berggiesshubel 81.01 329 *eP* P 00 32 53.4 +5.8
comp=Z,4.2nm,1.0s
BRG Berggiesshubel 81.01 329 *eP* P 00 32 53.4 +5.8
BRG pmax pmax
comp=Z,4.0nm,1.0s
CLL Collm 81.05 330 *eP* **P 00 32 48.0 +0.2**
CLL *e*(PcP) **pP 00 32 53.0 +1.2**
CLL Collm 81.05 330 *eP* **P 00 32 48.0 +0.2**
CLL *e* 00 32 53.0
MMAI Mount Meron Ar 81.95 305 P **P 00 32 52.6 -0.4**
comp=Z,0.2nm,0.3s,baz=64,slow=6.6,SNR=4.0
KHC Kasperske Hory 82.50 328 *eP* **P 00 32 55.9 +0.3**
KHC *e*PCP **PcP 00 33 00.9 +0.2**
KHC *es*P sP 00 33 11.9 +11
KHC Kasperske Hory 82.50 328 *eP* **P 00 32 55.9 +0.3**
KHC *e* 00 33 00.9
KHC *e* 00 33 11.9
GERES GERESS Array B 82.67 328 P **P 00 32 56.4 -0.1**
comp=Z,0.5nm,0.7s,baz=48,slow=4.2,SNR=6.0
GERES LR LR 01 12 01.0
comp=Z,21nm,18.3s,baz=210,slow=37
TXAR Lajitas Array 90.05 52 P **P 00 33 34.7 +1.5**
comp=Z,0.4nm,0.6s,baz=320,slow=4.6,SNR=6.2
TORD Torodi Ar. Bea 117.30 315 PKP **PKPdf 00 39 18.4 -0.7**
comp=Z,0.5nm,0.9s,baz=50,slow=2.0,SNR=5.7
KOWA Kowa 119.24 321 PKP **PKPdf 00 39 22.8 0.0**
comp=Z,0.7nm,0.8s,baz=63,slow=11,SNR=2.1
LPAZ La Paz 146.63 60 PKPbc **PKPab 00 40 17.1 +0.2**
comp=Z,4.4nm,0.7s,baz=332,slow=2.4,SNR=7.0

DJA 30 00:41:45.3±0.2, 0°S±2°×12°3E±°, h10km, M4.1/15, mb4.4/5, MLv4.0/15, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**0.75**	**221**	P	Pg	00 41 59.2	-0.6
LUWI				S	Sg	00 42 09.8	+0.2
KMSI	**Cibinong**	**1.26**	**35**	P	Pn	00 42 08.4	-0.6
KMSI				S	Sg	00 42 26.0	0.0
MRSI	**Marisa**	**1.62**	**305**	P	Pn	00 42 12.3	-1.6
MRSI				S	Sb	00 42 35.8	0.0
APSI	**Ampana**	**1.67**	**255**	P	Pn	00 42 14.3	-0.3
APSI				S	Sb	00 42 37.8	+0.5
SANI	**Sanana**	**3.15**	**120**	P	Pn	00 42 34.8	-0.2
SANI				S	Sn	00 43 14.2	+1.6
PCI	**Palu**	**3.45**	**263**	P	Pn	00 42 40.4	+1.2
PCI				S	Sn	00 43 21.1	+1.0
MPSI	**Mapaga**	**3.46**	**283**	P	Pn	00 42 39.4	+0.2
MPSI				S	Sn	00 43 21.6	+1.3
KDI	**Kendari**	**3.52**	**190**	P	Pn	00 42 40.0	-0.1
KDI				S	Sn	00 43 23.5	+1.6
LBMI	**Labuha**	**4.24**	**92**	P	Pn	00 42 50.0	-0.1
LBMI				S	Sn	00 43 40.8	+1.1
TTSI	**Tana Toraja**	**4.29**	**233**	P	Pn	00 42 50.1	-0.5
NLAI	**Namlea**	**4.72**	**126**	P	Pn	00 42 56.5	-0.1
BNSI	**Bone**	**5.02**	**219**	P	Pn	00 43 08.8	+0.1
SGKI	**Sangatta, Kali**	**5.66**	**269**	P	Pn	00 43 09.5	0.0
BKSI	**Bulukumba**	**5.75**	**213**	P	Pn	00 43 11.3	+0.5

*NIED **30** 00:45:00.36˚20N×142˚10E, h17km, Mw3.4 Best double couple: M0 1.31000×10^14 NP1:φs280.00000°, δ50.00000°, λ170.00000°. NP2:φs16.00000°, δ83.00000°, λ41.00000°.*
*IDC **30** 00:45:33.1±2.5, 36˚21N×142˚10E, h0km, mb3.6/4, mb1 3.7/6, mb1mx3.3/76, mbtmp3.6/6, ML3.5/2, Error ellipse: s-maj=59.8km s-min=25.2km az=69.0*
*ISCJB **30** 00:45:34.5±1.1, 36˚21N±0.07˚×142˚10E±0.10, h23km, mb3.6/4, Error ellipse: s-maj=11.3km s-min=10.2km az=179.0*
*JMA **30** 00:45:35.2±0.3, 36˚24N×142˚11E, h50km, M3.5*
ISC 30 00:45:36.6±1.5, 36.18N±0.08×142.0E±0.1, h23km, n18, σ0s83/15, mb3.6/4, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**1.03**	**243**	P	**Pn**	**00 45 55.3**	**-0.4**
CHOJ				*e*S	**Sn**	**00 46 10.5**	**+1.0**
JHO	**Hitachi**	**1.23**	**291**	P	**Pn**	**00 45 57.2**	**-1.2**
BSO1	**Boso 1**	**1.73**	**209**	P	**Pn**	**00 46 04.9**	**+0.1**
BSO3	**Boso 3**	**1.83**	**222**	P	**Pn**	**00 46 06.6**	**+0.2**
JAG	**Ashikaga**	**2.07**	**278**	P	**Pn**	**00 46 09.4**	**-0.6**
MJAR	**Matsushiro Arr**	**3.08**	**278**	Pn	**Pn**	**00 46 24.3**	**+0.4**
	6.5nm,0.3s,baz=120,slow=7.6,SNR=70						
MAT	**Matsushiro**	**3.08**	**278**	P	**Pn**	**00 46 24.5**	**+0.6**
MAT				S	**Sn**	**00 47 00.0**	**0.0**
JHJ	**Hachijo jima 2**	**3.55**	**212**	Pn	**Pn**	**00 46 30.1**	**-0.3**
	8.1nm,0.3s,baz=336,slow=20,SNR=8.4						
JHJ				Sn	**Sn**	**00 47 09.7**	**-1.9**
	30nm,0.3s,baz=72,slow=20,SNR=9.1						
H11N2	**WAKE ISLAND Hy 27.31 120**			T	T	01 19 57.2	
	baz=312,slow=75,SNR=8.8						
H11N1	**WAKE ISLAND Hy 27.32 120**			T	T	01 19 54.7	
	baz=312,slow=75,SNR=7.5						
H11N3	**WAKE ISLAND Hy 27.33 120**			T	T	01 19 55.7	
	baz=312,slow=75,SNR=7.1						
H11S1	**WAKE ISLAND Hy 28.00 122**			T	T	01 20 48.3	
	baz=314,slow=75,SNR=7.3						
H11S3	**WAKE ISLAND Hy 28.00 122**			T	T	01 20 47.5	
	baz=314,slow=75,SNR=6.0						
H11S2	**WAKE ISLAND Hy 28.02 122**			T	T	01 20 49.2	
	baz=314,slow=75,SNR=4.2						
SONM	**Songino Array 28.66 305**			P	**P**	**00 51 31.2**	**-0.4**
	0.3nm,0.5s,baz=94,slow=8.6,SNR=2.8						
MKAR	**Makanchi Array 44.97 303**			P	**P**	**00 53 50.6**	**+0.7**
	0.5nm,0.6s,baz=89,slow=9.5,SNR=6.3						
KURBB	**Kurchatov Arra 46.90 309**			P	**P**	**00 54 05.3**	**+0.3**
	0.6nm,0.4s,baz=76,slow=8.7,SNR=2.9						
WRA	**Warramunga Arr 56.28 189**			P	**P**	**00 55 15.8**	**+0.4**
	0.6nm,1.0s,baz=5.5,slow=7.7,SNR=3.5						

*NIED **30** 01:07:00, 39˚00N×142˚40E, h29km, Mw3.8 Best double couple: M0 5.71000×10^14 NP1:φs67.00000°, δ22.00000°, λ-45.00000°. NP2:φs200.00000°, δ75.00000°, λ-106.00000°.*
*JMA **30** 01:07:37.5±0.1, 39˚01N×142˚38E, h35km±1km, M3.9*
*IDC **30** 01:07:41.9±2.3, 38˚89N×142˚29E, h66km±19km, mb3.7/13, mb1 3.8/17, mb1mx3.5/69, mbtmp4.0/17, MS2.7/5, Ms1 2.7/5, ms1mx2.4/69, Error ellipse: s-maj=21.0km s-min=13.6km az=120.0*
ISC 30 01:07:35.9±1.8, 38.95N±0.04×142.42E±0.07, h13km±9km, n37, σ1s46/38, mb4.0/13, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**0.60**	**283**	P	**Pg**	**01 07 49.0**	**+1.4**
OFUJ				*e*S	**Sg**	**01 07 56.9**	**+1.3**
MIYJ	**Miyakonagasawa**	**0.78**	**323**	P	**Pg**	**01 07 51.0**	**0.0**
MIYJ				S	**Sg**	**01 08 00.6**	**-0.7**
JMK	**Ichinoseki**	**0.94**	**270**	P	**Pg**	**01 07 54.1**	**+0.1**
JMK				S	**Sg**	**01 08 05.8**	**-0.4**
JIO	**Ouri**	**0.97**	**240**	P	**Pg**	**01 07 54.4**	**-0.3**
JIO				*e*S	**Sg**	**01 08 06.5**	**-0.9**
JOM	**Ohasama**	**1.02**	**301**	P	**Pg**	**01 07 55.1**	**-0.5**
JOM				S	**Sg**	**01 08 07.8**	**-1.1**
JTH	**Tanohata**	**1.08**	**337**	P	**Pg**	**01 07 55.1**	**-1.6**
JKZ	**Kuzumaki**	**1.33**	**321**	P	**Pn**	**01 08 00.0**	**-0.3**
JKZ				*e*S	**Sb**	**01 08 16.4**	**-1.4**
JRG	**Rokugo**	**1.46**	**288**	P	**Pn**	**01 08 01.8**	**-0.2**
JRG				*e*S	**Sn**	**01 08 20.4**	**-0.5**
JOU	**Okura**	**1.49**	**248**	P	**Pn**	**01 08 02.4**	**-0.1**
JOU				S	**Sn**	**01 08 21.2**	**-0.6**
JANG	**Nango**	**1.58**	**334**	P	**Pn**	**01 08 03.0**	**-0.7**
JYK	**Kaneyama**	**1.61**	**269**	P	**Pn**	**01 08 04.0**	**0.0**
MAT	**Matsushiro**	**4.11**	**236**	P	**Pn**	**01 08 40.8**	**+2.3**
MAT				S	**Sn**	**01 09 27.1**	**+0.6**
MJAR	**Matsushiro Arr**	**4.11**	**236**	P	**Pn**	**01 08 40.3**	**+1.8**
	2.8nm,0.3s,baz=42,slow=11,SNR=35						
MJAR				LR	LR	01 10 27.3	
	comp=Z,127nm,18.9s,baz=55,slow=42						
ASAJ	**Asahikawa**	**5.16**	**1**	P	Pn	01 08 56.7	+3.8
	3.7nm,0.3s,baz=220,slow=10,SNR=11						
ASAJ				S	**Sn**	**01 09 57.5**	**+5.2**
	2.0nm,0.3s,baz=43,slow=19,SNR=3.1						
USRK	**Ussuriysk Ar.**	**9.41**	**307**	P	**Pn**	**01 09 53.8**	**+2.7**
	0.3nm,0.3s,baz=113,slow=16,SNR=7.0						
USRK				LR	LR	01 13 22.5	
	comp=Z,110nm,20.9s,baz=160,slow=36						
JNU	**Nakatsue**	**11.00**	**242**	LR	LR	01 14 36.4	
	comp=Z,64nm,21.6s,baz=117,slow=38						
KSRS	**Korea Array**	**11.51**	**267**	P	**Pn**	**01 10 22.9**	**+3.1**
	0.2nm,0.3s,baz=88,slow=13,SNR=4.7						
KSRS				LR	LR	01 14 34.4	
	comp=Z,46nm,18.6s,baz=101,slow=36						
KLR	**Kul'dur**	**12.81**	**327**	LR	LR	01 15 33.3	
	comp=Z,6.1nm,19.5s,baz=136,slow=37						
SEY	**Seymchan**	**24.76**	**11**	P	**P**	**01 12 57.6**	**+0.6**
	0.6nm,0.3s,baz=226,slow=9.9,SNR=4.4						
SONM	**Songino Array**	**27.43**	**301**	P	**P**	**01 13 20.9**	**-0.5**
	0.4nm,0.5s,baz=102,slow=8.5,SNR=3.6						
H11N2	**WAKE ISLAND Hy 28.52 125**			T	T	01 43 48.9	
	baz=318,slow=75,SNR=56						
H11N1	**WAKE ISLAND Hy 28.53 125**			T	T	01 43 44.1	
	baz=318,slow=75,SNR=44						
H11N3	**WAKE ISLAND Hy 28.54 125**			T	T	01 43 42.0	
	baz=318,slow=75,SNR=50						
H11S1	**WAKE ISLAND Hy 29.31 127**			T	T	01 44 52.3	
	baz=319,slow=76,SNR=14						
H11S3	**WAKE ISLAND Hy 29.31 127**			T	T	01 44 54.3	
	baz=319,slow=76,SNR=13						
H11S2	**WAKE ISLAND Hy 29.32 127**			T	T	01 44 53.9	
	baz=319,slow=76,SNR=14						
ZALV	**Zalesovo Beam 41.24 311**			P	**P**	**01 15 19.7**	**-0.7**
	1.2nm,0.4s,baz=97,slow=8.3,SNR=7.1						
MKAR	**Makanchi Array 43.80 301**			P	**P**	**01 15 40.7**	**-0.7**
	2.1nm,0.5s,baz=85,slow=10,SNR=24						
KURBB	**Kurchatov Arra 45.47 307**			P	**P**	**01 15 53.5**	**-1.1**
	5.4nm,0.5s,baz=80,slow=8.4,SNR=33						
ILAR	**Eielson Array 47.45 33**			P	**P**	**01 16 10.3**	**+0.3**
	1.4nm,0.7s,baz=268,slow=6.6,SNR=20						
BVAR	**Borovoye Array 49.89 311**			P	**P**	**01 16 28.3**	**-0.6**
	1.6nm,0.5s,baz=71,slow=7.8,SNR=19						
INK	**Inuvik 52.32 28**			P	**P**	**01 16 47.6**	**+0.8**
	0.5nm,0.4s,baz=292,slow=6.0,SNR=7.1						
WRA	**Warramunga Arr 59.07 189**			P	**P**	**01 17 34.7**	**-1.1**
	0.3nm,0.3s,baz=6.7,slow=6.8,SNR=15						
YKA	**Yellowknife Ar 61.76 31**			P	**P**	**01 17 53.6**	**-0.1**
	0.4nm,0.8s,baz=302,slow=7.0,SNR=7.0						
FINES	**FINESS Array B 67.49 332**			P	**P**	**01 18 30.0**	**-1.1**
	0.8nm,0.6s,baz=39,slow=9.8,SNR=4.3						
HFS	**Hagfors 72.67 336**			P	**P**	**01 19 02.2**	**-0.8**
	13nm,1.3s,baz=60,slow=8.5,SNR=3.8						
AKASG	**Malin Array Be 73.27 322**			P	**P**	**01 19 06.1**	**-0.6**
	0.5nm,0.5s,baz=43,slow=5.2,SNR=3.6						

*NEIC **30** 01:12:23.7±0.0, 51.10N×176.54E, h40km, mb3.5/3, ML3.9(AEIC), After AEIC.*
*IDC **30** 01:12:24.0±1.4, 52.01N×176.71E, h0km, mb3.7/16, mb1 3.8/18, mb1mx3.7/75, mbtmp3.7/18, ML3.2/2, MS3.0/4, Ms1 3.0/4, ms1mx2.6/71, Error ellipse: s-maj=38.2km s-min=14.5km az=177.0*
*ISCJB **30** 01:12:27.0±0.8, 51.9N±0.1×176.7E±0.06, h40km, mb3.8/18, MS3.3/2, Error ellipse: s-maj=21.2km s-min=5.4km az=4.8*
ISC 30 01:12:29.5±1.1, 52.0N±0.2×176.70E±0.06, h40km, n37, σ1s19/29, mb3.8/18, MS3.3/3, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMY	**Shemya**	**1.77**	**297**	*e*Pn	**Pn**	**01 12 59.1**	**+1.5**
SMY				S	Sn	01 13 26.1	+7.3
GALAA	**Gareloi Lava P**	**2.81**	**92**	P	**Pn**	**01 13 09.4**	**-2.5**
GALAA				S	**Sn**	**01 13 46.3**	**+1.7**
TAPA	**Tanaga Point A**	**3.40**	**90**	P	**Pn**	**01 13 18.2**	**-1.9**
KIKV	**Kanaga Island**	**3.80**	**89**	P	**Pn**	**01 13 24.1**	**-1.3**
KOWE	**Korovin West**	**5.59**	**82**	P	**Pn**	**01 13 49.6**	**-0.4**
KOWE				S	**Sn**	**01 14 53.5**	**+0.7**
ATKA	**Atka Island**	**5.62**	**84**	P	**Pn**	**01 13 49.2**	**-1.2**
UNV	**Unalaska Valle**	**10.32**	**73**	*e*Pn	**Pn**	**01 14 56.5**	**+1.7**
PETK	**Petropavlovsk-**	**11.63**	**283**	Pn	**Pn**	**01 15 13.0**	**+0.3**
	0.1nm,0.3s,baz=96,slow=19,SNR=3.0						
PETK				LR	LR	01 19 40.5	
	comp=Z,38nm,21.0s,baz=108,slow=38						
KDAK	**Kodiak Island**	**18.50**	**60**	P	**Pn**	**01 16 41.2**	**-1.2**
	0.5nm,0.3s,baz=180,slow=2.6,SNR=7.3						
KTH	**Kantishna Hill**	**20.54**	**43**	*e*P	Pn	01 17 04.3	-2.4
	1.1nm,0.5s						
BPAW	**Bear Paw Mtn.**	**20.70**	**42**	*e*P	Pn	01 17 06.0	-2.5
	0.2nm,0.5s						
ILAR	**Eielson Array 22.60 41**			P	**P**	**01 17 24.6**	**-1.7**
	0.5nm,0.7s,baz=252,slow=7.7,SNR=4.0						
DAWY	**Dawson 25.63**		**45**	*e*P	**P**	**01 17 57.3**	**+2.3**
	3.9nm,0.8s						
INK	**Inuvik 28.62 36**			P	**P**	**01 18 22.5**	**+0.9**
	0.3nm,0.4s,baz=250,slow=7.5,SNR=3.3						
USRK	**Ussuriysk Ar. 30.45 273**			P	**P**	**01 18 38.4**	**+0.4**
	1.2nm,0.5s,baz=79,slow=16,SNR=3.0						
H11N2	**WAKE ISLAND Hy 33.07 197**			T	T	01 53 43.7	
	baz=11,slow=76,SNR=113						
H11N3	**WAKE ISLAND Hy 33.08 197**			T	T	01 53 44.9	
	baz=11,slow=76,SNR=110						
H11N1	**WAKE ISLAND Hy 33.09 197**			T	T	01 53 48.5	
	baz=11,slow=76,SNR=109						
H11S1	**WAKE ISLAND Hy 34.30 197**			T	T	01 55 33.0	
	baz=11,slow=76,SNR=30						
H11S3	**WAKE ISLAND Hy 34.31 197**			T	T	01 55 43.5	
	baz=11,slow=76,SNR=22						
H11S2	**WAKE ISLAND Hy 34.32 197**			T	T	01 55 29.4	
	baz=11,slow=76,SNR=14						
KSRS	**Korea Array 36.85 266**			LR	LR	01 35 45.0	
	comp=Z,19nm,19.5s,baz=212,slow=38						
YKA	**Yellowknife Ar 36.85 46**			P	**P**	**01 19 32.9**	**-0.5**
	0.2nm,0.4s,baz=280,slow=9.3,SNR=11						
TLY	**Talaya 43.36 300**			LR	LR	01 39 15.2	
	comp=Z,37nm,19.7s,baz=44,slow=37						
SONM	**Songino Array 43.86 294**			P	**P**	**01 20 31.6**	**-0.1**
	0.7nm,0.4s,baz=49,slow=8.2,SNR=6.0						
NVAR	**Mina Array Bea 46.24 80**			P	**P**	**01 20 50.0**	**-0.8**
	0.1nm,0.4s,baz=316,slow=7.6,SNR=3.0						
SPITS	**Spitsbergen Ar 49.57 355**			P	**P**	**01 21 15.6**	**-0.2**
	2.8nm,0.8s,baz=27,slow=6.6,SNR=4.3						
ZALV	**Zalesovo Beam 51.56 311**			P	**P**	**01 21 30.4**	**-0.6**
	0.5nm,0.5s,baz=75,slow=7.6,SNR=2.2						
KURBB	**Kurchatov Arra 56.66 311**			P	**P**	**01 22 08.5**	**+0.3**
	2.3nm,0.8s,baz=42,slow=6.5,SNR=17						
ARCES	**ARCESS Array B 56.99 348**			P	**P**	**01 22 10.6**	**+0.2**
	2.2nm,0.9s,baz=24,slow=8.9,SNR=2.6						
MKAR	**Makanchi Array 57.44 306**			P	**P**	**01 22 13.0**	**-0.9**
	0.3nm,0.4s,baz=51,slow=7.8,SNR=5.3						
BVAR	**Borovoye Array 58.59 317**			P	**P**	**01 22 22.5**	**+0.6**
	3.7nm,0.3s,baz=60,slow=6.2,SNR=60						
TXAR	**Lajitas Array 61.31 78**			P	**P**	**01 22 41.7**	**+0.8**
	0.2nm,0.6s,baz=317,slow=4.9,SNR=3.5						
FINES	**FINESS Array B 64.54 345**			P	**P**	**01 23 01.2**	**-0.6**
	1.1nm,0.9s,baz=0.0,slow=11,SNR=4.2						
FINES				LR	LR	01 55 58.2	
	comp=Z,18nm,18.0s,baz=52,slow=40						
NOA	**NORSAR Array B 66.75 352**			P	**P**	**01 23 16.6**	**+0.5**
	0.3nm,0.6s,baz=2.0,slow=5.2,SNR=3.3						
AKASG	**Malin Array Be 74.07 339**			P	**P**	**01 24 00.4**	**-0.4**
	0.4nm,0.3s,baz=21,slow=6.1,SNR=3.2						
BRTR	**Keskin Array B 83.19 332**			P	**P**	**01 24 52.0**	**+0.6**
	0.5nm,0.6s,baz=48,slow=4.0,SNR=5.1						

*NIED **30** 01:25:00, 39˚70N×142˚20E, h11km, Mw3.6 Best double couple: M0 3.31000×10^14 NP1:φs197.00000°, δ56.00000°, λ-180.00000°. NP2:φs107.00000°, δ90.00000°, λ-34.00000°.*
*JMA **30** 01:25:54.6±0.1, 39˚74N×142˚23E, h23km±1km, M3.8*
JMA Felt II J1.
*IDC **30** 01:25:57.8±2.5, 39˚57N×142˚45E, h44km±24km, mb3.5/12, mb1 3.6/15, mb1mx3.4/76, mbtmp3.7/15, ML3.5/3, MS2.5/2, Ms1 2.5/2, ms1mx2.2/57, Error ellipse: s-maj=22.3km s-min=15.4km az=111.0*
ISC 30 01:25:52.8±2.0, 39.70N±0.04×142.33E±0.08, h2km±12km, n32, σ1s50/37, mb3.8/12, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIYJ	**Miyakonagasawa**	**0.41**	**252**	P	**Pb**	**01 26 02.4**	**-0.4**
MIYJ				S	**Sg**	**01 26 07.4**	**+1.4**
JTH	**Tanohata**	**0.43**	**304**	P	**Pg**	**01 26 02.2**	**+1.2**
JTH				S	**Sg**	**01 26 07.3**	**+0.8**
OFUJ	**Ofunato**	**0.80**	**220**	P	**Pb**	**01 26 09.1**	**-0.4**
OFUJ				*e*S	**Sb**	**01 26 19.5**	**-1.3**
JKZ	**Kuzumaki**	**0.82**	**290**	P	**Pg**	**01 26 08.6**	**+0.1**
JKZ				S	**Sg**	**01 26 18.2**	**-0.8**
JOM	**Ohasama**	**0.83**	**254**	P	**Pg**	**01 26 09.2**	**+0.5**
JOM				S	**Sg**	**01 26 19.4**	**-0.1**
JANG	**Nango**	**0.91**	**317**	P	**Pg**	**01 26 09.5**	**-0.8**
JANG				S	**Sg**	**01 26 20.1**	**-2.1**
JMK	**Ichinoseki**	**1.14**	**229**	P	**Pg**	**01 26 14.6**	**0.0**
JMK				S	**Sg**	**01 26 28.8**	**-0.6**
JRG	**Rokugo**	**1.34**	**257**	P	**Pn**	**01 26 18.2**	**-0.4**
JRG				S	**Sg**	**01 26 35.1**	**-0.9**
JAH	**Hinai**	**1.39**	**291**	P	**Pn**	**01 26 18.2**	**-1.0**
JAH				S	**Sg**	**01 26 35.3**	**-2.1**
ASAJ	**Asahikawa**	**4.41**	**3**	P	**Pn**	**01 27 02.5**	**+1.7**
	6.0nm,0.3s,baz=203,slow=10,SNR=17						
ASAJ				S	**Sn**	**01 27 55.0**	**+2.2**
	baz=342,slow=20,SNR=3.1						
MAT	**Matsushiro**	**4.53**	**227**	P	**Pn**	**01 27 05.3**	**+2.9**
MAT				S	**Sn**	**01 27 56.0**	**+0.4**
MJAR	**Matsushiro Arr**	**4.53**	**227**	P	**Pn**	**01 27 04.5**	**+2.2**
	1.1nm,0.3s,baz=39,slow=9.5,SNR=14						
MJAR				S	**Sn**	**01 27 59.0**	**+3.3**
	baz=42,slow=13,SNR=2.3						
MJAR				LR	LR	01 29 15.3	
	comp=Z,39nm,21.3s,baz=85,slow=44						
KSRS	**Korea Array 11.50 263**			P	**Pn**	**01 28 40.5**	**+2.5**
	0.0nm,0.3s,baz=76,slow=13,SNR=3.2						
MA2	**Magadan 20.60 12**			LR	LR	01 40 01.1	
	comp=Z,22nm,20.0s,baz=301,slow=41						
SEY	**Seymchan 24.04 11**			P	**P**	**01 31 08.4**	**-0.5**
	1.4nm,0.5s,baz=198,slow=3.9,SNR=6.5						
H11N2	**WAKE ISLAND Hy 29.02 126**			T	T	02 02 20.1	
	baz=319,slow=75,SNR=1463						
H11N1	**WAKE ISLAND Hy 29.03 126**			T	T	02 02 22.6	
	baz=319,slow=75,SNR=1209						
H11N3	**WAKE ISLAND Hy 29.04 126**			T	T	02 02 22.7	
	baz=319,slow=75,SNR=1234						
H11S1	**WAKE ISLAND Hy 29.82 128**			T	T	02 03 22.5	
	baz=320,slow=76,SNR=194						
H11S3	**WAKE ISLAND Hy 29.82 128**			T	T	02 03 28.3	
	baz=320,slow=76,SNR=141						
H11S2	**WAKE ISLAND Hy 29.84 128**			T	T	02 03 23.8	
	baz=320,slow=76,SNR=128						
ZALV	**Zalesovo Beam 40.70 310**			P	**P**	**01 33 35.2**	**+0.7**
	0.6nm,0.4s,baz=89,slow=8.1,SNR=2.4						
MKAR	**Makanchi Array 43.36 300**			P	**P**	**01 33 57.0**	**+0.6**
	0.4nm,0.5s,baz=86,slow=9.9,SNR=6.6						
KURBB	**Kurchatov Arra 44.97 306**			P	**P**	**01 34 08.8**	**-0.4**
	0.8nm,0.3s,baz=77,slow=8.6,SNR=6.1						
ILAR	**Eielson Array 46.87 34**			P	**P**	**01 34 24.3**	**+0.3**
	1.2nm,0.7s,baz=264,slow=6.1,SNR=14						
BVAR	**Borovoye Array 49.34 311**			P	**P**	**01 34 45.2**	**+1.9**
	0.3nm,0.4s,baz=69,slow=8.4,SNR=2.6						
INK	**Inuvik 51.69 28**			P	**P**	**01 35 00.6**	**-0.2**
	1.0nm,0.5s,baz=303,slow=5.3,SNR=10						
WRA	**Warramunga Arr 59.80 189**			P	**P**	**01 35 57.3**	**-2.2**
	0.4nm,0.5s,baz=6.0,slow=6.9,SNR=6.4						
YKA	**Yellowknife Ar 61.15 31**			P	**P**	**01 36 08.2**	**0.0**
	0.4nm,0.8s,baz=301,slow=6.4,SNR=7.1						
ASAR	**Alice Springs 63.53 189**			P	**P**	**01 36 22.4**	**-2.2**
	0.5

KCTX	Karacabey (Bur	1.31	332	*e*Pn		Pg	01 29 25.3	-0.2
ESKT	Eskisehir	1.37	72	*i* P		Pn	01 29 24.7	-1.1
ESKT				*i* S		Sb	01 29 42.4	-1.5
SEYT	Eskypehyr	1.37	72	P		Pn	01 29 24.7	-1.1
SEYT				S		Sb	01 29 42.4	-1.5
YLV	Yalova	1.47	6	PN		Pg	01 29 28.2	-0.2
YLV	Yalova	1.47	6	*e*Pn		Pg	01 29 28.2	-0.2
ARMT	Armutlu	1.47	351	PN		Pb	01 29 28.1	+0.2
ARMT	Armutlu	1.47	351	*e*Pn		Pb	01 29 28.1	+0.2
AYDB	Zeytinkoy-Aydi	1.53	221	PN		Pb	01 29 28.9	0.0
AYDB	Zeytinkoy-Aydi	1.53	221	*e*Pn		Pb	01 29 28.9	0.0
GULT	Gulveren	1.68	38	PN		Pn	01 29 30.7	+0.7
GULT	Gulveren	1.68	38	*e*Pn		Pn	01 29 30.7	+0.7

IDC ***30*** *01:33:20.3±0.9, 35°.28N×53°.18E, h0km, mb3.8/18, mb1 3.9/25, mb1mx3.7/67, mbtmp3.8/25, ML3.4/7, MS3.0/6, Ms1 3.0/6, ms1mx2.5/65, Error ellipse: s-maj=18.3km s-min=11.9km az=173.0*

ISCJB ***30*** *01:33:20.3±0.3, 35°.26N±0°.02×53°.29E±0°.02, h10km, mb3.9/29, MS3.2/2, Error ellipse: s-maj=3.4km s-min=2.8km az=19.7*

THR ***30*** *01:33:22.0±1.2, 35°.34N×53°.30E, h15km±12km, ML4.2*

CSEM ***30*** *01:33:22.2±0.2, 35°.31N×53°.30E, h10km, mb4.1/9, Error ellipse: s-maj=6.6km s-min=5.2km az=6.0*

TEH ***30*** *01:33:22.8, 35°.38N×53°.25E, h19km, ML4.2*

NEIC ***30*** *01:33:22.0±0.0, 35°.38N×53°.25E, h19km, mb4.0/8, ML4.2(THR), MN4.2(TEH), After TEH.*

MOS ***30*** *01:33:22.1±1.0, 35°.33N×53°.28E, h26km, mb4.1/8, Error ellipse: s-maj=10.0km s-min=6.7km az=109.2*

ISC 30 01:33:21.7±0.4, 35°.35N±0°.03×53°.32E±0°.03, h10km, n158, σ2§30/186, mb3.9/29, 16C-18D, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
ILAS	**Lasjerd**	**0.30**	**276**	*e*Pg		**Pg**	**01 33 28.1**	**+0.3**
ILAS	**Lasjerd**	**0.30**	**276**	Pg		**Pg**	**01 33 28.1**	**+0.3**
ILAS	**Lasjerd**	**0.30**	**276**	*e*Pg		**Pg**	**01 33 28.1**	**+0.3**
ISHM	**Shahmirzad**	**0.46**	**357**	*e*Pg		**Pg**	**01 33 30.5**	**-0.3**
ISHM				*e*Sg		**Sb**	**01 33 38.3**	**-0.7**
ISHM				*e*AMB		AMB	01 33 39.1	
	comp=Z,33μm,0.2s							
ISHM	**Shahmirzad**	**0.46**	**357**	Pg		**Pg**	**01 33 30.4**	**-0.3**
ISHM				Sg		**Sb**	**01 33 38.2**	**-0.7**
IFIR	**Firoozkooh**	**0.55**	**302**	*e*Pg		**Pg**	**01 33 31.3**	**-1.1**
IFIR				*e*AMB		AMB	01 33 41.7	
	comp=Z,74μm,0.2s							
IFIR	**Firoozkooh**	**0.55**	**302**	Pg		**Pg**	**01 33 31.3**	**-1.1**
IFIR	**Firoozkooh**	**0.55**	**302**	*e*Pg		**Pg**	**01 33 31.3**	**-1.1**
IALA	**Alasht**	**0.84**	**331**	*e*Pg		**Pg**	**01 33 37.3**	**-0.7**
IALA				*e*AMB		AMB	01 33 52.0	
	comp=Z,29μm,0.2s							
IALA	**Alasht**	**0.84**	**331**	Pg		**Pg**	**01 33 37.3**	**-0.7**
IALA	**Alasht**	**0.84**	**331**	*e*Pg		**Pg**	**01 33 37.3**	**-0.7**
IDMV	**Damavand**	**1.08**	**283**	*e*Pg		**Pg**	**01 33 41.5**	**-1.0**
IDMV				*e*AMB		AMB	01 34 07.9	
	comp=Z,36μm,0.2s							
IDMV	**Damavand**	**1.08**	**283**	Pg		**Pg**	**01 33 41.4**	**-1.0**
IDMV	**Damavand**	**1.08**	**283**	Pg		**Pg**	**01 33 41.4**	**-1.0**
DAMV	**Damavand**	**1.14**	**285**	Pg		**Pg**	**01 33 43.0**	**-0.6**
DAMV	**Damavand**	**1.14**	**285**	Pg		**Pg**	**01 33 43.0**	**-0.6**
DAMV	**Damavand**	**1.14**	**285**	*e*Pg		**Pb**	**01 33 43.9**	**+0.3**
IPRN	**Peran**	**1.20**	**318**	*e*Pg		**Pb**	**01 33 43.5**	**-1.1**
IPRN				*e*AMB		AMB	01 33 47.3	
	comp=Z,73μm,0.2s							
IPRN	**Peran**	**1.20**	**318**	Pg		**Pb**	**01 33 43.4**	**-1.1**
IGLO	**Ghaloghah**	**1.22**	**20**	*e*Pg		**Pb**	**01 33 45.0**	**-0.1**
IGLO				*e*AMB		AMB	01 34 06.5	
	comp=Z,51μm,0.2s							
IGLO	**Ghaloghah**	**1.22**	**20**	Pg		**Pb**	**01 33 44.9**	**-0.1**
IVRN	**Varamin**	**1.35**	**255**	*e*Pg		**Pn**	**01 33 47.2**	**+0.5**
IVRN				*e*AMB		AMB	01 34 09.4	
	comp=Z,21μm,0.1s							
IVRN	**Varamin**	**1.35**	**255**	Pg		**Pn**	**01 33 47.1**	**+0.4**
IVRN	**Varamin**	**1.35**	**255**	Pg		**Pn**	**01 33 47.1**	**+0.4**
CHTH	**Charan**	**1.87**	**288**	Pn		**Pn**	**01 33 55.0**	**+1.0**
CHTH				Sg		**Sb**	**01 34 20.0**	**+0.3**
CHTH	**Charan**	**1.87**	**288**	Pn		**Pn**	**01 33 55.0**	**+1.0**
CHTH				Sg		**Sb**	**01 34 20.0**	**+0.3**
CHTH	**Charan**	**1.87**	**288**	*e*Pg		**Pb**	**01 33 55.6**	**-0.5**
CHTH				*e*Sg		**Sg**	**01 34 20.7**	**-1.2**
CHTH				AML		AML	01 34 30.3	
	comp=N,2μm,0.6s							
GHVR	**GHOM**	**1.88**	**243**	Pn		**Pb**	**01 33 56.0**	**-0.1**
GHVR				Sg		**Sg**	**01 34 22.0**	**0.0**
GHVR	**GHOM**	**1.88**	**243**	*e*Pn		**Pb**	**01 33 56.0**	**-0.1**
GHVR				Sg		**Sg**	**01 34 22.0**	**0.0**
GHVR	**GHOM**	**1.88**	**243**	*e*Pg		**Pb**	**01 33 56.1**	**-0.1**
GHVR				AML		AML	01 34 25.5	
	comp=N,4μm,0.6s							
SHRO	**Shahrood**	**2.28**	**73**	*e*Pn		**Pn**	**01 34 01.5**	**+2.0**
SHRO	**Shahrood**	**2.28**	**73**	*e*Pn		**Pn**	**01 34 01.5**	**+2.0**
ASAO	**Ashtian**	**2.82**	**254**	Pn		**Pn**	**01 34 08.0**	**+0.9**
ASAO	**Ashtian**	**2.82**	**254**	*e*Pn		**Pn**	**01 34 08.5**	**+1.4**
ASAO	**Ashtian**	**2.82**	**254**	*e*Pn		**Pn**	**01 34 08.5**	**+1.4**
ASAO				AML		AML	01 34 56.4	
	comp=E,583nm,0.6s							
KHMZ	**Khomeyn**	**3.21**	**241**	Pn		**Pn**	**01 34 13.0**	**+0.7**
KHMZ	**Khomeyn**	**3.21**	**241**	*e*Pn		**Pn**	**01 34 13.8**	**+1.5**
KHMZ	**Khomeyn**	**3.21**	**241**	*e*Pn		**Pn**	**01 34 13.8**	**+1.5**
MRVT	**Maraveh tapeh**	**3.21**	**43**	Pn		**Pn**	**01 34 13.0**	**+0.8**
MRVT	**Maraveh tapeh**	**3.21**	**43**	*e*Pn		**Pn**	**01 34 13.9**	**+1.7**
MRVT	**Maraveh tapeh**	**3.21**	**43**	*e*Pn		**Pn**	**01 34 13.9**	**+1.7**
TABS	**Tabas**	**3.57**	**117**	Pn		**Pn**	**01 34 19.0**	**+1.8**
TABS	**Tabas**	**3.57**	**117**	Pn		**Pn**	**01 34 19.0**	**+1.8**
TABS	**Tabas**	**3.57**	**117**	*e*Pn		**Pn**	**01 34 19.4**	**+2.2**
GEYT	**Alibeck**	**4.64**	**55**	Pn		**Pn**	**01 34 34.4**	**+2.6**
	comp=E,5.9nm,0.3s,baz=244,slow=16,SNR=40							
GEYT				Sn		**Sn**	**01 35 30.1**	**+4.4**
	comp=E,4.6nm,0.3s,baz=262,slow=10,SNR=3.5							
GEYT				Lg		Lg	01 35 52.3	
	comp=E,1.9nm,0.3s,baz=247,slow=19,SNR=2.0							
GYA0B	**ALIBECK ARRAY**	**4.64**	**55**	*e*Pn		**Pn**	**01 34 34.9**	**+3.1**
GYA0B	**ALIBECK ARRAY**	**4.64**	**55**	*e*Pn		**Pn**	**01 34 34.9**	**+3.1**
ASTR	**Astara**	**4.84**	**313**	⇓P		**Pn**	**01 35 32.5**	**+0.9**
ASTR				⇓S		**Sn**	**01 35 33.3**	**+2.6**
LKRN	**Lenkeran, Azer**	**4.94**	**314**	⇓P		**Pn**	**01 34 37.1**	**+1.1**
LKRN				⇓S		**Sn**	**01 35 36.2**	**+3.0**
LRK	**Lerik**	**5.17**	**311**	⇓P		**Pn**	**01 34 39.8**	**+0.6**
LRK				⇓S		**Sn**	**01 35 40.9**	**+1.9**
GLBA	**Clilabad**	**5.52**	**316**	⇑P		**Pn**	**01 34 45.3**	**+1.3**
GLBA				⇓S		**Sn**	**01 35 50.9**	**+3.4**
ALIB	**Äli-Bayra**	**5.73**	**325**	⇑P		**Pn**	**01 34 49.2**	**+2.4**
ALIB				⇑S		**Sn**	**01 35 57.9**	**+5.2**
GBS	**Qobustan**	**6.22**	**328**	⇓P		**Pn**	**01 34 56.3**	**+2.6**
GBS				⇑S		**Sn**	**01 36 10.6**	**+5.7**
ATGJ	**Altiaghaj**	**6.50**	**329**	⇑P		**Pn**	**01 35 00.2**	**+2.8**
PQL	**Pirkuli**	**6.59**	**327**	⇓P		**Pn**	**01 35 01.2**	**+2.5**
PQL				⇑S		**Sn**	**01 36 19.4**	**+5.5**
SIZA	**Siyzn**	**6.69**	**330**	⇓P		**Pn**	**01 35 03.0**	**+2.9**
SIZA				⇓S		**Sn**	**01 36 22.6**	**+6.2**
IML	**Ismayilli**	**6.78**	**325**	⇑S		**Sn**	**01 36 23.6**	**+5.1**
BRDA	**Brd**	**6.91**	**317**	⇑S		**Sn**	**01 36 25.0**	**+3.5**
QBL	**Gabala**	**7.06**	**324**	⇑S		**Sn**	**01 36 30.4**	**+4.9**
QUBA	**Quba, Azerbaij**	**7.09**	**329**	⇓P		**Pn**	**01 35 08.4**	**+2.8**
QUBA				⇓S		**Sn**	**01 36 32.3**	**+6.1**
XNQ	**Khinaliq**	**7.10**	**327**	⇑P		**Pn**	**01 35 08.2**	**+2.4**
XNQ				⇑S		**Sn**	**01 36 32.0**	**+5.4**
QSAR	**Qusar**	**7.32**	**329**	⇑S		**Sn**	**01 36 37.8**	**+5.9**
AKT	**Akhty**	**7.53**	**326**	*e*P		**Pn**	**01 35 13.4**	**+1.8**
	comp=E,23nm,0.3s							
AKT				*e*S		**Sn**	**01 36 38.7**	**+1.6**
	comp=E,36nm,0.6s							
AKT	**Akhty**	**7.53**	**326**	*e*P		**Pn**	**01 35 13.4**	**+1.8**
AKT				*e*S		**Sn**	**01 36 38.7**	**+1.6**
AKT				pmax		pmax		
	comp=Z,23nm,0.3s							
AKT				smax		smax		
	comp=N,36nm,0.6s							
AKT				smax		smax		
	comp=E,39nm,0.4s							
AKT				smax		smax		
	comp=E,34nm,0.4s							
SEKA	**Sheki**	**7.58**	**322**	⇑P		**Pn**	**01 35 13.5**	**+1.3**
GANJ	**Ganja**	**7.65**	**316**	⇑P		**Pn**	**01 35 14.3**	**+1.2**
GANJ				⇑S		**Sn**	**01 36 43.0**	**+3.2**
GDB	**GEDABAY**	**8.02**	**314**	⇓P		**Pn**	**01 35 19.0**	**+0.6**
GNI	**Garni**	**8.31**	**308**	Pn		Pn	01 35 30.6	+8.2
	comp=E,0.9nm,0.3s,baz=92,slow=2.1,SNR=5.0							
GNI				Lg		Lg	01 37 38.3	
	baz=243,slow=21,SNR=1.8							
GNI	**Garni**	**8.31**	**308**	*e*Pn		**Pn**	**01 35 25.3**	**+2.9**
GNI				Lg		Lg	01 37 38.4	
GNI	**Garni**	**8.31**	**308**	*e*P		**Pn**	**01 35 25.3**	**+2.9**
GNI				Lg		Lg	01 37 38.3	
GNI	**Garni**	**8.31**	**308**	*e*P		**Pn**	**01 35 25.3**	**+2.9**
QZX	**Qazax, Azerbai**	**8.46**	**315**	⇓P		**Pn**	**01 35 25.2**	**+0.9**
GROC	**Groznyy**	**9.77**	**326**	*e*P		**Pn**	**01 35 42.3**	**+0.1**
	comp=E,17nm,1.1s							
GROC				*e*S		**Sn**	**01 37 33.8**	**+1.9**
	comp=E,37nm,0.8s							
GROC	**Groznyy**	**9.77**	**326**	*e*P		**Pn**	**01 35 42.3**	**+0.1**
GROC				*e*S		**Sn**	**01 37 33.8**	**+1.9**
GROC				pmax		pmax		
	comp=Z,17nm,1.1s							
GROC				smax		smax		
	comp=N,37nm,0.8s							
ZEI	**Tsey**	**10.42**	**318**	*e*P		**Pn**	**01 35 53.6**	**+2.2**
ZEI				pmax		pmax		
	comp=Z,4.0nm,0.6s							
UOSS	**Minazif**	**10.66**	**166**	*e*Pn		**Pn**	**01 35 56.3**	**+1.8**
UOSS	**Minazif**	**10.66**	**166**	*e*Pn		**Pn**	**01 35 56.3**	**+1.8**
KBZ	**Khabaz**	**11.60**	**319**	Pn		**Pn**	**01 36 08.6**	**+1.4**
	comp=Z,0.1nm,0.3s,baz=81,slow=10,SNR=2.4							
WSAR	**Wadi Sarin**	**12.92**	**158**	Pn		**Pn**	**01 36 26.8**	**+1.3**
	comp=Z,0.3nm,0.3s,baz=350,slow=8.6,SNR=4.7							
RAYN	**Ar Rayn**	**13.61**	**212**	*e*Pn		**Pn**	**01 36 31.9**	**-2.9**
RAYN				*e*S		**Sn**	**01 39 02.9**	**-3.2**
RAYN	**Ar Rayn**	**13.61**	**212**	*e*Pn		**Pn**	**01 36 31.9**	**-2.9**
RAYN				*e*S		**Sn**	**01 39 02.9**	**-3.2**
ASF	**Jabal al Asfar**	**14.03**	**262**	Pn		**Pn**	**01 36 39.8**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=48,slow=12,SNR=1.7							
AB31	**Akbulak array**	**14.72**	**17**	⇓Pn		**Pn**	**01 36 49.2**	**-0.7**
	comp=Z,1.2nm,0.5s,baz=206,slow=14,SNR=26							
AB31				⇓Sn		**Sn**	**01 39 26.0**	**-7.0**
	comp=Z,1.7nm,0.4s,baz=202,slow=24,SNR=4.3							
AB31	**Akbulak array**	**14.72**	**17**	Pn		**Pn**	**01 36 49.2**	**-0.7**
	comp=Z,1.2nm,0.5s,SNR=26							
AB31	**Akbulak array**	**14.72**	**17**	P		**Pn**	**01 36 49.2**	**-0.7**
AB31				S		**Sn**	**01 39 26.1**	**-7.0**
AB31				pmax		pmax		
	comp=Z,1.0nm,0.5s							
AB31				smax		smax		
	comp=N,2.0nm,0.4s							
ABKAR	**Akbulak array**	**14.72**	**17**	*e*Pn		**Pn**	**01 36 49.3**	**-0.6**
ABKAR				*e*S		**Sn**	**01 39 31.0**	**-2.1**
ABKAR	**Akbulak array**	**14.72**	**17**	*e*Pn		**Pn**	**01 36 49.3**	**-0.6**
ABKAR				*e*S		**Sn**	**01 39 31.0**	**-2.1**
MMAI	**Mount Meron Ar**	**15.01**	**266**	Pn		**Pn**	**01 36 52.2**	**-1.8**
	comp=N,0.2nm,0.3s,baz=304,slow=36,SNR=1.9							
KKAR	**Karatay Array**	**15.39**	**55**	*e*Pn		**Pn**	**01 36 58.7**	**-0.2**
	comp=N,2.1nm,0.5s							
KKAR	**Karatay Array**	**15.39**	**55**	*e*Pn		**Pn**	**01 36 58.7**	**-0.2**
	comp=N,2.0nm,0.5s							
KKAR	**Karatay Array**	**15.39**	**55**	*e*P		**Pn**	**01 36 58.7**	**-0.2**
KKAR				pmax		pmax		
	comp=Z,2.0nm,0.5s							
AKTO	**Aktyubinsk**	**15.46**	**11**	Pn		**Pn**	**01 36 58.8**	**-0.9**
	comp=Z,0.8nm,0.3s,baz=190,slow=10.0,SNR=16							
AKTO				Sn		**Sn**	**01 39 46.6**	**-4.3**
	comp=Z,0.4nm,0.3s,baz=42,slow=24,SNR=4.8							
AKTO				LR		LR	01 44 51.1	
	comp=Z,39nm,19.0s,baz=158,slow=44							
AKTO	**Aktyubinsk**	**15.46**	**11**	⇑Pn		**Pn**	**01 37 00.5**	**+0.8**
	comp=Z,4.5nm,0.7s							
AKTO				⇓Sn		**Sn**	**01 39 43.2**	**-7.8**
	comp=Z,7.7nm,1.2s							
AKTO	**Aktyubinsk**	**15.46**	**11**	P		**Pn**	**01 37 00.5**	**+0.8**
AKTO				S		**Sn**	**01 39 43.2**	**-7.8**
AKTO				pmax		pmax		
	comp=Z,5.0nm,0.7s							
AKTO				smax		smax		
	comp=N,8.0nm,1.2s							
BRTR	**Keskin Array B**	**16.21**	**291**	Pn		**Pn**	**01 37 08.9**	**-0.7**
	comp=N,0.0nm,0.3s,baz=85,slow=13,SNR=2.7							
EIL	**Elat**	**16.49**	**255**	LR		LR	01 44 35.1	
	comp=N,33nm,19.9s,baz=252,slow=41							
AAK	**Ala-Archa**	**17.97**	**60**	LR		LR	01 44 47.7	
	comp=N,23nm,19.9s,baz=176,slow=38							
AAK	**Ala-Archa**	**17.97**	**60**	*e*Pn		**Pn**	**01 37 30.9**	**-0.8**
AAK	**Ala-Archa**	**17.97**	**60**	*e*P		**Pn**	**01 37 30.9**	**-0.8**
AAK	**Ala-Archa**	**17.97**	**60**	*e*P		**Pn**	**01 37 30.9**	**-0.8**
TIRR	**Tirgusor**	**21.10**	**303**	*e*Pn		**P**	**01 38 07.5**	**+1.3**
	comp=N,4.3nm,0.9s							
TIRR	**Tirgusor**	**21.10**	**303**	*e*P		**P**	**01 38 07.5**	**+1.3**
	comp=N,4.0nm,0.9s							
TIRR	**Tirgusor**	**21.10**	**303**	*e*P		**P**	**01 38 07.5**	**+1.3**
TIRR				pmax		pmax		
	comp=Z,4.0nm,0.9s							
BRVK	**Borovoye**	**21.38**	**29**	*e*P		**P**	**01 38 08.9**	**-0.3**
	comp=Z,4.1nm,0.9s							
BRVK	**Borovoye**	**21.38**	**29**	*e*P		**P**	**01 38 08.9**	**-0.3**
BRVK				pmax		pmax		
	comp=Z,4.0nm,0.9s							
ARU	**Arti**	**21.38**	**8**	P		**P**	**01 38 06.3**	**-2.9**
	comp=Z,1.0nm,0.3s,baz=101,slow=23,SNR=1.1							
ARU	**Arti**	**21.38**	**8**	*e*P		**P**	**01 38 11.1**	**+1.9**
ARU	**Arti**	**21.38**	**8**	P		**P**	**01 38 11.6**	**+2.4**
BVAR	**Borovoye Array**	**21.40**	**29**	P		**P**	**01 38 10.8**	**+1.4**
	comp=Z,4.5nm,0.6s,baz=217,slow=10,SNR=36							
BVAR				LR		LR	01 47 38.0	
	comp=Z,37nm,18.9s,baz=166,slow=40							
MLR	**Muntele Rosu**	**23.07**	**304**	*e*P		**P**	**01 38 30.1**	**+2.7**
	comp=Z,3.5nm,0.9s							
MLR	**Muntele Rosu**	**23.07**	**304**	*e*P		**P**	**01 38 30.1**	**+2.7**
	comp=Z,3.5nm,0.9s							
MLR	**Muntele Rosu**	**23.07**	**304**	*e*P		**P**	**01 38 30.1**	**+2.7**
MLR				pmax		pmax		
	comp=Z,4.0nm,0.9s							
IDI	**Anoyia**	**23.17**	**278**	P		**P**	**01 38 28.4**	**0.0**
	comp=Z,3.9nm,0.5s,baz=68,slow=11,SNR=5.8							
AKASG	**Malin Array Be**	**23.21**	**319**	P		**P**	**01 38 26.8**	**-1.9**
	comp=Z,1.8nm,0.5s,baz=126,slow=8.8,SNR=7.9							
AKBB	**Malin Array Si**	**23.21**	**319**	*e*P		**P**	**01 38 28.8**	**+0.1**
	comp=Z,15nm,1.4s							
AKBB	**Malin Array Si**	**23.21**	**319**	*e*P		**P**	**01 38 28.8**	**+0.1**
AKBB				pmax		pmax		
	comp=Z,15nm,1.4s							
KIEV	**Kiev**	**23.22**	**319**	*e*P		**P**	**01 38 28.1**	**-0.6**
	comp=Z,16nm,1.5s							
KIEV	**Kiev**	**23.22**	**319**	*e*P		**P**	**01 38 28.1**	**-0.6**
	comp=Z,16nm,1.5s							
KIEV	**Kiev**	**23.22**	**319**	*e*P		**P**	**01 38 28.1**	**-0.6**
KIEV				pmax		pmax		
	comp=Z,16nm,1.5s							
KURBB	**Kurchatov Arra**	**23.78**	**42**	P		**P**	**01 38 34.7**	**+0.5**
	comp=Z,0.2nm,0.5s,baz=240,slow=45,SNR=2.4							
KURK	**Kurchatov**	**23.87**	**42**	P		**P**	**01 38 34.7**	**-0.5**
KURK	**Kurchatov**	**23.87**	**42**	P		**P**	**01 38 34.7**	**-0.5**
BUR04	**Bucovina Ar. S**	**24.22**	**309**	*e*P		**P**	**01 38 38.6**	**0.0**
BUR04	**Bucovina Ar. S**	**24.22**	**309**	*e*P		**P**	**01 38 38.6**	**0.0**
BUR08	**Bucovina Ar. S**	**24.24**	**309**	*e*P		**P**	**01 38 38.9**	**+0.1**
MK01	**Makanchi Array**	**24.51**	**53**	*e*P		**P**	**01 38 43.0**	**+1.8**
MK01	**Makanchi Array**	**24.51**	**53**	*e*P		**P**	**01 38 43.0**	**+1.8**
MK31	**Makanchi Array**	**24.51**	**53**	*e*P		**P**	**01 38 42.7**	**+1.5**
MK31	**Makanchi Array**	**24.51**	**53**	*e*P		**P**	**01 38 42.7**	**+1.5**
MK31	**Makanchi Array**	**24.51**	**53**	*e*P		**P**	**01 38 42.7**	**+1.5**
MKAR	**Makanchi Array**	**24.51**	**53**	P		**P**	**01 38 43.0**	**+1.8**
	comp=Z,0.7nm,0.4s,baz=248,slow=9.7,SNR=13							
MKAR	**Makanchi Array**	**24.51**	**53**	P		**P**	**01 38 43.0**	**+1.8**
	comp=Z,30nm,1.5s							
MKAR	**Makanchi Array**	**24.51**	**53**	P		**P**	**01 38 43.0**	**+1.8**
	comp=Z,30nm,1.5s							
MKAR	**Makanchi Array**	**24.51**	**53**	P		**P**	**01 38 43.0**	**+1.8**
MKAR				pmax		pmax		
	comp=Z,30nm,1.5s							
LIT	**Litokhoron**	**24.77**	**290**	*e*P		**P**	**01 38 46.5**	**+2.9**
	comp=Z,3.3nm,0.8s							
LIT	**Litokhoron**	**24.77**	**290**	*e*P		**P**	**01 38 46.5**	**+2.9**
	comp=Z,3.3nm,0.8s							
LIT	**Litokhoron**	**24.77**	**290**	*e*P		**P**	**01 38 46.5**	**+2.9**
LIT				pmax		pmax		
	comp=Z,3.0nm,0.8s							
WMQ	**Urumqi**	**27.65**	**62**	P		**P**	**01 39 13.0**	**+3.4**
WMQ				pP		sP	01 39 18.3	+4.4
WMQ				sP		pP	01 39 26.5	+14
WMQ				pmax		pmax		
	comp=Z,22nm,0.7s							
WMQ				pmax		pmax		
	comp=Z,170nm,3.9s							
ZALV	**Zalesovo Beam**	**28.77**	**40**	P		**P**	**01 39 20.7**	**+1.4**
	comp=Z,0.6nm,0.5s,baz=256,slow=5.8,SNR=2.8							
FINES	**FINESS Array B**	**31.31**	**335**	P		**P**	**01 39 41.8**	**0.0**
	comp=Z,0.6nm,0.7s,baz=131,slow=15,SNR=2.5							
GERES	**GERESS Array B**	**31.96**	**307**	P		**P**	**01 39 47.0**	**-0.8**
	comp=Z,0.6nm,0.5s,baz=96,slow=8.6,SNR=8.0							
CLL	**Collm**	**32.90**	**312**	*i* P		**P**	**01 39 56.2**	**+0.4**
	comp=Z,3.0nm,0.6s							
CLL	**Collm**	**32.90**	**312**	*i* P		**P**	**01 39 56.2**	**+0.4**
CLL				pmax		pmax		
	comp=Z,3.0nm,0.6s							
HFS	**Hagfors**	**35.53**	**327**	P		**P**	**01 40 18.8**	**+0.3**
	comp=Z,0.9nm,0.4s,baz=108,slow=9.3,SNR=8.8							
KEST	**Kesra**	**35.56**	**284**	P		**P**	**01 40 20.1**	**+0.9**
	comp=Z,2.9nm,0.8s,baz=323,slow=8.7,SNR=4.2							
NB2	**NORSAR Subarra**	**37.03**	**327**	P		**P**	**01 40 30.7**	**-0.7**
	comp=Z,0.7nm,0.6s,baz=120,slow=8.6							
NOA	**NORSAR Array B**	**37.03**	**327**	P		**P**	**01 40 30.6**	**-0.8**
	comp=Z,0.7nm,0.7s,baz=115,slow=7.9,SNR=3.6							
NOA				LR		LR	01 57 47.3	
	comp=Z,8.8nm,18.8s,baz=25,slow=40							
ARCES	**ARCESS Array B**	**37.49**	**344**	P		**P**	**01 40 36.2**	**+1.1**
	comp=Z,1.0nm,0.6s,baz=134,slow=8.6,SNR=6.7							
EKA	**Eskdalemuir Ar**	**43.06**	**316**	P		**P**	**01 41 21.0**	**-0.4**
	comp=Z,1.8nm,0.5s,baz=102,slow=8.2,SNR=12							
CMAR	**Chiang Mai Arr**	**43.62**	**100**	P		**P**	**01 41 27.3**	**+0.9**
	comp=Z,0.8nm,0.3s,baz=293,slow=9.0,SNR=4.8							
HHC	**Hu-ho-hao-te**	**45.44**	**65**	*e*P		**P**	**01 41 39.5**	**-1.4**
HHC				pmax		pmax		
	comp=Z,8.0nm,1.1s							
HHC				pmax		pmax		
	comp=Z,10.0nm,6.1s							
SPITS	**Spitsbergen Ar**	**45.71**	**350**	P		**P**	**01 41 43.0**	**+0.7**
	comp=Z,1.8nm,0.5s,baz=110,slow=7.8,SNR=11							
TOA0	**Torodi Ar. Sit**	**51.35**	**258**	*e*P		**P**	**01 42 28.3**	**+1.7**
TORD	**Torodi Ar. Bea**	**51.35**	**258**	P		**P**	**01 42 25.6**	**-1.1**
	comp=Z,1.6nm,0.9s,baz=51,slow=6.6,SNR=10							
JNU	**Nakatsue**	**62.55**	**67**	LR		LR	02 13 44.2	
	comp=Z,67nm,18.6s,baz=117,slow=39							
BILL	**Bilibino**	**65.56**	**22**	*i* P		**P**	**01 44 04.1**	**-0.9**
BILL				pmax		pmax		
	comp=Z,1.0nm,1.6s							
YKA	**Yellowknife Ar**	**82.01**	**354**	P		**P**	**01 45 41.5**	**0.0**
	comp=Z,0.3nm,0.7s,baz=7.9,slow=6.2,SNR=9.3							
WRA	**Warramunga Arr**	**94.31**	**111**	P		**P**	**01 46 40.9**	**-0.8**
	comp=Z,0.2nm,0.5s,baz=315,slow=3.8,SNR=3.6							

IDC 30 01:34:56.9±46.0, 16°.99S×177°.01W, h0km, mb4.2/3, mb1 4.4/3, mb1mx3.7/45, mbtmp4.2/3, Error ellipse: s-maj=861.2km s-min=156.3km az=78.0, Fiji Islands region

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

PB15				*i* S		**Sn**	**02 09 35.2 -0.2**
PB06	**IPOC Station P**	**2.41**	**294**	⇑*i* P		**Pn**	**02 09 08.1 +1.2**
PB06				*i* S		**Sn**	**02 09 39.6 -0.6**
PB06				IAML			02 09 41.2
	comp=E,834nm,0.4s						
FSA	**Cafayete**	**2.64**	**156**	*i* P		**Pn**	**02 09 09.7 +0.3**
GO02	**Mina Guanaco**	**2.64**	**236**	⇑*i* P		**Pn**	**02 09 10.9 +1.3**
GO02				*i* S		**Sn**	**02 09 45.7 +0.5**
GO02				IAML			02 09 46.5
	comp=N,1μm,0.4s						
PB09	**IPOC Station P**	**2.68**	**314**	⇑*i* P		**Pn**	**02 09 11.4 +1.5**
PB09				*i* S		**Sn**	**02 09 46.1 +0.3**
PB09				IAML			02 09 47.1
	comp=E,351nm,0.7s						
PB04	**IPOC Station P**	**3.05**	**296**	*e*Pn		**Pn**	**02 09 15.0 +0.7**
PB04				*e*Sn		**Sn**	**02 09 51.9 -1.6**
PB04	**IPOC Station P**	**3.05**	**296**	⇑*i* P		**Pn**	**02 09 15.0 +0.7**
PB04				*i* S		**Sn**	**02 09 51.9 -1.6**
PB04				IAML			02 09 54.6
	comp=N,630nm,0.5s						
PB14	**IPOC Station P**	**3.09**	**252**	*i* P		**Pn**	**02 09 15.1 +0.2**
PB14				*i* S		**Sn**	**02 09 53.8 -0.8**
PB14	**IPOC Station P**	**3.09**	**252**	⇑*i* P		**Pn**	**02 09 15.6 +0.7**
PB14				*i* S		**Sn**	**02 09 53.1 -1.5**
PB10	**IPOC Station P**	**3.10**	**273**	*e*Pn		**Pn**	**02 09 15.7 +1.0**
PB10				*e*Sn		**Sn**	**02 09 52.8 -1.5**
PB07	**IPOC Station P**	**3.17**	**307**	⇑*i* P		**Pn**	**02 09 16.4 +0.7**
PB07				IAML			02 09 58.0
	comp=N,512nm,0.3s						
PB01	**IPOC Station P**	**3.39**	**320**	*e*Pn		**Pn**	**02 09 19.0 +0.6**
PB01				*e*Sn		**Sn**	**02 10 00.2 -0.6**
AHML	**Horco Molle**	**3.50**	**152**	*i* P		**Pn**	**02 09 20.3 +0.8**
PB08	**IPOC Station P**	**3.98**	**332**	*e*P		**Pn**	**02 09 27.2 +1.3**
PB08				*e*S		**Sn**	**02 10 14.5 +0.2**
PB11	**IPOC Station P**	**4.54**	**329**	*e*Pn		**Pn**	**02 09 32.5 -0.2**
PB11				*e*Sn		**Sn**	**02 10 22.7 -4.0**
MNMC	**Minye Minye**	**5.07**	**333**	*e*Pn		**Pn**	**02 09 40.7 +1.2**
MNMC				*e*Sn		**Sn**	**02 10 36.7 -2.2**
VCA	**Vinchina**	**5.11**	**190**	*e*P		**Pn**	**02 09 40.3 +0.5**
VCA				*e*S		**Sn**	**02 10 37.5 -2.2**
LCO	**Las Campanas**	**6.17**	**210**	*e*Pn		**Pn**	**02 09 52.2 -1.5**
LCO				*e*S		Sn	02 10 52.4 -12
LPAZ	**La Paz**	**7.42**	**353**	P		**Pn**	**02 10 11.6 +1.2**
	comp=N,1.9nm,0.3s,baz=157,slow=8.4,SNR=47						
LPAZ				S		**Sn**	**02 11 31.6 -3.0**
	baz=4.4,slow=13,SNR=2.2						
LPAZ	**La Paz**	**7.42**	**353**	*e*Pn		**Pn**	**02 10 11.8 +1.4**
SIV	**San Ignacio**	**9.57**	**38**	P		**Pn**	**02 10 35.9 -2.0**
	comp=N,2.0nm,0.3s,baz=245,slow=13,SNR=24						
SIV				S		**Sn**	**02 12 19.8 -5.2**
	comp=N,0.1nm,0.3s,baz=345,slow=20,SNR=2.7						
ROC1	**El Roble**	**9.85**	**199**	*e*Pn		**Pn**	**02 10 41.4 -0.2**
ROC1				*e*Sn		**Sn**	**02 12 24.0 -7.6**
TRQA	**Tornquist**	**14.99**	**164**	*e*Pn		**Pn**	**02 11 45.3 -1.0**
SAML	**Samuel**	**15.15**	**15**	*e*Pn		**Pn**	**02 11 47.6 -0.8**
	comp=N,5.3nm,1.5s						
PLCA	**Paso Flores**	**17.23**	**189**	P		**Pn**	**02 12 14.2 +1.1**
	comp=N,0.1nm,0.3s,baz=16,slow=14,SNR=3.5						
PLCA	**Paso Flores**	**17.23**	**189**	*e*P		**P**	**02 12 11.8 +0.1**
	comp=N,13nm,1.4s						
PTGA	**Pitinga**	**23.87**	**18**	P		**P**	**02 13 20.4 +0.7**
	comp=N,1.0nm,0.3s,baz=225,slow=4.3,SNR=3.2						
KOWA	**Kowa**	**72.45**	**65**	P		**P**	**02 19 30.7 +1.2**
	comp=N,1.7nm,0.8s,baz=243,slow=4.0,SNR=3.8						
TORD	**Torodi Ar. Bea**	**76.61**	**69**	P		**P**	**02 19 54.8 +1.3**
	comp=N,1.6nm,0.5s,baz=256,slow=5.4,SNR=33						
YKA	**Yellowknife Ar**	**93.78**	**340**	P		**P**	**02 21 20.8 +2.6**
	comp=N,0.1nm,0.5s,baz=139,slow=5.2,SNR=3.4						
ZALV	**Zalesovo Beam**	**143.20**	**28**	PKP		**PKPdf**	**02 27 38.2 +3.8**
	comp=N,0.4nm,0.3s,baz=336,slow=3.2,SNR=2.2						
MKAR	**Makanchi Array**	**146.39**	**39**	PKPbc		**PKPab**	**02 27 44.2 +1.1**
	comp=N,1.0nm,0.6s,baz=308,slow=3.8,SNR=9.6						

*KRNET **30** 02:09:02.2±0.1, 42°.43N×78°.90E, h17km, mb3.5*
*SOME **30** 02:09:02.0, 42°.40N×78°.88E, h10km*
*NNC **30** 02:09:03.4±1.5, 42°.51N×78°.88E, h0km, mb3.4, mpv3.1, Error ellipse: s-maj=12.3km s-min=3.1km az=157.0*
*ISCJB **30** 02:09:04.2±0.5, 42°.46N±0°.03×78°.96E±0°.03, h10km, Error ellipse: s-maj=4.8km s-min=2.6km az=145.0*
ISC 30 02:09:02.1±0.9, 42°.39N±0°.03×78°.88E±0°.03, h10km, n68, σ1§19/122, 43C-24D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
PRZ	**Przheval'sk**	**0.37**	**285**	⇑*i* P		**Pg**	**02 09 09.5**	**0.0**
	baz=79							
PRZ				⇑*i* S		**Sg**	**02 09 14.5**	**+0.1**
	baz=79							
SATY	**Saty**	**0.76**	**332**	*e*P		**Pg**	**02 09 16.0**	**-0.8**
	14nm,0.1s							
SATY				*e*S		**Sg**	**02 09 25.6**	**-1.1**
	309nm,0.1s							
UZB	**Uzynbulak**	**0.77**	**8**	⇓*i* P		**Pg**	**02 09 15.9**	**-1.0**
	33nm,0.3s							
UZB				⇑*i* S		**Sg**	**02 09 25.9**	**-1.1**
	40nm,0.2s							
UZB	**Uzynbulak**	**0.77**	**8**	⇓*i* P		**Pg**	**02 09 15.9**	**-1.0**
	baz=7.0							
UZB				⇑*i* S		**Sg**	**02 09 25.9**	**-1.1**
	baz=7.0							
ZHN	**Zhinishke**	**0.85**	**337**	⇑*i* P		**Pg**	**02 09 17.5**	**-0.9**
	13nm,0.3s							
ZHN				⇓*i* S		**Sg**	**02 09 28.7**	**-0.8**
	214nm,0.2s							
ZHN	**Zhinishke**	**0.85**	**337**	⇑*i* P		**Pg**	**02 09 17.5**	**-0.9**
	baz=35							
ZHN				⇓*i* S		**Sg**	**02 09 28.7**	**-0.8**
	baz=35							
SHLS	**Shalkode**	**0.88**	**29**	⇑*i* P		**Pn**	**02 09 22.0**	**+1.3**
	30nm,0.4s							
SHLS				⇓*i* S		**Sn**	**02 09 36.4**	**+2.7**
	383nm,0.4s							
SHLS	**Shalkode**	**0.88**	**29**	⇑*i* P		**Pn**	**02 09 22.0**	**+1.3**
	baz=45							
SHLS				⇓*i* S		**Sn**	**02 09 36.3**	**+2.7**
	baz=45							
TARG	**Taragay, Kyrgy**	**1.04**	**231**	⇑*i* P		**Pb**	**02 09 22.1**	**-0.3**
	baz=30							
TARG				⇑*i* S		**Sn**	**02 09 37.2**	**-0.7**
	baz=30							
PDGK	**Podgornoye**	**1.04**	**25**	⇓P		**Pg**	**02 09 20.8**	**-1.3**
	5.4nm,0.2s							
PDGK				⇑S		**Sg**	**02 09 34.4**	**-1.3**
	42nm,0.6s							
PDGK	**Podgornoye**	**1.04**	**25**	⇑*i* P		**Pg**	**02 09 20.9**	**-1.3**
	baz=26							
PDGK				⇑*i* S		**Sg**	**02 09 34.7**	**-1.0**
	baz=26							
KPKS	**Kokpek**	**1.09**	**352**	⇓*e*P		**Pg**	**02 09 21.8**	**-1.3**
	62nm,0.4s							
KPKS				*e*S		**Sg**	**02 09 35.7**	**-1.4**
	76nm,0.5s							
KPKS	**Kokpek**	**1.09**	**352**	⇓*e*P		**Pg**	**02 09 21.8**	**-1.3**
	baz=51							
KPKS				⇓*e*S		**Sg**	**02 09 35.8**	**-1.4**
	baz=51							
KURS	**Kuram**	**1.22**	**335**	⇑*i* P		**Pn**	**02 09 24.6**	**-0.7**
	2.6nm,0.3s							
KURS				⇓*i* S		**Sn**	**02 09 40.8**	**-1.1**
	24nm,0.4s							
KURS	**Kuram**	**1.22**	**335**	⇑*i* P		**Pn**	**02 09 24.6**	**-0.7**
	baz=33							
KURS				⇓*i* S		**Sn**	**02 09 40.8**	**-1.1**
	baz=33							
KDJ	**Kajisay**	**1.29**	**259**	⇑*i* P		**Pg**	**02 09 26.6**	**-0.3**
	baz=57							
KDJ				⇑*i* S		**Sn**	**02 09 44.1**	**+0.3**
	baz=57							
KTMS	**Ketmen**	**1.51**	**45**	*e*P		**Pb**	**02 09 29.6**	**-0.7**
	21nm,0.2s							
KTMS				*e*S		**Sb**	**02 09 48.8**	**-0.8**
	49nm,0.2s							
KTMS	**Ketmen**	**1.51**	**45**	*e*P		**Pb**	**02 09 29.6**	**-0.7**
	baz=45							
KTMS				*e*S		**Sb**	**02 09 48.8**	**-0.8**
	baz=45							
KOTS	**Kotyrbulak**	**1.55**	**304**	*e*P		**Pg**	**02 09 31.2**	**-0.7**
	5.6nm,0.1s							
KOTS				*e*S		**Sg**	**02 09 52.0**	**-0.1**
	32nm,0.5s							
MDOK	**Medeo**	**1.56**	**300**	⇓P		**Pb**	**02 09 30.6**	**-0.5**
	9.2nm,0.4s							
MDOK				⇓S		**Sg**	**02 09 50.9**	**-1.3**
	24nm,0.5s							
MDOK	**Medeo**	**1.56**	**300**	*e*P		**Pb**	**02 09 30.7**	**-0.4**
	11nm,0.2s							
MDOK				*e*S		**Sb**	**02 09 50.7**	**-0.3**
	20nm,0.3s							
MDOK	**Medeo**	**1.56**	**300**	*e*P		**Pb**	**02 09 30.7**	**-0.4**
	baz=99							
MDOK				*e*S		**Sb**	**02 09 50.7**	**-0.3**
	baz=99							
TNSS	**Tian-Shan**	**1.57**	**295**	⇓*i* P		**Pb**	**02 09 31.2**	**-0.3**
	25nm,0.2s							
TNSS				*e*S		**Sg**	**02 09 51.7**	**-0.9**
	40nm,0.3s							
TNSS	**Tian-Shan**	**1.57**	**295**	⇓*i* P		**Pb**	**02 09 31.2**	**-0.3**
	baz=94							
TNSS				⇓*e*S		**Sg**	**02 09 51.7**	**-0.9**
	baz=94							
KNDC	**Almaty**	**1.64**	**301**	⇑P		**Pg**	**02 09 34.2**	**+0.7**
	10.0nm,0.3s							
KNDC				⇓S		**Sg**	**02 09 54.4**	**-0.3**
	39nm,0.4s							
AAA	**Alma-Ata**	**1.67**	**300**	*e*P		**Pg**	**02 09 33.2**	**-0.8**
	46nm,0.3s							
AAA				*e*S		**Sg**	**02 09 55.5**	**-0.1**
	88nm,0.3s							
AAA	**Alma-Ata**	**1.67**	**300**	*e*P		**Pg**	**02 09 33.2**	**-0.8**
	baz=99							
AAA				*e*S		**Sg**	**02 09 55.5**	**-0.1**
	baz=99							
IZV	**Izvestkoviy**	**1.79**	**292**	*e*P		**Pg**	**02 09 35.3**	**-1.2**
	56nm,0.1s							
IZV				*e*S		**Sg**	**02 09 59.1**	**-0.7**
	57nm,0.2s							
IZV	**Izvestkoviy**	**1.79**	**292**	*e*P		**Pg**	**02 09 35.3**	**-1.2**
	baz=91							
IZV				*e*S		**Sg**	**02 09 59.1**	**-0.7**
	baz=91							
MTBS	**Maitube**	**1.95**	**293**	*e*P		**Pg**	**02 09 38.3**	**-1.3**
	18nm,0.3s							
MTBS				*e*S		**Sg**	**02 10 03.8**	**-1.1**
	35nm,0.4s							
MTBS	**Maitube**	**1.95**	**293**	*e*P		**Pg**	**02 09 38.3**	**-1.3**
	baz=92							
MTBS				*e*S		**Sg**	**02 10 03.8**	**-1.1**
	baz=92							
ULHL	**Ulahol**	**1.96**	**267**	P		**Pb**	**02 09 38.2**	**+0.2**
	SNR=93							
ULHL	**Ulahol**	**1.96**	**267**	⇑*i* P		**Pb**	**02 09 38.3**	**+0.2**
	baz=66							
ULHL				⇑*i* S		**Sg**	**02 10 04.4**	**-0.9**
	baz=66							
ARXS	**Arharly**	**1.98**	**337**	*e*P		**Pb**	**02 09 38.1**	**-0.2**
	13nm,0.2s							
ARXS				*e*S		**Sg**	**02 10 03.6**	**-2.1**
	119nm,0.5s							
CHKK	**Chushkaly**	**2.02**	**317**	*e*P		**Pb**	**02 09 39.0**	**+0.2**
	9.5nm,0.2s							
CHKK				*e*S		**Sg**	**02 10 05.4**	**-1.5**
	175nm,0.3s							
CHKK	**Chushkaly**	**2.02**	**317**	*e*P		**Pb**	**02 09 39.1**	**+0.2**
	baz=16							
CHKK				*e*S		**Sg**	**02 10 05.5**	**-1.5**
	baz=16							
DJR	**Jarkent**	**2.05**	**18**	*e*P		**Pb**	**02 09 38.8**	**-0.7**
	36nm,0.2s							
DJR				*e*S		**Sb**	**02 10 04.5**	**-0.7**
	63nm,0.3s							
KTBS	**Karatobe**	**2.09**	**310**	*e*P		**Pb**	**02 09 40.2**	**+0.1**
	12nm,0.2s							
KTBS				*e*S		**Sg**	**02 10 07.1**	**-2.0**
	136nm,0.4s							
KST	**Kastek**	**2.25**	**288**	*e*P		**Pb**	**02 09 42.7**	**-0.2**
	94nm,0.2s							
KST				*e*S		**Sb**	**02 10 11.2**	**+0.4**
	26nm,0.3s							
KST	**Kastek**	**2.25**	**288**	*e*P		**Pb**	**02 09 42.7**	**-0.2**
	baz=87							
KST				*e*S		**Sb**	**02 10 11.2**	**+0.4**
	baz=87							
NRN	**Naryn**	**2.35**	**247**	⇑*i* P		**Pg**	**02 09 45.8**	**-1.4**
	baz=46							
NRN				⇑*i* S		**Sb**	**02 10 13.0**	**-1.0**
	baz=46							
KUU	**Kurty**	**2.39**	**310**	*e*P		**Pb**	**02 09 45.4**	**+0.1**
	8.6nm,0.2s							
KUU				*e*S		**Sb**	**02 10 15.8**	**+1.0**
	62nm,0.3s							
KUU	**Kurty**	**2.39**	**310**	*e*P		**Pb**	**02 09 45.4**	**+0.1**
	baz=9.0							
KUU				*e*S		**Sb**	**02 10 15.9**	**+1.0**
	baz=9.0							
DGS	**Degeres**	**2.44**	**291**	*e*P		**Pb**	**02 09 46.9**	**+0.7**
	28nm,0.3s							
DGS				*e*S		**Sg**	**02 10 18.5**	**-2.0**
	78nm,0.7s							
DGS	**Degeres**	**2.44**	**291**	*e*P		**Pb**	**02 09 46.9**	**+0.7**
	baz=91							
DGS				*e*S		**Sg**	**02 10 18.6**	**-2.0**
	baz=91							
BMNS	**Besmoynak**	**2.47**	**288**	⇑*i* P		**Pb**	**02 09 46.6**	**-0.1**
	75nm,0.2s							
BMNS				*e*S		**Sb**	**02 10 18.2**	**+0.9**
	93nm,0.3s							
BMNS	**Besmoynak**	**2.47**	**288**	⇑*i* P		**Pb**	**02 09 46.6**	**-0.1**
	baz=87							
BMNS				⇑*e*S		**Sb**	**02 10 18.2**	**+0.9**
	baz=87							
TKM2	**Tokmak 2**	**2.48**	**283**	⇑Pg		**Pb**	**02 09 46.9**	**0.0**
	20nm,0.5s							
TKM2				⇑Lg		Lg	02 10 20.0	
	22nm,0.5s							
TKM2	**Tokmak 2**	**2.48**	**283**	P		**Pb**	**02 09 47.1**	**+0.2**
	SNR=24							
TKM2	**Tokmak 2**	**2.48**	**283**	⇑*e*P		**Pb**	**02 09 47.0**	**0.0**
	baz=83							
TKM2				⇑*i* S		**Sb**	**02 10 18.4**	**+0.8**
	baz=83							
TDK	**Taldyqorghan**	**2.64**	**353**	*e*P		**Pb**	**02 09 49.6**	**+0.2**
	37nm,0.3s							
TDK				*e*S		**Sb**	**02 10 23.2**	**+1.3**
	69nm,0.3s							
KZA	**Kyzart**	**2.72**	**265**	P		**Pb**	**02 09 50.7**	**-0.3**
	SNR=20							
KZA	**Kyzart**	**2.72**	**265**	⇑*i* P		**Pb**	**02 09 50.2**	**-0.8**
	baz=64							
KZA				⇑*i* S		**Sb**	**02 10 25.3**	**+0.8**
	baz=64							
KAPS	**Kapalarasan**	**2.92**	**7**	*e*P		**Pb**	**02 09 53.6**	**-0.6**
	14nm,0.4s							
KAPS				*e*S		**Sb**	**02 10 30.1**	**+0.1**
	21nm,0.3s							
KBK	**Karagaybulak**	**2.92**	**277**	P		**Pb**	**02 09 53.4**	**-1.0**
	SNR=23							
KBK	**Karagaybulak**	**2.92**	**277**	⇑*i* P		**Pb**	**02 09 52.4**	**-2.0**
	baz=76							
KBK				⇑*i* S		**Sb**	**02 10 30.8**	**+0.6**
	baz=76							
CHMS	**Chumysh**	**3.11**	**283**	⇑*i* P		**Pb**	**02 09 56.9**	**-0.6**
	baz=82							
CHMS				⇑*i* S		**Sb**	**02 10 35.8**	**+0.4**
	baz=82							
UCH	**Uchtor**	**3.25**	**269**	P		**Pb**	**02 09 58.7**	**-1.3**
	SNR=7.5							
UCH	**Uchtor**	**3.25**	**269**	⇑*i* P		**Pb**	**02 09 58.1**	**-2.0**
	baz=68							
UCH				⇑*i* S		**Sb**	**02 10 39.5**	**-0.3**
	baz=68							
AAK	**Ala-Archa**	**3.25**	**276**	⇑Pg		**Pb**	**02 10 01.6**	**+1.6**
	2.6nm,0.3s							
AAK				⇑Lg		Lg	02 10 46.3	
	7.2nm,0.5s							
AAK	**Ala-Archa**	**3.25**	**276**	P		**Pb**	**02 09 59.0**	**-1.0**
	SNR=8.8							
AAK	**Ala-Archa**	**3.25**	**276**	⇓*i* P		**Pb**	**02 09 57.5**	**-2.6**
	baz=75							
AAK				⇓*i* S		**Sb**	**02 10 40.6**	**+0.8**
	baz=75							
USP	**Ospenovka**	**3.34**	**287**	P		**Sb**	**02 10 46.8**	**+4.6**
	SNR=5.4							
AML	**Almayashu**	**3.86**	**268**	P		**Pb**	**02 10 10.3**	**-0.2**
	SNR=5.1							
MNAS	**Manas**	**4.72**	**273**	⇓Pg		**Pb**	**02 10 27.4**	**+2.4**
	2.6nm,0.7s							
MNAS				⇑Lg		Lg	02 11 34.1	
	3.3nm,0.8s							
MAKZ	**Makanchi**	**4.94**	**25**	⇑Pn		**Pn**	**02 10 19.3**	**+2.9**
	3.8nm,1.2s							
MAKZ				⇑Lg		Lg	02 11 34.5	
	2.0nm,0.7s							
MK31	**Makanchi Array**	**5.03**	**28**	⇓Pn		**Pn**	**02 10 20.1**	**+2.5**
	0.2nm,0.3s,baz=243,slow=16,SNR=15							
MK31				⇑Sn		**Sn**	**02 11 18.4**	**+2.5**
	1.0nm,0.4s							
MK31				Lg		Lg	02 11 38.6	
	2.1nm,0.7s,baz=206,slow=28,SNR=6.8							
KK31	**Karatay Array**	**6.21**	**279**	⇓Pg		Pg	02 10 55.9	-5.0
	0.7nm,0.5s,baz=92,slow=15,SNR=13							
KK31				⇓Lg		Lg	02 12 17.1	
	1.2nm,0.5s,baz=99,slow=26,SNR=5.1							

*IDC **30** 02:26:42.9±0.8, 17°.44N×145°.12E, h0km, mb3.9/17, mb1 4.1/18, mb1mx3.9/68, mbtmp3.9/18, ML3.8/1, MS3.1/6, Ms1 3.2/6, ms1mx2.7/58, Error ellipse: s-maj=23.9km s-min=18.8km az=92.0*
*ISCJB **30** 02:26:45.0±0.7, 17°.43N±0°.10×145°.1E±0°.1, h25km, mb3.9/19, MS3.0/6, Error ellipse: s-maj=19.7km s-min=13.8km az=175.3*
*NEIC **30** 02:26:44.5±0.5, 17°.43N×145°.11E, h10km, mb4.3/3, Error ellipse: s-maj=16.2km s-min=10.9km az=88.0*
ISC 30 02:26:46.9±0.9, 17°.5N±0°.1×145°.1E±0°.2, h25km, n34, σ0§86/24, mb4.0/19, MS3.1/6, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
MJAR	**Matsushiro Arr**	**19.96**	**344**	P		**P**	**02 31 15.2**	**-2.0**
	0.3nm,0.3s,baz=165,slow=9.6,SNR=10							
MAJO	**Matsshiro**	**19.96**	**344**	*e*P		**Pn**	**02 31 18.1**	**-1.0**
	9.3nm,1.0s							
H11S3	**WAKE ISLAND Hy**	**20.56**	**84**	T		T	02 52 57.4	
	baz=270,slow=75,SNR=74							
H11S1	**WAKE ISLAND Hy**	**20.57**	**84**	T		T	02 53 15.4	
	baz=270,slow=75,SNR=43							
H11S2	**WAKE ISLAND Hy**	**20.58**	**84**	T		T	02 53 08.4	
	baz=270,slow=75,SNR=68							
H11N1	**WAKE ISLAND Hy**	**20.77**	**80**	T		T	02 53 15.7	
	baz=267,slow=74,SNR=303							
H11N2	**WAKE ISLAND Hy**	**20.78**	**80**	T		T	02 53 14.5	
	baz=267,slow=74,SNR=156							
H11N3	**WAKE ISLAND Hy**	**20.79**	**80**	T		T	02 53 17.2	
	baz=267,slow=74,SNR=202							
DAV	**Davao City (W)**	**21.67**	**244**	LR		LR	02 38 03.1	
	comp=Z,54nm,20.9s,baz=102,slow=31							
KSRS	**Korea Array**	**25.00**	**326**	P		**P**	**02 32 09.4**	**+0.7**
	1.1nm,0.6s,baz=155,slow=8.8,SNR=4.2							
KSRS				LR		LR	02 41 28.2	
	comp=Z,10nm,18.4s,baz=215,slow=35							
KSAR	**Wonju Array Be**	**25.01**	**326**	P		**P**	**02 32 09.4**	**+0.6**
HNR	**Honiara**	**30.49**	**150**	LR		LR	02 43 56.6	
	comp=Z,82nm,18.4s,baz=288,slow=34							
WRA	**Warramunga Arr**	**38.65**	**196**	P		**P**	**02 34 07.8**	**-0.8**
	1.1nm,0.9s,baz=12,slow=9.4,SNR=4.1							
ASAR	**Alice Springs**	**42.32**	**195**	P		**P**	**02 34 38.3**	**-0.6**
	0.5nm,0.9s,baz=12,slow=10,SNR=4.4							
SONM	**Songino Array**	**43.76**	**322**	P		**P**	**02 34 51.5**	**+1.0**
	0.6nm,0.7s,baz=139,slow=6.8,SNR=3.4							
CMAR	**Chiang Mai Arr**	**43.83**	**279**	P		**P**	**02 34 51.2**	**-0.1**
	1.3nm,0.3s,baz=69,slow=7.3,SNR=10							
CMAR				LR		LR	02 54 10.0	
	comp=Z,15nm,18.4s,baz=295,slow=38							
STKA	**Stephens Creek**	**49.18**	**184**	LR		LR	02 55 58.7	
	comp=Z,41nm,19.7s,baz=32,slow=36							
ZALV	**Zalesovo Beam**	**58.65**	**323**	P		**P**	**02 36 41.8**	**-0.1**
	0.4nm,0.3s,baz=111,slow=8.2,SNR=3.2							
MKAR	**Makanchi Array**	**58.91**	**314**	P		**P**	**02 36 44.7**	**+0.8**
	0.4nm,0.7s,baz=90,slow=9.7,SNR=4.4							
KURK	**Kurchatov**	**61.81**	**319**	P		**P**	**02 37 03.9**	**+0.3**
KURBB	**Kurchatov Arra**	**61.85**	**318**	P		**P**	**02 37 04.4**	**+0.5**
	2.2nm,0.6s,baz=99,slow=7.1,SNR=21							
ILAR	**Eielson Array**	**65.00**	**26**	P		**P**	**02 37 24.2**	**-0.2**
	0.7nm,0.8s,baz=254,slow=4.3,SNR=6.6							
BVAR	**Borovoye Array**	**67.06**	**321**	P		**P**	**02 37 38.8**	**+0.8**
	2.2nm,0.6s,baz=94,slow=7.7,SNR=13							
KKAR	**Karatay Array**	**67.12**	**310**	*e*P		**P**	**02 37 39.2**	**+0.7**
	2.8nm,1.0s							
INK	**Inuvik**	**70.72**	**23**	P		**P**	**02 38 00.7**	**+0.3**
	1.2nm,0.9s,baz=281,slow=6.0,SNR=4.8							
ABKAR	**Akbulak array**	**73.85**	**317**	*e*P		**P**	**02 38 19.3**	**-0.2**
	2.7nm,0.8s							
AKTO	**Aktyubinsk**	**74.91**	**319**	P		**P**	**02 38 25.1**	**-0.6**
	0.8nm,0.6s,baz=59,slow=12,SNR=3.6							
YKA	**Yellowknife Ar**	**79.34**	**28**	P		**P**	**02 38 50.5**	**+0.3**
	0.3nm,0.7s,baz=291,slow=5.4,SNR=4.4							
NVAR	**Mina Array Bea**	**84.34**	**52**	P		**P**	**02 39 18.2**	**+0.8**
	1.0nm,0.8s,baz=263,slow=6.7,SNR=8.8							
KBZ	**Khabaz**	**86.61**	**315**	P		**P**	**02 39 28.6**	**+0.3**
	1.3nm,0.9s,baz=76,slow=3.5,SNR=4.8							
FINES	**FINESS Array B**	**87.76**	**335**	P		**P**	**02 39 32.3**	**-1.2**
	1.0nm,0.6s,baz=45,slow=3.2,SNR=5.9							
NOA	**NORSAR Array B**	**93.52**	**339**	LR		LR	03 23 37.4	
	comp=Z,9.3nm,18.4s,baz=340,slow=36							
BRTR	**Keskin Array B**	**94.56**	**314**	P		**P**	**02 40 04.5**	**-1.3**
	0.6nm,0.9s,baz=51,slow=4.0,SNR=5.2							
TORD	**Torodi Ar. Bea**	**132.77**	**308**	PKP		**PKPdf**	**02 46 02.0**	**+1.3**
	0.3nm,0.7s,baz=5.2,slow=1.6,SNR=2.5							

*ISCJB **30** 02:32:38.7±0.7, 19°.19S±0°.06×69

n29,σ1§18/29,mb3.6/11,4C-3D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHO	**Hitachi**	**0.01**	**181**	⇓P	**Pg**	**02 40 53.5**	**+0.8**
JYT	**Yasato**	**0.50**	**217**	⇑P	**Pn**	**02 41 02.0**	**-1.1**
JYT				S	**Sn**	**02 41 09.5**	**-2.0**
ONAJ	**Iwakimizuishiy**	**0.51**	**21**	⇑P	**Pg**	**02 40 59.9**	**-0.5**
ONAJ				S	**Sg**	**02 41 05.9**	**-1.3**
JSB	**Shiboa**	**0.62**	**303**	⇑P	**Pb**	**02 41 03.4**	**+0.4**
JSB				S	**Sg**	**02 41 11.6**	**+0.8**
JFK	**Kawauchi**	**0.78**	**18**	⇓P	**Pg**	**02 41 04.4**	**-1.0**
JFK				S	**Sg**	**02 41 13.9**	**-1.8**
JFT	**Otama**	**0.91**	**348**	⇓P	**Pb**	**02 41 07.3**	**-0.6**
JFT				S	**Sb**	**02 41 18.6**	**-1.3**
JAG	**Ashikaga**	**0.92**	**258**	⇑P	**Pn**	**02 41 08.3**	**-0.6**
JFY	**Yanaizu**	**1.04**	**319**	P	**Pb**	**02 41 10.0**	**-0.2**
JFY				S	**Sb**	**02 41 23.3**	**-0.4**
MJAR	**Matsushiro Arr**	**1.90**	**268**	Pg	**Pb**	**02 41 23.7**	**-1.1**
	24nm,0.3s,baz=85,slow=9.4,SNR=193						
MJAR				Lg	Lg	02 41 48.7	
	40nm,0.3s,baz=27,slow=3.7,SNR=14						
MAT	**Matsushiro**	**1.90**	**268**	P	**Pb**	**02 41 24.4**	**-0.4**
MAT				S	**Sg**	**02 41 50.3**	**-1.2**
JHJ	**Hachijo jima 2**	**3.56**	**191**	LR	LR	02 42 56.4	
	comp=Z,62nm,19.9s,baz=306,slow=38						
ASAJ	**Asahikawa**	**7.64**	**11**	Pn	**Pn**	**02 42 41.5**	**+0.3**
	0.7nm,0.3s,baz=196,slow=15,SNR=4.0						
SONM	**Songino Array**	**27.46**	**305**	P	**P**	**02 46 38.6**	**+2.6**
	0.4nm,0.5s,baz=98,slow=6.9,SNR=2.6						
H11N2	**WAKE ISLAND Hy 28.53**	**119**		T	T	03 16 34.4	
	baz=312,slow=75,SNR=120						
H11N1	**WAKE ISLAND Hy 28.54**	**119**		T	T	03 16 35.1	
	baz=312,slow=75,SNR=141						
H11N3	**WAKE ISLAND Hy 28.55**	**119**		T	T	03 16 35.7	
	baz=312,slow=75,SNR=127						
H11S1	**WAKE ISLAND Hy 29.22**	**121**		T	T	03 17 22.9	
	baz=314,slow=76,SNR=262						
H11S3	**WAKE ISLAND Hy 29.22**	**121**		T	T	03 17 22.9	
	baz=314,slow=76,SNR=133						
H11S2	**WAKE ISLAND Hy 29.23**	**121**		T	T	03 17 25.7	
	baz=314,slow=76,SNR=125						
ZALV	**Zalesovo Beam**	**41.69**	**313**	P	**P**	**02 48 39.2**	**+0.8**
	0.6nm,0.5s,baz=99,slow=9.3,SNR=2.7						
KURBB	**Kurchatov Arra**	**45.72**	**308**	P	**P**	**02 49 10.7**	**-0.1**
	0.8nm,0.5s,baz=83,slow=7.8,SNR=7.8						
ILAR	**Eielson Array**	**50.20**	**32**	P	**P**	**02 49 46.4**	**+1.1**
	0.3nm,0.8s,baz=272,slow=5.6,SNR=4.2						
INK	**Inuvik**	**55.06**	**27**	P	**P**	**02 50 22.3**	**+1.2**
	0.4nm,0.5s,baz=314,slow=6.0,SNR=4.7						
WRA	**Warramunga Arr**	**56.57**	**187**	P	**P**	**02 50 32.7**	**+0.1**
	0.6nm,0.7s,baz=4.5,slow=7.6,SNR=7.0						
ASAR	**Alice Springs**	**60.30**	**187**	P	**P**	**02 50 56.3**	**-2.3**
	0.1nm,0.3s,baz=8.5,slow=6.9,SNR=2.9						
RES	**Resolute Bay**	**63.16**	**14**	P	**P**	**02 51 17.7**	**+0.4**
	0.5nm,0.7s,baz=331,slow=14,SNR=3.6						
YKA	**Yellowknife Ar**	**64.50**	**30**	P	**P**	**02 51 26.7**	**+0.5**
	0.2nm,0.7s,baz=299,slow=6.2,SNR=5.8						
NVAR	**Mina Array Bea**	**75.77**	**53**	P	**P**	**02 52 36.7**	**+0.6**
	0.4nm,0.7s,baz=293,slow=4.7,SNR=2.8						
PDAR	**Pinedale Array**	**78.43**	**45**	P	**P**	**02 52 51.8**	**+0.8**
	0.3nm,0.5s,baz=316,slow=4.1,SNR=3.6						

*ISCJB **30** 02:48:59.7±0.5, 19°.79S±0°.03×69°.37W±0°.07, h94km±5km, mb3.4/3, Error ellipse: s-maj=11.4km s-min=4.9km az=175.1*
*GUC **30** 02:49:01.1±0.6, 19°.88S×69°.49W, h100km±2km, ML4.0*
*IDC **30** 02:49:03.1±5.2, 19°.95S×69°.13W, h114km±35km, mb3.2/3, mb1 3.4/6, mb1mx3.2/38, mbtmp3.6/6, Error ellipse: s-maj=61.4km s-min=30.6km az=54.0*

ISC 30 02:49:00.5±0.8, 19°.82S±0°.04×69°.42W±0°.08, h82km±7km, n19,σ1§63/31,mb3.4/3,7C-2D,Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB11	**IPOC Station P**	**0.23**	**285**	⇓*i*P	**Pn**	**02 49 13.5**	**+0.7**
PB11				*i* S	**Sn**	**02 49 22.9**	**+1.0**
PB08	**IPOC Station P**	**0.41**	**142**	⇓*i*P	**Pn**	**02 49 15.2**	**+1.0**
PB08				*i* S	**Sn**	**02 49 25.6**	**+1.4**
PSGC	**Pisagua**	**0.70**	**288**	⇑*i*P	**Pn**	**02 49 16.6**	**+0.2**
PSGC				*i* S	**Sn**	**02 49 28.3**	**+0.1**
MNMC	**Minye Minye**	**0.70**	**347**	*i*P	**Pn**	**02 49 17.8**	**+1.1**
MNMC				*i* S	**Sn**	**02 49 30.7**	**+2.0**
MNMC				IAML		02 49 32.2	
	comp=N,10μm,0.2s						
PB01	**IPOC Station P**	**1.22**	**183**	⇑*i*P	**Pn**	**02 49 23.0**	**+0.6**
PB01				*e*S	**Sn**	**02 49 39.0**	**+0.1**
PB01				IAML		02 49 41.4	
	comp=N,4μm,0.4s						
PB12	**IPOC Station P**	**1.47**	**324**	⇑*i*P	**Pn**	**02 49 25.7**	**+0.1**
PB12				*i* S	**Sn**	**02 49 45.6**	**+1.0**
PB12				IAML		02 49 48.4	
	comp=E,2μm,0.4s						
PB02	**IPOC Station P**	**1.56**	**196**	⇑*i*P	**Pn**	**02 49 27.0**	**+0.2**
PB02				*e*S	**Sn**	**02 49 46.7**	**+0.1**
PB07	**IPOC Station P**	**1.95**	**193**	⇑*i*P	**Pn**	**02 49 32.3**	**+0.4**
PB07				*i* S	**Sn**	**02 49 56.3**	**+0.5**
PB07				IAML		02 50 01.9	
	comp=E,2μm,0.6s						
PB09	**IPOC Station P**	**1.97**	**175**	⇑*i*P	**Pn**	**02 49 32.6**	**+0.3**
PB09				*i* S	**Sn**	**02 49 59.3**	**+2.8**
PB04	**IPOC Station P**	**2.59**	**195**	*e*P	**Pn**	**02 49 41.6**	**+1.1**
PB04				*i* S	**Sn**	**02 50 15.2**	**+4.0**
PB04				IAML		02 50 22.2	
	comp=E,564nm,0.7s						
PB06	**IPOC Station P**	**2.88**	**183**	*e*P	**Pn**	**02 49 45.2**	**+0.9**
PB06				*i* S	**Sn**	**02 50 19.1**	**+1.0**
PB06				IAML		02 50 24.6	
	comp=E,538nm,0.6s						
PB15	**IPOC Station P**	**3.37**	**181**	*e*P	**Pn**	**02 49 52.5**	**+1.4**
PB15				*e*S	**Sn**	**02 50 31.2**	**+1.0**
LPAZ	**La Paz**	**3.72**	**19**	P	**Pn**	**02 50 00.4**	**+4.2**
	comp=E,1.2nm,0.3s,baz=215,slow=6.0,SNR=28						
PB10	**IPOC Station P**	**3.82**	**196**	*e*P	**Pn**	**02 49 58.5**	**+1.4**
PB10				*i* S	Sn	02 50 52.0	+11
SIV	**San Ignacio**	**8.81**	**66**	P	**Pn**	**02 51 03.7**	**-1.5**
	comp=E,0.6nm,0.3s,baz=262,slow=7.2,SNR=11						
CPUP	**Villa Florida**	**12.88**	**122**	P	**Pn**	**02 51 58.5**	**-1.8**
	comp=E,0.2nm,0.3s,baz=297,slow=12,SNR=5.4						
PTGA	**Pitinga**	**21.11**	**27**	P	**P**	**02 53 39.1**	**+0.5**
	comp=E,0.8nm,0.4s,baz=193,slow=16,SNR=3.3						
TORD	**Torodi Ar. Bea**	**77.25**	**71**	P	**P**	**03 00 44.2**	**-2.1**
	comp=E,0.2nm,0.6s,baz=258,slow=4.8,SNR=4.8						
YKA	**Yellowknife Ar**	**89.45**	**341**	P	**P**	**03 01 47.4**	**-0.4**
	comp=E,0.4nm,0.7s,baz=134,slow=4.5,SNR=15						

*ISCJB **30** 03:03:41.1±0.8, 11°.3S±0°.1×70°.9W±0°.1, h550km, mb2.8/3, Error ellipse: s-maj=21.8km s-min=11.1km az=144.9*
*IDC **30** 03:03:41.5±1.2, 11°.33S×70°.82W, h548km±18km, mb2.5/3, mb1 2.9/8, mb1mx2.7/44, mbtmp3.7/8, Error ellipse: s-maj=35.0km s-min=16.7km az=41.0*

ISC 30 03:03:41.5±0.8, 11°.3S±0°.1×70°.8W±0°.1, h550km, n9, σ0§98/10,mb2.8/3,Peru-Brazil border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**5.59**	**152**	P	**P**	**03 05 18.5**	**+1.4**
	0.9nm,0.3s,baz=295,slow=4.6,SNR=29						
LPAZ				S	**S**	**03 06 33.4**	**-1.8**
	0.1nm,0.3s,baz=118,slow=15,SNR=9.5						
ATAH	**Atahualpa**	**8.54**	**298**	P	**P**	**03 05 44.8**	**-0.4**
	1.5nm,0.3s,baz=73,slow=7.3,SNR=5.6						
SIV	**San Ignacio**	**10.56**	**117**	P	**P**	**03 06 06.2**	**+0.9**
	2.1nm,0.3s,baz=300,slow=9.4,SNR=45						
PTGA	**Pitinga**	**15.07**	**46**	P	**P**	**03 06 51.4**	**-0.4**
	0.2nm,0.3s,baz=180,slow=20,SNR=2.8						
CPUP	**Villa Florida**	**19.63**	**141**	P	**P**	**03 07 34.1**	**-0.1**
	0.1nm,0.3s,baz=332,slow=17,SNR=2.7						
NVAR	**Mina Array Bea**	**66.42**	**321**	P	**P**	**03 13 37.4**	**+0.6**
	0.2nm,0.7s,baz=130,slow=4.8,SNR=3.0						
TORD	**Torodi Ar. Bea**	**75.95**	**73**	P	**P**	**03 14 32.7**	**-0.1**
	0.3nm,0.5s,baz=240,slow=4.0,SNR=10						
YKA	**Yellowknife Ar**	**81.02**	**341**	P	**P**	**03 14 58.5**	**-0.3**
	0.2nm,0.7s,baz=130,slow=5.2,SNR=7.4						
WRA	**Warramunga Arr**	**140.26**	**219**	PKP	**PKPdf**	**03 22 08.8**	**-0.1**
	0.2nm,0.4s,baz=131,slow=2.0,SNR=9.9						

IDC 30 03:12:20.4±2.3, 17°.07S×63°.48W, h0km, mb3.2/3, mb1 3.4/5, mb1mx3.3/41, mbtmp3.1/5, ML2.7/2, MS3.5/1, Ms1 3.5/1, ms1mx2.8/7, Error ellipse: s-maj=72.0km s-min=14.0km az=173.0, Central Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIV	**San Ignacio**	**2.54**	**65**	Pn	Pn	03 13 04.8	+1.8
	4.4nm,0.3s,baz=269,slow=11,SNR=71						
SIV				Lg	Lg	03 13 41.0	
	13nm,0.3s,baz=349,slow=23,SNR=15						
LPAZ	**La Paz**	**4.53**	**279**	Pn	Pn	03 13 32.4	+1.6
	0.1nm,0.3s,baz=105,slow=7.3,SNR=5.1						
LPAZ				Sn	Sn	03 14 25.5	+1.1
	1.0nm,0.3s,baz=240,slow=14,SNR=2.6						
LPAZ				Lg	Lg	03 14 45.4	
	3.0nm,0.3s,baz=227,slow=17,SNR=6.3						
SDV	**Santo Domingo**	**26.74**	**344**	LR	LR	03 28 08.5	
	comp=Z,95nm,18.4s,baz=38,slow=36						
TORD	**Torodi Ar. Bea**	**71.02**	**69**	P	P	03 23 40.5	-0.1
	0.1nm,0.5s,baz=254,slow=6.0,SNR=3.6						
NVAR	**Mina Array Bea**	**75.39**	**318**	P	P	03 24 05.7	-0.7
	0.1nm,0.4s,baz=134,slow=7.7,SNR=2.3						
YKA	**Yellowknife Ar**	**88.84**	**339**	P	P	03 25 15.9	-0.1
	0.1nm,0.5s,baz=118,slow=4.6,SNR=3.2						

MEX 30 03:15:58.2±0.6, 14°.48N×92°.62W, h37km±148km, MD3.6, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.35**	**335**	*i* P	Pn	03 16 19.2	-1.3
PCIG				*i* S	Sn	03 16 34.7	-2.4
CCIG	**Comitan**	**1.85**	**14**	*e*P	Pn	03 16 25.2	-2.3
TGIG		**2.34**	**348**	*e*P	Pn	03 16 35.3	+1.2

IDC 30 04:00:07.5±1.8, 3°.37S×151°.41E, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.4/45, mbtmp3.5/3, Error ellipse: s-maj=126.4km s-min=25.7km az=124.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.34**	**215**	Sn	Sn	04 03 21.5	+1.4
	2.0nm,0.3s,baz=348,slow=20,SNR=2.7						
WRA	**Warramunga Arr**	**23.43**	**224**	P	P	04 05 18.6	0.0
	1.0nm,0.3s,baz=50,slow=10,SNR=44						
ASAR	**Alice Springs**	**26.34**	**218**	P	P	04 05 45.8	+0.4
	0.1nm,0.4s,baz=56,slow=8.9,SNR=3.7						
ILAR	**Eielson Array**	**81.37**	**22**	P	P	04 12 24.8	-1.0
	0.3nm,0.6s,baz=230,slow=5.4,SNR=4.0						
TORD	**Torodi Ar. Bea**	**148.54**	**290**	PKPbc	PKPbc	04 19 57.6	+0.1
	0.4nm,0.9s,baz=70,slow=1.5,SNR=2.8						

*SOME **30** 04:10:45.4, 44°.68N×82°.33E, h25km*
*NNC **30** 04:10:50.1±1.5, 44°.80N×81°.81E, h0km, mb3.2, mpv2.8, Error ellipse: s-maj=30.3km s-min=6.4km az=116.0*

ISC 30 04:10:45.5±2.2, 44°.72N±0°.08×82°.15E±0°.09, h3km±19km, n11,σ1§18/19,3C-3D,Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DJR	**Jarkent**	**1.73**	**258**	*e*P	**Pb**	**04 11 18.8**	**+0.8**
	10nm,0.1s						
DJR				*e*S	**Sg**	**04 11 43.0**	**+1.7**
	9.5nm,0.4s						
KTMS	**Ketmen**	**1.82**	**226**	*e*P	**Pb**	**04 11 19.6**	**+0.1**
	9.6nm,0.1s						
KTMS				*e*S	**Sb**	**04 11 44.0**	**+1.3**
	21nm,0.4s						
KAPS	**Kapalarasan**	**2.06**	**287**	*e*P	**Pb**	**04 11 23.6**	**+0.1**
	4.3nm,0.3s						
KAPS				*e*S	**Sg**	**04 11 51.4**	**-0.4**
	11nm,0.1s						
MK31	**Makanchi Array**	**2.07**	**3**	⇑Pn	**Pg**	**04 11 25.4**	**+0.2**
	3.0nm,0.2s,baz=192,slow=14,SNR=101						
MK31				⇓Lg	Lg	04 11 53.9	
	2.3nm,0.2s,baz=183,slow=28,SNR=24						
MAKZ	**Makanchi**	**2.09**	**357**	⇑Pn	**Pg**	**04 11 25.4**	**-0.1**
	1.6nm,0.3s						
MAKZ				⇑Lg	Lg	04 11 53.9	
	4.8nm,0.4s						
PDGK	**Podgornoye**	**2.37**	**235**	⇓Pn	**Pb**	**04 11 28.9**	**0.0**
	2.5nm,0.4s						
PDGK				⇓Lg	Lg	04 11 59.7	
	9.7nm,0.6s						
SHLS	**Shalkode**	**2.50**	**232**	*e*P	**Pn**	**04 11 26.9**	**-0.1**
	11nm,0.3s						
SHLS				*e*S	**Sn**	**04 11 57.0**	**-1.1**
	25nm,0.2s						
UZB	**Uzynbulak**	**2.76**	**236**	*e*P	**Pb**	**04 11 35.1**	**-0.4**
	2.5nm,0.1s						
UZB				*e*S	**Sb**	**04 12 10.8**	**+1.1**
	4.0nm,0.3s						
KPKS	**Kokpek**	**2.80**	**245**	*e*P	**Pb**	**04 11 34.8**	**-1.4**
	8.3nm,0.1s						
KPKS				*e*S	**Sb**	**04 12 10.1**	**-0.7**
	15nm,0.3s						
ARXS	**Arharly**	**3.14**	**262**	*e*P	**Pb**	**04 11 42.5**	**+0.6**
	2.7nm,0.1s						
ARXS				*e*S	**Sg**	**04 12 23.9**	**-2.4**
	4.9nm,0.1s						
SATY	**Saty**	**3.18**	**240**	*e*P	**Pb**	**04 11 42.4**	**-0.2**
	5.0nm,0.1s						
SATY				*e*S	**Sb**	**04 12 23.8**	**+2.0**
	12nm,0.1s						

*CSEM **30** 04:44:59.3, 38°.69N×43°.13E, h18km, ML2.4*
*ISK **30** 04:44:59.3, 38°.69N×43°.13E, h18km, ML2.4/2*
*ATA **30** 04:44:59.4±0.9, 38°.70N×43°.17E, h7km±26km, ML2.8, MW2.9*
*ISCJB **30** 04:45:01.0±0.8, 38°.67N±0°.04×43°.13E±0°.07, h20km±10km, Error ellipse: s-maj=10.1km s-min=6.6km az=22.0*

ISC 30 04:45:00.3±1.1, 38°.65N±0°.06×43°.18E±0°.05, h29km±10km, n12,σ1§10/21,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.17**	**109**	PG	**Pb**	**04 45 05.9**	**-0.4**
VANB				SG	**Sb**	**04 45 10.7**	**+0.3**
VANB	**Van**	**0.17**	**109**	*e*Pg	**Pb**	**04 45 05.9**	**-0.4**
VANB				*e*Sg	**Sb**	**04 45 10.7**	**+0.3**
GEVA	**Gevas**	**0.35**	**196**	*e*P	**Pb**	**04 45 07.8**	**-0.9**
GEVA				*e*S	**Sb**	**04 45 14.4**	**+0.2**
GEVA				IAML		04 45 20.1	
	comp=Z,49nm,0.5s						
CLDR	**Caldiran**	**0.76**	**49**	PG	**Pb**	**04 45 14.3**	**-0.8**
CLDR				SG	**Sn**	**04 45 25.9**	**0.0**
CLDR	**Caldiran**	**0.76**	**49**	*e*Pg	**Pb**	**04 45 14.3**	**-0.8**
CLDR				*e*Sg	**Sn**	**04 45 25.9**	**0.0**
TUTA	**Tutak**	**0.80**	**339**	*e*P	**Pb**	**04 45 14.9**	**-1.1**
TUTA				*e*S	**Sn**	**04 45 25.7**	**-1.3**
TUTA				IAML		04 45 27.4	
	comp=Z,40nm,0.2s						
GURO	**Guroymak-BITLI**	**0.91**	**264**	PG	**Pb**	**04 45 16.7**	**-0.9**
GURO	**Guroymak-BITLI**	**0.91**	**264**	*e*Pg	**Pb**	**04 45 16.7**	**-0.9**
AGRB	**Hanur-Agry**	**0.94**	**351**	PG	**Pb**	**04 45 17.3**	**-0.8**
AGRB				SG	**Sn**	**04 45 29.8**	**-0.5**
AGRB	**Hanur-Agry**	**0.94**	**351**	*e*Pg	**Pb**	**04 45 17.3**	**-0.8**
AGRB				*e*Sg	**Sn**	**04 45 29.8**	**-0.5**
EKAR	**Karacoban**	**1.06**	**305**	*e*P	**Pn**	**04 45 20.1**	**+0.6**
EATA	**Eleskirt**	**1.32**	**336**	*e*P	**Pb**	**04 45 24.6**	**-0.1**
EATA				*e*S	**Sn**	**04 45 43.4**	**+3.4**

IDC 30 04:49:19.6±1.8, 13°.08N×92°.65E, h0km, mb3.7/4, mb1 3.9/5, mb1mx3.5/64, mbtmp3.7/5, ML4.0/1, Error ellipse: s-maj=61.9km s-min=22.7km az=61.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**8.08**	**48**	Pn	Pn	04 51 18.5	+0.1
	0.5nm,0.3s,baz=235,slow=14,SNR=3.6						
CMAR				Sn	Sn	04 52 46.5	-4.0
	0.3nm,0.3s,baz=239,slow=30,SNR=2.5						
H08S3	**Diego Garcia H**	**28.71**	**225**	T	T	05 26 18.2	
	baz=42,slow=74						
H08S2	**Diego Garcia H**	**28.72**	**225**	T	T	05 26 18.3	
	baz=42						
H08S1	**Diego Carcia H**	**28.73**	**225**	T	T	05 26 18.7	
	baz=42,slow=74						
MKAR	**Makanchi Array**	**34.73**	**347**	P	P	04 56 11.7	+0.2
	0.8nm,0.7s,baz=162,slow=7.6,SNR=6.7						
KURBB	**Kurchatov Arra**	**39.18**	**346**	P	P	04 56 48.7	-0.5
	0.8nm,0.6s,baz=160,slow=8.6,SNR=4.4						
WRA	**Warramunga Arr**	**52.53**	**128**	P	P	04 58 34.6	-0.5
	0.6nm,0.8s,baz=306,slow=7.7,SNR=4.7						
ASAR	**Alice Springs**	**54.41**	**132**	P	P	04 58 49.3	+0.4
	0.6nm,0.5s,baz=308,slow=7.4,SNR=6.8						

*IDC **30** 04:56:30.7±2.3, 39°.69N×142°.59E, h0km, mb3.5/5, mb1 3.4/7, mb1mx3.3/63, mbtmp3.4/7, ML3.1/2, MS2.7/2, Ms1 2.7/2, ms1mx2.3/54, Error ellipse: s-maj=47.8km s-min=27.6km az=146.0*
*JMA **30** 04:56:33.7±0.1, 39°.45N×142°.65E, h33km±1km, M3.4*

ISC 30 04:56:32.1±2.0, 39°.51N±0°.05×142°.63E±0°.08, h17km±10km, n24,σ1§48/30,mb3.4/5,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIYJ	**Miyakonagasawa**	**0.63**	**276**	P	**Pn**	**04 56 46.5**	**+0.3**
MIYJ				S	**Sn**	**04 56 55.3**	**-0.6**
JTH	**Tanohata**	**0.73**	**306**	P	**Pn**	**04 56 48.1**	**+0.5**
JTH				*e*S	**Sn**	**04 56 59.0**	**+0.6**
OFUJ	**Ofunato**	**0.86**	**240**	P	**Pb**	**04 56 49.2**	**+0.6**
OFUJ				S	**Sb**	**04 57 00.6**	**+0.8**
JOM	**Ohasama**	**1.04**	**268**	P	**Pg**	**04 56 52.7**	**+0.5**
JOM				S	**Sn**	**04 57 06.5**	**+0.6**
JKZ	**Kuzumaki**	**1.11**	**296**	P	**Pg**	**04 56 54.1**	**+0.5**
JKZ				S	**Sn**	**04 57 09.0**	**+1.2**
JANG	**Nango**	**1.22**	**316**	P	**Pg**	**04 56 55.3**	**-0.3**
JANG				*e*S	**Sg**	**04 57 11.4**	**-0.1**
JMK	**Ichinoseki**	**1.23**	**243**	P	**Pn**	**04 56 55.0**	**+0.5**
JMK				*e*S	**Sb**	**04 57 10.2**	**-0.2**
JIO	**Ouri**	**1.45**	**224**	P	**Pn**	**04 56 57.6**	**+0.1**
JIO				S	**Sn**	**04 57 14.6**	**-1.5**
JRG	**Rokugo**	**1.55**	**266**	P	**Pb**	**04 57 00.7**	**+0.4**
JAH	**Hinai**	**1.68**	**294**	P	**Pb**	**04 57 02.8**	**+0.3**
JTM	**Tenmabayashi**	**1.75**	**317**	P	**Pb**	**04 57 03.7**	**0.0**
JTM				*e*S	**Sg**	**04 57 26.7**	**-1.8**
MJAR	**Matsushiro Arr**	**4.58**	**231**	Pn	**Pn**	**04 57 43.4**	**+2.8**
	1.4nm,0.3s,baz=40,slow=11,SNR=11						
MJAR				Sn	**Sb**	**04 58 42.1**	**-4.8**
	0.2nm,0.3s,baz=68,slow=28,SNR=2.7						
MAT	**Matsushiro**	**4.58**	**231**	P	**Pn**	**04 57 43.5**	**+2.9**
MAT				*e*S	**Sn**	**04 58 30.9**	**-2.5**
ASAJ	**Asahikawa**	**4.60**	**360**	Pn	**Pn**	**04 57 41.0**	**+0.1**
	0.7nm,0.3s,baz=210,slow=16,SNR=2.6						
KSRS	**Korea Array**	**11.71**	**265**	LR	LR	05 02 47.6	
	comp=Z,5.2nm,20.2s,baz=130,slow=32						
SONM	**Songino Array**	**27.29**	**300**	P	**P**	**05 02 16.0**	**+0.2**
	0.5nm,0.6s,baz=99,slow=8.9,SNR=2.8						
H11N2	**WAKE ISLAND Hy 28.72**	**126**		T	T	05 33 02.6	
	baz=318,slow=75,SNR=51						
H11N1	**WAKE ISLAND Hy 28.73**	**126**		T	T	05 33 03.2	
	baz=318,slow=75,SNR=51						
H11N3	**WAKE ISLAND Hy 28.73**	**126**		T	T	05 33 03.8	
	baz=318,slow=75,SNR=52						
ZALV	**Zalesovo Beam**	**41.00**	**310**	P	**P**	**05 04 13.8**	**-0.1**
	0.8nm,0.5s,baz=94,slow=7.4,SNR=3.1						
MKAR	**Makanchi Array**	**43.66**	**300**	P	**P**	**05 04 35.8**	**+0.1**
	0.3nm,0.5s,baz=81,slow=9.2,SNR=3.0						
KURBB	**Kurchatov Arra**	**45.27**	**306**	P	**P**	**05 04 48.3**	**-0.2**
	0.8nm,0.4s,baz=83,slow=8.4,SNR=2.6						
YKA	**Yellowknife Ar**	**61.19**	**31**	P	**P**	**05 06 45.6**	**+0.2**
	0.1nm,0.5s,baz=300,slow=6.3,SNR=2.9						
GNI	**Garni**	**71.00**	**307**	LR	LR	05 39 41.9	
	comp=Z,40nm,18.6s,baz=160,slow=37						

*ISCJB **30** 04:59:07.2±0.4, 8°.27S±0°.07×118°.11E±0°.04, h186km, mb4.0/6, Error ellipse: s-maj=10.3km s-min=5.2km az=14.5*
*DJA **30** 04:59:09.4±0.3, 8°.3S±5°×11°.8E±°, h168km±3km, M4.4/19, mb4.8/6, mB4.9/5, MLv4.3/19, Mw(mB)4.2/5*
*IDC **30** 04:59:09.1±1.9, 8°.13S×118°.12E, h186km±14km, mb3.7/6, mb1 3.9/8, mb1mx3.4/56, mbtmp4.3/8, Error ellipse: s-maj=43.2km s-min=13.4km az=55.0*

ISC 30 04:59:08.7±0.6, 8°.29S±0°.08×118°.13E±0°.05, h186km, n31, σ1§99/39,mb4.1/6,Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLAI	**Plampang**	**0.64**	**213**	P	**Pn**	**04 59 33.0**	**-1.8**
PLAI				S	**Sn**	**04 59 52.3**	**-2.7**
TWSI	**Taliwang, Sumb**	**1.31**	**250**	P	**Pn**	**04 59 37.7**	**-1.7**
TWSI				S	**Sn**	**04 59 58.8**	**-4.4**
WBSI	**Waikabubak, Su**	**1.84**	**137**	P	**Pn**	**04 59 44.4**	**-0.1**
WBSI				S	**Sn**	**05 00 08.9**	**-3.4**
SRBI	**Singaraja**	**2.89**	**274**	P	**Pn**	**04 59 55.7**	**-0.6**
DNP	**Denpasar**	**2.91**	**262**	P	**Pn**	**04 59 59.4**	**+2.9**
DNP				S	**Sn**	**05 00 37.3**	**+3.5**
IGBI	**Denpasar**	**3.00**	**260**	P	**Pn**	**04 59 56.4**	**-1.1**
BSSI	**Bau Bau, Buton**	**3.17**	**48**	P	**Pn**	**05 00 01.3**	**+1.6**
EDFI	**Ende, Flores**	**3.56**	**98**	P	**Pn**	**05 00 03.7**	**-0.8**
JAGI	**Jajag, Banyuwa**	**3.94**	**267**	P	**Pn**	**05 00 07.2**	**-2.0**
BNSI	**Bone**	**4.33**	**27**	P	**P

ANTU					IAML			05 18 25.4	
	comp=E,703nm,0.9s								
FCH	**Farellones**	**1.66**	**119**	ǁ	*i*P	**Pb**	**05 18 05.0**	**+0.1**	
FCH					*i* S	**Sb**	**05 18 24.0**	**-1.6**	
LMEL	**Las Melosas**	**2.02**	**132**	ǁ	*i*P	**Pb**	**05 18 11.1**	**+0.2**	
LMEL					*i* S	**Sb**	**05 18 34.4**	**-1.3**	
LMEL					IAML		05 18 39.5		
	comp=N,547nm,0.2s								
AUSP	**Uspallata**	**2.25**	**83**		*e*P	**Pb**	**05 18 16.5**	**+1.7**	
AUSP					*e*S	Sb	05 18 45.8	+3.4	
RTLS	**Leoncito**	**2.42**	**73**		*e*P	**Pb**	**05 18 19.8**	**+2.0**	
RTLS					IAML		05 18 55.7		
	comp=Z,110nm,0.5s								
GO04	**Tololo Observa**	**2.56**	**24**		*e*P	**Pb**	**05 18 20.7**	**+0.5**	
GO04					IAML		05 19 03.8		
	comp=N,2µm,0.5s								
ARCO	**CERRO ARCO**	**2.62**	**98**		*e*P	**Pb**	**05 18 22.6**	**+1.3**	
ARCO					IAML		05 18 31.8		
	comp=Z,95nm,0.4s								
ASAL	**Salagasta**	**2.69**	**92**		*e*P	**Pb**	**05 18 23.7**	**+1.4**	
ASAL					*e*S	**Sb**	**05 18 56.2**	**+1.2**	
AAGR	**Agrelo**	**2.75**	**103**		*e*P	**Pb**	**05 18 24.4**	**+1.1**	
RTCV	**Cerro Valdivia**	**3.02**	**78**		*e*P	**Pb**	**05 18 27.8**	**-0.1**	
RTCV					*e*S	**Sb**	**05 19 03.7**	**-0.7**	
AROD	**Rodeo**	**3.20**	**44**		*e*P	**Pb**	**05 18 31.4**	**+0.3**	
AROD					*e*S	**Sb**	**05 19 12.1**	**+2.2**	
RTLL	**Cerro Villicun**	**3.24**	**69**		*e*P	**Pb**	**05 18 30.6**	**-1.1**	
RTLL					*e*S	**Sb**	**05 19 09.5**	**-1.2**	
AMOG	**MOGNA**	**3.39**	**63**		*e*P	**Pb**	**05 18 33.3**	**-1.0**	
ACAN	**Cantantal**	**4.09**	**88**		*e*P	Pb	05 18 41.3	-4.9	
AGUA	**GUANDACOL**	**4.28**	**46**		*e*P	**Pb**	**05 18 46.0**	**-3.4**	

*IDC **30** 05:20:44.2±1.0, 30°.18N×96°.95E, h0km, mb3.5/8, mb1 3.7/10, mb1mx3.4/76, mbtmp3.5/10, ML3.8/1, MS2.9/2, Ms1 3.0/2, ms1mx2.4/55, Error ellipse: s-maj=43.2km s-min=19.5km az=62.0*

ISC 30 05:20:45.7±0.9, 30°.25N±0°.09×97°.2E±0°.1, h10km, n11, σ1s38/11, mb3.6/7, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHL	**Shillong**	**6.61**	**226**	*e*P	**Pb**	**05 22 42.0**	**+1.2**
CMAR	**Chiang Mai Arr**	**11.85**	**172**	Pn	**Pn**	**05 23 33.8**	**-1.1**
	baz=341,slow=11,SNR=6.3						
CMAR				LR	LR	05 28 53.2	
	comp=Z,55nm,20.1s,baz=194,slow=41						
SONM	**Songino Array**	**18.94**	**19**	P	**Pn**	**05 25 09.6**	**+2.1**
	0.3nm,0.3s,baz=203,slow=11,SNR=5.6						
SONM				LR	LR	05 33 27.8	
	comp=Z,47nm,19.6s,baz=94,slow=40						
MKAR	**Makanchi Array**	**20.15**	**329**	P	**P**	**05 25 19.1**	**-0.9**
	0.5nm,0.9s,baz=144,slow=12,SNR=3.2						
AAK	**Ala-Archa**	**21.95**	**310**	P	**P**	**05 25 39.5**	**-0.2**
	0.9nm,0.2s,baz=119,slow=6.8,SNR=3.6						
KURBB	**Kurchatov Arra**	**24.67**	**331**	P	**P**	**05 26 06.4**	**-0.2**
	0.2nm,0.3s,baz=138,slow=11,SNR=3.4						
ZALV	**Zalesovo Beam**	**25.31**	**343**	P	**P**	**05 26 12.7**	**+0.3**
	0.5nm,0.4s,baz=163,slow=10,SNR=4.2						
WRA	**Warramunga Arr**	**61.40**	**140**	P	**P**	**05 31 02.6**	**+0.4**
	0.5nm,0.8s,baz=329,slow=7.3,SNR=3.4						
NOA	**NORSAR Array B**	**62.12**	**327**	P	**P**	**05 31 05.8**	**-0.8**
	1.0nm,0.8s,baz=77,slow=6.6,SNR=3.7						
GERES	**GERESS Array B**	**63.81**	**313**	P	**P**	**05 31 16.0**	**-2.1**
	0.3nm,0.6s,baz=86,slow=6.8,SNR=3.9						
TORD	**Torodi Ar. Bea**	**88.11**	**284**	P	**P**	**05 33 38.4**	**+1.3**
	0.1nm,0.3s,baz=56,slow=2.6,SNR=2.4						

*IDC **30** 05:24:16.6±2.3, 32°.34S×69°.26W, h0km, mb3.5/2, mb1 3.8/3, mb1mx3.5/29, mbtmp3.6/3, ML3.4/1, Error ellipse: s-maj=86.8km s-min=43.8km az=32.0*

*ISCJB **30** 05:24:32.1±0.6, 31°.74S±0°.04×69°.0W±0°.1, h116km±5km, mb3.3/2, Error ellipse: s-maj=15.2km s-min=6.8km az=176.1*

*SJA **30** 05:24:32.1±0.5, 31°.73S×69°.07W, h106km±2km, ML3.7, MW3.9*

ISC 30 05:24:32.6±0.9, 31°.75S±0°.05×69°.05W±0°.08, h109km±7km, n18, σ0s51/23, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTLS	**Leoncito**	**0.22**	**257**	*e*P	**Pn**	**05 24 48.3**	**-0.1**
RTLS				IAML		05 24 48.8	
	comp=Z,1µm,0.3s						
RTCV	**Cerro Valdivia**	**0.45**	**105**	*e*P	**Pn**	**05 24 49.1**	**0.0**
RTCV				*e*S	**Sn**	**05 25 01.6**	**+0.1**
AUSP	**Uspallata**	**0.55**	**211**	*e*P	**Pn**	**05 24 50.2**	**0.0**
ASAL	**Salagasta**	**0.86**	**168**	*e*P	**Pn**	**05 24 52.6**	**+0.1**
AMOG	**MOGNA**	**0.94**	**31**	*e*P	**Pn**	**05 24 53.2**	**0.0**
AMOG				*e*S	**Sn**	**05 25 08.6**	**-0.2**
ARCO	**CERRO ARCO**	**1.09**	**175**	*e*P	**Pn**	**05 24 55.1**	**+0.2**
ARCO				*e*S	**Sn**	**05 25 12.5**	**+0.8**
ARCO				IAML		05 25 15.0	
	comp=Z,1µm,0.6s						
AAGR	**Agrelo**	**1.34**	**172**	*e*P	**Pn**	**05 24 58.1**	**+0.4**
ACDV	**Cuesta del Vie**	**1.57**	**358**	*e*P	**Pn**	**05 25 01.2**	**+0.6**
ACDV				*e*S	**Sn**	**05 25 21.9**	**+0.3**
AROD	**Rodeo**	**1.62**	**347**	*e*P	**Pn**	**05 25 01.9**	**+0.7**
AROD				*e*S	**Sn**	**05 25 23.5**	**+0.7**
ACAN	**Cantantal**	**1.67**	**109**	*e*P	**Pn**	**05 25 02.1**	**+0.6**
AGUA	**GUANDACOL**	**2.31**	**12**	*e*P	**Pn**	**05 25 09.9**	**+0.3**
APLL	**PUNTA DE LOS L**	**2.55**	**59**	*e*P	**Pn**	**05 25 13.2**	**+0.4**
LPAZ	**La Paz**	**15.42**	**3**	Pn	**Pn**	**05 28 03.6**	**-1.2**
	comp=Z,0.1nm,0.3s,baz=195,slow=7.1,SNR=6.3						
TXAR	**Lajitas Array**	**69.09**	**328**	P	**P**	**05 35 27.1**	**+0.1**
	comp=Z,0.2nm,0.6s,baz=156,slow=8.9,SNR=3.2						
TORD	**Torodi Ar. Bea**	**81.06**	**69**	P	**P**	**05 36 36.0**	**0.0**
	comp=Z,0.4nm,0.5s,baz=249,slow=5.0,SNR=2.9						
KURBB	**Kurchatov Arra**	**149.51**	**42**	PKPbc	**PKPbc**	**05 44 08.1**	**-0.6**
	comp=Z,0.3nm,0.5s,baz=304,slow=2.3,SNR=3.4						
ZALV	**Zalesovo Beam**	**150.98**	**32**	PKPbc	**PKPbc**	**05 44 12.0**	**-0.1**
	comp=Z,0.7nm,0.5s,baz=298,slow=3.1,SNR=3.4						
MKAR	**Makanchi Array**	**153.39**	**47**	PKPab	**PKPab**	**05 44 30.7**	**+0.3**
	comp=Z,0.4nm,0.7s,baz=321,slow=4.1,SNR=2.4						

*IDC **30** 05:26:24.8±0.8, 1°.99N×126°.20E, h0km, mb3.9/8, mb1 4.0/8, mb1mx3.7/59, mbtmp3.9/8, Error ellipse: s-maj=81.1km s-min=15.7km az=71.0*

*ISCJB **30** 05:26:33.0±0.7, 2°.1N±0°.2×126°.4E±0°.5, h83km, mb3.8/8, Error ellipse: s-maj=74.0km s-min=13.6km az=162.3*

ISC 30 05:26:34.9±0.9, 2°.1N±0°.2×126°.5E±0°.6, h83km, n8, σ1s44/8, mb3.9/8, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.18**	**161**	P	**P**	**05 31 32.2**	**-2.4**
	3.1nm,0.5s,baz=340,slow=11,SNR=36						
ASAR	**Alice Springs**	**26.57**	**165**	P	**P**	**05 32 05.6**	**+0.3**
	0.4nm,0.3s,baz=341,slow=11,SNR=6.7						
KSRS	**Korea Array**	**35.26**	**2**	P	**P**	**05 33 21.7**	**+0.1**
	0.5nm,0.4s,baz=180,slow=9.6,SNR=3.4						
STKA	**Stephens Creek**	**36.67**	**158**	P	**P**	**05 33 34.0**	**+0.3**
	1.0nm,0.3s,baz=342,slow=13,SNR=3.3						
SONM	**Songino Array**	**48.80**	**342**	P	**P**	**05 35 11.9**	**+0.1**
	0.2nm,0.3s,baz=148,slow=8.5,SNR=2.0						
MKAR	**Makanchi Array**	**58.78**	**326**	P	**P**	**05 36 23.0**	**-1.5**
	0.6nm,0.4s,baz=128,slow=8.3,SNR=5.3						
KURBB	**Kurchatov Arra**	**63.01**	**328**	P	**P**	**05 36 53.7**	**+0.7**
	0.9nm,0.5s,baz=129,slow=6.1,SNR=13						
VNDA	**Vanda**	**81.80**	**173**	P	**P**	**05 38 45.5**	**+1.3**
	0.8nm,0.8s,baz=317,slow=6.7,SNR=5.2						

*ISCJB **30** 05:31:20.4±1.1, 1°.3N±0°.2×91°.86E±0°.10, h10km, mb3.8/9, Error ellipse: s-maj=24.9km s-min=13.2km az=15.1*

*IDC **30** 05:31:21.6±1.3, 1°.33N×91°.96E, h0km, mb3.7/9, mb1 3.9/12, mb1mx3.7/70, mbtmp3.8/12, ML3.8/2, Error ellipse: s-maj=37.5km s-min=20.8km az=33.0*

ISC 30 05:31:23.1±1.3, 1°.4N±0°.2×92°.04E±0°.09, h10km, n16, σ2s00/14, mb3.8/9, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**7.02**	**78**	Pn	**Pn**	**05 33 07.9**	**+1.8**
	1.1nm,0.3s,baz=283,slow=18,SNR=3.5						
PSI				Sn	**Sn**	**05 34 21.7**	**-4.5**
	0.1nm,0.3s,baz=311,slow=20,SNR=1.8						
PALK	**Pallekele**	**12.73**	**298**	Pn	**Pn**	**05 34 21.2**	**-3.1**
	0.9nm,0.3s,baz=113,slow=7.7,SNR=2.9						
PALK				Sn	Sn	05 36 33.1	-13
	2.3nm,0.3s,baz=117,slow=7.4,SNR=5.0						

CMAR	**Chiang Mai Arr**	**18.27**	**21**		Pn	**P**	**05 35 38.0**	**+1.0**	
	baz=215,slow=13,SNR=5.6								
H08S2	**Diego Garcia H**	**21.46**	**245**		T	T	05 57 53.9		
	baz=65,slow=75,SNR=31								
H08S3	**Diego Garcia H**	**21.46**	**245**		T	T	05 57 57.8		
	baz=65,slow=75,SNR=41								
H08S1	**Diego Garcia H**	**21.48**	**245**		T	T	05 57 55.2		
	baz=65,slow=75,SNR=34								
MKAR	**Makanchi Array**	**46.02**	**351**		P	**P**	**05 39 45.7**	**-1.2**	
	0.4nm,0.6s,baz=161,slow=9.2,SNR=3.0								
WRA	**Warramunga Arr**	**46.57**	**119**		P	**P**	**05 39 51.1**	**-0.4**	
	2.1nm,0.8s,baz=298,slow=8.6,SNR=16								
SONM	**Songino Array**	**47.91**	**13**		P	**P**	**05 40 04.0**	**+2.2**	
	0.7nm,0.5s,baz=191,slow=9.2,SNR=4.5								
KURBB	**Kurchatov Arra**	**50.38**	**349**		P	**P**	**05 40 20.1**	**-0.3**	
	0.5nm,0.7s,baz=173,slow=7.2,SNR=5.9								
ZALV	**Zalesovo Beam**	**52.73**	**355**		P	**P**	**05 40 37.3**	**-0.6**	
	0.4nm,0.4s,baz=169,slow=9.8,SNR=3.5								
BVAR	**Borovoye Array**	**54.52**	**344**		P	**P**	**05 40 50.9**	**-0.2**	
	0.2nm,0.5s,baz=143,slow=6.1,SNR=2.4								
KBZ	**Khabaz**	**60.62**	**321**		P	**P**	**05 41 34.2**	**0.0**	
	0.5nm,0.4s,baz=129,slow=3.2,SNR=2.7								
BRTR	**Keskin Array B**	**65.21**	**314**		P	**P**	**05 42 05.7**	**+0.6**	
	0.2nm,0.4s,baz=128,slow=6.4,SNR=2.5								
GERES	**GERESS Array B**	**81.29**	**319**		P	**P**	**05 43 41.6**	**+1.7**	
	1.2nm,0.7s,baz=111,slow=5.4,SNR=8.3								
TXAR	**Lajitas Array**	**145.96**	**25**		PKPbc	**PKPbc**	**05 51 03.8**	**-0.1**	
	0.2nm,0.5s,baz=336,slow=2.0,SNR=3.1								

IDC 30 05:46:43.0±2.2, 11°.56S×118°.30E, h0km, mb3.7/1, mb1 3.6/4, mb1mx3.4/51, mbtmp3.5/4, ML3.4/3, Error ellipse: s-maj=69.5km s-min=28.2km az=39.0, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**5.43**	**76**	Pn	Pn	05 48 05.6	+0.2
	4.4nm,0.3s,baz=288,slow=3.2,SNR=4.5						
BATI				Sn	Sn	05 49 02.7	-6.0
	2.6nm,0.3s,baz=285,slow=20,SNR=2.6						
WRA	**Warramunga Arr**	**17.53**	**120**	P	Pn	05 50 47.5	-1.5
	0.1nm,0.3s,baz=293,slow=14,SNR=4.5						
WRA				S	Sn	05 53 50.1	-15
	0.1nm,0.3s,baz=295,slow=26,SNR=4.0						
ASAR	**Alice Springs**	**19.11**	**131**	P	Pn	05 51 08.7	+0.3
	0.1nm,0.3s,baz=306,slow=11,SNR=7.0						
ASAR				S	Sn	05 54 30.6	-13
	0.1nm,0.3s,baz=307,slow=22,SNR=3.7						
MKAR	**Makanchi Array**	**66.42**	**334**	P	P	05 57 34.0	-0.1
	0.4nm,0.5s,baz=152,slow=6.5,SNR=5.7						

*BJI **30** 06:03:32.3, 8°.07S×127°.60E, h145km, mb4.7/11, mB4.6/5*

*ISCJB **30** 06:03:36.2±0.3, 7°.68S±0°.03×127°.55E±0°.04, h162km, mb4.2/23, Error ellipse: s-maj=5.2km s-min=4.1km az=168.3*

*NEIC **30** 06:03:38.1±0.8, 7°.70S×127°.48E, h164km±7km, mb4.5/12, Error ellipse: s-maj=9.2km s-min=7.9km az=80.0*

*IDC **30** 06:03:38.5±1.8, 7°.60S×127°.43E, h169km±17km, mb3.8/13, mb1 4.0/17, mb1mx3.7/50, mbtmp4.4/17, Error ellipse: s-maj=16.1km s-min=10.2km az=69.0*

*DJA **30** 06:03:39.5±0.9, 8°.5S×12°.8E±1°.3, h108km±51km, M4.4/6, mB4.5/1, mb4.3/3, MLv4.5/6, Mw(mB)3.7/1*

ISC 30 06:03:38.1±0.4, 7°.73S±0°.04×127°.61E±0°.04, h162km, n74, σ1s78/89, mb4.2/23, 1D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**3.67**	**94**	*e*Pn	**Pn**	**06 04 36.4**	**+2.0**
SAUI				*e*Sn	**Sn**	**06 05 17.3**	**-0.9**
SOEI	**Soe**	**3.86**	**238**	P	**Pn**	**06 04 38.4**	**+1.4**
SOEI				S	**Sn**	**06 05 24.8**	**+1.9**
SOEI	**Soe**	**3.86**	**238**	*e*Pn	**Pn**	**06 04 37.0**	**0.0**
SOEI				*e*Sn	**Sn**	**06 05 21.3**	**-1.6**
NLAI	**Namlea**	**4.49**	**354**	P	**Pn**	**06 04 47.5**	**+2.4**
MSAI	**Masohi**	**4.55**	**17**	P	**Pn**	**06 04 47.4**	**+1.5**
BATI	**Baumata**	**4.61**	**237**	P	**Pn**	**06 04 47.1**	**+0.5**
	37nm,0.3s,baz=76,slow=2.5,SNR=32						
BATI				S	**Sn**	**06 05 37.5**	**-2.6**
	106nm,0.3s,baz=59,slow=18,SNR=12						
BATI	**Baumata**	**4.61**	**237**	P	**Pn**	**06 04 47.1**	**+0.5**
BATI				S	**Sn**	**06 05 39.4**	**-0.7**
SANI	**Sanana**	**5.87**	**344**	P	**Pn**	**06 05 04.4**	**+1.1**
MTN	**Manton Dam**	**6.15**	**146**	*e*Pn	**Pn**	**06 05 07.2**	**+0.2**
MTN				*e*Sn	**Sn**	**06 05 16.5**	**-1.1**
FAKI	**Fak Fak**	**6.65**	**44**	*e*Pn	**Pn**	**06 05 15.9**	**+2.4**
FAKI				*e*Sn	**Sn**	**06 06 23.3**	**-5.3**
SIJI	**Sorong**	**7.73**	**28**	P	**Pn**	**06 05 27.3**	**-0.7**
	12nm,0.3s,baz=230,slow=11,SNR=13						
SIJI				S	**Sn**	**06 06 53.4**	**-1.2**
	2.3nm,0.3s,baz=239,slow=19,SNR=3.4						
FITZ	**Fitzroy Crossi**	**10.48**	**190**	*e*Pn	**Pn**	**06 06 01.6**	**-2.7**
WRAB	**Tennant Creek**	**13.78**	**152**	*e*Pn	**Pn**	**06 06 45.3**	**-1.5**
WR1	**Warramunga Arr**	**13.78**	**152**	*e*Pn	**Pn**	**06 06 44.3**	**-2.5**
WR1				*e*Sn	Sn	06 09 08.0	-12
WRA	**Warramunga Arr**	**13.78**	**152**	P	**Pn**	**06 06 44.3**	**-2.5**
	3.7nm,0.3s,baz=340,slow=12,SNR=168						
WRA				S	Sn	06 09 08.0	-12
	5.6nm,0.3s,baz=327,slow=25,SNR=12						
WB2	**Warramunga Ar**	**13.79**	**152**	*e*Pn	**Pn**	**06 06 45.1**	**-1.8**
MBWA	**Marble Bar**	**15.36**	**209**	*e*Pn	**Pn**	**06 07 06.6**	**+0.1**
	28nm,1.4s						
COEN	**Coen**	**16.49**	**113**	*e*P	**Pn**	**06 07 22.0**	**+1.7**
	37nm,1.5s						
AS31	**Alice Springs**	**16.95**	**160**	*e*P	**Pn**	**06 07 27.1**	**+1.2**
	10nm,0.4s						
ASAR	**Alice Springs**	**16.96**	**160**	P	**Pn**	**06 07 26.2**	**+0.3**
	6.6nm,0.3s,baz=338,slow=11,SNR=226						
ASAR				S	**S**	**06 10 30.0**	**-3.7**
	1.4nm,0.3s,baz=326,slow=21,SNR=5.6						
AS01	**Alice Springs**	**16.97**	**160**	*e*P	**Pn**	**06 07 26.9**	**+0.8**
PMG	**Port Moresby**	**19.41**	**96**	P	**Pn**	**06 07 54.9**	**0.0**
	2.1nm,0.3s,baz=227,slow=3.3,SNR=12						
PMG	**Port Moresby**	**19.41**	**96**	*e*P	**Pn**	**06 07 54.9**	**0.0**
	30nm,0.6s						
FORT	**Forrest**	**22.93**	**179**	*e*P	**P**	**06 08 29.4**	**+1.2**
	35nm,1.1s						
BBOO	**Buckleboo**	**26.16**	**164**	*e*P	**P**	**06 08 58.5**	**+1.1**
	17nm,1.3s						
NWAO	**Narrogin (SRO)**	**26.85**	**200**	P	**P**	**06 09 04.2**	**+0.5**
	8.3nm,0.7s,baz=5.2,slow=11,SNR=4.2						
NWAO				pP	**pP**	**06 09 38.7**	**+1.5**
	8.9nm,0.7s,baz=34,slow=6.7,SNR=2.3						
STKA	**Stephens Creek**	**27.33**	**153**	P	**P**	**06 09 08.7**	**+0.8**
	4.6nm,0.5s,baz=321,slow=11,SNR=11						
STKA				pP	**pP**	**06 09 44.0**	**+2.4**
	4.6nm,0.4s,baz=316,slow=9.2,SNR=5.1						
STKA	**Stephens Creek**	**27.33**	**153**	*e*P	**P**	**06 09 09.0**	**+1.1**
	0.8nm,0.6s						
CMAR	**Chiang Mai Arr**	**38.43**	**313**	P	**P**	**06 10 41.6**	**-2.7**
	1.5nm,0.3s,baz=146,slow=7.3,SNR=3.3						
CMAR				PcP	**PcP**	**06 12 53.2**	**-1.1**
	1.1nm,0.3s,baz=122,slow=4.4,SNR=3.6						
DZM	**Mont Dzumac**	**40.01**	**115**	P	**P**	**06 10 58.5**	**+1.0**
	1.6nm,0.5s,baz=236,slow=15,SNR=5.4						
NJ2	**Nanjing**	**40.43**	**349**	*e*P	**P**	**06 10 59.8**	**-0.8**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
KMI	**Kunming**	**40.66**	**324**	P	**P**	**06 11 06.0**	**+3.1**
KMI				pmax	pmax		
	comp=Z,16nm,0.7s						
CD2	**Chengdu**	**44.71**	**330**	*e*P	**P**	**06 11 34.5**	**-0.7**
LZH	**Lanzhou**	**48.98**	**334**	*e*P	**P**	**06 12 10.5**	**+2.0**
LZH				pP	pP	06 12 42.5	-2.5
LZH				sP	sP	06 13 00.5	-2.5
LZH				pmax	pmax		
	comp=Z,14nm,1.0s						
HHC	**Hu-ho-hao-te**	**50.55**	**344**	*e*P	**P**	**06 12 22.0**	**+1.9**
HHC				pmax	pmax		
	comp=Z,18nm,1.0s						
HHC				pmax	pmax		
	comp=Z,42nm,6.2s						
GTA	**Gaotai**	**53.51**	**333**	*e*P	**P**	**06 12 41.5**	**-0.6**
GTA				S	**S**	**06 20 09.3**	**+6.8**
GTA				pmax	pmax		
	comp=Z,4.0nm,1.0s						
GTA				pmax	pmax		
	comp=Z,50nm,5.0s						
GTA				LR	LR		
	comp=N,150nm,11.9s						
GTA				LR	LR		
	comp=E,510nm,10.9s						
GTA				LR	LR		
	comp=Z,120nm,10.9s						

SONA0	**Songino Array**	**58.42**	**343**		*e*P	**P**	**06 13 16.9**	**+0.1**	
SONM	**Songino Array**	**58.42**	**343**		P	**P**	**06 13 16.9**	**+0.1**	
	0.5nm,0.5s,baz=159,slow=9.3,SNR=3.1								
WMQ	**Urumqi**	**62.74**	**329**		P	**P**	**06 13 46.5**	**+0.4**	
WMQ					pmax	pmax			
	comp=Z,13nm,0.6s								
WMQ					pmax	pmax			
	comp=Z,140nm,6.5s								
PETK	**Petropavlovsk-**	**65.78**	**19**		P	**P**	**06 14 04.5**	**-1.0**	
	2.3nm,0.8s,baz=194,slow=3.1,SNR=2.8								
PEA1	**Petropavlovsk-**	**65.78**	**19**		*e*P	**P**	**06 14 04.5**	**-1.1**	
MK01	**Makanchi Array**	**67.54**	**328**		*e*P	**P**	**06 14 15.6**	**-1.3**	
MK31	**Makanchi Array**	**67.56**	**328**		*e*P	**P**	**06 14 15.6**	**-1.4**	
MK32	**Makanchi Array**	**67.56**	**328**		*e*P	**P**	**06 14 15.7**	**-1.4**	
MK32					*e*pP	**pP**	**06 14 57.9**	**+2.1**	
MKAR	**Makanchi Array**	**67.56**	**328**		P	**P**	**06 14 15.7**	**-1.3**	
	1.3nm,0.6s,baz=128,slow=8.0,SNR=16								
MKAR					pP	**pP**	**06 14 57.9**	**+2.1**	
	0.7nm,0.8s,baz=122,slow=6.0,SNR=3.4								
MKAR	**Makanchi Array**	**67.56**	**328**		*e*P	**P**	**06 14 15.8**	**-1.3**	
	15nm,1.0s								
MAKZ	**Makanchi**	**67.74**	**328**		*e*P	**P**	**06 14 17.2**	**-0.9**	
	3.8nm,1.2s								
ZAA0	**Zalesovo Array**	**71.21**	**335**		*e*P	**P**	**06 14 38.1**	**-1.2**	
	2.1nm,0.4s								
ZALV	**Zalesovo Beam**	**71.21**	**335**		P	**P**	**06 14 37.0**	**-2.2**	
	1.6nm,0.5s,baz=157,slow=5.4,SNR=6.2								
ZALV	**Zalesovo Beam**	**71.21**	**335**		*e*P	**P**	**06 14 37.2**	**-2.0**	
ZAA1	**Zalesovo Array**	**71.21**	**335**		*e*P	**P**	**06 14 37.0**	**-2.2**	
KURBB	**Kurchatov Arra**	**71.91**	**330**		P	**P**	**06 14 41.8**	**-1.7**	
	1.6nm,0.6s,baz=133,slow=5.1,SNR=20								
KURK	**Kurchatov**	**71.92**	**330**		*e*P	**P**	**06 14 42.2**	**-1.3**	
VNDA	**Vanda**	**72.02**	**173**		P	**P**	**06 14 44.4**	**+0.6**	
	1.9nm,0.5s,baz=317,slow=6.9,SNR=34								
VNDA	**Vanda**	**72.02**	**173**		*e*P	**P**	**06 14 44.7**	**+1.0**	
	6.3nm,1.4s								
BVAR	**Borovoye Array**	**77.43**	**329**		P	**P**	**06 15 13.4**	**-1.9**	
	0.4nm,0.5s,baz=141,slow=5.5,SNR=2.9								
SYO	**Syowa Base**	**82.12**	**201**	ǁ	*e*sP	sP	06 16 40.0	+2.5	
QSPA	**South Pole Qui**	**82.25**	**180**		P	**P**	**06 15 41.3**	**+0.1**	
	3.9nm,0.8s,baz=296,slow=2.3,SNR=16								
SNAA	**Sanae**	**94.39**	**194**		P	**P**	**06 16 39.4**	**+0.2**	
	0.6nm,0.6s,baz=148,slow=13,SNR=7.2								
SNAA	**Sanae**	**94.39**	**194**		*e*P	**P**	**06 16 40.0**	**+0.8**	
	3.8nm,1.3s								
YKA	**Yellowknife Ar**	**109.44**	**26**		PKiKP	**PKiKP**	**06 21 47.7**	**-1.2**	
	0.3nm,0.6s,baz=294,slow=1.7,SNR=11								
YKA					PKKPbc	**PKKPbc**	**06 32 52.7**	**-4.3**	
	0.2nm,0.6s,baz=99,slow=2.9,SNR=6.1								
NVAR	**Mina Array Bea**	**113.61**	**51**		PKiKP	**PKiKP**	**06 21 58.4**	**+0.6**	
	0.2nm,0.5s,baz=354,slow=0.9,SNR=2.8								
REDW	**Red Top Meadow**	**118.00**	**45**	*e*	PKPdf	**PKPdf**	**06 22 06.5**	**+0.3**	
SNOW	**Snow King Moun**	**118.04**	**45**	*e*	PKPdf	**PKPdf**	**06 22 06.9**	**+0.6**	
PDAR	**Pinedale Array**	**119.09**	**45**		PKP	**PKPdf**	**06 22 06.8**	**-1.5**	
	0.4nm,0.6s,baz=17,slow=1.5,SNR=4.3								
TORD	**Torodi Ar. Bea**	**126.62**	**281**		PKP	**PKPdf**	**06 22 21.8**	**-1.3**	
	1.0nm,0.8s,baz=64,slow=1.1,SNR=5.2								
TOA1	**Torodi Ar. Sit**	**126.62**	**281**	*e*	PKPdf	**PKPdf**	**06 22 21.8**	**-1.3**	
WCI	**Wyandotte Cave**	**136.90**	**40**	*e*	PKPdf	**PKPdf**	**06 22 42.4**	**+0.5**	
TKL	**Tuckaleechee C**	**140.05**	**41**		PKP	**PKPdf**	**06 22 48.7**	**+0.9**	
	0.8nm,0.5s,baz=270,slow=1.0,SNR=3.9								
TKL	**Tuckaleechee C**	**140.05**	**41**	*e*	PKPdf	**PKPdf**	**06 22 48.2**	**+0.4**	
CPUP	**Villa Florida**	**145.80**	**172**		PKPbc	**PKPbc**	**06

MANT	**Manisa**	**0.77**	**217**	*i* P		**Pg**	**06**	**16**	**22.3**	**-0.1**
MANT				*i* S		**Sg**	**06**	**16**	**31.8**	**-0.6**
MANT	**Manisa**	**0.77**	**217**	P		**Pg**	**06**	**16**	**22.3**	**-0.1**
MANT				S		**Sg**	**06**	**16**	**31.8**	**-0.6**
KHAL	**Karahalli**	**0.78**	**160**	*i* P		**Pb**	**06**	**16**	**23.3**	**-0.3**
KHAL	**Karahalli**	**0.78**	**160**	P		**Pb**	**06**	**16**	**23.3**	**-0.3**
CAVI	**Cavuskoy**	**1.22**	**26**	PN		**Pn**	**06**	**16**	**31.5**	**+0.3**
CAVI	**Cavuskoy**	**1.22**	**26**	*e*Pn		**Pn**	**06**	**16**	**31.5**	**+0.3**
BORA	**Eskisehir**	**1.27**	**52**	PN		**Pg**	**06**	**16**	**31.9**	**-0.1**
BORA	**Eskisehir**	**1.27**	**52**	*i* P		**Pn**	**06**	**16**	**32.3**	**+0.4**
BORA	**Eskisehir**	**1.27**	**52**	P		**Pn**	**06**	**16**	**32.3**	**+0.4**
MDNY	**Mudanya-Bursa**	**1.28**	**351**	PN		**Pg**	**06**	**16**	**32.5**	**+0.3**
MDNY	**Mudanya-Bursa**	**1.28**	**351**	*e*Pn		**Pg**	**06**	**16**	**32.5**	**+0.3**
YLV	**Yalova**	**1.47**	**7**	PN		**Pb**	**06**	**16**	**35.2**	**-0.2**
YLV	**Yalova**	**1.47**	**7**	*e*Pn		**Pb**	**06**	**16**	**35.2**	**-0.2**
ARMT	**Armutlu**	**1.48**	**351**	PN		**Pb**	**06**	**16**	**35.5**	**0.0**
ARMT	**Armutlu**	**1.48**	**351**	*e*Pn		**Pb**	**06**	**16**	**35.5**	**0.0**
GULT	**Gulveren**	**1.69**	**38**	PN		**Pb**	**06**	**16**	**38.5**	**-0.7**
GULT	**Gulveren**	**1.69**	**38**	*e*Pn		**Pb**	**06**	**16**	**38.5**	**-0.7**

MAN 30 06:21:44,15˝23N×122˝03E, h29km, mb3.9, ML2.6, MS2.2, 1C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
POLP	**Polilio Island**	**0.51**	**190**	*e*P	Pn	06	21	55.9	+0.5
POLP				*e*S	Sn	06	22	05.3	+2.2
BALP	**Baler**	**0.67**	**319**	*e*P	Pn	06	21	58.4	+0.9
BALP				*e*S	Sn	06	22	08.6	+1.6
GQP	**Guinayangan**	**1.38**	**163**⇑	*e*P	Pn	06	22	08.1	+0.7
GQP				*i* S	Sb	06	22	25.7	-0.7

*ISCJB **30** 06:23:46.4±0.5, 39˚09N±0˝04×29˚17E±0˝04, h8km±4km, Error ellipse: s-maj=6.5km s-min=3.8km az=150.1*
*CSEM **30** 06:23:46.4±0.1, 39˚09N×29˚17E, h8km, ML2.6, Error ellipse: s-maj=2.6km s-min=1.7km az=138.0*
*DDA **30** 06:23:46.4, 39˚05N×29˚18E, h7km, Ml2.6*
*ISK **30** 06:23:46.0, 39˚11N×29˚18E, h8km, ML2.6/12*

ISC 30 06:23:46.6±0.9, 39˚09N±0˝03×29˚18E±0˝02, h10km±8km, n40, σ0s27/50, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
SIMA	**Simav-Kutahya**	**0.15**	**267**	PG	**Pg**	**06**	**23**	**50.1**	**+0.1**
SIMA				SG	**Sg**	**06**	**23**	**52.0**	**-0.4**
SIMA	**Simav-Kutahya**	**0.15**	**267**	*i* Pg	**Pg**	**06**	**23**	**50.1**	**+0.1**
SIMA				*i* Sg	**Sg**	**06**	**23**	**52.0**	**-0.4**
GDZ	**Gediz**	**0.24**	**91**	*i* P	**Pg**	**06**	**23**	**51.6**	**+0.1**
GDZ				*i* S	**Sg**	**06**	**23**	**55.2**	**+0.3**
GDZ	**Gediz**	**0.24**	**91**	P	**Pg**	**06**	**23**	**51.6**	**+0.1**
GDZ				S	**Sg**	**06**	**23**	**55.2**	**+0.3**
DEMI	**Demirci**	**0.36**	**262**	*i* P	**Pg**	**06**	**23**	**53.8**	**+0.1**
DEMI				*i* S	**Sg**	**06**	**23**	**58.2**	**-0.3**
DEMI	**Demirci**	**0.36**	**262**	P	**Pg**	**06**	**23**	**53.8**	**+0.1**
DEMI				S	**Sg**	**06**	**23**	**58.2**	**-0.3**
TVSB	**Tavsanli**	**0.42**	**32**	PG	**Pg**	**06**	**23**	**54.5**	**-0.4**
TVSB				SG	**Sg**	**06**	**24**	**00.2**	**-0.3**
TVSB	**Tavsanli**	**0.42**	**32**	*e*Pg	**Pg**	**06**	**23**	**54.5**	**-0.4**
TVSB				*e*Sg	**Sg**	**06**	**24**	**00.2**	**-0.3**
KULA	**Kula-Manisa**	**0.70**	**215**	PG	**Pg**	**06**	**24**	**00.4**	**+0.2**
KULA	**Kula-Manisa**	**0.70**	**215**	*e*Pg	**Pg**	**06**	**24**	**00.4**	**+0.2**
KUTH	**Kutahya**	**0.72**	**65**	PG	**Pg**	**06**	**24**	**00.5**	**-0.1**
KUTH	**Kutahya**	**0.72**	**65**	*e*Pg	**Pg**	**06**	**24**	**00.5**	**-0.1**
DURS	**Dursunbey**	**0.74**	**313**	*i* P	**Pg**	**06**	**24**	**01.2**	**+0.2**
DURS	**Dursunbey**	**0.74**	**313**	P	**Pg**	**06**	**24**	**01.2**	**+0.2**
KHAL	**Karahalli**	**0.76**	**161**	*i* P	**Pb**	**06**	**24**	**02.2**	**+0.2**
KHAL	**Karahalli**	**0.76**	**161**	P	**Pb**	**06**	**24**	**02.2**	**+0.2**
MANT	**Manisa**	**0.77**	**219**	*i* P	**Pg**	**06**	**24**	**01.1**	**-0.4**
MANT				*i* S	**Sg**	**06**	**24**	**11.4**	**-0.1**
MANT	**Manisa**	**0.77**	**219**	P	**Pg**	**06**	**24**	**01.1**	**-0.4**
MANT				S	**Sg**	**06**	**24**	**11.4**	**-0.1**
AKS	**Akhisar**	**1.08**	**259**	PN	**Pg**	**06**	**24**	**07.1**	**-0.3**
AKS	**Akhisar**	**1.08**	**259**	*e*Pn	**Pg**	**06**	**24**	**07.1**	**-0.3**
BALB	**Balikesir**	**1.14**	**299**	PN	**Pn**	**06**	**24**	**08.9**	**+0.2**
BALB	**Balikesir**	**1.14**	**299**	*e*Pn	**Pn**	**06**	**24**	**08.9**	**+0.2**
IGD	**Bursa**	**1.17**	**1**	*i* P	**Pn**	**06**	**24**	**09.6**	**+0.5**
CAVI	**Cavuskoy**	**1.22**	**25**	PN	**Pb**	**06**	**24**	**09.7**	**-0.1**
CAVI	**Cavuskoy**	**1.22**	**25**	*e*Pn	**Pb**	**06**	**24**	**09.7**	**-0.1**
BORA	**Eskisehir**	**1.27**	**51**	PN	**Pn**	**06**	**24**	**10.4**	**0.0**
MDNY	**Mudanya-Bursa**	**1.29**	**350**	PN	**Pb**	**06**	**24**	**11.1**	**+0.1**
MDNY	**Mudanya-Bursa**	**1.29**	**350**	*e*Pn	**Pb**	**06**	**24**	**11.1**	**+0.1**
ADVT	**Abdulvahap**	**1.41**	**18**	PN	**Pn**	**06**	**24**	**12.5**	**+0.2**
ADVT	**Abdulvahap**	**1.41**	**18**	*e*Pn	**Pn**	**06**	**24**	**12.5**	**+0.2**
YLV	**Yalova**	**1.48**	**6**	PN	**Pn**	**06**	**24**	**13.7**	**+0.3**
YLV	**Yalova**	**1.48**	**6**	*e*Pn	**Pn**	**06**	**24**	**13.7**	**+0.3**
AYDB	**Zeytinkoy-Aydi**	**1.52**	**222**	PN	**Pn**	**06**	**24**	**13.9**	**-0.1**
AYDB	**Zeytinkoy-Aydi**	**1.52**	**222**	*e*Pn	**Pn**	**06**	**24**	**13.9**	**-0.1**
GULT	**Gulveren**	**1.69**	**37**	PN	**Pn**	**06**	**24**	**16.3**	**0.0**
GULT	**Gulveren**	**1.69**	**37**	*e*Pn	**Pn**	**06**	**24**	**16.3**	**0.0**
SVRH	**Sivrihisar-ESK**	**1.86**	**78**	PN	**Pn**	**06**	**24**	**18.4**	**-0.2**
SVRH	**Sivrihisar-ESK**	**1.86**	**78**	*e*Pn	**Pn**	**06**	**24**	**18.4**	**-0.2**
SILT	**Sile**	**2.09**	**10**	PN	**Pn**	**06**	**24**	**22.2**	**+0.5**
SILT	**Sile**	**2.09**	**10**	*e*Pn	**Pn**	**06**	**24**	**22.2**	**+0.5**

*CSEM **30** 06:24:10.6±0.2, 39˚10N×29˚14E, h2km, ML2.7, Error ellipse: s-maj=4.6km s-min=3.0km az=131.0*
*ISK **30** 06:24:10.2, 39˚09N×29˚13E, h5km, ML2.7/12*
*DDA **30** 06:24:10.4, 39˚08N×29˚13E, h7km, Md2.8*

ISC 30 06:24:10.3±0.9, 39˚09N±0˝03×29˚13E±0˝03, h13km±6km, n38, σ0s46/48, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
SIMA	**Simav-Kutahya**	**0.12**	**265**	PG	**Pg**	**06**	**24**	**13.8**	**+0.2**
SIMA				SG	**Sg**	**06**	**24**	**15.7**	**-0.2**
SIMA	**Simav-Kutahya**	**0.12**	**265**	*e*Pg	**Pg**	**06**	**24**	**13.8**	**+0.2**
SIMA				*e*Sg	**Sg**	**06**	**24**	**15.7**	**-0.2**
DEMI	**Demirci**	**0.33**	**261**	*i* P	**Pg**	**06**	**24**	**17.8**	**-0.2**
DEMI				*i* S	**Sg**	**06**	**24**	**21.6**	**+0.1**
DEMI	**Demirci**	**0.33**	**261**	P	**Pb**	**06**	**24**	**17.8**	**-0.2**
DEMI				S	**Sg**	**06**	**24**	**21.6**	**+0.1**
TVSB	**Tavsanli**	**0.44**	**36**	PG	**Pg**	**06**	**24**	**18.3**	**-0.7**
TVSB	**Tavsanli**	**0.44**	**36**	*e*Pg	**Pg**	**06**	**24**	**18.3**	**-0.7**
KULA	**Kula-Manisa**	**0.69**	**213**	PG	**Pb**	**06**	**24**	**24.4**	**+0.3**
KULA				SG	**Sb**	**06**	**24**	**33.4**	**-0.1**
KULA	**Kula-Manisa**	**0.69**	**213**	*e*Pg	**Pb**	**06**	**24**	**24.4**	**+0.3**
KULA				*e*Sg	**Sb**	**06**	**24**	**33.4**	**-0.1**
MANT	**Manisa**	**0.75**	**217**	*i* P	**Pb**	**06**	**24**	**25.4**	**+0.1**
MANT				*i* S	**Sg**	**06**	**24**	**35.0**	**+0.3**
MANT	**Manisa**	**0.75**	**217**	P	**Pb**	**06**	**24**	**25.4**	**+0.1**
MANT				S	**Sg**	**06**	**24**	**35.0**	**+0.3**
KUTH	**Kutahya**	**0.75**	**66**	PG	**Pb**	**06**	**24**	**25.4**	**+0.1**
KUTH	**Kutahya**	**0.75**	**66**	*e*Pg	**Pb**	**06**	**24**	**25.4**	**+0.1**
KHAL	**Karahalli**	**0.78**	**159**	*i* P	**Pg**	**06**	**24**	**24.9**	**-0.5**
KHAL				*i* S	**Sb**	**06**	**24**	**36.4**	**+0.3**
KHAL	**Karahalli**	**0.78**	**159**	P	**Pg**	**06**	**24**	**24.9**	**-0.5**
KHAL				S	**Sb**	**06**	**24**	**36.4**	**+0.3**
AKS	**Akhisar**	**1.05**	**259**	PG	**Pb**	**06**	**24**	**29.4**	**-0.9**
AKS	**Akhisar**	**1.05**	**259**	*e*Pg	**Pb**	**06**	**24**	**29.4**	**-0.9**
AUBOZ	**BOZOYUK**	**1.07**	**40**	PG	**Pn**	**06**	**24**	**31.5**	**+0.5**
IGD	**Bursa**	**1.17**	**3**	*i* P	**Pg**	**06**	**24**	**32.7**	**-0.1**
CAVI	**Cavuskoy**	**1.24**	**26**	PN	**Pg**	**06**	**24**	**34.9**	**+0.8**
CAVI	**Cavuskoy**	**1.24**	**26**	*e*Pn	**Pg**	**06**	**24**	**34.9**	**+0.8**
MDNY	**Mudanya-Bursa**	**1.29**	**352**	PN	**Pg**	**06**	**24**	**35.8**	**+0.7**
MDNY	**Mudanya-Bursa**	**1.29**	**352**	*e*Pn	**Pg**	**06**	**24**	**35.8**	**+0.7**
ADVT	**Abdulvahap**	**1.42**	**19**	PN	**Pg**	**06**	**24**	**37.8**	**+0.3**
ADVT	**Abdulvahap**	**1.42**	**19**	*e*Pn	**Pg**	**06**	**24**	**37.8**	**+0.3**
GONE	**Gonen-Balikesi**	**1.47**	**311**	PN	**Pg**	**06**	**24**	**38.1**	**-0.4**
GONE	**Gonen-Balikesi**	**1.47**	**311**	*e*Pn	**Pg**	**06**	**24**	**38.1**	**-0.4**
YLV	**Yalova**	**1.48**	**7**	PN	**Pg**	**06**	**24**	**38.9**	**+0.1**
YLV	**Yalova**	**1.48**	**7**	*e*Pn	**Pg**	**06**	**24**	**38.9**	**+0.1**
ARMT	**Armutlu**	**1.48**	**352**	PN	**Pn**	**06**	**24**	**36.9**	**+0.2**
ARMT	**Armutlu**	**1.48**	**352**	*e*Pn	**Pn**	**06**	**24**	**36.9**	**+0.2**
EDC	**Edincik**	**1.59**	**322**	PN	**Pg**	**06**	**24**	**40.3**	**-0.5**
EDC	**Edincik**	**1.59**	**322**	*e*Pn	**Pg**	**06**	**24**	**40.3**	**-0.5**
GULT	**Gulveren**	**1.71**	**38**	PN	**Pg**	**06**	**24**	**42.3**	**-0.8**
GULT	**Gulveren**	**1.71**	**38**	*e*Pn	**Pg**	**06**	**24**	**42.3**	**-0.8**
BUY	**Buyukada**	**1.76**	**360**	PN	**Pb**	**06**	**24**	**42.1**	**-0.2**
BUY	**Buyukada**	**1.76**	**360**	*e*Pn	**Pb**	**06**	**24**	**42.1**	**-0.2**
SVRH	**Sivrihisar-ESK**	**1.89**	**78**	PN	**Pb**	**06**	**24**	**44.3**	**-0.4**
SVRH	**Sivrihisar-ESK**	**1.89**	**78**	*e*Pn	**Pb**	**06**	**24**	**44.3**	**-0.4**

*ISCJB **30** 06:25:59.7±0.6, 32˚53N±0˝09×96˚3E±0˝1, h10km, mb3.6/13, MS3.5/1, Error ellipse: s-maj=18.3km s-min=10.8km az=154.9*

*IDC **30** 06:25:59.9±0.8, 32˚50N×96˚30E, h0km, mb3.6/12, mb1 3.7/15, mb1mx3.6/74, mbtmp3.6/15, ML3.4/2, MS3.2/2, Ms1 3.2/2, ms1mx2.5/61, Error ellipse: s-maj=28.7km s-min=15.5km az=52.0*

ISC 30 06:26:01.6±0.7, 32˚6N±0˝1×96˚3E±0˝2, h10km, n17, σ0s93/16, mb3.7/13, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
CMAR	**Chiang Mai Arr**	**14.25**	**170**	Pn	**Pn**	**06**	**29**	**23.9**	**+0.4**
	baz=344,slow=12,SNR=3.1								
CMAR				LR	LR	06	35	08.2	
	comp=Z,45nm,19.4s,baz=80,slow=39								
SONM	**Songino Array**	**17.06**	**24**	P	**Pn**	**06**	**30**	**00.0**	**-0.2**
	0.1nm,0.3s,baz=210,slow=11,SNR=3.0								
MKAR	**Makanchi Array**	**17.80**	**327**	P	**P**	**06**	**30**	**10.0**	**-0.1**
	0.2nm,0.3s,baz=136,slow=12,SNR=8.6								
KURBB	**Kurchatov Arra**	**22.31**	**329**	P	**P**	**06**	**30**	**57.8**	**-1.2**
	1.2nm,0.6s,baz=136,slow=12,SNR=6.0								
ZALV	**Zalesovo Beam**	**22.89**	**342**	P	**P**	**06**	**31**	**04.4**	**-0.8**
	2.3nm,0.8s,baz=151,slow=9.5,SNR=8.3								
KSRS	**Korea Array**	**26.27**	**70**	P	**P**	**06**	**31**	**37.7**	**+0.6**
	0.6nm,0.5s,baz=255,slow=10,SNR=3.0								
AKASG	**Malin Array Be**	**51.50**	**312**	P	**P**	**06**	**35**	**06.7**	**-0.5**
	0.2nm,0.4s,baz=74,slow=6.3,SNR=2.5								
FINES	**FINESS Array B**	**52.62**	**325**	P	**P**	**06**	**35**	**16.3**	**+1.0**
	1.2nm,0.9s,baz=104,slow=5.9,SNR=3.8								
HFS	**Hagfors**	**58.79**	**325**	P	**P**	**06**	**35**	**59.9**	**+0.2**
	1.2nm,0.7s,baz=116,slow=13,SNR=3.2								
NOA	**NORSAR Array B**	**59.79**	**326**	P	**P**	**06**	**36**	**07.9**	**+1.2**
	0.5nm,0.6s,baz=76,slow=6.7,SNR=2.6								
WRA	**Warramunga Arr**	**63.64**	**140**	P	**P**	**06**	**36**	**31.3**	**-1.7**
	0.4nm,0.8s,baz=335,slow=6.2,SNR=3.2								
ASAR	**Alice Springs**	**66.45**	**142**	P	**P**	**06**	**36**	**51.1**	**-0.1**
	0.2nm,0.4s,baz=322,slow=5.5,SNR=3.0								
INK	**Inuvik**	**72.85**	**17**	P	**P**	**06**	**37**	**30.6**	**+0.5**
	0.7nm,1.0s,baz=296,slow=1.9,SNR=3.1								
SFJD	**Kangerlussuaq**	**77.61**	**347**	LR	LR	07	17	12.4	
	comp=Z,24nm,18.7s,baz=322,slow=40								
YKA	**Yellowknife Ar**	**82.06**	**14**	P	**P**	**06**	**38**	**22.8**	**+1.1**
	0.2nm,0.8s,baz=334,slow=5.3,SNR=3.3								
TORD	**Torodi Ar. Bea**	**86.85**	**283**	P	**P**	**06**	**38**	**47.2**	**+0.3**
	0.2nm,0.7s,baz=53,slow=3.6,SNR=3.2								
ULM	**Lac du Bonnet**	**96.84**	**8**	P	**P**	**06**	**39**	**31.6**	**-1.1**
	2.4nm,0.9s,baz=342,slow=3.2,SNR=3.4								

NNC 30 06:27:10.6±5.9, 37˚18N×69˚38E, h0km, mb3.6, mpv3.2, 7C-1D, Error ellipse: s-maj=44.3km s-min=41.1km az=174.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
SFK	**Sufi-Kurgan**	**4.30**	**47**	⇑Pn	Pn	06	28	15.7	-1.7
	1.2nm,0.2s								
SFK				⇑Sn	Sn	06	29	10.7	+2.4
	3.4nm,0.5s								
MNAS	**Manas**	**5.82**	**23**	⇑Pn	Pn	06	28	38.9	+0.6
	1.7nm,0.7s								
MNAS				⇑Sn	Sn	06	29	46.5	+0.6
	1.8nm,0.5s								
KK31	**Karatay Array**	**5.99**	**8**	⇓Pn	Pn	06	28	42.2	+1.8
	0.2nm,0.2s,baz=199,slow=16,SNR=32								
KK31				⇑Sn	Sn	06	29	51.2	+1.6
	1.0nm,0.4s,baz=203,slow=27,SNR=5.5								
AAK	**Ala-Archa**	**6.72**	**34**	⇑Pn	Pn	06	28	51.2	+0.5
	2.6nm,0.5s								
AAK				⇑Sn	Sn	06	30	07.0	-1.1
	2.6nm,0.7s								

*NIED **30** 06:31:00, 39˚80N×143˚60E, h23km, Mw4.3 Best double couple: M0 2.80000×10^15 NP1:φs186.00000°, δ29.00000°, λ66.00000°. NP2:φs32.00000°, δ63.00000°, λ103.00000°.*
*ISCJB **30** 06:31:17.4±1.1, 39˚71N±0˝03×143˚57E±0˝04, h13km±6km, mb4.4/67, MS3.6/27, Error ellipse: s-maj=5.9km s-min=3.7km az=39.6*
*JMA **30** 06:31:17.4±0.2, 39˚81N×143˚63E, h19km, M4.3*
*IDC **30** 06:31:17.4±0.6, 39˚68N×143˚42E, h0km, mb4.1/24, mb1 4.2/28, mb1mx4.1/76, mbtmp4.1/28, ML3.6/4, MS3.4/28, Ms1 3.4/28, ms1mx3.2/70, Error ellipse: s-maj=15.8km s-min=14.0km az=114.0*
*MOS **30** 06:31:19.0±0.9, 39˚74N×143˚52E, h24km, mb4.6/37, Error ellipse: s-maj=8.6km s-min=5.0km az=103.5*
*NEIC **30** 06:31:20.8±1.4, 39˚71N×143˚54E, h23km±10km, mb4.6/15, Error ellipse: s-maj=6.7km s-min=4.4km az=111.0*
*BJI **30** 06:31:20.5, 39˚74N×143˚33E, h31km, mb4.7/30, mB4.9/20, Ms4.2/12, Ms7 4.0/12*

ISC 30 06:31:21.9±0.8, 39˚71N±0˝04×143˚59E±0˝05, h33km±4km, n177, σ1s74/186, mb4.5/67, MS3.6/28, 7C-7D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
JTH	**Tanohata**	**1.35**	**280**	P	**Pn**	**06**	**31**	**41.6**	**-2.8**
JTH				*e*S	**Sn**	**06**	**31**	**59.9**	**-1.2**
MIYJ	**Miyakonagasawa**	**1.37**	**265**	P	**Pn**	**06**	**31**	**42.6**	**-2.1**
JANG	**Nango**	**1.72**	**293**	P	**Pn**	**06**	**31**	**46.7**	**-2.8**
JOM	**Ohasama**	**1.79**	**263**	P	**Pn**	**06**	**31**	**49.1**	**-1.3**
JOM				*e*S	**Sn**	**06**	**32**	**12.4**	**+0.4**
JMK	**Ichinoseki**	**1.99**	**248**	P	**Pn**	**06**	**31**	**51.6**	**-1.5**
JMK				*e*S	**Sn**	**06**	**32**	**17.1**	**+0.2**
ERM	**Erimo**	**2.33**	**352**	*e*Pn	**Pn**	**06**	**31**	**56.9**	**-0.9**
ERM				*e*Sn	**Sn**	**06**	**32**	**25.4**	**+0.2**
ERM	**Erimo**	**2.33**	**352**	*de*P	**Pn**	**06**	**31**	**56.0**	**-1.8**
JOT	**Ohata**	**2.56**	**312**	P	**Pn**	**06**	**31**	**59.4**	**-1.6**
JYK	**Kaneyama**	**2.63**	**253**	P	**Pn**	**06**	**32**	**00.9**	**-1.1**
JNBK	**Urakawa-nobuka**	**2.64**	**346**	P	**Pn**	**06**	**32**	**01.2**	**-1.0**
JCH	**Churui**	**2.91**	**357**	P	**Pn**	**06**	**32**	**04.6**	**-1.2**
JCH				*e*S	**Sn**	**06**	**32**	**37.2**	**-2.4**
JKB	**Kayabe**	**2.91**	**319**	P	**Pn**	**06**	**32**	**06.6**	**+0.7**
JAK	**Akkeshi**	**3.39**	**14**	P	**Pn**	**06**	**32**	**11.0**	**-1.4**
JAK				*e*S	**Sn**	**06**	**32**	**48.4**	**-3.0**
ASAJ	**Asahikawa**	**4.46**	**351**	Pn	**Pn**	**06**	**32**	**27.1**	**-0.2**
	2.3nm,0.3s,baz=169,slow=10,SNR=12								
ASAJ				Sn	**Sn**	**06**	**33**	**14.3**	**-3.7**
	3.1nm,0.3s,baz=212,slow=17,SNR=3.7								
ASAJ	**Asahikawa**	**4.46**	**351**	*e*Pn	**Pn**	**06**	**32**	**27.8**	**+0.6**
ASAJ				*e*Sn	**Sn**	**06**	**33**	**18.4**	**+0.4**
YUK	**Yuzh-Kuril'sk**	**4.64**	**21**	P	**Pn**	**06**	**32**	**28.1**	**-1.5**
YUK				*e*S	**Sn**	**06**	**33**	**19.0**	**-3.4**
YUK				pmax	pmax				
	comp=Z,110nm,0.2s								
YUK				pmax	pmax				
	comp=N,17nm,0.1s								
YUK				pmax	pmax				
	comp=E,53nm,0.1s								
YUK				smax	smax				
	comp=N,346nm,0.6s								
YUK				smax	smax				
	comp=E,553nm,0.6s								
SHO	**Shikotan**	**4.81**	**29**	*e*P	**Pn**	**06**	**32**	**29.0**	**-3.0**
SHO				*e*S	**Sn**	**06**	**33**	**19.4**	**-7.1**
SHO				pmax	pmax				
	comp=Z,29nm,0.3s								
SHO				pmax	pmax				
	comp=N,16nm,0.2s								
SHO				smax	smax				
	comp=N,262nm,0.6s								
SHO				smax	smax				
	comp=E,140nm,0.4s								
MAJO	**Matsushiro**	**5.29**	**235**	*e*Pn	**Pn**	**06**	**32**	**38.8**	**+0.2**
MAJO				*e*Sn	**Sn**	**06**	**33**	**38.1**	**-0.4**
MAJO	**Matsushiro**	**5.29**	**235**	*de*P	**Pn**	**06**	**32**	**37.8**	**-0.8**
MAT	**Matsushiro**	**5.29**	**235**	P	**Pn**	**06**	**32**	**38.7**	**+0.1**
MAT				*e*S	**Sn**	**06**	**33**	**35.0**	**-3.5**
MJAR	**Matsushiro Arr**	**5.29**	**235**	Pn	**Pn**	**06**	**32**	**37.9**	**-0.7**
	comp=E,3.7nm,0.3s,baz=42,slow=12,SNR=66								
MJAR				Sn	**Sn**	**06**	**33**	**38.1**	**-0.4**
	baz=40,slow=22,SNR=2.0								
MJAR				LR	LR	06	34	51.9	
	comp=E,336nm,19.1s,baz=40,slow=42								
MJB9	**Matsu-Tunnel**	**5.29**	**235**	*e*Pn	**Pn**	**06**	**32**	**38.9**	**+0.2**
KUR	**Kuril'sk**	**6.36**	**28**	*c i*P	**Pn**	**06**	**32**	**52.8**	**-0.4**
KUR				*e*S	**Sn**	**06**	**34**	**01.1**	**-3.6**
KUR				pmax	pmax				
	comp=Z,31nm,0.4s								
KUR				pmax	pmax				
	comp=E,8.0nm,0.3s								
KUR				smax	smax				
	comp=N,17nm,0.3s								
KUR				smax	smax				
	comp=E,46nm,0.4s								

INU	**Inuyama**	**6.80**	**232**	*e*Pn	**Pn**	**06**	**32**	**59.2**	**-0.1**
JHJ2	**Mitsune**	**7.25**	**206**	*e*Pn	**Pn**	**06**	**33**	**04.7**	**-0.9**
JHJ	**Hachijo jima 2**	**7.26**	**206**	Pn	**Pn**	**06**	**33**	**02.8**	**-2.9**
	comp=E,12nm,0.3s,baz=356,slow=16,SNR=3.6								
JHJ				Sn	**Sn**	**06**	**34**	**19.4**	**-7.4**
	comp=E,25nm,0.3s,baz=70,slow=22,SNR=5.9								
YSS	**Yuzh-Sakhalins**	**7.26**	**355**	*e*P	**Pn**	**06**	**33**	**07.3**	**+1.7**
YSS				pmax	pmax				
	comp=Z,5.0nm,0.6s								
TEY	**Ternei**	**7.42**	**318**	*e*P	**Pn**	**06**	**33**	**06.9**	**-0.8**
TEY				pmax	pmax				
	comp=Z,11nm,0.5s								
USRK	**Ussuriysk Ar.**	**9.73**	**301**	Pn	**Pn**	**06**	**33**	**38.1**	**-1.3**
	comp=Z,0.7nm,0.3s,baz=96,slow=18,SNR=26								
USRK				LR	LR	06	37	21.5	
	comp=Z,271nm,18.1s,baz=107,slow=38								
MSHR	**Mys Shultsa**	**9.80**	**291**⇑	*e*P	**Pn**	**06**	**33**	**40.6**	**+0.1**
JNU	**Nakatsue**	**12.16**	**241**	LR	LR	06	39	09.4	
	comp=Z,342nm,19.1s,baz=118,slow=39								
KSRS	**Korea Array**	**12.46**	**265**	Pn	**Pn**	**06**	**34**	**18.1**	**+1.3**
	comp=Z,0.3nm,0.3s,baz=84,slow=13,SNR=8.5								
KSRS				LR	LR	06	38	43.1	
	comp=Z,258nm,18.6s,baz=84,slow=36								
KS01	**Wonju Array Si**	**12.48**	**265**	*e*Pn	**Pn**	**06**	**34**	**17.3**	**+0.1**
KLR	**Kul'dur**	**12.71**	**322**	Pn	**Pn**	**06**	**34**	**19.0**	**-1.2**
	comp=Z,0.0nm,0.3s,baz=143,slow=12,SNR=5.9								
KLR				LR	LR	06	39	21.6	
	comp=Z,21nm,20.2s,baz=110,slow=38								
KLR	**Kul'dur**	**12.71**	**322**⇓	*e*P	**Pn**	**06**	**34**	**18.0**	**-2.2**
PETK	**Petropavlovsk-**	**16.52**	**31**	LR	LR	06	41	04.0	
	comp=Z,66nm,20.8s,baz=203,slow=35								
PET	**Petropavlovsk**	**16.84**	**33**	*e*Pn	**Pn**	**06**	**35**	**13.1**	**-1.9**
	comp=Z,36nm,1.2s								
PET	**Petropavlovsk**	**16.84**	**33**	*e*P	**Pn**	**06**	**35**	**13.1**	**-1.9**
PET				pmax	pmax				
	comp=Z,36nm,1.2s								
ZEA	**Zeya**	**17.89**	**327**	*e*P	**Pn**	**06**	**35**	**23.9**	**-4.0**
ZEA				pmax	pmax				
	comp=Z,12nm,1.0s								
ZEA				MLR	MLR				

GTA pmax pmax
comp=Z,12nm,1.0s
GTA pmax pmax
comp=Z,75nm,5.3s
GTA LR LR
comp=Z,130nm,16.2s
GTA LR LR
comp=Z,290nm,16.2s
GTA LR LR
comp=Z,270nm,18.1s
DAV Davao City (W) 36.30 211 LR LR 06 52 28.4
comp=Z,18nm,22.0s,baz=35,slow=35
KMI Kunming 37.09 259 P **P** **06 38 30.3 +0.8**
KMI pP pP 06 38 37.5 -1.5
KMI pmax pmax
comp=Z,17nm,0.9s
DGZ Jazzator, Alta 40.28 303 *i* P **P** **06 38 55.7 -0.1**
DGZ pmax pmax
comp=Z,3.0nm,0.7s
WMQ Urumqi 41.22 295 P **P** **06 39 03.8 +0.2**
WMQ pP pP 06 39 13.3 +0.1
WMQ sP sP 06 39 20.5 +3.4
WMQ pmax pmax
comp=Z,33nm,0.7s
WMQ pmax pmax
comp=Z,100nm,3.8s
WMQ LR LR
comp=Z,82nm,18.1s
WMQ LR LR
comp=Z,67nm,24.5s
ZAA0 Zalesovo Array 41.43 310 *e*P **P** **06 39 05.0 -0.1**
comp=Z,4.7nm,0.6s
ZAA1 Zalesovo Array 41.43 310 *e*P **P** **06 39 05.0 -0.1**
ZAA1 *e*PcP **PcP** **06 41 02.9 +0.4**
ZALV Zalesovo Beam 41.43 310 P **P** **06 39 05.0 -0.1**
comp=Z,4.7nm,0.5s,baz=97,slow=7.5,SNR=18
ZALV PcP **PcP** **06 41 02.9 +0.4**
comp=Z,1.2nm,0.5s,baz=95,slow=2.2,SNR=3.5
ZALV LR LR 06 56 59.8
comp=Z,46nm,19.3s,baz=62,slow=37
ZALV Zalesovo Beam 41.43 310 *e*P **P** **06 39 04.3 -0.7**
ZALV Zalesovo Beam 41.43 310 *e*P **P** **06 39 04.4 -0.7**
IM3 Indian Mountai 43.48 32 *e*P **P** **06 39 24.1 +2.5**
MK01 Makanchi Array 44.20 300 *e*P **P** **06 39 27.2 -0.5**
MK31 Makanchi Array 44.20 300 *e*P **P** **06 39 27.5 -0.2**
MK31 Makanchi Array 44.20 300 *e*P **P** **06 39 27.5 -0.2**
MK32 Makanchi Array 44.20 300 *e*P **P** **06 39 27.3 -0.4**
MKAR Makanchi Array 44.20 300 P **P** **06 39 27.3 -0.4**
comp=Z,3.6nm,0.8s,baz=84,slow=9.3,SNR=26
MKAR LR LR 06 58 44.1
comp=Z,98nm,18.6s,baz=58,slow=37
MKAR Makanchi Array 44.20 300 *e*P **P** **06 39 27.5 -0.2**
comp=Z,26nm,0.6s
MKAR Makanchi Array 44.20 300 *e*P **P** **06 39 27.5 -0.2**
MKAR pmax pmax
comp=Z,28nm,0.6s
MAKZ Makanchi 44.40 300 *e*P **P** **06 39 29.2 -0.1**
comp=Z,9.1nm,1.1s
MAKZ Makanchi 44.40 300 *e*P **P** **06 39 29.2 -0.1**
MAKZ pmax pmax
comp=Z,9.0nm,1.1s
KURK Kurchatov 45.67 306 *e*P **P** **06 39 38.8 -0.5**
comp=Z,18nm,1.3s
KURK Kurchatov 45.67 306*c i*P **P** **06 39 38.5 -0.8**
KURK pmax pmax
comp=Z,8.0nm,0.7s
KURBB Kurchatov Arra 45.75 306 P **P** **06 39 39.1 -0.8**
comp=Z,7.1nm,0.8s,baz=80,slow=8.3,SNR=45
IL1 Eielson Array 46.32 34 *e*P **P** **06 39 45.3 +1.1**
ILAR Eielson Array 46.32 34 P **P** **06 39 45.2 +1.0**
comp=Z,0.7nm,0.8s,baz=265,slow=6.8,SNR=9.3
ILB Eielson Array 46.32 34 *e*P **P** **06 39 45.5 +1.3**
PDGK Podgornoye 47.08 296 P **P** **06 39 49.8 -0.8**
PDGK pmax pmax
comp=Z,8.0nm,1.0s
BVAR Borovoye Array 50.07 311 P **P** **06 40 13.0 -0.3**
comp=Z,2.6nm,0.5s,baz=67,slow=8.2,SNR=12
BVAR LR LR 07 03 46.8
comp=Z,51nm,19.0s,baz=118,slow=39
BVAR Borovoye Array 50.07 311 P **P** **06 40 13.0 -0.3**
BVAR pmax pmax
comp=Z,3.0nm,0.5s
BVAR MLR MLR
comp=Z,51nm,19.0s
BRVK Borovoye 50.12 311 *e*P **P** **06 40 13.7 0.0**
comp=Z,3.6nm,0.7s
BRVK Borovoye 50.12 311 *e*P **P** **06 40 13.7 0.0**
BRVK pmax pmax
comp=Z,4.0nm,0.7s
OTUK Ortayu 50.28 305 P **P** **06 40 14.6 -0.4**
OTUK pmax pmax
comp=Z,5.0nm,1.8s
AAK Ala-Archa 50.76 297 P **P** **06 40 18.3 -0.6**
comp=Z,1.3nm,0.4s,baz=110,slow=6.6,SNR=5.5
AAK Ala-Archa 50.76 297 *e*P **P** **06 40 18.6 -0.2**
AAK Ala-Archa 50.76 297*ce*P **P** **06 40 18.3 -0.6**
AAK pmax pmax
comp=Z,5.0nm,1.8s
HNR Honiara 51.20 159 LR LR 06 59 46.8
comp=Z,38nm,21.2s,baz=304,slow=33
HNR Honiara 51.20 159 *e*P **P** **06 40 22.8 +0.7**
comp=Z,120nm,0.8s
HNR Honiara 51.20 159 *e*P **P** **06 40 22.8 +0.7**
INK Inuvik 51.23 28 P **P** **06 40 23.3 +1.5**
comp=Z,1.0nm,0.7s,baz=308,slow=7.9,SNR=7.5
MNAS Manas 52.18 298 P **P** **06 40 29.6 +0.2**
MNAS pmax pmax
comp=Z,1.0nm,0.8s
SFK Sufi-Kurgan 52.46 294 P **P** **06 40 31.3 -0.4**
SFK pmax pmax
comp=Z,6.0nm,1.1s
KK31 Karatay Array 53.29 299 *e*P **P** **06 40 37.0 -0.5**
KK31 Karatay Array 53.29 299 *e*P **P** **06 40 37.0 -0.5**
KKAR Karatay Array 53.29 299 *e*P **P** **06 40 37.0 -0.5**
KKAR Karatay Array 53.29 299 *e*P **P** **06 40 37.0 -0.5**
ARU Arti 55.51 318*d i*P **P** **06 40 53.7 +0.3**
ARU 06 42 52.8
ARU S **S** **06 48 37.0 +0.9**
ARU SS **SS** **06 52 16.4 -4.2**
ARU pmax pmax
comp=Z,13nm,1.7s
ABKAR Akbulak array 57.54 309 *e*P **P** **06 41 08.0 +0.1**
AKTO Aktyubinsk 58.17 311 P **P** **06 41 12.2 -0.2**
comp=Z,0.9nm,0.4s,baz=66,slow=15,SNR=4.9
AKTO LR LR 07 09 06.4
comp=Z,22nm,18.2s,baz=54,slow=39
SPITS Spitsbergen Ar 58.23 349 LR LR 07 08 30.6
comp=Z,26nm,19.6s,baz=140,slow=38
RES Resolute Bay 59.58 15 *e*P **P** **06 41 22.6 +0.9**
comp=Z,6.3nm,1.3s
RES Resolute Bay 59.58 15 *e*P **P** **06 41 22.6 +0.9**
RES pmax pmax
comp=Z,6.0nm,1.3s
WRAB Tennant Creek 59.96 190⇓ *e*P **P** **06 41 26.8 +1.8**
WRAB pmax pmax
comp=Z,4.0nm,1.5s
WR1 Warramunga Arr 59.97 190 *e*P **P** **06 41 24.6 -0.4**
comp=Z,3.7nm,0.8s
WRA Warramunga Arr 59.97 190 P **P** **06 41 24.6 -0.4**
comp=Z,1.5nm,0.7s,baz=8.0,slow=6.9,SNR=19
LVZ Lovozero 60.38 336⇑ *e*P **P** **06 41 27.2 -0.2**
LVZ pmax pmax
comp=Z,20nm,1.4s
YKA Yellowknife Ar 60.64 31 P **P** **06 41 30.3 +1.2**
comp=Z,0.2nm,0.5s,baz=302,slow=6.1,SNR=6.7
DAG Danmarks Havn 63.25 355 *i* P **P** **06 41 47.2 +0.7**
comp=Z,5.3nm,1.2s
DAG Danmarks Havn 63.25 355 *i* P **P** **06 41 47.2 +0.7**
DAG pmax pmax
comp=Z,5.0nm,1.2s
AS01 Alice Springs 63.69 190 *e*P **P** **06 41 50.2 +0.2**
ASAR Alice Springs 63.69 190 P **P** **06 41 50.3 +0.2**
comp=Z,0.8nm,0.6s,baz=10,0,slow=7.0,SNR=10
FIA1 FINESS Array S 67.24 332 *e*P **P** **06 42 12.8 +0.2**
FINES FINESS Array B 67.24 332 P **P** **06 42 12.4 -0.2**
comp=Z,2.5nm,0.6s,baz=49,slow=8.4,SNR=11
FINES LR LR 07 14 35.2
comp=Z,96nm,18.4s,baz=16,slow=39
SUMG Summit 68.00 1 *i* P **P** **06 42 18.5 +0.8**
comp=Z,2.0nm,0.7s
SUMG Summit 68.00 1 *e*P **P** **06 42 18.5 +0.8**
SUMG pmax pmax
comp=Z,2.0nm,0.7s
ZEI Tsey 70.42 310 *e*P **P** **06 42 32.1 -0.9**
ZEI pmax pmax
comp=Z,8.0nm,1.4s

KVAR Kislovodsk Arr 70.43 311 LR LR 07 18 45.9
comp=Z,86nm,18.1s,slow=40
KIV Kislovodsk 70.44 311 *e*P **P** **06 42 33.7 +0.8**
KIV pmax pmax
comp=Z,14nm,1.1s
KIV MLR MLR
comp=Z,79nm,17.0s
KBZ Khabaz 70.45 311 P **P** **06 42 33.6 +0.7**
comp=Z,4.7nm,0.9s,baz=35,slow=3.1,SNR=12
GNI Garni 71.47 307 LR LR 07 17 02.6
comp=Z,29nm,19.1s,baz=63,slow=38
NVAR Mina Array Bea 72.03 55 P **P** **06 42 45.4 +2.6**
comp=Z,0.2nm,0.4s,baz=292,slow=6.4,SNR=3.8
HFS Hagfors 72.34 336 P **P** **06 42 44.5 +0.5**
comp=Z,3.0nm,0.6s,baz=44,slow=6.4,SNR=11
HFS LR LR 07 17 42.4
comp=Z,37nm,19.6s,baz=26,slow=38
NB2 NORSAR Subarra 72.37 338 P **P** **06 42 44.3 +0.1**
comp=Z,2.2nm,0.7s,baz=38,slow=6.2
NB2 NORSAR Subarra 72.37 338 P **P** **06 42 44.3 +0.1**
NB2 pmax pmax
comp=Z,2.0nm,0.7s
NB200 NORSAR Array S 72.37 338 *e*P **P** **06 42 44.2 +0.1**
NOA NORSAR Array B 72.37 338 P **P** **06 42 44.2 +0.1**
comp=Z,3.1nm,0.8s,baz=38,slow=6.0,SNR=10.0
NOA LR LR 07 18 41.0
comp=Z,33nm,18.1s,baz=30,slow=39
NBO02 NORSAR Array S 72.46 338 *e*P **P** **06 42 45.6 +0.8**
AKASG Malin Array Be 73.22 323 P **P** **06 42 49.0 -0.3**
comp=Z,1.5nm,0.5s,baz=46,slow=6.5,SNR=6.4
AKASG LR LR 07 15 22.7
comp=Z,26nm,18.7s,baz=30,slow=36
AKASG Malin Array Be 73.22 323 P **P** **06 42 49.0 -0.3**
AKASG pmax pmax
comp=Z,1.0nm,0.5s
AKASG MLR MLR
comp=Z,26nm,18.7s
AKBB Malin Array Si 73.22 323 *e*P **P** **06 42 49.4 +0.1**
comp=Z,10nm,1.5s
AKBB Malin Array Si 73.22 323 *e*P **P** **06 42 49.4 +0.1**
AKBB pmax pmax
comp=Z,10.0nm,1.5s
KIEV Kiev 73.23 323‖ *e*P **P** **06 42 49.0 -0.4**
KIEV pmax pmax
comp=Z,3.0nm,1.1s
PDAR Pinedale Array 74.58 47 P **P** **06 42 59.1 +1.3**
comp=Z,0.3nm,0.5s,baz=243,slow=1.3,SNR=3.9
BUR00 Bucovina Ar. S 77.24 322 *e*P **P** **06 43 13.6 +0.9**
BUR04 Bucovina Ar. S 77.25 322 *e*P **P** **06 43 13.2 +0.4**
OJC Ojcow 77.75 327 P **P** **06 43 16.0 +0.6**
OJC pmax pmax
comp=Z,10.0nm,0.9s
VRI Vrincioaia 77.78 320 P **P** **06 43 18.9 +3.3**
BR101 Keskin Array S 78.34 312 *e*P **P** **06 43 19.2 +0.2**
BRTR Keskin Array B 78.34 312 P **P** **06 43 19.2 +0.2**
comp=Z,0.7nm,0.8s,baz=12,slow=6.3,SNR=4.2
BRTR LR LR 07 23 09.6
comp=Z,16nm,19.3s,baz=78,slow=40
ISR Istrita 78.40 320 P **P** **06 43 20.7 +1.6**
ISR pmax pmax
comp=Z,10.0nm,0.7s
MLR Muntele Rosu 78.43 321 LR LR 07 20 04.8
comp=Z,7.4nm,18.3s,baz=26,slow=37
KSP Ksiaz 78.71 329 P **P** **06 43 21.4 +0.7**
KSP pmax pmax
comp=Z,7.0nm,0.8s
MORC Moravsky Berou 79.03 328 P **P** **06 43 23.2 +0.7**
BRG Berggiesshubel 79.60 330 *e*P **P** **06 43 26.2 +0.7**
comp=Z,6.5nm,1.1s
BRG Berggiesshubel 79.60 330 *e*P **P** **06 43 26.2 +0.7**
BRG pmax pmax
comp=Z,7.0nm,1.1s
CLL Collm 79.61 331 *e*P **P** **06 43 26.0 +0.5**
CLL Collm 79.61 331 *e*P **P** **06 43 26.0 +0.5**
CLL MLR MLR
comp=Z,2μm,21.0s
VRAC Vranov 79.78 328 LR LR 07 21 55.9
comp=Z,53nm,18.7s,baz=32,slow=38
KHC Kasperske Hory 81.14 329 *e*P **P** **06 43 35.0 +1.1**
KHC Kasperske Hory 81.14 329 *e*P **P** **06 43 35.0 +1.1**
GEC2 GERESS Array S 81.32 329 *e*P **P** **06 43 35.0 +0.1**
GEC2 GERESS Array S 81.32 329 *e*P **P** **06 43 35.0 +0.1**
GEC2 pmax pmax
comp=Z,2.0nm,0.8s
GERES GERESS Array B 81.32 329 P **P** **06 43 34.8 -0.1**
comp=Z,0.6nm,0.5s,baz=46,slow=7.0,SNR=4.1
GERES LR LR 07 23 59.3
comp=Z,42nm,18.6s,baz=54,slow=39
KBA Koelnbreinsper 82.88 328 P **P** **06 43 44.1 +0.9**
KBA pmax pmax
comp=Z,5.0nm,1.5s
PAIG Paliouri 83.62 318 P **P** **06 43 45.9 -1.1**
PAIG pmax pmax
comp=Z,17nm,1.1s
FNA Florina 84.15 320 P **P** **06 43 49.5 -0.3**
FNA pmax pmax
comp=Z,3.0nm,0.7s
FUORN Ofenpass-Fuorn 84.48 330 *e*P **P** **06 43 52.6 +1.0**
comp=Z,5.0nm,0.8s
TXAR Lajitas Array 87.15 54 P **P** **06 44 06.4 +1.5**
comp=Z,0.1nm,0.5s,baz=290,slow=3.8,SNR=4.2

NIED ***30*** *07:30:00, 37.°10N×142.°90E, h11km, Mw3.7 Best double couple: M0=4.01000×10^14 NP1:φs=203.00000°, δ31.00000°, λ83.00000°. NP2:φs=31.00000°, δ59.00000°, λ94.00000°.*

IDC ***30*** *07:30:48.8±0.9, 37.°00N×143.°04E, h0km, mb3.6/8, mb1 3.8/13, mb1mx3.7/70, mbtmpg3.7/13, ML3.8/5, MS3.1/3, Ms1 3.1/3, ms1mx2.5/73, Error ellipse: s-maj=22.8km s-min=17.4km az=101.0*

ISCJB ***30*** *07:30:50.8±0.6, 37.°06N±0.°05×142.°91E±0.°05, h25km, mb3.6/8, MS3.3/2, Error ellipse: s-maj=6.9km s-min=6.0km az=151.2*

JMA ***30*** *07:30:50.9±0.1, 37.°05N×142.°90E, h36km, M3.7*

ISC 30 07:30:51.0±0.7, 36.°97N±0.°04×142.°95E±0.°06, h25km, n35, σ2≥35/34, mb3.6/8, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**1.71**	**284**	P	**Pn**	**07 31 18.5**	**-0.7**
JFK				*e*S	**Sn**	**07 31 38.5**	**-1.7**
ONAJ	**Iwakimizuishiy**	**1.73**	**275**	P	**Pn**	**07 31 18.9**	**-0.6**
ONAJ				*e*S	**Sn**	**07 31 39.6**	**-1.2**
JMM	**Marumori**	**1.94**	**298**	P	**Pn**	**07 31 21.6**	**-0.7**
JIO	**Ouri**	**1.95**	**320**	P	**Pn**	**07 31 21.6**	**-0.9**
JIO				*e*S	**Sn**	**07 31 44.3**	**-2.0**
JFT	**Otama**	**2.16**	**285**	P	**Pb**	**07 31 25.6**	**-3.8**
JOU	**Okura**	**2.29**	**308**	P	**Pn**	**07 31 26.6**	**-0.6**
JMK	**Ichinoseki**	**2.41**	**326**	P	**Pn**	**07 31 28.1**	**-0.7**
BSO1	**Boso 1**	**2.81**	**215**	P	**Pb**	**07 31 36.3**	**-3.9**
JOM	**Ohasama**	**2.82**	**333**	P	**Pn**	**07 31 33.8**	**-0.7**
JYK	**Kaneyama**	**2.83**	**314**	P	**Pn**	**07 31 34.6**	**0.0**
JAG	**Ashikaga**	**2.86**	**260**	P	**Pn**	**07 31 35.6**	**+0.5**
JRY	**Ryogami san**	**3.40**	**255**	P	**Pn**	**07 31 43.2**	**+0.7**
JANG	**Nango**	**3.58**	**342**	P	**Pn**	**07 31 45.0**	**+0.1**
MJAR	**Matsushiro Arr**	**3.83**	**265**	Pn	**Pn**	**07 31 49.8**	**+1.4**
	2.2nm,0.3s,baz=80,slow=16,SNR=12						
MJAR				Sn	**Sn**	**07 32 32.8**	**+0.1**
	1.4nm,0.3s,baz=70,slow=12,SNR=4.1						
MAT	**Matsushiro**	**3.83**	**265**	P	**Pn**	**07 31 50.2**	**+1.8**
MAT				S	**Sn**	**07 32 35.7**	**+3.0**
JHJ	**Hachijo jima 2**	**4.64**	**215**	Pn	**Pn**	**07 32 01.9**	**+2.5**
	9.8nm,0.3s,baz=55,slow=18,SNR=4.0						
JHJ				Sn	**Sn**	**07 32 48.6**	**-3.9**
	13nm,0.3s,baz=252,slow=20,SNR=3.7						
ASAJ	**Asahikawa**	**7.14**	**358**	Pn	**Pn**	**07 32 33.8**	**-0.1**
	2.2nm,0.3s,baz=222,slow=12,SNR=3.7						
ASAJ				Sn	**Sn**	**07 33 49.7**	**-4.5**
	0.7nm,0.3s,baz=154,slow=28,SNR=2.3						
JCJ	**Chichijima**	**9.87**	**184**	Pn	**Pn**	**07 33 10.8**	**-0.5**
	2.7nm,0.3s,baz=294,slow=20,SNR=3.1						
JCJ				Sn	**Sn**	**07 34 54.1**	**-7.1**
	baz=270,slow=20						
KSRS	**Korea Array**	**12.00**	**277**	Pn	Pn	07 33 43.7	+3.4
	0.2nm,0.3s,baz=96,slow=12,SNR=4.4						
KSRS				LR	LR	07 37 54.5	
	comp=Z,31nm,18.4s,baz=173,slow=35						
YAK	**Yakutsk**	**26.42**	**346**	LR	LR	07 48 35.1	
	comp=Z,29nm,18.4s,baz=260,slow=40						
H11N2	**WAKE ISLAND Hy 27.07 123**			T	T	08 05 03.4	
	baz=314,slow=75,SNR=10						
H11N1	**WAKE ISLAND Hy 27.07 123**			T	T	08 05 07.1	
	baz=314,slow=75,SNR=6.8						
H11N3	**WAKE ISLAND Hy 27.09 123**			T	T	08 05 32.3	
	baz=314,slow=75,SNR=7.1						
H11S1	**WAKE ISLAND Hy 27.80 125**			T	T	08 06 08.8	
	baz=322,slow=74						
H11S3	**WAKE ISLAND Hy 27.80 125**			T	T	08 05 56.5	
	baz=322,slow=74						
H11S2	**WAKE ISLAND Hy 27.82 125**			T	T	08 06 05.6	
	baz=322						
SONM	**Songino Array 28.84 304**			P	**P**	**07 36 49.5**	**+2.1**
	1.1nm,0.7s,baz=106,slow=9.6,SNR=5.2						
MKAR	**Makanchi Array 45.20 302**			P	**P**	**07 39 07.6**	**+1.8**
	0.3nm,0.6s,baz=80,slow=8.9,SNR=3.9						
KURBB	**Kurchatov Arra 47.01 308**			P	**P**	**07 39 20.9**	**+0.9**
	1.2nm,0.5s,baz=82,slow=8.3,SNR=7.8						
ILAR	**Eielson Array 48.89 32**			P	**P**	**07 39 36.0**	**+1.6**
	0.5nm,0.8s,baz=265,slow=6.6,SNR=6.9						
WRA	**Warramunga Arr 57.19 190**			P	**P**	**07 40 37.6**	**+1.7**
	1.0nm,0.7s,baz=10,slow=7.5,SNR=15						
ASAR	**Alice Springs 60.91 189**			P	**P**	**07 41 03.9**	**+2.1**
	0.6nm,0.8s,baz=2.3,slow=6.8,SNR=7.3						
YKA	**Yellowknife Ar 63.24 31**			P	**P**	**07 41 18.0**	**+1.0**
	0.1nm,0.6s,baz=301,slow=6.4,SNR=3.7						
OBN	**Obninsk 68.88 324**			LR	LR	08 13 23.4	
	comp=Z,51nm,18.2s,baz=150,slow=37						
TXAR	**Lajitas Array 89.18 53**			P	**P**	**07 43 46.8**	**+1.9**
	0.1nm,0.6s,baz=307,slow=1.8,SNR=3.1						

ISCJB ***30*** *07:35:44.0±0.6, 16.°8S±0.°1×174.°3W±0.°1, h124km, mb4.1/10, Error ellipse: s-maj=20.6km s-min=7.5km az=40.1*

IDC ***30*** *07:35:46.4±2.1, 17.°05S×174.°17W, h136km±19km, mb3.7/9, mb1 3.9/11, mb1mx3.7/50, mbtmp4.1/11, MS2.4/1, Ms1 2.4/1, ms1mx2.3/52, Error ellipse: s-maj=23.4km s-min=11.3km az=131.0*

ISC 30 07:35:45.1±0.7, 17.°0S±0.°1×174.°2W±0.°1, h124km, n14, σ0≥96/16, mb4.1/10, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**3.83**	**38**	P	**Pn**	**07 36 44.4**	**+1.8**
	26nm,0.3s,baz=268,slow=1.2,SNR=18						
AFI				S	**Sn**	**07 37 25.0**	**-2.2**
	54nm,0.3s,baz=48,slow=21,SNR=16						
AFI				LR	LR	07 37 48.0	
	comp=Z,60nm,21.9s,baz=226,slow=31						
RAO	**Raoul Island**	**12.69**	**195**	P	**Pn**	**07 38 41.5**	**+0.3**
	113nm,0.3s,baz=116,slow=23,SNR=5.6						
DZM	**Mont Dzumac**	**18.94**	**251**	P	**P**	**07 39 56.6**	**0.0**
	0.2nm,0.3s,baz=96,slow=18,SNR=3.2						
URZ	**Urewera**	**22.54**	**198**	P	**P**	**07 40 35.0**	**+0.3**
	9.3nm,0.4s,baz=278,slow=3.4,SNR=22						
URZ				S	**S**	**07 44 31.6**	**-1.2**
	12nm,1.0s,baz=86,slow=19,SNR=3.6						
CTA	**Charters Tower 37.57 259**			P	**P**	**07 42 47.9**	**+0.1**
	7.3nm,1.1s,baz=101,slow=5.2,SNR=2.7						
STKA	**Stephens Creek 42.60 241**			P	**P**	**07 43 29.1**	**-0.1**
	3.2nm,0.5s,baz=90,slow=6.1,SNR=7.5						
WRA	**Warramunga Arr 48.76 258**			P	**P**	**07 44 17.2**	**-0.5**
	2.1nm,0.4s,baz=97,slow=7.0,SNR=108						
ASAR	**Alice Springs 48.91 253**			P	**P**	**07 44 18.9**	**0.0**
	34nm,0.5s,baz=88,slow=8.6,SNR=537						
PETK	**Petropavlovsk- 73.89 343**			P	**P**	**07 47 07.0**	**+0.8**
	2.3nm,0.8s,baz=116,slow=7.8,SNR=4.9						
NVAR	**Mina Array Bea 76.00 42**			P	**P**	**07 47 19.1**	**+0.2**
	1.3nm,0.7s,baz=223,slow=9.0,SNR=14						
TXAR	**Lajitas Array 82.12 56**			P	**P**	**07 47 52.3**	**-0.1**
	0.3nm,0.6s,baz=223,slow=6.1,SNR=4.6						
PDAR	**Pinedale Array 83.94 42**			P	**P**	**07 48 01.4**	**-0.3**
	0.8nm,0.8s,baz=197,slow=3.1,SNR=6.7						
YKA	**Yellowknife Ar 91.84 24**			P	**P**	**07 48 38.3**	**-0.4**
	0.1nm,0.5s,baz=237,slow=4.6,SNR=4.2						
BRTR	**Keskin Array B 146.86 319**			PKPbc	**PKPab**	**07 55 13.8**	**-1.1**
	1.1nm,0.7s,baz=134,slow=3.6,SNR=5.3						

IDC ***30*** *07:39:39.8±0.3, 29.°88S×71.°55W, h0km, mb5.3/26, mb1 5.3/30, mb1mx5.3/36, mbtmp5.2/30, ML4.8/4, MS5.1/22, Ms1 5.1/22, ms1mx4.9/38, Error ellipse: s-maj=13.9km s-min=9.6km az=83.0*

SJA ***30*** *07:39:41.6±0.5, 29.°83S×72.°05W, h58km±6km, ML5.8, MW5.4*

GUC ***30*** *07:39:44.5±0.7, 29.°80S×71.°64W, h43km±3km, ML6.0, MW5.9*

ISCJB ***30*** *07:39:44.1±0.5, 29.°69S±0.°02×71.°58W±0.°04, h36km±4km, mb5.5/322, MS5.2/427, Error ellipse: s-maj=5.5km s-min=3.2km az=174.9*

MOS ***30*** *07:39:44.8±1.1, 29.°77S×71.°72W, h37km, mb5.7/69, MS5.0/47, Error ellipse: s-maj=12.9km s-min=5.8km az=104.8*

GCMT ***30*** *07:39:45.6±0.1, 29.°88S×71.°81W, h39km, MW5.6/122, Moment Tensor Solution. s111,c176; s122,c261; Duration: 1s6 Moment tensor: Scale 10^17Nm; Mrr1.87±.04; Mθθ1.28±.03; Mθφ-3.15±.04; Mrθ-1.58±.05; Mθθ-0.17±.03; Mφr-0.84±.06; Best double couple: Mo3.27900×10^17 NP1:φs214.00000°, δ65.00000°, λ131.00000°. NP2:φs330.00000°, δ47.00000°, λ35.00000°. Principal axes: T 3.2290, Plg51.0000°, Azm172.0000°; N 0.1010, Plg37.0000°, Azm14.0000°; P -3.3300, Plg11.0000°, Azm276.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

NEIC ***30*** *07:39:45.0±0.0, 29.°84S×71.°49W, h32km, Moment Tensor Solution. s14 Moment tensor: Scale 10^17Nm; Mrr1.99; Mθθ0.80; Mθφ-2.78; Mrθ-0.43; Mθφ-0.07; Mφr-1.68; Best double couple: Mo3.00000×10^17 NP1:φs192.00000°, δ64.00000°, λ102.00000°. NP2:φs346.00000°, δ29.00000°, λ67.00000°. Principal axes: T 2.6000, Plg69.0000°, Azm126.0000°; N 0.7200, Plg10.0000°, Azm6.0000°; P -3.3300, Plg17.0000°, Azm272.0000°;*

NEIC ***30*** *07:39:45.6±0.4, 29.°87S×71.°46W, h37km±3km, mb5.6/297, MS5.1/298, MW5.5, MW5.6, ML6.0(GUC) Error ellipse: s-maj=4.0km s-min=2.3km az=78.0, Moment Tensor Solution. s78 Moment tensor: Scale 10^17Nm; Mrr1.21; Mθθ0.96; Mθφ-2.17; Mrθ-1.15; Mθφ-0.46; Mφr-0.59; Best double couple: Mo2.30000×10^17 NP1:φs221.00000°, δ68.00000°, λ132.00000°. NP2:φs334.00000°, δ47.00000°, λ31.00000°. Principal axes: T 2.2500, Plg49.0000°, Azm177.0000°; N 0.1600, Plg39.0000°, Azm23.0000°; P -2.4100, Plg13.0000°, Azm282.0000°;*

NEIC Felt [V] at Coquimbo, La Higuera, La Serena, Ovalle, Paiguano and Vicuna; [IV] at Alto del Carmen, Andacollo, Copiapo, Tierra Amarilla and Vallenar; [III] at Combarbala, Illapel, Monte Patria, Punitaqui, Rio Hurtado and Salamanca; [II] at Canela and Santiago. Also felt at La Ligua and Vina del Mar. Felt at Mendoza, Argentina.

ISC 30 07:39:43.6±0.3, 29.°86S±0.°03×71.°66W±0.°04, h24km±2km, h24km:pP-P, n1531, σ1≥14/1465, mb5.6/322, MS5.2/427, 19C-19D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GO04	**Tololo Observa**	**0.81**	**113**	*e*Pn	**Pn**	**07 40 00.5**	**+0.8**
GO04				*e*Sn	**Sb**	**07 40 06.1**	**-3.7**
GO04	**Tololo Observa**	**0.81**	**113**⇓	*i*P	**Pn**	**07 40 00.5**	**+0.8**
GO04				*i* S	**Sn**	**07 40 12.8**	**+1.6**
GO04				IAML		07 40 15.6	
	comp=N,1086μm,0.7s						
LCO	**Las Campanas**	**1.19**	**45**	*e*Pn	**Pb**	**07 40 05.4**	**-0.2**
LCO				*e*Sn	**Sn**	**07 40 16.0**	**-4.5**
LCO	**Las Campanas**	**1.19**	**45**⇑	*i*P	**Pb**	**07 40 05.5**	**-0.2**
LCO				*i* S	**Sb**	**07 40 21.1**	**+0.4**
LCO	**Las Campanas**	**1.19**	**45**	P	**Pb**	**07 40 05.6**	**0.0**
VACH	**Vallenar**	**1.50**	**32**⇑	*i*P	Pb	07 40 28.6	+18
VACH				*i* S	Sb	07 40 47.8	+18
ACDV	**Cuesta del Vie**	**2.23**	**99**	*e*P	**Pb**	**07 40 23.2**	**-0.1**
ACDV				*e*S	**Sb**	**07 40 53.8**	**+3.4**
GO03	**Copiap**	**2.58**	**29**	*e*Pn	**Pn**	**07 40 24.2**	**+0.3**
GO03				*e*Sn	**Sn**	**07 40 50.7**	**-3.9**
GO03	**Copiap**	**2.58**	**29**⇓	*i*P	**Pn**	**07 40 23.9**	**0.0**
GO03				*e*S	**Sn**	**07 40 54.0**	**-0.6**
GO03				IAML		07 41 05.6	
	comp=N,37μm,0.7s						
AGUA	**GUANDACOL**	**2.79**	**83**	*e*P	**Pb**	**07 40 31.2**	**-1.5**
RTLS	**Leoncito**	**2.81**	**134**	*e*P	**Pb**	**07 40 31.0**	**-2.2**
RTLS				*e*S	**Sb**	**07 41 07.6**	**+0.4**
AMOG	**MOGNA**	**2.94**	**112**	*e*P	**Pb**	**07 40 32.9**	**-2.4**

AUSP	**Uspallata**	3.06	141	*e*P		Pn	07 40 34.0	+3.2	
RTLL	**Cerro Villicun**	3.12	119	*e*P		Pb	07 40 35.0	-3.3	
ROCH	**El Roble**	3.15	170	*i*P		Pn	07 40 33.0	+1.1	
ROCH				*e*S		Sn	07 41 09.7	+0.8	
ROCH				IAML			07 41 26.3		
	comp=E,44µm,1.0s								
ROC1	**El Roble**	3.16	170	*e*Pn		Pn	07 40 33.0	+1.0	
ROC1				*e*Sn		Sn	07 41 09.1	0.0	
VCA	**Vinchina**	3.22	71	*e*P		Pb	07 40 37.0	-3.1	
VCA				IAML			07 40 51.1		
	comp=Z,19µm,0.5s								
VCA				*e*S		Sb	07 41 17.5	-1.5	
RTCV	**Cerro Valdivia**	3.35	127	*e*P		Pn	07 40 38.0	+3.6	
PEL	**Peldehue**	3.38	166	*e*Pn		Pn	07 40 36.4	+1.5	
PEL				*e*Sn		Sn	07 41 14.7	+0.4	
PEL	**Peldehue**	3.38	166	*i*P		Pn	07 40 36.3	+1.5	
PEL				*i* S		Sn	07 41 15.7	+1.4	
PEL	**Peldehue**	3.38	166	*e*P		Pn	07 40 36.4	+1.5	
PEL				*e*			07 41 14.7		
ASAL	**Salagasta**	3.65	139	*e*P		Pn	07 40 41.4	+2.9	
FCH	**Farellones**	3.65	162	*e*P		Pn	07 40 40.4	+1.6	
ARCO	**CERRO ARCO**	3.78	143	*e*P		Pn	07 40 43.5	+3.0	
ARCO				IAML			07 41 56.8		
	comp=Z,14µm,0.9s								
ANTU	**Antumapu**	3.80	167	*e*P		Pn	07 40 42.3	+1.6	
AAGR	**Agrelo**	4.03	144	*e*P		Pn	07 40 46.9	+3.1	
LMEL	**Las Melosas**	4.17	163	*i*P		Pn	07 40 48.0	+2.2	
LMEL				*i* S		Sn	07 41 35.4	+1.6	
APLL	**PUNTA DE LOS L**	4.48	98	*e*P		Pn	07 40 54.4	+4.4	
APLL				*e*S		Sn	07 41 47.8	+6.4	
AVIZ	**Vizcacheras**	4.49	144	*e*P		Pn	07 40 53.0	+2.8	
ACAN	**Cantantal**	4.53	123	*e*P		Pn	07 40 54.0	+3.3	
GO02	**Mina Guanaco**	5.03	22	*e*Pn		Pn	07 40 56.8	-1.0	
GO05	**HualaæØ**	5.14	182	*e*Pn		Pn	07 40 58.0	-1.1	
GO05				*e*Sn		Sn	07 41 58.5	+0.8	
GO05	**HualaæØ**	5.14	182	*i* P		Pn	07 40 57.9	-1.1	
CYA	**Choya**	5.32	76	*e*P		Pn	07 41 05.2	+3.6	
CYA	**Choya**	5.32	76	*e*P		Pn	07 41 03.1	+1.6	
FSA	**Cafayete**	6.26	55	*e*P		Pn	07 41 17.2	+2.6	
TCA	**Tanti**	6.27	105	*e*P		Pn	07 41 18.6	+3.9	
AHML	**Horco Molle**	6.36	63	*e*P		Pn	07 41 18.9	+3.0	
AHML	**Horco Molle**	6.36	63	*i*P		Pn	07 41 16.1	+0.2	
PB10	**IPOC Station P**	6.40	9	*e*Pn		Pn	07 41 13.7	-2.6	
PB10				*e*Sn		Sn	07 42 27.4	-1.2	
PB04	**IPOC Station P**	7.62	11	*e*Pn		Pn	07 41 29.8	-3.4	
PB04				*e*Sn		Sn	07 42 57.3	-1.6	
PB01	**IPOC Station P**	8.99	13	*e*Pn		Pn	07 41 47.8	-4.3	
PB01				*e*Sn		Sn	07 43 28.6	-4.1	
GO06	**Curarrehue**	9.70	179	*e*Pn		Pn	07 42 01.2	-0.6	
GO06				*e*Sn		Sn	07 43 50.6	+0.6	
PB11	**IPOC Station P**	10.22	11	*e*Pn		Pn	07 42 04.2	-4.7	
PB11				*e*Sn		Sn	07 44 01.9	-1.0	
MNMC	**Minye Minye**	10.84	10	*e*Pn		Pn	07 42 13.6	-4.0	
PLCA	**Paso Flores**	10.89	176	Pn		Pn	07 42 18.1	+0.1	
	comp=Z,6.8nm,0.3s,baz=6.5,slow=12,SNR=198								
PLCA				Sn		Sn	07 44 18.9	-0.1	
	comp=Z,0.4nm,0.3s,baz=24,slow=17,SNR=1.9								
PLCA				Lg		Lg	07 45 23.4		
	comp=Z,0.7nm,0.3s,baz=288,slow=20,SNR=2.2								
PLCA				LR		LR	07 46 26.1		
	comp=Z,19µm,21.6s,baz=13,slow=37								
PLCA	**Paso Flores**	10.89	176	*e*Pn		Pn	07 42 18.0	+0.1	
PLCA				*e*Sn		Sn	07 44 19.8	+0.8	
TRQA	**Tornquist**	11.46	138	*e*Pn		Pn	07 42 24.5	-1.3	
TRQA	**Tornquist**	11.46	138	P		Pn	07 42 24.4	-1.3	
CPUP	**Villa Florida**	13.13	78	Pn		Pn	07 42 47.1	-1.5	
	comp=Z,1.0nm,0.3s,baz=260,slow=11,SNR=18								
CPUP				Sn		Sn	07 45 14.2	+0.2	
	comp=Z,1.0nm,0.3s,baz=252,slow=16,SNR=1.7								
CPUP				Lg		Lg	07 46 36.9		
	comp=Z,2.2nm,0.3s,baz=166,slow=19,SNR=3.4								
CPUP				LR		LR	07 48 14.8		
	comp=Z,15µm,20.7s,baz=256,slow=40								
CPUP	**Villa Florida**	13.13	78	*e*Pn		Pn	07 42 46.7	-1.9	
CPUP	**Villa Florida**	13.13	78	*e*P		Pn	07 42 46.7	-1.9	
LPAZ	**La Paz**	13.89	14	Pn		Pn	07 42 56.7	-2.9	
	comp=Z,0.4nm,0.3s,baz=209,slow=6.9,SNR=14								
LPAZ				Sn		Sn	07 45 37.1	+3.7	
	comp=Z,0.4nm,0.3s,baz=184,slow=15,SNR=1.4								
LPAZ				Lg		Lg	07 47 00.8		
	comp=Z,0.2nm,0.3s,baz=199,slow=17,SNR=2.1								
LPAZ				LR		LR	07 48 59.5		
	comp=Z,10µm,18.1s,baz=168,slow=40								
LPAZ	**La Paz**	13.89	14	*e*Pn		Pn	07 42 56.4	-3.2	
LPAZ				*e*Sn		Sn	07 45 29.1	-4.3	
SIV	**San Ignacio**	16.89	37	Pn		Pn	07 43 37.4	-1.0	
	comp=Z,1.9nm,0.3s,baz=234,slow=11,SNR=38								
SIV				Sn		Sn	07 46 47.6	+2.2	
	comp=Z,0.7nm,0.3s,baz=292,slow=19,SNR=2.1								
CHRN	**Cochrane**	17.38	182	*e*Pn		Pn	07 43 44.5	+0.2	
	comp=Z,159nm,1.0s								
CHRN				*e*Sn		Sn	07 46 52.9	-4.1	
NNA	**Nana**	18.42	344	*e*P		Pn	07 43 59.1	+1.7	
	comp=Z,370nm,1.8s								
NNA	**Nana**	18.42	344	*e*P		Pn	07 43 59.1	+1.7	
NNA				pmax		pmax			
	comp=Z,370nm,1.8s								
SAML	**Samuel**	22.27	23	*e*P		P	07 44 39.0	0.0	
	comp=Z,145nm,1.0s								
SAML				LR		LR			
	comp=Z,5µm,20.0s								
SPB	**Sao Paulo**	22.50	80	*e*P		P	07 44 41.6	+0.1	
	comp=Z,232nm,1.1s								
SPB				LR		LR			
	comp=Z,10µm,22.0s								
ATAH	**Atahualpa**	23.48	343	P		P	07 44 53.8	+1.9	
	comp=Z,14nm,0.7s,baz=180,slow=5.9,SNR=9.5								
ATAH				LR		LR	07 52 21.7		
	comp=Z,4µm,20.3s,baz=198,slow=32								
EFI	**East Falkland**	24.03	159	*e*P		P	07 44 56.1	-0.4	
	comp=Z,332nm,1.1s								
EFI				LR		LR			
	comp=Z,8µm,20.0s								
EFI	**East Falkland**	24.03	159	*c i*P		P	07 44 56.0	-0.4	
EFI				pmax		pmax			
	comp=Z,199nm,1.0s								
EFI				MLR		MLR			
	comp=Z,7µm,15.0s								
OTAV	**Otavalo**	30.62	347	*e*P		P	07 45 54.6	-1.8	
	comp=Z,55nm,1.1s								
OTAV				LR		LR			
	comp=Z,3µm,22.0s								
OTAV	**Otavalo**	30.62	347	P		P	07 45 55.5	-1.0	
OTAV				pmax		pmax			
	comp=Z,20nm,1.3s								
PTGA	**Pitinga**	31.03	23	P		P	07 45 59.3	-0.3	
	comp=Z,20nm,0.9s,baz=202,slow=8.3,SNR=27								
PTGA	**Pitinga**	31.03	23	*e*P		P	07 45 59.0	-0.6	
	comp=Z,39nm,0.9s								
PTGA				LR		LR			
	comp=Z,5µm,21.0s								
TUMC	**Tumaco**	32.22	347	PFAKE			07 46 20.0	+10	
TUMC				LR		LR			
	comp=Z,2µm,22.0s								
RPN	**Rapa Nui**	33.13	265	LR		LR	07 56 04.0		
	comp=Z,4µm,20.0s,baz=114,slow=30								
PRAC	**Prado**	33.52	354	*e*P		P	07 46 22.7	+1.2	
	comp=Z,534nm,1.8s								
PRAC				LR		LR			
	comp=Z,4µm,22.0s								
ROSC	**El Rosal**	34.59	355	P		P	07 46 35.1	+4.0	
	comp=Z,5.2nm,0.5s,baz=123,slow=13,SNR=4.2								
ROSC				LR		LR	08 01 28.2		
	comp=Z,2µm,19.8s,baz=201,slow=38								
ROSC	**El Rosal**	34.59	355	*e*P		P	07 46 31.1	-0.1	
	comp=Z,27nm,0.9s								
ROSC				LR		LR			
	comp=Z,2µm,20.0s								
HOPE	**Hope Point**	35.15	144	*e*P		P	07 46 35.8	+0.7	
	comp=Z,219nm,1.4s								
HOPE				LR		LR			
	comp=Z,4µm,19.0s								
PMSA	**Palmer Station**	35.26	174	PFAKE			07 46 50.0	+14	
PMSA				LR		LR			
	comp=Z,7µm,18.0s								
RUSC	**La Rusia**	35.57	358	*e*P		P	07 46 40.3	+0.6	
	comp=Z,277nm,1.5s								
RUSC				LR		LR			
	comp=Z,2µm,21.0s								
HELC	**Santa Helena**	36.03	353	*e*P		P	07 46 44.6	+1.1	
	comp=Z,108nm,0.7s								
HELC				LR		LR			
	comp=Z,5µm,21.0s								
SDV	**Santo Domingo**	38.53	2	P		P	07 47 03.3	-1.2	
	comp=Z,21nm,0.9s,baz=204,slow=6.7,SNR=17								
SDV				LR		LR	08 03 57.2		
	comp=Z,2µm,19.1s,baz=206,slow=38								
SDV	**Santo Domingo**	38.53	2	*e*P		P	07 47 03.3	-1.2	
	comp=Z,38nm,0.8s								
SDV				LR		LR			
	comp=Z,4µm,18.0s								
BCIP	**Isla Barro Col**	39.59	347	PFAKE			07 47 30.0	+17	
BCIP				LR		LR			
	comp=Z,1µm,22.0s								
PCRV	**Puerto La Cruz**	40.37	11	P		P	07 47 19.9	+0.2	
	comp=Z,13nm,0.9s,baz=144,slow=6.2,SNR=3.5								
PCRV				LR		LR	08 06 07.2		
	comp=Z,4µm,18.0s,baz=173,slow=39								
RCBR	**Riachuelo**	41.30	62	*e*P		P	07 47 27.2	-0.3	
	comp=Z,44nm,1.1s								
RCBR				LR		LR			
	comp=Z,10µm,21.0s								
HDC	**Heredia**	41.40	341	*e*P		P	07 47 28.6	+0.3	
	comp=Z,82nm,1.1s								
HDC				LR		LR			
	comp=Z,1.1nm,21.0s								
JTS	**JuntasAbangare**	41.92	340	P		P	07 47 34.9	+2.5	
	comp=Z,1.7nm,0.5s,baz=262,slow=4.6,SNR=5.8								
JTS				LR		LR	08 01 37.0		
	comp=Z,1µm,20.1s,baz=227,slow=31								
ESPN	**Las Esperanzas**	43.55	342	*e*P		P	07 47 46.7	+1.1	
	comp=Z,34nm,1.0s								
ESPN				LR		LR			
	comp=Z,700nm,18.0s								
SVB	**Belmont**	44.04	15	*e*P		P	07 47 48.4	-1.1	
	comp=Z,75nm,0.8s								
SVB				LR		LR			
	comp=Z,2µm,20.0s								
BBGH	**Gun Hill**	44.32	17	*e*P		P	07 47 52.5	+0.7	
	comp=Z,1µm,1.5s								
ESTN	**Estel**	45.00	340	*e*P		P	07 47 57.8	+0.5	
	comp=Z,50nm,1.3s								
ESTN				LR		LR			
	comp=Z,1µm,21.0s								
TRMF	**Trois Ilets**	45.31	15	*e*P		P	07 48 06.7	+7.1	
ZAM	**Aeronautique**	45.35	15	*e*P		P	07 48 08.5	+8.6	
FDF	**Fort de France**	45.48	14	PFAKE			07 48 10.0	+9.0	
FDF				LR		LR			
	comp=Z,2µm,21.0s								
FDF	**Fort de France**	45.48	14	*e*P		P	07 48 08.1	+7.1	
CXM	**Morne La Croix**	45.55	14	*e*P		P	07 48 07.6	+5.9	
BAMF	**Morne Balai**	45.56	14	*e*P		P	07 48 09.2	+7.6	
TGUH	**Tegucigalpa,Un**	46.18	339	*e*P		P	07 48 07.4	+0.9	
	comp=Z,290nm,1.8s								
SNET	**Serv Nac Est T**	46.49	336	*e*P		P	07 48 09.2	+0.1	
	comp=Z,160nm,1.3s								
GDHS	**Morne Mazeau,**	46.84	13	PFAKE			07 48 20.0	+8.2	
GDHS				LR		LR			
	comp=Z,2µm,22.0s								
ICMP	**Isla Caja de M**	47.72	7	*e*P		P	07 48 17.8	-0.8	
CRPR	**Cabo Rojo, PR**	47.79	6	PFAKE			07 48 30.0	+11	
CRPR				LR		LR			
	comp=Z,2µm,20.0s								
SEUS	**St. Eustatius**	47.81	11	PFAKE			07 48 30.0	+11	
SEUS				LR		LR			
	comp=Z,2µm,19.0s								
OBIP	**Obispado Ponce**	47.87	6	*e*P		P	07 48 19.7	+0.1	
	comp=Z,146nm,1.0s								
SABA	**Saba**	47.90	11	PFAKE			07 48 30.0	+10	
SABA				LR		LR			
	comp=Z,2µm,19.0s								
SJG	**San Juan**	47.99	7	P		P	07 48 19.5	-1.1	
	comp=Z,38nm,1.0s,baz=169,slow=2.6,SNR=6.6								
SJG	**San Juan**	47.99	7	*e*P		P	07 48 19.8	-0.8	
SJG				LR		LR			
	comp=Z,2µm,19.0s								
SJG	**San Juan**	47.99	7	*e*P		P	07 48 19.8	-0.8	
SJG				MLR		MLR			
	comp=Z,2µm,19.0s								
MPR	**Mayaguez**	47.99	6	*e*P		P	07 48 18.8	-1.7	
	comp=Z,303nm,1.7s								
MPR				LR		LR			
	comp=Z,1µm,22.0s								
MTP	**Monte Pirata**	48.04	8	*e*P		P	07 48 20.4	-0.6	
	comp=Z,63nm,1.1s								
MTP				LR		LR			
	comp=Z,2µm,22.0s								
HUMP	**Col San Antoni**	48.05	7	*e*P		P	07 48 20.6	-0.5	
	comp=Z,119nm,1.4s								
HUMP				LR		LR			
	comp=Z,2µm,20.0s								
SDD	**Santo Domingo**	48.06	2	*e*P		P	07 48 21.8	+0.7	
	comp=Z,239nm,0.7s								
MTDJ	**Mount Denham**	48.14	352	PFAKE			07 48 30.0	+8.1	
MTDJ				LR		LR			
	comp=Z,700nm,20.0s								
APG	**El Apazote**	48.15	335	P		P	07 48 22.5	+0.4	
	comp=Z,6.5nm,0.8s,baz=158,slow=10,SNR=6.8								
APG				LR		LR	08 04 21.7		
	comp=Z,2µm,20.7s,baz=152,slow=31								
AOPR	**Arecibo Observ**	48.16	6	*e*P		P	07 48 21.5	-0.5	
	comp=Z,596nm,1.9s								
CBYP	**Canovanas**	48.18	7	*e*P		P	07 48 21.7	-0.4	
	comp=Z,474nm,1.7s								
AGP	**Aguadilla**	48.18	6	PFAKE			07 48 30.0	+7.9	
AGP				LR		LR			
	comp=Z,2µm,19.0s								
ANWB	**Willy Bob**	48.20	13	PFAKE			07 48 30.0	+7.8	
ANWB				LR		LR			
	comp=Z,2µm,21.0s								
SDDR	**Presa de Saban**	48.56	0	PFAKE			07 48 40.0	+15	
SDDR				LR		LR			
	comp=Z,2µm,20.0s								
ABVI	**Anegada Island**	48.82	9	PFAKE			07 48 40.0	+13	
ABVI				LR		LR			
	comp=Z,1µm,20.0s								
GTBY	**Guantanamo Bay**	49.61	356	PFAKE			07 48 50.0	+17	
GTBY				LR		LR			
	comp=Z,1µm,21.0s								
CCIG	**Comitan**	49.94	334	*e*P		P	07 48 36.7	+0.9	
CCIG				LR		LR			
	comp=Z,3µm,19.0s								
GRTK	**Grand Turk**	51.08	1	PFAKE			07 49 00.0	+16	
GRTK				LR		LR			
	comp=Z,2µm,21.0s								
CMIG	**Matias Romero**	51.77	331	P		P	07 48 50.5	+1.1	
	comp=Z,7.0nm,0.8s,baz=150,slow=6.0,SNR=8.5								
CMIG				LR		LR	08 05 42.3		
	comp=Z,2µm,21.5s,baz=159,slow=30								
TEIG	**Tepich**	52.30	340	PFAKE			07 49 10.0	+17	
TEIG				LR		LR			
	comp=Z,1µm,22.0s								
VNA3	**Neumayer Olymp**	53.08	159	P		P	07 48 58.8	+0.3	
VNA1	**Neumayer--Stat**	53.37	158	P		P	07 49 01.3	+0.7	
MYIG	**MÖrida**	53.44	339	PFAKE			07 49 10.0	+8.4	
MYIG				LR		LR			
	comp=Z,1µm,22.0s								
VNA2	**Neumayer--Watz**	53.72	158	P		P	07 49 03.5	+0.3	
	baz=286,slow=8.4								
TLIG	**Tlapa**	53.81	328	*e*P		P	07 49 05.8	+1.2	
TLIG				LR		LR			
	comp=Z,4µm,22.0s								
LVIG	**Laguna Verde**	54.76	331	*e*P		P	07 49 11.0	-0.3	
	comp=Z,45nm,1.0s								
LVIG				LR		LR			
	comp=Z,1µm,22.0s								
SNAA	**Sanae**	55.31	159	P		P	07 49 15.0	+0.2	
SNAA	**Sanae**	55.31	159	P		P	07 49 14.3	-0.5	
	comp=Z,226nm,0.7s,baz=277,slow=6.4,SNR=662								
SNAA				LR		LR	08 11 29.5		
	comp=Z,3µm,21.6s,baz=296,slow=35								
SNAA	**Sanae**	55.31	159	*e*P		P	07 49 14.4	-0.5	
	comp=Z,292nm,0.8s								
SNAA				LR		LR			
	comp=Z,3µm,21.0s								
UNM	**Universidad Na**	55.63	328	*e*P		P	07 49 16.9	-1.1	
	comp=Z,60nm,1.3s								
UNM				LR		LR			
	comp=Z,1µm,20.0s								
UNM	**Universidad Na**	55.63	328	*e*P		P	07 49 16.9	-1.1	
UNM				pmax		pmax			
	comp=Z,60nm,1.3s								
UNM				MLR		MLR			
	comp=Z,1µm,20.0s								
RKT	**Rikitea**	56.45	261	*e*S		S	07 57 12.5	-1.0	
	comp=Z,2µm,31.8s								
RKT				*e*LR		LR	08 05 59.8		
	comp=Z,2µm,25.0s,baz=118								
RKT	**Rikitea**	56.45	261	*e*T		T	08 50 23.4		
	comp=Z,17nm,0.2s								
059Z	**Ave Maria**	56.66	349	P		P	07 49 24.4	-0.4	
	baz=170								
MOIG	**Morelia**	56.88	326	PFAKE			07 49 40.0	+13	
MOIG				LR		LR			
	comp=Z,4µm,19.0s								
060A	**Indiantown**	57.18	351	P		P	07 49 28.4	-0.2	
	baz=171								
059A	**Moore Haven**	57.23	350	P		P	07 49 28.3	-0.5	
	baz=170								
JRQG	**Juriquilla Cam**	57.41	328	PFAKE			07 49 40.0	+9.5	
JRQG				LR		LR			
	comp=Z,7µm,20.0s								
058A	**Arcadia**	57.42	349	P		P	07 49 29.7	-0.6	
	baz=169								
959A	**Okeechobee**	57.74	350	P		P	07 49 31.2	-1.3	
	baz=170								
ASCN	**Ascension**	57.81	80	PFAKE			07 49 40.0	+6.6	
ASCN				LR		LR			
	comp=Z,3µm,19.0s								
958A	**Wauchula**	57.93	349	P		P	07 49 33.1	-0.7	
	baz=170								
957A	**Wimauma**	58.09	349	P		P	07 49 33.9	-1.1	
	baz=169								
859A	**Kempfer Cattle**	58.27	350	P		P	07 49 34.2	-2.0	
	baz=170								
DWPF	**Disney Wildern**	58.40	350	P		P	07 49 35.8	-1.3	
	baz=170								
DWPF	**Disney Wildern**	58.40	350	*e*P		P	07 49 34.9	-2.1	
	comp=Z,157nm,1.4s								
DWPF				LR		LR			
	comp=Z,700nm,21.0s								
858A	**St. Cloud**	58.48	350	P		P	07 49 35.9	-1.8	
	baz=170								
857A	**Zephyrhills**	58.67	349	P		P	07 49 38.3	-0.7	
	baz=169								
758A	**Lake Helen**	59.20	350	P		P	07 49 41.4	-1.2	
	baz=170								
757A	**Oxford**	59.31	349	P		P	07 49 41.4	-1.9	
	baz=169								
658A	**Bunnell**	59.66	350	P		P	07 49 44.7	-1.0	
	baz=170								
656A	**Willston**	59.80	349	P		P	07 49 46.3	-0.5	
	baz=169								
657A	**Interlachen**	59.91	350	P		P	07 49 47.6	+0.1	
	baz=170								
NVL	**N'lazarevskaya**	60.00	158	*e*P		P	07 49 47.1	-0.6	
NVL				*e*S		S	07 57 59.5	+1.0	
NVL				pmax		pmax			
	comp=Z,175nm,0.8s								
655A	**Horseshoe Beac**	60.06	348	P		P	07 49 48.2	-0.4	
	baz=168								
ZAIG	**Zacatecas**	60.17	327	PFAKE			07 50 00.0	+10	
ZAIG				LR		LR			
	comp=Z,5µm,21.0s								
557A	**Orange Park**	60.31	350	P		P	07 49 50.1	-0.1	
	baz=170								
QSPA	**South Pole Qui**	60.37	180	P		P	07 49 51.1	+0.6	
	comp=Z,122nm,0.8s,baz=151,slow=5.3,SNR=214								
QSPA				LR		LR	08 15 35.1		
	comp=Z,1µm,20.9s,baz=180,slow=36								
QSPA				PKPPKP		P'P'df	08 19 07.9	-11	
	comp=Z,4.1nm,1.1s,baz=346,slow=4.2,SNR=3.4								
QSPA				PKP2bc			08 19 19.6		
	comp=Z,16nm,1.1s,baz=252,slow=0.9,SNR=9.4								
QSPA	**South Pole Qui**	60.37	180	*e*P		P	07 49 50.5	0.0	
	comp=Z,127nm,0.8s								
556A	**Lake Butler**	60.40	349	P		P	07 49 50.9	0.0	
	baz=169								
556A				S		S	07 58 06.6	+2.2	
	baz=169								
555A	**McAlpin**	60.61	349	P		P	07 49 52.1	-0.2	
	baz=169								
LNIG	**Linares**	60.63	331	*e*P		P	07 49 53.3	+0.7	
	comp=Z,19nm,0.8s								
554A	**Perry**	60.70	348	P		P	07 49 52.9	0.0	
	baz=168								
457A	**Yulee**	60.88	350	P		P	07 49 54.0	-0.1	
	baz=170								
553A	**Crawfordville**	60.94	347	P		P	07 49 54.6	0.0	
	baz=167								
456A	**Hilliard**	61.05	350	P		P	07 49 55.2	0.0	
	baz=170								
552A	**Lynn Haven**	61.06	347	P		P	07 49 55.0	-0.4	
	baz=166								
455A	**Stateville**	61.23	349	P		P	07 49 55.9	-0.6	
	baz=169								
454A	**Quitman**	61.31	348	P		P	07 49 56.8	-0.2	
	baz=168								
H06S1	**SOCORRO T**	61.38	317	T		T	08 56 50.1		
	SNR=6.4								
H06E1	**SOCORRO T-PHAS**	61.40	317	T		T	08 56 53.1		
	SNR=40								
SHEL	**Horse Pasture**	61.55	93	*i*P		P	07 50 01.4	+2.2	
453A	**Whigham**	61.57	348	P		P	07 49 58.6	-0.2	
	baz=167								
646A	**Port Sulphur**	61.60	342	P		P	07 49 59.0	0.0	
	baz=162								
451A	**Vernon**	61.62	346	P		P	07 49 59.3	+0.2	
	baz=166								
356A	**Blackshear**	61.66	350	P		P	07 49 59.3	-0.1	
	baz=170								
357A	**Townsend**	61.66	350	P		P	07 49 59.3	0.0	
	baz=170								
645A	**Chauvin**	61.69	341	P		P	07 49 59.1	-0.5	
	baz=161								
452A	**Marianna**	61.73	347	P		P	07 49 59.8	-0.1	
	baz=166								
355A	**Pearson**	61.79	349	P		P	07 50 00.2	0.0	
	baz=169								
450A	**Crestview**	61.98	345	P		P	07 50 01.5	0.0	
	baz=165								
TIGA	**Tifton**	62.01	348	P		P	07 50 01.4	-0.3	
	baz=168								
TIGA	**Tifton**	62.01	348	*e*P		P	07 50

541A	Lake Charles	63.02	339	P		P	07 50 07.8	-0.7
	baz=159							
250A	Grady	63.04	346	P		P	07 50 07.6	-1.1
	baz=166,SNR=6.2							
154A	Montrose	63.07	349	P		P	07 50 07.8	-1.0
	baz=169							
NHSC	New Hope	63.14	352	P		P	07 50 09.0	-0.3
	baz=172							
NHSC	New Hope	63.14	352	eP		P	07 50 09.6	+0.4
	comp=Z,165nm,1.1s							
NHSC				LR		LR		
	comp=Z,900nm,20.0s							
346A	Big Creek Wild	63.22	343	P		P	07 50 09.3	-0.5
	baz=163							
249A	Camden	63.22	345	P		P	07 50 08.8	-1.1
	baz=165,SNR=5.9							
153A	Fort Valley	63.23	349	P		P	07 50 09.3	-0.6
	baz=168							
443A	Delano Plantat	63.26	341	P		P	07 50 09.2	-0.8
	baz=160							
345A	Thompson Farm,	63.29	342	P		P	07 50 08.9	-1.4
	baz=162							
151A	Opelika	63.38	347	P		P	07 50 09.7	-1.2
	baz=167,SNR=8.3							
248A	Dixon Mills	63.48	345	P		P	07 50 09.6	-1.9
	baz=164							
150A	Eclectic	63.60	346	P		P	07 50 11.0	-1.3
	baz=166,SNR=13							
344A	Westbrook Farm	63.61	342	P		P	07 50 11.6	-0.8
	baz=161,SNR=11							
833A	Chaparral WMA,	63.63	333	P		P	07 50 12.6	-0.1
	baz=153,SNR=19							
833A	Chaparral WMA,	63.63	333	eP		P	07 50 13.2	+0.6
	comp=Z,143nm,1.1s							
247A	Quitman	63.64	344	P		P	07 50 11.8	-0.8
	baz=164							
441A	DeRidder	63.66	339	P		P	07 50 12.6	-0.1
	baz=159							
343A	Vidalia	63.70	341	P		P	07 50 12.3	-0.6
	baz=161							
246A	Jackson Lee, B	63.73	343	P		P	07 50 12.4	-0.8
	baz=163							
149A	Jones	63.75	346	P		P	07 50 11.6	-1.7
	baz=165,SNR=7.4							
HKT	Hockley	63.78	337	eP		P	07 50 15.2	+1.7
	comp=Z,58nm,1.3s							
HKT				LR		LR		
	comp=Z,700nm,18.0s							
HKT	Hockley	63.78	337	eP		P	07 50 15.2	+1.7
HKT				pmax		pmax		
	comp=Z,58nm,1.3s							
HKT				MLR		MLR		
	comp=Z,700nm,18.0s							
GOGA	Godfrey	63.91	349	P		P	07 50 13.6	-0.8
	baz=168							
GOGA	Godfrey	63.91	349	eP		P	07 50 14.0	-0.3
	comp=Z,71nm,1.5s							
GOGA				LR		LR		
	comp=Z,1µm,20.0s							
GOGA	Godfrey	63.91	349	eP		P	07 50 14.0	-0.3
GOGA				pmax		pmax		
	comp=Z,71nm,1.5s							
GOGA				MLR		MLR		
	comp=Z,1µm,20.0s							
245A	Little AP, Sta	63.94	343	P		P	07 50 14.6	+0.1
	baz=162,SNR=14							
148A	Greensboro	63.97	345	P		P	07 50 14.0	-0.8
	baz=164							
342A	Flagon Creek P	63.99	340	P		P	07 50 14.8	-0.1
	baz=160,SNR=7.0							
147A	Livingston	64.15	344	P		P	07 50 15.7	-0.2
	baz=164							
244A	Avery, Jackson	64.16	342	P		P	07 50 16.5	+0.5
	baz=162,SNR=18							
341A	Kurthwood	64.20	340	P		P	07 50 16.0	-0.3
	baz=159,SNR=8.1							
Z50A	Ashland	64.21	347	P		P	07 50 15.6	-0.8
	baz=166,SNR=17							
LRAL	Lakeview Retre	64.22	346	P		P	07 50 15.0	-1.4
	baz=165,SNR=9.3							
LRAL	Lakeview Retre	64.22	346	eP		P	07 50 15.6	-0.8
	comp=Z,43nm,1.3s							
LRAL				LR		LR		
	comp=Z,800nm,20.0s							
243A	Waterproof	64.22	341	P		P	07 50 16.1	-0.3
	baz=161							
Z49A	Columbiana	64.27	346	P		P	07 50 15.8	-0.9
	baz=166,SNR=8.0							
SACV	Santiago Islan	64.28	53	eP		P	07 50 16.1	-1.1
	comp=Z,112nm,1.2s							
VBMS	Vicksburg	64.28	342	P		P	07 50 16.5	-0.3
	baz=162							
146A	Union	64.31	344	P		P	07 50 16.3	-0.6
	baz=163							
JSC	Jenkinsville	64.44	351	eP		P	07 50 18.1	+0.3
	comp=Z,35nm,0.9s							
JSC				LR		LR		
	comp=Z,1µm,21.0s							
JSC	Jenkinsville	64.44	351	eP		P	07 50 18.1	+0.3
JSC				pmax		pmax		
	comp=Z,35nm,0.9s							
JSC				MLR		MLR		
	comp=Z,1µm,21.0s							
145A	Houston Renfro	64.49	343	P		P	07 50 18.7	+0.5
	baz=162,SNR=5.5							
242A	Grayson	64.58	341	P		P	07 50 19.4	+0.6
	baz=160,SNR=7.0							
Z47A	Carrollton	64.61	345	P		P	07 50 18.4	-0.6
	baz=164,SNR=9.7							
144A	Alexander Plac	64.64	343	P		P	07 50 18.9	-0.3
	baz=162,SNR=6.4							
Z48A	Northport	64.67	345	P		P	07 50 18.5	-0.8
	baz=165,SNR=12							
241A	Mo Tay, Goldon	64.77	340	P		P	07 50 19.5	-0.5
	baz=160,SNR=7.5							
Y50A	Piedmont	64.79	347	P		P	07 50 19.3	-0.8
	baz=166,SNR=13							
Z46A	Louisville	64.81	344	P		P	07 50 20.2	-0.1
	baz=163							
Y49A	Blount Mountai	64.89	346	P		P	07 50 20.5	-0.3
	baz=166,SNR=5.8							
143A	Socs Landing,	64.97	342	P		P	07 50 21.7	+0.4
	baz=161,SNR=5.6							
142A	Monroe	64.98	341	P		P	07 50 21.5	+0.1
	baz=160							
CNNC	Cliffs of the	65.02	354	P		P	07 50 21.1	-0.4
	baz=174							
CNNC	Cliffs of the	65.02	354	eP		P	07 50 21.9	+0.3
	comp=Z,67nm,0.9s							
CNNC				LR		LR		
	comp=Z,800nm,21.0s							
240A	Hunter Patters	65.04	339	P		P	07 50 22.0	+0.2
	baz=159							
PAULI	Pauline	65.04	351	PFAKE			07 50 30.0	+8.3
PAULI				LR		LR		
	comp=Z,800nm,20.0s							
NATX	Nacogdoches	65.06	338	P		P	07 50 22.3	+0.4
	baz=158,SNR=5.4							
NATX	Nacogdoches	65.06	338	eP		P	07 50 23.7	+1.8
	comp=Z,53nm,0.8s							
NATX				LR		LR		
	comp=Z,500nm,20.0s							
Y48A	Jasper	65.10	346	P		P	07 50 21.5	-0.6
	baz=165,SNR=6.2							
435B	Jarrell	65.16	336	P		P	07 50 22.8	+0.2
	baz=155							
435B	Jarrell	65.16	336	eP		P	07 50 23.4	+0.8
	comp=Z,43nm,0.9s							
435B				LR		LR		
	comp=Z,500nm,20.0s							
Z45A	Winona	65.16	343	P		P	07 50 22.7	+0.2
	baz=163,SNR=7.3							
HPIG		65.18	327	eP		P	07 50 23.9	+0.8
	comp=Z,21nm,0.9s							
HPIG				LR		LR		
	comp=Z,3µm,20.0s							
Y47A	UCPARC, Winfie	65.24	345	P		P	07 50 22.7	-0.4
	baz=164,SNR=23							
Z44A	Pea Ridge, Bel	65.26	343	P		P	07 50 23.5	+0.3
	baz=162,SNR=6.7							
KMSC	Kings Mountain	65.29	351	P		P	07 50 22.6	-0.8
	baz=171							
KMSC	Kings Mountain	65.29	351	PFAKE			07 50 40.0	+17
KMSC				LR		LR		
	comp=Z,900nm,21.0s							
141A	Papa Simpson,	65.31	340	P		P	07 50 22.9	-0.6
	baz=160							
BG3	Lake Jocassee	65.38	350	eP		P	07 50 24.5	+0.6
	comp=Z,68nm,1.3s							
BG3				LR		LR		
	comp=Z,800nm,20.0s							
Z43A	Armstrong Fami	65.41	342	P		P	07 50 23.9	-0.2
	baz=161							
Y46A	Houston	65.45	344	P		P	07 50 23.2	-1.2
	baz=164,SNR=10							
X49A	Woodville	65.51	347	P		P	07 50 24.3	-0.5
	baz=166,SNR=9.2							
140A	Cam and Jess,	65.54	340	P		P	07 50 24.4	-0.6
	baz=159							
X48A	Hartselle	65.59	346	P		P	07 50 24.7	-0.6
	baz=165,SNR=27							
Y45A	Yeager Farm, C	65.60	344	P		P	07 50 25.5	+0.2
	baz=163,SNR=19							
Z42A	Norrel Spur, H	65.66	341	P		P	07 50 25.3	-0.4
	baz=161							
JCT	Junction City	65.71	333	P		P	07 50 26.0	-0.2
	baz=153,SNR=20							
JCT	Junction City	65.71	333	eP		P	07 50 26.8	+0.6
	comp=Z,226nm,1.6s							
JCT				LR		LR		
	comp=Z,600nm,19.0s							
JCT	Junction City	65.71	333	eP		P	07 50 26.8	+0.6
JCT				pmax		pmax		
	comp=Z,226nm,1.6s							
JCT				MLR		MLR		
	comp=Z,600nm,19.0s							
X47A	Russelville	65.83	345	P		P	07 50 25.9	-0.9
	baz=164,SNR=25							
Y44A	Strider, Charl	65.85	343	P		P	07 50 26.9	-0.1
	baz=162							
Z41A	Richland Creek	65.89	341	P		P	07 50 27.0	-0.3
	baz=160,SNR=5.7							
Z41A	Richland Creek	65.89	341	eP		P	07 50 28.4	+1.1
	comp=Z,82nm,1.0s							
Z41A				LR		LR		
	comp=Z,400nm,21.0s							
Y43A	Makayla and Ka	65.99	343	P		P	07 50 28.2	+0.3
	baz=162,SNR=15							
NCAT	North Carolina	66.03	353	eP		P	07 50 27.9	-0.2
	comp=Z,53nm,1.5s							
NCAT				LR		LR		
	comp=Z,800nm,22.0s							
X46A	Booneville	66.03	345	P		P	07 50 27.7	-0.4
	baz=164,SNR=7.9							
Z40A	Long Farm, Mag	66.06	340	P		P	07 50 27.6	-0.7
	baz=159,SNR=6.4							
CPCT	Cooper Cave	66.08	349	eP		P	07 50 28.2	-0.2
X45A	UM Field Stati	66.09	344	P		P	07 50 27.9	-0.6
	baz=163,SNR=11							
SWET	Sewanee	66.11	347	eP		P	07 50 27.9	-0.8
	comp=Z,71nm,0.9s							
SWET				LR		LR		
	comp=Z,400nm,20.0s							
Y42A	Garnett, Star	66.15	342	P		P	07 50 29.0	+0.1
	baz=161,SNR=6.7							
TKL	Tuckaleechee C	66.16	349	P		P	07 50 28.6	-0.4
	comp=Z,16nm,0.9s,baz=160,slow=9.1,SNR=21							
TKL	Tuckaleechee C	66.16	349	eP		P	07 50 28.9	-0.1
	comp=Z,92nm,1.1s							
TKL				LR		LR		
	comp=Z,1µm,22.0s							
TKL	Tuckaleechee C	66.16	349	eP		P	07 50 28.9	-0.1
TKL				pmax		pmax		
	comp=Z,92nm,1.1s							
TKL				MLR		MLR		
	comp=Z,1µm,22.0s							
OXF	Oxford	66.18	344	P		P	07 50 28.3	-0.8
	baz=163,SNR=31							
OXF	Oxford	66.18	344	eP		P	07 50 28.7	-0.4
	comp=Z,164nm,1.0s							
OXF	Oxford	66.18	344	eP		P	07 50 28.7	-0.4
OXF				pmax		pmax		
	comp=Z,163nm,1.0s							
WHTX	Lake Whitney,	66.21	336	P		P	07 50 29.6	+0.2
	baz=156,SNR=7.0							
WHTX	Lake Whitney,	66.21	336	eP		P	07 50 30.3	+1.0
	comp=Z,116nm,1.3s							
WHTX				LR		LR		
	comp=Z,700nm,21.0s							
CCAR	Cane Creek	66.22	342	eP		P	07 50 30.2	+0.9
	comp=Z,78nm,0.9s							
CCAR				LR		LR		
	comp=Z,600nm,21.0s							
W48A	Pulaski	66.23	346	P		P	07 50 28.6	-0.8
	baz=165,SNR=9.1							
TXAR	Lajitas Array	66.31	330	P		P	07 50 30.6	+0.4
	comp=Z,11nm,0.8s,baz=151,slow=8.0,SNR=116							
TXAR				LR		LR	08 14 56.9	
	comp=Z,2µm,20.5s,baz=0.0,slow=32							
TXAR				PKP2bc			08 19 06.1	
	comp=Z,3.2nm,1.1s,baz=282,slow=2.3,SNR=14							
TX31	Lajitas Ar. Si	66.31	330	eP		P	07 50 30.7	+0.5
PLAL	Pickwick Lake	66.33	345	eP		P	07 50 29.1	-0.9
	comp=Z,41nm,0.8s							
X44A	Crenshaw	66.35	343	P		P	07 50 29.6	-0.6
	baz=162,SNR=12							
WLAR	White Oak Lake	66.38	341	eP		P	07 50 31.6	+1.3
	comp=Z,300nm,1.6s							
WLAR				LR		LR		
	comp=Z,700nm,21.0s							
Y41A	Eaglette Beard	66.42	341	P		P	07 50 30.6	0.0
	baz=160,SNR=8.5							
W47A	Westpoint	66.48	346	P		P	07 50 30.5	-0.5
	baz=165,SNR=15							
W46A	Michie	66.54	345	P		P	07 50 31.1	-0.2
	baz=164							
X43A	Marvell	66.55	343	P		P	07 50 31.8	+0.3
	baz=162,SNR=7.5							
X43A	Marvell	66.55	343	eP		P	07 50 32.2	+0.8
	comp=Z,180nm,0.8s							
Y40A	Okolona	66.73	341	P		P	07 50 32.7	+0.1
	baz=160							
W45A	Hickory Valley	66.75	344	P		P	07 50 32.3	-0.4
	baz=163							
X42A	Stuttgart	66.78	342	P		P	07 50 32.7	-0.2
	baz=161							
V48A	Smith Brothers	66.79	347	P		P	07 50 32.5	-0.5
	baz=165,SNR=24							
W44A	Shelby Farms P	66.88	344	P		P	07 50 33.3	-0.2
	baz=163							
MET	Memphis--Engin	66.89	344	eP		P	07 50 34.4	+0.8
	comp=Z,919nm,1.9s							
X41A	Kaden, Bauxite	66.97	341	P		P	07 50 33.7	-0.4
	baz=160							
TZTN	Tazewell	66.99	350	P		P	07 50 33.0	-1.3
	baz=169,SNR=5.4							
TZTN	Tazewell	66.99	350	eP		P	07 50 33.9	-0.4
	comp=Z,98nm,1.4s							
TZTN				LR		LR		
	comp=Z,1µm,21.0s							
TAOE	Nuku Hiva Isla	67.01	273	eS		S	07 59 27.0	-0.6
	comp=Z,2µm,30.6s							
TAOE	Nuku Hiva Isla	67.01	273	eLR		LR	08 10 53.6	
	comp=Z,1µm,26.5s							
TAOE	Nuku Hiva Isla	67.01	273	eP		P	07 50 37.1	+2.0
	comp=Z,160nm,1.3s							
V47A	Nunnelly	67.02	346	P		P	07 50 32.8	-1.6
	baz=165,SNR=8.4							
W43A	Forest City	67.05	343	P		P	07 50 34.0	-0.6
	baz=162							
X40A	Basin Creek Fa	67.05	341	P		P	07 50 34.2	-0.4
	baz=160							
X40A	Basin Creek Fa	67.05	341	eP		P	07 50 35.3	+0.7
	comp=Z,13nm,0.9s							
X40A				LR		LR		
	comp=Z,500nm,22.0s							
V46A	Holladay	67.12	346	P		P	07 50 33.9	-1.1
	baz=164,SNR=15							
UALR	University of	67.18	342	eP		P	07 50 36.0	+0.6
	comp=Z,62nm,1.5s							
UALR				LR		LR		
	comp=Z,400nm,22.0s							
SBA	Scott Base	67.19	191	eP		P	07 50 36.1	+1.1
	comp=Z,152nm,1.3s							
SBA	Scott Base	67.19	191	eP		P	07 50 36.1	+1.1
SBA				pmax		pmax		
	comp=Z,152nm,1.3s							
VWCC	Virginia Weste	67.21	353	eP		P	07 50 36.2	+0.6
BLA	Blacksburg	67.22	352	P		P	07 50 35.4	-0.3
	baz=172							
BLA	Blacksburg	67.22	352	eP		P	07 50 36.2	+0.5
	comp=Z,39nm,1.0s							
BLA				LR		LR		
	comp=Z,800nm,21.0s							
BLA	Blacksburg	67.22	352	eP		P	07 50 36.2	+0.5
BLA				pmax		pmax		
	comp=Z,39nm,1.0s							
BLA				MLR		MLR		
	comp=Z,800nm,21.0s							
V45A	Humboldt	67.25	345	P		P	07 50 35.1	-0.8
	baz=164							
URVA	University of	67.30	355	eP		P	07 50 37.0	+0.9
MIAR	Mount Ida	67.32	340	P		P	07 50 35.6	-0.7
	baz=159,SNR=13							
MIAR	Mount Ida	67.32	340	eP		P	07 50 37.0	+0.6
	comp=Z,61nm,1.2s							
MIAR				LR		LR		
	comp=Z,400nm,20.0s							
MIAR	Mount Ida	67.32	340	eP		P	07 50 37.0	+0.6
MIAR				pmax		pmax		
	comp=Z,61nm,1.2s							
MIAR				MLR		MLR		
	comp=Z,400nm,20.0s							
WVT	Waverly	67.38	346	P		P	07 50 36.3	-0.4
	baz=165							
WVT	Waverly	67.38	346	eP		P	07 50 36.0	-0.7
	comp=Z,68nm,0.8s							
WVT				LR		LR		
	comp=Z,600nm,21.0s							
WVT	Waverly	67.38	346	eP		P	07 50 36.0	-0.7
WVT				pmax		pmax		
	comp=Z,68nm,0.8s							
WVT				MLR		MLR		
	comp=Z,600nm,21.0s							
W42A	Bald Knob	67.43	342	P		P	07 50 36.8	-0.2
	baz=161							
X39A	Fountain Ranch	67.44	340	P		P	07 50 37.1	-0.1
	baz=159,SNR=20							
JSRW	J. Sargeant Re	67.45	355	eP		P	07 50 37.8	+0.7
HBAR	Harrisburg	67.48	343	eP		P	07 50 37.8	+0.4
HBAR				LR		LR		
	comp=Z,600nm,20.0s							
U48A	Cassie Pea, Po	67.48	347	P		P	07 50 36.8	-0.6
	baz=166,SNR=11							
HALT	Halls	67.50	345	eP		P	07 50 36.8	-0.6
W41B	Gary Mavity, V	67.53	342	P		P	07 50 37.2	-0.5
	baz=161,SNR=9.6							
W41B	Gary Mavity, V	67.53	342	eP		P	07 50 38.2	+0.5
	comp=Z,39nm,1.0s							
W41B				LR		LR		
	comp=Z,400nm,19.0s							
V44A	Blytheville	67.55	344	P		P	07 50 37.4	-0.4
	baz=163							
U47A	Clarksville	67.56	346	P		P	07 50 37.4	-0.5
	baz=165,SNR=32							
ABTX	Abilene, Hawle	67.57	335	P		P	07 50 37.7	-0.3
	baz=154,SNR=22							
ABTX	Abilene, Hawle	67.57	335	eP		P	07 50 38.5	+0.4
	comp=Z,118nm,1.3s							
ABTX				LR		LR		
	comp=Z,600nm,19.0s							
IP05	Hopewell Churc	67.58	355	eP		P	07 50 38.9	+1.0
	comp=Z,94nm,0.8s							
WHAR	Wooly Hollow	67.65	342	eP		P	07 50 38.8	+0.4
	comp=Z,45nm,1.0s							
WHAR				LR		LR		
	comp=Z,400nm,19.0s							
V43A	Jonesboro	67.67	343	P		P	07 50 38.3	-0.2
	baz=162							
U46A	Springville	67.67	346	P		P	07 50 37.9	-0.7
	baz=164,SNR=13							
IP07	Quail	67.69	355	eP		P	07 50 40.0	+1.4
	comp=Z,80nm,0.9s							
IP06	Yanceyville	67.70	355	eP		P	07 50 39.8	+1.1
	comp=Z,55nm,1.0s							
GNAR	Gosnell	67.71	344	eP		P	07 50 39.9	+1.1
	comp=Z,204nm,0.9s							
GNAR				LR		LR		
	comp=Z,600nm,20.0s							
IP01	Cuckoo	67.72	355	eP		P	07 50 39.4	+0.7
	comp=Z,68nm,0.9s							
W40A	Ferguson Farm,	67.78	341	P		P	07 50 38.5	-0.7
	baz=160,SNR=11							
W40A	Ferguson Farm,	67.78	341	eP		P	07 50 40.0	+0.7
	comp=Z,53nm,1.0s							
W40A				LR		LR		
	comp=Z,600nm,18.0s							
SPRD	Spring Road, M	67.78	355	eP		P	07 50 40.5	+1.4
	comp=Z,120nm,1.2s							
SPRD				LR		LR		
	comp=Z,700nm,21.0s							
IP03	Louisa	67.79	355	eP		P	07 50 40.2	+1.0
	comp=Z,99nm,1.0s							
U45A	Rockin P Farm,	67.79	345	P		P	07 50 38.3	-1.0
	baz=164,SNR=6.4							
UTMT	University of	67.81	345	eP		P	07 50 40.4	+1.0
	comp=Z,270nm,1.2s							
CVRD	Centerville Ro	67.82	355	eP		P	07 50 39.9	+0.5
	comp=Z,224nm,1.6s							
CVRD				LR		LR		
	comp=Z,800nm,21.0s							
GLAT	Glass	67.83	345	eP		P	07 50 40.7	+1.1
PTRD	Partlow Road	67.86	355	eP		P	07 50 40.9	+1.3
	comp=Z,46nm,0.9s							
PTRD				LR		LR		
	comp=Z,800nm,22.0s							
IP04	Greensprings	67.86	355	eP		P	07 50 41.2	+1.5
	comp=Z,103nm,1.0s							
V42A	Cord	67.90	343	P		P	07 50 39.2	-0.8
	baz=161,SNR=5.9							
U44B	Burton Farm, H	67.91	345	P		P	07 50 40.1	0.0
	baz=163,SNR=9.2							
CBN	Corbin Frederi	67.92	355	P		P	07 50 39.6	-0.4
	baz=174							
CBN	Corbin Frederi	67.92	355	eP		P	07 50 40.9	+0.8
	comp=Z,137nm,1.4s							
CBN				LR		LR		
	comp=Z,700nm,21.0s							
W39A	Magazine	67.98	341	P		P	07 50 40.3	-0.3
	baz=159,SNR=22							
W39A	Magazine	67.98	341	eP		P	07 50 41.6	+1.1
	comp=Z,84nm,1.0s							
W39A				LR		LR		
	comp=Z,500nm,20.0s							
T48A	Bowling Green	68.03	347	P		P	07 50 38.9	-1.9
	baz=166,SNR=9.3							
T47A	Sharon Grove	68.06	347	P		P	07 50 39.9	-1.0
	baz=165,SNR=27							
PVMO	Portageville	68.07	344	eP		P	07 50 42.4	+1.4
	comp=Z,344nm,0.8s							
V41A	Mountainview	68.08	342	P		P	07 50 40.6	-0.6
	baz=161,SNR=14							
U44A	Portageville	68.15	344	P		P	07 50 40.9	-0.7
	baz=163,SNR=6.3							
U43A	Rector	68.19	344	P		P	07 50 40.9	-0.9
	baz=162							
VNDA	Vanda	68.22	191	P		P	07 50 42.5	+1.0
	comp=Z,35nm,0.9s,baz=129,slow=5.6,SNR=145							
VNDA	Vanda	68.22	191	eP		P	07 50 42.4	+0.8
	comp=Z,86nm,1.1s							
T46A	Princeton	68.27	346	P		P	07 50 41.4	-0.9
	baz=165,SNR=8.3							
V40A	Witts Springs	68.28	342	P		P	07 50 41.7	-0.8
	baz=160,SNR=9.9							
V40A	Witts Springs	68.28	342	eP		P	07 50 42.6	+0.2
	comp=Z,42nm,1.1s							
V40A				LR		LR		
	comp=Z,400nm,19.0s							
PARMO	Parma	68.32	344	eP		P	07 50 43.3	+0.7
U42A	Revenden	68.38	343	P		P	07 50 42.1	-0.9
	baz=162,SNR=18							
T45A	Paducah	68.41	345	P		P	07 50 42.4	-0.8
	baz=164							
S48A	Wiedeman Farm,	68.50	348	P		P	07 50 41.9	-1.8
	baz=165,SNR=12							
V39A	Pettigrew	68.55	341	P		P	07 50 43.7	-0.5
	baz=160,SNR=25							
U41A	Viola	68.55	343	P		P	07 50 43.4	-0.7
	baz=161,SNR=13							
PBMO	Poplar Bluff	68.59	344	eP		P	07 50 44.5	+0.2
	comp=Z,90nm,0.8s							
TBI	Tubuai	68.66	255	eS		S	07 59 46.1	-0.8
	comp=Z,1µm,33.2s							
TBI	Tubuai	68.66	255	eLR		LR	08 11 40.9	
	comp=Z,2µm,25.2s,baz=112							
TBI	Tubuai	68.66	255	eT		T	09 05 33.0	
	comp=Z,44nm,0.2s							
T44A	Benton	68.68	345	P		P	07 50 44.0	-0.9
	baz=163,SNR=19							
U40A	Yellville	68.81	342	P		P	07 50 45.2	-0.5
	baz=160,SNR=24							
T43A	Greenville	68.84	344	P		P	07 50 45.3	-0.6
	baz=163,SNR=37							
S46A	Don Dixon Farm	68.85	346	P		P	07 50 45.0	-0.9

baz=165,SNR=7.7
T42A Van Buren 68.99 343 P P 07 50 46.2 -0.6
baz=162,SNR=12
U39A Green Forest 69.01 341 P P 07 50 46.4 -0.5
baz=160,SNR=28
S45A Carrier Mills 69.03 346 P P 07 50 46.3 -0.7
baz=164,SNR=14
HHAR Hobbs 69.04 341 eP P 07 50 47.7 +0.5
comp=Z,51nm,1.0s
GDL2 Guadalupe Moun 69.08 331 eP P 07 50 48.1 +0.4
SDMD Soldier's Deli 69.08 356 eP P 07 50 47.8 +0.5
comp=Z,49nm,1.4s
SDMD LR LR
comp=Z,500nm,21.0s
MNTX Cornudas Mount 69.09 330 P P 07 50 46.5 -1.0
baz=149,SNR=45
MNTX Cornudas Mount 69.09 330 eP P 07 50 47.0 -0.6
comp=Z,30nm,0.8s
MNTX LR LR
comp=Z,2µm,20.0s
WCI Wyandotte Cave 69.10 348 P P 07 50 46.5 -0.9
baz=166
WCI Wyandotte Cave 69.10 348 eP P 07 50 46.9 -0.5
comp=Z,75nm,1.1s
WCI LR LR
comp=Z,900nm,21.0s
WCI Wyandotte Cave 69.10 348 eP P 07 50 46.9 -0.5
WCI pmax pmax
comp=Z,75nm,1.1s
WCI MLR MLR
comp=Z,900nm,21.0s
USIN University of 69.11 347 eP P 07 50 47.4 -0.2
comp=Z,377nm,1.5s
USIN LR LR
comp=Z,700nm,20.0s
BBTS Babate 69.14 58 P P 07 50 49.2 +1.0
comp=Z,116nm,1.0s,baz=222,slow=1.7,SNR=8.8
BBTS LR LR 08 20 27.3
comp=Z,828nm,19.2s,baz=228,slow=35
WMOK Wichita Mounta 69.16 336 P P 07 50 47.2 -0.7
baz=155,SNR=19
WMOK Wichita Mounta 69.16 336 eP P 07 50 47.3 -0.7
comp=Z,16nm,0.9s
WMOK LR LR
comp=Z,600nm,19.0s
WMOK Wichita Mounta 69.16 336 eP P 07 50 47.3 -0.7
WMOK pmax pmax
comp=Z,16nm,0.9s
WMOK MLR MLR
comp=Z,600nm,19.0s
T41A Mountain View 69.17 343 P P 07 50 47.3 -0.6
baz=161,SNR=26
S44A Carbondale 69.19 345 P P 07 50 47.3 -0.7
baz=164,SNR=13
R48A Northridge Ran 69.19 348 P P 07 50 47.6 -0.5
baz=167,SNR=5.0
SIUC Southern Illin 69.20 345 eP P 07 50 47.8 -0.3
comp=Z,113nm,0.7s
R47A Wooly Knot Far 69.21 348 P P 07 50 47.2 -0.9
baz=166
TUL1 Leonard 69.25 339 P P 07 50 47.9 -0.5
baz=158,SNR=30
TUL1 Leonard 69.25 339 eP P 07 50 48.1 -0.3
comp=Z,65nm,0.9s
TUL1 LR LR
comp=Z,400nm,20.0s
S43A Fulton Ridge, 69.26 344 P P 07 50 47.8 -0.7
baz=163,SNR=37
R46A Gibon Southern 69.32 347 P P 07 50 47.9 -0.9
baz=165
T40A Mansfield 69.47 342 P P 07 50 49.6 -0.2
baz=161,SNR=9.2
PSUB Penn St. - Bra 69.52 357 PFAKE 07 51 00.0 +10
PSUB LR LR
comp=Z,500nm,19.0s
HSIG 69.52 324 eP P 07 50 51.1 +0.8
R45A Skylar, Fairfi 69.55 346 P P 07 50 49.0 -1.2
baz=164,SNR=18
MCWV Mont Chateau 69.58 353 P P 07 50 50.0 -0.4
baz=172,SNR=5.9
MCWV Mont Chateau 69.58 353 eP P 07 50 50.8 +0.4
comp=Z,48nm,1.0s
MCWV LR LR
comp=Z,700nm,20.0s
T39A Clever 69.58 342 P P 07 50 50.2 -0.3
baz=160,SNR=13
SYO Syowa Base 69.60 159|| eP P 07 50 47.8 -2.4
SYO Syowa Base 69.60 159|| ipP pP 07 50 59.2 +1.3
S42A Caledonia 69.62 344 P P 07 50 49.5 -1.2
baz=162,SNR=14
MVL Millersville 69.64 356 eP P 07 50 52.2 +1.5
comp=Z,41nm,1.0s
EPT El Paso 69.65 329 eP P 07 50 52.6 +1.4
comp=Z,26nm,0.9s
EPT LR LR
comp=Z,3µm,21.0s
S41A Jillco Farms, 69.68 343 P P 07 50 50.6 -0.5
baz=161,SNR=25
R44A Waltonville 69.68 345 P P 07 50 50.5 -0.6
baz=164,SNR=10
Q47A Bedord North L 69.81 348 P P 07 50 51.1 -0.8
baz=166
T38A Diamond 69.85 341 P P 07 50 51.9 -0.2
baz=159,SNR=43
S40A Lebanon 69.89 342 P P 07 50 52.1 -0.3
baz=161,SNR=18
PAGS Pennsylvania G 69.89 356 PFAKE 07 51 00.0 +7.7
PAGS LR LR
comp=Z,1µm,21.0s
R43A Red Bud 69.90 345 P P 07 50 51.8 -0.6
baz=163,SNR=12
OLIL Olney 69.94 346 eP P 07 50 52.7 +0.1
comp=Z,140nm,1.3s
OLIL LR LR
comp=Z,600nm,20.0s
MSTX Muleshoe 69.96 333 P P 07 50 52.9 -0.2
baz=151,SNR=32
MSTX Muleshoe 69.96 333 eP P 07 50 52.8 -0.2
comp=Z,61nm,0.9s
MSTX LR LR
comp=Z,1µm,20.0s
CCM Cathedral Cave 70.00 344 P P 07 50 52.8 -0.3
baz=162
CCM Cathedral Cave 70.00 344 eP P 07 50 52.7 -0.3
comp=Z,85nm,1.0s
CCM LR LR
comp=Z,500nm,21.0s
CCM Cathedral Cave 70.00 344 eP P 07 50 52.7 -0.3
CCM pmax pmax
comp=Z,85nm,1.0s
CCM MLR MLR
comp=Z,500nm,21.0s
BLO Bloomington 70.06 348 eP P 07 50 53.1 -0.2
comp=Z,45nm,0.6s
BLO LR LR
comp=Z,1µm,21.0s
BLO Bloomington 70.06 348 eP P 07 50 53.1 -0.2
BLO pmax pmax
comp=Z,45nm,0.6s
BLO MLR MLR
comp=Z,1µm,21.0s
O56A Blue Knob Stat 70.06 354 P P 07 50 53.5 0.0
baz=174,SNR=6.1
O56A Blue Knob Stat 70.06 354 eP P 07 50 53.9 +0.5
comp=Z,94nm,1.4s
O56A LR LR
comp=Z,700nm,21.0s
Q46A CEJHS Indians, 70.07 347 P P 07 50 52.5 -0.9
baz=165
R42A Luebbering 70.10 344 P P 07 50 53.3 -0.3
baz=162,SNR=9.4
Q45A Warren Harvey, 70.11 346 P P 07 50 52.7 -0.9
baz=165
LUPA Lehigh Univers 70.19 357 eP P 07 50 54.4 +0.3
comp=Z,6.3nm,1.4s
LUPA LR LR
comp=Z,100nm,22.0s
S39A Bolivar 70.19 342 P P 07 50 53.9 -0.3
baz=160,SNR=21
BRNJ Basking Ridge 70.24 358 eP P 07 50 55.3 +0.9
comp=Z,50nm,0.8s
R41A Rosebud 70.26 344 P P 07 50 54.3 -0.4
baz=162,SNR=25
S38A Stockton 70.29 341 P P 07 50 54.6 -0.3
baz=160,SNR=9.1
Q44A Meyer Farm, Va 70.30 346 P P 07 50 53.7 -1.1
baz=164,SNR=6.6
SLM Saint Louis 70.31 345 eP P 07 50 55.7 +0.8
comp=Z,119nm,1.0s
SLM LR LR
comp=Z,600nm,22.0s
SLM Saint Louis 70.31 345 eP P 07 50 55.7 +0.8
SLM pmax pmax
comp=Z,119nm,1.0s
SLM MLR MLR
comp=Z,600nm,22.0s
P47A Martinsville 70.32 348 P P 07 50 54.0 -0.9
baz=166
AMTX Amarillo 70.34 334 P P 07 50 55.6 +0.2
baz=152
AMTX Amarillo 70.34 334 eP P 07 50 56.6 +1.3
comp=Z,299nm,2.0s
SSPA Standing Stone 70.38 355 P P 07 50 55.7 +0.5
baz=174
SSPA Standing Stone 70.38 355 eP P 07 50 56.1 +0.9
comp=Z,134nm,1.6s
SSPA LR LR
comp=Z,700nm,20.0s
R40A Maddies Statio 70.48 343 P P 07 50 55.1 -0.8
baz=161,SNR=44
Q43A New Douglas 70.48 345 P P 07 50 55.2 -0.8
baz=163
N59A State Game Lan 70.52 357 P P 07 50 56.5 +0.4
baz=176,SNR=6.4
N59A State Game Lan 70.52 357 eP P 07 50 57.5 +1.3
comp=Z,104nm,1.3s
ACSO Alum Creek Sta 70.52 351 P P 07 50 54.6 -1.6
baz=169,SNR=12
ACSO Alum Creek Sta 70.52 351 eP P 07 50 56.1 -0.1
comp=Z,106nm,1.0s
ACSO LR LR
comp=Z,900nm,22.0s
PAL Palisades 70.54 358 PFAKE 07 51 10.0 +14
PAL LR LR
comp=Z,900nm,19.0s
319A Douglas 70.62 326 eP P 07 50 58.7 +1.6
comp=Z,47nm,1.0s
319A LR LR
comp=Z,2µm,20.0s
P46A Rosedale 70.62 347 P P 07 50 55.2 -1.6
baz=166,SNR=7.5
P45A Graceland, Par 70.64 347 P P 07 50 55.7 -1.1
baz=158,SNR=8.4
ODNJ Ogdensburg 70.64 358 eP P 07 50 58.1 +1.3
comp=Z,40nm,1.0s
ODNJ LR LR
comp=Z,800nm,20.0s
Q42A Golden Eagle 70.64 344 P P 07 50 56.7 -0.2
baz=163,SNR=5.8
R39A Chumby, Stover 70.70 342 P P 07 50 56.7 -0.6
baz=160,SNR=9.3
P44A Sand Creek, Wi 70.76 346 P P 07 50 57.2 -0.4
baz=164
R38A Fenwick Farm, 70.81 342 P P 07 50 57.5 -0.5
baz=160,SNR=14
YLE Yale 70.83 359 eP P 07 50 59.7 +1.8
comp=Z,416nm,1.6s
YLE LR LR
comp=Z,300nm,20.0s
TVO Taravao 70.84 260 eT T 09 08 22.0
comp=Z,3.4nm,0.3s
Q41A Truxton 70.85 344 P P 07 50 58.1 -0.1
baz=162,SNR=18
121A Cookes Peak, D 70.88 328 P P 07 50 59.6 +0.9
baz=147,SNR=14
N54A Moraine State 70.89 353 P P 07 50 58.1 -0.3
baz=172,SNR=6.5
N54A Moraine State 70.89 353 eP P 07 50 58.9 +0.5
comp=Z,45nm,0.8s
N54A LR LR
comp=Z,1µm,21.0s
TIAR Tiarei 71.02 260 eT T 09 08 35.6
comp=Z,25nm,0.2s
O47A Sheridan 71.03 348 P P 07 50 58.0 -1.2
baz=167,SNR=11
Q40A Laux Farm, Aux 71.09 343 P P 07 50 59.3 -0.4
baz=161,SNR=20
P43A Skaggs, Pawnee 71.11 346 P P 07 50 59.3 -0.4
baz=164,SNR=7.6
PAE Paea 71.17 260 eT T 09 08 46.9
comp=Z,1.0nm,0.2s
PPT2 Papeete2 71.20 260 eS S 08 00 16.4 -0.7
comp=Z,1µm,26.5s
PPT2 Papeete2 71.20 260 eLR LR 08 12 44.8
comp=Z,3µm,23.2s,baz=111
PPT2 Papeete2 71.20 260 eT T 09 08 44.0
comp=Z,2.5nm,0.2s
PPT Papeete 71.21 260 P P 07 51 01.7 +0.8
comp=Z,54nm,0.8s,baz=244,slow=22,SNR=4.3
PPT LR LR 08 14 07.3
comp=Z,2µm,18.8s,baz=104,slow=29
P42A Winchester 71.24 345 P P 07 50 59.3 -1.2
baz=163,SNR=7.9
O45A Potomac 71.33 347 P P 07 50 59.9 -1.1
baz=165,SNR=8.1
SFIN Lafayette 71.33 348 P P 07 50 59.7 -1.3
baz=166,SNR=5.8
SFIN Lafayette 71.33 348 eP P 07 51 00.4 -0.7
comp=Z,64nm,1.1s
SFIN LR LR
comp=Z,1µm,20.0s
Q39A Willow Grove F 71.37 343 P P 07 51 00.9 -0.5
baz=160,SNR=18
O44A Mansfield 71.38 346 P P 07 51 00.5 -0.9
baz=164,SNR=5.8
M54A Oil Creek Stat 71.39 354 P P 07 51 01.3 -0.2
baz=172,SNR=7.4
M54A Oil Creek Stat 71.39 354 eP P 07 51 01.6 +0.1
comp=Z,59nm,1.1s
M54A LR LR
comp=Z,1µm,20.0s
Q38A Cooks Store, C 71.46 342 P P 07 51 01.4 -0.5
baz=160,SNR=30
P41A Barry, Barry 71.50 344 P P 07 51 01.3 -0.8
baz=162,SNR=11
ALLY Alegheny Colle 71.58 353 PFAKE 07 51 10.0 +7.4
ALLY LR LR
comp=Z,1µm,20.0s
P40A Paris 71.59 344 P P 07 51 02.1 -0.6
baz=161,SNR=38
Q37A Longview Farm, 71.61 341 P P 07 51 02.5 -0.3
baz=159
O43A Sugar Creek Fa 71.69 346 P P 07 51 02.8 -0.4
baz=164
BNM Barren Site 71.72 330 eP P 07 51 04.8 +0.9
P39B Salisbury 71.73 343 P P 07 51 03.0 -0.5
baz=161,SNR=16
O42A Bath 71.77 345 P P 07 51 02.9 -0.7
baz=163
N46A Monticello 71.77 348 P P 07 51 02.9 -0.7
baz=166
QUA2 Belchertown 71.78 359 eP P 07 51 05.5 +1.8
comp=Z,78nm,1.3s
Y22D IRIS PASSCAL I 71.79 330 PFAKE 07 51 20.0 +16
Y22D LR LR
comp=Z,2µm,20.0s
Y22E IRIS PASSCAL I 71.79 330 P P 07 51 02.8 -1.3
baz=148
BINY Binghamton 71.81 357 P P 07 51 03.7 -0.3
baz=176
BINY Binghamton 71.81 357 eP P 07 51 04.9 +1.0
comp=Z,70nm,1.2s
BINY LR LR
comp=Z,600nm,18.0s
LPM Los Pinos Moun 71.86 330 eP P 07 51 05.7 +1.0
N45A Kentland 71.87 347 P P 07 51 03.0 -1.3
baz=165
O41A Passleys Farm, 71.87 345 P P 07 51 03.3 -1.0
baz=162,SNR=11
N44A Piper City 71.94 347 P P 07 51 03.2 -1.5
baz=165
HDIL Hopedale 71.94 346 PFAKE 07 51 20.0 +15
HDIL LR LR
comp=Z,800nm,22.0s
HRV Adam Dziewonsk 72.01 0 P P 07 51 05.5 +0.4
baz=180
HRV Adam Dziewonsk 72.01 0 eP P 07 51 05.6 +0.5
comp=Z,93nm,1.3s
HRV LR LR
comp=Z,700nm,21.0s
HRV Adam Dziewonsk 72.01 0 eP P 07 51 05.6 +0.5
HRV pmax pmax
comp=Z,93nm,1.3s
HRV MLR MLR
comp=Z,700nm,21.0s
ERPA Erie 72.03 353 P P 07 51 05.0 -0.2
baz=172
ERPA Erie 72.03 353 eP P 07 51 05.6 +0.3
comp=Z,148nm,1.4s
ERPA LR LR
comp=Z,1µm,21.0s
P38A Dawn 72.06 342 P P 07 51 04.8 -0.7
baz=160,SNR=19
TUC Tucson 72.11 326 P P 07 51 06.3 +0.3
baz=145
TUC Tucson 72.11 326 eP P 07 51 07.2 +1.2
comp=Z,22nm,1.3s
TUC LR LR
comp=Z,2µm,20.0s
TUC Tucson 72.11 326 eP P 07 51 07.3 +1.2
TUC pmax pmax
comp=Z,22nm,1.3s
TUC MLR MLR
comp=Z,2µm,20.0s
O40A La Belle 72.11 344 P P 07 51 05.1 -0.7
baz=162,SNR=18
LAZ Ladron 72.16 330 eP P 07 51 06.5 0.0
M46A Old House Fiel 72.20 348 P P 07 51 05.2 -1.1
baz=166
P37A Lathrop 72.25 342 P P 07 51 05.4 -1.2
baz=159,SNR=6.4
TRY Troy 72.25 358 eP P 07 51 07.5 +1.0
comp=Z,75nm,1.0s
N43A Stutzman Famil 72.29 346 P P 07 51 06.2 -0.6
baz=164,SNR=5.9
ANMO Albuquerque 72.33 331 P P 07 51 08.6 +1.1
baz=149
ANMO Albuquerque 72.33 331 eP P 07 51 08.5 +1.0
comp=Z,57nm,1.5s
ANMO LR LR
comp=Z,2µm,20.0s
ANMO Albuquerque 72.33 331 ceP P 07 51 09.0 +1.5
ANMO pmax pmax
comp=Z,22nm,1.2s
M45A Boilermakers S 72.34 348 P P 07 51 06.2 -0.9
baz=166
N42A Yates City 72.36 345 P P 07 51 07.0 -0.2
baz=163
O39A Kirksville 72.40 343 P P 07 51 06.7 -0.8
baz=161,SNR=17
N41A Harden Midland 72.43 345 P P 07 51 06.8 -0.9
baz=162,SNR=16
KSU1 Kansas State U 72.44 340 P P 07 51 07.3 -0.5
baz=157,SNR=7.4
KSU1 Kansas State U 72.44 340 eP P 07 51 07.8 0.0
comp=Z,33nm,1.0s
KSU1 LR LR
comp=Z,500nm,18.0s
MMNY Mt. Morris Dam 72.46 355 eP P 07 51 08.4 +0.6
comp=Z,156nm,1.4s
MMNY LR LR
comp=Z,900nm,20.0s
M44A Midewin, Midew 72.49 347 P P 07 51 07.4 -0.6
baz=165
O38A Galt 72.51 343 P P 07 51 07.5 -0.7
baz=160,SNR=6.0
AAM Ann Arbor 72.65 351 P P 07 51 08.2 -0.7
baz=169
AAM Ann Arbor 72.65 351 eP P 07 51 08.3 -0.7
comp=Z,94nm,1.3s
AAM LR LR
comp=Z,1µm,21.0s
AAM Ann Arbor 72.65 351 eP P 07 51 08.3 -0.6
AAM pmax pmax
comp=Z,94nm,1.3s
AAM MLR MLR
comp=Z,1µm,21.0s
M43A Waltham Townsh 72.72 346 P P 07 51 08.4 -0.9
baz=164
O37A Wolven Farm, M 72.73 342 P P 07 51 09.0 -0.5
baz=160,SNR=14
N40A Mertquake, Sal 72.77 344 P P 07 51 09.3 -0.3
baz=162,SNR=7.4
214A Organ Pipe Nat 72.83 324 P P 07 51 11.0 +0.6
baz=143,SNR=28
M42A Sheffield 72.90 346 P P 07 51 09.2 -1.3
baz=164
ACCN Adirondack Com 72.91 358 eP P 07 51 11.1 +0.6
comp=Z,144nm,1.7s
ACCN LR LR
comp=Z,700nm,20.0s
N39A Derby Farms, D 72.98 344 P P 07 51 10.6 -0.4
baz=161,SNR=15
M41A Milan 73.00 345 P P 07 51 10.2 -0.8
baz=163,SNR=8.5
N38A Joes South For 73.08 343 P P 07 51 11.1 -0.5
baz=160,SNR=10
CBKS Cedar Bluff 73.17 337 P P 07 51 12.0 -0.1
baz=155,SNR=11
CBKS Cedar Bluff 73.17 337 eP P 07 51 12.5 +0.3
comp=Z,60nm,0.8s
CBKS LR LR
comp=Z,500nm,21.0s
CBKS Cedar Bluff 73.17 337 eP P 07 51 12.5 +0.3
CBKS pmax pmax
comp=Z,60nm,0.8s
CBKS MLR MLR
comp=Z,500nm,21.0s
LIC Lamto 73.19 72 eP P 07 51 12.1 -0.7
comp=Z,86nm,0.7s
HNH Hanover 73.21 360 eP P 07 51 13.0 +0.8
comp=Z,106nm,1.4s
L44A Lake County Fo 73.23 347 P P 07 51 10.0 -2.4
baz=165
M40A Post Highland 73.25 345 P P 07 51 11.8 -0.7
baz=162,SNR=9.5
N37A Lee Faris, Mou 73.30 342 P P 07 51 12.5 -0.4
baz=160,SNR=17
T25A Trinidad 73.38 333 P P 07 51 14.0 +0.4
baz=151,SNR=53
T25A Trinidad 73.38 333 eP P 07 51 14.8 +1.2
comp=Z,51nm,0.9s
T25A LR LR
comp=Z,1µm,18.0s
L43A Garden Prairie 73.39 347 P P 07 51 13.1 -0.2
baz=164
L42A Oliver, Polo 73.41 346 P P 07 51 12.8 -0.7
baz=164,SNR=6.6
TIC Toumodi 73.43 72 eP P 07 51 13.7 -0.6
M39A Webster 73.47 344 P P 07 51 12.6 -1.3
baz=161,SNR=6.3
MHTCO State Highway 73.48 333 eP P 07 51 15.3 +1.0
comp=Z,57nm,0.9s
MHTCO LR LR
comp=Z,1µm,19.0s
KIC Kosan Boka 73.50 72 eP P 07 51 14.1 -0.6
comp=Z,418nm,1.6s
NCB Newcomb 73.51 358 eP P 07 51 14.7 +0.7
comp=Z,74nm,1.8s
NCB LR LR
comp=Z,500nm,20.0s
X18A Snowflake 73.53 328 eP P 07 51 15.8 +1.1
comp=Z,22nm,0.8s
X18A LR LR
comp=Z,3µm,21.0s
N36A Muff Farm, Cla 73.56 342 P P 07 51 13.9 -0.5
baz=159,SNR=7.1
DBIC Dimbokro 73.58 72 P P 07 51 14.5 -0.6
comp=Z,38nm,0.8s,baz=213,slow=6.9,SNR=46
DBIC Dimbokro 73.58 72 eP P 07 51 14.4 -0.6
comp=Z,64nm,1.0s
L41A Preston 73.66 345 P P 07 51 14.0 -0.9
baz=163,SNR=8.1
M38A Pleasantville 73.66 343 P P 07 51 14.2 -0.7
baz=160,SNR=21
LBNH Lisbon 73.74 360 P P 07 51 15.9 +0.6
baz=180
LBNH Lisbon 73.74 360 eP P 07 51 16.0 +0.6
comp=Z,56nm,1.2s
LBNH LR LR
comp=Z,500nm,21.0s
LBNH Lisbon 73.74 360 eP P 07 51 16.0 +0.6
LBNH pmax pmax
comp=Z,56nm,1.2s
LBNH MLR MLR
comp=Z,500nm,21.0s
L40A Anamosa 73.80 345 P P 07 51 15.0 -0.8
baz=162,SNR=18
M37A Trindle Farm, 73.87 343 P P 07 51 16.0 -0.1
baz=160,SNR=36
W18A Petrified Fore 73.92 328 P P 07 51 18.0 +1.1
baz=146,SNR=8.9
W18A Petrified Fore 73.92 328 eP P 07 51 18.3 +1.4
comp=Z,154nm,1.7s

W18A LR LR
comp=Z,3µm,21.0s
113A **Mohawk Valley,** **73.97 324** PFAKE 07 51 30.0 +13
113A LR LR
comp=Z,1µm,19.0s
L39A **Vinton** **74.04 344** P **P** **07 51 16.7 -0.4**
baz=162
WVL **Waterville** **74.09 1** *eP* **P** **07 51 19.0 +1.6**
comp=Z,73nm,1.4s
K42A **Prairie Point,** **74.09 347** P **P** **07 51 16.8 -0.6**
baz=164,SNR=6.3
M36A **Felix, Anita** **74.11 342** P **P** **07 51 17.0 -0.6**
baz=159,SNR=23
K41A **Shullsburg** **74.12 346** P **P** **07 51 17.0 -0.6**
baz=163,SNR=12
SCIA **State Center** **74.13 343** P **P** **07 51 17.5 -0.1**
baz=160,SNR=7.1
SCIA **State Center** **74.13 343** *eP* **P** **07 51 17.8 +0.2**
comp=Z,99nm,1.1s
X16A **Lo Mia Camp, P** **74.14 327** *eP* **P** **07 51 19.4 +1.2**
comp=Z,49nm,1.0s
X16A LR LR
comp=Z,2µm,20.0s
LONY **Lake Ozonia** **74.17 358** P **P** **07 51 18.4 +0.6**
baz=177
LONY **Lake Ozonia** **74.17 358** *eP* **P** **07 51 18.4 +0.6**
comp=Z,128nm,1.8s
LONY LR LR
comp=Z,600nm,20.0s
L38A **Oak Wood Farm,** **74.29 344** P **P** **07 51 18.6 0.0**
baz=161,SNR=9.8
SDCO **Great Sand Dun** **74.33 333** P **P** **07 51 20.2 +0.8**
baz=150,SNR=42
SDCO **Great Sand Dun** **74.33 333** *eP* **P** **07 51 20.0 +0.7**
comp=Z,32nm,1.1s
SDCO LR LR
comp=Z,1µm,20.0s
KSCO **Kaye Shedlock'** **74.35 335** P **P** **07 51 20.2 +0.9**
baz=152,SNR=18
KSCO **Kaye Shedlock'** **74.35 335** *eP* **P** **07 51 20.1 +0.9**
comp=Z,268nm,1.6s
KSCO LR LR
comp=Z,500nm,19.0s
FRNY **Flat Rock** **74.36 359** *eP* **P** **07 51 19.3 +0.4**
comp=Z,166nm,1.8s
FRNY LR LR
comp=Z,600nm,20.0s
K40A **Colesburg** **74.39 345** P **P** **07 51 18.4 -0.8**
baz=162,SNR=13
JFWS **Jewell Farm** **74.41 346** P **P** **07 51 19.4 +0.1**
baz=163,SNR=7.4
JFWS **Jewell Farm** **74.41 346** *eP* **P** **07 51 19.6 +0.3**
comp=Z,108nm,1.2s
JFWS LR LR
comp=Z,1µm,21.0s
JFWS **Jewell Farm** **74.41 346** *eP* **P** **07 51 19.6 +0.3**
JFWS pmax pmax
comp=Z,108nm,1.2s
JFWS MLR MLR
comp=Z,1µm,21.0s
L37A **Phoenix Point,** **74.47 343** P **P** **07 51 19.3 -0.4**
baz=160,SNR=10
J43A **Natural Harves** **74.49 347** P **P** **07 51 19.3 -0.5**
baz=165,SNR=5.5
Y14A **Wickenburg** **74.52 325** *eP* **P** **07 51 21.6 +1.3**
comp=Z,24nm,1.0s
Y14A LR LR
comp=Z,1µm,18.0s
J42A **Columbus** **74.56 347** P **P** **07 51 19.2 -0.9**
baz=164,SNR=7.4
K39A **Oelwein** **74.57 345** P **P** **07 51 19.6 -0.6**
baz=162,SNR=13
SADO **Sadowa** **74.58 354** *eP* **P** **07 51 19.9 -0.3**
comp=Z,70nm,1.1s
SADO LR LR
comp=Z,700nm,22.0s
L36A **Harm Buss Farm** **74.68 342** P **P** **07 51 21.0 +0.1**
baz=159,SNR=5.7
PLVO **Plevna** **74.70 356** *eP* **P** **07 51 21.3 +0.3**
comp=Z,35nm,1.0s
PLVO LR LR
comp=Z,600nm,20.0s
K38A **Parkersburg** **74.72 344** P **P** **07 51 20.4 -0.7**
baz=161,SNR=7.0
GLA **Glamis** **74.74 323** P **P** **07 51 22.1 +0.6**
baz=142
GLA **Glamis** **74.74 323** *eP* **P** **07 51 21.5 0.0**
comp=Z,18nm,0.9s
GLA **Glamis** **74.74 323** *eP* **P** **07 51 21.5 0.0**
GLA pmax pmax
comp=Z,18nm,0.9s
J41A **Loganville** **74.79 346** P **P** **07 51 20.8 -0.7**
baz=163,SNR=8.0
PKME **Peaks-Kenny Pk** **74.80 2** P **P** **07 51 20.9 -0.5**
baz=182
PKME **Peaks-Kenny Pk** **74.80 2** PFAKE 07 51 30.0 +8.6
PKME LR LR
comp=Z,600nm,20.0s
S22A **4UR Ranch, Cre** **74.87 332** P **P** **07 51 22.8 +0.3**
baz=149,SNR=21
S22A **4UR Ranch, Cre** **74.87 332** *eP* **P** **07 51 23.4 +1.0**
comp=Z,28nm,1.2s
S22A LR LR
comp=Z,700nm,19.0s
I43A **Langenfeld Bro** **74.92 348** P **P** **07 51 21.8 -0.4**
baz=165
J40A **Soldiers Grove** **74.97 346** P **P** **07 51 21.8 -0.7**
baz=163,SNR=12
WUAZ **Wupatki** **75.01 327** P **P** **07 51 23.5 +0.3**
baz=145,SNR=24
WUAZ **Wupatki** **75.01 327** *eP* **P** **07 51 23.9 +0.7**
comp=Z,49nm,0.9s
WUAZ LR LR
comp=Z,2µm,22.0s
BGNE **Belgrade** **75.02 340** P **P** **07 51 22.4 -0.6**
baz=156,SNR=9.8
BGNE **Belgrade** **75.02 340** *eP* **P** **07 51 23.6 +0.7**
comp=Z,183nm,1.1s
BGNE LR LR
comp=Z,600nm,19.0s
K37A **Belmond** **75.04 343** P **P** **07 51 22.4 -0.6**
baz=160,SNR=12
I42A **Draeger Farm,** **75.07 347** P **P** **07 51 23.2 +0.2**
baz=164
I42A **Draeger Farm,** **75.07 347** *eP* **P** **07 51 23.3 +0.2**
comp=Z,41nm,0.9s
I42A LR LR
comp=Z,1µm,22.0s
IKP **In-Ko-Pah, Jac** **75.10 322** P **P** **07 51 25.0 +1.4**
baz=141,SNR=7.3
MVCO **Mesa Verde** **75.12 330** P **P** **07 51 24.6 +0.8**
baz=147,SNR=30
MVCO **Mesa Verde** **75.12 330** *eP* **P** **07 51 24.6 +0.8**
comp=Z,46nm,0.8s
MVCO LR LR
comp=Z,2µm,21.0s
J39A **Decorah** **75.12 345** P **P** **07 51 22.6 -0.8**
baz=162,SNR=16
K36A **Gilmore City** **75.13 343** P **P** **07 51 23.0 -0.5**
baz=160,SNR=20
Y12C **Blythe** **75.13 324** P **P** **07 51 24.8 +1.1**
baz=142,SNR=5.5
Y12C **Blythe** **75.13 324** *eP* **P** **07 51 25.1 +1.5**
comp=Z,29nm,1.0s
Y12C LR LR
comp=Z,1µm,18.0s
SWSC **Sam W. Stewart** **75.16 323** P **P** **07 51 24.9 +1.0**
baz=141
Q24A **Divide** **75.25 334** P **P** **07 51 25.6 +0.9**
baz=150,SNR=24
Q24A **Divide** **75.25 334** *eP* **P** **07 51 25.6 +0.9**
comp=Z,64nm,0.8s
Q24A LR LR
comp=Z,700nm,20.0s
GLMI **Grayling** **75.26 351** P **P** **07 51 23.6 -0.6**
baz=168
GLMI **Grayling** **75.26 351** PFAKE 07 51 40.0 +16
GLMI LR LR
comp=Z,1µm,22.0s
BUKO **Buck Lake** **75.27 354** P **P** **07 51 24.2 0.0**
baz=173,SNR=14
J38A **Wedel Dairy, R** **75.28 344** P **P** **07 51 23.6 -0.7**
baz=161,SNR=9.0
PDMCI **Parker Dam,Lak** **75.38 325** P **P** **07 51 24.3 -0.7**
baz=143
K35A **Storm Lake** **75.41 342** P **P** **07 51 25.0 -0.1**
baz=159,SNR=14
I40A **Norwalk** **75.42 346** P **P** **07 51 24.1 -1.0**
baz=163
BAR **Barrett** **75.42 322** *eP* **P** **07 51 27.3 +1.9**
comp=Z,28nm,1.1s
H43A **Windswept, Lux** **75.42 348** P **P** **07 51 24.7 -0.4**
baz=165
H43A **Windswept, Lux** **75.42 348** *eP* **P** **07 51 25.2 +0.1**
comp=Z,68nm,1.0s
H43A LR LR
comp=Z,800nm,20.0s
I41A **Arkdale** **75.42 347** P **P** **07 51 24.4 -0.7**
baz=164,SNR=5.9
MONP2 **Monument Peak** **75.45 322** P **P** **07 51 26.9 +1.1**
baz=141
L33A **Hoskins** **75.46 341** P **P** **07 51 24.7 -0.7**
baz=157
BC3 **Big Chuckawall** **75.53 323** P **P** **07 51 26.5 +0.4**
baz=142,SNR=14
J37A **Redenius Farm,** **75.53 344** P **P** **07 51 24.9 -0.8**
baz=160,SNR=15
I39A **Houston** **75.58 345** P **P** **07 51 25.2 -0.8**
baz=162,SNR=14
H42A **Shiocton** **75.60 348** P **P** **07 51 25.4 -0.7**
baz=165,SNR=6.3
H42A **Shiocton** **75.60 348** *eP* **P** **07 51 26.4 +0.3**
comp=Z,88nm,1.3s
H42A LR LR
comp=Z,700nm,20.0s
J36A **Seneca 1, Swea** **75.75 343** P **P** **07 51 26.7 -0.3**
baz=160,SNR=27
TRQ **Mont Tremblant** **75.77 358** *eP* **P** **07 51 27.3 +0.2**
IRM **Iron Mountain** **75.77 324** P **P** **07 51 27.9 +0.5**
baz=142,SNR=12
K33A **Hardington** **75.78 341** P **P** **07 51 27.1 -0.2**
baz=157,SNR=6.0
109C **Camp Elliot, M** **75.81 322** P **P** **07 51 26.1 -1.5**
baz=140
OGNE **Ogallala** **75.86 337** P **P** **07 51 26.3 -1.5**
baz=153
OGNE **Ogallala** **75.86 337** *eP* **P** **07 51 29.1 +1.3**
comp=Z,46nm,1.0s
OGNE LR LR
comp=Z,500nm,19.0s
W13A **Hualapai Mount** **75.88 325** *eP* **P** **07 51 29.0 +0.8**
comp=Z,18nm,0.8s
W13A LR LR
comp=Z,900nm,20.0s
H41A **Junction City** **75.92 347** P **P** **07 51 27.0 -1.0**
baz=164
H41A **Junction City** **75.92 347** *eP* **P** **07 51 27.7 -0.2**
comp=Z,41nm,1.0s
H41A LR LR
comp=Z,1µm,22.0s
I38A **Scanlan Farm,** **75.94 345** P **P** **07 51 27.7 -0.4**
baz=162,SNR=28
J35A **Milford** **76.00 343** P **P** **07 51 27.7 -0.7**
baz=159,SNR=9.4
XPFO **Piæon Flat** **76.02 323** *eP* **P** **07 51 30.8 +1.9**
comp=Z,31nm,1.0s
XPFO LR LR
comp=Z,1µm,21.0s
PFO **Pinyon Flats O** **76.03 323** P **P** **07 51 30.5 +1.5**
baz=141,SNR=10
PFO **Pinyon Flats O** **76.03 323** *eP* **P** **07 51 31.0 +2.0**
comp=Z,26nm,1.0s
PFO LR LR
comp=Z,1µm,21.0s
PFO **Pinyon Flats O** **76.03 323** *eP* **P** **07 51 31.0 +2.0**
PFO pmax pmax
comp=Z,26nm,1.0s
PFO MLR MLR
comp=Z,1µm,21.0s
H40A **Chili** **76.07 346** P **P** **07 51 28.2 -0.6**
baz=163,SNR=8.6
BELC **Belle Mtn. Jos** **76.09 323** P **P** **07 51 30.2 +0.9**
baz=141,SNR=7.6
J34A **George** **76.13 342** P **P** **07 51 28.9 -0.3**
baz=158,SNR=15
ISCO **Idaho Springs** **76.15 334** P **P** **07 51 30.4 +0.6**
baz=150,SNR=36
ISCO **Idaho Springs** **76.15 334** *eP* **P** **07 51 30.4 +0.6**
comp=Z,29nm,0.9s
ISCO LR LR
comp=Z,800nm,20.0s
ISCO **Idaho Springs** **76.15 334** *eP* **P** **07 51 30.4 +0.6**
ISCO pmax pmax
comp=Z,29nm,0.9s
ISCO MLR MLR
comp=Z,800nm,20.0s
SMCO **Snowmass** **76.15 332** *eP* **P** **07 51 31.2 +1.3**
comp=Z,107nm,0.9s
SMCO LR LR
comp=Z,800nm,20.0s
I37A **Lemond, Waseca** **76.16 344** P **P** **07 51 29.2 -0.1**
baz=160,SNR=16
G43A **Wallace** **76.17 348** P **P** **07 51 28.6 -0.8**
baz=166
G43A **Wallace** **76.17 348** *eP* **P** **07 51 29.0 -0.3**
comp=Z,72nm,1.4s
G43A LR LR
comp=Z,600nm,19.0s
U15A **North Rim** **76.18 327** PFAKE 07 51 40.0 +10
U15A LR LR
comp=Z,2µm,22.0s
F46A **Macinaw City C** **76.21 351** P **P** **07 51 29.1 -0.4**
baz=168
F45A **CMU Biological** **76.23 350** P **P** **07 51 29.3 -0.4**
baz=168
G42A **Mountain** **76.29 348** P **P** **07 51 29.5 -0.5**
baz=165,SNR=7.8
G42A **Mountain** **76.29 348** *eP* **P** **07 51 30.1 0.0**
comp=Z,70nm,0.9s
G42A LR LR
comp=Z,800nm,20.0s
H39A **Augusta** **76.31 346** P **P** **07 51 28.9 -1.3**
baz=162,SNR=5.8
I36A **Fitzsimmons Fa** **76.31 344** P **P** **07 51 29.4 -0.8**
baz=160,SNR=9.1
G41A **Antigo** **76.40 347** P **P** **07 51 30.4 -0.3**
baz=164
I35A **Creekview Farm** **76.40 343** P **P** **07 51 30.2 -0.5**
baz=159,SNR=23
MURC **Murrieta** **76.41 322** P **P** **07 51 31.6 +0.6**
baz=140,SNR=10
J33A **Davis** **76.43 341** P **P** **07 51 30.5 -0.4**
baz=157,SNR=42
PV09 **Paradox Valley** **76.47 331** *eP* **P** **07 51 32.4 +0.8**
LDFC **Landfair** **76.47 325** *eP* **P** **07 51 33.4 +1.9**
comp=Z,39nm,1.0s
LDFC LR LR
comp=Z,1µm,19.0s
GMRC **Granite Mounta** **76.52 324** P **P** **07 51 32.8 +1.1**
baz=142,SNR=27
H38A **Maiden Rock** **76.53 345** P **P** **07 51 31.0 -0.4**
baz=162,SNR=7.5
SUR **Sutherland** **76.57 120** *eP* **P** **07 51 33.4 +0.9**
comp=Z,139nm,0.9s
H37A **Dierke Farm, C** **76.58 345** P **P** **07 51 31.1 -0.6**
baz=161,SNR=6.1
F43A **Flat Rock, Esc** **76.64 349** P **P** **07 51 31.7 -0.3**
baz=166
G40A **Rib Lake** **76.65 347** P **P** **07 51 32.1 0.0**
baz=163
F44A **Big Bay de Noc** **76.65 349** P **P** **07 51 32.0 -0.1**
baz=167
ECSD **EROS Data Cent** **76.72 342** P **P** **07 51 32.5 -0.1**
baz=158,SNR=49
ECSD **ERS Data Cent** **76.72 342** *eP* **P** **07 51 32.5 -0.1**
comp=Z,74nm,0.9s
ECSD LR LR
comp=Z,600nm,19.0s
F42A **Maple Grove Fa** **76.73 348** P **P** **07 51 32.2 -0.3**
baz=165
J32A **Parkston** **76.73 341** P **P** **07 51 32.0 -0.6**
baz=157,SNR=23
BBRC **Big Bear Solar** **76.77 323** P **P** **07 51 34.8 +1.5**
baz=141,SNR=7.3
I34A **Hadley** **76.80 342** P **P** **07 51 32.9 -0.1**
baz=158,SNR=6.9
H36A **Jessenland, He** **76.82 344** P **P** **07 51 32.8 -0.3**
baz=160,SNR=14
E45A **Wooded Hills,** **76.84 350** P **P** **07 51 32.9 -0.2**
baz=168,SNR=5.4
G39A **Holcombe** **76.87 346** P **P** **07 51 32.7 -0.6**
baz=163,SNR=7.1
F41A **Three Lakes** **76.89 348** P **P** **07 51 33.3 -0.2**
baz=164,SNR=7.8
G38A **Ridgeland** **76.90 345** P **P** **07 51 32.3 -1.2**
baz=162,SNR=14
HEC **Hector,Ludlow** **76.91 324** P **P** **07 51 35.1 +1.2**
baz=141,SNR=23
KNB **Kanab** **76.91 327** *eP* **P** **07 51 35.0 +1.0**
comp=Z,84nm,1.1s
KNB LR LR
comp=Z,2µm,19.0s
KNB **Kanab** **76.91 327** *eP* **P** **07 51 35.0 +1.0**
KNB pmax pmax
comp=Z,84nm,1.1s
KNB MLR MLR
comp=Z,2µm,19.0s
CIS **Catalina Islan** **76.91 321** P **P** **07 51 35.1 +1.3**
baz=140
J31A **Geddes** **76.92 340** P **P** **07 51 33.5 -0.2**
baz=156,SNR=5.3
PKCU **Pink Cliffs** **77.02 328** *eP* **P** **07 51 36.5 +1.7**
comp=Z,28nm,1.0s
PKCU LR LR
comp=Z,2µm,20.0s
MAW **Mawson** **77.05 164** P **P** **07 51 33.8 -0.4**
comp=Z,106nm,0.8s,baz=211,slow=6.4,SNR=111
MAW **Mawson** **77.05 164** *eP* **P** **07 51 33.7 -0.4**
comp=Z,32nm,0.9s
MAW LR LR
comp=Z,500nm,20.0s
I33A **Coleman** **77.06 342** P **P** **07 51 33.9 -0.5**
baz=158,SNR=18
LCMT **Little Creek M** **77.10 327** *eP* **P** **07 51 35.5 +0.5**
comp=Z,30nm,1.1s
LCMT LR LR
comp=Z,1µm,20.0s
E43A **Lone Tree Farm** **77.14 349** P **P** **07 51 34.2 -0.6**
baz=166,SNR=5.6
BFSC **Mount Baldy Ra** **77.14 322** P **P** **07 51 35.3 0.0**
baz=140,SNR=11
H35A **Sunnyside Ranc** **77.15 343** P **P** **07 51 34.3 -0.6**
baz=159,SNR=36
SPMN **Marine on St.** **77.17 345** P **P** **07 51 34.0 -0.9**
baz=161,SNR=12
SPMN **Marine on St.** **77.17 345** *eP* **P** **07 51 34.9 -0.1**
comp=Z,44nm,0.9s
SPMN LR LR
comp=Z,900nm,22.0s
TUQ **Turquoise Moun** **77.17 324** P **P** **07 51 36.5 +1.0**
baz=142,SNR=15
E44A **Grand Marais A** **77.21 350** P **P** **07 51 35.3 +0.2**
baz=167
N23A **Red Feather La** **77.23 334** P **P** **07 51 36.5 +0.7**
baz=150,SNR=23
N23A **Red Feather La** **77.23 334** *eP* **P** **07 51 37.1 +1.3**
comp=Z,78nm,1.4s
N23A LR LR
comp=Z,800nm,19.0s
I32A **Karley and Nic** **77.23 341** P **P** **07 51 35.4 0.0**
baz=157,SNR=6.0
COWI **Conover** **77.25 348** *eP* **P** **07 51 36.1 +0.7**
COWI *eP*cP **sP** **07 51 45.8 -0.2**
COWI LR LR
comp=Z,600nm,20.0s
MWC **Mount Wilson** **77.34 322** *eP* **P** **07 51 37.7 +1.2**
comp=Z,56nm,1.2s
MWC **Mount Wilson** **77.34 322** *eP* **P** **07 51 37.7 +1.2**
MWC pmax pmax
comp=Z,56nm,1.2s
E42A **Champion** **77.34 349** P **P** **07 51 35.7 -0.3**
baz=165,SNR=11
H34A **Spellman Lake,** **77.36 343** P **P** **07 51 35.7 -0.4**
baz=159,SNR=23
PASC **Pasadena Art C** **77.37 322** *eP* **P** **07 51 37.5 +1.1**
comp=Z,52nm,1.2s
PASC LR LR
comp=Z,800nm,21.0s
G36A **St. Michael** **77.39 344** P **P** **07 51 36.0 -0.3**
baz=160,SNR=5.4
PHWY **Pilot Hill** **77.40 335** *eP* **P** **07 51 37.5 +0.7**
comp=Z,101nm,1.5s
PHWY LR LR
comp=Z,400nm,20.0s
F39A **Loretta** **77.42 346** P **P** **07 51 35.8 -0.6**
baz=163,SNR=8.9
MTPU **Mount Pierson** **77.44 328** *eP* **P** **07 51 38.1 +0.9**
comp=Z,30nm,0.9s
MTPU LR LR
comp=Z,2µm,20.0s
O20A **White River Ci** **77.48 332** P **P** **07 51 37.8 +0.7**
baz=148,SNR=44
O20A **White River Ci** **77.48 332** *eP* **P** **07 51 38.1 +1.0**
comp=Z,88nm,1.1s
O20A LR LR
comp=Z,2µm,22.0s
SZCU **Shurtz Canyon** **77.50 327** *eP* **P** **07 51 38.3 +1.0**
comp=Z,26nm,1.0s
SZCU LR LR
comp=Z,2µm,22.0s
DECC **Green Verdugo** **77.51 322** P **P** **07 51 38.2 +1.0**
baz=140,SNR=5.6
GSC **Goldstone, Bar** **77.51 324** P **P** **07 51 38.0 +0.7**
baz=141,SNR=14
GSC **Goldstone, Bar** **77.51 324** *eP* **P** **07 51 39.5 +2.2**
comp=Z,27nm,1.0s
GSC LR LR
comp=Z,1µm,21.0s
GSC **Goldstone, Bar** **77.51 324** *eP* **P** **07 51 39.5 +2.2**
GSC pmax pmax
comp=Z,27nm,1.0s
GSC MLR MLR
comp=Z,1µm,21.0s
I31A **Royce, Wessing** **77.53 340** P **P** **07 51 37.4 +0.3**
baz=156
G35A **Watkins** **77.56 344** P **P** **07 51 36.9 -0.3**
baz=160,SNR=6.1
E41A **Kenton** **77.56 348** P **P** **07 51 36.6 -0.6**
baz=164,SNR=6.0
SRU **San Rafael Swe** **77.58 330** *eP* **P** **07 51 38.2 +0.5**
comp=Z,36nm,0.8s
SRU LR LR
comp=Z,2µm,18.0s
SRU **San Rafael Swe** **77.58 330** *eP* **P** **07 51 38.2 +0.5**
SRU pmax pmax
comp=Z,36nm,0.8s
SRU MLR MLR
comp=Z,2µm,18.0s
CCUT **Cedar City** **77.59 327** *eP* **P** **07 51 39.6 +1.8**
comp=Z,52nm,1.2s
CCUT LR LR
comp=Z,2µm,20.0s
F37A **Hinrichs Farm,** **77.60 345** P **P** **07 51 37.5 +0.1**
baz=161,SNR=16
SHPR **Sheep Range** **77.62 325** *eP* **P** **07 51 39.2 +1.2**
comp=Z,32nm,1.1s
SHPR LR LR
comp=Z,800nm,21.0s
H33A **Prehn Over Nor** **77.63 342** P **P** **07 51 37.2 -0.4**
baz=158,SNR=38
F38A **Pierce - Schro** **77.66 346** P **P** **07 51 37.8 +0.1**
baz=162,SNR=26
H32A **Carlson Farm,** **77.66 341** P **P** **07 51 37.2 -0.6**
baz=157,SNR=17
Q16A **Castle Valley** **77.71 329** *eP* **P** **07 51 39.3 +0.9**
comp=Z,50nm,1.0s
Q16A LR LR
comp=Z,2µm,20.0s
SHOC **Shoshone, Teco** **77.71 324** P **P** **07 51 38.1 -0.2**
baz=141,SNR=5.1
E40A **Wakefield** **77.72 347** P **P** **07 51 37.3 -0.7**
baz=164,SNR=6.2
E39A **Mellen** **77.78 347** P **P** **07 51 38.2 -0.3**
baz=163,SNR=11
EDW2 **Edwards Air Fo** **77.81 323** P **P** **07 51 39.2 +0.3**
baz=140,SNR=15
MSU **Marysvale** **77.82 329** *eP* **P** **07 51 40.3 +1.2**
MSU **Marysvale** **77.82 329** *eP* **P** **07 51 40.3 +1.2**
G34A **Benson** **77.86 343** P **P** **07 51 38.3 -0.6**
baz=159,SNR=10
P18A **Preston Nutter** **77.89 330** *eP* **P** **07 51 40.6 +1.0**
comp=Z,108nm,1.1s
P18A LR LR
comp=Z,2µm,19.0s
H31A **Wolsey** **77.93 341** P **P** **07 51 38.8 -0.5**
baz=156
F36A **Milaca** **77.93 345** P **P** **07 51 38.4 -0.8**
baz=161,SNR=20
P17A **Butcher Ranch,** **77.98 330** *eP* **P** **07 51 40.7 +0.8**
comp=Z,83nm,1.2s
P17A LR LR
comp=Z,1µm,18.0s
OSI **Osito Audit: C** **78.00 322** P **P** **07 51 39.2 -0.8**
baz=139

OSI **Osito Audit: C** 78.00 322 *eP* P 07 51 42.2 +2.3
comp=Z,68nm,1.1s
OSI LR LR
comp=Z,1µm,22.0s
SCZ2 **Santa Cruz Isl** 78.02 321 P P 07 51 40.0 -0.1
baz=139
TCRU **Three Creeks R** 78.03 328 PFAKE 07 51 50.0 +10
TCRU LR LR
comp=Z,3µm,20.0s
G33A **Ortonville** 78.03 342 P P 07 51 39.2 -0.6
baz=158,SNR=16
TMUT **Trail Mountain** 78.03 330 *eP* P 07 51 41.0 +0.6
comp=Z,18nm,0.7s
TMUT LR LR
comp=Z,2µm,20.0s
SUSD **Miller** 78.03 340 P P 07 51 39.6 -0.3
baz=156
D41A **Chassel** 78.07 348 P P 07 51 39.7 -0.2
baz=165,SNR=14
LRMC **Laurel Mtn Rad** 78.11 323 P P 07 51 40.3 -0.4
baz=140,SNR=13
RAR **Rarotonga** 78.18 252 LR LR 08 17 51.7
comp=Z,1µm,18.1s,baz=100,slow=29
F35A **Swanville** 78.18 344 P P 07 51 39.8 -0.9
baz=160,SNR=14
E38A **The Farm, Brul** 78.21 346 P P 07 51 40.0 -0.8
baz=162
F34A **Alexandria** 78.29 343 P P 07 51 40.6 -0.6
baz=159,SNR=8.4
E37A **Wrenshall** 78.35 346 P P 07 51 40.7 -0.8
baz=162
G32A **Webster** 78.37 342 P P 07 51 41.1 -0.6
baz=157
RWWY **Rawlins** 78.39 334 *eP* P 07 51 43.2 +0.9
comp=Z,128nm,1.0s
RWWY LR LR
comp=Z,1µm,20.0s
ARVC **Arvin** 78.44 322 P P 07 51 43.1 +0.7
baz=139
FURC **Furnace Creek,** 78.45 324 P P 07 51 42.3 0.0
baz=141,SNR=19
MPMC **Manual Prospec** 78.45 324 P P 07 51 43.4 +0.8
baz=140,SNR=11
E36A **McGregor** 78.49 345 P P 07 51 41.8 -0.5
baz=161,SNR=19
TPNV **Topopah Spring** 78.51 325 P P 07 51 44.0 +1.1
baz=142,SNR=28
TPNV **Topopah Spring** 78.51 325 *eP* P 07 51 44.2 +1.3
comp=Z,34nm,1.0s
TPNV LR LR
comp=Z,1µm,19.0s
TPNV **Topopah Spring** 78.51 325 *eP* P 07 51 44.2 +1.3
TPNV pmax pmax
comp=Z,34nm,1.0s
TPNV MLR MLR
comp=Z,1µm,19.0s
G31A **Conde** 78.54 341 P P 07 51 41.6 -1.0
baz=157
F33A **5 Mile Ranch,** 78.59 343 P P 07 51 41.9 -1.0
baz=158,SNR=11
KOWA **Kowa** 78.65 66 P P 07 51 43.7 -0.3
comp=Z,41nm,0.8s,baz=231,slow=5.9,SNR=92
KOWA **Kowa** 78.65 66 *eP* P 07 51 43.4 -0.5
comp=Z,279nm,1.8s
KOWA LR LR
comp=Z,4µm,18.0s
ISA **Isabella, Lake** 78.66 323 P P 07 51 43.7 0.0
baz=140,SNR=19
ISA **Isabella, Lake** 78.66 323 *eP* P 07 51 45.0 +1.3
comp=Z,34nm,0.9s
ISA LR LR
comp=Z,800nm,19.0s
ISA **Isabella, Lake** 78.66 323 *eP* P 07 51 45.0 +1.3
ISA pmax pmax
comp=Z,34nm,0.9s
ISA MLR MLR
comp=Z,800nm,19.0s
DAC **Darwin (Calif)** 78.67 324 *eP* P 07 51 45.0 +1.2
comp=Z,31nm,0.9s
DAC LR LR
comp=Z,1µm,20.0s
DAC **Darwin (Calif)** 78.67 324 *eP* P 07 51 45.0 +1.2
DAC pmax pmax
comp=Z,31nm,0.9s
DAC MLR MLR
comp=Z,1µm,20.0s
PKM **Mcpherson Peak** 78.79 321 P P 07 51 45.3 +0.8
baz=139,SNR=13
E35A **Pequot Lakes** 78.79 344 P P 07 51 43.4 -0.6
baz=160,SNR=12
MPU **Maple Canyon** 78.81 330 *eP* P 07 51 45.2 +0.7
comp=Z,58nm,1.1s
MPU LR LR
comp=Z,3µm,20.0s
F32A **Veblen** 78.84 342 P P 07 51 41.9 -2.3
baz=158
D37A **Cotton** 78.92 346 P P 07 51 44.2 -0.5
baz=162
E34A **Wadena** 78.94 344 P P 07 51 43.9 -0.9
baz=159
NLU **North Lily Min** 78.96 329 *eP* P 07 51 46.5 +1.2
comp=Z,67nm,1.3s
K22A **Casper** 78.96 335 P P 07 51 45.6 +0.4
baz=150,SNR=31
K22A **Casper** 78.96 335 *eP* P 07 51 46.2 +0.9
comp=Z,127nm,1.0s
K22A LR LR
comp=Z,700nm,18.0s
C40A **Isle Royale Na** 79.00 348 P P 07 51 44.8 -0.3
baz=164
CWC **Cottonwood Cre** 79.05 323 P P 07 51 45.0 -0.9
baz=140
C39A **Grand Marais** 79.08 347 P P 07 51 44.7 -0.8
baz=164,SNR=7.6
D36A **Goodland** 79.09 345 P P 07 51 45.0 -0.6
baz=161
GRAC **Grapevine Rang** 79.11 324 P P 07 51 46.7 +0.7
baz=141,SNR=16
VES **Vestal, Richgr** 79.12 322 P P 07 51 46.2 +0.1
baz=139,SNR=25
F31A **Hecla** 79.13 341 P P 07 51 45.2 -0.7
baz=157,SNR=16
E33A **Westby DABS, E** 79.13 343 P P 07 51 45.2 -0.6
baz=158
D35A **Remer** 79.20 345 P P 07 51 45.4 -0.9
baz=160,SNR=13
SMMC **Simmler** 79.21 322 P P 07 51 46.5 -0.1
baz=139,SNR=14
C38A **Sawbill Land.** 79.21 347 P P 07 51 45.2 -1.1
baz=163,SNR=5.0
JLU **Jordanelle** 79.21 330 *eP* P 07 51 47.8 +1.0
comp=Z,33nm,0.8s
JLU LR LR
comp=Z,2µm,20.0s
R11A **Troy Canyon, C** 79.29 326 P P 07 51 48.5 +1.3
baz=142,SNR=30
R11A **Troy Canyon, C** 79.29 326 *eP* P 07 51 48.3 +1.1
comp=Z,26nm,1.1s
R11A LR LR
comp=Z,1µm,18.0s
RSSD **Black Hills** 79.35 337 P P 07 51 47.7 +0.3
baz=152
RSSD **Black Hills** 79.35 337 *eP* P 07 51 48.2 +0.8
comp=Z,47nm,1.0s
RSSD LR LR
comp=Z,700nm,21.0s
RSSD **Black Hills** 79.35 337 *eP* P 07 51 48.2 +0.8
RSSD pmax pmax
comp=Z,47nm,1.0s
RSSD MLR MLR
comp=Z,700nm,21.0s
C37A **Embarrass** 79.41 346 P P 07 51 47.0 -0.3
baz=162,SNR=9.0
CTU **Camp Tracy** 79.42 330 *eP* P 07 51 49.0 +1.2
comp=Z,18nm,0.8s
CTU LR LR
comp=Z,2µm,21.0s
EYMN **Ely** 79.47 347 P P 07 51 47.3 -0.4
baz=162,SNR=7.3
EYMN **Ely** 79.47 347 *eP* P 07 51 47.5 -0.2
comp=Z,64nm,1.4s
EYMN LR LR
comp=Z,700nm,21.0s
D34A **Park Rapids** 79.48 344 P P 07 51 47.3 -0.4
baz=159,SNR=15
DUG **Dugway, Tooele** 79.48 329 P P 07 51 48.8 +0.7
baz=144,SNR=32
DUG **Dugway, Tooele** 79.48 329 *eP* P 07 51 49.0 +0.9
comp=Z,71nm,1.2s
DUG LR LR
comp=Z,2µm,21.0s
DUG **Dugway, Tooele** 79.48 329 *eP* P 07 51 49.0 +0.9
DUG pmax pmax
comp=Z,71nm,1.2s
DUG MLR MLR
comp=Z,2µm,21.0s
E32A **Braaten, Kindr** 79.49 342 P P 07 51 47.5 -0.3
baz=158
RCTC **Rector, Farmer** 79.55 323 P P 07 51 48.2 -0.2
baz=139,SNR=9.6
C36A **Pine Crest Far** 79.57 346 P P 07 51 47.5 -0.8
baz=161,SNR=9.3
TIN **Tinemaha, Big** 79.60 324 P P 07 51 49.1 +0.3
baz=140,SNR=7.3
TCUT **Toone Canyon** 79.62 331 *eP* P 07 51 48.5 -0.5
comp=Z,447nm,1.9s
PAGB **Antelope Grade** 79.66 322 *eP* P 07 51 51.1 +2.1
comp=Z,72nm,1.2s
PAGB LR LR
comp=Z,1µm,20.0s
E31A **Nome** 79.68 342 P P 07 51 47.9 -0.9
baz=157,SNR=8.0
D33A **AnnSam, Waubun** 79.69 343 P P 07 51 48.2 -0.7
baz=159,SNR=6.6
C35A **Jirik Farms, M** 79.77 345 P P 07 51 48.6 -0.8
baz=160,SNR=16
C34A **RKJ Ranch, Bem** 79.94 344 P P 07 51 49.6 -0.7
baz=160,SNR=6.6
D32A **Dogwood Acres,** 79.98 343 P P 07 51 50.0 -0.4
baz=158,SNR=5.3
TSUM **Tsumeb** 80.05 106 *eP* P 07 51 51.0 -0.8
comp=Z,120nm,0.9s
TSUM LR LR
comp=Z,3µm,20.0s
D31A **Mcclaflin, Tow** 80.08 342 P P 07 51 50.7 -0.3
baz=157
HWUT **Hardware Ranch** 80.09 331 *eP* P 07 51 51.6 +0.2
comp=Z,67nm,0.9s
HWUT LR LR
comp=Z,2µm,21.0s
BGU **Big Grassy Mou** 80.17 329 *eP* P 07 51 53.0 +1.1
comp=Z,44nm,1.2s
BGU LR LR
comp=Z,2µm,20.0s
SPUT **South Promonto** 80.23 330 *eP* P 07 51 52.5 +0.3
comp=Z,94nm,1.2s
SPUT LR LR
comp=Z,2µm,19.0s
BW06 **Boulder Array** 80.23 333 P P 07 51 52.1 -0.1
baz=147,SNR=11
BW06 **Boulder Array** 80.23 333 *eP* P 07 51 53.1 +0.9
comp=Z,25nm,1.0s
BW06 LR LR
comp=Z,2µm,20.0s
PD31 **Pinedale Array** 80.23 333 *eP* P 07 51 52.1 -0.1
PDAR **Pinedale Array** 80.23 333 P P 07 51 52.5 +0.2
comp=Z,5.3nm,0.6s,baz=131,slow=6.4,SNR=55
PDAR PKPPKP **P'P'df** 08 18 36.2 +1.8
comp=Z,0.5nm,0.8s,baz=350,slow=1.8,SNR=5.6
PDAR LR LR 08 24 15.3
comp=Z,1µm,20.2s,baz=144,slow=33
PDAR **Pinedale Array** 80.23 333 *eP* P 07 51 51.6 -0.6
C33A **Trail** 80.25 344 P P 07 51 51.3 -0.6
baz=159,SNR=14
B35A **Bob, Littlefor** 80.34 345 P P 07 51 51.8 -0.5
baz=161,SNR=17
MLAC **Mammoth, Mammc** 80.35 324 P P 07 51 53.5 +0.5
baz=140,SNR=11
OMMB **Old Mammoth Mi** 80.42 324 *eP* P 07 51 54.2 +0.8
comp=Z,77nm,1.5s
OMMB LR LR
comp=Z,800nm,20.0s
MDPB **Devils Postpil** 80.47 324 *eP* P 07 51 55.1 +1.4
comp=Z,25nm,1.2s
MDPB LR LR
comp=Z,800nm,19.0s
C32A **Crookston** 80.50 343 P P 07 51 53.0 -0.2
baz=158
NV11 **Mina Array Sit** 80.61 325 *eP* P 07 51 55.9 +1.6
comp=Z,2.7nm,1.4s
NV11 LR LR
comp=Z,100nm,20.0s
B34A **Aery, Baudette** 80.66 345 P P 07 51 53.3 -0.8
baz=160,SNR=9.9
B33A **Robert and Kas** 80.68 344 P P 07 51 53.5 -0.7
baz=159,SNR=10
NV01 **Mina Array Sit** 80.69 325 *eP* P 07 51 55.1 +0.4
NVAR **Mina Array Bea** 80.69 325 P P 07 51 56.0 +1.2
comp=Z,11nm,1.0s,baz=151,slow=5.9,SNR=51
NVAR PKKPbc **PKKPbc** 08 10 35.2 -0.6
comp=Z,3.9nm,0.9s,baz=304,slow=2.1,SNR=20
NVAR PKPPKP **P'P'df** 08 18 39.3 +5.0
comp=Z,1.7nm,1.0s,baz=243,slow=2.2,SNR=7.4
NVAR LR LR 08 21 23.1
comp=Z,876nm,21.8s,baz=260,slow=31
HVU **Hansel Valley** 80.75 330 *eP* P 07 51 55.0 0.0
comp=Z,49nm,1.0s
HVU LR LR
comp=Z,2µm,22.0s
HVU **Hansel Valley** 80.75 330 *eP* P 07 51 55.0 0.0
HVU pmax pmax
comp=Z,49nm,1.0s
HVU MLR MLR
comp=Z,2µm,22.0s
AGMN **Agassiz Nation** 80.77 344 P P 07 51 54.0 -0.7
baz=159,SNR=18
AGMN **Agassiz Nation** 80.77 344 *eP* P 07 51 54.6 -0.1
comp=Z,51nm,1.0s
C31A **Landman Farms,** 80.77 343 P P 07 51 54.4 -0.3
baz=157,SNR=40
AHID **Auburn Hatcher** 80.86 332 *eP* P 07 51 56.6 +1.1
comp=Z,146nm,1.6s
AHID LR LR
comp=Z,1µm,21.0s
PMOZ **Porto Moniz, M** 80.92 44 *e*LR LR 08 20 16.9
comp=Z,1µm,18.0s
RYN **Ryan** 80.95 325 *eP* P 07 51 57.6 +1.5
comp=Z,44nm,1.3s
RYN LR LR
comp=Z,1µm,22.0s
B32A **Ashes, Strandq** 81.03 344 P P 07 51 55.5 -0.6
baz=158,SNR=58
KVN **Kaiserville** 81.06 325 *eP* P 07 51 57.9 +1.2
comp=Z,30nm,1.1s
KVN LR LR
comp=Z,800nm,20.0s
KVN **Kaiserville** 81.06 325 *eP* P 07 51 57.9 +1.2
KVN pmax pmax
comp=Z,30nm,1.1s
KVN MLR MLR
comp=Z,800nm,20.0s
REDW **Red Top Meadow** 81.25 332 *eP* P 07 51 58.6 +1.0
comp=Z,48nm,1.1s
REDW LR LR
comp=Z,900nm,21.0s
A33A **Warroad** 81.26 344 P P 07 51 56.9 -0.3
baz=159,SNR=31
SNOW **Snow King Moun** 81.29 332 *eP* P 07 51 58.5 +0.5
comp=Z,36nm,1.0s
SNOW LR LR
comp=Z,1µm,18.0s
WAKR **Walker** 81.32 324 *eP* P 07 51 59.0 +0.9
comp=Z,81nm,1.5s
WAKR LR LR
comp=Z,1µm,20.0s
MDND **Maddock** 81.33 341 P P 07 51 57.7 0.0
baz=156,SNR=34
MDND **Maddock** 81.33 341 *eP* P 07 51 58.0 +0.3
comp=Z,192nm,0.9s
MDND LR LR
comp=Z,800nm,22.0s
B31A **Greenbush Farm** 81.33 343 P P 07 51 57.2 -0.4
baz=157,SNR=12
LOHW **Long Hollow** 81.36 332 *eP* P 07 51 58.4 +0.1
comp=Z,41nm,1.3s
LOHW LR LR
comp=Z,1µm,20.0s
TPAW **Teton Pass** 81.39 332 *eP* P 07 51 59.0 +0.5
comp=Z,30nm,0.9s
TPAW LR LR
comp=Z,800nm,20.0s
CMB **Columbia Colle** 81.45 323 *eP* P 07 52 00.2 +1.6
comp=Z,33nm,1.3s
CMB LR LR
comp=Z,800nm,19.0s
CMB **Columbia Colle** 81.45 323 *eP* P 07 52 00.2 +1.6
comp=Z,33nm,1.3s
CMB pmax pmax
CMB MLR MLR
comp=Z,800nm,19.0s
A32A **Rocking H Ranc** 81.50 344 P P 07 51 58.2 -0.3
baz=158,SNR=8.7
MOOW **Moose Ponds** 81.53 332 *eP* P 07 51 59.6 +0.5
comp=Z,11nm,0.9s
MOOW LR LR
comp=Z,1µm,19.0s
FXWY **Fox Creek** 81.55 332 *eP* P 07 51 59.9 +0.6
comp=Z,15nm,1.0s
YERR **Yerington** 81.58 324 *eP* P 07 52 00.7 +1.2
comp=Z,78nm,1.3s
YERR LR LR
comp=Z,1µm,22.0s
A31A **Linda, St. Vin** 81.69 343 P P 07 51 59.3 -0.2
baz=158
BMN **Battle Mountai** 81.70 327 *eP* P 07 52 01.1 +1.1
comp=Z,9.4nm,0.9s
BMN LR LR
comp=Z,1µm,22.0s
BMN **Battle Mountai** 81.70 327 *eP* P 07 52 01.1 +1.1
BMN pmax pmax
comp=Z,9.0nm,0.9s
BMN MLR MLR
comp=Z,1µm,22.0s
BOSA **Boshof** 81.72 118 P P 07 51 60.0 -0.6
comp=Z,91nm,0.9s,baz=241,slow=4.9,SNR=107
BOSA **Boshof** 81.72 118 *eP* P 07 51 59.9 -0.6
comp=Z,124nm,0.9s
BOSA **Boshof** 81.72 118 P P 07 52 00.0 -0.6
BOSA pmax pmax
comp=Z,91nm,0.9s
RDG13 **Poverty Ridge** 81.72 322 *eP* P 07 52 02.4 +2.3
comp=Z,55nm,1.3s
RDG13 LR LR
comp=Z,900nm,19.0s
IMW **Indian Meadow** 81.73 332 *eP* P 07 52 01.0 +0.7
comp=Z,32nm,1.0s
IMW LR LR
comp=Z,1µm,20.0s
YPP **Pitchstone Pla** 81.99 333 *eP* P 07 52 03.7 +2.1
comp=Z,70nm,1.9s
YPP LR LR
comp=Z,2µm,20.0s
H17A **Grant Village** 82.00 333 P P 07 52 02.3 +0.6
baz=146,SNR=5.4
H17A **Grant Village** 82.00 333 *eP* P 07 52 02.9 +1.3
comp=Z,13nm,1.0s
H17A LR LR
comp=Z,2µm,20.0s
VCNR **Virginia City** 82.03 324 *eP* P 07 52 03.3 +1.4
comp=Z,42nm,1.2s
VCNR LR LR
comp=Z,900nm,21.0s
RUBR **Rubicon Trail** 82.10 324 *eP* P 07 52 03.9 +1.7
comp=Z,66nm,1.1s
RUBR LR LR
comp=Z,800nm,20.0s
RLMT **Red Lodge** 82.10 334 P P 07 52 02.3 +0.1
baz=148,SNR=20
RLMT **Red Lodge** 82.10 334 *eP* P 07 52 02.5 +0.4
comp=Z,96nm,1.5s
RLMT LR LR
comp=Z,900nm,22.0s
YFT **Old Faithful** 82.15 333 *eP* P 07 52 04.0 +1.6
comp=Z,24nm,1.0s
YFT LR LR
comp=Z,2µm,21.0s
PAHR **Pah Rah Range** 82.20 325 *eP* P 07 52 03.5 +0.8
comp=Z,89nm,1.2s
PAHR LR LR
comp=Z,900nm,22.0s
LAO **LASA Array** 82.35 337 P P 07 52 03.2 0.0
baz=150,SNR=38
LAO **LASA Array** 82.35 337 *eP* P 07 52 03.0 -0.1
comp=Z,64nm,1.0s
LAO LR LR
comp=Z,700nm,21.0s
YMR **Madison River** 82.38 333 *eP* P 07 52 04.5 +0.9
comp=Z,69nm,1.1s
YMR LR LR
comp=Z,1µm,20.0s
YHH **Holmes Hill** 82.43 333 *eP* P 07 52 04.9 +1.0
comp=Z,52nm,1.2s
YHH LR LR
comp=Z,1µm,20.0s
AFDM **Forest Hills D** 82.44 323 *eP* P 07 52 04.5 +0.7
comp=Z,72nm,1.3s
AFDM LR LR
comp=Z,600nm,20.0s
TOC5 **Torodi Ar. Sit** 82.48 70 PFAKE 07 52 20.0 +16
TOC5 LR LR
comp=Z,3µm,21.0s
TOC6 **Torodi Ar. Sit** 82.48 70 PFAKE 07 52 20.0 +15
TOC6 LR LR
comp=Z,2µm,21.0s
TOB4 **Torodi Ar. Sit** 82.49 70 PFAKE 07 52 20.0 +15
TOB4 LR LR
comp=Z,2µm,20.0s
TOC4 **Torodi Ar. Sit** 82.50 70 PFAKE 07 52 20.0 +15
TOC4 LR LR
comp=Z,2µm,20.0s
TOB5 **Torodi Ar. Sit** 82.50 70 PFAKE 07 52 20.0 +15
TOB5 LR LR
comp=Z,2µm,21.0s
TOA3 **Torodi Ar. Sit** 82.50 70 PFAKE 07 52 20.0 +15
TOA3 LR LR
comp=Z,2µm,20.0s
TOC7 **Torodi Ar. Sit** 82.50 70 PFAKE 07 52 20.0 +15
TOC7 LR LR
comp=Z,2µm,21.0s
TOA0 **Torodi Ar. Sit** 82.51 70 *eP* P 07 52 03.9 -0.7
TOA0 LR LR
comp=Z,2µm,21.0s
TOA1 **Torodi Ar. Sit** 82.51 70 *eP* P 07 52 03.8 -0.9
TOA1 LR LR
comp=Z,2µm,21.0s
TORD **Torodi Ar. Bea** 82.51 70 P P 07 52 03.8 -0.9
comp=Z,53nm,0.8s,baz=250,slow=3.8,SNR=179
TORD S S 08 02 14.6 -5.8
comp=Z,3.4nm,1.1s,baz=245,slow=8.3,SNR=10.0
TORD PKKPbc **PKKPbc** 08 10 30.0 +0.1
comp=Z,0.4nm,0.6s,baz=49,slow=3.0,SNR=4.5
TOB3 **Torodi Ar. Sit** 82.51 70 PFAKE 07 52 20.0 +15
TOB3 LR LR
comp=Z,2µm,21.0s
TOA2 **Torodi Ar. Sit** 82.51 70 PFAKE 07 52 20.0 +15
TOA2 LR LR
comp=Z,2µm,21.0s
TOB2 **Torodi Ar. Sit** 82.52 70 PFAKE 07 52 20.0 +15
TOB2 LR LR
comp=Z,2µm,21.0s
TOC3 **Torodi Ar. Sit** 82.52 70 PFAKE 07 52 20.0 +15
TOC3 LR LR
comp=Z,2µm,21.0s
TOC1 **Torodi Ar. Sit** 82.53 70 PFAKE 07 52 20.0 +15
TOC1 LR LR
comp=Z,3µm,21.0s
TOC2 **Torodi Ar. Sit** 82.53 70 PFAKE 07 52 20.0 +15
TOC2 LR LR
comp=Z,2µm,20.0s
YHB **Horse Butte** 82.54 333 *eP* P 07 52 05.8 +1.4
comp=Z,21nm,1.0s
YHB LR LR
comp=Z,800nm,20.0s
ULM **Lac du Bonnet** 82.60 345 P P 07 52 03.7 -0.6
comp=Z,44nm,1.0s,baz=163,slow=3.3,SNR=36
ULM PKKPbc **PKKPdf** 08 10 27.1 +3.7
comp=Z,3.7nm,0.8s,baz=259,slow=0.9,SNR=4.1
ULM **Lac du Bonnet** 82.60 345 *eP* P 07 52 02.7 -1.6
comp=Z,67nm,0.9s
ULM LR LR
comp=Z,700nm,21.0s
QLMT **Earthquake Lak** 82.70 333 *eP* P 07 52 06.7 +1.5
BEKR **Beckworth** 82.82 324 *eP* P 07 52 06.8 +0.8
comp=Z,50nm,1.2s
BEKR LR LR
comp=Z,600nm,22.0s
GCMT **Greycliff** 82.82 334 *eP* P 07 52 05.4 -0.3
HLID **Hailey** 82.90 330 P P 07 52 07.1 +0.8
baz=144,SNR=45
HLID **Hailey** 82.90 330 *eP* P 07 52 06.9 +0.6
comp=Z,50nm,1.0s
HLID LR LR
comp=Z,2µm,22.0s

ORV	**Oroville**	**83.17**	**323**	*e*P		**P**	**07 52 08.8**	**+1.3**	
	comp=Z,131nm,1.3s								
ORV				LR		LR			
	comp=Z,700nm,21.0s								
ORV	**Oroville**	**83.17**	**323**	*e*P		**P**	**07 52 08.8**	**+1.3**	
ORV				pmax		pmax			
	comp=Z,131nm,1.3s								
ORV				MLR		MLR			
	comp=Z,700nm,21.0s								
MIR	**Mirnyy**	**83.18**	**174**	⇓*i*P		**P**	**07 52 07.0**	**-0.3**	
MIR				*i*			07 52 27.0		
MIR				pmax		pmax			
	comp=Z,108nm,1.5s								
DGMT	**Dagmar**	**83.24**	**339**	P		**P**	**07 52 07.9**	**+0.2**	
	baz=152,SNR=38								
DGMT	**Dagmar**	**83.24**	**339**	*e*P		**P**	**07 52 08.1**	**+0.4**	
	comp=Z,174nm,0.9s								
DGMT				LR		LR			
	comp=Z,700nm,21.0s								
MCMT	**McKenzie Canyo**	**83.27**	**332**	*e*P		**P**	**07 52 09.0**	**+0.8**	
GDXM	**Geysers**	**83.30**	**322**	*e*P		**P**	**07 52 10.4**	**+2.1**	
	comp=Z,26nm,1.0s								
MFID	**Camas Ranch**	**83.41**	**329**	*e*P		**P**	**07 52 10.2**	**+1.4**	
	comp=Z,32nm,1.1s								
MFID				LR		LR			
	comp=Z,2μm,19.0s								
BOZ	**Bozeman (W)**	**83.41**	**333**	P		**P**	**07 52 09.2**	**+0.4**	
	baz=146,SNR=8.8								
BOZ	**Bozeman (W)**	**83.41**	**333**	*e*P		**P**	**07 52 09.2**	**+0.4**	
	comp=Z,8.0nm,0.9s								
BOZ				LR		LR			
	comp=Z,900nm,20.0s								
BOZ	**Bozeman (W)**	**83.41**	**333**	*e*P		**P**	**07 52 09.2**	**+0.4**	
BOZ				pmax		pmax			
	comp=Z,8.0nm,0.9s								
BOZ				MLR		MLR			
	comp=Z,900nm,20.0s								
DLMT	**Dillon**	**83.61**	**332**	*e*P		**P**	**07 52 11.0**	**+1.1**	
	comp=Z,67nm,1.5s								
DLMT				LR		LR			
	comp=Z,900nm,20.0s								
LBTB	**Lobatse**	**83.76**	**115**	*e*P		**P**	**07 52 10.4**	**-0.8**	
	comp=Z,266nm,1.1s								
LBTB	**Lobatse**	**83.76**	**115**	*e*P		**P**	**07 52 10.4**	**-0.8**	
LBTB				pmax		pmax			
	comp=Z,266nm,1.1s								
O03D	**Paynes Creek**	**83.87**	**324**	P		**P**	**07 52 10.8**	**-0.4**	
	baz=138,SNR=14								
LRM	**Limekiln Ridge**	**83.92**	**333**	*e*P		**P**	**07 52 12.7**	**+1.1**	
WVOR	**Wild Horse Val**	**83.93**	**327**	*e*P		**P**	**07 52 12.4**	**+0.9**	
	comp=Z,33nm,1.2s								
WVOR				LR		LR			
	comp=Z,2μm,22.0s								
WVOR	**Wild Horse Val**	**83.93**	**327**	*e*P		**P**	**07 52 12.4**	**+0.9**	
WVOR				pmax		pmax			
	comp=Z,33nm,1.2s								
WVOR				MLR		MLR			
	comp=Z,2μm,22.0s								
CASY	**Casey**	**84.16**	**181**	*e*P		**P**	**07 52 12.0**	**-0.3**	
	comp=Z,168nm,0.9s								
CASY				LR		LR			
	comp=Z,5μm,22.0s								
MOD	**Modoc Plateau**	**84.32**	**326**	*e*P		**P**	**07 52 14.2**	**+0.6**	
	comp=Z,32nm,0.9s								
MOD				LR		LR			
	comp=Z,1μm,19.0s								
SCHQ	**Schefferville**	**84.45**	**3**	P		**P**	**07 52 11.8**	**-1.8**	
	comp=Z,35nm,1.0s,baz=176,slow=2.5,SNR=15								
SCHQ				LR		LR	08 29 03.6		
	comp=Z,613nm,21.8s,baz=195,slow=35								
SCHQ	**Schefferville**	**84.45**	**3**	*e*P		**P**	**07 52 13.8**	**+0.1**	
	comp=Z,75nm,1.2s								
SCHQ				LR		LR			
	comp=Z,800nm,22.0s								
WDC	**Whiskeytown Da**	**84.46**	**324**	*e*P		**P**	**07 52 14.2**	**+0.1**	
	comp=Z,23nm,1.0s								
WDC				LR		LR			
	comp=Z,600nm,22.0s								
WDC	**Whiskeytown Da**	**84.46**	**324**	*e*P		**P**	**07 52 14.2**	**+0.1**	
WDC				pmax		pmax			
	comp=Z,23nm,1.0s								
WDC				MLR		MLR			
	comp=Z,600nm,22.0s								
J08A	**Circle Bar Ran**	**84.56**	**328**	*e*P		**P**	**07 52 15.5**	**+0.8**	
	comp=Z,129nm,1.3s								
J08A				LR		LR			
	comp=Z,2μm,22.0s								
EGMT	**Eagleton**	**84.73**	**335**	P		**P**	**07 52 15.0**	**-0.4**	
	baz=147,SNR=13								
EGMT	**Eagleton**	**84.73**	**335**	*e*P		**P**	**07 52 15.5**	**+0.1**	
	comp=Z,43nm,1.3s								
EGMT				LR		LR			
	comp=Z,800nm,20.0s								
N02D	**Trinity Center**	**84.84**	**324**	P		**P**	**07 52 16.1**	**+0.1**	
	baz=137								
M04C	**Macdoel**	**84.99**	**325**	P		**P**	**07 52 17.6**	**+0.7**	
	baz=138,SNR=13								
BMO	**Blue Mountains**	**85.19**	**329**	*e*P		**P**	**07 52 18.7**	**+0.9**	
	comp=Z,60nm,1.8s								
BMO				LR		LR			
	comp=Z,2μm,20.0s								
BMO	**Blue Mountains**	**85.19**	**329**	*e*P		**P**	**07 52 18.7**	**+0.9**	
BMO				pmax		pmax			
	comp=Z,60nm,1.8s								
BMO				MLR		MLR			
	comp=Z,2μm,20.0s								
M02C	**Callahan**	**85.22**	**324**	P		**P**	**07 52 18.7**	**+0.7**	
	baz=137,SNR=7.9								
K05A	**Summer Lake**	**85.23**	**326**	*e*P		**P**	**07 52 19.3**	**+1.1**	
	comp=Z,88nm,1.2s								
K05A				LR		LR			
	comp=Z,900nm,20.0s								
KHMM	**Horse Mountain**	**85.30**	**323**	*e*P		**P**	**07 52 19.9**	**+1.4**	
	comp=Z,123nm,1.6s								
KHMM				LR		LR			
	comp=Z,900nm,22.0s								
MSO	**Missoula**	**85.34**	**332**	P		**P**	**07 52 19.1**	**+0.6**	
	baz=144,SNR=14								
MSO	**Missoula**	**85.34**	**332**	*e*P		**P**	**07 52 19.7**	**+1.2**	
	comp=Z,26nm,1.3s								
MSO				LR		LR			
	comp=Z,1μm,19.0s								
YBH	**Yreka Blue Hor**	**85.40**	**324**	P		**P**	**07 52 19.1**	**+0.2**	
	comp=Z,12nm,0.9s,baz=176,slow=4.8,SNR=22								
YBH				LR		LR	08 24 15.2		
	comp=Z,671nm,20.5s,baz=135,slow=31								
YBH	**Yreka Blue Hor**	**85.40**	**324**	*e*P		**P**	**07 52 19.0**	**+0.1**	
	comp=Z,22nm,1.0s								
YBH				LR		LR			
	comp=Z,800nm,20.0s								
JCC	**Jacoby Creek,**	**85.41**	**323**	PFAKE			07 52 30.0	+11	
JCC				LR		LR			
	comp=Z,700nm,19.0s								
K04D	**Chiloquin, OR**	**85.58**	**325**	P		**P**	**07 52 20.3**	**+0.5**	
	baz=138								
I07A	**Izee**	**85.60**	**328**	*e*P		**P**	**07 52 21.4**	**+1.5**	
	comp=Z,113nm,1.9s								
I07A				LR		LR			
	comp=Z,1μm,20.0s								
BFZ	**Birch Farm**	**85.80**	**225**	PFAKE			07 52 30.0	+8.9	
BFZ				LR		LR			
	comp=Z,1μm,18.0s								
J05D	**Fort Rock, OR**	**85.82**	**326**	P		**P**	**07 52 21.7**	**+0.7**	
	baz=138,SNR=19								
F10A	**Beach Ranch, E**	**86.04**	**330**	*e*P		**P**	**07 52 22.2**	**+0.3**	
	comp=Z,19nm,0.8s								
PINE	**Pine Mountain**	**86.06**	**327**	*e*P		**P**	**07 52 23.4**	**+1.2**	
	comp=Z,61nm,0.9s								
PINE				LR		LR			
	comp=Z,800nm,18.0s								
L02D	**Cave Junction,**	**86.16**	**324**	P		**P**	**07 52 23.5**	**+0.9**	
	baz=137,SNR=6.8								
HUMO	**Hull Mountain**	**86.16**	**325**	*e*P		**P**	**07 52 22.9**	**+0.4**	
	comp=Z,14nm,0.9s								
HUMO				LR		LR			
	comp=Z,800nm,20.0s								
J04D	**Umpqua Nationa**	**86.21**	**326**	P		**P**	**07 52 23.6**	**+0.5**	
	baz=138								
JTMT	**Jette**	**86.22**	**333**	*e*P		**P**	**07 52 23.6**	**+0.7**	
	comp=Z,31nm,0.7s								
JTMT				LR		LR			
	comp=Z,1μm,19.0s								
G08A	**Pilot Rock**	**86.27**	**329**	*e*P		**P**	**07 52 24.1**	**+0.9**	
	comp=Z,17nm,0.9s								
KHZ	**Kahutara**	**86.38**	**222**	*e*P		**P**	**07 52 24.9**	**+1.0**	
	comp=Z,112nm,1.4s								
KHZ				LR		LR			
	comp=Z,1μm,22.0s								
I05D	**Terrebonne, OR**	**86.65**	**327**	P		**P**	**07 52 25.8**	**+0.8**	
	baz=138,SNR=20								
URZ	**Urewera**	**86.68**	**227**	PKKPbc		PKKPbc	08 10 20.4	+0.5	
	comp=Z,12nm,0.8s,baz=326,slow=3.6,SNR=11								
URZ	**Urewera**	**86.68**	**227**	*e*P		**P**	**07 52 26.8**	**+1.3**	
	comp=Z,94nm,1.6s								
I04A	**Tendick Farm,**	**86.77**	**326**	P		**P**	**07 52 25.9**	**+0.3**	
	baz=138,SNR=6.1								
E09A	**Wood Farm, Sta**	**86.86**	**330**	PFAKE			07 52 40.0	+14	
E09A				LR		LR			
	comp=Z,1μm,21.0s								
LTZ	**Lake Taylor**	**86.89**	**221**	*e*P		**P**	**07 52 28.1**	**+1.6**	
	comp=Z,116nm,1.1s								
G06A	**Carlson Farm,**	**87.00**	**328**	*e*P		**P**	**07 52 28.0**	**+1.4**	
	comp=Z,86nm,1.4s								
G06A				LR		LR			
	comp=Z,1μm,22.0s								
RPZ	**Rata Peaks**	**87.00**	**220**	P		**P**	**07 52 28.0**	**+1.0**	
	comp=Z,85nm,1.1s,baz=13,slow=19,SNR=5.7								
KEBM	**Edson Butte**	**87.05**	**324**	*e*P		**P**	**07 52 29.2**	**+2.2**	
	comp=Z,103nm,1.1s								
WALA	**Waterton Lakes**	**87.14**	**334**	*e*P		**P**	**07 52 27.5**	**+0.2**	
	comp=Z,128nm,1.4s								
WALA				LR		LR			
	comp=Z,900nm,21.0s								
I03D	**Drain, OR**	**87.16**	**325**	P		**P**	**07 52 28.1**	**+0.8**	
	baz=137								
THZ	**Tophouse**	**87.16**	**223**	*e*P		**P**	**07 52 30.4**	**+2.6**	
	comp=Z,89nm,0.9s								
E08A	**Dider Farm, El**	**87.24**	**329**	PFAKE			07 52 40.0	+12	
E08A				LR		LR			
	comp=Z,2μm,19.0s								
H04A	**Detroit Lake**	**87.32**	**327**	*e*P		**P**	**07 52 28.5**	**+0.4**	
	comp=Z,40nm,0.8s								
G05D	**Wamic, OR**	**87.32**	**327**	P		**P**	**07 52 29.0**	**+0.8**	
	baz=138,SNR=8.0								
HAWA	**Hanford**	**87.37**	**329**	*e*P		**P**	**07 52 29.1**	**+0.7**	
	comp=Z,44nm,1.1s								
HAWA				LR		LR			
	comp=Z,2μm,19.0s								
D08A	**Wollman Farm,**	**87.61**	**330**	*e*P		**P**	**07 52 30.1**	**+0.6**	
	comp=Z,21nm,0.8s								
E07A	**Sunnyside**	**87.64**	**329**	PFAKE			07 52 40.0	+10	
E07A				LR		LR			
	comp=Z,2μm,20.0s								
COR	**Corvallis**	**87.78**	**326**	PFAKE			07 52 40.0	+10	
COR				LR		LR			
	comp=Z,600nm,21.0s								
NEW	**Newport**	**87.79**	**332**	LR		LR	08 28 52.9		
	comp=Z,1μm,18.6s,baz=151,slow=34								
NEW	**Newport**	**87.79**	**332**	P		**P**	**07 52 30.1**	**-0.3**	
	baz=142								
NEW	**Newport**	**87.79**	**332**	*e*P		**P**	**07 52 30.4**	**0.0**	
	comp=Z,38nm,1.5s								
NEW				LR		LR			
	comp=Z,1μm,19.0s								
NEW	**Newport**	**87.79**	**332**	*e*P		**P**	**07 52 30.4**	**0.0**	
NEW				pmax		pmax			
	comp=Z,38nm,1.5s								
NEW				MLR		MLR			
	comp=Z,1μm,19.0s								
C09A	**Chrisman Ranch**	**87.91**	**331**	*e*P		**P**	**07 52 31.6**	**+0.7**	
	comp=Z,30nm,1.0s								
C09A				LR		LR			
	comp=Z,1μm,20.0s								
RTC	**Rabat Centre**	**88.19**	**49**	PFAKE			07 52 40.0	+7.5	
RTC				LR		LR			
	comp=Z,7μm,19.0s								
FFC	**Flin Flon**	**88.19**	**343**	*e*P		**P**	**07 52 31.8**	**-0.3**	
	comp=Z,38nm,1.3s								
FFC				LR		LR			
	comp=Z,1μm,21.0s								
FFC	**Flin Flon**	**88.19**	**343**	*e*P		**P**	**07 52 31.8**	**-0.3**	
FFC				pmax		pmax			
	comp=Z,38nm,1.3s								
FFC				MLR		MLR			
	comp=Z,1μm,21.0s								
G03D	**McMinnville, O**	**88.22**	**326**	P		**P**	**07 52 33.5**	**+1.1**	
	baz=137								
LTY	**Liberty**	**88.54**	**329**	*e*P		**P**	**07 52 34.4**	**+0.4**	
	comp=Z,82nm,1.5s								
LTY				LR		LR			
	comp=Z,1μm,20.0s								
LON	**Longmire**	**88.67**	**328**	*e*P		**P**	**07 52 34.9**	**+0.3**	
	comp=Z,30nm,1.0s								
LON				LR		LR			
	comp=Z,900nm,20.0s								
LON	**Longmire**	**88.67**	**328**	*e*P		**P**	**07 52 34.9**	**+0.3**	
LON				pmax		pmax			
	comp=Z,30nm,1.0s								
LON				MLR		MLR			
	comp=Z,900nm,20.0s								
F04D	**Rainier, OR**	**88.74**	**327**	P		**P**	**07 52 35.9**	**+1.1**	
	baz=137								
B08A	**Colville Reser**	**88.79**	**330**	*e*P		**P**	**07 52 36.0**	**+0.8**	
	comp=Z,26nm,1.3s								
PFVI	**Vila Bisbo**	**88.90**	**45**	*e*P		**P**	**07 52 35.0**	**-0.8**	
PFVI				*e*pP		**sP**	**07 52 47.1**	**+0.6**	
PFVI	**Vila Bisbo**	**88.90**	**45**	PFAKE			07 52 50.0	+14	
PFVI				LR		LR			
	comp=Z,2μm,18.0s								
D05A	**Enumclaw**	**89.08**	**328**	*e*P		**P**	**07 52 36.7**	**+0.3**	
	comp=Z,80nm,1.1s								
MORF	**Marmelete**	**89.12**	**45**	*e*P		**P**	**07 52 37.7**	**+0.8**	
PTEO	**Sao Teotonio**	**89.22**	**45**	*e*P		**P**	**07 52 38.0**	**+0.7**	
PTEO				*e*pP		**sP**	**07 52 48.5**	**+0.5**	
E03A	**Lebam**	**89.34**	**327**	*e*P		**P**	**07 52 38.7**	**+1.1**	
	comp=Z,96nm,1.3s								
PBDV	**Barranco-do-Ve**	**89.52**	**46**	*e*P		**P**	**07 52 37.9**	**-0.9**	
PCVE	**Castro Verde**	**89.70**	**45**	*e*P		**P**	**07 52 40.4**	**+0.8**	
PNCL	**Nicolau / Gran**	**89.70**	**45**	*e*P		**P**	**07 52 40.1**	**+0.5**	
PVAQ	**Vaqueiros**	**89.76**	**46**	*e*P		**P**	**07 52 40.6**	**+0.7**	
PVAQ	**Vaqueiros**	**89.76**	**46**	*e*LR		LR	08 24 50.4		
	comp=Z,1μm,18.0s								
B06A	**Marblemount**	**89.85**	**329**	*e*P		**P**	**07 52 40.1**	**+0.1**	
	comp=Z,29nm,0.9s								
B05A	**Bryant**	**89.93**	**329**	P		**P**	**07 52 40.4**	**0.0**	
	baz=138								
PBEJ	**Beja**	**90.05**	**45**	*e*P		**P**	**07 52 42.0**	**+0.8**	
NLWA	**Neilton Lookou**	**90.10**	**328**	PFAKE			07 52 50.0	+8.7	
NLWA				LR		LR			
	comp=Z,800nm,21.0s								
FCC	**Fort Churchill**	**90.25**	**349**	*e*P		**P**	**07 52 41.5**	**-0.1**	
	comp=Z,66nm,1.1s								
FCC				LR		LR			
	comp=Z,700nm,22.0s								
FCC	**Fort Churchill**	**90.25**	**349**	*e*P		**P**	**07 52 41.5**	**-0.1**	
FCC				pmax		pmax			
	comp=Z,66nm,1.1s								
FCC				MLR		MLR			
	comp=Z,700nm,22.0s								
EDM	**Edmonton**	**90.33**	**336**	*e*P		**P**	**07 52 41.2**	**-0.9**	
	comp=Z,119nm,1.7s								
EDM				LR		LR			
	comp=Z,1μm,21.0s								
EDM	**Edmonton**	**90.33**	**336**	*e*P		**P**	**07 52 41.3**	**-0.9**	
EDM				pmax		pmax			
	comp=Z,119nm,1.7s								
EDM				MLR		MLR			
	comp=Z,1μm,21.0s								
PMTG	**Montargil**	**90.49**	**44**	*e*P		**P**	**07 52 43.9**	**+0.7**	
PMTG				*e*pP		**sP**	**07 52 54.9**	**+1.0**	
A04D	**Lummi Island**	**90.54**	**329**	P		**P**	**07 52 43.9**	**+0.8**	
	baz=137								
PBAR	**Barrancos**	**90.66**	**45**	*e*P		**P**	**07 52 44.4**	**+0.4**	
TAM	**Tamanrasset**	**90.74**	**64**	PFAKE			07 53 00.0	+15	
TAM				LR		LR			
	comp=Z,2μm,20.0s								
TAM	**Tamanrasset**	**90.74**	**64**	P		**P**	**07 52 45.0**	**0.0**	
PESTR	**Estremoz**	**90.75**	**45**	*e*P		**P**	**07 52 42.6**	**-1.9**	
PESTR	**Estremoz**	**90.75**	**45**	PFAKE			07 53 00.0	+16	
PESTR				LR		LR			
	comp=Z,1μm,20.0s								
LSZ	**Lusaka**	**90.79**	**108**	*e*P		**P**	**07 52 45.9**	**+0.5**	
	comp=Z,104nm,1.0s								
LSZ				LR		LR			
	comp=Z,8μm,20.0s								
LSZ	**Lusaka**	**90.79**	**108**	P		**P**	**07 52 47.6**	**+2.1**	
	SNR=28								
LSZ	**Lusaka**	**90.79**	**108**	P		**P**	**07 52 47.6**	**+2.1**	
	SNR=28								
LSZ	**Lusaka**	**90.79**	**108**	*e*P		**P**	**07 52 45.9**	**+0.5**	
LSZ				pmax		pmax			
	comp=Z,104nm,1.0s								
LSZ				MLR		MLR			
	comp=Z,8μm,20.0s								
PGC	**Sidney**	**90.83**	**329**	*e*P		**P**	**07 52 45.1**	**+0.6**	
	comp=Z,24nm,1.0s								
PGC				LR		LR			
	comp=Z,1μm,20.0s								
PCAS	**Casmilo, Conde**	**90.94**	**43**	*e*P		**P**	**07 52 44.9**	**-0.5**	
PMRV	**Marv??o**	**91.22**	**44**	*e*P		**P**	**07 52 46.8**	**+0.1**	
PMRV	**Marv??o**	**91.22**	**44**	*e*LR		LR	08 26 01.5		
	comp=Z,967nm,18.0s								
PCBR	**Castelo Branco**	**91.42**	**44**	*e*P		**P**	**07 52 48.3**	**+0.8**	
LLLB	**Lillooet**	**91.58**	**331**	*e*P		**P**	**07 52 48.2**	**+0.1**	
	comp=Z,13nm,1.0s								
LLLB				LR		LR			
	comp=Z,1μm,21.0s								
MTE	**Manteigas**	**91.73**	**43**	*e*LQ		LQ	08 17 08.5		
MTE				*e*LR		LR	08 23 00.6		
	comp=Z,1μm,20.0s								
MTE	**Manteigas**	**91.73**	**43**	PFAKE			07 53 00.0	+11	
MTE				LR		LR			
	comp=Z,2μm,21.0s								
PGAV	**Gavieira, Arco**	**92.28**	**42**	*e*LR		LR	08 24 54.3		
	comp=Z,2μm,20.0s								
MVO	**Moncorvo**	**92.51**	**43**	*e*LQ		LQ	08 18 39.8		
MVO				*e*LR		LR	08 23 06.5		
	comp=Z,2μm,20.0s								
PAB	**San Pablo**	**93.16**	**46**	*e*P		**P**	**07 52 55.6**	**-0.1**	
	comp=Z,18nm,1.1s								
PAB				LR		LR			
	comp=Z,2μm,19.0s								
PAB	**San Pablo**	**93.16**	**46**	*e*P		**P**	**07 52 55.6**	**-0.1**	
PAB				pmax		pmax			
	comp=Z,18nm,1.1s								
PAB				MLR		MLR			
	comp=Z,2μm,19.0s								
ESDC	**Sonseca Array**	**93.47**	**46**	P		**P**	**07 52 56.8**	**-0.3**	
	comp=Z,3.9nm,0.8s,baz=245,slow=3.6,SNR=16								
ESLA	**Sonseca Array**	**93.47**	**46**	PFAKE			07 53 10.0	+13	
ESLA				LR		LR			
	comp=Z,2μm,19.0s								
ES19	**SONSECA Array**	**93.53**	**46**	*e*P		**P**	**07 52 57.0**	**-0.4**	
CART	**Cartagena**	**94.15**	**49**	PFAKE			07 53 10.0	+10	
CART				LR		LR			
	comp=Z,700nm,20.0s								
KIP	**Kipapa**	**97.38**	**290**	⇑*e*P		**P**	**07 53 14.6**	**-0.7**	
YKA	**Yellowknife Ar**	**98.25**	**341**	P		**P**	**07 53 17.3**	**-0.9**	
	comp=Z,5.1nm,0.9s,baz=141,slow=4.5,SNR=74								
YKA				PP		PP	07 57 29.8	+11	
	comp=Z,0.9nm,0.9s,baz=140,slow=7.9,SNR=3.8								
YKA				PKKPbc		**PKKPbc**	**08 09 47.9**	**-4.0**	
	comp=Z,1.0nm,1.0s,baz=323,slow=3.7,SNR=8.8								
YKW3	**Yellowknife Ar**	**98.31**	**341**	*e*P		**P**	**07 53 18.1**	**-0.3**	
	comp=Z,13nm,1.1s								
YKW3				LR		LR			
	comp=Z,900nm,18.0s								
ANGG	**Ammassalik, Gr**	**98.73**	**14**	PFAKE			07 53 30.0	+10	
ANGG				LR		LR			
	comp=Z,1μm,19.0s								
ILULI	**Ilulissat**	**99.92**	**7**	PFAKE			07 53 40.0	+14	
ILULI				LR		LR			
	comp=Z,1μm,19.0s								
KEST	**Kesra**	**100.23**	**55**	PFAKE			07 53 40.0	+12	
KEST				LR		LR			
	comp=Z,3μm,20.0s								
DSB	**Dublin**	**100.23**	**34**	PFAKE			07 53 40.0	+13	
DSB				LR		LR			
	comp=Z,1μm,22.0s								
MBAR	**Mbarara**	**100.45**	**97**	PFAKE			07 53 40.0	+10	
MBAR				LR		LR			
	comp=Z,5μm,18.0s								
SSB	**Saint Sauveur**	**101.80**	**44**	*e*Pdif		**Pdif**	**07 53 35.3**	**+0.8**	
SSB				LR		LR			
	comp=Z,3μm,21.0s								
SSB	**Saint Sauveur**	**101.80**	**44**	*e*P		**Pdif**	**07 53 35.3**	**+0.8**	
SSB				MLR		MLR			
	comp=Z,3μm,21.0s								
VSL	**Villasalto**	**102.07**	**51**	PFAKE			07 53 50.0	+14	
VSL				LR		LR			
	comp=Z,1μm,21.0s								
ESK	**Eskdalemuir**	**102.95**	**33**	PFAKE			07 53 50.0	+11	
ESK				LR		LR			
	comp=Z,1μm,20.0s								
BNI	**Bardonecchia**	**103.00**	**45**	PFAKE			07 53 50.0	+10	
BNI				LR		LR			
	comp=Z,2μm,20.0s								
WHY	**Whitehorse**	**103.79**	**333**	PFAKE			07 54 00.0	+17	
WHY				LR		LR			
	comp=Z,1μm,20.0s								
CLTB	**Caltabellotta**	**103.84**	**55**	PFAKE			07 53 50.0	+6.1	
CLTB				LR		LR			
	comp=Z,4μm,20.0s								
DZM	**Mont Dzumac**	**103.93**	**234**	*e*SS		SS	08 12 50.9	+3.3	
	comp=Z,384nm,26.1s								
DZM	**Mont Dzumac**	**103.93**	**234**	*e*LR		LR	08 27 58.9		
	comp=Z,4μm,24.8s								
DZM	**Mont Dzumac**	**103.93**	**234**	PFAKE			07 54 00.0	+15	
DZM				LR		LR			
	comp=Z,3μm,19.0s								
WDD	**Wied Dalam**	**103.99**	**57**	PFAKE			07 54 00.0	+16	
WDD				LR		LR			
	comp=Z,3μm,20.0s								
SENIN	**Lac Senin/Sane**	**104.01**	**44**	PFAKE			07 54 00.0	+15	
SENIN				LR		LR			
	comp=Z,2μm,20.0s								
UCC	**Uccle**	**104.46**	**39**	PFAKE			07 54 00.0	+14	
UCC				LR		LR			
	comp=Z,1μm,20.0s								
CAN	**Canberra**	**104.70**	**213**	PFAKE			07 54 00.0	+12	
CAN				LR		LR			
	comp=Z,5μm,22.0s								
ECH	**Echery**	**104.81**	**43**	PFAKE			07 54 00.0	+12	
ECH				LR		LR			
	comp=Z,1μm,20.0s								
WLF	**Walferdange**	**104.92**	**41**	PFAKE			07 54 00.0	+12	
WLF				LR		LR			
	comp=Z,2μm,22.0s								
VLC	**Villacollemand**	**104.92**	**48**	PFAKE			07 54 00.0	+12	
VLC				LR		LR			
	comp=Z,2μm,22.0s								
HYT	**Haines Junctio**	**104.93**	**332**	PFAKE			07 58 10.0		
HYT				LR		LR			
	comp=Z,1μm,21.0s								
TUE	**Stuetta**	**105.32**	**45**	PFAKE			07 58 20.0		
TUE				LR		LR			
	comp=Z,2μm,20.0s								
RES	**Resolute Bay**	**105.39**	**354**	PFAKE			07 58 20.0		
RES				LR		LR			
	comp=Z,1μm,20.0s								
BFO	**Black Forest**	**105.56**

INK PKKPab **PKKPab** **08 09 32.8 +0.2**
comp=Z,0.1nm,0.3s,baz=314,slow=3.5,SNR=2.3
INK **Inuvik** **107.91 340** PFAKE 07 58 20.0
INK LR LR
comp=Z,1μm,20.0s
EGAK **Eagle** **108.49 335** PFAKE 07 58 20.0
EGAK LR LR
comp=Z,500nm,20.0s
MENT **Mentasta** **108.55 333** PFAKE 07 58 20.0
MENT LR LR
comp=Z,900nm,22.0s
KLU **Klutina** **108.76 331** PFAKE 07 58 20.0
KLU LR LR
comp=Z,700nm,21.0s
GEC2 **GERESS Array S** **109.00 44** PFAKE 07 58 20.0
GEC2 LR LR
comp=Z,2μm,21.0s
GERES **GERESS Array B** **109.00 44** PKiKP **PKiKP** **07 58 10.2 -0.7**
comp=Z,1.2nm,0.9s,baz=226,slow=2.6,SNR=5.2
GERES PKKPbc **PKKPbc** **08 09 18.9 -0.3**
comp=Z,0.2nm,0.3s,baz=46,slow=3.9,SNR=4.7
DOT **Dot Lake** **109.03 333** PFAKE 07 58 20.0
DOT LR LR
comp=Z,3μm,20.0s
KHC **Kasperske Hory** **109.04 44** *e*PP PP 07 58 35.5 -3.9
KHC **Kasperske Hory** **109.04 44** PFAKE 07 58 20.0
KHC LR LR
comp=Z,700nm,18.0s
SCRK **Sand Creek** **109.16 334** PFAKE 07 58 20.0
SCRK LR LR
comp=Z,1μm,20.0s
PAX **Paxson** **109.27 332** PFAKE 07 58 20.0
PAX LR LR
comp=Z,1μm,22.0s
RIDG **Independ'e Rid** **109.38 333** PFAKE 07 58 20.0
RIDG LR LR
comp=Z,800nm,20.0s
CLL **Collm** **109.57 42** *e*Pdif **Pdif** **07 54 09.0 +0.1**
CLL *e*PP **PP** **07 58 48.0 +4.9**
CLL *e*(Sdif) 08 06 40.0
CLL *e*PS **PS** **08 08 09.0 -1.9**
CLL *e*SS SS 08 14 04.0 -0.5
CLL *e*(PSS) 08 14 48.0
CLL *e*SSS SSS 08 18 18.0
CLL **Collm** **109.57 42** PFAKE 07 58 20.0
CLL LR LR
comp=Z,2μm,19.0s
BLY **Banja Luka** **109.58 49** PFAKE 07 58 20.0
BLY LR LR
comp=Z,2μm,21.0s
SML **Sawmill** **109.93 331** PFAKE 07 58 20.0
SML LR LR
comp=Z,600nm,20.0s
BRG **Berggiesshubel** **109.94 42** *e*PKP **PKKPab** **08 09 27.4 +3.0**
comp=Z,9.2nm,1.5s
ITM **Ithomi** **109.97 58** PFAKE 07 58 20.0
ITM LR LR
comp=Z,3μm,18.0s
TTG **Podgorica** **110.08 52** PFAKE 07 58 20.0
TTG LR LR
comp=Z,4μm,18.0s
DHY **Denali Highway** **110.09 332** PFAKE 07 58 20.0
DHY LR LR
comp=Z,800nm,22.0s
GHO **Glory Hole Cre** **110.16 330** PFAKE 07 58 20.0
GHO LR LR
comp=Z,600nm,22.0s
RC01 **Rabbit Creek A** **110.22 330** PFAKE 07 58 20.0
RC01 LR LR
comp=Z,901nm,22.0s
ILAR **Eielson Array** **110.65 334** Pdiff **Pdif** **07 54 13.1 -0.3**
comp=Z,0.5nm,0.9s,baz=131,slow=2.5,SNR=5.4
ILAR PKiKP **PKiKP** **07 58 12.9 -0.4**
comp=Z,0.9nm,1.0s,baz=147,slow=1.5,SNR=5.4
ILAR PKKPbc **PKKPbc** **08 09 10.1 -4.1**
comp=Z,1.0nm,0.9s,baz=290,slow=3.3,SNR=6.4
ILAR PKKP **PKKPdf** **08 09 30.4 -1.8**
comp=Z,0.3nm,0.5s,baz=303,slow=3.5,SNR=4.7
ILAR PKPPKP **P'P'df** **08 17 38.1 +0.3**
comp=Z,1.8nm,1.3s,baz=289,slow=5.5,SNR=4.8
ILB **Eielson Array** **110.65 334** *e*PKiKP **PKiKP** **07 58 13.3 -0.1**
SUA **Susitna One** **110.82 330** PFAKE 07 58 30.0
SUA LR LR
comp=Z,800nm,21.0s
RND **Reindeer** **110.83 332** PFAKE 07 58 30.0
RND LR LR
comp=Z,700nm,19.0s
FYU **Fort Yukon** **110.84 336** PFAKE 07 58 30.0
FYU LR LR
comp=Z,1μm,22.0s
CCB **Clear Creek Bu** **110.95 333** PFAKE 07 58 30.0
CCB LR LR
comp=Z,700nm,20.0s
STKA **Stephens Creek** **110.96 210** PKiKP **PKiKP** **07 58 14.5 -0.7**
comp=Z,2.6nm,0.8s,baz=270,slow=6.1,SNR=3.4
STKA **Stephens Creek** **110.96 210** PFAKE 07 58 30.0
STKA LR LR
comp=Z,800nm,20.0s
AGG **Agios Georgios** **110.96 56** PFAKE 07 58 30.0
AGG LR LR
comp=Z,8μm,21.0s
WRH **Wood River Hil** **110.98 333** PFAKE 07 58 30.0
WRH LR LR
comp=Z,900nm,21.0s
RGN **Rugen** **111.00 38** PFAKE 07 58 30.0
RGN LR LR
comp=Z,2μm,20.0s
MCK **McKinley** **111.00 332** PFAKE 07 58 30.0
MCK LR LR
comp=Z,1μm,21.0s
COLA **College** **111.06 334** PFAKE 07 58 30.0
COLA LR LR
comp=Z,1μm,20.0s
KONO **Kongsberg** **111.08 33** PFAKE 07 58 30.0
KONO LR LR
comp=Z,3μm,18.0s
DIVS **Divibare** **111.20 51** PFAKE 07 58 30.0
DIVS LR LR
comp=Z,2μm,20.0s
MDM **Murphy Dome** **111.25 334** PFAKE 07 58 30.0
MDM LR LR
comp=Z,800nm,20.0s
SKT **Skwentna** **111.38 330** PFAKE 07 58 30.0
SKT LR LR
comp=Z,900nm,22.0s
TRF **Thorofare Moun** **111.44 332** PFAKE 07 58 30.0
TRF LR LR
comp=Z,900nm,22.0s
IDI **Anoyia** **111.47 61** PFAKE 07 58 30.0
IDI LR LR
comp=Z,3μm,21.0s
LIT **Litokhoron** **111.47 55** PFAKE 07 58 30.0
LIT LR LR
comp=Z,3μm,19.0s
EIDS **Eidsvold** **111.47 221** PFAKE 07 58 30.0
EIDS LR LR
comp=Z,3μm,18.0s
MORC **Moravsky Berou** **111.67 44** PFAKE 07 58 30.0
MORC LR LR
comp=Z,7μm,20.0s
KTH **Kantishna Hill** **111.74 332** PFAKE 07 58 30.0
KTH LR LR
comp=Z,703nm,22.0s
BPAW **Bear Paw Mtn.** **111.98 332** PFAKE 07 58 30.0
BPAW LR LR
comp=Z,600nm,21.0s
PPLA **Purkeypile** **112.01 331** PFAKE 07 58 30.0
PPLA LR LR
comp=Z,498nm,20.0s
CAST **Castle Rocks** **112.17 331** PFAKE 07 58 30.0
CAST LR LR
comp=Z,1μm,22.0s
MLY **Manley** **112.25 333** PFAKE 07 58 30.0
MLY LR LR
comp=Z,1μm,21.0s
SANT **Santorini** **112.30 60** PFAKE 07 58 30.0
SANT LR LR
comp=Z,4μm,19.0s
PSZ **Piszkesteto** **112.48 47** PFAKE 07 58 30.0
PSZ LR LR
comp=Z,2μm,21.0s
CHGN **Chignik** **112.57 323** PFAKE 07 58 30.0
CHGN LR LR
comp=Z,900nm,20.0s
SVW2 **Sparrevohn** **112.85 328** PFAKE 07 58 30.0
SVW2 LR LR
comp=Z,600nm,20.0s
VTS **Vitosha** **112.86 53** PFAKE 07 58 30.0
VTS LR LR
comp=Z,2μm,18.0s
COLD **Coldfoot** **112.90 336** PFAKE 07 58 30.0
COLD LR LR
comp=Z,2μm,22.0s
HFS **Hagfors** **113.18 33** PKKPab PKKPab 08 09 11.2 +1.6
comp=Z,1.2nm,0.5s,baz=95,slow=3.4,SNR=7.0
TOLK **Toolik Lake Re** **113.22 337** PKiKP **PKiKP** **07 58 18.3 +0.1**
baz=112
TOLK **Toolik Lake Re** **113.22 337** PFAKE 07 58 30.0
TOLK LR LR
comp=Z,1μm,22.0s
KARP **Karpathos** **113.29 61** PFAKE 07 58 30.0
KARP LR LR
comp=Z,1μm,20.0s
ALN **Alexandroupoli** **114.29 56** PFAKE 07 58 30.0 +9.0
ALN LR LR
comp=Z,2μm,19.0s
KWP **Kalwaria Pacla** **114.80 46** PFAKE 07 58 30.0 +8.3
KWP LR LR
comp=Z,21μm,20.0s
KLNR **Kaliningrad** **114.80 40**⇑ *i*PKIKP PKPdf 07 58 22.5 +1.0
KLNR MLR MLR
comp=Z,2μm,20.0s
MANT **Manisa** **115.34 59** PFAKE 07 58 30.0 +6.6
MANT LR LR
comp=Z,10μm,19.0s
MLR **Muntele Rosu** **115.66 51** PKP **PKPdf** **07 58 23.5 -0.1**
comp=Z,0.3nm,0.4s,baz=157,slow=13,SNR=3.3
MLR **Muntele Rosu** **115.66 51** *e*PKPdf **PKPdf** **07 58 23.6 -0.1**
MLR LR LR
comp=Z,4μm,19.0s
MLR **Muntele Rosu** **115.66 51** *e*PKIKP **PKPdf** **07 58 23.6 -0.1**
MLR MLR MLR
comp=Z,4μm,19.0s
BUR04 **Bucovina Ar. S** **115.79 48** *e*PKPdf **PKPdf** **07 58 24.1 +0.3**
BUR08 **Bucovina Ar. S** **115.79 48** *e*PKPdf **PKPdf** **07 58 24.2 +0.4**
AKUT **Akutan** **115.92 319** PFAKE 07 58 40.0 +16
AKUT LR LR
comp=Z,800nm,22.0s
UNV **Unalaska Valle** **116.26 319** PFAKE 07 58 40.0 +16
UNV LR LR
comp=Z,1μm,21.0s
SUW **Suwalki** **116.31 41** PFAKE 07 58 40.0 +16
SUW LR LR
comp=Z,3μm,18.0s
ISP **Isparta** **116.59 60** PFAKE 07 58 40.0 +14
ISP LR LR
comp=Z,4μm,18.0s
HNR **Honiara** **116.85 240** PFAKE 07 58 40.0 +13
HNR LR LR
comp=Z,1μm,21.0s
TIRR **Tirgusor** **117.04 52** *e*PKPdf **PKPdf** **07 58 26.1 -0.1**
TIRR LR LR
comp=Z,2μm,18.0s
TIRR **Tirgusor** **117.04 52** *e*PKIKP **PKPdf** **07 58 26.1 -0.1**
TIRR MLR MLR
comp=Z,2μm,18.0s
CSS **Mathiatis** **117.85 64** PFAKE 07 58 40.0 +12
CSS LR LR
comp=Z,2μm,18.0s
CTA **Charters Tower** **118.36 221** PKP **PKPdf** **07 58 30.1 +0.4**
comp=Z,7.5nm,1.1s,baz=201,slow=3.8,SNR=3.6
ANTO **Ankara** **118.89 58** PFAKE 07 58 40.0 +10
ANTO LR LR
comp=Z,5μm,18.0s
AK11 **Malin Array Si** **119.08 46** *e*PKPdf **PKPdf** **07 58 28.7 -1.2**
KIEV **Kiev** **119.11 46** *e*PKPdf **PKPdf** **07 58 28.3 -1.6**
KIEV LR LR
comp=Z,3μm,20.0s
KIEV **Kiev** **119.11 46**⇑ *i*PKIKP **PKPdf** **07 58 29.4 -0.6**
KIEV MLR MLR
comp=Z,3μm,18.0s
AKASG **Malin Array Be** **119.12 46** PKP **PKPdf** **07 58 28.2 -1.8**
comp=Z,2.0nm,0.7s,baz=272,slow=2.4,SNR=9.9
AKBB **Malin Array Si** **119.12 46** *e*PKPdf **PKPdf** **07 58 29.1 -0.9**
AKBB LR LR
comp=Z,3μm,20.0s
AKBB **Malin Array Si** **119.12 46** *e*PKIKP **PKPdf** **07 58 29.1 -0.9**
AKBB MLR MLR
comp=Z,3μm,20.0s
VSU **Vasula** **119.21 37**⇓ *i*PKIKP **PKPdf** **07 58 29.7 -0.2**
VSU pmax pmax
comp=Z,56nm,1.7s
VSU MLR MLR
comp=Z,4μm,16.0s
FIA0 **FINESS Array S** **119.38 33** *e*PKPdf **PKPdf** **07 58 29.9 -0.3**
FIA0 **FINESS Array S** **119.38 33** *e*PKIKP **PKPdf** **07 58 29.9 -0.3**
FINES **FINESS Array B** **119.38 33** PKP **PKPdf** **07 58 29.8 -0.3**
comp=Z,1.5nm,0.9s,baz=333,slow=0.3,SNR=3.2
FINES PKKPbc **PKKPbc** **08 08 43.3 -0.5**
comp=Z,1.7nm,0.8s,baz=70,slow=4.6,SNR=7.3
BR101 **Keskin Array S** **119.48 59** *e*PKPdf **PKPdf** **07 58 30.7 -0.6**
BRTR **Keskin Array B** **119.48 59** PKP **PKPdf** **07 58 30.7 -0.6**
comp=Z,2.4nm,0.9s,baz=188,slow=3.7,SNR=12
BRTR PKKPab **PKKPab** **08 08 46.6 +3.1**
comp=Z,0.5nm,0.5s,baz=44,slow=2.3,SNR=3.6
ASF **Jabal al Asfar** **119.80 68** PKP **PKPdf** **07 58 32.7 +0.7**
comp=Z,1.1nm,0.4s,baz=108,slow=4.1,SNR=4.6
ILGA **Ilgaz** **119.89 57** PFAKE 07 58 40.0 +7.9
ILGA LR LR
comp=Z,3μm,18.0s
ARA0 **ARCESS Array S** **120.12 24** *e*PKPdf **PKPdf** **07 58 30.9 -0.6**
ARCES **ARCESS Array B** **120.12 24** PKP **PKPdf** **07 58 30.9 -0.5**
comp=Z,2.5nm,0.7s,baz=319,slow=9.5,SNR=3.3
ARCES PKKPbc **PKKPab** **08 08 39.1 +0.1**
comp=Z,4.8nm,0.9s,baz=101,slow=3.8,SNR=7.9
ARCES **ARCESS Array B** **120.12 24** PKIKP **PKPdf** **07 58 30.9 -0.5**
ARCES pmax pmax
comp=Z,2.0nm,0.7s
ATKA **Atka Island** **120.43 316** PFAKE 07 58 40.0 +7.6
ATKA LR LR
comp=Z,1μm,19.0s
GAMB **Gambell** **120.73 329** PFAKE 07 58 40.0 +7.3
GAMB LR LR
comp=Z,2μm,19.0s
ASAR **Alice Springs** **121.39 208** PKP **PKPdf** **07 58 33.8 -1.6**
comp=Z,11nm,0.8s,baz=149,slow=2.1,SNR=72
ASAR PKKPbc **PKKPbc** **08 08 35.0 -0.8**
comp=Z,2.2nm,0.7s,baz=335,slow=3.1,SNR=20
AS31 **Alice Springs** **121.39 208** *e*PKPdf **PKPdf** **07 58 34.0 -1.4**
APA **Apatity** **122.96 26** *e*PKIKP PKPpre 07 58 22.4
ANN **Anapa** **123.38 54** *i* PKIKP **PKPdf** **07 58 37.9 -0.5**
ANN pmax pmax
comp=Z,27nm,1.6s
RAYN **Ar Rayn** **124.10 80** *e*PKPdf **PKPdf** **07 58 40.2 -0.3**
RAYN **Ar Rayn** **124.10 80** PKIKP **PKPdf** **07 58 41.2 +0.7**
OBN **Obninsk** **124.17 41** PKP **PKPdf** **07 58 38.0 -1.5**
comp=Z,6.5nm,0.4s,baz=180,slow=20,SNR=6.4
OBN **Obninsk** **124.17 41** *e*PKPdf **PKPdf** **07 58 40.1 +0.6**
OBN LR LR
comp=Z,4μm,20.0s
OBN **Obninsk** **124.17 41** *d i*PKIKP **PKPdf** **07 58 39.0 -0.5**
OBN *e* 07 58 53.1
OBN *e* 08 00 27.0
OBN *e* 08 05 50.6
OBN *e*SS SS 08 17 14.9 +0.5
OBN pmax pmax
comp=Z,54nm,1.7s
WB2 **Warramunga Arr** **124.51 210** *e*PKPdf **PKPdf** **07 58 40.6 -0.8**
WR1 **Warramunga Arr** **124.51 210** *e*PKPdf **PKPdf** **07 58 39.9 -1.6**
WRA **Warramunga Arr** **124.51 210** PKP **PKPdf** **07 58 39.9 -1.6**
comp=Z,34nm,0.8s,baz=162,slow=1.6,SNR=190
WRA PKKPbc **PKKPbc** **08 08 23.1 -0.4**
comp=Z,3.1nm,0.9s,baz=342,slow=4.2,SNR=18
WRAB **Tennant Creek** **124.52 210** *d i*PKIKP **PKPdf** **07 58 40.3 -1.2**
WRAB pmax pmax
comp=Z,84nm,1.7s
SOC **Sochi** **124.78 55** *i* PKIKP **PKPdf** **07 58 40.7 -0.4**
SOC *e* 08 00 33.0
SOC *e*PPP PPP 08 03 05.7
SOC *e*PS **PS** **08 10 24.1 -5.2**
SOC *e*SS SS 08 17 43.5 +21
SOC pmax pmax
comp=Z,10.0nm,0.6s
MOS **Moscow** **124.81 41** *e*PKIKP **PKPdf** **07 58 39.7 -1.0**
COEN **Coen** **125.00 223** *e*PKPdf **PKPdf** **07 58 42.5 0.0**
LPSR **Galich'ya Gora** **125.37 44** *e*PKIKP **PKPdf** **07 58 41.9 0.0**
LPSR pmax pmax
comp=Z,20nm,1.1s
VSR **Storozhevoye** **125.41 46** *e*PKIKP **PKPdf** **07 58 41.2 -0.8**
VSR pmax pmax
comp=Z,20nm,1.2s
KLMR **Klimovskoe** **125.84 34** *e*PKPdf **PKPdf** **07 58 41.4 -1.2**
KLMR AMP 07 58 44.3
comp=Z,59nm,1.2s
KLMR *e*PP **PP** **08 00 41.4 +5.5**
KLMR **Klimovskoe** **125.84 34** *e*PKIKP **PKPdf** **07 58 41.4 -1.2**
KLMR *e* 08 00 41.4
KLMR pmax pmax
comp=Z,59nm,1.2s
PMG **Port Moresby** **125.97 230** PKP **PKPdf** **07 58 44.2 -0.2**
comp=Z,26nm,0.9s,baz=44,slow=3.1,SNR=5.5
PMG **Port Moresby** **125.97 230** *e*PKPdf **PKPdf** **07 58 44.8 +0.4**
PMG **Port Moresby** **125.97 230** *d i*PKIKP **PKPdf** **07 58 44.7 +0.4**
PMG pmax pmax
comp=Z,127nm,1.0s
H11S2 **WAKE ISLAND Hyl** **126.05 272** T T 10 17 43.5
baz=115,slow=75,SNR=1845
H11S1 **WAKE ISLAND Hyl** **126.06 272** T T 10 17 41.2
baz=115,slow=75,SNR=1380
H11S3 **WAKE ISLAND Hyl** **126.07 272** T T 10 17 42.2
baz=115,slow=75,SNR=1533
H11N3 **WAKE ISLAND Hyl** **126.36 273** T T 10 18 06.2
baz=116,slow=76,SNR=127
H11N1 **WAKE ISLAND Hyl** **126.38 273** T T 10 18 07.7
baz=116,slow=76,SNR=44
H11N2 **WAKE ISLAND Hyl** **126.38 273** T T 10 18 09.6
baz=116,slow=76,SNR=220
NEY **Neytrino** **126.89 56**⇓ *i*PKIKP **PKPdf** **07 58 45.1 -0.3**
KIV **Kislovodsk** **126.96 55** *e*PKIKP **PKPdf** **07 58 45.6 +0.2**
KIV pmax pmax
comp=Z,17nm,1.1s
KVAR **Kislovodsk Arr** **126.97 55** PKP **PKPdf** **07 58 45.0 -0.5**
comp=Z,4.4nm,0.3s,baz=313,slow=2.6,SNR=8.3
VRH **Novokhopyorsk** **127.01 46** *e*PKIKP **PKPdf** **07 58 45.4 +0.3**
VRH pmax pmax
comp=Z,20nm,1.1s
KBZ **Khabaz** **127.08 56** PKP **PKPdf** **07 58 45.8 +0.3**
comp=Z,7.9nm,1.0s,baz=253,slow=3.2,SNR=14
GOF **Gofitskoye** **127.36 54**⇑ *e*PKIKP PKPdf 07 58 59.7 +14
NCK **Nalchik** **127.55 56**⇑ *i*PKIKP **PKPdf** **07 58 47.7 +1.2**
SMY **Shemya** **127.60 316** PFAKE 07 59 00.0 +14
SMY LR LR
comp=Z,2μm,21.0s
ZEI **Tsey** **127.68 57** *e*PKHKP PKPpre 07 58 23.6
ZEI pmax pmax
comp=Z,2.0nm,0.4s
PATS **Pohnpei** **127.83 254** *e*PKPdf **PKPdf** **07 58 48.8 +1.0**
GNI **Garni** **127.90 60** PKP **PKPdf** **07 58 46.2 -1.2**
comp=Z,4.7nm,0.4s,baz=186,slow=4.7,SNR=3.9
GNI **Garni** **127.90 60**⇑ *i*PKIKP **PKPdf** **07 58 48.5 +1.1**
MBWA **Marble Bar** **128.10 194** *e*PKPdf **PKPdf** **07 58 47.4 -0.9**
NAX **Nakhchivan** **128.30 62** PKIKP **PKPdf** **07 58 48.2 +0.1**
GANJ **Ganja** **129.17 60** PKIKP **PKPdf** **07 58 49.8 +0.1**
BILL **Bilibino** **129.23 336** *c i*PKIKP **PKPdf** **07 58 48.7 -0.2**
BILL *i* 07 59 01.3
BILL *i* 08 00 56.9
BILL pmax pmax
comp=Z,12nm,1.1s
BILL MLR MLR
comp=Z,3μm,18.0s
FITZ **Fitzroy Crossi** **129.49 202** *e*PKPdf **PKPdf** **07 58 50.6 -0.4**
ZKTA **Zakatala** **129.53 59** PKIKP **PKPdf** **07 58 50.5 +0.2**
MNGR **Mingechevir, A** **129.76 60** PKIKP **PKPdf** **07 58 50.9 +0.2**
SEKA **Sheki** **129.90 59** PKIKP **PKPdf** **07 58 51.4 +0.3**
AKT **Akhty** **130.33 59** *i* PKIKP **PKPdf** **07 58 51.5 -0.4**
AKT pmax pmax
comp=Z,32nm,1.6s
MTN **Manton Dam** **132.19 211** *e*PKPdf **PKPdf** **07 58 56.4 +0.3**
NAZ **Nazwa, Dubai** **133.32 83** P **PKPdf** **07 58 60.0 +2.0**
SNR=8.6
NAZ **Nazwa, Dubai** **133.32 83** PKPdf **PKPdf** **07 58 60.0 +2.0**
SNR=8.6
ASHO **Ashiyiah** **133.57 83** P **PKPdf** **07 58 59.7 +1.2**
SNR=7.2
ASHO **Ashiyiah** **133.57 83** PKPdf **PKPdf** **07 58 59.7 +1.2**
SNR=7.2
HATD **Hatta, Dubai** **133.68 83** P **PKPdf** **07 58 60.0 +1.3**
SNR=6.7
HATD **Hatta, Dubai** **133.68 83** PKPdf **PKPdf** **07 58 60.0 +1.3**
SNR=6.7
UOSS **Minazif** **133.77 83** *e*PKPdf **PKPdf** **07 58 57.8 -1.0**
BIDO **Bidbid** **134.98 86** P **PKPdf** **07 59 03.1 +2.0**
SNR=5.2
BIDO **Bidbid** **134.98 86** PKPdf **PKPdf** **07 59 03.1 +2.0**
SNR=5.2
WSAR **Wadi Sarin** **135.32 86** PKP **PKPdf** **07 59 01.3 -0.5**
comp=Z,6.8nm,0.8s,baz=287,slow=3.0,SNR=7.8
WSAR PP **PP** **08 01 36.8 -1.7**
comp=Z,5.1nm,1.0s,baz=276,slow=7.4,SNR=6.1
ARU **Arti** **136.35 38** PKP **PKPdf** **07 59 03.3 +0.8**
comp=Z,6.2nm,0.2s,baz=185,slow=2.6,SNR=8.1
ARU **Arti** **136.35 38** *i* PKIKP **PKPdf** **07 59 03.4 +0.8**
ARU *i* 08 01 41.5
SEY **Seymchan** **136.56 332**⇓ *i*PKIKP **PKPdf** **07 59 04.0 +1.2**
TIXI **Tiksi** **136.68 351** PFAKE 07 59 10.0 +7.2
TIXI LR LR
comp=Z,4μm,19.0s
TIXI **Tiksi** **136.68 351** *de*PKIKP **PKPdf** **07 59 02.7 -0.1**
PET **Petropavlovsk** **136.87 317**⇓ *e*PKIKP **PKPdf** **07 59 05.1 +1.4**
PET pmax pmax
comp=Z,29nm,1.3s
SVE **Sverdlovsk** **137.32 37** *e*PKIKP **PKPdf** **07 59 05.4 +1.0**
AKTO **Aktyubinsk** **137.35 47** PKP **PKPdf** **07 59 05.3 +0.7**
comp=Z,5.4nm,0.9s,baz=285,slow=2.2,SNR=8.8
PEA1 **Petropavlovsk-** **137.42 317** *e*PKPdf **PKPdf** **07 59 05.2 +0.5**
PETK **Petropavlovsk-** **137.42 317** PKP **PKPdf** **07 59 05.2 +0.5**
comp=Z,16nm,0.8s,baz=104,slow=4.8,SNR=14
PETK **Petropavlovsk-** **137.42 317** *e*PKPdf **PKPdf** **07 59 05.3 +0.6**
GEYT **Alibeck** **137.97 65** PKP **PKPdf** **07 59 05.8 -0.4**
comp=Z,2.0nm,0.5s,baz=339,slow=3.6,SNR=2.5
ABKAR **Akbulak array** **138.78 48** *e*PKPdf **PKPdf** **07 59 07.5 +0.2**
MA2 **Magadan** **138.83 329** PFAKE 07 59 20.0 +13
MA2 LR LR
comp=Z,3μm,20.0s
SKR **Severo-Kuril's** **138.90 314** *e*PKIKP **PKPdf** **07 59 15.1 +7.6**
SKR *e* 08 02 02.9
SKR *e*PPP PPP 08 05 12.2
JAGI **Jajag, Banyuwa** **141.49 189** *e*PKPdf **PKPdf** **07 59 12.3 -1.1**
UGM **Wanagama** **142.39 184** *e*PKPdf **PKPdf** **07 59 14.3 -0.8**
SIJI **Sorong** **142.42 220** PKP PKPpre 07 59 10.5
comp=Z,17nm,0.7s,baz=45,slow=5.4,SNR=7.8
GUMO **Guam** **142.60 252** PKP **PKPdf** **07 59 14.5 -0.8**
comp=Z,91nm,1.1s,baz=213,slow=14,SNR=2.7
LEM **Lembang** **143.52 179** PKhKP PKPpre 07 59 13.8
comp=Z,122nm,0.7s,baz=136,slow=1.4,SNR=27
TRD **Trivandrum** **143.75 119** *e*P PKPbc 07 59 15.7 +0.8
BRVK **Borovoye** **143.88 39** *e*PKPdf PKPbc 07 59 14.4 +0.2
BRVK **Borovoye** **143.88 39** P PKPbc 07 59 14.8 +0.7
SNR=15
BRVK **Borovoye** **143.88 39** PKPdf PKPbc 07 59 14.8 +0.7
SNR=15
BRVK **Borovoye** **143.88 39** *de*PKIKP PKPbc 07 59 15.0 +0.8
BVAR **Borovoye Array** **143.95 39** PKP PKPbc 07 59 14.7 +0.3
comp=Z,9.8nm,0.7s,baz=298,slow=3.2,SNR=37
BHJ **Bhuj** **144.90 91** *e*P **PKPab** **07 59 17.8 -0.4**
BHJ IAMs_20 IAMs_20 08 37 59.5
comp=Z,3μm,5.1s
YAK **Yakutsk** **144.91 343** *e*PKPbc **PKPab** **07 59 16.5 -0.6**
YAK **Yakutsk** **144.91 343** *e*PKIKP **PKPab** **07 59 16.4 -0.6**
GOA **Goa** **145.25 107** *e*P **PKPbc** **07 59 19.1 -0.4**
KUR **Kuril'sk** **145.48 307** *c i*PKP2 **PKPdf** **07 59 17.0 -2.4**
KUR *e*PPP PPP 08 05 58.8
PALK **Pallekele** **145.67 125** PKPbc **PKPbc** **07 59 21.0 -0.1**
comp=Z,138nm,1.2s,baz=290,slow=0.1,SNR=20
PALK **Pallekele** **145.67 125** *e*PKPdf **PKPdf** **07 59 20.8 +0.1**
PALK **Pallekele** **145.67 125** P **PKPab** **07 59 21.6 +0.3**
SNR=9.9
PALK **Pallekele** **145.67 125** PKPbc **PKPab** **07 59 21.6 +0.3**
SNR=9.9
PALK **Pallekele** **145.67 125** *i* PKP2 **PKPab** **07 59 21.3 0.0**
BOM **Bombay** **145.98 101** *ex* **PKPdf** **07 59 22.5 +1.5**
LUWI **Luwuk** **146.32 207** *e*PKPdf **PKPdf** **07 59 20.1 -1.7**
LUWI *e*PKPbc **PKPbc** **07 59 22.6 -0.4**
KBL **Kabul** **146.57 72** *e*PKPdf **PKPdf** **07 59 21.7 -0.2**
KBL **Kabul** **146.57 72** *e*PKIKP **PKPdf** **07 59 21.7 -0.2**
CHM **Chimkent** **146.60 57** *e*PKP **PKPdf** **07 59 21.9 +0.4**
POO **Poona** **146.70 102** *e*P **PKPdf** **07 59 22.3 -0.1**
NKL **Nikolayevsk** **146.87 324** *e*PKIKP **PKPdf** **07 59 20.8 -0.7**
NKL pmax pmax
comp=Z,800nm,4.0s
NKL pmax pmax
comp=E,38nm,1.3s
NKL pmax pmax
comp=Z,270nm,1.3s
TYV **Tymovskoe** **146.91 319** *e*PKIKP **PKPdf** **07 59 22.1 +0.5**

TYV pmax pmax
comp=Z,66nm,1.6s
TYV pmax pmax
comp=Z,500nm,3.7s
IUG luzhnay 146.94 58⇑ *e*PKP **PKPdf 07 59 22.9 +0.8**
IUG *e*PP **PP 08 02 49.7 +0.7**
KK31 Karatay Array 147.12 56 *e*PKPbc **PKPbc 07 59 23.8 -0.7**
KK31 Karatay Array 147.12 56 *e*PKP2 **PKPbc 07 59 23.8 -0.7**
KKAR Karatay Array 147.12 56 *e*PKPbc **PKPbc 07 59 23.8 -0.7**
KKAR Karatay Array 147.12 56 *e*PKP2 **PKPbc 07 59 23.8 -0.7**
YUK Yuzh-Kuril'sk 147.14 306 *e*PKHKP PKPpre 07 59 19.8
DZA Taraz 147.75 56 *e*PKP **PKPbc 07 59 24.4 +1.0**
URV Uravakonda 147.79 111 *e*PKPdf **PKPdf 07 59 23.9 -0.3**
YSS Yuzh-Sakhalins 148.41 312 *e*PKPbc **PKPbc 07 59 27.9 +0.1**
YSS *e*PKPab **pPKPdf 07 59 31.9 -0.5**
YSS Yuzh-Sakhalins 148.41 312 *e*PKP2 **PKPbc 07 59 27.5 -0.2**
YSS pmax pmax
comp=Z,50nm,1.2s
KLRI Killari 148.81 105 *e*PKPdf **PKPdf 07 59 25.8 0.0**
SKHT Srikalahasti 149.08 115 *e*PKPdf **PKPdf 07 59 26.6 +0.3**
MDRS Chennai 149.10 117 *e*P **PKPdf 07 59 26.1 -0.2**
NVS Novosibirsk 149.22 29⇑ *i*PKIKP **PKPdf 07 59 26.2 +0.9**
NVS *e* 08 03 04.0
NVS pmax pmax
comp=Z,263nm,1.8s
NVS pmax pmax
comp=N,17nm,1.1s
NVS pmax pmax
comp=E,44nm,1.5s
ASAJ Asahikawa 149.40 307 PKPbc **PKPbc 07 59 30.5 +0.1**
comp=E,21nm,1.0s,baz=271,slow=6.0,SNR=15
ASAJ Asahikawa 149.40 307 *e*PKPbc **PKPbc 07 59 30.7 +0.3**
RCLA Racherla 149.44 111 *e*PKPdf **PKPdf 07 59 26.9 +0.1**
ERM Erimo 149.51 303 *e*PKPbc **PKPbc 07 59 31.8 +1.1**
ERM Erimo 149.51 303 *ci*PKP2 **PKPbc 07 59 31.5 +0.8**
ERM pmax pmax
comp=Z,122nm,1.7s
KURBB Kurchatov Arra 149.54 39 PKP **PKPdf 07 59 27.5 +1.6**
comp=Z,1.4nm,0.6s,baz=308,slow=1.1,SNR=5.0
KURBB PKPbc **PKiKP 07 59 31.1 -0.5**
comp=Z,23nm,0.7s,baz=303,slow=3.3,SNR=85
KURK Kurchatov 149.54 38 *e*PKPdf **PKPdf 07 59 26.5 +0.6**
KURK *e*PKPdf **PKPbc 07 59 27.5 -3.0**
KURK *e*PKPbc **PKiKP 07 59 30.6 -0.9**
KURK *e*PKPbc **pPKPdf 07 59 31.1 -3.0**
KURK *e*PKPab **PKPab 07 59 35.7 +0.2**
KURK Kurchatov 149.54 38 P **PKPdf 07 59 27.0 +1.1**
SNR=30
KURK Kurchatov 149.54 38 PKPdf **PKPdf 07 59 27.0 +1.1**
SNR=30
KURK Kurchatov 149.54 38 *de*PKHKP **PKPdf 07 59 26.7 +0.8**
EKS2 Erkin-Say 149.56 56 P **PKPbc 07 59 31.4 +0.4**
SNR=27
AML Almayashu 149.62 57 P **PKPbc 07 59 32.0 +0.5**
SNR=14
SRLM Srisailam 149.73 110 *e*PKPdf **PKPdf 07 59 27.3 0.0**
GSI Gunungsitoli 149.81 158 *e*PKPbc **PKPbc 07 59 32.5 +0.1**
USP Ospenovka 149.92 54 P **PKPbc 07 59 32.6 +0.8**
SNR=11
NIL Nilore 150.01 74 *e*PKPdf **PKPdf 07 59 27.4 +0.1**
NIL *e*PKPbc **PKPbc 07 59 31.9 -0.4**
NIL Nilore 150.01 74 *e*PKIKP **PKPdf 07 59 27.4 +0.1**
AAK Ala-Archa 150.08 55 PKP **PKPdf 07 59 28.2 +0.9**
comp=Z,32nm,0.8s,baz=234,slow=3.7,SNR=6.4
AAK PKPbc **PKiKP 07 59 33.4 +0.2**
comp=Z,60nm,0.9s,baz=215,slow=1.8,SNR=48
AAK PKPab **PKPab 07 59 39.1 +0.9**
comp=Z,59nm,0.9s,baz=191,slow=5.1,SNR=17
AAK Ala-Archa 150.08 55 P **PKPbc 07 59 33.1 +0.8**
SNR=37
AAK Ala-Archa 150.08 55 *e*PKPdf **PKPdf 07 59 28.2 +0.9**
AAK *e*PKPbc **PKiKP 07 59 32.8 -0.4**
AAK *e*PKPbc **PKiKP 07 59 33.4 +0.2**
AAK *e*PKPab **PKPab 07 59 39.1 +0.9**
AAK *e*PKPab **PKPab 07 59 39.1 +0.9**
AAK Ala-Archa 150.08 55 P **PKPdf 07 59 28.9 +1.6**
SNR=41
AAK Ala-Archa 150.08 55 PKPdf **PKPdf 07 59 28.9 +1.6**
SNR=41
AAK Ala-Archa 150.08 55 *ci*PKIKP **PKPbc 07 59 33.3 +1.0**
FRU Bishkek 150.12 55 *e*PKIKP **PKPdf 07 59 28.0 +0.8**
FRU *i* 07 59 34.0
HYB Hyderabad 150.13 108 *i*PKP **PKPdf 07 59 29.0 +1.1**
HYB Hyderabad 150.13 108 *e*P **PKPdf 07 59 27.3 -0.7**
HYBB Hyderabad (bro 150.13 108 *e*PKPdf **PKPdf 07 59 27.3 -0.6**
FRU1 Bishkek 150.13 55 PKIKP **PKPbc 07 59 33.7 +1.4**
CHMS Chumysh 150.17 55 P **PKPbc 07 59 32.4 +0.1**
SNR=21
CBIJ Chichi jima 150.18 273 *e*PKPbc **PKPbc 07 59 32.0 -0.8**
JCJ Chichijima 150.18 273 PKPbc **PKPbc 07 59 32.1 -0.7**
comp=Z,104nm,0.8s,baz=335,slow=20,SNR=3.8
UCH Uchtor 150.19 56 P **PKPdf 07 59 29.4 +1.5**
SNR=41
NJS Nagarjunasagar 150.31 110 *e*PKPdf **PKPdf 07 59 27.7 -0.5**
GRNR Gornyy 150.38 323 *e*PKIKP **PKPbc 07 59 32.5 -0.1**
GRNR pmax pmax
comp=Z,130nm,1.0s
KBK Karagaybulak 150.40 55 P **PKPdf 07 59 29.0 +1.2**
SNR=21
ADKI Addanki 150.47 112 *e*PKPdf **PKPdf 07 59 28.0 -0.4**
ZAA1 Zalesovo Array 150.50 29 *e*PKPdf **PKPdf 07 59 27.7 +0.4**
ZAA1 *e*PKPbc **PKPbc 07 59 32.5 -0.2**
ZAA1 *e*PKPab **PKPab 07 59 39.2 -0.1**
ZAA0 Zalesovo Array 150.50 29 *e*PKPbc **PKPbc 07 59 32.3 -0.4**
ZALV Zalesovo Beam 150.50 29 PKP **PKPdf 07 59 27.7 +0.3**
comp=Z,7.7nm,0.8s,baz=275,slow=3.1,SNR=50
ZALV PKPbc **PKPbc 07 59 32.5 -0.2**
comp=Z,162nm,0.8s,baz=325,slow=2.7,SNR=177
ZALV PKPab **PKPab 07 59 39.2 -0.1**
comp=Z,80nm,0.8s,baz=307,slow=3.9,SNR=9.1
ZALV Zalesovo Beam 150.50 29 *e*PKPbc **PKPbc 07 59 32.2 -0.5**
ZALV Zalesovo Beam 150.50 29 *e*PKIKP **PKPbc 07 59 32.2 -0.5**
SEM Semipalatinsk 150.58 38 *e*PKP **PKPdf 07 59 28.1 +0.2**
CLNS Chul'man 150.63 341 *e*PKIKP **PKPbc 07 59 32.2 -0.8**
CLNS pmax pmax
comp=E,17nm,1.0s
CLNS pmax pmax
comp=Z,76nm,1.0s
CLNS pmax pmax
comp=N,19nm,1.0s
SRSP Sriramsagar 150.68 105 *e*PKPdf **PKPdf 07 59 28.1 -0.6**
KZA Kyzart 150.76 56 P **PKPbc 07 59 35.0 +0.8**
SNR=21
BMNS Besmoynak 150.79 54 *e*PKP **PKPdf 07 59 28.6 +0.2**
TKM2 Tokmak 2 150.79 54 P **PKPbc 07 59 34.3 +0.3**
SNR=22
KUU Kurty 151.03 52 *e*PKP **PKPdf 07 59 29.1 +0.5**
KUU *e*PP **PP 08 03 13.2 +0.7**
ULHL Ulahol 151.43 56 P **PKPbc 07 59 36.3 +0.7**
SNR=18
RPR Rampur 151.44 106 *e*PKPdf **PKPdf 07 59 29.4 -0.5**
NRN Naryn 151.46 57 *e*PKPbc **PKPbc 07 59 36.4 +0.6**
NRN Naryn 151.46 57 PKIKP **PKPdf 07 59 30.5 +0.8**
BHPL Bhopal 151.63 96 *e*P **PKPdf 07 59 29.7 -0.5**
BHPL IAmb IAmb 07 59 36.9
comp=Z,244nm,1.5s
AAA Alma-Ata 151.63 53 *e*PKP **PKPdf 07 59 29.8 +0.2**
PSI Prapat 151.65 160 PKP **PKPdf 07 59 30.2 -0.4**
comp=Z,25nm,1.1s,baz=209,slow=4.4,SNR=17
PSI PKPbc **PKPbc 07 59 35.1 -1.7**
comp=Z,158nm,1.0s,baz=243,slow=6.8,SNR=75
PSI PKPab **pPKPbc 07 59 43.5 -1.3**
comp=Z,52nm,0.7s,baz=271,slow=4.2,SNR=9.2
PSI Prapat 151.65 160 *e*PKPdf **PKPdf 07 59 29.7 -0.9**
PSI *e*PKPbc **PKPbc 07 59 35.3 -1.5**
PSI *e*PKPab **pPKPbc 07 59 44.9 0.0**
KSM Kuching 151.71 184 *e*PKPdf **PKPdf 07 59 30.4 -0.1**
KSM *e*PKPbc **PKPbc 07 59 35.7 -1.1**
KSM *e*PKPab **PKPab 07 59 46.3 +0.9**
MDOK Medeo 151.74 53 *e*PKP **PKPdf 07 59 30.1 +0.3**
MYKOM Kota Tinggi 151.76 170 *e*PKPdf **PKPdf 07 59 30.2 -0.4**
MYKOM *e*PKPbc **PKPbc 07 59 36.0 -0.9**
MYKOM *e*PKPab **PKPab 07 59 46.1 +0.5**
BOD Bodaibo 151.77 354 *e*PKIKP **PKPdf 07 59 28.7 -0.5**
BOD pmax pmax
comp=Z,60nm,1.0s
KSH Kashi 151.82 61 PKPbc **PKPdf 07 59 30.0 -0.1**
KDJ Kajisay 152.13 55 *e*PKPbc **PKPbc 07 59 36.8 -0.4**
KDJ *e*PKPab **pPKPbc 07 59 44.9 -0.3**
KDJ Kajisay 152.13 55 PKIKP **PKPbc 07 59 37.7 +0.5**
NGP Nagpur 152.24 101 *e*P **PKPdf 07 59 29.9 -1.1**
ZEA Zeya 152.46 335 *e*PKIKP **PKPdf 07 59 29.5 -0.8**
ZEA pmax pmax
comp=N,35nm,1.0s
ZEA pmax pmax
comp=Z,50nm,1.2s
ZEA pmax pmax
comp=Z,200nm,6.0s
SBUM Sibu 152.49 188 *e*PKPdf **PKPdf 07 59 32.0 +0.3**
SBUM *e*PKPbc **PKPbc 07 59 38.0 -0.6**
SBUM *e*PKPab **sPKPbc 07 59 49.8 +0.4**
DHRM DHARAMSHALA 152.50 77 *ex* PKPpre 07 59 25.8
PVM Polavaram 152.56 111 *e*PKPdf **PKPdf 07 59 30.7 -0.9**
ZHN Zhinishke 152.70 53 *e*PKP **PKPdf 07 59 32.2 +1.0**
SATY Saty 152.72 53 *e*PKP **PKPdf 07 59 31.8 +0.5**
KPKS Kokpek 152.77 52 *e*PKP **PKPdf 07 59 31.8 +0.5**
KPKS *e*PP **PP 08 03 23.3 +0.8**
PRZ Przheval'sk 152.90 54 *e*PKPbc **PKPbc 07 59 40.1 +1.2**
PRZ *e*PKPab **PKPab 07 59 51.5 +1.4**
PRZ Przheval'sk 152.90 54 *e*PKIKP **PKPbc 07 59 40.1 +1.2**
PRZ *e* 07 59 51.5
JHJ Hachijo jima 2 153.04 285 PKPab **PKPab 07 59 52.4 +1.6**
comp=Z,465nm,1.2s,baz=275,slow=7.0,SNR=1.9
TEY Ternei 153.10 312 *e*PKIKP **PKPbc 07 59 36.9 -2.0**
TEY pmax pmax
comp=Z,500nm,2.0s
TEY pmax pmax
comp=Z,21nm,0.8s
UZB Uzynbulak 153.11 52 *e*PKP **PKPdf 07 59 32.5 +0.6**
SMLA Simla 153.15 79 *e*P **PKPdf 07 59 31.5 -0.6**
LHMI Lhok Sumawe 153.24 154 *e*PKPdf **PKPdf 07 59 30.2 -2.5**
LHMI *e*PKPbc **PKPbc 07 59 39.8 -0.4**
SHLS Shalkode 153.41 52 *e*PKP **PKPdf 07 59 33.3 +1.0**
SHLS *e*PP **PP 08 03 28.9 +2.7**
MAKZ Makanchi 153.46 43 *e*PKPdf **PKPdf 07 59 31.6 -0.5**
MAKZ *e*PKPbc **PKPbc 07 59 39.4 -0.3**
MAKZ *e*PKPab **PKPab 07 59 52.6 +0.5**
MAKZ Makanchi 153.46 43 *e*PKIKP **PKPdf 07 59 31.6 -0.5**
MAKZ *e* 07 59 39.4
MAKZ *e* 07 59 52.6
MYLDM Lahad Datu 153.64 203 *e*PKPdf **PKPdf 07 59 34.4 +1.1**
MYLDM *e*PKPbc **pPKPdf 07 59 42.2 +0.8**
MYLDM *e*PKPab **sPKPbc 07 59 51.5 -0.4**
MK31 Makanchi Array 153.66 43 *e*PKPdf **PKPdf 07 59 31.9 -0.5**
MK31 *e*PKPbc **PKPbc 07 59 39.7 -0.4**
MK31 *e*PKPab **PKPab 07 59 52.8 -0.1**
MK31 Makanchi Array 153.66 43 *e*PKIKP **PKPdf 07 59 31.9 -0.5**
MK31 *e* 07 59 39.7
MK31 *e* 07 59 52.8
MK32 Makanchi Array 153.66 43 *e*PKPdf **PKPdf 07 59 31.8 -0.6**
MK32 *e*PKPbc **pPKPdf 07 59 40.4 -0.1**
MK32 *e*PKPab **sPKPbc 07 59 51.9 +0.9**
MKAR Makanchi Array 153.66 43 PKP **PKPdf 07 59 31.8 -0.6**
comp=Z,3.8nm,0.9s,baz=298,slow=2.6,SNR=15
MKAR PKPbc **pPKPdf 07 59 40.4 -0.1**
comp=Z,3.9nm,0.8s,baz=274,slow=1.9,SNR=5.0
MKAR PKPab **sPKPbc 07 59 51.9 +0.9**
comp=Z,16nm,0.8s,baz=315,slow=2.2,SNR=14
MKAR Makanchi Array 153.66 43 *e*PKPdf **PKPdf 07 59 31.9 -0.6**
MKAR *e*PKPbc **PKPbc 07 59 39.9 -0.3**
MKAR *e*PKPab **sPKPbc 07 59 51.4 +0.4**
MKAR Makanchi Array 153.66 43 *e*PKIKP **PKPdf 07 59 31.9 -0.5**
MKAR *e* 07 59 39.9
MKAR *e* 07 59 51.4
MK01 Makanchi Array 153.67 43 *e*PKPdf **PKPdf 07 59 31.2 -1.2**
MK01 *e*PKPbc **PKPbc 07 59 39.9 -0.3**
MK01 *e*PKPab **sPKPbc 07 59 51.5 +0.4**
KLR Kul'dur 153.72 324 PKP **PKPdf 07 59 32.4 +0.1**
comp=Z,0.4nm,1.0s,baz=87,slow=2.2,SNR=14
KLR PKPbc **PKPbc 07 59 40.2 0.0**
comp=Z,1.3nm,1.1s,baz=34,slow=2.7,SNR=13
KLR PKPab **sPKPbc 07 59 51.6 +0.7**
comp=Z,1.0nm,0.7s,baz=94,slow=5.5,SNR=12
IPM Ipoh 153.83 163 *e*PKPdf **PKPdf 07 59 33.3 -0.3**
IPM *e*PKPbc **PKPbc 07 59 40.3 -1.2**
DDI Dehra Dun 153.83 81 *e*P **PKPdf 07 59 32.0 -1.2**
VIS Vishakhapatnam 154.19 112 *e*P **PKPdf 07 59 33.7 -0.2**
MJAR Matsushiro Arr 154.20 293 PKP **PKPdf 07 59 33.1 -0.4**
comp=Z,5.0nm,1.1s,baz=192,slow=1.6,SNR=13
MJAR PKPbc **pPKPdf 07 59 41.4 -0.1**
comp=Z,7.2nm,1.1s,baz=222,slow=0.9,SNR=11
MJAR PKPab **PKPab 07 59 56.3 +0.7**
comp=Z,16nm,0.9s,baz=124,slow=2.0,SNR=19
MAJO Matsushiro 154.20 293 *e*PKPdf **PKPdf 07 59 33.2 -0.3**
MAJO *e*PKPbc **pPKPdf 07 59 41.2 -0.3**
MAJO *e*pPKPdf **PKPbc 07 59 41.4 -0.2**
MAJO *e* 07 59 56.1
MAJO *e*PKPab **PKPab 07 59 56.3 +0.7**
MAJO Matsushiro 154.20 293 *e*PKIKP **PKPdf 07 59 33.2 -0.3**
MAJO *e* 07 59 41.4
MAJO *e* 07 59 56.1
MJB9 Matsu-Tunnel 154.20 293 *e*PKPdf **PKPdf 07 59 33.0 -0.4**
MJB9 *e*PKPbc **pPKPdf 07 59 41.3 -0.3**
MJB9 *e*PKPab **PKPab 07 59 56.1 +0.5**
KULM Kulim 154.51 162 *e*PKPdf **PKPdf 07 59 33.8 -0.8**
KULM *e*PKPbc **pPKPdf 07 59 41.4 -1.2**
KULM *e*PKPab **PKPab 07 59 56.8 -0.4**
ZSK Zaisan 154.77 39 *e*PKP **PKPdf 07 59 34.4 +0.5**
CHLP Challavanipeta 155.19 112 *e*PKPdf **PKPdf 07 59 31.8 -3.4**
INU Inuyama 155.27 290 *e*PKPdf **PKPdf 07 59 34.7 -0.2**
INU *e*PKPbc **pPKPdf 07 59 44.0 +1.0**
PKDT Phuket 156.22 155 PKP **PKPdf 07 59 37.5 +0.7**
SKLT Songkhla 156.29 161 PKP **PKPdf 07 59 36.1 -0.8**
SKLT PKP **PKPab 08 00 03.3 -1.5**
USRK Ussuriysk Ar. 156.41 314 PKP **PKPdf 07 59 36.1 0.0**
comp=Z,1.2nm,0.7s,baz=59,slow=1.1,SNR=10.0
USRK PKPab **PKPab 08 00 05.5 +0.9**
comp=Z,2.3nm,0.6s,baz=95,slow=3.2,SNR=3.4
TRTT Trang 156.64 158 PKP **PKPdf 07 59 37.0 -0.4**
PBA Port Blair 156.80 138 *e*P PKPdf 07 59 36.2 -1.3
PBA Port Blair 156.80 138 *e*PKPdf PKPdf 07 59 37.3 -0.2
PBA *e*PKPab PKPab 08 00 06.1 -0.9
IRK Irkutsk 157.43 7 *e*PKIKP **PKPdf 07 59 37.7 +0.5**
IRK pmax pmax
comp=Z,58nm,2.1s
BWNR Bhubaneshwar 157.51 110 *e*P **PKPdf 07 59 38.3 0.0**
MOY Mondy 157.54 12 *e*PKIKP **PKPdf 07 59 38.7 +1.2**
MOY pmax pmax
comp=Z,81nm,2.4s
MDJ Mudanjiang 157.66 317 PKP **PKPdf 07 59 35.5 -2.2**
MDJ Mudanjiang 157.66 317 *e*PKPdf **PKPdf 07 59 38.0 +0.3**
TLY Talaya 157.92 8 PKP **PKPdf 07 59 39.6 +1.7**
comp=Z,4.8nm,0.7s,baz=184,slow=3.8,SNR=5.3
TLY PKPab **PKPab 08 00 12.4 +1.5**
comp=Z,18nm,0.7s,baz=326,slow=2.8,SNR=9.9
TLY Talaya 157.92 8 *e*PKPdf **PKPdf 07 59 38.9 +1.0**
TLY *e*PKPdf **PKPdf 07 59 39.6 +1.7**
TLY *e*PKPab **PKPab 08 00 12.1 +1.2**
TLY *e*PKPab **PKPab 08 00 12.4 +1.5**
TLY Talaya 157.92 8 P **PKPdf 07 59 39.2 +1.3**
SNR=10
TLY Talaya 157.92 8 PKPdf **PKPdf 07 59 39.2 +1.3**
SNR=10
TLY Talaya 157.92 8 *e*PKIKP **PKPdf 07 59 38.3 +0.4**
TLY pmax pmax
comp=Z,25nm,1.5s
DGPR DIGLIPUR 158.11 136 *e*P **PKPdf 07 59 38.5 -0.6**
WMQ Urumqi 158.47 44 PKP **PKPdf 07 59 39.3 +0.4**
WMQ pPKP sPKPdf 07 59 50.3 +0.6
WMQ PKPab **PKPab 08 00 15.0 +1.3**
WMQ PKPab **PKPab 08 00 16.0 +2.3**
WMQ PP **PP 08 03 55.3 +1.4**
WMQ AMB AMB
comp=Z,150nm,11.8s
BOK Bokaro 159.09 101 *e*P **PKPdf 07 59 40.2 +0.1**
BOK IAMs_20 IAMs_20 08 37 16.8
comp=Z,3μm,9.9s
ZAK Zakamensk 159.15 9 *e*PKIKP **PKPdf 07 59 39.6 +0.1**
ZAK *e* 08 00 16.5
ZAK pmax pmax
comp=Z,8.0nm,1.8s
ZAK pmax pmax
comp=Z,26nm,1.4s
CN2 Changchun 160.53 320 *e*PKP **PKPdf 07 59 42.0 +0.9**
CN2 AMB AMB
comp=Z,200nm,6.0s
CN2 LR LR
comp=Z,240nm,14.0s
CN2 LR LR
comp=Z,250nm,14.0s
CN2 LR LR
comp=Z,400nm,15.0s
SONA1 Songino Array 161.97 4 *e*PKPdf **PKPdf 07 59 42.3 -0.4**
SONA1 *e*PKPab **PKPab 08 00 29.4 +0.5**
SONA0 Songino Array 161.99 4 *e*PKPdf **PKPdf 07 59 42.8 +0.1**
SONA0 *e*PKPab **PKPab 08 00 29.9 +1.0**
SONA0 *e*PP **PP 08 04 11.0 -1.0**
SONM Songino Array 161.99 4 PKP **PKPdf 07 59 42.8 +0.1**
comp=Z,2.9nm,1.0s,baz=213,slow=1.2,SNR=14
SONM PKPab **PKPab 08 00 29.9 +1.0**
comp=Z,14nm,1.0s,baz=327,slow=3.9,SNR=19
SONM PP **PP 08 04 11.0 -1.0**
comp=Z,3.2nm,1.1s,baz=328,slow=5.1,SNR=5.5
ULN Ulaanbaatar 161.99 3 *e*PKPab **PKPab 08 00 29.6 +0.7**
ULN Ulaanbaatar 161.99 3 P **PKPdf 07 59 43.3 +0.6**
SNR=5.6
ULN Ulaanbaatar 161.99 3 PKPdf **PKPdf 07 59 43.3 +0.6**
SNR=5.6
ULN Ulaanbaatar 161.99 3 *e*PKP2 **PKPab 08 00 29.6 +0.7**
KSRS Korea Array 162.04 300 PKP **PKPdf 07 59 42.8 -0.1**
comp=Z,2.5nm,0.8s,baz=89,slow=0.7,SNR=12
KSRS PKPab **PKPab 08 00 30.1 +0.8**
comp=Z,1.7nm,0.6s,baz=57,slow=3.8,SNR=5.8
KS01 Wonju Array Si 162.06 300 *e*PKPdf **PKPdf 07 59 42.1 -0.8**
KS01 *e*PKPab **PKPab 08 00 30.4 +1.0**
SRDT SRDT 162.38 149 PKP **PKPdf 07 59 43.8 -0.1**
SNY Shenyang 162.85 318 ⇓PKP **PKPdf 07 59 45.0 +1.4**
SNY AMB AMB
comp=Z,330nm,10.0s
BELO BELONIA 163.52 110 *e*P **PKPdf 07 59 42.9 -1.9**
SHL Shillong 164.81 102 *e*P **PKPdf 07 59 43.3 -2.9**
SHL Shillong 164.81 102 *e*PKPdf **PKPdf 07 59 46.5 +0.4**
SHL *e*PKPab **PKPab 08 00 42.1 -0.1**
SHL Shillong 164.81 102 *e*PKIKP **PKPdf 07 59 46.5 +0.4**
GUWA GUWAHATI 164.85 100 *ex* **PKPdf 07 59 41.0 -4.9**
LSA Lhasa 165.07 86 *e*PKPdf **PKPdf 07 59 47.5 +0.9**
LSA *e*PKPab **PKPab 08 00 43.6 0.0**
LSA Lhasa 165.07 86 *e*PKIKP **PKPdf 07 59 47.5 +0.9**
PBKT Sadao Pong 165.15 151 PKP **PKPdf 07 59 45.5 -0.9**
PBKT Sadao Pong 165.15 151 *e*PKPdf **PKPdf 07 59 46.0 -0.4**
PBKT *e*PKPab **PKPab 08 00 41.9 -1.4**
UBPT Khong Chiam 165.25 169 PKP **PKPdf 07 59 46.2 -0.3**
CM01 Chiang Mai Arr 165.76 141 *e*PKPdf **PKPdf 07 59 47.0 +0.1**
CM01 *e*PKPab **PKPab 08 00 45.1 -1.0**
CMAR Chiang Mai Arr 165.78 141 PKP **PKPdf 07 59 47.4 +0.5**
comp=Z,1.4nm,0.3s,baz=245,slow=2.0,SNR=21
CMAR PKPab **PKPab 08 00 45.2 -1.0**
comp=Z,16nm,0.9s,baz=231,slow=5.4,SNR=21
CHTO Chiang Mai 166.07 140 PKP **PKPdf 07 59 47.5 +0.4**
CHTO Chiang Mai 166.07 140 *e*PKPdf **PKPdf 07 59 46.9 -0.3**
CHTO *e*PKPab **PKPab 08 00 46.0 -1.4**
CHTO Chiang Mai 166.07 140 P **PKPdf 07 59 47.7 +0.6**
SNR=9.7
CHTO Chiang Mai 166.07 140 PKPdf **PKPdf 07 59 47.7 +0.6**
SNR=9.7
CHTO Chiang Mai 166.07 140 *e*PKIKP **PKPdf 07 59 46.9 -0.3**
CMMT Chiang Mai 166.07 140 PKP **PKPdf 07 59 46.4 -0.8**
IMP Imphal 166.27 108 *ex* **PKPdf 07 59 42.7 -4.6**
SKNT Sakolnakorn 166.57 162 PKP **PKPdf 07 59 46.7 -0.9**
KOHI KOHIMA 166.75 105 *e*P **PKPdf 07 59 46.3 -1.4**
ITAN ITANAGAR 166.87 98 *e*P **PKPdf 07 59 44.5 -3.1**
CMAI Chiengmai2 167.02 137 PKP **PKPdf 07 59 48.3 +0.2**
ZIRO ZIRO 167.07 97 *e*P **PKPdf 07 59 45.4 -2.5**
GTA Gaotai 168.17 34 ⇓PKP **PKPdf 07 59 49.3 +1.0**
GTA pPKP sPKPdf 07 59 59.5 +0.4
GTA sPKP 08 00 03.8
GTA PKPab **PKPab 08 00 56.8 +0.4**
GTA PP **PP 08 04 43.5 -1.4**
GTA AMB AMB
comp=Z,190nm,7.1s
GTA LR LR
comp=Z,720nm,20.0s
GTA LR LR
comp=Z,680nm,20.9s
GTA LR LR
comp=Z,870nm,22.3s
HHC Hu-ho-hao-te 168.72 347 *e*PKP **PKPdf 07 59 48.5 -0.1**
HHC PP **PP 08 04 47.0 -0.1**
HHC AMB AMB
comp=Z,220nm,10.2s
HHC LR LR
comp=Z,510nm,20.5s
HHC LR LR
comp=Z,510nm,21.2s
HHC LR LR
comp=Z,730nm,21.0s
QIZ Qiongzhong 169.13 188 *e*PKPdf **PKPdf 07 59 50.6 +1.3**
QIZ *e*PKPab **PKPab 08 01 01.5 +0.8**
NJ2 Nanjing 170.71 286 *e*PKP **PKPdf 07 59 50.8 +1.0**
LZH Lanzhou 172.73 30 *e*PKP **PKPdf 07 59 51.5 +0.6**
LZH PP **PP 08 05 12.8 +5.2**
LZH SKKS 08 11 53.5
LZH SS **SS 08 26 16.5 -2.1**
LZH AMB AMB
comp=Z,440nm,4.3s
LZH LR LR
comp=Z,1μm,17.1s
LZH LR LR
comp=Z,2μm,17.1s
LZH LR LR
comp=Z,2μm,18.5s
KMI Kunming 173.15 132 P PKPdf 08 00 03.0 +12
KMI pmax pmax
comp=Z,13nm,0.9s
WHN Wuhan 174.75 279 ⇓PKP **PKPdf 07 59 52.0 +0.4**
XAN Xi'an 175.80 353 PKP **PKPdf 07 59 52.3 +0.5**
XAN pPKP sPKPdf 08 00 03.0 +0.3
XAN sPKP 08 00 06.8
XAN SKS **SKSdf 08 06 48.8 -4.7**
XAN AMB AMB
comp=Z,420nm,6.1s
XAN LR LR
comp=Z,720nm,20.6s
XAN LR LR
comp=Z,660nm,16.3s
XAN LR LR
comp=Z,820nm,24.0s
CD2 Chengdu 175.91 74 PKP **PKPdf 07 59 51.5 -0.5**
GYA Guiyang 176.31 156 PKP **PKPdf 07 59 51.5 -0.8**
GYA PKPab **PKPab 08 01 34.0 +1.3**
GYA PKS **PKSdf 08 03 22.0 -2.6**
GYA PP **PP 08 05 27.5 +2.8**
GYA AMB AMB
comp=Z,140nm,8.7s
ENH Enshi 178.92 293 *e*PKPdf **PKPdf 07 59 52.4 0.0**

*ISCJB **30** 07:53:22.8±0.4,36°.91N±0'.04×71°.69E±0'.06,h109km, mb3.8/9,Error ellipse: s-maj=7.5km s-min=4.7km az=156.7*
*IDC **30** 07:53:22.6±3.9,36°.83N×71°.84E,h98km±27km,mb3.5/8, mb1 3.7/14,mb1mx3.4/78,mbtmp4.0/14,Error ellipse: s-maj=42.5km s-min=19.1km az=164.0*
*NNC **30** 07:53:29.8±3.3,37°.69N×71°.31E,h0km,mb4.5,mpv4.1, Error ellipse: s-maj=25.8km s-min=19.4km az=168.0*
ISC 30 07:53:24.1±0.8,37°.03N±0'.07×71°.61E±0'.06,h109km,n42, σ1§94/50,**mb3.6/9,6C-6D,Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**3.33**	**26**	⇓P		**Pn**	**07 54 17.3**	**+2.7**
	22nm,0.5s							
SFK				⇑S		**Sn**	**07 54 54.9**	**+1.3**
	81nm,0.4s							
AML	**Almayashu**	**5.35**	**17**	P		**Pn**	**07 54 43.5**	**+1.6**
	SNR=61							
MNAS	**Manas**	**5.50**	**7**	⇑P		**Pn**	**07 54 45.7**	**+2.0**
	9.9nm,0.4s							
MNAS				⇑S		**Sn**	**07 55 43.0**	**-2.7**
	43nm,0.7s							
UCH	**Uchtor**	**5.66**	**22**	P		**Pn**	**07 54 47.6**	**+1.5**
	SNR=32							
KZA	**Kyzart**	**5.77**	**28**	P		**Pn**	**07 54 48.7**	**+1.0**
	SNR=6.9							
EKS2	**Erkin-Say**	**5.87**	**16**	P		**Pn**	**07 54 50.8**	**+2.1**
	SNR=14							
AAK	**Ala-Archa**	**6.03**	**21**	P		**Pn**	**07 54 52.7**	**+1.9**
	11nm,0.3s,baz=124,slow=2.0,SNR=87							
AAK				S		**Sn**	**07 55 56.4**	**-2.2**
	2.6nm,0.3s,baz=321,slow=23,SNR=15							
AAK	**Ala-Archa**	**6.03**	**21**	⇓P		**Pn**	**07 54 52.7**	**+1.9**
	18nm,0.5s							
AAK				⇓S		**Sn**	**07 55 56.3**	**-2.3**
	22nm,0.5s							
AAK	**Ala-Archa**	**6.03**	**21**	P		**Pn**	**07 54 52.8**	**+1.9**
	SNR=50							
KK31	**Karatay Array**	**6.13**	**352**	⇑P		**Pn**	**07 54 53.9**	**+1.8**
	18nm,0.6s,baz=177,slow=14,SNR=125							
KK31				⇑S		**Sn**	**07 55 57.6**	**-3.3**
	16nm,0.3s,baz=175,slow=22,SNR=21							

KBK	Karagaybulak	6.18	23	P		Pn	07 54 56.0	+3.0
	SNR=10							
ULHL	Ulahol	6.32	33	P		Pn	07 54 55.7	+0.8
	SNR=6.4							
CHMS	Chumysh	6.43	21	P		Pn	07 54 57.8	+1.6
	SNR=13							
USP	Ospenovka	6.61	19	P		Pn	07 54 59.8	+1.1
	SNR=8.2							
TKM2	Tokmak 2	6.63	26	⇓P		Pn	07 55 00.4	+1.3
	16nm,0.6s							
TKM2				⇑S		Sn	07 56 12.4	-0.9
	13nm,1.1s							
TKM2	Tokmak 2	6.63	26	P		Pn	07 55 00.6	+1.5
	SNR=33							
GEYT	Alibeck	10.77	279	P		Pn	07 55 55.5	+0.4
	3.0nm,0.3s,baz=113,slow=10.0,SNR=14							
GEYT				S		Sn	07 57 50.6	-2.9
	1.0nm,0.3s,baz=117,slow=18,SNR=4.2							
MKAR	Makanchi Array	12.58	36	P		Pn	07 56 17.6	-1.4
	0.1nm,0.3s,baz=222,slow=15,SNR=8.3							
PYUN	Piuthan	13.08	130	*e*P		Pn	07 56 24.0	-1.9
	78nm,0.6s							
DANN	Dangsing	13.39	127	*e*P		Pn	07 56 28.7	-1.3
	54nm,0.4s							
KOLN	Koldanda	13.69	129	*e*P		Pn	07 56 32.1	-1.7
	22nm,0.3s							
GKN	Gorkha	14.19	126	*e*P		Pn	07 56 38.5	-1.7
	71nm,0.4s							
KURBB	Kurchatov Arra	14.47	18	P		Pn	07 56 41.4	-2.1
	0.0nm,0.3s,baz=207,slow=12,SNR=4.0							
KKN	Kakani	14.75	125	*e*P		Pn	07 56 45.4	-2.1
	53nm,0.7s							
DMN	Daman	14.76	126	*e*P		Pn	07 56 45.6	-2.0
	31nm,0.5s							
AB31	Akbulak array	14.88	329	⇓P		Pn	07 56 49.1	+0.5
	1.8nm,0.3s,baz=147,slow=12,SNR=72							
AB31				⇓S		Sn	07 59 28.7	-4.1
	9.1nm,0.8s							
PKIN	Phulchoki	14.97	125	*e*P		Pn	07 56 48.3	-2.0
	19nm,0.3s							
GUN	Gumba	15.07	123	*e*P		Pn	07 56 49.2	-2.4
	27nm,0.4s							
JIRN	Jiri	15.44	123	*e*P		Pn	07 56 54.3	-2.0
	92nm,0.4s							
BVAR	Borovoye Array	16.02	357	P		Pn	07 57 03.3	+0.4
	0.5nm,0.3s,baz=134,slow=13,SNR=6.1							
RAMN	Ramite	16.18	124	*e*P		Pn	07 57 02.9	-2.5
	21nm,0.3s							
AKTO	Aktyubinsk	16.58	328	P		Pn	07 57 12.2	+2.4
	0.5nm,0.3s,baz=139,slow=16,SNR=4.0							
AKTO				S		Sn	08 00 02.5	-11
	0.2nm,0.3s,baz=315,slow=13,SNR=2.5							
ZALV	Zalesovo Beam	19.23	24	P		P	07 57 39.5	0.0
	1.2nm,0.3s,baz=220,slow=9.9,SNR=14							
SONM	Songino Array	27.63	56	P		P	07 59 01.1	-0.3
	0.8nm,0.5s,baz=241,slow=9.7,SNR=6.1							
FINES	FINESS Array B	37.33	326	P		P	08 00 27.6	+2.1
	1.3nm,0.6s,baz=112,slow=10,SNR=4.6							
ARCES	ARCESS Array B	40.85	337	P		P	08 00 56.4	+1.8
	1.7nm,0.7s,baz=116,slow=9.0,SNR=5.6							
VRAC	Vranov	41.09	305	P		P	08 00 55.9	-1.1
	2.5nm,0.3s,baz=134,slow=18,SNR=6.1							
HFS	Hagfors	42.96	322	P		P	08 01 13.9	+2.0
	2.2nm,0.4s,baz=103,slow=11,SNR=15							
NOA	NORSAR Array B	44.26	323	P		P	08 01 24.2	+1.8
	0.8nm,0.7s,baz=140,slow=14,SNR=3.4							
TORD	Torodi Ar. Bea	66.22	269	P		P	08 04 01.8	+1.2
	0.2nm,0.4s,baz=52,slow=5.5,SNR=4.8							
INK	Inuvik	73.31	9	P		P	08 04 43.8	+0.7
	0.5nm,0.6s,baz=326,slow=4.6,SNR=5.1							
YKA	Yellowknife Ar	80.70	3	P		P	08 05 24.9	+0.3
	0.2nm,0.4s,baz=350,slow=5.6,SNR=13							

BJI ***30*** *08:00:02.6, 1.°08N×89.°36E, h10km, mb5.3/77, mB5.6/69, Ms5.9/89, Ms7 5.6/82*

IDC ***30*** *08:00:08.1±0.3, 1.°78N×89.°50E, h0km, mb4.9/55, mb1 5.0/59, mb1mx4.9/69, mbtmp4.9/59, ML4.9/4, MS5.4/60, Ms1 5.4/60, ms1mx5.3/67, Error ellipse: s-maj=8.2km s-min=6.8km az=42.0*

MOS ***30*** *08:00:08.5±1.1, 1.°80N×89.°61E, h10km, mb5.5/116, MS5.5/80, Error ellipse: s-maj=5.8km s-min=3.4km az=115.7*

ISCJB ***30*** *08:00:09.3±0.1, 1.°75N±0.°02×89.°62E±0.°02, h16km, mb5.3/262, MS5.6/522, Error ellipse: s-maj=2.9km s-min=2.0km az=37.0*

NEIC ***30*** *08:00:10.0±0.1, 1.°76N×89.°60E, h10km, mb5.5/117, MS5.6/297, MW5.7, MW5.7, MW5.7, Error ellipse: s-maj=4.8km s-min=3.3km az=207.0, Moment Tensor Solution. s33 Moment tensor: Scale 10¹⁷Nm; Mrr-0.04; Mθθ-3.51; Mϕϕ3.55; Mrθ-0.54; Mϕr-1.30; Mϕr-1.61; Best double couple: M₀4.10000×10¹⁷ NP1:ϕs124.00000°, δ67.00000°, λ175.00000°. NP2:ϕs215.00000°, δ86.00000°, λ23.00000°. Principal axes: T 4.3000, Plg19.0000°, Azm82.0000°; N -0.3800, Plg67.0000°, Azm226.0000°; P -3.9200, Plg13.0000°, Azm347.0000°;*

GCMT ***30*** *08:00:10.0±0.1, 1.°73N×89.°60E, h12km, MW5.8/139, Moment Tensor Solution. s119,c199; s139,c422; Duration: 1§8 Moment tensor: Scale 10¹⁷Nm; Mrr-0.20±.04; Mθθ-4.37±.04; Mϕϕ4.57±.04; Mrθ-1.86±.10; Mθϕ-1.20±.04; Mϕr-1.46±.11; Best double couple: M₀5.19200×10¹⁷ NP1:ϕs36.00000°, δ85.00000°, λ-26.00000°. NP2:ϕs129.00000°, δ64.00000°, λ-174.00000°. Principal axes: T 5.0310, Plg14.0000°, Azm86.0000°; N 0.3270, Plg63.0000°, Azm206.0000°; P -5.3540, Plg22.0000°, Azm350.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

NEIC ***30*** *08:00:10.0±0.0, 1.°26N×89.°18E, h11km, Moment Tensor Solution. s37 Moment tensor: Scale 10¹⁷Nm; Mrr-0.21; Mθθ-3.03; Mϕϕ3.24; Mrθ-1.73; Mθϕ-0.83; Mϕr-2.35; Best double couple: M₀4.40000×10¹⁷ NP1:ϕs36.00000°, δ88.00000°, λ-42.00000°. NP2:ϕs128.00000°, δ48.00000°, λ-177.00000°. Principal axes: T 4.4400, Plg26.0000°, Azm90.0000°; N -0.1300, Plg47.0000°, Azm214.0000°; P -4.3000, Plg29.0000°, Azm343.0000°;*

NEIC ***30*** *08:00:21.0±0.0, 1.°76N×89.°47E, h10km, Moment Tensor Solution. s42 Moment tensor: Scale 10¹⁷Nm; Mrr-0.47; Mθθ-3.92; Mϕϕ4.38; Mrθ-1.27; Mθϕ-1.47; Mϕr-0.73; Best double couple: M₀4.70000×10¹⁷ NP1:ϕs127.00000°, δ73.00000°, λ-171.00000°. NP2:ϕs34.00000°, δ81.00000°, λ-17.00000°. Principal axes: T 4.6900, Plg6.0000°, Azm81.0000°; N -0.0600, Plg71.0000°, Azm188.0000°; P -4.6300, Plg18.0000°, Azm349.0000°;*

ISC 30 08:00:10.5±0.4, 1.°71N±0.°03×89.°59E±0.°03, h15km±2km, h14km:pP-P,n1325,σ1§47/1101,mb5.3/267,MS5.7/527, 36C-39D,North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
MLSI	Meulaboh, Aceh	7.26	69	Op P	ISC Pn	08 01 56.3	+0.1
	3μm,0.9s,27μm39μm						
TPTI		7.74	78	P	Pn	08 02 01.1	-1.6
GSI	Gunungsitoli	7.99	93	P	Pn	08 02 04.1	-2.1
GSI	Gunungsitoli	7.99	93	*e*Pn	Pn	08 02 05.0	-1.2
GSI				*e*Sn	Sn	08 03 32.7	-3.8
LHMI	Lhok Sumawe	8.13	64	P	Pn	08 02 08.6	+0.5
	2μm,1.2s,31μm						
LHMI	Lhok Sumawe	8.13	64	*e*Pn	Pn	08 02 08.1	-0.1
LHMI				*e*Sn	Sn	08 03 37.6	-2.3
TSI	Tuntungan	9.14	79	P	Pn	08 02 23.5	+1.6
	2μm,1.6s,20μm						
PSI	Prapat	9.39	83	Pn	Pn	08 02 23.9	-1.5
	3.2nm,0.3s,baz=260,slow=8.5,SNR=15						
PSI				Sn	Sn	08 03 58.4	-13
	baz=255,slow=20,SNR=1.9						
PSI				LR	LR	08 06 31.8	
	comp=Z,55μm,18.1s,baz=252,slow=41						
PSI	Prapat	9.39	83	*e*Pn	Pn	08 02 24.1	-1.5
PSI				*e*Sn	Sn	08 04 07.4	-3.6
PSI	Prapat	9.39	83	P	Pn	08 02 24.0	-1.5
PSI				pmax	pmax		
	comp=Z,3.0nm,0.3s						
PSI				MLR	MLR		
	comp=Z,55μm,18.1s						
SISI	Saibi	9.96	108	P	Pn	08 02 31.6	-1.7
	comp=Z,533nm,1.3s,comp=Z,10μm						
MNSI	Mandailing Nat	10.03	95	P	Pn	08 02 33.1	-1.0
PBA	Port Blair	10.37	17	*e*P	Pn	08 02 39.7	+0.9
PBA	Port Blair	10.37	17	*e*Pn	Pn	08 02 37.2	-1.6
PBA				*e*Sn	Sn	08 04 28.6	-6.2
PALK	Pallekele	10.44	302	Pn	Pn	08 02 37.3	-2.6
	comp=Z,7.6nm,0.3s,baz=115,slow=12,SNR=26						
PALK				Sn	Sn	08 04 24.3	-12
	comp=Z,104nm,0.3s,baz=113,slow=0.2,SNR=14						
PALK				LR	LR	08 06 05.7	
	comp=Z,32μm,19.3s,baz=116,slow=35						
PALK	Pallekele	10.44	302	Pn	Pn	08 02 47.5	+7.6
	SNR=14						
PALK	Pallekele	10.44	302	P	Pn	08 02 47.5	+7.6
	SNR=14						
PKDT	Phuket	10.66	55	P	Pn	08 02 40.8	-2.0
	comp=Z,368nm,1.4s,comp=Z,4μm						
PDSI	Padang	11.18	103	P	Pn	08 02 48.6	-1.3
PPSI	Pulau Pagai	11.32	113	P	Pn	08 02 51.6	-0.3
	comp=Z,336nm,0.7s,comp=Z,9μm						
BKNI	Bangkinang	11.53	97	P	Pn	08 02 56.6	+1.9
	comp=Z,664nm,1.4s,comp=Z,10μmcomp=Z,18μm						
BKNI	Bangkinang	11.53	97	*e*Pn	Pn	08 02 53.5	-1.2
KULM	Kulim	11.60	72	*e*Pn	Pn	08 02 53.6	-2.0
KULM				*e*Sn	Sn	08 04 58.2	-6.8
IPM	Ipoh	11.74	76	*e*Pn	Pn	08 02 55.6	-2.1
IPM				*e*Sn	Sn	08 05 03.7	-5.0
TRTT	Trang	11.76	58	P	Pn	08 02 55.0	-2.9
	comp=Z,129nm,1.8s,comp=Z,2μm						
DGPR	DIGLIPUR	11.87	16	*e*P	Pn	08 02 59.3	0.0
DGPR				IAMs_20	IAMs_20	08 31 46.7	
	comp=Z,9μm,6.1s						
SDSI	Sungai Dareh	12.12	102	P	Pn	08 03 02.8	0.0
SKLT	Songkhla	12.26	63	P	Pn	08 03 02.0	-2.7
	comp=Z,331nm,1.0s,comp=Z,6μm						
KRJI	Kerinci	12.45	108	P	Pn	08 03 07.4	-0.1
MASI	Maura Aman, Be	13.53	111	P	Pn	08 03 21.7	-0.4
MYKOM	Kota Tinggi	14.25	89	*e*Pn	Pn	08 03 31.5	-0.5
TRD	Trivandrum	14.28	299	*e*P	Pn	08 03 30.0	-2.3
MDRS	Chennai	14.60	321	*e*P	Pn	08 03 35.7	-0.9
MDRS				IAmb	IAmb	08 03 44.7	
	comp=Z,602nm,1.6s						
MDRS				IAMs_20	IAMs_20	08 18 52.9	
	comp=Z,11μm,10.2s						
MNAI	Manna	14.65	114	P	Pn	08 03 36.2	-1.3
MNAI	Manna	14.65	114	*e*Pn	Pn	08 03 36.3	-1.2
MNAI				*e*Sn	Sn	08 06 11.7	-8.1
SKHT	Srikalahasti	15.44	321	*e*P	Pn	08 03 44.4	-3.6
COCO	West Island	15.57	153	*e*Pn	Pn	08 03 49.8	+0.2
	comp=Z,508nm,1.3s						
COCO				*e*Sn	Sn	08 06 33.3	-8.8
COCO	West Island	15.57	153	*i* P	Pn	08 03 51.0	+1.4
SRDT	SRDT	15.70	36	P	Pn	08 03 52.0	+0.7
	comp=Z,127nm,1.6s,comp=Z,6μm						
MDSI	Maura Dua	15.82	113	P	Pn	08 03 52.5	-0.4
LWLI	Liwa	15.92	115	P	Pn	08 03 54.4	0.0
KASI	Kota Agung	16.53	116	P	P	08 04 03.7	-0.9
KLI	Kotabumi	16.59	113	P	Pn	08 04 04.3	+1.5
KLI				pmax	pmax		
	comp=Z,601nm,1.8s						
ADKI	Addanki	16.95	327	*e*P	Pn	08 04 05.1	-2.2
PPBI	Pangkal Pinang	16.98	103	P	P	08 04 09.4	-0.2
VIS	Vishakhapatnam	17.06	339	*e*P	Pn	08 04 07.1	-1.6
RCLA	Racherla	17.23	323	*e*P	Pn	08 04 08.1	-2.7
PVM	Polavaram	17.32	334	*e*P	Pn	08 04 09.3	-2.5
CHLP	Challavanipeta	17.55	342	*e*P	Pn	08 04 13.3	-1.5
SRLM	Srisailam	17.77	324	*e*P	Pn	08 04 14.8	-2.7
NJS	Nagarjunasagar	17.89	326	*e*P	Pn	08 04 16.3	-2.8
URV	Uravakonda	17.92	318	*e*P	Pn	08 04 16.2	-3.3
CGJI	Cibinong	18.07	117	P	Pn	08 04 21.7	+0.4
PBKT	Sadao Pong	18.54	37	P	P	08 04 26.0	-0.7
	comp=Z,230nm,1.5s,comp=Z,4μm						
PBKT	Sadao Pong	18.54	37	*e*P	P	08 04 25.4	-1.3
	comp=Z,600nm,1.6s						
CHAI	Chaiyaphum	18.66	40	P	Pn	08 04 28.3	-0.1
	comp=Z,61nm,1.1s,comp=Z,497nm						
BWNR	Bhubaneshwar	18.84	349	*e*P	Pn	08 04 30.2	-0.4
BWNR				IAmb	IAmb	08 04 36.4	
CM01	Chiang Mai Arr	18.98	28	*e*P	P	08 04 28.6	-3.1
DBJI	Dramaga	18.99	116	P	Pn	08 04 33.8	+1.3
CM31	Chiang Mai Arr	19.00	28	*e*P	Pn	08 04 34.0	+1.4
CMAR	Chiang Mai Arr	19.00	28	P	Pn	08 04 33.2	+0.6
	comp=Z,1.1nm,0.3s,baz=222,slow=12,SNR=72						
CMAR				S	S	08 08 07.0	-0.5
	comp=Z,0.2nm,0.3s,baz=198,slow=8.2,SNR=2.3						
CMAR				LR	LR	08 11 37.3	
	comp=Z,11μm,21.6s,baz=208,slow=36						
HYB	Hyderabad	19.01	326	*i* P	P	08 04 31.5	-0.5
	comp=Z,125nm,1.0s						
HYB				*e*S	Sn	08 08 04.0	-1.6
HYB	Hyderabad	19.01	326	*e*P	P	08 04 31.5	-0.5
HYB				IAmb	IAmb	08 04 38.7	
	comp=Z,80nm,0.7s						
HYBB	Hyderabad (bro	19.01	326	*e*P	P	08 04 29.2	-2.8
CHTO	Chiang Mai	19.31	28	P	Pn	08 04 37.5	+1.1
	comp=Z,560nm,1.1s,comp=Z,16μm						
CHTO	Chiang Mai	19.31	28	*e*P	Pn	08 04 36.1	-0.3
	comp=Z,87nm,0.8s						
CHTO	Chiang Mai	19.31	28	P	Pn	08 04 36.6	+0.3
	SNR=32						
CHTO	Chiang Mai	19.31	28	P	Pn	08 04 36.6	+0.3
	SNR=32						
CHTO	Chiang Mai	19.31	28	*e*P	Pn	08 04 36.1	-0.3
CHTO				pmax	pmax		
	comp=Z,87nm,0.8s						
CMMT	Chiang Mai	19.32	28	P	Pn	08 04 36.4	0.0
	comp=Z,292nm,1.1s,comp=Z,3μm						
DGAR	Diego Garcia	19.35	242	*e*P	P	08 04 35.6	-0.1
H08S2	Diego Garcia H	19.42	241	P	Pn	08 04 39.5	+2.0
H08S2				T	T	08 24 27.5	
	baz=61,slow=75,SNR=740						
H08S3	Diego Garcia H	19.42	241	P	Pn	08 04 39.5	+2.0
H08S3				T	T	08 24 28.2	
	baz=61,slow=75,SNR=768						
H08S1	Diego Garcia H	19.44	241	P	Pn	08 04 39.7	+2.0
H08S1				T	T	08 24 23.4	
	baz=61,slow=75,SNR=1097						
RPR	Rampur	19.81	330	*e*P	P	08 04 40.0	-0.7
LEM	Lembang	19.89	115	P	Pn	08 04 44.0	+0.5
	comp=Z,19nm,0.3s,baz=308,slow=1.2,SNR=13						
LEM				S	Sn	08 08 30.4	+3.4
	comp=Z,4.8nm,0.3s,baz=246,slow=20,SNR=2.4						
LEM				LR	LR	08 11 42.0	
	comp=Z,16μm,18.0s,baz=290,slow=35						
LEM	Lembang	19.89	115	P	Pn	08 04 44.7	+1.3
H08N1	Diego Garcia H	20.20	247	P	Pn	08 04 47.1	+0.5
	baz=313,slow=9.0,SNR=7.3						
H08N2	Diego Garcia H	20.20	247	P	P	08 04 43.4	-1.3
	baz=313,slow=9.0,SNR=6.2						
H08N3	Diego Garcia H	20.22	247	P	P	08 04 43.5	-1.3
	baz=313,slow=9.0,SNR=6.3						
CMAI	Chiengmai2	20.34	26	P	Pn	08 04 48.3	-0.3
	comp=Z,780nm,1.4s,comp=Z,18μm						
SRSP	Sriramsagar	20.36	328	*e*P	P	08 04 47.1	+0.4
CISI	Cisompet, Garu	20.38	117	P	P	08 04 48.2	+1.2
CISI	Cisompet, Garu	20.38	117	PFAKE		08 05 00.0	+11
CISI				LR	LR		
	comp=Z,8μm,18.0s						
KLRI	Killari	20.67	323	*e*P	P	08 04 49.1	-1.0
UBPT	Khong Chiam	20.67	48	P	P	08 04 49.5	-0.6
	comp=Z,407nm,2.4s,comp=Z,9μm						
KSM	Kuching	20.71	90	*e*P	P	08 04 51.5	+1.0
	comp=Z,770nm,1.4s						
KSM				LR	LR		
	comp=Z,13μm,21.0s						
GOA	Goa	20.72	312	*e*P	P	08 04 50.1	-0.5
SKNT	Sakolnakorn	20.75	42	P	P	08 04 49.5	-1.4
	comp=Z,112nm,1.5s,comp=Z,3μm						
CMJI	Cimerak	21.04	117	P	P	08 04 55.0	+0.9
KPJI	Karang Pucung	21.28	115	P	P	08 04 58.7	+2.0
BELO	BELONIA	21.49	5	*e*P	P	08 04 59.0	+0.2
NGP	Nagpur	21.89	333	*e*P	P	08 05 02.7	-0.5
NGP				*ex*	x	08 09 10.8	
STKI	Sintang	21.94	94	P	P	08 05 05.6	+1.8
AGT	Agartala	22.10	4	*e*P	P	08 05 05.7	+0.3
BOK	Bokaro	22.25	351	*e*P	P	08 05 07.9	+0.9
BOK				IAMs_20	IAMs_20	08 25 38.2	
	comp=Z,9μm,9.4s						
SMRI	Semarang	22.55	113	*e*P	P	08 05 09.3	-1.1
	comp=Z,912nm,1.3s						
SBUM	Sibu	22.62	88	*e*P	P	08 05 11.5	+0.4
	comp=Z,241nm,1.2s						
SBUM				LR	LR		
	comp=Z,18μm,19.0s						
POO	Poona	22.75	318	*e*P	P	08 05 13.1	+0.6
POO				IAMs_20	IAMs_20	08 14 51.4	
	comp=Z,16μm,11.7s						
UGM	Wanagama	22.96	115	P	P	08 05 15.1	+0.4
UGM	Wanagama	22.96	115	*e*P	P	08 05 12.2	-2.4
	comp=Z,394nm,1.1s						
UGM				LR	LR		
	comp=Z,9μm,21.0s						
WOJI	Wonogiri, Jawa	23.29	114	P	P	08 05 17.8	-0.3
IMP	Imphal	23.37	10	*e*P	P	08 05 19.0	+0.2
PCJI	Pacitan	23.67	115	P	P	08 05 21.3	-0.4
TURI	Tura	23.71	2	*e*P	P	08 05 20.1	-1.9
SHL	Shillong	23.82	5	*e*P	P	08 05 24.3	+0.9
SHL				IAmb	IAmb	08 05 28.5	
	comp=Z,4μm,5.1s						
SHL				IAMs_20	IAMs_20	08 27 39.7	
	comp=Z,4μm,7.4s						
SHL	Shillong	23.82	5	*e*P	P	08 05 23.3	0.0
	comp=Z,322nm,1.3s						
SHL	Shillong	23.82	5	*e*P	P	08 05 23.3	0.0
SHL				pmax	pmax		
	comp=Z,322nm,1.3s						
PWJI	Pagerwojo	24.17	114	P	P	08 05 26.5	0.0
KOHI	KOHIMA	24.27	10	*e*P	P	08 05 28.5	+1.0
GUWA	GUWAHATI	24.43	5	*e*P	P	08 05 27.9	-0.8
BHPL	Bhopal	24.44	332	*e*P	P	08 05 27.8	-1.1
BHPL				IAmb	IAmb	08 05 52.8	
	comp=Z,462nm,2.5s						
MOKO	MOKOCHONG	24.93	11	*e*P	P	08 05 34.3	+0.9
TEZP	TEZPUR	24.96	7	*e*P	P	08 05 33.7	+0.2
ODAN	Odare	25.10	355	*e*P	P	08 05 35.0	-0.1
	comp=Z,1μm,1.4s						
RAMN	Ramite	25.26	354	*e*P	P	08 05 37.6	+1.0
	comp=Z,804nm,1.0s						
JORH	JORHAT	25.29	10	*e*P	P	08 05 35.2	-1.3
GTK	Tadong	25.48	358	*ex*	P	08 05 35.0	-3.4
ITAN	ITANAGAR	25.60	9	*e*P	P	08 05 39.8	+0.4
JIRN	Jiri	26.01	353	*e*P	P	08 05 44.0	+0.5
	comp=Z,1μm,1.3s						
PKIN	Phulchoki	26.04	351	*e*P	P	08 05 44.5	+0.9
	comp=Z,132nm,0.7s						
DMN	Daman	26.11	351	*e*P	P	08 05 44.9	+0.6
	comp=Z,271nm,0.9s						
KKN	Kakani	26.26	351	*e*P	P	08 05 46.0	+0.4
	comp=Z,288nm,0.9s						
QIZ	Qiongzhong	26.27	48	P	P	08 05 45.3	-0.2
QIZ				S	S	08 10 19.0	+1.2
QIZ				pmax	pmax		
	comp=Z,83nm,1.4s						
QIZ				pmax	pmax		
	comp=Z,510nm,7.6s						
QIZ				LR	LR		
	comp=Z,28μm,13.3s						
QIZ				LR	LR		
	comp=Z,11μm,14.5s						
QIZ				LR	LR		
	comp=Z,13μm,15.7s						
QIZ	Qiongzhong	26.27	48	*e*P	P	08 05 46.6	+1.1
	comp=Z,94nm,0.9s						
QIZ				LR	LR		
	comp=Z,8μm,19.0s						
GUN	Gumba	26.30	353	*e*P	P	08 05 46.5	+0.4
	comp=Z,496nm,0.9s						
JAGI	Jajag, Banyuwa	26.49	113	P	P	08 05 47.0	-0.6
JAGI	Jajag, Banyuwa	26.49	113	*e*P	P	08 05 46.3	-1.3
	comp=Z,164nm,1.2s						
JAGI				LR	LR		
	comp=Z,10μm,18.0s						
KMI	Kunming	26.51	28	P	P	08 05 50.3	+2.4
KMI				pP	sP	08 05 59.8	+5.6
KMI				PP	PnPn	08 06 36.0	+7.8
KMI				S	S	08 10 20.5	-1.5
KMI				sS	sS	08 10 36.5	+7.2
KMI				pmax	pmax		
	comp=Z,83nm,1.1s						
KMI				pmax	pmax		
	comp=Z,440nm,6.9s						
KMI				LR	LR		
	comp=Z,12μm,16.3s						
KMI				LR	LR		
	comp=Z,7μm,16.9s						
KMI				LR	LR		
	comp=Z,13μm,19.5s						
KOLN	Koldanda	26.54	348	*e*P	P	08 05 49.9	+1.8
	comp=Z,118nm,0.7s						
GKN	Gorkha	26.57	350	*e*P	P	08 05 48.7	+0.3
	comp=Z,426nm,1.1s						
KKM	Kota Kinabalu	26.90	80	*e*P	P	08 05 52.5	+1.0
	comp=Z,200nm,1.1s						
KKM				LR	LR		
	comp=Z,9μm,20.0s						
PYUN	Piuthan	26.99	347	*e*P	P	08 05 54.0	+1.8
	comp=Z,408nm,1.3s						
DANN	Dangsing	27.07	349	*e*P	P	08 05 53.4	+0.4
	comp=Z,904nm,1.5s						
LSA	Lhasa	27.88	3	P	P	08 06 01.3	+0.9
LSA				S	S	08 10 46.8	+3.0
LSA				pmax	pmax		
	comp=Z,24nm,1.1s						
LSA				LR	LR		
	comp=Z,6μm,18.8s						
LSA				LR	LR		
	comp=Z,3μm,19.9s						
LSA				LR	LR		
	comp=Z,21μm,21.0s						
LSA	Lhasa	27.88	3	*e*P	P	08 06 01.6	+1.2
	comp=Z,475nm,1.9s						
LSA				LR	LR		
	comp=Z,22μm,20.0s						
LSA	Lhasa	27.88	3	P	P	08 06 01.3	+0.9
LSA	Lhasa	27.88	3	*e*P	P	08 06 01.6	+1.2
LSA				pmax	pmax		
	comp=Z,475nm,1.9s						
LSA				MLR	MLR		
	comp=Z,22μm,20.0s						
BHJ	Bhuj	28.86	319	*e*P	P	08 06 08.5	-0.1
BHJ				IAMs_20	IAMs_20	08 26 49.5	
	comp=Z,8μm,17.4s						
MYLDM	Lahad Datu	29.06	82	*e*P	P	08 06 11.9	+1.3
	comp=Z,587nm,1.7s						
MYLDM				LR	LR		
	comp=Z,18μm,21.0s						
GYA	Guiyang	29.58	32	⇓*i* P	P	08 06 15.8	+0.6
GYA				PP	PnPn	08 07 14.0	+4.0
GYA				PcP	PcP	08 09 21.5	+1.4
GYA				S	S	08 11 08.3	-1.7
GYA				ScS	ScS	08

comp=Z,612nm,0.9s,baz=182,slow=5.1,SNR=10
TGY LR LR 08 21 43.4
comp=Z,4μm,19.6s,baz=236,slow=39
ENH Enshi 34.11 32 *e*P **P 08 06 54.9 +0.1**
comp=Z,506nm,1.8s
ENH LR LR
comp=Z,5μm,19.0s
MMRI Maumere 34.12 108 *e*P **P 08 06 52.8 -2.4**
comp=Z,127nm,1.1s
MMRI LR LR
comp=Z,10μm,19.0s
RCP Roxas 34.31 72⇑*e*P **P 08 06 58.3 +1.5**
NIL Nilore 35.27 336 *e*P **P 08 07 04.7 -0.2**
comp=Z,79nm,0.9s
NIL LR LR
comp=Z,5μm,19.0s
NIL Nilore 35.27 336 *e*P **P 08 07 04.7 -0.2**
NIL pmax pmax
comp=Z,79nm,0.9s
NIL MLR MLR
comp=Z,5μm,19.0s
BATI Baumata 35.92 110 P **P 08 07 08.9 -1.8**
comp=Z,63nm,0.7s,baz=291,slow=4.6,SNR=5.8
BATI LR LR 08 22 58.6
comp=Z,5μm,18.1s,baz=310,slow=38
DAV Davao City (W) 36.26 80 P **P 08 07 14.4 +0.8**
comp=Z,196nm,0.3s,baz=351,slow=0.9,SNR=9.8
DAV LR LR 08 24 49.8
comp=Z,4μm,18.1s,baz=244,slow=41
DAV Davao City (W) 36.26 80 PFAKE 08 07 30.0 +16
DAV LR LR
comp=Z,4μm,19.0s
DAV Davao City (W) 36.26 80 P **P 08 07 16.1 +2.5**
SNR=13
DAV Davao City (W) 36.26 80 P **P 08 07 16.1 +2.5**
SNR=13
QZH Quanzhou 36.29 48⇑*i*P **P 08 07 13.5 -0.2**
QZH S **S 08 12 54.0 -0.1**
QZH LR LR
comp=Z,20μm,17.6s
QZH LR LR
comp=Z,10μm,17.6s
QZH LR LR
comp=Z,15μm,13.6s
PLP Palo 36.35 73⇓*e*P **P 08 07 14.2 -0.2**
SOEI Soe 36.36 109 *e*P **P 08 07 11.7 -2.9**
comp=Z,171nm,1.2s
SOEI LR LR
comp=Z,11μm,19.0s
LZH Lanzhou 36.67 20⇑P **P 08 07 16.5 -0.5**
LZH pP sP 08 07 21.8 -1.5
LZH sP pP 08 07 27.5 +6.0
LZH PP **PP 08 08 43.8 +3.2**
LZH S **S 08 12 56.0 -4.0**
LZH SS **SnSn 08 15 30.5 -0.1**
LZH pmax pmax
comp=Z,56nm,1.0s
LZH pmax pmax
comp=Z,530nm,4.9s
LZH LR LR
comp=Z,11μm,13.0s
LZH LR LR
comp=Z,13μm,13.7s
LZH LR LR
comp=Z,13μm,15.8s
WSAR Wadi Sarin 36.87 308 P **P 08 07 17.0 -1.7**
comp=Z,5.4nm,0.8s,baz=112,slow=16,SNR=4.8
XAN Xi'an 36.90 27 P **P 08 07 17.8 -1.0**
XAN pP pP 08 07 22.0 -1.3
XAN sP sP 08 07 24.8 -0.3
XAN pmax pmax
comp=Z,17nm,1.0s
XAN pmax pmax
comp=Z,400nm,4.6s
XAN LR LR
comp=Z,13μm,15.2s
XAN LR LR
comp=Z,9μm,14.2s
XAN LR LR
comp=Z,10μm,16.8s
TPUB Ta-pu 36.96 52 *e*P **P 08 07 20.6 +1.1**
comp=Z,48nm,0.6s
TPUB LR LR
comp=Z,4μm,19.0s
WHN Wuhan 37.05 37⇓P **P 08 07 21.3 +1.2**
WHN S **S 08 13 05.3 -0.4**
WHN LR LR
comp=Z,25μm,16.8s
WHN LR LR
comp=Z,16μm,16.2s
WHN LR LR
comp=Z,22μm,20.0s
TWG Pinlang 37.07 53 *e*P **P 08 07 22.1 +1.7**
comp=Z,585nm,1.3s
TWG LR LR
comp=Z,18μm,18.0s
MBWA Marble Bar 37.23 129 *e*P **P 08 07 21.9 +0.1**
comp=Z,54nm,1.0s
MBWA LR LR
comp=Z,6μm,18.0s
MBWA Marble Bar 37.23 129 P **P 08 07 24.0 +2.3**
SNR=5.4
MBWA Marble Bar 37.23 129 P **P 08 07 24.0 +2.3**
SNR=5.4
BIDO Bidbid 37.41 308 P P 08 07 28.0 +4.7
SNR=12
BIDO Bidbid 37.41 308 P P 08 07 28.0 +4.7
SNR=12
SSLB Suanglung 37.46 52 *e*P **P 08 07 24.9 +1.1**
comp=Z,90nm,1.1s
SSLB LR LR
comp=Z,6μm,18.0s
YULB Yu-li 37.53 52 *e*P **P 08 07 26.4 +2.0**
comp=Z,72nm,0.9s
YULB LR LR
comp=Z,3μm,20.0s
TNTI Ternate 37.78 91 PFAKE 08 07 40.0 +13
TNTI LR LR
comp=Z,800nm,19.0s
KBL Kabul 37.88 332 *e*P **P 08 07 27.5 +0.2**
comp=Z,16nm,0.8s
KBL LR LR
comp=Z,7μm,19.0s
KBL Kabul 37.88 332 *e*P **P 08 07 27.5 +0.2**
KBL pmax pmax
comp=Z,16nm,0.8s
KBL MLR MLR
comp=Z,7μm,19.0s
NACB Ninganchiao 38.16 52 PFAKE 08 07 40.0 +10
NACB LR LR
comp=Z,9μm,18.0s
YHNB Yeheng 38.25 51 PFAKE 08 07 40.0 +10
YHNB LR LR
comp=Z,9μm,20.0s
MRIV Mauritius Mete 38.31 234 *e*P **P 08 07 28.3 -2.7**
comp=Z,261nm,1.8s
TATO Taipei 38.50 50 PFAKE 08 07 40.0 +7.6
TATO LR LR
comp=Z,8μm,18.0s
GTA Gaotai 38.67 13 P **P 08 07 34.0 +0.2**
GTA pP sP 08 07 43.0 +2.8
GTA sP pP 08 07 47.5 +9.2
GTA PP **PnPn 08 09 07.0 +2.4**
GTA S **S 08 13 32.0 +1.8**
GTA sS sS 08 13 47.8 +10
GTA SS **SnSn 08 16 18.0 -0.7**
GTA pmax pmax
comp=Z,91nm,1.2s
GTA pmax pmax
comp=Z,820nm,5.2s
GTA LR LR
comp=Z,4μm,14.3s
GTA LR LR
comp=Z,6μm,16.2s
GTA LR LR
comp=Z,4μm,15.2s
AAI Ambon 38.95 98 P **P 08 07 35.1 -1.3**
AAI pmax pmax
comp=Z,108nm,1.8s
SOHO SOHO 38.98 308 *i*P **P 08 07 37.6 +1.2**
SNR=11
YOJ Yonaguni jima 39.42 52 PFAKE 08 07 50.0 +10
YOJ LR LR
comp=Z,7μm,18.0s
ALNE Al Ain 39.56 307 *i*P **P 08 07 41.8 +0.4**
SNR=11
KSH Kashi 39.63 343 P **P 08 07 40.3 -1.5**

KSH sP sP 08 07 48.5 +0.3
KSH PP **PnPn 08 09 15.0 -1.0**
KSH S **S 08 13 41.0 -3.6**
KSH pmax pmax
comp=Z,360nm,1.5s
KSH pmax pmax
comp=Z,2μm,5.4s
KSH LR LR
comp=Z,6μm,11.4s
KSH LR LR
comp=Z,7μm,12.2s
KSH LR LR
comp=Z,6μm,12.3s
HATD Hatta, Dubai 39.64 308 P **P 08 07 43.3 +1.3**
UOSS Minazif 39.64 308 *e*P **P 08 07 40.2 -1.8**
comp=Z,9.3nm,1.0s
UOSS LR LR
comp=Z,11μm,21.0s
UOSS Minazif 39.64 308 P **P 08 07 43.5 +1.5**
MORW Morawa 39.72 142 P **P 08 07 44.3 +1.7**
baz=40,SNR=3.2
MEEK Meekatharra 39.73 137 P **P 08 07 44.1 +1.4**
baz=41,SNR=4.3
MSFE Esma-Masafi 39.89 309 *i*P **P 08 07 45.5 +1.4**
SNR=9.8
RER Riviere de l'E 40.16 234 PFAKE 08 08 00.0 +14
RER LR LR
comp=Z,5μm,20.0s
FITZ Fitzroy Crossi 40.58 121 P **P 08 07 50.1 +0.2**
comp=Z,59nm,1.1s
FITZ Fitzroy Crossi 40.58 121 *e*P **P 08 07 50.1 +0.2**
comp=Z,59nm,1.1s
SFK Sufi-Kurgan 40.84 341 P **P 08 07 53.1 +1.1**
SFK pmax pmax
comp=Z,52nm,1.3s
NJ2 Nanjing 40.88 39 *e*P **P 08 07 52.3 +0.2**
NJ2 sP **pP 08 07 55.8 -0.9**
NJ2 S **S 08 14 04.3 +1.1**
NJ2 SS **SnSn 08 17 09.0 -3.0**
NJ2 pmax pmax
comp=Z,18nm,0.9s
NJ2 pmax pmax
comp=Z,380nm,3.6s
NJ2 LR LR
comp=Z,8μm,15.7s
NJ2 LR LR
comp=Z,11μm,13.6s
NJ2 LR LR
comp=Z,9μm,14.1s
BLDU Ballidu 41.24 143 P **P 08 07 56.2 +1.0**
baz=42,SNR=5.2
NRN Naryn 41.40 345 *e*P **P 08 07 57.2 +0.5**
comp=Z,119nm,1.8s
NRN LR LR
comp=Z,10μm,21.0s
NRN Naryn 41.40 345 *e*P **P 08 07 57.2 +0.5**
NRN pmax pmax
comp=Z,119nm,1.8s
NRN MLR MLR
comp=Z,10μm,21.0s
DZET Dzherino 41.52 335 P **P 08 08 01.2 +3.7**
DZET pmax pmax
comp=Z,17nm,1.5s
TIY Taiyuan 41.53 28 *e*P **P 08 08 00.5 +2.9**
TIY PP **PnPn 08 09 38.3 -0.1**
TIY S **S 08 14 14.0 +1.0**
TIY SS **SS 08 17 22.0 +4.0**
TIY pmax pmax
comp=Z,370nm,4.6s
TIY LR LR
comp=Z,6μm,12.3s
TIY LR LR
comp=Z,7μm,12.5s
TIY LR LR
comp=Z,8μm,16.9s
SIJI Sorong 41.75 93 LR LR 08 25 26.7
comp=Z,2μm,21.6s,baz=245,slow=36
KDJ Kajisay 41.76 346 *e*P **P 08 08 00.0 +0.5**
comp=Z,82nm,1.2s
KDJ LR LR
comp=Z,16μm,21.0s
KDJ Kajisay 41.76 346 P **P 08 08 00.0 +0.5**
SSE Sheshan 41.79 42 P **P 08 07 58.5 -1.2**
SSE S **S 08 14 19.3 +2.5**
SSE pmax pmax
comp=Z,16nm,0.7s
SSE LR LR
comp=Z,6μm,15.3s
SSE LR LR
comp=Z,6μm,16.7s
PRZ Przheval'sk 41.82 348 *e*P **P 08 08 01.4 +1.5**
comp=Z,171nm,1.1s
PRZ LR LR
comp=Z,12μm,22.0s
PRZ Przheval'sk 41.82 348 *e*P **P 08 08 01.5 +1.5**
PRZ pmax pmax
comp=Z,171nm,1.1s
PRZ MLR MLR
comp=Z,12μm,22.0s
MUN Mundaring 41.94 145 P **P 08 08 02.1 +1.2**
baz=42,SNR=3.2
WMQ Urumqi 41.97 358 P **P 08 08 02.0 +1.0**
WMQ pP pP 08 08 04.5 -1.1
WMQ sP sP 08 08 08.5 +1.1
WMQ S **S 08 14 18.5 -0.7**
WMQ sS sS 08 14 30.3 +3.6
WMQ SS **SS 08 17 30.3 +3.9**
WMQ pmax pmax
comp=Z,160nm,1.1s
WMQ pmax pmax
comp=Z,980nm,3.8s
WMQ LR LR
comp=Z,13μm,25.3s
WMQ LR LR
comp=Z,8μm,21.1s
WMQ LR LR
comp=Z,13μm,23.5s
ULHL Ulahol 42.10 345 P **P 08 08 03.9 +1.6**
SNR=9.1
KZA Kyzart 42.21 344 P **P 08 08 05.6 +2.2**
SNR=14
SHLS Shalkode 42.25 349⇓*i*P **P 08 08 03.1 -0.3**
comp=Z,1μm,1.2s
SHLS *e*S **S 08 14 23.2 -0.4**
SHLS LR LR 08 27 02.9
comp=Z,1μm,15.8s
UZB Uzynbulak 42.33 348⇓*i*P **P 08 08 04.0 -0.1**
comp=Z,441nm,1.3s
UZB *e*PP **PP 08 09 42.1 -0.1**
UZB *e*S **S 08 14 24.9 +0.2**
UZB *e*SS **SS 08 17 34.4 +0.8**
UZB LR LR 08 27 14.6
comp=Z,887nm,15.2s
SATY Saty 42.37 348⇓*i*P **P 08 08 04.5 +0.1**
comp=Z,2μm,1.1s
SATY *e*S **S 08 14 25.8 +0.5**
SATY *e*SS **SS 08 17 35.6 +1.2**
KNRA Kununurra 42.40 116 P **P 08 08 04.7 -0.1**
baz=43,SNR=5.4
PDGK Podgornoye 42.41 349 P **P 08 08 05.2 +0.5**
PDGK pmax pmax
comp=Z,79nm,1.2s
UCH Uchtor 42.55 343 P **P 08 08 06.6 +0.3**
SNR=32
KLBR Kellerberrin 42.56 143 P **P 08 08 07.0 +1.1**
baz=43,SNR=7.8
SAUI Saumlaki 42.69 104 PFAKE 08 08 20.0 +13
SAUI LR LR
comp=Z,6μm,18.0s
KPKS Kokpek 42.70 348⇓*e*P **P 08 08 06.9 -0.1**
comp=Z,643nm,1.0s
KPKS *e*PP **PP 08 09 46.2 0.0**
KPKS *e*S **S 08 14 30.3 +0.1**
AML Almayashu 42.70 343 P **P 08 08 07.5 +0.1**
SNR=37
TIA Tai'an 42.76 33 P **P 08 08 07.3 -0.2**
TIA S **S 08 14 32.3 +1.3**
TIA pmax pmax
comp=Z,17nm,0.9s
TIA pmax pmax
comp=Z,310nm,4.9s
TIA LR LR
comp=Z,6μm,15.5s
TIA LR LR
comp=Z,8μm,13.3s
TIA LR LR

comp=Z,4μm,17.7s
MDOK Medeo 42.77 346 *i*P **P 08 08 07.8 +0.1**
comp=Z,697nm,1.4s
MDOK *i*S **S 08 14 31.7 +0.5**
MDOK *e*SS **SS 08 17 43.5 +1.1**
MDOK LR LR 08 26 57.8
comp=Z,3μm,14.1s
KBK Karagaybulak 42.83 344 P **P 08 08 09.3 +1.1**
SNR=30
AAA Alma-Ata 42.84 346 *e*P **P 08 08 08.2 0.0**
comp=Z,196nm,0.7s
AAA *e*S **S 08 14 32.9 +0.7**
AAA LR LR 08 27 06.8
comp=Z,1μm,15.6s
AAA Alma-Ata 42.84 346 *e*P **P 08 08 08.2 0.0**
AAA *e*S **S 08 14 31.6 -0.6**
AAA pmax pmax
comp=Z,500nm,5.6s
AAA smax smax
comp=E,2μm,10.2s
FAKI Fak Fak 42.89 96 *e*P **P 08 08 07.9 -1.0**
comp=E,109nm,0.8s
FAKI LR LR
comp=Z,4μm,19.0s
TKM2 Tokmak 2 42.90 345 P **P 08 08 08.7 -0.1**
SNR=32
TKM2 Tokmak 2 42.90 345 *i*P **P 08 08 07.8 -1.0**
TKM2 pmax pmax
comp=Z,71nm,1.3s
BTO Baotou 42.91 23 *e*P **P 08 08 08.5 -0.3**
AAK Ala-Archa 42.94 344 P **P 08 08 09.1 +0.1**
comp=Z,24nm,1.1s,baz=159,slow=7.7,SNR=23
AAK S **S 08 14 35.9 +2.2**
comp=Z,0.9nm,0.3s,baz=156,slow=20,SNR=2.2
AAK Ala-Archa 42.94 344 P **P 08 08 11.2 +2.1**
SNR=21
AAK Ala-Archa 42.94 344 *e*P **P 08 08 09.2 +0.1**
AAK *e*S **S 08 14 35.9 +2.2**
AAK LR LR
comp=Z,5μm,20.0s
AAK Ala-Archa 42.94 344 P **P 08 08 10.4 +1.4**
SNR=18
AAK Ala-Archa 42.94 344 P **P 08 08 10.4 +1.4**
SNR=18
AAK Ala-Archa 42.94 344 *i*P **P 08 08 09.1 +0.1**
SNR=23
AAK Ala-Archa 42.94 344 *i*P **P 08 08 09.1 +0.1**
AAK pmax pmax
comp=Z,56nm,1.3s
AAK MLR MLR
comp=Z,7μm,24.0s
BMNS Besmoynak 43.06 345⇓*i*P **P 08 08 09.9 -0.1**
comp=Z,763nm,1.2s
BMNS *e*S **S 08 14 35.8 +0.3**
BMNS *e*SS **SS 08 17 49.0 +1.0**
BMNS LR LR 08 27 41.1
comp=Z,2μm,13.4s
H01W3 Cape Leeuwin H 43.06 150 T T 08 54 02.2
baz=324,slow=75,SNR=40
H01W2 Cape Leeuwin H 43.07 150 T T 08 53 58.3
baz=324,slow=75,SNR=64
H01W1 Cape Leeuwin H 43.08 150 T T 08 53 56.7
baz=324,slow=75,SNR=47
FRU Bishkek 43.08 344 *e*P **P 08 08 10.0 -0.1**
FRU pmax pmax
comp=Z,80nm,2.0s
EKS2 Erkin-Say 43.16 343 P P **08 08 11.9 +1.0**
SNR=22
NWAO Narrogin (SRO) 43.22 145 P P **08 08 11.9 +0.6**
comp=Z,59nm,1.0s,baz=182,slow=11,SNR=11
NWAO Narrogin (SRO) 43.22 145 P **P 08 08 11.9 +0.6**
baz=44,SNR=5.7
NWAO P **P 08 08 11.9 +0.6**
baz=44,SNR=5.7
NWAO Narrogin (SRO) 43.22 145 *e*P **P 08 08 11.8 +0.6**
comp=Z,68nm,1.0s
NWAO LR LR
comp=Z,5μm,20.0s
NWAO Narrogin (SRO) 43.22 145 *e*P **P 08 08 11.9 +0.6**
NWAO pmax pmax
comp=Z,69nm,1.0s
NWAO MLR MLR
comp=Z,5μm,20.0s
MNAS Manas 43.39 342 P **P 08 08 15.1 +2.4**
MNAS pmax pmax
comp=Z,22nm,0.5s
USP Ospenovka 43.52 344 P **P 08 08 10.7 -2.8**
SNR=9.6
KUU Kurty 43.63 346⇓*e*P **P 08 08 13.8 -0.6**
comp=Z,432nm,1.2s
KUU *e*PP **PP 08 09 55.4 -0.7**
KUU *e*S **S 08 14 43.6 0.0**
KUU *e*SS **SS 08 17 59.5 +0.6**
KUU LR LR 08 28 06.3
comp=Z,1μm,16.3s
MTN Manton Dam 43.69 111 P **P 08 08 15.0 -0.3**
baz=44,SNR=9.8
MTN Manton Dam 43.69 111 *e*P **P 08 08 15.4 +0.1**
comp=Z,165nm,1.5s
HHC Hu-ho-hao-te 43.74 24 *e*P **P 08 08 17.0 +1.5**
HHC sP sP 08 08 24.0 +2.1
HHC PP **PcP 08 10 01.5 -0.8**
HHC S **S 08 14 47.3 +1.8**
HHC ScS **ScS 08 18 12.5 -2.3**
HHC pmax pmax
comp=Z,220nm,1.0s
HHC pmax pmax
comp=Z,490nm,6.2s
HHC LR LR
comp=Z,6μm,14.6s
HHC LR LR
comp=Z,8μm,14.8s
HHC LR LR
comp=Z,5μm,14.8s
IUG Iuzhnay 43.93 339⇓*i*P **P 08 08 17.4 +0.5**
comp=Z,661nm,1.5s
IUG *e*PP **PP 08 09 59.6 +0.2**
IUG *e*S **S 08 14 49.1 +0.9**
IUG LR LR 08 29 53.6
comp=Z,2μm,17.1s
CHM Chimkent 44.23 339 LR LR 08 30 38.8
comp=Z,2μm,16.2s
KK31 Karatay Array 44.60 340 *e*P **P 08 08 22.1 -0.2**
KK31 Karatay Array 44.60 340 *ce*P **P 08 08 22.2 -0.1**
KK31 pmax pmax
comp=Z,68nm,1.2s
KKAR Karatay Array 44.60 340 *e*P **P 08 08 22.1 -0.2**
KKAR Karatay Array 44.60 340 *e*P **P 08 08 22.1 -0.2**
JOW Kunigami 44.72 53 P **P 08 08 23.4 -0.1**
comp=Z,56nm,0.8s,baz=217,slow=10,SNR=6.0
JOW LR LR 08 26 52.0
comp=Z,3μm,20.6s,baz=238,slow=36
JOW Kunigami 44.72 53 *e*P **P 08 08 22.4 -1.1**
comp=Z,102nm,1.1s
JOW LR LR
comp=Z,4μm,20.0s
KMBL Kambalda 44.97 140 P **P 08 08 26.6 +1.2**
baz=45,SNR=5.7
BJT Baijiatuau 45.13 29 *e*P **P 08 08 27.4 +0.9**
comp=Z,276nm,1.8s
BJT LR LR
comp=Z,8μm,21.0s
BJT Baijiatuau 45.13 29 *e*P **P 08 08 27.4 +0.9**
BJT pmax pmax
comp=Z,276nm,1.8s
BJT MLR MLR
comp=Z,8μm,21.0s
BJI Beijing 45.15 29 P **P 08 08 27.8 +1.2**
BJI S **S 08 15 04.3 -1.5**
BJI pmax pmax
comp=Z,27nm,1.0s
BJI LR LR
comp=Z,7μm,18.6s
BJI LR LR
comp=Z,10μm,18.7s
BJI LR LR
comp=Z,7μm,22.8s
MK01 Makanchi Array 45.33 353 *e*P **P 08 08 26.2 -1.8**
MK31 Makanchi Array 45.35 353 *e*P **P 08 08 27.6 -0.6**
MK31 Makanchi Array 45.35 353 *ce*P **P 08 08 27.4 -0.8**
MK31 pmax pmax
comp=Z,63nm,1.2s
MK32 Makanchi Array 45.35 353 *e*P **P 08 08 27.1 -1.1**
MKAR Makanchi Array 45.35 353 P **P 08 08 27.1 -1.1**
comp=Z,15nm,0.8s,baz=169,slow=8.4,SNR=46
MKAR LR LR 08 28 52.1

comp=Z,7µm,18.5s,baz=170,slow=38
MKAR Makanchi Array 45.35 353 *e*P **P 08 08 27.6 -0.6**
comp=Z,232nm,1.3s
MKAR LR LR
comp=Z,2µm,18.0s
MKAR Makanchi Array 45.35 353 *e*P **P 08 08 27.6 -0.6**
MKAR pmax pmax
comp=Z,232nm,1.3s
MKAR MLR MLR
comp=Z,2µm,18.0s
MAKZ Makanchi 45.41 353 *e*P **P 08 08 28.1 -0.5**
comp=Z,69nm,1.3s
MAKZ LR LR
comp=Z,8µm,19.0s
MAKZ Makanchi 45.41 353 *e*P **P 08 08 28.1 -0.5**
MAKZ pmax pmax
comp=Z,69nm,1.3s
MAKZ MLR MLR
comp=Z,8µm,19.0s
ZSN Zaisan 45.75 356 *e*P **P 08 08 31.5 +0.2**
comp=Z,148nm,1.3s
ZSN *e*S **S 08 15 15.2 +1.0**
WRKA Warakurna 45.96 128 P **P 08 08 34.2 +0.8**
baz=46,SNR=11
GEYT Alibeck 46.19 325 P **P 08 08 35.2 +0.3**
comp=Z,9.7nm,0.8s,baz=157,slow=8.0,SNR=9.8
GEYT LR LR 08 29 34.5
comp=Z,4µm,18.5s,baz=100,slow=38
GYA0B ALIBECK ARRAY 46.19 325 *e*P **P 08 08 34.7 -0.3**
comp=Z,25nm,0.8s
GYA0B LR LR
comp=Z,6µm,19.0s
OPO Ambohidratompo 46.31 242 P **P 08 08 34.3 -2.1**
comp=Z,9.2nm,0.8s,baz=68,slow=7.8,SNR=7.6
OPO LR LR 08 25 12.1
comp=Z,5µm,18.3s,baz=76,slow=32
DAMY Dhamar 46.42 288 *e*P **P 08 08 39.1 +1.7**
comp=Z,154nm,1.8s
DAMY LR LR
comp=Z,6µm,18.0s
ABPO Ambohimpanom 46.44 242 *e*P **P 08 08 38.5 +1.2**
comp=Z,60nm,1.3s
ABPO LR LR
comp=Z,4µm,18.0s
ABPO Ambohimpanom 46.44 242 *e*P **P 08 08 38.5 +1.2**
ABPO pmax pmax
comp=Z,60nm,1.3s
ABPO MLR MLR
comp=Z,4µm,18.0s
DL2 Dalian 47.18 34⇑ *i*P **P 08 08 43.3 +0.6**
DL2 S **S 08 15 37.3 +2.3**
DL2 pmax pmax
comp=Z,43nm,1.4s
DL2 pmax pmax
comp=Z,400nm,3.7s
DL2 LR LR
comp=Z,5µm,15.7s
DL2 LR LR
comp=Z,6µm,15.3s
DL2 LR LR
comp=Z,6µm,18.2s
ATD Arta Tunnel 47.38 284 P **P 08 08 44.7 0.0**
comp=Z,17nm,0.8s,baz=88,slow=2.7,SNR=11
ATD LR LR 08 25 41.6
comp=Z,3µm,18.7s,baz=92,slow=32
ATD Arta Tunnel 47.38 284 *e*P **P 08 08 44.7 0.0**
ATD LR LR
comp=Z,3µm,19.0s
DGZ Jazzator, Alta 47.85 358 *e*P **P 08 08 48.8 +0.9**
DGZ pmax pmax
comp=Z,6.0nm,1.1s
DGZ MLR MLR
comp=Z,3µm,18.9s
RAYN Ar Rayn 47.88 301 *e*P **P 08 08 47.5 -0.9**
comp=Z,28nm,1.2s
RAYN LR LR
comp=Z,10µm,20.0s
RAYN Ar Rayn 47.88 301 P **P 08 08 47.7 -0.7**
SONA0 Songino Array 48.20 15 *e*P **P 08 08 50.5 -0.1**
SONA0 *e*S **S 08 15 51.0 +1.5**
SONM Songino Array 48.20 15 P **P 08 08 50.5 -0.1**
comp=Z,77nm,0.8s,baz=196,slow=9.2,SNR=83
SONM S **S 08 15 51.0 +1.5**
comp=Z,1.6nm,1.0s,baz=207,slow=19,SNR=4.0
SONM LR LR 08 32 08.2
comp=Z,3µm,18.1s,baz=194,slow=40
SONA1 Songino Array 48.21 15 *e*P **P 08 08 50.6 0.0**
ULN Ulaanbaatar 48.40 16 *e*P **P 08 08 51.8 -0.3**
comp=Z,35nm,1.0s
ULN LR LR
comp=Z,3µm,22.0s
ULN Ulaanbaatar 48.40 16 P **P 08 08 53.5 +1.4**
SNR=14
ULN Ulaanbaatar 48.40 16 P **P 08 08 53.5 +1.4**
SNR=14
ULN Ulaanbaatar 48.40 16*de*P **P 08 08 52.5 +0.3**
ULN pmax pmax
comp=Z,47nm,1.2s
OTUK Ortayu 48.69 345 P **P 08 08 54.6 +0.3**
OTUK pmax pmax
comp=Z,47nm,1.7s
FORT Forrest 48.82 135 P **P 08 08 56.7 +1.3**
baz=49,SNR=8.6
FORT Forrest 48.82 135 *e*P **P 08 08 55.9 +0.4**
comp=Z,1µm,0.8s
FORT LR LR
comp=Z,108µm,19.0s
WB0 Warramunga Arr 48.85 118 PFAKE 08 09 10.0 +14
WB0 LR LR
comp=Z,4µm,19.0s
WB9 Warramunga Arr 48.85 118 PFAKE 08 09 10.0 +14
WB9 LR LR
comp=Z,7µm,19.0s
WB8 Warramunga Arr 48.86 118 PFAKE 08 09 10.0 +14
WB8 LR LR
comp=Z,3µm,20.0s
WB6 Warramunga Arr 48.86 118 PFAKE 08 09 10.0 +14
WB6 LR LR
comp=Z,3µm,20.0s
WR1 Warramunga Arr 48.87 118 *e*P **P 08 08 56.6 +0.5**
comp=Z,108nm,1.0s
WR1 LR LR
comp=Z,3µm,18.0s
WRA Warramunga Arr 48.87 118 P **P 08 08 56.6 +0.5**
comp=Z,85nm,0.9s,baz=295,slow=8.6,SNR=262
WB5 Warramunga Arr 48.87 118 PFAKE 08 09 10.0 +14
WB5 LR LR
comp=Z,3µm,20.0s
WB4 Warramunga Arr 48.87 118 PFAKE 08 09 10.0 +14
WB4 LR LR
comp=Z,3µm,20.0s
WRAB Tennant Creek 48.87 118 *e*P **P 08 08 56.8 +0.6**
comp=Z,98nm,0.9s
WRAB LR LR
comp=Z,3µm,20.0s
WRAB Tennant Creek 48.87 118*c i*P **P 08 08 56.7 +0.6**
WRAB pmax pmax
comp=Z,230nm,1.7s
WRAB MLR MLR
comp=Z,2µm,17.0s
WB3 Warramunga Arr 48.87 118 PFAKE 08 09 10.0 +14
WB3 LR LR
comp=Z,3µm,20.0s
WC4 Warramunga Arr 48.87 118 PFAKE 08 09 10.0 +14
WC4 LR LR
comp=Z,3µm,19.0s
WB2 Warramunga Arr 48.88 118 *e*P **P 08 08 56.7 +0.5**
WB2 LR LR
comp=Z,4µm,22.0s
WR2 Warramunga Arr 48.89 118 PFAKE 08 09 10.0 +14
WR2 LR LR
comp=Z,3µm,19.0s
WC3 Warramunga Arr 48.90 118 *e*P **P 08 08 56.8 +0.5**
comp=Z,141nm,1.1s
WC3 LR LR
comp=Z,3µm,20.0s
WR3 Warramunga Arr 48.91 118 PFAKE 08 09 10.0 +14
WR3 LR LR
comp=Z,3µm,18.0s
WR4 Warramunga Arr 48.93 118 PFAKE 08 09 10.0 +13
WR4 LR LR
comp=Z,3µm,20.0s
WR5 Warramunga Arr 48.95 118 PFAKE 08 09 10.0 +13
WR5 LR LR
comp=Z,3µm,20.0s
WR6 Warramunga Arr 48.97 118 PFAKE 08 09 10.0 +13
WR6 LR LR
comp=Z,3µm,19.0s
WR7 Warramunga Arr 48.99 118 PFAKE 08 09 10.0 +13
WR7 LR LR
comp=Z,3µm,19.0s
WR8 Warramunga Arr 49.01 118 PFAKE 08 09 10.0 +13
WR8 LR LR
comp=Z,3µm,19.0s
WR9 Warramunga Arr 49.03 118 PFAKE 08 09 10.0 +13
WR9 LR LR
comp=Z,3µm,20.0s
WR0 Warramunga Arr 49.05 118 PFAKE 08 09 10.0 +13
WR0 LR LR
comp=Z,2µm,18.0s
TJN Taejon 49.07 41⇑ *e*P **P 08 08 57.3 0.0**
SEM Semipalatinsk 49.17 352 *e*P **P 08 08 57.3 -0.8**
comp=Z,469nm,1.4s
SEM *e*S **S 08 16 02.4 -0.8**
SEM LR LR 08 30 48.5
comp=Z,3µm,16.3s
INCN Inchon 49.26 39 PFAKE 08 09 10.0 +11
INCN LR LR
comp=Z,7µm,20.0s
HVS Khovu-Aksy 49.37 3*de*P **P 08 09 00.2 +0.7**
HVS pmax pmax
comp=Z,239nm,1.0s
HVS MLR MLR
comp=Z,20µm,20.0s
KURBB Kurchatov Arra 49.63 351 P **P 08 09 00.6 -0.8**
comp=Z,38nm,0.9s,baz=175,slow=7.4,SNR=102
KURK Kurchatov 49.71 351 *e*P **P 08 09 01.1 -0.8**
KURK LR LR
comp=Z,5µm,18.0s
KURK Kurchatov 49.71 351 P **P 08 09 02.4 +0.5**
SNR=39
KURK Kurchatov 49.71 351 P **P 08 09 02.4 +0.5**
SNR=39
KURK Kurchatov 49.71 351*d i*P **P 08 09 00.7 -1.2**
KURK pmax pmax
KURK MLR MLR
comp=Z,5µm,17.0s
JNU Nakatsue 49.73 47 P **P 08 09 02.8 +0.3**
comp=Z,18nm,0.8s,baz=297,slow=11,SNR=7.7
JNU LR LR 08 31 24.4
comp=Z,7µm,18.3s,baz=244,slow=38
JNU Nakatsue 49.73 47 *e*P **P 08 09 01.8 -0.7**
comp=Z,221nm,1.9s
JNU LR LR
comp=Z,10µm,18.0s
ZAK Zakamensk 49.87 11 *e*P **P 08 09 01.8 -1.5**
ZAK pmax pmax
comp=Z,22nm,1.8s
ASAR Alice Springs 49.91 123 P **P 08 09 04.8 +0.7**
comp=Z,29nm,0.8s,baz=298,slow=7.5,SNR=157
ASAR LR LR 08 28 22.4
comp=Z,3µm,21.2s,baz=294,slow=34
AS31 Alice Springs 49.91 123 *e*P **P 08 09 04.8 +0.8**
comp=Z,25nm,1.3s
AS01 Alice Springs 49.95 123 *e*P **P 08 09 04.8 +0.5**
KS15 Wonju Array Si 50.03 40 *e*P **P 08 09 05.0 +0.4**
KS01 Wonju Array Si 50.06 40 *e*P **P 08 09 05.2 +0.3**
KSRS Korea Array 50.06 40 P **P 08 09 04.8 0.0**
comp=Z,13nm,1.0s,baz=230,slow=9.0,SNR=23
KSRS LR LR 08 31 21.9
comp=Z,4µm,19.8s,baz=232,slow=37
MOY Mondy 50.70 9 *e*P **P 08 09 10.4 +0.8**
MOY pmax pmax
comp=Z,62nm,1.7s
FURI Furi 51.15 280 PFAKE 08 09 30.0 +16
FURI LR LR
comp=Z,3µm,19.0s
TLY Talaya 51.18 11 *e*P **P 08 09 14.5 +1.4**
comp=Z,25nm,0.9s
TLY LR LR
comp=Z,4µm,19.0s
TLY Talaya 51.18 11 P **P 08 09 15.2 +2.1**
SNR=12
TLY Talaya 51.18 11 P **P 08 09 15.2 +2.1**
SNR=12
TLY Talaya 51.18 11 *e*P **P 08 09 13.5 +0.4**
TLY *e*S **S 08 16 31.0 +0.2**
TLY *e*SSS SSS 08 21 42.1
TLY pmax pmax
comp=Z,29nm,0.9s
TLY MLR MLR
comp=Z,4µm,19.0s
IRK Irkutsk 51.84 11 *e*P **P 08 09 18.8 +0.8**
IRK pmax pmax
comp=Z,95nm,3.0s
ZAA0 Zalesovo Array 52.22 356 *e*P **P 08 09 19.6 -1.2**
comp=Z,83nm,1.3s
ZAA0 LR LR
comp=Z,5µm,22.0s
ZALV Zalesovo Beam 52.22 356 P **P 08 09 19.6 -1.2**
comp=Z,18nm,0.5s,baz=190,slow=7.5,SNR=43
ZALV S **S 08 16 44.2 -0.7**
comp=Z,0.7nm,0.3s,baz=206,slow=9.6,SNR=2.6
ZALV LR LR 08 32 29.9
comp=Z,5µm,21.5s,baz=186,slow=37
ZAA1 Zalesovo Array 52.22 356 *e*P **P 08 09 19.6 -1.2**
ZAA1 *e*S **S 08 16 44.2 -0.8**
LKRN Lenkeran, Azer 52.39 320 P **P 08 09 22.6 +0.3**
KMBO Kilima Mbogo 52.41 267 P **P 08 09 21.5 -1.7**
comp=Z,2.4nm,0.5s,baz=82,slow=7.3,SNR=8.1
KMBO LR LR 08 29 21.7
comp=Z,8µm,18.6s,baz=88,slow=34
KMBO Kilima Mbogo 52.41 267 *e*P **P 08 09 23.0 -0.2**
KMBO *e*pP **pP 08 09 24.1 -3.7**
KMBO LR LR
comp=Z,8µm,19.0s
KMBO Kilima Mbogo 52.41 267 P **P 08 09 24.5 +1.3**
SNR=6.0
KMBO Kilima Mbogo 52.41 267 P **P 08 09 24.5 +1.3**
SNR=6.0
KMBO Kilima Mbogo 52.41 267 *i* P **P 08 09 20.8 -2.5**
SNR=5.2
KMBO Kilima Mbogo 52.41 267 *e*P **P 08 09 23.0 -0.2**
KMBO *e**PP **pP 08 09 24.1 -3.7**
KMBO MLR MLR
comp=Z,8µm,19.0s
CN2 Changchun 52.63 32 *e*P **P 08 09 24.0 0.0**
CN2 *e*S **S 08 16 47.3 -3.6**
CN2 pmax pmax
comp=Z,10.0nm,0.5s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=Z,5µm,16.0s
CN2 LR LR
comp=Z,4µm,16.0s
CN2 LR LR
comp=Z,7µm,16.0s
NVS Novosibirsk 53.22 355⇓ *i*P **P 08 09 27.2 -0.9**
NVS *e* 08 10 42.3
NVS *i* S **S 08 16 59.7 +1.1**
NVS pmax pmax
comp=Z,80nm,1.6s
NVS pmax pmax
comp=N,49nm,1.4s
NVS pmax pmax
comp=E,23nm,1.4s
NVS smax smax
comp=N,18nm,1.9s
NVS smax smax
comp=E,50nm,2.5s
BVAR Borovoye Array 53.57 346 P **P 08 09 29.2 -1.6**
comp=E,11nm,0.9s,baz=150,slow=6.8,SNR=26
BVAR LR LR 08 32 40.1
comp=E,9µm,21.2s,baz=160,slow=36
BRVK Borovoye 53.63 346 *e*P **P 08 09 30.8 -0.5**
comp=E,28nm,1.1s
BRVK LR LR
comp=E,8µm,19.0s
BRVK Borovoye 53.63 346 P **P 08 09 31.7 +0.4**
SNR=9.6
BRVK Borovoye 53.63 346 P **P 08 09 31.7 +0.4**
SNR=9.6
BRVK Borovoye 53.63 346*c i*P **P 08 09 30.9 -0.3**
BRVK pmax pmax
comp=Z,30nm,1.2s
BRVK MLR MLR
comp=Z,9µm,21.0s
QIS Mount Isa 53.73 117 P **P 08 09 33.3 +0.7**
baz=54,SNR=21
AB31 Akbulak array 53.73 336*c i*P **P 08 09 30.9 -1.2**
AB31 pmax pmax
comp=Z,40nm,1.0s
ABKAR Akbulak array 53.73 336 *e*P **P 08 09 31.3 -0.7**
comp=Z,687nm,1.6s
ABKAR LR LR
comp=Z,1µm,18.0s
HIA Hailar 53.95 24 PFAKE 08 09 50.0 +16
HIA LR LR
comp=Z,4µm,18.0s
HIA Hailar 53.95 24⇑ *e*P **P 08 09 34.6 +0.9**
HIA pmax pmax
comp=Z,54nm,1.3s
HIA MLR MLR
comp=Z,4µm,17.0s
KRAR Krasnoyarsk 54.20 2⇑ *e*P **P 08 09 36.0 +0.7**
AKT Akhty 54.63 322 *e*P **P 08 09 38.4 -0.5**
AKT *e* 08 10 38.9
AKT *e* 08 11 40.4
AKT pmax pmax
comp=Z,81nm,1.2s
NAX Nakhchivan 54.79 319 P **P 08 09 40.1 +0.1**
MSHR Mys Shultsa 55.09 37⇑ *e*P **P 08 09 42.2 +0.2**
INU Inuyama 55.26 47 *e*P **P 08 09 43.7 +0.3**
comp=Z,38nm,0.9s
INU LR LR
comp=Z,8µm,18.0s
COEN Coen 55.32 108 *e*P **P 08 09 43.8 -0.3**
comp=Z,67nm,1.8s
COEN LR LR
comp=Z,3µm,18.0s
ZKTA Zakatala 55.40 322 P **P 08 09 44.6 +0.2**
MDJ Mudanjiang 55.42 34 P **P 08 09 43.5 -0.9**
MDJ pP pP 08 09 46.8 -2.3
MDJ PP **PP 08 11 48.5 +0.1**
MDJ S **S 08 17 30.5 +1.8**
MDJ SS **SS 08 21 16.5 +2.9**
MDJ pmax pmax
comp=Z,26nm,1.2s
MDJ pmax pmax
comp=Z,150nm,4.8s
MDJ LR LR
comp=Z,8µm,15.2s
MDJ LR LR
comp=Z,7µm,15.7s
MDJ LR LR
comp=Z,12µm,14.4s
MDJ Mudanjiang 55.42 34 *e*P **P 08 09 44.9 +0.5**
comp=Z,76nm,1.3s
MDJ LR LR
comp=Z,6µm,18.0s
AKTO Aktyubinsk 55.44 336 P **P 08 09 43.0 -1.4**
comp=Z,12nm,1.1s,baz=134,slow=7.3,SNR=17
AKTO LR LR 08 35 38.0
comp=Z,3µm,18.2s,baz=144,slow=38
MAK Makhachkala 55.62 323 *e*P P 08 09 37.5 -8.3
MAK pmax pmax
comp=Z,39nm,0.4s
MAK MLR MLR
comp=Z,3µm,18.0s
BBOO Buckleboo 55.68 132 P **P 08 09 46.7 +0.2**
baz=56,SNR=15
BBOO Buckleboo 55.68 132 *e*P **P 08 09 46.3 -0.2**
comp=Z,89nm,1.6s
BBOO LR LR
comp=Z,4µm,20.0s
GNI Garni 55.79 319 P **P 08 09 47.0 -0.4**
comp=Z,16nm,0.6s,baz=165,slow=4.4,SNR=12
GNI LR LR 08 34 51.2
comp=Z,2µm,20.6s,baz=122,slow=37
GNI Garni 55.79 319 *e*P **P 08 09 47.2 -0.2**
GNI LR LR
comp=Z,2µm,20.0s
GNI Garni 55.79 319 P **P 08 09 50.4 +3.0**
SNR=9.3
GNI Garni 55.79 319 P **P 08 09 50.4 +3.0**
SNR=9.3
GNI Garni 55.79 319⇑ *e*P **P 08 09 47.7 +0.3**
GNI pmax pmax
comp=Z,175nm,1.8s
VLA Vladivostok 55.84 37⇑ *e*P **P 08 09 48.8 +1.4**
VLA pmax pmax
comp=Z,22nm,0.9s
VLA MLR MLR
comp=Z,3µm,14.0s
GUMO Guam 55.91 75 LR LR 08 32 34.2
comp=Z,2µm,21.8s,baz=256,slow=35
GUMO Guam 55.91 75 PFAKE 08 10 00.0 +12
GUMO LR LR
comp=Z,3µm,22.0s
DGRG David-gareji 56.08 321 *e*P **P 08 09 48.7 -0.6**
CBIJ Chichi jima 56.31 58 PFAKE 08 10 00.0 +8.9
CBIJ LR LR
comp=Z,2µm,22.0s
JHJ Hachijo jima 2 56.42 51 LR LR 08 33 34.7
comp=Z,3µm,19.9s,baz=270,slow=36
JHJ2 Mitsune 56.44 51 PFAKE 08 10 00.0 +8.1
JHJ2 LR LR
comp=Z,3µm,18.0s
USRK Ussuriysk Ar. 56.53 36 P **P 08 09 51.9 -0.5**
comp=Z,17nm,0.9s,baz=236,slow=8.5,SNR=14
USRK LR LR 08 37 08.9
comp=Z,4µm,18.1s,baz=219,slow=39
TBLG Delisi 56.63 321 *e*P **P 08 09 54.5 +1.3**
comp=Z,70nm,1.2s
TBLG Delisi 56.63 321 *e*P **P 08 09 54.5 +1.3**
TBLG pmax pmax
comp=Z,70nm,1.2s
MJB9 Matsu-Tunnel 56.65 46 *e*P **P 08 09 52.9 -0.5**
comp=Z,138nm,2.0s
MJB9 LR LR
comp=Z,6µm,22.0s
MAJO Matsushiro 56.65 46 *e*P **P 08 09 53.0 -0.4**
comp=Z,93nm,1.8s
MAJO LR LR
comp=Z,5µm,21.0s
MAJO Matsushiro 56.65 46*de*P **P 08 09 53.5 +0.1**
MAJO pmax pmax
comp=Z,18nm,1.2s
MAJO MLR MLR
comp=Z,5µm,21.0s
MAT Matsushiro 56.65 46 P **P 08 09 53.4 0.0**
MAT S **S 08 17 47.4 +2.0**
MJAR Matsushiro Arr 56.65 46 P **P 08 09 53.7 +0.3**
comp=Z,13nm,0.9s,baz=232,slow=8.1,SNR=30
MJAR LR LR 08 34 00.4
comp=Z,5µm,21.6s,baz=245,slow=36
GROC Groznyy 56.78 323 *e*P **P 08 09 55.7 +1.5**
GROC *e* 08 10 51.8
GROC pmax pmax
comp=Z,91nm,1.4s
DUS Dusheti 56.85 321 *e*P **P 08 09 56.3 +1.5**
AKH Akhalkalaki 57.26 320 *e*P **P 08 10 00.7 +2.9**
comp=Z,28nm,1.1s
AKH LR LR
comp=Z,2µm,19.0s
AKH Akhalkalaki 57.26 320 *e*P **P 08 10 00.7 +2.9**
AKH pmax pmax
comp=Z,28nm,1.1s
AKH MLR MLR
comp=Z,2µm,19.0s
MTSU Mount Surprise 57.33 113 P **P 08 09 60.0 +1.4**
baz=58,SNR=12
ZEI Tsey 57.72 321 *e*P **P 08 10 00.8 -0.3**
ZEI pmax pmax
comp=Z,16nm,0.9s
ONI Oni 57.90 321 *e*P **P 08 10 03.0 +0.8**
ASF Jabal al Asfar 58.03 307 P **P 08 10 04.0 +0.6**
comp=Z,6.9nm,0.9s,baz=64,slow=1.1,SNR=9.5
ASF LR LR 08 35 42.1
comp=Z,4µm,18.2s,baz=67,slow=37
ASF Jabal al Asfar 58.03 307 *e*P **P 08 10 04.0 +0.6**
HTT Hallett 58.10 132 P **P 08 10 04.3 +0.6**
baz=58,SNR=4.5
NCK Nalchik 58.29 322⇑ *e*P **P 08 10 05.2 +0.4**
NCK pmax pmax
comp=Z,16nm,0.9s
CRZF Crozet Islands 58.30 210 *e*P **P 08 10 06.2 +1.4**
comp=Z,424nm,1.7s
PMG Port Moresby 58.39 102 P **P 08 10 06.6 +0.6**
comp=Z,19nm,0.7s,baz=327,slow=8.8,SNR=6.1
PMG LR LR 08 37 25.9
comp=Z,2µm,18.6s,baz=264,slow=38
PMG Port Moresby 58.39 102 *e*P **P 08 10 06.8 +0.8**
comp=Z,32nm,0.9s
PMG LR LR
comp=Z,2µm,18.0s
PMG Port Moresby 58.39 102*de*P **P 08 10 06.9 +0.9**
PMG pmax pmax

PMG MLR MLR
comp=Z,248nm,1.7s
NEY **Neytrino** 58.70 321⇑ *e*P **P** **08 10 08.2 +0.3**
NEY pmax pmax
comp=Z,7µm,16.0s
EIL **Elat** 58.80 304 P **P** **08 10 09.7 +1.0**
comp=Z,4.0nm,0.6s,baz=38,slow=4.0,SNR=4.8
KBZ **Khabaz** 58.84 322 P **P** **08 10 08.1 -0.5**
KBZ LR LR 08 39 40.5
comp=Z,2nm,18.1s,baz=116,slow=40
MBAR **Mbarara** 58.89 268 PFAKE 08 10 20.0 +10
MBAR LR LR
comp=Z,5µm,18.0s
KVAR **Kislovodsk Arr** 59.09 322 P **P** **08 10 09.1 -1.4**
comp=Z,33nm,0.9s,baz=243,slow=2.9,SNR=27
KIV **Kislovodsk** 59.09 322 *e*P **P** **08 10 10.7 +0.2**
KIV LR LR
comp=Z,81nm,1.1s
KIV **Kislovodsk** 59.09 322 P **P** **08 10 10.7 +0.2**
SNR=19
KIV **Kislovodsk** 59.09 322 P **P** **08 10 10.7 +0.2**
SNR=19
KIV **Kislovodsk** 59.09 322 *i* P **P** **08 10 11.7 +1.2**
SNR=7.7
KIV **Kislovodsk** 59.09 322 *e*P **P** **08 10 10.2 -0.3**
KIV *e*S **S** **08 18 17.5 +0.2**
KIV pmax pmax
comp=Z,115nm,5.2s
KIV pmax pmax
comp=Z,50nm,1.0s
KIV MLR MLR
comp=Z,3µm,16.0s
BOD **Bodaibo** 59.20 15 *e*P **P** **08 10 09.8 -1.0**
BOD pmax pmax
comp=Z,67nm,1.4s
KLR **Kul'dur** 59.46 31 LR LR 08 37 24.6
comp=Z,427nm,18.1s,slow=38
KLR **Kul'dur** 59.46 31 *de*P **P** **08 10 12.9 +0.1**
STKA **Stephens Creek** 59.47 129 P **P** **08 10 13.8 +0.6**
comp=Z,40nm,0.9s,baz=305,slow=5.8,SNR=48
STKA LR LR 08 36 35.6
comp=Z,2µm,18.0s,baz=290,slow=37
STKA **Stephens Creek** 59.47 129 P **P** **08 10 13.6 +0.3**
baz=60,SNR=33
STKA **Stephens Creek** 59.47 129 *e*P **P** **08 10 13.8 +0.6**
comp=Z,6.2nm,0.8s
STKA LR LR
comp=Z,800nm,20.0s
MMAI **Mount Meron Ar** 59.51 308 P **P** **08 10 14.5 +0.9**
comp=Z,0.7nm,0.2s,baz=131,slow=11,SNR=5.1
MMAI LR LR 08 36 49.4
comp=Z,8µm,18.2s,baz=115,slow=37
CTA **Charters Tower** 59.59 114 P **P** **08 10 15.0 +0.7**
comp=Z,47nm,1.0s,baz=287,slow=10,SNR=20
CTA LR LR 08 35 42.0
comp=Z,2µm,19.8s,baz=285,slow=36
CTAO **Charters Tower** 59.59 114 *e*P **P** **08 10 15.4 +1.1**
comp=Z,90nm,1.1s
CTAO LR LR
comp=Z,2µm,19.0s
CTAO **Charters Tower** 59.59 114 *e*P **P** **08 10 15.4 +1.1**
CTAO pmax pmax
comp=Z,90nm,1.1s
CTAO MLR MLR
comp=Z,2µm,19.0s
SVE **Sverdlovsk** 59.63 342 *e*P **P** **08 10 13.1 -0.7**
SVE *e*S **S** **08 18 20.9 -2.7**
SVE *e*SS **SS** **08 22 22.6 +3.2**
SVE pmax pmax
comp=Z,90nm,1.4s
SVE MLR MLR
comp=Z,3µm,19.0s
QLP **Quilpie** 59.68 122 P **P** **08 10 16.0 +1.2**
baz=60,SNR=7.8
TEY **Ternei** 59.73 37 *e*P **P** **08 10 11.5 -3.2**
TEY MLR MLR
comp=E,5µm,14.0s
TEY MLR MLR
comp=Z,7µm,13.0s
ARU **Arti** 59.97 341 P **P** **08 10 15.1 -1.1**
comp=Z,5.9nm,0.2s,baz=116,slow=3.4,SNR=16
ARU **Arti** 59.97 341 *e*P **P** **08 10 15.8 -0.4**
comp=Z,43nm,1.1s
ARU LR LR
comp=Z,3µm,19.0s
ARU **Arti** 59.97 341 *d i*P **P** **08 10 15.9 -0.3**
ARU 08 11 03.9
ARU 08 12 28.1
ARU S **S** **08 18 30.2 +2.2**
ARU SS **SS** **08 22 23.3 -1.4**
ARU pmax pmax
comp=Z,56nm,1.7s
ARU MLR MLR
comp=Z,3µm,18.0s
ZEA **Zeya** 60.40 25 *e*P **P** **08 10 19.1 -0.1**
ZEA *e* 08 12 30.0
ZEA *e*S **S** **08 18 33.0 -0.6**
ZEA pmax pmax
comp=Z,29nm,1.0s
ZEA pmax pmax
comp=Z,400nm,6.0s
ZEA pmax pmax
comp=Z,300nm,6.0s
ZEA smax smax
comp=E,600nm,14.0s
ZEA smax smax
comp=N,500nm,12.0s
ZEA MLR MLR
comp=Z,4µm,14.0s
ZEA MLR MLR
comp=N,2µm,13.0s
SOC **Sochi** 60.76 320 *e*P **P** **08 10 20.4 -1.5**
SOC *e* 08 12 35.0
SOC *e*S **S** **08 18 36.1 -2.5**
SOC *e*SS **SS** **08 22 32.2 -5.4**
SOC *e*SSS SSS 08 25 17.8
SOC pmax pmax
comp=Z,31nm,1.0s
ARPS **Mount Arapiles** 61.72 134 P **P** **08 10 29.4 +1.0**
baz=62,SNR=14
CLNS **Chul'man** 61.77 21 *e*P **P** **08 10 31.4 +2.9**
CLNS *e**PP **sP** **08 10 40.6 +5.6**
CLNS *e* 08 11 10.3
CLNS *e* 08 12 49.9
CLNS *e*PPP PPP 08 14 16.0
CLNS *e*S **S** **08 18 56.1 +5.1**
CLNS *e* 08 20 20.7
CLNS pmax pmax
comp=Z,42nm,1.1s
CLNS pmax pmax
comp=N,24nm,1.1s
CLNS pmax pmax
comp=E,24nm,1.0s
CLNS pmax pmax
comp=N,14nm,1.4s
CLNS pmax pmax
comp=Z,13nm,1.3s
CLNS pmax pmax
comp=E,7.0nm,1.2s
CLNS smax smax
comp=N,327nm,13.7s
CLNS smax smax
comp=E,631nm,12.2s
CLNS MLR MLR
comp=Z,3µm,17.0s
CLNS MLR MLR
comp=N,2µm,14.0s
CLNS MLR MLR
comp=E,3µm,15.0s
CSS **Mathiatis** 61.78 309 PFAKE 08 10 40.0 +11
CSS LR LR
comp=Z,2µm,18.0s
ERM **Erimo** 62.48 43 PFAKE 08 10 50.0 +17
ERM LR LR
comp=Z,3µm,18.0s
ERM **Erimo** 62.48 43⇓ *e*P **P** **08 10 34.2 +0.8**
ERM pmax pmax
comp=Z,6.0nm,0.6s
ERM MLR MLR
comp=Z,3µm,17.0s
CMSA **Cobar Meteorol** 62.57 127 P **P** **08 10 35.4 +1.1**
baz=63,SNR=51
ANN **Anapa** 62.78 321 *e*P **P** **08 10 36.2 +0.8**
ANN *e**PP **pP** **08 10 39.5 -0.7**
ANN *e*S **S** **08 19 06.0 +1.9**
ANN *e* 08 20 18.7
ANN *e*SS **SS** **08 23 16.3 +7.1**
ANN *e*SSS SSS 08 25 55.3
ANN pmax pmax
comp=Z,25nm,1.5s
GRNR **Gornyy** 62.80 31 *i* P **P** **08 10 31.7 -3.8**
LSZ **Lusaka** 63.00 252 *e*P **P** **08 10 38.0 +0.4**
comp=Z,61nm,1.5s
LSZ LR LR
comp=Z,8µm,20.0s
LSZ **Lusaka** 63.00 252 P **P** **08 10 38.5 +0.9**
SNR=9.2
LSZ **Lusaka** 63.00 252 P **P** **08 10 38.5 +0.9**
SNR=9.2
LSZ **Lusaka** 63.00 252 *e*P **P** **08 10 38.0 +0.4**
LSZ pmax pmax
comp=Z,61nm,1.5s
LSZ MLR MLR
comp=Z,8µm,20.0s
ASAJ **Asahikawa** 63.02 40 P **P** **08 10 36.3 -0.7**
comp=Z,7.4nm,0.8s,baz=243,slow=10,SNR=4.2
ASAJ LR LR 08 41 25.5
comp=Z,11nm,18.3s,baz=244,slow=39
ASAJ **Asahikawa** 63.02 40 *e*P **P** **08 10 33.1 -3.9**
comp=Z,25nm,1.1s
BR101 **Keskin Array S** 63.23 314 *e*P **P** **08 10 37.8 -0.9**
BR131 **Keskin Array S** 63.23 314 *e*P **P** **08 10 38.0 -0.8**
BRTR **Keskin Array B** 63.23 314 P **P** **08 10 37.8 -0.9**
comp=Z,6.1nm,0.6s,baz=132,slow=7.3,SNR=20
BRTR **Keskin Array B** 63.23 314 P **P** **08 10 37.8 -0.9**
BRTR pmax pmax
comp=Z,8.0nm,0.7s
RMQ **Roma** 63.51 121 P **P** **08 10 42.6 +2.0**
baz=64,SNR=17
VRH **Novokhopyorsk** 63.59 329 *e*P **P** **08 10 39.6 -1.0**
VRH pmax pmax
comp=Z,10.0nm,0.6s
VRH MLR MLR
comp=Z,3µm,16.0s
ILGA **Ilgaz** 63.67 316 *e*P **P** **08 10 42.7 +1.0**
comp=Z,40nm,1.3s
ILGA LR LR
comp=Z,3µm,18.0s
ANTO **Ankara** 63.89 314 *e*P **P** **08 10 42.5 -0.5**
comp=Z,20nm,0.9s
ANTO LR LR
comp=Z,5µm,18.0s
ANTO **Ankara** 63.89 314 P **P** **08 10 43.0 0.0**
SNR=6.6
ANTO **Ankara** 63.89 314 P **P** **08 10 43.0 0.0**
SNR=6.6
ANTO **Ankara** 63.89 314 *e*P **P** **08 10 42.5 -0.5**
ANTO pmax pmax
comp=Z,20nm,0.9s
ANTO MLR MLR
comp=Z,5µm,18.0s
YSS **Yuzh-Sakhalins** 64.40 37 *e*P **P** **08 10 46.0 0.0**
comp=Z,28nm,0.8s
YSS LR LR
comp=Z,1µm,18.0s
YSS **Yuzh-Sakhalins** 64.40 37 *e*P **P** **08 10 42.4 -3.7**
YSS *e* 08 13 06.0
YSS *e*S **S** **08 19 17.0 -7.2**
YSS *e* 08 20 41.0
YSS *e*SS **SS** **08 23 38.0 +3.6**
YSS pmax pmax
comp=Z,300nm,4.0s
YSS MLR MLR
comp=N,1µm,14.0s
YSS MLR MLR
comp=E,2µm,13.0s
TOO **Toolangi** 64.70 133 P **P** **08 10 50.2 +1.9**
baz=65,SNR=9.5
TOO **Toolangi** 64.70 133 P **P** **08 10 50.2 +1.9**
TOO pmax pmax
comp=Z,88nm,1.1s
VORD **Divnogorie** 64.74 327 *e*P **P** **08 10 47.5 -0.7**
VORD pmax pmax
comp=Z,20nm,1.0s
ISP **Isparta** 64.85 311 PFAKE 08 11 00.0 +11
ISP LR LR
comp=Z,4µm,18.0s
VSR **Storozhevoye** 64.94 328 *e*P **P** **08 10 48.0 -1.5**
VSR pmax pmax
comp=Z,30nm,1.3s
VSR MLR MLR
comp=Z,3µm,17.0s
SIM **Simferopol'** 64.97 320 *e*P **P** **08 10 51.8 +1.9**
SIM *e*S **S** **08 19 32.0 +0.7**
SIM pmax pmax
comp=Z,86nm,1.1s
YUK **Yuzh-Kuril'sk** 65.11 41 *e*P P 08 10 42.0 -8.8
YUK *e* 08 13 13.6
YUK pmax pmax
comp=Z,22nm,2.2s
YUK pmax pmax
comp=N,31nm,2.4s
YUK pmax pmax
comp=E,4.0nm,1.2s
EIDS **Eidsvold** 65.23 119 P **P** **08 10 52.9 +1.0**
baz=65,SNR=8.4
EIDS **Eidsvold** 65.23 119 *e*P **P** **08 10 52.2 +0.3**
comp=E,86nm,1.4s
EIDS LR LR
comp=Z,3µm,18.0s
YNG **Young** 65.67 129 P **P** **08 10 55.8 +1.1**
baz=66,SNR=8.5
LPSR **Galich'ya Gora** 65.80 329 *e*P **P** **08 10 54.7 -0.4**
LPSR pmax pmax
comp=Z,30nm,1.0s
TYV **Tymovskoe** 66.20 34 *e*P **P** **08 10 58.7 +1.0**
TYV pmax pmax
comp=Z,400nm,5.0s
TYV pmax pmax
comp=Z,15nm,2.0s
NKL **Nikolayevsk** 66.31 31 *e*P **P** **08 10 58.2 -0.1**
NKL *e* 08 19 48.0
NKL pmax pmax
comp=Z,450nm,5.0s
NKL pmax pmax
comp=N,21nm,1.5s
NKL pmax pmax
comp=Z,100nm,1.5s
NKL MLR MLR
comp=N,3µm,15.0s
NKL MLR MLR
comp=E,7µm,15.0s
NKL MLR MLR
comp=Z,5µm,15.0s
CAN **Canberra** 66.49 130 *e*P **P** **08 11 01.0 +1.1**
comp=Z,123nm,1.6s
CAN LR LR
comp=Z,5µm,22.0s
CAN **Canberra** 66.49 130 *e*P **P** **08 11 01.0 +1.1**
CAN pmax pmax
comp=Z,123nm,1.6s
CAN MLR MLR
comp=Z,5µm,22.0s
MANT **Manisa** 66.53 312 PFAKE 08 11 10.0 +10
MANT LR LR
comp=Z,10µm,19.0s
CNB **Canberra Magne** 66.77 130 P **P** **08 11 02.5 +0.8**
baz=67,SNR=6.0
KARP **Karpathos** 66.77 308 *e*P **P** **08 11 01.5 -0.2**
comp=Z,44nm,1.0s
KARP LR LR
comp=Z,1µm,20.0s
KARP **Karpathos** 66.77 308 P **P** **08 11 02.4 +0.7**
ARMA **Armidale** 67.05 124 P **P** **08 11 04.3 +0.7**
baz=67,SNR=7.1
ARMA **Armidale** 67.05 124 *e*P **P** **08 11 05.6 +1.9**
comp=Z,67nm,1.3s
ARMA LR LR
comp=Z,3µm,19.0s
YAK **Yakutsk** 67.25 19 *e*P **P** **08 11 03.3 -0.8**
comp=Z,90nm,1.1s
YAK LR LR
comp=Z,5µm,18.0s
YAK **Yakutsk** 67.25 19 *e*P **P** **08 11 03.1 -1.1**
YAK *e* 08 11 28.7
YAK *e* 08 13 29.9
YAK *e*PPP PPP 08 15 10.7
YAK *e*S **S** **08 19 55.7 -2.8**
YAK *e**SS sS 08 20 15.9 +10
YAK *e* 08 21 01.5
YAK *e*SS **SS** **08 24 11.8 -6.3**
YAK pmax pmax
comp=Z,27nm,0.9s
YAK pmax pmax
comp=N,6.0nm,1.0s
YAK pmax pmax
comp=E,10.0nm,1.1s
YAK pmax pmax
comp=Z,159nm,4.3s
YAK pmax pmax
comp=N,96nm,3.6s
YAK pmax pmax
comp=E,57nm,4.0s
YAK smax smax
comp=N,114nm,4.1s
YAK smax smax
comp=E,190nm,3.6s
YAK MLR MLR
comp=Z,3µm,17.0s
YAK MLR MLR
comp=N,6µm,20.0s
YAK MLR MLR
comp=E,679nm,18.0s
LBTB **Lobatse** 67.34 242 *e*P **P** **08 11 06.2 +0.6**
comp=E,41nm,1.0s
LBTB **Lobatse** 67.34 242 *e*P **P** **08 11 06.2 +0.6**
LBTB pmax pmax
comp=Z,41nm,1.0s
MOS **Moscow** 68.12 331 *e*P **P** **08 11 09.0 -0.7**
MIR **Mirnyy** 68.15 179⇑ *i*P **P** **08 11 11.0 +1.3**
MIR *i* 08 11 43.0
MIR pmax pmax
comp=Z,44nm,1.2s
TAU **Tasmania Unive** 68.16 138 *e*P **P** **08 11 11.7 +1.4**
comp=Z,268nm,1.9s
TAU **Tasmania Unive** 68.16 138 *e*P **P** **08 11 11.7 +1.4**
TAU pmax pmax
comp=Z,268nm,1.9s
OBN **Obninsk** 68.31 330 PFAKE 08 11 20.0 +9.1
OBN LR LR
comp=Z,4µm,20.0s
OBN **Obninsk** 68.31 330⇓ *e*P **P** **08 11 12.4 +1.5**
OBN *e* 08 13 39.0
OBN *e*S **S** **08 20 10.8 -0.5**
OBN *e*SS **SS** **08 24 30.7 -3.9**
OBN pmax pmax
comp=Z,25nm,1.3s
OBN MLR MLR
comp=Z,3µm,19.0s
SANT **Santorini** 68.32 309 PFAKE 08 11 20.0 +8.5
SANT LR LR
comp=Z,4µm,19.0s
BOSA **Boshof** 68.50 238 P **P** **08 11 12.9 +0.1**
comp=Z,5.7nm,0.6s,baz=100,slow=5.0,SNR=20
BOSA LR LR 08 38 26.9
comp=Z,3µm,19.2s,baz=70,slow=34
BOSA **Boshof** 68.50 238 *e*P **P** **08 11 12.9 +0.1**
comp=Z,48nm,1.3s
BOSA **Boshof** 68.50 238 *e*P **P** **08 11 13.0 +0.1**
BOSA pmax pmax
comp=Z,48nm,1.3s
IDI **Anoyia** 68.50 307 P **P** **08 11 12.9 +0.2**
comp=Z,11nm,0.7s,baz=66,slow=5.9,SNR=8.6
IDI LR LR 08 42 42.6
comp=Z,2µm,20.8s,baz=100,slow=37
IDI **Anoyia** 68.50 307⇓ *i*P **P** **08 11 13.3 +0.6**
IDI **Anoyia** 68.50 307 *e*P **P** **08 11 13.2 +0.6**
comp=Z,37nm,1.1s
IDI LR LR
comp=Z,3µm,21.0s
TIRR **Tirgusor** 68.55 318⇓ *i*P **P** **08 11 12.8 +0.1**
TIRR **Tirgusor** 68.55 318 *e*P **P** **08 11 12.7 0.0**
comp=Z,28nm,1.1s
TIRR LR LR
comp=Z,2µm,20.0s
TIRR **Tirgusor** 68.55 318 *e*P **P** **08 11 12.7 0.0**
TIRR pmax pmax
comp=Z,28nm,1.1s
TIRR MLR MLR
comp=Z,2µm,20.0s
PATS **Pohnpei** 68.67 83 *e*P **P** **08 11 15.4 +1.4**
comp=Z,128nm,1.3s
TLB **Topalu** 68.84 318⇓ *i*P **P** **08 11 14.2 -0.3**
HARR **Harsova** 68.95 318⇑ *i*P **P** **08 11 15.7 +0.5**
CFR **Carcaliu** 68.98 318⇑ *i*P **P** **08 11 15.9 +0.6**
CFR **Carcaliu** 68.98 318 P **P** **08 11 15.6 +0.3**
CFR pmax pmax
comp=Z,23nm,1.8s
ALN **Alexandroupoli** 69.09 313 *e*P **P** **08 11 16.6 +0.4**
comp=Z,16nm,1.1s
ALN **Alexandroupoli** 69.09 313 *e*P **P** **08 11 16.6 +0.4**
ALN pmax pmax
comp=Z,16nm,1.1s
KIS **Kishinev** 69.17 320 *e*P **P** **08 11 16.0 -0.5**
KIS *e*S **S** **08 20 20.0 -1.9**
KIS **Kishinev** 69.17 320 *e*P **P** **08 11 16.0 -0.5**
KIS *e*S **S** **08 20 20.0 -1.9**
KIS *e*PS **PnS** **08 20 54.0 +6.7**
KIS *e* 08 24 50.0
IMMV **Iera Moni Meta** 69.26 307 P **P** **08 11 21.0 +3.6**
CASY **Casey** 69.48 171 *e*P **P** **08 11 19.0 +1.0**
comp=Z,46nm,1.3s
CASY LR LR
comp=Z,5µm,22.0s
SORM **Soroca** 69.87 321⇑ *i*P **P** **08 11 21.3 +0.5**
SORM **Soroca** 69.87 321 P **P** **08 11 21.3 +0.5**
ANKY **Antikythira Is** 69.90 308 P **P** **08 11 21.9 +0.7**
ISR **Istrita** 70.02 318⇑ *i*P **P** **08 11 23.8 +1.9**
KLMR **Klimovskoe** 70.13 336 *e*P **P** **08 11 20.8 -1.3**
KLMR AMP 08 11 29.7
comp=Z,79nm,1.2s
KLMR *e*PcP **PcP** **08 11 43.2 -0.9**
KLMR *e*S **S** **08 20 32.4 -0.3**
KLMR *e*S **S** **08 20 32.4 -0.3**
KLMR LQ LQ 08 38 08.3
KLMR LQ LQ 08 38 08.3
KLMR LR LR 08 42 10.9
KLMR **Klimovskoe** 70.13 336 *e*P **P** **08 11 20.8 -1.3**
KLMR *e* 08 11 43.1
KLMR *e*S **S** **08 20 32.4 -0.3**
KLMR pmax pmax
comp=Z,79nm,1.2s
VRI **Vrincioaia** 70.14 319⇑ *i*P **P** **08 11 23.7 +1.1**
VRI **Vrincioaia** 70.14 319 P **P** **08 11 23.2 +0.6**
PLOR **Plostina** 70.19 319⇓ *i*P **P** **08 11 24.0 +1.1**
PLOR **Plostina** 70.19 319 P **P** **08 11 23.9 +1.1**
AKASG **Malin Array Be** 70.30 324 P **P** **08 11 21.8 -1.6**
comp=Z,4.3nm,0.8s,baz=94,slow=4.8,SNR=18
AKASG LR LR 08 45 55.9
comp=Z,2µm,18.7s,baz=105,slow=39
AKBB **Malin Array Si** 70.30 324 *e*P **P** **08 11 22.7 -0.7**
comp=Z,14nm,0.9s
AKBB LR LR
comp=Z,3µm,20.0s
AKBB **Malin Array Si** 70.30 324 *e*P **P** **08 11 22.7 -0.7**
AKBB pmax pmax
comp=Z,14nm,0.9s
AKBB MLR MLR
comp=Z,3µm,20.0s
KIEV **Kiev** 70.30 324 *e*P **P** **08 11 22.6 -0.7**
comp=Z,15nm,1.0s
KIEV LR LR
comp=Z,3µm,20.0s
KIEV **Kiev** 70.30 324 *i* P **P** **08 11 22.1 -1.4**
SNR=5.9
KIEV **Kiev** 70.30 324 *e*P **P** **08 11 22.7 -0.7**
KIEV pmax pmax
comp=Z,15nm,1.0s
KIEV MLR MLR
comp=Z,3µm,20.0s
SECR **Malin Array Si** 70.31 318⇓ *i*P **P** **08 11 24.9 +1.2**
AK11 **Malin Array Si** 70.32 324 *e*P **P** **08 11 22.6 -0.9**
TESR **Tescani** 70.40 319⇓ *i*P **P** **08 11 23.9 -0.2**
MLR **Muntele Rosu** 70.54 318 P **P** **08 11 25.2 +0.1**
comp=Z,9.5nm,0.8s,baz=166,slow=3.2,SNR=39
MLR LR LR 08 45 38.6
comp=Z,797nm,20.3s,baz=106,slow=39
MLR **Muntele Rosu** 70.54 318⇓ *i*P **P** **08 11 25.3 +0.1**
MLR **Muntele Rosu** 70.54 318 *e*P **P** **08 11 25.2 +0.1**
comp=Z,199nm,1.3s
MLR LR LR
comp=Z,4µm,19.0s
MLR **Muntele Rosu** 70.54 318 *e*P **P** **08 11 25.2 +0.1**
MLR pmax pmax

	comp=Z,199nm,1.3s								
MLR				MLR	MLR				
	comp=Z,4µm,19.0s								
PAIG	**Paliouri**	**70.57 312**		P	**P**	**08 11 27.4**	**+2.1**		
PAIG	**Paliouri**	**70.57 312**		P	**P**	**08 11 27.4**	**+2.1**		
PAIG				pmax	pmax				
	comp=Z,43nm,1.8s								
NVR	**Nevrokopi**	**70.80 313**		P	P	08 11 32.0	+5.2		
DYR	**Agios Nikonas**	**70.86 308**		P	**P**	**08 11 28.6**	**+1.5**		
HNR	**Honiara**	**70.93 101**		P	**P**	**08 11 28.7**	**+0.8**		
	comp=Z,149nm,0.9s,baz=204,slow=8.0,SNR=4.3								
HNR				LR	LR	08 43 12.1			
	comp=Z,970nm,21.5s,baz=268,slow=36								
HNR	**Honiara**	**70.93 101**	*eP*		**P**	**08 11 28.7**	**+0.8**		
HNR				LR	LR				
	comp=Z,2µm,19.0s								
HNR	**Honiara**	**70.93 101**	*eP*		**P**	**08 11 28.7**	**+0.8**		
HNR				MLR	MLR				
	comp=Z,2µm,19.0s								
PRAR	**RASCA**	**70.95 320**	⇓ *iP*		**P**	**08 11 27.9**	**+0.4**		
VOIR		**71.12 318**	⇓ *iP*		**P**	**08 11 29.6**	**+0.9**		
VOIR		**71.12 318**		P	**P**	**08 11 31.3**	**+2.6**		
VOIR				pmax	pmax				
	comp=Z,19nm,1.8s								
ITM	**Ithomi**	**71.26 309**	*eP*		**P**	**08 11 28.6**	**-1.0**		
	comp=Z,141nm,1.5s								
ITM	**Ithomi**	**71.26 309**		P	**P**	**08 11 31.4**	**+1.8**		
KLV	**Kalavryta, Ach**	**71.28 310**		P	**P**	**08 11 31.3**	**+1.5**		
PYL	**PYLOS**	**71.35 308**		P	**P**	**08 11 32.3**	**+2.2**		
AGG	**Agios Georgios**	**71.37 311**		PFAKE		08 11 40.0	+10		
AGG				LR	LR				
	comp=Z,8µm,21.0s								
ARR	**Arges**	**71.38 318**	⇑ *iP*		**P**	**08 11 29.7**	**-0.5**		
LIT	**Litokhoron**	**71.50 312**	*eP*		**P**	**08 11 30.5**	**-0.5**		
	comp=Z,20nm,1.1s								
LIT				LR	LR				
	comp=Z,3µm,19.0s								
LIT	**Litokhoron**	**71.50 312**	*eP*		**P**	**08 11 30.5**	**-0.5**		
LIT				pmax	pmax				
	comp=Z,20nm,1.1s								
LIT				MLR	MLR				
	comp=Z,3µm,19.0s								
AMT	**Artemida-Makis**	**71.51 309**		P	P	08 11 38.4	+7.3		
VTS	**Vitosha**	**71.60 315**	⇓ *iP*		**P**	**08 11 31.4**	**-0.2**		
VTS	**Vitosha**	**71.60 315**	*eP*		**P**	**08 11 31.5**	**-0.2**		
	comp=Z,27nm,1.2s								
VTS				LR	LR				
	comp=Z,2µm,18.0s								
VTS	**Vitosha**	**71.60 315**		P	**P**	**08 11 33.9**	**+2.2**		
VTS	**Vitosha**	**71.60 315**	*eP*		**P**	**08 11 31.5**	**-0.2**		
VTS				pmax	pmax				
	comp=Z,27nm,1.2s								
VTS				MLR	MLR				
	comp=Z,2µm,18.0s								
DRO	**Drossia**	**71.60 309**		P	**P**	**08 11 35.9**	**+4.3**		
MAW	**Mawson**	**71.65 190**		P	**P**	**08 11 31.6**	**+0.4**		
	comp=Z,17nm,1.0s,baz=14,slow=8.8,SNR=10								
MAW				LR	LR	08 36 21.4			
	comp=Z,3µm,21.9s,baz=21,slow=30								
MAW	**Mawson**	**71.65 190**		P	**P**	**08 11 31.8**	**+0.6**		
	baz=72,SNR=8.4								
MAW	**Mawson**	**71.65 190**	*eP*		**P**	**08 11 32.1**	**+0.9**		
	comp=Z,8.4nm,1.4s								
MAW	**Mawson**	**71.65 190**	*eP*		**P**	**08 11 32.1**	**+0.9**		
MAW				pmax	pmax				
	comp=Z,8.0nm,1.4s								
BURAR	**Bucovina Array**	**71.68 320**	⇑ *iP*		**P**	**08 11 33.0**	**+0.9**		
BURAR	**Bucovina Array**	**71.68 320**		P	**P**	**08 11 32.9**	**+0.9**		
BUR04	**Bucovina Ar. S**	**71.69 320**	*eP*		**P**	**08 11 31.8**	**-0.3**		
BUR08	**Bucovina Ar. S**	**71.70 320**	*eP*		**P**	**08 11 32.6**	**+0.4**		
VAY	**Valandovo**	**71.74 313**	*i* P		**P**	**08 11 31.4**	**-0.9**		
GRG	**Griva**	**71.77 313**		P	**P**	**08 11 33.6**	**+1.0**		
GRG				pmax	pmax				
	comp=Z,18nm,0.8s								
FNA	**Florina**	**72.48 312**		PFAKE		08 11 50.0	+13		
FNA				LR	LR				
	comp=Z,3µm,20.0s								
MICGM	**Minsk**	**72.52 327**	*e*		**P**	**08 11 37.0**	**+0.3**		
MICGM			*e*LR		LR	08 40 24.0			
MNK	**Minsk**	**72.52 327**	*eP*		**P**	**08 11 37.0**	**+0.3**		
LKD2	**Lefkada island**	**72.59 310**		P	**P**	**08 11 37.3**	**-0.2**		
TMCR	**Tamitsa**	**72.61 339**	*eP*		**P**	**08 11 37.4**	**+0.4**		
TMCR				pmax	pmax				
	comp=Z,36nm,0.5s								
DEV	**Deva**	**72.69 318**		P	**P**	**08 11 39.8**	**+1.8**		
DEV				pmax	pmax				
	comp=Z,48nm,0.9s								
KRUS	**Krusevo**	**72.71 313**	⇑ *iP*		**P**	**08 11 36.7**	**-1.6**		
LVV	**L'vov**	**73.12 322**	*eP*		**P**	**08 11 41.0**	**+0.6**		
LVV			*e*S		**S**	**08 21 07.1**	**-0.5**		
LVV				MLR	MLR				
	comp=E,1µm,17.0s								
LVV				MLR	MLR				
	comp=N,610nm,16.0s								
LVV				MLR	MLR				
	comp=Z,1µm,16.0s								
SUR	**Sutherland**	**73.12 236**		PFAKE		08 11 50.0	+9.0		
SUR				LR	LR				
	comp=Z,5µm,18.0s								
IDID	**Didziasalis**	**73.44 328**	*eP*		**P**	**08 11 38.9**	**-3.3**		
IDID				IAmb	IAmb	08 11 49.9			
	comp=Z,13nm,0.7s								
BZS	**Buzias**	**73.49 317**		P	**P**	**08 11 43.6**	**+0.9**		
BZS				pmax	pmax				
	comp=Z,23nm,1.5s								
TRPA	**Tarpa**	**73.56 320**	⇓ *iP*		**P**	**08 11 43.5**	**+0.5**		
TSUM	**Tsumeb**	**73.61 250**	*eP*		**P**	**08 11 44.8**	**+0.6**		
	comp=Z,13nm,1.1s								
TSUM				LR	LR				
	comp=Z,4µm,20.0s								
IIGN	**Ignalina**	**73.73 328**	*eP*		**P**	**08 11 40.5**	**-3.4**		
IIGN				IAmb	IAmb	08 11 45.3			
	comp=Z,9.6nm,0.7s								
UZH	**Uzhgorod**	**73.86 320**	*eP*		**P**	**08 11 45.1**	**+0.3**		
UZH			*e*			08 12 04.7			
UZH			*e*S		**SKiKP**	**08 21 12.9**	**-0.8**		
IZAR	**Zarasai**	**73.86 328**	*eP*		**P**	**08 11 41.5**	**-3.2**		
IZAR				IAmb	IAmb	08 11 47.4			
	comp=Z,11nm,0.7s								
KWP	**Kalwaria Pacla**	**73.88 322**		PFAKE		08 12 00.0	+15		
KWP				LR	LR				
	comp=Z,21µm,20.0s								
SKR	**Severo-Kuril's**	**73.97 37**	*eP*		**P**	**08 11 42.8**	**-2.6**		
SKR			*e*			08 12 01.4			
TIXI	**Tiksi**	**74.15 12**	*eP*		**P**	**08 11 44.7**	**-1.3**		
	comp=Z,58nm,1.2s								
TIXI				LR	LR				
	comp=Z,4µm,19.0s								
TIXI	**Tiksi**	**74.15 12**	*de*P		**P**	**08 11 44.6**	**-1.4**		
TIXI				pmax	pmax				
	comp=Z,33nm,1.0s								
TIXI				MLR	MLR				
	comp=Z,3µm,18.0s								
DIVS	**Divibare**	**74.24 315**	*eP*		**P**	**08 11 46.9**	**-0.4**		
	comp=Z,94nm,1.8s								
DIVS				LR	LR				
	comp=Z,2µm,20.0s								
MA2	**Magadan**	**74.29 28**		PFAKE		08 12 00.0	+13		
MA2				LR	LR				
	comp=Z,3µm,20.0s								
PDG	**Podgorica**	**74.40 314**	⇑ *iP*		**P**	**08 11 47.6**	**-0.5**		
TTG	**Podgorica**	**74.40 314**		PFAKE		08 12 00.0	+12		
TTG				LR	LR				
	comp=Z,4µm,18.0s								
CRVS	**Cervenica-Dubn**	**74.46 321**	*eP*		**P**	**08 11 47.9**	**-0.4**		
CRVS	**Cervenica-Dubn**	**74.46 321**	*eP*		**P**	**08 11 47.9**	**-0.4**		
CRVS				pmax	pmax				
	comp=Z,40nm,1.9s								
JOF	**Joensuu**	**74.52 336**		P	**P**	**08 11 49.1**	**+0.8**		
JOF				pmax	pmax				
	comp=Z,26nm,0.9s								
WIN	**Windhoek**	**74.53 246**		P	**P**	**08 11 51.9**	**+2.4**		
VSU	**Vasula**	**74.64 331**	⇓ *eP*		**P**	**08 11 49.1**	**0.0**		
VSU				pmax	pmax				
	comp=Z,72nm,1.2s								
VSU				MLR	MLR				
	comp=Z,6µm,23.0s								
STHS	**Stebnicka Huta**	**74.73 321**	*eP*		**P**	**08 11 50.4**	**+0.5**		
STHS	**Stebnicka Huta**	**74.73 321**	*eP*		**P**	**08 11 50.4**	**+0.5**		
STHS				pmax	pmax				
	comp=Z,15nm,0.9s								
SUW	**Suwalki**	**74.93 326**	*eP*		**P**	**08 11 50.4**	**-0.5**		
SUW	**Suwalki**	**74.93 326**		PFAKE		08 12 00.0	+9.1		
SUW				LR	LR				
	comp=Z,3µm,18.0s								

SUW	**Suwalki**	**74.93 326**	*eP*		**P**	**08 11 50.4**	**-0.5**		
PSZ	**Piszkesteto**	**75.21 319**		PFAKE		08 12 00.0	+7.2		
PSZ				LR	LR				
	comp=Z,2µm,21.0s								
NIE	**Niedzica**	**75.33 321**	*eP*		**P**	**08 11 55.4**	**+2.0**		
NIE	**Niedzica**	**75.33 321**	*eP*		**P**	**08 11 55.4**	**+2.0**		
PEA0B	**Petropavlovsk-**	**75.62 35**		PFAKE		08 12 10.0	+15		
PEA0B				LR	LR				
	comp=Z,3µm,20.0s								
PETK	**Petropavlovsk-**	**75.62 35**		P	**P**	**08 11 54.5**	**-0.4**		
	comp=Z,4.2nm,0.7s,baz=212,slow=1.1,SNR=6.2								
PETK				LR	LR	08 47 08.8			
	comp=Z,2µm,19.8s,baz=242,slow=37								
PETK	**Petropavlovsk-**	**75.62 35**	*eP*		**P**	**08 11 54.9**	**-0.1**		
PETK	**Petropavlovsk-**	**75.62 35**	*eP*		**P**	**08 11 54.9**	**-0.1**		
PEA1	**Petropavlovsk-**	**75.62 35**	*eP*		**P**	**08 11 54.5**	**-0.4**		
TIP	**Timpagrande**	**75.64 310**	⇑ *iP*		**P**	**08 11 55.7**	**+0.3**		
TIP	**Timpagrande**	**75.64 310**	*eP*		**P**	**08 11 54.9**	**-0.6**		
	comp=Z,33nm,1.5s								
TIP				LR	LR				
	comp=Z,4µm,22.0s								
LANS	**Liptovska Anna**	**75.79 320**	*eP*		**P**	**08 11 57.1**	**+1.1**		
LANS	**Liptovska Anna**	**75.79 320**	*eP*		**P**	**08 11 57.1**	**+1.1**		
LVZ	**Lovozero**	**75.84 341**		PFAKE		08 12 10.0	+14		
LVZ				LR	LR				
	comp=Z,4µm,22.0s								
GRI	**Girifalco**	**75.85 310**		P	**P**	**08 11 59.5**	**+2.9**		
OJC	**Ojcow**	**75.85 322**	*eP*		**P**	**08 11 56.8**	**+0.5**		
OJC	**Ojcow**	**75.85 322**	*eP*		**P**	**08 11 56.8**	**+0.5**		
	comp=Z,43nm,1.3s								
OJC	**Ojcow**	**75.85 322**	*eP*		**P**	**08 11 56.8**	**+0.5**		
OJC				pmax	pmax				
	comp=Z,43nm,1.3s								
MATE	**Matera**	**75.94 311**	⇑ *iP*		**P**	**08 11 56.7**	**-0.2**		
VYHS	**Vyhne**	**76.04 320**	*eP*		**P**	**08 11 58.1**	**+0.7**		
VYHS	**Vyhne**	**76.04 320**	*eP*		**P**	**08 11 58.1**	**+0.7**		
VYHS				pmax	pmax				
	comp=Z,15nm,1.4s								
APA	**Apatity**	**76.07 341**	⇑ *iP*		**P**	**08 11 57.1**	**0.0**		
APA				pmax	pmax				
	comp=Z,17nm,1.2s								
FIA1	**FINESS Array S**	**76.10 334**	*eP*		**P**	**08 11 57.5**	**+0.1**		
	comp=Z,25nm,1.0s								
FIA0	**FINESS Array S**	**76.10 334**	*eP*		**P**	**08 11 56.7**	**-0.8**		
FIA0	**FINESS Array S**	**76.10 334**	*eP*		**P**	**08 11 56.7**	**-0.8**		
FINES	**FINESS Array B**	**76.10 334**		P	**P**	**08 11 56.7**	**-0.8**		
	comp=Z,9.4nm,0.8s,baz=106,slow=6.8,SNR=24								
FINES				LR	LR	08 47 42.8			
	comp=Z,2µm,19.3s,baz=116,slow=38								
PET	**Petropavlovsk**	**76.15 36**		PFAKE		08 12 10.0	+12		
PET				LR	LR				
	comp=Z,2µm,18.0s								
PET	**Petropavlovsk**	**76.15 36**	*eP*		P	08 11 50.6	-7.3		
PET			*e*S		S	08 21 31.4	-10		
PET				pmax	pmax				
	comp=Z,100nm,12.1s								
PET				pmax	pmax				
	comp=Z,100nm,7.8s								
PET				MLR	MLR				
	comp=Z,2µm,16.0s								
CEL	**Celeste**	**76.16 309**		PFAKE		08 12 10.0	+12		
CEL				LR	LR				
	comp=Z,2µm,20.0s								
BLY	**Banja Luka**	**76.35 316**		PFAKE		08 12 10.0	+11		
BLY				LR	LR				
	comp=Z,2µm,21.0s								
SEY	**Seymchan**	**76.38 25**	⇑ *eP*		**P**	**08 12 00.5**	**+1.5**		
CUC	**Castrocucco**	**76.50 311**		PFAKE		08 12 10.0	+10		
CUC				LR	LR				
	comp=Z,1µm,20.0s								
KLNR	**Kaliningrad**	**76.77 326**	*de*P		**P**	**08 12 01.0**	**-0.4**		
KLNR				pmax	pmax				
	comp=Z,137nm,1.2s								
KLNR				MLR	MLR				
	comp=Z,3µm,17.0s								
OKC	**Ostrava-Krasne**	**76.79 321**	*eS*		**S**	**08 21 52.4**	**+3.9**		
OKC				AMS	AMS	08 54 30.0			
	comp=Z,2µm,15.3s								
WDD	**Wied Dalam**	**76.91 306**		PFAKE		08 12 10.0	+7.4		
WDD				LR	LR				
	comp=Z,3µm,20.0s								
MODS	**Modra-Piesok**	**77.02 319**	*eP*		**P**	**08 12 00.9**	**-2.1**		
MODS	**Modra-Piesok**	**77.02 319**	*eP*		**P**	**08 12 00.9**	**-2.1**		
MODS				pmax	pmax				
	comp=Z,67nm,1.6s								
MORC	**Moravsky Berou**	**77.16 321**	⇑ *iP*		**P**	**08 12 02.5**	**-1.3**		
MORC	**Moravsky Berou**	**77.16 321**	*eP*		**P**	**08 12 03.0**	**-0.8**		
	comp=Z,179nm,1.6s								
MORC				LR	LR				
	comp=Z,7µm,20.0s								
MORC	**Moravsky Berou**	**77.16 321**	*eP*		**P**	**08 12 03.0**	**-0.8**		
MORC				pmax	pmax				
	comp=Z,179nm,1.6s								
MORC				MLR	MLR				
	comp=Z,7µm,20.0s								
OUL	**Oulu**	**77.62 337**		P	**P**	**08 12 07.0**	**+1.1**		
OUL				pmax	pmax				
	comp=Z,28nm,2.5s								
VRAC	**Vranov**	**77.66 320**		P	**P**	**08 12 06.5**	**-0.1**		
	comp=Z,5.5nm,1.0s,baz=103,slow=6.0,SNR=5.5								
KRLC	**Kraliky**	**77.70 321**	*eP*		**P**	**08 12 07.5**	**+0.7**		
KRLC			*ep*P		**sP**	**08 12 13.7**	**+0.3**		
KRLC	**Kraliky**	**77.70 321**	*eP*		**P**	**08 12 07.5**	**+0.7**		
KRLC			*e*			08 12 13.7			
BOJS	**Bojanci**	**77.83 316**	*eP*		**P**	**08 12 07.5**	**-0.1**		
CONA	**Conrad Observa**	**77.86 319**	*eP*		**P**	**08 12 07.7**	**-0.1**		
	comp=Z,7.0nm,1.2s								
ARSA	**Arzberg**	**77.96 318**	*eP*		**P**	**08 12 08.7**	**+0.4**		
	comp=Z,14nm,1.1s								
DPC	**Dobruska-Polom**	**78.05 321**	*eP*		**P**	**08 12 09.8**	**+1.1**		
DPC			*ep*P		**sP**	**08 12 15.6**	**+0.3**		
DPC			*e*S		**S**	**08 22 01.7**	**-0.6**		
DPC				AMS	AMS	08 51 50.0			
	comp=Z,2µm,16.9s								
DPC	**Dobruska-Polom**	**78.05 321**	*eP*		**P**	**08 12 09.8**	**+1.1**		
DPC			*e*			08 12 15.6			
DPC			*e*S		**S**	**08 22 01.7**	**-0.6**		
DPC				MLR	MLR				
	comp=Z,2µm,16.9s								
PERS	**Pernice**	**78.12 317**	*i* P		P	08 12 15.2	+5.9		
CLTB	**Caltabellotta**	**78.17 308**		PFAKE		08 12 20.0	+10		
CLTB				LR	LR				
	comp=Z,4µm,20.0s								
VISS	**Visnje**	**78.17 316**	*eP*		**P**	**08 12 09.1**	**-0.4**		
KSP	**Ksiaz**	**78.17 322**	*eP*		**P**	**08 12 10.4**	**+1.0**		
KSP	**Ksiaz**	**78.17 322**	*eP*		**P**	**08 12 10.4**	**+1.0**		
VAF	**Ylistaro**	**78.17 335**		P	**P**	**08 12 10.1**	**+1.0**		
VAF				pmax	pmax				
	comp=Z,44nm,1.3s								
SOKA	**Soboth**	**78.19 317**	*eP*		**P**	**08 12 09.7**	**0.0**		
	comp=Z,8.9nm,1.1s								
SYO	**Syowa Base**	**78.23 196**	⇓ *iP*		**P**	**08 12 08.4**	**-0.9**		
SYO	**Syowa Base**	**78.23 196**	⇓ *ep*P		pP	08 12 14.4	+0.3		
UPC	**Upice**	**78.28 321**	*eP*		**P**	**08 12 10.8**	**+0.9**		
UPC			*e*S		**S**	**08 22 00.7**	**-4.0**		
UPC				AMS	AMS	08 52 00.0			
	comp=Z,2µm,17.3s								
UPC	**Upice**	**78.28 321**	*eP*		**P**	**08 12 10.8**	**+0.9**		
UPC			*e*S		**S**	**08 22 00.7**	**-4.0**		
UPC				MLR	MLR				
	comp=Z,2µm,17.3s								
TREC	**Trest**	**78.37 320**		AMS	AMS	08 49 40.0			
	comp=Z,2µm,17.3s								
DZM	**Mont Dzumac**	**78.47 113**		P	**P**	**08 12 11.7**	**0.0**		
	comp=Z,12nm,0.9s,baz=302,slow=8.7,SNR=6.7								
DZM				LR	LR	08 46 56.3			
	comp=Z,2µm,21.4s,baz=241,slow=36								
DZM	**Mont Dzumac**	**78.47 113**	*e*LR		LR	08 36 36.4			
	comp=Z,3µm,21.8s								
DZM	**Mont Dzumac**	**78.47 113**	*eP*		**P**	**08 12 12.9**	**+1.2**		
	comp=Z,100nm,1.8s								
OBKA	**Obir**	**78.49 317**	*eP*		**P**	**08 12 11.2**	**-0.1**		
	comp=Z,8.9nm,1.0s								
AQU	**L'Aquila**	**78.65 313**		PFAKE		08 12 20.0	+7.7		
AQU				LR	LR				
	comp=Z,2µm,19.0s								
MOA	**Molln**	**78.91 318**	*eP*		**P**	**08 12 14.1**	**+0.6**		
	comp=Z,6.5nm,1.1s								
GOPC	**GO Pecny, Ondr**	**78.93 321**	*eP*		**P**	**08 12 14.2**	**+0.6**		
GOPC			*ep*P		**sP**	**08 12 20.0**	**-0.2**		
GOPC			*e*S		**S**	**08 22 10.7**	**-1.1**		
GOPC				AMS	AMS	08 51 30.0			
	comp=Z,1µm,16.6s								
GOPC	**GO Pecny, Ondr**	**78.93 321**	*eP*		**P**	**08 12 14.2**	**+0.6**		
GOPC			*e*			08 12 20.0			

GOPC			*e*S		**S**	**08 22 10.7**	**-1.1**		
GOPC				MLR	MLR				
	comp=Z,1µm,16.6s								
PRU	**Pruhonice**	**79.10 321**	*eP*		**P**	**08 12 15.7**	**+1.2**		
PRU			*ep*P		**sP**	**08 12 21.3**	**+0.2**		
PRU			*e*S		**S**	**08 22 11.4**	**-2.1**		
PRU				AMS	AMS	08 45 10.0			
	comp=Z,2µm,22.6s								
PRU	**Pruhonice**	**79.10 321**	*eP*		**P**	**08 12 15.7**	**+1.2**		
PRU			*e*			08 12 21.3			
PRU			*e*S		**S**	**08 22 11.4**	**-2.1**		
PRU				MLR	MLR				
	comp=Z,2µm,22.6s								
MYKA	**Terra Mystica**	**79.12 317**	*eP*		**P**	**08 12 15.5**	**+0.7**		
	comp=Z,18nm,1.6s								
PVCC	**Panska Ves**	**79.18 321**	*eP*		**P**	**08 12 16.1**	**+1.2**		
PVCC				AMS	AMS	08 52 40.0			
	comp=Z,2µm,16.6s								
PVCC	**Panska Ves**	**79.18 321**	*eP*		**P**	**08 12 16.1**	**+1.2**		
PVCC				MLR	MLR				
	comp=Z,2µm,16.6s								
PRA	**Prague**	**79.19 321**	*e*S		**S**	**08 22 18.9**	**+4.5**		
PRA				AMS	AMS	08 52 40.0			
	comp=Z,1µm,17.0s								
KBA	**Koelnbreinsper**	**79.40 318**	*eP*		**P**	**08 12 15.9**	**-0.5**		
	comp=Z,6.5nm,0.9s								
KBA	**Koelnbreinsper**	**79.40 318**		P	**P**	**08 12 18.2**	**+1.8**		
KBA				pmax	pmax				
	comp=Z,11nm,1.5s								
GEA0	**GERESS Array S**	**79.44 319**	*eP*		**P**	**08 12 16.2**	**-0.3**		
GEC2	**GERESS Array S**	**79.44 319**	*eP*		**P**	**08 12 16.3**	**-0.2**		
	comp=Z,89nm,1.5s								
GEC2				LR	LR				
	comp=Z,2µm,20.0s								
GEC2	**GERESS Array S**	**79.44 319**	*eP*		**P**	**08 12 16.3**	**-0.2**		
GEC2				pmax	pmax				
	comp=Z,89nm,1.5s								
GEC2				MLR	MLR				
	comp=Z,2µm,20.0s								
GERES	**GERESS Array B**	**79.44 319**		P	**P**	**08 12 16.4**	**-0.2**		
	comp=Z,10nm,0.8s,baz=102,slow=5.6,SNR=46								
GERES				LR	LR	08 51 19.8			
	comp=Z,1µm,20.2s,baz=98,slow=39								
ARA0	**ARCESS Array S**	**79.55 341**	*eP*		**P**	**08 12 15.5**	**-1.1**		
ARCES	**ARCESS Array B**	**79.55 341**	*eP*		**P**	**08 12 15.5**	**-1.1**		
	comp=Z,6.4nm,0.6s,baz=99,slow=5.3,SNR=18								
ARCES				LR	LR	08 49 12.6			
	comp=Z,2µm,18.2s,baz=116,slow=37								
ARCES	**ARCESS Array B**	**79.55 341**	*eP*		**P**	**08 12 17.0**	**+0.4**		
ARCES	**ARCESS Array B**	**79.55 341**	*eP*		**P**	**08 12 17.0**	**+0.4**		
KHC	**Kasperske Hory**	**79.57 320**	*eP*		**P**	**08 12 17.6**	**+0.5**		
KHC			*ep*P		**sP**	**08 12 22.3**	**-1.4**		
KHC			*e*S		**S**	**08 22 16.2**	**-2.4**		
KHC				AMS	AMS	08 53 30.0			
	comp=Z,2µm,17.4s								
KHC	**Kasperske Hory**	**79.57 320**	*eP*		**P**	**08 12 17.8**	**+0.7**		
	comp=Z,15nm,1.2s								
KHC				LR	LR				
	comp=Z,700nm,18.0s								
KHC	**Kasperske Hory**	**79.57 320**	*eP*		**P**	**08 12 17.8**	**+0.7**		
KHC				pmax	pmax				
	comp=Z,15nm,1.2s								
KHC				MLR	MLR				
	comp=Z,700nm,18.0s								
BRG	**Berggiesshubel**	**79.64 321**	*eP*		**P**	**08 12 17.0**	**-0.4**		
	comp=Z,5.3nm,0.7s								
BRG			*i*			08 12 20.3			
	comp=Z,48nm,1.7s								
BRG				S	**S**	**08 22 19.0**	**-0.1**		
BRG				SS	**SS**	**08 27 23.0**	**-4.5**		
	comp=N,2µm,16.9s								
	comp=E,968nm,16.5s								
	comp=Z,21µm,16.7s								
BRG	**Berggiesshubel**	**79.64 321**	*eP*		**P**	**08 12 16.7**	**-0.7**		
BRG			*i*			08 12 20.3			
BRG				S	**S**	**08 22 19.0**	**-0.1**		
BRG				SS	**SS**	**08 27 23.0**	**-4.5**		
BRG				pmax	pmax				
	comp=Z,9.0nm,0.7s								
BRG				MLR	MLR				
	comp=N,5µm,16.9s								
BRG				MLR	MLR				
	comp=E,2µm,16.5s								
BRG				MLR	MLR				
	comp=Z,968nm,16.7s								
ABTA	**Abfaltersbach**	**79.91 317**	*eP*		**P**	**08 12 19.5**	**+0.4**		
	comp=Z,9.5nm,1.7s								
SFI	**Santa Sofia**	**79.99 314**		P	**P**	**08 12 20.8**	**+1.3**		
WET	**Wettzell**	**80.03 320**		P	**P**	**08 12 20.3**	**+0.7**		
WET				pmax	pmax				
	comp=Z,34nm,0.8s								
CLL	**Collm**	**80.30 322**	*eP*		**P**	**08 12 20.0**	**-0.9**		
	comp=Z,20nm,1.2s								
CLL			*i* (pP)		**PcP**	**08 12 27.6**	**-0.5**		
CLL			*i* sP		sP	08 12 35.1	+7.6		
CLL			*e*S		**S**	**08 22 27.0**	**+1.0**		
CLL			*e*PS		**PnS**	**08 23 11.0**	**-0.7**		
CLL			*e*SS		**SS**	**08 27 36.0**	**-1.3**		
CLL			*e*SSS		SSS	08 31 06.0			
CLL			LmV			08 51 00.0			

BFO **Black Forest** 82.91 318 *i* P **P** 08 12 35.7 +0.8
SENIN **Lac Senin/Sane** 83.44 316 *e*P **P** 08 12 38.2 +0.3
comp=Z,27nm,0.8s
BILL **Bilibino** 83.45 22*d i*P **P** 08 12 37.1 -0.1
BILL *i* 08 12 44.6
BILL *i* 08 15 52.6
BILL pmax pmax
comp=Z,20nm,1.5s
BILL MLR MLR
comp=Z,4µm,17.0s
KONO **Kongsberg** 83.47 330 PFAKE 08 12 50.0 +13
KONO LR LR
comp=Z,3µm,18.0s
KONO **Kongsberg** 83.47 330⇑ *e*P **P** 08 12 38.9 +1.4
KONO pmax pmax
comp=Z,12nm,1.1s
ECH **Echery** 83.68 318 *e*P **P** 08 12 39.6 +0.7
comp=Z,26nm,1.1s
ECH **Echery** 83.68 318 *e*P **P** 08 12 39.6 +0.7
ECH pmax pmax
comp=Z,26nm,1.1s
BNI **Bardonecchia** 83.78 315 *e*P **P** 08 12 39.6 0.0
comp=Z,19nm,0.9s
BNI **Bardonecchia** 83.78 315 *e*P **P** 08 12 39.6 0.0
BNI pmax pmax
comp=Z,19nm,0.9s
TAM **Tamanrasset** 83.87 293 *e*P **P** 08 12 42.2 +1.7
comp=Z,16nm,1.0s
TAM **Tamanrasset** 83.87 293 *e*P **P** 08 12 42.2 +1.7
TAM pmax pmax
comp=Z,16nm,1.0s
MEM **Membach** 84.61 321 ⇑P **P** 08 12 44.3 +0.8
SPITS **Spitsbergen Ar** 84.92 349 P **P** 08 12 42.3 -2.3
comp=Z,9.6nm,0.7s,baz=65,slow=6.8,SNR=6.3
SPITS LR LR 08 54 40.1
comp=Z,4µm,19.9s,baz=115,slow=39
RPZ **Rata Peaks** 85.00 134 LR LR 08 50 12.9
comp=Z,394nm,18.1s,baz=276,slow=35
SSB **Saint Sauveur** 85.30 315 *e*P **P** 08 12 47.3 +0.1
comp=Z,38nm,1.4s
SSB **Saint Sauveur** 85.30 315 *e*P **P** 08 12 47.3 +0.1
SSB pmax pmax
comp=Z,38nm,1.4s
SMY **Shemya** 85.31 37 *e*P **P** 08 12 48.1 +1.1
comp=Z,88nm,1.0s
SMY LR LR
comp=Z,2µm,21.0s
SMY **Shemya** 85.31 37 *e*P **P** 08 12 48.1 +1.1
SMY pmax pmax
comp=Z,88nm,1.0s
SMY MLR MLR
comp=Z,2µm,21.0s
DOU **Dourbes** 85.48 320 ⇑P **P** 08 12 48.7 +0.9
OXZ **Oxford** 85.66 133 PFAKE 08 13 00.0 +11
OXZ LR LR
comp=Z,2µm,19.0s
SNF **Seneffe** 85.70 320 ⇑P **P** 08 12 48.4 -0.5
KBS **Kingsbay** 85.96 349 PFAKE 08 13 00.0 +10
KBS LR LR
comp=Z,3µm,18.0s
KHZ **Kahutara** 86.67 132 PFAKE 08 13 10.0 +16
KHZ LR LR
comp=Z,3µm,21.0s
TOC2 **Torodi Ar. Sit** 87.54 283 PFAKE 08 13 10.0 +11
TOC2 LR LR
comp=Z,5µm,18.0s
TOC3 **Torodi Ar. Sit** 87.54 283 PFAKE 08 13 10.0 +11
TOC3 LR LR
comp=Z,5µm,18.0s
TOB2 **Torodi Ar. Sit** 87.56 283 PFAKE 08 13 10.0 +11
TOB2 LR LR
comp=Z,5µm,18.0s
TOB3 **Torodi Ar. Sit** 87.56 283 PFAKE 08 13 10.0 +11
TOB3 LR LR
comp=Z,5µm,19.0s
TOC1 **Torodi Ar. Sit** 87.56 283 PFAKE 08 13 10.0 +11
TOC1 LR LR
comp=Z,6µm,18.0s
TOA2 **Torodi Ar. Sit** 87.56 283 PFAKE 08 13 10.0 +11
TOA2 LR LR
comp=Z,5µm,18.0s
TOC4 **Torodi Ar. Sit** 87.56 283 PFAKE 08 13 10.0 +11
TOC4 LR LR
comp=Z,5µm,19.0s
TOA0 **Torodi Ar. Sit** 87.57 283 *e*P **P** 08 12 59.3 +0.4
TOA0 LR LR
comp=Z,5µm,18.0s
TORD **Torodi Ar. Bea** 87.57 283 P **P** 08 12 57.7 -1.2
comp=Z,1.9nm,0.5s,baz=89,slow=5.1,SNR=19
TORD LR LR 08 51 12.5
comp=Z,5µm,18.3s,baz=140,slow=35
TOA3 **Torodi Ar. Sit** 87.57 283 PFAKE 08 13 10.0 +11
TOA3 LR LR
comp=Z,5µm,19.0s
TOA1 **Torodi Ar. Sit** 87.57 283 *e*P **P** 08 12 57.7 -1.2
TOA1 LR LR
comp=Z,5µm,19.0s
NVL **N'lazarevskaya** 87.58 199⇓ *i*P **P** 08 12 58.3 +0.6
NVL *e**PP **pP** 08 13 02.3 -0.3
NVL pmax pmax
comp=Z,51nm,1.0s
TOB4 **Torodi Ar. Sit** 87.58 283 PFAKE 08 13 10.0 +11
TOB4 LR LR
comp=Z,5µm,18.0s
TOB5 **Torodi Ar. Sit** 87.58 283 PFAKE 08 13 10.0 +11
TOB5 LR LR
comp=Z,5µm,18.0s
TOC7 **Torodi Ar. Sit** 87.58 283 PFAKE 08 13 10.0 +11
TOC7 LR LR
comp=Z,5µm,18.0s
TOC5 **Torodi Ar. Sit** 87.59 283 PFAKE 08 13 10.0 +11
TOC5 LR LR
comp=Z,6µm,18.0s
TOC6 **Torodi Ar. Sit** 87.60 283 PFAKE 08 13 10.0 +11
TOC6 LR LR
comp=Z,5µm,19.0s
VNDA **Vanda** 87.86 168 P **P** 08 12 59.0 0.0
comp=Z,6.5nm,1.0s,baz=303,slow=6.0,SNR=24
VNDA LR LR 08 45 31.1
comp=Z,4µm,21.9s,baz=292,slow=31
VNDA **Vanda** 87.86 168 *e*P **P** 08 12 58.7 -0.2
comp=Z,22nm,1.4s
VNDA **Vanda** 87.86 168 P **P** 08 12 59.0 0.0
VNDA pmax pmax
comp=Z,7.0nm,1.0s
BKZ **Black Stump Fm** 88.66 129 PFAKE 08 13 20.0 +16
BKZ LR LR
comp=Z,2µm,20.0s
SBA **Scott Base** 88.96 168 *e*P **P** 08 13 06.0 +1.8
comp=Z,58nm,1.8s
SBA LR LR
comp=Z,3µm,19.0s
SBA **Scott Base** 88.96 168 *e*P **P** 08 13 06.0 +1.8
SBA pmax pmax
comp=Z,58nm,1.8s
SBA MLR MLR
comp=Z,3µm,19.0s
URZ **Urewera** 89.09 128 PKKPbc PKKPbc 08 30 41.9 -2.6
comp=Z,8.8nm,1.0s,baz=63,slow=6.8,SNR=4.0
URZ LR LR 08 53 13.9
comp=Z,2µm,18.9s,baz=269,slow=36
URZ **Urewera** 89.09 128 PFAKE 08 13 20.0 +14
URZ LR LR
comp=Z,3µm,19.0s
MXZ **Matakaoa Point** 90.01 127 PFAKE 08 13 20.0 +10
MXZ LR LR
comp=Z,3µm,19.0s
EKA **Eskdalemuir Ar** 90.18 325 P **P** 08 13 09.5 -0.8
comp=Z,1.7nm,0.6s,baz=92,slow=6.4,SNR=4.7
EKA LR LR 08 57 03.5
comp=Z,1µm,20.4s,baz=90,slow=38
ES19 **SONSECA Array** 91.61 310 *e*P **P** 08 13 18.3 +0.9
QSPA **South Pole Qui** 91.66 180 P **P** 08 13 18.2 +1.2
comp=Z,21nm,1.0s,baz=309,slow=2.7,SNR=27
QSPA LR LR 08 48 18.7
comp=Z,5µm,21.5s,baz=306,slow=32
QSPA **South Pole Qui** 91.66 180 *e*P **P** 08 13 18.2 +1.2
QSPA LR LR
comp=Z,6µm,22.0s
ESDC **Sonseca Array** 91.66 310 P **P** 08 13 17.0 -0.6
comp=Z,0.9nm,0.6s,baz=63,slow=3.8,SNR=6.5
ESDC LR LR 08 56 58.8
comp=Z,763nm,20.6s,baz=245,slow=37
SNAA **Sanae** 92.38 198 P **P** 08 13 21.0 +0.7
SNAA **Sanae** 92.38 198 P **P** 08 13 20.5 +0.2
comp=Z,8.4nm,0.9s,baz=99,slow=4.8,SNR=12
SNAA LR LR 08 49 58.9
comp=Z,976nm,18.0s,baz=90,slow=32
SNAA **Sanae** 92.38 198 *e*P **P** 08 13 20.8 +0.5
comp=Z,12nm,1.0s
SNAA LR LR
comp=Z,2µm,18.0s
SNAA **Sanae** 92.38 198 *e*P **P** 08 13 20.8 +0.5
SNAA pmax pmax
comp=Z,13nm,1.0s
SNAA MLR MLR
comp=Z,2µm,18.0s
RAO **Raoul Island** 93.00 119 LR LR 08 53 20.9
comp=Z,2µm,20.9s,baz=158,slow=34
KOWA **Kowa** 93.07 285 P **P** 08 13 24.9 +0.4
comp=Z,8.7nm,0.7s,baz=94,slow=4.3,SNR=27
KOWA LR LR 08 54 16.7
comp=Z,4µm,18.5s,baz=91,slow=35
KOWA **Kowa** 93.07 285 *e*P **P** 08 13 24.9 +0.4
KOWA LR LR
comp=Z,4µm,20.0s
SFS **San Fernando** 93.66 307 PFAKE 08 13 40.0 +13
SFS LR LR
comp=Z,1µm,20.0s
VNA2 **Neumayer--Watz** 93.89 199 P **P** 08 13 29.7 +2.5
baz=89,slow=5.1
KIC **Kosan Boka** 94.12 276 *e*P **P** 08 13 30.1 +0.7
comp=Z,111nm,1.7s
VNA1 **Neumayer--Stat** 94.21 199 P **P** 08 13 30.2 +1.6
DBIC **Dimbokro** 94.22 277 P **P** 08 13 29.6 -0.3
comp=Z,3.7nm,0.8s,baz=54,slow=4.3,SNR=4.3
DBIC LR LR 08 54 00.5
comp=Z,2µm,20.5s,baz=64,slow=34
DBIC **Dimbokro** 94.22 277 *e*P **P** 08 13 29.2 -0.7
comp=Z,34nm,1.5s
TIC **Toumodi** 94.38 277 *e*P **P** 08 13 31.1 +0.4
RTC **Rabat Centre** 94.41 304 PFAKE 08 13 40.0 +10
RTC LR LR
comp=Z,7µm,20.0s
LIC **Lamto** 94.41 276 *e*P **P** 08 13 26.8 -4.0
comp=Z,61nm,1.4s
VNA3 **Neumayer Olymp** 94.59 199 P **P** 08 13 30.5 +0.1
SCO **Scoresbysund** 95.48 342 PFAKE 08 13 50.0 +16
SCO LR LR
comp=Z,2µm,19.0s
SHEL **Horse Pasture** 95.60 254 PFAKE 08 13 50.0 +14
SHEL LR LR
comp=Z,3µm,19.0s
UNV **Unalaska Valle** 96.81 35 PFAKE 08 13 50.0 +9.2
UNV LR LR
comp=Z,1µm,21.0s
BORG **Borgarnes** 97.26 336 LR LR 09 00 05.7
comp=Z,956nm,18.5s,baz=71,slow=37
AFI **Afiamalu** 98.79 104 LR LR 08 56 55.8
comp=Z,449nm,19.8s,baz=275,slow=34
IM3 **Indian Mountai** 99.01 22 *e*P Pdif 08 13 52.1 +1.6
TOLK **Toolik Lake Re** 99.22 19 P **Pdif** 08 13 51.5 +0.1
baz=300
TOLK **Toolik Lake Re** 99.22 19 *e*P **Pdif** 08 13 53.8 +2.3
comp=Z,33nm,1.8s
TOLK LR LR
comp=Z,3µm,18.0s
COLD **Coldfoot** 99.70 20 PFAKE 08 14 00.0 +6.4
COLD LR LR
comp=Z,3µm,20.0s
SVW2 **Sparrevohn** 100.25 27 PFAKE 08 14 10.0 +14
SVW2 LR LR
comp=Z,2µm,18.0s
CAST **Castle Rocks** 100.77 24 PFAKE 08 14 10.0 +12
CAST LR LR
comp=Z,2µm,22.0s
TULEG **Thule** 100.89 355 PFAKE 08 14 10.0 +11
TULEG LR LR
comp=Z,2µm,19.0s
BPAW **Bear Paw Mtn.** 100.90 23 PFAKE 08 14 10.0 +11
BPAW LR LR
comp=Z,2µm,19.0s
PPLA **Purkeypile** 100.96 24 PFAKE 08 14 10.0 +11
PPLA LR LR
comp=Z,2µm,21.0s
KTH **Kantishna Hill** 101.18 23 PFAKE 08 14 10.0 +10
KTH LR LR
comp=Z,2µm,19.0s
TRF **Thorofare Moun** 101.48 23 PFAKE 08 14 10.0 +8.2
TRF LR LR
comp=Z,2µm,20.0s
SKT **Skwentna** 101.65 25 PFAKE 08 14 10.0 +7.7
SKT LR LR
comp=Z,3µm,19.0s
FYU **Fort Yukon** 101.72 20 PFAKE 08 14 10.0 +7.5
FYU LR LR
comp=Z,2µm,20.0s
MCK **McKinley** 101.87 23 PFAKE 08 14 10.0 +6.7
MCK LR LR
comp=Z,2µm,19.0s
RND **Reindeer** 102.06 23 PFAKE 08 14 20.0 +16
RND LR LR
comp=Z,2µm,20.0s
ILAR **Eielson Array** 102.11 21 P **Pdif** 08 14 03.3 -1.0
comp=Z,0.2nm,0.8s,baz=324,slow=4.5,SNR=2.5
ILAR PP PP 08 18 07.4 -8.3
comp=Z,1.2nm,1.0s,baz=298,slow=6.5,SNR=6.2
ILAR PKKPbc **PKKPbc** 08 30 09.2 -1.2
comp=Z,0.5nm,0.9s,baz=128,slow=1.5,SNR=4.5
DHY **Denali Highway** 102.81 23 PFAKE 08 14 20.0 +12
DHY LR LR
comp=Z,2µm,20.0s
GHO **Glory Hole Cre** 102.83 25 PFAKE 08 14 20.0 +12
GHO LR LR
comp=Z,2µm,19.0s
OHAK **Old Harbor** 102.89 30 PFAKE 08 14 20.0 +12
OHAK LR LR
comp=Z,2µm,19.0s
BRLK **Bradley Lake** 102.93 27 PFAKE 08 14 20.0 +12
BRLK LR LR
comp=Z,3µm,18.0s
KDAK **Kodiak Island** 103.00 29 PFAKE 08 14 20.0 +12
KDAK LR LR
comp=Z,2µm,19.0s
SML **Sawmill** 103.06 24 PFAKE 08 14 20.0 +11
SML LR LR
comp=Z,2µm,20.0s
SCM **Sheep Creek Mo** 103.46 24 PFAKE 08 14 20.0 +9.5
SCM LR LR
comp=Z,2µm,20.0s
PAX **Paxson** 103.60 23 PFAKE 08 14 20.0 +8.9
PAX LR LR
comp=Z,2µm,18.0s
RES **Resolute Bay** 103.67 1 PFAKE 08 14 20.0 +9.0
RES LR LR
comp=Z,1µm,21.0s
ASCN **Ascension** 104.05 262 PFAKE 08 14 30.0 +16
ASCN LR LR
comp=Z,2µm,19.0s
INK **Inuvik** 104.11 15 PKKPbc PKKPbc 08 30 02.1 -2.4
comp=Z,2.0nm,1.1s,baz=110,slow=0.2,SNR=4.6
EGAK **Eagle** 104.14 20 PFAKE 08 14 20.0 +6.7
EGAK LR LR
comp=Z,2µm,21.0s
KLU **Klutina** 104.21 24 PFAKE 08 14 30.0 +16
KLU LR LR
comp=Z,2µm,19.0s
MENT **Mentasta** 104.29 22 PFAKE 08 14 30.0 +16
MENT LR LR
comp=Z,2µm,20.0s
ILULI **Ilulissat** 104.39 346 PFAKE 08 14 30.0 +16
ILULI LR LR
comp=Z,2µm,20.0s
EYAK **Cordova Ski Ar** 104.78 25 PFAKE 08 14 30.0 +14
EYAK LR LR
comp=Z,4µm,18.0s
BMRM **Bremner River** 105.03 24 PFAKE 08 14 30.0 +13
BMRM LR LR
comp=Z,2µm,21.0s
DAWY **Dawson** 105.18 20 PFAKE 08 18 40.0
DAWY LR LR
comp=Z,2µm,21.0s
RAGM **Ragged Mountai** 105.32 25 PFAKE 08 18 40.0
RAGM LR LR
comp=Z,3µm,20.0s
TGL **Tana Glacier** 105.87 24 PFAKE 08 18 50.0
TGL LR LR
comp=Z,2µm,18.0s
BALM **Baldy** 105.91 23 PFAKE 08 18 50.0
BALM LR LR
comp=Z,2µm,19.0s
SFJD **Kangerlussuaq** 105.94 345 PFAKE 08 18 50.0
SFJD LR LR
comp=Z,2µm,19.0s
HYT **Haines Junctio** 107.92 22 PFAKE 08 18 50.0
HYT LR LR
comp=Z,2µm,18.0s
WHY **Whitehorse** 109.00 21 PFAKE 08 18 50.0
WHY LR LR
comp=Z,1µm,19.0s
SKAG **Skagway** 109.63 23 PFAKE 08 18 50.0
SKAG LR LR
comp=Z,2µm,19.0s
HOPE **Hope Point** 111.66 211 PFAKE 08 19 00.0
HOPE LR LR
comp=Z,1µm,21.0s
SACV **Santiago Islan** 111.90 287 PFAKE 08 19 00.0
SACV LR LR
comp=Z,800nm,19.0s
DLBC **Dease Lake** 112.32 21 PKiKP **PKiKP** 08 18 47.7 +1.9
comp=Z,2.3nm,0.9s,baz=284,slow=4.2,SNR=3.3
DLBC **Dease Lake** 112.32 21 PFAKE 08 19 00.0
DLBC LR LR
comp=Z,2µm,20.0s
YKW3 **Yellowknife Ar** 113.33 12 PFAKE 08 19 00.0
YKW3 LR LR
comp=Z,2µm,18.0s
YKA **Yellowknife Ar** 113.40 12 PKiKP **PKiKP** 08 18 47.7 +0.1
comp=Z,0.3nm,0.8s,baz=307,slow=2.4,SNR=4.8
YKA PP **PP** 08 19 33.0 -4.8
comp=Z,0.5nm,0.8s,baz=335,slow=7.9,SNR=5.6
YKA PKKPbc **PKKPbc** 08 29 31.6 -3.2
comp=Z,0.8nm,1.1s,baz=145,slow=3.4,SNR=7.7
YKA PKKP **PKKPdf** 08 29 53.8 -1.9
comp=Z,0.4nm,1.0s,baz=146,slow=4.1,SNR=3.7
PMSA **Palmer Station** 114.24 192 PFAKE 08 19 00.0 +11
PMSA LR LR
comp=Z,200nm,20.0s
TBI **Tubuai** 118.95 116 *e*SS SS 08 36 36.8 -1.9
comp=Z,746nm,30.2s
FCC **Fort Churchill** 119.64 2 PFAKE 08 19 10.0 +10
FCC LR LR
comp=Z,2µm,22.0s
PPT2 **Papeete2** 119.84 109 *e*SS SS 08 36 50.1 -0.5
comp=Z,438nm,28.0s
PPT2 **Papeete2** 119.84 109 *e*LQ LQ 08 50 36.8
comp=Z,1µm,27.5s
PPT2 *e*LR LR 08 55 46.3
comp=Z,1µm,24.0s
SCHQ **Schefferville** 120.39 344 PFAKE 08 19 10.0 +8.6
SCHQ LR LR
comp=Z,2µm,22.0s
EDM **Edmonton** 121.99 16 *e*PKPdf **PKPdf** 08 19 04.6 0.0
EDM LR LR
comp=Z,2µm,19.0s
EDM **Edmonton** 121.99 16 *e*PKIKP **PKPdf** 08 19 04.6 0.0
EDM MLR MLR
comp=Z,2µm,19.0s
FFC **Flin Flon** 122.95 8 PFAKE 08 19 20.0 +14
FFC LR LR
comp=Z,1µm,20.0s
B05A **Bryant** 123.11 25 P **PKPdf** 08 19 06.7 0.0
baz=321
B06A **Marblemount** 123.17 24 PFAKE 08 19 20.0 +13
B06A LR LR
comp=Z,1µm,20.0s
B08A **Colville Reser** 124.16 23 PFAKE 08 19 20.0 +11
B08A LR LR
comp=Z,2µm,21.0s
C09A **Chrisman Ranch** 125.02 23 PFAKE 08 19 20.0 +9.5
C09A LR LR
comp=Z,2µm,21.0s
NEW **Newport** 125.07 22 PFAKE 08 19 20.0 +9.4
NEW LR LR
comp=Z,2µm,19.0s
D08A **Wollman Farm,** 125.37 24 PFAKE 08 19 20.0 +8.8
D08A LR LR
comp=Z,2µm,19.0s
COR **Corvallis** 125.38 28 PFAKE 08 19 20.0 +8.8
COR LR LR
comp=Z,1µm,22.0s
RCBR **Riachuelo** 125.48 264 PFAKE 08 19 20.0 +7.7
RCBR LR LR
comp=Z,2µm,18.0s
WALA **Waterton Lakes** 125.50 19 PFAKE 08 19 20.0 +8.5
WALA LR LR
comp=Z,2µm,19.0s
F07A **Phinny Hill Vi** 125.89 25 PFAKE 08 19 20.0 +7.8
F07A LR LR
comp=Z,1µm,21.0s
G06A **Carlson Farm,** 126.11 26 PFAKE 08 19 20.0 +7.3
G06A LR LR
comp=Z,900nm,21.0s
E09A **Wood Farm, Sta** 126.13 23 PFAKE 08 19 20.0 +7.4
E09A LR LR
comp=Z,1µm,21.0s
I04A **Tendick Farm,** 126.40 28 P **PKPdf** 08 19 13.0 -0.3
baz=319
JTMT **Jette** 126.51 20 PFAKE 08 19 30.0 +16
JTMT LR LR
comp=Z,2µm,18.0s
F10A **Beach Ranch, E** 126.93 23 PFAKE 08 19 30.0 +16
F10A LR LR
comp=Z,2µm,22.0s
PINE **Pine Mountain** 127.09 27 PFAKE 08 19 30.0 +15
PINE LR LR
comp=Z,900nm,20.0s
J05D **Fort Rock, OR** 127.34 28 P **PKPdf** 08 19 14.9 -0.3
baz=320
MSO **Missoula** 127.42 20 P **PKPdf** 08 19 15.4 +0.1
baz=330
MSO **Missoula** 127.42 20 PFAKE 08 19 30.0 +15
MSO LR LR
comp=Z,1µm,19.0s
EGMT **Eagleton** 127.67 16 P **PKPdf** 08 19 16.0 +0.3
baz=335,SNR=6.4
EGMT **Eagleton** 127.67 16 *e*PKPdf **PKPdf** 08 19 16.5 +0.9
EGMT LR LR
comp=Z,1µm,20.0s
BMO **Blue Mountains** 127.83 24 PFAKE 08 19 30.0 +14
BMO LR LR
comp=Z,1µm,19.0s
ULM **Lac du Bonnet** 128.03 4 PKP **PKPdf** 08 19 15.9 -0.2
comp=Z,2.0nm,0.7s,baz=90,slow=1.9,SNR=2.5
M04C **Macdoel** 128.19 30 P **PKPdf** 08 19 16.8 -0.1
baz=319
N02D **Trinity Center** 128.35 31 P **PKPdf** 08 19 17.4 +0.3
baz=317
J08A **Circle Bar Ran** 128.54 26 PFAKE 08 19 30.0 +12
J08A LR LR
comp=Z,1µm,21.0s
DGMT **Dagmar** 128.60 12 P **PKPdf** 08 19 17.3 0.0
baz=342
DGMT **Dagmar** 128.60 12 PFAKE 08 19 30.0 +13
DGMT LR LR
comp=Z,2µm,22.0s
MOD **Modoc Plateau** 128.84 29 *e*PKPdf **PKPdf** 08 19 19.1 +1.0
DLMT **Dillon** 129.16 20 *e*PKPdf **PKPdf** 08 19 20.6 +2.0
DLMT LR LR
comp=Z,1µm,21.0s
WVOR **Wild Horse Val** 129.20 27 *e*PKPdf **PKPdf** 08 19 21.2 +2.4
WVOR LR LR
comp=Z,900nm,19.0s
WVOR **Wild Horse Val** 129.20 27 *e*PKIKP **PKPdf** 08 19 21.2 +2.4
WVOR MLR MLR
comp=Z,900nm,19.0s
BOZ **Bozeman (W)** 129.28 19 P **PKPdf** 08 19 18.6 -0.3
baz=332
BOZ **Bozeman (W)** 129.28 19 PFAKE 08 19 30.0 +11
BOZ LR LR
comp=Z,2µm,20.0s
A32A **Rocking H Ranc** 129.30 5 P **PKPdf** 08 19 19.0 +0.3
baz=352
O03D **Paynes Creek** 129.31 31 P **PKPdf** 08 19 19.2 +0.1
baz=318
A33A **Warroad** 129.37 4 P **PKPdf** 08 19 19.2 +0.4
baz=354
PKME **Peaks-Kenny Pk** 129.61 341 PFAKE 08 19 30.0 +11
PKME LR LR
comp=Z,2µm,20.0s
MFID **Camas Ranch** 129.61 24 *e*PKPdf **PKPdf** 08 19 22.4 +2.8
MFID LR LR
comp=Z,1µm,21.0s
B31A **Greenbush Farm** 129.67 6 P **PKPdf** 08 19 19.7 +0.3
baz=351
B32A **Ashes, Strandq** 129.81 5 P **PKPdf** 08 19 20.2 +0.6
baz=352

LAO	**LASA Array**	129.84	14	P	PKPdf	08 19 20.3	+0.5		
	baz=339								
LAO	**LASA Array**	129.84	14	*e*PKPdf	PKPdf	08 19 21.5	+1.7		
LAO				LR	LR				
	comp=Z,2µm,21.0s								
GDXM	**Geysers**	129.87	33	PFAKE		08 19 30.0	+10		
GDXM				LR	LR				
	comp=Z,1µm,21.0s								
AGMN	**Agassiz Nation**	129.97	5	PFAKE		08 19 30.0	+10		
AGMN				LR	LR				
	comp=Z,1µm,21.0s								
MDND	**Maddock**	130.00	8	PFAKE		08 19 30.0	+10		
MDND				LR	LR				
	comp=Z,2µm,22.0s								
TAOE	**Nuku Hiva Isla**	130.01	100	*e*SS	SS	08 39 02.0	+2.8		
	comp=Z,947nm,27.1s								
TAOE	**Nuku Hiva Isla**	130.01	100	*e*LQ	LQ	08 54 24.2			
TAOE	comp=Z,1µm,35.6s								
				*e*LR	LR	09 00 29.3			
	comp=Z,1µm,23.6s								
HLID	**Hailey**	130.05	23	P	PKPdf	08 19 20.8	+0.4		
	baz=328								
HLID	**Hailey**	130.05	23	*e*PKPdf	PKPdf	08 19 22.1	+1.6		
HLID				LR	LR				
	comp=Z,2µm,20.0s								
B35A	**Bob, Littlefor**	130.05	3	P	PKPdf	08 19 20.6	+0.5		
	baz=356								
YHB	**Horse Butte**	130.17	19	PFAKE		08 19 30.0	+9.3		
YHB				LR	LR				
	comp=Z,1µm,20.0s								
YHH	**Holmes Hill**	130.25	19	PFAKE		08 19 30.0	+9.0		
YHH				LR	LR				
	comp=Z,2µm,19.0s								
C31A	**Landman Farms,**	130.29	6	P	PKPdf	08 19 21.2	+0.7		
	baz=350								
BEKR	**Beckworth**	130.37	30	*e*PKPdf	PKPdf	08 19 23.0	+1.8		
BEKR				LR	LR				
	comp=Z,700nm,20.0s								
RLMT	**Red Lodge**	130.45	18	PFAKE		08 19 30.0	+8.8		
RLMT				LR	LR				
	comp=Z,2µm,21.0s								
EYMN	**Ely**	130.54	1	PFAKE		08 19 30.0	+9.0		
EYMN				LR	LR				
	comp=Z,3µm,20.0s								
LKWY	**Lake**	130.60	19	PFAKE		08 19 30.0	+8.4		
LKWY				LR	LR				
	comp=Z,1µm,21.0s								
C36A	**Pine Crest Far**	130.69	2	P	PKPdf	08 19 21.7	+0.4		
	baz=357								
H17A	**Grant Village**	130.69	19	P	PKPdf	08 19 21.8	0.0		
	baz=333								
H17A	**Grant Village**	130.69	19	PFAKE		08 19 30.0	+8.2		
H17A				LR	LR				
	comp=Z,2µm,22.0s								
YPP	**Pitchstone Pla**	130.73	19	PFAKE		08 19 30.0	+8.1		
YPP				LR	LR				
	comp=Z,2µm,22.0s								
IMW	**Indian Meadow**	131.01	20	PFAKE		08 19 30.0	+7.6		
IMW				LR	LR				
	comp=Z,1µm,19.0s								
RUBR	**Rubicon Trail**	131.08	31	PFAKE		08 19 30.0	+7.4		
RUBR				LR	LR				
	comp=Z,1µm,22.0s								
VCNR	**Virginia City**	131.16	30	PFAKE		08 19 30.0	+7.3		
VCNR				LR	LR				
	comp=Z,800nm,20.0s								
MOOW	**Moose Ponds**	131.21	20	*e*PKPdf	PKPdf	08 19 25.7	+2.9		
MOOW				LR	LR				
	comp=Z,1µm,21.0s								
FXWY	**Fox Creek**	131.21	20	*e*PKPdf	PKPdf	08 19 24.1	+1.4		
D34A	**Park Rapids**	131.23	4	P	PKPdf	08 19 22.7	+0.4		
	baz=354								
FRNY	**Flat Rock**	131.30	344	PFAKE		08 19 30.0	+7.5		
FRNY				LR	LR				
	comp=Z,2µm,21.0s								
LBNH	**Lisbon**	131.36	342	P	PKPdf	08 19 22.9	+0.2		
	baz=25								
LBNH	**Lisbon**	131.36	342	PFAKE		08 19 30.0	+7.3		
LBNH				LR	LR				
	comp=Z,1µm,19.0s								
LOHW	**Long Hollow**	131.38	20	*e*PKPdf	PKPdf	08 19 24.5	+1.5		
BMN	**Battle Mountai**	131.44	27	PFAKE		08 19 30.0	+6.8		
BMN				LR	LR				
	comp=Z,900nm,19.0s								
SNOW	**Snow King Moun**	131.46	20	*e*PKPdf	PKPdf	08 19 24.9	+1.7		
REDW	**Red Top Meadow**	131.52	20	*e*PKPdf	PKPdf	08 19 24.9	+1.5		
YERR	**Yerington**	131.60	30	PFAKE		08 19 40.0	+16		
YERR				LR	LR				
	comp=Z,1µm,21.0s								
CMB	**Columbia Colle**	131.72	32	PFAKE		08 19 40.0	+16		
CMB				LR	LR				
	comp=Z,800nm,20.0s								
LONY	**Lake Ozonia**	131.76	345	PFAKE		08 19 40.0	+17		
LONY				LR	LR				
	comp=Z,1µm,22.0s								
RKT	**Rikitea**	131.85	120	*e*SS	SS	08 39 19.6	-0.9		
	comp=Z,317nm,28.0s								
RKT	**Rikitea**	131.85	120	*e*LR	LR	09 01 22.4			
	comp=Z,1µm,28.0s								
WAKR	**Walker**	131.86	31	PFAKE		08 19 40.0	+16		
WAKR				LR	LR				
	comp=Z,1µm,22.0s								
AHID	**Auburn Hatcher**	131.96	20	PFAKE		08 19 40.0	+16		
AHID				LR	LR				
	comp=Z,2µm,18.0s								
PLVO	**Plevna**	131.97	347	PFAKE		08 19 40.0	+16		
PLVO				LR	LR				
	comp=Z,2µm,20.0s								
E41A	**Kenton**	132.01	359	P	PKPdf	08 19 24.2	+0.4		
	baz=1.9								
KVN	**Kaiserville**	132.11	29	PFAKE		08 19 40.0	+15		
KVN				LR	LR				
	comp=Z,900nm,20.0s								
E39A	**Mellen**	132.12	0	P	PKPdf	08 19 24.9	+0.9		
	baz=360								
HVU	**Hansel Valley**	132.20	23	PFAKE		08 19 40.0	+15		
HVU				LR	LR				
	comp=Z,1µm,18.0s								
RYN	**Ryan**	132.23	30	PFAKE		08 19 40.0	+15		
RYN				LR	LR				
	comp=Z,800nm,20.0s								
COWI	**Conover**	132.38	359	PFAKE		08 19 40.0	+15		
COWI				LR	LR				
	comp=Z,2µm,20.0s								
BW06	**Boulder Array**	132.48	19	P	PKPdf	08 19 26.0	+0.8		
	baz=334								
BW06	**Boulder Array**	132.48	19	*e*PKPdf	PKPdf	08 19 25.9	+0.8		
BW06				LR	LR				
	comp=Z,2µm,21.0s								
PD31	**Pinedale Array**	132.48	19	*e*PKPdf	PKPdf	08 19 25.9	+0.8		
PDAR	**Pinedale Array**	132.48	19	PKP	PKPdf	08 19 24.5	-0.6		
	comp=Z,1.4nm,0.7s,baz=214,slow=0.7,SNR=8.3								
PDAR	**Pinedale Array**	132.48	19	*e*PKPdf	PKPdf	08 19 25.0	-0.1		
NV01	**Mina Array Sit**	132.49	30	*e*PKPdf	PKPdf	08 19 25.9	+0.6		
NVAR	**Mina Array Bea**	132.49	30	PKP	PKPdf	08 19 24.9	-0.3		
	comp=Z,1.8nm,0.7s,baz=301,slow=2.2,SNR=11								
F36A	**Milaca**	132.55	3	P	PKPdf	08 19 25.9	+1.0		
	baz=356								
NV11	**Mina Array Sit**	132.56	30	PFAKE		08 19 40.0	+15		
NV11				LR	LR				
	comp=Z,100nm,19.0s								
F39A	**Loretta**	132.58	0	P	PKPdf	08 19 26.2	+1.3		
	baz=359								
F45A	**CMU Biological**	132.61	355	P	PKPdf	08 19 26.0	+1.0		
	baz=6.6								
SADO	**Sadowa**	132.65	349	PFAKE		08 19 40.0	+15		
SADO				LR	LR				
	comp=Z,2µm,22.0s								
MDPB	**Devils Postpil**	132.71	31	PFAKE		08 19 40.0	+14		
MDPB				LR	LR				
	comp=Z,600nm,22.0s								
SPUT	**South Promonto**	132.73	23	PFAKE		08 19 40.0	+14		
SPUT				LR	LR				
	comp=Z,1µm,19.0s								
OMMB	**Old Mammoth Mi**	132.76	31	PFAKE		08 19 40.0	+14		
OMMB				LR	LR				
	comp=Z,700nm,18.0s								
RSSD	**Black Hills**	132.77	13	PFAKE		08 19 40.0	+14		
RSSD				LR	LR				
	comp=Z,2µm,22.0s								
HWUT	**Hardware Ranch**	132.80	22	*e*PKPdf	PKPdf	08 19 28.1	+2.4		
HWUT				LR	LR				
	comp=Z,1µm,18.0s								
HRV	**Adam Dziewonsk**	132.81	341	PFAKE		08 19 40.0	+15		
HRV				LR	LR				
	comp=Z,1µm,20.0s								
BGU	**Big Grassy Mou**	132.83	23	PFAKE		08 19 40.0	+14		
BGU				LR	LR				
	comp=Z,900nm,19.0s								
SPB	**Sao Paulo**	133.05	239	PFAKE		08 19 40.0	+14		
SPB				LR	LR				
	comp=Z,3µm,19.0s								
G43A	**Wallace**	133.18	357	PFAKE		08 19 40.0	+14		
G43A				LR	LR				
	comp=Z,2µm,21.0s								
G42A	**Mountain**	133.22	358	PFAKE		08 19 40.0	+14		
G42A				LR	LR				
	comp=Z,1µm,18.0s								
SPMN	**Marine on St.**	133.22	2	PFAKE		08 19 40.0	+14		
SPMN				LR	LR				
	comp=Z,2µm,21.0s								
GLMI	**Grayling**	133.38	354	PFAKE		08 19 40.0	+14		
GLMI				LR	LR				
	comp=Z,2µm,20.0s								
K22A	**Casper**	133.51	16	P	PKPdf	08 19 27.9	+0.9		
	baz=338								
K22A	**Casper**	133.51	16	PFAKE		08 19 40.0	+13		
K22A				LR	LR				
	comp=Z,1µm,20.0s								
DUG	**Dugway, Tooele**	133.54	24	P	PKPdf	08 19 28.1	+1.0		
	baz=328								
DUG	**Dugway, Tooele**	133.54	24	PKIKP	PKPdf	08 19 30.4	+3.3		
H35A	**Sunnyside Ranc**	133.63	4	P	PKPdf	08 19 28.4	+1.4		
	baz=354								
R11A	**Troy Canyon, C**	133.87	28	P	PKPdf	08 19 28.7	+0.9		
	baz=324								
R11A	**Troy Canyon, C**	133.87	28	PFAKE		08 19 40.0	+12		
R11A				LR	LR				
	comp=Z,900nm,21.0s								
H41A	**Junction City**	133.87	359	PFAKE		08 19 40.0	+13		
H41A				LR	LR				
	comp=Z,3µm,20.0s								
H42A	**Shiocton**	133.96	358	PFAKE		08 19 40.0	+12		
H42A				LR	LR				
	comp=Z,2µm,21.0s								
H43A	**Windswept, Lux**	133.97	357	PFAKE		08 19 40.0	+12		
H43A				LR	LR				
	comp=Z,2µm,18.0s								
VES	**Vestal, Richgr**	134.05	33	P	PKPdf	08 19 29.1	+1.1		
	baz=318								
I33A	**Coleman**	134.09	6	P	PKPdf	08 19 29.1	+1.2		
	baz=351								
CWC	**Cottonwood Cre**	134.13	31	P	PKPdf	08 19 29.5	+1.1		
	baz=320								
RWWY	**Rawlins**	134.19	18	PFAKE		08 19 40.0	+12		
RWWY				LR	LR				
	comp=Z,1µm,20.0s								
YLE	**Yale**	134.33	342	PFAKE		08 19 40.0	+12		
YLE				LR	LR				
	comp=Z,1µm,20.0s								
MMNY	**Mt. Morris Dam**	134.35	347	PFAKE		08 19 40.0	+12		
MMNY				LR	LR				
	comp=Z,2µm,20.0s								
BINY	**Binghamton**	134.39	345	PFAKE		08 19 40.0	+12		
BINY				LR	LR				
	comp=Z,900nm,20.0s								
ECSD	**EROS Data Cent**	134.42	6	*e*PKPdf	PKPdf	08 19 29.9	+1.4		
ECSD				LR	LR				
	comp=Z,2µm,21.0s								
I35A	**Creekview Farm**	134.45	5	P	PKPdf	08 19 29.4	+0.9		
	baz=354								
ISA	**Isabella, Lake**	134.51	32	PFAKE		08 19 40.0	+11		
ISA				LR	LR				
	comp=Z,1µm,21.0s								
I42A	**Draeger Farm,**	134.59	358	PFAKE		08 19 40.0	+11		
I42A				LR	LR				
	comp=Z,2µm,20.0s								
TPNV	**Topopah Spring**	134.66	29	PFAKE		08 19 40.0	+11		
TPNV				LR	LR				
	comp=Z,900nm,22.0s								
MPMC	**Manual Prospec**	134.73	31	P	PKPdf	08 19 29.9	+0.4		
	baz=320								
FURC	**Furnace Creek,**	134.74	30	P	PKPdf	08 19 30.1	+0.8		
	baz=321								
PAL	**Palisades**	134.91	342	PFAKE		08 19 40.0	+11		
PAL				LR	LR				
	comp=Z,2µm,22.0s								
TCRU	**Three Creeks R**	135.03	25	PFAKE		08 19 40.0	+10		
TCRU				LR	LR				
	comp=Z,900nm,20.0s								
ODNJ	**Ogdensburg**	135.04	343	PFAKE		08 19 40.0	+10		
ODNJ				LR	LR				
	comp=Z,2µm,20.0s								
PHWY	**Pilot Hill**	135.06	16	PFAKE		08 19 40.0	+10		
PHWY				LR	LR				
	comp=Z,2µm,20.0s								
LRMC	**Laurel Mtn Rad**	135.07	32	P	PKPdf	08 19 31.0	+0.9		
	baz=320								
O20A	**White River Ci**	135.28	19	PFAKE		08 19 40.0	+10		
O20A				LR	LR				
	comp=Z,1µm,20.0s								
N23A	**Red Feather La**	135.30	17	PFAKE		08 19 40.0	+9.4		
N23A				LR	LR				
	comp=Z,2µm,21.0s								
ERPA	**Erie**	135.37	349	PFAKE		08 19 40.0	+10		
ERPA				LR	LR				
	comp=Z,2µm,22.0s								
BRNJ	**Basking Ridge**	135.40	343	PFAKE		08 19 40.0	+10		
BRNJ				LR	LR				
	comp=Z,1µm,21.0s								
TRQA	**Tornquist**	135.41	212	PFAKE		08 19 40.0	+10		
TRQA				LR	LR				
	comp=Z,2µm,20.0s								
CCUT	**Cedar City**	135.53	26	PFAKE		08 19 40.0	+9.0		
CCUT				LR	LR				
	comp=Z,1µm,22.0s								
N59A	**State Game Lan**	135.53	344	PFAKE		08 19 40.0	+9.3		
N59A				LR	LR				
	comp=Z,2µm,22.0s								
JFWS	**Jewell Farm**	135.58	360	P	PKPdf	08 19 31.3	+0.7		
	baz=0.2								
JFWS	**Jewell Farm**	135.58	360	PFAKE		08 19 40.0	+9.3		
JFWS				LR	LR				
	comp=Z,3µm,21.0s								
K37A	**Belmond**	135.63	3	P	PKPdf	08 19 31.9	+1.1		
	baz=355								
LUPA	**Lehigh Univers**	135.71	344	PFAKE		08 19 40.0	+9.0		
LUPA				LR	LR				
	comp=Z,100nm,21.0s								
AAM	**Ann Arbor**	135.77	353	PFAKE		08 19 40.0	+9.0		
AAM				LR	LR				
	comp=Z,2µm,22.0s								
ALLY	**Alegheny Colle**	135.85	349	PFAKE		08 19 40.0	+8.8		
ALLY				LR	LR				
	comp=Z,2µm,21.0s								
M54A	**Oil Creek Stat**	135.89	348	PFAKE		08 19 40.0	+8.7		
M54A				LR	LR				
	comp=Z,2µm,21.0s								
LCMT	**Little Creek M**	136.03	27	PFAKE		08 19 40.0	+8.1		
LCMT				LR	LR				
	comp=Z,1µm,20.0s								
OGNE	**Ogallala**	136.25	13	PFAKE		08 19 40.0	+7.9		
OGNE				LR	LR				
	comp=Z,1µm,20.0s								
SSPA	**Standing Stone**	136.34	346	PFAKE		08 19 40.0	+7.9		
SSPA				LR	LR				
	comp=Z,2µm,20.0s								
PSUB	**Penn St. - Bra**	136.36	343	PFAKE		08 19 40.0	+7.8		
PSUB				LR	LR				
	comp=Z,2µm,21.0s								
ISCO	**Idaho Springs**	136.40	17	PFAKE		08 19 40.0	+7.3		
ISCO				LR	LR				
	comp=Z,2µm,19.0s								
PAGS	**Pennsylvania G**	136.43	345	PFAKE		08 19 40.0	+7.7		
PAGS				LR	LR				
	comp=Z,2µm,20.0s								
N54A	**Moraine State**	136.48	349	PFAKE		08 19 40.0	+7.6		
N54A				LR	LR				
	comp=Z,1µm,20.0s								
BGNE	**Belgrade**	136.51	8	PFAKE		08 19 40.0	+7.5		
BGNE				LR	LR				
	comp=Z,2µm,22.0s								
SCIA	**State Center**	136.51	3	PFAKE		08 19 40.0	+7.6		
SCIA				LR	LR				
	comp=Z,2µm,20.0s								
MVL	**Millersville**	136.54	344	PFAKE		08 19 40.0	+7.5		
MVL				LR	LR				
	comp=Z,2µm,18.0s								
LDFC	**Landfair**	136.71	30	PFAKE		08 19 50.0	+17		
LDFC				LR	LR				
	comp=Z,2µm,19.0s								
O56A	**Blue Knob Stat**	136.84	347	PFAKE		08 19 50.0	+17		
O56A				LR	LR				
	comp=Z,2µm,19.0s								
M44A	**Midewin, Midew**	137.05	357	P	PKPdf	08 19 34.2	+0.8		
	baz=3.5								
BELC	**Belle Mtn. Jos**	137.09	32	P	PKPdf	08 19 34.3	+0.4		
	baz=321								
SDMD	**Soldier's Deli**	137.23	344	PFAKE		08 19 50.0	+16		
SDMD				LR	LR				
	comp=Z,700nm,20.0s								
Q24A	**Divide**	137.31	17	PFAKE		08 19 50.0	+16		
Q24A				LR	LR				
	comp=Z,1µm,20.0s								
BC3	**Big Chuckawall**	137.65	32	P	PKPdf	08 19 35.2	+0.2		
	baz=321								
MCWV	**Mont Chateau**	137.71	348	PFAKE		08 19 50.0	+15		
MCWV				LR	LR				
	comp=Z,2µm,20.0s								
ACSO	**Alum Creek Sta**	137.71	352	PFAKE		08 19 50.0	+15		
ACSO				LR	LR				
	comp=Z,2µm,22.0s								
S22A	**4UR Ranch, Cre**	137.90	20	PFAKE		08 19 50.0	+14		
S22A				LR	LR				
	comp=Z,2µm,22.0s								
HDIL	**Hopedale**	137.93	359	PFAKE		08 19 50.0	+15		
HDIL				LR	LR				
	comp=Z,1µm,18.0s								
KSCO	**Kaye Shedlock'**	137.95	14	PFAKE		08 19 50.0	+15		
KSCO				LR	LR				
	comp=Z,2µm,21.0s								
SFIN	**Lafayette**	138.00	356	PFAKE		08 19 50.0	+15		
SFIN				LR	LR				
	comp=Z,2µm,21.0s								
Y12C	**Blythe**	138.05	31	PFAKE		08 19 50.0	+15		
Y12C				LR	LR				
	comp=Z,1µm,20.0s								
IKP	**In-Ko-Pah, Jac**	138.07	33	P	PKPdf	08 19 36.8	+1.1		
	baz=320								
WUAZ	**Wupatki**	138.10	26	P	PKPdf	08 19 36.8	+1.0		
	baz=328								
SDCO	**Great Sand Dun**	138.33	18	PFAKE		08 19 50.0	+14		
SDCO				LR	LR				
	comp=Z,2µm,19.0s								
GLA	**Glamis**	138.44	32	PFAKE		08 19 50.0	+14		
GLA				LR	LR				
	comp=Z,800nm,20.0s								
CBN	**Corbin Frederi**	138.50	344	PFAKE		08 19 50.0	+14		
CBN				LR	LR				
	comp=Z,2µm,20.0s								
PTRD	**Partlow Road**	138.65	345	PFAKE		08 19 50.0	+14		
PTRD				LR	LR				
	comp=Z,2µm,21.0s								
CVRD	**Centerville Ro**	138.74	345	PFAKE		08 19 50.0	+13		
CVRD				LR	LR				
	comp=Z,2µm,21.0s								
CBKS	**Cedar Bluff**	138.77	11	PFAKE		08 19 50.0	+13		
CBKS				LR	LR				
	comp=Z,2µm,20.0s								
SPRD	**Spring Road, M**	138.80	345	PFAKE		08 19 50.0	+13		
SPRD				LR	LR				
	comp=Z,2µm,21.0s								
IP03	**Louisa**	138.84	345	PFAKE		08 19 50.0	+13		
IP03				LR	LR				
	comp=Z,2µm,20.0s								
IP06	**Yanceyville**	138.91	345	PFAKE		08 19 50.0	+13		
IP06				LR	LR				
	comp=Z,1µm,20.0s								
P39B	**Salisbury**	138.95	3	P	PKPdf	08 19 37.8	+0.8		
	baz=356								
IP05	**Hopewell Churc**	138.95	345	PFAKE		08 19 50.0	+13		
IP05				LR	LR				
	comp=Z,1µm,21.0s								
KSU1	**Kansas State U**	138.99	7	PFAKE		08 19 50.0	+13		
KSU1				LR	LR				
	comp=Z,2µm,20.0s								
W18A	**Petrified Fore**	139.14	25	PFAKE		08 19 50.0	+12		
W18A				LR	LR				
	comp=Z,1µm,20.0s								
MHTCO	**State Highway**	139.15	18	*e*PKPdf	PKPdf	08 19 35.2	-2.5		
MHTCO				LR	LR				
	comp=Z,2µm,20.0s								
BLO	**Bloomington**	139.16	355	PFAKE		08 19 50.0	+13		
BLO				LR	LR				
	comp=Z,2µm,21.0s								
T25A	**Trinidad**	139.22	17	PFAKE		08 19 50.0	+12		
T25A				LR	LR				
	comp=Z,2µm,20.0s								
Q40A	**Laux Farm, Aux**	139.47	2	P	PKPdf	08 19 39.4	+1.4		
	baz=357								
Q45A	**Warren Harvey,**	139.54	357	P	PKPdf	08 19 38.8	+0.7		
	baz=3.4								
X18A	**Snowflake**	139.55	25	PFAKE		08 19 50.0	+12		
X18A				LR	LR				
	comp=Z,1µm,21.0s								
OLIL	**Olney**	139.70	357	PFAKE		08 19 50.0	+12		
OLIL				LR	LR				
	comp=Z,2µm,22.0s								
SLM	**Saint Louis**	139.85	360	PFAKE		08 19 50.0	+11		
SLM				LR	LR				
	comp=Z,2µm,21.0s								
CPUP	**Villa Florida**	139.88	229	PKP	PKPdf	08 19 39.3	+0.3		
	comp=Z,3.9nm,1.0s,baz=104,slow=4.2,SNR=4.0								
WCI	**Wyandotte Cave**	140.08	355	PFAKE		08 19 50.0	+11		
WCI				LR	LR				
	comp=Z,2µm,21.0s								
R45A	**Skylar, Fairfi**	140.15	357	P	PKPdf	08 19 41.2	+2.0		
	baz=3.3								
BLA	**Blacksburg**	140.18	348	PFAKE		08 19 50.0	+11		
BLA				LR	LR				
	comp=Z,2µm,21.0s								
CCM	**Cathedral Cave**	140.43	1	PFAKE		08 19 50.0	+10		
CCM				LR	LR				
	comp=Z,2µm,21.0s								
USIN	**University of**	140.44	357	PFAKE		08 19 50.0	+10		
USIN				LR	LR				
	comp=Z,2µm,20.0s								
ANMO	**Albuquerque**	140.56	21	P	PKPdf	08 19 41.7	+1.4		
	baz=334								
SIUC	**Southern Illin**	140.76	359	PFAKE		08 19 50.0	+10		
SIUC				LR	LR				
	comp=Z,2µm,19.0s								
S40A	**Lebanon**	140.84	3	P	PKPdf	08 19 41.9	+1.4		
	baz=357								
S43A	**Fulton Ridge,**	140.92	360	P	PKPdf	08 19 41.6	+1.0		
	baz=0.5								
TUC	**Tucson**	141.05	28	P	PKPdf	08 19 41.8	+0.7		
	baz=326								
TUC	**Tucson**	141.05	28	PFAKE		08 19 50.0	+8.9		
TUC				LR	LR				
	comp=Z,2µm,21.0s								
NCAT	**North Carolina**	141.12	346	PFAKE		08 19 50.0	+9.0		
NCAT				LR	LR				
	comp=Z,2µm,22.0s								
T39A	**Clever**	141.37	4	P	PKPdf	08 19 42.8	+1.3		
	baz=355								
TZTN	**Tazewell**	141.41	351	PFAKE		08 19 50.0	+8.4		
TZTN				LR	LR				
	comp=Z,2µm,20.0s								
CNNC	**Cliffs of the**	141.42	343	PFAKE		08 19 50.0	+8.4		
CNNC				LR	LR				
	comp=Z,2µm,20.0s								
PBMO	**Poplar Bluff**	141.71	0	PFAKE		08 19 50.0	+8.0		
PBMO				LR	LR				
	comp=Z,2µm,21.0s								
U39A	**Green Forest**	142.00	4	P	PKPdf	08 19 43.2	+0.6		
	baz=355								
HHAR	**Hobbs**	142.06	5	PFAKE		08 19 50.0	+7.3		
HHAR				LR	LR				
	comp=Z,2µm,20.0s								

comp=Z,2µm,20.0s
KMSC Kings Mountain 142.37 348 PFAKE 08 20 00.0 +17
KMSC LR LR

comp=Z,2µm,20.0s
GNAR Gosnell 142.52 359 PFAKE 08 20 00.0 +17
GNAR LR LR

comp=Z,2µm,20.0s
319A Douglas 142.53 27 PFAKE 08 20 00.0 +16
319A LR LR

comp=Z,2µm,20.0s
V40A Witts Springs 142.61 3 PFAKE 08 20 00.0 +16
V40A LR LR

comp=Z,3µm,21.0s
CPCT Cooper Cave 142.63 352 PFAKE 08 20 00.0 +16
CPCT LR LR

comp=Z,2µm,20.0s
MSTX Muleshoe 142.65 17 ePKPdf PKPdf 08 19 43.5 -0.5
MSTX LR LR

comp=Z,1µm,22.0s
AAGR Agrelo 142.79 211 i P PKPdf 08 19 44.5 +0.2
WMOK Wichita Mounta 142.90 11 ePKPpre PKPpre 08 19 40.6
WMOK LR LR

comp=Z,2µm,20.0s
SWET Sewanee 143.03 354 PFAKE 08 20 00.0 +15
SWET LR LR

comp=Z,2µm,20.0s
ARCO CERRO ARCO 143.04 211 i P PKPbc 08 19 42.1 +0.6
W39A Magazine 143.15 5 PFAKE 08 20 00.0 +15
W39A LR LR

comp=Z,2µm,20.0s
JSC Jenkinsville 143.18 347 PFAKE 08 20 00.0 +15
JSC LR LR

comp=Z,1µm,19.0s
ASAL Salagasta 143.18 211 i P PKPbc 08 19 43.2 +1.4
W40A Ferguson Farm, 143.21 4 PFAKE 08 20 00.0 +15
W40A LR LR

comp=Z,2µm,21.0s
W41B Gary Mavity, V 143.27 3 PFAKE 08 20 00.0 +15
W41B LR LR

comp=Z,2µm,21.0s
MET Memphis--Engin 143.36 359 PFAKE 08 20 00.0 +15
MET LR LR

comp=Z,2µm,20.0s
PLAL Pickwick Lake 143.44 357 PFAKE 08 20 00.0 +15
PLAL LR LR

comp=Z,2µm,21.0s
APLL PUNTA DE LOS L 143.57 216 i P PKPbc 08 19 43.8 +0.9
RTCV Cerro Valdivia 143.60 212 i P PKPbc 08 19 43.5 +0.6
HSIG 143.66 31 PFAKE 08 20 00.0 +14
HSIG LR LR

comp=Z,1µm,20.0s
PEL Peldehue 143.66 209 ePKPdf PKPbc 08 19 43.7 +0.7
PEL Peldehue 143.66 209 ePKIKP PKPbc 08 19 43.7 +0.6
UALR University of 143.66 3 PFAKE 08 20 00.0 +14
UALR LR LR

comp=Z,2µm,19.0s
AUSP Uspallata 143.76 211 i P PKPbc 08 19 45.0 +1.3
X49A Woodville 143.77 354 P PKPdf 08 19 45.2 -0.5
baz=6.9
GDL2 Guadalupe Moun 143.78 20 ePKPdf PKPdf 08 19 46.8 +0.7
X39A Fountain Ranch 143.80 5 P PKPdf 08 19 45.6 -0.2
baz=354,SNR=5.6
MIAR Mount Ida 143.81 4 P PKPdf 08 19 45.5 -0.4
baz=355
MIAR Mount Ida 143.81 4 ePKPdf PKPdf 08 19 46.6 +0.8
MIAR LR LR

comp=Z,2µm,20.0s
MIAR Mount Ida 143.81 4 ePKIKP PKPdf 08 19 46.6 +0.8
MIAR MLR MLR

comp=Z,2µm,20.0s
MNTX Cornudas Mount 143.86 22 ePKPdf PKPbc 08 19 43.8 +0.2
MNTX LR LR

comp=Z,2µm,21.0s
X46A Booneville 143.89 357 P PKPbc 08 19 44.7 +1.1
baz=3.1
X48A Hartselle 143.89 355 P PKPbc 08 19 44.7 +1.1
baz=5.7
ZON Zonda 143.92 212 i P PKPdf 08 19 45.7 -0.5
X40A Basin Creek Fa 143.92 3 P PKPdf 08 19 45.9 -0.2
baz=356
X40A Basin Creek Fa 143.92 3 PFAKE 08 20 00.0 +14
X40A LR LR

comp=Z,3µm,22.0s
ROC1 El Roble 143.96 208 ePKPdf PKPbc 08 19 45.2 +1.0
ROC1 El Roble 143.96 208 i P PKPbc 08 19 44.9 +0.7
OXF Oxford 143.96 359 PFAKE 08 20 00.0 +14
OXF LR LR

comp=Z,2µm,21.0s
X43A Marvell 143.96 1 P PKPdf 08 19 46.4 +0.3
baz=359
X43A Marvell 143.96 1 PFAKE 08 20 00.0 +14
X43A LR LR

comp=Z,1µm,20.0s
RTLL Cerro Villicun 143.98 213 i P PKPbc 08 19 44.6 +0.5
X45A UM Field Stati 144.05 359 P PKPdf 08 19 46.1 -0.2
baz=1.7
RTLS Leoncito 144.05 211 i P PKPbc 08 19 45.4 +0.8
NHSC New Hope 144.05 345 PFAKE 08 20 00.0 +14
NHSC LR LR

comp=Z,1µm,20.0s
AMOG MOGNA 144.29 213 i P PKPbc 08 19 45.8 +0.7
Y40A Okolona 144.37 4 P PKPdf 08 19 46.6 -0.2
baz=355
Y49A Blount Mountai 144.42 354 P PKPdf 08 19 47.5 +0.5
baz=6.8
Y48A Jasper 144.44 355 P PKPdf 08 19 47.0 0.0
baz=5.5
GOGA Godfrey 144.46 350 P PKPdf 08 19 46.8 -0.2
baz=12
GOGA Godfrey 144.46 350 PFAKE 08 20 00.0 +13
GOGA LR LR

comp=Z,2µm,22.0s
Y47A UCPARC, Winfie 144.50 356 P PKPdf 08 19 46.6 -0.4
baz=4.4
Y44A Strider, Charl 144.52 360 P PKPdf 08 19 47.4 +0.3
baz=0.3
CYA Choya 144.52 219 i P PKPbc 08 19 46.7 +0.8
Y41A Eaglette Beard 144.54 3 P PKPab 08 19 45.5 +0.1
baz=356
CCAR Cane Creek 144.54 2 ePKPdf PKPab 08 19 43.8 -1.6
CCAR LR LR

comp=Z,2µm,18.0s
Y43A Makayla and Ka 144.57 1 P PKPab 08 19 45.6 +0.1
baz=359
Y46A Houston 144.57 358 P PKPbc 08 19 46.3 +0.5
baz=2.6
Y45A Yeager Farm, C 144.61 359 P PKPbc 08 19 45.9 0.0
baz=1.5
Y42A Garnett, Star 144.62 2 P PKPab 08 19 45.5 -0.3
baz=358
WLAR White Oak Lake 144.70 4 ePKPdf PKPdf 08 19 47.0 -0.4
WLAR LR LR

comp=Z,2µm,21.0s
ABTX Abilene, Hawle 144.75 14 P PKPab 08 19 46.3 -0.1
baz=344
ABTX Abilene, Hawle 144.75 14 ePKPdf PKPab 08 19 45.5 -0.9
ABTX LR LR

comp=Z,2µm,20.0s
Z50A Ashland 144.97 353 P PKPab 08 19 45.7 -1.4
baz=7.8
Z48A Northport 145.00 356 P PKPab 08 19 45.8 -1.4
baz=4.9
155A Kite 145.04 348 P PKPab 08 19 46.6 -0.7
baz=14
Z40A Long Farm, Mag 145.11 4 P PKPbc 08 19 47.0 -0.5
baz=355,SNR=9.6
Z41A Richland Creek 145.15 4 P PKPbc 08 19 46.6 -1.0
baz=356
Z41A Richland Creek 145.15 4 ePKPbc PKPdf 08 19 48.1 0.0
Z41A LR LR

comp=Z,2µm,20.0s
154A Montrose 145.17 349 P PKPbc 08 19 47.4 -0.3
baz=13
Z42A Norrel Spur, H 145.18 2 P PKPbc 08 19 46.7 -1.1
baz=357,SNR=5.7
Z44A Pea Ridge, Bel 145.20 0 P PKPbc 08 19 46.6 -1.2
baz=360
Z47A Carrollton 145.21 357 P PKPbc 08 19 46.4 -1.4
baz=4.1,SNR=9.8
ACDV Cuesta del Vie 145.22 213 i P PKPdf 08 19 49.0 +0.3
Z46A Louisville 145.26 358 P PKPbc 08 19 47.0 -1.0
baz=2.5
Z43A Armstrong Fami 145.26 1 P PKPbc 08 19 45.8 -2.2
baz=358
153A Fort Valley 145.27 350 P PKPbc 08 19 46.5 -1.5
baz=12

LRAL Lakeview Retre 145.29 355 P PKPbc 08 19 46.2 -1.9
baz=6.0
LRAL Lakeview Retre 145.29 355 ePKPbc PKPbc 08 19 47.7 -0.4
LRAL LR LR

comp=Z,2µm,21.0s
AHML Horco Molle 145.34 222 i P PKPbc 08 19 48.4 -0.1
AGUA GUANDACOL 145.39 215 i P PKPdf 08 19 49.6 +0.8
AROD Rodeo 145.42 213 i P PKPab 08 19 50.4 +1.2
256A Glennville 145.53 347 P PKPbc 08 19 47.5 -1.4
baz=15
151A Opelika 145.61 352 P PKPdf 08 19 47.8 -1.2
baz=8.9,SNR=13
150A Eclectic 145.62 353 P PKPdf 08 19 48.0 -1.1
baz=7.7,SNR=5.5
140A Cam and Jess, 145.71 5 P PKPdf 08 19 48.2 -0.9
baz=354
149A Jones 145.71 355 P PKPdf 08 19 48.0 -1.2
baz=6.4
148A Greensboro 145.72 356 P PKPdf 08 19 49.0 -0.2
baz=5.0
147A Livingston 145.74 357 P PKPdf 08 19 48.5 -0.7
baz=3.8,SNR=5.3
143A Socs Landing, 145.76 1 P PKPdf 08 19 48.7 -0.6
baz=358,SNR=9.2
VCA Vinchina 145.78 216 i P PKPab 08 19 51.2 +0.8
141A Papa Simpson, 145.79 4 P PKPdf 08 19 48.9 -0.4
baz=356,SNR=9.6
146A Union 145.82 358 P PKPdf 08 19 49.3 0.0
baz=2.4,SNR=27
WHTX Lake Whitney, 145.82 11 P PKPdf 08 19 49.1 -0.3
baz=347
WHTX Lake Whitney, 145.82 11 ePKPdf PKPab 08 19 51.1 +0.9
WHTX LR LR

comp=Z,2µm,20.0s
144A Alexander Plac 145.85 0 P PKPdf 08 19 49.3 -0.1
baz=360,SNR=6.3
ANWB Willy Bob 145.85 306 PFAKE 08 20 00.0 +9.3
ANWB LR LR

comp=Z,2µm,22.0s
254A Abbeville 145.86 349 P PKPdf 08 19 48.8 -0.6
baz=13,SNR=8.6
145A Houston Renfro 145.87 359 P PKPdf 08 19 49.4 -0.1
baz=0.8
253A Americus 145.89 350 P PKPdf 08 19 49.2 -0.3
baz=11
142A Monroe 145.90 2 P PKPdf 08 19 49.4 0.0
baz=357
357A Townsend 145.98 346 P PKPdf 08 19 49.9 +0.2
baz=16
251A Midway 146.05 352 P PKPdf 08 19 49.6 -0.2
baz=8.9,SNR=12
252A Lumpkin 146.05 351 P PKPdf 08 19 49.6 -0.2
baz=10,SNR=14
GO04 Tololo Observa 146.12 211 ePKPdf PKPbc 08 19 51.6 +0.4
356A Blackshear 146.22 347 P PKPbc 08 19 51.0 0.0
baz=15
VBMS Vicksburg 146.26 0 P PKPbc 08 19 51.1 -0.1
baz=360
VBMS Vicksburg 146.26 0 PFAKE 08 20 00.0 +8.2
VBMS LR LR

comp=Z,2µm,18.0s
250A Grady 146.27 354 P PKPbc 08 19 51.5 +0.3
baz=7.4
240A Hunter Patters 146.29 5 P PKPbc 08 19 51.2 0.0
baz=354
248A Dixon Mills 146.29 356 P PKPbc 08 19 51.1 -0.1
baz=4.8
355A Pearson 146.35 348 P PKPdf 08 19 50.6 +0.3
baz=14,SNR=7.7
249A Camden 146.36 355 P PKPdf 08 19 50.5 +0.2
baz=5.9,SNR=7.6
241A Mo Tay, Goldon 146.37 4 P PKPbc 08 19 51.0 -0.5
baz=356
242A Grayson 146.37 3 P PKPbc 08 19 51.3 -0.2
baz=357
247A Quitman 146.38 357 P PKPbc 08 19 51.5 0.0
baz=3.2
TIGA Tifton 146.40 349 P PKPbc 08 19 51.5 -0.1
baz=12
TIGA Tifton 146.40 349 PFAKE 08 20 00.0 +7.6
TIGA LR LR

comp=Z,2µm,22.0s
244A Avery, Jackson 146.43 0 P PKPbc 08 19 51.6 -0.1
baz=360,SNR=6.3
245A Little AP, Sta 146.44 359 P PKPdf 08 19 50.9 +0.5
baz=0.9
246A Jackson Lee, B 146.44 358 P PKPbc 08 19 51.4 -0.3
baz=2.3
NATX Nacogdoches 146.47 7 P PKPbc 08 19 51.7 -0.1
baz=352
NATX Nacogdoches 146.47 7 PFAKE 08 20 00.0 +7.3
NATX LR LR

comp=Z,2µm,20.0s
GDHS Morne Mazeau, 146.54 303 PFAKE 08 20 00.0 +6.5
GDHS LR LR

comp=Z,2µm,19.0s
243A Waterproof 146.58 2 P PKPdf 08 19 51.4 +0.7
baz=358
352A Blakely 146.59 351 P PKPbc 08 19 52.1 0.0
baz=9.9
353A Camilla 146.60 350 P PKPbc 08 19 51.6 -0.5
baz=11
TX31 Lajitas Ar. Si 146.63 21 ePKPdf PKPdf 08 19 51.7 +0.7
TX31 ePKPdf PKPbc 08 19 52.4 -0.1
TX31 ePKPbc pPKPdf 08 19 54.6 -1.4
TXAR Lajitas Array 146.63 21 PKPbc PKPbc 08 19 52.2 -0.3
comp=Z,23nm,0.8s,baz=40,slow=1.9,SNR=36
SMRT St. Maarten 146.69 307 PFAKE 08 20 00.0 +6.1
SMRT LR LR

comp=Z,2µm,22.0s
JCT Junction City 146.76 15 P PKPdf 08 19 51.7 +0.6
baz=343
JCT Junction City 146.76 15 ePKPdf PKPbc 08 19 52.1 -0.7
JCT ePKPbc PKPab 08 19 54.7 +0.8
JCT LR LR

comp=Z,2µm,19.0s
JCT Junction City 146.76 15 ePKP2 PKPbc 08 19 52.1 -0.7
JCT MLR MLR

comp=Z,2µm,19.0s
457A Yulee 146.76 346 P PKPdf 08 19 51.4 +0.4
baz=16
456A Hilliard 146.77 347 P PKPdf 08 19 51.5 +0.4
baz=15
350A Dozier 146.83 354 P PKPbc 08 19 52.3 -0.6
baz=7.4
351A Pinckard 146.88 352 P PKPbc 08 19 52.6 -0.4
baz=8.8
SEUS St. Eustatius 146.91 306 PFAKE 08 20 00.0 +5.2
SEUS LR LR

comp=Z,2µm,20.0s
455A Stateville 146.97 348 P PKPbc 08 19 52.5 -0.8
baz=14
435B Jarrell 146.97 11 P PKPbc 08 19 52.5 -0.8
baz=347
435B Jarrell 146.97 11 PFAKE 08 20 00.0 +5.3
435B LR LR

comp=Z,2µm,20.0s
348A Jackson 146.97 356 P PKPbc 08 19 53.0 -0.3
baz=4.6
349A Repton 146.98 355 P PKPbc 08 19 52.5 -0.8
baz=5.9
LCO Las Campanas 146.98 213 ePKPbc PKPbc 08 19 53.9 +0.1
LCO Las Campanas 146.98 213 i P PKPbc 08 19 54.2 +0.4
LCO Las Campanas 146.98 213 PKP2 PKPbc 08 19 54.1 +0.4
344A Westbrook Farm 147.02 1 P PKPdf 08 19 52.4 +1.0
baz=359
347A Saraland 147.03 357 P PKPbc 08 19 52.6 -0.8
baz=3.4
341A Kuthwood 147.04 4 P PKPbc 08 19 52.9 -0.6
baz=355
342A Flagon Creek P 147.05 3 P PKPbc 08 19 53.3 -0.1
baz=356
SABA Saba 147.05 307 PFAKE 08 20 00.0 +4.6
SABA LR LR

comp=Z,2µm,20.0s
346A Big Creek Wild 147.07 359 P PKPbc 08 19 53.8 +0.2
baz=1.7
453A Whigham 147.10 350 P PKPbc 08 19 53.7 0.0
baz=11
454A Quitman 147.12 349 P PKPbc 08 19 53.7 0.0
baz=12
BRAL Brewton 147.15 355 P PKPbc 08 19 52.8 -1.0
baz=6.2
BRAL Brewton 147.15 355 PFAKE 08 20 00.0 +4.7
BRAL LR LR

comp=Z,2µm,20.0s
345A Thompson Farm, 147.16 359 P PKPbc 08 19 53.4 -0.4
baz=0.7
343A Vidalia 147.17 2 P PKPbc 08 19 53.8 0.0
baz=358
452A Marianna 147.24 352 P PKPbc 08 19 53.9 -0.1
baz=9.6
557A Orange Park 147.38 346 P PKPbc 08 19 54.4 0.0
baz=16
448A Bay Minette 147.45 356 P PKPbc 08 19 54.7 +0.1
baz=4.7
450A Crestview 147.46 354 P PKPbc 08 19 54.5 -0.1
baz=7.1
SVB Belmont 147.47 298 PFAKE 08 20 00.0 +2.9
SVB LR LR

comp=Z,900nm,22.0s
451A Vernon 147.55 352 P PKPab 08 19 56.1 -0.8
baz=8.6
556A Lake Butler 147.56 347 P PKPab 08 19 56.2 -0.7
baz=15
555A McAlpin 147.56 348 P PKPab 08 19 56.1 -0.8
baz=14
449A Pace 147.57 355 P PKPbc 08 19 55.3 +0.3
baz=5.9
441A DeRidder 147.61 4 P PKPab 08 19 56.4 -0.7
baz=355
447A Lucedale 147.63 357 P PKPab 08 19 56.2 -1.0
baz=3.2
446A Poplarville 147.67 358 P PKPbc 08 19 55.8 +0.7
baz=1.9
443A Delano Plantat 147.68 2 P PKPab 08 19 56.4 -1.0
baz=357
442A Mamou 147.70 3 P PKPbc 08 19 56.1 +0.8
baz=356
554A Perry 147.74 349 P PKPbc 08 19 56.3 +0.9
baz=13
445A Amite 147.74 360 P PKPbc 08 19 56.5 +1.1
baz=0.1
444A Pine Grove 147.75 1 P PKPab 08 19 57.1 -0.6
baz=359
553A Crawfordville 147.77 350 P PKPbc 08 19 56.5 +1.0
baz=11
657A Interlachen 147.83 346 P PKPbc 08 19 56.6 +0.9
baz=16
658A Bunnell 147.83 345 P PKPab 08 19 56.9 -1.1
baz=17
HPIG 147.95 26 ePKPbc PKPbc 08 19 56.5 +0.1
HPIG LR LR

comp=Z,2µm,19.0s
552A Lynn Haven 147.96 352 P PKPbc 08 19 56.9 +0.9
baz=9.6
STVI Saint Thomas 147.99 310 PFAKE 08 20 00.0 +1.0
STVI LR LR

comp=Z,2µm,20.0s
HKT Hockley 148.10 9 PFAKE 08 20 00.0 +1.0
HKT LR LR

comp=Z,3µm,20.0s
656A Willston 148.19 347 P PKPbc 08 19 57.1 +0.4
baz=15
542A Morse 148.28 4 P PKPbc 08 19 57.7 +0.9
baz=356
541A Lake Charles 148.30 5 P PKPbc 08 19 58.1 +1.2
baz=355
543A St. Martinvill 148.35 2 P PKPbc 08 19 58.1 +1.0
baz=357
757A Oxford 148.49 346 P PKPbc 08 19 57.8 +0.3
baz=16
MTP Monte Pirata 148.60 310 PFAKE 08 20 10.0 +8.5
MTP LR LR

comp=Z,2µm,20.0s
CBYP Canovanas 148.72 310 PFAKE 08 20 10.0 +7.9
CBYP LR LR

comp=Z,2µm,20.0s
HUMP Col San Antoni 148.80 310 ePKPbc PKPbc 08 19 58.6 +0.1
HUMP LR LR

comp=Z,2µm,20.0s
833A Chaparral WMA, 148.92 15 P PKPbc 08 19 59.2 +0.7
baz=342
833A Chaparral WMA, 148.92 15 ePKPbc PKPbc 08 19 59.3 +0.7
833A LR LR

comp=Z,1µm,19.0s
858A St. Cloud 149.01 344 P PKPbc 08 19 59.2 +0.4
baz=18
645A Chauvin 149.01 0 P PKPbc 08 19 59.1 +0.4
baz=360
859A Kempfer Cattle 149.02 344 P PKPbc 08 19 59.2 +0.3
baz=19
SJG San Juan 149.04 311 PFAKE 08 20 10.0 +6.8
SJG LR LR

comp=Z,2µm,21.0s
DWPF Disney Wildern 149.12 344 P PKPbc 08 19 59.2 +0.1
baz=18
DWPF Disney Wildern 149.12 344 PFAKE 08 20 10.0 +6.8
DWPF LR LR

comp=Z,2µm,20.0s
857A Zephyrhills 149.18 346 P PKPbc 08 19 59.6 +0.4
baz=16
GO02 Mina Guanaco 149.22 219 ePKPdf PKPdf 08 19 57.6 +2.0
GO02 ePKPbc sPKPdf 08 20 02.7 +0.4
AOPR Arecibo Observ 149.36 312 PFAKE 08 20 10.0 +5.4
AOPR LR LR

comp=Z,2µm,20.0s
OBIP Obispado Ponce 149.43 311 PFAKE 08 20 10.0 +5.2
OBIP LR LR

comp=Z,1µm,22.0s
959A Okeechobee 149.52 343 P PKPbc 08 20 00.4 +0.3
baz=19
PTGA Pitinga 149.55 271 ePKPbc PKPbc 08 20 01.0 +0.4
PTGA LR LR

comp=Z,2µm,21.0s
958A Wauchula 149.71 345 P PKPbc 08 20 00.4 -0.2
baz=17
MPR Mayaguez 149.73 312 PFAKE 08 20 10.0 +4.0
MPR LR LR

comp=Z,1µm,20.0s
957A Wimauma 149.75 346 P PKPbc 08 20 01.0 +0.4
baz=16
SDD Santo Domingo 151.57 316 PFAKE 08 20 10.0 -3.6
SDD LR LR

comp=Z,400nm,18.0s
SAML Samuel 151.97 254 ePKPbc PKPbc 08 20 05.6 -0.7
SAML ePKPab PKPab 08 20 15.4 -0.2
SAML LR LR

comp=Z,2µm,19.0s
LNIG Linares 152.13 18 ePKPbc PKPbc 08 20 06.4 +0.1
LNIG ePKPab PKPab 08 20 17.9 +2.1
SDDR Presa de Saban 152.14 318 PFAKE 08 20 10.0 +3.4
SDDR LR LR

comp=Z,2µm,21.0s
PB11 IPOC Station P 152.91 227 ePKPdf PKPdf 08 20 01.2 0.0
PB11 ePKPbc pPKPdf 08 20 05.9 -0.3
PB11 ePKPab sPKPbc 08 20 15.1 0.0
MNMC Minye Minye 153.25 228 ePKPdf PKPdf 08 19 56.4 -5.4
MNMC ePKPbc PKiKP 08 20 10.3 +0.8
MNMC ePKPab PKPab 08 20 21.1 0.0
LPAZ La Paz 153.71 235 PKP PKPdf 08 20 04.5 +1.4
comp=Z,2.2nm,1.0s,baz=22,slow=5.1,SNR=5.3
LPAZ PKPbc PKPbc 08 20 10.7 -0.1
comp=Z,8.9nm,1.1s,baz=52,slow=2.0,SNR=9.6
LPAZ La Paz 153.71 235 ePKPdf PKPdf 08 20 03.4 +0.4
LPAZ ePKPbc PKPbc 08 20 10.4 -0.4
LPAZ ePKPab PKPab 08 20 20.5 -3.0
LPAZ epPKPab pPKPab 08 20 23.0 -5.4
LPAZ La Paz 153.71 235 ePKIKP PKPdf 08 20 03.4 +0.4
LPAZ e 08 20 10.5
LPAZ e 08 20 20.5
GTBY Guantanamo Bay 153.78 326 PFAKE 08 20 10.0 -0.1
GTBY LR LR

comp=Z,2µm,20.0s
MTDJ Mount Denham 156.48 328 PFAKE 08 20 20.0 +14
MTDJ LR LR

comp=Z,1µm,19.0s
MYIG MOrida 157.46 358 PFAKE 08 20 20.0 +13
MYIG LR LR

comp=Z,2µm,19.0s
SDV Santo Domingo 157.66 298 PFAKE 08 20 20.0 +12
SDV LR LR

comp=Z,1µm,18.0s
LVIG Laguna Verde 157.90 15 PFAKE 08 20 20.0 +12
LVIG LR LR

comp=Z,1µm,18.0s
TEIG Tepich 158.10 355 PFAKE 08 20 20.0 +12
TEIG LR LR

comp=Z,2µm,21.0s
ROSC El Rosal 162.66 292 PKP PKPdf 08 20 13.5 -0.2
comp=Z,2.3nm,0.4s,baz=48,slow=16,SNR=2.6
ROSC El Rosal 162.66 292 ePKPdf PKPdf 08 20 13.7 0.0
APG El Apazote 163.40 0 PKPab PKPab 08 21 03.5 -1.1

comp=Z,9.0nm,1.0s,baz=344,slow=12,SNR=6.1
OTAV Otavalo 167.89 279 *e*PKPdf **PKPdf 08 20 19.4 +1.2**
OTAV Otavalo 167.89 279 PKIKP **PKPdf 08 20 20.1 +1.9**

IDC 30 08:04:40.9±8.7, 15°30'S×172°32'W, h0km, mb4.4/5, mb1 4.6/5, mb1mx3.9/51, mbtmp4.5/5, MS4.3/1, Ms1 4.3/1, ms1mx3.1/50, Error ellipse: s-maj=194.0km s-min=144.1km az=136.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**21.21**	**248**	P	P	08 09 28.5	+0.1
	10nm,1.1s,baz=171,slow=17,SNR=13						
RPZ	**Rata Peaks**	**31.68**	**203**	LR	LR	08 23 04.5	
	comp=Z,529nm,19.0s,baz=77,slow=35						
CTA	**Charters Tower**	**39.69**	**257**	P	P	08 12 14.8	-0.3
	3.3nm,0.5s,baz=97,slow=8.1,SNR=1.0						
STKA	**Stephens Creek**	**44.99**	**240**	P	P	08 12 58.1	-0.1
	4.9nm,0.9s,baz=90,slow=12,SNR=4.6						
WRA	**Warramunga Arr**	**50.89**	**257**	P	P	08 13 44.0	-0.1
	1.6nm,0.4s,baz=90,slow=7.9,SNR=32						
ASAR	**Alice Springs**	**51.14**	**252**	P	P	08 13 46.0	0.0
	12nm,0.5s,baz=88,slow=8.3,SNR=110						

GUC 30 08:09:35.7±0.8, 27°49S×71°11W, h59km±45km, ML3.5, 1D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GO03	**Copiap**	**0.79**	**98**	*e*P	Pn	08 09 51.8	+0.7
GO03				*i* S	Sn	08 10 04.7	+2.4
GO03				IAML		08 10 06.5	
	comp=E,1μm,0.2s						
VACH	**Vallenar**	**1.13**	**164**	*i* P	Pn	08 10 07.7	+12
VACH				*i* S	Sn	08 10 18.6	+8.4
LCO	**Las Campanas**	**1.56**	**167**	*e*P	Pn	08 10 03.5	+2.0
TLL	**Tololo Astrono**	**2.69**	**174**	*e*P	Pn	08 10 19.8	+3.0
TLL				*i* S	Sn	08 10 52.0	+3.7
TLL				IAML		08 10 52.6	
	comp=N,376nm,0.4s						
GO04	**Tololo Observa**	**2.69**	**174**	*e*P	Pn	08 10 19.0	+2.1
GO04				*i* S	Sn	08 10 51.8	+3.5

*BJI **30** 08:25:49.6, 84°.33N×0°.24W, h9km, mb4.8/30, mB5.0/6, Ms5.4/1, Ms7 5.2/2*
*MOS **30** 08:25:50.0±1.2, 84°.14N×0°.48W, h10km, mb4.7/42, Error ellipse: s-maj=51.1km s-min=5.7km az=91.6*
*IDC **30** 08:25:50.3±0.4, 84°.16N×0°.40W, h0km, mb4.0/32, mb1 4.1/34, mb1mx4.0/67, mbtmp4.0/34, ML3.3/2, MS4.4/6, Ms1 4.4/6, ms1mx3.8/68, Error ellipse: s-maj=12.4km s-min=9.2km az=35.0*
*ISCJB **30** 08:25:51.4±0.1, 84°.16N±0°.03×0°.2E±0°.2, h16km, mb4.4/155, MS4.5/4, Error ellipse: s-maj=4.4km s-min=2.9km az=27.4*
*CSEM **30** 08:25:51.7±0.1, 84°.13N×0°.29E, h10km, mb4.6/99, Error ellipse: s-maj=4.9km s-min=3.1km az=32.0*
*NEIC **30** 08:25:52.2±0.1, 84°.09N×0°.31E, h10km, mb4.6/101, Error ellipse: s-maj=4.9km s-min=3.0km az=216.0*

ISC 30 08:25:52.7±0.3, 84°03N±0°.05×0°30W±0°.05, h16km, n279, σ1§65/284, mb4.5/156, MS4.5/4, 12C-5D, North of Svalbard

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBS	**Kingsbay**	**5.42**	**154**	*e*Pn	**Pn**	**08 27 11.4**	**-1.3**
KBS				*e*Sn	**Sn**	**08 28 10.2**	**-4.4**
KBS	**Kingsbay**	**5.42**	**154**	*e*P	**Pn**	**08 27 11.4**	**-1.3**
KBS	**Kingsbay**	**5.42**	**154**	*e*P	**Pn**	**08 27 10.6**	**-2.0**
KBS				*e*S	**Sn**	**08 28 07.8**	**-6.8**
KBS				IAML		08 28 11.6	
	comp=Z,111nm,0.5s						
KBS	**Kingsbay**	**5.42**	**154**	*e*P	**Pn**	**08 27 11.4**	**-1.3**
KBS				*e*		08 28 10.2	
SPA0	**Spitsbergen Ar**	**6.38**	**148**	*e*Pn	**Pn**	**08 27 24.1**	**-1.7**
SPA0				*e*Sn	**Sn**	**08 28 31.6**	**-6.5**
SPA0	**Spitsbergen Ar**	**6.38**	**148**	Pn	**Pn**	**08 27 23.4**	**-2.3**
	baz=352,slow=18						
SPA0				Sn	**Sn**	**08 28 31.3**	**-6.7**
	baz=358,slow=22						
SPITS	**Spitsbergen Ar**	**6.38**	**148**	Pn	**Pn**	**08 27 23.6**	**-2.3**
	baz=357,slow=14,SNR=13						
SPITS				Sn	**Sn**	**08 28 31.2**	**-6.8**
	baz=14,slow=20,SNR=1.9						
SPITS				LR	LR	08 29 43.7	
	comp=Z,1μm,20.6s,baz=350,slow=36						
DAG	**Danmarks Havn**	**7.84**	**212**	*i* P	**Pn**	**08 27 44.3**	**-1.4**
	comp=Z,7.6nm,0.8s						
DAG	**Danmarks Havn**	**7.84**	**212**	*i* P	**Pn**	**08 27 44.3**	**-1.4**
DAG				pmax	pmax		
	comp=Z,8.0nm,0.8s						
TULEG	**Thule**	**12.63**	**274**	*e*Pn	Pn	08 28 46.4	-4.9
SUMG	**Summit**	**13.32**	**234**	*i* P	**Pn**	**08 28 58.0**	**-3.0**
SUMG	**Summit**	**13.32**	**234**	*e*Pn	**Pn**	**08 28 58.5**	**-2.5**
SUMG	**Summit**	**13.32**	**234**	*e*P	**Pn**	**08 28 58.5**	**-2.5**
SCO	**Scoresbysund**	**14.22**	**210**	*i* P	**Pn**	**08 29 13.1**	**+0.2**
	comp=Z,32nm,1.4s						
SCO	**Scoresbysund**	**14.22**	**210**	*e*Pn	**Pn**	**08 29 12.8**	**-0.1**
SCO	**Scoresbysund**	**14.22**	**210**	*i* P	**Pn**	**08 29 13.1**	**+0.2**
SCO				pmax	pmax		
	comp=Z,32nm,1.4s						
KEV	**Kevo**	**15.27**	**143**	*e*Pn	**Pn**	**08 29 28.7**	**+1.6**
	comp=Z,52nm,1.4s						
KEV	**Kevo**	**15.27**	**143**	*e*P	**Pn**	**08 29 28.7**	**+1.6**
KEV				pmax	pmax		
	comp=Z,52nm,1.4s						
ARA0	**ARCESS Array S**	**15.39**	**145**	*e*Pn	**Pn**	**08 29 27.9**	**-0.9**
ARA0	**ARCESS Array S**	**15.39**	**145**	P	**Pn**	**08 29 28.9**	**+0.1**
	slow=16						
ARCES	**ARCESS Array B**	**15.39**	**145**	Pn	**Pn**	**08 29 27.9**	**-0.9**
	comp=Z,0.2nm,0.3s,baz=357,slow=14,SNR=3.3						
ARCES	**ARCESS Array B**	**15.39**	**145**	*e*Pn	**Pn**	**08 29 28.2**	**-0.6**
ARCES	**ARCESS Array B**	**15.39**	**145**	*e*P	**Pn**	**08 29 28.2**	**-0.6**
RES	**Resolute Bay**	**16.96**	**295**	Pn	**Pn**	**08 29 43.8**	**-4.9**
	comp=Z,0.2nm,0.3s,baz=26,slow=8.9,SNR=10.0						
RES				LR	LR	08 36 45.8	
	comp=Z,1μm,19.0s,baz=90,slow=39						
RES	**Resolute Bay**	**16.96**	**295**	*e*Pn	**Pn**	**08 29 45.0**	**-3.7**
	comp=Z,8.5nm,1.0s						
RES	**Resolute Bay**	**16.96**	**295**	*e*P	**Pn**	**08 29 45.0**	**-3.7**
RES				pmax	pmax		
	comp=Z,8.0nm,1.0s						
LVZ	**Lovozero**	**17.63**	**134**	*e*P	**P**	**08 29 59.3**	**+1.2**
LVZ				pmax	pmax		
	comp=Z,35nm,1.4s						
JOF	**Joensuu**	**22.33**	**141**	P	**P**	**08 30 52.6**	**+3.5**
JOF				pmax	pmax		
	comp=Z,17nm,2.3s						
TIXI	**Tiksi**	**22.73**	**39**	P	**P**	**08 30 50.1**	**-3.2**
	comp=Z,2.3nm,0.7s,baz=13,slow=7.4,SNR=7.9						
TIXI	**Tiksi**	**22.73**	**39**	*ce*P	**P**	**08 30 52.6**	**-0.7**
TIXI				pmax	pmax		
	comp=Z,11nm,1.7s						
NC303	**NORSAR Array S**	**23.08**	**166**	*e*P	**P**	**08 30 59.0**	**+2.0**
NC405	**NORSAR Array S**	**23.20**	**165**	*e*P	**P**	**08 31 00.1**	**+1.8**
NBO02	**NORSAR Array S**	**23.24**	**166**	*e*P	**P**	**08 30 59.8**	**+1.1**
NB201	**NORSAR Array S**	**23.25**	**166**	*e*P	**P**	**08 30 58.9**	**+0.1**
NBO00	**NORSAR Array S**	**23.26**	**166**	*e*P	**P**	**08 31 00.9**	**+2.0**
NB2	**NORSAR Subarra**	**23.26**	**166**	P	**P**	**08 31 00.3**	**+1.4**
	comp=Z,35nm,1.4s,baz=357,slow=11						
NB200	**NORSAR Array S**	**23.26**	**166**	*e*P	**P**	**08 30 58.9**	**-0.1**
NOA	**NORSAR Array B**	**23.26**	**166**	P	**P**	**08 30 58.9**	**-0.1**
	comp=Z,1.8nm,0.8s,baz=356,slow=11,SNR=4.2						
FIA0	**FINESS Array S**	**23.47**	**148**	*e*P	**P**	**08 31 01.6**	**+0.6**
FIA0	**FINESS Array S**	**23.47**	**148**	*e*P	**P**	**08 31 01.6**	**+0.6**
FINES	**FINESS Array B**	**23.47**	**148**	P	**P**	**08 31 01.6**	**+0.6**
	comp=Z,2.0nm,0.9s,baz=24,slow=7.6,SNR=3.0						
NRA0	**NORESS Array S**	**23.58**	**165**	P	**P**	**08 31 01.1**	**-0.9**
HFS	**Hagfors**	**24.24**	**163**	P	**P**	**08 31 11.3**	**+3.0**
	comp=Z,1.3nm,0.7s,baz=45,slow=8.4,SNR=2.7						
FRB	**Frobisher Bay**	**24.77**	**260**	P	**P**	**08 31 12.2**	**-0.8**
	comp=Z,2.4nm,0.7s,baz=2.3,slow=12,SNR=5.3						
KLMR	**Klimovskoe**	**24.97**	**132**	*e*P	**P**	**08 31 14.5**	**-0.3**
KLMR				AMP		08 31 23.2	
	comp=Z,37nm,1.3s						
KLMR	**Klimovskoe**	**24.97**	**132**	*e*P	**P**	**08 31 14.5**	**-0.3**
KLMR				pmax	pmax		
	comp=Z,37nm,1.3s						
INK	**Inuvik**	**26.29**	**322**	P	**P**	**08 31 25.3**	**-1.4**
	comp=Z,6.7nm,1.1s,baz=16,slow=12,SNR=7.6						
INK	**Inuvik**	**26.29**	**322**	*e*P	**P**	**08 31 26.2**	**-0.5**
	comp=Z,29nm,1.4s						
INK	**Inuvik**	**26.29**	**322**	*e*P	**P**	**08 31 26.2**	**-0.5**
INK				pmax	pmax		
	comp=Z,29nm,1.4s						
TOLK	**Toolik Lake Re**	**26.82**	**335**	*e*P	**P**	**08 31 31.4**	**-0.3**
	comp=Z,7.7nm,1.1s						
BILL	**Bilibino**	**27.97**	**11**	*i* P	**P**	**08 31 39.3**	**-2.6**
BILL				*i*		08 31 47.4	
BILL				*i*		08 32 24.7	
BILL				*i*		08 34 51.2	
BILL				pmax	pmax		
	comp=Z,3.0nm,1.2s						
COLD	**Coldfoot**	**28.26**	**336**	*e*P	**P**	**08 31 44.3**	**-0.2**
	comp=Z,8.0nm,1.4s						
IM3	**Indian Mountai**	**29.65**	**338**	*e*P	**P**	**08 31 57.5**	**+0.7**
OBN	**Obninsk**	**30.45**	**137**	*i*P	**P**	**08 32 04.1**	**+0.3**
OBN				pmax	pmax		
	comp=Z,5.0nm,1.0s						
COLA	**College**	**30.51**	**333**	*i*P	**P**	**08 32 03.9**	**-0.4**
COLA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
YKW3	**Yellowknife Ar**	**30.53**	**304**	*e*P	**P**	**08 32 04.9**	**+0.4**
	comp=Z,7.9nm,1.4s						
IL1	**Eielson Array**	**30.56**	**332**	*e*P	**P**	**08 32 05.0**	**+0.1**
ILAR	**Eielson Array**	**30.56**	**332**	P	**P**	**08 32 04.7**	**-0.2**
	comp=Z,2.8nm,1.1s,baz=353,slow=8.5,SNR=17						
ILAR				PcP	**PcP**	**08 35 03.8**	**+0.9**
	comp=Z,0.3nm,0.8s,baz=335,slow=4.0,SNR=4.3						
ILB	**Eielson Array**	**30.56**	**332**	*e*P	**P**	**08 32 04.6**	**-0.2**
YKA	**Yellowknife Ar**	**30.59**	**304**	P	**P**	**08 32 04.4**	**-0.7**
	comp=Z,1.1nm,0.9s,baz=5.0,slow=8.2,SNR=16						
YKA				PcP	**PcP**	**08 35 03.3**	**+0.4**
	comp=Z,0.6nm,0.9s,baz=360,slow=2.2,SNR=7.4						
DAWY	**Dawson**	**30.86**	**326**	*e*P	**P**	**08 32 07.7**	**+0.2**
	comp=Z,6.1nm,1.2s						
WRH	**Wood River Hil**	**30.92**	**333**	*e*P	**P**	**08 32 08.3**	**+0.4**
	comp=Z,11nm,1.4s						
ARU	**Arti**	**31.02**	**113**	P	**P**	**08 32 07.6**	**-1.3**
ARU				S	**S**	**08 37 13.4**	**+0.7**
YAK	**Yakutsk**	**32.29**	**43**	*e*P	**P**	**08 32 16.4**	**-3.6**
YAK				pmax	pmax		
	comp=Z,12nm,1.0s						
YAK				pmax	pmax		
	comp=N,7.0nm,1.5s						
YAK				pmax	pmax		
	comp=E,3.0nm,1.3s						
SEY	**Seymchan**	**32.67**	**23**	*e*P	**P**	**08 32 22.3**	**-1.1**
CLL	**Collm**	**33.06**	**165**	*e*P	**P**	**08 32 28.0**	**+1.2**
CLL	**Collm**	**33.06**	**165**	*e*P	**P**	**08 32 28.0**	**+1.2**
BRG	**Berggiesshubel**	**33.52**	**164**	*e*P	**P**	**08 32 32.2**	**+1.3**
	comp=E,21nm,1.8s						
BRG	**Berggiesshubel**	**33.52**	**164**	*e*P	**P**	**08 32 32.2**	**+1.3**
BRG				pmax	pmax		
	comp=Z,21nm,1.8s						
AKASG	**Malin Array Be**	**34.37**	**146**	P	**P**	**08 32 38.1**	**-0.1**
	comp=Z,0.3nm,0.4s,baz=269,slow=6.3,SNR=3.3						
OJC	**Ojcow**	**34.38**	**157**	*e*P	**P**	**08 32 39.6**	**+1.3**
	comp=Z,16nm,1.3s						
OJC	**Ojcow**	**34.38**	**157**	*e*P	**P**	**08 32 39.6**	**+1.3**
OJC				pmax	pmax		
	comp=Z,16nm,1.3s						
BOD	**Bodaibo**	**35.21**	**58**	*e*P	**P**	**08 32 43.2**	**-2.2**
BOD				pmax	pmax		
	comp=Z,13nm,1.6s						
STHS	**Stebnicka Huta**	**35.24**	**155**	*e*P	**P**	**08 32 48.5**	**+2.7**
STHS	**Stebnicka Huta**	**35.24**	**155**	*e*P	**P**	**08 32 48.5**	**+2.7**
KHC	**Kasperske Hory**	**35.25**	**164**	*e*P	P	08 32 39.0	-6.9
KHC	**Kasperske Hory**	**35.25**	**164**	*e*P	P	08 32 39.0	-6.9
BRVK	**Borovoye**	**35.52**	**102**	*i*P	**P**	**08 32 49.0**	**+0.9**
BRVK				pmax	pmax		
	comp=Z,8.0nm,1.6s						
GEC2	**GERESS Array S**	**35.54**	**164**	*e*P	**P**	**08 32 51.1**	**+2.6**
	comp=Z,7.2nm,1.2s						
GEC2	**GERESS Array S**	**35.54**	**164**	*e*P	**P**	**08 32 51.1**	**+2.6**
GEC2				pmax	pmax		
	comp=Z,7.0nm,1.2s						
GERES	**GERESS Array B**	**35.54**	**164**	P	**P**	**08 32 50.1**	**+1.6**
	comp=Z,0.5nm,0.4s,baz=354,slow=6.7,SNR=7.7						
GEA0	**GERESS Array S**	**35.55**	**164**	*e*P	**P**	**08 32 50.2**	**+1.7**
BVAR	**Borovoye Array**	**35.56**	**101**	P	**P**	**08 32 48.7**	**+0.2**
	comp=Z,0.6nm,0.5s,baz=359,slow=6.3,SNR=6.9						
BFO	**Black Forest**	**35.93**	**170**	*e*P	**P**	**08 32 51.8**	**0.0**
	comp=Z,17nm,1.4s						
BFO	**Black Forest**	**35.93**	**170**	*i* P	**P**	**08 32 53.9**	**+2.2**
MODS	**Modra-Piesok**	**36.12**	**160**	*e*P	**P**	**08 32 54.3**	**+0.9**
MODS	**Modra-Piesok**	**36.12**	**160**	*e*P	**P**	**08 32 54.3**	**+0.9**
MODS				pmax	pmax		
	comp=Z,16nm,1.5s						
ZAA1	**Zalesovo Array**	**36.15**	**87**	*e*P	**P**	**08 32 53.7**	**+0.2**
ZAA0	**Zalesovo Array**	**36.16**	**87**	*e*P	**P**	**08 32 54.9**	**+1.3**
	comp=Z,6.3nm,1.1s						
ZALV	**Zalesovo Beam**	**36.16**	**87**	P	**P**	**08 32 53.7**	**+0.2**
	comp=Z,2.1nm,0.8s,baz=344,slow=8.4,SNR=8.9						
ZALV	**Zalesovo Beam**	**36.16**	**87**	*e*P	**P**	**08 32 54.6**	**+1.0**
ZALV	**Zalesovo Beam**	**36.16**	**87**	*e*P	**P**	**08 32 54.6**	**+1.0**
AKTO	**Aktyubinsk**	**36.90**	**115**	P	**P**	**08 33 01.5**	**+1.5**
	comp=Z,1.0nm,0.6s,baz=347,slow=14,SNR=2.6						
BUR04	**Bucovina Ar. S**	**37.22**	**151**	*e*P	**P**	**08 33 03.8**	**+0.9**
ABKAR	**Akbulak array**	**38.25**	**113**	*e*P	**P**	**08 33 12.1**	**+0.7**
	comp=Z,17nm,1.2s						
KURK	**Kurchatov**	**38.70**	**94**	*e*P	**P**	**08 33 15.4**	**+0.3**
	comp=Z,14nm,1.5s						
KURK	**Kurchatov**	**38.70**	**94**	*i*P	**P**	**08 33 15.7**	**+0.6**
KURK				pmax	pmax		
	comp=Z,9.0nm,1.7s						
KURBB	**Kurchatov Arra**	**38.78**	**94**	P	**P**	**08 33 16.2**	**+0.4**
	comp=Z,4.4nm,1.0s,baz=352,slow=7.6,SNR=18						
EDM	**Edmonton**	**39.65**	**300**	*e*P	**P**	**08 33 24.6**	**+1.5**
	comp=Z,11nm,1.0s						
EDM	**Edmonton**	**39.65**	**300**	*e*P	**P**	**08 33 24.6**	**+1.5**
EDM				pmax	pmax		
	comp=Z,11nm,1.0s						
IRK	**Irkutsk**	**39.82**	**68**	*e*P	**P**	**08 33 23.1**	**-1.4**
IRK				pmax	pmax		
	comp=Z,38nm,3.0s						
HVS	**Khovu-Aksy**	**39.85**	**79**	*i*P	**P**	**08 33 25.2**	**+0.3**
HVS				pmax	pmax		
	comp=Z,22nm,1.2s						
MOY	**Mondy**	**40.06**	**72**	*e*P	**P**	**08 33 27.6**	**+0.9**
MOY				pmax	pmax		
	comp=Z,17nm,1.6s						
TLY	**Talaya**	**40.31**	**69**	*e*P	**P**	**08 33 28.4**	**-0.2**
	comp=Z,8.2nm,1.0s						
TLY	**Talaya**	**40.31**	**69**	*e*P	**P**	**08 33 28.7**	**+0.1**
TLY				pmax	pmax		
	comp=Z,12nm,1.3s						
ZEA	**Zeya**	**40.35**	**47**	*e*P	**P**	**08 33 28.6**	**-0.3**
ZEA				pmax	pmax		
	comp=Z,29nm,1.0s						
TIRR	**Tirgusor**	**40.54**	**148**	P	**P**	**08 33 33.1**	**+2.6**
TIRR				pmax	pmax		
	comp=Z,4.0nm,1.2s						
DGZ	**Jazzator, Alta**	**40.62**	**85**	*e*P	**P**	**08 33 32.3**	**+1.0**
DGZ				pmax	pmax		
	comp=Z,2.0nm,1.1s						
KNGR	**Kungurtug, Tuv**	**40.77**	**75**	*i*P	**P**	**08 33 33.1**	**+0.6**
ULM	**Lac du Bonnet**	**40.89**	**283**	P	**P**	**08 33 34.7**	**+1.4**
	comp=Z,1.5nm,0.6s,baz=4.8,slow=11,SNR=3.1						
ULM				LR	LR	08 50 42.7	
	comp=Z,556nm,18.8s,baz=18,slow=36						
ZAK	**Zakamensk**	**41.56**	**70**	*e*P	**P**	**08 33 36.1**	**-2.9**
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.3s						
KVAR	**Kislovodsk Arr**	**42.00**	**133**	LR	LR	08 53 01.3	
	comp=Z,689nm,21.0s,slow=39						
VTS	**Vitosha**	**42.14**	**154**	*e*P	**P**	**08 33 43.9**	**0.0**
	comp=Z,3.9nm,1.1s						
VTS	**Vitosha**	**42.14**	**154**	*e*P	**P**	**08 33 43.9**	**0.0**
VTS				pmax	pmax		
	comp=Z,4.0nm,1.1s						
KBZ	**Khabaz**	**42.24**	**132**	P	**P**	**08 33 46.5**	**+2.1**
	comp=Z,3.4nm,1.0s,baz=330,slow=3.1,SNR=7.8						
AGMN	**Agassiz Nation**	**42.82**	**282**	*e*P	**P**	**08 33 50.6**	**+1.5**
	comp=Z,6.9nm,1.1s						
MAKZ	**Makanchi**	**42.91**	**91**	*e*P	**P**	**08 33 50.5**	**+0.5**
	comp=Z,9.7nm,1.0s						
MAKZ	**Makanchi**	**42.91**	**91**	*e*P	**P**	**08 33 50.5**	**+0.5**
MAKZ				pmax	pmax		
	comp=Z,10.0nm,1.0s						
MK31	**Makanchi Array**	**42.96**	**91**	*e*P	**P**	**08 33 50.7**	**+0.4**
MK31	**Makanchi Array**	**42.96**	**91**	*e*P	**P**	**08 33 50.7**	**+0.4**
MK32	**Makanchi Array**	**42.96**	**91**	*e*P	**P**	**08 33 50.6**	**+0.3**
MKAR	**Makanchi Array**	**42.96**	**91**	P	**P**	**08 33 50.6**	**+0.3**
	comp=Z,2.3nm,1.0s,baz=346,slow=7.9,SNR=9.8						
MKAR	**Makanchi Array**	**42.96**	**91**	*e*P	**P**	**08 33 50.5**	**+0.1**
	comp=Z,12nm,0.9s						
MK01	**Makanchi Array**	**42.98**	**91**	*e*P	**P**	**08 33 50.4**	**-0.1**
ZEI	**Tsey**	**43.25**	**131**	*e*P	**P**	**08 33 53.6**	**+0.7**
ZEI				pmax	pmax		
	comp=Z,3.0nm,0.4s						
WALA	**Waterton Lakes**	**43.82**	**299**	*e*P	**P**	**08 33 58.2**	**+0.8**
	comp=Z,8.8nm,0.9s						
FNA	**Florina**	**43.86**	**156**	*e*P	**P**	**08 33 58.6**	**+0.9**
	comp=Z,15nm,1.2s						
FNA	**Florina**	**43.86**	**156**	*e*P	**P**	**08 33 58.6**	**+0.9**
FNA				pmax	pmax		
	comp=Z,15nm,1.2s						
HIA	**Hailar**	**44.19**	**54**	*e*P	**P**	**08 34 00.7**	**+0.5**
HIA				pmax	pmax		
	comp=Z,28nm,1.5s						
SONA1	**Songino Array**	**44.38**	**67**	*e*P	**P**	**08 34 02.4**	**+0.5**
SONA0	**Songino Array**	**44.39**	**67**	*e*P	**P**	**08 34 03.0**	**+1.0**
SONM	**Songino Array**	**44.39**	**67**	P	**P**	**08 34 03.0**	**+1.0**
	comp=Z,8.5nm,1.0s,baz=337,slow=7.5,SNR=38						
SONM	**Songino Array**	**44.39**	**67**	P	**P**	**08 34 03.0**	**+1.0**
ULN	**Ulaanbaatar**	**44.42**	**67**	*e*P	**P**	**08 34 03.0**	**+0.8**
	comp=Z,26nm,1.1s						
ULN	**Ulaanbaatar**	**44.42**	**67**	*ce*P	**P**	**08 34 03.5**	**+1.3**
ULN				pmax	pmax		
	comp=Z,31nm,1.2s						
ESDC	**Sonseca Array**	**44.52**	**184**	P	**P**	**08 34 04.6**	**+1.6**
	comp=Z,0.1nm,0.3s,baz=340,slow=9.9,SNR=2.7						
AKT	**Akhty**	**44.86**	**128**	*e*P	**P**	**08 34 07.7**	**+2.0**
AKT				*e*		08 35 54.9	
AKT				pmax	pmax		
	comp=Z,14nm,1.3s						
JTMT	**Jette**	**45.16**	**300**	*e*P	**P**	**08 34 08.5**	**+0.4**
	comp=Z,6.8nm,0.9s						
KLR	**Kul'dur**	**45.17**	**43**	P	**P**	**08 34 07.4**	**-0.6**
	comp=Z,0.5nm,1.1s,baz=347,slow=7.3,SNR=9.0						
TIP	**Timpagrande**	**45.29**	**161**	*e*P	**P**	**08 34 10.2**	**+1.1**
	comp=Z,14nm,1.3s						
LAO	**LASA Array**	**45.45**	**292**	*e*P	**P**	**08 34 11.4**	**+1.1**
	comp=Z,9.3nm,1.1s						
BR101	**Keskin Array S**	**45.57**	**143**	*e*P	**P**	**08 34 13.1**	**+1.6**
BR131	**Keskin Array S**	**45.57**	**143**	*e*P	**P**	**08 34 13.5**	**+2.1**
BRTR	**Keskin Array B**	**45.57**	**143**	P	**P**	**08 34 13.1**	**+1.6**
	comp=Z,4.0nm,1.1s,baz=328,slow=4.4,SNR=13						
GNI	**Garni**	**45.94**	**131**	*e*P	**P**	**08 34 14.1**	**-0.3**
GNI				pmax	pmax		
	comp=Z,18nm,0.8s						
MSO	**Missoula**	**46.04**	**299**	*e*P	**P**	**08 34 16.9**	**+1.9**
	comp=Z,8.2nm,1.0s						
AAK	**Ala-Archa**	**46.26**	**100**	*e*P	**P**	**08 34 17.6**	**+0.7**
	comp=Z,10.0nm,1.1s						
AAK	**Ala-Archa**	**46.26**	**100**	*i*P	**P**	**08 34 18.5**	**+1.7**
AAK				pmax	pmax		
	comp=Z,19nm,3.0s						
WMQ	**Urumqi**	**46.46**	**86**	P	**P**	**08 34 20.5**	**+2.2**
BOZ	**Bozeman (W)**	**47.05**	**297**	*e*P	**P**	**08 34 25.1**	**+2.1**
	comp=Z,11nm,1.4s						
BOZ	**Bozeman (W)**	**47.05**	**297**	*e*P	**P**	**08 34 25.1**	**+2.1**
BOZ				pmax	pmax		
	comp=Z,11nm,1.4s						
ECSD	**EROS Data Cent**	**47.41**	**282**	*e*P	**P**	**08 34 26.1**	**+0.4**
	comp=Z,10nm,1.2s						
MCMT	**McKenzie Canyo**	**47.92**	**298**	*e*P	**P**	**08 34 29.9**	**0.0**
H17A	**Grant Village**	**48.14**	**295**	*e*P	**P**	**08 34 31.6**	**0.0**
	comp=Z,6.6nm,1.3s						
YPP	**Pitchstone Pla**	**48.28**	**296**	*e*P	**P**	**08 34 33.8**	**+1.0**
	comp=Z,4.9nm,1.1s						
N54A	**Moraine State**	**48.42**	**265**	*e*P	**P**	**08 34 31.7**	**-1.9**
	comp=Z,7.0nm,1.0s						
SANT	**Santorini**	**48.45**	**152**	*e*P	**P**	**08 34 30.5**	**-3.3**
	comp=Z,44nm,1.2s						
MOOW	**Moose Ponds**	**48.79**	**296**	*e*P	**P**	**08 34 37.2**	**+0.6**
	comp=Z,3.2nm,1.1s						
PAGS	**Pennsylvania G**	**48.81**	**261**	*e*P	**P**	**08 34 37.5**	**+1.1**
	comp=Z,14nm,1.3s						
SCIA	**State Center**	**48.87**	**278**	*e*P	**P**	**08 34 38.9**	**+1.9**
	comp=Z,14nm,1.2s						
LOHW	**Long Hollow**	**48.91**	**295**	*e*P	**P**	**08 34 39.7**	**+2.1**
	comp=Z,3.1nm,1.2s						
FXWY	**Fox Creek**	**48.93**	**296**	*e*P	**P**	**08 34 39.0**	**+1.4**
	comp=Z,7.2nm,1.4s						
O56A	**Blue Knob Stat**	**48.96**	**263**	*e*P	**P**	**08 34 37.3**	**-0.4**
	comp=Z,12nm,1.4s						
TPAW	**Teton Pass**	**49.07**	**296**	*e*P	**P**	**08 34 40.4**	**+1.6**
	comp=Z,6.2nm,1.4s						
GEYT	**Alibeck**	**49.30**	**117**

PV07	**Paradox Valley**	**53.86**	**293**	*eP*		**P**	**08 35 14.7**	**+0.1**
	comp=Z,9.4nm,1.3s								
PV15	**Paradox Valley**	**53.94**	**292**	*eP*		**P**	**08 35 17.4**	**+2.1**
	comp=Z,4.7nm,0.9s								
PV10	**Paradox Valley**	**53.95**	**293**	*eP*		**P**	**08 35 17.7**	**+2.4**
TCRU	**Three Creeks R**	**54.05**	**296**	*eP*		**P**	**08 35 18.3**	**+2.2**
	comp=Z,7.1nm,1.4s								
TKL	**Tuckaleechee C**	**54.06**	**268**	*eP*		**P**	**08 35 17.2**	**+1.3**
	comp=Z,10nm,1.3s								
TKL	**Tuckaleechee C**	**54.06**	**268**	*eP*		**P**	**08 35 17.2**	**+1.3**
TKL					pmax	pmax			
	comp=Z,10.0nm,1.3s								
MSU	**Marysvale**	**54.12**	**296**	*eP*		**P**	**08 35 14.8**	**-1.8**
MSU	**Marysvale**	**54.12**	**296**	*eP*		**P**	**08 35 14.8**	**-1.8**
PV01	**Paradox Valley**	**54.15**	**293**	*eP*		**P**	**08 35 17.0**	**+0.3**
	comp=Z,9.9nm,1.3s								
SDCO	**Great Sand Dun**	**54.23**	**289**	*eP*		**P**	**08 35 19.2**	**+1.7**
	comp=Z,4.9nm,1.5s								
PV05	**Paradox Valley**	**54.26**	**293**	*eP*		**P**	**08 35 17.6**	**+0.1**
	comp=Z,8.7nm,1.1s								
YERR	**Yerington**	**54.29**	**303**	*eP*		**P**	**08 35 20.1**	**+2.3**
	comp=Z,9.5nm,1.4s								
S22A	**4UR Ranch, Cre**	**54.36**	**291**	*eP*		**P**	**08 35 20.0**	**+1.6**
	comp=Z,8.8nm,1.5s								
RYN	**Ryan**	**54.58**	**302**	*eP*		**P**	**08 35 19.0**	**-0.8**
	comp=Z,2.4nm,1.0s								
R11A	**Troy Canyon, C**	**54.60**	**299**	*eP*		**P**	**08 35 21.5**	**+1.5**
	comp=Z,4.0nm,1.2s								
BG3	**Lake Jocassee**	**54.63**	**267**	*eP*		**P**	**08 35 22.3**	**+2.3**
	comp=Z,9.4nm,1.2s								
NV11	**Mina Array Sit**	**54.75**	**302**	*eP*		**P**	**08 35 17.6**	**-3.4**
	comp=Z,0.5nm,1.5s								
NV01	**Mina Array Sit**	**54.76**	**302**	*eP*		**P**	**08 35 20.8**	**-0.4**
NVAR	**Mina Array Bea**	**54.76**	**302**	P		**P**	**08 35 20.7**	**-0.5**
	comp=Z,0.5nm,0.7s,baz=1.9,slow=4.5,SNR=3.5								
MVCO	**Mesa Verde**	**55.06**	**292**	*eP*		**P**	**08 35 24.5**	**+1.1**
	comp=Z,14nm,1.4s								
TUL1	**Leonard**	**55.07**	**280**	*eP*		**P**	**08 35 22.9**	**-0.3**
	comp=Z,11nm,1.4s								
LCMT	**Little Creek M**	**55.71**	**297**	*eP*		**P**	**08 35 28.0**	**+0.1**
	comp=Z,3.2nm,1.1s								
LZH	**Lanzhou**	**55.77**	**72**	*eP*		**P**	**08 35 29.5**	**+1.1**
LZH					*p*P	*s*P	08 35 36.0	+0.5
LZH					*s*P	*p*P	08 35 40.0	+6.5
LZH					pmax	pmax			
	comp=Z,13nm,1.0s								
X40A	**Basin Creek Fa**	**56.17**	**277**	*eP*		**P**	**08 35 32.3**	**+1.3**
	comp=Z,3.4nm,0.8s								
MIAR	**Mount Ida**	**56.19**	**277**	*eP*		**P**	**08 35 32.9**	**+1.7**
	comp=Z,6.8nm,1.1s								
MIAR	**Mount Ida**	**56.19**	**277**	*eP*		**P**	**08 35 32.9**	**+1.7**
MIAR					pmax	pmax			
	comp=Z,7.0nm,1.1s								
WMOK	**Wichita Mounta**	**56.54**	**282**	*eP*		**P**	**08 35 33.4**	**-0.3**
	comp=Z,7.7nm,1.5s								
WMOK	**Wichita Mounta**	**56.54**	**282**	*eP*		**P**	**08 35 33.4**	**-0.3**
WMOK					pmax	pmax			
	comp=Z,8.0nm,1.5s								
KS01	**Wonju Array Si**	**56.56**	**49**	*eP*		**P**	**08 35 32.3**	**-1.6**
KSRS	**Korea Array**	**56.59**	**49**	P		**P**	**08 35 33.4**	**-0.6**
	comp=Z,4.2nm,1.0s,baz=357,slow=6.7,SNR=15								
KSAR	**Wonju Array Be**	**56.60**	**49**	P		**P**	**08 35 33.4**	**-0.7**
KSAR	**Wonju Array Be**	**56.60**	**49**	P		**P**	**08 35 33.4**	**-0.7**
DAC	**Darwin (Calif)**	**56.83**	**301**	*eP*		**P**	**08 35 38.8**	**+2.7**
	comp=Z,2.3nm,1.0s								
DAC	**Darwin (Calif)**	**56.83**	**301**	*eP*		**P**	**08 35 38.8**	**+2.7**
DAC					pmax	pmax			
	comp=Z,2.0nm,1.0s								
WLAR	**White Oak Lake**	**56.99**	**277**	*eP*		**P**	**08 35 39.4**	**+2.4**
	comp=Z,5.5nm,1.4s								
WUAZ	**Wupatki**	**57.01**	**295**	*eP*		**P**	**08 35 39.7**	**+2.4**
	comp=Z,8.2nm,1.4s								
ANMO	**Albuquerque**	**57.10**	**290**	*eP*		**P**	**08 35 37.4**	**-0.6**
	comp=Z,4.9nm,1.4s								
ANMO	**Albuquerque**	**57.10**	**290**⇓	*eP*		**P**	**08 35 37.5**	**-0.5**
ANMO					pmax	pmax			
	comp=Z,3.0nm,1.2s								
TJN	**Taejon**	**57.61**	**49**⇓	*eP*		**P**	**08 35 41.1**	**-0.2**
W13A	**Hualapai Mount**	**57.66**	**297**	*eP*		**P**	**08 35 44.0**	**+2.1**
	comp=Z,4.7nm,1.4s								
MJB9	**Matsu-Tunnel**	**58.23**	**39**	*eP*		**P**	**08 35 44.8**	**-0.9**
	comp=Z,18nm,1.4s								
MAJO	**Matsushiro**	**58.24**	**39**	*eP*		**P**	**08 35 44.2**	**-1.5**
MAJO				*es*P		**P**	**08 35 44.8**	**-0.9**
MAJO	**Matsushiro**	**58.24**	**39**⇑	*eP*		**P**	**08 35 44.8**	**-0.9**
MAJO					pmax	pmax			
	comp=Z,8.0nm,1.2s								
MAT	**Matsushiro**	**58.24**	**39**	P		**P**	**08 35 44.6**	**-1.1**
MJAR	**Matsushiro Arr**	**58.24**	**39**	P		**P**	**08 35 44.2**	**-1.5**
	comp=Z,6.7nm,1.1s,baz=352,slow=6.7,SNR=14								
ABTX	**Abilene, Hawle**	**58.72**	**283**	*eP*		**P**	**08 35 50.8**	**+1.7**
	comp=Z,6.2nm,1.2s								
INU	**Inuyama**	**59.34**	**40**	*eP*		**P**	**08 35 51.2**	**-2.1**
	comp=Z,21nm,1.3s								
PFO	**Pinyon Flats O**	**59.37**	**299**	*eP*		**P**	**08 35 53.0**	**-0.8**
	comp=Z,6.8nm,1.3s								
PFO	**Pinyon Flats O**	**59.37**	**299**	*eP*		**P**	**08 35 53.0**	**-0.8**
PFO					pmax	pmax			
	comp=Z,7.0nm,1.3s								
SNCC	**San Nicolas Is**	**60.01**	**302**	*eP*		**P**	**08 35 59.2**	**+1.2**
	comp=Z,95nm,1.4s								
TUC	**Tucson**	**60.13**	**294**	*eP*		**P**	**08 35 59.5**	**+0.5**
	comp=Z,5.2nm,1.1s								
TUC	**Tucson**	**60.13**	**294**	*eP*		**P**	**08 35 59.5**	**+0.5**
TUC					pmax	pmax			
	comp=Z,5.0nm,1.1s								
JCT	**Junction City**	**60.86**	**283**	*eP*		**P**	**08 36 04.7**	**+0.9**
	comp=Z,15nm,1.3s								
JCT	**Junction City**	**60.86**	**283**	*eP*		**P**	**08 36 04.7**	**+0.9**
JCT					pmax	pmax			
	comp=Z,15nm,1.3s								
319A	**Douglas**	**60.91**	**292**	*eP*		**P**	**08 36 05.1**	**+0.8**
	comp=Z,10.0nm,1.3s								
NJ2	**Nanjing**	**61.19**	**58**	*eP*		**P**	**08 36 07.8**	**+1.8**
NJ2					pmax	pmax			
	comp=Z,9.0nm,0.5s								
TAM	**Tamanrasset**	**61.37**	**174**	*eP*		**P**	**08 36 09.4**	**+1.9**
	comp=Z,3.1nm,0.6s								
TAM	**Tamanrasset**	**61.37**	**174**	*eP*		**P**	**08 36 09.4**	**+1.9**
TAM					pmax	pmax			
	comp=Z,3.0nm,0.6s								
ENH	**Enshi**	**62.09**	**67**	*eP*		**P**	**08 36 13.2**	**+1.0**
	comp=Z,37nm,1.4s								
TX31	**Lajitas Ar. Si**	**62.38**	**287**	*eP*		**P**	**08 36 14.6**	**+0.4**
TXAR	**Lajitas Array**	**62.38**	**287**	P		**P**	**08 36 14.9**	**+0.7**
	comp=Z,1.2nm,1.0s,baz=358,slow=6.3,SNR=7.7								
RAYN	**Ar Rayn**	**62.51**	**132**	*eP*		**P**	**08 36 16.7**	**+1.7**
	comp=Z,3.9nm,1.0s								
SHL	**Shillong**	**64.96**	**85**	*eP*		**P**	**08 36 31.1**	**-0.3**
	comp=Z,20nm,1.0s								
SHL	**Shillong**	**64.96**	**85**	*eP*		**P**	**08 36 31.1**	**-0.3**
SHL					pmax	pmax			
	comp=Z,20nm,1.0s								
KMI	**Kunming**	**66.52**	**74**	P		**P**	**08 36 41.3**	**-0.1**
KMI					pmax	pmax			
	comp=Z,20nm,1.0s								
TOA1	**Torodi Ar. Sit**	**70.93**	**178**	*eP*		**P**	**08 37 08.0**	**-0.8**
TOA0	**Torodi Ar. Sit**	**70.93**	**178**	*eP*		**P**	**08 37 08.0**	**-0.7**
TORD	**Torodi Ar. Bea**	**70.93**	**178**	P		**P**	**08 37 08.0**	**-0.8**
	comp=Z,2.4nm,1.1s,baz=359,slow=6.8,SNR=9.0								
CHTO	**Chiang Mai**	**72.37**	**79**	*eP*		**P**	**08 37 16.3**	**-1.1**
	comp=Z,111nm,1.1s								
CHTO	**Chiang Mai**	**72.37**	**79**	*eP*		**P**	**08 37 16.3**	**-1.1**
CHTO					pmax	pmax			
	comp=Z,11nm,1.1s								
CMAR	**Chiang Mai Arr**	**72.72**	**79**	P		**P**	**08 37 19.1**	**-0.5**
	comp=Z,8.3nm,0.9s,baz=348,slow=7.0,SNR=40								
CM01	**Chiang Mai Arr**	**72.76**	**79**	*eP*		**P**	**08 37 19.1**	**-0.6**
PBKT	**Sadao Pong**	**74.80**	**77**	*eP*		**P**	**08 37 31.0**	**-0.6**
	comp=Z,16nm,1.3s								
APG	**El Apazote**	**75.19**	**272**	P		**P**	**08 37 33.6**	**-0.6**
	comp=Z,2.4nm,0.7s,baz=333,slow=14,SNR=3.3								
SDV	**Santo Domingo**	**79.20**	**251**	P		**P**	**08 37 56.5**	**-0.2**
	comp=Z,1.6nm,0.5s,baz=258,slow=1.7,SNR=4.0								
RUSC	**La Rusia**	**82.40**	**253**	*eP*		**P**	**08 38 14.9**	**+0.8**
	comp=Z,3.2nm,1.1s								
IPM	**Ipoh**	**86.75**	**78**	*eP*		**P**	**08 38 35.0**	**-0.6**
	comp=Z,8.7nm,0.8s								
PSI	**Prapat**	**88.19**	**81**	P		**P**	**08 38 41.6**	**-1.1**
	comp=Z,8.4nm,0.8s,baz=283,slow=4.1,SNR=7.0								
PSI	**Prapat**	**88.19**	**81**	*eP*		**P**	**08 38 41.9**	**-0.7**
	comp=Z,15nm,1.0s								
PSI	**Prapat**	**88.19**	**81**	*eP*		**P**	**08 38 41.9**	**-0.7**
PSI					pmax	pmax			
	comp=Z,15nm,1.0s								

*IDC **30** 08:27:37.5±1.2,21°.11S×168°.96E,h0km,mb4.1/7, mb1 4.3/8,mb1mx4.0/42,mbtmp4.1/8,ML3.2/1,Error ellipse: s-maj=49.8km s-min=21.7km az=152.0*
*ISCJB **30** 08:27°.39.8±1.0,21°.10S±0°.2×168°.9E±0°.2,h25km,mb4.0/7, Error ellipse: s-maj=38.2km s-min=11.9km az=151.7*

ISC 30 08:27:41.3±1.1,21°.1S±0°.3×169°.0E±0°.2,h25km,n10, σ0.83/11,mb3.9/7,Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**2.54**	**247**	Pn	**Pn**	**08 28 20.2**	**-0.8**
	4.4nm,0.3s,baz=106,slow=10,SNR=133						
DZM				Sn	**Sn**	**08 28 52.2**	**+1.0**
	45nm,0.3s,baz=93,slow=23,SNR=13						
STKA	**Stephens Creek**	**26.68**	**241**	P	**P**	**08 33 17.9**	**-0.5**
	3.3nm,1.1s,baz=80,slow=12,SNR=2.0						
WRA	**Warramunga Arr**	**32.41**	**266**	P	**P**	**08 34 08.3**	**-1.1**
	0.8nm,0.6s,baz=91,slow=8.2,SNR=7.9						
ASAR	**Alice Springs**	**32.47**	**259**	P	**P**	**08 34 09.8**	**-0.2**
	3.7nm,0.8s,baz=95,slow=9.7,SNR=16						
CMAR	**Chiang Mai Arr**	**79.03**	**295**	P	**P**	**08 39 44.8**	**+1.1**
	1.2nm,0.3s,baz=111,slow=4.9,SNR=2.7						
SNAA	**Sanae**	**87.31**	**183**	P	**P**	**08 40 26.4**	**+0.7**
	3.3nm,1.1s,baz=157,slow=13,SNR=3.0						
SONM	**Songino Array**	**88.53**	**323**	P	**P**	**08 40 32.4**	**+0.6**
	0.2nm,0.3s,baz=126,slow=7.3,SNR=1.2						
NVAR	**Mina Array Bea**	**90.21**	**49**	P	**P**	**08 40 39.5**	**-0.6**
	0.2nm,0.6s,baz=230,slow=5.6,SNR=3.1						
EKA	**Eskdalemuir Ar**	**145.29**	**352**	PKPbc	**PKPbc**	**08 47 16.2**	**-0.2**
	1.3nm,0.7s,baz=1.4,slow=2.8,SNR=1.8						
GERES	**GERESS Array B**	**145.97**	**330**	PKPbc	**PKPbc**	**08 47 18.6**	**-0.2**
	1.0nm,0.8s,baz=56,slow=3.4,SNR=8.3						

*IDC **30** 08:37:42.4±1.9,33°.45N×142°.57E,h0km,mb3.7/3, mb1 3.8/7,mb1mx3.4/68,mbtmp3.8/7,ML3.8/4,Error ellipse: s-maj=44.9km s-min=21.9km az=74.0*
*ISCJB **30** 08:37:44.2±1.0,33°.54N±0°.06×142°.51E±0°.1,h35km, mb3.7/3,Error ellipse: s-maj=11.7km s-min=8.2km az=177.3*
*JMA **30** 08:37:50.9±0.2,33°.69N×141°.89E,h44km,M3.5*

ISC 30 08:37:45.6±1.1,33°.47N±0°.06×142°.5E±0°.1,h35km,n17, σ1.94/20,mb3.7/3,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**1.74**	**313**	P	**Pn**	**08 38 12.0**	**-0.8**
BSO3	**Boso 3**	**2.13**	**309**	P	**Pn**	**08 38 17.8**	**-0.6**
JHJ2	**Mitsune**	**2.29**	**262**	P	**Pn**	**08 38 20.8**	**-0.1**
JHJ	**Hachijo jima 2**	**2.32**	**262**	Pn	**Pn**	**08 38 21.1**	**-0.1**
	73nm,0.3s,baz=252,slow=19,SNR=30						
JHJ				Sn	**Sn**	**08 38 47.9**	**-0.7**
	56nm,0.3s,baz=252,slow=20,SNR=7.4						
BSO4	**Boso 4**	**2.36**	**311**	P	**Pn**	**08 38 20.9**	**-0.8**
JIM2	**Oshima 2**	**2.85**	**297**	P	**Pn**	**08 38 27.2**	**-1.4**
JIZS	**Izushimoda**	**3.27**	**293**	P	**Pn**	**08 38 33.2**	**-1.1**
JYT	**Yasato**	**3.35**	**326**	P	**Pn**	**08 38 35.8**	**+0.4**
JOD2	**Odawara 2**	**3.35**	**303**	P	**Pn**	**08 38 34.5**	**-1.0**
JHO	**Hitachi**	**3.52**	**333**	S	**Sn**	**08 39 15.4**	**-2.7**
JAG	**Ashikaga**	**3.87**	**320**	P	**Pn**	**08 38 42.6**	**-0.1**
MJAR	**Matsushiro Arr**	**4.68**	**312**	Pn	**Pn**	**08 38 54.5**	**+0.7**
	2.8nm,0.3s,baz=156,slow=12,SNR=14						
MJAR				Sn	**Sn**	**08 39 43.5**	**-3.3**
	0.8nm,0.3s,baz=197,slow=22,SNR=2.9						
JCJ	**Chichijima**	**6.36**	**183**	Pn	**Pn**	**08 39 16.8**	**-0.1**
	11nm,0.3s,baz=4.6,slow=20,SNR=11						
JCJ				Sn	**Sn**	**08 40 23.8**	**-4.6**
	3.2nm,0.3s,baz=139,slow=20,SNR=2.3						
ASAJ	**Asahikawa**	**10.63**	**0**	Pn	**Pn**	**08 40 15.0**	**-0.3**
	0.5nm,0.3s,baz=212,slow=18,SNR=3.8						
MKAR	**Makanchi Array**	**46.84**	**305**	P	**P**	**08 46 15.2**	**+3.1**
	0.4nm,0.4s,baz=81,slow=8.9,SNR=9.3						
KURBB	**Kurchatov Arra**	**48.95**	**311**	P	**P**	**08 46 30.3**	**+2.0**
	0.8nm,0.6s,baz=83,slow=7.4,SNR=7.4						
WRA	**Warramunga Arr**	**53.69**	**190**	P	**P**	**08 47 06.0**	**+1.9**
	0.7nm,0.9s,baz=8.4,slow=7.7,SNR=7.8						

JMA 30 08:37:56.2,34°.88N×136°.47E,h14km,M2.5,Western Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TSUJ	**Tsu 2**	**0.17**	**194**	P	Pg	08 38 00.4	+0.1
TSUJ				S	Sg	08 38 03.2	+0.1
JEG	**Eigenji**	**0.26**	**346**	P	Pg	08 38 01.9	+0.1
JEG				S	Sg	08 38 05.6	-0.1
JIE	**Ise**	**0.53**	**158**	P	Pg	08 38 06.2	-0.3
JIE				S	Sg	08 38 13.6	+0.1
JAA	**Atsumi**	**0.61**	**114**	P	Pg	08 38 07.4	-0.7
JAA				S	Sg	08 38 15.4	-0.7
JKN2	**Miekihoku**	**0.66**	**194**	P	Pg	08 38 08.8	-0.3
JKN2				S	Sg	08 38 17.4	-0.4
JHE	**Heguri**	**0.69**	**251**	P	Pg	08 38 09.3	-0.3
JHE				S	Sg	08 38 18.4	-0.2
JWT	**Wachi**	**0.96**	**295**	P	Pb	08 38 14.5	-0.2
JWT				S	Sb	08 38 26.6	-0.7
JWY	**Kouya**	**0.98**	**228**	P	Pb	08 38 14.5	-0.5
JWY				S	Sb	08 38 27.6	-0.2
MAT	**Matsushiro**	**2.18**	**40**	P	Pb	08 38 35.3	-0.1
MAT				S	Sn	08 38 55.4	-3.5

*ISCJB **30** 08:42:02.8±0.3,23°.65N±0°.02×121°.61E±0°.02,h24km±2km, Error ellipse: s-maj=3.5km s-min=2.1km az=40.4*
*TAP **30** 08:42:02.8,23°.65N×121°.56E,h28km,ML3.3,B*
*JMA **30** 08:42:02.0±0.2,23°.61N×121°.66E,h15km±4km,M2.7*

ISC 30 08:42:02.9±0.9,23°.65N±0°.02×121°.59E±0°.02,h28km±5km, n78,σ0.81/114,11C-12D,Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EGFH	**Guangfu**	**0.15**	**279**⇓	*e*P	**Pb**	**08 42 08.2**	**-0.2**
	baz=286						
EGFH				*e*S	**Sb**	**08 42 11.7**	**-0.3**
	baz=286						
HGSD	**Ruisui**	**0.22**	**225**	⇓P	**Pb**	**08 42 09.4**	**+0.4**
	baz=220						
HGSD				*e*S	**Sb**	**08 42 14.1**	**+0.8**
	baz=220						
ESL	**Shilin**	**0.22**	**319**⇓	*i*P	**Pb**	**08 42 08.8**	**-0.4**
	baz=318						
ESL				*i* S	**Sb**	**08 42 12.9**	**-0.5**
	baz=318						
ENLB	**Shoufeng**	**0.26**	**2**	*e*P	**Pb**	**08 42 09.8**	**+0.2**
	baz=17						
ENLB				S	**Sn**	**08 42 15.5**	**-0.5**
	baz=17						
EHY	**Hungye**	**0.28**	**240**	⇑P	**Pb**	**08 42 09.4**	**-0.5**
	baz=245						
EHY				*e*S	**Sb**	**08 42 14.0**	**-0.8**
	baz=245						
HWA	**Hwalien**	**0.33**	**2**	*e*P	**Pn**	**08 42 11.2**	**-0.8**
	baz=15						
YULB	**Yu-li**	**0.37**	**227**	⇑P	**Pb**	**08 42 10.6**	**-0.6**
	baz=235						
YULB				*e*S	**Sb**	**08 42 16.0**	**-0.8**
	baz=235						
TWD	**Chiawan**	**0.43**	**1**⇓	*i*P	**Pb**	**08 42 12.1**	**-0.1**
	baz=354						
TWD				S	**Sb**	**08 42 18.8**	**+0.3**
	baz=354						
OWD	**Renai**	**0.49**	**309**⇓	*i*P	**Pb**	**08 42 12.6**	**-0.6**
	baz=310						
OWD				S	**Sb**	**08 42 18.9**	**-1.2**
	baz=310						
FULB	**Fuli**	**0.52**	**211**	⇑P	**Pb**	**08 42 13.7**	**0.0**
	baz=222						
FULB				*e*S	**Sn**	**08 42 23.9**	**+1.4**
	baz=222						
NACB	**Ninganchiao**	**0.53**	**1**⇓	P	**Pb**	**08 42 13.1**	**-0.6**
	baz=353						
NACB				*e*S	**Sb**	**08 42 20.3**	**-0.7**
	baz=353						
CHGB	**Renai**	**0.56**	**317**	*e*P	**Pb**	**08 42 13.9**	**-0.5**
	baz=319						
CHGB				*e*S	**Sb**	**08 42 21.1**	**-1.1**
	baz=319						
CHKT	**Chengkung**	**0.58**	**201**⇓	*e*P	**Pb**	**08 42 14.6**	**0.0**
	baz=185						
CHKT				*e*S	**Sn**	**08 42 23.3**	**-0.7**
	baz=185						
SSLB	**Suanglung**	**0.60**	**284**	⇓P	**Pb**	**08 42 14.2**	**-0.8**
	baz=289						
SSLB				*e*S	**Sb**	**08 42 20.6**	**-2.5**
	baz=289						
SMLT	**Sun Moon Lake**	**0.67**	**291**	⇑P	**Pb**	**08 42 15.6**	**-0.6**
	baz=294						
SMLT				*e*S	**Sb**	**08 42 25.2**	**-0.1**
	baz=294						
ELDTW	**Lidau**	**0.69**	**229**	*e*P	**Pb**	**08 42 15.3**	**-1.2**
	baz=228						
DPDB	**Guoxing**	**0.72**	**303**	*e*P	**Pb**	**08 42 16.3**	**-0.7**
	baz=308						
DPDB				*e*S	**Sb**	**08 42 25.9**	**-0.6**
	baz=308						
ALS	**Alishan**	**0.73**	**260**⇑	*i*P	**Pb**	**08 42 17.1**	**-0.2**
	baz=259						
ALS				S	**Sb**	**08 42 26.5**	**-0.6**
	baz=259						
ENA	**Nanau**	**0.79**	**10**	*e*P	**Pb**	**08 42 17.3**	**-0.9**
	baz=360						
NANB	**Nanao**	**0.79**	**11**⇓	P	**Pb**	**08 42 17.4**	**-0.8**
	baz=358						
NANB				*e*S	**Sb**	**08 42 27.4**	**-1.1**
	baz=358						
NNSB	**Datong**	**0.80**	**346**⇓	P	**Pb**	**08 42 17.5**	**-0.9**
	baz=348						
NNSB				S	**Sb**	**08 42 27.5**	**-1.5**
	baz=348						
WJS	**Zhushan**	**0.81**	**283**	*e*P	**Pn**	**08 42 18.5**	**0.0**
	baz=283						
NNS	**Nan Shan**	**0.81**	**346**	*e*P	**Pb**	**08 42 17.7**	**-0.9**
	baz=357						
ENAH	**Nanao**	**0.82**	**14**	*e*P	**Pn**	**08 42 18.9**	**+0.1**
	baz=23						
CHN5	**Tsauling**	**0.84**	**267**	⇑P	**Pb**	**08 42 18.9**	**-0.1**
	baz=262						
CHN5				*e*S	**Sb**	**08 42 30.3**	**+0.4**
	baz=262						
WNT	**Mingjian**	**0.86**	**286**	⇓P	**Pb**	**08 42 19.7**	**+0.5**
	baz=286						
WNT				*e*S	**Sn**	**08 42 31.2**	**+0.3**
	baz=286						
STYT	**Tauyuan**	**0.90**	**238**	⇑P	**Pb**	**08 42 19.5**	**-0.5**
	baz=231						
STYT				*e*S	**Sb**	**08 42 31.1**	**-0.6**
	baz=231						
TWH	**Lutao**	**0.94**	**186**	*e*P	**Pb**	**08 42 18.9**	**-1.7**
	baz=171						
WGK	**Gukeng**	**0.94**	**273**	*e*P	**Pb**	**08 42 20.4**	**-0.3**
	baz=273						
TPUB	**Ta-pu**	**0.95**	**249**	⇑P	**Pn**	**08 42 20.5**	**+0.1**
	baz=246						
TPUB				*e*S	**Sb**	**08 42 33.1**	**+0.2**
	baz=246						
TWG	**Pinlang**	**0.95**	**210**	*e*P	**Pn**	**08 42 20.3**	**-0.2**
	baz=197						
TWGBT	**Beinan**	**0.95**	**210**	*e*P	**Pb**	**08 42 18.9**	**-1.9**
	baz=196						
CHN4	**Tsaushan**	**0.96**	**252**⇑	*i*P	**Pn**	**08 42 20.9**	**+0.3**
	baz=253						
CHN4				S	**Sn**	**08 42 33.8**	**+0.4**
	baz=253						
WDLH	**Douliu**	**0.96**	**273**	*e*P	**Pn**	**08 42 20.9**	**+0.2**
	baz=273						
TCU	**Taichung**	**0.97**	**301**	*e*P	**Pn**	**08 42 22.0**	**+1.2**
	baz=302						
WTP	**Ta-pu**	**0.98**	**246**⇑	*i*P	**Pb**	**08 42 21.0**	**-0.3**
	baz=247						
WTP				S	**Sn**	**08 42 34.7**	**+0.7**
	baz=247						
TWC	**Suao**	**0.99**	**14**	*e*P	**Pb**	**08 42 20.9**	**-0.5**
	baz=23						
ENTT	**Nioudou**	**0.99**	**359**	*e*P	**Pb**	**08 42 19.5**	**-2.0**
TWQ1	**Liyutan**	**1.02**	**313**	*e*P	**Pb**	**08 42 22.6**	**+0.6**
	baz=323						
TWQ1				*e*S	**Sn**	**08 42 36.0**	**+1.1**
	baz=323						
EOS1	**EOS1**	**1.02**	**29**	*e*P	**Pn**	**08 42 22.5**	**+1.0**
	baz=43						
CHN2	**Minshiung**	**1.03**	**264**	*e*P	**Pb**	**08 42 22.8**	**+0.7**
	baz=264						
WCHH	**Zhanghua**	**1.04**	**295**	*e*P	**Pb**	**08 42 22.5**	**+0.3**
	baz=295						
YHNB	**Yeheng**	**1.04**	**349**⇓	P	**Pn**	**08 42 21.5**	**-0.3**
	baz=1.0						
TWE	**Neicheng**	**1.07**	**4**	*e*P	**Pb**	**08 42 24.0**	**+1.1**
	baz=6.0						
CHN1	**Nanshi**	**1.08**	**245**	P	**Pb**	**08 42 22.9**	**-0.1**
	baz=246						
CHN1				*e*S	**Sn**	**08 42 37.9**	**+1.6**
	baz=246						
TWK	**Hsinying**	**1.08**	**250**⇑	*i*P	**Pb**	**08 42 22.8**	**-0.2**
	baz=250						
TWK				*e*S	**Sn**	**08 42 36.8**	**+0.4**
	baz=250						
SGST	**Jiashian**	**1.08**	**239**	*e*P	**Pb**	**08 42 22.8**	**-0.2**
	baz=240						
SGST				*e*S	**Sn**	**08 42 37.5**	**+1.1**
	baz=240						
SLGT	**

*IDC **30** 08:46:58.2±1.2,22.°02S×63.°86W,h533km±12km,mb3.2/9, mb1 3.3/13,mb1mx3.0/47,mbtmp4.0/13,Error ellipse: s-maj=18.1km s-min=13.8km az=52.0*

ISC 30 08:46:58.5±0.6,22.°12S±0.°06×63.°88W±0.°09,h550km,n29, σ2§01/41,mb3.8/9,Salta Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YJA	**Yavi**	**1.52**	**268**	*iP*	**P**	**08 48 06.2**	**-0.6**
YJA	comp=Z,36nm,0.8s			IAML		08 48 08.1	
YJA				*iS*	**S**	**08 48 59.1**	**-3.2**
HJA	**Humahuaca**	**1.78**	**232**	*iP*	**P**	**08 48 07.5**	**-0.2**
HJA	comp=Z,83nm,0.4s			IAML		08 48 08.0	
SLA	**San Lorenzo**	**2.99**	**210**	*iP*	**P**	**08 48 13.2**	**-0.4**
SLA	comp=Z,110nm,0.5s			IAML		08 48 13.6	
SLA				*iS*	**S**	**08 49 13.6**	**-1.2**
FSA	**Cafayete**	**4.41**	**205**	*iP*	**P**	**08 48 21.7**	**-2.0**
FSA	comp=Z,21nm,0.3s			IAML		08 48 23.9	
FSA				*iS*	**S**	**08 49 29.3**	**-4.0**
AHML	**Horco Molle**	**4.83**	**196**	*iP*	**P**	**08 48 26.1**	**-0.8**
PB14	**IPOC Station P**	**6.50**	**246**	*iP*	**P**	**08 48 41.9**	**-0.1**
PB14	comp=Z,61nm,0.3s			IAML		08 48 42.5	
PB14				*iS*	**S**	**08 50 06.8**	**+0.1**
SIV	**San Ignacio**	**6.65**	**24**	P	**P**	**08 48 42.0**	**-1.3**
SIV	comp=Z,1.5nm,0.3s,baz=206,slow=8.6,SNR=42 baz=210,slow=14,SNR=4.7			S	**S**	**08 50 05.4**	**-3.6**
LPAZ	**La Paz**	**7.06**	**325**	P	**P**	**08 48 47.4**	**-0.5**
LPAZ	comp=Z,1.4nm,0.3s,baz=141,slow=5.7,SNR=41			S	**S**	**08 50 13.2**	**-4.0**
CPUP	**Villa Florida**	**7.30**	**126**	P	**P**	**08 48 48.7**	**-0.5**
VCA	comp=Z,1.2nm,0.3s,baz=316,slow=12,SNR=33 **Vinchina**	**7.66**	**210**	*iP*	**P**	**08 48 53.0**	**0.0**
VCA				*iS*	**S**	**08 50 24.5**	**-2.3**
AGUA	**GUANDACOL**	**8.43**	**209**	*iP*	**P**	**08 48 59.0**	**-0.6**
AGUA				*iS*	**S**	**08 50 38.0**	**-2.7**
APLL	**PUNTA DE LOS L**	**8.58**	**196**	*iP*	**P**	**08 49 00.1**	**-1.8**
APLL				*iS*	**S**	**08 50 36.9**	**-6.3**
APLL	comp=Z,4.3nm,0.5s			IAML		08 50 41.7	
ACDV	**Cuesta del Vie**	**9.30**	**209**	*iP*	**P**	**08 49 10.3**	**+1.0**
ACDV	comp=Z,12nm,0.4s			IAML		08 49 12.4	
ACDV				*iS*	**S**	**08 50 56.2**	**-0.5**
AROD	**Rodeo**	**9.46**	**211**	*iP*	**P**	**08 49 13.1**	**+2.0**
AROD				*iS*	**S**	**08 51 01.3**	**+1.3**
AMOG	**MOGNA**	**9.71**	**204**	*iP*	**P**	**08 49 13.9**	**+0.6**
AMOG				*iS*	**S**	**08 51 01.5**	**-2.7**
ASAL	**Salagasta**	**11.32**	**202**	*iP*	**P**	**08 49 31.5**	**+1.5**
PLCA	**Paso Flores**	**19.40**	**195**	P	**P**	**08 50 50.3**	**+1.3**
PTGA	comp=Z,0.1nm,0.3s,baz=36,slow=9.2,SNR=4.7 **Pitinga**	**21.60**	**11**	P	**P**	**08 51 09.2**	**0.0**
SDV	comp=Z,2.1nm,0.3s,baz=305,slow=23,SNR=4.6 **Santo Domingo**	**31.52**	**347**	P	**P**	**08 52 35.9**	**-0.4**
TXAR	comp=Z,1.4nm,0.3s,baz=158,slow=19,SNR=5.3 **Lajitas Array**	**63.92**	**322**	P	**P**	**08 56 38.4**	**+0.5**
DBIC	comp=Z,0.1nm,0.6s,baz=104,slow=7.5,SNR=2.5 **Dimbokro**	**64.47**	**71**	P	**P**	**08 56 42.0**	**+0.2**
KOWA	comp=Z,2.6nm,0.6s,baz=243,slow=4.5,SNR=3.6 **Kowa**	**69.03**	**64**	P	**P**	**08 57 10.5**	**+0.7**
TORD	comp=Z,1.4nm,0.4s,baz=252,slow=7.3,SNR=6.0 **Torodi Ar. Bea**	**73.20**	**68**	P	**P**	**08 57 35.0**	**+0.7**
TSUM	comp=Z,4.0nm,0.5s,baz=255,slow=5.6,SNR=87 **Tsumeb**	**75.37**	**105**	P	**P**	**08 57 48.4**	**+1.8**
PDAR	comp=Z,1.2nm,0.7s,baz=315,slow=4.3,SNR=3.7 **Pinedale Array**	**77.07**	**327**	P	**P**	**08 57 56.2**	**+0.7**
YKA	comp=Z,0.2nm,0.7s,baz=145,slow=2.2,SNR=3.2 **Yellowknife Ar**	**93.39**	**339**	P	**P**	**08 59 16.5**	**+1.9**
ASAR	comp=Z,0.1nm,0.8s,baz=127,slow=5.0,SNR=4.2 **Alice Springs**	**131.31**	**202**	SKPbc	**SKPab**	**09 07 46.6**	**+2.5**
WRA	comp=Z,0.3nm,0.5s,baz=140,slow=3.8,SNR=5.3 **Warramunga Arr**	**134.56**	**204**	SKPbc	**SKPab**	**09 07 58.5**	**+0.2**
MKAR	comp=Z,0.4nm,0.5s,baz=159,slow=2.7,SNR=14 **Makanchi Array**	**143.25**	**40**	PKP	**PKPdf**	**09 05 30.5**	**+0.2**
	comp=Z,0.5nm,0.5s,baz=316,slow=4.1,SNR=5.1						

IDC 30 08:50:23.2±2.5,1.°66N×89.°84E,h0km,mb3.5/5,mb1 3.8/6, mb1mx3.4/70,mbtmp3.6/6,ML4.8/1,Error ellipse: s-maj=83.1km s-min=25.3km az=63.0,North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**10.68**	**302**	Sn	Sn	08 54 38.8	-19
CMAR	1.9nm,0.3s,baz=117,slow=6.2,SNR=4.7 **Chiang Mai Arr**	**18.93**	**28**	P	P	08 54 45.6	-0.2
H08S2	1.1nm,0.3s,baz=213,slow=11,SNR=4.3 **Diego Garcia H**	**19.62**	**242**	T	T	09 14 47.0	
H08S3	baz=61,slow=75,SNR=15 **Diego Garcia H**	**19.62**	**242**	T	T	09 14 37.7	
H08S1	baz=61,slow=75,SNR=13 **Diego Garcia H**	**19.64**	**242**	T	T	09 14 51.6	
H01W3	baz=61,slow=75,SNR=17 **Cape Leeuwin H**	**42.90**	**150**	T	T	09 44 08.2	
H01W2	baz=312 **Cape Leeuwin H**	**42.91**	**150**	T	T	09 44 12.0	
H01W1	baz=312 **Cape Leeuwin H**	**42.91**	**150**	T	T	09 44 09.2	
MKAR	baz=312 **Makanchi Array**	**45.43**	**353**	P	P	08 58 44.5	+0.7
SONM	0.4nm,0.6s,baz=165,slow=12,SNR=2.0 **Songino Array**	**48.17**	**15**	P	P	08 59 05.8	+0.4
WRA	0.8nm,0.6s,baz=206,slow=9.4,SNR=3.6 **Warramunga Arr**	**48.62**	**119**	P	P	08 59 08.4	-0.9
ASAR	0.7nm,0.6s,baz=294,slow=8.6,SNR=6.7 **Alice Springs**	**49.68**	**123**	P	P	08 59 17.9	+0.6
KURBB	0.3nm,0.8s,baz=312,slow=8.7,SNR=2.1 **Kurchatov Arra**	**49.72**	**351**	P	P	08 59 15.5	-1.6
TXAR	0.2nm,0.2s,baz=169,slow=6.6,SNR=2.6 **Lajitas Array**	**146.57**	**22**	PKPbc	PKPbc	09 10 07.2	-0.3
	0.1nm,0.3s,baz=341,slow=1.9,SNR=1.6						

*ISCJB **30** 09:05:01.5±2.1,32.°27N±0.°03×115.°30W±0.°05, h11km±19km,Error ellipse: s-maj=7.9km s-min=4.6km az=157.4*

*ECX **30** 09:05:02.9±0.6,32.°25N×115.°29W,h8km,MD2.2,ML2.3*

*MEX **30** 09:05:03.5±0.4,32.°34N×115.°25W,h10km±46km,MD3.8*

ISC 30 09:05:01.6±1.0,32.°23N±0.°04×115.°32W±0.°04, h10km±12km,n15,σ0§69/23,3C-3D,California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPBX	**Cerro Prieto**	**0.19**	**5**	⇑*eP*	**Pg**	**09 05 05.5**	**-0.1**
CPBX				*eS*	**Sg**	**09 05 09.0**	**+0.5**
CPBX				⇓*e*		09 05 11.0	
CPBX	comp=E,3μm,0.3s			IAML		09 05 11.0	
SGL	**Mount Signal**	**0.54**	**321**	⇓*iP*	**Pg**	**09 05 12.9**	**+0.8**
YUH	**Yuha Desert**	**0.66**	**310**	⇓*iP*	**Pg**	**09 05 14.8**	**+0.5**
YMD	**Yuma Desert**	**0.74**	**63**	⇑*iP*	**Pg**	**09 05 15.5**	**-0.3**
RMX	**La Rumorosa**	**0.74**	**301**	*eP*	**Pg**	**09 05 15.4**	**-0.5**
RMX				*eS*	**Sg**	**09 05 24.7**	**-0.9**
ECBX	**El Chinero**	**0.79**	**163**	*eP*	**Pg**	**09 05 16.6**	**-0.1**
ECBX				*eS*	**Sg**	**09 05 27.6**	**+0.6**
IKP	**In-Ko-Pah, Jac**	**0.79**	**303**	*eP*	**Pg**	**09 05 17.2**	**+0.4**
CBX	**Cerro Bola**	**1.14**	**275**	*eP*	**Pb**	**09 05 22.7**	**-0.7**
CBX				*eS*	**Sg**	**09 05 36.7**	**-1.6**
CBX	**Cerro Bola**	**1.14**	**275**	*eP*	**Pb**	**09 05 23.4**	**0.0**
CBX				*eS*	**Sg**	**09 05 39.2**	**+0.9**
CBX	comp=E,59nm,0.5s			IAML		09 05 42.7	
CBX				⇑*e*		09 05 42.7	
TJIG	**Tijuana**	**1.16**	**281**	*eP*	**Pb**	**09 05 23.2**	**-0.6**
SPIG	**San Pedro Mart**	**1.18**	**186**	*eP*	**Pn**	**09 05 24.4**	**0.0**
SPIG				*eS*	**Sb**	**09 05 40.5**	**+0.7**
SPIG	**San Pedro Mart**	**1.18**	**186**	*eP*	**Pn**	**09 05 24.0**	**-0.5**
SPIG				*eS*	**Sb**	**09 05 40.5**	**+0.7**
SPX	**San Pedro Mart**	**1.18**	**186**	*eP*	**Pn**	**09 05 24.0**	**-0.5**
SPX				*eS*	**Sb**	**09 05 40.6**	**+0.8**
BAR	**Barrett**	**1.23**	**292**	*eP*	**Pn**	**09 05 24.8**	**0.0**
SDRC	**San Diego Road**	**1.46**	**291**	*eP*	**Pn**	**09 05 28.3**	**+0.3**

TRN 30 09:07:09.5,13.°85N×60.°35W,h9km,MD3.5,Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MCLT	**Moule a Chique**	**0.59**	**256**	*e*	Pg	09 07 13.1	-7.9
MCLT	**Moule a Chique**	**0.59**	**256**	*eP*	Pn	09 07 25.1	+1.0
MCLT				*eS*	Sn	09 07 34.9	+0.9
SLB	**Belfond**	**0.67**	**268**	*e*	Pg	09 07 16.1	-6.4
SLB	**Belfond**	**0.67**	**268**	*eP*	Pn	09 07 27.7	+2.4
SLB				*eS*	Sn	09 07 38.0	+2.0
LPMF	**Morne Lapointe**	**0.93**	**321**	*eP*	Pn	09 07 30.4	+1.5
SVCV	**St. Vincent, C**	**0.96**	**233**	*eP*	Pn	09 07 31.2	+1.9
SVCV				*eS*	Sn	09 07 45.4	+2.3
TRMF	**Trois Ilets**	**0.96**	**315**	*eP*	Pn	09 07 30.5	+1.3
SSV	**Crater Summit**	**0.97**	**238**	*eP*	Pn	09 07 30.6	+1.2
SSV				*eS*	Sn	09 07 46.2	+2.8
ZAM	**Aeronautique**	**0.97**	**318**	*eP*	Pn	09 07 30.8	+1.4
SVB	**Belmont**	**1.05**	**237**	*eP*	Pn	09 07 32.4	+1.9
SVB				*eS*	Sn	09 07 48.0	+2.8
FDF	**Fort de France**	**1.17**	**319**	*eP*	Pn	09 07 32.8	+0.6
FDF				*eS*	Sn	09 07 49.6	+1.3
BAMF	**Morne Balai**	**1.23**	**321**	*eP*	Pg	09 07 33.9	+0.7
PCM	**Pelee Case Pet**	**1.27**	**319**	*eP*	Pg	09 07 34.4	+0.5

*ISCJB **30** 09:24:55.0±0.5,1.°80N±0.°08×89.°66E±0.°06,h10km, mb4.0/16,Error ellipse: s-maj=12.2km s-min=7.7km az=27.4*

*IDC **30** 09:24:55.1±0.8,1.°74N×89.°53E,h0km,mb3.9/13, mb1 4.1/16,mb1mx3.8/70,mbtmp4.0/16,ML4.0/3,MS3.7/1, Ms1 3.7/1,ms1mx3.0/67,Error ellipse: s-maj=28.4km s-min=15.1km az=44.0*

*NEIC **30** 09:24:56.7±0.4,1.°77N×89.°57E,h10km,mb4.1/6,Error ellipse: s-maj=11.1km s-min=6.3km az=204.0*

ISC 30 09:24:56.9±0.8,1.°8N±0.°1×89.°68E±0.°07,h10km,n42, σ1§65/38,mb4.0/16,North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSI	**Gunungsitoli**	**7.91**	**94**	*eP*	**Pn**	**09 26 54.0**	**+2.0**
PSI	**Prapat**	**9.28**	**84**	Pn	**Pn**	**09 27 12.5**	**+1.5**
PSI	0.5nm,0.3s,baz=278,slow=7.1,SNR=3.1			Sn	**Sn**	**09 28 49.7**	**-6.0**
PSI	baz=274,slow=16,SNR=1.3			LR	LR	09 30 38.4	
PALK	comp=Z,457nm,20.9s,baz=172,slow=36 **Pallekele**	**10.45**	**301**	Pn	**Pn**	**09 27 23.6**	**-3.3**
PALK	0.8nm,0.3s,baz=117,slow=11,SNR=3.2			Sn	Sn	09 29 10.5	-14
KULM	6.4nm,0.3s,baz=299,slow=0.4,SNR=7.2 **Kulim**	**11.47**	**72**	*eP*	**Pn**	**09 27 41.3**	**+0.5**
IPM	**Ipoh**	**11.62**	**77**	*eP*	**Pn**	**09 27 43.6**	**+0.6**
PBKT	**Sadao Pong**	**18.38**	**37**	*eP*	**P**	**09 29 12.3**	**+0.3**
CMAR	8.0nm,0.8s **Chiang Mai Arr**	**18.85**	**28**	P	**Pn**	**09 29 20.2**	**+2.5**
CHTO	0.4nm,0.3s,baz=224,slow=12,SNR=4.8 **Chiang Mai**	**19.16**	**28**	*eP*	**Pn**	**09 29 22.1**	**+0.6**
H08S2	8.2nm,1.2s **Diego Garcia H**	**19.57**	**241**	T	T	09 49 09.6	
H08S3	baz=60,slow=75,SNR=77 **Diego Garcia H**	**19.57**	**241**	T	T	09 49 08.2	
H08S1	baz=60,slow=63 **Diego Garcia H**	**19.58**	**241**	T	T	09 49 09.5	
KSM	baz=60,slow=75,SNR=72 **Kuching**	**20.62**	**91**	*eP*	**P**	**09 29 36.9**	**+0.2**
H01W3	8.8nm,1.0s **Cape Leeuwin H**	**43.13**	**150**	T	T	10 18 49.9	
H01W2	baz=327 **Cape Leeuwin H**	**43.14**	**150**	T	T	10 18 49.4	
H01W1	baz=327,slow=74 **Cape Leeuwin H**	**43.15**	**150**	T	T	10 18 50.2	
MK32	baz=327,slow=74 **Makanchi Array**	**45.23**	**353**	*eP*	**P**	**09 33 14.1**	**-0.3**
MKAR	**Makanchi Array**	**45.23**	**353**	P	**P**	**09 33 14.1**	**-0.3**
SONA0	2.3nm,0.7s,baz=163,slow=8.6,SNR=10.0 **Songino Array**	**48.05**	**15**	*eP*	**P**	**09 33 37.8**	**+1.3**
SONM	**Songino Array**	**48.05**	**15**	P	**P**	**09 33 37.8**	**+1.3**
WR1	2.5nm,0.6s,baz=197,slow=9.5,SNR=12 **Warramunga Arr**	**48.85**	**119**	*eP*	**P**	**09 33 43.3**	**+0.3**
WRA	9.7nm,1.2s **Warramunga Arr**	**48.85**	**119**	P	**P**	**09 33 43.3**	**+0.3**
WB2	2.4nm,0.8s,baz=296,slow=8.6,SNR=30 **Warramunga Arr**	**48.86**	**119**	*eP*	**P**	**09 33 43.4**	**+0.2**
KURBB	**Kurchatov Arra**	**49.52**	**351**	P	**P**	**09 33 47.8**	**+0.2**
KURK	1.1nm,0.7s,baz=176,slow=7.5,SNR=8.1 **Kurchatov**	**49.59**	**351**	*eP*	**P**	**09 33 47.8**	**-0.4**
KURK				*eP*	**P**	**09 33 48.9**	**+0.7**
AS31	**Alice Springs**	**49.91**	**123**	*eP*	**P**	**09 33 51.4**	**+0.2**
ASAR	1.9nm,1.3s **Alice Springs**	**49.91**	**123**	P	**P**	**09 33 51.4**	**+0.2**
ZALV	1.3nm,0.6s,baz=297,slow=7.6,SNR=26 **Zalesovo Beam**	**52.09**	**356**	P	**P**	**09 34 06.8**	**-0.1**
ZAA1	0.6nm,0.4s,baz=184,slow=9.1,SNR=3.6 **Zalesovo Array**	**52.09**	**356**	*eP*	**P**	**09 34 06.8**	**-0.1**
BVAR	**Borovoye Array**	**53.47**	**346**	P	**P**	**09 34 21.7**	**+4.5**
KBZ	1.2nm,0.7s,baz=148,slow=6.3,SNR=4.6 **Khabaz**	**58.79**	**322**	P	**P**	**09 34 55.2**	**-0.2**
STKA	0.6nm,0.5s,baz=180,slow=2.0,SNR=3.1 **Stephens Creek**	**59.48**	**129**	P	**P**	**09 35 00.5**	**0.0**
STKA	2.0nm,0.7s,baz=322,slow=8.7,SNR=6.3 **Stephens Creek**	**59.48**	**129**	*eP*	**P**	**09 35 00.5**	**0.0**
BR101	7.4nm,1.8s **Keskin Array S**	**63.20**	**314**	*eP*	**P**	**09 35 26.2**	**+0.5**
BRTR	**Keskin Array B**	**63.20**	**314**	P	**P**	**09 35 26.2**	**+0.5**
TIXI	0.9nm,0.7s,baz=127,slow=7.2,SNR=5.7 **Tiksi**	**74.00**	**12**	P	**P**	**09 36 31.0**	**-1.3**
FIA0	1.6nm,0.5s,baz=282,slow=2.6,SNR=3.5 **FINESS Array S**	**76.03**	**334**	*eP*	**P**	**09 36 45.8**	**+1.6**
FINES	**FINESS Array B**	**76.03**	**334**	P	**P**	**09 36 45.8**	**+1.6**
GEA0	0.8nm,0.6s,baz=140,slow=11,SNR=2.8 **GERESS Array S**	**79.40**	**319**	*eP*	**P**	**09 37 04.1**	**+0.6**
GERES	**GERESS Array B**	**79.40**	**319**	P	**P**	**09 37 03.0**	**-0.4**
TORD	0.2nm,0.3s,baz=112,slow=5.9,SNR=5.2 **Torodi Ar. Bea**	**87.63**	**283**	P	**P**	**09 37 45.1**	**-1.2**
TOA1	0.3nm,0.8s,baz=95,slow=4.4,SNR=2.3 **Torodi Ar. Sit**	**87.63**	**283**	*eP*	**P**	**09 37 45.1**	**-1.2**
TXAR	**Lajitas Array**	**146.47**	**21**	PKPbc	**PKPab**	**09 44 40.2**	**+0.1**
	0.7nm,0.8s,baz=2.9,slow=3.6,SNR=9.6						

*SOME **30** 09:35:14.1,43.°58N×69.°48E*

*NNC **30** 09:35:14.3±1.5,43.°74N×69.°74E,h0km,mb3.4,mpv2.8, Error ellipse: s-maj=7.8km s-min=5.4km az=131.0, Suspected Mining explosion.*

*KRNET **30** 09:35:17.5±0.1,42.°62N×69.°39E,mb2.8*

ISC 30 09:35:19.8±3.2,42.°8N±0.°1×69.°6E±0.°1,h0km,n10, σ2§77/16,15C-5D,Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**0.76**	**68**	⇑P	Pg	09 35 30.4	-4.0
KK31	1.2nm,0.2s,baz=318,slow=17,SNR=115			⇓S	**Sg**	**09 35 42.6**	**-1.6**
ARK	16nm,0.4s,baz=320,slow=30,SNR=125 **Arkit**	**2.06**	**119**	⇓*iP*	**Pb**	**09 35 56.3**	**-1.8**
ARK	baz=13			⇓*iS*	**Sg**	**09 36 24.4**	**-1.5**
MNAS	baz=13 **Manas**	**2.20**	**98**	⇓Pg	**Pb**	**09 35 58.9**	**-1.6**
MNAS	1.6nm,0.3s			⇑Lg	Lg	09 36 30.3	
MNAS	12nm,0.4s **Manas**	**2.20**	**98**	⇑*eP*	**Pb**	**09 35 59.0**	**-1.6**
MNAS	baz=92			⇑*iS*	**Sb**	**09 36 29.2**	**+0.7**
EKS2	baz=92 **Erkin-Say**	**3.12**	**91**	⇑*eP*	**Pn**	**09 36 11.8**	**+1.5**
EKS2	baz=88			⇑*iS*	**Sb**	**09 36 52.9**	**-1.8**
AML	baz=88 **Almayashu**	**3.14**	**101**	⇑*iP*	**Pn**	**09 36 11.6**	**+0.7**
AML	baz=97			⇑*iS*	**Sn**	**09 36 51.9**	**+2.6**
AAK	baz=97 **Ala-Archa**	**3.64**	**91**	⇑Pg	**Pb**	**09 36 21.8**	**-3.4**
AAK	3.1nm,0.5s			⇓Lg	Lg	09 37 10.4	
AAK	4.8nm,0.5s **Ala-Archa**	**3.64**	**91**	⇑*iP*	**Pn**	**09 36 18.9**	**+1.3**
AAK	baz=88			⇑*iS*	**Sn**	**09 37 05.3**	**+3.9**
USP	baz=88 **Ospenovka**	**3.65**	**81**	⇑*iP*	**Pn**	**09 36 19.5**	**+1.9**
USP	baz=78			⇑*iS*	**Sn**	**09 37 06.4**	**+5.0**
	baz=78						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TKM2	**Tokmak 2**	**4.44**	**87**	⇑Pg	**Pb**	**09 36 34.8**	**-4.0**
TKM2	2.4nm,0.7s			⇑Lg	Lg	09 37 33.8	
	5.0nm,0.5s						

*IDC **30** 09:38:53.1±1.0,36.°68N×69.°95E,h0km,mb3.7/9, mb1 3.8/14,mb1mx3.6/68,mbtmp3.7/14,ML3.3/5,MS3.6/1, Ms1 3.6/1,ms1mx2.8/68,Error ellipse: s-maj=19.8km s-min=15.5km az=119.0*

*ISCJB **30** 09:39:00.2±0.8,37.°15N±0.°07×69.°52E±0.°05,h37km, mb3.6/9,MS3.4/1,Error ellipse: s-maj=9.8km s-min=5.3km az=159.9*

*NNC **30** 09:39:00.4±3.2,37.°31N×69.°53E,h0km,mb4.2,mpv3.8, Error ellipse: s-maj=25.7km s-min=17.1km az=178.0*

ISC 30 09:39:02.1±1.2,37.°1N±0.°1×69.°58E±0.°07,h37km,n33, σ1§58/38,mb3.6/9,6C-8D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**4.22**	**46**	⇓P	**Pn**	**09 40 05.3**	**+1.3**
SFK	4.8nm,0.3s			⇑S	**Sn**	**09 40 54.0**	**+1.9**
MNAS	11nm,0.3s **Manas**	**5.81**	**22**	⇓P	**Pn**	**09 40 27.1**	**+1.2**
MNAS	2.5nm,0.4s			⇑S	**Sn**	**09 41 33.7**	**+2.4**
AML	6.4nm,0.5s **Almayashu**	**5.93**	**31**	P	**Pn**	**09 40 28.1**	**+0.5**
KK31	SNR=54 **Karatay Array**	**6.02**	**6**	⇑P	**Pn**	**09 40 29.4**	**+0.8**
KK31	3.8nm,0.5s,baz=199,slow=16,SNR=55			⇓S	**Sn**	**09 41 38.4**	**+2.2**
UCH	4.5nm,0.4s,baz=190,slow=23,SNR=8.0 **Uchtor**	**6.36**	**35**	P	**Pn**	**09 40 34.0**	**+0.4**
KZA	SNR=24 **Kyzart**	**6.61**	**40**	P	**Pn**	**09 40 38.1**	**+1.1**
AAK	SNR=5.5 **Ala-Archa**	**6.68**	**33**	Pn	**Pn**	**09 40 38.4**	**+0.6**
AAK	2.6nm,0.3s,baz=185,slow=7.1,SNR=21			Sn	**Sn**	**09 41 55.3**	**+2.6**
AAK	1.0nm,0.3s,baz=281,slow=23,SNR=5.8			Lg	Lg	09 42 32.0	
AAK	0.5nm,0.3s,baz=37,slow=20,SNR=3.0 **Ala-Archa**	**6.68**	**33**	⇓P	**Pn**	**09 40 38.4**	**+0.6**
AAK	8.6nm,0.5s			⇓S	**Sn**	**09 41 54.3**	**+1.6**
AAK	9.9nm,0.7s **Ala-Archa**	**6.68**	**33**	P	**Pn**	**09 40 38.5**	**+0.8**
KBK	SNR=15 **Karagaybulak**	**6.90**	**35**	P	**Pn**	**09 40 42.5**	**+1.7**
CHMS	SNR=7.8 **Chumysh**	**7.08**	**32**	P	**Pn**	**09 40 44.1**	**+0.9**
USP	SNR=17 **Ospenovka**	**7.20**	**30**	P	**Pn**	**09 40 44.5**	**-0.3**
TKM2	SNR=10 **Tokmak 2**	**7.41**	**37**	⇑P	**Pn**	**09 40 47.7**	**-0.1**
TKM2	5.3nm,0.4s			⇓S	**Sn**	**09 42 10.7**	**+0.1**
TKM2	3.5nm,0.6s **Tokmak 2**	**7.41**	**37**	P	**Pn**	**09 40 47.9**	**+0.1**
GEYT	SNR=21 **Alibeck**	**9.15**	**279**	Sn	**Sn**	**09 42 54.7**	**+1.5**
MKAR	0.6nm,0.3s,baz=313,slow=39,SNR=2.8 **Makanchi Array**	**13.51**	**40**	Pn	**Pn**	**09 42 09.4**	**-1.6**
AB31	0.1nm,0.3s,baz=223,slow=14,SNR=5.6 **Akbulak array**	**14.01**	**333**	⇓P	**Pn**	**09 42 15.9**	**-1.9**
AB31	2.4nm,0.7s,baz=149,slow=13,SNR=34			⇑S	**Sn**	**09 44 50.5**	**-1.4**
KURBB	1.9nm,0.8s,baz=150,slow=14,SNR=8.5 **Kurchatov Arra**	**14.95**	**23**	Pn	**Pn**	**09 42 27.1**	**-3.4**
AKTO	0.0nm,0.3s,baz=214,slow=12,SNR=2.6 **Aktyubinsk**	**15.69**	**332**	Pn	**Pn**	**09 42 39.2**	**-1.0**
AKTO	0.1nm,0.3s,baz=122,slow=13,SNR=2.7 **Aktyubinsk**	**15.69**	**332**	⇓P	**Pn**	**09 42 38.4**	**-1.8**
AKTO	8.9nm,0.8s			⇑S	**Sn**	**09 45 31.5**	**-1.3**
BVAR	2.9nm,1.1s **Borovoye Array**	**15.92**	**2**	Pn	**Pn**	**09 42 39.9**	**-3.2**
ZALV	0.2nm,0.3s,baz=168,slow=7.4,SNR=3.4 **Zalesovo Beam**	**19.86**	**27**	P	**P**	**09 43 27.6**	**-2.1**
KVAR	3.4nm,0.5s,baz=216,slow=12,SNR=12 **Kislovodsk Arr**	**21.49**	**297**	LR	LR	09 55 19.7	
BRTR	comp=Z,139nm,18.5s,baz=50,slow=45 **Keskin Array B**	**28.16**	**286**	P	**P**	**09 44 53.7**	**+2.7**
FINES	0.4nm,0.3s,baz=112,slow=8.2,SNR=3.9 **FINESS Array B**	**36.34**	**326**	P	**P**	**09 46 02.3**	**+0.3**
ARCES	0.5nm,0.5s,baz=94,slow=16,SNR=4.4 **ARCESS Array B**	**40.14**	**338**	P	**P**	**09 46 34.8**	**+0.8**
HFS	2.2nm,0.8s,baz=114,slow=9.0,SNR=4.0 **Hagfors**	**41.88**	**322**	P	**P**	**09 46 49.0**	**+0.6**
NB2	1.8nm,0.5s,baz=106,slow=11,SNR=11 **NORSAR Subarra**	**43.20**	**323**	P	**P**	**09 46 59.6**	**+0.4**
NOA	comp=Z,1.3nm,0.8s,baz=99,slow=8.6 **NORSAR Array B**	**43.20**	**323**	P	**P**	**09 46 59.2**	**+0.1**
TORD	comp=Z,0.5nm,0.5s,baz=97,slow=8.0,SNR=3.0 **Torodi Ar. Bea**	**64.60**	**267**	P	**P**	**09 49 34.5**	**-1.6**
YKA	comp=Z,0.3nm,0.8s,baz=47,slow=6.4,SNR=4.4 **Yellowknife Ar**	**80.67**	**2**	P	**P**	**09 51 10.4**	**-0.4**
WRA	comp=Z,0.3nm,0.5s,baz=351,slow=5.4,SNR=14 **Warramunga Arr**	**83.28**	**121**	P	P	09 51 19.4	-5.7
ASAR	comp=Z,0.3nm,0.8s,baz=296,slow=14,SNR=3.5 **Alice Springs**	**85.54**	**124**	P	P	09 51 30.5	-6.0
	comp=Z,0.3nm,0.7s,baz=310,slow=4.3,SNR=3.9						

*IDC **30** 09:41:05.8±1.4,36.°71N×70.°04E,h0km,mb3.6/5, mb1 3.7/9,mb1mx3.4/68,mbtmp3.6/9,ML3.2/4,Error ellipse: s-maj=30.5km s-min=18.7km az=133.0*

ISC 30 09:41:10.9±4.1,37.°0N±0.°4×69.°8E±0.°2,h35km,n10, σ2§86/6,mb3.5/4,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**6.75**	**31**	Pn	Pn	09 42 50.6	+3.0
AAK	1.0nm,0.3s,baz=348,slow=22,SNR=4.0			Sn	**Sn**	**09 44 05.5**	**+2.3**
AAK	0.3nm,0.3s,baz=308,slow=19,SNR=3.0			Lg	Lg	09 44 44.0	
MKAR	0.2nm,0.3s,baz=180,slow=19,SNR=2.3 **Makanchi Array**	**13.54**	**40**	Pn	**Pn**	**09 44 20.0**	**-0.4**
KURBB	0.0nm,0.3s,baz=222,slow=15,SNR=3.5 **Kurchatov Arra**	**15.04**	**22**	Pn	**Pn**	**09 44 37.8**	**-3.0**
AKTO	0.0nm,0.3s,baz=214,slow=9.7,SNR=2.9 **Aktyubinsk**	**15.90**	**332**	Pn	**P**	**09 44 54.4**	**-0.7**
BVAR	0.4nm,0.3s,baz=154,slow=14,SNR=3.9 **Borovoye Array**	**16.08**	**1**	Pn	**P**	**09 44 54.8**	**-2.4**
ZALV	0.3nm,0.3s,baz=151,slow=13,SNR

0.7nm,0.2s,baz=200,slow=16,SNR=40
KK31 ⇑Sn **Sn** 10 10 47.7 -0.5
4.6nm,0.6s,baz=190,slow=25,SNR=7.9
UCH Uchtor 6.50 35 P **Pn** 10 09 43.2 +0.3
SNR=16
AAK Ala-Archa 6.82 33 ⇓Pn **Pn** 10 09 47.5 +0.5
5.7nm,0.5s
AAK ⇑Sn **Sn** 10 11 03.4 -1.3
6.8nm,0.7s
AAK Ala-Archa 6.82 33 P **Pn** 10 09 47.8 +0.8
SNR=12
KBK Karagaybulak 7.03 35 P **Pn** 10 09 50.9 +1.0
SNR=6.0
CHMS Chumysh 7.22 32 P **Pn** 10 09 52.8 +0.4
SNR=12
USP Ospenovka 7.34 30 P **Pn** 10 09 54.1 0.0
SNR=5.8
TKM2 Tokmak 2 7.54 36 P **Pn** 10 09 57.1 +0.2
SNR=14
MKAR Makanchi Array 13.64 40 Pn **Pn** 10 11 18.3 -1.9
0.0nm,0.3s,baz=223,slow=15,SNR=4.5
AKTO Aktyubinsk 15.79 332 Pn **P** 10 11 53.7 +0.7
0.4nm,0.3s,baz=146,slow=13,SNR=15
BVAR Borovoye Array 16.05 2 Pn **Pn** 10 11 52.5 0.0
0.3nm,0.3s,baz=184,slow=8.7,SNR=6.1
ZALV Zalesovo Beam 20.00 27 P **P** 10 12 37.0 -2.3
2.4nm,0.5s,baz=222,slow=11,SNR=10
FINES FINESS Array B 36.42 326 P **P** 10 15 12.7 +1.5
1.9nm,1.0s,baz=115,slow=9.6,SNR=2.5
HFS Hagfors 41.95 322 P **P** 10 15 58.6 +1.1
1.1nm,0.5s,baz=110,slow=13,SNR=5.4
NOA NORSAR Array B 43.28 323 P **P** 10 16 08.4 +0.1
0.2nm,0.4s,baz=99,slow=8.3,SNR=2.9
TORD Torodi Ar. Bea 64.55 268 P **P** 10 18 44.7 +0.3
0.3nm,0.6s,baz=46,slow=5.9,SNR=3.2
ILAR Eielson Array 74.63 15 P **P** 10 19 44.5 -1.3
0.2nm,0.7s,baz=333,slow=7.1,SNR=3.9
YKA Yellowknife Ar 80.81 2 P **P** 10 20 19.6 -0.6
0.2nm,0.7s,baz=350,slow=5.9,SNR=6.5

KRSC 30 10:20:53.1±1.1, 54°03'N×161°85'E, h47km±23km, ML3.9,
Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KII	**Karymskiy**	**1.42**	**271**	*e*P	Pn	10 21 17.9	+1.4
KII				*e*S	Sn	10 21 35.1	+1.1
KZV	**Kizimen**	**1.42**	**321**	*e*P	Pn	10 21 18.2	+1.7
KZV				*e*S	Sn	10 21 35.1	+1.0
TUMD	**Tumrok D**	**1.45**	**325**	*e*P	Pn	10 21 18.1	+1.2
TUMD				*e*S	Sn	10 21 35.2	+0.5
TUMR	**Tumrok**	**1.60**	**323**	*i* P	Pn	10 21 21.4	+2.4
TUMR				*e*S	Sn	10 21 40.5	+1.9
NLC	**Nalytchevo**	**1.72**	**241**	*e*P	Pn	10 21 22.7	+2.2
NLC				*e*S	Sn	10 21 43.1	+1.8
KMNR	**Kamenistaya**	**1.97**	**332**	*e*P	Pn	10 21 27.0	+3.0
KMNR				*e*S	Sn	10 21 50.2	+2.7
SMAR	**Somma**	**1.97**	**248**	*e*P	Pn	10 21 26.9	+2.8
SMAR				*e*S	Sn	10 21 50.3	+2.6
UGLR	**Uglovaya**	**1.98**	**247**	*e*P	Pn	10 21 27.0	+2.8
UGLR				*e*S	Sn	10 21 50.5	+2.7
AVH	**Avacha**	**2.00**	**249**	*i* P	Pn	10 21 27.7	+3.2
AVH				*e*S	Sn	10 21 51.5	+3.1
KRX	**Arik**	**2.02**	**252**	*e*P	Pn	10 21 27.7	+3.0
KRX				*e*S	Sn	10 21 50.8	+2.0
BZGR	**Bezymyannyi-Gr**	**2.03**	**341**	*e*P	Pn	10 21 27.7	+2.8
BZGR				*e*S	Sn	10 21 51.8	+2.7
KOK	**Koryaka**	**2.05**	**250**	*e*P	Pn	10 21 28.2	+3.1
KOK				*e*S	Sn	10 21 52.5	+3.0
BZMR	**Bezymyannaya**	**2.07**	**338**	*e*P	Pn	10 21 28.3	+2.9
BZMR				*e*S	Sn	10 21 52.9	+2.9
ZLN	**Zelenaya**	**2.08**	**344**	*e*P	Pn	10 21 28.7	+3.1
ZLN				*e*S	Sn	10 21 53.6	+3.2
BZWR	**Bezymyannyi-We**	**2.09**	**339**	*e*P	Pn	10 21 28.6	+2.8
BZWR				*e*S	Sn	10 21 53.3	+2.6
DALK	**Dalny**	**2.10**	**243**	*e*P	Pn	10 21 28.3	+2.6
DALK				*e*S	Sn	10 21 53.3	+2.7
KIRR	**Kirishev**	**2.12**	**336**	*e*P	Pn	10 21 29.3	+3.2
PET	**Petropavlovsk**	**2.16**	**244**	*e*P	Pn	10 21 29.1	+2.6
PET				*e*S	Sn	10 21 54.1	+2.1
KPT	**Kopyto**	**2.16**	**335**	*e*P	Pn	10 21 29.6	+3.0
LGNR	**Loginova**	**2.17**	**343**	*e*P	Pn	10 21 30.2	+3.3
LGNR				*e*S	Sn	10 21 55.8	+3.1
CIRR	**Tsirk**	**2.19**	**344**	*e*P	Pn	10 21 30.1	+3.0
KBTR	**Krutoberegovo**	**2.26**	**14**	*i* P	Pn	10 21 30.4	+2.5
KRSR	**Krestovskiy**	**2.32**	**342**	*e*P	Pn	10 21 31.3	+2.5
KOZ	**Kozyrevsk**	**2.33**	**332**	*e*P	Pn	10 21 32.2	+3.3
KOZ				*e*S	Sn	10 21 59.4	+3.0
GNL	**Ganaly**	**2.34**	**263**	*e*P	Pn	10 21 32.4	+3.3
GNL				*e*S	Sn	10 22 00.2	+3.5
KLY	**Klyuchi**	**2.39**	**344**	*e*P	Pn	10 21 31.7	+2.0
RUS	**Russkaya**	**2.56**	**233**	*e*P	Pn	10 21 34.5	+2.4
RUS				*e*S	Sn	10 22 03.3	+1.3
BDR	**Baidarnaya**	**2.57**	**352**	*e*P	Pn	10 21 35.8	+3.5
ESO	**Esso**	**2.63**	**318**	*e*P	Pn	10 21 35.6	+2.6
ESO				*e*S	Sn	10 22 05.3	+1.6
BKI	**Bering**	**2.67**	**62**	*e*P	Pn	10 21 35.6	+2.1
BKI				*e*S	Sn	10 22 05.1	+0.5
MTVR	**Mutnovka**	**2.69**	**236**	*e*P	Pn	10 21 37.8	+3.8
MTVR				*e*S	Sn	10 22 08.8	+3.4
ASAK	**Asacha**	**2.89**	**237**	*e*P	Pn	10 21 40.8	+4.2
KDTR	**Khodutka, Kamc**	**3.19**	**227**	*e*P	Pn	10 21 43.8	+3.2
KDTR				*e*S	Sn	10 22 19.6	+2.3

*IDC **30** 10:23:11.5±0.5, 23°.13S×70°.42W, h0km, mb4.3/14,*
mb1 4.4/18, mb1mx4.3/40, mbtmp4.3/18, ML3.9/4, MS3.8/10,
Ms1 3.8/10, ms1mx3.5/35, Error ellipse: s-maj=19.6km
s-min=14.2km az=86.0
*ISCJB **30** 10:23:15.0±0.5, 23°.16S±0°.03×70°.53W±0°.05, h36km±4km,*
mb4.5/40, MS3.9/6, Error ellipse: s-maj=7.5km
s-min=4.2km az=8.8
*GUC **30** 10:23:16.5±0.6, 23°.12S×70°.49W, h10km±28km, ML4.3*
*NEIC **30** 10:23:16.0±0.0, 23°.12S×70°.49W, h10km, mb4.7/30,*
ML4.3(GUC), After GUC.
NEIC Felt at Antofagasta.
*BJI **30** 10:23:16.0, 23°.10S×70°.40W, h22km, Ms5.0/2, Ms7 4.8/2*
ISC 30 10:23:14.3±0.8, 23°.12S±0°.03×70°.44W±0°.05, h19km±2km,
n113, σ1°.14/119, mb4.7/40, MS3.8/6, 3C-4D, Near coast of
northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB10	**IPOC Station P**	**0.41**	**195**	*e*Pg	**Pb**	**10 23 23.8**	**+0.7**
PB10				*e*Sg	**Sb**	**10 23 28.6**	**-0.4**
PB10	**IPOC Station P**	**0.41**	**195**	⇓*i*P	**Pb**	**10 23 23.7**	**+0.7**
PB10				*i* S	**Sb**	**10 23 29.2**	**+0.1**
PB10				IAML		10 23 32.5	
	comp=E,58μm,0.3s						
PB04	**IPOC Station P**	**0.82**	**19**	*e*Pg	**Pn**	**10 23 31.2**	**+0.1**
PB04				*e*Sg	**Sb**	**10 23 40.4**	**-0.5**
PB04	**IPOC Station P**	**0.82**	**19**	⇑*i*P	**Pn**	**10 23 31.1**	**+0.1**
PB04				*i* S	**Sn**	**10 23 42.9**	**+0.1**
PB04				IAML		10 23 46.1	
	comp=E,22μm,0.7s						
PB15	**IPOC Station P**	**0.89**	**96**	⇓*i*P	**Pn**	**10 23 33.5**	**+1.4**
PB15				*i* S	**Sn**	**10 23 45.5**	**+0.9**
PB06	**IPOC Station P**	**0.89**	**63**	⇓*i*P	**Pn**	**10 23 33.1**	**+1.1**
PB06				*e*S	**Sn**	**10 23 45.8**	**+1.2**
PB06				IAML		10 23 46.8	
	comp=N,12μm,0.6s						
PB07	**IPOC Station P**	**1.47**	**20**	⇑*i*P	**Pn**	**10 23 40.7**	**+0.7**
PB07				*i* S	**Sb**	**10 24 00.7**	**+1.0**
PB07				IAML		10 24 02.6	
	comp=E,13μm,0.6s						
PB09	**IPOC Station P**	**1.71**	**40**	⇑*i*P	**Pb**	**10 23 45.8**	**+0.4**
PB09				*i* S	**Sg**	**10 24 08.5**	**-1.3**
PB09				IAML		10 24 10.9	
	comp=N,7μm,0.5s						
GO02	**Mina Guanaco**	**2.18**	**159**	*e*Pn	**Pb**	**10 23 51.9**	**-1.4**
GO02				*e*Sn	**Sb**	**10 24 20.3**	**+0.2**
PB01	**IPOC Station P**	**2.24**	**23**	*e*Pn	**Pn**	**10 23 51.9**	**+1.4**
PB11	**IPOC Station P**	**3.42**	**12**	*e*Pn	**Pn**	**10 24 06.9**	**+0.1**
MNMC	**Minye Minye**	**4.04**	**11**	*e*Pn	**Pn**	**10 24 15.5**	**0.0**
GO03	**Copiap**	**4.46**	**178**	*e*Pn	**Pn**	**10 24 20.0**	**-1.1**
LCO	**Las Campanas**	**5.88**	**182**	*e*Pn	**Pn**	**10 24 41.8**	**+1.2**
ARE	**Arequipa**	**6.69**	**351**	*e*P	**Pn**	**10 24 52.0**	**0.0**
ARE				*e*S	**Sn**	**10 26 03.0**	**-4.9**
CYA	**Choya**	**6.75**	**143**	*i* P	**Pn**	**10 24 48.2**	**-4.2**
CYA				IAML		10 25 01.8	
	comp=Z,63nm,0.5s						

GO04	**Tololo Observa**	**7.04**	**183**	*e*Pn	**Pn**	**10 24 57.4**	**+0.8**
LPAZ	**La Paz**	**7.13**	**18**	Pn	**Pn**	**10 24 59.2**	**+1.0**
	comp=Z,0.4nm,0.3s,baz=196,slow=7.8,SNR=20						
LPAZ				Sn	**Sn**	**10 26 21.1**	**+2.0**
	baz=207,slow=16,SNR=1.8						
LPAZ				LR	LR	10 27 59.8	
	comp=Z,503nm,18.6s,baz=213,slow=40						
LPAZ	**La Paz**	**7.13**	**18**	*e*Pn	**Pn**	**10 24 59.7**	**+1.5**
LPAZ				*e*Pg	**Pn**	**10 25 01.5**	**+3.3**
LPAZ				Sn	**Sn**	**10 26 21.1**	**+2.0**
SIV	**San Ignacio**	**11.31**	**53**	Pn	**Pn**	**10 25 54.7**	**-0.4**
	comp=Z,1.6nm,0.3s,baz=251,slow=12,SNR=34						
SIV				Sn	**Sn**	**10 27 59.1**	**-2.0**
	baz=256,slow=20,SNR=2.2						
SIV				LR	LR	10 31 18.1	
	comp=Z,552nm,19.9s,baz=255,slow=43						
CPUP	**Villa Florida**	**12.33**	**108**	Pn	**Pn**	**10 26 10.2**	**+1.2**
	comp=Z,0.2nm,0.3s,baz=296,slow=12,SNR=6.1						
CPUP				LR	LR	10 31 42.4	
	comp=Z,658nm,19.2s,baz=290,slow=42						
TRQA	**Tornquist**	**16.56**	**156**	*e*Pn	**P**	**10 27 06.5**	**-1.6**
	comp=Z,22nm,0.9s						
PLCA	**Paso Flores**	**17.57**	**180**	P	**Pn**	**10 27 17.3**	**-0.8**
	comp=Z,0.1nm,0.3s,baz=20,slow=13,SNR=7.5						
PLCA				LR	LR	10 33 28.4	
	comp=Z,275nm,21.8s,baz=16,slow=35						
PTGA	**Pitinga**	**24.46**	**26**	P	**P**	**10 28 33.1**	**+0.8**
	comp=Z,1.6nm,0.3s,baz=233,slow=15,SNR=2.9						
PTGA				LR	LR	10 38 41.7	
	comp=Z,261nm,19.3s,baz=212,slow=38						
RUSC	**La Rusia**	**28.95**	**355**	*e*P	**P**	**10 29 13.6**	**+0.4**
	comp=Z,2.2nm,1.0s						
HELC	**Santa Helena**	**29.55**	**350**	*e*P	**P**	**10 29 18.6**	**+0.3**
	comp=Z,7.5nm,0.7s						
SDV	**Santo Domingo**	**31.80**	**360**	LR	LR	10 43 31.3	
	comp=Z,124nm,18.1s,baz=251,slow=38						
APG	**El Apazote**	**42.66**	**331**	LR	LR	10 46 14.0	
	comp=Z,766nm,18.4s,baz=49,slow=32						
H06E1	**SOCORRO T-PHAS**	**57.42**	**313**	T	T	11 35 09.7	
	SNR=20						
VNA3	**Neumayer Olymp**	**59.01**	**161**	P	**P**	**10 33 13.0**	**+0.5**
VNA2	**Neumayer--Watz**	**59.61**	**160**	P	**P**	**10 33 17.3**	**+0.7**
	baz=289,slow=8.6						
TKL	**Tuckaleechee C**	**59.80**	**347**	P	**P**	**10 33 17.6**	**-0.7**
	comp=Z,1.7nm,0.6s,baz=151,slow=5.2,SNR=4.5						
TKL	**Tuckaleechee C**	**59.80**	**347**	*e*P	**P**	**10 33 17.6**	**-0.7**
	comp=Z,5.2nm,0.9s						
SWET	**Sanae**	**59.85**	**345**	*e*P	**P**	**10 33 18.0**	**-0.6**
	comp=Z,9.4nm,0.9s						
TXAR	**Lajitas Array**	**61.17**	**327**	P	**P**	**10 33 28.4**	**+0.4**
	comp=Z,0.3nm,0.7s,baz=143,slow=8.7,SNR=4.0						
WVT	**Waverly**	**61.18**	**344**	*e*P	**P**	**10 33 26.6**	**-1.0**
	comp=Z,12nm,1.0s						
IP03	**Louisa**	**61.23**	**353**	*e*P	**P**	**10 33 28.8**	**+0.9**
	comp=Z,7.8nm,0.8s						
SNAA	**Sanae**	**61.23**	**161**	P	**P**	**10 33 28.1**	**+0.3**
SNAA	**Sanae**	**61.23**	**161**	P	**P**	**10 33 27.8**	**0.0**
	comp=Z,4.3nm,0.8s,baz=279,slow=7.2,SNR=22						
SNAA	**Sanae**	**61.23**	**161**	*e*P	**P**	**10 33 27.2**	**-0.5**
	comp=Z,4.7nm,0.7s						
MIAR	**Mount Ida**	**61.41**	**338**	*e*P	**P**	**10 33 29.4**	**+0.1**
	comp=Z,8.1nm,1.0s						
WHAR	**Wooly Hollow**	**61.67**	**340**	*e*P	**P**	**10 33 30.8**	**-0.2**
	comp=Z,4.8nm,0.8s						
W40A	**Ferguson Farm,**	**61.84**	**339**	*e*P	**P**	**10 33 31.5**	**-0.6**
	comp=Z,6.0nm,0.8s						
PBMO	**Poplar Bluff**	**62.49**	**342**	*e*P	**P**	**10 33 36.1**	**-0.4**
	comp=Z,9.9nm,1.0s						
MNTX	**Cornudas Mount**	**63.95**	**327**	*e*P	**P**	**10 33 45.6**	**-0.7**
	comp=Z,2.7nm,0.9s						
MSTX	**Muleshoe**	**64.57**	**331**	*e*P	**P**	**10 33 50.8**	**+0.3**
	comp=Z,8.6nm,1.0s						
QSPA	**South Pole Qui**	**67.08**	**180**	P	**P**	**10 34 07.1**	**+0.8**
	comp=Z,7.8nm,0.6s,baz=162,slow=1.1,SNR=48						
ANMO	**Albuquerque**	**67.10**	**328**	*e*P	**P**	**10 34 07.8**	**+0.9**
	comp=Z,1.5nm,1.0s						
TAOE	**Nuku Hiva Isla**	**67.97**	**270**	*e*LR	LR	10 54 46.5	
	comp=Z,92nm,25.7s						
SDCO	**Great Sand Dun**	**68.94**	**331**	*e*P	**P**	**10 34 19.8**	**+1.3**
	comp=Z,6.3nm,1.1s						
BGNE	**Belgrade**	**69.15**	**338**	*e*P	**P**	**10 34 20.0**	**+0.5**
	comp=Z,17nm,0.8s						
LIC	**Lamto**	**70.19**	**74**	*e*P	**P**	**10 34 25.3**	**-1.1**
	comp=Z,97nm,2.1s						
TIC	**Toumodi**	**70.39**	**74**	*e*P	**P**	**10 34 26.6**	**-1.0**
KIC	**Kosan Boka**	**70.51**	**74**	*e*P	**P**	**10 34 28.1**	**-0.2**
	comp=Z,16nm,0.8s						
DBIC	**Dimbokro**	**70.55**	**74**	P	**P**	**10 34 28.7**	**+0.2**
	comp=Z,8.8nm,0.8s,baz=212,slow=6.3,SNR=9.6						
DBIC				LR	LR	11 05 12.8	
	comp=Z,47nm,18.8s,baz=186,slow=36						
DBIC	**Dimbokro**	**70.55**	**74**	*e*P	**P**	**10 34 28.7**	**+0.2**
	comp=Z,11nm,0.9s						
SMCO	**Snowmass**	**70.77**	**331**	*e*P	**P**	**10 34 31.0**	**+1.1**
	comp=Z,3.3nm,0.9s						
O20A	**White River Ci**	**72.12**	**330**	*e*P	**P**	**10 34 39.2**	**+1.4**
	comp=Z,7.0nm,0.9s						
SRU	**San Rafael Swe**	**72.38**	**328**	*e*P	**P**	**10 34 40.5**	**+1.2**
	comp=Z,5.0nm,1.0s						
CCUT	**Cedar City**	**72.61**	**325**	*e*P	**P**	**10 34 42.9**	**+2.1**
	comp=Z,4.1nm,1.0s						
P18A	**Preston Nutter**	**72.65**	**329**	*e*P	**P**	**10 34 42.3**	**+1.2**
	comp=Z,6.3nm,1.0s						
P17A	**Butcher Ranch,**	**72.77**	**328**	*e*P	**P**	**10 34 42.8**	**+1.2**
	comp=Z,3.8nm,0.8s						
PPT2	**Papeete2**	**73.58**	**258**	*e*LR	LR	10 57 19.9	
	comp=Z,115nm,25.2s						
AGMN	**Agassiz Nation**	**74.66**	**343**	*e*P	**P**	**10 34 52.1**	**-0.1**
	comp=Z,4.6nm,0.9s						
PDAR	**Pinedale Array**	**74.82**	**331**	P	**P**	**10 34 54.8**	**+1.2**
	comp=Z,0.3nm,0.5s,baz=102,slow=6.9,SNR=4.4						
KOWA	**Kowa**	**74.95**	**67**	P	**P**	**10 34 54.6**	**-0.1**
	comp=Z,5.3nm,0.7s,baz=248,slow=5.4,SNR=18						
KOWA				LR	LR	11 08 01.5	
	comp=Z,121nm,18.1s,baz=206,slow=36						
VNDA	**Vanda**	**75.02**	**190**	P	**P**	**10 34 55.2**	**+1.1**
	comp=Z,1.7nm,1.0s,baz=148,slow=6.5,SNR=6.1						
SYO	**Syowa Base**	**75.49**	**160**	⇓*e*P	**P**	**10 34 55.4**	**-1.5**
NV01	**Mina Array Sit**	**75.91**	**323**	*e*P	**P**	**10 35 00.5**	**+0.5**
NVAR	**Mina Array Bea**	**75.91**	**323**	P	**P**	**10 35 00.5**	**+0.5**
	comp=Z,0.5nm,0.8s,baz=169,slow=7.7,SNR=3.7						
RLMT	**Red Lodge**	**76.58**	**333**	*e*P	**P**	**10 35 04.5**	**+0.9**
RLMT				*e*S	**S**	**10 44 46.7**	**-2.4**
LAO	**LASA Array**	**76.65**	**336**	*e*P	**P**	**10 35 04.6**	**+0.8**
	comp=Z,5.7nm,0.9s						
YHH	**Holmes Hill**	**76.99**	**332**	*e*P	**P**	**10 35 07.3**	**+1.3**
	comp=Z,1.9nm,0.9s						
TOA0	**Torodi Ar. Sit**	**79.22**	**71**	*e*P	**P**	**10 35 18.5**	**-0.3**
TOA1	**Torodi Ar. Sit**	**79.22**	**71**	*e*P	**P**	**10 35 18.5**	**-0.2**
TORD	**Torodi Ar. Bea**	**79.22**	**71**	P	**P**	**10 35 18.5**	**-0.2**
	comp=Z,9.6nm,0.8s,baz=256,slow=5.1,SNR=59						
TSUM	**Tsumeb**	**80.93**	**107**	*e*P	**P**	**10 35 28.5**	**+0.4**
	comp=Z,8.4nm,0.9s						
MAW	**Mawson**	**83.19**	**164**	P	**P**	**10 35 38.5**	**-0.4**
	comp=Z,6.6nm,0.8s,baz=223,slow=8.1,SNR=8.0						
MAW	**Mawson**	**83.19**	**164**	*e*P	**P**	**10 35 39.8**	**+0.9**
	comp=Z,2.2nm,1.0s						
BOSA	**Boshof**	**83.93**	**118**	P	**P**	**10 35 43.1**	**-0.5**
	comp=Z,6.6nm,0.9s,baz=295,slow=5.6,SNR=8.6						
BOSA				LR	LR	11 10 52.8	
	comp=Z,108nm,18.3s,baz=204,slow=34						
YKA	**Yellowknife Ar**	**92.24**	**341**	P	**P**	**10 36 22.2**	**-0.3**
	comp=Z,0.9nm,0.7s,baz=137,slow=4.4,SNR=35						
H11S2	**WAKE ISLAND Hyd**	**26.66**	**276**	T	T	13 01 32.6	
	baz=105,slow=75,SNR=166						
H11S1	**WAKE ISLAND Hyd**	**26.67**	**276**	T	T	13 01 31.2	
	baz=105,slow=75,SNR=262						
H11S3	**WAKE ISLAND Hyd**	**26.68**	**276**	T	T	13 01 31.7	
	baz=105,slow=75,SNR=184						
H11N3	**WAKE ISLAND Hyd**	**26.79**	**278**	T	T	13 01 40.6	
	baz=109						
H11N2	**WAKE ISLAND Hyd**	**26.81**	**278**	T	T	13 01 39.7	
	baz=109						
H11N1	**WAKE ISLAND Hyd**	**26.81**	**278**	T	T	13 01 41.8	
	baz=109						
AS01	**Alice Springs**	**127.81**	**209**	*e*PKPdf	**PKPdf**	**10 42 19.1**	**-0.3**
AS31	**Alice Springs**	**127.83**	**209**	*e*PKPdf	**PKPdf**	**10 42 19.1**	**-0.4**
ASAR	**Alice Springs**	**127.83**	**209**	PKP	**PKPdf**	**10 42 19.1**	**-0.4**
	comp=Z,1.4nm,0.8s,baz=132,slow=2.1,SNR=16						
WR1	**Warramunga Arr**	**130.85**	**211**	*e*PKPdf	**PKPdf**	**10 42 25.2**	**-0.1**
WRA	**Warramunga Arr**	**130.85**	**211**	PKP	**PKPdf**	**10 42 25.2**	**-0.1**
	comp=Z,0.8nm,0.7s,baz=152,slow=1.5,SNR=14						
BVAR	**Borovoye Array**	**137.92**	**35**	PKP	**PKPdf**	**10 42 38.2**	**+0.8**
	comp=Z,1.0nm,0.7s,baz=338,slow=1.6,SNR=6.1						
KURK	**Kurchatov**	**143.45**	**33**	*e*PKPdf	PKPbc	10 42 45.6	+0.9
KURBB	**Kurchatov Arra**	**143.46**	**33**	PKP	PKPbc	10 42 45.6	+0.9
	comp=Z,0.9nm,0.8s,baz=312,slow=2.9,SNR=7.1						

ZAA1	**Zalesovo Array**	**144.00**	**25**	*e*PKPdf	**PKPdf**	**10 42 49.0**	**+0.7**
ZALV	**Zalesovo Beam**	**144.01**	**25**	PKP	**PKPdf**	**10 42 49.0**	**+0.7**
	comp=Z,2.7nm,0.6s,baz=304,slow=1.8,SNR=8.0						
ZALV	**Zalesovo Beam**	**144.01**	**25**	*e*PKPdf	**PKPdf**	**10 42 48.5**	**+0.2**
AAK	**Ala-Archa**	**145.03**	**48**	PKPbc	**PKPdf**	**10 42 51.6**	**+0.9**
	comp=Z,11nm,0.8s,baz=252,slow=1.9,SNR=12						
AAK	**Ala-Archa**	**145.03**	**48**	*e*PKPbc	**PKPdf**	**10 42 50.9**	**+0.2**
AAK				*e*PKPbc	**PKPdf**	**10 42 51.6**	**+0.9**
MAKZ	**Makanchi**	**147.59**	**36**	*e*PKPdf	**PKPdf**	**10 42 55.4**	**+0.7**
MK31	**Makanchi Array**	**147.76**	**36**	*e*PKPdf	**PKPdf**	**10 42 56.0**	**+1.0**
MK32	**Makanchi Array**	**147.76**	**36**	*e*PKPbc	**PKPbc**	**10 42 58.1**	**+0.2**
MKAR	**Makanchi Array**	**147.76**	**36**	PKPbc	**PKPbc**	**10 42 58.1**	**+0.2**
	comp=Z,4.3nm,0.7s,baz=322,slow=2.8,SNR=31						
MKAR	**Makanchi Array**	**147.76**	**36**	*e*PKPdf	**PKPdf**	**10 42 56.0**	**+1.0**
MK01	**Makanchi Array**	**147.78**	**36**	*e*PKPdf	**PKPdf**	**10 42 55.0**	**0.0**
MJAR	**Matsushiro Art**	**151.90**	**305**	PKPbc	**PKPbc**	**10 43 08.5**	**+0.2**
	comp=Z,1.3nm,0.6s,baz=94,slow=2.4,SNR=4.7						
MJAR				PKPab	**sPKPbc**	**10 43 17.1**	**0.0**
	comp=Z,3.1nm,0.8s,baz=140,slow=0.5,SNR=8.6						
MAJO	**Matsushiro**	**151.90**	**305**	*e*PKPbc	**PKPbc**	**10 43 08.5**	**+0.2**
MAJO				*e*PKPab	**sPKPbc**	**10 43 17.1**	**0.0**
USRK	**Ussuriysk Ar.**	**152.05**	**324**	PKPbc	**PKPbc**	**10 43 08.7**	**+0.4**
	comp=Z,0.7nm,0.5s,baz=29,slow=4.4,SNR=4.1						
USRK				PKPab	**PKPab**	**10 43 17.8**	**+0.1**
	comp=Z,2.0nm,0.6s,baz=222,slow=2.6,SNR=4.9						
WMQ	**Urumqi**	**152.60**	**36**	PKPbc	**PKPdf**	**10 43 02.8**	**+0.1**
HHC	**Hu-ho-hao-te**	**162.24**	**355**	*e*PKP	**PKPdf**	**10 43 12.3**	**-2.6**
LZH	**Lanzhou**	**166.15**	**20**	*e*PKP	**PKPdf**	**10 43 16.5**	**-2.2**
LZH				pPKP	sPKPdf	10 43 26.3	-1.2
LZH				sPKP		10 43 30.5	
LZH				LR	LR		
	comp=Z,78nm,18.1s						
LZH				LR	LR		
	comp=Z,72nm,16.3s						
LZH				LR	LR		
	comp=Z,120nm,19.2s						
NJ2	**Nanjing**	**167.88**	**319**	*e*PKP	**PKPdf**	**10 43 19.8**	**0.0**

*ISCJB **30** 10:29:38.9±0.3, 24°.78N±0°.02×121°.94E±0°.02, h7km±3km,*
Error ellipse: s-maj=3.4km s-min=3.0km az=38.0
*TAP **30** 10:29:38.8, 24°.80N×121°.90E, h10km, ML2.8, C*
*JMA **30** 10:29:39.7±0.1, 24°.79N×121°.81E, h31km, M2.5*
ISC 30 10:29:38.8±0.8, 24°.79N±0°.02×121°.92E±0°.02, h12km±5km,
n25, σ0°.44/48, 6C-1D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EGS		**0.06**	**10**	⇓*i*P	**Pg**	**10 29 41.2**	**+0.1**
	baz=48						
EGS				*e*S	**Sg**	**10 29 42.8**	**0.0**
	baz=48						
ILA	**Ilan**	**0.16**	**261**	*e*P	**Pg**	**10 29 42.7**	**+0.2**
	baz=253						
ILA				*e*S	**Sg**	**10 29 45.2**	**+0.2**
	baz=253						
TWC	**Suao**	**0.19**	**200**	*i* P	**Pg**	**10 29 43.3**	**+0.3**
	baz=184						
TWC				S	**Sg**	**10 29 45.8**	**0.0**
	baz=184						
TWB1	**Santiao Chiao**	**0.23**	**16**	⇑*i*P	**Pg**	**10 29 43.6**	**+0.1**
	baz=24						
TWB1				S	**Sg**	**10 29 46.6**	**-0.2**
	baz=24						
TWE	**Neicheng**	**0.24**	**253**	P	**Pg**	**10 29 43.9**	**0.0**
	baz=247						
TWE				*e*S	**Sg**	**10 29 47.0**	**-0.3**
	baz=247						
NWF	**Wu-fen Shan**	**0.31**	**335**	⇑P	**Pg**	**10 29 45.4**	**+0.4**
	baz=329

PB04 *i* S **Sb** **10 30 22.8 -0.2**
PB04 IAML 10 30 24.5
comp=E,25µm,0.7s
PB15 **IPOC Station P** **0.98** **93** ⇓*i*P **Pn** **10 30 13.4 +0.3**
PB15 *i* S **Sb** **10 30 26.3 +1.0**
PB06 **IPOC Station P** **1.00** **63** ⇓*i*P **Pg** **10 30 13.0 -0.3**
PB06 *i* S **Sb** **10 30 26.1 +0.3**
PB06 IAML 10 30 26.8
comp=E,25µm,0.3s
PB14 **IPOC Station P** **1.46** **175** ⇑*i*P **Pb** **10 30 20.5 -0.4**
PB14 *i* S **Sb** **10 30 39.4 +0.1**
PB14 IAML 10 30 43.4
comp=E,6µm,0.6s
PB07 **IPOC Station P** **1.55** **23** ⇑*i*P **Pn** **10 30 20.7 -0.3**
PB07 *i* S **Sn** **10 30 40.5 -0.3**
PB07 IAML 10 30 42.3
comp=E,12µm,0.4s
PB09 **IPOC Station P** **1.81** **41** ⇑*i*P **Pb** **10 30 25.6 -1.2**
PB09 *i* S **Sn** **10 30 47.1 -0.1**
PB09 IAML 10 30 50.6
comp=N,11µm,0.5s
PB02 **IPOC Station P** **1.93** **18** ⇑*i*P **Pn** **10 30 25.6 -0.5**
PB02 *i* S **Sn** **10 30 49.5 -0.5**
PB02 IAML 10 30 53.8
comp=E,11µm,0.4s
GO02 **Mina Guanaco** **2.17** **157** *e*Pn **Pb** **10 30 31.9 -1.0**
PB01 **IPOC Station P** **2.32** **25** *e*Pn **Pn** **10 30 31.8 +0.2**
PB01 **IPOC Station P** **2.32** **25** ⇑*i*P **Pn** **10 30 31.6 +0.1**
PB01 *i* S **Sn** **10 30 59.0 -0.8**
PB01 IAML 10 31 06.3
comp=E,5µm,0.4s
PB11 **IPOC Station P** **3.48** **14** *e*Pn **Pn** **10 30 47.5 0.0**
MNMC **Minye Minye** **4.11** **12** *e*Pn **Pn** **10 30 56.7 +0.4**
GO03 **Copiap** **4.42** **177** *e*Pn **Pn** **10 31 00.3 0.0**
HJA **Humahuaca** **4.71** **92** *i*P Pn 10 31 10.2 +5.5
HJA IAML 10 32 37.5
comp=Z,28nm,1.8s
YJA **Yavi** **4.74** **79** *e*P Pb 10 31 11.3 -5.5
SLA **San Lorenzo** **4.85** **110** *e*P **Pb** **10 31 15.2 -3.5**
SLA IAML 10 33 08.7
comp=Z,32nm,3.0s
FSA **Cafayete** **5.08** **126** *i*P **Pn** **10 31 13.1 +3.6**
LCO **Las Campanas** **5.82** **181** *e*Pn **Pn** **10 31 20.5 +0.7**
LCO **Las Campanas** **5.82** **181** *i*P **Pn** **10 31 21.1 +1.3**
VCA **Vinchina** **5.93** **160** *i*P **Pn** **10 31 24.4 +3.2**
VCA *i* S **Sb** **10 32 47.2 -0.6**
AHML **Horco Molle** **5.94** **128** *i*P **Pn** **10 31 25.1 +3.9**
AHML *i* S **Sb** **10 32 46.5 -1.4**
AHML IAML 10 32 48.0
comp=Z,24nm,1.1s
AGUA **GUANDACOL** **6.56** **164** *i*P **Pn** **10 31 32.4 +2.6**
AGUA *i* S **Sb** **10 33 06.5 +0.7**
ARE **Arequipa** **6.73** **352** *e*P **Pn** **10 31 31.0 -1.3**
ARE *e*S **Sn** **10 32 44.0 -4.8**
CYA **Choya** **6.76** **142** *i*P **Pn** **10 31 35.4 +2.8**
GO04 **Tololo Observa** **6.98** **182** *e*Pn **Pn** **10 31 34.3 -1.5**
AROD **Rodeo** **7.04** **172** *i*P **Pn** **10 31 37.9 +1.3**
AROD *i* S **Sb** **10 33 25.1 +5.2**
AROD IAML 10 33 41.9
comp=Z,56nm,0.6s
LPAZ **La Paz** **7.21** **19** P **Pn** **10 31 41.2 +2.1**
comp=Z,0.8nm,0.3s,baz=214,slow=4.1,SNR=13
LPAZ S **Sn** **10 32 59.6 -1.3**
baz=126,slow=3.1,SNR=2.0
LPAZ **La Paz** **7.21** **19** *e*Pn **Pn** **10 31 40.4 +1.3**
LPAZ *e*Pg **Pn** **10 31 41.0 +1.8**
LPAZ S **Sn** **10 32 59.6 -1.3**
LPAZ **La Paz** **7.21** **19** *i*P **Pn** **10 31 41.2 +2.1**
AMOG **MOGNA** **7.95** **167** *i*P **Pn** **10 31 48.9 0.0**
AMOG *i* S **Sb** **10 33 39.8 -6.1**
APLL **PUNTA DE LOS L** **8.04** **154** *i*P **Pn** **10 31 50.1 0.0**
APLL *i* S Sn 10 33 33.7 +13
APLL IAML 10 34 14.3
comp=Z,22nm,0.7s
RTLL **Cerro Villicun** **8.34** **168** *i*P **Pn** **10 31 54.3 +0.2**
RTLL *i* S Sb 10 33 44.0 -13
RTCV **Cerro Valdivia** **8.84** **169** *e*P **Pn** **10 32 03.7 +2.6**
ASAL **Salagasta** **9.51** **171** *i*P **Pn** **10 32 10.4 +0.2**
ACAN **Cantantal** **9.54** **163** *i*P **Pn** **10 32 10.4 -0.3**
TCA **Tanti** **9.70** **148** *i*P **Pn** **10 32 13.8 +0.9**
TCA *i* S Sn 10 34 12.1 +11
ROC1 **El Roble** **9.78** **182** *e*Pn **Pn** **10 32 17.2 +3.0**
SIV **San Ignacio** **11.42** **53** P **Pn** **10 32 35.2 -1.1**
comp=Z,2.0nm,0.3s,baz=246,slow=10,SNR=35
SIV S **Sn** **10 34 42.3 -1.3**
baz=344,slow=22,SNR=3.3
CPUP **Villa Florida** **12.40** **107** P **Pn** **10 32 50.7 +0.9**
comp=Z,0.2nm,0.3s,baz=291,slow=11,SNR=3.0
CPUP S **Sn** **10 35 08.3 +0.6**
comp=Z,0.1nm,0.3s,baz=264,slow=15,SNR=1.4
PLCA **Paso Flores** **17.52** **180** P **P** **10 33 59.8 +1.3**
comp=Z,0.1nm,0.3s,baz=44,slow=12,SNR=2.7
PTGA **Pitinga** **24.55** **26** P **P** **10 35 11.9 -1.1**
comp=Z,2.3nm,0.7s,baz=210,slow=13,SNR=3.2
H06E1 **SOCORRO T-PHAS** **57.39** **313** T T 11 41 44.6
SNR=22
VNA3 **Neumayer Olymp** **59.00** **161** P **P** **10 39 52.7 +0.3**
SWET **Sewanee** **59.87** **345** *e*P **P** **10 39 57.9 -0.9**
comp=Z,6.6nm,0.9s
TXAR **Lajitas Array** **61.16** **327** P **P** **10 40 08.4 +0.6**
comp=Z,0.3nm,0.7s,baz=145,slow=9.3,SNR=4.1
SNAA **Sanae** **61.21** **160** P **P** **10 40 07.9 +0.4**
SNAA **Sanae** **61.21** **160** P **P** **10 40 08.0 +0.4**
comp=Z,1.3nm,0.6s,baz=260,slow=10,SNR=12
SNAA **Sanae** **61.21** **160** *e*P **P** **10 40 08.0 +0.4**
comp=Z,11nm,1.5s
NCB **Newcomb** **66.89** **357** *e*P **P** **10 40 44.8 -0.3**
comp=Z,58nm,1.9s
QSPA **South Pole Qui** **67.03** **180** P **P** **10 40 46.9 +1.0**
comp=Z,3.6nm,0.5s,baz=169,slow=0.8,SNR=26
SDCO **Great Sand Dun** **68.94** **331** *e*P **P** **10 40 59.5 +1.0**
comp=Z,5.1nm,1.2s
DBIC **Dimbokro** **70.64** **74** P **P** **10 41 08.2 -0.9**
comp=Z,5.6nm,0.8s,baz=221,slow=11,SNR=5.2
SRU **San Rafael Swe** **72.37** **328** *e*P **P** **10 41 20.4 +1.1**
comp=Z,4.1nm,1.1s
CCUT **Cedar City** **72.60** **326** *e*P **P** **10 41 22.2 +1.5**
comp=Z,3.9nm,1.0s
PDAR **Pinedale Array** **74.82** **331** P **P** **10 41 36.0 +2.4**
comp=Z,0.1nm,0.3s,baz=139,slow=4.3,SNR=2.3
VNDA **Vanda** **74.95** **190** P **P** **10 41 35.7 +2.0**
comp=Z,0.4nm,0.8s,baz=280,slow=6.5,SNR=2.8
KOWA **Kowa** **75.05** **67** P **P** **10 41 34.5 -0.7**
comp=Z,3.6nm,0.7s,baz=255,slow=5.9,SNR=9.7
SYO **Syowa Base** **75.48** **160** ⇓*e*P **P** **10 41 33.4 -3.4**
NVAR **Mina Array Bea** **75.90** **323** P **P** **10 41 40.7 +0.9**
comp=Z,0.3nm,0.7s,baz=157,slow=4.8,SNR=3.0
TOA0 **Torodi Ar. Sit** **79.32** **71** *e*P **P** **10 41 58.3 -1.0**
TOA1 **Torodi Ar. Sit** **79.32** **71** *e*P **P** **10 41 58.4 -0.9**
TORD **Torodi Ar. Bea** **79.32** **71** P **P** **10 41 58.4 -0.9**
comp=Z,6.4nm,0.7s,baz=257,slow=5.3,SNR=81
MAW **Mawson** **83.17** **164** P **P** **10 42 19.4 +0.7**
comp=Z,3.8nm,0.9s,baz=219,slow=10,SNR=4.8
BOSA **Boshof** **83.99** **118** P **P** **10 42 23.6 -0.3**
comp=Z,1.8nm,0.4s,baz=262,slow=5.2,SNR=6.2
YKA **Yellowknife Ar** **92.26** **341** P **P** **10 43 01.9 -0.6**
comp=Z,0.6nm,0.7s,baz=138,slow=4.3,SNR=20
BR101 **Keskin Array S** **115.01** **56** *e*PKiKP **PKiKP** **10 48 34.8 +0.5**
BRTR **Keskin Array B** **115.01** **56** PKP **PKPdf** **10 48 34.8 +0.5**
comp=Z,0.4nm,0.6s,baz=256,slow=0.6,SNR=2.4
H11S2 **WAKE ISLAND Hyl** **126.58** **276** T T 13 08 12.9
baz=106,slow=74,SNR=191
H11S1 **WAKE ISLAND Hyl** **126.59** **276** T T 13 08 13.6
baz=106,slow=74,SNR=101
H11S3 **WAKE ISLAND Hyl** **126.60** **276** T T 13 08 14.2
baz=106,slow=74,SNR=147
H11N3 **WAKE ISLAND Hyl** **126.71** **278** T T 13 08 24.2
baz=117
H11N2 **WAKE ISLAND Hyl** **126.73** **278** T T 13 08 26.8
baz=117
H11N1 **WAKE ISLAND Hyl** **126.73** **278** T T 13 08 23.8
baz=117
AS31 **Alice Springs** **127.74** **209** *e*PKPdf **PKPdf** **10 48 58.9 -0.4**
ASAR **Alice Springs** **127.74** **209** PKP **PKPdf** **10 48 58.9 -0.4**
comp=Z,0.6nm,0.8s,baz=134,slow=1.8,SNR=8.0
WR1 **Warramunga Arr** **130.76** **211** *e*PKPdf **PKPdf** **10 49 04.7 -0.4**
WRA **Warramunga Arr** **130.76** **211** PKP **PKPdf** **10 49 04.7 -0.4**
comp=Z,0.4nm,0.7s,baz=148,slow=1.5,SNR=8.1
KURK **Kurchatov** **143.54** **33** *e*PKPdf PKPbc 10 49 25.5 +0.7
KURBB **Kurchatov Arra** **143.55** **33** PKhKP PKPpre 10 49 25.5
comp=Z,0.5nm,0.8s,baz=310,slow=3.0,SNR=3.0
ZAA1 **Zalesovo Array** **144.09** **25** *e*PKPdf **PKPdf** **10 49 28.6 +0.2**
ZALV **Zalesovo Beam** **144.09** **25** PKP **PKPdf** **10 49 28.6 +0.2**
comp=Z,0.9nm,0.4s,baz=294,slow=1.5,SNR=4.9
MK32 **Makanchi Array** **147.86** **36** *e*PKPbc **PKPbc** **10 49 38.1 +0.1**
MKAR **Makanchi Array** **147.86** **36** PKPbc **PKPbc** **10 49 38.1 +0.1**
comp=Z,0.6nm,0.6s,baz=343,slow=3.8,SNR=4.7
MJAR **Matsushiro Arr** **151.85** **305** PKPbc **PKPbc** **10 49 47.9 -0.2**
comp=Z,0.6nm,0.5s,baz=79,slow=1.1,SNR=4.8
MJAR PKPab **PKPab** **10 49 57.4 +0.1**
comp=Z,1.5nm,0.8s,baz=33,slow=0.7,SNR=5.0
MAJO **Matsushiro** **151.85** **305** *e*PKPbc **PKPbc** **10 49 48.0 -0.2**
MAJO *e*PKPab **PKPab** **10 49 57.4 +0.1**

CSEM ***30*** *10:30:29.4, 32˚.66N×46˚.84E, h6km, ML3.3*
ISN ***30*** *10:30:29.4± 1.2, 32˚.66N×46˚.84E, h6km±5km, ML3.3*
TEH 30 10:30:32.5, 32˚.69N×46˚.78E, h10km, ML3.3, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
IKFM	**Kafar-mosalman**	**1.23**	**47**	*e*Pg		Pg		10 30 56.9	+0.8
IKFM				*e*AMB		AMB		10 31 26.8	
comp=Z,99nm,0.3s									
IKOM	**Komasi**	**1.61**	**22**	*e*AMB		AMB		10 31 11.9	
comp=Z,6µm,0.3s									
IKOM				*e*Pn		Pg		10 31 04.0	+0.7
IKOM				*e*Sg		Sg		10 31 27.1	+2.9
NSR	**Nassriya**	**1.76**	**198**	*e*Pn		Pn		10 31 02.0	-1.0
SNR=4.0									
NSR				*e*Sn		Sn		10 31 25.0	-0.4
SNR=4.0									
IVIS	**Veis**	**1.84**	**2**	*e*AMB		AMB		10 31 39.3	
comp=Z,2µm,0.2s									
IVIS				*e*Pn		Pb		10 31 06.7	+0.4
BHD	**Baghdad**	**2.10**	**287**	*e*Pn		Pn		10 31 07.0	-0.7
SNR=4.0									
BHD				*e*Sn		Sn		10 31 35.0	+1.2
SNR=4.0									
RTB	**Rutbah**	**5.46**	**275**	*e*Pn		Pn		10 31 54.0	+0.1
SNR=4.0									
RTB				*e*Sn		Sn		10 32 56.0	-0.8
SNR=4.0									

ISN ***30*** *10:37:25.8± 1.1, 32˚.08N×49˚.58E, h14km±5km, ML4.1*
CSEM ***30*** *10:37:26.8± 0.1, 32˚.08N×49˚.63E, h10km, mb4.6/16, Error ellipse: s-maj=4.9km s-min=3.5km az=28.0*
NEIC ***30*** *10:37:26.3± 0.0, 32˚.07N×49˚.71E, h10km, mb4.5/21, ML4.1(THR), MN4.1(TEH), After TEH.*
TEH ***30*** *10:37:26.3, 32˚.07N×49˚.71E, h10km, ML4.1*
ISCJB ***30*** *10:37:26.2± 0.2, 32˚.00N± 0˚.03×49˚.65E± 0˚.03, h20km, mb4.2/46, MS3.8/6, Error ellipse: s-maj=3.7km s-min=3.0km az=18.5*
SGS ***30*** *10:37:26.2, 32˚.28N×49˚.63E, h3km*
MOS ***30*** *10:37:27.4± 1.2, 32˚.09N×49˚.66E, h27km, mb4.5/13, Error ellipse: s-maj=7.7km s-min=5.7km az=97.8*
THR ***30*** *10:37:28.8± 0.9, 32˚.07N×49˚.79E, h14km± 10km, ML4.1*
IDC ***30*** *10:37:30.8± 2.3, 32˚.15N×49˚.66E, h36km± 19km, mb3.9/31, mb1 4.0/38, mb1mx4.0/67, mbtmp4.2/38, ML4.2/7, MS3.5/12, Ms1 3.5/12, ms1mx3.1/70, Error ellipse: s-maj=14.1km s-min=9.9km az=170.0*
DSN ***30*** *10:37:35.3± 1.1, 32˚.04N×50˚.73E, h15km, ML4.4/7, Error ellipse: s-maj=50.2km s-min=7.6km az=45.0*
OMAN ***30*** *10:37:36.9± 1.4, 31˚.39N×49˚.94E, h10km, Error ellipse: s-maj=58.8km s-min=9.8km az=48.0*
ISC 30 10:37:27.9± 0.3, 32˚.09N± 0˚.03×49˚.75E± 0˚.03, h20km, n257, σ 1§61/266, mb4.4/46, MS4.0/6, 11C-6D, Western Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SHGR	**Shooshtar-Gavs**	**0.80**	**272**	*e*Pg		Pn		**10 37 44.7**	**+0.6**
SHGR	**Shooshtar-Gavs**	**0.80**	**272**	*e*Pg		Pn		**10 37 44.7**	**+0.6**
SHGR	**Shooshtar-Gavs**	**0.80**	**272**	*e*Pg		Pn		**10 37 44.7**	**+0.6**
SHGR				AML		AML		10 38 01.6	
comp=E,9µm,0.7s									
SHGR				AML		AML		10 38 01.7	
comp=N,9µm,0.5s									
AHWZ	**Ahwaz**	**1.21**	**232**	*e*Pg		Pb		**10 37 53.1**	**+3.1**
AHWZ	**Ahwaz**	**1.21**	**232**	*e*Pg		Pb		**10 37 53.1**	**+3.1**
IBRJ	**Brojen**	**1.30**	**97**	*e*Pn		Pb		**10 37 52.7**	**+0.9**
IBRJ	**Brojen**	**1.30**	**97**	Pn		Pb		**10 37 52.6**	**+0.8**
KHMZ	**Khomeyn**	**1.66**	**6**	*e*Pg		Pb		**10 37 59.1**	**+1.2**
KHMZ	**Khomeyn**	**1.66**	**6**	*e*Pg		Pb		**10 37 59.1**	**+1.2**
KHMZ	**Khomeyn**	**1.66**	**6**	*e*Pg		Pb		**10 37 59.1**	**+1.2**
IGAR	**Gharneh**	**1.97**	**80**	*e*AMB		AMB		10 38 05.2	
comp=Z,10µm,0.1s									
IGAR				*e*Pn		**Pb**		**10 38 03.5**	**+0.3**
IKLH	**Kolahrood**	**1.97**	**51**	*e*AMB		AMB		10 38 04.8	
comp=Z,19µm,0.2s									
IKLH				*e*Pn		**Pb**		**10 38 03.7**	**+0.4**
QAM	**Ghamsar**	**2.19**	**40**	*e*AMB		AMB		10 38 08.4	
comp=Z,22µm,0.3s									
QAM				*e*Pn		**Pb**		**10 38 07.3**	**+0.2**
IRAM	**Rameshen**	**2.26**	**96**	*e*AMB		AMB		10 38 42.2	
comp=Z,6µm,0.2s									
IRAM				*e*Pn		**Pb**		**10 38 07.0**	**-1.1**
IZEF	**Zefreh**	**2.33**	**69**	*e*AMB		AMB		10 38 11.9	
comp=Z,8µm,0.2s									
IZEF				*e*Pn		**Pb**		**10 38 08.1**	**-1.2**
ASAO	**Ashtian**	**2.47**	**5**	*e*Pn		**Pb**		**10 38 10.8**	**-0.9**
ASAO	**Ashtian**	**2.47**	**5**	*e*Pn		**Pb**		**10 38 10.8**	**-0.9**
ASAO				*e*Sg		**Sb**		**10 38 47.0**	**+5.2**
NASN	**Na'in**	**2.69**	**74**	*e*Pn		**Pb**		**10 38 13.4**	**-2.1**
NASN	**Na'in**	**2.69**	**74**	*e*Pn		**Pb**		**10 38 13.4**	**-2.1**
GHVR	**GHOM**	**2.72**	**28**	*e*Pn		**Pb**		**10 38 14.2**	**-1.7**
GHVR	**GHOM**	**2.72**	**28**	*e*Pn		**Pb**		**10 38 14.2**	**-1.7**
IKOM	**Komasi**	**2.80**	**319**	*e*Pn		**Pb**		**10 38 14.7**	**-2.7**
IKOM				*e*AMB		AMB		10 39 03.7	
comp=Z,11µm,0.3s									
IKOM	**Komasi**	**2.80**	**319**	Pn		**Pb**		**10 38 14.6**	**-2.8**
IKOM	**Komasi**	**2.80**	**319**	Pn		**Pb**		**10 38 14.6**	**-2.8**
IKAZ	**Kazeroun**	**2.92**	**141**	*e*Pn		**Pn**		**10 38 16.5**	**+3.0**
IKAZ				*e*AMB		AMB		10 38 56.0	
comp=Z,9µm,0.2s									
IKAZ	**Kazeroun**	**2.92**	**141**	*e*Pn		**Pn**		**10 38 16.5**	**+3.0**
NSR	**Nassriya**	**3.26**	**252**	*e*Pn		**Pn**		**10 38 15.0**	**-2.9**
SNR=5.0									
NSR				*e*Sn		**Sn**		**10 38 52.0**	**-4.1**
SNR=5.0									
HKZM	**Kohzaman**	**3.36**	**348**	*e*Pn		**Pn**		**10 38 21.6**	**+2.1**
HKZM				*e*AMB		AMB		10 39 16.4	
comp=Z,99nm,0.3s									
HKZM	**Kohzaman**	**3.36**	**348**	*e*Pn		**Pn**		**10 38 21.6**	**+2.1**
IVIS	**Veis**	**3.44**	**316**	*e*Pn		**Pn**		**10 38 22.5**	**+2.1**
IVIS				*e*AMB		AMB		10 39 27.9	
comp=Z,2µm,0.2s									
IVIS	**Veis**	**3.44**	**316**	*e*Pn		**Pn**		**10 38 22.5**	**+2.1**
SNGE	**Sanandaj**	**3.60**	**327**	AML		AML		10 39 37.7	
comp=N,195nm,0.7s									
IPAR	**Pars**	**3.61**	**127**	*e*Pn		**Pn**		**10 38 26.2**	**+3.2**
IPAR				*e*AMB		AMB		10 39 14.8	
comp=Z,3µm,0.3s									
IPAR	**Pars**	**3.61**	**127**	*e*Pn		**Pn**		**10 38 26.2**	**+3.2**
ISRV	**Sarvestan**	**3.96**	**132**	*e*Pn		**Pn**		**10 38 30.0**	**+2.2**
ISRV				*e*AMB		AMB		10 39 20.8	
comp=Z,4µm,0.3s									
ISRV	**Sarvestan**	**3.96**	**132**	*e*Pn		**Pn**		**10 38 30.0**	**+2.2**
DAMV	**Damavand**	**3.99**	**27**	*e*Pn		**Pn**		**10 38 31.5**	**+3.3**
DAMV	**Damavand**	**3.99**	**27**	*e*Pn		**Pn**		**10 38 31.5**	**+3.3**
BHD	**Baghdad**	**4.68**	**286**	*e*Pn		**Pn**		**10 38 36.0**	**-1.3**
SNR=5.0									
BHD				*e*Sn		**Sn**		**10 39 28.0**	**-3.0**
SNR=5.0									
IKRK	**Kirkuk**	**5.58**	**308**	*e*Pn		**Pn**		**10 38 49.0**	**-0.9**
SNR=5.0									
BOQSS		**6.20**	**183**	P		**Pn**		**10 39 00.5**	**+2.1**
BOQSS				S		**Sn**		**10 40 09.9**	**+1.1**
TABS	**Tabas**	**6.40**	**74**	*e*P		**Pn**		**10 39 03.9**	**+2.8**
TABS	**Tabas**	**6.40**	**74**	*e*P		**Pn**		**10 39 03.9**	**+2.8**
ASYS		**6.55**	**227**	P		**Pn**		**10 39 03.0**	**-0.1**
RTB	**Rutbah**	**8.02**	**279**	*e*Pn		**Pn**		**10 39 22.0**	**-1.4**
SNR=5.0									
SHME	**Shamm**	**8.21**	**135**	P		**Pn**		**10 39 28.5**	**+2.5**
SHME				S		**Sn**		**10 40 56.9**	**-1.4**
SHME	**Shamm**	**8.21**	**135**	*i*P		**Pn**		**10 39 26.4**	**+0.4**
SNR=12									
BANOM	**Banah**	**8.40**	**135**	Pn		**Pn**		**10 39 28.7**	**+0.1**
SNR=58									
BANOM				S		**Sn**		**10 40 58.6**	**-4.4**
BANOM	**Banah**	**8.40**	**135**	P		**Pn**		**10 39 28.7**	**+0.1**
SNR=58									
BANOM				S		**Sn**		**10 40 58.6**	**-4.4**
BANOM	**Banah**	**8.40**	**135**	P		**Pn**		**10 39 28.7**	**+0.1**
SNR=58									
BANOM				S		**Sn**		**10 40 57.8**	**-5.2**
MSFE	**Esma-Masafi**	**8.75**	**138**	P		**Pn**		**10 39 34.9**	**+1.5**
MSFE	**Esma-Masafi**	**8.75**	**138**	*i*P		**Pn**		**10 39 33.4**	**0.0**
SNR=13									
NAZ	**Nazwa, Dubai**	**8.78**	**142**	pPn		**Pn**		**10 39 37.0**	**+3.3**
SNR=11									
NAZ				Sn		**Sn**		**10 41 10.1**	**-2.0**
NAZ	**Nazwa, Dubai**	**8.78**	**142**	P		**Pn**		**10 39 37.0**	**+3.3**
SNR=11									
NAZ				S		**Sn**		**10 41 10.1**	**-2.0**
NAZ	**Nazwa, Dubai**	**8.78**	**142**	P		**Pn**		**10 39 35.4**	**+1.7**
SNR=6.0									
NAZ				S		**Sn**		**10 41 10.1**	**-2.0**
NAZ	**Nazwa, Dubai**	**8.78**	**142**	*i*P		**Pn**		**10 39 35.4**	**+1.7**
SNR=6.0									
MDH	**Madha**	**8.88**	**138**	*i*P		**Pn**		**10 39 34.7**	**-0.3**
SNR=18									
GEYT	**Alibeck**	**9.00**	**47**	Pn		**Pn**		**10 39 40.0**	**+3.2**
comp=Z,1.8nm,0.3s,baz=248,slow=11,SNR=14									
GEYT				LR		LR		10 43 39.3	
comp=Z,351nm,18.6s,baz=220,slow=41									
GYA0B	**ALIBECK ARRAY**	**9.00**	**47**	*e*Pn		**Pn**		**10 39 38.6**	**+1.8**
GYA0B	**ALIBECK ARRAY**	**9.00**	**47**	*e*Pn		**Pn**		**10 39 38.6**	**+1.8**
GNI	**Garni**	**9.01**	**335**	LR		LR		10 43 39.3	
comp=Z,56nm,21.8s,baz=264,slow=41									
UOSS	**Minazif**	**9.10**	**140**	*e*Pn		**Pn**		**10 39 38.2**	**0.0**
UOSS	**Minazif**	**9.10**	**140**	pPn		**Pn**		**10 39 39.5**	**+1.3**
UOSS				Sn		**Sn**		**10 41 15.1**	**-5.0**
UOSS	**Minazif**	**9.10**	**140**	P		**Pn**		**10 39 39.5**	**+1.3**
UOSS				S		**Sn**		**10 41 15.1**	**-5.0**
UOSS	**Minazif**	**9.10**	**140**	*e*Pn		**Pn**		**10 39 38.2**	**0.0**
UOSS	**Minazif**	**9.10**	**140**	P		**Pn**		**10 39 38.9**	**+0.8**
SNR=10									
UOSS	**Minazif**	**9.10**	**140**	*i*P		**Pn**		**10 39 38.9**	**+0.8**
SNR=10									
HATD	**Hatta, Dubai**	**9.16**	**141**	P		**Pn**		**10 39 39.8**	**+0.9**
SNR=10									
HATD	**Hatta, Dubai**	**9.16**	**141**	*i*P		**Pn**		**10 39 39.8**	**+0.9**
SNR=10									
ASHO	**Ashiyiah**	**9.23**	**141**	Pn		**Pn**		**10 39 40.7**	**+0.7**
SNR=42									
ASHO				Sn		**Sn**		**10 41 20.3**	**-3.1**
ASHO	**Ashiyiah**	**9.23**	**141**	P		**Pn**		**10 39 40.7**	**+0.7**
SNR=42									
ASHO				S		**Sn**		**10 41 20.3**	**-3.1**
ASHO	**Ashiyiah**	**9.23**	**141**	P		**Pn**		**10 39 40.7**	**+0.7**
SNR=42									
ASHO	**Ashiyiah**	**9.23**	**141**	*i*P		**Pn**		**10 39 40.2**	**+0.2**
SNR=23									
RAYN	**Ar Rayn**	**9.32**	**205**	*e*Pn		**Pn**		**10 39 40.4**	**-0.8**
RAYN	**Ar Rayn**	**9.32**	**205**	*e*P		**Pn**		**10 39 40.4**	**-0.8**
RAYN	**Ar Rayn**	**9.32**	**205**	*e*P		**Pn**		**10 39 40.4**	**-0.8**
ASF	**Jabal al Asfar**	**10.89**	**274**	Pn		**Pn**		**10 40 01.9**	**-0.9**
comp=Z,2.9nm,0.3s,baz=281,slow=1.3,SNR=12									
WSAR	**Wadi Sarin**	**11.81**	**136**	Pn		**Pn**		**10 40 16.2**	**+0.9**
comp=Z,5.1nm,0.3s,baz=332,slow=12,SNR=41									
WSAR				Sn		**Sn**		**10 42 20.5**	**-6.1**
comp=Z,1.7nm,0.3s,baz=99,slow=15,SNR=5.8									
WSAR	**Wadi Sarin**	**11.81**	**136**	Pn		**Pn**		**10 40 15.8**	**+0.5**
WSAR	**Wadi Sarin**	**11.81**	**136**	P		**Pn**		**10 40 15.8**	**+0.5**
WSAR	**Wadi Sarin**	**11.81**	**136**	P		**Pn**		**10 40 15.8**	**+0.5**
MMAI	**Mount Meron Ar**	**12.14**	**278**	Pn		**Pn**		**10 40 18.3**	**-1.5**
comp=Z,0.9nm,0.3s,baz=236,slow=48,SNR=2.6									
MMAI				LR		LR		10 46 21.4	
comp=Z,46nm,19.4s,baz=65,slow=44									
EIL	**Elat**	**12.94**	**263**	Pn		**Pn**		**10 40 31.2**	**+0.6**
comp=Z,0.7nm,0.3s,baz=132,slow=4.7,SNR=4.3									
EIL				LR		LR		10 46 53.9	
comp=Z,153nm,19.0s,baz=241,slow=44									
KVAR	**Kislovodsk Ar**	**13.08**	**337**	LR		LR		10 45 59.0	
comp=Z,97nm,18.4s,baz=314,slow=39									
BR101	**Keskin Array S**	**15.10**	**305**	*e*Pn		**P**		**10 41 03.6**	**-1.8**
BR131	**Keskin Array S**	**15.10**	**305**	*e*Pn		**Pn**		**10 41 00.0**	**-0.2**
BR131	**Keskin Array S**	**15.10**	**305**	*e*Pn		**Pn**		**10 41 00.0**	**-0.2**
BRTR	**Keskin Array B**	**15.10**	**305**	Pn		**P**		**10 41 03.6**	**-1.8**
comp=Z,0.7nm,0.3s,baz=130,slow=14,SNR=29									
DAMY	**Dhamar**	**18.11**	**197**	*e*Pn		**Pn**		**10 41 36.7**	**-1.9**
comp=Z,16nm,0.6s									
MANT	**Manisa**	**18.42**	**296**	*e*P		**P**		**10 41 41.8**	**-0.4**
comp=Z,44nm,1.3s									
MANT	**Manisa**	**18.42**	**296**	*e*P		**P**		**10 41 41.8**	**-0.4**
comp=Z,44nm,1.3s									
ABKAR	**Akbulak array**	**18.78**	**21**	*e*P		**Pn**		**10 41 46.2**	**-0.2**
comp=Z,36nm,0.5s									
ABKAR	**Akbulak array**	**18.78**	**21**	*e*P		**Pn**		**10 41 46.2**	**-0.2**
comp=Z,36nm,0.5s									
AKTK	**Aktyubinsk**	**19.33**	**16**	*e*P		**Pn**		**10 41 52.5**	**-0.5**
AKTO	**Aktyub

SORM	Soroca	22.79	321	⇓*i*P	P	10 42 28.3	-0.9
SORM	Soroca	22.79	321	P	P	10 42 28.2	-0.9
SORM	Soroca	22.79	321	P	P	10 42 28.2	-0.9
TESR	Tescani	22.84	316	⇑*i*P	P	10 42 29.3	-0.4
TESR	Tescani	22.84	316	⇑*i*P	P	10 42 29.3	-0.4
NRN	Naryn	22.94	59	*e*P	P	10 42 33.4	+2.3
	comp=Z,14nm,0.8s						
NRN	Naryn	22.94	59	*e*P	P	10 42 33.4	+2.3
NRN				pmax	pmax		
	comp=Z,14nm,0.8s						
VOIR		23.31	312	⇑*i*P	P	10 42 35.7	+1.1
VOIR		23.31	312	⇑*i*P	P	10 42 35.7	+1.1
VOIR		23.31	312	P	P	10 42 35.6	+1.0
KDJ	Kajisay	23.98	58	*e*P	P	10 42 43.0	+1.8
	comp=Z,7.1nm,0.7s						
KDJ	Kajisay	23.98	58	*e*P	P	10 42 43.0	+1.8
KDJ				pmax	pmax		
	comp=Z,7.0nm,0.7s						
AKASG	Malin Array Be	24.00	327	P	P	10 42 40.6	-0.5
	comp=Z,2.7nm,0.3s,baz=135,slow=8.9,SNR=25						
AKBB	Malin Array Si	24.00	327	*e*P	P	10 42 40.7	-0.4
	comp=Z,6.1nm,0.7s						
AKBB	Malin Array Si	24.00	327	*e*P	P	10 42 40.7	-0.4
AKBB				pmax	pmax		
	comp=Z,6.0nm,0.7s						
KIEV	Kiev	24.01	327	*e*P	P	10 42 40.4	-0.8
	comp=Z,6.0nm,0.7s						
KIEV	Kiev	24.01	327	*e*P	P	10 42 40.4	-0.8
KIEV				pmax	pmax		
	comp=Z,6.0nm,0.7s						
AK11	Malin Array Si	24.02	327	*e*P	P	10 42 41.7	+0.4
BURAR	Bucovina Array	24.25	317	⇑*i*P	P	10 42 45.0	+1.4
BURAR	Bucovina Array	24.25	317	⇑*i*P	P	10 42 45.0	+1.4
BURAR	Bucovina Array	24.25	317	P	P	10 42 45.0	+1.4
BUR04	Bucovina Ar. S	24.26	317	*e*P	P	10 42 43.8	+0.2
BUR08	Bucovina Ar. S	24.28	317	*e*P	P	10 42 44.4	+0.6
FNA	Florina	24.34	299	*e*P	P	10 42 44.8	+0.4
	comp=Z,4.2nm,0.6s						
FNA	Florina	24.34	299	*e*P	P	10 42 44.8	+0.4
FNA				pmax	pmax		
	comp=Z,4.0nm,0.6s						
OBN	Obninsk	24.83	342	P	P	10 42 48.8	+0.2
	comp=Z,8.2nm,0.4s,baz=146,slow=22,SNR=1.9						
OBN	Obninsk	24.83	342	*e*P	P	10 42 48.8	+0.2
	comp=Z,19nm,0.5s						
OBN	Obninsk	24.83	342	⇓*e*P	P	10 42 48.5	-0.1
OBN				pmax	pmax		
	comp=Z,9.0nm,1.0s						
PRZ	Przheval'sk	24.94	57	*e*P	P	10 42 50.9	+0.9
	comp=Z,23nm,0.9s						
PRZ	Przheval'sk	24.94	57	*e*P	P	10 42 50.9	+0.9
PRZ				pmax	pmax		
	comp=Z,23nm,0.9s						
ARU	Arti	25.10	12	P	P	10 42 51.3	+0.2
	comp=Z,3.9nm,0.2s,baz=181,slow=5.9,SNR=4.1						
ARU	Arti	25.10	12	*e*P	P	10 42 51.3	+0.2
	comp=Z,6.8nm,1.0s						
ARU	Arti	25.10	12	P	P	10 42 51.0	-0.1
BRVK	Borovoye	25.67	29	*e*P	P	10 42 57.0	+0.7
	comp=Z,3.6nm,1.1s						
BRVK	Borovoye	25.67	29	*e*P	P	10 42 57.0	+0.7
	comp=Z,3.6nm,1.1s						
BRVK	Borovoye	25.67	29	*e*P	P	10 42 57.0	+0.7
BRVK				pmax	pmax		
	comp=Z,4.0nm,1.1s						
BVAR	Borovoye Array	25.69	29	P	P	10 42 57.2	+0.7
	comp=Z,2.1nm,0.5s,baz=227,slow=7.6,SNR=11						
BVAR				ScP	ScP	10 50 02.3	-2.4
	comp=Z,0.8nm,0.6s,baz=294,slow=1.4,SNR=4.3						
SIRR	Siria	25.81	311	⇓*i*P	P	10 43 01.0	+3.4
TRPA	Tarpa	26.07	316	⇓*i*P	P	10 43 03.3	+3.3
CRVS	Cervenica-Dubn	27.07	317	*e*P	P	10 43 12.9	+3.9
CRVS	Cervenica-Dubn	27.07	317	*e*P	P	10 43 12.9	+3.9
KURBB	Kurchatov Arra	28.19	40	P	P	10 43 20.4	+1.5
	comp=Z,1.6nm,0.7s,baz=241,slow=9.6,SNR=8.7						
KURK	Kurchatov	28.28	40	*e*P	P	10 43 20.4	+0.6
KURK	Kurchatov	28.28	40	*e*P	P	10 43 20.4	+0.6
MK01	Makanchi Array	28.87	50	*e*P	P	10 43 25.9	+0.8
MK01	Makanchi Array	28.87	50	*e*P	P	10 43 25.9	+0.8
MK31	Makanchi Array	28.87	50	*e*P	P	10 43 26.2	+1.1
MK31	Makanchi Array	28.87	50	*e*P	P	10 43 26.2	+1.1
MK31	Makanchi Array	28.87	50	*e*P	P	10 43 26.2	+1.1
MK32	Makanchi Array	28.87	50	*e*P	P	10 43 26.3	+1.2
MK32				*e*PcP	PcP	10 46 33.5	-0.7
MK32	Makanchi Array	28.87	50	*e*P	P	10 43 26.3	+1.2
MKAR	Makanchi Array	28.87	50	P	P	10 43 26.3	+1.2
	comp=Z,2.6nm,0.5s,baz=243,slow=9.3,SNR=13						
MKAR				PcP	PcP	10 46 33.5	-0.7
	comp=Z,0.2nm,0.5s,baz=245,slow=1.0,SNR=3.0						
MKAR	Makanchi Array	28.87	50	*e*P	P	10 43 26.1	+1.0
	comp=Z,35nm,0.6s						
MKAR				PcP	PcP	10 46 33.5	-0.7
MKAR	Makanchi Array	28.87	50	*e*P	P	10 43 26.1	+1.0
	comp=Z,35nm,0.6s						
MKAR	Makanchi Array	28.87	50	*e*P	P	10 43 26.1	+1.0
MKAR						10 46 33.5	
MKAR				pmax	pmax		
	comp=Z,35nm,0.6s						
KBA	Koelnbreinsper	31.48	309	*e*P	P	10 43 48.8	+0.5
	comp=Z,2.9nm,0.5s						
GEC2	GERESS Array S	31.76	312	*e*P	P	10 43 50.8	+0.1
	comp=Z,11nm,1.8s						
GEC2	GERESS Array S	31.76	312	*e*P	P	10 43 50.8	+0.1
	comp=Z,11nm,1.8s						
GEC2	GERESS Array S	31.76	312	*e*P	P	10 43 50.8	+0.1
GEC2				pmax	pmax		
	comp=Z,11nm,1.8s						
GERES	GERESS Array B	31.76	312	P	P	10 43 50.8	+0.1
	comp=Z,0.2nm,0.3s,baz=119,slow=8.1,SNR=3.2						
ABTA	Abfaltersbach	31.95	308	P	P	10 43 52.2	-0.2
	comp=Z,1.6nm,0.5s						
ABTA	Abfaltersbach	31.95	308	*e*P	P	10 43 52.2	-0.2
	comp=Z,1.6nm,0.5s						
WTTA	Wattenberg	32.65	309	P	P	10 43 58.8	+0.1
	comp=Z,3.2nm,0.5s						
WTTA	Wattenberg	32.65	309	*e*P	P	10 43 58.8	+0.1
	comp=Z,3.2nm,0.5s						
WATA	Walderalm	32.71	309	*i* pP	P	10 44 04.2	+5.1
	comp=Z,3.3nm,0.5s						
NVS	Novosibirsk	32.78	36	*e*P	P	10 44 01.3	+1.8
MOTA	Moosalm	33.02	309	P	P	10 44 01.6	-0.3
	comp=Z,2.8nm,0.4s						
MOTA	Moosalm	33.02	309	*e*P	P	10 44 01.6	-0.3
	comp=Z,2.8nm,0.4s						
FIA0	FINESS Array S	33.16	339	*e*P	P	10 44 02.1	-0.6
FIA0	FINESS Array S	33.16	339	*e*P	P	10 44 02.1	-0.6
FINES	FINESS Array B	33.16	339	P	P	10 44 02.1	-0.6
	comp=Z,1.1nm,0.5s,baz=146,slow=7.4,SNR=10.0						
ZALV	Zalesovo Beam	33.17	38	P	P	10 44 03.0	+0.2
	comp=Z,1.9nm,0.4s,baz=250,slow=9.1,SNR=4.3						
ZAA1	Zalesovo Array	33.17	38	*e*P	P	10 44 03.0	+0.1
FETA	Feichten	33.20	308	*e*P	P	10 44 03.2	-0.3
	comp=Z,2.4nm,0.5s						
DAVA	Damuels	33.82	308	P	P	10 44 08.6	-0.3
	comp=Z,7.8nm,0.4s						
DAVA	Damuels	33.82	308	*i* P	P	10 44 08.6	-0.3
	comp=Z,7.8nm,0.4s						
HFS	Hagfors	36.76	331	P	P	10 44 33.9	+0.1
	comp=Z,3.7nm,0.3s,baz=123,slow=10,SNR=35						
HFS				LR	LR	10 59 49.2	
	comp=Z,68nm,19.1s,baz=150,slow=36						
PALK	Pallekele	37.94	124	LR	LR	11 00 25.8	
	comp=Z,520nm,21.5s,baz=294,slow=36						
NB2	NORSAR Subarra	38.28	331	P	P	10 44 45.7	-1.0
	comp=Z,3.4nm,0.7s,baz=124,slow=8.6						
NB200	NORSAR Array S	38.28	331	*e*P	P	10 44 46.0	-0.6
NOA	NORSAR Array B	38.28	331	P	P	10 44 46.0	-0.6
	comp=Z,2.4nm,0.6s,baz=123,slow=8.4,SNR=11						
NOA				LR	LR	11 01 57.7	
	comp=Z,36nm,18.5s,baz=40,slow=38						
ARA0	ARCESS Array S	39.91	347	*e*P	P	10 44 59.8	-0.4
ARCES	ARCESS Array B	39.91	347	P	P	10 44 59.8	-0.4
	comp=Z,2.4nm,0.8s,baz=350,slow=6.2,SNR=4.6						
EKA	Eskdalemuir Ar	43.42	318	P	P	10 45 28.5	-0.5
	comp=Z,1.0nm,0.5s,baz=100,slow=8.0,SNR=4.9						
ESDC	Sonseca Array	43.62	296	P	P	10 45 31.8	+0.8
	comp=Z,0.2nm,0.3s,baz=94,slow=39,SNR=3.1						
SONA0	Songino Array	45.17	53	*e*P	P	10 45 44.4	+1.1
SONM	Songino Array	45.17	53	P	P	10 45 44.4	+1.1
	comp=Z,0.4nm,0.5s,baz=270,slow=5.8,SNR=3.8						
CMAR	Chiang Mai Arr	46.14	95	P	P	10 45 52.9	+1.7
	comp=Z,1.8nm,0.3s,baz=285,slow=8.3,SNR=3.4						
TOA0	Torodi Ar. Sit	47.76	258	*e*P	P	10 46 04.7	+0.8
TOA1	Torodi Ar. Sit	47.76	258	*e*P	P	10 46 04.1	+0.2
TORD	Torodi Ar. Bea	47.76	258	P	P	10 46 04.1	+0.2
	comp=Z,3.6nm,0.8s,baz=54,slow=8.2,SNR=26						
SPITS	Spitsbergen Ar	48.44	351	P	P	10 46 08.9	+0.6
	comp=Z,5.5nm,0.6s,baz=142,slow=5.3,SNR=17						
BOD	Bodaibo	49.92	39	*e*P	P	10 46 18.9	-1.0
KOWA	Kowa	51.87	263	P	P	10 46 35.6	+0.4
	comp=Z,3.1nm,0.5s,baz=62,slow=8.8,SNR=9.5						
DBIC	Dimbokro	56.67	256	P	P	10 47 10.5	+0.3
	comp=Z,1.2nm,0.4s,baz=72,slow=6.6,SNR=2.0						
DBIC	Dimbokro	56.67	256	*e*P	P	10 47 10.5	+0.3
	comp=Z,51nm,1.8s						
DBIC	Dimbokro	56.67	256	*e*P	P	10 47 10.5	+0.3
DBIC				pmax	pmax		
	comp=Z,51nm,1.8s						
KS15	Wonju Array Si	62.68	61	*e*P	P	10 47 50.7	-0.6
KSAR	Wonju Array Be	62.68	61	P	P	10 47 50.7	-0.6
KSAR	Wonju Array Be	62.68	61	P	P	10 47 50.7	-0.6
KSRS	Korea Array	62.71	61	P	P	10 47 50.7	-0.8
	comp=Z,0.8nm,0.5s,baz=284,slow=7.4,SNR=4.3						
USRK	Ussuriysk Ar.	63.28	53	P	P	10 47 54.4	-0.8
	comp=Z,0.9nm,0.5s,baz=298,slow=27,SNR=2.9						
BOSA	Boshof	64.70	204	P	P	10 48 05.7	+1.0
	comp=Z,3.0nm,0.6s,baz=12,slow=7.1,SNR=5.7						
PEA1	Petropavlovsk-	74.69	36	*e*P	P	10 49 08.2	+2.3
PETK	Petropavlovsk-	74.69	36	P	P	10 49 08.2	+2.2
	comp=Z,6.2nm,1.1s,baz=243,slow=6.3,SNR=3.3						
IM3	Indian Mountai	80.58	10	*e*P	P	10 49 38.6	0.0
ILAR	Eielson Array	82.58	7	P	P	10 49 49.0	-0.2
	comp=Z,0.7nm,0.7s,baz=328,slow=3.6,SNR=8.5						
ILAR	Eielson Array	82.58	7	P	P	10 49 49.0	-0.2
ILB	Eielson Array	82.58	7	*e*P	P	10 49 49.0	-0.2
SCRK	Sand Creek	83.64	6	*e*P	P	10 49 55.2	+0.3
	comp=Z,13nm,1.7s						
YKA	Yellowknife Ar	84.91	353	P	P	10 50 00.7	-0.3
	comp=Z,0.9nm,0.7s,baz=13,slow=5.4,SNR=21						
YKB5	Yellowknife Ar	84.91	353	*e*P	P	10 49 60.0	-1.1
KDAK	Kodiak Island	88.52	12	LR	LR	11 36 47.1	
	comp=Z,72nm,20.4s,baz=245,slow=40						
WR1	Warramunga Arr	95.97	110	*e*P	P	10 50 53.5	-0.4
	comp=Z,25nm,1.8s						
WRA	Warramunga Arr	95.97	110	P	P	10 50 53.4	-0.4
	comp=Z,0.2nm,0.8s,baz=316,slow=5.8,SNR=2.6						
BBB	Bella Bella	96.07	359	LR	LR	11 42 25.2	
	comp=Z,35nm,20.3s,baz=129,slow=41						
ASAR	Alice Springs	97.57	113	P	Pdif	10 51 03.8	+2.6
	comp=Z,0.2nm,0.9s,baz=310,slow=4.7,SNR=3.7						
NEW	Newport	99.15	351	LR	LR	11 37 22.9	
	comp=Z,52nm,18.1s,baz=286,slow=36						

NNC 30 10:38:37.3±7.1, 37.09N×71.04E, h0km, mb3.6, mpv3.2, 5C-5D, Error ellipse: s-maj=58.2km s-min=23.1km az=172.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
DZET	Dzherino	2.45	315	⇑Pn		Pn	10 39 17.9	-0.8
	18nm,0.2s							
DZET				⇑Sn		Sb	10 39 51.9	-1.4
	50nm,0.4s							
SFK	Sufi-Kurgan	3.50	33	⇓Pn		Pn	10 39 33.8	+0.5
	1.8nm,0.3s							
SFK				⇑Sn		Sn	10 40 18.6	+3.1
	13nm,0.3s							
MNAS	Manas	5.51	11	⇓Pn		Pn	10 39 59.4	-1.3
	2.3nm,1.0s							
MNAS				⇓Sn		Sn	10 41 04.4	-0.5
	3.5nm,0.5s							
KK31	Karatay Array	6.03	356	⇑Pn		Pn	10 40 05.2	-2.6
	0.3nm,0.3s,baz=184,slow=14,SNR=4.9							
KK31				⇓Sn		Sn	10 41 15.9	-1.5
	5.4nm,0.6s,baz=189,slow=23,SNR=16							
AAK	Ala-Archa	6.15	25	⇓Pn		Pn	10 40 10.2	+0.7
	1.4nm,0.6s							
AAK				⇑Sn		Sn	10 41 19.1	-1.6
	8.8nm,1.2s							

NNC 30 11:08:16.9±2.7, 38.23N×72.08E, h0km, mb3.7, mpv3.3, 5C-4D, Error ellipse: s-maj=27.0km s-min=8.3km az=154.0, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SFK	Sufi-Kurgan	2.10	31	⇑Pn		Pn	11 08 53.2	-0.2
	13nm,0.3s							
SFK				⇓Sn		Sb	11 09 22.8	+0.2
	13nm,0.2s							
DZET	Dzherino	2.62	284	⇑Pn		Pn	11 08 59.8	-0.7
	2.0nm,0.3s							
DZET				⇑Sn		Sn	11 09 35.0	+2.0
	15nm,0.5s							
MNAS	Manas	4.26	4	⇑Pn		Pn	11 09 22.5	-0.6
	3.1nm,0.3s							
MNAS				⇓Sn		Sn	11 10 14.2	+0.5
	6.7nm,0.7s							
AAK	Ala-Archa	4.77	22	⇑Pn		Pn	11 09 27.9	-2.2
	2.5nm,0.5s							
AAK				⇓Sn		Sn	11 10 25.5	-0.8
	3.2nm,0.7s							
KK31	Karatay Array	5.01	347	Pn		Pn	11 09 32.8	-0.5
	1.3nm,0.3s,baz=173,slow=12,SNR=51							
KK31				⇓Sn		Sn	11 10 32.1	+0.1
	5.1nm,0.5s,baz=168,slow=25,SNR=18							

*IDC **30** 11:08:42.9±0.9, 2.66N×91.51E, h0km, mb4.0/17, mb1 4.1/20, mb1mx3.9/77, mbtmp4.0/20, ML4.1/2, Error ellipse: s-maj=30.7km s-min=16.9km az=37.0*
*NEIC **30** 11:08:44.2±0.4, 2.66N×91.56E, h10km, mb4.5/4, Error ellipse: s-maj=11.5km s-min=5.8km az=212.0*
*ISCJB **30** 11:08:46.0±0.6, 2.69N±0.10×91.64E±0.06, h33km, mb4.1/19, Error ellipse: s-maj=14.9km s-min=7.0km az=25.0*

ISC 30 11:08:47.6±0.9, 2.6N±0.2×91.56E±0.08, h35km, n39, σ0.94/42, mb4.1/19, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
GSI	Gunungsitoli	6.16	102	*e*Pn		Pn	11 10 13.8	-2.3
PSI	Prapat	7.36	89	Pn		Pn	11 10 32.4	-0.4
	0.6nm,0.3s,baz=29,slow=4.6,SNR=3.2							
PSI				Sn		Sn	11 11 55.3	+0.1
	0.7nm,0.3s,baz=191,slow=17,SNR=2.2							
PSI	Prapat	7.36	89	*e*Pn		Pn	11 10 31.9	-0.9
PSI				*e*Sn		Sn	11 11 55.3	+0.1
PALK	Pallekele	11.75	293	Pn		Pn	11 11 30.7	-2.3
	6.1nm,0.3s,baz=115,slow=12,SNR=19							
PALK				Sn		Sn	11 13 33.2	-10
	0.9nm,0.3s,baz=266,slow=0.4,SNR=3.9							
PALK	Pallekele	11.75	293	*e*Pn		Pn	11 11 31.3	-1.6
PALK				*e*Sn		Sn	11 13 33.1	-10
CMAR	Chiang Mai Arr	17.31	24	P		Pn	11 12 45.6	-1.1
	baz=220,slow=13,SNR=6.5							
KK31	Karatay Array	44.44	338	*e*P		P	11 16 53.2	-2.0
KKAR	Karatay Array	44.44	338	*e*P		P	11 16 55.0	-0.3
MK32	Makanchi Array	44.72	351	*e*P		P	11 16 57.8	+0.4
MKAR	Makanchi Array	44.72	351	P		P	11 16 57.8	+0.4
	1.7nm,0.7s,baz=164,slow=8.5,SNR=5.8							
SONA0	Songino Array	46.82	14	*e*P		P	11 17 15.3	+1.2
SONM	Songino Array	46.82	14	P		P	11 17 15.3	+1.2
	2.5nm,0.7s,baz=194,slow=9.5,SNR=10							
SONA1	Songino Array	46.83	14	*e*P		P	11 17 15.1	+0.9
WR1	Warramunga Arr	47.60	120	*e*P		P	11 17 20.6	+0.1
	28nm,1.9s							
WRA	Warramunga Arr	47.60	120	P		P	11 17 20.6	+0.1
	0.7nm,0.7s,baz=298,slow=8.7,SNR=8.0							
AS31	Alice Springs	48.80	125	*e*P		P	11 17 30.6	+0.9
	4.3nm,1.8s							
ASAR	Alice Springs	48.80	125	P		P	11 17 30.9	+1.2
	0.2nm,0.8s,baz=303,slow=7.5,SNR=2.9							
KURBB	Kurchatov Arra	49.07	349	P		P	11 17 31.8	+0.5
	1.6nm,0.9s,baz=170,slow=7.1,SNR=5.4							
KURK	Kurchatov	49.14	349	*e*P		P	11 17 31.8	0.0
ZALV	Zalesovo Beam	51.45	355	P		P	11 17 49.5	+0.3
	2.5nm,0.4s,baz=185,slow=7.1,SNR=5.9							
ZAA1	Zalesovo Array	51.45	355	*e*P		P	11 17 49.5	+0.2
BVAR	Borovoye Array	53.20	344	P		P	11 18 02.4	+0.1
	0.4nm,0.5s,baz=134,slow=8.3,SNR=3.4							
KBZ	Khabaz	59.35	321	P		P	11 18 47.0	+0.7
	2.2nm,0.9s,baz=143,slow=3.0,SNR=7.0							
BR101	Keskin Array S	64.01	313	*e*P		P	11 19 18.1	+0.2
BRTR	Keskin Array B	64.01	313	P		P	11 19 18.1	+0.2
	0.6nm,0.7s,baz=125,slow=7.9,SNR=3.7							
MLR	Muntele Rosu	71.18	317	P		P	11 20 03.7	+0.6
	0.7nm,0.5s,baz=203,slow=6.5,SNR=5.3							
TIXI	Tiksi	72.84	12	P		P	11 20 12.3	-0.1
	2.4nm,0.4s,baz=234,slow=3.0,SNR=12							
TIXI	Tiksi	72.84	12	*e*P		P	11 20 11.4	-1.0
	3.4nm,0.8s							
TIXI				*e*P		P	11 20 12.3	-0.1
FIA0	FINESS Array S	76.16	333	*e*P		P	11 20 32.0	+0.2
FINES	FINESS Array B	76.16	333	P		P	11 20 32.0	+0.2
	2.0nm,0.6s,baz=115,slow=8.6,SNR=8.5							
ARA0	ARCESS Array S	79.32	341	*e*P		P	11 20 49.5	+0.2
ARCES	ARCESS Array B	79.32	341	P		P	11 20 49.5	+0.2
	1.6nm,0.7s,baz=105,slow=5.9,SNR=2.8							
GEC2	GERESS Array S	80.03	319	*e*P		P	11 20 55.3	+1.6
	4.7nm,0.8s							
GERES	GERESS Array B	80.03	319	P		P	11 20 54.9	+1.1
	2.1nm,0.6s,baz=97,slow=6.9,SNR=16							
HFS	Hagfors	81.68	330	P		P	11 21 02.0	-0.1
	1.2nm,0.6s,baz=121,slow=7.4,SNR=5.6							
NB200	NORSAR Array S	83.02	331	*e*P		P	11 21 09.3	+0.1
NOA	NORSAR Array B	83.02	331	P		P	11 21 09.3	+0.1
	0.5nm,0.6s,baz=119,slow=4.6,SNR=2.6							
ESDC	Sonseca Array	92.59	310	P		P	11 21 57.4	+1.5
	0.2nm,0.4s,baz=89,slow=6.8,SNR=3.0							
TXAR	Lajitas Array	145.03	24	PKPbc		PKPdf	11 28 22.2	+0.1
	0.4nm,0.5s,baz=45,slow=1.3,SNR=9.9							

PGC 30 11:12:06.6±1.5, 50.48N×130.12W, h10km, MLSn2.8/19, Mw3.5/19, Mw3.5/19, 192km west of Pt. Hardy, Bc Vancouver Island, Canada Region, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PACB	Port Alice, BC	1.68	90	Pn		Pn	11 12 32.5	-3.4
PACB				Sn		Sn	11 12 52.1	-5.3
PHC	Port Hardy	1.73	81	Pn		Pn	11 12 34.9	-1.7
PHC				Sn		Sn	11 12 55.3	-3.4
EDB	Eliza Dome	2.02	106	Pn		Pn	11 12 37.9	-2.8
TLCB	Telegraph Cove	2.10	87	Pn		Pn	11 12 39.1	-2.6
TLCB				Sn		Sn	11 13 04.2	-3.6
BBB	Bella Bella	2.12	35	Pn		Pn	11 12 41.0	-1.1
BBB				Sn		Sn	11 13 05.1	-3.4
WOSB	Woss	2.29	97	Pn		Pn	11 12 43.0	-1.5
BNB	Barry Inlet	2.34	335	Pn		Pn	11 12 42.4	-2.7
BNB				Sn		Sn	11 13 10.3	-3.6
NCRB	Newcastle Ridg	2.60	90	Pn		Pn	11 12 47.1	-1.7
GDR	Gold River	2.72	103	Pn		Pn	11 12 48.4	-1.8
SPLB	Strathcona Par	2.93	100	Pn		Pn	11 12 50.2	-2.9
CBB	Campbell River	3.08	96	Pn		Pn	11 12 54.1	-1.1
CBB				Sn		Sn	11 13 28.0	-4.1
DIB	Dawson Inlet,	3.10	333	Pn		Pn	11 12 52.7	-2.7
DIB				Sn		Sn	11 13 28.0	-4.6
BTB	Buttle Lake	3.13	107	Pn		Pn	11 12 54.3	-1.8
BTB				Sn		Sn	11 13 29.4	-4.3
MWAB	Mount Washingt	3.18	101	Pn		Pn	11 12 54.5	-2.2
TXB	Texada	3.74	100	Pn		Pn	11 13 03.5	-0.8
MGB	Mount Grey	3.81	111	Pn		Pn	11 13 04.7	-0.8
YOUB	Youbou, Lake C	4.11	110	Pn		Pn	11 13 09.7	+0.1
YOUB				Sn		Sn	11 13 55.7	-2.0
SHB	Sechelt	4.12	100	Pn		Pn	11 13 08.4	-1.2
SHB				Sn		Sn	11 13 56.5	-1.4
PFB	Port Renfrew	4.16	115	Pn		Pn	11 13 09.4	-0.6
UBRB	Upper Baezaeko	4.47	55	Pn		Pn	11 13 15.5	+1.1
UBRB				Sn		Sn	11 14 06.2	-0.2
LZB	Mount Lazard	4.50	112	Pn		Pn	11 13 15.7	+0.9
WPB	Watts Point	4.52	98	Pn		Pn	11 13 14.6	-0.5
BIB	Bowen Island	4.53	101	Pn		Pn	11 13 14.4	-0.6
SNB	Saturna Island	4.82	108	Pn		Pn	11 13 19.9	+0.7
MCW	Mount Constitu	5.07	108	Pn		Pn	11 13 22.9	+0.3
LLLB	Lillooet	5.25	85	Pn		Pn	11 13 24.8	-0.4
VDB	Vedder Mountai	5.39	103	Pn		Pn	11 13 27.9	+0.9
MBW	Mount Baker	5.60	104	Pn		Pn	11 13 31.0	+1.0
JCW	Jim Creek	5.82	110	Pn		Pn	11 13 33.9	+1.1
B06A	Marblemount	5.96	106	Pn		Pn	11 13 35.5	+0.8
DLBC	Dease Lake	7.98	0	P		Pn	11 14 04.3	+1.8

*NEIC **30** 11:19:16.7±0.0, 16.30N×94.75W, h179km, MD4.0(MEX), After MEX.*

MEX 30 11:19:17.3±0.6, 16.36N×94.72W, h169km±21km, MD4.0, Oaxaca

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

az=35.5
*IDC **30** 11:34:55.7±0.7,84°.06N×1°.70W, h0km, mb3.6/14, mb1 3.8/16, mb1mx3.6/76, mbtmp3.7/16, ML3.2/2, MS3.3/25, Ms1 3.3/25, ms1mx3.0/70, Error ellipse: s-maj=22.9km s-min=13.6km az=25.0*
*IEPN **30** 11:35:05.0, 83°.86N×4°.87E, h20km, station ZFI2 has station magnitude of 3.20*

ISC 30 11:34:56.6±0.6, 83°.89N±0°.08×0°.75W±0°.08, h10km, n37, σ2ş76/23, mb3.6/14, MS3.2/22, North of Svalbard

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBS	**Kingsbay**	**5.32**	**153**	*eP*	**Pn**	**11 36 15.7**	**-0.2**
KBS				*eS*	**Sn**	**11 37 13.0**	**-4.1**
SPA0	**Spitsbergen Ar**	**6.28**	**146**	*eP*	**Pn**	**11 36 30.3**	**+1.1**
SPA0				*eS*	**Sn**	**11 37 33.0**	**-8.0**
SPITS	**Spitsbergen Ar**	**6.28**	**146**	Pn	**Pn**	**11 36 30.7**	**+1.5**
	baz=338,slow=13,SNR=5.3						
SPITS				Sn	**Sn**	**11 37 37.5**	**-3.4**
	baz=342,slow=35,SNR=2.0						
SPITS				LR	LR	11 38 48.3	
	comp=Z,167nm,20.9s,baz=330,slow=36						
ZFI2	**Zemlya Franca-**	**6.91**	**90**	*eP*	**Pn**	**11 36 35.6**	**-2.1**
ZFI2				*eS*	Sn	11 37 43.5	-13
	8.5nm,1.0s						
RES	**Resolute Bay**	**16.98**	**295**	Pn	**Pn**	**11 38 50.2**	**-3.4**
	0.1nm,0.3s,baz=49,slow=13,SNR=5.9						
RES				Sn	Sn	11 41 45.3	-17
	0.0nm,0.3s,baz=136,slow=14,SNR=4.0						
RES				LR	LR	11 45 50.3	
	comp=Z,125nm,18.5s,baz=172,slow=39						
SFJD	**Kangerlussuaq**	**19.72**	**243**	LR	LR	11 46 58.0	
	comp=Z,67nm,18.2s,baz=1.5,slow=37						
NOA	**NORSAR Array B**	**23.14**	**165**	LR	LR	11 47 35.6	
	comp=Z,32nm,21.7s,baz=45,slow=33						
FINES	**FINESS Array B**	**23.38**	**147**	LR	LR	11 49 13.8	
	comp=Z,48nm,18.0s,baz=340,slow=36						
HFS	**Hagfors**	**24.12**	**162**	LR	LR	11 48 27.0	
	comp=Z,52nm,18.6s,baz=16,slow=33						
FRB	**Frobisher Bay**	**24.70**	**260**	P	**P**	**11 40 15.3**	**-2.0**
	1.8nm,0.7s,baz=356,slow=18,SNR=3.6						
INK	**Inuvik**	**26.37**	**322**	P	**P**	**11 40 31.1**	**-1.3**
	1.0nm,0.8s,baz=355,slow=12,SNR=5.3						
INK				LR	LR	11 51 32.2	
	comp=Z,20nm,20.4s,baz=34,slow=38						
OBN	**Obninsk**	**30.38**	**136**	LR	LR	11 53 37.5	
	comp=Z,42nm,18.3s,baz=292,slow=37						
YKA	**Yellowknife Ar**	**30.63**	**304**	P	**P**	**11 41 09.2**	**-1.1**
	0.2nm,0.8s,baz=4.4,slow=8.5,SNR=5.9						
YKA				PcP	**PcP**	**11 44 10.0**	**+2.0**
	0.1nm,0.7s,baz=3.3,slow=2.8,SNR=4.1						
ILAR	**Eielson Array**	**30.66**	**332**	P	**P**	**11 41 09.7**	**-0.9**
	0.4nm,0.9s,baz=6.7,slow=6.5,SNR=5.1						
ILAR				LR	LR	11 53 14.3	
	comp=Z,41nm,19.3s,baz=317,slow=36						
ARU	**Arti**	**31.01**	**112**	LR	LR	11 56 47.3	
	comp=Z,52nm,18.1s,baz=14,slow=42						
GERES	**GERESS Array B**	**35.42**	**163**	P	**P**	**11 41 55.1**	**+2.7**
	0.2nm,0.3s,baz=8.9,slow=7.0,SNR=3.5						
GERES				LR	LR	11 55 17.0	
	comp=Z,34nm,18.2s,baz=50,slow=34						
BVAR	**Borovoye Array**	**35.58**	**101**	LR	LR	11 59 14.0	
	comp=Z,32nm,19.0s,baz=84,slow=41						
ZALV	**Zalesovo Beam**	**36.21**	**86**	P	**P**	**11 42 00.7**	**+1.8**
	0.6nm,0.3s,baz=343,slow=4.5,SNR=4.1						
ZALV				LR	LR	11 59 20.3	
	comp=Z,50nm,19.4s,baz=64,slow=40						
AKTO	**Aktyubinsk**	**36.88**	**114**	LR	LR	11 59 28.2	
	comp=Z,94nm,19.1s,baz=20,slow=40						
KURBB	**Kurchatov Arra**	**38.82**	**93**	P	**P**	**11 42 22.2**	**+1.1**
	1.9nm,1.1s,baz=348,slow=8.5,SNR=3.9						
MLR	**Muntele Rosu**	**39.28**	**150**	LR	LR	11 59 02.3	
	comp=Z,18nm,19.5s,baz=24,slow=37						
ULM	**Lac du Bonnet**	**40.87**	**282**	LR	LR	12 00 06.8	
	comp=Z,64nm,18.7s,baz=20,slow=37						
KVAR	**Kislovodsk Arr**	**41.94**	**132**	LR	LR	12 00 01.0	
	comp=Z,31nm,20.2s,slow=36						
KBZ	**Khabaz**	**42.18**	**132**	LR	LR	12 02 01.0	
	comp=Z,38nm,19.1s,baz=286,slow=38						
MKAR	**Makanchi Array**	**43.00**	**90**	P	**P**	**11 42 58.5**	**+2.9**
	0.4nm,0.7s,baz=343,slow=9.3,SNR=3.2						
SONM	**Songino Array**	**44.48**	**67**	P	**P**	**11 43 08.0**	**+0.3**
	1.1nm,0.7s,baz=336,slow=8.0,SNR=8.3						
BRTR	**Keskin Array B**	**45.49**	**142**	P	**P**	**11 43 18.5**	**+2.8**
	0.9nm,0.9s,baz=1.9,slow=3.7,SNR=3.9						
GNI	**Garni**	**45.88**	**130**	LR	LR	12 02 40.5	
	comp=Z,31nm,21.3s,baz=33,slow=36						
AAK	**Ala-Archa**	**46.28**	**99**	LR	LR	12 06 35.3	
	comp=Z,39nm,18.8s,baz=232,slow=41						
IDI	**Anoyia**	**49.40**	**152**	LR	LR	12 06 11.8	
	comp=Z,34nm,20.4s,baz=258,slow=38						
PDAR	**Pinedale Array**	**49.67**	**294**	P	**P**	**11 43 48.7**	**+0.4**
	0.2nm,0.4s,baz=18,slow=6.2,SNR=3.9						
PDAR				LR	LR	12 05 25.7	
	comp=Z,50nm,18.2s,baz=10,slow=37						
YBH	**Yreka Blue Hor**	**51.91**	**306**	LR	LR	12 06 01.4	
	comp=Z,36nm,18.9s,baz=329,slow=36						
KSRS	**Korea Array**	**56.72**	**48**	LR	LR	12 09 52.6	
	comp=Z,10.0nm,18.9s,baz=28,slow=37						
TXAR	**Lajitas Array**	**62.38**	**286**	P	**P**	**11 45 19.5**	**+0.4**
	0.3nm,0.8s,baz=345,slow=6.5,SNR=3.0						
JOW	**Kunigami**	**67.29**	**49**	LR	LR	12 15 23.5	
	comp=Z,75nm,19.9s,baz=304,slow=36						
TORD	**Torodi Ar. Bea**	**70.79**	**177**	P	**P**	**11 46 13.9**	**+1.0**
	0.9nm,1.0s,baz=347,slow=5.9,SNR=3.1						
CMAR	**Chiang Mai Arr**	**72.80**	**78**	P	**P**	**11 46 24.5**	**-0.4**
	3.0nm,0.8s,baz=346,slow=7.4,SNR=22						

*DDA **30** 11:44:03.8, 37°.23N×38°.98E, h8km, Ml3.3*
*ISK **30** 11:44:03.7, 37°.26N×38°.98E, h5km, ML2.6/8*
*CSEM **30** 11:44:04.2±0.4, 37°.22N×39°.02E, h2km, ML2.6, Error ellipse: s-maj=9.5km s-min=6.1km az=120.0*
*ISCJB **30** 11:44:05.1±0.6, 37°.20N±0°.04×38°.99E±0°.05, h10km, Error ellipse: s-maj=6.4km s-min=4.6km az=144.8*

ISC 30 11:44:04.8±0.9, 37°.21N±0°.03×38°.97E±0°.03, h10km, n33, σ1ş56/42, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URFA	**Urfa**	**0.26**	**334**	PG	**Pg**	**11 44 08.6**	**-1.5**
URFA	**Urfa**	**0.26**	**334**	*ePg*	**Pg**	**11 44 08.6**	**-1.5**
SURC	**SANLIURFA_SURC**	**0.43**	**221**	*iP*	**Pg**	**11 44 13.1**	**-0.3**
SURC				*iS*	**Sg**	**11 44 20.0**	**+0.9**
SURC	**SANLIURFA_SURC**	**0.43**	**221**	P	**Pg**	**11 44 13.1**	**-0.3**
SURC				S	**Sg**	**11 44 20.0**	**+0.9**
ATB	**Bozova**	**0.59**	**296**	*iP*	**Pg**	**11 44 14.6**	**-1.8**
ATAB	**Bozova**	**0.59**	**296**	P	**Pg**	**11 44 14.6**	**-1.8**
MALT	**Malatya**	**1.18**	**339**	PN	**Pn**	**11 44 26.9**	**-0.7**
MALT	**Malatya**	**1.18**	**339**	*ePn*	**Pn**	**11 44 26.9**	**-0.7**
MAZI	**Mazidag**	**1.21**	**78**	PN	**Pg**	**11 44 27.5**	**-0.6**
MAZI	**Mazidag**	**1.21**	**78**	*ePn*	**Pg**	**11 44 27.5**	**-0.6**
ELZG	**Elazig**	**1.29**	**1**	*iP*	**Pg**	**11 44 28.7**	**-0.9**
ELZG				*iS*	**Sn**	**11 44 49.2**	**+2.8**
ELZG	**Elazig**	**1.29**	**1**	P	**Pg**	**11 44 28.7**	**-0.9**
ELZG				S	**Sn**	**11 44 49.2**	**+2.8**
AKCD	**Akcadag**	**1.36**	**323**	*iP*	**Pg**	**11 44 29.9**	**-1.1**
AKCD				*iS*	**Sg**	**11 44 51.0**	**+2.2**
AKCD	**Akcadag**	**1.36**	**323**	P	**Pg**	**11 44 29.9**	**-1.1**
AKCD				S	**Sg**	**11 44 51.0**	**+2.2**
GAZ	**Gaziantep**	**1.40**	**269**	PN	**Pg**	**11 44 31.1**	**-0.6**
GAZ	**Gaziantep**	**1.40**	**269**	*ePn*	**Pg**	**11 44 31.1**	**-0.6**
MARD	**Mardin**	**1.45**	**85**	*iP*	**Pb**	**11 44 30.6**	**-1.4**
MARD				*iS*	**Sg**	**11 44 51.6**	**+0.1**
KUZU	**Kuzuini**	**1.57**	**254**	*iP*	**Pb**	**11 44 33.0**	**-1.1**
KUZU				*iS*	**Sg**	**11 44 56.9**	**+1.4**
KUZU	**Kuzuini**	**1.57**	**254**	P	**Pb**	**11 44 33.0**	**-1.1**
KUZU				S	**Sg**	**11 44 56.9**	**+1.4**
KMRS	**Kahramanmaras**	**1.67**	**281**	PN	**Pg**	**11 44 35.9**	**-1.0**
KMRS	**Kahramanmaras**	**1.67**	**281**	*ePn*	**Pg**	**11 44 35.9**	**-1.0**
PTK	**Pertek**	**1.71**	**11**	PN	**Pb**	**11 44 34.9**	**-1.6**
PTK	**Pertek**	**1.71**	**11**	*ePn*	**Pb**	**11 44 34.9**	**-1.6**
DARE	**Darende-Malaty**	**1.79**	**320**	PN	**Pb**	**11 44 36.9**	**-1.0**
DARE	**Darende-Malaty**	**1.79**	**320**	*ePn*	**Pb**	**11 44 36.9**	**-1.0**
HEKM	**Malatya_Hekimh**	**1.85**	**335**	*iP*	**Pb**	**11 44 37.4**	**-1.4**
HEKM	**Malatya_Hekimh**	**1.85**	**335**	P	**Pb**	**11 44 37.4**	**-1.4**
CUKAN	**kangal_SIVAS**	**2.41**	**331**	*iP*	**Pb**	**11 44 46.1**	**-2.3**
CUKAN	**kangal_SIVAS**	**2.41**	**331**	P	**Pb**	**11 44 46.1**	**-2.3**
YAYL	**Yayladag**	**2.58**	**244**	PN	**Pb**	**11 44 48.7**	**-2.6**
YAYL	**Yayladag**	**2.58**	**244**	*ePn*	**Pb**	**11 44 48.7**	**-2.6**
SVSK	**Karacayir**	**3.11**	**331**	PN	**Pn**	**11 44 55.5**	**+1.5**
SVSK	**Karacayir**	**3.11**	**331**	*ePn*	**Pn**	**11 44 55.5**	**+1.5**

JMA 30 11:47:24.2, 35°.03N×137°.84E, h42km, M2.6, 1C-2D Broadband fault plane solution: P waves. NP1: ϕ_S36.00000°, δ85.00000°, λ-28.00000°. **NP2:** ϕ_S129.00000°, δ63.00000°, λ-174.00000°. **Principal axes:** T Plg15.0000°, Azm86.0000°; N Plg62.0000°, Azm206.0000°; P Plg23.0000°, Azm349.0000°; **Eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JYZW	**Yoshizawa**	**0.09**	**249**	P	Pn	11 47 30.7	-0.3
HMMJ	**Hamamatsu 2**	**0.20**	**209**	⇓P	Pn	11 47 31.6	-0.1
HMMJ				S	Sn	11 47 37.0	+0.1
JHMK	**Hamakita**	**0.22**	**197**	P	Pn	11 47 31.5	-0.3
JHMK				S	Sn	11 47 36.8	-0.2
SHZ3	**Shizuoka 3**	**0.31**	**83**	⇑P	Pn	11 47 32.4	-0.4
SHZ3				S	Sn	11 47 38.5	-0.3
JNY	**Yasuok**	**0.33**	**3**	⇓P	Pn	11 47 32.8	-0.2
JNY				S	Sn	11 47 39.1	-0.1
TK04	**Tokai 4**	**0.64**	**177**	P	Pn	11 47 37.3	+0.5
TK04				X		11 47 47.3	
JYN	**Shimob**	**0.74**	**51**	P	Pn	11 47 38.3	0.0
JIZS	**Izushimoda**	**0.91**	**110**	P	Pn	11 47 40.2	-0.3
JIZS				S	Sn	11 47 52.5	+0.1
JOD2	**Odawara 2**	**1.05**	**77**	P	Pn	11 47 42.8	+0.3
TK02	**Tokai 2**	**1.08**	**184**	P	Pn	11 47 42.2	-0.5
TK02				X		11 47 56.7	
JIE	**Ise**	**1.13**	**236**	P	Pn	11 47 44.8	+1.3
MAT	**Matsushiro**	**1.54**	**11**	P	Pn	11 47 49.9	+0.7
MAT				S	Sn	11 48 10.1	+2.1

*TEH **30** 11:53:02.2, 27°.72N×52°.47E, h10km, ML4.1*
*ISCJB **30** 11:53:03.9±0.2, 28°.03N±0°.02×52°.56E±0°.03, h15km, mb4.1/34, MS3.5/2, Error ellipse: s-maj=4.2km s-min=2.7km az=143.7*
*THR **30** 11:53:03.3±0.7, 27°.91N×52°.73E, h14km±11km, ML3.9*
*NEIC **30** 11:53:04.6±0.2, 27°.98N×52°.55E, h10km, mb4.2/15, MN4.1(TEH), Error ellipse: s-maj=4.2km s-min=3.6km az=174.0*
*CSEM **30** 11:53:05.1±0.1, 28°.06N×52°.56E, h10km, mb4.4/12, Error ellipse: s-maj=3.6km s-min=2.8km az=48.0*
*MOS **30** 11:53:06.5±1.0, 27°.99N×52°.54E, h38km, mb4.3/7, Error ellipse: s-maj=9.7km s-min=6.9km az=71.8*
*IDC **30** 11:53:08.0±4.8, 27°.99N×52°.53E, h33km±37km, mb3.9/24, mb1 3.9/29, mb1mx3.8/70, mbtmp4.0/29, ML3.6/5, MS3.3/1, Ms1 3.3/1, ms1mx2.3/64, Error ellipse: s-maj=17.6km s-min=12.4km az=178.0*
*OMAN **30** 11:53:09.5±1.3, 27°.71N×52°.49E, h10km, Error ellipse: s-maj=22.1km s-min=4.4km az=75.0*
*DSN **30** 11:53:11.5±1.1, 27°.71N×52°.84E, h15km, ML4.1/8, Error ellipse: s-maj=21.0km s-min=7.0km az=15.0*

ISC 30 11:53:05.7±0.4, 27°.98N±0°.04×52°.61E±0°.04, h15km, n178, σ1ş21/188, mb4.2/34, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GHIR	**Ghir-Karzin**	**0.45**	**48**	*ePg*	Pg	11 53 11.9	-2.9
GHIR				*eSg*	**Sg**	**11 53 18.7**	**-2.2**
GHIR	**Ghir-Karzin**	**0.45**	**48**	*ePg*	Pg	11 53 11.9	-2.9
GHIR				*eSg*	**Sg**	**11 53 18.7**	**-2.2**
GHIR				AML	AML	11 53 23.9	
	comp=N,17μm,0.4s						
GHIR				AML	AML	11 53 24.0	
	comp=E,19μm,0.5s						
JHRM	**Jahrom**	**1.00**	**58**	*ePg*	**Pb**	**11 53 24.2**	**-0.6**
JHRM				*e*AMB	AMB	11 53 44.5	
	comp=Z,99nm,0.3s						
JHRM	**Jahrom**	**1.00**	**58**	*ePg*	**Pb**	**11 53 24.2**	**-0.6**
AHBU	**AHRAM**	**1.45**	**308**	*ePg*	**Pn**	**11 53 32.1**	**+0.7**
ISRV	**Sarvestan**	**1.47**	**18**	*ePn*	**Pn**	**11 53 32.8**	**+0.9**
ISRV				*eSg*	**Sg**	**11 53 56.8**	**+3.7**
ISRV				*e*AMB	AMB	11 54 14.8	
	comp=Z,26μm,0.4s						
ISRV	**Sarvestan**	**1.47**	**18**	Pn	**Pn**	**11 53 32.8**	**+0.9**
ISRV				Sg	**Sg**	**11 53 56.7**	**+3.7**
ISRV	**Sarvestan**	**1.47**	**18**	*ePn*	**Pn**	**11 53 32.8**	**+0.9**
IPAR	**Pars**	**1.89**	**12**	*ePn*	**Pn**	**11 53 40.3**	**+2.5**
IPAR				*e*AMB	AMB	11 54 25.8	
	comp=Z,8μm,0.4s						
IPAR	**Pars**	**1.89**	**12**	Pn	**Pn**	**11 53 40.3**	**+2.5**
IPAR	**Pars**	**1.89**	**12**	*ePn*	**Pn**	**11 53 40.3**	**+2.5**
IKAZ	**Kazeroun**	**1.92**	**340**	*ePn*	**Pn**	**11 53 38.0**	**-0.1**
IKAZ				*e*AMB	AMB	11 54 28.3	
	comp=Z,16μm,0.6s						
IKAZ	**Kazeroun**	**1.92**	**340**	Pn	**Pn**	**11 53 38.0**	**-0.1**
IKAZ	**Kazeroun**	**1.92**	**340**	*ePn*	**Pn**	**11 53 38.0**	**-0.1**
SHME	**Shamm**	**3.69**	**121**	P	**Pn**	**11 54 03.9**	**+1.6**
IMEH	**Mehriz**	**3.82**	**27**	*e*AMB	AMB	11 54 08.6	
	comp=Z,1μm,0.1s						
IMEH				*ePn*	**Pn**	**11 54 05.3**	**+1.1**
IRAM	**Ramesheh**	**3.82**	**357**	*e*AMB	AMB	11 54 19.0	
	comp=Z,1μm,0.6s						
IRAM				*ePn*	**Pn**	**11 54 04.5**	**+0.3**
BANOM	**Banah**	**3.88**	**121**	P	**Pn**	**11 54 06.7**	**+1.8**
	SNR=15						
BANOM	**Banah**	**3.88**	**121**	P	**Pn**	**11 54 06.0**	**+1.2**
BANOM				S	**Sn**	**11 54 49.1**	**-1.1**
BANOM	**Banah**	**3.88**	**121**	*i*P	**Pn**	**11 54 06.0**	**+1.2**
	SNR=15						
BANOM				S	**Sn**	**11 54 49.1**	**-1.1**
NAZ	**Nazwa, Dubai**	**4.05**	**137**	P	**Pn**	**11 54 09.3**	**+2.1**
	SNR=21						
NAZ	**Nazwa, Dubai**	**4.05**	**137**	P	**Pn**	**11 54 09.2**	**+2.1**
	SNR=21						
NAZ				S	**Sn**	**11 54 57.0**	**+2.8**
	SNR=8.9						
NAZ	**Nazwa, Dubai**	**4.05**	**137**	*i*P	**Pn**	**11 54 09.2**	**+2.1**
	SNR=21						
MSFE	**Esma-Masafi**	**4.11**	**129**	P	**Pn**	**11 54 11.2**	**+3.2**
	SNR=7.6						
MSFE	**Esma-Masafi**	**4.11**	**129**	*i*P	**Pn**	**11 54 09.4**	**+1.3**
	SNR=12						
KRBR	**Kerman**	**4.15**	**60**	*ePn*	**Pn**	**11 54 08.1**	**-0.7**
KRBR	**Kerman**	**4.15**	**60**	*ePn*	**Pn**	**11 54 08.1**	**-0.7**
KRBR				AML	AML	11 55 27.3	
	comp=E,102nm,0.6s						
KRBR				AML	AML	11 55 30.3	
	comp=N,87nm,0.7s						
MDH	**Madha**	**4.25**	**128**	*i*P	**Pn**	**11 54 11.2**	**+1.3**
	SNR=6.1						
UOSS	**Minazif**	**4.42**	**132**	*ePn*	**Pn**	**11 54 13.3**	**+1.1**
UOSS	**Minazif**	**4.42**	**132**	P	**Pn**	**11 54 14.5**	**+2.3**
	SNR=8.3						
UOSS	**Minazif**	**4.42**	**132**	P	**Pn**	**11 54 13.0**	**+0.8**
	SNR=11						
UOSS	**Minazif**	**4.42**	**132**	*ePn*	**Pn**	**11 54 13.3**	**+1.1**
UOSS	**Minazif**	**4.42**	**132**	*i*P	**Pn**	**11 54 13.0**	**+0.8**
	SNR=11						
IBAF	**Bafgh**	**4.42**	**35**	*ePn*	**Pn**	**11 54 13.1**	**+0.7**
IBAF				*e*AMB	AMB	11 54 27.9	
	comp=Z,2μm,0.6s						
IBAF	**Bafgh**	**4.42**	**35**	*ePn*	**Pn**	**11 54 13.1**	**+0.7**
HATD	**Hatta, Dubai**	**4.46**	**134**	P	**Pn**	**11 54 15.0**	**+2.2**
	SNR=8.8						
HATD	**Hatta, Dubai**	**4.46**	**134**	P	**Pn**	**11 54 14.1**	**+1.4**
	SNR=8.8						
HATD	**Hatta, Dubai**	**4.46**	**134**	*i*P	**Pn**	**11 54 14.1**	**+1.4**
	SNR=8.8						
ASHO	**Ashiyiah**	**4.51**	**136**	P	**Pn**	**11 54 14.9**	**+1.4**
	SNR=12						
ASHO				S	**Sn**	**11 55 07.7**	**+1.9**
	SNR=7.7						
ASHO	**Ashiyiah**	**4.51**	**136**	P	**Pn**	**11 54 14.9**	**+1.4**
	SNR=12						
ASHO				S	**Sn**	**11 55 07.7**	**+1.9**
	SNR=7.7						
ASHO	**Ashiyiah**	**4.51**	**136**	*i*P	**Pn**	**11 54 14.4**	**+0.9**
	SNR=12						
ALNE	**Al Ain**	**4.82**	**143**	P	**Pn**	**11 54 20.5**	**+2.7**
	SNR=6.7						
SOHO	**SOHO**	**5.21**	**136**	P	**Pn**	**11 54 25.0**	**+1.9**
	SNR=7.5						
SOHO	**SOHO**	**5.21**	**136**	*i*P	**Pn**	**11 54 23.8**	**+0.7**
	SNR=7.5						
IKLH	**Kolahrood**	**5.39**	**351**	*ePn*	**Pn**	**11 54 24.3**	**-1.6**
IKLH				*e*AMB	AMB	11 55 35.6	
	comp=Z,295nm,0.3s						
IKLH	**Kolahrood**	**5.39**	**351**	*ePn*	**Pn**	**11 54 24.3**	**-1.6**
HOQ	**Hoqain**	**6.09**	**135**	S	**Sn**	**11 55 46.0**	**+1.2**
	SNR=7.1						
HOQ	**Hoqain**	**6.09**	**135**	S	**Sn**	**11 55 46.0**	**+1.2**
	SNR=7.1						
BSY	**Bisya**	**6.67**	**140**	P	**Pn**	**11 54 44.9**	**+1.7**
	SNR=14						
BSY				S	**Sn**	**11 56 02.0**	**+3.1**
	SNR=6.2						
BSYO	**Bisya**	**6.70**	**140**	P	**Pn**	**11 54 44.9**	**+1.3**
	SNR=14						
BSYO				S	**Sn**	**11 56 02.0**	**+2.3**
	SNR=6.2						
TABS	**Tabas**	**6.85**	**33**	*ePn*	**Pn**	**11 54 45.5**	**-0.3**
TABS	**Tabas**	**6.85**	**33**	*ePn*	**Pn**	**11 54 45.5**	**-0.3**
SMDO	**Samad**	**6.94**	**134**	P	**Pn**	**11 54 48.9**	**+1.9**
	SNR=13						
SMDO	**Samad**	**6.94**	**134**	P	**Pn**	**11 54 48.8**	**+1.9**
	SNR=13						
WSAR	**Wadi Sarin**	**7.20**	**130**	Pn	**Pn**	**11 54 51.0**	**+0.6**
	comp=Z,1.8nm,0.3s,baz=337,slow=9.4,SNR=15						
WSAR				Sn	**Sn**	**11 56 09.7**	**-2.3**
	comp=Z,2.7nm,0.3s,baz=146,slow=21,SNR=4.7						
RAYN	**Ar Rayn**	**7.79**	**237**	*ePn*	**Pn**	**11 54 58.6**	**-0.1**
RAYN	**Ar Rayn**	**7.79**	**237**	*ePn*	**Pn**	**11 54 58.6**	**-0.1**
RAYN	**Ar Rayn**	**7.79**	**237**	P	**Pn**	**11 54 59.2**	**+0.6**
RAYN	**Ar Rayn**	**7.79**	**237**	P	**Pn**	**11 54 59.2**	**+0.6**
WBK	**Wadi Bani Khal**	**7.86**	**131**	P	**Pn**	**11 55 01.9**	**+2.4**
	SNR=7.8						
WBK	**Wadi Bani Khal**	**7.86**	**131**	P	**Pn**	**11 55 01.9**	**+2.4**
	SNR=7.8						
MHTO	**MHTO**	**8.50**	**144**	P	**Pn**	**11 55 09.1**	**+0.8**
	SNR=8.2						
GEYT	**Alibeck**	**10.94**	**24**	Pn	**Pn**	**11 55 42.5**	**+0.7**
	comp=Z,0.5nm,0.3s,baz=205,slow=9.2,SNR=7.9						
GYA0B	**ALIBECK ARRAY**	**10.94**	**24**	*ePn*	**Pn**	**11 55 42.1**	**+0.3**
GYA0B	**ALIBECK ARRAY**	**10.94**	**24**	*ePn*	**Pn**	**11 55 42.1**	**+0.3**
DAMY	**Dhamar**	**15.37**	**211**	*ePn*	**Pn**	**11 56 41.8**	**-0.7**
	comp=Z,8.8nm,0.5s						
KBL	**Kabul**	**15.49**	**61**	*ePn*	**Pn**	**11 56 44.4**	**+0.5**
	comp=Z,6.8nm,1.0s						
KBL	**Kabul**	**15.49**	**61**	*ePn*	**Pn**	**11 56 44.3**	**+0.5**
	comp=Z,6.8nm,1.0s						
KBL	**Kabul**	**15.49**	**61**	*eP*	**Pn**	**11 56 44.4**	**+0.5**
KBL				pmax	pmax		
	comp=Z,7.0nm,1.0s						
ZEI	**Tsey**	**16.38**	**337**	*eP*	**Pn**	**11 56 54.0**	**-1.2**
ZEI				pmax	pmax		
	comp=Z,5.0nm,0.8s						
KBZ	**Khabaz**	**17.55**	**336**	P	**Pn**	**11 57 09.9**	**+0.2**
	comp=Z,0.0nm,0.3s,baz=130,slow=7.6,SNR=5.4						
KVAR	**Kislovodsk Arr**	**17.82**	**336**	P	**Pn**	**11 57 12.7**	**-0.5**
	baz=236,slow=10.0,SNR=7.3						
KIV	**Kislovodsk**	**17.83**	**336**	*ePn*	**Pn**	**11 57 12.1**	**-1.2**
	comp=Z,5.8nm,0.8s						
KIV	**Kislovodsk**	**17.83**	**336**	*ePn*	**Pn**	**11 57 12.1**	**-1.2**
	comp=Z,5.8nm,0.8s						
KIV	**Kislovodsk**	**17.83**	**336**	*eP*	**Pn**	**11 57 14.0**	**+0.8**
	comp=Z,9.0nm,1.1s						
KIV	**Kislovodsk**	**17.83**	**336**	*eP*	**Pn**	**11 57 14.0**	**+0.8**
KIV				pmax	pmax		
	comp=Z,9.0nm,1.1s						
CSS	**Mathiatis**	**17.84**	**298**	*ePn*	**Pn**	**11 57 12.3**	**-1.2**
	comp=Z,1.8nm,0.8s						
CSS	**Mathiatis**	**17.84**	**298**	*ePn*	**Pn**	**11 57 12.3**	**-1.2**
	comp=Z,1.8nm,0.8s						
NIL	**Nilore**	**18.60**	**67**	*eP*	**P**	**11 57 22.5**	**0.0**
	comp=Z,25nm,1.0s						
NIL	**Nilore**	**18.60**	**67**	*eP*	**P**	**11 57 22.5**	**0.0**
	comp=Z,25nm,1.0s						
NIL	**Nilore**	**18.60**	**67**	*eP*	**P**	**11 57 22.5**	**0.0**
NIL				pmax	pmax		
	comp=Z,25nm,1.0s						
BR101	**Keskin Array S**	**19.59**	**312**	*eP*	**P**	**11 57 32.8**	**-0.6**
BR101	**Keskin Array S**	**19.59**	**312**	*eP*	**P**	**11 57 32.8**	**-0.6**
BR131	**Keskin Array S**	**19.59**	**312**	*eP*	**P**	**11 57 32.4**	**-1.0**
BR131	**Keskin Array S**	**19.59**	**312**	*eP*	**P**	**11 57 32.4**	**-1.0**
BRTR	**Keskin Array B**	**19.59**	**312**	P	**P**	**11 57 32.8**	**-0.6**
	comp=Z,0.1nm,0.3s,baz=133,slow=12,SNR=9.5						
KK31	**Karatay Array**	**20.91**	**39**	*eP*	**P**	**11 57 46.8**	**-0.8**
KK31	**Karatay Array**	**20.91**	**39**	*eP*	**P**	**11 57 46.8**	**-0.8**
KK31	**Karatay Array**	**

ZALV	**Zalesovo Beam**	**35.04**	**33**	P		**P**	**11 59 57.4**	**-0.3**
	comp=Z,3.2nm,0.8s,baz=246,slow=9.2,SNR=13							
ZALV				LR		LR	12 16 05.6	
	comp=Z,42nm,18.2s,baz=72,slow=39							
ZALV	**Zalesovo Beam**	**35.04**	**33**	*e*P		**P**	**11 59 57.0**	**-0.7**
ZAA1	**Zalesovo Array**	**35.04**	**33**	*e*P		**P**	**11 59 57.4**	**-0.3**
ZAA1	**Zalesovo Array**	**35.04**	**33**	*e*P		**P**	**11 59 57.4**	**-0.3**
CLL	**Collm**	**37.72**	**319**	*e*P		**P**	**12 00 21.0**	**+0.4**
CLL	**Collm**	**37.72**	**319**	*e*P		**P**	**12 00 22.0**	**+1.4**
CLL	**Collm**	**37.72**	**319**	*e*P		**P**	**12 00 22.0**	**+1.4**
FIA0	**FINESS Array S**	**37.86**	**340**	*e*P		**P**	**12 00 20.5**	**-1.1**
FIA0	**FINESS Array S**	**37.86**	**340**	*e*P		**P**	**12 00 20.5**	**-1.1**
FINES	**FINESS Array B**	**37.86**	**340**	P		**P**	**12 00 20.5**	**-1.1**
	comp=Z,5.5nm,1.1s,baz=126,slow=9.7,SNR=6.2							
GTA	**Gaotai**	**40.48**	**61**	*e*P		**P**	**12 00 45.3**	**+1.2**
GTA				pP		pP	12 00 49.5	+0.8
GTA				sP		sP	12 00 52.3	+1.7
GTA				S		**S**	**12 06 55.3**	**+2.8**
GTA				pmax		pmax		
	comp=Z,6.0nm,1.2s							
GTA				pmax		pmax		
	comp=Z,310nm,3.9s							
GTA				LR		LR		
	comp=N,130nm,14.7s							
GTA				LR		LR		
	comp=E,100nm,13.8s							
GTA				LR		LR		
	comp=Z,64nm,11.9s							
HFS	**Hagfors**	**41.54**	**332**	P		**P**	**12 00 51.0**	**-1.3**
	comp=Z,0.8nm,0.5s,baz=120,slow=8.5,SNR=4.8							
NB200	**NORSAR Array S**	**43.06**	**332**	*e*P		**P**	**12 01 03.6**	**-1.1**
NOA	**NORSAR Array B**	**43.06**	**332**	P		**P**	**12 01 03.6**	**-1.1**
	comp=Z,1.2nm,0.9s,baz=120,slow=7.8,SNR=2.6							
CMAR	**Chiang Mai Arr**	**43.41**	**92**	P		**P**	**12 01 08.3**	**+0.3**
	comp=Z,0.6nm,0.5s,baz=268,slow=8.1,SNR=5.3							
ARA0	**ARCESS Array S**	**44.46**	**347**	*e*P		**P**	**12 01 15.2**	**-0.6**
ARCES	**ARCESS Array B**	**44.46**	**347**	P		**P**	**12 01 15.2**	**-0.6**
	comp=Z,5.5nm,1.1s,baz=160,slow=14,SNR=2.8							
SONA0	**Songino Array**	**45.82**	**49**	*e*P		**P**	**12 01 27.2**	**+0.1**
SONM	**Songino Array**	**45.82**	**49**	P		**P**	**12 01 27.2**	**+0.1**
	comp=Z,1.3nm,0.9s,baz=267,slow=8.7,SNR=7.3							
SONA1	**Songino Array**	**45.83**	**49**	*e*P		**P**	**12 01 27.5**	**+0.4**
HHC	**Hu-ho-hao-te**	**49.45**	**59**	*e*P		**P**	**12 01 54.8**	**-0.6**
HHC				pmax		pmax		
	comp=Z,7.0nm,1.0s							
HHC				pmax		pmax		
	comp=Z,18nm,6.7s							
TOA0	**Torodi Ar. Sit**	**49.56**	**263**	*e*P		**P**	**12 01 55.7**	**-0.7**
TOA1	**Torodi Ar. Sit**	**49.56**	**263**	*e*P		**P**	**12 01 55.5**	**-0.9**
TORD	**Torodi Ar. Bea**	**49.56**	**263**	P		**P**	**12 01 55.5**	**-0.9**
	comp=Z,2.6nm,0.7s,baz=61,slow=7.7,SNR=18							
KOWA	**Kowa**	**54.03**	**268**	P		**P**	**12 02 29.2**	**-0.6**
	comp=Z,2.0nm,0.7s,baz=53,slow=5.1,SNR=6.2							
DBIC	**Dimbokro**	**58.24**	**260**	P		**P**	**12 02 58.7**	**-1.2**
	comp=Z,5.4nm,0.9s,baz=67,slow=7.7,SNR=4.5							
DBIC	**Dimbokro**	**58.24**	**260**	*e*P		**P**	**12 02 58.7**	**-1.2**
	comp=Z,9.7nm,1.1s							
DBIC	**Dimbokro**	**58.24**	**260**	*e*P		**P**	**12 02 58.7**	**-1.2**
DBIC				pmax		pmax		
	comp=Z,10.0nm,1.1s							
TIXI	**Tiksi**	**59.39**	**21**	P		**P**	**12 03 06.7**	**-0.3**
	comp=Z,1.3nm,0.4s,baz=288,slow=4.1,SNR=2.3							
KS15	**Wonju Array Si**	**62.52**	**60**	*e*P		**P**	**12 03 28.2**	**-0.6**
KS15	**Wonju Array Si**	**62.52**	**60**	*e*P		**P**	**12 03 28.2**	**-0.6**
KSAR	**Wonju Array Be**	**62.52**	**60**	P		**P**	**12 03 28.2**	**-0.6**
KSAR	**Wonju Array Be**	**62.52**	**60**	P		**P**	**12 03 28.3**	**-0.6**
KSAR	**Wonju Array Be**	**62.52**	**60**	P		**P**	**12 03 28.3**	**-0.6**
KSRS	**Korea Array**	**62.55**	**60**	P		**P**	**12 03 28.3**	**-0.8**
	comp=Z,1.6nm,0.8s,baz=272,slow=7.4,SNR=7.0							
SEY	**Seymchan**	**69.74**	**29**	P		**P**	**12 04 15.5**	**+0.8**
	comp=Z,1.4nm,0.6s,baz=290,slow=6.2,SNR=4.6							
ILAR	**Eielson Array**	**86.31**	**8**	P		**P**	**12 05 45.7**	**-1.0**
	comp=Z,0.3nm,0.8s,baz=328,slow=4.7,SNR=4.2							
YKA	**Yellowknife Ar**	**89.26**	**354**	P		**P**	**12 06 00.3**	**-0.6**
	comp=Z,0.6nm,0.8s,baz=7,slow=4.9,SNR=16							
WR1	**Warramunga Arr**	**92.21**	**111**	*e*P		**P**	**12 06 15.8**	**+0.5**
	comp=Z,1.3nm,0.8s							
WRA	**Warramunga Arr**	**92.21**	**111**	P		**P**	**12 06 15.8**	**+0.5**
	comp=Z,0.3nm,0.8s,baz=316,slow=4.0,SNR=5.5							
ASAR	**Alice Springs**	**93.64**	**115**	P		**P**	**12 06 21.0**	**-0.9**
	comp=Z,0.4nm,0.9s,baz=304,slow=4.8,SNR=5.2							
ASAR	**Alice Springs**	**93.64**	**115**	P		**P**	**12 06 21.0**	**-0.9**

MAN 30 12:01:29,9.89N×123.11E,h19km,mb4.2,ML3.0,MS2.7, 1C-1D,Negros

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SNPH	**Sibulan**	**0.56**	**167**	⇓*e*P	Pn	12 01 41.1	-0.8
SNPH				*i* S	Sg	12 01 49.2	+1.5
GUIM	**Jordan**	**0.90**	**325**	*e*P	Pn	12 01 46.7	+0.1
GUIM				*e*S	Sn	12 02 00.3	+1.2
DCPH	**Dipolog City**	**1.32**	**170**	⇑*e*P	Pn	12 01 52.8	+0.4
DCPH				*e*S	Sg	12 02 11.1	-0.7

*DJA **30** 12:20:48.4±0.6,5°S±3°×11°1E±°,h163km±10km,M4.3/14, mb4.2/1,MLv4.4/14*
*ISCJB **30** 12:20:52.6±0.6,5.05S±0.05×111.12E±0.08,h35km, mb3.7/4,Error ellipse: s-maj=10.9km s-min=7.0km az=8.5*
*IDC **30** 12:20:58.1±8.2,4.93S×111.60E,h68km±93km,mb3.6/4, mb1 3.9/5,mb1mx3.3/68,mbtmp4.0/5,ML4.3/1,Error ellipse: s-maj=58.1km s-min=22.9km az=52.0*

ISC 30 12:20:53.2±1.0,4.95S±0.05×111.09E±0.06,h35km,n19, σ2ˢ38/19,mb3.7/4,Java Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BWJI	**Bawean**	**1.80**	**120**	P	**Pn**	**12 21 21.8**	**+0.1**
BWJI				S	**Sn**	**12 21 47.5**	**+4.1**
TBJI	**Tambak Boyo**	**2.01**	**158**	P	**Pn**	**12 21 23.9**	**-0.7**
SMRI	**Semarang**	**2.19**	**197**	P	**Pn**	**12 21 26.5**	**-0.6**
PBKI	**Pangkalan Bun**	**2.30**	**15**	P	**Pn**	**12 21 26.3**	**-2.3**
PBKI				S	**Sn**	**12 21 58.8**	**+3.0**
GRJI	**Gresik**	**2.39**	**145**	P	**Pn**	**12 21 28.8**	**-1.1**
NGJI	**Ngawi**	**2.43**	**171**	P	**Pn**	**12 21 30.0**	**-0.5**
WOJI	**Wonogiri, Jawa**	**2.88**	**183**	P	**Pn**	**12 21 35.9**	**-0.7**
UGM	**Wanagama**	**3.00**	**191**	P	**Pn**	**12 21 37.4**	**-0.9**
JCJI	**Jatiwangi**	**3.20**	**241**	P	**Pn**	**12 21 40.9**	**-0.1**
KPJI	**Karang Pucung**	**3.20**	**222**	P	**Pn**	**12 21 40.6**	**-0.4**
PCJI	**Pacitan**	**3.23**	**178**	P	**Pn**	**12 21 40.3**	**-1.1**
LEM	**Lembang**	**3.93**	**241**	P	Pn	12 22 01.9	+11
	14nm,0.3s,baz=47,slow=16,SNR=8.3						
LEM				S	Sn	12 22 53.2	+17
	31nm,0.3s,baz=84,slow=19,SNR=11						
CISI	**Cisompet, Garu**	**4.16**	**231**	P	**Pn**	**12 21 50.2**	**-4.1**
STKI	**Sintang**	**4.99**	**4**	P	Pn	12 22 22.1	+16
SRBI	**Singaraja**	**5.15**	**127**	P	**Pn**	**12 22 03.6**	**-4.2**
CMAR	**Chiang Mai Arr**	**26.16**	**333**	P	**P**	**12 26 27.9**	**+3.5**
	0.8nm,0.6s,baz=162,slow=8.9,SNR=5.0						
WRA	**Warramunga Arr**	**27.10**	**125**	P	**P**	**12 26 30.5**	**-2.4**
	1.2nm,0.9s,baz=295,slow=12,SNR=9.0						
ASAR	**Alice Springs**	**28.81**	**132**	P	**P**	**12 26 46.7**	**-1.5**
	1.2nm,0.5s,baz=310,slow=8.6,SNR=27						
STKA	**Stephens Creek**	**39.16**	**137**	P	**P**	**12 28 17.5**	**-0.3**
	3.3nm,1.0s,baz=324,slow=13,SNR=4.4						

*SOME **30** 12:27:38.4,49.58N×88.07E,h10km*
*NNC **30** 12:27:42.6±1.2,49.80N×87.80E,h0km,mb4.0,mpv3.5, Error ellipse: s-maj=10.5km s-min=4.4km az=103.0*

ISC 30 12:27:44.4±2.0,49.77N±0.05×87.8E±0.1,h11km,n9, σ2ˢ65/19,10C-7D,Kazakhstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZSN	**Zaisan**	**3.02**	**221**	*e*P	**Pb**	**12 28 36.2**	**-1.9**
	5.6nm,0.4s						
ZSN				*e*S	**Sb**	**12 29 17.2**	**+2.2**
	49nm,0.4s						
ZAA0	**Zalesovo Array**	**4.57**	**337**	⇓Pn	**Pn**	**12 28 52.4**	**-1.0**
	2.7nm,0.4s						
ZAA0				⇓Sn	**Sn**	**12 29 46.5**	**+0.1**
	4.3nm,0.2s						
ZAA0				⇑Lg	Lg	12 30 09.3	
	10nm,0.8s						
MK31	**Makanchi Array**	**4.72**	**233**	⇑Pn	**Pn**	**12 28 56.2**	**+0.7**
	1.1nm,0.3s,baz=324,slow=5.0,SNR=42						
MK31				⇑Pg	**Pb**	**12 29 08.0**	**+0.9**
	3.2nm,0.3s,baz=57,slow=16,SNR=18						
MK31				⇑Sn	**Sn**	**12 29 52.1**	**+1.9**
	2.5nm,0.2s						
MK31				⇓Lg	Lg	12 30 12.9	
	18nm,0.5s,baz=53,slow=31,SNR=5.5						
MAKZ	**Makanchi**	**4.88**	**235**	⇓Pn	**Pn**	**12 28 58.7**	**+1.1**
	1.6nm,0.3s						
MAKZ				⇑Pg	**Pb**	**12 29 11.1**	**+1.4**
	9.1nm,0.6s						
MAKZ				⇑Sn	**Sn**	**12 29 56.0**	**+1.9**
	5.0nm,0.4s						
MAKZ				⇑Lg	Lg	12 30 17.8	
	22nm,0.6s						
SEM	**Semipalatinsk**	**4.89**	**280**	*e*P	**Pb**	**12 29 11.7**	**+1.6**
	5.2nm,0.2s						
SEM				*e*S	**Sg**	**12 30 17.8**	**-3.5**
	146nm,0.7s						
KURK	**Kurchatov**	**5.95**	**283**	⇓Pn	**Pn**	**12 29 12.1**	**-0.3**
	3.0nm,0.5s						
KURK				⇑Sn	**Sn**	**12 30 22.0**	**+1.5**
	14nm,0.6s						
KURK				⇑Lg	Lg	12 30 50.4	
	64nm,0.9s						
KURBB	**Kurchatov Arra**	**6.00**	**282**	⇑Pn	**Pn**	**12 29 12.8**	**-0.3**
	5.9nm,0.5s						
KURBB				⇓Sn	**Sn**	**12 30 24.3**	**+2.6**
	17nm,0.4s						
KURBB				⇓Lg	Lg	12 30 52.9	
	68nm,0.7s						
KAPS	**Kapalarasan**	**7.25**	**235**	*e*P	**Pb**	**12 29 53.3**	**+3.0**
	3.6nm,0.4s						
KAPS				*e*S	**Sg**	**12 31 30.6**	**-6.4**
	7.8nm,0.5s						
KTMS	**Ketmen**	**8.13**	**222**	*e*P	Pb	12 30 11.7	+6.5
	1.6nm,0.4s						
KTMS				*e*S	**Sg**	**12 32 00.9**	**-4.2**
	7.9nm,0.8s						

WEL 30 12:29:06.5±0.5,43°S±3°×17°2E±°,h6km±4km,ML4.1/6, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OXZ	**Oxford**	**0.12**	**143**	P	Pg	12 29 09.6	+0.5
OXZ	**Oxford**	**0.12**	**143**	S	Sg	12 29 11.9	+1.1
EYCZ	**Eyrewell**	**0.36**	**123**	P	Pg	12 29 14.2	+0.7
EYCZ	**Eyrewell**	**0.36**	**123**	S	Sg	12 29 19.5	+1.2
LTZ	**Lake Taylor**	**0.51**	**29**	P	Pg	12 29 16.6	+0.3
LTZ	**Lake Taylor**	**0.51**	**29**	S	Sg	12 29 23.8	+0.8
CRLZ	**Canterbury Las**	**0.61**	**125**	P	Pb	12 29 19.4	-0.2
CRLZ	**Canterbury Las**	**0.61**	**125**	S	Sb	12 29 28.3	-0.1
MQZ	**McQueen's Vall**	**0.71**	**133**	P	Pg	12 29 20.2	+0.1
MQZ	**McQueen's Vall**	**0.71**	**133**	S	Sg	12 29 30.2	+1.0
RPZ	**Rata Peaks**	**0.81**	**233**	P	Pg	12 29 22.3	+0.3
WVZ	**Waitaha Valley**	**0.89**	**280**	P	Pg	12 29 23.7	0.0
OKCZ	**Okains Bay**	**0.95**	**122**	P	Pg	12 29 24.5	-0.3
AKCZ	**Akaroa Harbour**	**0.95**	**133**	P	Pg	12 29 24.4	-0.4
KHZ	**Kahutara**	**1.43**	**56**	P	Pn	12 29 31.5	-1.5
DSZ	**Denniston Nort**	**1.49**	**356**	P	Pn	12 29 32.9	-1.0
FOZ	**Fox Glacier**	**1.58**	**258**	P	Pn	12 29 35.2	+0.2
THZ	**Tophouse**	**1.63**	**26**	P	Pn	12 29 34.4	-1.4
LBZ	**Lake Benmore**	**1.72**	**227**	P	Pn	12 29 35.7	-1.4
ODZ	**Otahua Downs**	**2.04**	**207**	P	Pn	12 29 39.4	-2.0
BSWZ	**Blackbirch Sta**	**2.08**	**44**	P	Pn	12 29 41.1	-1.0
NNZ	**Nelson**	**2.28**	**28**	P	Pn	12 29 44.0	-0.6
TUWZ	**Tuamarina**	**2.33**	**40**	P	Pn	12 29 44.1	-1.3
JCZ	**Jackson Bay**	**2.44**	**249**	P	Pn	12 29 46.2	-0.8
QRZ	**Quartz Range**	**2.44**	**11**	P	Pn	12 29 45.7	-1.2
WKZ	**Wanaka**	**2.64**	**232**	P	Pn	12 29 48.0	-1.8
TCW	**Tory Channel**	**2.66**	**41**	P	Pn	12 29 48.7	-1.2
EAZ	**Earnscleugh**	**2.75**	**222**	P	Pn	12 29 49.2	-2.1
DUWZ	**D'Urville Isla**	**2.84**	**32**	P	Pn	12 29 52.1	-0.3
PLWZ	**Palliser**	**2.96**	**57**	P	Pn	12 29 51.3	-2.8
MSWZ	**Moikau Station**	**3.05**	**55**	P	Pn	12 29 52.6	-2.7
CAW	**Cannon Point**	**3.15**	**49**	P	Pn	12 29 54.1	-2.6
TUZ	**Tuapeka**	**3.19**	**210**	P	Pn	12 29 55.2	-1.9
KIW	**Kapiti Island**	**3.24**	**44**	P	Pn	12 29 56.3	-1.6
MTW	**Mount Morrison**	**3.36**	**53**	P	Pn	12 29 57.0	-2.6
OGWZ	**Otaki Gorge**	**3.41**	**46**	P	Pn	12 29 57.6	-2.6
MLZ	**Mavora Lakes**	**3.48**	**231**	P	Pn	12 29 59.5	-1.7
HOWZ	**Holdsworth Sta**	**3.54**	**50**	P	Pn	12 29 58.9	-3.2
MRZ	**Mangatainoka R**	**3.73**	**48**	P	Pn	12 30 01.6	-3.1
TIWZ	**Tintock**	**3.83**	**52**	P	Pn	12 30 03.5	-2.5
VRZ	**Vera Road**	**4.62**	**28**	P	Pn	12 30 17.3	+0.4
TRVZ	**Turoa**	**4.78**	**36**	P	Pn	12 30 17.6	-1.7

MEX 30 12:46:57.9±0.4,16°22N×98°14W,h3km±5km,MD3.6,Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.17**	**3**	*i* P	Pg	12 47 01.2	-0.1
PNIG				*i* S	Sg	12 47 03.7	0.0
TLIG	**Tlapa**	**1.40**	**343**	*e*P	Pn	12 47 20.6	-3.9
TLIG				*e*S	Sg	12 47 38.5	-4.5
VHO	**Vista Hermosa**	**1.59**	**57**	*e*P	Pn	12 47 23.3	-3.8
VHO				*e*S	Sn	12 47 43.5	-4.8

MEX 30 12:51:49.5±0.3,16°22N×98°18W,h4km±4km,MD3.9,Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.18**	**15**	*i* P	Pg	12 51 52.9	-0.2
PNIG				*i* S	Sg	12 51 55.5	0.0
TLIG	**Tlapa**	**1.39**	**344**	*e*P	Pn	12 52 11.9	-3.9
TLIG				*e*S	Sg	12 52 29.7	-4.5
VHO	**Vista Hermosa**	**1.62**	**58**	*e*P	Pn	12 52 15.4	-3.7
VHO				*e*S	Sn	12 52 35.8	-4.8

MEX 30 12:53:45.6±0.9,16°22N×98°30W,h2km,MD3.6,Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.23**	**44**	*i* P	Pg	12 53 49.2	-0.9
PNIG				*i* S	Sg	12 53 53.8	+0.6
TLIG	**Tlapa**	**1.36**	**349**	*e*P	Pg	12 54 08.1	-3.6
TLIG				*e*S	Sg	12 54 25.3	-3.9
VHO	**Vista Hermosa**	**1.72**	**60**	*e*P	Pn	12 54 14.1	-2.7
VHO				*e*S	Sn	12 54 35.3	-4.2

*ISCJB **30** 12:57:15.5±1.0,1.8N±0.1×91.3E±0.1,h10km,mb3.7/8, Error ellipse: s-maj=23.3km s-min=10.8km az=27.6*
*IDC **30** 12:57:16.3±1.6,1.84N×91.42E,h0km,mb3.6/8,mb1 3.7/9, mb1mx3.5/71,mbtmp3.6/9,ML4.3/1,MS3.1/1,Ms1 3.1/1, ms1mx2.7/60,Error ellipse: s-maj=58.8km s-min=22.9km az=56.0*

ISC 30 12:57:17.6±1.3,1.9N±0.2×91.3E±0.1,h10km,n14, σ1ˢ02/11,mb3.6/8,North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PALK	**Pallekele**	**11.89**	**297**	Sn	**Sn**	**13 02 19.3**	**-1.0**
	0.9nm,0.3s,baz=113,slow=20,SNR=3.6						
PALK				LR	LR	13 03 46.9	
	comp=Z,95nm,20.2s,baz=116,slow=33						
CMAR	**Chiang Mai Arr**	**18.11**	**24**	P	**Pn**	**13 01 27.8**	**-1.7**
	0.3nm,0.3s,baz=220,slow=12,SNR=2.8						
H08S2	**Diego Garcia H**	**21.03**	**243**	T	T	13 23 44.4	
	baz=64,slow=75,SNR=26						
H08S3	**Diego Garcia H**	**21.03**	**243**	T	T	13 23 37.7	
	baz=64,slow=75,SNR=22						
H08S1	**Diego Garcia H**	**21.05**	**243**	T	T	13 23 52.0	
	baz=64,slow=75,SNR=23						
MKAR	**Makanchi Array**	**45.46**	**351**	P	**P**	**13 05 36.4**	**-0.5**
	0.3nm,0.6s,baz=170,slow=8.3,SNR=4.2						
WRA	**Warramunga Arr**	**47.40**	**119**	P	**P**	**13 05 52.6**	**0.0**
	0.3nm,0.6s,baz=297,slow=8.5,SNR=4.3						
SONM	**Songino Array**	**47.63**	**14**	P	**P**	**13 05 55.2**	**+1.2**
	0.3nm,0.4s,baz=202,slow=8.2,SNR=3.0						
ASAR	**Alice Springs**	**48.53**	**124**	P	**P**	**13 06 00.3**	**-1.0**
	0.2nm,0.9s,baz=299,slow=8.2,SNR=3.2						
KURBB	**Kurchatov Arra**	**49.80**	**349**	P	**P**	**13 06 11.4**	**+1.0**
	1.6nm,0.2s,baz=171,slow=6.6,SNR=5.5						
ZALV	**Zalesovo Beam**	**52.21**	**355**	P	**P**	**13 06 29.0**	**+0.5**
	0.7nm,0.4s,baz=171,slow=10,SNR=1.8						
BVAR	**Borovoye Array**	**53.89**	**344**	P	**P**	**13 06 41.5**	**+0.6**
	0.2nm,0.5s,baz=123,slow=5.3,SNR=2.3						
GERES	**GERESS Array B**	**80.48**	**319**	P	**P**	**13 09 30.5**	**+0.6**
	1.6nm,0.8s,baz=104,slow=5.6,SNR=4.4						
TXAR	**Lajitas Array**	**145.83**	**24**	PKPbc	**PKPbc**	**13 16 57.6**	**-0.3**
	0.4nm,0.7s,baz=328,slow=3.2,SNR=3.0						

*MOS **30** 13:06:57.1±1.0,14.41N×93.36E,h33km,mb5.5/99, MS4.5/13,Error ellipse: s-maj=5.6km s-min=3.4km az=114.5*
*ISCJB **30** 13:06:58.1±0.1,14.37N±0.02×93.32E±0.02,h43km, mb5.2/273,MS4.5/74,Error ellipse: s-maj=2.7km s-min=2.0km az=40.9*
*GCMT **30** 13:06:58.7±0.2,14.32N×93.27E,h33km,MW5.3/115, Moment Tensor Solution. s83,c127; s115,c206; Duration: 1ꢀ1 Moment tensor: Scale 10¹⁷Nm; Mrr-0.11±.02; Mθθ-0.28±.02; Mϕϕ0.38±.02; Mrθ0.24±.03; Mθϕ1.04±.02; Mϕr-0.04±.03; Best double couple: M₀1.12200×10¹⁷ NP1:ϕs260.00000°,δ85.00000°, λ-13.00000°. NP2:ϕs352.00000°,δ77.00000°, λ-175.00000°. Principal axes: T 1.1570, Plg5.0000°, Azm307.0000°; N -0.0700, Plg76.0000°, Azm59.0000°; P -1.0870, Plg13.0000°, Azm215.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **30** 13:06:58.7±0.1,14.41N×93.33E,h35km,mb5.4/124, MW5.2 Error ellipse: s-maj=4.0km s-min=3.0km az=40.0, Moment Tensor Solution. s20 Moment tensor: Scale 10¹⁶Nm; Mrr-0.98; Mθθ-2.17; Mϕϕ3.15; Mrθ2.41; Mθϕ5.85; Mϕr1.24; Best double couple: M₀7.00000×10¹⁶ NP1: ϕs77.00000°,δ90.00000°,λ22.00000°. NP2:ϕs347.00000°, δ68.00000°,λ180.00000°. Principal axes: T 7.5700, Plg16.0000°, Azm304.0000°; N -1.2600, Plg68.0000°, Azm77.0000°; P -6.3100, Plg15.0000°, Azm210.0000°;*
NEIC Felt at Bangkok, Thailand.
*BJI **30** 13:06:58.8,14.48N×93.38E,h42km,mb5.0/78,mB5.1/49, Ms4.8/83,Ms7 4.6/79*
*DJA **30** 13:06:59.5±0.3,14°N±2°×9°3E±°,h41km±3km,M5.3/60, mb5.3/60,mB5.7/39,MLv5.8/5,Mw(mB)5.2/39,Mwp7.1/1*
*IDC **30** 13:07:00.1±0.3,14.39N×93.37E,h42km±2km,mb4.6/53, mb1 4.6/55,mb1mx4.6/72,mbtmp4.8/55,ML5.1/2,MS4.3/46, Ms1 4.3/46,ms1mx4.2/66,Error ellipse: s-maj=8.4km s-min=6.9km az=30.0*

ISC 30 13:06:59.9±0.3,14°37N±0°03×93°30E±0°03,h42km±2km, h42km:pP-P,n779,σ1ˢ52/885,mb5.2/276,MS4.5/75, 40C-28D,Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SRDT	**SRDT**	**5.64**	**90**	P	**Pn**	**13 08 21.2**	**-0.1**
	919nm,0.7s,11μm3.3nm						
CM01	**Chiang Mai Arr**	**6.76**	**53**	*e*Pn	**Pn**	**13 08 35.3**	**-1.4**
CM31	**Chiang Mai Arr**	**6.77**	**52**	*e*Pn	**Pn**	**13 08 36.1**	**-0.7**
CMAR	**Chiang Mai Arr**	**6.77**	**52**	P	**Pn**	**13 08 35.8**	**-1.0**
	15nm,0.3s,baz=241,slow=14,SNR=334						
CMAR				S	**Sn**	**13 09 49.0**	**-3.7**
	62nm,0.3s,baz=246,slow=24,SNR=12						
CMAR				LR	LR	13 11 46.4	
	comp=Z,2μm,19.5s,baz=240,slow=43						
CHTO	**Chiang Mai**	**6.99**	**50**	P	**Pn**	**13 08 38.4**	**-1.3**
	990nm,0.7s,19μm12nm						
CHTO	**Chiang Mai**	**6.99**	**50**	*e*Pn	**Pn**	**13 08 38.6**	**-1.2**
CHTO	**Chiang Mai**	**6.99**	**50**	Pn	**Pn**	**13 08 38.7**	**-1.1**
	SNR=83						
CHTO	**Chiang Mai**	**6.99**	**50**	P	**Pn**	**13 08 38.7**	**-1.1**
	SNR=83						
CHTO	**Chiang Mai**	**6.99**	**50**	*e*P	**Pn**	**13 08 38.6**	**-1.1**
CMMT	**Chiang Mai**	**6.99**	**50**	P	**Pn**	**13 08 37.3**	**-2.5**
	437nm,0.9s,7μm2.8nm						
LAMP	**Lampang**	**7.35**	**55**	P	**Pn**	**13 08 44.2**	**-0.5**
	169nm,0.7s,1μm0.9nm						
PHIT	**Phitsanulok**	**7.40**	**67**	P	**Pn**	**13 08 45.6**	**+0.1**
	685nm,0.9s,6μm2.3nm						
PBKT	**Sadao Pong**	**7.71**	**73**	P	**Pn**	**13 08 49.2**	**-0.5**
	557nm,0.8s,4μm1.5nm						
NAYO	**Nakonayok**	**7.78**	**89**	P	**Pn**	**13 08 51.7**	**+1.1**
	158nm,0.8s,0.6nm						
CMAI	**Chiengmai2**	**7.79**	**44**	P	**Pn**	**13 08 49.9**	**-1.1**
	2μm,0.6s,69μm43nm						
PAYA	**Payao**	**8.01**	**51**	P	**Pn**	**13 08 53.1**	**-0.7**
	292nm,0.7s,2μm0.9nm						
PKDT	**Phuket**	**8.12**	**142**	P	**Pn**	**13 08 58.3**	**+3.0**
	134nm,0.8s,3μm0.4nm						
SRAK	**Srakaew**	**8.49**	**91**	P	Pn	13 09 10.2	+10
CHAI	**Chaiyaphum**	**8.53**	**79**	P	**Pn**	**13 09 02.5**	**+1.6**
	77nm,0.7s,568nm0.2nm						
CHBT	**CHBT**	**8.93**	**99**	P	**Pn**	**13 09 08.8**	**+2.4**
	638nm,0.5s,16μm						
BELO	**BELONIA**	**9.00**	**349**	*ex*	Pn	13 08 59.7	-7.7
BELO				*e*S	**Sn**	**

PALK S Sn 13 12 43.2 -13
PALK Pallekele 14.24 242 Pn P 13 10 27.8 +2.3
SNR=5.5
PALK Pallekele 14.24 242 P P 13 10 27.8 +2.3
SNR=5.5
PALK Pallekele 14.24 242 *i* P **Pn 13 10 18.7 -0.3**
HYB Hyderabad 14.50 284 *i* P **Pn 13 10 21.0 -1.6**
comp=E,127nm,0.8s
HYBB Hyderabad (bro 14.50 284 *eP* **Pn 13 10 20.3 -2.3**
JIRN Jiri 14.79 335 *eP* Pn 13 10 21.9 -4.7
comp=E,1μm,0.6s
MNSI Mandailing Nat 14.85 155 P **Pn 13 10 26.5 -0.7**
comp=E,100nm,0.6s,comp=E,2μm
SRSP Sriramsagar 15.03 290 *eP* **Pn 13 10 26.4 -3.2**
PKIN Phulchoki 15.06 332 *eP* **Pn 13 10 25.2 -5.0**
comp=E,765nm,0.3s
GUN Gumba 15.14 334 *eP* **Pn 13 10 26.5 -4.7**
comp=E,2μm,0.8s
NGP Nagpur 15.15 298 *eP* **Pn 13 10 29.6 -1.5**
NGP IAmb IAmb 13 10 31.2
comp=Z,114nm,0.4s
NGP *ex* x 13 13 05.8
DMN Daman 15.22 331 *eP* **Pn 13 10 26.9 -5.4**
comp=Z,1μm,0.9s
LSA Lhasa 15.38 353 P **Pn 13 10 30.0 -4.6**
LSA pmax pmax
comp=Z,11nm,1.1s
LSA Lhasa 15.38 353 *e*Pn **Pn 13 10 30.4 -4.2**
comp=Z,133nm,0.7s
LSA Lhasa 15.38 353 *eP* **Pn 13 10 30.4 -4.2**
LSA pmax pmax
comp=Z,133nm,0.7s
URV Uravakonda 15.53 274 *eP* **Pn 13 10 34.6 -1.5**
GKN Gorkha 15.78 331 *eP* **Pn 13 10 34.3 -5.0**
comp=E,615nm,0.3s
BKNI Bangkinang 15.92 151 P **Pn 13 10 41.6 +0.5**
BKNI Bangkinang 15.92 151 *e*Pn **Pn 13 10 41.2 +0.1**
comp=Z,192nm,0.7s
KOLN Koldanda 16.10 327 *eP* **Pn 13 10 38.6 -4.9**
comp=Z,520nm,0.3s
MYKOM Kota Tinggi 16.28 139 *e*Pn **Pn 13 10 46.2 +0.6**
comp=Z,145nm,1.0s
KLRI Killari 16.45 285 *eP* **Pn 13 10 45.8 -2.1**
DANN Dangsing 16.49 329 *eP* **Pn 13 10 43.4 -5.2**
comp=Z,976nm,0.8s
QIZ Qiongzhong 16.51 71 P **Pn 13 10 48.3 -0.3**
QIZ S **Sn 13 13 49.3 -1.6**
QIZ LR LR
comp=Z,1μm,12.3s
QIZ LR LR
comp=Z,1μm,13.7s
QIZ LR LR
comp=Z,1μm,13.3s
QIZ Qiongzhong 16.51 71 *eP* **P 13 10 50.9 +0.2**
comp=Z,79nm,1.3s
SISI Saibi 16.62 159 P **Pn 13 10 50.0 +0.1**
comp=Z,110nm,0.9s,comp=Z,2μm
PYUN Piuthan 16.69 327 *eP* **Pn 13 10 45.6 -5.3**
comp=Z,2μm,0.9s
PDSI Padang 16.76 154 P **Pn 13 10 50.0 -1.8**
RGRI Rengat 17.14 148 P **Pn 13 10 57.0 +0.5**
SDSI Sungai Dareh 17.20 151 P **P 13 10 58.2 -0.2**
comp=Z,0.9nm,0.6s,comp=Z,428nm
GYA Guiyang 17.35 44⇑ *i*P **Pn 13 10 58.5 -0.6**
GYA pP pP 13 11 07.8 -2.4
GYA PP **sP 13 11 15.0 -0.5**
GYA S **Sn 13 14 12.0 +0.7**
GYA sS S 13 14 21.3 +2.8
GYA SS **SnSn 13 14 30.0 +4.8**
GYA pmax pmax
comp=Z,110nm,1.0s
GYA pmax pmax
comp=Z,530nm,8.1s
GYA LR LR
comp=Z,1μm,13.1s
GYA LR LR
comp=Z,2μm,10.9s
GYA LR LR
comp=Z,1μm,13.4s
TPRI Tanjung Pinang 17.38 139 P **P 13 11 00.5 +0.2**
comp=Z,64nm,0.7s,comp=Z,19μm
KRJI Kerinci 18.25 153 P **P 13 11 09.7 -0.3**
PPSI Pulau Pagai 18.28 158 P **Pn 13 11 10.7 +0.2**
CD2 Chengdu 19.06 29⇓ *i*P **P 13 11 18.0 -0.8**
CD2 pP pP 13 11 29.5 +0.5
CD2 sP sP 13 11 36.0 +1.7
CD2 S **Sn 13 14 50.5 -2.1**
CD2 pmax pmax
comp=Z,250nm,0.8s
CD2 pmax pmax
comp=Z,750nm,5.2s
CD2 LR LR
comp=Z,2μm,14.4s
CD2 LR LR
comp=Z,3μm,15.4s
CD2 LR LR
comp=Z,2μm,15.9s
POO Poona 19.10 285 *i* P **P 13 11 18.0 -1.4**
MASI Maura Aman, Be 19.53 152 P **P 13 11 23.5 -0.5**
PMBI Palembang 20.61 146 P **P 13 11 36.6 +0.9**
comp=Z,610nm,0.9s
PPBI Pangkal Pinang 20.78 141 P **P 13 11 38.0 +0.4**
GZH Guangzhou 20.85 62 P Pn 13 11 43.0 +2.0
MNAI Manna 20.93 152 *eP* **P 13 11 36.0 -3.2**
comp=Z,180nm,0.6s
KSM Kuching 21.14 126 *eP* **P 13 11 40.6 -0.8**
comp=Z,39nm,1.0s
DDI Dehra Dun 21.19 321 *eP* **P 13 11 40.5 -1.5**
DDI *eS* **S 13 15 35.7 +0.2**
MDSI Maura Dua 21.62 149 P **P 13 11 42.7 -3.9**
ENH Enshi 21.74 41 *eP* **P 13 11 46.6 -1.2**
comp=Z,211nm,1.0s
LWLI Liwa 22.02 150 P **P 13 11 49.1 -2.0**
SBUM Sibu 22.12 121 *eP* **P 13 11 51.6 -0.5**
comp=Z,116nm,1.3s
KASI Kota Agung 22.67 150 P **P 13 11 51.7 -6.2**
STKI Sintang 22.93 127 P **P 13 12 01.8 +1.2**
comp=Z,31nm,0.4s,comp=Z,21μm
LZH Lanzhou 23.60 22⇓ *i*P **P 13 12 07.3 +0.1**
LZH pP pP 13 12 17.0 -1.1
LZH sP sP 13 12 21.8 -1.4
LZH S **S 13 16 16.5 -2.3**
LZH sS sS 13 16 31.5 -6.1
LZH pmax pmax
comp=Z,220nm,1.0s
LZH pmax pmax
comp=Z,530nm,4.3s
LZH LR LR
comp=Z,2μm,11.4s
LZH LR LR
comp=Z,2μm,12.7s
LZH LR LR
comp=Z,2μm,13.7s
XAN Xi'an 24.16 33 P **P 13 12 10.8 -1.5**
XAN pP pP 13 12 19.8 -3.7
XAN sP sP 13 12 23.5 -5.1
XAN PP **PnPn 13 12 49.3 +6.3**
XAN S **S 13 16 31.0 +3.4**
XAN pmax pmax
comp=Z,95nm,1.2s
XAN pmax pmax
comp=Z,330nm,5.4s
XAN LR LR
comp=Z,1μm,18.4s
XAN LR LR
comp=Z,650nm,14.6s
XAN LR LR
comp=Z,1μm,15.7s
CGJI Cibinong 24.21 149 P **P 13 12 08.8 -4.0**
WHN Wuhan 25.18 47⇓ *i*P **P 13 12 20.5 -1.0**
WHN S **S 13 16 46.0 +2.1**
WHN LR LR
comp=Z,3μm,9.4s
WHN LR LR
comp=Z,1μm,13.7s
WHN LR LR
comp=Z,3μm,10.2s
LEM Lembang 25.41 145 P **P 13 12 22.6 -1.2**
comp=Z,22nm,0.3s,baz=107,slow=11,SNR=3.1
LEM LR LR 13 23 06.7
comp=Z,1μm,20.8s,baz=298,slow=38
GTA Gaotai 25.59 12⇑ P **P 13 12 26.3 +1.0**
GTA pP pP 13 12 37.0 +0.4
GTA sP sP 13 12 40.8 -0.8
GTA PP **PnPn 13 13 05.5 +2.8**
GTA S **S 13 16 50.3 -0.3**
GTA sS sS 13 17 04.8 -4.7
GTA SS **SnSn 13 17 54.3 +7.1**
GTA ScS **ScS 13 23 21.5 +0.4**
GTA pmax pmax
comp=Z,35nm,1.2s
GTA pmax pmax
comp=Z,170nm,5.7s
GTA LR LR
comp=Z,720nm,17.1s
GTA LR LR
comp=Z,710nm,16.2s
GTA LR LR
comp=Z,760nm,14.3s
SARP Sargodha 25.70 316 P **P 13 12 25.9 -0.4**
QZH Quanzhou 25.99 62 *eP* **P 13 12 31.0 +2.0**
QZH S **S 13 17 01.5 +4.6**
QZH LR LR
comp=Z,2μm,21.8s
QZH LR LR
comp=Z,680nm,19.3s
QZH LR LR
comp=Z,640nm,11.4s
MTKI Muara Teweh, K 26.25 124 P **P 13 12 31.4 +0.1**
comp=Z,54nm,0.7s
CHCP Chirah Chowk 26.43 320 P **P 13 12 33.5 +0.6**
MYLDM Lahad Datu 26.43 108 *eP* **P 13 12 32.1 -0.9**
comp=Z,72nm,0.9s
NIL Nilore 26.43 320 *eP* **P 13 12 32.8 -0.1**
comp=Z,159nm,0.8s
NIL Nilore 26.43 320 *eP* **P 13 12 32.8 -0.1**
NIL pmax pmax
comp=Z,159nm,0.8s
KPJI Karang Pucung 26.56 143 P **P 13 12 34.9 +0.7**
comp=Z,64nm,1.1s
TGY Tagaytay City 26.79 87 P **P 13 12 36.7 +0.4**
comp=Z,232nm,1.0s,baz=123,slow=5.9,SNR=5.7
TGY LR LR 13 23 51.7
comp=Z,598nm,18.9s,baz=278,slow=38
THW Thamme Wali 26.86 317 P **P 13 12 37.0 +0.2**
TPUB Ta-pu 27.31 67 *eP* **P 13 12 38.8 -2.1**
comp=Z,52nm,1.2s
CEP Cherat 27.39 319 P **P 13 12 41.9 +0.2**
TWG Pinlang 27.59 68 *eP* **P 13 12 40.5 -2.9**
comp=Z,212nm,1.1s
SSLB Suanglung 27.72 66 *eP* **P 13 12 41.2 -3.3**
comp=Z,94nm,1.2s
YULB Yu-li 27.93 67 *eP* **P 13 12 43.7 -2.8**
comp=Z,32nm,0.9s
NGJI Ngawi 28.13 139 P **P 13 12 47.6 -0.6**
comp=Z,52nm,0.8s
TIY Taiyuan 28.80 33 *eP* **P 13 12 57.8 +3.7**
TIY S **S 13 17 40.0 -1.1**
TIY SS **SnSn 13 19 10.5 +5.3**
TIY LR LR
comp=Z,600nm,8.9s
TIY LR LR
comp=Z,700nm,10.8s
TIY LR LR
comp=Z,600nm,16.1s
PWJI Pagerwojo 28.85 139 P **P 13 12 56.1 +1.5**
comp=Z,23nm,1.2s
NJ2 Nanjing 29.23 49 *eP* **P 13 12 57.8 -0.1**
NJ2 pmax pmax
comp=Z,27nm,1.1s
NJ2 LR LR
comp=Z,980nm,10.3s
NJ2 LR LR
comp=Z,860nm,11.4s
NJ2 LR LR
comp=Z,1μm,11.9s
KSH Kashi 29.32 332 P **P 13 12 58.0 -0.7**
KSH pP pP 13 13 07.5 -2.6
KSH PP **PnPn 13 13 53.5 +0.1**
KSH S **S 13 17 46.5 -2.8**
KSH pmax pmax
comp=Z,120nm,0.8s
KSH LR LR
comp=Z,460nm,6.7s
KSH LR LR
comp=Z,810nm,6.8s
KSH LR LR
comp=Z,820nm,11.8s
KBL Kabul 29.70 317 *eP* **P 13 13 01.4 -0.9**
comp=Z,51nm,0.9s
KBL Kabul 29.70 317 *eP* **P 13 13 01.4 -0.9**
KBL pmax pmax
comp=Z,51nm,0.9s
WMQ Urumqi 29.74 352 P P 13 13 07.5 +5.2
WMQ pP pP 13 13 15.0 +1.3
WMQ PP **PnPn 13 13 57.3 -1.7**
WMQ S **S 13 17 57.0 +1.3**
WMQ sS sS 13 18 12.5 -2.2
WMQ ScS **ScS 13 23 38.5 -0.8**
WMQ pmax pmax
comp=Z,160nm,3.7s
WMQ LR LR
comp=Z,1μm,26.3s
WMQ LR LR
comp=Z,2μm,15.9s
WMQ LR LR
comp=Z,2μm,23.7s
BTO Baotou 29.94 26 *eP* **P 13 13 02.8 -1.4**
H08S3 Diego Garcia H 30.07 225 T T 13 44 55.7
baz=42,slow=76,SNR=9.0
H08S2 Diego Garcia H 30.07 225 T T 13 44 58.0
baz=42,slow=76,SNR=21
H08S1 Diego Carcia H 30.09 225 T T 13 45 00.1
baz=42,slow=76,SNR=8.6
TIA Tai'an 30.46 40 P **P 13 13 08.5 -0.2**
TIA S **S 13 18 12.0 +5.0**
TIA pmax pmax
comp=Z,38nm,1.1s
TIA LR LR
comp=Z,810nm,14.7s
TIA LR LR
comp=Z,800nm,19.1s
TIA LR LR
comp=Z,2μm,19.1s
JAGI Jajag, Banyuwa 30.71 136 P **P 13 13 09.7 -1.4**
comp=Z,26nm,0.9s
HHC Hu-ho-hao-te 30.82 28 *eP* **P 13 13 12.0 +0.1**
HHC pP pP 13 13 21.5 -1.8
HHC sP sP 13 13 25.5 -2.8
HHC S **S 13 18 13.8 +1.0**
HHC sS sS 13 18 31.5 -0.2
HHC SS **ScP 13 19 49.3 +1.3**
HHC pmax pmax
comp=Z,63nm,1.0s
HHC pmax pmax
comp=Z,190nm,5.5s
HHC LR LR
comp=Z,4μm,12.4s
HHC LR LR
comp=Z,4μm,12.5s
HHC LR LR
comp=Z,5μm,13.9s
PRZ Przheval'sk 30.82 338 P **P 13 13 11.5 -0.6**
PRZ pmax pmax
comp=Z,80nm,1.1s
NRN Naryn 30.87 334 P **P 13 13 12.0 -0.7**
NRN pmax pmax
comp=Z,29nm,0.8s
SFK Sufi-Kurgan 30.88 330 *i* P **P 13 13 12.9 +0.3**
SFK pmax pmax
comp=Z,84nm,1.4s
KDJ Kajisay 30.98 336 *eP* **P 13 13 13.3 -0.1**
comp=Z,76nm,1.1s
KDJ Kajisay 30.98 336 P **P 13 13 13.3 -0.1**
KDJ pmax pmax
comp=Z,76nm,1.1s
SHLS Shalkode 31.05 340 *eP* **P 13 13 14.6 +0.6**
comp=Z,493nm,0.8s
SHLS *eS* **S 13 18 17.5 +1.1**
SHLS LR LR 13 27 29.1
comp=Z,236nm,17.0s
SRBI Singaraja 31.15 134 P **P 13 13 15.5 +0.5**
comp=Z,35nm,0.7s
UZB Uzynbulak 31.19 340 *eP* **P 13 13 16.2 +0.9**
comp=Z,164nm,1.4s
UZB *eS* **S 13 18 20.9 +2.2**
PDGK Podgornoye 31.20 340 *i* P **P 13 13 15.5 +0.2**
PDGK pmax pmax
comp=Z,32nm,0.9s
SATY Saty 31.32 339⇑ *i*P **P 13 13 17.9 +1.5**
comp=Z,504nm,0.8s
SATY *eS* **S 13 18 23.3 +2.6**
ZHN Zhinishke 31.41 339 *eP* **P 13 13 18.2 +1.0**
comp=Z,116nm,1.2s
ZHN *eS* **S 13 18 24.3 +2.2**
MRSI Marisa 31.51 114 P **P 13 13 18.5 +0.3**
comp=Z,19nm,0.7s,comp=Z,780nm
KPKS Kokpek 31.59 339⇑ *eP* **P 13 13 19.7 +1.0**
comp=Z,493nm,0.7s
KPKS *i* S **S 13 18 26.7 +1.9**
KZA Kyzart 31.72 334 P **P 13 13 21.3 +1.1**
SNR=22
MDOK Medeo 31.91 337 *i* P **P 13 13 22.9 +1.3**
comp=Z,745nm,1.0s
MDOK LR LR 13 27 27.1
comp=Z,247nm,15.6s
AAA Alma-Ata 32.00 337 *eP* **P 13 13 24.1 +1.8**
comp=Z,323nm,1.2s
AAA LR LR 13 27 38.4
comp=Z,143nm,16.1s
UCH Uchtor 32.16 333 P **P 13 13 25.1 +0.9**
SNR=16
TKM2 Tokmak 2 32.27 335 P **P 13 13 25.8 +0.9**
SNR=14
KBK Karagaybulak 32.32 334 P **P 13 13 26.8 +1.5**
SNR=7.8
BMNS Besmoynak 32.40 336 *eP* **P 13 13 26.6 +0.7**
comp=Z,381nm,1.0s
AML Almayashu 32.44 332 P **P 13 13 27.5 +0.9**
SNR=40
BJT Baijiatuau 32.47 34 *eP* **P 13 13 25.1 -1.2**
comp=Z,44nm,1.1s
BJT Baijiatuau 32.47 34 *eP* **P 13 13 25.2 -1.2**
BJT pmax pmax
comp=Z,44nm,1.1s
BNSI Bone 32.48 123 P **P 13 13 28.6 +1.9**
comp=Z,18nm,0.8s,comp=Z,432nm
BJI Beijing 32.49 34 P **P 13 13 27.0 +0.5**
BJI S **S 13 18 39.5 +0.9**
BJI pmax pmax
comp=Z,49nm,1.1s
BJI LR LR
comp=Z,2μm,23.2s
BJI LR LR
comp=Z,3μm,22.9s
BJI LR LR
comp=Z,950nm,25.6s
BJI Beijing 32.49 34 P **P 13 13 25.2 -1.3**
BJI pmax pmax
comp=Z,44nm,1.1s
AAK Ala-Archa 32.50 334 P **P 13 13 27.8 +0.9**
SNR=18
AAK Ala-Archa 32.50 334 *eP* **P 13 13 27.1 +0.3**
comp=Z,30nm,1.0s
AAK Ala-Archa 32.50 334 P **P 13 13 28.3 +1.5**
SNR=20
AAK Ala-Archa 32.50 334 P **P 13 13 28.3 +1.5**
SNR=20
AAK Ala-Archa 32.50 334 *i* P **P 13 13 27.6 +0.8**
SNR=21
AAK Ala-Archa 32.50 334 *c i*P **P 13 13 27.7 +0.9**
AAK pmax pmax
comp=Z,104nm,1.7s
DAV Davao City (W) 32.51 99 LR LR 13 28 00.9
comp=Z,487nm,19.9s,baz=309,slow=39
FRU Bishkek 32.60 334 *eP* **P 13 13 28.0 +0.4**
FRU *e* 13 13 40.0
FRU pmax pmax
comp=Z,60nm,1.4s
CHMS Chumysh 32.68 334 P **P 13 13 29.4 +1.1**
SNR=12
TWSI Taliwang, Sumb 32.78 133 P **P 13 13 31.7 +2.4**
comp=Z,20nm,0.8s
KUU Kurty 32.80 337 *eP* **P 13 13 29.4 +0.1**
comp=Z,111nm,1.2s
KUU *eS* **S 13 18 44.9 +1.4**
EKS2 Erkin-Say 32.83 333 P **P 13 13 31.5 +1.8**
SNR=7.7
USP Ospenovka 33.01 334 P **P 13 13 32.4 +1.3**
SNR=18
MNAS Manas 33.27 331 *i* P **P 13 13 34.2 +0.7**
MNAS pmax pmax
comp=Z,63nm,1.4s
PLAI Plampang 33.48 132 P **P 13 13 37.1 +1.7**
comp=Z,43nm,0.7s
MK01 Makanchi Array 33.59 346 *eP* **P 13 13 36.3 +0.2**
MK31 Makanchi Array 33.61 346 *eP* **P 13 13 36.5 +0.2**
MK31 Makanchi Array 33.61 346 *i* P **P 13 13 36.3 0.0**
MK31 pmax pmax
comp=Z,70nm,0.8s
MKAR Makanchi Array 33.61 346 P **P 13 13 36.8 +0.5**
comp=Z,12nm,0.7s,baz=163,slow=8.8,SNR=97
MKAR pP **pP 13 13 48.4 +0.7**
comp=Z,74nm,0.8s,baz=160,slow=8.1,SNR=52
MKAR PcP **PcP 13 16 16.3 +0.4**
comp=Z,1.4nm,0.5s,baz=184,slow=2.1,SNR=3.7
MKAR LR LR 13 31 39.3
comp=Z,1μm,20.1s,baz=156,slow=44
MKAR Makanchi Array 33.61 346 *eP* **P 13 13 36.3 0.0**
comp=Z,426nm,0.8s
MKAR pP **pP 13 13 48.4 +0.7**
MKAR PcP **PcP 13 16 16.3 +0.4**
MKAR Makanchi Array 33.61 346 *eP* **P 13 13 36.3 0.0**
MKAR *PP **pP 13 13 48.4 +0.7**
MKAR 13 16 16.3
MKAR pmax pmax
comp=Z,426nm,0.8s
MAKZ Makanchi 33.70 346 *eP* **P 13 13 36.6 -0.4**
comp=Z,61nm,0.8s
MAKZ Makanchi 33.70 346 *i* P **P 13 13 37.5 +0.5**
MAKZ pmax pmax
comp=Z,59nm,0.8s
ZSN Zaisan 33.72 350 *eP* **P 13 13 38.2 +1.0**
comp=Z,21nm,1.3s
ZSN *eS* **S 13 19 00.1 +2.4**
WSAR Wadi Sarin 33.91 290 P **P 13 13 40.3 +1.1**
comp=Z,11nm,1.1s,baz=131,slow=11,SNR=8.1
WSAR LR LR 13 28 20.3
comp=Z,516nm,19.9s,baz=120,slow=38
TAS Tashkent 34.01 327 P **P 13 13 41.8 +2.0**
TAS pmax pmax
comp=Z,213nm,0.7s
DZA Taraz 34.13 331 *eP* **P 13 13 41.9 +1.1**
comp=Z,564nm,0.7s
IUG Iuzhnay 34.21 329⇑ *i*P **P 13 13 43.0 +1.4**
comp=Z,1μm,0.8s
IUG *eS* **S 13 19 08.0 +2.4**
IUG LR LR 13 31 31.6
comp=Z,164nm,11.8s
BIDO Bidbid 34.41 291 P **P 13 13 47.0 +3.5**
SNR=11
BIDO Bidbid 34.41 291 P **P 13 13 47.0 +3.5**
SNR=11
CHM Chimkent 34.55 328 LR LR 13 31 15.6
comp=Z,220nm,13.0s
KK31 Karatay Array 34.68 330 *eP* **P 13 13 45.6 0.0**
KK31 Karatay Array 34.68 330 *i* P **P 13 13 46.3 +0.7**
KK31 pmax pmax
comp=Z,54nm,1.4s
KKAR Karatay Array 34.68 330 *eP* **P 13 13 45.7 +0.1**
KKAR Karatay Array 34.68 330 *eP* **P 13 13 45.7 +0.1**
JOW Kunigami 34.89 64 P **P 13 13 47.8 +0.2**
comp=Z,14nm,0.4s,baz=272,slow=28,SNR=12
JOW pP **pP 13 13 59.5 +0.4**
comp=Z,27nm,0.5s,baz=107,slow=14,SNR=4.4
JOW LR LR 13 29 12.6
comp=Z,444nm,20.1s,baz=298,slow=38
DL2 Dalian 34.93 40 P **P 13 13 48.0 +0.2**
DL2 S **S 13 19 16.0 -0.5**
DL2 pmax pmax
comp=Z,61nm,0.9s
DL2 pmax pmax
comp=Z,190nm,3.7s
DL2 LR LR
comp=Z,540nm,19.6s
DL2 LR LR
comp=Z,670nm,16.1s
DL2 LR LR
comp=Z,840nm,13.3s
SONM Songino Array 35.09 15 P **P 13 13 49.6 +0.3**
comp=Z,25nm,1.0s,baz=199,slow=9.4,SNR=91
SONM pP **pP 13 14 02.3 +1.6**
comp=Z,32nm,1.0s,baz=203,slow=7.8,SNR=13
SONA1 Songino Array 35.11 15 *eP* **P 13 13 49.4 +0.1**
WBSI Waikabubak, Su 35.20 131 P **P 13 13 50.5 +0.1**
ULN Ulaanbaatar 35.30 16 *eP* **P 13 13 50.0 -1.0**
comp=Z,75nm,1.3s
ULN Ulaanbaatar 35.30 16 P **P 13 13 50.9 -0.1**

SNR=31
ULN Ulaanbaatar 35.30 16 P **P** 13 13 50.9 -0.1
SNR=31
ULN Ulaanbaatar 35.30 16*d i*P **P** 13 13 51.2 +0.2
ULN pmax pmax
comp=Z,29nm,1.2s
DGZ Jazzator, Alta 35.56 353 *e*P **P** 13 13 52.0 -1.2
DGZ pmax pmax
comp=Z,3.0nm,0.9s
SOHO SOHO 35.95 291 *i* P **P** 13 13 57.5 +0.8
SNR=8.1
KNGR Kungurtug, Tuv 36.30 5⇑*e*P **P** 13 14 01.2 +1.7
UOSS Minazif 36.37 293 *e*P **P** 13 14 01.4 +1.0
comp=Z,23nm,1.0s
UOSS Minazif 36.37 293 *i* P **P** 13 14 01.7 +1.3
SNR=7.6
HATD Hatta, Dubai 36.42 292 P **P** 13 14 04.0 +3.2
SNR=18
HATD Hatta, Dubai 36.42 292 P **P** 13 14 04.0 +3.2
SNR=18
HATD Hatta, Dubai 36.42 292 *i* P **P** 13 14 02.0 +1.2
SNR=9.8
ASHO Ashiyiah 36.46 292 P **P** 13 14 04.7 +3.5
SNR=19
ASHO Ashiyiah 36.46 292 P **P** 13 14 04.7 +3.5
SNR=19
ASHO Ashiyiah 36.46 292 *i* P **P** 13 14 02.2 +1.1
SNR=23
BANOM Banah 36.46 294 P **P** 13 14 02.9 +1.7
ALNE Al Ain 36.64 291 P **P** 13 14 04.4 +1.7
HVS Khovu-Aksy 36.67 0⇑*e*P **P** 13 14 03.4 +0.8
HVS pmax pmax
comp=Z,25nm,0.6s
ZAK Zakamensk 36.82 11 *e*P **P** 13 14 04.5 +0.6
ZAK pmax pmax
comp=Z,16nm,1.4s
NAZ Nazwa, Dubai 36.87 293 P P 13 14 12.1 +7.5
SNR=8.4
NAZ Nazwa, Dubai 36.87 293 P P 13 14 12.1 +7.5
SNR=8.4
SEM Semipalatinsk 37.47 346 *e*P **P** 13 14 09.4 -0.2
comp=Z,178nm,1.0s
SEM LR LR 13 32 29.6
comp=Z,395nm,17.6s
TJN Taejon 37.48 48*d i*P **P** 13 14 08.7 -0.9
MOY Mondy 37.71 8 *e*P P 13 14 23.1 +12
MOY pmax pmax
comp=Z,31nm,1.8s
SNY Shenyang 37.88 38 ⇑P **P** 13 14 12.8 0.0
SNY S **S** 13 19 58.5 -2.9
SNY pmax pmax
comp=Z,30nm,1.2s
SNY pmax pmax
comp=Z,310nm,3.4s
SNY LR LR
comp=Z,1μm,19.6s
SNY LR LR
comp=Z,880nm,20.6s
SNY LR LR
comp=Z,1μm,13.9s
OTUK Ortayu 37.97 337 P **P** 13 14 14.2 +0.6
OTUK pmax pmax
comp=Z,93nm,1.0s
KURBB Kurchatov Arra 38.09 345 P **P** 13 14 15.0 +0.5
comp=Z,22nm,0.9s,baz=161,slow=8.0,SNR=124
KURBB pP **pP** 13 14 26.8 +0.8
comp=Z,117nm,0.9s,baz=164,slow=8.1,SNR=50
KURBB PcP **PcP** 13 16 29.6 +0.6
comp=Z,1.2nm,0.4s,baz=165,slow=2.4,SNR=2.6
TLY Talaya 38.13 10 P **P** 13 14 16.2 +1.2
comp=Z,4.7nm,0.7s,baz=204,slow=9.4,SNR=17
TLY Talaya 38.13 10 *e*P **P** 13 14 15.6 +0.6
comp=Z,49nm,1.5s
TLY Talaya 38.13 10 P **P** 13 14 17.3 +2.4
SNR=16
TLY Talaya 38.13 10 P **P** 13 14 17.3 +2.4
SNR=16
TLY Talaya 38.13 10 *e*P **P** 13 14 15.8 +0.9
TLY *e*S **S** 13 20 08.8 +3.7
TLY *e*SSS SSS 13 23 17.6
TLY pmax pmax
comp=Z,18nm,1.5s
KURK Kurchatov 38.15 345 *e*P **P** 13 14 15.0 -0.1
comp=Z,128nm,1.0s
KURK pP **pP** 13 14 26.9 +0.3
KURK PcP **PcP** 13 16 29.6 +0.4
KURK Kurchatov 38.15 345 P **P** 13 14 15.8 +0.7
SNR=75
KURK Kurchatov 38.15 345 P **P** 13 14 15.8 +0.7
SNR=75
KURK Kurchatov 38.15 345*c i*P **P** 13 14 14.8 -0.3
KURK pmax pmax
comp=Z,238nm,1.0s
KS15 Wonju Array Si 38.34 47 *e*P **P** 13 14 14.9 -1.9
KSAR Wonju Array Be 38.34 47 P **P** 13 14 15.8 -1.0
KSAR pP **pP** 13 14 27.3 -1.1
KSAR Wonju Array Be 38.34 47 P **P** 13 14 15.8 -1.0
KSAR *PP **pP** 13 14 27.3 -1.1
KS01 Wonju Array Si 38.36 47 *e*P **P** 13 14 14.5 -2.5
KSRS Korea Array 38.37 47 P **P** 13 14 15.8 -1.3
comp=Z,5.9nm,0.5s,baz=240,slow=9.1,SNR=34
KSRS pP **pP** 13 14 27.3 -1.3
comp=Z,8.6nm,0.7s,baz=239,slow=9.0,SNR=13
KSRS LR LR 13 30 39.1
comp=Z,567nm,21.4s,baz=243,slow=37
BATI Baumata 38.77 127 P **P** 13 14 19.0 -1.7
comp=Z,9.6nm,0.4s,baz=351,slow=0.8,SNR=4.4
IRK Irkutsk 38.78 11 *e*P **P** 13 14 21.0 +0.6
IRK *e* 13 14 34.0
IRK pmax pmax
comp=Z,59nm,2.9s
JNU Nakatsue 38.86 55 P **P** 13 14 22.6 +1.2
comp=Z,5.1nm,0.5s,baz=327,slow=0.5,SNR=7.5
JNU LR LR 13 30 40.3
comp=Z,477nm,21.8s,baz=283,slow=37
SOEI Soe 38.96 126 P **P** 13 14 23.3 +0.9
SOEI Soe 38.96 126 *e*P **P** 13 14 18.9 -3.5
comp=Z,46nm,0.8s
GEYT Alibeck 38.98 314 P **P** 13 14 23.4 +1.1
comp=Z,46nm,0.8s,baz=140,slow=7.7,SNR=84
GEYT pP **pP** 13 14 35.4 +1.5
comp=Z,19nm,0.7s,baz=140,slow=7.0,SNR=8.0
GEYT LR LR 13 32 34.8
comp=Z,794nm,18.6s,baz=135,slow=39
GYA0B ALIBECK ARRAY 38.98 314 *e*P **P** 13 14 21.7 -0.6
comp=Z,53nm,0.8s
MSAI Masohi 39.46 114 P **P** 13 14 26.0 -0.5
comp=Z,20nm,1.1s,comp=Z,317nm
ZAA0 Zalesovo Array 40.05 352 *e*P **P** 13 14 30.6 -0.2
comp=Z,44nm,0.9s
ZALV Zalesovo Beam 40.05 352 P **P** 13 14 30.8 0.0
comp=Z,12nm,0.7s,baz=177,slow=9.2,SNR=43
ZALV pP **pP** 13 14 42.6 +0.1
comp=Z,39nm,0.8s,baz=175,slow=7.5,SNR=23
ZALV LR LR 13 35 27.6
comp=Z,406nm,19.1s,baz=180,slow=43
CN2 Changchun 40.16 37 *e*P **P** 13 14 30.3 -1.7
CN2 *e*S **S** 13 20 33.8 -2.0
CN2 pmax pmax
comp=Z,40nm,1.1s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=Z,470nm,20.0s
CN2 LR LR
comp=Z,450nm,21.0s
CN2 LR LR
comp=Z,640nm,21.0s
SIJI Sorong 40.52 109 P **P** 13 14 34.7 -0.7
comp=Z,7.9nm,0.5s,baz=308,slow=12,SNR=9.4
SIJI pP **pP** 13 14 46.0 -1.0
comp=Z,6.1nm,0.4s,baz=306,slow=10,SNR=3.8
CIT Chita 40.91 19 *e*P P 13 14 49.8 +12
CIT *e* 13 15 01.1
CIT *e* 13 15 06.3
CIT pmax pmax
comp=Z,136nm,1.3s
HIA Hailar 41.00 26 *e*P **P** 13 14 38.4 -0.4
comp=Z,159nm,2.0s
HIA Hailar 41.00 26 *e*P **P** 13 14 38.4 -0.4
HIA pmax pmax
comp=Z,159nm,2.0s
NVS Novosibirsk 41.14 351 *e*P **P** 13 14 39.7 -0.1
NVS pmax pmax
comp=Z,40nm,1.1s
NVS pmax pmax
comp=E,15nm,1.3s

KRAR Krasnoyarsk 41.55 360⇑*e*P **P** 13 14 44.9 +1.7
FAKI Fak Fak 42.25 111 P **P** 13 14 49.7 +0.2
comp=E,28nm,0.8s
FAKI Fak Fak 42.25 111 *e*P **P** 13 14 48.6 -0.9
comp=E,17nm,0.6s
BVAR Borovoye Array 42.63 340 P **P** 13 14 51.8 -0.2
comp=E,3.5nm,0.8s,baz=134,slow=8.4,SNR=19
BVAR pP **pP** 13 15 04.1 +0.4
comp=E,23nm,0.9s,baz=143,slow=7.3,SNR=28
BVAR LR LR 13 37 41.1
comp=E,534nm,18.4s,baz=142,slow=43
BRVK Borovoye 42.69 340 *e*P **P** 13 14 51.7 -0.9
comp=E,33nm,0.9s
BRVK Borovoye 42.69 340 P **P** 13 14 53.0 +0.5
SNR=8.3
BRVK Borovoye 42.69 340 P **P** 13 14 53.0 +0.5
SNR=8.3
BRVK Borovoye 42.69 340*de*P **P** 13 14 52.7 +0.1
BRVK pmax pmax
comp=Z,21nm,1.0s
MDJ Mudanjiang 43.07 38 P **P** 13 14 53.5 -2.3
MDJ PP **PP** 13 16 36.0 -0.3
MDJ S **S** 13 21 18.3 -0.6
MDJ pmax pmax
comp=Z,9.0nm,1.1s
MDJ pmax pmax
comp=Z,150nm,10.3s
MDJ LR LR
comp=Z,850nm,21.1s
MDJ LR LR
comp=Z,620nm,21.6s
MDJ LR LR
comp=Z,800nm,16.2s
MBWA Marble Bar 43.82 143 *e*P **P** 13 14 59.9 -2.2
comp=Z,19nm,0.8s
AB31 Akbulak array 44.22 329 *i* P **P** 13 15 05.4 +0.5
AB31 pmax pmax
comp=Z,19nm,0.7s
ABKAR Akbulak array 44.22 329 *e*P **P** 13 15 04.8 -0.1
comp=Z,274nm,1.0s
USRK Ussuriysk Ar. 44.32 40 P **P** 13 15 05.1 -0.7
comp=Z,5.8nm,0.6s,baz=256,slow=6.5,SNR=12
USRK pP **pP** 13 15 18.2 +0.7
comp=Z,7.2nm,0.8s,baz=242,slow=8.0,SNR=5.9
USRK LR LR 13 37 09.0
comp=Z,407nm,19.2s,baz=232,slow=41
FITZ Fitzroy Crossi 45.36 134 P **P** 13 15 13.3 -1.1
baz=45,SNR=78
FITZ Fitzroy Crossi 45.36 134 *e*P **P** 13 15 13.1 -1.3
MJB9 Matsu-Tunnel 45.66 53 *e*P **P** 13 15 15.1 -1.5
comp=Z,19nm,1.0s
MAJO Matsushiro 45.66 53 *e*P **P** 13 15 15.2 -1.5
comp=Z,20nm,1.0s
MAJO Matsushiro 45.66 53*c i*P **P** 13 15 16.5 -0.1
MAJO pmax pmax
comp=Z,9.0nm,0.8s
MAT Matsushiro 45.66 53 P **P** 13 15 16.3 -0.3
MAT *e*S S 13 22 09.0 +12
MJAR Matsushiro Arr 45.66 53 P **P** 13 15 16.5 -0.2
comp=Z,6.0nm,0.9s,baz=260,slow=11,SNR=14
MJAR pP **pP** 13 15 27.6 -0.8
comp=Z,5.5nm,0.8s,baz=262,slow=11,SNR=8.0
MJAR PcP **PcP** 13 16 55.7 +1.4
comp=Z,2.7nm,0.6s,baz=235,slow=3.5,SNR=6.1
MJAR LR LR 13 34 19.3
comp=Z,246nm,20.4s,baz=230,slow=36
AKTO Aktyubinsk 45.93 329 P **P** 13 15 18.6 0.0
comp=Z,11nm,0.6s,baz=122,slow=8.7,SNR=32
AKTO LR LR 13 38 40.2
comp=Z,286nm,21.2s,baz=132,slow=41
RAYN Ar Rayn 45.94 289 *e*P **P** 13 15 17.9 -1.2
comp=Z,14nm,1.2s
RAYN Ar Rayn 45.94 289 P **P** 13 15 17.9 -1.2
RAYN pmax pmax
comp=Z,14nm,1.2s
JHJ Hachijo jima 2 46.04 58 LR LR 13 33 55.3
comp=Z,253nm,20.9s,baz=295,slow=35
KNRA Kunumurra 46.05 129 P **P** 13 15 18.7 -1.1
baz=46,SNR=9.8
BOD Bodaibo 46.09 15⇑*i*P **P** 13 15 19.4 -0.3
BOD pmax pmax
comp=Z,63nm,1.4s
MTN Manton Dam 46.21 124 P **P** 13 15 20.6 -0.6
baz=46,SNR=6.8
KLR Kul'dur 46.86 34 P **P** 13 15 25.4 -0.4
comp=Z,0.7nm,1.1s,baz=234,slow=9.2,SNR=13
KLR pP **pP** 13 15 38.3 +0.6
comp=Z,1.0nm,1.1s,baz=256,slow=10,SNR=8.5
KLR Kul'dur 46.86 34*de*P **P** 13 15 24.2 -1.6
DAMY Dhamar 47.28 277 *e*P **P** 13 15 28.8 -1.1
comp=Z,61nm,0.9s
ZEA Zeya 47.47 27 *e*P **P** 13 15 30.8 +0.3
ZEA *e*S S 13 22 39.0 +17
ZEA pmax pmax
comp=Z,28nm,1.2s
ZEA pmax pmax
comp=Z,200nm,4.0s
ZEA MLR MLR
comp=Z,500nm,14.0s
MEEK Meekatharra 47.62 149 P **P** 13 15 31.1 -0.9
baz=47,SNR=8.1
TEY Ternei 47.63 41 *e*P **P** 13 15 28.1 -3.7
AKT Akhty 47.74 314 *e*P **P** 13 15 34.2 +1.3
AKT *e* 13 17 26.0
AKT pmax pmax
comp=Z,45nm,0.8s
MAK Makhachkala 48.43 315 *e*P **P** 13 15 40.5 +2.4
MAK *e* 13 17 27.1
MAK *e*S **S** 13 22 39.3 +3.3
MAK pmax pmax
comp=Z,94nm,1.3s
MAK MLR MLR
comp=Z,276nm,16.0s
MORW Morawa 48.46 153 P **P** 13 15 38.6 +0.2
baz=48,SNR=18
SVE Sverdlovsk 49.11 337*d i*P **P** 13 15 43.9 +0.8
SVE pmax pmax
comp=Z,57nm,1.1s
SVE MLR MLR
comp=Z,715nm,20.0s
GNI Garni 49.45 311 P **P** 13 15 47.7 +1.4
comp=Z,39nm,0.9s,baz=130,slow=7.9,SNR=33
GNI LR LR 13 40 18.8
comp=Z,402nm,19.4s,baz=98,slow=40
GNI Garni 49.45 311 *e*P **P** 13 15 45.4 -0.8
comp=Z,120nm,1.3s
GNI Garni 49.45 311 P **P** 13 15 48.4 +2.1
SNR=26
GNI Garni 49.45 311 P **P** 13 15 48.4 +2.1
SNR=26
GNI Garni 49.45 311 *i* P **P** 13 15 46.7 +0.5
SNR=12
GNI Garni 49.45 311*c i*P **P** 13 15 47.8 +1.6
GNI pmax pmax
comp=Z,309nm,1.2s
ARU Arti 49.65 335 *e*P **P** 13 15 46.3 -0.9
comp=Z,64nm,1.0s
ARU Arti 49.65 335*c i*P **P** 13 15 47.2 0.0
ARU *e**PP **pP** 13 15 59.4 +0.4
ARU 13 17 03.3
ARU 13 17 43.4
ARU S **S** 13 22 56.0 +3.3
ARU SS **SS** 13 26 27.9 +2.7
ARU pmax pmax
comp=Z,55nm,1.7s
ARU MLR MLR
comp=Z,596nm,22.0s
GROC Groznyy 49.69 315 *e*P **P** 13 15 48.0 +0.3
GROC *e* 13 17 10.3
GROC *e*S **S** 13 22 56.1 +2.4
GROC pmax pmax
comp=Z,94nm,1.1s
TBLG Delisi 49.94 313 *e*P **P** 13 15 50.6 +0.9
comp=Z,74nm,1.4s
TBLG Delisi 49.94 313 *e*P **P** 13 15 50.6 +0.9
TBLG pmax pmax
comp=Z,74nm,1.4s
GUMO Guam 49.96 84 LR LR 13 38 14.4
comp=Z,134nm,18.3s,baz=278,slow=38
GUMO Guam 49.96 84 P **P** 13 15 47.9 -2.3
GUMO Guam 49.96 84 P **P** 13 15 47.9 -2.3
BLDU Ballidu 50.08 153 P **P** 13 15 50.5 -0.3
baz=50,SNR=25
GRNR Gornyy 50.23 34 *e*P **P** 13 15 51.1 -0.7
GRNR pmax pmax
comp=Z,52nm,1.0s

AKH Akhalkalaki 50.73 312 *e*P **P** 13 15 56.6 +0.7
comp=Z,42nm,0.9s
AKH Akhalkalaki 50.73 312 *e*P **P** 13 15 56.6 +0.7
AKH pmax pmax
comp=Z,42nm,0.9s
ZEI Tsey 50.86 314 *e*P **P** 13 15 53.0 -3.9
ZEI pmax pmax
comp=Z,34nm,0.8s
ERM Erimo 50.95 47⇓*e*P **P** 13 15 57.7 +0.4
ERM pmax pmax
comp=Z,7.0nm,0.5s
MUN Mundaring 51.05 155 P **P** 13 15 58.1 0.0
baz=51,SNR=46
ASAJ Asahikawa 51.22 44 P **P** 13 15 59.5 +0.1
comp=Z,6.3nm,0.5s,baz=242,slow=1.3,SNR=19
ASAJ Asahikawa 51.22 44 *e*P **P** 13 15 59.0 -0.3
comp=Z,15nm,0.9s
NCK Nalchik 51.30 315⇓*e*P **P** 13 16 01.2 +1.3
NCK pmax pmax
comp=Z,15nm,0.3s
KLBR Kellerberrin 51.38 153 P **P** 13 16 00.6 +0.1
baz=51,SNR=10
NEY Neytrino 51.82 314⇓*e*P **P** 13 16 06.2 +2.1
NEY pmax pmax
comp=Z,9.0nm,1.6s
KBZ Khabaz 51.85 315 P **P** 13 16 05.0 +1.0
comp=Z,8.3nm,0.9s,baz=126,slow=7.3,SNR=25
KBZ pP **pP** 13 16 17.8 +1.9
comp=Z,7.8nm,0.7s,baz=116,slow=10,SNR=8.2
WRKA Warakurna 51.95 139 P **P** 13 16 04.6 -0.5
baz=52,SNR=21
KIV Kislovodsk 52.07 315 *e*P **P** 13 16 05.1 -0.7
comp=Z,63nm,0.9s
KIV Kislovodsk 52.07 315 P **P** 13 16 07.0 +1.2
SNR=22
KIV Kislovodsk 52.07 315 P **P** 13 16 07.0 +1.2
SNR=22
KIV Kislovodsk 52.07 315 *i* P **P** 13 16 06.8 +1.0
SNR=7.9
KIV Kislovodsk 52.07 315 *e*P **P** 13 16 06.5 +0.7
KIV pmax pmax
comp=Z,82nm,1.1s
KIV MLR MLR
comp=Z,335nm,16.0s
GOF Gofitskoye 52.18 316⇑*e*P **P** 13 16 07.2 +0.7
GOF pmax pmax
comp=Z,55nm,1.0s
NWAO Narrogin (SRO) 52.30 154 P **P** 13 16 07.0 -0.4
comp=Z,62nm,0.8s,baz=202,slow=6.7,SNR=31
NWAO LR LR 13 40 38.5
comp=Z,276nm,18.4s,baz=195,slow=39
NWAO Narrogin (SRO) 52.30 154 P **P** 13 16 07.1 -0.4
baz=52,SNR=11
NWAO P P 13 16 07.1 -0.4
baz=52,SNR=11
NWAO Narrogin (SRO) 52.30 154 *e*P **P** 13 16 06.5 -1.0
comp=Z,75nm,0.9s
YSS Yuzh-Sakhalins 52.32 41 *e*P **P** 13 16 06.7 -0.8
comp=Z,47nm,0.9s
YSS Yuzh-Sakhalins 52.32 41 *e*P **P** 13 16 07.7 +0.2
YSS *e* 13 16 18.0
YSS pmax pmax
comp=Z,40nm,0.8s
YSS MLR MLR
comp=Z,500nm,14.0s
WRA Warramunga Arr 52.84 129 P **P** 13 16 10.8 -1.0
comp=Z,20nm,0.7s,baz=314,slow=8.0,SNR=157
WRA PcP **PcP** 13 17 20.9 +0.2
comp=Z,6.1nm,0.4s,baz=323,slow=3.3,SNR=12
WRA ScP **ScP** 13 21 12.5 -2.4
comp=Z,1.4nm,0.9s,baz=314,slow=3.9,SNR=3.4
WRAB Tennant Creek 52.84 129 *e*P **P** 13 16 10.4 -1.3
comp=Z,24nm,0.6s
WRAB Tennant Creek 52.84 129*c i*P **P** 13 16 10.6 -1.1
WRAB pmax pmax
comp=Z,37nm,1.0s
WB2 Warramunga Arr 52.85 129 *e*P **P** 13 16 10.6 -1.2
KMBL Kambalda 53.12 149 P **P** 13 16 13.3 -0.2
baz=53,SNR=5.5
YUK Yuzh-Kuril'sk 53.44 45 *e*P **P** 13 16 14.6 -1.1
YUK *e* 13 18 15.2
YUK *e*PPP PPP 13 19 18.3
YUK *e*S **S** 13 23 42.4 -2.8
YUK *e*SS **SS** 13 27 26.4 +0.7
YUK MLR MLR
comp=Z,203nm,15.0s
RKGY Rocky Gully 53.66 156 P **P** 13 16 17.7 +0.3
baz=53,SNR=5.6
NKL Nikolayevsk 53.69 33 *e*P **P** 13 16 17.0 -0.4
NKL pmax pmax
comp=E,30nm,1.0s
NKL pmax pmax
comp=Z,43nm,1.0s
TYV Tymovskoe 53.79 37 *e*P **P** 13 16 19.1 +0.9
TYV pmax pmax
comp=Z,17nm,1.3s
SOC Sochi 54.02 314 *i* P **P** 13 16 19.1 -0.9
SOC *e**PP **pP** 13 16 31.3 -0.7
SOC *e* 13 18 22.9
SOC *e*PPP PPP 13 19 32.5
SOC *e*S **S** 13 23 54.6 +1.4
SOC pmax pmax
comp=Z,11nm,0.5s
ASF Jabal al Asfar 54.16 299 LR LR 13 42 50.8
comp=Z,341nm,20.6s,baz=52,slow=40
YAK Yakutsk 54.17 20 P **P** 13 16 20.2 -0.6
comp=Z,6.5nm,0.3s,baz=289,slow=2.1,SNR=7.3
YAK pP **pP** 13 16 32.3 -0.4
comp=Z,60nm,0.6s,baz=56,slow=0.1,SNR=12
YAK Yakutsk 54.17 20 *e*P **P** 13 16 19.5 -1.3
comp=Z,79nm,0.7s
YAK pP **pP** 13 16 32.3 -0.4
YAK Yakutsk 54.17 20 *e*P **P** 13 16 19.1 -1.7
YAK *e**PP **pP** 13 16 31.6 -1.2
YAK *e* 13 17 20.7
YAK *e* 13 18 18.0
YAK *e*PPP PPP 13 19 30.4
YAK *e*S **S** 13 23 53.7 -0.9
YAK *e**SS **pS** 13 24 11.2 +2.6
YAK *e* 13 26 02.8
YAK *e*SS **SS** 13 27 39.3 +2.7
YAK pmax pmax
comp=Z,13nm,0.9s
YAK pmax pmax
comp=N,6.0nm,1.5s
YAK pmax pmax
comp=E,8.0nm,1.1s
YAK pmax pmax
comp=Z,75nm,3.5s
YAK pmax pmax
comp=N,32nm,2.7s
YAK pmax pmax
comp=E,23nm,2.8s
YAK smax smax
comp=N,67nm,4.2s
YAK smax smax
comp=E,52nm,4.2s
AS31 Alice Springs 54.82 133 *e*P **P** 13 16 25.2 -1.0
comp=E,4.7nm,0.5s
ASAR Alice Springs 54.82 133 P **P** 13 16 25.4 -0.8
comp=E,13nm,0.5s,baz=311,slow=7.4,SNR=354
ASAR PcP **PcP** 13 17 28.6 +0.5
comp=E,8.0nm,0.8s,baz=318,slow=6.1,SNR=4.5
ASAR ScP **ScP** 13 21 22.4 -1.1
comp=E,0.9nm,0.7s,baz=313,slow=4.4,SNR=3.2
ASAR LR LR 13 43 43.8
comp=E,184nm,18.4s,baz=312,slow=40
AS01 Alice Springs 54.85 133 *e*P **P** 13 16 25.2 -1.2
VRH Novokhopyorsk 55.21 323 *e*P **P** 13 16 28.1 -0.4
VRH *e**SP **pP** 13 16 40.5 0.0
VRH pmax pmax
comp=Z,50nm,1.6s
MMAI Mount Meron Ar 55.49 300 P **P** 13 16 31.7 +0.7
comp=Z,1.0nm,0.5s,baz=100,slow=7.9,SNR=5.1
MMAI pP **pP** 13 16 43.0 0.0
comp=Z,0.7nm,0.3s,baz=206,slow=9.3,SNR=1.9
MMAI LR LR 13 43 44.7
comp=Z,404nm,19.8s,baz=95,slow=40
ANN Anapa 55.92 315 *e*P P 13 16 42.9 +9.2
ANN *e* 13 18 46.3
ANN *e*PPP PPP 13 19 54.8
ANN pmax pmax
comp=Z,18nm,1.1s
ANN MLR MLR
comp=N,251nm,18.0s
ANN MLR MLR

ANN MLR MLR
comp=E,539nm,18.0s

FORT Forrest 55.97 144 P **P** 13 16 34.7 +0.5
baz=56,SNR=14

FORT Forrest 55.97 144 *e*P **P** 13 16 33.8 -0.4
comp=Z,857nm,0.8s

OPO Ambohidratompo 56.00 236 P **P** 13 16 36.3 +1.4
comp=Z,24nm,0.5s,baz=65,slow=5.3,SNR=60

ABPO Ambohimpanom 56.21 235 *e*P **P** 13 16 37.6 +1.3
comp=Z,57nm,1.1s

ABPO Ambohimpanom 56.21 235 *e*P **P** 13 16 37.6 +1.3
ABPO pmax pmax
comp=Z,57nm,1.1s

COEN Coen 56.83 118 P **P** 13 16 40.6 0.0
baz=56,SNR=22

QIS Mount Isa 57.23 126 P **P** 13 16 43.2 -0.2
baz=57,SNR=14

LPSR Galich'ya Gora 57.33 324 *e*P **P** 13 16 43.2 -0.4
LPSR *e**SP **pP** 13 16 56.0 +0.3
LPSR pmax pmax
comp=Z,20nm,0.7s

BR131 Keskin Array S 57.69 308 *e*P **P** 13 16 46.0 -0.6
BR131 Keskin Array S 57.69 308 P **P** 13 16 46.4 -0.2
SNR=23

BRTR Keskin Array B 57.69 308 P **P** 13 16 46.1 -0.4
comp=Z,11nm,0.9s,baz=120,slow=7.3,SNR=57

BRTR pP **pP** 13 16 58.2 -0.4
comp=Z,24nm,1.0s,baz=128,slow=4.5,SNR=18

BRTR LR LR 13 44 56.9
comp=Z,238nm,20.1s,baz=104,slow=39

ILGA Ilgaz 57.83 310 *e*P **P** 13 16 47.9 +0.2
comp=Z,41nm,1.0s

SIM Simferopol' 58.25 314 *ce*P **P** 13 16 51.0 +0.8
SIM *e**PP **pP** 13 17 04.0 +1.7
SIM *e*S **S** 13 24 50.4 +1.1

ANTO Ankara 58.35 308 P **P** 13 16 49.3 -1.8
comp=Z,58nm,1.0s

ANTO Ankara 58.35 308 P **P** 13 16 51.9 +0.7
SNR=14

ANTO Ankara 58.35 308 P **P** 13 16 51.9 +0.7
SNR=14

ANTO Ankara 58.35 308 P **P** 13 16 49.3 -1.8
ANTO pmax pmax
comp=Z,58nm,1.0s

PMG Port Moresby 58.41 111 P **P** 13 16 52.0 +0.3
comp=Z,19nm,1.0s,baz=318,slow=11,SNR=3.6

PMG LR LR 13 46 50.1
comp=Z,83nm,20.5s,baz=272,slow=41

PMG Port Moresby 58.41 111 *e*P **P** 13 16 51.6 -0.2
PMG Port Moresby 58.41 111 P **P** 13 16 52.0 +0.3
PMG pmax pmax
comp=Z,11nm,0.7s

PMG MLR MLR
comp=Z,83nm,20.5s

MOS Moscow 59.17 327 *e*P **P** 13 16 54.9 -1.5
MOS *e* 13 17 04.9
MOS *e*S **S** 13 24 56.4 -4.5
MOS pmax pmax
comp=Z,58nm,1.2s

OBN Obninsk 59.51 326 *e*P **P** 13 16 57.7 -1.1
comp=Z,39nm,1.0s

OBN Obninsk 59.51 326 *ce*P **P** 13 16 58.3 -0.5
OBN *i* 13 17 11.0
OBN *e* 13 17 46.9
OBN *e* 13 19 11.2
OBN *e*S **S** 13 25 07.8 +2.5
OBN *e*SS **SS** 13 29 05.3 +4.4
OBN pmax pmax
comp=Z,57nm,1.7s

OBN MLR MLR
comp=Z,375nm,18.0s

MTSU Mount Surprise 59.77 121 P **P** 13 17 01.9 +0.7
baz=59,SNR=5.5

ISP Isparta 59.89 306 *ce*P **P** 13 17 00.9 -0.9
ISP pmax pmax
comp=Z,15nm,1.1s

KLMR Klimovskoe 60.30 333 *e*P **P** 13 17 01.1 -3.0
KLMR AMP 13 17 17.7
comp=Z,87nm,1.2s

KLMR *e*PP **PP** 13 19 15.0 -2.2
KLMR LQ LQ 13 39 13.2
KLMR LQ LQ 13 39 13.2
KLMR LR LR 13 43 35.0

KLMR Klimovskoe 60.30 333 *e*P **P** 13 17 01.1 -3.0
KLMR *e* 13 19 14.9
KLMR pmax pmax
comp=Z,87nm,1.2s

TIXI Tiksi 61.08 12 P **P** 13 17 08.2 -1.0
comp=Z,5.6nm,0.4s,baz=212,slow=4.0,SNR=35

TIXI pP **pP** 13 17 20.8 -0.5
comp=Z,27nm,0.8s,baz=227,slow=4.0,SNR=18

TIXI Tiksi 61.08 12 *e*P **P** 13 17 07.6 -1.6
comp=Z,78nm,1.3s

TIXI pP **pP** 13 17 20.8 -0.5
TIXI Tiksi 61.08 12 *d*/P **P** 13 17 08.0 -1.2
MA2 Magadan 61.48 29 P **P** 13 17 11.4 -0.7
comp=Z,9.1nm,0.9s,baz=243,slow=6.8,SNR=3.9

MA2 pP **pP** 13 17 24.3 0.0
comp=Z,18nm,0.8s,baz=251,slow=7.9,SNR=7.8

MANT Manisa 61.48 306 *e*P **P** 13 17 11.7 -1.1
comp=Z,80nm,1.1s

TLCR 61.99 314 ⇓*i*P **P** 13 17 16.0 +0.2
TIRR Tirgusor 62.18 313 ⇑*i*P **P** 13 17 16.2 -0.9
TIRR Tirgusor 62.18 313 *e*P **P** 13 17 16.7 -0.4
comp=Z,11nm,0.8s

TIRR Tirgusor 62.18 313 *e*P **P** 13 17 16.7 -0.4
TIRR pmax pmax
comp=Z,11nm,0.8s

BBOO Buckleboo 62.22 140 P **P** 13 17 17.6 +0.1
baz=62,SNR=12

BBOO Buckleboo 62.22 140 *e*P **P** 13 17 16.5 -0.9
comp=Z,38nm,1.2s

CTA Charters Tower 62.32 122 P **P** 13 17 18.1 -0.3
comp=Z,12nm,0.9s,baz=320,slow=7.9,SNR=5.0

TMCR Tamitsa 62.38 336 *e*P P 13 17 30.7 +13
TMCR pmax pmax
comp=Z,67nm,0.9s

KARP Karpathos 62.45 303 *e*P **P** 13 17 18.6 -0.6
comp=Z,38nm,0.9s

TLB Topalu 62.46 313 *i*P **P** 13 17 19.2 +0.2
TLB Topalu 62.46 313 P **P** 13 17 19.2 +0.2
CFR Carcaliu 62.47 314 ⇑*i*P **P** 13 17 19.3 +0.3
CFR Carcaliu 62.47 314 P **P** 13 17 19.3 +0.3
CFR pmax pmax
comp=Z,17nm,0.8s

ICOR Ion Corvin 62.57 312 ⇑*i*P **P** 13 17 19.0 -0.8
AKASG Malin Array Be 62.63 320 P **P** 13 17 18.7 -1.2
comp=Z,1.3nm,0.5s,baz=86,slow=4.7,SNR=18

AKASG pP **pP** 13 17 31.8 -0.4
comp=Z,6.9nm,0.9s,baz=83,slow=4.4,SNR=6.3

AKASG LR LR 13 48 31.4
comp=Z,534nm,21.1s,baz=95,slow=40

AKBB Malin Array Si 62.63 320 *e*P **P** 13 17 18.7 -1.3
comp=Z,62nm,1.8s

AKBB Malin Array Si 62.63 320 *e*P **P** 13 17 18.7 -1.3
AKBB pmax pmax
comp=Z,62nm,1.8s

KIEV Kiev 62.63 320 *e*P **P** 13 17 18.7 -1.3
comp=Z,60nm,1.8s

KIEV Kiev 62.63 320 ⇑*e*P **P** 13 17 18.9 -1.1
KIEV pmax pmax
comp=Z,18nm,1.2s

AK11 Malin Array Si 62.66 320 *e*P **P** 13 17 18.8 -1.4
SORM Soroca 62.74 317 ⇑*i*P **P** 13 17 20.4 -0.4
SORM Soroca 62.74 317 P **P** 13 17 20.4 -0.4
PETK Petropavlovsk- 63.31 37 P **P** 13 17 23.4 -1.1
comp=Z,7.5nm,1.0s,baz=246,slow=1.6,SNR=7.1

PETK LR LR 13 48 23.8
comp=Z,232nm,18.4s,baz=243,slow=39

PETK Petropavlovsk- 63.31 37 *e*P **P** 13 17 22.1 -2.4
SEY Seymchan 63.44 26 P **P** 13 17 24.2 -0.9
comp=Z,1.3nm,0.6s,baz=81,slow=20,SNR=6.1

SEY Seymchan 63.44 26 ⇑*e*P **P** 13 17 24.0 -1.2
VRI Vrincioaia 63.53 314 ⇓*i*P **P** 13 17 26.8 +0.7
VRI Vrincioaia 63.53 314 P **P** 13 17 27.3 +1.2
VRI pmax pmax
comp=Z,363nm,1.1s

ALN Alexandroupoli 63.58 309 P **P** 13 17 26.4 -0.1
ALN pmax pmax
comp=Z,14nm,1.3s

PLOR Plostina 63.58 314 ⇑*i*P **P** 13 17 27.6 +1.0
PLOR Plostina 63.58 314 P **P** 13 17 27.5 +1.0
MBAR Mbarara 63.64 262 *e*P **P** 13 17 26.1 -1.5
comp=Z,36nm,1.3s

MBAR Mbarara 63.64 262 *e*P **P** 13 17 26.1 -1.5
MBAR pmax pmax
comp=Z,36nm,1.3s

TESR Tescani 63.66 315 ⇑*i*P **P** 13 17 26.3 -0.7
MLR Muntele Rosu 64.04 314 LR LR 13 50 16.9
comp=Z,75nm,19.4s,baz=100,slow=40

MLR Muntele Rosu 64.04 314 ⇑*i*P **P** 13 17 30.0 +0.3
MLR Muntele Rosu 64.04 314 *e*P **P** 13 17 29.9 +0.3
comp=Z,54nm,1.1s

MLR Muntele Rosu 64.04 314 *e*P **P** 13 17 29.9 +0.3
MLR pmax pmax
comp=Z,54nm,1.1s

QLP Quilpie 64.08 129 P **P** 13 17 30.8 +0.8
baz=64,SNR=13

MICGM Minsk 64.18 324 *e*P P 13 17 42.0 +12
MNK Minsk 64.18 324 *e*P P 13 17 42.0 +12
IDI Anoyia 64.30 302 LR LR 13 50 35.2
comp=Z,116nm,21.8s,baz=96,slow=41

IDI Anoyia 64.30 302 ⇓*i*P **P** 13 17 31.5 0.0
IDI Anoyia 64.30 302 *e*P **P** 13 17 30.8 -0.7
comp=Z,18nm,0.7s

HTT Hallett 64.44 139 P **P** 13 17 32.3 +0.1
baz=64,SNR=6.5

DOPR Dopca 64.47 314 ⇓*i*P **P** 13 17 33.2 +0.9
JOF Joensuu 64.68 333 P **P** 13 17 34.2 +0.9
JOF pmax pmax
comp=Z,78nm,0.9s

BURAR Bucovina Array 64.76 316 ⇓*i*P **P** 13 17 34.2 -0.1
BURAR Bucovina Array 64.76 316 P **P** 13 17 34.2 -0.1
BUR04 Bucovina Ar. S 64.77 316 *e*P **P** 13 17 34.2 -0.1
BUR08 Bucovina Ar. S 64.78 316 *e*P **P** 13 17 33.8 -0.6
NACGM Naroch 64.89 324 *e* **P** 13 17 34.0 -0.8
ARR Arges 64.94 314 ⇓*i*P **P** 13 17 34.6 -0.9
IDID Didziasalis 64.99 325 *e*P **P** 13 17 35.6 +0.1
IDID IAmb IAmb 13 17 50.1
comp=Z,24nm,1.0s

LVZ Lovozero 65.22 339 *e*P **P** 13 17 34.6 -2.2
comp=Z,63nm,1.1s

LVZ Lovozero 65.22 339 *e*P **P** 13 17 34.6 -2.2
LVZ pmax pmax
comp=Z,63nm,1.1s

STKA Stephens Creek 65.24 136 P **P** 13 17 37.5 +0.1
comp=Z,12nm,0.7s,baz=306,slow=6.6,SNR=20

STKA LR LR 13 49 25.9
comp=Z,323nm,19.4s,baz=298,slow=39

STKA Stephens Creek 65.24 136 P **P** 13 17 37.5 +0.1
baz=65,SNR=13

STKA Stephens Creek 65.24 136 *e*P **P** 13 17 37.6 +0.1
comp=Z,2.6nm,0.8s

STKA Stephens Creek 65.24 136 *e*P **P** 13 17 37.6 +0.1
STKA pmax pmax
comp=Z,3.0nm,0.8s

IIGN Ignalina 65.29 325 *e*P **P** 13 17 37.5 +0.1
IIGN IAmb IAmb 13 17 52.1
comp=Z,26nm,1.0s

PAIG Paliouri 65.34 308 P **P** 13 17 39.0 +1.0
PAIG pmax pmax
comp=Z,51nm,1.1s

IZAR Zarasai 65.35 325 *e*P **P** 13 17 37.9 +0.1
IZAR IAmb IAmb 13 17 52.4
comp=Z,29nm,1.0s

SRS Serrai 65.45 309 P **P** 13 17 38.7 0.0
SRS pmax pmax
comp=Z,13nm,1.5s

APA Apatity 65.52 339 ⇓*i*P **P** 13 17 38.2 -0.5
APA MLR MLR
comp=Z,2µm,16.0s

LOT Lotru 65.56 314 ⇓*i*P **P** 13 17 38.8 -0.7
SOH Sokhos 65.62 308 P **P** 13 17 39.2 -0.7
SOH pmax pmax
comp=Z,8.0nm,0.9s

LVV L'vov 65.79 318 *e*P **P** 13 17 41.0 +0.3
VTS Vitosha 65.79 310 ⇓*i*P **P** 13 17 39.7 -1.4
VTS Vitosha 65.79 310 *e*P **P** 13 17 37.9 -3.2
comp=Z,11nm,0.9s

VTS Vitosha 65.79 310 *e*P **P** 13 17 37.9 -3.2
VTS pmax pmax
comp=Z,11nm,0.9s

LIT Litokhoron 66.26 308 *e*P **P** 13 17 43.0 -1.0
comp=Z,31nm,1.1s

LIT Litokhoron 66.26 308 *e*P **P** 13 17 43.0 -1.0
LIT pmax pmax
comp=Z,31nm,1.1s

GRG Griva 66.34 309 *e*P **P** 13 17 44.0 -0.5
GRG pmax pmax
comp=Z,30nm,1.2s

AGG Agios Georgios 66.37 307 *e*P **P** 13 17 42.9 -1.8
comp=Z,36nm,0.8s

AGG Agios Georgios 66.37 307 *e*P **P** 13 17 42.9 -1.8
AGG pmax pmax
comp=Z,36nm,0.8s

HERR Herculane 66.48 313 ⇑*i*P **P** 13 17 45.8 +0.5
MSF Maaselka 66.57 336 *e*P **P** 13 17 45.5 +0.1
MSF pmax pmax
comp=Z,59nm,1.0s

TRPA Tarpa 66.60 316 ⇑*i*P **P** 13 17 46.7 +0.7
KWP Kalwaria Pacla 66.62 318 *e*P **P** 13 17 45.6 -0.5
comp=Z,362nm,0.9s

KWP Kalwaria Pacla 66.62 318 *e*P **P** 13 17 45.6 -0.5
KWP pmax pmax
comp=Z,362nm,0.9s

FIA1 FINESS Array S 66.63 331 *e*P **P** 13 17 45.3 -0.6
FINES FINESS Array B 66.63 331 P **P** 13 17 45.5 -0.4
comp=Z,7.2nm,0.5s,baz=95,slow=5.7,SNR=66

FINES pP **pP** 13 17 58.3 +0.1
comp=Z,38nm,0.9s,baz=101,slow=8.0,SNR=22

FINES LR LR 13 50 05.1
comp=Z,417nm,19.0s,baz=98,slow=39

UZH Uzhgorod 66.81 317 *e*P **P** 13 17 50.5 +3.2
UZH *i* 13 18 00.9
SUW Suwalki 66.82 323 *e*P **P** 13 17 47.1 -0.1
SUW Suwalki 66.82 323 *e*P **P** 13 17 46.5 -0.7
comp=Z,98nm,0.9s

SUW Suwalki 66.82 323 *e*P **P** 13 17 47.1 -0.1
SIRR Siria 67.08 314 ⇑*i*P **P** 13 17 49.9 +0.8
FNA Florina 67.12 308 P **P** 13 17 48.8 -0.7
FNA pmax pmax
comp=Z,18nm,1.0s

CRVS Cervenica-Dubn 67.38 317 *e*P **P** 13 17 51.5 +0.6
CRVS *es*P **pP** 13 18 04.9 +1.7
CRVS Cervenica-Dubn 67.38 317 *e*P **P** 13 17 51.5 +0.6
CRVS *e* 13 18 05.0
CRVS pmax pmax
comp=Z,36nm,1.1s

RMQ Roma 67.48 127 P **P** 13 17 53.5 +1.7
baz=67,SNR=12

STHS Stebnicka Huta 67.56 318 *e*P **P** 13 17 51.7 -0.4
STHS *ep*P **pP** 13 18 03.1 -1.3
STHS Stebnicka Huta 67.56 318 *e*P **P** 13 17 51.7 -0.4
STHS *e* 13 18 03.1
STHS pmax pmax
comp=Z,7.0nm,0.8s

CMSA Cobar Meteorol 67.88 133 P **P** 13 17 54.1 -0.2
baz=67,SNR=51

SGF Sodankyl 67.97 338 P **P** 13 17 54.5 +0.2
NIE Niedzica 68.17 318 *e*P **P** 13 17 57.2 +1.3
NIE Niedzica 68.17 318 *e*P **P** 13 17 57.2 +1.3
DIVS Divibare 68.18 312 *e*P **P** 13 17 55.4 -0.8
comp=Z,20nm,1.3s

PSZ Piszkesteto 68.36 316 ⇓*i*P **P** 13 17 57.2 0.0
PSZ Piszkesteto 68.36 316 ⇓*e*P **P** 13 17 57.8 +0.6
PSZ Piszkesteto 68.36 316 *e*P **P** 13 17 56.5 -0.7
comp=Z,20nm,0.9s

PSZ Piszkesteto 68.36 316 *e*P **P** 13 17 56.5 -0.7
PSZ pmax pmax
comp=Z,20nm,0.9s

VAF Ylistaro 68.53 332 P **P** 13 17 58.2 +0.4
OJC Ojcow 68.54 319 *e*P **P** 13 17 58.5 +0.2
OJC Ojcow 68.54 319 *e*P **P** 13 17 56.6 -1.6
comp=Z,25nm,1.0s

OJC Ojcow 68.54 319 *e*P **P** 13 17 58.4 +0.2
LANS Liptovska Anna 68.70 317 *e*P **P** 13 18 00.0 +0.7
LANS *es*P **pP** 13 18 12.8 +1.2
LANS Liptovska Anna 68.70 317 *e*P **P** 13 18 00.0 +0.7
LANS *e* 13 18 12.8
PDG Podgorica 68.71 310 ⇑*i*P **P** 13 17 58.7 -0.7
TTG Podgorica 68.71 310 *e*P **P** 13 17 57.9 -1.5
comp=Z,16nm,1.0s

TTG Podgorica 68.71 310 *e*P **P** 13 17 57.9 -1.5
TTG pmax pmax
comp=Z,16nm,1.0s

ARCES ARCESS Array B 68.92 340 P **P** 13 18 00.5 +0.3
comp=Z,3.2nm,0.5s,baz=91,slow=6.5,SNR=34

ARCES LR LR 13 51 53.1
comp=Z,708nm,19.5s,baz=108,slow=39

VYHS Vyhne 69.09 317 *e*P **P** 13 18 01.9 +0.2
VYHS *es*P **pP** 13 18 14.1 +0.1
VYHS Vyhne 69.09 317 *e*P **P** 13 18 01.9 +0.2
VYHS *e* 13 18 14.1
VYHS pmax pmax
comp=Z,7.0nm,0.9s

MORH M¨‡r¡gy, Hung 69.17 314 ⇑*e*P **P** 13 18 02.0 -0.2
SRO Srobarova 69.42 316 *es*P sP 13 18 17.6 -3.2
OKC Ostrava-Krasne 69.59 318 *e*P **P** 13 18 07.3 +2.6
OKC *ep*P **pP** 13 18 18.1 +1.1
OKC Ostrava-Krasne 69.59 318 *e*P **P** 13 18 07.3 +2.6
OKC *e* 13 18 18.1
MORC Moravsky Berou 69.98 318 ⇑*i*P **P** 13 18 07.3 +0.1
MORC Moravsky Berou 69.98 318 *e*P **P** 13 18 06.8 -0.4
comp=Z,130nm,1.0s

MORC Moravsky Berou 69.98 318 *e*P **P** 13 18 06.8 -0.4
MORC pmax pmax
comp=Z,130nm,1.0s

MODS Modra-Piesok 70.13 317 *es*P sP 13 18 20.2 -5.0
BILL Bilibino 70.41 22 *d*/P **P** 13 18 07.7 -1.7
BILL *i* 13 18 14.3
BILL *i* 13 18 26.5
BILL *i* SS SS 13 31 50.2 +0.3
BILL pmax pmax
comp=Z,7.0nm,1.1s

BILL MLR MLR
comp=Z,402nm,21.0s

KRLC Kraliky 70.47 318 *e*P **P** 13 18 10.7 +0.5
KRLC *ep*P **pP** 13 18 23.6 +1.0
KRLC Kraliky 70.47 318 *e*P **P** 13 18 10.7 +0.5
KRLC *e* 13 18 23.6
VRAC Vranov 70.59 318 ⇑*i*P **P** 13 18 11.3 +0.4
VRAC Vranov 70.59 318 P **P** 13 18 11.3 +0.4
SOP Sopron 70.61 316 P **P** 13 18 11.4 +0.4
SOP pmax pmax
comp=Z,29nm,1.0s

TIP Timpagrande 70.70 307 ⇓*i*P **P** 13 18 11.8 0.0
TIP Timpagrande 70.70 307 *e*P **P** 13 18 11.4 -0.4
comp=Z,44nm,1.7s

DPC Dobruska-Polom 70.77 319 *e*P **P** 13 18 12.9 +0.9
DPC *ep*P **pP** 13 18 25.4 +1.0
DPC Dobruska-Polom 70.77 319 *e*P **P** 13 18 12.9 +0.9
DPC *e* 13 18 25.4
LSZ Lusaka 70.79 248 *e*P **P** 13 18 13.0 +0.3
comp=Z,37nm,0.8s

LSZ Lusaka 70.79 248 P **P** 13 18 15.1 +2.4
SNR=8.3

LSZ Lusaka 70.79 248 P **P** 13 18 15.1 +2.4
SNR=8.3

LSZ Lusaka 70.79 248 *e*P **P** 13 18 13.0 +0.3
LSZ pmax pmax
comp=Z,37nm,0.8s

KSP Ksiaz 70.80 319 *e*P **P** 13 18 12.7 +0.6
KSP Ksiaz 70.80 319 *e*P **P** 13 18 12.7 +0.6
UPC Upice 70.97 319 *e*P **P** 13 18 13.8 +0.6
UPC *ep*P **pP** 13 18 26.1 +0.6
UPC Upice 70.97 319 *e*P **P** 13 18 13.8 +0.6
UPC *e* 13 18 26.1
CONA Conrad Observa 71.08 316 *e*P **P** 13 18 13.0 -1.0
comp=Z,24nm,1.9s

TOO Toolangi 71.20 138 P **P** 13 18 14.6 -0.2
baz=71,SNR=7.1

TOO Toolangi 71.20 138 P **P** 13 18 16.3 +1.6
TOO pmax pmax
comp=Z,20nm,0.9s

TREC Trest 71.31 318 *e*P **P** 13 18 15.9 +0.6
TREC *ep*P **pP** 13 18 28.2 +0.5
TREC Trest 71.31 318 *e*P **P** 13 18 15.9 +0.6
TREC *e* 13 18 28.2
ARSA Arzberg 71.31 315 *e*P **P** 13 18 15.7 +0.3
comp=Z,10nm,1.0s

CUC Castrocucco 71.38 308 *e*P **P** 13 18 15.0 -0.9
comp=Z,23nm,1.3s

BOJS Bojanci 71.55 314 *e*P **P** 13 18 16.8 +0.1
ARMA Armidale 71.62 129 P **P** 13 18 17.7 +0.1
baz=71,SNR=8.2

SOKA Soboth 71.66 315 *e*P **P** 13 18 18.0 +0.4
comp=Z,5.2nm,0.9s

GOPC GO Pecny, Ondr 71.76 318 *e*P **P** 13 18 18.4 +0.4
GOPC *ep*P **pP** 13 18 30.2 -0.2
GOPC GO Pecny, Ondr 71.76 318 *e*P **P** 13 18 18.4 +0.4
GOPC *e* 13 18 30.2
VISS Visnje 71.83 314 *i*P **P** 13 18 18.6 +0.1
PRU Pruhonice 71.92 318 *e*P **P** 13 18 19.6 +0.7
PRU *ep*P **pP** 13 18 31.9 +0.6
PRU AMS AMS 13 53 40.0
comp=Z,400nm,17.0s

PRU Pruhonice 71.92 318 *e*P **P** 13 18 19.6 +0.7
PRU *e* 13 18 31.9
PRU MLR MLR
comp=Z,400nm,17.0s

OBKA Obir 72.00 315 *e*P **P** 13 18 19.5 -0.1
comp=Z,4.2nm,0.6s

MOA Molln 72.15 316 *e*P **P** 13 18 20.2 -0.2
comp=Z,7.1nm,1.1s

BRG Berggiesshubel 72.29 319 *e*P **P** 13 18 21.4 +0.3
comp=Z,5.7nm,0.7s

BRG *ep*P **pP** 13 18 33.8 +0.4
comp=Z,27nm,1.1s

BRG Berggiesshubel 72.29 319 *e*P **P** 13 18 21.4 +0.3
BRG *e**PP **pP** 13 18 33.8 +0.4
BRG pmax pmax
comp=Z,6.0nm,0.7s

JAVS Javornik 72.36 314 *i*P **P** 13 18 21.6 -0.2
HFS Hagfors 72.48 329 P **P** 13 18 21.6 -0.5
comp=Z,6.6nm,0.5s,baz=97,slow=5.8,SNR=60

HFS pP **pP** 13 18 34.3 -0.2
comp=Z,53nm,0.9s,baz=104,slow=6.2,SNR=25

HFS LR LR 13 55 32.8
comp=Z,366nm,18.4s,baz=90,slow=40

GEA0 GERESS Array S 72.50 317 *e*P **P** 13 18 21.9 -0.5
GEC2 GERESS Array S 72.50 317 *e*P **P** 13 18 22.2 -0.3
comp=Z,26nm,0.9s

GEC2 GERESS Array S 72.50 317 *e*P **P** 13 18 22.2 -0.3
GEC2 pmax pmax
comp=Z,26nm,0.9s

GERES GERESS Array B 72.50 317 P **P** 13 18 22.6 +0.1
comp=Z,5.7nm,0.5s,baz=84,slow=6.3,SNR=46

GERES pP **pP** 13 18 35.1 +0.3
comp=Z,17nm,0.8s,baz=81,slow=6.1,SNR=20

GERES LR LR 13 54 59.5
comp=Z,129nm,20.2s,baz=82,slow=40

KHC Kasperske Hory 72.57 317 *e*P **P** 13 18 23.2 +0.4
KHC *ep*P **pP** 13 18 35.0 -0.2
KHC Kasperske Hory 72.57 317 *e*P **P** 13 18 22.4 -0.4
comp=Z,5.3nm,0.9s

KHC Kasperske Hory 72.57 317 *e*P **P** 13 18 23.2 +0.4
KHC *e* 13 18 35.0
MYKA Terra Mystica 72.62 315 *e*P **P** 13 18 23.8 +0.5
comp=Z,5.2nm,1.0s

KBA Koelnbreinsper 72.81 315 *e*P **P** 13 18 24.0 -0.5
comp=Z,2.5nm,0.5s

KBA Koelnbreinsper 72.81 315 P **P** 13 18 24.1 -0.4
KBA pmax pmax
comp=Z,17nm,1.1s

CLL Collm 72.87 320 *e*P **P** 13 18 24.0 -0.5
comp=Z,10.0nm,1.3s

CLL *i* sP **pP** 13 18 37.8 +0.9
comp=Z,20nm,1.0s

CLL *i* PcP **PcP** 13 18 41.2 -0.2
CLL *es* **S** 13 27 48.0 +0.2
CLL *ess* **SS** 13 32 30.0 +1.8
CLL *e* 13 33 30.0
CLL *e* 13 36 18.0
CLL Lm MLR 13 55 00.0
comp=Z,300nm,21.3s

CLL Collm 72.87 320 *e*P **P** 13 18 23.5 -1.0
comp=Z,30nm,1.3s

CLL Collm 72.87 320 *e*P **P** 13 18 24.0 -0.5
CLL *i* 13 18 37.8
CLL pmax pmax
comp=Z,10.0nm,1.3s

CLL MLR MLR
comp=Z,300nm,21.3s

WET Wettzell 73.03 317 P **P** 13 18 26.0 +0.5
WET pmax pmax
comp=Z,23nm,1.1s

SMY Shemya 73.14 39 *e*P **P** 13 18 24.2 -1.8
comp=Z,113nm,1.3s

SMY Shemya 73.14 39 *e*P **P** 13 18 24.2 -1.8
SMY pmax pmax
comp=Z,113nm,1.3s

NKC Novy Kostel 73.26 319 AMS AMS 13 54 30.0
comp=Z,500nm,18.9s

NKC Novy Kostel 73.26 319 P **P** 13 18 27.1 +0.2

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
NKC				pmax	pmax		
	comp=Z,7.0nm,1.1s						
SPA0	**Spitsbergen Ar**	**73.35**	**348**	*e*P	**P**	**13 18 27.0**	**+0.2**
SPITS	**Spitsbergen Ar**	**73.35**	**348**	P	**P**	**13 18 27.1**	**+0.2**
	comp=Z,5.0nm,0.6s,baz=86,slow=5.9,SNR=9.7						
SPITS				pP	**pP**	**13 18 39.2**	**-0.1**
	comp=Z,42nm,0.9s,baz=92,slow=8.7,SNR=8.7						
SPITS				LR	LR	13 59 39.4	
	comp=Z,621nm,18.5s,baz=140,slow=43						
NC405	**NORSAR Array S**	**73.47**	**330**	*e*P	**P**	**13 18 25.7**	**-2.2**
NC602	**NORSAR Array S**	**73.56**	**330**	*e*P	**P**	**13 18 27.4**	**-0.9**
NC303	**NORSAR Array S**	**73.64**	**330**	*e*P	**P**	**13 18 27.6**	**-1.2**
NC303				*e*pP	**pP**	**13 18 41.1**	**-0.1**
NB201	**NORSAR Array S**	**73.67**	**330**	*e*P	**P**	**13 18 27.4**	**-1.7**
NB201				*e*pP	**pP**	**13 18 41.3**	**-0.3**
NB2	**NORSAR Subarra**	**73.71**	**330**	P	**P**	**13 18 28.8**	**-0.6**
	comp=Z,47nm,1.1s,baz=90,slow=5.9						
NB2	**NORSAR Subarra**	**73.71**	**330**	P	**P**	**13 18 28.8**	**-0.6**
	baz=90,slow=5.9						
NOA	**NORSAR Array B**	**73.71**	**330**	P	**P**	**13 18 28.5**	**-0.9**
	comp=Z,3.0nm,0.5s,baz=89,slow=5.8,SNR=24						
NOA				pP	**pP**	**13 18 41.2**	**-0.6**
	comp=Z,22nm,0.9s,baz=89,slow=5.9,SNR=27						
NOA				LR	LR	13 56 14.8	
	comp=Z,246nm,19.3s,baz=105,slow=40						
MOX	**Moxa**	**73.77**	**319**	P	**P**	**13 18 31.9**	**+2.0**
MOX				pmax	pmax		
	comp=Z,21nm,1.1s						
NAO01	**NORSAR Array S**	**73.88**	**330**	*e*P	**P**	**13 18 29.8**	**-0.4**
NBO02	**NORSAR Array S**	**73.89**	**330**	*e*P	**P**	**13 18 29.1**	**-1.3**
NBO02				*e*pP	**pP**	**13 18 41.2**	**-1.6**
NBO00	**NORSAR Array S**	**73.93**	**330**	*e*P	**P**	**13 18 28.9**	**-1.6**
NBO00				*e*pP	**pP**	**13 18 43.9**	**+0.9**
NC204	**NORSAR Array S**	**73.93**	**330**	*e*P	**P**	**13 18 29.9**	**-0.8**
NC204				*e*pP	**pP**	**13 18 42.9**	**-0.2**
WTTA	**Wattenberg**	**73.96**	**315**	*e*P	**P**	**13 18 30.6**	**-0.6**
	comp=Z,6.0nm,0.6s						
MOTA	**Moosalm**	**74.31**	**316**	*e*P	**P**	**13 18 32.4**	**-0.9**
RETA	**Reutte**	**74.53**	**316**	*e*P	**P**	**13 18 34.0**	**-0.4**
	comp=Z,6.2nm,0.5s						
KONO	**Kongsberg**	**74.54**	**328**	*e*P	**P**	**13 18 32.8**	**-1.3**
	comp=Z,34nm,1.1s						
KONO	**Kongsberg**	**74.54**	**328**	*e*P	**P**	**13 18 32.8**	**-1.3**
KONO				pmax	pmax		
	comp=Z,34nm,1.1s						
FETA	**Feichten**	**74.59**	**315**	*e*P	**P**	**13 18 34.5**	**-0.4**
	comp=Z,4.9nm,0.9s						
FUORN	**Ofenpass-Fuorn**	**74.95**	**315**	*e*P	**P**	**13 18 36.6**	**-0.5**
	comp=Z,14nm,1.0s						
DAVA	**Damuels**	**75.15**	**316**	*e*P	**P**	**13 18 38.2**	**0.0**
TUE	**Stuetta**	**75.59**	**315**	*e*P	**P**	**13 18 40.0**	**-0.8**
	comp=Z,62nm,1.8s						
LBTB	**Lobatse**	**76.71**	**240**	*e*P	**P**	**13 18 48.1**	**+0.8**
	comp=Z,38nm,1.1s						
LBTB	**Lobatse**	**76.71**	**240**	*e*P	**P**	**13 18 48.1**	**+0.8**
LBTB				pmax	pmax		
	comp=Z,38nm,1.1s						
KEST	**Kesra**	**76.91**	**304**	P	**P**	**13 18 48.2**	**0.0**
	comp=Z,2.5nm,0.5s,baz=117,slow=2.3,SNR=3.3						
KEST				LR	LR	14 00 02.1	
	comp=Z,80nm,18.2s,baz=228,slow=41						
SENIN	**Lac Senin/Sane**	**77.01**	**315**	*e*P	**P**	**13 18 48.8**	**0.0**
	comp=Z,33nm,1.3s						
MEM	**Membach**	**77.33**	**319**	⇓AP	pP	13 19 03.9	+1.1
WLF	**Walferdange**	**77.36**	**318**	⇓AP	pP	13 19 04.0	+1.1
	comp=Z,17nm,1.6s						
ISO	**Isola**	**77.47**	**313**	P	**P**	**13 18 51.2**	**-0.1**
ISO				pmax	pmax		
	comp=Z,23nm,1.2s						
BNI	**Bardonecchia**	**77.61**	**314**	*e*P	**P**	**13 18 52.0**	**-0.1**
	comp=Z,49nm,1.3s						
BNI	**Bardonecchia**	**77.61**	**314**	*e*P	**P**	**13 18 52.0**	**-0.1**
BNI				pmax	pmax		
	comp=Z,49nm,1.3s						
DOU	**Dourbes**	**78.30**	**319**	⇑P	**P**	**13 18 59.7**	**+4.1**
BOSA	**Boshof**	**78.40**	**236**	P	**P**	**13 18 57.7**	**+1.0**
	comp=Z,38nm,0.6s,baz=70,slow=4.1,SNR=95						
BOSA				pP	**pP**	**13 19 10.8**	**+1.6**
	comp=Z,23nm,0.7s,baz=72,slow=6.8,SNR=9.5						
BOSA				LR	LR	13 47 52.3	
	comp=Z,198nm,21.0s,baz=42,slow=31						
BOSA	**Boshof**	**78.40**	**236**	*e*P	**P**	**13 18 57.5**	**+0.8**
	comp=Z,45nm,0.8s						
BOSA				pP	**pP**	**13 19 10.8**	**+1.6**
SNF	**Seneffe**	**78.44**	**319**	⇑P	**P**	**13 18 55.2**	**-1.1**
SSB	**Saint Sauveur**	**79.08**	**314**	*e*P	**P**	**13 18 58.1**	**-2.0**
	comp=Z,19nm,1.0s						
SSB				*e*pP	**pP**	**13 19 13.0**	**+0.4**
SSB	**Saint Sauveur**	**79.08**	**314**	*e*P	**P**	**13 18 58.1**	**-2.0**
SSB				*e**PP	**pP**	**13 19 13.0**	**+0.4**
SSB				pmax	pmax		
	comp=Z,19nm,1.0s						
DZM	**Mont Dzumac**	**80.30**	**116**	*e*P	**P**	**13 19 10.9**	**+3.8**
	comp=Z,23nm,1.1s						
DZM	**Mont Dzumac**	**80.30**	**116**	*e*LR	LR	13 44 08.7	
	comp=Z,290nm,26.0s						
DAG	**Danmarks Havn**	**80.99**	**348**	*i* P	**P**	**13 19 10.4**	**+0.7**
DAG				*i*		13 19 21.5	
DAG	**Danmarks Havn**	**80.99**	**348**	*e*P	**P**	**13 19 10.4**	**+0.7**
DAG				*i*		13 19 21.5	
CASY	**Casey**	**81.44**	**173**	*e*P	**P**	**13 19 11.8**	**-0.3**
	comp=Z,24nm,1.2s						
TSUM	**Tsumeb**	**81.64**	**248**	*e*P	**P**	**13 19 15.7**	**+1.3**
	comp=Z,6.9nm,0.9s						
EKA	**Eskdalemuir Ar**	**81.94**	**325**	P	**P**	**13 19 15.0**	**-0.2**
	comp=Z,2.4nm,0.6s,baz=88,slow=5.9,SNR=11						
EKA				pP	**pP**	**13 19 28.4**	**+0.6**
	comp=Z,22nm,0.9s,baz=79,slow=6.4,SNR=18						
EKA				LR	LR	14 02 38.1	
	comp=Z,181nm,18.3s,baz=60,slow=41						
ESK	**Eskdalemuir**	**81.97**	**325**	*e*P	**P**	**13 19 15.5**	**+0.2**
	comp=Z,37nm,1.0s						
ESK	**Eskdalemuir**	**81.97**	**325**	*e*P	**P**	**13 19 15.5**	**+0.2**
ESK				pmax	pmax		
	comp=Z,37nm,1.0s						
TAM	**Tamanrasset**	**82.55**	**292**	P	**P**	**13 19 20.6**	**+1.4**
TAM				pmax	pmax		
	comp=Z,7.0nm,1.0s						
WIN	**Windhoek**	**83.13**	**245**	P	**P**	**13 19 24.4**	**+2.2**
WIN				pmax	pmax		
	comp=Z,42nm,2.7s						
SCO	**Scoresbysund**	**84.64**	**342**	*i* P	**P**	**13 19 29.4**	**+0.6**
SCO				*i*		13 19 40.6	
SCO	**Scoresbysund**	**84.64**	**342**	*e*P	**P**	**13 19 29.6**	**+0.9**
	comp=Z,19nm,1.1s						
SCO				*e*pP	**pP**	**13 19 42.2**	**+0.8**
SCO	**Scoresbysund**	**84.64**	**342**	*e*P	**P**	**13 19 29.7**	**+0.9**
SCO				*e**PP	**pP**	**13 19 42.2**	**+0.8**
SCO				pmax	pmax		
	comp=Z,19nm,1.1s						
MAW	**Mawson**	**84.70**	**191**	P	**P**	**13 19 30.6**	**+1.7**
	comp=Z,18nm,0.7s,baz=14,slow=6.9,SNR=20						
MAW				LR	LR	13 50 24.1	
	comp=Z,101nm,20.6s,baz=57,slow=31						
MAW	**Mawson**	**84.70**	**191**	P	**P**	**13 19 30.7**	**+1.7**
	baz=84,SNR=16						
MAW	**Mawson**	**84.70**	**191**	*e*P	**P**	**13 19 30.6**	**+1.7**
	comp=Z,5.9nm,0.9s						
MAW	**Mawson**	**84.70**	**191**	*e*P	**P**	**13 19 30.6**	**+1.7**
MAW				pmax	pmax		
	comp=Z,6.0nm,0.9s						
IM3	**Indian Mountai**	**85.97**	**22**	*e*P	**P**	**13 19 36.1**	**+0.6**
TOLK	**Toolik Lake Re**	**86.12**	**19**	P	**P**	**13 19 36.6**	**+0.3**
	baz=300						
TOLK	**Toolik Lake Re**	**86.12**	**19**	*e*P	**P**	**13 19 37.1**	**+0.8**
	comp=Z,34nm,0.9s						
ES19	**SONSECA Array**	**86.37**	**310**	*e*P	**P**	**13 19 37.8**	**-0.3**
ESDC	**Sonseca Array**	**86.43**	**310**	P	**P**	**13 19 38.2**	**-0.2**
	comp=Z,1.8nm,0.6s,baz=64,slow=4.3,SNR=12						
ESDC				pP	**pP**	**13 19 51.0**	**-0.1**
	comp=Z,3.5nm,0.6s,baz=58,slow=4.7,SNR=9.1						
COLD	**Coldfoot**	**86.63**	**20**	*e*P	**P**	**13 19 39.1**	**+0.4**
	comp=Z,14nm,1.3s						
BORG	**Borgarnes**	**87.16**	**337**	LR	LR	14 00 21.6	
	comp=Z,240nm,21.4s,baz=17,slow=37						
MLY	**Manley**	**87.52**	**22**	*e*P	**P**	**13 19 43.9**	**+0.7**
	comp=Z,23nm,0.9s						
SUMG	**Summit**	**87.66**	**347**	*i* P	**P**	**13 19 45.0**	**+0.9**
SUMG				*i*		13 19 57.2	
SUMG	**Summit**	**87.66**	**347**	*e*P	**P**	**13 19 44.4**	**+0.2**
	comp=Z,34nm,1.0s						
SUMG	**Summit**	**87.66**	**347**	*e*P	**P**	**13 19 45.0**	**+0.9**
SUMG				*i*		13 19 57.2	
CAST	**Castle Rocks**	**87.78**	**24**	*e*P	**P**	**13 19 44.8**	**+0.4**
	comp=Z,53nm,0.9s						
BPAW	**Bear Paw Mtn.**	**87.89**	**23**	*e*P	**P**	**13 19 45.4**	**+0.5**
	comp=Z,52nm,1.2s						
PPLA	**Purkeypile**	**87.99**	**25**	*e*P	**P**	**13 19 46.0**	**+0.4**
	comp=Z,14nm,0.9s						
KTH	**Kantishna Hill**	**88.18**	**24**	*e*P	**P**	**13 19 46.1**	**-0.3**
	comp=Z,18nm,1.1s						
KTH				*e*pP	**pP**	**13 19 58.9**	**-0.1**
TOA0	**Torodi Ar. Sit**	**88.32**	**283**	*e*P	**P**	**13 19 48.2**	**+0.3**
	comp=Z,12nm,0.7s						
TOA0	**Torodi Ar. Sit**	**88.32**	**283**	P	**P**	**13 19 48.6**	**+0.8**
	SNR=11						
TORD	**Torodi Ar. Bea**	**88.32**	**283**	P	**P**	**13 19 48.3**	**+0.4**
	comp=Z,9.5nm,0.6s,baz=79,slow=4.4,SNR=58						
TORD				LR	LR	14 01 10.2	
	comp=Z,124nm,19.9s,baz=60,slow=37						
TRF	**Thorofare Moun**	**88.47**	**24**	*e*P	**P**	**13 19 47.3**	**-0.6**
	comp=Z,14nm,0.8s						
MDM	**Murphy Dome**	**88.48**	**22**	*e*P	**P**	**13 19 48.3**	**+0.6**
	comp=Z,44nm,1.1s						
FYU	**Fort Yukon**	**88.64**	**20**	*e*P	**P**	**13 19 48.5**	**+0.1**
	comp=Z,33nm,1.2s						
TULEG	**Thule**	**88.64**	**356**	*e*P	**P**	**13 19 48.0**	**-0.2**
	comp=Z,46nm,1.0s						
WRH	**Wood River Hil**	**88.79**	**22**	*e*P	**P**	**13 19 47.9**	**-1.2**
	comp=Z,9.7nm,1.1s						
WRH				*e*pP	**pP**	**13 20 02.8**	**+1.0**
CCB	**Clear Creek Bu**	**88.80**	**22**	*e*pP	pP	13 20 02.1	+0.3
MCK	**McKinley**	**88.85**	**23**	*e*P	**P**	**13 19 49.5**	**0.0**
	comp=Z,32nm,1.0s						
MCK	**McKinley**	**88.85**	**23**	*e*P	**P**	**13 19 49.5**	**0.0**
MCK				pmax	pmax		
	comp=Z,33nm,1.0s						
SPU	**Mount Spurr**	**88.86**	**26**	*e*P	**P**	**13 19 49.5**	**-0.1**
SPU				*e*pP	**pP**	**13 20 03.2**	**+0.9**
RND	**Reindeer**	**89.05**	**23**	*e*P	**P**	**13 19 50.1**	**-0.4**
	comp=Z,32nm,1.3s						
RND	**Reindeer**	**89.05**	**23**	*e*P	**P**	**13 19 50.1**	**-0.4**
RND				pmax	pmax		
	comp=Z,33nm,1.3s						
IL1	**Eielson Array**	**89.06**	**22**	*e*P	**P**	**13 19 49.0**	**-1.4**
ILAR	**Eielson Array**	**89.06**	**22**	P	**P**	**13 19 49.2**	**-1.2**
	comp=Z,1.9nm,0.9s,baz=297,slow=4.0,SNR=17						
ILAR				pP	**pP**	**13 20 03.7**	**+0.6**
	comp=Z,5.9nm,0.8s,baz=295,slow=4.5,SNR=20						
ILAR				PKKP	**PKKPbc**	**13 37 27.8**	**-2.5**
	comp=Z,0.4nm,0.6s,baz=160,slow=1.2,SNR=5.5						
ILAR				LR	LR	14 05 29.6	
	comp=Z,122nm,19.0s,baz=317,slow=39						
ILB	**Eielson Array**	**89.06**	**22**	*e*P	**P**	**13 19 49.5**	**-1.0**
SUA	**Susitna One**	**89.28**	**26**	*e*P	**P**	**13 19 51.2**	**-0.4**
	comp=Z,37nm,1.0s						
KULLO	**Kullorsuaq**	**89.31**	**352**	*i* P	**P**	**13 19 51.7**	**+0.3**
KULLO				*i*		13 20 04.6	
KULLO	**Kullorsuaq**	**89.31**	**352**	*e*P	**P**	**13 19 51.7**	**+0.3**
KULLO				*i*		13 20 04.6	
DHY	**Denali Highway**	**89.80**	**23**	*e*P	**P**	**13 19 53.5**	**-0.6**
	comp=Z,6.3nm,0.9s						
DHY				*e*pP	**pP**	**13 20 07.6**	**+0.8**
PMR	**Palmer**	**89.88**	**25**	*e*P	**P**	**13 19 54.3**	**+0.1**
PMR	**Palmer**	**89.88**	**25**	*e*P	**P**	**13 19 54.3**	**+0.1**
RC01	**Rabbit Creek A**	**89.88**	**26**	*e*P	**P**	**13 19 54.5**	**+0.2**
	comp=Z,52nm,1.0s						
BRLK	**Bradley Lake**	**90.05**	**27**	*e*P	**P**	**13 19 54.8**	**-0.4**
	comp=Z,45nm,1.0s						
SML	**Sawmill**	**90.09**	**25**	*e*P	**P**	**13 19 55.5**	**+0.2**
	comp=Z,39nm,0.9s						
SML	**Sawmill**	**90.09**	**25**	*e*P	**P**	**13 19 55.5**	**+0.2**
SML				pmax	pmax		
	comp=Z,39nm,0.9s						
RIDG	**Independ'e Rid**	**90.38**	**22**	*e*P	**P**	**13 19 56.2**	**-0.4**
	comp=Z,12nm,1.0s						
SCRK	**Sand Creek**	**90.56**	**22**	*e*P	**P**	**13 19 57.7**	**+0.1**
	comp=Z,17nm,1.0s						
PAX	**Paxson**	**90.58**	**23**	*e*P	**P**	**13 19 58.0**	**+0.3**
	comp=Z,11nm,1.1s						
PAX	**Paxson**	**90.58**	**23**	*e*P	**P**	**13 19 58.0**	**+0.3**
PAX				pmax	pmax		
	comp=Z,11nm,1.1s						
DOT	**Dot Lake**	**90.72**	**22**	*e*P	**P**	**13 19 57.5**	**-0.7**
	comp=Z,22nm,0.9s						
RES	**Resolute Bay**	**90.98**	**2**	P	**P**	**13 19 59.0**	**-0.1**
	comp=Z,1.2nm,0.6s,baz=230,slow=21,SNR=6.7						
RES	**Resolute Bay**	**90.98**	**2**	*e*P	**P**	**13 19 58.0**	**-1.1**
	comp=Z,6.9nm,1.0s						
INK	**Inuvik**	**91.01**	**16**	P	**P**	**13 19 59.1**	**-0.2**
	comp=Z,5.8nm,0.9s,baz=330,slow=5.5,SNR=18						
INK	**Inuvik**	**91.01**	**16**	*e*P	**P**	**13 19 58.8**	**-0.5**
	comp=Z,34nm,1.2s						
HARP	**HAARP**	**91.02**	**23**	*e*pP	pP	13 20 14.6	+2.3
EGAK	**Eagle**	**91.06**	**20**	*e*P	**P**	**13 19 59.4**	**-0.3**
	comp=Z,11nm,1.1s						
MENT	**Mentasta**	**91.26**	**23**	*e*P	**P**	**13 20 01.7**	**+0.9**
	comp=Z,20nm,1.0s						
SYO	**Syowa Base**	**91.34**	**197**	⇓*e*P	**P**	**13 20 01.0**	**+0.3**
SYO	**Syowa Base**	**91.34**	**197**	⇑*e*PcP	**PcP**	**13 20 04.0**	**+2.4**
BMRM	**Bremner River**	**92.06**	**24**	*e*P	**P**	**13 20 04.6**	**+0.1**
	comp=Z,22nm,1.0s						
BMRM				*e*pP	**pP**	**13 20 19.6**	**+2.4**
DAWY	**Dawson**	**92.11**	**20**	*e*P	**P**	**13 20 04.2**	**-0.4**
	comp=Z,19nm,1.1s						
KOWA	**Kowa**	**93.33**	**286**	P	**P**	**13 20 11.9**	**+0.7**
	comp=Z,4.9nm,0.7s,baz=59,slow=3.1,SNR=13						
KOWA				LR	LR	14 03 19.6	
	comp=Z,186nm,20.0s,baz=26,slow=36						
KOWA	**Kowa**	**93.33**	**286**	*e*P	**P**	**13 20 10.7**	**-0.5**
	comp=Z,17nm,1.3s						
SFJD	**Kangerlussuaq**	**94.65**	**347**	LR	LR	14 10 58.1	
	comp=Z,255nm,20.4s,baz=30,slow=41						
DBIC	**Dimbokro**	**96.20**	**278**	P	**P**	**13 20 25.3**	**+0.9**
	comp=Z,2.7nm,0.5s,baz=57,slow=5.5,SNR=9.9						
DBIC				LR	LR	14 03 21.8	
	comp=Z,81nm,20.7s,baz=60,slow=35						
VNDA	**Vanda**	**99.42**	**168**	P	**Pdif**	**13 20 37.1**	**-0.3**
	comp=Z,0.9nm,0.6s,baz=308,slow=6.0,SNR=3.1						
VNDA				LR	LR	14 04 27.8	
	comp=Z,110nm,18.2s,baz=306,slow=35						
YKA	**Yellowknife Ar**	**100.32**	**13**	P	**Pdif**	**13 20 41.6**	**-0.3**
	comp=Z,0.5nm,0.9s,baz=328,slow=4.0,SNR=9.7						
YKA				PKKP	**PKKPbc**	**13 36 57.2**	**-3.2**
	comp=Z,0.6nm,0.7s,baz=156,slow=2.5,SNR=13						
VNA2	**Neumayer--Watz**	**106.98**	**200**	PKiKP	**PKiKP**	**13 25 21.3**	**+0.7**
	baz=42,slow=3.4						
VNA3	**Neumayer Olymp**	**107.68**	**199**	PKiKP	**PKiKP**	**13 25 22.1**	**+0.2**
LAO	**LASA Array**	**116.74**	**15**	*e*PKPdf	**PKPdf**	**13 25 40.7**	**+0.7**
PD31	**Pinedale Array**	**119.39**	**19**	*e*PKPdf	**PKPdf**	**13 25 45.4**	**-0.1**
PDAR	**Pinedale Array**	**119.39**	**19**	PKP	**PKPdf**	**13 25 45.0**	**-0.4**
	comp=Z,0.8nm,0.7s,baz=353,slow=0.8,SNR=8.7						
PDAR				PKKPbc	**PKKPbc**	**13 35 56.4**	**-2.4**
	comp=Z,0.8nm,0.6s,baz=134,slow=5.2,SNR=9.8						
E39A	**Mellen**	**119.44**	**3**	P	**PKPdf**	**13 25 45.1**	**0.0**
	baz=356						
PPT2	**Papeete2**	**119.71**	**102**	*e*LR	LR	14 02 34.2	
	comp=Z,186nm,24.5s						
NV01	**Mina Array Sit**	**119.71**	**28**	*e*PKPdf	**PKPdf**	**13 25 46.8**	**+0.7**
NVAR	**Mina Array Bea**	**119.71**	**28**	PKP	**PKPdf**	**13 25 47.3**	**+1.1**
	comp=Z,1.4nm,0.7s,baz=300,slow=2.3,SNR=12						
NVAR				PKKP	PKKPab	13 36 13.9	+14
	comp=Z,0.3nm,0.6s,baz=152,slow=4.1,SNR=2.6						
F36A	**Milaca**	**119.73**	**5**	P	**PKPdf**	**13 25 45.1**	**-0.6**
	baz=352						
NV11	**Mina Array Sit**	**119.78**	**28**	*e*PKPdf	**PKPdf**	**13 25 45.5**	**-0.6**
R11A	**Troy Canyon, C**	**120.98**	**26**	P	**PKPdf**	**13 25 49.1**	**+0.5**
	baz=327						
R11A	**Troy Canyon, C**	**120.98**	**26**	*e*PKPdf	**PKPdf**	**13 25 48.6**	**+0.1**
ECSD	**EROS Data Cent**	**121.47**	**8**	P	**PKPdf**	**13 25 49.3**	**+0.2**
	baz=349						
ECSD	**EROS Data Cent**	**121.47**	**8**	*e*PKPdf	**PKPdf**	**13 25 48.8**	**-0.3**
MPMC	**Manual Prospec**	**122.01**	**29**	P	**PKPdf**	**13 25 51.7**	**+1.1**
	baz=324						
SMCO	**Snowmass**	**123.46**	**19**	*e*PKPdf	**PKPdf**	**13 25 52.6**	**-0.9**
M39A	**Webster**	**124.20**	**5**	P	**PKPdf**	**13 25 54.2**	**-0.2**
	baz=354						
IRM	**Iron Mountain**	**124.67**	**29**	P	**PKPdf**	**13 25 57.0**	**+1.5**
	baz=326						
O47A	**Sheridan**	**125.67**	**360**	P	**PKPdf**	**13 25 57.5**	**+0.3**
	baz=0.6						
P37A	**Lathrop**	**125.85**	**7**	P	**PKPdf**	**13 25 57.9**	**+0.3**
	baz=351						
P38A	**Dawn**	**125.91**	**7**	P	**PKPdf**	**13 25 57.7**	**0.0**
	baz=352						
P39B	**Salisbury**	**126.12**	**6**	P	**PKPdf**	**13 25 58.6**	**+0.4**
	baz=353						
P40A	**Paris**	**126.15**	**5**	P	**PKPdf**	**13 25 58.4**	**+0.3**
	baz=354						
Q38A	**Cooks Store, C**	**126.55**	**7**	P	**PKPdf**	**13 25 59.0**	**+0.1**
	baz=352						
Q41A	**Truxton**	**126.79**	**4**	P	**PKPdf**	**13 25 59.9**	**+0.5**
	baz=354						
R39A	**Chumby, Stover**	**127.26**	**6**	P	**PKPdf**	**13 26 00.5**	**+0.2**
	baz=352						
R38A	**Fenwick Farm,**	**127.28**	**7**	P	**PKPdf**	**13 26 00.5**	**+0.1**
	baz=351						
R40A	**Maddies Statio**	**127.36**	**6**	P	**PKPdf**	**13 26 00.5**	**0.0**
	baz=353						
TAOE	**Nuku Hiva Isla**	**127.45**	**90**	*e*LR	LR	14 06 04.8	
	comp=Z,178nm,31.9s						
ANMO	**Albuquerque**	**127.49**	**20**	P	**PKPdf**	**13 26 02.7**	**+1.5**
	baz=336						
ANMO	**Albuquerque**	**127.49**	**20**	*e*PKPdf	**PKPdf**	**13 25 59.8**	**-1.4**
ANMO	**Albuquerque**	**127.49**	**20**	*e*PKIKP	**PKPdf**	**13 25 59.8**	**-1.4**
R43A	**Red Bud**	**127.54**	**3**	P	**PKPdf**	**13 26 01.2**	**+0.3**
	baz=356						
LAZ	**Ladron**	**127.75**	**21**	*e*PKPdf	**PKPdf**	**13 26 00.1**	**-1.6**
S38A	**Stockton**	**127.83**	**7**	P	**PKPdf**	**13 26 01.6**	**+0.2**
	baz=351						
S39A	**Bolivar**	**127.84**	**7**	P	**PKPdf**	**13 26 01.7**	**+0.2**
	baz=352						
S42A	**Caledonia**	**127.99**	**4**	P	**PKPdf**	**13 26 02.0**	**+0.2**
	baz=355						
S40A	**Lebanon**	**128.02**	**6**	P	**PKPdf**	**13 26 02.3**	**+0.5**
	baz=353						
S41A	**Jillco Farms,**	**128.10**	**5**	P	**PKPdf**	**13 26 02.4**	**+0.4**
	baz=354						
BNM	**Barren Site**	**128.15**	**21**	*e*PKPdf	**PKPdf**	**13 26 00.3**	**-2.2**
TUC	**Tucson**	**128.17**	**26**	*e*PKPdf	**PKPdf**	**13 26 00.3**	**-2.1**
TUC	**Tucson**	**128.17**	**26**	*e*PKIKP	**PKPdf**	**13 26 00.3**	**-2.1**
T41A	**Mountain View**	**128.64**	**5**	P	**PKPdf**	**13 26 03.5**	**+0.5**
	baz=354						
T42A	**Van Buren**	**128.71**	**5**	P	**PKPdf**	**13 26 03.3**	**+0.2**
	baz=354						
U39A	**Green Forest**	**129.12**	**7**	P	**PKPdf**	**13 26 04.2**	**+0.2**
	baz=352						
HHAR	**Hobbs**	**129.16**	**8**	*e*PKPdf	**PKPdf**	**13 26 02.3**	**-1.8**
U40A	**Yellville**	**129.21**	**6**	P	**PKPdf**	**13 26 03.7**	**-0.5**
	baz=352						
TZTN	**Tazewell**	**129.27**	**357**	P	**PKPdf**	**13 26 04.6**	**+0.4**
	baz=3.9						
U42A	**Revenden**	**129.37**	**5**	P	**PKPdf**	**13 26 04.9**	**+0.5**
	baz=354						
U47A	**Clarksville**	**129.46**	**1**	P	**PKPdf**	**13 26 05.0**	**+0.4**
	baz=359						
V40A	**Witts Springs**	**129.76**	**6**	P	**PKPdf**	**13 26 06.5**	**+1.3**
	baz=352						
WVT	**Waverly**	**129.76**	**1**	P	**PKPdf**	**13 26 06.3**	**+1.1**
	baz=359						
V41A	**Mountainview**	**129.85**	**6**	P	**PKPdf**	**13 26 06.2**	**+0.8**
	baz=353						
W39A	**Magazine**	**130.25**	**8**	P	**PKPdf**	**13 26 06.2**	**+0.1**
	baz=351						
W47A	**Westpoint**	**130.64**	**1**	P	**PKPdf**	**13 26 07.1**	**+0.2**
	baz=359						
W48A	**Pulaski**	**130.76**	**0**	P	**PKPdf**	**13 26 07.1**	**0.0**
	baz=360						
MNTX	**Cornudas Mount**	**130.81**	**21**	*e*PKPdf	**PKPdf**	**13 26 05.8**	**-1.5**
X39A	**Fountain Ranch**	**130.88**	**8**	P	**PKPdf**	**13 26 08.1**	**+0.8**
	baz=350						
Z49A	**Columbiana**	**132.70**	**360**	P	**PKPdf**	**13 26 11.8**	**+1.0**
	baz=0.2						
TX31	**Lajitas Ar. Si**	**133.56**	**21**	*e*PKPdf	**PKPdf**	**13 26 11.4**	**-1.3**
TXAR	**Lajitas Array**	**133.56**	**21**	PKP	**PKPdf**	**13 26 13.9**	**+1.2**
	comp=Z,1.2nm,0.7s,baz=208,slow=1.0,SNR=13						
TLIG	**Tlapa**	**146.18**	**21**	PKPbc	**PKPbc**	**13 26 36.6**	**-0.1**
PCRV	**Puerto La Cruz**	**147.23**	**317**	PKPbc	**PKPdf**	**13 26 38.7**	**+1.1**
	comp=Z,15nm,0.8s,baz=45,slow=1.4,SNR=4.9						
CMIG	**Matias Romero**	**147.71**	**15**	PKPbc	**PKPbc**	**13 26 41.1**	**+0.1**
	comp=Z,6.9nm,0.9s,baz=348,slow=6.3,SNR=8.3						
TRQA	**Tornquist**	**147.81**	**218**	*e*PKPbc	**PKPbc**	**13 26 40.5**	**-0.2**
TRQA	**Tornquist**	**147.81**	**218**	PKP2	**PKPbc**	**13 26 40.5**	**-0.2**
CPUP	**Villa Florida**	**150.08**	**242**	PKPbc	**PKPbc**	**13 26 46.7**	**-0.1**
	comp=Z,3.3nm,0.5s,baz=72,slow=1.4,SNR=7.9						
CPUP	**Villa Florida**	**150.08**	**242**	*e*PKPbc	**PKPbc**	**13 26 45.8**	**-1.0**
CPUP	**Villa Florida**	**150.08**	**242**	*e*PKIKP	**PKPbc**	**13 26 45.8**	**-1.0**
PLCA	**Paso Flores**	**150.19**	**205**	PKPbc	**PKPbc**	**13 26 47.7**	**+0.9**
	comp=Z,13nm,0.7s,baz=184,slow=2.3,SNR=30						
PLCA	**Paso Flores**	**150.19**	**205**	*e*PKPbc	**PKPbc**	**13 26 47.6**	**+0.8**
PTGA	**Pitinga**	**150.29**	**295**	*e*PKPbc	**PKPbc**	**13 26 47.8**	**+0.2**
APG	**El Apazote**	**150.58**	**7**	PKPbc	**PKPbc**	**13 26 48.5**	**0.0**
	comp=Z,3.5nm,0.5s,baz=332,slow=14,SNR=6.0						
SDV	**Santo Domingo**	**151.93**	**324**	*e*PKPdf	**PKPdf**	**13 26 43.5**	**-1.7**
SDV				*e*PKPbc	**PKPbc**	**13 26 51.3**	**-0.4**
SAML	**Samuel**	**156.35**	**281**	*e*PKPab	**PKPab**	**13 27 20.2**	**+0.6**
LPAZ	**La Paz**	**161.99**	**262**	PKP	**PKPdf**	**13 26 58.9**	**+0.5**
	comp=Z,1.9nm,0.6s,baz=38,slow=2.5,SNR=9.0						
LPAZ				PKPab	**PKPab**	**13 27 44.6**	**-0.1**
	comp=Z,4.8nm,0.9s,baz=93,slow=4.7,SNR=6.4						
LPAZ	**La Paz**	**161.99**	**262**	*e*PKPdf	**PKPdf**	**13 26 56.7**	**-1.7**
LPAZ				PKPab	**PKPab**	**13 27 44.6**	**-0.1**
PB11	**IPOC Station P**	**162.85**	**249**	*e*PKPab	**PKPab**	**13 27 47.8**	**-0.1**
OTAV	**Otavalo**	**163.34**	**330**	*e*PKPdf	**PKPdf**	**13 26 58.1**	**-1.6**
OTAV	**Otavalo**	**163.34**	**330**	PKIKP	**PKPdf**	**13 26 58.1**	**-1.6**

*NIED **30** 13:07:00, 40°.70N×142°.80E, h47km, Mw3.7 Best double couple: M₀4.61000×10¹⁴ NP1:φs191.00000°, δ45.00000°, λ86.00000°. NP2:φs17.00000°, δ45.00000°, λ94.00000°.*

JMA 30 13:07:07.4±0.1**, 40°.72N**×**142°.77E, h34**km±4km**, M4.0, 1C-9D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JANG	**Nango**	**1.02**	**251**	⇓P	Pn	13 07 25.7	+0.4
JANG				S	Sn	13 07 38.2	-0.2
JTH	**Tanohata**	**1.04**	**222**	⇓P	Pn	13 07 25.9	+0.3
JTH				*e*S	Sn	13 07 38.9	-0.1
JTM	**Tenmabayashi**	**1.29**	**274**	⇓P	Pn	13 07 29.9	+0.8
JTM				*e*S	Sn	13 07 45.9	+0.7
JEM	**Erimo**	**1.33**	**13**	P	Pn	13 07 30.3	+0.8
JOT	**Ohata**	**1.46**	**297**	⇓P	Pn	13 07 31.8	+0.5
JOT				S	Sn	13 07 49.6	+0.3
JNBK	**Urakawa-nobuka**	**1.56**	**360**	P	Pn	13 07 33.8	+1.1
JNBK				S	Sb	13 07 53.5	-1.5
JOM	**Ohasama**	**1.68**	**223**	⇓P	Pn	13 07 35.8	+1.4
JOM				*e*S	Sn	13 07 56.5	+1.7
JAH	**Hinai**	**1.71**	**253**	⇓P	Pn	13 07 36.2	+1.4
JAH				S	Sn	13 07 56.7	+1.2
JKB	**Kayabe**	**1.75**	**312**	⇓P	Pn	13 07 35.7	+0.3
JKB				S	Sn	13 07 56.6	+0.1
JCH	**Churui**	**1.94**	**13**	⇑P	Pn	13 07 38.7	+0.7
JCH				S	Sn	13 08 01.7	+0.5
JSR	**Shiriuchi**	**1.95**	**295**	⇓P	Pn	13 07 39.0	+0.9
JSR				S	Sn	13 08 02.0	+0.6
JMK	**Ichinoseki**	**2.13**	**215**	⇓P	Pn	13 07 42.1	+1.5
JMK				*e*S	Sn	13 08 07.1	+1.3

*IDC **30** 13:26:17.3±1.7, 9°.29N×126°.46E, h0km, mb3.3/4, mb1 3.5/5, mb1mx3.2/55, mbtmp3.4/5, ML4.5/1, Error ellipse: s-maj=75.2km s-min=22.9km az=73.0*

*ISCJB **30** 13:26:20.6±1.0, 9°.41N±0°.07×126°.91E±0°.07, h43km, mb3.3/4, Error ellipse: s-maj=11.2km s-min=8.1km az=139.6*

*MAN **30** 13:26:22, 7°.99N×125°.04E, h25km, mb4.2, ML3.0, MS2.7*

ISC 30 13:26:23.0±1.4**, 9°.29N**±0°.08×**126°.8E**±0°.1**, h43**km**, n9, σ2s 10**/13**, mb3.3**/4**, 1C, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIPH	**Bislig**	**1.18**	**201**	⇑*e*P	**Pn**	**13 26 44.9**	**+1.8**
BIPH				*e*S	**Sn**	**13 26 59.7**	**+1.8**
BUTP	**Butuan**	**1.19**	**255**	*e*P	**Pn**	**13 26 41.7**	**-1.6**
BUTP				*e*S	**Sn**	**13 27 00.0**	**+1.7**
SCPH	**Surigao**	**1.37**	**291**	*e*P	**Pn**	**13 26 44.5**	**-1.1**
SCPH				*e*S	**Sn**	**13 27 02.0**	**-0.6**
MSLP	**Maasin**	**2.08**	**294**	*e*P	**Pn**	**13 26 56.1**	**+0.8**
MSLP				*e*S	**Sn**	**13 27 22.8**	**+2.8**
DAV	**Davao City (W)**	**2.51**	**209**	Pn	**Pn**	**13 26 57.2**	**-4.2**
	108nm,0.3s,baz=184,slow=21,SNR=3.9						
DAV				Sn	Sn	13 27 44.3	+14
	78nm,0.3s,baz=252,slow=17,SNR=2.4						
WRA	**Warramunga Arr**	**29.99**	**166**	P	**P**	**13 32 28.6**	**+0.9**
	0.3nm,0.8s,baz=347,slow=9.4,SNR=3.3						
ASAR	**Alice Springs**	**33.49**	**168**	P	**P**	**13 32 59.2**	**+0.8**
	0.3nm,0.9s,baz=351,slow=7.0,SNR=5.3						
MKAR	**Makanchi Array**	**53.11**	**323**	P	**P**	**13 35 36.2**	**-0.2**
	0.4nm,0.8s,baz=123,slow=6.0,SNR=3.7						
KURBB	**Kurchatov Arra**	**57.16**	**326**	P	**P**	**13 36 03.6**	**-1.8**
	0.3nm,0.7s,baz=120,slow=6.8,SNR=2.6						

IDC 30 13:42:42.5±1.7**, 0°.98N**×**126°.43E, h0**km**, mb3.5**/4**, mb1 3.7**/4**, mb1mx3.4**/57**, mbtmp3.5**/4**, Error ellipse:**

s-maj=176.3km s-min=20.5km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.19**	**160**	P	P	13 47 39.5	-0.9
	1.4nm,0.7s,baz=338,slow=11,SNR=22						
ASAR	**Alice Springs**	**25.55**	**164**	P	P	13 48 13.9	+0.7
	0.3nm,0.3s,baz=346,slow=11,SNR=14						
MKAR	**Makanchi Array**	**59.65**	**326**	P	P	13 52 48.1	-0.5
	0.2nm,0.4s,baz=120,slow=7.2,SNR=8.8						
KURBB	**Kurchatov Arra**	**63.90**	**328**	P	P	13 53 17.5	+0.4
	0.4nm,0.7s,baz=134,slow=6.6,SNR=3.5						

*ISK **30** 13:56:11.7, 37°.00N×35°.56E, h20km, ML2.6/6*
*ISCJB **30** 13:56:12.7±0.5, 36°.99N±0°.04×35°.59E±0°.05, h23km±7km, Error ellipse: s-maj=7.6km s-min=5.2km az=139.0*
*CSEM **30** 13:56:12.4±0.2, 36°.99N×35°.56E, h20km, ML2.5, Error ellipse: s-maj=4.4km s-min=3.4km az=71.0*
*DDA **30** 13:56:12.3, 36°.93N×35°.49E, h7km, Ml2.5*

ISC 30 13:56:12.3±1.0, 37°.00N±0°.03×35°.56E±0°.03, h19km±2km, n27, σ0°45/39, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YURE	**YUREGIR**	**0.18**	**161**	PG	**Pg**	**13 56 16.8**	**-0.3**
YURE				SG	**Sg**	**13 56 20.9**	**+0.6**
YURE	**YUREGIR**	**0.18**	**161**	*i* P	**Pg**	**13 56 16.7**	**-0.3**
YURE				*i* S	**Sg**	**13 56 21.3**	**+1.0**
YURE	**YUREGIR**	**0.18**	**161**	*e*Pg	**Pg**	**13 56 16.8**	**-0.3**
YURE				*e*Sg	**Sg**	**13 56 20.9**	**+0.6**
YURE				S		13 56 21.3	
KRTD	**Karatas-Adana**	**0.42**	**196**	PG	**Pg**	**13 56 20.8**	**-0.2**
KRTD				SG	**Sb**	**13 56 27.5**	**+0.3**
KRTD	**Karatas-Adana**	**0.42**	**196**	*e*Pg	**Pg**	**13 56 20.8**	**-0.2**
KRTD				*e*Sg	**Sb**	**13 56 27.5**	**+0.3**
KRTS	**Karatas**	**0.45**	**199**	PG	**Pg**	**13 56 21.6**	**+0.1**
KRTS	**Karatas**	**0.45**	**199**	*e*Pg	**Pg**	**13 56 21.6**	**+0.1**
KARA	**Karaisali**	**0.48**	**303**	PG	**Pg**	**13 56 21.5**	**-0.6**
KARA				SG	**Sb**	**13 56 29.4**	**+0.4**
KARA	**Karaisali**	**0.48**	**303**	*e*Pg	**Pg**	**13 56 21.5**	**-0.6**
KARA				*e*Sg	**Sb**	**13 56 29.4**	**+0.4**
KOZT	**Kozan**	**0.53**	**24**	PG	**Pb**	**13 56 22.7**	**-0.3**
KOZT	**Kozan**	**0.53**	**24**	*e*Pg	**Pb**	**13 56 22.7**	**-0.3**
GULE	**Gulek**	**0.69**	**295**	*i* P	**Pb**	**13 56 25.9**	**+0.1**
GULE				*i* S	**Sn**	**13 56 37.8**	**+0.2**
GULE	**Gulek**	**0.69**	**295**	P	**Pb**	**13 56 25.9**	**+0.1**
ANDN	**Andirin**	**0.85**	**47**	*i* P	**Pn**	**13 56 30.1**	**+0.6**
ANDN	**Andirin**	**0.85**	**47**	P	**Pn**	**13 56 30.1**	**+0.6**
YAYL	**Yayladag**	**1.06**	**155**	PG	**Pb**	**13 56 31.9**	**-0.2**
YAYL	**Yayladag**	**1.06**	**155**	*i* P	**Pb**	**13 56 31.2**	**-0.9**
YAYL				*i* S	**Sn**	**13 56 46.6**	**+0.1**
YAYL	**Yayladag**	**1.06**	**155**	P	**Pb**	**13 56 31.2**	**-0.9**
YAYL	**Yayladag**	**1.06**	**155**	*e*Pg	**Pb**	**13 56 31.9**	**-0.2**
YAYL				S	**Sn**	**13 56 46.7**	**+0.1**
YAHY	**KAYSERI_Yahyal**	**1.11**	**352**	*i* P	**Pn**	**13 56 32.7**	**-0.3**
YAHY	**KAYSERI_Yahyal**	**1.11**	**352**	P	**Pn**	**13 56 32.7**	**-0.3**
KMRS	**Kahramanmaras**	**1.18**	**64**	PN	**Pn**	**13 56 33.7**	**-0.2**
KMRS	**Kahramanmaras**	**1.18**	**64**	*e*Pn	**Pn**	**13 56 33.7**	**-0.2**
KERG	**Konya-Eregli**	**1.22**	**290**	*i* P	**Pb**	**13 56 35.3**	**+0.4**
KERG				*i* S	**Sg**	**13 56 51.8**	**-0.1**
KERG	**Konya-Eregli**	**1.22**	**290**	P	**Pb**	**13 56 35.3**	**+0.4**
KERG				S	**Sg**	**13 56 51.8**	**-0.1**
KIZK	**Mersin**	**1.25**	**246**	*i* P	**Pn**	**13 56 34.3**	**-0.5**
KIZK	**Mersin**	**1.25**	**246**	P	**Pn**	**13 56 34.3**	**-0.5**

*ISCJB **30** 13:59:15.4±0.5, 39°.88N±0°.05×33°.09E±0°.03, h0km, Error ellipse: s-maj=7.1km s-min=3.8km az=174.0*
*ISK **30** 13:59:15.4, 39°.89N×33°.08E, h5km, ML2.6/5, Suspected Mining explosion.*
*CSEM **30** 13:59:16.2, 39°.89N×33°.09E, h7km, MD2.3, Suspected Mining explosion.*
*DDA **30** 13:59:16.2, 39°.89N×33°.09E, h7km, Md2.3, Suspected Mining explosion.*

ISC 30 13:59:15.2±0.9, 39°.93N±0°.04×33°.10E±0°.03, h0km, n20, σ0°39/26, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANTO	**Ankara**	**0.25**	**255**	PG	**Pg**	**13 59 20.3**	**+0.4**
ANTO				SG	**Sg**	**13 59 23.9**	**+0.8**
LOD	**Lodumlu**	**0.26**	**260**	PG	**Pg**	**13 59 19.9**	**-0.3**
LOD				SG	**Sg**	**13 59 23.7**	**+0.1**
AFSR	**Afşar-Bala (A**	**0.49**	**183**	PG	**Pg**	**13 59 24.1**	**-0.4**
ELDT	**Eldivan**	**0.61**	**24**	*i* P	**Pb**	**13 59 28.8**	**0.0**
ELDT	**Eldivan**	**0.61**	**24**	P	**Pb**	**13 59 28.8**	**0.0**
CMDR	**Camlidere-ANKA**	**0.74**	**320**	*i* P	**Pb**	**13 59 31.5**	**+0.5**
CMDR	**Camlidere-ANKA**	**0.74**	**320**	P	**Pb**	**13 59 31.5**	**+0.5**
KKUL	**Konya-Kulu**	**0.78**	**191**	*i* P	**Pg**	**13 59 30.1**	**+0.1**
KKUL	**Konya-Kulu**	**0.78**	**191**	P	**Pg**	**13 59 30.1**	**+0.1**
CDAG	**Cicekdag**	**1.03**	**107**	*i* P	**Pb**	**13 59 36.1**	**+0.2**
CDAG	**Cicekdag**	**1.03**	**107**	P	**Pb**	**13 59 36.1**	**+0.2**
BCAM	**Yenicaga**	**1.18**	**318**	*i* P	**Pn**	**13 59 39.0**	**-0.1**
BCAM	**Yenicaga**	**1.18**	**318**	P	**Pn**	**13 59 39.0**	**-0.1**
CORM	**Corum**	**1.20**	**78**	PN	**Pn**	**13 59 39.5**	**+0.2**
CORM				SN	**Sn**	**13 59 56.5**	**+0.2**
AUMIH	**MIHALICIK**	**1.25**	**267**	PN	**Pb**	**13 59 39.7**	**0.0**
AUMIH				SN	**Sn**	**13 59 56.9**	**-0.7**
AUMIH	**MIHALICIK**	**1.25**	**267**	*i* P	**Pg**	**13 59 38.5**	**-0.6**
AUMIH	**MIHALICIK**	**1.25**	**267**	P	**Pg**	**13 59 38.5**	**-0.6**
AUSIV	**SIVRIHISAR**	**1.30**	**248**	PN	**Pg**	**13 59 40.1**	**0.0**
AUSIV				SN	**Sb**	**13 59 58.0**	**+0.1**
SVRH	**Sivrihisar-ESK**	**1.31**	**249**	PN	**Pn**	**13 59 40.8**	**0.0**
SVRH				SN	**Sn**	**13 59 58.6**	**-0.5**
YOZ	**Yozgat**	**1.73**	**99**	PN	**Pb**	**13 59 47.6**	**-0.4**

*ISCJB **30** 14:20:02.2±1.2, 2°.0N±0°.2×89°.7E±0°.2, h10km, mb3.6/4, Error ellipse: s-maj=41.0km s-min=16.7km az=37.3*
*IDC **30** 14:20:03.7±1.8, 2°.15N×89°.84E, h0km, mb3.4/4, mb1 3.6/5, mb1mx3.2/69, mbtmp3.5/5, ML3.5/1, Error ellipse: s-maj=63.5km s-min=24.4km az=52.0*

ISC 30 14:20:04.5±1.4, 2°.1N±0°.3×89°.7E±0°.2, h10km, n6, σ0°46/6, mb3.5/4, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**10.38**	**300**	Pn	**Pn**	**14 22 33.5**	**-0.1**
	0.4nm,0.3s,baz=116,slow=22,SNR=2.5						
PALK				Sn	Sn	14 24 17.9	-12
	0.7nm,0.3s,baz=116,slow=11,SNR=3.2						
MKAR	**Makanchi Array**	**45.00**	**353**	P	**P**	**14 28 20.6**	**+0.4**
	0.2nm,0.6s,baz=163,slow=5.4,SNR=2.4						
SONM	**Songino Array**	**47.79**	**15**	P	**P**	**14 28 42.0**	**-0.3**
	1.0nm,0.5s,baz=195,slow=8.6,SNR=7.2						
WRA	**Warramunga Arr**	**48.91**	**119**	P	**P**	**14 28 50.8**	**-0.4**
	0.6nm,0.9s,baz=298,slow=8.5,SNR=3.5						
ASAR	**Alice Springs**	**49.99**	**123**	P	**P**	**14 28 59.9**	**+0.4**
	0.2nm,0.5s,baz=292,slow=7.3,SNR=5.6						
TXAR	**Lajitas Array**	**146.22**	**21**	PKPbc	**PKPab**	**14 39 46.8**	**0.0**
	0.1nm,0.6s,baz=342,slow=5.7,SNR=2.7						

*IDC **30** 14:28:52.2±1.1, 33°.48N×142°.66E, h0km, mb3.3/5, mb1 3.4/7, mb1mx3.3/67, mbtmp3.3/7, ML3.1/2, MS3.4/1, Ms1 3.4/1, ms1mx2.3/26, Error ellipse: s-maj=29.6km s-min=22.3km az=76.0*
*ISCJB **30** 14:28:55.7±1.0, 33°.45N±0°.09×142°.39E±0°.10, h35km, mb3.4/6, MS3.4/1, Error ellipse: s-maj=13.8km s-min=10.7km az=32.8*

ISC 30 14:28:57.6±1.2, 33°.4N±0°.1×142°.4E±0°.1, h35km, n8, σ1°28/9, mb3.3/6, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**2.19**	**263**	Pn	**Pn**	**14 29 31.1**	**-0.4**
	9.6nm,0.3s,baz=245,slow=19,SNR=5.9						
JHJ				Sn	**Sn**	**14 29 56.3**	**-1.2**
	9.2nm,0.3s,baz=66,slow=18,SNR=4.8						
MJAR	**Matsushiro Arr**	**4.62**	**313**	Pn	**Pn**	**14 30 04.5**	**-0.5**
	0.8nm,0.3s,baz=247,slow=6.7,SNR=14						
MJAR				Sn	**Sn**	**14 30 58.0**	**+0.5**
	0.5nm,0.3s,baz=146,slow=20,SNR=3.7						
SONM	**Songino Array**	**30.56**	**309**	P	P	14 35 12.3	+4.4
	1.5nm,1.1s,baz=115,slow=10.0,SNR=5.6						
MKAR	**Makanchi Array**	**46.77**	**305**	P	**P**	**14 37 25.5**	**+1.9**
	0.2nm,0.5s,baz=93,slow=9.4,SNR=2.6						
KURBB	**Kurchatov Arra**	**48.90**	**311**	P	**P**	**14 37 40.6**	**+0.7**
	0.5nm,0.5s,baz=83,slow=7.4,SNR=6.1						
WRA	**Warramunga Arr**	**53.62**	**189**	P	**P**	**14 38 16.1**	**+0.6**
	0.3nm,0.9s,baz=7.0,slow=7.5,SNR=2.5						
ASAR	**Alice Springs**	**57.34**	**189**	P	**P**	**14 38 42.9**	**+0.6**
	0.2nm,0.7s,baz=7.5,slow=9.9,SNR=3.0						
ASAR				LR	LR	15 05 18.7	
	comp=Z,30nm,19.1s,baz=74,slow=38						
YKA	**Yellowknife Ar**	**66.54**	**30**	P	**P**	**14 39 41.9**	**-1.7**
	0.1nm,0.5s,baz=294,slow=6.0,SNR=3.5						

IDC 30 14:39:19.1±2.0, 7°.17S×129°.71E, h106km±25km, mb3.0/1, mb1 3.0/5, mb1mx2.9/53, mbtmp3.4/5, MS3.2/1, Ms1 3.2/1, ms1mx2.4/15, Error ellipse: s-maj=29.0km s-min=14.7km az=118.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**6.45**	**14**	P	Pn	14 40 53.5	+1.8
	0.8nm,0.3s,baz=105,slow=24,SNR=16						
SIJI				S	Sn	14 42 02.9	-1.0
	0.7nm,0.3s,baz=221,slow=19,SNR=4.3						
BATI	**Baumata**	**6.70**	**243**	P	Pn	14 40 56.3	+1.3
	1.9nm,0.3s,baz=77,slow=7.2,SNR=4.7						
BATI				S	Sn	14 42 09.0	-0.9
	2.1nm,0.3s,baz=59,slow=21,SNR=9.3						
WRA	**Warramunga Arr**	**13.46**	**161**	P	Pn	14 42 25.0	-1.0
	0.3nm,0.3s,baz=354,slow=12,SNR=15						
WRA				S	Sn	14 44 46.1	-8.2
	0.9nm,0.3s,baz=336,slow=22,SNR=9.3						
ASAR	**Alice Springs**	**16.89**	**167**	P	P	14 43 09.7	+0.2
	0.1nm,0.3s,baz=353,slow=13,SNR=7.2						
ASAR				S	Sn	14 46 08.6	-8.4
	0.1nm,0.3s,baz=330,slow=20,SNR=5.8						
TGY	**Tagaytay City**	**22.86**	**338**	LR	LR	14 55 16.3	
	comp=Z,52nm,18.1s,baz=306,slow=42						
MKAR	**Makanchi Array**	**68.21**	**327**	P	P	14 50 08.3	0.0
	0.1nm,0.3s,baz=116,slow=8.1,SNR=4.1						

*SJA **30** 14:40:59.1±0.5, 32°.55S×71°.89W, h5km, ML2.6, MW2.8*
*GUC **30** 14:41:02.6±0.5, 32°.50S×71°.39W, h25km±6km, ML2.5*

ISC 30 14:40:55.9±3.2, 32°.49S±0°.07×72°.0W±0°.2, h25km, n13, σ1°64/16, 2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROCH	**El Roble**	**0.95**	**121**	*e*P	**Pn**	**14 41 15.2**	**+1.3**
ROCH				*e*S	**Sn**	**14 41 24.5**	**-2.3**
ROCH				IAML		14 41 26.1	
	comp=E,346nm,0.4s						
PEL	**Peldehue**	**1.27**	**121**	*e*P	**Pn**	**14 41 19.8**	**+1.7**
PEL				*e*S	**Sn**	**14 41 33.7**	**-0.7**
PEL				IAML		14 41 35.7	
	comp=E,146nm,0.2s						
FCH	**Farellones**	**1.65**	**121**	*e*P	**Pb**	**14 41 26.0**	**+0.2**
FCH				*e*S	**Sb**	**14 41 44.2**	**-2.1**
FCH				IAML		14 41 45.5	
	comp=N,169nm,0.3s						
LMEL	**Las Melosas**	**2.01**	**133**	*e*P	**Pb**	**14 41 32.2**	**+0.2**
LMEL				*e*S	**Sb**	**14 41 55.2**	**-1.5**
LMEL				IAML		14 42 01.4	
	comp=N,222nm,0.4s						
AUSP	**Uspallata**	**2.21**	**84**	*e*P	Pb	14 41 38.6	+3.2
RTLS	**Leoncito**	**2.38**	**74**	*e*P	**Pb**	**14 41 41.2**	**+2.9**
RTLS				*e*S	Sb	14 42 12.1	+4.8
RTLS				IAML		14 42 20.0	
	comp=Z,20nm,0.4s						
ARCO	**CERRO ARCO**	**2.59**	**99**	*e*P	**Pb**	**14 41 43.2**	**+1.3**
ARCO				IAML		14 41 53.7	
	comp=Z,41nm,0.7s						
ARCO				*e*S	Sb	14 42 16.4	+3.0
ASAL	**Salagasta**	**2.66**	**93**	*e*P	**Pb**	**14 41 44.3**	**+1.4**
ASAL				*e*S	Sb	14 42 17.8	+2.7
AAGR	**Agrelo**	**2.72**	**103**	*e*P	**Pb**	**14 41 44.9**	**+0.9**
RTCV	**Cerro Valdivia**	**2.98**	**79**	*e*P	**Pb**	**14 41 49.4**	**+0.9**
AMOG	**MOGNA**	**3.35**	**63**	*e*P	**Pb**	**14 41 54.4**	**-0.3**
ACDV	**Cuesta del Vie**	**3.37**	**47**	*e*P	**Pb**	**14 41 55.7**	**+0.6**
AGUA	**GUANDACOL**	**4.24**	**46**	*e*P	**Pb**	**14 42 07.9**	**-1.9**

*IDC **30** 14:43:41.9±2.2, 24°.25S×179°.93W, h484km±22km, mb3.6/7, mb1 3.8/8, mb1mx3.3/45, mbtmp4.4/8, Error ellipse: s-maj=31.0km s-min=16.6km az=161.0*
*ISCJB **30** 14:43:43.0±0.7, 24°.22S±0°.10×180°.0W±0°.1, h505km, mb4.0/7, Error ellipse: s-maj=15.0km s-min=12.6km az=12.4*

ISC 30 14:43:43.7±0.8, 24°.4S±0°.1×179°.9W±0°.1, h505km, n17, σ0°99/19, mb4.1/7, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**12.76**	**277**	P	**P**	**14 46 31.3**	**+0.9**
	1.4nm,0.3s,baz=91,slow=12,SNR=20						
URZ	**Urewera**	**14.10**	**190**	P	**P**	**14 46 43.3**	**-0.9**
	1.2nm,0.3s,baz=270,slow=1.9,SNR=10						
URZ				S	**S**	**14 49 13.8**	**+0.8**
	0.8nm,0.3s,baz=221,slow=20,SNR=14						
CTA	**Charters Tower**	**31.57**	**271**	P	**P**	**14 49 24.4**	**-0.1**
	23nm,0.3s,baz=94,slow=11,SNR=70						
STKA	**Stephens Creek**	**34.64**	**249**	P	**P**	**14 49 50.5**	**+0.1**
	3.7nm,0.6s,baz=96,slow=10,SNR=18						
ASAR	**Alice Springs**	**42.05**	**261**	P	**P**	**14 50 50.0**	**-0.8**
	3.0nm,0.5s,baz=94,slow=7.4,SNR=88						
ASAR				ScP	**ScP**	**14 55 38.1**	**+1.7**
	0.9nm,1.0s,baz=103,slow=4.7,SNR=5.5						
WRA	**Warramunga Arr**	**42.47**	**267**	P	**P**	**14 50 52.6**	**-1.4**
	7.6nm,0.5s,baz=97,slow=8.4,SNR=209						
WRA				ScP	**ScP**	**14 55 40.1**	**+2.0**
	2.2nm,1.0s,baz=100,slow=4.1,SNR=7.9						
SNAA	**Sanae**	**84.22**	**179**	P	**P**	**14 55 20.8**	**-0.4**
VNA3	**Neumayer Olymp**	**84.43**	**177**	P	**P**	**14 55 22.5**	**+0.4**
VNA2	**Neumayer--Watz**	**84.84**	**178**	P	**P**	**14 55 24.9**	**+0.7**
	baz=190,slow=3.5						
NVAR	**Mina Array Bea**	**85.01**	**44**	P	**P**	**14 55 25.3**	**-0.4**
	0.3nm,0.6s,baz=224,slow=8.2,SNR=3.7						
TXAR	**Lajitas Array**	**90.59**	**58**	P	**P**	**14 55 53.0**	**+1.0**
	1.0nm,0.7s,baz=215,slow=6.1,SNR=15						
PDAR	**Pinedale Array**	**92.95**	**44**	P	**P**	**14 56 02.3**	**-0.4**
	0.4nm,0.7s,baz=215,slow=3.0,SNR=3.1						
BVAR	**Borovoye Array**	**120.83**	**319**	PKP	**PKPdf**	**15 01 36.6**	**-1.2**
	0.5nm,0.6s,baz=48,slow=2.1,SNR=3.2						
HFS	**Hagfors**	**143.00**	**349**	PKhKP	PKPpre	15 02 15.3	
	1.9nm,0.4s,baz=66,slow=4.9,SNR=18						
MMAI	**Mount Meron Ar**	**147.97**	**294**	PKPbc	**PKPbc**	**15 02 32.8**	**+0.5**
	1.4nm,0.5s,baz=83,slow=4.6,SNR=3.5						
EKA	**Eskdalemuir Ar**	**148.96**	**4**	PKPbc	**PKPbc**	**15 02 33.3**	**-0.6**
	0.4nm,0.4s,baz=343,slow=2.2,SNR=3.7						
TORD	**Torodi Ar. Bea**	**168.76**	**188**	PKPab	**PKPab**	**15 04 06.7**	**-0.1**
	0.7nm,0.7s,baz=169,slow=4.1,SNR=3.9						

MAN 30 14:52:00, 19°.11N×121°.06E, h1km, mb4.7, ML3.5, MS3.4, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APYP	**Conner**	**1.25**	**172**	*e*P	Pg	14 52 23.7	-0.3
APYP				*e*S	Sn	14 52 42.5	+0.4
ABRA	**Dolores**	**1.49**	**193**	*e*P	Pn	14 52 27.3	-0.6
ABRA				*e*S	Sn	14 52 48.9	+0.9
CAUP	**Cauayan**	**2.27**	**161**	*e*P	Pb	14 52 41.0	-0.8
CAUP				*e*S	Sg	14 53 14.1	+1.0
BALP	**Baler**	**3.38**	**172**	*e*P	Pn	14 52 44.7	-9.3
BALP				*e*S	Sn	14 53 37.3	+2.5

*ISK **30** 15:08:30.3, 40°.55N×37°.15E, h5km, ML3.1/13*
*CSEM **30** 15:08:32.8±0.2, 40°.55N×37°.13E, h10km, ML3.1, Error ellipse: s-maj=5.1km s-min=4.1km az=176.0*
*DDA **30** 15:08:32.5, 40°.56N×37°.24E, h14km, Ml3.2*
*ATA **30** 15:08:33.0±0.5, 40°.59N×37°.34E, h19km±7km, ML3.5, MW3.3*

ISC 30 15:08:31.3±1.0, 40°.57N±0°.02×37°.20E±0°.02, h6km±9km, n72, σ1°41/117, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSDY	**Resadiye-TOKAT**	**0.20**	**151**	PG	**Pg**	**15 08 34.8**	**-0.4**
RSDY				SG	**Sg**	**15 08 38.7**	**+0.9**
RSDY	**Resadiye-TOKAT**	**0.20**	**151**	*e*Pg	**Pg**	**15 08 34.8**	**-0.4**
RSDY				*e*Sg	**Sg**	**15 08 38.7**	**+0.9**
TOKT	**Tokat**	**0.56**	**244**	PG	**Pg**	**15 08 41.3**	**-0.7**
TOKT				SG	**Sg**	**15 08 48.9**	**-0.4**
TOKT	**Tokat**	**0.56**	**244**	*e*Pg	**Pg**	**15 08 41.3**	**-0.7**
TOKT				*e*Sg	**Sg**	**15 08 48.9**	**-0.4**
ORDU	**Ordu-Boztepe**	**0.65**	**49**	*i* P	**Pb**	**15 08 45.5**	**+0.4**
ORDU				*i* S	**Sb**	**15 08 54.5**	**0.0**
ORDU	**Ordu-Boztepe**	**0.65**	**49**	P	**Pb**	**15 08 45.5**	**+0.4**
ORDU				S	**Sb**	**15 08 54.5**	**0.0**
SVSK	**Karacayir**	**0.67**	**194**	PG	**Pg**	**15 08 44.2**	**+0.1**
SVSK				SG	**Sb**	**15 08 54.5**	**-0.3**
SVSK	**Karacayir**	**0.67**	**194**	*e*Pg	**Pg**	**15 08 44.2**	**+0.1**
SVSK				*e*Sg	**Sb**	**15 08 54.5**	**-0.3**
CUZAR	**Zara_SIVAS**	**0.81**	**147**	*i* P	**Pb**	**15 08 48.1**	**+0.3**
CUZAR				*i* S	**Sn**	**15 09 00.6**	**-1.1**
CUZAR	**Zara_SIVAS**	**0.81**	**147**	P	**Pb**	**15 08 48.1**	**+0.3**
CUZAR				S	**Sn**	**15 09 00.6**	**-1.1**
SUSE	**Susehri**	**0.84**	**115**	*i* P	**Pb**	**15 08 48.3**	**-0.1**
SUSE				*i* S	**Sb**	**15 08 59.9**	**-0.2**
SUSE	**Susehri**	**0.84**	**115**	P	**Pb**	**15 08 48.3**	**-0.1**
SUSE				S	**Sb**	**15 08 59.9**	**-0.2**
GRSN	**GIRESUNGRSN**	**0.89**	**66**	*i* P	**Pb**	**15 08 48.8**	**-0.3**
GRSN				*i* S	**Sb**	**15 09 01.2**	**0.0**
GRSN	**GIRESUNGRSN**	**0.89**	**66**	P	**Pb**	**15 08 48.8**	**-0.3**
GRSN				S	**Sb**	**15 09 01.2**	**0.0**
KVT	**Kavak**	**1.01**	**301**	PG	**Pg**	**15 08 49.6**	**-1.2**
KVT	**Kavak**	**1.01**	**301**	*e*Pg	**Pg**	**15 08 49.6**	**-1.2**
ESPY	**Espiye-Giresun**	**1.21**	**73**	PN	**Pn**	**15 08 55.4**	**+0.6**
ESPY				SN	**Sn**	**15 09 12.9**	**+1.4**
ESPY	**Espiye-Giresun**	**1.21**	**73**	*e*Pn	**Pn**	**15 08 55.4**	**+0.6**
ESPY				*e*Sn	**Sn**	**15 09 12.9**	**+1.4**
CUKAN	**kangal_SIVAS**	**1.27**	**171**	*i* P	**Pn**	**15 08 55.9**	**+0.3**
CUKAN				*i* S	**Sn**	**15 09 14.1**	**+1.0**
CUKAN	**kangal_SIVAS**	**1.27**	**171**	P	**Pn**	**15 08 55.9**	**+0.3**
CUKAN				S	**Sn**	**15 09 14.1**	**+1.0**
ILIC	**ilic-Erzincan**	**1.53**	**136**	PN	**Pg**	**15 09 00.6**	**0.0**
ILIC	**ilic-Erzincan**	**1.53**	**136**	*e*Pn	**Pg**	**15 09 00.6**	**0.0**
KELT	**Kelkit**	**1.62**	**104**	*e*P	**Pg**	**15 09 02.3**	**-0.1**
KELT				*e*S	**Sg**	**15 09 24.6**	**+1.1**
KELT				IAML		15 09 28.5	
	comp=Z,39nm,0.2s						
KELT	**Kelkit**	**1.62**	**104**	*i* P	**Pg**	**15 09 02.4**	**0.0**
KELT				*i* S	**Sg**	**15 09 23.5**	**0.0**
KELT	**Kelkit**	**1.62**	**104**	P	**Pg**	**15 09 02.4**	**0.0**
KELT				S	**Sg**	**15 09 23.5**	**0.0**
KEMA	**Kemaliye**	**1.63**	**142**	*i* P	**Pg**	**15 09 02.6**	**0.0**
KEMA				*e*S	**Sg**	**15 09 26.3**	**+2.5**
KEMA				IAML		15 09 28.9	
	comp=Z,13nm,0.4s						
KEMA	**Kemaliye**	**1.63**	**142**	*i* P	**Pg**	**15 09 02.4**	**-0.2**
KEMA				*i* S	**Sg**	**15 09 26.1**	**+2.3**
KEMA	**Kemaliye**	**1.63**	**142**	P	**Pg**	**15 09 02.4**	**-0.2**
KEMA				S	**Sg**	**15 09 26.1**	**+2.3**
REFA	**Refahiye_ERZ**	**1.68**	**134**	*e*P	**Pn**	**15 08 57.6**	**-3.7**
REFA				IAML		15 09 24.0	
	comp=Z,13nm,0.6s						
REFA	**Refahiye_ERZ**	**1.68**	**134**	*i* P	**Pn**	**15 08 57.1**	**-4.2**
REFA				*i* S	**Sn**	**15 09 16.8**	**-6.4**
YOZ	**Yozgat**	**1.71**	**238**	PN	**Pn**	**15 09 02.5**	**+0.7**
YOZ				SN	**Sb**	**15 09 25.2**	**+0.1**
YOZ	**Yozgat**	**1.71**	**238**	*e*Pn	**Pn**	**15 09 02.5**	**+0.7**
YOZ				*e*Sn	**Sb**	**15 09 25.2**	**+0.1**
GUMT	**Gumushane**	**1.74**	**93**	PN	**Pg**	**15 09 04.2**	**-0.4**
GUMT				SN	**Sg**	**15 09 27.3**	**+0.1**
GUMT	**Gumushane**	**1.74**	**93**	*e*Pn	**Pg**	**15 09 04.2**	**-0.4**
GUMT				*e*Sn	**Sg**	**15 09 27.3**	**+0.1**
HEKM	**Malatya_Hekimh**	**1.79**	**161**	*i* P	**Pg**	**15 09 05.1**	**-0.4**
HEKM				*i* S	**Sg**	**15 09 30.7**	**+2.1**
HEKM	**Malatya_Hekimh**	**1.79**	**161**	P	**Pg**	**15 09 05.1**	**-0.4**
HEKM				S	**Sg**	**15 09 30.7**	**+2.1**
DIKM	**Dikmen**	**1.82**	**307**	PN	**Pn**	**15 09 03.7**	**+0.5**
DIKM				SN	**Sb**	**15 09 28.7**	**+0.6**
DIKM	**Dikmen**	**1.82**	**307**	*e*Pn	**Pn**	**15 09 03.7**	**+0.5**
DIKM				*e*Sn	**Sb**	**15 09 28.7**	**+0.6**
MACK	**Trabzon**	**1.99**	**78**	*i* P	**Pg**	**15 09 09.1**	**-0.2**
MACK				*i* S	**Sg**	**15 09 34.4**	**-0.7**
MACK	**Trabzon**	**1.99**	**78**	P	**Pg**	**15 09 09.1**	**-0.2**
MACK				S	**Sg**	**15 09 34.4**	**-0.7**
KTUT	**Trabzon**	**1.99**	**77**	PN	**Pb**	**15 09 07.9**	**0.0**
KTUT	**Trabzon**	**1.99**	**77**	*e*Pn	**Pb**	**15 09

THT1					AML	AML	15 23 40.0		
	comp=E,11633µm,0.3s								
THT1					AML	AML	15 23 40.3		
	comp=N,12075µm,0.2s								
THT1	**Athinios (Pele**	**0.43**	**44**	P		**Pg**	**15 23 33.1**	**0.0**	
THT1				S		**Sg**	**15 23 39.0**	**-0.1**	
THT1	**Athinios (Pele**	**0.43**	**44**	P		**Pg**	**15 23 33.1**	**0.0**	
THT1				S		**Sg**	**15 23 39.2**	**+0.1**	
THR3	**Thira Island,**	**0.44**	**39**	P		**Pg**	**15 23 33.3**	**+0.1**	
THR3	**Thira Island,**	**0.44**	**39**	P		**Pg**	**15 23 33.0**	**+0.1**	
THR3				S		**Sg**	**15 23 39.0**	**-0.1**	
THR3	**Thira Island,**	**0.44**	**39**	P		**Pg**	**15 23 33.3**	**+0.1**	
THR3				S		**Sg**	**15 23 39.0**	**-0.1**	
SANT	**Santorini**	**0.44**	**47**	PG		**Pg**	**15 23 33.1**	**-0.2**	
SANT				SG		**Sb**	**15 23 40.8**	**+0.4**	
SANT	**Santorini**	**0.44**	**47**	P		**Pg**	**15 23 33.4**	**+0.1**	
SANT				S		**Sb**	**15 23 40.5**	**0.0**	
SANT					AML	AML	15 23 41.3		
	comp=N,12964µm,0.3s								
SANT					AML	AML	15 23 43.9		
	comp=E,18192µm,0.3s								
SANT	**Santorini**	**0.44**	**47**	*e*Pg		**Pg**	**15 23 33.2**	**-0.1**	
SANT	**Santorini**	**0.44**	**47**	P		**Pg**	**15 23 33.3**	**-0.1**	
SANT				S		**Sg**	**15 23 39.1**	**-0.2**	
SANT	**Santorini**	**0.44**	**47**	*e*Pg		**Pg**	**15 23 33.2**	**-0.1**	
SANT				S		**Sg**	**15 23 39.1**	**-0.2**	
SANT				*e*Sg		**Sb**	**15 23 40.8**	**+0.4**	
SAP2K	**Karterados**	**0.46**	**43**	P		**Pb**	**15 23 34.1**	**-0.2**	
SAP2K				S		**Sb**	**15 23 41.1**	**+0.1**	
SAP2K					AML	AML	15 23 44.5		
	comp=E,70644µm,0.4s								
SAP2K					AML	AML	15 23 45.3		
	comp=N,65824µm,0.3s								
SAP2K	**Karterados**	**0.46**	**43**	P		**Pb**	**15 23 33.9**	**-0.4**	
SAP2K				S		**Sb**	**15 23 40.4**	**-0.6**	
SFIR	**Foira Santorin**	**0.46**	**40**	P		**Pb**	**15 23 33.9**	**-0.4**	
THR7	**Fira-Santorini**	**0.46**	**40**	P		**Pg**	**15 23 33.1**	**-0.5**	
THR7	**Fira-Santorini**	**0.46**	**40**	P		**Pg**	**15 23 33.4**	**-0.2**	
THR7	**Fira-Santorini**	**0.46**	**40**	P		**Pg**	**15 23 33.4**	**-0.2**	
SAP4	**Santorini-Oia**	**0.48**	**32**	P		**Pb**	**15 23 34.3**	**-0.2**	
SAP4				S		**Sb**	**15 23 41.9**	**+0.6**	
SAP4	**Santorini-Oia**	**0.48**	**32**	P		**Pb**	**15 23 34.0**	**-0.5**	
SAP4				S		**Sb**	**15 23 41.0**	**-0.4**	
SAP4	**Santorini-Oia**	**0.48**	**32**	P		**Pb**	**15 23 34.0**	**-0.5**	
SAP4				S		**Sb**	**15 23 41.0**	**-0.4**	
THR8	**Santorini-Mono**	**0.48**	**45**	P		**Pg**	**15 23 33.2**	**-0.7**	
THR8	**Santorini-Mono**	**0.48**	**45**	P		**Pg**	**15 23 32.3**	**-1.6**	
THR8	**Santorini-Mono**	**0.48**	**45**	P		**Pg**	**15 23 33.6**	**-0.3**	
THR2	**Thira island,**	**0.48**	**39**	P		**Pg**	**15 23 32.5**	**-1.5**	
THR2	**Thira island,**	**0.48**	**39**	P		**Pg**	**15 23 33.3**	**-0.7**	
THR2	**Thira island,**	**0.48**	**39**	P		**Pg**	**15 23 33.3**	**-0.7**	
ANAF	**Anafi Island**	**0.65**	**64**	P		**Pg**	**15 23 37.1**	**0.0**	
ANAF				S		**Sg**	**15 23 45.9**	**+0.3**	
ANAF					AML	AML	15 23 46.7		
ANAF					AML	AML	15 23 47.0		
	comp=E,80366µm,0.4s								
ANAF	**Anafi Island**	**0.65**	**64**	P		**Pg**	**15 23 36.9**	**-0.2**	
ANAF				S		**Sg**	**15 23 46.0**	**+0.3**	
IOSP	**Ios island**	**0.68**	**16**	P		**Pg**	**15 23 37.1**	**-0.5**	
IOSP					AML	AML	15 23 48.0		
	comp=E,23411µm,0.2s								
IOSP				S		**Sb**	**15 23 48.3**	**+1.1**	
IOSP					AML	AML	15 23 52.0		
	comp=N,24815µm,0.3s								
IOSP	**Ios island**	**0.68**	**16**	P		**Pg**	**15 23 37.2**	**-0.5**	
IOSP				S		**Sb**	**15 23 47.7**	**+0.5**	
IACM	**Heraklion**	**0.76**	**179**	P		**Pb**	**15 23 40.1**	**+0.7**	
IACM	**Heraklion**	**0.76**	**179**	P		**Pb**	**15 23 39.7**	**+0.3**	
IDI	**Anoyia**	**0.79**	**190**	Pg		**Pg**	**15 23 39.1**	**-0.8**	
	comp=N,84nm,0.3s,baz=6.2,slow=13,SNR=202								
IDI					Lg	Lg	15 23 51.3		
	comp=N,672nm,0.3s,baz=276,slow=18,SNR=31								
IDI					LR	LR	15 24 11.8		
	comp=N,326nm,18.4s,baz=147,slow=57								
IDI	**Anoyia**	**0.79**	**190**	PG		**Pg**	**15 23 39.3**	**-0.6**	
IDI				SG		**Sb**	**15 23 50.6**	**+0.1**	
IDI	**Anoyia**	**0.79**	**190**	*e*Pg		**Pg**	**15 23 39.0**	**-0.9**	
IDI	**Anoyia**	**0.79**	**190**	*e*Pg		**Pg**	**15 23 39.3**	**-0.6**	
IDI				*e*Sg		**Sb**	**15 23 50.6**	**+0.1**	
MHLO	**Agia Marina, M**	**0.81**	**320**	P		**Pg**	**15 23 39.5**	**-0.7**	
MHLO				S		**Sb**	**15 23 51.9**	**+0.8**	
MHLO					AML	AML	15 23 55.7		
	comp=N,63913µm,0.5s								
MHLO					AML	AML	15 23 58.0		
	comp=E,83132µm,0.6s								
MHLO	**Agia Marina, M**	**0.81**	**320**	P		**Pg**	**15 23 39.6**	**-0.7**	
MHLO				S		**Sb**	**15 23 51.7**	**+0.6**	
MHLO	**Agia Marina, M**	**0.81**	**320**	P		**Pg**	**15 23 39.7**	**-0.5**	
MHLO				S		**Sb**	**15 23 51.7**	**+0.6**	
MHLA	**Plaka, Milos I**	**0.85**	**323**	P		**Pn**	**15 23 42.1**	**+0.3**	
MHLA				S		**Sb**	**15 23 52.7**	**+0.7**	
MHLA					AML	AML	15 23 55.7		
	comp=E,20709µm,0.4s								
MHLA					AML	AML	15 23 59.8		
	comp=N,26698µm,1.1s								
MHLA	**Plaka, Milos I**	**0.85**	**323**	P		**Pn**	**15 23 41.3**	**-0.5**	
MHLA				S		**Sb**	**15 23 52.7**	**+0.7**	
NPS	**Neapolis**	**0.92**	**151**	P		**Pg**	**15 23 41.9**	**-0.4**	
NPS				S		**Sn**	**15 23 57.4**	**+1.5**	
NPS					AML	AML	15 24 01.4		
	comp=N,17171µm,0.8s								
NPS					AML	AML	15 24 01.8		
	comp=E,17628µm,0.6s								
NPS	**Neapolis**	**0.92**	**151**	P		**Pg**	**15 23 41.9**	**-0.4**	
NPS				S		**Sb**	**15 23 55.5**	**+1.2**	
NPS	**Neapolis**	**0.92**	**151**	P		**Pg**	**15 23 41.9**	**-0.4**	
NPS				S		**Sb**	**15 23 55.5**	**+1.2**	
VAM	**Vamos**	**0.96**	**227**	P		**Pg**	**15 23 41.9**	**-1.2**	
VAM				S		**Sb**	**15 23 56.2**	**+0.9**	
VAM					AML	AML	15 23 58.2		
	comp=N,28970µm,0.3s								
VAM					AML	AML	15 23 59.9		
	comp=E,13255µm,0.5s								
VAM	**Vamos**	**0.96**	**227**	P		**Pg**	**15 23 42.2**	**-0.8**	
VAM				S		**Sb**	**15 23 55.9**	**+0.5**	
VAM	**Vamos**	**0.96**	**227**	P		**Pg**	**15 23 42.2**	**-0.8**	
VAM				S		**Sb**	**15 23 55.9**	**+0.5**	
LAST	**Lasithi**	**0.97**	**159**	P		**Pb**	**15 23 43.2**	**+0.2**	
LAST				S		**Sb**	**15 23 56.5**	**+0.9**	
LAST					AML	AML	15 23 58.2		
	comp=N,6742µm,0.4s								
LAST					AML	AML	15 23 58.4		
	comp=E,7358µm,0.5s								
LAST	**Lasithi**	**0.97**	**159**	P		**Pb**	**15 23 43.2**	**+0.2**	
LAST				S		**Sb**	**15 23 56.5**	**+0.9**	
LAST	**Lasithi**	**0.97**	**159**	P		**Pg**	**15 23 42.4**	**-0.8**	
LAST				S		**Sb**	**15 23 56.2**	**+0.5**	
LAST	**Lasithi**	**0.97**	**159**	P		**Pg**	**15 23 43.0**	**-0.2**	
LAST				S		**Sb**	**15 23 56.2**	**+0.5**	
APE	**Apeiranthos**	**1.07**	**21**	PG		**Pb**	**15 23 43.9**	**-0.8**	
APE				SG		**Sn**	**15 23 59.1**	**-0.4**	
APE	**Apeiranthos**	**1.07**	**21**	P		**Pb**	**15 23 43.8**	**-0.8**	
APE				S		**Sg**	**15 23 58.6**	**-0.4**	
APE					AML	AML	15 24 03.9		
	comp=E,8191µm,0.3s								
APE					AML	AML	15 24 07.6		
	comp=N,4938µm,0.5s								
APE	**Apeiranthos**	**1.07**	**21**	P		**Pb**	**15 23 43.7**	**-0.9**	
APE				S		**Sg**	**15 23 58.8**	**-0.2**	
APE	**Apeiranthos**	**1.07**	**21**	P		**Pb**	**15 23 43.9**	**-0.8**	
APE				S		**Sg**	**15 23 58.8**	**-0.2**	
APE				*e*Sg		**Sn**	**15 23 59.1**	**-0.4**	
IMMV	**Iera Moni Meta**	**1.07**	**235**	P		**Pb**	**15 23 43.5**	**-1.1**	
IMMV	**Iera Moni Meta**	**1.07**	**235**	P		**Pb**	**15 23 43.9**	**-0.6**	
IMMV				S		**Sb**	**15 23 58.1**	**-0.3**	
IMMV	**Iera Moni Meta**	**1.07**	**235**	P		**Pb**	**15 23 44.0**	**-0.6**	
IMMV				S		**Sb**	**15 23 58.1**	**-0.3**	
SIVA	**Sivas**	**1.07**	**191**	P		**Pb**	**15 23 44.5**	**-0.1**	
SIVA				S		**Sg**	**15 23 59.0**	**-0.1**	
SIVA					AML	AML	15 24 00.2		
	comp=E,35042µm,0.6s								
SIVA					AML	AML	15 24 02.1		
	comp=N,21516µm,0.4s								
SIVA	**Sivas**	**1.07**	**191**	P		**Pb**	**15 23 44.6**	**-0.1**	
SIVA				S		**Sg**	**15 23 59.3**	**+0.2**	
SIVA	**Sivas**	**1.07**	**191**	P		**Pb**	**15 23 44.5**	**-0.1**	
SIVA				S		**Sg**	**15 23 59.2**	**+0.2**	
ZKR	**Zakros**	**1.34**	**135**	P		**Pn**	**15 23 48.5**	**-0.2**	
ZKR				S		**Sb**	**15 24 04.8**	**-1.6**	
ZKR	**Zakros**	**1.34**	**135**	P		**Pn**	**15 23 48.4**	**-0.2**	
ZKR				S		**Sg**	**15 24 07.7**	**-0.1**	
ZKR	**Zakros**	**1.34**	**135**	P		**Pn**	**15 23 48.5**	**-0.2**	
ZKR				S		**Sb**	**15 24 05.6**	**-0.7**	
ANKY	**Antikythira Is**	**1.44**	**262**	P		**Pb**	**15 23 51.0**	**+0.1**	
ANKY	**Antikythira Is**	**1.44**	**262**	P		**Pn**	**15 23 49.0**	**-1.0**	
ANKY				S		**Sn**	**15 24 08.3**	**-0.3**	
ANKY	**Antikythira Is**	**1.44**	**262**	P		**Pb**	**15 23 50.6**	**-0.3**	
ANKY				S		**Sn**	**15 24 08.3**	**-0.3**	
GVD	**Gavdhos**	**1.46**	**213**	P		**Pn**	**15 23 50.3**	**0.0**	
GVD				S		**Sn**	**15 24 09.2**	**0.0**	
GVD	**Gavdhos**	**1.46**	**213**	P		**Pn**	**15 23 50.3**	**0.0**	
GVD				S		**Sn**	**15 24 09.2**	**0.0**	
KYTH	**Kithira**	**1.64**	**277**	P		**Pn**	**15 23 51.9**	**-0.8**	
KYTH	**Kithira**	**1.64**	**277**	P		**Pn**	**15 23 52.5**	**-0.3**	
KYTH	**Kithira**	**1.64**	**277**	P		**Pn**	**15 23 52.5**	**-0.3**	
MNVA	**Monemvasia**	**1.74**	**291**	P		**Pn**	**15 23 53.8**	**-0.4**	
MNVA	**Monemvasia**	**1.74**	**291**	P		**Pn**	**15 23 54.0**	**-0.1**	
KARP	**Karpathos**	**1.79**	**106**	PN		**Pb**	**15 23 56.3**	**-0.6**	
KARP				SN		**Sb**	**15 24 19.4**	**+0.2**	
KARP	**Karpathos**	**1.79**	**106**	P		**Pn**	**15 23 55.7**	**+0.9**	
KARP	**Karpathos**	**1.79**	**106**	*e*Pn		**Pn**	**15 23 54.7**	**-0.1**	
KARP	**Karpathos**	**1.79**	**106**	P		**Pn**	**15 23 54.8**	**-0.1**	
KARP	**Karpathos**	**1.79**	**106**	*e*Pn		**Pn**	**15 23 54.7**	**-0.1**	
KARP	**Karpathos**	**1.79**	**106**	P		**Pn**	**15 23 55.2**	**+0.4**	
KARP				*e*Sn		**Sb**	**15 24 19.4**	**+0.2**	
VLI	**Veliai**	**1.83**	**291**	P		**Pn**	**15 23 54.7**	**-0.6**	
VLI	**Veliai**	**1.83**	**291**	P		**Pn**	**15 23 54.9**	**-0.5**	
VLI				S		**Sn**	**15 24 18.7**	**+0.4**	
VLI	**Veliai**	**1.83**	**291**	P		**Pn**	**15 23 55.1**	**-0.2**	
VLI				S		**Sn**	**15 24 18.7**	**+0.4**	
KRND	**KRANIDI**	**2.02**	**311**	P		**Pn**	**15 23 58.1**	**+0.2**	
KRND	**KRANIDI**	**2.02**	**311**	P		**Pn**	**15 23 58.1**	**+0.2**	
KRND	**KRANIDI**	**2.02**	**311**	P		**Pn**	**15 23 58.1**	**+0.2**	
KARY	**Karystos**	**2.02**	**346**	P		**Pn**	**15 23 57.8**	**-0.2**	
KARY	**Karystos**	**2.02**	**346**	P		**Pn**	**15 23 57.8**	**-0.2**	
VLY	**Voula,Athens**	**2.05**	**331**	P		**Pn**	**15 23 58.4**	**+0.1**	
VLY	**Voula,Athens**	**2.05**	**331**	P		**Pn**	**15 23 58.4**	**+0.1**	
DID	**Didima**	**2.05**	**315**	P		**Pn**	**15 23 58.0**	**-0.4**	
DID	**Didima**	**2.05**	**315**	P		**Pn**	**15 23 58.0**	**-0.4**	
BODT	**Bodrum**	**2.07**	**61**	PN		**Pn**	**15 23 58.8**	**+0.2**	
BODT	**Bodrum**	**2.07**	**61**	Pn		**Pn**	**15 23 58.8**	**+0.2**	
BODT	**Bodrum**	**2.07**	**61**	P		**Pn**	**15 23 57.4**	**-1.2**	
BODT				S		**Sn**	**15 24 25.1**	**+1.0**	
BODT	**Bodrum**	**2.07**	**61**	P		**Pn**	**15 23 57.4**	**-1.2**	
BODT	**Bodrum**	**2.07**	**61**	*e*Pn		**Pn**	**15 23 58.8**	**+0.2**	
BODT				S		**Sn**	**15 24 25.1**	**+1.0**	
ATHU	**Athens Univers**	**2.15**	**332**	P		**Pn**	**15 24 00.1**	**+0.3**	
ATHU	**Athens Univers**	**2.15**	**332**	P		**Pn**	**15 23 59.9**	**+0.1**	
ATHU	**Athens Univers**	**2.15**	**332**	P		**Pn**	**15 24 00.0**	**+0.3**	
SMG	**Samos**	**2.17**	**41**	P		**Pn**	**15 23 59.4**	**-0.7**	
SMG	**Samos**	**2.17**	**41**	P		**Pn**	**15 23 59.3**	**-0.7**	
SMG	**Samos**	**2.17**	**41**	P		**Pn**	**15 23 59.7**	**-0.4**	
DION	**Dionisos Attik**	**2.20**	**336**	P		**Pn**	**15 24 01.2**	**+0.8**	
DION	**Dionisos Attik**	**2.20**	**336**	P		**Pn**	**15 24 00.8**	**+0.4**	
DYR	**Agios Nikonas**	**2.30**	**288**	P		**Pn**	**15 24 03.6**	**+1.7**	
DYR	**Agios Nikonas**	**2.30**	**288**	P		**Pn**	**15 24 02.7**	**+0.8**	
DYR	**Agios Nikonas**	**2.30**	**288**	P		**Pn**	**15 24 02.7**	**+0.8**	
GCAM	**G?zlcaml?**	**2.38**	**46**	PN		**Pn**	**15 24 03.4**	**+0.4**	
GCAM	**G?zlcaml?**	**2.38**	**46**	*i* P		**Pn**	**15 24 02.1**	**-0.9**	
GCAM	**G?zlcaml?**	**2.38**	**46**	P		**Pn**	**15 24 02.1**	**-0.9**	
GCAM	**G?zlcaml?**	**2.38**	**46**	*e*Pn		**Pn**	**15 24 03.4**	**+0.4**	
CHOS	**Chios island**	**2.44**	**19**	PN		**Pn**	**15 24 03.9**	**0.0**	
CHOS	**Chios island**	**2.44**	**19**	P		**Pn**	**15 24 03.0**	**-0.9**	
CHOS	**Chios island**	**2.44**	**19**	P		**Pn**	**15 24 03.0**	**-0.9**	
CHOS	**Chios island**	**2.44**	**19**	*e*Pn		**Pn**	**15 24 03.9**	**0.0**	
ZEY	**˙zmir**	**2.45**	**28**	*i* P		**Pn**	**15 24 02.5**	**-1.4**	
DGB	**˙zmir**	**2.46**	**36**	*i* P		**Pn**	**15 24 03.0**	**-1.0**	
MLSB	**Milas**	**2.50**	**60**	PN		**Pn**	**15 24 05.2**	**+0.5**	
MLSB	**Milas**	**2.50**	**60**	*e*Pn		**Pn**	**15 24 05.2**	**+0.5**	
EREA	**Eretria**	**2.51**	**339**	P		**Pn**	**15 24 05.4**	**+0.6**	
EREA	**Eretria**	**2.51**	**339**	P		**Pn**	**15 24 05.1**	**+0.3**	
EREA	**Eretria**	**2.51**	**339**	P		**Pn**	**15 24 05.1**	**+0.3**	
VILL	**Villia**	**2.51**	**327**	P		**Pn**	**15 24 05.2**	**+0.4**	
VILL	**Villia**	**2.51**	**327**	P		**Pn**	**15 24 05.2**	**+0.4**	
VLX	**Vlachokerasia**	**2.51**	**302**	P		**Pn**	**15 24 05.2**	**+0.3**	
VLX	**Vlachokerasia**	**2.51**	**302**	P		**Pn**	**15 24 05.1**	**+0.3**	
VLX	**Vlachokerasia**	**2.51**	**302**	P		**Pn**	**15 24 05.1**	**+0.3**	
LTK	**Loutraki**	**2.57**	**320**	P		**Pn**	**15 24 06.0**	**+0.5**	
LTK	**Loutraki**	**2.57**	**320**	P		**Pn**	**15 24 06.0**	**+0.5**	
URLA	**Izmir**	**2.59**	**28**	PN		**Pn**	**15 24 05.6**	**-0.3**	
URLA	**Izmir**	**2.59**	**28**	*i* P		**Pn**	**15 24 03.7**	**-2.2**	
URLA	**Izmir**	**2.59**	**28**	P		**Pn**	**15 24 03.7**	**-2.2**	
URLA	**Izmir**	**2.59**	**28**	*e*Pn		**Pn**	**15 24 05.6**	**-0.3**	
ITM	**Ithomi**	**2.75**	**295**	P		**Pn**	**15 24 09.5**	**+1.4**	
ITM	**Ithomi**	**2.75**	**295**	P		**Pn**	**15 24 09.5**	**+1.4**	
AYDN	**Tasoluk**	**2.76**	**54**	*i* P		**Pn**	**15 24 08.6**	**+0.3**	
AYDN	**Tasoluk**	**2.76**	**54**	P		**Pn**	**15 24 08.6**	**+0.3**	
PYL	**PYLOS**	**2.80**	**288**	P		**Pn**	**15 24 08.6**	**-0.1**	
PYL	**PYLOS**	**2.80**	**288**	P		**Pn**	**15 24 10.1**	**+1.5**	
PYL	**PYLOS**	**2.80**	**288**	P		**Pn**	**15 24 08.9**	**+0.3**	
BLCB	**Balcova**	**2.80**	**34**	PN		**Pn**	**15 24 08.1**	**-0.6**	
BLCB	**Balcova**	**2.80**	**34**	*e*Pn		**Pn**	**15 24 08.1**	**-0.6**	
GUR	**Goura**	**2.86**	**311**	P		**Pn**	**15 24 10.2**	**+0.5**	
GUR	**Goura**	**2.86**	**311**	P		**Pn**	**15 24 10.2**	**+0.5**	
AYDB	**Zeytinkoy-Aydi**	**2.94**	**50**	PN		**Pn**	**15 24 11.1**	**+0.3**	
AYDB	**Zeytinkoy-Aydi**	**2.94**	**50**	*e*Pn		**Pn**	**15 24 11.1**	**+0.3**	
TURN	**Turunc**	**2.97**	**73**	PN		**Pn**	**15 24 07.4**	**-3.6**	
TURN	**Turunc**	**2.97**	**73**	*i* P		**Pn**	**15 24 07.1**	**-3.9**	
TURN	**Turunc**	**2.97**	**73**	P		**Pn**	**15 24 07.1**	**-3.9**	
TURN	**Turunc**	**2.97**	**73**	*e*Pn		**Pn**	**15 24 07.4**	**-3.6**	
KLV	**Kalavryta, Ach**	**3.05**	**311**	P		**Pn**	**15 24 12.7**	**+0.5**	
KLV	**Kalavryta, Ach**	**3.05**	**311**	P		**Pn**	**15 24 12.7**	**+0.5**	
LKR	**Lokris**	**3.05**	**328**	P		**Pn**	**15 24 12.3**	**+0.1**	
LKR	**Lokris**	**3.05**	**328**	P		**Pn**	**15 24 12.3**	**+0.1**	
AMT	**Artemida-Makis**	**3.06**	**299**	P		**Pn**	**15 24 12.9**	**+0.6**	
AMT	**Artemida-Makis**	**3.06**	**299**	P		**Pn**	**15 24 12.9**	**+0.6**	
DSF	**Desfina**	**3.09**	**320**	P		**Pn**	**15 24 13.0**	**+0.3**	
DSF	**Desfina**	**3.09**	**320**	P		**Pn**	**15 24 13.0**	**+0.3**	
SIGR	**SIGRI**	**3.20**	**11**	PN		**Pn**	**15 24 13.9**	**-0.3**	
SIGR	**SIGRI**	**3.20**	**11**	*e*Pn		**Pn**	**15 24 13.9**	**-0.3**	
DRO	**Drossia**	**3.27**	**306**	P		**Pn**	**15 24 16.5**	**+1.3**	
DRO	**Drossia**	**3.27**	**306**	P		**Pn**	**15 24 16.5**	**+1.3**	
LAKA	**Lakka**	**3.28**	**312**	P		**Pn**	**15 24 16.1**	**+0.8**	
LAKA	**Lakka**	**3.28**	**312**	P		**Pn**	**15 24 16.1**	**+0.8**	
KALE	**Kalithea**	**3.28**	**316**	P		**Pn**	**15 24 15.9**	**+0.5**	
KALE	**Kalithea**	**3.28**	**316**	P		**Pn**	**15 24 15.9**	**+0.5**	
FETY	**Fethiye**	**3.30**	**79**	PN		**Pn**	**15 24 16.6**	**+1.0**	
FETY	**Fethiye**	**3.30**	**79**	*e*Pn		**Pn**	**15 24 16.6**	**+1.0**	
TRIZ	**Trizonia**	**3.31**	**315**	P		**Pn**	**15 24 16.3**	**+0.7**	
TRIZ	**Trizonia**	**3.31**	**315**	P		**Pn**	**15 24 16.3**	**+0.7**	
EFP	**Efpalio**	**3.44**	**314**	P		**Pn**	**15 24 18.4**	**+0.9**	
EFP	**Efpalio**	**3.44**	**314**	P		**Pn**	**15 24 18.4**	**+0.9**	
ANX	**Ano Chora**	**3.55**	**316**	P		**Pn**	**15 24 20.2**	**+1.1**	
ANX	**Ano Chora**	**3.55**	**316**	P		**Pn**	**15 24 20.2**	**+1.1**	
AGG	**Agios Georgios**	**3.66**	**324**	PN		**Pn**	**15 24 20.4**	**-0.1**	
AGG	**Agios Georgios**	**3.66**	**324**	*e*Pn		**Pn**	**15 24 22.0**	**+1.5**	
AGG	**Agios Georgios**	**3.66**	**324**	*e*Pn		**Pn**	**15 24 20.4**	**-0.1**	
AKAS	**Kas**	**3.68**	**86**	PN		**Pn**	**15 24 22.5**	**+1.5**	
AKAS	**Kas**	**3.68**	**86**	*i* P		**Pn**	**15 24 21.4**	**+0.4**	
AKAS	**Kas**	**3.68**	**86**	P		**Pn**	**15 24 21.4**	**+0.4**	
AKAS	**Kas**	**3.68**	**86**	*e*Pn		**Pn**	**15 24 22.5**	**+1.5**	
MANT	**Manisa**	**3.69**	**48**	*e*Pn		**Pn**	**15 24 23.1**	**+1.9**	
MANT	**Manisa**	**3.69**	**48**	*e*Pn		**Pn**	**15 24 23.1**	**+1.9**	
GOLH	**Golhisar**	**3.80**	**71**	*i* P		**Pn**	**15 24 23.4**	**+0.8**	
GOLH	**Golhisar**	**3.80**	**71**	P		**Pn**	**15 24 23.4**	**+0.8**	
ELL	**Elmali**	**3.97**	**79**	PN		**Pn**	**15 24 26.9**	**+2.0**	
ELL	**Elmali**	**3.97**	**79**	*e*Pn		**Pn**	**15 24 26.9**	**+2.0**	
BALY	**Balya**	**4.19**	**28**	*i* P		**Pn**	**15 24 24.8**	**-3.0**	
BALY	**Balya**	**4.19**	**28**	P		**Pn**	**15 24 24.8**	**-3.0**	
KORT	**Korkueli**	**4.36**	**76**	PN		**Pn**	**15 24 32.8**	**+2.5**	
KORT	**Korkueli**	**4.36**	**76**	*e*Pn		**Pn**	**15 24 32.8**	**+2.5**	
LIT	**Litokhoron**	**4.50**	**334**	*e*Pn		**Pn**	**15 24 33.0**	**+0.8**	
LIT	**Litokhoron**	**4.50**	**334**	*e*Pn		**Pn**	**15 24 33.0**	**+0.8**	
SUTC	**Sutluce-Ispart**	**4.97**	**72**	PN		**Pn**	**15 24 41.0**	**+2.3**	
SUTC	**Sutluce-Ispart**	**4.97**	**72**	*e*Pn		**Pn**	**15 24 41.0**	**+2.3**	
SRS	**Serrai**	**5.17**	**348**	*e*Pn		**Pn**	**15 24 41.7**	**+0.4**	
FNA	**Florina**	**5.52**	**330**	*e*Pn		**Pn**	**15 24 48.2**	**+2.0**	
KRUS	**Krusevo**	**6.07**	**332**	*e*Pn		**Pn**	**15 24 56.4**	**+2.7**	
VTS	**Vitosha**	**6.67**	**348**	*e*Pn		**Pn**	**15 25 02.1**	**+0.1**	
VTS	**Vitosha**	**6.67**	**348**	*e*Pn		**Pn**	**15 25 02.1**	**+0.1**	
CSS	**Mathiatis**	**6.84**	**97**	*e*Pn		**Pn**	**15 25 03.9**	**-0.3**	
CSS	**Mathiatis**	**6.84**	**97**	*e*Pn		**Pn**	**15 25 03.9**	**-0.3**	
TIP	**Timpagrande**	**7.28**	**298**	*e*Pn		**Pn**	**15 25 09.1**	**-1.2**	
TIP	**Timpagrande**	**7.28**	**298**	*e*Pn		**Pn**	**15 25 09.1**	**-1.2**	
BR131	**Keskin Array S**	**7.70**	**59**	*e*Pn		**Pn**	**15 25 18.5**	**+2.3**	
BR131	**Keskin Array S**	**7.70**	**59**	*e*Pn		**Pn**	**15 25 18.5**	**+2.3**	
BRTR	**Keskin Array B**	**7.70**	**59**	Pn		**Pn**	**15 25 18.6**	**+2.5**	
	comp=N,0.6nm,0.3s,baz=239,slow=17,SNR=37								
TTG	**Podgorica**	**7.78**	**326**	*e*Pn		**Pn**	**15 25 16.5**	**-0.6**	
TTG	**Podgorica**	**7.78**	**326**	*e*Pn		**Pn**	**15 25 16.5**	**-0.6**	
ZAGS	**Zajecar**	**8.03**	**345**	*e*Pn		**Pn**	**15 25 21.3**	**+0.8**	
CUC	**Castrococco**	**8.28**	**301**	*e*Pn		**Pn**	**15 25 24.1**	**+0.1**	
CUC	**Castrococco**	**8.28**	**301**	*e*Pn		**Pn**	**15 25 24.1**	**+0.1**	
STON	**Ston**	**8.86**	**322**	Sg		**Sg**	**15 28 04.5**	**-3.9**	
MMAI	**Mount Meron Ar**	**9.06**	**107**	Pn		**Pn**	**15 25 35.5**	**+0.7**	
	comp=N,1.5nm,0.3s,baz=289,slow=13,SNR=5.4								
MMAI				Sn		**Sn**	**15 27 14.0**	**-2.7**	
	comp=N,1.8nm,0.3s,baz=320,slow=22,SNR=3.2								
EIL	**Elat**		**10.48**	**125**	Pn	Pn	15 26 00.8	+6.6	
	comp=N,0.4nm,0.3s,baz=342,slow=6.5,SNR=6.0								
EIL				Sn		**Sn**	**15 27 49.4**	**-1.9**	
	comp=N,0.4nm,0.3s,baz=30,slow=17,SNR=3.2								
KEST	**Kesra**		**12.75**	**273**	LR	LR	15 32 00.8		
	comp=N,47nm,18.7s,baz=308,slow=41								
AK11	**Malin Array Si**		**14.90**	**10**	*e*Pn	**Pn**	**15 26 54.6**	**+0.2**	
AKASG	**Malin Array Be**		**14.93**	**10**	Pn	**P**	**15 26 59.

BUSP			*e*S	Sn	15 55 04.9	+1.5
ENPP	**El Nido**	**3.03 285**	*e*P	Pn	15 54 38.0	+1.2
ENPP			*e*S	Sn	15 55 12.7	+0.6

IDC 30 16:05:44.6±1.6, 16°77'S×178°32'W, h0km, mb3.9/5, mb1 4.3/5, mb1mx3.7/53, mbtmp3.9/5, Error ellipse: s-maj=139.8km s-min=22.2km az=152.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**39.26**	**240**	P		P	16 13 15.8	+0.6
	1.5nm,0.4s,baz=85,slow=9.9,SNR=9.8							
WRA	**Warramunga Arr**	**44.93**	**258**	P		P	16 14 01.1	-0.6
	0.7nm,0.5s,baz=94,slow=8.2,SNR=30							
ASAR	**Alice Springs**	**45.19**	**253**	P		P	16 14 03.4	-0.3
	8.6nm,0.6s,baz=89,slow=7.9,SNR=189							
NVAR	**Mina Array Bea**	**78.55**	**44**	P		P	16 17 48.8	+0.4
	0.2nm,0.5s,baz=216,slow=8.5,SNR=3.1							
TXAR	**Lajitas Array**	**85.32**	**58**	P		P	16 18 23.6	-0.5
	0.3nm,0.7s,baz=224,slow=6.3,SNR=4.7							

WEL 30 16:06:33.4, 40°S±1°×17°5E±°, h82km±2km, Cook Strait

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KIW	**Kapiti Island**	**0.48**	**142**	P		Pn	16 06 47.6	+0.4
KIW	**Kapiti Island**	**0.48**	**142**	S		Sn	16 06 57.3	-0.1
DUWZ	**D'Urville Isla**	**0.56**	**235**	P		Pn	16 06 48.2	+0.4
DUWZ	**D'Urville Isla**	**0.56**	**235**	S		Sn	16 06 59.1	+0.5
OGWZ	**Otaki Gorge**	**0.59**	**124**	P		Pn	16 06 48.6	+0.5
OGWZ	**Otaki Gorge**	**0.59**	**124**	S		Sn	16 06 58.9	-0.2
CAW	**Cannon Point**	**0.75**	**147**	P		Pn	16 06 50.5	+0.8
CAW	**Cannon Point**	**0.75**	**147**	S		Sn	16 07 02.3	+0.5
TCW	**Tory Channel**	**0.75**	**194**	P		Pn	16 06 50.7	+1.0
TCW	**Tory Channel**	**0.75**	**194**	S		Sn	16 07 02.8	+0.9
WAZ	**Wanganui**	**0.81**	**26**	P		Pn	16 06 50.9	+0.5
WAZ	**Wanganui**	**0.81**	**26**	S		Sn	16 07 03.8	+0.8
MRZ	**Mangatainoka R**	**0.82**	**103**	P		Pn	16 06 50.7	+0.2
MRZ	**Mangatainoka R**	**0.82**	**103**	S		Sn	16 07 02.7	-0.5
HOWZ	**Holdsworth Sta**	**0.86**	**119**	P		Pn	16 06 51.2	+0.2
HOWZ	**Holdsworth Sta**	**0.86**	**119**	S		Sn	16 07 03.6	-0.4
POWZ	**Post Office Ro**	**0.95**	**85**	P		Pn	16 06 52.7	+0.7
BHW	**Baring Head**	**0.96**	**164**	P		Pn	16 06 52.6	+0.6
MTW	**Mount Morrison**	**1.00**	**133**	P		Pn	16 06 52.9	+0.3
MTW	**Mount Morrison**	**1.00**	**133**	S		Sn	16 07 06.7	-0.2
LREZ	**Lake Rotokare**	**1.02**	**355**	P		Pn	16 06 53.2	+0.4
LREZ	**Lake Rotokare**	**1.02**	**355**	S		Sn	16 07 08.1	+0.7
TUWZ	**Tuamarina**	**1.04**	**205**	P		Pn	16 06 53.6	+0.6
TUWZ	**Tuamarina**	**1.04**	**205**	S		Sn	16 07 07.9	+0.2
TIWZ	**Tintock**	**1.08**	**106**	P		Pn	16 06 53.7	+0.2
MSWZ	**Moikau Station**	**1.08**	**150**	P		Pn	16 06 54.1	+0.5
MSWZ	**Moikau Station**	**1.08**	**150**	S		Sn	16 07 08.3	-0.3
PRWZ	**Pori Road**	**1.11**	**94**	P		Pn	16 06 54.2	+0.4
PAWZ	**Paruwai Farm**	**1.13**	**143**	P		Pn	16 06 54.6	+0.4
PAWZ	**Paruwai Farm**	**1.13**	**143**	S		Sn	16 07 09.4	-0.2
NNZ	**Nelson**	**1.14**	**229**	P		Pn	16 06 54.4	+0.3
NNZ	**Nelson**	**1.14**	**229**	S		Sn	16 07 10.5	+0.7
TSZ	**Takapari Road**	**1.18**	**69**	P		Pn	16 06 54.5	-0.2
TMWZ	**Te Maipa**	**1.21**	**121**	P		Pn	16 06 55.7	+0.6
PLWZ	**Palliser**	**1.22**	**153**	P		Pn	16 06 55.6	+0.4
DREZ	**Durham Road**	**1.32**	**349**	P		Pn	16 06 56.8	+0.3
MTVZ	**Mangateitei**	**1.32**	**34**	P		Pn	16 06 56.6	+0.1
BSWZ	**Blackbirch Sta**	**1.32**	**201**	P		Pn	16 06 57.3	+0.8
BFZ	**Birch Farm**	**1.33**	**99**	P		Pn	16 06 56.5	-0.1
PKVZ	**Pokaka**	**1.35**	**28**	P		Pn	16 06 56.8	-0.1
PKE	**Pukeiti**	**1.35**	**342**	P		Pn	16 06 56.5	-0.4
PNHZ	**Pukenui**	**1.40**	**67**	P		Pn	16 06 57.4	-0.2
TRVZ	**Turoa**	**1.42**	**34**	P		Pn	16 06 57.9	-0.1
TUVZ	**Tukino**	**1.49**	**36**	P		Pn	16 06 58.6	-0.2
QRZ	**Quartz Range**	**1.56**	**257**	P		Pn	16 06 59.1	-0.4
THZ	**Tophouse**	**1.77**	**223**	P		Pn	16 07 02.9	+0.6
HIZ	**Hauiti**	**1.98**	**8**	P		Pn	16 07 05.6	+0.5
KHZ	**Kahutara**	**2.07**	**201**	P		Pn	16 07 06.6	+0.4
TLZ	**Tolley Road**	**2.29**	**20**	P		Pn	16 07 08.6	-0.6
LTZ	**Lake Taylor**	**2.85**	**216**	P		Pn	16 07 16.3	-0.5
TKGZ	**Te Karaka**	**3.29**	**53**	P		Pn	16 07 23.3	+0.8
MKAZ	**Moumakai**	**3.41**	**9**	P		Pn	16 07 23.7	-0.6
KUZ	**Kuaotunu**	**3.85**	**14**	P		Pn	16 07 32.2	+1.9

WEL 30 16:06:34.6±1.3, 36°S±19°×18°0W±2°1, h33km, ML4.1/10, East of North Island

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**2.35**	**224**	P		Pn	16 07 10.4	-0.4
MXZ	**Matakaoa Point**	**2.35**	**224**	S		Sn	16 07 39.3	+0.8
WMGZ	**Waiomatatini S**	**2.48**	**219**	P		Pn	16 07 13.1	+0.4
WMGZ	**Waiomatatini S**	**2.48**	**219**	S		Sn	16 07 41.9	+0.1
PKGZ	**Pakihiroa**	**2.71**	**222**	P		Pn	16 07 16.1	+0.2
PKGZ	**Pakihiroa**	**2.71**	**222**	S		Sn	16 07 48.5	+0.9
PUZ	**Puketiti**	**2.76**	**217**	P		Pn	16 07 16.5	0.0
PUZ	**Puketiti**	**2.76**	**217**	S		Sn	16 07 48.7	+0.1
HAZ	**Te Kaha**	**2.79**	**227**	P		Pn	16 07 17.1	+0.2
HAZ	**Te Kaha**	**2.79**	**227**	S		Sn	16 07 51.3	+2.0
TWGZ	**Tauwhareparae**	**2.98**	**219**	P		Pn	16 07 19.7	+0.2
TWGZ	**Tauwhareparae**	**2.98**	**219**	S		Sn	16 07 55.6	+1.5
RUGZ	**Raukumara Rang**	**2.99**	**225**	P		Pn	16 07 20.4	+0.7
CNGZ	**Carnagh Statio**	**3.11**	**213**	P		Pn	16 07 21.6	+0.3
CNGZ	**Carnagh Statio**	**3.11**	**213**	S		Sn	16 07 59.1	+1.8
MWZ	**Matawai**	**3.33**	**222**	P		Pn	16 07 24.1	-0.3
MWZ	**Matawai**	**3.33**	**222**	S		Sn	16 08 03.2	+0.4
MWZ	**Matawai**	**3.33**	**222**	P		Pn	16 07 24.5	+0.1
RAGZ	**Rawiri**	**3.51**	**221**	P		Pn	16 07 26.8	-0.1
RAGZ	**Rawiri**	**3.51**	**221**	S		Sn	16 08 06.7	-0.6
URZ	**Urewera**	**3.52**	**227**	P		Pn	16 07 26.6	-0.3
URZ	**Urewera**	**3.52**	**227**	S		Sn	16 08 07.0	-0.4
KNZ	**Kokohu**	**3.79**	**214**	P		Pn	16 07 29.4	-1.2

NIED ***30*** *16:11:00,38.°00N×143.°90E,h11km,Mw4.2 Best double couple: M₀2.17000×10¹⁵ NP1:φs165.00000°,δ54.00000°, λ-160.00000°. NP2:φs63.00000°,δ74.00000°, λ-38.00000°.*

IDC ***30*** *16:11:29.3±0.6,37.°91N×144.°01E,h0km,mb4.2/31, mb1 4.3/38,mb1mx4.2/77,mbtmp4.3/38,ML3.3/7,MS3.2/15, Ms1 3.2/15,ms1mx2.9/69,Error ellipse: s-maj=14.8km s-min=11.6km az=138.0*

BJI ***30*** *16:11:33.9,38.°32N×144.°07E,h38km,mb4.4/28,mB4.8/23, Ms4.0/17,Ms7 3.8/17*

JMA ***30*** *16:11:33.2±0.2,38.°02N×143.°86E,h42km,M4.4*

NEIC ***30*** *16:11:34.3±1.3,37.°97N×143.°91E,h31km±9km,mb4.8/31, Error ellipse: s-maj=5.9km s-min=3.7km az=130.0*

NEIC Felt at Sendai.

MOS ***30*** *16:11:34.1±1.0,38.°21N×143.°89E,h33km,mb4.7/25,Error ellipse: s-maj=8.2km s-min=5.0km az=99.6*

ISC 30 16:11:34.1±0.8, 38°01N±0°04×144°02E±0°04, h30km±4km, n200, σt²89/206, mb4.5/80, MS3.6/15, 10C-5D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**2.13**	**301**	P		**Pn**	**16 12 05.9**	**-1.7**
JIO	**Ouri**	**2.15**	**283**	P		**Pn**	**16 12 05.9**	**-1.9**
JIO				S		**Sn**	**16 12 29.9**	**-3.5**
MIYJ	**Miyakonagasawa**	**2.32**	**313**	P		**Pn**	**16 12 08.5**	**-1.7**
MIYJ				S		**Sn**	**16 12 34.5**	**-3.2**
JMK	**Ichinoseki**	**2.39**	**294**	P		**Pn**	**16 12 09.6**	**-1.5**
JOM	**Ohasama**	**2.58**	**305**	P		**Pn**	**16 12 12.6**	**-1.2**
JOM				S		**Sn**	**16 12 42.2**	**-2.0**
JFT	**Otama**	**2.96**	**262**	P		**Pn**	**16 12 17.6**	**-1.4**
JFT				S		**Sn**	**16 12 50.2**	**-3.3**
JYK	**Kaneyama**	**3.01**	**289**	P		**Pn**	**16 12 18.6**	**-1.1**
JYK				S		**Sn**	**16 12 53.0**	**-1.8**
JANG	**Nango**	**3.06**	**321**	P		**Pn**	**16 12 19.0**	**-1.3**
JANG				S		**Sn**	**16 12 52.9**	**-3.0**
JAW	**Awa shima**	**3.78**	**278**	P		**Pn**	**16 12 29.7**	**-0.6**
JAG	**Ashikaga**	**3.98**	**248**	P		**Pn**	**16 12 31.0**	**-1.9**
ERM	**Erimo**	**4.05**	**351**	*e*Pn		**Pn**	**16 12 33.3**	**-0.7**
ERM	**Erimo**	**4.05**	**351**	*e*P		**Pn**	**16 12 33.3**	**-0.7**
JOT	**Ohata**	**4.07**	**327**	P		**Pn**	**16 12 35.1**	**+0.9**
BSO1	**Boso 1**	**4.16**	**217**	P		**Pn**	**16 12 32.0**	**-2.9**
JKB	**Kayabe**	**4.50**	**330**	P		**Pn**	**16 12 40.0**	**-0.1**
JKB				S		**Sn**	**16 13 27.7**	**-3.7**
JRY	**Ryogami san**	**4.55**	**246**	P		**Pn**	**16 12 38.9**	**-2.1**
JCH	**Churui**	**4.62**	**354**	P		**Pn**	**16 12 40.5**	**-1.3**
JCH				S		**Sn**	**16 13 29.8**	**-4.6**
MJAR	**Matsushiro Arr**	**4.86**	**254**	Pn		**Pn**	**16 12 44.5**	**-0.7**
	2.9nm,0.3s,baz=85,slow=14,SNR=54							
MJAR				Sn		**Sn**	**16 13 39.8**	**-0.7**
	4.0nm,0.3s,baz=58,slow=31,SNR=4.7							
MJAR				LR		LR	16 14 34.2	
	comp=Z,100nm,20.6s,baz=85,slow=38							
MAJO	**Matsushiro**	**4.86**	**254**	*e*Pn		**Pn**	**16 12 44.6**	**-0.6**
MAJO	**Matsushiro**	**4.86**	**254**	*e*P		**Pn**	**16 12 44.6**	**-0.6**
MAT	**Matsushiro**	**4.86**	**254**	P		**Pn**	**16 12 44.7**	**-0.5**
MAT				S		**Sn**	**16 13 39.1**	**-1.4**
MJB9	**Matsu-Tunnel**	**4.86**	**254**	*e*Pn		**Pn**	**16 12 44.5**	**-0.6**
JHJ2	**Mitsune**	**5.97**	**216**	*e*Pn		**Pn**	**16 12 57.5**	**-2.8**
JHJ	**Hachijo jima 2**	**5.98**	**217**	Pn		**Pn**	**16 12 57.4**	**-3.2**
	16nm,0.3s,baz=318,slow=22,SNR=7.8							
JHJ				Sn		**Sn**	**16 14 00.5**	**-7.5**
	32nm,0.3s,baz=244,slow=23,SNR=9.0							
YUK	**Yuzh-Kuril'sk**	**6.17**	**12**	*e*P		**Pn**	**16 13 01.0**	**-2.1**
YUK				*e*S		**Sn**	**16 14 05.8**	**-6.8**
YUK				pmax		pmax		
	comp=Z,323nm,0.2s							
YUK				smax		smax		
	comp=N,775nm,0.4s							
YUK				smax		smax		
	comp=E,623nm,0.5s							
ASAJ	**Asahikawa**	**6.19**	**350**	Pn		**Pn**	**16 13 03.2**	**-0.2**
	comp=E,15nm,0.3s,baz=197,slow=13,SNR=192							
ASAJ				Sn		**Sn**	**16 14 10.5**	**-2.6**
	comp=E,8.5nm,0.3s,baz=17,slow=25,SNR=5.7							
INU	**Inuyama**	**6.22**	**247**	*e*Pn		**Pn**	**16 13 03.2**	**-0.6**
SHO	**Shikotan**	**6.22**	**19**	*e*P		**Pn**	**16 13 00.6**	**-3.2**
SHO				*e*S		Sn	16 14 04.7	-9.2
SHO				smax		smax		
	comp=N,189nm,0.2s							
SHO				smax		smax		
	comp=E,370nm,0.2s							
KUR	**Kuril'sk**	**7.77**	**21**	*e*P		**Pn**	**16 13 23.8**	**-1.1**
KUR				*e*S		**Sn**	**16 14 44.5**	**-7.3**
KUR				smax		smax		
	comp=N,59nm,0.2s							
KUR				smax		smax		
	comp=E,148nm,0.4s							
TEY	**Ternei**	**8.95**	**324**	*e*P		**Pn**	**16 13 39.1**	**-2.1**
YSS	**Yuzh-Sakhalins**	**8.98**	**354**	*e*Pn		**Pn**	**16 13 40.3**	**-1.3**
YSS	**Yuzh-Sakhalins**	**8.98**	**354**	*e*P		**Pn**	**16 13 40.4**	**-1.3**
YSS				*e*S		**Sn**	**16 15 14.6**	**-7.1**
YSS				pmax		pmax		
	comp=Z,20nm,0.6s							
YSS				MLR		MLR		
	comp=Z,200nm,10.0s							
VLA	**Vladivostok**	**10.54**	**303**	*c*eP		Pn	16 14 09.5	+6.5
MSHR	**Mys Shultsa**	**10.83**	**299**	*i* P		Pn	16 14 12.1	+5.2
USRK	**Ussuriysk Ar.**	**10.98**	**308**	Pn		**Pn**	**16 14 07.5**	**-1.4**
	comp=Z,0.3nm,0.3s,baz=112,slow=16,SNR=7.1							
USRK				LR		LR	16 18 24.5	
	comp=Z,202nm,18.4s,baz=119,slow=38							
CBIJ	**Chichi jima**	**11.00**	**189**	*e*Pn		**Pn**	**16 14 09.8**	**+0.5**
CBIJ				Sn		Sn	16 15 56.7	-15
JCJ	**Chichijima**	**11.00**	**189**	Pn		Pn	16 14 03.3	-6.0
	comp=Z,2.5nm,0.3s,baz=270,slow=20,SNR=4.1							
JCJ				Sn		Sn	16 15 56.7	-15
	comp=Z,13nm,0.3s,baz=283,slow=23,SNR=8.3							
JNU	**Nakatsue**	**11.76**	**249**	LR		LR	16 19 19.8	
	comp=Z,108nm,18.3s,baz=116,slow=40							
JNU	**Nakatsue**	**11.76**	**249**	*e*Pn		**Pn**	**16 14 20.0**	**+0.2**
MDJ	**Mudanjiang**	**12.69**	**306**	P		**Pn**	**16 14 31.3**	**-1.0**
MDJ				S		**Sn**	**16 16 53.5**	**+1.0**
MDJ				pmax		pmax		
	comp=Z,13nm,0.8s							
MDJ				pmax		pmax		
	comp=Z,78nm,3.4s							
MDJ				LR		LR		
	comp=Z,250nm,8.4s							
MDJ				LR		LR		
	comp=Z,160nm,11.8s							
MDJ				LR		LR		
	comp=Z,240nm,15.8s							
MDJ	**Mudanjiang**	**12.69**	**306**	*e*Pn		**Pn**	**16 14 30.1**	**-2.2**
KSRS	**Korea Array**	**12.76**	**272**	Pn		**Pn**	**16 14 34.1**	**+0.8**
	comp=Z,0.1nm,0.3s,baz=80,slow=14,SNR=8.9							
KSRS				LR		LR	16 18 35.9	
	comp=Z,55nm,21.3s,baz=56,slow=33							
KS01	**Wonju Array Si**	**12.78**	**273**	*e*Pn		**Pn**	**16 14 32.7**	**-1.0**
KSAR	**Wonju Array Be**	**12.79**	**272**	Pn		**Pn**	**16 14 34.1**	**+0.3**
KSAR	**Wonju Array Be**	**12.79**	**272**	P		**Pn**	**16 14 34.1**	**+0.3**
TYV	**Tymovskoe**	**12.88**	**356**	*e*P		Pn	16 14 30.2	-4.8
TYV				pmax		pmax		
	comp=Z,5.0nm,1.3s							
GRNR	**Gornyy**	**13.85**	**339**	*e*P		**Pn**	**16 14 49.0**	**+0.8**
GRNR				pmax		pmax		
	comp=Z,12nm,0.5s							
KLR	**Kul'dur**	**14.28**	**326**	Pn		**Pn**	**16 14 52.9**	**-1.3**
	comp=Z,0.0nm,0.3s,baz=132,slow=12,SNR=11							
KLR				LR		LR	16 20 42.0	
	comp=Z,16nm,18.3s,baz=146,slow=38							
NKL	**Nikolayevsk**	**15.31**	**352**	*e*P		**Pn**	**16 15 02.5**	**-5.4**
NKL				MLR		MLR		
	comp=N,300nm,16.0s							
NKL				MLR		MLR		
	comp=Z,300nm,16.0s							
JOW	**Kunigami**	**17.32**	**235**	P		**Pn**	**16 15 32.4**	**-1.2**
	comp=Z,0.5nm,0.3s,baz=41,slow=19,SNR=2.5							
PEA0B	**Petropavlovsk-**	**17.83**	**28**	*e*Pn		**P**	**16 15 42.3**	**+2.1**
	comp=Z,21nm,1.1s							
PETK	**Petropavlovsk-**	**17.83**	**28**	P		**P**	**16 15 41.6**	**+1.4**
	comp=Z,0.2nm,0.3s,baz=187,slow=9.7,SNR=8.4							
PETK				LR		LR	16 22 09.0	
	comp=Z,40nm,21.8s,baz=220,slow=36							
PETK	**Petropavlovsk-**	**17.83**	**28**	*e*Pn		**P**	**16 15 42.4**	**+2.2**
PETK	**Petropavlovsk-**	**17.83**	**28**	*e*P		**P**	**16 15 42.4**	**+2.2**
ZEA	**Zeya**	**19.51**	**329**	*e*P		**P**	**16 15 59.2**	**+0.6**
ZEA				pmax		pmax		
	comp=Z,26nm,1.0s							
ZEA				MLR		MLR		
	comp=Z,200nm,11.0s							
NJ2	**Nanjing**	**21.42**	**261**	*e*P		**P**	**16 16 19.5**	**0.0**
NJ2				pmax		pmax		
	comp=Z,5.0nm,0.5s							
MA2	**Magadan**	**22.01**	**9**	P		**P**	**16 16 27.3**	**+1.7**
	comp=Z,11nm,0.8s,baz=187,slow=13,SNR=5.8							
MA2				LR		LR	16 25 53.6	
	comp=Z,52nm,19.3s,baz=145,slow=39							
GUMO	**Guam**	**24.34**	**178**	LR		LR	16 24 45.7	
	comp=Z,44nm,21.9s,baz=334,slow=33							
HHC	**Hu-ho-hao-te**	**25.15**	**287**	*e*P		**P**	**16 16 55.3**	**-1.3**
HHC				sP		sP	16 17 08.3	-0.7
HHC				S		**S**	**16 21 14.0**	**-5.7**
HHC				LR		LR		
	comp=Z,1μm,11.6s							
HHC				LR		LR		
	comp=Z,1μm,11.7s							
HHC				LR		LR		
	comp=Z,1μm,11.9s							
SEY	**Seymchan**	**25.47**	**9**	P		**P**	**16 17 00.4**	**+1.3**
	comp=Z,9.5nm,0.8s,baz=193,slow=10,SNR=28							
SEY	**Seymchan**	**25.47**	**9**	*e*P		**P**	**16 16 59.8**	**+0.7**
YAK	**Yakutsk**	**25.63**	**344**	P		**P**	**16 17 00.6**	**0.0**
	comp=Z,19nm,0.7s,baz=144,slow=2.0,SNR=14							
YAK	**Yakutsk**	**25.63**	**344**	*e*P		**P**	**16 17 00.7**	**+0.1**
	comp=Z,27nm,0.8s							
YAK	**Yakutsk**	**25.63**	**344**	*e*P		**P**	**16 17 00.1**	**-0.4**
YAK				*e**PP		**sP**	**16 17 13.6**	**+0.6**
YAK				*e*			16 17 36.7	
YAK				*e*PPP		PPP	16 17 49.5	
YAK				*e*			16 20 28.4	
YAK				*e*S		**S**	**16 21 26.4**	**-0.2**
YAK				*e**SS		**sS**	**16 21 41.6**	**+0.6**
YAK				*e*SS		**SnSn**	**16 22 23.5**	**+1.7**
YAK				*e*SSS		SSS	16 22 40.1	
YAK				*e*			16 27 56.8	
YAK				pmax		pmax		
	comp=Z,13nm,0.8s							
YAK				pmax		pmax		
	comp=N,3.0nm,0.9s							
YAK				pmax		pmax		
	comp=Z,31nm,2.9s							
YAK				pmax		pmax		
	comp=N,33nm,2.8s							
YAK				pmax		pmax		
	comp=E,34nm,2.6s							
YAK				smax		smax		
	comp=N,21nm,2.6s							
YAK				smax		smax		
	comp=E,13nm,2.9s							
H11N2	**WAKE ISLAND Hy**	**26.96**	**126**	T		T	16 45 19.5	
	baz=320,slow=76							
H11N1	**WAKE ISLAND Hy**	**26.97**	**126**	T		T	16 45 25.9	
	baz=320							
H11N3	**WAKE ISLAND Hy**	**26.98**	**126**	T		T	16 45 31.2	
	baz=320,slow=76							
BOD	**Bodaibo**	**27.86**	**325**	*e*P		**P**	**16 17 19.7**	**-1.0**
BOD				pmax		pmax		
	comp=Z,12nm,1.4s							
ULN	**Ulaanbaatar**	**28.56**	**302**	*i*eP		P	16 17 32.8	+5.5
ULN				pmax		pmax		
	comp=Z,8.0nm,1.2s							
XAN	**Xi'an**	**28.56**	**273**	P		P	16 17 33.5	+6.2
XAN				pmax		pmax		
	comp=Z,4.0nm,0.5s							
XAN				pmax		pmax		
	comp=Z,65nm,6.0s							
SONA1	**Songino Array**	**28.99**	**302**	*e*P		**P**	**16 17 31.3**	**+0.2**
SONM	**Songino Array**	**28.99**	**302**	P		**P**	**16 17 32.2**	**+1.1**
	comp=Z,1.6nm,0.7s,baz=98,slow=9.0,SNR=3.8							
TLY	**Talaya**	**31.29**	**309**	*i* P		**P**	**16 17 55.7**	**+4.5**
ZAK	**Zakamensk**	**31.32**	**307**	*e*P		**P**	**16 17 54.7**	**+3.1**
ZAK				pmax		pmax		
	comp=Z,3.0nm,1.2s							
LZH	**Lanzhou**	**31.95**	**279**	*e*P		**P**	**16 17 58.5**	**+1.1**
LZH				pP		pP	16 18 07.5	+1.3
LZH				sP		sP	16 18 12.0	+2.1
LZH				pmax		pmax		
	comp=Z,22nm,1.3s							
LZH				pmax		pmax		
	comp=Z,110nm,4.4s							
BILL	**Bilibino**	**32.52**	**15**	*i*P		**P**	**16 18 02.1**	**+0.3**
BILL				*i*			16 18 15.2	
BILL				pmax		pmax		
	comp=Z,6.0nm,1.0s							
CD2	**Chengdu**	**33.74**	**270**	*e*P		**P**	**16 18 10.8**	**-2.2**
CD2				S		**S**	**16 23 31.3**	**-3.3**
CD2				pmax		pmax		
	comp=Z,10.0nm,0.5s							
CD2				pmax		pmax		
	comp=Z,120nm,5.0s							
CD2				LR		LR		
	comp=Z,190nm,13.9s							
CD2				LR		LR		
	comp=Z,200nm,10.9s							
GTA	**Gaotai**	**34.27**	**286**	*e*P		P	16 18 22.3	+4.8
GTA				pP		sP	16 18 32.0	+2.0
GTA				sP		pP	16 18 36.3	+10
GTA				S		**S**	**16 23 50.0**	**+7.3**
GTA				sS		sS	16 24 05.3	+8.0
GTA				pmax		pmax		
	comp=Z,3.0nm,1.4s							
GTA				pmax		pmax		
	comp=Z,46nm,4.7s							
GTA				LR		LR		
	comp=Z,110nm,15.2s							
GTA				LR		LR		
	comp=Z,98nm,15.2s							
GTA				LR		LR		
	comp=Z,120nm,16.2s							
TIXI	**Tiksi**	**34.59**	**352**	*i*eP		**P**	**16 18 18.7**	**-1.1**
TIXI				pmax		pmax		
	comp=Z,2.0nm,1.2s							
KNGR	**Kungurtug, Tuv**	**35.01**	**306**	*i*eP		**P**	**16 18 25.9**	**+2.1**
DAV	**Davao City (W)**	**35.05**	**213**	LR		LR	16 30 26.0	
	comp=Z,37nm,21.0s,baz=66,slow=32							
KMI	**Kunming**	**37.15**	**262**	P		**P**	**16 18 45.3**	**+2.8**
KMI				pP		sP	16 18 55.0	-0.1
KMI				pmax		pmax		
	comp=Z,9.0nm,0.7s							
KMI				LR		LR		
	comp=Z,100nm,18.9s							
KMI				LR		LR		
	comp=Z,140nm,18.9s							
KMI				LR		LR		
	comp=Z,140nm,16.6s							
DGZ	**Jazzator, Alta**	**41.51**	**305**	*e*P		**P**	**16 19 19.8**	**+1.2**
WMQ	**Urumqi**	**42.26**	**296**	P		**P**	**16 19 24.0**	**-0.6**
WMQ				pmax		pmax		
	comp=Z,20nm,0.6s							
WMQ				pmax		pmax		
	comp=Z,160nm,4.7s							
WMQ				LR		LR		
	comp=Z,55nm,20.9s							
WMQ				LR		LR		
	comp=Z,98nm,19.3s							
WMQ				LR		LR		
	comp=Z,77nm,23.3s							
ZALV	**Zalesovo Beam**	**42.80**	**312**	P		**P**	**16 19 29.1**	**+0.3**
	comp=Z,0.7nm,0.3s,baz=95,slow=6.6,SNR=3.9							
ZALV				PcP		**PcP**	**16 21 19.5**	**-0.2**
	comp=Z,1.8nm,0.7s,baz=105,slow=2.8,SNR=3.9							
ZALV				LR		LR	16 37 57.5	
	comp=Z,48nm,19.2s,baz=73,slow=37							
ZALV	**Zalesovo Beam**	**42.80**	**312**	*e*P		**P**	**16 19 28.6**	**-0.2**
ZALV				*e*PcP		**PcP**	**16 21 19.4**	**-0.2**
ZALV	**Zalesovo Beam**	**42.80**	**312**	*e*P		**P**	**16 19 28.6**	**-0.2**
ZALV				*e*			16 21 19.4	
CMAR	**Chiang Mai Arr**	**43.74**	**256**	P		**P

PDGK pmax pmax
comp=Z,3.0nm,1.1s
DIV Divide 48.24 38 *eP* **P 16 20 12.6 +0.8**
comp=Z,12nm,0.8s
DOT Dot Lake 48.84 34 *eP* **P 16 20 16.7 +0.4**
comp=Z,49nm,1.7s
SCRK Sand Creek 48.84 34 *eP* **P 16 20 17.2 +0.7**
comp=Z,6.0nm,0.9s
RAMN Ramite 49.00 275 *eP* P 16 20 32.0 +14
comp=Z,42nm,1.0s
MENT Mentasta 49.05 35 *eP* **P 16 20 19.2 +1.3**
comp=Z,9.1nm,1.0s
GUN Gumba 49.12 276 *eP* P 16 20 25.6 +6.3
comp=Z,42nm,1.0s
KKN Kakani 49.64 276 *eP* P 16 20 30.9 +7.7
comp=Z,18nm,0.8s
PKIN Phulchoki 49.65 276 *eP* P 16 20 32.9 +10
comp=Z,12nm,0.8s
GKN Gorkha 50.05 277 *eP* P 16 20 32.4 +6.2
comp=Z,37nm,1.0s
DANN Dangsing 50.58 278 *eP* **P 16 20 33.1 +2.7**
PYUN Piuthan 51.29 278 *eP* P 16 20 41.8 +6.1
comp=Z,63nm,1.0s
BVAR Borovoye Array 51.45 312 P **P 16 20 36.8 +0.5**
comp=Z,1.0nm,0.6ns,baz=67,slow=8.0,SNR=6.5
BRVK Borovoye 51.50 312‖ *eP* **P 16 20 40.7 +4.1**
OTUK Ortayu 51.53 306 P **P 16 20 37.0 0.0**
OTUK pmax pmax
comp=Z,2.0nm,1.1s
AAK Ala-Archa 51.85 298‖ *eP* **P 16 20 42.5 +2.9**
AAK pmax pmax
comp=Z,2.0nm,1.2s
HYT Haines Junctio 52.27 37 *eP* **P 16 20 43.9 +1.5**
comp=Z,17nm,0.9s
INK Inuvik 52.56 28 P **P 16 20 45.5 +1.2**
comp=Z,3.0nm,0.7s,baz=278,slow=4.0,SNR=13
INK Inuvik 52.56 28 *eP* **P 16 20 45.5 +1.2**
comp=Z,4.5nm,1.0s
INK Inuvik 52.56 28 *eP* **P 16 20 45.5 +1.2**
INK pmax pmax
comp=Z,5.0nm,1.0s
MNAS Manas 53.28 299 P **P 16 20 51.0 +0.8**
SFK Sufi-Kurgan 53.48 296 P **P 16 20 52.0 +0.2**
SFK pmax pmax
comp=Z,4.0nm,1.0s
SVE Sverdlovsk 55.78 319‖ *iP* **P 16 21 09.2 +1.3**
SVE pmax pmax
comp=Z,13nm,0.9s
NIL Nilore 56.27 289 P **P 16 21 10.2 -1.6**
comp=Z,20nm,0.8s
NIL Nilore 56.27 289 P **P 16 21 10.2 -1.6**
NIL pmax pmax
comp=Z,20nm,0.8s
ARU Arti 57.00 319 *eP* **P 16 21 16.7 +0.2**
comp=Z,9.8nm,0.9s
ARU Arti 57.00 319 *diP* **P 16 21 16.6 0.0**
ARU 16 23 19.4
ARU S **S 16 29 08.6 -0.1**
ARU SS **SS 16 32 56.3 -0.6**
ARU pmax pmax
comp=Z,20nm,1.7s
WRAB Tennant Creek 58.35 191 *eP* **P 16 21 25.1 -1.3**
comp=Z,15nm,0.9s
WRAB Tennant Creek 58.35 191 *ceP* **P 16 21 29.2 +2.8**
WRAB pmax pmax
comp=Z,10.0nm,1.2s
WB2 Warramunga Arr 58.36 191 *eP* **P 16 21 25.1 -1.3**
WRA Warramunga Arr 58.36 191 P **P 16 21 24.9 -1.6**
comp=Z,10nm,0.8s,baz=10,slow=7.0,SNR=33
ABKAR Akbulak array 58.89 310 *eP* **P 16 21 29.2 -0.7**
comp=Z,21nm,0.6s
AKTO Aktyubinsk 59.56 312 P **P 16 21 34.9 +0.4**
comp=Z,3.5nm,0.8s,baz=72,slow=13,SNR=10.0
RES Resolute Bay 61.13 15 P **P 16 21 45.4 +0.5**
comp=Z,2.7nm,0.9s,baz=319,slow=7.2,SNR=7.2
RES Resolute Bay 61.13 15 *eP* **P 16 21 45.0 +0.1**
comp=Z,4.3nm,1.0s
YKA Yellowknife Ar 61.91 31 P **P 16 21 50.8 +0.4**
comp=Z,1.3nm,0.7s,baz=301,slow=6.6,SNR=25
AS01 Alice Springs 62.08 190 *eP* **P 16 21 51.0 -0.9**
ASAR Alice Springs 62.09 191 P **P 16 21 50.9 -1.1**
comp=Z,2.2nm,0.8s,baz=4.5,slow=6.8,SNR=14
ARCES ARCESS Array B 63.80 340 P **P 16 22 02.0 -0.9**
comp=Z,1.8nm,0.8s,baz=58,slow=11,SNR=3.2
ARCES ARCESS Array B 63.80 340 P **P 16 22 02.0 -0.9**
DAG Danmarks Havn 64.97 356 P **P 16 22 10.4 +0.1**
DAG pmax pmax
comp=Z,5.0nm,1.2s
GEYT Alibeck 65.16 300 P **P 16 22 12.2 -0.1**
comp=Z,1.9nm,0.7s,baz=25,slow=4.9,SNR=6.9
OBN Obninsk 68.54 324‖ *eP* **P 16 22 34.2 +0.8**
OBN pmax pmax
comp=Z,7.0nm,1.3s
FINES FINESS Array B 68.90 333 P **P 16 22 35.7 +0.1**
comp=Z,3.3nm,0.7s,baz=47,slow=8.4,SNR=12
FINES LR LR 16 55 37.4
comp=Z,41nm,18.9s,baz=156,slow=38
FFC Flin Flon 71.75 34 *eP* **P 16 22 53.6 +0.5**
comp=Z,4.9nm,0.9s
FFC Flin Flon 71.75 34 *eP* **P 16 22 53.6 +0.5**
FFC pmax pmax
comp=Z,5.0nm,0.9s
KIV Kislovodsk 71.81 312 *eP* **P 16 22 55.4 +1.6**
KIV pmax pmax
comp=Z,8.0nm,1.0s
KIV MLR MLR
comp=Z,31nm,18.0s
KBZ Khabaz 71.82 312 P **P 16 22 54.3 +0.6**
comp=Z,2.3nm,0.8s,baz=70,slow=7.0,SNR=7.3
NVAR Mina Array Bea 72.74 55 P **P 16 23 00.6 +1.0**
comp=Z,0.8nm,0.8s,baz=270,slow=3.1,SNR=5.8
GNI Garni 72.77 308‖ *eP* **P 16 23 01.4 +1.7**
GNI pmax pmax
comp=Z,7.0nm,0.9s
HFS Hagfors 74.03 337 P **P 16 23 06.4 -0.2**
comp=Z,0.9nm,0.4s,baz=46,slow=4.2,SNR=9.0
HFS LR LR 16 58 53.9
comp=Z,25nm,20.4s,baz=82,slow=38
NB2 NORSAR Subarra 74.07 338 P **P 16 23 06.7 -0.1**
comp=Z,0.8nm,0.5s,baz=38,slow=5.9
NOA NORSAR Array B 74.07 338 P **P 16 23 06.8 0.0**
comp=Z,1.1nm,0.6s,baz=39,slow=5.9,SNR=5.3
NOA LR LR 17 00 51.1
comp=Z,32nm,20.1s,baz=70,slow=40
FXWY Fox Creek 74.11 47 *eP* **P 16 23 07.8 +0.2**
comp=Z,2.1nm,0.8s
RLMT Red Lodge 74.20 45 *eP* **P 16 23 08.6 +0.5**
comp=Z,2.9nm,0.8s
AKASG Malin Array Be 74.77 323 P **P 16 23 10.8 -0.2**
comp=Z,1.7nm,0.5s,baz=45,slow=5.9,SNR=12
KIEV Kiev 74.78 323‖ *eP* **P 16 23 11.6 +0.5**
KIEV pmax pmax
comp=Z,4.0nm,1.0s
FRB Frobisher Bay 75.33 14 P **P 16 23 14.1 +0.2**
comp=Z,3.8nm,0.5s,baz=336,slow=5.8,SNR=12
PDAR Pinedale Array 75.49 47 P **P 16 23 16.4 +0.7**
comp=Z,1.3nm,0.7s,baz=261,slow=2.4,SNR=11
PDAR Pinedale Array 75.49 47 *eP* **P 16 23 16.0 +0.3**
PV10 Paradox Valley 78.36 50 *eP* **P 16 23 33.5 +0.5**
BUR08 Bucovina Ar. S 78.79 323 *eP* **P 16 23 32.7 -1.2**
BUR04 Bucovina Ar. S 78.81 323 *eP* **P 16 23 34.0 +0.1**
BRTR Keskin Array B 79.73 313 P **P 16 23 39.5 +0.2**
comp=Z,0.5nm,0.8s,baz=125,slow=6.2,SNR=4.0
BRTR LR LR 17 03 57.3
comp=Z,19nm,18.6s,baz=356,slow=39
NIE Niedzica 79.74 326 P **P 16 23 40.2 +1.2**
ISR Istrita 79.92 320 P **P 16 23 41.1 +1.1**
MLR Muntele Rosu 79.95 321 LR LR 17 02 17.3
comp=Z,7.9nm,20.2s,baz=74,slow=38
CLL Collm 81.26 331 *eP* **P 16 23 47.0 0.0**
KHC Kasperske Hory 82.77 330 *eP* **P 16 23 55.7 +0.7**
KHC Kasperske Hory 82.77 330 *eP* **P 16 23 55.7 +0.7**
EKA Eskdalemuir Ar 82.88 342 P **P 16 23 56.0 +0.6**
comp=Z,2.0nm,0.8s,baz=21,slow=6.1,SNR=3.3
EKA Eskdalemuir Ar 82.88 342 P **P 16 23 56.0 +0.6**
GERES GERESS Array B 82.95 330 P **P 16 23 56.4 +0.4**
comp=Z,0.2nm,0.3s,baz=72,slow=6.0,SNR=3.6
MMAI Mount Meron Ar 83.07 307 P **P 16 23 59.1 +2.1**
comp=Z,0.3nm,0.3s,baz=248,slow=15,SNR=4.1
VTS Vitosha 83.41 320 P **P 16 23 59.4 +0.8**
VTS pmax pmax
comp=Z,3.0nm,0.9s
TXAR Lajitas Array 87.88 54 P **P 16 24 21.3 +0.3**
comp=Z,0.3nm,0.6s,baz=325,slow=2.0,SNR=4.1
VNA2 Neumayer--Watz 143.82 195 PKiKP PKPab 16 31 02.8 +0.7
baz=81,slow=2.2
VNA3 Neumayer Olymp 144.03 194 PKiKP **PKPab 16 31 02.5 -0.4**
SIV San Ignacio 148.86 52 PKPbc **PKPbc 16 31 19.2 +0.1**
comp=Z,2.0nm,0.8s,baz=330,slow=2.6,SNR=9.4

MAN 30 16:14:21,10.24N×123.22E, h2km, mb4.0, ML2.7, MS2.3, 1D, Cebu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GUIM	**Jordan**	**0.73**	**302**	*eP*		Pb	Pb	16 14 37.0	+0.6
GUIM				*eS*		Sn	Sn	16 14 48.8	-1.2
LLP	**Lapu-Lapu**	**0.74**	**84**	*eP*		Pg	Pg	16 14 35.8	+0.5
LLP				*i S*		Sg	Sg	16 14 46.0	+1.1
SNPH	**Sibulan**	**0.89**	**179**‖	*eP*		Pb	Pb	16 14 39.0	-0.2
MSLP	**Maasin**	**1.62**	**93**	*eP*		Pb	Pb	16 14 51.4	-0.3
MSLP				*eS*		Sg	Sg	16 15 13.4	+0.2

*IDC **30** 16:23:27.2±1.1, 2°.56N×90°.39E, h0km, mb3.6/8, mb1 3.7/10, mb1mx3.5/66, mbtmpg3.6/10, ML3.7/2, Error ellipse: s-maj=39.5km s-min=19.5km az=44.0*
*ISCJB **30** 16:23:30.2±0.9, 2°.6N±0°.1×90°.3E±0°.1, h33km, mb3.6/8, Error ellipse: s-maj=22.4km s-min=14.4km az=32.9*
ISC 30 16:23:32.2±1.1, 2°.5N±0°.2×90°.4E±0°.1, h35km, n17, σ1§32/11, mb3.7/8, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**10.70**	**296**	Pn		**Pn**	**Pn**	**16 26 02.5**	**-0.6**
	0.7nm,0.3s,baz=116,slow=14,SNR=13								
PALK				Sn		Sn	Sn	16 27 51.5	-10
	3.9nm,0.3s,baz=115,slow=9.5,SNR=7.4								
CMAR	**Chiang Mai Arr**	**17.92**	**27**	P		**Pn**	**Pn**	**16 27 37.8**	**-1.0**
	0.1nm,0.3s,baz=225,slow=8.9,SNR=2.6								
H08S3	**Diego Garcia H**	**20.49**	**240**	T		T	T	16 49 13.8	
	baz=60,slow=75,SNR=35								
H08S2	**Diego Garcia H**	**20.49**	**240**	T		T	T	16 49 10.9	
	baz=60,slow=75,SNR=62								
H08S1	**Diego Carcia H**	**20.51**	**240**	T		T	T	16 49 16.8	
	baz=60,slow=75,SNR=66								
H01W3	**Cape Leeuwin H**	**43.41**	**151**	T		T	T	17 17 51.7	
	baz=325,slow=75,SNR=11								
H01W2	**Cape Leeuwin H**	**43.42**	**151**	T		T	T	17 17 58.5	
	baz=325,slow=75,SNR=9.4								
H01W1	**Cape Leeuwin H**	**43.42**	**151**	T		T	T	17 17 53.3	
	baz=325,slow=75,SNR=8.9								
MKAR	**Makanchi Array**	**44.63**	**352**	P		**P**	**P**	**16 31 41.5**	**+0.2**
	0.2nm,0.4s,baz=176,slow=9.1,SNR=4.8								
GEYT	**Alibeck**	**45.96**	**324**	P		**P**	**P**	**16 31 52.4**	**+0.4**
	0.8nm,0.5s,baz=155,slow=7.9,SNR=3.3								
SONM	**Songino Array**	**47.20**	**15**	P		**P**	**P**	**16 32 02.9**	**+1.2**
	0.8nm,0.5s,baz=182,slow=11,SNR=4.9								
WRA	**Warramunga Arr**	**48.60**	**119**	P		**P**	**P**	**16 32 13.1**	**+0.2**
	0.6nm,1.0s,baz=296,slow=8.7,SNR=4.0								
ASAR	**Alice Springs**	**49.74**	**124**	P		**P**	**P**	**16 32 21.9**	**+0.4**
	0.2nm,0.8s,baz=294,slow=7.0,SNR=5.3								
ZALV	**Zalesovo Beam**	**51.44**	**356**	P		**P**	**P**	**16 32 33.8**	**0.0**
	0.3nm,0.3s,baz=169,slow=8.5,SNR=2.0								
BRTR	**Keskin Array B**	**63.20**	**314**	P		**P**	**P**	**16 33 59.1**	**+1.8**
	0.2nm,0.3s,baz=115,slow=11,SNR=2.2								
FINES	**FINESS Array B**	**75.70**	**333**	P		**P**	**P**	**16 35 12.9**	**-1.0**
	0.6nm,0.7s,baz=92,slow=3.5,SNR=2.3								
TXAR	**Lajitas Array**	**145.57**	**22**	PKPbc		**PKPdf**	**P**	**16 43 05.2**	**-2.6**
	0.2nm,0.8s,baz=286,slow=3.3,SNR=3.0								

MEX 30 16:31:31.7±0.3, 14.04N×91.87W, h5km, MD3.8, Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PCIG		**2.11**	**322**	*eP*		Pn	Pn	16 32 04.4	-3.3
PCIG				*eS*		Sn	Sn	16 32 29.8	-4.5
CCIG	**Comitan**	**2.24**	**353**	*i P*		Pg	Pg	16 32 18.0	+3.2

*ISCJB **30** 16:43:19.3±0.5, 39°.09N±0°.03×29°.18E±0°.03, h3km±4km, Error ellipse: s-maj=4.5km s-min=3.8km az=150.4*
*CSEM **30** 16:43:19.3±0.1, 39°.11N×29°.18E, h2km, ML2.2, Error ellipse: s-maj=3.4km s-min=2.6km az=119.0*
*ISK **30** 16:43:19.0, 39°.11N×29°.17E, h5km, ML2.2/9*
*DDA **30** 16:43:19.2, 39°.08N×29°.15E, h7km, Ml2.6*
ISC 30 16:43:19.5±0.9, 39°.10N±0°.02×29°.17E±0°.02, h8km±7km, n29, σ0§56/50, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SIMA	**Simav-Kutahya**	**0.14**	**264**	PG		**Pg**	**Pg**	**16 43 22.9**	**+0.3**
SIMA				SG		**Sg**	**Sg**	**16 43 25.0**	**+0.2**
SIMA	**Simav-Kutahya**	**0.14**	**264**	*i* Pg		**Pg**	**Pg**	**16 43 22.9**	**+0.3**
SIMA				*i* Sg		**Sg**	**Sg**	**16 43 25.0**	**+0.2**
GDZ	**Gediz**	**0.25**	**92**	*i* P		**Pg**	**Pg**	**16 43 24.2**	**-0.3**
GDZ				*i* S		**Sg**	**Sg**	**16 43 27.9**	**+0.1**
GDZ	**Gediz**	**0.25**	**92**	P		**Pg**	**Pg**	**16 43 24.2**	**-0.3**
GDZ				S		**Sg**	**Sg**	**16 43 27.9**	**+0.1**
DEMI	**Demirci**	**0.35**	**261**	*i* P		**Pg**	**Pg**	**16 43 26.7**	**+0.2**
DEMI				*i* S		**Sg**	**Sg**	**16 43 30.9**	**-0.2**
DEMI	**Demirci**	**0.35**	**261**	P		**Pg**	**Pg**	**16 43 26.7**	**+0.2**
DEMI				S		**Sg**	**Sg**	**16 43 30.9**	**-0.2**
TVSB	**Tavsanli**	**0.42**	**33**	PG		**Pg**	**Pg**	**16 43 27.3**	**-0.4**
TVSB				SG		**Sg**	**Sg**	**16 43 32.9**	**-0.4**
TVSB	**Tavsanli**	**0.42**	**33**	*eP*g		**Pg**	**Pg**	**16 43 27.3**	**-0.4**
TVSB				*eS*g		**Sg**	**Sg**	**16 43 32.9**	**-0.4**
KULA	**Kula-Manisa**	**0.70**	**214**	PG		**Pg**	**Pg**	**16 43 33.1**	**0.0**
KULA	**Kula-Manisa**	**0.70**	**214**	*eP*g		**Pg**	**Pg**	**16 43 33.1**	**0.0**
DURS	**Dursunbey**	**0.73**	**313**	*i* P		**Pg**	**Pg**	**16 43 33.6**	**0.0**
DURS				*i* S		**Sn**	**Sn**	**16 43 46.8**	**-0.9**
DURS	**Dursunbey**	**0.73**	**313**	P		**Pg**	**Pg**	**16 43 33.6**	**0.0**
DURS				S		**Sn**	**Sn**	**16 43 46.8**	**-0.9**
MANT	**Manisa**	**0.77**	**218**	*i* P		**Pg**	**Pg**	**16 43 34.3**	**-0.1**
MANT				*i* S		**Sg**	**Sg**	**16 43 43.5**	**-0.9**
MANT	**Manisa**	**0.77**	**218**	P		**Pg**	**Pg**	**16 43 34.3**	**-0.1**
MANT				S		**Sg**	**Sg**	**16 43 43.5**	**-0.9**
KHAL	**Karahalli**	**0.77**	**161**	*i* P		**Pb**	**Pb**	**16 43 35.3**	**+0.1**
KHAL				*i* S		**Sg**	**Sg**	**16 43 45.0**	**+0.7**
KHAL	**Karahalli**	**0.77**	**161**	P		**Pb**	**Pb**	**16 43 35.3**	**+0.1**
KHAL				S		**Sg**	**Sg**	**16 43 45.0**	**+0.7**
SHUT	**Suhut-Afyon**	**1.21**	**116**	PN		**Pg**	**Pg**	**16 43 42.8**	**0.0**
SHUT	**Suhut-Afyon**	**1.21**	**116**	*eP*n		**Pg**	**Pg**	**16 43 42.8**	**0.0**
CAVI	**Cavuskoy**	**1.22**	**25**	PN		**Pn**	**Pn**	**16 43 42.8**	**0.0**
CAVI	**Cavuskoy**	**1.22**	**25**	*eP*n		**Pn**	**Pn**	**16 43 42.8**	**0.0**
BORA	**Eskisehir**	**1.27**	**52**	PN		**Pb**	**Pb**	**16 43 43.6**	**0.0**
BORA				SN		**Sn**	**Sn**	**16 44 01.4**	**+0.6**
KCTX	**Karacabey (Bur**	**1.32**	**332**	PN		**Pn**	**Pn**	**16 43 43.4**	**-0.8**
KCTX				SN		**Sn**	**Sn**	**16 44 03.8**	**+1.8**
KCTX	**Karacabey (Bur**	**1.32**	**332**	*eP*n		**Pn**	**Pn**	**16 43 43.4**	**-0.8**
KCTX				*e*Sn		**Sn**	**Sn**	**16 44 03.8**	**+1.8**
YLV	**Yalova**	**1.48**	**6**	PN		**Pb**	**Pb**	**16 43 47.2**	**0.0**
YLV	**Yalova**	**1.48**	**6**	*eP*n		**Pb**	**Pb**	**16 43 47.2**	**0.0**
ARMT	**Armutlu**	**1.48**	**351**	PN		**Pb**	**Pb**	**16 43 47.5**	**+0.2**
ARMT				SN		**Sg**	**Sg**	**16 44 07.8**	**+0.6**
ARMT	**Armutlu**	**1.48**	**351**	*eP*n		**Pb**	**Pb**	**16 43 47.5**	**+0.2**
ARMT				*e*Sn		**Sg**	**Sg**	**16 44 07.8**	**+0.6**
AYDB	**Zeytinkoy-Aydi**	**1.52**	**221**	PN		**Pb**	**Pb**	**16 43 47.8**	**-0.2**
AYDB				SN		**Sg**	**Sg**	**16 44 08.8**	**+0.3**
AYDB	**Zeytinkoy-Aydi**	**1.52**	**221**	*eP*n		**Pb**	**Pb**	**16 43 47.8**	**-0.2**
AYDB				*e*Sn		**Sg**	**Sg**	**16 44 08.8**	**+0.3**

IDC 30 16:50:23.6±8.3, 15°.10S×171°.67W, h0km, mb4.2/5, mb1 4.4/5, mb1mx3.7/59, mbtmpg4.2/5, Error ellipse: s-maj=164.4km s-min=138.0km az=123.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**21.86**	**248**	P		P	P	16 55 18.8	+0.6
	2.3nm,0.7s,baz=52,slow=18,SNR=3.7								
CTA	**Charters Tower**	**40.34**	**257**	P		P	P	16 58 02.7	-0.6
	6.8nm,0.9s,baz=79,slow=17,SNR=3.5								
STKA	**Stephens Creek**	**45.63**	**240**	P		P	P	16 58 45.9	-0.2
	0.9nm,0.3s,baz=88,slow=8.5,SNR=9.8								
WRA	**Warramunga Arr**	**51.54**	**256**	P		P	P	16 59 32.1	+0.4
	1.0nm,0.3s,baz=93,slow=7.4,SNR=86								
ASAR	**Alice Springs**	**51.79**	**252**	P		P	P	16 59 33.2	-0.5
	5.4nm,0.6s,baz=89,slow=8.5,SNR=186								

*NIED **30** 16:53:00, 36°.70N×142°.10E, h14km, Mw4.2 Best double couple: M0 2.05000×10^15 NP1: φs 201.00000°, δ 13.00000°, λ 88.00000°. NP2: φs 23.00000°, δ 77.00000°, λ 90.00000°.*

*ISCJB **30** 16:53:12.2±0.4, 36°.72N±0°.03×142°.29E±0°.05, h19km, mb4.2/44, MS3.6/4, Error ellipse: s-maj=6.0km s-min=4.3km az=22.7*
*IDC **30** 16:53:12.5±0.9, 36°.78N×142°.10E, h0km, mb3.9/25, mb1 4.0/30, mb1mx3.9/83, mbtmpg3.9/30, ML3.8/4, MS3.1/8, Ms1 3.1/8, ms1mx2.9/69, Error ellipse: s-maj=21.9km s-min=13.7km az=162.0*
*JMA **30** 16:53:13.6±0.4, 36°.72N×142°.13E, h17km±4km, M4.2*
*NEIC **30** 16:53:14.1±1.9, 36°.75N×142°.15E, h14km±12km, mb4.6/11, Error ellipse: s-maj=7.3km s-min=4.9km az=130.0*
*BJI **30** 16:53:14.2, 36°.44N×141°.99E, h26km, mb4.6/40, mB4.6/15, Ms4.3/8, Ms7 4.1/6*
*MOS **30** 16:53:16.5±0.9, 37°.02N×142°.11E, h34km, mb4.8/6, Error ellipse: s-maj=9.4km s-min=6.5km az=102.9*
ISC 30 16:53:14.2±0.5, 36.71N±0°.05×142°.20E±0°.05, h19km, n120, σ1§45/116, mb4.2/44, MS3.7/4, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**1.19**	**290**	P		**Pb**	**Pb**	**16 53 34.5**	**-1.7**
JFK	**Kawauchi**	**1.25**	**302**	P		**Pn**	**Pn**	**16 53 35.2**	**-1.4**
JHO	**Hitachi**	**1.31**	**266**	P		**Pn**	**Pn**	**16 53 36.3**	**-1.2**
JMM	**Marumori**	**1.61**	**316**	P		**Pn**	**Pn**	**16 53 40.9**	**-0.7**
JMM				*e*S		**Sn**	**Sn**	**16 54 00.5**	**-1.3**
JFT	**Otama**	**1.69**	**299**	P		**Pb**	**Pb**	**16 53 42.8**	**-1.9**
JIO	**Ouri**	**1.87**	**339**	P		**Pn**	**Pn**	**16 53 44.9**	**-0.2**
JIO				*e*S		**Sn**	**Sn**	**16 54 08.3**	**+0.1**
JOU	**Okura**	**2.05**	**324**	P		**Pn**	**Pn**	**16 53 48.0**	**+0.3**
JAG	**Ashikaga**	**2.23**	**263**	P		**Pn**	**Pn**	**16 53 49.9**	**-0.2**
BSO1	**Boso 1**	**2.28**	**206**	P		**Pn**	**Pn**	**16 53 50.4**	**+0.1**
JMK	**Ichinoseki**	**2.37**	**341**	P		**Pn**	**Pn**	**16 53 52.3**	**+0.3**
JYK	**Kaneyama**	**2.64**	**327**	P		**Pn**	**Pn**	**16 53 56.3**	**+0.5**
MJAR	**Matsushiro Arr**	**3.21**	**268**	Pn		**Pn**	**Pn**	**16 54 04.6**	**+0.9**
	30nm,0.3s,baz=50,slow=12,SNR=319								
MJAR				Sn		**Sb**	**Sb**	**16 54 48.5**	**-1.0**
	14nm,0.3s,baz=303,slow=17,SNR=5.0								
MJAR				LR		LR	LR	16 55 33.1	
	comp=Z,575nm,18.6s,baz=120,slow=45								
MAJO	**Matsushiro**	**3.22**	**268**	*e*Pn		**Pn**	**Pn**	**16 54 05.0**	**+1.3**
MAJO	**Matsushiro**	**3.22**	**268**	*e*P		**Pn**	**Pn**	**16 54 05.0**	**+1.3**
MAT	**Matsushiro**	**3.22**	**268**	P		**Pn**	**Pn**	**16 54 05.1**	**+1.4**
MAT				S		**Sb**	**Sb**	**16 54 47.6**	**-1.9**
MJB9	**Matsu-Tunnel**	**3.22**	**268**	*e*Pn		**Pn**	**Pn**	**16 54 05.0**	**+1.2**
JHJ2	**Mitsune**	**4.09**	**209**	*e*Pn		**Pn**	**Pn**	**16 54 16.2**	**+0.5**
JHJ	**Hachijo jima 2**	**4.10**	**210**	Pn		**Pn**	**Pn**	**16 54 16.4**	**+0.6**
	47nm,0.3s,baz=102,slow=21,SNR=10								
JHJ				Sn		**Sn**	**Sn**	**16 54 59.1**	**-4.0**
	99nm,0.3s,baz=234,slow=23,SNR=12								
INU	**Inuyama**	**4.42**	**254**	*e*Pn		**Pn**	**Pn**	**16 54 21.6**	**+1.4**
ERM	**Erimo**	**5.35**	**8**	*e*Pn		**Pn**	**Pn**	**16 54 32.7**	**-0.2**
ERM	**Erimo**	**5.35**	**8**	*e*P		**Pn**	**Pn**	**16 54 32.7**	**-0.2**
ASAJ	**Asahikawa**	**7.40**	**2**	Pn		**Pn**	**Pn**	**16 55 00.7**	**-0.5**
	1.9nm,0.3s,baz=219,slow=16,SNR=23								
ASAJ				Sn		**Sn**	**Sn**	**16 56 23.5**	**-1.1**
	1.7nm,0.3s,baz=131,slow=20,SNR=2.7								
YUK	**Yuzh-Kuril'sk**	**7.83**	**20**	*e*P		**Pn**	**Pn**	**16 55 05.4**	**-1.6**
YUK				*e*S		**Sn**	**Sn**	**16 56 28.2**	**-6.9**
SHO	**Shikotan**	**7.98**	**25**	*e*P		**Pn**	**Pn**	**16 55 05.6**	**-3.4**
SHO				*e*S		Sn	Sn	16 56 28.8	-10
SHO				pmax	pmax				
	comp=Z,8.0nm,0.4s								
TEY	**Ternei**	**9.33**	**335**	*e*P		Pn	Pn	16 55 32.3	+4.7
KUR	**Kuril'sk**	**9.53**	**25**	P		**Pn**	**Pn**	**16 55 28.7**	**-1.6**
KUR				*i* S		**Sn**	**Sn**	**16 57 09.7**	**-7.1**
CBIJ	**Chichi jima**	**9.59**	**180**	Pn		**Pn**	**Pn**	**16 55 30.1**	**-1.0**
CBIJ				Sn		Sn	Sn	16 57 06.7	-12
JCJ	**Chichijima**	**9.59**	**180**	Pn		**Pn**	**Pn**	**16 55 30.1**	**-1.0**
	comp=Z,3.6nm,0.3s,baz=0.0,slow=20,SNR=4.0								
JCJ				Sn		Sn	Sn	16 57 06.7	-12
	comp=Z,4.4nm,0.3s,baz=294,slow=20,SNR=2.8								
JNU	**Nakatsue**	**9.96**	**252**	Pn		**Pn**	**Pn**	**16 55 36.9**	**+0.6**
	comp=Z,0.3nm,0.3s,baz=61,slow=12,SNR=3.4								
JNU				LR		LR	LR	16 59 38.3	
	comp=Z,86nm,21.0s,baz=117,slow=39								
YSS	**Yuzh-Sakhalins**	**10.24**	**2**	*e*Pn		**Pn**	**Pn**	**16 55 40.0**	**-0.1**
YSS	**Yuzh-Sakhalins**	**10.24**	**2**	*e*P		**Pn**	**Pn**	**16 55 40.0**	**-0.1**
USRK	**Ussuriysk Ar.**	**10.79**	**317**	Pn		**Pn**	**Pn**	**16 55 48.7**	**+1.2**
	comp=Z,0.2nm,0.3s,baz=132,slow=10,SNR=3.5								
USRK				LR		LR	LR	16 59 49.0	
	comp=Z,251nm,18.8s,baz=95,slow=37								
KSRS	**Korea Array**	**11.43**	**278**	Pn		Pn	Pn	16 56 00.2	+3.9
	comp=Z,0.2nm,0.3s,baz=89,slow=14,SNR=8.6								
KSRS				LR		LR	LR	17 00 12.9	
	comp=Z,263nm,19.3s,baz=80,slow=37								
KSAR	**Wonju Array Be**	**11.46**	**278**	Pn		**Pn**	**Pn**	**16 56 00.2**	**+3.5**
KSAR	**Wonju Array Be**	**11.46**	**278**	P		**Pn**	**Pn**	**16 56 00.3**	**+3.5**
CN2	**Changchun**	**14.61**	**304**	*e*P		Pn	Pn	16 56 30.8	-9.0
CN2				*e*S		Sn	Sn	16 58 46.3	-35
CN2				pmax	pmax				
	comp=Z,10.0nm,0.5s								
CN2				pmax	pmax				
	comp=Z,200nm,4.0s								
CN2				LR	LR				
	comp=N,130nm,12.0s								
CN2				LR	LR				
	comp=E,210nm,12.0s								
CN2				LR	LR				
	comp=Z,230nm,13.0s								
KLR	**Kul'dur**	**14.65**	**332**	Pn		**Pn**	**Pn**	**16 56 39.2**	**-1.0**
	comp=Z,0.0nm,0.3s,baz=146,slow=12,SNR=2.7					

SONM	**Songino Array**	**28.49**	**304**	P	**P**	**16 59 09.0**	**+0.7**
	comp=Z,5.3nm,0.7s,baz=107,slow=8.8,SNR=27						
SONM				LR	LR	17 10 30.5	
	comp=Z,56nm,19.2s,baz=100,slow=37						
SONM	**Songino Array**	**28.49**	**304**	P	**P**	**16 59 09.0**	**+0.7**
LZH	**Lanzhou**	**30.74**	**281**	*e*P	**P**	**16 59 28.5**	**+0.1**
LZH				pmax	pmax		
	comp=Z,13nm,1.0s						
ZAK	**Zakamensk**	**30.96**	**309**	*e*P	**P**	**16 59 29.1**	**-1.0**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.1s						
GYA	**Guiyang**	**31.79**	**261**	P	**P**	**16 59 37.5**	**-0.1**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
CD2	**Chengdu**	**32.31**	**271**	*e*P	**P**	**16 59 41.0**	**-1.1**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
GTA	**Gaotai**	**33.26**	**288**	*e*P	**P**	**16 59 51.0**	**+0.6**
GTA				pP	sP	17 00 00.8	+2.2
GTA				sP	pP	17 00 04.8	+8.6
GTA				S	**S**	**17 05 07.8**	**-2.0**
GTA				pmax	pmax		
	comp=Z,4.0nm,1.1s						
GTA				pmax	pmax		
	comp=Z,77nm,4.8s						
GTA				LR	LR		
	comp=Z,270nm,10.9s						
GTA				LR	LR		
	comp=Z,320nm,13.3s						
KMI	**Kunming**	**35.54**	**262**	P	**P**	**17 00 11.3**	**+0.9**
KMI				pmax	pmax		
	comp=Z,8.0nm,0.9s						
TIXI	**Tiksi**	**35.69**	**353**	P	**P**	**17 00 10.9**	**+0.1**
	comp=Z,0.6nm,0.5s,baz=158,slow=4.8,SNR=3.1						
WMQ	**Urumqi**	**41.55**	**297**	P	**P**	**17 01 02.5**	**+2.0**
WMQ				pP	sP	17 01 12.8	+4.0
WMQ				pmax	pmax		
	comp=Z,28nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,260nm,4.9s						
WMQ				LR	LR		
	comp=Z,390nm,23.7s						
CMAR	**Chiang Mai Arr**	**42.03**	**256**	P	**P**	**17 01 04.9**	**+0.3**
	comp=Z,0.7nm,0.7s,baz=50,slow=7.5,SNR=8.4						
ZAA0	**Zalesovo Array**	**42.60**	**313**	*e*P	**P**	**17 01 08.2**	**-0.6**
	comp=Z,4.2nm,1.1s						
ZALV	**Zalesovo Beam**	**42.60**	**313**	P	**P**	**17 01 09.6**	**+0.8**
	comp=Z,1.4nm,0.5s,baz=90,slow=6.4,SNR=8.7						
ZALV	**Zalesovo Beam**	**42.60**	**313**	*e*P	**P**	**17 01 08.2**	**-0.6**
ZALV	**Zalesovo Beam**	**42.60**	**313**	*e*P	**P**	**17 01 08.2**	**-0.6**
NVS	**Novosibirsk**	**43.52**	**314**	*e*P	P	17 01 29.6	+13
MK01	**Makanchi Array**	**44.82**	**302**	*e*P	**P**	**17 01 26.8**	**-0.1**
MK31	**Makanchi Array**	**44.82**	**303**	*e*P	**P**	**17 01 27.1**	**+0.2**
MK31	**Makanchi Array**	**44.82**	**303**	*e*P	**P**	**17 01 27.1**	**+0.2**
MKAR	**Makanchi Array**	**44.82**	**303**	P	**P**	**17 01 27.1**	**+0.2**
	comp=Z,1.9nm,0.7s,baz=89,slow=10.0,SNR=19						
MKAR	**Makanchi Array**	**44.82**	**303**	*e*P	**P**	**17 01 27.1**	**+0.2**
	comp=Z,15nm,0.8s						
MKAR	**Makanchi Array**	**44.82**	**303**	*e*P	**P**	**17 01 27.1**	**+0.2**
MKAR				pmax	pmax		
	comp=Z,15nm,0.8s						
KURK	**Kurchatov**	**46.63**	**308**	*e*P	**P**	**17 01 41.1**	**+0.1**
	comp=Z,8.1nm,0.6s						
KURK	**Kurchatov**	**46.63**	**308**	*e*P	**P**	**17 01 41.1**	**+0.1**
KURK				pmax	pmax		
	comp=Z,8.0nm,0.6s						
KURBB	**Kurchatov Arra**	**46.70**	**308**	P	**P**	**17 01 41.8**	**+0.3**
	comp=Z,1.7nm,0.3s,baz=82,slow=7.8,SNR=15						
ILAR	**Eielson Array**	**49.43**	**32**	P	**P**	**17 02 03.9**	**+1.4**
	comp=Z,0.9nm,0.7s,baz=281,slow=6.4,SNR=4.4						
KDJ	**Kajisay**	**49.44**	**297**	*e*P	**P**	**17 02 03.1**	**-0.1**
	comp=Z,1.8nm,0.6s						
AAK	**Ala-Archa**	**51.20**	**299**	P	**P**	**17 02 17.1**	**+0.7**
	comp=Z,0.7nm,0.3s,baz=210,slow=6.0,SNR=3.6						
AAK	**Ala-Archa**	**51.20**	**299**	*e*P	**P**	**17 02 16.1**	**-0.3**
	comp=Z,1.6nm,0.8s						
AAK	**Ala-Archa**	**51.20**	**299**	*e*P	**P**	**17 02 16.1**	**-0.3**
AAK				pmax	pmax		
	comp=Z,2.0nm,0.8s						
BVAR	**Borovoye Array**	**51.26**	**313**	P	**P**	**17 02 16.7**	**+0.3**
	comp=Z,0.8nm,0.6s,baz=87,slow=8.0,SNR=4.6						
KK31	**Karatay Array**	**53.83**	**301**	*e*P	**P**	**17 02 35.8**	**+0.1**
KK31	**Karatay Array**	**53.83**	**301**	*e*P	**P**	**17 02 35.8**	**+0.1**
KKAR	**Karatay Array**	**53.83**	**301**	*e*P	**P**	**17 02 35.9**	**+0.1**
KKAR	**Karatay Array**	**53.83**	**301**	*e*P	**P**	**17 02 35.9**	**+0.1**
INK	**Inuvik**	**54.39**	**27**	P	**P**	**17 02 41.0**	**+1.6**
	comp=Z,0.8nm,0.7s,baz=236,slow=7.3,SNR=2.0						
INK	**Inuvik**	**54.39**	**27**	P	**P**	**17 02 41.0**	**+1.6**
ARU	**Arti**	**57.02**	**319**	P	**P**	**17 02 59.1**	**+0.7**
	comp=Z,1.3nm,0.4s,baz=138,slow=1.7,SNR=4.2						
ARU	**Arti**	**57.02**	**319**	P	**P**	**17 02 58.9**	**+0.5**
ABKAR	**Akbulak array**	**58.63**	**311**	*e*P	**P**	**17 03 09.4**	**-0.4**
	comp=Z,20nm,0.6s						
AKTO	**Aktyubinsk**	**59.36**	**312**	P	**P**	**17 03 15.0**	**+0.1**
	comp=Z,1.3nm,0.6s,baz=57,slow=12,SNR=4.1						
YKA	**Yellowknife Ar**	**63.77**	**30**	P	**P**	**17 03 45.5**	**+1.1**
	comp=Z,0.2nm,0.6s,baz=301,slow=5.5,SNR=2.9						
GEYT	**Alibeck**	**64.54**	**299**	P	**P**	**17 03 50.3**	**+0.2**
	comp=Z,1.0nm,0.7s,baz=11,slow=0.7,SNR=3.0						
FINES	**FINESS Array B**	**69.39**	**333**	P	**P**	**17 04 21.5**	**+1.1**
	comp=Z,2.1nm,0.9s,baz=81,slow=12,SNR=4.0						
KBZ	**Khabaz**	**71.59**	**311**	P	**P**	**17 04 34.9**	**+0.8**
	comp=Z,2.4nm,0.8s,baz=62,slow=4.4,SNR=8.9						
KIV	**Kislovodsk**	**71.59**	**311**	*e*P	P	17 04 45.1	+11
KIV				pmax	pmax		
	comp=Z,7.0nm,1.0s						
HFS	**Hagfors**	**74.64**	**336**	P	**P**	**17 04 52.3**	**+0.5**
	comp=Z,1.4nm,0.9s,baz=31,slow=9.0,SNR=2.3						
NVAR	**Mina Array Bea**	**74.67**	**53**	P	**P**	**17 04 54.0**	**+1.2**
	comp=Z,0.1nm,0.3s,baz=291,slow=5.6,SNR=2.4						
NB2	**NORSAR Subarra**	**74.73**	**338**	P	**P**	**17 04 53.1**	**+0.7**
	comp=Z,0.8nm,0.4s,baz=39,slow=5.9						
NOA	**NORSAR Array B**	**74.73**	**339**	P	**P**	**17 04 53.0**	**+0.7**
	comp=Z,1.5nm,1.0s,baz=38,slow=5.7,SNR=3.1						
AKASG	**Malin Array Be**	**74.94**	**323**	P	**P**	**17 04 53.9**	**+0.2**
	comp=Z,1.3nm,0.5s,baz=47,slow=6.2,SNR=7.0						
PDAR	**Pinedale Array**	**77.44**	**46**	P	**P**	**17 05 10.8**	**+2.3**
	comp=Z,0.4nm,0.8s,baz=224,slow=6.3,SNR=2.6						
BUR04	**Bucovina Ar. S**	**78.95**	**322**	*e*P	**P**	**17 05 16.8**	**+0.2**
BRTR	**Keskin Array B**	**79.54**	**312**	P	**P**	**17 05 21.0**	**+1.0**
	comp=Z,0.6nm,0.7s,baz=120,slow=4.9,SNR=5.3						
RAYN	**Ar Rayn**	**81.36**	**293**	*e*P	**P**	**17 05 30.3**	**+0.4**
	comp=Z,1.5nm,1.0s						
CLL	**Collm**	**81.69**	**331**	*e*P	**P**	**17 05 32.0**	**+0.9**
GERES	**GERESS Array B**	**83.32**	**329**	P	**P**	**17 05 39.8**	**+0.1**
	comp=Z,0.4nm,0.5s,baz=31,slow=3.1,SNR=4.5						
TXAR	**Lajitas Array**	**89.82**	**53**	P	**P**	**17 06 12.5**	**+0.5**
	comp=Z,0.1nm,0.5s,baz=310,slow=5.6,SNR=3.3						
LPAZ	**La Paz**	**146.31**	**61**	PKPbc	**PKPab**	**17 12 57.1**	**+1.5**
	comp=Z,0.4nm,0.5s,baz=260,slow=12,SNR=1.8						

*BJI **30** 16:56:38.7, 8.˚90S× 105.˚69E, h34km, mb5.0/67, mB5.2/53, Ms5.1/65, Ms7 4.8/64*

*MOS **30** 16:56:40.6± 1.1, 8.˚40S× 105.˚42E, h21km, mb5.2/39, Error ellipse: s-maj=7.8km s-min=5.4km az=99.9*

*ISCJB **30** 16:56:40.0± 0.7, 8.˚41S± 0.˚02× 105.˚45E± 0.˚02, h16km± 5km, mb4.8/129, MS4.4/53, Error ellipse: s-maj=3.8km s-min=3.0km az=37.4*

*NEIC **30** 16:56:42.1± 1.8, 8.˚35S× 105.˚42E, h19km± 11km, mb5.0/42, Error ellipse: s-maj=5.6km s-min=3.7km az=219.0*

*GCMT **30** 16:56:42.1± 0.4, 8.˚77S× 105.˚17E, h18km± 1km, MW4.9/71, Moment Tensor Solution. s31,c36; s71,c104; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.07± .15; $M_{\theta\theta}$-1.21± .09; $M_{\phi\phi}$-0.86± .10; $M_{r\theta}$1.50± .21; $M_{r\phi}$0.86± .05; $M_{\theta\phi}$-1.85± .26; Best double couple: $M_0$3.10400× 10^{16} NP1:ϕ_s138.00000°,δ70.00000°,λ95.00000°. NP2: ϕ_s303.00000°,δ21.00000°,λ76.00000°. Principal axes: T 3.2020, Plg64.0000°, Azm57.0000°; N -0.1990, Plg5.0000°, Azm316.0000°; P -3.0070, Plg25.0000°, Azm224.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*DJA **30** 16:56:43.1± 0.4, 8.˚S± 2.˚× 10.˚5E± , h31km± 5km, M4.9/54, mb5.1/54, mB5.4/42, MLv5.1/25, Mw(mB)4.9/42*

*IDC **30** 16:56:48.0± 2.0, 8.˚27S× 105.˚61E, h60km± 18km, mb4.2/47, mb1 4.2/48, mb1mx4.1/69, mbtmp4.5/48, MS4.2/37, Ms1 4.2/37, ms1mx4.1/58, Error ellipse: s-maj=10.3km s-min=8.1km az=29.0*

ISC 30 16:56:43.7± 0.6, **8.˚35S**± 0.˚03× **105.˚48E**± 0.˚03, **h28**km± 3km, **n358**, σ 1§ **58**/408, **mb4.9**/128, **MS4.4**/54, **19C-4D**, **South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKJI	**Sukabumi**	**1.71**	**39**	P	**Pn**	**16 57 11.0**	**-0.6**
SKJI				S	**Sn**	**16 57 33.0**	**+0.4**
CGJI	**Cibinong**	**1.74**	**7**	P	**Pn**	**16 57 12.0**	**0.0**
CGJI				S	**Sn**	**16 57 34.9**	**+1.7**
DBJI	**Dramaga**	**2.18**	**35**	P	**Pn**	**16 57 18.5**	**+0.3**
DBJI				S	**Sn**	**16 57 46.1**	**+1.8**
SBJI	**Serang**	**2.31**	**16**	P	**Pn**	**16 57 20.6**	**+0.8**
SBJI				S	**Sn**	**16 57 49.2**	**+1.9**
CISI	**Cisompet, Garu**	**2.44**	**71**	P	**Pn**	**16 57 21.7**	**-0.1**
CISI				S	**Sn**	**16 57 51.5**	**+0.7**
CISI	**Cisompet, Garu**	**2.44**	**71**	*e*Pn	**Pn**	**16 57 21.1**	**-0.7**
TNG	**Tangerang**	**2.45**	**28**	P	**Pn**	**16 57 20.9**	**-1.0**
TNG				P	**Pb**	**16 57 22.5**	**-4.6**
TNG				S	**Sn**	**16 57 51.8**	**+0.9**
TNG				S	**Sb**	**16 57 52.7**	**-4.3**
LEM	**Lembang**	**2.60**	**55**	P	**Pn**	**16 57 26.2**	**+2.1**
	227nm,0.3s,baz=331,slow=4.9,SNR=348						
LEM				S	**Sb**	**16 57 59.8**	**-1.6**
	129nm,0.3s,baz=193,slow=23,SNR=6.8						
LEM				LR	LR	16 58 20.5	
	comp=Z,7μm,19.3s,baz=97,slow=38						
BLSI	**Bandar Lampung**	**2.97**	**356**	P	**Pn**	**16 57 28.9**	**-0.1**
BLSI				S	**Sn**	**16 58 04.5**	**+0.8**
KASI	**Kota Agung**	**2.97**	**341**	P	**Pn**	**16 57 27.6**	**-1.4**
KASI				S	**Sn**	**16 58 04.0**	**+0.3**
CMJI	**Cimerak**	**2.99**	**79**	P	**Pn**	**16 57 28.9**	**-0.4**
CMJI				S	**Sn**	**16 58 06.1**	**+1.8**
JCJI	**Jatiwangi**	**3.33**	**56**	P	**Pn**	**16 57 33.0**	**-0.9**
JCJI				S	**Sn**	**16 58 11.8**	**-0.7**
KLI	**Kotabumi**	**3.52**	**350**	P	**Pn**	**16 57 36.6**	**+0.1**
KLI				S	**Sn**	**16 58 18.3**	**+1.1**
KLI	**Kotabumi**	**3.52**	**350**	P	**Pn**	**16 57 36.9**	**+0.4**
KPJI	**Karang Pucung**	**3.57**	**74**	P	**Pn**	**16 57 38.2**	**+1.0**
KPJI				S	**Sn**	**16 58 20.2**	**+1.8**
LWLI	**Liwa**	**3.60**	**337**	P	**Pn**	**16 57 37.1**	**-0.6**
LWLI				S	**Sn**	**16 58 20.7**	**+1.4**
MDSI	**Maura Dua**	**4.05**	**341**	P	**Pn**	**16 57 43.2**	**-0.6**
MDSI				S	**Sn**	**16 58 30.3**	**0.0**
MNAI	**Manna**	**4.69**	**328**	P	**Pn**	**16 57 51.2**	**-1.4**
MNAI	**Manna**	**4.69**	**328**	*e*Pn	**Pn**	**16 57 50.7**	**-2.0**
UGM	**Wanagama**	**5.01**	**85**	P	**Pn**	**16 57 57.0**	**-0.1**
	370nm,0.7s,6μm2.2nm						
UGM	**Wanagama**	**5.01**	**85**	*e*Pn	**Pn**	**16 57 57.0**	**-0.1**
SMRI	**Semarang**	**5.08**	**76**	P	**Pn**	**16 57 57.8**	**-0.3**
	418nm,1.0s,7μm3.4nm						
SMRI	**Semarang**	**5.08**	**76**	*e*Pn	**Pn**	**16 57 58.8**	**+0.7**
WOJI	**Wonogiri, Jawa**	**5.42**	**85**	P	**Pn**	**16 58 02.4**	**-0.2**
	161nm,1.1s,2μm0.8nm						
PMBI	**Palembang**	**5.43**	**353**	P	**Pn**	**16 58 03.3**	**+0.5**
	230nm,1.1s,5μm1.8nm						
PCJI	**Pacitan**	**5.64**	**89**	P	**Pn**	**16 58 06.4**	**+0.7**
	439nm,1.3s,5μm2.2nm						
NGJI	**Ngawi**	**6.01**	**81**	P	**Pn**	**16 58 10.3**	**-0.4**
	203nm,1.0s,1.5nm						
MASI	**Maura Aman, Be**	**6.09**	**328**	P	**Pn**	**16 58 12.4**	**+0.4**
	263nm,1.2s,5μm1.8nm						
PWJI	**Pagerwojo**	**6.27**	**87**	P	**Pn**	**16 58 15.0**	**+0.6**
	362nm,1.0s,3μm1.7nm						
KRJI	**Kerinci**	**7.39**	**327**	P	**Pn**	**16 58 28.9**	**-1.0**
	107nm,0.7s,4μm0.9nm						
PPSI	**Pulau Pagai**	**7.77**	**315**	P	**Pn**	**16 58 33.7**	**-1.3**
	17nm,0.6s,0.9nm						
BLJI	**Banyuglugur**	**8.06**	**86**	P	**Pn**	**16 58 39.5**	**+0.5**
	126nm,0.5s,2μm						
PBKI	**Pangkalan Bun**	**8.33**	**48**	P	**Pn**	**16 58 43.9**	**+1.2**
	112nm,1.1s,2μm						
JAGI	**Jajag, Banyuwa**	**8.58**	**91**	P	**Pn**	**16 58 46.3**	**+0.2**
	446nm,0.9s,4μm						
JAGI	**Jajag, Banyuwa**	**8.58**	**91**	*e*Pn	**Pn**	**16 58 46.3**	**+0.2**
PDSI	**Padang**	**8.92**	**326**	P	Pn	16 58 56.9	+6.1
COCO	**West Island**	**9.32**	**245**	*e*Pn	**Pn**	**16 58 53.8**	**-2.5**
COCO	**West Island**	**9.32**	**245**	*e*P	**Pn**	**16 58 54.3**	**-2.0**
SISI	**Saibi**	**9.44**	**317**	P	**Pn**	**16 58 58.1**	**+0.2**
	46nm,0.8s						
IGBI	**Denpasar**	**9.57**	**94**	P	**Pn**	**16 59 00.1**	**+0.4**
	790nm,0.8s,9μm						
DNP	**Denpasar**	**9.63**	**93**	P	**Pn**	**16 59 00.9**	**+0.4**
	550nm,1.0s,15μm						
DNP	**Denpasar**	**9.63**	**93**	P	**Pn**	**16 59 01.8**	**+1.3**
DNP				pmax	pmax		
	comp=Z,569nm,0.9s						
SRBI	**Singaraja**	**9.64**	**89**	P	**Pn**	**16 59 00.5**	**-0.1**
	comp=Z,120nm,0.9s,comp=Z,2μm						
MYKOM	**Kota Tinggi**	**10.20**	**351**	*e*Pn	**Pn**	**16 59 08.3**	**-0.1**
STKI	**Sintang**	**10.28**	**36**	P	**Pn**	**16 59 09.8**	**+0.4**
	comp=Z,38nm,1.7s						
MNSI	**Mandailing Nat**	**10.82**	**327**	P	Pn	16 59 23.2	+6.4
KSM	**Kuching**	**10.88**	**26**	*e*Pn	**Pn**	**16 59 17.2**	**-0.4**
TWSI	**Taliwang, Sumb**	**11.29**	**93**	P	**Pn**	**16 59 22.5**	**-0.7**
	comp=Z,114nm,0.9s,comp=Z,1μm						
KBKI	**Kotabaru**	**11.76**	**65**	P	**Pn**	**16 59 30.6**	**+1.0**
	comp=Z,70nm,1.3s,comp=Z,1μm						
MTKI	**Mura Teweh, K**	**11.92**	**52**	P	**Pn**	**16 59 34.2**	**+2.3**
	comp=Z,52nm,1.6s,comp=Z,6μm						
PLAI	**Plampang**	**12.17**	**93**	P	**Pn**	**16 59 34.2**	**-1.1**
	comp=Z,172nm,0.9s,comp=Z,2μm						
GSI	**Gunungsitoli**	**12.41**	**320**	P	**P**	**16 59 50.5**	**+0.2**
GSI	**Gunungsitoli**	**12.41**	**320**	*e*Pn	**Pn**	**16 59 35.1**	**-3.4**
SBUM	**Sibu**	**12.66**	**32**	*e*Pn	**Pn**	**16 59 44.1**	**+2.1**
WBSI	**Waikabubak, Su**	**13.80**	**96**	P	**Pn**	**16 59 57.0**	**-0.7**
	comp=Z,84nm,1.0s,comp=Z,856nm						
SMKI	**Samarinda**	**14.08**	**57**	P	**P**	**17 00 07.0**	**-1.8**
SGKI	**Sangatta, Kali**	**14.36**	**58**	P	P	17 00 25.8	+14
BSSI	**Bau Bau, Buton**	**15.05**	**83**	P	**Pn**	**17 00 13.3**	**-1.3**
	comp=Z,91nm,1.5s,comp=Z,2μm						
BNSI	**Bone**	**15.06**	**76**	P	**Pn**	**17 00 16.5**	**+1.9**
	comp=Z,84nm,2.3s,comp=Z,2μm						
TTSI	**Tana Toraja**	**15.21**	**71**	P	**Pn**	**17 00 17.5**	**+0.9**
	comp=Z,59nm,1.1s,comp=Z,2μm						
EDFI	**Ende, Flores**	**16.04**	**93**	P	P	17 00 39.2	+8.5
PCI	**Palu**	**16.10**	**63**	P	**Pn**	**17 00 28.5**	**+0.3**
	comp=Z,113nm,1.9s,comp=Z,3μm						
PCI	**Palu**	**16.10**	**63**	P	**Pn**	**17 00 29.6**	**+1.4**
PCI				pmax	pmax		
	comp=Z,113nm,1.9s						
MPSI	**Mapaga**	**16.76**	**60**	P	**Pn**	**17 00 37.5**	**+0.9**
	comp=Z,108nm,1.5s,comp=Z,1μm						
BSI	**Banda Aceh**	**17.10**	**323**	P	**Pn**	**17 00 38.3**	**-2.5**
	comp=Z,84nm,1.3s,comp=Z,1μm						
KDI	**Kendari**	**17.59**	**77**	P	**Pn**	**17 00 47.1**	**+0.1**
APSI	**Ampana**	**17.72**	**66**	P	**Pn**	**17 00 48.6**	**0.0**
	comp=Z,112nm,1.6s,comp=Z,2μm						
KKM	**Kota Kinabalu**	**17.86**	**37**	*e*Pn	**Pn**	**17 00 50.1**	**-0.3**
	comp=Z,51nm,1.0s						
BATI	**Baumata**	**18.04**	**97**	P	**P**	**17 00 53.2**	**+0.4**
	comp=Z,9.2nm,0.3s,baz=330,slow=8.1,SNR=3.3						
BATI				S	**Sn**	**17 04 14.4**	**+1.2**
	comp=Z,1.9nm,0.3s,baz=218,slow=19,SNR=3.3						
BATI	**Baumata**	**18.04**	**97**	P	**Pn**	**17 00 52.8**	**+0.2**
	comp=Z,94nm,0.7s,comp=Z,1μm						
MRSI	**Marisa**	**18.60**	**63**	P	**P**	**17 00 57.9**	**-1.1**
	comp=Z,26nm,1.1s,comp=Z,572nm						
SOEI	**Soe**	**18.61**	**96**	P	**P**	**17 00 59.2**	**0.0**
	comp=Z,167nm,1.7s,comp=Z,3μm						
SOEI	**Soe**	**18.61**	**96**	*e*P	**P**	**17 00 58.4**	**-0.8**
	comp=Z,226nm,1.2s						
MYLDM	**Lahad Datu**	**18.69**	**44**	*e*P	**Pn**	**17 01 01.3**	**+0.9**
	comp=Z,102nm,1.1s						
LUWI	**Luwuk**	**18.69**	**68**	P	**P**	**17 00 59.8**	**-0.2**
	comp=Z,107nm,1.7s,comp=Z,2μm						
LUWI	**Luwuk**	**18.69**	**68**	*e*P	**P**	**17 00 59.4**	**-0.6**
	comp=Z,185nm,1.3s						
MBWA	**Marble Bar**	**18.74**	**134**	*e*P	**P**	**17 00 59.8**	**-0.7**
	comp=Z,46nm,1.3s						
SANI	**Sanana**	**21.35**	**74**	P	**P**	**17 01 28.2**	**-0.7**
	comp=Z,45nm,1.2s,comp=Z,828nm						
FITZ	**Fitzroy Crossi**	**21.87**	**118**	P	**P**	**17 01 35.2**	**+0.8**
	baz=22,SNR=14						
FITZ	**Fitzroy Crossi**	**21.87**	**118**	*e*P	**P**	**17 01 34.6**	**+0.2**
	comp=Z,58nm,1.3s						
SRAK	**Srakaew**	**22.48**	**351**	P	**P**	**17 01 43.9**	**+3.0**
	comp=Z,32nm,1.1s						
NAYO	**Nakonayok**	**22.89**	**350**	P	**P**	**17 01 46.4**	**+1.1**
	comp=Z,39nm,1.2s,comp=Z,983nm						
AAI	**Ambon**	**23.05**	**80**	P	**P**	**17 01 45.9**	**-1.2**
	comp=Z,77nm,0.7s,comp=Z,1μm						
LBMI	**Labuha**	**23.24**	**72**	P	**P**	**17 01 48.4**	**-0.5**
	comp=Z,186nm,0.9s,comp=Z,2μm						
SRDT	**SRDT**	**23.42**	**344**	P	**P**	**17 01 52.0**	**+1.4**
	comp=Z,41nm,1.0s,comp=Z,991nm						
TNTI	**Ternate**	**23.62**	**68**	*e*P	**P**	**17 01 51.9**	**-0.9**
	comp=Z,560nm,1.4s						
KNRA	**Kununurra**	**23.89**	**110**	P	**P**	**17 01 55.7**	**+0.5**
	baz=24,SNR=10						
PBKT	**Sadao Pong**	**25.16**	**350**	P	**P**	**17 02 06.4**	**-0.3**
	comp=Z,42nm,1.2s,comp=Z,664nm						
SKNT	**Sakolnakorn**	**25.20**	**357**	P	P	17 02 19.2	+12
DAV	**Davao City (W)**	**25.22**	**53**	P	**P**	**17 02 07.7**	**+0.3**
	comp=Z,76nm,0.3s,baz=220,slow=17,SNR=2.9						
DAV				S	**S**	**17 06 24.8**	**-6.6**
	comp=Z,152nm,0.4s,baz=61,slow=10,SNR=2.1						
MTN	**Manton Dam**	**25.60**	**102**	P	**P**	**17 02 11.4**	**+0.5**
	baz=26,SNR=14						
MTN	**Manton Dam**	**25.60**	**102**	*e*P	**P**	**17 02 10.8**	**0.0**
	comp=Z,134nm,1.4s						
KLBR	**Kellerberrin**	**25.80**	**155**	P	**P**	**17 02 13.6**	**+1.2**
	baz=26						
PHIT	**Phitsanulok**	**25.86**	**349**	P	**P**	**17 02 13.9**	**+0.8**
	comp=Z,69nm,0.8s,comp=Z,454nm						
SIJI	**Sorong**	**26.74**	**75**	P	**P**	**17 02 20.0**	**-1.2**
	comp=Z,18nm,0.8s,baz=277,slow=6.4,SNR=29						
SIJI				S	**S**	**17 06 52.3**	**-3.2**
	comp=Z,1.1nm,0.5s,baz=225,slow=20,SNR=5.9						
NWAO	**Narrogin (SRO)**	**26.77**	**158**	LR	LR	17 14 39.0	
	comp=Z,1μm,18.5s,baz=201,slow=40						
TGY	**Tagaytay City**	**27.07**	**35**	P	**P**	**17 02 23.4**	**-0.7**
	comp=Z,88nm,0.3s,baz=114,slow=8.1,SNR=3.4						
TGY				LR	LR	17 15 41.6	
	comp=Z,660nm,18.6s,baz=176,slow=42						
FAKI	**Fak Fak**	**27.17**	**80**	P	**P**	**17 02 25.5**	**+0.4**
	comp=Z,62nm,1.5s,comp=Z,1μm						
FAKI	**Fak Fak**	**27.17**	**80**	*e*P	**P**	**17 02 25.1**	**0.0**
	comp=Z,97nm,1.4s						
CM01	**Chiang Mai Arr**	**27.37**	**346**	*e*P	**P**	**17 02 26.5**	**-0.2**
CM31	**Chiang Mai Arr**	**27.41**	**346**	*e*P	**P**	**17 02 27.5**	**+0.4**
CMAR	**Chiang Mai Arr**	**27.41**	**346**	P	**P**	**17 02 27.8**	**+0.7**
	comp=Z,12nm,0.9s,baz=8.3,SNR=55						
CMAR				S	**S**	**17 06 59.8**	**-6.0**
	comp=Z,0.2nm,0.3s,baz=2.3,slow=24,SNR=2.6						
CMAR				LR	LR	17 15 15.5	
	comp=Z,1μm,19.3s,baz=174,slow=40						
QIZ	**Qiongzhong**	**27.54**	**9**	P	**P**	**17 02 28.8**	**+0.5**
QIZ				S	**S**	**17 07 08.0**	**+0.1**
QIZ				pmax	pmax		
	comp=Z,230nm,13.1s						
QIZ				LR	LR		
	comp=Z,2μm,14.7s						
QIZ				LR	LR		
	comp=Z,1μm,13.7s						
QIZ				LR	LR		
	comp=Z,3μm,16.2s						
H01W3	**Cape Leeuwin H**	**27.58**	**164**	T	T	17 31 18.4	
	baz=345,slow=75,SNR=7.7						
H01W2	**Cape Leeuwin H**	**27.59**	**165**	T	T	17 31 15.1	
	baz=345,slow=75,SNR=9.7						
H01W1	**Cape Leeuwin H**	**27.59**	**164**	T	T	17 31 15.7	
	baz=345,slow=75,SNR=8.2						
CHTO	**Chiang Mai**	**27.75**	**347**	P	**P**	**17 02 31.1**	**+1.0**
	comp=Z,92nm,1.4s,comp=Z,1μm						
CHTO	**Chiang Mai**	**27.75**	**347**	*e*P	**P**	**17 02 29.6**	**-0.5**
	comp=Z,16nm,0.8s						
CHTO	**Chiang Mai**	**27.75**	**347**	*e*P	**P**	**17 02 29.6**	**-0.5**
CHTO				pmax	pmax		
	comp=Z,16nm,0.8s						
PAYA	**Payao**	**28.08**	**349**	P	**P**	**17 02 34.8**	**+1.7**
	comp=Z,8.8nm,1.0s,comp=Z,107nm						
WRA	**Warramunga Arr**	**30.21**	**116**	P	**P**	**17 02 52.2**	**+0.1**
	comp=Z,3.9nm,0.7

LSA Lhasa 40.26 341 *e*P **P 17 04 19.4 +0.5**
comp=Z,26nm,0.9s
LSA Lhasa 40.26 341 *e*P **P 17 04 19.4 +0.5**
LSA pmax pmax
comp=Z,26nm,0.9s
JIRN Jiri 40.37 333 *e*P **P 17 04 20.6 +0.9**
comp=Z,123nm,0.9s
GUN Gumba 40.73 333 *e*P **P 17 04 23.4 +0.8**
comp=Z,64nm,0.7s
DMN Daman 40.83 332 *e*P **P 17 04 24.5 +1.2**
comp=Z,60nm,1.0s
KKN Kakani 40.90 332 *e*P **P 17 04 24.5 +0.6**
comp=Z,96nm,1.1s
STKA Stephens Creek 40.90 130 P **P 17 04 24.0 +0.4**
comp=Z,5.9nm,0.7s,baz=303,slow=8.4,SNR=20
STKA LR LR 17 23 54.7
comp=Z,473nm,18.0s,baz=295,slow=40
STKA Stephens Creek 40.90 130 P **P 17 04 24.1 +0.4**
baz=41,SNR=13
STKA Stephens Creek 40.90 130 *e*P **P 17 04 23.7 +0.1**
comp=Z,5.1nm,0.8s
STKA Stephens Creek 40.90 130 *e*P **P 17 04 23.7 +0.1**
STKA pmax pmax
comp=Z,5.0nm,0.8s
CTA Charters Tower 41.10 111 P **P 17 04 25.8 +0.3**
comp=Z,6.6nm,0.9s,baz=281,slow=10,SNR=2.8
PMG Port Moresby 41.18 95 P **P 17 04 25.2 -1.0**
comp=Z,8.6nm,1.0s,baz=259,slow=10,SNR=2.9
PMG LR LR 17 25 01.8
comp=Z,232nm,18.5s,baz=278,slow=41
PMG Port Moresby 41.18 95 *i*P **P 17 04 26.5 +0.3**
JOW Kunigami 41.38 32 LR LR 17 24 05.9
comp=Z,221nm,18.7s,baz=313,slow=40
GKN Gorkha 41.38 332 *e*P **P 17 04 28.6 +0.8**
comp=Z,92nm,1.0s
KOLN Koldanda 41.68 330 *e*P **P 17 04 31.0 +0.7**
comp=Z,51nm,0.7s
DANN Dangsing 42.09 331 *e*P **P 17 04 34.5 +0.8**
comp=Z,192nm,1.2s
MANU Manus Island 42.16 84 *e*P **P 17 04 34.0 -0.2**
comp=Z,112nm,1.6s
NJ2 Nanjing 42.16 17 *e*P **P 17 04 34.8 +1.0**
NJ2 pP **pP 17 04 42.0 -0.3**
NJ2 S **S 17 10 58.8 +6.7**
NJ2 sS **sS 17 11 08.5 +2.5**
NJ2 pmax pmax
comp=Z,26nm,1.1s
NJ2 pmax pmax
comp=Z,250nm,3.8s
NJ2 LR LR
comp=Z,900nm,14.6s
NJ2 LR LR
comp=Z,880nm,14.4s
NJ2 LR LR
comp=Z,810nm,13.6s
PYUN Piuthan 42.26 330 *e*P **P 17 04 35.9 +0.9**
comp=Z,196nm,1.3s
XAN Xi'an 42.28 4 P **P 17 04 34.5 -0.4**
XAN pP pP 17 04 44.0 +0.6
XAN sP sP 17 04 47.8 +1.1
XAN PP **PP 17 06 16.0 +2.7**
XAN S **S 17 10 53.0 -1.0**
XAN pmax pmax
comp=Z,17nm,0.9s
XAN pmax pmax
comp=Z,210nm,6.8s
XAN LR LR
comp=Z,860nm,18.4s
XAN LR LR
comp=Z,1μm,15.2s
XAN LR LR
comp=Z,1μm,17.3s
CMSA Cobar Meteorol 43.92 127 P **P 17 04 49.4 +1.1**
baz=44,SNR=6.0
LZH Lanzhou 44.22 358 *e*P **P 17 04 51.8 +1.1**
LZH pP sP 17 05 02.0 -0.6
LZH sP pP 17 05 07.3 +8.1
LZH PP **PcP 17 06 38.5 +3.4**
LZH S **S 17 11 19.3 -3.4**
LZH sS sS 17 11 40.5 +3.9
LZH SS **SS 17 14 39.3 -2.3**
LZH pmax pmax
comp=Z,66nm,1.0s
LZH pmax pmax
comp=Z,460nm,4.3s
LZH LR LR
comp=Z,2μm,10.7s
LZH LR LR
comp=Z,2μm,10.3s
LZH LR LR
comp=Z,2μm,11.2s
GUMO Guam 44.77 61 LR LR 17 24 44.4
comp=Z,86nm,19.5s,baz=212,slow=38
JNU Nakatsue 47.80 29 P **P 17 05 18.4 -0.4**
comp=Z,6.9nm,0.7s,baz=250,slow=6.5,SNR=5.9
GTA Gaotai 47.80 354 P **P 17 05 20.0 +1.1**
GTA pP sP 17 05 30.0 -0.8
GTA sP pP 17 05 34.3 +6.9
GTA PcP **PcP 17 06 44.8 -2.7**
GTA PP **PP 17 07 10.0 -1.0**
GTA S **S 17 12 14.0 0.0**
GTA sS sS 17 12 32.0 +3.9
GTA SS **SS 17 15 36.8 -6.2**
GTA pmax pmax
comp=Z,39nm,1.6s
GTA pmax pmax
comp=Z,260nm,6.3s
GTA LR LR
comp=Z,1μm,14.3s
GTA LR LR
comp=Z,1μm,17.1s
GTA LR LR
comp=Z,1μm,15.2s
BTO Baotou 48.89 5 *e*P **P 17 05 26.8 -0.4**
TJN Taejon 49.02 23⇑*e*P **P 17 05 28.7 +0.7**
BJT Baijiatuau 49.13 11 *e*P **P 17 05 28.9 0.0**
comp=Z,131nm,1.9s
BJT Baijiatuau 49.13 11 *e*P **P 17 05 28.9 0.0**
BJT pmax pmax
comp=Z,131nm,1.9s
BJI Beijing 49.15 11 P **P 17 05 29.5 +0.5**
BJI S **S 17 12 34.5 +1.8**
BJI pmax pmax
comp=Z,38nm,1.6s
BJI LR LR
comp=Z,2μm,14.9s
BJI LR LR
comp=Z,1μm,12.9s
BJI LR LR
comp=Z,730nm,14.2s
HHC Hu-ho-hao-te 49.27 6 *e*P **P 17 05 31.0 +0.9**
HHC PP **PP 17 07 30.5 +6.2**
HHC S **S 17 12 40.5 +5.9**
HHC pmax pmax
comp=Z,34nm,1.0s
HHC pmax pmax
comp=Z,100nm,6.3s
HHC LR LR
comp=Z,1μm,15.0s
HHC LR LR
comp=Z,720nm,14.1s
HHC LR LR
comp=Z,1μm,15.1s
DL2 Dalian 49.35 17 P **P 17 05 30.5 -0.1**
DL2 S **S 17 12 35.5 0.0**
DL2 pmax pmax
comp=Z,22nm,1.4s
DL2 LR LR
comp=Z,430nm,14.3s
DL2 LR LR
comp=Z,670nm,16.2s
DL2 LR LR
comp=Z,410nm,13.8s
JCJ Chichijima 50.07 44 LR LR 17 29 17.8
comp=Z,86nm,18.5s,slow=39
KS15 Wonju Array Si 50.15 23 *e*P **P 17 05 36.0 -0.7**
KSAR Wonju Array Be 50.15 23 P **P 17 05 36.8 +0.1**
KSAR Wonju Array Be 50.15 23 P **P 17 05 36.8 +0.1**
KSRS Korea Array 50.17 23 P **P 17 05 36.8 0.0**
comp=Z,8.7nm,0.8s,baz=215,slow=8.1,SNR=40
KSRS LR LR 17 29 02.4
comp=Z,128nm,18.7s,baz=232,slow=39
KS01 Wonju Array Si 50.18 23 *e*P **P 17 05 37.1 +0.2**
NIL Nilore 51.78 326 *e*P **P 17 05 48.5 -0.6**
comp=Z,19nm,1.0s
NIL Nilore 51.78 326 *e*P **P 17 05 48.5 -0.6**
NIL pmax pmax
comp=Z,19nm,1.0s
SNY Shenyang 52.62 17⇓P **P 17 05 54.8 -0.3**
SNY LR LR
comp=Z,580nm,18.8s
MAJO Matsushiro 54.21 32⇑*e*P **P 17 06 06.5 -0.4**
MAJO pmax pmax
comp=Z,5.0nm,1.2s
MJAR Matsushiro Arr 54.21 32 P **P 17 06 05.9 -1.0**
comp=Z,3.6nm,0.9s,baz=202,slow=7.8,SNR=9.3
MJAR LR LR 17 31 14.1
comp=Z,117nm,19.0s,baz=225,slow=38
WMQ Urumqi 54.37 344 P **P 17 06 09.5 +1.4**
WMQ sP sP 17 06 18.5 -1.6
WMQ S **S 17 13 45.8 +1.2**
WMQ pmax pmax
comp=Z,80nm,1.7s
WMQ pmax pmax
comp=Z,350nm,3.8s
WMQ LR LR
comp=Z,900nm,15.7s
WMQ LR LR
comp=Z,670nm,20.9s
WMQ LR LR
comp=Z,440nm,26.3s
KSH Kashi 54.92 332 P **P 17 06 12.5 +0.3**
KSH sP sP 17 06 26.0 +1.8
KSH PcP **PcP 17 07 14.8 +0.8**
KSH S **S 17 13 48.0 -4.2**
KSH SS **SS 17 17 36.3 +0.1**
KSH pmax pmax
comp=Z,30nm,0.9s
KSH pmax pmax
comp=Z,340nm,4.4s
KSH LR LR
comp=Z,320nm,5.0s
KSH LR LR
comp=Z,390nm,6.7s
KSH LR LR
comp=Z,620nm,9.3s
CN2 Changchun 54.98 18 *e*P **P 17 06 11.8 -0.5**
CN2 *e*S **S 17 13 50.3 -2.2**
CN2 pmax pmax
comp=Z,40nm,1.0s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=Z,400nm,18.0s
CN2 LR LR
comp=Z,400nm,18.0s
CN2 LR LR
comp=Z,490nm,18.0s
WSAR Wadi Sarin 55.53 306 P **P 17 06 19.5 +2.7**
comp=Z,1.9nm,0.8s,baz=118,slow=7.4,SNR=3.1
WSAR LR LR 17 30 39.5
comp=Z,422nm,18.1s,baz=132,slow=36
SONM Songino Array 55.94 1 P **P 17 06 20.5 +1.1**
comp=Z,4.1nm,0.5s,baz=173,slow=7.3,SNR=38
SONM LR LR 17 34 08.1
comp=Z,1μm,18.0s,baz=192,slow=40
SONA1 Songino Array 55.95 1 *e*P **P 17 06 19.5 0.0**
ULN Ulaanbaatar 55.98 1 *e*P **P 17 06 19.3 -0.4**
comp=Z,104nm,2.0s
ULN Ulaanbaatar 55.98 1*ce*P **P 17 06 20.8 +1.1**
ULN pmax pmax
comp=Z,39nm,1.7s
NRN Naryn 56.45 334 P **P 17 06 23.6 +0.2**
NRN pmax pmax
comp=Z,20nm,1.3s
KDJ Kajisay 56.52 335 *e*P **P 17 06 23.6 -0.1**
comp=Z,24nm,1.0s
KDJ Kajisay 56.52 335 P **P 17 06 23.6 -0.1**
KDJ pmax pmax
comp=Z,24nm,1.1s
MDJ Mudanjiang 57.04 20 P **P 17 06 26.8 -0.3**
MDJ PP **PP 17 08 35.3 +1.1**
MDJ ScP **ScP 17 11 16.5 -3.3**
MDJ PcS **PcS 17 11 21.0 -1.7**
MDJ S **S 17 14 20.0 0.0**
MDJ ScS **ScS 17 16 13.3 -1.2**
MDJ SS **SS 17 18 08.0 -1.2**
MDJ pmax pmax
comp=Z,14nm,0.7s
MDJ pmax pmax
comp=Z,140nm,4.8s
MDJ LR LR
comp=Z,470nm,15.8s
MDJ LR LR
comp=Z,290nm,11.3s
MDJ LR LR
comp=Z,510nm,14.4s
MDJ Mudanjiang 57.04 20 *e*P **P 17 06 27.1 0.0**
comp=Z,13nm,1.0s
OPO Ambohidratompo 57.38 253 P **P 17 06 32.0 +1.7**
comp=Z,4.5nm,0.8s,baz=75,slow=12,SNR=3.5
USRK Ussuriysk Ar. 57.54 22 P **P 17 06 30.4 -0.2**
comp=Z,6.8nm,0.6s,baz=225,slow=7.8,SNR=15
USRK LR LR 17 33 26.2
comp=Z,164nm,19.3s,baz=212,slow=38
AAK Ala-Arcba 58.09 333 P **P 17 06 34.6 -0.1**
comp=Z,2.4nm,1.0s,baz=165,slow=7.9,SNR=5.2
AAK Ala-Arcba 58.09 333 *e*P **P 17 06 34.0 -0.7**
comp=Z,7.7nm,1.1s
AAK Ala-Arcba 58.09 333⇓*e*P **P 17 06 35.3 +0.6**
AAK pmax pmax
comp=Z,12nm,1.9s
ZAK Zakamensk 58.52 358 *e*P **P 17 06 38.3 +0.8**
ZAK pmax pmax
comp=Z,13nm,1.7s
MK01 Makanchi Array 58.63 342 *e*P **P 17 06 37.4 -0.9**
MK31 Makanchi Array 58.66 342 *e*P **P 17 06 37.8 -0.7**
MK31 Makanchi Array 58.66 342 *e*P **P 17 06 38.7 +0.2**
MK31 pmax pmax
comp=Z,15nm,0.9s
MKAR Makanchi Array 58.66 342 P **P 17 06 39.0 +0.6**
comp=Z,12nm,0.8s,baz=148,slow=7.1,SNR=70
MKAR LR LR 17 35 38.6
comp=Z,288nm,20.5s,baz=148,slow=40
MKAR Makanchi Array 58.66 342 *e*P **P 17 06 37.8 -0.7**
comp=Z,102nm,0.8s
MKAR Makanchi Array 58.66 342 *e*P **P 17 06 37.8 -0.7**
MKAR pmax pmax
comp=Z,102nm,0.8s
MAKZ Makanchi 58.77 341 *e*P **P 17 06 37.9 -1.4**
comp=Z,11nm,1.1s
MAKZ Makanchi 58.77 341 P **P 17 06 39.9 +0.7**
MAKZ pmax pmax
comp=Z,15nm,1.5s
MNAS Manas 58.87 332 P **P 17 06 38.5 -1.7**
MNAS pmax pmax
comp=Z,21nm,1.3s
KNGR Kungurtug, Tuv 59.12 354⇑*e*P **P 17 06 44.2 +2.5**
TLY Talaya 59.81 359 P **P 17 06 44.7 -1.6**
comp=Z,1.5nm,0.3s,baz=177,slow=6.5,SNR=2.8
TLY Talaya 59.81 359 *e*P **P 17 06 44.4 -1.9**
comp=Z,63nm,2.0s
TLY Talaya 59.81 359*c i*P **P 17 06 47.8 +1.5**
TLY *e*S **S 17 15 02.7 +6.8**
TLY pmax pmax
comp=Z,20nm,1.6s
TLY MLR MLR
comp=Z,616nm,13.0s
MOY Mondy 59.90 357 *e*P **P 17 06 49.0 +2.0**
MOY pmax pmax
comp=Z,63nm,2.2s
DGZ Jazzator, Alta 59.92 347 *i*P **P 17 06 48.4 +1.1**
DGZ pmax pmax
comp=Z,37nm,1.0s
DZM Mont Dzumac 60.04 111 LR LR 17 33 56.9
comp=Z,300nm,18.8s,baz=270,slow=37
DZM Mont Dzumac 60.04 111 *e*P **P 17 06 48.6 0.0**
comp=Z,48nm,1.4s
DZM Mont Dzumac 60.04 111 *e*LR LR 17 24 39.0
comp=Z,484nm,24.0s
HVS Khovu-Aksy 60.11 351*de*P **P 17 06 50.3 +1.8**
HVS pmax pmax
comp=Z,20nm,1.0s
IRK Irkutsk 60.36 359 *e*P **P 17 06 51.4 +1.3**
IRK *e* 17 07 01.5
IRK pmax pmax
comp=Z,38nm,2.3s
CIT Chita 60.53 6 *e*P **P 17 06 51.7 +0.4**
CIT *e* 17 07 02.4
CIT pmax pmax
comp=Z,38nm,2.2s
KLR Kul'dur 61.79 19 P **P 17 06 58.7 -1.1**
comp=Z,0.5nm,0.5s,baz=211,slow=5.0,SNR=31
ASAJ Asahikawa 62.08 29 P **P 17 07 01.1 -0.7**
comp=Z,4.5nm,0.7s,baz=248,slow=11,SNR=5.7
ASAJ Asahikawa 62.08 29 *e*P **P 17 07 00.2 -1.7**
comp=Z,7.5nm,0.8s
KURBB Kurchatov Arra 63.21 341 P **P 17 07 09.6 +0.3**
comp=Z,8.3nm,0.7s,baz=154,slow=6.2,SNR=32
KURK Kurchatov 63.27 341 *e*P **P 17 07 09.3 -0.3**
comp=Z,23nm,0.9s
KURK Kurchatov 63.27 341*c i*P **P 17 07 09.9 +0.3**
KURK pmax pmax
comp=Z,39nm,1.7s
GEYT Alibeck 63.78 320 P **P 17 07 14.1 +0.6**
comp=Z,0.7nm,0.5s,baz=130,slow=16,SNR=3.9
GEYT LR LR 17 37 55.0
comp=Z,163nm,20.2s,baz=155,slow=39
GYA0B ALIBECK ARRAY 63.78 320 *e*P **P 17 07 12.8 -0.6**
comp=Z,54nm,1.9s
YSS Yuzh-Sakhalins 64.26 27 *e*P **P 17 07 15.4 -0.8**
comp=Z,29nm,1.0s
YSS Yuzh-Sakhalins 64.26 27 *e*P **P 17 07 15.7 -0.5**
YSS *e* 17 07 23.5
YSS pmax pmax
comp=Z,20nm,1.1s
ZAA0 Zalesovo Array 64.47 347 *e*P **P 17 07 17.3 -0.2**
comp=Z,56nm,1.4s
ZALV Zalesovo Beam 64.47 347 P **P 17 07 17.7 +0.2**
comp=Z,5.4nm,0.4s,baz=143,slow=3.2,SNR=38
ZALV LR LR 17 37 55.9
comp=Z,398nm,19.3s,baz=341,slow=38
ZALV Zalesovo Beam 64.47 347 *e*P **P 17 07 17.1 -0.4**
ZALV Zalesovo Beam 64.47 347 *e*P **P 17 07 17.1 -0.4**
ZEA Zeya 64.54 14 *e*P **P 17 07 18.2 +0.2**
ZEA *e*S S 17 16 05.0 +10
ZEA pmax pmax
comp=Z,25nm,1.2s
ZEA smax smax
comp=N,200nm,11.0s
GRNR Gornyy 64.69 21 *i*P **P 17 07 18.2 -0.8**
KRAR Krasnoyarsk 64.98 352⇑*i*P **P 17 07 22.2 +1.5**
MAW Mawson 65.65 197 P **P 17 07 25.6 +0.6**
comp=N,1.5nm,0.8s,baz=78,slow=9.3,SNR=3.5
MAW LR LR 17 34 11.4
comp=N,103nm,18.7s,baz=60,slow=34
NVS Novosibirsk 65.66 346 *e*P **P 17 07 25.6 +0.4**
NVS *e*S **S 17 16 09.7 +0.6**
NVS pmax pmax
comp=Z,26nm,1.6s
NVS pmax pmax
comp=N,17nm,1.7s
NVS pmax pmax
comp=E,14nm,1.6s
NVS smax smax
comp=E,15nm,2.0s
BOD Bodaibo 66.31 5 *e*P **P 17 07 29.1 -0.2**
BOD pmax pmax
comp=Z,37nm,1.8s
RAYN Ar Rayn 66.59 300 *e*P **P 17 07 30.3 -1.7**
comp=Z,7.5nm,1.1s
RAYN Ar Rayn 66.59 300 P **P 17 07 30.3 -1.7**
RAYN pmax pmax
comp=Z,8.0nm,1.2s
BVA0 Borovoye Array 68.03 338 P **P 17 07 38.9 -1.5**
BVA0 pmax pmax
comp=Z,12nm,0.8s
BVAR Borovoye Array 68.03 338 P **P 17 07 40.7 +0.3**
comp=Z,4.0nm,0.6s,baz=137,slow=7.7,SNR=17
BVAR LR LR 17 42 12.8
comp=Z,306nm,18.4s,baz=141,slow=40
BRVK Borovoye 68.09 338 *e*P **P 17 07 40.1 -0.7**
comp=Z,12nm,1.0s
BRVK Borovoye 68.09 338*de*P **P 17 07 41.6 +0.8**
BRVK pmax pmax
comp=Z,17nm,1.7s
NKL Nikolayevsk 68.17 22 *e*P **P 17 07 41.4 +0.2**
NKL pmax pmax
comp=E,30nm,1.0s
NKL pmax pmax
comp=Z,25nm,1.0s
KMBO Kilima Mbogo 68.30 272 LR LR 17 31 46.6
comp=Z,184nm,21.3s,baz=114,slow=31
AB31 Akbulak array 69.81 330 *i*P **P 17 07 51.1 -0.4**
AB31 pmax pmax
comp=Z,7.0nm,0.6s
ABKAR Akbulak array 69.81 330 *e*P **P 17 07 51.5 0.0**
comp=Z,134nm,0.8s
AKTO Aktyubinsk 71.52 330 P **P 17 08 02.5 +0.6**
comp=Z,2.2nm,1.0s,baz=137,slow=7.0,SNR=6.8
AKT Akhty 72.45 318 *e*P **P 17 08 09.3 +1.5**
AKT *e* 17 08 25.3
AKT pmax pmax
comp=Z,5.0nm,0.8s
YAK Yakutsk 72.64 12 P **P 17 08 08.2 -0.2**
comp=Z,21nm,0.5s,baz=184,slow=0.9,SNR=30
YAK Yakutsk 72.64 12 *e*P **P 17 08 06.9 -1.5**
comp=Z,59nm,1.0s
YAK Yakutsk 72.64 12*c i*P **P 17 08 07.8 -0.6**
YAK *e**PP **pP 17 08 16.9 -0.4**
YAK *e* 17 08 21.3
YAK *e* 17 10 46.6
YAK *e*S **S 17 17 30.2 -1.1**
YAK *e* 17 18 13.5
YAK *e*SS SS 17 22 11.8 +0.5
YAK *e*SSS SSS 17 25 26.4
YAK pmax pmax
comp=Z,37nm,0.9s
YAK pmax pmax
comp=N,13nm,1.3s
YAK pmax pmax
comp=E,12nm,1.3s
YAK pmax pmax
comp=Z,74nm,4.8s
YAK pmax pmax
comp=N,53nm,4.1s
YAK pmax pmax
comp=E,51nm,4.7s
YAK smax smax
comp=N,40nm,4.2s
YAK smax smax
comp=E,58nm,3.5s
MAK Makhachkala 73.31 319 *e*P **P 17 08 09.2 -3.5**
MAK *e* 17 10 53.0
MAK *e*PPP PPP 17 12 38.1
MAK *e*S **S 17 17 34.9 -4.7**
MAK pmax pmax
comp=Z,13nm,0.3s
SYO Syowa Base 73.73 200⇑*e*P **P 17 08 14.0 -0.7**
GNI Garni 73.85 316 LR LR 17 43 12.2
comp=Z,89nm,21.1s,baz=100,slow=38
SVE Sverdlovsk 74.62 336⇑*e*P **P 17 08 21.6 +1.5**
SVE pmax pmax
comp=Z,34nm,1.5s
VNDA Vanda 74.93 169 P **P 17 08 22.2 +0.5**
comp=Z,0.8nm,0.7s,baz=317,slow=6.7,SNR=7.1
VNDA LR LR 17 37 07.5
comp=Z,71nm,18.2s,baz=318,slow=32
VNDA Vanda 74.93 169 *e*P **P 17 08 21.5 -0.2**
comp=Z,9.1nm,1.0s
VNDA Vanda 74.93 169 *e*P **P 17 08 21.5 -0.2**
VNDA pmax pmax
comp=Z,9.0nm,1.0s
ARU Arti 75.19 335 P **P 17 08 23.6 +0.1**
comp=Z,0.9nm,0.3s,baz=142,slow=3.8,SNR=7.7
ARU Arti 75.19 335 *e*P **P 17 08 23.4 0.0**
comp=Z,19nm,1.2s
ARU Arti 75.19 335*c i*P **P 17 08 24.5 +1.1**
ARU 17 11 10.8
ARU S **S 17 18 04.1 +3.8**
ARU SS **SS 17 22 55.1 +4.7**
ARU pmax pmax
comp=Z,14nm,1.2s
PETK Petropavlovsk- 75.50 29 P **P 17 08 25.6 +0.3**
comp=Z,3.7nm,0.9s,baz=226,slow=11,SNR=3.0
PETK LR LR 17 44 00.6
comp=Z,99nm,19.8s,baz=260,slow=38
ZEI Tsey 75.58 318 *e*P P 17 08 13.8 -12
ZEI pmax pmax
comp=Z,3.0nm,0.6s
PET Petropavlovsk 75.92 30 *e*P **P 17 08 26.9 -0.7**
PET *e*S **S 17 18 06.7 -1.7**
PET pmax pmax
comp=Z,100nm,16.6s
PET pmax pmax
comp=Z,200nm,14.3s
PET MLR MLR
comp=Z,200nm,19.0s

NEY	Neytrino	76.56	318	*e*P	P	17 08 32.4	+0.7
KBZ	Khabaz	76.64	319	P	P	17 08 32.9	+1.0
	comp=Z,2.1nm,1.0s,baz=39,slow=2.4,SNR=6.1						
KBZ				LR	LR	17 48 06.0	
	comp=Z,64nm,18.1s,baz=88,slow=40						
MA2	Magadan	76.69	22	P	P	17 08 32.3	+0.4
	comp=Z,9.6nm,0.8s,baz=155,slow=3.9,SNR=4.5						
ASF	Jabal al Asfar	76.70	306	P	P	17 08 33.8	+1.1
	comp=Z,0.7nm,0.3s,baz=121,slow=5.9,SNR=4.7						
KVAR	Kislovodsk Arr	76.88	319	P	P	17 08 34.4	+1.0
	comp=Z,1.1nm,0.3s,baz=159,slow=17,SNR=3.5						
KIV	Kislovodsk	76.88	319	*e*P	P	17 08 34.4	+0.9
KIV				pmax	pmax		
	comp=Z,4.0nm,1.0s						
BOSA	Boshof	77.50	243	P	P	17 08 37.9	+0.5
	comp=Z,1.9nm,0.7s,baz=109,slow=6.3,SNR=3.9						
BOSA				LR	LR	17 41 17.9	
	comp=Z,180nm,18.0s,baz=82,slow=34						
MMAI	Mount Meron Ar	78.16	306	P	P	17 08 42.1	+1.3
	comp=Z,0.3nm,0.3s,baz=91,slow=6.2,SNR=3.1						
SOC	Sochi	78.69	317	*e*P	P	17 08 39.5	-3.9
SOC				*e*		17 11 43.9	
SOC				*e*S	S	17 18 37.6	-1.4
SOC				*e*SS	SS	17 23 42.0	-1.8
SEY	Seymchan	79.57	20	P	P	17 08 47.9	+0.1
	comp=Z,3.9nm,0.9s,baz=248,slow=6.6,SNR=7.0						
SEY	Seymchan	79.57	20⍰	*e*P	P	17 08 47.7	-0.1
CSS	Mathiatis	80.39	308	*e*P	P	17 08 52.0	-1.0
	comp=Z,5.1nm,1.2s						
TIXI	Tiksi	81.32	7	P	P	17 08 56.3	-0.8
	comp=Z,3.3nm,0.6s,baz=193,slow=1.7,SNR=20						
TIXI	Tiksi	81.32	7	*e*P	P	17 08 56.0	-1.0
	comp=Z,21nm,1.5s						
TIXI	Tiksi	81.32	7⍰	*e*P	P	17 08 56.1	-1.0
TIXI				pmax	pmax		
	comp=Z,17nm,1.7s						
BR131	Keskin Array S	81.60	312	*e*P	P	17 08 57.6	-1.8
BRTR	Keskin Array B	81.60	312	P	P	17 08 59.4	0.0
	comp=Z,0.8nm,0.7s,baz=132,slow=7.3,SNR=8.7						
BRTR				LR	LR	17 45 54.9	
	comp=Z,73nm,21.7s,baz=104,slow=36						
QSPA	South Pole Qui	81.65	180	P	P	17 08 59.5	+0.4
	comp=Z,2.6nm,0.9s,baz=287,slow=2.2,SNR=6.5						
QSPA				LR	LR	17 44 52.5	
	comp=Z,100nm,18.0s,baz=332,slow=35						
QSPA	South Pole Qui	81.65	180	*e*P	P	17 08 59.0	-0.2
	comp=Z,24nm,1.1s						
VSR	Storozhevoye	82.07	324	*e*P	P	17 09 02.1	+0.7
VSR				pmax	pmax		
	comp=Z,10.0nm,1.4s						
LPSR	Galich'ya Gora	82.77	326	*e*P	P	17 09 06.7	+1.7
LPSR				pmax	pmax		
	comp=Z,10.0nm,0.8s						
NVL	N'lazarevskaya	83.38	199⍰	*i*P	P	17 09 04.4	-3.5
NVL				pmax	pmax		
	comp=Z,6.0nm,0.6s						
MOS	Moscow	84.72	328	*e*P	P	17 09 11.9	-3.0
OBN	Obninsk	85.04	327	P	P	17 09 16.5	0.0
	comp=Z,12nm,0.4s,baz=136,slow=18,SNR=3.5						
OBN	Obninsk	85.04	327⍰	*e*P	P	17 09 18.0	+1.5
OBN				pmax	pmax		
	comp=Z,9.0nm,1.0s						
KLMR	Klimovskoe	85.90	333	*e*P	P	17 09 18.9	-1.8
KLMR				AMP		17 09 23.4	
	comp=Z,21nm,1.3s						
KLMR				*e*S	SKSac	17 19 42.0	-2.3
KLMR				*e*S	SKSac	17 19 42.0	-2.3
KLMR				LQ	LQ	17 43 06.2	
KLMR				LQ	LQ	17 43 06.2	
KLMR	Klimovskoe	85.90	333	*e*P	P	17 09 18.8	-1.9
KLMR				*e*S	SKSac	17 19 41.9	-2.3
KLMR				pmax	pmax		
	comp=Z,21nm,1.3s						
TIRR	Tirgusor	86.68	316	*e*P	P	17 09 24.1	-0.8
	comp=Z,74nm,2.3s						
TIRR	Tirgusor	86.68	316	*e*P	P	17 09 24.1	-0.8
TIRR				pmax	pmax		
	comp=Z,74nm,2.3s						
IDI	Anoyia	87.17	306	P	P	17 09 28.2	+0.6
	comp=Z,3.2nm,0.9s,baz=121,slow=18,SNR=2.0						
BILL	Bilibino	87.25	19	*i* P	P	17 09 26.1	-1.1
BILL				*i*		17 09 36.0	
BILL				*i* S	SKSac	17 19 54.4	+2.0
BILL				pmax	pmax		
	comp=Z,3.0nm,1.1s						
SNAA	Sanae	87.80	197	P	P	17 09 31.2	+1.2
SNAA	Sanae	87.80	197	P	P	17 09 31.2	+1.2
	comp=Z,2.2nm,0.8s,baz=86,slow=7.2,SNR=12						
SNAA	Sanae	87.80	197	*e*P	P	17 09 28.9	-1.1
	comp=Z,10nm,1.0s						
SNAA	Sanae	87.80	197	*e*P	P	17 09 28.9	-1.1
SNAA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
AKASG	Malin Array Be	87.81	322	P	P	17 09 30.6	+0.3
	comp=Z,0.2nm,0.4s,baz=76,slow=5.3,SNR=7.7						
MLR	Muntele Rosu	88.63	316	P	P	17 09 35.5	+1.0
	comp=Z,1.0nm,0.8s,baz=63,slow=2.8,SNR=7.9						
MLR				LR	LR	17 57 06.3	
	comp=Z,29nm,18.2s,baz=70,slow=41						
MLR	Muntele Rosu	88.63	316	*e*P	P	17 09 33.9	-0.6
	comp=Z,15nm,1.0s						
MLR	Muntele Rosu	88.63	316	*e*P	P	17 09 33.9	-0.6
MLR				pmax	pmax		
	comp=Z,15nm,1.0s						
VNA2	Neumayer--Watz	89.44	198	P	P	17 09 42.2	+4.6
	baz=56,slow=1.6						
BUR04	Bucovina Ar. S	89.60	318	*e*P	P	17 09 37.9	-1.0
BUR08	Bucovina Ar. S	89.61	318	*e*P	P	17 09 37.4	-1.6
VNA1	Neumayer--Stat	89.82	198	P	P	17 09 40.2	+0.8
VTS	Vitosha	89.94	313	*e*P	P	17 09 39.6	-1.1
	comp=Z,3.7nm,0.9s						
VTS	Vitosha	89.94	313	*e*P	P	17 09 39.6	-1.1
VTS				pmax	pmax		
	comp=Z,4.0nm,0.9s						
VNA3	Neumayer Olymp	89.97	197	P	P	17 09 52.5	+12
LIT	Litokhoron	89.99	310	*e*P	P	17 09 39.9	-1.0
	comp=Z,8.0nm,0.9s						
LIT	Litokhoron	89.99	310	*e*P	P	17 09 39.9	-1.0
LIT				pmax	pmax		
	comp=Z,8.0nm,0.9s						
RAR	Rarotonga	91.41	112	LR	LR	17 49 42.3	
	comp=Z,78nm,22.0s,baz=252,slow=35						
FINES	FINESS Array B	92.24	332	P	P	17 09 51.4	+0.7
	comp=Z,0.9nm,0.7s,baz=98,slow=3.9,SNR=8.1						
FINES				LR	LR	17 57 08.3	
	comp=Z,130nm,18.3s,baz=96,slow=39						
ARCES	ARCESS Array B	94.27	340	P	P	17 09 60.0	0.0
	comp=Z,6.3nm,1.1s,baz=15,slow=5.3,SNR=3.9						
ARCES				LR	LR	17 57 39.6	
	comp=Z,214nm,19.4s,baz=100,slow=39						
ARCES	ARCESS Array B	94.27	340	P	P	17 10 00.0	0.0
GEA0	GERESS Array S	97.39	318	*e*P	P	17 10 13.4	-1.4
SPITS	Spitsbergen Ar	97.93	348	LR	LR	18 01 47.8	
	comp=Z,107nm,18.6s,baz=90,slow=40						
CLL	Collm	98.00	321	*e*PP	PP	17 14 19.0	+2.7
CLL				*e*S	S	17 21 44.0	+1.8
CLL				*e*PS	PS	17 23 08.0	-1.4
CLL				*e*		17 25 36.0	
CLL				LmH		18 01 00.0	
	comp=N,100nm,21.8s						
CLL				LmH		18 01 00.0	
	comp=E,100nm,20.7s						
CLL				LmV		18 03 00.0	
	comp=Z,100nm,19.4s						
HFS	Hagfors	98.06	330	P	Pdif	17 10 17.7	+0.3
	comp=Z,0.7nm,0.7s,baz=141,slow=7.1,SNR=2.2						
HFS				LR	LR	17 59 51.5	
	comp=Z,93nm,19.1s,baz=74,slow=39						
NOA	NORSAR Array B	99.31	331	PP	PP	17 14 37.4	+11
	comp=Z,1.0nm,0.8s,baz=64,slow=4.3,SNR=3.3						
NOA				LR	LR	18 01 27.2	
	comp=Z,106nm,19.6s,baz=85,slow=39						
KEST	Kesra	99.78	305	LR	LR	18 01 09.4	
	comp=Z,52nm,18.7s,baz=312,slow=39						
TBI	Tubuai	100.34	116	*e*LR	LR	17 43 23.0	
	comp=Z,270nm,22.8s						
PPT2	Papeete2	101.54	110	*e*LR	LR	17 43 53.4	
	comp=Z,187nm,22.5s						
ILAR	Eielson Array	105.00	25	PP	PP	17 15 26.7	+18
	comp=Z,0.3nm,0.9s,baz=302,slow=6.5,SNR=4.2						
YKA	Yellowknife Ar	118.64	20	PKP	PKPdf	17 15 29.1	+0.4
	comp=Z,0.1nm,0.4s,baz=180,slow=19,SNR=3.9						
NVAR	Mina Array Bea	130.57	46	PKP	PKPdf	17 15 50.5	-2.2
	comp=Z,0.1nm,0.3s,baz=240,slow=1.8,SNR=3.0						
PDAR	Pinedale Array	133.97	36	PKP	PKPdf	17 15 59.2	+0.2
	comp=Z,0.1nm,0.4s,baz=263,slow=3.5,SNR=2.2						

TX31	Lajitas Ar. Si	145.58	49	*e*PKPdf	PKPdf	17 16 19.5	-0.7
TX31				*e*PKPbc	PKPab	17 16 20.9	+0.3
TXAR	Lajitas Array	145.58	49	PKPbc	PKPab	17 16 21.2	+0.5
	comp=Z,3.5nm,1.0s,baz=62,slow=14,SNR=6.1						
SFIN	Lafayette	146.19	17	*e*PKPdf	PKPdf	17 16 20.7	0.0
JCT	Junction City	147.70	44	*e*PKPbc	PKPbc	17 16 26.6	+0.2
JCT	Junction City	147.70	44	*e*PKP2	PKPbc	17 16 26.6	+0.2
SSPA	Standing Stone	147.71	5	*e*PKPbc	PKPbc	17 16 26.3	+0.2
S45A	Carrier Mills	148.15	21	P	PKPbc	17 16 27.9	+0.6
	baz=333						
R47A	Wooly Knot Far	148.28	18	P	PKPbc	17 16 28.3	+0.7
	baz=337						
T46A	Princeton	148.96	21	P	PKPbc	17 16 30.5	+1.0
	baz=334						
S48A	Wiedeman Farm,	149.01	18	P	PKPbc	17 16 30.1	+0.5
	baz=338						
T48A	Bowling Green	149.41	19	P	PKPbc	17 16 31.7	+1.1
	baz=337						
ZAIG	Zacatecas	149.50	59	*e*PKPbc	PKPbc	17 16 32.9	+1.3
U47A	Clarksville	149.71	21	P	PKPbc	17 16 30.8	-0.5
	baz=334						
WVT	Waverly	149.80	22	P	PKPbc	17 16 32.3	+0.7
	baz=333						
WVT	Waverly	149.80	22	*e*PKPbc	PKPbc	17 16 32.3	+0.7
WVT	Waverly	149.80	22	*e*PKP2	PKPbc	17 16 32.3	+0.7
U48A	Cassie Pea, Po	149.91	20	P	PKPbc	17 16 32.5	+0.6
	baz=336						
W47A	Westpoint	150.67	22	P	PKPbc	17 16 33.9	+0.2
	baz=333						
PLAL	Pickwick Lake	150.72	23	*e*PKPbc	PKPbc	17 16 33.6	-0.2
TZTN	Tazewell	150.75	15	P	PKPbc	17 16 34.6	+0.7
	baz=342						
W48A	Pulaski	151.01	21	P	PKPbc	17 16 35.3	+0.8
	baz=334						
TKL	Tuckaleechee C	151.53	16	PKPbc	PKPbc	17 16 36.2	+0.5
	comp=Z,9.7nm,0.9s,baz=56,slow=1.2,SNR=7.8						
TKL				PKPab	PKPab	17 16 44.5	+0.4
	comp=Z,12nm,0.8s,baz=119,slow=1.7,SNR=12						
TKL	Tuckaleechee C	151.53	16	*e*PKPbc	PKPbc	17 16 35.7	0.0
TKL				PKPab	PKPab	17 16 44.5	+0.4
TKL	Tuckaleechee C	151.53	16	*e*PKIKP	PKPbc	17 16 35.7	0.0
TKL						17 16 44.5	
X49A	Woodville	151.79	21	P	PKPbc	17 16 36.7	+0.4
	baz=335						
Y49A	Blount Mountai	152.35	22	P	PKPbc	17 16 38.0	+0.4
	baz=334						
LPAZ	La Paz	154.72	194	PKPbc	PKPbc	17 16 46.5	+2.5
	comp=Z,0.6nm,0.4s,baz=201,slow=5.8,SNR=4.3						

VIE 30 16:58:40.8±0.9, **47.38N**×**10.98E**, **h8**km±7km, **ml0.4**/3,
Error ellipse: s-maj=4.1km s-min=2.0km az=71.0 5 km
ESE of Ehrwald, Austria

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MOTA	**Moosalm**	**0.09**	**112**	*e*Pg	Pg	16 58 43.4	+0.3
	9.8nm,0.1s						
MOTA				*i* Sg	Sg	16 58 45.1	+0.4
	11nm,0.1s						
RETA	**Reutte**	**0.19**	**306**	*i* Pg	Pg	16 58 44.7	0.0
	0.7nm,0.1s						
RETA				*e*Sg	Sg	16 58 47.7	+0.4
	1.4nm,0.1s						
FETA	**Feichten**	**0.40**	**206**	*i* Sg	Sg	16 58 54.5	+0.7
	0.3nm,0.1s						

*ISCJB **30** 16:58:48.1±0.6, 72.°10N±0.°03×14.°6E±0.°2, h10km, Error ellipse: s-maj=6.7km s-min=5.0km az=177.5*
*CSEM **30** 16:58:49.8±0.3, 72.°13N×14.°19E, h5km, ML2.6, Error ellipse: s-maj=12.9km s-min=4.5km az=83.0*
*IDC **30** 16:58:49.7±1.1, 72.°13N×14.°49E, h0km, mb1 3.3/5, mb1mx3.0/80, mbtmp3.3/5, ML2.8/5, Error ellipse: s-maj=22.7km s-min=10.1km az=86.0*
*NAO **30** 16:58:50.3±1.1, 72.°25N×15.°18E, ML2.6*
*BER **30** 16:58:52.4±3.7, 72.°16N×14.°26E, h20km±21km, ML2.3, ML2.6(NAO)*
*UPP **30** 16:58:56.0±3.3, 71.°76N×14.°38E, h0km, ML2.3*
ISC 30 16:58:47.2±0.9, **72.°15N**±0.°04×**13.°95E**±0.°07, **h10**km, **n41, s96**/61, **Norwegian Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BJO1	**Bjornoya**	**2.78**	**29**	Sn	Sn	17 00 02.9	-2.2
BJO	**Bjornoya**	**2.81**	**30**	*e*S	Sn	17 00 02.2	-3.7
BJO				IAML		17 00 03.3	
	comp=Z,15nm,0.6s						
TRO	**Tromso**	**3.01**	**145**	*e*P	Pn	16 59 35.6	+0.8
TRO				*e*		17 00 06.0	
TRO				*e*S	Sn	17 00 09.7	-1.2
TRO				IAML		17 00 12.6	
	comp=Z,8.7nm,0.3s						
HAMF	**Hammerfest**	**3.47**	**111**	*e*P	Pn	16 59 42.5	+1.5
HAMF				*e*S	Sn	17 00 19.0	-3.1
HAMF				IAML		17 00 21.9	
	comp=Z,18nm,0.2s						
LOF	**Lofoten**	**4.04**	**182**	*e*P	Pn	16 59 50.1	+1.1
LOF				*e*S	Sn	17 00 33.7	-2.6
LOF				IAML		17 00 36.1	
	comp=Z,13nm,0.2s						
STEI	**Steigen**	**4.26**	**173**	*e*P	Pn	16 59 54.1	+2.1
STEI				*e*S	Sn	17 00 40.7	-1.0
STEI				IAML		17 00 44.8	
	comp=Z,9.1nm,0.3s						
ARA0	**ARCESS Array S**	**4.62**	**119**	Pn	Pn	16 59 58.7	+1.7
	baz=302,slow=11						
ARA0				Sn	Sn	17 00 47.1	-3.5
	baz=310,slow=22						
ARA0	**ARCESS Array S**	**4.62**	**119**	Pn	Pn	16 59 58.7	+1.7
	baz=302,slow=11,SNR=5.4						
ARA0	**ARCESS Array S**	**4.62**	**119**	Pn	Pn	16 59 58.7	+1.7
	baz=302,slow=11						
ARA0				Sn	Sn	17 00 47.1	-3.5
	baz=310,slow=22						
ARCES	**ARCESS Array B**	**4.62**	**119**	Pn	Pn	16 59 58.5	+1.5
	comp=Z,0.3nm,0.3s,baz=304,slow=11,SNR=9.5						
ARCES				Sn	Sn	17 00 46.4	-4.2
	comp=Z,2.6nm,0.3s,baz=311,slow=22,SNR=14						
ARE0	**ARCESS Array S**	**4.62**	**119**	*e*P	Pn	16 59 58.7	+1.8
ARE0				*e*S	Sn	17 00 49.2	-1.3
ARE0				IAML		17 00 50.1	
	comp=Z,4.5nm,0.4s						
SALU	**Saltoluokta**	**5.04**	**160**	P	Pn	17 00 06.3	+3.5
SALU				S	Sn	17 01 00.0	-1.0
SALU	**Saltoluokta**	**5.04**	**160**	P	Pn	17 00 06.3	+3.5
SALU				S	Sn	17 01 00.0	-1.0
HOPEN	**Hopen**	**5.30**	**29**	Pn	Pn	17 00 08.8	+2.7
HOPEN				Sn	Sn	17 01 03.7	-3.5
HOPEN	**Hopen**	**5.30**	**29**	Pn	Pn	17 00 08.8	+2.7
HOPEN	**Hopen**	**5.30**	**29**	*e*P	Pn	17 00 08.9	+2.7
HOPEN				*e*S	Sn	17 01 02.9	-4.3
HOPEN				IAML		17 01 05.7	
	comp=Z,11nm,0.2s						
MASU	**Masugnsbyn**	**5.47**	**146**	P	Pn	17 00 12.0	+3.4
MASU	**Masugnsbyn**	**5.47**	**146**	P	Pn	17 00 12.0	+3.4
DUNU	**Dundret**	**5.55**	**152**	P	Pn	17 00 13.4	+3.7
KONS	**Konsvik**	**5.69**	**183**	*e*P	Pn	17 00 13.6	+2.1
KONS				*e*S	Sn	17 01 13.6	-3.1
KONS				IAML		17 01 18.7	
	comp=Z,16nm,0.3s						
STOK	**Stokkvaagen**	**5.85**	**184**	*e*P	Pn	17 00 15.3	+1.5
STOK				*e*S	Sn	17 01 17.9	-2.9
STOK				IAML		17 01 22.2	
	comp=Z,16nm,0.4s						
MOR8	**Moi Rana**	**6.01**	**178**	*e*P	Pn	17 00 17.5	+1.5
MOR8				*e*S	Sn	17 01 21.1	-3.7
MOR8				IAML		17 01 26.8	
	comp=Z,9.2nm,0.2s						
PAJU	**Pajala**	**6.06**	**144**	P	Pn	17 00 19.9	+3.2
SPA0	**Spitsbergen Ar**	**6.09**	**5**	Pn	Pn	17 00 19.9	+2.7
	baz=182,slow=14						
SPA0				Sn	Sn	17 01 23.1	-3.7
	baz=163,slow=22						
SPA0	**Spitsbergen Ar**	**6.09**	**5**	Pn	Pn	17 00 19.9	+2.7
	baz=182,slow=14						
SPA0				Sn	Sn	17 01 23.1	-3.7
	baz=163,slow=22						
SPITS	**Spitsbergen Ar**	**6.09**	**5**	Pn	Pn	17 00 19.7	+2.6
	baz=188,slow=8.7,SNR=12						
SPITS				Sn	Sn	17 01 23.2	-3.6
	baz=177,slow=27,SNR=2.7						
ERTU	**Ertsjaerv**	**6.32**	**149**	P	Pn	17 00 23.5	+3.2
KBS	**Kingsbay**	**6.83**	**357**	*e*P	Pn	17 00 32.4	+5.2
KBS				*e*S	Sn	17 01 40.3	-4.6
KBS				IAML		17 02 20.2	
	comp=Z,4.9nm,0.8s						
KALU	**Kalix**	**7.15**	**147**	P	Pn	17 00 34.6	+3.0
SJUU	**Sjulsmark**	**7.22**	**154**	P	Pn	17 00 35.1	+2.6
NSS	**Namsos**	**7.69**	**186**	*e*P	Pn	17 00 44.9	+5.9
NSS				*e*S	Sn	17 02 04.5	-1.5
NSS				IAML		17 02 11.0	
	comp=Z,4.2nm,0.6s						
NOA	**NORSAR Array B**	**11.21**	**187**	Pn	Pn	17 01 30.7	+3.5
	comp=Z,0.2nm,0.3s,baz=354,slow=12,SNR=2.6						
NRA0	**NORESS Array S**	**11.50**	**186**	Pn	Pn	17 01 34.0	+2.8
	baz=8.1,slow=14						
NRA0	**NORESS Array S**	**11.50**	**186**	Pn	Pn	17 01 34.0	+2.8
	baz=8.1,slow=14						
FIA0	**FINESS Array S**	**11.73**	**150**	Pn	Pn	17 01 36.0	+1.8
	baz=340,slow=12						
FIA0	**FINESS Array S**	**11.73**	**150**	Pn	Pn	17 01 36.0	+1.8
	baz=340,slow=12						
FINES	**FINESS Array B**	**11.73**	**150**	Pn	Pn	17 01 36.1	+1.8
	comp=Z,0.1nm,0.3s,baz=342,slow=11,SNR=8.9						
FINES				Sn	Sn	17 03 39.4	-5.6
	comp=Z,0.1nm,0.3s,baz=348,slow=20,SNR=3.6						
HFS	**Hagfors**	**12.07**	**181**	Pn	Pn	17 01 41.8	+2.9
	baz=10,slow=12						
HFS	**Hagfors**	**12.07**	**181**	Pn	Pn	17 01 41.0	+2.1
	comp=Z,0.1nm,0.3s,baz=13,slow=13,SNR=5.0						
HFS				Sn	Sn	17 03 49.1	-4.3
	comp=Z,0.1nm,0.3s,baz=32,slow=22,SNR=3.5						
HFS	**Hagfors**	**12.07**	**181**	Pn	Pn	17 01 41.8	+2.9
	baz=10,slow=12						

*NEIC **30** 17:22:31.4±4.2, 1.°97S×77.°35W, h5km±27km, mb4.5/8, ML4.6(IGQ), Error ellipse: s-maj=16.7km s-min=7.8km az=56.0*
NEIC Felt at Ambato, Puyo and Zamora.
*ISCJB **30** 17:22:32.6±1.1, 2.°11S±0.°03×77.°75W±0.°03, h13km±7km, mb4.1/21, MS3.6/1, Error ellipse: s-maj=6.5km s-min=4.1km az=142.4*
*IGQ **30** 17:22:34.8±0.5, 2.°3S×7.°8W±., h12km, M4.6/18, MLv4.6/18*
*IDC **30** 17:22:39.9±1.9, 2.°19S×77.°08W, h57km±19km, mb3.8/14, mb1 3.9/18, mb1mx3.8/45, mbtmp4.0/18, ML4.1/3, MS3.3/4, Ms1 3.4/4, ms1mx2.9/42, Error ellipse: s-maj=18.1km s-min=11.2km az=78.0*
ISC 30 17:22:32.1±1.2, **2.°05S**±0.°04×**77.°72W**±0.°05, **h3**km±8km,
n112, σ1§**61**/130, **mb4.2**/21, **Peru-Ecuador border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BPAT	**Tungurahua Vol**	**0.90**	**307**	P	Pg	17 22 49.8	+0.4
BPAT				S	Sg	17 23 01.5	+0.4
BPAT	**Tungurahua Vol**	**0.90**	**307**	P	Pg	17 22 49.8	+0.4
BPAT				S	Sg	17 23 01.5	+0.4
ARRY	**Arrayan**	**0.91**	**306**	P	Pg	17 22 49.8	0.0
ARRY	**Arrayan**	**0.91**	**306**	P	Pg	17 22 49.8	0.0
BRUN	**Tungurahua Vol**	**0.93**	**312**	P	Pg	17 22 50.2	+0.1
BRUN				S	Sg	17 23 02.4	+0.2
BRUN	**Tungurahua Vol**	**0.93**	**312**	P	Pg	17 22 50.2	+0.1
BRUN				S	Sg	17 23 02.4	+0.2
BMAS	**Trigal station**	**0.94**	**305**	P	Pg	17 22 50.3	+0.1
BMAS				S	Sg	17 23 02.9	+0.6
BMAS	**Trigal station**	**0.94**	**305**	P	Pg	17 22 50.3	+0.1
BMAS				S	Sg	17 23 02.9	+0.6
RETU	**Refugio**	**0.94**	**309**	P	Pg	17 22 50.3	+0.1
RETU	**Refugio**	**0.94**	**309**	P	Pg	17 22 50.3	+0.1
RIOE1	**Riobamba**	**0.96**	**288**	P	Pg	17 22 51.6	+1.1
RIOE1	**Riobamba**	**0.96**	**288**	P	Pg	17 22 51.6	+1.1
POND	**Pondoa**	**0.96**	**310**	P	Pg	17 22 50.5	-0.2
POND				S	Sg	17 23 03.3	+0.1
POND	**Pondoa**	**0.96**	**310**	P	Pg	17 22 50.5	-0.2
POND				S	Sg	17 23 03.3	+0.1
BBIL	**Ulba Tungurahu**	**0.97**	**308**	P	Pg	17 22 50.8	0.0
BBIL				S	Sg	17 23 03.1	-0.4
BBIL	**Ulba Tungurahu**	**0.97**	**308**	P	Pg	17 22 50.8	0.0
BBIL				S	Sg	17 23 03.1	-0.4
IGUA	**Igualata**	**1.08**	**301**	P	Pg	17 22 53.7	+0.9
IGUA	**Igualata**	**1.08**	**301**	P	Pg	17 22 53.7	+0.9
PISA	**Pisayambo**	**1.19**	**326**	P	Pb	17 22 53.9	-1.8
PISA	**Pisayambo**	**1.19**	**326**	P	Pb	17 22 53.9	-1.8
AAM1	**Ambato 1 (Muni**	**1.21**	**311**	P	Pb	17 22 55.2	-0.9
AAM1				S	Sg	17 23 11.9	+0.7
AAM1	**Ambato 1 (Muni**	**1.21**	**311**	P	Pb	17 22 55.2	-0.9
AAM1				S	Sg	17 23 11.9	+0.7
COV1	**Cotopaxi Volc**	**1.51**	**335**	P	Pn	17 22 60.0	-0.8
COV1	**Cotopaxi Volc**	**1.51**	**335**	P	Pn	17 22 60.0	-0.8
BTAM	**Cotopaxi Volca**	**1.52**	**333**	P	Pn	17 22 59.3	-1.5
BTAM				S	Sn	17 23 19.8	-1.7
BTAM	**Cotopaxi Volca**	**1.52**	**333**	P	Pn	17 22 59.3	-1.5
BTAM				S	Sn	17 23 19.8	-1.7
BVC2	**Cotopaxi Volca**	**1.55**	**333**	P	Pn	17 22 59.7	-1.4
BVC2				S	Sn	17 23 19.3	-2.7
BVC2	**Cotopaxi Volca**	**1.55**	**333**	P	Pn	17 22 59.7	-1.4
BVC2				S	Sn	17 23 19.3	-2.7
BREF	**Cotopaxi Volca**	**1.55**	**332**	P	Pn	17 22 59.8	-1.4
BREF				S	Sn	17 23 20.5	-1.7
BREF	**Cotopaxi Volca**	**1.55**	**332**	P	Pn	17 22 59.8	-1.4
BREF				S	Sn	17 23

ROSC	**El Rosal**	**7.64**	**26**	*e*P	**Pb**	**17 24 47.1**	**+1.5**
RUSC	**La Rusia**	**9.14**	**30**	*e*P	**Pn**	**17 24 43.3**	**-2.2**
NNA	**Nana**	**9.91**	**175**	*e*Pn	**Pn**	**17 24 55.0**	**-0.8**
	130nm,0.8s						
SDV	**Santo Domingo**	**12.95**	**33**	P	**Pn**	**17 25 39.3**	**+1.8**
	0.4nm,0.3s,baz=204,slow=19,SNR=2.6						
SDV				LR	LR	17 31 27.1	
	comp=Z,85nm,19.2s,baz=276,slow=41						
JTS	**JuntasAbangare**	**14.22**	**330**	LR	LR	17 30 41.6	
	comp=Z,101nm,19.3s,baz=180,slow=33						
SAML	**Samuel**	**16.00**	**116**	*e*Pn	Pn	17 26 13.2	-5.2
	5.2nm,0.5s						
LPAZ	**La Paz**	**17.01**	**147**	P	**Pn**	**17 26 29.2**	**-2.7**
	0.3nm,0.3s,baz=340,slow=16,SNR=7.9						
LPAZ				LR	LR	17 34 24.7	
	comp=Z,96nm,21.2s,baz=242,slow=43						
PTGA	**Pitinga**	**17.79**	**86**	P	**Pn**	**17 26 36.5**	**-4.6**
	0.4nm,0.3s,baz=288,slow=20,SNR=3.1						
PTGA				S	Sn	17 29 43.2	-17
	0.6nm,0.3s,baz=336,slow=20,SNR=3.3						
SIV	**San Ignacio**	**21.47**	**131**	P	**P**	**17 27 19.6**	**-2.5**
	6.8nm,0.6s,baz=330,slow=11,SNR=37						
SIV				S	S	17 30 56.6	-24
	1.2nm,0.7s,baz=60,slow=20,SNR=2.6						
CMIG	**Matias Romero**	**25.47**	**319**	P	**P**	**17 28 06.5**	**+4.8**
	2.9nm,0.8s,baz=159,slow=14,SNR=3.7						
CPUP	**Villa Florida**	**31.09**	**143**	P	**P**	**17 28 49.2**	**-2.7**
	2.3nm,0.9s,baz=272,slow=2.5,SNR=3.1						
CPUP				LR	LR	17 44 23.4	
	comp=Z,128nm,18.1s,baz=268,slow=43						
PLCA	**Paso Flores**	**39.05**	**171**	P	**P**	**17 30 00.0**	**-0.4**
	4.1nm,0.8s,baz=325,slow=2.9,SNR=4.2						
TXAR	**Lajitas Array**	**39.88**	**323**	P	P	17 30 13.4	+5.8
	1.3nm,0.9s,baz=148,slow=9.7,SNR=9.8						
WMOK	**Wichita Mounta**	**41.59**	**334**	*e*P	**P**	**17 30 23.1**	**+1.6**
MNTX	**Cornudas Mount**	**42.62**	**324**	*e*P	**P**	**17 30 28.8**	**-1.2**
	1.5nm,0.8s						
MSTX	**Muleshoe**	**42.89**	**329**	*e*P	**P**	**17 30 30.9**	**-1.4**
	11nm,1.1s						
ANMO	**Albuquerque**	**45.61**	**326**	*e*P	**P**	**17 30 54.3**	**+0.1**
	9.3nm,0.8s						
ANMO				*e*		17 30 59.6	
TUC	**Tucson**	**46.35**	**320**	P	**P**	**17 31 00.3**	**+0.4**
	2.9nm,0.8s						
TUC				*e*		17 31 05.1	
SDCO	**Great Sand Dun**	**47.22**	**330**	*e*P	**P**	**17 31 06.7**	**-0.1**
	7.5nm,1.0s						
SDCO				*e*		17 31 12.5	
214A	**Organ Pipe Nat**	**47.44**	**318**	*e*P	**P**	**17 31 10.4**	**+2.0**
	10nm,0.8s						
214A				*e*		17 31 14.1	
PDAR	**Pinedale Array**	**53.05**	**331**	P	**P**	**17 31 54.8**	**+3.8**
	0.4nm,0.6s,baz=101,slow=6.2,SNR=4.0						
ULM	**Lac du Bonnet**	**54.38**	**346**	P	**P**	**17 32 02.3**	**+2.0**
	1.8nm,0.6s,baz=170,slow=12,SNR=3.1						
NVAR	**Mina Array Bea**	**54.96**	**321**	P	P	17 32 10.4	+5.3
	1.2nm,0.7s,baz=111,slow=6.9,SNR=8.8						
MFID	**Camas Ranch**	**56.72**	**327**	*e*P	**P**	**17 32 19.0**	**+1.5**
	4.0nm,0.9s						
YKA	**Yellowknife Ar**	**70.14**	**343**	P	**P**	**17 33 48.9**	**+3.1**
	0.3nm,0.7s,baz=140,slow=5.8,SNR=7.8						
KOWA	**Kowa**	**74.76**	**74**	P	P	17 34 10.4	-3.9
	2.0nm,0.6s,baz=252,slow=4.4,SNR=5.2						
TORD	**Torodi Ar. Bea**	**80.16**	**76**	P	P	17 34 40.1	-4.4
	0.6nm,0.4s,baz=285,slow=5.8,SNR=5.0						
ILAR	**Eielson Array**	**83.09**	**336**	P	**P**	**17 34 59.6**	**+0.5**
	0.7nm,0.7s,baz=129,slow=4.9,SNR=4.7						
SNAA	**Sanae**	**83.33**	**162**	P	**P**	**17 34 58.6**	**-1.7**
	0.9nm,0.5s,baz=222,slow=16,SNR=7.1						
QSPA	**South Pole Qui**	**88.02**	**180**	P	**P**	**17 35 23.0**	**-0.7**
	3.4nm,0.9s,baz=338,slow=5.0,SNR=7.8						
ZALV	**Zalesovo Beam**	**126.31**	**13**	PKP	**PKPdf**	**17 41 35.4**	**-1.0**
	0.8nm,0.3s,baz=207,slow=0.3,SNR=2.7						
KURK	**Kurchatov**	**127.54**	**19**	PKP	**PKPdf**	**17 41 40.5**	**+1.6**
KURBB	**Kurchatov Arra**	**127.59**	**19**	PKP	**PKPdf**	**17 41 40.5**	**+1.5**
	0.2nm,0.3s,baz=316,slow=4.3						
MKAR	**Makanchi Array**	**132.15**	**18**	PKhKP	PKPpre	17 41 44.1	
	0.1nm,0.5s,baz=294,slow=1.4,SNR=3.1						
ASAR	**Alice Springs**	**140.01**	**228**	PKhKP	PKPpre	17 41 53.5	
	0.3nm,0.8s,baz=122,slow=3.5,SNR=4.0						
WRA	**Warramunga Arr**	**141.70**	**234**	PKhKP	PKPpre	17 41 58.4	
	0.3nm,0.7s,baz=115,slow=2.4,SNR=6.1						
WRA				PKP	**PKPdf**	**17 42 05.9**	**-0.3**
	0.2nm,0.6s,baz=112,slow=2.2,SNR=7.3						

NNC 30 17:22:56.3±6.2, 37°.04N×70°.53E, h0km, mb3.6, mpv3.2, 1C-5D, Error ellipse: s-maj=47.7km s-min=39.3km az=175.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SFK	**Sufi-Kurgan**	**3.77**	**37**	⇓Pn	Pn	17 23 55.3	-0.7
	1.2nm,0.3s						
SFK				⇓Sn	Sn	17 24 42.3	+1.1
	2.3nm,0.3s						
MNAS	**Manas**	**5.65**	**15**	⇑Pn	Pn	17 24 22.0	+0.4
	1.0nm,0.5s						
MNAS				⇓Sn	Sn	17 25 27.8	+0.6
	1.2nm,0.5s						
KK31	**Karatay Array**	**6.05**	**360**	⇓Pn	Pn	17 24 28.9	+1.8
	1.2nm,0.2s,baz=178,slow=13						
KK31				⇓Sn	Sn	17 25 38.9	+1.8
	0.4nm,0.3s,baz=185,slow=24						

*ISCJB **30** 18:04:14.0±0.8, 34°.48N±0°.03×32°.62E±0°.05, h9km±5km, Error ellipse: s-maj=7.5km s-min=4.3km az=166.3*
*ISK **30** 18:04:13.3, 34°.45N×32°.60E, h9km, ML3.0/12*
*NIC **30** 18:04:13.8±0.2, 34°.46N×32°.65E, h15km, ML3.2*
*CSEM **30** 18:04:15.2±0.2, 34°.52N×32°.64E, h10km, ML3.2, Error ellipse: s-maj=4.8km s-min=2.2km az=83.0*
*GII **30** 18:04:15.5±0.2, 34°.55N×32°.73E, h10km, MD2.3/2*
ISC 30 18:04:15.1±1.4, 34°.51N±0°.04×32°.64E±0°.05, h10km±10km, n60, σ0°65/79, Cyprus region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SZAC	**Souni**	**0.32**	**39**	P	**Pg**	**18 04 21.6**	**0.0**
	baz=213						
SZAC				S	**Sg**	**18 04 26.6**	**+0.7**
SZAC	**Souni**	**0.32**	**39**	P	**Pg**	**18 04 21.6**	**0.0**
SZAC				S	**Sg**	**18 04 26.6**	**+0.7**
LEF	**Lefka**	**0.65**	**19**	PG	**Pg**	**18 04 26.9**	**-0.7**
LEF	**Lefka**	**0.65**	**19**	*e*Pg	**Pg**	**18 04 26.9**	**-0.7**
ALFC	**Alefka**	**0.65**	**357**	P	**Pg**	**18 04 27.0**	**-0.7**
	baz=176						
ALFC				S	**Sb**	**18 04 37.6**	**0.0**
ALFC	**Alefka**	**0.65**	**357**	P	**Pg**	**18 04 27.0**	**-0.7**
ALFC				S	**Sb**	**18 04 37.6**	**0.0**
CSS	**Mathiatis**	**0.73**	**51**	PG	**Pg**	**18 04 28.0**	**-1.2**
CSS				SG	**Sb**	**18 04 39.7**	**-0.3**
CSS	**Mathiatis**	**0.73**	**51**	P	**Pg**	**18 04 28.1**	**-1.2**
	baz=228						
CSS				S	**Sg**	**18 04 39.1**	**+0.3**
CSS	**Mathiatis**	**0.73**	**51**	P	**Pg**	**18 04 28.1**	**-1.2**
CSS				S	**Sg**	**18 04 39.1**	**+0.3**
CSS	**Mathiatis**	**0.73**	**51**	Pg	**Pg**	**18 04 27.8**	**-1.4**
MAMC	**Mammari**	**0.82**	**36**	P	**Pg**	**18 04 30.1**	**-0.8**
	baz=213						
MAMC	**Mammari**	**0.82**	**36**	P	**Pg**	**18 04 30.1**	**-0.8**
AKDN	**Akdeniz- K˘–br**	**0.83**	**19**	PG	**Pb**	**18 04 31.9**	**+0.2**
AKDN	**Akdeniz- K˘–br**	**0.83**	**19**	*e*Pg	**Pb**	**18 04 31.9**	**+0.2**
AKIN	**Ak˘–nc˘–lar- K**	**0.85**	**53**	PG	**Pb**	**18 04 31.9**	**-0.1**
AKIN	**Ak˘–nc˘–lar- K**	**0.85**	**53**	*e*Pg	**Pb**	**18 04 31.9**	**-0.1**
TEKE	**Tekeli-Mersin**	**1.68**	**13**	PN	**Pn**	**18 04 44.9**	**+0.4**
TEKE	**Tekeli-Mersin**	**1.68**	**13**	*e*Pn	**Pn**	**18 04 44.9**	**+0.4**
AKKU	**Akkuyu-Mersin**	**1.81**	**24**	PN	**Pn**	**18 04 46.0**	**-0.3**
AKKU	**Akkuyu-Mersin**	**1.81**	**24**	*e*Pn	**Pn**	**18 04 46.0**	**-0.3**
TEVE	**Tevekalti-Mers**	**2.03**	**19**	PN	**Pn**	**18 04 49.6**	**+0.1**
TEVE	**Tevekalti-Mers**	**2.03**	**19**	*e*Pn	**Pn**	**18 04 49.6**	**+0.1**
KIZK	**Mersin**	**2.32**	**32**	PN	**Pn**	**18 04 54.1**	**+0.8**
OFRI	**'Ofer**	**2.72**	**133**	Pn	**Pn**	**18 04 58.2**	**-0.6**
OFRI				Sn	**Sn**	**18 05 30.9**	**-0.9**
OFRI	**'Ofer**	**2.72**	**133**	Pn	**Pn**	**18 04 58.2**	**-0.6**
OFRI				Sn	**Sn**	**18 05 30.9**	**-0.9**
MMA0B	**Mount Meron ar**	**2.75**	**122**	Pn	**Pn**	**18 04 58.4**	**-0.8**
MMA0B				Sn	**Sn**	**18 05 32.5**	**0.0**
MMA0B	**Mount Meron ar**	**2.75**	**122**	Pn	**Pn**	**18 04 58.4**	**-0.8**
MMA0B				Sn	**Sn**	**18 05 32.5**	**0.0**
SLTI	**Sal'it**	**3.03**	**138**	Pn	**Pn**	**18 05 02.8**	**-0.3**
SLTI				Sn	**Sn**	**18 05 38.8**	**-0.5**
SLTI	**Sal'it**	**3.03**	**138**	Pn	**Pn**	**18 05 02.8**	**-0.3**
SLTI				Sn	**Sn**	**18 05 38.8**	**-0.5**
MMLI	**Mount Malkishu**	**3.11**	**131**	PN	**Pn**	**18 05 04.1**	**-0.2**
MMLI	**Mount Malkishu**	**3.11**	**131**	*e*Pn	**Pn**	**18 05 04.1**	**-0.2**
MMLI	**Mount Malkishu**	**3.11**	**131**	Pn	**Pn**	**18 05 03.8**	**-0.5**
YAYL	**Yayladag**	**3.22**	**61**	PN	**Pn**	**18 05 06.0**	**+0.1**
YAYL	**Yayladag**	**3.22**	**61**	*e*Pn	**Pn**	**18 05 06.0**	**+0.1**
SUTC	**Sutluce-Ispart**	**3.25**	**336**	PN	**Pn**	**18 05 06.3**	**+0.1**
SUTC	**Sutluce-Ispart**	**3.25**	**336**	*e*Pn	**Pn**	**18 05 06.3**	**+0.1**
HMDT	**Nahal Hemdat**	**3.30**	**132**	Pn	**Pn**	**18 05 07.3**	**+0.5**
HMDT				Sn	**Sn**	**18 05 46.6**	**+0.5**
HMDT	**Nahal Hemdat**	**3.30**	**132**	Pn	**Pn**	**18 05 07.3**	**+0.5**
HMDT				Sn	**Sn**	**18 05 46.6**	**+0.5**
KARA	**Karaisali**	**3.38**	**35**	PN	**Pn**	**18 05 09.0**	**+1.1**
KARA	**Karaisali**	**3.38**	**35**	*e*Pn	**Pn**	**18 05 09.0**	**+1.1**
AMAZ	**Amatzia**	**3.53**	**147**	Pn	**Pn**	**18 05 10.2**	**+0.2**
AMAZ				Sn	**Sn**	**18 05 52.8**	**+1.0**
AMAZ	**Amatzia**	**3.53**	**147**	Pn	**Pn**	**18 05 10.2**	**+0.2**
AMAZ				Sn	**Sn**	**18 05 52.8**	**+1.0**
FETY	**Fethiye**	**3.59**	**307**	PN	**Pn**	**18 05 10.2**	**-0.6**
FETY	**Fethiye**	**3.59**	**307**	*e*Pn	**Pn**	**18 05 10.2**	**-0.6**
DSI	**Dead Sea**	**3.73**	**141**	Pn	**Pn**	**18 05 13.1**	**+0.4**
DSI				Sn	**Sn**	**18 05 57.6**	**+1.0**
DSI	**Dead Sea**	**3.73**	**141**	Pn	**Pn**	**18 05 13.1**	**+0.4**
DSI				Sn	**Sn**	**18 05 57.6**	**+1.0**
YTIR	**Yattir**	**3.77**	**146**	Pn	**Pn**	**18 05 14.5**	**+1.2**
YTIR	**Yattir**	**3.77**	**146**	Pn	**Pn**	**18 05 14.5**	**+1.2**
KZIT	**Kziot**	**3.89**	**157**	Pn	**Pn**	**18 05 15.2**	**+0.3**
KZIT	**Kziot**	**3.89**	**157**	Pn	**Pn**	**18 05 15.2**	**+0.3**
MZDA	**Masada**	**3.93**	**144**	Pn	**Pn**	**18 05 16.0**	**+0.6**
MZDA	**Masada**	**3.93**	**144**	Pn	**Pn**	**18 05 16.0**	**+0.6**
PRNI	**Paran**	**4.60**	**154**	Pn	**Pn**	**18 05 24.9**	**+0.2**
PRNI	**Paran**	**4.60**	**154**	Pn	**Pn**	**18 05 24.9**	**+0.2**
HRFI	**Mount Harif**	**4.90**	**155**	Pn	**Pn**	**18 05 28.9**	**+0.1**
HRFI	**Mount Harif**	**4.90**	**155**	Pn	**Pn**	**18 05 28.9**	**+0.1**
MBRI	**Mt Berech**	**5.08**	**157**	Pn	**Pn**	**18 05 32.2**	**+0.8**
MBRI	**Mt Berech**	**5.08**	**157**	Pn	**Pn**	**18 05 32.2**	**+0.8**
EIL	**Elat**	**5.21**	**157**	Pn	**Pn**	**18 05 33.7**	**+0.7**
EIL	**Elat**	**5.21**	**157**	Pn	**Pn**	**18 05 33.7**	**+0.7**

IDC 30 18:10:54.3±6.3, 0°.31S×14°.50W, h0km, mb3.6/3, mb1 3.7/4, mb1mx3.4/58, mbtmpg3.7/4, ML3.6/1, Error ellipse: s-maj=179.6km s-min=85.3km az=155.0, North of Ascension Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KOWA	**Kowa**	**18.00**	**35**	P	Pn	18 15 06.2	0.0
	0.2nm,0.3s,baz=264,slow=9.2,SNR=3.1						
TORD	**Torodi Ar. Bea**	**20.90**	**50**	P	P	18 15 38.5	+0.1
	1.1nm,0.7s,baz=230,slow=11,SNR=4.8						
BRTR	**Keskin Array B**	**59.26**	**42**	P	P	18 20 58.0	-0.1
	0.9nm,0.9s,baz=225,slow=6.3,SNR=5.4						
FINES	**FINESS Array B**	**68.89**	**20**	P	P	18 22 00.7	0.0
	1.5nm,0.9s,baz=176,slow=4.2,SNR=3.3						

*JMA **30** 18:11:08.3±0.1, 23°.17N×121°.55E, h0km, M3.2*
*ISCJB **30** 18:11:10.2±0.3, 23°.16N±0°.02×121°.48E±0°.02, h22km±3km, Error ellipse: s-maj=3.2km s-min=2.6km az=37.1*
*TAP **30** 18:11:11.0, 23°.20N×121°.36E, h18km, ML3.3, B*
ISC 30 18:11:10.2±0.9, 23°.19N±0°.02×121°.46E±0°.02, h16km±7km, n88, σ0973/124, 4C-16D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHKT	**Chengkung**	**0.12**	**223**	⇑*i*P	**Pb**	**18 11 15.1**	**+0.9**
	baz=166						
CHKT				*i* S	**Sb**	**18 11 18.1**	**+1.2**
	baz=166						
FULB	**Fuli**	**0.15**	**274**	⇑P	**Pg**	**18 11 14.8**	**+0.5**
	baz=264						
FULB				S	**Sb**	**18 11 18.0**	**+0.3**
	baz=264						
YULB	**Yu-li**	**0.25**	**325**	⇓P	**Pg**	**18 11 16.4**	**+0.6**
	baz=332						
YULB				S	**Sb**	**18 11 20.3**	**-0.3**
	baz=332						
HGSD	**Ruisui**	**0.30**	**355**	⇑*e*P	**Pb**	**18 11 17.5**	**+0.2**
	baz=14						
EHY	**Hungye**	**0.34**	**339**	⇓*i*P	**Pb**	**18 11 17.9**	**0.0**
	baz=339						
EHY				S	**Sb**	**18 11 23.2**	**0.0**
	baz=339						
ELDTW	**Lidau**	**0.40**	**270**	⇓*i*P	**Pg**	**18 11 17.9**	**-0.6**
	baz=267						
ELDTW				*e*S	**Sg**	**18 11 22.7**	**-1.4**
	baz=267						
TWH	**Lutao**	**0.48**	**178**	*e*P	**Pb**	**18 11 21.0**	**+0.7**
	baz=169						
TWH				*e*S	**Sb**	**18 11 29.2**	**+2.2**
	baz=169						
TWGBT	**Beinan**	**0.51**	**223**	P	**Pg**	**18 11 20.1**	**-0.2**
	baz=225						
TWGBT				S	**Sg**	**18 11 26.9**	**-0.3**
	baz=225						
TWG	**Pinlang**	**0.51**	**224**	⇑*i*P	**Pg**	**18 11 20.2**	**-0.2**
	baz=225						
TWG				S	**Sg**	**18 11 27.0**	**-0.2**
	baz=225						
TTN	**Taitung**	**0.52**	**213**	*e*P	**Pb**	**18 11 21.4**	**+0.4**
	baz=208						
ESL	**Shilin**	**0.62**	**358**	*e*P	**Pg**	**18 11 22.1**	**-0.4**
	baz=353						
STYT	**Tauyuan**	**0.64**	**268**	⇓*i*P	**Pg**	**18 11 22.2**	**-0.7**
	baz=264						
STYT				S	**Sg**	**18 11 29.9**	**-1.6**
	baz=264						
ENLB	**Shoufeng**	**0.72**	**11**	*e*P	**Pb**	**18 11 25.3**	**+0.7**
	baz=2.0						
ENLB				*e*S	**Sn**	**18 11 36.6**	**-0.1**
	baz=2.0						
ECL	**Taimali**	**0.75**	**218**	*e*P	**Pg**	**18 11 23.4**	**-1.4**
	baz=214						
SSLB	**Suanglung**	**0.75**	**322**	⇓P	**Pg**	**18 11 24.4**	**-0.5**
	baz=335						
SSLB				*e*S	**Sg**	**18 11 33.5**	**-1.4**
	baz=335						
TPUB	**Ta-pu**	**0.77**	**279**	⇓P	**Pg**	**18 11 25.0**	**-0.2**
	baz=284						
TPUB				*e*S	**Sg**	**18 11 35.0**	**-0.4**
	baz=284						
SLGT	**Liugui**	**0.77**	**256**	*e*P	**Pg**	**18 11 24.6**	**-0.7**
	baz=250						
WTP	**Ta-pu**	**0.78**	**274**	⇓*i*P	**Pg**	**18 11 25.1**	**-0.2**
	baz=272						
WTP				S	**Sg**	**18 11 35.3**	**-0.3**
	baz=272						
HWA	**Hwalien**	**0.80**	**10**	*e*P	**Pn**	**18 11 26.9**	**0.0**
	baz=360						
OWD	**Renai**	**0.80**	**342**	*e*P	**Pg**	**18 11 25.2**	**-0.8**
	baz=345						
CHN4	**Tsaushan**	**0.81**	**282**	⇓*i*P	**Pb**	**18 11 25.9**	**-0.1**
	baz=281						
CHN4				*e*S	**Sg**	**18 11 36.3**	**-0.4**
	baz=281						
SGST	**Jiashian**	**0.81**	**263**	⇓P	**Pb**	**18 11 25.7**	**-0.2**
	baz=261						
CHN5	**Tsauling**	**0.82**	**300**	⇓*i*P	**Pb**	**18 11 26.3**	**0.0**
	baz=301						
CHN5				*e*S	**Sb**	**18 11 37.5**	**+0.4**
	baz=301						
CHN1	**Nanshi**	**0.85**	**270**	⇓*i*P	**Pb**	**18 11 26.7**	**0.0**
	baz=268						
CHN1				*e*S	**Sg**	**18 11 38.4**	**+0.3**
	baz=268						
SMLT	**Sun Moon Lake**	**0.86**	**324**	⇓P	**Pb**	**18 11 26.7**	**-0.2**
	baz=333						
SMLT				*e*S	**Sb**	**18 11 38.3**	**+0.1**
	baz=333						
SSD	**Sandimen**	**0.88**	**240**	*e*P	**Pb**	**18 11 26.2**	**-0.9**
	baz=233						
TWK	**Hsinying**	**0.89**	**275**	⇓*i*P	**Pb**	**18 11 27.3**	**-0.1**
	baz=273						
TWK				*e*S	**Sb**	**18 11 39.5**	**+0.4**
	baz=273						
TWD	**Chiawan**	**0.90**	**8**	*e*P	**Pb**	**18 11 26.6**	**-0.8**
	baz=358						
TYC	**Yuchr**	**0.90**	**323**	⇓*e*P	**Pb**	**18 11 27.3**	**-0.2**
	baz=337						
TYC				*e*S	**Sg**	**18 11 39.6**	**+0.1**
	baz=337						
CHGB	**Renai**	**0.91**	**344**	*e*P	**Pb**	**18 11 27.0**	**-0.7**
	baz=348						
CHGB				*e*S	**Sg**	**18 11 40.1**	**+0.3**
	baz=348						
WJS	**Zhushan**	**0.92**	**314**	*e*P	**Pg**	**18 11 28.5**	**+0.5**
	baz=315						
WJS				*e*S	**Sg**	**18 11 40.7**	**+0.6**
	baz=315						
MASBT	**Mashibuluo**	**0.95**	**233**	*e*P	**Pb**	**18 11 27.3**	**-1.0**
	baz=223						
WGK	**Gukeng**	**0.96**	**301**	⇓P	**Pb**	**18 11 28.9**	**+0.4**
	baz=302						
WGK				*e*S	**Sb**	**18 11 41.3**	**+0.3**
	baz=302						
CHN2	**Minshiung**	**0.96**	**291**	*e*P	**Pb**	**18 11 28.9**	**+0.3**
	baz=292						
DPDB	**Guoxing**	**0.97**	**330**	*e*P	**Pb**	**18 11 28.8**	**0.0**
	baz=343						
DPDB				*e*S	**Sg**	**18 11 41.8**	**0.0**
	baz=343						
TAW	**Tawu**	**0.97**	**212**	*e*P	**Pb**	**18 11 27.1**	**-1.6**
	baz=211						
EAST	**Anshuo**	**0.98**	**215**	⇓P	**Pb**	**18 11 27.4**	**-1.5**
	baz=214						
WDLH	**Douliu**	**0.98**	**301**	*e*P	**Pg**	**18 11 29.5**	**+0.3**
	baz=302						
WNT	**Mingjian**	**0.99**	**314**	P	**Pg**	**18 11 29.7**	**+0.3**
	baz=316						
WNT				*e*S	**Sn**	**18 11 43.4**	**+0.3**
	baz=316						
NACB	**Ninganchiao**	**0.99**	**7**	*e*P	**Pb**	**18 11 27.8**	**-1.2**
	baz=9.0						
CHY	**Chiayi**	**1.00**	**288**	*e*P	**Pb**	**18 11 29.5**	**+0.3**
	baz=289						
SGLT	**Jiouru**	**1.00**	**243**	*e*P	**Pn**	**18 11 30.4**	**+0.7**
	baz=240						
CHN3	**Shinhua**	**1.01**	**264**	*e*P	**Pn**	**18 11 30.6**	**+0.8**
	baz=271						
CHN3				*e*S	**Sn**	**18 11 45.4**	**+1.8**
	baz=271						
TWM1	**Shoushan**	**1.02**	**249**	*e*P	**Pg**	**18 11 30.6**	**+0.7**
	baz=249						
WLGB	**Puzi**	**1.10**	**285**	*e*P	**Pb**	**18 11 30.9**	**0.0**
	baz=284						
WLGB				*e*S	**Sn**	**18 11 46.6**	**+0.7**
	baz=284						
SCZT	**Fangliau**	**1.12**	**224**	*e*P	**Pb**	**18 11 30.2**	**-1.0**
	baz=218						
LAY	**Lan-yu**	**1.15**	**176**	*e*P	**Pn**	**18 11 29.8**	**-2.0**
	baz=162						
CHN8	**Yiju**	**1.15**	**278**	P	**Pn**	**18 11 32.0**	**+0.2**
	baz=277						
CHN8				*e*S	**Sg**	**18 11 48.5**	**+0.8**
	baz=277						
SCLT	**Jiali**	**1.16**	**270**	*e*P	**Pn**	**18 11 31.9**	**+0.1**
	baz=284						
SCLT				*e*S	**Sg**	**18 11 48.6**	**+0.8**
	baz=284						
TCU	**Taichung**	**1.19**	**323**	*e*P	**Pb**	**18 11 33.1**	**+0.6**
	baz=324						
WCHH	**Zhanghua**	**1.21**	**317**	*e*P	**Pb**	**18 11 33.3**	**+0.5**
	baz=318						
RLNB	**Erlin**	**1.23**	**305**	*e*P	**Pn**	**18 11 33.1**	**+0.3**
	baz=306						
NNSB	**Datong**	**1.24**	**357**	*e*P	**Pn**	**18 11 32.2**	**-0.8**
	baz=9.0						
NNS	**Nan Shan**	**1.25**	**357**	*e*P	**Pn**	**18 11 32.7**	**-0.5**
	baz=9.0						
ENA	**Nanau**	**1.26**	**12**	*e*P	**Pn**	**18 11 32.2**	**-1.0**
NANB	**Nanao**	**1.26**	**12**	*e*P	**Pn**	**18 11 32.4**	**-0.9**
WTCT	**Ta-ch'eng**	**1.27**	**302**	*e*P	**Pn**	**18 11 32.9**	**-0.5**
	baz=303						
WLCH	**Liuqiu**	**1.30**	**230**	*e*P	**Pg**	**18 11 36.7**	**+1.5**
	baz=215						
HEN	**Hengchun**	**1.35**	**209**	*e*P	**Pb**	**18 11 35.6**	**+0.4**
	baz=197						
TWK1	**Hengchun**	**1.38**	**206**	*e*P	**Pn**	**18 11 34.4**	**-0.4**
	baz=197						
TWKBT	**Hengchun**	**1.38**	**206**	*e*P	**Pn**	**18 11 34.1**	**-0.8**
	baz=197						
TSEB	**Hengchuen, Pin**	**1.38**	**202**	*e*P	**Pn**	**18 11 35.0**	**+0.1**
	baz=195						
ENTT	**Nioudou**	**1.45**	**4**	*e*P	**Pn**	**18 11 35.9**	**0.0**
	baz=3.0						
TWC	**Suao**	**1.46**	**14**	*e*P	**Pn**	**18 11 36.3**	**+0.3**
	baz=360						
NMLH	**Miaoli**	**1.47**	**336**	*e*P	**Pb**	**18 11 37.5**	**+0.2**
	baz=334						
YHNB	**Yeheng**	**1.48**	**357**	*e*P	**Pn**	**18 11 36.4**	**+0.1**
	baz=9.0						
EOS1	**EOS1**	**1.49**	**24**	*e*P	**Pn**	**18 11 37.2**	**+0.9**
	baz=34						
NSTT	**Nanjuang**	**1.50**	**344**	*e*P	**Pb**	**18 11 37.6**	**-0.1**
	baz=343						
LIOB	**Emei**	**1.50**	**345**	*e*P	**Pn**	**18 11 37.3**	**+0.6**
	baz=343						
TWE	**Neicheng**	**1.54**	**7**	*e*P	**Pn**	**18 11 37.1**	**+0.1**
	baz=5.0						
NWLT	**Wulai**	**1.58**	**2**	*e*P	**Pn**	**18 11 38.5**	**+0.8**
	baz=14						
WDGT	**Dungji**

mb5.7/85,mB5.9/72,MLv6.2/19,Mw(mB)5.4/72,Mwp5.5/6
ISC 30 18:11:45.3±0.3,**5°70S**±0°03×**128°50E**±0°03,**h368**km,2km,
h368km:**pP-P,n1033,**σ1**49**/1252,**mb5.3**/211,**67C-21D,**
Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op		h m s	ISC
BNDI	**Bandanaira**	**1.83**	**50**	P		**Pn**	**18 12 36.5 -0.7**
BNDI				S		**S**	**18 13 17.5 -1.3**
AAI	**Ambon**	**2.02**	**351**	P		**Pn**	**18 12 38.6 +0.1**
AAI				S		**S**	**18 13 22.2 +1.0**
AAI	**Ambon**	**2.02**	**351**	P		**Pn**	**18 12 38.6 +0.1**
MSAI	**Masohi**	**2.38**	**10**	P		**Pn**	**18 12 39.5 -1.5**
SAUI	**Saumlaki**	**3.59**	**129**	P		**Pn**	**18 12 49.7 -1.7**
SAUI				S		**S**	**18 13 41.6 -3.2**
SAUI	**Saumlaki**	**3.59**	**129**	*e*Pn		**Pn**	**18 12 49.8 -1.7**
SANI	**Sanana**	**4.40**	**325**	P		**Pn**	**18 12 59.3 -0.2**
FAKI	**Fak Fak**	**4.65**	**54**	P		**Pn**	**18 13 01.0 -1.1**
FAKI	**Fak Fak**	**4.65**	**54**	*e*Pn		**Pn**	**18 13 00.6 -1.5**
LBMI	**Labuha**	**5.12**	**349**	P		**Pn**	**18 13 08.0 +0.8**
	4μm,1.0s,41μm12nm						
SIJI	**Sorong**	**5.54**	**30**	P		**Pn**	**18 13 10.8 -0.8**
	98nm,0.3s,baz=196,slow=8.4,SNR=220						
SIJI				S		**S**	**18 14 16.9 -4.8**
	134nm,0.3s,baz=243,slow=22,SNR=17						
KMPI	**Kaimana, Papua**	**5.57**	**69**	P		**Pn**	**18 13 11.0 -1.0**
SOEI	**Soe**	**5.81**	**226**	P		**Pn**	**18 13 14.3 -0.5**
	10μm,0.6s,183μm48nm						
SOEI	**Soe**	**5.81**	**226**	*e*Pn		**Pn**	**18 13 13.8 -1.0**
TNTI	**Ternate**	**6.53**	**350**	*e*Pn		**P**	**18 13 23.6 -0.3**
BATI	**Baumata**	**6.55**	**227**	P		**Pn**	**18 13 22.6 -0.5**
	baz=162,slow=1.6						
BATI				S		**S**	**18 14 39.5 -3.1**
	281nm,0.3s,baz=53,slow=20,SNR=14						
BATI	**Baumata**	**6.55**	**227**	P		**Pn**	**18 13 22.8 -0.3**
	7μm,0.7s,67μm25nm						
MMRI	**Maumere**	**6.86**	**244**	P		**Pn**	**18 13 26.6 0.0**
	3μm,0.9s,40μm12nm						
MMRI	**Maumere**	**6.86**	**244**	*e*Pn		**Pn**	**18 13 26.2 -0.4**
RKPI	**Ransiki, Papua**	**7.03**	**54**	P		**Pn**	**18 13 29.2 +0.6**
	4μm,1.0s,40μm15nm						
LUWI	**Luwuk**	**7.35**	**309**	P		**P**	**18 13 33.7 +0.4**
	4μm,1.6s,49μm13μm16nm						
LUWI	**Luwuk**	**7.35**	**309**	*e*Pn		**P**	**18 13 33.7 +0.4**
EDFI	**Ende, Flores**	**7.40**	**245**	P		**Pn**	**18 13 32.2 -0.7**
MTN	**Manton Dam**	**7.56**	**160**	P		**Pn**	**18 13 33.0 -1.7**
	baz=7.6,SNR=1000						
MTN	**Manton Dam**	**7.56**	**160**	*e*Pn		**Pn**	**18 13 32.9 -1.7**
KMSI	**Cibinong**	**7.69**	**324**	P		**P**	**18 13 37.3 +0.1**
	2μm,1.2s,16μm4.8nm						
BSSI	**Bau Bau, Buton**	**7.97**	**266**	P		**P**	**18 13 41.1 +0.6**
	2μm,0.9s,20μm						
APSI	**Ampana**	**8.32**	**305**	P		**P**	**18 13 45.4 0.0**
	3μm,1.0s,30μm						
BNSI	**Bone**	**8.46**	**278**	P		**P**	**18 13 46.9 0.0**
	1μm,0.9s,12μm						
BAKI	**Biak**	**8.82**	**60**	P		**P**	**18 13 50.8 -0.1**
	8μm,1.0s,78μm						
MRSI	**Marisa**	**8.97**	**313**	P		**P**	**18 13 52.2 -0.4**
	2μm,1.2s,15μm6μm						
WSI	**Waingapu**	**9.03**	**244**	P		**Pn**	**18 13 49.3 -2.6**
	8μm,0.8s,79μm						
BASI	**Baing, Sumba**	**9.04**	**240**	P		**Pn**	**18 13 51.0 -0.9**
	5μm,1.1s,49μm						
TTSI	**Tana Toraja**	**9.04**	**287**	P		**P**	**18 13 54.3 +0.9**
	1μm,1.1s,10μm						
SGSI	**Sangihe**	**9.78**	**342**	P		**Pn**	**18 14 00.6 -0.2**
	7μm,0.7s,58μm						
WBSI	**Waikabubak, Su**	**9.84**	**246**	P		**Pn**	**18 13 58.8 -2.6**
	4μm,0.9s,23μm						
PCI	**Palu**	**9.87**	**299**	P		**P**	**18 14 04.6 +2.0**
	5μm,1.1s,39μm						
PCI	**Palu**	**9.87**	**299**	P		**P**	**18 14 04.3 +1.7**
PCI				pmax		pmax	
	comp=Z,5μm,1.1s						
KNRA	**Kununurra**	**9.92**	**179**	P		**Pn**	**18 14 01.4 -1.0**
	baz=9.9,SNR=416						
MPSI	**Mapaga**	**10.47**	**305**	P		**P**	**18 14 10.8 +1.5**
	comp=Z,2μm,1.4s,comp=Z,27μm						
PLAI	**Plampang**	**11.08**	**253**	P		**P**	**18 14 14.2 -1.8**
	comp=Z,2μm,1.0s,comp=Z,18μmcomp=Z,5μm						
TWSI	**Taliwang, Sumb**	**11.91**	**255**	P		**P**	**18 14 24.1 -1.2**
	comp=Z,466nm,1.0s,comp=Z,5μm						
SGKI	**Sangatta, Kali**	**12.02**	**295**	P		**Pn**	**18 14 27.6 +0.3**
GENI	**Genyem**	**12.04**	**76**	P		**Pn**	**18 14 27.6 +0.1**
	comp=Z,2μm,0.7s,comp=Z,27μm						
GSPH	**General Santos**	**12.23**	**343**	*e*P		**P**	**18 14 29.0 0.0**
BKB	**Balikpapan**	**12.39**	**290**	P		**Pn**	**18 14 34.3 +2.8**
SMKI	**Samarinda**	**12.42**	**294**	P		**Pn**	**18 14 34.5 +2.6**
KBKI	**Kotabaru**	**12.52**	**280**	P		**Pn**	**18 14 33.0 0.0**
JAY	**Jayapura**	**12.58**	**76**	P		**P**	**18 14 33.1 +0.3**
JAY	**Jayapura**	**12.58**	**76**	P		**Pn**	**18 14 33.7 -0.1**
JAY				pmax		pmax	
	comp=Z,8μm,2.0s						
FITZ	**Fitzroy Crossi**	**12.63**	**193**	P		**P**	**18 14 32.9 -0.3**
	baz=13,SNR=376						
FITZ	**Fitzroy Crossi**	**12.63**	**193**	*e*P		**P**	**18 14 32.9 -0.3**
MATI	**Mati**	**12.76**	**350**	*e*P		**Pn**	**18 14 35.5 -0.4**
MATI				*e*S		**S**	**18 16 55.3 +0.3**
DAV	**Davao City (W)**	**13.01**	**347**	P		**Pn**	**18 14 38.5 -0.3**
	comp=Z,72nm,0.3s,baz=147,slow=2.3,SNR=33						
DAV				S		**S**	**18 17 01.1 +1.0**
	baz=9.5,slow=12,SNR=1.8						
DAV	**Davao City (W)**	**13.01**	**347**	*e*P		**P**	**18 14 33.1 -4.4**
DAV	**Davao City (W)**	**13.01**	**347**	*e*P		**Pn**	**18 14 41.2 +2.4**
DAV				S		**S**	**18 17 01.1 +1.0**
DAV	**Davao City (W)**	**13.01**	**347**	P		**Pn**	**18 14 40.4 +1.6**
	SNR=55						
DAV	**Davao City (W)**	**13.01**	**347**	P		**Pn**	**18 14 40.4 +1.6**
	SNR=55						
DMPH	**Davao City--Mi**	**13.04**	**347**	*e*P		**P**	**18 14 37.8 0.0**
KCP	**Kidapawan**	**13.07**	**345**	*i*P		**Pn**	**18 14 39.5 -0.1**
SRBI	**Singaraja**	**13.40**	**259**	P		**P**	**18 14 41.8 +0.1**
	comp=Z,423nm,1.2s,comp=Z,4μm						
DNP	**Denpasar**	**13.51**	**257**	P		**Pn**	**18 14 44.2 -0.4**
	comp=Z,803nm,0.7s						
DNP	**Denpasar**	**13.51**	**257**	P		**Pn**	**18 14 44.2 -0.4**
DNP				pmax		pmax	
	comp=Z,753nm,0.7s						
CTBH	**Cotabato--PC H**	**13.52**	**342**	*e*P		**P**	**18 14 43.8 +0.8**
IGBI	**Denpasar**	**13.60**	**256**	P		**P**	**18 14 44.2 +0.3**
	comp=Z,1μm,1.1s,comp=Z,13μm						
BBKI	**Banjar Baru**	**13.79**	**279**	P		**P**	**18 14 46.1 +0.1**
	comp=Z,515nm,1.0s,comp=Z,5μm						
BUKP	**Musuan**	**13.92**	**346**	*e*P		**Pn**	**18 14 48.9 -0.5**
BUKP				*e*S		**S**	**18 17 22.3 +4.0**
BIPH	**Bislig**	**13.95**	**351**	*e*P		**Pn**	**18 14 50.7 +0.9**
ZCP	**Zamboanga City**	**14.09**	**333**	*e*P		**Pn**	**18 14 51.1 -0.1**
PALU	**Palau**	**14.26**	**25**	P		**P**	**18 14 52.2 +1.0**
	baz=14,SNR=101						
MTKI	**Muara Teweh, K**	**14.37**	**289**	P		**Pn**	**18 14 54.2 -0.4**
	comp=Z,2μm,1.6s,comp=Z,28μm						
JAGI	**Jajag, Banyuwa**	**14.50**	**258**	P		**P**	**18 14 53.3 -0.5**
	comp=Z,538nm,0.9s,comp=Z,6μm						
JAGI	**Jajag, Banyuwa**	**14.50**	**258**	*e*P		**P**	**18 14 52.2 -1.5**
IPIL	**Ipil**	**14.64**	**336**	*e*P		**Pn**	**18 14 56.8 -0.8**
IPIL				*e*S		**S**	**18 17 40.7 +7.9**
MYLDM	**Lahad Datu**	**14.71**	**317**	*e*P		**Pn**	**18 14 58.0 -0.4**
BUTP	**Butuan**	**14.85**	**349**	*e*P		**Pn**	**18 14 59.4 -0.7**
BUTP				*e*S		S	18 17 46.1 +9.2
BLJI	**Banyuglugur**	**14.94**	**261**	P		**Pn**	**18 15 00.2 -0.8**
	comp=Z,1μm,1.5s,comp=Z,9μm						
WRAB	**Tennant Creek**	**15.25**	**159**	*e*P		**P**	**18 15 01.3 -0.7**
	comp=Z,2μm,0.8s						
WRAB	**Tennant Creek**	**15.25**	**159**	*c i*P		**P**	**18 15 01.2 -0.7**
WRAB				pmax		pmax	
	comp=Z,3μm,1.2s						
WRA	**Warramunga Arr**	**15.26**	**159**	P		**P**	**18 15 01.1 -0.9**
	comp=Z,137nm,0.3s,baz=340,slow=11,SNR=2696						
WRA				S		**S**	**18 17 40.9 -4.1**
	comp=Z,68nm,0.3s,baz=326,slow=20,SNR=18						
WRA				P3KPbc			18 50 15.3
	comp=Z,0.0nm,0.3s,baz=155,slow=4.3,SNR=5.5						
WB2	**Warramunga Arr**	**15.26**	**159**	*e*P		**P**	**18 15 01.4 -0.7**
	comp=Z,2μm,0.8s						
WB2				*e*S		**S**	**18 17 39.7 -5.4**
BWJI	**Bawean**	**15.76**	**269**	P		**P**	**18 15 08.3 +0.8**
SNPH	**Sibulan**	**15.84**	**341**	*e*P		**P**	**18 15 04.7 -3.7**
GRJI	**Gresik**	**15.96**	**265**	P		**Pn**	**18 15 11.8 -1.1**
TBP	**Tagbilaran**	**15.97**	**343**	*e*P		**Pn**	**18 15 12.1 -0.9**
MSLP	**Maasin**	**16.14**	**347**	*e*P		**Pn**	**18 15 13.6 -1.3**
MSLP				*e*S		**S**	**18 18 11.0 +8.5**
LLP	**Lapu-Lapu**	**16.54**	**344**	*e*P		**P**	**18 15 16.3 +0.4**
LLP				*e*S		**S**	**18 18 20.0 +10**
TBJI	**Tambak Boyo**	**16.59**	**265**	P		**Pn**	**18 15 18.7 -1.4**
	comp=Z,572nm,1.2s,comp=Z,6μm						
COEN	**Coen**	**16.62**	**121**	P		**P**	**18 15 16.6 -0.2**
	baz=17,SNR=311						
COEN	**Coen**	**16.62**	**121**	*e*P		**P**	**18 15 16.4 -0.4**
	comp=Z,500nm,0.9s						
PWJI	**Pagerwojo**	**16.73**	**261**	P		**P**	**18 15 17.9 -0.1**
	comp=Z,229nm,0.9s,comp=Z,3μm						
KKM	**Kota Kinabalu**	**16.92**	**313**	*e*P		**P**	**18 15 21.1 +1.0**
	comp=Z,9μm,2.0s						
NGJI	**Ngawi**	**17.00**	**263**	P		**Pn**	**18 15 23.4 -1.1**
	comp=Z,325nm,0.9s						
PBKI	**Pangkalan Bun**	**17.04**	**279**	P		**P**	**18 15 22.0 +0.7**
	comp=Z,2μm,1.1s,comp=Z,18μm						
OCLP	**Ormoc**	**17.08**	**347**	*e*P		**P**	**18 15 22.5 +0.8**
OCLP				*e*S		**S**	**18 18 26.4 +5.4**
PLP	**Palo**	**17.11**	**348**	*i*P		**P**	**18 15 23.3 +1.3**
GUIM	**Jordan**	**17.25**	**340**	*e*P		**P**	**18 15 22.5 -1.0**
GUIM				*e*S		**S**	**18 18 26.7 +2.4**
PCJI	**Pacitan**	**17.37**	**261**	P		**P**	**18 15 25.3 +0.5**
	comp=Z,316nm,1.0s,comp=Z,3μm						
MBWA	**Marble Bar**	**17.56**	**208**	P		**P**	**18 15 26.4 -0.4**
	SNR=28						
MBWA	**Marble Bar**	**17.56**	**208**	P		**P**	**18 15 26.4 -0.4**
	SNR=28						
WOJI	**Wonogiri, Jawa**	**17.58**	**262**	P		**P**	**18 15 26.3 -0.7**
	comp=Z,125nm,0.9s,comp=Z,2μm						
JAP	**San Jose, Anti**	**17.59**	**338**	*i*P		**P**	**18 15 28.2 +1.1**
STKI	**Sintang**	**17.93**	**288**	P		**P**	**18 15 30.7 -0.1**
	comp=Z,317nm,1.2s,comp=Z,5μm						
UGM	**Wagagama**	**17.98**	**262**	P		**P**	**18 15 31.6 +0.2**
	comp=Z,295nm,1.1s						
UGM	**Wanagama**	**17.98**	**262**	*e*P		**P**	**18 15 30.3 -1.1**
	comp=Z,226nm,0.9s						
SMRI	**Semarang**	**17.99**	**265**	P		**P**	**18 15 30.9 -0.6**
SMRI	**Semarang**	**17.99**	**265**	*e*P		**P**	**18 15 32.1 +0.6**
	comp=Z,330nm,0.8s						
RCP	**Roxas**	**18.07**	**342**	*i*P		**P**	**18 15 33.0 +0.7**
SBUM	**Sibu**	**18.16**	**296**	*e*P		**P**	**18 15 34.3 +1.1**
	comp=Z,1μm,1.0s						
PPR	**Puerto Princes**	**18.19**	**328**	*i*P		**P**	**18 15 34.5 +1.0**
QIS	**Mount Isa**	**18.29**	**145**	P		**P**	**18 15 33.9 -0.7**
	baz=18,SNR=719						
CNP	**Catarman**	**18.49**	**348**	*e*P		**P**	**18 15 36.4 -0.2**
CNP				*e*S		**S**	**18 18 46.9 -1.4**
AS31	**Alice Springs**	**18.61**	**164**	*e*P		**P**	**18 15 37.2 -0.7**
	comp=Z,402nm,0.9s						
ASAR	**Alice Springs**	**18.61**	**164**	P		**P**	**18 15 37.1 -0.8**
	comp=Z,90nm,0.3s,baz=344,slow=11,SNR=6714						
ASAR				S		**S**	**18 18 48.0 -2.5**
	comp=Z,69nm,0.3s,baz=346,slow=23,SNR=42						
ASAR				ScP		**ScP**	**18 22 49.0 +0.2**
	comp=Z,8.7nm,0.3s,baz=340,slow=1.6,SNR=6.9						
AS01	**Alice Springs**	**18.62**	**164**	*e*P		**P**	**18 15 35.8 -2.2**
PMG	**Port Moresby**	**18.86**	**102**	P		**P**	**18 15 40.5 -0.2**
	comp=Z,53nm,0.3s,baz=53,slow=1.5,SNR=173						
PMG				S		**S**	**18 18 57.0 +1.7**
	baz=111,slow=21,SNR=8.4						
PMG				ScP		**ScP**	**18 22 51.3 +1.9**
	comp=Z,1.8nm,0.3s,baz=302,slow=8.8,SNR=3.9						
PMG	**Port Moresby**	**18.86**	**102**	*e*P		**P**	**18 15 40.8 +0.1**
	comp=Z,795nm,1.0s						
PMG				S		**S**	**18 18 57.0 +1.7**
PMG				ScP		**ScP**	**18 22 51.3 +1.9**
PMG	**Port Moresby**	**18.86**	**102**	*ce*P		**P**	**18 15 40.2 -0.5**
PMG				pmax		pmax	
	comp=Z,4μm,1.2s						
OTRP	**Odiongan**	**19.06**	**340**	*e*P		**P**	**18 15 43.0 +0.3**
ENPP	**El Nido**	**19.07**	**332**	*e*P		**P**	**18 15 39.9 -2.8**
ENPP				*e*S		**S**	**18 19 00.2 +1.4**
MANU	**Manus Island**	**19.17**	**80**	*e*P		**P**	**18 15 43.8 -0.2**
	comp=Z,4μm,1.8s						
WRKA	**Waraukurna**	**19.23**	**181**	P		**P**	**18 15 43.7 -0.7**
	baz=19,SNR=598						
BUSP	**Coron**	**19.43**	**335**	*e*P		**P**	**18 15 46.6 +0.1**
SJMP	**San Jose**	**19.47**	**338**	*e*P		**P**	**18 15 47.4 +0.5**
SJMP				*e*S		**S**	**18 19 06.4 +0.8**
KPJI	**Karang Pucung**	**19.50**	**264**	P		**P**	**18 15 46.1 -1.2**
	comp=Z,860nm,1.1s,comp=Z,8μm						
KSM	**Kuching**	**19.51**	**291**	*e*P		**P**	**18 15 46.8 -0.6**
	comp=Z,406nm,0.9s						
AUQP	**San Andres**	**19.76**	**343**	*e*P		**P**	**18 15 51.5 +1.6**
AUQP				*e*S		**S**	**18 19 12.3 +2.1**
MTSU	**Mount Surprise**	**19.79**	**130**	P		**P**	**18 15 49.5 -0.6**
	baz=20,SNR=88						
CMJI	**Cimerak**	**20.01**	**263**	P		**P**	**18 15 49.4 -3.0**
JCJI	**Jatiwangi**	**20.13**	**267**	P		**P**	**18 15 53.2 -0.2**
	comp=Z,914nm,1.0s,comp=Z,11μm						
BOAC	**Boac**	**20.15**	**341**	*e*P		**P**	**18 15 54.0 +0.5**
BOAC				*e*S		**S**	**18 19 23.0 +6.6**
CISI	**Cisompet, Garu**	**20.62**	**264**	P		**P**	**18 15 55.7 -2.3**
CISI	**Cisompet, Garu**	**20.62**	**264**	*e*P		**P**	**18 15 55.8 -2.3**
	comp=Z,565nm,0.6s						
LEM	**Lembang**	**20.78**	**266**	P		**P**	**18 15 59.3 -0.2**
	comp=Z,350nm,1.0s,baz=52,slow=7.1,SNR=80						
LEM				S		**S**	**18 19 26.3 -1.0**
	comp=Z,89nm,0.9s,baz=150,slow=20,SNR=2.4						
LEM				ScP		**ScP**	**18 22 54.6 +0.4**
	comp=Z,86nm,0.6s,baz=334,slow=7.1,SNR=13						
LUBP	**Lubang**	**20.97**	**337**	*e*P		**P**	**18 16 01.3 +0.3**
LUBP				*e*S		**S**	**18 19 29.1 -0.8**
TGY	**Tagaytay City**	**21.05**	**339**	P		**P**	**18 16 02.4 +0.6**
	comp=Z,2μm,0.6s,baz=246,slow=2.2,SNR=52						
TGY				S		**S**	**18 19 31.7 +0.4**
	comp=Z,47nm,0.4s,baz=107,slow=14,SNR=4.2						
TGY				ScP		**ScP**	**18 22 54.9 +0.3**
	comp=Z,56nm,0.4s,baz=174,slow=4.5,SNR=4.3						
DBJI	**Dramaga**	**21.64**	**267**	P		**P**	**18 16 06.5 -0.7**
	comp=Z,357nm,0.9s,comp=Z,3μm						
SKJI	**Sukabumi**	**21.84**	**265**	P		**P**	**18 16 07.9 -1.1**
	comp=Z,714nm,0.7s,comp=Z,5μm						
SBJI	**Serang**	**22.25**	**268**	P		**P**	**18 16 14.9 +2.2**
	comp=Z,305nm,0.8s,comp=Z,4μm						
BALP	**Baler**	**22.38**	**342**	*e*P		**P**	**18 16 13.0 -0.8**
BALP				*e*S		**S**	**18 19 50.6 -1.8**
CTA	**Charters Tower**	**22.42**	**131**	P		**P**	**18 16 15.3 +1.2**
	comp=Z,102nm,0.9s,baz=309,slow=11,SNR=54						
CTA				S		**S**	**18 19 53.7 +0.6**
	comp=Z,14nm,0.8s,baz=332,slow=18,SNR=3.0						
CTA				ScP		**ScP**	**18 22 59.4 +1.4**
	comp=Z,100nm,0.7s,baz=249,slow=4.4,SNR=8.8						
CTA	**Charters Tower**	**22.42**	**131**	P		**P**	**18 16 15.3 +1.2**
	baz=22						
CTAO	**Charters Tower**	**22.42**	**131**	*e*P		**P**	**18 16 15.2 +1.0**
	comp=Z,132nm,1.0s						
CTAO	**Charters Tower**	**22.42**	**131**	*e*P		**P**	**18 16 15.2 +1.0**
CTAO				pmax		pmax	
	comp=Z,132nm,1.0s						
PPBI	**Pangkal Pinang**	**22.58**	**278**	P		**P**	**18 16 16.9 +1.2**
	comp=Z,3.0nm,0.9s,comp=Z,160nm						
CGJI	**Cibinong**	**22.69**	**267**	P		**P**	**18 16 13.9 -2.8**
MEEK	**Meekatharra**	**22.86**	**203**	P		**P**	**18 16 17.4 -0.7**
	baz=23,SNR=63						
SCZP	**Santa Cruz**	**22.97**	**338**	*e*P		**P**	**18 16 17.1 -2.0**
SCZP				*e*S		**S**	**18 19 56.2 -5.5**
BLSI	**Bandar Lampung**	**23.14**	**270**	P		**P**	**18 16 22.1 +1.3**
CAUP	**Cauayan**	**23.45**	**344**	*e*P		**P**	**18 16 23.1 -0.3**
CAUP				*e*S		S	18 20 23.2 +14
BOLP	**Bolinao**	**23.52**	**339**	*e*P		**P**	**18 16 22.8 -1.4**
BOLP				*e*S		**S**	**18 20 06.5 -4.1**
KLI	**Kotabumi**	**23.55**	**271**	P		**P**	**18 16 28.2 +3.7**
	comp=Z,324nm,1.0s						
PMBI	**Palembang**	**23.81**	**276**	P		**P**	**18 16 30.3 +3.4**
	comp=Z,933nm,1.1s,comp=Z,8μm						
KASI	**Kota Agung**	**23.88**	**269**	P		**P**	**18 16 24.1 -3.4**
MDSI	**Maura Dua**	**24.25**	**272**	P		**P**	**18 16 29.7 -1.1**
	comp=Z,87nm,0.9s,comp=Z,1μm						
LWLI	**Liwa**	**24.34**	**270**	P		**P**	**18 16 31.0 -0.7**
	comp=Z,107nm,0.7s,comp=Z,5μm						
ABRA	**Dolores**	**24.44**	**342**	*e*P		**P**	**18 16 30.0 -2.4**
ABRA				*e*S		**S**	**18 20 24.6 -0.4**
APYP	**Conner**	**24.48**	**343**	*e*P		**P**	**18 16 30.8 -2.0**
APYP				*e*S		**S**	**18 20 20.4 -5.3**
TPRI	**Tanjung Pinang**	**24.82**	**285**	P		**P**	**18 16 36.5 +0.6**
	comp=Z,206nm,1.4s,comp=Z,3μm						
FORT	**Forrest**	**24.95**	**181**	P		**P**	**18 16 36.6 -0.2**
	baz=25,SNR=27						
FORT	**Forrest**	**24.95**	**181**	*e*P		**P**	**18 16 36.7 -0.2**
	comp=Z,2μm,0.7s						
GUMO	**Guam**	**25.13**	**40**	P		**P**	**18 16 38.4 -0.2**
	comp=Z,297nm,0.9s,baz=172,slow=10,SNR=16						
GUMO				S		**S**	**18 20 36.2 +0.2**
	comp=Z,70nm,1.1s,baz=72,slow=19,SNR=2.8						
GUMO				ScP		**ScP**	**18 23 05.3 -0.1**
	comp=Z,48nm,0.6s,baz=171,slow=13,SNR=5.5						
GUMO	**Guam**	**25.13**	**40**	*e*P		**P**	**18 16 38.4 -0.2**
	comp=Z,249nm,0.8s						
GUMO				S		**S**	**18 20 36.2 +0.2**
GUMO				ScP		**ScP**	**18 23 05.3 -0.1**
GUMO	**Guam**	**25.13**	**40**	*e*P		**P**	**18 16 38.4 -0.2**
GUMO				S		**S**	**18 20 36.2 +0.2**
GUMO				pmax		pmax	
	comp=Z,249nm,0.8s						
QLP	**Quilpie**	**25.63**	**146**	P		**P**	**18 16 42.6 -0.4**
	baz=26,SNR=21						
MYKOM	**Kota Tinggi**	**25.71**	**286**	*e*P		**P**	**18 16 44.5 +0.6**
	comp=Z,103nm,0.9s						
MORW	**Morawa**	**26.06**	**205**	P		**P**	**18 16 46.2 -0.5**
	baz=26,SNR=48						
KMBL	**Kambalda**	**26.28**	**193**	P		**P**	**18 16 48.4 -0.3**
	baz=26,SNR=31						
MASI	**Maura Aman, Be**	**26.30**	**274**	P		**P**	**18 16 49.0 -0.1**
	comp=Z,193nm,1.1s,comp=Z,2μm						
RGRI	**Rengat**	**26.65**	**281**	P		**P**	**18 16 54.9 +2.7**
	comp=Z,297nm,0.8s						
BLDU	**Ballidu**	**27.15**	**203**	P		**P**	**18 16 56.1 -0.3**
	baz=27,SNR=66						
KRJI	**Kerinci**	**27.20**	**276**	P		**P**	**18 16 56.9 -0.3**
	comp=Z,235nm,0.9s,comp=Z,2μm						
SDSI	**Sungai Dareh**	**27.43**	**279**	P		**P**	**18 16 58.9 -0.2**
KLBR	**Kellerberrin**	**27.66**	**200**	P		**P**	**18 17 00.8 -0.1**
	baz=28,SNR=29						
BBOO	**Buckleboo**	**27.88**	**166**	P		**P**	**18 17 02.4 -0.5**
	baz=28,SNR=13						
BBOO	**Buckleboo**	**27.88**	**166**	*e*P		**P**	**18 17 02.4 -0.5**
	comp=Z,199nm,0.9s						
BKNI	**Bangkinang**	**28.06**	**281**	P		**P**	**18 17 04.8 +0.2**
	comp=Z,640nm,1.0s,comp=Z,5μm						
BKNI	**Bangkinang**	**28.06**	**281**	*e*P		**P**	**18 17 04.8 +0.2**
	comp=Z,568nm,1.0s						
RMQ	**Roma**	**28.31**	**139**	P		**P**	**18 17 06.5 -0.2**
	baz=28,SNR=15						
PDSI	**Padang**	**28.38**	**279**	P		**P**	**18 17 06.4 -1.1**
MUN	**Mundaring**	**28.56**	**202**	P		**P**	**18 17 08.6 -0.2**
	baz=29,SNR=15						
STKA	**Stephens Creek**	**28.79**	**156**	P		**P**	**18 17 10.6 -0.2**
	comp=Z,49nm,0.5s,baz=328,slow=9.2,SNR=160						
STKA				S		**S**	**18 21 31.5 -1.6**
	comp=Z,34nm,0.6s,baz=108,slow=19,SNR=3.3						
STKA				ScP		**ScP**	**18 23 15.8 -0.5**
	comp=Z,24nm,0.4s,baz=1.1,slow=8.4,SNR=7.6						
STKA	**Stephens Creek**	**28.79**	**156**	P		**P**	**18 17 10.7 -0.2**
	baz=29,SNR=135						
STKA	**Stephens Creek**	**28.79**	**156**	*e*P		**P**	**18 17 10.7 -0.1**
STKA				*e*pP		**pP**	**18 18 19.9 +1.1**
STKA				S		**S**	**18 21 31.5 -1.6**
STKA				ScP		**ScP**	**18 23 15.8 -0.5**
STKA	**Stephens Creek**	**28.79**	**156**	*e*P		**P**	**18 17 10.7 -0.1**
STKA				*e*PP		**pP**	**18 18 19.9 +1.1**
STKA				S		**S**	**18 21 31.5 -1.6**
NWAO	**Narrogin (SRO)**	**29.05**	**200**	P		**P**	**18 17 13.1 -0.1**
	comp=Z,24nm,0.3s,baz=272,slow=7.4,SNR=93						
NWAO				ScP		**ScP**	**18 23 18.9 +1.9**
	comp=Z,73nm,1.1s,baz=236,slow=7.3,SNR=4.1						
NWAO	**Narrogin (SRO)**	**29.05**	**200**	P		**P**	**18 17 13.1 -0.1**
	baz=29,SNR=60						
NWAO				P		**P**	**18 17 13.1 -0.1**
	baz=29,SNR=60						
EIDS	**Eidsvold**	**29.16**	**135**	*e*pP		pP	18 18 22.7 +0.5
IPM	**Ipoh**	**29.24**	**290**	*e*P		**P**	**18 17 15.0 -0.1**
	comp=Z,57nm,0.7s						
HTT	**Hallett**	**29.25**	**162**	P

baz=34,SNR=54
PHET Kaeng Krachan 34.12 303 P P 18 17 57.9 +0.6
comp=Z,118nm,1.0s,comp=Z,953nm
MGCD Mangrove Creek 34.52 145 P P 18 18 01.8 +1.4
baz=35,SNR=23
CAN Canberra 35.02 150 P P 18 18 06.0 +1.3
baz=35
CAN Canberra 35.02 150 *eP* **P 18 18 05.7 +1.0**
comp=Z,96nm,0.6s
CAN Canberra 35.02 150 *eP* **P 18 18 05.7 +1.0**
CAN pmax pmax
comp=Z,96nm,0.6s
CBIJ Chichi jima 35.19 21 P P 18 18 05.7 -0.4
CBIJ S **S 18 23 06.6 -5.3**
JCJ Chichijima 35.19 21 P P 18 18 05.7 -0.4
comp=Z,86nm,0.5s,baz=279,slow=23,SNR=14
JCJ S **S 18 23 06.6 -5.3**
comp=Z,163nm,0.9s,baz=343,slow=19,SNR=5.2
CNB Canberra Magne 35.19 150 P P 18 18 07.2 +1.0
baz=35,SNR=36
SRDT SRDT 35.30 305 P P 18 18 07.2 0.0
comp=Z,536nm,1.2s,comp=Z,6µm
TOO Toolangi 35.31 156 P P 18 18 08.5 +1.4
baz=35,SNR=29
PHIT Phitsanulok 35.88 310 P P 18 18 12.9 +0.8
comp=Z,779nm,1.0s,comp=Z,6µm
LAMP Lampang 37.27 311 P P 18 18 24.7 +1.0
comp=Z,142nm,1.0s,comp=Z,1µm
CM31 Chiang Mai Arr 37.75 310 *eP* **P 18 18 29.2 +1.5**
CMAR Chiang Mai Arr 37.75 310 P P 18 18 29.1 +1.3
comp=Z,232nm,0.9s,baz=141,slow=7.4,SNR=762
CMAR PcP **PcP 18 20 35.9 -0.1**
comp=Z,8.9nm,0.7s,baz=150,slow=1.6,SNR=5.3
CMAR ScP **S 18 23 49.9 -0.8**
comp=Z,13nm,0.7s,baz=136,slow=2.7,SNR=16
CMMT Chiang Mai 37.96 311 P P 18 18 29.2 -0.3
comp=Z,628nm,1.1s,comp=Z,6µm
CHTO Chiang Mai 37.97 311 P P 18 18 30.2 +0.7
comp=Z,3µm,1.1s,comp=Z,27µm
CHTO Chiang Mai 37.97 311 *eP* **P 18 18 30.7 +1.2**
comp=Z,570nm,1.0s
GYA Guiyang 38.34 327⇑ *iP* **P 18 18 33.0 +0.4**
GYA pP pP 18 19 47.0 +3.5
GYA PP **PnPn 18 20 15.5 -0.7**
GYA sP sP 18 20 29.0 +3.4
GYA PcP **PcP 18 20 40.0 +2.2**
GYA ScP **ScP 18 23 51.0 +0.8**
GYA S **S 18 23 58.8 -0.6**
GYA sS sS 18 26 11.5 +3.6
GYA ScS **ScS 18 28 00.5 -1.1**
GYA pmax pmax
comp=Z,160nm,0.8s
GYA pmax pmax
comp=Z,360nm,7.8s
GYA LR LR
comp=Z,610nm,18.1s
GYA LR LR
comp=Z,580nm,18.0s
GYA LR LR
comp=Z,510nm,18.4s
WHN Wuhan 38.50 340⇑ **P P 18 18 34.8 +1.1**
WHN S **S 18 24 01.3 -0.1**
WHN pmax pmax
comp=Z,810nm,1.2s
WHN LR LR
comp=Z,780nm,23.3s
CMAI Chiengmai2 38.57 312 P P 18 18 35.2 +0.5
comp=Z,2µm,1.2s
NJ2 Nanjing 38.65 347 *eP* **P 18 18 35.8 +0.9**
NJ2 ScP **ScP 18 23 52.0 +1.0**
NJ2 S **S 18 24 04.0 +0.4**
NJ2 pmax pmax
comp=Z,150nm,1.0s
JNU Nakatsue 38.67 3 P P 18 18 35.3 +0.2
comp=Z,33nm,0.8s,baz=282,slow=1.5,SNR=19
JNU ScP **ScP 18 23 50.8 -0.4**
comp=Z,19nm,0.9s,baz=148,slow=4.1,SNR=4.9
JNU Nakatsue 38.67 3 *eP* **P 18 18 35.5 +0.4**
comp=Z,68nm,1.1s
JNU ScP **ScP 18 23 50.8 -0.4**
KMI Kunming 39.57 322 P P 18 18 44.5 +1.6
KMI pP pP 18 19 56.3 +2.1
KMI PP **PP 18 20 26.0 +2.8**
KMI sP sP 18 20 37.0 +0.8
KMI ScP **ScP 18 23 57.3 +2.2**
KMI S **S 18 24 19.5 +1.5**
KMI SS **SS 18 27 27.0 -3.8**
KMI pmax pmax
comp=Z,220nm,1.4s
KMI pmax pmax
comp=Z,800nm,4.5s
KMI LR LR
comp=Z,180nm,17.4s
KMI LR LR
comp=Z,400nm,17.8s
KMI LR LR
comp=Z,490nm,18.5s
DZM Mont Dzumac 40.12 118 P P 18 18 47.5 +0.3
comp=Z,22nm,0.5s,baz=256,slow=9.6,SNR=53
DZM pP **pP 18 19 57.8 -1.0**
comp=Z,7.3nm,0.8s,baz=280,slow=8.9,SNR=1.0
DZM ScP **ScP 18 23 59.5 +2.3**
comp=Z,28nm,1.1s,baz=348,slow=1.6,SNR=8.1
DZM Mont Dzumac 40.12 118 *eP* **P 18 18 47.4 +0.2**
comp=Z,140nm,1.3s
DZM Mont Dzumac 40.12 118 *eP* **P 18 18 47.5 +0.3**
comp=Z,46nm,0.9s
DZM pP **pP 18 19 57.8 -1.0**
DZM ScP **ScP 18 23 59.5 +2.3**
ENH Enshi 40.14 334 *eP* **P 18 18 47.2 +0.1**
comp=Z,95nm,0.7s
MOO Moorlands 40.18 158 P P 18 18 48.7 +1.4
baz=40,SNR=5.9
INU Inuyama 41.61 11 *eP* **P 18 18 59.5 +0.6**
comp=Z,26nm,1.1s
TJN Taejon 41.87 359 *c iP* **P 18 19 01.7 +0.8**
KSAR Wonju Array Be 42.92 359 P P 18 19 10.6 +1.3
KSAR ScP **ScP 18 24 08.8 +0.9**
KSAR Wonju Array Be 42.92 359 P P 18 19 10.6 +1.3
KSRS Korea Array 42.93 359 P P 18 19 10.6 +1.2
comp=Z,32nm,0.6s,baz=177,slow=9.1,SNR=219
KSRS ScP **ScP 18 24 08.8 +0.9**
comp=Z,9.9nm,0.8s,baz=181,slow=4.0,SNR=14
KS01 Wonju Array Si 42.95 359 *eP* **P 18 19 09.9 +0.3**
INCN Inchon 42.99 358 *eP* **P 18 19 11.4 +1.4**
comp=Z,31nm,0.9s
MJAR Matsushiro Arr 42.99 11 P P 18 19 09.2 -0.7
comp=Z,22nm,0.8s,baz=192,slow=10.0,SNR=72
MJAR ScP **ScP 18 24 08.4 +0.2**
comp=Z,6.3nm,0.6s,baz=189,slow=5.5,SNR=14
MAJO Matsushiro 42.99 11 *eP* **P 18 19 09.3 -0.6**
comp=Z,39nm,0.8s
MAJO Matsushiro 42.99 11 *c iP* **P 18 19 09.1 -0.8**
MAJO pmax pmax
comp=Z,37nm,0.9s
MAT Matsushiro 42.99 11 P P 18 19 09.0 -0.9
MAT S **S 18 25 05.0 -2.2**
MJB9 Matsu-Tunnel 43.00 11 *eP* **P 18 19 09.7 -0.3**
TIA Tai'an 43.03 346 P P 18 19 10.0 -0.2
TIA pmax pmax
comp=Z,63nm,1.2s
CD2 Chengdu 43.41 328 P P 18 19 13.5 +0.1
CD2 pP pP 18 20 26.3 +0.1
CD2 PP **PP 18 21 03.3 +0.1**
CD2 sP sP 18 21 08.3 +0.5
CD2 S **S 18 25 10.5 -3.1**
CD2 pmax pmax
comp=Z,390nm,0.6s
CD2 pmax pmax
comp=Z,680nm,4.2s
CD2 LR LR
comp=Z,520nm,12.9s
CD2 LR LR
comp=Z,1µm,12.9s
CD2 LR LR
comp=Z,350nm,14.9s
DL2 Dalian 44.83 352 P P 18 19 25.0 +0.7
DL2 PP **PP 18 21 15.3 -0.8**
DL2 ScP **ScP 18 24 16.0 +0.3**
DL2 S **S 18 25 33.0 -0.5**
DL2 ScS **ScS 18 28 38.8 -2.0**
DL2 pmax pmax
comp=Z,96nm,0.6s
DL2 pmax pmax
comp=Z,180nm,3.7s
TARA Tarawa 44.92 82 *eP* **P 18 19 26.9 +1.4**
comp=Z,190nm,1.0s
TIY Taiyuan 45.71 342 *eP* **P 18 19 31.0 -0.3**
TIY PP **PP 18 21 24.5 +0.3**
TIY S **S 18 25 44.0 -2.1**
TIY ScS **ScS 18 28 46.8 +0.1**
TIY SS **SS 18 29 13.0 -3.3**
TIY pmax pmax
comp=Z,140nm,0.6s
TIY pmax pmax
comp=Z,410nm,3.9s
TIY LR LR
comp=Z,120nm,3.7s
TIY LR LR
comp=Z,170nm,5.3s
TIY LR LR
comp=Z,160nm,11.4s
BJT Baijiatuau 46.89 347 *eP* **P 18 19 40.4 +0.2**
comp=Z,184nm,0.8s
BJT Baijiatuau 46.89 347 *eP* **P 18 19 40.4 +0.2**
BJT pmax pmax
comp=Z,184nm,0.8s
BJI Beijing 46.91 347 P P 18 19 40.8 +0.5
BJI S **S 18 26 01.3 -1.5**
BJI pmax pmax
comp=Z,280nm,1.2s
BJI LR LR
comp=Z,380nm,15.2s
BJI LR LR
comp=Z,500nm,20.4s
BJI LR LR
comp=Z,290nm,29.9s
SHL Shillong 47.22 313⇑ *iP* **P 18 19 44.0 +0.7**
SHL *eX* x 18 24 27.5
SHL *eS* **S 18 26 07.5 -0.6**
SNY Shenyang 47.51 355⇑ **P P 18 19 45.3 +0.4**
SNY S **S 18 26 08.5 -2.6**
SNY pmax pmax
comp=Z,40nm,0.6s
SNY LR LR
comp=Z,360nm,17.7s
SNY LR LR
comp=Z,480nm,18.6s
SNY LR LR
comp=Z,380nm,18.2s
LZH Lanzhou 47.56 333⇑ **P P 18 19 47.0 +1.4**
LZH pP PcP 18 21 05.8 -3.2
LZH sP PP 18 21 42.5 +1.2
LZH ScP **ScP 18 24 28.5 +1.1**
LZH S **S 18 26 12.5 0.0**
LZH pmax pmax
comp=Z,130nm,1.0s
LZH pmax pmax
comp=Z,870nm,5.7s
MSHR Mys Shultsa 48.11 3 *ceP* **P 18 19 50.4 +1.0**
VLA Vladivostok 48.69 3 *c iP* **P 18 19 54.5 +0.8**
VLA pmax pmax
comp=Z,36nm,1.2s
HHC Hu-ho-hao-te 48.86 343 *eP* **P 18 19 56.0 +0.7**
HHC pP PcP 18 21 13.5 0.0
HHC S **S 18 26 31.5 +1.3**
HHC sS sS 18 28 41.3 -2.9
HHC ScS **ScS 18 29 07.0 -0.7**
HHC pmax pmax
comp=Z,100nm,1.0s
HHC pmax pmax
comp=Z,540nm,6.8s
BTO Baotou 49.11 341 *eP* **P 18 19 56.5 -0.6**
ERM Erimo 49.34 14 *deP* **P 18 20 00.0 +1.4**
ERM pmax pmax
comp=Z,27nm,0.9s
CN2 Changchun 49.35 357 *eP* **P 18 19 58.8 +0.1**
CN2 *eS* **S 18 26 33.8 -2.8**
CN2 pmax pmax
comp=Z,40nm,1.0s
CN2 pmax pmax
comp=Z,200nm,6.0s
CN2 LR LR
comp=Z,220nm,17.0s
CN2 LR LR
comp=Z,410nm,17.0s
CN2 LR LR
comp=Z,310nm,17.0s
PALK Pallekele 49.40 285 P P 18 19 59.4 -0.3
comp=Z,60nm,0.8s,baz=115,slow=7.6,SNR=35
PALK PcP **PcP 18 21 17.1 +1.2**
comp=Z,59nm,1.2s,baz=117,slow=3.9,SNR=4.3
PALK Pallekele 49.40 285 *i P* **P 18 19 59.4 -0.3**
SNR=10
PALK Pallekele 49.40 285 *ceP* **P 18 19 59.8 +0.1**
USRK Ussuriysk Ar. 49.77 3 P P 18 20 02.7 +0.9
comp=Z,27nm,0.5s,baz=182,slow=7.3,SNR=120
USRK ScP **ScP 18 24 35.7 -0.7**
comp=Z,6.3nm,0.7s,baz=193,slow=3.3,SNR=4.8
USRK S **S 18 26 43.6 +1.2**
comp=Z,4.9nm,1.0s,baz=177,slow=13,SNR=4.3
MSVF Nonsavu 49.83 108 *eP* **P 18 20 04.4 +1.5**
MSVF Nonsavu 49.83 108 *deP* **P 18 20 04.2 +1.3**
MSVF pmax pmax
comp=Z,79nm,1.0s
MDJ Mudanjiang 50.09 1 P P 18 20 03.3 -1.0
MDJ PP **PP 18 22 04.5 +0.7**
MDJ ScP **ScP 18 24 36.3 -1.5**
MDJ PcS **PcS 18 25 14.3 -1.0**
MDJ S **S 18 26 46.5 -0.3**
MDJ SS **SS 18 30 21.8 -3.9**
MDJ pmax pmax
comp=Z,51nm,1.3s
MDJ pmax pmax
comp=Z,140nm,4.8s
MDJ Mudanjiang 50.09 1 *eP* **P 18 20 05.1 +0.8**
comp=Z,96nm,1.4s
LSA Lhasa 50.23 317 P P 18 20 07.5 +1.3
LSA pmax pmax
comp=Z,190nm,1.1s
LSA Lhasa 50.23 317 *eP* **P 18 20 07.5 +1.3**
comp=Z,167nm,0.8s
LSA Lhasa 50.23 317 *i P* **P 18 20 06.9 +0.7**
SNR=36
LSA Lhasa 50.23 317 *eP* **P 18 20 07.5 +1.3**
LSA pmax pmax
comp=Z,167nm,0.8s
FUNA Funafuti 50.36 96 *eP* **P 18 20 07.3 +0.5**
comp=Z,µm,1.4s
TEY Ternei 51.03 7 *eP* **P 18 20 09.8 -1.3**
TEY pmax pmax
comp=Z,17nm,0.7s
ASAJ Asahikawa 51.19 13 P P 18 20 13.4 +1.0
comp=Z,6.9nm,0.3s,baz=235,slow=9.2,SNR=27
ASAJ S **S 18 27 01.8 0.0**
comp=Z,11nm,1.1s,baz=76,slow=24,SNR=5.9
ODAN Odare 51.28 311 *eP* **P 18 20 14.2 +0.5**
comp=Z,460nm,0.5s
ODAN Odare 51.28 311 *eP* **S 18 27 03.2 -0.9**
comp=Z,158nm,1.1s
ODAN Odare 51.28 311 *eP* **ScS 18 29 25.8 +0.6**
comp=Z,32nm,0.8s
RAMN Ramite 51.92 311 *eP* **P 18 20 19.4 +1.0**
comp=Z,1µm,0.6s
RAMN Ramite 51.92 311 *eP* **S 18 27 11.1 -1.7**
comp=Z,82nm,0.8s
RAMN Ramite 51.92 311 *eP* **ScS 18 29 29.9 +0.2**
comp=Z,130nm,1.2s
GTA Gaotai 52.12 332⇑ **P P 18 20 20.5 +1.0**
GTA PcP **PcP 18 21 27.0 +1.3**
GTA pP pP 18 21 33.3 -2.1
GTA sP sP 18 22 12.8 -3.3
GTA PP **PP 18 22 22.0 -0.4**
GTA ScP **ScP 18 24 48.8 +1.9**
GTA PcS **PcS 18 25 23.8 -0.8**
GTA S **S 18 27 13.8 -1.1**
GTA ScS **ScS 18 29 30.0 -0.4**
GTA pmax pmax
comp=Z,220nm,1.3s
GTA pmax pmax
comp=Z,900nm,5.4s
GTA LR LR
comp=Z,280nm,18.5s
GTA LR LR
comp=Z,220nm,18.1s
GTA LR LR
comp=Z,230nm,20.9s
JIRN Jiri 52.61 311 *eP* **P 18 20 24.2 +0.7**
comp=Z,698nm,0.5s
JIRN Jiri 52.61 311 *eP* **S 18 27 21.8 -0.5**
comp=Z,217nm,1.2s
JIRN Jiri 52.61 311 *eP* **ScS 18 29 33.5 -1.3**
comp=Z,164nm,1.4s
GUN Gumba 52.98 311 *eP* **P 18 20 26.8 +0.6**
comp=Z,671nm,0.6s
GUN Gumba 52.98 311 *eP* **S 18 27 27.3 +0.1**
comp=Z,277nm,1.2s
GUN Gumba 52.98 311 *eP* **ScS 18 29 36.0 -1.4**
comp=Z,103nm,1.0s
PKIN Phulchoki 53.16 311 *eP* **P 18 20 27.8 +0.4**
comp=Z,184nm,0.5s
PKIN Phulchoki 53.16 311 *eP* **S 18 27 28.1 -1.4**
comp=Z,343nm,1.3s
PKIN Phulchoki 53.16 311 *eP* **ScS 18 29 37.6 -0.9**
comp=Z,306nm,0.9s
RPZ Rata Peaks 53.17 142 P P 18 20 27.6 +0.7
comp=Z,37nm,0.5s,baz=300,slow=3.1,SNR=27
RPZ Rata Peaks 53.17 142 *eP* **P 18 20 28.5 +1.6**
THZ Tophouse 53.33 139 *eP* **P 18 20 30.0 +1.9**
KKN Kakani 53.36 311 *eP* **P 18 20 29.3 +0.5**
comp=Z,415nm,0.6s
KKN Kakani 53.36 311 *eP* **S 18 27 31.2 -0.9**
comp=Z,116nm,1.1s
KKN Kakani 53.36 311 *eP* **ScS 18 29 38.8 -1.0**
comp=Z,75nm,1.2s
DMN Daman 53.40 311 *eP* **P 18 20 29.8 +0.7**
comp=Z,684nm,1.0s
DMN Daman 53.40 311 *eP* **S 18 27 31.5 -1.2**
comp=Z,210nm,1.4s
DMN Daman 53.40 311 *eP* **ScS 18 29 39.9 -0.3**
comp=Z,65nm,1.1s
YSS Yuzh-Sakhalins 53.93 12 *eP* **P 18 20 32.9 +0.7**
YSS Yuzh-Sakhalins 53.93 12⇑ *eP* **P 18 20 32.4 +0.3**
YSS *i* S **S 18 27 34.0 -4.4**
YSS *e* 18 29 40.0
YSS pmax pmax
comp=Z,20nm,1.0s
YSS pmax pmax
comp=Z,100nm,3.0s
YSS smax smax
comp=N,300nm,8.0s
YSS smax smax
comp=E,500nm,10.0s
GKN Gorkha 53.96 311 *eP* **P 18 20 33.5 +0.5**
comp=E,288nm,0.3s
GKN Gorkha 53.96 311 *eP* **S 18 27 39.1 -0.8**
comp=E,141nm,1.1s
GKN Gorkha 53.96 311 *eP* **ScS 18 29 42.3 -1.6**
comp=E,38nm,1.0s
KHZ Kahutara 54.06 140 *eP* **P 18 20 33.8 +0.5**
HYB Hyderabad 54.40 296 *i P* **P 18 20 35.0 -1.2**
comp=E,296nm,0.8s
HYB *e* 18 21 24.0
HYB *eS* cP **ScP 18 24 58.0 +0.8**
HYB *eS* **S 18 27 40.0 -5.9**
BKZ Black Stump Fm 54.57 135 *eP* **P 18 20 37.6 +0.5**
KOLN Koldanda 54.62 310 *eP* **P 18 20 38.7 +0.9**
comp=E,438nm,0.6s
KOLN Koldanda 54.62 310 *eP* **S 18 27 48.0 -0.9**
comp=E,40nm,0.9s
KOLN Koldanda 54.62 310 *eP* **ScS 18 29 48.7 -0.1**
comp=E,25nm,0.8s
URZ Urewera 54.64 134 *eP* **P 18 20 37.6 +0.2**
KLR Kul'dur 54.77 3 P P 18 20 39.0 +0.8
comp=E,0.8nm,0.6s,baz=192,slow=5.9,SNR=32
KLR ScP **ScP 18 24 58.4 +0.3**
comp=E,1.4nm,0.7s,baz=201,slow=3.8,SNR=16
KLR S **S 18 27 50.3 +0.7**
comp=E,0.6nm,1.1s,baz=325,slow=20,SNR=14
KLR Kul'dur 54.77 3 *c iP* **P 18 20 38.8 +0.6**
DANN Dangsing 54.80 311 *eP* **P 18 20 39.6 +0.5**
comp=E,246nm,0.5s
DANN Dangsing 54.80 311 *eP* **S 18 27 51.3 0.0**
comp=E,266nm,1.3s
DANN Dangsing 54.80 311 *eP* **ScS 18 29 48.3 -2.0**
comp=E,120nm,1.0s
PYUN Piuthan 55.26 310 *eP* **P 18 20 43.0 +0.7**
comp=E,2µm,0.9s
PYUN Piuthan 55.26 310 *eP* **S 18 27 57.4 +0.2**
comp=E,314nm,1.5s
PYUN Piuthan 55.26 310 *eP* **ScS 18 29 52.3 -1.1**
comp=E,50nm,0.9s
HIA Hailar 55.27 353 *eP* **P 18 20 42.0 +0.3**
comp=E,15nm,0.7s
HIA Hailar 55.27 353 *c iP* **P 18 20 42.4 +0.7**
HIA pmax pmax
comp=Z,23nm,1.2s
H08S2 Diego Garcia H 55.62 265 P P 18 20 45.7 +1.2
baz=56,slow=7.7,SNR=9.1
H08S3 Diego Garcia H 55.63 265 P P 18 20 45.7 +1.0
baz=56,slow=7.7,SNR=9.3
H08S1 Diego Garcia H 55.64 265 P P 18 20 45.6 +0.9
baz=56,slow=7.7,SNR=9.6
DGAR Diego Garcia 55.67 265 *eP* **P 18 20 46.6 +1.4**
DGAR Diego Garcia 55.67 265 *ceP* **P 18 20 45.9 +0.7**
ULN Ulaanbaatar 56.58 343 *eP* **P 18 20 52.5 +1.4**
comp=Z,116nm,1.0s
ULN Ulaanbaatar 56.58 343 P P 18 20 52.9 +1.8
SNR=66
ULN Ulaanbaatar 56.58 343 P P 18 20 52.9 +1.8
SNR=66
ULN Ulaanbaatar 56.58 343 *c iP* **P 18 20 52.4 +1.3**
ULN pmax pmax
comp=Z,172nm,1.4s
GRNR Gornyy 56.66 6 *eP* **P 18 20 51.6 +0.2**
GRNR *i* 18 23 11.4
GRNR *i* 18 28 16.0
GRNR pmax pmax
comp=Z,40nm,0.9s
SONM Songino Array 56.75 342 P P 18 20 53.5 +1.3
comp=Z,40nm,0.6s,baz=161,slow=6.4,SNR=169
SONM S **S 18 28 17.3 +1.4**
comp=Z,4.1nm,1.2s,baz=154,slow=14,SNR=5.2
TYV Tymovskoe 57.65 11 *eP* **P 18 20 59.5 +1.3**
TYV pmax pmax
comp=Z,13nm,1.4s
CIT Chita 58.90 349 *eP* **P 18 21 08.4 +1.6**
CIT pmax pmax
comp=Z,113nm,1.4s
POO Poona 58.99 295⇑ *iPS* **P 18 21 04.0 -4.1**
comp=Z,510nm,1.0s
ZEA Zeya 59.22 359 *eP* **P 18 21 09.9 +0.9**
ZEA *eS* **S 18 28 47.0 -0.1**
ZEA *e* 18 30 21.5
ZEA pmax pmax
comp=N,56nm,1.4s
ZEA pmax pmax
comp=Z,64nm,1.4s
ZEA smax smax
comp=E,500nm,6.0s
AFI Afiamalu 59.29 103 P P 18 21 10.6 +0.3
comp=E,55nm,0.8s,baz=265,slow=12,SNR=7.3
NKL Nikolayevsk 59.53 8 *i P* **P 18 21 12.8 +1.8**
NKL *e* 18 28 53.0
NKL pmax pmax
comp=N,8.0nm,0.7s
NKL pmax pmax
comp=E,18nm,0.7s
NKL pmax pmax
comp=Z,29nm,0.7s
ZAK Zakamensk 59.96 342 *eP* **P 18 21 14.7 +0.6**
ZAK pmax pmax
comp=Z,40nm,1.2s
TLY Talaya 60.99 343 P P 18 21 22.4 +1.4
comp=Z,13nm,0.4s,baz=178,slow=6.5,SNR=15
TLY Talaya 60.99 343 *eP* **P 18 21 21.8 +0.9**
comp=Z,42nm,0.8s
TLY Talaya 60.99 343 P P 18 21 22.9 +2.0
SNR=16
TLY Talaya 60.99 343 P P 18 21 22.9 +2.0
SNR=16
TLY Talaya 60.99 343 *c iP* **P 18 21 22.3 +1.4**
TLY *eS* **S 18 29 13.1 +3.5**
TLY pmax pmax
comp=Z,91nm,1.4s
IRK Irkutsk 61.30 343 *eP* **P 18 21 23.8 +0.9**
IRK *eS* **S 18 29 17.7 +4.3**
IRK pmax pmax
comp=Z,207nm,3.1s
WMQ Urumqi 61.50 327 P P 18 21 26.0 +1.5
WMQ PcP **PcP 18 22 07.8 +5.4**

WMQ ScP **ScP** **18 25 23.5 -4.6**
WMQ S **S** **18 29 17.5 +1.2**
WMQ ScS **SKSac** **18 30 36.8 -1.9**
WMQ pmax pmax
comp=Z,710nm,1.3s
WMQ pmax pmax
comp=Z,2µm,3.6s
WMQ LR LR
comp=Z,610nm,19.7s
WMQ LR LR
comp=Z,460nm,19.7s
WMQ LR LR
comp=Z,290nm,26.3s
CASY **Casey** **61.76 188** *e*P **P** **18 21 25.8 +0.1**
comp=Z,6.5nm,0.9s
MOY **Mondy** **61.80 341** *e*P **P** **18 21 28.3 +1.9**
MOY pmax pmax
comp=Z,235nm,1.6s
KNGR **Kungurtug, Tuv** **62.12 338** *i* P **P** **18 21 29.7 +1.2**
CLNS **Chul'man** **62.39 358** *e*P **P** **18 21 30.4 +0.3**
CLNS pmax pmax
comp=E,8.0nm,1.0s
CLNS pmax pmax
comp=Z,21nm,1.1s
CLNS pmax pmax
comp=N,16nm,1.2s
PETK **Petropavlovsk-** **63.58 19** P **P** **18 21 39.2 +1.4**
comp=N,38nm,0.7s,baz=187,slow=4.6,SNR=44
PETK PcP **PcP** **18 22 09.7 -0.9**
comp=N,28nm,0.8s,baz=181,slow=3.4,SNR=17
PET **Petropavlovsk** **63.82 20** *e*P **P** **18 21 40.6 +1.2**
PET *e* 18 22 11.6
PET *e**PP **pP** **18 23 01.3 +2.3**
PET *e*S **S** **18 29 43.0 -1.5**
PET *e*SP **SPn** **18 29 59.8 -2.9**
PET 18 37 01.7
PET pmax pmax
comp=Z,49nm,1.0s
PET pmax pmax
comp=Z,100nm,14.4s
HVS **Khovu-Aksy** **64.01 336***d* *i*P **P** **18 21 41.9 +1.1**
HVS pmax pmax
comp=Z,274nm,1.0s
NIL **Nilore** **65.24 311** *e*P **P** **18 21 49.2 +0.2**
comp=Z,234nm,0.5s
NIL **Nilore** **65.24 311** *e*P **P** **18 21 49.2 +0.2**
NIL pmax pmax
comp=Z,234nm,0.5s
ZSN **Zaisan** **65.39 329**⇑ *i*P **P** **18 21 50.7 +1.1**
comp=Z,212nm,1.0s
DGZ **Jazzator, Alta** **65.66 332** *i* P **P** **18 21 52.3 +0.9**
DGZ pmax pmax
comp=Z,118nm,1.2s
SHLS **Shalkode** **65.78 323**⇑ *i*P **P** **18 21 52.2 -0.1**
comp=Z,2µm,0.7s
PDGK **Podgornoye** **65.86 323** P **P** **18 21 53.7 +0.9**
PDGK pmax pmax
comp=Z,195nm,1.3s
UZB **Uzynbulak** **66.04 323**⇑ *i*P **P** **18 21 55.2 +1.2**
comp=Z,1µm,1.2s
KSH **Kashi** **66.06 318** P **P** **18 21 55.8 +1.7**
KSH sP sP 18 23 58.0 +4.1
KSH PP **PP** **18 24 28.3 +3.1**
KSH S **S** **18 30 13.8 +1.5**
KSH ScS **ScS** **18 31 16.0 +1.9**
KSH pmax pmax
comp=Z,870nm,2.7s
KSH LR LR
comp=Z,280nm,7.1s
KSH LR LR
comp=Z,240nm,5.2s
KSH LR LR
comp=Z,550nm,5.6s
MK31 **Makanchi Array** **66.33 327***ce*P **P** **18 21 56.4 +0.8**
MK31 pmax pmax
comp=Z,105nm,0.6s
MKAR **Makanchi Array** **66.33 327** P **P** **18 21 56.7 +1.1**
comp=Z,113nm,0.5s,baz=115,slow=8.8,SNR=1894
MKAR S **S** **18 30 16.9 +1.8**
comp=Z,11nm,1.1s,baz=131,slow=13,SNR=13
MKAR PKPPKP **P'P'df** **18 50 22.1 -5.0**
comp=Z,0.3nm,0.8s,baz=278,slow=4.2,SNR=3.8
SATY **Saty** **66.37 322**⇑ *i*P **P** **18 21 57.4 +1.4**
comp=Z,3µm,0.9s
ZHN **Zhinishke** **66.41 322**⇑ *i*P **P** **18 21 57.5 +1.2**
comp=Z,939nm,0.7s
KPKS **Kokpek** **66.43 323**⇑ *i*P **P** **18 21 57.6 +1.2**
comp=Z,3µm,0.7s
MAKZ **Makanchi** **66.50 327** P **P** **18 21 57.1 +0.4**
MAKZ pmax pmax
comp=Z,228nm,1.1s
MDOK **Medeo** **67.26 322** *i* P **P** **18 22 03.1 +1.4**
comp=Z,756nm,1.2s
MDOK eS **S** **18 30 29.3 +2.7**
MDOK *e*ScS **ScS** **18 31 26.3 +2.9**
ULHL **Ulahol** **67.28 320** P **P** **18 22 03.1 +1.2**
SNR=62
AAA **Alma-Ata** **67.37 322** *e*P **P** **18 22 03.9 +1.7**
comp=Z,520nm,1.3s
MA2 **Magadan** **67.43 12** P **P** **18 22 03.1 +0.9**
comp=Z,23nm,0.9s,baz=179,slow=2.5,SNR=14
YAK **Yakutsk** **67.54 1** P **P** **18 22 03.4 +0.7**
comp=Z,76nm,0.3s,baz=180,slow=1.1,SNR=72
YAK S **S** **18 30 29.0 +0.3**
comp=Z,5.6nm,0.3s,baz=254,slow=23,SNR=84
YAK **Yakutsk** **67.54 1** *i* P **P** **18 22 03.1 +0.4**
YAK pmax pmax
comp=Z,60nm,0.8s
KZA **Kyzart** **67.82 320** P **P** **18 22 07.4 +1.9**
SNR=29
TKM2 **Tokmak 2** **68.04 321** P **P** **18 22 07.8 +1.3**
SNR=18
TKM2 **Tokmak 2** **68.04 321** P **P** **18 22 07.5 +1.0**
TKM2 pmax pmax
comp=Z,175nm,1.4s
KUU **Kurty** **68.08 322**⇑ *i*P **P** **18 22 07.7 +1.2**
comp=Z,2µm,0.8s
BMNS **Besmoynak** **68.09 321**⇑ *i*P **P** **18 22 07.9 +1.2**
comp=Z,1µm,0.9s
KRAR **Krasnoyarsk** **68.12 339**⇓ *e*P **P** **18 22 07.5 +1.1**
KBK **Karagaybulak** **68.31 320** P **P** **18 22 09.6 +1.5**
SNR=10
UCH **Uchtor** **68.37 320** P **P** **18 22 10.4 +1.5**
SNR=146
AAK **Ala-Archa** **68.59 320** S **S** **18 30 44.9 +2.6**
comp=Z,1.8nm,0.8s,baz=294,slow=20,SNR=9.3
AAK PKP2bc 18 50 22.4
comp=Z,5.5nm,1.1s,baz=232,slow=3.5,SNR=11
AAK **Ala-Archa** **68.59 320** P **P** **18 22 11.5 +1.7**
SNR=138
AAK **Ala-Archa** **68.59 320** *e*P **P** **18 22 11.3 +1.4**
comp=Z,143nm,1.1s
AAK S **S** **18 30 44.9 +2.6**
AAK ⇑*e* 18 50 22.4
AAK **Ala-Archa** **68.59 320** P **P** **18 22 11.7 +1.9**
SNR=78
AAK **Ala-Archa** **68.59 320** P **P** **18 22 11.7 +1.9**
SNR=78
AAK **Ala-Archa** **68.59 320** *i* P **P** **18 22 11.4 +1.6**
SNR=183
AAK **Ala-Archa** **68.59 320***c* *i*P **P** **18 22 11.1 +1.2**
AAK pmax pmax
comp=Z,159nm,1.1s
CHMS **Chumysh** **68.61 321** P **P** **18 22 10.7 +0.9**
SNR=31
FRU **Bishkek** **68.61 320**⇑ *e*P **P** **18 22 10.0 +0.2**
FRU *e* 18 22 36.0
FRU pmax pmax
comp=Z,200nm,1.8s
AML **Almayashu** **68.85 319** P **P** **18 22 13.4 +1.7**
SNR=18
USP **Ospenovka** **68.90 321** P **P** **18 22 12.9 +1.3**
SNR=8.7
EKS2 **Erkin-Say** **69.06 320** P **P** **18 22 14.4 +1.7**
SNR=6.5
SEM **Semipalatinsk** **69.62 329**⇑ *i*P **P** **18 22 16.4 +0.4**
comp=Z,2µm,1.3s
ZALV **Zalesovo Beam** **69.77 334** P **P** **18 22 16.7 +0.2**
comp=Z,62nm,0.5s,baz=123,slow=4.6,SNR=203
ZALV S **S** **18 30 53.8 -1.2**
comp=Z,8.5nm,0.8s,baz=194,slow=11,SNR=8.3
MNAS **Manas** **69.80 319** P **P** **18 22 18.7 +1.5**
MNAS pmax pmax
comp=Z,223nm,1.1s
KURBB **Kurchatov Arra** **70.63 329** P **P** **18 22 22.6 +0.8**
comp=Z,122nm,0.5s,baz=128,slow=5.0,SNR=828

KURBB S **S** **18 31 00.1 -5.1**
comp=Z,5.7nm,1.1s,baz=141,slow=13,SNR=19
KURBB PKP2ab 18 50 15.8
comp=Z,0.5nm,0.7s,baz=308,slow=4.6,SNR=6.1
KURK **Kurchatov** **70.64 329** P **P** **18 22 22.6 +0.8**
KURK S **S** **18 31 00.1 -5.1**
KURK P'P'ab **P'P'ab** **18 50 15.8 -2.6**
KURK **Kurchatov** **70.64 329** P **P** **18 22 23.0 +1.2**
SNR=153
KURK **Kurchatov** **70.64 329** P **P** **18 22 23.0 +1.2**
SNR=153
KURK **Kurchatov** **70.64 329** P **P** **18 22 22.6 +0.8**
KURK S **S** **18 31 00.1 -5.1**
DZA **Taraz** **70.75 319**⇑ *i*P **P** **18 22 24.0 +1.2**
comp=Z,1µm,1.0s
SEY **Seymchan** **70.82 11** P **P** **18 22 24.1 +1.4**
comp=Z,40nm,0.7s,baz=208,slow=4.7,SNR=155
SEY S **S** **18 31 08.6 +1.7**
comp=Z,0.8nm,0.2s,baz=74,slow=20,SNR=19
SEY **Seymchan** **70.82 11***ce*P **P** **18 22 23.9 +1.2**
NVS **Novosibirsk** **71.05 334** *e*P **P** **18 22 24.8 +0.6**
NVS *e*S **S** **18 31 06.1 -3.7**
NVS pmax pmax
comp=N,78nm,1.2s
NVS pmax pmax
comp=E,108nm,1.2s
NVS pmax pmax
comp=Z,200nm,1.2s
NVS smax smax
comp=N,265nm,2.3s
NVS smax smax
comp=E,454nm,2.5s
IUG **Iuzhnay** **71.27 318**⇑ *i*P **P** **18 22 27.4 +1.5**
comp=E,2µm,1.0s
KK31 **Karatay Array** **71.38 319***ce*P **P** **18 22 27.2 +0.7**
KK31 pmax pmax
comp=Z,155nm,1.2s
KKAR **Karatay Array** **71.38 319** *e*P **P** **18 22 27.2 +0.7**
comp=Z,192nm,1.2s
KKAR **Karatay Array** **71.38 319** *e*P **P** **18 22 27.2 +0.7**
KKAR pmax pmax
comp=Z,192nm,1.2s
WBK **Wadi Bani Khal** **73.50 295** P **P** **18 22 41.1 +1.8**
SNR=16
WBK **Wadi Bani Khal** **73.50 295** P **P** **18 22 41.1 +1.8**
SNR=16
VNDA **Vanda** **73.91 173** P **P** **18 22 40.6 +0.1**
comp=Z,4.1nm,0.6s,baz=321,slow=6.6,SNR=17
VNDA pP **pP** **18 24 01.4 -1.4**
comp=Z,2.6nm,0.7s,baz=314,slow=6.6,SNR=1.4
WSAR **Wadi Sarin** **73.95 296** P **P** **18 22 43.1 +1.2**
comp=Z,82nm,0.6s,baz=135,slow=5.8,SNR=108
JMDO **Jabal Madar** **74.23 295** P **P** **18 22 47.1 +3.7**
SNR=9.7
JMDO **Jabal Madar** **74.23 295** P **P** **18 22 47.1 +3.7**
SNR=9.7
SMDO **Samad** **74.43 296** P **P** **18 22 47.0 +2.3**
SNR=20
SMDO **Samad** **74.43 296** P **P** **18 22 47.0 +2.3**
SNR=20
BIDO **Bidbid** **74.47 296** P **P** **18 22 46.3 +1.5**
SNR=103
BIDO **Bidbid** **74.47 296** P **P** **18 22 46.3 +1.5**
SNR=103
SBA **Scott Base** **74.82 172** *e*P **P** **18 22 46.2 +0.5**
comp=Z,3.6nm,0.8s
SBA **Scott Base** **74.82 172** *e*P **P** **18 22 46.2 +0.5**
SBA pmax pmax
comp=Z,4.0nm,0.8s
SHAO **Shalim** **75.61 290** *i* P **P** **18 22 51.9 +0.6**
SNR=6.4
MAW **Mawson** **75.61 201** P **P** **18 22 50.9 +0.5**
comp=Z,3.7nm,0.4s,baz=80,slow=5.4,SNR=15
MAW **Mawson** **75.61 201** P **P** **18 22 51.0 +0.6**
baz=76,SNR=6.1
SOHO **SOHO** **76.03 296** *i* P **P** **18 22 54.4 +0.8**
SNR=77
BVA0 **Borovoye Array** **76.17 328** P **P** **18 22 54.1 +0.3**
BVA0 pmax pmax
comp=Z,121nm,1.2s
BVAR **Borovoye Array** **76.17 328** P **P** **18 22 54.4 +0.6**
comp=Z,23nm,0.4s,baz=126,slow=7.3,SNR=204
BVAR S **S** **18 32 06.6 -0.2**
comp=Z,5.1nm,1.1s,baz=136,slow=5.2,SNR=7.0
BRVK **Borovoye** **76.25 328** *e*P **P** **18 22 54.8 +0.7**
comp=Z,218nm,0.9s
BRVK **Borovoye** **76.25 328** P **P** **18 22 54.9 +0.7**
SNR=44
BRVK **Borovoye** **76.25 328** P **P** **18 22 54.9 +0.7**
SNR=44
BRVK **Borovoye** **76.25 328***c* *i*P **P** **18 22 54.7 +0.5**
BRVK pmax pmax
comp=Z,129nm,1.1s
MDH **Madha** **76.50 298** *i* P **P** **18 22 56.0 -0.2**
SNR=14
UOSS **Minazif** **76.50 297** *i* P **P** **18 22 56.3 +0.1**
SNR=19
HATD **Hatta, Dubai** **76.54 297** P **P** **18 22 58.0 +1.5**
SNR=36
HATD **Hatta, Dubai** **76.54 297** P **P** **18 22 58.0 +1.5**
SNR=36
HATD **Hatta, Dubai** **76.54 297** *i* P **P** **18 22 57.3 +0.9**
SNR=28
ASHO **Ashiyiah** **76.57 297** P **P** **18 22 57.9 +1.2**
SNR=40
ASHO **Ashiyiah** **76.57 297** P **P** **18 22 57.9 +1.2**
SNR=40
ASHO **Ashiyiah** **76.57 297** *i* P **P** **18 22 57.6 +0.9**
SNR=45
MSFE **Esma-Masafi** **76.63 298** *i* P **P** **18 22 58.0 +1.0**
SNR=53
BANOM **Banah** **76.64 298** P **P** **18 22 58.8 +1.8**
SNR=26
BANOM **Banah** **76.64 298** P **P** **18 22 58.8 +1.8**
SNR=26
BANOM **Banah** **76.64 298** *i* P **P** **18 22 57.8 +0.8**
SNR=20
ALNE **Al Ain** **76.71 296** *i* P **P** **18 22 58.3 +0.9**
SNR=25
SHME **Shamm** **76.80 298** *i* P **P** **18 22 59.1 +1.1**
SNR=19
KIP **Kipapa** **76.84 67**⇓ *e*P **P** **18 23 00.2 +2.1**
KIP pmax pmax
comp=Z,1µm,1.5s
NAZ **Nazwa, Dubai** **76.99 297** P **P** **18 22 60.0 +1.1**
SNR=11
NAZ **Nazwa, Dubai** **76.99 297** P **P** **18 22 60.0 +1.1**
SNR=11
NAZ **Nazwa, Dubai** **76.99 297** *i* P **P** **18 22 59.5 +0.6**
SNR=17
TIXI **Tiksi** **77.19 0** P **P** **18 22 58.7 -0.4**
comp=Z,22nm,0.4s,baz=138,slow=5.8,SNR=156
TIXI S **S** **18 32 14.4 -2.6**
comp=Z,23nm,1.0s,baz=143,slow=11,SNR=60
WHFO **Wadi Hawf** **77.32 290** P **P** **18 23 03.0 +2.0**
SNR=7.3
BILL **Bilibino** **78.20 14** *i* P **P** **18 23 04.3 -0.3**
BILL *i* 18 23 14.3
BILL *i* 18 26 02.7
BILL pmax pmax
comp=Z,4.0nm,0.9s
GEYT **Alibeck** **78.24 310** P **P** **18 23 06.7 +1.2**
comp=Z,31nm,0.8s,baz=150,slow=3.3,SNR=93
GEYT PP **PP** **18 26 09.2 +0.8**
comp=Z,19nm,1.1s,baz=93,slow=3.0,SNR=6.8
OPO **Ambohidratompo** **79.99 252** P **P** **18 23 15.9 +0.4**
comp=Z,28nm,0.7s,baz=90,slow=5.3,SNR=36
AB31 **Akbulak array** **80.57 322***ce*P **P** **18 23 17.7 0.0**
AB31 pmax pmax
comp=Z,25nm,0.5s
AKTO **Aktyubinsk** **82.14 323** P **P** **18 23 26.4 +0.6**
comp=Z,30nm,0.4s,baz=104,slow=6.5,SNR=146
AKTO S **S** **18 33 09.0 -0.2**
comp=Z,1.7nm,0.5s,baz=306,slow=2.2,SNR=13
PMOR **Pomariorio Ree** **82.39 104** *e*P **P** **18 23 29.7 +1.9**
comp=Z,156nm,1.0s
VAH **Vaihoa** **82.63 105** *e*P **P** **18 23 30.6 +1.5**
comp=Z,135nm,1.2s
SVE **Sverdlovsk** **82.89 329***d* *i*P **P** **18 23 30.2 +0.7**
SVE pmax pmax
comp=Z,247nm,1.3s
ARU **Arti** **83.82 328** S **SKSac** **18 33 18.2 -2.9**
comp=Z,4.7nm,0.9s,baz=213,slow=22,SNR=7.7
ARU **Arti** **83.82 328** *e*P **P** **18 23 33.7 -0.5**
comp=Z,133nm,1.0s
ARU S **SKSac** **18 33 18.2 -2.9**
ARU **Arti** **83.82 328***c* *i*P **P** **18 23 34.3 +0.1**

ARU 18 26 51.0
ARU S **S** **18 33 21.6 -4.1**
ARU pmax pmax
comp=Z,151nm,1.2s
QSPA **South Pole Qui** **84.27 180** P **P** **18 23 35.9 -0.5**
comp=Z,3.3nm,0.4s,baz=286,slow=0.9,SNR=31
QSPA S **SKSac** **18 33 17.4 -6.6**
comp=Z,5.5nm,1.1s,baz=106,slow=20,SNR=20
QSPA **South Pole Qui** **84.27 180** *e*P **P** **18 23 35.6 -0.9**
comp=Z,34nm,0.9s
QSPA S **S** 18 33 17.4 -13
SYO **Syowa Base** **84.33 201**⇑ *e*P **P** **18 23 35.6 -0.9**
DAMY **Dhamar** **85.74 285** *e*P **P** **18 23 47.0 +2.0**
comp=Z,123nm,1.0s
RAYN **Ar Rayn** **85.85 294** *e*P **P** **18 23 45.7 +0.6**
comp=Z,136nm,0.9s
AKT **Akhty** **86.85 312** *e*P **P** **18 23 50.6 +1.1**
AKT *e* 18 27 16.5
AKT *e*S **SKSac** **18 33 37.1 -3.9**
AKT *e* 18 33 57.0
AKT pmax pmax
comp=Z,95nm,1.0s
ATD **Arta Tunnel** **86.88 282** P **P** **18 23 52.2 +2.1**
comp=Z,35nm,0.8s,baz=29,slow=2.8,SNR=20
MAK **Makhachkala** **87.28 313** *e*P **P** **18 23 47.5 -3.8**
MAK *e**PP pP 18 25 08.2 -8.5
MAK *e* 18 27 16.4
MAK *e*S **SKSac** **18 33 39.1 -4.1**
MAK *e*SS **SS** **18 39 51.1 -2.9**
MAK *e*SSS SSS 18 43 28.0
MAK pmax pmax
comp=Z,111nm,0.8s
GROC **Groznyy** **88.56 313** *e*P **P** **18 23 56.8 -0.6**
GROC *e**PP **pP** **18 25 25.1 +2.1**
GROC *e* 18 27 30.3
GROC *e*S **SKSac** **18 33 48.6 -2.2**
GROC pmax pmax
comp=Z,96nm,1.4s
GNI **Garni** **88.87 310** P **P** **18 24 00.5 +1.3**
comp=Z,16nm,0.9s,baz=152,slow=3.2,SNR=16
GNI **Garni** **88.87 310** P **P** **18 24 00.9 +1.8**
SNR=9.4
GNI **Garni** **88.87 310** P **P** **18 24 00.9 +1.8**
SNR=9.4
GNI **Garni** **88.87 310** *i* P **P** **18 24 00.2 +1.1**
SNR=9.8
GNI **Garni** **88.87 310***c* *i*P **P** **18 24 00.2 +1.1**
GNI pmax pmax
comp=Z,101nm,1.3s
KDAK **Kodiak Island** **88.90 32** P **P** **18 23 59.0 +0.4**
comp=Z,9.3nm,0.6s,baz=253,slow=3.9,SNR=11
KDAK **Kodiak Island** **88.90 32***ce*P **P** **18 24 00.2 +1.6**
ZEI **Tsey** **89.87 313** *e*P **P** **18 24 02.4 -1.4**
ZEI pmax pmax
comp=Z,32nm,0.8s
AKH **Akhalkalaki** **89.99 311**⇑ *i*P **P** **18 24 06.4 +2.1**
ONI **Oni** **90.17 313** *e*P **P** **18 24 05.6 +0.6**
PPLA **Purkeypile** **90.18 27** *e*P **P** **18 24 04.7 0.0**
comp=Z,60nm,1.6s
NCK **Nalchik** **90.19 314**⇑ *e*P **P** **18 24 05.3 +0.3**
NCK pmax pmax
comp=Z,35nm,1.0s
KBZ **Khabaz** **90.72 314** P **P** **18 24 07.7 +0.3**
comp=Z,13nm,0.9s,baz=122,slow=2.6,SNR=37
GOF **Gofitskoye** **90.78 315**⇓ *e*P **P** **18 24 08.2 +0.5**
GOF pmax pmax
comp=Z,53nm,1.3s
NEY **Neytrino** **90.79 313**⇑ *e*P **P** **18 24 09.7 +1.7**
NEY pmax pmax
comp=Z,7.0nm,1.2s
KVAR **Kislovodsk Arr** **90.89 314** P **P** **18 24 08.6 +0.3**
comp=Z,9.3nm,0.9s,baz=128,slow=1.2,SNR=9.4
KVAR PP **PP** **18 27 50.6 +0.3**
comp=Z,50nm,1.2s,baz=331,slow=2.9,SNR=10
KIV **Kislovodsk** **90.90 314** *e*P **P** **18 24 08.3 0.0**
comp=Z,14nm,0.9s
KIV **Kislovodsk** **90.90 314** P **P** **18 24 09.3 +1.0**
SNR=5.5
KIV **Kislovodsk** **90.90 314** P **P** **18 24 09.3 +1.0**
SNR=5.5
KIV **Kislovodsk** **90.90 314** *e*P **P** **18 24 08.5 +0.1**
KIV *e* 18 27 49.4
KIV *e* 18 34 05.5
KIV pmax pmax
comp=Z,12nm,0.9s
KIV MLR MLR
comp=Z,66nm,20.0s
BPAW **Bear Paw Mtn.** **90.95 26** *e*P **P** **18 24 07.6 -0.5**
comp=Z,4.0nm,1.4s
RC01 **Rabbit Creek A** **90.97 29** *e*P **P** **18 24 08.0 -0.2**
comp=Z,9.4nm,0.7s
KMBO **Kilima Mbogo** **91.13 269** P **P** **18 24 11.1 +0.8**
comp=Z,12nm,1.0s,baz=49,slow=3.1,SNR=13
KMBO **Kilima Mbogo** **91.13 269** *i* P **P** **18 24 11.1 +0.8**
SNR=10.0
TRF **Thorofare Moun** **91.14 26** *e*P **P** **18 24 08.3 -0.8**
comp=Z,73nm,1.9s
PMR **Palmer** **91.34 28** *e*P **P** **18 24 09.8 -0.1**
comp=Z,23nm,1.0s
PMR **Palmer** **91.34 28** *e*P **P** **18 24 09.8 -0.1**
PMR pmax pmax
comp=Z,23nm,1.0s
SML **Sawmill** **91.75 28** *e*P **P** **18 24 11.9 0.0**
comp=Z,13nm,0.8s
SML **Sawmill** **91.75 28** *e*P **P** **18 24 11.9 0.0**
SML pmax pmax
comp=Z,13nm,0.8s
MCK **McKinley** **91.78 26** *e*P **P** **18 24 10.8 -1.1**
comp=Z,41nm,1.3s
MCK **McKinley** **91.78 26** *e*P **P** **18 24 10.8 -1.1**
MCK pmax pmax
comp=Z,41nm,1.3s
COLD **Coldfoot** **91.85 23** *e*P **P** **18 24 12.4 +0.3**
comp=Z,8.4nm,0.7s
TOLK **Toolik Lake Re** **92.33 21** P **P** **18 24 14.1 -0.2**
baz=260,SNR=18
VRH **Novokhopyorsk** **92.38 321** *e*P **P** **18 24 13.1 -1.7**
VRH pmax pmax
comp=Z,10.0nm,0.9s
COLA **College** **92.42 25** *e*P **P** **18 24 14.2 -0.6**
comp=Z,7.8nm,0.9s
COLA **College** **92.42 25** *e*P **P** **18 24 14.2 -0.6**
COLA pmax pmax
comp=Z,8.0nm,0.9s
ILAR **Eielson Array** **92.82 25** P **P** **18 24 15.2 -1.4**
comp=Z,6.1nm,0.9s,baz=264,slow=4.3,SNR=44
ILAR PP **PP** **18 27 57.0 -7.6**
comp=Z,2.5nm,1.0s,baz=264,slow=7.2,SNR=6.6
ILAR PKKP 18 44 28.7
comp=Z,0.7nm,0.7s,baz=14,slow=1.7,SNR=5.3
DIV **Divide** **92.88 29** *e*P **P** **18 24 17.7 +0.6**
comp=Z,55nm,1.1s
PAX **Paxson** **93.23 27** *e*P **P** **18 24 18.9 +0.2**
comp=Z,37nm,1.2s
PAX **Paxson** **93.23 27** *e*P **P** **18 24 18.9 +0.2**
PAX pmax pmax
comp=Z,37nm,1.2s
BMRM **Bremner River** **93.43 29** *e*P **P** **18 24 19.3 -0.3**
comp=Z,94nm,1.7s
VORD **Divnogorie** **93.88 321** *e*P **P** **18 24 20.6 -1.2**
VORD pmax pmax
comp=Z,20nm,0.8s
DOT **Dot Lake** **93.93 27** *e*P **P** **18 24 21.9 +0.1**
comp=Z,36nm,0.8s
VSR **Storozhevoye** **93.98 321** *e*P **P** **18 24 20.6 -1.6**
VSR pmax pmax
comp=Z,40nm,1.3s
LPSR **Galich'ya Gora** **94.22 322** *e*P **P** **18 24 22.3 -1.0**
LPSR pmax pmax
comp=Z,10.0nm,0.8s
ASF **Jabal al Asfar** **94.35 302** P **P** **18 24 25.4 +0.9**
comp=Z,15nm,1.0s,baz=65,slow=2.2,SNR=21
ASF PP **PP** **18 28 15.7 -1.8**
comp=Z,7.8nm,1.0s,baz=104,slow=3.5,SNR=3.7
KLMR **Klimovskoe** **94.43 331** *e*P **P** **18 24 21.4 -2.7**
KLMR AMP 18 24 23.6
comp=Z,35nm,1.3s
KLMR *e*PP **PP** **18 28 14.4 -2.8**
KLMR **Klimovskoe** **94.43 331** *e*P **P** **18 24 21.3 -2.8**
KLMR *e* 18 28 14.3
KLMR pmax pmax
comp=Z,35nm,1.3s
ANN **Anapa** **94.73 314**⇑ *i*P **P** **18 24 24.6 -1.2**
ANN *e**PP **pP** **18 25 51.1 -0.7**
ANN *i* S **SKSac** **18 34 23.8 -1.4**
ANN pmax pmax

comp=Z,30nm,0.9s
EGAK Eagle 95.26 25 *e*P **P** **18 24 27.9 +0.1**
comp=Z,13nm,1.1s
TMCR Tamitsa 95.29 334 *e*P **P** **18 24 26.3 -1.6**
TMCR pmax pmax
comp=Z,20nm,0.5s
MMAI Mount Meron Ar 95.66 303 P **P** **18 24 31.3 +0.9**
comp=Z,13nm,0.8s,baz=82,slow=6.1,SNR=20
OBN Obninsk 95.74 325 P **P** **18 24 29.4 -0.7**
comp=Z,12nm,0.5s,baz=33,slow=22,SNR=5.7
OBN Obninsk 95.74 325 *ce*P **P** **18 24 28.8 -1.3**
OBN *e* 18 28 29.0
OBN *e*S **SKSac** **18 34 32.8 +2.8**
OBN *e*SS **SS** **18 41 57.3 +3.3**
OBN pmax pmax
comp=Z,59nm,2.1s
DAWY Dawson 96.01 26 *e*P **P** **18 24 31.8 +0.5**
comp=Z,16nm,0.9s
SNAA Sanae 96.57 194 Pdiff **P** **18 24 33.9 +0.2**
SNAA Sanae 96.57 194 P **PKKPdf** **18 41 14.3 -4.4**
SNAA Sanae 96.57 194 P **SKKPdf** **18 44 18.9 +1.1**
SNAA Sanae 96.57 194 P **P** **18 24 34.4 +0.7**
comp=Z,0.8nm,0.5s,baz=173,slow=8.1,SNR=7.1
SNAA SKKP 18 44 18.7
comp=Z,1.5nm,0.9s,baz=217,slow=5.1,SNR=3.8
SNAA Sanae 96.57 194⇑ *e*P **P** **18 24 35.2 +1.5**
SNAA pmax pmax
comp=Z,41nm,0.4s
APA Apatity 97.18 337⇑ *i*P **P** **18 24 35.2 -1.1**
APA *i* *PP **pP** **18 26 01.0 -1.5**
APA pmax pmax
comp=Z,7.0nm,1.2s
BRTR Keskin Array B 97.34 309 P **P** **18 24 37.1 -0.8**
comp=Z,4.2nm,0.9s,baz=126,slow=5.6,SNR=30
BRTR PP **PP** **18 28 37.3 -3.0**
comp=Z,8.5nm,1.1s,baz=120,slow=7.7,SNR=10
CSS Mathiatis 97.46 304 *e*P **P** **18 24 37.7 -0.7**
comp=Z,3.7nm,0.9s
VNA2 Neumayer--Watz 98.15 193 Pdiff Pdif 18 24 42.4 +1.7
baz=131,slow=2.2
VNA2 Neumayer--Watz 98.15 193 P **PKKPbc** **18 41 11.3 -3.5**
baz=327,slow=5.5
VNA2 Neumayer--Watz 98.15 193 P **SKKPdf** **18 44 14.8 -0.1**
baz=321,slow=5.4
INK Inuvik 98.22 22 P Pdif 18 24 40.7 -0.3
comp=Z,6.6nm,1.0s,baz=272,slow=4.7,SNR=21
INK SKKP 18 44 15.3
comp=Z,1.5nm,0.6s,baz=85,slow=4.5,SNR=5.7
INK Inuvik 98.22 22 *e*P Pdif 18 24 40.6 -0.4
comp=Z,12nm,1.2s
INK SKKP 18 44 15.3
LSZ Lusaka 98.39 254 *e*P Pdif 18 24 43.2 0.0
comp=Z,6.5nm,0.9s
LSZ Lusaka 98.39 254 *e*P **P** **18 24 43.2 +0.1**
LSZ pmax pmax
comp=Z,6.0nm,0.9s
VNA3 Neumayer Olymp 98.42 193 Pdiff **P** **18 24 43.6 +1.6**
VNA3 Neumayer Olymp 98.42 193 P **PKKPbc** **18 41 09.7 -4.4**
VNA3 Neumayer Olymp 98.42 193 P **SKKPdf** **18 44 14.3 -0.1**
VNA1 Neumayer--Stat 98.55 193 P **SKKPdf** **18 44 13.2 -0.9**
BOSA Boshof 98.82 240 P Pdif 18 24 44.4 -0.5
comp=Z,3.2nm,1.0s,baz=96,slow=2.8,SNR=4.0
ARCES ARCESS Array B 99.85 340 P **Pdif** **18 24 47.5 -0.8**
comp=Z,7.6nm,0.7s,baz=83,slow=6.9,SNR=27
ARCES PKiKP **PKiKP** **18 29 14.4 +0.1**
comp=Z,1.6nm,0.7s,baz=98,slow=1.8,SNR=5.2
ARCES SKKP 18 44 10.3
comp=Z,9.4nm,1.1s,baz=298,slow=2.6,SNR=4.0
SPITS Spitsbergen Ar 100.01 349 P **Pdif** **18 24 49.1 +0.3**
comp=Z,3.1nm,0.4s,baz=23,slow=7.8,SNR=34
AKASG Malin Array B 100.26 320 P **Pdif** **18 24 49.2 -1.2**
comp=Z,1.3nm,0.5s,baz=76,slow=4.8,SNR=9.7
AKASG PP **PP** **18 29 01.1 -0.6**
comp=Z,3.1nm,0.8s,baz=79,slow=6.8,SNR=4.4
KIEV Kiev 100.27 320⇓ *e*P **Pdif** **18 24 49.5 -1.0**
TLCR 100.84 315⇑ *i*P **Pdif** **18 24 54.0 +0.8**
TLCR 100.84 315⇑ P **Pdif** **18 24 54.0 +0.8**
FINES FINESS Array B 100.91 331 P **Pdif** **18 24 52.2 -0.9**
comp=Z,2.6nm,0.6s,baz=55,slow=5.7,SNR=23
FINES PP **PP** **18 29 02.8 -3.5**
comp=Z,2.9nm,0.8s,baz=94,slow=12,SNR=3.3
FINES PKiKP **PKiKP** **18 29 16.5 +0.1**
comp=Z,1.2nm,0.6s,baz=116,slow=3.3,SNR=6.2
FINES S **SKSac** **18 34 55.5 -0.2**
comp=Z,4.4nm,1.0s,baz=350,slow=5.6,SNR=5.2
TIRR Tirgusor 101.16 314⇓ *i*P **Pdif** **18 24 55.1 +0.5**
TIRR Tirgusor 101.16 314⇓ P **Pdif** **18 24 55.1 +0.5**
CFR Carcaliu 101.32 315⇑ *i*P **Pdif** **18 24 54.8 -0.5**
CFR Carcaliu 101.32 315⇑ P **Pdif** **18 24 54.8 -0.5**
TLB Topalu 101.42 314⇑ *i*P **Pdif** **18 24 55.8 0.0**
TLB Topalu 101.42 314⇑ P **Pdif** **18 24 55.8 0.0**
VRI Vrincioaia 102.26 316⇑ *i*P **Pdif** **18 25 00.3 +0.8**
VRI Vrincioaia 102.26 316⇓ *i*P **SKSac** **18 35 03.2 +0.4**
VRI Vrincioaia 102.26 316⇑ P **Pdif** **18 25 00.3 +0.8**
MLR Muntele Rosu 102.84 315 P **Pdif** **18 25 01.4 -0.9**
comp=Z,1.2nm,1.0s,baz=154,slow=1.6,SNR=7.6
MLR S **SKSac** **18 35 05.8 0.0**
comp=Z,2.2nm,1.0s,baz=15,slow=24,SNR=9.2
MLR Muntele Rosu 102.84 315⇑ *i*P **Pdif** **18 25 01.3 -0.9**
MLR Muntele Rosu 102.84 315⇓ *i*P **SKSac** **18 35 07.6 +1.8**
BURAR Bucovina Array 103.14 317⇓ *i*P **Pdif** **18 25 04.4 +0.9**
BURAR Bucovina Array 103.14 317 ⇓P **Pdif** **18 25 04.4 +0.9**
KDZ Kurdzhali 103.54 311 *e*P **PP** **18 29 27.1 +0.6**
IDI Anoyia 104.37 305 PKiKP **PKiKP** **18 29 24.6 +1.0**
comp=Z,2.5nm,0.3s,baz=27,slow=4.5,SNR=9.4
MMB Musomiste 104.80 311 *e*P **PP** **18 29 35.1 -0.8**
VTS Vitosha 105.08 312⇓ *i*P **Pdif** **18 25 12.4 +0.1**
VTS Vitosha 105.08 312 *e*P **PP** **18 29 36.3 -1.7**
VTS Vitosha 105.08 312 ⇓P **Pdif** **18 25 12.4 +0.1**
KKB Krupnik 105.25 312 *e*P **PP** **18 29 36.8 -2.3**
CRVS Cervenica-Dubn 105.45 319 *e*PDIFF **Pdif** **18 25 15.3 +1.6**
CRVS Cervenica-Dubn 105.45 319 *e*P **Pdif** **18 25 15.3 +1.6**
STHS Stebnicka Huta 105.51 320 *e*PDIFF **Pdif** **18 25 16.2 +2.3**
STHS Stebnicka Huta 105.51 320 *e*P **Pdif** **18 25 16.2 +2.3**
VAY Valandovo 105.70 311 *e*P **Pdif** **18 25 09.1 -5.7**
HFS Hagfors 107.12 332 Pdiff **Pdif** **18 25 19.7 -1.1**
comp=Z,1.8nm,0.5s,baz=87,slow=6.1,SNR=11
VYHS Vyhne 107.24 319 *e*PP PP 18 29 55.1 +1.8
VYHS Vyhne 107.24 319 *e*P **PP** **18 29 55.6 +2.3**
YKA Yellowknife Ar 107.24 26 Pdiff **Pdif** **18 25 21.3 +0.1**
comp=Z,0.9nm,0.8s,baz=290,slow=4.5,SNR=14
YKA PKiKP **PKiKP** **18 29 28.2 +0.2**
comp=Z,1.5nm,0.7s,baz=299,slow=1.9,SNR=22
YKA SKP 18 32 27.7
comp=Z,2.2nm,0.5s,baz=294,slow=2.2,SNR=22
YKA PKKPbc **PKKPbc** **18 40 41.6 -6.4**
comp=Z,0.2nm,0.3s,baz=116,slow=3.6,SNR=7.0
YKA SKKPbc SKKPbc 18 43 50.3 -5.2
comp=Z,0.5nm,0.5s,baz=114,slow=3.2,SNR=8.9
YBH Yreka Blue Hor 107.78 48 P PP 18 29 55.7 -1.9
comp=Z,5.6nm,1.1s,baz=302,slow=10,SNR=4.8
NOA NORSAR Array B 107.95 333 Pdiff **Pdif** **18 25 23.7 -0.8**
comp=Z,0.1nm,0.3s,baz=38,slow=7.3,SNR=3.6
KRLC Kraliky 108.22 321 *e*SKP **SKiKP** **18 32 31.0 +0.9**
DPC Dobruska-Polom 108.44 321 *e*SKP **SKiKP** **18 32 31.6 +1.0**
VRAC Vranov 108.51 320 SKP **SKiKP** **18 32 31.7 +1.1**
comp=Z,1.2nm,0.3s,baz=42,slow=1.4,SNR=4.7
UPC Upice 108.60 322 *e*SKP **SKiKP** **18 32 31.7 +0.9**
CONA Conrad Observa 109.30 319 PP PP 18 30 06.0 -2.3
comp=Z,30nm,1.6s
PVCC Panska Ves 109.48 322 *e*SKP **SKiKP** **18 32 33.4 +0.9**
GOPC GO Pecny, Ondr 109.51 321 *e*SKP **SKiKP** **18 32 33.6 +1.0**
PRU Pruhonice 109.64 321 *e*SKP **SKiKP** **18 32 33.4 +0.6**
ARSA Arzberg 109.68 318 *e*PKiKP **PKiKP** **18 29 31.9 -1.2**
comp=Z,1.7nm,0.8s
ARSA *e*PP **PP** **18 30 08.0 -3.0**
comp=Z,20nm,1.6s
SOKA Soboth 110.14 318 *e*PP PP 18 30 13.1 -1.2
comp=Z,24nm,1.8s
SOKA *i* SKPdf **SKPdf** **18 32 34.3 +0.3**
SNR=5.5
CLL Collm 110.22 323 *i* PP PP 18 30 16.9 +2.3
comp=Z,15nm,1.4s
MOA Molln 110.36 319 *i* PKiKP **PKiKP** **18 29 34.9 +0.5**
comp=Z,7.0nm,1.6s
MOA *e*PP **PP** **18 30 14.8 -1.0**
comp=Z,19nm,1.5s
MOA *e*SKPdf **SKiKP** **18 32 34.4 +0.1**
comp=Z,8.0nm,1.1s
GERES GERESS Array B 110.47 320 PKiKP **PKiKP** **18 29 34.8 +0.1**
comp=Z,1.4nm,0.5s,baz=100,slow=1.5,SNR=18
GERES PP **PP** **18 30 13.5 -3.1**
comp=Z,1.5nm,0.8s,baz=81,slow=8.4,SNR=4.5
GERES SKP 18 32 35.0
comp=Z,9.1nm,0.7s,baz=67,slow=1.8,SNR=29
GERES PKKPab **PKKPab** **18 40 48.0 +0.4**
comp=Z,0.5nm,0.7s,baz=250,slow=5.1,SNR=3.6
GERES SKKPbc SKKPbc 18 43 41.1 -4.7
comp=Z,0.4nm,0.6s,baz=197,slow=2.8,SNR=4.4
KHC Kasperske Hory 110.47 321 *e*PP PP 18 30 16.4 -0.2
KHC *e*SKP 18 32 35.0
KHC Kasperske Hory 110.47 321 *e*SKPdf **SKiKP** **18 32 34.8 +0.3**
OBKA Obir 110.50 318 *e*PP PP 18 30 14.0 -3.0
comp=Z,12nm,1.2s
OBKA *e*SKPdf **SKiKP** **18 32 34.8 +0.1**
comp=Z,6.5nm,1.1s
PAHR Pah Rah Range 110.60 50 *e*SKPdf **SKiKP** **18 32 36.0 +0.8**
WVOR Wild Horse Val 110.65 47 *e*SKPdf **SKiKP** **18 32 36.0 +0.8**
NKC Novy Kostel 110.87 322 *e*SKP **SKiKP** **18 32 36.2 +1.0**
KBA Koelnbreinsper 111.17 318 *e*PP PP 18 30 21.9 +0.1
comp=Z,11nm,1.2s
KBA *e*SKPdf **SKPdf** **18 32 35.4 -0.6**
comp=Z,4.7nm,0.8s
NVAR Mina Array Bea 111.65 51 Pdiff **Pdif** **18 25 44.1 +2.4**
comp=Z,0.4nm,0.6s,baz=216,slow=4.5,SNR=3.3
NVAR PKiKP **PKiKP** **18 29 38.6 +1.3**
comp=Z,1.5nm,0.8s,baz=258,slow=3.6,SNR=7.0
NVAR PP **PP** **18 30 23.1 -2.5**
comp=Z,2.8nm,1.0s,baz=263,slow=5.9,SNR=8.0
NVAR SKKPbc SKKPbc 18 43 39.2 -2.8
comp=Z,0.5nm,0.6s,baz=138,slow=0.8,SNR=3.6
ABTA Abfaltersbach 111.80 318 *e*PP PP 18 30 22.9 -3.2
comp=Z,6.6nm,1.2s
ABTA *e*SKPdf **SKPdf** **18 32 35.8 -1.4**
comp=Z,18nm,0.8s,SNR=9.5
ISA Isabella, Lake 111.98 54 P **PKiKP** **18 29 37.5 -0.4**
baz=279
CWC Cottonwood Cre 112.17 53 P **PKiKP** **18 29 38.3 -0.1**
baz=280
WTTA Wattenberg 112.24 319 *i* PKiKP **PKiKP** **18 29 37.8 -0.4**
comp=Z,3.4nm,0.4s
WTTA *e*PP **PP** **18 30 27.5 -1.8**
comp=Z,11nm,1.2s
WTTA *e*SKPdf **SKiKP** **18 32 38.5 +0.4**
comp=Z,30nm,0.6s,SNR=10
WATA Walderalm 112.25 319 *i* PKiKP **PKiKP** **18 29 37.9 -0.3**
comp=Z,2.9nm,0.4s
WATA *i* PP **PP** **18 30 28.4 -1.0**
comp=Z,22nm,1.5s
WATA *i* SKPdf **SKiKP** **18 32 38.2 +0.1**
comp=Z,9.5nm,0.6s,SNR=7.2
CIS Catalina Islan 112.37 56 P **PKiKP** **18 29 38.9 +0.3**
baz=278
EDW2 Edwards Air Fo 112.49 55 P **PKiKP** **18 29 39.6 +0.7**
baz=279
VAE Valguarnera 112.51 308 PP PP 18 30 30.2 -1.3
comp=Z,23nm,1.2s,baz=51,slow=2.4,SNR=5.9
MOTA Moosalm 112.56 319 *i* PKiKP **PKiKP** **18 29 38.4 -0.4**
comp=Z,2.2nm,0.4s
MOTA *e*PP **PP** **18 30 28.2 -3.4**
comp=Z,7.8nm,0.9s
MOTA *i* SKPdf **SKiKP** **18 32 38.8 +0.1**
comp=Z,21nm,0.9s,SNR=9.1
LRMC Laurel Mtn Rad 112.65 54 P **PKiKP** **18 29 39.1 -0.1**
baz=280
MPMC Manual Prospec 112.70 53 P **PKiKP** **18 29 39.5 +0.1**
baz=280
RETA Reutte 112.74 319 *e*PP PP 18 30 29.9 -2.8
comp=Z,17nm,1.3s
RETA *i* SKPdf **SKiKP** **18 32 39.1 +0.1**
comp=Z,5.9nm,0.7s
MSO Missoula 112.82 41 P **PKiKP** **18 29 39.2 0.0**
baz=287
MSO Missoula 112.82 41 *ep*P **SKPdf** **18 32 39.8 +0.6**
FETA Feichten 112.90 319 *e*PP PP 18 30 34.5 +0.5
comp=Z,15nm,1.4s
FETA *i* SKPdf **SKiKP** **18 32 39.7 +0.3**
comp=Z,13nm,0.9s,SNR=5.5
DAVA Damuels 113.37 319 *i* PKiKP **PKiKP** **18 29 40.4 0.0**
comp=Z,3.6nm,0.3s
DAVA *e*PP **PP** **18 30 37.2 -0.1**
comp=Z,22nm,1.3s
DAVA *i* SKPdf **SKPdf** **18 32 39.5 -0.8**
comp=Z,24nm,0.7s,SNR=6.1
GSC Goldstone, Bar 113.38 54 P **PKiKP** **18 29 40.6 0.0**
baz=280
GSC Goldstone, Bar 113.38 54 *e*P **SKPdf** **18 32 42.2 +1.6**
HLID Hailey 113.40 45 P **PKiKP** **18 29 40.6 +0.1**
baz=285
HLID Hailey 113.40 45 *e*P **PKiKP** **18 29 42.0 +1.5**
R11A Troy Canyon, C 113.76 51 P **PKiKP** **18 29 41.9 +0.5**
baz=282
R11A Troy Canyon, C 113.76 51 *e*SKPdf **SKiKP** **18 32 41.7 +0.3**
HEC Hector,Ludlow 113.84 54 P **PKiKP** **18 29 42.1 +0.6**
baz=280
PFO Pinyon Flats O 113.95 56 P **PKiKP** **18 29 41.7 -0.1**
baz=280
PFO Pinyon Flats O 113.95 56 *e*P **SKPdf** **18 32 43.2 +1.5**
XPFO Piæon Flat 113.95 56 *e*P **SKPdf** **18 32 43.3 +1.5**
TUQ Turquoise Moun 114.07 54 P PKPdf 18 29 42.7 +0.8
baz=281
MONP2 Monument Peak 114.09 57 P PKPdf 18 29 42.8 +0.6
baz=279
MCMT McKenzie Canyo 114.14 43 *e*SKPdf **SKiKP** **18 32 43.0 +0.9**
BELC Belle Mtn. Jos 114.26 55 P PKPdf 18 29 43.3 +0.9
baz=280
IKP In-Ko-Pah, Jac 114.39 57 P PKPdf 18 29 43.0 +0.4
baz=279
GMRC Granite Mounta 114.40 54 P PKPdf 18 29 43.0 +0.4
baz=280
SHPR Sheep Range 114.47 52 *e*P **SKPdf** **18 32 44.9 +2.2**
SWSC Sam W. Stewart 114.60 56 P PKPdf 18 29 44.0 +1.1
baz=280
BOZ Bozeman (W) 114.72 42 P PKPdf 18 29 43.9 +0.9
baz=288
BC3 Big Chuckawall 114.77 56 P PKPdf 18 29 44.1 +0.7
baz=280
IRM Iron Mountain 114.93 55 P PKPdf 18 29 44.2 +0.7
baz=280
HVU Hansel Valley 115.04 46 *e*P **SKPdf** **18 32 44.9 +1.3**
EGMT Eagleton 115.13 39 P **PKPdf** **18 29 44.0 +0.4**
baz=291
EGMT Eagleton 115.13 39 *e*PKPdf **PKPdf** **18 29 44.0 +0.4**
EGMT *e*SKPdf **SKiKP** **18 32 43.9 +0.2**
GLA Glamis 115.39 56 P **PKPdf** **18 29 44.6 +0.1**
baz=280
GLA Glamis 115.39 56 *e*PKPdf **PKPdf** **18 29 45.6 +1.1**
GLA *e*SKPdf **SKiKP** **18 32 45.8 +1.2**
GLA Glamis 115.39 56 *e*PKIKP **PKPdf** **18 29 45.6 +1.1**
DUG Dugway, Tooele 115.43 48 P **PKPdf** **18 29 44.7 +0.3**
baz=285
DUG Dugway, Tooele 115.43 48 *e*P **SKPdf** **18 32 46.1 +1.7**
Y12C Blythe 115.51 55 P **PKPdf** **18 29 44.8 +0.2**
baz=281
PDMCI Parker Dam,Lak 115.72 55 P **PKPdf** **18 29 45.6 +0.6**
baz=281
IMW Indian Meadow 115.72 44 *e*P **SKPdf** **18 32 46.8 +1.7**
FXWY Fox Creek 115.74 44 *e*P **SKPdf** **18 32 46.7 +1.6**
W13A Hualapai Mount 115.77 54 *e*P **SKPdf** **18 32 47.0 +1.6**
TPAW Teton Pass 115.84 44 *e*P **SKPdf** **18 32 47.1 +1.8**
SZCU Shurtz Canyon 115.86 51 *e*P **SKPdf** **18 32 48.4 +3.0**
LCMT Little Creek M 115.87 52 *e*P **SKPdf** **18 32 47.4 +2.0**
MOOW Moose Ponds 115.90 44 *e*P **SKPdf** **18 32 46.9 +1.6**
REDW Red Top Meadow 115.94 44 *e*P **SKPdf** **18 32 46.8 +1.3**
HWUT Hardware Ranch 115.96 46 *e*PKPdf **PKPdf** **18 29 46.1 +0.6**
HWUT *e*SKPdf **SKiKP** **18 32 46.0 +0.4**
GCMT Greycliff 115.96 41 *e*P **SKPdf** **18 32 46.7 +1.4**
SNOW Snow King Moun 115.98 44 *e*P **SKPdf** **18 32 47.5 +2.0**
LOHW Long Hollow 116.04 44 *e*P **SKPdf** **18 32 47.3 +1.7**
CTU Camp Tracy 116.08 47 *e*P **SKPdf** **18 32 47.1 +1.4**
KNB Kanab 116.19 51 *e*P **SKPdf** **18 32 48.3 +2.2**
JLU Jordanelle 116.32 47 *e*P **SKPdf** **18 32 47.7 +1.4**
MSU Marysvale 116.33 50 *e*P **SKPdf** **18 32 48.4 +2.0**
MPU Maple Canyon 116.35 48 *e*P **SKPdf** **18 32 47.9 +1.6**
MTPU Mount Pierson 116.44 50 *e*P **SKPdf** **18 32 49.2 +2.4**
FFC Flin Flon 116.60 30 *e*PKPdf **PKPdf** **18 29 46.4 +0.3**
FFC *e*SKPdf **SKiKP** **18 32 46.3 +0.1**
FFC Flin Flon 116.60 30 *e*PKIKP **PKPdf** **18 29 46.4 +0.3**
U15A North Rim 116.75 52 *e*P **SKPdf** **18 32 49.1 +1.8**
KESR Kesra 116.85 307 PP PP 18 30 58.8 -3.2
comp=Z,19nm,0.9s,baz=327,slow=2.5,SNR=12
KEST SKP 18 32 48.3
comp=Z,13nm,0.9s,baz=308,slow=4.0,SNR=7.1
TMUT Trail Mountain 116.86 49 *e*P **SKPdf** **18 32 49.3 +1.8**
Q16A Castle Valley 116.99 49 *e*P **SKPdf** **18 32 49.3 +1.8**
BW06 Boulder Array 117.03 45 P **PKPdf** **18 29 47.8 +0.2**
baz=289
PDAR Pinedale Array 117.03 45 PKP **PKPdf** **18 29 48.1 +0.5**
comp=Z,2.4nm,0.7s,baz=194,slow=0.8,SNR=22
PDAR SKP 18 32 48.4
comp=Z,5.5nm,0.7s,baz=290,slow=0.5,SNR=17
PDAR PKKPbc **PKKPbc** **18 40 13.7 -1.6**
comp=Z,1.7nm,0.8s,baz=81,slow=4.9,SNR=8.5
PDAR SKKPbc SKKPbc 18 43 22.9 -3.0
comp=Z,0.7nm,0.5s,baz=104,slow=5.7,SNR=4.5
P17A Butcher Ranch, 117.16 48 *e*P **SKPdf** **18 32 49.4 +1.6**
214A Organ Pipe Nat 117.26 57 P **PKPdf** **18 29 48.5 +0.4**
baz=281
214A Organ Pipe Nat 117.26 57 *e*PKPdf **PKPdf** **18 29 49.3 +1.2**
EKA Eskdalemuir Ar 117.31 331 PKP **PKPdf** **18 29 47.3 -0.1**
comp=Z,0.7nm,0.3s,baz=38,slow=4.0,SNR=13
EKA SKP 18 32 47.8
comp=Z,5.7nm,0.7s,baz=18,slow=2.9,SNR=10
SRU San Rafael Swe 117.42 49 *e*PKPdf **PKPdf** **18 29 48.9 +0.5**
SRU *e*SKPdf **SKiKP** **18 32 49.2 +0.6**
SRU San Rafael Swe 117.42 49 *e*PKIKP **PKPdf** **18 29 48.9 +0.5**
WUAZ Wupatki 117.68 53 P **PKPdf** **18 29 49.1 +0.1**
baz=284
WUAZ Wupatki 117.68 53 *e*PKPdf **PKPdf** **18 29 50.4 +1.4**
LAO LASA Array 117.86 39 P **PKPdf** **18 29 49.3 +0.5**
baz=293
DGMT Dagmar 118.36 37 P **PKPdf** **18 29 50.0 +0.3**
baz=296
SFJD Kangerlussuaq 118.80 360 PKP **PKPdf** **18 29 49.1 -0.8**
comp=Z,3.0nm,0.5s,baz=120,slow=8.1,SNR=3.6
SFJD SKP 18 32 50.2
comp=Z,5.7nm,0.7s,baz=297,slow=2.3,SNR=2.7
O20A White River Ci 118.80 47 P **PKPdf** **18 29 51.0 -0.1**
baz=288
O20A White River Ci 118.80 47 *e*PKPdf **PKPdf** **18 29 52.5 +1.4**
O20A *e*SKPdf **SKiKP** **18 32 52.3 +1.0**
PV04 Paradox Valley 118.84 49 *e*PKPdf **PKPdf** **18 29 51.8 +0.7**
TUC Tucson 118.88 56 P **PKPdf** **18 29 51.9 +0.6**
baz=282
TUC Tucson 118.88 56 *e*PKPdf **PKPdf** **18 29 51.9 +0.6**
TUC Tucson 118.88 56 *e*PKIKP **PKPdf** **18 29 51.9 +0.6**
W18A Petrified Fore 119.08 53 P **PKPdf** **18 29 52.1 +0.4**
baz=285
PV01 Paradox Valley 119.16 49 *e*PKPdf **PKPdf** **18 29 53.1 +1.3**
PV01 *e*SKPdf **SKiKP** **18 32 53.0 +0.9**
K22A Casper 119.18 44 P **PKPdf** **18 29 52.2 +0.6**
baz=291
MVCO Mesa Verde 119.48 50 P **PKPdf** **18 29 53.0 +0.5**
baz=287
MVCO Mesa Verde 119.48 50 *e*PKPdf **PKPdf** **18 29 53.9 +1.4**
MVCO *e*SKPdf **SKiKP** **18 32 53.3 +0.5**
RSSD Black Hills 120.29 41 P **PKPdf** **18 29 53.6 -0.2**
baz=294
RSSD Black Hills 120.29 41 *e*PKPdf **PKPdf** **18 29 53.3 -0.5**
RSSD Black Hills 120.29 41 *e*PKIKP **PKPdf** **18 29 53.3 -0.5**
S22A 4UR Ranch, Cre 120.59 49 P **PKPdf** **18 29 54.8 +0.1**
baz=288
ISCO Idaho Springs 120.82 47 P **PKPdf** **18 29 55.5 +0.4**
baz=290
121A Cookes Peak, D 121.30 55 P **PKPdf** **18 29 56.4 +0.4**
baz=284
121A Cookes Peak, D 121.30 55 *e*PKPdf **PKPdf** **18 29 57.5 +1.4**
SDCO Great Sand Dun 121.59 49 P **PKPdf** **18 29 56.7 +0.1**
baz=289
SDCO Great Sand Dun 121.59 49 *e*PKPdf **PKPdf** **18 29 57.7 +1.1**
ANMO Albuquerque 121.72 52 P **PKPdf** **18 29 57.1 +0.3**
baz=287
ANMO Albuquerque 121.72 52 *e*PKPdf **PKPdf** **18 29 58.0 +1.2**
ANMO Albuquerque 121.72 52 *e*PKIKP **PKPdf** **18 29 58.0 +1.2**
LPM Los Pinos Moun 121.76 53 *e*PKPdf **PKPdf** **18 29 57.8 +0.9**
ULM Lac du Bonnet 122.16 32 PKP **PKPdf** **18 29 56.7 -0.2**
comp=Z,9.0nm,0.8s,baz=6.9,slow=1.0,SNR=10
ULM SKP 18 32 57.6
comp=Z,7.3nm,0.6s,baz=282,slow=2.6,SNR=8.4
B31A Greenbush Farm 122.20 35 P **PKPdf** **18 29 57.4 +0.4**
baz=302
C31A Landman Farms, 122.48 35 P **PKPdf** **18 29 57.4 -0.2**
baz=302
TAM Tamanrasset 122.53 293 *e*PKPdf **PKPdf** **18 29 59.8 +1.2**
TAM Tamanrasset 122.53 293 *e*PKIKP **PKPdf** **18 29 59.8 +1.2**
T25A Trinidad 122.61 49 P **PKPdf** **18 29 59.2 +0.7**
baz=290
D31A Mcclaflin, Tow 122.88 36 P **PKPdf** **18 29 58.3 -0.1**
baz=301
OGNE Ogallala 122.93 44 P **PKPdf** **18 29 58.6 -0.2**
baz=294
E31A Nome 123.03 37 P **PKPdf** **18 29 58.3 -0.4**
baz=301
F31A Hecla 123.17 37 P **PKPdf** **18 29 58.3 -0.7**
baz=300
A33A Warroad 123.17 33 P **PKPdf** **18 29 58.4 -0.5**
baz=305
D32A Dogwood Acres, 123.24 36 P **PKPdf** **18 29 58.6 -0.5**
baz=302
MNTX Cornudas Mount 123.48 56 *e*PKPdf **PKPdf** **18 30 00.7 +0.7**
B34A Aery, Baudette 123.83 33 P **PKPdf** **18 29 59.5 -0.7**
baz=305
I31A Royce, Wessing 123.89 39 P **PKPdf** **18 29 59.7 -0.7**
baz=299
D33A AnnSam, Wauburn 123.91 35 P **PKPdf** **18 29 59.7 -0.7**
baz=303
C34A RKJ Ranch, Bem 124.16 34 P **PKPdf** **18 30 00.0 -0.8**
baz=304
E33A Westby DABS, E 124.17 36 P **PKPdf** **18 30 00.1 -0.8**
baz=303
D34A Park Rapids 124.31 35 P **PKPdf** **18 30 00.2 -0.9**
baz=304
H32A Carlson Farm, 124.34 39 P **PKPdf** **18 30 00.8 -0.5**
baz=300
B35A Bob, Littlefor 124.40 33 P **PKPdf** **18 30 00.3 -0.9**
baz=306
C35A Jirik Farms, M 124.65 34 P **PKPdf** **18 30 01.4 -0.4**
baz=305
H33A Prehn Over Nor 124.68 38 P **PKPdf** **18 30 01.4 -0.6**
baz=301
MSTX Muleshoe 124.91 52 P **PKPdf** **18 30 02.7 -0.2**
baz=289
MSTX Muleshoe 124.91 52 *e*PKPdf **PKPdf** **18 30 03.5 +0.7**
D35A Remer 124.96 34 P **PKPdf** **18 30 01.8 -0.6**
baz=305
I33A Coleman 124.97 39 P **PKPdf** **18 30 02.2 -0.4**
baz=300
F34A Alexandria 124.99 36 P **PKPdf** **18 30 01.8 -0.7**
baz=303
E35A Pequot Lakes 125.06 35 P **PKPdf** **18 30 02.0 -0.6**
baz=304
J33A Davis 125.23 40 P **PKPdf** **18 30 02.6 -0.4**
baz=300
C36A Pine Crest Far 125.24 33 P **PKPdf** **18 30 02.9 0.0**
baz=306
ECSD EROS Data Cent 125.24 39 P **PKPdf** **18 30 02.5 -0.6**
baz=300
ECSD EROS Data Cent 125.24 39 *e*PKPdf **PKPdf** **18 30 03.3 +0.3**
F35A Swanville 125.35 36 P **PKPdf** **18 30 02.7 -0.4**
baz=304
BGNE Belgrade 125.37 42 P **PKPdf** **18 30 02.7 -0.7**
baz=298
BGNE Belgrade 125.37 42 *e*PKPdf **PKPdf** **18 30 03.3 -0.1**
D36A Goodland 125.40 34 P **PKPdf** **18 30 02.5 -0.8**
baz=306
CBKS Cedar Bluff 125.41 46 P **PKPdf** **18 30 03.2 -0.3**
baz=294
TXAR Lajitas Array 125.53 58 PKP **PKPdf** **18 30 04.9 +0.8**
comp=Z,4.7nm,0.8s,baz=244,slow=1.5,SNR=44
TXAR SKPbc SKPbc 18 32 45.9
comp=Z,10nm,1.0s,baz=242,slow=2.7,SNR=13
TXAR SKP 18 33 05.5
comp=Z,1.9nm,0.5s,baz=193,slow=1.9,SNR=8.0
TXAR SKKPbc **SKKPbc** **18 42 57.1 -0.5**
comp=Z,0.6nm,0.5s,baz=123,slow=5.6,SNR=9.0
ESDC Sonseca Array 125.53 316 PKP **PKPdf** **18 30 02.9 -0.9**
comp=Z,0.3nm,0.4s,baz=86,slow=2.6,SNR=5.3
ESDC PP PP 18 31 51.3 -8.8
comp=Z,4.4nm,1.0s,baz=63,slow=6.9,SNR=9.2
ESDC SKPbc SKPbc 18 32 42.0
comp=Z,3.3nm,0.7s,baz=32,slow=3.4,SNR=12
I34A Hadley 125.56 38 P **PKPdf** **18 30 02.9 -0.7**
baz=301
C37A Embarrass 125.61 33 P **PKPdf** **18 30 03.0 -0.6**
baz=307
E36A McGregor 125.73 35 P **PKPdf** **18 30 03.4 -0.5**
baz=305
D37A Cotton 125.82 33 P **PKPdf** **18 30 03.3 -0.7**
baz=307
EYMN Ely 125.84 32 P **PKPdf** **18 30 03.7 -0.3**
baz=308
F36A Milaca 125.96 35 P **PKPdf** **18 30 03.8 -0.5**
baz=305
C38A Sawbill Land. 126.10 32 P **PKPdf** **18 30 03.9 -0.6**
baz=308
I35A Creekview Farm 126.19 38 P **PKPdf** **18 30 04.1 -0.8**
baz=302
K35A Storm Lake 126.63 39 P **PKPdf** **18 30 04.3 -1.4**

baz=301
E38A The Farm, Brul 126.63 34 P PKPdf 18 30 05.1 -0.5
baz=307
C39A Grand Marais 126.64 32 P PKPdf 18 30 04.7 -0.9
baz=309
I36A Fitzsimmons Fa 126.69 37 P PKPdf 18 30 05.1 -0.7
baz=303
SPMN Marine on St. 126.74 36 P PKPdf 18 30 04.9 -0.9
baz=305
F38A Pierce - Schro 126.84 34 P PKPdf 18 30 05.5 -0.5
baz=306
J36A Seneca 1, Swea 126.87 38 P PKPdf 18 30 05.4 -0.8
baz=302
H37A Dierke Farm, C 127.04 36 P PKPdf 18 30 05.8 -0.7
baz=304
I37A Lemond, Waseca 127.07 37 P PKPdf 18 30 06.0 -0.5
baz=304
TORD Torodi Ar. Bea 127.08 282 PKhKP PKPpre 18 29 56.8
comp=Z,0.3nm,0.4s,baz=77,slow=1.4,SNR=4.1
TORD PKP PKiKP 18 30 07.9 0.0
comp=Z,3.0nm,0.4s,baz=66,slow=2.1,SNR=25
TORD pPKP pPKPdf 18 31 38.6 +0.7
comp=Z,1.5nm,0.7s,baz=51,slow=1.1,SNR=2.4
TORD PP PP 18 32 09.6 -1.8
comp=Z,4.2nm,1.0s,baz=82,slow=3.8,SNR=6.2
TORD SKPbc SKiKP 18 32 50.1 -18
comp=Z,41nm,0.8s,baz=76,slow=3.4,SNR=37
TORD SKP 18 33 08.2
comp=Z,7.6nm,0.7s,baz=84,slow=2.5,SNR=6.2
TORD SKKPbc SKKPbc 18 42 53.5 +1.9
comp=Z,2.4nm,0.8s,baz=290,slow=4.4,SNR=9.0
C40A Isle Royale Na 127.09 31 P PKPdf 18 30 06.3 -0.1
baz=310
K36A Gilmore City 127.16 39 P PKPdf 18 30 06.4 -0.4
baz=302
L36A Harm Buss Farm 127.31 40 P PKPdf 18 30 06.5 -0.5
baz=301
G38A Ridgeland 127.31 35 P PKPdf 18 30 06.4 -0.6
baz=306
E39A Mellen 127.32 33 P PKPdf 18 30 06.3 -0.6
baz=308
H38A Maiden Rock 127.36 36 P PKPdf 18 30 06.4 -0.7
baz=305
J37A Redenius Farm, 127.36 38 P PKPdf 18 30 06.4 -0.7
baz=303
F39A Loretta 127.40 34 P PKPdf 18 30 06.4 -0.7
baz=307
K37A Belmond 127.60 39 P PKPdf 18 30 07.1 -0.5
baz=303
E40A Wakefield 127.63 33 P PKPdf 18 30 06.9 -0.6
baz=309
G39A Holcombe 127.64 35 P PKPdf 18 30 06.7 -0.9
baz=307
I38A Scanlan Farm, 127.69 37 P PKPdf 18 30 06.6 -1.1
baz=305
WMOK Wichita Mounta 127.73 50 P PKPdf 18 30 07.7 -0.4
baz=292
ABTX Abilene, Hawle 127.83 53 P PKPdf 18 30 08.0 -0.4
baz=290
L37A Phoenix Point, 127.87 39 P PKPdf 18 30 07.7 -0.4
baz=302
H39A Augusta 127.93 35 P PKPdf 18 30 07.8 -0.3
baz=306
D41A Chassel 127.94 31 P PKPdf 18 30 07.9 -0.2
baz=311
J38A Wedel Dairy, R 128.01 37 P PKPdf 18 30 08.2 -0.1
baz=304
E41A Kenton 128.12 32 P PKPdf 18 30 08.0 -0.4
baz=310
G40A Rib Lake 128.19 34 P PKPdf 18 30 08.3 -0.3
baz=308
I39A Houston 128.27 36 P PKPdf 18 30 08.6 -0.2
baz=306
L38A Oak Wood Farm, 128.36 39 P PKPdf 18 30 09.3 +0.3
baz=303
JCT Junction City 128.41 55 P PKPdf 18 30 09.2 -0.4
baz=289
JCT Junction City 128.41 55 ePKPdf PKPdf 18 30 10.0 +0.5
JCT Junction City 128.41 55 ePKIKP PKPdf 18 30 10.0 +0.5
J39A Decorah 128.46 37 P PKPdf 18 30 08.9 -0.3
baz=305
H40A Chili 128.48 35 P PKPdf 18 30 08.9 -0.3
baz=307
F41A Three Lakes 128.50 33 P PKPdf 18 30 09.4 +0.2
baz=309
M38A Pleasantville 128.60 40 P PKPdf 18 30 09.3 -0.2
baz=302
O37A Wolven Farm, M 128.63 42 P PKPdf 18 30 09.5 -0.1
baz=300
E42A Champion 128.69 32 P PKPdf 18 30 09.8 +0.2
baz=311
K39A Oelwein 128.71 38 P PKPdf 18 30 09.2 -0.5
baz=304
P37A Lathrop 128.79 42 P PKPdf 18 30 09.8 -0.2
baz=300
H41A Junction City 128.90 35 P PKPdf 18 30 09.6 -0.4
baz=308
L39A Vinton 128.97 38 P PKPdf 18 30 10.0 -0.2
baz=304
I41A Arkdale 129.12 35 P PKPdf 18 30 10.3 -0.1
baz=307
K40A Colesburg 129.17 37 P PKPdf 18 30 10.5 -0.1
baz=305
G42A Mountain 129.19 33 P PKPdf 18 30 10.4 -0.1
baz=310
E43A Lone Tree Farm 129.21 31 P PKPdf 18 30 10.5 0.0
baz=312
M39A Webster 129.22 39 P PKPdf 18 30 10.7 0.0
baz=303
P38A Dawn 129.31 42 P PKPdf 18 30 11.3 +0.4
baz=301
N39A Derby Farms, D 129.33 40 P PKPdf 18 30 10.6 -0.3
baz=302
J41A Loganville 129.45 36 P PKPdf 18 30 11.1 0.0
baz=307
SCHQ Schefferville 129.47 11 SKPbc SKPbc 18 32 57.9 +0.4
comp=Z,73nm,0.7s,baz=7.4,slow=3.4,SNR=40
F43A Flat Rock, Esc 129.48 32 P PKPdf 18 30 11.0 -0.1
baz=311
JFWS Jewell Farm 129.58 37 P PKPdf 18 30 10.6 -0.7
baz=306
JFWS Jewell Farm 129.58 37 ePKPdf PKPdf 18 30 09.0 -2.3
JFWS Jewell Farm 129.58 37 ePKIKP PKPdf 18 30 09.0 -2.3
G43A Wallace 129.58 33 P PKPdf 18 30 11.3 +0.1
baz=310
Q38A Cooks Store, C 129.59 43 P PKPdf 18 30 11.0 -0.5
baz=300
I42A Draeger Farm, 129.76 35 P PKPdf 18 30 11.1 -0.5
baz=308
F44A Big Bay de Noc 129.77 31 P PKPdf 18 30 11.4 -0.2
baz=312
R38A Fenwick Farm, 129.78 44 P PKPdf 18 30 11.6 -0.2
baz=299
WHTX Lake Whitney, 129.78 53 P PKPdf 18 30 11.9 -0.2
baz=292
WHTX Lake Whitney, 129.78 53 eSKPbc SKPbc 18 33 01.2 +1.8
P39B Salisbury 129.90 42 P PKPdf 18 30 12.1 0.0
baz=301
N40A Mertquake, Sal 129.91 40 P PKPdf 18 30 11.9 -0.1
baz=303
L41A Preston 129.92 38 P PKPdf 18 30 12.2 +0.2
baz=305
Q39A Willow Grove F 129.98 42 P PKPdf 18 30 12.1 -0.1
baz=301
J42A Columbus 130.00 36 P PKPdf 18 30 12.2 0.0
baz=308
H43A Windswept, Lux 130.04 34 P PKPdf 18 30 12.4 +0.2
baz=310
S38A Stockton 130.04 44 P PKPdf 18 30 12.2 -0.2
baz=299
T38A Diamond 130.06 45 P PKPdf 18 30 12.4 0.0
baz=298
O40A La Belle 130.14 41 P PKPdf 18 30 12.8 +0.3
baz=303
K42A Prairie Point, 130.19 36 P PKPdf 18 30 12.6 +0.1
baz=307
I43A Langenfeld Bro 130.20 34 P PKPdf 18 30 12.3 -0.1
baz=309
R39A Chumby, Stover 130.31 43 P PKPdf 18 30 12.8 -0.1
baz=300
P40A Paris 130.34 41 P PKPdf 18 30 13.1 +0.2
baz=302
J43A Natural Harves 130.36 35 P PKPdf 18 30 12.8 0.0
baz=308
S39A Bolivar 130.42 44 P PKPdf 18 30 13.0 -0.1
baz=300
L42A Oliver, Polo 130.46 37 P PKPdf 18 30 12.9 -0.1
baz=306

PLCA Paso Flores 130.59 161 PKP PKPdf 18 30 14.3 +0.9
comp=Z,3.0nm,0.8s,baz=41,slow=3.0,SNR=5.6
PLCA SKPbc SKPbc 18 33 02.3 0.0
comp=Z,12nm,0.7s,baz=239,slow=4.2,SNR=19
Q40A Laux Farm, Aux 130.61 42 P PKPdf 18 30 13.5 +0.1
baz=302
T39A Clever 130.71 45 P PKPdf 18 30 13.2 -0.4
baz=299
O41A Passleys Farm, 130.78 40 P PKPdf 18 30 13.4 -0.2
baz=304
K43A Burlington 130.83 36 P PKPdf 18 30 13.2 -0.5
baz=308
R40A Maddies Statio 130.84 43 P PKPdf 18 30 13.6 -0.3
baz=301
L43A Garden Prairie 130.91 37 P PKPdf 18 30 13.6 -0.3
baz=307
P41A Barry, Barry 130.91 41 P PKPdf 18 30 14.1 +0.1
baz=303
U39A Green Forest 130.94 46 P PKPdf 18 30 13.7 -0.5
baz=298
S40A Lebanon 131.03 44 P PKPdf 18 30 13.8 -0.4
baz=300
V39A Pettigrew 131.08 46 P PKPdf 18 30 13.9 -0.5
baz=298
Q41A Truxton 131.19 41 P PKPdf 18 30 14.3 -0.2
baz=302
M43A Waltham Townsh 131.22 37 P PKPdf 18 30 14.3 -0.1
baz=306
T40A Mansfield 131.24 44 P PKPdf 18 30 14.4 -0.3
baz=300
W39A Magazine 131.27 47 P PKPdf 18 30 15.1 +0.3
baz=297
X39A Fountain Ranch 131.33 48 P PKPdf 18 30 15.0 +0.1
baz=296
U40A Yellville 131.40 45 P PKPdf 18 30 14.5 -0.5
baz=295
P42A Winchester 131.42 40 P PKPdf 18 30 14.7 -0.2
baz=304
R41A Rosebud 131.44 42 P PKPdf 18 30 15.0 0.0
baz=302
HDIL Hopedale 131.53 39 P PKPdf 18 30 14.8 -0.3
baz=306
S41A Jillco Farms, 131.56 43 P PKPdf 18 30 14.6 -0.7
baz=301
CCM Cathedral Cave 131.65 42 P PKPdf 18 30 15.1 -0.3
baz=302
CCM Cathedral Cave 131.65 42 ePKPdf PKPdf 18 30 16.5 +1.1
CCM Cathedral Cave 131.65 42 ePKIKP PKPdf 18 30 16.5 +1.1
Q42A Golden Eagle 131.67 41 P PKPdf 18 30 15.2 -0.2
baz=303
V40A Witts Springs 131.68 46 P PKPdf 18 30 14.8 -0.8
baz=298
MIAR Mount Ida 131.72 48 P PKPdf 18 30 15.6 0.0
baz=297
MIAR Mount Ida 131.72 48 ePKPdf PKPdf 18 30 16.8 +1.2
MIAR eSKPbc SKPab 18 33 07.8 +0.5
MIAR Mount Ida 131.72 48 ePKIKP PKPdf 18 30 16.8 +1.2
W40A Ferguson Farm, 131.79 47 P PKPdf 18 30 15.3 -0.5
baz=298
M44A Midewin, Midew 131.80 37 P PKPdf 18 30 14.8 -0.8
baz=308
T41A Mountain View 131.82 44 P PKPdf 18 30 15.4 -0.4
baz=300
HKT Hockley 131.82 54 eSKPbc SKPab 18 33 08.2 +0.3
R42A Luebbering 131.84 42 P PKPdf 18 30 15.0 -0.7
baz=302
P43A Skaggs, Pawnee 131.92 40 P PKPdf 18 30 15.4 -0.4
baz=305
U41A Viola 132.06 45 P PKPdf 18 30 15.8 -0.5
baz=300
NATX Nacogdoches 132.07 52 eSKPbc SKPab 18 33 09.7 +0.7
S42A Caledonia 132.11 43 P PKPdf 18 30 15.6 -0.7
baz=302
V41A Mountainview 132.17 46 P PKPdf 18 30 15.9 -0.6
baz=299
Y40A Okolona 132.17 48 P PKPdf 18 30 16.1 -0.4
baz=297
O44A Mansfield 132.28 39 P PKPdf 18 30 16.2 -0.3
baz=306
T42A Van Buren 132.29 44 P PKPdf 18 30 16.0 -0.7
baz=301
W41B Gary Mavity, V 132.39 46 P PKPdf 18 30 16.5 -0.4
baz=298
R43A Red Bud 132.41 41 P PKPdf 18 30 16.5 -0.3
baz=303
N45A Kentland 132.45 37 P PKPdf 18 30 16.3 -0.6
baz=308
UALR University of 132.51 47 eSKPbc SKPbc 18 33 10.0 +0.9
KOWA Kowa 132.52 284 PKP PKPdf 18 30 19.0 +1.4
comp=Z,4.7nm,0.4s,baz=51,slow=2.7,SNR=17
KOWA SKPbc SKPbc 18 33 10.2 +0.6
comp=Z,52nm,0.7s,baz=80,slow=6.1,SNR=34
KOWA SKKPbc SKKPbc 18 42 41.7 +9.1
comp=Z,2.9nm,0.6s,baz=267,slow=8.2,SNR=7.0
P44A Sand Creek, Wi 132.59 39 P PKPdf 18 30 16.7 -0.5
baz=305
Q44A Meyer Farm, Va 132.66 40 P PKPdf 18 30 17.0 -0.2
baz=305
O45A Potomac 132.68 38 P PKPdf 18 30 17.3 0.0
baz=307
S43A Fulton Ridge, 132.69 42 P PKPdf 18 30 17.2 -0.2
baz=302
V42A Cord 132.70 45 P PKPdf 18 30 17.2 -0.2
baz=300
T43A Greenville 132.81 43 P PKPdf 18 30 16.9 -0.7
baz=302
N46A Monticello 132.89 37 P PKPdf 18 30 17.3 -0.3
baz=308
SFIN Lafayette 132.99 37 P PKPdf 18 30 17.8 -0.1
baz=308
P45A Graceland, Par 133.10 39 P PKPdf 18 30 17.8 -0.2
baz=306
U43A Rector 133.10 44 P PKPdf 18 30 18.2 0.0
baz=301
S44A Carbondale 133.18 42 P PKPdf 18 30 18.2 -0.1
baz=303
SIUC Southern Illin 133.19 42 eSKPbc SKPbc 18 33 11.4 +0.1
Q45A Warren Harvey, 133.21 40 P PKPdf 18 30 18.1 -0.2
baz=306
P46A Rosedale 133.38 38 P PKPdf 18 30 18.6 0.0
baz=307
DBIC Dimbokro 133.62 274 PKhKP PKPpre 18 30 09.2
comp=Z,3.8nm,0.4s,baz=103,slow=3.3,SNR=13
DBIC PKP PKPdf 18 30 18.4 -1.3
comp=Z,2.6nm,0.3s,baz=72,slow=2.6,SNR=9.9
DBIC PP PP 18 32 52.6 -0.9
comp=Z,13nm,1.1s,baz=78,slow=5.5,SNR=6.2
DBIC SKPbc SKPbc 18 33 13.8 +0.3
comp=Z,47nm,0.7s,baz=80,slow=3.8,SNR=31
142A Monroe 133.83 49 P PKPdf 18 30 19.7 +0.1
baz=297
USIN University of 134.06 40 eSKPbc SKPbc 18 33 14.5 +0.4
BLO Bloomington 134.07 38 eSKPbc SKPbc 18 33 14.2 +0.1
Q47A Bedord North L 134.28 39 P PKPdf 18 30 20.4 +0.1
baz=307
T46A Princeton 134.44 42 P PKPdf 18 30 21.1 +0.4
baz=304
R47A Wooly Knot Far 134.60 39 P PKPdf 18 30 21.6 +0.7
baz=307
OXF Oxford 134.75 46 P PKPdf 18 30 20.9 -0.4
baz=301
OXF Oxford 134.75 46 eSKPbc SKPbc 18 33 16.7 +0.3
WCI Wyandotte Cave 134.78 39 P PKPdf 18 30 21.3 0.0
baz=307
WCI Wyandotte Cave 134.78 39 eSKPbc SKPbc 18 33 16.7 +0.2
V46A Holladay 134.97 43 P PKPdf 18 30 21.5 -0.2
baz=303
WVT Waverly 134.99 43 P PKPdf 18 30 21.9 +0.2
baz=304
U47A Clarksville 135.18 42 P PKPdf 18 30 22.1 +0.1
baz=304
S48A Wiedeman Farm, 135.28 40 P PKPdf 18 30 22.0 -0.2
baz=307
V47A Nunnelly 135.36 43 P PKPdf 18 30 22.5 +0.1
baz=304
ACSO Alum Creek Sta 135.50 35 P PKPdf 18 30 22.9 +0.3
baz=312
ACSO Alum Creek Sta 135.50 35 eSKPbc SKPbc 18 33 18.7 +0.1
245A Little AP, Sta 135.60 49 P PKPdf 18 30 22.8 -0.2
baz=298
W47A Westpoint 135.63 44 P PKPdf 18 30 22.7 -0.3
baz=303
U48A Cassie Pea, Po 135.63 41 P PKPdf 18 30 23.1 +0.1
baz=305
X47A Russelville 135.84 45 P PKPdf 18 30 23.4 +0.1
baz=302
V48A Smith Brothers 135.88 43 P PKPdf 18 30 24.0 +0.6
baz=304

545A Edgard 136.04 52 P PKPdf 18 30 23.8 0.0
baz=296
CMIG Matias Romero 136.10 71 SKPbc SKPbc 18 33 22.9 +1.8
comp=Z,30nm,0.9s,baz=297,slow=3.4,SNR=9.3
W48A Pulaski 136.14 43 P PKPdf 18 30 23.6 -0.4
baz=304
Y47A UCPARC, Winfie 136.17 45 P PKPdf 18 30 23.8 -0.2
baz=302
LONY Lake Ozonia 136.29 24 P PKPdf 18 30 24.3 +0.4
baz=326
M54A Oil Creek Stat 136.39 31 P PKPdf 18 30 24.1 -0.1
baz=317
N54A Moraine State 136.62 32 P PKPdf 18 30 24.3 -0.3
baz=316
Y48A Jasper 136.65 45 P PKPdf 18 30 24.2 -0.6
baz=302
Z48A Northport 136.66 46 P PKPdf 18 30 24.3 -0.5
baz=302
SWET Sewanee 136.78 43 eSKPbc SKPbc 18 33 22.2 -0.5
Y49A Blount Mountai 137.21 45 P PKPdf 18 30 25.5 -0.4
baz=303
LRAL Lakeview Retre 137.23 46 P PKPdf 18 30 26.1 +0.2
baz=302
LRAL Lakeview Retre 137.23 46 ePKPdf PKPdf 18 30 26.4 +0.5
TZTN Tazewell 137.54 39 P PKPdf 18 30 26.3 -0.2
baz=309
TZTN Tazewell 137.54 39 eSKPdf SKPbc 18 33 25.1 +0.2
CPCT Cooper Cave 137.58 41 eSKPbc SKPbc 18 33 25.1 +0.1
149A Jones 137.61 46 P PKPdf 18 30 26.8 +0.1
baz=302
MCWV Mont Chateau 137.63 33 P PKPdf 18 30 26.8 +0.2
baz=316
LBNH Lisbon 137.64 22 P PKPdf 18 30 26.6 +0.2
baz=329
BINY Binghamton 137.64 27 P PKPdf 18 30 27.5 +1.0
baz=322
BINY Binghamton 137.64 27 eSKPdf SKPbc 18 33 25.1 +0.1
PKME Peaks-Kenny Pk 137.65 19 P PKPdf 18 30 26.7 +0.4
baz=333
ACCN Adirondack Com 137.68 24 eSKPdf SKPbc 18 33 25.0 0.0
O56A Blue Knob Stat 137.87 31 P PKPdf 18 30 27.2 +0.2
baz=318
Z50A Ashland 137.88 45 P PKPdf 18 30 27.1 -0.1
baz=303
SSPA Standing Stone 137.94 30 P PKPdf 18 30 27.9 +0.9
baz=319
SSPA Standing Stone 137.94 30 eSKPdf SKPbc 18 33 25.6 -0.2
TKL Tuckaleechee C 137.94 40 PKP PKPdf 18 30 28.3 +1.1
comp=Z,14nm,0.7s,baz=157,slow=4.7,SNR=18
TKL SKPbc SKPbc 18 33 26.6 +0.6
comp=Z,23nm,0.7s,baz=159,slow=3.5,SNR=12
150A Eclectic 138.16 46 P PKPdf 18 30 28.5 +0.9
baz=302
250A Grady 138.31 47 P PKPdf 18 30 27.8 -0.2
baz=302
151A Opelika 138.69 45 P PKPdf 18 30 29.8 +1.1
baz=303
N59A State Game Lan 138.75 28 P PKPdf 18 30 29.8 +1.2
baz=322
251A Midway 138.87 46 P PKPdf 18 30 29.5 +0.5
baz=303
BLA Blacksburg 139.01 36 P PKPdf 18 30 30.3 +1.1
baz=313
BLA Blacksburg 139.01 36 eSKPdf SKPbc 18 33 29.1 +0.1
SDMD Soldier's Deli 139.39 31 eSKPdf SKPbc 18 33 29.8 0.0
451A Vernon 139.39 48 P PKPdf 18 30 31.1 +1.1
baz=301
GOGA Godfrey 139.49 43 P PKPdf 18 30 30.7 +0.6
baz=306
BRNJ Basking Ridge 139.50 27 eSKPdf SKPbc 18 33 30.6 +0.5
PAL Palisades 139.53 26 eSKPdf SKPbc 18 33 30.5 +0.3
CPNY Central Park 139.68 27 eSKPdf SKPbc 18 33 30.5 -0.1
452A Marianna 139.69 47 P PKPdf 18 30 31.7 +1.1
baz=302
KMSC Kings Mountain 139.82 39 P PKPdf 18 30 31.3 +0.6
baz=310
552A Lynn Haven 139.97 49 P PKPdf 18 30 31.6 +0.5
baz=301
353A Camilla 140.12 46 P PKPdf 18 30 32.3 +1.0
baz=303
155A Kite 140.63 43 P PKPdf 18 30 32.9 +0.7
baz=306
APG El Apazote 140.64 73 SKPbc SKiKP 18 33 35.3 -1.0
comp=Z,93nm,0.9s,baz=324,slow=15,SNR=35
554A Perry 141.19 47 P PKPdf 18 30 34.0 +0.8
baz=302
555A McAlpin 141.69 47 P PKPdf 18 30 34.8 +0.6
baz=303
556A Lake Butler 142.16 47 P PKPdf 18 30 36.3 +1.3
baz=304
656A Willston 142.42 48 P PKPdf 18 30 37.0 +1.6
baz=303
457A Yulee 142.42 45 P PKPdf 18 30 36.8 +1.4
baz=305
557A Orange Park 142.64 46 P PKPdf 18 30 37.2 +1.4
baz=304
657A Interlachen 142.78 47 P PKPdf 18 30 37.6 +1.5
baz=304
757A Oxford 142.99 48 P PKPdf 18 30 38.2 +1.8
baz=303
857A Zephyrhills 143.23 49 P PKPdf 18 30 39.2 +2.3
baz=302
658A Bunnell 143.32 46 P PKPdf 18 30 38.7 +1.7
baz=304
957A Wimauma 143.53 50 P PKPdf 18 30 39.0 +1.6
baz=301
758A Lake Helen 143.61 47 P PKPdf 18 30 38.8 +1.2
baz=304
958A Wauchula 143.94 49 P PKPbc 18 30 37.4 +0.4
baz=302
058A Arcadia 144.18 50 P PKPbc 18 30 38.2 +0.5
baz=301
859A Kempfer Cattle 144.33 48 P PKPab 18 30 37.5 -0.6
baz=303
BBTS Babate 144.49 287 PKP PKPdf 18 30 40.0 +0.6
comp=Z,123nm,0.8s,baz=129,slow=3.5,SNR=18
BBTS SKPbc SKiKP 18 33 44.2 +0.3
comp=Z,65nm,0.7s,baz=103,slow=4.4,SNR=7.5
059A Moore Haven 144.73 50 P PKPab 18 30 40.0 +0.4
baz=302
JTS JuntasAbangare 146.58 80 PKP PKPdf 18 30 44.1 +1.1
comp=Z,63nm,0.8s,baz=8.9,slow=3.1,SNR=51
JTS PKPbc PKPbc 18 30 46.2 +0.9
comp=Z,63nm,0.8s,baz=328,slow=6.5,SNR=51
JTS SKPbc SKiKP 18 33 49.0 +0.7
comp=Z,25nm,0.9s,baz=305,slow=6.5,SNR=5.1
JTS JuntasAbangare 146.58 80 ePKPdf PKPdf 18 30 43.7 +0.6
JTS PKPbc PKPbc 18 30 46.2 +0.9
JTS SKPbc SKiKP 18 33 49.0 +0.7
JTS JuntasAbangare 146.58 80 ePKIKP PKPdf 18 30 43.7 +0.6
JTS 18 30 46.2
CPUP Villa Florida 147.66 170 PKP PKPdf 18 30 45.6 +1.1
comp=Z,21nm,0.8s,baz=229,slow=2.6,SNR=32
CPUP PKPbc PKPbc 18 30 48.3 +0.5
comp=Z,21nm,0.8s,baz=196,slow=1.2,SNR=32
CPUP pPKP pPKPdf 18 32 14.1 -1.3
comp=Z,7.9nm,0.9s,baz=78,slow=1.4,SNR=2.8
CPUP SKPbc SKiKP 18 33 50.8 +0.5
comp=Z,17nm,0.8s,baz=161,slow=1.1,SNR=7.8
CPUP Villa Florida 147.66 170 PKP PKPdf 18 30 45.6 +1.1
CPUP PKPbc PKPbc 18 30 48.3 +0.5
CPUP pPKP pPKPdf 18 32 14.1 -1.3
CPUP SKPbc SKiKP 18 33 50.8 +0.5
ATAH Atahualpa 150.29 115 PKPbc PKPbc 18 30 57.2 +2.0
comp=Z,69nm,0.8s,baz=168,slow=3.3,SNR=28
OTAV Otavalo 152.56 100 ePKPdf PKPdf 18 30 54.1 +1.0
LPAZ La Paz 152.65 143 PKP PKPdf 18 30 55.0 +1.6
comp=Z,4.9nm,1.0s,baz=238,slow=0.9,SNR=15
LPAZ PKPbc PKiKP 18 31 01.7 +0.8
comp=Z,8.7nm,0.7s,baz=201,slow=1.9,SNR=20
LPAZ PKPab PKPab 18 31 14.6 +1.8
comp=Z,18nm,0.7s,baz=215,slow=2.4,SNR=5.6
LPAZ pPKPbc pPKPbc 18 32 30.7 -0.2
comp=Z,5.3nm,0.7s,baz=146,slow=2.9,SNR=2.2
LPAZ La Paz 152.65 143 PKiKP PKPdf 18 30 55.0 +1.6
SIV San Ignacio 156.46 156 PKP PKPdf 18 30 58.7 +0.9
comp=Z,2.1nm,0.6s,baz=87,slow=0.5,SNR=14
SIV PKPab PKPab 18 31 26.3 -2.0
comp=Z,4.6nm,0.9s,baz=229,slow=3.8,SNR=8.6
SIV pPKP pPKPdf 18 32 29.9 +0.9
comp=Z,1.7nm,0.7s,baz=214,slow=6.8,SNR=2.3
SIV pPKPab pPKPab 18 32 55.0 +0.1
comp=Z,3.4nm,0.6s,baz=261,slow=4.0,SNR=4.7
ROSC El Rosal 157.27 91 PKPab PKPab 18 31 33.3 +0.7
comp=Z,5.6nm,0.3s,baz=175,slow=2.4,SNR=5.9
SDV Santo Domingo 160.77 79 PKP PKPdf 18 31 03.6 +0.4
comp=Z,14nm,0.9s,baz=357,slow=0.4,SNR=15

SDV			PKPab	**PKPab**	18 31 48.5	+0.9
	comp=Z,22nm,0.8s,baz=269,slow=5.6,SNR=16					
SDV			SKP		18 34 00.2	
	comp=Z,3.7nm,0.6s,baz=333,slow=2.3,SNR=3.1					

*ISCJB **30** 18:12:27.1±4.5,5.6S±0.3×12.9E±°, h500km, mb4.6/7, Error ellipse: s-maj=256.9km s-min=19.5km az=171.4*
*IDC **30** 18:12:30.3±4.9,5.7S×128.4E, h526km±50km, mb4.2/7, mb1 4.2/7, mb1mx3.6/61, mbtmp5.1/7, Error ellipse: s-maj=111.3km s-min=15.7km az=84.0*

ISC 30 18:12:30.0±2.0, 5.5S±0.2×129.1E±1.0, h500km, n11, σ0°82/11, mb4.6/7, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**28.73**	**158**	P	**P**	**18 17 46.0**	**-0.4**
	22nm,0.4s,baz=328,slow=9.5,SNR=7.6						
MJAR	**Matsushiro Arr**	**42.66**	**11**	P	**P**	**18 19 42.2**	**+0.1**
	31nm,0.8s,baz=193,slow=9.6,SNR=17						
USRK	**Ussuriysk Ar.**	**49.52**	**3**	P	**P**	**18 20 34.1**	**-0.1**
	18nm,0.7s,baz=188,slow=7.6,SNR=9.8						
ASAJ	**Asahikawa**	**50.85**	**12**	P	**P**	**18 20 45.2**	**+1.3**
	12nm,0.7s,baz=231,slow=6.5,SNR=5.5						
MA2	**Magadan**	**67.10**	**12**	P	**P**	**18 22 33.2**	**+0.3**
	7.6nm,0.6s,baz=166,slow=12,SNR=5.1						
SEY	**Seymchan**	**70.49**	**11**	P	**P**	**18 22 53.5**	**+0.1**
	23nm,0.7s,baz=223,slow=4.2,SNR=8.1						
ILAR	**Eielson Array**	**92.35**	**25**	P	**P**	**18 24 45.0**	**-1.2**
	1.3nm,0.7s,baz=254,slow=4.4,SNR=4.5						
JTS	**JuntasAbangare**	**145.92**	**80**	PKPbc	**PKPdf**	**18 31 13.5**	**+0.9**
	23nm,0.7s,baz=14,slow=5.4,SNR=5.3						
JTS	**JuntasAbangare**	**145.92**	**80**	PKPbc	**PKPdf**	**18 31 13.5**	**+0.9**
CPUP	**Villa Florida**	**147.76**	**169**	PKPbc	**PKPdf**	**18 31 15.7**	**+0.3**
	9.0nm,0.8s,baz=178,slow=2.5,SNR=5.7						
CPUP	**Villa Florida**	**147.76**	**169**	PKPbc	**PKPdf**	**18 31 15.7**	**+0.3**

*ISCJB **30** 18:13:09.9±1.0,51.4N±0.04×16.13E±0.05, h0km, Error ellipse: s-maj=6.8km s-min=3.6km az=25.6*
*CSEM **30** 18:13:11.3±0.6,51.4N×16.13E, h2km, ML3.0/7, Error ellipse: s-maj=9.7km s-min=5.3km az=7.0*

ISC 30 18:13:11.6±1.6, 51.41N±0.07×16.13E±0.04, h0km, n26, σ0°93/49, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.58**	**170**	*e*Pg	**Pg**	**18 13 22.5**	**-0.2**
KSP				*e*Sg	**Sg**	**18 13 30.5**	**+0.3**
KSP	**Ksiaz**	**0.58**	**170**	*e*Pg	**Pg**	**18 13 22.5**	**-0.2**
KSP				*e*Sg	**Sg**	**18 13 30.5**	**+0.3**
UPC	**Upice**	**0.91**	**185**	*e*PG	**Pg**	**18 13 28.6**	**-0.4**
UPC				*e*SG	**Sg**	**18 13 40.7**	**-0.1**
	comp=Z,45nm,0.3s						
UPC	**Upice**	**0.91**	**185**	Pg	**Pg**	**18 13 28.6**	**-0.4**
UPC				Sg	**Sg**	**18 13 40.7**	**-0.1**
	45nm,0.3s						
DPC	**Dobruska-Polom**	**1.07**	**173**	*e*PG	**Pg**	**18 13 31.2**	**-0.9**
DPC				*e*SG	**Sg**	**18 13 45.8**	**-0.1**
	comp=Z,15nm,0.3s						
DPC	**Dobruska-Polom**	**1.07**	**173**	Pg	**Pg**	**18 13 31.2**	**-0.9**
DPC				Sg	**Sg**	**18 13 45.8**	**-0.1**
	15nm,0.3s						
PVCC	**Panska Ves**	**1.33**	**229**	*e*PG	**Pg**	**18 13 37.0**	**0.0**
PVCC				*e*SG	**Sb**	**18 13 55.2**	**+0.3**
	comp=Z,69nm,0.3s						
PVCC	**Panska Ves**	**1.33**	**229**	Pg	**Pg**	**18 13 37.0**	**0.0**
PVCC				Sg	**Sb**	**18 13 55.2**	**+0.3**
	69nm,0.3s						
KRLC	**Kraliky**	**1.40**	**163**	*e*PG	**Pg**	**18 13 37.1**	**-1.3**
KRLC				*e*SG	**Sg**	**18 13 55.4**	**-1.2**
	comp=Z,2.0nm,0.3s						
KRLC	**Kraliky**	**1.40**	**163**	Pg	**Pg**	**18 13 37.1**	**-1.3**
KRLC				Sg	**Sg**	**18 13 55.4**	**-1.2**
	2.0nm,0.3s						
BRG	**Berggiesshubel**	**1.48**	**249**	PG	**Pn**	**18 13 39.6**	**+0.1**
BRG				SG	**Sn**	**18 14 00.2**	**+0.7**
	34nm,0.4s						
GOPC	**GO Pecny, Ondr**	**1.73**	**210**	*e*PG	**Pb**	**18 13 43.9**	**-0.3**
GOPC				*e*SG	**Sg**	**18 14 06.9**	**-0.1**
	comp=Z,7.1nm,0.3s						
GOPC	**GO Pecny, Ondr**	**1.73**	**210**	Pg	**Pb**	**18 13 43.9**	**-0.3**
GOPC				Sg	**Sg**	**18 14 06.9**	**-0.1**
	7.1nm,0.3s						
PRU	**Pruhonice**	**1.75**	**216**	*e*PG	**Pb**	**18 13 44.1**	**-0.4**
PRU				*e*SG	**Sg**	**18 14 07.4**	**-0.3**
	comp=Z,13nm,0.4s						
PRU	**Pruhonice**	**1.75**	**216**	Pg	**Pb**	**18 13 44.1**	**-0.4**
PRU				Sg	**Sg**	**18 14 07.4**	**-0.3**
	13nm,0.4s						
MORC	**Moravsky Berou**	**1.87**	**151**	*e*Pn	**Pn**	**18 13 43.3**	**-1.6**
MORC				*e*Sg	**Sn**	**18 14 09.5**	**+0.3**
CLL	**Collm**	**1.96**	**268**	*e*Pg	**Pb**	**18 13 48.0**	**-0.2**
CLL				*e*Sg	**Sg**	**18 14 15.0**	**+0.4**
	comp=Z,8.0nm,0.5s						
VRAC	**Vranov**	**2.13**	**172**	*e*Pn	**Pn**	**18 13 48.1**	**-0.3**
VRAC				*e*Sg	**Sb**	**18 14 17.9**	**0.0**
NKC	**Novy Kostel**	**2.62**	**245**	*e*SG	**Sg**	**18 14 35.5**	**-0.1**
	comp=Z,14nm,0.3s						
NKC	**Novy Kostel**	**2.62**	**245**	Sg	**Sg**	**18 14 35.5**	**-0.1**
	comp=Z,14nm,0.3s						
KHC	**Kasperske Hory**	**2.81**	**217**	*e*PN	**Pn**	**18 13 57.8**	**0.0**
KHC				*e*PG	**Pb**	**18 14 03.5**	**+0.8**
KHC				*e*SN	**Sn**	**18 14 32.1**	**-0.3**
KHC				*e*SG	**Sg**	**18 14 40.3**	**-1.5**
KHC	**Kasperske Hory**	**2.81**	**217**	Pn	**Pn**	**18 13 57.8**	**0.0**
MODS	**Modra-Piesok**	**3.13**	**166**	*e*Pg	**Pg**	**18 14 12.7**	**+1.1**
MODS				*e*Sg	**Sg**	**18 14 55.4**	**+3.3**
MODS	**Modra-Piesok**	**3.13**	**166**	*e*PG	**Pg**	**18 14 12.7**	**+1.1**
MODS				*e*SG	**Sg**	**18 14 55.4**	**+3.3**
VYHS	**Vyhne**	**3.40**	**148**	*e*Pg	**Pg**	**18 14 17.2**	**+0.4**
VYHS	**Vyhne**	**3.40**	**148**	*e*PG	**Pg**	**18 14 17.2**	**+0.4**

JMA 30 18:34:00.8, 36.48N×137.68E, h4km±1km, M0.7, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JNG	**Nsakai**	**0.35**	**102**	P	Pg	18 34 07.8	+0.3
JNG				S	Sg	18 34 12.7	+0.6
JGN	**Niukaw**	**0.39**	**229**	S	Sg	18 34 13.6	+0.2
MAT	**Matsushiro**	**0.43**	**81**	P	Pg	18 34 09.2	+0.1
MAT				S	Sg	18 34 15.0	+0.3
MAT	**Matsushiro**	**0.43**	**81**	P	Pg	18 34 09.1	0.0
MAT				S	Sg	18 34 15.0	+0.3

MEX 30 18:55:39.4±0.3, 15.35N×93.45W, h93km±4km, MD3.7, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		**0.42**	**32**	*e*P	Pn	18 55 52.6	-1.3
PCIG				*e*S	Sn	18 56 02.8	-1.8
TGIG		**1.46**	**12**	*e*P	Pn	18 56 03.5	-1.3
TGIG				*e*S	Sn	18 56 22.5	-1.6
CCIG	**Comitan**	**1.57**	**53**	*e*P	Pn	18 56 05.2	-1.2
CCIG				*e*S	Sn	18 56 25.1	-1.6

*DDA **30** 18:58:59.0, 40.13N×31.83E, h7km, Ml2.6*
*ISCJB **30** 18:58:59.2±0.7, 40.16N±0.04×31.75E±0.04, h3km±7km, Error ellipse: s-maj=6.7km s-min=4.7km az=146.6*
*CSEM **30** 18:58:59.3±0.2, 40.17N×31.73E, h10km, ML2.6, Error ellipse: s-maj=6.2km s-min=5.2km az=157.0*
*ISK **30** 18:58:59.2, 40.14N×31.74E, h8km, ML2.3/4*

ISC 30 18:58:59.3±1.2, 40.15N±0.03×31.73E±0.03, h2km±11km, n22, σ0°84/34, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AUMIH	**MIHALICIK**	**0.34**	**214**	PG	**Pg**	**18 59 06.0**	**+0.1**
AUMIH				SG	**Sg**	**18 59 11.3**	**+1.1**
AUMIH	**MIHALICIK**	**0.34**	**214**	*i* P	**Pg**	**18 59 05.9**	**+0.1**
AUMIH				*i* S	**Sb**	**18 59 13.1**	**-1.0**
AUMIH	**MIHALICIK**	**0.34**	**214**	P	**Pg**	**18 59 05.9**	**+0.1**
AUMIH				S	**Sb**	**18 59 13.1**	**-1.0**
MDUB	**Mudurnu**	**0.52**	**309**	PG	**Pg**	**18 59 09.6**	**+0.2**
MDUB	**Mudurnu**	**0.52**	**309**	*e*Pg	**Pg**	**18 59 09.6**	**+0.2**
CMDR	**Camlidere-ANKA**	**0.67**	**58**	*i* P	**Pg**	**18 59 11.7**	**-0.4**
CMDR				*i* S	**Sb**	**18 59 23.7**	**+0.1**
CMDR	**Camlidere-ANKA**	**0.67**	**58**	P	**Pg**	**18 59 11.7**	**-0.4**
BCAM	**Yenicaga**	**0.71**	**21**	*i* P	**Pg**	**18 59 12.9**	**-0.1**
BCAM				*i* S	**Sg**	**18 59 22.9**	**+0.6**
BCAM	**Yenicaga**	**0.71**	**21**	P	**Pg**	**18 59 12.9**	**-0.1**
BCAM				S	**Sg**	**18 59 22.9**	**+0.6**
SAHE	**Sakarya_HENDEK**	**0.97**	**317**	*i* P	**Pg**	**18 59 17.5**	**-0.5**
SAHE				*i* S	**Sn**	**18 59 34.3**	**-0.2**
SAHE	**Sakarya_HENDEK**	**0.97**	**317**	P	**Pg**	**18 59 17.5**	**-0.5**
GULT	**Gulveren**	**0.97**	**287**	PG	**Pb**	**18 59 18.8**	**-0.2**
GULT	**Gulveren**	**0.97**	**287**	*e*Pg	**Pb**	**18 59 18.8**	**-0.2**
BORA	**Eskisehir**	**1.02**	**255**	PG	**Pg**	**18 59 19.0**	**+0.1**
BORA				SG	**Sb**	**18 59 33.9**	**+0.2**
BORA	**Eskisehir**	**1.02**	**255**	*i* P	**Pg**	**18 59 18.2**	**-0.7**
BORA				*i* S	**Sn**	**18 59 36.3**	**+0.5**
BORA	**Eskisehir**	**1.02**	**255**	P	**Pg**	**18 59 18.2**	**-0.7**
GEYV	**SAKARYA_Geyve**	**1.15**	**287**	*i* P	**Pg**	**18 59 19.8**	**-1.6**
GEYV				*i* S	**Sn**	**18 59 41.9**	**+3.1**
GEYV	**SAKARYA_Geyve**	**1.15**	**287**	P	**Pg**	**18 59 19.8**	**-1.6**
AFSR	**Afˆar-Bala (A**	**1.25**	**124**	PN	**Pg**	**18 59 23.3**	**+0.1**
AFSR				SN	**Sn**	**18 59 41.0**	**-0.4**
AFSR	**Afˆar-Bala (A**	**1.25**	**124**	*e*Pn	**Pg**	**18 59 23.3**	**+0.1**
AFSR				*e*Sn	**Sn**	**18 59 41.0**	**-0.4**
TVSB	**Tavsanli**	**1.88**	**249**	PN	**Pn**	**18 59 32.6**	**-0.1**
TVSB	**Tavsanli**	**1.88**	**249**	*e*Pn	**Pn**	**18 59 32.6**	**-0.1**

*IDC **30** 19:03:19.6±2.2, 15.44S×176.18W, h351km±46km, mb3.1/3, mb1 3.4/4, mb1mx3.0/54, mbtmp3.9/4, Error ellipse: s-maj=176.6km s-min=20.4km az=147.0*

ISC 30 19:03:18.7±0.9, 15.9S±0.3×176.0W±0.2, h360km, n10, σ1°91/9, mb3.5/3, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**4.51**	**64**	P	**Pn**	**19 04 34.7**	**+1.1**
	7.9nm,0.3s,baz=24,slow=2.0,SNR=8.3						
WRA	**Warramunga Arr**	**47.33**	**257**	P	**P**	**19 11 18.1**	**+0.1**
	0.2nm,0.4s,baz=88,slow=7.3,SNR=12						
ASAR	**Alice Springs**	**47.61**	**252**	P	**P**	**19 11 21.4**	**+1.3**
	2.8nm,0.5s,baz=86,slow=8.0,SNR=82						
ILAR	**Eielson Array**	**93.44**	**12**	P	**P**	**19 15 04.4**	**-1.8**
	0.4nm,0.5s,baz=218,slow=5.7,SNR=4.0						
VNA3	**Neumayer Olymp**	**92.56**	**176**	P	**P**	**19 15 50.9**	**+1.3**
VNA2	**Neumayer--Watz**	**93.03**	**176**	P	**P**	**19 15 51.5**	**-0.2**
VNA1	**Neumayer--Stat**	**93.24**	**176**	P	**P**	**19 15 49.1**	**-3.6**
BRTR	**Keskin Array B**	**144.95**	**318**	PKP	PKPbc	19 22 14.2	+0.2
	1.4nm,0.9s,baz=86,slow=2.4,SNR=7.5						
GERES	**GERESS Array B**	**146.21**	**348**	PKPbc	**PKPbc**	**19 22 17.6**	**+0.2**
	0.4nm,0.6s,baz=33,slow=2.7,SNR=3.5						
MMAI	**Mount Meron Ar**	**146.93**	**307**	PKPbc	**PKPbc**	**19 22 21.0**	**+1.1**
	0.4nm,0.4s,baz=72,slow=2.3,SNR=2.7						

*BJI **30** 19:12:45.1, 3.28N×127.50E, h37km, mb5.0/67, mB4.9/38, Ms4.3/27, Ms7 4.1/28*
*MOS **30** 19:12:48.1±1.0, 3.72N×127.48E, h33km, mb5.3/56, Error ellipse: s-maj=9.3km s-min=4.6km az=107.1*
*ISCJB **30** 19:12:49.4±0.1, 3.70N±0.02×127.43E±0.03, h45km, mb4.9/151, MS3.9/27, Error ellipse: s-maj=3.9km s-min=2.5km az=1.1*
*NEIC **30** 19:12:50.0±0.2, 3.71N×127.51E, h35km, mb5.0/58, Error ellipse: s-maj=6.1km s-min=3.7km az=94.0*
*IDC **30** 19:12:51.4±1.7, 3.68N×127.45E, h48km±16km, mb4.6/44, mb1 4.6/47, mb1mx4.5/64, mbtmp4.8/47, ML5.0/3, MS3.6/16, Ms1 3.7/16, ms1mx3.4/55, Error ellipse: s-maj=15.4km s-min=8.7km az=90.0*
*DJA **30** 19:12:53.4±0.4, 4.1N±3.2×12.7E±°, h70km±5km, M4.7/36, mb5.0/36, mB5.2/26, MLv5.1/13, Mw(mB)4.6/26, Mwp6.2/1*

ISC 30 19:12:51.1±0.3, 3.66N±0.04×127.43E±0.05, h45km, n344, σ1°47/355, mb4.9/148, MS3.8/27, 15C-16D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SGSI	**Sangihe**	**1.90**	**271**	P	**Pn**	**19 13 20.1**	**-0.9**
TNTI	**Ternate**	**2.86**	**181**	*e*Pn	**Pn**	**19 13 35.7**	**+1.4**
GSPH	**General Santos**	**3.46**	**314**	*e*P	**Pn**	**19 13 41.0**	**-1.5**
DAV	**Davao City (W)**	**3.86**	**332**	P	**Pn**	**19 13 49.3**	**+1.3**
	118nm,0.3s,baz=54,slow=1.5,SNR=17						
DAV				S	Sn	19 14 42.6	+11
	79nm,0.3s,baz=248,slow=23,SNR=6.3						
DAV				LR	LR	19 14 48.8	
	comp=Z,500nm,19.7s,baz=108,slow=30						
KCP	**Kidapawan**	**4.07**	**325**	*e*P	**Pn**	**19 13 52.0**	**+1.2**
LBMI	**Labuha**	**4.26**	**179**	P	**Pn**	**19 13 55.6**	**+2.1**
KMSI	**Cibinong**	**4.61**	**228**	P	**Pn**	**19 14 00.2**	**+2.0**
BIPH	**Bislig**	**4.62**	**347**	*e*P	**Pn**	**19 14 02.5**	**+4.0**
BIPH				*e*S	**Sn**	**19 14 59.5**	**+8.6**
CTBH	**Cotabato--PC H**	**4.75**	**318**	*e*P	**Pn**	**19 13 59.1**	**-1.1**
SANI	**Sanana**	**5.85**	**194**	P	**Pn**	**19 14 14.4**	**-0.9**
	234nm,0.5s,9μm1.6nm						
SIJI	**Sorong**	**5.91**	**139**	P	**Pn**	**19 14 18.2**	**+2.1**
	27nm,0.3s,baz=324,slow=17,SNR=63						
SIJI				S	**Sn**	**19 15 21.9**	**-0.6**
	5.1nm,0.3s,baz=15,slow=18,SNR=1.5						
ZCP	**Zamboanga City**	**6.25**	**302**	*e*P	**Pn**	**19 14 18.4**	**-2.3**
MRSI	**Marisa**	**6.33**	**240**	P	**Pn**	**19 14 23.2**	**+1.3**
	286nm,0.6s,3μm1.0nm						
LUWI	**Luwuk**	**6.59**	**225**	P	**Pn**	**19 14 26.4**	**+0.9**
	506nm,0.7s,4μm1.9nm						
LUWI	**Luwuk**	**6.59**	**225**	*e*Pn	**Pn**	**19 14 28.2**	**+2.8**
TBP	**Tagbilaran**	**6.96**	**330**	*e*P	Pn	19 14 37.5	+6.9
SNPH	**Sibulan**	**7.02**	**324**	*e*P	Pn	19 14 38.4	+6.9
MSAI	**Masohi**	**7.11**	**168**	P	**Pn**	**19 14 36.4**	**+3.7**
	42nm,1.0s,535nm0.1nm						
AAI	**Ambon**	**7.33**	**174**	P	**Pn**	**19 14 38.3**	**+2.6**
	14.4nm,0.9s,1μm0.4nm						
APSI	**Ampana**	**7.34**	**232**	P	**Pn**	**19 14 38.2**	**+2.4**
	505nm,0.9s,5μm1.8nm						
LLP	**Lapu-Lapu**	**7.46**	**333**	*e*P	**Pn**	**19 14 40.6**	**+3.3**
LLP				*e*S	Sn	19 15 50.6	-10
PALU	**Palau**	**7.91**	**62**	P	**Pn**	**19 14 42.5**	**-1.1**
	baz=7.8,SNR=3.8						
FAKI	**Fak Fak**	**8.11**	**144**	P	**Pn**	**19 14 49.6**	**+3.2**
FAKI	**Fak Fak**	**8.11**	**144**	*e*Pn	**Pn**	**19 14 49.4**	**+3.0**
MPSI	**Mapaga**	**8.22**	**247**	P	**Pn**	**19 14 48.1**	**+0.3**
	37nm,0.6s,501nm						
PCI	**Palu**	**8.84**	**239**	P	**Pn**	**19 14 56.7**	**+0.4**
	81nm,0.9s,842nm						
PCI	**Palu**	**8.84**	**239**	P	**Pn**	**19 15 00.0**	**+3.7**
PCI				pmax	pmax		
	comp=Z,81nm,0.9s						
MYLDM	**Lahad Datu**	**9.03**	**280**	*e*Pn	**Pn**	**19 15 01.8**	**+2.8**
RCP	**Roxas**	**9.12**	**330**	*e*P	**Pn**	**19 15 04.8**	**+4.6**
TTSI	**Tana Toraja**	**10.11**	**229**	P	**Pn**	**19 15 14.8**	**+1.1**
	comp=Z,108nm,0.6s,comp=Z,880nm						
BNSI	**Bone**	**10.84**	**223**	P	**Pn**	**19 15 23.6**	**-0.2**
BSSI	**Bau Bau, Buton**	**11.95**	**215**	P	**Pn**	**19 15 39.6**	**+0.7**
	comp=Z,128nm,0.6s,comp=Z,1μm						
KBKI	**Kotabaru**	**13.21**	**239**	P	**Pn**	**19 15 56.9**	**+0.8**
	comp=Z,37nm,1.0s,comp=Z,1μmcomp=Z,93μm						
MMRI	**Maumere**	**13.26**	**203**	P	**Pn**	**19 15 58.7**	**+1.9**
	comp=Z,132nm,1.0s,comp=Z,1μm						
MMRI	**Maumere**	**13.26**	**203**	*e*Pn	**Pn**	**19 15 56.1**	**-0.7**
MTKI	**Muara Teweh, K**	**13.33**	**250**	P	**Pn**	**19 15 59.2**	**+1.4**
SOEI	**Soe**	**13.69**	**193**	P	**Pn**	**19 16 05.8**	**+3.0**
	comp=Z,132nm,0.8s,comp=Z,1μm						
SOEI	**Soe**	**13.69**	**193**	*e*Pn	**Pn**	**19 16 03.5**	**+0.7**
GENI	**Genyem**	**14.16**	**116**	P	**Pn**	**19 16 18.7**	**+3.1**
BATI	**Baumata**	**14.27**	**195**	P	**Pn**	**19 16 12.4**	**+1.9**
	comp=Z,8.6nm,0.3s,baz=75,slow=3.4,SNR=17						
BATI	**Baumata**	**14.27**	**195**	P	**Pn**	**19 16 12.7**	**+2.1**
	comp=Z,66nm,0.5s,comp=Z,971nm						
JAY	**Jayapura**	**14.62**	**115**	P	**P**	**19 16 18.0**	**-2.7**
WSI	**Waingapu**	**15.02**	**208**	P	**Pn**	**19 16 22.1**	**+1.6**
	comp=Z,274nm,0.5s,comp=Z,3μm						
SBUM	**Sibu**	**15.23**	**266**	*e*Pn	**Pn**	**19 16 23.5**	**+0.1**
	comp=Z,21nm,0.9s						
WBSI	**Waikabubak, Su**	**15.45**	**211**	P	**Pn**	**19 16 25.9**	**-0.2**
PLAI	**Plampang**	**15.70**	**218**	P	**Pn**	**19 16 30.2**	**+0.9**
TWSI	**Taliwang, Sumb**	**16.19**	**220**	P	**Pn**	**19 16 36.6**	**+1.0**
STKI	**Sintang**	**16.34**	**258**	P	**Pn**	**19 16 38.3**	**+0.9**
	comp=Z,27nm,1.1s,comp=Z,3μm						
MTN	**Manton Dam**	**16.80**	**167**	P	**Pn**	**19 16 42.0**	**-1.2**
	baz=17,SNR=18						
MTN	**Manton Dam**	**16.80**	**167**	*e*Pn	**Pn**	**19 16 42.8**	**-0.4**
	comp=Z,46nm,0.4s						
SRBI	**Singaraja**	**16.87**	**226**	P	**Pn**	**19 16 44.0**	**-0.1**
KSM	**Kuching**	**17.24**	**263**	*e*Pn	**Pn**	**19 16 48.8**	**0.0**
	comp=Z,17nm,0.8s						
IGBI	**Denpasar**	**17.42**	**225**	P	**P**	**19 16 51.8**	**0.0**
JAGI	**Jajag, Banyuwa**	**17.90**	**228**	P	**P**	**19 16 57.8**	**+0.7**
	comp=Z,52nm,0.7s,comp=Z,968nm						
JAGI	**Jajag, Banyuwa**	**17.90**	**228**	*e*Pn	**P**	**19 16 59.2**	**+2.1**
	comp=Z,47nm,1.0s						
KNRA	**Kununurra**	**19.25**	**176**	P	**P**	**19 17 11.3**	**-0.5**
	baz=19,SNR=21						
PWJI	**Pagerwojo**	**19.43**	**233**	P	**P**	**19 17 11.2**	**-2.7**
GUMO	**Guam**	**19.85**	**59**	LR	LR	19 23 35.1	
	comp=Z,214nm,21.4s,baz=236,slow=32						
TWG	**Pinlang**	**20.02**	**343**	*e*P	**P**	**19 17 18.0**	**-2.3**
	comp=Z,285nm,0.7s						
YULB	**Yu-li**	**20.50**	**344**	*e*P	**P**	**19 17 22.7**	**-2.7**
	comp=Z,68nm,0.7s						
TPUB	**Ta-pu**	**20.61**	**342**	*e*P	**P**	**19 17 24.9**	**-1.7**
	comp=Z,276nm,0.7s						
SSLB	**Suanglung**	**20.97**	**343**	*e*P	**P**	**19 17 28.1**	**-2.5**
	comp=Z,118nm,0.7s						
FITZ	**Fitzroy Crossi**	**21.69**	**185**	P	**P**	**19 17 36.7**	**-1.5**
	baz=22,SNR=12						
FITZ	**Fitzroy Crossi**	**21.69**	**185**	*e*P	**P**	**19 17 36.7**	**-1.5**
	comp=Z,14nm,0.8s						
YHNB	**Yeheng**	**21.69**	**345**	*e*P	**P**	**19 17 37.5**	**-0.8**
	comp=Z,103nm,0.6s						
LEM	**Lembang**	**22.35**	**242**	P	**P**	**19 17 45.2**	**-0.4**
	comp=Z,9.8nm,0.5s,baz=144,slow=18,SNR=5.5						
LEM				LR	LR	19 26 30.0	
	comp=Z,130nm,20.3s,baz=143,slow=37						
JOW	**Kunigami**	**23.06**	**2**	P	**P**	**19 17 52.1**	**-0.7**
	comp=Z,25nm,0.9s,baz=149,slow=7.9,SNR=5.4						
CGJI	**Cibinong**	**23.98**	**245**	P	**P**	**19 18 00.6**	**-1.0**
	comp=Z,40nm,0.8s						
WRAB	**Tennant Creek**	**24.41**	**164**	*e*P	**P**	**19 18 04.4**	**-1.0**
	comp=Z,26nm,0.7s						
WRAB	**Tennant Creek**	**24.41**	**164**	*d i*P	**P**	**19 18 04.9**	**-0.6**
WRAB				pmax	pmax		
	comp=Z,26nm,1.0s						
WRA	**Warramunga Arr**	**24.41**	**164**	P	**P**	**19 18 04.3**	**-1.2**
	comp=Z,7.8nm,0.5s,baz=340,slow=10,SNR=20						
WB2	**Warramunga Arr**	**24.42**	**164**	*e*P	**P**	**19 18 04.5**	**-1.0**
	comp=Z,26nm,0.6s						
WB2				*e*S	**S**	**19 22 25.5**	**+3.0**
MDSI	**Maura Dua**	**24.60**	**251**	P	**P**	**19 18 08.4**	**+1.1**
SKNT	**Sakolnakorn**	**26.55**	**302**	P	**P**	**19 18 22.9**	**-2.1**
	comp=Z,21nm,0.8s						
QIS	**Mount Isa**	**26.86**	**154**	P	**P**	**19 18 27.9**	**+0.1**
	baz=27,SNR=9.5						
SRAK	**Srakaew**	**27.08**	**294**	P	**P**	**19 18 24.9**	**-4.9**
CBIJ	**Chichi jima**	**27.25**	**30**	P	**P**	**19 18 29.8**	**-1.4**
JCJ	**Chichijima**	**27.25**	**30**	P	**P**	**19 18 29.8**	**-1.4**
	comp=Z,87nm,0.7s,baz=276,slow=17,SNR=3.8						
KHON	**Khomkaen**	**27.27**	**299**	P	**P**	**19 18 30.8**	**-0.6**
	comp=Z,12nm,0.8s						
CHAI	**Chaiyaphum**	**27.82**	**298**	P	**P**	**19 18 35.0**	**-1.4**
	comp=Z,15nm,0.6s,comp=Z,127nm						
AS31	**Alice Springs**	**27.88**	**167**	*e*P	**P**	**19 18 38.0**	**+1.2**
	comp=Z,3.4nm,0.5s						
ASAR	**Alice Springs**	**27.88**	**167**	P	**P**	**19 18 36.6**	**-0.2**
	comp=Z,2.1nm,0.3s,baz=342,slow=11,SNR=26						
ASAR				PcP	**PcP**	**19 21 52.1**	**+0.1**
	comp=Z,1.2nm,0.6s,baz=346,slow=2.0,SNR=4.0						
AS01	**Alice Springs**	**27.89**	**167**	*e*P	**P**	**19 18 37.5**	**+0.6**
WRKA	**Warakurna**	**28.53**	**178**	P	**P**	**19 18 42.0**	**-0.7**
	baz=29,SNR=6.1						
PBKT	**Sadao Pong**	**28.98**	**298**	P	**P**	**19 18 44.9**	**-1.8**
	comp=Z,14nm,0.9s						
NJ2	**Nanjing**	**29.38**	**345**	*e*P	**P**	**19 18 51.3**	**+1.3**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
WHN	**Wuhan**	**29.46**	**337**	P	**P**	**19 18 52.0**	**+1.2**
WHN				S	**S**	**19 23 44.8**	**+2.7**
WHN				pmax	pmax		
	comp=Z,48nm,0.9s						
WHN				LR	LR		
	comp=Z,770nm,21.3s						
JNU	**Nakatsue**	**29.49**	**6**	P	**P**	**19 18 50.5**	**-0.6**
	comp=Z,10.0nm,0.7s,baz=187,slow=3.3,SNR=7.9						
JNU				LR

comp=Z,170nm,6.0s
CD2 LR LR
comp=Z,270nm,17.9s
CD2 LR LR
comp=Z,270nm,14.4s
KMBL Kambalda 35.23 188 P **P** 19 19 41.2 -0.1
baz=35,SNR=6.8
DL2 Dalian 35.48 352 P **P** 19 19 43.8 +0.4
DL2 pmax pmax
comp=Z,27nm,0.7s
BLDU Ballidu 35.58 196 P **P** 19 19 44.0 -0.3
baz=36,SNR=31
KLBR Kellerberrin 36.24 194 P **P** 19 19 49.8 -0.1
baz=36,SNR=61
TIY Taiyuan 36.57 340 *eP* **P** 19 19 53.5 +0.7
TIY pP **pP** 19 20 04.5 -0.5
TIY S **S** 19 25 31.0 -1.5
TIY pmax pmax
comp=Z,45nm,0.8s
TIY LR LR
comp=Z,95nm,7.4s
TIY LR LR
comp=Z,69nm,5.4s
TIY LR LR
comp=Z,130nm,22.9s
MUN Mundaring 37.01 196 P **P** 19 19 56.6 +0.2
baz=37,SNR=16
BBOO Buckleboo 37.18 168 P **P** 19 19 57.4 -0.5
baz=37,SNR=5.7
BJT Baijiatuau 37.61 346 *eP* **P** 19 20 01.4 0.0
comp=Z,93nm,1.1s
BJT Baijiatuau 37.61 346 *eP* **P** 19 20 01.4 0.0
BJT pmax pmax
comp=Z,93nm,1.1s
BJI Beijing 37.63 346 P **P** 19 20 01.5 -0.1
BJI pmax pmax
comp=Z,84nm,1.0s
BJI Beijing 37.63 346 P **P** 19 20 01.4 -0.1
BJI pmax pmax
comp=Z,93nm,1.1s
NWAO Narrogin (SRO) 37.64 194 P **P** 19 20 02.0 +0.2
comp=Z,23nm,0.5s,baz=253,slow=9.3,SNR=46
NWAO Narrogin (SRO) 37.64 194 P **P** 19 20 02.2 +0.3
baz=38,SNR=29
NWAO P **P** 19 20 02.2 +0.3
baz=38,SNR=29
NWAO Narrogin (SRO) 37.64 194 *eP* **P** 19 20 01.3 -0.5
comp=Z,92nm,1.5s
STKA Stephens Creek 37.82 160 P **P** 19 20 03.2 -0.1
comp=Z,10nm,0.6s,baz=336,slow=9.2,SNR=38
STKA Stephens Creek 37.82 160 P **P** 19 20 03.2 -0.1
baz=38,SNR=30
STKA Stephens Creek 37.82 160 *eP* **P** 19 20 03.3 -0.1
comp=Z,3.2nm,0.8s
STKA Stephens Creek 37.82 160 *eP* **P** 19 20 03.3 -0.1
STKA pmax pmax
comp=Z,3.0nm,0.8s
SNY Shenyang 38.16 355 ⇑P **P** 19 20 06.0 -0.1
SNY pmax pmax
comp=Z,9.0nm,0.5s
LZH Lanzhou 38.92 329 *eP* **P** 19 20 13.3 +0.5
LZH pP pP 19 20 23.8 -1.2
LZH sP sP 19 20 28.8 -1.6
LZH PP **PnPn** **19 21 48.8 +3.5**
LZH S **S** **19 26 16.0 +7.6**
LZH SS **SS** **19 29 00.3 -1.0**
LZH pmax pmax
comp=Z,49nm,1.0s
LZH pmax pmax
comp=Z,180nm,4.3s
LZH LR LR
comp=Z,630nm,10.0s
LZH LR LR
comp=Z,520nm,11.5s
LZH LR LR
comp=Z,700nm,12.1s
CMSA Cobar Meteorol 39.08 155 P **P** 19 20 14.8 +0.8
baz=39,SNR=6.1
RKGY Rocky Gully 39.31 194 P **P** 19 20 16.8 +1.0
baz=40,SNR=6.2
VLA Vladivostok 39.50 5⇓ *eP* **P** 19 20 18.4 +1.1
VLA pmax pmax
comp=Z,43nm,1.3s
HHC Hu-ho-hao-te 39.69 341 *eP* **P** 19 20 20.3 +1.2
HHC pP pP 19 20 29.8 -1.5
HHC sP sP 19 20 32.3 -4.3
HHC S **S** **19 26 19.8 +0.2**
HHC sS sS 19 26 36.0 -4.1
HHC pmax pmax
comp=Z,40nm,1.0s
HHC pmax pmax
comp=Z,120nm,5.9s
HHC LR LR
comp=Z,1μm,13.8s
HHC LR LR
comp=Z,1μm,12.9s
HHC LR LR
comp=Z,1μm,13.8s
USRK Ussuriysk Ar. 40.58 5 P **P** 19 20 27.4 +1.2
comp=Z,8.7nm,0.8s,baz=190,slow=7.6,SNR=11
USRK LR LR 19 38 32.1
comp=Z,62nm,21.2s,baz=183,slow=38
ERM Erimo 40.70 18⇑ *eP* **P** 19 20 27.8 +0.5
ERM pmax pmax
comp=Z,19nm,1.0s
MDJ Mudanjiang 40.84 2 P **P** 19 20 27.3 -1.1
MDJ pmax pmax
comp=Z,32nm,1.1s
MDJ pmax pmax
comp=Z,87nm,4.2s
MDJ Mudanjiang 40.84 2 *eP* **P** 19 20 29.3 +0.9
comp=Z,30nm,1.0s
H11S3 WAKE ISLAND Hy 41.12 66 T T 20 04 06.9
baz=253,slow=75,SNR=25
H11S1 WAKE ISLAND Hy 41.14 66 T T 20 04 08.6
baz=253,slow=75,SNR=17
H11S2 WAKE ISLAND Hy 41.14 66 T T 20 04 08.4
baz=253,slow=75,SNR=32
TEY Ternei 41.99 10 *eP* **P** 19 20 36.0 -1.8
ASAJ Asahikawa 42.46 16 P **P** 19 20 42.0 +0.3
comp=Z,18nm,0.7s,baz=206,slow=9.8,SNR=20
ASAJ Asahikawa 42.46 16 *eP* **P** 19 20 42.3 +0.6
comp=Z,17nm,0.7s
LSA Lhasa 43.01 311 *eP* **P** 19 20 47.0 0.0
comp=Z,10nm,0.6s
LSA Lhasa 43.01 311 *eP* **P** 19 20 47.0 0.0
LSA pmax pmax
comp=Z,10.0nm,0.6s
GTA Gaotai 43.52 329 P **P** 19 20 50.0 -0.5
GTA pP pP 19 20 58.5 -4.4
GTA sP sP 19 21 02.3 -5.9
GTA S **S** **19 27 16.0 -0.5**
GTA sS sS 19 27 31.5 -5.6
GTA SS **SS** **19 30 25.3 -7.0**
GTA pmax pmax
comp=Z,9.0nm,1.1s
GTA pmax pmax
comp=Z,120nm,6.2s
GTA LR LR
comp=Z,150nm,16.6s
GTA LR LR
comp=Z,110nm,16.6s
GTA LR LR
comp=Z,180nm,20.9s
ODAN Odare 44.68 305 *eP* **P** 19 20 59.1 -1.0
comp=Z,64nm,0.7s
YSS Yuzh-Sakhalins 45.13 15 *eP* **P** 19 21 02.9 -0.1
comp=Z,12nm,0.8s
YSS Yuzh-Sakhalins 45.13 15⇓ *eP* **P** 19 21 03.0 -0.1
YSS *e* 19 21 12.6
YSS *e* 19 22 42.0
YSS pmax pmax
comp=Z,10.0nm,0.6s
YSS pmax pmax
comp=N,10.0nm,0.4s
YSS MLR MLR
comp=Z,100nm,13.0s
RAMN Ramite 45.36 305 *eP* **P** 19 21 04.3 -1.3
comp=Z,61nm,0.8s
KLR Kul'dur 45.56 4 P **P** 19 21 05.8 -0.6
comp=Z,1.2nm,0.9s,baz=203,slow=5.1,SNR=34
HIA Hailar 45.92 353 *eP* **P** 19 21 08.7 -0.6
comp=Z,19nm,1.0s
HIA Hailar 45.92 353 *ceP* **P** 19 21 09.9 +0.6
HIA pmax pmax
comp=Z,12nm,0.9s

JIRN Jiri 45.98 306 *eP* **P** 19 21 09.3 -1.3
comp=Z,81nm,0.8s
GUN Gumba 46.34 306 *eP* **P** 19 21 12.0 -1.3
comp=Z,73nm,0.8s
PKIN Phulchoki 46.59 305 *eP* **P** 19 21 14.2 -1.1
comp=Z,19nm,0.7s
KKN Kakani 46.77 305 *eP* **P** 19 21 14.9 -1.7
comp=Z,37nm,0.9s
DMN Daman 46.84 305 *eP* **P** 19 21 15.6 -1.6
comp=Z,33nm,0.8s
GKN Gorkha 47.38 305 *eP* **P** 19 21 19.6 -1.7
comp=Z,25nm,0.7s
ULN Ulaanbaatar 47.41 341 *eP* **P** 19 21 21.8 +0.6
comp=Z,82nm,1.8s
ULN Ulaanbaatar 47.41 341 *d iP* **P** 19 21 21.6 +0.4
ULN pmax pmax
comp=Z,42nm,1.7s
GRNR Gornyy 47.56 8 *eP* **P** 19 21 22.1 0.0
GRNR pmax pmax
comp=Z,78nm,1.0s
SONM Songino Array 47.59 341 P **P** 19 21 22.9 +0.3
comp=Z,6.9nm,0.6s,baz=158,slow=9.2,SNR=25
SONM PcP **PcP** 19 22 51.6 -0.3
comp=Z,2.7nm,0.8s,baz=166,slow=5.4,SNR=3.1
SONM LR LR 19 44 50.7
comp=Z,80nm,18.3s,baz=192,slow=40
SONA1 Songino Array 47.60 341 *eP* **P** 19 21 22.5 -0.1
KOLN Koldanda 48.14 305 *eP* **P** 19 21 26.3 -0.9
comp=Z,128nm,0.6s
DANN Dangsing 48.23 305 *eP* **P** 19 21 26.7 -1.3
comp=Z,152nm,0.6s
TYV Tymovskoe 48.76 13 *eP* **P** 19 21 32.1 +0.8
TYV pmax pmax
comp=Z,16nm,0.6s
PYUN Piuthan 48.76 305 *eP* **P** 19 21 31.2 -0.8
comp=Z,94nm,0.7s
CIT Chita 49.57 349 *eP* **P** 19 21 38.0 +0.4
CIT *e* 19 21 43.5
CIT *e* 19 21 51.1
CIT pmax pmax
comp=Z,44nm,1.2s
HYB Hyderabad 49.80 290 *i* P **P** 19 21 39.0 -0.9
ZEA Zeya 49.92 360 *eP* P 19 21 46.2 +6.0
ZEA pmax pmax
comp=Z,10.0nm,0.8s
NKL Nikolayevsk 50.53 10 *eP* **P** 19 21 45.0 +0.3
NKL pmax pmax
comp=N,21nm,0.5s
NKL pmax pmax
comp=E,35nm,0.5s
NKL pmax pmax
comp=Z,38nm,0.5s
ZAK Zakamensk 50.83 340 *eP* **P** 19 21 47.0 -0.2
ZAK *e* 19 23 03.6
ZAK pmax pmax
comp=Z,5.0nm,1.6s
TLY Talaya 51.82 341 *eP* **P** 19 21 54.5 0.0
comp=Z,9.5nm,0.8s
TLY Talaya 51.82 341 *eP* **P** 19 21 55.7 +1.2
TLY pmax pmax
comp=Z,14nm,1.1s
TLY MLR MLR
comp=Z,44nm,16.0s
MOY Mondy 52.69 340 *eP* **P** 19 22 02.3 +1.2
MOY pmax pmax
comp=Z,24nm,2.2s
KNGR Kungurtug, Tuv 53.13 337⇑ *eP* **P** 19 22 05.5 +1.1
WMQ Urumqi 53.19 325 P **P** 19 22 05.5 +0.6
WMQ pP pP 19 22 15.3 -2.2
WMQ sP sP 19 22 25.0 +2.3
WMQ pmax pmax
comp=Z,34nm,1.3s
WMQ pmax pmax
comp=Z,170nm,4.5s
WMQ LR LR
comp=Z,210nm,23.7s
WMQ LR LR
comp=Z,240nm,22.5s
WMQ LR LR
comp=Z,240nm,24.9s
BOD Bodaibo 55.04 351 *eP* **P** 19 22 17.9 -0.1
BOD pmax pmax
comp=Z,17nm,1.1s
HVS Khovu-Aksy 55.10 335 *deP* **P** 19 22 19.7 +1.0
HVS pmax pmax
comp=Z,31nm,0.7s
PETK Petropavlovsk- 55.24 22 P **P** 19 22 20.1 +0.5
comp=Z,16nm,0.8s,baz=194,slow=5.3,SNR=16
DGZ Jazzator, Alta 57.01 330 *i* P **P** 19 22 32.8 +0.4
DGZ pmax pmax
comp=Z,5.0nm,1.0s
PDGK Podgornoye 57.92 320 *i* P **P** 19 22 38.0 -0.9
PDGK pmax pmax
comp=Z,11nm,0.9s
MK01 Makanchi Array 58.00 325 *eP* **P** 19 22 38.3 -1.0
MK31 Makanchi Array 58.02 325 *eP* **P** 19 22 39.5 0.0
MK31 Makanchi Array 58.02 325 *eP* **P** 19 22 39.5 0.0
MKAR Makanchi Array 58.02 325 P **P** 19 22 39.4 0.0
comp=Z,12nm,0.5s,baz=118,slow=7.9,SNR=216
MKAR PcP **PcP** 19 23 30.1 -0.9
comp=Z,4.4nm,0.6s,baz=97,slow=5.4,SNR=4.6
MKAR LR LR 19 49 00.4
comp=Z,91nm,21.3s,baz=120,slow=37
MKAR Makanchi Array 58.02 325 *eP* **P** 19 22 39.5 0.0
comp=Z,102nm,0.5s
MKAR PcP **PcP** 19 23 30.1 -0.9
MKAR Makanchi Array 58.02 325 *eP* **P** 19 22 39.5 0.0
MKAR 19 23 30.1
MKAR pmax pmax
comp=Z,102nm,0.5s
MAKZ Makanchi 58.20 325 *eP* **P** 19 22 40.8 0.0
comp=Z,12nm,0.6s
MAKZ Makanchi 58.20 325 *i* P **P** 19 22 40.4 -0.3
MAKZ pmax pmax
comp=Z,9.0nm,0.6s
PRZ Przheval'sk 58.22 319 P **P** 19 22 41.4 +0.3
PRZ pmax pmax
comp=Z,15nm,0.7s
YAK Yakutsk 58.27 1 P **P** 19 22 40.5 -0.3
comp=Z,69nm,0.8s,baz=168,slow=2.7,SNR=32
YAK Yakutsk 58.27 1 *eP* **P** 19 22 40.4 -0.4
comp=Z,59nm,0.7s
YAK Yakutsk 58.27 1 *eP* **P** 19 22 40.1 -0.7
YAK *e*'PP **pP** **19 22 48.7 -4.9**
YAK *e* 19 23 30.8
YAK *e* 19 24 47.3
YAK *e*PPP PPP 19 26 11.1
YAK *e*S **S** **19 30 40.9 +1.4**
YAK *e* 19 32 27.3
YAK *e*SS **SS** **19 34 34.7 +2.8**
YAK pmax pmax
comp=Z,25nm,0.6s
YAK pmax pmax
comp=N,12nm,1.1s
YAK pmax pmax
comp=E,2.0nm,1.1s
YAK pmax pmax
comp=Z,73nm,4.6s
YAK pmax pmax
comp=N,40nm,4.0s
YAK pmax pmax
comp=E,40nm,5.0s
YAK smax smax
comp=N,46nm,4.8s
YAK smax smax
comp=E,65nm,4.6s
KSH Kashi 58.59 315 P **P** 19 22 45.0 +1.3
KSH sP pP 19 22 58.5 +2.0
KSH S **S** **19 30 45.3 +0.5**
KSH SS **SS** **19 34 41.3 +3.1**
KSH pmax pmax
comp=E,13nm,0.4s
KSH pmax pmax
comp=E,190nm,3.9s
KSH LR LR
comp=E,200nm,4.8s
KSH LR LR
comp=E,140nm,4.7s
KSH LR LR
comp=E,300nm,5.0s
MA2 Magadan 58.61 14 P **P** 19 22 43.9 +0.7
comp=E,7.1nm,0.7s,baz=197,slow=8.6,SNR=7.6
KDJ Kajisay 58.87 318 *eP* **P** 19 22 45.7 +0.1
comp=E,12nm,0.6s
KDJ Kajisay 58.87 318 P **P** 19 22 45.7 +0.1
KDJ pmax pmax
comp=Z,12nm,0.7s
KRAR Krasnoyarsk 59.07 338⇑ *iP* **P** 19 22 46.7 +0.2
NRN Naryn 59.36 317 P **P** 19 22 49.0 -0.3
NRN pmax pmax
comp=Z,4.0nm,0.6s
ULHL Ulahol 59.55 318 P **P** 19 22 49.6 -0.8
SNR=9.5
KZA Kyzart 60.14 317 P **P** 19 22 55.2 +0.5
SNR=12
TKM2 Tokmak 2 60.27 318 P **P** 19 22 55.5 +0.2
SNR=13
TKM2 Tokmak 2 60.27 318 *i* P **P** 19 22 54.8 -0.5
TKM2 pmax pmax
comp=Z,5.0nm,0.6s
SFK Sufi-Kurgan 60.54 315 P **P** 19 22 57.4 +0.2
SFK pmax pmax
comp=Z,7.0nm,0.6s
UCH Uchtor 60.70 317 P **P** 19 22 58.5 -0.1
SNR=12
AAK Ala-Archa 60.88 318 P **P** 19 22 59.9 +0.4
SNR=6.8
AAK Ala-Archa 60.88 318 *eP* **P** 19 22 59.8 +0.4
comp=Z,4.6nm,0.8s
AAK Ala-Archa 60.88 318 *eP* **P** 19 22 59.8 +0.4
AAK pmax pmax
comp=Z,5.0nm,0.8s
ZAA0 Zalesovo Array 60.97 333 *eP* **P** 19 22 59.1 -0.5
comp=Z,9.2nm,0.7s
ZALV Zalesovo Beam 60.97 333 P **P** 19 22 59.2 -0.4
comp=Z,7.6nm,0.4s,baz=129,slow=6.8,SNR=28
ZALV LR LR 19 50 39.7
comp=Z,52nm,21.9s,baz=46,slow=37
ZALV Zalesovo Beam 60.97 333 *eP* **P** 19 22 59.1 -0.5
USP Ospenovka 61.14 318 P **P** 19 23 01.2 +0.1
SNR=9.7
AML Almayashu 61.22 317 P **P** 19 23 02.5 +0.5
SNR=13
EKS2 Erkin-Say 61.38 317 P **P** 19 23 03.4 +0.6
SNR=8.3
SEY Seymchan 61.95 13 P **P** 19 23 06.3 +0.2
comp=Z,2.0nm,0.7s,baz=87,slow=23,SNR=10
SEY Seymchan 61.95 13⇓ *eP* **P** 19 23 06.4 +0.4
KBL Kabul 62.12 307 *eP* **P** 19 23 08.0 0.0
comp=Z,8.4nm,0.6s
KBL Kabul 62.12 307 *eP* **P** 19 23 08.0 0.0
KBL pmax pmax
comp=Z,8.0nm,0.6s
MNAS Manas 62.17 317 *i* P **P** 19 23 07.4 -0.8
MNAS pmax pmax
comp=Z,6.0nm,1.0s
KURBB Kurchatov Arra 62.18 327 P **P** 19 23 08.1 +0.3
comp=Z,31nm,0.5s,baz=128,slow=6.5,SNR=291
KURK Kurchatov 62.18 327 *eP* **P** 19 23 08.0 +0.1
comp=Z,61nm,0.6s
KURK Kurchatov 62.18 327 *d iP* **P** 19 23 07.9 +0.1
KURK pmax pmax
comp=Z,107nm,1.2s
NVS Novosibirsk 62.26 333 *eP* **P** 19 23 07.3 -0.9
NVS *e* 19 23 17.5
NVS pmax pmax
comp=N,10.0nm,0.8s
NVS pmax pmax
comp=Z,21nm,0.8s
NVS pmax pmax
comp=N,10.0nm,0.8s
KK31 Karatay Array 63.76 317 *eP* **P** 19 23 18.3 -0.2
KK31 Karatay Array 63.76 317 *ceP* **P** 19 23 18.0 -0.5
KK31 pmax pmax
comp=Z,8.0nm,0.9s
KKAR Karatay Array 63.76 317 *eP* **P** 19 23 18.3 -0.3
KKAR Karatay Array 63.76 317 *eP* **P** 19 23 18.3 -0.3
OTUK Ortayu 64.61 323 P **P** 19 23 24.7 +0.7
OTUK pmax pmax
comp=Z,13nm,1.1s
BVA0 Borovoye Array 67.76 327 *i* P **P** 19 23 44.4 +0.3
BVA0 pmax pmax
comp=Z,57nm,1.0s
BVAR Borovoye Array 67.76 327 P **P** 19 23 44.5 +0.4
comp=Z,52nm,0.8s,baz=126,slow=7.1,SNR=256
BRVK Borovoye 67.84 327 *eP* **P** 19 23 44.9 +0.4
comp=Z,74nm,0.9s
BRVK Borovoye 67.84 327 *d iP* **P** 19 23 44.7 +0.2
BRVK pmax pmax
comp=Z,86nm,1.0s
TIXI Tiksi 67.91 0 P **P** 19 23 43.9 -0.7
comp=Z,18nm,0.6s,baz=173,slow=4.7,SNR=77
TIXI Tiksi 67.91 0 *eP* **P** 19 23 43.4 -1.3
comp=Z,16nm,0.7s
TIXI Tiksi 67.91 0 *deP* **P** 19 23 43.3 -1.3
TIXI pmax pmax
comp=Z,40nm,1.7s
BILL Bilibino 69.45 15 *i* P **P** 19 23 52.5 -1.8
BILL *i* 19 24 12.6
BILL pmax pmax
comp=Z,2.0nm,0.8s
GEYT Alibeck 71.48 309 P **P** 19 24 07.6 +0.2
comp=Z,2.1nm,0.6s,baz=127,slow=3.9,SNR=6.4
GYA0B ALIBECK ARRAY 71.48 309 *eP* **P** 19 24 07.2 -0.2
comp=Z,14nm,1.4s
AB31 Akbulak array 72.65 321 *ceP* **P** 19 24 14.0 -0.1
AB31 pmax pmax
comp=Z,37nm,0.8s
ABKAR Akbulak array 72.65 321 *eP* **P** 19 24 14.1 0.0
comp=Z,259nm,0.6s
AKTO Aktyubinsk 74.15 322 P **P** 19 24 23.4 +0.6
comp=Z,48nm,0.7s,baz=99,slow=11,SNR=188
SVE Sverdlovsk 74.39 328⇑ *eP* **P** 19 24 24.5 +0.4
SVE pmax pmax
comp=Z,21nm,0.7s
ARU Arti 75.37 328 *eP* **P** 19 24 29.4 -0.4
comp=Z,21nm,0.7s
ARU Arti 75.37 328 *eP* **P** 19 24 29.4 -0.4
ARU pmax pmax
comp=Z,21nm,0.7s
RAYN Ar Rayn 81.15 293 *eP* **P** 19 25 02.0 -0.6
comp=Z,5.2nm,0.9s
RAYN Ar Rayn 81.15 293 P **P** 19 25 02.0 -0.6
RAYN pmax pmax
comp=Z,5.0nm,1.0s
KDAK Kodiak Island 81.58 32 *i* P **P** 19 25 05.7 +1.7
OPO Ambohidratompo 81.93 251 P **P** 19 25 06.6 -0.3
comp=Z,3.0nm,0.7s,baz=243,slow=6.8,SNR=3.1
GNI Garni 82.07 310 P **P** 19 25 08.4 +1.2
comp=Z,4.7nm,0.7s,baz=186,slow=5.1,SNR=6.4
GNI Garni 82.07 310 *eP* **P** 19 25 09.4 +2.2
comp=Z,13nm,0.9s
GNI Garni 82.07 310 *ceP* **P** 19 25 08.7 +1.5
GNI pmax pmax
comp=Z,53nm,1.7s
TBLG Delisi 82.12 311 *eP* **P** 19 25 08.5 +1.2
comp=Z,30nm,0.8s
TBLG Delisi 82.12 311 *eP* **P** 19 25 08.5 +1.2
TBLG pmax pmax
comp=Z,30nm,0.8s
IM3 Indian Mountai 82.13 24 *eP* **P** 19 25 07.1 +0.4
CAST Castle Rocks 82.49 27 *eP* **P** 19 25 09.4 +0.7
comp=Z,7.4nm,1.0s
ZEI Tsey 82.78 312 *eP* **P** 19 25 09.3 -1.6
ZEI pmax pmax
comp=Z,21nm,1.0s
SUA Susitna One 82.90 29 *eP* **P** 19 25 11.4 +0.4
comp=Z,46nm,1.8s
NCK Nalchik 83.03 313⇓ *eP* **P** 19 25 12.2 +0.3
NCK pmax pmax
comp=Z,11nm,0.9s
AKH Akhalkalaki 83.05 311 *eP* **P** 19 25 14.1 +1.8
comp=Z,29nm,0.9s
AKH Akhalkalaki 83.05 311 *eP* **P** 19 25 14.1 +1.8
AKH pmax pmax
comp=Z,29nm,0.9s
BPAW Bear Paw Mtn. 83.05 26 *eP* **P** 19 25 12.7 +1.1
comp=Z,11nm,1.3s
MLY Manley 83.25 25 *eP* **P** 19 25 13.5 +0.9
comp=Z,21nm,1.5s
VNDA Vanda 83.27 173 P **P** 19 25 13.2 +0.9
comp=Z,1.0nm,0.5s,baz=314,slow=6.3,SNR=7.4
VNDA LR LR 20 00 53.3
comp=Z,39nm,20.4s,baz=327,slow=35
VNDA Vanda 83.27 173 *eP* **P** 19 25 13.6 +1.2
comp=Z,4.7nm,0.8s
VNDA Vanda 83.27 173 *eP* **P** 19 25 13.6 +1.2
VNDA pmax pmax
comp=Z,5.0nm,0.8s
GOF Gofitskoye 83.46 315⇑ *eP* **P** 19 25 11.8 -2.3
KBZ Khabaz 83.54 313 P **P** 19 25 14.8 +0.3
comp=Z,7.1nm,1.0s,baz=112,slow=3.6,SNR=16

NEY	**Neytrino**	**83.66**	**313**	⇓*e*P		**P**		**19 25 16.1**	**+0.7**
NEY				pmax	pmax				
	comp=Z,3.0nm,1.1s								
COLD	**Coldfoot**	**83.69**	**23**	*e*P		**P**		**19 25 16.3**	**+1.5**
	comp=Z,9.3nm,1.0s								
KIV	**Kislovodsk**	**83.69**	**314**	*e*P		**P**		**19 25 16.1**	**+0.7**
	comp=Z,13nm,1.1s								
KIV	**Kislovodsk**	**83.69**	**314**	*e*P		**P**		**19 25 16.9**	**+1.4**
KIV				pmax	pmax				
	comp=Z,10.0nm,0.9s								
KIV				MLR	MLR				
	comp=Z,35nm,19.0s								
MCK	**McKinley**	**83.92**	**26**	*e*P		**P**		**19 25 16.1**	**0.0**
	comp=Z,16nm,1.0s								
MCK	**McKinley**	**83.92**	**26**	*e*P		**P**		**19 25 16.1**	**0.0**
MCK				pmax	pmax				
	comp=Z,16nm,1.0s								
MAW	**Mawson**	**83.93**	**200**	P		**P**		**19 25 16.5**	**+0.6**
	comp=Z,2.8nm,1.0s,baz=83,slow=7.9,SNR=3.1								
RND	**Reindeer**	**83.93**	**27**	*e*P		**P**		**19 25 15.9**	**-0.3**
	comp=Z,15nm,0.9s								
RND	**Reindeer**	**83.93**	**27**	*e*P		**P**		**19 25 15.9**	**-0.3**
RND				pmax	pmax				
	comp=Z,15nm,0.9s								
SML	**Sawmill**	**84.07**	**28**	*e*P		**P**		**19 25 17.2**	**+0.4**
SML				*e*pP		**pP**		**19 25 29.1**	**-1.1**
SML	**Sawmill**	**84.07**	**28**	*e*P		**P**		**19 25 17.3**	**+0.4**
SML				*e**PP		**pP**		**19 25 29.2**	**-1.1**
MDM	**Murphy Dome**	**84.31**	**25**	*e*P		**P**		**19 25 18.3**	**+0.2**
	comp=Z,5.3nm,1.0s								
WRH	**Wood River Hil**	**84.34**	**26**	*e*P		**P**		**19 25 17.3**	**-0.9**
	comp=Z,12nm,1.0s								
CCB	**Clear Creek Bu**	**84.47**	**26**	*e*P		**P**		**19 25 18.3**	**-0.5**
	comp=Z,6.1nm,0.9s								
VRH	**Novokhopyorsk**	**84.48**	**321**	*e*P		**P**		**19 25 18.7**	**-0.4**
VRH				pmax	pmax				
	comp=Z,30nm,0.7s								
IL1	**Eielson Array**	**84.87**	**25**	*e*P		**P**		**19 25 19.2**	**-1.7**
IL1				*e*pP		**pP**		**19 25 31.6**	**-2.7**
ILAR	**Eielson Array**	**84.87**	**25**	P		**P**		**19 25 19.8**	**-1.1**
	comp=Z,1.5nm,1.0s,baz=246,slow=4.9,SNR=8.6								
KLMR	**Klimovskoe**	**85.81**	**331**	*e*P		**P**		**19 25 23.5**	**-2.1**
KLMR				AMP				19 25 28.3	
	comp=Z,18nm,0.8s								
KLMR	**Klimovskoe**	**85.81**	**331**	*e*P		**P**		**19 25 23.5**	**-2.1**
KLMR				pmax	pmax				
	comp=Z,18nm,0.8s								
VORD	**Divnogorie**	**86.01**	**321**	*e*P		**P**		**19 25 26.3**	**-0.5**
VORD				pmax	pmax				
	comp=Z,10.0nm,0.6s								
VSR	**Storozhevoye**	**86.09**	**321**	*e*P		**P**		**19 25 26.4**	**-0.8**
VSR				pmax	pmax				
	comp=Z,20nm,0.9s								
LPSR	**Galich'ya Gora**	**86.21**	**322**	*e*P		**P**		**19 25 27.9**	**+0.2**
LPSR				pmax	pmax				
	comp=Z,30nm,1.0s								
ANN	**Anapa**	**87.45**	**315**	*e*P		**P**		**19 25 33.1**	**-0.8**
ANN				pmax	pmax				
	comp=Z,12nm,0.8s								
OBN	**Obninsk**	**87.52**	**325**	*e*P		**P**		**19 25 33.9**	**-0.2**
	comp=Z,34nm,0.4s								
OBN	**Obninsk**	**87.52**	**325**	*c i*P		**P**		**19 25 33.7**	**-0.3**
OBN				pmax	pmax				
	comp=Z,16nm,0.6s								
OBN				MLR	MLR				
	comp=Z,40nm,14.0s								
ASF	**Jabal al Asfar**	**88.53**	**302**	P		**P**		**19 25 40.0**	**+0.5**
	comp=Z,2.7nm,0.5s,baz=54,slow=5.8,SNR=7.3								
MMAI	**Mount Meron Ar**	**89.73**	**303**	P		**P**		**19 25 46.0**	**+0.9**
	comp=Z,1.1nm,0.6s,baz=75,slow=6.1,SNR=4.3								
SIM	**Simferopol'**	**89.79**	**315**	*e*P		**P**		**19 25 44.1**	**-0.9**
SIM				pmax	pmax				
	comp=Z,6.0nm,0.8s								
INK	**Inuvik**	**89.98**	**22**	*e*P		**P**		**19 25 45.0**	**-0.3**
	comp=Z,5.4nm,1.2s								
INK	**Inuvik**	**89.98**	**22**	*e*P		**P**		**19 25 45.1**	**-0.3**
INK				pmax	pmax				
	comp=Z,5.0nm,1.2s								
BRTR	**Keskin Array B**	**90.61**	**310**	P		**P**		**19 25 48.0**	**-1.1**
	comp=Z,1.2nm,0.6s,baz=129,slow=5.2,SNR=9.3								
SPITS	**Spitsbergen Ar**	**90.69**	**349**	P		**P**		**19 25 47.7**	**-0.9**
	comp=Z,17nm,1.0s,baz=132,slow=4.3,SNR=2.9								
ARCES	**ARCESS Array B**	**90.76**	**340**	P		**P**		**19 25 47.9**	**-1.1**
	comp=Z,4.6nm,0.7s,baz=87,slow=6.3,SNR=10								
FINES	**FINESS Array B**	**92.23**	**332**	P		**P**		**19 25 55.1**	**-0.9**
	comp=Z,1.7nm,0.5s,baz=76,slow=5.5,SNR=19								
AKASG	**Malin Array Be**	**92.39**	**321**	P		**P**		**19 25 55.5**	**-1.4**
	comp=Z,4.0nm,0.8s,baz=67,slow=4.9,SNR=11								
AK11	**Malin Array Si**	**92.43**	**321**	*e*P		**P**		**19 25 56.1**	**-1.0**
TIRR	**Tirgusor**	**93.89**	**315**	*e*P		**P**		**19 26 03.0**	**-1.0**
	comp=Z,2.9nm,0.8s								
TIRR	**Tirgusor**	**93.89**	**315**	*e*P		**P**		**19 26 03.0**	**-1.0**
TIRR				pmax	pmax				
	comp=Z,3.0nm,0.8s								
CFR	**Carcaliu**	**93.97**	**316**	P		**P**		**19 26 04.9**	**+0.6**
CFR				pmax	pmax				
	comp=Z,6.0nm,1.1s								
VRI	**Vrincioaia**	**94.83**	**316**	P		**P**		**19 26 09.4**	**+1.1**
VRI				pmax	pmax				
	comp=Z,66nm,1.6s								
MLR	**Muntele Rosu**	**95.44**	**316**	P		**P**		**19 26 11.0**	**-0.2**
	comp=Z,1.0nm,0.7s,baz=278,slow=1.1,SNR=10.0								
MLR	**Muntele Rosu**	**95.44**	**316**	*e*P		**P**		**19 26 11.1**	**-0.2**
	comp=Z,4.7nm,0.8s								
MLR	**Muntele Rosu**	**95.44**	**316**	*e*P		**P**		**19 26 11.1**	**-0.2**
MLR				pmax	pmax				
	comp=Z,5.0nm,0.8s								
BUR04	**Bucovina Ar. S**	**95.52**	**318**	*e*P		**P**		**19 26 11.2**	**-0.4**
BUR08	**Bucovina Ar. S**	**95.53**	**318**	*e*P		**P**		**19 26 11.6**	**0.0**
DAG	**Danmarks Havn**	**97.42**	**353**	P		**P**		**19 26 18.2**	**-1.2**
DAG				pmax	pmax				
	comp=Z,9.0nm,0.8s								
CRVS	**Cervenica-Dubn**	**97.68**	**320**	*e*P		Pdif		19 26 22.3	+1.0
CRVS	**Cervenica-Dubn**	**97.68**	**320**	*e*P		Pdif		19 26 22.3	+1.0
STHS	**Stebnicka Huta**	**97.69**	**321**	*e*P		Pdif		19 26 22.8	+1.5
STHS	**Stebnicka Huta**	**97.69**	**321**	*e*P		Pdif		19 26 22.8	+1.5
RES	**Resolute Bay**	**97.76**	**10**	P		Pdif		19 26 21.0	0.0
	comp=Z,3.7nm,0.9s,baz=301,slow=5.0,SNR=12								
RES	**Resolute Bay**	**97.76**	**10**	*e*P		Pdif		19 26 21.2	+0.2
	comp=Z,3.0nm,0.8s								
RES	**Resolute Bay**	**97.76**	**10**	*e*P		Pdif		19 26 21.2	+0.2
RES				pmax	pmax				
	comp=Z,3.0nm,0.8s								
IDI	**Anoyia**	**98.10**	**306**	P		Pdif		19 26 23.5	0.0
	comp=Z,4.3nm,0.8s,baz=17,slow=14,SNR=2.9								
HFS	**Hagfors**	**98.41**	**332**	P		**P**		**19 26 23.2**	**-1.0**
	comp=Z,4.7nm,0.9s,baz=120,slow=2.0,SNR=9.1								
HFS				LR		LR		20 13 29.3	
	comp=Z,73nm,19.5s,baz=74,slow=37								
LANS	**Liptovska Anna**	**98.88**	**321**	*e*PDIFF		Pdif		19 26 28.7	+2.1
LANS	**Liptovska Anna**	**98.88**	**321**	*e*P		Pdif		19 26 28.7	+2.1
NB2	**NORSAR Subarra**	**99.16**	**334**	P		**Pdif**		**19 26 26.1**	**-1.6**
	comp=Z,2.8nm,0.8s,baz=64,slow=4.6								
NB2	**NORSAR Subarra**	**99.16**	**334**	P		**Pdif**		**19 26 26.1**	**-1.6**
	baz=64,slow=4.6								
NOA	**NORSAR Array B**	**99.16**	**334**	P		**Pdif**		**19 26 26.0**	**-1.6**
	comp=Z,2.2nm,0.9s,baz=65,slow=4.6,SNR=7.9								
NOA				LR		LR		20 17 28.6	
	comp=Z,46nm,18.6s,baz=65,slow=39								
YKA	**Yellowknife Ar**	**99.28**	**25**	P		**Pdif**		**19 26 27.5**	**-0.5**
	comp=Z,0.7nm,0.8s,baz=298,slow=4.8,SNR=9.4								
VYHS	**Vyhne**	**99.46**	**320**	*e*PDIFF		**Pdif**		**19 26 32.1**	**+2.9**
VYHS	**Vyhne**	**99.46**	**320**	*e*P		**Pdif**		**19 26 32.1**	**+2.9**
GERES	**GERESS Array B**	**102.58**	**322**	P		**Pdif**		**19 26 43.7**	**+0.5**
	comp=Z,0.2nm,0.3s,baz=77,slow=6.2,SNR=4.0								
YERR	**Yerington**	**105.57**	**48**	*e*Sdif		Sdif		19 38 50.4	+0.1
TOA0	**Torodi Ar. Sit**	**123.61**	**288**	*e*PKPdf		**PKPdf**		**19 31 45.0**	**+0.2**
TORD	**Torodi Ar. Bea**	**123.61**	**288**	PKP		**PKPdf**		**19 31 44.9**	**+0.1**
	comp=Z,3.2nm,0.8s,baz=47,slow=2.2,SNR=16								
KOWA	**Kowa**	**128.61**	**292**	PKP		**PKPdf**		**19 31 54.7**	**+0.4**
	comp=Z,1.2nm,0.5s,baz=68,slow=3.8,SNR=4.0								

NNC 30 19:13:02.7±2.7, 37.74N×71.55E, h0km, mb3.6, mpv3.2, 4C-3D, Error ellipse: s-maj=20.9km s-min=17.4km az=162.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**2.74**	**33**	⇑Pn	Pn	19 13 48.1	0.0
	8.0nm,0.3s						
SFK				⇑Sn	Sn	19 14 23.7	+1.7
	7.0nm,0.2s						
MNAS	**Manas**	**4.80**	**9**	⇓Pn	Pn	19 14 16.6	+0.2
	1.4nm,0.4s						
MNAS				⇑Sn	Sn	19 15 13.4	+0.7
	13nm,0.5s						
AAK	**Ala-Archa**	**5.39**	**24**	⇓Pn	Pn	19 14 22.7	-1.8
	1.9nm,0.5s						
AAK				⇑Sn	Sn	19 15 27.4	+0.2
	2.5nm,1.1s						
KK31	**Karatay Array**	**5.42**	**352**	Pn	Pn	19 14 25.9	+1.2
	0.4nm,0.2s,baz=168,slow=12,SNR=44						
KK31				⇓Sn	Sn	19 15 29.0	+1.3
	4.8nm,0.3s,baz=177,slow=24,SNR=6.1						

*BJI **30** 19:15:27.6, 20˚.35S×175˚.87W, h34km, mb5.1/31, mB5.2/21, Ms4.7/7, Ms7 4.4/7*
*MOS **30** 19:15:28.1±1.0, 20˚.82S×175˚.71W, h54km, mb5.1/22, Error ellipse: s-maj=9.5km s-min=8.7km az=155.9*
*ISCJB **30** 19:15:35.2±0.2, 21˚.02S±0˚.03×175˚.77W±0˚.04, h117km, mb4.9/131, Error ellipse: s-maj=5.4km s-min=3.1km az=24.7*
*NEIC **30** 19:15:36.3±0.1, 20˚.96S×175˚.73W, mb4.9/81, Error ellipse: s-maj=5.8km s-min=3.8km az=130.0*
NEIC Felt at Nuku'alofa.
*IDC **30** 19:15:36.9±0.6, 20˚.89S×175˚.75W, h118km±4km, mb4.6/32, mb1 4.6/33, mb1mx4.6/46, mbtmp4.9/33, MS3.7/10, Ms1 3.7/10, ms1mx3.3/44, Error ellipse: s-maj=12.0km s-min=10.0km az=141.0*
*GCMT **30** 19:15:36.3±0.3, 20˚.99S×175˚.23W, h136km±3km, MW5.0/90, Moment Tensor Solution. s30,c36; s90,c127; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr=0.44±.16; Mθθ 1.63±.20; Mϕϕ-1.19±.20; Mrθ-1.06±.12; Mrϕ 1.59±.23; Mθϕ-3.46±.10; Best double couple: M=4.20800×10^16 NP1:ϕ=22.00000°, δ87.00000°, λ-121.00000°. NP2: ϕ=286.00000°, δ31.00000°, λ-6.00000°. Principal axes: T 4.0790, Plg35.0000°, Azm137.0000°; N 0.2570, Plg30.0000°, Azm24.0000°; P -4.3370, Plg40.0000°, Azm263.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*WEL **30** 19:15:55.9±1.0, 23˚.S±10˚×17˚.4W±˚, h253km±8km*
ISC 30 19:15:36.3±0.5, 21˚.00S±0˚.05×175˚.64W±0˚.06, h117km±4km, h117km; pP-P, n405, σ1≤26/411, mb4.9/131, 17C-15D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**5.70**	**71**	P	Pn	19 16 53.2	-5.5
	baz=5.4,SNR=123						
MSVF	**Nonsavu**	**6.79**	**298**	*e*Pn	Pn	19 17 17.6	+4.2
	799nm,1.0s						
AFI	**Afiamalu**	**7.96**	**28**	P	Pn	19 17 22.7	-6.6
	18nm,0.3s,baz=95,slow=1.4,SNR=17						
AFI				S	Sn	19 18 39.3	-18
	7.8nm,0.3s,baz=24,slow=20,SNR=3.6						
RIZ	**Raoul Island**	**8.47**	**194**	S	**Sn**	**19 19 07.7**	**-2.1**
RAO	**Raoul Island**	**8.47**	**194**	S	**Sn**	**19 19 07.1**	**-2.8**
	176nm,0.3s,baz=75,slow=23,SNR=9.4						
GLKZ	**Green Lake**	**8.48**	**194**	S	**Sn**	**19 19 07.7**	**-2.5**
GLKZ	**Green Lake**	**8.48**	**194**	P	**Pn**	**19 17 36.4**	**+0.2**
RAR	**Rarotonga**	**14.81**	**94**	P	Pn	19 18 56.9	-2.9
	5.4nm,0.3s,baz=223,slow=7.1,SNR=7.6						
RAR				S	Sn	19 21 27.7	-16
	5.5nm,0.3s,baz=97,slow=16,SNR=5.0						
RAR				LR	LR	19 23 51.4	
	comp=Z,178nm,19.4s,baz=286,slow=33						
RAR	**Rarotonga**	**14.81**	**94**	P	**Pn**	**19 18 57.1**	**-2.8**
RAR	**Rarotonga**	**14.81**	**94**	S	Sn	19 21 27.8	-16
DZM	**Mont Dzumac**	**16.71**	**263**	P	**P**	**19 19 28.6**	**+4.7**
	6.5nm,0.3s,baz=93,slow=14,SNR=74						
DZM	**Mont Dzumac**	**16.71**	**263**	*e*P	**P**	**19 19 27.7**	**+3.8**
	588nm,1.2s						
DZM				*e*LR	LR	19 23 30.8	
	418nm,37.0s						
DZM	**Mont Dzumac**	**16.71**	**263**	*e*Pn	**P**	**19 19 27.9**	**+4.0**
	193nm,0.9s						
GRZ	**Great Barrier**	**17.07**	**205**	P	**Pn**	**19 19 29.0**	**+1.3**
WCZ	**Waipu Caves**	**17.27**	**208**	P	**P**	**19 19 29.0**	**-0.8**
MXZ	**Matakaoa Point**	**17.32**	**196**	P	**P**	**19 19 29.7**	**-0.7**
MXZ	**Matakaoa Point**	**17.32**	**196**	S	Sn	19 22 25.0	-19
KUZ	**Kuaotunu**	**17.40**	**204**	P	**Pn**	**19 19 33.0**	**+1.2**
WMGZ	**Waiomatatini S**	**17.53**	**196**	S	S	19 22 32.0	-17
WMGZ	**Waiomatatini S**	**17.53**	**196**	P	**P**	**19 19 30.7**	**-2.0**
HAZ	**Te Kaha**	**17.64**	**197**	P	**P**	**19 19 33.4**	**-0.5**
HAZ	**Te Kaha**	**17.64**	**197**	S	S	19 22 35.2	-16
WIAZ	**Waiheke Island**	**17.67**	**205**	P	**P**	**19 19 35.7**	**+1.4**
PKGZ	**Pakihiroa**	**17.69**	**197**	P	**P**	**19 19 35.6**	**+1.1**
PKGZ	**Pakihiroa**	**17.69**	**197**	S	S	19 22 28.2	-24
PUZ	**Puketiti**	**17.81**	**196**	P	**P**	**19 19 35.9**	**0.0**
PUZ	**Puketiti**	**17.81**	**196**	S	S	19 22 36.3	-18
RUGZ	**Raukumara Rang**	**17.87**	**197**	P	**P**	**19 19 36.7**	**+0.2**
RUGZ	**Raukumara Rang**	**17.87**	**197**	S	S	19 22 36.3	-20
MKAZ	**Moumakai**	**17.93**	**205**	P	**P**	**19 19 38.5**	**+1.5**
CNGZ	**Carnagh Statio**	**18.21**	**196**	P	**P**	**19 19 39.5**	**-0.7**
MWZ	**Matawai**	**18.25**	**197**	P	**P**	**19 19 40.9**	**+0.2**
MWZ	**Matawai**	**18.25**	**197**	S	S	19 22 46.2	-17
URZ	**Urewera**	**18.30**	**198**	P	**P**	**19 19 40.8**	**-0.3**
	14nm,0.3s,baz=343,slow=1.5,SNR=63						
URZ				S	S	19 22 52.6	-12
	5.7nm,0.3s,baz=278,slow=22,SNR=12						
URZ	**Urewera**	**18.30**	**198**	*e*P	**P**	**19 19 41.0**	**-0.2**
	128nm,0.8s						
URZ				S	S	19 22 52.6	-12
URZ	**Urewera**	**18.30**	**198**	P	**P**	**19 19 39.5**	**-1.6**
URZ	**Urewera**	**18.30**	**198**	S	S	19 22 47.6	-17
HIZ	**Hauiti**	**19.28**	**203**	*e*P	**P**	**19 19 53.1**	**+1.3**
	668nm,1.8s						
BKZ	**Black Stump Fm**	**19.32**	**199**	*e*P	**P**	**19 19 50.9**	**-1.5**
	32nm,0.6s						
BFZ	**Birch Farm**	**20.80**	**198**	*e*P	**P**	**19 20 06.6**	**-1.5**
	42nm,0.7s						
SNZO	**South Karori**	**21.84**	**200**	*e*P	**P**	**19 20 19.5**	**+0.3**
	100nm,0.7s						
THZ	**Tophouse**	**22.85**	**203**	*e*P	**P**	**19 20 27.8**	**-1.8**
	84nm,0.8s						
KHZ	**Kahutara**	**23.21**	**201**	*e*P	**P**	**19 20 31.4**	**-1.5**
	138nm,1.2s						
LTZ	**Lake Taylor**	**23.97**	**202**	*e*P	**P**	**19 20 40.1**	**+0.3**
	149nm,0.6s						
OXZ	**Oxford**	**24.53**	**202**	*e*P	**P**	**19 20 44.8**	**-0.1**
	168nm,0.8s						
PAE	**Paea**	**24.80**	**87**	*e*T	T	19 46 02.0	
	10nm,0.3s						
PPT2	**Papeete2**	**24.82**	**87**	*e*P	**P**	**19 20 44.5**	**-3.3**
	84nm,1.3s						
PPT2				*e*LQ	LQ	19 25 55.5	
	417nm,23.2s						
PPT2				*e*LR	LR	19 26 55.4	
	568nm,31.8s						
PPT2	**Papeete2**	**24.82**	**87**	*e*T	T	19 46 04.5	
	9.6nm,0.3s						
PPT	**Papeete**	**24.82**	**87**	P	**P**	**19 20 48.2**	**+0.4**
	51nm,0.9s,baz=288,slow=5.5,SNR=4.4						
PPT				LR	LR	19 28 16.2	
	comp=Z,100nm,21.8s,baz=272,slow=30						
TIAR	**Tiarei**	**25.04**	**87**	*e*P	**P**	**19 20 46.7**	**-3.1**
	36nm,1.1s						
RPZ	**Rata Peaks**	**25.22**	**203**	P	**P**	**19 20 52.3**	**+1.1**
	96nm,0.7s,baz=309,slow=2.2,SNR=43						
RPZ	**Rata Peaks**	**25.22**	**203**	*e*P	**P**	**19 20 52.7**	**+1.5**
	92nm,0.6s						
FOZ	**Fox Glacier**	**25.54**	**205**	*e*P	**P**	**19 20 54.5**	**+0.5**
	119nm,0.7s						
ODZ	**Otahua Downs**	**26.52**	**202**	*e*P	**P**	**19 21 05.5**	**+2.7**
	46nm,0.8s						
WKZ	**Wanaka**	**26.93**	**205**	*e*P	**P**	**19 21 06.1**	**-0.5**
	71nm,0.8s						
WHZ	**Wether Hill Ro**	**28.24**	**205**	*e*P	**P**	**19 21 18.4**	**+0.3**
	43nm,0.7s						
EIDS	**Eidsvold**	**30.85**	**255**	P	**P**	**19 21 41.8**	**+0.3**
	baz=31,SNR=15						
EIDS	**Eidsvold**	**30.85**	**255**	*e*P	**P**	**19 21 41.9**	**+0.4**
	38nm,0.7s						
ARMA	**Armidale**	**30.86**	**246**	P	**P**	**19 21 43.0**	**+1.4**
	baz=31,SNR=6.2						
MGCD	**Mangrove Creek**	**31.86**	**241**	P	**P**	**19 21 51.2**	**+0.8**
	baz=32,SNR=10						
RMQ	**Roma**	**32.98**	**253**	P	**P**	**19 22 01.1**	**+0.9**
	baz=33,SNR=39						
CNB	**Canberra Magne**	**33.80**	**237**	P	**P**	**19 22 07.7**	**+0.4**
	baz=34,SNR=13						
CAN	**Canberra**	**34.09**	**238**	*e*P	**P**	**19 22 09.7**	**-0.1**
	23nm,0.8s						
CAN	**Canberra**	**34.09**	**238**	*e*P	**P**	**19 22 09.7**	**-0.1**
CAN				pmax	pmax		
	comp=Z,23nm,0.8s						
YNG	**Young**	**34.32**	**240**	P	**P**	**19 22 11.9**	**+0.2**
	baz=35,SNR=5.0						
MILA	**Mila**	**34.46**	**235**	P	**P**	**19 22 13.2**	**+0.3**
	baz=35,SNR=5.8						
CTA	**Charters Tower**	**35.64**	**265**	P	**P**	**19 22 23.6**	**+0.4**
	comp=Z,52nm,0.7s,baz=102,slow=12,SNR=70						
CTA	**Charters Tower**	**35.64**	**265**	P	**P**	**19 22 23.6**	**+0.4**
	baz=36						
CTAO	**Charters Tower**	**35.64**	**265**	*e*P	**P**	**19 22 23.7**	**+0.4**
	comp=Z,54nm,0.6s						
CTAO	**Charters Tower**	**35.64**	**265**	*e*P	**P**	**19 22 23.7**	**+0.5**
CTAO				pmax	pmax		
	comp=Z,54nm,0.6s						
CMSA	**Cobar Meteorol**	**36.06**	**245**	P	**P**	**19 22 26.7**	**0.0**
	baz=36,SNR=16						
QLP	**Quilpie**	**37.03**	**253**	P	**P**	**19 22 34.9**	**-0.1**
	baz=37,SNR=30						
TOO	**Toolangi**	**37.41**	**235**	P	**P**	**19 22 38.0**	**-0.1**
	baz=38,SNR=14						
PMG	**Port Moresby**	**37.61**	**282**	P	**P**	**19 22 40.3**	**+0.4**
	comp=Z,64nm,0.7s,baz=88,slow=5.5,SNR=21						
PMG				LR	LR	19 35 29.2	
	comp=Z,100nm,19.3s,baz=160,slow=32						
PMG	**Port Moresby**	**37.61**	**282**	*e*P	**P**	**19 22 39.7**	**-0.2**
	comp=Z,177nm,1.3s						
PMG	**Port Moresby**	**37.61**	**282**	*d i*P	**P**	**19 22 39.8**	**-0.2**
RKT	**Rikitea**	**37.66**	**101**	*e*T	T	20 02 01.8	
	comp=Z,11nm,0.3s						
MTSU	**Mount Surprise**	**37.77**	**267**	P	**P**	**19 22 41.5**	**+0.2**
	baz=38,SNR=65						
STKA	**Stephens Creek**	**39.57**	**245**	P	**P**	**19 22 55.8**	**-0.4**
	comp=Z,37nm,0.6s,baz=92,slow=9.8,SNR=36						
STKA	**Stephens Creek**	**39.57**	**245**	P	**P**	**19 22 55.9**	**-0.3**
	baz=40,SNR=35						
STKA	**Stephens Creek**	**39.57**	**245**	*e*P	**P**	**19 22 56.2**	**0.0**
	comp=Z,8.7nm,0.6s						
STKA	**Stephens Creek**	**39.57**	**245**	*e*P	**P**	**19 22 56.2**	**0.0**
STKA				pmax	pmax		
	comp=Z,9.0nm,0.6s						
COEN	**Coen**	**39.82**	**273**	P	**P**	**19 22 58.8**	**+0.3**
	baz=40,SNR=27						
COEN	**Coen**	**39.82**	**273**	*e*P	**P**	**19 22 58.8**	**+0.3**
	comp=Z,198nm,1.8s						
ARPS	**Mount Arapiles**	**40.07**	**237**	P	**P**	**19 22 59.8**	**-0.4**
	baz=40,SNR=10						
QIS	**Mount Isa**	**41.74**	**262**	P	**P**	**19 23 13.3**	**-0.9**
	baz=42,SNR=6.3						
HTT	**Hallett**	**41.96**	**243**	P	**P**	**19 23 15.2**	**-0.7**
	baz=42,SNR=9.3						
BBOO	**Buckleboo**	**44.31**	**244**	P	**P**	**19 23 33.5**	**-1.2**
	baz=45,SNR=16						
BBOO	**Buckleboo**	**44.31**	**244**	*e*P	**P**	**19 23 33.7**	**-1.1**
	comp=Z,42nm,0.9s						
AS01	**Alice Springs**	**46.52**	**257**	*e*P	**P**	**19 23 50.9**	**-1.3**
AS31	**Alice Springs**	**46.56**	**257**	*e*P	**P**	**19 23 51.5**	**-1.1**
	comp=Z,9.9nm,0.8s						
ASAR	**Alice Springs**	**46.56**	**257**	P	**P**	**19 23 51.6**	**-1.0**
	comp=Z,39nm,0.7s,baz=92,slow=8.2,SNR=172						
ASAR				PcP	**PcP**	**19 25 25.2**	**+0.2**
	comp=Z,16nm,0.8s,baz=106,slow=3.9,SNR=15						
ASAR				ScP	**ScP**	**19 29 09.4**	**+1.5**
	comp=Z,3.5nm,0.8s,baz=108,slow=4.0,SNR=10						
ASAR				S	**S**	**19 30 26.1**	**-6.7**
	comp=Z,1.2nm,0.9s,baz=86,slow=18,SNR=5.1						
WB2	**Warramunga Arr**	**46.71**	**262**	*e*P	**P**	**19 23 52.1**	**-1.7**
WRAB	**Tennant Creek**	**46.71**	**262**	*e*P	**P**	**19 23 52.2**	**-1.6**
	comp=Z,38nm,0.8s						
WRAB	**Tennant Creek**	**46.71**	**262**	*de*P	**P**	**19 23 51.9**	**-1.9**
WRAB				pmax	pmax		
	comp=Z,43nm,0.8s						
WRA	**Warramunga Arr**	**46.72**	**262**	P	**P**	**19 23 52.2**	**-1.6**
	comp=Z,35nm,0.8s,baz=96,slow=8.1,SNR=107						
WRA				PcP	**PcP**	**19 25 25.9**	**+0.3**
	comp=Z,13nm,0.9s,baz=92,slow=3.9,SNR=9.0						
WRA				ScP	**ScP**	**19 29 10.7**	**+2.1**
	comp=Z,3.4nm,1.1s,baz=93,slow=4.4,SNR=5.3						
FORT	**Forrest**	**51.13**	**247**	P	**P**	**19 24 26.4**	**-0.9**
	baz=51,SNR=14						
FORT	**Forrest**	**51.13**	**247**	*e*P	**P**	**19 24 26.2**	**-1.2**
	comp=Z,2μm,0.8s						
MTN	**Manton Dam**	**51.38**	**270**	P	**P**	**19 24 27.2**	**-2.2**
	baz=52,SNR=6.6						
MTN	**Manton Dam**	**51.38**	**270**	*e*P	**P**	**19 24 27.9**	**-1.5**
	comp=Z,21nm,0.8s						
WRKA	**Warakurna**	**51.46**	**254**	P	**P**	**19 24 28.7**	**-1.2**
	baz=52,SNR=71						
GUMO	**Guam**	**51.84**	**308**	P	**P**	**19 24 31.6**	**-1.1**
	comp=Z,49nm,0.6s,baz=150,slow=12,SNR=4.8						
KNRA	**Kununurra**	**52.83**	**266**	P	**

PETK **Petropavlovsk-** 77.34 344 P P 19 27 17.2 -0.6
comp=Z,16nm,0.9s,baz=120,slow=8.5,SNR=14
PETK **Petropavlovsk-** 77.34 344 *e*P P 19 27 17.0 -0.8
YSS **Yuzh-Sakhalins** 77.35 332 *e*P P 19 27 18.8 +0.9
comp=Z,17nm,0.8s
YSS **Yuzh-Sakhalins** 77.35 332⇑*e*P P 19 27 18.4 +0.4
YSS *e* 19 27 28.9
YSS *e* 19 30 11.0
YSS *e*PS PnS 19 37 57.0 +2.8
YSS pmax pmax
comp=Z,20nm,0.8s
IKP **In-Ko-Pah, Jac** 77.97 48 P P 19 27 22.7 +0.8
baz=236
EDW2 **Edwards Air Fo** 77.98 45 P P 19 27 23.3 +1.4
baz=234
ISA **Isabella, Lake** 78.12 44 *e*P P 19 27 23.1 +0.5
comp=Z,12nm,1.2s
ISA **Isabella, Lake** 78.12 44 *e*P P 19 27 23.2 +0.5
ISA pmax pmax
comp=Z,12nm,1.2s
PFO **Pinyon Flats O** 78.28 47 P P 19 27 25.5 +1.9
baz=235
KSRS **Korea Array** 78.74 317 P P 19 27 25.8 -0.1
comp=Z,2.7nm,0.9s,baz=142,slow=6.5,SNR=9.3
KSAR **Wonju Array Be** 78.76 317 P P 19 27 25.8 -0.2
KSAR **Wonju Array Be** 78.76 317 P P 19 27 25.8 -0.2
KS01 **Wonju Array Si** 78.77 317 *e*P P 19 27 25.9 -0.2
N02D **Trinity Center** 78.83 38 P P 19 27 30.1 +3.7
baz=230
CWC **Cottonwood Cre** 78.84 44 P P 19 27 27.8 +1.1
baz=234
BC3 **Big Chuckawall** 78.99 47 P P 19 27 29.6 +2.1
baz=236
MPMC **Manual Prospec** 79.00 45 P P 19 27 29.0 +1.3
baz=234
GSC **Goldstone, Bar** 79.01 45 P P 19 27 28.9 +1.3
baz=235
GSC **Goldstone, Bar** 79.01 45 *e*P P 19 27 26.7 -0.9
comp=Z,20nm,1.6s
GSC **Goldstone, Bar** 79.01 45 *e*P P 19 27 26.7 -0.9
GSC pmax pmax
comp=Z,20nm,1.6s
HEC **Hector,Ludlow** 79.06 46 P P 19 27 28.4 +0.5
baz=235
DAC **Darwin (Calif)** 79.06 44 *e*P P 19 27 28.0 0.0
comp=Z,9.9nm,1.4s
DAC **Darwin (Calif)** 79.06 44 *e*P P 19 27 28.0 0.0
DAC pmax pmax
comp=Z,10.0nm,1.4s
WAKR **Walker** 79.23 42 *e*P P 19 27 29.4 +0.6
comp=Z,25nm,1.6s
YBH **Yreka Blue Hor** 79.32 37 P P 19 27 30.1 +1.0
comp=Z,1.2nm,0.5s,baz=78,slow=2.1,SNR=5.0
IRM **Iron Mountain** 79.48 47 P P 19 27 31.6 +1.5
baz=236
113A **Mohawk Valley,** 79.68 49 *e*P P 19 27 31.2 +0.1
RYN **Ryan** 79.87 42 *e*P P 19 27 32.4 +0.2
comp=Z,18nm,1.6s
NV01 **Mina Array Sit** 79.89 42 *e*P P 19 27 33.2 +0.8
NVAR **Mina Array Bea** 79.89 42 P P 19 27 33.3 +0.9
comp=Z,4.1nm,1.0s,baz=224,slow=8.3,SNR=12
NVAR pP pP 19 28 02.1 0.0
comp=Z,1.2nm,0.6s,baz=223,slow=8.0,SNR=4.3
NV11 **Mina Array Sit** 79.98 42 *e*P P 19 27 35.4 +2.6
comp=Z,1.8nm,1.5s
MSHR **Mys Shultsa** 80.03 323⇑*e*P P 19 27 33.4 +0.6
TYV **Tymovskoe** 80.42 335 *e*P P 19 27 33.9 -0.8
TYV pmax pmax
comp=Z,21nm,0.8s
USRK **Ussuriysk Ar.** 80.64 325 P P 19 27 35.7 -0.3
comp=Z,3.9nm,0.9s,baz=156,slow=3.3,SNR=4.5
SHPR **Sheep Range** 80.80 45 *e*P P 19 27 38.1 +0.9
comp=Z,21nm,1.7s
W13A **Hualapai Mount** 80.87 47 *e*P P 19 27 38.6 +0.8
comp=Z,11nm,1.4s
R11A **Troy Canyon, C** 81.57 44 P P 19 27 41.7 +0.3
baz=235
MAW **Mawson** 81.83 199 P P 19 27 43.2 +1.2
comp=Z,9.2nm,0.7s,baz=127,slow=6.1,SNR=17
MAW **Mawson** 81.83 199 P P 19 27 43.2 +1.2
baz=82,SNR=13
MAW **Mawson** 81.83 199 *e*P P 19 27 43.3 +1.3
comp=Z,1.9nm,0.7s
MAW **Mawson** 81.83 199 *e*P P 19 27 43.3 +1.3
MAW pmax pmax
comp=Z,2.0nm,0.7s
NJ2 **Nanjing** 81.91 309 *e*P P 19 27 43.0 0.0
NJ2 pmax pmax
comp=Z,20nm,0.8s
X16A **Lo Mia Camp, P** 82.20 49 *e*P P 19 27 44.6 -0.1
comp=Z,13nm,1.4s
MDJ **Mudanjiang** 82.21 324 P P 19 27 42.8 -1.5
MDJ pmax pmax
comp=Z,19nm,0.7s
MDJ **Mudanjiang** 82.21 324 *e*P P 19 27 44.9 +0.6
comp=Z,13nm,0.8s
CCUT **Cedar City** 82.57 45 *e*P P 19 27 47.4 +0.7
comp=Z,10nm,1.4s
U15A **North Rim** 82.68 47 *e*P P 19 27 49.3 +2.0
comp=Z,15nm,1.3s
NKL **Nikolayevsk** 82.96 335 *e*P P 19 27 47.0 -0.9
NKL pmax pmax
comp=N,12nm,1.0s
NKL pmax pmax
comp=E,23nm,1.0s
NKL pmax pmax
comp=Z,43nm,1.0s
GRNR **Gornyy** 82.98 332 *e*P P 19 27 47.1 -1.1
GRNR pmax pmax
comp=Z,39nm,1.0s
MTPU **Mount Pierson** 83.62 45 *e*P P 19 27 53.8 +1.6
comp=Z,29nm,1.5s
MSU **Marysvale** 83.88 45 *e*P P 19 27 52.0 -1.3
MSU **Marysvale** 83.88 45 *e*P P 19 27 52.0 -1.3
CN2 **Changchun** 84.06 321 *e*P P 19 27 53.8 0.0
CN2 pmax pmax
comp=Z,20nm,1.2s
KLR **Kul'dur** 84.10 328⇑*e*P P 19 27 54.2 +0.3
MA2 **Magadan** 84.87 344 P P 19 27 56.7 -0.8
comp=Z,9.9nm,0.8s,baz=125,slow=2.7,SNR=6.3
TMUT **Trail Mountain** 84.94 45 *e*P P 19 27 58.5 -0.3
comp=Z,70nm,2.0s
MNTX **Cornudas Mount** 85.25 54 P P 19 28 01.4 +1.3
baz=242
MNTX **Cornudas Mount** 85.25 54 *e*P P 19 28 00.8 +0.6
comp=Z,9.9nm,1.3s
HLID **Hailey** 85.28 40 P P 19 28 01.7 +1.5
baz=235
HLID **Hailey** 85.28 40 *e*P P 19 28 01.6 +1.4
comp=Z,7.4nm,0.9s
SRU **San Rafael Swe** 85.29 45 *e*P P 19 28 00.6 +0.2
comp=Z,16nm,1.2s
SRU **San Rafael Swe** 85.29 45 *e*P P 19 28 00.6 +0.2
SRU pmax pmax
comp=Z,16nm,1.2s
IPM **Ipoh** 85.39 277 *e*P P 19 28 00.6 -0.6
comp=Z,17nm,0.7s
TX31 **Lajitas Ar. Si** 85.48 56 *e*P P 19 28 02.0 +0.6
TXAR **Lajitas Array** 85.48 56 P P 19 28 02.4 +1.0
comp=Z,2.0nm,0.9s,baz=212,slow=7.8,SNR=18
TXAR pP pP 19 28 32.7 +1.3
comp=Z,2.7nm,1.0s,baz=214,slow=6.0,SNR=4.6
ANMO **Albuquerque** 86.01 50 P P 19 28 05.0 +1.0
baz=241
ANMO **Albuquerque** 86.01 50⇓*e*P P 19 28 03.3 -0.7
ANMO pmax pmax
comp=Z,4.0nm,1.7s
KULM **Kulim** 86.03 277 *e*P P 19 28 04.6 +0.2
comp=Z,9.7nm,0.6s
CAST **Castle Rocks** 86.15 10 *e*P P 19 28 02.2 -1.6
comp=Z,7.4nm,1.0s
TRF **Thorofare Moun** 86.50 11 *e*P P 19 28 04.9 -0.8
comp=Z,9.9nm,0.9s
RND **Reindeer** 86.72 12 *e*P P 19 28 06.3 -0.4
comp=Z,15nm,0.9s
RND **Reindeer** 86.72 12 P P 19 28 06.3 -0.4
RND pmax pmax
comp=Z,15nm,0.9s
PSI **Prapat** 86.74 274 *e*P P 19 28 06.7 -1.3
comp=Z,8.5nm,0.8s
LNIG **Linares** 86.92 62 *e*P P 19 28 08.6 +0.1
comp=Z,10nm,1.1s
MCK **McKinley** 87.00 12 *e*P P 19 28 07.5 -0.5
comp=Z,20nm,1.1s
PLCA **Paso Flores** 87.32 133 P P 19 28 11.9 +1.7
comp=Z,1.9nm,0.6s,baz=270,slow=6.1,SNR=9.4
PLCA LR LR 19 59 34.1
comp=Z,44nm,19.6s,baz=258,slow=30
PLCA **Paso Flores** 87.32 133 P P 19 28 12.0 +1.7
PLCA pmax pmax
comp=Z,2.0nm,0.6s
PLCA MLR MLR
comp=Z,44nm,19.6s
SKNT **Sakolnakorn** 87.36 289 P P 19 28 10.0 -0.8
comp=Z,10.0nm,0.9s
MENT **Mentasta** 87.37 14 *e*P P 19 28 09.8 0.0
comp=Z,7.7nm,1.0s
MENT *e*S S 19 38 47.2 +6.9
SEY **Seymchan** 87.38 346 P P 19 28 09.2 -0.6
comp=Z,12nm,0.9s,baz=147,slow=5.5,SNR=32
SEY **Seymchan** 87.38 346⇑*e*P P 19 28 09.3 -0.4
SNAA **Sanae** 87.44 178 P P 19 28 10.8 +0.5
SNAA **Sanae** 87.44 178 P P 19 28 10.3 0.0
comp=Z,1.7nm,0.8s,baz=196,slow=9.6,SNR=8.6
SNAA LR LR 20 05 00.3
comp=Z,28nm,19.9s,baz=7.0,slow=34
VNA3 **Neumayer Olymp** 87.48 175 P P 19 28 10.9 +0.5
CMIG **Matias Romero** 87.73 71 LR LR 19 59 41.6
comp=Z,162nm,19.0s,baz=317,slow=30
PDAR **Pinedale Array** 87.83 42 P P 19 28 12.9 +0.2
comp=Z,0.6nm,0.7s,baz=226,slow=3.9,SNR=4.8
PDAR pP pP 19 28 43.4 +0.5
comp=Z,0.8nm,0.7s,baz=205,slow=3.1,SNR=3.7
WRH **Wood River Hil** 87.83 12 *e*P P 19 28 11.6 -0.3
comp=Z,12nm,1.0s
TRTT **Trang** 87.84 279 P P 19 28 14.0 +0.9
comp=Z,8.4nm,1.0s
MLY **Manley** 87.87 10 *e*P P 19 28 11.1 -1.0
comp=Z,5.6nm,1.1s
DOT **Dot Lake** 87.92 14 *e*P P 19 28 12.3 -0.1
comp=Z,14nm,0.9s
VNA2 **Neumayer--Watz** 87.95 176 P P 19 28 13.4 +0.8
baz=183,slow=2.8
CCB **Clear Creek Bu** 88.04 12 *e*P P 19 28 12.1 -0.7
comp=Z,6.1nm,0.9s
ENH **Enshi** 88.16 303 *e*P P 19 28 13.6 -0.7
comp=Z,13nm,0.8s
VNA1 **Neumayer--Stat** 88.17 176 P P 19 28 14.6 +1.0
COLA **College** 88.24 11 *e*P P 19 28 13.1 -0.7
COLA pmax pmax
comp=Z,9.0nm,1.1s
MDM **Murphy Dome** 88.25 11 *e*P P 19 28 13.0 -0.9
comp=Z,11nm,1.2s
IM3 **Indian Mountai** 88.30 9 *e*P P 19 28 12.8 -1.2
ILAR **Eielson Array** 88.33 12 P P 19 28 13.5 -0.7
comp=Z,3.3nm,1.0s,baz=225,slow=5.2,SNR=16
ILAR pP pP 19 28 45.1 +0.7
comp=Z,2.1nm,1.1s,baz=211,slow=5.8,SNR=2.8
ILB **Eielson Array** 88.33 12 *e*P P 19 28 14.0 -0.2
IL1 **Eielson Array** 88.33 12 *e*P P 19 28 12.9 -1.3
CHAI **Chaiyaphum** 88.72 287 P P 19 28 18.0 +0.8
comp=Z,3.4nm,0.9s
GYA **Guiyang** 88.82 299 *e*P P 19 28 18.0 +0.4
GYA pP PcP 19 28 29.5 +10
GYA PP PP 19 31 49.3 +0.6
GYA SKS SKSac 19 38 42.8 +6.0
GYA S ScS 19 39 01.0 +0.3
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,120nm,6.3s
ZEA **Zeya** 89.15 330 *e*P P 19 28 18.9 +0.6
ZEA pmax pmax
comp=Z,12nm,1.0s
DAWY **Dawson** 89.35 15 *e*P P 19 28 19.3 +0.2
comp=Z,7.6nm,1.1s
EGAK **Eagle** 89.54 14 *e*P P 19 28 20.5 +0.6
comp=Z,8.6nm,1.1s
PHET **Kaeng Krachan** 89.74 284 P P 19 28 24.3 +2.3
comp=Z,8.1nm,0.9s
BILL **Bilibino** 89.78 353 *i*P P 19 28 18.1 -2.8
BILL pmax pmax
comp=Z,1.0nm,0.9s
COLD **Coldfoot** 89.98 10 *e*P P 19 28 22.8 +0.9
comp=Z,3.5nm,0.8s
XAN **Xi'an** 90.20 307 P P 19 28 24.3 +0.5
XAN pmax pmax
comp=Z,23nm,0.8s
XAN pmax pmax
comp=Z,45nm,4.7s
PHIT **Phitsanulok** 90.60 288 P P 19 28 27.1 +1.2
comp=Z,13nm,0.9s
NANT **Nan** 90.94 290 P P 19 28 28.1 +0.6
comp=Z,5.4nm,0.9s
HHC **Hu-ho-hao-te** 91.29 314 *e*P P 19 28 29.5 +0.7
HHC pmax pmax
comp=Z,23nm,1.5s
HHC pmax pmax
comp=Z,61nm,7.8s
KMI **Kunming** 91.55 296 P P 19 28 31.3 +0.8
KMI pmax pmax
comp=Z,16nm,1.1s
KMI LR LR
comp=Z,120nm,20.1s
KMI LR LR
comp=Z,120nm,23.2s
KMI LR LR
comp=Z,170nm,26.3s
LAMP **Lampang** 91.78 289 P P 19 28 32.3 +0.9
comp=Z,11nm,0.8s
PAYA **Payao** 91.88 290 P P 19 28 32.3 +0.4
RSSD **Black Hills** 91.99 43 P P 19 28 33.2 +1.1
baz=243
RSSD **Black Hills** 91.99 43 *e*P P 19 28 32.0 -0.2
comp=Z,5.4nm,1.0s
CM01 **Chiang Mai Arr** 92.34 289 *e*P P 19 28 34.5 +0.5
CM31 **Chiang Mai Arr** 92.37 289 *e*P P 19 28 35.1 +1.0
CMAR **Chiang Mai Arr** 92.37 289 P P 19 28 34.7 +0.6
comp=Z,7.3nm,0.8s,baz=122,slow=2.8,SNR=59
CMAR LR LR 20 07 43.5
comp=Z,33nm,21.0s,baz=10.0,slow=34
CHTO **Chiang Mai** 92.50 289 *e*P P 19 28 35.4 +0.7
comp=Z,9.9nm,0.7s
CD2 **Chengdu** 92.93 302 *e*P P 19 28 36.5 0.0
CD2 pmax pmax
comp=Z,10.0nm,0.5s
YAK **Yakutsk** 93.42 337 *e*P P 19 28 36.8 -1.1
comp=Z,11nm,0.8s
YAK **Yakutsk** 93.42 337 *e*P P 19 28 35.6 -2.3
YAK pmax pmax
comp=Z,13nm,1.0s
YAK pmax pmax
comp=E,3.0nm,1.2s
INK **Inuvik** 94.19 14 *e*P P 19 28 40.8 -0.6
comp=E,5.4nm,1.2s
JTS **JuntasAbangare** 94.26 81 LR LR 20 03 38.9
comp=E,40nm,19.4s,baz=153,slow=30
LZH **Lanzhou** 94.83 307 *e*P P 19 28 36.3 -9.0
LZH pP PcP 19 28 45.8 +0.2
LZH sP pP 19 28 52.0 -24
LZH pmax pmax
comp=Z,18nm,1.3s
LZH pmax pmax
comp=Z,120nm,4.3s
LZH LR LR
comp=N,82nm,15.0s
LZH LR LR
comp=E,100nm,16.1s
LZH LR LR
comp=Z,120nm,18.5s
YKA **Yellowknife Ar** 96.05 24 P P 19 28 49.4 -0.5
comp=Z,0.5nm,0.8s,baz=239,slow=4.7,SNR=8.3
YKA pP pP 19 29 21.0 +0.7
comp=Z,1.7nm,1.0s,baz=234,slow=4.3,SNR=5.8
YKA PKKPbc PKKPbc 19 45 35.9 -3.9
comp=Z,0.1nm,0.5s,baz=36,slow=2.2,SNR=3.7
ULN **Ulaanbaatar** 97.19 319⇑*e*P Pdif 19 28 56.7 +0.9
ULN pmax pmax
comp=Z,2.0nm,0.9s
GTA **Gaotai** 99.01 309 *e*P Pdif 19 29 04.5 +0.5
GTA pP 19 29 15.3
GTA sP 19 29 18.8
GTA pmax pmax
comp=Z,2.0nm,1.3s
GTA pmax pmax
comp=Z,46nm,4.1s
GTA LR LR
comp=Z,98nm,18.1s
GTA LR LR
comp=Z,58nm,19.0s
GTA LR LR
comp=Z,98nm,20.0s
TIXI **Tiksi** 99.81 345 P Pdif 19 29 06.1 -0.6
comp=Z,0.9nm,0.3s,baz=161,slow=3.0,SNR=4.0
TIXI **Tiksi** 99.81 345⇑*e*P Pdif 19 29 06.8 +0.2
TIXI pmax pmax
comp=Z,1.0nm,1.0s
LPAZ **La Paz** 99.82 112 LR LR 20 06 03.4
comp=Z,30nm,20.7s,baz=30,slow=30
ZALV **Zalesovo Beam** 112.27 321 PKiKP PKiKP 19 33 56.5 -1.4
comp=Z,0.7nm,0.3s,baz=233,slow=0.7,SNR=4.0
MKAR **Makanchi Array** 113.15 313 PKiKP PKiKP 19 33 58.6 -1.3
comp=Z,1.1nm,0.6s,baz=113,slow=0.9,SNR=16
NVS **Novosibirsk** 113.26 322 *e*PKiKP PKiKP 19 33 53.9 -5.9
NVS *e* 19 40 59.6
NVS pmax pmax
comp=Z,7.0nm,1.1s
NVS pmax pmax
comp=E,15nm,1.0s
KURK **Kurchatov** 115.86 317 PKP PKPdf 19 34 03.7 -1.3
KURK **Kurchatov** 115.86 317⇓*i*PKiKP PKPdf 19 34 04.2 -0.7
KURK pmax pmax
comp=Z,6.0nm,2.5s
KURBB **Kurchatov Arra** 115.92 317 PKP PKPdf 19 34 03.7 -1.4
comp=Z,1.8nm,0.6s,baz=106,slow=1.8,SNR=15
AAK **Ala-Archa** 118.35 308⇓*i*PKiKP PKPdf 19 34 09.9 -0.3
BVAR **Borovoye Array** 120.88 320 PKP PKPdf 19 34 13.5 -1.1
comp=Z,3.0nm,0.5s,baz=134,slow=1.8,SNR=27
BRVK **Borovoye** 120.94 320 *e*PKPdf PKPdf 19 34 13.9 -0.7
BRVK **Borovoye** 120.94 320 *c i*PKiKP PKPdf 19 34 13.8 -0.9
BRVK pmax pmax
comp=Z,5.0nm,1.0s
KK31 **Karatay Array** 121.29 308 *e*PKPdf PKPdf 19 34 14.9 -0.8
KKAR **Karatay Array** 121.29 308 *e*PKPdf PKPdf 19 34 14.9 -0.8
OPO **Imbohidratompo** 122.50 230 PKP PKPdf 19 34 18.8 -0.1
comp=Z,2.7nm,0.7s,baz=169,slow=6.0,SNR=5.2
ARU **Arti** 126.86 326 *e*PKPdf PKPdf 19 34 25.5 -0.4
ARU **Arti** 126.86 326 *i*PKiKP PKPdf 19 34 25.8 -0.1
ARU 19 36 22.0
ARU 19 41 34.2
ARU SS SS 19 53 25.3 +2.9
ABKAR **Akbulak array** 127.97 317 *e*PKPdf PKPdf 19 34 28.2 0.0
AKTO **Aktyubinsk** 128.91 319 PKP PKPdf 19 34 29.9 0.0
comp=Z,1.2nm,0.7s,baz=69,slow=8.6,SNR=4.6
AKTO **Aktyubinsk** 128.91 319 PKiKP PKPdf 19 34 30.0 0.0
AKTO pmax pmax
comp=Z,1.0nm,0.7s
ARCES **ARCESS Array B** 129.79 350 PKP PKPdf 19 34 30.8 -0.4
comp=Z,4.8nm,0.8s,baz=348,slow=5.2,SNR=5.9
ARCES **ARCESS Array B** 129.79 350 PKiKP PKPdf 19 34 30.8 -0.4
ARCES pmax pmax
comp=Z,4.0nm,0.8s
GEYT **Alibeck** 130.92 302 PKP PKPdf 19 34 34.7 +0.4
comp=Z,0.8nm,0.7s,baz=174,slow=1.4,SNR=3.4
GEYT SKPbc SKPab 19 37 48.2 -0.1
comp=Z,3.6nm,1.1s,baz=127,slow=3.8,SNR=10
FINES **FINESS Array B** 136.85 345 PKP PKPdf 19 34 45.2 +0.6
comp=Z,1.5nm,0.7s,baz=103,slow=6.1,SNR=5.4
LSZ **Lusaka** 137.02 215 *e*PKPdf PKPdf 19 34 46.5 0.0
OBN **Obninsk** 138.23 333⇑*i*PKiKP PKPdf 19 34 49.3 +2.0
OBN pmax pmax
comp=Z,8.0nm,1.0s
NOA **NORSAR Array B** 139.71 355 PKP PKPdf 19 34 49.1 -0.8
comp=Z,0.9nm,0.9s,baz=13,slow=4.0,SNR=3.4
HFS **Hagfors** 140.35 353 PKhKP PKPpre 19 34 41.9
comp=Z,2.2nm,0.8s,baz=97,slow=4.6,SNR=5.7
ANN **Anapa** 143.87 319 *e*PKiKP PKPab 19 34 54.4 -0.7
ANN pmax pmax
comp=Z,16nm,1.1s
AKASG **Malin Array Be** 144.50 333 PKP PKPab 19 34 56.1 -1.2
comp=Z,7.2nm,0.9s,baz=40,slow=4.5,SNR=32
AKBB **Malin Array Si** 144.50 333 *e*PKPdf PKPab 19 34 56.5 -0.8
KIEV **Kiev** 144.51 333 *e*PKPdf PKPab 19 34 56.3 -1.1
AK11 **Malin Array Si** 144.54 333 *e*PKPdf PKPab 19 34 56.5 -0.9
EKA **Eskdalemuir Ar** 145.26 8 PKPbc PKPbc 19 34 59.5 -0.3
comp=Z,4.9nm,0.6s,baz=325,slow=2.7,SNR=11
EKA pPKPbc pPKPbc 19 35 31.6 +0.6
comp=Z,4.5nm,0.8s,baz=333,slow=2.9,SNR=4.0
SIM **Simferopol'** 145.78 321 *de*PKPdf PKPab 19 35 02.2 -0.1
SIM pmax pmax
comp=Z,36μm,1.1s
MBAR **Mbarara** 146.44 233 *e*PKPdf PKPab 19 35 05.9 -0.1
LVV **L'vov** 147.29 336 *e*PKP2 PKPbc 19 35 06.4 +0.4
KWP **Kalwaria Pacla** 147.93 337 *e*PKPbc PKPbc 19 35 07.9 +0.2
KWP **Kalwaria Pacla** 147.93 337 *e*PKP2 PKPbc 19 35 07.9 +0.2
OJC **Ojcow** 148.39 341 *e*PKP PKPbc 19 35 08.9 0.0
OJC **Ojcow** 148.39 341 *e*PKPbc PKPbc 19 35 08.8 0.0
OJC **Ojcow** 148.39 341 *e*PKP2 PKPbc 19 35 08.9 0.0
BUR08 **Bucovina Ar. S** 148.54 333 *e*PKPbc PKPbc 19 35 09.8 +0.3
BUR04 **Bucovina Ar. S** 148.55 333 *e*PKPdf PKPdf 19 35 06.0 +0.2
BURAR **Bucovina Array** 148.56 333 PKP2 PKPbc 19 35 10.0 +0.4
STHS **Stebnicka Huta** 148.62 339 *e*PKP PKPbc 19 35 09.3 -0.3
STHS *e* 19 35 14.5
STHS **Stebnicka Huta** 148.62 339 *e*PKP2 PKPbc 19 35 09.3 -0.3
KSP **Ksiaz** 148.78 345 *e*PKP PKPbc 19 35 10.3 +0.4
KSP **Ksiaz** 148.78 345 *e*PKP2 PKPbc 19 35 10.3 +0.4
BR131 **Keskin Array S** 148.80 313 *e*PKPbc PKPbc 19 35 09.8 -0.7
BRTR **Keskin Array B** 148.80 313 PKPbc PKPbc 19 35 10.0 -0.5
comp=Z,6.0nm,0.9s,baz=146,slow=2.8,SNR=30
UZH **Uzhgorod** 148.91 337⇓*i*PKP2 PKPbc 19 35 10.3 0.0
NIE **Niedzica** 148.94 340 *e*PKP PKPbc 19 35 11.0 +0.6
NIE **Niedzica** 148.94 340 *e*PKP2 PKPbc 19 35 11.0 +0.6
ASF **Jabal al Asfar** 148.97 298 PKPbc PKPbc 19 35 10.9 -0.1
comp=Z,10nm,0.9s,baz=356,slow=4.7,SNR=16
CRVS **Cervenica-Dubn** 148.98 338 *e*PKP PKPbc 19 35 10.2 -0.3
CRVS **Cervenica-Dubn** 148.98 338 *e*PKP2 PKPbc 19 35 10.2 -0.3
CLL **Collm** 149.01 349⇓*i*PKPbc PKPbc 19 35 10.4 0.0
comp=Z,20nm,0.9s
CLL *i* PKPab PKPab 19 35 14.1 -0.7
comp=Z,11nm,0.9s
CLL *i* 19 35 20.1
CLL *e*PKPab pPKPab 19 35 45.0 -0.5
CLL *e* 19 36 06.0
CLL **Collm** 149.01 349 *e*PKPbc PKPbc 19 35 10.2 -0.2
CLL **Collm** 149.01 349⇓*i*PKP2 PKPbc 19 35 10.4 0.0
CLL pmax pmax
comp=Z,20nm,0.9s
UPC **Upice** 149.15 345⇑*e*PKP PKPbc 19 35 11.2 +0.4
UPC **Upice** 149.15 345 *e*PKP2 PKPbc 19 35 11.2 +0.4
OKC **Ostrava-Krasne** 149.22 342⇑*e*PKP PKPbc 19 35 11.1 +0.1
OKC *e*PKPAB PKPab 19 35 17.7 +2.0
OKC **Ostrava-Krasne** 149.22 342 *e*PKP2 PKPbc 19 35 11.1 +0.1
DPC **Dobruska-Polom** 149.23 345⇑*e*PKP PKPbc 19 35 11.4 +0.3
DPC *e*PKPAB PKPab 19 35 17.3 +1.5
DPC **Dobruska-Polom** 149.23 345 *e*PKP2 PKPbc 19 35 11.4 +0.3
TRPA **Tarpa** 149.23 336⇓*e*PKPdf PKPbc 19 35 10.8 -0.3
BRG **Berggiesshubel** 149.25 348 *i*PKP PKPbc 19 35 11.0 -0.1
comp=Z,14nm,1.0s
BRG **Berggiesshubel** 149.25 348 *i*PKP2 PKPbc 19 35 11.0 -0.1
BRG pmax pmax
comp=Z,9.0nm,1.0s
TIRR **Tirgusor** 149.29 325 *e*PKPbc PKPbc 19 35 12.1 +0.8
TIRR **Tirgusor** 149.29 325 *e*PKP2 PKPbc 19 35 12.1 +0.8
ANTO **Ankara** 149.30 314 *e*PKPbc PKPbc 19 35 11.9 +0.3
LANS **Liptovska Anna** 149.43 340 *e*PKP PKPbc 19 35 11.9 +0.3
LANS *e* 19 35 17.3
LANS **Liptovska Anna** 149.43 340 *e*PKP2 PKPbc 19 35 11.9 +0.3
MORC **Moravsky Berou** 149.44 343 *e*PKPbc PKPbc 19 35 11.9 +0.3
MLR **Muntele Rosu** 149.82 329 PKPbc PKPbc 19 35 12.2 -0.6
comp=Z,1.3nm,0.7s,baz=180,slow=1.0,SNR=16
MLR **Muntele Rosu** 149.82 329 *e*PKPbc PKPbc 19 35 12.0 -0.8
PRU **Pruhonice** 149.97 347⇑*e*PKP PKPbc 19 35 12.8 0.0
PRU **Pruhonice** 149.97 347 *e*PKP2 PKPbc 19 35 12.8 0.0
MMAI **Mount Meron Ar** 149.98 300 PKPbc PKPbc 19 35 13.8 +0.3
comp=Z,18nm,0.9s,baz=87,slow=6.9,SNR=21
GOPC **GO Pecny, Ondr** 149.99 346⇑*e*PKP PKPbc 19 35 13.1 +0.2
GOPC **GO Pecny, Ondr** 149.99 346 *e*PKP2 PKPbc 19 35 13.1 +0.2
NKC **Novy Kostel** 150.14 350⇑*e*PKP PKPbc 19 35 13.4 +0.1
NKC **Novy Kostel** 150.14 350 *e*PKP2 PKPbc 19 35 13.4 +0.1
VYHS **Vyhne** 150.21 340 *e*PKP PKPbc 19 35 13.1 -0.4
VYHS *e* 19 35 20.1
VYHS **Vyhne** 150.21 340 *e*PKIKP PKPbc 19 35 13.1 -0.4
PSZ **Piszkesteto** 150.37 339⇓*e*PKPdf PKPbc 19 35 14.5 +0.5
PSZ **Piszkesteto** 150.37 339 *e*PKPbc PKPbc 19 35 13.9 0.0
MEM **Membach** 150.43 358 ⇑PKP PKPbc 19 35 13.6 -0.3
SMOL **Smolenice** 150.62 342 *e*PKP PKPbc 19 35 15.8 +1.4
SMOL **Smolenice** 150.62 342 *e*PKIKP PKPbc 19 35 15.8 +1.4
MODS **Modra-Piesok** 150.78 342 *e*PKP PKPbc 19 35 12.9 -2.0
MODS *e* 19 35 21.9
MODS **Modra-Piesok** 150.78 342 *e*PKIKP PKPbc 19 35 12.9 -2.0
MODS *e* 19 35 21.9
DOU **Dourbes** 150.97 360 ⇑PKP PKPbc 19 35 15.3 +0.1
KHC **Kasperske Hory** 150.98 347⇑*e*PKP PKPbc 19 35 15.6 +0.3
KHC *e*PKPAB PKPab 19 35 23.3 +0.2
KHC *e*PKP pPKPbc 19 35 49.0 +2.2
KHC **Kasperske Hory** 150.98 347 *e*PKPbc PKPbc 19 35 14.6 -0.8
KHC **Kasperske Hory** 150.98 347 *e*PKIKP PKPbc 19 35 15.6 +0.3

CSS	Mathiatis	151.01	305	*e*PKPbc	PKPbc	19 35 15.1	-0.7
GEC2	GERESS Array S	151.23	347	*e*PKPbc	PKPbc	19 35 16.0	0.0
GEC2	GERESS Array S	151.23	347	*e*PKIKP	PKPbc	19 35 16.0	0.0
GERES	GERESS Array B	151.23	347	PKP	PKPdf	19 35 10.2	+0.3
	comp=Z,3.9nm,0.8s,baz=23,slow=1.7,SNR=3.6						
GERES				PKPbc	PKPbc	19 35 15.7	-0.3
	comp=Z,4.0nm,0.8s,baz=29,slow=2.2,SNR=24						
GEA0	GERESS Array S	151.24	347	*e*PKPbc	PKPbc	19 35 15.5	-0.5
WLF	Walferdange	151.36	358	*i*PKP	PKPbc	19 35 16.9	+0.7
CONA	Conrad Observa	151.58	344	*e*PKiKP	PKPbc	19 35 16.7	-0.1
	comp=Z,9.0nm,0.9s,SNR=8.3						
SOP	Sopron	151.61	343	*e*PKPdf	PKPbc	19 35 17.0	+0.2
MOA	Molln	152.05	346	*e*PKiKP	PKPbc	19 35 17.9	+0.1
	comp=Z,6.1nm,1.1s						
MORH	M¨ar¨igy, Hung	152.27	338	*e*PKPdf	PKPbc	19 35 17.4	-0.9
BFO	Black Forest	152.55	354	*i*PKIKP	PKPbc	19 35 21.0	+2.1
SOKA	Soboth	152.95	344	*e*PKPbc	PKPbc	19 35 19.2	-0.7
	comp=Z,6.5nm,1.2s						
SOKA				*e*PKPab	PKPab	19 35 31.5	0.0
	comp=Z,7.1nm,0.9s,SNR=4.2						
KBA	Koelnbreinsper	152.98	346	*i*PKiKP	PKPbc	19 35 19.6	-0.5
	comp=Z,3.6nm,0.8s						
WATA	Walderalm	153.09	349	*i*PKiKP	PKiKP	19 35 21.1	+0.7
	comp=Z,3.3nm,0.7s						
WTTA	Wattenberg	153.15	349	*e*PKiKP	PKPbc	19 35 20.3	-0.2
	comp=Z,5.4nm,0.9s						
MOTA	Moosalm	153.16	350	*e*PKPbc	PKPbc	19 35 19.9	-0.5
	comp=Z,1.6nm,0.7s						
OBKA	Obir	153.23	344	*e*PKiKP	PKiKP	19 35 20.8	+0.2
	comp=Z,1.9nm,0.7s						
OBKA				*e*PKPab	PKPab	19 35 32.3	-0.4
	comp=Z,8.6nm,0.9s						
VTS	Vitosha	153.29	328	*e*PKPbc	PKPbc	19 35 20.5	-0.4
VTS	Vitosha	153.29	328	*e*PKIKP	PKPbc	19 35 20.5	-0.4
DAVA	Damuels	153.40	352	*e*PKiKP	PKPbc	19 35 20.5	-0.5
	comp=Z,6.2nm,1.1s						
ABTA	Abfaltersbach	153.47	347	*e*PKPbc	PKPbc	19 35 20.2	-0.8
	comp=Z,5.2nm,0.7s						
DIVS	Divibare	153.56	334	*e*PKPdf	PKPdf	19 35 14.6	+1.0
JAVS	Javornik	153.93	344	*i*PKPdf	PKPdf	19 35 13.4	-0.6
JAVS				*i*PKPbc	PKPbc	19 35 21.2	-0.9
JAVS				*e*		19 35 34.4	
BOJS	Bojanci	153.97	342	*i*PKPdf	PKPdf	19 35 13.9	-0.1
BOJS				*i*PKPbc	PKPbc	19 35 22.0	-0.1
BOJS				*i*		19 35 35.4	
TRI	Trieste	154.18	345	*e*PKPab	PKPab	19 35 35.6	-0.9
TRI	Trieste	154.18	345	*e*PKP2	PKPab	19 35 40.8	-0.4
TTG	Podgorica	155.24	333	*e*PKPab	PKPab	19 35 40.8	-0.4
TTG	Podgorica	155.24	333	*e*PKP2	PKPab	19 35 40.8	-0.4
LIT	Litokhoron	155.47	325	*e*PKPab	PKPab	19 35 41.9	-0.5
LIT	Litokhoron	155.47	325	*e*PKP2	PKPab	19 35 41.9	-0.5
FNA	Florina	155.55	328	PKP2	PKPab	19 35 41.8	-0.9
TIP	Timpagrande	158.99	332	*e*PKPab	PKPab	19 35 57.0	-0.6
ES19	SONSECA Array	160.06	19	*e*PKPab	PKPab	19 36 02.6	+0.4
ESDC	Sonseca Array	160.07	19	PKPab	PKPab	19 36 02.3	+0.1
	comp=Z,0.1nm,0.3s,baz=323,slow=4.8,SNR=4.9						
KOWA	Kowa	169.73	128	PKPab	PKPab	19 36 45.6	+0.2
	comp=Z,1.3nm,0.6s,baz=230,slow=4.4,SNR=3.2						
TOA0	Torodi Ar. Sit	171.78	161	*e*PKPdf	PKPdf	19 35 30.9	-1.0
TOA0				*e*PKPab	PKPab	19 36 56.5	+2.2
TORD	Torodi Ar. Bea	171.78	161	PKP	PKPdf	19 35 30.9	-1.0
	comp=Z,0.8nm,0.9s,baz=192,slow=0.4,SNR=3.6						
TORD				PKPab	PKPab	19 36 56.1	+1.9
	comp=Z,1.3nm,0.8s,baz=183,slow=4.7,SNR=4.6						
TAM	Tamanrasset	177.92	329	PKP2	PKPab	19 37 22.1	+0.4

IDC 30 19:20:36.1±22.0, 1°.96N×92°.98E, h0km, mb4.0/3, mb1 3.8/4, mb1mx3.3/67, mbtmp3.8/4, ML3.4/1, MS3.5/1, Ms1 3.5/1, ms1mx2.6/61, Error ellipse: s-maj=466.3km s-min=110.2km az=144.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	Chiang Mai Arr	17.41	19	Pn	Pn	19 24 40.6	0.0
	0.0nm,0.3s,baz=213,slow=12,SNR=4.6						
MKAR	Makanchi Array	45.62	350	P	P	19 28 58.6	+0.3
	1.1nm,0.6s,baz=165,slow=8.5,SNR=8.9						
KURBB	Kurchatov Arra	50.01	348	P	P	19 29 32.5	+0.3
	0.4nm,0.2s,baz=168,slow=6.5,SNR=5.9						
ZALV	Zalesovo Beam	52.25	354	P	P	19 29 47.7	-1.3
	1.1nm,0.5s,baz=189,slow=8.4,SNR=3.7						
BVAR	Borovoye Array	54.24	343	LR	LR	19 55 50.0	
	comp=Z,48nm,19.2s,baz=123,slow=39						

PRU 30 19:25:56.9, 50°.08N×18°.42E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OKC	Ostrava-Krasne	0.30	216	*e*PG	Pg	19 26 02.7	+0.1
OKC				*e*SG	Sg	19 26 06.9	+0.4
DPC	Dobruska-Polom	1.38	282	*e*PG	Pg	19 26 22.3	-0.9
DPC				*e*SG	Sg	19 26 41.1	+0.1

*NIED **30** 19:42:00, 37°.30N×141°.60E, h35km, Mw3.5 Best double couple: M₀2.07000×10¹⁴ NP1:ϕs204.00000°, δ36.00000°, λ-73.00000°. NP2:ϕs3.00000°, δ55.00000°, λ-102.00000°.*
*IDC **30** 19:42:31.8±2.5, 37°.35N×141°.84E, h0km, mb3.6/3, mb1 3.7/5, mb1mx3.3/67, mbtmp3.7/5, ML3.3/2, MS3.9/1, Ms1 3.9/1, ms1mx2.5/72, Error ellipse: s-maj=57.9km s-min=27.7km az=73.0*
*ISCJB **30** 19:42:34.1±1.1, 37°.24N±0°.03×141°.63E±0°.06, h18km±6km, mb3.7/3, MS3.9/1, Error ellipse: s-maj=8.6km s-min=5.5km az=13.6*
*JMA **30** 19:42:36.4±0.1, 37°.26N×141°.49E, h34km±2km, M3.9*
JMA Felt I J1.
ISC 30 19:42:33.8±1.7, 37°.28N±0°.04×141°.59E±0°.06, h9km±10km, n22, σ1s05/27, mb3.6/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JFK	Kawauchi	0.58	279	P	Pb	19 42 46.8	+0.7
JFK				S	Sb	19 42 53.9	-0.6
ONAJ	Iwakimizuishiy	0.66	254	P	Pb	19 42 47.8	+0.3
ONAJ				S	Sg	19 42 55.6	+0.5
JMM	Marumori	0.86	313	P	Pn	19 42 51.4	-0.7
JMM				S	Sb	19 43 02.1	-0.5
JFT	Otama	1.03	284	P	Pn	19 42 54.2	-0.2
JFT				S	Sg	19 43 06.5	-0.4
JHO	Hitachi	1.06	231	P	Pb	19 42 53.6	-0.7
JHO				S	Sb	19 43 05.9	-2.3
JIO	Ouri	1.19	351	P	Pg	19 42 56.6	+0.1
JIO				S	Sb	19 43 11.4	-0.5
JOU	Okura	1.31	326	P	Pg	19 42 59.0	+0.1
JOU				S	Sg	19 43 15.6	-0.2
JFY	Yanaizu	1.51	275	P	Pb	19 43 01.6	-0.4
JFY				S	Sn	19 43 19.8	-1.0
JYS	Shirataka	1.53	308	P	Pg	19 43 02.7	-0.4
JYS				S	Sb	19 43 21.6	-0.2
MJAR	Matsushiro Arr	2.81	256	Pn	Pn	19 43 20.3	+1.4
	2.3nm,0.3s,baz=84,slow=15,SNR=30						
MJAR				Sn	Sn	19 43 53.8	+0.9
	6.1nm,0.3s,baz=67,slow=25,SNR=8.1						
MAT	Matsushiro	2.81	256	P	Pn	19 43 20.3	+1.4
MAT				S	Sn	19 43 54.9	+1.9
JHJ	Hachijo jima 2	4.41	200	Pn	Pn	19 43 42.5	+1.6
	8.4nm,0.3s,baz=251,slow=18,SNR=4.6						
JHJ				Sn	Sn	19 44 30.2	-2.1
	9.5nm,0.3s,baz=72,slow=20,SNR=2.9						
H11N2	WAKE ISLAND Hy	28.15	121	T	T	20 17 49.3	
	baz=314,slow=75,SNR=40						
H11N1	WAKE ISLAND Hy	28.16	121	T	T	20 17 52.7	
	baz=314,slow=75,SNR=60						
H11N3	WAKE ISLAND Hy	28.17	121	T	T	20 17 56.2	
	baz=314,slow=75,SNR=45						
H11S1	WAKE ISLAND Hy	28.88	124	T	T	20 18 49.1	
	baz=316,slow=76,SNR=26						
H11S3	WAKE ISLAND Hy	28.88	124	T	T	20 18 47.3	
	baz=316,slow=76,SNR=23						
H11S2	WAKE ISLAND Hy	28.89	124	T	T	20 18 48.6	
	baz=316,slow=76,SNR=26						
MKAR	Makanchi Array	44.11	302	P	P	19 50 43.0	+0.6
	0.9nm,0.8s,baz=84,slow=9.9,SNR=7.4						
KURBB	Kurchatov Arra	45.96	308	P	P	19 50 57.0	0.0
	0.6nm,0.4s,baz=82,slow=7.5,SNR=4.7						
WRA	Warramunga Arr	57.33	188	P	P	19 52 22.0	-0.1
	0.5nm,0.9s,baz=5.1,slow=7.3,SNR=5.5						
AKTO	Aktyubinsk	58.62	312	LR	LR	20 17 48.3	
	comp=Z,96nm,18.8s,baz=144,slow=36						

IDC 30 19:45:54.0±6.6, 1°.48S×15°.68W, h0km, mb3.7/3, mb1 3.8/4, mb1mx3.4/55, mbtmp3.7/4, ML3.4/1, MS3.1/1, Ms1 3.0/1, ms1mx2.5/55, Error ellipse: s-maj=156.7km s-min=40.2km az=92.0, North of Ascension Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DBIC	Dimbokro	13.51	53	LR	LR	19 53 19.6	
	comp=Z,75nm,20.5s,baz=236,slow=33						
KOWA	Kowa	19.64	36	Pn	P	19 50 23.8	-0.7
	0.1nm,0.3s,baz=213,slow=9.1,SNR=3.4						
TORD	Torodi Ar. Bea	22.55	49	P	P	19 50 56.6	+0.6
	1.4nm,0.6s,baz=233,slow=11,SNR=5.0						
BOSA	Boshof	47.45	129	P	P	19 54 30.7	-0.3
	3.8nm,0.9s,baz=310,slow=7.9,SNR=3.8						
BRTR	Keskin Array B	60.91	42	P	P	19 56 09.2	+0.2
	0.8nm,1.0s,baz=247,slow=3.0,SNR=4.4						

*IDC **30** 19:51:19.8±1.5, 3°.11S×136°.17E, h0km, mb3.7/5, mb1 4.0/7, mb1mx3.6/48, mbtmp3.8/7, ML3.7/2, MS3.1/1, Ms1 3.1/1, ms1mx2.4/52, Error ellipse: s-maj=55.6km s-min=21.2km az=68.0*
*ISCJB **30** 19:51:23.7±1.1, 3°.32S±0°.08×135°.9E±0°.1, h33km, mb3.5/4, MS2.9/1, Error ellipse: s-maj=20.9km s-min=8.1km az=152.1*
ISC 30 19:51:25.0±1.3, 3°.4S±0°.1×135°.9E±0°.2, h33km, n8, σ0s54/9, mb3.6/4, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIJI	Sorong	5.28	298	Pn	Pn	19 52 42.0	+0.4
	4.5nm,0.3s,baz=180,slow=21,SNR=48						
SIJI				Sn	Sn	19 53 41.1	-0.3
	15nm,0.3s,baz=299,slow=23,SNR=23						
SIJI				Lg	Lg	19 54 05.3	
	11nm,0.3s,baz=123,slow=23,SNR=8.9						
WRA	Warramunga Arr	16.56	185	Pn	Pn	19 55 15.0	+0.1
	0.2nm,0.3s,baz=6.1,slow=13,SNR=14						
WRA				Sn	Sn	19 58 17.0	-0.8
	0.6nm,0.3s,baz=4.8,slow=23,SNR=8.3						
ASAR	Alice Springs	20.29	185	P	Pn	19 56 01.9	+1.7
	5.0nm,0.7s,baz=13,slow=11,SNR=58						
ASAR				S	S	19 59 44.3	+0.3
	3.0nm,1.2s,baz=2.4,slow=27,SNR=4.6						
HNR	Honiara	24.61	105	LR	LR	20 06 01.3	
	comp=Z,45nm,21.4s,baz=302,slow=36						
CMAR	Chiang Mai Arr	42.39	302	P	P	19 59 17.0	+0.3
	0.5nm,0.8s,baz=113,slow=6.4,SNR=6.9						
MKAR	Makanchi Array	68.63	324	P	P	20 02 24.9	-0.2
	0.9nm,0.6s,baz=113,slow=7.8,SNR=12						
VNDA	Vanda	75.40	174	P	P	20 03 05.4	+0.5
	0.5nm,0.8s,baz=314,slow=7.2,SNR=5.2						
BVAR	Borovoye Array	78.27	326	P	P	20 03 20.9	-0.7
	0.4nm,0.6s,baz=101,slow=7.5,SNR=5.8						

*NIED **30** 19:54:00, 35°.70N×140°.70E, h56km, Mw4.2 Best double couple: M₀1.98000×10¹⁵ NP1:ϕs175.00000°, δ31.00000°, λ138.00000°. NP2:ϕs303.00000°, δ70.00000°, λ66.00000°.*
*ISCJB **30** 19:54:28.4±0.6, 35°.61N±0°.04×140°.73E±0°.08, h53km±5km, mb3.7/15, MS2.9/2, Error ellipse: s-maj=10.5km s-min=6.9km az=177.5*
*JMA **30** 19:54:29.3±0.1, 35°.71N×140°.63E, h48km±1km, M3.7 Broadband fault plane solution: P waves. NP1: ϕs98.00000°, δ86.00000°, λ-72.00000°. NP2:ϕs199.00000°, δ18.00000°, λ-168.00000°. Principal axes: T Plg39.0000°, Azm172.0000°; N Plg18.0000°, Azm277.0000°; P Plg46.0000°, Azm26.0000°;*
JMA Felt II J1.
*IDC **30** 19:54:29.7±1.6, 35°.55N×140°.67E, h48km±17km, mb3.5/14, mb1 3.8/18, mb1mx3.6/67, mbtmp3.9/18, ML3.7/3, MS3.0/4, Ms1 3.0/4, ms1mx2.6/59 Error ellipse: s-maj=18.7km s-min=11.7km az=87.0*
ISC 30 19:54:29.2±1.0, 35°.62N±0°.05×140°.77E±0°.06, h41km±9km, n40, σ1s36/34, mb3.8/15, 5C-3D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CHOJ	Chosi	0.11	39	↑P	Pn	19 54 37.2	+1.2
JCN	Nagara	0.51	247	↓P	Pn	19 54 40.6	+0.6
BSO4	Boso 4	0.72	210	↓P	Pn	19 54 43.7	+0.9
JYT	Yasato	0.77	323	↑P	Pn	19 54 42.1	-1.5
JYT				S	Sn	19 54 51.3	-2.7
BSO3	Boso 3	0.84	195	P	Pn	19 54 45.3	+1.0
JHO	Hitachi	1.01	351	↑P	Pn	19 54 45.9	-1.0
JAG	Ashikaga	1.34	307	↑P	Pn	19 54 49.7	-1.7
JOD2	Odawara 2	1.42	256	↓P	Pn	19 54 51.8	-0.7
JRY	Ryogami san	1.57	285	↑P	Pn	19 54 53.9	-0.7
MJAR	Matsushiro Arr	2.27	295	P	Pn	19 55 04.5	+0.3
	19nm,0.3s,baz=99,slow=14,SNR=95						
MAT	Matsushiro	2.27	295	P	Pn	19 55 04.4	+0.1
MAT				S	Sn	19 55 33.6	+2.5
JHJ	Hachijo jima 2	2.62	198	P	Pn	19 55 08.8	-0.3
	105nm,0.3s,baz=270,slow=1.2,SNR=21						
JHJ				S	Sn	19 55 38.3	-1.3
	194nm,0.3s,baz=88,slow=23,SNR=7.4						
JNU	Nakatsue	8.55	256	P	Pn	19 56 31.9	+1.5
	0.2nm,0.3s,baz=95,slow=11,SNR=3.3						
JNU				LR	LR	20 00 18.6	
	comp=Z,147nm,19.6s,baz=116,slow=41						
JCJ	Chichijima	8.58	172	P	Pn	19 56 28.8	-2.0
	33nm,0.3s,baz=338,slow=7.9,SNR=18						
ASAJ	Asahikawa	8.61	9	P	Pn	19 56 29.2	-1.9
	2.2nm,0.3s,baz=217,slow=14,SNR=31						
KSRS	Korea Array	10.50	284	P	Pn	19 56 58.6	+1.5
	0.2nm,0.3s,baz=92,slow=15,SNR=6.0						
KSRS				LR	LR	20 01 03.3	
	comp=Z,43nm,20.2s,baz=220,slow=38						
PETK	Petropavlovsk-	21.17	29	LR	LR	20 07 17.4	
	comp=Z,46nm,21.0s,baz=239,slow=36						
MA2	Magadan	24.85	12	LR	LR	20 10 25.9	
	comp=Z,34nm,19.0s,baz=156,slow=38						
H11N2	WAKE ISLAND Hy	27.91	118	T	T	20 29 27.7	
	baz=314,slow=75,SNR=50						
H11N1	WAKE ISLAND Hy	27.92	118	T	T	20 29 29.1	
	baz=314,SNR=37						
H11N3	WAKE ISLAND Hy	27.93	118	T	T	20 29 28.9	
	baz=314,slow=75,SNR=48						
SONM	Songino Array	28.18	306	P	P	20 00 20.7	+2.9
	0.4nm,0.4s,baz=101,slow=7.6,SNR=3.0						
SEY	Seymchan	28.28	11	P	P	20 00 18.2	-0.2
	0.6nm,0.5s,baz=132,slow=14,SNR=2.5						
H11S1	WAKE ISLAND Hy	28.57	120	T	T	20 30 17.7	
	baz=312,slow=75,SNR=38						
H11S3	WAKE ISLAND Hy	28.57	120	T	T	20 30 17.7	
	baz=312,slow=75,SNR=34						
H11S2	WAKE ISLAND Hy	28.58	120	T	T	20 30 18.9	
	baz=312,slow=75,SNR=26						
CMAR	Chiang Mai Arr	40.65	256	P	P	20 02 03.9	-1.6
	0.3nm,0.5s,baz=40,slow=8.6,SNR=3.2						
MKAR	Makanchi Array	44.45	303	P	P	20 02 34.6	-1.4
	0.6nm,0.5s,baz=90,slow=9.8,SNR=7.0						
KURBB	Kurchatov Arra	46.48	309	P	P	20 02 51.0	-1.0
	1.2nm,0.4s,baz=84,slow=7.7,SNR=13						
ILAR	Eielson Array	50.97	32	P	P	20 03 26.9	+0.6
	1.1nm,0.8s,baz=267,slow=5.8,SNR=13						
WRA	Warramunga Arr	55.59	187	P	P	20 03 59.8	-1.0
	2.4nm,0.5s,baz=2.5,slow=7.5,SNR=31						
INK	Inuvik	55.88	27	P	P	20 04 02.0	-0.2
	0.6nm,0.6s,baz=242,slow=8.8,SNR=3.3						
ASAR	Alice Springs	59.32	187	P	P	20 04 26.6	-0.3
	0.7nm,0.5s,baz=17,slow=10,SNR=18						
YKA	Yellowknife Ar	65.29	30	P	P	20 05 06.9	+0.4
	0.2nm,0.6s,baz=299,slow=6.5,SNR=3.6						
FINES	FINESS Array B	69.83	332	P	P	20 05 35.2	+0.1
	0.5nm,0.4s,baz=38,slow=9.6,SNR=4.6						
AKASG	Malin Array Be	75.10	322	P	P	20 06 06.7	0.0
	0.4nm,0.4s,baz=53,slow=5.6,SNR=2.7						
NB2	NORSAR Subarra	75.29	337	P	P	20 06 19.6	+12
	comp=Z,2.0nm,0.8s,baz=41,slow=5.9						
NOA	NORSAR Array B	75.29	337	P	P	20 06 07.8	+0.1
	comp=Z,0.5nm,0.7s,baz=40,slow=5.9,SNR=2.6						
NVAR	Mina Array Bea	76.26	53	P	P	20 06 14.7	+0.8
	comp=Z,0.3nm,0.5s,baz=298,slow=5.7,SNR=4.0						
PDAR	Pinedale Array	79.03	45	P	P	20 06 29.6	+0.4
	comp=Z,0.4nm,0.5s,baz=247,slow=2.1,SNR=4.7						

*NIED **30** 20:00:00, 39°.60N×142°.10E, h56km, Mw3.8 Best double couple: M₀5.67000×10¹⁴ NP1:ϕs190.00000°, δ21.00000°, λ78.00000°. NP2:ϕs22.00000°, δ69.00000°, λ94.00000°.*
*ISCJB **30** 20:00:04.1±0.6, 39°.65N±0°.03×142°.14E±0°.07, h54km±4km, mb3.8/15, MS3.2/1, Error ellipse: s-maj=9.6km s-min=4.7km az=9.7*
*JMA **30** 20:00:05.1, 39°.64N×142°.11E, h48km±1km, M3.8*
JMA Felt I J1.
*IDC **30** 20:00:10.1±2.7, 39°.59N×141°.98E, h96km±23km, mb3.5/15, mb1 3.6/18, mb1mx3.4/68, mbtmp3.9/18, MS2.7/2, Ms1 2.8/2, ms1mx2.3/65, Error ellipse: s-maj=20.8km s-min=15.5km az=102.0*
ISC 30 20:00:05.0±1.0, 39°.64N±0°.04×142°.13E±0°.07, h47km±7km, n38, σ1s17/45, mb3.8/15, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MIYJ	Miyakonagasawa	0.25	256	P	Pn	20 00 13.4	+0.1
MIYJ				S	Sn	20 00 19.2	0.0
JTH	Tanohata	0.36	326	P	Pn	20 00 14.5	0.0
JTH				S	Sn	20 00 21.2	0.0
OFUJ	Ofunato	0.66	213	P	Pn	20 00 17.9	-0.2
OFUJ				S	Sn	20 00 26.8	-0.7
JOM	Ohasama	0.67	256	P	Pn	20 00 18.3	+0.2
JOM				S	Sn	20 00 27.7	0.0
JKZ	Kuzumaki	0.71	300	P	Pn	20 00 18.8	+0.1
JKZ				S	Sn	20 00 28.4	-0.3
JANG	Nango	0.87	328	P	Pn	20 00 20.7	-0.2
JANG				S	Sn	20 00 32.0	-0.6
JMK	Ichinoseki	0.98	226	P	Pn	20 00 22.2	-0.2
JMK				S	Sn	20 00 35.1	0.0
JRG	Rokugo	1.18	259	P	Pn	20 00 25.0	-0.1
JRG				*e*S	Sn	20 00 39.1	-0.9
JAH	Hinai	1.27	296	P	Pn	20 00 26.6	+0.3
JAH				*e*S	Sn	20 00 42.3	0.0
JIO	Ouri	1.33	207	P	Pn	20 00 26.9	-0.2
JIO				*e*S	Sn	20 00 43.5	0.0
JTM	Tenmabayashi	1.41	325	P	Pn	20 00 28.2	+0.1
JTM				S	Sn	20 00 45.7	+0.2
MAT	Matsushiro	4.37	226	P	Pn	20 01 12.0	+3.2
MAT				S	Sn	20 02 01.8	+3.3
MJAR	Matsushiro Arr	4.37	226	P	Pn	20 01 11.8	+3.0
	3.1nm,0.3s,baz=33,slow=13,SNR=72						
MJAR				LR	LR	20 02 46.3	
	comp=Z,36nm,20.7s,baz=65,slow=37						
ASAJ	Asahikawa	4.49	4	P	Pn	20 01 11.9	+1.5
	1.5nm,0.3s,baz=232,slow=15,SNR=9.2						
ASAJ				S	Sn	20 02 01.3	-0.1
	1.3nm,0.3s,baz=205,slow=17,SNR=2.4						
USRK	Ussuriysk Ar.	8.83	304	P	Pn	20 02 12.8	+3.0
	0.5nm,0.3s,baz=101,slow=16,SNR=6.4						
KSRS	Korea Array	11.34	263	P	Pn	20 02 49.3	+5.1
	0.7nm,0.3s,baz=70,slow=14,SNR=13						
SEY	Seymchan	24.13	11	P	P	20 05 17.4	+1.2
	2.1nm,0.8s,baz=205,slow=6.0,SNR=8.5						
SONM	Songino Array	26.89	300	P	P	20 05 42.5	+0.9
	0.3nm,0.4s,baz=83,slow=12,SNR=3.7						
H11N2	WAKE ISLAND Hy	29.10	126	T	T	20 36 34.2	
	baz=318,slow=76,SNR=95						
H11N1	WAKE ISLAND Hy	29.11	126	T	T	20 36 39.3	
	baz=318,slow=76,SNR=80						
H11N3	WAKE ISLAND Hy	29.12	126	T	T	20 36 39.9	
	baz=318,slow=76,SNR=81						
H11S1	WAKE ISLAND Hy	29.90	128	T	T	20 37 37.8	
	baz=320,slow=76,SNR=25						
H11S3	WAKE ISLAND Hy	29.90	128	T	T	20 37 38.1	
	baz=320,slow=76,SNR=22						
H11S2	WAKE ISLAND Hy	29.92	128	T	T	20 37 39.1	
	baz=320,slow=76,SNR=24						
ZALV	Zalesovo Beam	40.62	310	P	P	20 07 39.0	-1.1
	1.8nm,0.4s,baz=77,slow=9.3,SNR=4.4						
CMAR	Chiang Mai Arr	42.74	253	P	P	20 07 57.3	-0.5
	0.3nm,0.5s,baz=41,slow=5.4,SNR=3.3						
MKAR	Makanchi Array	43.26	300	P	P	20 08 01.3	-0.4
	1.2nm,0.6s,baz=85,slow=9.3,SNR=15						
KURBB	Kurchatov Arra	44.89	306	P	P	20 08 14.2	-0.4
	2.7nm,0.5s,baz=80,slow=8.5,SNR=17						
ILAR	Eielson Array	47.01	34	P	P	20 08 32.3	+1.1
	0.3nm,0.6s,baz=262,slow=6.3,SNR=5.7						
BVAR	Borovoye Array	49.27	311	P	P	20 08 48.7	0.0
	0.9nm,0.5s,baz=60,slow=7.9,SNR=9.2						
BVAR				PcP	PcP	20 10 10.5	-0.6
	0.4nm,0.6s,baz=84,slow=5.9,SNR=2.7						
INK	Inuvik	51.82	28	P	P	20 09 08.9	+1.2
	0.8nm,0.6s,baz=278,slow=7.1,SNR=2.8						
WRA	Warramunga Arr	59.71	188	P	P	20 10 03.6	-1.2
	0.2nm,0.4s,baz=7.1,slow=7.1,SNR=5.0						
ASAR	Alice Springs	63.44	188	P	P	20 10 29.5	-0.4
	0.4nm,0.7s,baz=15,slow=14,SNR=5.3						
FINES	FINESS Array B	66.78	332	P	P	20 10 49.9	-1.3
	1.1nm,0.5s,baz=32,slow=11,SNR=8.6						
HFS	Hagfors	71.95	336	P	P	20 11 22.7	-0.4
	0.9nm,0.3s,baz=41,slow=4.6,SNR=12						
NB2	NORSAR Subarra	72.01	337	P	P	20 11 22

s-min=14.1km az=106.0
ISCJB ***30*** *20:17:40.5±0.1,30°.08S±0°.02×176°.20W±0°.03,h24km, mb5.0/60,MS4.3/35,Error ellipse: s-maj=4.0km s-min=1.9km az=35.5*
BJI ***30*** *20:17:42.8,29°.26S×175°.56W,h37km,mb5.1/26, mB5.5/15,Ms5.1/8,Ms7 4.8/6*
GCMT ***30*** *20:17:43.4±0.2,29°.54S×175°.97W,h15km,MW5.1/107, Moment Tensor Solution. s54,c77; s107,c153; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr=4.91±.18; Mθθ0.18±.13; Mϕϕ4.73±.13; Mrθ0.86±.48; Mrϕ1.33±.09; Mθϕ0.20±.35; Best double couple: M₀5.08000×10¹⁶ NP1:ϕs204.00000°,δ48.00000°,λ-78.00000°. NP2: ϕs6.00000°,δ43.00000°,λ-103.00000°. Principal axes: T 5.1080, Plg2.0000°, Azm286.0000°; N -0.0550, Plg9.0000°, Azm16.0000°; P -5.0530, Plg81.0000°, Azm181.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***30*** *20:17:43.4±0.2,30°.04S×176°.23W,h35km,mb5.0/27 Error ellipse: s-maj=8.1km s-min=4.1km az=142.0*
MOS ***30*** *20:17:44.2±1.2,29°.52S×176°.33W,h39km,mb5.3/12, MS4.2/5,Error ellipse: s-maj=10.0km s-min=9.5km az=89.7*

ISC 30 20:17:42.5±0.3,29°.86S±0°.04×176°.29W±0°.05,h24km, n488,σt1§54/458,mb5.0/60,MS4.3/36,12C-8D,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Time	Res
				Op ISC	h m s	ISC
GLKZ	**Green Lake**	**1.54**	**292**	P **Pn**	**20 18 09.2**	**+0.8**
GLKZ	**Green Lake**	**1.54**	**292**	S **Sb**	**20 18 30.5**	**+1.2**
RAO	**Raoul Island**	**1.54**	**293**	Pn **Pn**	**20 18 09.4**	**+1.1**
	1μm,0.3s,baz=103,slow=4.4,SNR=90					
RAO				Sn **Sb**	**20 18 29.8**	**+0.5**
	5μm,0.3s,baz=90,slow=20,SNR=14					
RIZ	**Raoul Island**	**1.55**	**293**	S **Sb**	**20 18 30.2**	**+0.5**
RIZ	**Raoul Island**	**1.55**	**293**	P **Pn**	**20 18 09.6**	**+1.0**
MXZ	**Matakaoa Point**	**8.90**	**209**	*e*Pn **Pn**	**20 19 46.9**	**-2.6**
MXZ				*e*Sn **Sn**	**20 21 31.0**	**+1.9**
MXZ	**Matakaoa Point**	**8.90**	**209**	P **Pn**	**20 19 47.1**	**-2.5**
MXZ	**Matakaoa Point**	**8.90**	**209**	S **Sn**	**20 21 30.4**	**+1.4**
WMGZ	**Waiomatatini S**	**9.08**	**208**	P **Pn**	**20 19 51.2**	**-0.8**
WMGZ	**Waiomatatini S**	**9.08**	**208**	S **Sn**	**20 21 37.5**	**+4.1**
PKGZ	**Pakihiroa**	**9.28**	**209**	P **Pn**	**20 19 51.3**	**-3.5**
PKGZ	**Pakihiroa**	**9.28**	**209**	S **Sn**	**20 21 40.3**	**+2.0**
HAZ	**Te Kaha**	**9.29**	**210**	S **Sn**	**20 21 42.1**	**+3.5**
HAZ	**Te Kaha**	**9.29**	**210**	P **Pn**	**20 19 54.1**	**-0.8**
PUZ	**Puketiti**	**9.36**	**207**	P **Pn**	**20 19 53.7**	**-2.1**
PUZ	**Puketiti**	**9.36**	**207**	S **Sn**	**20 21 42.1**	**+1.8**
RUGZ	**Raukumara Rang**	**9.51**	**210**	P **Pn**	**20 19 57.2**	**-0.8**
RUGZ	**Raukumara Rang**	**9.51**	**210**	S **Sn**	**20 21 46.2**	**+2.0**
TWGZ	**Tauwhareparae**	**9.56**	**208**	P **Pn**	**20 19 56.8**	**-1.9**
TWGZ	**Tauwhareparae**	**9.56**	**208**	S **Sn**	**20 21 46.8**	**+1.5**
KUZ	**Kuaotunu**	**9.58**	**222**	P **Pn**	**20 20 02.7**	**+3.8**
CNGZ	**Carnagh Statio**	**9.73**	**206**	P **Pn**	**20 19 58.8**	**-2.2**
MWZ	**Matawai**	**9.88**	**210**	P **Pn**	**20 20 01.6**	**-1.4**
WCZ	**Waipu Caves**	**9.93**	**230**	P Pn	20 20 08.8	+5.2
URZ	**Urewera**	**10.01**	**211**	Pn **Pn**	**20 20 02.1**	**-2.5**
	4.6nm,0.3s,baz=258,slow=3.1,SNR=29					
URZ				Sn **Sn**	**20 21 56.5**	**+0.3**
	56nm,0.3s,baz=214,slow=22,SNR=20					
URZ	**Urewera**	**10.01**	**211**	P **Pn**	**20 20 03.5**	**-1.2**
URZ	**Urewera**	**10.01**	**211**	S **Sn**	**20 21 56.7**	**+0.5**
OUZ	**Omahuta**	**10.07**	**235**	*e*Pn Pn	20 20 12.2	+6.7
OUZ	**Omahuta**	**10.07**	**235**	P Pn	20 20 12.9	+7.4
SNGZ	**Shannon Statio**	**10.34**	**209**	P **Pn**	**20 20 08.1**	**-1.1**
RTZ	**Ruatahuna**	**10.36**	**211**	P **Pn**	**20 20 06.2**	**-3.3**
RTZ	**Ruatahuna**	**10.36**	**211**	S **Sn**	**20 22 04.6**	**-0.3**
KNZ	**Kokohu**	**10.41**	**207**	P **Pn**	**20 20 06.6**	**-3.5**
KNZ	**Kokohu**	**10.41**	**207**	S **Sn**	**20 22 04.4**	**-1.6**
RAHZ	**Arahi**	**10.56**	**209**	S **Sn**	**20 22 10.0**	**+0.2**
RAHZ	**Arahi**	**10.56**	**209**	P **Pn**	**20 20 13.6**	**+1.3**
WHHZ	**Waihua**	**10.63**	**208**	P **Pn**	**20 20 11.2**	**-2.1**
WHHZ	**Waihua**	**10.63**	**208**	S **Sn**	**20 22 12.4**	**+0.9**
NMHZ	**Naumai**	**10.83**	**210**	P **Pn**	**20 20 16.0**	**-0.1**
NMHZ	**Naumai**	**10.83**	**210**	S **Sn**	**20 22 17.8**	**+1.3**
ARHZ	**Aropaoanui**	**10.89**	**209**	S **Sn**	**20 22 17.8**	**0.0**
BKZ	**Black Stump Fm**	**11.02**	**211**	*e*Pn Pn	20 20 13.5	-5.1
BKZ	**Black Stump Fm**	**11.02**	**211**	P **Pn**	**20 20 15.1**	**-3.6**
BKZ	**Black Stump Fm**	**11.02**	**211**	S **Sn**	**20 22 19.9**	**-1.3**
MCHZ	**McNeill Hill**	**11.17**	**209**	P **Pn**	**20 20 18.1**	**-2.5**
MCHZ	**McNeill Hill**	**11.17**	**209**	S **Sn**	**20 22 23.5**	**-1.1**
CKHZ	**Cape Kidnapper**	**11.19**	**207**	P **Pn**	**20 20 16.9**	**-4.0**
CKHZ	**Cape Kidnapper**	**11.19**	**207**	S **Sn**	**20 22 22.3**	**-2.9**
KWHZ	**Kaweka Forest**	**11.27**	**210**	P **Pn**	**20 20 19.9**	**-2.1**
KWHZ	**Kaweka Forest**	**11.27**	**210**	S **Sn**	**20 22 27.5**	**+0.3**
HIZ	**Hauiti**	**11.32**	**218**	*e*Pn **Pn**	**20 20 25.3**	**+2.7**
KAHZ	**Kahuranaki**	**11.39**	**208**	P Pn	20 20 19.1	-4.5
KAHZ	**Kahuranaki**	**11.39**	**208**	S **Sn**	**20 22 28.7**	**-1.4**
KRHZ	**Kereru**	**11.47**	**210**	P **Pn**	**20 20 21.8**	**-3.0**
KRHZ	**Kereru**	**11.47**	**210**	S **Sn**	**20 22 28.4**	**-3.8**
BHHZ	**Black Hill Sta**	**11.48**	**211**	P **Pn**	**20 20 22.2**	**-2.7**
BHHZ	**Black Hill Sta**	**11.48**	**211**	S **Sn**	**20 22 30.2**	**-2.2**
PXZ	**Pawanui**	**11.59**	**207**	P **Pn**	**20 20 22.6**	**-3.8**
PXZ	**Pawanui**	**11.59**	**207**	S **Sn**	**20 22 32.6**	**-2.5**
PNHZ	**Pukenui**	**11.77**	**210**	P **Pn**	**20 20 24.6**	**-4.2**
PNHZ	**Pukenui**	**11.77**	**210**	S **Sn**	**20 22 36.5**	**-2.9**
PRHZ	**Porangahau**	**11.89**	**207**	P Pn	20 20 25.8	-4.6
BFZ	**Birch Farm**	**12.39**	**207**	*e*Pn Pn	20 20 31.2	-6.2
MSVF	**Nonsavu**	**13.13**	**336**	*e*Pn **Pn**	**20 20 44.5**	**-3.0**
MSVF	**Nonsavu**	**13.13**	**336**	*e*P **Pn**	**20 20 44.5**	**-3.0**
SNZO	**South Karori**	**13.56**	**210**	*e*Pn Pn	20 20 46.5	-6.8
THZ	**Tophouse**	**14.75**	**213**	*e*Pn Pn	20 21 03.0	-6.5
KHZ	**Kahutara**	**14.97**	**210**	*e*Pn Pn	20 21 06.4	-6.0
	194nm,0.8s					
LTZ	**Lake Taylor**	**15.83**	**212**	*e*Pn **Pn**	**20 21 19.3**	**-4.4**
	119nm,1.6s					
OXZ	**Oxford**	**16.36**	**212**	*e*Pn **Pn**	**20 21 24.0**	**-6.5**
	105nm,0.4s					
MQZ	**McQueen's Vall**	**16.39**	**210**	*e*Pn **Pn**	**20 21 27.2**	**-3.6**
	236nm,1.6s					
AFI	**Afiamalu**	**16.41**	**16**	Pn Pn	20 21 21.5	-10
	1.2nm,0.3s,baz=165,slow=17,SNR=2.4					
AFI				Sn Sn	20 24 10.4	-22
	13nm,0.3s,baz=41,slow=22,SNR=5.3					
AFI	**Afiamalu**	**16.41**	**16**	*e*Pn Pn	20 21 22.1	-9.2
AFI				Sn Sn	20 24 10.4	-22
AFI	**Afiamalu**	**16.41**	**16**	*e*P Pn	20 21 22.1	-9.2
RPZ	**Rata Peaks**	**17.12**	**213**	P **Pn**	**20 21 35.5**	**-4.6**
	5.1nm,0.3s,baz=351,slow=3.1,SNR=14					
RPZ				S Sn	20 24 36.2	-13
	5.0nm,0.3s,baz=156,slow=21,SNR=9.0					
RPZ	**Rata Peaks**	**17.12**	**213**	*e*Pn **Pn**	**20 21 35.3**	**-4.7**
	70nm,1.0s					
RPZ				S Sn	20 24 36.2	-13
RAR	**Rarotonga**	**17.20**	**64**	LR LR	20 28 15.8	
	comp=Z,1μm,18.4s,baz=284,slow=37					
DZM	**Mont Dzumac**	**17.34**	**293**	P **P**	**20 21 45.7**	**+1.4**
	0.7nm,0.3s,baz=127,slow=12,SNR=9.8					
DZM	**Mont Dzumac**	**17.34**	**293**	*e*P **P**	**20 21 46.0**	**+1.7**
	110nm,1.4s					
DZM				*e*LQ LQ	20 25 03.7	
	2μm,27.6s					
DZM				*e*LR LR	20 25 48.9	
	2μm,31.6s					
DZM	**Mont Dzumac**	**17.34**	**293**	*e*P **P**	**20 21 46.5**	**+2.2**
	47nm,1.1s					
FOZ	**Fox Glacier**	**17.58**	**215**	*e*Pn **Pn**	**20 21 42.9**	**-2.9**
	79nm,1.1s					
LBZ	**Lake Benmore**	**18.03**	**213**	*e*P **Pn**	**20 21 47.8**	**-3.6**
	108nm,1.6s					
ODZ	**Otahua Downs**	**18.33**	**211**	*e*P **Pn**	**20 21 51.2**	**-3.8**
	224nm,1.7s					
WKZ	**Wanaka**	**18.92**	**214**	*e*P **P**	**20 21 59.4**	**-2.1**
	117nm,1.3s					
MLZ	**Mavora Lakes**	**19.75**	**214**	*e*P **P**	**20 22 10.8**	**+0.3**
	207nm,1.9s					
WHZ	**Wether Hill Ro**	**20.21**	**213**	*e*P **P**	**20 22 16.1**	**+0.5**
	86nm,1.4s					
DCZ	**Deep Cove**	**20.30**	**215**	*e*P **P**	**20 22 16.7**	**+0.3**
	69nm,1.3s					
PAE	**Paea**	**27.22**	**70**	*e*T T	20 51 29.1	
	3.0nm,0.3s					
PPT2	**Papeete2**	**27.26**	**69**	*e*LQ LQ	20 28 38.0	
	2μm,25.2s					
PPT2				*e*LR LR	20 29 38.3	
	1μm,30.8s					
PPT	**Papeete**	**27.27**	**69**	LR LR	20 32 39.4	
	comp=Z,706nm,18.0s,baz=240,slow=33					
ARMA	**Armidale**	**27.70**	**261**	P **P**	**20 23 32.8**	**+3.8**
	baz=28					
ARMA	**Armidale**	**27.70**	**261**	*e*P **P**	**20 23 30.2**	**+1.2**

	25nm,0.9s						
HNR	**Honiara**	**30.10**	**308**	LR	LR	20 34 27.1	
	comp=Z,115nm,21.4s,baz=150,slow=34						
RMQ	**Roma**	**30.92**	**268**	P	**P**	**20 24 00.9**	**+3.4**
	baz=31,SNR=4.9						
CMSA	**Cobar Meteorol**	**32.63**	**257**	P	**P**	**20 24 15.1**	**+2.7**
	baz=33,SNR=8.9						
CTA	**Charters Tower**	**35.18**	**277**	P	**P**	**20 24 35.1**	**+0.3**
	12nm,0.7s,baz=96,slow=11,SNR=11						
CTA				LR	LR	20 38 03.7	
	comp=Z,887nm,18.6s,baz=155,slow=35						
CTA	**Charters Tower**	**35.18**	**277**	P	**P**	**20 24 36.5**	**+1.7**
	baz=35						
CTAO	**Charters Tower**	**35.18**	**277**	*e*P	**P**	**20 24 36.7**	**+1.9**
	17nm,0.9s						
CTAO	**Charters Tower**	**35.18**	**277**	*e*P	**P**	**20 24 36.7**	**+1.9**
CTAO				pmax	pmax		
	comp=Z,17nm,0.9s						
STKA	**Stephens Creek**	**36.04**	**256**	P	**P**	**20 24 43.5**	**+1.5**
	comp=Z,19nm,0.9s,baz=100,slow=11,SNR=28						
STKA				LR	LR	20 39 03.6	
	comp=Z,800nm,18.2s,baz=88,slow=36						
STKA	**Stephens Creek**	**36.04**	**256**	P	**P**	**20 24 43.7**	**+1.7**
	baz=36,SNR=20						
STKA	**Stephens Creek**	**36.04**	**256**	*e*P	**P**	**20 24 43.7**	**+1.7**
	comp=Z,5.5nm,0.8s						
STKA	**Stephens Creek**	**36.04**	**256**	*e*P	**P**	**20 24 43.7**	**+1.7**
STKA				pmax	pmax		
	comp=Z,6.0nm,0.8s						
RKT	**Rikitea**	**37.44**	**90**	*e*LR	LR	20 34 30.0	
	comp=Z,801nm,31.2s						
MTSU	**Mount Surprise**	**37.66**	**279**	P	**P**	**20 24 57.6**	**+1.7**
	baz=38,SNR=7.7						
HTT	**Hallett**	**38.07**	**253**	P	**P**	**20 25 00.3**	**+1.0**
	baz=38,SNR=16						
PMG	**Port Moresby**	**39.73**	**293**	LR	LR	20 40 17.8	
	comp=Z,320nm,19.6s,baz=128,slow=34						
TAOE	**Nuku Hiva Isla**	**39.74**	**66**	*e*LR	LR	20 35 19.8	
	comp=Z,661nm,31.8s						
BBOO	**Buckleboo**	**40.54**	**253**	P	**P**	**20 25 20.5**	**+0.6**
	baz=41,SNR=11						
BBOO	**Buckleboo**	**40.54**	**253**	*e*P	**P**	**20 25 20.5**	**+0.6**
	comp=Z,31nm,1.0s						
COEN	**Coen**	**40.56**	**284**	P	**P**	**20 25 21.7**	**+1.5**
	baz=41,SNR=4.5						
AS01	**Alice Springs**	**44.58**	**266**	*e*P	**P**	**20 25 53.1**	**+0.2**
AS31	**Alice Springs**	**44.62**	**266**	*e*P	**P**	**20 25 53.0**	**-0.2**
	comp=Z,3.0nm,0.8s						
ASAR	**Alice Springs**	**44.62**	**266**	P	**P**	**20 25 52.6**	**-0.6**
	comp=Z,5.4nm,0.7s,baz=105,slow=7.2,SNR=28						
ASAR				PcP	**PcP**	**20 27 36.2**	**+0.4**
	comp=Z,2.2nm,0.6s,baz=114,slow=3.3,SNR=5.6						
ASAR				S	**S**	**20 32 23.9**	**-4.2**
	comp=Z,1.4nm,0.9s,baz=112,slow=14,SNR=6.0						
ASAR				LR	LR	20 44 34.0	
	comp=Z,964nm,18.4s,baz=112,slow=36						
WB2	**Warramunga Arr**	**45.55**	**271**	*e*P	**P**	**20 26 00.5**	**-0.2**
WRAB	**Tennant Creek**	**45.56**	**271**	*e*P	**P**	**20 25 59.7**	**-1.0**
	comp=Z,21nm,0.8s						
WRAB	**Tennant Creek**	**45.56**	**271**	*c i*P	**P**	**20 26 01.9**	**+1.3**
WRAB				pmax	pmax		
	comp=Z,18nm,0.8s						
WRA	**Warramunga Arr**	**45.56**	**271**	P	**P**	**20 25 59.8**	**-0.9**
	comp=Z,23nm,0.7s,baz=110,slow=8.0,SNR=109						
WRA				S	**S**	**20 32 34.0**	**-7.7**
	comp=Z,1.4nm,0.9s,baz=109,slow=14,SNR=5.6						
WRA				LR	LR	20 44 22.0	
	comp=Z,358nm,19.0s,baz=90,slow=35						
SBA	**Scott Base**	**48.69**	**185**	*e*P	P	20 26 29.9	+5.6
	comp=Z,209nm,1.9s						
SBA	**Scott Base**	**48.69**	**185**	*e*P	P	20 26 29.9	+5.6
SBA				pmax	pmax		
	comp=Z,209nm,1.9s						
VNDA	**Vanda**	**48.79**	**186**	P	P	20 26 29.8	+4.7
	comp=Z,10nm,1.0s,baz=6.2,slow=8.6,SNR=33						
VNDA				PcP	**PcP**	**20 27 52.0**	**+2.5**
	comp=Z,5.6nm,0.9s,baz=11,slow=5.4,SNR=4.2						
VNDA				LR	LR	20 43 07.8	
	comp=Z,131nm,21.2s,baz=2.5,slow=31						
VNDA	**Vanda**	**48.79**	**186**	*e*P	P	20 26 29.9	+4.8
	comp=Z,22nm,1.2s						
VNDA				PcP	**PcP**	**20 27 52.0**	**+2.5**
VNDA	**Vanda**	**48.79**	**186**	*e*P	P	20 26 29.9	+4.9
VNDA						20 27 52.1	
VNDA				pmax	pmax		
	comp=Z,22nm,1.2s						
WRKA	**Warakurna**	**49.02**	**262**	P	**P**	**20 26 26.3**	**-1.3**
	baz=49,SNR=20						
KNRA	**Kununurra**	**52.15**	**273**	P	**P**	**20 26 52.4**	**+1.2**
	baz=52,SNR=5.6						
FITZ	**Fitzroy Crossi**	**53.84**	**269**	P	**P**	**20 27 04.0**	**+0.3**
	baz=54,SNR=11						
FITZ	**Fitzroy Crossi**	**53.84**	**269**	*e*P	**P**	**20 27 04.1**	**+0.3**
	comp=Z,24nm,1.2s						
NWAO	**Narrogin (SRO)**	**55.97**	**249**	P	**P**	**20 27 19.2**	**+0.2**
	comp=Z,15nm,1.1s,baz=0.0,slow=7.1,SNR=3.1						
MEEK	**Meekatharra**	**56.75**	**256**	P	**P**	**20 27 24.1**	**-0.6**
	baz=57,SNR=4.0						
GUMO	**Guam**	**57.16**	**313**	P	**P**	**20 27 25.6**	**-1.9**
	comp=Z,30nm,0.5s,baz=196,slow=5.3,SNR=3.6						
GUMO				LR	LR	20 51 53.0	
	comp=Z,154nm,18.0s,baz=136,slow=36						
SIJI	**Sorong**	**57.52**	**290**	LR	LR	20 51 56.1	
	comp=Z,79nm,18.2s,baz=320,slow=36						
MBWA	**Marble Bar**	**57.76**	**263**	*e*P	**P**	**20 27 31.0**	**-0.9**
	comp=Z,40nm,1.6s						
MORW	**Morawa**	**58.10**	**253**	P	**P**	**20 27 33.9**	**-0.2**
	baz=58						
RPN	**Rapa Nui**	**58.15**	**105**	LR	LR	20 47 41.6	
	comp=Z,277nm,19.0s,baz=355,slow=31						
BATI	**Baumata**	**59.05**	**276**	LR	LR	20 52 27.8	
	comp=Z,290nm,19.6s,baz=136,slow=35						
QSPA	**South Pole Qui**	**60.25**	**180**	P	**P**	**20 27 52.5**	**+3.9**
	comp=Z,64nm,0.9s,baz=55,slow=7.2,SNR=104						
PLAI	**Plampang**	**64.81**	**274**	P	**P**	**20 28 19.2**	**-0.4**
PCI	**Palu**	**67.03**	**283**	P	**P**	**20 28 34.9**	**+1.0**
SRBI	**Singaraja**	**67.38**	**274**	P	**P**	**20 28 37.1**	**+0.9**
MPSI	**Mapaga**	**67.63**	**284**	P	**P**	20 28 48.8	+11
JAGI	**Jajag, Banyuwa**	**68.12**	**273**	*e*P	**P**	**20 28 40.8**	**-0.1**
	comp=Z,14nm,0.9s						
PWJI	**Pagerwojo**	**70.37**	**272**	P	**P**	**20 28 55.2**	**+0.4**
PCJI	**Pacitan**	**70.83**	**271**	P	**P**	**20 28 58.4**	**+0.8**
WOJI	**Wonogiri, Jawa**	**71.22**	**272**	P	**P**	**20 29 00.3**	**+0.3**
PBKI	**Pangkalan Bun**	**73.09**	**277**	P	**P**	**20 29 12.2**	**+1.0**
MAW	**Mawson**	**73.33**	**200**	P	**P**	**20 29 15.0**	**+3.4**
	comp=Z,24nm,1.1s,baz=123,slow=5.9,SNR=14						
MAW				LR	LR	21 03 14.1	
	comp=Z,84nm,19.1s,baz=66,slow=37						
MAW	**Mawson**	**73.33**	**200**	P	**P**	**20 29 14.8**	**+3.1**
	baz=73,SNR=11						
MAW	**Mawson**	**73.33**	**200**	*e*P	**P**	**20 29 14.8**	**+3.1**
	comp=Z,12nm,1.4s						
LEM	**Lembang**	**74.58**	**271**	P	**P**	**20 29 20.6**	**+0.4**
	comp=Z,23nm,0.7s,baz=21,slow=17,SNR=6.6						
LEM				LR	LR	21 03 47.3	
	comp=Z,96nm,18.0s,baz=146,slow=37						
TGY	**Tagaytay City**	**74.59**	**297**	LR	LR	21 01 60.0	
	comp=Z,24nm,18.3s,baz=140,slow=36						
STKI	**Sintang**	**74.66**	**279**	P	**P**	**20 29 21.2**	**+0.8**
DBJI	**Dramaga**	**75.47**	**271**	P	**P**	**20 29 25.8**	**+0.7**
CGJI	**Cibinong**	**76.36**	**270**	P	**P**	**20 29 28.8**	**-1.3**
JOW	**Kunigami**	**77.41**	**311**	P	**P**	**20 29 35.4**	**-0.3**
	comp=Z,32nm,0.8s,baz=80,slow=18,SNR=3.5						
JOW				LR	LR	20 59 01.3	
	comp=Z,80nm,21.3s,baz=40,slow=32						
JOW	**Kunigami**	**77.41**	**311**	*e*P	**P**	**20 29 39.3**	**+3.6**
KASI	**Kota Agung**	**77.92**	**271**	P	**P**	**20 29 37.7**	**-1.2**
SYO	**Syowa Base**	**77.97**	**192**‖	*e*P	**P**	**20 29 37.2**	**-1.0**
LWLI	**Liwa**	**78.55**	**271**	P	**P**	**20 29 43.9**	**+1.4**
SNAA	**Sanae**	**78.65**	**178**	P	**P**	**20 29 43.9**	**+1.8**
SNAA	**Sanae**	**78.65**	**178**	P	**P**	**20 29 43.9**	**+1.8**
	comp=Z,35nm,1.0s,baz=202,slow=8.3,SNR=55						
SNAA				LR	LR	21 02 18.3	
	comp=Z,132nm,19.6s,baz=183,slow=34						
SNAA	**Sanae**	**78.65**	**178**	*e*P	**P**	**20 29 43.6**	**+1.5**
	comp=Z,56nm,1.1s						
MJAR	**Matsushiro Arr**	**78.65**	**324**	P	**P**	**20 29 41.1**	**-1.3**
	comp=Z,7.1nm,0.8s,baz=164,slow=5.1,SNR=16						
MJAR				LR	LR	21 05 22.1	
	comp=Z,29nm,18.1s,baz=165,slow=37						
MAJO	**Matsushiro**	**78.66**	**324**	*e*P	**P**	**20 29 44.5**	**+2.1**
	comp=Z,8.6nm,0.8s						
MAJO	**Matsushiro**	**78.66**	**324**‖	*e*P	**P**	**20 29 43.7**	**+1.3**
MAJO				pmax	pmax		
	comp=Z,9.0nm,0.8s						
MAT	**Matsushiro**	**78.66**	**324**	P	**P**	**20 29 44.2**	**+1.8**
MJB9	**Matsu-Tunnel**	**78.66**	**324**	*e*P	**P**	**20 29 44.6**	**+2.2**

MDSI	**Maura Dua**	**78.70**	**271**	P	**P**	**20 29 41.9**	**-1.3**
VNA3	**Neumayer Olymp**	**78.74**	**176**	P	**P**	**20 29 44.1**	**+1.6**
VNA2	**Neumayer--Watz**	**79.19**	**176**	P	**P**	**20 29 47.0**	**+2.0**
	baz=168,slow=4.7						
VNA1	**Neumayer--Stat**	**79.41**	**176**	P	**P**	**20 29 48.2**	**+2.1**
NVL	**N'lazarevskaya**	**79.49**	**183**‖	*i*P	**P**	**20 29 47.3**	**+0.7**
NVL				pmax	pmax		
	comp=Z,25nm,0.8s						
JNU	**Nakatsue**	**80.15**	**317**	P	**P**	**20 29 49.5**	**-1.2**
	comp=Z,15nm,1.1s,baz=206,slow=5.5,SNR=4.1						
JNU				LR	LR	21 05 23.1	
	comp=Z,47nm,18.5s,baz=116,slow=36						
ERM	**Erimo**	**80.70**	**331**‖	*e*P	**P**	**20 29 55.1**	**+1.8**
ERM				pmax	pmax		
	comp=Z,19nm,1.2s						
MASI	**Maura Aman, Be**	**81.04**	**272**	P	**P**	**20 29 54.7**	**-1.3**
PLCA	**Paso Flores**	**81.79**	**132**	P	**P**	**20 30 00.8**	**+1.2**
	comp=Z,5.3nm,1.1s,baz=275,slow=12,SNR=3.5						
PLCA				LR	LR	20 59 11.6	
	comp=Z,186nm,19.0s,baz=264,slow=30						
MYKOM	**Kota Tinggi**	**82.09**	**277**	*e*P	**P**	**20 30 04.9**	**+3.4**
KRJI	**Kerinci**	**82.23**	**272**	P	**P**	**20 30 01.4**	**-0.9**
LPIG	**La Paz**	**83.00**	**57**	LR	LR	21 01 31.3	
	comp=Z,499nm,18.1s,baz=218,slow=32						
SCZ2	**Santa Cruz Isl**	**83.05**	**44**	P	**P**	**20 30 05.6**	**-0.3**
	baz=227						
CIS	**Catalina Islan**	**83.40**	**45**	P	**P**	**20 30 07.3**	**-0.5**
	baz=228						
PKM	**Mcpherson Peak**	**83.55**	**44**	P	**P**	**20 30 08.5**	**-0.2**
	baz=226						
SMMC	**Simmler**	**83.73**	**43**	P	**P**	**20 30 09.6**	**+0.1**
	baz=226						
SKR	**Severo-Kuril's**	**83.82**	**343**	*e*P	**P**	**20 30 09.9**	**+0.5**
SKR				MLR	MLR		
	comp=Z,200nm,17.0s						
PAGB	**Antelope Grade**	**83.87**	**43**	*e*P	**P**	**20 30 10.7**	**+0.5**
DECC	**Green Verdugo**	**84.02**	**45**	P	**P**	**20 30 10.6**	**-0.4**
	baz=228						
OSI	**Osito Audit: C**	**84.02**	**44**	P	**P**	**20 30 10.6**	**-0.3**
	baz=227						
MWC	**Mount Wilson**	**84.17**	**45**	*e*P	**P**	**20 30 11.2**	**-0.7**
	comp=Z,42nm,1.4s						
MWC	**Mount Wilson**	**84.17**	**45**	*e*P	**P**	**20 30 11.2**	**-0.7**
MWC				pmax	pmax		
	comp=Z,42nm,1.4s						
RDG13	**Poverty Ridge**	**84.18**	**41**	*e*P	**P**	**20 30 12.1**	**+0.3**
MURC	**Murrieta**	**84.29**	**46**	P	**P**	**20 30 11.9**	**-0.4**
	baz=228,SNR=5.4						
ARVC	**Arvin**	**84.30**	**44**	P	**P**	**20 30 12.0**	**-0.3**
	baz=227						
MONP2	**Monument Peak**	**84.31**	**47**	P	**P**	**20 30 12.3**	**-0.4**
	baz=229,SNR=11						
IKP	**In-Ko-Pah, Jac**	**84.35**	**47**	P	**P**	**20 30 12.4**	**-0.3**
	baz=229,SNR=6.5						
BFSC	**Mount Baldy Ra**	**84.42**	**45**	P	**P**	**20 30 12.5**	**-0.6**
	baz=228,SNR=9.5						
VES	**Vestal, Richgr**	**84.63**	**43**	P	**P**	**20 30 13.4**	**-0.5**
	baz=227						
EDW2	**Edwards Air Fo**	**84.65**	**45**	P	**P**	**20 30 13.8**	**-0.3**
	baz=228,SNR=11						
SWSC	**Sam W. Stewart**	**84.74**	**47**	P	**P**	**20 30 14.3**	**-0.3**
	baz=229						
PFO	**Pinyon Flats O**	**84.76**	**46**	P	**P**	**20 30 14.4**	**-0.4**
	baz=229,SNR=13						
PFO	**Pinyon Flats O**	**84.76**	**46**	*e*P	**P**	**20 30 14.4**	**-0.4**
PFO	**Pinyon Flats O**	**84

YBH	Yreka Blue Hor	86.70	37	eP		P		20 30 24.4	+0.1
NV01	Mina Array Sit	86.84	42	eP		P		20 30 23.6	-1.6
NVAR	Mina Array Bea	86.84	42	P		P		20 30 24.6	-0.6
	comp=Z,9.5nm,0.8s,baz=219,slow=7.3,SNR=56								
NV11	Mina Array Sit	86.93	42	eP		P		20 30 25.0	-0.6
NJ2	Nanjing	87.03	310	eP		P		20 30 27.3	+1.4
NJ2				pmax	pmax				
	comp=Z,20nm,1.1s								
PAHR	Pah Rah Range	87.09	40	eP		P		20 30 25.9	-0.3
M04C	Macdoel	87.20	38	P		P		20 30 26.2	-0.5
	baz=225								
HUMO	Hull Mountain	87.20	36	eP		P		20 30 26.5	0.0
GSI	Gunungsitoli	87.28	273	P		P		20 30 28.8	+1.2
	comp=Z,48nm,1.3s								
GSI	Gunungsitoli	87.28	273	eP		P		20 30 28.9	+1.2
SHPR	Sheep Range	87.45	45	eP		P		20 30 28.3	+0.2
USRK	Ussuriysk Ar.	87.54	326	P		P		20 30 28.6	+0.5
	comp=Z,3.7nm,0.8s,baz=176,slow=3.1,SNR=7.1								
TUC	Tucson	87.62	50	P		P		20 30 29.1	+0.2
	baz=232								
TUC	Tucson	87.62	50	eP		P		20 30 29.1	+0.2
TUC	Tucson	87.62	50	eP		P		20 30 29.1	+0.2
I03D	Drain, OR	87.78	35	P		P		20 30 29.9	+0.7
	baz=224								
K04D	Chiloquin, OR	87.84	37	P		P		20 30 29.5	-0.3
	baz=225								
ZAIG	Zacatecas	88.05	62	eP		P		20 30 31.9	+0.5
HPIG		88.05	57	eP		P		20 30 30.6	-0.7
J04D	Umpqua Nationa	88.09	36	P		P		20 30 30.6	-0.4
	baz=225								
MOD	Modoc Plateau	88.10	38	eP		P		20 30 30.7	-0.3
I04A	Tendick Farm,	88.33	36	P		P		20 30 31.3	-0.6
	baz=224								
K05A	Summer Lake	88.36	37	eP		P		20 30 32.4	+0.1
R11A	Troy Canyon, C	88.39	43	P		P		20 30 31.9	-0.6
	baz=229								
J05D	Fort Rock, OR	88.57	37	P		P		20 30 32.8	-0.4
	baz=225								
BMN	Battle Mountai	88.81	41	eP		P		20 30 33.5	-0.9
BMN	Battle Mountai	88.81	41	eP		P		20 30 33.5	-0.9
G03D	McMinnville, O	88.92	34	P		P		20 30 35.0	+0.4
	baz=224								
LCMT	Little Creek M	88.95	46	eP		P		20 30 35.8	+0.6
MDJ	Mudanjiang	89.03	325	P		P		20 30 33.8	-1.4
MDJ				pmax	pmax				
	comp=Z,15nm,1.3s								
MDJ				pmax	pmax				
	comp=Z,100nm,5.7s								
H04A	Detroit Lake	89.07	35	eP		P		20 30 35.0	-0.4
PINE	Pine Mountain	89.08	37	eP		P		20 30 35.8	+0.1
WUAZ	Wupatki	89.20	48	eP		P		20 30 36.7	+0.3
KNB	Kanab	89.22	46	eP		P		20 30 37.0	+0.5
KNB	Kanab	89.22	46	eP		P		20 30 37.0	+0.5
CCUT	Cedar City	89.22	45	eP		P		20 30 37.1	+0.5
I05D	Terrebonne, OR	89.26	36	P		P		20 30 36.0	-0.3
	baz=225								
WVOR	Wild Horse Val	89.37	39	eP		P		20 30 36.8	-0.2
WVOR	Wild Horse Val	89.37	39	eP		P		20 30 36.8	-0.2
SZCU	Shurtz Canyon	89.42	45	eP		P		20 30 38.2	+0.7
F04D	Rainier, OR	89.67	34	P		P		20 30 38.4	+0.3
	baz=224								
E03A	Lebam	89.73	33	eP		P		20 30 39.5	+1.1
SKNT	Sakolnakorn	89.74	290	P		P		20 30 39.8	+0.7
	comp=Z,22nm,0.9s								
121A	Cookes Peak, D	89.79	52	P		P		20 30 38.8	-0.4
	baz=234								
SRAK	Srakaew	89.82	286	P		P		20 30 40.4	+0.8
	comp=Z,49nm,1.4s,comp=Z,617nm								
G05D	Wamic, OR	89.90	35	P		P		20 30 38.9	-0.4
	baz=225								
W18A	Petrified Fore	90.02	49	P		P		20 30 40.3	0.0
	baz=233								
I07A	Izee	90.03	37	eP		P		20 30 40.2	+0.2
J08A	Circle Bar Ran	90.08	38	eP		P		20 30 40.3	0.0
G06A	Carlson Farm,	90.24	36	eP		P		20 30 40.7	-0.2
MTPU	Mount Pierson	90.25	45	eP		P		20 30 42.7	+1.2
KHON	Khomkaen	90.36	289	P		P		20 30 44.7	+2.6
	comp=Z,11nm,1.0s								
GRNR	Gornyy	90.48	332	*i* P		P		20 30 42.2	+0.4
MSU	Marysvale	90.55	45	eP		P		20 30 43.5	+0.8
MSU	Marysvale	90.55	45	eP		P		20 30 43.5	+0.8
CN2	Changchun	90.61	322	eP		P		20 30 43.0	+0.4
CN2				pmax	pmax				
	comp=Z,20nm,1.2s								
TIA	Tai'an	90.69	312	P		P		20 30 38.8	-4.4
TIA				pmax	pmax				
	comp=Z,8.0nm,1.9s								
LON	Longmire	90.72	34	eP		P		20 30 42.8	-0.3
LON	Longmire	90.72	34	eP		P		20 30 42.8	-0.3
CHAI	Chaiyaphum	90.83	288	P		P		20 30 46.0	+1.7
	comp=Z,5.6nm,0.9s,comp=Z,51nm								
TX31	Lajitas Ar. Si	90.85	56	eP		P		20 30 43.6	-0.6
TXAR	Lajitas Array	90.86	56	P		P		20 30 44.1	-0.1
	comp=Z,7.8nm,1.1s,baz=205,slow=5.5,SNR=38								
TXAR				LR		LR		21 04 48.4	
	comp=Z,250nm,19.0s,baz=0.0,slow=31								
D05A	Enumclaw	90.95	34	eP		P		20 30 44.5	+0.4
MNTX	Cornudas Mount	90.97	54	eP		P		20 30 43.3	-1.3
G08A	Pilot Rock	91.14	36	eP		P		20 30 45.1	-0.1
CMIG	Matias Romero	91.18	71	LR		LR		21 02 51.5	
	comp=Z,88nm,21.9s,baz=229,slow=30								
PHET	Kaeng Krachan	91.29	284	P		P		20 30 52.5	+6.1
	comp=Z,7.3nm,0.9s								
LAZ	Ladron	91.32	51	eP		P		20 30 46.5	+0.1
KLR	Kul'dur	91.32	329	P		P		20 30 45.8	0.0
	comp=Z,0.1nm,0.7s,baz=217,slow=2.5,SNR=4.1								
KLR	Kul'dur	91.32	329	eP		P		20 30 46.2	+0.4
BNM	Barren Site	91.51	51	eP		P		20 30 47.1	-0.2
BGU	Big Grassy Mou	91.55	43	eP		P		20 30 47.0	-0.3
MFID	Camas Ranch	91.56	39	eP		P		20 30 46.6	-0.6
LNIG	Linares	91.58	62	eP		P		20 30 46.7	-0.9
HAWA	Hanford	91.60	35	eP		P		20 30 47.3	+0.2
LPM	Los Pinos Moun	91.61	51	eP		P		20 30 47.9	+0.2
LTY	Liberty	91.64	34	eP		P		20 30 47.1	-0.2
B05A	Bryant	91.66	33	P		P		20 30 47.3	0.0
	baz=225								
BBB	Bella Bella	91.93	27	P		P		20 30 47.8	-0.6
	comp=Z,13nm,1.0s,baz=253,slow=4.3,SNR=4.0								
PBKT	Sadao Pong	92.01	288	P		P		20 30 50.7	+1.0
	comp=Z,9.3nm,1.6s								
P17A	Butcher Ranch,	92.03	45	eP		P		20 30 50.2	+0.7
ANMO	Albuquerque	92.09	51	P		P		20 30 49.6	-0.4
	baz=234								
ANMO	Albuquerque	92.09	51	eP		P		20 30 49.4	-0.6
ANMO	Albuquerque	92.09	51	eP		P		20 30 49.4	-0.6
SPUT	South Promonto	92.13	43	eP		P		20 30 50.4	+0.4
PV05	Paradox Valley	92.20	47	eP		P		20 30 50.7	+0.3
HVU	Hansel Valley	92.24	42	eP		P		20 30 50.2	-0.1
HVU	Hansel Valley	92.24	42	eP		P		20 30 50.3	-0.1
D08A	Wollman Farm,	92.36	35	eP		P		20 30 50.6	0.0
E09A	Wood Farm, Sta	92.39	36	eP		P		20 30 50.3	-0.4
PV09	Paradox Valley	92.44	46	eP		P		20 30 51.4	-0.2
HLID	Hailey	92.44	40	eP		P		20 30 51.1	-0.2
SRDT	SRDT	92.44	285	P		P		20 30 54.1	+2.4
	comp=Z,15nm,1.6s,comp=Z,3μm								
F10A	Beach Ranch, E	92.50	37	eP		P		20 30 50.1	-1.3
GYA	Guiyang	92.57	299	eP		P		20 30 54.0	+1.7
GYA				pmax	pmax				
	comp=Z,10.0nm,1.0s								
PV01	Paradox Valley	92.57	47	eP		P		20 30 42.6	-10
PHIT	Phitsanulok	92.78	288	P		P		20 30 56.3	+3.1
	comp=Z,7.6nm,0.9s								
HWUT	Hardware Ranch	92.84	43	eP		P		20 30 52.6	-0.6
833A	Chaparral WMA,	93.45	59	P		P		20 30 55.4	-0.8
	baz=238								
S22A	4UR Ranch, Cre	93.46	48	P		P		20 30 55.8	-0.5
	baz=234								
APG	El Apazote	93.81	75	LR		LR		21 06 03.3	
	comp=Z,196nm,18.0s,baz=253,slow=31								
O20A	White River Ci	93.96	45	P		P		20 30 57.6	-0.9
	baz=234								
MSTX	Muleshoe	94.05	53	P		P		20 30 57.7	-1.3
	baz=236								
MCMT	McKenzie Canyo	94.11	40	eP		P		20 30 58.9	-0.1
SMCO	Snowmass	94.20	47	eP		P		20 30 59.6	-0.3
JCT	Junction City	94.29	57	eP		P		20 30 58.5	-1.5
JCT	Junction City	94.29	57	eP		P		20 30 58.5	-1.5
SDCO	Great Sand Dun	94.32	49	eP		P		20 30 59.8	-0.5
REDW	Red Top Meadow	94.33	42	eP		P		20 30 59.9	-0.2
TPAW	Teton Pass	94.35	42	eP		P		20 31 00.1	-0.2
FXWY	Fox Creek	94.40	41	eP		P		20 31 00.1	-0.3
SNOW	Snow King Moun	94.45	42	eP		P		20 31 00.7	0.0
DLMT	Dillon	94.58	39	eP		P		20 31 01.0	-0.1
IMW	Indian Meadow	94.61	41	eP		P		20 31 01.4	-0.1
CMAR	Chiang Mai Arr	94.62	289	P		P		20 31 03.5	+1.8
	comp=Z,1.8nm,0.9s,baz=131,slow=2.9,SNR=14								
CMAR				LR		LR		21 16 52.8	
	comp=Z,34nm,18.1s,baz=220,slow=38								
LOHW	Long Hollow	94.63	42	eP		P		20 31 01.3	-0.2
T25A	Trinidad	94.70	50	P		P		20 31 01.2	-0.7
	baz=236								
BW06	Boulder Array	94.73	43	eP		P		20 31 01.5	-0.5
PD31	Pinedale Array	94.73	43	eP		P		20 31 01.0	-1.0
PDAR	Pinedale Array	94.73	43	P		P		20 31 00.8	-1.1
	comp=Z,3.8nm,1.0s,baz=217,slow=3.7,SNR=13								
PDAR				PKKP		PKKPbc		20 48 00.1	0.0
	comp=Z,0.9nm,0.9s,baz=38,slow=2.6,SNR=5.2								
PDAR				LR		LR		21 08 23.1	
	comp=Z,311nm,18.9s,baz=268,slow=32								
PDAR	Pinedale Array	94.73	43	eP		P		20 31 00.4	-1.6
PDAR				PKKP		PKKPbc		20 48 00.1	0.0
CHTO	Chiang Mai	94.80	289	P		P		20 31 04.3	+1.8
CHTO	Chiang Mai	94.80	289	eP		P		20 31 04.0	+1.5
CHTO	Chiang Mai	94.80	289	eP		P		20 31 04.0	+1.5
QLMT	Earthquake Lak	94.90	40	eP		P		20 31 03.3	+0.6
KMI	Kunming	94.91	296	P		P		20 31 05.3	+2.1
KMI				pP		sP		20 31 17.0	+3.1
KMI				sP		pP		20 31 20.0	+8.9
KMI				pmax	pmax				
	comp=Z,6.0nm,1.1s								
YFT	Old Faithful	95.01	41	eP		P		20 31 04.4	+1.2
YMR	Madison River	95.06	41	eP		P		20 31 04.5	+1.1
H17A	Grant Village	95.12	41	P		P		20 31 04.1	+0.3
	baz=232								
YHH	Holmes Hill	95.20	41	eP		P		20 31 04.7	+0.5
Q24A	Divide	95.24	48	P		P		20 31 03.9	-0.6
	baz=235								
BOZ	Bozeman (W)	95.26	40	eP		P		20 31 04.1	-0.1
BOZ	Bozeman (W)	95.26	40	eP		P		20 31 04.1	-0.1
SEY	Seymchan	95.80	346	P		P		20 31 04.5	-1.5
	comp=Z,1.8nm,0.8s,baz=122,slow=19,SNR=4.8								
SEY	Seymchan	95.80	346	eP		P		20 31 05.7	-0.3
JTS	JuntasAbangare	96.19	82	LR		LR		21 06 11.3	
	comp=Z,256nm,18.8s,baz=324,slow=30								
RLMT	Red Lodge	96.30	41	eP		P		20 31 06.0	-3.0
K22A	Casper	96.47	44	P		P		20 31 08.8	-1.0
	baz=235								
HHC	Hu-ho-hao-te	96.93	313	eP		P		20 31 13.5	+1.6
HHC				PP		PP		20 35 09.0	+1.1
HHC				S		S		20 42 27.8	-5.1
HHC				pmax	pmax				
	comp=Z,17nm,1.4s								
HHC				pmax	pmax				
	comp=Z,63nm,8.2s								
HHC				LR		LR			
	comp=Z,450nm,17.7s								
HHC				LR		LR			
	comp=Z,400nm,18.6s								
HHC				LR		LR			
	comp=Z,420nm,18.3s								
LPAZ	La Paz	97.01	113	P		P		20 31 14.3	+0.8
	comp=Z,1.2nm,0.8s,baz=219,slow=7.4,SNR=4.6								
LPAZ				LR		LR		21 08 28.8	
	comp=Z,141nm,18.8s,baz=219,slow=31								
CD2	Chengdu	97.06	301	eP		Pdif		20 31 13.5	+0.8
CD2				pmax	pmax				
	comp=Z,10.0nm,0.5s								
IL1	Eielson Array	97.08	12	eP		P		20 31 09.6	-2.2
ILAR	Eielson Array	97.08	12	P		P		20 31 10.6	-1.2
	comp=Z,3.0nm,1.0s,baz=221,slow=5.0,SNR=15								
ILAR				PKKPbc		PKKPbc		20 47 52.0	-2.2
	comp=Z,0.4nm,0.9s,baz=4.9,slow=3.1,SNR=4.8								
ILAR				LR		LR		21 11 23.1	
	comp=Z,68nm,18.3s,baz=208,slow=33								
ILB	Eielson Array	97.08	12	eP		P		20 31 10.7	-1.1
IM3	Indian Mountai	97.10	9	eP		P		20 31 10.7	-1.2
BILL	Bilibino	98.47	353	*i* P		P		20 31 15.4	-2.6
BILL				*i*				20 35 17.9	
BILL				pmax	pmax				
	comp=Z,2.0nm,1.1s								
RSSD	Black Hills	98.80	44	Pdiff		P		20 31 19.1	-1.2
	baz=237								
RSSD	Black Hills	98.80	44	eP		P		20 31 19.6	-0.8
RSSD	Black Hills	98.80	44	eP		P		20 31 19.6	-0.8
541A	Lake Charles	99.00	61	Pdiff		Pdif		20 31 20.5	-0.8
	baz=240								
LZH	Lanzhou	99.59	306	eP		Pdif		20 31 24.5	+0.5
LZH				pP		sP		20 31 35.0	+0.3
LZH				sP		pP		20 31 39.0	+7.1
LZH				pmax	pmax				
	comp=Z,19nm,1.4s								
LZH				pmax	pmax				
	comp=Z,120nm,4.6s								
LZH				LR		LR			
	comp=Z,96nm,15.0s								
LZH				LR		LR			
	comp=Z,110nm,14.7s								
V39A	Pettigrew	101.44	55	Pdiff		Pdif		20 31 31.3	-0.8
	baz=241								
W40A	Ferguson Farm,	101.55	56	Pdiff		Pdif		20 31 31.9	-0.6
	baz=241								
YKA	Yellowknife Ar	104.32	25	Pdiff		Pdif		20 31 42.8	-1.4
	comp=Z,0.7nm,1.1s,baz=233,slow=4.6,SNR=6.7								
YKA				PKKPbc		PKKPbc		20 47 31.0	-2.0
	comp=Z,0.6nm,0.6s,baz=37,slow=2.9,SNR=13								
WMQ	Urumqi	114.06	308	ePKP		PKPdf		20 36 20.3	+0.8
WMQ				LR		LR			
	comp=Z,88nm,17.1s								
WMQ				LR		LR			
	comp=Z,130nm,23.3s								
DGZ	Dazzator, Alta	116.00	314	ePKIKP		PKPdf		20 36 22.9	-0.3
BOSA	Boshof	118.32	202	PKP		PKPdf		20 36 29.7	+1.3
	comp=Z,1.1nm,0.5s,baz=57,slow=2.9,SNR=4.4								
MKAR	Makanchi Array	118.56	310	PKP		PKPdf		20 36 26.9	-1.1
	comp=Z,2.9nm,1.0s,baz=67,slow=4.1,SNR=15								
NVS	Novosibirsk	119.69	319	ePKIKP		PKPdf		20 36 28.5	-1.4
KSH	Kashi	121.24	300	PKP		PKPdf		20 36 34.5	+1.0
KURK	Kurchatov	121.74	314	PKP		PKPdf		20 36 32.9	-1.1
KURK	Kurchatov	121.74	314	*c* iPKIKP		PKPdf		20 36 33.4	-0.5
KURBB	Kurchatov Arra	121.78	314	PKP		PKPdf		20 36 32.9	-1.2
	comp=Z,3.6nm,0.9s,baz=103,slow=2.1,SNR=18								
AAK	Ala-Archa	123.04	304	iPKIKP		PKPdf		20 36 36.8	-0.1
BVAR	Borovoye Array	127.05	316	PKP		PKPdf		20 36 44.5	+0.4
	comp=Z,6.1nm,1.1s,baz=101,slow=3.1,SNR=23								
BRVK	Borovoye	127.11	316	*c* iPKIKP		PKPdf		20 36 44.0	-0.2
ARU	Arti	133.60	321	*i* PKIKP		PKPdf		20 36 58.3	+1.9
ARU								20 39 24.9	
ARU				SS		SS		20 57 02.3	-7.5
GEYT	Alibeck	134.67	295	PKP		PKPdf		20 36 59.7	+0.7
	comp=Z,2.6nm,1.0s,baz=245,slow=2.5,SNR=6.4								
AKTO	Aktyubinsk	134.82	313	PKP		PKPdf		20 36 58.4	-0.5
	comp=Z,1.7nm,0.8s,baz=99,slow=8.2,SNR=5.0								
H10S3	ASCENSION HYDR	137.56	153	T		T		23 12 09.8	
	baz=205								
H10S2	ASCENSION HYDR	137.56	153	T		T		23 11 55.0	
	baz=205								
H10S1	ASCENSION HYDR	137.57	153	T		T		23 12 10.4	
	baz=205								
ARCES	ARCESS Array B	138.36	349	PKP		PKPdf		20 37 02.6	-2.3
	comp=Z,3.5nm,1.0s,baz=45,slow=5.2,SNR=3.9								
H10N3	ASCENSION HYDR	138.63	152	T		T		23 13 40.4	
	baz=205,slow=74,SNR=4.4								
H10N1	ASCENSION HYDR	138.63	152	T		T		23 13 51.6	
	baz=205								
H10N2	ASCENSION HYDR	138.65	152	T		T		23 13 57.1	
	baz=205,slow=74,SNR=3.2								
VRH	Novokhopyorsk	144.65	318	ePKIKP		PKPdf		20 37 18.0	+1.4
VRH				pmax	pmax				
	comp=Z,10.0nm,0.9s								
MOS	Moscow	144.71	327	ePKIKP		PKPab		20 37 13.3	-2.1
MOS				pmax	pmax				
	comp=Z,48nm,1.3s								
PUL	Pulkovo	145.11	337	*ce* PKIKP		PKPbc		20 37 16.2	-0.5
GNI	Garni	145.12	298	PKP		PKPdf		20 37 18.7	+0.6
	comp=Z,21nm,1.1s,baz=153,slow=2.3,SNR=21								
GNI	Garni	145.12	298	*d* iPKIKP		PKPdf		20 37 18.2	+0.1
FINES	FINESS Array B	145.12	341	PKP		PKPbc		20 37 15.4	-1.3
	comp=Z,7.5nm,0.6s,baz=61,slow=2.9,SNR=62								
ZEI	Tsey	145.46	303	*i* PKP2		PKPdf		20 37 15.7	-2.9
ZEI				pmax	pmax				
	comp=Z,26nm,1.0s								
OBN	Obninsk	145.55	327	*d* iPKIKP		PKPdf		20 37 17.5	-0.5
OBN				*e*				20 37 29.6	
OBN				*e*				20 40 40.0	
OBN				pmax	pmax				
	comp=Z,142nm,1.7s								
NCK	Nalchik	145.57	304	*ce* PKIKP		PKPab		20 37 19.5	+0.5
LPSR	Galich'ya Gora	145.63	321	ePKIKP		PKPdf		20 37 18.0	-0.3
LPSR				pmax	pmax				
	comp=Z,60nm,0.8s								
GOF	Gofitskoye	145.65	307	ePKIKP		PKPbc		20 37 19.2	+0.3
GOF				pmax	pmax				
	comp=Z,83nm,1.3s								
KBZ	Khabaz	146.03	305	PKPbc		PKPdf		20 37 19.6	+0.3
	comp=Z,5.9nm,0.9s,baz=95,slow=2.7,SNR=12								
VSR	Storozhevoye	146.11	319	ePKIKP		PKPdf		20 37 18.5	-0.7
VSR				pmax	pmax				
	comp=Z,40nm,0.9s								
KIV	Kislovodsk	146.13	305	*i* PKP2		PKPbc		20 37 20.7	+0.1
KIV				pmax	pmax				
	comp=Z,19nm,1.0s								
VORD	Divnogorie	146.15	319	ePKP2		PKPdf		20 37 19.0	-0.2
VORD				pmax	pmax				
	comp=Z,20nm,0.9s								
NEY	Neytrino	146.24	304	ePKP2		PKPab		20 37 21.7	-0.1
VSU	Vasula	147.31	338	ePKP2		PKPdf		20 37 22.3	+1.4
NB2	NORSAR Subarra	148.42	353	PKP		PKPbc		20 37 25.0	-1.3
	comp=Z,40nm,1.4s,baz=7.9,slow=2.8								
NB2	NORSAR Subarra	148.42	353	PKP		PKPbc		20 37 25.0	-1.3
	baz=7.9,slow=2.8								
NOA	NORSAR Array B	148.42	353	PKPbc		PKPbc		20 37 25.2	-1.1
	comp=Z,11nm,1.0s,baz=14,slow=4.3,SNR=18								
HFS	Hagfors	148.98	350	PKPbc		PKPbc		20 37 26.7	-1.1
	comp=Z,8.5nm,0.7s,baz=180,slow=2.7,SNR=15								
ANN	Anapa	149.57	309	ePKHKP		PKPpre		20 37 28.3	
ANN				pmax	pmax				
	comp=Z,23nm,1.1s								
KONO	Kongsberg	149.94	354	*de* PKHKP		PKPpre		20 37 28.8	
ASF	Jabal al Asfar	151.52	283	PKPbc		PKPbc		20 37 36.1	+1.3
	comp=Z,7.2nm,0.8s,baz=57,slow=2.3,SNR=14								
SIM	Simferopol'	151.74	311	ePKIKP		PKPbc		20 37 35.5	+0.7
SIM				*e*				20 37 43.9	
SIM				pmax	pmax				
	comp=Z,12nm,0.9s								
AKASG	Malin Array Be	151.74	325	PKPbc		PKPbc		20 37 34.0	-0.6
	comp=Z,11nm,0.8s,baz=44,slow=2.8,SNR=34								
AKASG	Malin Array Be	151.74	325	PKIKP		PKPbc		20 37 34.0	-0.6
SUW	Suwalki	152.03	335	ePKP		PKPbc		20 37 35.0	-0.1
SUW	Suwalki	152.03	335	ePKIKP		PKPbc		20 37 35.0	-0.1
MMAI	Mont Meron Ar	152.83	285	PKPbc		PKPbc		20 37 39.5	+1.7
	comp=Z,17nm,1.0s,baz=72,slow=4.7,SNR=17								
BRTR	Keskin Array B	153.63	300	PKP		PKPdf		20 37 30.1	-1.5
	comp=Z,0.7nm,1.1s,baz=219,slow=5.7,SNR=4.6								
BRTR				PKPbc		PKPbc		20 37 39.2	-0.1
	comp=Z,2.9nm,1.0s,baz=134,slow=3.6,SNR=14								
BRTR				PKPab		PKPab		20 37 52.1	0.0
	comp=Z,2.2nm,0.9s,baz=140,slow=6.0,SNR=6.4								
LIC	Lamto	155.09	159	ePKP1		PKPab		20 37 59.5	+0.9
	comp=Z,70nm,1.6s								
STHS	Stebnicka Huta	156.36	331	ePKP		PKPab		20 38 03.6	+0.4
STHS	Stebnicka Huta	156.36	331	ePKP2		PKPab		20 38 03.6	+0.4
UZH	Uzhgorod	156.47	328	ePKIKP		PKPdf		20 37 39.1	+4.1
CRVS	Cervenica-Dubn	156.65	329	ePKP		PKPab		20 38 03.7	-0.7
CRVS	Cervenica-Dubn	156.65	329	ePKP2		PKPab		20 38 03.7	-0.7
DPC	Dobruska-Polom	157.43	339	ePKPAB		PKPab		20 38 06.7	-1.1
DPC	Dobruska-Polom	157.43	339	ePKP2		PKPab		20 38 06.7	-1.1
CLL	Collm	157.47	345	*i* PKPab		PKPab		20 38 06.6	-1.2
	comp=Z,16nm,1.5s								
CLL	Collm	157.47	345	*i* PKP2		PKPab		20 38 06.6	-1.2
CLL				pmax	pmax				
	comp=Z,16nm,1.5s								
BRG	Berggiesshubel	157.65	343	ePKP		PKPab		20 38 07.8	-0.8
	comp=Z,12nm,1.3s								
BRG	Berggiesshubel	157.65	343	ePKP2		PKPab		20 38 07.8	-0.8
BRG				pmax	pmax				
	comp=Z,14nm,1.3s								
VYHS	Vyhne	158.07	332	ePKP		PKPab		20 38 09.8	-0.8
VYHS	Vyhne	158.07	332	ePKP2		PKPab		20 38 09.8	-0.8
M

STON				Sn	Sb	20 39 08.8	+1.7	
STON	**Ston**	**1.46**	**294**	*e*Pn	Pn	20 38 47.0	-0.6	
STON				Sn	Sb	20 39 08.8	+1.7	

*ISCJB **30** 20:39:18.6±0.3,31˚.68N±0˚.03×104˚.13E±0˚.04,h14km, mb3.8/17,Error ellipse: s-maj=4.9km s-min=4.2km az=30.9*

*IDC **30** 20:39:18.6±0.7,31˚.69N×104˚.15E,h0km,mb3.8/16, mb1 3.9/18,mb1mx3.7/79,mbtmp3.8/18,ML3.2/2,Error ellipse: s-maj=23.4km s-min=14.6km az=48.0*

*NEIC **30** 20:39:20.9±1.4,31˚.67N×104˚.18E,h15km±10km,mb4.0/2, ML4.0(BJI),Error ellipse: s-maj=7.9km s-min=7.2km az=174.0*

*BJI **30** 20:39:20.7,31˚.76N×104˚.12E,h18km,mb4.1/10,mB4.0/2, ML4.0/23,Ms3.8/16,Ms7.3/5/14*

ISC 30 20:39:21.2±0.5,31˚.69N±0˚.03×104˚.14E±0˚.04,h14km,n50, σ2$24/66,mb3.9/17,2C-1D,Sichuan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CD2	**Chengdu**	**0.84**	**203**	*i*Pg	**Pg**	**20 39 36.5**	**-1.0**
CD2				Sg	**Sn**	**20 39 49.5**	**-1.4**
CD2				smax	smax		
	comp=N,8μm,0.6s						
CD2				smax	smax		
	comp=E,12μm,0.4s						
CD2	**Chengdu**	**0.84**	**203**	*i*Pg	**Pg**	**20 39 36.5**	**-1.0**
CD2				Sg	**Sn**	**20 39 49.5**	**-1.4**
LZH	**Lanzhou**	**4.40**	**357**	Pn	**Pn**	**20 40 29.3**	**+1.6**
LZH				Sg	**Sg**	**20 41 43.5**	**+1.1**
LZH				smax	smax		
	comp=N,260nm,0.7s						
LZH				smax	smax		
	comp=E,210nm,0.9s						
LZH				LR	LR		
	comp=N,600nm,5.0s						
LZH				LR	LR		
	comp=E,2μm,4.3s						
LZH				LR	LR		
	comp=Z,870nm,7.8s						
LZH	**Lanzhou**	**4.40**	**357**	Pn	**Pn**	**20 40 29.3**	**+1.6**
LZH				Sg	**Sg**	**20 41 43.5**	**+1.1**
XAN	**Xi'an**	**4.66**	**58**	Pn	**Pn**	**20 40 29.0**	**-2.2**
XAN				Pg	**Pb**	**20 40 41.5**	**-1.2**
XAN				Sn	**Sn**	**20 41 26.3**	**+1.2**
XAN				Sg	**Sb**	**20 41 40.5**	**+1.8**
XAN				smax	smax		
	comp=N,370nm,0.9s						
XAN				smax	smax		
	comp=E,280nm,0.9s						
XAN				LR	LR		
	comp=N,730nm,4.1s						
XAN				LR	LR		
	comp=E,760nm,4.3s						
XAN				LR	LR		
	comp=Z,440nm,4.3s						
XAN	**Xi'an**	**4.66**	**58**	Pn	**Pn**	**20 40 29.0**	**-2.2**
XAN				Pg	**Pb**	**20 40 41.5**	**-1.2**
XAN				Sn	**Sn**	**20 41 26.3**	**+1.2**
XAN				Sg	**Sb**	**20 41 40.5**	**+1.8**
ENH	**Enshi**	**4.80**	**106**	*e*Pn	**Pn**	**20 40 32.3**	**-0.8**
GYA	**Guiyang**	**5.66**	**156**	Pn	**Pn**	**20 40 48.3**	**+3.3**
GYA				Sn	**Sn**	**20 41 49.5**	**-0.3**
GYA				Sg	**Sb**	**20 42 14.0**	**+6.5**
GYA				smax	smax		
	comp=N,250nm,0.9s						
GYA				smax	smax		
	comp=E,250nm,1.0s						
GYA	**Guiyang**	**5.66**	**156**	Pn	**Pn**	**20 40 48.3**	**+3.3**
GYA				Sn	**Sn**	**20 41 49.5**	**-0.3**
GYA				Sg	**Sb**	**20 42 14.0**	**+6.5**
KMI	**Kunming**	**6.65**	**191**	Pn	**Pn**	**20 41 01.5**	**+2.7**
KMI				Sn	**Sn**	**20 42 11.5**	**-3.1**
KMI				smax	smax		
	comp=N,57nm,0.9s						
KMI				smax	smax		
	comp=E,40nm,0.6s						
KMI				LR	LR		
	comp=N,220nm,5.5s						
KMI				LR	LR		
	comp=E,450nm,5.7s						
KMI				LR	LR		
	comp=Z,260nm,6.9s						
GTA	**Gaotai**	**8.47**	**337**	*e*P	**Pn**	**20 41 26.5**	**+2.8**
GTA				pP	Pb	20 41 31.0	-17
GTA				sP	Pg	20 41 34.0	-29
GTA				S	**Sn**	**20 43 06.3**	**+7.1**
GTA				sS	Sb	20 43 12.8	-16
GTA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
GTA				pmax	pmax		
	comp=Z,68nm,4.5s						
GTA				LR	LR		
	comp=N,220nm,8.4s						
GTA				LR	LR		
	comp=E,200nm,8.7s						
GTA				LR	LR		
	comp=Z,200nm,8.1s						
WHN	**Wuhan**	**8.82**	**95**	⇓P	**Pn**	**20 41 28.0**	**-0.4**
WHN				S	**Sn**	**20 43 03.5**	**-4.1**
WHN				LR	LR		
	comp=N,730nm,10.0s						
WHN				LR	LR		
	comp=E,1μm,6.7s						
WHN				LR	LR		
	comp=Z,1μm,9.5s						
BTO	**Baotou**	**10.09**	**26**	*e*P	Pn	20 41 58.5	+13
LSA	**Lhasa**	**11.36**	**263**	*e*Pn	**Pn**	**20 42 03.5**	**-0.1**
CMAR	**Chiang Mai Arr**	**13.98**	**201**	Pn	**Pn**	**20 42 40.2**	**+1.2**
	0.0nm,0.3s,baz=14,slow=11,SNR=10						
ODAN	**Odare**	**15.39**	**256**	*e*P	**Pn**	**20 42 55.0**	**-3.2**
	19nm,0.8s						
RAMN	**Ramite**	**16.01**	**257**	*e*P	**Pn**	**20 43 03.3**	**-3.0**
	11nm,0.8s						
JIRN	**Jiri**	**16.11**	**260**	*e*P	**Pn**	**20 43 06.1**	**-1.6**
SONM	**Songino Array**	**16.22**	**5**	Pn	**Pn**	**20 43 09.3**	**+0.5**
	0.1nm,0.3s,baz=184,slow=12,SNR=11						
GUN	**Gumba**	**16.29**	**261**	*e*P	**Pn**	**20 43 08.2**	**-1.8**
	48nm,1.0s						
PKIN	**Phulchoki**	**16.80**	**261**	*e*P	**Pn**	**20 43 14.6**	**-1.8**
	34nm,0.7s						
KKN	**Kakani**	**16.84**	**261**	*e*P	**Pn**	**20 43 14.9**	**-1.9**
	14nm,0.6s						
DMN	**Daman**	**17.04**	**261**	*e*P	**Pn**	**20 43 17.2**	**-2.2**
	35nm,0.9s						
GKN	**Gorkha**	**17.31**	**263**	*e*P	**Pn**	**20 43 20.3**	**-2.4**
	11nm,0.5s						
WMQ	**Urumqi**	**17.73**	**318**	*e*P	**Pn**	**20 43 24.3**	**-3.5**
DANN	**Dangsing**	**17.96**	**265**	*e*P	**Pn**	**20 43 28.6**	**-2.3**
	17nm,0.7s						
KOLN	**Koldanda**	**18.26**	**263**	*e*P	**Pn**	**20 43 32.0**	**-2.5**
	14nm,0.7s						
KSAR	**Wonju Array Be**	**20.36**	**67**	P	**P**	**20 43 56.5**	**-0.8**
KSRS	**Korea Array**	**20.39**	**67**	P	**P**	**20 43 56.5**	**-1.1**
	6.2nm,0.7s,baz=256,slow=10,SNR=30						
CN2	**Changchun**	**20.67**	**48**	*e*P	**P**	**20 43 59.8**	**-0.8**
MKAR	**Makanchi Array**	**22.57**	**318**	P	**P**	**20 44 21.1**	**+0.1**
	2.1nm,0.9s,baz=118,slow=12,SNR=14						
NIL	**Nilore**	**26.03**	**283**	*e*P	**P**	**20 44 54.1**	**+0.1**
	7.5nm,0.6s						
ZALV	**Zalesovo Beam**	**26.21**	**334**	P	**P**	**20 44 54.4**	**-1.0**
	1.7nm,0.3s,baz=134,slow=12,SNR=2.6						
KURBB	**Kurchatov Arra**	**26.80**	**322**	P	**P**	**20 45 00.2**	**-0.5**
	0.9nm,0.8s,baz=132,slow=9.2,SNR=8.0						
KURK	**Kurchatov**	**26.80**	**323**	P	**P**	**20 45 00.2**	**-0.6**
KLR	**Kul'dur**	**27.13**	**42**	P	**P**	**20 45 04.8**	**+1.1**
	0.3nm,0.9s,baz=267,slow=6.6,SNR=7.5						
BVAR	**Borovoye Array**	**32.36**	**321**	P	**P**	**20 45 50.2**	**+0.2**
	0.4nm,0.6s,baz=110,slow=7.8,SNR=4.3						
ABKAR	**Akbulak array**	**37.31**	**311**	*e*P	**P**	**20 46 32.8**	**-0.1**
	0.5nm,0.6s						
GEYT	**Alibeck**	**38.00**	**292**	P	**P**	**20 46 40.0**	**+1.1**
	1.3nm,0.6s,baz=90,slow=4.4,SNR=6.8						
ARU	**Arti**	**39.99**	**322**	P	**P**	**20 46 55.1**	**-0.2**
	1.1nm,0.4s,baz=99,slow=6.1,SNR=4.0						
BRTR	**Keskin Array B**	**56.48**	**299**	P	**P**	**20 49 02.0**	**-1.0**
	0.7nm,0.8s,baz=74,slow=4.4,SNR=5.6						
FINES	**FINESS Array B**	**57.10**	**326**	P	**P**	**20 49 06.0**	**-0.8**
	1.9nm,0.8s,baz=102,slow=6.4,SNR=6.7						
WRA	**Warramunga Arr**	**58.94**	**146**	P	**P**	**20 49 19.7**	**-0.5**
	1.0nm,0.5s,baz=340,slow=7.9,SNR=41						
ASAR	**Alice Springs**	**61.97**	**149**	P	**P**	**20 49 40.2**	**-0.6**
	0.6nm,0.7s,baz=338,slow=6.8,SNR=7.9						
HFS	**Hagfors**	**63.31**	**326**	P	**P**	**20 49 48.5**	**-0.9**
	1.3nm,0.7s,baz=149,slow=6.7,SNR=4.9						
NB2	**NORSAR Subarra**	**64.19**	**327**	P	**P**	**20 49 53.9**	**-1.3**
	comp=Z,1.3nm,0.8s,baz=71,slow=6.2						
NOA	**NORSAR Array B**	**64.19**	**327**	P	**P**	**20 49 53.5**	**-1.7**
	comp=Z,0.6nm,0.6s,baz=64,slow=6.1,SNR=3.4						
GERES	**GERESS Array B**	**67.17**	**314**	P	**P**	**20 50 14.4**	**-0.3**
	comp=Z,0.2nm,0.3s,baz=46,slow=5.8,SNR=4.1						
YKA	**Yellowknife Ar**	**81.13**	**17**	P	**P**	**20 51 35.0**	**-0.8**
	comp=Z,0.3nm,0.5s,baz=329,slow=5.4,SNR=8.1						
YKA	**Yellowknife Ar**	**81.13**	**17**	P	**P**	**20 51 35.0**	**-0.8**

MEX 30 20:50:13.6±0.5,16˚.29N×98˚.31W,h2km,MD3.7,Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.21**	**59**	*i* P	Pg	20 50 17.4	-0.3
PNIG				*e*S	Sg	20 50 20.4	+0.1
TLIG	**Tlapa**	**1.29**	**349**	*e*P	Pg	20 50 34.8	-3.6
TLIG				*e*S	Sg	20 50 50.8	-4.4
ACX	**Acapulco**	**1.59**	**292**	*e*P	Pn	20 50 38.9	-4.0
ACP2	**Acapulco**	**1.62**	**291**	*e*P	Pn	20 50 38.8	-4.4
ACP2				*e*S	Sn	20 50 59.4	-5.3
VHO	**Vista Hermosa**	**1.70**	**62**	*e*P	Pn	20 50 41.2	-3.4
VHO				*e*S	Sn	20 51 04.7	-2.3
CAIG	**El Cayaco**	**2.02**	**292**	*e*S	Sn	20 51 12.5	-2.1

*IDC **30** 20:52:16.6±0.5,23˚.65S×175˚.90W,h0km,mb4.6/19, mb1 4.8/19,mb1mx4.5/44,mbtmp4.6/19,MS3.9/11, Ms1 3.9/11,ms1mx3.4/50,Error ellipse: s-maj=18.8km s-min=15.9km az=123.0*

*ISCJB **30** 20:52:19.8±0.4,23˚.84S±0˚.06×175˚.98W±0˚.09,h31km, mb4.7/26,MS3.9/9,Error ellipse: s-maj=12.7km s-min=7.5km az=14.8*

*NEIC **30** 20:52:23.6±1.8,23˚.89S×175˚.86W,h54km±14km,mb4.9/9, Error ellipse: s-maj=13.7km s-min=9.1km az=88.0*

ISC 30 20:52:21.2±0.4,23˚.86S±0˚.07×175˚.79W±0˚.10,h31km, n105,σ1$13/98,mb4.8/26,MS4.0/9,17C-10D,Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**5.70**	**199**	Sn	**Sn**	**20 54 47.6**	**-0.4**
	78nm,0.3s,baz=85,slow=22,SNR=5.5						
MSVF	**Nonsavu**	**8.39**	**315**	*e*Pn	**Pn**	**20 54 24.3**	**+3.5**
	135nm,1.2s						
AFI	**Afiamalu**	**10.60**	**22**	Pn	Pn	20 54 42.9	-8.2
	6.7nm,0.3s,baz=247,slow=23,SNR=6.7						
AFI				Sn	Sn	20 56 33.5	-15
	4.0nm,0.3s,baz=41,slow=20,SNR=4.9						
RAR	**Rarotonga**	**15.03**	**83**	Pn	Pn	20 55 42.7	-8.7
	8.5nm,0.3s,baz=226,slow=8.3,SNR=9.3						
RAR				LR	LR	21 02 04.0	
	comp=Z,249nm,18.8s,baz=303,slow=39						
URZ	**Urewera**	**15.58**	**201**	Pn	**Pn**	**20 55 56.3**	**-2.2**
	0.4nm,0.3s,baz=245,slow=14,SNR=1.8						
URZ				Sn	Sn	20 58 38.3	-12
	0.6nm,0.3s,baz=109,slow=19,SNR=4.9						
DZM	**Mont Dzumac**	**16.46**	**273**	Pn	**P**	**20 56 12.6**	**+0.1**
	0.1nm,0.3s,baz=95,slow=18,SNR=3.3						
DZM				LR	LR	21 00 58.4	
	comp=Z,355nm,19.5s,baz=115,slow=32						
DZM	**Mont Dzumac**	**16.46**	**273**	*e*P	**P**	**20 56 16.6**	**+4.1**
	68nm,1.3s						
DZM				*e*LR	LR	21 00 13.8	
	431nm,23.1s						
DZM	**Mont Dzumac**	**16.46**	**273**	*e*P	**P**	**20 56 12.5**	**+0.1**
	24nm,1.0s						
PAE	**Paea**	**25.25**	**81**	*e*T	T	21 23 27.9	
	3.9nm,0.3s						
PPT2	**Papeete2**	**25.27**	**81**	*e*LQ	LQ	21 02 29.7	
	253nm,25.0s						
PPT2				*e*LR	LR	21 03 41.8	
	303nm,25.5s						
PPT	**Papeete**	**25.28**	**81**	LR	LR	21 06 47.8	
	comp=Z,158nm,18.9s,baz=224,slow=34						
HNR	**Honiara**	**27.25**	**298**	LR	LR	21 07 05.2	
	comp=Z,213nm,20.2s,baz=148,slow=33						
CTA	**Charters Tower**	**35.33**	**269**	P	**P**	**20 59 13.1**	**-0.8**
	15nm,0.4s,baz=93,slow=11,SNR=54						
CTAO	**Charters Tower**	**35.33**	**269**	*e*P	**P**	**20 59 12.9**	**-1.0**
	85nm,0.4s						
STKA	**Stephens Creek**	**38.32**	**248**	P	**P**	**20 59 38.6**	**-0.5**
	5.1nm,1.0s,baz=90,slow=9.4,SNR=10						
STKA				LR	LR	21 13 38.9	
	comp=Z,255nm,20.1s,baz=42,slow=34						
ASAR	**Alice Springs**	**45.84**	**260**	P	**P**	**21 00 39.2**	**-1.5**
	10.0nm,1.0s,baz=93,slow=8.4,SNR=45						
ASAR				PcP	**PcP**	**21 02 17.4**	**-0.4**
	0.5nm,0.5s,baz=109,slow=3.9,SNR=4.2						
ASAR				LR	LR	21 19 01.9	
	comp=Z,183nm,18.7s,baz=106,slow=35						
WRAB	**Tennant Creek**	**46.24**	**265**	*e*P	**P**	**21 00 41.5**	**-2.4**
	8.5nm,0.8s						
WRA	**Warramunga Arr**	**46.25**	**265**	P	**P**	**21 00 41.7**	**-2.3**
	12nm,1.0s,baz=93,slow=8.4,SNR=55						
GUMO	**Guam**	**53.52**	**310**	LR	LR	21 24 42.8	
	comp=Z,32nm,18.1s,baz=133,slow=36						
VNDA	**Vanda**	**54.77**	**186**	P	**P**	**21 01 50.0**	**+2.5**
	1.3nm,0.8s,baz=359,slow=6.3,SNR=8.8						
BATI	**Baumata**	**59.07**	**272**	P	**P**	**21 02 19.1**	**+0.2**
	16nm,0.7s,baz=232,slow=4.0,SNR=5.0						
BATI				LR	LR	21 26 45.2	
	comp=Z,214nm,19.3s,baz=132,slow=35						
MBWA	**Marble Bar**	**59.17**	**259**	*e*P	**P**	**21 02 17.5**	**-2.0**
CASY	**Casey**	**61.84**	**206**	*e*P	**P**	**21 02 37.3**	**+0.4**
	6.0nm,0.6s						
QSPA	**South Pole Qui**	**66.22**	**180**	P	**P**	**21 03 08.2**	**+2.2**
	7.1nm,0.9s,baz=32,slow=2.5,SNR=10						
QSPA	**South Pole Qui**	**66.22**	**180**	*e*P	**P**	**21 03 07.4**	**+1.4**
	28nm,0.9s						
LEM	**Lembang**	**75.03**	**269**	P	**P**	**21 04 00.7**	**+0.2**
	8.9nm,0.7s,baz=315,slow=20,SNR=6.8						
ASAJ	**Asahikawa**	**77.65**	**331**	P	**P**	**21 04 14.8**	**+0.4**
	3.8nm,0.7s,baz=63,slow=4.5,SNR=4.1						
MAW	**Mawson**	**79.10**	**199**	P	**P**	**21 04 24.0**	**+1.8**
	9.9nm,0.7s,baz=131,slow=6.8,SNR=18						
PETK	**Petropavlovsk-**	**80.04**	**344**	P	**P**	**21 04 26.4**	**-1.0**
	9.0nm,0.9s,baz=105,slow=9.0,SNR=8.5						
KSRS	**Korea Array**	**80.75**	**318**	P	**P**	**21 04 31.0**	**-0.5**
	1.6nm,0.8s,baz=150,slow=6.2,SNR=7.4						
KSAR	**Wonju Array Be**	**80.76**	**318**	P	**P**	**21 04 31.0**	**-0.6**
NVAR	**Mina Array Bea**	**82.10**	**42**	P	**P**	**21 04 39.2**	**+0.2**
	1.8nm,0.9s,baz=221,slow=8.8,SNR=8.8						
NVAR				LR	LR	21 34 53.6	
	comp=Z,66nm,18.9s,baz=92,slow=31						
USRK	**Ussuriysk Ar.**	**82.88**	**325**	P	**P**	**21 04 43.2**	**+0.6**
	5.0nm,0.9s,baz=108,slow=4.0,SNR=9.0						
SYO	**Syowa Base**	**83.90**	**192**	*e*P	**P**	**21 04 47.0**	**-0.6**
MDJ	**Mudanjiang**	**84.43**	**324**	*e*P	**P**	**21 04 49.5**	**-1.1**
SNAA	**Sanae**	**84.60**	**178**	P	**P**	**21 04 51.9**	**+0.7**
SNAA	**Sanae**	**84.60**	**178**	P	**P**	**21 04 51.8**	**+0.6**
	2.8nm,0.8s,baz=204,slow=7.9,SNR=8.9						
VNA3	**Neumayer Olymp**	**84.66**	**176**	P	**P**	**21 04 52.0**	**+0.6**
VNA2	**Neumayer--Watz**	**85.12**	**176**	P	**P**	**21 04 54.6**	**+0.8**
	baz=177,slow=2.9						
VNA1	**Neumayer--Stat**	**85.34**	**176**	P	**P**	**21 04 55.6**	**+0.8**
MNTX	**Cornudas Mount**	**87.06**	**54**	*e*P	**P**	**21 05 03.7**	**-0.2**
	6.7nm,0.9s						
TXAR	**Lajitas Array**	**87.17**	**56**	P	**P**	**21 05 04.8**	**+0.1**
	3.3nm,0.6s,baz=216,slow=6.2,SNR=22						
NEW	**Newport**	**88.92**	**35**	LR	LR	21 39 24.4	
	comp=Z,50nm,18.1s,slow=32						
KTH	**Kantishna Hill**	**89.30**	**11**	*e*P	**P**	**21 05 11.9**	**-2.0**
	19nm,1.7s						
TRF	**Thorofare Moun**	**89.31**	**11**	*e*P	**P**	**21 05 12.7**	**-1.4**
	5.3nm,0.8s						
ENH	**Enshi**	**89.61**	**303**	*e*P	**P**	**21 05 15.6**	**-0.5**
SDCO	**Great Sand Dun**	**90.02**	**48**	*e*P	**P**	**21 05 18.4**	**+0.2**
	1.2nm,0.8s						
DLBC	**Dease Lake**	**90.35**	**22**	LR	LR	21 39 05.1	
	comp=Z,67nm,20.4s,baz=170,slow=31						
ILAR	**Eielson Array**	**91.14**	**12**	P	**P**	**21 05 21.4**	**-0.9**
	1.5nm,0.9s,baz=221,slow=5.9,SNR=15						
CMAR	**Chiang Mai Arr**	**93.15**	**289**	P	**P**	**21 05 34.0**	**+1.2**
	6.5nm,0.9s,baz=137,slow=3.4,SNR=42						
CHTO	**Chiang Mai**	**93.29**	**289**	*e*P	**P**	**21 05 34.3**	**+0.9**
	10nm,0.9s						
YKA	**Yellowknife Ar**	**98.71**	**24**	P	**P**	**21 05 56.0**	**-0.9**
	0.5nm,0.9s,baz=236,slow=4.4,SNR=8.4						
MKAR	**Makanchi Array**	**114.97**	**312**	PKP	PKPdf	21 10 57.9	-1.0
	0.8nm,0.6s,baz=5.7,slow=1.2,SNR=7.7						
KURK	**Kurchatov**	**117.84**	**316**	PKP	**PKPdf**	**21 11 02.5**	**-1.7**
KURBB	**Kurchatov Arra**	**117.89**	**316**	PKP	**PKPdf**	**21 11 02.5**	**-1.8**
	1.0nm,0.7s,baz=94,slow=1.9,SNR=8.0						
KKAR	**Karatay Array**	**122.92**	**307**	*e*PKPdf	**PKPdf**	**21 11 13.2**	**-1.1**
BVAR	**Borovoye Array**	**122.95**	**319**	PKP	**PKPdf**	**21 11 13.4**	**-0.6**
	1.2nm,0.6s,baz=60,slow=3.5,SNR=9.9						
GEYT	**Alibeck**	**132.28**	**300**	PKP	**PKPdf**	**21 11 32.8**	**+0.4**
	1.6nm,0.8s,baz=232,slow=1.7,SNR=5.4						
FINES	**FINESS Array B**	**139.56**	**344**	PKhKP	PKPpre	21 11 34.9	
	1.5nm,0.9s,baz=23,slow=7.5,SNR=3.6						
HFS	**Hagfors**	**143.15**	**352**	PKhKP	PKPpre	21 11 47.5	
	1.5nm,0.7s,baz=70,slow=6.3,SNR=6.9						
AKASG	**Malin Array Be**	**146.93**	**330**	PKPbc	**PKPbc**	**21 11 59.1**	**-1.2**
	12nm,0.7s,baz=42,slow=4.0,SNR=39						
KIEV	**Kiev**	**146.95**	**330**	*e*PKPdf	**PKPdf**	**21 11 59.0**	**+0.7**
EKA	**Eskdalemuir Ar**	**148.09**	**8**	PKPbc	**PKPdf**	**21 12 01.5**	**+1.3**
	5.9nm,0.9s,baz=333,slow=2.4,SNR=8.7						
SORM	**Soroca**	**149.13**	**328**	⇓*i*P	**PKPbc**	**21 12 05.2**	**-1.0**
ASF	**Jabal al Asfar**	**150.07**	**293**	PKPbc	**PKPbc**	**21 12 08.7**	**-0.6**
	3.9nm,0.9s,baz=18,slow=3.2,SNR=7.4						
BRTR	**Keskin Array B**	**150.58**	**310**	PKPbc	**PKPbc**	**21 12 09.6**	**-0.8**
	4.1nm,0.8s,baz=135,slow=3.9,SNR=34						
PRAR	**RASCA**	**150.69**	**329**	⇑*i*P	**PKPbc**	**21 12 08.4**	**-1.7**
TLCR		**150.82**	**323**	⇓*i*P	**PKPbc**	**21 12 10.4**	**0.0**
BURAR	**Bucovina Array**	**150.98**	**330**	⇓*i*P	**PKPbc**	**21 12 10.5**	**-0.4**
TESR	**Tescani**	**151.09**	**327**	⇓*i*P	**PKPbc**	**21 12 10.1**	**-1.0**
ANTO	**Ankara**	**151.11**	**310**	⇓*i*P	**PKPbc**	**21 12 11.8**	**+0.3**
ANTO	**Ankara**	**151.11**	**310**	*e*PKPbc	**PKPbc**	**21 12 11.6**	**+0.1**
MMAI	**Mount Meron Ar**	**151.18**	**295**	PKPbc	**PKPbc**	**21 12 12.3**	**+0.4**
	8.2nm,0.7s,baz=83,slow=6.1,SNR=27						
CFR	**Carcaliu**	**151.20**	**323**	⇑*i*P	**PKPbc**	**21 12 11.0**	**-0.3**
VRI	**Vrancioaia**	**151.49**	**326**	⇓*i*P	**PKPbc**	**21 12 11.3**	**-0.7**
TIRR	**Tirgusor**	**151.49**	**322**	*e*PKPbc	**PKPbc**	**21 12 11.2**	**-0.8**
PLOR	**Plostina**	**151.54**	**326**	⇑*i*P	**PKPbc**	**21 12 11.3**	**-0.9**
TLB	**Topalu**	**151.62**	**323**	⇑*i*P	**PKPbc**	**21 12 12.0**	**-0.3**
CLL	**Collm**	**151.77**	**348**	⇑*i*PKPbc	**PKPbc**	**21 12 12.2**	**-0.3**
	comp=Z,15nm,0.8s						
CLL				*i* PKPab	**sPKPdf**	**21 12 19.7**	**-0.2**
CLL				*i*		21 12 24.6	
UPC	**Upice**	**151.86**	**344**	⇑*e*PKP	**PKPbc**	**21 12 12.8**	**+0.1**
DPC	**Dobruska-Polom**	**151.93**	**343**	⇑*e*PKP	**PKPbc**	**21 12 13.0**	**+0.1**
DPC				*e*PKPAB	**PKPab**	**21 12 22.3**	**+0.2**
BRG	**Berggiesshubel**	**152.00**	**347**	*i* PKP	**PKPbc**	**21 12 12.9**	**-0.1**
	comp=Z,14nm,0.8s						
KRLC	**Kraliky**	**152.05**	**343**	⇑*e*PKP	**PKPbc**	**21 12 13.1**	**-0.1**
KRLC				*e*PKPAB	**PKPab**	**21 12 21.6**	**-1.1**
DOPR	**Dopca**	**152.09**	**327**	⇑*i*P	**PKPbc**	**21 12 13.8**	**+0.4**
MORC	**Moravsky Berou**	**152.11**	**341**	⇓*i*P	**PKPbc**	**21 12 13.4**	**0.0**
MORC	**Moravsky Berou**	**152.11**	**341**	*e*PKPbc	**PKPbc**	**21 12 13.4**	**+0.1**
MLR	**Muntele Rosu**	**152.15**	**326**	PKP	**PKPdf**	**21 12 07.3**	**+0.3**
	comp=Z,0.2nm,0.6s,baz=194,slow=8.3,SNR=3.4						
MLR				PKPbc	**PKiKP**	**21 12 13.9**	**-0.1**
	comp=Z,0.6nm,0.6s,baz=339,slow=8.6,SNR=10						
MLR	**Muntele Rosu**	**152.15**	**326**	⇑*i*P	**PKPbc**	**21 12 13.1**	**-0.6**
CJR	**Cluj-Napoca**	**152.39**	**330**	⇓*i*P	**PKPbc**	**21 12 13.7**	**-0.4**
CSS	**Mathiatis**	**152.42**	**300**	*e*PKPbc	**PKPbc**	**21 12 13.9**	**-0.6**
VOIR		**152.63**	**327**	⇓*i*P	**PKPdf**	**21 12 10.6**	**+2.9**
PRU	**Pruhonice**	**152.70**	**345**	⇑*e*PKP	**PKPbc**	**21 12 14.5**	**-0.1**
VRAC	**Vranov**	**152.80**	**342**	⇑*i*P	**PKPab**	**21 12 26.2**	**+0.4**
ARR	**Arges**	**152.89**	**327**	⇑*i*P	**PKPbc**	**21 12 15.4**	**+0.1**
SIRR	**Siria**	**153.59**	**332**	⇑*i*P	**PKPbc**	**21 12 16.4**	**-0.3**
KHC	**Kasperske Hory**	**153.72**	**346**	⇑*e*PKP	**PKPbc**	**21 12 16.7**	**-0.2**
KHC	**Kasperske Hory**	**153.72**	**346**	*e*PKPbc	**PKPbc**	**21 12 16.8**	**-0.2**
GERES	**GERESS Array B**	**153.96**	**346**	PKP	**PKPdf**	**21 12 09.2**	**-0.4**
	comp=Z,0.1nm,0.2s,baz=307,slow=3.4,SNR=3.9						
GERES				PKPbc	**PKiKP**	**21 12 17.4**	**-0.2**
	comp=Z,1.1nm,0.8s,baz=48,slow=2.0,SNR=7.5						
SRE	**Strehaia**	**154.10**	**328**	⇓*i*P	PKPdf	21 11 59.3	-10
CONA	**Conrad Observa**	**154.26**	**342**	*i* pPKPbc	**PKPab**	**21 12 32.8**	**+0.7**
	comp=Z,3.6nm,0.9s						
HERR	**Herculane**	**154.32**	**329**	⇑*i*P	**PKPbc**	**21 12 17.1**	**-1.2**
ARSA	**Arzberg**	**154.97**	**342**	*i* pPKPbc	**PKPab**	**21 12 34.9**	**-0.1**
	comp=Z,1.4nm,0.6s						

SISI	**Saibi**	**7.64**	**126**	P		**Pn**	**21 42 29.8**	**-0.4**
	247nm,0.7s,2μm								
KULM	**Kulim**	**7.96**	**75**	*e*Pn		**Pn**	**21 42 34.0**	**-0.5**
KULM				*e*S		**Sn**	**21 43 57.2**	**-7.1**
TRTT	**Trang**	**8.12**	**56**	P		**Pn**	**21 42 34.6**	**-2.2**
	45nm,1.1s,560nm0.2nm								
IPM	**Ipoh**	**8.16**	**81**	*e*Pn		**Pn**	**21 42 36.9**	**-0.5**
IPM				*e*S		**Sn**	**21 44 03.8**	**-5.7**
PPI	**Padang Panjang**	**8.31**	**116**	P		**Pn**	**21 42 39.9**	**+0.5**
PDSI	**Padang**	**8.58**	**119**	P		**Pn**	**21 42 42.5**	**-0.6**
SKLT	**Songkhla**	**8.59**	**63**	P		**Pn**	**21 42 41.6**	**-1.6**
	114nm,0.8s,1μm0.4nm								
BKNI	**Bangkinang**	**8.60**	**110**	P		**Pn**	**21 42 44.1**	**+0.8**
	274nm,0.9s,3μm								
BKNI	**Bangkinang**	**8.60**	**110**	*e*Pn		Pn	21 42 51.6	+8.3	
PPSI	**Pulau Pagai**	**9.25**	**130**	P		**Pn**	**21 42 51.8**	**-0.5**
	230nm,0.6s,3μm								
SDSI	**Sungai Dareh**	**9.45**	**116**	P		**Pn**	**21 42 55.6**	**+0.6**
	0.1nm,0.5s								
KRJI	**Kerinci**	**10.03**	**122**	P		**Pn**	**21 43 04.5**	**+1.4**
	385nm,0.6s,4μm								
MYKOM	**Kota Tinggi**	**11.00**	**97**	*e*Pn		**Pn**	**21 43 15.2**	**-1.1**
MASI	**Maura Aman, Be**	**11.25**	**124**	P		**Pn**	**21 43 20.3**	**+0.5**
	206nm,0.6s,3μm								
PHET	**Kaeng Krachan**	**11.67**	**34**	P		**Pn**	**21 43 27.4**	**+2.0**
	11nm,0.8s								
TPRI	**Tanjung Pinang**	**11.81**	**101**	P		Pn	21 43 22.4	-4.9	
MNAI	**Manna**	**12.54**	**127**	P		**Pn**	**21 43 37.1**	**-0.3**
	418nm,0.6s								
MNAI	**Manna**	**12.54**	**127**	*e*Pn		**Pn**	**21 43 36.8**	**-0.6**
MNAI				*e*S		Sn	21 45 44.2	-13	
SRDT	**SRDT**	**12.61**	**29**	P		**Pn**	**21 43 38.4**	**+0.1**
	29nm,1.7s,2μm								
PALK	**Pallekele**	**12.82**	**289**	Pn		**Pn**	**21 43 39.4**	**-1.8**
	4.0nm,0.3s,baz=115,slow=12,SNR=24								
PALK				Sn		Sn	21 45 50.1	-14	
	14nm,0.3s,baz=293,slow=0.8,SNR=10								
PALK				LR		LR	21 47 45.8		
	comp=Z,3μm,21.8s,baz=116,slow=33								
PALK	**Pallekele**	**12.82**	**289**	*e*Pn		**Pn**	**21 43 40.3**	**-0.9**
PALK				*e*S		Sn	21 45 51.3	-13	
PALK	**Pallekele**	**12.82**	**289**	P		**Pn**	**21 43 38.7**	**-2.6**
PALK	**Pallekele**	**12.82**	**289**	*i* P		**Pn**	**21 43 42.6**	**+1.4**
CHBT	**CHBT**	**13.25**	**44**	P		**Pn**	**21 43 49.7**	**+2.6**
	123nm,1.1s,100μm								
MDSI	**Maura Dua**	**13.61**	**124**	P		**Pn**	**21 43 51.4**	**-0.5**
LWLI	**Liwa**	**13.81**	**126**	P		**Pn**	**21 43 55.5**	**+0.7**
	185nm,0.7s								
SRAK	**Srakaew**	**13.98**	**39**	P		**P**	**21 44 02.9**	**-2.0**
KASI	**Kota Agung**	**14.46**	**127**	P		**Pn**	**21 44 02.3**	**-1.3**
	77nm,0.6s,937nm								
CHAI	**Chaiyaphum**	**15.41**	**35**	P		**Pn**	**21 44 16.7**	**+0.3**
	12nm,1.0s,117nm								
PHIT	**Phitsanulok**	**15.69**	**27**	P		**Pn**	**21 44 19.5**	**-0.4**
	44nm,0.9s,363nm								
CGJI	**Cibinong**	**16.06**	**128**	P		**Pn**	**21 44 25.3**	**+0.5**
CM01	**Chiang Mai Arr**	**16.20**	**21**	*e*Pn		**Pn**	**21 44 24.0**	**-2.5**
CM31	**Chiang Mai Arr**	**16.23**	**21**	*e*Pn		**Pn**	**21 44 24.8**	**-2.1**
CMAR	**Chiang Mai Arr**	**16.23**	**21**	Pn		**Pn**	**21 44 24.8**	**-2.1**
	0.3nm,0.3s,baz=216,slow=13,SNR=67								
KHON	**Khomkaen**	**16.24**	**36**	P		**P**	**21 44 29.6**	**-0.5**
	31nm,1.0s								
LAMP	**Lampang**	**16.54**	**23**	P		**Pn**	**21 44 30.3**	**-0.6**
	14nm,0.8s,107nm								
CHTO	**Chiang Mai**	**16.55**	**20**	P		**Pn**	**21 44 28.9**	**-2.2**
	113nm,1.3s,2μm								
CHTO	**Chiang Mai**	**16.55**	**20**	*e*Pn		**Pn**	**21 44 28.2**	**-2.9**
	37nm,1.2s								
CHTO	**Chiang Mai**	**16.55**	**20**	*e*P		**Pn**	**21 44 28.2**	**-2.9**
CHTO				pmax		pmax			
	comp=Z,37nm,1.2s								
SKHT	**Srikalahasti**	**16.72**	**309**	*e*P		**Pn**	**21 44 32.1**	**-1.1**
DBJI	**Dramaga**	**16.88**	**125**	P		**P**	**21 44 37.3**	**+0.1**
VIS	**Vishakhapatnam**	**17.20**	**327**	*e*P		**Pn**	**21 44 36.9**	**-2.3**
VIS				IAmb		IAmb	21 44 38.5		
	comp=Z,40nm,0.2s								
VIS				*i* x		x	21 47 37.4		
PAYA	**Payao**	**17.39**	**22**	P		**Pn**	**21 44 41.6**	**0.0**
	comp=Z,9.4nm,0.9s,comp=Z,132nm								
SKNT	**Sakolnakorn**	**17.43**	**38**	P		**Pn**	**21 44 40.0**	**-2.1**
	comp=Z,21nm,0.9s								
KSM	**Kuching**	**17.45**	**95**	*e*Pn		**Pn**	**21 44 42.4**	**+0.1**
	comp=Z,224nm,1.2s								
CHLP	**Challavanipeta**	**17.48**	**331**	*e*P		**Pn**	**21 44 41.2**	**-1.5**
CMAI	**Chiengmai2**	**17.63**	**19**	P		**P**	**21 44 51.8**	**+6.2**
LEM	**Lembang**	**17.74**	**124**	P		**P**	**21 44 51.5**	**+4.6**
	comp=Z,1.4nm,0.3s,baz=311,slow=20,SNR=4.0								
LEM				LR		LR	21 52 20.1		
	comp=Z,720nm,19.3s,baz=299,slow=40								
PVM	**Polavaram**	**17.81**	**322**	*e*P		**Pn**	**21 44 46.4**	**-0.4**
ADKI	**Addanki**	**17.88**	**315**	*e*P		**Pn**	**21 44 47.8**	**+0.1**
CISI	**Cisompet, Garu**	**18.32**	**126**	P		**P**	**21 44 55.2**	**+2.0**
	comp=Z,80nm,0.9s								
CISI	**Cisompet, Garu**	**18.32**	**126**	*e*Pn		**P**	**21 44 53.8**	**+0.7**
	comp=Z,54nm,0.7s								
STKI	**Sintang**	**18.80**	**99**	P		**Pn**	**21 45 00.2**	**+1.3**
	comp=Z,88nm,1.2s,comp=Z,4μm								
SRLM	**Srisailam**	**18.82**	**314**	*e*P		**P**	**21 44 57.9**	**-0.7**
NJS	**Nagarjunasagar**	**18.83**	**316**	*e*P		**P**	**21 44 58.5**	**-0.2**
KPJI	**Karang Pucung**	**19.11**	**123**	P		**Pn**	**21 45 03.6**	**+0.9**
	comp=Z,38nm,1.5s								
SAIH	**SAIHA**	**19.13**	**0**	*e*P		**P**	**21 45 01.6**	**-0.5**
SAIH				IAmb		IAmb	21 45 03.9		
	comp=Z,35nm,0.5s								
SBUM	**Sibu**	**19.28**	**92**	*e*P		**Pn**	**21 45 05.1**	**+0.4**
	comp=Z,176nm,1.5s								
URV	**Uravakonda**	**19.34**	**308**	*e*P		**P**	**21 45 04.1**	**-0.3**
HYB	**Hyderabad**	**19.94**	**316**	*i* P		**Pn**	**21 45 12.0**	**-0.6**
HYB				*e*			21 48 38.0		
HYB	**Hyderabad**	**19.94**	**316**	*e*P		**P**	**21 45 10.0**	**-1.0**
HYB				IAmb		IAmb	21 45 13.6		
	comp=Z,16nm,1.0s								
BELO	**BELONIA**	**19.94**	**356**	*e*P		**Pn**	**21 45 11.8**	**-0.7**
HYBB	**Hyderabad (bro**	**19.94**	**316**	*e*P		**P**	**21 45 10.7**	**-0.3**
RPR	**Rampur**	**20.47**	**320**	*e*P		**P**	**21 45 16.5**	**-0.1**
AGT	**Agartala**	**20.59**	**356**	*e*P		**P**	**21 45 18.4**	**+0.6**
AGT				IAmb		IAmb	21 45 21.9		
	comp=Z,80nm,0.9s								
SRSP	**Sriramsagar**	**21.14**	**319**	*e*P		**P**	**21 45 22.9**	**-1.0**
BOK	**Bokaro**	**21.54**	**342**	*e*P		**P**	**21 45 29.0**	**+0.9**
KLRI	**Killari**	**21.76**	**314**	*e*P		**P**	**21 45 30.2**	**-0.4**
SHL	**Shillong**	**22.22**	**357**	*e*P		**P**	**21 45 33.6**	**-2.0**
SHL				IAmb		IAmb	21 45 38.9		
	comp=Z,37nm,0.5s								
SHL	**Shillong**	**22.22**	**357**	*e*P		**P**	**21 45 34.1**	**-1.5**
	comp=Z,154nm,0.9s								
SHL	**Shillong**	**22.22**	**357**	*e*P		**P**	**21 45 34.1**	**-1.5**
SHL				pmax		pmax			
	comp=Z,154nm,0.9s								
TURI	**Tura**	**22.32**	**354**	*e*P		**P**	**21 45 34.5**	**-2.0**
NGP	**Nagpur**	**22.35**	**324**	*e*P		**P**	**21 45 34.2**	**-2.7**
NGP				⇑*e*S		**S**	**21 49 41.8**	**-0.5**
NGP				*ex*		x	21 50 17.3		
	comp=Z,97nm,1.2s								
KOHI	**KOHIMA**	**22.38**	**3**	*e*P		**P**	**21 45 35.8**	**-1.5**
QIZ	**Qiongzhong**	**22.79**	**45**	P		**P**	**21 45 43.5**	**+1.9**
QIZ				S		**S**	**21 49 47.5**	**-2.9**
QIZ				LR		LR			
	comp=Z,4μm,13.2s								
QIZ				LR		LR			
	comp=Z,3μm,16.7s								
QIZ				LR		LR			
	comp=Z,1μm,13.7s								
DHUB	**DHUBRI**	**22.82**	**353**	*e*P		**P**	**21 45 43.6**	**+1.7**
DHUB				IAmb		IAmb	21 45 50.6		
	comp=Z,67nm,0.9s								
GUWA	**GUWAHATI**	**22.85**	**357**	*e*P		**P**	**21 45 42.1**	**-0.1**
GUWA				IAmb		IAmb	21 45 47.4		
	comp=Z,31nm,0.7s								
MOKO	**MOKOCHONG**	**23.00**	**4**	*e*P		**P**	**21 45 42.1**	**-1.7**
MOKO				IAmb		IAmb	21 45 43.8		
	comp=Z,65nm,0.4s								
H08S2	**Diego Garcia H**	**23.09**	**242**	T		T	22 11 22.6		
	baz=65,slow=74,SNR=6.1								
H08S3	**Diego Garcia H**	**23.09**	**242**	T		T	22 11 37.9		
	baz=65,SNR=44								
H08S1	**Diego Carcia H**	**23.10**	**242**	T		T	22 11 03.7		
	baz=65,slow=74,SNR=13								
TEZP	**TEZPUR**	**23.24**	**360**	*e*P		**P**	**21 45 44.4**	**-1.7**
TEZP				IAmb		IAmb	21 45 47.6		
	comp=Z,11nm,0.7s								
KKM	**Kota Kinabalu**	**23.37**	**82**	*e*P		**P**	**21 45 48.0**	**+0.3**
	comp=Z,124nm,1.3s								
JORH	**JORHAT**	**23.40**	**3**	*e*P		**P**	**21 45 46.7**	**-1.1**
KMI	**Kunming**	**23.71**	**23**	P		**P**	**21 45 52.5**	**+1.4**
KMI				pP		sP	21 46 00.5	+2.9	
KMI				PP		**PnPn**	**21 46 27.5**	**+8.7**
KMI				S		**S**	**21 50 07.3**	**+1.3**
KMI				SS		**SnSn**	**21 50 50.5**	**+6.3**
KMI				pmax		pmax			
	comp=Z,13nm,1.7s								
KMI				pmax		pmax			
	comp=Z,170nm,3.9s								
KMI				LR		LR			
	comp=Z,1μm,13.5s								
KMI				LR		LR			
	comp=Z,2μm,14.4s								
KMI				LR		LR			
	comp=Z,2μm,14.6s								
ITAN	**ITANAGAR**	**23.78**	**2**	*e*P		**P**	**21 45 49.1**	**-2.4**
ODAN	**Odare**	**24.08**	**348**	*e*P		**P**	**21 45 55.0**	**+0.4**
	comp=Z,358nm,1.3s								
GTK	**Tadong**	**24.30**	**351**	*e*P		**P**	**21 45 55.6**	**-0.9**
GTK				IAmb		IAmb	21 45 59.9		
	comp=Z,14nm,0.6s								
GTK	**Tadong**	**24.30**	**351**	*e*P		**P**	**21 45 55.6**	**-0.9**
RAMN	**Ramite**	**24.34**	**346**	*e*P		**P**	**21 45 58.1**	**+1.1**
	comp=Z,231nm,1.1s								
JIRN	**Jiri**	**25.12**	**346**	*e*P		**P**	**21 46 04.7**	**+0.5**
	comp=Z,543nm,1.1s								
DMN	**Daman**	**25.36**	**344**	*e*P		**P**	**21 46 07.4**	**+1.2**
	comp=Z,164nm,0.8s								
GUN	**Gumba**	**25.44**	**345**	*e*P		**P**	**21 46 07.4**	**+0.3**
	comp=Z,130nm,0.8s								
KKN	**Kakani**	**25.48**	**344**	*e*P		**P**	**21 46 07.6**	**+0.3**
	comp=Z,372nm,1.4s								
MYLDM	**Lahad Datu**	**25.57**	**85**	*e*P		**P**	**21 46 08.2**	**+0.2**
	comp=Z,232nm,1.6s								
GKN	**Gorkha**	**25.87**	**343**	*e*P		**P**	**21 46 11.2**	**+0.5**
	comp=Z,267nm,1.0s								
KOLN	**Koldanda**	**25.97**	**341**	*e*P		**P**	**21 46 12.5**	**+0.8**
	comp=Z,119nm,0.9s								
LSA	**Lhasa**	**26.37**	**356**	P		**P**	**21 46 16.5**	**+0.9**
LSA				pmax		pmax			
	comp=Z,6.0nm,0.6s								
LSA	**Lhasa**	**26.37**	**356**	P		**P**	**21 46 16.6**	**+1.0**
DANN	**Dangsing**	**26.46**	**342**	*e*P		**P**	**21 46 16.5**	**+0.3**
	comp=Z,159nm,0.8s								
PYUN	**Piuthan**	**26.48**	**340**	*e*P		**P**	**21 46 16.9**	**+0.6**
	comp=Z,222nm,1.2s								
GYA	**Guiyang**	**26.57**	**28**	⇑*i* P		**P**	**21 46 17.3**	**+0.2**
GYA				PP		**PnPn**	**21 47 02.8**	**+5.1**
GYA				S		**S**	**21 50 51.3**	**-0.1**
GYA				SS		**SnSn**	**21 52 01.8**	**+7.8**
GYA				pmax		pmax			
	comp=Z,20nm,0.8s								
GYA				pmax		pmax			
	comp=Z,130nm,5.0s								
GYA				LR		LR			
	comp=Z,580nm,17.3s								
GYA				LR		LR			
	comp=Z,560nm,17.6s								
GYA				LR		LR			
	comp=Z,520nm,17.7s								
CD2	**Chengdu**	**29.36**	**19**	⇑P		**P**	**21 46 41.8**	**-0.1**
CD2				pP		pP	21 46 44.8	-1.7	
CD2				sP		sP	21 46 46.0	-2.4	
CD2				S		**S**	**21 51 36.5**	**+1.5**
CD2				sS		sS	21 51 41.8	-0.9	
CD2				pmax		pmax			
	comp=Z,20nm,0.5s								
CD2				pmax		pmax			
	comp=Z,120nm,6.0s								
CD2				LR		LR			
	comp=Z,2μm,14.4s								
CD2				LR		LR			
	comp=Z,2μm,14.4s								
CD2				LR		LR			
	comp=Z,1μm,13.9s								
TGY	**Tagaytay City**	**29.67**	**67**	LR		LR	21 59 35.5		
	comp=Z,353nm,19.5s,baz=234,slow=38								
SMLA	**Simla**	**31.48**	**333**	*e*P		**P**	**21 46 59.3**	**-1.2**
SMLA				IAmb		IAmb	21 47 11.3		
	comp=Z,85nm,1.1s								
DAV	**Davao City (W)**	**32.72**	**82**	LR		LR	22 01 28.2		
	comp=Z,671nm,21.9s,baz=259,slow=38								
QZH	**Quanzhou**	**32.80**	**47**	*e*P		**P**	**21 47 13.5**	**+1.3**
QZH				S		**S**	**21 52 28.3**	**-0.6**
QZH				LR		LR			
	comp=Z,2μm,13.8s								
BATI	**Baumata**	**33.39**	**114**	LR		LR	22 04 02.3		
	comp=Z,1μm,18.4s,baz=298,slow=42								
WHN	**Wuhan**	**33.87**	**34**	P		**P**	**21 47 22.0**	**+0.5**
WHN				S		**S**	**21 52 40.5**	**-4.9**
WHN				LR		LR			
	comp=Z,3μm,12.1s								
XAN	**Xi'an**	**34.07**	**24**	P		**P**	**21 47 22.0**	**-1.3**
XAN				pP		pP	21 47 26.3	-1.7	
XAN				sP		sP	21 47 29.0	-0.9	
XAN				PP		**PnPn**	**21 48 33.0**	**-3.9**
XAN				S		**S**	**21 52 42.3**	**-6.3**
XAN				pmax		pmax			
	comp=Z,9.0nm,1.1s								
XAN				LR		LR			
	comp=Z,1μm,14.6s								
XAN				LR		LR			
	comp=Z,850nm,13.0s								
XAN				LR		LR			
	comp=Z,2μm,14.1s								
LZH	**Lanzhou**	**34.20**	**16**	*e*P		**P**	**21 47 24.3**	**-0.2**
LZH				pP		sP	21 47 32.5	+1.4	
LZH				sP		pP	21 47 38.0	+8.8	
LZH				pmax		pmax			
	comp=Z,13nm,0.7s								
LZH				pmax		pmax			
	comp=Z,96nm,4.1s								
NIL	**Nilore**	**35.40**	**331**	*e*P		**P**	**21 47 34.1**	**-0.7**
	comp=Z,72nm,0.7s								
NIL	**Nilore**	**35.40**	**331**	*e*P		**P**	**21 47 34.1**	**-0.7**
NIL				pmax		pmax			
	comp=Z,72nm,0.7s								
GTA	**Gaotai**	**36.54**	**9**	P		**P**	**21 47 44.5**	**-0.1**
GTA				pP		sP	21 47 50.8	-0.4	
GTA				sP		pP	21 47 54.0	+4.7	
GTA				S		**S**	**21 53 28.0**	**+1.4**
GTA				sS		sS	21 53 38.0	+3.7	
GTA				ScP		**ScP**	**21 53 54.0**	**-0.4**
GTA				SS		**SnSn**	**21 55 56.3**	**+0.2**
GTA				pmax		pmax			
	comp=Z,5.0nm,1.0s								
GTA				pmax		pmax			
	comp=Z,77nm,5.3s								
GTA				LR		LR			
	comp=Z,460nm,15.6s								
GTA				LR		LR			
	comp=Z,540nm,13.8s								
GTA				LR		LR			
	comp=Z,550nm,18.1s								
NJ2	**Nanjing**	**37.61**	**37**	*e*P		**P**	**21 47 54.0**	**+0.4**
NJ2				pmax		pmax			
	comp=Z,16nm,0.7s								
NJ2				LR		LR			
	comp=Z,1μm,12.5s								
NJ2				LR		LR			
	comp=Z,2μm,16.3s								
NJ2				LR		LR			
	comp=Z,1μm,14.1s								
KBL	**Kabul**	**38.26**	**327**	*e*P		**P**	**21 48 03.7**	**+4.4**
	comp=Z,12nm,1.4s								
KBL	**Kabul**	**38.26**	**327**	*e*P		**P**	**21 48 03.7**	**+4.4**
KBL				pmax		pmax			
	comp=Z,12nm,1.4s								
SIJI	**Sorong**	**38.53**	**95**	P		**P**	**21 48 01.6**	**-0.1**
	comp=Z,7.5nm,0.9s,baz=180,slow=20,SNR=3.5								
FITZ	**Fitzroy Crossi**	**38.58**	**125**	P		**P**	**21 48 01.5**	**-0.4**
	baz=39,SNR=4.0								
FITZ	**Fitzroy Crossi**	**38.58**	**125**	*e*P		**P**	**21 48 01.1**	**-0.8**
	comp=Z,19nm,1.4s								
TIY	**Taiyuan**	**38.68**	**25**	*e*P		**P**	**21 48 05.8**	**+3.1**
TIY				S		**S**	**21 53 57.0**	**-2.0**
TIY				SS		**SnSn**	**21 56 40.5**	**-7.3**
TIY				LR		LR			
	comp=Z,240nm,9.8s								
TIY				LR		LR			
	comp=Z,2μm,18.7s								
TIY				LR		LR			
	comp=Z,390nm,20.2s								
MEEK	**Meekatharra**	**38.71**	**142**	P		**P**	**21 48 04.3**	**+1.3**
	baz=39,SNR=5.7								
KSH	**Kashi**	**39.26**	**339**	P		**P**	**21 48 09.5**	**+2.0**
KSH				sP		sP	21 48 15.5	+1.3	
KSH				S		**S**	**21 54 03.0**	**-4.8**
KSH				SS		**SS**	**21 56 50.0**	**-11**
KSH				ScS		**ScS**	**21 58 13.0**	**-3.4**
KSH				pmax		pmax			
	comp=Z,19nm,0.7s								
KSH				pmax		pmax			
	comp=Z,200nm,3.4s								
KSH				LR		LR			
	comp=Z,320nm,4.8s								
KSH				LR		LR			
	comp=Z,510nm,6.7s								
KSH				LR		LR			
	comp=Z,890nm,13.6s								
WMQ	**Urumqi**	**40.67**	**354**	P		**P**	**21 48 19.0**	**-0.2**
WMQ				pP		pP	21 48 24.0	+0.1	
WMQ				sP		sP	21 48 28.5	+2.7	
WMQ				PP		**PnPn**	**21 49 58.5**	**+1.4**
WMQ				S		**S**	**21 54 32.0**	**+3.2**
WMQ				pmax		pmax			
	comp=Z,19nm,0.9s								
WMQ				pmax		pmax			
	comp=Z,200nm,3.7s								
WMQ				LR		LR			
	comp=Z,990nm,23.9s								
WMQ				LR		LR			
	comp=Z,1μm,15.3s								
WMQ				LR		LR			
	comp=Z,1μm,27.3s								
SOHO	**SOHO**	**40.80**	**304**	*i* P		**P**	**21 48 20.8**	**+0.4**
	SNR=5.5								
NRN	**Naryn**	**40.96**	**340**	P		**P**	**21 48 22.3**	**+0.5**
NRN				pmax		pmax			
	comp=Z,25nm,1.2s								
HHC	**Hu-ho-hao-te**	**41.03**	**22**	*e*P		**P**	**21 48 22.8**	**+0.6**
HHC				pP		sP	21 48 29.5	+0.6	
HHC				sP		pP	21 48 32.8	+5.8	
HHC				PP		**PnPn**	**21 50 05.3**	**+3.9**
HHC				S		**S**	**21 54 36.3**	**+2.0**
HHC				pmax		pmax			
	comp=Z,36nm,1.0s								
HHC				pmax		pmax			
	comp=Z,120nm,5.1s								
HHC				LR		LR			
	comp=Z,1μm,13.7s								
HHC				LR		LR			
	comp=Z,1μm,13.8s								
HHC				LR		LR			
	comp=Z,1μm,13.5s								
JOW	**Kunigami**	**41.15**	**52**	LR		LR	22 06 20.7		
	comp=Z,304nm,18.1s,baz=202,slow=38								
PRZ	**Przheval'sk**	**41.17**	**344**	P		**P**	**21 48 24.9**	**+1.5**
PRZ				pmax		pmax			
	comp=Z,58nm,1.1s								
KDJ	**Kajisay**	**41.21**	**342**	*e*P		**P**	**21 48 24.1**	**+0.4**
	comp=Z,31nm,1.0s								
KDJ	**Kajisay**	**41.21**	**342**	P		**P**	**21 48 24.1**	**+0.4**
KDJ				pmax		pmax			
	comp=Z,31nm,1.1s								
ALNE	**Al Ain**	**41.42**	**303**	*i* P		**P**	**21 48 26.6**	**+1.1**
	SNR=11								
ULHL	**Ulahol**	**41.61**	**341**	P		**P**	**21 48 27.4**	**+0.4**
	SNR=10								
PDGK	**Podgornoye**	**41.67**	**345**	*i* P		**P**	**21 48 27.4**	**0.0**
PDGK				pmax		pmax			
	comp=Z,43nm,1.1s								
KZA	**Kyzart**	**41.78**	**340**	P		**P**	**21 48 29.1**	**+0.4**
	SNR=5.2								
UCH	**Uchtor**	**42.17**	**340**	P		**P**	**21 48 32.3**	**+0.4**
	SNR=13								
AML	**Almayashu**	**42.38**	**339**	P		**P**	**21 48 34.0**	**+0.4**
	SNR=16								
KBK	**Karagaybulak**	**42.40**	**340**	P		**P**	**21 48 34.2**	**+0.7**
	SNR=16								
TKM2	**Tokmak 2**	**42.42**	**341**	P		**P**	**21 48 33.8**	**+0.1**
	SNR=9.1								
AAK	**Ala-Archa**	**42.54**	**340**	*e*P		**P**	**21 48 35.2**	**+0.7**
	comp=Z,13nm,1.1s								
AAK	**Ala-Archa**	**42.54**	**340**	⇓*e*P		**P**	**21 48 35.1**	**+0.5**
AAK				pmax		pmax			
	comp=Z,8.0nm,1.4s								
NWAO	**Narrogin (SRO)**	**42.70**	**149**	P		**P**	**21 48 36.6**	**+0.8**
	comp=Z,12nm,0.9s,baz=180,slow=6.8,SNR=6.3								
NWAO				LR		LR	22 05 45.3		
	comp=Z,669nm,18.2s,baz=204,slow=35								
CHMS	**Chumysh**	**42.77**	**340**	P		P	21 48 42.9	+6.6	
	SNR=5.6								
EKS2	**Erkin-Say**	**42.81**	**339**	P		**P**	**21 48 37.4**	**+0.7**
	SNR=9.0								
H01W3	**Cape Leeuwin H**	**42.84**	**154**	T		T	22 35 04.5		
	baz=331,slow=76,SNR=34								
H01W2	**Cape Leeuwin H**	**42.85**	**154**	T		T	22 35 07.0		
	baz=331,slow=76,SNR=18								
H01W1	**Cape Leeuwin H**	**42.85**	**154**	T		T	22 34 48.8		
	baz=331,slow=76,SNR=17								
MNAS	**Manas**	**43.13**	**338**	*i* P		**P**	**21 48 38.6**	**-0.7**
MNAS				pmax		pmax			
	comp=Z,27nm,1.3s								
DL2	**Dalian**	**44.07**	**33**	P		**P**	**21 48 44.8**	**-2.0**
DL2				S		**S**	**21 55 15.8**	**-3.0**
DL2				pmax		pmax			
	comp=Z,8.0nm,0.9s								
DL2				LR		LR			
	comp=Z,660nm,11.7s								
DL2				LR		LR			
	comp=Z,720nm,13.1s								
DL2				LR		LR			
	comp=Z,820nm,15.1s								
KMBL	**Kambalda**	**44.09**	**143**	P		**P**	**21 48 48.0**	**+0.9**
	baz=44								
MK01	**Makanchi Array**	**44.33**	**350**	*e*P		**P**	**21 48 48.6**	**-0.3**
MK31	**Makanchi Array**	**44.36**	**350**	*e*P		**P**	**21 48 49.0**	**0.0**
MK31	**Makanchi Array**	**44.36**	**350**	*ce*P		**P**	**21 48 48.5**	**-0.5**
M

GYA0B **ALIBECK ARRAY** 46.96 322 *e*P P 21 49 10.3 +0.5
comp=Z,29nm,1.1s
KNGR **Kungurtug, Tuv** 47.35 4⇑ *e*P P 21 49 13.6 +0.9
HVS **Khovu-Aksy** 47.73 1⇑ *e*P P 21 49 16.6 +1.0
HVS pmax pmax
comp=Z,25nm,1.0s
ZAK **Zakamensk** 47.78 9 *e*P P 21 49 16.4 +0.4
ZAK pmax pmax
comp=Z,4.0nm,1.1s
ASAR **Alice Springs** 48.02 126 P P 21 49 18.2 -0.1
comp=Z,2.0nm,0.7s,baz=298,slow=7.8,SNR=18
ASAR LR LR 22 11 44.4
comp=Z,277nm,20.9s,baz=306,slow=39
AS01 **Alice Springs** 48.06 126 *e*P P 21 49 18.1 -0.4
KURBB **Kurchatov Arra** 48.76 348 P P 21 49 23.5 +0.1
comp=Z,4.6nm,0.7s,baz=169,slow=7.1,SNR=33
KURK **Kurchatov** 48.83 348 *e*P P 21 49 24.1 +0.2
comp=Z,25nm,1.1s
KURK **Kurchatov** 48.83 348 *de*P P 21 49 23.8 -0.1
KURK pmax pmax
comp=Z,16nm,1.7s
TLY **Talaya** 49.10 9⇑ *e*P P 21 49 23.7 -2.4
TLY pmax pmax
comp=Z,4.0nm,0.7s
CN2 **Changchun** 49.58 31 *e*P P 21 49 33.5 +3.6
CN2 *e*S S 21 56 39.5 +2.0
CN2 pmax pmax
comp=Z,20nm,1.0s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=Z,430nm,15.0s
CN2 LR LR
comp=Z,710nm,15.0s
CN2 LR LR
comp=Z,560nm,16.0s
OPO **Ambohidratompo** 49.98 243 LR LR 22 07 41.8
comp=Z,631nm,18.1s,baz=60,slow=32
RAYN **Ar Rayn** 50.04 298 *e*P P 21 49 33.8 0.0
comp=Z,13nm,0.8s
RAYN **Ar Rayn** 50.04 298 P P 21 49 33.8 0.0
RAYN pmax pmax
comp=Z,13nm,0.8s
ATD **Arta Tunnel** 50.28 282 LR LR 22 08 26.9
comp=Z,259nm,18.7s,baz=120,slow=33
ZALV **Zalesovo Beam** 50.98 354 P P 21 49 40.3 0.0
comp=Z,6.3nm,0.5s,baz=186,slow=7.6,SNR=11
ZALV LR LR 22 13 44.5
comp=Z,508nm,19.5s,baz=199,slow=39
HIA **Hailar** 51.23 22⇑ *e*P P 21 49 42.8 +0.5
HIA pmax pmax
comp=Z,4.0nm,0.9s
NVS **Novosibirsk** 52.04 353 *e*P P 21 49 47.4 -0.8
NVS *e*S S 21 57 14.0 +2.8
NVS pmax pmax
comp=Z,16nm,0.9s
NVS pmax pmax
comp=N,9.0nm,0.8s
NVS pmax pmax
comp=E,13nm,0.8s
NVS smax smax
comp=E,12nm,1.4s
GUMO **Guam** 52.29 75 LR LR 22 11 42.0
comp=E,262nm,20.5s,baz=247,slow=36
MDJ **Mudanjiang** 52.31 33 P P 21 49 58.0 +7.6
MDJ pmax pmax
comp=Z,8.0nm,0.8s
MDJ pmax pmax
comp=Z,110nm,5.0s
BVAR **Borovoye Array** 53.00 343 P P 21 49 54.7 -0.7
comp=Z,5.1nm,0.8s,baz=138,slow=7.0,SNR=19
BVAR LR LR 22 14 11.9
comp=Z,329nm,18.4s,baz=158,slow=38
BRVK **Borovoye** 53.06 343⇑ *e*P P 21 49 55.5 -0.3
BRVK pmax pmax
comp=Z,6.0nm,1.0s
MJAR **Matsushiro Arr** 53.19 46 P P 21 49 57.4 +0.3
comp=Z,1.0nm,0.5s,baz=245,slow=7.2,SNR=3.9
MJAR LR LR 22 14 01.8
comp=Z,622nm,19.3s,baz=295,slow=38
USRK **Ussuriysk Ar.** 53.37 34 LR LR 22 13 19.8
comp=Z,355nm,19.5s,baz=216,slow=37
ABKAR **Akbulak array** 53.76 334 *e*P P 21 50 00.2 -0.9
PMG **Port Moresby** 55.47 104 LR LR 22 16 47.5
comp=Z,262nm,19.4s,baz=282,slow=39
AKTO **Aktyubinsk** 55.48 334 P P 21 50 13.4 0.0
comp=Z,1.3nm,0.7s,baz=132,slow=12,SNR=4.8
AKTO LR LR 22 14 42.6
comp=Z,344nm,20.8s,baz=141,slow=37
KMBO **Kilima Mbogo** 55.83 266 P P 21 50 18.0 +1.1
comp=Z,2.5nm,0.4s,baz=30,slow=2.6,SNR=7.4
KMBO LR LR 22 11 45.8
comp=Z,647nm,19.1s,baz=86,slow=34
KMBO **Kilima Mbogo** 55.83 266 *e*P P 21 50 17.7 +0.8
comp=Z,8.4nm,1.1s
KMBO **Kilima Mbogo** 55.83 266 *e*P P 21 50 17.7 +0.8
KMBO pmax pmax
comp=Z,8.0nm,1.1s
KLR **Kul'dur** 56.47 30⇑ *e*P P 21 50 20.4 -0.2
GNI **Garni** 56.89 317 P P 21 50 24.9 +0.9
comp=Z,6.5nm,0.8s,baz=338,slow=7.5,SNR=6.8
GNI LR LR 22 16 03.3
comp=Z,148nm,21.4s,baz=94,slow=37
GNI **Garni** 56.89 317 *e*P P 21 50 24.4 +0.4
comp=Z,13nm,1.0s
GNI **Garni** 56.89 317 P P 21 50 24.5 +0.5
GNI **Garni** 56.89 317⇑ *e*P P 21 50 24.8 +0.8
GNI pmax pmax
comp=Z,24nm,1.0s
BOD **Bodaibo** 56.90 13 *e*P P 21 50 23.3 -0.2
BOD pmax pmax
comp=Z,13nm,1.0s
TBLG **Delisi** 57.63 319 *e*P P 21 50 29.7 +0.7
comp=Z,18nm,0.9s
TBLG **Delisi** 57.63 319 *e*P P 21 50 29.7 +0.7
TBLG pmax pmax
comp=Z,18nm,0.9s
ZEA **Zeya** 57.65 23 *e*P P 21 50 29.0 +0.1
STKA **Stephens Creek** 57.89 131 P P 21 50 31.4 +0.4
comp=Z,2.6nm,0.7s,baz=309,slow=5.8,SNR=2.9
ZEI **Tsey** 58.68 319 *e*P P 21 50 35.5 -1.0
ZEI pmax pmax
comp=Z,8.0nm,0.9s
ONI **Oni** 58.88 319 *e*P P 21 50 37.8 0.0
SVE **Sverdlovsk** 59.28 340 *e*P P 21 50 39.3 -0.9
SVE pmax pmax
comp=Z,21nm,1.1s
ARU **Arti** 59.70 339 *e*P P 21 50 42.1 -1.0
comp=Z,8.4nm,1.0s
ARU **Arti** 59.70 339 *c i*P P 21 50 42.5 -0.6
ARU 21 51 23.8
ARU 21 52 55.0
ARU S S 21 58 56.5 +3.3
ARU SS SS 22 02 49.5 +0.4
ARU pmax pmax
comp=Z,18nm,2.5s
KBZ **Khabaz** 59.76 320 P P 21 50 43.7 0.0
comp=Z,5.0nm,0.8s,baz=120,slow=5.0,SNR=16
KBZ LR LR 22 19 41.7
comp=Z,160nm,18.8s,baz=104,slow=39
ASF **Jabal al Asfar** 59.82 306 P P 21 50 44.1 -0.4
comp=Z,3.9nm,0.9s,baz=107,slow=5.2,SNR=5.3
KIV **Kislovodsk** 60.01 320 *e*P P 21 50 45.5 -0.1
comp=Z,16nm,1.0s
KIV **Kislovodsk** 60.01 320 P P 21 50 45.5 -0.1
KIV **Kislovodsk** 60.01 320 *e*P P 21 50 45.2 -0.4
KIV pmax pmax
comp=Z,17nm,1.1s
GOF **Gofitskoye** 60.30 321⇑ *e*P P 21 50 56.3 +8.9
CMSA **Cobar Meteorol** 60.88 129 P P 21 50 52.5 +0.9
baz=61,SNR=6.5
YSS **Yuzh-Sakhalins** 61.17 37 *e*P P 21 51 03.8 +11
YSS *e* 21 51 07.3
YSS *e* 21 53 09.0
YSS *e*PPP PPP 21 54 33.0
YSS pmax pmax
comp=Z,10.0nm,0.6s
MMAI **Mount Meron Ar** 61.26 306 P P 21 50 55.9 +1.6
comp=Z,3.5nm,0.7s,baz=95,slow=10,SNR=11
MMAI LR LR 22 19 21.7
comp=Z,409nm,18.0s,baz=130,slow=38
YNG **Young** 64.08 131 P P 21 51 13.8 +0.7
baz=64
BR131 **Keskin Array S** 64.60 313 *e*P P 21 51 16.0 -0.5
BRTR **Keskin Array B** 64.60 313 P P 21 51 15.9 -0.5
comp=Z,2.7nm,0.8s,baz=128,slow=7.0,SNR=20
BRTR LR LR 22 21 07.6
comp=Z,164nm,20.8s,baz=112,slow=38
BRTR **Keskin Array B** 64.60 313 P P 21 51 16.0 -0.5
YAK **Yakutsk** 64.74 18 *e*P P 21 51 15.5 -1.2
YAK *e**PP sP 21 51 24.2 +0.6
YAK *e* 21 51 47.7
YAK *e*PPP PPP 21 55 12.0
YAK *e*S S 21 59 56.8 +0.3
YAK *e**SS sS 22 00 15.8 +11
YAK *e* 22 01 04.0
YAK *e*SS SS 22 04 13.0 +5.3
YAK *e*SSS SSS 22 06 52.3
YAK pmax pmax
comp=Z,13nm,1.1s
YAK pmax pmax
comp=N,4.0nm,1.4s
YAK pmax pmax
comp=E,7.0nm,1.3s
YAK smax smax
comp=E,38nm,3.2s
YAK MLR MLR
comp=Z,504nm,13.0s
YAK MLR MLR
comp=E,216nm,13.0s
YAK MLR MLR
comp=N,448nm,13.0s
ILGA **Ilgaz** 64.97 314 *e*P P 21 51 19.6 +0.6
VSR **Storozhevoye** 65.49 326 *e*P P 21 51 23.0 +1.1
VSR *e**SP sP 21 51 29.0 +0.3
VSR pmax pmax
comp=Z,9.0nm,1.2s
LPSR **Galich'ya Gora** 66.27 327 *e*P P 21 51 27.4 +0.5
LPSR *e**SP sP 21 51 34.3 +0.6
LPSR pmax pmax
comp=Z,7.0nm,0.6s
HNR **Honiara** 67.94 101 LR LR 22 22 21.0
comp=Z,89nm,21.3s,baz=303,slow=37
KARP **Karpathos** 68.50 307 *e*P P 21 51 42.2 +0.8
OBN **Obninsk** 68.67 329 *e*P P 21 51 42.4 +0.4
OBN pmax pmax
comp=Z,11nm,0.4s
TIRR **Tirgusor** 69.71 316 *e*P P 21 51 47.5 -1.2
TIRR **Tirgusor** 69.71 316 *e*P P 21 51 47.5 -1.2
ROIA **ROIAK** 70.07 315 *e*P P 21 51 56.3 +5.3
PRD **Provadia** 70.08 315 *e*P P 21 51 50.7 -0.3
KLMR **Klimovskoe** 70.11 335 *e*P P 21 51 49.4 -1.4
KLMR AMP 21 51 59.7
comp=Z,28nm,1.5s
KLMR *e*PP PP 21 54 22.8 -3.1
KLMR LQ LQ 22 16 58.6
KLMR LQ LQ 22 16 58.6
KLMR LR LR 22 22 01.3
KLMR **Klimovskoe** 70.11 335 *e*P P 21 51 49.3 -1.5
KLMR *e* 21 54 22.7
KLMR pmax pmax
comp=Z,28nm,1.5s
IDI **Anoyia** 70.27 306 P P 21 51 53.0 +0.6
comp=Z,17nm,0.8s,baz=54,slow=6.7,SNR=14
IDI **Anoyia** 70.27 306 *e*P P 21 51 52.3 -0.1
AKASG **Malin Array Be** 71.06 323 P P 21 51 55.2 -1.6
comp=Z,0.5nm,0.4s,baz=89,slow=4.9,SNR=8.8
AKASG LR LR 22 27 01.7
comp=Z,140nm,18.8s,baz=95,slow=39
AKBB **Malin Array Si** 71.06 323 *e*P P 21 51 55.9 -0.9
AKBB **Malin Array Si** 71.06 323 *e*P P 21 51 55.9 -0.9
KIEV **Kiev** 71.07 323⇑ *e*P P 21 51 55.8 -1.0
KIEV pmax pmax
comp=Z,4.0nm,1.0s
DIM **Dimitrovgrad** 71.14 313 *e*P P 21 51 57.0 -0.5
MLR **Muntele Rosu** 71.67 317 P P 21 52 01.4 +0.6
comp=Z,2.7nm,0.9s,baz=79,slow=6.5,SNR=29
MLR LR LR 22 28 04.0
comp=Z,37nm,18.8s,baz=87,slow=40
MLR **Muntele Rosu** 71.67 317 *e*P P 21 52 01.2 +0.4
MLR **Muntele Rosu** 71.67 317 *e*P P 21 52 01.2 +0.4
TIXI **Tiksi** 71.98 11 *e*P P 21 52 01.1 -0.8
comp=Z,4.1nm,0.6s
TIXI **Tiksi** 71.98 11 *de*P P 21 52 01.2 -0.8
TIXI pmax pmax
comp=Z,8.0nm,1.2s
BOSA **Boshof** 72.14 239 P P 21 52 03.9 -0.1
comp=Z,3.9nm,0.9s,baz=82,slow=3.1,SNR=5.5
VOIR 72.27 317 ⇓ *i*P P 21 52 08.1 +3.8
VOIR 72.27 317 ⇓ P P 21 52 08.1 +3.8
BURAR **Bucovina Array** 72.69 319 ⇑ *i*P P 21 52 06.9 +0.1
BURAR **Bucovina Array** 72.69 319 ⇑ P P 21 52 06.9 +0.1
BUR04 **Bucovina Ar. S** 72.70 319 *e*P P 21 52 06.8 0.0
BUR08 **Bucovina Ar. S** 72.71 319 *e*P P 21 52 07.3 +0.3
VTS **Vitosha** 72.94 314 ⇑ *i*P P 21 52 08.0 -0.4
VTS **Vitosha** 72.94 314 *e*P P 21 52 08.1 -0.4
VTS **Vitosha** 72.94 314 *e*P P 21 52 08.1 -0.4
LIT **Litokhoron** 73.00 311 *e*P P 21 52 07.6 -1.1
LIT **Litokhoron** 73.00 311 *e*P P 21 52 07.6 -1.1
SEY **Seymchan** 73.61 24⇑ *e*P P 21 52 12.1 +0.3
MAW **Mawson** 73.79 192 P P 21 52 12.0 -0.7
comp=Z,4.3nm,0.9s,baz=354,slow=6.3,SNR=3.6
MAW **Mawson** 73.79 192 P P 21 52 12.0 -0.7
NACGM **Naroch** 73.80 327 *e* P P 21 52 13.0 -0.1
DEV **Deva** 73.84 317 ⇓ *i*P P 21 52 13.2 -0.3
DEV **Deva** 73.84 317 ⇓ P P 21 52 13.2 -0.3
IDID **Didziasalis** 73.95 327 *e*P P 21 52 13.9 0.0
IDID IAmb IAmb 21 52 24.2
comp=Z,8.3nm,1.0s
HERR **Herculane** 73.97 316 ⇓ *i*P P 21 52 13.5 -0.8
DRGR 74.16 318 ⇓ *i*P P 21 52 15.9 +0.4
DRGR 74.16 318 ⇓ P P 21 52 15.9 +0.4
IIGN **Ignalina** 74.24 327 *e*P P 21 52 15.7 0.0
IIGN IAmb IAmb 21 52 26.0
comp=Z,8.5nm,1.0s
IZAR **Zarasai** 74.35 327 *e*P P 21 52 16.2 0.0
IZAR IAmb IAmb 21 52 26.5
comp=Z,5.4nm,0.6s
TRPA **Tarpa** 74.57 319 ⇑ *i*P P 21 52 17.6 -0.1
SIRR **Siria** 74.77 317 ⇓ *i*P P 21 52 18.6 -0.3
VSU **Vasula** 74.96 330⇑ *e*P P 21 52 19.2 -0.5
VSU pmax pmax
comp=Z,25nm,1.0s
CRVS **Cervenica-Dubn** 75.43 320 *e*P P 21 52 21.5 -1.2
CRVS *e*PCP PcP 21 52 32.4 -3.4
CRVS **Cervenica-Dubn** 75.43 320 *e*P P 21 52 21.5 -1.2
CRVS *e* 21 52 32.4
CRVS pmax pmax
comp=Z,199nm,4.1s
SUW **Suwalki** 75.57 325 *e*P P 21 52 21.9 -1.4
SUW **Suwalki** 75.57 325 *e*P P 21 52 21.9 -1.4
STHS **Stebnicka Huta** 75.68 320 *e*P P 21 52 21.4 -2.7
STHS *e*pP pP 21 52 25.5 -3.6
STHS **Stebnicka Huta** 75.68 320 *e*P P 21 52 21.4 -2.7
STHS *e* 21 52 25.6
STHS pmax pmax
comp=Z,6.0nm,1.0s
PDG **Podgorica** 75.79 313 ⇓ *i*P P 21 52 22.4 -2.4
DZM **Mont Dzumac** 76.00 114 LR LR 22 27 52.1
comp=Z,350nm,19.1s,baz=5.0,slow=37
FINES **FINESS Array B** 76.24 333 P P 21 52 26.0 -1.0
comp=Z,3.4nm,0.9s,baz=100,slow=5.8,SNR=6.1
FINES LR LR 22 27 42.5
comp=Z,250nm,21.1s,baz=112,slow=37
FINES **FINESS Array B** 76.24 333 P P 21 52 26.0 -1.0
VYHS **Vyhne** 77.06 319 *e*P P 21 52 31.5 -0.5
VYHS *e*PCP PcP 21 52 41.6 -1.3
VYHS **Vyhne** 77.06 319 *e*P P 21 52 31.5 -0.5
VYHS *e* 21 52 41.7
VYHS pmax pmax
comp=Z,5.0nm,1.1s
BLY **Banja Luka** 77.61 315 *e*P P 21 52 34.9 -0.2
MODS **Modra-Piesok** 78.07 319 *e*P P 21 52 37.3 -0.3
MODS *e*PCP PcP 21 52 46.0 -1.2
MODS **Modra-Piesok** 78.07 319 *e*P P 21 52 37.3 -0.3
MODS *e* 21 52 46.0
MODS pmax pmax
comp=Z,26nm,1.2s
MORC **Moravsky Berou** 78.11 320 ⇑ *i*P P 21 52 38.4 +0.5
MORC **Moravsky Berou** 78.11 320 ⇑ P P 21 52 38.4 +0.5
KRLC **Kraliky** 78.64 320 *e*P P 21 52 41.1 +0.3
KRLC *e*PCP PcP 21 52 51.0 +1.3
KRLC **Kraliky** 78.64 320 *e*P P 21 52 41.1 +0.3
KRLC *e* 21 52 51.0
CONA **Conrad Observa** 78.94 318 *e*P P 21 52 43.0 +0.5
comp=Z,5.1nm,1.1s
DPC **Dobruska-Polom** 78.98 321 *e*P P 21 52 43.3 +0.7
DPC *e*PCP PcP 21 52 51.9 +0.7
DPC **Dobruska-Polom** 78.98 321 *e*P P 21 52 43.3 +0.7
DPC *e* 21 52 51.9
ARSA **Arzberg** 79.09 317 *e*P P 21 52 43.9 +0.6
comp=Z,7.5nm,0.8s,SNR=5.9
UPC **Upice** 79.19 321 *e*P P 21 52 45.1 +1.3
UPC *e*PCP PcP 21 52 53.8 +1.7
UPC **Upice** 79.19 321 *e*P P 21 52 45.1 +1.3
UPC *e* 21 52 53.8
ARCES **ARCESS Array B** 79.20 341 LR LR 22 31 03.2
comp=Z,316nm,19.4s,baz=122,slow=38
SOKA **Soboth** 79.35 317 *e*P P 21 52 44.8 0.0
comp=Z,15nm,1.1s,SNR=7.4
OBKA **Obir** 79.66 317 *e*P P 21 52 47.3 +0.8
comp=Z,7.2nm,0.9s
MOA **Molln** 80.00 318 *e*P P 21 52 47.2 -1.0
comp=Z,3.4nm,1.2s
PRU **Pruhonice** 80.06 320 *e*P P 21 52 49.2 +0.7
PRU *e*PCP PcP 21 52 58.7 +2.9
PRU **Pruhonice** 80.06 320 *e*P P 21 52 49.2 +0.7
PRU *e* 21 52 58.7
MYKA **Terra Mystica** 80.30 317 *e*P P 21 52 50.4 +0.5
comp=Z,10nm,1.1s
GERES **GERESS Array B** 80.48 319 P P 21 52 51.0 +0.1
comp=Z,7.6nm,1.0s,baz=94,slow=5.5,SNR=38
GERES LR LR 22 32 44.6
comp=Z,79nm,20.1s,baz=90,slow=39
GERES **GERESS Array B** 80.48 319 P P 21 52 51.0 +0.1
KBA **Koelnbreinsper** 80.54 317 *e*P P 21 52 51.4 +0.1
comp=Z,4.2nm,1.3s
BRG **Berggiesshubel** 80.55 321 *e*P P 21 52 51.6 +0.6
comp=Z,3.5nm,0.9s
BRG *i* 21 53 01.0
comp=Z,11nm,1.1s
BRG **Berggiesshubel** 80.55 321 *e*P P 21 52 51.6 +0.6
BRG *i* 21 53 01.0
BRG pmax pmax
comp=Z,14nm,0.9s
KHC **Kasperske Hory** 80.59 319 *e*P P 21 52 53.4 +2.0
KHC *ex* x 21 53 01.1
KHC *ex* x 21 56 07.0
KHC **Kasperske Hory** 80.59 319 *e*P P 21 52 53.2 +1.8
KHC **Kasperske Hory** 80.59 319 *e*P P 21 52 53.4 +2.0
KHC *e* 21 53 01.1
BILL **Bilibino** 80.81 21 *i*P P 21 52 53.0 +0.9
BILL *i* 21 53 02.6
BILL *i* 21 55 53.8
BILL pmax pmax
comp=Z,3.0nm,1.2s
BILL MLR MLR
comp=Z,563nm,17.0s
ABTA **Abfaltersbach** 81.08 317 *e*P P 21 52 54.1 0.0
comp=Z,5.6nm,1.0s
CLL **Collm** 81.18 321 *e*P P 21 52 54.0 -0.4
comp=Z,4.0nm,1.1s
CLL *i*P pP 21 52 58.7 -0.8
CLL *i*S P cP 21 53 03.8 +3.1
comp=Z,9.0nm,1.0s
CLL Lm MLR 22 32 00.0
comp=Z,200nm,18.8s
CLL **Collm** 81.18 321 *e*P P 21 52 54.0 -0.4
CLL *i* 21 52 58.7
CLL *i* 21 53 03.8
CLL pmax pmax
comp=Z,4.0nm,1.1s
WTTA **Wattenberg** 81.72 317 *e*P P 21 52 57.6 -0.1
comp=Z,6.8nm,1.0s
WATA **Walderalm** 81.77 317 *e*P P 21 52 57.1 -0.7
comp=Z,2.0nm,0.6s
HFS **Hagfors** 81.84 330 P P 21 52 57.9 +0.1
comp=Z,3.7nm,1.0s,baz=113,slow=11,SNR=6.6
HFS LR LR 22 32 43.6
comp=Z,165nm,20.9s,baz=98,slow=38
MOTA **Moosalm** 82.09 317 *e*P P 21 52 58.9 -0.6
comp=Z,11nm,0.8s,SNR=8.1
FETA **Feichten** 82.32 317 *e*P P 21 53 01.2 +0.4
comp=Z,12nm,1.1s
RETA **Reutte** 82.33 317 *i*P P 21 53 00.8 +0.1
comp=Z,10nm,1.2s
KEST **Kesra** 82.92 305 P P 21 53 05.5 +1.5
comp=Z,9.5nm,1.0s,baz=327,slow=7.7,SNR=6.2
KEST LR LR 22 30 44.1
comp=Z,138nm,21.3s,baz=9.0,slow=36
DAVA **Damuels** 82.92 317 *i*P P 21 53 04.3 +0.5
comp=Z,8.9nm,1.0s
NB2 **NORSAR Subarra** 83.16 331 P P 21 53 04.0 -0.7
comp=Z,3.8nm,1.0s,baz=92,slow=5.6
NOA **NORSAR Array B** 83.16 331 P P 21 53 02.5 -2.2
comp=Z,1.3nm,0.9s,baz=95,slow=5.4,SNR=3.2
NOA LR LR 22 31 40.2
comp=Z,158nm,21.1s,baz=95,slow=37
SPITS **Spitsbergen Ar** 84.10 348 LR LR 22 34 20.3
comp=Z,160nm,21.6s,baz=45,slow=38
VNDA **Vanda** 88.67 168 P P 21 53 32.8 +1.3
comp=Z,1.5nm,0.9s,baz=267,slow=6.1,SNR=5.1
VNDA LR LR 22 28 39.9
comp=Z,392nm,18.8s,baz=304,slow=32
TORD **Torodi Ar. Bea** 90.48 283 LR LR 22 33 32.9
comp=Z,169nm,18.3s,baz=120,slow=35
EKA **Eskdalemuir Ar** 90.83 325 LR LR 22 39 53.9
comp=Z,136nm,18.6s,baz=50,slow=39
SNAA **Sanae** 94.88 198 LR LR 22 30 40.7
comp=Z,114nm,18.8s,baz=7.0,slow=32
AFI **Afiamalu** 95.90 104 LR LR 22 42 31.6
comp=Z,51nm,18.1s,baz=30,slow=39
KOWA **Kowa** 95.92 285 LR LR 22 36 37.5
comp=Z,204nm,18.3s,baz=108,slow=35
DBIC **Dimbokro** 97.35 277 LR LR 22 38 00.0
comp=Z,227nm,18.2s,baz=74,slow=35
YKA **Yellowknife Ar** 111.18 13 PP PP 21 59 44.9 -5.8
comp=Z,0.2nm,0.8s,baz=268,slow=5.1,SNR=3.7
CPUP **Villa Florida** 143.40 228 PKP **PKPdf** 22 00 13.4 -0.6
comp=Z,3.5nm,0.9s,baz=136,slow=3.4,SNR=4.9
TXAR **Lajitas Array** 143.91 25 PKP **PKPdf** 22 00 14.0 -1.0
comp=Z,0.4nm,0.5s,baz=47,slow=3.7,SNR=3.6

GCMT ***30*** *21:41:52.0±0.2,57.°12S×141.°14W,h23km±1km, MW5.2/114,Moment Tensor Solution. s70,c98; s114,c164; Duration: 1s0 Moment tensor: Scale 10¹⁶ Nm; Mrr=0.97±.21; Mθθ=6.47±.24; Mφφ=-5.51±.19; Mrθ=-0.60±.29; Mrφ=5.09±.14; Mθφ=-0.20±.26; Best double couple: Mo7.88200×10¹⁶ NP1:φs295.00000°,δ87.00000°, λ3.00000°. NP2:φs205.00000°,δ87.00000°,λ177.00000°. Principal axes: T 8.3830, Plg4.0000°, Azm160.0000°; N -1.0110, Plg86.0000°, Azm338.0000°; P -7.3810, Plg0.0000°, Azm70.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

IDC 30 21:41:52.7±1.0,57.57S×141.91W,h0km,mb4.0/4, mb1 4.2/4,mb1mx3.9/35,mbtmp4.0/4,MS4.2/18, Ms1 4.2/18,ms1mx4.1/32 Error ellipse: s-maj=46.3km s-min=27.5km az=3.0,Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNDA	**Vanda**	**27.45**	**203**	LR	LR	21 55 42.2	
	comp=Z,533nm,20.7s,baz=78,slow=30						
QSPA	**South Pole Qui**	**32.58**	**180**	P	P	21 48 30.9	+5.5
	3.0nm,1.0s,baz=80,slow=6.0,SNR=5.2						
QSPA				LR	LR	21 59 23.8	
	comp=Z,932nm,21.1s,baz=70,slow=32						
RKT	**Rikitea**	**34.78**	**11**	*e*LR	LR	21 57 25.1	
	1μm,28.0s						
RKT	**Rikitea**	**34.78**	**11**	*e*T	T	22 23 56.7	
	4.1nm,0.2s						
RPN	**Rapa Nui**	**38.12**	**51**	LR	LR	22 00 38.6	
	comp=Z,527nm,18.8s,baz=228,slow=30						
RAR	**Rarotonga**	**38.60**	**333**	LR	LR	22 01 18.9	
	comp=Z,206nm,21.3s,baz=160,slow=30						
PPT2	**Papeete2**	**40.33**	**349**	*e*S	S	21 55 23.2	-17
	261nm,26.2s						
PPT2				*e*LR	LR	22 00 00.8	
	2μm,28.2s,baz=178						
PPT	**Papeete**	**40.35**	**349**	LR	LR	22 02 16.3	
	comp=Z,297nm,18.3s,baz=180,slow=30						
VAH	**Vaihoa**	**42.48**	**352**	*e*T	T	22 33 36.5	
	24nm,0.3s						
VNA3	**Neumayer Olymp**	**47.16**	**161**	P	P	21 50 26.9	+0.8
VNA2	**Neumayer--Watz**	**47.82**	**162**	P	P	21 50 32.5	+1.2
	baz=211,slow=7.3						
SNAA	**Sanae**		**47.90**	**164**	P	P	21 50 33.1	+1.1
SNAA	**Sanae**		**47.90**	**164**	P	P	21 50 32.4	+0.4
	1.8nm,0.6s,baz=220,slow=12,SNR=14						
SNAA				LR	LR	22 10 06.8	
	comp=Z,236nm,18.3s,baz=194,slow=35						
VNA1	**Neumayer--Stat**	**47.91**	**161**	P	P	21 50 33.1	+1.2
TAOE	**Nuku Hiva Isla**	**48.62**	**2**	*e*S	S	21 57 21.8	-19

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
	258nm,24.6s						
TAOE				*e*LR	LR	22 03 51.0	
	951nm,27.6s						
AFI	**Afiamalu**	**49.09**	**320**	LR	LR	22 05 13.0	
	comp=Z,189nm,20.3s,baz=154,slow=28						
MAW	**Mawson**	**53.80**	**191**	LR	LR	22 11 44.1	
	comp=Z,330nm,20.6s,baz=145,slow=33						
STKA	**Stephens Creek**	**56.65**	**262**	LR	LR	22 11 05.3	
	comp=Z,431nm,21.3s,baz=218,slow=31						
ASAR	**Alice Springs**	**67.28**	**261**	P	P	21 52 49.4	+0.4
	0.8nm,0.7s,baz=141,slow=7.1,SNR=5.5						
LPAZ	**La Paz**	**67.70**	**85**	P	P	21 52 51.6	-0.8
	0.7nm,0.6s,baz=225,slow=4.3,SNR=3.2						
LPAZ				LR	LR	22 15 12.7	
	comp=Z,96nm,21.1s,baz=200,slow=30						
H01W1	**Cape Leeuwin H**	**68.10**	**239**	T	T	23 08 35.8	
	baz=144,slow=75,SNR=67						
H01W2	**Cape Leeuwin H**	**68.10**	**239**	T	T	23 08 30.2	
	baz=144,slow=75,SNR=64						
H01W3	**Cape Leeuwin H**	**68.11**	**239**	T	T	23 08 39.1	
	baz=144,slow=75,SNR=64						
WRA	**Warramunga Arr**	**70.08**	**264**	P	P	21 53 05.2	-1.3
	1.2nm,0.8s,baz=149,slow=5.6,SNR=5.7						
JTS	**JuntasAbangare**	**81.97**	**56**	LR	LR	22 22 14.1	
	comp=Z,233nm,20.5s,baz=272,slow=30						
ROSC	**El Rosal**	**82.29**	**68**	LR	LR	22 23 42.8	
	comp=Z,53nm,21.8s,baz=258,slow=30						
APG	**El Apazote**	**83.81**	**49**	LR	LR	22 23 05.4	
	comp=Z,132nm,19.1s,baz=216,slow=30						
BATI	**Baumata**	**83.84**	**261**	LR	LR	22 29 35.2	
	comp=Z,248nm,19.0s,baz=179,slow=34						
PCRV	**Puerto La Cruz**	**91.78**	**74**	LR	LR	22 29 59.2	
	comp=Z,215nm,21.6s,baz=160,slow=31						
LEM	**Lembang**	**95.03**	**249**	LR	LR	22 28 45.4	
	comp=Z,77nm,20.8s,baz=158,slow=30						
DAV	**Davao City (W)**	**97.27**	**272**	LR	LR	22 36 42.8	
	comp=Z,38nm,21.6s,baz=148,slow=34						
NVAR	**Mina Array Bea**	**97.68**	**19**	LR	LR	22 29 02.8	
	comp=Z,157nm,22.0s,baz=90,slow=29						
H10S3	**ASCENSION HYDR**	**101.06**	**127**	T	T	23 49 16.0	
	baz=207,slow=75,SNR=8.9						
H10S2	**ASCENSION HYDR**	**101.07**	**127**	T	T	23 49 17.3	
	baz=207,slow=75,SNR=11						
H10S1	**ASCENSION HYDR**	**101.08**	**127**	T	T	23 49 19.3	
	baz=207,slow=75,SNR=6.6						
H10N3	**ASCENSION HYDR**	**102.13**	**126**	T	T	23 50 39.0	
	baz=206,slow=75,SNR=11						
H10N1	**ASCENSION HYDR**	**102.13**	**126**	T	T	23 50 40.7	
	baz=206,slow=75,SNR=11						
H10N2	**ASCENSION HYDR**	**102.14**	**126**	T	T	23 50 39.4	
	baz=206,slow=75,SNR=12						
ILAR	**Eielson Array**	**122.08**	**357**	PKP	PKPdf	22 00 49.2	+1.7
	0.4nm,0.8s,baz=189,slow=4.6,SNR=3.3						
ESDC	**Sonseca Array**	**147.61**	**105**	PKPbc	PKPbc	22 01 37.1	-1.1
	0.1nm,0.4s,baz=178,slow=4.1,SNR=4.3						

IDC 30 21:51:09.2±1.6, 3°.63S×127°.54E, h0km, mb3.4/2, mb1 3.7/4, mb1mx3.4/53, mbtmp3.6/4, ML3.8/2, Error ellipse: s-maj=36.0km s-min=26.5km az=85.0, Seram

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**4.62**	**54**	Pn	Pn	21 52 22.1	+1.8
	2.3nm,0.3s,baz=247,slow=23,SNR=9.2						
SIJI				Sn	Sn	21 53 15.6	+0.8
	1.6nm,0.3s,baz=346,slow=23,SNR=8.9						
WRA	**Warramunga Arr**	**17.52**	**158**	P	Pn	21 55 15.1	0.0
	0.5nm,0.3s,baz=341,slow=12,SNR=33						
ASAR	**Alice Springs**	**20.85**	**163**	P	P	21 55 52.0	-0.9
	0.6nm,0.5s,baz=341,slow=11,SNR=7.5						
MKAR	**Makanchi Array**	**64.08**	**327**	P	P	22 01 45.1	0.0
	0.6nm,0.8s,baz=108,slow=7.8,SNR=5.4						

*ISCJB **30** 21:53:10.5±0.3, 42°.32N±0°.02×12°.85E±0°.03, h22km±4km, Error ellipse: s-maj=4.0km s-min=3.2km az=155.3*
*ROM **30** 21:53:10.4±0.2, 42°.32N×12°.84E, h11km±2km, Ml2.8/38, Error ellipse: s-maj=1.3km s-min=1.0km az=63.0*
*CSEM **30** 21:53:10.1±0.1, 42°.32N×12°.83E, h20km, ML3.1/9, Error ellipse: s-maj=2.2km s-min=1.6km az=67.0*
ISC 30 21:53:10.2±0.9, 42°.32N±0°.02×12°.83E±0°.02, h19km±2km, n87, σ0°.52/111, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FIAM	**Fiamignano**	**0.22**	**105**	Pg	**Pg**	**21 53 15.5**	**-0.1**
FIAM				Sg	**Sb**	**21 53 19.2**	**+0.6**
	2µm,0.4s						
FIAM	**Fiamignano**	**0.22**	**105**	Pg	**Pg**	**21 53 15.5**	**-0.1**
FIAM				Sg	**Sb**	**21 53 19.2**	**+0.6**
	2µm,0.4s						
MTCE	**Montecelio**	**0.31**	**192**	Pg	**Pg**	**21 53 16.8**	**-0.2**
MTCE				Sg	**Sb**	**21 53 21.7**	**-0.1**
	657nm,0.8s						
MTCE	**Montecelio**	**0.31**	**192**	Pg	**Pg**	**21 53 16.8**	**-0.2**
MTCE				Sg	**Sb**	**21 53 21.7**	**-0.1**
	657nm,0.8s						
LNSS	**Leonessa**	**0.32**	**29**	Pg	**Pg**	**21 53 17.1**	**-0.2**
LNSS				Sg	**Sg**	**21 53 22.0**	**0.0**
	2µm,0.6s						
LNSS	**Leonessa**	**0.32**	**29**	Pg	**Pg**	**21 53 17.1**	**-0.2**
LNSS				Sg	**Sg**	**21 53 22.0**	**0.0**
	2µm,0.6s						
CESX	**Cesi**	**0.34**	**327**	Pg	**Pg**	**21 53 17.3**	**-0.3**
CESX				Sg	**Sb**	**21 53 22.9**	**0.0**
	934nm,0.5s						
CESX	**Cesi**	**0.34**	**327**	Pg	**Pg**	**21 53 17.3**	**-0.3**
CESX				Sg	**Sb**	**21 53 22.9**	**0.0**
	934nm,0.5s						
T0104	**Madonna delle**	**0.38**	**84**	Pg	**Pg**	**21 53 17.9**	**-0.3**
T0104				Sg	**Sg**	**21 53 23.6**	**0.0**
AQU	**L'Aquila**	**0.42**	**86**	Pg	**Pg**	**21 53 18.8**	**-0.2**
AQU				Sg	**Sg**	**21 53 25.0**	**+0.1**
	605nm,0.5s						
AQU	**L'Aquila**	**0.42**	**86**	Pg	**Pg**	**21 53 18.8**	**-0.2**
AQU				Sg	**Sg**	**21 53 25.0**	**+0.1**
	605nm,0.5s						
CAMP	**Campotosto**	**0.48**	**64**	Pg	**Pg**	**21 53 19.6**	**-0.4**
CAMP				Sg	**Sb**	**21 53 26.8**	**-0.1**
	352nm,0.5s						
CAMP	**Campotosto**	**0.48**	**64**	Pg	**Pg**	**21 53 19.6**	**-0.4**
CAMP				Sg	**Sb**	**21 53 26.8**	**-0.1**
	352nm,0.5s						
SMA1	**SAN MARTINO**	**0.48**	**50**	Pg	**Pg**	**21 53 19.9**	**-0.2**
SMA1				Sg	**Sg**	**21 53 26.3**	**-0.4**
SMA1	**SAN MARTINO**	**0.48**	**50**	Pg	**Pg**	**21 53 19.9**	**-0.2**
SMA1				Sg	**Sg**	**21 53 26.3**	**-0.4**
PTQR	**Pietraquaria**	**0.52**	**125**	Pg	**Pg**	**21 53 20.5**	**-0.3**
PTQR				Sg	**Sb**	**21 53 28.6**	**+0.7**
PTQR	**Pietraquaria**	**0.52**	**125**	Pg	**Pg**	**21 53 20.5**	**-0.3**
PTQR				Sg	**Sb**	**21 53 28.6**	**+0.7**
RMP	**Rome, Mte Porz**	**0.52**	**191**	Pg	**Pg**	**21 53 20.4**	**-0.4**
	636nm,0.3s						
RMP	**Rome, Mte Porz**	**0.52**	**191**	Pg	**Pg**	**21 53 20.4**	**-0.4**
	636nm,0.3s						
NRCA	**Norcia**	**0.55**	**22**	Pg	**Pg**	**21 53 20.8**	**-0.5**
NRCA				Sg	**Sb**	**21 53 29.2**	**+0.4**
	647nm,0.1s						
NRCA	**Norcia**	**0.55**	**22**	Pg	**Pg**	**21 53 20.8**	**-0.5**
NRCA				Sg	**Sb**	**21 53 29.2**	**+0.4**
	647nm,0.1s						
FAGN	**Fagnano**	**0.56**	**96**	Pg	**Pg**	**21 53 20.8**	**-0.7**
	3µm,0.5s						
FAGN	**Fagnano**	**0.56**	**96**	Pg	**Pg**	**21 53 20.8**	**-0.7**
	3µm,0.5s						
SAMA	**S.Maria delle**	**0.57**	**198**	Pg	**Pg**	**21 53 21.6**	**-0.1**
	328nm,0.2s						
SAMA	**S.Maria delle**	**0.57**	**198**	Pg	**Pg**	**21 53 21.6**	**-0.1**
	328nm,0.2s						
GUAR	**Guarcino**	**0.64**	**146**	Pg	**Pg**	**21 53 22.4**	**-0.5**
GUAR				Sg	**Sb**	**21 53 32.4**	**+1.1**
	184nm,0.5s						
GUAR	**Guarcino**	**0.64**	**146**	Pg	**Pg**	**21 53 22.4**	**-0.5**
GUAR				Sg	**Sb**	**21 53 32.4**	**+1.1**
	184nm,0.5s						
LAV9	**Lanuvio**	**0.65**	**189**	Pg	**Pg**	**21 53 22.9**	**-0.3**
	743nm,0.3s						
LAV9	**Lanuvio**	**0.65**	**189**	Pg	**Pg**	**21 53 22.9**	**-0.3**
	743nm,0.3s						
CESI	**CESI - Serrava**	**0.68**	**5**	Pg	**Pg**	**21 53 23.2**	**-0.6**
CESI				Sg	**Sb**	**21 53 33.8**	**+1.2**
	272nm,0.7s						
CESI	**CESI - Serrava**	**0.68**	**5**	Pg	**Pg**	**21 53 23.2**	**-0.6**
CESI				Sg	**Sb**	**21 53 33.8**	**+1.2**
	272nm,0.7s						

FDMO	**Fiordimonte**	**0.74**	**15**	Pg	**Pg**	**21 53 24.1**	**-0.6**
	284nm,0.5s						
FDMO	**Fiordimonte**	**0.74**	**15**	Pg	**Pg**	**21 53 24.1**	**-0.6**
	284nm,0.5s						
VVLD	**Villa Vallelon**	**0.74**	**127**	Pg	**Pb**	**21 53 25.2**	**+0.6**
	423nm,1.1s						
VVLD	**Villa Vallelon**	**0.74**	**127**	Pg	**Pb**	**21 53 25.2**	**+0.6**
	423nm,1.1s						
VCEL	**Villa Celiera**	**0.75**	**84**	Pg	**Pb**	**21 53 25.3**	**+0.5**
	634nm,0.6s						
VCEL	**Villa Celiera**	**0.75**	**84**	Pg	**Pb**	**21 53 25.3**	**+0.5**
	634nm,0.6s						
MGAB	**Montegabbione**	**0.79**	**318**	Pg	**Pb**	**21 53 26.3**	**+0.9**
MGAB	**Montegabbione**	**0.79**	**318**	Pg	**Pb**	**21 53 26.3**	**+0.9**
INTR	**Introdacqua**	**0.86**	**111**	Pg	**Pb**	**21 53 26.1**	**-0.5**
	426nm,0.7s						
INTR	**Introdacqua**	**0.86**	**111**	Pg	**Pb**	**21 53 26.1**	**-0.5**
	426nm,0.7s						
SACS	**San Casciano d**	**0.86**	**308**	Pg	**Pb**	**21 53 27.0**	**+0.4**
	410nm,1.2s						
ATCC	**AVT- Casa Cast**	**0.87**	**351**	Pg	**Pb**	**21 53 26.7**	**-0.1**
	412nm,0.5s						
ATCC	**AVT- Casa Cast**	**0.87**	**351**	Pg	**Pb**	**21 53 26.7**	**-0.1**
	412nm,0.5s						
OFFI	**Offida**	**0.88**	**46**	Pg	**Pn**	**21 53 28.1**	**+0.5**
	945nm,0.6s						
OFFI	**Offida**	**0.88**	**46**	Pg	**Pn**	**21 53 28.1**	**+0.5**
	945nm,0.6s						
SNTG	**Esanatoglia**	**0.93**	**5**	Pg	**Pb**	**21 53 27.6**	**-0.3**
	153nm,0.7s						
SNTG	**Esanatoglia**	**0.93**	**5**	Pg	**Pb**	**21 53 27.6**	**-0.3**
	153nm,0.7s						
ATTE	**AVT- Monte Tez**	**0.94**	**338**	Pg	**Pb**	**21 53 28.5**	**+0.5**
	192nm,0.7s						
ATTE	**AVT- Monte Tez**	**0.94**	**338**	Pg	**Pb**	**21 53 28.5**	**+0.5**
	192nm,0.7s						
MURB	**Monte Urbino**	**0.96**	**347**	Pg	**Pg**	**21 53 29.0**	**0.0**
	439nm,0.3s						
MURB	**Monte Urbino**	**0.96**	**347**	Pg	**Pg**	**21 53 29.0**	**0.0**
	439nm,0.3s						
MCIV	**Monte Civitell**	**0.97**	**298**	Pg	**Pb**	**21 53 28.7**	**+0.3**
	96nm,0.5s						
MCIV	**Monte Civitell**	**0.97**	**298**	Pg	**Pb**	**21 53 28.7**	**+0.3**
	96nm,0.5s						
LPEL	**Lama dei Pelig**	**1.04**	**105**	Pg	**Pb**	**21 53 29.9**	**+0.2**
	216nm,0.6s						
LPEL	**Lama dei Pelig**	**1.04**	**105**	Pg	**Pb**	**21 53 29.9**	**+0.2**
	216nm,0.6s						
CING	**Cingoli**	**1.08**	**14**	Pg	**Pb**	**21 53 30.1**	**-0.3**
	163nm,0.6s						
CING	**Cingoli**	**1.08**	**14**	Pg	**Pb**	**21 53 30.1**	**-0.3**
	163nm,0.6s						
GUMA	**Gualdo di Mace**	**1.10**	**47**	Pg	Pb	21 53 25.9	-4.8
	2µm,0.5s						
ATVO	**AVT- Monte Val**	**1.10**	**344**	Pg	**Pg**	**21 53 31.6**	**0.0**
	143nm,0.7s						
ATVO	**AVT- Monte Val**	**1.10**	**344**	Pg	**Pg**	**21 53 31.6**	**0.0**
	143nm,0.7s						
SSFR	**Montelago di S**	**1.11**	**358**	Pg	**Pb**	**21 53 31.2**	**+0.3**
	154nm,0.2s						
SSFR	**Montelago di S**	**1.11**	**358**	Pg	**Pb**	**21 53 31.2**	**+0.3**
	154nm,0.2s						
ARCI	**Arcidosso**	**1.13**	**298**	Pg	**Pb**	**21 53 31.5**	**+0.2**
	41nm,0.5s						
ARCI	**Arcidosso**	**1.13**	**298**	Pg	**Pb**	**21 53 31.5**	**+0.2**
	41nm,0.5s						
CERA	**Filignano**	**1.15**	**129**	Pg	**Pb**	**21 53 31.6**	**+0.1**
	201nm,0.7s						
CERA	**Filignano**	**1.15**	**129**	Pg	**Pb**	**21 53 31.6**	**+0.1**
	201nm,0.7s						
ARVD	**Arcevia**	**1.18**	**4**	Pg	**Pn**	**21 53 31.4**	**-0.3**
	109nm,0.6s						
ARVD	**Arcevia**	**1.18**	**4**	Pg	**Pn**	**21 53 31.4**	**-0.3**
	109nm,0.6s						
ATPC	**Poggio Castell**	**1.19**	**347**	Pg	**Pn**	**21 53 32.4**	**+0.5**
	150nm,0.4s						
ATPC	**Poggio Castell**	**1.19**	**347**	Pg	**Pn**	**21 53 32.4**	**+0.5**
	150nm,0.4s						
ATMC	**Monte Cedrone**	**1.22**	**338**	Pg	**Pb**	**21 53 33.2**	**+0.5**
	174nm,0.6s						
ATMC	**Monte Cedrone**	**1.22**	**338**	Pg	**Pb**	**21 53 33.2**	**+0.5**
	174nm,0.6s						
PIEI	**Pieia**	**1.23**	**350**	Pg	**Pb**	**21 53 33.4**	**+0.5**
	76nm,0.5s						
PIEI	**Pieia**	**1.23**	**350**	Pg	**Pb**	**21 53 33.4**	**+0.5**
	76nm,0.5s						
MIDA	**Miranda**	**1.26**	**122**	Pg	**Pn**	**21 53 33.2**	**+0.3**
	129nm,0.8s						
MIDA	**Miranda**	**1.26**	**122**	Pg	**Pn**	**21 53 33.2**	**+0.3**
	129nm,0.8s						
MAON	**Monte Argentar**	**1.26**	**275**	Pg	**Pn**	**21 53 32.3**	**-0.6**
	39nm,0.5s						
MAON	**Monte Argentar**	**1.26**	**275**	Pg	**Pn**	**21 53 32.3**	**-0.6**
	39nm,0.5s						
MPAG	**Monte Paganucc**	**1.30**	**358**	Pg	**Pn**	**21 53 34.3**	**+0.7**
	107nm,0.9s						
MPAG	**Monte Paganucc**	**1.30**	**358**	Pg	**Pn**	**21 53 34.3**	**+0.7**
	107nm,0.9s						
NVLJ	**Novalja**	**2.69**	**33**	*e*Pn	**Pn**	**21 53 52.1**	**-0.4**
NVLJ	**Novalja**	**2.69**	**33**	*e*Pn	**Pn**	**21 53 52.0**	**-0.4**
STON	**Ston**	**3.64**	**80**	*e*Pn	**Pn**	**21 54 06.3**	**+0.8**
STON				Sn	**Sn**	**21 54 46.7**	**-1.2**
STON	**Ston**	**3.64**	**80**	*e*Pn	**Pn**	**21 54 06.3**	**+0.8**
STON				Sn	**Sn**	**21 54 46.6**	**-1.2**
OZLJ	**Ozalj**	**3.80**	**29**	*e*Pn	**Pn**	**21 54 08.9**	**+1.2**
OZLJ	**Ozalj**	**3.80**	**29**	*e*Pn	**Pn**	**21 54 08.9**	**+1.2**

*CSEM **30** 21:53:47.7, 42°.33N×12°.85E, h11km, ML2.1/4*
ROM 30 21:53:47.7±0.3, 42°.33N×12°.85E, h11km±3km, MI2.1/4, Error ellipse: s-maj=1.5km s-min=1.2km az=87.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FIAM	**Fiamignano**	**0.21**	**106**	Pg	Pg	21 53 52.7	+0.5
FIAM				Sg	Sg	21 53 56.5	+1.2
FIAM	**Fiamignano**	**0.21**	**106**	Pg	Pg	21 53 52.7	+0.5
FIAM				Sg	Sg	21 53 56.5	+1.2
LNSS	**Leonessa**	**0.31**	**27**	Pg	Pg	21 53 54.3	+0.2
LNSS				Sg	Sg	21 53 59.4	+1.1
	253nm,0.6s						
LNSS	**Leonessa**	**0.31**	**27**	Pg	Pg	21 53 54.3	+0.2
LNSS				Sg	Sg	21 53 59.4	+1.1
	253nm,0.6s						
MTCE	**Montecelio**	**0.31**	**194**	Pg	Pg	21 53 54.5	+0.5
MTCE				Sg	Sg	21 53 59.0	+0.8
MTCE	**Montecelio**	**0.31**	**194**	Pg	Pg	21 53 54.5	+0.5
MTCE				Sg	Sg	21 53 59.0	+0.8
CESX	**Cesi**	**0.35**	**325**	Pg	Pg	21 53 55.0	+0.3
CESX				Sg	Sg	21 54 00.2	+0.9
	325nm,0.5s						
CESX	**Cesi**	**0.35**	**325**	Pg	Pg	21 53 55.0	+0.3
CESX				Sg	Sg	21 54 00.2	+0.9
	325nm,0.5s						
T0104	**Madonna delle**	**0.37**	**84**	Pg	Pg	21 53 55.2	+0.2
T0104				Sg	Sg	21 54 00.9	+1.0
CERT	**Cerreto**	**0.39**	**165**	Pg	Pb	21 53 56.3	-0.3
CERT	**Cerreto**	**0.39**	**165**	Pg	Pb	21 53 56.3	-0.3
AQU	**L'Aquila**	**0.41**	**86**	Pg	Pg	21 53 56.1	+0.2
AQU	**L'Aquila**	**0.41**	**86**	Pg	Pg	21 53 56.1	+0.2
CAMP	**Campotosto**	**0.47**	**63**	Pg	Pg	21 53 56.9	0.0
	145nm,0.5s						
CAMP	**Campotosto**	**0.47**	**63**	Pg	Pg	21 53 56.9	0.0
	145nm,0.5s						
FDMO	**Fiordimonte**	**0.73**	**14**	Pg	Pg	21 54 02.1	+0.2
FDMO				Sg	Sb	21 54 12.9	+0.4
	45nm,0.2s						
FDMO	**Fiordimonte**	**0.73**	**14**	Pg	Pg	21 54 02.1	+0.2
FDMO				Sg	Sb	21 54 12.9	+0.4
	45nm,0.2s						

*SKO **30** 22:04:36.0, 42°.06N×20°.30E, h0km, M2.1, ML2.4*
*TIR **30** 22:04:36.2, 42°.00N×20°.50E, h7km, Md0.2/3*
*ATH **30** 22:04:36.5, 42°.04N×20°.43E, h15km±2km, ML2.0/2, Error ellipse: s-maj=5.4km s-min=2.8km az=94.0*
*CSEM **30** 22:04:37.6±0.2, 41°.98N×20°.40E, h2km, ML2.4, Error ellipse: s-maj=3.8km s-min=2.7km az=41.0*
*BEO **30** 22:04:37.6±0.4, 41°.93N×20°.41E, h0km±2km*
PDG 30 22:04:37.2±0.2, 42°.00N×20°.42E, h8km, ML2.4/10, 14C-8D, Error ellipse: s-maj=0.5km s-min=0.6km az=0.0, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PHP	**Peshkopia**	**0.32**	**178**	*i* Pg	Pg	22 04 43.2	-0.3
PHP				*i* Sg	Sg	22 04 48.6	+0.9
PHP	**Peshkopia**	**0.32**	**178**	*i* PG	Pg	22 04 43.2	-0.3
PHP				*i* SG	Sg	22 04 48.6	+0.9
PUK	**Puka**	**0.40**	**276**	*i* Pg	Pg	22 04 44.9	-0.1
PUK	**Puka**	**0.40**	**276**	*i* PG	Pg	22 04 44.9	-0.1
PUK				*i* SG	Sb	22 04 52.8	0.0
BCI	**Bajram Curri**	**0.45**	**324**	*i* Pg	Pg	22 04 46.1	+0.1
BCI				*i* Sg	Sb	22 04 54.2	-0.1
BCI	**Bajram Curri**	**0.45**	**324**	*i* PG	Pg	22 04 46.1	+0.1
BCI				*i* SG	Sb	22 04 54.2	-0.1
PVY	**Plav**	**0.69**	**330**	⇑*i* Pg	Pg	22 04 50.0	-0.5
PVY				*e*Sg	Sb	22 05 00.8	-0.3
PVY	**Plav**	**0.69**	**330**	⇑*i* Pg	Pg	22 04 50.0	-0.5
PVY				*e*Sg	Sb	22 05 00.8	-0.3
SKO	**Skopje**	**0.76**	**92**	*e*Pg	Pg	22 04 51.6	-0.2
SKO				*e*Sg	Sb	22 05 02.5	-0.6
SKO	**Skopje**	**0.76**	**92**	*e*Pg	Pg	22 04 51.6	-0.2
SKO				*e*Sg	Sb	22 05 02.5	-0.6
SKO	**Skopje**	**0.76**	**92**	*i* Pg	Pg	22 04 51.3	-0.4
SKO				*i* Sg	Sb	22 05 03.0	-0.1
ULC	**Ulcinj**	**0.88**	**268**	⇓*i* Pg	Pg	22 04 53.9	-0.2
ULC				*e*Sg	Sb	22 05 07.6	+1.0
ULC	**Ulcinj**	**0.88**	**268**	⇓*i* Pg	Pg	22 04 53.9	-0.2
ULC				*e*Sg	Sb	22 05 07.6	+1.0
KRUS	**Krusevo**	**0.88**	**135**	*i* Pg	Pg	22 04 53.6	-0.5
KRUS				*i* Sg	Sb	22 05 07.1	+0.4
OHR	**Ohrid**	**0.93**	**162**	*i* Pg	Pg	22 04 54.5	-0.6
OHR				*i* Sg	Sb	22 05 08.7	+0.5
OHR				*e*Lg	Lg	22 05 08.7	
	comp=N,60nm,0.4s						
OHR				*e*Lg	Lg	22 05 09.0	
	comp=E,84nm,0.4s						
DRME	**Dracevica, Mon**	**0.94**	**282**	⇑*i* Pg	Pg	22 04 54.6	-0.7
DRME				*e*Sg	Sb	22 05 09.1	+0.8
DRME	**Dracevica, Mon**	**0.94**	**282**	⇑*i* Pg	Pg	22 04 54.6	-0.7
DRME				*e*Sg	Sb	22 05 09.1	+0.8
BEY	**Berane**	**0.95**	**336**	⇑*i* Pg	Pg	22 04 55.0	-0.6
BEY				*e*Sg	Sb	22 05 09.4	+0.6
IVA	**Berane**	**0.95**	**336**	⇑*i* Pg	Pg	22 04 55.0	-0.6
IVA				*e*Sg	Sb	22 05 09.4	+0.6
PDG	**Podgorica**	**0.97**	**297**	*e*Pg	Pg	22 04 54.8	-1.0
PDG				*e*Sg	Sb	22 05 09.9	+0.8
PDG	**Podgorica**	**0.97**	**297**	⇑*i* Pg	Pg	22 04 54.9	-0.9
PDG				*e*Sg	Sb	22 05 09.9	+0.8
TTG	**Podgorica**	**0.97**	**297**	⇑*i* Pg	Pg	22 04 54.9	-0.9
TTG				*e*Sg	Sn	22 05 10.1	-0.8
KOME	**Kolasin**	**1.08**	**322**	⇓*i* Pg	Pg	22 04 57.6	-0.4
KOME				*e*Sg	Sn	22 05 14.7	+0.8
KOME	**Kolasin**	**1.08**	**322**	⇓*i* Pg	Pg	22 04 57.6	-0.4
KOME				*e*Sg	Sn	22 05 14.7	+0.8
BUM	**Brajici-Budva**	**1.18**	**285**	*e*Pg	Pg	22 04 59.3	-0.5
BUM				*e*Sg	Sn	22 05 17.4	+1.2
BUM	**Brajici-Budva**	**1.18**	**285**	*e*Pg	Pg	22 04 59.3	-0.5
BUM				*e*Sg	Sn	22 05 17.4	+1.2
BIA	**Bitola**	**1.19**	**145**	*e*Pg	Pb	22 04 58.5	-1.5
BIA				*i* Sg	Sn	22 05 17.6	+1.1
CEME	**Cevo**	**1.24**	**296**	⇑*i* Pg	Pn	22 04 59.7	-1.2
CEME				*e*Sg	Sn	22 05 19.1	+1.2
CEME	**Cevo**	**1.24**	**296**	⇑*i* Pg	Pn	22 04 59.7	-1.2
CEME				*e*Sg	Sn	22 05 19.1	+1.2
SJES	**Sjenica**	**1.30**	**345**	*e*Pg	Pb	22 05 02.0	0.0
SJES				*e*Sg	Sn	22 05 21.9	+2.5
SJES	**Sjenica**	**1.30**	**345**	*e*Pg	Pb	22 05 02.0	0.0
SJES				*e*Sg	Sn	22 05 21.9	+2.5
SELS	**Selova**	**1.32**	**23**	*e*Pg	Pb	22 05 02.1	-0.1
SELS				*e*Sg	Sn	22 05 21.7	+2.0
NKME	**Niksic**	**1.33**	**306**	⇓*i* Pg	Pn	22 05 01.6	-0.5
NKME				*e*Sg	Sg	22 05 22.6	+2.6
NKME	**Niksic**	**1.33**	**306**	⇓*i* Pg	Pn	22 05 01.6	-0.5
NKME				*e*Sg	Sg	22 05 22.6	+2.6
NKY	**Niksic**	**1.33**	**308**	⇓*i* Pg	Pn	22 05 01.8	-0.4
NKY				*e*Sg	Sn	22 05 22.6	+2.4
NKY	**Niksic**	**1.33**	**308**	⇓*i* Pg	Pn	22 05 01.8	-0.4
NKY				*e*Sg	Sn	22 05 22.6	+2.4
FNA	**Florina**	**1.41**	**149**	P	Pn	22 05 02.4	-0.8
FNA				S	Sg	22 05 24.3	+1.7
FNA				AML	AML	22 05 27.7	
	comp=N,170µm,0.4s						
FNA				AML	AML	22 05 30.1	
	comp=E,129µm,0.5s						
FNA	**Florina**	**1.41**	**149**	P	Pn	22 05 03.1	-0.1

KUBS	**Kucevo**	**2.58**	**20**	*e*Pn	Pb	22 05 21.9	-1.7
KUBS	**Kucevo**	**2.58**	**20**	*e*Pn	Pb	22 05 21.9	-1.7
NVLJ	**Novalja**	**4.79**	**304**	*i* Pn	Pn	22 05 52.1	+2.5
NVLJ				Sn	Sn	22 06 49.4	+4.1
NVLJ	**Novalja**	**4.79**	**304**	*i* Pn	Pn	22 05 52.1	+2.5
NVLJ				Sn	Sn	22 06 49.3	+4.0

JMA 30 22:16:31.2±0.1, 36°47N×140°54E, h58km±1km, M3.6, 4C-6D Broadband fault plane solution: P waves. NP1: ϕ_S17.00000°, δ58.00000°, λ97.00000°. **NP2:** ϕ_S184.00000°, δ33.00000°, λ79.00000°. **Principal axes:** T Plg76.0000°, Azm309.0000°; N Plg6.0000°, Azm193.0000°; P Plg13.0000°, Azm102.0000°; **Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHO	**Hitachi**	**0.14**	**9**	↑P	Pn	22 16 40.1	-0.1
JHO				S	Sn	22 16 46.2	-0.4
JYT	**Yasato**	**0.37**	**229**	↑P	Pn	22 16 41.8	+0.1
JYT				S	Sn	22 16 49.1	-0.1
ONAJ	**Iwakimizuishiy**	**0.66**	**18**	↑P	Pn	22 16 44.5	-0.5
ONAJ				S	Sn	22 16 54.1	-0.9
JSB	**Shiboa**	**0.70**	**315**	↓P	Pn	22 16 45.4	0.0
JSB				S	Sn	22 16 55.9	+0.1
JAG	**Ashikaga**	**0.88**	**267**	↓P	Pn	22 16 47.6	0.0
JAG				S	Sn	22 16 59.1	-0.5
JFK	**Kawauchi**	**0.93**	**17**	↑P	Pn	22 16 47.7	-0.7
JFT	**Otama**	**1.06**	**351**	↓P	Pn	22 16 50.0	0.0
JFT				S	Sn	22 17 03.5	-0.4
JKT	**Katashina**	**1.08**	**286**	↓P	Pn	22 16 50.5	+0.2
JKT				S	Sn	22 17 04.7	+0.2
JFY	**Yanaizu**	**1.15**	**325**	↓P	Pn	22 16 51.4	+0.2
JRY	**Ryogami san**	**1.40**	**252**	↓P	Pn	22 16 54.6	+0.1
JRY				S	Sn	22 17 11.7	-0.3
JMM	**Marumori**	**1.41**	**8**	P	Pn	22 16 54.8	+0.2
MAT	**Matsushiro**	**1.88**	**273**	P	Pn	22 17 02.0	+1.0
MAT				*e*S	Sn	22 17 27.5	+3.8

*ISCJB **30** 22:22:20.5±0.8, 27°7N±0°2×139°9E±0°2, h479km, mb3.1/6 Error ellipse: s-maj=29.4km s-min=15.9km az=37.5*
*IDC **30** 22:22:21.6±0.7, 27°.72N×140°.20E, h486km±11km, mb2.8/6, mb1 2.9/6, mb1mx2.6/56, mbtmp3.6/6, Error ellipse: s-maj=29.7km s-min=19.9km az=75.0*
ISC 30 22:22:21.5±0.9, 27°7N±0°2×140°0E±0°2, h479km, n7, σ0s80/8, mb3.2/6, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**2.04**	**108**	P	**P**	**22 23 26.1**	**+1.2**
	baz=286,slow=20						
JCJ				S	**S**	**22 24 16.1**	**-0.2**
	17nm,0.3s,baz=315,slow=19,SNR=9.0						
WRA	**Warramunga Arr**	**47.71**	**187**	P	**P**	**22 30 13.4**	**-0.6**
	0.2nm,0.4s,baz=6.1,slow=7.7,SNR=8.4						
MKAR	**Makanchi Array**	**48.58**	**309**	P	**P**	**22 30 20.6**	**+0.3**
	0.1nm,0.4s,baz=87,slow=11,SNR=3.0						
KURBB	**Kurchatov Arra**	**51.21**	**314**	P	**P**	**22 30 39.7**	**+0.1**
	0.6nm,0.3s,baz=90,slow=7.8,SNR=6.9						
BVAR	**Borovoye Array**	**56.27**	**317**	P	**P**	**22 31 16.0**	**+0.5**
	0.9nm,0.4s,baz=82,slow=8.0,SNR=12						
YKA	**Yellowknife Ar**	**72.50**	**28**	P	**P**	**22 32 57.6**	**-0.9**
	0.1nm,0.5s,baz=294,slow=5.6,SNR=3.3						
FINES	**FINESS Array B**	**76.52**	**333**	P	**P**	**22 33 20.9**	**-0.3**
	2.1nm,0.9s,baz=76,slow=5.9,SNR=6.0						

*ISK **30** 22:43:35.5, 38°67N×43°13E, h19km, ML2.4/3*
*CSEM **30** 22:43:36.6±0.3, 38°67N×43°13E, h10km, ML2.4, Error ellipse: s-maj=7.7km s-min=5.3km az=179.0*
*DDA **30** 22:43:37.2, 38°65N×43°14E, h7km, Ml2.6*
ISC 30 22:43:36.1±1.8, 38°62N±0°06×43°16E±0°03, h28km±12km, n14, σ0s56/28, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VANB	**Van**	**0.18**	**99**	PG	**Pb**	**22 43 42.1**	**+0.1**
VANB				SG	**Sb**	**22 43 46.5**	**+0.5**
VANB	**Van**	**0.18**	**99**	*e*Pg	**Pb**	**22 43 42.1**	**+0.1**
VANB				*e*Sg	**Sb**	**22 43 46.5**	**+0.5**
TVAN	**Van**	**0.21**	**116**	*i* P	**Pb**	**22 43 41.8**	**-0.7**
TVAN				*i* S	**Sb**	**22 43 46.8**	**0.0**
TVAN	**Van**	**0.21**	**116**	P	**Pb**	**22 43 41.8**	**-0.7**
TVAN				S	**Sb**	**22 43 46.8**	**0.0**
ADCV	**BITLIS_Adilcev**	**0.39**	**298**	*i* P	**Pb**	**22 43 44.3**	**-0.5**
ADCV				*i* S	**Sb**	**22 43 50.7**	**0.0**
ADCV	**BITLIS_Adilcev**	**0.39**	**298**	P	**Pb**	**22 43 44.3**	**-0.5**
ADCV				S	**Sb**	**22 43 50.7**	**0.0**
VMUR	**Van-Muradiye**	**0.49**	**41**	*i* P	**Pb**	**22 43 46.2**	**-0.1**
VMUR				*i* S	**Sb**	**22 43 54.2**	**+0.9**
VMUR	**Van-Muradiye**	**0.49**	**41**	P	**Pb**	**22 43 46.2**	**-0.1**
VMUR				S	**Sb**	**22 43 54.2**	**+0.9**
CLDR	**Caldiran**	**0.79**	**48**	PG	**Pb**	**22 43 50.4**	**-0.9**
CLDR				SG	**Sb**	**22 44 02.5**	**+0.8**
CLDR	**Caldiran**	**0.79**	**48**	*e*Pg	**Pb**	**22 43 50.4**	**-0.9**
CLDR				*e*Sg	**Sb**	**22 44 02.5**	**+0.8**
GURO	**Guroymak-BITLI**	**0.89**	**266**	PG	**Pb**	**22 43 52.9**	**-0.1**
GURO				SG	**Sb**	**22 44 05.2**	**+0.7**
GURO	**Guroymak-BITLI**	**0.89**	**266**	*e*Pg	**Pb**	**22 43 52.9**	**-0.1**
GURO				*e*Sg	**Sb**	**22 44 05.2**	**+0.7**
AGRB	**Hanur-Agry**	**0.96**	**352**	PG	**Pb**	**22 43 53.9**	**-0.3**
AGRB				SG	**Sb**	**22 44 06.7**	**+0.1**
AGRB	**Hanur-Agry**	**0.96**	**352**	*e*Pg	**Pb**	**22 43 53.9**	**-0.3**
AGRB				*e*Sg	**Sb**	**22 44 06.7**	**+0.1**

*ISCJB **30** 22:56:05.9±0.4, 37°.13N±0°.03×71°.82E±0°.05, h142km, mb3.5/8, Error ellipse: s-maj=5.4km s-min=3.8km az=157.0*
*IDC **30** 22:56:07.5±3.0, 37°.06N×72°.02E, h166km±25km, mb3.3/8, mb1 3.5/14, mb1mx3.2/70, mbtmp3.9/14, MS3.3/1, Ms1 3.3/1, ms1mx2.4/44, Error ellipse: s-maj=25.0km s-min=16.9km az=172.0*
*BJI **30** 22:56:09.8, 37°.61N×71°.79E, h197km, mb4.1/3, mB4.3/1*
*NEIC **30** 22:56:10.0±0.5, 37°.30N×71°.94E, h179km±12km, mb4.0/2, Error ellipse: s-maj=10.7km s-min=7.9km az=105.0*
*NNC **30** 22:56:12.7±3.9, 37°.76N×71°.45E, h0km, mb4.7, mpv4.4, Error ellipse: s-maj=30.5km s-min=21.4km az=168.0*
ISC 30 22:56:06.4±0.6, 37°17N±0°06×71°91E±0°05, h142km, n59, σ2s14/69, mb3.6/8, 4C-9D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SFK	**Sufi-Kurgan**	**3.11**	**23**	↓P	**Pn**	**22 56 59.2**	**+4.1**
	40nm,0.3s						
SFK				↓S	**Sn**	**22 57 35.2**	**+2.5**
	279nm,0.4s						
KBL	**Kabul**	**3.50**	**222**	*e*Pn	Pn	22 57 06.4	+6.2
NIL	**Nilore**	**3.67**	**162**	*e*Pn	Pn	22 57 08.7	+6.4
NIL				*e*S	**Sn**	**22 57 47.7**	**+2.1**
KSH	**Kashi**	**3.97**	**52**	P	**Pn**	**22 57 05.0**	**-1.1**
KSH				S	**Sn**	**22 57 46.5**	**-6.0**
KSH				smax	smax		
	comp=N,1μm,1.2s						
KSH				smax	smax		
	comp=E,870nm,1.3s						
AML	**Almayashu**	**5.15**	**15**	P	**Pn**	**22 57 24.6**	**+2.6**
	SNR=307						
MNAS	**Manas**	**5.34**	**5**	↓P	**Pn**	**22 57 26.9**	**+2.6**
	65nm,0.4s						
MNAS				↓S	**Sn**	**22 58 23.7**	**-1.3**
	188nm,0.8s						
UCH	**Uchtor**	**5.44**	**21**	P	**Pn**	**22 57 28.4**	**+2.5**
	SNR=325						
KZA	**Kyzart**	**5.54**	**27**	P	**Pn**	**22 57 29.1**	**+1.8**
	SNR=30						
EKS2	**Erkin-Say**	**5.67**	**14**	P	**Pn**	**22 57 31.3**	**+2.5**
	SNR=85						
AAK	**Ala-Archa**	**5.82**	**19**	P	**Pn**	**22 57 33.5**	**+2.7**
	24nm,0.3s,baz=156,slow=5.9,SNR=271						
AAK				S	**Sn**	**22 58 35.9**	**-0.6**
	7.2nm,0.3s,baz=0.1,slow=20,SNR=10						
AAK	**Ala-Archa**	**5.82**	**19**	↑P	**Pn**	**22 57 33.2**	**+2.6**
	62nm,0.7s						
AAK				↓S	**Sn**	**22 58 35.8**	**-0.6**
	49nm,1.1s						
AAK	**Ala-Archa**	**5.82**	**19**	P	**Pn**	**22 57 33.4**	**+2.7**
	SNR=108						
AAK	**Ala-Archa**	**5.82**	**19**	*e*Pn	**Pn**	**22 57 33.4**	**+2.7**
AAK				*e*S	**Sn**	**22 58 30.7**	**-5.8**
KBK	**Karagaybulak**	**5.96**	**22**	P	**Pn**	**22 57 35.2**	**+2.5**
	SNR=42						
KK31	**Karatay Array**	**6.03**	**350**	P	**Pn**	**22 57 35.7**	**+2.3**
	13nm,0.3s,baz=164,slow=13,SNR=903						
KK31				↓S	**Sn**	**22 58 38.9**	**-2.4**
	52nm,0.5s,baz=167,slow=23,SNR=7.6						
KK31	**Karatay Array**	**6.03**	**350**	*e*Pn	**Pn**	**22 57 35.9**	**+2.5**
KKAR	**Karatay Array**	**6.03**	**350**	*e*Pn	**Pn**	**22 57 35.8**	**+2.5**
KKAR				*e*S	**Sn**	**22 58 38.7**	**-2.6**
ULHL	**Ulahol**	**6.08**	**32**	P	**Pn**	**22 57 36.0**	**+1.8**
	SNR=25						
CHMS	**Chumysh**	**6.22**	**20**	P	**Pn**	**22 57 38.4**	**+2.4**
	SNR=15						
TKM2	**Tokmak 2**	**6.41**	**25**	↑P	**Pn**	**22 57 41.7**	**+3.0**
	8.3nm,0.4s						
TKM2				↓S	**Sn**	**22 58 54.5**	**+3.7**
	10nm,0.7s						
TKM2	**Tokmak 2**	**6.41**	**25**	P	**Pn**	**22 57 40.8**	**+2.2**
	SNR=40						
USP	**Ospenovka**	**6.41**	**17**	P	**Pn**	**22 57 40.1**	**+1.6**
	SNR=26						
KDJ	**Kajisay**	**6.41**	**38**	*e*Pn	**Pn**	**22 57 40.5**	**+1.8**
GEYT	**Alibeck**	**10.98**	**278**	P	**Pn**	**22 58 40.7**	**+1.2**
	0.3nm,0.3s,baz=142,slow=5.4,SNR=4.2						
GEYT				S	**Sn**	**23 00 38.9**	**-1.9**
	0.5nm,0.3s,baz=115,slow=13,SNR=4.1						
MK01	**Makanchi Array**	**12.31**	**36**	*e*Pn	**Pn**	**22 58 57.7**	**+0.8**
MK31	**Makanchi Array**	**12.33**	**35**	*e*Pn	**Pn**	**22 58 57.9**	**+0.8**
MKAR	**Makanchi Array**	**12.33**	**35**	P	**Pn**	**22 58 57.5**	**+0.4**
	0.2nm,0.3s,baz=223,slow=14,SNR=11						
MKAR	**Makanchi Array**	**12.33**	**35**	*e*Pn	**Pn**	**22 58 57.9**	**+0.8**
PYUN	**Piuthan**	**12.99**	**131**	*e*P	**Pn**	**22 59 06.2**	**+0.2**
	18nm,0.4s						
DANN	**Dangsing**	**13.29**	**128**	*e*P	**Pn**	**22 59 10.1**	**+0.2**
	8.1nm,0.3s						
KOLN	**Koldanda**	**13.60**	**130**	*e*P	**Pn**	**22 59 14.4**	**+0.6**
	6.2nm,0.3s						
WMQ	**Urumqi**	**13.72**	**56**	P	**Pn**	**22 59 15.8**	**+0.7**
GKN	**Gorkha**	**14.08**	**127**	*e*P	**Pn**	**22 59 20.7**	**+0.8**
	14nm,0.3s						
KURBB	**Kurchatov Arra**	**14.27**	**17**	P	**Pn**	**22 59 19.8**	**-2.0**
	0.3nm,0.3s,baz=205,slow=11,SNR=14						
KURK	**Kurchatov**	**14.37**	**17**	*e*Pn	**Pn**	**22 59 22.5**	**-0.7**
DMN	**Daman**	**14.65**	**127**	*e*P	**Pn**	**22 59 28.6**	**+1.4**
	10nm,0.3s						
PKIN	**Phulchoki**	**14.86**	**126**	*e*P	**Pn**	**22 59 29.9**	**+0.1**
	7.0nm,0.3s						
AB31	**Akbulak array**	**14.88**	**328**	↑P	**P**	**22 59 31.6**	**0.0**
	1.7nm,0.4s,baz=139,slow=12,SNR=91						
AB31				↓S	**Sn**	**23 02 11.9**	**-2.6**
	4.2nm,0.6s,baz=279,slow=25,SNR=9.2						
ABKAR	**Akbulak array**	**14.88**	**328**	*e*Pn	**Pn**	**22 59 29.7**	**+0.2**
ABKAR				*e*S	Sn	23 02 00.6	-14
GUN	**Gumba**	**14.95**	**124**	*e*P	**Pn**	**22 59 31.4**	**+0.4**
	9.3nm,0.4s						
JIRN	**Jiri**	**15.32**	**124**	*e*P	**Pn**	**22 59 36.3**	**+0.7**
	37nm,0.3s						
BVAR	**Borovoye Array**	**15.90**	**357**	P	**Pn**	**22 59 41.4**	**-0.6**
	1.0nm,0.3s,baz=158,slow=13,SNR=21						
BRVK	**Borovoye**	**15.93**	**356**	*e*Pn	**Pn**	**22 59 42.8**	**+0.3**
	6.7nm,1.0s						
RAMN	**Ramite**	**16.07**	**125**	*e*P	**Pn**	**22 59 45.1**	**+0.4**
	7.0nm,0.4s						
AKTO	**Aktyubinsk**	**16.59**	**327**	P	**Pn**	**22 59 51.0**	**+0.5**
	0.8nm,0.3s,baz=139,slow=7.0,SNR=10						
AKTO				S	S	23 02 42.7	-13
	0.1nm,0.3s,baz=294,slow=20,SNR=1.6						
AKTO	**Aktyubinsk**	**16.59**	**327**	↓P	**P**	**22 59 55.4**	**+4.8**
	4.1nm,0.9s						
AKTO				↑S	**S**	**23 02 54.1**	**-1.3**
	6.0nm,0.9s						
ODAN	**Odare**	**16.65**	**124**	*e*P	**Pn**	**22 59 53.6**	**+1.8**
	8.1nm,0.5s						
ZAA0	**Zalesovo Array**	**19.01**	**24**	*e*P	**P**	**23 00 17.2**	**+0.2**
	7.1nm,0.9s						
ZALV	**Zalesovo Beam**	**19.01**	**24**	P	**P**	**23 00 16.9**	**-0.1**
	2.3nm,0.3s,baz=219,slow=11,SNR=12						
BRTR	**Keskin Array B**	**29.93**	**287**	P	**P**	**23 02 02.9**	**+1.7**
	0.6nm,0.5s,baz=101,slow=7.5,SNR=5.5						
PALK	**Pallekele**	**30.81**	**163**	LR	LR	23 15 00.5	
	comp=Z,56nm,21.0s,baz=116,slow=37						
HHC	**Hu-ho-hao-te**	**30.85**	**71**	*e*P	**P**	**23 02 09.8**	**+0.6**
HHC				pmax	pmax		
	comp=Z,31nm,4.4s						
FINES	**FINESS Array B**	**37.34**	**325**	P	**P**	**23 03 04.8**	**+0.1**
	1.1nm,0.9s,baz=118,slow=11,SNR=3.1						
HFS	**Hagfors**	**43.00**	**321**	P	**P**	**23 03 51.0**	**-0.3**
	1.7nm,0.5s,baz=96,slow=10,SNR=11						
NOA	**NORSAR Array B**	**44.29**	**323**	P	**P**	**23 04 01.4**	**-0.3**
	0.6nm,0.8s,baz=96,slow=7.7,SNR=3.8						
ESDC	**Sonseca Array**	**57.79**	**298**	P	**P**	**23 05 42.2**	**-0.6**
	0.8nm,0.7s,baz=66,slow=6.5,SNR=7.3						
TORD	**Torodi Ar. Bea**	**66.46**	**269**	P	**P**	**23 06 39.0**	**-1.8**
	0.7nm,0.5s,baz=51,slow=6.0,SNR=16						
YKA	**Yellowknife Ar**	**80.55**	**3**	P	**P**	**23 08 01.2**	**-1.2**
	0.6nm,0.5s,baz=350,slow=5.4,SNR=20						
WRA	**Warramunga Arr**	**81.73**	**123**	P	**P**	**23 08 07.3**	**-2.0**
	0.3nm,0.9s,baz=290,slow=7.2,SNR=3.6						

IDC 30 23:07:51.4±9.1, 5°75N×94°88E, h157km±82km, mb3.5/9, mb1 3.6/10, mb1mx3.2/66, mbtmp4.0/10, Error ellipse: s-maj=49.8km s-min=13.4km az=53.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**13.24**	**17**	P	Pn	23 10 53.6	+0.2
	0.5nm,0.3s,baz=209,slow=14,SNR=7.8						
H08S3	**Diego Garcia H**	**25.99**	**240**	T	T	23 39 05.5	
	baz=59,slow=75,SNR=89						
H08S2	**Diego Garcia H**	**26.00**	**239**	T	T	23 39 06.8	
	baz=59,slow=75,SNR=112						
H08S1	**Diego Garcia H**	**26.01**	**239**	T	T	23 39 06.9	
	baz=59,slow=75,SNR=98						
TGY	**Tagaytay City**	**26.95**	**70**	P	P	23 13 17.1	-1.4
	238nm,0.4s,baz=214,slow=7.3,SNR=2.9						
MKAR	**Makanchi Array**	**42.31**	**347**	P	P	23 15 29.2	-0.3
	2.6nm,0.6s,baz=168,slow=7.9,SNR=29						
SONM	**Songino Array**	**43.08**	**11**	P	P	23 15 37.0	+1.2
	0.5nm,0.5s,baz=187,slow=7.3,SNR=3.0						
WRA	**Warramunga Arr**	**46.45**	**124**	P	P	23 16 03.1	+0.2
	0.9nm,0.8s,baz=304,slow=9.7,SNR=21						
KURBB	**Kurchatov Arra**	**46.77**	**346**	P	P	23 16 05.3	+0.5
	2.4nm,0.6s,baz=171,slow=6.9,SNR=41						
ASAR	**Alice Springs**	**48.01**	**129**	P	P	23 16 14.9	+0.1
	0.4nm,0.4s,baz=296,slow=7.9,SNR=10						
ZALV	**Zalesovo Beam**	**48.75**	**352**	P	P	23 16 20.4	+0.4
	1.2nm,0.3s,baz=180,slow=6.1,SNR=6.4						
BVAR	**Borovoye Array**	**51.22**	**341**	P	P	23 16 37.7	-0.9
	1.0nm,0.5s,baz=143,slow=11,SNR=11						
FINES	**FINESS Array B**	**74.92**	**332**	P	P	23 19 14.1	-0.6
	2.4nm,1.0s,baz=108,slow=6.2,SNR=5.2						
GERES	**GERESS Array B**	**79.89**	**318**	P	P	23 19 42.6	-0.2
	0.7nm,0.7s,baz=97,slow=4.2,SNR=7.7						

IDC 30 23:15:47.8±5.5, 49°71N×114°56W, h0km, mb1 3.5/1, mb1mx2.9/64, mbtmp3.2/1, ML2.8/1, Error ellipse: s-maj=77.5km s-min=37.2km az=69.0, British Columbia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I56US	**NEWPORT INFRAS**	**2.22**	**230**	*i*		23 29 30.0	
	baz=45,slow=331,SNR=4.8						
I10CA	**LAC DU BONNET**	**11.95**	**81**	*i*		00 27 00.0	
	baz=270,slow=318,SNR=2.1						
YKA	**Yellowknife Ar**	**12.82**	**360**	Pn	Pn	23 18 46.6	-4.4
	0.1nm,0.3s,baz=180,slow=13,SNR=11						
YKA				Sn	Sn	23 21 04.6	-10
	0.0nm,0.3s,baz=176,slow=23,SNR=5.0						
YKA				Lg	Lg	23 22 25.3	
	0.0nm,0.3s,baz=174,slow=27,SNR=4.0						

*IDC **30** 23:20:35.0±1.2, 21°.01S×169°.12E, h0km, mb4.4/14, mb1 4.6/15, mb1mx4.4/38, mbtmp4.4/15, ML3.6/1, MS4.5/36, Ms1 4.5/36, ms1mx4.4/41, Error ellipse: s-maj=39.7km s-min=17.1km az=149.0*
*ISCJB **30** 23:20:38.8±0.3, 20°.74S±0°.06×168°.81E±0°.05, h25km, mb4.5/36, MS4.5/38, Error ellipse: s-maj=8.7km s-min=5.5km az=149.2*
*NEIC **30** 23:20:42.5±1.3, 20°.69S×168°.80E, h42km±12km, mb4.5/20, Error ellipse: s-maj=12.6km s-min=7.5km az=162.0*

*GCMT **30** 23:20:42.5±0.1, 20°.89S×168°.79E, h19km, MW5.3/112, Moment Tensor Solution. s93,c131; s112,c175; Duration: 1s0 Moment tensor: Scale 10^17^Nm; M_{rr}0.73±.02; $M_{\theta\theta}$-0.25±.01; $M_{\phi\phi}$-0.47±.01; $M_{r\theta}$0.45±.03; $M_{\theta\phi}$0.39±.01; $M_{r\phi}$-0.48±.03; Best double couple: M0.99900×10^17^ NP1:ϕ_S139.00000°, δ66.00000°, λ86.00000°. NP2:ϕ_S328.00000°, δ25.00000°, λ98.00000°. Principal axes: T 0.9810, Plg69.0000°, Azm42.0000°; N 0.0350, Plg3.0000°, Azm140.0000°; P -1.0170, Plg21.0000°, Azm232.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 30 23:20:40.8±0.4, 20°76S±0°08×168°74E±0°06, h25km, n139, σ1s53/120, mb4.5/36, MS4.5/38, 6C-2D, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**2.50**	**238**	Pn	**Pn**	**23 21 18.0**	**-2.1**
	11nm,0.3s,baz=100,slow=14,SNR=152						
DZM				LR	LR	23 21 47.5	
	comp=Z,6μm,21.2s,baz=145,slow=27						
DZM				Sn	**Sn**	**23 21 49.7**	**-0.2**
	90nm,0.3s,baz=103,slow=22,SNR=15						
DZM	**Mont Dzumac**	**2.50**	**238**	*e*Pn	**Pn**	**23 21 18.0**	**-2.1**
	91nm,0.2s						
DZM				*e*Sn	**Sn**	**23 21 47.9**	**-2.0**
	314nm,0.2s						
DZM	**Mont Dzumac**	**2.50**	**238**	*e*Pn	**Pn**	**23 21 18.4**	**-1.7**
DZM				*e*S	**Sn**	**23 21 50.8**	**+0.9**
MSVF	**Nonsavu**	**9.29**	**73**	*e*Pn	**Pn**	**23 22 55.3**	**+1.9**
EIDS	**Eidsvold**	**16.88**	**251**	*e*Pn	**Pn**	**23 24 35.8**	**+0.3**
	36nm,1.3s						
ARMA	**Armidale**	**18.16**	**235**	*e*Pn	**P**	**23 24 52.1**	**+0.5**
	17nm,1.0s						
URZ	**Urewera**	**18.88**	**159**	P	**Pn**	**23 25 00.3**	**+0.3**
	0.4nm,0.3s,baz=0.7,slow=9.1,SNR=5.2						
URZ				LR	LR	23 31 13.0	
	comp=Z,2μm,18.4s,baz=347,slow=34						
URZ	**Urewera**	**18.88**	**159**	*e*P	**Pn**	**23 24 59.5**	**-0.5**
BKZ	**Black Stump Fm**	**19.52**	**162**	*e*P	**Pn**	**23 25 08.1**	**+0.4**
	27nm,1.0s						
AFI	**Afianalu**	**19.80**	**73**	P	**Pn**	**23 25 09.7**	**-1.5**
	2.1nm,0.3s,baz=283,slow=17,SNR=4.7						
AFI				LR	LR	23 31 08.2	
	comp=Z,2μm,19.1s,baz=254,slow=32						
AFI	**Afiamalu**	**19.80**	**73**	*e*P	**Pn**	**23 25 09.7**	**-1.5**
	104nm,1.2s						
CTA	**Charters Tower**	**21.08**	**268**	P	**P**	**23 25 26.6**	**+3.1**
	32nm,1.2s,baz=78,slow=16,SNR=5.2						
CTA				LR	LR	23 33 45.5	
	comp=Z,2μm,19.8s,baz=86,slow=37						
CTAO	**Charters Tower**	**21.08**	**268**	*e*P	**P**	**23 25 27.0**	**+3.5**
	27nm,1.1s						
CAN	**Canberra**	**22.61**	**226**	*e*P	**P**	**23 25 41.5**	**+1.7**
	22nm,1.0s						
RPZ	**Rata Peaks**	**22.97**	**176**	LR	LR	23 33 53.3	
	comp=Z,1μm,18.9s,baz=344,slow=35						
PMG	**Port Moresby**	**23.66**	**295**	P	**P**	**23 25 53.9**	**+3.4**
	13nm,0.5s,baz=79,slow=5.2,SNR=4.7						
PMG				LR	LR	23 32 25.3	
	comp=Z,375nm,19.8s,baz=124,slow=30						
STKA	**Stephens Creek**	**26.66**	**240**	P	**P**	**23 26 18.6**	**+0.9**
	6.8nm,0.8s,baz=90,slow=9.6,SNR=8.5						
STKA				LR	LR	23 36 22.5	
	comp=Z,1μm,21.5s,baz=80,slow=35						
STKA	**Stephens Creek**	**26.66**	**240**	*e*P	**P**	**23 26 18.7**	**+0.9**
	2.6nm,0.9s						
RAR	**Rarotonga**	**29.38**	**97**	LR	LR	23 36 26.1	
	comp=Z,231nm,21.1s,baz=258,slow=33						
WRAB	**Tennant Creek**	**32.22**	**265**	*e*P	**P**	**23 27 06.5**	**-0.8**
	7.2nm,1.0s						
WRA	**Warramunga Arr**	**32.23**	**265**	P	**P**	**23 27 06.7**	**-0.7**
	5.1nm,1.0s,baz=92,slow=8.5,SNR=28						
WRA				LR	LR	23 40 28.0	
	comp=Z,1μm,19.7s,baz=95,slow=37						
AS01	**Alice Springs**	**32.29**	**258**	*e*P	**P**	**23 27 07.0**	**-0.9**
AS31	**Alice Springs**	**32.33**	**258**	*e*P	**P**	**23 27 08.0**	**-0.3**
	3.2nm,0.6s						
ASAR	**Alice Springs**	**32.33**	**258**	P	**P**	**23 27 07.7**	**-0.7**
	7.2nm,0.7s,baz=82,slow=9.1,SNR=47						
ASAR				LR	LR	23 41 22.3	
	comp=Z,2μm,18.2s,baz=93,slow=38						
PPT2	**Papeete2**	**39.42**	**93**	*e*S	**S**	**23 34 14.4**	**+4.7**
	423nm,25.0s						
PPT2				*e*LQ	LQ	23 37 17.3	
	3μm,27.2s						
PPT2				*e*LR	LR	23 38 58.0	
	1μm,27.0s,baz=247						
PPT	**Papeete**	**39.43**	**93**	LR	LR	23 43 11.4	
	comp=Z,398nm,18.1s,baz=264,slow=35						
GUMO	**Guam**	**41.42**	**324**	LR	LR	23 44 51.8	
	comp=Z,516nm,19.0s,baz=152,slow=35						
BATI	**Baumata**	**44.55**	**277**	LR	LR	23 49 27.9	
	comp=Z,981nm,18.2s,baz=138,slow=39						
MBWA	**Marble Bar**	**45.62**	**260**	*e*P	**P**	**23 29 00.6**	**+1.1**
	16nm,0.9s						
NWAO	**Narrogin (SRO)**	**47.11**	**244**

KMI				LR	LR				
	comp=E,180nm,16.9s								
KMI				LR	LR				
	comp=Z,220nm,17.6s								
CMAR	**Chiang Mai Arr**	**78.70**	**295**	P	**P**	**23**	**32**	**42.9**	**+1.5**
	comp=Z,3.6nm,1.0s,baz=124,slow=4.2,SNR=8.6								
CMAR				LR	LR	00	10	33.9	
	comp=Z,79nm,18.6s,baz=160,slow=38								
XAN	**Xi'an**	**78.79**	**313**	P	**P**	**23**	**32**	**42.3**	**+0.6**
XAN				pmax	pmax				
	comp=Z,7.0nm,1.2s								
XAN				pmax	pmax				
	comp=Z,190nm,5.4s								
CHTO	**Chiang Mai**	**78.86**	**295**	*e*P	**P**	**23**	**32**	**43.6**	**+1.3**
	comp=Z,7.8nm,1.1s								
HHC	**Hu-ho-hao-te**	**81.07**	**320**	*e*P	**P**	**23**	**32**	**54.3**	**+0.4**
HHC				PP	**PP**	**23**	**35**	**55.3**	**-4.1**
HHC	**Hu-ho-hao-te**	**81.07**	**320**	S	**S**	**23**	**43**	**05.5**	**+3.5**
HHC	**Hu-ho-hao-te**	**81.07**	**320**	SS	SS	23	48	16.5	-1.1
HHC				pmax	pmax				
	comp=Z,19nm,1.4s								
HHC				pmax	pmax				
	comp=Z,26nm,8.5s								
HHC				LR	LR				
	comp=N,180nm,18.2s								
HHC				LR	LR				
	comp=E,220nm,18.2s								
HHC				LR	LR				
	comp=Z,180nm,18.4s								
LZH	**Lanzhou**	**83.40**	**312**	*e*P	**P**	**23**	**33**	**08.0**	**+1.7**
LZH				pP	sP	23	33	20.0	+2.7
LZH				sP	pP	23	33	26.8	+12
LZH				pmax	pmax				
	comp=Z,20nm,1.1s								
SNAA	**Sanae**	**87.63**	**183**	P	**P**	**23**	**33**	**25.1**	**-1.6**
SNAA	**Sanae**	**87.63**	**183**	LR	LR	00	12	39.3	
	comp=Z,348nm,18.0s,baz=178,slow=36								
SNAA	**Sanae**	**87.63**	**183**	*e*P	**P**	**23**	**33**	**27.7**	**+1.0**
ULN	**Ulaanbaatar**	**87.80**	**324**	*e*P	**P**	**23**	**33**	**28.0**	**0.0**
	comp=Z,1.3nm,0.6s								
GTA	**Gaotai**	**87.83**	**314**	P	**P**	**23**	**33**	**28.8**	**+0.6**
GTA				pP	pP	23	33	33.5	-2.9
GTA				sP	sP	23	33	36.0	-3.3
GTA	**Gaotai**	**87.83**	**314**	S	**S**	**23**	**44**	**11.3**	**+1.7**
GTA				pmax	pmax				
	comp=Z,10.0nm,0.9s								
GTA				pmax	pmax				
	comp=Z,190nm,6.9s								
GTA				LR	LR				
	comp=N,250nm,21.4s								
GTA				LR	LR				
	comp=E,300nm,19.5s								
GTA				LR	LR				
	comp=Z,230nm,21.9s								
SONM	**Songino Array**	**88.15**	**323**	P	**P**	**23**	**33**	**28.7**	**-0.8**
	comp=Z,2.5nm,1.0s,baz=152,slow=6.6,SNR=14								
SONM				LR	LR	00	14	26.7	
	comp=Z,173nm,18.6s,baz=100,slow=36								
SONA1	**Songino Array**	**88.15**	**323**	*e*P	**P**	**23**	**33**	**29.5**	**0.0**
VNA3	**Neumayer Olymp**	**88.23**	**181**	P	**P**	**23**	**33**	**28.8**	**-0.8**
WDC	**Whiskeytown Da**	**88.26**	**45**	*e*P	**P**	**23**	**33**	**29.8**	**-0.2**
ORV	**Oroville**	**88.46**	**47**	*e*P	**P**	**23**	**33**	**29.7**	**-1.4**
	comp=Z,2.9nm,1.0s								
CMB	**Columbia Colle**	**88.52**	**48**	*e*P	**P**	**23**	**33**	**30.0**	**-1.4**
VNA2	**Neumayer--Watz**	**88.52**	**181**	P	**P**	**23**	**33**	**29.5**	**-1.4**
	baz=180,slow=3.3								
AFDM	**Forest Hills D**	**88.54**	**47**	*e*P	**P**	**23**	**33**	**30.3**	**-1.1**
	comp=Z,1.5nm,0.9s								
YBH	**Yreka Blue Hor**	**88.71**	**44**	P	**P**	**23**	**33**	**30.8**	**-1.5**
	comp=Z,1.9nm,0.8s,baz=173,slow=8.1,SNR=4.3								
YBH				LR	LR	00	05	10.1	
	comp=Z,352nm,20.6s,baz=260,slow=30								
ISA	**Isabella, Lake**	**88.80**	**51**	*e*P	**P**	**23**	**33**	**30.8**	**-2.0**
	comp=Z,2.7nm,1.1s								
BEKR	**Beckworth**	**89.39**	**47**	*e*P	**P**	**23**	**33**	**34.0**	**-1.6**
	comp=Z,41nm,0.6s								
WAKR	**Walker**	**89.39**	**48**	*e*P	**P**	**23**	**33**	**33.5**	**-2.3**
DAC	**Darwin (Calif)**	**89.71**	**51**	*e*P	**P**	**23**	**33**	**35.8**	**-1.4**
GSC	**Goldstone, Bar**	**89.86**	**52**	*e*P	**P**	**23**	**33**	**35.2**	**-2.6**
	comp=Z,1.0nm,0.4s								
NV01	**Mina Array Sit**	**90.15**	**49**	*e*P	**P**	**23**	**33**	**37.5**	**-1.8**
NVAR	**Mina Array Bea**	**90.15**	**49**	P	**P**	**23**	**33**	**37.2**	**-2.1**
	comp=Z,2.8nm,1.1s,baz=229,slow=8.9,SNR=10								
NVAR				LR	LR	00	05	49.6	
	comp=Z,433nm,20.4s,baz=91,slow=30								
NV11	**Mina Array Sit**	**90.26**	**49**	*e*P	**P**	**23**	**33**	**37.8**	**-2.0**
	comp=Z,0.4nm,1.1s								
LPIG	**La Paz**	**90.49**	**64**	LR	LR	00	05	03.7	
	comp=Z,372nm,20.8s,baz=224,slow=30								
SHPR	**Sheep Range**	**91.58**	**51**	*e*P	**P**	**23**	**33**	**45.1**	**-0.8**
TLY	**Talaya**	**91.74**	**326**	LR	LR	00	17	29.3	
	comp=Z,88nm,18.0s,baz=119,slow=37								
IL1	**Eielson Array**	**91.82**	**17**	*e*P	**P**	**23**	**33**	**43.6**	**-2.5**
ILAR	**Eielson Array**	**91.82**	**17**	P	**P**	**23**	**33**	**43.1**	**-3.0**
	comp=Z,0.7nm,1.0s,baz=234,slow=5.2,SNR=5.9								
ILAR				LR	LR	00	13	35.2	
	comp=Z,362nm,18.1s,baz=224,slow=35								
TUC	**Tucson**	**93.23**	**57**	*e*P	**P**	**23**	**33**	**53.2**	**-0.4**
	comp=Z,1.9nm,1.1s								
TXAR	**Lajitas Array**	**97.90**	**62**	LR	LR	00	11	21.0	
	comp=Z,380nm,19.0s,baz=0.0,slow=31								
WMQ	**Urumqi**	**97.91**	**314**	P	**P**	**23**	**34**	**13.5**	**-1.1**
WMQ				LR	LR				
	comp=N,170nm,24.9s								
WMQ				LR	LR				
	comp=E,170nm,24.9s								
WMQ				LR	LR				
	comp=Z,190nm,24.9s								
YKA	**Yellowknife Ar**	**102.23**	**28**	P	**Pdif**	**23**	**34**	**31.3**	**-2.0**
	comp=Z,0.1nm,0.5s,baz=237,slow=5.2,SNR=5.0								
MKAR	**Makanchi Array**	**102.49**	**315**	P	**Pdif**	**23**	**34**	**35.2**	**+0.3**
	comp=Z,0.2nm,0.5s,baz=91,slow=6.3,SNR=3.3								
BUR04	**Bucovina Ar. S**	**140.23**	**321**	*e*PKPdf	**PKPdf**	**23**	**40**	**05.7**	**-1.9**
VYHS	**Vyhne**	**143.29**	**326**	*e*PKP	**PKPdf**	**23**	**40**	**15.1**	**+2.2**
DPC	**Dobruska-Polom**	**143.32**	**330**	*e*PKP	PKPab	23	40	08.3	-0.5
DPC				*ex*	x	23	40	14.4	
VTS	**Vitosha**	**143.84**	**315**	*e*PKPdf	PKPbc	23	40	11.5	-0.4
PVCC	**Panska Ves**	**143.99**	**332**	*e*PKP	PKPbc	23	40	11.9	0.0
BRG	**Berggiesshubel**	**144.01**	**333**	*e*PKP	PKPbc	23	40	11.2	-0.7
	comp=Z,10nm,1.2s								
BRG				*e*		23	40	16.1	
	comp=Z,31nm,1.7s								
CLL	**Collm**	**144.08**	**334**	*e*PKPpre	PKPpre	23	40	11.4	
MODS	**Modra-Piesok**	**144.17**	**327**	*e*PKP	PKPbc	23	40	12.4	-0.2
GOPC	**GO Pecny, Ondr**	**144.33**	**331**	*e*PKP	**PKPdf**	**23**	**40**	**16.2**	**+1.5**
PRU	**Pruhonice**	**144.39**	**331**	*e*PKP	**PKPdf**	**23**	**40**	**13.2**	**-1.5**
PRU				*ex*	x	23	40	18.6	
TREC	**Trest**	**144.44**	**330**	*e*PKP	**PKPab**	**23**	**40**	**12.5**	**-0.6**
VAY	**Valandovo**	**144.82**	**313**	⇑*i*PKP	**PKPab**	**23**	**40**	**13.7**	**-1.0**
EKA	**Eskdalemuir Ar**	**144.94**	**352**	PKPbc	**PKPbc**	**23**	**40**	**13.4**	**-1.4**
	comp=Z,4.6nm,0.8s,baz=358,slow=2.2,SNR=7.2								
NKC	**Novy Kostel**	**145.12**	**333**	*e*PKP	**PKPdf**	**23**	**40**	**15.0**	**-1.0**
IDI	**Anoyia**	**145.17**	**302**	PKPbc	**PKPdf**	**23**	**40**	**16.1**	**-0.6**
	comp=Z,11nm,0.9s,baz=77,slow=10,SNR=5.5								
IDI	**Anoyia**	**145.17**	**302**	*e*PKPdf	**PKPbc**	**23**	**40**	**14.3**	**-1.9**
CONA	**Conrad Observa**	**145.18**	**328**	*e*PKPdf	**PKPdf**	**23**	**40**	**15.9**	**-0.4**
	comp=Z,22nm,1.3s,SNR=9.2								
SKO	**Skopje**	**145.29**	**315**	⇑*e*PKP	**PKPdf**	**23**	**40**	**15.7**	**-0.9**
LIT	**Litokhoron**	**145.38**	**311**	*e*PKPbc	**PKPdf**	**23**	**40**	**15.9**	**-0.9**
KHC	**Kasperske Hory**	**145.44**	**331**	*e*PKP	**PKPab**	**23**	**40**	**16.1**	**-0.7**
KHC				*ex*	x	23	40	21.5	
KHC	**Kasperske Hory**	**145.44**	**331**	*e*PKPbc	**PKPab**	**23**	**40**	**16.1**	**-0.7**
GERES	**GERESS Array B**	**145.59**	**330**	PKPbc	**PKPbc**	**23**	**40**	**16.4**	**-0.7**
	comp=Z,5.9nm,1.0s,baz=46,slow=3.9,SNR=38								
ARSA	**Arzberg**	**145.80**	**327**	*e*PKPab	**PKPdf**	**23**	**40**	**16.6**	**-0.7**
	comp=Z,13nm,1.6s								
MOA	**Molln**	**146.02**	**329**	*e*PKPab	**PKPab**	**23**	**40**	**18.8**	**-0.2**
	comp=Z,18nm,1.4s								
OHR	**Ohrid**	**146.11**	**314**	⇑*i*PKP	**PKPbc**	**23**	**40**	**18.1**	**-0.8**
SOKA	**Soboth**	**146.43**	**327**	*e*PKPbc	**PKPdf**	**23**	**40**	**17.6**	**-0.8**
	comp=Z,9.9nm,1.5s								
BLY	**Banja Luka**	**146.47**	**322**	*e*PKPdf	**PKPab**	**23**	**40**	**20.0**	**-0.8**
TTG	**Podgorica**	**146.49**	**317**	*e*PKPdf	**PKPbc**	**23**	**40**	**19.3**	**-0.7**
OBKA	**Obir**	**146.79**	**327**	*e*PKPab	**PKPbc**	**23**	**40**	**20.5**	**-0.3**
	comp=Z,3.0nm,1.0s								
KBA	**Koelnbreinsper**	**147.01**	**328**	*e*PKPab	**PKPbc**	**23**	**40**	**20.9**	**-0.7**
	comp=Z,6.8nm,1.3s								
MYKA	**Terra Mystica**	**147.17**	**328**	*e*PKPdf	**PKPdf**	**23**	**40**	**18.1**	**-1.6**
	comp=Z,5.2nm,1.0s								
MEM	**Membach**	**147.25**	**340**	⇑PKP	**PKPab**	**23**	**40**	**22.6**	**-0.9**
MEM				⇑APKP	**pPKPab**	**23**	**40**	**30.9**	**-0.9**
ABTA	**Abfaltersbach**	**147.65**	**329**	*e*PKPbc	**PKPbc**	**23**	**40**	**21.9**	**-1.3**
	comp=Z,6.2nm,1.2s								
WTTA	**Wattenberg**	**147.69**	**330**	*e*PKPab	**PKPbc**	**23**	**40**	**23.5**	**0.0**
	comp=Z,18nm,1.4s								
MOTA	**Moosalm**	**147.88**	**331**	*e*PKPbc	**PKPbc**	**23**	**40**	**22.2**	**-1.7**
	comp=Z,6.5nm,0.9s								
RETA	**Reutte**	**147.93**	**331**	*e*PKPbc	**PKPbc**	**23**	**40**	**22.4**	**-1.6**
	comp=Z,16nm,1.5s								
WLF	**Walferdange**	**148.00**	**338**	⇓PKP	**PKPbc**	**23**	**40**	**23.5**	**-0.4**
WLF				⇓APKP	**sPKPbc**	**23**	**40**	**34.3**	**-0.8**
WLF	**Walferdange**	**148.00**	**338**	*e*PKPbc	**PKPbc**	**23**	**40**	**24.0**	**0.0**
DOU	**Dourbes**	**148.14**	**341**	⇑PKP	**PKPbc**	**23**	**40**	**24.2**	**-0.1**
FETA	**Feichten**	**148.29**	**331**	*e*PKiKP	**PKPbc**	**23**	**40**	**24.5**	**-0.6**
	comp=Z,14nm,1.2s								
BFO	**Black Forest**	**148.30**	**335**	*e*PKPbc	**PKPbc**	**23**	**40**	**23.6**	**-1.2**
DAVA	**Damuels**	**148.47**	**332**	*e*PKiKP	**PKPbc**	**23**	**40**	**25.3**	**-0.2**
	comp=Z,8.9nm,1.0s								
TUE	**Stuetta**	**149.33**	**332**	*e*PKPbc	**PKPbc**	**23**	**40**	**26.8**	**-1.0**
TIP	**Timpagrande**	**149.75**	**314**	*e*PKPbc	**PKPbc**	**23**	**40**	**28.7**	**-0.1**
AQU	**L'Aquila**	**150.11**	**322**	*e*PKPbc	**PKPbc**	**23**	**40**	**28.9**	**-0.6**

ISK ***30*** *23:35:19.7, 39.08N×29.17E, h6km, ML2.1/4*
DDA ***30*** *23:35:20.2, 39.10N×29.12E, h8km, Ml2.5*
CSEM ***30*** *23:35:20.5±0.1, 39.10N×29.14E, h2km, ML2.1, Error ellipse: s-maj=2.0km s-min=1.8km az=113.0*
ISC 30 23:35:20.5±0.9, 39.10N±0.02×29.14E±0.02, h8km±8km, n29, σ0.832/47, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIMA	**Simav-Kutahya**	**0.12**	**263**	PG	**Pg**	**23 35 23.3**	**0.0**
SIMA				SG	**Sg**	**23 35 25.3**	**0.0**
SIMA	**Simav-Kutahya**	**0.12**	**263**	*e*Pg	**Pg**	**23 35 23.3**	**0.0**
SIMA				*e*Sg	**Sg**	**23 35 25.3**	**0.0**
GDZ	**Gediz**	**0.27**	**92**	*i* P	**Pg**	**23 35 25.8**	**0.0**
GDZ				*i* S	**Sg**	**23 35 29.9**	**+0.5**
GDZ	**Gediz**	**0.27**	**92**	P	**Pg**	**23 35 25.8**	**0.0**
GDZ				S	**Sg**	**23 35 29.9**	**+0.5**
DEMI	**Demirci**	**0.33**	**260**	*i* P	**Pg**	**23 35 27.1**	**0.0**
DEMI				*i* S	**Sg**	**23 35 31.7**	**+0.2**
DEMI	**Demirci**	**0.33**	**260**	P	**Pg**	**23 35 27.1**	**0.0**
DEMI				S	**Sg**	**23 35 31.7**	**+0.2**
TVSB	**Tavsanli**	**0.43**	**35**	PG	**Pg**	**23 35 28.3**	**-0.6**
TVSB				SG	**Sg**	**23 35 34.2**	**-0.4**
TVSB	**Tavsanli**	**0.43**	**35**	*e*Pg	**Pg**	**23 35 28.3**	**-0.6**
TVSB				*e*Sg	**Sg**	**23 35 34.2**	**-0.4**
KULA	**Kula-Manisa**	**0.69**	**213**	PG	**Pg**	**23 35 33.6**	**-0.2**
KULA				SG	**Sg**	**23 35 42.9**	**0.0**
KULA	**Kula-Manisa**	**0.69**	**213**	*e*Pg	**Pg**	**23 35 33.6**	**-0.2**
KULA				*e*Sg	**Sg**	**23 35 42.9**	**0.0**
DURS	**Dursunbey**	**0.72**	**314**	*i* P	**Pg**	**23 35 34.4**	**+0.1**
DURS				*i* S	**Sg**	**23 35 44.0**	**+0.3**
DURS	**Dursunbey**	**0.72**	**314**	P	**Pg**	**23 35 34.4**	**+0.1**
DURS				S	**Sg**	**23 35 44.0**	**+0.3**
MANT	**Manisa**	**0.76**	**217**	*i* P	**Pg**	**23 35 35.0**	**-0.1**
MANT				*i* S	**Sg**	**23 35 44.1**	**-0.9**
MANT	**Manisa**	**0.76**	**217**	P	**Pg**	**23 35 35.0**	**-0.1**
MANT				S	**Sg**	**23 35 44.1**	**-0.9**
KHAL	**Karahalli**	**0.78**	**159**	*i* P	**Pb**	**23 35 36.1**	**-0.2**
KHAL				*i* S	**Sg**	**23 35 45.7**	**+0.1**
KHAL	**Karahalli**	**0.78**	**159**	P	**Pb**	**23 35 36.1**	**-0.2**
KHAL				S	**Sg**	**23 35 45.7**	**+0.1**
KZIL	**AFYON_Kizioren**	**1.15**	**137**	*i* P	**Pb**	**23 35 42.8**	**+0.2**
KZIL				*i* S	**Sn**	**23 35 59.1**	**+0.3**
KZIL	**AFYON_Kizioren**	**1.15**	**137**	P	**Pb**	**23 35 42.8**	**+0.2**
KZIL				S	**Sn**	**23 35 59.1**	**+0.3**
BORA	**Eskisehir**	**1.28**	**52**	PN	**Pb**	**23 35 44.9**	**0.0**
BORA	**Eskisehir**	**1.28**	**52**	*i* P	**Pb**	**23 35 45.1**	**+0.2**
BORA	**Eskisehir**	**1.28**	**52**	P	**Pb**	**23 35 45.1**	**+0.2**
MDNY	**Mudanya-Bursa**	**1.28**	**351**	PN	**Pg**	**23 35 45.3**	**+0.2**
MDNY	**Mudanya-Bursa**	**1.28**	**351**	*e*Pn	**Pg**	**23 35 45.3**	**+0.2**
KCTX	**Karacabey (Bur**	**1.31**	**333**	PN	**Pg**	**23 35 45.9**	**+0.2**
KCTX	**Karacabey (Bur**	**1.31**	**333**	*e*Pn	**Pg**	**23 35 45.9**	**+0.2**
YLV	**Yalova**	**1.48**	**7**	PN	**Pb**	**23 35 47.8**	**-0.4**
YLV	**Yalova**	**1.48**	**7**	*e*Pn	**Pb**	**23 35 47.8**	**-0.4**
ARMT	**Armutlu**	**1.48**	**352**	PN	**Pg**	**23 35 48.7**	**-0.2**
ARMT	**Armutlu**	**1.48**	**352**	*e*Pn	**Pg**	**23 35 48.7**	**-0.2**

CSEM ***30*** *23:38:18.7±0.2, 67.82N×20.25E, h2km, ML1.5, Error ellipse: s-maj=4.5km s-min=4.2km az=76.0, Mining explosion.*
HEL ***30*** *23:38:19.1, 67.77N×20.25E, h0km, ML1.6, Explosion*
UPP 30 23:38:14.4±0.1, 67.83N×20.18E, h0km, ML2.2, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUA	**Kurravaara**	**0.13**	**26**	P	Pg	23 38 17.2	+0.3
KUA				S	Sg	23 38 19.1	+0.5
KUA	**Kurravaara**	**0.13**	**26**	P	Pg	23 38 21.7	+4.7
KUA				S	Sg	23 38 23.7	+5.0
KUA	**Kurravaara**	**0.13**	**26**	P	Pg	23 38 17.2	+0.2
KUA				S	Sg	23 38 19.1	+0.4
KUA	**Kurravaara**	**0.13**	**26**	*i* P	Pg	23 38 21.7	+4.8
KUA				*i* S	Sg	23 38 23.7	+5.0
RATU	**Laukkuluspa**	**0.22**	**268**	P	Pg	23 38 18.9	+0.2
RATU	**Laukkuluspa**	**0.22**	**268**	P	Pg	23 38 23.4	+4.7
RATU	**Laukkuluspa**	**0.22**	**268**	P	Pg	23 38 18.9	+0.2
RATU	**Laukkuluspa**	**0.22**	**268**	*i* P	Pg	23 38 23.4	+4.7
NIKU	**Nikkaluokta**	**0.44**	**275**	P	Pg	23 38 22.9	+0.2
NIKU	**Nikkaluokta**	**0.44**	**275**	P	Pg	23 38 22.9	+0.2
LANU	**Lannavaara**	**0.72**	**72**	P	Pg	23 38 28.1	+0.1
LANU	**Lannavaara**	**0.72**	**72**	*e*P	Pn	23 38 32.2	+0.4
LANU				*e*S	Sn	23 38 42.0	-1.5
LANU	**Lannavaara**	**0.72**	**72**	P	Pg	23 38 28.1	0.0
LANU	**Lannavaara**	**0.72**	**72**	*e*P	Pn	23 38 32.2	+0.4
LANU				*e*S	Sn	23 38 42.0	-1.4
MASU	**Masugnsbyn**	**0.79**	**118**	P	Pg	23 38 29.3	-0.3
MASU	**Masugnsbyn**	**0.79**	**118**	P	Pg	23 38 29.3	-0.2
KIF	**Kilpisjarvi**	**1.20**	**11**	*e*Pn	Pn	23 38 43.1	+4.8
KIF				*e*S	Sn	23 38 58.0	+2.7
KIF	**Kilpisjarvi**	**1.20**	**11**	*e*PN	Pn	23 38 43.1	+4.7
KIF				*e*S	Sn	23 38 58.0	+2.8
KIF				MSG		23 38 58.2	
	comp=Z,8.1nm,0.2s						
PAJU	**Pajala**	**1.39**	**124**	P	Pg	23 38 39.6	-1.5
PAJU	**Pajala**	**1.39**	**124**	P	Pb	23 38 44.1	+2.8
PAJU	**Pajala**	**1.39**	**124**	P	Pg	23 38 39.6	-1.5
PAJU	**Pajala**	**1.39**	**124**	*e*P	Pb	23 38 44.1	+2.8
HEF	**Hetta**	**1.43**	**65**	*e*Pg	Pb	23 38 45.0	+3.2
HEF	**Hetta**	**1.43**	**65**	*e*PG	Pb	23 38 45.0	+3.2
HEF				MSG		23 39 02.1	
	comp=Z,3.7nm,0.2s						
ERTU	**Ertsjaerv**	**1.50**	**148**	*e*Pn	Pg	23 38 46.6	+3.4
ERTU				*e*Sn	Sn	23 39 06.8	+3.9
ERTU	**Ertsjaerv**	**1.50**	**148**	*e*PN	Pg	23 38 46.6	+3.4
ERTU				*e*SN	Sn	23 39 06.8	+3.9
KALU	**Kalix**	**2.35**	**146**	*e*Pb	Pg	23 38 59.4	+0.1
KALU	**Kalix**	**2.35**	**146**	*e*PB	Pg	23 38 59.4	+0.1
SGF	**Sodankyl**	**2.46**	**96**	*e*Pb	Pg	23 39 01.9	+0.5
SGF	**Sodankyl**	**2.46**	**96**	*e*PB	Pg	23 39 01.9	+0.5
ARE0	**ARCESS Array S**	**2.59**	**46**	*e*Pb	Pg	23 39 04.0	+0.1
ARE0				*e*Sb	Sg	23 39 36.5	-1.0
ARE0	**ARCESS Array S**	**2.59**	**46**	*e*PB	Pg	23 39 04.0	+0.1
	baz=230						
ARE0				*e*SB	Sg	23 39 36.5	-1.0

CSEM ***30*** *23:38:14.9±0.5, 67.81N×20.11E, h2km, ML2.2, Error ellipse: s-maj=16.0km s-min=11.3km az=9.0, Mining explosion.*
UPP 30 23:38:29.1±0.2, 67.82N×20.21E, h0km, ML2.3, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUA	**Kurravaara**	**0.14**	**20**	P	Pg	23 38 32.0	+0.3
KUA				S	Sg	23 38 33.9	+0.4
RATU	**Laukkuluspa**	**0.23**	**270**	P	Pg	23 38 33.8	+0.2
PAJU	**Pajala**	**1.38**	**124**	P	Pg	23 38 54.6	-0.9

IDC ***30*** *23:55:03.5±2.2, 37.68N×69.32E, h0km, mb3.7/7, mb1 3.8/10, mb1mx3.5/66, mbtmp3.6/10, ML3.0/3, MS3.9/1, Ms1 3.9/1, ms1mx2.4/70, Error ellipse: s-maj=41.5km s-min=17.1km az=157.0*
ISCJB ***30*** *23:55:08.3±1.0, 37.96N±0.09×69.11E±0.08, h33km, mb3.6/5, MS3.9/1, Error ellipse: s-maj=14.6km s-min=6.4km az=149.8*
NNC ***30*** *23:55:09.2±3.4, 38.13N×69.17E, h0km, mb3.8, mpv3.4, Error ellipse: s-maj=26.0km s-min=20.4km az=11.0*
ISC 30 23:55:10.7±1.3, 38.0N±0.1×69.10E±0.08, h35km, n18, σ1.967/23, mb3.8/5, 5C-6D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SFK	**Sufi-Kurgan**	**4.01**	**58**	⇑P	**Pn**	**23 56 09.2**	**-0.6**
	5.5nm,0.4s						
SFK				⇓S	**Sn**	**23 56 57.9**	**+2.2**
	38nm,0.4s						
MNAS	**Manas**	**5.23**	**29**	⇓P	**Pn**	**23 56 28.9**	**+2.4**
	1.6nm,0.4s						
MNAS				⇓S	**Sn**	**23 57 26.3**	**+0.6**
	10.0nm,0.6s						
KK31	**Karatay Array**	**5.26**	**11**	⇑P	**Pn**	**23 56 24.8**	**-2.0**
	1.1nm,0.3s,baz=194,slow=14,SNR=30						
KK31				⇑S	**Sn**	**23 57 26.9**	**+0.6**
	9.1nm,0.5s,baz=188,slow=32,SNR=4.8						
AAK	**Ala-Archa**	**6.24**	**40**	Pn	**Pn**	**23 56 40.5**	**+0.1**
	0.6nm,0.3s,baz=198,slow=5.9,SNR=8.6						
AAK				Sn	**Sn**	**23 57 48.2**	**-2.5**
	0.8nm,0.3s,baz=144,slow=19,SNR=3.0						
AAK	**Ala-Archa**	**6.24**	**40**	⇓P	**Pn**	**23 56 40.4**	**0.0**
	1.5nm,0.4s						
AAK				⇓S	**Sn**	**23 57 49.7**	**-0.9**
	7.4nm,0.8s						
TKM2	**Tokmak 2**	**7.02**	**43**	⇓P	**Pn**	**23 56 49.7**	**-1.5**
	4.8nm,1.1s						
TKM2				⇑S	**Sn**	**23 58 13.3**	**+3.5**
	3.5nm,0.6s						
AB31	**Akbulak array**	**13.09**	**333**	⇑P	**Pn**	**23 58 16.6**	**+2.6**
	0.2nm,0.2s,baz=163,slow=12,SNR=20						
MKAR	**Makanchi Array**	**13.15**	**44**	Pn	**Pn**	**23 58 11.8**	**-3.1**
	0.0nm,0.3s,baz=234,slow=10,SNR=4.4						
AKTO	**Aktyubinsk**	**14.78**	**331**	Pn	**Pn**	**23 58 36.8**	**-0.2**
	0.1nm,0.3s,baz=151,slow=10,SNR=2.5						
BVAR	**Borovoye Array**	**15.11**	**3**	Pn	**Pn**	**23 58 40.9**	**-0.5**
	0.3nm,0.3s,baz=164,slow=9.9,SNR=6.4						
KBZ	**Khabaz**	**20.60**	**295**	P	**P**	**23 59 46.9**	**+0.3**
	1.1nm,0.7s,baz=147,slow=6.9,SNR=4.2						
KVAR	**Kislovodsk Arr**	**20.78**	**295**	P	**P**	**23 59 48.5**	**-0.1**
	3.3nm,0.7s,baz=181,slow=5.6,SNR=5.1						
FINES	**FINESS Array B**	**35.44**	**326**	P	**P**	**00 02 02.3**	**-0.8**
	0.6nm,0.6s,baz=131,slow=8.6,SNR=5.2						
ARCES	**ARCESS Array B**	**39.23**	**337**	P	**P**	**00 02 34.5**	**-0.8**
	3.1nm,0.9s,baz=97,slow=8.7,SNR=4.2						
HFS	**Hagfors**	**40.99**	**321**	P	**P**	**00 02 49.9**	**0.0**
	1.3nm,0.7s,baz=97,slow=12,SNR=4.3						
SPITS	**Spitsbergen Ar**	**45.74**	**347**	LR	LR	00 27 53.4	
	comp=Z,143nm,18.7s,baz=340,slow=43						
TORD	**Torodi Ar. Bea**	**64.26**	**267**	P	**P**	**00 05 43.1**	**+0.5**
	0.5nm,0.6s,baz=42,slow=6.3,SNR=5.8						
YKA	**Yellowknife Ar**	**79.86**	**2**	P	**P**	**00 07 14.3**	**-0.9**
	0.1nm,0.7s,baz=1.3,slow=5.6,SNR=4.2						

ISC Computed Locations for April 2012

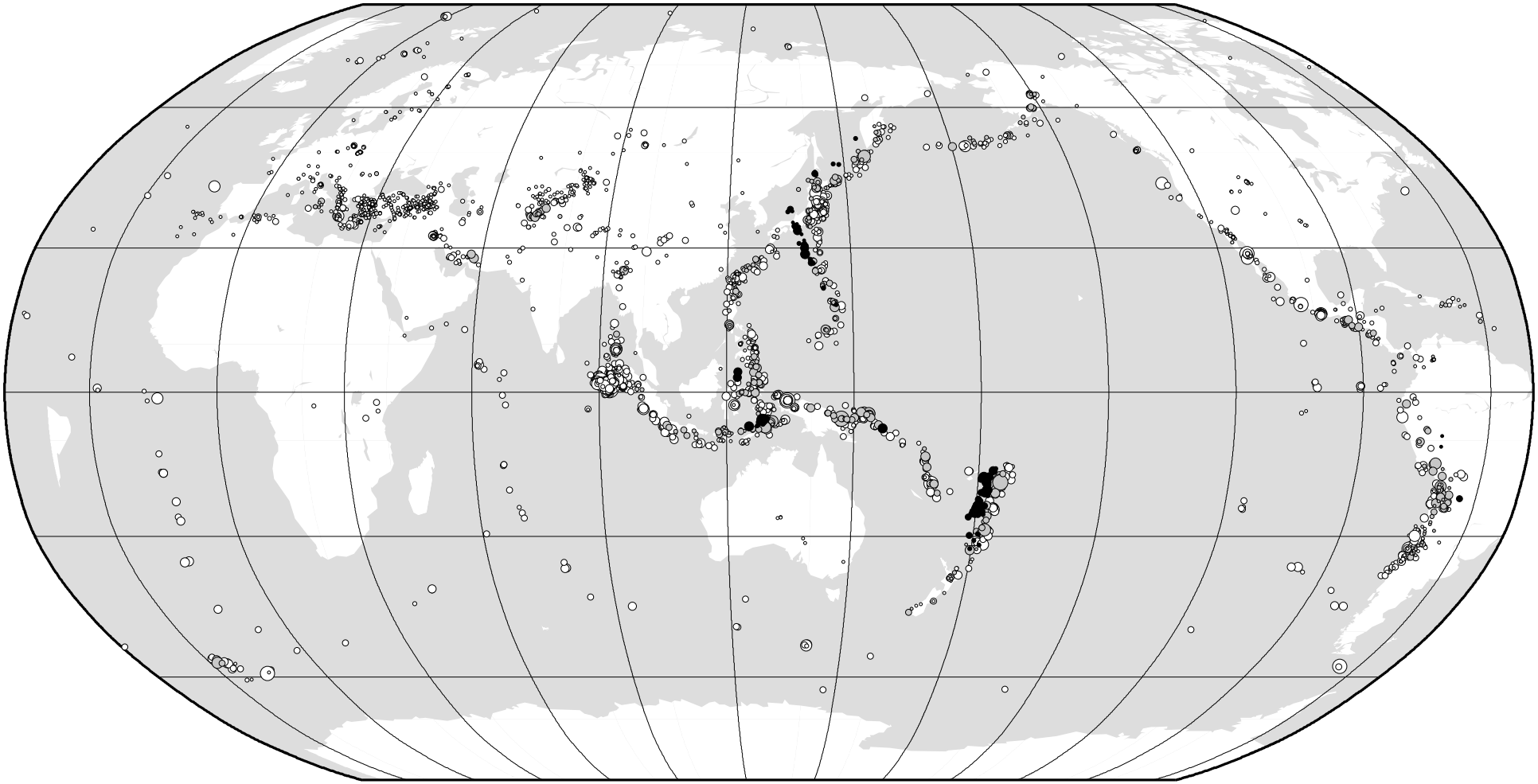

Depth (km)	0-70	70-300	>300
M=8	○	○	●
M=6.5	○	○	●
M=4	○	○	●

Robinson Projection, centred on 0˚N,130˚E

3991 Events